Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:01:17.8±2.5,7°.29S×127°.55E,h0km,mb3.3/1, mbtmp3.5/3,ML3.6/2,Error ellipse: s-maj=284.3km s-min=33.0km az=64.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.20	153	Pn	Pn	00 04 38.7	-1.6
	0.3nm,0.3s,baz=328,slow=13,SNR=13						
WRA				Sn	Sn	00 07 01.2	-17
	0.9nm,0.3s,baz=330,slow=22,SNR=10.0						
	0.3nm,0.2s						
ASAR	Alice Springs	17.39	160	P	P	00 05 23.1	-0.3
	0.2nm,0.3s,baz=341,slow=11,SNR=27						
ASAR				S	Sn	00 08 22.7	-14
	0.5nm,0.5s,baz=325,slow=15,SNR=5.8						
	1.5nm,0.6s						
MKAR	Makanchi Array	67.16	328	P	P	00 12 13.6	0.0
	0.2nm,0.7s,baz=131,slow=6.5,SNR=1.7						
	0.2nm,0.7s						

*IDC **01** 00:19:12.9±2.1,18°.57N×145°.63E,h183km±20km, mb3.4/14,mbtmp3.9/16,Error ellipse: s-maj=20.6km s-min=12.1km az=88.0*

*NEIC **01** 00:19:14.3±0.9,18°.54N±0°.08×145°.6E±0°.1,h181km±8km, mb4.2/47,Error ellipse: s-maj=16.1km s-min=10.4km az=68.0*

ISC 01 00:19:15.2±0.5,18°.50N±0°.06×145°.5E±0°.1,h200km,n75, σ0^s.88/73,mb4.0/39,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.92	187	Pn	Pn	00 20 27.7	-0.9
GUMO					Sn	00 21 25.2	-1.2
GUMO	Guam	4.92	187	P	Pn	00 20 27.4	-1.2
	51nm,0.3s,baz=45,slow=3.1,SNR=19						
GUMO				S	Sn	00 21 25.5	-1.0
	60nm,0.3s,baz=2.9,slow=23,SNR=2.8						
JCJ	Chichijima	9.08	341	P	Pn	00 21 14.2	-8.2
	72nm,0.8s,baz=141,slow=22,SNR=1.8						
JCJ				S	Sn	00 22 51.8	-13
	84nm,0.7s,baz=142,slow=22,SNR=2.0						
PATS	Pohnpei	17.05	131	Pn	Pn	00 23 03.5	+1.4
JOW	Kunigami	17.90	301	Pn	Pn	00 23 12.8	+0.7
JOW	Kunigami	17.90	301	P	Pn	00 23 13.6	+1.5
	12nm,0.4s,baz=129,slow=9.3,SNR=6.0						
MJAR	Matsushiro Arr	19.08	342	P	P	00 23 21.0	-1.8
	1.2nm,0.5s,baz=166,slow=10,SNR=6.3						
JMM	Marumori	19.73	349	P	P	00 23 29.7	+0.1
H11S3	WAKE ISLAND Hy	20.11	87	T	T	00 44 51.1	
	baz=275						
H11S1	WAKE ISLAND Hy	20.12	87	T	T	00 45 01.8	
	baz=275						
H11S2	WAKE ISLAND Hy	20.13	87	T	T	00 44 48.2	
	baz=275						
JTM	Tenmabayashi	22.54	351	P	P	00 23 58.1	-0.2
KSRS	Korea Array	24.36	324	P	P	00 24 15.3	+0.5
	0.5nm,0.7s,baz=135,slow=7.3,SNR=1.4						
	0.5nm,0.7s						
WB0	Warramunga Arr	39.55	197	P	P	00 26 27.9	+0.8
WB0				IAmb	IAmb	00 26 29.0	
	comp=Z,15nm,1.3s						
WR0	Warramunga Arr	39.70	196	P	P	00 26 28.8	+0.6
WR0				IAmb	IAmb	00 26 30.9	
	comp=Z,15nm,1.5s						
WRAB	Tennant Creek	39.72	197	P	P	00 26 29.2	+0.8
WB2	Warramunga Arr	39.73	197	P	P	00 26 29.1	+0.6
WB2				IAmb	IAmb	00 26 29.9	
	comp=Z,5.4nm,0.8s						
WRA	Warramunga Arr	39.73	197	P	P	00 26 29.2	+0.7
WRA	Warramunga Arr	39.73	197	P	P	00 26 28.8	+0.3
	comp=Z,4.9nm,0.8s,baz=16,slow=8.6,SNR=28						
	comp=Z,4.9nm,0.8s						
FITZ	Fitzroy Crossi	41.27	209	P	P	00 26 42.2	+1.2
AS31	Alice Springs	43.40	196	P	P	00 26 59.8	+1.5
ASAR	Alice Springs	43.40	196	P	P	00 26 59.5	+1.3
ASAR	Alice Springs	43.40	196	P	P	00 26 58.1	-0.2
	comp=Z,0.6nm,0.3s,baz=27,slow=8.2,SNR=19						
	comp=Z,0.6nm,0.3s						
DZM	Mont Dzumac	45.24	152	P	P	00 27 12.7	-0.1
DZM				IAmb	IAmb	00 27 32.3	
	comp=Z,16nm,1.5s						
OUENC	Ouen Island, N	45.72	152	P	P	00 27 16.6	+0.1
OUENC				IAmb	IAmb	00 27 17.0	
	comp=Z,8.8nm,0.8s						
MBWA	Marble Bar	46.79	214	P	P	00 27 25.8	+0.8
MBWA				IAmb	IAmb	00 27 32.0	
	comp=Z,10nm,1.4s						
STKA	Stephens Creek	50.23	184	P	P	00 27 51.3	+0.4
	comp=Z,0.9nm,0.4s,baz=350,slow=11,SNR=3.6						
	comp=Z,0.9nm,0.4s						
FORT	Forrest	51.78	199	P	P	00 28 03.2	+0.7
BBOO	Buckleboo	51.81	190	P	P	00 28 03.2	+0.5
BBOO				IAmb	IAmb	00 28 06.1	
	comp=Z,16nm,1.4s						
ZALV	Zalesovo Beam	58.05	323	P	P	00 28 47.9	+0.7
	comp=Z,0.4nm,0.4s,baz=102,slow=7.8,SNR=3.7						
	comp=Z,0.4nm,0.4s						
MKAR	Makanchi Array	58.45	314	P	P	00 28 50.6	+0.4
	comp=Z,0.2nm,0.5s,baz=96,slow=5.2,SNR=5.6						
	comp=Z,0.2nm,0.5s						
KURBB	Kurchatov Arra	61.33	318	P	P	00 29 08.7	-0.9
	comp=Z,0.4nm,0.4s,baz=92,slow=7.4,SNR=11						
	comp=Z,0.4nm,0.4s						
ILAR	Eielson Array	63.91	26	P	P	00 29 24.4	-2.1
	comp=Z,0.7nm,0.5s,baz=247,slow=6.4,SNR=30						
	comp=Z,0.7nm,0.5s						
BVAR	Borovoye Array	66.50	320	P	P	00 29 42.6	-0.7
	comp=Z,0.7nm,0.7s,baz=92,slow=8.9,SNR=2.4						
	comp=Z,0.7nm,0.7s						
E28M	Babbage River	67.44	23	P	P	00 29 49.5	+0.6
L29M	L29M	67.52	29	P	P	00 29 50.2	+0.7
L29M				IAmb	IAmb	00 29 51.0	
	comp=Z,4.0nm,0.7s						
P29M	Windy Craggy	67.55	32	P	P	00 29 50.3	+0.5
H29M	Whitestone	67.64	25	P	P	00 29 50.5	+0.2
HYT	Haines Junctio	67.70	31	P	P	00 29 51.9	+1.0
K29M	Barlow Dome	67.83	28	P	P	00 29 51.8	+0.2
N30M	Aishikik Lake	67.93	30	P	P	00 29 52.8	+0.6
N30M				IAmb	IAmb	00 30 01.9	
	comp=Z,15nm,1.5s						
E29M	Blow River	68.02	23	P	P	00 29 54.3	+1.7
M30M	Minto, Yukon	68.10	29	P	P	00 29 53.6	+0.3
M30M				IAmb	IAmb	00 30 04.8	
	comp=Z,5.0nm,1.4s						
EPYK	Eagle Plains	68.32	25	P	P	00 29 54.9	+0.4
EPYK				IAmb	IAmb	00 30 24.1	
	comp=Z,8.8nm,1.5s						
J30M	Hart River	68.39	27	P	P	00 29 55.0	0.0
J30M				IAmb	IAmb	00 30 33.7	
	comp=Z,5.5nm,1.4s						
I30M	Mount Dempster	68.40	26	P	P	00 29 54.8	-0.3
I30M				IAmb	IAmb	00 30 30.4	
	comp=Z,3.4nm,1.4s						
G31M	Satah River	69.32	25	P	P	00 30 00.5	-0.1
G31M				IAmb	IAmb	00 30 00.9	
	comp=Z,2.2nm,0.6s						
P32M	Atlin	69.59	32	P	P	00 30 03.1	+0.6
INK	Inuvik	69.64	23	P	P	00 30 02.1	-0.3
INK				IAmb	IAmb	00 30 24.8	
	comp=Z,3.7nm,1.4s						
Q32M	Nakina River	70.36	33	P	P	00 30 07.6	+0.3
R33M	Jennings River	71.00	33	P	P	00 30 11.6	+0.4
DLBC	Dease Lake	71.57	33	P	P	00 30 15.1	+0.6
DLBC				IAmb	IAmb	00 30 25.5	
	comp=Z,5.5nm,1.2s						
T35M	Bob Quinn	71.59	35	P	P	00 30 14.7	+0.1
A36M	Sachs Harbour	72.33	19	P	P	00 30 18.5	-0.1
A36M				IAmb	IAmb	00 30 44.1	
	comp=Z,7.2nm,1.5s						
ABKAR	Akbulak array	73.34	317	P	P	00 30 24.1	-0.8
ABKAR	Akbulak array	73.34	317	P	P	00 30 24.2	-0.8
ABKAR				IAmb	IAmb	00 30 53.7	
	comp=Z,2.5nm,1.4s						
YKA	Yellowknife Ar	78.26	28	P	P	00 30 51.0	-1.5
YKA	Yellowknife Ar	78.26	28	P	P	00 30 51.9	-0.7
	comp=Z,0.7nm,0.6s,baz=287,slow=5.8,SNR=18						
	comp=Z,0.7nm,0.6s						
HUMO	Hull Mountain	78.84	49	P	P	00 30 57.7	+1.5
HUMO				IAmb	IAmb	00 30 57.9	
	comp=Z,3.5nm,1.1s						
J05D	Fort Rock, OR	79.88	48	P	P	00 31 01.8	-0.2
J05D				IAmb	IAmb	00 31 03.2	
	comp=Z,2.6nm,0.7s						
PINE	Pine Mountain	79.94	47	P	P	00 31 01.9	-0.5
PINE				IAmb	IAmb	00 31 03.8	
	comp=Z,3.8nm,0.8s						
K05A	Summer Lake	80.27	48	P	P	00 31 04.3	+0.2
K05A				IAmb	IAmb	00 31 05.3	
	comp=Z,2.2nm,0.6s						
CMB	Columbia Colle	81.98	53	P	P	00 31 13.3	+0.3
PNTR	Pine Nut	82.26	51	P	P	00 31 15.4	+0.7
PNTR				IAmb	IAmb	00 31 16.3	
	comp=Z,4.0nm,0.7s						
WAKR	Walker	82.56	52	P	P	00 31 17.1	+0.9
ARCES	ARCESS Array B	82.62	342	P	P	00 31 16.2	+0.5
	comp=Z,2.3nm,0.8s,baz=69,slow=5.2,SNR=1.5						
	comp=Z,2.3nm,0.8s						
RYN	Ryan	83.20	52	P	P	00 31 19.0	-0.5
RYN				IAmb	IAmb	00 31 20.4	
	comp=Z,2.1nm,0.8s						
KVN	Kaiserville	83.38	51	P	P	00 31 20.7	+0.2
KVN				IAmb	IAmb	00 31 21.2	
	comp=Z,2.1nm,0.7s						
NVAR	Mina Array Bea	83.42	52	P	P	00 31 20.8	+0.1
NVAR	Mina Array Bea	83.42	52	P	P	00 31 20.5	-0.2
	comp=Z,2.1nm,0.7s,baz=267,slow=5.8,SNR=19						
	comp=Z,2.1nm,0.7s						
NV11	Mina Array Sit	83.53	52	P	P	00 31 20.2	-1.0
NV11				IAmb	IAmb	00 31 22.1	
	comp=Z,2.5nm,0.9s						
MZP	Montezuma Peak	84.34	52	P	P	00 31 25.1	-0.3
GMN	Gold Mountain	84.57	53	P	P	00 31 26.4	-0.1
FINES	FINESS Array B	86.98	335	P	P	00 31 35.1	-2.4
	comp=Z,2.4nm,1.0s,baz=58,slow=5.0,SNR=7.5						
	comp=Z,2.4nm,1.0s						
PDAR	Pinedale Array	88.11	45	P	P	00 31 41.8	-1.8
	comp=Z,0.2nm,0.3s,baz=196,slow=0.9,SNR=6.0						
	comp=Z,0.2nm,0.3s						

*IDC **01** 00:37:12.2±1.0,3°.80N×127°.19E,h0km,mb3.6/7, mbtmp3.6/7,Error ellipse: s-maj=62.7km s-min=20.1km az=71.0*

ISC 01 00:37:17.3±1.1,3°.8N±0°.2×127°.3E±0°.4,h35km,n7,σ0^s.29/7, mb3.7/7,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.60	164	P	P	00 42 34.7	+0.3
	0.7nm,0.8s,baz=343,slow=11,SNR=10						
	0.7nm,0.8s						
ASAR	Alice Springs	28.05	167	P	P	00 43 05.4	-0.2
	0.2nm,0.6s,baz=344,slow=10,SNR=1.9						
	0.2nm,0.6s						
SONM	Songino Array	47.41	341	P	P	00 45 48.4	+0.1
	0.6nm,0.7s,baz=132,slow=6.0,SNR=2.7						
	0.6nm,0.7s						
PETK	Petropavlovsk-	55.17	22	P	P	00 46 46.3	-0.1
	1.2nm,0.8s,baz=223,slow=9.1,SNR=1.3						
	1.2nm,0.8s						
MKAR	Makanchi Array	57.80	325	P	P	00 47 04.9	-0.3
	0.4nm,0.5s,baz=115,slow=7.8,SNR=9.7						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	61.97	327	P	P	00 47 33.7	0.0
	0.6nm,0.6s,baz=127,slow=6.6,SNR=6.6						
	0.6nm,0.6s						
BVAR	Borovoye Array	67.55	327	P	P	00 48 10.4	+0.3
	0.3nm,0.6s,baz=125,slow=7.6,SNR=2.3						
	0.3nm,0.6s						

*NEIC **01** 00:40:47.8±1.3,6°.2S±0°.1×150°.9E±0°.1,h35km±2km, mb4.6/29,Error ellipse: s-maj=23.7km s-min=18.8km az=125.0*

*IDC **01** 00:40:50.0±1.2,6°.43S×150°.83E,h49km±12km,mb3.8/9, mbtmp4.1/10,ML1.9/1,MS2.9/1,Error ellipse: s-maj=23.7km s-min=8.8km az=124.0*

ISC 01 00:40:48.2±0.6,6°.35S±0°.08×150°.79E±0°.09,h36km,n50, σ1^s.55/52,mb4.5/20,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.38	31	P	Pn	00 41 26.8	+2.2
KRVT				S	Sn	00 41 56.7	+4.1
PMG	Port Moresby	4.71	230	Pn	Pn	00 41 58.8	+2.1
PMG	Port Moresby	4.71	230	P	Pn	00 41 59.0	+2.4
	4.0nm,0.3s,baz=29,slow=7.2,SNR=21						
PMG				S	Sn	00 42 52.7	+2.7
	26nm,0.5s,baz=56,slow=15,SNR=3.5						
	37nm,0.7s						
CTAO	Charters Tower	14.35	197	P	P	00 44 14.8	-0.5
KOUNC	Koumac, New Ca	19.25	138	P	P	00 45 08.8	-0.8
MTN	Manton Dam	20.42	250	P	P	00 45 23.4	+1.0
MTN				IAmb	IAmb	00 45 38.6	
	comp=Z,17nm,1.2s						
WB0	Warramunga Arr	20.78	229	P	P	00 45 26.9	+0.6
WB0				IAmb	IAmb	00 45 28.3	
	comp=Z,16nm,0.6s						
WR0	Warramunga Arr	20.79	228	P	P	00 45 26.5	+0.1
WR0				IAmb	IAmb	00 45 27.9	
	comp=Z,19nm,1.1s						
WB2	Warramunga Arr	20.91	228	P	P	00 45 28.2	+0.5
WB2				IAmb	IAmb	00 45 29.8	
	comp=Z,13nm,0.6s						
WRA	Warramunga Arr	20.92	228	P	P	00 45 27.1	-0.8
WRA	Warramunga Arr	20.92	228	P	P	00 45 28.4	+0.5
	comp=Z,14nm,0.6s,baz=53,slow=11,SNR=118						
WRA				PcP	PcP	00 49 36.1	+1.0
	comp=Z,0.3nm,0.6s,baz=52,slow=2.4,SNR=2.5						
	comp=Z,14nm,0.6s						
DZM	Mont Dzumac	21.74	138	P	P	00 45 35.8	-0.9
DZM	Mont Dzumac	21.74	138	P	P	00 45 36.2	-0.5
	comp=Z,4.3nm,0.7s,baz=331,slow=10,SNR=9.6						
	comp=Z,4.3nm,0.7s						
KNRA	Kununurra	23.50	245	P	P	00 45 54.6	-0.4
KNRA				IAmb	IAmb	00 45 56.9	
	comp=Z,23nm,1.3s						
AS31	Alice Springs	23.66	222	P	P	00 45 57.4	+0.8
ASAR	Alice Springs	23.66	222	P	P	00 45 57.3	+0.7
ASAR	Alice Springs	23.66	222	P	P	00 45 57.0	+0.4
	comp=Z,9.3nm,0.7s,baz=57,slow=8.7,SNR=185						
	comp=Z,9.3nm,0.7s						
STKA	Stephens Creek	26.81	198	P	P	00 46 25.0	-0.1
STKA	Stephens Creek	26.81	198	P	P	00 46 25.0	-0.1
	comp=Z,8.0nm,0.8s,baz=21,slow=6.6,SNR=14						
	comp=Z,8.0nm,0.8s						
FITZ	Fitzroy Crossi	27.17	242	P	P	00 46 29.1	+0.7
LUWI	Luwuk	28.44	280	P	P	00 46 39.4	-0.6
LUWI				IAmb	IAmb	00 46 45.5	
	comp=Z,33nm,0.9s						
FORT	Forrest	32.33	218	P	P	00 47 14.0	-0.1
FORT				IAmb	IAmb	00 47 26.9	
	comp=Z,28nm,1.2s						
YHNB	Yeheng	42.09	318	P	P	00 48 33.7	-3.4
NJ2	Nanjing	48.84	323	*e*P	P	00 49 27.2	-3.0
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,170nm,4.1s						
CMAR	Chiang Mai Arr	56.76	297	LR	LR	01 15 52.0	
	comp=Z,10nm,18.6s,baz=125,slow=37						
XLT	XiLinHaoTe	59.02	331	*e*P	P	00 50 45.6	+1.0
XLT				pP	pP	00 50 49.5	-5.7
XLT				sP	pwP	00 50 52.5	-2.7
XLT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,120nm,4.9s						
L14K	Kuka Creek	76.51	21	P	P	00 52 34.3	+0.1
J14K	Nanvaranak Lak	77.16	20	P	P	00 52 37.0	-0.8
J14K				IAmb	IAmb	00 52 53.2	
	comp=Z,12nm,1.1s						
H17K	Granite Mounta	79.83	19	P	P	00 52 49.4	-3.2
L19K	White Mountain	79.94	23	P	P	00 52 54.9	+1.6
L19K				IAmb	IAmb	00 53 00.1	
	comp=Z,8.5nm,1.2s						
J18K	Innoko River	80.00	21	P	P	00 52 50.9	-2.6
J18K				IAmb	IAmb	00 53 09.6	
	comp=Z,12nm,1.4s						
MKAR	Makanchi Array	80.19	320	P	P	00 52 56.4	+1.4
	comp=Z,0.2nm,0.5s,baz=96,slow=6.8,SNR=2.0						
	comp=Z,0.2nm,0.5s						
SPU	Mount Spurr	80.50	24	P	P	00 52 55.3	-1.1
ZALV	Zalesovo Beam	81.34	327	P	P	00 53 00.3	-0.6
	comp=Z,0.4nm,0.5s,baz=100,slow=3.3,SNR=2.8						
	comp=Z,0.4nm,0.5s						
G19K	Purcell Mounta	81.50	19	P	P	00 53 00.4	-1.1
I20K	Naaghedeneel	81.58	21	P	P	00 53 01.1	-0.8
GHO	Glory Hole Cre	82.10	25	P	P	00 53 02.5	-2.3
F21K	Alatna River	83.30	19	P	P	00 53 09.6	-1.3
F21K				IAmb	IAmb	00 53 26.7	
	comp=Z,2.4nm,1.0s						
M24K	Tolsona, Glenn	83.40	25	P	P	00 53 08.5	-3.1
M24K				IAmb	IAmb	00 53 25.4	
	comp=Z,14nm,1.1s						
QSPA	South Pole Qui	83.62	180	P	P	00 53 11.7	-1.0
QSPA				IAmb	IAmb	00 53 14.4	
	comp=Z,3.6nm,0.8s						
QSPA	South Pole Qui	83.62	180	P	P	00 53 13.1	+0.4
	comp=Z,3.5nm,0.7s,baz=8.8,slow=0.6,SNR=24						
	comp=Z,3.5nm,0.7s						
KURBB	Kurchatov Arra	83.79	322	P	P	00 53 13.5	-0.2
	comp=Z,0.2nm,0.6s,baz=100,slow=4.5,SNR=1.1						
	comp=Z,0.2nm,0.6s						
PAX	Paxson	84.08	24	P	P	00 53 13.6	-1.5
PAX				IAmb	IAmb	00 53 13.7	
	comp=Z,3.4nm,1.1s						
GLB	Gilahina Butte	84.12	26	P	P	00 53 14.6	-0.7
IL31		84.35	22	P	P	00 53 15.2	-1.0
ILAR	Eielson Array	84.35	22	P	P	00 53 15.0	-1.3
ILAR	Eielson Array	84.35	22	P	P	00 53 15.3	-1.0
	comp=Z,0.3nm,0.6s,baz=259,slow=4.7,SNR=5.1						
	comp=Z,0.3nm,0.6s						
MENT	Mentasta	84.79	25	P	P	00 53 18.0	-0.6
MENT				IAmb	IAmb	00 53 27.6	
	comp=Z,14nm,1.2s						
TORD	Torodi Ar. Bea	148.83	285	PKPbc	PKPbc	01 00 33.2	+0.1
	comp=Z,1.4nm,0.5s,baz=58,slow=2.7,SNR=18						
BDFB	Brasilia	151.28	140	PKPbc	PKPbc	01 00 39.3	+0.2
	comp=Z,0.5nm,0.4s,baz=231,slow=5.5,SNR=3.5						

*NNC **01** 00:40:57.0±3.4,36°.92N×70°.77E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=27.8km s-min=22.4km az=149.0*

*IDC **01** 00:40:58.0±5.8,36°.77N×70°.50E,h127km±29km,mb3.8/3, mbtmp3.9/9,MS3.5/1,Error ellipse: s-maj=73.0km s-min=18.0km az=156.0*

ISC 01 00:40:59.5±1.7,36°.8N±0°.1×70°.51E±0°.09,h150km,n21, σ1^s.20/28,mb3.9/3,2C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.84	24	P	Pn	00 42 23.9	-0.5
	SNR=62						
AML	Almayashu	5.84	24	P	Pn	00 42 23.6	-0.8
	0.8nm,0.3s						
AML				S	Sn	00 43 29.9	-0.8
	4.4nm,0.6s						
UCH	Uchtor	6.21	29	P	Pn	00 42 28.3	-1.1
	SNR=6.4						
KK31	Karatay Array	6.27	360	⇓P	Pn	00 42 30.9	+1.2
	4.0nm,0.3s,baz=184,slow=15,SNR=59						
KK31				⇓S	Sn	00 43 43.2	+2.8
	4.8nm,0.5s,baz=190,slow=22,SNR=10						
EKS2	Erkin-Say	6.34	22	P	Pn	00 42 30.8	0.0
	SNR=36						
KZA	Kyzart	6.39	33	P	Pn	00 42 32.0	+0.2
	SNR=9.2						
AAK	Ala-Archa	6.56	27	P	Pn	00 42 33.5	-0.2
	SNR=8.5						
AAK	Ala-Archa	6.56	27	P	Pn	00 42 32.9	-0.9
	3.4nm,0.3s,baz=172,slow=6.8,SNR=35						
AAK				S	Sn	00 43 47.3	-0.3
	5.2nm,0.4s,baz=136,slow=22,SNR=14						
CHMS	Chumysh	6.97	27	P	Pn	00 42 39.6	+0.5
	SNR=6.4						
CHMS	Chumysh	6.97	27	⇓P	Pn	00 42 38.0	-1.1
	5.4nm,0.7s						
CHMS				⇓S	Sn	00 43 56.4	-0.8
	4.0nm,0.5s						
TKM2	Tokmak 2	7.23	31	⇑P	Pn	00 42 41.3	-1.5
	3.0nm,0.7s						
TKM2				⇑S	Sn	00 44 03.2	-0.5
	3.6nm,0.7s						
GEYT	Alibeck	9.93	280	P	Pn	00 43 17.9	-0.7
	0.7nm,0.3s,baz=120,slow=8.1,SNR=9.2						
GEYT				S	Sn	00 45 07.5	-1.0
	1.3nm,0.3s,baz=45,slow=57,SNR=8.7						
MKAR	Makanchi Array	13.26	38	P	Pn	00 44 01.2	-0.7
	0.7nm,0.8s,baz=208,slow=11,SNR=9.6						
AB31	Akbulak array	14.61	332	⇓P	P	00 44 21.4	+0.3
	0.4nm,0.3s,baz=164,slow=12,SNR=51						
AB31				⇓S	S	00 47 06.9	-1.8
	1.0nm,0.5s,baz=151,slow=23,SNR=6.2						
KURBB	Kurchatov Arra	14.94	20	P	P	00 44 24.8	-0.1
	1.3nm,0.7s,baz=205,slow=11,SNR=5.4						
BVAR	Borovoye Array	16.19	360	P	P	00 44 40.2	+1.5
	1.1nm,0.6s,baz=154,slow=9.4,SNR=7.7						
BVAR				S	S	00 47 36.5	-1.7
	0.5nm,0.6s,baz=97,slow=36,SNR=2.8						
ZALV	Zalesovo Beam	19.78	26	P	P	00 45 18.3	+0.4
	4.3nm,0.5s,baz=221,slow=10,SNR=35						
NRIK	Noril'sk	33.87	11	P	P	00 47 29.1	+1.7
	1.1nm,0.5s,baz=239,slow=4.2,SNR=4.0						
	1.1nm,0.5s						
FINES	FINESS Array B	36.99	326	P	P	00 47 53.7	-0.4
	6.8nm,1.1s,baz=116,slow=6.3,SNR=4.6						
	6.8nm,1.1s						
ARCES	ARCESS Array B	40.69	338	P	P	00 48 27.0	+2.1
	2.2nm,0.9s,baz=119,slow=10,SNR=1.4						
	2.2nm,0.9s						
MJAR	Matsushiro Arr	53.20	69	LR	LR	01 12 58.5	
	comp=Z,46nm,20.3s,baz=189,slow=36						

*HEL **01** 00:41:45.9±0.2,67°.84N×20°.20E,h0km,ML1.5,Explosion*

*UPP **01** 00:41:45.7±0.0,67°.85N×20°.22E,h0km,ML2.6,Suspected explosion*

ISC 01 00:41:45.9±0.8,67°.83N±0°.03×20°.25E±0°.03,h0km,n26, σ1^s.08/40,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	15	P	Pg	00 41 48.2	-0.1
KUA				S	Sg	00 41 49.8	-0.1
RATU	Laukkuluspa	0.25	268	P	Pg	00 41 50.4	-0.2
KOVU	Salmi	0.39	355	P	Pg	00 41 52.9	-0.4
LANU	Lannavaara	0.69	71	PB	Pg	00 41 59.1	-0.1
LANU				SG	Sg	00 42 07.7	-0.3
LANU	Lannavaara	0.69	71	P	Pg	00 41 58.9	-0.2
DUNU	Dundret	0.72	170	P	Pg	00 41 59.7	0.0
SALU	Saltoluokta	0.81	237	P	Pg	00 42 00.8	-0.5
HEF	Hetta	1.40	64	*e*P	Pn	00 42 11.6	-1.1
HEF	Hetta	1.40	64	PG	Pn	00 42 11.6	-1.1
HEF				MSG		00 42 28.7	
	comp=Z,4.6nm,0.2s						
HEF				SG	Sg	00 42 30.0	-0.8
ERTU	Ertsjaerv	1.49	149	PG	Pn	00 42 13.1	-0.8
ERTU				SN	Sn	00 42 33.8	-0.2
ERTU	Ertsjaerv	1.49	149	P	Pn	00 42 13.2	-0.6
KLF	Kolari	1.55	111	PG	Pn	00 42 14.2	-0.4
	baz=296						
KLF				MSG		00 42 32.8	
	comp=Z,2.7nm,0.2s						
KLF				SN	Sg	00 42 35.7	+0.2
KTK1	Kautokeino	1.62	42	PG	Pn	00 42 15.4	-0.2
KTK1				SN	Sg	00 42 39.0	+1.2
HARU	Harads	1.70	170	P	Pn	00 42 17.0	+0.3
TRO	Tromso	1.87	346	PG	Pn	00 42 19.3	+0.3
TRO				SG	Sb	00 42 44.1	-0.7
STEI	Steigen	1.90	275	*e*P	Pn	00 42 20.0	+0.5
KALU	Kalix	2.33	147	PB	Pn	00 42 26.5	+1.1
	baz=329						
KALU				SG	Sb	00 42 57.7	-0.2
TOF	Tornio	2.38	136	PG	Pb	00 42 27.7	-1.8
TOF				MSG		00 42 56.9	
	comp=Z,2.0nm,0.2s						
TOF				SG	Sb	00 42 59.6	+0.2
SGF	Sodankyl	2.43	96	PG	Pb	00 42 28.7	-1.7
SGF				SB	Sb	00 42 59.2	-1.6
RNF	Rovaniemi	2.56	116	PB	Pn	00 42 30.2	+1.7
RNF				SG	Sb	00 43 04.2	-0.3
ARA0	ARCESS Array S	2.57	46	PN	Pn	00 42 29.1	+0.4
	baz=226						
ARA0				SG	Sb	00 43 05.6	+0.7
KEV	Kevo	3.12	49	SN	Sn	00 43 15.2	+1.1
KEV				MSG		00 43 18.1	
	comp=Z,1.6nm,0.2s						
VRF	Varrio	3.56	87	SG	Sb	00 43 33.1	-0.1
OUL	Oulu	3.57	138	SG	Sb	00 43 35.8	+2.3
OLKF	Oulanka, Finla	3.89	109	PG	Pb	00 42 57.2	+2.0
OLKF				SG	Sb	00 43 45.1	+2.4
KU6	Riekki	4.21	111	PG	Pb	00 43 01.7	+1.1
	baz=297						
KU6				SG	Sg	00 43 58.5	-2.2

*DJA **01** 00:43:05.7±1.1, 12°S±12°×11°8E±°, h10km, M4.3/12, mb4.5/6, mB5.1/2, MLv4.2/12, Mw(mB)4.4/2*
*IDC **01** 00:43:10.2±1.8, 11.°40S×117.°87E, h0km, mb3.6/2, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=67.4km s-min=25.9km az=52.0*
ISC 01 00:43:10.3±1.0**, 11.°49S**±0.°08×**117.°72E**±0.°07**, h34km, n19, σ3.s02**/21**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	Plampang	2.64	1	P	Pn	00 43 50.3	-0.3
TWSI	Taliwang, Sumb	2.85	343	P	Pn	00 43 52.4	-1.0
DBNI	Kabupaten Domp	3.02	11	P	Pn	00 43 55.7	-0.1
BASI	Baing, Sumba	3.08	66	P	Pn	00 43 56.7	+0.2
IGBI	Denpasar	3.67	316	P	Pn	00 44 02.6	-2.0
SRBI	Singaraja	4.19	324	P	Pn	00 44 11.3	-0.5
JAGI	Jajag, Banyuwa	4.62	310	P	Pn	00 44 14.7	-3.0
EDFI	Ende, Flores	4.76	56	P	Pn	00 44 19.8	0.0
ABJI	Asem Bagus	5.03	317	P	Pn	00 44 22.7	-0.6
	40nm,0.6s,0.3nm						
MMRI	Maumere	5.27	58	P	Pn	00 44 26.9	+0.1
	20nm,0.7s,0.2nm						
BLJI	Banyuglugur	5.51	312	P	Pn	00 44 28.5	-1.5
	43nm,0.6s,5µm1.9nm						
KMMI	Kalianget	5.76	320	P	Pn	00 44 33.1	-0.3
	30nm,1.5s,0.2nm						
BKSI	Bulukumba	6.57	21	P	Pn	00 44 45.9	+1.3
	16nm,0.7s,350nm0.1nm						
KAPI	Kappang	6.74	18	Pn	Pn	00 44 48.4	+1.5
	1.4nm,0.3s,baz=199,slow=7.6,SNR=12						
KAPI				Sn	Sn	00 45 57.0	-5.5
	3.7nm,0.3s,baz=156,slow=22,SNR=14						
	4.4nm,0.2s						
UGM	Wanagama	7.93	296	P	Pn	00 45 00.9	-2.4
WRA	Warramunga Arr	18.06	120	P	P	00 47 22.1	+3.2
	0.1nm,0.3s,baz=284,slow=14,SNR=4.9						
WRA				S	Sn	00 50 31.0	-8.4
	0.3nm,0.6s,baz=303,slow=25,SNR=2.8						
	0.4nm,0.6s						
ASAR	Alice Springs	19.59	130	P	Pn	00 47 39.6	+2.4
	0.1nm,0.3s,baz=319,slow=12,SNR=7.3						
ASAR				S	S	00 51 14.0	-1.2
	0.3nm,0.7s,baz=298,slow=21,SNR=4.2						
	1.5nm,0.8s						
MKAR	Makanchi Array	66.11	334	P	P	00 53 59.4	+5.4
	0.2nm,0.4s,baz=145,slow=6.7,SNR=9.0						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	70.92	340	P	P	00 54 28.3	+4.4
	0.4nm,0.5s,baz=163,slow=5.4,SNR=3.8						
	0.4nm,0.5s						

*TRN **01** 00:47:36.2, 10.°67N×62.°35W, h66km, MD3.1*
*FUNV **01** 00:47:37.4, 10.°48N×62.°25W, h20km, MW3.6*
ISC 01 00:47:34.3±1.3**, 10.°57N**±0.°04×**62.°24W**±0.°04**, h98**km±13km**, n17, σ1.s94**/31**, 1C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.82	84	⇑iP	Pn	00 47 54.5	+1.8
TRN				eS	Sn	00 48 06.3	-0.2
CRUV	Carupano	0.99	276	eP	Pn	00 47 55.0	+0.6
CRUV				eS	Sn	00 48 07.1	-2.5
GRGR	Grenville	1.66	20	eP	Pn	00 48 02.7	+0.3
GRGR				eS	Sn	00 48 22.6	-1.2
GRHS	Sauteurs	1.75	19	eP	Pn	00 48 04.4	+0.9
GRHS				eS	Sn	00 48 24.2	-1.5
GCMP	Grenada, Carri	2.06	22	eP	Pn	00 48 08.2	+0.6
GCMP				eS	Sn	00 48 31.3	-1.8
PCRV	Puerto La Cruz	2.39	261	eP	Pn	00 48 13.8	+1.8
PCRV				eS	Sn	00 48 40.8	-0.1
SVB	Belmont	2.85	20	eP	Pn	00 48 19.2	+1.1
SVB				eS	Sn	00 48 51.4	-0.4
PRGV	PARIAGUAN	2.98	233	eP	Pn	00 48 22.2	+2.5
PRGV				eS	Sn	00 48 55.1	+0.3
SLBI	Saint Lucia, B	3.65	20	eP	Pn	00 48 30.5	+1.8
SLBI				eS	Sn	00 49 08.4	-2.4
TACV	Tcata	4.73	265	eP	Pn	00 48 46.7	+3.2
TACV				eS	Sn	00 49 36.2	-1.1
LUEV	Luepa	4.76	171	eP	Pn	00 48 45.1	+1.3
LUEV				eS	Sn	00 49 36.0	-2.0
CACV	CAICARA DEL OR	5.19	235	eP	Pn	00 48 46.3	-3.4
CACV				eS	Sn	00 49 36.9	-11
BENV	Beln	5.31	264	eP	Pn	00 48 54.1	+2.8
BENV				eS	Sn	00 49 50.9	-0.4
TURV	Turiamo	5.51	269	eP	Pn	00 48 56.0	+2.0
TURV				eS	Sn	00 49 54.9	-1.2
BAUV	El Baul	5.95	255	eP	Pn	00 49 01.6	+1.7
BAUV				eS	Sn	00 50 04.4	-2.3
BAUV	El Baul	5.95	255	eP	Pn	00 49 01.2	+1.3
BAUV	El Baul	5.95	255	eS	Sn	00 50 03.1	-3.5

*IDC **01** 00:50:45.8±1.1, 31.°30N×84.°85E, h0km, mb3.6/10, mbtmp3.5/13, ML3.3/3, Error ellipse: s-maj=31.2km s-min=21.7km az=53.0*
ISC 01 00:50:51.1±0.9**, 31.°4N**±0.°1×**84.°9E**±0.°2**, h35km, n13, σ0.s46**/13**, mb3.7**/10**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.54	353	Pn	Pn	00 54 27.5	0.0
	0.1nm,0.3s,baz=178,slow=10,SNR=5.1						
	0.3nm,0.9s						
CMAR	Chiang Mai Arr	18.06	132	P	P	00 55 00.0	+0.5
	0.1nm,0.3s,baz=323,slow=11,SNR=6.4						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	19.82	348	P	P	00 55 18.8	+0.3
	baz=164,slow=10,SNR=4.4						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	22.57	360	P	P	00 55 48.1	0.0
	0.2nm,0.3s,baz=179,slow=9.8,SNR=2.4						
	0.2nm,0.3s						
SONM	Songino Array	23.21	39	P	P	00 55 55.1	+0.2
	0.5nm,0.8s,baz=226,slow=9.6,SNR=3.9						
	0.5nm,0.8s						
BVAR	Borovoye Array	24.08	338	P	P	00 56 03.3	+0.2
	0.2nm,0.6s,baz=133,slow=11,SNR=2.1						
	0.2nm,0.6s						
FINES	FINESS Array B	48.17	327	P	P	00 59 27.5	-0.1
	2.2nm,0.9s,baz=90,slow=7.6,SNR=5.3						
	2.2nm,0.9s						
ARCES	ARCESS Array B	50.36	337	P	P	00 59 44.0	-0.2
	1.1nm,0.7s,baz=112,slow=15,SNR=1.0						
	1.1nm,0.7s						
GERES	GERESS Array B	55.19	310	P	P	01 00 20.6	+0.2
	0.4nm,0.8s,baz=53,slow=5.3,SNR=1.9						
	0.4nm,0.8s						
NOA	NORSAR Array B	55.30	325	P	P	01 00 19.7	-1.1
	1.2nm,0.8s,baz=89,slow=6.8,SNR=1.5						
	1.2nm,0.8s						
KEST	Kesra	61.67	296	P	P	01 01 05.9	+0.2
	0.9nm,0.6s,baz=73,slow=11,SNR=4.1						
	0.9nm,0.6s						
WRA	Warramunga Arr	69.65	130	P	P	01 01 56.6	-0.6
	0.9nm,0.9s,baz=317,slow=6.1,SNR=3.0						
	0.9nm,0.9s						
TORD	Torodi Ar. Bea	77.56	278	P	P	01 02 44.1	+0.2
	0.6nm,0.8s,baz=45,slow=6.2,SNR=3.4						
	0.6nm,0.8s						

*NEIC **01** 00:52:31.0±2.3, 0.°28S±0.°05×123.°70E±0.°06, h127km±2km, mb4.5/29, Error ellipse: s-maj=8.4km s-min=7.5km az=121.0*
*DJA **01** 00:52:32.9±0.2, 0°S±2°×12°4E±°, h112km±6km, M4.7/23, mb4.8/17, mB5.1/12, MLv5.1/23, Mw(mB)4.4/12*
*IDC **01** 00:52:33.1±0.6, 0.°26S×123.°53E, h152km±5km, mb3.9/18, mbtmp4.3/20, MS3.0/7, Error ellipse: s-maj=15.3km s-min=8.8km az=87.0*
ISC 01 00:52:32.9±0.4**, 0.°34S**±0.°04×**123.°68E**±0.°04**, h150km, n119, σ1.s62**/130**, mb4.5**/43**, 2C-1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	0.95	18	P	Pn	00 52 55.5	-1.8
LUWI	Luwuk	1.15	232	Pn	Pn	00 52 56.2	-2.8
LUWI				Sn	Sn	00 53 14.1	-4.9
LUWI	Luwuk	1.15	232	P	Pn	00 52 56.5	-2.5
LUWI	Luwuk	1.15	232	P	Pn	00 52 56.5	-2.5
LUWI				S	Sn	00 53 14.0	-4.9
SANI	Sanana	2.86	126	P	Pn	00 53 15.1	-3.5
SANI	Sanana	2.86	126	P	Pn	00 53 14.9	-3.7
TOLI2	Tolitoli	3.24	296	Pn	Pn	00 53 21.5	-1.8
TOLI2				Sn	Sn	00 53 59.5	-2.9
TOLI2	Tolitoli	3.24	296	P	Pn	00 53 22.5	-0.9
LBMI	Labuha	3.83	94	P	Pn	00 53 28.2	-2.8
MPSI	Mapaga	3.84	280	P	Pn	00 53 30.6	-0.6
TNTI	Ternate	3.84	73	Pn	Pn	00 53 28.7	-2.5
TNTI				Sn	Sn	00 54 12.4	-4.0
TNTI	Ternate	3.84	73	P	Pn	00 53 29.2	-2.0
TNTI	Ternate	3.84	73	P	Pn	00 53 28.4	-2.8
SGSI	Sangihe	4.40	25	P	Pn	00 53 37.7	-0.8
NLAI	Namlea	4.47	130	P	Pn	00 53 38.4	-1.0
TTSI	Tana Toraja	4.71	235	P	Pn	00 53 42.3	-0.2
TTSI				S	Sn	00 54 36.3	-0.4
BBSI	Bau Bau	5.24	192	P	Pn	00 53 50.1	+0.6
	67nm,0.5s,944nm0.5nm						
SPSI	Sidrap Palu	5.32	227	P	Pn	00 53 50.7	+0.1
	218nm,0.9s,3µm1.2nm						
KRAI	Karang Ratu	5.56	122	P	Pn	00 53 53.8	-0.1
	172nm,0.8s,5µm2.5nm						
PMSI	Majene	5.71	237	P	Pn	00 53 56.0	+0.2
	94nm,0.9s,2µm1.0nm						
KAPI	Kappang	6.08	220	Pn	Pn	00 54 00.6	-0.2
KAPI				Sn	Sn	00 55 08.1	-1.4
KAPI	Kappang	6.08	220	P	Pn	00 54 01.3	+0.5
	16nm,0.3s,baz=355,slow=4.5,SNR=16						
KAPI				S	Sn	00 55 09.1	-0.5
	71nm,0.7s,baz=203,slow=22,SNR=12						
KAPI				LR	LR	00 56 03.9	
	comp=Z,199nm,20.9s,baz=6.5,slow=35						
BKSI	Bulukumba	6.10	216	P	Pn	00 54 00.2	-0.8
	82nm,0.5s,880nm0.4nm						
MKS	Makassar	6.42	221	P	Pn	00 54 05.2	-0.1
	86nm,0.9s,924nm0.5nm						
BNDI	Bandanaira	7.48	124	P	Pn	00 54 19.8	+0.4
BNDI	Bandanaira	7.48	124	P	Pn	00 54 19.1	-0.3
	210nm,0.6s,5µm1.0nm						
SWI	Sorong	7.59	94	P	Pn	00 54 20.0	-1.0
	67nm,0.6s,0.5nm						
DAV	Davao City (W)	7.60	14	P	Pn	00 54 22.4	+1.4
	47nm,0.3s,baz=183,slow=5.3,SNR=5.3						
DAV				S	Sn	00 55 46.3	+0.4
	69nm,0.5s,baz=56,slow=22,SNR=1.5						
DAV				LR	LR	00 57 31.1	
	comp=Z,159nm,20.0s,baz=226,slow=39						
SIJI	Sorong	7.60	94	P	Pn	00 54 19.8	-1.3
	18nm,0.6s,2µm0.3nm						
MMRI	Maumere	8.37	190	Pn	Pn	00 54 29.2	-2.1
EDFI	Ende, Flores	8.59	193	P	Pn	00 54 34.2	-0.2
	33nm,0.6s,648nm						
FAKI	Fak Fak	8.94	107	Pn	Pn	00 54 37.0	-2.0
FAKI	Fak Fak	8.94	107	P	Pn	00 54 37.2	-1.7
FAKI	Fak Fak	8.94	107	P	Pn	00 54 36.7	-2.2
	26nm,0.6s,1µm						
SOEI	Soe	9.37	176	Pn	Pn	00 54 45.6	+0.7
SOEI	Soe	9.37	176	P	Pn	00 54 47.6	+2.8
	59nm,0.9s,1µm						
KKM	Kota Kinabalu	9.79	310	Pn	Pn	00 54 47.5	-2.8
KKM	Kota Kinabalu	9.79	310	P	Pn	00 54 51.1	+0.8
	45nm,1.4s						
PLAI	Plampang	10.28	215	P	Pn	00 54 57.6	+0.8
MTN	Manton Dam	14.46	150		Pn	00 55 49.6	-1.0
KNRA	Kununurra	16.05	162	P	Pn	00 56 10.3	-0.1
KNRA				IAmb	IAmb	00 56 14.1	
	comp=Z,28nm,0.8s						
KNRA	Kununurra	16.05	162	P	P	00 56 11.9	+1.1
LEM	Lembang	17.27	248	P	Pn	00 56 25.9	+0.5
	comp=Z,14nm,0.6s,baz=145,slow=23,SNR=6.3						
FITZ	Fitzroy Crossi	17.75	174	P	P	00 56 29.1	-0.5
FITZ	Fitzroy Crossi	17.75	174	P	Pn	00 56 31.1	+0.2
MYKOM	Kota Tinggi	19.94	276	P	P	00 56 54.5	+1.0
MBWA	Marble Bar	21.05	190	P	P	00 57 04.0	-1.3
MBWA				IAmb	IAmb	00 57 06.7	
	comp=Z,14nm,0.8s						
PSA00	Pilbara Seismi	21.44	190	P	P	00 57 07.7	-1.6
PSA00				IAmb	IAmb	00 57 11.2	
	comp=Z,15nm,0.8s						
PSA00	Pilbara Seismi	21.44	190	P	P	00 57 07.7	-1.6
WB0	Warramunga Arr	21.98	152	P	P	00 57 13.8	-1.3
WRA	Warramunga Arr	22.10	152	P	P	00 57 15.1	-1.3
WRA	Warramunga Arr	22.10	152	P	P	00 57 16.4	0.0
	comp=Z,26nm,0.7s,baz=332,slow=9.9,SNR=95						
	comp=Z,26nm,0.7s						
WB2	Warramunga Arr	22.11	152	P	P	00 57 16.4	0.0
WB2				IAmb	IAmb	00 57 19.3	
	comp=Z,28nm,0.7s						
WR0	Warramunga Arr	22.21	152	P	P	00 57 17.4	0.0
WR0				IAmb	IAmb	00 57 20.2	
	comp=Z,22nm,0.8s						
TPUB	Ta-pu	23.68	353	P	P	00 57 31.7	+0.7
YULB	Yu-li	23.70	355	P	P	00 57 32.3	+1.1
WRKA	Warakurna	24.96	170	P	P	00 57 43.9	+1.3
AS31	Alice Springs	25.22	158	P	P	00 57 46.4	+1.3
ASAR	Alice Springs	25.22	158	P	P	00 57 46.0	+0.9
ASAR	Alice Springs	25.22	158	P	P	00 57 46.6	+1.6
	comp=Z,6.7nm,0.7s,baz=327,slow=6.9,SNR=57						
ASAR				LR	LR	01 07 44.5	
	comp=Z,24nm,19.4s,baz=146,slow=36						
	comp=Z,6.7nm,0.7s						
QIS	Mount Isa	25.42	143	P	P	00 57 49.0	+2.1
FORT	Forrest	30.56	173	P	P	00 58 32.6	+0.2
FORT	Forrest	30.56	173	P	P	00 58 33.5	+1.1
CMAR	Chiang Mai Arr	30.66	309	P	P	00 58 33.8	+0.3
	comp=Z,0.9nm,0.7s,baz=142,slow=7.9,SNR=6.7						
CMAR				pP	pP	00 59 05.3	+0.3
	comp=Z,0.7nm,0.7s,baz=126,slow=6.5,SNR=2.9						
	comp=Z,0.9nm,0.7s						
GYA	Guiyang	31.29	330	eP	P	00 58 41.0	+1.9
GYA				pmax	pmax		
	comp=Z,17nm,0.5s						
MULG	Mulgathing	31.37	163	P	P	00 58 41.1	+1.5
NJ2	Nanjing	32.54	352	eP	P	00 58 51.2	+1.5
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	PanZhiHua	34.05	323	P	P	00 59 04.7	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,110nm,5.0s						
STKA	Stephens Creek	35.65	153	P	P	00 59 17.9	+1.3
STKA	Stephens Creek	35.65	153	P	P	00 59 17.7	+1.1
	comp=Z,3.4nm,0.5s,baz=326,slow=9.6,SNR=13						
	comp=Z,3.4nm,0.5s						
HTT	Hallett	35.90	158	P	P	00 59 20.6	+1.8
LYN	LuoYang	36.26	344	⇓P	P	00 59 22.6	+0.8
LYN				pP	pP	00 59 52.8	-1.6
LYN				pmax	pmax		
	comp=Z,14nm,0.7s						
LYN				pmax	pmax		
	comp=Z,170nm,5.3s						
XAN	Xi'an	36.90	339	⇑P	P	00 59 28.0	+0.7
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
CMSA	Cobar Meteorol	37.38	148	P	P	00 59 33.9	+2.6
KSRS	Korea Array	37.81	6	P	P	00 59 34.3	-0.5
	comp=Z,1.9nm,0.7s,baz=176,slow=9.4,SNR=6.6						
KSRS				LR	LR	01 16 01.7	
	comp=Z,8.9nm,20.1s,baz=210,slow=37						
	comp=Z,1.9nm,0.7s						
HNS	HongShan	38.46	348	⇑P	P	00 59 41.5	+1.3
HNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MJAR	Matsushiro Arr	39.09	19	P	P	00 59 44.5	-1.1
	comp=Z,20nm,1.4s,baz=191,slow=9.0,SNR=7.6						
	comp=Z,20nm,1.4s						
SHL	Shillong	40.08	312	P	P	00 59 55.3	+1.2
SHL				IAmb	IAmb	01 00 31.7	
	comp=Z,6.1nm,0.8s						
CAN	Canberra	42.05	149	P	P	01 00 11.7	+1.8
CAN				IAmb	IAmb	01 00 13.7	
	comp=Z,13nm,0.7s						
CAN	Canberra	42.05	149	P	P	01 00 12.2	+2.3
HHC	Hu-ho-hao-te	42.45	346	eP	P	01 00 15.9	+2.8
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,6.6s						
XLT	XiLinHaoTe	44.56	352	eP	P	01 00 32.2	+2.2
XLT				pP	pP	01 00 59.1	-4.6
XLT				sP	sP	01 01 14.3	-6.3
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,140nm,6.0s						
USRK	Ussuriysk Ar.	44.96	8	P	P	01 00 32.8	-0.1
	comp=Z,7.2nm,0.7s,baz=188,slow=6.0,SNR=24						
	comp=Z,7.2nm,0.7s						
MDJ	Mudanjiang	45.07	6	P	P	01 00 36.6	+2.8
MDJ				pmax	pmax		
	comp=Z,20nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,210nm,4.2s						
GTA	Gaotai	45.19	334	eP	P	01 00 36.4	+1.3
GTA				pP	pP	01 01 07.8	-1.1
GTA				sP	sP	01 01 21.9	-3.9
GTA				pmax	pmax		
	comp=Z,17nm,1.0s						
ASAJ	Asahikawa	47.37	19	LR	LR	01 22 22.2	
	comp=Z,12nm,18.1s,baz=166,slow=38						
KLR	Kul'dur	49.86	7	LR	LR	01 25 04.9	
	comp=Z,11nm,18.7s,baz=174,slow=39						
ULN	Ulaanbaatar	50.14	345	P	P	01 01 12.4	-0.8
ULN				IAmb	IAmb	01 01 14.7	
	comp=Z,2.8nm,0.7s						
SONM	Songino Array	50.28	345	P	P	01 01 13.8	-0.4
SONM	Songino Array	50.28	345	P	P	01 01 13.4	-0.8
	comp=Z,2.3nm,0.6s,baz=159,slow=7.9,SNR=12						
	comp=Z,2.3nm,0.6s						
HEH	HeiHe	50.50	3	eP	P	01 01 15.5	-0.1
HEH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ	Urumqi	54.44	328	eP	P	01 01 45.8	+1.0
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
MK31	Makanchi Array	59.26	328	P	P	01 02 17.6	-1.1
MK31				IAmb	IAmb	01 02 20.8	
	comp=Z,5.0nm,1.2s						
MKAR	Makanchi Array	59.26	328	P	P	01 02 16.8	-1.9
MKAR	Makanchi Array	59.26	328	P	P	01 02 17.9	-0.8
	comp=Z,1.7nm,0.6s,baz=121,slow=8.0,SNR=23						
MKAR				pP	pP	01 02 51.5	-2.2
	comp=Z,1.5nm,0.8s,baz=131,slow=7.5,SNR=3.5						
	comp=Z,1.7nm,0.6s						
MAKZ	Makanchi	59.43	328	P	P	01 02 18.6	-1.3
MAKZ				IAmb	IAmb	01 02 21.4	
	comp=Z,6.6nm,1.3s						
PETK	Petropavlovsk-	60.33	23	P	P	01 02 26.4	+0.6
	comp=Z,2.6nm,0.6s,baz=214,slow=4.0,SNR=8.6						
PETK				pP	pP	01 03 02.1	+0.8
	comp=Z,3.9nm,0.7s,baz=160,slow=4.6,SNR=4.0						
	comp=Z,2.6nm,0.6s						
AAK	Ala-Archa	61.42	321	P	P	01 02 33.4	-0.3
	comp=Z,0.7nm,0.5s,baz=110,slow=15,SNR=2.1						
AAK				pP	pP	01 03 09.8	+1.3
	comp=Z,1.2nm,0.7s,baz=153,slow=6.8,SNR=2.6						
	comp=Z,0.7nm,0.5s						
KBL	Kabul	61.68	310	P	P	01 02 34.3	-1.3
YAK	Yakutsk	62.37	3	P	P	01 02 39.4	+0.1
RAO	Raoul Island	62.56	123	P	P	01 02 40.7	-0.6
ZAA0	Zalesovo Array	62.90	335	P	P	01 02 41.3	-1.8
ZAA0				IAmb	IAmb	01 02 44.0	
	comp=Z,4.8nm,1.0s						
ZALV	Zalesovo Beam	62.90	335	P	P	01 02 41.4	-1.6
ZALV	Zalesovo Beam	62.90	335	P	P	01 02 41.0	-2.0
	comp=Z,3.4nm,0.8s,baz=123,slow=5.3,SNR=15						
ZALV				pP	pP	01 03 17.7	-0.6
	comp=Z,0.9nm,0.8s,baz=123,slow=7.1,SNR=2.0						
	comp=Z,3.4nm,0.8s						
MA2	Magadan	63.38	15	P	P	01 02 47.1	+1.0
KURBB	Kurchatov Arra	63.60	330	P	P	01 02 45.9	-1.8
	comp=Z,3.5nm,0.7s,baz=130,slow=6.5,SNR=26						
KURBB				pP	PcP	01 03 21.1	-1.7
	comp=Z,1.4nm,0.7s,baz=117,slow=6.2,SNR=3.0						
	comp=Z,3.5nm,0.7s						
KURK	Kurchatov	63.61	330	P	P	01 02 46.8	-1.0
KURK				IAmb	IAmb	01 02 49.6	
	comp=Z,7.1nm,0.8s						
BVAR	Borovoye Array	69.12	329	P	P	01 03 21.3	-1.5
	comp=Z,0.7nm,0.6s,baz=128,slow=8.9,SNR=8.0						
	comp=Z,0.7nm,0.6s						
GEYT	Alibeck	71.12	310	P	P	01 03 33.8	-1.6
	comp=Z,0.9nm,0.8s,baz=101,slow=12,SNR=2.7						
	comp=Z,0.9nm,0.8s						
TIXI	Tiksi	71.95	2	P	P	01 03 38.6	-0.9
TIXI				IAmb	IAmb	01 03 40.3	
	comp=Z,12nm,1.1s						
ABKAR	Akbulak array	73.41	322	P	P	01 03 48.6	-0.1
ABKAR	Akbulak array	73.41	322	P	P	01 03 47.4	-1.2
ABKAR				IAmb	IAmb	01 03 53.1	
	comp=Z,2.1nm,1.4s						
NRIK	Noril'sk	73.67	347	P	P	01 03 49.5	-0.3
NRIK				IAmb	IAmb	01 03 50.2	
	comp=Z,5.9nm,0.7s						
NRIK	Noril'sk	73.67	347	P	P	01 03 49.2	-0.5
	comp=Z,5.5nm,0.6s,baz=130,slow=5.9,SNR=25						
	comp=Z,5.5nm,0.6s						
VNDA	Vanda	79.82	172	P	P	01 04 25.9	+1.8
	comp=Z,1.2nm,0.8s,baz=318,slow=6.3,SNR=4.1						
	comp=Z,1.2nm,0.8s						
KDAK	Kodiak Island	86.93	32	LR	LR	01 42 52.5	
	comp=Z,21nm,21.0s,baz=285,slow=35						
ILAR	Eielson Array	90.06	25	P	P	01 05 15.1	-0.4
	comp=Z,0.5nm,0.6s,baz=241,slow=5.2,SNR=13						
	comp=Z,0.5nm,0.6s						
SPITS	Spitsbergen Ar	93.85	349	P	P	01 05 32.1	-0.6
	comp=Z,12nm,1.0s,baz=55,slow=12,SNR=4.4						
TORD	Torodi Ar. Bea	121.16	285	PKP	PKPdf	01 11 08.1	-1.0
	comp=Z,0.2nm,0.6s,baz=112,slow=1.1,SNR=1.6						

*SOME **01** 01:20:15.7, 39.°28N×71.°93E, h5km*
*NNC **01** 01:20:19.2±3.0, 38.°76N×72.°66E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=21.6km s-min=18.0km az=175.0*
*IDC **01** 01:20:20.4±6.2, 38.°86N×72.°37E, h23km±41km, mb3.6/7, mbtmp3.6/14, ML3.1/7, MS3.1/2, Error ellipse: s-maj=21.8km s-min=16.4km az=149.0*
ISC 01 01:20:18.4±0.9**, 39.°14N**±0.°06×**72.°44E**±0.°05**, h10km, n47, σ2.s61**/57**, mb3.7**/7**, 5C-7D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.14	17	P	Pb	01 21 15.2	+0.8
	SNR=262						
AML	Almayashu	3.14	17	⇑Pn	Pb	01 21 14.9	+0.4
	4.2nm,0.4s						
AML				⇑Sn	Sg	01 21 59.6	+0.4
	25nm,0.7s						
UCH	Uchtor	3.46	26	P	Pb	01 21 19.7	-0.4
	SNR=9.3						
KZA	Kyzart	3.63	35	P	Pb	01 21 22.2	-0.7
	SNR=6.5						
MRKS	Merke	3.65	9	eP	Pb	01 21 22.5	-0.5
	38nm,0.3s						
MRKS				eS	Sg	01 22 10.9	-4.7
	31nm,0.4s						
EKS2	Erkin-Say	3.66	16	P	Pb	01 21 23.6	+0.4
	SNR=19						
AAK	Ala-Archa	3.83	23	P	Pb	01 21 25.7	-0.4
	SNR=8.9						
AAK	Ala-Archa	3.83	23	Pn	Pb	01 21 24.8	-1.3
	3.5nm,0.3s,baz=185,slow=6.8,SNR=72						
AAK				Sn	Sb	01 22 15.2	+2.7
	2.4nm,0.3s,baz=98,slow=20,SNR=10						
	8.9nm,0.4s						
KK31	Karatay Array	4.22	340	⇓Pn	Pb	01 21 29.4	-3.3
	12nm,0.3s,baz=157,slow=11,SNR=672						
KK31				⇑Sn	Sb	01 22 24.1	+0.4
	18nm,0.6s,baz=146,slow=23,SNR=4.8						
KK31				⇓Lg	Lg	01 22 46.3	
	26nm,0.7s						
CHMS	Chumysh	4.23	24	P	Pb	01 21 31.1	-1.9
	SNR=24						
CHMS	Chumysh	4.23	24	⇑Pn	Pb	01 21 30.0	-2.9
	11nm,0.5s						
CHMS				⇑Sn	Sb	01 22 25.0	+1.0
	24nm,0.9s						
CHMS				⇓Lg	Lg	01 22 46.3	
	17nm,0.6s						
USP	Ospenovka	4.41	20	P	Pb	01 21 33.2	-2.7
	SNR=7.7						
TKM2	Tokmak 2	4.47	31	P	Pb	01 21 33.9	-3.1
	SNR=6.5						
TKM2	Tokmak 2	4.47	31	⇓Pn	Pb	01 21 33.4	-3.7
	8.1nm,0.9s						
TKM2				⇓Lg	Lg	01 22 53.8	
	13nm,0.7s						
DGS	Degeres	4.81	30	Pg	Pg	01 21 49.8	-0.7
	9.4nm,0.8s						
DGS				Lg	Lg	01 22 57.0	
	18nm,0.9s						
DGS	Degeres	4.81	30	eP	Pb	01 21 45.5	+2.8
	9.3nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DGS				eS	Sg	01 22 49.6	-3.2
	14nm,0.6s						
MTBS	Maitube	5.00	36	Pg	Pg	01 21 51.9	-2.1
	6.9nm,0.6s						
MTBS				Lg	Lg	01 23 01.7	
	12nm,0.7s						
MTBS	Maitube	5.00	36	eP	Pg	01 21 50.3	-3.7
	6.9nm,0.4s						
MTBS				eS	Sg	01 22 57.9	-0.8
	12nm,0.3s						
TNSS	Tian-Shan	5.17	40	Pg	Pg	01 21 54.8	-2.7
	4.9nm,0.5s						
TNSS				Lg	Lg	01 23 05.9	
	7.9nm,0.5s						
TNSS	Tian-Shan	5.17	40	eP	Pg	01 21 54.1	-3.4
	4.9nm,0.4s						
TNSS				eS	Sg	01 23 03.9	-0.6
	7.9nm,0.4s						
MDOK	Medeo	5.32	39	⇓Pn	Pb	01 21 47.0	-4.5
	4.9nm,0.6s						
MDOK				Pg	Pg	01 21 57.4	-2.8
	4.5nm,0.3s						
MDOK				Lg	Lg	01 23 10.2	
	7.3nm,0.6s						
MDOK				⇓Lg	Lg	01 23 19.9	
	22nm,1.0s						
MDOK	Medeo	5.32	39	eP	Pg	01 21 57.6	-2.5
	5.2nm,0.5s						
MDOK				eS	Sg	01 23 11.2	+2.3
	10nm,0.8s						
KOTS	Kotyrbulak	5.40	39	Pg	Pg	01 21 59.2	-2.6
	5.9nm,0.4s						
KOTS				Lg	Lg	01 23 13.2	
	20nm,0.9s						
KTBS	Karatobe	5.57	34	Pg	Pg	01 22 02.5	-2.6
	3.4nm,0.5s						
KTBS				Lg	Lg	01 23 18.8	
	22nm,0.8s						
KTBS	Karatobe	5.57	34	eP	Pg	01 22 00.7	-4.3
	3.3nm,0.6s						
KTBS				eS	Sg	01 23 15.8	-1.3
	22nm,0.5s						
KUU	Kurty	5.58	30	Pg	Pg	01 22 01.6	-3.6
	5.7nm,0.9s						
KUU				Lg	Lg	01 23 18.6	
	12nm,0.7s						
KUU	Kurty	5.58	30	eP	Pg	01 22 01.3	-3.9
	5.6nm,0.5s						
KUU				eS	Sg	01 23 16.9	-0.5
	12nm,0.7s						
CHKK	Chushkaly	5.82	34	eP	Pg	01 22 06.7	-3.1
	1.7nm,0.3s						
CHKK				eS	Sg	01 23 25.9	+0.8
	5.5nm,0.4s						
SATY	Saty	5.97	47	Pg	Pg	01 22 08.5	-4.1
	2.7nm,0.8s						
SATY				Lg	Lg	01 23 29.4	
	8.8nm,1.2s						
ARXS	Arharly	6.48	37	Pg	Pg	01 22 17.7	-4.6
ARXS				Lg	Lg	01 23 45.9	
PDGK	Podgornoye	6.76	50	Pg	Pg	01 22 23.2	-4.7
	1.1nm,0.5s						
PDGK				Lg	Lg	01 23 54.6	
	3.5nm,1.4s						
KNOS	Konyrlen	7.25	42	Pg	Pg	01 22 32.2	-5.0
	2.2nm,0.9s						
KNOS				Lg	Lg	01 24 09.6	
	3.4nm,1.2s						
OTUK	Ortayu	9.10	360	Pg	Pg	01 23 05.2	
	0.8nm,0.9s						
OTUK				Lg	Lg	01 25 07.4	
	1.8nm,0.9s						
MKAR	Makanchi Array	10.51	40	Pn	Pn	01 22 55.1	+6.1
	baz=226,slow=12,SNR=6.0						
	0.6nm,0.9s						
GEYT	Alibeck	11.29	268	Pn	Pn	01 22 59.3	-0.5
	0.3nm,0.3s,baz=102,slow=13,SNR=6.4						
GEYT				Sn	Sn	01 25 02.7	-3.3
	0.1nm,0.3s,baz=160,slow=4.7,SNR=2.6						
	1.0nm,0.5s						
KURBB	Kurchatov Arra	12.26	19	Pn	Pn	01 23 16.9	+4.0
	0.1nm,0.3s,baz=215,slow=12,SNR=2.8						
	0.3nm,0.6s						
BVAR	Borovoye Array	13.96	355	Pn	Pn	01 23 39.3	+3.2
	baz=154,slow=12,SNR=4.2						
BVAR				LR	LR	01 29 12.5	
	comp=Z,64nm,19.5s,baz=256,slow=37						
	0.5nm,0.5s						
AKTO	Aktyubinsk	15.21	323	Pn	Pn	01 23 54.8	+1.7
	0.3nm,0.3s,baz=120,slow=9.3,SNR=2.4						
	1.2nm,0.5s						
ZALV	Zalesovo Beam	17.05	26	P	P	01 24 20.2	+1.8
	0.2nm,0.3s,baz=216,slow=11,SNR=6.9						
	0.9nm,0.5s						
PALK	Pallekele	32.59	165	LR	LR	01 40 39.8	
	comp=Z,34nm,19.2s,baz=243,slow=38						
FINES	FINESS Array B	35.98	324	P	P	01 27 19.4	+0.4
	3.2nm,0.8s,baz=104,slow=8.0,SNR=7.7						
	3.2nm,0.8s						
ARCES	ARCESS Array B	39.17	336	P	P	01 27 46.8	+0.8
	2.4nm,0.9s,baz=119,slow=9.9,SNR=6.1						
	2.4nm,0.9s						
HFS	Hagfors	41.74	320	P	P	01 28 08.5	+1.2
	2.0nm,0.8s,baz=88,slow=16,SNR=1.2						
	2.0nm,0.8s						
TORD	Torodi Ar. Bea	66.93	268	P	P	01 31 11.2	0.0
	0.2nm,0.3s,baz=51,slow=5.4,SNR=6.3						
	0.2nm,0.3s						
YKA	Yellowknife Ar	78.56	3	P	P	01 32 22.4	+2.8
	0.2nm,0.9s,baz=344,slow=5.9,SNR=3.6						
	0.2nm,0.9s						
WRA	Warramunga Arr	82.44	123	P	P	01 32 39.9	-1.2
	0.3nm,0.8s,baz=330,slow=5.5,SNR=2.6						
	0.3nm,0.8s						
ASAR	Alice Springs	84.85	126	P	P	01 32 53.4	0.0
	0.3nm,1.0s,baz=297,slow=6.1,SNR=2.1						
	0.3nm,1.0s						

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*NOU **01** 01:26:05.0, 37°.72S×176°.64E, h210km, MLv3.6/13, North Island, New Zealand*
*WEL **01** 01:26:09.5±0.6, 38°S±3°×17°7E±°, h160km±5km, M2.9/55, MLv2.9/55, Error ellipse: s-maj=0.0km s-min=0.0km az=50.0, confirmed*
ISC 01 01:26:03.9±1.9**, 37°.66S**±0°.06×**176°.58E**±0°.06**, h207**km±10km**, n143,** σ1°.68/159**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
OPRZ	Ohinepanea	0.19	186	P	Pn	01 26 31.6	+0.6
OPRZ				S	S	01 26 49.7	-2.6
TGRZ	Tauranga	0.27	254	P	Pn	01 26 31.9	+0.8
MARZ	Manawahe	0.34	167	P	Pn	01 26 32.2	+1.0
WHRZ	Whale Island	0.37	123	P	Pn	01 26 33.0	+1.7
LIRZ	Lichensteins R	0.38	204	P	Pn	01 26 32.3	+1.0
KARZ	Kaharoa	0.45	216	P	Pn	01 26 32.6	+1.0
OMRZ	Omania	0.48	200	P	Pn	01 26 32.8	+1.1
MKRZ	Makatiti	0.49	191	P	Pn	01 26 33.5	+1.7
KMRZ	Kaimai	0.54	249	P	Pn	01 26 33.0	+1.1
NGRZ	Ngongotaha	0.54	215	P	Pn	01 26 33.3	+1.3
TARZ	Mount Tarawera	0.58	186	P	Pn	01 26 33.6	+1.4
RRRZ	Republican Roa	0.68	184	P	Pn	01 26 33.8	+1.2
URZ	Urewera	0.73	145	P	Pn	01 26 33.4	+0.7
URZ	Urewera	0.73	145	P	Pn	01 26 33.5	+0.7
URZ				S	S	01 26 52.2	-3.0
GRRZ	Galatos Road	0.79	208	P	Pn	01 26 34.6	+1.5
MUGZ	Murupara	0.83	170	P	Pn	01 26 34.5	+1.2
TOZ	Tahuroa Road	0.86	265	P	Pn	01 26 34.9	+1.4
RUGZ	Raukumara Rang	0.92	110	P	Pn	01 26 34.2	+0.3
RUGZ				S	S	01 26 54.1	-3.1
ALRZ	Allen Road	0.92	192	P	Pn	01 26 35.3	+1.5
HAZ	Te Kaha	0.96	96	P	Pn	01 26 34.7	+0.7
HAZ				S	S	01 26 54.8	-2.5
MWZ	Matawai	1.01	132	P	Pn	01 26 35.4	+1.0
MWZ				S	S	01 26 56.0	-2.1
RTZ	Ruatahuna	1.01	162	P	Pn	01 26 35.7	+1.3
RTZ				S	S	01 26 56.3	-2.0
KUTZ	Kaahu Road	1.02	216	P	Pn	01 26 36.3	+1.8
RAGZ	Rawiri	1.07	142	P	Pn	01 26 36.5	+1.7
RAGZ				S	S	01 26 57.3	-1.6
KUZ	Kuaotunu	1.14	323	P	Pn	01 26 36.4	+1.1
KUZ	Kuaotunu	1.14	323	P	Pn	01 26 36.5	+1.1
MRHZ	Matea Rd	1.18	186	P	Pn	01 26 37.1	+1.5
PKGZ	Pakihiroa	1.21	102	P	Pn	01 26 37.3	+1.4
MTHZ	Maungataniwha	1.21	170	P	Pn	01 26 37.5	+1.7
TWGZ	Tauwhareparae	1.22	116	P	Pn	01 26 37.8	+1.9
TWGZ				S	S	01 27 00.7	0.0
WATZ	Wairara	1.25	212	P	Pn	01 26 38.1	+2.0
MKAZ	Moumakai	1.26	296	P	Pn	01 26 37.8	+1.6
TKGZ	Te Karaka	1.27	128	P	Pn	01 26 38.2	+2.0
TKGZ				S	S	01 26 59.7	-1.5
SNGZ	Shannon Statio	1.27	152	P	Pn	01 26 38.2	+1.9
SNGZ				S	S	01 26 59.9	-1.5
RAHZ	Arahi	1.32	163	P	Pn	01 26 39.1	+2.4
RAHZ				S	S	01 27 01.2	-0.9
MXZ	Matakaoa Point	1.37	87	P	Pn	01 26 38.9	+1.8
MXZ	Matakaoa Point	1.37	87	P	Pn	01 26 38.7	+1.6
PUZ	Puketiti	1.39	108	P	Pn	01 26 38.8	+1.6
RIGZ	Rimuhau	1.40	139	P	Pn	01 26 39.6	+2.2
RIGZ				S	S	01 27 02.6	-0.6
RITZ	Rihia Road	1.44	203	P	Pn	01 26 40.0	+2.4
WIAZ	Waiheke Island	1.44	306	P	Pn	01 26 39.5	+1.8
NMHZ	Naumai	1.45	173	P	Pn	01 26 40.3	+2.5
WMGZ	Waiomatatini S	1.46	97	P	Pn	01 26 39.8	+2.0
WMGZ				S	S	01 27 03.1	-0.8
KATZ	Kakaramea	1.49	208	P	Pn	01 26 40.7	+2.5
ETAZ	East Tamaki Re	1.49	297	P	Pn	01 26 40.0	+1.9
BKZ	Black Stump Fm	1.51	183	P	Pn	01 26 39.7	+1.4
BKZ	Black Stump Fm	1.51	183	P	Pn	01 26 39.7	+1.4
WHHZ	Waihua	1.51	160	P	Pn	01 26 40.5	+2.3
WHHZ				S	S	01 27 05.1	+0.4
CNGZ	Carnagh Statio	1.53	123	P	Pn	01 26 40.9	+2.6
NTVZ	North Tongarir	1.61	206	P	Pn	01 26 41.6	+2.3
HIZ	Hauiti	1.61	237	P	Pn	01 26 41.5	+2.4
HIZ	Hauiti	1.61	237	P	Pn	01 26 41.5	+2.4
MBAZ	Motutapu North	1.61	303	P	Pn	01 26 41.3	+2.1
KNZ	Kokohu	1.61	148	P	Pn	01 26 41.2	+2.2
KNZ				S	S	01 27 04.9	-1.4
TMVZ	Te Maari	1.61	205	P	Pn	01 26 41.5	+2.2
KRVZ	Karewarewa	1.61	207	P	Pn	01 26 41.8	+2.5
PRGZ	Paritu Road	1.63	141	P	Pn	01 26 41.7	+2.4
ETVZ	East Tongariro	1.63	205	P	Pn	01 26 41.5	+2.1
ARHZ	Aropaoanui	1.64	169	P	Pn	01 26 41.7	+2.4
WTVZ	West Tongariro	1.65	208	P	Pn	01 26 42.0	+2.3
AWAZ	Awhitu Peninsu	1.65	290	P	Pn	01 26 41.3	+1.8
NNVZ	North Ngauruho	1.66	207	P	Pn	01 26 42.1	+2.4
GRZ	Great Barrier	1.67	327	P	Pn	01 26 41.5	+1.8
OTVZ	Oturere	1.67	205	P	Pn	01 26 42.1	+2.3
OTVZ				S	S	01 27 07.9	+0.3
TWVZ	Taurewa	1.68	212	P	Pn	01 26 42.1	+2.3
HBAZ	Herne Bay Bore	1.68	298	P	Pn	01 26 41.9	+2.1
SNVZ	South Ngauruho	1.70	206	P	Pn	01 26 42.4	+2.3
NGZ	Ngauruhoe	1.70	207	P	Pn	01 26 42.6	+2.5
ABAZ	Army Bay	1.75	306	P	Pn	01 26 42.8	+2.3
TUVZ	Tukino	1.77	204	P	Pn	01 26 42.9	+2.2
KWHZ	Kaweka Forest	1.77	184	P	Pn	01 26 42.7	+2.1
KWHZ				S	S	01 27 08.9	-0.2
MCHZ	McNeill Hill	1.79	177	P	Pn	01 26 43.0	+2.3
FWVZ	Far West T-bar	1.79	207	P	Pn	01 26 43.5	+2.4
WHVZ	Whangaehu Hut	1.80	205	P	Pn	01 26 43.4	+2.2
MHGZ	Mahia Peninsul	1.82	146	P	Pn	01 26 43.7	+2.6
RVAZ	Riverhead Bore	1.83	298	P	Pn	01 26 42.9	+1.7
TRVZ	Turoa	1.83	206	P	Pn	01 26 43.7	+2.3
WNVZ	Wahianoa	1.84	205	P	Pn	01 26 43.4	+2.0
MOVZ	Moawhango	1.86	200	P	Pn	01 26 43.2	+1.6
BHHZ	Black Hill Sta	1.88	192	P	Pn	01 26 43.3	+1.7
MTVZ	Mangateitei	1.93	206	P	Pn	01 26 44.5	+2.2
KRHZ	Kereru	1.99	185	P	Pn	01 26 44.8	+2.0
KAHZ	Kahuranaki	2.15	174	P	Pn	01 26 46.8	+2.4
PNHZ	Pukenui	2.27	187	P	Pn	01 26 47.7	+1.9
PNHZ				S	S	01 27 16.9	-1.2
PXZ	Pawanui	2.38	175	P	Pn	01 26 49.4	+2.5
WPHZ	Waipukurau	2.41	183	P	Pn	01 26 49.3	+2.2
WAZ	Wanganui	2.44	210	P	Pn	01 26 50.1	+2.6
TSZ	Takapari Road	2.45	191	P	Pn	01 26 49.6	+2.0
NEZ	North Egmont	2.53	230	P	Pn	01 26 52.5	+4.0
PRHZ	Porangahau	2.61	179	P	Pn	01 26 51.4	+2.1
DVHZ	Dannevirke	2.66	187	P	Pn	01 26 51.5	+1.6
ANWZ	Angora Road	2.80	182	P	Pn	01 26 53.6	+2.1
POWZ	Post Office Ro	2.80	193	P	Pn	01 26 53.2	+1.7
PRWZ	Pori Road	2.93	189	P	Pn	01 26 55.0	+2.0
BFZ	Birch Farm	3.03	185	P	Pn	01 26 56.0	+1.8
BFZ	Birch Farm	3.03	185	P	Pn	01 26 55.8	+1.6
MRZ	Mangatainoka R	3.10	194	P	Pn	01 26 56.2	+1.2
TIWZ	Tintock	3.16	190	P	Pn	01 26 57.2	+1.5
CPWZ	Castlepoint	3.26	185	P	Pn	01 26 59.0	+2.1
HOWZ	Holdsworth Sta	3.34	194	P	Pn	01 26 58.8	+0.9
OGWZ	Otaki Gorge	3.34	199	P	Pn	01 26 58.9	+1.1
OUZ	Omahuta	3.42	314	P	Pn	01 27 02.0	+3.1
OUZ	Omahuta	3.42	314	P	Pn	01 27 02.0	+3.1
KIW	Kapiti Island	3.45	202	P	Pn	01 26 59.9	+0.8
TMWZ	Te Maipa	3.49	189	P	Pn	01 27 00.9	+1.3
MTW	Mount Morrison	3.60	193	P	Pn	01 27 01.6	+0.7
CAW	Cannon Point	3.64	198	P	Pn	01 27 02.2	+0.8
DUWZ	D'Urville Isla	3.76	213	P	Pn	01 27 03.5	+0.6
TRWZ	Traveller	3.80	190	P	Pn	01 27 04.3	+0.9
PAWZ	Paruwai Farm	3.83	193	P	Pn	01 27 04.3	+0.6
SNZO	South Karori	3.93	201	P	Pn	01 27 05.4	+0.5
TCW	Tory Channel	3.97	206	P	Pn	01 27 06.1	+0.6
BHW	Baring Head	3.97	199	P	Pn	01 27 05.9	+0.4
PLWZ	Palliser	4.04	194	P	Pn	01 27 06.7	+0.3
TUWZ	Tuamarina	4.29	208	P	Pn	01 27 09.8	+0.5
NNZ	Nelson	4.33	214	P	Pn	01 27 10.2	+0.2
TKNZ	Takaka Hill	4.39	219	P	Pn	01 27 10.6	-0.1
QRZ	Quartz Range	4.46	224	P	Pn	01 27 13.0	+1.4
QRZ	Quartz Range	4.46	224	P	Pn	01 27 11.6	0.0
BSWZ	Blackbirch Sta	4.56	206	P	Pn	01 27 13.5	+0.7
MRNZ	Matariki Terra	4.77	217	P	Pn	01 27 15.4	0.0
THZ	Tophouse	4.99	214	P	Pn	01 27 18.9	+0.6
KHZ	Kahutara	5.30	205	P	Pn	01 27 22.6	+0.5
KHZ	Kahutara	5.30	205	P	Pn	01 27 22.4	+0.3
DSZ	Denniston Nort	5.50	221	P	Pn	01 27 25.1	+0.4
GVZ	Greta Valley S	5.96	206	P	Pn	01 27 30.7	+0.1
LTZ	Lake Taylor	6.09	211	P	Pn	01 27 32.2	-0.2
INZ	Inchbonnie	6.41	216	P	Pn	01 27 36.6	+0.2
OKCZ	Okains Bay	6.62	203	P	Pn	01 27 40.0	+0.8
OXZ	Oxford	6.64	210	P	Pn	01 27 38.5	-0.9
MQZ	McQueen's Vall	6.74	205	P	Pn	01 27 39.6	-1.0
AKCZ	Akaroa Harbour	6.81	203	P	Pn	01 27 41.3	-0.3
MHCZ	Mount Hutt	7.00	211	P	Pn	01 27 44.2	+0.2
RPZ	Rata Peaks	7.37	213	P	Pn	01 27 49.7	+0.9
RPZ	Rata Peaks	7.37	213	P	Pn	01 27 48.7	-0.1
GCSZ	Gaunt Creek Bo	7.39	218	P	Pn	01 27 50.8	+1.7
ARCZ	Arundel	7.50	211	P	Pn	01 27 50.8	+0.2
FOZ	Fox Glacier	7.80	219	P	Pn	01 27 54.5	0.0
TMZ	Timaru	7.93	210	P	Pn	01 27 55.9	-0.3
ODZ	Otahua Downs	8.62	209	P	Pn	01 28 05.3	+0.2
ODZ	Otahua Downs	8.62	209	P	Pn	01 28 05.1	0.0
JCZ	Jackson Bay	8.71	220	P	Pn	01 28 06.8	+0.4
JCZ	Jackson Bay	8.71	220	P	Pn	01 28 06.3	0.0

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*IDC **01** 01:34:40.2±2.9, 24°.44S×179°.84W, h472km±31km, mb3.0/3, mbtmp4.1/5, Error ellipse: s-maj=49.1km s-min=32.3km az=27.0*
ISC 01 01:34:38.1±2.2**, 24°.3S**±0°.2×**179°.4W**±0°.2**, h500**km**, n7,** σ0°.91/9**, mb3.7**/3**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
RAO	Raoul Island	5.10	165	P	P	01 36 07.1	+1.3
	151nm,0.2s,baz=81,slow=12,SNR=6.8						
RAO				S	S	01 37 16.7	-0.8
	124nm,0.3s,baz=92,slow=20,SNR=3.0						
DZM	Mont Dzumac	13.23	277	P	P	01 37 29.7	-0.1
	5.6nm,0.7s,baz=88,slow=17,SNR=9.9						
URZ	Urewera	14.23	191	P	P	01 37 39.0	-0.9
	4.1nm,0.4s,baz=34,slow=23,SNR=10						
URZ				S	S	01 40 10.2	+0.2
	3.2nm,0.6s,baz=264,slow=22,SNR=2.5						
STKA	Stephens Creek	35.10	249	P	P	01 40 49.5	+0.6
	1.3nm,0.4s,baz=68,slow=11,SNR=4.6						
	1.3nm,0.4s						
ASAR	Alice Springs	42.53	261	P	P	01 41 49.8	+0.5
	0.3nm,0.3s,baz=88,slow=6.1,SNR=15						
	0.3nm,0.3s						
WRA	Warramunga Arr	42.95	266	P	P	01 41 52.5	-0.2
	1.4nm,0.5s,baz=99,slow=7.0,SNR=24						
	1.4nm,0.5s						
MMAI	Mount Meron Ar	148.39	294	PKPbc	PKPab	01 53 32.3	-1.1
	3.8nm,0.8s,baz=69,slow=7.2,SNR=4.7						

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*ANF **01** 01:35:33.4±0.1, 34°.01N×117°.59W, h9km±1km, ML3.2/37, Error ellipse: s-maj=1.0km s-min=0.9km az=13.0*
*PAS **01** 01:35:34.2±1.0, 34°.032N±0°.006×117°.593W±0°.008, h4km±1km, ML3.1/330, ML2.9/88(NEIC), Error ellipse: s-maj=0.9km s-min=0.9km az=143.0*
NEIC 01 01:35:34±1.0**, 34°.037N**±0°.006×**117°.579W**±0°.009**, h12**km±3km**, Error ellipse: s-maj=1.0km s-min=0.9km az=47.0, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CHNC	Chino	0.09	246		Pg	01 35 37.7	+0.9
FON	Fontana	0.13	62		Pg	01 35 37.4	+0.1
FON					Sg	01 35 39.7	0.0
CRNC	Corona	0.16	175		Pg	01 35 37.5	-0.3
CRNC					Sg	01 35 39.8	-0.5
RVR	Riverside	0.17	104		Pb	01 35 40.6	+1.4
SS2	San Sevaine	0.18	21		Pg	01 35 38.2	+0.1
PSRC	Puddingstone R	0.20	286		Pb	01 35 41.1	+1.6
SSK	Sunset Peak	0.20	331		Pg	01 35 38.3	-0.1
BFSC	Mount Baldy Ra	0.21	342		Pg	01 35 38.4	-0.3
BFSC	Mount Baldy Ra	0.21	342	P	Pg	01 35 38.3	-0.3
	baz=165,SNR=687						
BFSC				S	Sg	01 35 41.1	-0.7
	baz=165						
RSBC	Riverside Bore	0.22	107		Pg	01 35 38.7	0.0
RSBC					Sg	01 35 42.1	+0.2
RSBC	Riverside Bore	0.22	107		Pg	01 35 38.8	+0.1
RSBC					Sg	01 35 42.2	+0.3
CLTC	Calectric	0.22	76		Pg	01 35 39.2	+0.4
CLTC					Sg	01 35 43.9	+1.8
CFSC	Central Fire S	0.26	74		Sb	01 35 44.0	-1.0
CFSC	Central Fire S	0.26	74		Pg	01 35 39.8	+0.4
CFSC	Central Fire S	0.26	74		Pg	01 35 39.8	+0.5
HLNC	Highland	0.31	74		Pg	01 35 40.6	+0.3
HLNC					Sb	01 35 45.8	-0.7
FULC	Fullerton	0.33	240		Pg	01 35 40.2	-0.5
FULC					Sb	01 35 47.1	+0.1
RHC	Rose Hills Cem	0.36	264		Pg	01 35 41.3	0.0
PEC	Perris	0.38	113		Pg	01 35 41.6	0.0
PEC					Sg	01 35 47.1	+0.5
CFT	Crafton Hills	0.39	90		Pg	01 35 42.2	+0.5
CFT					Sb	01 35 48.3	-0.5
BREC	Barre Substati	0.41	236		Pb	01 35 42.8	-0.3
BREC					Sb	01 35 49.8	+0.5
SVD	Seven Oaks Dam	0.41	80		Pg	01 35 42.4	+0.3
SVD					Sb	01 35 48.8	-0.5
ELS	Elsinore Mount	0.41	162	Pg	Pg	01 35 41.8	-0.3
ELS				Sg	Sg	01 35 47.5	-0.1
ELS				IAML		01 35 47.9	
	comp=N,1μm,0.2s						
ELS				IAML		01 35 48.1	
	comp=E,2μm,0.2s						
SANC	Santa Ana	0.42	218		Pg	01 35 42.7	+0.4
SANC					Sb	01 35 49.5	-0.1
MWC	Mount Wilson	0.44	295		Pg	01 35 42.5	-0.3
MWC					Sg	01 35 48.8	+0.1
GVRC	Garvey Reservo	0.45	272		Pg	01 35 43.0	+0.1
CACC	Caltech Cellar	0.46	283		Pg	01 35 42.9	-0.2
CACC					Sg	01 35 49.5	+0.2
CRPC	Caltech Rob'n	0.47	282		Pg	01 35 43.1	-0.1
CRPC					Sg	01 35 50.0	+0.6
CBCC	Caltech Broad	0.47	283		Pg	01 35 43.1	-0.1
CBCC					Sg	01 35 49.5	+0.1
GSA	Caltech--GSA	0.47	282		Sg	01 35 49.3	-0.1
DLAC	Del Amo	0.47	246		Pb	01 35 44.2	0.0
DLAC					Sb	01 35 52.0	+1.0
CHFC	Chilao Flat St	0.47	309		Pg	01 35 43.0	-0.4
CHFC					Sg	01 35 49.5	-0.2
BBSC	Beaumont Base	0.51	103		Pg	01 35 44.2	+0.2
BBSC					Sb	01 35 52.0	-0.3
JNH	Juniper Hills	0.51	323		Pg	01 35 43.7	-0.4
JNH					Sg	01 35 50.6	-0.4
PASC	Pasadena Art C	0.52	285	Pg	Pg	01 35 43.6	-0.6
PASC				Sg	Sg	01 35 50.4	-0.8
ADO	Adelanto Recei	0.53	13		Pg	01 35 44.5	+0.1
ADO					Sb	01 35 52.2	-0.6
MURC	Murrieta	0.54	144		Pg	01 35 44.2	-0.4
MURC					Sg	01 35 51.4	-0.3
MURC	Murrieta	0.54	144	P	Pg	01 35 44.4	-0.2
	baz=323,SNR=87						
MURC				S	Sg	01 35 51.2	-0.6
	baz=323						
VTV	Victorville	0.56	21		Pg	01 35 45.0	0.0
VTV					Sg	01 35 52.8	+0.3
WTT2	Watts, South G	0.57	261		Pb	01 35 45.9	0.0
WTT2					Sb	01 35 55.2	+1.3
HMTC	Hemet	0.58	124		Pg	01 35 45.0	-0.3
HMTC					Sg	01 35 53.1	+0.1
USC	University of	0.59	268		Pb	01 35 45.9	-0.4
USC					Sg	01 35 52.9	-0.3
BBRC	Big Bear Solar	0.59	67		Pg	01 35 45.9	+0.4
BBRC					Sg	01 35 53.7	+0.3
BBRC	Big Bear Solar	0.59	67	P	Pg	01 35 45.9	+0.3
	baz=248,SNR=43						
BBRC				S	Sg	01 35 53.7	+0.3
	baz=248						
GR2C	Griffith Obs.	0.60	278		Pg	01 35 45.2	-0.6
GR2C					Sg	01 35 53.5	-0.3
DGR	Domenigoni Val	0.61	129		Pg	01 35 45.6	-0.3
DGR					Sg	01 35 53.8	-0.2
LRRC	Littlerock Res	0.61	323		Pg	01 35 45.6	-0.4
LRRC					Sg	01 35 54.3	+0.2
BACC	Bachelor Mtn.	0.62	133		Pg	01 35 45.8	-0.3
BACC					Sg	01 35 54.0	-0.2
POB	Polly Butte	0.65	122		Pg	01 35 46.3	-0.3
POB					Sg	01 35 55.1	-0.1
BHPC	Baldwin Hills	0.65	266		Pb	01 35 47.1	-0.2
DECC	Green Verdugo	0.66	289		Pg	01 35 46.5	-0.4
DECC					Sg	01 35 55.6	0.0
DECC	Green Verdugo	0.66	289	P	Pg	01 35 46.4	-0.5
	baz=110,SNR=94						
DECC				S	Sg	01 35 55.6	0.0
	baz=110						
HLLC	North Hollywoo	0.66	282		Pg	01 35 46.3	-0.6
HLLC					Sg	01 35 55.1	-0.5
FMP	Fort Macarthur	0.68	242		Pg	01 35 46.6	-0.6
FMP					Sg	01 35 54.8	-1.2
FMP	Fort Macarthur	0.68	242	P	Pg	01 35 46.6	-0.5
	baz=61						
FMP				S	Sg	01 35 55.5	-0.5
	baz=61						
CJV	Casa Juvan	0.68	317		Pg	01 35 46.6	-0.6
CJV					Sg	01 35 55.5	-0.7
SBB	Saddle Back Bu	0.68	343		Pg	01 35 47.0	-0.3
SBB					Sg	01 35 56.1	-0.1
SIL	Silver Peak	0.70	63		Pg	01 35 47.7	+0.1
DJJ	Donna J Jenkin	0.73	276		Pg	01 35 47.2	-1.0
DJJ					Sg	01 35 57.4	-0.3
RPV	Rancho Palos V	0.75	247		Pg	01 35 48.0	-0.5
RPV					Sb	01 35 59.6	+0.5
HYS	Haystack Butte	0.82	1		Pg	01 35 49.7	-0.3
HYS					Sg	01 36 00.7	-0.1
DEVC	Devers	0.84	97		Pg	01 35 50.2	0.0
DEVC					Sb	01 36 02.0	+0.3
GVDA	Garner Valley	0.84	116		Pg	01 35 50.0	-0.2
GVDA					Sg	01 36 00.7	-0.5
LEOC	Leona Valley	0.84	315		Pg	01 35 49.5	-0.8
LEOC					Sg	01 36 00.9	-0.5
CRY	Cary Ranch	0.84	124		Pg	01 35 49.9	-0.4
CRY					Sg	01 36 01.0	-0.4
ALPC	Antelope	0.88	318		Pg	01 35 50.4	-0.7
ALPC					Sg	01 36 02.2	-0.4
PLM	Palomar	0.91	139		Pg	01 35 51.1	-0.4
EDW2	Edwards Air Fo	0.91	338		Pg	01 35 51.2	-0.4
EDW2	Edwards Air Fo	0.91	338	P	Pg	01 35 51.2	-0.4
	baz=159,SNR=372						
EDW2				S	Sg	01 36 03.2	-0.3
	baz=159						
OAT	Oat Mountain	0.91	290		Pg	01 35 51.5	-0.1
GORC	Green Oak Ranc	0.93	162		Pg	01 35 51.1	-0.8
CIAC	Catalina I. Ai	0.94	228		Pg	01 35 51.9	-0.3
CIS	Catalina Islan	0.94	228	P	Pg	01 35 51.6	-0.6
	baz=47,SNR=31						
CIS				S	Sg	01 36 04.2	-0.3
	baz=47						
RRX	Edison Barstow	0.96	30	P	Pg	01 35 52.6	0.0
	baz=210,SNR=12						
RRX				S	Sb	01 36 06.1	+0.7
	baz=210						
PFO	Pinyon Flats O	1.02	114	Pg	Pb	01 35 52.8	-0.9
PFO				Sg	Sg	01 36 06.6	-0.5
PFO				IAML		01 36 08.9	
	comp=E,207nm,0.4s						
PFO				IAML		01 36 09.1	

comp=E,233nm,0.2s
PFO Pinyon Flats O 1.02 114 P Pb 01 35 52.9 -0.8
baz=294,SNR=49
PFO S Sg 01 36 07.1 0.0
baz=294
PMD Palm Desert 1.07 111 Pg Pb 01 35 53.7 -0.8
PMD Sg Sb 01 36 07.8 -0.7
PMD IAML 01 36 12.0
comp=N,250nm,0.5s
PMD IAML 01 36 14.0
comp=E,408nm,0.3s
OSI Osito Audit: C 1.11 302 P Pb 01 35 54.2 -0.9
baz=122,SNR=13
OSI S Sg 01 36 10.0 +0.2
baz=122
CCAC Calif City Air 1.17 342 Pg Pb 01 35 55.9 -0.3
CCAC Sg Sb 01 36 11.1 -0.2
109C Camp Elliot, M 1.21 161 Pg Pn 01 35 55.6 -1.2
109C Sg Sb 01 36 11.1 -1.4
109C Camp Elliot, M 1.21 161 P Pn 01 35 55.7 -1.0
baz=340,SNR=35
109C S Sb 01 36 11.4 -1.0
baz=340
HEC Hector,Ludlow 1.30 52 P Pb 01 35 58.5 +0.1
baz=233,SNR=128
HEC S Sg 01 36 16.5 +0.7
baz=233
BELC Belle Mtn. Jos 1.31 91 P Pb 01 35 58.6 -0.1
baz=272,SNR=282
BELC S Sg 01 36 17.1 +0.7
baz=272
SCI2 San Clemente I 1.33 218 S Sb 01 36 15.7 -0.2
baz=37
GSC Goldstone, Bar 1.41 27 Pb 01 36 00.2 -0.2
GSC Goldstone, Bar 1.41 27 P Pb 01 36 00.3 0.0
baz=207,SNR=141
GSC S Sg 01 36 19.4 -0.1
baz=207
LRMC Laurel Mtn Rad 1.44 357 P Pb 01 36 00.7 -0.2
baz=177,SNR=151
LRMC S Sg 01 36 20.0 -0.5
baz=177
MONP2 Monument Peak 1.50 139 P Pn 01 36 00.8 -0.1
baz=320,SNR=55
MONP2 S Sn 01 36 20.5 +0.1
baz=320
ARVC Arvin 1.50 317 P Pn 01 36 01.2 +0.5
baz=137,SNR=46
ARVC S Sg 01 36 21.7 -0.5
baz=137
BAR Barrett 1.55 150 Pn 01 36 01.1 -0.4
TJX Tijuana 1.58 164 Pn 01 36 02.4 +0.5
TKX Tecate 1.68 151 Pn 01 36 03.9 +0.8
SCZ2 Santa Cruz Isl 1.71 269 P Pn 01 36 03.0 -0.6
baz=88
SCZ2 Sb Sg 01 36 28.1 -0.8
baz=88
GMRC Granite Mounta 1.75 64 P Pn 01 36 04.4 0.0
baz=245
GMRC Sb Sg 01 36 30.4 0.0
baz=245
BCW Bitter Crk WRg 1.76 301 Pn Pn 01 36 04.6 +0.2
ISA Isabella, Lake 1.78 336 Pn Pn 01 36 05.5 +0.8
ISA IAML 01 36 33.6
comp=E,137nm,0.6s
ISA Isabella, Lake 1.78 336 P Pn 01 36 05.2 +0.6
baz=156,SNR=33
ISA S Sb 01 36 28.2 -0.8
baz=156
SNCC San Nicolas Is 1.80 245 Pn Pn 01 36 03.7 -1.2
SNCC IAML 01 36 31.1
comp=N,102nm,0.7s
SNCC IAML 01 36 31.7
comp=E,100nm,0.4s
SNCC San Nicolas Is 1.80 245 P Pn 01 36 03.8 -1.1
baz=64
SNCC S Sn 01 36 26.0 -1.7
baz=64
BC3 Big Chuckawall 1.81 102 P Pn 01 36 05.1 0.0
baz=283,SNR=42
BC3 Sb Sg 01 36 31.5 -0.7
baz=283
SBC Santa Barbara 1.81 283 Pb Pb 01 36 06.6 -0.5
baz=102
SBC Sb Sb 01 36 30.9 +1.1
baz=102
SWSC Sam W. Stewart 1.84 126 Sb Sb 01 36 31.8 +1.2
baz=306
IKP In-Ko-Pah, Jac 1.85 138 Pb Pb 01 36 07.3 -0.6
baz=318,SNR=24
IKP Sb Sb 01 36 31.7 +0.8
baz=318
CBX Cerro Bola 1.88 156 Pn Pn 01 36 06.9 +0.8
TUQ Turquoise Moun 1.95 44 P Pn 01 36 07.4 +0.4
baz=225,SNR=42
TUQ Sb Sg 01 36 36.1 -0.7
baz=225
YUH Yuha Desert 1.96 135 Pn Pn 01 36 07.8 +0.8
YUH IAML 01 36 36.6
comp=N,111nm,0.6s
YUH IAML 01 36 37.7
comp=E,94nm,0.7s
QSM Queen of Sheba 2.01 17 Pn Pb 01 36 09.4 -1.1
QSM IAML 01 36 40.6
comp=N,114nm,0.4s
MPMC Manual Prospec 2.02 2 P Pn 01 36 08.5 +0.5
baz=182,SNR=69
MPMC Sb Sg 01 36 38.4 -0.5
baz=182
IRM Iron Mountain 2.02 86 P Pn 01 36 08.1 +0.2
baz=267,SNR=84
IRM Sb Sg 01 36 38.4 -0.7
baz=267
PKM Mcpherson Peak 2.03 295 P Pn 01 36 08.6 +0.3
baz=114,SNR=28
PKM S Sn 01 36 34.8 +1.1
baz=114
SHOC Shoshone, Teco 2.14 30 Sb Sg 01 36 41.9 -1.0
baz=210
VES Vestal, Richgr 2.18 326 S Sn 01 36 38.6 +1.5
baz=146
GWY Greenwater Val 2.27 19 Pn Pn 01 36 12.4 +1.0
GWY IAML 01 36 54.8
comp=E,112nm,0.6s
GWY IAML 01 36 55.8
comp=N,93nm,0.6s
CCX Cicese 2.30 160 Pn Pn 01 36 12.2 +0.6
CCX IAML 01 36 47.4
comp=N,88nm,0.4s
CCX IAML 01 36 50.9
comp=E,72nm,0.7s
SMMC Simmler 2.36 303 Sb Sb 01 36 47.4 +1.6
baz=122
CWC Cottonwood Cre 2.43 350 Sb Sg 01 36 50.7 -1.4
baz=170
ESJX Sierra Juarez 2.45 146 Pn Pn 01 36 15.0 +1.1
ESJX IAML 01 36 51.0
comp=E,64nm,0.6s
ESJX IAML 01 36 51.4
comp=N,47nm,0.5s
NEE2 Needles Airpor 2.55 73 Sb Sg 01 36 54.6 -1.5
baz=254
BLYC Blythe 2.56 96 Pn Pn 01 36 14.7 -0.5
BLYC IAML 01 36 57.0
comp=E,41nm,0.6s
BLYC IAML 01 36 58.4
comp=N,48nm,0.8s
V12A Nelson 2.81 52 Pn Pn 01 36 19.5 +0.7
V12A IAML 01 37 04.8
comp=E,30nm,0.4s
V12A IAML 01 37 06.1
comp=N,39nm,1.2s
WCT Wildcat Mounta 2.86 16 Pn Pn 01 36 21.1 +1.6
WCT IAML 01 37 13.1
comp=E,26nm,0.7s
GRAC Grapevine Rang 2.96 3 Pn Pn 01 36 21.7 +0.8
GRAC IAML 01 37 16.3
comp=N,30nm,0.7s
GRAC IAML 01 37 17.6
comp=E,30nm,0.5s
GRAC Grapevine Rang 2.96 3 P Pn 01 36 22.3 +1.5
baz=184,SNR=9.9
WTNK Soaring Height 3.01 44 Pn Pn 01 36 23.3 +1.7
VTX Valle De La Tr 3.04 150 Pn Pn 01 36 24.0 +2.0
VTX IAML 01 37 08.7
comp=E,30nm,0.5s
VTX IAML 01 37 12.0
comp=N,26nm,0.7s
TPNV Topopah Spring 3.10 20 Pn Pn 01 36 24.5 +1.6
TPNV IAML 01 37 15.6
comp=N,41nm,0.4s
TPNV IAML 01 37 17.2
comp=N,54nm,0.5s
TPNV Topopah Spring 3.10 20 P Pn 01 36 24.1 +1.2
baz=201,SNR=14
SHPR Sheep Range 3.16 38 Pn Pn 01 36 25.4 +1.6
W13A Hualapai Mount 3.23 70 Pn Pn 01 36 25.6 +0.9
GMN Gold Mountain 3.27 4 Pn Pn 01 36 25.4 +0.1
PMPB Monarch Peak 3.42 310 Pn Pn 01 36 27.3 +0.1
PMPB IAML 01 37 54.9
comp=N,22nm,1.0s
PMPB IAML 01 37 59.9
comp=E,26nm,4.8s
MZP Montezuma Peak 3.66 2 Pn Pn 01 36 32.4 +1.7
OMMB Old Mammoth Mi 3.75 342 Pn Pn 01 36 32.1 +0.1
OMMB IAML 01 37 38.8
comp=N,15nm,1.0s
OMMB IAML 01 37 39.4
comp=E,16nm,0.8s
MDPB Devils Postpil 3.79 342 Pn Pn 01 36 33.4 +1.0
MDPB IAML 01 37 37.9
comp=N,19nm,0.8s
MDPB IAML 01 37 39.1
comp=E,20nm,0.9s
BBGB Big Mountain B 3.80 313 Pn Pn 01 36 33.0 +0.5
BBGB IAML 01 37 31.0
comp=E,32nm,0.9s
Y14A Wickenburg 3.80 90 Pn Pn 01 36 32.2 -0.2
Y14A IAML 01 37 35.0
comp=N,14nm,0.4s
PRN Pahroc Range 3.94 31 Pn Pn 01 36 34.8 +0.4
PRN IAML 01 37 44.8
comp=N,24nm,0.4s
PRN IAML 01 37 59.2
comp=E,19nm,0.8s
TPH Tonopah 4.04 4 Pn Pn 01 36 35.3 -0.5
TPH IAML 01 38 12.2
comp=E,24nm,3.1s
PIX Pinacate 4.26 124 Pn Pn 01 36 38.6 -0.1
LHV Little Huntoon 4.27 350 Pn Pn 01 36 41.6 +2.8
NV11 Mina Array Sit 4.41 354 Pn Pn 01 36 43.1 +2.2
NV11 IAML 01 37 53.0
comp=E,7.3nm,4.2s
NVAR Mina Array Bea 4.42 353 Pn Pn 01 36 43.5 +2.4
214A Organ Pipe Nat 4.51 116 Pn Pn 01 36 42.9 +0.7
CMB Columbia Colle 4.59 331 Pn Pn 01 36 45.3 +2.0
CMB IAML 01 38 04.4
comp=E,7.3nm,0.8s
LCMT Little Creek M 4.62 49 Pn Pn 01 36 45.5 +1.8
KNB Kanab 4.89 51 Pn Pn 01 36 47.0 -0.4
U15A North Rim 4.94 60 Pn Pn 01 36 49.2 +0.9
KVN Kaiserville 5.02 355 Pn Pn 01 36 50.7 +1.3
X16A Lo Mia Camp, P 5.10 84 Pn Pn 01 36 50.6 +0.2
PKCU Pink Cliffs 5.47 50 Pn Pn 01 36 56.1 +0.5
X18A Snowflake 6.33 83 Pn Pn 01 37 09.1 +1.7

*IDC **01** 02:16:02.9±2.5, 37°.36N×72°.57E, h188km±22km, mb3.3/15, mbtmp3.9/22, Error ellipse: s-maj=19.6km s-min=13.2km az=5.0*
*MOS **01** 02:16:04.8±0.9, 37°.60N×72°.50E, h208km, mb3.8/6, Error ellipse: s-maj=9.7km s-min=4.5km az=76.4*
*NEIC **01** 02:16:06.1±2.2, 37°.63N±0°.06×72°.48E±0°.07, h201km±11km, mb4.2/9, Error ellipse: s-maj=9.8km s-min=6.8km az=143.0*
*NNC **01** 02:16:08.0±2.7, 38°.03N×72°.22E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=21.1km s-min=15.9km az=157.0*
ISC 01 02:16:05.1±0.5, 37°.59N±0°.04×72°.50E±0°.05, h200km, n122, σ1§69/137, mb3.6/22, 12C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMJ	**Simiganj**	**2.96**	**292**		**Pn**	**02 16 54.6**	**+0.3**
KSH	**Kashi**	**3.33**	**54**	P	**Pn**	**02 16 55.2**	**-3.6**
KSH				S	Sn	02 17 30.9	-10
KSH				pmax	pmax		
	comp=Z,400nm,0.5s						
KSH				smax	smax		
	comp=N,300nm,0.7s						
KSH				smax	smax		
	comp=E,280nm,0.7s						
NIL	**Nilore**	**3.98**	**171**	Pn	**Pn**	**02 17 08.6**	**+1.9**
NIL				Sn	**Sn**	**02 17 55.0**	**0.0**
NIL	**Nilore**	**3.98**	**171**	PN	**Pn**	**02 17 08.6**	**+1.9**
NIL						02 17 55.0	
KBL	**Kabul**	**4.13**	**224**	Pn	**Pn**	**02 17 09.6**	**+0.8**
KBL	**Kabul**	**4.13**	**224**	PN	**Pn**	**02 17 09.6**	**+0.8**
AML	**Almayashu**	**4.63**	**11**	P	**Pn**	**02 17 15.6**	**+0.5**
	SNR=143						
AML	**Almayashu**	**4.63**	**11**	⇓P	**Pn**	**02 17 15.4**	**+0.2**
AML	comp=E,5.7nm,0.5s			⇑S	**Sn**	**02 18 07.0**	**-3.3**
	comp=E,109nm,0.7s						
AML	**Almayashu**	**4.63**	**11**	PN	**Pn**	**02 17 15.4**	**+0.2**
AML				S	**Sn**	**02 18 07.1**	**-3.3**
UCH	**Uchtor**	**4.88**	**18**	P	**Pn**	**02 17 19.1**	**+0.6**
	SNR=32						
KZA	**Kyzart**	**4.96**	**24**	P	**Pn**	**02 17 19.6**	**+0.2**
	SNR=49						
EKS2	**Erkin-Say**	**5.16**	**10**	P	**Pn**	**02 17 22.5**	**+0.9**
	SNR=23						
CHM	**Chimkent**	**5.22**	**336**	PN	Pn	02 17 28.5	+6.1
CHM				S	**Sn**	**02 18 31.4**	**+8.0**
AAK	**Ala-Archa**	**5.27**	**16**	P	**Pn**	**02 17 24.0**	**+0.9**
	SNR=69						
AAK	**Ala-Archa**	**5.27**	**16**	Pn	**Pn**	**02 17 23.6**	**+0.5**
AAK	**Ala-Archa**	**5.27**	**16**	*c* PN	**Pn**	**02 17 24.0**	**+0.9**
AAK	**Ala-Archa**	**5.27**	**16**	P	**Pn**	**02 17 23.4**	**+0.4**
	comp=E,44nm,0.6s,baz=194,slow=8.7,SNR=167						
AAK				S	**Sn**	**02 18 22.9**	**-1.7**
	comp=E,20nm,0.5s,baz=206,slow=15,SNR=9.7						
KBK	**Karagaybulak**	**5.40**	**20**	P	**Pn**	**02 17 26.3**	**+1.6**
	SNR=13						
ULHL	**Ulahol**	**5.47**	**31**	P	**Pn**	**02 17 26.1**	**+0.4**
	SNR=6.1						
CHMS	**Chumysh**	**5.67**	**17**	P	**Pn**	**02 17 28.8**	**+0.7**
	SNR=46						
CHMS	**Chumysh**	**5.67**	**17**	⇑P	**Pn**	**02 17 28.5**	**+0.4**
	comp=E,52nm,0.7s						
CHMS				⇓S	**Sn**	**02 18 31.0**	**-2.7**
	comp=E,92nm,0.8s						
KK31	**Karatay Array**	**5.72**	**345**	⇑P	**Pn**	**02 17 28.9**	**+0.2**
	comp=E,0.8nm,0.2s,baz=153,slow=11,SNR=88						
KK31				⇑S	**Sn**	**02 18 30.0**	**-4.8**
	comp=E,176nm,0.8s,baz=163,slow=25,SNR=38						
KK31	**Karatay Array**	**5.72**	**345**	Pn	**Pn**	**02 17 28.4**	**-0.2**
KK31	**Karatay Array**	**5.72**	**345**	PN	**Pn**	**02 17 28.4**	**-0.2**
KKAR	**Karatay Array**	**5.72**	**345**	Pn	**Pn**	**02 17 29.0**	**+0.3**
KKAR	**Karatay Array**	**5.72**	**345**	PN	**Pn**	**02 17 29.0**	**+0.3**
TARG	**Taragay, Kyrgy**	**5.82**	**43**	Pn	**Pn**	**02 17 30.2**	**-0.2**
TARG	**Taragay, Kyrgy**	**5.82**	**43**	PN	**Pn**	**02 17 30.2**	**-0.2**
TKM2	**Tokmak 2**	**5.83**	**23**	P	**Pn**	**02 17 31.0**	**+0.7**
	SNR=82						
TKM2	**Tokmak 2**	**5.83**	**23**	⇓P	**Pn**	**02 17 30.7**	**+0.4**
	comp=E,74nm,0.6s						
TKM2				⇑S	**Sn**	**02 18 36.2**	**-1.5**
	comp=E,21nm,0.8s						
TKM2	**Tokmak 2**	**5.83**	**23**	PN	**Pn**	**02 17 30.7**	**+0.4**
TKM2				S	**Sn**	**02 18 36.2**	**-1.5**
USP	**Ospenovka**	**5.87**	**14**	P	**Pn**	**02 17 30.9**	**+0.1**
	SNR=8.0						
SGDS	**Sogindy**	**6.08**	**15**	*e*P	**Pn**	**02 17 33.3**	**-0.1**
	baz=15						
SGDS	**Sogindy**	**6.08**	**15**	*e*PN	**Pn**	**02 17 33.2**	**-0.1**
DHRM	**DHARAMSHALA**	**6.17**	**149**	*e*P	**Pn**	**02 17 35.7**	**+0.8**
DHRM				*e*S	**Sn**	**02 18 41.9**	**-3.9**
DHRM				IAML		02 18 48.0	
	comp=E,166nm,0.1s						
DHRM				IAML		02 18 49.1	
	comp=E,122nm,0.2s						
TNSS	**Tian-Shan**	**6.41**	**31**	⇑*i*P	**Pn**	**02 17 38.5**	**+0.4**
	baz=31						
TNSS	**Tian-Shan**	**6.41**	**31**	⇑*i*PN	**Pn**	**02 17 38.5**	**+0.4**
AAA	**Alma-Ata**	**6.55**	**30**	*e*P	**Pn**	**02 17 40.8**	**+1.3**
	baz=30						
AAA	**Alma-Ata**	**6.55**	**30**	*e*PN	**Pn**	**02 17 40.7**	**+1.3**
MDOK	**Medeo**	**6.56**	**30**	*i* P	**Pn**	**02 17 40.3**	**+0.6**
	baz=31						
MDOK	**Medeo**	**6.56**	**30**	*i* PN	**Pn**	**02 17 40.3**	**+0.6**
KUU	**Kurty**	**6.94**	**24**	⇑*i*P	**Pn**	**02 17 44.1**	**-0.5**
	baz=24						
KUU	**Kurty**	**6.94**	**24**	*c i*PN	**Pn**	**02 17 44.0**	**-0.5**
SATY	**Saty**	**7.08**	**38**	*e*P	**Pn**	**02 17 46.3**	**-0.2**
	baz=38						
SATY	**Saty**	**7.08**	**38**	*e*PN	**Pn**	**02 17 46.3**	**-0.2**
CHKK	**Chushkaly**	**7.12**	**27**	*e*P	**Pn**	**02 17 46.5**	**-0.5**
	baz=28						
CHKK	**Chushkaly**	**7.12**	**27**	*e*PN	**Pn**	**02 17 46.4**	**-0.5**
ZHN	**Zhinishke**	**7.18**	**37**	*e*P	**Pn**	**02 17 47.6**	**-0.2**
	baz=38						
ZHN	**Zhinishke**	**7.18**	**37**	*e*PN	**Pn**	**02 17 47.5**	**-0.2**
UZB	**Uzynbulak**	**7.45**	**40**	*e*P	**Pn**	**02 17 51.5**	**+0.2**
	baz=40						
UZB	**Uzynbulak**	**7.45**	**40**	*e*PN	**Pn**	**02 17 51.5**	**+0.2**
SMLA	**Simla**	**7.51**	**148**	*e*P	**Pn**	**02 17 52.3**	**+0.3**
SMLA				IAML		02 19 14.6	
	comp=E,49nm,0.1s						
SMLA				*e*S	**Sn**	**02 19 14.6**	**-2.3**
SMLA				IAML		02 19 16.8	
	comp=E,30nm,0.7s						
KPKS	**Kokpek**	**7.52**	**37**	⇑*i*P	**Pn**	**02 17 52.3**	**+0.1**
	comp=E,8.5nm,0.8s,baz=37						
KPKS	**Kokpek**	**7.52**	**37**	*c i*PN	**Pn**	**02 17 52.2**	**+0.1**
KPKS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SHLS	**Shalkode**	**7.69**	**41**	*e*P	**Pn**	**02 17 57.4**	**+3.0**
	comp=Z,5.1nm,1.0s,baz=43						
SHLS	**Shalkode**	**7.69**	**41**	*e*PN	**Pn**	**02 17 57.3**	**+3.0**
SHLS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKR	**Kurukshetra**	**8.41**	**153**	*ex*	x	02 21 35.1	
TDK	**Taldyqorghan**	**8.63**	**29**	*e*P	**Pn**	**02 18 06.1**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=29						
TDK	**Taldyqorghan**	**8.63**	**29**	*e*PN	**Pn**	**02 18 06.0**	**-0.5**
TDK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HRA	**Herat**	**8.91**	**252**	Pn	**Pn**	**02 18 09.9**	**-0.5**
KUDL	**Kundal**	**9.99**	**159**	*e*P	**Pn**	**02 18 22.1**	**-2.2**
KUDL				*e*S	Sn	02 20 06.5	-10
GEYT	**Alibeck**	**11.40**	**276**	Pn	**Pn**	**02 18 40.4**	**-2.0**
GEYT	**Alibeck**	**11.40**	**276**	P	**Pn**	**02 18 41.0**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=119,slow=11,SNR=15						
GEYT				S	**Sn**	**02 20 43.0**	**-6.4**
	comp=Z,4.5nm,0.5s,baz=140,slow=23,SNR=4.5						
GYA0B	**ALIBECK ARRAY**	**11.40**	**276**	Pn	**Pn**	**02 18 41.2**	**-1.2**
MAKZ	**Makanchi**	**11.58**	**34**	Pn	**Pn**	**02 18 43.9**	**-0.6**
MAKZ	**Makanchi**	**11.58**	**34**	P	**Pn**	**02 18 43.9**	**-0.6**
MK31	**Makanchi Array**	**11.71**	**35**	Pn	**Pn**	**02 18 46.5**	**+0.3**
MK31	**Makanchi Array**	**11.71**	**35**	*i* P	**Pn**	**02 18 46.6**	**+0.4**
MKAR	**Makanchi Array**	**11.71**	**35**	Pn	**Pn**	**02 18 45.0**	**-1.2**
MKAR	**Makanchi Array**	**11.71**	**35**	*i* P	**Pn**	**02 18 47.2**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**11.71**	**35**	P	**Pn**	**02 18 46.3**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=216,slow=12,SNR=16						
KURBB	**Kurchatov Arra**	**13.72**	**16**	P	**Pn**	**02 19 10.3**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=204,slow=11,SNR=30						
KURK	**Kurchatov**	**13.83**	**16**	Pn	**Pn**	**02 19 12.4**	**-0.4**
KURK	**Kurchatov**	**13.83**	**16**	*i* P	**P**	**02 19 15.2**	**+0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AB31	**Akbulak array**	**14.78**	**326**	P	**P**	**02 19 30.1**	**+4.7**
	comp=Z,0.5nm,0.5s,baz=135,slow=12,SNR=37						
AB31				⇓S	**Sn**	**02 22 09.7**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=132,slow=24,SNR=5.0						
AB31	**Akbulak array**	**14.78**	**326**	P	**P**	**02 19 30.1**	**+4.7**
AB31				S	**Sn**	**02 22 09.6**	**-0.2**
ABKAR	**Akbulak array**	**14.78**	**326**	Pn	**Pn**	**02 19 23.2**	**-1.3**
BVAR	**Borovoye Array**	**15.51**	**355**	P	**P**	**02 19 35.0**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=158,slow=9.6,SNR=14						
BVAR				S	**S**	**02 22 22.4**	**-2.9**
	comp=Z,1.0nm,0.6s,baz=169,slow=21,SNR=5.8						
BRVK	**Borovoye**	**15.55**	**355**		**P**	**02 19 34.3**	**+0.5**
BRVK	**Borovoye**	**15.55**	**355**	*i* P	**Pn**	**02 19 33.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DGZ	**Jazzator, Alta**	**16.19**	**37**	*i* P	**Pn**	**02 19 42.0**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.50**	**326**	⇓P	Pn	02 19 52.7	+7.4
	comp=Z,3.9nm,0.8s						
AKTO				⇓S	**Sn**	**02 22 49.9**	**-0.7**
	comp=Z,1.3nm,0.8s						
AKTO	**Aktyubinsk**	**16.50**	**326**	P	**Pn**	**02 19 45.5**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=126,slow=8.2,SNR=12						
ZAA0	**Zalesovo Array**	**18.43**	**23**	P	**P**	**02 20 06.4**	**+1.0**
ZAA0				IAmb	IAmb	02 20 07.5	
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**18.43**	**23**	P	**P**	**02 20 06.6**	**+1.2**
ZALV	**Zalesovo Beam**	**18.43**	**23**	*i* P	**P**	**02 20 06.5**	**+1.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.43**	**23**	P	**P**	**02 20 06.2**	**+0.8**
	comp=Z,2.6nm,0.3s,baz=220,slow=10,SNR=29						
ZALV				S	**S**	**02 23 24.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=312,slow=34,SNR=2.9						
WSAR	**Wadi Sarin**	**18.61**	**224**	P	**P**	**02 20 09.8**	**+2.1**
	comp=Z,7.9nm,0.7s,baz=79,slow=6.7,SNR=13						
ARU	**Arti**	**21.04**	**338**	P	**P**	**02 20 34.5**	**+1.3**
ARU				IAmb	IAmb	02 21 08.1	
	comp=Z,7.3nm,1.4s						
ARU	**Arti**	**21.04**	**338**	*d* iP	**P**	**02 20 33.8**	**+0.6**
ARU						02 21 12.9	
ARU				S	**S**	**02 24 17.6**	**+2.3**
ARU				pmax	pmax		
	comp=Z,25nm,3.7s						
ARU	**Arti**	**21.04**	**338**	P	**P**	**02 20 34.8**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=145,slow=9.3,SNR=4.4						
	comp=Z,1.4nm,0.5s						
GNI	**Garni**	**21.73**	**285**	*i* P	**P**	**02 20 39.9**	**-0.9**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BELG	**Belogornoye**	**22.84**	**318**	P	**P**	**02 20 52.1**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=123,slow=17,SNR=7.0						
	comp=Z,2.6nm,0.5s						
SHA1	**Shidzhatmaz**	**23.38**	**295**	*i* P	**P**	**02 20 56.7**	**+0.6**
SONM	**Songino Array**	**26.73**	**57**	P	**P**	**02 21 23.7**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=254,slow=10,SNR=2.3						
	comp=Z,0.2nm,0.5s						
PZH	**PanZhiHua**	**27.03**	**106**	P	**P**	**02 21 32.3**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,5.5s						
HHC	**Hu-ho-hao-te**	**30.27**	**72**	*e*P	**P**	**02 21 59.1**	**+1.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,4.8s						
BRTR	**Keskin Array B**	**30.27**	**286**	P	**P**	**02 21 58.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=81,slow=8.4,SNR=1.7						
	comp=Z,0.3nm,0.5s						
NRIK	**Noril'sk**	**32.85**	**10**	*i* P	**P**	**02 22 18.9**	**-0.6**
NRIK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
AKASG	**Malin Array Be**	**33.22**	**307**	P	**P**	**02 22 23.5**	**+0.5**
	comp=Z,0.3nm,0.2s,baz=104,slow=9.8,SNR=7.1						
	comp=Z,0.3nm,0.2s						
AKBB	**Malin Array Si**	**33.22**	**307**	*i* P	**P**	**02 22 22.0**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BURAR	**Bucovina Array**	**35.72**	**302**	P	**P**	**02 22 46.1**	**+1.5**
BUR08	**Bucovina Ar. S**	**35.73**	**302**	P	**P**	**02 22 45.9**	**+1.2**
BUR08				IAmb	IAmb	02 22 50.9	
	comp=Z,7.9nm,1.5s						
VSU	**Vasula**	**36.10**	**320**	*i* P	**P**	**02 22 47.6**	**+0.1**
VSU				pmax	pmax		
	comp=Z,16nm,1.1s						
FIA1	**FINESS Array S**	**37.27**	**325**	P	**P**	**02 22 57.2**	**-0.2**
FINES	**FINESS Array B**	**37.27**	**325**	P	**P**	**02 22 56.6**	**-0.7**
FINES	**FINESS Array B**	**37.27**	**325**	*i* P	**P**	**02 22 58.7**	**+1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**37.27**	**325**	P	**P**	**02 22 57.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=119,slow=8.7,SNR=10						
	comp=Z,1.8nm,0.6s						
ZEA	**Zeya**	**40.45**	**48**	*i* P	**P**	**02 23 26.0**	**+2.2**
ARCES	**ARCESS Array B**	**40.61**	**337**	P	**P**	**02 23 25.9**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=98,slow=5.4,SNR=15						
	comp=Z,1.2nm,0.4s						
HFS	**Hagfors**	**42.97**	**321**	P	**P**	**02 23 45.0**	**+0.9**
HFS	**Hagfors**	**42.97**	**321**	P	**P**	**02 23 45.0**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=104,slow=11,SNR=11						
	comp=Z,3.5nm,0.6s						
NC303	**NORSAR Array S**	**44.18**	**323**	P	**P**	**02 23 55.3**	**+1.5**
NB2	**NORSAR Subarra**	**44.25**	**322**	P	**P**	**02 23 55.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=92,slow=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**44.25**	**322**	P	**P**	**02 23 54.8**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=105,slow=7.2,SNR=4.4						
	comp=Z,1.0nm,0.5s						
NC204	**NORSAR Array S**	**44.48**	**323**	P	**P**	**02 23 56.9**	**+0.6**
NC204				IAmb	IAmb	02 24 24.6	
	comp=Z,32nm,1.4s						
ESDC	**Sonseca Array**	**58.02**	**298**	P	**P**	**02 25 37.8**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=54,slow=8.3,SNR=6.8						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.94**	**269**	P	**P**	**02 26 33.8**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=48,slow=6.1,SNR=11						
	comp=Z,0.3nm,0.3s						
ILAR	**Eielson Array**	**73.40**	**16**	P	**P**	**02 27 14.6**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=297,slow=4.0,SNR=6.4						
	comp=Z,0.8nm,0.9s						
YKA	**Yellowknife Ar**	**80.10**	**3**	P	**P**	**02 27 52.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=345,slow=5.7,SNR=21						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**81.56**	**123**	P	**P**	**02 27 59.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=325,slow=4.9,SNR=8.1						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**83.90**	**126**	P	**P**	**02 28 12.3**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=305,slow=3.3,SNR=4.5						
	comp=Z,0.5nm,0.9s						

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*ISK **01** 02:17:28.1, 35°.72N×29°.40E, h10km, ML3.1/39*
*NIC **01** 02:17:29.7, 35°.79N×29°.45E, h18km±2km, Ml3.0/7*
*ATH **01** 02:17:30.6, 35°.84N×29°.41E, h17km±3km, ML2.8/2, Error ellipse: s-maj=5.2km s-min=1.3km az=336.0*
*AFAD **01** 02:17:30.0±0.0, 35°.77N×29°.41E, h22km±9km, ML2.9*
ISC 01 02:17:29.2±1.2**, 35°.75N**±0°.04×**29°.40E**±0°.02**, h15**km±8km**, n84,** σ**0s.94**/107**, 1C, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.43**	**20**	⇑P	**Pg**	**02 17 37.3**	**-0.6**
KSL				S	**Sb**	**02 17 44.0**	**-0.8**
KSL				AML	AML	02 17 47.1	
	14nm,0.3s						
KSL				AML	AML	02 17 51.0	
	5.1nm,0.6s						
KSL	**Kastellorizon**	**0.43**	**20**	P	**Pg**	**02 17 37.5**	**-0.4**
KSL				S	**Sg**	**02 17 43.2**	**-0.6**
KSL				AML	AML	02 17 46.6	
	comp=N,4458μm,0.2s						
KSL				AML	AML	02 17 47.5	
	comp=E,13562μm,0.3s						
DEMR	**Demre-Antalya**	**0.64**	**40**	Pg	**Pb**	**02 17 41.9**	**-0.2**
DEMR				Sg	**Sg**	**02 17 50.7**	**+0.4**
IZZE	**Mula-Seydike**	**0.70**	**348**	P	**Pb**	**02 17 42.2**	**-1.1**
IZZE				S	**Sg**	**02 17 52.2**	**-0.1**
FETY	**Fethiye**	**0.92**	**344**	Pg	**Pb**	**02 17 46.7**	**-0.3**
FETY				Sg	**Sn**	**02 17 59.9**	**-0.9**
FETY	**Fethiye**	**0.92**	**344**	P	**Pn**	**02 17 48.7**	**+1.0**
AKUM	**Antalya-Kumluc**	**0.96**	**53**	P	**Pb**	**02 17 47.1**	**-0.4**
AKUM				S	**Sn**	**02 18 02.6**	**+1.1**
AKUM				*i* AML	AML	02 18 09.0	
	comp=E,275nm,0.5s						
ELL	**Elmali**	**1.08**	**22**	Pn	**Pb**	**02 17 49.6**	**-0.1**
ELL				Sn	**Sg**	**02 18 05.8**	**+1.5**
ELL	**Elmali**	**1.08**	**22**	P	**Pb**	**02 17 49.3**	**-0.5**
ELL				S	**Sg**	**02 18 05.8**	**+1.5**
ELL				AML	AML	02 18 13.2	
	comp=E,2.1nm,0.5s						
ELL				AML	AML	02 18 14.9	
	comp=E,2.1nm,0.7s						
KNIK	**Mula-Seydike**	**1.11**	**7**	P	**Pn**	**02 17 50.3**	**0.0**
ARG	**Arkhangelos**	**1.14**	**295**	Pn	**Pn**	**02 17 50.6**	**0.0**
ARG				Sn	**Sg**	**02 18 06.4**	**+0.4**
ARG	**Arkhangelos**	**1.14**	**295**	P	**Pn**	**02 17 50.3**	**-0.3**
ARG				S	**Sg**	**02 18 07.4**	**+1.4**
ARG				AML	AML	02 18 17.5	
	comp=E,0.5nm,0.8s						
ARG				AML	AML	02 18 17.5	
	comp=E,0.6nm,0.6s						
ARG	**Arkhangelos**	**1.14**	**295**	P	**Pn**	**02 17 50.3**	**-0.3**
ARG				S	**Sb**	**02 18 05.0**	**-0.1**
ARG				AML	AML	02 18 17.7	
	comp=N,481μm,0.4s						
ARG				AML	AML	02 18 23.3	
	comp=E,743μm,0.7s						
CAME	**Cameli-Denizli**	**1.20**	**356**	Pn	**Pb**	**02 17 51.6**	**-0.1**
DALY	**Dalyan (Mula)**	**1.23**	**331**	Pn	**Pb**	**02 17 52.2**	**+0.1**
KEMT	**Kemer-ANTALYA**	**1.27**	**47**	Pn	**Pb**	**02 17 52.7**	**-0.1**
CAEL	**Denizli, Camel**	**1.38**	**357**	P	**Pb**	**02 17 54.4**	**-0.4**
TURN	**Turunc**	**1.39**	**318**	Pn	**Pb**	**02 17 54.6**	**-0.3**
KORT	**Korkueli**	**1.47**	**31**	Pn	**Pb**	**02 17 55.9**	**-0.4**
KORT	**Korkueli**	**1.47**	**31**	P	**Pb**	**02 17 56.0**	**-0.3**
GOLH	**Golhisar**	**1.49**	**5**	P	**Pb**	**02 17 56.3**	**-0.4**
ANTB	**Antalya**	**1.53**	**41**	Pn	**Pb**	**02 17 56.6**	**-0.7**
YER	**Yerkesik**	**1.65**	**327**	Pn	**Pn**	**02 17 58.3**	**+0.5**
APMY	**Acipayam-Deniz**	**1.72**	**357**	Pn	**Pn**	**02 17 59.3**	**+0.5**
TAVA	**DENIZLI_Tavas**	**1.76**	**347**	P	**Pn**	**02 17 59.6**	**+0.3**
DAT	**Datca**	**1.77**	**304**	Pn	**Pn**	**02 17 59.9**	**+0.5**
RFTAA	**Mazikoy-Bodrum**	**1.83**	**314**	Pn	**Pn**	**02 18 00.8**	**+0.7**
BUCA	**Burdur, Bucak-**	**1.83**	**30**	P	**Pn**	**02 18 01.2**	**+0.9**
KARP	**Karpathos**	**1.83**	**264**	Pn	**Pn**	**02 18 00.8**	**+0.5**
KARP	**Karpathos**	**1.83**	**264**	P	**Pn**	**02 18 01.4**	**+1.2**
KARP				S	**Sn**	**02 18 22.7**	**-0.5**
DNIZ	**Denizli-Tavas-**	**1.90**	**351**	P	**Pn**	**02 18 01.5**	**+0.3**
DNIZ				S	**Sn**	**02 18 24.6**	**-0.3**
DNIZ				*i* AML	AML	02 18 36.0	
	comp=E,385nm,0.4s						
BCK	**Bucak**	**1.96**	**29**	Pn	**Pn**	**02 18 02.9**	**+0.9**
INCE	**Denizli-Bozkur**	**1.96**	**4**	P	**Pn**	**02 18 02.8**	**+0.7**
BRDR	**BURDUR-Merkez**	**2.02**	**15**	P	**Pn**	**02 18 02.6**	**-0.3**
MLSB	**Milas**	**2.03**	**320**	Pn	**Pn**	**02 18 03.7**	**+0.8**
RFTB	**Kemer-Bodrum**	**2.11**	**306**	Pn	**Pn**	**02 18 05.3**	**+1.4**
KEPZ	**Antalya-Kepez**	**2.12**	**56**	P	**Pn**	**02 18 04.5**	**+0.3**
KEPZ				S	**Sn**	**02 18 28.4**	**-1.9**
BODT	**Bodrum**	**2.14**	**309**	Pn	**Pn**	**02 18 04.6**	**+0.2**
BASM	**Basmaki-Afyon**	**2.23**	**13**	Pn	**Pn**	**02 18 05.5**	**-0.3**
ISP	**Isparta**	**2.26**	**23**	Pn	**Pn**	**02 18 07.3**	**+1.1**
ISP	**Isparta**	**2.26**	**23**	P	**Pn**	**02 18 05.6**	**-0.6**
ALAN	**Alanya-ANTALYA**	**2.28**	**68**	Pn	**Pn**	**02 18 06.8**	**+0.5**
GAZI	**Gazipasa**	**2.41**	**77**	Pn	**Pn**	**02 18 08.9**	**+0.7**
GAZI	**Gazipasa**	**2.41**	**77**	P	**Pn**	**02 18 08.8**	**+0.7**
GAZI				S	**Sn**	**02 18 33.5**	**-3.9**
GAZI				*i* AML	AML	02 18 37.0	
	comp=E,40nm,0.3s						
AKMS	**Akamas**	**2.50**	**106**	P	**Pn**	**02 18 09.7**	**+0.2**
AKMS				S	**Sn**	**02 18 39.1**	**-0.7**
AKMS				AML	AML	02 18 40.1	
	comp=E,0.3nm,0.4s						
AKMS				AML	AML	02 18 43.8	
	comp=E,0.2nm,0.6s						
SEDI	**Konya, Seydise**	**2.55**	**47**	P	**Pn**	**02 18 11.3**	**+1.1**
SEDI				S	**Sn**	**02 18 41.7**	**+0.8**
SEDI				*i* AML	AML	02 18 48.0	
	comp=E,70nm,0.3s						
SEYD	**Seydisehir-KON**	**2.57**	**49**	Pn	**Pn**	**02 18 11.2**	**+0.8**
KZIL	**AFYON_Kizioren**	**2.58**	**13**	P	**Pn**	**02 18 10.4**	**-0.1**
PASA	**Karahalli, USA**	**2.60**	**2**	P	**Pn**	**02 18 10.4**	**-0.4**
GCAM	**G?zelcaml?**	**2.62**	**319**	Pn	**Pn**	**02 18 10.9**	**0.0**
ALFC	**Alefka**	**2.68**	**102**	P	**Pn**	**02 18 11.8**	**-0.1**
ALFC				S	**Sn**	**02 18 44.3**	**+0.3**
ALFC				AML	AML	02 18 47.4	
	comp=E,0.1nm,0.5s						
ALFC				AML	AML	02 18 50.6	
	comp=E,0.2nm,0.5s						
NATA	**Nata**	**2.77**	**109**	P	**Pn**	**02 18 13.4**	**+0.4**
NATA				AML	AML	02 18 49.5	
	comp=E,0.3nm,0.4s						
NATA				AML	AML	02 18 49.9	
	comp=E,0.2nm,0.3s						
HDMB	**Hadim**	**2.77**	**63**	Pn	**Pn**	**02 18 13.6**	**+0.3**
LEF	**Lefka**	**2.92**	**101**	Pn	**Pn**	**02 18 14.7**	**-0.3**
LEF	**Lefka**	**2.92**	**101**	P	**Pn**	**02 18 14.8**	**-0.3**
YVAC	**Isparta, Yalva**	**2.92**	**30**	P	**Pn**	**02 18 17.5**	**+2.3**
YVAC				S	**Sn**	**02 18 52.3**	**+2.2**
BOZY	**Bozyazi-Mersin**	**2.92**	**82**	Pn	**Pn**	**02 18 16.4**	**+1.2**
TROD	**Troodos**	**2.94**	**105**	P	**Pn**	**02 18 15.2**	**-0.4**
TROD				S	**Sn**	**02 18 50.8**	**0.0**
TROD				AML	AML	02 18 58.5	
	comp=E,0.1nm,0.6s						
TROD				AML	AML	02 18 58.7	
	comp=E,0.1nm,0.4s						
SHUT	**Suhut-Afyon**	**2.95**	**18**	Pn	**Pn**	**02 18 15.8**	**+0.1**
DOGA	**KONYA_Doganhis**	**2.97**	**37**	P	**Pn**	**02 18 16.7**	**+0.7**
DOGA				S	**Sn**	**02 18 52.3**	**+0.8**
DOGA				*i* AML	AML	02 18 56.0	
	comp=E,52nm,0.9s						
TEKE	**Tekeli-Mersin**	**3.04**	**81**	Pn	**Pn**	**02 18 18.0**	**+1.2**
KMER	**Konya-Meram**	**3.12**	**49**	P	**Pn**	**02 18 18.6**	**+0.6**
BERE	**Bereket-Mersin**	**3.15**	**78**	Pn	**Pn**	**02 18 19.5**	**+1.0**
KONT	**Konya--Tatoy**	**3.23**	**46**	Pn	**Pn**	**02 18 20.8**	**+1.3**
KONT	**Konya--Tatoy**	**3.23**	**46**	P	**Pn**	**02 18 20.5**	**+1.0**
ASGA	**Asgata**	**3.29**	**106**	P	**Pn**	**02 18 20.8**	**+0.6**
CSS	**Mathiatis**	**3.31**	**103**	Pn	**Pn**	**02 18 20.8**	**+0.3**
CSS	**Mathiatis**	**3.31**	**103**	P	**Pn**	**02 18 20.5**	**0.0**
CSS				S	**Sn**	**02 18 59.1**	**-0.4**
CSS	**Mathiatis**	**3.31**	**103**	P	**Pn**	**02 18 20.5**	**0.0**
UCKU	**Afyonkarahisar**	**3.31**	**29**	P	**Pn**	**02 18 21.9**	**+1.3**
TEVE	**Tevekalti-Mers**	**3.34**	**77**	Pn	**Pn**	**02 18 22.3**	**+1.2**
SIMA	**Simav-Kutahya**	**3.35**	**354**	Pn	**Pn**	**02 18 22.4**	**+1.3**
AKKU	**Akkuyu-Mersin**	**3.39**	**82**	Pn	**Pn**	**02 18 23.2**	**+1.6**
LFK	**Lefkose**	**3.40**	**97**	Pn	**Pn**	**02 18 23.4**	**+1.6**
LADK	**Ladik-KONYA**	**3.41**	**43**	Pn	**Pn**	**02 18 23.5**	**+1.5**
KRMN	**Karaman**	**3.42**	**64**	Pn	**Pn**	**02 18 23.5**	**+1.3**
IKL	**Isikli**	**3.51**	**81**	Pn	**Pn**	**02 18 24.6**	**+1.4**
KDHN	**Kadinhani**	**3.52**	**37**	P	**Pn**	**02 18 24.3**	**+0.8**
KDHN				S	**Sn**	**02 19 03.2**	**-1.7**
MVOU	**Mavrovouni**	**3.53**	**101**	P	**Pn**	**02 18 24.0**	**+0.4**
KEBE	**Keben-Mersin**	**3.56**	**77**	Pn	**Pn**	**02 18 25.5**	**+1.5**
OSC2	**CSNet OBS 4**	**3.56**	**138**	S	**Sn**	**02 19 06.8**	**+1.0**
KIZT	**Kizilcal**	**3.70**	**32**	Pn	**Pn**	**02 18 26.5**	**+0.5**
ALIN	**Konya, Altinte**	**3.77**	**46**	P	**Pn**	**02 18 27.3**	**+0.3**
KERG	**Konya-Eregli**	**4.15**	**65**	P	**Pn**	**02 18 33.0**	**+0.8**

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*IDC **01** 02:30:21.5±0.7, 29°.14N×142°.60E, h0km, mb3.7/12, mbtmp3.7/14, ML3.1/2, MS3.7/2, Error ellipse: s-maj=26.7km s-min=14.8km az=80.0*
*JMA **01** 02:30:24.5±0.2, 29°.3N±0°.5×14°2E±°, h49km, MV3.8/24, NEAR TORISHIMA IS*
ISC 01 02:30:22.7±0.7**, 29°.16N**±0°.05×**142°.5E**±0°.2**, h10km, n29,** σ**1s.47**/30**, mb3.8**/12**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.07**	**188**	*e*P	**Pb**	**02 30 59.3**	**-1.1**
CBIJ				*e*S	**Sb**	**02 31 25.1**	**-1.1**
JCJ	**Chichijima**	**2.07**	**188**	Pn	**Pn**	**02 30 55.2**	**-2.3**
	6.3nm,0.3s,baz=298,slow=17,SNR=1.4						
JCJ				Sn	**Sn**	**02 31 21.9**	**-1.6**
	18nm,0.3s,baz=301,slow=22,SNR=5.6						
	73nm,0.8s						
BSO1	**Boso 1**	**5.63**	**347**	S	**Sn**	**02 32 46.3**	**-4.2**
BSO3	**Boso 3**	**5.88**	**344**	*e*P	**Pn**	**02 31 49.3**	**-0.3**
BSO4	**Boso 4**	**6.10**	**343**	P	**Pn**	**02 31 52.7**	**-0.1**
JOD2	**Odawara 2**	**6.74**	**336**	P	**Pn**	**02 32 02.8**	**+1.1**
JHU	**Hanno**	**7.21**	**339**	*e*P	**Pn**	**02 32 07.9**	**-0.2**
JHU				*e*S	**Sn**	**02 33 26.4**	**-3.7**
JRY	**Ryogami san**	**7.48**	**337**	*e*P	**Pn**	**02 32 12.5**	**+0.5**
JRY				*e*S	**Sn**	**02 33 34.8**	**-2.1**
MJAR	**Matsushiro Arr**	**8.20**	**335**	Pn	**Pn**	**02 32 22.1**	**+0.3**
	0.2nm,0.3s,baz=163,slow=12,SNR=14						
MJAR				Sn	**Sn**	**02 33 53.7**	**-0.9**
	baz=329,slow=46,SNR=1.7						
	1.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**24.07**	**107**	T	T	03 00 19.4	
	baz=311,slow=75						
H11N1	**WAKE ISLAND Hy**	**24.08**	**107**	T	T	03 00 21.6	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**24.09**	**107**	T	T	03 00 22.9	
	baz=311,slow=75						
H11S3	**WAKE ISLAND Hy**	**24.50**	**110**	T	T	03 01 11.2	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**24.50**	**110**	T	T	03 01 09.5	
	baz=312,slow=75						
H11S2	**WAKE ISLAND Hy**	**24.51**	**110**	T	T	03 01 13.5	
	baz=312,slow=75						
SONM	**Songino Array**	**33.45**	**314**	P	**P**	**02 37 03.7**	**+1.7**
	1.3nm,1.1s,baz=120,slow=7.6,SNR=4.7						
SONM				PcP	**PcP**	**02 39 42.1**	**-1.0**
	0.2nm,0.4s,baz=116,slow=5.0,SNR=1.4						
	1.3nm,1.1s						
PMG	**Port Moresby**	**38.60**	**173**	LR	LR	02 51 51.9	
	comp=Z,44nm,21.7s,baz=282,slow=34						
HNR	**Honiara**	**41.89**	**154**	LR	LR	02 54 07.4	
	comp=Z,280nm,19.2s,baz=316,slow=34						
ZALV	**Zalesovo Beam**	**48.13**	**318**	P	**P**	**02 39 03.4**	**+0.6**
	0.5nm,0.4s,baz=101,slow=9.2,SNR=4.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**49.40**	**308**	P	**P**	**02 39 13.1**	**+0.4**
	0.6nm,0.7s,baz=89,slow=9.6,SNR=6.7						
MKAR				PcP	**PcP**	**02 40 36.1**	**+1.1**
	0.3nm,0.7s,baz=66,slow=4.9,SNR=1.6						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**49.44**	**190**	P	**P**	**02 39 13.5**	**+0.3**
	1.0nm,0.4s,baz=8.0,slow=7.8,SNR=19						
WRA				PcP	**PcP**	**02 40 36.0**	**+0.7**
	0.4nm,0.5s,baz=0.9,slow=3.7,SNR=5.5						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**51.82**	**313**	P	**P**	**02 39 31.8**	**+1.1**
	1.3nm,0.6s,baz=92,slow=6.9,SNR=13						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**53.16**	**190**	P	**P**	**02 39 41.3**	**+0.3**
	0.3nm,0.4s,baz=10,slow=7.0,SNR=14						
ASAR				PcP	**PcP**	**02 40 49.8**	**+0.7**
	0.2nm,0.6s,baz=3.7,slow=4.2,SNR=1.5						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**55.78**	**29**	P	**P**	**02 39 59.2**	**-0.4**
	0.3nm,0.7s,baz=268,slow=6.8,SNR=4.3						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**56.73**	**317**	P	**P**	**02 40 07.4**	**+0.8**
	1.4nm,0.6s,baz=96,slow=6.7,SNR=13						
	1.4nm,0.6s						
STKA	**Stephens Creek**	**60.70**	**181**	P	**P**	**02 40 35.0**	**+0.7**
	1.1nm,0.7s,baz=9.8,slow=6.1,SNR=3.0						
	1.1nm,0.7s						
YKA	**Yellowknife Ar**	**70.21**	**29**	P	**P**	**02 41 35.4**	**-0.1**
	0.2nm,0.8s,baz=298,slow=6.6,SNR=4.2						
	0.2nm,0.8s						
NVAR	**Mina Array Bea**	**79.04**	**52**	P	**P**	**02 42 28.0**	**+0.5**
	0.3nm,0.5s,baz=284,slow=7.6,SNR=4.8						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**84.81**	**313**	P	**P**	**02 42 58.5**	**+0.7**
	0.6nm,0.8s,baz=66,slow=5.2,SNR=1.8						
	0.6nm,0.8s						

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*IDC **01** 03:21:53.4±4.5, 22°.66N×121°.50E, h0km, mb3.5/5, mbtmp3.6/7, ML3.3/2, MS2.4/1, Error ellipse: s-maj=87.9km s-min=32.5km az=154.0*
*TAP **01** 03:21:56.6, 22°.87N×121°.24E, h9km, ML3.9, C*
*ASIES **01** 03:21:56.6, 22°.87N×121°.24E, h9km, ML3.9, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.62; $M_{\theta\theta}$1.15; $M_{\phi\phi}$-1.47; $M_{r\theta}$-0.93; $M_{\theta\phi}$-0.00; $M_{\phi r}$-0.73; Fault plane solution: $M_0$1.82612×10^{21} NP1: ϕ_s219.31000°, δ78.11000°, λ135.83000°. NP2: ϕ_s320.63000°, δ47.01000°, λ16.36000°. Principal axes: T Plg38.8910°, Azm169.9730°; N Plg44.5760°, Azm27.3370°; P Plg19.6620°, Azm276.7240°;*
*JMA **01** 03:21:56.3±0.1, 22°.9N±0°.4×12°1E±°, h17km±3km, MV3.7/16, TAIWAN REGION*
ISC 01 03:21:57.0±0.8**, 22°.83N**±0°.02×**121°.33E**±0°.02**, h13**km±5km**, n143,** σ**1s.21**/202**, mb3.6**/5**, 10C-12D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.14**	**351**	⇑*i*P	**Pg**	**03 21 59.8**	**-0.8**
	baz=40						
EDH				S	**Sg**	**03 22 02.5**	**-0.6**
	baz=40						
TTN	**Taitung**	**0.18**	**245**	⇑*i*P	**Pg**	**03 22 00.9**	**-0.2**
	baz=205						
TTN				S	**Sg**	**03 22 04.7**	**+0.7**
	baz=205						
LONT	**Longtian**	**0.20**	**293**	⇓*i*P	**Pg**	**03 21 59.5**	**-2.0**
	baz=292						
LONT				*i* S	**Sg**	**03 22 02.1**	**-2.3**
	baz=292						
LDUT	**Ludao**	**0.20**	**140**	⇑*i*P	**Pg**	**03 22 02.9**	**+1.4**
	baz=132						
LDUT				*i* S	**Sg**	**03 22 08.1**	**+3.5**
	baz=132						
TWGBT	**Beinan**	**0.23**	**267**	P	**Pg**	**03 22 00.6**	**-1.4**
TWGBT	**Beinan**	**0.23**	**267**	⇓*i*P	**Pg**	**03 22 00.5**	**-1.5**
	baz=257						
TWGBT				S	**Sg**	**03 22 02.9**	**-2.4**
	baz=257						
TWG	**Pinlang**	**0.24**	**268**	⇓*i*P	**Pg**	**03 22 00.5**	**-1.6**
	baz=257						
TWG				*i* S	**Sg**	**03 22 03.7**	**-1.8**
	baz=257						
CHKT	**Chengkung**	**0.27**	**7**	⇑*i*P	**Pg**	**03 22 02.6**	**-0.1**
	baz=38						
CHKT				*i* S	**Sg**	**03 22 07.4**	**+0.9**
	baz=38						
ECS	**Chishang**	**0.28**	**339**	⇓P	**Pg**	**03 22 02.5**	**-0.4**
	baz=359						
ECS				S	**Sg**	**03 22 07.6**	**+0.8**
	baz=359						
EHD	**Haiduan**	**0.34**	**341**	*e*P	**Pg**	**03 22 03.1**	**-0.8**
	baz=357						
EHD				S	**Sg**	**03 22 08.1**	**-0.4**
	baz=357						
CHKH	**Chenggong**	**0.36**	**10**	*i* P	**Pg**	**03 22 04.2**	**-0.2**
	baz=28						
CHKH				*i* S	**Sg**	**03 22 10.2**	**+0.8**
	baz=28						
FULB	**Fuli**	**0.37**	**355**	*i* P	**Pg**	**03 22 04.3**	**-0.2**
	baz=24						
FULB				*e*S	**Sg**	**03 22 09.9**	**+0.5**
	baz=24						
ECL	**Taimali**	**0.42**	**236**	⇑*i*P	**Pg**	**03 22 04.5**	**-0.8**
	baz=229						
ECL				*e*S	**Sg**	**03 22 10.3**	**-0.6**
	baz=229						
ELDTW	**Lidau**	**0.46**	**321**	⇓*i*P	**Pg**	**03 22 04.7**	**-1.5**
	baz=332						
ELDTW				S	**Sg**	**03 22 09.9**	**-2.4**
	baz=332						
ECBN	**Changbin**	**0.50**	**13**	*e*P	**Pg**	**03 22 06.6**	**-0.2**
	baz=25						
ECBN				*e*S	**Sg**	**03 22 13.9**	**+0.5**
	baz=25						
EYUL	**Yuli**	**0.51**	**359**	*e*P	**Pg**	**03 22 07.0**	**-0.2**
	baz=359						
EYUL				*e*S	**Sg**	**03 22 15.2**	**+1.2**
	baz=359						
TWF1	**Yuli**	**0.52**	**357**	P	**Pg**	**03 22 06.3**	**-1.0**
	baz=357						
TWF1				*e*S	**Sg**	**03 22 13.6**	**-0.7**
	baz=357						
YULB	**Yu-li**	**0.56**	**357**	P	**Pg**	**03 22 07.1**	**-0.9**
YULB	**Yu-li**	**0.56**	**357**	*i* P	**Pg**	**03 22 06.9**	**-1.1**
	baz=12						
YULB				*e*S	**Sg**	**03 22 14.2**	**-1.2**
	baz=12						
STYH	**Taoyuan**	**0.61**	**304**	⇓*i*P	**Pg**	**03 22 07.7**	**-1.2**
	baz=308						
STYH				S	**Sg**	**03 22 15.6**	**-1.4**
	baz=308						
TAW	**Tawu**	**0.62**	**220**	P	**Pg**	**03 22 08.6**	**-0.5**
	baz=219						
TAW				*e*S	**Sb**	**03 22 17.9**	**-0.5**
	baz=219						
EAST	**Anshuo**	**0.63**	**225**	⇑*i*P	**Pg**	**03 22 08.6**	**-0.8**
	baz=211						
EAST				*e*S	**Sg**	**03 22 17.2**	**-0.5**
	baz=211						
TAWH	**Dawu Township**	**0.64**	**220**	⇑*i*P	**Pg**	**03 22 08.8**	**-0.6**
	baz=219						
TAWH				*e*S	**Sg**	**03 22 17.8**	**0.0**
	baz=219						
TSMG	**Majia**	**0.64**	**259**	*i* P	**Pg**	**03 22 08.3**	**-1.2**
	baz=251						
TSMG				S	**Sg**	**03 22 16.3**	**-1.7**
	baz=251						
SLGT	**Liugui**	**0.65**	**285**	⇑*i*P	**Pg**	**03 22 08.7**	**-1.0**
	baz=283						
SLGT				*e*S	**Sg**	**03 22 17.9**	**-0.4**
	baz=283						
HGSD	**Ruisui**	**0.66**	**8**	P	**Pg**	**03 22 09.5**	**-0.5**
	baz=2.0						
HGSD				S	**Sb**	**03 22 21.9**	**+2.2**
	baz=2.0						
EHY	**Hungye**	**0.67**	**360**	*e*P	**Pg**	**03 22 08.8**	**-1.4**
	baz=11						
MASBT	**Mashibuluo**	**0.68**	**251**	⇑*i*P	**Pg**	**03 22 09.1**	**-1.2**
	baz=234						
MASBT				S	**Sg**	**03 22 17.7**	**-1.4**
	baz=234						
SGST	**Jiashian**	**0.73**	**290**	⇓*i*P	**Pg**	**03 22 09.4**	**-1.8**
	baz=290						
SGST				S	**Sg**	**03 22 19.7**	**-1.1**
	baz=290						
SCST	**Cishan**	**0.77**	**274**	*i* P	**Pg**	**03 22 11.5**	**-0.5**
	baz=263						
SCST				*e*S	**Sg**	**03 22 20.6**	**-1.5**
	baz=263						
WTP	**Ta-pu**	**0.78**	**302**	⇓*i*P	**Pg**	**03 22 11.3**	**-0.9**
	baz=305						
WTP				S	**Sg**	**03 22 20.4**	**-2.0**
	baz=305						
SGLT	**Jiouru**	**0.78**	**262**	*e*P	**Pg**	**03 22 12.0**	**-0.2**
	baz=256						
SGLT				*e*S	**Sg**	**03 22 22.2**	**-0.2**
	baz=256						
TPUB	**Ta-pu**	**0.80**	**306**	P	**Pg**	**03 22 11.7**	**-0.8**
TPUB	**Ta-pu**	**0.80**	**306**	⇓*i*P	**Pg**	**03 22 11.5**	**-1.0**
	baz=309						
TPUB				S	**Sg**	**03 22 22.0**	**-0.9**
	baz=309						
SCZT	**Fangliau**	**0.80**	**235**	⇑P	**Pg**	**03 22 11.5**	**-1.0**
	baz=215						
SCZT				*e*S	**Sg**	**03 22 21.7**	**-1.3**
	baz=215						
LAY	**Lan-yu**	**0.81**	**165**	*e*P	**Pg**	**03 22 11.8**	**-1.1**
	baz=146						
LAY				*e*S	**Sb**	**03 22 23.8**	**-0.3**
	baz=146						
CHN1	**Nanshi**	**0.82**	**296**	⇓*i*P	**Pg**	**03 22 12.3**	**-0.6**
	baz=303						
CHN1				*e*S	**Sb**	**03 22 24.5**	**+0.4**
	baz=303						
ALS	**Alishan**	**0.83**	**325**	⇓*i*P	**Pg**	**03 22 12.1**	**-1.1**
	baz=332						
ALS				*e*S	**Sg**	**03 22 24.8**	**+0.6**
	baz=332						
TWM1	**Shoushan**	**0.83**	**270**	P	**Pg**	**03 22 12.7**	**-0.6**
	baz=258						
TWM1				*e*S	**Sb**	**03 22 25.9**	**+1.3**
	baz=258						
EGFH	**Guangfu**	**0.84**	**6**	*e*P	**Pg**	**03 22 13.5**	**+0.1**
	baz=3.0						
CHN4	**Tsaushan**	**0.85**	**308**	⇓*i*P	**Pg**	**03 22 12.7**	**-0.8**
	baz=311						
CHN4				*e*S	**Sg**	**03 22 24.3**	**-0.4**
	baz=311						
SNST	**Tainan City**	**0.86**	**297**	*e*P	**Pg**	**03 22 13.1**	**-0.6**
	baz=298						
SNST				*e*S	**Sb**	**03 22 26.2**	**+0.9**
	baz=298						
LYUB	**Lan-yu**	**0.86**	**164**	*i* P	**Pg**	**03 22 11.0**	**-2.7**
	baz=145						
WARBT	**Fenglin Townsh**	**0.89**	**4**	*e*P	**Pg**	**03 22 13.5**	**-0.7**
	baz=14						
WCKO	**Fanlu**	**0.90**	**312**	*e*P	**Pg**	**03 22 13.6**	**-0.9**
	baz=327						
WCKO				*e*S	**Sg**	**03 22 26.4**	**+0.2**
	baz=327						
SNJT	**Kaohsiung City**	**0.92**	**265**	P	**Pn**	**03 22 15.8**	**+0.1**
	baz=258						
SNJT				*e*S	**Sn**	**03 22 30.2**	**+1.4**
	baz=258						
CHN3	**Shinhua**	**0.92**	**286**	*e*P	**Pb**	**03 22 15.6**	**+0.7**
	baz=284						
CHN3				*e*S	**Sb**	**03 22 28.4**	**+1.4**
	baz=284						
SHHT	**Tainan City**	**0.92**	**282**	P	**Pn**	**03 22 16.0**	**+0.2**
	baz=279						
SHHT				*e*S	**Sn**	**03 22 30.5**	**+1.6**
	baz=279						
VWDT	**VWDT**	**0.94**	**349**	P	**Pg**	**03 22 13.7**	**-1.4**
	baz=11						
VWDT				*e*S	**Sg**	**03 22 24.4**	**-3.0**
	baz=11						
WHYT	**Xinyi Township**	**0.97**	**333**	P	**Pg**	**03 22 14.5**	**-1.2**
	baz=341						
WHYT				*e*S	**Sg**	**03 22 29.0**	**+0.7**
	baz=341						
CHN5	**Tsauling**	**0.97**	**322**	*i* P	**Pg**	**03 22 14.9**	**-0.9**
	baz=328						
KAU	**Kaohsiung**	**0.98**	**255**	*e*P	**Pn**	**03 22 17.6**	**+1.1**
	baz=245						
SHUL	**Shoufeng**	**0.98**	**13**	P	**Pg**	**03 22 14.7**	**-1.2**
	baz=33						
SHUL				*e*S	**Sg**	**03 22 28.8**	**+0.1**
	baz=33						
ESL	**Shilin**	**0.98**	**6**	*e*P	**Pg**	**03 22 14.5**	**-1.5**
	baz=17						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ESL				eS	Sg	03 22 26.1	-2.8
	baz=17						
HEN	Hengchun	0.99	214	eP	Pg	03 22 15.9	-0.1
	baz=201						
HEN				eS	Sg	03 22 28.7	-0.3
	baz=201						
WSSB	Gushan	1.00	259	P	Pn	03 22 17.8	+0.9
	baz=272						
TWKBT	Hengchun	1.01	208	eP	Pg	03 22 15.3	-1.1
	baz=182						
TWK1	Hengchun	1.01	209	eP	Pg	03 22 15.9	-0.6
	baz=206						
SSLB	Suanglung	1.01	340	P	Pg	03 22 15.3	-1.3
SSLB	Suanglung	1.01	340	eP	Pg	03 22 14.9	-1.7
	baz=2.0						
SSLB				eS	Sg	03 22 28.9	-1.0
	baz=2.0						
CHN2	Minshiung	1.05	312	eP	Pg	03 22 17.2	-0.1
	baz=316						
CHN2				eS	Sn	03 22 33.0	+0.9
	baz=316						
CHY	Chiayi	1.06	309	P	Pg	03 22 16.6	-1.0
	baz=313						
CHY				eS	Sg	03 22 31.8	+0.3
	baz=313						
SCLT	Jiali	1.10	288	eP	Pg	03 22 18.0	-0.2
	baz=288						
SCLT				eS	Sn	03 22 34.3	+1.1
	baz=288						
ICHU	Yijhu	1.10	299	eP	Pg	03 22 17.7	-0.6
	baz=301						
ICHU				eS	Sg	03 22 32.7	+0.1
	baz=301						
WGK	Gukeng	1.10	321	P	Pg	03 22 17.8	-0.6
	baz=327						
WGK				eS	Sb	03 22 34.0	+1.6
	baz=327						
SMLT	Sun Moon Lake	1.12	340	P	Pg	03 22 17.1	-1.5
	baz=357						
SMLT				eS	Sb	03 22 34.2	+1.3
	baz=357						
WDLH	Douliu	1.12	320	eP	Pg	03 22 17.8	-0.8
	baz=326						
WDLH				eS	Sb	03 22 34.1	+1.2
	baz=326						
OWD	Renai	1.13	353	eP	Pg	03 22 17.4	-1.4
	baz=15						
WJS	Zhushan	1.13	331	eP	Pg	03 22 18.4	-0.4
	baz=338						
WJS				eS	Sb	03 22 34.5	+1.4
	baz=338						
ETM	Tongmen	1.14	8	eP	Pg	03 22 16.8	-2.2
	baz=18						
CHN8	Yiju	1.15	297	eP	Pg	03 22 17.7	-1.5
	baz=298						
CHN8				eS	Sn	03 22 36.0	+1.5
	baz=298						
TYC	Yuchr	1.15	338	P	Pg	03 22 18.5	-0.7
	baz=347						
TYC				eS	Sn	03 22 35.6	+1.0
	baz=347						
WUSB	Renai	1.17	351	P	Pg	03 22 18.0	-1.7
	baz=12						
TSCK	Chigu Township	1.19	286	P	Pg	03 22 18.3	-1.6
	baz=284						
LXIB	Xiulin Townshi	1.19	4	P	Pg	03 22 16.8	-3.2
	baz=14						
WNT	Mingjian	1.20	331	i P	Pg	03 22 19.6	-0.6
	baz=339						
WNT				S	Sb	03 22 36.6	+1.5
	baz=339						
WTK	Tuku	1.21	315	i P	Pb	03 22 19.2	-0.7
	baz=320						
WSL	Shuilin Townsh	1.22	304	P	Pb	03 22 19.9	-0.2
	baz=308						
WSL				eS	Sn	03 22 38.2	+1.8
	baz=308						
CHGB	Renai	1.23	353	i P	Pg	03 22 19.3	-1.5
	baz=15						
WCS	Beigang Elemen	1.28	343	P	Pn	03 22 20.6	-0.1
	baz=4.0						
WCS				eS	Sb	03 22 38.4	+1.0
	baz=4.0						
WSF	Szhu	1.30	309	eP	Pn	03 22 20.6	-0.3
	baz=313						
WSF				eS	Sn	03 22 39.4	+1.3
	baz=313						
WHF	Hehuan Shan	1.31	358	eP	Pn	03 22 20.0	-1.5
	baz=21						
NACB	Ninganchiao	1.36	10	P	Pn	03 22 21.3	-0.5
NACB	Ninganchiao	1.36	10	eP	Pn	03 22 19.0	-2.8
	baz=20						
ETLH	Xiulin Townshi	1.38	6	eP	Pn	03 22 19.7	-2.4
	baz=15						
WRL	Guolierlin Hig	1.38	321	eP	Pn	03 22 21.7	-0.3
	baz=328						
WRL				eS	Sb	03 22 41.0	+0.7
	baz=328						
TCU	Taichung	1.44	336	eP	Pn	03 22 22.9	0.0
	baz=344						
WHP	Taichung City	1.48	346	eP	Pn	03 22 24.5	+1.0
	baz=5.0						
EOS4	EOS4	1.57	35	eP	Pn	03 22 23.4	-1.0
	baz=58						
EOS4				eS	Sn	03 22 43.1	-1.4
	baz=58						
NNSB	Datong	1.59	2	eP	Pn	03 22 23.4	-1.7
	baz=28						
TWQ1	Liyutan	1.59	342	eP	Pn	03 22 26.5	+1.5
	baz=352						
TWQ1				eS	Sg	03 22 49.1	+0.7
	baz=352						
WDGT	Dungji	1.59	286	P	Pn	03 22 24.9	-0.1
	baz=286						
NNS	Nan Shan	1.60	1	eP	Pn	03 22 25.7	+0.4
	baz=28						
ENA	Nanau	1.64	13	eP	Pn	03 22 25.7	+0.2
	baz=12						
WDJ	Dajia District	1.64	337	eP	Pb	03 22 27.6	+0.4
	baz=347						
WDJ				eS	Sg	03 22 49.6	-0.2
	baz=347						
EWUT	Wuta	1.66	14	eP	Pn	03 22 25.0	-0.9
	baz=12						
NSY	Sanyi	1.66	342	P	Pn	03 22 27.5	+1.5
	baz=350						
LATG	Datong	1.71	6	eP	Pn	03 22 25.9	-0.8
	baz=32						
EOS3	EOS3	1.71	32	eP	Pn	03 22 25.8	-0.7
	baz=54						
PHUB	P'eng-hu	1.75	293	eP	Pn	03 22 26.2	-1.0
	baz=295						
NDT	Datong Townshi	1.77	5	eP	Pn	03 22 27.6	+0.1
	baz=31						
PNG	Penghu	1.79	295	eP	Pn	03 22 26.9	-0.8
	baz=297						
VCHM	Qimei	1.79	283	eP	Pn	03 22 26.7	-1.0
	baz=282						
NFF	Wufeng Townshi	1.80	354	eP	Pn	03 22 29.6	+1.7
	baz=13						
ENTT	Nioudou	1.81	7	eP	Pn	03 22 29.6	+1.5
	baz=16						
NSTT	Nanjuang	1.82	351	eP	Pn	03 22 29.9	+1.8
	baz=12						
LIOB	Emei	1.83	351	eP	Pn	03 22 29.6	+1.4
	baz=12						
YHNB	Yeheng	1.83	1	P	Pn	03 22 29.2	+0.8
YHNB	Yeheng	1.83	1	eP	Pn	03 22 28.2	-0.1
	baz=27						
TWC	Suao	1.83	15	eP	Pn	03 22 29.2	+0.9
	baz=13						
NSK	Sanguang	1.84	1	eP	Pn	03 22 28.6	+0.1
	baz=26						
TWE	Neicheng	1.91	9	eP	Pn	03 22 30.4	+1.1
	baz=18						
FUSB	Fushanzhiwuyua	1.94	7	eP	Pn	03 22 28.9	-0.8
	baz=31						
NWLT	Wulai	1.94	5	eP	Pn	03 22 30.7	+0.8
	baz=31						
NHDH	Xindian Distri	2.13	5	eP	Pn	03 22 34.3	+1.9
	baz=28						
TATO	Taipei	2.14	4	P	Pn	03 22 34.8	+2.3
TIPB	Shuangxi	2.18	12	eP	Pn	03 22 32.3	-0.8
	baz=19						
JYNG	Yonagunijimaku	2.19	42	eS	Sn	03 23 00.7	+0.5
YOJ	Yonaguni jima	2.24	43	S	Sn	03 23 02.6	+1.2
SXI1	Grass Mountain	2.31	12	eP	Pn	03 22 35.9	+1.0
	baz=18						
HATJ	Hateruma jima	2.58	61	S	Sn	03 23 08.6	-1.2
JKRS	Kuro-shima	2.83	60	P	Pn	03 22 42.0	-0.1
JKRS				S	Sn	03 23 15.4	-0.7
JIJ	Ishigaki jima	3.00	59	P	Pn	03 22 43.7	-0.6
JIJ				eS	Sn	03 23 18.6	-1.6
JISG	Ishigakijimahi	3.25	57	P	Pn	03 22 46.1	-1.6
JISG				S	Sn	03 23 25.0	-1.2
JTJ	Tarama	3.58	59	eP	Pn	03 22 51.2	-1.1
JIRB	Irabujima	4.04	60	eP	Pn	03 22 58.8	+0.1
JMJ2	Miyako jima3	4.13	62	eP	Pn	03 22 59.9	0.0
JOW	Kunigami	7.46	56	Pn	Pn	03 23 42.8	-2.9
	1.1nm,0.3s,baz=176,slow=16,SNR=1.6						
	15nm,0.8s						
KSRS	Korea Array	15.64	20	Pn	Pn	03 25 38.3	+1.1
	0.1nm,0.3s,baz=200,slow=13,SNR=2.3						
KSRS				LR	LR	03 31 37.1	
	comp=Z,14nm,21.0s,baz=230,slow=37						
	0.8nm,0.9s						
CMAR	Chiang Mai Arr	21.39	262	P	P	03 26 44.6	0.0
	0.3nm,0.3s,baz=67,slow=8.0,SNR=1.6						
	0.3nm,0.3s						
MKAR	Makanchi Array	39.41	317	P	P	03 29 26.6	-0.1
	0.5nm,0.7s,baz=113,slow=9.3,SNR=6.1						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	41.45	328	P	P	03 29 42.8	-0.6
	0.6nm,0.5s,baz=108,slow=8.0,SNR=5.2						
	0.6nm,0.5s						
H11N1	WAKE ISLAND Hy	42.45	85	T	T	04 15 02.9	
	baz=282,slow=75,SNR=91						
H11N2	WAKE ISLAND Hy	42.45	85	T	T	04 15 07.0	
	baz=282,slow=75,SNR=112						
H11N3	WAKE ISLAND Hy	42.47	85	T	T	04 15 10.9	
	baz=282,slow=75,SNR=82						
H11S3	WAKE ISLAND Hy	42.54	87	T	T	04 15 11.3	
	baz=284,slow=75,SNR=148						
H11S1	WAKE ISLAND Hy	42.55	87	T	T	04 15 12.4	
	baz=284,slow=75,SNR=138						
H11S2	WAKE ISLAND Hy	42.56	87	T	T	04 15 12.5	
	baz=284,slow=75,SNR=124						
KURBB	Kurchatov Arra	43.23	321	P	P	03 29 57.9	-0.1
	0.4nm,0.3s,baz=116,slow=6.3,SNR=1.5						
	0.4nm,0.3s						
BVAR	Borovoye Array	48.80	321	P	P	03 30 42.5	+0.7
	0.4nm,0.6s,baz=91,slow=12,SNR=2.0						
	0.4nm,0.6s						
H03S2	Juan Fernandez	159.11	126	T	T	06 40 25.3	
	baz=242,slow=74,SNR=15						
H03S1	Juan Fernandez	159.12	126	T	T	06 40 26.2	
	baz=242,slow=74,SNR=14						
H03S3	Juan Fernandez	159.13	126	T	T	06 40 25.0	
	baz=242,slow=74,SNR=15						

IDC ***01*** *03:24:07.0±0.9, 29°.15S×75°.01E, h0km, mb3.9/9, mbtmp3.9/9, MS3.4/12, Error ellipse: s-maj=33.7km s-min=24.4km az=43.0*

ISC 01 03:24:08.7±0.9**, 29°.1S**±0°.2×**75°.0E**±0°.2**, h10**km**, n30, σ0s.52**/10**, mb4.0**/9**, MS3.4**/12**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	21.51	353	T	T	03 51 16.4	
	baz=172,slow=74,SNR=7.0						
H08S1	Diego Carcia H	21.52	353	T	T	03 51 17.5	
	baz=172						
H08S3	Diego Garcia H	21.53	353	T	T	03 51 15.0	
	baz=172,slow=74,SNR=38						
H04N2	CROZET ISLANDS	24.89	221	T	T	03 55 21.2	
	baz=56,slow=74,SNR=984						
H04N1	CROZET ISLANDS	24.91	221	T	T	03 55 22.4	
	baz=56,slow=74,SNR=934						
H04N3	CROZET ISLANDS	24.91	221	T	T	03 55 20.7	
	baz=56,slow=74,SNR=894						
H04S1	CROZET ISLANDS	25.23	219	T	T	03 55 45.4	
	baz=54,slow=75,SNR=46						
H04S3	CROZET ISLANDS	25.24	219	T	T	03 55 45.2	
	baz=54,slow=75,SNR=85						
H04S2	CROZET ISLANDS	25.25	219	T	T	03 55 45.9	
	baz=54,slow=75,SNR=63						
H01W2	Cape Leeuwin H	33.51	110	T	T	04 06 11.4	
	baz=269,slow=75,SNR=14						
H01W3	Cape Leeuwin H	33.51	110	T	T	04 06 11.6	
	baz=269,slow=75,SNR=14						
H01W1	Cape Leeuwin H	33.52	110	T	T	04 06 12.7	
	baz=269,slow=75,SNR=14						
PALK	Pallekele	36.61	9	LR	LR	03 42 26.4	
	comp=Z,34nm,19.7s,baz=269,slow=30						
BOSA	Boshof	43.31	258	LR	LR	03 46 01.0	
	comp=Z,48nm,19.9s,baz=40,slow=30						
LBTB	Lobatse	43.95	263	LR	LR	03 48 19.4	
	comp=Z,38nm,19.1s,baz=108,slow=33						
LSZ	Lusaka	45.21	277	LR	LR	03 48 23.7	
	comp=Z,41nm,18.9s,baz=156,slow=32						
SUR	Sutherland	46.28	252	LR	LR	03 48 40.5	
	comp=Z,28nm,18.8s,baz=142,slow=32						
KAPI	Kappang	48.61	69	LR	LR	03 50 27.9	
	comp=Z,25nm,21.1s,baz=230,slow=32						
ASAR	Alice Springs	52.56	99	P	P	03 33 22.1	-0.6
	1.2nm,0.9s,baz=244,slow=6.5,SNR=6.7						
ASAR				LR	LR	03 53 25.2	
	comp=Z,30nm,19.6s,baz=276,slow=33						
	1.2nm,0.9s						
CMAR	Chiang Mai Arr	52.66	29	P	P	03 33 23.8	+0.5
	1.0nm,0.7s,baz=217,slow=6.9,SNR=6.3						
CMAR				LR	LR	03 52 32.5	
	comp=Z,16nm,21.9s,baz=190,slow=32						
	1.0nm,0.7s						
WRA	Warramunga Arr	54.25	95	P	P	03 33 34.7	-0.5
	1.4nm,0.9s,baz=253,slow=7.2,SNR=4.6						
	1.4nm,0.9s						
STKA	Stephens Creek	56.60	111	P	P	03 33 52.3	+0.4
	1.4nm,0.7s,baz=264,slow=7.0,SNR=3.7						
	1.4nm,0.7s						
QSPA	South Pole Qui	61.00	180	P	P	03 34 22.3	+0.2
	1.4nm,0.8s,baz=322,slow=4.8,SNR=3.1						
QSPA				LR	LR	03 58 10.7	
	comp=Z,30nm,18.7s,baz=335,slow=34						
	1.4nm,0.8s						
AAK	Ala-Archa	71.42	360	LR	LR	04 03 13.5	
	comp=Z,31nm,19.4s,baz=246,slow=33						
BVAR	Borovoye Array	81.92	357	P	P	03 36 28.5	+0.5
	0.9nm,0.6s,baz=168,slow=7.3,SNR=6.8						
	0.9nm,0.6s						
TORD	Torodi Ar. Bea	82.24	290	P	P	03 36 30.5	-0.1
	0.7nm,0.8s,baz=88,slow=4.3,SNR=5.1						
TORD				LR	LR	04 10 40.7	
	comp=Z,49nm,18.4s,baz=91,slow=34						
	0.7nm,0.8s						
ZALV	Zalesovo Beam	83.18	6	P	P	03 36 34.0	-0.5
	0.6nm,0.6s,baz=190,slow=4.5,SNR=4.9						
	0.6nm,0.6s						
AKASG	Malin Array Be	89.20	333	P	P	03 37 03.7	-0.5
	0.6nm,0.6s,baz=151,slow=4.0,SNR=4.3						
	0.6nm,0.6s						
KLR	Kul'dur	92.94	33	LR	LR	04 20 08.2	
	comp=Z,20nm,18.4s,baz=188,slow=36						
YKA	Yellowknife Ar	146.05	8	PKPbc	PKPdf	03 43 47.6	+0.3
	0.6nm,1.0s,baz=345,slow=3.8,SNR=6.7						

IDC ***01*** *03:24:43.7±1.8, 6°.37S×128°.98E, h0km, mb3.5/2, mbtmp3.7/4, ML4.1/2, MS3.0/1, Error ellipse: s-maj=119.8km s-min=29.0km az=68.0*

DJA ***01*** *03:24:53.7±0.4, 6°S±3°×13°0E±°, h157km±12km, M4.1/8, mB5.0/4, mb3.6/5, MLv4.3/8, Mw(mB)4.3/4*

ISC 01 03:24:55.8±0.9**, 6°.04S**±0°.07×**130°.30E**±0°.10**, h150**km**, n20, σ2s.73**/20**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.56	345	P	Pn	03 25 24.0	-2.0
SAUI	Saumlaki	2.17	153	P	Pn	03 25 30.6	-2.3
FAKI	Fak Fak	3.66	32	P	Pn	03 25 50.4	-1.3
KMPI	Kaimana, Papua	4.13	55	P	Pn	03 25 58.6	+0.8
KMPI				S	Sn	03 26 43.7	-2.3
SIJI	Sorong	5.23	11	P	Pn	03 26 11.3	-1.0
SWI	Sorong	5.23	11	P	Pn	03 26 11.7	-0.6
	13nm,0.5s,2μm0.2nm						
LBMI	Labuha	6.05	332	P	Pn	03 26 21.2	-2.1
	29nm,1.0s,2μm0.2nm						
MTN	Manton Dam	6.81	173	P	Pn	03 26 30.3	-3.1
KDU	Kakadu	6.94	162	P	Pn	03 26 31.5	-3.6
KNRA	Kununurra	9.70	189	P	Pn	03 27 08.3	-3.5
WRA	Warramunga Arr	14.37	165	Pn	Pn	03 28 07.9	-4.5
	0.9nm,0.3s,baz=338,slow=13,SNR=28						
WRA				Sn	Sn	03 30 36.2	-16
	0.7nm,0.3s,baz=342,slow=22,SNR=4.9						
	1.4nm,0.4s						
QIS	Mount Isa	17.02	149	P	Pn	03 28 46.1	+1.0
ASAR	Alice Springs	17.86	169	P	P	03 28 54.5	+0.8
	0.5nm,0.3s,baz=352,slow=10,SNR=39						
ASAR				S	S	03 31 59.3	-12
	0.2nm,0.4s,baz=350,slow=26,SNR=4.0						
	1.4nm,0.5s						
WRKA	Warakurna	18.99	186	P	P	03 29 07.0	+1.1
OOD	Oodnadatta	22.23	167	P	P	03 29 42.2	+1.8
MULG	Mulgathing	24.37	172	P	P	03 30 02.7	+2.6
LCRK	Leigh Creek	25.39	164	P	P	03 30 13.0	+3.6
JOW	Kunigami	32.74	357	LR	LR	03 45 04.5	
	comp=Z,22nm,18.1s,baz=334,slow=37						
MKAR	Makanchi Array	67.59	326	P	P	03 35 39.6	+3.3
	0.5nm,0.5s,baz=123,slow=5.3,SNR=8.9						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	71.86	328	P	P	03 36 05.6	+3.4
	0.1nm,0.4s,baz=120,slow=5.0,SNR=2.8						
	0.1nm,0.4s						

IDC ***01*** *03:32:09.5±1.9, 3°.03S×129°.88E, h0km, mb3.5/3, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=162.5km s-min=25.9km az=70.0*

DJA ***01*** *03:32:13.8±0.3, 3°S±3°×12°9E±°, h10km, M3.6/10, mb3.8/1, MLv3.5/10*

ISC 01 03:32:12.4±0.8**, 3°.34S**±0°.09×**128°.87E**±0°.05**, h10**km**, n12, σ0s.98**/15**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRAI	Karang Ratu	0.47	273	P	Pg	03 32 22.1	+0.5
KRAI				S	Sb	03 32 29.4	-0.4
BNDI	Bandanaira	1.57	139	P	Pg	03 32 42.2	-0.3
NLAI	Namlea	1.77	273	P	Pg	03 32 46.1	-0.2
LBMI	Labuha	3.01	333	P	Pn	03 32 59.3	-0.9
SANI	Sanana	3.15	294	P	Pn	03 33 02.4	+0.4
SANI				S	Sn	03 33 41.0	+1.3
FAKI	Fak Fak	3.40	83	P	Pn	03 33 07.5	+1.9
SIJI	Sorong	3.43	44	P	Pn	03 33 05.7	-0.3
SWI	Sorong	3.43	44	P	Pn	03 33 05.5	-0.5
WRA	Warramunga Arr	17.34	162	P	Pn	03 36 13.9	-0.8
	0.1nm,0.3s,baz=348,slow=12,SNR=4.9						
	0.7nm,0.8s						
ASAR	Alice Springs	20.79	167	P	P	03 36 53.5	-0.4
	1.8nm,0.7s,baz=350,slow=12,SNR=21						
ASAR				PcP	PcP	03 41 01.6	-1.6
	0.2nm,0.6s,baz=359,slow=2.0,SNR=4.6						
	1.8nm,0.7s						
MKAR	Makanchi Array	64.57	326	P	P	03 42 50.8	+0.9
	0.4nm,0.9s,baz=114,slow=7.8,SNR=2.5						
	0.4nm,0.9s						
KURBB	Kurchatov Arra	68.82	328	P	P	03 43 17.4	+0.6
	0.3nm,0.6s,baz=131,slow=5.6,SNR=2.6						
	0.3nm,0.6s						

IDC 01 03:46:56.2±14.0**, 18°.27S**×**177°.73W, h525**km±134km**, mb2.8**/4**, mbtmp3.8**/4**, Error ellipse: s-maj=148.9km s-min=50.1km az=131.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.03	242	P	P	03 53 37.6	0.0
	0.5nm,0.4s,baz=96,slow=18,SNR=1.4						
	0.5nm,0.4s						
WRA	Warramunga Arr	45.21	260	P	P	03 54 26.2	-0.3
	0.5nm,0.5s,baz=95,slow=7.1,SNR=14						
WRA				PcP	PcP	03 55 55.5	-0.2
	0.5nm,1.1s,baz=101,slow=3.4,SNR=1.4						
	0.5nm,0.5s						
ASAR	Alice Springs	45.32	255	P	P	03 54 27.2	-0.1
	1.1nm,0.4s,baz=94,slow=7.2,SNR=39						
ASAR				PcP	PcP	03 55 55.6	-0.4
	0.4nm,1.0s,baz=106,slow=3.6,SNR=2.3						
	1.1nm,0.4s						
ILAR	Eielson Array	86.10	13	P	P	03 58 40.7	-0.1
	0.4nm,1.0s,baz=224,slow=7.5,SNR=2.0						
	0.4nm,1.0s						

IDC ***01*** *03:58:55.5±4.7, 5°.95S×145°.93E, h84km±41km, mb3.2/3, mbtmp3.8/6, Error ellipse: s-maj=47.8km s-min=38.3km az=92.0*

ISC 01 03:58:56.7±1.6**, 6°.2S**±0°.2×**146°.3E**±0°.3**, h100**km**, n7, σ0s.88**/8**, mb3.2**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.35	165	P	Pn	03 59 48.3	+1.3
	87nm,0.3s,baz=346,slow=6.4,SNR=63						
PMG				S	Sn	04 00 25.2	-0.8
	98nm,0.4s,baz=327,slow=8.3,SNR=4.4						
CTA	Charters Tower	13.85	180	P	P	04 02 12.7	-1.0
	4.6nm,0.4s,baz=360,slow=14,SNR=22						
WRA	Warramunga Arr	17.95	219	P	P	04 02 59.4	+0.3
	1.1nm,0.5s,baz=33,slow=11,SNR=19						
ASAR	Alice Springs	21.09	213	P	P	04 03 33.7	+0.5
	0.6nm,0.5s,baz=41,slow=7.7,SNR=29						
	0.6nm,0.5s						
MKAR	Makanchi Array	77.16	321	P	P	04 10 39.4	-0.1
	0.1nm,0.5s,baz=130,slow=7.2,SNR=1.3						
	0.1nm,0.5s						
QSPA	South Pole Qui	83.81	180	P	P	04 11 15.0	+0.2
	0.7nm,0.5s,baz=38,slow=1.0,SNR=7.9						
	0.7nm,0.5s						
TORD	Torodi Ar. Bea	144.43	284	PKP	PKPdf	04 18 21.8	-0.5
	0.2nm,0.5s,baz=67,slow=3.3,SNR=4.2						

JMA 01 04:15:49.4±0.4**, 25°N**±3°×**122°.6E**±0°.8**, h203**km±3km**, NW OFF ISHIGAKIJIMA IS, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.52	136	S	S	04 16 51.0	+1.3
JKRS	Kuro-shima	1.54	126	P	Pn	04 16 24.4	+0.6
JKRS				S	S	04 16 50.5	+0.5
JIJ	Ishigaki jima	1.57	120	P	Pn	04 16 24.0	0.0
JIJ				S	S	04 16 49.9	-0.7
JISG	Ishigakijimahi	1.62	110	P	Pn	04 16 24.7	+0.3
JISG				S	S	04 16 50.9	-0.3
JTJ	Tarama	1.94	105	eS	S	04 16 56.6	0.0

TAP 01 04:16:24.7, 24°.62N×121°.84E, h73km, ML2.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NDS	Dongshan	0.12	277	S	Sn	04 16 44.5	+1.4
	baz=276						
EWUT	Wuta	0.18	198	eP	Pn	04 16 35.1	-0.5
	baz=205						
EWUT				S	Sn	04 16 44.0	+0.5
	baz=205						
ENA	Nanau	0.21	205	eP	Pn	04 16 36.3	+0.6
	baz=209						
ENA				S	Sn	04 16 44.9	+1.2
	baz=209						
ENTT	Nioudou	0.25	275	eP	Pn	04 16 38.2	+2.3
	baz=274						
ENTT				eS	Sn	04 16 45.3	+1.2
	baz=274						
FUSB	Fushanzhiwuyua	0.27	301	eS	Sn	04 16 45.2	+0.8
	baz=301						
LATG	Datong	0.30	254	eP	Pn	04 16 36.8	+0.5
	baz=263						
LATG				S	Sn	04 16 46.0	+1.2
	baz=263						
NDT	Datong Townshi	0.30	267	eP	Pn	04 16 38.7	+2.6
	baz=266						
NDT				S	Sn	04 16 45.5	+0.9
	baz=266						
NWLT	Wulai	0.34	297	eP	Pn	04 16 35.6	-0.9
	baz=297						
NWLT				S	Sn	04 16 44.0	-1.2
	baz=297						
TIPB	Shuangxi	0.35	358	eP	Pn	04 16 37.6	+1.1
	baz=358						
TIPB				eS	Sn	04 16 45.7	+0.4
	baz=358						
EOS2	EOS2	0.41	119	eP	Pn	04 16 35.9	-0.9
	baz=116						
YHNB	Yeheng	0.43	277	eP	Pn	04 16 38.2	+1.0
	baz=276						
YHNB				S	Sn	04 16 46.2	-0.2
	baz=276						

NSK	Sanguang	0.44	277	S	Sn	04 16 45.8	-0.8
	baz=277						
NNSB	Datong	0.46	246	eP	Pn	04 16 40.5	+2.9
	baz=239						
NNSB				S	Sn	04 16 48.4	+1.4
	baz=239						
NNS	Nan Shan	0.46	247	eP	Pn	04 16 38.4	+0.9
	baz=246						
NNS				S	Sn	04 16 47.7	+0.7
	baz=246						
NACB	Ninganchiao	0.50	207	eP	Pn	04 16 37.3	-0.5
	baz=207						
NACB				S	Sn	04 16 48.0	+0.7
	baz=207						
ETLH	Xiulin Townshi	0.53	219	P	Pn	04 16 40.0	+1.8
	baz=225						
ETLH				S	Sn	04 16 48.8	+0.8
	baz=225						
TWD	Chiawan	0.58	203	eP	Pn	04 16 39.3	+0.7
	baz=212						
TWD				S	Sn	04 16 49.2	+0.4
	baz=212						
NFF	Wufeng Townshi	0.66	271	eP	Pn	04 16 40.3	+0.9
	baz=280						
NFF				eS	Sn	04 16 48.9	-1.4
	baz=280						
WHF	Hehuan Shan	0.71	228	eP	Pn	04 16 40.7	+0.4
	baz=223						
WHF				S	Sn	04 16 52.1	+0.2
	baz=223						
TWT	Tachien	0.71	239	S	Sn	04 16 53.1	+1.7
	baz=233						
LXIB	Xiulin Townshi	0.71	213	eP	Pn	04 16 40.6	+0.5
	baz=203						
LXIB				S	Sn	04 16 51.5	+0.1
	baz=203						
TDCB	Techi	0.72	240	eS	Sn	04 16 53.1	+1.4
	baz=233						
ETM	Tongmen	0.72	206	eP	Pn	04 16 40.3	+0.2
	baz=206						
ETM				S	Sn	04 16 51.5	+0.1
	baz=206						
LIOB	Emei	0.75	272	eP	Pn	04 16 41.3	+0.9
	baz=271						
LIOB				S	Sn	04 16 50.5	-1.6
	baz=271						
NSTT	Nanjuang	0.77	271	eS	Sn	04 16 50.0	-2.2
	baz=270						
CHGB	Renai	0.82	228	eP	Pn	04 16 43.0	+1.5
	baz=227						
CHGB				S	Sn	04 16 54.9	+1.0
	baz=227						
SHUL	Shoufeng	0.87	197	eP	Pn	04 16 42.4	+0.6
	baz=205						
SHUL				S	Sn	04 16 54.2	-0.1
	baz=205						
WHP	Taichung City	0.88	248	eP	Pn	04 16 42.6	+0.6
	baz=256						
WHP				S	Sn	04 16 54.8	-0.1
	baz=256						
ESL	Shilin	0.89	205	eP	Pn	04 16 41.6	-0.4
	baz=204						
ESL				S	Sn	04 16 53.4	-1.4
	baz=204						
OWD	Renai	0.90	223	eP	Pn	04 16 42.6	+0.3
	baz=217						
OWD				S	Sn	04 16 54.8	-0.5
	baz=217						
WUSB	Renai	0.91	227	eP	Pn	04 16 44.4	+2.1
	baz=226						
WUSB				S	Sn	04 16 55.8	+0.3
	baz=226						
WARBT	Fenglin Townsh	0.99	205	eP	Pn	04 16 42.7	-0.5
	baz=205						
WARBT				S	Sn	04 16 55.1	-2.0
	baz=205						
WCS	Beigang Elemen	1.02	237	eP	Pn	04 16 45.8	+2.3
	baz=244						
WCS				S	Sn	04 16 57.3	-0.2
	baz=244						
VWDT	VWDT	1.07	217	S	Sn	04 16 58.6	-0.2
	baz=211						
SSLB	Suanglung	1.16	225	eP	Pn	04 16 45.4	0.0
	baz=224						
SSLB				S	Sn	04 17 00.4	-0.4
	baz=224						
HGSD	Ruisui	1.19	199	eP	Pn	04 16 47.5	+1.8
	baz=206						
HGSD				eS	Sn	04 17 01.4	0.0
	baz=206						
WHYT	Xinyi Township	1.29	225	eP	Pn	04 16 49.2	+2.2
	baz=233						
WHYT				eS	Sn	04 17 03.8	0.0
	baz=233						

*ANF **01** 04:18:56.6±0.9, 31°.89N×116°.17W, h2km±3km, ML2.9/9, Error ellipse: s-maj=5.6km s-min=4.6km az=21.0*
*NEIC **01** 04:18:57.0±1.6, 31°.86N±0°.01×116°.16W±0°.02, h3km±4km, Error ellipse: s-maj=2.5km s-min=2.0km az=105.0*
*PAS **01** 04:18:57.3±2.3, 31°.85N±0°.02×116°.12W±0°.02, h12km±2km, ML3.1/168, ML2.9/34(NEIC), Error ellipse: s-maj=2.6km s-min=2.4km az=45.0*
*ECX **01** 04:18:57.9±0.5, 31°.86N×116°.10W, h6km±2km, MD2.8, ML3.1*
ISC 01 04:18:57.0±0.8**, 31°.84N**±0°.02×**116°.15W**±0°.02**, h15**km±7km**,**
n96, σ1s**07**/137**, 11C-8D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJX	San Joaquin	0.18	117	⇓eP	Pg	04 19 01.7	+0.4
SJX				eS	Sg	04 19 04.9	+0.7
SJX				⇑e		04 19 05.3	
SJX				IAML		04 19 05.3	
	comp=E,10µm,0.1s						
SJX				IAML		04 19 06.9	
	comp=N,5µm,0.1s						
SJX				⇑e		04 19 06.9	
ESJX	Sierra Juarez	0.23	46		Pg	04 19 01.8	-0.5
ESJX				Sg	Sg	04 19 04.9	-1.0
ESJX				IAML		04 19 06.9	
	comp=N,4µm,0.1s						
ALAMX	Rancho Alamar	0.41	66	⇓eP	Pg	04 19 04.7	-0.5
ALAMX				eS	Sg	04 19 09.8	-1.0
ALAMX				IAML		04 19 11.1	
	comp=E,3µm,0.3s						
ALAMX				⇑e		04 19 11.1	
ALAMX				⇑e		04 19 12.1	
ALAMX				IAML		04 19 12.1	
	comp=N,3µm,0.2s						
CCX	Cicese	0.44	273		Pb	04 19 06.5	0.0
CCX				Sg	Sb	04 19 13.0	+0.1
CCX				IAML		04 19 13.4	
	comp=N,662nm,0.3s						
CCX				IAML		04 19 13.6	
	comp=E,1µm,0.3s						
CCX	Cicese	0.44	273	⇑iP	Pb	04 19 06.5	0.0
CCX				eS	Sb	04 19 13.1	+0.1
CCX				⇓e		04 19 13.4	
CCX				IAML		04 19 13.4	
	comp=N,865nm,0.2s						
CCX				IAML		04 19 13.6	
	comp=E,1µm,0.2s						
CCX				⇓e		04 19 13.6	
PBX	Punta Banda	0.51	259	⇑iP	Pb	04 19 07.8	+0.2
PBX				eS	Sb	04 19 15.4	+0.6
SV2X	San Vicente	0.51	189	eP	Pg	04 19 07.0	-0.1
SV2X				eS	Sg	04 19 14.5	+0.6
VTX	Valle De La Tr	0.55	146		Pg	04 19 07.2	-0.6
VTX				Sg	Sg	04 19 14.9	-0.2
VTX				IAML		04 19 15.4	
	comp=E,1µm,0.3s						
VTX				IAML		04 19 15.4	
	comp=N,2µm,0.1s						
VTX	Valle De La Tr	0.55	146	⇑eP	Pg	04 19 07.5	-0.4
VTX				eS	Sg	04 19 14.8	-0.4
VTX				⇑e		04 19 15.4	
VTX				IAML		04 19 15.4	
	comp=N,2µm,0.1s						
VTX				IAML		04 19 15.4	
	comp=E,2µm,0.3s						
VTX				⇓e		04 19 15.4	
CBX	Cerro Bola	0.64	317	Pg	Pg	04 19 09.2	-0.5
CBX					Sg	04 19 18.2	0.0
CBX				IAML		04 19 19.5	
	comp=N,936nm,0.4s						
CBX	Cerro Bola	0.64	317	eP	Pg	04 19 09.6	-0.1
CBX				eS	Sb	04 19 18.7	-0.2
TJIG	Tijuana	0.74	323	eP	Pg	04 19 11.0	-0.4
TJIG				eS	Sg	04 19 21.0	-0.2
TJIG				IAML		04 19 21.6	
	comp=E,918nm,0.2s						
TJIG				⇑e		04 19 21.6	
TJIG				IAML		04 19 21.6	
	comp=N,1µm,0.2s						
RHX	Rio Hardy	0.79	68	eP	Pg	04 19 11.4	-0.9
RHX				eS	Sg	04 19 21.2	-1.5
IKP	In-Ko-Pah, Jac	0.80	2		Pg	04 19 12.2	-0.5
IKP	In-Ko-Pah, Jac	0.80	2	⇓eP	Pg	04 19 12.2	-0.5
IKP				eS	Sg	04 19 22.3	-1.0
TKX	Tecate	0.82	332	eP	Pg	04 19 12.2	-0.8
YUH	Yuha Desert	0.82	13		Pg	04 19 12.2	-0.8
YUH	Yuha Desert	0.82	13	Sg	Sg	04 19 22.1	-1.7
YUH				IAML		04 19 23.5	
	comp=N,395nm,0.1s						
YUH				IAML		04 19 23.7	
	comp=E,503nm,0.1s						
YUH	Yuha Desert	0.82	13	Pg	Pg	04 19 12.0	-1.0
YUH2	Yuha Desert	0.82	13	eP	Pg	04 19 12.2	-0.8
YUH2				eS	Sg	04 19 22.8	-1.1
JARAX	Ej. Heriberto	0.84	35	eP	Pg	04 19 12.1	-1.2
JARAX				eS	Sg	04 19 23.1	-1.3
JARAX				e		04 19 26.5	
JARAX				IAML		04 19 26.5	
	comp=E,357nm,0.2s						
JARAX				IAML		04 19 28.9	
	comp=N,346nm,0.3s						
JARAX				⇓e		04 19 28.9	
SGL	Mount Signal	0.88	24		Pg	04 19 13.3	-0.8
CPBX	Cerro Prieto	0.92	51	Pg	Pg	04 19 13.7	-1.1
DUZA	Dulzura	0.93	325		Pg	04 19 14.0	-1.1
BAR	Barrett	0.95	332		Pg	04 19 14.4	-0.9
BAR	Barrett	0.95	332		Sg	04 19 26.5	-1.3
BAR	Barrett	0.95	332	eP	Pg	04 19 14.3	-1.1
BAR				IAML		04 19 27.1	
	comp=E,958nm,0.2s						
BAR				IAML		04 19 27.6	
	comp=N,758nm,0.2s						
BAR				e		04 19 27.6	
WESC	Westside Schoo	0.98	21		Pg	04 19 14.9	-1.0
WESC					Sb	04 19 29.2	+0.8
SPIG	San Pedro Mart	0.98	144	eP	Pg	04 19 15.2	-0.9
SPIG				eS	Sg	04 19 28.2	-0.9
UABX	UABC, Campus M	0.99	37	Pg	Pg	04 19 15.8	-0.4
UABX				Sg	Sg	04 19 29.2	+0.1
5053	Calexico	0.99	34		Pb	04 19 16.3	+0.4
ECBX	El Chinero	1.00	111	eP	Pg	04 19 15.4	-1.0
ECBX				eS	Sg	04 19 28.3	-1.3
ECBX				⇓e		04 19 30.3	
OLP	Otay Lakes Par	1.01	319		Pg	04 19 15.8	-0.9
OLP	Otay Lakes Par	1.01	319	eP	Pg	04 19 15.7	-0.9
TJX	Tijuana	1.02	311		Pg	04 19 16.0	-0.7
TJX				IAML		04 19 39.7	
	comp=E,221nm,0.7s						
CRR	Carrizo Plain	1.05	8		Pg	04 19 16.7	-0.7
COK2	Cook Ranch 2	1.06	19		Pg	04 19 17.3	-0.3
COK2					Sb	04 19 32.2	+1.3
MONP2	Monument Peak	1.07	347		Pg	04 19 16.8	-1.0
MONP2					Sg	04 19 31.0	-0.8
MONP2	Monument Peak	1.07	347	P	Pg	04 19 16.8	-1.0
	baz=166						
MONP2				S	Sg	04 19 30.6	-1.2
	baz=166						
MONP2	Monument Peak	1.07	347	eP	Pg	04 19 16.7	-1.0
MONP2				eS	Sg	04 19 30.8	-1.0
MONP2				IAML		04 19 31.1	
	comp=E,289nm,0.1s						
MONP2				IAML		04 19 31.3	
	comp=N,234nm,0.1s						
MONP2				⇑e		04 19 31.3	
SDRC	San Diego Road	1.12	323		Pg	04 19 17.4	-1.2
SDRC					Sg	04 19 31.8	-1.4
SWSC	Sam W. Stewart	1.14	15		Pg	04 19 18.1	-0.8
SWSC					Sg	04 19 33.1	-0.8
SWSC	Sam W. Stewart	1.14	15	P	Pg	04 19 18.1	-0.8
	baz=194						
SWSC				S	Sg	04 19 33.0	-0.8
	baz=194						
IMPE	Imperial	1.17	25		Pb	04 19 19.3	+0.4
EML	El Monte Cty P	1.20	331		Pg	04 19 18.5	-1.6
EML					Sg	04 19 34.0	-1.9
MTRP	Mission Trails	1.24	322		Sg	04 19 36.1	-1.1
WEMD	Westmorland, C	1.28	22		Pg	04 19 21.3	-0.4
SQX	San Quintin	1.28	170	eP	Pg	04 19 19.9	-1.9
SQX				eS	Sg	04 19 36.9	-1.6
SQX				IAML		04 19 39.0	
	comp=E,349nm,0.3s						
SQX				e		04 19 39.0	
SQX				⇑e		04 19 40.1	
SQX				IAML		04 19 40.1	
	comp=N,242nm,0.2s						
JUEM	Julian Eagle M	1.29	343		Pg	04 19 20.5	-1.5
JUEM					Sg	04 19 37.6	-1.2
ERRC	Elmore Ranch	1.30	12		Pg	04 19 21.6	-0.5
109C	Camp Elliot, M	1.32	322		Pg	04 19 20.6	-1.8
109C				IAML		04 19 38.5	
	comp=N,325nm,0.3s						
109C				IAML		04 19 39.1	
	comp=E,366nm,0.2s						
109C	Camp Elliot, M	1.32	322	P	Pg	04 19 20.8	-1.7
	baz=141						
109C				S	Sg	04 19 37.7	-2.0
	baz=141						
CPE	Camp Elliot	1.32	322		Pg	04 19 20.8	-1.7
DPP	Dos Picos Cty	1.33	330		Pg	04 19 21.1	-1.6
COA	Coachella	1.33	40		Pn	04 19 20.7	-0.5
SLH	Sleepy Hollow	1.35	356		Pn	04 19 22.1	+0.7
SLH					Sg	04 19 39.8	-0.8
SFX	San Felipe	1.37	126	Pn	Pn	04 19 22.1	+0.6
SFX	San Felipe	1.37	126	eP	Pn	04 19 20.9	-0.7
MATG	Mataguay Scout	1.42	343		Pn	04 19 22.5	+0.1
MATG					Sg	04 19 40.9	-1.9
BORC	Borrego Spring	1.44	351		Pn	04 19 23.6	+1.0
BORC					Sb	04 19 41.9	+0.1
GORC	Green Oak Ranc	1.59	325		Pn	04 19 25.5	+0.8
PLM	Palomar	1.62	338		Pn	04 19 25.7	+0.4
FRD	Ford Ranch, An	1.69	347		Pb	04 19 28.1	+0.2
FRD					Sb	04 19 49.7	+0.6
FRD	Ford Ranch, An	1.69	347		Pn	04 19 27.6	+1.5
BZNA	Buzz No.'s Pla	1.70	345		Pb	04 19 28.0	-0.1
BZNA					Sb	04 19 49.8	+0.4
SNDA	J Saunders Pla	1.75	347		Pn	04 19 28.1	+1.2
TPFO	Pinon Flats	1.78	352	P	Pn	04 19 27.8	+0.4
	baz=171						
TPFO				S	Sb	04 19 52.1	+0.5
	baz=171						
XPFO	Pion Flat	1.78	352		Pb	04 19 30.3	+0.8
PFO	Pinyon Flats O	1.78	352		Pb	04 19 30.3	+0.8
PFO					Sb	04 19 52.8	+1.0
PFO	Pinyon Flats O	1.78	352	Pn	Pn	04 19 27.3	-0.1
PFO				IAML		04 19 54.7	
	comp=E,89nm,0.2s						
PFO				IAML		04 19 55.1	
	comp=E,41nm,0.1s						
PFO	Pinyon Flats O	1.78	352	P	Pn	04 19 27.9	+0.5
	baz=171						
PFO				S	Sn	04 19 52.0	+2.1
	baz=171						
CRY	Cary Ranch	1.79	344		Pb	04 19 29.4	-0.2
PMD	Palm Desert	1.81	354	Pn	Pn	04 19 27.4	-0.3
PMD				IAML		04 19 51.0	
	comp=N,65nm,0.4s						
PMD				IAML		04 19 53.5	
	comp=E,77nm,0.2s						
BC3	Big Chuckawall	1.90	18	P	Pn	04 19 29.2	+0.2
	baz=197						
BC3				S	Sn	04 19 53.0	+0.3
	baz=197						
DGR	Domenigoni Val	1.94	338		Pn	04 19 31.1	+1.5
POB	Polly Butte	1.95	341		Pn	04 19 31.8	+2.0
MURC	Murrieta	1.96	333	S	Sb	04 19 56.6	-0.2
	baz=152						
HMTC	Hemet	2.00	339		Pn	04 19 32.0	+1.7
ELS	Elsinore Mount	2.10	329	Pn	Pn	04 19 32.5	+0.8
ELS				IAML		04 20 01.3	
	comp=N,75nm,0.2s						
ELS				IAML		04 20 03.1	
	comp=E,81nm,0.4s						
EW2	E Wide Canyon	2.10	354		Pn	04 19 32.7	+0.9
BELC	Belle Mtn. Jos	2.15	3	P	Pn	04 19 33.1	+0.5
	baz=183						
BELC				Sb	Sg	04 20 04.6	-1.7
	baz=183						
113A	Mohawk Valley,	2.21	65	Pn	Pn	04 19 32.6	-0.6
BLAC	Blackrock camp	2.23	355		Pg	04 19 38.5	-1.3
PIX	Pinacate	2.31	96	Pn	Pn	04 19 32.9	-1.6
BLYC	Blythe	2.34	35	Pn	Pn	04 19 33.9	-1.1
IRM	Iron Mountain	2.46	20	P	Pn	04 19 38.5	+1.9
	baz=200						
BBRC	Big Bear Solar	2.50	345	Sb	Sb	04 20 14.7	+2.2
	baz=164						
SSK	Sunset Peak	2.69	332		Pb	04 19 44.0	-1.0
PASC	Pasadena Art C	2.88	324	Pn	Pn	04 19 42.8	+0.3
V12A	Nelson	4.02	15	Pn	Pn	04 19 59.5	+1.3
BCW	Bitter Crk WRg	4.12	319	Pn	Pn	04 20 01.0	+1.3
BCW				IAML		04 21 27.9	
	comp=E,16nm,4.2s						
BCW				IAML		04 22 39.2	
	comp=N,13nm,4.8s						
SHPR	Sheep Range	4.72	10	Pn	Pn	04 20 09.3	+1.4
TPNV	Topopah Spring	5.09	359	Pn	Pn	04 20 15.2	+2.2
GMN	Gold Mountain	5.52	351	Pn	Pn	04 20 21.1	+2.1
U15A	North Rim	5.58	34	Pn	Pn	04 20 21.9	+2.2
KNB	Kanab	5.84	27	Pn	Pn	04 20 23.6	+0.2

*AFAD **01** 04:37:48.8±0.0, 38°.92N×26°.48E, h7km±1km, ML2.8*
*THE **01** 04:37:48.9, 38°.90N×26°.43E, h5km, ML2.9/10, Error ellipse: s-maj=0.8km s-min=0.4km az=16.0*
*ISK **01** 04:37:48.2, 38°.91N×26°.42E, h10km, ML2.8/28*
*ATH **01** 04:37:49.0, 38°.90N×26°.45E, h10km±1km, ML2.9/4, Error ellipse: s-maj=1.9km s-min=1.1km az=294.0*
ISC 01 04:37:48.9±0.9**, 38°.90N**±0°.02×**26°.44E**±0°.02**, h10**km±7km**,**
n74, σ0s**81**/99**, 7C-7D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG3	Mitilini, Lesv	0.21	30	P	Pg	04 37 53.3	0.0
EAG3				S	Sg	04 37 56.0	-0.3
LESV	Lesvos island,	0.23	25	P	Pg	04 37 53.5	-0.1
LESV				S	Sg	04 37 57.1	+0.2
	10µm,0.4s						
CAND	Candarli	0.29	79	Pg	Pg	04 37 55.1	+0.3
CAND				Sg	Sb	04 37 59.9	-1.2
FOCM	Foa	0.30	129	Pg	Pg	04 37 54.6	-0.3
FOCM				Sg	Sg	04 37 59.3	+0.4
PRK	Paraskevi	0.37	340	P	Pg	04 37 56.2	0.0
PRK				S	Sg	04 38 01.8	+0.7
	4µm,0.3s						
PRK	Paraskevi	0.37	340	P	Pg	04 37 56.2	0.0
PRK				S	Sg	04 38 00.7	-0.4
PRK				AML	AML	04 38 02.0	
	comp=E,11303µm,0.3s						
PRK				AML	AML	04 38 02.3	
	comp=N,4277µm,0.2s						
RFT7	Candarli	0.38	81	Pg	Pg	04 37 56.5	0.0
RFT7				Sg	Sg	04 38 01.6	0.0
DKL	Dikili	0.41	65	Pg	Pg	04 37 57.1	+0.2
DKL				Sg	Sg	04 38 02.5	+0.3
EAG2	Marmaro, Chios	0.44	216	P	Pg	04 37 57.4	0.0
EAG2				S	Sg	04 38 03.4	+0.1
ZEDA	zmir-Bergama	0.51	82	P	Pg	04 37 57.8	-0.9
SIGR	SIGRI	0.55	305	Pg	Pg	04 37 59.2	-0.4
SIGR				Sg	Sg	04 38 06.8	0.0
SIGR	SIGRI	0.55	305	P	Pg	04 37 59.6	0.0
SIGR				S	Sg	04 38 07.8	+1.0
	comp=N,642nm,0.3s						
SIGR	SIGRI	0.55	305	P	Pg	04 37 59.7	+0.2
SIGR				S	Sg	04 38 06.9	+0.2
SIGR				AML	AML	04 38 11.3	
	comp=N,1364µm,0.2s						
SIGR				AML	AML	04 38 11.8	
	comp=E,1123µm,0.3s						
CESE	eme	0.58	191	Pg	Pg	04 37 59.8	-0.3
GPNR	Gulpinar-Canak	0.60	337	Pg	Pg	04 38 00.1	-0.5
KOCA	Canakkale, Ayv	0.64	339	P	Pg	04 38 01.2	-0.2
ZEYE	Izmir, Urla-Ze	0.66	175	P	Pg	04 38 01.2	-0.5
PSRA	Psara	0.77	243	P	Pb	04 38 04.5	+0.2
PSRA				S	Sg	04 38 14.7	+1.0
BUHA	Balikesir, Bur	0.78	40	P	Pg	04 38 03.2	-0.8
BUHA				S	Sb	04 38 15.4	+0.2
BUHA				i AML	AML	04 38 18.0	
	comp=E,246nm,0.4s						
BUHA				i AML	AML	04 38 18.0	
	comp=E,746nm,0.4s						
BAYC	CANAKKALE_Bayr	0.84	6	P	Pg	04 38 04.8	-0.4
BAYC				S	Sb	04 38 16.4	-0.7
BAYC				i AML	AML	04 38 18.0	
	comp=E,386nm,0.5s						
GMLD	Gumuldur	0.91	155	Pg	Pg	04 38 06.2	-0.1
EZN	Ezine	0.93	355	Pg	Pg	04 38 06.4	-0.4
EZN	Ezine	0.93	355	P	Pg	04 38 06.2	-0.6
EZN				S	Sb	04 38 20.1	+0.7
	comp=E,615nm,0.3s						
AKS	Akhisar	1.08	91	Pn	Pn	04 38 10.1	+0.1
STEP	BALIKESIR_Sava	1.11	64	P	Pg	04 38 09.5	-0.7
STEP				S	Sb	04 38 24.2	-0.4
STEP				i AML	AML	04 38 26.0	
	comp=E,269nm,0.7s						
STEP				i AML	AML	04 38 29.0	
	comp=E,321nm,0.8s						
ECEA	Canakkale, Ece	1.16	350	P	Pb	04 38 10.1	-0.9
ECEA				S	Sn	04 38 26.7	-0.3
ECEA				i AML	AML	04 38 29.0	
	comp=E,638nm,0.3s						
CNKL	anakkale-Mer	1.17	358	P	Pb	04 38 10.3	-0.8
GOMA	Golmarmara-Man	1.17	99	Pn	Pn	04 38 11.5	+0.2
COMU	Canakkale	1.20	1	Pn	Pb	04 38 10.8	-0.9
CANM	Can-anakkale	1.21	23	Pn	Pb	04 38 11.3	-0.5
SMG	Samos	1.23	165	P	Pn	04 38 11.4	-0.7
SMG				S	Sn	04 38 29.3	+0.5
	comp=E,582nm,0.4s						
SMG	Samos	1.23	165	P	Pn	04 38 11.1	-1.1
SMG				S	Sb	04 38 28.5	+0.3
SMG				AML	AML	04 38 30.4	
	comp=N,1049µm,0.4s						
SMG				AML	AML	04 38 31.5	
	comp=E,1281µm,0.4s						
GOAD	anakkale-G¶	1.32	342	P	Pn	04 38 12.7	-0.7
BALB	Balikesir	1.34	56	Pn	Pn	04 38 13.4	-0.3
GCAM	G?zelcaml?	1.35	152	Pn	Pn	04 38 13.9	+0.1
GADA	Gvkgeada	1.35	342	Pn	Pn	04 38 13.4	-0.4
LIA	Limnos Island	1.39	316	P	Pn	04 38 14.0	-0.3
LIA				S	Sn	04 38 33.0	+0.3
	comp=E,772nm,0.5s						
LIA	Limnos Island	1.39	316	P	Pn	04 38 13.9	-0.4
LIA				S	Sb	04 38 31.2	-1.5
LIA				AML	AML	04 38 34.7	
	comp=E,2050µm,0.4s						
LIA				AML	AML	04 38 35.5	
	comp=N,1036µm,0.3s						
BKES	Balkesir-Mer	1.43	54	P	Pn	04 38 14.5	-0.3
LPK	Lapseki	1.49	10	Pn	Pb	04 38 16.1	-0.6
GELI	Tayfur-Gelibol	1.50	1	Pn	Pn	04 38 15.9	+0.1
GONE	Gonen-Balikesi	1.50	40	Pn	Pn	04 38 15.8	0.0
KRBG	Karabiga-Canak	1.63	24	Pn	Pn	04 38 17.1	-0.5
SMTH	Samothraki Isl	1.72	336	P	Pn	04 38 19.0	+0.2
SMTH				S	Sn	04 38 41.5	+0.7
	comp=N,75nm,0.2s						
SMTH	Samothraki Isl	1.72	336	P	Pn	04 38 18.9	0.0
KULA	Kula-Manisa	1.78	102	Pn	Pn	04 38 20.4	+0.6
KULA	Kula-Manisa	1.78	102	P	Pn	04 38 19.8	0.0
EDC	Edincik	1.82	37	Pn	Pn	04 38 20.0	-0.2
KYMI	Kymi, Euboea I	1.84	262	P	Pn	04 38 19.7	-0.9
ENEZ	Enez	1.85	353	P	Pn	04 38 20.1	-0.5
ENEZ				S	Sn	04 38 44.3	+0.3
	comp=N,215nm,0.6s						
MLSB	Milas	1.92	146	Pn	Pn	04 38 22.4	+0.8
BODT	Bodrum	1.96	159	Pn	Pn	04 38 22.7	+0.5
APE	Apeiranthos	1.96	202	⇑P	Pn	04 38 21.0	-1.2
APE	Apeiranthos	1.96	202	P	Pn	04 38 20.8	-1.4
SIMA	Simav-Kutahya	1.99	84	Pn	Pn	04 38 23.1	+0.4
ALN	Alexandroupoli	2.02	352	P	Pn	04 38 22.7	-0.2
ALN				S	Sn	04 38 48.2	0.0
	comp=N,150nm,0.6s						
ALN	Alexandroupoli	2.02	352	P	Pn	04 38 22.5	-0.4
THAS	Thassos island	2.16	323	P	Pn	04 38 24.4	-0.4
RFTAA	Mazikoy-Bodrum	2.16	151	Pn	Pn	04 38 25.7	+0.8
YER	Yerkesik	2.29	140	Pn	Pn	04 38 27.1	+0.4
TURN	Turunc	2.56	145	Pn	Pn	04 38 31.0	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ELND	**Elena**	**4.05**	**354**	⇓P	**Pn**	**04 38 51.0**	**+0.2**
LOZB	**Loznitsa**	**4.47**	**1**	⇓P	**Pn**	**04 38 57.3**	**+0.7**
PLVB	**Pleven**	**4.69**	**344**	⇑P	**Pn**	**04 39 01.6**	**+2.0**
ICOR	**Ion Corvin**	**5.31**	**11**	⇓P	**Pn**	**04 39 09.2**	**+1.1**
BLKB	**Belogradchik**	**5.50**	**330**	⇓P	**Pn**	**04 39 12.0**	**+1.1**
MLR	**Muntele Rosu**	**6.60**	**357**	⇓P	**Pn**	**04 39 28.2**	**+2.2**
VOIR		**6.61**	**352**	⇑P	**Pn**	**04 39 26.9**	**+0.8**
PLOR	**Plostina**	**6.95**	**1**	⇑P	**Pn**	**04 39 33.3**	**+2.6**
VRI	**Vrincioaia**	**6.96**	**2**	⇑P	**Pn**	**04 39 33.6**	**+2.7**
GZR	**Gura Zlata**	**7.03**	**338**	⇑P	**Pn**	**04 39 32.2**	**+0.3**
VLDR	**Vladesti**	**7.05**	**9**	⇓P	**Pn**	**04 39 33.9**	**+1.9**
TURR	**Turia**	**7.16**	**358**	⇓P	**Pn**	**04 39 35.8**	**+2.2**
TESR	**Tescani**	**7.61**	**1**	⇑P	**Pn**	**04 39 40.7**	**+0.9**

*OSPL **01** 04:38:10.4±1.9, 20.°45N×70.°61W, h7km±14km, ML2.4*
*SDD **01** 04:38:11.8±2.3, 20.°37N×70.°59W, h22km±77km, MD3.6, ML2.5, MW3.3*
ISC 01 04:38:10.4±2.6**, 20.°41N**±0.°08×**70.°65W**±0.°05**, h16**km±15km**, n13,** σ1**s15**/25**, 10C-6D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MADR	**Mao Valverde**	**0.94**	**207**	⇓*e*Pg	**Pb**	**04 38 27.5**	**-0.8**
MADR				⇓*e*Sg	**Sb**	**04 38 40.6**	**+0.1**
MADR				IAML		04 38 49.2	
	comp=N,270nm,0.6s						
MADR				IAML		04 38 50.5	
	comp=E,177nm,0.4s						
SC01	**Santiago de lo**	**0.98**	**184**	⇓*e*Pg	**Pb**	**04 38 27.5**	**-1.5**
SC01				⇑*e*Sg	**Sb**	**04 38 41.0**	**-0.6**
SC01				IAML		04 38 46.5	
	comp=N,199nm,0.5s						
SC01				IAML		04 38 53.9	
	comp=E,130nm,0.5s						
SC01	**Santiago de lo**	**0.98**	**184**	*i* P	**Pb**	**04 38 27.8**	**-1.2**
SC01				*e*S	**Sg**	**04 38 43.0**	**+0.8**
SC01				IAML		04 38 46.5	
	comp=Z,131nm,0.6s						
MCDR	**Montecristi**	**1.07**	**242**	⇑*e*Pg	**Pb**	**04 38 29.9**	**-0.7**
MCDR				⇑*e*Sg	**Sb**	**04 38 46.4**	**+2.0**
MCDR				IAML		04 38 50.3	
	comp=E,115nm,0.4s						
MCDR				IAML		04 38 52.9	
	comp=N,108nm,0.5s						
SDDR	**Presa de Saban**	**1.54**	**203**	⇑*e*Pg	**Pn**	**04 38 36.8**	**-0.4**
SDDR				⇓*e*Sg	**Sn**	**04 38 57.9**	**+1.0**
SDDR				IAML		04 38 59.5	
	comp=E,63nm,0.5s						
SDDR				IAML		04 39 02.8	
	comp=N,60nm,0.3s						
SDDR	**Presa de Saban**	**1.54**	**203**	*i* P	**Pn**	**04 38 36.6**	**-0.6**
SDDR				*e*S	**Sn**	**04 38 55.6**	**-1.3**
SDDR				IAML		04 39 01.4	
	comp=Z,42nm,0.4s						
ABDR	**Alto Bandera**	**1.59**	**179**	⇑*e*Pg	**Pn**	**04 38 37.7**	**-0.4**
ABDR				⇓*e*Sg	**Sn**	**04 38 57.7**	**-0.8**
ABDR				IAML		04 39 04.4	
	comp=N,91nm,0.3s						
ABDR				IAML		04 39 08.4	
	comp=E,98nm,0.5s						
HATOM	**Hato Mayor del**	**2.01**	**143**	⇓*e*Pg	**Pn**	**04 38 44.5**	**+0.8**
HATOM				⇑*e*Sg	**Sn**	**04 39 09.7**	**+1.2**
HATOM				IAML		04 39 13.3	
	comp=E,31nm,1.1s						
HATOM				IAML		04 39 36.9	
	comp=N,16nm,1.6s						
SDD	**Santo Domingo**	**2.06**	**160**	*e*S	**Sn**	**04 39 09.1**	**-0.6**
MIDR	**Miches**	**2.07**	**133**	⇑*e*Pg	**Pn**	**04 38 45.9**	**+1.4**
MIDR				⇑*e*Sg	**Sb**	**04 39 12.1**	**-1.0**
MIDR				IAML		04 39 15.8	
	comp=E,15nm,0.8s						
MIDR				IAML		04 39 18.2	
	comp=N,26nm,3.2s						
PODR	**Polo**	**2.31**	**195**	⇑*e*Pg	**Pn**	**04 38 49.9**	**+1.9**
PODR				⇑*e*Sg	**Sn**	**04 39 17.4**	**+1.3**
PODR				IAML		04 39 26.2	
	comp=N,40nm,1.0s						
PODR				IAML		04 39 33.3	
	comp=E,44nm,1.7s						
PODR	**Polo**	**2.31**	**195**	*i* P	**Pn**	**04 38 49.3**	**+1.4**
PODR				*e*S	**Sn**	**04 39 16.7**	**+0.6**
MASC	**Masc**	**3.37**	**267**	*i* P	**Pn**	**04 39 02.3**	**0.0**
MASC				*e*S	**Sn**	**04 39 41.1**	**-0.8**

*IDC **01** 04:45:07.4±2.5, 29.°45N×127.°54E, h0km, mb3.4/3, mbtmp3.3/4, ML2.6/1, MS2.9/6, Error ellipse: s-maj=165.2km s-min=25.3km az=95.0*
*JMA **01** 04:45:07.9±0.3, 29.°3N±0.°6×12.°9E±.°, h20km±2km, MV3.2/24, NW OFF AMAMI-OSHIMA IS*
ISC 01 04:45:09.0±1.1**, 29.°34N**±0.°05×**128.°70E**±0.°07**, h10**km**, n24,** σ1**s59**/22**, mb3.5**/3**, MS3.0**/4**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.48**	**113**	P	**Pb**	**04 45 18.9**	**-0.5**
JTAJ				S	**Sb**	**04 45 26.7**	**+0.1**
JNN	**Nakanoshima**	**1.14**	**64**	P	**Pn**	**04 45 30.3**	**-0.7**
JNN				S	**Sn**	**04 45 46.6**	**-0.1**
JAMN	**Amaminishikomi**	**1.17**	**159**	P	**Pb**	**04 45 29.2**	**-2.1**
JAM	**Amami Oshima**	**1.22**	**139**	*e*P	**Pn**	**04 45 30.3**	**-1.8**
JZK	**Kikaishima**	**1.52**	**132**	*e*P	**Pb**	**04 45 36.3**	**-0.8**
JTK	**Tokunoshima**	**1.57**	**172**	P	**Pn**	**04 45 34.9**	**-1.9**
JKC	**Kuchinoerabu**	**1.71**	**49**	*e*P	**Pb**	**04 45 39.5**	**-1.1**
JKC				S	**Sg**	**04 46 02.8**	**-1.3**
JYAK	**Yakushimahirau**	**1.81**	**60**	P	**Pn**	**04 45 39.1**	**-1.1**
JOKE	**Okinoerabujima**	**1.98**	**183**	*e*P	**Pn**	**04 45 40.7**	**-1.8**
JMTN	**Minamitane**	**2.18**	**61**	*e*P	**Pn**	**04 45 45.8**	**+0.4**
JYRO	**Yoronjima**	**2.32**	**185**	*e*P	**Pn**	**04 45 46.0**	**-1.2**
JTN	**Tanegashima 3**	**2.37**	**56**	*e*P	**Pn**	**04 45 47.6**	**-0.3**
JIH	**Iheya**	**2.39**	**196**	*e*P	**Pn**	**04 45 46.5**	**-1.6**
JSJ	**Shimokoshiki**	**2.49**	**20**	*e*P	**Pn**	**04 45 47.6**	**-2.0**
JOW	**Kunigami**	**2.53**	**189**	*e*P	**Pn**	**04 45 48.6**	**-1.5**
JOW	**Kunigami**	**2.53**	**189**	LR	LR	04 47 02.8	
	comp=Z,164nm,19.5s,baz=266,slow=43						
KSRS	**Korea Array**	**8.12**	**356**	Pn	**Pn**	**04 47 04.6**	**-2.2**
	0.1nm,0.3s,baz=180,slow=14,SNR=2.1						
KSRS				LR	LR	04 50 14.3	
	comp=Z,56nm,21.7s,baz=180,slow=38						
	0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.20**	**255**	LR	LR	05 04 20.3	
	comp=Z,17nm,18.5s,baz=80,slow=41						
MA2	**Magadan**	**33.75**	**20**	LR	LR	05 05 00.5	
	comp=Z,5.5nm,19.5s,baz=102,slow=35						
MKAR	**Makanchi Array**	**39.84**	**309**	LR	LR	05 10 49.1	
	comp=Z,51nm,19.2s,baz=5.5,slow=40						
AAK	**Ala-Archa**	**45.10**	**302**	LR	LR	05 13 49.3	
	comp=Z,50nm,18.1s,baz=326,slow=39						
WRA	**Warramunga Arr**	**49.30**	**173**	P	**P**	**04 53 59.6**	**+1.3**
	0.3nm,0.6s,baz=352,slow=8.4,SNR=5.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**52.94**	**174**	P	**P**	**04 54 27.6**	**+2.0**
	0.3nm,0.8s,baz=5.3,slow=14,SNR=1.5						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**61.52**	**29**	P	**P**	**04 55 28.4**	**+2.7**
	0.4nm,0.7s,baz=277,slow=5.9,SNR=7.3						
	0.4nm,0.7s						

*IDC **01** 05:02:37.0±1.8, 39.°27N×95.°84E, h0km, mb3.2/2, mbtmp3.4/6, ML3.0/4, MS3.2/2, Error ellipse: s-maj=52.9km s-min=26.2km az=48.0*
ISC 01 05:02:41.8±1.5**, 39.°5N**±0.°2×**95.°5E**±0.°1**, h35**km**, n10,** σ2**s39**/11**, 2C-2D, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**11.49**	**40**	Pn	**Pn**	**05 05 23.0**	**-0.4**
	0.2nm,0.3s,baz=223,slow=15,SNR=3.3						
SONM				Lg	Lg	05 08 30.1	
	0.1nm,0.3s,baz=228,slow=30,SNR=2.1						
	0.4nm,0.3s						
MK31	**Makanchi Array**	**12.07**	**312**	⇑P	**Pn**	**05 05 32.8**	**+1.6**
	0.8nm,0.6s,baz=115,slow=14,SNR=26						
MK31				⇓S	**Sn**	**05 07 41.4**	**-3.0**
	1.3nm,0.6s,baz=118,slow=24,SNR=6.7						
MKAR	**Makanchi Array**	**12.07**	**312**	Pn	**Pn**	**05 05 33.0**	**+1.7**
	0.3nm,0.3s,baz=118,slow=13,SNR=20						
MKAR				Sn	**Sn**	**05 07 41.2**	**-3.2**
	0.2nm,0.3s,baz=119,slow=24,SNR=6.4						
MKAR				Lg	Lg	05 09 04.2	
	baz=116,slow=26						
	0.9nm,0.5s						
MAKZ	**Makanchi**	**12.26**	**311**	⇑P	**Pn**	**05 05 35.7**	**+1.9**
	3.8nm,1.3s						
MAKZ				⇓S	**Sn**	**05 07 47.4**	**-1.7**
	2.6nm,1.1s						
ZALV	**Zalesovo Beam**	**16.17**	**337**	Pn	**Pn**	**05 06 27.7**	**+1.5**
	0.1nm,0.3s,baz=148,slow=13,SNR=4.5						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**16.30**	**319**	Pn	**Pn**	**05 06 28.3**	**+0.5**
	baz=124,slow=13,SNR=10						
	1.1nm,0.9s						
BVAR	**Borovoye Array**	**21.85**	**317**	P	**P**	**05 07 34.1**	**+3.0**
	0.7nm,0.5s,baz=123,slow=9.5,SNR=5.9						
	0.7nm,0.5s						
NRIK	**Noril'sk**	**30.21**	**354**	LR	LR	05 21 00.5	
	comp=Z,46nm,20.7s,baz=135,slow=36						
GUMO	**Guam**	**50.39**	**107**	LR	LR	05 32 42.1	
	comp=Z,21nm,20.6s,baz=116,slow=36						
ASAR	**Alice Springs**	**72.37**	**143**	P	**P**	**05 14 02.7**	**-1.5**
	0.1nm,0.4s,baz=331,slow=5.5,SNR=1.5						
	0.1nm,0.4s						

IDC 01 05:05:01.2±27.0**, 24.°02S**×**69.°11E, h0**km**, mb3.5**/3**, mbtmp3.5**/3**, MS2.9**/2**, Error ellipse: s-maj=881.2km s-min=46.2km az=52.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**26.12**	**208**	T	T	05 38 26.6	
	baz=39,slow=75,SNR=106						
H04N1	**CROZET ISLANDS**	**26.13**	**208**	T	T	05 38 26.6	
	baz=39,slow=75,SNR=121						
H04N3	**CROZET ISLANDS**	**26.14**	**208**	T	T	05 38 26.6	
	baz=39,slow=75,SNR=115						
PALK	**Pallekele**	**33.10**	**21**	LR	LR	05 22 38.3	
	comp=Z,19nm,20.1s,baz=279,slow=32						
BOSA	**Boshof**	**39.41**	**254**	LR	LR	05 26 17.9	
	comp=Z,21nm,21.7s,baz=192,slow=32						
ASAR	**Alice Springs**	**58.76**	**104**	P	P	05 15 01.6	+0.2
	0.4nm,0.7s,baz=254,slow=6.3,SNR=8.1						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**60.16**	**100**	P	P	05 15 10.8	-0.3
	0.5nm,0.7s,baz=254,slow=6.9,SNR=3.6						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**71.49**	**10**	P	P	05 16 23.6	+0.1
	0.3nm,0.6s,baz=202,slow=6.8,SNR=2.6						
	0.3nm,0.6s						

*IDC **01** 05:22:18.7±1.6, 5.°68N×126.°41E, h133km±10km, mb3.6/7, mbtmp4.0/7, Error ellipse: s-maj=76.4km s-min=14.1km az=65.0*
ISC 01 05:22:20.2±1.2**, 5.°8N**±0.°2×**126.°4E**±0.°4**, h150**km**, n9,** σ1**s41**/11**, mb3.8**/7**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.48**	**328**	P	**Pn**	**05 22 47.2**	**-2.3**
	96nm,0.4s,baz=34,slow=2.7,SNR=2.3						
DAV				S	**Sn**	**05 23 11.3**	**-0.9**
	237nm,0.3s,baz=129,slow=22,SNR=4.4						
WRA	**Warramunga Arr**	**26.76**	**163**	P	**P**	**05 27 44.4**	**-1.7**
	0.2nm,0.4s,baz=345,slow=11,SNR=7.8						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.56**	**298**	P	**P**	**05 28 11.9**	**+0.8**
	0.3nm,0.2s,baz=92,slow=6.3,SNR=2.0						
	0.3nm,0.2s						
ASAR	**Alice Springs**	**30.20**	**166**	P	**P**	**05 28 15.7**	**-1.0**
	0.4nm,0.5s,baz=342,slow=7.0,SNR=17						
ASAR				PcP	**PcP**	**05 31 15.0**	**+0.8**
	0.2nm,0.6s,baz=346,slow=1.9,SNR=4.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**55.66**	**325**	P	**P**	**05 31 41.7**	**+0.9**
	1.0nm,0.4s,baz=118,slow=7.6,SNR=24						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**59.81**	**327**	P	**P**	**05 32 10.4**	**+0.8**
	0.6nm,0.5s,baz=128,slow=6.2,SNR=16						
	0.6nm,0.5s						
ARCES	**ARCESS Array B**	**88.39**	**340**	P	**P**	**05 34 56.2**	**+1.4**
	4.6nm,1.0s,baz=78,slow=4.4,SNR=5.8						
	4.6nm,1.0s						
FINES	**FINESS Array B**	**89.84**	**332**	P	**P**	**05 35 02.3**	**+0.5**
	3.5nm,1.1s,baz=48,slow=2.8,SNR=7.3						
	3.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**121.92**	**289**	PKP	**PKiKP**	**05 40 58.7**	**+0.8**
	0.2nm,0.4s,baz=57,slow=2.6,SNR=6.2						

*TIF **01** 05:38:50.0, 43.°77N×44.°96E, h9km±1km*
*NORS **01** 05:38:51.8, 43.°74N×44.°97E, h16km, MPVA3.9*
*MOS **01** 05:38:52.5, 43.°70N×44.°91E, h19km, MPVA3.8*
ISC 01 05:38:52.8±0.8**, 43.°72N**±0.°02×**44.°98E**±0.°01**, h14**km±6km**, n104,** σ1**s21**/191**, 7C-4D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.18**	**270**	*e*Pg	**Pg**	**05 38 56.8**	**-0.2**
TRKR				*e*Sg	**Sg**	**05 39 01.2**	**+1.3**
TRKR	**Terskaya**	**0.18**	**270**	*e*PG	**Pg**	**05 38 56.7**	**-0.2**
TRKR				*e*S	**Sg**	**05 39 01.1**	**+1.3**
TRKR				pmax	pmax		
	comp=Z,648nm,0.2s						
TRKR				smax	smax		
	comp=N,3μm,0.4s						
BTKR	**Batakoyurt**	**0.47**	**222**	*i* Pg	**Pg**	**05 39 02.1**	**-0.1**
BTKR				*e*Sg	**Sb**	**05 39 10.8**	**+0.9**
BTKR	**Batakoyurt**	**0.47**	**222**	*i* PG	**Pg**	**05 39 02.1**	**-0.1**
BTKR				*e*S	**Sb**	**05 39 10.8**	**+0.9**
PRTR	**Priterechnaya**	**0.51**	**273**	*i* Pg	**Pg**	**05 39 01.4**	**-1.4**
PRTR				*e*Sg	**Sb**	**05 39 12.1**	**+1.4**
PRTR	**Priterechnaya**	**0.51**	**273**	*i* PG	**Pg**	**05 39 01.4**	**-1.4**
PRTR				*e*S	**Sb**	**05 39 12.1**	**+1.4**
KMGR	**Komgaron**	**0.67**	**187**	*i* Pg	**Pb**	**05 39 06.5**	**+0.1**
KMGR				*e*Sg	**Sb**	**05 39 15.8**	**+0.2**
KMGR	**Komgaron**	**0.67**	**187**	⇓*i*PG	**Pb**	**05 39 06.5**	**+0.1**
KMGR				*e*S	**Sn**	**05 39 18.6**	**+0.2**
VLKR	**Vladikavkaz**	**0.71**	**198**	*e*Pg	**Pb**	**05 39 06.8**	**-0.2**
VLKR				*e*Sg	**Sb**	**05 39 16.9**	**+0.1**
VLKR	**Vladikavkaz**	**0.71**	**198**	*e*PG	**Pb**	**05 39 06.8**	**-0.2**
VLKR				*e*S	**Sb**	**05 39 16.9**	**+0.1**
STDR	**Stavd-Durt**	**0.76**	**242**	*e*Pg	**Pb**	**05 39 08.2**	**+0.4**
STDR				*e*Sg	**Sb**	**05 39 20.2**	**+2.3**
STDR	**Stavd-Durt**	**0.76**	**242**	*e*PG	**Pb**	**05 39 08.2**	**+0.4**
STDR				*e*S	**Sb**	**05 39 20.2**	**+2.3**
KORR	**Kora**	**0.92**	**226**	*e*Pg	**Pb**	**05 39 11.1**	**+0.4**
KORR				*e*Sg	**Sn**	**05 39 25.1**	**+0.5**
KORR	**Kora**	**0.92**	**226**	*e*PG	**Pb**	**05 39 11.0**	**+0.4**
KORR				*e*S	**Sn**	**05 39 25.0**	**+0.5**
KORR				smax	smax		
	comp=E,208nm,0.3s						
LSNR	**Lesken**	**0.95**	**242**	*e*Pg	**Pb**	**05 39 11.7**	**+0.6**
LSNR				*e*Sg	**Sn**	**05 39 26.0**	**+0.8**
LSNR	**Lesken**	**0.95**	**242**	*e*PG	**Pb**	**05 39 11.7**	**+0.6**
LSNR				*e*S	**Sn**	**05 39 26.9**	**+1.7**
LACR	**Lac**	**1.03**	**209**	*i* Pg	**Pg**	**05 39 11.6**	**-1.0**
LACR				*e*Sg	**Sb**	**05 39 26.6**	**+0.7**
LACR	**Lac**	**1.03**	**209**	*e*PG	**Pg**	**05 39 11.6**	**-1.0**
LACR				*e*S	**Sb**	**05 39 27.5**	**+1.7**
NCK	**Nalchik**	**1.03**	**258**	*e*Pg	**Pb**	**05 39 12.8**	**+0.4**
NCK				*e*Sg	**Sb**	**05 39 27.0**	**+1.1**
NCK	**Nalchik**	**1.03**	**258**	*c e*PG	**Pg**	**05 39 11.9**	**-0.8**
MTEO	**Meteo**	**1.09**	**197**	P	**Pg**	**05 39 12.5**	**-1.5**
MTEO				S	**Sb**	**05 39 29.6**	**+1.4**
MTEO	**Meteo**	**1.09**	**197**	*e*PG	**Pg**	**05 39 12.5**	**-1.5**
MTEO				*e*S	**Sb**	**05 39 29.5**	**+1.4**
DVE	**Vedeno**	**1.14**	**132**	*e*Pg	**Pn**	**05 39 15.6**	**+1.2**
DVE				*e*Sg	**Sn**	**05 39 32.4**	**+2.6**
DVE	**Vedeno**	**1.14**	**132**	*e*PG	**Pn**	**05 39 15.6**	**+1.2**
DVE				*e*S	**Sn**	**05 39 32.4**	**+2.6**
KBTC	**Kuba-Taba**	**1.14**	**275**	*e*Pg	**Pg**	**05 39 14.1**	**-0.7**
KBTC				*e*Sg	**Sb**	**05 39 30.2**	**+1.1**
KBTC	**Kuba-Taba**	**1.14**	**275**	*e*PG	**Pg**	**05 39 14.1**	**-0.7**
KBTC				*e*S	**Sn**	**05 39 30.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.31**	**232**	*e*Pg	**Pn**	**05 39 15.7**	**-1.3**
DIGR				*e*Sg	**Sg**	**05 39 33.5**	**-1.7**
DIGR	**Digorskoe uzhe**	**1.31**	**232**	*e*PG	**Pn**	**05 39 15.7**	**-1.3**
DIGR				*e*S	**Sg**	**05 39 33.5**	**-1.7**
GUDG	**Gudauri**	**1.31**	**196**	P	**Pn**	**05 39 16.1**	**-0.9**
GUDG				S	**Sb**	**05 39 35.3**	**+1.1**
GUDG	**Gudauri**	**1.31**	**196**	*i* Pg	**Pn**	**05 39 16.1**	**-0.9**
GUDG				*e*Sg	**Sg**	**05 39 34.6**	**-0.5**
GUDG	**Gudauri**	**1.31**	**196**	*e*PG	**Pn**	**05 39 16.0**	**-0.9**
GUDG				*e*S	**Sb**	**05 39 35.2**	**+1.1**
DLMR	**Dylym**	**1.37**	**118**	*e*Pg	**Pg**	**05 39 19.8**	**+0.6**
DLMR				*i* Sg	**Sn**	**05 39 38.9**	**+3.3**
DLMR	**Dylym**	**1.37**	**118**	*e*PG	**Pg**	**05 39 19.8**	**+0.6**
DLMR				*i* S	**Sn**	**05 39 38.9**	**+3.3**
CHRG	**Chargali**	**1.40**	**182**	P	**Pn**	**05 39 17.3**	**-0.7**
CHRG				S	**Sb**	**05 39 36.9**	**+0.4**
BTLR	**Botlikh**	**1.40**	**139**	*i* Pg	**Pg**	**05 39 18.8**	**-0.9**
BTLR				*i* Sg	**Sn**	**05 39 38.9**	**+2.6**
BTLR	**Botlikh**	**1.40**	**139**	*i* PG	**Pg**	**05 39 18.8**	**-0.9**
BTLR				*i* S	**Sn**	**05 39 38.9**	**+2.6**
PYA1	**Pyatigorsk**	**1.40**	**285**	*i* Pg	**Pn**	**05 39 17.8**	**-0.2**
PYA1				*e*Sg	**Sb**	**05 39 36.7**	**+0.1**
PYA1	**Pyatigorsk**	**1.40**	**285**	*c i*PG	**Pn**	**05 39 17.7**	**-0.4**
KBZ	**Khabaz**	**1.51**	**271**	*e*Pg	**Pn**	**05 39 19.3**	**-0.2**
KBZ				*e*Sg	**Sn**	**05 39 39.2**	**+0.3**
KBZ	**Khabaz**	**1.51**	**271**	*de*PG	**Pn**	**05 39 19.1**	**-0.3**
DBC	**Dubki**	**1.52**	**117**	*e*Pg	**Pg**	**05 39 20.9**	**-1.2**
DBC				*e*Sg	**Sg**	**05 39 42.1**	**+0.3**
DBC	**Dubki**	**1.52**	**117**	*e*PG	**Pg**	**05 39 20.9**	**-1.2**
DBC				*e*S	**Sg**	**05 39 42.1**	**+0.3**
BEYR	**Belyy Ugol+**	**1.59**	**281**	*e*Pg	**Pn**	**05 39 20.2**	**-0.5**
BEYR				*e*Sg	**Sn**	**05 39 41.2**	**+0.2**
BEYR	**Belyy Ugol+**	**1.59**	**281**	*e*PG	**Pn**	**05 39 20.2**	**-0.5**
BEYR				*e*S	**Sn**	**05 39 41.2**	**+0.2**
ONI	**Oni**	**1.59**	**225**	P	**Pn**	**05 39 20.6**	**-0.1**
ONI				S	**Sn**	**05 39 42.1**	**+1.1**
ONI	**Oni**	**1.59**	**225**	*e*Pg	**Pn**	**05 39 20.6**	**-0.1**
ONI				*e*Sg	**Sn**	**05 39 42.2**	**+1.1**
ONI	**Oni**	**1.59**	**225**	*e*PG	**Pn**	**05 39 20.6**	**-0.1**
ONI				*e*S	**Sn**	**05 39 42.2**	**+1.1**
UNCR	**Uncukul**	**1.67**	**127**	*e*Pg	**Pb**	**05 39 22.5**	**-0.9**
UNCR				*e*Sg	**Sg**	**05 39 45.7**	**-0.8**
UNCR	**Uncukul**	**1.67**	**127**	*e*PN	**Pb**	**05 39 22.5**	**-0.9**
UNCR				*e*S	**Sg**	**05 39 45.7**	**-0.8**
KRNR	**Karanay**	**1.67**	**122**	*e*Pg	**Pb**	**05 39 22.9**	**-0.5**
KRNR				*e*Sg	**Sg**	**05 39 46.6**	**0.0**
KRNR	**Karanay**	**1.67**	**122**	*e*PN	**Pb**	**05 39 22.9**	**-0.5**
KRNR				*e*S	**Sg**	**05 39 46.6**	**0.0**
KIV	**Kislovodsk**	**1.68**	**279**	*e*Pg	**Pn**	**05 39 21.4**	**-0.5**
KIV				*e*Sg	**Sn**	**05 39 43.7**	**+0.5**
KIV	**Kislovodsk**	**1.68**	**279**	*i* PN	**Pn**	**05 39 21.1**	**-0.8**
KIV				*i* S	**Sn**	**05 39 44.0**	**+0.8**
KIV				pmax	pmax		
	comp=Z,20nm,0.3s						
SHA1	**Shidzhatmaz**	**1.68**	**271**	*e*Pg	**Pn**	**05 39 22.7**	**+0.6**
SHA1				*e*Sg	**Sn**	**05 39 44.6**	**+1.0**
SHA1	**Shidzhatmaz**	**1.68**	**271**	*c e*PN	**Pn**	**05 39 21.7**	**-0.4**
SHA1				*e*S	**Sn**	**05 39 44.6**	**+1.0**
SHA1				pmax	pmax		
	comp=Z,27nm,0.2s						
SHA1				smax	smax		
	comp=N,247nm,0.4s						
HNZR	**Khunzah**	**1.73**	**132**	*e*PN	**Pb**	**05 39 24.1**	**-0.3**
HNZR				*e*S	**Sg**	**05 39 47.8**	**-0.6**
XNZR	**Khunzakh**	**1.73**	**132**	*e*Pg	**Pb**	**05 39 24.1**	**-0.4**
XNZR				*e*Sg	**Sg**	**05 39 47.8**	**-0.7**
BUJR	**Buynaksk**	**1.80**	**119**	*e*Pg	**Pn**	**05 39 24.1**	**+0.6**
BUJR				*e*Sg	**Sg**	**05 39 50.5**	**-0.1**
BUJR	**Buynaksk**	**1.80**	**119**	*e*PN	**Pn**	**05 39 24.1**	**+0.6**
BUJR				*e*S	**Sg**	**05 39 50.5**	**-0.1**
ALER	**Alexandrovskoy**	**1.81**	**306**	*e*Pg	**Pn**	**05 39 24.3**	**+0.6**
ALER				*e*Sg	**Sb**	**05 39 49.0**	**+0.6**
ALER	**Alexandrovskoy**	**1.81**	**306**	*e*PN	**Pn**	**05 39 24.3**	**+0.6**
ALER				*e*S	**Sb**	**05 39 49.0**	**+0.6**
ARKR	**Arakani**	**1.85**	**127**	*e*Pg	**Pb**	**05 39 26.2**	**-0.3**
ARKR				*e*Sg	**Sb**	**05 39 50.0**	**+0.4**
ARKR	**Arakani**	**1.85**	**127**	*e*PN	**Pb**	**05 39 26.2**	**-0.3**
ALIG	**Mtskhetisjvari**	**1.89**	**212**	P	**Pn**	**05 39 24.9**	**+0.1**
ALIG				S	**Sb**	**05 39 51.8**	**+1.1**
ALIG	**Mtskhetisjvari**	**1.89**	**212**	*e*Pg	**Pn**	**05 39 24.9**	**+0.1**
ALIG				*e*Sg	**Sb**	**05 39 51.8**	**+1.1**
ALIG	**Mtskhetisjvari**	**1.89**	**212**	*e*PN	**Pn**	**05 39 24.9**	**+0.1**
ALIG				*e*S	**Sb**	**05 39 51.8**	**+1.1**
GOF	**Gofitskoye**	**1.92**	**315**	*e*Pg	**Pb**	**05 39 27.3**	**-0.4**
GOF				*e*Sg	**Sb**	**05 39 52.0**	**+0.4**
GOF	**Gofitskoye**	**1.92**	**315**	*c e*PN	**Pg**	**05 39 28.9**	**-0.8**
GOF				*e*S	**Sg**	**05 39 55.2**	**+0.5**
GNBR	**Gunib**	**1.98**	**132**	*e*Pg	**Pb**	**05 39 28.2**	**-0.4**
GNBR				*e*Sg	**Sg**	**05 39 54.1**	**-2.2**
GNBR	**Gunib**	**1.98**	**132**	*e*PN	**Pb**	**05 39 28.2**	**-0.4**
MAK	**Makhachkala**	**2.00**	**112**	*e*Pg	**Pb**	**05 39 28.9**	**0.0**
MAK				*e*Sg	**Sg**	**05 39 56.3**	**-0.6**
MAK	**Makhachkala**	**2.00**	**112**	*e*PN	**Pn**	**05 39 26.1**	**0.0**
MAK				*e*		05 39 30.0	
MAK				*e*		05 40 00.1	
MAK				pmax	pmax		
	comp=Z,44nm,0.3s						
MAK				smax	smax		
	comp=E,125nm,0.6s						
MAK				MLR	MLR		
	comp=Z,54nm,9.0s						
LGD	**Lagodekhi**	**2.10**	**153**	P	**Pb**	**05 39 30.0**	**-0.8**
LGD				S	**Sg**	**05 39 58.5**	**-2.1**
LGD	**Lagodekhi**	**2.10**	**153**	*e*Pg	**Pb**	**05 39 30.0**	**-0.8**
LGD				*e*Sg	**Sg**	**05 39 58.5**	**-2.1**
LGD	**Lagodekhi**	**2.10**	**153**	*e*PN	**Pb**	**05 39 29.9**	**-0.8**
LGD				*e*S	**Sg**	**05 39 58.4**	**-2.1**
KMKR	**Kumukh**	**2.23**	**135**	*e*Pn	**Pb**	**05 39 31.5**	**-1.5**
KMKR				*e*Sn	**Sb**	**05 39 59.8**	**-0.7**
KMKR	**Kumukh**	**2.23**	**135**	*e*PN	**Pb**	**05 39 31.5**	**-1.5**
KMKR				*e*S	**Sb**	**05 39 59.8**	**-0.7**
TRLG	**Trialeti**	**2.28**	**197**	P	**Pn**	**05 39 30.8**	**+0.6**
TRLG				S	**Sn**	**05 40 00.4**	**+2.2**
TRLG	**Trialeti**	**2.28**	**197**	*e*Pg	**Pn**	**05 39 30.8**	**+0.6**
TRLG				*e*Sg	**Sn**	**05 40 00.4**	**+2.2**
TRLG	**Trialeti**	**2.28**	**197**	*e*PN	**Pn**	**05 39 30.8**	**+0.6**
TRLG				*e*S	**Sn**	**05 40 00.4**	**+2.2**
DGRG	**David-gareji**	**2.29**	**173**	P	**Pn**	**05 39 31.9**	**+1.6**
DGRG	**David-gareji**	**2.29**	**173**	*e*PN	**Pn**	**05 39 31.9**	**+1.6**
SGKR	**Sergokala**	**2.33**	**122**	*e*Pn	**Pn**	**05 39 31.6**	**+0.8**
SGKR				*e*Sn	**Sb**	**05 40 02.2**	**-1.2**
SGKR	**Sergokala**	**2.33**	**122**	*e*PN	**Pn**	**05 39 31.6**	**+0.8**
SGKR				*e*S	**Sb**	**05 40 02.2**	**-1.2**
NVNR	**Nevinnomyssk**	**2.34**	**293**	*e*Pn	**Pb**	**05 39 33.9**	**-1.0**
NVNR				*e*Sn	**Sb**	**05 40 04.3**	**+0.6**
NVNR	**Nevinnomyssk**	**2.34**	**293**	*e*PN	**Pb**	**05 39 33.9**	**-1.0**
NVNR				*e*S	**Sb**	**05 40 04.3**	**+0.6**
DDFL	**Dedoflistskaro**	**2.43**	**159**	P	**Pb**	**05 39 35.7**	**-0.7**
DDFL	**Dedoflistskaro**	**2.43**	**159**	*e*PN	**Pb**	**05 39 35.6**	**-0.7**
DOMR	**Dombai**	**2.48**	**261**	*e*Pn	**Pn**	**05 39 33.9**	**+1.0**
DOMR				*e*Sn	**Sn**	**05 40 03.2**	**+0.1**
DOMR	**Dombai**	**2.48**	**261**	⇓*e*PN	**Pn**	**05 39 31.5**	**-1.5**
URKR	**Urkarakh**	**2.50**	**128**	*e*Pn	**Pn**	**05 39 33.9**	**+0.8**
URKR				*e*Sn	**Sn**	**05 40 05.5**	**+2.0**
URKR	**Urkarakh**	**2.50**	**128**	*e*PN	**Pn**	**05 39 33.9**	**+0.8**
URKR				*e*S	**Sn**	**05 40 05.5**	**+2.0**
ABS	**Abastumani**	**2.53**	**220**	P	**Pn**	**05 39 34.9**	**+1.1**
ABS	**Abastumani**	**2.53**	**220**	*e*PN	**Pn**	**05 39 34.8**	**+1.1**
ARXR	**Arkhyz**	**2.69**	**268**	*e*Pn	**Pn**	**05 39 36.6**	**+0.7**
ARXR				*i* Sn	**Sn**	**05 40 09.4**	**+1.0**
ARXR	**Arkhyz**	**2.69**	**268**	⇑*e*PN	**Pn**	**05 39 35.6**	**-0.3**
VSHL	**Vashlovani**	**2.71**	**157**	P	**Pn**	**05 39 38.3**	**+2.4**
AKT	**Akhty**	**3.03**	**137**	*e*Pn	**Pn**	**05 39 41.4**	**+0.9**
AKT				*e*Sn	**Sn**	**05 40 19.2**	**+2.7**
AKT	**Akhty**	**3.03**	**137**	*e*PN	**Pn**	**05 39 41.4**	**+0.9**
AKT				*e*S	**Sn**	**05 40 19.2**	**+2.7**
GUZR	**Guzeripl'**	**3.53**	**276**	*e*Pn	**Pn**	**05 39 48.5**	**+1.3**
GUZR				*i* Sn	**Sn**	**05 40 32.4**	**+3.5**
GUZR	**Guzeripl'**	**3.53**	**276**	*e*PN	**Pn**	**05 39 48.5**	**+1.3**
GUZR				*i* S	**Sn**	**05 40 32.3**	**+3.5**
GNI	**Garni**	**3.58**	**183**	*de*PN	**Pn**	**05 39 48.5**	**+0.4**
GNI				*i* S	**Sn**	**05 40 32.9**	**+2.7**
GNI				pmax	pmax		
	comp=Z,14nm,1.5s						
GNI				smax	smax		
	comp=Z,11nm,2.5s						
ARU	**Arti**	**15.38**	**29**	⇑*e*P	**Pn**	**05 42 27.1**	**-2.2**
ARU				pmax	pmax		
	comp=Z,9.0nm,2.4s						
BRVK	**Borovoye**	**19.13**	**52**	⇑*e*P	**P**	**05 43 14.4**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.7s						

*NNC **01** 05:40:15.2±1.9, 37.°43N×70.°84E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=18.5km s-min=9.7km az=153.0*
*IDC **01** 05:40:16.9±0.7, 36.°87N×71.°36E, h104km±5km, mb3.8/24, mbtmp4.2/27, MS3.0/4, Error ellipse: s-maj=13.2km s-min=10.5km az=13.0*
*MOS **01** 05:40:16.0±0.8, 37.°04N×71.°36E, h105km, mb4.4/20, Error*

ellipse: s-maj=7.9km s-min=3.8km az=75.8
*NEIC **01** 05:40:17.4±1.8, 37.06N±0.06×71.26E±0.07, h97km±4km, mb4.5/39, Error ellipse: s-maj=10.2km s-min=7.5km az=218.0*
ISC 01 05:40:16.5±0.3**, 36.94N**±0.04×**71.28E**±0.04**, h100**km**, n221,** σ**2.04**/243**, mb4.3**/51**, 15C-14D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMJ	Simiganj	2.49	314		Pn	05 40 54.2	-1.3
KBL	Kabul	3.01	218	Pn	Pn	05 41 05.0	+2.5
KBL	Kabul	3.01	218	PN	Pn	05 41 05.1	+2.5
NIL	Nilore	3.66	153		Pn	05 41 13.7	+2.6
NIL	Nilore	3.66	153	PN	Pn	05 41 13.7	+2.6
KSH	Kashi	4.50	54	P	Pn	05 41 18.9	-3.6
KSH				S	Sn	05 42 05.0	-8.7
KSH				pmax	pmax		
	comp=Z,330nm,0.7s						
KSH				smax	smax		
	comp=N,2μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
AML	Almayashu	5.51	19	P	Pn	05 41 36.6	+0.3
	SNR=208						
AML	Almayashu	5.51	19	⇑P	Pn	05 41 36.5	+0.1
	comp=E,3.3nm,0.3s						
AML				⇑S	Sn	05 42 35.8	-2.8
	comp=E,58nm,0.7s						
AML	Almayashu	5.51	19	PN	Pn	05 41 36.4	+0.1
THN	Thein Dam	5.79	140	eP	Pn	05 41 41.4	+1.5
THN				eS	Sn	05 42 43.3	-1.7
UCH	Uchtor	5.84	24	P	Pn	05 41 41.2	+0.2
	SNR=50						
DZA	Taraz	5.94	0	eP	Pn	05 41 41.8	-0.2
	baz=360						
DZA	Taraz	5.94	0	ePN	Pn	05 41 41.7	-0.2
KZA	Kyzart	5.97	30	P	Pn	05 41 43.2	+0.5
	SNR=50						
EKS2	Erkin-Say	6.03	18	P	Pn	05 41 43.7	+0.5
	SNR=90						
KK31	Karatay Array	6.18	355	⇑P	Pn	05 41 42.2	-3.0
	comp=E,84nm,0.3s,baz=180,slow=12,SNR=1548						
KK31				⇓S	Sn	05 42 49.0	-5.4
	comp=E,23nm,0.3s,baz=181,slow=24,SNR=4.0						
KK31	Karatay Array	6.18	355	Pn	Pn	05 41 44.7	-0.5
KK31	Karatay Array	6.18	355	PN	Pn	05 41 44.7	-0.5
KKAR	Karatay Array	6.18	355		Pn	05 41 44.7	-0.5
KKAR	Karatay Array	6.18	355	Pn	Pn	05 41 44.6	-0.6
KKAR	Karatay Array	6.18	355	PN	Pn	05 41 44.7	-0.5
AAK	Ala-Archa	6.20	22	P	Pn	05 41 46.2	+0.6
	SNR=93						
AAK	Ala-Archa	6.20	22	Pn	Pn	05 41 46.1	+0.5
AAK	Ala-Archa	6.20	22	dePN	Pn	05 41 46.1	+0.5
AAK				pmax	pmax		
	comp=Z,64nm,0.8s						
AAK	Ala-Archa	6.20	22	P	Pn	05 41 46.2	+0.6
	comp=Z,49nm,0.3s,baz=175,slow=6.0,SNR=277						
AAK				S	Sn	05 42 51.8	-3.3
	comp=Z,42nm,0.4s,baz=164,slow=23,SNR=10						
DHRM	DHARAMSHALA	6.25	137	eP	Pn	05 41 46.4	+0.1
DHRM				eS	Sn	05 42 53.6	-2.7
KBK	Karagaybulak	6.37	25	P	Pn	05 41 48.5	+0.7
	SNR=30						
ULHL	Ulahol	6.53	34	P	Pn	05 41 51.0	+0.9
	SNR=12						
CHMS	Chumysh	6.61	23	P	Pn	05 41 51.4	+0.4
	SNR=103						
CHMS	Chumysh	6.61	23	⇓P	Pn	05 41 51.2	+0.2
	comp=Z,122nm,0.8s						
CHMS				⇑S	Sn	05 43 02.1	-2.7
	comp=Z,34nm,0.6s						
CHMS	Chumysh	6.61	23	PN	Pn	05 41 51.2	+0.2
USP	Ospenovka	6.78	20	P	Pn	05 41 53.2	-0.1
	SNR=39						
TKM2	Tokmak 2	6.83	28	P	Pn	05 41 54.6	+0.5
	SNR=46						
TKM2	Tokmak 2	6.83	28	⇓P	Pn	05 41 54.4	+0.3
	comp=Z,26nm,0.6s						
TKM2				⇓S	Sn	05 43 08.7	-1.8
	comp=Z,34nm,0.8s						
TKM2	Tokmak 2	6.83	28	PN	Pn	05 41 54.4	+0.3
TARG	Taragay, Kyrgy	6.96	45	Pn	Pn	05 41 56.3	+0.3
TARG	Taragay, Kyrgy	6.96	45	PN	Pn	05 41 56.3	+0.3
BHK	Bhakra	6.96	141	eP	Pn	05 41 56.4	+0.5
BHK				eS	Sn	05 43 09.9	-3.6
SGDS	Sogindy	6.99	20	eP	Pn	05 41 55.3	-0.9
	comp=Z,10nm,0.7s,baz=20						
SGDS	Sogindy	6.99	20	ePN	Pn	05 41 55.2	-0.9
SGDS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TNSS	Tian-Shan	7.48	34	eP	Pn	05 42 02.5	-0.6
	baz=34						
TNSS	Tian-Shan	7.48	34	ePN	Pn	05 42 02.5	-0.6
SMLA	Simla	7.58	138	eP	Pn	05 42 04.1	-0.1
SMLA				ex	Sn	05 43 23.4	-5.0
AAA	Alma-Ata	7.60	33	eP	Pn	05 42 04.4	-0.1
	baz=33						
AAA	Alma-Ata	7.60	33	ePN	Pn	05 42 04.4	-0.1
MDOK	Medeo	7.62	34	⇓P	Pn	05 42 05.1	+0.2
	comp=Z,18nm,0.7s						
MDOK				⇑S	Sn	05 43 31.4	+1.7
	comp=Z,34nm,0.7s						
MDOK	Medeo	7.62	34	eP	Pn	05 42 04.5	-0.5
	baz=34						
MDOK	Medeo	7.62	34	ePN	Pn	05 42 04.4	-0.5
KUU	Kurty	7.94	27	eP	Pn	05 42 07.6	-1.4
	baz=27						
KUU	Kurty	7.94	27	ePN	Pn	05 42 07.6	-1.4
CHKK	Chushkaly	8.16	30	eP	Pn	05 42 11.2	-0.8
	baz=30						
CHKK	Chushkaly	8.16	30	ePN	Pn	05 42 11.2	-0.8
SATY	Saty	8.20	40	eP	Pn	05 42 12.3	-0.3
	comp=Z,5.7nm,0.8s,baz=40						
SATY	Saty	8.20	40	ePN	Pn	05 42 12.3	-0.3
SATY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZHN	Zhinishke	8.29	39	eP	Pn	05 42 13.4	-0.5
	baz=39						
ZHN	Zhinishke	8.29	39	ePN	Pn	05 42 13.4	-0.5
BTLS	Baital	8.36	14	eP	Pn	05 42 13.2	-1.5
	baz=13						
BTLS	Baital	8.36	14	ePN	Pn	05 42 13.2	-1.5
UZB	Uzynbulak	8.58	41	eP	Pn	05 42 17.8	-0.1
	comp=Z,3.9nm,0.7s,baz=42						
UZB	Uzynbulak	8.58	41	ePN	Pn	05 42 17.7	-0.1
UZB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SHLS	Shalkode	8.82	43	eP	Pn	05 42 24.0	+2.8
	baz=44						
SHLS	Shalkode	8.82	43	ePN	Pn	05 42 23.9	+2.8
NDI	New Delhi	9.63	147	eP	Pn	05 42 31.7	-0.4
NDI				eS	Sn	05 44 11.4	-7.0
TDK	Taldyqorghan	9.68	32	eP	Pn	05 42 31.6	-1.1
	baz=32						
TDK	Taldyqorghan	9.68	32	eP	Pn	05 42 31.6	-1.1
KUDL	Kundal	9.81	152	eP	Pn	05 42 32.7	-1.9
KUDL				eS	Sn	05 44 14.4	-8.4
SONA	Sohna	9.95	149	eS	Sn	05 44 18.6	-7.6
GEYT	Alibeck	10.52	279		Pn	05 42 40.3	-3.9
GEYT	Alibeck	10.52	279	P	Pn	05 42 40.3	-3.9
GEYT	Alibeck	10.52	279	P	Pn	05 42 40.5	-3.7
	comp=Z,7.4nm,0.5s,baz=106,slow=11,SNR=27						
GEYT				S	Sn	05 44 31.6	-8.5
	comp=Z,18nm,0.4s,baz=141,slow=19,SNR=14						
GEYT				LR	LR	05 47 51.5	
	comp=Z,49nm,18.7s,baz=112,slow=43						
GYA0	ALIBECK ARRAY	10.52	279	P	Pn	05 42 40.4	-3.8
GYA0				S	Sn	05 44 34.6	-5.4
GYA0B	ALIBECK ARRAY	10.52	279	⇑P	Pn	05 42 40.4	-3.8
GYA0B				⇑S	Sn	05 44 34.6	-5.5
GYA0B	ALIBECK ARRAY	10.52	279		Pn	05 42 40.0	-4.2
MAKZ	Makanchi	12.66	36	⇓P	Pn	05 43 11.7	-1.1
	comp=Z,9.7nm,0.8s						
MAKZ	Makanchi	12.66	36		Pn	05 43 11.2	-1.6
MAKZ	Makanchi	12.66	36	P	Pn	05 43 11.2	-1.6
MK31	Makanchi Array	12.80	36	P	Pn	05 43 13.9	-0.7
	comp=Z,9.9nm,0.8s,baz=210,slow=13,SNR=48						
MK31	Makanchi Array	12.80	36	Pn	Pn	05 43 13.9	-0.7
MK31	Makanchi Array	12.80	36	deP	Pn	05 43 13.8	-0.8
MKAR	Makanchi Array	12.80	36	Pn	Pn	05 43 13.9	-0.7
MKAR	Makanchi Array	12.80	36	i P	Pn	05 43 13.0	-1.6
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	Makanchi Array	12.80	36	P	Pn	05 43 13.3	-1.3
	comp=Z,8.3nm,0.7s,baz=209,slow=12,SNR=58						
WMQ	Urumqi	14.26	56	eP	Pn	05 43 31.9	-1.8
WMQ				S	Sn	05 46 08.4	-2.3
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
KURBB	Kurchatov Arra	14.63	19	⇓P	Pn	05 43 40.3	+2.0
	comp=Z,12nm,0.7s						
KURBB	Kurchatov Arra	14.63	19	P	Pn	05 43 40.3	+2.0
KURBB	Kurchatov Arra	14.63	19	P	Pn	05 43 35.4	-2.9
	comp=Z,1.7nm,0.6s,baz=213,slow=12,SNR=15						
KURK	Kurchatov	14.74	19	⇑P	Pn	05 43 40.9	+1.3
	comp=Z,9.3nm,0.8s						
KURK	Kurchatov	14.74	19	Pn	Pn	05 43 37.7	-2.0
KURK	Kurchatov	14.74	19	ceP	Pn	05 43 38.0	-1.7
KURK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
AB31	Akbulak array	14.81	330	⇑P	Pn	05 43 37.5	-3.1
	comp=Z,15nm,0.4s,baz=135,slow=13,SNR=864						
AB31				⇓S	Sn	05 46 16.1	-7.8
	comp=Z,9.1nm,0.7s,baz=238,slow=43,SNR=5.4						
AB31	Akbulak array	14.81	330	P	Pn	05 43 37.5	-3.1
AB31				S	Sn	05 46 16.6	-7.3
ABKAR	Akbulak array	14.81	330		Pn	05 43 37.5	-3.1
ABKAR	Akbulak array	14.81	330	Pn	Pn	05 43 37.4	-3.3
SEM	Semipalatinsk	14.93	23	eP	Pn	05 43 41.2	-1.1
	baz=23						
SEM	Semipalatinsk	14.93	23	eP	Pn	05 43 41.2	-1.1
BVA0	Borovoye Array	16.09	358	P	Pn	05 43 54.5	-2.2
	comp=Z,9.6nm,0.9s,baz=157,slow=12,SNR=30						
BVA0	Borovoye Array	16.09	358	P	Pn	05 43 54.5	-2.2
BVAR	Borovoye Array	16.09	358	P	Pn	05 43 54.9	-1.8
	comp=Z,9.2nm,0.5s,baz=161,slow=13,SNR=28						
BVAR				LR	LR	05 51 14.0	
	comp=Z,48nm,18.1s,baz=188,slow=41						
BRVK	Borovoye	16.13	358	⇓P	Pn	05 43 54.9	-2.3
	comp=Z,13nm,0.8s						
BRVK	Borovoye	16.13	358	Pn	Pn	05 43 54.4	-2.7
BRVK				IAmb	IAmb	05 44 00.1	
	comp=Z,15nm,0.8s						
BRVK	Borovoye	16.13	358	P	Pn	05 43 54.4	-2.7
BRVK				pmax	pmax		
	comp=Z,15nm,0.8s						
AKTO	Aktyubinsk	16.52	329	⇓P	Pn	05 44 00.2	-1.8
	comp=Z,20nm,0.5s						
AKTO				⇓S	Sn	05 46 58.2	-6.7
	comp=Z,18nm,1.2s						
AKTO	Aktyubinsk	16.52	329	P	Pn	05 44 00.1	-1.8
AKTO				S	Sn	05 46 58.2	-6.7
AKTO	Aktyubinsk	16.52	329	P	Pn	05 44 00.3	-1.6
	comp=Z,32nm,0.4s,baz=140,slow=12,SNR=30						
AKTO				S	Sn	05 46 54.7	-10
	comp=Z,6.8nm,0.8s,baz=220,slow=21,SNR=3.8						
AKTO				LR	LR	05 51 13.3	
	comp=Z,59nm,18.9s,baz=70,slow=40						
DGZ	Jazzator, Alta	17.29	37	i P	P	05 44 10.8	-0.7
BOK	Bokaro	18.15	132	eP	Pn	05 44 22.5	+0.6
GOMU	GeErMu	18.91	85	P	Pn	05 44 31.8	+0.5
GOMU				pP	pP	05 44 49.0	-0.5
GOMU				sP	sP	05 44 55.6	-7.3
GOMU				pmax	pmax		
	comp=Z,19nm,0.8s						
ZAA0	Zalesovo Array	19.42	25	P	P	05 44 34.1	-0.4
ZAA0				IAmb	IAmb	05 44 45.4	
	comp=Z,11nm,0.6s						
ZALV	Zalesovo Beam	19.42	25	P	P	05 44 34.0	-0.5
ZALV	Zalesovo Beam	19.42	25	P	P	05 44 34.3	-0.3
	comp=Z,8.2nm,0.3s,baz=215,slow=10,SNR=58						
SHL	Shillong	20.90	117	P	P	05 44 51.5	+0.5
SHL				IAmb	IAmb	05 44 52.8	
	comp=Z,33nm,1.0s						
SHL	Shillong	20.90	117	eP	P	05 44 51.7	+0.7
SHL				IAmb	IAmb	05 44 56.7	
	comp=Z,17nm,0.3s						
SHL				eS	S	05 48 26.6	-12
SHL	Shillong	20.90	117	P	P	05 44 51.5	+0.5
SHL				pmax	pmax		
	comp=Z,33nm,1.0s						
TEZP	TEZPUR	20.94	113	eP	P	05 44 51.9	+0.6
GNI	Garni	20.98	287	ceP	P	05 44 54.6	+2.9
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
GNI	Garni	20.98	287	P	P	05 44 53.5	+1.7
	comp=Z,5.6nm,0.6s,baz=175,slow=20,SNR=3.9						
	comp=Z,5.6nm,0.6s						
SVE	Sverdlovsk	21.13	344	eP	P	05 44 53.4	+0.4
SVE				pmax	pmax		
	comp=Z,12nm,0.7s						
ARU	Arti	21.29	340	P	P	05 44 55.2	+0.5
ARU				IAmb	IAmb	05 45 02.1	
	comp=Z,35nm,1.4s						
ARU	Arti	21.29	340	d iP	P	05 44 55.5	+0.8
ARU						05 45 21.5	
ARU				S	S	05 48 47.9	+2.5
ARU				SS	SnSn	05 49 25.6	+8.7
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARU	Arti	21.29	340	P	P	05 44 54.9	+0.2
	comp=Z,7.2nm,0.6s,baz=144,slow=5.6,SNR=15						
	comp=Z,7.2nm,0.6s						
MOKO	MOKOCHONG	22.38	112	eP	P	05 45 07.8	+1.1
KOHI	KOHIMA	22.42	113	eP	P	05 45 07.5	+0.4
GTA	Gaotai	22.53	75	P	P	05 45 10.0	+1.9
GTA				pP	pP	05 45 30.5	+1.6
GTA				pmax	pmax		
	comp=Z,22nm,1.0s						
KBZ	Khabaz	22.61	296	i P	P	05 45 09.3	+0.7
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	22.61	296	P	P	05 45 08.8	+0.1
	comp=Z,2.4nm,0.8s,baz=117,slow=3.6,SNR=3.6						
	comp=Z,2.4nm,0.8s						
BELG	Belogornoye	22.69	320	i P	P	05 45 08.2	-1.2
SHA1	Shidzhatmaz	22.78	296	i P	P	05 45 10.1	-0.6
KIV	Kislovodsk	22.79	297	i P	P	05 45 10.7	+0.1
KIV				pmax	pmax		
	comp=Z,12nm,0.8s						
SAIH	SAIHA	23.65	121	eP	P	05 45 19.3	+0.4
VRH	Novokhopyorsk	25.37	314	eP	P	05 45 40.6	+6.6
VRH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MOY	Mondy	25.63	46	eP	P	05 45 41.9	+5.3
TNCH	TengChong	26.10	109	eP	P	05 45 40.5	-0.7
TNCH				pmax	pmax		
	comp=Z,160nm,0.4s						
LZH	Lanzhou	26.12	82	eP	P	05 45 42.7	+1.5
LZH				sP	pP	05 46 08.2	+3.4
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZAK	Zakamensk	26.53	49	eP	P	05 45 45.3	+0.6
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PZH	PanZhiHua	27.81	103	P	P	05 45 59.0	+2.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
SONM	Songino Array	27.90	56	P	P	05 45 57.7	+0.7
SONM	Songino Array	27.90	56	P	P	05 45 57.7	+0.7
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	27.90	56	P	P	05 45 57.9	+0.9
	comp=Z,5.0nm,0.9s,baz=260,slow=9.3,SNR=20						
	comp=Z,5.0nm,0.9s						
ULN	Ulaanbaatar	28.34	56	P	P	05 46 01.7	+0.7
ULN				IAmb	IAmb	05 46 02.6	
	comp=Z,5.0nm,0.7s						
ULN	Ulaanbaatar	28.34	56	ceP	P	05 46 01.7	+0.7
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRTR	Keskin Array B	29.52	287	P	P	05 46 12.2	+0.7
BRTR	Keskin Array B	29.52	287	P	P	05 46 12.2	+0.7
BRTR	Keskin Array B	29.52	287	P	P	05 46 13.2	+1.8
	comp=Z,0.5nm,0.7s,baz=116,slow=6.6,SNR=4.5						
	comp=Z,0.5nm,0.7s						
OBN	Obninsk	29.75	319	eP	P	05 46 13.3	+0.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	Chiang Mai Arr	30.47	120	P	P	05 46 20.4	+0.6
	comp=Z,0.8nm,0.7s,baz=298,slow=9.3,SNR=6.8						
	comp=Z,0.8nm,0.7s						
PALK	Pallekele	30.75	161	LR	LR	05 58 18.3	
	comp=Z,28nm,18.5s,baz=33,slow=35						
HHC	Hu-ho-hao-te	31.40	70	eP	P	05 46 30.6	+2.6
HHC				pmax	pmax		
	comp=Z,38nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,5.0s						
AKASG	Malin Array Be	32.85	308	P	P	05 46 41.3	+0.9
	comp=Z,0.2nm,0.3s,baz=78,slow=8.2,SNR=5.6						
AKASG				pP	pP	05 47 03.6	-0.2
	comp=Z,1.7nm,0.7s,baz=82,slow=7.0,SNR=4.0						
	comp=Z,0.2nm,0.3s						
NRIK	Noril'sk	33.65	10	P	P	05 46 48.3	+1.1
NRIK				IAmb	IAmb	05 46 49.5	
	comp=Z,3.0nm,0.7s						
NRIK	Noril'sk	33.65	10	ceP	P	05 46 47.8	+0.6
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NRIK	Noril'sk	33.65	10	P	P	05 46 47.6	+0.4
	comp=Z,2.7nm,0.5s,baz=192,slow=5.7,SNR=10.0						
	comp=Z,2.7nm,0.5s						
XLT	XiLinHaoTe	34.47	64	eP	P	05 46 56.7	+2.1
XLT				pP	pP	05 47 17.7	-0.7
XLT				sP	sP	05 47 31.6	+1.2
XLT				PP	PP	05 48 12.3	-2.2
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,210nm,4.3s						
BUR08	Bucovina Ar. S	35.25	302	P	P	05 47 03.2	+1.9
FIA1	FINESS Array S	37.24	326	P	P	05 47 17.0	-1.0
FINES	FINESS Array B	37.25	326	P	P	05 47 17.0	-1.0
FINES	FINESS Array B	37.25	326	i P	P	05 47 19.3	+1.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	37.25	326	P	P	05 47 19.1	+1.1
	comp=Z,3.4nm,0.7s,baz=120,slow=9.6,SNR=24						
FINES				pP	pP	05 47 42.6	+0.9
	comp=Z,3.4nm,0.8s,baz=107,slow=11,SNR=2.6						
	comp=Z,3.4nm,0.7s						
OJC	Ojcow	38.82	307	P	P	05 47 31.6	+0.2
OJC	Ojcow	38.82	307	P	P	05 47 31.6	+0.2
OJC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NJ2	Nanjing	39.19	83	eP	P	05 47 35.3	+0.6
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
VYHS	Vyhne	39.50	304	eP	P	05 47 37.0	-0.1
VYHS				e		05 49 14.3	
VYHS	Vyhne	39.50	304	eP	P	05 47 37.0	-0.1
VYHS				ePP	PnPn	05 49 14.3	+0.9
ARCES	ARCESS Array B	40.82	337	P	P	05 47 49.2	+1.4
ARCES				IAmb	IAmb	05 47 55.5	
	comp=Z,13nm,1.2s						
ARCES	ARCESS Array B	40.82	337	P	P	05 47 49.2	+1.4
ARCES				pmax	pmax		
	comp=Z,13nm,1.3s						
ARCES	ARCESS Array B	40.82	337	P	P	05 47 49.0	+1.3
	comp=Z,2.0nm,0.5s,baz=109,slow=7.7,SNR=28						
ARCES				pP	pP	05 48 13.6	+1.8
	comp=Z,2.7nm,0.7s,baz=97,slow=6.6,SNR=2.0						
	comp=Z,2.0nm,0.5s						
HEH	HeiHe	41.80	53	eP	P	05 47 56.8	+0.9
HEH				pmax	pmax		
	comp=Z,22nm,0.6s						
HEH				pmax	pmax		
	comp=Z,140nm,4.6s						
HFS	Hagfors	42.86	322	P	P	05 48 05.5	+1.0
	comp=Z,3.9nm,0.4s,baz=98,slow=11,SNR=23						
HFS				pP	pP	05 48 28.8	+0.1
	comp=Z,5.9nm,0.6s,baz=98,slow=11,SNR=5.2						
	comp=Z,3.9nm,0.4s						
GSI	Gunungsitoli	42.98	139	P	P	05 48 07.6	+1.7
YAK	Yakutsk	43.47	36	P	P	05 48 08.6	-0.7
YAK	Yakutsk	43.47	36	ceP	P	05 48 08.0	-1.3
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NB2	NORSAR Subarra	44.17	323	P	P	05 48 15.4	+0.5
	comp=Z,1.6nm,0.5s,baz=95,slow=7.9						
NOA	NORSAR Array B	44.17	323	P	P	05 48 16.1	+1.1
	comp=Z,1.0nm,0.4s,baz=106,slow=7.2,SNR=11						
NOA				pP	pP	05 48 39.7	+0.4
	comp=Z,2.9nm,0.6s,baz=96,slow=8.0,SNR=5.4						
	comp=Z,1.0nm,0.4s						
KSRS	Korea Array	44.52	71	P	P	05 48 18.1	+0.1
	comp=Z,0.5nm,0.4s,baz=290,slow=5.9,SNR=4.0						
	comp=Z,0.5nm,0.4s						
KLR	Kul'dur	44.70	54	i P	P	05 48 18.4	-0.9
KLR				pmax	pmax		
	comp=Z,14nm,3.3s						
TIXI	Tiksi	45.28	22	P	P	05 48 24.0	+0.5
TIXI				IAmb	IAmb	05 48 24.6	
	comp=Z,13nm,0.8s						
TIXI	Tiksi	45.28	22	ceP	P	05 48 23.9	+0.4
TIXI				pmax	pmax		
	comp=Z,15nm,1.0s						
USRK	Ussuriysk Ar.	45.76	61	P	P	05 48 27.2	-0.5
USRK	Ussuriysk Ar.	45.76	61	P	P	05 48 27.2	-0.5
USRK	Ussuriysk Ar.	45.76	61	P	P	05 48 27.0	-0.7
	comp=Z,1.6nm,0.8s,baz=278,slow=7.5,SNR=4.5						
	comp=Z,1.6nm,0.8s						
SPITS	Spitsbergen Ar	47.12	347	P	P	05 48 38.8	+0.9
	comp=Z,9.0nm,0.9s,baz=124,slow=15,SNR=1.4						
	comp=Z,9.0nm,0.9s						
KMBO	Kilima Mbogo	49.30	228	P	P	05 48 56.1	+0.4
	comp=Z,0.6nm,0.3s,baz=72,slow=22,SNR=1.6						
	comp=Z,0.6nm,0.3s						
EKA	Eskdalemuir Ar	52.13	316	P	P	05 49 16.6	+0.4
	comp=Z,2.1nm,0.9s,baz=84,slow=7.5,SNR=4.0						
	comp=Z,2.1nm,0.9s						
ESDC	Sonseca Array	57.45	298	P	P	05 49 55.6	+0.7
	comp=Z,0.7nm,0.7s,baz=54,slow=7.3,SNR=7.8						
ESDC				pP	pP	05 50 20.2	+0.1
	comp=Z,0.7nm,0.6s,baz=55,slow=7.0,SNR=2.6						
	comp=Z,0.7nm,0.7s						
TOA0	Torodi Ar. Sit	65.96	269	P	P	05 50 51.9	-0.4
TOA0				IAmb	IAmb	05 50 52.3	
	comp=Z,2.6nm,0.6s						
TORD	Torodi Ar. Bea	65.96	269	P	P	05 50 52.0	-0.3
TORD	Torodi Ar. Bea	65.96	269	P	P	05 50 51.8	-0.5
	comp=Z,1.9nm,0.5s,baz=50,slow=6.6,SNR=38						
	comp=Z,1.9nm,0.5s						
RES	Resolute Bay	68.28	356	P	P	05 51 07.2	+1.2
RES	Resolute Bay	68.28	356	P	P	05 51 07.2	+1.2
RES				pmax	pmax		
	comp=Z,4.0nm,1.5s						
B21K	Ikpikpuk River	68.58	16	P	P	05 51 09.1	+1.1
B21K				IAmb	IAmb	05 51 10.1	
	comp=Z,6.2nm,1.1s						
TOLK	Toolik Lake Re	70.44	15	P	P	05 51 20.4	+0.9
TOLK				IAmb	IAmb	05 51 20.6	
	comp=Z,5.0nm,0.6s						
D25K	Kavik River	70.48	13	P	P	05 51 20.4	+0.7
A36M	Sachs Harbour	70.75	5	P	P	05 51 22.6	+1.4
E25K	Arctic Village	71.67	14	P	P	05 51 27.5	+0.6
BMAR	Burnt Mountain	72.46	14	P	P	05 51 33.1	+1.4
C36M	Paulatuk	73.42	6	P	P	05 51 38.0	+0.8
INK	Inuvik	73.43	9	P	P	05 51 38.5	+1.2
INK				IAmb	IAmb	05 51 39.0	
	comp=Z,5.0nm,0.8s						
INK	Inuvik	73.43	9	P	P	05 51 38.5	+1.2
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CAST	Castle Rocks	74.19	19	P	P	05 51 42.6	+0.8
CAST				IAmb	IAmb	05 52 10.8	
	comp=Z,9.1nm,1.0s						
ILAR	Eielson Array	74.29	16	P	P	05 51 42.0	-0.4
	comp=Z,1.6nm,0.9s,baz=303,slow=4.8,SNR=13						
ILAR				pP	pP	05 52 09.2	+0.3
	comp=Z,1.0nm,0.9s,baz=307,slow=4.2,SNR=4.7						
	comp=Z,1.6nm,0.9s						
G31M	Satah River	74.63	10	P	P	05 51 44.8	+0.6
G31M				IAmb	IAmb	05 52 12.3	
	comp=Z,9.7nm,1.3s						
LBTB	Lobatse	75.16	222	P	P	05 51 49.3	+1.3
LBTB				IAmb	IAmb	05 51 50.1	
	comp=Z,6.3nm,1.2s						
LBTB	Lobatse	75.16	222	P	P	05 51 49.3	+1.3
LBTB				pmax	pmax		
	comp=Z,6.0nm,1.2s						
DAWY	Dawson	76.44	13	P	P	05 51 55.2	+0.4
DAWY				IAmb	IAmb	05 51 55.8	
	comp=Z,6.8nm,1.3s						
SCM	Sheep Creek Mo	76.72	18	P	P	05 51 57.0	+0.6
SCM	Sheep Creek Mo	76.72	18	P	P	05 51 57.0	+0.6
SCM				pmax	pmax		
	comp=Z,55nm,1.5s						
BOSA	Boshof	78.23	220	P	P	05 52 05.2	0.0
	comp=Z,3.2nm,0.8s,baz=254,slow=17,SNR=3.8						
	comp=Z,3.2nm,0.8s						
YKA	Yellowknife Ar	80.79	3	P	P	05 52 19.2	+0.6
	comp=Z,3.9nm,0.8s,baz=346,slow=5.5,SNR=64						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YKA				pP	pP	05 52 46.1	+0.4
	comp=Z,1.7nm,0.8s,baz=346,slow=5.4,SNR=5.9						
	comp=Z,3.9nm,0.8s						
NWAO	Narrogin (SRO)	81.68	142	P	P	05 52 22.9	-0.7
NWAO	Narrogin (SRO)	81.68	142	P	P	05 52 22.9	-0.7
NWAO				pmax	pmax		
	comp=Z,78nm,1.5s						
WB0	Warramunga Arr	81.95	122	P	P	05 52 24.3	-0.9
WRA	Warramunga Arr	82.03	122	P	P	05 52 24.7	-1.0
	comp=Z,2.8nm,0.7s,baz=324,slow=4.9,SNR=37						
	comp=Z,2.8nm,0.7s						
WB2	Warramunga Arr	82.04	122	P	P	05 52 24.8	-0.9
WB2				IAmb	IAmb	05 52 25.2	
	comp=Z,5.9nm,0.9s						
AS31	Alice Springs	84.32	125	P	P	05 52 36.5	-0.9
ASAR	Alice Springs	84.32	125	P	P	05 52 36.7	-0.8
ASAR	Alice Springs	84.32	125	P	P	05 52 36.7	-0.8
ASAR	Alice Springs	84.32	125	P	P	05 52 36.4	-1.1
	comp=Z,3.1nm,0.6s,baz=311,slow=5.1,SNR=83						
	comp=Z,3.1nm,0.6s						
FORT	Forrest	85.81	134	P	P	05 52 44.3	-0.4
QSPA	South Pole Qui	126.74	180	PKP	PKPdf	05 59 06.2	-1.0
	comp=Z,2.2nm,1.1s,baz=173,slow=0.8,SNR=4.1						
ROSC	El Rosal	127.49	315	PKIKP	PKPdf	05 59 11.0	+0.2
ROSC	El Rosal	127.49	315	PKP	PKPdf	05 59 11.0	+0.2
	comp=Z,4.2nm,0.6s,baz=71,slow=22,SNR=6.5						
PLCA	Paso Flores	150.19	251	PKPbc	PKPbc	05 59 56.0	+0.5
	comp=Z,0.6nm,0.6s,baz=72,slow=1.7,SNR=4.1						

*WEL **01** 05:40:39.3±0.3, 42°S±3°×17°4E±°, h14km±2km, M3.2/25, ML3.5/25, MLv3.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=157.8, confirmed*
*NOU **01** 05:40:42.5, 41°.64S×174°.10E, h10km, MLv3.7/6, Cook Strait, New Zealand*
ISC 01 05:40:39.5±1.0, **41°.61S**±0°.03×**174°.43E**±0°.02, **h25**km±9km, **n91**, σ**1s.01**/100, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.21	228	P	Pn	05 40 46.3	-0.9
CMWZ				S	Sb	05 40 51.9	+2.5
BHW	Baring Head	0.39	60	P	Pb	05 40 47.6	-0.3
BHW				S	Sb	05 40 53.0	-0.6
TUWZ	Tuamarina	0.40	296	P	Pb	05 40 47.7	-0.4
TUWZ				S	Sb	05 40 53.6	-0.4
TCW	Tory Channel	0.41	344	P	Pb	05 40 47.3	-1.0
TCW				S	Sb	05 40 52.5	-1.7
WEL	Wellington	0.41	39	P	Pb	05 40 47.7	-0.6
WEL				S	Sb	05 40 54.3	+0.1
BSWZ	Blackbirch Sta	0.43	255	P	Pn	05 40 49.1	-1.0
PLWZ	Palliser	0.62	87	P	Pn	05 40 52.3	-0.5
CAW	Cannon Point	0.69	44	P	Pb	05 40 52.4	-0.5
CAW				S	Sb	05 41 01.7	-0.4
PAWZ	Paruwai Farm	0.78	74	P	Pn	05 40 54.8	-0.1
KIW	Kapiti Island	0.83	26	P	Pb	05 40 54.5	-0.7
KIW				S	Sb	05 41 05.1	-0.9
NNZ	Nelson	0.88	296	P	Pn	05 40 55.9	-0.3
DUWZ	D'Urville Isla	0.89	334	P	Pn	05 40 55.8	-0.7
DUWZ				S	Sb	05 41 06.6	-1.1
MTW	Mount Morrison	0.92	61	P	Pn	05 40 56.9	0.0
MTW				S	Sn	05 41 09.8	+0.4
OGWZ	Otaki Gorge	0.97	36	P	Pb	05 40 57.0	-0.6
TRWZ	Traveller	0.97	78	P	Pn	05 40 57.5	0.0
KHZ	Kahutara	1.05	219	P	Pb	05 40 59.5	+0.6
KHZ	Kahutara	1.05	219	P	Pb	05 40 59.6	+0.7
HOWZ	Holdsworth Sta	1.08	50	P	Pb	05 40 59.1	-0.5
THZ	Tophouse	1.15	262	P	Pb	05 41 01.1	+0.3
TMWZ	Te Maipa	1.21	66	P	Pn	05 41 00.5	-0.3
TKNZ	Takaka Hill	1.24	297	P	Pb	05 41 01.9	-0.4
MRNZ	Matariki Terra	1.27	279	P	Pb	05 41 02.6	-0.2
MRNZ				S	Sb	05 41 20.6	+1.9
MRZ	Mangatainoka R	1.28	43	P	Pb	05 41 02.0	-1.0
TIWZ	Tintock	1.38	54	P	Pn	05 41 02.8	-0.3
CPWZ	Castlepoint	1.51	63	P	Pb	05 41 09.3	+2.5
OHWZ	Ohakea	1.55	26	P	Pb	05 41 07.8	+0.2
PRWZ	Pori Road	1.57	49	P	Pn	05 41 05.6	-0.2
POWZ	Post Office Ro	1.58	40	P	Pn	05 41 06.1	+0.2
QRZ	Quartz Range	1.63	298	P	Pb	05 41 08.1	-0.8
QRZ	Quartz Range	1.63	298	P	Pb	05 41 08.1	-0.8
BFZ	Birch Farm	1.66	57	P	Pn	05 41 06.1	-0.9
GVZ	Greta Valley S	1.71	217	P	Pb	05 41 08.3	-1.9
DVHZ	Dannevirke	1.85	46	P	Pn	05 41 09.0	-0.7
WAZ	Wanganui	1.90	13	P	Pb	05 41 13.7	+0.3
ANWZ	Angora Road	1.93	54	P	Pn	05 41 09.6	-1.0
TSZ	Takapari Road	1.94	38	P	Pn	05 41 10.7	-0.1
DSZ	Denniston Nort	1.97	265	P	Pb	05 41 13.0	-1.7
LTZ	Lake Taylor	1.99	233	P	Pn	05 41 12.3	+0.8
LREZ	Lake Rotokare	2.14	360	P	Pb	05 41 19.3	+1.7
PNHZ	Pukenui	2.16	39	P	Pn	05 41 13.6	-0.3
WPHZ	Waipukurau	2.17	45	P	Pn	05 41 14.0	0.0
PREZ	Palmer Road	2.27	355	P	Pb	05 41 19.6	-0.2
KHEZ	Kahui Hut	2.33	352	P	Pb	05 41 20.5	-0.4
KHEZ	Kahui Hut	2.33	352	P	Pb	05 41 20.5	-0.4
OKCZ	Okains Bay	2.34	205	P	Pn	05 41 16.2	-0.2
NEZ	North Egmont	2.35	354	P	Pb	05 41 21.7	+0.6
NBEZ	Newall Road No	2.37	349	P	Pb	05 41 23.2	+1.7
MOVZ	Moawhango	2.42	25	P	Pb	05 41 21.5	-0.9
PKVZ	Pokaka	2.42	17	P	Pb	05 41 22.3	0.0
PKE	Pukeiti	2.43	352	P	Pb	05 41 24.4	+1.8
WNVZ	Wahianoa	2.44	22	P	Pn	05 41 19.2	+1.3
BHHZ	Black Hill Sta	2.45	31	P	Pn	05 41 18.4	+0.5
KRHZ	Kereru	2.46	38	P	Pn	05 41 17.4	-0.6
TRVZ	Turoa	2.46	21	P	Pb	05 41 22.6	-0.6
OXZ	Oxford	2.46	225	P	Pn	05 41 17.6	-0.5
MQZ	McQueen's Vall	2.47	211	P	Pn	05 41 17.3	-0.9
WHVZ	Whangaehu Hut	2.48	21	P	Pb	05 41 23.2	-0.4
MAVZ	Matarangi	2.49	21	P	Pb	05 41 24.3	+0.6
VRZ	Vera Road	2.49	6	P	Pb	05 41 22.8	-0.8
FWVZ	Far West T-bar	2.50	20	P	Pb	05 41 23.9	+0.1
TUVZ	Tukino	2.52	22	P	Pb	05 41 23.3	-0.7
AKCZ	Akaroa Harbour	2.53	206	P	Pn	05 41 18.5	-0.4
NGZ	Ngauruhoe	2.59	21	P	Pb	05 41 24.4	-0.8
SNVZ	South Ngauruho	2.59	21	P	Pb	05 41 23.9	-1.4
OTVZ	Oturere	2.62	22	P	Pn	05 41 21.5	+1.2
NNVZ	North Ngauruho	2.63	21	P	Pn	05 41 22.1	+1.6
WTVZ	West Tongariro	2.64	20	P	Pb	05 41 24.6	-1.6
TWVZ	Taurewa	2.65	17	P	Pb	05 41 26.1	-0.1
ETVZ	East Tongariro	2.66	22	P	Pn	05 41 22.1	+1.3
KWHZ	Kaweka Forest	2.66	36	P	Pn	05 41 20.5	-0.2
KWHZ				P	Pb	05 41 26.9	+0.5
TMVZ	Te Maari	2.67	22	P	Pn	05 41 22.3	+1.2
KRVZ	Karewarewa	2.67	21	P	Pb	05 41 26.0	-0.8
NTVZ	North Tongarir	2.68	21	P	Pn	05 41 22.6	+1.5
RACZ	Rakaia	2.71	218	P	Pn	05 41 20.6	-0.8
KATZ	Kakaramea	2.80	21	P	Pb	05 41 28.9	0.0
RITZ	Rihia Road	2.84	23	P	Pb	05 41 29.6	0.0
MHCZ	Mount Hutt	2.86	227	P	Pn	05 41 23.1	-0.4
BKZ	Black Stump Fm	2.90	34	P	Pb	05 41 30.7	+0.1
BKZ	Black Stump Fm	2.90	34	P	Pb	05 41 31.0	+0.4
WACZ	Wakanui South	3.01	218	P	Pn	05 41 24.0	-1.6
HIZ	Hauiti	3.11	6	P	Pb	05 41 33.5	-0.5
HIZ	Hauiti	3.11	6	P	Pb	05 41 32.0	-2.0
RPZ	Rata Peaks	3.26	229	P	Pn	05 41 30.9	+1.9
RPZ	Rata Peaks	3.26	229	P	Pn	05 41 29.6	+0.6
ARCZ	Arundel	3.35	225	P	Pn	05 41 29.7	-0.4
TMZ	Timaru	3.74	221	P	Pn	05 41 35.4	-0.2
MKRZ	Makatiti	3.80	25	P	Pn	05 41 39.4	+2.9
MYRZ	Mayor Island	4.54	19	P	Pn	05 41 51.5	+4.8
PKGZ	Pakihiroa	4.66	38	P	Pb	05 41 54.6	-5.9
JCZ	Jackson Bay	4.83	237	P	Pn	05 41 52.8	+2.3
CTZ	Chatham Island	6.94	111	P	Pn	05 42 19.2	-0.2

*NEIC **01** 05:45:59.6±0.7, 36°.141N±0°.010×97°.66W±0°.01, h5km±5km, Error ellipse: s-maj=1.6km s-min=1.5km az=50.0*
TUL 01 05:45:59.7±0.7, **36°.153N**±0°.010×**97°.66W**±0°.01, **h5**km±5km, **ML2.3**, **mb_Lg2.3**/28(NEIC), **ML2.6**/58(NEIC), **Error ellipse: s-maj=1.5km s-min=1.4km az=49.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.39	155	Pg	Pg	05 46 07.5	+0.2
OK029				Sg	Sg	05 46 13.1	+0.7
CROK	Carrier	0.44	323	Pg	Pg	05 46 08.5	+0.3
CROK				Sg	Sg	05 46 14.9	+1.0
CROK				IAML		05 46 20.6	
	comp=E,495nm,0.3s						
ADOK	Arcadia Dam	0.55	155	Pg	Pg	05 46 10.5	+0.2
ADOK				Sg	Sg	05 46 18.1	+0.6
OK033	Mehan	0.59	100	Pg	Pg	05 46 11.4	+0.3
OK033				Sg	Sg	05 46 19.7	+0.8
OK033				IAML		05 46 20.4	
	comp=E,309nm,0.3s						
OK048	Pawnee Station	0.64	65	Pg	Pg	05 46 12.1	+0.2
OK048				Sg	Sg	05 46 20.6	+0.4
BLOK	Blackwell	0.70	30	Pg	Pg	05 46 13.4	+0.2
BLOK				Sg	Sg	05 46 23.4	+1.0
BLOK				IAML		05 46 23.5	
	comp=N,432nm,0.3s						
OK052	Battle Ridge R	0.71	103	Pg	Pg	05 46 13.5	+0.2
OK052				Sg	Sg	05 46 23.2	+0.6
OK052				IAML		05 46 25.8	
	comp=N,276nm,0.5s						
GC02	Grant County #	0.72	347	Pg	Pg	05 46 13.5	0.0
GC02				Sg	Sg	05 46 23.4	+0.6
OK051	E0350 and S346	0.75	62	Pg	Pg	05 46 14.3	+0.1
OK051				IAML		05 46 29.6	
	comp=N,244nm,0.2s						
OK051				IAML		05 46 36.2	
	comp=N,258nm,0.1s						
OKCSW	OKLAHOMA CITY	0.77	166	Pg	Pg	05 46 14.4	-0.1
OKCSW				IAML		05 46 27.4	
	comp=E,261nm,0.3s						
OKCSW				IAML		05 46 30.0	
	comp=N,264nm,0.5s						
QUOK	Quay	0.77	88	Pg	Pg	05 46 14.5	+0.1
QUOK				IAML		05 46 25.3	
	comp=N,285nm,0.3s						
QUOK				IAML		05 46 29.2	
	comp=E,179nm,0.4s						
OK032	Salt Plains WL	0.79	326	Pg	Pg	05 46 14.7	-0.2
OK032				IAML		05 46 29.4	
	comp=E,338nm,0.2s						
OK032				IAML		05 46 30.1	
	comp=E,320nm,0.1s						
KAN14	Manchester OK	0.84	343	Pg	Pg	05 46 15.7	-0.2
KAN14				IAML		05 46 30.1	
	comp=N,318nm,0.1s						
KAN13	South Haven SW	0.87	10		Pg	05 46 16.4	0.0
KAN17	Caldwell West	0.89	355	Pg	Pg	05 46 16.8	-0.1
FNO	Franklin	0.92	167	Pg	Pg	05 46 17.0	-0.3
OK038	West end E0370	0.93	291	Pg	Pg	05 46 17.2	-0.4
KAN05	Bluff City Nor	0.97	350		Pg	05 46 18.4	+0.1
CSTR	Hydro, Custer	0.98	239	Pg	Pg	05 46 18.3	-0.1
KAN09	Caldwell North	0.98	2	Pg	Pg	05 46 18.7	+0.1
DEOK	Depew	0.99	108	Pg	Pg	05 46 18.7	0.0
DEOK				IAML		05 46 32.5	
	comp=E,142nm,0.2s						
DEOK				IAML		05 46 32.8	
	comp=N,162nm,0.2s						
KAN01	Argonia South	1.00	355	Pg	Pg	05 46 19.0	+0.1
KAN01				IAML		05 46 36.2	
	comp=N,233nm,0.1s						
KAN01				IAML		05 46 36.8	
	comp=E,185nm,0.2s						
KAN10	Anthony SW Sta	1.03	340	Pg	Pg	05 46 19.6	+0.1
KAN10				IAML		05 46 35.6	
	comp=E,214nm,0.1s						
KAN10				IAML		05 46 38.9	
	comp=N,154nm,0.1s						
KAN08	Anthony NE Sta	1.10	347		Pg	05 46 20.7	-0.1
KAN08				IAML		05 46 39.1	
	comp=N,175nm,0.1s						
KAN08				IAML		05 46 40.3	
	comp=E,151nm,0.1s						
KAN06	Argonia West S	1.10	352		Pg	05 46 20.8	-0.1
U32A	Winter Ranch,	1.11	282	Pg	Pg	05 46 20.8	-0.2
U32A				IAML		05 46 38.9	
	comp=E,156nm,0.1s						
U32A				IAML		05 46 39.4	
	comp=N,192nm,0.2s						
W35A	Tecumseh	1.19	147	Pg	Pg	05 46 21.5	-1.0
W35A				IAML		05 46 42.5	
	comp=E,152nm,0.4s						
W35A				IAML		05 46 43.1	
	comp=N,124nm,0.3s						
T35A	Sooner Cattle	1.20	50	Pg	Pg	05 46 22.4	-0.3
T35A				IAML		05 46 45.1	
	comp=N,166nm,0.4s						
ELIS	Ellis County	1.43	267		Pn	05 46 26.3	0.0
TUL3	Leonard	1.53	99		Pn	05 46 27.4	-0.3
TUL3				IAmb_Lg		05 46 52.1	
	comp=Z,21nm,0.8s						
WMOK	Wichita Mounta	1.68	213		Pn	05 46 29.8	0.0
RLO	Rose Lookout	2.13	89	Pn	Pn	05 46 36.4	+0.4
LOOK	Love County	2.19	170	Pn	Pn	05 46 36.9	+0.2
LOOK				IAmb_Lg		05 47 13.0	
	comp=Z,14nm,1.0s						
SMWD	Samnorwood	2.35	244	Pn	Pn	05 46 39.5	+0.5
SMWD				IAmb_Lg		05 47 15.6	
	comp=Z,11nm,0.7s						
R32A	Long Quarter,	2.42	340	Pn	Pn	05 46 40.8	+0.9
WTFS	Witchita Falls	2.47	196	Pn	Pn	05 46 40.6	0.0
U38A	Gravette	2.66	83	Pn	Pn	05 46 43.5	+0.3
Z35A	Perchaven, San	2.83	173	Pn	Pn	05 46 45.3	-0.3
HHAR	Hobbs	3.01	86	Pn	Pn	05 46 49.2	+1.2
HHAR				IAmb_Lg		05 47 34.7	
	comp=Z,10nm,0.7s						
KSU1	Kansas State U	3.06	15	Pn	Pn	05 46 48.0	-0.7
CBKS	Cedar Bluff	3.13	329	Pn	Pn	05 46 48.7	-1.0
PLPT	Palo Pinto	3.38	189	Pn	Pn	05 46 51.7	-1.3
AMTX	Amarillo	3.52	250	Pn	Pn	05 46 54.1	-1.0
AMTX				IAmb_Lg		05 47 54.5	
	comp=Z,5.7nm,0.9s						
Z38A	Mt. Pleasant	3.63	142	Pn	Pn	05 46 55.6	-0.9
TREL	Terrell	3.65	159	Pn	Pn	05 46 57.7	+0.9
DKNS	Dickens	3.65	228	Pn	Pn	05 46 57.7	+0.8
S39A	Bolivar	3.80	65	Pn	Pn	05 46 59.6	+0.7
S39A				IAmb_Lg		05 48 03.0	
	comp=Z,8.3nm,0.8s						
ABTX	Abilene, Hawle	3.88	206	IAmb_Lg		05 48 06.7	
	comp=Z,4.2nm,0.9s						
SN05	Snyder 5	4.21	220	IAmb_Lg		05 48 20.6	
	comp=Z,7.6nm,0.9s						
SN01	Snyder 1	4.23	220	IAmb_Lg		05 48 17.4	
	comp=Z,5.8nm,0.8s						
X40A	Basin Creek Fa	4.28	111	Pn	Pn	05 47 05.5	+0.1
MGMO	Mountain Grove	4.45	75	IAmb_Lg		05 48 19.7	
	comp=Z,7.4nm,0.7s						
BRDY	Brady	4.98	193	IAmb_Lg		05 48 38.5	
	comp=Z,4.1nm,0.8s						
SGCY	Sterling City	5.11	215	IAmb_Lg		05 48 51.1	
	comp=Z,6.2nm,0.9s						
T25A	Trinidad	5.52	282	IAmb_Lg		05 48 58.2	
	comp=Z,7.5nm,0.8s						

IDC 01 05:54:25.8±3.1, **5°.41S**×**128°.14E**, **h0**km, **mb3.1**/1, **mbtmp3.1**/3, **ML3.2**/2, **Error ellipse: s-maj=329.7km s-min=31.4km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.65	158	Pn	Pn	05 58 08.7	+0.8
	0.1nm,0.3s,baz=335,slow=13,SNR=4.8						
WRA				Sn	Sn	06 00 52.6	-10
	0.1nm,0.3s,baz=346,slow=21,SNR=1.6						
	0.2nm,0.5s						
ASAR	Alice Springs	18.98	164	P	P	05 58 48.8	-0.3
	0.1nm,0.3s,baz=348,slow=12,SNR=14						
	0.4nm,0.4s						
MKAR	Makanchi Array	65.90	327	P	P	06 05 13.6	0.0
	0.1nm,0.4s,baz=145,slow=5.3,SNR=1.3						
	0.1nm,0.4s						

*IDC **01** 06:07:01.7±3.3, 10°.36S×119°.23E, h0km, mb3.8/2, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=256.4km s-min=26.7km az=50.0*
ISC 01 06:07:03.8±1.0, **11°.4S**±0°.1×**118°.2E**±0°.2, **h35**km, **n9**, σ**0s.92**/9, **mb4.1**/3, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	Plampang	2.56	351	P	Pn	06 07 43.1	+0.3
JAGI	Jajag, Banyuwa	4.91	306	P	Pn	06 08 14.8	-0.3
FITZ	Fitzroy Crossi	9.83	134	P	Pn	06 09 22.3	-0.4
WRKA	Warakurna	16.63	146	P	Pn	06 10 54.5	+0.2
WRA	Warramunga Arr	17.72	121	P	Pn	06 11 06.3	-1.7
	baz=300,slow=13,SNR=1.5						
WRA				S	Sn	06 14 12.3	-12
	0.3nm,0.9s,baz=293,slow=22,SNR=1.3						
	0.1nm,0.5s						
ASAR	Alice Springs	19.32	131	P	Pn	06 11 28.1	+0.8
	0.1nm,0.3s,baz=308,slow=12,SNR=9.1						
ASAR				S	S	06 14 47.9	-15
	0.1nm,0.4s,baz=304,slow=22,SNR=1.4						
	0.4nm,0.6s						
RKGY	Rocky Gully	23.16	183	P	P	06 12 07.4	+0.2
	65nm,1.0s						
MKAR	Makanchi Array	66.20	334	P	P	06 17 48.8	+0.8
	0.7nm,0.4s,baz=148,slow=6.5,SNR=14						
	0.7nm,0.4s						
ZALV	Zalesovo Beam	70.97	340	P	P	06 18 16.8	-0.7
	0.3nm,0.4s,baz=138,slow=6.6,SNR=2.3						
	0.3nm,0.4s						

IDC 01 06:17:42.2±1.8, **1°.20N**×**126°.48E**, **h0**km, **mb3.5**/3, **mbtmp3.5**/3, **MS3.4**/1, **Error ellipse: s-maj=168.1km s-min=24.6km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.38	160	P	P	06 22 40.9	-1.4
	0.6nm,0.5s,baz=339,slow=11,SNR=12						
	0.6nm,0.5s						
ASAR	Alice Springs	25.75	164	P	P	06 23 15.4	+0.7
	0.5nm,0.4s,baz=346,slow=11,SNR=21						
ASAR				PcP	PcP	06 26 45.5	+0.4
	0.1nm,0.4s,baz=345,slow=3.3,SNR=2.5						
	0.5nm,0.4s						
MKAR	Makanchi Array	59.49	326	P	P	06 27 46.9	-0.3
	0.3nm,0.5s,baz=118,slow=8.0,SNR=7.4						
	0.3nm,0.5s						

*DJA **01** 06:22:42.3±0.4, 6°S±4°×10°2E±°, h10km, M4.9/20, mB5.4/8, mb4.9/20, MLv4.9/18, Mw(mB)4.8/8*
*IDC **01** 06:22:44.5±0.6, 6°.26S×101°.92E, h0km, mb4.1/17, mbtmp4.1/18, ML4.9/1, MS3.2/7, Error ellipse: s-maj=24.4km s-min=12.7km az=63.0*
*NEIC **01** 06:22:46.8±1.5, 6°.17S±0°.05×101°.97E±0°.06, h10km±1km, mb4.4/23, Error ellipse: s-maj=10.9km s-min=8.3km az=248.0*
ISC 01 06:22:47.9±0.5, **6°.23S**±0°.05×**102°.01E**±0°.06, **h22**km, **n130**, σ**1s.53**/114, **mb4.4**/34, **MS3.3**/7, **2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGSI	Enggano, Bengk	0.92	17	P	Pb	06 23 04.8	-0.3
MNAI	Manna	2.09	27	Pn	Pn	06 23 21.4	-0.2
MNAI				Sn	Sn	06 23 46.2	-0.8
MNAI	Manna	2.09	27	P	Pn	06 23 21.9	+0.3
MNAI	Manna	2.09	27	P	Pn	06 23 21.0	-0.6
LWLI	Liwa	2.37	59	P	Pn	06 23 26.0	+0.4
UBSI	University, Be	2.47	6	P	Pn	06 23 26.0	-0.9
KASI	Kota Agung	2.57	74	P	Pn	06 23 28.1	-0.2
KASI				S	Sn	06 23 56.1	-2.9
LHSI	Lahat	2.83	32	P	Pn	06 23 32.1	+0.3
BLSI	Bandar Lampung	3.33	75	P	Pn	06 23 39.5	+0.7
CGJI	Cibinong	3.68	96	P	Pn	06 23 43.4	-0.1
CGJI				S	Sn	06 24 21.6	-4.7
PPSI	Pulau Pagai	3.98	330	P	Pn	06 23 46.5	-1.2
SBJI	Serang	4.10	89	P	Pn	06 23 48.8	-0.5
KRJI	Kerinci	4.15	352	P	Pn	06 23 48.5	-1.6
PMBI	Palembang	4.29	40	Pn	Pn	06 23 49.3	-2.6
SKJI	Sukabumi	4.58	100	P	Pn	06 23 54.6	-1.4
DBJI	Dramaga	4.72	94	P	Pn	06 23 59.4	+1.5
CBJI	Citeko	4.82	92	P	Pn	06 24 02.0	+2.8
	496nm,0.6s,2.4nm						
CNJI	Cibinong	5.20	102	P	Pn	06 24 03.6	-0.8
	61nm,0.8s,1µm0.4nm						
PDSI	Padang	5.51	344	P	Pn	06 24 06.7	-2.0
XMIS	Christmas Isla	5.55	140	Pn	Pn	06 24 04.4	-4.8
XMIS	Christmas Isla	5.55	140	P	Pn	06 24 04.3	-5.0
XMI	Christmas Isla	5.55	139	P	Pn	06 24 04.6	-4.7
LEM	Lembang	5.60	96	Pn	Pn	06 24 11.8	+1.7
	36nm,0.3s,baz=326,slow=22,SNR=14						
LEM				Sn	Sn	06 25 13.6	-0.4
	9.7nm,0.3s,baz=292,slow=19,SNR=5.7						
	77nm,0.4s						
LEM	Lembang	5.60	96	P	Pn	06 24 11.6	+1.4
	92nm,0.6s,2µm0.5nm						
BBJI	Bungbulang	5.73	103	P	Pn	06 24 11.5	-0.4
BBJI	Bungbulang	5.73	103	P	Pn	06 24 11.2	-0.7
	201nm,0.8s,2µm0.8nm						
DSRI	Dabo	6.26	24	P	Pn	06 24 18.7	-0.4
	24nm,0.5s,0.2nm						
CMJI	Cimerak	6.58	104	P	Pn	06 24 22.9	-0.5
	263nm,0.6s,5µm1.2nm						
BKNI	Bangkinang	6.59	352	Pn	Pn	06 24 22.3	-1.2
KPJI	Karang Pucung	6.96	99	P	Pn	06 24 29.6	+0.9
	73nm,0.4s,0.4nm						
PBSI	Pulau Batu	7.18	329	P	Pn	06 24 27.9	-3.7
	137nm,0.8s,0.7nm						
COCO	West Island	7.82	220		Pn	06 24 39.9	-0.5
MYKOM	Kota Tinggi	8.18	13	Pn	Pn	06 24 44.1	-1.3
YOGI	Yogyakarta	8.37	101	P	Pn	06 24 47.6	-0.5
	76nm,0.9s						
SMRI	Semarang	8.41	96		Pn	06 24 49.6	+0.9
SMRI	Semarang	8.41	96	P	Pn	06 24 50.1	+1.4
SMRI	Semarang	8.41	96	P	Pn	06 24 50.1	+1.4
	72nm,0.8s						
UGM	Wanagama	8.61	102		Pn	06 24 52.0	+0.6
UGM	Wanagama	8.61	102	P	Pn	06 24 51.7	+0.3
UGM	Wanagama	8.61	102	P	Pn	06 24 51.4	0.0
	103nm,1.3s						
GSI	Gunungsitoli	8.70	329		Pn	06 24 50.4	-2.1
GSI	Gunungsitoli	8.70	329	P	Pn	06 24 50.4	-2.1
GSI	Gunungsitoli	8.70	329	P	Pn	06 24 48.7	-3.8
	34nm,1.0s						
RPSI	Rantau Prapat	9.39	341	Pn	Pn	06 24 59.4	-2.6
PSI	Prapat	9.49	341	P	Pn	06 24 59.2	-4.3
	6.6nm,1.4s						
SJI	Sawahan	9.80	99	P	Pn	06 25 07.3	-0.4
	34nm,0.6s						
SNSI	Sinabang, Aceh	10.29	326	P	Pn	06 25 10.4	-4.0
	64nm,1.0s,4µm						
KSM	Kuching	11.28	48	Pn	Pn	06 25 28.2	+0.3
KULM	Kulim	11.53	353	Pn	Pn	06 25 30.8	-0.5
JAGI	Jajag, Banyuwa	12.25	101	Pn	Pn	06 25 39.1	-2.0
JAGI	Jajag, Banyuwa	12.25	101	P	Pn	06 25 40.0	-1.2
JAGI	Jajag, Banyuwa	12.25	101	P	Pn	06 25 38.1	-3.1
	24nm,0.7s						
SBUM	Sibu	13.36	50	Pn	Pn	06 25 56.4	+0.1
PLAI	Plampang	15.84	100	P	Pn	06 26 30.0	+0.2
	27nm,0.9s						
KAPI	Kappang	17.70	87		Pn	06 26 53.8	+0.5
KAPI	Kappang	17.70	87	LR	LR	06 34 06.9	
	comp=Z,42nm,19.5s,baz=285,slow=38						
KKM	Kota Kinabalu	18.70	50	P	P	06 27 04.8	-0.3
KKM				IAmb	IAmb	06 27 19.0	
	comp=Z,20nm,1.0s						
KKM	Kota Kinabalu	18.70	50	P	P	06 27 04.9	-0.3
	comp=Z,24nm,1.1s						
EDFI	Ende, Flores	19.67	99	P	P	06 27 13.3	-2.5
	comp=Z,9.4nm,0.7s,comp=Z,1µm						
MMRI	Maumere	20.20	98	P	P	06 27 19.7	-1.7
SOEI	Soe	22.32	100	P	P	06 27 43.1	-1.3
SOEI	Soe	22.32	100	P	P	06 27 43.8	-0.6
	comp=Z,72nm,0.9s						
PSA00	Pilbara Seismi	23.03	133	P	P	06 27 52.2	+0.5
PSA00				IAmb	IAmb	06 27 53.4	
	comp=Z,4.9nm,1.1s						
CM31	Chiang Mai Arr	24.72	353	P	P	06 28 07.3	-0.5
CM31				IAmb	IAmb	06 28 12.9	
	comp=Z,9.2nm,0.6s						
CMAR	Chiang Mai Arr	24.72	353	P	P	06 28 07.6	-0.3
CMAR	Chiang Mai Arr	24.72	353	P	P	06 28 08.1	+0.2
	comp=Z,6.4nm,0.6s,baz=188,slow=8.5,SNR=34						
CMAR				LR	LR	06 38 08.2	
	comp=Z,30nm,18.5s,baz=170,slow=37						
	comp=Z,6.4nm,0.6s						
CHTO	Chiang Mai	25.07	353	P	P	06 28 10.2	-0.8
CHTO				IAmb	IAmb	06 28 15.5	
	comp=Z,7.4nm,0.6s						
CHTO	Chiang Mai	25.07	353	P	P	06 28 09.9	-1.1
	comp=Z,15nm,1.0s						
PALK	Pallekele	25.14	302	LR	LR	06 36 28.7	
	comp=Z,31nm,19.7s,baz=233,slow=33						
FITZ	Fitzroy Crossi	25.89	119	P	P	06 28 17.4	-1.2
H08S2	Diego Garcia H	29.33	266	T	T	06 59 48.9	
	baz=88,slow=74,SNR=4.4						
H08S3	Diego Garcia H	29.34	266	T	T	06 59 46.1	
	baz=88,slow=74,SNR=63						
H08S1	Diego Carcia H	29.35	266	T	T	06 59 50.0	
	baz=88						
H01W3	Cape Leeuwin H	30.63	160	T	T	07 01 20.4	

baz=338,slow=76,SNR=7.1
H01W2 Cape Leeuwin H 30.64 160 T T 07 01 19.8
baz=338,slow=76,SNR=7.0
H01W1 Cape Leeuwin H 30.64 160 T T 07 01 21.5
baz=338,slow=76,SNR=6.1
PZH PanZhiHua 32.54 360 P **P** **06 29 21.0 +3.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.1s
WB0 Warramunga Arr 34.21 116 P **P** **06 29 31.8 -0.5**
WB0 IAmb IAmb 06 29 52.7
comp=Z,9.6nm,1.4s
WRA Warramunga Arr 34.22 117 P **P** **06 29 33.0 +0.6**
WRA Warramunga Arr 34.22 117 P **P** **06 29 32.8 +0.4**
comp=Z,2.4nm,0.9s,baz=288,slow=12,SNR=14
WRA PcP **PcP** **06 32 08.9 0.0**
comp=Z,0.3nm,0.6s,baz=291,slow=2.3,SNR=2.0
comp=Z,2.4nm,0.9s
FORT Forrest 34.55 138 P **P** **06 29 35.4 +0.4**
AS31 Alice Springs 35.22 123 P **P** **06 29 39.8 -1.2**
ASAR Alice Springs 35.22 123 P **P** **06 29 41.3 +0.3**
comp=Z,1.4nm,0.7s,baz=299,slow=8.0,SNR=27
comp=Z,1.4nm,0.7s
XAN Xi'an 40.59 9 ⇓P **P** **06 30 26.1 0.0**
XAN pP pP 06 30 31.9 +0.2
XAN sP sP 06 30 35.2 +1.2
XAN pmax pmax
comp=Z,13nm,0.8s
LYN LuoYang 41.75 13 ⇓P **P** **06 30 36.5 +0.9**
LYN sP sP 06 30 43.4 -0.1
LYN pmax pmax
comp=Z,19nm,0.5s
LYN pmax pmax
comp=Z,200nm,5.0s
LZH Lanzhou 42.13 2 *e*P **P** **06 30 39.0 +0.1**
LZH pP sP 06 30 47.3 +0.5
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=N,150nm,14.4s
LZH LR LR
comp=E,220nm,13.4s
LZH LR LR
comp=Z,230nm,13.4s
STKA Stephens Creek 44.89 130 P **P** **06 31 02.0 +1.0**
STKA Stephens Creek 44.89 130 P **P** **06 31 01.9 +0.8**
comp=Z,2.4nm,0.6s,baz=300,slow=7.7,SNR=10
STKA LR LR 06 52 32.6
comp=Z,27nm,18.3s,baz=212,slow=40
comp=Z,2.4nm,0.6s
GTA Gaotai 45.46 358 *e*P **P** **06 31 06.5 +0.9**
GTA pP pwP 06 31 16.2 +0.3
GTA pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 47.67 10 *e*P **P** **06 31 24.0 +1.2**
HHC pmax pmax
comp=Z,25nm,0.6s
HHC pmax pmax
comp=Z,180nm,4.5s
JNU Nakatsue 47.78 33 LR LR 06 51 53.1
comp=Z,42nm,18.2s,baz=166,slow=36
KSRS Korea Array 49.74 27 P **P** **06 31 37.8 -0.8**
comp=Z,1.1nm,0.5s,baz=224,slow=7.2,SNR=8.1
comp=Z,1.1nm,0.5s
KSH Kashi 51.49 334 P P 06 31 59.2 +7.1
XLT XiLinHaoTe 51.50 13 *e*P **P** **06 31 56.4 +4.4**
XLT pP sP 06 32 00.6 +0.6
XLT sP pwP 06 32 02.5 +0.1
XLT PcP **PcP** **06 33 10.6 +4.6**
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,82nm,5.6s
JWT Wachi 51.90 35 P **P** **06 31 54.9 -0.1**
JWT IAmb IAmb 06 32 07.7
comp=Z,2.3nm,0.9s
SONM Songino Array 53.97 4 P **P** **06 32 09.5 -0.8**
SONM IAmb IAmb 06 32 14.2
comp=Z,3.6nm,0.7s
SONM Songino Array 53.97 4 P **P** **06 32 11.6 +1.3**
comp=Z,4.3nm,0.5s,baz=184,slow=9.6,SNR=19
comp=Z,4.3nm,0.5s
CN2 Changchun 54.12 21 *e*P P 06 32 05.1 -6.2
CN2 *ep*P pP 06 32 17.7 +0.6
MK31 Makanchi Array 55.62 344 P **P** **06 32 21.7 -0.4**
MK31 IAmb IAmb 06 32 23.2
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 55.62 344 P **P** **06 32 22.3 +0.2**
MKAR Makanchi Array 55.62 344 P **P** **06 32 22.5 +0.4**
comp=Z,1.8nm,0.6s,baz=141,slow=7.8,SNR=12
comp=Z,1.8nm,0.6s
KKAR Karatay Array 56.81 333 P **P** **06 32 29.7 -1.0**
USA0B Ussuriysk Arra 57.01 25 P **P** **06 32 32.7 +0.6**
USRK Ussuriysk Ar. 57.01 25 P **P** **06 32 32.1 +0.1**
USRK Ussuriysk Ar. 57.01 25 P **P** **06 32 31.7 -0.3**
comp=Z,1.6nm,0.5s,baz=216,slow=5.2,SNR=11
comp=Z,1.6nm,0.5s
H04N2 CROZET ISLANDS 58.68 219 T T 07 36 39.5
baz=63,slow=75,SNR=46
H04N1 CROZET ISLANDS 58.70 219 T T 07 36 38.9
baz=63,slow=75,SNR=45
H04N3 CROZET ISLANDS 58.70 219 T T 07 36 37.8
baz=63,slow=75,SNR=39
H04S1 CROZET ISLANDS 58.92 218 T T 07 36 54.9
baz=64
H04S3 CROZET ISLANDS 58.93 218 T T 07 36 57.8
baz=64,slow=74,SNR=5.2
H04S2 CROZET ISLANDS 58.94 218 T T 07 36 57.8
baz=64,slow=74,SNR=4.3
GEYT Alibeck 59.97 321 P **P** **06 32 53.1 +0.3**
comp=Z,1.6nm,0.7s,baz=139,slow=9.0,SNR=2.6
comp=Z,1.6nm,0.7s
KURBB Kurchatov Arra 60.15 343 P **P** **06 32 54.0 +0.2**
comp=Z,1.1nm,0.8s,baz=162,slow=6.0,SNR=7.4
comp=Z,1.1nm,0.8s
KURK Kurchatov 60.21 343 P **P** **06 32 54.1 0.0**
KURK IAmb IAmb 06 32 59.8
comp=Z,5.1nm,1.1s
HEH HeiHe 60.41 18 *e*P **P** **06 32 57.6 +2.0**
HEH pmax pmax
comp=Z,5.0nm,1.0s
HEH pmax pmax
comp=Z,200nm,3.9s
KLR Kul'dur 61.03 22 LR LR 07 00 43.6
comp=Z,19nm,19.0s,baz=222,slow=37
ZAA0 Zalesovo Array 61.68 349 P **P** **06 33 04.5 +0.4**
ZALV Zalesovo Beam 61.68 349 P **P** **06 33 04.0 -0.1**
ZALV Zalesovo Beam 61.68 349 P **P** **06 33 04.3 +0.3**
comp=Z,2.7nm,0.5s,baz=164,slow=4.9,SNR=22
comp=Z,2.7nm,0.5s
BVAR Borovoye Array 64.82 340 P **P** **06 33 24.5 -0.5**
comp=Z,1.1nm,0.6s,baz=140,slow=10.0,SNR=6.7
comp=Z,1.1nm,0.6s
ABKAR Akbulak array 66.29 331 P **P** **06 33 34.4 -0.1**
MAW Mawson 66.73 195 P **P** **06 33 37.2 +0.2**
comp=Z,1.4nm,0.6s,baz=30,slow=4.1,SNR=2.3
comp=Z,1.4nm,0.6s
KBZ Khabaz 72.80 319 P **P** **06 34 15.2 +0.3**
comp=Z,0.3nm,0.5s,baz=156,slow=12,SNR=1.2
comp=Z,0.3nm,0.5s
LBTB Lobatse 75.09 246 LR LR 06 59 42.5
comp=Z,23nm,21.4s,baz=84,slow=30
BRTR Keskin Array B 77.64 313 P **P** **06 34 42.6 -0.4**
comp=Z,0.3nm,0.6s,baz=120,slow=8.7,SNR=1.7
comp=Z,0.3nm,0.6s
VNDA Vanda 77.65 169 P **P** **06 34 43.4 +1.2**
VNDA IAmb IAmb 06 34 43.9
comp=Z,3.0nm,1.1s
VNDA Vanda 77.65 169 P **P** **06 34 42.4 +0.2**
comp=Z,2.0nm,1.0s,baz=298,slow=6.4,SNR=8.0
comp=Z,2.0nm,1.0s
SBA Scott Base 78.74 169 P **P** **06 34 50.0 +1.8**
SBA IAmb IAmb 06 35 00.9
comp=Z,6.6nm,1.2s
QSPA South Pole Qui 83.75 180 P **P** **06 35 15.0 -0.2**
comp=Z,0.7nm,0.5s,baz=277,slow=0.3,SNR=10
comp=Z,0.7nm,0.5s
TXAR Lajitas Array 146.61 43 PKPbc **PKPbc** **06 42 28.5 -0.1**
comp=Z,1.5nm,0.7s,baz=313,slow=1.8,SNR=9.1

ISC 01 06:29:08.1±1.2, 66°19N±0°.02×142°31W±0°.02, h2km±10km, n43, σ0s98/68, Northern Alaska

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

H27K Steamboat Moun 0.32 83 P **Pg** **06 29 15.0 +0.8**
baz=262,SNR=885
H27K S **Sg** **06 29 18.8 +0.4**
baz=262
I27K Kandik River 0.66 154 P **Pg** **06 29 21.7 +1.1**
baz=333
I27K S **Sb** **06 29 31.1 -0.9**
baz=333
G27K Doyon Strip 0.67 23 P **Pg** **06 29 21.1 +0.2**
baz=204
G27K S **Sg** **06 29 29.0 -0.6**
baz=204
I26K Coal Creek Min 0.96 202 P **Pg** **06 29 27.0 +0.6**
baz=20,SNR=155
I26K S **Sb** **06 29 40.8 +0.3**
baz=20
G26K Porcupine Rive 0.96 323 P **Pg** **06 29 25.6 -0.9**
baz=143
G26K S **Sg** **06 29 39.1 +0.3**
baz=143
I28M Miner Creek 1.23 126 P **Pg** **06 29 32.0 +0.4**
baz=308
I28M S **Sb** **06 29 48.8 +0.3**
baz=308
PRP Porcupine Dome 1.48 244 P **Pn** **06 29 34.8 -1.2**
baz=61
PRP S **Sb** **06 29 55.0 -0.8**
baz=61
EGAK Eagle 1.50 161 P **Pn** **06 29 35.5 -0.5**
baz=341
EGAK S **Sn** **06 29 56.0 -0.1**
baz=341
H29M Whitestone 1.60 87 P **Pn** **06 29 37.0 -0.4**
baz=271
H29M S **Sn** **06 29 58.2 -0.4**
baz=271
G25K Bearman Lake 1.62 292 Pb **Pn** **06 29 38.1 +0.5**
baz=110
G25K S **Sn** **06 29 59.2 0.0**
baz=110
F26K Sheenjek River 1.67 335 Pg **Pn** **06 29 39.2 +0.8**
baz=154
F26K S **Sn** **06 29 59.2 -1.1**
baz=154
F28M Old Crow 1.72 33 Pb **Pn** **06 29 39.4 +0.3**
baz=215,SNR=37
F28M Sb **Sn** **06 30 02.2 +0.6**
baz=215
J26L Joseph Creek 1.78 198 P **Pn** **06 29 39.4 -0.5**
baz=16
J26L S **Sn** **06 30 02.7 -0.4**
baz=16
I29M Ogilvie Camp, 1.85 115 S **Sn** **06 30 04.6 -0.2**
baz=298
G29M Pine Creek 1.86 65 Pb **Pn** **06 29 41.4 +0.5**
baz=249
G29M Sb **Sb** **06 30 06.7 +0.2**
baz=249
F25K Christian Rive 1.92 318 Pg **Pb** **06 29 44.0 +0.2**
baz=136,SNR=19
F25K Sb **Sb** **06 30 07.9 -0.4**
baz=136
E27K Coleen River 2.02 8 Pg **Pb** **06 29 46.2 +0.7**
baz=189
E27K Sb **Sn** **06 30 10.3 +1.3**
baz=189
J25K Salcha River, 2.04 220 S **Sn** **06 30 09.5 +0.1**
baz=37
G24K Hadweenzic Riv 2.13 286 Sb **Sb** **06 30 13.9 -0.4**
baz=102
K27K Chicken 2.18 177 Sb **Sg** **06 30 17.4 -0.5**
baz=357
EPYK Eagle Plains 2.27 83 Pb **Pb** **06 29 48.8 -0.9**
baz=268
EPYK S **Sn** **06 30 15.3 +0.2**
baz=268
H24K Noodor Dome 2.30 264 Pb **Pb** **06 29 49.7 -0.6**
baz=79
H24K Sb **Sb** **06 30 19.9 +0.8**
baz=79
E25K Arctic Village 2.31 328 Pb **Pb** **06 29 49.2 -1.3**
baz=146,SNR=8.0
E25K Sb **Sb** **06 30 19.6 +0.1**
baz=146
SCRK Sand Creek 2.34 198 P **Pn** **06 29 47.5 -0.1**
baz=17,SNR=6.9
SCRK Sb **Sb** **06 30 21.2 +0.9**
baz=17
POKR Poker Plat Res 2.38 245 Pb **Pb** **06 29 51.0 -0.6**
baz=61
POKR Sb **Sb** **06 30 22.4 +1.0**
baz=61
DAWY Dawson 2.47 149 P **Pn** **06 29 48.9 -0.4**
baz=331,SNR=8.3
G30M tAoh Zraii Nji 2.56 69 P **Pn** **06 29 49.9 -0.6**
baz=255
G30M S **Sn** **06 30 21.6 -0.6**
baz=255
F24K Squaw Lake 2.57 304 Sb **Sb** **06 30 27.9 +0.9**
baz=119
I30M Mount Dempster 2.64 109 P **Pn** **06 29 51.1 -0.6**
baz=294
I30M S **Sn** **06 30 23.5 -0.9**
baz=294
HDA Harding Lake 2.65 229 Sb **Sb** **06 30 30.5 +1.5**
baz=45
COLA College 2.66 243 Sb **Sg** **06 30 31.4 -1.9**
baz=58
E29M Blow River 2.79 36 P **Pn** **06 29 53.4 -0.3**
baz=220,SNR=9.6
K24K Donnelly Dome 2.82 213 Sb **Sb** **06 30 35.6 +1.7**
baz=30
F30M Barrier River 2.94 58 Sb **Sb** **06 30 38.2 +0.7**
baz=244
J30M Hart River 2.98 120 P **Pn** **06 29 56.5 0.0**
baz=305
J30M S **Sn** **06 30 32.2 -0.6**
baz=305
I23K Minto, Yukon-K 3.10 253 Sb **Sb** **06 30 44.4 +2.3**
baz=67
D27M Malcolm River 3.11 9 P **Pn** **06 29 57.9 -0.2**
baz=190
K29M Barlow Dome 3.12 137 S **Sn** **06 30 35.9 -0.2**
baz=321
G23K Bananza Creek 3.14 283 Sb **Sb** **06 30 45.0 +1.8**
baz=96
L26K Log Cabin Wild 3.21 188 Sb **Sb** **06 30 48.2 +2.9**
baz=7.2
NEA2 Nenana 3.25 243 Sb **Sb** **06 30 49.1 +2.7**
baz=57
G31M Satah River 3.30 74 P **Pn** **06 29 59.4 -1.2**
baz=261,SNR=10
G31M Sb **Sb** **06 30 49.0 +1.3**
baz=261
COLD Coldfoot 3.30 292 Sb **Sb** **06 30 49.3 +1.4**
baz=105

*AUST **01** 06:41:36.9±2.3, 31°.24S×117°.53E, h10km, Error ellipse: s-maj=23.1km s-min=13.7km az=49.0*
CUPWA 01 06:41:35.8±1.4, 31°.12S×117°.61E, h4km±33km, ML1.9, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOO6	**Koorda**	**0.31**	**340**	P	Pg	06 41 41.5	-0.3
KOO6				S	Sg	06 41 45.0	-0.8
KLBR	**Kellerberrin**	**0.49**	**165**	P	Pg	06 41 44.7	-0.5
KLBR				S	Sg	06 41 50.9	-0.8
	baz=0.4						
KLBR	**Kellerberrin**	**0.49**	**165**	P	Pg	06 41 44.7	-0.5
KLBR				S	Sg	06 41 50.9	-0.8
CADX	**Cadoux**	**0.53**	**311**	S	Sg	06 41 53.0	+0.1
BR4	**Bonnie Rock 4**	**0.78**	**53**	P	Pg	06 41 50.0	-0.7
BR4	**Bonnie Rock 4**	**0.78**	**53**	S	Sg	06 42 00.5	-0.3
MUN	**Mundaring**	**1.47**	**234**	P	Pn	06 42 01.8	-1.3
MUN	baz=1.3			S	Sb	06 42 20.7	-2.2
	baz=1.3						
MUN	**Mundaring**	**1.47**	**234**	P	Pn	06 42 01.8	-1.3
MUN	**Mundaring**	**1.47**	**234**	S	Sb	06 42 20.7	-2.1
NWAO	**Narrogin (SRO)**	**1.83**	**190**	P	Pn	06 42 06.8	-1.3
NWAO	baz=1.7			P	Pn	06 42 06.8	-1.3
NWAO	baz=1.7			S	Sn	06 42 29.3	-2.5
NWAO	baz=1.7			S	Sn	06 42 29.3	-2.5
NWAO	**Narrogin (SRO)**	**1.83**	**190**	P	Pn	06 42 06.8	-1.3
NWAO	**Narrogin (SRO)**	**1.83**	**190**	S	Sn	06 42 29.3	-2.5
MORW	**Morawa**	**2.45**	**326**	P	Pn	06 42 17.9	+1.3
	baz=2.5						
MORW	**Morawa**	**2.45**	**326**	P	Pn	06 42 17.9	+1.3

*NNC **01** 06:42:12.8±0.3, 42°.70N×73°.31E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=2.1km s-min=1.5km az=99.0*
*KRNET **01** 06:42:12.8±0.1, 42°.69N×73°.27E, h24km, mb3.2*
*SOME **01** 06:42:13.7, 42°.65N×73°.28E, h20km*
*KNET **01** 06:42:14.0±0.5, 42°.68N×73°.36E, h19km±3km, ml2.7, Error ellipse: s-maj=4.2km s-min=3.1km az=92.0*
ISC 01 06:42:12.6±0.8, 42°.76N±0°.02×73°.28E±0°.02, h17km±5km, n71, σ1s73/122, 37C-38D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.04**	**254**	*e*P	**Pg**	**06 42 15.9**	**+0.2**
MRKS	8μm,0.1s			*e*S	**Sg**	**06 42 17.9**	**0.0**
	8μm,0.1s						
EKS2	**Erkin-Say**	**0.38**	**105**	⇑P	**Pb**	**06 42 21.0**	**0.0**
EKS2	81nm,0.2s,SNR=295			⇓S	**Sb**	**06 42 26.6**	**+0.1**
	524nm,0.2s						
EKS2	**Erkin-Say**	**0.38**	**105**	⇓*i*P	**Pb**	**06 42 20.9**	**0.0**
EKS2	baz=94			⇓*i*S	**Sb**	**06 42 26.8**	**+0.3**
	baz=94						
AML	**Almayashu**	**0.70**	**154**	⇓P	**Pg**	**06 42 25.6**	**-0.8**
AML	76nm,0.2s,SNR=88			⇑S	**Sg**	**06 42 34.3**	**-1.2**
	411nm,0.4s						
AML	**Almayashu**	**0.70**	**154**	⇓P	**Pg**	**06 42 25.4**	**-0.9**
AML	5.9nm,0.5s			⇑S	**Sg**	**06 42 34.1**	**-1.4**
	31nm,0.7s						
AML	**Almayashu**	**0.70**	**154**	⇑*i*P	**Pg**	**06 42 25.5**	**-0.8**
AML	baz=50			⇑*i*S	**Sg**	**06 42 34.2**	**-1.4**
	baz=50						
AAK	**Ala-Archa**	**0.90**	**97**	⇑P	**Pb**	**06 42 30.4**	**+0.5**
AAK	20nm,0.2s,SNR=71			S	**Sb**	**06 42 42.9**	**+1.2**
	81nm,0.3s						
AAK	**Ala-Archa**	**0.90**	**97**	⇑*i*P	**Pb**	**06 42 30.1**	**+0.2**
AAK	baz=93			⇑*i*S	**Sb**	**06 42 42.2**	**+0.6**
	baz=93						
FRU1	**Bishkek**	**0.99**	**87**	⇓*i*P	**Pb**	**06 42 31.5**	**+0.1**
FRU1	baz=83			⇓*i*S	**Sb**	**06 42 45.2**	**+1.0**
	baz=83						
USP	**Ospenovka**	**1.03**	**60**	P	**Pn**	**06 42 33.0**	**+0.7**
	57nm,0.3s,SNR=73						
USP	**Ospenovka**	**1.03**	**60**	⇓*i*P	**Pn**	**06 42 32.7**	**+0.4**
USP	baz=57			⇓*i*S	**Sn**	**06 42 47.1**	**+0.7**
	baz=57						
UCH	**Uchtor**	**1.05**	**120**	⇑P	**Pb**	**06 42 32.7**	**0.0**
UCH	14nm,0.2s,SNR=11			⇓S	**Sb**	**06 42 47.1**	**+0.8**
	173nm,0.2s						
UCH	**Uchtor**	**1.05**	**120**	⇓*i*P	**Pb**	**06 42 32.2**	**-0.4**
UCH	baz=16			⇓*i*S	**Sb**	**06 42 46.2**	**-0.1**
	baz=16						
CHMS	**Chumysh**	**1.10**	**77**	⇑P	**Pn**	**06 42 34.0**	**+0.6**
CHMS	20nm,0.1s,SNR=28			⇓S	**Sn**	**06 42 49.1**	**+0.8**
	63nm,0.2s						
CHMS	**Chumysh**	**1.10**	**77**	⇓P	**Pn**	**06 42 33.9**	**+0.6**
CHMS	8.2nm,0.3s			⇑S	**Sn**	**06 42 49.1**	**+0.8**
	55nm,0.5s						
CHMS	**Chumysh**	**1.10**	**77**	⇑*i*P	**Pn**	**06 42 33.8**	**+0.4**
CHMS	baz=74			⇑*i*S	**Sn**	**06 42 48.9**	**+0.6**
	baz=74						
ARLS	**Aral**	**1.18**	**139**	⇑*i*P	**Pg**	**06 42 33.9**	**-1.5**
ARLS	baz=36			⇑*i*S	**Sg**	**06 42 49.4**	**-1.5**
	baz=36						
KBK	**Karagaybulak**	**1.23**	**94**	⇑P	**Pn**	**06 42 36.5**	**+1.2**
KBK	32nm,0.1s,SNR=13			⇓S	**Sn**	**06 42 52.9**	**+1.4**
	186nm,0.3s						
KBK	**Karagaybulak**	**1.23**	**94**	⇓*i*P	**Pn**	**06 42 35.7**	**+0.5**
KBK	baz=91			⇓*i*S	**Sn**	**06 42 52.1**	**+0.5**
	baz=91						
ARK	**Arkit**	**1.37**	**226**	⇑*i*P	**Pn**	**06 42 36.9**	**-0.2**
ARK	baz=28			⇑*i*S	**Sg**	**06 42 54.0**	**-2.9**
	baz=28						
DZA	**Taraz**	**1.44**	**276**	*e*P	**Pb**	**06 42 39.8**	**+0.8**
DZA	65nm,0.1s			*e*S	**Sg**	**06 42 58.2**	**-0.9**
	216nm,0.2s						
ARSB	**Arslanbob**	**1.45**	**189**	⇑*i*P	**Pn**	**06 42 38.1**	**-0.1**
ARSB	baz=89			⇑*i*S	**Sg**	**06 42 56.3**	**-3.1**
	baz=89						
KZA	**Kyzart**	**1.61**	**114**	⇑P	**Pg**	**06 42 42.7**	**-0.8**
KZA	18nm,0.2s,SNR=20			⇓S	**Sg**	**06 43 04.4**	**-0.1**
	76nm,0.2s						
KZA	**Kyzart**	**1.61**	**114**	⇓*i*P	**Pb**	**06 42 41.8**	**-0.2**
KZA	baz=12			⇓*i*S	**Sg**	**06 43 02.8**	**-1.6**
	baz=12						
TKM2	**Tokmak 2**	**1.71**	**84**	P	**Pg**	**06 42 44.1**	**-1.4**
	7.0nm,0.1s,SNR=21						
TKM2				⇑S	**Sg**	**06 43 07.4**	**-0.3**
	102nm,0.1s						
TKM2	**Tokmak 2**	**1.71**	**84**	⇓Pn	**Pg**	**06 42 43.8**	**-1.6**
TKM2	11nm,0.4s			⇓Sn	**Sg**	**06 43 07.7**	**0.0**
	18nm,0.2s						
TKM2	**Tokmak 2**	**1.71**	**84**	⇓*i*P	**Pb**	**06 42 43.6**	**-0.1**
TKM2	baz=82			⇓*i*S	**Sg**	**06 43 06.2**	**-1.5**
	baz=82						
DGS	**Degeres**	**1.89**	**74**	*e*P	**Pg**	**06 42 48.5**	**-0.3**
DGS	32nm,0.2s			*e*S	**Sg**	**06 43 13.1**	**-0.3**
	111nm,0.2s						
BOOM	**Boomskoye usch**	**1.98**	**97**	⇑*i*P	**Pb**	**06 42 47.2**	**-1.0**
BOOM	baz=95			⇑*i*S	**Sb**	**06 43 12.2**	**-0.5**
	baz=95						
TRKS	**Terek-Say**	**2.01**	**233**	⇑*e*P	**Pn**	**06 42 47.4**	**+1.5**
TRKS	baz=32			⇑*e*S	**Sn**	**06 43 12.3**	**+1.5**
	baz=32						
KK31	**Karatay Array**	**2.06**	**281**	⇑Pn	**Pb**	**06 42 49.9**	**+0.3**
	4.4nm,0.3s,baz=103,slow=13,SNR=285						
KK31				⇑Sn	**Sb**	**06 43 16.6**	**+1.6**
	13nm,0.2s,baz=100,slow=26,SNR=20						
ULHL	**Ulahol**	**2.25**	**102**	⇑*i*P	**Pn**	**06 42 51.0**	**+1.8**
ULHL	baz=0.0			⇑*i*S	**Sn**	**06 43 18.5**	**+1.8**
	baz=0.0						
OHH	**Osh**	**2.26**	**190**	⇓*i*P	**Pn**	**06 42 49.9**	**+0.6**
OHH	baz=90			⇓*i*S	**Sn**	**06 43 16.8**	**-0.1**
	baz=90						
MTBS	**Maitube**	**2.34**	**80**	Pg	**Pg**	**06 42 55.6**	**-1.9**
MTBS	7.1nm,0.3s			Lg	Lg	06 43 26.4	
	68nm,0.4s						
MTBS	**Maitube**	**2.34**	**80**	*e*P	**Pg**	**06 42 56.3**	**-1.2**
MTBS	7.7nm,0.1s			*e*S	**Sg**	**06 43 26.4**	**-1.4**
	68nm,0.4s						
BTLS	**Baital**	**2.35**	**13**	Pg	**Pg**	**06 42 55.4**	**-2.2**
BTLS	15nm,0.1s			Lg	Lg	06 43 24.2	
	44nm,0.2s						
BTLS	**Baital**	**2.35**	**13**	*e*P	**Pg**	**06 42 55.8**	**-1.8**
BTLS	9.4nm,0.2s			*e*S	**Sg**	**06 43 25.6**	**-2.5**
	63nm,0.2s						
IZV	**Izvestkoviy**	**2.46**	**82**	*e*P	**Pg**	**06 42 59.1**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	12nm,0.3s						
IZV				eS	Sg	06 43 31.3	-0.4
	80nm,0.3s						
KUU	Kurty	2.50	62	Pg	Pg	06 42 59.1	-1.4
	12nm,0.3s						
KUU				Lg	Lg	06 43 31.2	
	145nm,0.5s						
KUU	Kurty	2.50	62	eP	Pg	06 42 59.1	-1.4
	12nm,0.3s						
KUU				eS	Sg	06 43 31.2	-1.7
	145nm,0.5s						
KTBS	Karatobe	2.66	68	Pg	Pg	06 43 02.3	-1.3
	5.7nm,0.1s						
KTBS				Lg	Lg	06 43 36.7	
	89nm,0.4s						
KTBS	Karatobe	2.66	68	eP	Pg	06 43 02.3	-1.3
	5.7nm,0.1s						
KTBS				eS	Sg	06 43 36.7	-1.3
	89nm,0.4s						
TNSS	Tian-Shan	2.71	83	Pg	Pg	06 43 03.0	-1.5
	13nm,0.4s						
TNSS				Lg	Lg	06 43 38.1	
	31nm,0.3s						
TNSS	Tian-Shan	2.71	83	eP	Pg	06 43 03.0	-1.5
	13nm,0.4s						
TNSS				eS	Sg	06 43 38.1	-1.5
	31nm,0.3s						
SFK	Sufi-Kurgan	2.75	176	⇓iP	Pn	06 42 56.9	+0.8
	baz=76						
SFK				⇓iS	Sn	06 43 28.9	-0.1
	baz=76						
MDOK	Medeo	2.79	80	Pg	Pg	06 43 04.4	-1.7
	11nm,0.6s						
MDOK				⇑Pg	Pb	06 43 05.5	+3.4
	10nm,0.7s						
MDOK				Lg	Lg	06 43 40.3	
	31nm,0.5s						
MDOK				⇑Lg	Lg	06 43 40.7	
	27nm,0.5s						
MDOK	Medeo	2.79	80	eP	Pg	06 43 04.4	-1.7
	11nm,0.6s						
MDOK				eS	Sg	06 43 40.3	-2.0
	31nm,0.5s						
KOTS	Kotyrbulak	2.85	79	Pg	Pg	06 43 05.8	-1.4
	7.6nm,0.2s						
KOTS				Lg	Lg	06 43 42.8	
	40nm,0.6s						
KOTS	Kotyrbulak	2.85	79	eP	Pg	06 43 05.8	-1.4
	7.6nm,0.2s						
KOTS				eS	Sg	06 43 42.8	-1.3
	40nm,0.6s						
CHKK	Chushkaly	2.92	67	Pg	Pg	06 43 07.0	-1.5
	2.8nm,0.1s						
CHKK				Lg	Lg	06 43 44.9	
	104nm,0.2s						
CHKK	Chushkaly	2.92	67	eP	Pg	06 43 07.0	-1.5
	2.8nm,0.1s						
CHKK				eS	Sg	06 43 44.9	-1.4
	104nm,0.2s						
ANVS	Anan'yevo	3.23	88	⇓eP	Pn	06 43 04.5	+1.8
	baz=87						
ANVS				⇓iS	Sn	06 43 42.5	+1.7
	baz=87						
BTK	Batken	3.27	215	⇓iP	Pn	06 43 04.1	+0.9
	baz=16						
BTK				⇓iS	Sn	06 43 41.3	-0.5
	baz=16						
ARXS	Arharly	3.61	65	Pg	Pg	06 43 19.9	-1.9
	9.1nm,0.3s						
ARXS				Lg	Lg	06 44 06.6	
	86nm,0.3s						
ARXS	Arharly	3.61	65	eP	Pg	06 43 19.9	-1.9
	9.1nm,0.3s						
ARXS				eS	Sg	06 44 06.7	-1.9
	86nm,0.3s						
KURS	Kuram	3.65	77	Pg	Pg	06 43 21.2	-1.3
	3.8nm,0.4s						
KURS				Lg	Lg	06 44 09.9	
	19nm,0.7s						
KURS	Kuram	3.65	77	eP	Pg	06 43 21.2	-1.3
	3.8nm,0.4s						
KURS				eS	Sg	06 44 09.9	+0.1
	19nm,0.7s						
SATY	Saty	3.77	84	Pg	Pg	06 43 21.6	-3.3
	5.1nm,0.7s						
SATY				Lg	Lg	06 44 10.6	
	22nm,0.3s						
SATY	Saty	3.77	84	eP	Pg	06 43 22.5	-2.3
	3.7nm,0.3s						
SATY				eS	Sg	06 44 11.3	-2.5
	22nm,0.2s						
PRZ	Przheval'sk	3.79	92	⇑eP	Pn	06 43 12.5	+2.2
	baz=91						
PRZ				⇑iS	Sn	06 43 55.9	+1.3
	baz=91						
UZB	Uzynbulak	4.23	83	Pg	Pg	06 43 30.6	-2.9
	4.0nm,0.3s						
UZB				Lg	Lg	06 44 25.7	
	11nm,0.6s						
UZB	Uzynbulak	4.23	83	eP	Pg	06 43 30.6	-2.9
	4.0nm,0.3s						
UZB				eS	Sg	06 44 25.7	-2.6
	11nm,0.6s						
KNOS	Konyrlen	4.57	68	Pg	Pg	06 43 36.2	-3.9
	8.3nm,0.7s						
KNOS				Lg	Lg	06 44 34.9	
	14nm,0.4s						
PDGK	Podgornoye	4.58	81	Pg	Pg	06 43 36.0	-4.4
	1.8nm,0.6s						
PDGK				Lg	Lg	06 44 35.3	
	6.5nm,1.1s						
KAPS	Kapalarasan	5.06	58	Pg	Pg	06 43 44.4	-4.9
	3.2nm,0.3s						
KAPS				Lg	Lg	06 44 48.9	
	28nm,0.5s						
KAPS	Kapalarasan	5.06	58	eP	Pg	06 43 46.2	-3.1
	3.1nm,0.2s						
KAPS				eS	Sg	06 44 52.0	-2.8
	28nm,0.5s						
OTUK	Ortayu	5.53	353	Pg	Pg	06 43 54.0	-4.4
	1.4nm,0.4s						
OTUK				Lg	Lg	06 45 06.1	
	5.8nm,0.3s						
MAKZ	Makanchi	7.39	54	⇑Pn	Pn	06 44 02.4	+2.7
	3.2nm,1.4s						
MAKZ				⇓Lg	Lg	06 46 09.3	
	6.9nm,1.2s						
MK31	Makanchi Array	7.57	55	⇓Pn	Pn	06 44 05.6	+3.5
	0.3nm,0.3s,baz=233,slow=10,SNR=25						
MK31				⇑Lg	Lg	06 46 13.4	
	1.2nm,0.4s,baz=225,slow=25,SNR=5.3						
KURBB	Kurchatov Arra	8.65	23	⇓Pn	Pn	06 44 17.7	+0.8
	3.2nm,1.1s						
KURBB				⇓Sn	Sn	06 45 58.6	+4.6
	5.7nm,1.1s						
KURBB				⇓Lg	Lg	06 46 50.5	
	12nm,0.7s						
KURK	Kurchatov	8.76	23	⇓Sn	Sn	06 46 01.5	+4.8
	2.8nm,0.8s						
KURK				⇑Lg	Lg	06 46 50.6	
	8.2nm,0.7s						

IDC 01 06:48:41.8±8.9, 33°.28S×177°.97W, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=431.1km s-min=64.7km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.05	270	P	P	06 56 43.7	+0.2
	0.2nm,0.5s,baz=114,slow=7.8,SNR=8.3						
	0.2nm,0.5s						
WRA	Warramunga Arr	44.30	275	P	P	06 56 53.0	-0.5
	0.2nm,0.6s,baz=116,slow=8.0,SNR=1.7						
	0.2nm,0.6s						
H03S2	Juan Fernandez	78.87	123	T	T	08 28 31.6	
	baz=242,slow=74,SNR=9.1						
H03S1	Juan Fernandez	78.88	123	T	T	08 28 32.8	
	baz=242,slow=74,SNR=22						
H03S3	Juan Fernandez	78.89	123	T	T	08 28 31.7	
	baz=242,slow=74,SNR=15						
FINES	FINESS Array B	147.83	338	PKPbc	PKPbc	07 08 27.1	-0.8
	2.6nm,0.9s,baz=57,slow=5.1,SNR=1.5						

*IDC **01** 06:49:15.2±3.1, 40°.91N×48°.44E, h0km, mb3.7/2, mbtmp3.5/5, ML2.9/3, MS2.3/1, Error ellipse: s-maj=70.6km s-min=15.4km az=20.0*

*AZER **01** 06:49:16.6, 40°.85N×48°.38E, h11km, ml3.3*
*MOS **01** 06:49:16.5±0.8, 40°.70N×48°.51E, h10km, mb3.9/1, Error ellipse: s-maj=11.3km s-min=4.8km az=122.7*
*DRS **01** 06:49:17.3, 40°.67N×48°.47E, h18km*
*TIF **01** 06:49:18.0, 40°.84N×48°.36E, h12km±1km*

ISC 01 06:49:18.5±0.8, 40°.82N±0°.02×48°.38E±0°.02, h17km±5km, n92, σ1s.57/173, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IML	Ismayilli	0.15	260	P	Pg	06 49 22.2	-0.4
IML				S	Sg	06 49 26.5	+1.0
PQL	Pirkuli	0.17	101	P	Pg	06 49 22.4	-0.6
PQL				S	Sg	06 49 26.8	+0.8
XNQ	Khinaliq	0.39	333	P	Pg	06 49 25.9	-0.8
XNQ				S	Sg	06 49 31.8	-0.5
ATGJ	Altiaghaj	0.43	84	P	Pb	06 49 27.0	-0.8
ATGJ				S	Sb	06 49 34.1	+0.1
QBL	Gabala	0.43	287	P	Pg	06 49 26.7	-0.5
QBL				S	Sb	06 49 34.3	+0.4
KDMR	Kurdemir	0.47	198	P	Pb	06 49 28.1	-0.2
KDMR				S	Sb	06 49 37.3	+2.3
SIZA	Siyzn	0.47	57	P	Pb	06 49 27.9	-0.6
SIZA				S	Sb	06 49 35.9	+0.6
GBS	Qobustan	0.52	123	P	Pb	06 49 29.6	+0.4
GBS				S	Sb	06 49 39.9	+3.5
QUBA	Quba, Azerbaij	0.54	9	P	Pb	06 49 29.3	-0.3
QUBA				S	Sb	06 49 37.6	+0.4
QSAR	Qusar	0.70	353	P	Pb	06 49 31.8	-0.5
QSAR				S	Sb	06 49 41.1	-0.7
ZRD	Zardab	0.76	225	P	Pb	06 49 33.8	+0.5
ZRD				S	Sn	06 49 46.5	+1.0
KSMR	Kasumkent	0.80	347	ePg	Pb	06 49 33.7	-0.5
	662nm,0.5s						
KSMR				eSg	Sb	06 49 46.0	+1.3
	173nm,0.5s						
KSMR	Kasumkent	0.80	347	⇓iPG	Pb	06 49 33.6	-0.5
KSMR				i S	Sn	06 49 46.6	-0.3
KSMR				pmax	pmax		
	comp=Z,662nm,0.5s						
KSMR				smax	smax		
	comp=E,3μm,0.3s						
AKT	Akhty	0.82	324	ePg	Pg	06 49 33.4	-1.1
	comp=E,254nm,0.3s						
AKT				eSg	Sb	06 49 45.5	+0.2
	comp=E,133nm,0.5s						
AKT	Akhty	0.82	324	ePG	Pg	06 49 33.3	-1.2
AKT				i S	Sb	06 49 45.8	+0.5
AKT				pmax	pmax		
	comp=Z,255nm,0.3s						
AKT				smax	smax		
	comp=E,2μm,0.3s						
SAAT	Saatly	0.96	178	P	Pg	06 49 36.5	-0.6
SAAT				S	Sn	06 49 51.3	+0.8
SEKA	Sheki	0.97	294	PG	Pg	06 49 35.7	-1.7
SEKA	Sheki	0.97	294	P	Pg	06 49 35.7	-1.7
SEKA				S	Sg	06 49 50.5	+0.3
MNGR	Mingechevir, A	0.98	268	PG	Pg	06 49 37.0	-0.5
MNGR	Mingechevir, A	0.98	268	P	Pg	06 49 37.1	-0.5
MNGR				S	Sn	06 49 52.5	+1.5
ALIB	Äli-Bayra	0.99	151	P	Pn	06 49 39.0	+1.4
ALIB				S	Sn	06 49 54.4	+3.2
BRDA	Brd	1.07	239	P	Pg	06 49 38.5	-0.7
BRDA				S	Sn	06 49 56.6	+3.4
GOBA	Gobu	1.11	112	P	Pn	06 49 41.5	+2.1
GOBA				S	Sn	06 49 57.4	+3.0
AGDM	Agdam	1.20	234	P	Pn	06 49 40.5	-0.1
AGDM				S	Sn	06 49 58.7	+2.2
DRN	Derbent	1.21	358	ePg	Pg	06 49 41.9	0.0
	comp=E,101nm,0.6s						
DRN				eSg	Sn	06 49 58.8	+2.1
	comp=E,17nm,0.3s						
DRN	Derbent	1.21	358	ePG	Pg	06 49 41.9	0.0
DRN				i S	Sn	06 49 59.4	+2.7
DRN				pmax	pmax		
	comp=Z,101nm,0.6s						
DRN				smax	smax		
	comp=E,842nm,0.3s						
NDR	Nardaran	1.25	101	P	Pb	06 49 40.0	-1.6
NDR				S	Sn	06 50 00.4	+2.8
BLQ	Beylaqan	1.26	210	P	Pn	06 49 40.9	-0.5
BLQ				S	Sb	06 49 58.9	+1.0
GALA	Gala	1.42	106	Sn	Sg	06 50 04.2	0.0
URKR	Urkarakh	1.46	338	ePg	Pg	06 49 46.0	-0.6
	comp=E,133nm,0.5s						
URKR				eSg	Sg	06 50 06.5	+1.0
	comp=E,421nm,0.4s						
URKR	Urkarakh	1.46	338	ePG	Pg	06 49 45.9	-0.6
URKR				i S	Sg	06 50 07.0	+1.5
URKR				pmax	pmax		
	comp=Z,133nm,0.5s						
URKR				smax	smax		
	comp=N,323nm,0.6s						
VSHL	Vashlovani	1.55	286	P	Pn	06 49 46.4	+1.0
VSHL				S	Sg	06 50 08.7	+0.2
ZKTA	Zakatala	1.56	302	Pn	Pn	06 49 46.0	+0.5
ZKTA				Sn	Sb	06 50 07.7	+1.4
GANJ	Ganja	1.57	264	PN	Pn	06 49 44.9	-0.8
GANJ	Ganja	1.57	264	Pn	Pn	06 49 45.0	-0.8
GANJ				Sn	Sn	06 50 05.8	+0.1
GLBA	Clilabad	1.58	180	Pn	Pn	06 49 45.6	-0.2
GLBA				Sn	Sb	06 50 07.2	+0.3
QRD	Qoradiz	1.58	211	Pn	Pn	06 49 45.7	-0.1
QRD				Sn	Sn	06 50 07.1	+1.2
KMKR	Kumukh	1.62	324	ePg	Pb	06 49 48.3	+0.1
	comp=N,173nm,0.5s						
KMKR				eSg	Sg	06 50 11.8	+0.8
	comp=N,216nm,0.5s						
KMKR	Kumukh	1.62	324	ePN	Pb	06 49 48.3	+0.1
KMKR				i S	Sg	06 50 12.3	+1.4
KMKR				pmax	pmax		
	comp=Z,174nm,0.5s						
KMKR				smax	smax		
	comp=E,316nm,0.5s						
SGKR	Sergokala	1.72	342	ePg	Pb	06 49 49.8	-0.1
	comp=E,71nm,0.3s						
SGKR				eSg	Sg	06 50 13.7	-0.4
	comp=E,216nm,0.6s						
SGKR	Sergokala	1.72	342	ePN	Pb	06 49 49.7	-0.1
SGKR				pmax	pmax		
	comp=Z,71nm,0.3s						
DDFL	Dedoflistskaro	1.82	291	P	Pb	06 49 51.7	+0.3
DDFL				S	Sg	06 50 22.3	+5.2
DDFL	Dedoflistskaro	1.82	291	ePN	Pb	06 49 51.6	+0.3
GNBR	Gunib	1.89	326	ePg	Pb	06 49 53.5	+0.8
	comp=Z,96nm,0.6s						
GNBR				eSg	Sg	06 50 20.5	+1.0
	comp=Z,115nm,0.7s						
GNBR	Gunib	1.89	326	ePN	Pb	06 49 53.4	+0.8
GNBR				i S	Sg	06 50 21.0	+1.6
GNBR				pmax	pmax		
	comp=Z,96nm,0.6s						
GNBR				smax	smax		
	comp=E,158nm,0.4s						
LGD	Lagodekhi	1.90	303	P	Pb	06 49 52.5	-0.3
LGD				S	Sg	06 50 20.5	+0.7
LGD	Lagodekhi	1.90	303	ePN	Pb	06 49 52.5	-0.3
LGD				eS	Sg	06 50 20.4	+0.7
YRD	Yardimli	1.91	183	Pn	Pn	06 49 49.8	-0.7
YRD				Sn	Sn	06 50 15.9	+1.7
GDB	GEDABAY	1.99	268	Pn	Pn	06 49 51.5	-0.1
GDB				Sn	Sn	06 50 17.4	+1.1
ARKR	Arakani	2.06	330	ePg	Pb	06 49 55.4	-0.1
	comp=E,48nm,0.5s						
ARKR				eSg	Sg	06 50 23.5	-1.3
	comp=E,57nm,0.5s						
ARKR	Arakani	2.06	330	ePN	Pb	06 49 55.4	-0.1
ARKR				eS	Sg	06 50 23.5	-1.3
ARKR				i S	Sb	06 50 24.2	+3.3
ARKR				pmax	pmax		
	comp=Z,48nm,0.5s						
ARKR				smax	smax		
	comp=E,94nm,0.6s						
ARKR				smax	smax		
	comp=N,115nm,0.7s						
ARKR				smax	smax		
	comp=N,119nm,0.6s						
XNZR	Khunzakh	2.13	325	ePn	Pb	06 49 56.6	-0.1
	comp=N,43nm,0.5s						
XNZR				eSn	Sb	06 50 24.9	+1.9
	comp=N,90nm,0.7s						
LKRN	Lenkeran, Azer	2.13	171	PN	Pn	06 49 53.1	-0.2
LKRN	Lenkeran, Azer	2.13	171	Pn	Pn	06 49 53.1	-0.2
LKRN				Sn	Sn	06 50 20.8	+1.3
HNZR	Khunzah	2.13	325	ePN	Pb	06 49 56.6	-0.3
HNZR				eS	Sb	06 50 24.8	+1.6
HNZR				i S	Sg	06 50 25.7	-1.6
HNZR				pmax	pmax		
	comp=Z,44nm,0.5s						
HNZR				smax	smax		
	comp=N,58nm,0.5s						
HNZR				smax	smax		
	comp=E,57nm,0.5s						
HNZR				smax	smax		
	comp=N,56nm,1.0s						
LRK	Lerik	2.17	181	Pn	Pn	06 49 54.0	-0.2
LRK				Sn	Sn	06 50 22.9	+2.1
BUJR	Buynaksk	2.22	335	ePn	Pb	06 49 58.0	-0.2
	comp=N,50nm,0.4s						
BUJR				eSn	Sg	06 50 27.7	-2.2
	comp=N,71nm,0.4s						
BUJR	Buynaksk	2.22	335	ePN	Pb	06 49 57.9	-0.2
BUJR				eS	Sg	06 50 27.6	-2.2
BUJR				i S	Sb	06 50 28.3	+2.9
BUJR				pmax	pmax		
	comp=Z,51nm,0.4s						
BUJR				smax	smax		
	comp=N,285nm,0.4s						
BUJR				smax	smax		
	comp=E,236nm,0.4s						
BUJR				smax	smax		
	comp=N,229nm,0.4s						
UNCR	Uncukul	2.23	329	ePN	Pb	06 49 57.5	-0.9
UNCR				i S	Sb	06 50 27.8	+2.0
UNCR				pmax	pmax		
	comp=Z,44nm,0.5s						
UNCR				smax	smax		
	comp=N,149nm,0.6s						
ASTR	Astara	2.28	172	Pn	Pn	06 49 54.9	-0.5
ASTR				Sn	Sb	06 50 26.1	-1.1
KRNR	Karanay	2.29	332	ePn	Pb	06 49 58.6	-0.9
	comp=N,24nm,0.4s						
KRNR				eSn	Sb	06 50 28.7	+1.3
	comp=N,85nm,0.5s						
KRNR	Karanay	2.29	332	ePN	Pb	06 49 58.5	-0.9
KRNR				i S	Sb	06 50 29.1	+1.6
KRNR				pmax	pmax		
	comp=Z,24nm,0.4s						
KRNR				smax	smax		
	comp=N,62nm,0.7s						
QZX	Qazax, Azerbai	2.29	277	Pn	Pn	06 49 56.1	+0.5
QZX				Sn	Sn	06 50 26.4	+3.0
DGRG	David-gareji	2.35	287	P	Pn	06 49 58.8	+2.3
DGRG				S	Sb	06 50 29.5	+0.2
DGRG	David-gareji	2.35	287	ePN	Pn	06 49 58.8	+2.3
DGRG				eS	Sb	06 50 29.5	+0.2
BTLR	Botlikh	2.45	320	ePn	Pb	06 50 01.9	-0.2
	comp=N,28nm,0.6s						
BTLR				eSn	Sg	06 50 35.0	-2.2
	comp=N,280nm,0.5s						
BTLR	Botlikh	2.45	320	ePN	Pb	06 50 01.9	-0.2
BTLR				eS	Sg	06 50 35.0	-2.2
BTLR				i S	Sb	06 50 35.6	+3.5
BTLR				pmax	pmax		
	comp=Z,29nm,0.6s						
BTLR				smax	smax		
	comp=N,35nm,0.7s						
BTLR				smax	smax		
	comp=E,57nm,0.4s						
BTLR				smax	smax		
	comp=E,46nm,0.4s						
DBC	Dubki	2.48	333	ePN	Pb	06 50 00.7	-2.0
DBC				i S	Sb	06 50 33.6	+0.5
DBC				pmax	pmax		
	comp=Z,18nm,0.3s						
DBC				smax	smax		
	comp=E,75nm,0.6s						
SBZ	Shahbuz	2.59	238	Pn	Pn	06 50 01.7	+1.9
SBZ				Sn	Sb	06 50 35.5	-0.7
DLMR	Dylym	2.60	330	ePN	Pn	06 50 01.4	+1.6
DLMR				i S	Sb	06 50 36.4	+0.1
DLMR				pmax	pmax		
	comp=Z,213nm,0.1s						
DLMR				smax	smax		
	comp=E,208nm,0.4s						
ORD	Ordubad	2.63	225	Pn	Pn	06 50 01.1	+0.8
ORD				Sn	Sn	06 50 33.6	+1.6
NAX	Nakhchivan	2.76	234	Pg	Pb	06 50 06.0	-1.4
NAX				Sn	Sn	06 50 38.2	+3.2
GNI	Garni	2.85	258	LR	LR	06 51 34.9	
	comp=E,50nm,18.6s,baz=38,slow=48						
HYR	Heyderabad	2.91	249	Pn	Pn	06 50 06.2	+2.0
HYR				Sn	Sn	06 50 42.8	+3.9
CHRG	Chargali	3.00	301	P	Pn	06 50 06.9	+1.5
CHRG				S	Sb	06 50 48.5	+0.6
DMNI	Dmanisi	3.21	280	P	Pn	06 50 11.4	+3.1
DMNI				S	Sb	06 50 54.2	+0.2
DMNI	Dmanisi	3.21	280	ePN	Pn	06 50 11.3	+3.1
DMNI				eS	Sb	06 50 54.1	+0.2
TRLG	Trialeti	3.31	284	P	Pn	06 50 13.2	+3.5
TRLG				S	Sb	06 50 55.4	-1.4
TRLG	Trialeti	3.31	284	ePN	Pn	06 50 13.2	+3.5
TRLG				eS	Sb	06 50 55.4	-1.4
MTEO	Meteo	3.42	304	P	Pb	06 50 17.9	-1.1
MTEO				S	Sg	06 51 06.8	-1.8
MTEO	Meteo	3.42	304	ePN	Pb	06 50 17.9	-1.1
MTEO				eS	Sg	06 51 06.7	-1.8
ALIG	Mtskhetisjvari	3.78	291	P	Pn	06 50 17.0	+0.9
ALIG				S	Sn	06 51 02.6	+2.4
ALIG	Mtskhetisjvari	3.78	291	ePN	Pn	06 50 17.0	+0.9
ALIG				eS	Sn	06 51 02.6	+2.4
ONI	Oni	4.09	297	P	Pn	06 50 23.1	+2.7
ONI				S	Sg	06 51 29.9	+0.1
ONI	Oni	4.09	297	ePN	Pn	06 50 23.0	+2.7
ONI				eS	Sg	06 51 29.9	+0.1
KBZ	Khabaz	5.00	307	Pn	Pn	06 50 34.2	+1.5
	comp=E,0.1nm,0.3s,baz=87,slow=16,SNR=1.5						
KBZ				Sn	Sn	06 51 32.1	+2.0
	comp=E,0.1nm,0.3s,baz=210,slow=20,SNR=1.3						
	comp=E,0.5nm,0.6s						
GEYT	Alibeck	8.08	108	Pn	Pn	06 51 12.9	-2.2
	comp=E,1.0nm,0.3s,baz=295,slow=12,SNR=13						
	comp=E,1.9nm,0.4s						
BVAR	Borovoye Array	19.27	43	P	P	06 53 40.0	-2.2
BVAR	Borovoye Array	19.27	43	P	P	06 53 40.0	-2.2
	baz=237,slow=11,SNR=7.2						
	comp=E,0.9nm,0.6s						
FINES	FINESS Array B	24.70	334	P	P	06 54 36.5	-2.0
	comp=E,2.1nm,0.8s,baz=137,slow=11,SNR=9.6						
	comp=E,2.1nm,0.8s						
MKAR	Makanchi Array	25.06	65	P	P	06 54 41.0	-1.0
MKAR	Makanchi Array	25.06	65	P	P	06 54 41.0	-1.0
	comp=E,1.0nm,0.7s,baz=263,slow=7.6,SNR=11						
	comp=E,1.0nm,0.7s						

IDC 01 06:52:03.1±10.0, 36°.76N×71°.04E, h344km±144km, mb2.8/2, mbtmp3.5/6, Error ellipse: s-maj=121.9km s-min=27.8km az=130.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	10.35	280	P	Pn	06 54 25.0	-0.2
	1.2nm,0.6s,baz=91,slow=13,SNR=1.8						
MKAR	Makanchi Array	13.07	36	P	P	06 54 56.9	+0.3
	0.8nm,0.7s,baz=208,slow=11,SNR=9.0						
KURBB	Kurchatov Arra	14.87	19	P	P	06 55 15.5	-0.8
	0.3nm,0.6s,baz=209,slow=9.8,SNR=1.7						
ZALV	Zalesovo Beam	19.67	25	P	P	06 56 07.7	-0.1
	0.7nm,0.3s,baz=221,slow=11,SNR=8.1						
WRA	Warramunga Arr	82.10	122	P	P	07 03 45.5	-0.5
	0.2nm,0.6s,baz=326,slow=4.5,SNR=1.4						
	0.2nm,0.6s						
ASAR	Alice Springs	84.38	125	P	P	07 03 57.8	+0.3
	0.3nm,0.7s,baz=315,slow=4.9,SNR=5.7						
	0.3nm,0.7s						

*BJI **01** 07:25:54.0±0.0, 5°.03S×102°.19E, h55km, mb5.0/49, mB5.2/25*
*DJA **01** 07:26:01.6±0.2, 4°S±2°×10°2E±°, h43km±3km, M5.0/37, mB5.5/10, mb4.8/37, MLv5.1/22, Mw(mB)4.9/10*
*NEIC **01** 07:26:02.0±2.1, 4°.32S±0°.07×102°.19E±0°.06, h52km±1km, mb4.8/52, Error ellipse: s-maj=11.0km s-min=7.4km az=211.0*

*IDC **01** 07:26:03.5±3.0, 4.°14S×102.°26E, h67km±26km, mb4.4/35, mbtmp4.6/37, MS3.4/25, Error ellipse: s-maj=19.1km s-min=9.2km az=55.0*

ISC 01 07:26:02.4±0.6,**4.°28S**±0.°05×**102.°23E**±0.°05,**h61**km±5km, **n259**,σ1°.**32**/255,**mb4.8**/83,**8C-7D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UBSI	**University, Be**	**0.52**	**4**	P	**Pn**	**07 26 14.2**	**-0.6**
UBSI				S	**Sn**	**07 26 23.4**	**-0.3**
MNAI	**Manna**	**0.73**	**96**	Pn	**Pn**	**07 26 15.9**	**-1.2**
MNAI				Sn	**Sn**	**07 26 27.0**	**-0.9**
MNAI	**Manna**	**0.73**	**96**	P	**Pn**	**07 26 16.7**	**-0.4**
MNAI	**Manna**	**0.73**	**96**	P	**Pn**	**07 26 16.6**	**-0.5**
MNAI				S	**Sn**	**07 26 26.7**	**-1.2**
EGSI	**Enggano, Bengk**	**1.06**	**178**	P	**Pn**	**07 26 21.2**	**-0.2**
LHSI	**Lahat**	**1.37**	**71**	P	**Pn**	**07 26 25.7**	**+0.3**
LWLI	**Liwa**	**1.96**	**112**	P	**Pn**	**07 26 33.9**	**+0.4**
LWLI				S	**Sn**	**07 26 56.9**	**-0.3**
KRJI	**Kerinci**	**2.31**	**341**	P	**Pn**	**07 26 39.4**	**+1.1**
KRJI				S	**Sn**	**07 27 07.1**	**+1.5**
KASI	**Kota Agung**	**2.57**	**119**	P	**Pn**	**07 26 41.9**	**+0.2**
KASI				S	**Sn**	**07 27 10.3**	**-1.6**
PPSI	**Pulau Pagai**	**2.68**	**304**	P	**Pn**	**07 26 44.6**	**+1.4**
PMBI	**Palembang**	**2.87**	**62**		**Pn**	**07 26 45.7**	**-0.2**
PMBI	**Palembang**	**2.87**	**62**	P	**Pn**	**07 26 45.7**	**-0.2**
PMBI				S	**Pn**	**07 26 45.6**	**-0.2**
PDSI	**Padang**	**3.79**	**332**	P	**Pn**	**07 26 59.4**	**+1.0**
CGJI	**Cibinong**	**4.15**	**124**	P	**Pn**	**07 27 03.6**	**+0.3**
CGJI				S	**Sn**	**07 27 49.1**	**-1.5**
PPBI	**Pangkal Pinang**	**4.43**	**62**	P	**Pn**	**07 27 07.6**	**+0.4**
DSRI	**Dabo**	**4.45**	**32**	P	**Pn**	**07 27 09.2**	**+1.8**
BKNI	**Bangkinang**	**4.73**	**345**	Pn	**Pn**	**07 27 12.0**	**+0.7**
BKNI	**Bangkinang**	**4.73**	**345**	P	**Pn**	**07 27 12.3**	**+1.0**
DBJI	**Dramaga**	**5.03**	**117**	P	Pn	07 27 25.1	+10
TPRI	**Tanjung Pinang**	**5.65**	**24**	P	**Pn**	**07 27 25.2**	**+1.3**
	216nm,0.6s,0.9nm						
CNJI	**Cibinong**	**5.73**	**122**	P	**Pn**	**07 27 25.0**	**+0.1**
	45nm,0.8s,1µm0.3nm						
PBSI	**Pulau Batu**	**5.76**	**317**	P	**Pn**	**07 27 25.8**	**+0.3**
	166nm,0.6s,2.3nm						
LEM	**Lembang**	**5.93**	**115**	P	**Pn**	**07 27 29.9**	**+2.0**
	23nm,0.5s,baz=306,slow=23,SNR=1.9						
LEM				S	**Sn**	**07 28 39.0**	**+4.5**
	30nm,0.5s,baz=336,slow=20,SNR=1.2						
LEM				LR	LR	07 30 15.3	
	comp=Z,266nm,18.8s,baz=14,slow=42						
MYKOM	**Kota Tinggi**	**6.25**	**15**	Pn	**Pn**	**07 27 33.6**	**+1.5**
MYKOM	**Kota Tinggi**	**6.25**	**15**	P	**Pn**	**07 27 34.1**	**+2.0**
	109nm,0.7s,0.4nm						
BBJI	**Bungbulang**	**6.25**	**121**	P	**Pn**	**07 27 32.8**	**+0.7**
	77nm,0.6s,1µm0.5nm						
XMI	**Christmas Isla**	**7.02**	**151**	P	Pn	07 27 37.8	-4.9
XMIS	**Christmas Isla**	**7.03**	**151**	P	Pn	07 27 37.1	-5.7
CMJI	**Cimerak**	**7.09**	**120**	P	**Pn**	**07 27 44.3**	**+0.6**
	62nm,1.2s,0.3nm						
GSI	**Gunungsitoli**	**7.24**	**320**	Pn	**Pn**	**07 27 45.0**	**-0.7**
GSI	**Gunungsitoli**	**7.24**	**320**	P	**Pn**	**07 27 45.0**	**-0.7**
	154nm,0.5s,3µm0.8nm						
KPJI	**Karang Pucung**	**7.32**	**115**	P	**Pn**	**07 27 49.8**	**+3.0**
	42nm,1.0s,0.2nm						
RPSI	**Rantau Prapat**	**7.68**	**334**	Pn	**Pn**	**07 27 51.2**	**-0.5**
PSI	**Prapat**	**7.78**	**335**	P	**Pn**	**07 27 51.0**	**-2.1**
	19nm,0.9s,0.1nm						
SNSI	**Sinabang, Aceh**	**8.89**	**318**	P	**Pn**	**07 28 07.4**	**-0.9**
	172nm,0.6s,3µm						
UGM	**Wanagama**	**9.00**	**114**	Pn	**Pn**	**07 28 09.7**	**-0.1**
UGM	**Wanagama**	**9.00**	**114**	P	**Pn**	**07 28 12.1**	**+2.3**
	79nm,1.4s						
COCO	**West Island**	**9.50**	**214**	Pn	**Pn**	**07 28 15.7**	**-0.9**
KULM	**Kulim**	**9.64**	**351**	Pn	**Pn**	**07 28 18.0**	**-0.5**
KULM	**Kulim**	**9.64**	**351**	P	**Pn**	**07 28 20.2**	**+1.7**
	26nm,0.8s						
SJI	**Sawahan**	**10.08**	**110**	P	**Pn**	**07 28 27.3**	**+2.6**
	29nm,0.6s,3µm						
MLSI	**Meulaboh, Aceh**	**10.30**	**326**	P	**Pn**	**07 28 26.7**	**-0.8**
	82nm,0.6s						
SBUM	**Sibu**	**12.02**	**56**	Pn	**Pn**	**07 28 52.4**	**+1.4**
SBUM	**Sibu**	**12.02**	**56**	P	Pn	07 28 56.2	+5.2
	11nm,1.0s						
ABJI	**Asem Bagus**	**12.44**	**107**	P	**Pn**	**07 28 58.9**	**+2.2**
	75nm,0.5s						
JAGI	**Jajag, Banyuwa**	**12.55**	**110**	Pn	**Pn**	**07 28 57.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**12.55**	**110**	P	**Pn**	**07 28 57.2**	**-1.2**
	39nm,0.7s						
SRBI	**Singaraja**	**13.45**	**107**	P	**Pn**	**07 29 11.1**	**+0.6**
	37nm,0.9s						
TWSI	**Taliwang, Sumb**	**15.21**	**108**	P	**Pn**	**07 29 31.0**	**-2.7**
	16nm,1.1s						
PLAI	**Plampang**	**16.09**	**107**	P	**Pn**	**07 29 41.6**	**-3.3**
PLAI	**Plampang**	**16.09**	**107**	P	**Pn**	**07 29 42.5**	**-2.4**
	36nm,0.6s						
KAPI	**Kappang**	**17.48**	**93**	P	**Pn**	**07 30 01.2**	**-1.0**
KAPI	**Kappang**	**17.48**	**93**	P	**P**	**07 30 02.5**	**-0.1**
	12nm,0.6s,baz=289,slow=6.5,SNR=8.3						
KAPI				LR	LR	07 36 59.8	
	comp=Z,106nm,21.4s,baz=270,slow=38						
SPSI	**Sidrap Palu**	**17.50**	**90**	P	**P**	**07 30 04.9**	**+2.1**
	24nm,0.8s,926nm						
TTSI	**Tana Toraja**	**17.59**	**87**	P	**P**	**07 30 06.5**	**+2.6**
	29nm,0.9s						
BKSI	**Bulukumba**	**17.86**	**94**	P	**Pn**	**07 30 08.5**	**+1.7**
	44nm,0.8s						
MPSI	**Mapaga**	**18.24**	**76**	P	**Pn**	**07 30 14.0**	**+2.5**
	41nm,0.9s						
SRDT	**SRDT**	**18.77**	**351**	P	**Pn**	**07 30 20.4**	**+2.6**
	28nm,1.2s,7µm						
BASI	**Baing, Sumba**	**19.12**	**109**	P	**Pn**	**07 30 21.7**	**-0.4**
	100nm,1.1s						
TOLI2	**Tolitoli**	**19.30**	**74**	P	**P**	**07 30 23.4**	**+0.8**
TOLI2	**Tolitoli**	**19.30**	**74**	P	**Pn**	**07 30 24.0**	**-0.2**
EDFI	**Ende, Flores**	**19.83**	**104**	P	**P**	**07 30 28.1**	**-0.4**
	16nm,0.6s						
LUWI	**Luwuk**	**20.77**	**82**	P	Pn	07 30 40.4	-1.1
LUWI	**Luwuk**	**20.77**	**82**	P	Pn	07 30 40.1	-1.4
	123nm,1.0s						
GTOI	**Gorontalo**	**21.33**	**77**	P	**P**	**07 30 44.8**	**+0.2**
	19nm,0.9s						
SOEI	**Soe**	**22.53**	**105**	P	**P**	**07 30 55.6**	**-2.0**
SOEI				IAmb	IAmb	07 31 18.0	
	comp=Z,25nm,0.8s						
SOEI	**Soe**	**22.53**	**105**	P	**P**	**07 31 00.9**	**+3.3**
	comp=Z,25nm,0.8s						
CM31	**Chiang Mai Arr**	**22.83**	**352**	P	**P**	**07 30 59.2**	**-1.3**
CM31				IAmb	IAmb	07 31 03.1	
	comp=Z,22nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.83**	**352**	P	**P**	**07 30 58.9**	**-1.7**
CMAR				PcP	**PcP**	**07 34 51.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**22.83**	**352**	P	**P**	**07 30 59.2**	**-1.4**
	comp=Z,15nm,0.9s,baz=185,slow=8.9,SNR=40						
CMAR				PcP	**PcP**	**07 34 51.2**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=208,slow=3.3,SNR=9.3						
CMAR				LR	LR	07 39 34.0	
	comp=Z,64nm,19.9s,baz=180,slow=36						
	comp=Z,15nm,0.9s						
CHTO	**Chiang Mai**	**23.18**	**352**	P	**P**	**07 31 03.0**	**-1.1**
CHTO	**Chiang Mai**	**23.18**	**352**	P	**P**	**07 31 03.2**	**-0.8**
	comp=Z,13nm,1.0s						
PSA00	**Pilbara Seismi**	**24.24**	**137**	P	**P**	**07 31 14.7**	**+0.9**
PALK	**Pallekele**	**24.36**	**298**	LR	LR	07 40 02.9	
	comp=Z,58nm,19.3s,baz=220,slow=34						
SLVN	**Son La**	**25.51**	**4**	P	**P**	**07 31 25.4**	**0.0**
SLVN				IAmb	IAmb	07 31 28.9	
	comp=Z,24nm,1.0s						
DAV	**Davao City (W)**	**25.89**	**64**	LR	LR	07 42 09.2	
	comp=Z,50nm,18.4s,baz=192,slow=37						
FITZ	**Fitzroy Crossi**	**26.70**	**123**	P	**P**	**07 31 36.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**26.70**	**123**	P	**P**	**07 31 36.3**	**+0.1**
KNRA	**Kununurra**	**28.43**	**115**	P	**P**	**07 31 51.0**	**-0.7**
TNCH	**TengChong**	**29.36**	**353**	*e*P	**P**	**07 32 04.5**	**+4.5**
H08S2	**Diego Garcia H**	**29.76**	**262**	T	T	08 02 32.0	
	baz=83,slow=74						
H08S3	**Diego Garcia H**	**29.77**	**262**	T	T	08 02 27.1	
	baz=83,slow=74						
H08S1	**Diego Carcia H**	**29.78**	**262**	T	T	08 02 26.2	
	baz=83						
MTN	**Manton Dam**	**29.79**	**108**	P	**P**	**07 32 01.8**	**-2.0**
PZH	**PanZhiHua**	**30.61**	**359**	P	**P**	**07 32 13.4**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,5.7s						
SHL	**Shillong**	**31.33**	**342**	P	**P**	**07 32 16.6**	**-0.7**
SHL				IAmb	IAmb	07 32 17.2	
	comp=Z,15nm,0.4s						
KMPI	**Kaimana, Papua**	**31.40**	**90**	P	**P**	**07 32 19.2**	**+1.2**
	comp=Z,48nm,0.9s						
NWAO	**Narrogin (SRO)**	**31.76**	**156**	LR	LR	07 43 55.8	
	comp=Z,114nm,21.3s,baz=218,slow=34						
H01W3	**Cape Leeuwin H**	**32.39**	**162**	T	T	08 06 24.3	
	baz=338,slow=76,SNR=48						
H01W2	**Cape Leeuwin H**	**32.40**	**162**	T	T	08 06 25.4	
	baz=338,slow=76,SNR=47						
H01W1	**Cape Leeuwin H**	**32.40**	**162**	T	T	08 06 25.4	
	baz=338,slow=76,SNR=56						
YHNB	**Yeheng**	**34.28**	**32**	P	**P**	**07 32 43.3**	**+0.2**
WB0	**Warramunga Arr**	**34.91**	**119**	P	**P**	**07 32 47.9**	**-0.7**
WB0				IAmb	IAmb	07 32 49.0	
	comp=Z,17nm,1.3s						
WRA	**Warramunga Arr**	**34.93**	**119**	P	**P**	**07 32 47.2**	**-1.5**
WRA	**Warramunga Arr**	**34.93**	**119**	P	**P**	**07 32 48.4**	**-0.4**
	comp=Z,2.7nm,0.4s,baz=303,slow=8.8,SNR=61						
WRA				PcP	**PcP**	**07 35 20.9**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=298,slow=2.5,SNR=7.7						
WRA				S	**S**	**07 38 13.4**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=342,slow=37,SNR=2.4						
	comp=Z,2.7nm,0.4s						
WB2	**Warramunga Arr**	**34.94**	**119**	P	**P**	**07 32 48.4**	**-0.4**
WB2				IAmb	IAmb	07 33 07.3	
	comp=Z,6.3nm,0.8s						
WR0	**Warramunga Arr**	**35.11**	**119**	P	**P**	**07 32 49.9**	**-0.4**
WR0				IAmb	IAmb	07 32 51.9	
	comp=Z,6.3nm,0.7s						
AS31	**Alice Springs**	**36.12**	**125**	P	**P**	**07 32 59.3**	**+0.4**
ASAR	**Alice Springs**	**36.12**	**125**	P	**P**	**07 32 59.1**	**+0.2**
ASAR	**Alice Springs**	**36.12**	**125**	P	**P**	**07 32 59.3**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=294,slow=7.2,SNR=89						
ASAR				PcP	**PcP**	**07 35 24.8**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=309,slow=2.5,SNR=10						
ASAR				S	**S**	**07 38 32.7**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=295,slow=15,SNR=9.0						
ASAR				LR	LR	07 49 31.6	
	comp=Z,33nm,18.5s,baz=306,slow=39						
	comp=Z,5.6nm,0.7s						
XAN	**Xi'an**	**38.64**	**9**	⇑P	**P**	**07 33 19.2**	**-0.8**
XAN				pmax	pmax		
	comp=Z,22nm,0.9s						
XAN	**Xi'an**	**38.64**	**9**	P	**P**	**07 33 19.0**	**-1.0**
NJ2	**Nanjing**	**39.44**	**22**	*e*P	**P**	**07 33 28.9**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.6s						
OOD	**Oodnadatta**	**39.51**	**130**	P	**P**	**07 33 28.3**	**+0.9**
MULG	**Mulgathing**	**39.63**	**134**	P	**P**	**07 33 29.6**	**+1.2**
QIS	**Mount Isa**	**39.78**	**117**	P	**P**	**07 33 30.0**	**+0.2**
LYN	**LuoYang**	**39.81**	**13**	⇓P	**P**	**07 33 30.4**	**+0.6**
LYN				pP	pP	07 33 48.0	+2.8
LYN				PP	**PnPn**	**07 35 11.4**	**+5.3**
LYN				pmax	pmax		
	comp=Z,54nm,1.1s						
LYN				pmax	pmax		
	comp=Z,180nm,5.2s						
LZH	**Lanzhou**	**40.19**	**2**	*e*P	**P**	**07 33 33.2**	**+0.1**
LZH				sP	pP	07 33 49.3	+0.8
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
GOMU	**GeErMu**	**40.87**	**351**	P	**P**	**07 33 39.0**	**+0.1**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BBOO	**Buckleboo**	**42.47**	**136**	P	**P**	**07 33 53.2**	**+1.5**
	comp=Z,12nm,1.7s						
LCRK	**Leigh Creek**	**42.76**	**132**	P	**P**	**07 33 55.3**	**+1.3**
HNS	**HongShan**	**43.07**	**15**	⇑P	**P**	**07 33 56.3**	**-0.1**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**43.53**	**357**	*e*P	**P**	**07 34 00.2**	**-0.1**
GTA				pP	pP	07 34 14.9	-1.0
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HTT	**Hallett**	**44.81**	**135**	P	**P**	**07 34 11.9**	**+1.3**
CTA	**Charters Tower**	**45.63**	**114**	LR	LR	07 55 57.4	
	comp=Z,40nm,18.4s,baz=268,slow=39						
CTAO	**Charters Tower**	**45.63**	**114**	P	**P**	**07 34 17.5**	**+0.3**
CTAO				IAmb	IAmb	07 34 19.0	
	comp=Z,16nm,1.1s						
CTAO	**Charters Tower**	**45.63**	**114**	P	**P**	**07 34 18.2**	**+1.0**
CTAO	**Charters Tower**	**45.63**	**114**	P	**P**	**07 34 17.9**	**+0.7**
CTAO				pP	**pP**	**07 34 31.6**	**-1.4**
CTAO				PcP	**PcP**	**07 35 55.7**	**+1.0**
HHC	**Hu-ho-hao-te**	**45.72**	**10**	*e*P	**P**	**07 34 18.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.4s						
BJI	**Beijing**	**45.93**	**15**	P	**P**	**07 34 19.2**	**0.0**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
STKA	**Stephens Creek**	**45.98**	**131**	P	**P**	**07 34 20.4**	**+0.6**
STKA	**Stephens Creek**	**45.98**	**131**	P	**P**	**07 34 20.8**	**+1.0**
STKA	**Stephens Creek**	**45.98**	**131**	P	**P**	**07 34 20.8**	**+1.0**
	comp=Z,11nm,0.6s,baz=309,slow=7.3,SNR=51						
STKA				PcP	**PcP**	**07 35 56.7**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=319,slow=6.8,SNR=3.0						
STKA				LR	LR	07 55 53.0	
	comp=Z,41nm,18.8s,baz=20,slow=39						
	comp=Z,11nm,0.6s						
NIL	**Nilore**	**46.62**	**326**	P	**P**	**07 34 24.9**	**+0.1**
NIL				IAmb	IAmb	07 34 25.5	
	comp=Z,22nm,0.8s						
NIL	**Nilore**	**46.62**	**326**	P	**P**	**07 34 24.9**	**+0.1**
KSAR	**Wonju Array Be**	**47.89**	**28**	P	**P**	**07 34 36.7**	**+2.2**
KSRS	**Korea Array**	**47.92**	**28**	P	**P**	**07 34 35.1**	**+0.4**
	comp=Z,7.9nm,0.9s,baz=217,slow=7.8,SNR=17						
	comp=Z,7.9nm,0.9s						
KS19	**Wonju Array Si**	**47.93**	**28**	P	**P**	**07 34 35.7**	**+0.9**
KS19				IAmb	IAmb	07 34 54.0	
	comp=Z,21nm,1.4s						
CMSA	**Cobar Meteorol**	**48.95**	**129**	P	**P**	**07 34 44.2**	**+1.3**
XLT	**XiLinHaoTe**	**49.56**	**13**	*e*P	**P**	**07 34 47.1**	**-0.2**
XLT				pP	pP	07 35 05.2	+1.9
XLT				sP	sP	07 35 06.7	-3.6
XLT				PcP	**PcP**	**07 36 06.4**	**-1.9**
XLT				pmax	pmax		
	comp=Z,17nm,1.0s						
XLT				pmax	pmax		
	comp=Z,91nm,4.1s						
WMQ	**Urumqi**	**49.65**	**346**	*e*P	**P**	**07 34 49.0**	**+1.0**
WMQ				pP	pP	07 35 04.8	+0.9
WMQ				pmax	pmax		
	comp=Z,28nm,0.9s						
WUS	**Wushi**	**49.91**	**337**	P	**P**	**07 34 50.4**	**+0.2**
WUS				pP	**pP**	**07 35 04.6**	**-1.5**
SHLS	**Shalkode**	**51.52**	**339**	*e*P	**P**	**07 35 00.1**	**-2.0**
	baz=339						
UZB	**Uzynbulak**	**51.67**	**338**	*e*P	**P**	**07 35 02.1**	**-1.2**
	comp=Z,7.9nm,0.4s,baz=338						
SATY	**Saty**	**51.82**	**338**	*e*P	**P**	**07 35 03.5**	**-0.9**
	comp=Z,4.6nm,0.5s,baz=338						
ZHN	**Zhinishke**	**51.90**	**338**	*e*P	**P**	**07 35 04.0**	**-1.1**
	baz=338						
SONM	**Songino Array**	**52.03**	**4**	P	**P**	**07 35 06.5**	**+0.7**
SONM	**Songino Array**	**52.03**	**4**	P	**P**	**07 35 06.4**	**+0.6**
	comp=Z,15nm,0.7s,baz=186,slow=9.1,SNR=78						
SONM				PcP	**PcP**	**07 36 17.6**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=185,slow=4.2,SNR=4.9						
	comp=Z,15nm,0.7s						
ULN	**Ulaanbaatar**	**52.10**	**4**	P	**P**	**07 35 07.1**	**+0.6**
ULN				IAmb	IAmb	07 35 07.9	
	comp=Z,7.6nm,0.8s						
ULN	**Ulaanbaatar**	**52.10**	**4**	P	**P**	**07 35 07.0**	**+0.6**
ULN				pP	**pP**	**07 35 21.3**	**-1.2**
CN2	**Changchun**	**52.24**	**21**	*e*P	**P**	**07 35 06.2**	**-1.1**
CN2				*e*S	**S**	**07 42 20.6**	**-7.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
KZA	**Kyzart**	**52.26**	**335**	P	**P**	**07 35 08.7**	**+0.6**
	SNR=5.8						
TNSS	**Tian-Shan**	**52.36**	**337**	*e*P	**P**	**07 35 07.6**	**-1.2**
	baz=337						
MDOK	**Medeo**	**52.43**	**337**	*e*P	**P**	**07 35 07.8**	**-1.2**
	baz=337						
MJAR	**Matsushiro Arr**	**52.70**	**36**	P	**P**	**07 35 09.6**	**-1.4**
	comp=Z,8.6nm,0.8s,baz=206,slow=7.8,SNR=26						
	comp=Z,8.6nm,0.8s						
TKM2	**Tokmak 2**	**52.81**	**336**	P	**P**	**07 35 12.3**	**+0.4**
	SNR=7.9						
KBK	**Karagaybulak**	**52.86**	**335**	P	**P**	**07 35 13.0**	**+0.7**
	SNR=9.2						
AML	**Almayashu**	**52.98**	**334**	P	**P**	**07 35 13.8**	**+0.4**
	SNR=6.7						
CHKK	**Chushkaly**	**53.04**	**337**	*e*P	**P**	**07 35 12.4**	**-0.9**
	baz=337						
AAK	**Ala-Archa**	**53.04**	**335**	P	**P**	**07 35 13.9**	**+0.4**
AAK				IAmb	IAmb	07 35 42.5	
	comp=Z,6.3nm,1.1s						
AAK	**Ala-Archa**	**53.04**	**335**	P	**P**	**07 35 13.3**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=164,slow=3.5,SNR=8.1						
AAK				LR	LR	08 00 58.2	
	comp=Z,15nm,19.6s,baz=132,slow=40						
	comp=Z,3.4nm,0.6s						
AAK	**Ala-Archa**	**53.04**	**335**	P	**P**	**07 35 14.0**	**+0.5**
AAK				PcP	**PcP**	**07 36 23.0**	**+1.6**
KUU	**Kurty**	**53.32**	**337**	*e*P	**P**	**07 35 14.3**	**-1.1**
	comp=Z,3.7nm,0.3s,baz=337						
EKS2	**Erkin-Say**	**53.37**	**334**	P	**P**	**07 35 16.5**	**+0.6**
	SNR=14						
TDK	**Taldyqorghan**	**53.49**	**339**	*e*P	**P**	**07 35 15.8**	**-0.8**
	comp=Z,4.3nm,0.3s,baz=339						
USP	**Ospenovka**	**53.55**	**335**	P	**P**	**07 35 16.9**	**-0.3**
	SNR=6.7						
ZSN	**Zaisan**	**53.74**	**345**	*e*P	**P**	**07 35 17.7**	**-0.7**
	comp=Z,7.5nm,0.6s,baz=346						
MK31	**Makanchi Array**	**53.83**	**343**	P	**P**	**07 35 18.6**	**-0.5**
MKAR	**Makanchi Array**	**53.83**	**343**	P	**P**	**07 35 18.7**	**-0.4**
	comp=Z,11nm,0.4s,baz=152,slow=8.8,SNR=158						
MKAR				LR	LR	08 02 48.3	
	comp=Z,49nm,18.0s,baz=196,slow=41						
	comp=Z,11nm,0.4s						
MAKZ	**Makanchi**	**53.93**	**343**	P	**P**	**07 35 19.3**	**-0.5**
MAKZ				IAmb	IAmb	07 35 20.2	
	comp=Z,8.4nm,0.9s						
MAKZ	**Makanchi**	**53.93**	**343**	P	**P**	**07 35 19.2**	**-0.6**
MAKZ				PcP	**PcP**	**07 36 24.2**	**-0.4**
MDJ	**Mudanjiang**	**54.51**	**24**	P	**P**	**07 35 23.6**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,190nm,3.7s						
BNX	**BinXian**	**54.61**	**21**	⇓P	**P**	**07 35 24.7**	**0.0**
BNX				pmax	pmax		
	comp=Z,30nm,1.0s						
BNX				pmax	pmax		
	comp=Z,180nm,4.0s						
DZA	**Taraz**	**54.65**	**332**	*e*P	**P**	**07 35 23.7**	**-1.5**
	baz=332						
USA0B	**Ussuriysk Arra**	**55.17**	**26**	P	**P**	**07 35 29.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**55.17**	**26**	P	**P**	**07 35 28.6**	**-0.1**
	comp=Z,13nm,0.5s,baz=212,slow=5.1,SNR=66						
	comp=Z,13nm,0.5s						
BTLS	**Baital**	**55.19**	**336**	*e*P	**P**	**07 35 27.2**	**-1.7**
	baz=336						
KK31	**Karatay Array**	**55.20**	**332**	P	**P**	**07 35 28.4**	**-0.6**
KK31				IAmb	IAmb	07 35 56.7	
	comp=Z,3.4nm,0.6s						
KKAR	**Karatay Array**	**55.20**	**332**	P	**P**	**07 35 27.9**	**-1.2**
KKAR	**Karatay Array**	**55.20**	**332**	P	**P**	**07 35 28.3**	**-0.8**
KKAR				IAmb	IAmb	07 35 56.6	
	comp=Z,3.4nm,0.6s						
JTM	**Tenmabayashi**	**57.21**	**35**	P	**P**	**07 35 42.6**	**-0.8**
HNR	**Honiara**	**57.48**	**98**	LR	LR	08 02 22.3	
	comp=Z,502nm,18.5s,baz=330,slow=38						
SEM	**Semipalatinsk**	**57.68**	**344**	*e*P	**P**	**07 35 45.3**	**-1.5**
	comp=Z,7.2nm,0.4s,baz=344						
KURBB	**Kurchatov Arra**	**58.37**	**342**	P	**P**	**07 35 51.0**	**-0.3**
	comp=Z,12nm,0.8s,baz=159,slow=6.7,SNR=42						
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**58.42**	**343**	P	**P**	**07 35 51.4**	**-0.3**
KURK	**Kurchatov**	**58.42**	**343**	P	**P**	**07 35 51.4**	**-0.3**
KURK				PcP	**PcP**	**07 36 42.0**	**+0.2**
HEH	**HeiHe**	**58.51**	**19**	*e*P	**P**	**07 35 52.1**	**-0.2**
HEH				pmax	pmax		
	comp=Z,27nm,0.9s						
HEH				pmax	pmax		
	comp=Z,250nm,3.9s						
GEYT	**Alibeck**	**58.62**	**320**	P	**P**	**07 35 53.4**	**0.0**
GEYT	**Alibeck**	**58.62**	**320**	P	**P**	**07 35 53.6**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=132,slow=10,SNR=9.4						
	comp=Z,3.3nm,0.7s						
KLR	**Kul'dur**	**59.15**	**22**	LR	LR	08 04 24.3	
	comp=Z,44nm,18.1s,baz=204,slow=39						
LHI	**Lord Howe Isla**	**59.70**	**124**	P	**P**	**07 36 00.6**	**-0.3**
BRZS	**Berezniki**	**59.78**	**338**	*e*P	**P**	**07 35 59.8**	**-1.3**
	baz=338						
ZAA0	**Zalesovo Array**	**59.83**	**348**	P	**P**	**07 36 00.8**	**-0.6**
ZALV	**Zalesovo Beam**	**59.83**	**348**	P	**P**	**07 36 00.7**	**-0.6**
	comp=Z,21nm,0.4s,baz=167,slow=5.3,SNR=147						
ZALV				LR	LR	08 04 40.3	
	comp=Z,63nm,20.0s,baz=114,slow=39						
	comp=Z,21nm,0.4s						
ASAJ	**Asahikawa**	**60.28**	**32**	LR	LR	08 01 47.7	
	comp=Z,24nm,21.0s,baz=244,slow=36						
JKA	**Kamikawa-asahi**	**60.28**	**32**	P	**P**	**07 36 04.3**	**-0.4**
H04N2	**CROZET ISLANDS**	**60.34**	**218**	T	T	08 41 09.3	
	baz=62,slow=74,SNR=1269						
H04N1	**CROZET ISLANDS**	**60.35**	**218**	T	T	08 41 13.7	
	baz=62,slow=74,SNR=1153						
H04N3	**CROZET ISLANDS**	**60.36**	**218**	T	T	08 41 08.4	
	baz=62,slow=74,SNR=1217						
H04S1	**CROZET ISLANDS**	**60.59**	**217**	T	T	08 41 23.3	
	baz=60,slow=75,SNR=62						
H04S3	**CROZET ISLANDS**	**60.60**	**217**	T	T	08 41 25.5	
	baz=60,slow=75,SNR=111						
H04S2	**CROZET ISLANDS**	**60.61**	**217**	T	T	08 41 27.6	
	baz=60,slow=75,SNR=88						
YSS	**Yuzh-Sakhalins**	**62.27**	**30**	P	**P**	**07 36 17.6**	**-0.4**
KOUNC	**Koumac, New Ca**	**62.37**	**111**	P	**P**	**07 36 16.7**	**-2.5**
BVAR	**Borovoye Array**	**63.09**	**339**	P	**P**	**07 36 22.6**	**-0.9**
	comp=Z,11nm,0.5s,baz=142,slow=8.9,SNR=63						
BVAR				LR	LR	08 09 22.4	
	comp=Z,19nm,18.1s,baz=167,slow=41						
	comp=Z,11nm,0.5s						
BRVK	**Borovoye**	**63.15**	**339**	P	**P**	**07 36 22.9**	**-0.8**
BRVK				IAmb	IAmb	07 36 23.4	
	comp=Z,8.5nm,0.6s						
BRVK	**Borovoye**	**63.15**	**339**	P	**P**	**07 36 23.0**	**-0.8**
BRVK				PcP	**PcP**	**07 37 01.2**	**+0.3**
DZM	**Mont Dzumac**	**64.52**	**112**	P	**P**	**07 36 33.3**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=75,slow=19,SNR=2.2						
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**64.70**	**331**	P	**P**	**07 36 33.3**	**-0.8**
OUENC	**Ouen Island, N**	**64.93**	**113**	P	**P**	**07 36 36.6**	**+0.5**
OUENC				IAmb	IAmb	07 36 36.9	
	comp=Z,17nm,1.4s						
AKTO	**Aktyubinsk**	**66.42**	**331**	P	**P**	**07 36 44.5**	**-0.7**
	comp=Z,2.8nm,0.4s,baz=129,slow=8.9,SNR=11						
	comp=Z,2.8nm,0.4s						
MAW	**Mawson**	**68.65**	**195**	LR	LR	08 01 17.5	
	comp=Z,59nm,19.2s,baz=35,slow=31						
YAK	**Yakutsk**	**69.40**	**13**	P	**P**	**07 37 02.3**	**-1.3**
ARU	**Arti**	**70.18**	**336**	P	**P**	**07 37 08.2**	**-0.3**
ARU				IAmb	IAmb	07 37 08.6	
	comp=Z,8.7nm,0.7s						
ARU	**Arti**	**70.18**	**336**	P	**P**	**07 37 08.1**	**-0.3**
	comp=Z,6.9nm,0.5s,baz=125,slow=1.6,SNR=16						
	comp=Z,6.9nm,0.5s						
ARU	**Arti**	**70.18**	**336**	P	**P**	**07 37 08.1**	**-0.4**
KBZ	**Khabaz**	**71.48**	**319**	P	**P**	**07 37 17.1**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=132,slow=6.3,SNR=7.8						
	comp=Z,4.0nm,0.8s						
RPZ	**Rata Peaks**	**71.80**	**135**	P	**P**	**07 37 19.6**	**+0.9**
	comp=Z,4.9nm,0.6s,baz=270,slow=3.0,SNR=2.4						
RPZ				LR	LR	08 08 48.6	
	comp=Z,43nm,18.6s,baz=256,slow=36						
	comp=Z,4.9nm,0.6s						
EIL	**Elat**	**72.62**	**303**	LR	LR	08 08 26.6	
	comp=Z,12nm,20.2s,baz=62,slow=35						
BELG	**Belogornoye**	**72.82**	**328**	P	**P**	**07 37 23.5**	**-1.0**
	comp=Z,21nm,0.8s,baz=358,slow=2.1,SNR=11						
	comp=Z,21nm,0.8s						
MMAI	**Mount Meron Ar**	**73.17**	**306**	P	**P**	**07 37 28.6**	**+1.5**
	comp=Z,2.2nm,0.4s,baz=153,slow=4.4,SNR=2.0						
	comp=Z,2.2nm,0.4s						
LSZ	**Lusaka**	**73.50**	**255**	LR	LR	08 04 16.0	
	comp=Z,41nm,19.1s,baz=130,slow=31						
PETK	**Petropavlovsk-**	**73.64**	**31**	P	**P**	**07 37 28.5**	**-0.9**
	comp=Z,4.5nm,0.7s,baz=257,slow=0.8,SNR=15						
	comp=Z,4.5nm,0.7s						
NRIK	**Noril'sk**	**74.16**	**355**	P	**P**	**07 37 31.1**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=168,slow=6.1,SNR=17						
	comp=Z,6.5nm,0.8s						
MA2	**Magadan**	**74.21**	**23**	LR	LR	08 12 43.9	
	comp=Z,28nm,18.3s,baz=225,slow=38						
CSS	**Mathiatis**	**75.37**	**308**	P	**P**	**07 37 40.8**	**+1.0**
CSS				IAmb	IAmb	07 37 41.9	
	comp=Z,23nm,1.1s						
KIRV	**Kirov**	**75.38**	**334**	P	**P**	**07 37 39.2**	**0.0**
	comp=Z,17nm,0.5s,baz=142,slow=2.5,SNR=11						
	comp=Z,17nm,0.5s						

LBTB	Lobatse	76.09	245	LR	LR	08 05 16.3	
	comp=Z,54nm,20.2s,baz=80,slow=31						
BR131	Keskin Array S	76.50	312	P	P	07 37 46.3	0.0
BRTR	Keskin Array B	76.50	312	P	P	07 37 45.9	-0.4
BRTR	Keskin Array B	76.50	312	P	P	07 37 46.2	0.0
	comp=Z,2.9nm,0.7s,baz=136,slow=7.3,SNR=16						
	comp=Z,2.9nm,0.7s						
BOSA	Boshof	76.53	242	P	P	07 37 47.9	+1.2
	comp=Z,1.5nm,0.7s,baz=94,slow=5.9,SNR=4.3						
BOSA				LR	LR	08 05 01.4	
	comp=Z,38nm,19.6s,baz=26,slow=30						
	comp=Z,1.5nm,0.7s						
TIXI	Tiksi	77.76	8	P	P	07 37 50.9	-1.6
TIXI				IAmb	IAmb	07 37 51.6	
	comp=Z,17nm,1.4s						
VNDA	Vanda	79.51	169	P	P	07 37 59.7	-2.4
VNDA	Vanda	79.51	169	P	P	07 38 03.0	+0.9
	comp=Z,1.4nm,0.9s,baz=55,slow=8.0,SNR=3.5						
VNDA				LR	LR	08 08 07.2	
	comp=Z,22nm,20.0s,baz=324,slow=32						
	comp=Z,1.4nm,0.9s						
OBN	Obninsk	79.90	328	P	P	07 38 04.8	+0.3
OBN				IAmb	IAmb	07 38 05.7	
	comp=Z,16nm,0.9s						
SUR	Sutherland	80.48	238	LR	LR	08 07 57.8	
	comp=Z,20nm,19.4s,baz=111,slow=31						
SORM	Soroca	82.51	320	⇑P	P	07 38 18.8	+0.3
AKASG	Malin Array Be	82.64	322	P	P	07 38 18.7	-0.5
	comp=Z,0.6nm,0.4s,baz=89,slow=4.7,SNR=12						
	comp=Z,0.6nm,0.4s						
KIEV	Kiev	82.65	322	⇑P	P	07 38 20.1	+0.9
VRI	Vrincioaia	83.03	317	⇓P	P	07 38 22.8	+1.5
TESR	Tescani	83.23	318	⇓P	P	07 38 23.0	+0.6
MLR	Muntele Rosu	83.48	317	⇑P	P	07 38 24.9	+1.0
MLR	Muntele Rosu	83.48	317	P	P	07 38 24.8	+1.0
MLR				IAmb	IAmb	07 38 49.1	
	comp=Z,9.9nm,1.2s						
PLVB	Pleven	83.96	314	⇓P	P	07 38 26.9	+0.7
VOIR		84.08	316	⇑P	P	07 38 27.0	+0.1
BURAR	Bucovina Array	84.44	319	⇑P	P	07 38 30.0	+1.4
BURAR	Bucovina Array	84.44	319	P	P	07 38 28.8	+0.2
BURAR				IAmb	IAmb	07 38 30.8	
	comp=Z,3.8nm,0.7s						
BUR08	Bucovina Ar. S	84.45	319	P	P	07 38 29.5	+0.8
BUR08				IAmb	IAmb	07 38 47.4	
	comp=Z,5.3nm,0.9s						
BLKB	Belogradchik	85.40	314	⇑P	P	07 38 34.2	+0.7
MARR	Marisel-Cluj	85.65	317	⇓P	P	07 38 36.4	+1.7
QSPA	South Pole Qui	85.69	180	P	P	07 38 36.0	+1.5
	comp=Z,0.8nm,0.7s,baz=326,slow=3.9,SNR=4.3						
	comp=Z,0.8nm,0.7s						
KOLS	Kolonicke sedl	86.62	319	eP	P	07 38 41.4	+2.1
FINES	FINESS Array B	87.16	332	P	P	07 38 41.7	+0.1
	comp=Z,2.5nm,0.6s,baz=117,slow=6.8,SNR=15						
	comp=Z,2.5nm,0.6s						
MORH	Mrgy, Hungar	88.63	316	⇓P	P	07 38 49.7	+0.8
VYHS	Vyhne	88.80	319	eP	P	07 38 50.9	+1.1
ARCES	ARCESS Array B	89.36	340	P	P	07 38 51.8	-0.1
	comp=Z,4.7nm,0.8s,baz=103,slow=5.4,SNR=13						
	comp=Z,4.7nm,0.8s						
GERES	GERESS Array B	92.22	319	P	P	07 39 06.2	+0.4
	comp=Z,0.7nm,0.7s,baz=145,slow=16,SNR=4.4						
	comp=Z,0.7nm,0.7s						
HFS	Hagfors	92.95	330	P	P	07 39 07.7	-1.1
	comp=Z,3.7nm,0.9s,baz=119,slow=8.4,SNR=2.4						
	comp=Z,3.7nm,0.9s						
SPITS	Spitsbergen Ar	93.31	348	P	P	07 39 08.9	-1.2
	comp=Z,4.2nm,0.8s,baz=124,slow=8.5,SNR=6.3						
	comp=Z,4.2nm,0.8s						
NOA	NORSAR Array B	94.21	331	P	P	07 39 14.1	-0.6
	comp=Z,0.6nm,0.7s,baz=115,slow=4.1,SNR=1.1						
NOA				LR	LR	08 29 54.1	
	comp=Z,13nm,19.2s,baz=250,slow=41						
	comp=Z,0.6nm,0.7s						
YKA	Yellowknife Ar	115.87	18	PKP	PKiKP	07 44 37.0	-0.9
	comp=Z,0.1nm,0.5s,baz=333,slow=2.7,SNR=6.4						
SCHQ	Schefferville	128.83	352	PKP	PKiKP	07 45 03.5	-0.2
	comp=Z,3.4nm,1.0s,baz=232,slow=17,SNR=1.2						
NVAR	Mina Array Bea	129.88	42	PKP	PKiKP	07 45 06.8	+0.1
	comp=Z,0.9nm,0.6s,baz=276,slow=2.2,SNR=10						
ULM	Lac du Bonnet	131.71	16	PKP	PKPdf	07 45 08.2	-0.4
	comp=Z,2.3nm,0.6s,baz=338,slow=3.4,SNR=5.5						
PDAR	Pinedale Array	132.41	32	PKP	PKPdf	07 45 10.3	-0.2
	comp=Z,0.6nm,0.5s,baz=132,slow=1.2,SNR=11						
CPUP	Villa Florida	143.69	212	PKhKP	PKPpre	07 45 28.9	
	comp=Z,3.0nm,0.9s,baz=94,slow=2.3,SNR=5.2						
BDFB	Brasilia	144.51	235	PKP	PKPdf	07 45 33.6	+0.4
	comp=Z,5.8nm,0.4s,baz=132,slow=3.2,SNR=20						
TXAR	Lajitas Array	145.03	42	PKP	PKPdf	07 45 33.7	0.0
	comp=Z,9.2nm,0.5s,baz=254,slow=0.9,SNR=84						

NOU 01 07:27:55.1, 18°.22S×169°.29E, h199km, MLv3.5/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	LIFOU	3.19	217	P	Pn	07 28 46.6	-0.4
MARNC	Mare, Loyalty	3.45	200	P	Pn	07 28 50.6	+0.5
DZM	Mont Dzumac	4.67	214	P	Pn	07 29 05.2	-0.2
OUENC	Ouen Island, N	4.77	208	P	Pn	07 29 06.2	-0.3
KOUNC	Koumac, New Ca	5.26	243	P	Pn	07 29 13.1	+0.3

*NNC **01** 07:28:16.9±0.8, 50°.01N×78°.83E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=9.6km s-min=3.9km az=62.0, Suspected Mining explosion.*
*IDC **01** 07:28:17.9±0.9, 50°.05N×78°.79E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=13.9km s-min=6.4km az=59.0*
ISC 01 07:28:17.9±0.8, 50°.08N±0°.05×78°.82E±0°.04, h0km, n21, σ1^{s}11/35, 18C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.54	339	⇑P	Pg	07 28 28.6	+0.4
KUR07				⇓S	Sb	07 28 38.3	-0.2
KUR14	Kurchatov Arra	0.55	345	⇑P	Pg	07 28 28.7	+0.2
KUR14				⇓S	Sb	07 28 38.4	-0.5
KUR06	Kurchatov Arra	0.55	340	⇑P	Pg	07 28 28.9	+0.4
KUR06				⇓S	Sb	07 28 38.5	-0.5
KUR15	Kurchatov Arra	0.56	343	⇑P	Pg	07 28 28.0	-0.7
KUR15				⇓S	Sb	07 28 38.7	-0.5
KURBB	Kurchatov Arra	0.57	341	⇑P	Pg	07 28 29.2	+0.4
	40nm,0.3s						
KURBB				⇑S	Sb	07 28 39.6	+0.1
	110nm,0.6s						
KURBB	Kurchatov Arra	0.57	341	Pg	Pg	07 28 28.9	+0.1
	4.8nm,0.3s,baz=165,slow=17,SNR=74						
KURBB				Lg	Lg	07 28 38.4	
	3.8nm,0.3s,baz=165,slow=35,SNR=6.5						
KUR16	Kurchatov Arra	0.58	340	⇑P	Pg	07 28 29.4	+0.3
KUR16				⇑S	Sb	07 28 39.1	-0.7
KUR05	Kurchatov Arra	0.59	342	⇑P	Pg	07 28 29.5	+0.3
KUR05				⇑S	Sb	07 28 39.1	-0.9
KUR17	Kurchatov Arra	0.59	338	⇓P	Pg	07 28 29.6	+0.3
KUR17				⇓S	Sb	07 28 39.2	-1.0
KUR04	Kurchatov Arra	0.61	343	⇑P	Pg	07 28 29.8	+0.3
KUR04				⇑S	Sb	07 28 39.4	-1.1
KURK	Kurchatov	0.65	349	⇑P	Pg	07 28 30.3	0.0
	17nm,0.4s						
KURK				⇑S	Sb	07 28 40.3	-1.4
	20nm,0.8s						
SEM	Semipalatinsk	0.98	70	P	Pg	07 28 36.8	+0.2
	12nm,0.2s						
SEM				S	Sb	07 28 51.0	-0.4
	69nm,0.3s						
MAKZ	Makanchi	3.89	146	⇑Pn	Pn	07 29 19.7	+0.7
	0.3nm,0.2s						
MAKZ				⇑Pg	Pb	07 29 26.8	-0.7
	1.0nm,0.3s						
MAKZ				⇑Lg	Lg	07 30 16.9	
	5.5nm,0.5s						
MK31	Makanchi Array	4.02	144	⇑Pn	Pn	07 29 21.1	+0.4
	0.3nm,0.2s,baz=278,slow=6.0,SNR=87						
MK31				Pg	Pb	07 29 28.5	-1.2
	0.8nm,0.2s,baz=322,slow=15,SNR=29						
MK31				⇓Lg	Lg	07 30 23.8	
	6.9nm,0.5s,baz=331,slow=27,SNR=18						
MKAR	Makanchi Array	4.02	144	Pn	Pn	07 29 21.1	+0.3
	0.6nm,0.3s,baz=322,slow=10,SNR=128						
MKAR				Pg	Pb	07 29 27.5	-2.1
	1.3nm,0.3s,baz=326,slow=15,SNR=21						
MKAR				Lg	Lg	07 30 21.2	
	2.5nm,0.3s,baz=331,slow=29,SNR=16						
	0.7nm,0.2s						
ZALV	Zalesovo Beam	5.36	41	Pn	Pn	07 29 41.6	+2.6
	1.0nm,0.3s,baz=231,slow=14,SNR=19						
ZALV				Sn	Sn	07 30 42.4	+1.0
	0.1nm,0.3s,baz=228,slow=16,SNR=1.0						
ZALV				Lg	Lg	07 31 05.8	
	0.3nm,0.3s,baz=225,slow=28,SNR=3.1						
	2.2nm,0.3s						
I46RU	ZALESOVO INFRA	5.36	41	I	I	08 02 50.0	
	baz=220,slow=334,SNR=1.8						
ARXS	Arharly	5.91	187	Pg	Pb	07 30 03.7	+1.9
	1.0nm,0.5s						
ARXS				Lg	Lg	07 31 19.6	
	8.7nm,0.4s						
BVAR	Borovoye Array	6.03	303	Pn	Pn	07 29 48.1	-0.2
	0.1nm,0.3s,baz=114,slow=14,SNR=2.4						
BVAR				Sn	Sn	07 30 55.9	-2.0
	0.1nm,0.3s,baz=113,slow=25,SNR=5.1						
BVAR				Lg	Lg	07 31 27.4	
	0.1nm,0.3s,baz=116,slow=23,SNR=2.4						
	0.4nm,0.3s						
DGS	Degeres	7.16	198	Pg	Pb	07 30 26.1	+3.1
	2.6nm,0.1s						
DGS				Lg	Lg	07 31 57.7	
	6.5nm,0.5s						
AAK	Ala-Archa	8.02	203	Lg	Lg	07 32 29.7	
	0.2nm,0.3s,baz=70,slow=21,SNR=2.0						

IDC 01 07:37:17.7±1.7, 52°.91S×142°.02E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=176.5km s-min=26.4km az=80.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.02	359	P	P	07 42 04.2	+1.4
	0.2nm,0.3s,baz=176,slow=19,SNR=1.1						
	0.2nm,0.3s						
VNDA	Vanda	25.76	170	P	P	07 42 49.7	+0.1
	0.5nm,0.8s,baz=330,slow=8.1,SNR=1.7						
	0.5nm,0.8s						
H01W1	Cape Leeuwin H	26.71	301	T	T	08 10 10.8	
	baz=142,slow=76,SNR=6.7						
H01W2	Cape Leeuwin H	26.72	301	T	T	08 10 13.5	
	baz=142,slow=76,SNR=9.1						
H01W3	Cape Leeuwin H	26.73	301	T	T	08 10 12.9	
	baz=142,slow=76,SNR=7.7						
ASAR	Alice Springs	29.85	345	P	P	07 43 26.4	-0.3
	0.2nm,0.6s,baz=165,slow=11,SNR=6.8						
	0.2nm,0.6s						
WRA	Warramunga Arr	33.44	347	P	P	07 43 57.5	-0.7
	0.2nm,0.4s,baz=170,slow=7.7,SNR=2.9						
	0.2nm,0.4s						
H04S1	CROZET ISLANDS	54.70	237	T	T	08 45 13.2	
	baz=132						
H04S2	CROZET ISLANDS	54.70	237	T	T	08 45 12.2	
	baz=132						
H04S3	CROZET ISLANDS	54.71	237	T	T	08 45 14.9	
	baz=132						

*MDD **01** 08:32:33.0±0.7, 36°.71N×10°.59W, h30km±16km, mb_Lg3.1/7, Error ellipse: s-maj=13.4km s-min=4.9km az=62.0*
*CNRM **01** 08:32:33.2, 36°.69N×10°.39W, h57km, ML2.6*
*IGIL **01** 08:32:34.5, 36°.70N×10°.48W, h32km, ML2.0*
*INMG **01** 08:32:35.0±1.1, 36°.75N×10°.44W, h23km, ML2.1, Error ellipse: s-maj=4.8km s-min=3.7km az=74.0*
ISC 01 08:32:31.7±2.0, 36°.74N±0°.04×10°.43W±0°.08, h24km±17km, n61, σ1^{s}44/103, 3C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.34	72	⇑iP	Pb	08 32 56.6	+0.4
PFVI				eS	Sn	08 33 12.6	+0.5
PFVI				A	A	08 33 13.8	
	34nm,0.2s						
PFVI	Vila Bisbo	1.34	72	Pg	Pb	08 32 56.6	+0.4
PFVI				Sg	Sn	08 33 12.6	+0.5
PFVI	Vila Bisbo	1.34	72	P	Pb	08 32 56.8	+0.5
PFVI	Vila Bisbo	1.34	72	S	Sn	08 33 11.5	-0.6
MORF	Marmelete	1.53	68	⇑iP	Pb	08 32 59.3	-0.2
MORF				eS	Sn	08 33 17.5	+0.7
MORF				A	A	08 33 18.0	
	26nm,1.3s						
MORF	Marmelete	1.53	68	eP	Pb	08 32 59.3	-0.2
MORF				eS	Sn	08 33 17.0	+0.2
MORF				IAML		08 33 19.4	
	comp=N,34nm,0.2s						
PTEO	Sao Teotonio	1.58	59	eP	Pb	08 33 00.0	-0.3
PTEO				eS	Sn	08 33 18.8	+0.8
PTEO				A	A	08 33 19.2	
	comp=N,14nm,0.6s						
PNCL	Nicolau / Gran	2.04	47	⇑eP	Pn	08 33 06.1	+1.5
PNCL				eS	Sn	08 33 29.3	0.0
PNCL				A	A	08 33 32.4	
	comp=N,9.6nm,0.1s						
PNCL	Nicolau / Gran	2.04	47	Pn	Pn	08 33 06.1	+1.5
PNCL				Sn	Sn	08 33 29.8	+0.5
PBDV	Barranco-do-Ve	2.06	75	eP	Pn	08 33 07.0	+2.1
PBDV				eS	Sn	08 33 30.4	+0.5
PBDV				A	A	08 33 38.8	
	comp=N,6.7nm,0.6s						
MESJ	Messejana	2.08	57	eP	Pn	08 33 06.7	+1.6
MESJ				eS	Sn	08 33 30.8	+0.6
MESJ				A	A	08 33 31.1	
	comp=N,3.7nm,0.1s						
MESJ	Messejana	2.08	57	eP	Pn	08 33 06.7	+1.6
MESJ				eS	Sn	08 33 30.1	0.0
MESJ				IAML		08 33 31.0	
	comp=N,4.9nm,0.2s						
PCVE	Castro Verde	2.11	64	eP	Pn	08 33 07.3	+1.8
PCVE				eS	Sn	08 33 31.8	+0.9
PCVE				A	A	08 33 34.3	
	comp=N,6.8nm,0.2s						
PCVE	Castro Verde	2.11	64	Pn	Pn	08 33 07.3	+1.8
PVAQ	Vaqueiros	2.27	72	eP	Pn	08 33 09.7	+2.0
PVAQ				eS	Sn	08 33 35.1	+0.2
PVAQ	Vaqueiros	2.27	72	Pn	Pn	08 33 09.7	+2.0
PVAQ	Vaqueiros	2.27	72	P	Pn	08 33 08.7	+1.0
PVAQ	Vaqueiros	2.27	72	S	Sn	08 33 34.4	-0.5
PMAFR	Mafra	2.39	22	eP	Pn	08 33 10.7	+1.3
PMAFR				eS	Sn	08 33 38.2	+0.2
PMAFR				A	A	08 33 42.5	
	comp=N,17nm,0.5s						
PBEJ	Beja	2.42	57	eP	Pn	08 33 11.3	+1.6
PBEJ				eS	Sn	08 33 38.3	-0.2
PBEJ				A	A	08 33 39.9	
	comp=N,3.7nm,0.3s						
EGRO	El Granado	2.49	70	Pn	Pn	08 33 12.5	+1.9
EGRO				Sn	Sn	08 33 39.7	-0.6
EGRO	El Granado	2.49	70	Pn	Pn	08 33 12.2	+1.6
EGRO				Pn	Pb	08 33 12.6	-3.0
EGRO				Sn	Sn	08 33 40.4	+0.2
EGRO				i Vmb_Lg		08 33 43.2	
EVO	Evora	2.63	46	eP	Pn	08 33 14.2	+1.6
EVO				eS	Sn	08 33 44.3	+0.6
EVO				A	A	08 33 45.8	
	comp=N,7.7nm,0.8s						
EVO	Evora	2.63	46	Pn	Pn	08 33 14.2	+1.6
EVO				Sn	Sn	08 33 42.5	-1.2
PMTG	Montargil	2.91	36	eP	Pn	08 33 18.3	+1.8
PMTG				eS	Sn	08 33 50.7	+0.1
PMTG				A	A	08 33 53.7	
	comp=N,2.7nm,0.2s						
PBAR	Barrancos	3.06	61	eP	Pn	08 33 20.3	+1.8
PBAR				eS	Sn	08 33 54.6	+0.3
PBAR				A	A	08 33 55.8	
	comp=N,2.4nm,0.3s						
PBAR	Barrancos	3.06	61	Pn	Pn	08 33 20.1	+1.6
PSBE	So Bento	3.06	24	eP	Pn	08 33 19.5	+1.0
PSBE				eS	Sn	08 33 54.3	-0.1
PESTR	Estremoz	3.10	46	eP	Pn	08 33 20.9	+1.8
PESTR				eS	Sn	08 33 55.5	+0.2
PESTR				A	A	08 33 58.3	
	comp=N,1.7nm,0.2s						
PESTR	Estremoz	3.10	46	Pn	Pn	08 33 20.6	+1.6
EMIN	Mina Concepcio	3.17	70	Pn	Pn	08 33 22.1	+2.1
EMIN				Sn	Sn	08 33 57.1	0.0
EBAD	Badajoz	3.38	52	Pn	Pn	08 33 23.9	+1.0
EBAD				Sn	Sn	08 34 01.9	-0.3
EBAD	Badajoz	3.38	52	Pn	Pn	08 33 24.1	+1.2
EBAD				Sn	Sn	08 34 01.4	-0.8
EBAD				i Vmb_Lg		08 34 03.5	
PMRV	Marv??o	3.60	41	eP	Pn	08 33 27.2	+1.2
PMRV				eS	Sn	08 34 06.5	-1.3
PMRV				A	A	08 34 08.1	
	comp=N,2.6nm,0.9s						
ESPR	Espera	3.67	87	Pn	Pn	08 33 28.9	+1.9
ESPR				Sn	Sn	08 34 10.0	+0.5
ESPR				i Vmb_Lg		08 34 11.0	
PCBR	Castelo Branco	3.87	36	eP	Pn	08 33 31.3	+1.6
PCBR				eS	Sn	08 34 14.3	-0.1
PCBR				A	A	08 34 20.0	
	comp=N,2.7nm,0.4s						
ECAB	El Cabril	4.21	70	Pn	Pn	08 33 36.2	+1.8
ECAB				Sn	Sn	08 34 21.3	-1.5
ECAB	El Cabril	4.21	70	Pn	Pn	08 33 36.2	+1.8
ECAB				Sn	Sn	08 34 21.1	-1.7
ECAB				i Vmb_Lg		08 34 23.1	
AVE	Averroes	4.23	143	Pn	Pn	08 33 35.8	+1.2
PVIS	Viseu	4.44	26	eP	Pn	08 33 38.8	+1.2
PVIS				eS	Sn	08 34 27.2	-1.3
PVIS				A	A	08 34 29.7	
	comp=N,2.9nm,0.1s						
ZHG	ZHG	4.52	135	P	Pn	08 33 38.4	-0.3
ZHG	ZHG	4.52	135	S	Sn	08 34 33.1	+2.5
EPLA	Plasencia	4.76	45	Pn	Pn	08 33 43.1	+1.1
EPLA				Sn	Sn	08 34 35.6	-0.9
EPLA				i Vmb_Lg		08 34 41.4	
EADA	Adamuz	4.87	71	Pn	Pn	08 33 45.1	+1.6
EADA				Sn	Sn	08 34 37.4	-1.7
EADA	Adamuz	4.87	71	Pn	Pn	08 33 45.1	+1.6
EADA				Sn	Sn	08 34 38.7	-0.4
EADA				i Vmb_Lg		08 34 40.4	
EGOR	Sierra Gorda,	5.08	84	Sn	Sn	08 34 44.0	-0.4
MVO	Moncorvo	5.15	30	eP	Pn	08 33 48.7	+1.3
MVO				eS	Sn	08 34 43.4	-2.7
MVO				A	A	08 34 46.0	
	comp=N,1.8nm,0.1s						
IFR	Ifrane	5.41	125	Pn	Pn	08 33 51.6	+0.6
PAB	San Pablo	5.55	58	Pn	Pn	08 33 54.4	+1.5
PAB				i Vmb_Lg		08 34 53.8	
PAB				Sn	Sn	08 34 54.2	-1.8
EZAM	Zamans	5.57	13	Pn	Pn	08 33 54.0	+0.9
EZAM				Sn	Sn	08 34 53.1	-3.1
ESDC	Sonseca Array	5.88	58	Pn	Pn	08 33 58.3	+1.0
ESDC				Sn	Sn	08 35 02.2	-1.7
OUK	Oukaimeden	5.91	158	P	Pn	08 33 58.2	+0.1
EQES	Quesada	5.97	78	Pn	Pn	08 34 00.7	+2.1
EQES				Sn	Sn	08 35 04.6	-1.6
MD31	MD31	6.06	128	P	Pn	08 33 59.1	-0.7
MD31	MD31	6.06	128	S	Sn	08 35 08.2	-0.2
MDT	Midelt	6.19	128	P	Pn	08 34 02.2	+0.6
MDT	Midelt	6.19	128	S	Sn	08 35 09.6	-2.1
OUZM	OUZ	6.57	151	P	Pn	08 34 05.3	-1.6
OUZM	OUZ	6.57	151	S	Sn	08 35 19.5	-1.6
ETOB	Tobarra	7.30	72	Pn	Pn	08 34 18.2	+1.4
ETOB				Sn	Sn	08 35 35.7	-3.2
ETOR	Torete	7.71	56	Pn	Pn	08 34 23.8	+1.4
ETOR				Sn	Sn	08 35 44.8	-4.2

IDC 01 08:36:12.1±3.7, 30°.34S×177°.76W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=82.2km s-min=29.7km az=116.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.09	353	Pn	Pn	08 36 34.7	+0.1
	53nm,0.3s,baz=45,slow=17,SNR=14						
RAO				Sn	Sg	08 36 45.7	-1.4
	626nm,0.3s,baz=347,slow=21,SNR=15						
ASAR	Alice Springs	43.32	267	P	P	08 44 16.2	+0.2
	0.2nm,0.8s,baz=103,slow=7.6,SNR=4.7						
	0.2nm,0.8s						
WRA	Warramunga Arr	44.30	272	P	P	08 44 23.6	-0.3
	0.5nm,0.4s,baz=112,slow=8.0,SNR=6.4						
	0.5nm,0.4s						
FINES	FINESS Array B	145.16	340	PKPbc	PKPbc	08 55 49.3	-1.0
	3.0nm,1.0s,baz=28,slow=4.5,SNR=7.3						

*IDC **01** 09:04:29.7±1.6, 0°.29N×126°.51E, h0km, mb3.4/4, mbtmp3.4/4, MS2.8/1, Error ellipse: s-maj=174.1km s-min=21.9km az=66.0*
*DJA **01** 09:04:33.5±0.2, 0°S±3°×12°5E±°, h10km, M4.1/15, mb4.3/6, mB5.0/2, MLv4.0/15, Mw(mB)4.4/2*
ISC 01 09:04:32.7±1.0, 0°.28S±0°.08×125°.33E±0°.07, h10km, n18, σ1^{s}16/18, mb3.5/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	1.59	302	P	Pn	09 05 00.9	-0.1
SANI	Sanana	1.88	160	P	Pn	09 05 04.3	-0.6
LBMI	Labuha	2.20	99	P	Pn	09 05 10.3	+1.0
LUWI	Luwuk	2.67	253	P	Pn	09 05 18.1	+2.3
NLAI	Namlea	3.43	149	P	Pn	09 05 26.9	+0.6
MRSI	Marisa	3.47	282	P	Pn	09 05 27.7	+0.9
SGSI	Sangihe	3.94	3	P	Pn	09 05 33.6	+0.3
MPSI	Mapaga	5.47	276	P	Pn	09 05 55.4	+1.1
	16nm,0.8s,900nm0.1nm						
BBSI	Bau Bau	5.86	208	P	Pn	09 06 00.8	+1.0
	41nm,0.8s,0.2nm						
SWI	Sorong	5.96	96	P	Pn	09 06 01.7	+0.7
	7.7nm,0.5s,2µm0.2nm						
TTSI	Tana Toraja	6.16	243	P	Pn	09 06 04.7	+0.9
	19nm,0.5s,0.2nm						
SPSI	Sidrap Palu	6.66	237	P	Pn	09 06 11.9	+1.3
	22nm,0.6s,0.1nm						
KAPI	Kappang	7.29	230	LR	LR	09 10 17.5	
	comp=Z,54nm,18.5s,baz=34,slow=41						
FAKI	Fak Fak	7.40	111	P	Pn	09 06 22.0	+1.2
WRA	Warramunga Arr	21.44	156	P	P	09 09 19.6	-1.7
	0.3nm,0.5s,baz=339,slow=12,SNR=3.6						
	0.3nm,0.5s						
ASAR	Alice Springs	24.70	161	P	P	09 09 54.6	+0.5
	0.2nm,0.4s,baz=341,slow=9.0,SNR=9.0						
ASAR				PcP	PcP	09 13 30.8	-0.7
	0.1nm,0.5s,baz=344,slow=2.4,SNR=2.1						
	0.2nm,0.4s						
MKAR	Makanchi Array	60.09	327	P	P	09 14 39.0	-1.3
	0.7nm,0.6s,baz=118,slow=8.6,SNR=9.3						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	64.39	329	P	P	09 15 09.4	+0.5
	0.3nm,0.4s,baz=130,slow=6.2,SNR=6.4						
	0.3nm,0.4s						

*IDC **01** 09:04:31.5±0.7, 27°.69N×52°.76E, h0km, mb4.0/23, mbtmp3.9/26, ML3.8/3, MS3.5/3, Error ellipse: s-maj=16.5km s-min=15.4km az=173.0*
*OMAN **01** 09:04:34.0±0.3, 27°.95N×52°.91E, h10km, mb4.7/9, ml3.7/14, Error ellipse: s-maj=3.2km s-min=1.3km az=176.0*
*TEH **01** 09:04:34.4, 27°.81N×52°.80E, h19km±17km, ML3.8*
*DSN **01** 09:04:37.9±0.7, 27°.68N×52°.98E, h10km, ML3.2/8, Error ellipse: s-maj=21.2km s-min=6.1km az=49.0*
ISC 01 09:04:34.7±0.5, 27°.84N±0°.03×52°.86E±0°.04, h14km, n119, σ1^{s}61/138, mb3.9/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMD1	Lamerd	0.56	151	Pg	Pg	09 04 45.7	-0.1
LMD1				Sg	Sg	09 04 54.7	+1.5
QIR1	Qir	0.66	14	Pg	Pg	09 04 48.0	+0.5
QIR1				Sg	Sg	09 04 58.5	+2.2
JHRM	Jahrom	0.92	43	Pg	Pg	09 04 52.8	+0.3
LAR1	LAR	1.35	97	Pg	Pn	09 05 00.2	+1.0
DSBU	Dashti - Bushe	1.51	291	Pg	Pn	09 05 02.1	+0.8
AHBU	AHRAM	1.72	307	Pg	Pn	09 05 05.5	+1.4
SHI	Shiraz	1.83	350	Pn	Pn	09 05 07.2	+1.4
SHMA	Al-Shehemyia	2.60	221	P	Pn	09 05 18.0	+1.7
	SNR=10						
SHMA				S	Sn	09 05 51.2	+3.5
SAKB	Bahrain	2.78	229	Pn	Pn	09 05 20.2	+1.4
SAKB	Bahrain	2.78	229	P	Pn	09 05 19.9	+1.1
SAKB				S	Sn	09 05 56.0	+3.9
ESRB	Sir Abu	2.88	154	Pn	Pn	09 05 20.5	+0.3
JRN	Qarnain Island	2.88	180	Pn	Pn	09 05 20.3	+0.2
JRN	Qarnain Island	2.88	180	P	Pn	09 05 21.7	+1.6
GENO	Geno	2.97	98	Pn	Pn	09 05 23.9	+2.3
KLNJ	Kolanjah	3.35	341	Pn	Pn	09 05 27.4	+0.5
TRNA	Turayna	3.42	206	P	Pn	09 05 29.6	+2.0
TRNA				S	Sn	09 06 12.8	+4.8
SHME	Shamm	3.43	121	Pn	Pn	09 05 27.6	-0.1
SHME	Shamm	3.43	121	P	Pn	09 05 28.1	+0.4

SMRA	Abu-Samra	3.58	211	P	Pn	09 05 31.0	+1.2
	SNR=13						
SMRA				S	Sn	09 06 14.7	+2.9
BANOM	Banah	3.61	121	P	Pn	09 05 30.7	+0.4
AJN	Ajban	3.78	149	Pn	Pn	09 05 34.0	+1.5
AJN	Ajban	3.78	149	P	Pn	09 05 34.2	+1.7
AJN				S	Sn	09 06 20.7	+3.9
NAZ	Nazwa, Dubai	3.79	138	i P	Pn	09 05 34.0	+1.4
	SNR=16						
NAZ				S	Sn	09 06 17.4	+0.4
NAZ	Nazwa, Dubai	3.79	138	Pn	Pn	09 05 33.8	+1.1
NAZ	Nazwa, Dubai	3.79	138	P	Pn	09 05 34.0	+1.4
	SNR=16						
MASF	Masafi	3.84	129	P	Pn	09 05 34.7	+1.3
	SNR=9.6						
MASF				S	Sn	09 06 20.6	+2.2
NGRK	Negar Kerman	3.85	61	Pn	Pn	09 05 35.3	+1.5
MSFE	Esma-Masafi	3.85	129	i P	Pn	09 05 34.7	+1.2
	SNR=9.5						
MSFE	Esma-Masafi	3.85	129	Pn	Pn	09 05 34.5	+1.0
ASUD	Al Ashush, Dub	3.89	145	i P	Pn	09 05 35.4	+1.4
	SNR=10						
ASUD	Al Ashush, Dub	3.89	145	Pn	Pn	09 05 35.6	+1.6
ASUD	Al Ashush, Dub	3.89	145	P	Pn	09 05 35.4	+1.4
	SNR=9.8						
SLWR	Sila	3.90	196	Pn	Pn	09 05 34.0	-0.1
FAQ	Al Faqa, Dubai	3.94	141	P	Pn	09 05 36.0	+1.3
	SNR=5.6						
FAQ				S	Sn	09 06 23.9	+3.2
IRAM	Ramesheh	3.98	354	Pn	Pn	09 05 37.0	+1.5
MDH	Madha	3.98	129	i P	Pn	09 05 37.0	+1.7
	SNR=8.2						
MDH	Madha	3.98	129	Pn	Pn	09 05 36.4	+1.1
MDH	Madha	3.98	129	P	Pn	09 05 36.0	+0.6
	SNR=8.0						
MDH				S	Sn	09 06 24.6	+2.8
TVBK	TV Kerman	4.04	57	Pn	Pn	09 05 38.9	+2.5
KHGB	Koh Gabri	4.05	50	Pn	Pn	09 05 38.3	+1.9
ISAD	Sadrabad	4.13	10	Pn	Pn	09 05 39.4	+1.8
HATD	Hatta, Dubai	4.20	135	i P	Pn	09 05 39.0	+0.8
	SNR=14						
HATD	Hatta, Dubai	4.20	135	P	Pn	09 05 39.0	+0.8
	SNR=14						
HATD				S	Sn	09 06 30.0	+2.9
ASHO	Ashiyiah	4.25	137	i P	Pn	09 05 40.0	+0.9
	SNR=18						
ASHO	Ashiyiah	4.25	137	P	Pn	09 05 40.0	+0.9
	SNR=18						
ASHO				S	Sn	09 06 31.2	+2.6
KHNJ	Kahnooj	4.29	87	Pn	Pn	09 05 41.2	+1.6
IBAF	Bafgh	4.42	32	Pn	Pn	09 05 43.4	+1.9
ZRDN	Zarand Kerman	4.47	45	Pn	Pn	09 05 44.3	+2.0
CHMN	Cheshme madani	4.57	63	Pn	Pn	09 05 46.2	+2.5
ALNE	Al Ain	4.58	145	i P	Pn	09 05 44.8	+1.3
	SNR=7.2						
ALNE	Al Ain	4.58	145	Pn	Pn	09 05 44.8	+1.3
ALNE	Al Ain	4.58	145	P	Pn	09 05 44.8	+1.3
	SNR=7.2						
IGAR	Gharneh	4.61	351	Pn	Pn	09 05 46.0	+1.9
MZR	Muzera	4.84	173	P	Pn	09 05 48.9	+1.7
JASK	Jask - Hormozg	4.88	113	Pn	Pn	09 05 48.4	+0.7
JASK	Jask - Hormozg	4.88	113	P	Pn	09 05 47.5	-0.2
	SNR=8.0						
JASK				S	Sn	09 06 44.5	+0.5
AMIS	Naft Sefid	4.92	322	Pn	Pn	09 05 49.1	+0.8
SOHO	SOHO	4.95	137	i P	Pn	09 05 50.0	+1.4
	SNR=6.9						
SOHO	SOHO	4.95	137	P	Pn	09 05 49.2	+0.6
SOHO				S	Sn	09 06 48.7	+3.0
IZEF	Zefreh	5.07	355	Pn	Pn	09 05 51.6	+1.2
KBAM	BAM	5.09	74	Pn	Pn	09 05 53.0	+2.4
IPIR	Pirpir	5.12	341	Pn	Pn	09 05 53.1	+1.8
ANAR	Anarak	5.39	8	Pn	Pn	09 05 55.7	+0.9
UMZA	Um Al Zommool	5.51	157	Pn	Pn	09 05 56.2	-0.1
ARQ	Araqi	5.57	143	P	Pn	09 05 58.0	+0.9
	SNR=8.6						
ARQ				S	Sn	09 07 03.4	+2.5
IKLH	Kolahrood	5.58	349	Pn	Pn	09 05 58.7	+1.3
QAMS	Qamsar	6.01	348	Pn	Pn	09 06 04.4	+0.9
TPRV	Parvadeh(Tabas	6.14	32	Pn	Pn	09 06 06.3	+1.2
KRSH	Karshahi	6.15	354	Pn	Pn	09 06 05.9	+0.7
BIDO	Bidbid	6.41	131	P	Pn	09 06 09.0	+0.4
BIDO				S	Sn	09 07 23.7	+2.2
BSY	Bisya	6.41	141	P	Pn	09 06 09.5	+0.8
	SNR=16						
BSY				S	Sn	09 07 24.6	+2.8
SMDO	Samad	6.68	134	P	Pn	09 06 13.0	+0.5
	SNR=21						
SMDO				S	Sn	09 07 30.6	+2.1
TKDS	Koohdasht(Taba	6.83	31	Pn	Pn	09 06 16.1	+1.6
TNSJ	Nastanj	6.91	27	Pn	Pn	09 06 17.1	+1.5
WSAR	Wadi Sarin	6.94	130	Pn	Pn	09 06 15.6	-0.4
	3.9nm,0.3s,baz=306,slow=13,SNR=51						
WSAR				Sn	Sn	09 07 30.8	-3.8
	baz=142,slow=18						
	12nm,0.4s						
WSAR	Wadi Sarin	6.94	130	P	Pn	09 06 16.0	0.0
	SNR=24						
WSAR				S	Sn	09 07 36.9	+2.3
JMDO	Jabal Madar	7.22	138	P	Pn	09 06 20.6	+0.7
	SNR=7.5						
JMDO				S	Sn	09 07 44.5	+2.8
WBK	Wadi Bani Khal	7.59	132	Pn	Pn	09 06 24.4	-0.6
WBK	Wadi Bani Khal	7.59	132	P	Pn	09 06 24.6	-0.4
	SNR=14						
WBK				S	Sn	09 07 53.0	+2.1
NGCH	Negor - Chabah	7.81	107	P	Pn	09 06 26.9	-1.0
JLN	Jalan Bani Buh	8.21	132	P	Pn	09 06 33.0	-0.4
	SNR=7.3						
MHTO	MHTO	8.25	145	P	Pn	09 06 34.2	+0.2
	SNR=20						
SRVN	Saravan	8.47	91	Pn	Pn	09 06 38.4	+1.2
SHRT	Shahrakht	8.62	46	Pn	Pn	09 06 41.4	+2.2
DQM	DQM	8.96	150	P	Pn	09 06 43.8	+0.1
GEYT	Alibeck	10.99	22	Pn	Pn	09 07 12.8	+1.3
	0.4nm,0.3s,baz=218,slow=18,SNR=2.1						
	0.7nm,0.4s						
GNI	Garni	14.00	333	LR	LR	09 13 33.6	
	comp=Z,228nm,18.4s,baz=88,slow=38						
BRTR	Keskin Array B	19.85	312	P	P	09 09 05.8	+0.4
	0.2nm,0.3s,baz=129,slow=14,SNR=6.9						
	1.3nm,0.7s						
AKTO	Aktyubinsk	22.91	8	P	P	09 09 39.2	+1.2
	1.4nm,0.5s,baz=193,slow=12,SNR=3.3						
	1.4nm,0.5s						
BELG	Belogornoye	24.84	352	P	P	09 09 57.1	+0.7
	5.6nm,0.6s,baz=306,slow=9.2,SNR=2.6						
	5.6nm,0.6s						
MLR	Muntele Rosu	27.68	317	P	P	09 10 21.8	-0.5
	0.7nm,0.5s,baz=229,slow=22,SNR=1.8						
	0.7nm,0.5s						
BVAR	Borovoye Array	28.33	23	P	P	09 10 28.6	+0.7
	0.4nm,0.4s,baz=252,slow=41,SNR=2.7						
	0.4nm,0.4s						
AKASG	Malin Array Be	29.03	328	LR	LR	09 25 32.5	
	comp=Z,47nm,18.8s,baz=90,slow=43						
OBN	Obninsk	29.71	341	LR	LR	09 23 34.5	
	comp=Z,138nm,18.0s,baz=293,slow=38						
MKAR	Makanchi Array	29.84	43	P	P	09 10 42.1	+0.7
	0.7nm,0.8s,baz=226,slow=7.8,SNR=6.6						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	29.95	34	P	P	09 10 43.1	+0.8
	0.4nm,0.3s,baz=234,slow=9.0,SNR=6.5						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	35.04	33	P	P	09 11 27.1	+0.3
	1.6nm,0.3s,baz=241,slow=9.4,SNR=15						
	1.6nm,0.3s						
SQTA	Sankt Quirin	37.73	312	eP	P	09 11 49.2	-0.9
	1.1nm,0.3s						
MOTA	Moosalm	37.83	312	eP	P	09 11 50.9	-0.1
	0.8nm,0.3s						
FETA	Feichten	37.99	312	eP	P	09 11 51.6	-0.7
	0.9nm,0.4s						
FINES	FINESS Array B	38.07	339	P	P	09 11 52.2	-0.3
	1.3nm,0.3s,baz=143,slow=9.8,SNR=25						
	1.3nm,0.3s						
DAVA	Damuels	38.62	312	eP	P	09 11 56.5	-1.1
	5.7nm,0.4s						
HFS	Hagfors	41.77	332	P	P	09 12 22.8	-0.5
	1.5nm,0.4s,baz=126,slow=9.9,SNR=14						
	1.5nm,0.4s						
CMAR	Chiang Mai Arr	43.18	92	P	P	09 12 35.7	+0.4
	0.6nm,0.6s,baz=287,slow=9.3,SNR=2.0						
	0.6nm,0.6s						
NB2	NORSAR Subarra	43.29	332	P	P	09 12 34.5	-1.3
	comp=Z,2.6nm,0.9s,baz=121,slow=8.6						
NOA	NORSAR Array B	43.29	332	P	P	09 12 34.1	-1.6
	comp=Z,0.5nm,0.5s,baz=115,slow=6.5,SNR=2.3						
	comp=Z,0.5nm,0.5s						
ARCES	ARCESS Array B	44.65	347	P	P	09 12 46.4	-0.1
	comp=Z,2.3nm,0.8s,baz=116,slow=2.8,SNR=6.3						
	comp=Z,2.3nm,0.8s						
SONM	Songino Array	45.75	49	P	P	09 12 55.4	-0.2
	comp=Z,0.4nm,0.5s,baz=266,slow=5.8,SNR=1.9						
	comp=Z,0.4nm,0.5s						
ESDC	Sonseca Array	47.98	300	P	P	09 13 12.5	-0.6
	comp=Z,0.4nm,0.7s,baz=88,slow=8.0,SNR=1.4						
	comp=Z,0.4nm,0.7s						
EKA	Eskdalemuir Ar	48.39	321	P	P	09 13 14.8	-1.3
	comp=Z,0.3nm,0.5s,baz=95,slow=8.6,SNR=1.0						
	comp=Z,0.3nm,0.5s						
TORD	Torodi Ar. Bea	49.76	264	P	P	09 13 25.6	-1.5
	comp=Z,1.1nm,0.6s,baz=51,slow=8.8,SNR=11						
	comp=Z,1.1nm,0.6s						
SPITS	Spitsbergen Ar	53.04	351	P	P	09 13 51.8	+1.1
	comp=Z,14nm,1.1s,baz=147,slow=8.6,SNR=2.3						
	comp=Z,14nm,1.1s						
DBIC	Dimbokro	58.44	260	P	P	09 14 28.6	-1.8
	comp=Z,2.4nm,0.6s,baz=49,slow=6.1,SNR=6.2						
	comp=Z,2.4nm,0.6s						
BOSA	Boshof	62.05	207	P	P	09 14 54.0	-0.9
	comp=Z,2.3nm,0.9s,baz=73,slow=14,SNR=2.2						
	comp=Z,2.3nm,0.9s						
SCHQ	Schefferville	82.82	330	P	P	09 16 57.0	-1.4
	comp=Z,2.2nm,0.8s,baz=69,slow=8.6,SNR=1.5						
	comp=Z,2.2nm,0.8s						
YKA	Yellowknife Ar	89.43	354	P	P	09 17 30.2	-0.5
	comp=Z,0.4nm,0.8s,baz=1.5,slow=4.7,SNR=8.0						
	comp=Z,0.4nm,0.8s						
WRA	Warramunga Arr	91.95	111	P	P	09 17 42.0	-1.2
	comp=Z,0.3nm,0.7s,baz=311,slow=4.1,SNR=1.8						
	comp=Z,0.3nm,0.7s						
ASAR	Alice Springs	93.38	115	P	P	09 17 47.7	-2.2
	comp=Z,0.2nm,0.5s,baz=298,slow=4.9,SNR=2.3						
	comp=Z,0.2nm,0.5s						
QSPA	South Pole Qui	117.68	180	PKP	PKPdf	09 23 17.5	-2.1
	comp=Z,1.5nm,1.1s,baz=275,slow=2.4,SNR=2.4						

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*DRS **01** 09:11:24.8, 40°.74N×48°.51E, h18km*
*TIF **01** 09:11:25.1, 40°.84N×48°.37E, h15km*
*MOS **01** 09:11:25.1, 40°.91N×48°.25E, h5km, MPVA4.7*
*TEH **01** 09:11:25.7, 40°.84N×48°.36E, h15km±43km, ML3.8*
*IDC **01** 09:11:26.2±3.0, 40°.91N×48°.48E, h27km±21km, mb3.9/18, mbtmp4.0/28, ML3.9/8, MS3.1/6, Error ellipse: s-maj=11.7km s-min=7.4km az=176.0*
*NNC **01** 09:11:28.3±2.0, 41°.11N×49°.17E, h0km, mb4.0, Error ellipse: s-maj=25.5km s-min=12.4km az=67.0*
ISC 01 09:11:24.2±0.7, **40°.84N**±0°.02×**48°.47E**±0°.02, **h13**km±4km, **n215**, σ**1°.98**/312, **mb4.0**/24, **18C-7D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PQL	Pirkuli	0.11	116	Pg	Pg	09 11 29.5	+2.1
IML	Ismayilli	0.22	259	Pg	Pg	09 11 29.4	+0.4
ATGJ	Altiaghaj	0.36	86	Pg	Pg	09 11 34.2	+2.7
SIZA	Siyzn	0.41	54	Pg	Pg	09 11 35.2	+2.9
GBS	Qobustan	0.47	130	Pg	Pb	09 11 36.8	+2.5
QBL	Gabala	0.49	283	Pg	Pg	09 11 34.0	+0.2
KDMR	Kurdemir	0.51	205	Pg	Pg	09 11 35.3	+1.2
QUB	Quba	0.55	352	Pg	Pg	09 11 36.6	+1.6
QSAR	Qusar	0.69	347	Pg	Pg	09 11 39.1	+1.4
KSMR	Kasumkent	0.81	342	ePg	Pg	09 11 40.9	+1.1
KSMR				eSg	Sb	09 11 52.6	+1.7
KSMR	Kasumkent	0.81	342	ePG	Pg	09 11 40.9	+1.1
KSMR				eS	Sb	09 11 52.6	+1.7
ZRD	Zardab	0.81	227	Pg	Pb	09 11 40.8	+0.7
AKT	Akhty	0.85	319	ePg	Pg	09 11 40.7	0.0
	1μm,0.3s						
AKT				eSg	Sb	09 11 52.5	+0.3
	7μm,0.4s						
AKT	Akhty	0.85	319	ePG	Pg	09 11 40.6	0.0
AKT				i S	Sb	09 11 52.7	+0.5
AKT				pmax	pmax		
	comp=Z,1μm,0.3s						
AKT				smax	smax		
	comp=E,9μm,0.3s						
SAAT	Saatly	0.97	182	Pg	Pb	09 11 43.4	+0.5
SEKA	Sheki	1.03	292	PG	Pb	09 11 42.9	-1.0
SEKA	Sheki	1.03	292	Pg	Pb	09 11 42.9	-1.0
MNGR	Mingechevir, A	1.05	267	PG	Pb	09 11 44.3	+0.1
DRN	Derbent	1.20	355	ePg	Pn	09 11 47.6	+1.0
DRN				eSg	Sg	09 12 04.4	+1.6
DRN	Derbent	1.20	355	ePG	Pn	09 11 47.6	+1.0
DRN				eS	Sg	09 12 04.4	+1.6
URKR	Urkarakh	1.47	335	ePg	Pb	09 11 51.9	+0.5
	comp=E,430nm,0.4s						
URKR				eSg	Sg	09 12 12.1	+0.6
	comp=E,3μm,0.3s						
URKR	Urkarakh	1.47	335	ePG	Pb	09 11 51.9	+0.5
URKR				eS	Sg	09 12 12.1	+0.6
ZKTA	Zakatala	1.60	301	PN	Pn	09 11 53.1	+0.9
VSHL	Vashlovani	1.61	285	P	Pb	09 11 53.6	-0.2
VSHL				S	Sg	09 12 15.4	-0.6
GANJ	Ganja	1.64	264	PN	Pn	09 11 52.0	-0.7
KMKR	Kumukh	1.65	322	ePg	Pb	09 11 54.5	-0.1
	comp=E,681nm,0.5s						
KMKR				eSg	Sb	09 12 16.0	+0.6
	comp=E,2μm,0.4s						
KMKR	Kumukh	1.65	322	ePN	Pb	09 11 54.4	-0.1
KMKR				pmax	pmax		
	comp=Z,682nm,0.5s						
SGKR	Sergokala	1.73	340	ePg	Pb	09 11 56.4	+0.6
	comp=Z,326nm,0.4s						
SGKR				eSg	Sg	09 12 20.2	+0.3
	comp=Z,1μm,0.8s						
SGKR	Sergokala	1.73	340	ePN	Pb	09 11 56.4	+0.6
SGKR				eS	Sg	09 12 20.2	+0.3
DDFL	Dedoflistskaro	1.88	290	P	Pb	09 11 58.7	+0.4
DDFL	Dedoflistskaro	1.88	290	ePN	Pb	09 11 58.7	+0.4
GNBR	Gunib	1.92	325	ePg	Pb	09 11 59.8	+0.8
GNBR				eSg	Sg	09 12 24.9	-0.9
GNBR	Gunib	1.92	325	ePN	Pb	09 11 59.0	0.0
GNBR				i S	Sg	09 12 25.5	-0.3
GNBR				pmax	pmax		
	comp=Z,532nm,0.6s						
GNBR				smax	smax		
	comp=E,1μm,0.6s						
LGD	Lagodekhi	1.95	302	P	Pb	09 11 59.0	-0.6
LGD				S	Sg	09 12 26.6	-0.2
LGD	Lagodekhi	1.95	302	ePg	Pb	09 11 59.0	-0.6
LGD				eSg	Sg	09 12 26.6	-0.2
LGD	Lagodekhi	1.95	302	ePN	Pb	09 11 58.9	-0.6
LGD				eS	Sg	09 12 26.6	-0.2
GRMI	Germi	2.07	192	Pn	Pn	09 11 59.0	+0.2
ARKR	Arakani	2.08	329	ePg	Pb	09 12 02.0	+0.2
ARKR				eSg	Sg	09 12 29.7	-1.3
ARKR	Arakani	2.08	329	ePN	Pb	09 12 02.0	+0.2
ARKR				eS	Sg	09 12 29.7	-1.3
LKRN	Lenkeran, Azer	2.14	173	PN	Pn	09 12 00.1	+0.6
XNZR	Khunzakh	2.15	323	ePg	Pb	09 12 03.4	+0.3
	comp=E,194nm,0.5s						
XNZR				eSg	Sg	09 12 31.6	-1.8
	comp=E,3μm,0.4s						
HNZR	Khunzah	2.16	323	ePN	Pb	09 12 03.3	0.0
HNZR				eS	Sb	09 12 31.6	+1.6
HNZR				i S	Sg	09 12 32.2	-1.5
HNZR				pmax	pmax		
	comp=Z,194nm,0.5s						
HNZR				smax	smax		
	comp=E,487nm,0.4s						
HNZR				smax	smax		
	comp=N,341nm,0.6s						
HNZR				smax	smax		
	comp=E,473nm,0.6s						
BUJR	Buynaksk	2.23	333	ePg	Pb	09 12 05.3	+1.0
	comp=E,166nm,0.6s						
BUJR				eSg	Sg	09 12 35.1	-0.8
	comp=E,776nm,0.6s						
BUJR	Buynaksk	2.23	333	ePN	Pb	09 12 05.3	+1.0
BUJR				eS	Sg	09 12 35.1	-0.8
MAK	Makhachkala	2.24	342	ePg	Pn	09 12 03.6	+2.7
MAK				eSg	Sb	09 12 32.6	+0.6
MAK	Makhachkala	2.24	342	ePN	Pn	09 12 03.1	+2.2
MAK				e		09 12 07.0	
MAK				eS	Sb	09 12 33.8	+1.7
MAK				e		09 12 39.7	
MAK				pmax	pmax		
	comp=Z,304nm,0.4s						
MAK				smax	smax		
	comp=E,3μm,0.6s						
MAK				smax	smax		
	comp=E,3μm,0.6s						
MAK				MLR	MLR		
	comp=Z,350nm,12.0s						
UNCR	Uncukul	2.25	327	ePg	Pb	09 12 05.4	+0.7
UNCR				eSg	Sg	09 12 35.2	-1.4
UNCR	Uncukul	2.25	327	ePN	Pb	09 12 05.4	+0.7
UNCR				eS	Sg	09 12 35.2	-1.4
KRNR	Karanay	2.31	330	ePg	Pb	09 12 05.7	0.0
KRNR				eSg	Sb	09 12 36.2	+2.1
KRNR	Karanay	2.31	330	ePN	Pb	09 12 05.6	0.0
KRNR				eS	Sb	09 12 36.2	+2.1
KRNR				i S	Sg	09 12 36.8	-1.5
KRNR				pmax	pmax		
	comp=Z,130nm,0.4s						
KRNR				smax	smax		
	comp=N,462nm,0.6s						
KRNR				smax	smax		
	comp=E,529nm,0.4s						
KRNR				smax	smax		
	comp=E,447nm,0.4s						
DGRG	David-gareji	2.42	286	P	Pn	09 12 05.3	+1.9
DGRG				S	Sb	09 12 36.9	-0.3
DGRG	David-gareji	2.42	286	ePg	Pn	09 12 05.3	+1.9
DGRG				eSg	Sb	09 12 36.8	-0.3
DGRG	David-gareji	2.42	286	ePN	Pn	09 12 05.2	+1.9
DGRG				eS	Sb	09 12 36.8	-0.3
GAS1	Astara - Iran	2.46	173	Pn	Pn	09 12 04.0	0.0
KANR	Karaman	2.47	343	ePn	Pb	09 12 08.4	0.0
KANR				eSn	Sb	09 12 40.7	+2.1
KANR	Karaman	2.47	343	ePN	Pb	09 12 08.3	0.0
KANR				eS	Sb	09 12 40.7	+2.1
KANR				i S	Sg	09 12 41.3	-2.1
KANR				pmax	pmax		
	comp=Z,358nm,0.5s						
KANR				smax	smax		
	comp=E,968nm,0.5s						
KANR				smax	smax		
	comp=N,682nm,0.4s						
KANR				smax	smax		
	comp=E,805nm,0.6s						
BTLR	Botlikh	2.48	318	ePn	Pb	09 12 09.7	+1.1
BTLR				eSn	Sb	09 12 40.4	+1.4
BTLR	Botlikh	2.48	318	ePN	Pb	09 12 08.6	0.0
BTLR				i S	Sb	09 12 41.1	+2.0
BTLR				pmax	pmax		
	comp=Z,146nm,0.6s						
BTLR				smax	smax		
	comp=E,298nm,0.5s						
DBC	Dubki	2.50	331	ePn	Pb	09 12 08.3	-0.7
	comp=E,89nm,0.3s						
DBC				eSn	Sb	09 12 40.9	+1.2
	comp=E,1μm,0.3s						
DBC	Dubki	2.50	331	ePN	Pb	09 12 08.2	-0.7
DBC				eS	Sb	09 12 40.9	+1.2
DBC				i S	Sg	09 12 41.4	-3.1
DBC				pmax	pmax		
	comp=Z,89nm,0.3s						
DBC				smax	smax		
	comp=E,605nm,0.3s						
DBC				smax	smax		
	comp=N,443nm,0.5s						
DBC				smax	smax		
	comp=E,507nm,0.6s						
DLMR	Dylym	2.62	329	ePn	Pb	09 12 10.2	-0.7
DLMR				eSn	Sb	09 12 42.4	-0.6
DLMR	Dylym	2.62	329	ePN	Pn	09 12 09.1	+3.0
DLMR				i S	Sb	09 12 43.2	+0.2
DLMR				pmax	pmax		
	comp=Z,351nm,0.4s						
DLMR				smax	smax		
	comp=E,1μm,0.4s						
IHRS	Heris	2.75	204	Pn	Pn	09 12 09.1	+1.0
DVE	Vedeno	2.75	321	ePn	Pb	09 12 11.6	-1.5
DVE				eSn	Sb	09 12 44.4	-2.3
DVE	Vedeno	2.75	321	ePN	Pb	09 12 11.6	-1.5
DVE				eS	Sb	09 12 44.4	-2.3
NAX	Nakhchivan	2.82	235	PN	Pn	09 12 10.9	+1.9
SEAG	Tbilisi Sea	2.91	290	P	Pb	09 12 15.2	-0.7
SEAG				S	Sb	09 12 50.7	-0.8
SEAG	Tbilisi Sea	2.91	290	ePn	Pb	09 12 15.2	-0.7
SEAG				eSn	Sb	09 12 50.7	-0.8
SEAG	Tbilisi Sea	2.91	290	ePN	Pb	09 12 15.2	-0.7
SEAG				eS	Sb	09 12 50.7	-0.8
GNI	Garni	2.92	258	ePn	Pb	09 12 14.9	-1.3
GNI				eSn	Sb	09 12 51.0	-0.9
GNI	Garni	2.92	258	cePN	Pn	09 12 10.7	+0.2
GNI	Garni	2.92	258	Pn	Pb	09 12 14.7	-1.5
	comp=E,7.5nm,0.3s,baz=10,slow=2.6,SNR=14						
GNI				Sn	Sb	09 12 51.2	-0.7
	comp=E,13nm,0.3s,baz=203,slow=13,SNR=4.0						
	comp=E,25nm,0.5s						
IMRD	Marand	3.00	226	Pn	Pn	09 12 13.4	+1.8
CHRG	Chargali	3.04	300	P	Pn	09 12 14.1	+2.0
ISRB	Sarab	3.07	192	Pn	Pn	09 12 14.3	+1.8
SHTL	Shatili	3.07	307	P	Pn	09 12 15.4	+2.8
SHTL	Shatili	3.07	307	ePN	Pn	09 12 15.3	+2.8
KZRT	Kazreti	3.12	281	P	Pb	09 12 17.4	-2.2
KZRT	Kazreti	3.12	281	ePN	Pb	09 12 17.3	-2.2
ITBZ	Tabriz	3.16	215	Pn	Pn	09 12 14.2	+0.5
MAKU	Maku	3.26	244	Pn	Pn	09 12 16.3	+1.2
DMNI	Dmanisi	3.27	280	P	Pn	09 12 16.4	+1.1
DMNI				S	Sn	09 12 56.5	+2.4
DMNI	Dmanisi	3.27	280	ePN	Pn	09 12 16.3	+1.1
DMNI				eS	Sn	09 12 56.4	+2.4
TRLG	Trialeti	3.37	283	P	Pn	09 12 18.5	+1.9
TRLG				S	Sb	09 13 02.7	-2.0
TRLG	Trialeti	3.37	283	ePn	Pn	09 12 18.5	+1.9
TRLG				eSn	Sb	09 13 02.7	-2.0
TRLG	Trialeti	3.37	283	ePN	Pn	09 12 18.4	+1.9
TRLG				eS	Sb	09 13 02.6	-2.0
ISHB	Shabestar	3.37	222	Pn	Pn	09 12 17.1	+0.4
GUDG	Gudauri	3.40	300	P	Pb	09 12 21.6	-2.8
GUDG	Gudauri	3.40	300	ePn	Pn	09 12 18.4	+1.4
GUDG				eSn	Sn	09 12 59.8	+2.3
GUDG	Gudauri	3.40	300	ePN	Pn	09 12 18.5	+1.4
GUDG				eS	Sn	09 12 59.8	+2.3
MTEO	Meteo	3.47	303	P	Pn	09 12 21.8	+3.6
MTEO	Meteo	3.47	303	ePN	Pn	09 12 21.8	+3.6
KMGR	Komgaron	3.48	311	ePn	Pb	09 12 24.9	-0.8
KMGR				eSn	Sn	09 13 02.9	+3.7
KMGR	Komgaron	3.48	311	ePN	Pb	09 12 24.9	-0.8
KMGR				eS	Sn	09 13 02.9	+3.7
BRNG	Burnasheti	3.58	284	P	Pn	09 12 22.5	+2.9
BRNG				S	Sb	09 13 14.2	+3.2
BRNG	Burnasheti	3.58	284	ePN	Pn	09 12 22.5	+2.9
BRNG				eS	Sb	09 13 14.1	+3.2
VLKR	Vladikavkaz	3.59	309	i Pn	Pn	09 12 23.5	+4.0
VLKR				eSn	Sb	09 13 07.2	-3.7
VLKR	Vladikavkaz	3.59	309	i PN	Pn	09 12 23.5	+4.0
VLKR				eS	Sb	09 13 07.2	-3.7
IHSH	Hashtrud	3.65	195	Pn	Pn	09 12 21.5	+0.9
LACR	Lac	3.70	304	ePn	Pn	09 12 24.3	+3.3
LACR				eSn	Sn	09 13 08.5	+4.0
LACR	Lac	3.70	304	ePN	Pn	09 12 24.3	+3.3
LACR				eS	Sn	09 13 08.5	+4.0
IAZR	Azarshahr	3.70	212	Pn	Pn	09 12 22.5	+1.3
BGD	Bogdanovka	3.71	278	P	Pb	09 12 27.5	-2.1
BGD				S	Sg	09 13 18.1	-5.0
BGD	Bogdanovka	3.71	278	ePN	Pb	09 12 27.5	-2.1
BGD				eS	Sg	09 13 18.1	-5.0
AKH	Akhalkalaki	3.80	280	P	Pn	09 12 26.5	+3.9
AKH				S	Sb	09 13 18.2	+1.1
AKH	Akhalkalaki	3.80	280	ePN	Pn	09 12 26.4	+3.9
AKH				eS	Sb	09 13 18.2	+1.1
ALIG	Mtskhetisjvari	3.83	291	P	Pn	09 12 24.2	+1.3
ALIG				S	Sn	09 13 08.4	+0.5
ALIG	Mtskhetisjvari	3.83	291	ePn	Pn	09 12 24.2	+1.3
ALIG				eSn	Sn	09 13 08.4	+0.5
ALIG	Mtskhetisjvari	3.83	291	ePN	Pn	09 12 24.2	+1.3
BTKR	Batakoyurt	3.87	312	ePn	Pn	09 12 27.8	+4.5
BTKR				eSn	Sn	09 13 09.9	+1.3
BTKR	Batakoyurt	3.87	312	ePN	Pn	09 12 27.8	+4.5
BTKR				eS	Sn	09 13 09.9	+1.3
KORR	Kora	3.98	306	i Pn	Pn	09 12 28.6	+3.8
KORR				eSn	Sn	09 13 13.1	+1.8
KORR	Kora	3.98	306	i PN	Pn	09 12 28.6	+3.8
KORR				eS	Sn	09 13 13.1	+1.8
TRKR	Terskaya	4.00	317	ePn	Pb	09 12 31.4	-3.1
TRKR				eSn	Sn	09 13 14.8	+3.0
TRKR	Terskaya	4.00	317	ePN	Pb	09 12 31.4	-3.1

TRKR eS Sn 09 13 14.8 +3.0
STDR Stavd-Durt 4.14 309 ePn Pn 09 12 28.4 +1.3
STDR eSn Sn 09 13 18.0 +2.7
STDR Stavd-Durt 4.14 309 ePN Pn 09 12 28.4 +1.3
STDR eS Sn 09 13 18.0 +2.7
ONI Oni 4.14 297 P Pn 09 12 29.7 +2.6
ONI Oni 4.14 297 ePn Pn 09 12 29.8 +2.6
ONI eSn Sn 09 13 15.2 -0.2
ONI Oni 4.14 297 ePN Pn 09 12 29.8 +2.7
LSNR Lesken 4.23 307 ePn Pn 09 12 29.2 +0.9
LSNR eSn Sn 09 13 19.1 +1.6
LSNR Lesken 4.23 307 ePN Pn 09 12 29.2 +0.9
LSNR eS Sn 09 13 19.1 +1.6
JIR1 Jirandeh 4.25 165 Pn Pn 09 12 28.3 -0.5
PRTR Priterechnaya 4.26 315 ePn Pn 09 12 29.9 +1.3
PRTR eSn Sn 09 13 21.4 +3.3
PRTR Priterechnaya 4.26 315 ePN Pn 09 12 29.9 +1.3
PRTR eS Sn 09 13 21.4 +3.3
ABS Abastumani 4.36 284 P Pn 09 12 34.4 +4.2
ABS Abastumani 4.36 284 ePN Pn 09 12 34.4 +4.2
KLST Kelardasht - M 4.76 154 Pn Pn 09 12 36.2 +0.2
KBTC Kuba-Taba 4.79 310 ePn Pn 09 12 40.8 +4.8
KBTC eSn Sn 09 13 33.3 +2.0
KBTC Kuba-Taba 4.79 310 ePN Pn 09 12 40.8 +4.8
KBTC eS Sn 09 13 33.3 +2.0
MZPU Pul - Mazandar 5.02 150 Pn Pn 09 12 39.6 +0.2
KBZ Khabaz 5.04 307 ePn Pn 09 12 40.5 +1.1
KBZ eSn Sn 09 13 39.8 +2.4
KBZ Khabaz 5.04 307 ePN Pn 09 12 40.5 +1.1
KBZ eS Sn 09 13 39.8 +2.4
KBZ Khabaz 5.04 307 Pn Pn 09 12 42.6 +3.2
comp=E,1.0nm,0.8s,baz=115,slow=18,SNR=1.6
KBZ Sn Sn 09 13 40.0 +2.5
comp=E,0.8nm,0.3s,baz=190,slow=21,SNR=1.4
PYA1 Pyatigorsk 5.12 311 ePn Pn 09 12 41.1 +0.6
PYA1 eSn Sn 09 13 40.3 +0.9
PYA1 Pyatigorsk 5.12 311 ePN Pn 09 12 41.1 +0.6
PYA1 eS Sn 09 13 40.3 +0.9
SHA1 Shidzhatmaz 5.19 306 ePn Pn 09 12 45.1 +3.4
SHA1 eSn Sn 09 13 43.0 +1.4
SHA1 Shidzhatmaz 5.19 306 ePN Pn 09 12 45.1 +3.4
SHA1 eS Sn 09 13 43.0 +1.4
BEYR Belyy Ugol+ 5.25 309 ePn Pn 09 12 45.0 +2.7
BEYR eSn Sn 09 13 41.9 -0.8
BEYR Belyy Ugol+ 5.25 309 eP Pn 09 12 45.0 +2.7
BEYR eS Sn 09 13 41.9 -0.8
KVAR Kislovodsk Arr 5.29 308 Pn Pn 09 12 45.4 +2.5
comp=E,1.5nm,0.5s,baz=97,slow=22,SNR=1.8
KVAR Sn Sn 09 13 43.8 +0.1
baz=229,slow=22
KIV Kislovodsk 5.29 308 ePn Pn 09 12 45.9 +2.9
KIV eSn Sn 09 13 42.7 -1.2
KIV Kislovodsk 5.29 308 eP Pn 09 12 45.9 +2.9
KIV eS Sn 09 13 42.7 -1.2
ALER Alexandrovskoy 5.66 316 ePn Pn 09 12 48.9 +0.9
ALER eSn Sn 09 13 52.7 -0.2
ALER Alexandrovskoy 5.66 316 eP Pn 09 12 48.9 +0.9
ALER eS Sn 09 13 52.7 -0.2
GOF Gofitskoye 5.80 318 *ce*P Pn 09 12 53.6 +3.8
GOF eS Sn 09 13 58.0 +1.8
IALA Alasht 5.84 143 Pn Pn 09 12 50.8 +0.1
IGLO Ghaloghah 6.03 134 Pn Pn 09 12 54.3 +1.1
MRVT Maraveh tapeh 6.71 116 Pn Pn 09 13 02.5 0.0
ISFB Sefidab 7.13 154 Pn Pn 09 13 10.6 +2.4
GEYT Alibeck 8.02 108 Pn Pn 09 13 19.8 -0.5
comp=E,3.0nm,0.3s,baz=291,slow=12,SNR=18
GEYT Sn Sn 09 14 47.4 -3.5
comp=E,0.4nm,0.3s,baz=130,slow=53,SNR=1.3
comp=E,5.7nm,0.4s
GYA0B ALIBECK ARRAY 8.02 108 ⇑Pn Pn 09 13 19.6 -0.7
GYA0B ⇑Sn Sn 09 14 48.8 -2.1
TBJM Torbat-e-JAM 10.88 117 Pn Pn 09 13 59.8 +0.1
BRTR Keskin Array B 11.38 269 LR LR 09 18 32.5
comp=E,56nm,21.5s,baz=89,slow=37
BELG Belogornoye 11.57 357 ⇑*e*P Pn 09 14 04.3 -4.6
BELG pmax pmax
comp=Z,3.0nm,1.4s
BELG Belogornoye 11.57 357 Pn Pn 09 14 04.1 -4.8
comp=Z,1.0nm,0.3s,baz=104,slow=3.7,SNR=3.0
BELG Sn Sn 09 16 08.6 -9.3
comp=Z,1.1nm,0.3s,baz=45,slow=19,SNR=2.3
BELG LR LR 09 19 28.6
comp=Z,74nm,20.1s,baz=183,slow=42
AB31 Akbulak array 11.68 40 Pn Pn 09 14 08.2 -2.2
comp=Z,1.0nm,0.3s,baz=224,slow=12,SNR=52
AB31 ⇑Sn Sn 09 16 16.4 -4.3
comp=Z,3.8nm,0.6s,baz=227,slow=24,SNR=6.6
AB31 Akbulak array 11.68 40 P Pn 09 14 08.0 -2.4
AKTO Aktyubinsk 11.69 32 ⇑Pn Pn 09 14 08.8 -1.7
comp=Z,3.7nm,0.7s
AKTO ⇓Sn Sn 09 16 13.0 -7.8
comp=Z,4.7nm,0.8s
AKTO Aktyubinsk 11.69 32 Pn Pn 09 14 09.0 -1.5
comp=Z,1.1nm,0.3s,baz=208,slow=6.8,SNR=12
AKTO Sn Sn 09 16 13.3 -7.4
comp=Z,0.7nm,0.3s,baz=86,slow=24,SNR=2.6
comp=Z,3.6nm,0.5s
OBN Obninsk 16.32 335 ⇑*e*P Pn 09 15 10.4 -2.4
OBN eS Sn 09 18 08.4 -5.1
OBN pmax pmax
comp=Z,7.0nm,0.9s
KK31 Karatay Array 16.55 75 P Pn 09 15 14.6 -1.2
comp=Z,3.3nm,0.6s,baz=274,slow=14,SNR=54
AKASG Malin Array Be 16.61 313 Pn Pn 09 15 13.7 -2.9
comp=Z,0.5nm,0.3s,baz=120,slow=12,SNR=2.2
comp=Z,0.2nm,0.2s
ARU Arti 16.94 20 *c i*P Pn 09 15 16.2 -4.5
ARU S Sn 09 18 24.4 -4.2
ARU pmax pmax
comp=Z,19nm,3.3s
ARU Arti 16.94 20 Pn Pn 09 15 16.4 -4.3
baz=213,slow=8.1,SNR=7.9
ARU Sn Sn 09 18 14.1 -15
baz=77,slow=22,SNR=2.0
ARU LR LR 09 23 19.8
comp=Z,55nm,18.9s,baz=122,slow=42
comp=Z,4.1nm,0.4s
KIRV Kirov 17.78 2 ⇑*e*P Pn 09 15 29.6 -1.4
KIRV Kirov 17.78 2 P Pn 09 15 30.6 -0.4
comp=Z,2.0nm,0.3s,baz=164,slow=1.5,SNR=13
KIRV S Sn 09 18 39.4 -9.4
comp=Z,6.0nm,0.6s,baz=54,slow=2.0,SNR=3.7
KIRV LR LR 09 23 32.5
comp=Z,98nm,20.1s,baz=189,slow=41
comp=Z,18nm,0.7s
SVE Sverdlovsk 17.85 22 *e*P Pn 09 15 29.7 -2.3
SVE eS Sn 09 18 42.7 -7.9
SVE pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 19.18 43 ⇑P P 09 15 46.6 -0.6
comp=Z,11nm,1.3s
BRVK Borovoye 19.18 43 ⇑*e*P P 09 15 46.4 -0.9
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BVA0 Borovoye Array 19.21 43 P P 09 15 47.3 -0.4
comp=Z,5.9nm,0.8s,baz=253,slow=40,SNR=21
BVA0 Borovoye Array 19.21 43 P P 09 15 47.3 -0.4
BVAR Borovoye Array 19.21 43 P P 09 15 47.5 -0.2
comp=Z,0.3nm,0.3s,baz=228,slow=11,SNR=24
comp=Z,5.6nm,0.6s
AAK Ala-Archa 19.49 76 ⇑*e*P P 09 15 51.1 +0.2
AAK pmax pmax
comp=Z,11nm,1.5s
AAK Ala-Archa 19.49 76 P P 09 15 51.7 +0.8
comp=Z,0.5nm,0.3s,baz=231,slow=4.4,SNR=12
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 20.28 75 ⇓P P 09 15 59.4 -0.2
comp=Z,2.9nm,0.7s
TKM2 Tokmak 2 20.28 75 *e*P P 09 15 59.0 -0.6
KLMR Klimovskoe 20.79 348 *e*P P 09 16 04.0 -0.7
KLMR eS S 09 19 46.9 -9.2
KLMR pmax pmax
comp=Z,49nm,1.4s
KSH Kashi 21.03 85 P P 09 16 06.7 -1.0
KSH pP pP 09 16 12.3 +0.3
KSH pmax pmax
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 23.01 55 ⇓P P 09 16 29.3 +0.7
comp=Z,2.1nm,0.7s
KURBB Kurchatov Arra 23.01 55 P P 09 16 28.5 -0.1
comp=Z,1.2nm,0.5s,baz=261,slow=8.9,SNR=12
KURBB PcP PcP 09 20 17.7 -0.1
comp=Z,0.4nm,0.7s,baz=232,slow=3.2,SNR=2.9
comp=Z,1.2nm,0.5s

KURK Kurchatov 23.09 55 ⇑P P 09 16 29.7 +0.3
comp=Z,5.2nm,0.9s
KURK Kurchatov 23.09 55 ⇓*e*P P 09 16 28.9 -0.5
KURK pmax pmax
comp=Z,4.0nm,1.1s
VRAC Vranov 23.91 301 LR LR 09 27 23.3
comp=Z,136nm,18.6s,baz=286,slow=40
FINES FINESS Array B 24.72 334 P P 09 16 43.9 -1.0
comp=Z,5.4nm,0.5s,baz=140,slow=9.5,SNR=62
FINES PcP PcP 09 20 21.0 -0.3
comp=Z,1.5nm,0.8s,baz=124,slow=3.9,SNR=1.3
comp=Z,5.4nm,0.5s
MAKZ Makanchi 24.78 65 ⇓P P 09 16 46.1 +0.6
comp=Z,5.4nm,0.8s
MAKZ Makanchi 24.78 65 P P 09 16 45.0 -0.5
MK31 Makanchi Array 24.99 65 ⇑P P 09 16 47.4 -0.1
comp=Z,4.2nm,0.6s,baz=268,slow=7.5,SNR=52
MK31 Makanchi Array 24.99 65 *c i*P P 09 16 47.8 +0.3
MKAR Makanchi Array 24.99 65 P P 09 16 48.2 +0.8
comp=Z,6.5nm,0.7s,baz=272,slow=7.4,SNR=69
MKAR PcP PcP 09 20 21.9 -0.3
comp=Z,0.3nm,0.6s,baz=237,slow=4.0,SNR=2.8
comp=Z,6.5nm,0.7s
ZALV Zalesovo Beam 27.55 49 *i*P P 09 17 10.8 +0.4
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 27.55 49 P P 09 17 09.6 -0.9
comp=Z,0.6nm,0.3s,baz=260,slow=10,SNR=6.5
comp=Z,0.6nm,0.3s
DGZ Jazzator, Alta 28.54 59 ⇓*e*P P 09 17 16.4 -3.2
DGZ pmax pmax
comp=Z,8.0nm,2.8s
HFS Hagfors 28.85 324 P P 09 17 20.8 -1.2
comp=Z,1.7nm,0.5s,baz=120,slow=8.8,SNR=10
comp=Z,1.7nm,0.5s
NB2 NORSAR Subarra 30.35 324 P P 09 17 33.5 -1.8
comp=Z,1.0nm,0.8s,baz=118,slow=8.6
NOA NORSAR Array B 30.35 324 P P 09 17 33.7 -1.6
comp=Z,1.1nm,0.9s,baz=119,slow=8.5,SNR=5.1
NOA LR LR 09 31 58.7
comp=Z,32nm,18.1s,baz=275,slow=41
comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 31.19 345 *e*P P 09 17 42.6 0.0
ARCES ARCESS Array B 31.19 345 P P 09 17 42.1 -0.5
comp=Z,2.9nm,0.8s,baz=152,slow=9.6,SNR=16
comp=Z,2.9nm,0.8s
NRIK Noril'sk 35.12 23 ⇓*e*P P 09 18 13.9 -2.9
NRIK pmax pmax
comp=Z,7.0nm,2.3s
EKA Eskdalemuir Ar 36.51 311 P P 09 18 28.5 -0.4
comp=Z,0.4nm,0.4s,baz=82,slow=7.9,SNR=1.5
comp=Z,0.4nm,0.4s
SPITS Spitsbergen Ar 39.65 350 P P 09 18 55.4 +0.2
comp=Z,8.4nm,0.8s,baz=125,slow=12,SNR=8.3
comp=Z,8.4nm,0.8s
SONM Songino Array 41.17 60 P P 09 19 08.7 +0.5
comp=Z,0.7nm,0.5s,baz=289,slow=10,SNR=3.3
comp=Z,0.7nm,0.5s
ULN Ulaanbaatar 41.59 60 *c i*P P 09 19 12.8 +1.0
ULN pmax pmax
comp=Z,7.0nm,2.5s
CMAR Chiang Mai Arr 48.45 102 *ce*P P 09 20 06.3 -0.1
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 48.45 102 P P 09 20 06.0 -0.4
comp=Z,1.2nm,0.6s,baz=294,slow=8.1,SNR=8.1
CMAR PcP PcP 09 21 32.7 +0.1
comp=Z,0.5nm,0.7s,baz=290,slow=5.1,SNR=2.7
comp=Z,1.2nm,0.6s
TORD Torodi Ar. Bea 49.20 250 P P 09 20 10.9 -1.3
comp=Z,0.2nm,0.4s,baz=34,slow=9.7,SNR=1.7
comp=Z,0.2nm,0.4s
USRK Ussuriysk Ar. 59.06 56 P P 09 21 23.5 -0.3
comp=Z,0.9nm,0.4s,baz=283,slow=6.8,SNR=9.7
comp=Z,0.9nm,0.4s
KSRS Korea Array 59.67 65 P P 09 21 28.2 +0.1
comp=Z,1.8nm,0.5s,baz=297,slow=6.9,SNR=11
comp=Z,1.8nm,0.5s
MJAR Matsushiro Arr 67.11 61 P P 09 22 17.5 0.0
comp=Z,1.1nm,0.7s,baz=316,slow=8.4,SNR=5.1
comp=Z,1.1nm,0.7s
ILAR Eielson Array 74.04 7 P P 09 22 59.2 +0.1
comp=Z,0.3nm,0.8s,baz=319,slow=4.3,SNR=4.4
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 76.12 352 *i*P P 09 23 11.3 +0.1
YKA Yellowknife Ar 76.12 352 P P 09 23 10.5 -0.7
comp=Z,0.4nm,0.8s,baz=6.2,slow=5.9,SNR=6.2
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 99.76 108 *i*P Pdif 09 25 08.5 +0.4
WRA Warramunga Arr 99.76 108 P Pdif 09 25 07.1 -1.0
comp=Z,0.5nm,0.6s,baz=317,slow=4.1,SNR=6.7
comp=Z,0.5nm,0.6s
QSPA South Pole Qui 130.65 180 PKP PKPdf 09 30 31.6 -2.1
comp=Z,0.8nm,0.7s,baz=261,slow=3.4,SNR=2.7

IDC 01 09:13:07.8±1.3, 31°.18N×103°.60E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=45.2km s-min=23.8km az=50.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.01**	**66**	P	P	09 17 52.6	-0.3
	1.9nm,0.7s,baz=256,slow=10,SNR=10						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**22.64**	**320**	P	P	09 18 09.5	-0.9
	1.2nm,0.9s,baz=125,slow=9.5,SNR=1.2						
	1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**26.92**	**323**	P	P	09 18 51.3	+0.8
	0.4nm,0.6s,baz=128,slow=9.8,SNR=2.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**58.77**	**146**	P	P	09 23 07.8	-0.1
	0.5nm,0.8s,baz=338,slow=7.5,SNR=6.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**61.78**	**148**	P	P	09 23 28.4	0.0
	0.4nm,0.9s,baz=345,slow=6.7,SNR=2.7						
	0.4nm,0.9s						

*BER **01** 09:19:10.0±1.8, 79°.08N×3°.53E, h10km, mb(Pn)3.0, Confirmed Earthquake*
*FCIAR **01** 09:19:13.0, 78°.81N×4°.09E, h10km, station OMEGA has station magnitude of 3.70*

ISC 01 09:19:13.7±3.6, 79°.16N±0°.09×6°.1E±0°.2, h2km±15km, n12, σ1§21/20, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.14**	**99**	*e*P	**Pn**	**09 19 36.8**	**+0.1**
KBS				*e*S	**Sn**	**09 19 55.3**	**+2.5**
KBS				IAML		09 20 00.6	
	comp=Z,5.2nm,0.2s						
KBS	**Kingsbay**	**1.14**	**99**	*e*P	**Pb**	**09 19 36.0**	**-0.1**
KBS				*e*S	**Sn**	**09 19 55.3**	**+2.5**
KBS	**Kingsbay**	**1.14**	**99**	*i*P	**Pg**	**09 19 35.7**	**+0.2**
KBS				*i*S	**Sn**	**09 19 54.2**	**+1.4**
BRBB	**Barentsburg B**	**1.93**	**120**	*e*P	**Pn**	**09 19 48.0**	**+0.5**
BRBB				*e*S	**Sb**	**09 20 13.3**	**-0.8**
BRBA	**Barentsburg A**	**1.95**	**121**	*e*S	**Sb**	**09 20 13.4**	**-1.3**
SPA0	**Spitsbergen Ar**	**2.25**	**111**	*e*P	**Pn**	**09 19 52.5**	**+0.5**
SPA0				*e*S	**Sb**	**09 20 22.9**	**-0.5**
SPA0				IAML		09 20 24.6	
	comp=Z,4.7nm,0.8s						
SPA0	**Spitsbergen Ar**	**2.25**	**111**	*e*P	**Pn**	**09 19 52.4**	**+0.4**
SPA0				*e*S	**Sb**	**09 20 22.3**	**-1.0**
HOPEN	**Hopen**	**4.78**	**114**	*e*S	**Sn**	**09 21 22.2**	**-0.3**
HOPEN				IAML		09 21 36.6	
	comp=Z,5.4nm,0.9s						
HOPEN	**Hopen**	**4.78**	**114**	*e*P	**Pn**	**09 20 26.3**	**-0.3**
HOPEN				*e*S	**Sn**	**09 21 20.9**	**-1.6**
DAG	**Danmarks Havn**	**5.67**	**258**	*e*P	Pn	09 20 24.6	-14
DAG				*e*		09 21 14.2	
ZFI2	**Zemlya Franca-**	**7.28**	**57**	*e*P	**Pn**	**09 21 01.4**	**+0.5**
ZFI2				*e*S	**Sn**	**09 22 23.6**	**-0.4**
OMEGA	**Omega**	**7.30**	**57**	*e*P	**Pn**	**09 21 01.5**	**+0.3**
OMEGA				*e*S	**Sn**	**09 22 23.1**	**-1.4**
	comp=Z,21nm,3.0s						

*IDC **01** 09:24:56.5±0.7, 38°.02N×30°.93W, h0km, mb4.2/28, mbtmp4.2/28, MS3.9/46, Error ellipse: s-maj=18.2km s-min=12.7km az=5.0*
*NEIC **01** 09:24:58.8±1.7, 38°.1N±0°.1×30°.6W±0°.1, h10km±1km, mb4.9/154, Error ellipse: s-maj=21.5km s-min=13.6km az=177.0*
*SVSA **01** 09:24:59.7±1.1, 37°.95N×30°.80W, h10km, ML4.2(INMG), Error ellipse: s-maj=4.5km s-min=3.7km az=9.0*
*GCMT **01** 09:25:01.8±0.3, 37°.97N±0°.02×31°.02W±0°.03, h20km±1km, MW4.9/66, Moment Tensor Solution. s15,c15; s66,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.35±.24; Mθθ2.11±.15; Mφφ0.23±.13; Mrθ0.26±.23; Mrφ1.35±.07; Mθφ0.41±.28; Best double couple: M◎2.63200×10^16 NP1:φs236.00000°, δ50.00000°, λ-99.00000°. NP2: φs70.00000°, δ41.00000°, λ-79.00000°. Principal axes: T 2.8500, Plg5.0000°, Azm332.0000°; N -0.4430, Plg7.0000°, Azm241.0000°; P -2.4140, Plg82.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 09:24:59.3±1.8, 38°.01N±0°.06×30°.70W±0°.04, h17km±11km, n314, σ1§82/263, mb4.8/134, MS3.9/46, 14C-9D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.42**	**344**	*e*P	**Pn**	**09 25 22.1**	**-2.2**
H07S1				*e*S	**Sn**	**09 25 37.7**	**-5.0**
H07S1				A	A	09 25 39.7	
	2μm,0.4s						
PFCBR	**Castelo Branco**	**1.65**	**71**	*e*P	**Pn**	**09 25 25.1**	**-2.3**
PFCBR				*e*S	**Sn**	**09 25 44.4**	**-3.7**
PFCBR				A	A	09 25 47.7	
	96nm,0.3s						
CALA	**Caldeira**	**1.68**	**69**	*e*P	**Pn**	**09 25 25.5**	**-2.4**
CALA				*e*S	**Sn**	**09 25 45.0**	**-4.0**
CALA				A	A	09 25 56.9	
	996nm,0.5s						
PCED	**Cedros**	**1.69**	**68**	*e*P	**Pn**	**09 25 25.5**	**-2.5**
PCED				*e*S	**Sn**	**09 25 45.5**	**-3.7**
PCED				A	A	09 25 47.3	
	173nm,0.2s						
HOR	**Horta**	**1.71**	**72**	*e*P	**Pn**	**09 25 26.1**	**-2.2**
HOR				*e*S	**Sn**	**09 25 46.2**	**-3.5**
HOR				A	A	09 25 47.7	
	356nm,0.2s						
PICO	**Pico**	**1.86**	**74**	*e*P	**Pn**	**09 25 28.4**	**-2.0**
PICO				*e*S	**Sn**	**09 25 50.0**	**-3.5**
PICO				A	A	09 25 52.3	
	450nm,0.3s						
PROQ	**S£o Roque**	**1.94**	**74**	*e*P	**Pn**	**09 25 29.3**	**-2.2**
PROQ				*e*S	**Sn**	**09 25 52.0**	**-3.5**
PROQ				A	A	09 25 54.4	
	2μm,0.4s						
PROQ				A	A	09 25 57.4	
	787nm,0.2s						
PPNO	**Prainha do Nor**	**1.98**	**76**	*e*P	**Pn**	**09 25 30.1**	**-1.9**
PPNO				*e*S	**Sn**	**09 25 52.6**	**-3.8**
PPNO				A	A	09 25 53.9	
	306nm,0.3s						
ROSA	**Rosais**	**2.06**	**69**	*e*P	**Pn**	**09 25 31.0**	**-2.1**
ROSA				*e*S	**Sn**	**09 25 54.8**	**-3.6**
ROSA				A	A	09 26 02.1	
	253nm,0.2s						
ROSA	**Rosais**	**2.06**	**69**		**Pn**	**09 25 31.6**	**-1.6**
PID	**Ribeirinha**	**2.08**	**77**	*e*P	**Pn**	**09 25 35.0**	**+1.6**
PID				*e*S	**Sn**	**09 25 58.5**	**-0.4**
PID				A	A	09 26 02.9	
	460nm,0.3s						
PMAN	**Manadas**	**2.15**	**72**	*e*P	**Pn**	**09 25 33.0**	**-1.3**
PMAN				*e*S	**Sn**	**09 25 56.9**	**-3.6**
PMAN				A	A	09 25 59.0	
	216nm,0.3s						
PGRA	**Graciosa**	**2.37**	**64**	*e*P	**Pg**	**09 25 44.4**	**-0.3**
PSBA	**Serra de Santa**	**2.76**	**73**	*e*P	**Pn**	**09 25 40.9**	**-1.8**
PSBA				*e*S	**Sn**	**09 26 11.5**	**-4.2**
PSBA				A	A	09 26 16.8	
	103nm,0.3s						
ADH	**Angra Heroismo**	**2.80**	**76**	*e*P	**Pn**	**09 25 40.9**	**-2.4**
ADH				*e*S	**Sn**	**09 26 12.6**	**-4.0**
ADH				A	A	09 26 20.0	
	352nm,0.4s						
PAGU	**Agualva, Azore**	**2.87**	**74**	*e*P	**Pn**	**09 25 42.4**	**-1.8**
PAGU				*e*S	**Sn**	**09 26 14.7**	**-3.6**
PAGU				A	A	09 26 20.5	
	157nm,0.1s						
PSCM	**Serra do Cume**	**2.90**	**75**	*e*P	**Pn**	**09 25 42.7**	**-2.0**
PSCM				*e*S	**Sn**	**09 26 15.4**	**-3.8**
PSCM				A	A	09 26 16.1	
	76nm,0.2s						
PSET	**Sete Cidades**	**3.94**	**91**	*e*P	**Pn**	**09 25 57.0**	**-2.0**
PSET				*e*S	**Sn**	**09 26 40.2**	**-4.7**
PSET				A	A	09 26 48.0	
	193nm,0.4s						
PDA	**Ponta Delgada**	**4.00**	**92**	*e*P	**Pn**	**09 25 57.3**	**-2.4**
PDA				*e*S	**Sn**	**09 26 41.3**	**-4.8**
PDA				A	A	09 26 43.0	
	105nm,0.4s						
CMLA	**Cha da Macela**	**4.11**	**92**	*e*P	**Pn**	**09 25 59.4**	**-1.8**
CMLA				*e*S	**Sn**	**09 26 44.2**	**-4.6**
CMLA				A	A	09 26 57.5	
	87nm,0.5s						
CMLA	**Cha da Macela**	**4.11**	**92**		**Pn**	**09 25 59.7**	**-1.5**
PCALD	**Caldeiras da R**	**4.13**	**91**	*e*P	**Pn**	**09 25 59.5**	**-2.1**
PCALD				*e*S	**Sn**	**09 26 44.5**	**-4.9**
PCALD				A	A	09 26 49.8	
	208nm,0.3s						
PGRON	**Lagoa das Cont**	**4.22**	**92**	*e*P	**Sn**	**09 26 01.2**	**-1.7**
PGRON				*e*S	**Sn**	**09 26 46.8**	**-5.0**
PGRON				A	A	09 26 56.6	
	182nm,0.3s						
BART	**Pico Bartolome**	**4.38**	**91**	*e*P	**Pn**	**09 26 03.6**	**-1.5**
BART				*e*S	**Sn**	**09 26 51.5**	**-4.3**
BART				A	A	09 26 58.5	
	187nm,0.4s						
PSMA	**Santa Maria**	**4.55**	**101**	*e*P	**Pn**	**09 26 05.1**	**-2.2**
PSMA				*e*S	**Sn**	**09 26 54.4**	**-5.3**
PSMA				A	A	09 26 55.7	
	43nm,0.3s						
PSMN	**Pico do Norte,**	**4.59**	**101**	*e*P	**Pn**	**09 26 05.7**	**-2.2**
PSMN				*e*S	**Sn**	**09 26 55.7**	**-5.2**
PSMN				A	A	09 26 57.4	
	24nm,0.2s						
MACI	**Morro de la Ar**	**15.35**	**125**	Pn	**Pn**	**09 28 34.5**	**-0.8**
MACI				IAmb	IAmb	09 28 43.0	
	comp=Z,93nm,0.8s						
PMTG	**Montargil**	**17.61**	**80**	*e*P	**P**	**09 29 08.4**	**+3.7**
PMTG				A	A	09 29 17.4	
	comp=Z,3.7nm,0.7s						
EVO	**Evora**	**17.82**	**81**	*e*P	**P**	**09 29 09.5**	**+2.5**
EVO				A	A	09 29 42.4	
	comp=Z,39nm,1.9s						
PVIS	**Viseu**	**17.84**	**74**	*e*P	**P**	**09 29 10.9**	**+3.7**
PESTR	**Estremoz**	**18.12**	**80**	*e*P	**Pn**	**09 29 09.7**	**-0.4**
PCBR	**Castelo Branco**	**18.16**	**77**	*e*P	**P**	**09 29 14.1**	**+3.4**
PMRV	**Marv??o**	**18.24**	**78**	*e*P	**P**	**09 29 14.8**	**+3.1**
MVO	**Moncorvo**	**18.50**	**73**	*e*P	**Pn**	**09 29 18.2**	**+3.4**
MVO				A	A	09 29 50.8	
	comp=Z,66nm,1.7s						
PBAR	**Barrancos**	**18.62**	**82**	*e*P	**Pn**	**09 29 17.0**	**+0.8**
PBAR				A	A	09 29 37.9	
	comp=Z,41nm,1.6s						
ESDC	**Sonseca Array**	**20.87**	**77**		Pn	09 29 43.0	0.0
ESDC	**Sonseca Array**	**20.87**	**77**	P	Pn	09 29 42.4	-0.6
	comp=Z,10nm,0.8s,baz=278,slow=10,SNR=33						
ESDC				LR	LR	09 36 11.5	
	comp=Z,259nm,19.1s,baz=276,slow=32						
	comp=Z,10nm,0.8s						
ESBB	**Sonseca Array**	**20.87**	**77**	P	Pn	09 29 42.7	-0.3
MDT	**Midelt**	**21.86**	**96**	P	**P**	**09 29 52.1**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=166,slow=14,SNR=1.9						
MDT				LR	LR	09 37 21.2	
	comp=Z,171nm,18.2s,baz=300,slow=34						
	comp=Z,0.8nm,0.6s						
DRLN	**Deer Lake**	**22.30**	**309**	P	**P**	**09 29 55.4**	**-0.2**
GBN	**Guysborough**	**24.05**	**298**	P	**P**	**09 30 13.3**	**0.0**
ESK	**Eskdalemuir**	**25.35**	**38**	P	**P**	**09 30 25.3**	**+0.2**
EKA	**Eskdalemuir Ar**	**25.39**	**38**	P	**P**	**09 30 25.9**	**+0.5**
	comp=Z,16nm,0.9s,baz=241,slow=7.7,SNR=20						
	comp=Z,16nm,0.9s						
BORG	**Borgarnes**	**27.34**	**9**	LR	LR	09 37 38.4	
	comp=Z,97nm,18.8s,baz=201,slow=28						
BATG	**Bathurst New B**	**27.41**	**301**	P	**P**	**09 30 42.7**	**-1.1**
BATG				IAmb	IAmb	09 30 43.1	
	comp=Z,21nm,0.9s						
GGN	**Saint George**	**27.78**	**296**	P	**P**	**09 30 45.6**	**-1.5**
GGN				IAmb	IAmb	09 31 03.6	
	comp=Z,48nm,1.2s						
G65A	**Princeton**	**28.30**	**297**	P	**P**	**09 30 50.8**	**-0.9**
PQI	**Presque Isle**	**28.68**	**300**	P	**P**	**09 30 53.8**	**-1.4**

WLF Walferdange 28.74 54 P **P** **09 30 57.2 +1.6**
WLF Walferdange 28.74 54 *e*P **P** **09 30 56.9 +1.3**
comp=Z,22nm,1.1s,baz=265,slow=10
F64A Sherman 28.87 298 P **P** **09 30 55.6 -1.2**
SENIN Lac Senin/Sane 29.14 61 P **P** **09 31 01.4 +2.0**
F63A Nahmakanta, Br 29.39 298 P **P** **09 31 00.2 -1.2**
F63A IAmb IAmb 09 31 06.0
comp=Z,31nm,1.4s
D62A Allapoint, All 29.42 300 P **P** **09 31 00.8 -0.9**
D62A IAmb IAmb 09 31 01.1
comp=Z,17nm,0.9s
AHRW Bad Neuenahr-A 29.48 53 *e*P **P** **09 31 01.8 -0.4**
comp=Z,36nm,1.5s,baz=265,slow=10
SCHQ Schefferville 29.62 316 P **P** **09 31 02.2 -1.2**
comp=Z,4.3nm,0.9s,baz=332,slow=2.2,SNR=2.1
SCHQ LR LR 09 41 10.3
comp=Z,385nm,21.4s,baz=96,slow=33
comp=Z,4.3nm,0.9s
E62A Clayton Lake 29.72 299 P **P** **09 31 02.9 -1.4**
BFO Black Forest 29.98 57 *e*P **P** **09 31 07.9 +1.2**
comp=Z,12nm,0.9s,baz=265,slow=10
LMQ La Malbaie 30.32 301 P **P** **09 31 08.9 -0.7**
LMQ IAmb IAmb 09 31 56.1
comp=Z,50nm,1.6s
DAVA Damuels 30.95 59 *e*pP **P** **09 31 17.4 +2.0**
comp=Z,1.4nm,0.3s
SFJD Kangerlussuaq 31.16 345 LR LR 09 40 49.5
comp=Z,444nm,20.7s,baz=170,slow=31
LBNH Lisbon 31.42 295 P **P** **09 31 18.0 -1.4**
FETA Feichten 31.52 60 *e*pP **P** **09 31 22.4 +1.9**
comp=Z,1.4nm,0.7s
RETA Reutte 31.56 59 *e*pP **P** **09 31 22.2 +1.5**
comp=Z,1.2nm,0.7s
MOTA Moosalm 31.79 59 *e*pP **P** **09 31 24.5 +1.7**
comp=Z,0.8nm,0.3s
SQTA Sankt Quirin 31.86 60 *e*pP **P** **09 31 25.3 +2.0**
comp=Z,1.9nm,0.5s
QUA2 Belchertown 31.89 291 P **P** **09 31 24.9 +1.4**
KEST Kesra 31.95 82 LR LR 09 42 43.6
comp=Z,115nm,19.8s,baz=308,slow=33
GRF Grafenberg Arr 32.01 55 *e*L L 09 43 08.0
comp=Z,98nm,20.9s
WATA Walderalm 32.11 59 *e*pP **P** **09 31 27.5 +1.9**
comp=Z,0.9nm,0.4s
BSEG Bad Segeberg 32.12 47 *e*P **P** **09 31 26.4 +1.0**
comp=Z,38nm,0.9s,baz=265,slow=10
WTTA Wattenberg 32.15 60 *e*pP **P** **09 31 27.9 +1.9**
comp=Z,3.4nm,0.7s
GRC4 Grafenberg Arr 32.16 56 *e*P **P** **09 31 27.2 +1.3**
comp=Z,8.2nm,0.8s,baz=265,slow=10
FLTG Flechtingen 32.35 50 *e*P **P** **09 31 28.0 +0.5**
comp=Z,11nm,0.8s,baz=265,slow=10
MOX Moxa 32.36 53 *e*P **P** **09 31 28.5 +0.9**
comp=Z,53nm,2.0s,baz=265,slow=10
MOX *e*L L 09 44 46.8
comp=Z,101nm,19.2s
MANZ Manzenberg 32.60 54 *e*P **P** **09 31 31.4 +1.6**
comp=Z,1.4nm,0.9s,baz=265,slow=10
ROTZ Rotzenmuhle 32.65 55 *e*P **P** **09 31 31.5 +1.4**
comp=Z,0.5nm,0.9s,baz=265,slow=10
ACCN Adirondack Com 32.74 293 P **P** **09 31 31.4 +0.4**
ABTA Abfaltersbach 32.74 61 *e*pP **P** **09 31 32.7 +1.6**
comp=Z,2.9nm,0.8s
WSPT Westport, CT 32.76 289 P **P** **09 31 31.0 -0.2**
GUNZ Gunzen 32.78 54 *e*P **P** **09 31 32.8 +1.5**
comp=Z,6.9nm,1.0s,baz=265,slow=10
WERN Wernitzgruen 32.80 54 *e*P **P** **09 31 33.1 +1.5**
comp=Z,6.0nm,0.8s,baz=265,slow=10
TRY Troy 32.80 292 P **P** **09 31 32.1 +0.6**
NKC Novy Kostel 32.84 54 *e*P **P** **09 31 32.9 +1.0**
LESA Schwarzleotal 32.86 59 *e*pP **P** **09 31 33.7 +1.6**
comp=Z,0.4nm,0.3s
TANN Tannenbergstha 32.87 54 *e*P **P** **09 31 33.6 +1.5**
comp=Z,8.0nm,1.0s,baz=265,slow=10
RJOB Jochberg 32.94 59 *e*P **P** **09 31 34.1 +1.3**
comp=Z,9.1nm,1.0s,baz=265,slow=10
WET Wettzell 33.05 56 *e*P **P** **09 31 34.3 +0.6**
comp=Z,13nm,1.5s,baz=265,slow=10
PAL Palisades 33.22 289 P **P** **09 31 34.6 -0.6**
CLL Collm 33.30 52 *i* P **P** **09 31 36.6 +0.8**
comp=Z,19nm,1.5s
CLL Collm 33.30 52 *e*P **P** **09 31 36.9 +1.1**
comp=Z,23nm,1.6s,baz=265,slow=10
KBA Koelnbreinsper 33.31 60 *e*pP **P** **09 31 37.8 +1.6**
comp=Z,7.4nm,0.7s
FDMO Fiordimonte 33.38 67 P **P** **09 31 38.2 +1.6**
FDMO IAmb IAmb 09 31 38.8
comp=Z,19nm,0.9s
NRCA Norcia 33.42 68 P **P** **09 31 38.2 +1.2**
NRCA IAmb IAmb 09 31 40.8
comp=Z,12nm,0.8s
PRED Cave del Predi 33.48 61 P **P** **09 31 37.6 +0.1**
PRED IAmb IAmb 09 31 39.7
comp=Z,25nm,1.7s
KHC Kasperske Hory 33.51 56 *e*P **P** **09 31 36.4 -1.3**
BIOA Bad Ischl, Aus 33.51 59 *e*pP **P** **09 31 38.5 +0.8**
comp=Z,4.4nm,0.6s
GEC2 GERESS Array S 33.58 57 *e*P **P** **09 31 39.0 +0.6**
comp=Z,3.2nm,1.1s,baz=265,slow=10
GERES GERESS Array B 33.58 57 P **P** **09 31 34.8 -3.6**
GERES GERESS Array B 33.58 57 P **P** **09 31 38.8 +0.5**
comp=Z,1.3nm,0.7s,baz=283,slow=8.9,SNR=3.4
comp=Z,1.3nm,0.7s
ODNJ Ogdensburg 33.73 289 P **P** **09 31 39.1 -0.5**
ODNJ IAmb IAmb 09 31 39.7
comp=Z,13nm,0.8s
BRNJ Basking Ridge 33.77 289 P **P** **09 31 40.0 +0.1**
BRG Berggiesshubel 33.85 53 *e*P **P** **09 31 39.5 -1.1**
BRG Amp 09 31 43.1
comp=Z,6.3nm,1.2s
L59A Walton 33.88 291 P **P** **09 31 41.1 0.0**
MOA Molln 33.94 59 *e*pP **P** **09 31 42.4 +1.0**
CKRC Cesky Krumlov 33.98 57 *e*P **P** **09 31 42.5 +0.8**
OBKA Obir 34.15 61 *e*pP **P** **09 31 43.8 +0.4**
PRU Pruhonice 34.17 55 *e*P **P** **09 31 44.9 +1.5**
FRB Frobisher Bay 34.24 331 LR LR 09 42 13.0
comp=Z,241nm,19.7s,baz=137,slow=30
NB2 NORSAR Subarra 34.74 35 P **P** **09 31 49.3 +1.1**
comp=Z,1.6nm,0.7s,baz=250,slow=8.6
NOA NORSAR Array B 34.74 35 P **P** **09 31 48.9 +0.6**
comp=Z,2.7nm,0.8s,baz=249,slow=8.7,SNR=9.3
NOA LR LR 09 44 24.4
comp=Z,122nm,18.5s,baz=260,slow=34
comp=Z,2.7nm,0.8s
NB201 NORSAR Array S 34.78 35 P **P** **09 31 47.9 -0.6**
CONA Conrad Observa 35.01 58 *e*pP **P** **09 31 51.2 +0.4**
UPC Upice 35.14 54 *e*P **P** **09 31 52.8 +1.0**
OSTC Ostas 35.27 54 *e*P **P** **09 31 53.7 +0.8**
RONA Rosalia, Austr 35.31 59 *e*pP **P** **09 31 54.0 +0.8**
DPC Dobruska-Polom 35.33 54 *e*P **P** **09 31 54.3 +0.8**
KSP Ksiaz 35.33 53 *e*P **P** **09 31 54.6 +1.2**
KRUC Moravsky 35.35 56 *e*P **P** **09 31 54.1 +0.5**
VRAC Vranov 35.49 56 *e*P **P** **09 31 53.9 -0.9**
HFS Hagfors 35.57 37 P **P** **09 31 57.3 +1.9**
comp=Z,1.8nm,0.7s,baz=232,slow=7.3,SNR=6.3
HFS LR LR 09 44 53.4
comp=Z,222nm,18.4s,baz=260,slow=34
comp=Z,1.8nm,0.7s
KRLC Kraliky 35.62 55 *e*P **P** **09 31 58.6 +2.7**
CUC Castrocucco 35.89 72 P **P** **09 31 57.7 -0.7**
MORC Moravsky Berou 36.11 55 *e*P **P** **09 32 00.8 +0.7**
WVNY West Valley, N 36.46 292 P **P** **09 32 03.2 0.0**
WVNY IAmb IAmb 09 32 03.7
comp=Z,19nm,0.9s
SADO Sadowa 36.52 296 P **P** **09 32 03.2 -0.4**
SADO Sadowa 36.52 296 LR LR 09 45 30.2
comp=Z,108nm,20.5s,baz=138,slow=34
M55A Ridgway 36.75 291 P **P** **09 32 05.4 -0.3**
M55A IAmb IAmb 09 32 49.2
comp=Z,47nm,1.6s
TIP Timpagrande 36.78 73 P **P** **09 32 06.9 +0.9**
VYHS Vyhne 36.98 57 *e*P **P** **09 32 08.3 +0.8**
OJC Ojcow 37.56 54 *e*P **P** **09 32 14.2 +1.7**
OJC Ojcow 37.56 54 P **P** **09 32 11.4 -1.1**
OJC IAmb IAmb 09 32 15.0
comp=Z,23nm,0.9s
Q56A Snyder Ridge, 37.59 287 P **P** **09 32 13.8 +1.0**
Q56A IAmb IAmb 09 32 15.9
comp=Z,16nm,1.1s
PSZ Piszkesteto 37.72 58 ⇑P **P** **09 32 14.7 +0.8**
PSZ Piszkesteto 37.72 58 P **P** **09 32 14.0 +0.1**
MCWV Mont Chateau 37.93 288 P **P** **09 32 17.0 +1.3**
MCWV IAmb IAmb 09 32 22.8
comp=Z,16nm,0.9s
TOA0 Torodi Ar. Sit 37.97 122 P **P** **09 32 17.1 +0.9**
TORD Torodi Ar. Bea 37.97 122 P **P** **09 32 16.2 -0.1**
comp=Z,2.0nm,0.6s,baz=316,slow=9.1,SNR=17
TORD LR LR 09 46 29.1
comp=Z,148nm,19.4s,baz=326,slow=34
comp=Z,2.0nm,0.6s
BEL Belsk 38.18 52 *e*P **P** **09 32 19.7 +2.1**
O54A Avella 38.21 289 P **P** **09 32 18.8 +0.7**
O54A IAmb IAmb 09 32 23.9
comp=Z,56nm,1.6s
CRVS Cervenica-Dubn 38.70 56 *e*P **P** **09 32 24.2 +2.2**
O53A New Philadelph 38.82 290 P **P** **09 32 23.8 +0.7**
O53A IAmb IAmb 09 32 32.4
comp=Z,31nm,1.2s
DBIC Dimbokro 39.02 137 P **P** **09 32 26.7 +1.7**
comp=Z,3.2nm,0.7s,baz=299,slow=9.9,SNR=5.2
DBIC LR LR 09 46 29.2
comp=Z,240nm,21.9s,baz=335,slow=33
comp=Z,3.2nm,0.7s
SIRR Siria 39.08 61 ⇑P **P** **09 32 24.6 -0.7**
BZS Buzias 39.13 62 ⇓P **P** **09 32 27.3 +1.6**
KOLS Kolonicke sedl 39.23 56 *e*P **P** **09 32 28.4 +1.9**
O52A Adamsville 39.31 290 P **P** **09 32 28.5 +1.2**
O52A IAmb IAmb 09 32 33.8
comp=Z,24nm,0.9s
SURR Surduc 39.47 61 ⇓P **P** **09 32 30.2 +1.8**
BOVS Bovan 39.51 65 ⇑P **P** **09 32 28.6 -0.3**
N51A Ashland 39.52 291 P **P** **09 32 29.7 +0.7**
N51A IAmb IAmb 09 32 35.2
comp=Z,25nm,0.8s
P52A Corning 39.65 289 P **P** **09 32 30.8 +0.7**
P52A IAmb IAmb 09 32 30.9
comp=Z,24nm,0.9s
SUW Suwalki 39.66 48 *e*P **P** **09 32 29.6 -0.4**
SUW *e*PP **PnPn** **09 34 07.0 +2.9**
GZR Gura Zlata 39.97 62 ⇑P **P** **09 32 34.0 +1.2**
MARR Marisel-Cluj 40.03 60 ⇑P **P** **09 32 33.6 +0.3**
ACSO Alum Creek Sta 40.14 290 P **P** **09 32 34.7 +0.6**
ACSO IAmb IAmb 09 32 34.9
comp=Z,19nm,0.8s
BLKB Belogradchik 40.20 65 ⇓P **P** **09 32 35.7 +1.0**
P51A Williamsport 40.38 289 IAmb IAmb 09 32 36.8
comp=Z,30nm,1.2s
LOT Lotru 40.65 62 ⇓P **P** **09 32 40.0 +1.5**
N49A Columbus Grove 40.85 291 P **P** **09 32 40.2 +0.1**
O49A Covington 41.15 290 IAmb IAmb 09 32 42.9
comp=Z,20nm,0.7s
BUR08 Bucovina Ar. S 41.31 58 P **P** **09 32 43.6 -0.2**
BURAR Bucovina Array 41.32 58 ⇑P **P** **09 32 46.5 +2.5**
VOIR 41.54 61 ⇑P **P** **09 32 46.9 +1.1**
MTUR Matau 41.59 62 ⇓P **P** **09 32 47.0 +0.8**
DOPR Dopca 41.69 61 ⇑P **P** **09 32 48.1 +1.2**
NACGM Naroch 41.77 47 *e*P **P** **09 32 49.2 +1.8**
comp=Z,52nm,1.0s,baz=271
FINES FINESS Array B 41.78 37 P **P** **09 32 47.8 +0.4**
FINES FINESS Array B 41.78 37 P **P** **09 32 48.0 +0.6**
comp=Z,4.3nm,0.8s,baz=260,slow=6.9,SNR=12
FINES LR LR 09 47 52.4
comp=Z,156nm,19.6s,baz=269,slow=33
comp=Z,4.3nm,0.8s
FIA1 FINESS Array S 41.78 37 P **P** **09 32 47.4 0.0**
OZUR 41.94 60 ⇓P **P** **09 32 50.2 +1.2**
MLR Muntele Rosu 42.16 61 ⇓P **P** **09 32 52.9 +2.1**
MNK Minsk 42.42 48 *i* P **P** **09 32 52.8 +0.1**
comp=E,6.0nm,0.8s
MNK *i* P **P** **09 32 52.8 +0.1**
comp=N,5.0nm,0.8s
MNK *i* P **P** **09 32 52.8 +0.1**
comp=Z,31nm,0.8s,baz=272
MNK *i* PP **PP** **09 34 31.1 +0.2**
MNK *i* S **S** **09 39 15.0 +1.8**
MNK *i* SS **SS** **09 42 25.4 +3.2**
MNK *i* LR LR 09 49 03.2
PLOR Plostina 42.57 60 ⇑P **P** **09 32 55.2 +1.1**
VRI Vrincioaia 42.62 60 ⇑P **P** **09 32 55.4 +0.9**
ELND Elena 42.63 65 ⇑P **P** **09 32 56.2 +1.6**
D41A Chassel 42.71 301 P **P** **09 32 55.5 +0.3**
LOZB Loznitsa 43.04 64 ⇑P P **09 32 45.9 -12**
BLO Bloomington 43.05 290 IAmb IAmb 09 33 04.5
comp=Z,15nm,0.8s
ARCES ARCESS Array B 43.23 25 P **P** **09 32 59.3 +0.2**
comp=Z,4.4nm,0.8s,baz=323,slow=1.8,SNR=8.2
ARCES LR LR 09 47 13.6
comp=Z,132nm,20.3s,baz=264,slow=31
comp=Z,4.4nm,0.8s
SORM Soroca 43.33 57 ⇑P **P** **09 32 59.5 -0.6**
W50A Signal Mountai 43.40 284 P **P** **09 33 01.0 +0.1**
P46A Rosedale 43.43 290 IAmb IAmb 09 33 11.4
comp=Z,13nm,0.8s
AKASG Malin Array Be 43.53 53 P **P** **09 33 02.0 +0.3**
comp=Z,13nm,0.7s,baz=274,slow=8.0,SNR=78
comp=Z,13nm,0.7s
AKBB Malin Array Si 43.53 53 IAmb IAmb 09 33 03.0
comp=Z,22nm,0.8s
HARR Harsova 43.69 62 ⇑P **P** **09 33 02.5 -0.6**
MILM Milestii Mici 43.85 59 ⇓P **P** **09 33 04.1 -0.2**
RCBR Riachuelo 43.88 187 LR LR 09 47 14.5
comp=Z,54nm,19.6s,baz=69,slow=30
TIRR Tirgusor 44.08 62 ⇓P **P** **09 33 05.1 -1.1**
TIRR Tirgusor 44.08 62 P **P** **09 33 06.1 -0.1**
TIRR IAmb IAmb 09 33 06.8
comp=Z,22nm,0.7s
BAUV El Baul 44.34 239 P **P** **09 33 09.1 +0.4**
OLIL Olney 44.35 290 IAmb IAmb 09 33 14.6
comp=Z,14nm,0.8s
SPITS Spitsbergen Ar 44.69 12 LR LR 09 47 28.7
comp=Z,66nm,18.6s,baz=205,slow=30
FCC Fort Churchill 44.94 319 P **P** **09 33 13.0 +0.1**
FCC IAmb IAmb 09 33 18.8
comp=Z,19nm,1.4s
B35A Bob, Littlefor 45.90 304 IAmb IAmb 09 33 20.8
comp=Z,14nm,0.9s
ULM Lac du Bonnet 46.91 307 P **P** **09 33 27.5 -1.1**
comp=Z,2.2nm,0.9s,baz=107,slow=8.9,SNR=3.6
ULM LR LR 09 52 19.0
comp=Z,218nm,18.5s,baz=140,slow=35
comp=Z,2.2nm,0.9s
P40A Paris 47.02 292 IAmb IAmb 09 33 34.1
comp=Z,15nm,1.0s
OBN Obninsk 47.37 46 P **P** **09 33 31.1 -1.0**
R40A Maddies Statio 47.59 290 IAmb IAmb 09 33 34.2
comp=Z,14nm,1.1s
MGMO Mountain Grove 47.99 289 P **P** **09 33 36.2 -1.0**
MGMO IAmb IAmb 09 33 39.2
comp=Z,11nm,1.1s
H10N2 ASCENSION HYDR 48.05 158 T T 10 24 26.3
baz=343,slow=75
H10N3 ASCENSION HYDR 48.05 158 T T 10 24 38.9
baz=343,slow=75
H10N1 ASCENSION HYDR 48.06 158 T T 10 24 28.5
baz=343,slow=75
P38A Dawn 48.08 293 IAmb IAmb 09 33 40.0
comp=Z,15nm,1.0s
S39A Bolivar 48.58 290 IAmb IAmb 09 33 43.6
comp=Z,12nm,1.0s
ECSD EROS Data Cent 48.99 299 P **P** **09 33 44.0 -0.8**
ECSD IAmb IAmb 09 33 50.2
comp=Z,8.0nm,0.8s
H10S3 ASCENSION HYDR 49.06 159 T T 10 25 54.8
baz=238
H10S2 ASCENSION HYDR 49.08 159 T T 10 25 57.4
baz=342
BR131 Keskin Array S 49.15 67 P **P** **09 33 46.5 +0.3**
BRTR Keskin Array B 49.15 67 P **P** **09 33 47.0 +0.8**
BRTR Keskin Array B 49.15 67 P **P** **09 33 48.0 +1.7**
comp=Z,3.6nm,0.8s,baz=292,slow=5.2,SNR=16
BRTR LR LR 09 55 04.5
comp=Z,64nm,18.4s,baz=291,slow=37
comp=Z,3.6nm,0.8s
FFC Flin Flon 49.71 314 P **P** **09 33 49.8 -0.3**
Z41A Richland Creek 49.88 284 IAmb IAmb 09 33 56.9
comp=Z,16nm,0.8s
KSU1 Kansas State U 50.50 293 IAmb IAmb 09 34 01.4
comp=Z,17nm,1.1s
OK033 Mehan 51.89 289 IAmb IAmb 09 35 58.8
comp=Z,24nm,1.5s
KAN14 Manchester OK 52.29 291 IAmb IAmb 09 34 11.5
comp=Z,13nm,0.9s
TEIG Tepich 52.52 267 LR LR 09 53 31.2
comp=Z,464nm,19.3s,baz=358,slow=33
ARPR Arapgir-MALATY 52.77 66 IAmb IAmb 09 34 16.6
comp=Z,10nm,0.7s
KIRV Kirov 53.60 40 LR LR 09 55 46.7
comp=Z,151nm,18.4s,baz=293,slow=34
KBZ Khabaz 54.26 59 P **P** **09 34 26.5 +2.3**
comp=Z,6.0nm,0.8s,baz=292,slow=6.8,SNR=12
comp=Z,6.0nm,0.8s
BELG Belogornoye 54.37 48 LR LR 09 57 14.4
comp=Z,105nm,18.2s,baz=199,slow=36
YKA Yellowknife Ar 54.40 325 P **P** **09 34 24.1 -0.8**
comp=Z,1.0nm,1.0s,baz=53,slow=7.9,SNR=9.3
YKA LR LR 09 55 14.4
comp=Z,145nm,18.4s,baz=80,slow=34
comp=Z,1.0nm,1.0s
LAO LASA Array 54.49 305 IAmb IAmb 09 34 31.7
comp=Z,13nm,1.1s
BRDY Brady 55.46 285 IAmb IAmb 09 34 38.6
comp=Z,6.2nm,0.7s
BDFB Brasilia 55.79 200 LR LR 09 54 48.3
comp=Z,81nm,20.4s,baz=37,slow=32
EGMT Eagleton 56.27 308 IAmb IAmb 09 34 43.8
comp=Z,20nm,1.4s
MTO3 Montecristo 56.66 262 P **P** **09 34 43.3 +1.3**
GNI Garni 56.91 62 LR LR 10 00 18.9
comp=Z,30nm,19.6s,baz=158,slow=37
YMP Mirror Lake PI 57.78 304 IAmb IAmb 09 35 24.5
comp=Z,18nm,1.4s
PD31 Pinedale Array 58.17 302 P **P** **09 34 49.8 -2.7**
PDAR Pinedale Array 58.17 302 P **P** **09 34 50.4 -2.1**
PDAR Pinedale Array 58.17 302 P **P** **09 34 50.8 -1.7**
comp=Z,1.3nm,0.8s,baz=64,slow=6.8,SNR=10
PDAR LR LR 09 58 35.9
comp=Z,190nm,21.4s,baz=90,slow=35
comp=Z,1.3nm,0.8s
MNHN Monahans 58.29 287 IAmb IAmb 09 35 02.0
comp=Z,12nm,1.4s
YMR Madison River 58.33 304 IAmb IAmb 09 35 00.3
comp=Z,17nm,1.4s
SAND Sanderson 58.46 285 IAmb IAmb 09 34 56.2
comp=Z,22nm,1.8s
IMW Indian Meadow 58.63 303 IAmb IAmb 09 35 01.8
comp=Z,19nm,1.8s
REDW Red Top Meadow 58.79 303 P **P** **09 34 56.7 0.0**
FXWY Fox Creek 58.80 303 IAmb IAmb 09 35 13.3
comp=Z,17nm,1.9s
TPAW Teton Pass 58.81 303 P **P** **09 34 55.7 -1.2**
TPAW IAmb IAmb 09 35 07.7
comp=Z,16nm,1.6s
ARU Arti 58.97 40 P **P** **09 34 57.5 +0.1**
ARU Arti 58.97 40 LR LR 09 59 21.1
comp=Z,98nm,18.4s,baz=68,slow=35
RDMU Red Mountain 59.10 299 IAmb IAmb 09 35 05.1
comp=Z,5.6nm,0.8s
MSO Missoula 59.36 308 IAmb IAmb 09 35 06.2
comp=Z,18nm,1.8s
ANMO Albuquerque 59.38 292 LR LR 10 01 38.6
comp=Z,96nm,18.2s,baz=192,slow=37
TXAR Lajitas Array 59.94 285 P **P** **09 35 04.0 -0.6**
TXAR Lajitas Array 59.94 285 P **P** **09 35 04.4 -0.3**
comp=Z,0.9nm,0.7s,baz=73,slow=8.4,SNR=5.8
comp=Z,0.9nm,0.7s
HWUT Hardware Ranch 60.02 301 IAmb IAmb 09 35 07.4
comp=Z,10nm,1.5s
F31M Tsiigehtchic 60.20 334 P **P** **09 35 05.4 -0.3**
VHRN Van Horn 60.23 287 IAmb IAmb 09 35 23.0
comp=Z,10nm,1.3s
NEW Newport 60.71 310 LR LR 10 00 14.2
comp=Z,223nm,19.8s,baz=78,slow=35
E29M Blow River 61.11 336 P **P** **09 35 11.3 -0.7**
AKTO Aktyubinsk 61.14 47 LR LR 10 01 32.5
comp=Z,87nm,18.0s,baz=76,slow=36
PLID Pearl Lake 61.40 306 IAmb IAmb 09 35 16.2
comp=Z,12nm,1.2s
MVU Marysvale 61.85 298 IAmb IAmb 09 35 24.9
comp=Z,14nm,0.9s
TLIG Tlapa 62.10 271 P **P** **09 35 19.9 +0.4**
TLIG IAmb IAmb 09 35 24.0
comp=Z,15nm,1.3s
H29M Whitestone 62.40 334 P **P** **09 35 20.1 -0.6**
H29M IAmb IAmb 09 35 25.7
comp=Z,29nm,1.8s
WUAZ Wupatki 62.67 295 P **P** **09 35 23.6 +0.4**
ABKAR Akbulak array 62.78 47 P **P** **09 35 22.9 -0.6**
U15A North Rim 62.89 296 IAmb IAmb 09 35 36.7
comp=Z,9.3nm,1.7s
DLBC Dease Lake 62.98 324 LR LR 10 00 47.8
comp=Z,158nm,18.5s,baz=118,slow=34
LTY Liberty 63.30 310 IAmb IAmb 09 35 27.8
comp=Z,14nm,1.6s
J08A Circle Bar Ran 63.77 306 IAmb IAmb 09 35 33.9
comp=Z,13nm,1.1s
NRIK Noril'sk 63.86 20 P **P** **09 35 30.4 +0.1**
NRIK IAmb IAmb 09 35 33.2
comp=Z,5.8nm,1.0s
NRIK Noril'sk 63.86 20 P **P** **09 35 31.9 +1.6**
comp=Z,5.0nm,0.9s,baz=319,slow=6.7,SNR=9.2
comp=Z,5.0nm,0.9s
D24K Happy Valley 63.94 339 P **P** **09 35 31.0 +0.1**
WVOR Wild Horse Val 64.32 305 IAmb IAmb 09 35 36.7
comp=Z,14nm,1.6s
BBB Bella Bella 65.13 318 LR LR 10 02 37.3
comp=Z,161nm,19.0s,baz=52,slow=35
J05D Fort Rock, OR 65.57 307 P **P** **09 35 43.0 +0.9**
J05D IAmb IAmb 09 35 45.0
comp=Z,6.2nm,1.1s
HSIG 65.59 289 IAmb IAmb 09 35 46.5
comp=Z,27nm,2.0s
KVN Kaiserville 65.62 301 IAmb IAmb 09 35 57.3
comp=Z,6.7nm,1.0s
K05A Summer Lake 65.63 306 IAmb IAmb 09 35 45.2
comp=Z,11nm,1.1s
113A Mohawk Valley, 65.75 293 IAmb IAmb 09 35 57.1
comp=Z,15nm,2.0s
NVAR Mina Array Bea 66.07 301 P **P** **09 35 44.1 -1.5**
comp=Z,0.7nm,0.7s,baz=87,slow=5.0,SNR=7.4
comp=Z,0.7nm,0.7s
GWY Greenwater Val 66.08 298 IAmb IAmb 09 35 52.0
comp=Z,22nm,1.8s
ILAR Eielson Array 66.13 335 P **P** **09 35 43.9 -1.3**
comp=Z,0.7nm,0.9s,baz=52,slow=6.8,SNR=6.0
ILAR LR LR 10 02 05.7
comp=Z,132nm,18.6s,baz=78,slow=34
comp=Z,0.7nm,0.9s
LHV Little Huntoon 66.30 301 IAmb IAmb 09 36 07.1
comp=Z,6.9nm,1.1s
BRVK Borovoye 66.54 40 P **P** **09 35 48.1 +0.1**
BRVK IAmb IAmb 09 35 50.3
comp=Z,11nm,1.1s
BVAR Borovoye Array 66.61 40 P **P** **09 35 49.7 +1.2**
comp=Z,6.1nm,0.7s,baz=300,slow=6.2,SNR=32
BVAR LR LR 10 02 51.5
comp=Z,106nm,18.6s,baz=307,slow=34
comp=Z,6.1nm,0.7s
GEYT Alibeck 67.16 59 P **P** **09 35 51.6 -0.6**
comp=Z,1.9nm,0.7s,baz=292,slow=24,SNR=6.1
comp=Z,1.9nm,0.7s
YBH Yreka Blue Hor 67.30 306 LR LR 10 04 26.5
comp=Z,63nm,19.0s,baz=84,slow=35
TIXI Tiksi 69.68 7 P **P** **09 36 07.6 +0.3**
TIXI IAmb IAmb 09 36 14.9
comp=Z,6.1nm,0.8s
KURK Kurchatov 72.11 39 P **P** **09 36 22.1 -0.3**
KURK IAmb IAmb 09 36 24.2
comp=Z,15nm,1.2s
KURBB Kurchatov Arra 72.12 39 P **P** **09 36 23.3 +0.7**
comp=Z,4.5nm,0.6s,baz=310,slow=6.2,SNR=53
comp=Z,4.5nm,0.6s
KKAR Karatay Array 72.24 49 P **P** **09 36 23.7 +0.3**
KDAK Kodiak Island 72.88 332 LR LR 10 06 34.0
comp=Z,109nm,18.5s,baz=90,slow=34
ZAA0 Zalesovo Array 72.94 34 P **P** **09 36 27.0 -0.3**
ZAA0 IAmb IAmb 09 36 28.9
comp=Z,6.9nm,0.9s
ZALV Zalesovo Beam 72.94 34 P **P** **09 36 27.2 -0.1**
ZALV Zalesovo Beam 72.94 34 P **P** **09 36 27.5 +0.2**
comp=Z,6.6nm,0.9s,baz=298,slow=7.7,SNR=30
ZALV LR LR 10 08 00.7
comp=Z,62nm,20.0s,baz=282,slow=35
comp=Z,6.6nm,0.9s
KMBO Kilima Mbogo 73.47 105 LR LR 10 09 15.4
comp=Z,39nm,18.0s,baz=260,slow=36
AAK Ala-Archa 74.87 48 P **P** **09 36 38.5 -0.5**
MAKZ Makanchi 76.32 41 P **P** **09 36 46.9 -0.2**
MK31 Makanchi Array 76.49 41 P **P** **09 36 47.9 -0.2**
MKAR Makanchi Array 76.49 41 P **P** **09 36 48.3 +0.1**
MKAR Makanchi Array 76.49 41 P **P** **09 36 48.6 +0.5**
comp=Z,5.4nm,0.8s,baz=317,slow=5.6,SNR=59
comp=Z,5.4nm,0.8s
LSZ Lusaka 76.51 122 LR LR 10 09 28.1
comp=Z,169nm,20.0s,baz=314,slow=35
KSH Kashi 77.69 49 P **P** **09 36 57.6 +2.5**
KSH pP pwP 09 37 02.9 0.0
KSH pmax pmax
comp=Z,21nm,1.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LBTB	Lobatse	81.97	130	LR	LR	10 10 51.5	
	comp=Z,97nm,20.1s,baz=308,slow=34						
MA2	Magadan	82.76	359	LR	LR	10 14 11.7	
	comp=Z,34nm,18.1s,baz=24,slow=36						
BOSA	Boshof	84.46	133	LR	LR	10 13 07.7	
	comp=Z,53nm,20.4s,baz=18,slow=34						
SUR	Sutherland	84.89	138	LR	LR	10 13 27.5	
	comp=Z,22nm,18.0s,baz=327,slow=34						
SONM	Songino Array	86.37	27	P	P	09 37 41.0	+0.4
	comp=Z,3.4nm,0.9s,baz=326,slow=5.7,SNR=11						
	comp=Z,3.4nm,0.9s						
PLCA	Paso Flores	86.43	209	P	P	09 37 40.8	+0.2
	comp=Z,1.5nm,0.9s,baz=47,slow=11,SNR=1.9						
PLCA				LR	LR	10 15 40.4	
	comp=Z,24nm,19.0s,baz=20,slow=35						
	comp=Z,1.5nm,0.9s						
ULN	Ulaanbaatar	86.58	27	P	P	09 37 41.5	-0.1
ULN				IAmb	IAmb	09 37 43.5	
	comp=Z,7.0nm,1.0s						
PETK	Petropavlovsk-	88.96	355	LR	LR	10 17 01.9	
	comp=Z,64nm,18.5s,baz=48,slow=35						
GTA	Gaotai	90.56	36	*e*P	P	09 38 01.1	+0.5
GTA				sP	pwP	09 38 07.4	-1.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KLR	Kul'dur	91.75	11	LR	LR	10 16 18.7	
	comp=Z,26nm,19.1s,baz=21,slow=34						
XLT	XiLinHaoTe	93.09	23	*e*P	P	09 38 08.5	-3.7
XLT				pP	PcP	09 38 12.3	-0.5
XLT				sP	pP	09 38 15.2	-2.1
XLT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,94nm,4.5s						
HHC	Hu-ho-hao-te	94.26	28	*e*P	P	09 38 14.7	-3.0
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,5.8s						
LZH	Lanzhou	95.12	35	*e*P	P	09 38 15.2	-6.6
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
ASAJ	Asahikawa	98.03	5	LR	LR	10 21 33.1	
	comp=Z,14nm,18.8s,baz=24,slow=35						
PZH	PanZhiHua	101.86	43	P	Pdif	09 38 50.2	-1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,140nm,4.7s						
QSPA	South Pole Qui	127.90	180	PKP	PKPdf	09 44 02.8	-0.2
	comp=Z,2.0nm,0.9s,baz=302,slow=0.5,SNR=5.8						
WRA	Warramunga Arr	157.80	40	PKPab	PKPab	09 45 27.8	0.0
	comp=Z,2.7nm,0.8s,baz=338,slow=4.2,SNR=14						
ASAR	Alice Springs	160.57	47	PKP	PKPdf	09 44 56.9	-1.5
	comp=Z,0.6nm,0.8s,baz=45,slow=1.4,SNR=5.8						
ASAR				PKPab	PKPab	09 45 39.8	0.0
	comp=Z,1.7nm,0.7s,baz=319,slow=4.3,SNR=12						

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*IDC **01** 09:37:11.3±0.6, 10.°16N×125.°93E, h0km, mb3.9/20, mbtmp3.9/20, MS2.5/2, Error ellipse: s-maj=28.6km s-min=13.9km az=72.0*

ISC 01 09:37:18.6±0.6**, 10.°1N**±0.°1×**125.°9E**±0.°2**, h54**km**, n29,** σ**0.s51**/27**, mb3.9**/20**, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.06	186	Lg	Lg	09 38 57.7	
	26nm,0.3s,baz=284,slow=23,SNR=4.1						
DAV				LR	LR	09 39 19.1	
	comp=Z,71nm,19.5s,baz=356,slow=41						
KSRS	Korea Array	27.27	4	P	P	09 42 57.0	-0.8
	0.4nm,0.6s,baz=185,slow=9.3,SNR=1.4						
KSRS				LR	LR	09 55 24.6	
	comp=Z,10nm,19.0s,baz=240,slow=40						
	0.4nm,0.6s						
CMAR	Chiang Mai Arr	27.38	291	P	P	09 42 59.4	+0.3
	0.6nm,0.6s,baz=98,slow=7.2,SNR=6.6						
	0.6nm,0.6s						
WRA	Warramunga Arr	31.02	164	P	P	09 43 30.6	-0.8
	0.2nm,0.4s,baz=346,slow=8.0,SNR=6.1						
WRA				PcP	PcP	09 46 26.8	+0.4
	0.3nm,0.5s,baz=341,slow=2.7,SNR=1.2						
	0.2nm,0.4s						
USRK	Ussuriysk Ar.	34.35	8	P	P	09 44 00.2	0.0
	0.7nm,0.6s,baz=189,slow=7.0,SNR=1.7						
	0.7nm,0.6s						
ASAR	Alice Springs	34.49	167	P	P	09 44 01.8	+0.1
	0.5nm,0.3s,baz=352,slow=6.8,SNR=43						
ASAR				PcP	PcP	09 46 36.6	+0.6
	0.4nm,0.6s,baz=345,slow=3.5,SNR=1.7						
	0.5nm,0.3s						
H11S3	WAKE ISLAND Hy	40.31	73	T	T	10 27 41.8	
	baz=262,slow=75,SNR=58						
H11S1	WAKE ISLAND Hy	40.32	73	T	T	10 27 42.9	
	baz=262,slow=75,SNR=38						
H11S2	WAKE ISLAND Hy	40.32	73	T	T	10 27 44.7	
	baz=262,slow=75,SNR=43						
H11N1	WAKE ISLAND Hy	40.64	72	T	T	10 28 10.9	
	baz=265,slow=75,SNR=79						
H11N2	WAKE ISLAND Hy	40.65	72	T	T	10 28 07.5	
	baz=265,slow=75,SNR=97						
H11N3	WAKE ISLAND Hy	40.66	72	T	T	10 28 12.3	
	baz=265,slow=75,SNR=91						
SONM	Songino Array	41.02	340	P	P	09 44 57.1	+0.4
	0.7nm,0.6s,baz=116,slow=5.0,SNR=2.7						
	0.7nm,0.6s						
STKA	Stephens Creek	44.39	161	P	P	09 45 23.9	0.0
	0.7nm,0.4s,baz=341,slow=12,SNR=4.4						
	0.7nm,0.4s						
PETK	Petropavlovsk-	49.91	25	P	P	09 46 06.5	-0.3
	2.1nm,0.8s,baz=242,slow=3.2,SNR=2.5						
	2.1nm,0.8s						
MKAR	Makanchi Array	51.92	323	P	P	09 46 22.2	+0.3
	1.1nm,0.6s,baz=125,slow=7.9,SNR=17						
MKAR				PcP	PcP	09 47 34.6	+0.6
	0.7nm,0.6s,baz=101,slow=4.7,SNR=5.7						
	1.1nm,0.6s						
ZALV	Zalesovo Beam	54.57	332	P	P	09 46 41.1	-0.2
	0.7nm,0.5s,baz=124,slow=5.9,SNR=5.3						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	55.98	326	P	P	09 46 51.8	+0.3
	1.0nm,0.5s,baz=126,slow=6.8,SNR=18						
KURBB				PcP	PcP	09 47 49.6	+0.2
	0.4nm,0.7s,baz=115,slow=4.2,SNR=2.0						
	1.0nm,0.5s						
BVAR	Borovoye Array	61.57	326	P	P	09 47 30.7	+0.3
	0.3nm,0.5s,baz=116,slow=9.9,SNR=2.6						
BVAR				PcP	PcP	09 48 11.6	0.0
	0.9nm,0.7s,baz=98,slow=6.0,SNR=4.7						
	0.3nm,0.5s						
NRIK	Noril'sk	64.06	346	P	P	09 47 46.5	0.0
	1.3nm,0.5s,baz=141,slow=13,SNR=4.1						
	1.3nm,0.5s						
ILAR	Eielson Array	79.72	26	P	P	09 49 19.9	-0.5
	0.2nm,0.7s,baz=241,slow=5.4,SNR=6.5						
	0.2nm,0.7s						
SPITS	Spitsbergen Ar	84.08	349	P	P	09 49 43.3	+0.1
	5.1nm,0.7s,baz=79,slow=7.5,SNR=1.6						
	5.1nm,0.7s						
INK	Inuvik	84.55	22	P	P	09 49 46.3	+0.7
	0.5nm,0.5s,baz=267,slow=3.7,SNR=2.0						
	0.5nm,0.5s						
BRTR	Keskin Array B	85.34	309	P	P	09 49 50.4	-0.1
	0.8nm,0.8s,baz=69,slow=4.9,SNR=3.3						
	0.8nm,0.8s						
FINES	FINESS Array B	85.84	332	P	P	09 49 51.7	-0.5
	5.0nm,1.1s,baz=46,slow=6.0,SNR=5.2						
	5.0nm,1.1s						
AKASG	Malin Array Be	86.44	321	P	P	09 49 54.2	-1.2
	0.1nm,0.3s,baz=69,slow=3.0,SNR=1.7						
	0.1nm,0.3s						
YKA	Yellowknife Ar	94.03	24	P	P	09 50 31.6	+0.8
	0.3nm,0.6s,baz=299,slow=5.1,SNR=4.3						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	119.98	292	PKP	PKPdf	09 56 04.0	-0.2
	0.3nm,0.5s,baz=60,slow=2.6,SNR=2.7						
PLCA	Paso Flores	146.22	157	PKPbc	PKPab	09 56 54.7	+0.5
	1.1nm,0.8s,baz=274,slow=3.0,SNR=6.1						

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*IDC **01** 09:40:05.4±1.1, 16.°69N×86.°08W, h0km, mb4.2/13, mbtmp4.3/17, ML4.0/4, MS3.7/24, Error ellipse: s-maj=27.9km s-min=17.7km az=33.0*

*NEIC **01** 09:40:08.8±1.9, 16.°67N±0.°06×86.°18W±0.°07, h16km±5km, mb4.6/204, Mwr4.5/18, Error ellipse: s-maj=9.2km s-min=8.4km az=61.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.36; $M_{\theta\theta}$-4.92; $M_{\phi\phi}$7.28; $M_{r\theta}$-1.23; $M_{\theta\phi}$3.80; $M_{\phi r}$0.98; Fault plane solution: $M_0$7.63000×10^{15} NP1:ϕ_s152.77000°, δ78.83000°, λ-163.76000°. NP2:ϕ_s59.54000°, δ74.07000°, λ-11.62000°. Principal axes: T 8.3998, Plg3.0000°, Azm286.0000°; N -1.8840, Plg70.0000°, Azm186.0000°; P -6.5158, Plg19.0000°, Azm17.0000°;*

*NEIC **01** 09:40:08.4, 16.°68N×86.°19W, h13km*

*CATAC **01** 09:40:09.6±0.7, 16.°61N×86.°34W, h10km, ML4.9*

ISC 01 09:40:06.8±0.4**, 16.°71N**±0.°04×**86.°18W**±0.°05**, h10**km**, n518,** σ**0.s97**/422**, mb4.5**/68**, MS3.7**/18**, 1C, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISHN	Nisperales Com	1.89	241	*i* P	Pn	09 40 38.0	-1.2
NISHN				*i* S	Sn	09 40 59.8	-3.3
IZABA	Izabal, Puerto	2.51	247	*i* P	Pn	09 40 46.8	-0.9
IZABA				*i* S	Sn	09 41 16.0	-2.4
IZABA				IAML		09 41 19.7	
	comp=Z,31nm,1.0s						
COMHN	El Horno	2.62	211	*i* P	Pn	09 40 50.5	+1.1
YUSH	Yuscaran	2.82	193	*i* P	Pn	09 40 52.7	+0.7
TGUH	Tegucigalpa,Un	2.84	202		Pn	09 40 53.1	+0.7
TGUH	Tegucigalpa,Un	2.84	202	*i* P	Pn	09 40 53.3	+0.8
TGUH				IAML		09 41 46.5	
	comp=Z,4μm,1.0s						
SARH	Santa Rosa de	3.15	233	*i* P	Pn	09 40 57.4	+0.8
RCPN	Sur Rio San Ju	3.17	179	*i* P	Pn	09 40 56.9	0.0
RCPN				IAML		09 41 33.7	
	comp=Z,5.4nm,1.0s						
PETF	Flores	3.54	274		Pn	09 41 02.2	+0.3
PETF	Flores	3.54	274	*i* P	Pn	09 41 02.6	+0.7
PETF				*i* S	Sn	09 41 43.8	-0.1
PETF				IAML		09 41 51.1	
	comp=Z,3μm,1.0s						
LIMN	Finca el Limon	3.63	183	*i* P	Pn	09 41 04.0	+0.7
LIMN				IAML		09 42 16.5	
	comp=Z,2μm,1.0s						
LLGN	La Laguna	3.68	227	*i* P	Pn	09 41 05.0	+1.0
LLGN				IAML		09 42 03.3	
	comp=Z,870nm,1.0s						
AMPH	Amapala	3.69	203	*i* P	Pn	09 41 04.8	+0.8
ESQI	Esquipulas	3.73	235		Pn	09 41 05.2	+0.6
ESQI	Esquipulas	3.73	235	*i* P	Pn	09 41 05.1	+0.5
ESQI				*i* S	Sn	09 41 48.3	-0.3
ESQI				IAML		09 42 34.4	
	comp=Z,1μm,1.0s						
MATN	Matagalpa	3.77	176		Pn	09 41 05.6	+0.5
MATN	Matagalpa	3.77	176	*i* P	Pn	09 41 05.9	+0.8
MATN				IAML		09 42 11.4	
	comp=Z,1μm,1.0s						
CNCH	Conchagua	3.77	205	*i* P	Pn	09 41 05.9	+0.7
CNCH				IAML		09 42 05.1	
	comp=Z,3μm,1.0s						
PACA	Pacayal	3.83	213	*i* P	Pn	09 41 07.3	+1.2
PACA				IAML		09 42 20.9	
	comp=Z,8μm,1.0s						
MTO3	Montecristo	3.83	234		Pn	09 41 06.7	+0.6
MTO3	Montecristo	3.83	234	*i* P	Pn	09 41 07.0	+0.8
MTO3				IAML		09 42 12.9	
	comp=Z,500nm,1.0s						
SCLA	Alcaldia de Sa	3.88	220	*i* P	Pn	09 41 07.9	+1.3
SCLA				IAML		09 42 32.1	
	comp=Z,730nm,1.0s						
TEIG	Tepich	4.03	331	Pn	Pn	09 41 09.7	+1.1
TEIG	Tepich	4.03	331	Pn	Pn	09 41 09.3	+0.7
	comp=Z,2μm,0.3s,baz=199,slow=0.4,SNR=3496						
TEIG				Sn	Sn	09 41 51.9	-3.9
	comp=Z,1μm,0.3s,baz=20,slow=22,SNR=7.2						
TEIG				LR	LR	09 42 43.1	
	comp=Z,5μm,18.4s,baz=5.0,slow=38						
TEIG	Tepich	4.03	331	⇑*i*P	Pn	09 41 09.1	+0.6
CRIN	San Cristobal	4.08	192		Pn	09 41 10.5	+1.1
CRIN	San Cristobal	4.08	192	*e*P	Pn	09 41 10.4	+1.1
ROCN	Rota Cerro Neg	4.20	188	*i* P	Pb	09 41 17.5	-3.4
SNET	Serv Nac Est T	4.21	225		Pn	09 41 12.0	+0.7
CNGN	Cerro Negro	4.22	187		Pn	09 41 11.4	+0.1
CNGA	Al SSO del Vol	4.22	187	*i* P	Pb	09 41 20.5	-0.8
MOM2	El Cardon	4.26	184	*i* P	Pb	09 41 21.1	-0.8
MOMN	Momotombo	4.29	185	*i* P	Pb	09 41 21.0	-1.5
NUBE	Las Nubes	4.46	232	*i* P	Pn	09 41 15.9	+1.2
NUBE				IAML		09 42 36.5	
	comp=Z,330nm,1.0s						
SAPS	Ciudad Sandino	4.52	183	*i* P	Pb	09 41 25.4	-0.9
GUNB	GUNB	4.53	243	*i* S	Sn	09 42 08.3	-0.5
ACON	Acoyapa	4.81	168		Pn	09 41 20.1	+0.7
ACON	Acoyapa	4.81	168	*e*P	Pn	09 41 19.5	+0.1
ACON	Acoyapa	4.81	168	*i* P	Pn	09 41 20.1	+0.7
ACON				IAML		09 42 45.9	
	comp=Z,2μm,1.0s						
ESPN	Las Esperanzas	4.84	158		Pn	09 41 20.6	+0.8
QUIS	Sacapulas	4.94	254	*i* P	Pn	09 41 21.3	+0.1
QUIS				IAML		09 42 40.3	
	comp=Z,900nm,1.0s						
CHTG	Tecpan	5.02	248	*i* P	Pn	09 41 29.0	+6.5
HUEH	Huehuetenango	5.31	256		Pn	09 41 27.1	+0.7
HUEH	Huehuetenango	5.31	256	*i* P	Pn	09 41 28.5	+2.1
SOKI	Kika Raxquin	5.37	250	*i* P	Pn	09 41 30.8	+3.3
CCIG	Comitan	5.74	267		Pn	09 41 33.4	+1.1
CCIG	Comitan	5.74	267	*i* P	Pn	09 41 33.2	+0.9
RTAL	Retalhuleu	5.75	249	Pn	Pn	09 41 33.3	+1.1
COVE	Coope Vega, Sa	6.20	164		Pn	09 41 39.2	+0.7
ORTG	Ortega, Santa	6.35	174		Pn	09 41 42.0	+1.4
ORTG	Ortega, Santa	6.35	174	*i* P	Pn	09 41 42.6	+2.0
ARE1	Arenal 1	6.37	167	Pn	Pn	09 41 42.3	+1.4
SOCE	Pocosol	6.47	166	Pn	Pn	09 41 43.0	+0.7
JTS	Las Juntas de	6.49	169		Pn	09 41 43.5	+1.0
JTS	Las Juntas de	6.49	169	Pn	Pn	09 41 43.0	+0.5
	comp=Z,2.2nm,0.3s,baz=326,slow=16,SNR=11						
	comp=Z,6.0nm,0.4s						
JTS	Las Juntas de	6.49	169	*e*P	Pn	09 41 41.7	-0.8
POPE	POPE, Guanacas	6.67	172	*i* P	Pn	09 41 48.1	+3.2
SOR	Soroa	6.74	26	Pn	Pn	09 41 47.5	+1.5
LCR2	La Lucha 2	7.24	163	Pn	Pn	09 41 53.9	+0.9
LCR2	La Lucha 2	7.24	163	*i* P	Pn	09 41 56.3	+3.3
CAMR	Camarioca	7.77	35	Pn	Pn	09 42 00.2	+0.2
CMIG	Matias Romero	8.35	274	Pn	Pn	09 42 06.9	-1.0
	comp=Z,2.4nm,0.3s,baz=110,slow=7.6,SNR=26						
CMIG				Sn	Sn	09 43 29.4	-13
	comp=Z,1.4nm,0.3s,baz=102,slow=15,SNR=1.4						
CMIG				LR	LR	09 45 49.7	
	comp=Z,889nm,18.0s,baz=98,slow=41						
	comp=Z,17nm,0.6s						
MTDJ	Mount Denham	8.38	78	Pn	Pn	09 42 08.8	+0.2
BCIP	Isla Barro Col	9.71	140	Pn	Pn	09 42 26.1	-0.7
BCIP	Isla Barro Col	9.71	140	*i* P	Pn	09 42 30.3	+3.5
UPA	Univ. de Panam	10.05	139	*e*P	Pn	09 42 28.6	-2.8
061Z	Ochoppi	10.35	27		Pn	09 42 35.6	+0.3
060A	Indiantown	11.60	27		Pn	09 42 53.8	+1.2
TLIG	Tlapa	11.88	276		Pn	09 42 56.2	-0.3
TLIG	Tlapa	11.88	276	*i* P	Pn	09 42 56.8	+0.3
DWPF	Disney Wildern	12.16	20		Pn	09 43 00.7	+0.5
DWPF	Disney Wildern	12.16	20	P	Pn	09 43 00.6	+0.4
	baz=202						
SJCC	San Jacinto, C	12.66	121	*e*P	Pn	09 42 56.8	-10
CRJC	Cerrejon, Guaj	14.09	112	*e*P	Pn	09 43 25.0	-1.8
SDDR	Presa de Saban	14.35	79	*e*P	P	09 43 35.0	-2.4
BRAL	Brewton	14.42	357	P	Pn	09 43 31.4	+0.3
	baz=177						
456A	Hilliard	14.46	14	Pn	Pn	09 43 30.3	-1.3
CBOC	Ciudad Bolivar	14.67	136	*e*P	Pn	09 43 37.3	+2.5
352A	Blakely	14.75	4	Pn	Pn	09 43 34.3	-1.2
TIGA	Tifton	14.85	9	Pn	Pn	09 43 35.5	-1.5
TIGA	Tifton	14.85	9	P	Pn	09 43 36.4	-0.5
	baz=190						
OCAC	Ocana	15.11	122	*e*P	Pn	09 43 28.5	-12
250A	Grady	15.20	360	Pn	Pn	09 43 40.4	-1.2
PTBC	PUERTO BERRIO,	15.28	130	*e*P	Pn	09 43 42.0	-0.9
GUY2C	Guyana, Caldas	15.57	136	*e*P	Pn	09 43 49.4	+2.3
HKT	Hockley	15.87	328	Pn	Pn	09 43 51.6	+1.2
YOTC	Yotoco, Valle	15.91	142	*e*P	P	09 43 54.4	-0.5
PAMC	Pamplona, Colo	16.13	124	*e*P	Pn	09 43 54.3	0.0
BARC	Barichara	16.21	127	*e*P	Pn	09 43 55.6	+0.5
LRAL	Lakeview Retre	16.27	358	Pn	Pn	09 43 55.9	+0.4
LRAL				IAmb	IAmb	09 43 58.5	
	comp=Z,55nm,1.4s						
LRAL	Lakeview Retre	16.27	358	P	Pn	09 43 55.4	-0.2
	baz=177,SNR=9.1						
ZAIG	Zacatecas	16.56	294	Pn	Pn	09 43 60.0	+0.4
ROSC	El Rosal	16.56	134		Pn	09 43 59.5	-0.2
ROSC	El Rosal	16.56	134	Pn	P	09 44 01.9	-0.4
	comp=Z,0.3nm,0.3s,baz=342,slow=19,SNR=3.2						
ROSC				LR	LR	09 50 27.6	
	comp=Z,155nm,18.8s,baz=57,slow=38						
ROSC	El Rosal	16.56	134	*e*P	P	09 44 02.3	-0.1
ORTC	Ortega, Tolima	16.64	139	*e*P	P	09 44 03.6	+0.7
EF01	Eagle Ford 01	16.69	320	Pn	Pn	09 44 02.1	+1.2
833A	Chaparral WMA,	16.80	316	Pn	Pn	09 44 00.4	-1.9
833A	Chaparral WMA,	16.80	316	P	Pn	09 44 00.5	-1.8
	baz=131,SNR=37						
GOGA	Godfrey	16.81	8	Pn	Pn	09 44 00.2	-2.1
GOGA	Godfrey	16.81	8	P	Pn	09 44 02.0	-0.3
	baz=189						
NATX	Nacogdoches	16.85	334	IAmb	IAmb	09 44 16.6	
	comp=Z,38nm,1.1s						
NATX	Nacogdoches	16.85	334	P	Pn	09 44 02.6	-0.3
	baz=151						
POPC	Popayan, Colom	16.90	145	*e*P	P	09 44 06.9	+1.0
PRAC	Prado	17.02	138	*e*P	P	09 44 07.0	0.0
SDV	Santo Domingo	17.02	115	P	Pn	09 44 04.7	-0.8
SDV	Santo Domingo	17.02	115	Pn	Pn	09 44 05.0	-0.4
	comp=Z,0.8nm,0.3s,baz=297,slow=7.0,SNR=7.1						
SDV				LR	LR	09 51 58.6	
	comp=Z,128nm,18.0s,baz=246,slow=42						
	comp=Z,6.1nm,0.6s						
SDV	Santo Domingo	17.02	115	*e*P	Pn	09 44 04.2	-1.2
Y49A	Blount Mountai	17.08	359		Pn	09 44 05.9	+0.1
NHSC	New Hope	17.20	17	Pn	Pn	09 44 06.4	-0.9
NHSC	New Hope	17.20	17	P	Pn	09 44 07.7	+0.4
	baz=200						
X51A	Calhoun	17.82	4	IAmb	IAmb	09 44 19.1	
	comp=Z,46nm,1.1s						
TULM	Tulcn-Chalpat	17.91	152	*e*P	P	09 44 18.8	+1.4
OXF	Oxford	17.96	351	P	P	09 44 17.4	+0.1
	baz=170						
Y57A	Sumter	18.00	16	IAmb	IAmb	09 44 22.1	
	comp=Z,77nm,1.4s						
FLOC	Florencia	18.26	144	*e*P	P	09 44 22.8	+2.1
DRIO	Del Rio	18.32	316	P	Pn	09 44 19.7	-1.6
WHTX	Lake Whitney,	18.34	328	P	Pn	09 44 21.3	-0.1
	baz=144,SNR=11						
W52A	Murphy	18.42	6	IAmb	IAmb	09 44 26.7	
	comp=Z,23nm,0.6s						
W50A	Signal Mountai	18.43	2	IAmb	IAmb	09 44 30.0	
	comp=Z,23nm,0.5s						
PAULI	Pauline	18.45	11	IAmb	IAmb	09 44 23.9	
	comp=Z,24nm,0.9s						
JCT	Junction City	18.52	320	P	P	09 44 23.4	0.0
JCT				IAmb	IAmb	09 44 39.8	
	comp=Z,59nm,1.1s						
JCT	Junction City	18.52	320	P	P	09 44 23.1	-0.4
	baz=135,SNR=19						
PTGC	Puerto Gaitan,	18.56	131	*e*P	P	09 44 24.3	+0.2
BIRD	Birdtown, Kers	18.58	15	IAmb	IAmb	09 44 26.3	
	comp=Z,30nm,1.0s						
BRDY	Brady	18.62	323	P	P	09 44 24.7	0.0
BRDY				IAmb	IAmb	09 44 34.1	
	comp=Z,39nm,0.7s						
CPCT	Cooper Cave	18.72	4	IAmb	IAmb	09 44 31.6	
	comp=Z,17nm,0.5s						
X58A	Rowland	18.80	18	IAmb	IAmb	09 44 30.4	
	comp=Z,32nm,0.9s						
KMSC	Kings Mountain	18.86	12	P	Pn	09 44 27.7	0.0
	baz=194						
V48A	Smith Brothers	18.96	358	IAmb	IAmb	09 44 35.2	
	comp=Z,16nm,0.7s						
TKL	Tuckaleechee C	18.99	6	IAmb	IAmb	09 44 32.0	
	comp=Z,49nm,1.3s						
TKL	Tuckaleechee C	18.99	6	P	Pn	09 44 29.9	+0.5
	comp=Z,2.2nm,0.3s,baz=185,slow=14,SNR=35						
TKL				S	Sn	09 47 45.3	-17
	comp=Z,6.4nm,0.6s,baz=116,slow=21,SNR=4.8						
TKL				LR	LR	09 51 43.9	
	comp=Z,95nm,18.9s,baz=180,slow=37						
	comp=Z,8.1nm,0.4s						
V51A	Loudon	19.09	5	IAmb	IAmb	09 44 32.8	
	comp=Z,44nm,1.4s						
V53A	Saluda	19.12	8	IAmb	IAmb	09 44 33.3	
	comp=Z,43nm,0.9s						
SJG	San Juan	19.16	83	LR	LR	09 51 11.0	
	comp=Z,175nm,21.7s,baz=256,slow=35						
W57A	Gilead	19.18	16	IAmb	IAmb	09 44 36.8	
	comp=Z,22nm,0.6s						
V52A	Sevierville	19.19	6	IAmb	IAmb	09 44 33.8	
	comp=Z,29nm,1.1s						
BAUV	El Baul	19.28	111		P	09 44 32.3	+0.3
BAUV				IAmb	IAmb	09 44 35.6	
	comp=Z,26nm,0.9s						
WVT	Waverly	19.40	356	P	P	09 44 32.7	-0.4
WVT	Waverly	19.40	356	P	Pn	09 44 34.2	0.0
	baz=175						
V55A	Taylorsville	19.57	12	IAmb	IAmb	09 44 39.2	
	comp=Z,25nm,1.1s						
W59A	Clinton	19.64	19	IAmb	IAmb	09 44 40.9	
	comp=Z,36nm,0.9s						
SAND	Sanderson	19.67	315		Pn	09 44 37.5	-0.1
SAND				IAmb	IAmb	09 44 39.0	
	comp=Z,24nm,1.0s						
TZTN	Tazewell	19.89	6	IAmb	IAmb	09 44 42.9	
	comp=Z,34nm,1.0s						
TZTN	Tazewell	19.89	6	P	Pn	09 44 40.2	+0.1
	baz=187,SNR=6.0						
ABTX	Abilene, Hawle	19.99	325	P	Pn	09 44 40.8	-0.5
	baz=140,SNR=34						
V58A	Windy Hill, Pi	20.02	17	IAmb	IAmb	09 45 05.4	
	comp=Z,20nm,1.1s						
U54A	Nelsons Funny	20.11	10	IAmb	IAmb	09 44 45.5	
	comp=Z,46nm,1.3s						
T47A	Sharon Grove	20.21	358	IAmb	IAmb	09 44 53.3	
	comp=Z,25nm,0.7s						
U56A	King	20.22	14	IAmb	IAmb	09 44 51.7	
	comp=Z,28nm,0.8s						
COHC	Cochancay	20.24	160	*e*P	Pn	09 44 47.7	+3.4
T50A	Nancy	20.27	3	P	Pn	09 44 44.4	-0.1
T50A				IAmb	IAmb	09 44 51.7	
	comp=Z,45nm,1.3s						
WTFS	Witchita Falls	20.27	329	P	Pn	09 44 44.6	+0.1
WTFS				IAmb	IAmb	09 45 01.5	
	comp=Z,23nm,0.7s						
TXAR	Lajitas Array	20.39	311	P	Pn	09 44 46.3	+0.2
	comp=Z,19nm,0.7s,baz=130,slow=11,SNR=101						
TXAR				S	S	09 48 19.6	-13
	comp=Z,0.8nm,0.6s,baz=221,slow=43,SNR=3.2						
	comp=Z,19nm,0.7s						
W35A	Tecumseh	20.71	335	IAmb	IAmb	09 45 25.5	
	comp=Z,39nm,1.5s						
HPIG		20.73	303	IAmb	IAmb	09 44 51.6	
	comp=Z,28nm,1.0s						
TUL3	Leonard	20.95	338	IAmb	IAmb	09 45 26.2	
	comp=Z,18nm,0.8s						
TUL3	Leonard	20.95	338	P	P	09 44 51.2	+1.2
	baz=154						
ALPN	Alpine	20.97	314	IAmb	IAmb	09 44 52.9	
	comp=Z,27nm,0.9s						
MNHN	Monahans	20.97	317	IAmb	IAmb	09 45 12.5	
	comp=Z,29nm,0.9s						
BLA	Blacksburg	21.05	13	P	P	09 44 52.1	+1.1
	baz=196,SNR=7.2						
T57A	Hurt	21.12	16	IAmb	IAmb	09 44 54.2	
	comp=Z,20nm,0.7s						
WMOK	Wichita Mounta	21.21	330	IAmb	IAmb	09 45 09.0	
	comp=Z,24nm,0.9s						
OK052	Battle Ridge R	21.41	336	IAmb	IAmb	09 45 21.5	
	comp=Z,22nm,1.0s						
WCI	Wyandotte Cave	21.44	360	P	P	09 44 55.2	0.0
WCI				IAmb	IAmb	09 44 57.4	
	comp=Z,24nm,0.9s						
WCI	Wyandotte Cave	21.44	360	P	P	09 44 55.5	+0.4
	baz=180						
S54A	Dingess, Beckl	21.44	11	IAmb	IAmb	09 44 57.7	
	comp=Z,28nm,1.1s						
OK033	Mehan	21.50	336	IAmb	IAmb	09 45 22.4	
	comp=Z,18nm,0.8s						
R49A	Shelbyville	21.52	2	IAmb	IAmb	09 45 03.8	
	comp=Z,21nm,1.1s						
QUOK	Quay	21.52	336	IAmb	IAmb	09 45 36.0	
	comp=Z,22nm,1.0s						
R50A	Paris	21.55	4	IAmb	IAmb	09 44 59.2	
	comp=Z,20nm,1.1s						
T59A	Double "B" Far	21.58	19	P	P	09 44 56.1	-0.6
T59A				IAmb	IAmb	09 45 08.6	
	comp=Z,23nm,0.9s						
PECS	Pecos	21.73	315	IAmb	IAmb	09 45 04.9	
	comp=Z,16nm,1.0s						
CCM	Cathedral Cave	21.73	349	P	P	09 45 00.1	+1.8
CCM				IAmb	IAmb	09 45 25.0	
	comp=Z,10nm,0.7s						
CCM	Cathedral Cave	21.73	349	P	P	09 44 59.3	+1.0
	baz=167						

MCRA	Macar, Loja	21.83	163	*e*P	P	09 44 59.4	-0.2
OK048	Pawnee Station	21.83	336	IAmb	IAmb	09 45 15.3	
	comp=Z,26nm,1.0s						
R53A	Hurricane	21.86	9	IAmb	IAmb	09 45 06.0	
	comp=Z,20nm,0.8s						
PCRV	Puerto La Cruz	21.92	105	LR	LR	09 55 15.4	
	comp=Z,205nm,18.3s,slow=42						
VHRN	Van Horn	22.15	313	IAmb	IAmb	09 45 07.7	
	comp=Z,21nm,1.2s						
SMWD	Samnorwood	22.22	328	IAmb	IAmb	09 45 48.8	
	comp=Z,24nm,0.9s						
Q44A	Meyer Farm, Va	22.25	354	IAmb	IAmb	09 45 10.1	
	comp=Z,18nm,0.8s						
Q51A	Peebles	22.37	6	P	P	09 45 06.2	+1.0
Q52A	Bidwell	22.43	8	IAmb	IAmb	09 45 08.1	
	comp=Z,22nm,0.8s						
U32A	Winter Ranch,	22.66	332	IAmb	IAmb	09 45 46.8	
	comp=Z,14nm,0.7s						
MSTX	Muleshoe	22.75	322	P	P	09 45 09.1	-0.4
	baz=135,SNR=9.3						
CBN	Corbin Frederi	22.77	18	P	P	09 45 09.9	+0.5
	baz=202						
P49A	Miami Univ. Ec	22.78	3	P	P	09 45 10.8	+1.2
	baz=184						
AMTX	Amarillo	22.80	325	P	P	09 45 10.0	+0.1
	baz=139						
P51A	Williamsport	22.85	6	IAmb	IAmb	09 45 13.3	
	comp=Z,20nm,1.0s						
MNTX	Cornudas Mount	22.95	314	P	P	09 45 11.8	+0.3
	baz=126,SNR=8.5						
P53A	Whipple	23.07	9	IAmb	IAmb	09 45 20.3	
	comp=Z,21nm,0.9s						
P52A	Corning	23.11	8	P	P	09 45 13.4	+0.4
	baz=190						
SLBS	Sierra La Lagu	23.34	291	P	P	09 45 17.0	+1.4
SLBS				IAmb	IAmb	09 45 19.4	
	comp=Z,27nm,1.2s						
O48B	Farmland	23.48	2	P	P	09 45 17.4	+0.7
	baz=182						
MCWV	Mont Chateau	23.52	12	P	P	09 45 18.5	+1.4
	baz=195						
SFIN	Lafayette	23.60	358	P	P	09 45 19.0	+1.2
	baz=178						
ACSO	Alum Creek Sta	23.60	6	P	P	09 45 19.4	+1.5
	baz=188						
LPIG	La Paz	23.76	292	LR	LR	09 55 22.9	
	comp=Z,248nm,18.0s,baz=95,slow=38						
O53A	New Philadelph	23.85	9	P	P	09 45 21.8	+1.5
	baz=192						
HDIL	Hopedale	23.91	354	P	P	09 45 22.6	+1.7
	baz=173						
SDMD	Soldier's Deli	24.04	18	IAmb	IAmb	09 45 41.8	
	comp=Z,12nm,0.7s						
KSU1	Kansas State U	24.10	340	P	P	09 45 23.7	+1.0
	baz=155,SNR=5.8						
RTBA	Rita Blanca	24.54	326	IAmb	IAmb	09 46 12.2	
	comp=Z,15nm,0.8s						
ATAH	Atahualpa	24.91	161	LR	LR	09 54 39.5	
	comp=Z,149nm,18.7s,baz=331,slow=35						
CBKS	Cedar Bluff	25.02	334	P	P	09 45 31.9	+0.8
	baz=148						
M53A	WI Miller and	25.09	10	P	P	09 45 31.4	-0.3
	baz=192						
121A	Cookes Peak, D	25.10	313	P	P	09 45 32.3	+0.1
	baz=124,SNR=11						
Y22D	IRIS PASSCAL I	25.41	317	P	P	09 45 34.2	-0.6
	baz=128						
Y22F	Passcal Instru	25.41	317	P	P	09 45 34.2	-0.6
	baz=128						
L44A	Lake County Fo	25.43	357	P	P	09 45 35.0	+0.3
	baz=176						
ANMO	Albuquerque	25.66	319	P	P	09 45 38.0	+0.9
ANMO				IAmb	IAmb	09 45 39.9	
	comp=Z,11nm,0.8s						
ANMO	Albuquerque	25.66	319	P	P	09 45 37.6	+0.4
	baz=130						
ERPA	Erie	25.87	11	P	P	09 45 40.3	+1.6
	baz=194						
T25A	Trinidad	25.96	325	IAmb	IAmb	09 46 01.9	
	comp=Z,14nm,1.1s						
T25A	Trinidad	25.96	325	P	P	09 45 40.3	+0.4
	baz=137						
JFWS	Jewell Farm	26.35	353	P	P	09 45 44.6	+1.5
	baz=171						
PAL	Palisades	26.43	21	P	P	09 45 45.0	+1.3
	baz=207						
KSCO	Kaye Shedlock'	26.47	330	P	P	09 45 45.2	+0.9
	baz=143						
BGNE	Belgrade	26.69	340	P	P	09 45 48.0	+1.8
	baz=154						
SDCO	Great Sand Dun	26.99	325	P	P	09 45 50.0	+0.7
	baz=136						
TUC	Tucson	27.16	309	P	P	09 45 50.4	-0.2
TUC				IAmb	IAmb	09 45 56.3	
	comp=Z,10nm,1.1s						
TUC	Tucson	27.16	309	P	P	09 45 51.2	+0.6
	baz=119						
Q24A	Divide	27.69	327	P	P	09 45 56.5	+0.9
	baz=138						
S22A	4UR Ranch, Cre	27.74	323	P	P	09 45 56.8	+0.7
	baz=134						
OGNE	Ogallala	27.77	334	P	P	09 45 57.6	+1.7
	baz=146						
W18A	Petrified Fore	27.90	316	P	P	09 45 58.4	+1.1
	baz=125						
GLMI	Grayling	28.06	2	P	P	09 46 00.6	+2.1
	baz=183						
L61B	Northampton	28.13	21	P	P	09 46 00.4	+1.3
	baz=208						
ECSD	EROS Data Cent	28.36	344	P	P	09 46 02.7	+1.6
	baz=159						
MVCO	Mesa Verde	28.38	320	IAmb	IAmb	09 46 04.9	
	comp=Z,12nm,1.3s						
MVCO	Mesa Verde	28.38	320	P	P	09 46 02.3	+0.6
	baz=130						
214A	Organ Pipe Nat	28.52	307	P	P	09 46 03.8	+1.0
	baz=116						
ISCO	Idaho Springs	28.55	328	P	P	09 46 04.6	+1.4
	baz=138						
SADO	Sadowa	28.59	11	LR	LR	09 57 31.7	
	comp=Z,175nm,18.6s,baz=256,slow=37						
WUAZ	Wupatki	29.23	315	IAmb	IAmb	09 46 14.5	
	comp=Z,6.5nm,0.9s						
WUAZ	Wupatki	29.23	315	P	P	09 46 10.3	+1.1
	baz=124,SNR=7.2						
LONY	Lake Ozonia	29.49	17	P	P	09 46 12.0	+0.8
	baz=203						
PDMCI	Parker Dam,Lak	30.57	310	P	P	09 46 21.3	+0.5
	baz=118						
P18A	Preston Nutter	30.99	322	IAmb	IAmb	09 46 27.4	
	comp=Z,5.9nm,0.9s						
KNB	Kanab	31.03	316	IAmb	IAmb	09 46 30.1	
	comp=Z,6.2nm,1.1s						
MTPU	Mount Pierson	31.20	318	IAmb	IAmb	09 46 30.1	
	comp=Z,8.7nm,1.3s						
RSSD	Black Hills	31.22	335	P	P	09 46 28.6	+1.9
	baz=146						
IRM	Iron Mountain	31.25	309	P	P	09 46 27.8	+0.9
	baz=117						
BC3	Big Chuckawall	31.26	308	P	P	09 46 28.0	+0.9
	baz=116						
IKP	In-Ko-Pah, Jac	31.35	306	P	P	09 46 27.7	-0.1
	baz=113						
EYMN	Ely	31.46	353	P	P	09 46 29.5	+1.1
	baz=170						
SZCU	Shurtz Canyon	31.53	317	IAmb	IAmb	09 46 32.6	
	comp=Z,4.8nm,0.8s						
MONP2	Monument Peak	31.68	306	P	P	09 46 31.5	+0.5
	baz=113						
TCRU	Three Creeks R	31.70	319	IAmb	IAmb	09 46 34.2	
	comp=Z,9.4nm,0.9s						
V12A	Nelson	31.76	312	IAmb	IAmb	09 46 35.0	
	comp=Z,4.6nm,0.9s						
BELC	Belle Mtn. Jos	31.82	308	P	P	09 46 33.1	+1.1
	baz=116,SNR=6.0						
GMRC	Granite Mounta	31.91	310	P	P	09 46 33.6	+0.8
	baz=117						
TPFO	Pinon Flats	32.00	307	P	P	09 46 34.8	+1.2
	baz=114						
PFO	Pinyon Flats O	32.00	307	P	P	09 46 34.7	+1.1
	baz=114						
109C	Camp Elliot, M	32.21	306	P	P	09 46 36.4	+1.1
	baz=113						
TUQ	Turquoise Moun	32.40	311	P	P	09 46 37.6	+0.5
	baz=118						
HEC	Hector,Ludlow	32.42	310	P	P	09 46 38.1	+0.9
	baz=116						
MURC	Murrieta	32.56	307	P	P	09 46 38.9	+0.5
	baz=114						
PRN	Pahroc Range	32.74	315	IAmb	IAmb	09 46 44.1	
	comp=Z,11nm,1.3s						
BW06	Boulder Array	32.75	327	P	P	09 46 40.4	+0.3
	baz=136						
PDAR	Pinedale Array	32.75	327	P	P	09 46 40.5	+0.3
	comp=Z,0.8nm,0.6s,baz=128,slow=11,SNR=13						
	comp=Z,0.8nm,0.6s						
SHOC	Shoshone, Teco	32.86	311	P	P	09 46 41.3	+0.3
	baz=118						
DUG	Dugway, Tooele	32.88	321	P	P	09 46 42.1	+0.9
	baz=128						
ETMB	Extrema	32.93	142	P	P	09 46 41.7	-0.1
ETMB				IAmb	IAmb	09 46 50.1	
	comp=Z,5.2nm,0.8s						
RRX	Edison Barstow	32.94	309	P	P	09 46 41.9	+0.2
	baz=116						
MDND	Maddock	32.96	343	P	P	09 46 42.8	+1.1
	baz=156						
GSC	Goldstone, Bar	32.98	310	P	P	09 46 41.7	-0.4
	baz=116						
SPR3	Spring Creek 3	33.13	318	IAmb	IAmb	09 46 46.0	
	comp=Z,5.2nm,0.8s						
BFSC	Mount Baldy Ra	33.17	308	P	P	09 46 43.3	-0.5
	baz=114						
S11A	Rachel	33.34	315	IAmb	IAmb	09 46 51.0	
	comp=Z,9.9nm,1.1s						
TPNV	Topopah Spring	33.34	313	IAmb	IAmb	09 46 49.5	
	comp=Z,10nm,1.2s						
TPNV	Topopah Spring	33.34	313	P	P	09 46 45.6	+0.3
	baz=119,SNR=6.7						
SCI2	San Clemente I	33.37	305	P	P	09 46 45.5	0.0
	baz=111						
CIS	Catalina Islan	33.42	306	P	P	09 46 45.6	-0.4
	baz=112						
FMP	Fort Macarthur	33.45	306	P	P	09 46 45.7	-0.4
	baz=113						
Q12A	Willow Creek R	33.47	317	IAmb	IAmb	09 46 49.8	
	comp=Z,12nm,1.2s						
FURC	Furnace Creek,	33.55	312	P	P	09 46 47.9	+0.9
	baz=118,SNR=9.9						
R11B	Troy Canyon, C	33.60	316	P	P	09 46 48.7	+1.1
	baz=122,SNR=5.4						
EDW2	Edwards Air Fo	33.68	309	P	P	09 46 49.5	+1.3
	baz=114						
DECC	Green Verdugo	33.69	307	P	P	09 46 50.0	+1.7
	baz=113						
LRMC	Laurel Mtn Rad	33.70	310	P	P	09 46 48.8	+0.3
	baz=116						
MPMC	Manual Prospec	33.81	311	P	P	09 46 50.3	+0.8
	baz=117,SNR=5.9						
TPAW	Teton Pass	33.98	327	IAmb	IAmb	09 46 53.6	
	comp=Z,5.7nm,0.7s						
OSI	Osito Audit: C	34.12	308	P	P	09 46 52.4	+0.3
	baz=113						
GRAC	Grapevine Rang	34.15	312	IAmb	IAmb	09 47 15.0	
	comp=Z,9.0nm,1.1s						
GRAC	Grapevine Rang	34.15	312	P	P	09 46 53.0	+0.7
	baz=118						
LAO	LASA Array	34.21	335	P	P	09 46 53.6	+1.0
	baz=144						
RLMT	Red Lodge	34.32	330	P	P	09 46 54.8	+1.0
	baz=138						
ULM	Lac du Bonnet	34.36	349	P	P	09 46 52.9	-0.9
	comp=Z,6.0nm,1.1s,baz=157,slow=2.4,SNR=3.8						
	comp=Z,6.0nm,1.1s						
ISA	Isabella, Lake	34.36	310	P	P	09 46 54.4	+0.2
	baz=115						
ARVC	Arvin	34.41	308	P	P	09 46 54.8	+0.3
	baz=114						
CWC	Cottonwood Cre	34.41	311	P	P	09 46 54.7	0.0
	baz=116						
H17A	Grant Village	34.43	328	P	P	09 46 55.6	+0.8
	baz=136						
SCZ2	Santa Cruz Isl	34.59	306	P	P	09 46 56.1	+0.1
	baz=112						
SBC	Santa Barbara	34.81	307	P	P	09 46 58.7	+0.7
	baz=112						
MDP	Montagnes des	34.82	106	LR	LR	10 03 45.8	
	comp=Z,68nm,18.1s,baz=290,slow=41						
VES	Vestal, Richgr	34.89	309	P	P	09 46 59.2	+0.6
	baz=115						
PKM	Mcpherson Peak	35.06	308	P	P	09 47 00.2	-0.1
	baz=113						
SMMC	Simmler	35.36	308	P	P	09 47 02.1	-0.6
	baz=113						
NV11	Mina Array Sit	35.38	314	IAmb	IAmb	09 47 06.7	
	comp=Z,9.1nm,1.1s						
NVAR	Mina Array Bea	35.48	314	P	P	09 47 06.1	+2.1
	comp=Z,6.5nm,0.9s,baz=123,slow=8.4,SNR=47						
	comp=Z,6.5nm,0.9s						
KVN	Kaiserville	35.65	315	IAmb	IAmb	09 47 08.6	
	comp=Z,8.8nm,1.0s						
RYN	Ryan	35.73	314	IAmb	IAmb	09 47 09.5	
	comp=Z,6.7nm,1.1s						
BOZ	Bozeman (W)	35.81	329	P	P	09 47 06.7	+0.1
	baz=135						
HLID	Hailey	35.91	324	P	P	09 47 07.7	+0.1
	baz=130						
WAKR	Walker	36.30	313	IAmb	IAmb	09 47 14.9	
	comp=Z,11nm,1.2s						
YERR	Yerington	36.39	314	IAmb	IAmb	09 47 15.3	
	comp=Z,13nm,1.2s						
PNTR	Pine Nut	36.69	314	IAmb	IAmb	09 47 17.9	
	comp=Z,7.5nm,0.9s						
EGMT	Eagleton	36.74	333	P	P	09 47 15.8	+1.4
	baz=140						
PAHR	Pah Rah Range	36.84	315	IAmb	IAmb	09 47 18.6	
	comp=Z,9.5nm,1.0s						
EMB	Emerald Bay	36.98	314	IAmb	IAmb	09 47 20.6	
	comp=Z,10.0nm,1.1s						
MSO	Missoula	37.82	329	P	P	09 47 24.6	+1.0
	baz=133						
ORV	Oroville	38.21	314	IAmb	IAmb	09 47 29.9	
	comp=Z,11nm,1.3s						
YBH	Yreka Blue Hor	40.02	316	P	P	09 47 41.6	-0.6
	comp=Z,2.2nm,1.0s,baz=74,slow=3.7,SNR=6.6						
	comp=Z,2.2nm,1.0s						
KMRM	Mail Ridge	40.03	314	P	P	09 47 43.5	+1.2
SCHQ	Schefferville	40.87	17	P	P	09 47 49.0	+0.1
	comp=Z,7.3nm,1.0s,baz=216,slow=8.1,SNR=8.1						
SCHQ				LR	LR	10 04 43.0	
	comp=Z,54nm,18.6s,baz=250,slow=36						
	comp=Z,7.3nm,1.0s						
MXC	Moxie City	41.05	324	P	P	09 47 51.2	+0.7
H04A	Detroit Lake	41.13	320	P	P	09 47 52.0	+0.8
HOOD	Mount Hood Mea	41.14	322	P	P	09 47 53.0	+1.6
LON	Longmire	42.01	323	P	P	09 47 58.7	+0.3
FRB	Frobisher Bay	48.54	10	LR	LR	10 09 24.0	
	comp=Z,102nm,18.3s,baz=171,slow=36						
RPN	Rapa Nui	49.03	208	LR	LR	10 04 57.4	
	comp=Z,26nm,18.7s,baz=52,slow=30						
BDFB	Brasilia	49.51	128	LR	LR	10 11 59.7	
	comp=Z,70nm,18.2s,baz=28,slow=39						
YKA	Yellowknife Ar	49.88	343	P	P	09 49 00.5	+0.3
	comp=Z,0.6nm,0.5s,baz=141,slow=7.3,SNR=19						
	comp=Z,0.6nm,0.5s						
CPUP	Villa Florida	51.16	146	LR	LR	10 13 35.7	
	comp=Z,60nm,19.5s,baz=318,slow=39						
V35K	Ketchikan	51.77	329	P	P	09 49 15.1	+0.6
	baz=120						
T35M	Bob Quinn	51.97	331	P	P	09 49 16.6	+0.5
	baz=122						
DLBC	Dease Lake	52.66	333	P	P	09 49 21.5	+0.3
	baz=124						
DLBC	Dease Lake	52.66	333	P	P	09 49 22.8	+1.6
	comp=Z,4.7nm,0.8s,baz=129,slow=5.4,SNR=7.2						
	comp=Z,4.7nm,0.8s						
WRGLY	Wrigley	53.12	340	P	P	09 49 24.8	+0.3
	baz=134						
T33K	Petersburg	53.16	330	P	P	09 49 24.4	-0.3
	baz=119						
Q32M	Nakina River	53.93	332	P	P	09 49 30.8	+0.1
	baz=121						
S32K	Killisnoo	54.25	330	P	P	09 49 33.2	+0.4
	baz=118						
RCBR	Riachuelo	54.51	110	LR	LR	10 13 54.2	
	comp=Z,63nm,20.1s,baz=328,slow=37						
SFJD	Kangerlussuaq	55.31	16	LR	LR	10 13 06.4	
	comp=Z,70nm,18.7s,baz=186,slow=36						
N32M	Quiet Lake	55.43	335	P	P	09 49 41.6	+0.3
	baz=122						
O30N	Mendenhall	56.51	333	P	P	09 49 49.5	+0.5
	baz=118						
P29M	Windy Craggy	56.71	332	P	P	09 49 51.1	+0.5
	baz=116						
N31M	Braeburn, Yuko	56.72	334	P	P	09 49 50.7	+0.1
	baz=119						
YUK6	Outpost Mounta	57.57	333	P	P	09 49 56.5	-0.4
	baz=116						
C36M	Paulatuk	57.62	345	IAmb	IAmb	09 50 32.3	
	comp=Z,6.0nm,1.4s						
M30M	Minto, Yukon	57.67	335	P	P	09 49 57.4	+0.1
	baz=119						
YUK4	Talbot Arm	57.88	333	P	P	09 49 58.7	-0.2
	baz=116						
RES	Resolute Bay	58.18	357	IAmb	IAmb	09 50 00.9	
	comp=Z,4.3nm,0.7s						
M29M	Somme Creek	58.29	334	P	P	09 50 01.9	+0.1
	baz=117						
YUK8	Steele Glacier	58.34	333	P	P	09 50 02.5	+0.3
	baz=115						
L29M	L29M	58.46	335	P	P	09 50 02.8	0.0
	baz=118						
K29M	Barlow Dome	58.57	336	P	P	09 50 04.1	+0.4
	baz=119						
I30M	Mount Dempster	58.83	338	P	P	09 50 06.3	+0.9
	baz=121						
CTG	Chitna Glacier	58.90	332	P	P	09 50 06.1	0.0
	baz=113						
G31M	Satah River	59.01	340	P	P	09 50 06.4	0.0
	baz=124						
DAWY	Dawson	59.40	336	P	P	09 50 09.0	-0.3
	baz=117						
EPYK	Eagle Plains	59.53	339	P	P	09 50 10.6	+0.4
	baz=121						
CRQE	Cirque	59.61	332	P	P	09 50 11.0	0.0
	baz=112						
M27K	Edge Creek, AK	59.69	333	P	P	09 50 11.4	-0.1
	baz=114						
A36M	Sachs Harbour	59.80	347	IAmb	IAmb	09 50 26.8	
	comp=Z,4.2nm,0.8s						
A36M	Sachs Harbour	59.80	347	P	P	09 50 12.2	+0.4
	baz=136						
F30M	Barrier River	59.88	340	P	P	09 50 12.5	0.0
	baz=122						
KAIM	Kayak Island	59.94	330	P	P	09 50 13.1	+0.1
	baz=110						
H29M	Whitestone	60.04	338	P	P	09 50 14.5	+0.8
	baz=119						
M26K	Nabesna, AK	60.19	333	P	P	09 50 15.4	+0.6
	baz=112						
I28M	Miner Creek	60.24	337	P	P	09 50 15.7	+0.5
	baz=117						
G29M	Pine Creek	60.26	339	P	P	09 50 16.3	+1.1
	baz=120						
BMRM	Bremner River	60.38	331	P	P	09 50 16.1	0.0
	baz=110						
K27K	Chicken	60.45	335	P	P	09 50 17.5	+1.0
	baz=114						
L26K	Log Cabin Wild	60.58	334	P	P	09 50 17.9	+0.5
	baz=112						
N25K	Chitina, Valde	60.60	332	P	P	09 50 19.0	+1.3
	baz=110						
Q23K	Middleton Isla	60.71	329	P	P	09 50 18.9	+0.6
	baz=108						
EYAK	Cordova Ski Ar	60.77	331	P	P	09 50 18.3	-0.4
	baz=109						
I27K	Kandik River	60.94	337	P	P	09 50 20.2	+0.3
	baz=116						
E29M	Blow River	60.96	341	P	P	09 50 20.4	+0.5
	baz=121						
HARP	HAARP	61.13	333	P	P	09 50 21.1	-0.1
	baz=110						
KLU	Klutina	61.16	332	P	P	09 50 21.2	-0.3
	baz=109						
H27K	Steamboat Moun	61.18	338	P	P	09 50 20.7	-0.8
	baz=116						
SCRK	Sand Creek	61.21	335	P	P	09 50 21.3	-0.5
	baz=112						
F28M	Old Crow	61.23	339	P	P	09 50 22.6	+0.8
F28M				IAmb	IAmb	09 50 37.4	
	comp=Z,3.4nm,0.8s						
F28M	Old Crow	61.23	339	P	P	09 50 22.1	+0.4
	baz=118						
J26L	Joseph Creek	61.24	335	P	P	09 50 21.7	-0.2
	baz=113						
P23K	Montague Islan	61.39	330	P	P	09 50 22.7	-0.2
	baz=107						
I26K	Coal Creek Min	61.40	336	P	P	09 50 23.3	+0.3
	baz=114						
PAX	Paxson	61.46	333	P	P	09 50 23.9	+0.4
	baz=110						
G27K	Doyon Strip	61.48	338	P	P	09 50 23.8	+0.3
	baz=116						
E28M	Babbage River	61.60	340	P	P	09 50 25.0	+0.8
	baz=119						
D28M	Stokes Point	61.70	341	P	P	09 50 25.4	+0.5
	baz=120						
K24K	Donnelly Dome	61.88	334	P	P	09 50 26.4	+0.2
	baz=110						
J25K	Salcha River,	62.00	335	P	P	09 50 27.8	+0.7
	baz=111						
M23K	Glacier View	62.07	332	P	P	09 50 28.1	+0.6
	baz=108						
E27K	Coleen River	62.07	340	P	P	09 50 27.6	+0.1
	baz=117						
KNK	Knik Glacier	62.30	331	P	P	09 50 29.7	+0.6
	baz=107						
SML	Sawmill	62.35	332	P	P	09 50 29.8	+0.3
	baz=107						
D27M	Malcolm River	62.36	341	P	P	09 50 29.6	+0.2
	baz=118						
PRP	Porcupine Dome	62.40	336	P	P	09 50 30.2	+0.3
	baz=112						
HDA	Harding Lake	62.57	335	P	P	09 50 31.1	+0.3
	baz=110						
O22K	Cooper Landing	62.63	330	P	P	09 50 30.4	-0.9
	baz=105						
PMR	Palmer	62.66	331	P	P	09 50 30.6	-0.8
	baz=106						
IL31		62.67	335	P	P	09 50 32.2	+0.8
ILAR	Eielson Array	62.67	335	P	P	09 50 32.2	+0.8
	comp=Z,2.0nm,0.7s,baz=118,slow=4.8,SNR=32						
	comp=Z,2.0nm,0.7s						
F26K	Sheenjek River	62.73	339	P	P	09 50 31.9	0.0
	baz=114						
WAT1	Susitna Watana	62.75	333	P	P	09 50 32.0	-0.1
	baz=107						
RC01	Rabbit Creek A	62.80	331	P	P	09 50 32.5	+0.1
	baz=105						
POKR	Poker Plat Res	63.01	335	P	P	09 50 33.5	-0.3
	baz=110						
G25K	Bearman Lake	63.07	337	P	P	09 50 34.7	+0.6
	baz=112						
MCK	McKinley	63.19	334	P	P	09 50 34.6	-0.3
	baz=107						
HOM	Homer	63.37	329	P	P	09 50 36.0	-0.2
	baz=103						
CUT	Chulitna	63.39	332	P	P	09 50 36.2	-0.1
	baz=106						
E25K	Arctic Village	63.40	339	P	P	09 50 36.5	+0.2
	baz=113						
H24K	Noodor Dome	63.42	336	P	P	09 50 36.8	+0.3
	baz=109						
KDAK	Kodiak Island	63.46	327	P	P	09 50 37.0	+0.2
	baz=101						
Q20K	Shuyak Island	63.53	328	P	P	09 50 36.7	-0.5
	baz=102						
G24K	Hadweenzic Riv	63.56	337	P	P	09 50 37.9	+0.6
	baz=110						
TRF	Thorofare Moun	63.69	333	P	P	09 50 37.9	-0.5
	baz=106						
I23K	Minto, Yukon-K	63.79	335	P	P	09 50 39.6	+0.7
	baz=108						
SKT	Skwentna	63.86	331	P	P	09 50 39.6	+0.2
	baz=104						
O20K	Slope Mountain	63.95	329	P	P	09 50 40.5	+0.4
	baz=102						
N20K	Mount Spurr	63.99	331	P	P	09 50 40.8	+0.4
	baz=103						
F24K	Squaw Lake	63.99	338	P	P	09 50 40.2	0.0
	baz=110						
SII	Sitkinak Islan	64.11	325	P	P	09 50 40.4	-0.7
	baz=99						
D25K	Kavik River	64.13	340	P	P	09 50 41.7	+0.6
	baz=112						
BPAW	Bear Paw Mtn.	64.16	334	P	P	09 50 41.1	-0.2
	baz=106						
Q19K	Cape Douglas,	64.23	328	P	P	09 50 42.2	+0.3
	baz=101						
MLY	Manley	64.31	335	P	P	09 50 42.6	+0.2
	baz=106						
PPLA	Purkeypile	64.38	332	P	P	09 50 42.9	-0.1
	baz=104						
R18K	Karluk	64.41	326	P	P	09 50 43.0	-0.1
	baz=99						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAST	Castle Rocks	64.46	333	P	P	09 50 42.9	-0.5
	baz=104						
G23K	Bananza Creek	64.52	337	P	P	09 50 43.7	-0.1
	baz=108						
CHUM	Lake Minchumin	64.67	333	P	P	09 50 45.4	+0.7
	baz=104						
COLD	Coldfoot	64.75	337	P	P	09 50 44.9	-0.2
	baz=108						
E23K	Chandalar	64.80	338	P	P	09 50 46.2	+0.6
	baz=109						
CHIR	Chirikof Islan	64.80	324	P	P	09 50 44.8	-0.8
	baz=97						
O19K	Port Alsworth	64.80	329	P	P	09 50 45.9	+0.3
	baz=101						
H22K	Ishtalitna Cre	64.81	336	P	P	09 50 45.6	0.0
	baz=106						
I21K	Tanana	64.86	335	P	P	09 50 46.6	+0.7
	baz=105						
D24K	Happy Valley	64.88	339	P	P	09 50 46.7	+0.7
	baz=110						
TOLK	Toolik Lake Re	64.97	339	P	P	09 50 46.5	-0.2
	baz=109						
N19K	Bonanza Creek	65.00	330	P	P	09 50 46.2	-0.8
	baz=101						
C24K	Franklin Bluff	65.04	340	P	P	09 50 46.7	-0.3
	baz=110						
P18K	Big Mountain,	65.11	328	P	P	09 50 46.8	-0.9
	baz=100						
G22K	Bettles	65.15	337	P	P	09 50 47.0	-0.7
	baz=106						
O18K	Koktuh Hills	65.18	329	P	P	09 50 47.1	-1.0
	baz=100						
Q17K	Contact Creek	65.28	327	P	P	09 50 48.0	-0.8
	baz=98						
K20K	Telida	65.31	333	P	P	09 50 48.2	-0.7
	baz=102						
H21K	Melozitna Rive	65.31	335	P	P	09 50 48.2	-0.6
	baz=104						
L19K	White Mountain	65.43	331	P	P	09 50 48.9	-0.8
	baz=101						
D23K	Nanushuk River	65.45	339	P	P	09 50 50.2	+0.5
	baz=108						
R17K	Ugashik Creek	65.45	326	P	P	09 50 49.3	-0.6
	baz=98						
J20K	Nowinta River	65.52	334	P	P	09 50 50.2	0.0
	baz=103						
E22K	Anaktuvuk Pass	65.60	338	P	P	09 50 51.0	+0.2
	baz=107						
N18K	Kilae Creek	65.65	330	P	P	09 50 51.0	-0.1
	baz=99						
Q16K	King Salmon	65.73	327	P	P	09 50 51.0	-0.6
	baz=98						
M18K	Stony River	65.76	330	P	P	09 50 51.0	-0.7
	baz=100						
G21K	Allakaket	65.81	336	P	P	09 50 51.8	-0.2
	baz=104						
F21K	Alatna River	65.97	337	P	P	09 50 51.9	-1.2
	baz=105						
R16K	Pilot Point	66.08	326	P	P	09 50 52.2	-1.6
	baz=96						
TTA	Tatalina	66.09	332	P	P	09 50 53.0	-1.0
	baz=100						
O17K	Koliganek Bris	66.11	328	P	P	09 50 53.1	-1.0
	baz=98						
H20K	Anotleneega Mo	66.12	335	P	P	09 50 53.2	-0.8
	baz=102						
J19K	Poorman	66.12	333	P	P	09 50 53.8	-0.3
	baz=101						
CHGN	Chignik	66.41	325	P	P	09 50 55.7	-0.3
	baz=95						
P16K	Nushagak River	66.47	328	P	P	09 50 55.1	-1.2
	baz=97						
J18K	Innoko River	66.50	332	P	P	09 50 55.6	-0.9
	baz=100						
M17K	Holitna River	66.51	330	P	P	09 50 56.5	-0.1
	baz=98						
O16K	Kokwok River B	66.59	328	P	P	09 50 57.0	-0.1
	baz=97						
H19K	Roundabout Mou	66.76	335	P	P	09 50 57.9	-0.2
	baz=101						
B22K	Teshekpuk Lake	66.77	340	P	P	09 50 57.5	-0.6
	baz=106						
F20K	Avaraart Lake	66.78	336	P	P	09 50 57.9	-0.4
	baz=102						
C21K	Knifeblade Rid	66.92	339	P	P	09 50 58.6	-0.5
	baz=104						
L17K	Donlin	67.02	331	P	P	09 50 59.2	-0.6
	baz=98						
N16K	Nishlik Lake	67.03	329	P	P	09 50 59.3	-0.7
	baz=97						
K17K	Iditarod	67.10	332	P	P	09 50 59.8	-0.5
	baz=98						
G19K	Purcell Mounta	67.14	335	P	P	09 50 59.5	-1.0
	baz=101						
M16K	Timber Creek	67.19	330	P	P	09 51 00.3	-0.7
	baz=97						
E20K	Nigu River	67.22	338	P	P	09 51 00.3	-0.8
	baz=102						
O15K	Ungalikthiuk R	67.42	328	P	P	09 51 01.8	-0.7
	baz=95						
E19K	Redstone River	67.44	337	P	P	09 51 01.6	-0.9
	baz=101						
A22K	Sinclair Lake	67.45	341	P	P	09 51 01.7	-0.7
	baz=105						
D20K	Etivluk River	67.47	338	P	P	09 51 01.9	-0.8
	baz=102						
H18K	Honhosa River	67.49	334	P	P	09 51 03.7	+0.9
H18K	Honhosa River	67.49	334	P	P	09 51 01.8	-1.0
	baz=99						
SDPT	Sand Point	67.50	323	P	P	09 51 01.4	-1.6
	baz=93						
L16K	Owhat River	67.51	330	P	P	09 51 01.8	-1.2
	baz=97						
G18K	Tagagawik	67.72	335	P	P	09 51 03.0	-1.3
	baz=99						
B20K	Meade River	67.93	339	P	P	09 51 03.9	-1.6
	baz=102						
D19K	Kuna River	67.97	338	P	P	09 51 03.6	-2.2
	baz=101						
M15K	Kasigluk River	68.00	329	P	P	09 51 04.2	-1.8
	baz=95						
A21K	Barrow	68.04	341	P	P	09 51 05.3	-0.9
	baz=103						
H17K	Granite Mounta	68.11	334	P	P	09 51 05.4	-1.3
	baz=98						
J16K	Anvik River	68.21	332	P	P	09 51 06.0	-1.4
	baz=96						
N14K	Kuskokwak Cree	68.43	328	P	P	09 51 06.9	-1.8
	baz=94						
L15K	Ungalak Mounta	68.47	330	P	P	09 51 07.8	-1.1
	baz=95						
G17K	Kiwalik Mounta	68.49	334	P	P	09 51 08.1	-0.9
	baz=97						
C19K	Lookout Ridge	68.60	338	P	P	09 51 09.3	-0.5
	baz=100						
E18K	Tukpahlearik C	68.72	336	P	P	09 51 10.1	-0.3
	baz=98						
C18K	Utukok River	69.11	338	P	P	09 51 12.9	-0.1
	baz=98						
E17K	Hotham Inlet	69.15	336	P	P	09 51 12.4	-0.7
	baz=97						
G16K	Koyuk River	69.18	334	P	P	09 51 12.1	-1.3
	baz=96						
A19K	Wainwright	69.28	339	P	P	09 51 13.5	-0.4
	baz=98						
B18K	Kokolik River	69.42	338	P	P	09 51 14.1	-0.7
	baz=98						
J14K	Nanvaranak Lak	69.51	331	P	P	09 51 15.7	+0.3
	baz=93						
RDOG	Red Dog Mine	69.67	337	P	P	09 51 16.3	0.0
	baz=96						
C17K	DeLong Mountai	69.81	337	P	P	09 51 17.7	+0.4
	baz=96						
M11K	Mekoryuk	70.70	329	P	P	09 51 22.6	-0.1
	baz=90						
F14K	Arctic Creek	70.85	334	P	P	09 51 22.9	-0.7
	baz=92						
NIKH	Nikolski High	72.46	321	P	P	09 51 32.9	-0.6
	baz=86						
SPIA	Saint Paul Isl	72.93	325	P	P	09 51 35.5	-0.7
	baz=86						
GAMB	Gambell	73.19	332	P	P	09 51 36.1	-1.5
	baz=86						
ESDC	Sonseca Array	73.62	53	P	P	09 51 40.9	+0.1
	comp=Z,0.8nm,0.7s,baz=285,slow=5.6,SNR=6.3						
	comp=Z,0.8nm,0.7s						
MDT	Midelt	74.19	60	LR	LR	10 18 28.8	
	comp=Z,43nm,19.3s,baz=314,slow=31						
SPITS	Spitsbergen Ar	76.31	12	LR	LR	10 25 16.4	
	comp=Z,33nm,20.2s,baz=252,slow=36						
NOA	NORSAR Array B	79.07	29	LR	LR	10 26 05.4	
	comp=Z,29nm,19.2s,baz=230,slow=35						
HFS	Hagfors	80.49	30	LR	LR	10 27 59.2	
	comp=Z,44nm,18.4s,baz=254,slow=36						
ARCES	ARCESS Array B	81.78	19	P	P	09 52 25.5	-0.2
	comp=Z,4.0nm,0.9s,baz=318,slow=1.6,SNR=7.7						
	comp=Z,4.0nm,0.9s						
TORD	Torodi Ar. Bea	84.30	78	P	P	09 52 39.0	-0.7
	comp=Z,0.6nm,0.6s,baz=299,slow=4.4,SNR=4.3						
TORD				LR	LR	10 24 57.0	
	comp=Z,27nm,20.9s,baz=290,slow=32						
	comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	85.63	26	P	P	09 52 45.6	+0.2
	comp=Z,3.1nm,0.6s,baz=274,slow=2.1,SNR=19						
	comp=Z,3.1nm,0.6s						
AKASG	Malin Array Be	92.34	35	LR	LR	10 34 03.4	
	comp=Z,38nm,18.3s,baz=275,slow=35						
WRA	Warramunga Arr	141.47	259	PKhKP	PKPpre	09 59 30.3	
	comp=Z,0.3nm,0.4s,baz=75,slow=3.4,SNR=3.5						
ASAR	Alice Springs	141.85	253	PKhKP	PKPpre	09 59 33.5	
	comp=Z,0.3nm,0.6s,baz=100,slow=4.1,SNR=12						
CMAR	Chiang Mai Arr	144.69	352	PKP	PKPab	09 59 43.2	-0.2
	comp=Z,0.4nm,0.3s,baz=339,slow=2.2,SNR=2.5						

CATAC 01 09:41:25.0±1.1**, 15°.14N×86°.41W, h5^{km}, ML4.4, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMPH	Amapala	2.20	213	*i* P	Pn	09 42 01.6	-0.6
AMPH				*i* S	Sn	09 42 31.3	+1.4
CNCH	Conchagua	2.31	217	*i* P	Pn	09 42 03.5	-0.3
PACA	Pacayal	2.49	228	*i* P	Pn	09 42 04.9	-1.4
HERN	Volcan Telica	2.55	189	*i* P	Pn	09 42 07.3	+0.2
HERN				IAML		09 42 43.9	
	comp=Z,2μm,1.0s						
SCLA	Alcaldia de Sa	2.66	238	*i* P	Pn	09 42 07.9	-0.7
SCLA				*i* S	Sn	09 42 41.8	+0.5
PAVA	Las Pavas	2.83	240	*i* P	Pn	09 42 12.4	+1.4
PAVA				IAML		09 42 44.8	
	comp=Z,2μm,1.0s						
COEG	Centro de Oper	2.83	238	*i* P	Pn	09 42 10.9	-0.1
COEG				IAML		09 42 23.7	
	comp=Z,490nm,1.0s						
SJTE	Alcalda de S	2.94	239	*i* P	Pn	09 42 12.5	+0.1
SJTE				IAML		09 42 15.4	
	comp=Z,320nm,1.0s						
CEVE	Cerro Verde	3.37	248	*i* P	Pn	09 42 20.1	+1.5
CEVE				IAML		09 42 44.8	
	comp=Z,350nm,1.0s						
BLUN	Bluefields	4.03	140	*i* P	Pn	09 42 24.6	-2.8

*IDC **01** 09:45:20.5±1.2, 16°.68N×86°.02W, h0^{km}, mb3.9/6, mbtmp3.9/10, ML2.8/4, Error ellipse: s-maj=34.9km s-min=21.1km az=44.0*

ISC 01 09:45:21.4±0.8**, 16°.73N**±0°.08×**86°.1W**±0°.1**, h10^{km}, n13, σ1^{s}88**/12**, mb4.0**/5**, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	2.89	203	*e*P	Pn	09 46 08.2	+0.6
TEIG	Tepich	4.05	330	Pn	Pn	09 46 24.2	+0.7
	312nm,0.3s,baz=116,slow=2.6,SNR=20						
TEIG				Sn	Sn	09 47 07.1	-3.9
	796nm,0.3s,baz=205,slow=23,SNR=34						
JTS	Las Juntas de	6.49	170	Pn	Pn	09 46 57.3	+0.2
	0.4nm,0.3s,baz=8.3,slow=20,SNR=1.7						
	3.4nm,0.6s						
CMIG	Matias Romero	8.42	274	Pn	Pn	09 47 22.7	-0.9
	0.3nm,0.3s,baz=89,slow=12,SNR=6.4						
	4.9nm,0.7s						
ROSC	El Rosal	16.52	134	Pn	Pn	09 49 12.5	-1.2
	0.4nm,0.3s,baz=311,slow=19,SNR=1.4						
	1.4nm,0.4s						
SDV	Santo Domingo	16.96	115	Pn	P	09 49 18.8	-2.3
	0.3nm,0.3s,baz=326,slow=15,SNR=1.8						
	2.4nm,0.6s						
TXAR	Lajitas Array	20.43	311	P	Pn	09 50 01.4	+0.2
	3.8nm,0.7s,baz=130,slow=14,SNR=5.5						
	3.8nm,0.7s						
PDAR	Pinedale Array	32.77	327	P	P	09 51 55.7	+0.7
	0.2nm,0.5s,baz=131,slow=11,SNR=2.8						
	0.2nm,0.5s						
NVAR	Mina Array Bea	35.53	314	P	P	09 52 21.3	+2.4
	1.9nm,0.9s,baz=127,slow=8.0,SNR=12						
	1.9nm,0.9s						
SCHQ	Schefferville	40.83	17	P	P	09 53 04.0	+0.9
	2.6nm,0.9s,baz=248,slow=5.4,SNR=1.5						
	2.6nm,0.9s						
ILAR	Eielson Array	62.69	335	P	P	09 55 47.1	+1.0
	1.0nm,0.8s,baz=126,slow=5.2,SNR=11						
	1.0nm,0.8s						
FINES	FINESS Array B	85.58	27	P	P	09 58 00.2	+0.5
	3.8nm,1.0s,baz=298,slow=3.0,SNR=8.3						
	3.8nm,1.0s						
ASAR	Alice Springs	141.93	253	PKhKP	PKPpre	10 04 48.1	
	0.4nm,1.0s,baz=116,slow=3.7,SNR=4.1						

*ISK **01** 09:58:33.8, 38°.44N×26°.80E, h8^{km}, ML2.5/12*
*THE **01** 09:58:34.6, 38°.39N×26°.72E, h0^{km}±1^{km}, ML2.4/5, Error ellipse: s-maj=1.1km s-min=0.4km az=266.0*
*ATH **01** 09:58:34.8, 38°.42N×26°.80E, h14^{km}±3^{km}, ML2.4/3, Error ellipse: s-maj=5.3km s-min=1.1km az=89.0*
*AFAD **01** 09:58:34.1±0.0, 38°.42N×26°.79E, h7^{km}±2^{km}, ML2.5*

ISC 01 09:58:34.4±0.9**, 38°.43N**±0°.02×**26°.81E**±0°.02**, h11^{km}**±8^{km}**, n39, σ0^{s}67**/67**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FOCM	Foa	0.29	348	Pg	Pg	09 58 39.9	-0.4
FOCM				Sg	Sg	09 58 44.1	-0.2
ZEYE	Izmir, Urla-Ze	0.31	232	P	Pg	09 58 40.6	0.0
ZEYE				S	Sg	09 58 44.5	-0.2
GMLD	Gumuldur	0.36	167	Pg	Pg	09 58 41.6	0.0
GMLD				Sg	Sg	09 58 47.6	+1.2
DGB	zmir	0.38	171	P	Pg	09 58 42.3	+0.3
DGB				S	Sg	09 58 47.1	+0.1
KARB	zmir-Karabur	0.39	307	P	Pg	09 58 42.0	-0.1
KARB				S	Sg	09 58 47.8	+0.5
KARB				*i* AML	AML	09 58 48.0	
	comp=E,454nm,0.2s						
KARB				*i* AML	AML	09 58 48.0	
	comp=N,530nm,0.3s						
CESE	eme	0.41	256	Pg	Pg	09 58 41.9	-0.7
CESE				Sg	Sg	09 58 48.4	+0.3
CAND	Candarli	0.52	359	Pg	Pg	09 58 44.4	-0.3
RFT7	Candarli	0.53	9	Pg	Pg	09 58 44.6	-0.2
ZEDA	zmir-Bergama	0.57	21	P	Pg	09 58 45.1	-0.5
ZEDA				S	Sg	09 58 52.2	-1.1
DKL	Dikili	0.65	7	Pg	Pg	09 58 46.7	-0.2
EAG3	Mitilini, Lesv	0.68	344	P	Pg	09 58 47.6	0.0
EAG3				S	Sb	09 58 57.7	-0.1
LESV	Lesvos island,	0.70	344	P	Pb	09 58 48.7	0.0
LESV				S	Sb	09 59 00.3	+1.9
	1μm,0.3s						
SMG	Samos	0.72	178	P	Pg	09 58 48.3	-0.1
SMG				S	Sb	09 58 59.1	+0.3
	318nm,0.2s						
SMG	Samos	0.72	178	P	Pg	09 58 48.7	+0.4
SMG				S	Sg	09 58 58.4	+0.6
SMG				AML	AML	09 59 01.7	
	comp=N,592μm,0.2s						
SMG				AML	AML	09 59 01.9	
	comp=E,708μm,0.2s						
GCAM	G?zelcaml?	0.80	155	Pg	Pg	09 58 49.6	-0.3
GCAM	G?zelcaml?	0.80	155	P	Pb	09 58 50.7	+0.4
GCAM				S	Sg	09 59 00.1	-0.2
AYVA	Ayvalik	0.88	354	P	Pg	09 58 50.8	-0.6
AYVA				S	Sb	09 59 04.0	+0.5
AYVA				*i* AML	AML	09 59 05.0	
	comp=E,190nm,0.4s						
AKS	Akhisar	0.90	60	Pg	Pg	09 58 51.4	-0.5
AKHS	Akhisar	0.91	60	P	Pg	09 58 51.5	-0.4
AKHS				S	Sg	09 59 03.4	-0.2
AKHS				*i* AML	AML	09 59 07.0	
	comp=E,234nm,0.4s						
GOMA	Golmarmara-Man	0.91	72	Pg	Pg	09 58 52.0	0.0
PRK	Paraskevi	0.92	333	P	Pg	09 58 52.2	+0.1
PRK				S	Sn	09 59 06.2	-0.2
	comp=E,630nm,0.5s						
PRK	Paraskevi	0.92	333	P	Pg	09 58 52.0	-0.1
PRK				S	Sb	09 59 05.3	+0.8
PRK				AML	AML	09 59 06.8	
	comp=E,1426μm,0.5s						
PRK				AML	AML	09 59 07.9	
	comp=N,1085μm,0.5s						
IZMR	zmir-demi	0.94	108	P	Pg	09 58 52.7	+0.1
IZMR				S	Sg	09 59 04.3	-0.7
PSRA	Psara	0.98	277	P	Pg	09 58 52.8	-0.6
PSRA				S	Sb	09 59 06.4	0.0
SIGR	SIGRI	1.08	317	Pg	Pg	09 58 54.6	-0.6
SIGR	SIGRI	1.08	317	P	Pg	09 58 54.7	-0.5
SIGR				S	Sb	09 59 10.2	+1.0
	comp=N,98nm,0.5s						
SIGR	SIGRI	1.08	317	P	Pg	09 58 54.3	-0.9
SIGR				S	Sg	09 59 08.7	-0.5
SIGR				AML	AML	09 59 11.7	
	comp=N,202μm,0.5s						
SIGR				AML	AML	09 59 12.3	
	comp=E,189μm,0.5s						
BUHA	Balikesir, Bur	1.09	11	P	Pg	09 58 55.4	0.0
BUHA				S	Sg	09 59 09.4	-0.2
BUHA				*i* AML	AML	09 59 13.0	
	comp=E,194nm,0.4s						
BUHA				*i* AML	AML	09 59 14.0	
	comp=E,165nm,0.5s						
STEP	BALIKESIR_Sava	1.18	37	P	Pb	09 58 56.9	0.0
STEP				S	Sb	09 59 13.2	+1.0
STEP				*i* AML	AML	09 59 14.0	
	comp=E,122nm,0.2s						
KIRA	zmir-Kiraz	1.27	100	P	Pn	09 58 58.5	+0.3
KIRA				S	Sb	09 59 13.7	-1.2
ESEN	Aydn-Nazilli	1.37	117	P	Pn	09 58 58.1	-1.3
ESEN				S	Sb	09 59 15.5	-1.9
MANT	Manisa	1.37	87	P	Pn	09 59 00.6	+0.9
MANT				S	Sb	09 59 17.1	-0.8
BODT	Bodrum	1.42	164	P	Pn	09 58 59.9	-0.3
BODT				S	Sg	09 59 21.0	+0.8
EZN	Ezine	1.44	345	Pn	Pn	09 59 00.3	-0.2
KULA	Kula-Manisa	1.46	86	P	Pb	09 59 01.8	+0.3
KULA				S	Sg	09 59 23.0	+1.7
BALB	Balikesir	1.47	34	Pn	Pn	09 59 01.4	+0.6
COMU	Canakkale	1.69	351	Pn	Pn	09 59 04.2	+0.4
APE	Apeiranthos	1.69	217	P	Pn	09 59 03.2	-0.8
APE				S	Sn	09 59 25.4	-0.3
	comp=E,35nm,0.2s						
GONE	Gonen-Balikesi	1.75	23	Pn	Pn	09 59 05.3	+0.6

*SJA **01** 10:02:23.0±0.6, 19°.30S×67°.49W, h286^{km}±8^{km}, ML4.8, MW4.3*
*VAO **01** 10:02:24.4±0.4, 19°.16S×67°.29W, h224^{km}±4^{km}, mb4.6*
*NEIC **01** 10:02:25.0±2.2, 19°.22S±0°.04×67°.21W±0°.08, h228^{km}±7^{km}, mb4.5/76, Error ellipse: s-maj=10.8km s-min=5.6km az=80.0*
*IDC **01** 10:02:25.3±0.6, 19°.18S×67°.13W, h220^{km}±5^{km}, mb4.1/21, mbtmp4.7/28, Error ellipse: s-maj=10.9km s-min=8.7km az=74.0*
*SCB **01** 10:02:25.5±1.3, 19°.32S×67°.36W, h240^{km}±8^{km}, ML4.9/5, MW5.2, Error ellipse: s-maj=4.9km s-min=3.1km az=1.0*
*GUC **01** 10:02:26.0±0.8, 19°.31S×67°.56W, h263^{km}±5^{km}, ML4.8*

ISC 01 10:02:25.0±0.5**, 19°.27S**±0°.03×**67°.33W**±0°.04**, h230^{km}**±4^{km}**, n285, σ1^{s}47**/304**, mb4.3**/48**, 16C, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEO	Opoqueri	0.88	323	Pg	Pn	10 02 59.9	+2.1
SOEO				Sg	S	10 03 25.7	+2.3
SOEO				IAML		10 03 26.0	
	3μm,0.9s						
GO01	Chusmiza	1.80	257		Pn	10 03 05.8	+1.3
GO01	Chusmiza	1.80	257	*e*P	Pn	10 03 04.6	+0.1
GO01	Chusmiza	1.80	257	⇑ *i*P	Pn	10 03 06.0	+1.5
GO01				*i* S	S	10 03 38.2	+2.9
GO01	Chusmiza	1.80	257	Pg	Pn	10 03 06.2	+1.7
PB08	IPOC Station P	1.93	243		Pn	10 03 07.2	+1.6
PB08	IPOC Station P	1.93	243	*e*P	Pn	10 03 07.1	+1.6
PB08				*e*S	S	10 03 40.4	+3.3
PB08	IPOC Station P	1.93	243	⇑ *i*P	Pn	10 03 07.2	+1.6
PB08				*i* S	S	10 03 39.1	+2.0
PB08				IAML		10 03 46.4	
	comp=E,1μm,0.2s						
PB08	IPOC Station P	1.93	243	Pg	Pn	10 03 06.5	+1.0
PB11	IPOC Station P	2.25	257		Pn	10 03 09.4	+1.0
PB11	IPOC Station P	2.25	257	*e*P	Pn	10 03 03.5	-4.8
PB11				IAML		10 03 50.2	
	comp=Z,1μm,0.1s						
PB11	IPOC Station P	2.25	257	⇑ *i*P	Pn	10 03 09.3	+1.0
PB11				*i* S	S	10 03 42.8	+0.5
PB11				IAML		10 03 44.2	
	comp=N,3μm,0.5s						
PB11	IPOC Station P	2.25	257	Pg	Pn	10 03 09.9	+1.5
PB16	IPOC Station P	2.26	294	Pn	Pn	10 03 11.0	+2.0
PB16	IPOC Station P	2.26	294	*e*P	Pn	10 03 10.4	+1.4
PB16	IPOC Station P	2.26	294	⇑ *i*P	Pn	10 03 11.1	+2.1
PB16				*e*S	S	10 03 45.9	+2.6
PB16	IPOC Station P	2.26	294	Pg	Pn	10 03 10.7	+1.7
SOEJ	Jacaque	2.42	340	Pg	Pn	10 03 13.4	+2.8
SOEJ				Sg	S	10 03 47.3	+1.0
SOEJ				IAML		10 03 49.4	
	comp=N,1μm,1.4s						
PX03	IPOC Station P	2.44	242	*e*P	Pn	10 03 11.2	+0.8
PX03				*e*S	S	10 03 45.7	-0.1
BBOE	La Paz, Chanca	2.52	346	Pg	Pn	10 03 14.4	+2.7
MOCB	Mochara	2.53	141	Pg	Pn	10 03 12.7	+1.1
MOCB				Sg	S	10 03 49.3	+1.2
MOCB				IAML		10 03 52.6	
	comp=N,522nm,0.5s						
HMBC	Humberstone	2.61	247	*e*P	Pn	10 03 00.6	-12
HMBC				*e*S	S	10 03 49.0	0.0
HMBC	Humberstone	2.61	247	Pg	Pn	10 03 13.0	+0.9
PB18	Visviri	2.64	309	Pn	Pn	10 03 15.9	+3.1
PB18	Visviri	2.64	309	⇑ *i*P	Pn	10 03 15.8	+3.0
PB01	IPOC Station P	2.69	229	Pn	Pn	10 03 13.8	+0.9
PB01	IPOC Station P	2.69	229	*e*S	S	10 03 50.5	0.0
PB01				IAML		10 03 55.5	
	comp=Z,2μm,0.3s						
PB01	IPOC Station P	2.69	229	⇑ *i*P	Pn	10 03 13.7	+0.9
PB01				*i* S	S	10 03 50.1	-0.3
PB01				IAML		10 03 56.0	
	comp=N,3μm,0.2s						
PB01	IPOC Station P	2.69	229	Pg	Pn	10 03 13.8	+0.9
TA02	Huaiquique	2.82	249		Pn	10 03 14.8	+0.6
TA02	Huaiquique	2.82	249	*e*P	Pn	10 03 15.0	+0.8
TA02				*e*S	S	10 03 54.9	+2.1
TA02				IAML		10 03 59.8	
	comp=Z,1μm,0.1s						
TA02	Huaiquique	2.82	249	*i* P	Pn	10 03 14.8	+0.6
TA02				*e*S	S	10 03 51.8	-1.0
BBOD	La Paz, Gloria	2.88	335	Pg	Pn	10 03 18.1	+2.5
PB12	IPOC Station P	2.91	282	Pn	Pn	10 03 16.0	+0.7
PB12	IPOC Station P	2.91	282	*e*P	Pn	10 03 15.8	+0.4
PB12				*e*S	S	10 03 54.9	0.0
PB12				IAML		10 03 55.6	
	comp=Z,2μm,0.2s						
PB12	IPOC Station P	2.91	282	⇑ *i*P	Pn	10 03 15.8	+0.4
PB12				*i* S	S	10 03 54.2	-0.6
PB12	IPOC Station P	2.91	282	Pg	Pn	10 03 16.2	+0.8
TA01	Diego Aracena	2.98	244	Pn	Pn	10 03 16.6	+0.6
TA01	Diego Aracena	2.98	244	*e*P	Pn	10 03 16.2	+0.2
TA01				*e*S	S	10 03 54.6	-1.3
TA01	Diego Aracena	2.98	244	⇑ *i*P	Pn	10 03 16.1	+0.2
TA01				*i* S	S	10 03 54.1	-1.8
AP01	Chacalluta	2.99	287		Pn	10 03 17.1	+1.0
AP01	Chacalluta	2.99	287	*e*P	Pn	10 03 16.4	+0.3
AP01				IAML		10 04 01.3	
	comp=Z,2μm,0.1s						
AP01	Chacalluta	2.99	287	⇑ *i*P	Pn	10 03 16.9	+0.8
AP01				*i* S	S	10 03 55.9	-0.3
AP01	Chacalluta	2.99	287	Pg	Pn	10 03 17.5	+1.4
LPAZ	La Paz	3.06	345	Pn	Pn	10 03 19.2	+1.5
LPAZ	La Paz	3.06	345	*e*P	Pn	10 03 19.3	+1.7
LPAZ	La Paz	3.06	345	Pg	Pn	10 03 19.4	+1.7
PATCX	Punta Patache	3.07	239		Pn	10 03 18.0	+0.9
PATCX	Punta Patache	3.07	239	*e*P	Pn	10 03 17.1	0.0
PATCX	Punta Patache	3.07	239	⇑ *i*P	Pn	10 03 17.4	+0.3
PATCX				*i* S	S	10 03 56.7	-1.4
PB09	IPOC Station P	3.09	215		Pn	10 03 19.0	+1.6
PB09	IPOC Station P	3.09	215	*e*P	Pn	10 03 18.6	+1.2
PB09				*e*S	S	10 03 58.9	+0.3
PB09	IPOC Station P	3.09	215	⇑ *i*P	Pn	10 03 18.6	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB09				iS	S	10 03 59.5	+0.9
PB09	IPOC Station P	3.09	215	Pg	Pn	10 03 19.2	+1.8
PB02	IPOC Station P	3.16	229		Pn	10 03 19.9	+1.8
PB02	IPOC Station P	3.16	229	eS	S	10 03 59.1	-0.7
PB02	IPOC Station P	3.16	229	iP	Pn	10 03 18.4	+0.3
PB02				iS	S	10 03 58.5	-1.4
PB02	IPOC Station P	3.16	229	Pg	Pn	10 03 20.2	+2.1
PB02				Sg	S	10 03 59.1	-0.7
PB02				IAML		10 04 03.1	
	comp=Z,5µm,0.3s						
AOVT	TarijaAcel	3.34	133	Pg	Pn	10 03 20.9	+0.6
YJA	Yavi	3.35	150	eP	Pn	10 03 22.0	+1.2
YJA				eS	S	10 04 04.5	0.0
PB07	IPOC Station P	3.42	224	eS	S	10 04 04.8	-0.7
PB07				IAML		10 04 09.2	
	comp=Z,1µm,0.4s						
PB07	IPOC Station P	3.42	224	⇑iP	Pn	10 03 21.7	+0.5
PB07				iS	S	10 04 04.0	-1.5
PB07	IPOC Station P	3.42	224	Pg	Pn	10 03 22.3	+1.0
LVC	Limon Verde	3.64	204	Pn	Pn	10 03 25.0	+1.0
LVC	Limon Verde	3.64	204	eP	Pn	10 03 24.6	+0.6
LVC	Limon Verde	3.64	204	P	Pn	10 03 25.2	+1.2
	comp=Z,226nm,0.5s,baz=20,slow=10.0,SNR=373						
LVC				S	S	10 04 09.1	-1.3
	comp=Z,260nm,0.3s,baz=104,slow=23,SNR=15						
LVC	Limon Verde	3.64	204	⇑iP	Pn	10 03 25.1	+1.2
LVC				iS	S	10 04 09.9	-0.5
LVC	Limon Verde	3.64	204	Pg	Pn	10 03 25.3	+1.4
LVC	Limon Verde	3.64	204	eP	Pn	10 03 24.9	+1.0
AF01	San Pedro de A	3.75	192		Pn	10 03 27.5	+2.3
AF01	San Pedro de A	3.75	192	⇑iP	Pn	10 03 27.6	+2.4
AF01				eS	S	10 04 13.4	+0.8
AF01				IAML		10 04 39.5	
	comp=N,533nm,0.5s						
PB06	IPOC Station P	4.01	211	Pn	Pn	10 03 29.0	+0.9
PB06	IPOC Station P	4.01	211	iP	Pn	10 03 28.7	+0.6
PB06				iS	S	10 04 15.9	-2.1
PB06	IPOC Station P	4.01	211	Pg	Pn	10 03 29.1	+0.9
PB04	IPOC Station P	4.03	220		Pn	10 03 29.3	+0.8
PB04	IPOC Station P	4.03	220	⇑iP	Pn	10 03 29.3	+0.8
PB04				iS	S	10 04 15.6	-2.9
PB04	IPOC Station P	4.03	220	Pg	Pn	10 03 29.6	+1.2
PB15	IPOC Station P	4.40	207	iP	Pn	10 03 33.8	+0.9
PB15				iS	S	10 04 25.5	-1.2
PB15	IPOC Station P	4.40	207	Pg	Pn	10 03 34.4	+1.5
PB15				Sg	S	10 04 25.4	-1.2
PB15				IAML		10 04 29.6	
	comp=N,7µm,0.4s						
PB05	IPOC Station P	4.46	216		Pn	10 03 34.3	+0.7
PB05	IPOC Station P	4.46	216	⇑iP	Pn	10 03 34.2	+0.5
PB05				iS	S	10 04 23.8	-4.1
PB05	IPOC Station P	4.46	216	Pg	Pn	10 03 34.3	+0.7
AZAP	Zapla	5.36	157	eP	Pn	10 03 45.0	+0.1
AZAP				IAML		10 04 51.1	
	comp=Z,311nm,0.5s						
ASTB	Santa Barbara	5.37	151	eP	Pn	10 03 45.8	+0.9
GO02	Mina Guanaco	6.23	199	Pn	Pn	10 03 55.9	+0.1
BBSD	Serra de San D	6.71	73	eP	Pn	10 04 00.6	-1.2
SIV	San Ignacio	6.80	62	P	Pn	10 04 01.3	-1.7
	comp=Z,190nm,0.5s,baz=252,slow=9.9,SNR=1125						
SIV				S	S	10 05 11.7	-9.5
	comp=Z,21nm,0.5s,baz=209,slow=13,SNR=1.0						
BBRB	Robore, Bolivi	7.19	83	eP	Pn	10 04 04.8	-3.2
AC01	Pan de Azucar	7.48	203	Pn	Pn	10 04 10.5	-1.1
AC06	Mina Casimiro	8.52	198	Pn	Pn	10 04 23.5	-1.4
PTLB	Pontes e Lacer	8.70	65	Pn	Pn	10 04 25.5	-1.7
PTLB	Pontes e Lacer	8.70	65	eP	Pn	10 04 25.5	-1.7
GO03	Copiap	8.71	197		Pn	10 04 25.7	-1.6
VILB	Vilhena	9.29	49	Pn	Pn	10 04 33.9	-1.0
MURT	Porto Murtinho	9.42	106	eP	Pn	10 04 35.2	-1.2
ETMB	Extrema	9.46	7	Pn	Pn	10 04 35.9	-1.1
ETMB	Extrema	9.46	7	eP	Pn	10 04 36.4	-0.6
AC04	Llanos de Chal	9.53	200	Pn	Pn	10 04 35.7	-2.1
BDQN	Bodoquena, MS	10.03	98	eP	Pn	10 04 42.4	-1.8
LCO	Las Campanas	10.18	197	Pn	Pn	10 04 44.5	-1.8
ANTJ	Antonio Joao (	10.95	106	eP	Pn	10 04 55.9	+0.1
CO01	Juntas del Tor	10.95	193	Pn	Pn	10 04 55.9	-0.2
AQDB	Aquidauana	11.01	98	Pn	Pn	10 04 55.7	-1.0
AQDB	Aquidauana	11.01	98	eP	Pn	10 04 55.3	-1.3
SAML	Samuel	11.02	22	Pn	Pn	10 04 56.2	-0.6
SAML	Samuel	11.02	22	eP	Pn	10 04 55.9	-1.0
GO04	Tololo Observa	11.30	196		Pn	10 05 00.1	-0.4
SALV	Santo Antonio	11.59	75	eP	Pn	10 05 02.5	-1.5
CPUP	Villa Florida	11.59	129	Pn	Pn	10 05 02.5	-1.4
CPUP	Villa Florida	11.59	129	P	Pn	10 05 02.9	-1.0
	comp=Z,6.4nm,0.6s,baz=311,slow=11,SNR=11						
NNA	Nana	11.67	307	Pn	Pn	10 05 04.3	-0.8
NNA	Nana	11.67	307	P	Pn	10 05 05.1	0.0
	comp=Z,56nm,0.4s,baz=115,slow=10,SNR=41						
NNA				S	S	10 07 09.0	-5.5
	comp=Z,7.8nm,0.3s,baz=208,slow=21,SNR=2.7						
RVDE	Rio Verde (Bra	11.71	91	eP	Pn	10 05 03.9	-1.7
CO03	El Pedregal	11.91	194	Pn	Pn	10 05 07.7	-0.3
PP1B	Ponte de Pedra	11.93	84	eP	Pn	10 05 07.5	-0.9
CO06	Fray Jorge	12.01	198	Pn	Pn	10 05 07.1	-2.0
CFA	Coronel Fontan	12.31	184	P	Pn	10 05 12.7	-0.2
	comp=Z,15nm,0.4s,baz=37,slow=18,SNR=96						
CFA				S	S	10 07 21.2	-8.1
	comp=Z,16nm,0.4s,baz=246,slow=19,SNR=6.1						
CO02	Combarbal	12.34	195	Pn	Pn	10 05 12.8	-0.5
CZSB	Cruzeiro do Su	12.60	335	Pn	Pn	10 05 12.7	-4.0
CZSB	Cruzeiro do Su	12.60	335	eP	Pn	10 05 12.3	-4.4
CZSB	Cruzeiro do Su	12.60	335	eP	Pn	10 05 12.8	-4.0
PDRB	Porto dos Gac	12.74	55	eP	Pn	10 05 16.7	-1.7
RPRD	Ribas do Rio P	12.88	98	eP	Pn	10 05 19.4	-0.8
MCR1	Marechal Candi	13.38	115	eP	Pn	10 05 25.8	-0.4
C2SB	Chapadao do Su	13.71	90	eP	Pn	10 05 30.4	0.0
CLDB	Colider	13.91	55	eP	P	10 05 32.8	-1.3
ITQB	Itaqui	14.21	139		Pn	10 05 35.5	-0.9
ITQB	Itaqui	14.21	139	eP	Pn	10 05 36.3	-0.1
CRSM	Crissiumal (Br	14.68	126	eP	P	10 05 42.3	-0.2
FRBT	Francisco Belt	14.76	119	eP	P	10 05 43.1	-0.3
UNIS	Unistalda (Bra	14.83	133	eP	Pn	10 05 44.7	+0.8
PTGB	Pitanga	15.16	114	eP	Pn	10 05 48.8	+0.8
PCMB	Pacaembu	15.24	102	eP	Pn	10 05 48.8	-0.2
RODS	Rosario do Sul	15.57	137	eP	Pn	10 05 53.0	+0.1
LDASE	Londrina, Braz	15.65	108	eP	Pn	10 05 53.5	-0.4
TEFE	Tefe	15.88	10	eP	P	10 05 55.1	-0.7
ITRB	Iturama	16.01	94	eP	Pn	10 05 58.2	0.0
ITAB	Concordia	16.05	122		P	10 05 56.1	-1.5
ITAB	Concordia	16.05	122	eP	Pn	10 05 59.2	+0.7
ALGR	Alto Alegre (B	16.13	129	eP	Pn	10 05 59.1	-0.5
ATAH	Atahualpa	16.16	317	P	Pn	10 06 00.9	+0.5
	comp=Z,16nm,0.8s,baz=136,slow=9.7,SNR=9.3						
GO05	Huala	16.20	194	IAmb	IAmb	10 06 04.8	
	comp=Z,28nm,0.9s						
CPSB	Cacapava Do Su	16.77	134	eP	P	10 06 05.6	+0.2
NPGB	Novo Progresso	16.82	45	eP	P	10 06 05.3	-0.9
FRTB	Fartura	17.04	107	eP	Pn	10 06 09.1	-1.3
SNDB	Serra Nova Dou	17.05	67	eP	P	10 06 07.9	-0.8
MACA	Manacapuru-AM	17.28	23	P	P	10 06 09.6	-1.6
MACA	Manacapuru-AM	17.28	23	eP	P	10 06 10.3	-0.8
PLTB	Pedras Altas	17.53	138	P	P	10 06 12.7	-1.1
PLTB				IAmb	IAmb	10 06 16.4	
	comp=Z,18nm,0.7s						
PLTB	Pedras Altas	17.53	138	eP	P	10 06 13.9	+0.1
CNLB	Canela	18.02	127	eP	P	10 06 18.4	-0.9
IPMB	Ipameri, GO	18.16	89	eP	P	10 06 20.8	0.0
ITTB	Itaituba	18.64	39	eP	P	10 06 25.3	-0.6
RCLB	Rio Claro- Sao	18.77	103	eP	P	10 06 26.9	-0.4
BDFB	Brasilia	18.77	82	P	P	10 06 26.3	-1.2
BDFB				IAmb	IAmb	10 06 32.9	
	comp=Z,19nm,0.7s						
BDFB	Brasilia	18.77	82	P	P	10 06 27.0	-0.5
	comp=Z,18nm,0.5s,baz=251,slow=6.5,SNR=28						
SPB	Sao Paulo	19.01	107	P	P	10 06 28.4	-1.5
SPB				IAmb	IAmb	10 06 30.9	
	comp=Z,29nm,0.8s						
MCRA	Macar, Loja	19.26	319	eP	Pn	10 06 34.6	-2.0
PET01	Itanhaem-SP	19.28	109	eP	P	10 06 34.1	+1.4
TRQA	Tornquist	19.29	167	P	P	10 06 32.6	-0.2
TRQA				IAmb	IAmb	10 06 37.8	
	comp=Z,18nm,0.8s						
VAO	Valinhos	19.35	105	eP	P	10 06 30.1	-3.5
COHC	Cochancay	20.37	324	eP	Pn	10 06 47.6	-2.2
GO06	Curarrehue	20.56	189	P	P	10 06 47.5	+1.1
PARB	Paraibuna	20.62	105	eP	P	10 06 45.2	-1.9
BSCB	Bom Sucesso	21.25	98	eP	P	10 06 52.2	-1.5
PRPB	Parauapebas	21.45	55	eP	P	10 06 53.8	-1.8
MALB	Monte Alegre	21.52	38	eP	P	10 06 55.3	-1.0
PLCA	Paso Flores	21.57	187	P	P	10 06 58.0	+1.4
PLCA				IAmb	IAmb	10 06 59.2	
	comp=Z,29nm,0.8s						
PLCA	Paso Flores	21.57	187	P	P	10 06 58.2	+1.6
	comp=Z,24nm,0.7s,baz=7.6,slow=11,SNR=78						
PLCA				PcP	PcP	10 10 51.0	+1.8
	comp=Z,0.8nm,0.4s,baz=26,slow=3.8,SNR=3.7						
	comp=Z,24nm,0.7s						
PLCA	Paso Flores	21.57	187	eP	P	10 06 57.3	+0.7
MAN01	Angra dos Reis	22.09	103	eP	P	10 07 01.7	0.0
OTAV	Otavalo	22.25	329	P	P	10 07 02.5	-1.1
OTAV	Otavalo	22.25	329	eP	P	10 07 05.5	+1.9
FLOC	Florencia	22.28	338	eP	P	10 07 03.6	+0.2
JANB	Januaria	22.38	83	eP	P	10 07 02.6	-1.8
DIAM	Diamantina, MG	22.42	91	eP	P	10 07 03.9	-0.9
BOAV	Boa Vista	22.54	18	P	P	10 07 04.6	-1.2
BOAV				IAmb	IAmb	10 07 07.0	
	comp=Z,19nm,0.9s						
BOAV	Boa Vista	22.54	18	eP	P	10 07 04.4	-1.4
BOAV	Boa Vista	22.54	18	eP	P	10 07 04.8	-1.0
SDBA	SAO DESIDERIO	22.61	76	eP	P	10 07 06.8	+0.3
GARC	Garzon, Huila	22.78	339	eP	P	10 07 08.3	0.0
DUB01	Friburgo-RJ	23.51	101	eP	P	10 07 15.6	+1.0
POPC	Popayan, Colom	23.54	336	eP	P	10 07 17.2	+2.1
PTGC	Puerto Gaitan,	23.80	348	eP	P	10 07 18.0	+0.8
PRAC	Prado	24.02	341	eP	P	10 07 20.1	+0.8
MCPB	Macapa, AP	24.03	40	eP	P	10 07 18.5	-0.8
VILC	Villavicencio,	24.06	344	eP	P	10 07 21.5	+1.7
LL02	Futaleuf	24.15	188	P	P	10 07 19.6	-0.5
LL02				IAmb	IAmb	10 07 24.7	
	comp=Z,20nm,0.8s						
JAMC	Jamundi, Valle	24.16	337	eP	P	10 07 21.8	+1.1
CAM01	Campos-RJ	24.16	100	eP	P	10 07 20.5	+0.1
ORTC	Ortega, Tolima	24.31	341	eP	P	10 07 22.9	+1.0
SJMB	Sao Joao De Ma	24.72	93	eP	P	10 07 24.4	-1.2
YOTC	Yotoco, Valle	24.75	338	eP	P	10 07 26.4	+0.4
ROSC	El Rosal	24.93	343	P	P	10 07 24.8	-3.0
ROSC				IAmb	IAmb	10 07 33.3	
	comp=Z,14nm,0.5s						
ROSC	El Rosal	24.93	343	P	P	10 07 29.1	+1.3
	comp=Z,14nm,0.4s,baz=145,slow=11,SNR=20						
	comp=Z,14nm,0.4s						
ROSC	El Rosal	24.93	343	eP	P	10 07 31.1	+3.2
ALF01	Guarapari-ES	25.04	98	eP	P	10 07 27.7	-0.7
RIB01	Linhares ES	25.41	95	eP	P	10 07 29.9	-1.9
AY01	Puyuhuapi	25.47	189	IAmb	IAmb	10 07 38.0	
	comp=Z,16nm,0.9s						
PLMC	San Jos del P	25.59	339	eP	P	10 07 33.9	+0.4
GUY2C	Guyana, Caldas	25.59	341	eP	P	10 07 35.7	+1.8
SPBC	San Pablo de B	25.64	344	eP	P	10 07 34.4	+0.5
NAN01	Guarapari, ES	25.82	91	eP	P	10 07 34.8	-0.7
TAMC	Tame, Arauca	25.92	350	eP	P	10 07 37.1	+0.8
GUA01	Guaratinga, BA	26.31	89	eP	P	10 07 39.6	-0.3
BARC	Barichara	26.34	347	eP	P	10 07 40.0	-0.3
CBOC	Ciudad Bolivar	26.40	340	eP	P	10 07 41.5	+0.7
PTBC	PUERTO BERRIO,	26.59	344	eP	P	10 07 40.7	-1.6
CMC01	Camacan, BA	26.82	86	eP	P	10 07 43.4	-1.0
PAMC	Pamplona, Colo	26.96	348	eP	P	10 07 46.1	-0.1
GDU01	Guandu, BA	27.16	83	eP	P	10 07 45.4	-2.0
DBBC	Dabeiba	27.55	341	eP	P	10 07 50.5	-0.5
ZARC	Zaragoza, Cauc	27.61	344	eP	P	10 07 50.5	-0.9
OCAC	Ocana	27.96	347	eP	P	10 07 53.5	-1.2
UREC	San Jos de Ur	28.04	342	eP	P	10 07 55.4	+0.2
BAUV	El Baul	28.04	359	P	P	10 07 53.4	-1.8
SDV	Santo Domingo	28.17	353	P	P	10 07 54.8	-1.7
SDV				IAmb	IAmb	10 07 57.1	
	comp=Z,13nm,1.0s						
SDV	Santo Domingo	28.17	353	eP	P	10 07 54.9	-1.6
MDP	Montagnes des	28.21	32	P	P	10 07 54.9	-1.8
	comp=Z,6.4nm,0.8s,baz=40,slow=13,SNR=1.3						
	comp=Z,6.4nm,0.8s						
ARGC	Ariguani, Magd	29.73	346	eP	P	10 08 09.1	-1.1
SJCC	San Jacinto, C	30.00	344	eP	P	10 08 12.1	-0.5
CRJC	Cerrejon, Guaj	30.59	349	eP	P	10 08 15.2	-2.6
RCBR	Riachuelo	33.38	71	P	P	10 08 42.0	-0.1
	comp=Z,16nm,0.5s,baz=238,slow=3.3,SNR=42						
	comp=Z,16nm,0.5s						
SOCE	Pocosol	34.04	329	P	P	10 08 44.9	-2.8
SOCE				IAmb	IAmb	10 09 02.7	
	comp=Z,36nm,1.1s						
HNDO	Hondo	57.47	327	P	P	10 11 49.0	-1.2
HNDO				IAmb	IAmb	10 11 53.0	
	comp=Z,4.5nm,0.7s						
SAND	Sanderson	59.32	325	P	P	10 12 04.1	+1.1
TXAR	Lajitas Array	59.70	323	P	P	10 12 06.6	+0.9
	comp=Z,0.4nm,0.5s,baz=152,slow=7.5,SNR=4.6						
	comp=Z,0.4nm,0.5s						
BELA	Belgrano 2	60.75	172	P	P	10 12 13.9	+1.9
FVM	French Village	60.95	339	IAmb	IAmb	10 12 15.0	
	comp=Z,6.3nm,0.6s						
CCM	Cathedral Cave	61.29	339	P	P	10 12 15.8	-0.4
CCM				IAmb	IAmb	10 12 22.5	
	comp=Z,6.3nm,0.6s						
DEOK	Depew	61.38	333	P	P	10 12 17.3	+0.5
DEOK				IAmb	IAmb	10 12 18.8	
	comp=Z,11nm,0.6s						
SMWD	Samnorwood	62.45	330	IAmb	IAmb	10 12 25.9	
	comp=Z,6.9nm,0.9s						
SNAA	Sanae	63.90	161	P	P	10 12 33.8	+0.7
SNAA				IAmb	IAmb	10 12 35.6	
	comp=Z,6.9nm,0.8s						
SNAA	Sanae	63.90	161	P	P	10 12 34.6	+1.5
	comp=Z,4.7nm,0.6s,baz=253,slow=6.4,SNR=12						
	comp=Z,4.7nm,0.6s						
319A	Douglas	64.47	321	IAmb	IAmb	10 12 40.5	
	comp=Z,5.5nm,0.9s						
ANMO	Albuquerque	65.48	325	P	P	10 12 44.3	+0.4
DBIC	Dimbokro	66.68	74	P	P	10 12 50.5	-1.2
DBIC				IAmb	IAmb	10 12 51.4	
	comp=Z,9.6nm,0.7s						
DBIC	Dimbokro	66.68	74	P	P	10 12 50.6	-1.1
	comp=Z,9.2nm,0.5s,baz=233,slow=6.5,SNR=20						
	comp=Z,9.2nm,0.5s						
214A	Organ Pipe Nat	67.03	319	IAmb	IAmb	10 12 56.8	
	comp=Z,3.1nm,0.8s						
SDCO	Great Sand Dun	67.12	328	IAmb	IAmb	10 12 57.3	
	comp=Z,4.2nm,0.7s						
WUAZ	Wupatki	68.64	322	IAmb	IAmb	10 13 07.5	
	comp=Z,8.2nm,1.1s						
SRU	San Rafael Swe	70.75	326	IAmb	IAmb	10 13 19.5	
	comp=Z,4.2nm,0.8s						
V12A	Nelson	70.83	321	IAmb	IAmb	10 13 20.6	
	comp=Z,3.9nm,0.9s						
QSPA	South Pole Qui	70.91	180	P	P	10 13 19.1	+2.0
QSPA				IAmb	IAmb	10 13 19.9	
	comp=Z,5.9nm,0.6s						
QSPA	South Pole Qui	70.91	180	P	P	10 13 19.4	+2.3
	comp=Z,3.6nm,0.4s,baz=340,slow=2.5,SNR=75						
	comp=Z,3.6nm,0.4s						
P18A	Preston Nutter	70.98	326	IAmb	IAmb	10 13 21.3	
	comp=Z,4.2nm,0.7s						
P17A	Butcher Ranch,	71.13	326	IAmb	IAmb	10 13 22.0	
	comp=Z,5.5nm,1.0s						
MVU	Marysvale	71.23	324	IAmb	IAmb	10 13 22.8	
	comp=Z,12nm,0.8s						
E28A	Huff	72.13	337	IAmb	IAmb	10 13 24.4	
	comp=Z,17nm,0.9s						
GWY	Greenwater Val	72.23	320	P	P	10 13 25.7	+0.3
GWY				IAmb	IAmb	10 13 28.9	
	comp=Z,3.5nm,0.8s						
PDAR	Pinedale Array	72.95	329	P	P	10 13 31.0	+1.4
	comp=Z,0.5nm,0.5s,baz=128,slow=8.4,SNR=12						
	comp=Z,0.5nm,0.5s						
ULM	Lac du Bonnet	73.67	341	P	P	10 13 33.8	+0.5
	comp=Z,2.8nm,0.5s,baz=146,slow=6.6,SNR=12						
	comp=Z,2.8nm,0.5s						
SCHQ	Schefferville	73.80	0	P	P	10 13 33.9	-0.1
	comp=Z,2.9nm,0.7s,baz=313,slow=3.2,SNR=1.6						
	comp=Z,2.9nm,0.7s						
IMW	Indian Meadow	74.47	329	IAmb	IAmb	10 13 41.7	
	comp=Z,3.9nm,0.9s						
FLWY	Flagg Ranch	74.49	329	IAmb	IAmb	10 13 42.0	
	comp=Z,7.2nm,0.8s						
NVAR	Mina Array Bea	74.69	321	P	P	10 13 42.2	+2.5
	comp=Z,1.3nm,0.7s,baz=161,slow=5.8,SNR=16						
	comp=Z,1.3nm,0.7s						
KVN	Kaiserville	74.97	321	IAmb	IAmb	10 13 44.5	
	comp=Z,4.0nm,0.8s						
TOA0	Torodi Ar. Sit	75.21	70	P	P	10 13 42.0	-0.9
TORD	Torodi Ar. Bea	75.21	70	P	P	10 13 42.0	-0.9
TORD	Torodi Ar. Bea	75.21	70	P	P	10 13 42.0	-0.9
	comp=Z,19nm,0.4s,baz=256,slow=5.2,SNR=319						
TORD				pP	pP	10 14 36.3	-2.3
	comp=Z,3.2nm,0.9s,baz=277,slow=5.0,SNR=2.5						
	comp=Z,19nm,0.4s						
HLID	Hailey	75.98	327	IAmb	IAmb	10 13 50.7	
	comp=Z,3.5nm,0.8s						
AFDM	Forest Hills D	76.62	320	P	P	10 13 51.4	+1.0
ORV	Oroville	77.32	320	P	P	10 13 57.4	+3.1
ORV				IAmb	IAmb	10 13 58.1	
	comp=Z,4.2nm,0.9s						
PLID	Pearl Lake	77.85	327	IAmb	IAmb	10 14 00.5	
	comp=Z,5.5nm,0.8s						
BMO	Blue Mountains	78.37	326	IAmb	IAmb	10 14 03.4	
	comp=Z,4.9nm,0.8s						
SUR	Sutherland	78.42	120	P	P	10 14 02.3	+1.5
	comp=Z,9.5nm,0.9s,baz=189,slow=10,SNR=1.8						
	comp=Z,9.5nm,0.9s						
VNDA	Vanda	79.29	190	P	P	10 14 07.1	+2.6
	comp=Z,1.9nm,0.8s,baz=116,slow=5.7,SNR=7.9						
	comp=Z,1.9nm,0.8s						
BOSA	Boshof	83.18	118	P	P	10 14 26.3	+0.3
	comp=Z,1.7nm,0.4s,baz=270,slow=3.8,SNR=18						
	comp=Z,1.7nm,0.4s						
ESDC	Sonseca Array	83.21	44	P	P	10 14 26.7	+1.0
	comp=Z,5.0nm,0.9s,baz=243,slow=5.2,SNR=20						
	comp=Z,5.0nm,0.9s						
LBTB	Lobatse	84.59	114	P	P	10 14 34.0	+0.8
	comp=Z,2.7nm,0.6s,baz=257,slow=5.5,SNR=11						
	comp=Z,2.7nm,0.6s						
MAW	Mawson	86.02	163	P	P	10 14 40.9	+1.7
	comp=Z,2.7nm,0.6s,baz=184,slow=3.7,SNR=7.0						
	comp=Z,2.7nm,0.6s						
YKA	Yellowknife Ar	89.60	340	P	P	10 14 57.5	+1.4
	comp=Z,2.9nm,0.7s,baz=132,slow=4.1,SNR=69						
YKA				pP	pP	10 15 52.5	-0.9
	comp=Z,0.9nm,0.9s,baz=134,slow=4.4,SNR=3.6						
	comp=Z,2.9nm,0.7s						
EKA	Eskdalemuir Ar	91.95	31	P	P	10 15 08.5	+1.4
	comp=Z,2.4nm,1.0s,baz=234,slow=5.2,SNR=4.7						
	comp=Z,2.4nm,1.0s						
ASAR	Alice Springs	132.56	207	PKhKP	PKPpre	10 20 56.9	
	comp=Z,0.3nm,0.6s,baz=135,slow=2.3,SNR=6.7						
ASAR				PKP	PKiKP	10 21 14.4	+0.3
	comp=Z,1.9nm,0.5s,baz=136,slow=1.9,SNR=36						
ASAR				SKPbc	SKPab	10 24 19.9	0.0
	comp=Z,0.8nm,0.6s,baz=144,slow=3.7,SNR=14						
BVAR	Borovoye Array	133.12	34	PKP	PKiKP	10 21 15.1	+0.9
	comp=Z,0.9nm,0.6s,baz=298,slow=3.2,SNR=4.5						
WRA	Warramunga Arr	135.62	210	PKhKP	PKPpre	10 21 05.9	
	comp=Z,0.5nm,0.6s,baz=197,slow=2.3,SNR=6.9						
WRA				PKP	PKiKP	10 21 19.9	-0.4
	comp=Z,2.5nm,0.5s,baz=151,slow=1.8,SNR=14						
WRA				SKPbc	SKPab	10 24 29.5	-3.8
	comp=Z,0.7nm,0.8s,baz=146,slow=2.8,SNR=5.2						
KURBB	Kurchatov Arra	138.67	33	PKP	PKiKP	10 21 25.9	+0.3
	comp=Z,0.6nm,0.5s,baz=283,slow=2.7,SNR=2.8						
ZALV	Zalesovo Beam	139.31	25	PKP	PKiKP	10 21 26.3	-0.5
	comp=Z,2.4nm,0.6s,baz=290,slow=2.7,SNR=16						
ZALV				SKPbc	SKiKP	10 24 38.6	-2.3
	comp=Z,0.5nm,0.5s,baz=298,slow=3.2,SNR=5.0						
MKAR	Makanchi Array	142.97	35	PKP	PKPdf	10 21 30.8	-0.5
	comp=Z,1.0nm,0.7s,baz=296,slow=2.0,SNR=9.1						
MKAR				SKPbc	SKiKP	10 24 50.0	+1.3
	comp=Z,0.3nm,0.6s,baz=341,slow=2.4,SNR=4.6						
USRK	Ussuriysk Ar.	150.35	331	PKPbc	PKiKP	10 21 51.2	+1.4
	comp=Z,5.9nm,0.7s,baz=345,slow=1.2,SNR=16						
SONM	Songino Array	151.05	9	PKPbc	PKiKP	10 21 52.7	+1.4
	comp=Z,6.6nm,0.7s,baz=304,slow=1.2,SNR=28						
SONM				pPKPbc	pPKPdf	10 22 46.9	+1.7
	comp=Z,0.5nm,0.4s,baz=329,slow=2.5,SNR=1.6						
MJAR	Matsushiro Arr	151.75	313	PKPbc	PKiKP	10 21 53.8	+0.8
	comp=Z,1.4nm,0.5s,baz=76,slow=1.5,SNR=7.2						
HHC	Hu-ho-hao-te	158.47	2	eP	PKPdf	10 21 55.8	+0.6
NJ2	Nanjing	166.11	338	eP	PKPdf	10 22 02.1	-0.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	PanZhiHua	167.62	52	PKP	PKPdf	10 22 01.7	-2.6

IDC ***01*** *10:04:20.4±6.1, 31°.64S×179°.73W, h199km±52km, mb3.5/3, mbtmp4.1/4, Error ellipse: s-maj=52.3km s-min=27.0km az=29.0*

ISC 01 10:04:21.5±1.1**, 31°.92S**±0°.08×**180°.0W**±0°.2**, h200**km**, n66,** σ**2.16**/64**, mb3.7**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.80	193	P	Pn	10 05 50.3	+4.1
WMGZ	Waiomatatini S	6.03	192	P	Pn	10 05 52.8	+3.7
HAZ	Te Kaha	6.11	197	P	Pn	10 05 51.2	+1.2
PKGZ	Pakihiroa	6.17	194	P	Pn	10 05 53.7	+2.9
PUZ	Puketiti	6.31	193	P	Pn	10 05 52.5	-0.2
RUGZ	Raukumara Rang	6.33	197	P	Pn	10 05 56.1	+3.0
WHRZ	Whale Island	6.43	202	P	Sn	10 07 09.1	+1.4
TWGZ	Tauwhareparae	6.46	194	P	Pn	10 05 58.5	+3.8
TWGZ	Tauwhareparae	6.46	194	P	Sn	10 07 08.5	-0.2
OPRZ	Ohinepanea	6.56	205	P	Pn	10 06 01.1	+5.2
CNGZ	Carnagh Statio	6.72	192	P	Pn	10 06 01.4	+3.5
MWZ	Matawai	6.72	197	P	Pn	10 05 59.2	+1.2
MWZ	Matawai	6.72	197	P	Sn	10 07 11.4	-3.2
TKGZ	Te Karaka	6.74	195	P	Pn	10 06 01.4	+3.1
URZ	Urewera	6.76	200	P	Pn	10 06 01.5	+3.0
	8.2nm,0.3s,baz=4.0,slow=4.8,SNR=24						
URZ				S	Sn	10 07 13.1	-2.3
	17nm,0.5s,baz=8.1,slow=14,SNR=12						
URZ	Urewera	6.76	200	P	Pn	10 06 01.3	+2.8
TOZ	Tahuroa Road	6.88	211	P	Pn	10 06 08.7	+8.6
RIGZ	Rimuhau	7.02	195	P	Pn	10 06 03.9	+2.0
MUGZ	Murupara	7.06	201	P	Pn	10 06 05.6	+3.1
PRGZ	Paritu Road	7.20	193	P	Pn	10 06 07.3	+3.0
KNZ	Kokohu	7.34	194	P	Pn	10 06 07.8	+1.8
RAHZ	Arahi	7.38	198	P	Pn	10 06 09.0	+2.4
MTHZ	Maungataniwha	7.39	200	P	Pn	10 06 09.1	+2.4
MHGZ	Mahia Peninsul	7.42	193	P	Pn	10 06 10.2	+3.1
HIZ	Hauiti	7.81	211	P	Pn	10 06 19.0	+6.7
MCHZ	McNeill Hill	7.98	199	P	Pn	10 06 16.1	+1.7
NTVZ	North Tongarir	7.99	205	P	Pn	10 06 17.3	+2.6
TMVZ	Te Maari	7.99	205	P	Pn	10 06 17.2	+2.6
ETVZ	East Tongariro	8.01	205	P	Pn	10 06 17.3	+2.4
KWHZ	Kaweka Forest	8.04	200	P	Pn	10 06 16.6	+1.4
OTVZ	Oturere	8.05	205	P	Pn	10 06 17.8	+2.4
SNVZ	South Ngauruho	8.08	205	P	Pn	10 06 18.3	+2.4
BHHZ	Black Hill Sta	8.21	202	P	Pn	10 06 18.9	+1.5
WNVZ	Wahianoa	8.22	205	P	Pn	10 06 19.6	+2.0
KRHZ	Kereru	8.26	200	P	Pn	10 06 18.7	+0.7
KAHZ	Kahuranaki	8.26	197	P	Pn	10 06 19.2	+1.1
PNHZ	Pukenui	8.55	200	P	Pn	10 06 22.2	+0.2
TSZ	Takapari Road	8.76	201	P	Pn	10 06 25.3	+0.7
PRHZ	Porangahau	8.77	197	P	Pn	10 06 24.9	+0.3
DVHZ	Dannevirke	8.92	199	P	Pn	10 06 27.1	+0.4
ANWZ	Angora Road	8.99	198	P	Pn	10 06 29.5	+2.0
PRWZ	Pori Road	9.21	200	P	Pn	10 06 30.4	0.0
BFZ	Birch Farm	9.26	198	P	Pn	10 06 30.3	-0.7
MRZ	Mangatainoka R	9.43	201	P	Pn	10 06 31.8	-1.4
HOWZ	Holdsworth Sta	9.66	201	P	Pn	10 06 35.1	-1.2
OGWZ	Otaki Gorge	9.70	202	P	Pn	10 06 35.6	-1.1
TMWZ	Te Maipa	9.75	199	P	Pn	10 06 37.2	-0.2
KIW	Kapiti Island	9.82	203	P	Pn	10 06 37.3	-1.0
CAW	Cannon Point	9.99	202	P	Pn	10 06 38.9	-1.7
DUWZ	D'Urville Isla	10.13	207	P	Pn	10 06 42.2	-0.1
BHW	Baring Head	10.33	202	P	Pn	10 06 42.9	-2.0
TUWZ	Tuamarina	10.67	205	P	Pn	10 06 47.7	-1.5
NNZ	Nelson	10.70	208	P	Pn	10 06 49.0	-0.7
TKNZ	Takaka Hill	10.72	210	P	Pn	10 06 49.1	-0.8
THZ	Tophouse	11.35	208	P	Pn	10 06 57.2	-0.8
KHZ	Kahutara	11.68	204	P	Pn	10 07 00.1	-2.0
LTZ	Lake Taylor	12.46	207	P	Pn	10 07 10.4	-1.8
DZM	Mont Dzumac	15.55	306	P	Pn	10 07 55.1	+4.5
	3.3nm,0.7s,baz=154,slow=8.9,SNR=6.2						
ASAR	Alice Springs	41.35	270	P	P	10 11 48.9	+0.7
	0.7nm,0.3s,baz=108,slow=7.6,SNR=36						
	0.7nm,0.3s						
WRA	Warramunga Arr	42.48	275	P	P	10 11 57.8	+0.5
	1.2nm,0.3s,baz=111,slow=8.1,SNR=21						
	1.2nm,0.3s						
QSPA	South Pole Qui	58.20	180	P	P	10 13 55.6	+1.2
	1.2nm,0.7s,baz=63,slow=4.5,SNR=1.4						
	1.2nm,0.7s						
BVAR	Borovoye Array	126.28	315	PKP	PKPdf	10 22 57.7	-2.0
	0.5nm,0.4s,baz=48,slow=2.1,SNR=3.0						
FINES	FINESS Array B	145.94	338	PKPbc	PKPbc	10 23 35.6	-1.1
	2.8nm,0.3s,baz=52,slow=4.2,SNR=41						
HFS	Hagfors	150.35	346	PKPbc	PKPbc	10 23 46.0	-2.3
	1.7nm,0.6s,baz=45,slow=4.3,SNR=6.0						
AKASG	Malin Array Be	151.41	320	PKPbc	PKPbc	10 23 49.5	-1.6
	0.4nm,0.4s,baz=45,slow=3.1,SNR=3.7						
BRTR	Keskin Array B	151.76	295	PKPbc	PKPbc	10 23 49.9	-2.6
	0.3nm,0.5s,baz=197,slow=1.0,SNR=1.7						

IDC 01 10:27:16.1±3.6**, 0°.82S**×**135°.34E, h0**km**, mb3.3**/2**,**

mbtmp3.3/3, ML3.4/1, MS3.2/1, Error ellipse: s-maj=166.6km s-min=29.5km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.03**	**183**	P	P	10 31 39.7	-0.2
	0.1nm,0.3s,baz=1.6,slow=11,SNR=5.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**22.75**	**183**	P	P	10 32 20.1	0.0
	0.9nm,0.6s,baz=14,slow=11,SNR=20						
	0.9nm,0.6s						
KLR	**Kul'dur**	**49.95**	**357**	LR	LR	10 53 26.0	
	comp=Z,25nm,20.9s,baz=350,slow=31						
MKAR	**Makanchi Array**	**66.25**	**323**	P	P	10 38 06.2	+0.1
	0.2nm,0.7s,baz=125,slow=7.9,SNR=2.2						
	0.2nm,0.7s						

*JMA **01** 10:32:33.4±0.3, 32°N±3°×13°8E±°, h363km, MV3.0/28, FAR S OFF TOKAI DISTRICT*
*IDC **01** 10:32:42.7±25.0, 32.°95N×137.°60E, h419km±118km, mb3.0/3, mbtmp3.6/5, Error ellipse: s-maj=322.3km s-min=77.5km az=148.0*
ISC 01 10:32:33.5±2.0**, 32.°5N**±0.°2×**138.°1E**±0.°1**, h350km, n12,** σ**1.ˢ37**/16**, mb2.8**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**2.35**	**319**	P	**Pn**	**10 33 30.0**	**+2.7**
BSO3	**Boso 3**	**3.05**	**40**	*e*P	**Pn**	**10 33 33.7**	**+0.8**
BSO3				S	**S**	**10 34 21.3**	**+0.6**
BSO4	**Boso 4**	**3.10**	**36**	P	**Pn**	**10 33 35.3**	**+1.7**
BSO4				*e*S	**S**	**10 34 23.1**	**+1.1**
BSO1	**Boso 1**	**3.21**	**47**	P	**Pn**	**10 33 35.3**	**+1.2**
BSO1				S	**S**	**10 34 23.7**	**+0.7**
JHU	**Hanno**	**3.49**	**15**	*e*P	**Pn**	**10 33 39.0**	**+1.6**
JHU				*e*S	**S**	**10 34 29.6**	**+0.7**
JAG	**Ashikaga**	**4.08**	**15**	S	**S**	**10 34 38.8**	**-0.7**
JHO	**Hitachi**	**4.58**	**25**	P	**Pn**	**10 33 48.5**	**0.0**
KSRS	**Korea Array**	**9.74**	**303**	P	**P**	**10 34 50.4**	**+0.5**
	0.4nm,0.4s,baz=110,slow=12,SNR=4.3						
USRK	**Ussuriysk Ar.**	**12.65**	**339**	P	**Pn**	**10 35 22.7**	**0.0**
	0.9nm,0.6s,baz=145,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**44.41**	**306**	P	**P**	**10 40 09.0**	**-1.7**
	0.3nm,0.5s,baz=90,slow=9.1,SNR=6.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**46.81**	**311**	P	**P**	**10 40 27.5**	**-1.6**
	0.3nm,0.4s,baz=92,slow=8.5,SNR=3.4						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**71.57**	**332**	P	**P**	**10 43 15.9**	**-1.1**
	3.7nm,1.0s,baz=90,slow=4.4,SNR=3.6						
	3.7nm,1.0s						

*AEIC **01** 10:36:07.5±0.8, 52.°31N±0.°06×169.°82W±0.°09, h35km±10km, Error ellipse: s-maj=10.2km s-min=6.8km az=144.0*
NEIC 01 10:36:09.4±2.5**, 52.°4N**±0.°1×**169.°8W**±0.°1**, h35km**±53km**, ML3.5**/8**, ML2.9**(AEIC)**, Error ellipse: s-maj=17.7km s-min=4.8km az=149.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.42**	**6**		Pn	10 36 18.1	-0.7
CLCO					Sn	10 36 26.4	+0.9
CLES	**Cleveland East**	**0.46**	**352**		Pn	10 36 18.3	-1.1
CLES					Sn	10 36 27.0	+0.6
CLES	**Cleveland East**	**0.46**	**352**	IAML		10 36 27.2	
	comp=E,3µm,0.5s						
CLES				IAML		10 36 32.0	
	comp=N,3µm,0.2s						
NIKH	**Nikolski High**	**0.83**	**43**		Pn	10 36 23.2	-1.4
NIKH					Sn	10 36 35.6	+0.1
OKWE	**Okmok W'ng Wal**	**1.45**	**40**		Pn	10 36 32.9	-0.1
OKWE					Sn	10 36 52.8	+2.0
OKFG	**Magazine Ridge**	**1.54**	**47**		Pn	10 36 34.1	-0.2
OKFG					Sn	10 36 54.7	+1.6
MAPS	**Pakushin South**	**2.24**	**49**		Pn	10 36 43.7	-0.2
MAPS					Sn	10 37 12.1	+1.7
MGOD	**Makushin Gods**	**2.27**	**50**		Pn	10 36 44.0	-0.3
MSW	**Makushin Switc**	**2.38**	**48**		Pn	10 36 46.0	+0.1
MNAT	**Makushin Natee**	**2.41**	**50**		Pn	10 36 46.3	+0.1
MNAT					Sn	10 37 16.2	+1.7
UNV	**Unalaska Valle**	**2.47**	**52**		Pn	10 36 47.1	+0.1
UNV					Sn	10 37 17.2	+1.3
KOFP	**Korovin Flat P**	**2.65**	**270**		Pn	10 36 48.4	-1.1
ATKA	**Atka Island**	**2.71**	**268**		Pn	10 36 49.0	-1.4
KOWE	**Korovin West**	**2.73**	**272**		Pn	10 36 49.8	-0.9
AKRB	**Akutan Reef Bi**	**2.85**	**50**		Pn	10 36 53.1	+0.8
LVA	**Lava Point**	**2.88**	**50**		Pn	10 36 53.6	+0.8
AKBBA	**Akutan Broad B**	**2.90**	**52**		Pn	10 36 53.4	+0.6
AKV	**Akutan Volcano**	**2.90**	**51**		Pn	10 36 54.0	+1.1
AKUT	**Akutan**	**2.99**	**52**	Pn	Pn	10 36 55.2	+1.0
AKUT				IAML		10 37 35.2	
	comp=E,136nm,4.8s						
AKUT				IAML		10 38 47.4	
	comp=N,128nm,4.0s						
ADK	**Adak**	**4.28**	**266**	Pn	Pn	10 37 12.1	+0.2
KIWB	**Kanaga Island**	**4.57**	**266**	Pn	Pn	10 37 17.4	+1.5

IDC 01 10:51:14.7±11.0**, 14.°02S**×**164.°11E, h0km, mb3.7**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=348.4km s-min=58.0km az=128.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.05**	**254**	P	P	10 57 17.2	+0.3
	0.4nm,0.9s,baz=87,slow=7.6,SNR=2.7						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**30.10**	**247**	P	P	10 57 26.0	-0.2
	0.6nm,0.8s,baz=72,slow=9.9,SNR=11						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**94.59**	**317**	P	P	11 04 37.3	-0.1
	0.3nm,0.6s,baz=100,slow=6.4,SNR=4.0						
	0.3nm,0.6s						

*IDC **01** 10:57:14.6±1.6, 30.°39S×177.°53W, h0km, mb3.9/4, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=38.9km s-min=22.6km az=93.0*
ISC 01 10:57:19.2±1.4**, 30.°35S**±0.°08×**177.°6W**±0.°2**, h33km, n8,** σ**1.ˢ61**/10**, mb4.0**/4**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**347**	Pn	**Pn**	**10 57 38.4**	**-0.1**
	129nm,0.3s,baz=95,slow=5.6,SNR=26						
RAO				Sn	**Sn**	**10 57 50.4**	**-2.3**
	643nm,0.3s,baz=59,slow=21,SNR=12						
URZ	**Urewera**	**9.01**	**207**	Pn	**Pn**	**10 59 25.9**	**-0.9**
	0.8nm,0.3s,baz=185,slow=13,SNR=8.9						
URZ				Sn	**Sn**	**11 01 05.0**	**-2.1**
	0.7nm,0.3s,baz=268,slow=22,SNR=3.0						
	1.7nm,0.3s						
STKA	**Stephens Creek**	**34.79**	**257**	P	**P**	**11 04 09.5**	**+2.7**
	1.3nm,0.4s,baz=100,slow=10,SNR=3.4						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**43.42**	**267**	P	**P**	**11 05 19.1**	**0.0**
	0.3nm,0.4s,baz=105,slow=7.4,SNR=17						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**11 05 27.5**	**+0.5**
	1.0nm,0.3s,baz=110,slow=8.1,SNR=26						
	1.0nm,0.3s						
QSPA	**South Pole Qui**	**59.76**	**180**	P	**P**	**11 07 20.8**	**+0.1**
	1.0nm,1.0s,baz=51,slow=4.2,SNR=1.8						
	1.0nm,1.0s						
KURBB	**Kurchatov Arra**	**121.28**	**314**	PKP	**PKPdf**	**11 16 08.3**	**-0.1**
	0.5nm,0.3s,baz=100,slow=2.2,SNR=2.4						
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	**PKPdf**	**11 16 53.0**	**+0.4**
	1.6nm,0.5s,baz=55,slow=4.4,SNR=18						

ROM 01 10:58:43.4±0.4**, 38.°77N**±0.°02×**15.°73E**±0.°04**, h157km**±3km**, ML1.9**/4**, 7D, Error ellipse: s-maj=3.4km s-min=1.6km az=100.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.20**	**144**	⇓P	Pn	10 59 04.7	+0.2
JOPP	**Joppolo**	**0.20**	**144**	⇓P	Pn	10 59 04.7	+0.2
JOPP	**Joppolo**	**0.20**	**144**	⇓P	Pn	10 59 04.7	+0.2
JOPP				S	Sn	10 59 20.6	0.0
JOPP				AML	AML		
	comp=E,25µm,1.0s						
JOPP				AML	AML		
	comp=N,25µm,0.5s						
JOPP	**Joppolo**	**0.20**	**144**	⇓P	Pn	10 59 04.7	+0.2
CEL	**Celeste**	**0.53**	**166**	P	Pn	10 59 05.5	-0.2
MSRU	**Castanea**	**0.54**	**199**	P	Pn	10 59 05.4	-0.3
MSRU				S	Sn	10 59 22.2	-0.5
CAR1	**CAROLEI**	**0.61**	**38**	P	Pn	10 59 06.4	+0.3
CAR1				S	Sn	10 59 22.9	-0.7
PLAC	**Placanica**	**0.64**	**120**	⇓P	Pn	10 59 06.8	+0.5
PLAC	**Placanica**	**0.64**	**120**	⇓P	Pn	10 59 06.8	+0.5
PLAC				S	Sn	10 59 23.1	-0.7
PLAC				AML	AML		
	comp=N,58µm,3.7s						
PLAC				AML	AML		
	comp=E,38µm,1.0s						
PLAC				AML	AML		
	comp=E,38µm,1.0s						
PLAC				AML	AML		
	comp=N,58µm,0.3s						
PLAC	**Placanica**	**0.64**	**120**	S	Sn	10 59 23.1	-0.7
PLAC	**Placanica**	**0.64**	**120**	⇓P	Pn	10 59 06.8	+0.5
IVGP	**Vulcano Grotta**	**0.71**	**239**	P	Pn	10 59 07.3	+0.7
SOI	**Samo**	**0.74**	**160**	P	Pn	10 59 07.0	+0.1
MTTG	**Motta San Giov**	**0.77**	**182**	P	Pn	10 59 07.5	+0.4
SALB	**San Lorenzo Be**	**1.20**	**23**	P	Pn	10 59 11.3	+0.7
CMPR	**Campora**	**1.58**	**348**	P	Pn	10 59 14.2	-0.1
LNSS	**Leonessa**	**4.34**	**333**	AML	AML		
	comp=E,236µm,0.7s						
LNSS				AML	AML		
	comp=N,220µm,0.1s						

ROM 01 10:59:44.7±0.0**, 42.°797N**±0.°002×**13.°155E**±0.°004**, h10km, ML1.3**/4**, 1C, Error ellipse: s-maj=0.3km s-min=0.2km az=84.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**321**	P	Pg	10 59 47.1	+0.3
NRCA				S	Sg	10 59 48.3	-0.1
T1214	**Arquata del Tr**	**0.06**	**133**	P	Pg	10 59 47.2	+0.3
T1214				S	Sg	10 59 48.6	+0.1
MC2	**Monte Cornacci**	**0.12**	**13**	P	Pg	10 59 48.2	+0.4
MMO1	**Montemonaco**	**0.16**	**51**	P	Pg	10 59 48.8	+0.4
MMO1				S	Sg	10 59 51.9	+1.1
LNSS	**Leonessa**	**0.21**	**204**	P	Pg	10 59 49.9	+0.7
LNSS				S	Sg	10 59 53.7	+1.5
LNSS				AML	AML		
	comp=E,236µm,0.7s						
LNSS				AML	AML		
	comp=N,220µm,0.1s						
FDMO	**Fiordimonte**	**0.24**	**348**	P	Pg	10 59 50.2	+0.5
FDMO				S	Sg	10 59 54.6	+1.5
CESI	**CESI - Serrava**	**0.28**	**319**	P	Pg	10 59 51.0	+0.6
CESI				S	Sb	10 59 55.6	-1.0
RM33	**Pellescritta (**	**0.29**	**171**	P	Pg	10 59 51.1	+0.6
RM33				S	Sb	10 59 56.0	-1.0
CSP1	**Cessapalombo**	**0.30**	**7**	P	Pg	10 59 51.3	+0.6
CSP1				S	Sb	10 59 56.3	-0.9
GUMA	**Gualdo di Mace**	**0.30**	**26**	⇑P	Pb	10 59 51.5	-0.6
TERO	**Teramo**	**0.37**	**118**	P	Pg	10 59 52.6	+0.5
TERO				S	Sb	10 59 58.2	-1.1

NOU 01 11:08:46.1, 21.°50S×**168.°85E, h0km, MLv2.9**/8**, Loyalty Islands, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.76**	**271**	P	Pn	11 09 08.6	+4.5
MARNC	**Mare, Loyalty**	**0.76**	**271**	P	Pg	11 09 01.0	+0.2
LIFNC	**LIFOU**	**1.67**	**295**	P	Pn	11 09 15.5	-1.1
PINNC	**Pines Island,**	**1.71**	**229**	P	Pn	11 09 17.7	+0.5
PINNC	**Pines Island,**	**1.71**	**229**	P	Pn	11 09 16.1	-1.1
YATNC	**Mamie plateau,**	**1.90**	**253**	P	Pn	11 09 20.2	+0.3
YATNC	**Mamie plateau,**	**1.90**	**253**	P	Pn	11 09 18.4	-1.5
OUENC	**Ouen Island, N**	**2.08**	**244**	P	Pn	11 09 23.4	+1.2
OUENC	**Ouen Island, N**	**2.08**	**244**	P	Pn	11 09 21.8	-0.4
DZM	**Mont Dzumac**	**2.31**	**255**	P	Pn	11 09 25.3	-0.2
ONTNC	**Ouen Toro**	**2.37**	**250**	P	Pn	11 09 27.8	+1.6
NOUC	**Port Laguerre**	**2.44**	**255**	P	Pn	11 09 28.5	+1.3

IDC 01 11:12:50.5±2.5**, 28.°85S**×**179.°03W, h0km, mb3.4**/2**, mbtmp3.4**/2**, Error ellipse: s-maj=155.4km s-min=17.2km az=15.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**113**	Pn	Pn	11 13 12.4	-0.1
	66nm,0.3s,baz=53,slow=15,SNR=13						
RAO				Sn	Sn	11 13 29.0	+1.2
	301nm,0.3s,baz=22,slow=22,SNR=12						
ASAR	**Alice Springs**	**42.31**	**266**	P	P	11 20 46.1	-0.2
	0.2nm,0.5s,baz=107,slow=7.4,SNR=5.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**43.16**	**271**	P	P	11 20 53.3	+0.1
	0.3nm,0.4s,baz=110,slow=8.0,SNR=4.8						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**143.39**	**340**	PKP	PKPdf	11 32 25.3	-1.0
	1.2nm,0.4s,baz=64,slow=3.2,SNR=16						

*ANF **01** 11:27:08.6±0.5, 37.°54N×118.°83W, h1km±3km, ML2.8/17, Error ellipse: s-maj=3.2km s-min=2.7km az=144.0*
*NEIC **01** 11:27:09.1±0.8, 37.°57N±0.°01×118.°84W±0.°02, h3km±3km, Error ellipse: s-maj=2.0km s-min=1.7km az=173.0*
*NCEDC **01** 11:27:09.2±0.6, 37.°58N±0.°01×118.°84W±0.°01, h3km±3km, Md3.0/57, ML2.3/58(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=170.0*
ISC 01 11:27:09.2±0.9**, 37.°57N**±0.°02×**118.°83W**±0.°02**, h2km**±7km**, n105,** σ**0.ˢ70**/118**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCVM	**Convict Lake**	**0.02**	**12**		**Pg**	**11 27 10.1**	**0.0**
MLAC	**Mammoth, Mammo**	**0.06**	**359**		**Pg**	**11 27 10.8**	**+0.3**
MLAC	**Mammoth, Mammo**	**0.06**	**359**	P	**Pg**	**11 27 10.5**	**0.0**
	baz=181,SNR=1000						
MLAC				S	**Sg**	**11 27 12.0**	**+0.5**
	baz=181						
MDRNC	**Doe Ridge**	**0.07**	**359**		**Pg**	**11 27 11.1**	**+0.4**
MLCM	**Laurel Creek C**	**0.08**	**303**		**Pg**	**11 27 11.1**	**+0.2**
MCBM	**Casa Benchmark**	**0.09**	**326**		**Pg**	**11 27 11.4**	**+0.3**
MCSM	**Casa Diablo Ho**	**0.10**	**326**		**Pg**	**11 27 11.7**	**+0.4**
MLHM	**Little Hot Cre**	**0.11**	**8**		**Pg**	**11 27 11.9**	**+0.5**
RCCR	**Rock Creek Can**	**0.12**	**133**		**Pg**	**11 27 12.0**	**+0.4**
MEMM	**East Mammoth H**	**0.13**	**319**		**Pg**	**11 27 12.1**	**+0.4**
OMMB	**Old Mammoth Mi**	**0.14**	**288**		**Pg**	**11 27 12.2**	**+0.2**
OMMB					**Sg**	**11 27 14.2**	**+0.4**
OMMB	**Old Mammoth Mi**	**0.14**	**288**	IAML		11 27 14.4	
	comp=N,2µm,0.4s						
OMMB				IAML		11 27 14.4	
	comp=E,1µm,0.4s						
MMLB	**Mammoth Lakes**	**0.14**	**308**		**Pg**	**11 27 12.5**	**+0.4**
ORC	**Owens River**	**0.16**	**65**		**Pg**	**11 27 12.6**	**+0.3**
MMPM	**Mammoth Pass**	**0.16**	**285**		**Pg**	**11 27 12.6**	**+0.2**
MLIM	**Lincoln Peak**	**0.16**	**295**		**Pg**	**11 27 12.9**	**+0.5**
MDYM	**Dry Creek**	**0.17**	**302**		**Pg**	**11 27 12.9**	**+0.4**
MRDM	**Red Cones**	**0.18**	**279**		**Pg**	**11 27 13.1**	**+0.3**
MINS	**Minaret Summit**	**0.20**	**295**		**Pg**	**11 27 13.3**	**+0.2**
MDPB	**Devils Postpil**	**0.20**	**288**		**Pg**	**11 27 13.4**	**+0.2**
MDPB					**Sg**	**11 27 16.3**	**+0.4**
MDPB	**Devils Postpil**	**0.20**	**288**	IAML		11 27 16.6	
	comp=E,2µm,0.3s						
MDPB				IAML		11 27 16.6	
	comp=N,1µm,0.3s						
MDCM	**Deadman Creek**	**0.22**	**310**		**Pg**	**11 27 13.6**	**+0.2**
CASR	**Casa Diablo Mo**	**0.22**	**89**		**Pg**	**11 27 14.1**	**+0.6**
SCHCA	**Scheelite**	**0.24**	**151**		**Pg**	**11 27 14.2**	**+0.4**
BENR	**Benton**	**0.25**	**55**		**Pg**	**11 27 14.3**	**+0.2**
MGNR	**McGee Canyon**	**0.27**	**24**		**Pg**	**11 27 14.7**	**+0.4**
MRCM	**Red Rock Canyo**	**0.28**	**68**		**Pg**	**11 27 15.0**	**+0.4**
MCDM	**Chidago Canyon**	**0.31**	**94**		**Pg**	**11 27 15.9**	**+0.7**
BHPR	**Bishop**	**0.39**	**134**		**Pg**	**11 27 17.1**	**+0.5**
KCC	**Kaiser Creek**	**0.46**	**238**		**Pg**	**11 27 18.1**	**+0.1**
KCC					**Sg**	**11 27 24.1**	**+0.3**
POCCA	**Poleta Canyon**	**0.49**	**115**		**Pg**	**11 27 19.0**	**+0.5**
TIN	**Tinemaha, Big**	**0.70**	**137**		**Pg**	**11 27 23.0**	**+0.3**
TIN	**Tinemaha, Big**	**0.70**	**137**	P	**Pg**	**11 27 22.2**	**-0.5**
	baz=317						
TIN				S	**Sg**	**11 27 31.8**	**0.0**
	baz=317						
LHV	**Little Huntoon**	**0.73**	**21**		**Pg**	**11 27 23.3**	**+0.1**
LHV	**Little Huntoon**	**0.73**	**21**	IAML		11 27 37.0	
	comp=E,87nm,0.5s						
LHV				IAML		11 27 38.6	
	comp=N,154nm,0.5s						
FRI	**Friant**	**0.91**	**231**		**Pg**	**11 27 26.2**	**-0.3**
NVAR	**Mina Array Bea**	**0.95**	**26**		**Pg**	**11 27 27.3**	**-0.2**
NV11	**Mina Array Sit**	**1.01**	**32**	Pg	**Pg**	**11 27 28.3**	**-0.3**
NV11				IAML		11 27 47.3	
	comp=E,60nm,0.8s						
NV11				IAML		11 27 47.6	
	comp=N,60nm,0.8s						
WAKR	**Walker**	**1.05**	**333**		**Pg**	**11 27 29.4**	**+0.1**
RYN	**Ryan**	**1.08**	**13**		**Pg**	**11 27 29.8**	**-0.2**
RYN				IAML		11 27 45.1	
	comp=E,58nm,0.4s						
RYN				IAML		11 27 45.2	
	comp=N,41nm,0.2s						
MZP	**Montezuma Peak**	**1.16**	**83**		**Pg**	**11 27 31.3**	**-0.1**
MZP				IAML		11 27 51.3	
	comp=N,63nm,0.7s						
MZP				IAML		11 27 51.5	
	comp=E,38nm,0.6s						
CWC	**Cottonwood Cre**	**1.28**	**152**		**Pg**	**11 27 33.3**	**-0.3**
CWC	**Cottonwood Cre**	**1.28**	**152**	P	**Pg**	**11 27 33.2**	**-0.5**
	baz=332						
CWC				S	**Sg**	**11 27 49.6**	**-0.7**
	baz=332						
GMN	**Gold Mountain**	**1.28**	**102**		**Pg**	**11 27 33.9**	**+0.1**
GMN				IAML		11 27 55.8	
	comp=E,45nm,0.7s						
GMN				IAML		11 27 56.2	
	comp=N,79nm,0.5s						
MRHM	**Rocky Hill**	**1.30**	**189**		**Pg**	**11 27 33.5**	**-0.6**
GRAC	**Grapevine Rang**	**1.30**	**116**		**Pn**	**11 27 34.3**	**-0.1**
GRAC	**Grapevine Rang**	**1.30**	**116**	P	**Pg**	**11 27 33.6**	**-0.5**
	baz=297,SNR=17						
GRAC				S	**Sn**	**11 27 51.9**	**-0.5**
	baz=297						
CGO	**Cerro Gordo**	**1.31**	**141**		**Pg**	**11 27 33.7**	**-0.6**
CMB	**Columbia Colle**	**1.31**	**291**		**Pg**	**11 27 33.1**	**-1.3**
CMB				IAML		11 27 57.1	
	comp=N,49nm,0.6s						
VOG	**Valley Oaks Go**	**1.32**	**200**		**Pg**	**11 27 34.0**	**-0.5**
VOG	**Valley Oaks Go**	**1.32**	**200**	S	**Sg**	**11 27 51.5**	**-0.1**
	baz=19						
SPG2	**Springville 2**	**1.37**	**178**		**Pn**	**11 27 34.7**	**-0.5**
TPH	**Tonopah**	**1.37**	**68**		**Pn**	**11 27 35.1**	**-0.4**
YERR	**Yerington**	**1.45**	**347**		**Pn**	**11 27 36.2**	**-0.4**
KVN	**Kaiserville**	**1.59**	**21**	Pg	**Pn**	**11 27 38.7**	**+0.2**
PNTR	**Pine Nut**	**1.63**	**339**		**Pb**	**11 27 39.9**	**-0.3**
EMB	**Emerald Bay**	**1.72**	**325**		**Pn**	**11 27 40.5**	**+0.2**
EMB				IAML		11 28 14.8	
	comp=N,22nm,0.6s						
VES	**Vestal, Richgr**	**1.74**	**187**	Pb	**Pb**	**11 27 41.1**	**-0.6**
	baz=6.5,SNR=33						
VES				S	**Sb**	**11 28 04.0**	**0.0**
	baz=6.5						
PDRM	**Domengine Ranc**	**1.74**	**225**		**Pb**	**11 27 41.6**	**-0.2**
Q09A	**Carvers**	**1.81**	**45**		**Pn**	**11 27 41.9**	**+0.3**
Q09A				IAML		11 28 13.1	
	comp=E,47nm,0.6s						
PKEM	**Kettleman Hill**	**1.82**	**215**		**Pb**	**11 27 43.0**	**-0.2**
WASM	**Alta Sierra Ca**	**1.84**	**173**		**Pb**	**11 27 43.2**	**-0.4**
MPMC	**Manual Prospec**	**1.85**	**144**	Pb	**Pb**	**11 27 43.0**	**-0.8**
	baz=325,SNR=9.5						
MPMC				Sb	**Sg**	**11 28 08.1**	**-0.6**
	baz=325						
FURC	**Furnace Creek,**	**1.92**	**124**	Sg	**Sg**	**11 28 12.0**	**+1.1**
	baz=306						
ISA	**Isabella, Lake**	**1.93**	**171**		**Pb**	**11 27 44.7**	**-0.3**
ISA	**Isabella, Lake**	**1.93**	**171**	Pb	**Pb**	**11 27 44.4**	**-0.6**
	baz=351,SNR=17						
ISA				S	**Sn**	**11 28 08.4**	**+0.6**
	baz=351						
WCT	**Wildcat Mounta**	**1.93**	**113**	Pn	**Pn**	**11 27 43.5**	**+0.5**
WCT				IAML		11 28 13.2	
	comp=E,31nm,0.5s						
WCT				IAML		11 28 13.8	
	comp=N,28nm,0.8s						
WORM	**Onyx Ranch**	**1.93**	**166**		**Pb**	**11 27 44.6**	**-0.5**
MPK	**Martis Peak**	**1.96**	**332**		**Pn**	**11 27 42.8**	**-0.9**
MPK				IAML		11 28 25.4	
	comp=N,18nm,0.9s						
MPK				IAML		11 28 30.6	
	comp=E,15nm,0.8s						
SLD	**San Luis Dam**	**1.97**	**256**		**Pb**	**11 27 44.8**	**-0.9**
BAVM	**Antelope Valle**	**1.98**	**243**		**Pb**	**11 27 45.0**	**-1.0**
MTOS	**Mt Oso, Westle**	**1.98**	**269**		**Pb**	**11 27 44.9**	**-1.1**
CMPM	**Mikes Peak**	**1.99**	**265**		**Pb**	**11 27 44.9**	**-1.1**
BBGB	**Big Mountain B**	**2.02**	**241**		**Pb**	**11 27 46.0**	**-0.6**
CTM	**Castle Mountai**	**2.03**	**217**		**Pb**	**11 27 46.6**	**-0.2**
PACP	**Pacheco Peak**	**2.04**	**255**		**Pb**	**11 27 45.8**	**-1.1**
PSRM	**Scobie Ranch**	**2.07**	**215**		**Pb**	**11 27 47.1**	**-0.3**
PMPB	**Monarch Peak**	**2.08**	**230**		**Pn**	**11 27 46.0**	**+0.9**
BBNM	**San Benito**	**2.08**	**240**		**Pb**	**11 27 47.5**	**-0.2**
LRV	**Little Rabbit**	**2.09**	**237**		**Pn**	**11 27 43.8**	**-1.4**
PHFM	**Heflinger Ranc**	**2.10**	**217**		**Pb**	**11 27 46.7**	**-1.3**
CSTL	**Corral Hollow**	**2.12**	**273**		**Pb**	**11 27 47.4**	**-0.9**
HFEM	**San Felipe**	**2.13**	**255**		**Pb**	**11 27 47.1**	**-1.3**
BVL	**Bear Valley**	**2.13**	**243**		**Pb**	**11 27 47.5**	**-0.9**
TPNV	**Topopah Spring**	**2.15**	**106**		**Pn**	**11 27 46.5**	**+0.3**
TPNV				IAML		11 28 22.7	
	comp=E,28nm,1.1s						
TPNV				IAML		11 28 25.6	
	comp=E,20nm,1.7s						
TPNV	**Topopah Spring**	**2.15**	**106**	P	**Pn**	**11 27 46.1**	**-0.1**
	baz=288,SNR=10						
TPNV				Sg	**Sg**	**11 28 19.8**	**+1.4**
	baz=288						
BPIM	**Pinnacles**	**2.16**	**241**		**Pb**	**11 27 47.5**	**-1.4**
AFDM	**Forest Hills D**	**2.17**	**310**		**Pb**	**11 27 48.4**	**-0.8**
AFDM				IAML		11 28 17.9	
	comp=E,23nm,0.4s						
AFDM				IAML		11 28 18.1	
	comp=N,17nm,0.5s						
PAHR	**Pah Rah Range**	**2.18**	**349**		**Pn**	**11 27 46.9**	**+0.4**
CDC	**Canada Road**	**2.18**	**256**		**Pb**	**11 27 48.4**	**-0.9**
TRAM	**Private Proper**	**2.21**	**212**		**Pn**	**11 27 48.2**	**+1.3**
PBPM	**Bitterwater Pu**	**2.23**	**207**		**Pb**	**11 27 48.8**	**-1.3**
SAO	**San Andreas Ge**	**2.24**	**250**		**Pn**	**11 27 48.4**	**+1.2**
SCZ	**Santa Cruz**	**2.27**	**245**		**Pn**	**11 27 48.8**	**+1.1**
LRMC	**Laurel Mtn Rad**	**2.28**	**156**	Pb	**Pb**	**11 27 50.7**	**-0.4**
	baz=336,SNR=10						
LRMC				Sb	**Sb**	**11 28 20.8**	**+0.9**
	baz=336						
BJCM	**Johnson Can.**	**2.29**	**244**		**Pn**	**11 27 49.1**	**+1.2**
BSMM	**Soledad Missio**	**2.39**	**241**		**Pn**	**11 27 50.9**	**+1.5**
ARVC	**Arvin**	**2.44**	**180**	Pb	**Pb**	**11 27 53.2**	**-0.5**
	baz=360,SNR=8.6						
ARVC				Sb	**Sb**	**11 28 25.4**	**+1.3**
	baz=360						
SMMC	**Simmler**	**2.44**	**203**	Pb	**Pb**	**11 27 52.3**	**-1.4**
	baz=22						
SMMC				S	**Sn**	**11 28 20.8**	**+0.4**
	baz=22						
HAST	**Hastings Reser**	**2.47**	**242**		**Pn**	**11 27 51.8**	**+1.3**
SHOC	**Shoshone, Teco**	**2.65**	**128**	Pb	**Pb**	**11 27 56.0**	**-1.2**
	baz=310						
R11B	**Troy Canyon, C**	**2.68**	**72**	Pb	**Pb**	**11 27 57.3**	**-0.7**
	baz=254,SNR=12						
R11B				Sb	**Sg**	**11 28 34.0**	**-1.4**
	baz=254						
PKM	**Mcpherson Peak**	**2.79**	**197**	P	**Pn**	**11 27 54.8**	**-0.2**
	baz=16,SNR=6.1						
PKM				S	**Sn**	**11 28 30.0**	**+0.7**
	baz=16						
OSI	**Osito Audit: C**	**2.95**	**178**	Sb	**Sb**	**11 28 39.6**	**+0.6**
	baz=358						
PRN	**Pahroc Range**	**3.01**	**92**		**Pn**	**11 27 58.4**	**+0.4**
PRN				IAML		11 28 54.6	
	comp=N,16nm,0.7s						
PRN				IAML		11 29 04.0	
	comp=E,13nm,2.2s						

*CATAC **01** 12:10:22.9±1.2, 4.°81N×82.°83W, h7km±28km, MB5.1, mb4.3, ML4.2*
ISC 01 12:10:20.4±3.0**, 4.°4N**±0.°2×**83.°0W**±0.°2**, h35km, n24,** σ**1.ˢ77**/22**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**3.78**	**27**	*e*P		12 12 31.6	
BRU2	**Volcan**	**4.39**	**4**	*i* P	**Pn**	**12 11 23.5**	**-1.2**

BRU2				IAML		12 11 24.0	
	comp=Z,92nm,1.0s						
OCHAL	Ojochal	4.72	352	i P	Pn	12 11 28.4	-0.8
OCHAL				IAML		12 11 31.0	
	comp=Z,5.4nm,1.0s						
CDM	Cerro de Muert	5.19	351	i P	Pn	12 11 36.0	0.0
CDM				IAML		12 11 36.6	
	comp=Z,93nm,1.0s						
CDM				i S	Sn	12 12 34.6	-0.3
LCR2	La Lucha 2	5.41	349	i P	Pn	12 11 38.8	-0.1
LCR2				IAML		12 11 39.1	
	comp=Z,84nm,1.0s						
LCR2				IVmB_BB		12 11 39.1	
	comp=Z,2µm,1.0s						
LCR2				IAmb	IAmb	12 11 39.3	
	comp=Z,40nm,0.6s						
JACO	JACO, Garabito	5.50	342	i P	Pn	12 11 39.6	-0.3
JACO				IAmb	IAmb	12 11 40.1	
	comp=Z,19nm,0.9s						
JACO				IAML		12 11 40.5	
	comp=Z,39nm,1.0s						
JACO				i S	Sn	12 12 39.3	-2.6
HAYA	Volcan Irazu	5.62	351	i P	Pn	12 11 46.7	+4.8
BCIP	Isla Barro Col	5.68	33	i P	Pn	12 11 41.9	-0.5
BCIP				IAmb	IAmb	12 11 45.3	
	comp=Z,47nm,1.6s						
BCIP				IAML		12 12 11.8	
	comp=Z,100nm,1.0s						
RIFO	Rio Frio, Sara	5.96	351	i P	Pn	12 11 47.3	+1.0
RIFO				IAmb	IAmb	12 12 08.9	
	comp=Z,31nm,0.8s						
RIFO				i S	Sn	12 12 52.2	-1.2
RIFO				IAML		12 13 02.3	
	comp=Z,68nm,1.0s						
INDI	Punta indio, G	5.99	335	i P	Pn	12 11 47.6	+1.0
INDI				IAmb	IAmb	12 11 49.1	
	comp=Z,26nm,0.5s						
INDI				IAML		12 11 49.2	
	comp=Z,79nm,1.0s						
INDI				IVmB_BB		12 11 49.2	
	comp=Z,3µm,1.0s						
INDI				i S	Sn	12 12 55.0	+1.0
TRT2	Tortugero	6.17	353	i P	Pn	12 11 51.6	+2.4
DUNO	Dulce Nombre,	6.18	336	i P	Pn	12 11 50.3	+1.1
BBAC	Balboa, Cauca	6.19	112	eP	Pn	12 11 49.7	+0.1
ORTG	Ortega, Santa	6.42	338	i P	Pn	12 11 54.3	+1.6
ORTG				IAmb	IAmb	12 11 56.4	
	comp=Z,11nm,1.0s						
ORTG				IAML		12 13 35.8	
	comp=Z,77nm,1.0s						
UPD2	Meteti	6.44	50	eP	Pn	12 11 53.2	+0.4
GCUF	Volcan Galeras	6.45	119	eP	Pn	12 11 53.0	-0.5
POPC	Popayan, Colom	6.56	106	eP	Pn	12 11 53.3	-1.4
YOTC	Yotoco, Valle	6.63	93	eP	Pn	12 11 54.5	-1.1
PLMC	San Jos del P	6.70	85	eP	Pn	12 11 55.2	-1.3
HZTE	Horizontes, Gu	6.79	338	i P	Pn	12 12 00.8	+3.1
HZTE				IAmb	IAmb	12 12 02.1	
	comp=Z,58nm,2.2s						
HZTE				IAML		12 13 56.5	
	comp=Z,130nm,1.0s						
GUY2C	Guyana, Caldas	7.64	83	eP	Pn	12 12 10.2	+0.5
ORTC	Ortega, Tolima	7.73	93	eP	Pn	12 12 11.0	+0.3
COHC	Cochancay	7.76	151	eP	Pn	12 12 11.4	+0.4
MCRA	Macar, Loja	9.21	161	eP	Pn	12 12 33.5	+2.6

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*IDC **01** 12:15:42.0±1.8, 14°.76S×73°.37W, h82km±17km, mb3.6/10, mbtmp3.9/14, Error ellipse: s-maj=24.4km s-min=11.6km az=48.0*

ISC 01 12:15:42.9±0.6**, 14°.9S**±0°.1×**73°.4W**±0°.1**, h98km, n20, σ1.60**/21**, mb3.8**/10**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.41	311	P	Pn	12 16 46.6	-1.1
	11nm,0.4s,baz=144,slow=12,SNR=14						
NNA				S	Sn	12 17 35.9	-2.2
	40nm,0.4s,baz=206,slow=20,SNR=6.4						
LVC	Limon Verde	8.77	151	P	Pn	12 17 47.5	+0.3
	4.2nm,0.3s,baz=330,slow=8.1,SNR=11						
LVC				S	Sn	12 19 19.6	-4.9
	9.2nm,0.4s,baz=87,slow=18,SNR=8.8						
SIV	San Ignacio	11.97	97	P	Pn	12 18 29.2	-1.1
	2.3nm,0.5s,baz=292,slow=9.7,SNR=23						
CPUP	Villa Florida	18.85	130	P	P	12 19 57.1	+1.9
	0.7nm,0.5s,baz=265,slow=2.9,SNR=2.5						
PLCA	Paso Flores	25.84	175	P	P	12 21 06.9	+1.7
	2.4nm,1.1s,baz=0.0,slow=7.1,SNR=1.9						
	2.4nm,1.1s						
TXAR	Lajitas Array	52.80	326	P	P	12 24 48.5	0.0
	1.0nm,0.5s,baz=152,slow=9.2,SNR=19						
	1.0nm,0.5s						
PDAR	Pinedale Array	66.30	332	P	P	12 26 22.0	+0.9
	0.2nm,0.4s,baz=132,slow=3.9,SNR=2.6						
	0.2nm,0.4s						
NVAR	Mina Array Bea	67.68	323	P	P	12 26 30.7	+0.8
	0.5nm,0.9s,baz=154,slow=9.0,SNR=3.7						
	0.5nm,0.9s						
ULM	Lac du Bonnet	67.82	345	P	P	12 26 29.6	-0.7
	3.2nm,0.5s,baz=165,slow=7.5,SNR=11						
	3.2nm,0.5s						
DBIC	Dimbokro	71.26	78	P	P	12 26 51.6	-0.6
	1.7nm,0.6s,baz=245,slow=9.2,SNR=4.1						
	1.7nm,0.6s						
QSPA	South Pole Qui	75.23	180	P	P	12 27 16.7	+1.9
	0.6nm,0.7s,baz=289,slow=0.8,SNR=10						
	0.6nm,0.7s						
TORD	Torodi Ar. Bea	79.41	73	P	P	12 27 39.1	+0.2
	1.7nm,0.7s,baz=273,slow=4.1,SNR=12						
	1.7nm,0.7s						
YKA	Yellowknife Ar	83.61	342	P	P	12 27 59.9	-0.1
	1.2nm,0.8s,baz=140,slow=5.2,SNR=22						
	1.2nm,0.8s						
ESDC	Sonseca Array	84.32	47	P	P	12 28 05.5	+1.3
	0.9nm,0.8s,baz=264,slow=5.5,SNR=5.2						
	0.9nm,0.8s						
ASAR	Alice Springs	133.26	215	PKP	PKPdf	12 34 48.8	+0.5
	0.4nm,0.6s,baz=127,slow=2.0,SNR=13						
WRA	Warramunga Arr	135.89	219	PKP	PKPdf	12 34 53.8	+0.6
	0.9nm,0.9s,baz=144,slow=2.0,SNR=6.9						
ZALV	Zalesovo Beam	137.49	19	PKP	PKiKP	12 34 56.6	-0.3
	1.3nm,0.7s,baz=298,slow=3.2,SNR=6.8						
KURBB	Kurchatov Arra	137.79	26	PKP	PKiKP	12 34 57.5	-0.2
	0.3nm,0.6s,baz=303,slow=2.3,SNR=4.2						
MKAR	Makanchi Array	142.31	28	PKhKP	PKPpre	12 35 00.3	
	0.3nm,0.8s,baz=282,slow=1.3,SNR=2.9						
SONM	Songino Array	147.18	0	PKPbc	PKPbc	12 35 14.8	-0.1
	2.7nm,0.8s,baz=329,slow=2.5,SNR=9.0						

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*TEH **01** 12:27:13.4, 31°.06N×50°.23E, h9km±43km, ML3.4*
*OMAN **01** 12:27:27.8±0.8, 30°.11N×50°.67E, h10km, mb4.1/20, ms2.2/1, Error ellipse: s-maj=9.0km s-min=5.2km az=166.0*

ISC 01 12:27:12.2±0.5**, 30°.88N**±0°.03×**50°.29E**±0°.04**, h10km, n55, σ2.79**/64**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	Kolanjah	1.13	83	Pg	Pg	12 27 36.0	+2.1
AMIS	Naft Sefid	1.17	313	Pg	Pb	12 27 32.1	-2.4
IBRJ	Brojen	1.32	39	Pg	Pn	12 27 37.2	+0.2
ZNGN	Zangian	1.33	21	Pg	Pn	12 27 36.4	-0.7
JHBN	Jahan bin	1.39	13	Pg	Pn	12 27 36.8	-1.2
AHWZ	Ahwaz	1.48	288	Pg	Pn	12 27 40.5	+1.6
AHWZ				Sg	Sn	12 28 00.3	+2.0
IPIR	Pirpir	1.88	16	Pg	Pn	12 27 46.8	+2.1
IRAM	Ramesheh	2.02	62	Pn	Pb	12 27 50.0	+0.9
AHBU	AHRAM	2.19	156	Pn	Pb	12 27 54.2	+2.4
SHI	Shiraz	2.28	122	Pn	Pb	12 27 55.8	+2.2
DSBU	Dashti - Bushe	2.64	161	Pn	Pn	12 28 00.6	+5.6
IKFM	Kafar-mosalman	3.36	323	Pn	Pn	12 28 05.9	+1.2
HSAM	Samen	3.62	337	Pn	Pn	12 28 08.5	0.0
ANAR	Anarak	3.72	51	Pn	Pn	12 28 13.2	+3.3
ISFB	Sefidab	3.84	25	Pn	Pn	12 28 12.8	+1.4
HAGD	Aghdareh	4.05	346	Pn	Pn	12 28 15.3	+0.8
IVRN	Varamin	4.28	16	Pn	Pn	12 28 18.1	+0.6
IBAF	Bafgh	4.58	80	Pn	Pn	12 28 25.9	+4.2
SAKB	Bahrain	4.88	177	P	Pn	12 28 31.2	+5.5
SAKB				S	Sn	12 29 21.2	-1.1
IDMV	Damavand	4.91	17	Pn	Pn	12 28 27.4	+1.0
SHMA	Al-Shehemyia	5.04	173	P	Pn	12 28 32.5	+4.7
	SNR=10						
SHMA				S	Sn	12 29 24.6	-1.4
IFIR	Firoozkooh	5.18	23	Pn	Pn	12 28 32.1	+2.0
KLST	Kelardasht - M	5.67	6	Pn	Pn	12 28 37.9	+1.1
SMRA	Abu-Samra	6.12	175	P	Pn	12 28 47.8	+5.1
TRNA	Turayna	6.17	172	P	Pn	12 28 48.2	+4.8
	SNR=10						
TRNA				S	Sn	12 29 51.8	-2.2
JRN	Qarnain Island	6.33	158	P	Pn	12 28 50.0	+4.4
JRN				S	Sn	12 29 55.4	-2.5
SHME	Shamm	7.04	132	P	Pn	12 29 00.6	+5.2
SHME				S	Sn	12 30 13.5	-2.1
UMQ	Umm Al-Quwin	7.13	137	P	Pn	12 29 02.7	+6.1
BANOM	Banah	7.23	132	P	Pn	12 29 03.3	+5.2
BANOM				S	Sn	12 30 20.2	-0.2
AJN	Ajban	7.54	145	P	Pn	12 29 06.4	+4.2
MASF	Masafi	7.54	135	P	Pn	12 29 07.9	+5.6
MASF				S	Sn	12 30 26.4	-1.5
NAZ	Nazwa, Dubai	7.55	140	P	Pn	12 29 07.7	+5.4
NAZ				S	Sn	12 30 25.4	-2.6
ASUD	Al Ashush, Dub	7.66	143	P	Pn	12 29 09.0	+5.1
	SNR=14						
ASUD				S	Sn	12 30 28.0	-2.7
FAQ	Al Faqa, Dubai	7.70	141	P	Pn	12 29 09.8	+5.3
FAQ				S	Sn	12 30 28.9	-2.9
UOSS	Minazif	7.89	137	P	Pn	12 29 13.6	+6.6
HATD	Hatta, Dubai	7.94	138	P	Pn	12 29 13.4	+5.7
ASHO	Ashiyiah	8.01	139	P	Pn	12 29 13.2	+4.5
ASHO				S	Sn	12 30 37.3	-2.1
JASK	Jask - Hormozg	8.33	125	P	Pn	12 29 19.6	+6.5
JASK				S	Sn	12 30 46.4	-0.9
ALNE	Al Ain	8.35	143	P	Pn	12 29 17.6	+4.3
	SNR=8.0						
ALNE				S	Sn	12 30 45.2	-2.4
SOHO	SOHO	8.71	139	P	Pn	12 29 21.1	+2.9
SOHO				S	Sn	12 30 55.1	-1.4
ARQ	Araqi	9.34	142	P	Pn	12 29 31.5	+4.6
ARQ				S	Sn	12 31 09.2	-2.9
BSY	Bisya	10.18	141	P	Pn	12 29 42.9	+4.5
BSY				S	Sn	12 31 30.3	-2.4
GNI	Garni	10.30	336	P	Pn	12 30 07.6	+28
SMDO	Samad	10.41	137	P	Pn	12 29 47.5	+5.8
SMDO				P	Pn	12 29 47.5	+5.8
WSAR	Wadi Sarin	10.63	134	P	Pn	12 29 48.9	+4.2
WSAR				S	Sn	12 31 41.7	-2.1
JMDO	Jabal Madar	10.98	139	P	Pn	12 29 54.2	+4.8
JMDO				S	Sn	12 31 50.1	-2.2
NGCH	Negor - Chabah	11.04	117	P	Pn	12 29 54.0	+3.8
NGCH				S	Sn	12 31 53.4	-0.3
WBK	Wadi Bani Khal	11.31	135	P	Pn	12 29 57.3	+3.4
WBK				S	Sn	12 31 59.4	-1.0
JLN	Jalan Bani Buh	11.92	135	P	Pn	12 30 06.9	+4.7
JLN				S	Sn	12 32 12.4	-3.0
MHTO	MHTO	12.02	143	P	Pn	12 30 07.6	+3.9
	SNR=6.9						
MHTO				S	Sn	12 32 16.0	-1.9
DQM	DQM	12.71	147	P	Pn	12 30 15.4	+2.3
DQM				S	Sn	12 32 32.2	-2.6
WHFO	Wadi Hawf	13.28	165	P	Pn	12 30 23.8	+2.9
SHAO	Shalim	13.68	158	P	Pn	12 30 28.7	+2.3
ABTO	Aybut	13.74	168	P	Pn	12 30 29.6	+2.5
DMTO	DMTO	13.77	161	P	Pn	12 30 29.1	+1.5
	SNR=7.8						

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*NIED **01** 12:48:22.0, 22°.81N×121°.31E, h11km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.30; $M_{\theta\theta}$6.11; $M_{\phi\phi}$-4.80; $M_{r\theta}$-1.56; $M_{\theta\phi}$2.33; $M_{\phi r}$0.92; Fault plane solution: $M_0$6.22000×10^{14} NP1: ϕ_s122.00000°, δ85.00000°, λ-18.00000°. NP2: ϕ_s214.00000°, δ72.00000°, λ-175.00000°.*
*JMA **01** 12:48:22.0±0.1, 22°.8N±0°.4×121°.3E±0°.9, h11km±3km, MV3.9/16, TAIWAN REGION*
*ASIES **01** 12:48:22.9, 22°.86N×121°.24E, h8km, ML4.0, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.00; $M_{\theta\theta}$2.15; $M_{\phi\phi}$-3.14; $M_{r\theta}$-5.04; $M_{\theta\phi}$-0.92; $M_{\phi r}$-6.01; Fault plane solution: $M_0$8.37353×10^{21} NP1: ϕ_s221.22000°, δ85.24000°, λ107.30000°. NP2: ϕ_s326.16000°, δ17.93000°, λ15.66000°. Principal axes: T Plg47.0140°, Azm149.1940°; N Plg17.2430°, Azm39.7430°; P Plg37.8800°, Azm295.7710°;*
*TAP **01** 12:48:22.9, 22°.86N×121°.24E, h8km, ML4.0, C*
*IDC **01** 12:48:39.1±6.4, 22°.73N×121°.34E, h170km±69km, mb3.0/9, mbtmp3.6/10, Error ellipse: s-maj=24.9km s-min=15.8km az=64.0*

ISC 01 12:48:23.0±0.8**, 22°.85N**±0°.02×**121°.32E**±0°.02**, h11km**±5km**, n155, σ1.01**/201**, mb3.5**/8**, 6C-16D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	Donghe	0.13	352	⇑iP	Pg	12 48 26.0	0.0
	baz=40						
EDH				i S	Sg	12 48 28.5	+0.2
	baz=40						
TTN	Taitung	0.19	240	⇑iP	Pg	12 48 27.1	+0.1
	baz=213						
TTN				i S	Sg	12 48 30.9	+1.2
	baz=213						
LONT	Longtian	0.19	288	⇓iP	Pg	12 48 25.7	-1.3
	baz=294						
LONT				S	Sg	12 48 27.9	-1.9
	baz=294						
LDUT	Ludao	0.22	142	⇑iP	Pb	12 48 29.1	0.0
	baz=131						
LDUT				i S	Sg	12 48 34.4	+3.7
	baz=131						
TWGBT	Beinan	0.23	263	P	Pg	12 48 26.8	-0.9
TWGBT	Beinan	0.23	263	⇓iP	Pg	12 48 26.7	-1.0
	baz=259						
TWGBT				i S	Sg	12 48 29.3	-1.6
	baz=259						
TWG	Pinlang	0.23	264	⇓iP	Pg	12 48 26.7	-1.2
	baz=259						
TWG				i S	Sg	12 48 29.5	-1.6
	baz=259						
CHKT	Chengkung	0.25	9	⇑iP	Pb	12 48 28.9	-0.8
	baz=37						
CHKT				i S	Sg	12 48 33.7	+2.0
	baz=37						
ECS	Chishang	0.27	339	⇓iP	Pg	12 48 28.7	+0.2
	baz=359						
ECS				i S	Sg	12 48 34.0	+1.9
	baz=359						
EHD	Haiduan	0.32	340	⇓P	Pg	12 48 29.3	-0.1
	baz=358						
EHD				i S	Sb	12 48 35.0	-1.0
	baz=358						
CHKH	Chenggong	0.35	11	i P	Pb	12 48 30.6	-0.7
	baz=28						
CHKH				eS	Sb	12 48 36.4	-0.5
	baz=28						
FULB	Fuli	0.35	356	i P	Pg	12 48 30.2	+0.2
	baz=29						
FULB				S	Sb	12 48 35.2	-1.7
	baz=29						
ECL	Taimali	0.42	234	⇑iP	Pg	12 48 30.7	-0.6
	baz=230						
ECL				eS	Sg	12 48 37.1	+0.2
	baz=230						
ELDTW	Lidau	0.44	320	⇓iP	Pg	12 48 30.9	-0.9
	baz=333						
ELDTW				S	Sg	12 48 37.6	0.0
	baz=333						
ECBN	Changbin	0.48	14	eP	Pb	12 48 33.2	-0.3
	baz=16						
EYUL	Yuli	0.50	360	eP	Pb	12 48 33.7	-0.2
	baz=1.0						
TWF1	Yuli	0.50	357	i P	Pg	12 48 32.6	-0.3
	baz=357						
TWF1				eS	Sb	12 48 40.3	-1.0
	baz=357						
YULB	Yu-li	0.54	358	P	Pg	12 48 33.3	-0.3
YULB	Yu-li	0.54	358	i P	Pg	12 48 32.9	-0.7
	baz=13						
STYH	Taoyuan	0.60	303	⇓iP	Pg	12 48 34.0	-0.7
	baz=309						
STYH				i S	Sb	12 48 42.8	-1.3
	baz=309						
TAW	Tawu	0.63	219	eP	Pg	12 48 34.5	-0.6
	baz=219						
EAST	Anshuo	0.64	224	eP	Pg	12 48 34.8	-0.6
	baz=212						
SLGT	Liugui	0.64	283	⇓P	Pg	12 48 34.6	-0.9
	baz=283						
SLGT				eS	Sg	12 48 43.4	-0.5
	baz=283						
TSMG	Majia	0.64	257	⇓eP	Pg	12 48 34.6	-0.9
	baz=250						
TSMG				eS	Sg	12 48 42.6	-1.3
	baz=250						
TAWH	Dawu Township	0.65	219	P	Pg	12 48 35.1	-0.4
	baz=220						
TAWH				eS	Sg	12 48 44.3	+0.3
	baz=220						
HGSD	Ruisui	0.65	8	eP	Pg	12 48 35.3	-0.3
	baz=31						
EHY	Hungye	0.66	360	eP	Pg	12 48 34.3	-1.4
	baz=12						
MASBT	Mashibuluo	0.68	250	⇑iP	Pg	12 48 35.2	-0.9
	baz=235						
MASBT				eS	Sg	12 48 44.1	-1.0
	baz=235						
SGST	Jiashian	0.72	289	⇓iP	Pg	12 48 35.6	-1.3
	baz=290						
SGST				eS	Sg	12 48 46.4	-0.1
	baz=290						
WTP	Ta-pu	0.76	301	⇓iP	Pg	12 48 37.5	-0.3
	baz=305						
WTP				S	Sg	12 48 46.8	-1.0
	baz=305						
SCST	Cishan	0.77	273	eP	Pg	12 48 37.1	-0.7
	baz=263						
SCST				eS	Sg	12 48 47.7	-0.1
	baz=263						
SGLT	Jiouru	0.78	261	eP	Pg	12 48 38.0	-0.1
	baz=256						
TPUB	Ta-pu	0.78	305	P	Pg	12 48 37.9	-0.2
TPUB	Ta-pu	0.78	305	⇓iP	Pg	12 48 37.7	-0.4
	baz=310						
TPUB				eS	Sb	12 48 49.1	-0.2
	baz=310						
SCZT	Fangliau	0.80	234	i P	Pg	12 48 37.7	-0.8
	baz=225						
CHN1	Nanshi	0.81	295	⇓iP	Pb	12 48 38.6	-0.5
	baz=297						
CHN1				eS	Sb	12 48 50.2	+0.2
	baz=297						
ALS	Alishan	0.81	324	⇓iP	Pg	12 48 38.3	-0.5
	baz=332						
EGFH	Guangfu	0.82	7	eP	Pn	12 48 39.6	-1.0
	baz=5.0						
TWM1	Shoushan	0.83	269	P	Pb	12 48 39.3	-0.2
	baz=258						
TWM1				eS	Sb	12 48 50.9	+0.1
	baz=258						
LAY	Lan-yu	0.83	165	eP	Pg	12 48 38.1	-1.0
	baz=144						
CHN4	Tsaushan	0.84	307	⇓iP	Pg	12 48 38.9	-0.3
	baz=312						
CHN4				S	Sb	12 48 51.0	+0.1
	baz=312						
SNST	Tainan City	0.85	296	eP	Pg	12 48 39.1	-0.2
	baz=299						
WARBT	Fenglin Townsh	0.87	4	eP	Pg	12 48 37.9	-1.9
	baz=16						
LYUB	Lan-yu	0.88	164	eP	Pg	12 48 37.3	-2.6
	baz=145						
TWK	Hsinying	0.88	299	eP	Pg	12 48 39.6	-0.3
	baz=302						
TWK				eS	Sn	12 48 53.5	-0.7
	baz=302						
TEGC	Jichi Village	0.88	13	eP	Pb	12 48 40.4	0.0
	baz=33						
WCKO	Fanlu	0.89	312	eP	Pg	12 48 39.8	-0.3
	baz=327						
WCKO				S	Sb	12 48 52.5	+0.2
	baz=327						
CHN3	Shinhua	0.91	285	eP	Pn	12 48 41.9	0.0
	baz=284						
SHHT	Tainan City	0.92	281	eP	Pn	12 48 42.1	+0.3
	baz=279						
SNJT	Kaohsiung City	0.92	264	eP	Pn	12 48 41.8	-0.1
	baz=258						
SNJT				eS	Sn	12 48 56.4	+1.3
	baz=258						
VWDT	VWDT	0.92	350	eP	Pg	12 48 39.8	-0.9
	baz=10.0						
SMST	Manzhou Townsh	0.94	209	eP	Pg	12 48 40.5	-0.6
	baz=177						
WHYT	Xinyi Township	0.95	333	eP	Pg	12 48 41.0	-0.4
	baz=342						
CHN5	Tsauling	0.95	322	⇓iP	Pg	12 48 41.0	-0.4
	baz=329						
SHUL	Shoufeng	0.96	13	eP	Pg	12 48 40.6	-0.9
	baz=9.0						
ESL	Shilin	0.97	6	eP	Pg	12 48 40.0	-1.6
	baz=18						
SSLB	Suanglung	1.00	340	P	Pg	12 48 41.4	-0.8
SSLB	Suanglung	1.00	340	eP	Pg	12 48 41.1	-1.1
	baz=3.0						
HEN	Hengchun	1.00	213	eP	Pg	12 48 42.2	0.0
	baz=200						
WSSB	Gushan	1.00	258	i P	Pn	12 48 44.0	+0.9
	baz=250						
WSSB				S	Sn	12 49 00.1	+2.9
	baz=250						
TWKBT	Hengchun	1.02	208	eP	Pb	12 48 41.4	-1.3
	baz=177						
TWK1	Hengchun	1.02	208	eP	Pb	12 48 42.6	-0.1
	baz=177						
TAI1	Yung-k'ang	1.03	281	eP	Pn	12 48 43.8	+0.4
	baz=279						
CHN2	Minshiung	1.04	311	eP	Pn	12 48 43.0	-0.5
	baz=317						
CHN2				eS	Sn	12 48 59.0	+0.9
	baz=317						
CHY	Chiayi	1.05	308	eP	Pg	12 48 42.8	-0.4
	baz=314						
CHY				eS	Sn	12 48 59.1	+0.7
	baz=314						
ICHU	Yijhu	1.09	298	P	Pn	12 48 44.0	-0.3
	baz=302						
ICHU				eS	Sn	12 48 59.9	+0.6
	baz=302						
SCLT	Jiali	1.09	288	eP	Pn	12 48 44.0	-0.3
	baz=288						
SCLT				eS	Sn	12 49 00.7	+1.3
	baz=288						
WGK	Gukeng	1.09	320	eP	Pn	12 48 44.2	0.0
	baz=328						
WGK				eS	Sn	12 48 58.6	-0.8
	baz=328						
SMLT	Sun Moon Lake	1.10	339	eP	Pb	12 48 43.6	-0.6
	baz=360						
WDLH	Douliu	1.11	319	P	Pn	12 48 44.0	-0.4
	baz=327						
WDLH				eS	Sn	12 49 00.8	+1.1
	baz=327						
OWD	Renai	1.11	353	eP	Pb	12 48 43.7	-0.7
	baz=18						
OWD				eS	Sb	12 48 57.9	-1.0
	baz=18						
WJS	Zhushan	1.11	331	eP	Pn	12 48 44.7	+0.1
	baz=338						
WJS				eS	Sn	12 49 00.3	+0.4
	baz=338						
ETM	Tongmen	1.12	8	eP	Pb	12 48 43.2	-1.3
	baz=19						
TYC	Yuchr	1.14	338	eP	Pn	12 48 45.1	+0.2
	baz=347						
TYC				eS	Sn	12 49 00.9	+0.4
	baz=347						
HWA	Hwalien	1.15	13	eP	Pb	12 48 44.7	-0.3
	baz=11						
WUSB	Renai	1.16	351	eP	Pb	12 48 43.5	-1.6
	baz=14						
LXIB	Xiulin Townshi	1.17	4	eP	Pb	12 48 42.6	-2.8
	baz=15						
TSCK	Chigu Township	1.18	285	eP	Pn	12 48 45.2	-0.3
	baz=284						
WNT	Mingjian	1.18	330	P	Pg	12 48 45.9	+0.2
	baz=341						
WNT				i S	Sn	12 49 03.1	+1.4
	baz=341						
WTK	Tuku	1.20	314	eP	Pn	12 48 45.5	-0.3
	baz=321						
WSL	Shuilin Townsh	1.21	304	eP	Pg	12 48 46.3	0.0
	baz=309						
CHGB	Renai	1.22	354	P	Pb	12 48 44.0	-2.2
	baz=16						
TWD	Chiawan	1.25	11	eP	Pn	12 48 45.3	-1.2
	baz=24						
WCS	Beigang Elemen	1.26	343	eP	Pb	12 48 46.5	-0.3
	baz=353						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSF	**Szhu**	**1.28**	**308**	eP	**Pn**	**12 48 46.4**	**-0.5**
	baz=314						
WHF	**Hehuan Shan**	**1.29**	**358**	eP	**Pn**	**12 48 45.7**	**-1.7**
	baz=24						
ETL	**Fush Village**	**1.33**	**12**	eP	**Pn**	**12 48 47.4**	**-0.3**
	baz=24						
NACB	**Ninganchiao**	**1.34**	**11**	P	**Pn**	**12 48 47.3**	**-0.5**
NACB	**Ninganchiao**	**1.34**	**11**	eP	**Pn**	**12 48 45.0**	**-2.8**
	baz=22						
ETLH	**Xiulin Townshi**	**1.36**	**6**	eP	**Pb**	**12 48 48.1**	**-0.5**
	baz=17						
WRL	**Guolierlin Hig**	**1.36**	**321**	P	**Pn**	**12 48 47.4**	**-0.6**
	baz=312						
TWT	**Tachien**	**1.41**	**355**	eP	**Pg**	**12 48 49.4**	**-0.7**
	baz=21						
TDCB	**Techi**	**1.41**	**354**	eP	**Pb**	**12 48 49.3**	**-0.2**
	baz=21						
WCHH	**Zhanghua**	**1.41**	**330**	eP	**Pg**	**12 48 49.7**	**-0.5**
	baz=339						
TCU	**Taichung**	**1.42**	**335**	eP	**Pg**	**12 48 49.9**	**-0.4**
	baz=346						
WHP	**Taichung City**	**1.47**	**346**	eP	**Pg**	**12 48 51.3**	**+0.1**
	baz=8.0						
EAHA	**Aohua**	**1.52**	**14**	eP	**Pb**	**12 48 51.1**	**-0.2**
	baz=13						
EOS4	**EOS4**	**1.56**	**36**	eP	**Pn**	**12 48 49.8**	**-0.7**
	baz=47						
NNSB	**Datong**	**1.57**	**2**	eP	**Pn**	**12 48 49.9**	**-1.1**
	baz=32						
TWQ1	**Liyutan**	**1.58**	**341**	eP	**Pg**	**12 48 52.8**	**-0.5**
	baz=354						
TWQ1				eS	**Sg**	**12 49 14.8**	**+1.0**
	baz=354						
NNS	**Nan Shan**	**1.59**	**2**	eP	**Pn**	**12 48 51.0**	**-0.2**
	baz=32						
WDGT	**Dungji**	**1.59**	**285**	eP	**Pn**	**12 48 51.2**	**+0.1**
	baz=286						
ENA	**Nanau**	**1.62**	**14**	eP	**Pb**	**12 48 52.5**	**-0.4**
	baz=14						
WDJ	**Dajia District**	**1.62**	**337**	eP	**Pg**	**12 48 53.5**	**-0.6**
	baz=349						
EWUT	**Wuta**	**1.65**	**15**	eP	**Pb**	**12 48 53.0**	**-0.4**
	baz=14						
NSY	**Sanyi**	**1.65**	**342**	eP	**Pg**	**12 48 53.8**	**-0.8**
	baz=355						
NSY				eS	**Sg**	**12 49 17.1**	**+1.1**
	baz=355						
LATG	**Datong**	**1.69**	**6**	eP	**Pn**	**12 48 52.3**	**-0.3**
	baz=35						
EOS3	**EOS3**	**1.70**	**32**	eP	**Pn**	**12 48 52.4**	**-0.1**
	baz=56						
PHUB	**P'eng-hu**	**1.74**	**293**	eP	**Pn**	**12 48 53.2**	**-0.1**
	baz=296						
NDT	**Datong Townshi**	**1.76**	**6**	eP	**Pb**	**12 48 54.3**	**-1.0**
	baz=34						
PNG	**Penghu**	**1.78**	**294**	eP	**Pn**	**12 48 52.8**	**-0.9**
	baz=298						
VCHM	**Qimei**	**1.78**	**282**	eP	**Pn**	**12 48 52.8**	**-0.9**
	baz=282						
NFF	**Wufeng Townshi**	**1.79**	**354**	eP	**Pb**	**12 48 55.5**	**-0.4**
	baz=12						
ENTT	**Nioudou**	**1.80**	**7**	eP	**Pn**	**12 48 54.5**	**+0.5**
	baz=18						
NSTT	**Nanjuang**	**1.80**	**351**	eP	**Pb**	**12 48 55.5**	**-0.6**
	baz=16						
LIOB	**Emei**	**1.81**	**351**	eP	**Pb**	**12 48 56.3**	**0.0**
	baz=15						
YHNB	**Yeheng**	**1.81**	**2**	P	**Pb**	**12 48 55.1**	**-1.2**
YHNB	**Yeheng**	**1.81**	**2**	eP	**Pn**	**12 48 54.7**	**+0.3**
	baz=32						
YHNB				eS	**Sn**	**12 49 17.4**	**-0.1**
	baz=32						
NSK	**Sanguang**	**1.82**	**1**	eP	**Pb**	**12 48 56.0**	**-0.5**
	baz=32						
NSK				eS	**Sb**	**12 49 19.6**	**+0.3**
	baz=32						
TWE	**Neicheng**	**1.89**	**10**	eP	**Pn**	**12 48 55.2**	**-0.1**
	baz=21						
FUSB	**Fushanzhiwuyua**	**1.92**	**7**	eP	**Pn**	**12 48 55.1**	**-0.7**
	baz=34						
NWLT	**Wulai**	**1.93**	**5**	eP	**Pb**	**12 48 56.7**	**-1.5**
	baz=34						
NHDH	**Xindian Distri**	**2.11**	**5**	eP	**Pb**	**12 49 00.1**	**-1.3**
	baz=33						
TWA	**Mucha**	**2.14**	**6**	eP	**Pn**	**12 48 59.5**	**+0.8**
	baz=33						
TIPB	**Shuangxi**	**2.17**	**12**	eP	**Pb**	**12 49 00.5**	**-1.8**
	baz=22						
JYNG	**Yonagunijimaku**	**2.18**	**43**	eS	**Sn**	**12 49 27.1**	**+0.8**
YOJ	**Yonaguni jima**	**2.23**	**44**	eP	**Pn**	**12 49 00.0**	**+0.1**
YOJ				S	**Sn**	**12 49 28.1**	**+0.5**
YOJ	**Yonaguni jima**	**2.23**	**44**	eP	**Pn**	**12 49 00.2**	**+0.2**
	baz=54						
TWB1	**Santiao Chiao**	**2.24**	**16**	eP	**Pn**	**12 49 01.0**	**+1.0**
	baz=16						
SXI1	**Grass Mountain**	**2.29**	**13**	eP	**Pn**	**12 49 02.0**	**+1.1**
	baz=21						
ANP	**Anpu**	**2.34**	**4**	eP	**Pn**	**12 49 02.0**	**+0.5**
	baz=30						
HATJ	**Hateruma jima**	**2.58**	**62**	P	**Pn**	**12 49 04.1**	**-0.6**
HATJ				eS	**Sn**	**12 49 35.1**	**-1.0**
VWUC	**VWUC**	**2.74**	**322**	eP	**Pn**	**12 49 06.5**	**-0.4**
	baz=333						
JKRS	**Kuro-shima**	**2.83**	**60**	P	**Pn**	**12 49 07.7**	**-0.5**
JKRS				eS	**Sn**	**12 49 42.5**	**+0.2**
JIJ	**Ishigaki jima**	**3.00**	**59**	eP	**Pn**	**12 49 09.7**	**-0.8**
JIJ				eS	**Sn**	**12 49 46.2**	**-0.2**
JISG	**Ishigakijimahi**	**3.24**	**57**	P	**Pn**	**12 49 13.2**	**-0.7**
JISG				S	**Sn**	**12 49 51.9**	**-0.6**
JTJ	**Tarama**	**3.57**	**59**	eP	**Pn**	**12 49 18.2**	**-0.3**
JTJ				eS	**Sn**	**12 50 00.1**	**-0.6**
JIRB	**Irabujima**	**4.04**	**60**	P	**Pn**	**12 49 24.4**	**-0.4**
JIRB				eS	**Sn**	**12 50 12.7**	**+0.5**
JMJ2	**Miyako jima3**	**4.12**	**62**	eP	**Pn**	**12 49 26.1**	**+0.1**
JMJ2				eS	**Sn**	**12 50 14.2**	**-0.1**
KSRS	**Korea Array**	**15.63**	**20**	P	**P**	**12 52 09.8**	**+2.3**
	1.2nm,0.7s,baz=196,slow=12,SNR=6.4						
MJAR	**Matsushiro Arr**	**19.99**	**43**	P	**Pn**	**12 53 00.4**	**+3.1**
	1.7nm,0.8s,baz=228,slow=6.0,SNR=4.9						
	1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.39**	**262**	P	**P**	**12 53 13.9**	**+3.0**
	1.4nm,1.0s,baz=68,slow=8.9,SNR=5.8						
	1.4nm,1.0s						
SONM	**Songino Array**	**27.65**	**338**	P	**P**	**12 54 11.4**	**+0.5**
	0.5nm,0.7s,baz=156,slow=11,SNR=2.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**39.39**	**317**	P	**P**	**12 55 53.0**	**+0.3**
	0.9nm,0.7s,baz=108,slow=11,SNR=9.8						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**41.44**	**328**	P	**P**	**12 56 09.3**	**-0.3**
	1.3nm,0.6s,baz=114,slow=8.8,SNR=9.3						
	1.3nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.45**	**85**	T	T	13 41 30.8	
	baz=282,slow=74,SNR=68						
H11N2	**WAKE ISLAND Hy**	**42.45**	**85**	T	T	13 41 33.4	
	baz=282,slow=74,SNR=105						
H11N3	**WAKE ISLAND Hy**	**42.47**	**85**	T	T	13 41 33.6	
	baz=282,slow=74,SNR=55						
H11S3	**WAKE ISLAND Hy**	**42.54**	**87**	T	T	13 41 43.9	
	baz=284,slow=75,SNR=202						
H11S1	**WAKE ISLAND Hy**	**42.55**	**87**	T	T	13 41 44.6	
	baz=284,slow=75,SNR=203						
H11S2	**WAKE ISLAND Hy**	**42.56**	**87**	T	T	13 41 45.3	
	baz=284,slow=75,SNR=206						
KURBB	**Kurchatov Arra**	**43.22**	**321**	P	**P**	**12 56 22.8**	**-1.3**
	0.3nm,0.6s,baz=113,slow=9.0,SNR=3.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.39**	**162**	P	**P**	**12 56 30.8**	**-3.1**
	0.4nm,0.7s,baz=343,slow=8.9,SNR=2.6						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**47.83**	**164**	P	**P**	**12 56 59.1**	**-1.8**
	0.2nm,0.4s,baz=340,slow=7.2,SNR=6.8						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**48.79**	**321**	P	**P**	**12 57 08.6**	**+0.5**
	0.4nm,0.4s,baz=96,slow=7.4,SNR=1.9						
	0.4nm,0.4s						

*IDC **01** 13:17:12.6±2.5, 20°.78S×173°.30E, h0km, mb3.8/5, mbtmp3.8/5, MS4.0/43, Error ellipse: s-maj=135.2km s-min=26.7km az=151.0*

*NEIC **01** 13:17:14.3±1.0, 20°.8S±0°.1×173°.29E±0°.06, h10km±2km, mb4.4/8, Error ellipse: s-maj=23.4km s-min=9.2km az=358.0*

*GCMT **01** 13:17:21.3±0.2, 20°.82S±0°.02×173°.29E±0°.01, h12km, MW4.9/101, Moment Tensor Solution. s49,c60; s101,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.88±.12; $M_{\theta\theta}$0.23±.08; $M_{\phi\phi}$2.65±.09; $M_{r\theta}$-0.10±.26; $M_{\theta\phi}$-0.63±.05; $M_{\phi r}$0.39±.18; Best double couple: $M_0$2.87000×10^{16} NP1:ϕ_s166.00000°,δ49.00000°, λ-90.00000°. NP2:ϕ_s346.00000°,δ41.00000°, λ-90.00000°. Principal axes: T 2.8330, Plg4.0000°, Azm256.0000°; N 0.0760, Plg0.0000°, Azm166.0000°; P -2.9080, Plg86.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 13:17:14.1±0.8**, 20°.8S**±0°.1×**173°.23E**±0°.08**, h10km, n62, σ1s.45**/23**, mb3.9**/8**, MS4.1**/44**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**5.67**	**251**	Pn	**Pn**	**13 18 39.9**	**+1.5**
DZM	**Mont Dzumac**	**6.44**	**258**	ePn	**Pn**	**13 18 50.4**	**+1.2**
	52nm,1.3s						
DZM				eLR	LR	13 20 35.6	
	comp=Z,7μm,24.1s						
DZM	**Mont Dzumac**	**6.44**	**258**	Pn	**Pn**	**13 18 48.5**	**-0.7**
ONTNC	**Ouen Toro**	**6.48**	**256**	Pn	**Pn**	**13 18 50.8**	**+1.3**
KOUNC	**Koumac, New Ca**	**8.38**	**270**	Pn	**Pn**	**13 19 17.6**	**+1.9**
RAO	**Raoul Island**	**11.60**	**138**	Pn	**Pn**	**13 19 59.9**	**+0.2**
RAO	**Raoul Island**	**11.60**	**138**	LR	LR	13 23 35.8	
	comp=Z,657nm,19.4s,baz=288,slow=33						
URZ	**Urewera**	**17.69**	**170**	LR	LR	13 26 44.8	
	comp=Z,267nm,18.6s,baz=116,slow=32						
BFZ	**Birch Farm**	**19.95**	**173**	Pn	**Pn**	**13 21 48.1**	**+0.1**
BFZ				IAmb	IAmb	13 22 12.4	
	comp=Z,41nm,1.3s						
GVZ	**Greta Valley S**	**22.07**	**180**	P	**P**	**13 22 07.4**	**-1.8**
RPZ	**Rata Peaks**	**22.89**	**184**	LR	LR	13 30 39.6	
	comp=Z,481nm,18.6s,baz=360,slow=35						
RAR	**Rarotonga**	**25.19**	**96**	LR	LR	13 30 21.8	
	comp=Z,361nm,21.4s,baz=282,slow=31						
CTA	**Charters Tower**	**25.28**	**267**	LR	LR	13 32 32.2	
	comp=Z,951nm,18.1s,baz=104,slow=36						
PMG	**Port Moresby**	**27.57**	**290**	LR	LR	13 32 46.9	
	comp=Z,412nm,18.3s,baz=104,slow=34						
STKA	**Stephens Creek**	**30.31**	**242**	P	**P**	**13 23 25.9**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=90,slow=9.1,SNR=3.8						
STKA				LR	LR	13 34 31.8	
	comp=Z,332nm,21.6s,baz=54,slow=34						
	comp=Z,1.7nm,0.7s						
TBI	**Tubuai**	**34.60**	**101**	eS	**S**	**13 29 37.5**	**+4.6**
	comp=Z,749nm,43.8s						
TBI				eLR	LR	13 33 01.6	
	comp=Z,1μm,29.2s						
TBI				eLR	LR	13 33 32.7	
	comp=Z,3μm,27.5s						
PPT2	**Papeete2**	**35.22**	**91**	eS	**S**	**13 29 41.1**	**-1.6**
	comp=Z,98nm,24.8s						
PPT2				eLR	LR	13 33 27.5	
	comp=Z,898nm,28.5s						
PPT2				eLR	LR	13 33 50.0	
	comp=Z,1μm,26.0s						
PPT	**Papeete**	**35.22**	**91**	LR	LR	13 34 48.0	
	comp=Z,400nm,20.0s,baz=262,slow=30						
WR0	**Warramunga Arr**	**36.22**	**264**	P	**P**	**13 24 17.3**	**-0.2**
WR0				IAmb	IAmb	13 24 58.7	
	comp=Z,6.8nm,1.5s						
WB0	**Warramunga Arr**	**36.39**	**265**	P	**P**	**13 24 18.6**	**-0.4**
WB0				IAmb	IAmb	13 24 22.7	
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**36.41**	**264**	P	**P**	**13 24 19.6**	**+0.5**
WRA	**Warramunga Arr**	**36.41**	**264**	P	**P**	**13 24 19.7**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=105,slow=7.8,SNR=7.0						
WRA				LR	LR	13 39 22.4	
	comp=Z,1μm,19.0s,baz=120,slow=36						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**36.44**	**258**	P	**P**	**13 24 18.4**	**-0.9**
ASAR	**Alice Springs**	**36.44**	**258**	P	**P**	**13 24 20.2**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=83,slow=8.9,SNR=20						
ASAR				LR	LR	13 38 38.6	
	comp=Z,650nm,21.2s,baz=108,slow=35						
	comp=Z,1.3nm,0.8s						
GUMO	**Guam**	**44.12**	**318**	LR	LR	13 41 37.5	
	comp=Z,251nm,21.2s,baz=139,slow=33						
FITZ	**Fitzroy Crossi**	**44.83**	**265**	P	**P**	**13 25 28.5**	**-0.2**
TAOE	**Nuku Hiva Isla**	**46.45**	**82**	eLR	LR	13 39 00.1	
	comp=Z,781nm,27.0s						
NWAO	**Narrogin (SRO)**	**50.86**	**244**	LR	LR	13 47 37.4	
	comp=Z,444nm,20.1s,baz=66,slow=36						
KAPI	**Kappang**	**54.18**	**279**	LR	LR	13 51 20.6	
	comp=Z,69nm,19.7s,baz=121,slow=38						
DAV	**Davao City (W)**	**54.40**	**296**	LR	LR	13 49 45.5	
	comp=Z,49nm,19.3s,baz=144,slow=36						
VNDA	**Vanda**	**57.01**	**183**	LR	LR	13 47 19.6	
	comp=Z,126nm,21.9s,baz=7.5,slow=32						
TGY	**Tagaytay City**	**62.00**	**300**	LR	LR	13 53 03.1	
	comp=Z,273nm,19.2s,baz=120,slow=35						
JOW	**Kunigami**	**64.36**	**316**	LR	LR	13 55 31.2	
	comp=Z,43nm,18.0s,baz=138,slow=36						
LEM	**Lembang**	**64.83**	**272**	LR	LR	13 56 12.7	
	comp=Z,114nm,20.4s,baz=104,slow=36						
MJAR	**Matsushiro Arr**	**65.96**	**330**	LR	LR	13 52 57.3	
	comp=Z,40nm,21.5s,baz=138,slow=32						
JNU	**Nakatsue**	**67.18**	**322**	LR	LR	13 57 25.1	
	comp=Z,26nm,18.3s,baz=106,slow=36						
QSPA	**South Pole Qui**	**69.23**	**180**	P	**P**	**13 28 20.5**	**-0.6**
QSPA				IAmb	IAmb	13 28 26.9	
	comp=Z,7.7nm,1.3s						
QSPA	**South Pole Qui**	**69.23**	**180**	LR	LR	13 54 43.9	
	comp=Z,51nm,21.3s,baz=40,slow=32						
RPN	**Rapa Nui**	**70.02**	**112**	LR	LR	13 51 00.7	
	comp=Z,79nm,20.1s,baz=269,slow=29						
ASAJ	**Asahikawa**	**70.46**	**337**	LR	LR	13 53 52.6	
	comp=Z,108nm,21.9s,baz=168,slow=31						
KSRS	**Korea Array**	**71.97**	**323**	LR	LR	13 58 34.0	
	comp=Z,34nm,19.8s,baz=145,slow=34						
PETK	**Petropavlovsk-**	**74.85**	**350**	LR	LR	13 58 19.0	
	comp=Z,48nm,18.7s,baz=139,slow=33						
KULM	**Kulim**	**75.73**	**281**	P	**P**	**13 28 59.9**	**-0.7**
MAW	**Mawson**	**78.36**	**202**	LR	LR	14 01 59.9	
	comp=Z,30nm,18.1s,baz=101,slow=34						
KLR	**Kul'dur**	**78.91**	**334**	LR	LR	14 05 37.1	
	comp=Z,19nm,18.3s,baz=131,slow=37						
MA2	**Magadan**	**82.21**	**349**	LR	LR	14 00 23.8	
	comp=Z,69nm,19.9s,baz=152,slow=32						
KDAK	**Kodiak Island**	**83.34**	**18**	LR	LR	13 57 57.5	
	comp=Z,102nm,21.0s,baz=256,slow=29						
YBH	**Yreka Blue Hor**	**85.88**	**42**	LR	LR	13 59 51.9	
	comp=Z,57nm,21.7s,baz=240,slow=30						
LPIG	**La Paz**	**86.75**	**63**	LR	LR	13 59 51.6	
	comp=Z,221nm,20.7s,baz=244,slow=30						
NVAR	**Mina Array Bea**	**87.08**	**47**	P	**P**	**13 30 00.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=243,slow=6.0,SNR=3.8						
NVAR				LR	LR	14 01 14.8	
	comp=Z,242nm,20.2s,baz=258,slow=30						
	comp=Z,0.5nm,0.8s						
SNAA	**Sanae**	**87.70**	**181**	LR	LR	14 08 06.0	
	comp=Z,42nm,18.1s,baz=185,slow=35						
BBB	**Bella Bella**	**88.80**	**32**	LR	LR	14 03 41.8	
	comp=Z,79nm,19.2s,baz=243,slow=31						
ELK	**Elko**	**90.27**	**46**	LR	LR	14 03 01.1	
	comp=Z,169nm,20.8s,baz=248,slow=30						
ILAR	**Eielson Array**	**90.67**	**16**	P	**P**	**13 30 16.0**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=217,slow=4.4,SNR=2.9						
ILAR				LR	LR	14 05 29.3	
	comp=Z,104nm,19.0s,baz=236,slow=32						
	comp=Z,0.3nm,0.8s						
NEW	**Newport**	**92.61**	**39**	LR	LR	14 06 17.4	
	comp=Z,101nm,19.2s,baz=247,slow=32						
ANMO	**Albuquerque**	**94.14**	**54**	LR	LR	14 06 24.4	
	comp=Z,167nm,18.6s,baz=344,slow=31						
TXAR	**Lajitas Array**	**94.25**	**60**	LR	LR	14 06 24.4	
	comp=Z,94nm,18.2s,baz=251,slow=31						
PALK	**Pallekele**	**94.90**	**276**	LR	LR	14 14 17.9	
	comp=Z,64nm,19.8s,baz=224,slow=36						
PDAR	**Pinedale Array**	**94.97**	**46**	LR	LR	14 09 05.7	
	comp=Z,91nm,18.1s,baz=258,slow=33						
INK	**Inuvik**	**96.89**	**17**	LR	LR	14 07 43.6	
	comp=Z,69nm,19.2s,baz=186,slow=31						
CMIG	**Matias Romero**	**97.62**	**75**	LR	LR	14 05 26.7	
	comp=Z,115nm,20.8s,baz=206,slow=30						
GERES	**GERESS Array B**	**147.60**	**334**	PKPbc	**PKPbc**	**13 36 57.6**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=31,slow=2.3,SNR=3.7						

*AEIC **01** 13:36:18.5±1.1, 69°.31N±0°.04×144°.9W±0°.1, h4km±6km, ML3.3, ML3.5/100(NEIC), Error ellipse: s-maj=6.0km s-min=5.5km az=171.0*

*NEIC **01** 13:36:18.1±1.1, 69°.33N±0°.04×144°.87W±0°.10, h5km±2km, Error ellipse: s-maj=7.1km s-min=5.7km az=155.0*

ISC 01 13:36:17.0±1.2**, 69°.33N**±0°.04×**144°.80W**±0°.03**, h8km**±11km**, n106, σ1s.46**/113**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
D25K	**Kavik River**	**0.56**	**270**	Pg	**Pg**	**13 36 26.7**	**-1.2**
C26K	**Camden Bay**	**0.59**	**356**		**Pg**	**13 36 29.5**	**+1.1**
C26K	**Camden Bay**	**0.59**	**356**	P	**Pg**	**13 36 29.5**	**+1.1**
	baz=178						
E25K	**Arctic Village**	**1.25**	**193**		**Pg**	**13 36 41.3**	**+0.3**
E25K				Sg	**Sg**	**13 36 56.5**	**-0.6**
E25K	**Arctic Village**	**1.25**	**193**	P	**Pn**	**13 36 41.9**	**+1.2**
	baz=11						
E25K				S	**Sn**	**13 36 59.5**	**+1.7**
	baz=11						
D27M	**Malcolm River**	**1.37**	**92**		**Pn**	**13 36 41.7**	**-0.8**
D27M				IAML		13 37 07.4	
	comp=N,630nm,0.6s						
D27M	**Malcolm River**	**1.37**	**92**	P	**Pg**	**13 36 44.0**	**+0.8**
	baz=278						
D27M				S	**Sn**	**13 37 04.3**	**+3.6**
	baz=278						
C24K	**Franklin Bluff**	**1.43**	**288**		**Pg**	**13 36 44.7**	**+0.3**
C24K					**Sg**	**13 37 03.5**	**+0.7**
C24K	**Franklin Bluff**	**1.43**	**288**	P	**Pg**	**13 36 44.7**	**+0.3**
	baz=102						
C24K				S	**Sg**	**13 37 03.5**	**+0.7**
	baz=102						
D24K	**Happy Valley**	**1.45**	**265**		**Pn**	**13 36 44.1**	**+0.6**
D24K					**Sb**	**13 37 02.9**	**+0.2**
D24K				IAML		13 37 09.9	
	comp=N,637nm,0.6s						
D24K				IAML		13 37 11.9	
	comp=E,835nm,0.7s						
D24K	**Happy Valley**	**1.45**	**265**	P	**Pg**	**13 36 45.0**	**+0.3**
	baz=79						
D24K				S	**Sg**	**13 37 06.0**	**+2.6**
	baz=79						
E27K	**Coleen River**	**1.64**	**133**	Pn	**Pn**	**13 36 47.5**	**+1.4**
E27K				IAML		13 37 13.6	
	comp=E,546nm,0.5s						
E24K	**Your Creek**	**1.85**	**229**	Pn	**Pn**	**13 36 50.5**	**+1.5**
E24K				IAML		13 37 23.8	
	comp=E,362nm,0.8s						
TOLK	**Toolik Lake Re**	**1.86**	**250**	Pn	**Pn**	**13 36 50.0**	**+0.9**
TOLK				IAML		13 37 19.8	
	comp=E,383nm,0.9s						
TOLK	**Toolik Lake Re**	**1.86**	**250**	P	**Pn**	**13 36 50.3**	**+1.1**
	baz=64						
BMAR	**Burnt Mountain**	**1.91**	**177**		**Pn**	**13 36 51.4**	**+1.4**
E28M	**Babbage River**	**2.03**	**109**		**Pn**	**13 36 53.4**	**+1.8**
E28M				IAML		13 37 27.5	
	comp=N,314nm,0.9s						
C23K	**Itkillik River**	**2.10**	**287**	Pn	**Pn**	**13 36 53.3**	**+0.9**
C23K				IAML		13 37 32.1	
	comp=N,421nm,0.6s						
C23K				IAML		13 37 34.1	
	comp=E,328nm,0.7s						
F24K	**Squaw Lake**	**2.15**	**214**		**Pn**	**13 36 55.0**	**+1.8**
F24K				IAML		13 37 29.7	
	comp=E,318nm,0.5s						
F24K				IAML		13 37 29.7	
	comp=N,290nm,0.6s						
D28M	**Stokes Point**	**2.15**	**87**		**Pn**	**13 36 55.2**	**+2.1**
D28M	**Stokes Point**	**2.15**	**87**	P	**Pn**	**13 36 55.2**	**+2.1**
	baz=274						
F28M	**Old Crow**	**2.50**	**131**	Pn	**Pn**	**13 36 59.8**	**+1.8**
F28M				IAML		13 37 40.6	
	comp=N,193nm,0.5s						
F28M				IAML		13 37 42.5	
	comp=E,196nm,0.7s						
F28M	**Old Crow**	**2.50**	**131**	P	**Pn**	**13 36 60.0**	**+1.9**
	baz=316						
E29M	**Blow River**	**2.67**	**107**	Pn	**Pn**	**13 37 02.4**	**+2.1**
E29M				IAML		13 37 46.1	
	comp=N,186nm,0.6s						
E29M				IAML		13 37 47.4	
	comp=E,165nm,0.8s						
E29M	**Blow River**	**2.67**	**107**	P	**Pb**	**13 37 03.6**	**-1.4**
	baz=295						
FYU	**Fort Yukon**	**2.78**	**184**	Pn	**Pn**	**13 37 03.5**	**+1.7**
G27K	**Doyon Strip**	**2.79**	**154**	Pn	**Pn**	**13 37 03.5**	**+1.5**
G27K				IAML		13 37 56.0	
	comp=E,129nm,0.8s						
E22K	**Anaktuvuk Pass**	**2.83**	**248**		**Pn**	**13 37 03.6**	**+1.1**
G24K	**Hadweenzic Riv**	**2.83**	**202**		**Pn**	**13 37 04.0**	**+1.6**
D22K	**Ayikyak River**	**2.86**	**265**		**Pn**	**13 37 04.0**	**+1.0**
D22K				IAML		13 37 59.6	
	comp=E,146nm,0.8s						
B22K	**Teshekpuk Lake**	**3.15**	**293**	Pn	**Pn**	**13 37 07.2**	**+0.3**
B22K				IAML		13 38 01.1	
	comp=N,138nm,0.8s						
B22K				IAML		13 38 08.2	
	comp=E,147nm,0.8s						
G23K	**Bananza Creek**	**3.29**	**219**		**Pn**	**13 37 09.5**	**+0.8**
G23K				IAML		13 38 10.0	
	comp=N,98nm,1.4s						
E21K	**Killik River**	**3.44**	**259**	Pn	**Pn**	**13 37 11.5**	**+0.6**
E21K				IAML		13 38 14.7	
	comp=E,105nm,0.9s						
B21K	**Ikpikpuk River**	**3.47**	**279**	Pn	**Pn**	**13 37 12.1**	**+0.8**
B21K				IAML		13 38 19.2	
	comp=N,85nm,0.9s						
B21K				IAML		13 38 24.9	
	comp=E,76nm,1.2s						
G29M	**Pine Creek**	**3.51**	**131**		**Pn**	**13 37 13.2**	**+1.4**
H24K	**Noodor Dome**	**3.70**	**200**		**Pn**	**13 37 15.6**	**+1.1**
H24K				IAML		13 38 19.6	
	comp=N,71nm,0.8s						
F21K	**Alatna River**	**3.86**	**241**		**Pn**	**13 37 17.8**	**+1.2**
F21K				IAML		13 38 23.5	
	comp=N,54nm,0.6s						
G30M	**tAoh Zraii Nji**	**3.98**	**122**		**Pn**	**13 37 20.1**	**+1.8**
G30M				IAML		13 38 41.6	
	comp=N,68nm,1.0s						
I26K	**Coal Creek Min**	**4.09**	**170**		**Pn**	**13 37 20.8**	**+0.9**
INK	**Inuvik**	**4.22**	**99**	Pn	**Pn**	**13 37 23.2**	**+1.7**
EPYK	**Eagle Plains**	**4.26**	**130**	Pn	**Pn**	**13 37 23.6**	**+1.4**
G21K	**Allakaket**	**4.33**	**233**	Pn	**Pn**	**13 37 24.2**	**+1.1**
G21K				IAML		13 38 48.9	
	comp=N,63nm,1.1s						
POKR	**Poker Plat Res**	**4.36**	**195**		**Pn**	**13 37 24.4**	**+1.0**
POKR				IAML		13 38 21.2	
	comp=N,53nm,0.5s						
B20K	**Meade River**	**4.37**	**285**		**Pn**	**13 37 24.5**	**+1.0**
B20K				IAML		13 38 51.5	
	comp=E,50nm,0.8s						
B20K				IAML		13 38 54.6	
	comp=N,54nm,1.5s						
F31M	**Tsiigehtchic**	**4.51**	**110**	Pn	**Pn**	**13 37 26.7**	**+1.2**
F31M				IAML		13 38 52.5	
	comp=E,42nm,1.1s						
I23K	**Minto, Yukon-K**	**4.56**	**205**		**Pn**	**13 37 26.4**	**+0.3**
I23K				IAML		13 38 52.5	
	comp=N,42nm,1.4s						
I23K				IAML		13 38 57.6	
	comp=E,33nm,1.0s						
MDM	**Murphy Dome**	**4.59**	**199**		**Pn**	**13 37 27.5**	**+0.8**
MDM				IAML		13 38 45.8	
	comp=N,45nm,0.6s						
MDM				IAML		13 38 49.8	
	comp=E,35nm,0.7s						
G31M	**Satah River**	**4.62**	**117**	Pn	**Pn**	**13 37 28.6**	**+1.6**
G31M				IAML		13 38 53.1	
	comp=E,38nm,0.6s						
COLA	**College**	**4.63**	**196**		**Pn**	**13 37 28.4**	**+1.2**
ILAR	**Eielson Array**	**4.65**	**191**		**Pn**	**13 37 29.4**	**+1.9**
J25K	**Salcha River,**	**4.75**	**183**		**Pn**	**13 37 30.4**	**+1.6**
J25K				IAML		13 38 55.0	
	comp=E,38nm,0.8s						
J25K				IAML		13 38 55.6	
	comp=N,33nm,0.7s						
EGAK	**Eagle**	**4.79**	**161**		**Pn**	**13 37 31.2**	**+1.8**
EGAK				IAML		13 38 58.9	
	comp=N,35nm,0.9s						
IMAR	**Indian Mountai**	**4.79**	**230**	Pn	**Pn**	**13 37 30.4**	**+1.0**
H21K	**Melozitna Rive**	**4.80**	**224**		**Pn**	**13 37 30.8**	**+1.2**
H21K				IAML		13 39 04.3	
	comp=E,37nm,1.1s						
CCB	**Clear Creek Bu**	**4.85**	**195**	Pn	**Pn**	**13 37 32.3**	**+2.1**
CCB				IAML		13 38 31.6	
	comp=E,30nm,0.7s						
J26L	**Joseph Creek**	**4.88**	**174**	Pn	**Pn**	**13 37 32.9**	**+2.2**
J26L				IAML		13 38 38.3	
	comp=N,29nm,0.5s						
J26L				IAML		13 39 04.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,38nm,0.8s						
D19K	Kuna River	4.88	266		Pn	13 37 31.6	+0.9
D19K				IAML		13 39 10.6	
	comp=N,34nm,1.0s						
MLY	Manley	4.90	211	Pn	Pn	13 37 32.1	+1.2
E19K	Redstone River	4.96	254		Pn	13 37 32.9	+1.1
E19K				IAML		13 39 05.4	
	comp=N,35nm,0.8s						
E19K				IAML		13 39 09.5	
	comp=E,33nm,0.9s						
I21K	Tanana	5.01	217	Pn	Pn	13 37 33.2	+0.8
HDA	Harding Lake	5.02	191	Pn	Pn	13 37 33.4	+0.9
HDA				IAML		13 39 09.3	
	comp=N,33nm,1.1s						
WRH	Wood River Hil	5.05	196		Pn	13 37 34.1	+1.2
WRH				IAML		13 39 16.6	
	comp=N,33nm,0.8s						
I30M	Mount Dempster	5.26	138		Pn	13 37 38.1	+2.2
I30M				IAML		13 39 13.3	
	comp=N,26nm,0.7s						
C19K	Lookout Ridge	5.27	274		Pn	13 37 36.9	+0.9
SCRK	Sand Creek	5.39	176	Pn	Pn	13 37 39.8	+2.1
SCRK				IAML		13 39 11.5	
	comp=E,28nm,0.9s						
F19K	Shaleruckik Mo	5.47	249	Pn	Pn	13 37 39.9	+1.3
BWN	Browne	5.50	202	Pn	Pn	13 37 40.4	+1.3
RIDG	Independent Ri	5.62	180	Pn	Pn	13 37 40.6	-0.1
G19K	Purcell Mounta	5.66	241		Pn	13 37 41.9	+0.6
DAWY	Dawson	5.71	155	Pn	Pn	13 37 44.5	+2.5
J30M	Hart River	5.81	141		Pn	13 37 45.6	+2.1
C18K	Utukok River	5.94	271		Pn	13 37 45.6	+0.5
E18K	Tukpahlearik C	6.14	259		Pn	13 37 48.9	+0.9
KTH	Kantishna Hill	6.30	206	Pn	Pn	13 37 51.2	+1.1
TRF	Thorofare Moun	6.30	203	Pn	Pn	13 37 51.9	+1.6
G18K	Tagagawik	6.31	243		Pn	13 37 52.1	+1.8
J20K	Nowinta River	6.36	220		Pn	13 37 52.4	+1.5
BCAR	Beaver Creek A	6.41	168	Pn	Pn	13 37 54.0	+2.4
L27K	Beaver Creek,	6.41	168		Pn	13 37 53.8	+2.1
MENT	Mentasta	6.44	176		Pn	13 37 54.2	+2.2
CAST	Castle Rocks	6.62	210	Pn	Pn	13 37 56.4	+1.9
RDOG	Red Dog Mine	6.72	268	Pn	Pn	13 37 56.4	+0.6
H18K	Honhosa River	6.72	238	Pn	Pn	13 37 56.2	+0.4
MAYO	Mayo, Yukon	6.77	144	Pn	Pn	13 37 57.3	+0.8
F17K	Baldwin Pennin	6.84	253	Pn	Pn	13 37 57.9	+0.4
A36M	Sachs Harbour	7.00	59	Pn	Pn	13 37 59.0	-0.7
K20K	Telida	7.05	216	Pn	Pn	13 38 01.5	+1.0
M27K	Edge Creek, AK	7.10	169	Pn	Pn	13 37 59.3	-2.0
C36M	Paulatuk	7.32	80		Pn	13 38 02.9	-1.2
M29M	Somme Creek	7.38	156		Pn	13 38 06.8	+1.8
C16K	Lisburne Hills	7.51	272	Pn	Pn	13 38 06.2	-0.4
J18K	Innoko River	7.57	225	Pn	Pn	13 38 08.2	+0.6
N25K	Chitina, Valde	7.76	179	Pn	Pn	13 38 12.1	+1.9
GHO	Glory Hole Cre	7.78	195	Pn	Pn	13 38 11.8	+1.3
G16K	Koyuk River	7.82	248	Pn	Pn	13 38 11.8	+0.8
TTA	Tatalina	7.86	221	Pn	Pn	13 38 12.9	+1.3
PMR	Palmer	7.98	195	Pn	Pn	13 38 13.8	+0.8
L19K	White Mountain	8.27	215	Pn	Pn	13 38 18.4	+1.2
F15K	North Star Dit	8.41	254	Pn	Pn	13 38 19.8	+0.8
N30M	Aishikik Lake	8.52	154	Pn	Pn	13 38 22.0	+1.3
J16K	Anvik River	8.77	234	Pn	Pn	13 38 25.1	+1.2
M17K	Holitna River	9.53	220	Pn	Pn	13 38 35.3	+1.0
WRGLY	Wrigley	10.50	115	Pn	Pn	13 38 48.8	+1.2
R33M	Jennings River	11.59	143	Pn	Pn	13 39 02.9	+0.2
YKA	Yellowknife Ar	13.96	105	Pn	Pn	13 39 31.6	-3.3
RES	Resolute Bay	15.84	48	Pn	Pn	13 39 57.1	-2.8

*IDC **01** 13:37:27.2±5.3, 36°.41N×71°.42E, h208km±38km, mb3.2/6, mbtmp3.7/12, Error ellipse: s-maj=48.8km s-min=29.5km az=162.0*

ISC 01 13:37:28.0±1.6**, 36°.6N**±0°.1×**71°.1E**±0°.2**, h200**km**, n14, σ1s.43**/17**, mb3.5**/6**, 2C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
AML	Almayashu	5.87	19	⇓Pn	Pn	13 38 56.0	+2.0
	2.7nm,0.5s						
AML				⇓Sn	Sn	13 39 59.5	-2.4
	10nm,0.7s						
KK31	Karatay Array	6.52	356	⇑Pn	Pn	13 39 04.0	+2.1
	5.0nm,0.4s,baz=185,slow=16,SNR=39						
KK31				⇑Sn	Sn	13 40 14.4	-2.0
	1.9nm,0.3s,baz=189,slow=26,SNR=9.4						
AAK	Ala-Archa	6.57	22	P	Pn	13 39 04.5	+1.8
	4.8nm,0.3s,baz=196,slow=8.3,SNR=12						
AAK				S	Sn	13 40 17.2	-0.6
	2.8nm,0.3s,baz=323,slow=23,SNR=11						
MKAR	Makanchi Array	13.15	36	P	Pn	13 40 28.0	+0.8
	0.1nm,0.4s,baz=220,slow=16,SNR=2.9						
KURBB	Kurchatov Arra	15.00	18	P	Pn	13 40 49.5	-0.5
	0.3nm,0.5s,baz=207,slow=10,SNR=4.1						
BVAR	Borovoye Array	16.44	358	P	Pn	13 41 07.7	+0.3
	1.2nm,0.4s,baz=157,slow=12,SNR=20						
AKTO	Aktyubinsk	16.75	330	P	Pn	13 41 11.9	+0.7
	1.1nm,0.4s,baz=146,slow=7.3,SNR=6.4						
ZALV	Zalesovo Beam	19.78	24	P	P	13 41 42.3	-0.5
	0.4nm,0.3s,baz=212,slow=11,SNR=4.2						
FINES	FINESS Array B	37.47	326	P	P	13 44 22.9	+1.0
	2.3nm,0.9s,baz=116,slow=13,SNR=5.9						
	2.3nm,0.9s						
ARCES	ARCESS Array B	41.10	338	P	P	13 44 52.9	+1.0
	2.7nm,1.0s,baz=114,slow=9.0,SNR=6.7						
	2.7nm,1.0s						
HFS	Hagfors	43.06	322	P	P	13 45 08.1	+0.3
	0.8nm,0.3s,baz=92,slow=12,SNR=6.7						
	0.8nm,0.3s						
NOA	NORSAR Array B	44.37	323	P	P	13 45 18.4	+0.2
	0.3nm,0.5s,baz=97,slow=7.6,SNR=1.7						
	0.3nm,0.5s						
TORD	Torodi Ar. Bea	65.83	269	P	P	13 47 51.0	-1.2
	0.3nm,0.5s,baz=57,slow=5.3,SNR=2.0						
	0.3nm,0.5s						
YKA	Yellowknife Ar	81.14	3	P	P	13 49 19.6	-1.2
	0.2nm,0.6s,baz=344,slow=5.4,SNR=6.2						
	0.2nm,0.6s						

IDC 01 13:38:10.4±31.0**, 16°.23S**×**175°.30W, h432**km±351km**, mb2.9**/7**, mbtmp3.6**/7**, Error ellipse: s-maj=77.3km s-min=35.8km az=98.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	47.88	258	P	P	13 46 08.0	0.0
	0.2nm,0.4s,baz=92,slow=6.8,SNR=8.1						
	0.2nm,0.4s						
ASAR	Alice Springs	48.12	253	P	P	13 46 09.5	-0.2
	0.9nm,0.7s,baz=88,slow=8.2,SNR=21						
	0.9nm,0.7s						
QSPA	South Pole Qui	73.82	180	P	P	13 48 59.5	+0.1
	0.8nm,0.8s,baz=45,slow=8.6,SNR=2.0						
	0.8nm,0.8s						
NVAR	Mina Array Bea	76.17	43	P	P	13 49 13.2	0.0
	0.3nm,0.6s,baz=219,slow=7.0,SNR=5.0						
	0.3nm,0.6s						
TXAR	Lajitas Array	82.59	57	P	P	13 49 47.3	-0.1
	0.4nm,0.6s,baz=224,slow=6.3,SNR=2.7						
	0.4nm,0.6s						
ILAR	Eielson Array	83.61	12	P	P	13 49 51.5	-0.1
	0.2nm,0.4s,baz=190,slow=9.6,SNR=9.6						
	0.2nm,0.4s						
PDAR	Pinedale Array	84.10	42	P	P	13 49 55.1	+0.3
	0.6nm,0.7s,baz=212,slow=3.2,SNR=6.2						
	0.6nm,0.7s						

*SJA **01** 13:42:47.8±0.6, 23°.75S×68°.70W, h115km±4km, ML4.0, MW4.0*

*NEIC **01** 13:42:48.3±2.1, 23°.80S±0°.05×68°.67W±0°.06, h104km±5km, mb4.4/20, Error ellipse: s-maj=8.7km s-min=6.8km az=128.0*

*GUC **01** 13:42:48.2±0.8, 23°.79S×68°.70W, h115km±4km, ML4.1*

*IDC **01** 13:42:49.9±1.4, 23°.61S×68°.41W, h109km±12km, mb3.9/5, mbtmp4.0/8, MS3.8/1, Error ellipse: s-maj=25.0km s-min=19.8km az=179.0*

ISC 01 13:42:48.3±0.7**, 23°.78S**±0°.03×**68°.70W**±0°.04**, h108**km±6km**, n103, σ1s.38**/127**, mb4.3**/12**, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PB15	IPOC Station P	0.91	309		Pn	13 43 09.2	+0.6
PB15				Sn	Sn	13 43 24.1	+0.2
PB15	IPOC Station P	0.91	309	eP	Pn	13 43 09.2	+0.6
PB15				eS	Sn	13 43 25.0	+1.1
PB15	IPOC Station P	0.91	309	eP	Pn	13 43 09.2	+0.6
PB15				i S	Sn	13 43 24.7	+0.8
AF01	San Pedro de A	0.96	30		Pn	13 43 09.4	+0.2
AF01				Sn	Sn	13 43 24.6	-0.2
AF01	San Pedro de A	0.96	30	eP	Pn	13 43 09.5	+0.3
AF01				i S	Sn	13 43 25.2	+0.3
LVC	Limon Verde	1.18	351		Pn	13 43 12.1	+0.4
LVC				Sn	Sn	13 43 28.0	-1.3
LVC	Limon Verde	1.18	351	eP	Pn	13 43 12.2	+0.5
LVC				eS	Sn	13 43 30.0	+0.7
LVC				IAML		13 43 32.7	
	comp=Z,2µm,0.2s						
LVC	Limon Verde	1.18	351	P	Pn	13 43 12.1	+0.4
	comp=Z,288nm,0.3s,baz=171,slow=12,SNR=1354						
LVC				S	Sn	13 43 29.5	+0.2
	comp=Z,1µm,0.3s,baz=120,slow=20,SNR=25						
LVC				LR	LR	13 43 30.2	
	comp=Z,22nm,21.6s,baz=124,slow=37						
LVC	Limon Verde	1.18	351	eP	Pn	13 43 12.0	+0.4
LVC				i S	Sn	13 43 29.3	0.0
PB06	IPOC Station P	1.34	323	Pn	Pn	13 43 13.7	+0.5
PB06	IPOC Station P	1.34	323	eP	Pn	13 43 13.9	+0.7
PB06				eS	Sn	13 43 33.0	+0.9
PB06				IAML		13 43 35.3	
	comp=Z,3µm,0.3s						
PB06	IPOC Station P	1.34	323	eP	Pn	13 43 13.9	+0.7
PB06				i S	Sn	13 43 32.8	+0.8
PB06				IAML		13 43 33.7	
	comp=N,7µm,0.2s						
GO02	Mina Guanaco	1.59	210		Pn	13 43 17.5	+1.1
GO02	Mina Guanaco	1.59	210	eP	Pn	13 43 17.6	+1.2
GO02				eS	Sn	13 43 39.9	+2.1
GO02	Mina Guanaco	1.59	210	eP	Pn	13 43 17.3	+0.8
GO02				i S	Sn	13 43 39.1	+1.3
GO02				IAML		13 43 40.6	
	comp=N,5µm,0.2s						
PB05	IPOC Station P	1.66	304		Pn	13 43 17.3	+0.2
PB05	IPOC Station P	1.66	304	eP	Pn	13 43 17.6	+0.5
PB05				eS	Sn	13 43 40.2	+1.3
PB05				IAML		13 43 40.9	
	comp=Z,2µm,0.5s						
PB05	IPOC Station P	1.66	304	eP	Pn	13 43 17.5	+0.5
PB05				i S	Sn	13 43 39.8	+0.9
PB05				IAML		13 43 40.8	
	comp=N,2µm,0.3s						
PB14	IPOC Station P	1.77	241		Pn	13 43 18.9	+0.3
PB14	IPOC Station P	1.77	241	eP	Pn	13 43 18.5	0.0
PB14				IAML		13 43 52.6	
	comp=Z,974nm,0.3s						
PB14	IPOC Station P	1.77	241	eP	Pn	13 43 19.1	+0.6
PB14				i S	Sn	13 43 42.1	+0.5
PB14				IAML		13 43 49.7	
	comp=E,780nm,0.4s						
PB04	IPOC Station P	1.96	317		Pn	13 43 21.1	+0.2
PB04	IPOC Station P	1.96	317	eP	Pn	13 43 21.2	+0.2
PB04				eS	Sn	13 43 47.2	+1.5
PB04				IAML		13 43 53.8	
	comp=Z,1µm,0.4s						
PB04	IPOC Station P	1.96	317	eP	Pn	13 43 21.3	+0.4
PB04				i S	Sn	13 43 44.8	-0.9
PB04				IAML		13 43 50.1	
	comp=N,2µm,0.2s						
PB09	IPOC Station P	2.04	346		Pn	13 43 22.6	+0.7
PB09	IPOC Station P	2.04	346	eP	Pn	13 43 23.3	+1.4
PB09				eS	Sn	13 43 50.7	+3.3
PB09				IAML		13 43 52.7	
	comp=Z,1µm,0.6s						
PB09	IPOC Station P	2.04	346	eP	Pn	13 43 22.9	+1.0
PB09				i S	Sn	13 43 48.9	+1.4
PB09				IAML		13 43 56.5	
	comp=E,825nm,0.3s						
PB07	IPOC Station P	2.32	332		Pn	13 43 25.8	+0.3
PB07	IPOC Station P	2.32	332	eP	Pn	13 43 26.0	+0.5
PB07				eS	Sn	13 43 53.3	-0.6
PB07				IAML		13 44 06.6	
	comp=Z,695nm,0.5s						
PB07	IPOC Station P	2.32	332	eP	Pn	13 43 25.9	+0.5
PB07				i S	Sn	13 43 54.5	+0.6
PB07				IAML		13 44 01.5	
	comp=E,936nm,0.3s						
PB02	IPOC Station P	2.69	336		Pn	13 43 30.5	+0.2
PB02	IPOC Station P	2.69	336	eP	Pn	13 43 30.4	+0.2
PB02				eS	Sn	13 44 02.9	+0.4
PB02				IAML		13 44 06.5	
	comp=Z,1µm,0.3s						
PB02	IPOC Station P	2.69	336	eP	Pn	13 43 30.4	+0.2
PB02				i S	Sn	13 44 02.5	0.0
PB02				IAML		13 44 14.7	
	comp=E,1µm,0.3s						
PB01	IPOC Station P	2.82	345		Pn	13 43 32.0	+0.1
PB01	IPOC Station P	2.82	345	eP	Pn	13 43 32.2	+0.2
PB01				eS	Sn	13 44 01.2	-4.4
PB01				IAML		13 44 36.1	
	comp=Z,330nm,0.5s						
PB01	IPOC Station P	2.82	345	eP	Pn	13 43 32.2	+0.2
AC01	Pan de Azucar	2.92	216	Pn	Pn	13 43 32.3	-0.8
AC01	Pan de Azucar	2.92	216	eP	Pn	13 43 32.4	-0.8
AC01				eS	Sn	13 44 01.7	-6.0
AC01				IAML		13 44 22.4	
	comp=Z,345nm,0.2s						
SLA	San Lorenzo	3.06	108	eP	Pn	13 43 37.3	+2.1
PATCX	Punta Patache	3.24	335		Pn	13 43 36.5	-1.0
PATCX	Punta Patache	3.24	335	eP	Pn	13 43 36.2	-1.3
PATCX	Punta Patache	3.24	335	eP	Pn	13 43 36.8	-0.7
YJA	Yavi	3.34	62	eP	Pn	13 43 41.7	+2.5
AZAP	Zapla	3.35	98	eP	Pn	13 43 41.0	+1.9
FSA	Cafayete	3.39	134	eP	Pn	13 43 41.1	+1.5
TA01	Diego Aracena	3.48	337	Pn	Pn	13 43 39.5	-1.2
TA01	Diego Aracena	3.48	337	eP	Pn	13 43 39.7	-0.9
TA01				IAML		13 44 45.8	
	comp=Z,296nm,0.5s						
PB08	IPOC Station P	3.65	353		Pn	13 43 43.2	-0.1
PB08	IPOC Station P	3.65	353	eP	Pn	13 43 43.4	+0.1
PB08				eS	Sn	13 44 16.2	-9.5
PB08				IAML		13 44 56.1	
	comp=Z,161nm,0.3s						
HMBC	Humberstone	3.66	342	eP	Pn	13 43 42.2	-1.0
TA02	Huaiquique	3.74	339		Pn	13 43 42.7	-1.4
AC06	Mina Casimiro	3.86	202	Pn	Pn	13 43 44.2	-1.6
GO03	Copiap	4.04	200		Pn	13 43 47.0	-1.2
GO03	Copiap	4.04	200	eP	Pn	13 43 47.3	-0.9
PB11	IPOC Station P	4.10	347		Pn	13 43 47.7	-1.4
PB11	IPOC Station P	4.10	347	eP	Pn	13 43 47.8	-1.4
PB11				IAML		13 45 17.0	
	comp=Z,153nm,0.8s						
GO01	Chusmiza	4.12	354		Pn	13 43 49.0	-0.7
GO01	Chusmiza	4.12	354	eP	Pn	13 43 49.7	0.0
ALOL	LOMAS DE OLMED	4.32	91	eP	Pn	13 43 53.0	+1.0
AC04	Llanos de Chal	4.89	205	Pn	Pn	13 43 56.5	-3.1
VCA	Vinchina	4.95	175	eP	Pn	13 44 01.9	+1.2
AC05	El Transito	5.23	195		Pn	13 44 03.0	-1.3
PB12	IPOC Station P	5.36	343	eP	Pn	13 44 03.6	-2.5
PB12				IAML		13 45 28.0	
	comp=Z,62nm,0.6s						
PB16	IPOC Station P	5.47	352	Pn	Pn	13 44 07.9	-0.1
LCO	Las Campanas	5.51	199		Pn	13 44 05.7	-2.5
CO01	Juntas del Tor	6.29	191	Pn	Pn	13 44 17.4	-1.4
CO03	El Pedregal	7.25	194	Pn	Pn	13 44 28.6	-3.0
CO06	Fray Jorge	7.34	200	Pn	Pn	13 44 28.2	-4.6
LPAZ	La Paz	7.47	4	Pn	Pn	13 44 34.0	-1.3
CO02	Combarbal	7.67	195	Pn	Pn	13 44 33.4	-4.0
SIV	San Ignacio	10.56	44	P	Pn	13 45 13.4	-3.2
	comp=Z,6.5nm,0.5s,baz=237,slow=8.3,SNR=52						
SIV				S	Sn	13 47 03.1	-10
	comp=Z,1.1nm,0.6s,baz=309,slow=22,SNR=1.2						
CPUP	Villa Florida	10.62	106	P	Pn	13 45 17.0	-0.3
	comp=Z,1.2nm,0.8s,baz=304,slow=14,SNR=2.9						
BO02	Sierra Bellavi	11.12	189	Pn	Pn	13 45 23.4	-0.7
PTLB	Pontes e Lacer	12.24	49	Pn	Pn	13 45 36.9	-2.1
TRQA	Tornquist	15.35	160	Pn	Pn	13 46 18.5	-0.5
ITAB	Concordia	15.35	106	Pn	Pn	13 46 17.9	-1.2
PLCA	Paso Flores	16.97	185	P	P	13 46 40.0	+0.7
PLCA	Paso Flores	16.97	185	P	P	13 46 42.0	+2.6
	comp=Z,0.7nm,0.9s,baz=3.9,slow=15,SNR=1.1						
BDFB	Brasilia	21.07	71	P	P	13 47 22.1	-2.1
BDFB	Brasilia	21.07	71	P	P	13 47 22.1	-2.1
	comp=Z,3.2nm,0.7s,baz=228,slow=8.6,SNR=5.9						
	comp=Z,3.2nm,0.7s						
MACA	Manacapuru-AM	21.92	22	P	P	13 47 31.7	-1.3
MACA				IAmb	IAmb	13 47 41.5	
	comp=Z,16nm,1.2s						
SNAA	Sanae	60.07	161	P	P	13 52 44.7	+1.0
SNAA				IAmb	IAmb	13 53 23.4	
	comp=Z,6.8nm,1.3s						
SWET	Sewanee	60.91	344	P	P	13 52 50.6	+0.9
WVT	Waverly	62.27	343	P	P	13 52 58.1	-0.7
CCM	Cathedral Cave	65.05	341	P	P	13 53 17.6	+0.5
CCM				IAmb	IAmb	13 53 45.7	
	comp=Z,4.0nm,1.1s						
QSPA	South Pole Qui	66.42	180	P	P	13 53 27.7	+1.9
QSPA				IAmb	IAmb	13 53 28.3	
	comp=Z,3.4nm,0.6s						
DBIC	Dimbokro	69.22	72	P	P	13 53 44.3	+0.3
DBIC				IAmb	IAmb	13 54 21.4	
	comp=Z,14nm,1.5s						
DBIC	Dimbokro	69.22	72	P	P	13 53 44.4	+0.5
	comp=Z,2.1nm,0.6s,baz=270,slow=10,SNR=5.2						
	comp=Z,2.1nm,0.6s						
TCRU	Three Creeks R	74.38	326	P	P	13 54 14.7	+0.1
TCRU				IAmb	IAmb	13 54 16.2	
	comp=Z,2.1nm,0.5s						
GWY	Greenwater Val	74.90	322	P	P	13 54 17.8	+0.2
TOA0	Torodi Ar. Sit	77.95	70	P	P	13 54 35.2	+0.1
TOA0				IAmb	IAmb	13 54 36.3	
	comp=Z,6.4nm,0.7s						
TORD	Torodi Ar. Bea	77.95	70	P	P	13 54 35.0	0.0
TORD				IAmb	IAmb	13 54 36.3	
	comp=Z,5.0nm,0.7s						
TORD	Torodi Ar. Bea	77.95	70	P	P	13 54 35.5	+0.4
	comp=Z,4.3nm,0.6s,baz=262,slow=5.1,SNR=38						
	comp=Z,4.3nm,0.6s						
BOSA	Boshof	82.22	118	P	P	13 54 58.6	+0.5
BOSA				IAmb	IAmb	13 55 29.4	
	comp=Z,12nm,1.3s						
BOSA	Boshof	82.22	118	P	P	13 54 58.5	+0.5
	comp=Z,1.1nm,0.4s,baz=248,slow=4.3,SNR=11						
	comp=Z,1.1nm,0.4s						
NEW	Newport	83.81	330	LR	LR	14 34 34.9	
	comp=Z,53nm,19.5s,baz=327,slow=37						
FCC	Fort Churchill	84.89	347	P	P	13 55 11.8	+1.2
FCC				IAmb	IAmb	13 55 25.0	
	comp=Z,4.8nm,1.4s						
CART	Cartagena	88.13	47	P	P	13 55 26.1	-0.8
YKA	Yellowknife Ar	93.39	340	P	P	13 55 52.1	+1.3
	comp=Z,0.3nm,0.8s,baz=140,slow=4.7,SNR=6.5						
	comp=Z,0.3nm,0.8s						
ASAR	Alice Springs	127.98	207	PKP	PKiKP	14 01 43.1	+0.2
	comp=Z,0.4nm,0.6s,baz=154,slow=2.0,SNR=7.7						
WRA	Warramunga Arr	131.08	209	PKP	PKiKP	14 01 49.7	+0.6
	comp=Z,0.3nm,0.5s,baz=161,slow=1.8,SNR=6.9						
ZALV	Zalesovo Beam	143.91	27	PKP	PKPdf	14 02 10.8	+0.1
	comp=Z,1.0nm,0.4s,baz=318,slow=4.0,SNR=7.8						
MKAR	Makanchi Array	147.33	38	PKPbc	PKPbc	14 02 18.7	-0.6
	comp=Z,1.0nm,0.5s,baz=316,slow=2.8,SNR=7.6						

*ISN **01** 13:49:01.9±1.0, 34°.72N×45°.50E, h0km±239km, ML3.3*

*TEH **01** 13:49:03.5, 34°.76N×45°.65E, h8km±38km, ML3.1*

ISC 01 13:49:05.0±0.9**, 34°.73N**±0°.03×**45°.61E**±0°.05**, h18**km**, n17, σ1s.54**/21**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KGS1	Ghasr-e-Shirin	0.23	185	Pg	Pg	13 49 09.1	-1.2
IDHR	Dehrash	0.64	93	Pg	Pb	13 49 15.2	-2.4
IDHR				Sg	Sg	13 49 25.1	-1.2
IGHG	Ghaleghazi	0.89	117	Pg	Pb	13 49 20.8	-1.1
ILBA	Ilam Banvizeh	1.21	156	Pg	Pb	13 49 26.9	-0.5
SDS1	Sardasht. Az.	1.42	356	Pg	Pb	13 49 30.6	-0.4
IBDR	Badra	1.64	171	ePn	Pb	13 49 34.0	-0.7
IBDR				eSn	Sg	13 49 58.0	+0.1
IKOM	Komasi	1.67	109	Pg	Pb	13 49 35.1	-0.1
BHD	Baghdad	1.78	215	ePn	Pb	13 49 35.0	-2.1
BHD				eSn	Sb	13 49 59.0	-0.1
BHD				AML	AML	13 50 13.0	
	comp=E,422nm,0.5s						
MAHB	Mahabad	2.03	2	Pn	Pb	13 49 39.3	-2.1
IALM	Almabolaq	2.11	86	Pn	Pb	13 49 41.4	-1.4
HSAM	Samen	2.52	101	Pn	Pn	13 49 46.9	+1.6
IHSH	Hashtrud	2.90	27	Pn	Pn	13 49 52.2	+1.8
HAGD	Aghdareh	2.91	87	Pn	Pn	13 49 51.8	+1.3
RAFI	Al-Rafai	3.03	172	ePn	Pn	13 49 53.0	+1.0
RAFI				eSn	Sn	13 50 30.0	+2.2
RAFI				AML	AML	13 50 31.1	
	comp=N,117nm,0.3s						
RAFI				AML	AML	13 50 31.4	
	comp=E,137nm,0.5s						
ISHB	Shabestar	3.54	0	Pn	Pn	13 50 01.3	+2.0
IHRS	Heris	3.76	17	Pn	Pn	13 50 03.8	+1.6
GRMI	Germi	4.46	24	Pn	Pn	13 50 13.2	+1.4

*IDC **01** 13:56:24.9±1.3, 40°.06N×19°.63E, h0km, mb3.6/11, mbtmp3.6/14, ML3.4/3, MS3.6/2, Error ellipse: s-maj=21.4km s-min=16.8km az=43.0*

*PDG **01** 13:56:26.2±0.4, 39°.96N×19°.54E, h10km±1km, ML3.4/11, Error ellipse: s-maj=0.6km s-min=1.6km az=0.0*

*TIR **01** 13:56:26.8, 39°.97N×19°.73E, h5km±1km, Ml3.4*

*THE **01** 13:56:27.6, 39°.98N×19°.70E, h3km, ML3.4/15, Error ellipse: s-maj=1.1km s-min=0.6km az=74.0*

*ATH **01** 13:56:27.5, 39°.93N×19°.64E, h11km±5km, ML3.3/4, Error ellipse: s-maj=7.7km s-min=1.4km az=201.0*

*VIE **01** 13:56:45.5, 41°.47N×19°.59E, h64km, mb3.2/5, ML3.6/1 21 km NNE of Durres*

ISC 01 13:56:26.6±0.9**, 39°.95N**±0°.02×**19°.62E**±0°.02**, h11**km±6km**, n106, σ1s.55**/150**, mb3.5**/10**, 14C-12D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KEK	Kerkira	0.28	150	P	Pg	13 56 32.0	-0.3
KEK				S	Sg	13 56 37.0	+1.0
	9µm,0.3s						
KEK	Kerkira	0.28	150	P	Pg	13 56 31.7	-0.6
KEK				S	Sg	13 56 36.6	+0.5
KEK				AML	AML	13 56 38.6	
	comp=E,16366µm,0.4s						
KEK				AML	AML	13 56 39.8	
	comp=N,17638µm,0.3s						
SRN	Sarande	0.30	104	P	Pg	13 56 32.0	-0.7
	baz=111						
SRN				S	Sg	13 56 35.9	-0.8
	baz=111						
SRN				AMP			
	comp=E,32nm,0.1s,baz=111						
SRN	Sarande	0.30	104	P	Pg	13 56 32.1	-0.7
SRN				S	Sg	13 56 35.7	-1.1
	comp=E,11µm,0.1s						
KASA	Kassiopi	0.32	130	P	Pg	13 56 33.1	0.0
KASA				S	Sg	13 56 38.1	+0.8
KASA				AML	AML	13 56 40.3	
	comp=N,12975µm,0.3s						
KASA				AML	AML	13 56 43.1	
	comp=E,21488µm,0.3s						
VLO	Vlora	0.52	349	P	Pg	13 56 37.2	+0.3
	baz=341						
VLO				S	Sb	13 56 45.5	0.0
	baz=341						
VLO	Vlora	0.52	349	P	Pg	13 56 37.1	+0.2
VLO				S	Sg	13 56 44.8	+1.0
	comp=E,7µm,0.5s						
IGT	Igoumenitsa	0.69	127	P	Pg	13 56 39.8	-0.2
	baz=132						
IGT				S	Sg	13 56 48.9	-0.1
	baz=132						
IGT				AMP			
	comp=E,8.2nm,0.4s,baz=132						
IGT	Igoumenitsa	0.69	127	P	Pg	13 56 39.8	-0.2
IGT				S	Sg	13 56 49.0	-0.1
	comp=E,2µm,0.4s						
IGT	Igoumenitsa	0.69	127	P	Pg	13 56 39.7	-0.4
IGT				S	Sg	13 56 50.4	+1.3
IGT				AML	AML	13 56 56.7	
	comp=E,4128µm,0.5s						
IGT				AML	AML	13 57 00.3	
	comp=N,4568µm,0.4s						
LSK	Leskovik	0.78	75	P	Pg	13 56 40.7	-1.0
	baz=74						
LSK				S	Sg	13 56 51.2	-0.6
	baz=74						
LSK				AMP			
	comp=N,17nm,0.7s,baz=74						
LSK	Leskovik	0.78	75	P	Pg	13 56 40.7	-1.0
LSK				S	Sg	13 56 52.1	+0.3
	comp=N,4µm,0.8s						
SCTE	Santa Cesarea	0.89	278	P	Pb	13 56 45.2	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=278						
SCTE				S	Sn	13 57 00.8	+2.8
	baz=278						
SCTE	**Santa Cesarea**	**0.89**	**278**	P	**Pb**	**13 56 45.1**	**+1.0**
SCTE				S	**Sg**	**13 56 56.9**	**+1.4**
JAN	**Janina**	**0.99**	**107**	P	**Pg**	**13 56 45.5**	**-0.3**
JAN				S	**Sg**	**13 56 58.7**	**0.0**
	comp=N,2µm,0.5s						
JAN	**Janina**	**0.99**	**107**	P	**Pg**	**13 56 46.2**	**+0.4**
JAN				S	**Sb**	**13 56 59.6**	**+0.6**
JAN				AML	AML	13 57 06.6	
	comp=N,4664µm,0.4s						
JAN				AML	AML	13 57 07.5	
	comp=E,4330µm,0.5s						
KBN	**Korca**	**1.11**	**53**	P	**Pg**	**13 56 47.5**	**-0.7**
	baz=50						
KBN				S	**Sb**	**13 57 03.0**	**+0.4**
	baz=50						
KBN	**Korca**	**1.11**	**53**	P	**Pg**	**13 56 47.2**	**-0.9**
KBN				S	**Sb**	**13 57 02.9**	**+0.3**
	comp=E,1µm,0.9s						
NEST	**Nestorio**	**1.19**	**67**	P	**Pb**	**13 56 49.4**	**+0.2**
NEST				S	**Sb**	**13 57 05.0**	**+0.3**
	comp=E,1µm,0.7s						
NEST	**Nestorio**	**1.19**	**67**	P	**Pb**	**13 56 48.7**	**-0.6**
NEST				S	**Sb**	**13 57 04.9**	**+0.2**
PENT	**Pentalofos**	**1.19**	**78**	P	**Pb**	**13 56 48.7**	**-0.6**
PENT				S	**Sb**	**13 57 04.6**	**-0.1**
	comp=E,600nm,1.3s						
PENT	**Pentalofos**	**1.19**	**78**	P	**Pb**	**13 56 48.7**	**-0.6**
PENT				S	**Sb**	**13 57 04.9**	**+0.2**
KPRO	**Kipourio**	**1.34**	**89**	P	**Pn**	**13 56 51.9**	**+0.5**
KPRO				S	**Sb**	**13 57 09.3**	**+0.3**
	comp=E,2µm,0.5s						
KPRO	**Kipourio**	**1.34**	**89**	P	**Pn**	**13 56 51.7**	**+0.4**
KPRO				S	**Sb**	**13 57 09.0**	**0.0**
TSLK	**Tsoukalades, L**	**1.38**	**144**	P	**Pn**	**13 56 52.9**	**+1.0**
TSLK				S	**Sg**	**13 57 11.9**	**+0.8**
	comp=E,2µm,0.6s						
TIR	**Tirane**	**1.41**	**8**	P	**Pg**	**13 56 54.0**	**+0.3**
	baz=4.0						
TIR				S	**Sg**	**13 57 14.3**	**+2.4**
	baz=4.0						
TIR				AMP			
	comp=E,1.6nm,0.6s,baz=4.0						
TIR	**Tirane**	**1.41**	**8**	P	**Pn**	**13 56 52.7**	**+0.5**
TIR				S	**Sn**	**13 57 11.6**	**+0.9**
	comp=E,558nm,0.8s						
LKD2	**Lefkada island**	**1.41**	**145**	P	**Pn**	**13 56 53.7**	**+1.4**
	baz=148						
LKD2				S	**Sg**	**13 57 13.9**	**+1.7**
	baz=148						
LKD2	**Lefkada island**	**1.41**	**145**	P	**Pn**	**13 56 53.8**	**+1.4**
LKD2				S	**Sg**	**13 57 12.9**	**+0.8**
	comp=E,1µm,0.7s						
OHR	**Ohrid**	**1.46**	**37**	*i* Pn	**Pb**	**13 56 54.5**	**+0.6**
OHR				*i* Sn	**Sg**	**13 57 17.2**	**+3.4**
NYDR	**Nydri-Lefkada**	**1.49**	**146**	P	**Pn**	**13 56 54.5**	**+1.1**
NYDR				S	**Sb**	**13 57 15.2**	**+1.9**
	comp=E,858nm,0.6s						
EVGI	**Lefkada island**	**1.55**	**149**	P	**Pn**	**13 56 55.4**	**+1.1**
FNA	**Florina**	**1.58**	**58**	P	**Pn**	**13 56 55.2**	**+0.6**
	baz=56						
FNA				S	**Sg**	**13 57 18.2**	**+0.8**
	baz=56						
FNA				AMP			
	comp=E,2.6nm,0.6s,baz=56						
FNA	**Florina**	**1.58**	**58**	P	**Pn**	**13 56 55.2**	**+0.6**
FNA				S	**Sn**	**13 57 15.7**	**+0.6**
	comp=E,2µm,0.6s						
FSK	**Fiskardo**	**1.66**	**154**	P	**Pn**	**13 56 56.8**	**+1.1**
PHP	**Peshkopia**	**1.84**	**20**	P	**Pb**	**13 57 01.3**	**+1.0**
	baz=17						
PHP				S	**Sb**	**13 57 24.5**	**+1.1**
	baz=17						
ULC	**Ulcinj**	**2.03**	**352**	⇑*i*Pn	**Pn**	**13 57 00.8**	**0.0**
ULC				*i* Sn	**Sb**	**13 57 30.0**	**+1.2**
DRME	**Dracevica, Mon**	**2.25**	**352**	⇑*i*Pn	**Pn**	**13 57 04.0**	**+0.1**
DRME				*i* Sn	**Sb**	**13 57 35.4**	**+0.1**
DRME	**Dracevica, Mon**	**2.25**	**352**	*e*Pn	**Pn**	**13 57 03.8**	**-0.1**
MATE	**Matera**	**2.34**	**288**	⇓P	**Pb**	**13 57 08.5**	**-0.2**
TIP	**Timpagrande**	**2.34**	**252**	⇑P	**Pn**	**13 57 06.5**	**+1.4**
BUM	**Brajici-Budva**	**2.41**	**347**	⇑*i*Pn	**Pn**	**13 57 06.2**	**+0.1**
BUM				*i* Sn	**Sb**	**13 57 38.7**	**-1.1**
SKO	**Skopje**	**2.44**	**34**	*i* Pn	**Pg**	**13 57 12.9**	**-0.6**
VAY	**Valandovo**	**2.63**	**58**	*i* Pn	**Pn**	**13 57 09.9**	**+0.9**
HCY	**Herceg Novi**	**2.63**	**342**	⇓*i*Pn	**Pn**	**13 57 08.6**	**-0.5**
HCY				*i* Sn	**Sb**	**13 57 44.2**	**-2.0**
HCY	**Herceg Novi**	**2.63**	**342**	*e*Pn	**Pn**	**13 57 08.1**	**-1.0**
CEME	**Cevo**	**2.65**	**349**	⇑*i*Pn	**Pn**	**13 57 08.8**	**-0.5**
CEME				*i* Sn	**Sb**	**13 57 44.8**	**-1.8**
PVY	**Plav**	**2.65**	**5**	⇑*i*Pn	**Pn**	**13 57 10.6**	**+1.1**
PVY				*i* Sn	**Sb**	**13 57 45.0**	**-1.8**
NKME	**Niksic**	**2.86**	**350**	⇓*i*Pn	**Pn**	**13 57 12.3**	**+0.1**
NKME				*i* Sn	**Sn**	**13 57 49.3**	**+2.7**
KOME	**Kolasin**	**2.90**	**358**	⇓*i*Pn	**Pn**	**13 57 13.4**	**+0.6**
KOME				*i* Sn	**Sb**	**13 57 51.5**	**-2.3**
TREB	**Trebinje**	**2.92**	**341**	*e*Pn	**Pn**	**13 57 12.1**	**-1.0**
IVA	**Berane**	**2.92**	**4**	⇓*i*Pn	**Pn**	**13 57 14.0**	**+0.8**
IVA				*i* Sn	**Sb**	**13 57 52.2**	**-2.4**
BRY	**Bratogost**	**3.06**	**345**	⇑*i*Pn	**Pn**	**13 57 15.4**	**+0.4**
BRY				*i* Sn	**Sn**	**13 57 54.2**	**+2.5**
BRY	**Bratogost**	**3.06**	**345**	*e*Pn	**Pn**	**13 57 13.1**	**-1.9**
STON	**Ston**	**3.25**	**334**	*e*Pn	**Pn**	**13 57 16.7**	**-0.9**
SJES	**Sjenica**	**3.32**	**4**	*e*Pn	**Pn**	**13 57 18.2**	**-0.4**
PLE	**Pljevlja**	**3.38**	**357**	⇑*i*Pn	**Pn**	**13 57 20.5**	**+1.1**
PLE				*i* Sn	**Sn**	**13 58 03.2**	**+3.6**
NEVS	**Nevesinje**	**3.53**	**342**	*e*Pn	**Pn**	**13 57 22.3**	**+0.8**
RUDO	**Rudo**	**3.67**	**357**	*e*Pn	**Pn**	**13 57 24.6**	**+1.3**
BBLS	**Lazići**	**3.91**	**358**	*e*Pn	**Pn**	**13 57 30.1**	**+3.3**
BOVS	**Bovan**	**4.00**	**22**	⇑P	**Pn**	**13 57 31.2**	**+3.4**
HAPS	**Han Pijesak,Bl**	**4.16**	**353**	*e*Pn	**Pn**	**13 57 34.7**	**+4.5**
BLKB	**Belogradchik**	**4.32**	**31**	⇑P	**Pn**	**13 57 35.1**	**+2.8**
TEKS	**Tekeris**	**4.59**	**359**	*e*Pn	Pn	13 57 27.6	-8.5
MGRS	**Mrkonjic Grad**	**4.84**	**338**	*e*Pn	**Pn**	**13 57 40.2**	**+0.7**
MDVR	**Moldovita**	**5.07**	**17**	⇓P	**Pn**	**13 57 46.0**	**+3.4**
A050A	**Klekovaca**	**5.07**	**334**	*e*Pn	**Pn**	**13 57 43.5**	**+0.8**
PLVB	**Pleven**	**5.08**	**46**	⇓P	**Pn**	**13 57 47.3**	**+4.6**
BLY	**Banja Luka**	**5.12**	**340**	*e*Pn	**Pn**	**13 57 44.0**	**+0.7**
FRGS	**Fruska Gora**	**5.20**	**1**	*e*Pn	**Pn**	**13 57 42.7**	**-1.7**
HERR	**Herculane**	**5.34**	**22**	⇓P	**Pn**	**13 57 50.7**	**+4.4**
A051A	**Mrakovica**	**5.44**	**339**	*e*Pn	**Pn**	**13 57 47.3**	**-0.4**
ELND	**Elena**	**5.56**	**56**	⇑P	**Pn**	**13 57 51.3**	**+1.9**
BZS	**Buzias**	**5.85**	**14**	⇓P	**Pn**	**13 57 57.0**	**+3.7**
GZR	**Gura Zlata**	**5.91**	**22**	⇑P	**Pn**	**13 57 58.0**	**+3.8**
VOIR		**6.78**	**34**	⇑P	**Pn**	**13 58 08.7**	**+2.5**
MLR	**Muntele Rosu**	**7.23**	**38**	⇓P	**Pn**	**13 58 14.8**	**+2.4**
MLR	**Muntele Rosu**	**7.23**	**38**	Pn	**Pn**	**13 58 12.5**	**+0.2**
	comp=E,0.2nm,0.3s,baz=243,slow=14,SNR=2.3						
	comp=E,0.6nm,0.4s						
NEHR	**Nehoiu**	**7.35**	**40**	⇓P	**Pn**	**13 58 17.6**	**+3.7**
OBKA	**Obir**	**7.53**	**332**	*e*Pn	**Pn**	**13 58 15.7**	**-0.7**
OBKA	**Obir**	**7.53**	**332**	*e*Pn	**Pn**	**13 58 16.4**	**0.0**
PLOR	**Plostina**	**7.83**	**39**	⇓P	**Pn**	**13 58 24.2**	**+3.7**
VRI	**Vrincioaia**	**7.88**	**39**	⇑P	**Pn**	**13 58 24.2**	**+3.1**
VYHS	**Vyhne**	**8.56**	**356**	*e*PN	**Pn**	**13 58 29.9**	**-0.5**
MOA	**Molln**	**8.79**	**336**	*i* Pn	**Pn**	**13 58 34.2**	**+0.7**
	comp=E,1.5nm,0.2s,SNR=5.2						
BIOA	**Bad Ischl, Aus**	**8.86**	**333**	*e*Pn	**Pn**	**13 58 34.7**	**+0.2**
	comp=E,2.8nm,0.3s						
LESA	**Schwarzleotal**	**9.00**	**328**	*i* Pn	**Pn**	**13 58 36.4**	**-0.2**
	comp=E,1.6nm,0.4s						
WTTA	**Wattenberg**	**9.32**	**324**	*e*Pn	**Pn**	**13 58 41.1**	**+0.1**
	comp=E,1.3nm,0.3s						
WATA	**Walderalm**	**9.40**	**324**	*i* Pn	**Pn**	**13 58 42.5**	**+0.4**
	comp=E,4.0nm,0.5s,SNR=5.3						
SQTA	**Sankt Quirin**	**9.48**	**323**	*e*Pn	**Pn**	**13 58 44.5**	**+1.3**
	comp=E,1.4nm,0.4s						
MOTA	**Moosalm**	**9.62**	**323**	*i* Pn	**Pn**	**13 58 45.4**	**+0.3**
	comp=E,7.6nm,0.6s,SNR=5.2						
DAVOX	**Davos/Dischmat**	**9.84**	**317**	Pn	**Pn**	**13 58 46.9**	**-1.3**
	comp=E,0.2nm,0.3s,baz=143,slow=20,SNR=1.7						
DAVOX				Sn	**Sn**	**14 00 37.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=347,slow=22,SNR=1.3						
	comp=E,0.9nm,0.5s						
GERES	**GERESS Array B**	**9.84**	**337**	Pn	**Pn**	**13 58 46.5**	**-1.6**
	comp=E,0.3nm,0.3s,baz=158,slow=13,SNR=6.7						
GERES				Sn	**Sn**	**14 00 37.7**	**-1.0**
	comp=E,0.2nm,0.3s,baz=149,slow=26,SNR=1.5						
	comp=E,0.8nm,0.4s						
HFS	**Hagfors**	**20.54**	**352**	P	**P**	**14 01 02.7**	**-2.2**
	comp=E,2.2nm,0.8s,baz=155,slow=10,SNR=5.7						
	comp=E,2.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**21.58**	**323**	P	**P**	**14 01 16.3**	**+0.2**
	comp=E,1.0nm,0.6s,baz=124,slow=8.7,SNR=3.5						
	comp=E,1.0nm,0.6s						
NOA	**NORSAR Array B**	**21.74**	**349**	P	**P**	**14 01 15.6**	**-2.2**
	comp=E,1.5nm,0.8s,baz=164,slow=10,SNR=6.5						
	comp=E,1.5nm,0.8s						
FINES	**FINESS Array B**	**21.88**	**8**	P	**P**	**14 01 16.9**	**-2.4**
	comp=E,2.1nm,0.8s,baz=202,slow=10,SNR=1.3						
	comp=E,2.1nm,0.8s						
BELG	**Belogornoye**	**22.87**	**48**	P	**P**	**14 01 29.7**	**-0.2**
	comp=E,3.3nm,0.8s,baz=236,slow=15,SNR=2.0						
	comp=E,3.3nm,0.8s						
ARCES	**ARCESS Array B**	**29.81**	**4**	P	**P**	**14 02 31.4**	**-1.8**
	comp=E,5.5nm,1.1s,baz=184,slow=11,SNR=1.9						
	comp=E,5.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**31.02**	**216**	P	**P**	**14 02 45.1**	**+0.7**
	comp=E,0.5nm,0.8s,baz=13,slow=11,SNR=2.9						
	comp=E,0.5nm,0.8s						
BVAR	**Borovoye Array**	**36.54**	**52**	LR	LR	14 19 21.1	
	comp=E,88nm,21.3s,baz=98,slow=38						
MKAR	**Makanchi Array**	**44.99**	**60**	P	**P**	**14 04 41.2**	**-0.7**
	comp=E,0.7nm,0.5s,baz=285,slow=8.0,SNR=5.2						
	comp=E,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**45.05**	**49**	P	**P**	**14 04 42.1**	**-0.1**
	comp=E,0.8nm,0.5s,baz=287,slow=5.9,SNR=2.6						
	comp=E,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**71.48**	**339**	P	**P**	**14 07 47.1**	**+0.2**
	comp=E,0.2nm,0.7s,baz=31,slow=5.0,SNR=3.9						
	comp=E,0.2nm,0.7s						
ULM	**Lac du Bonnet**	**73.86**	**323**	LR	LR	14 41 34.1	
	comp=E,48nm,18.8s,baz=34,slow=37						
ILAR	**Eielson Array**	**75.08**	**354**	P	**P**	**14 08 07.7**	**-0.4**
	comp=E,0.2nm,0.7s,baz=7.7,slow=7.4,SNR=4.4						
	comp=E,0.2nm,0.7s						

NNC 01 13:58:50.8±3.1**,37°.31N×79°.45E,h0km,mb3.7,mpv3.4, 7C-4D,Error ellipse: s-maj=22.8km s-min=21.7km az=4.0,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**6.03**	**342**	Pg	Pg	14 00 43.1	-3.3
	6.3nm,0.4s						
TNSS				Lg	Lg	14 02 06.3	
	3.3nm,0.3s						
MDOK	**Medeo**	**6.13**	**343**	⇓Pg	Pg	14 00 43.6	-4.6
	3.3nm,0.5s						
MDOK				Pg	Pb	14 00 43.7	+5.2
	4.9nm,0.8s						
MDOK				⇑Lg	Lg	14 02 04.8	
	8.1nm,0.6s						
MDOK				Lg	Lg	14 02 07.8	
	9.6nm,0.6s						
KOTS	**Kotyrbulak**	**6.18**	**344**	Pg	Pg	14 00 45.7	-3.5
	3.3nm,0.3s						
KOTS				Lg	Lg	14 02 10.9	
	20nm,0.9s						
TKM2	**Tokmak 2**	**6.33**	**333**	⇓Pg	Pb	14 00 44.9	+2.9
	1.0nm,0.5s						
TKM2				⇓Lg	Lg	14 02 11.0	
	2.8nm,0.5s						
AML	**Almayashu**	**6.54**	**319**	⇑Pn	Pn	14 00 27.8	-0.9
	0.1nm,0.7s						
AML				⇑Pg	Pb	14 00 47.3	+1.6
	0.4nm,0.7s						
AML				⇑Lg	Lg	14 02 15.4	
	1.1nm,0.7s						
DGS	**Degeres**	**6.56**	**336**	Pg	Pg	14 00 51.9	-4.5
	2.6nm,0.3s						
DGS				Lg	Lg	14 02 21.8	
	3.8nm,0.5s						
KTBS	**Karatobe**	**6.73**	**343**	Pg	Pg	14 00 54.7	-5.0
	2.0nm,0.4s						
KTBS				Lg	Lg	14 02 26.9	
	7.3nm,0.4s						
KUU	**Kurty**	**6.99**	**341**	Pg	Pb	14 00 58.4	+5.3
	1.3nm,0.3s						
KUU				Lg	Lg	14 02 32.8	
	4.7nm,0.7s						
MAKZ	**Makanchi**	**9.68**	**10**	⇑Pn	Pn	14 01 10.8	-0.4
	2.2nm,0.9s						
MAKZ				⇑Sn	Sn	14 02 59.0	-1.7
	2.5nm,0.9s						
MK31	**Makanchi Array**	**9.71**	**12**	⇑Pn	Pn	14 01 13.8	+2.1
	0.1nm,0.2s,baz=202,slow=14,SNR=4.3						
MK31				⇓Sn	Sn	14 03 00.8	-0.7
	0.4nm,0.3s,baz=204,slow=25,SNR=6.8						

*NIED **01** 14:10:25.7,38°.31N×141°.90E,h45km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr3.89; Mθθ-0.00; Mφφ-3.89; Mrθ1.67; Mθφ-0.72; Mφr4.04; Fault plane solution: M0 5.90000×10^{14} NP1:φs19.00000°, δ69.00000°,λ97.00000°. NP2:φs181.00000°,δ22.00000°, λ73.00000°.*

*IDC **01** 14:10:25.9±2.2,38°.31N×141°.92E,h52km±19km,mb3.6/18, mbtmp3.8/22,ML3.3/4,MS3.2/5 Error ellipse: s-maj=18.3km s-min=12.2km az=106.0*

*JMA **01** 14:10:25.7±0.1,38°.3N±0°.3×141°.9E±0°.7,h45km,MD3.8/40, MV4.2/40,E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

*NEIC **01** 14:10:26.2±1.3,38°.28N±0°.05×141°.90E±0°.09,h51km±7km, mb4.3/20,Error ellipse: s-maj=10.3km s-min=7.5km az=94.0*

ISC 01 14:10:25.3±1.2**,38°.28N**±0°.05×**141°.92E**±0°.08**,h46**km±9km**, n87,**σ**0s.83**/89**,mb4.0**/28**,MS3.7**/3**,18D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.35**	**275**	⇓*i*P	**Pn**	**14 10 34.8**	**+0.2**
JIKH				⇓S	**Sn**	**14 10 41.0**	**-0.1**
JIO	**Ouri**	**0.48**	**291**	⇓*i*P	**Pn**	**14 10 36.1**	**+0.2**
JIO				⇓S	**Sn**	**14 10 43.4**	**-0.2**
JKMT	**Kesennumamotoy**	**0.63**	**327**	⇓*i*P	**Pn**	**14 10 38.0**	**+0.1**
JKMT				⇓S	**Sn**	**14 10 46.5**	**-0.5**
JKMT	**Kesennumamotoy**	**0.63**	**327**	A	A	14 10 38.0	
	comp=E,9.0nm,0.9s,comp=N,5.0nm,0.8s						
OFUJ	**Ofunato**	**0.82**	**346**	⇓*i*P	**Pn**	**14 10 40.3**	**-0.1**
OFUJ				⇓S	**Sn**	**14 10 50.7**	**-0.8**
JMK	**Ichinoseki**	**0.86**	**321**	⇓*i*P	**Pn**	**14 10 41.3**	**+0.3**
JMK				⇓S	**Sn**	**14 10 52.3**	**-0.2**
JMK	**Ichinoseki**	**0.86**	**321**	A	A	14 10 41.3	
	comp=E,5.0nm,0.2s,comp=N,7.0nm,0.2s						
JMM	**Marumori**	**0.98**	**245**		**Pn**	**14 10 42.3**	**-0.3**
JMM	**Marumori**	**0.98**	**245**	⇓*i*P	**Pn**	**14 10 42.5**	**-0.1**
JMM				⇓*e*S	**Sn**	**14 10 54.8**	**-0.6**
JMST	**Minamisoumatoc**	**0.98**	**236**	A	A	14 10 43.5	
	comp=E,7.0nm,0.3s,comp=N,10.0nm,0.3s						
JOU	**Okura**	**0.99**	**275**	⇓*i*P	**Pn**	**14 10 43.3**	**+0.5**
JOU				⇓S	**Sn**	**14 10 56.1**	**+0.5**
JOU	**Okura**	**0.99**	**275**	A	A	14 10 43.3	
	comp=E,6.0nm,0.3s,comp=N,5.0nm,0.3s						
JFK	**Kawauchi**	**1.23**	**222**	*i* P	**Pn**	**14 10 46.1**	**0.0**
JFK				S	**Sn**	**14 11 00.9**	**-0.7**
JOM	**Ohasama**	**1.28**	**338**	⇓*i*P	**Pn**	**14 10 47.1**	**+0.4**
JOM				⇓*e*S	**Sn**	**14 11 03.8**	**+1.0**
JYK	**Kaneyama**	**1.37**	**298**	⇓*i*P	**Pn**	**14 10 48.5**	**+0.5**
JOTO	**OTAMA OYAMA**	**1.45**	**240**	*i* P	**Pn**	**14 10 49.6**	**+0.6**
JYS	**Shiratake**	**1.46**	**268**	P	**Pn**	**14 10 49.9**	**+0.8**
JRG	**Rokugo**	**1.50**	**318**	⇓*i*P	**Pn**	**14 10 50.3**	**+0.6**
JTM	**Tenmabayashi**	**2.58**	**346**		**Pn**	**14 11 05.3**	**+0.8**
MJAR	**Matsushiro Arr**	**3.42**	**241**	P	**Pn**	**14 11 17.1**	**+0.9**
	comp=N,0.4nm,0.3s,baz=37,slow=13,SNR=29						
MJAR				S	**Sn**	**14 11 56.8**	**+1.3**
	comp=N,6.3nm,0.6s,baz=186,slow=20,SNR=6.1						
MJAR				LR	LR	14 12 41.2	
	comp=N,75nm,20.9s,baz=90,slow=39						
	comp=N,4.2nm,0.4s						
MAJO	**Matsushiro**	**3.43**	**241**		**Pn**	**14 11 18.1**	**+2.0**
MJB9	**Matsu-Tunnel**	**3.43**	**241**		**Pn**	**14 11 18.8**	**+2.6**
ERM	**Erimo**	**3.85**	**14**	Pn	**Pn**	**14 11 22.0**	**+0.1**
JHJ2	**Mitsune**	**5.44**	**199**	Pn	**Pn**	**14 11 42.2**	**-1.5**
JHJ	**Hachijo jima 2**	**5.44**	**199**	P	**Pn**	**14 11 45.0**	**+1.2**
	comp=N,329nm,0.4s,baz=106,slow=22,SNR=3.8						
JHJ				S	**Sn**	**14 12 43.0**	**-2.0**
	comp=N,207nm,0.7s,baz=90,slow=20,SNR=1.4						
ASAJ	**Asahikawa**	**5.85**	**5**	P	**Pn**	**14 11 49.0**	**-0.4**
	comp=N,1.8nm,0.3s,baz=212,slow=13,SNR=28						
ASAJ				S	**Sn**	**14 12 53.8**	**-1.3**
	comp=N,4.6nm,0.4s,baz=270,slow=20,SNR=1.5						
	comp=N,4.8nm,0.3s						
JKA	**Kamikawa-asahi**	**5.85**	**5**	Pn	**Pn**	**14 11 49.5**	**+0.1**
JMN	**Monobe**	**7.94**	**238**	Pn	**Pn**	**14 12 18.2**	**0.0**
USA0B	**Ussuriysk Arra**	**9.53**	**311**	Pn	**Pn**	**14 12 40.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.53**	**311**	Pn	**Pn**	**14 12 40.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.53**	**311**	P	**Pn**	**14 12 39.4**	**-0.3**
	comp=N,0.6nm,0.3s,baz=121,slow=14,SNR=14						
	comp=N,0.9nm,0.3s						
KSRS	**Korea Array**	**11.09**	**270**	P	**Pn**	**14 13 02.0**	**+0.8**
	comp=N,0.2nm,0.3s,baz=65,slow=13,SNR=1.5						
KSRS				LR	LR	14 16 47.2	
	comp=N,25nm,21.2s,baz=65,slow=34						
	comp=N,0.3nm,0.2s						
KSAR	**Wonju Array Be**	**11.13**	**270**	Pn	**Pn**	**14 13 03.0**	**+1.4**
KS19	**Wonju Array Si**	**11.13**	**270**	Pn	**Pn**	**14 13 03.5**	**+1.7**
SEY	**Seymchan**	**25.49**	**11**	P	**P**	**14 15 49.4**	**+0.6**
	comp=N,0.7nm,0.6s,baz=163,slow=20,SNR=2.0						
	comp=N,0.7nm,0.6s						
SONM	**Songino Array**	**27.44**	**302**	P	**P**	**14 16 07.2**	**+0.4**
	comp=N,0.5nm,0.7s,baz=111,slow=7.9,SNR=2.7						
	comp=N,0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	14 46 29.7	
	baz=316,slow=75,SNR=465						
H11N1	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	14 46 30.4	
	baz=316,slow=75,SNR=685						
H11N3	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	14 46 31.1	
	baz=316,slow=75,SNR=188						
H11S1	**WAKE ISLAND Hy**	**29.23**	**125**	T	T	14 47 28.0	
	baz=318,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**29.23**	**125**	T	T	14 47 30.5	
	baz=318,slow=76,SNR=130						
H11S2	**WAKE ISLAND Hy**	**29.25**	**125**	T	T	14 47 31.6	
	baz=318,slow=76,SNR=77						
CRAI	**Chiangrai**	**40.07**	**255**	P	**P**	**14 17 54.6**	**-1.7**
CRAI				IAmb	IAmb	14 18 31.2	
	comp=Z,3.5nm,1.3s						
L14K	**Kuka Creek**	**40.89**	**37**	P	**P**	**14 18 04.0**	**+1.5**
L14K				IAmb	IAmb	14 18 29.4	
	comp=Z,13nm,1.2s						
ZAA0	**Zalesovo Array**	**41.38**	**311**	P	**P**	**14 18 06.8**	**+0.2**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**14 18 06.7**	**+0.1**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**14 18 06.5**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=88,slow=7.7,SNR=13						
ZALV				PcP	**PcP**	**14 20 02.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=85,slow=4.8,SNR=2.9						
	comp=Z,2.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.21**	**254**	P	**P**	**14 18 13.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=40,slow=7.1,SNR=2.1						
	comp=Z,0.3nm,0.6s						
NRIK	**Noril'sk**	**42.30**	**335**	P	**P**	**14 18 13.6**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=117,slow=6.8,SNR=1.6						
	comp=Z,0.7nm,0.3s						
MK31	**Makanchi Array**	**43.80**	**301**	P	**P**	**14 18 26.2**	**-0.3**
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**14 18 26.0**	**-0.5**
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**14 18 26.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=78,slow=10,SNR=11						
	comp=Z,0.9nm,0.6s						
D19K	**Kuna River**	**44.05**	**27**	P	**P**	**14 18 29.1**	**+1.0**
D19K				IAmb	IAmb	14 18 46.9	
	comp=Z,7.6nm,1.5s						
J19K	**Poorman**	**44.42**	**34**	P	**P**	**14 18 31.4**	**+0.2**
J19K				IAmb	IAmb	14 18 53.3	
	comp=Z,3.2nm,1.2s						
B20K	**Meade River**	**44.69**	**25**	P	**P**	**14 18 34.3**	**+1.1**
B20K				IAmb	IAmb	14 19 00.5	
	comp=Z,7.1nm,1.3s						
KURK	**Kurchatov**	**45.48**	**307**	P	**P**	**14 18 39.6**	**-0.2**
KURK				IAmb	IAmb	14 18 40.7	
	comp=Z,5.6nm,0.9s						
B21K	**Ikpikpuk River**	**45.49**	**26**	P	**P**	**14 18 41.1**	**+1.6**
B21K				IAmb	IAmb	14 19 20.9	
	comp=Z,2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**45.56**	**307**	P	**P**	**14 18 40.2**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=83,slow=8.3,SNR=26						
	comp=Z,2.5nm,0.5s						
C23K	**Itkillik River**	**46.90**	**26**	P	**P**	**14 18 51.9**	**+1.3**
ILAR	**Eielson Array**	**48.23**	**33**	P	**P**	**14 19 00.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=270,slow=6.4,SNR=5.5						
	comp=Z,0.2nm,0.6s						
KAIM	**Kayak Island**	**49.87**	**39**	P	**P**	**14 19 12.9**	**-0.7**
BVAR	**Borovoye Array**	**50.03**	**312**	P	**P**	**14 19 15.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=79,slow=9.6,SNR=5.8						
BVAR				PcP	**PcP**	**14 20 34.1**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=90,slow=3.0,SNR=3.8						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**57.45**	**310**	P	**P**	**14 20 07.0**	**-2.1**
WB0	**Warramunga Arr**	**58.17**	**188**	P	**P**	**14 20 14.4**	**-0.1**
WB0				IAmb	IAmb	14 20 25.5	
	comp=Z,3.2nm,1.1s						
WR0	**Warramunga Arr**	**58.35**	**188**	P	**P**	**14 20 15.6**	**-0.1**
WR0				IAmb	IAmb	14 20 35.1	
	comp=Z,8.7nm,1.4s						
WB2	**Warramunga Arr**	**58.35**	**188**	P	**P**	**14 20 15.6**	**-0.1**
WB2				IAmb	IAmb	14 20 52.7	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**58.35**	**188**	P	**P**	**14 20 15.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=5.2,slow=7.0,SNR=16						
	comp=Z,0.8nm,0.5s						
RES	**Resolute Bay**	**61.29**	**15**	P	**P**	**14 20 35.3**	**-0.1**
ASAR	**Alice Springs**	**62.08**	**188**	P	**P**	**14 20 40.4**	**-0.8**
ASAR	**Alice Springs**	**62.08**	**188**	P	**P**	**14 20 41.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=350,slow=4.1,SNR=15						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**62.97**	**339**	P	**P**	**14 20 46.1**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=51,slow=9.7,SNR=5.2						
ARCES				LR	LR	14 52 38.0	
	comp=Z,35nm,18.1s,baz=126,slow=40						
	comp=Z,3.7nm,0.9s						
PGC	**Sidney**	**65.19**	**47**	P	**P**	**14 21 01.2**	**-0.3**
FIA1	**FINESS Array S**	**67.89**	**332**	P	**P**	**14 21 18.8**	**+0.2**
FINES	**FINESS Array B**	**67.90**	**332**	P	**P**	**14 21 18.9**	**+0.3**
FINES	**FINESS Array B**	**67.90**	**332**	P	**P**	**14 21 18.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=46,slow=8.8,SNR=8.4						
	comp=Z,1.4nm,0.6s						
SUMG	**Summit**	**69.44**	**0**	P	**P**	**14 21 29.3**	**+0.8**
WSAR	**Wadi Sarin**	**70.93**	**285**	LR	LR	14 56 27.9	
	comp=Z,46nm,19.8s,baz=234,slow=39						
MORW	**Morawa**	**71.24**	**204**	P	**P**	**14 21 39.7**	**+0.2**
HFS	**Hagfors**	**73.11**	**336**	P	**P**	**14 21 50.7**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=68,slow=8.5,SNR=8.3						
	comp=Z,1.2nm,0.5s						
NB201	**NORSAR Array S**	**73.16**	**337**	P	**P**	**14 21 51.0**	**+0.3**
NB2	**NORSAR Subarra**	**73.19**	**337**	P	**P**	**14 21 51.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.19**	**337**	P	**P**	**14 21 50.2**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=9.8,slow=2.5,SNR=3.9						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**73.55**	**322**	P	**P**	**14 21 52.7**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=44,slow=6.0,SNR=6.5						
	comp=Z,0.9nm,0.4s						
PDAR	**Pinedale Array**	**76.51**	**46**	P	**P**	**14 22 11.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=317,slow=1.2,SNR=5.2						
	comp=Z,0.3nm,0.6s						
BURAR	**Bucovina Array**	**77.58**	**322**	P	**P**	**14 22 16.6**	**+0.2**
BRTR	**Keskin Array B**	**78.32**	**312**	P	**P**	**14 22 21.3**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=203,slow=34,SNR=1.5						
	comp=Z,0.5nm,0.8s						
URZ	**Urewera**	**82.77**	**153**	LR	LR	14 55 56.1	
	comp=Z,32nm,20.8s,baz=156,slow=33						

KRSC 01 14:13:42.9±1.8**,54°.57N×167°.97E,h29**km±23km**,Ml3.6, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.32**	**300**	*e*P	Pb	14 14 06.5	-0.5
BKI				*e*S	Sb	14 14 24.1	+0.6
KBTR	**Krutoberegovo**	**3.37**	**301**	*e*P	Pn	14 14 35.6	+2.1
KBTR				*e*S	Sn	14 15 14.6	+2.2
TUMD	**Tumrok D**	**4.42**	**281**	*e*P	Pn	14 14 52.4	+4.5
TUMD				*e*S	Sn	14 15 43.5	+5.1
TUMR	**Tumrok**	**4.57**	**282**	*e*P	Pn	14 14 54.9	+4.8
KMNR	**Kamenistaya**	**4.59**	**288**	*e*P	Pn	14 14 56.0	+5.5
KMNR				*e*S	Sn	14 15 49.3	+6.5
KII	**Karymskiy**	**5.02**	**267**	*e*P	Pn	14 15 01.3	+5.0
SMAR	**Somma**	**5.58**	**260**	*e*P	Pn	14 15 08.3	+4.3
UGLR	**Uglovaya**	**5.58**	**260**	*e*P	Pn	14 15 08.3	+4.3
AVH	**Avacha**	**5.61**	**260**	*e*P	Pn	14 15 09.0	+4.6
KRX	**Arik**	**5.64**	**261**	*e*P	Pn	14 15 09.2	+4.4
KOK	**Koryaka**	**5.66**	**261**	*e*P	Pn	14 15 10.0	+4.9
KRMR	**Karymshinskiy**	**6.10**	**257**	*e*P	Pn	14 15 15.7	+4.7
KRMR				*e*S	Sn	14 16 24.5	+4.7
GRL	**Gorelyy**	**6.24**	**255**	*e*P	Pn	14 15 18.2	+5.2
ASAK	**Asacha**	**6.40**	**254**	*e*P	Pn	14 15 19.8	+4.6

*IDC **01** 14:46:58.1±1.3,30°.86S×177°.85W,h0km,mb4.0/5, mbtmp4.0/5,MS3.1/4,Error ellipse: s-maj=33.3km s-min=24.1km az=82.0*

*NEIC **01** 14:47:03.6±1.5, 30°.72S±0°.04×177°.8W±0°.2, h35km±2km, mb4.4/8, Error ellipse: s-maj=34.3km s-min=6.0km az=82.0*

ISC 01 14:47:05.1±1.2, **31°.2S**±0°.1×**178°.1W**±0°.2, **h35**km, **n25**, σ**1^{s}39**/22, **mb4.1**/10, **MS2.9**/3, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.94	5	Pn	Pn	14 47 28.0	-7.6
	178nm,0.3s,baz=8.2,slow=20,SNR=27						
RAO				LR	LR	14 47 44.2	
	comp=Z,86nm,18.5s,baz=135,slow=29						
RAO				Sn	Sn	14 47 46.0	-13
	467nm,0.3s,baz=60,slow=22,SNR=17						
MXZ	Matakaoa Point	7.01	204		Pn	14 48 43.0	-2.1
URZ	Urewera	8.07	208	Pn	Pn	14 48 58.2	-1.5
	0.4nm,0.3s,baz=30,slow=20,SNR=2.6						
URZ				Sn	Sn	14 50 30.4	+0.7
	3.0nm,0.3s,baz=157,slow=18,SNR=6.6						
RTZ	Ruatahuna	8.43	207		Pn	14 49 02.8	-1.9
GVZ	Greta Valley S	13.70	208	Pn	Pn	14 50 16.1	-0.6
RPZ	Rata Peaks	15.15	211	Pn	Pn	14 50 34.8	-1.6
	0.2nm,0.3s,baz=45,slow=16,SNR=1.4						
RPZ				Sn	Sn	14 53 11.7	-11
	0.6nm,0.3s,baz=53,slow=23,SNR=5.7						
DZM	Mont Dzumac	16.51	300	LR	LR	14 55 54.8	
	comp=Z,109nm,19.5s,baz=121,slow=32						
CTA	Charters Tower	33.84	280	LR	LR	15 05 37.3	
	comp=Z,26nm,20.9s,baz=82,slow=33						
CTAO	Charters Tower	33.84	280	P	P	14 53 44.5	+0.2
STKA	Stephens Creek	34.21	258	P	P	14 53 49.0	+1.7
STKA	Stephens Creek	34.21	258	P	P	14 53 48.6	+1.2
	1.8nm,0.6s,baz=96,slow=11,SNR=3.8						
STKA				LR	LR	15 05 12.5	
	comp=Z,20nm,21.2s,baz=116,slow=32						
	1.8nm,0.6s						
PMG	Port Moresby	38.86	296	LR	LR	15 09 28.9	
	comp=Z,30nm,18.4s,baz=124,slow=35						
ASAR	Alice Springs	42.97	268	P	P	14 55 00.5	-0.6
ASAR	Alice Springs	42.97	268	P	P	14 55 00.8	-0.3
	1.9nm,0.7s,baz=105,slow=7.5,SNR=26						
	1.9nm,0.7s						
WR0	Warramunga Arr	43.85	273	P	P	14 55 08.2	0.0
WR0				IAmb	IAmb	14 55 12.2	
	comp=Z,10nm,1.5s						
WB2	Warramunga Arr	44.02	273	P	P	14 55 09.1	-0.5
WB2				IAmb	IAmb	14 55 15.0	
	comp=Z,6.5nm,1.1s						
WRAB	Tennant Creek	44.03	273	P	P	14 55 09.1	-0.4
WRAB				IAmb	IAmb	14 55 19.2	
	comp=Z,7.6nm,1.3s						
WRA	Warramunga Arr	44.03	273	P	P	14 55 09.1	-0.5
	comp=Z,1.3nm,0.6s,baz=111,slow=8.0,SNR=13						
	comp=Z,1.3nm,0.6s						
WB0	Warramunga Arr	44.06	273	P	P	14 55 09.3	-0.6
WB0				IAmb	IAmb	14 55 19.9	
	comp=Z,8.1nm,1.2s						
QSPA	South Pole Qui	58.92	180	P	P	14 57 03.0	+2.5
QSPA	South Pole Qui	58.92	180	P	P	14 57 02.2	+1.7
	comp=Z,1.0nm,0.7s,baz=62,slow=1.8,SNR=2.6						
	comp=Z,1.0nm,0.7s						
BELA	Belgrano 2	69.01	172	P	P	14 58 07.2	+0.7
BELA				IAmb	IAmb	14 58 08.2	
	comp=Z,1.3nm,0.8s						
SNAA	Sanae	77.37	178	P	P	14 58 54.7	-1.2
	comp=Z,1.1nm,0.7s,baz=194,slow=12,SNR=1.4						
	comp=Z,1.1nm,0.7s						
FINES	FINESS Array B	145.85	339	PKPbc	PKPdf	15 06 36.8	-2.5
	comp=Z,1.3nm,0.8s,baz=42,slow=4.3,SNR=4.8						
TORD	Torodi Ar. Bea	162.04	179	PKPab	PKPab	15 07 49.9	+0.5
	comp=Z,0.4nm,0.6s,baz=192,slow=3.5,SNR=3.2						

NOU 01 14:59:03.7, 16°.24S×168°.26E, h20km, MLv3.6/5, Vanuatu Islands, Vanuatu Islands

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*UCR **01** 15:06:59.8±1.7, 9°.08N×84°.89W, h30km±8km, MW3.6*
*CATAC **01** 15:06:59.8±1.0, 9°.10N×84°.79W, h5km±5km, ML2.8*

ISC 01 15:06:59.0±2.0, **9°.07N**±0°.08×**84°.86W**±0°.04, **h15**km±11km, **n35**, σ**0^{s}97**/44, **1D**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	Cabuya	0.57	336	*e*P	Pg	15 07 10.2	+0.1
CBL1				*e*S	Sb	15 07 19.1	+0.7
JACO	JACO, Garabito	0.62	19	*e*P	Pg	15 07 10.6	-0.7
JACO				*e*S	Sg	15 07 19.7	+0.1
JACO	JACO, Garabito	0.62	19	*i* P	Pg	15 07 10.7	-0.6
JACO				*i* S	Sg	15 07 19.8	+0.2
JACO				IAML		15 07 20.4	
	comp=Z,800nm,1.0s						
TRB2	Turrubares	0.93	26	*e*P	Pb	15 07 17.3	+0.3
ACOS	Acosta	1.00	43	*e*P	Pb	15 07 17.3	-0.8
INDI	Punta indio, G	1.01	322	*e*P	Pb	15 07 17.0	-1.3
ABE2	San Pablo	1.02	51	*e*P	Pb	15 07 17.9	-0.6
LCR2	La Lucha 2	1.08	52	⇓*i*P	Pb	15 07 18.6	-0.9
LCR2				*e*S	Sb	15 07 33.1	-0.4
LCR2	La Lucha 2	1.08	52	*i* P	Pb	15 07 18.7	-0.8
LCR2				IAML		15 07 24.2	
	comp=Z,190nm,1.0s						
LCR2				*i* S	Sg	15 07 33.7	-0.3
CMARA	Lajas Hojancha	1.10	330	*e*P	Pb	15 07 16.2	-3.5
TCS1	Tacares	1.11	30	*e*P	Pb	15 07 19.1	-0.9
TCS1	Tacares	1.11	30	*i* P	Pb	15 07 19.4	-0.6
TCS1				IAML		15 07 39.7	
	comp=Z,1µm,1.0s						
TBLN	Tablon, Guarco	1.14	48	*i* P	Pb	15 07 19.5	-0.9
TBLN				IAML		15 07 37.8	
	comp=Z,220nm,1.0s						
CDM	Cerro de Muert	1.19	66	*e*P	Pn	15 07 21.5	+0.1
CDM	Cerro de Muert	1.19	66	*i* P	Pb	15 07 21.8	+0.4
CDM				IAML		15 07 42.8	
	comp=Z,130nm,1.0s						
BUS1	Rivas	1.20	66	*e*P	Pn	15 07 21.7	+0.1
OCM	Ochomogo	1.21	47	*i* P	Pg	15 07 23.3	+0.9
JTS	Las Juntas de	1.22	356	*e*P	Pn	15 07 20.3	-1.2
CPMI	Catarata Coope	1.30	21	*e*P	Pn	15 07 22.3	-0.4
CPMI	Catarata Coope	1.30	21	*i* P	Pn	15 07 23.0	+0.2
CPMI				IAML		15 07 53.5	
	comp=Z,180nm,1.0s						
SOCE	Pocosol	1.33	10	*e*P	Pn	15 07 22.7	-0.4
SOCE	Pocosol	1.33	10	*i* P	Pn	15 07 23.0	-0.1
SOCE				*i* S	Sb	15 07 41.1	+0.6
SOCE				IAML		15 07 45.0	
	comp=Z,260nm,1.0s						
HAYA	Volcan Irazu	1.35	48	*i* P	Pn	15 07 23.5	-0.2
VICA	Volcano Irazu	1.35	48	*e*P	Pn	15 07 23.2	-0.5
PLVR	Palo Verde	1.36	339	*e*P	Pb	15 07 24.4	+0.1
ARE1	Arenal 1	1.39	6	*e*P	Pn	15 07 23.8	-0.1
ORTG	Ortega, Santa	1.42	335	*i* P	Pb	15 07 26.3	+1.1
ORTG				IAML		15 08 03.9	
	comp=Z,65nm,1.0s						
CVTV	Tajo	1.44	50	*e*P	Pn	15 07 22.9	-1.9
SRBA	San Rafael, Bu	1.49	84	*e*P	Pn	15 07 25.6	+0.3
SRBA	San Rafael, Bu	1.49	84	*i* P	Pn	15 07 25.6	+0.3
SRBA				*i* S	Sn	15 07 44.6	0.0
SRBA				IAML		15 07 50.0	
	comp=Z,67nm,1.0s						
RIFO	Rio Frio, Sara	1.55	37	*i* P	Pn	15 07 26.5	+0.5
RIFO				*i* S	Sg	15 07 49.3	+0.4
RIFO				IAML		15 07 57.8	
	comp=Z,200nm,1.0s						
DRK0	Durika	1.61	83	*e*P	Pn	15 07 26.9	-0.1
DRK0				*e*S	Sb	15 07 48.4	-0.3
COVE	Coope Vega, Sa	1.70	15	*e*P	Pb	15 07 29.4	-0.7
HZTE	Horizontes, Gu	1.79	336	*i* P	Pg	15 07 36.1	+2.7
TRT2	Tortugero	1.85	37	*i* P	Pn	15 07 31.0	+0.8
TRT2				IAML		15 08 15.5	
	comp=Z,85nm,1.0s						

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*NOU **01** 15:07:10.2, 37°.13S×179°.72E, h0km, MLv3.9/8, Off E. Coast of N. Island, N.Z.*
*WEL **01** 15:07:19.8±1.0, 37°S±5°×17°9E±°, h23km±7km, M3.4/33, ML3.7/37, MLv3.4/33, Error ellipse: s-maj=0.0km s-min=0.0km az=97.3, confirmed*

ISC 01 15:07:15.9±2.9, **37°.26S**±0°.09×**179°.3E**±0°.1, **h11**km±11km, **n97**, σ**1^{s}14**/106, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.84	248	P	Pb	15 07 32.4	-0.1
MXZ	Matakaoa Point	0.84	248	P	Pb	15 07 32.5	-0.1
MXZ				S	Sg	15 07 41.6	-1.6
WMGZ	Waiomatatini S	0.90	231	P	Pn	15 07 36.0	+1.6
WMGZ				S	Sn	15 07 48.6	+1.2
PKGZ	Pakihiroa	1.16	236	P	Pg	15 07 38.8	+0.7
PKGZ				S	Sn	15 07 54.0	+0.1
PUZ	Puketiti	1.16	225	P	Pg	15 07 39.6	+1.5
PUZ				S	Sn	15 07 55.1	+1.2
HAZ	Te Kaha	1.30	247	P	Pn	15 07 39.4	-0.5
HAZ				S	Sn	15 07 57.4	+0.1
TWGZ	Tauwhareparae	1.39	228	P	Pg	15 07 42.9	+0.3
RUGZ	Raukumara Rang	1.47	241	P	Pb	15 07 43.5	+0.3
CNGZ	Carnagh Statio	1.50	215	P	Pg	15 07 45.3	+0.7
TKGZ	Te Karaka	1.65	224	P	Pb	15 07 46.0	-0.2
MWZ	Matawai	1.77	232	P	Pb	15 07 47.5	-0.7
RIGZ	Rimuhau	1.89	219	P	Pb	15 07 49.7	-0.6
RAGZ	Rawiri	1.94	230	P	Pb	15 07 50.2	-1.0
WHRZ	Whale Island	1.94	251	P	Pn	15 07 49.6	+0.9
URZ	Urewera	2.00	239	P	Pn	15 07 50.8	+1.3
URZ	Urewera	2.00	239	P	Pn	15 07 50.9	+1.3
URZ				S	Sn	15 08 14.0	-0.5
PRGZ	Paritu Road	2.00	213	P	Pn	15 07 48.9	-0.8
SNGZ	Shannon Statio	2.17	225	P	Pn	15 07 53.1	+1.2
KNZ	Kokohu	2.18	215	P	Pn	15 07 52.8	+0.9
KNZ				S	Sn	15 08 19.3	+0.3
MHGZ	Mahia Peninsul	2.19	210	P	Pb	15 07 53.8	-1.6
EDRZ	Edgecumbe	2.20	246	P	Pn	15 07 53.5	+1.2
MARZ	Manawahe	2.20	250	P	Pn	15 07 53.0	+0.6
OPRZ	Ohinepanea	2.25	254	P	Pn	15 07 53.2	+0.1
RTZ	Ruatahuna	2.28	233	P	Pn	15 07 54.8	+1.4
MUGZ	Murupara	2.34	238	P	Pn	15 07 55.1	+0.9
RAHZ	Arahi	2.41	226	P	Pn	15 07 56.3	+1.2
MKRZ	Makatiti	2.41	248	P	Pn	15 07 56.9	+1.7
TARZ	Mount Tarawera	2.42	245	P	Pn	15 07 56.7	+1.3
WHHZ	Waihua	2.44	221	P	Pn	15 07 57.4	+1.8
RRRZ	Republican Roa	2.45	243	P	Pn	15 07 56.7	+0.9
TGRZ	Tauranga	2.46	258	P	Pn	15 07 56.2	+0.3
MTHZ	Maungataniwha	2.51	230	P	Pn	15 07 58.1	+1.5
KARZ	Kaharoa	2.54	252	P	Pn	15 07 57.6	+0.7
PRRZ	Plateau Road	2.61	241	P	Pn	15 07 58.6	+0.7
NMHZ	Naumai	2.69	226	P	Pn	15 08 00.6	+1.5
ARHZ	Aropaoanui	2.70	221	P	Pn	15 08 00.3	+1.1
KMRZ	Kaimai	2.73	257	P	Pn	15 08 00.3	+0.7
MRHZ	Matea Rd	2.76	234	P	Pn	15 08 01.2	+1.0
MRHZ				S	Sn	15 08 32.1	-1.4
KUZ	Kuaotunu	2.91	279	P	Pn	15 08 00.3	-1.7
KUZ	Kuaotunu	2.91	279	P	Pn	15 08 00.3	-1.7
BKZ	Black Stump Fm	2.92	228	P	Pn	15 08 03.4	+1.2
BKZ	Black Stump Fm	2.92	228	P	Pn	15 08 03.1	+0.9
BKZ				S	Sn	15 08 35.3	-2.0
MCHZ	McNeill Hill	2.99	222	P	Pn	15 08 03.9	+0.7
TOZ	Tahuroa Road	3.05	260	P	Pn	15 08 03.4	-0.6
KWHZ	Kaweka Forest	3.13	225	P	Pn	15 08 05.4	+0.3
KAHZ	Kahuranaki	3.17	216	P	Pn	15 08 05.9	+0.2
RITZ	Rihia Road	3.21	237	P	Pn	15 08 07.4	+1.2
RATZ	Rangitukua	3.21	239	P	Pn	15 08 07.6	+1.3
GRZ	Great Barrier	3.24	287	P	Pn	15 08 06.0	-0.6
MKAZ	Moumakai	3.30	271	P	Pn	15 08 06.5	-1.0
KRHZ	Kereru	3.31	223	P	Pn	15 08 07.7	+0.1
KATZ	Kakaramea	3.32	238	P	Pn	15 08 09.1	+1.3
WIAZ	Waiheke Island	3.36	277	P	Pn	15 08 07.4	-0.9
BHHZ	Black Hill Sta	3.38	228	P	Pn	15 08 09.1	+0.5
TMVZ	Te Maari	3.38	236	P	Pn	15 08 09.2	+0.5
ETVZ	East Tongariro	3.39	235	P	Pn	15 08 09.5	+0.8
NTVZ	North Tongarir	3.39	236	P	Pn	15 08 09.3	+0.5
KRVZ	Karewarewa	3.41	236	P	Pn	15 08 09.8	+0.7
OTVZ	Oturere	3.44	235	P	Pn	15 08 09.9	+0.4
NNVZ	North Ngauruho	3.45	236	P	Pn	15 08 10.7	+1.0
WTVZ	West Tongariro	3.46	236	P	Pn	15 08 10.8	+1.0
SNVZ	South Ngauruho	3.46	235	P	Pn	15 08 10.2	+0.4
NGZ	Ngauruhoe	3.48	235	P	Pn	15 08 10.5	+0.4
TUVZ	Tukino	3.50	234	P	Pn	15 08 11.2	+0.9
ETAZ	East Tamaki Re	3.50	274	P	Pn	15 08 09.6	-0.6
MOVZ	Moawhango	3.52	231	P	Pn	15 08 11.1	+0.6
COVZ	Chateau Observ	3.54	236	P	Pn	15 08 11.6	+0.8
TWVZ	Taurewa	3.54	238	P	Pn	15 08 11.8	+0.9
MBAZ	Motutapu North	3.55	277	P	Pn	15 08 10.3	-0.6
WNVZ	Wahianoa	3.57	233	P	Pn	15 08 11.6	+0.3
TRVZ	Turoa	3.58	234	P	Pn	15 08 12.2	+0.7
WPHZ	Waipukurau	3.58	218	P	Pn	15 08 11.1	-0.3
PNHZ	Pukenui	3.59	221	P	Pn	15 08 11.1	-0.4
ABAZ	Army Bay	3.63	279	P	Pn	15 08 11.7	-0.3
PRHZ	Porangahau	3.66	214	P	Pn	15 08 11.6	-0.8
MTVZ	Mangateitei	3.68	234	P	Pn	15 08 13.5	+0.8
AWAZ	Awhitu Peninsu	3.72	272	P	Pn	15 08 13.0	-0.2
HIZ	Hauiti	3.73	249	P	Pn	15 08 15.3	+2.0
HIZ	Hauiti	3.73	249	P	Pn	15 08 15.0	+1.6
WTAZ	Waiatarua	3.79	273	P	Pn	15 08 13.9	-0.2
RVAZ	Riverhead Bore	3.81	276	P	Pn	15 08 14.2	-0.2
TSZ	Takapari Road	3.83	222	P	Pn	15 08 14.0	-0.7
ANWZ	Angora Road	3.88	214	P	Pn	15 08 15.1	-0.3
VRZ	Vera Road	4.03	241	P	Pn	15 08 18.8	+1.4
BFZ	Birch Farm	4.17	214	P	Pn	15 08 18.2	-1.1
PRWZ	Pori Road	4.19	217	P	Pn	15 08 19.4	-0.3
WCZ	Waipu Caves	4.19	287	P	Pn	15 08 19.5	-0.2
WAZ	Wanganui	4.20	232	P	Pn	15 08 21.1	+1.3
TIWZ	Tintock	4.41	216	P	Pn	15 08 21.6	-1.1
LREZ	Lake Rotokare	4.43	239	P	Pn	15 08 24.2	+1.3
PKE	Pukeiti	4.61	244	P	Pn	15 08 29.6	+4.1
OGWZ	Otaki Gorge	4.79	221	P	Pn	15 08 27.0	-0.9
OUZ	Omahuta	5.03	292	P	Pn	15 08 31.4	+0.2
OUZ	Omahuta	5.03	292	P	Pn	15 08 31.4	+0.2
QRZ	Quartz Range	6.36	234	P	Pn	15 08 48.7	-0.7
QRZ	Quartz Range	6.36	234	P	Pn	15 08 47.9	-1.5
CTZ	Chatham Island	7.18	156	P	Pn	15 09 05.1	+4.4

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*CATAC **01** 15:10:14.6±1.4, 9°.08N×84°.90W, h8km±11km, ML2.9*
*UCR **01** 15:10:15.8±1.1, 9°.10N×84°.86W, h5km, MW3.6*

ISC 01 15:10:15.8±1.7, **9°.13N**±0°.06×**84°.85W**±0°.04, **h11**km±11km, **n40**, σ**0^{s}81**/49, **1C-1D**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	Cabuya	0.52	332	⇑*e*P	Pb	15 10 26.6	-0.4
CBL1				*e*S	Sb	15 10 35.5	+0.9
JACO	JACO, Garabito	0.56	19	*e*P	Pg	15 10 26.8	0.0
JACO				*e*S	Sb	15 10 36.1	+0.3
JACO	JACO, Garabito	0.56	19	*i* P	Pg	15 10 27.0	+0.2
JACO				*i* S	Sb	15 10 36.0	+0.2
JACO				IAML		15 10 36.8	
	comp=Z,720nm,1.0s						
LLNJ	Naranjito	0.81	65	*e*P	Pg	15 10 31.8	+0.3
LLNJ				*e*S	Sb	15 10 44.5	+1.5
TRB2	Turrubares	0.88	27	*e*P	Pg	15 10 31.9	-0.8
TRB2				*e*S	Sg	15 10 45.2	+1.0
ABE2	San Pablo	0.97	54	*e*P	Pg	15 10 34.5	-0.1
INDI	Punta indio, G	0.98	319	*e*P	Pg	15 10 33.7	-1.1
INDI	Punta indio, G	0.98	319	*i* P	Pg	15 10 33.6	-1.1
LCR2	La Lucha 2	1.03	53	⇓*e*P	Pg	15 10 35.0	-0.7
LCR2				*e*S	Sg	15 10 49.4	+0.2
LCR2	La Lucha 2	1.03	53	*i* P	Pg	15 10 35.1	-0.6
LCR2				IAML		15 10 40.3	
	comp=Z,200nm,1.0s						
CMARA	Lajas Hojancha	1.06	327	*e*P	Pg	15 10 35.3	-0.8
TCS1	Tacares	1.06	31	*e*P	Pg	15 10 35.3	-0.9
TCS1	Tacares	1.06	31	*i* P	Pg	15 10 35.7	-0.5
TCS1				IAML		15 10 39.7	
	comp=Z,2µm,1.0s						
BELE	Belen	1.07	37	*e*P	Pg	15 10 36.6	+0.3
TBLN	Tablon, Guarco	1.09	50	*i* P	Pg	15 10 35.3	-1.4
TBLN				IAML		15 10 54.0	
	comp=Z,230nm,1.0s						
HDC	Heredia	1.13	40	*e*P	Pg	15 10 37.5	-0.1
CDM	Cerro de Muert	1.15	68	*e*P	Pg	15 10 37.4	-0.6
CDM	Cerro de Muert	1.15	68	*i* P	Pg	15 10 37.9	-0.1
CDM				*i* S	Sb	15 10 54.5	+1.4
CDM				IAML		15 10 59.3	
	comp=Z,120nm,1.0s						
OCM	Ochomogo	1.16	49	*e*P	Pg	15 10 36.8	-1.3
OCM	Ochomogo	1.16	49	*i* P	Pg	15 10 37.0	-1.2
OCM				IAML		15 10 43.4	
	comp=Z,140nm,1.0s						
JTS	Las Juntas de	1.16	355	*e*P	Pg	15 10 36.8	-1.4
BUS1	Rivas	1.17	68	*e*P	Pg	15 10 37.8	-0.5
REPA	Paraso	1.19	54	*e*P	Pg	15 10 38.6	-0.1
CPMI	Catarata Coope	1.24	22	*e*P	Pn	15 10 38.5	-0.8
CPMI				*e*S	Sg	15 10 56.5	+0.7
CPMI	Catarata Coope	1.24	22	*i* P	Pb	15 10 56.4	+17
JUD3	Juan Diaz 3	1.24	327	*e*P	Pn	15 10 39.4	+0.3
SOCE	Pocosol	1.27	10	*e*P	Pn	15 10 39.1	-0.5
SOCE	Pocosol	1.27	10	*i* P	Pn	15 10 39.0	-0.5
SOCE				IAML		15 10 45.4	
	comp=Z,300nm,1.0s						
HAYA	Volcan Irazu	1.30	49	*i* P	Pn	15 10 39.8	-0.6
VICA	Volcano Irazu	1.31	49	*e*P	Pn	15 10 39.7	-0.7
ICR3	Volcano Irazu	1.31	50	*e*P	Pn	15 10 39.2	-1.3
ARE1	Arenal 1	1.33	5	*e*P	Pn	15 10 40.5	+0.1
ORTG	Ortega, Santa	1.37	334	*i* P	Pg	15 10 44.3	+2.2
VTCV	VTCV, Calle Va	1.40	52	*e*P	Pn	15 10 41.3	-0.1
SRBA	San Rafael, Bu	1.47	86	*e*P	Pn	15 10 41.9	-0.4
SRBA	San Rafael, Bu	1.47	86	*i* P	Pn	15 10 42.0	-0.4
SRBA				*i* S	Sn	15 11 01.7	0.0
SRBA				IAML		15 11 07.6	
	comp=Z,89nm,1.0s						
DRK0	Durika	1.59	85	*e*P	Pn	15 10 43.6	-0.4
DRK0				*e*S	Sn	15 11 04.1	-0.6
COVE	Coope Vega, Sa	1.64	15	*e*P	Pn	15 10 44.9	+0.3
PIRO	Carate, Puerto	1.66	116	*e*P	Pn	15 10 45.2	+0.4
EDAD	Golfito	1.73	106	*e*P	Pn	15 10 45.5	-0.3

CATAC 01 15:14:07.5±0.6, **9°.81N**×**83°.97W**, **h6**km±3km, **MB6.3**, **ML2.0**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLN	Tablon, Guarco	0.03	291	*i* P	Pg	15 14 09.2	+0.3
TBLN				*i* S	Sg	15 14 10.3	+0.3
TBLN				IAML		15 14 10.4	
	comp=Z,2µm,1.0s						
LCR2	La Lucha 2	0.08	205	*i* P	Pg	15 14 09.8	+0.3
LCR2				IAML		15 14 09.9	
	comp=Z,310nm,1.0s						
LCR2				*i* S	Sg	15 14 11.5	+0.6
OCM	Ochomogo	0.08	7	*i* P	Pg	15 14 10.0	+0.4
OCM				*i* S	Sg	15 14 11.6	+0.6
OCM				IAML		15 14 11.7	
	comp=Z,690nm,1.0s						
HAYA	Volcan Irazu	0.21	37	*i* P	Pg	15 14 15.1	+3.3
RAFA	San Farael, Vo	0.21	47	*i* P	Pg	15 14 15.9	+4.1
CDM	Cerro de Muert	0.33	142	*i* P	Pg	15 14 14.4	+0.3
CDM				IAML		15 14 14.6	
	comp=Z,44nm,1.0s						
CDM				*i* S	Sg	15 14 19.7	+1.2
ALJI	Alcalda de J	5.70	308	*i* PA		15 15 32.7	
ALJI				IAML		15 15 39.5	
	comp=Z,710nm,1.0s						
ALJI				IVmB_BB		15 15 39.5	
	comp=Z,30µm,1.0s						
CCIG	Comitan	10.23	310	*i* P	Pn	15 16 38.1	+3.0

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*UPP **01** 15:26:13.2±0.0, 67°.88N×20°.12E, h0km, ML2.2, Confirmed Induced event*
*IDC **01** 15:26:16.0±0.9, 67°.79N×20°.68E, h0km, mbtmp3.4/5, ML2.1/4, Error ellipse: s-maj=16.4km s-min=7.7km az=114.0*

ISC 01 15:26:13.4±0.8, **67°.82N**±0°.04×**20°.32E**±0°.04, **h0**km, **n13**, σ**1^{s}32**/17, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	2	P	Pg	15 26 15.6	-0.4
KUA				S	Sg	15 26 17.5	-0.3
RATU	Laukkuluspa	0.28	271	P	Pg	15 26 17.2	-1.5
LANU	Lannavaara	0.67	69	P	Pb	15 26 27.1	-0.9
DUNU	Dundret	0.71	172	P	Pb	15 26 27.7	-0.9
MASU	Masugnsbyn	0.74	119	P	Pb	15 26 28.5	-0.6
SALU	Saltoluokta	0.82	239	P	Pg	15 26 28.6	-0.6
HEF	Hetta	1.38	63	*e*P	Pg	15 26 38.5	-1.4
JETT	Jettan, Norway	1.75	1	*e*P	Pn	15 26 45.1	+0.1
ARCES	ARCESS Array B	2.56	45	Pn	Pn	15 26 57.6	+1.4
	1.1nm,0.3s,baz=231,slow=14,SNR=51						
ARCES				Sn	Sb	15 27 31.0	-1.2
	1.2nm,0.3s,baz=218,slow=20,SNR=8.0						
	2.0nm,0.3s						
FINES	FINESS Array B	6.86	156	Pn	Pn	15 27 56.8	+1.7
	0.1nm,0.3s,baz=349,slow=11,SNR=2.5						
FINES				Sn	Sn	15 29 13.3	-0.4
	0.1nm,0.3s,baz=345,slow=22,SNR=1.0						
FINES				Lg	Lg	15 29 49.2	
	0.2nm,0.3s,baz=346,slow=27,SNR=2.4						
	5.1nm,1.1s						
NOA	NORSAR Array B	7.85	214	Pn	Pn	15 28 10.6	+1.8
	baz=33,slow=8.8,SNR=1.2						
NOA				Sn	Sn	15 29 36.5	-1.8
	baz=56,slow=11,SNR=2.5						
NOA				Lg	Lg	15 30 23.0	
	baz=34,slow=15,SNR=1.6						
	0.6nm,0.9s						
HFS	Hagfors	8.24	204	Pn	Pn	15 28 15.7	+1.6
	0.1nm,0.3s,baz=26,slow=10,SNR=1.9						
HFS				Lg	Lg	15 30 35.3	
	0.2nm,0.3s,baz=21,slow=25,SNR=2.1						
	2.9nm,1.0s						
SPITS	Spitsbergen Ar	10.47	356	Pn	Pn	15 28 45.8	+1.2
	7.5nm,0.9s,baz=172,slow=12,SNR=1.6						

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*IDC **01** 15:47:19.7±1.1, 21°.20N×122°.22E, h0km, mb3.4/7, mbtmp3.4/7, MS2.7/3, Error ellipse: s-maj=68.5km s-min=20.5km az=65.0*
*JMA **01** 15:47:21.3±0.5, 21°N±2°×122°.0E±1°.0, h5km, MV3.5/11, TAIWAN REGION*

ISC 01 15:47:21.2±1.1, **21°.19N**±0°.09×**122°.06E**±0°.08, **h10**km, **n28**, σ**1^{s}25**/22, **mb3.5**/7, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	Beinan	1.85	331	P	Pn	15 47 53.1	0.0
YULB	Yu-li	2.30	342	P	Pn	15 48 00.0	+0.8
TPUB	Ta-pu	2.48	328	P	Pb	15 48 04.6	-1.3
SSLB	Suanglung	2.78	339	P	Pb	15 48 09.3	-1.7
NACB	Ninganchiao	3.00	352	P	Pn	15 48 11.0	+2.2
HATJ	Hateruma jima	3.28	29	*e*S	Sn	15 48 51.9	+0.3
YOJ	Yonaguni jima	3.37	15	P	Pb	15 48 19.0	-2.1
YHNB	Yeheng	3.52	350	P	Pn	15 48 18.6	+2.6
JKRS	Kuro-shima	3.53	30	*e*P	Pn	15 48 17.7	+1.6
JKRS				*e*S	Sn	15 48 58.5	+0.6
JIJ	Ishigaki jima	3.70	31	*e*P	Pn	15 48 19.6	+1.2
JIJ				*e*S	Sn	15 49 01.3	-0.8
JISG	Ishigakijimahi	3.97	31	P	Pn	15 48 22.9	+0.8
JISG				S	Sn	15 49 08.0	-0.7
JTJ	Tarama	4.21	35	*e*S	Sn	15 49 14.8	+0.1
JNU	Nakatsue	14.23	32	LR	LR	15 55 27.1	
	comp=Z,47nm,19.8s,baz=182,slow=34						
KSRS	Korea Array	16.98	16	LR	LR	15 58 15.2	
	comp=Z,19nm,18.6s,baz=210,slow=39						
CMAR	Chiang Mai Arr	21.91	267	LR	LR	16 00 28.1	
	comp=Z,15nm,18.3s,baz=290,slow=36						
SONM	Songino Array	29.43	338	P	P	15 53 24.7	-0.3
	0.3nm,0.6s,baz=155,slow=8.7,SNR=2.7						
	0.3nm,0.6s						
MKAR	Makanchi Array	41.06	318	P	P	15 55 06.0	+1.0
	0.8nm,0.7s,baz=114,slow=9.8,SNR=9.9						
	0.8nm,0.7s						
H11N1	WAKE ISLAND Hy	41.93	84	T	T	16 40 04.6	
	baz=281,slow=75,SNR=67						
H11N2	WAKE ISLAND Hy	41.93	84	T	T	16 40 03.7	
	baz=281,slow=75,SNR=89						
H11N3	WAKE ISLAND Hy	41.95	84	T	T	16 40 05.8	
	baz=281,slow=75,SNR=65						
H11S3	WAKE ISLAND Hy	41.97	86	T	T	16 40 06.2	
	baz=281,slow=75,SNR=115						
H11S1	WAKE ISLAND Hy	41.98	86	T	T	16 40 08.1	
	baz=281,slow=75,SNR=124						
H11S2	WAKE ISLAND Hy	41.98	86	T	T	16 40 08.5	
	baz=281,slow=75,SNR=121						
WRA	Warramunga Arr	42.61	163	P	P	15 55 17.6	-0.2
	0.3nm,0.8s,baz=346,slow=9.5,SNR=1.8						
	0.3nm,0.8s						
ZALV	Zalesovo Beam	43.19	328	P	P	15 55 22.5	+0.3
	0.4nm,0.4s,baz=122,slow=7.7,SNR=5.4						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	44.92	322	P	P	15 55 37.0	+0.9
	0.8nm,0.8s,baz=116,slow=7.6,SNR=4.2						
	0.8nm,0.8s						
ASAR	Alice Springs	46.06	165	P	P	15 55 44.8	-0.6
	0.1nm,0.5s,baz=344,slow=7.1,SNR=4.7						
	0.1nm,0.5s						
YKA	Yellowknife Ar	85.40	23	P	P	15 59 58.7	+0.1
	0.3nm,0.8s,baz=314,slow=4.9,SNR=5.6						
	0.3nm,0.8s						

DJA 01 16:05:54.5±3.4**, 8°S**±3°×**11°9E**±°**, h19**km±32km**, M3.8**/13**, mb4.2**/2**, MLv3.5**/13**, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBNI	Kabupaten Domp	1.27	229	P	Pn	16 06 17.1	-0.2
PLAI	Plampang	1.89	232	P	Pn	16 06 25.9	+0.2
MKS	Makassar	2.43	4	P	Pn	16 06 32.9	-0.4
BKSI	Bulukumba	2.47	20	P	Pn	16 06 33.1	-0.7
TWSI	Taliwang, Sumb	2.60	246	P	Pn	16 06 35.9	+0.3
EDFI	Ende, Flores	2.62	115	P	Pn	16 06 36.1	+0.2
BASI	Baing, Sumba	2.85	153	P	Pn	16 06 39.6	+0.6
MMRI	Maumere	3.08	109	P	Pn	16 06 42.2	0.0
SPSI	Sidrap Palu	3.70	8	P	Pn	16 06 51.1	+0.4
SRBI	Singaraja	4.05	264	P	Pn	16 06 54.7	-0.8
PMSI	Majene	4.15	355	P	Pn	16 06 56.8	-0.1
TTSI	Tana Toraja	4.62	7	P	Pn	16 07 04.7	+1.4
MMSI	Mamuju	4.95	356	P	Pn	16 07 07.8	-0.1
JAGI	Jajag, Banyuwa	5.14	261	P	Pn	16 07 10.3	-0.2
	22nm,1.5s,0.1nm						
KMMI	Kalianget	5.30	276	P	Pn	16 07 13.8	+1.0

*NEIC **01** 16:25:35.7±2.1, 7°83S±0°09×116°82E±0°07, h292km±8km, mb4.2/31, Error ellipse: s-maj=12.9km s-min=10.5km az=194.0*

*IDC **01** 16:25:36.3±1.3, 7°70S×116°82E, h302km±12km, mb3.6/13, mbtmp4.3/15, Error ellipse: s-maj=17.7km s-min=8.7km az=53.0*

*DJA **01** 16:25:36.0±0.1, 8°S±3°×11°7E±°, h288km±3km, M4.4/29, mB5.0/7, mb4.5/29, MLv4.5/17, Mw(mB)4.3/7*

ISC 01 16:25:36.0±0.4**, 7°82S**±0°06×**116°82E**±0°05**, h300**km**, n129, σ1§10**/133**, mb4.0**/22**, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.91	176	P	Pn	16 26 14.6	-1.4
PLAI	Plampang	1.38	137	P	Pn	16 26 17.1	-1.3
PLAI	Plampang	1.38	137	P	Pn	16 26 16.9	-1.5
SRBI	Singaraja	1.61	261	P	Pn	16 26 19.2	-0.7
DBNI	Kabupaten Domp	1.62	115	P	Pn	16 26 18.7	-1.3
DNP	Denpasar	1.81	242	P	Pn	16 26 19.9	-1.4
ABJI	Asem Bagus	2.56	270	P	Pn	16 26 27.8	+0.2
JAGI	Jajag, Banyuwa	2.72	256	Pn	Pn	16 26 27.3	-1.8
JAGI	Jajag, Banyuwa	2.72	256	P	Pn	16 26 28.0	-1.0
JAGI	Jajag, Banyuwa	2.72	256	P	Pn	16 26 27.6	-1.4
BLJI	Banyuglugur	3.20	271	P	Pn	16 26 34.0	+0.3
KAPI	Kappang	4.03	46	Pn	Pn	16 26 41.8	-0.8
KAPI	Kappang	4.03	46	P	Pn	16 26 42.4	-0.2
	31nm,0.5s,baz=219,slow=6.5,SNR=31						
KAPI				S	S	16 27 35.1	-0.9
	4.3nm,0.7s,baz=180,slow=7.1,SNR=1.3						
BKSI	Bulukumba	4.12	53	P	Pn	16 26 43.6	+0.1
KRKI	Karangkates	4.34	265	P	Pn	16 26 45.6	-0.4
BASI	Baing, Sumba	4.41	123	P	Pn	16 26 45.5	-1.3
EDFI	Ende, Flores	4.91	101	P	Pn	16 26 50.6	-2.0
SJI	Sawahan	5.01	271	P	Pn	16 26 53.7	0.0
	258nm,0.6s,3μm1.0nm						
MMRI	Maumere	5.42	99	Pn	Pn	16 26 56.5	-2.0
MMRI	Maumere	5.42	99	P	Pn	16 26 58.0	-0.5
MMRI	Maumere	5.42	99	P	Pn	16 26 57.5	-1.0
	46nm,0.5s,0.5nm						
MMSI	Mamuju	5.51	22	P	Pn	16 27 00.6	+1.1
	4.9nm,0.9s,0.0nm						
UGM	Wanagama	6.24	269		Pn	16 27 07.7	-0.5
UGM	Wanagama	6.24	269	P	Pn	16 27 07.7	-0.5
UGM	Wanagama	6.24	269	P	Pn	16 27 07.7	-0.5
	209nm,1.5s,0.8nm						
SMRI	Semarang	6.37	277	Pn	Pn	16 27 10.2	+0.4
YOGI	Yogyakarta	6.47	270	P	Pn	16 27 11.1	+0.1
	118nm,1.4s,0.5nm						
SOEI	Soe	7.61	105	Pn	Pn	16 27 22.4	-2.6
SOEI	Soe	7.61	105	P	Pn	16 27 23.9	-1.0
SOEI	Soe	7.61	105	P	Pn	16 27 22.1	-2.8
	64nm,0.8s,1.2nm						
KPJI	Karang Pucung	7.84	273	P	Pn	16 27 29.2	+1.6
	50nm,0.7s,0.2nm						
CMJI	Cimerak	8.29	270	P	Pn	16 27 31.2	-2.0
	64nm,0.9s						
BBJI	Bungbulang	9.10	272	P	Pn	16 27 41.6	-1.6
	35nm,1.0s						
LEM	Lembang	9.18	276	P	Pn	16 27 44.0	-0.3
	57nm,0.7s,baz=64,slow=8.5,SNR=16						
LEM	Lembang	9.18	276	P	Pn	16 27 44.3	0.0
	68nm,0.8s						
CNJI	Cibinong	9.62	272	P	Pn	16 27 48.4	-1.1
	27nm,0.9s						
GTOI	Gorontalo	10.43	37	P	P	16 28 01.0	-1.5
	3.0nm,0.9s						
SANI	Sanana	10.78	58	P	P	16 28 05.7	-0.8
	80nm,0.9s,602nm						
CGJI	Cibinong	11.11	275	P	Pn	16 28 07.2	-0.5
	28nm,0.9s						
SBUM	Sibu	11.19	336	Pn	Pn	16 28 08.5	-0.3
SBUM	Sibu	11.19	336	P	P	16 28 10.9	-0.1
	7.9nm,0.9s						
NLAI	Namlea	11.20	67	P	P	16 28 09.8	-1.3
	56nm,0.7s						
KSM	Kuching	11.29	325	P	P	16 28 13.0	+0.8
KSM	Kuching	11.29	325	P	P	16 28 11.8	-0.3
	34nm,1.1s						
XMIS	Christmas Isla	11.34	256	P	P	16 28 13.0	+0.3
KASI	Kota Agung	12.45	280	P	P	16 28 25.1	+0.1
	40nm,1.7s						
LBMI	Labuha	12.82	57	P	P	16 28 29.9	+0.8
	27nm,1.2s,1μm						
PMBI	Palembang	12.94	291		P	16 28 31.4	+0.9
PMBI	Palembang	12.94	291	P	P	16 28 32.2	+1.7
	115nm,0.6s,6μm						
FITZ	Fitzroy Crossi	13.34	141	P	Pn	16 28 34.2	-0.5
BNDI	Bandanaira	13.41	77	P	P	16 28 36.9	+1.2
BNDI	Bandanaira	13.41	77	P	P	16 28 36.5	+0.8
	139nm,1.2s,2μm						
MBWA	Marble Bar	13.55	168	P	Pn	16 28 37.1	-0.1
KKM	Kota Kinabalu	13.79	357	P	P	16 28 39.5	-0.4
PSA00	Pilbara Seismi	13.98	168		Pn	16 28 42.2	-0.1
KNRA	Kununurra	14.05	125	P	P	16 28 41.2	-1.5
MNAI	Manna	14.21	283	P	Pn	16 28 45.9	+0.6
MNAI	Manna	14.21	283	P	Pn	16 28 45.8	+0.6
	210nm,1.1s						
SAUI	Saumlaki	14.34	92		Pn	16 28 46.7	-0.1
SAUI	Saumlaki	14.34	92	P	Pn	16 28 46.5	-0.3
	71nm,0.5s						
EGSI	Enggano, Bengk	14.65	279	P	Pn	16 28 50.3	-0.2
	71nm,1.2s						
MTN	Manton Dam	14.94	111		P	16 28 52.4	-0.1
MTN	Manton Dam	14.94	111	P	Pn	16 28 53.8	0.0
UBSI	University, Be	15.02	285	P	Pn	16 28 54.7	-0.1
	243nm,0.9s,7μm						
SWI	Sorong	15.96	65	P	Pn	16 29 06.9	+1.1
	162nm,0.8s,1μm						
SIJI	Sorong	15.97	65	P	P	16 29 04.3	+0.5
	101nm,0.9s,944nm						
FAKI	Fak Fak	16.11	73	P	P	16 29 04.2	-1.2
FAKI	Fak Fak	16.11	73	P	P	16 29 06.2	+0.8
FAKI	Fak Fak	16.11	73	P	P	16 29 05.9	+0.5
WRKA	Warakurna	20.33	149	P	P	16 29 51.8	+1.4
RPSI	Rantau Prapat	20.69	300	P	P	16 29 53.9	-0.1
WB0	Warramunga Arr	20.76	127	P	P	16 29 54.0	-0.7
WB0				IAmb	IAmb	16 29 56.9	
	comp=Z,11nm,0.6s						
WRA	Warramunga Arr	20.81	127	P	P	16 29 54.5	-0.7
WRA	Warramunga Arr	20.81	127	P	P	16 29 55.6	+0.3
	comp=Z,6.6nm,0.6s,baz=300,slow=11,SNR=62						
WRA				S	S	16 33 29.9	+2.0
	comp=Z,1.3nm,0.8s,baz=299,slow=22,SNR=4.9						
	comp=Z,6.6nm,0.6s						
WB2	Warramunga Arr	20.82	127	P	P	16 29 55.5	+0.1
WB2				IAmb	IAmb	16 29 57.5	
	comp=Z,9.8nm,0.6s						
WR0	Warramunga Arr	20.98	127	P	P	16 29 57.0	+0.1
WR0				IAmb	IAmb	16 29 59.2	
	comp=Z,16nm,1.1s						
WR0					PcP	16 33 51.9	+0.6
AS31	Alice Springs	22.73	136	P	P	16 30 13.7	+1.0
ASAR	Alice Springs	22.73	136	P	P	16 30 13.7	+1.0
ASAR	Alice Springs	22.73	136	P	P	16 30 14.1	+1.3
	comp=Z,4.4nm,0.6s,baz=312,slow=8.3,SNR=146						
	comp=Z,4.4nm,0.6s						
QIS	Mount Isa	25.41	122	P	P	16 30 38.5	+1.4
OOD	Oodnadatta	26.70	140	P	P	16 30 49.8	+1.4
MULG	Mulgathing	27.57	146	P	P	16 30 57.5	+1.4
SRDT	SRDT	28.17	321	P	P	16 31 03.1	+1.6
MTSU	Mount Surprise	28.64	114	P	P	16 31 07.5	+1.7
NONG	Nongkai	29.05	332	P	P	16 31 10.5	+1.3
CTAO	Charters Tower	30.99	116	P	P	16 31 26.4	0.0
CTAO				IAmb	IAmb	16 31 51.1	
	comp=Z,18nm,1.4s						
CM31	Chiang Mai Arr	31.51	326	P	P	16 31 31.2	+0.4
CM31				IAmb	IAmb	16 31 32.8	
	comp=Z,4.2nm,0.5s						
CMAR	Chiang Mai Arr	31.51	326	P	P	16 31 30.7	-0.1
CMAR	Chiang Mai Arr	31.51	326	P	P	16 31 31.2	+0.4
	comp=Z,2.8nm,0.7s,baz=154,slow=6.8,SNR=32						
CMAR				ScP	ScP	16 37 29.6	-0.7
	comp=Z,0.8nm,0.8s,baz=199,slow=2.8,SNR=8.0						
	comp=Z,2.8nm,0.7s						
QLP	Quilpie	32.03	129	P	P	16 31 37.9	+2.6
CRAI	Chiangrai	32.23	330	P	P	16 31 38.3	+1.2
CRAI				IAmb	IAmb	16 31 39.4	
	comp=Z,9.2nm,0.8s						
HTT	Hallett	32.67	144	P	P	16 31 42.8	+2.0
STKA	Stephens Creek	33.23	139	P	P	16 31 47.0	+1.3
STKA	Stephens Creek	33.23	139	P	P	16 31 46.9	+1.3
	comp=Z,2.6nm,0.5s,baz=313,slow=9.5,SNR=8.5						
	comp=Z,2.6nm,0.5s						
CMSA	Cobar Meteorol	35.78	135	P	P	16 32 09.9	+2.5
SHL	Shillong	41.11	325	P	P	16 32 51.4	-0.3
SHL				IAmb	IAmb	16 32 52.1	
	comp=Z,9.8nm,0.6s						
KSRS	Korea Array	46.22	12	P	P	16 33 31.8	+0.1
	comp=Z,2.0nm,0.8s,baz=191,slow=9.2,SNR=6.8						
	comp=Z,2.0nm,0.8s						
JSG	Sagara	46.85	24	P	P	16 33 36.5	-0.2
MJAR	Matsushiro Arr	48.48	23	P	P	16 33 48.0	-1.1
	comp=Z,3.1nm,0.8s,baz=202,slow=8.8,SNR=7.7						
	comp=Z,3.1nm,0.8s						
JTM	Tenmabayashi	53.27	23	P	P	16 34 24.4	0.0
USA0B	Ussuriysk Arra	53.57	14	P	P	16 34 24.8	-1.7
USA0B				IAmb	IAmb	16 35 07.7	
	comp=Z,7.8nm,1.1s						
USRK	Ussuriysk Ar.	53.57	14	P	P	16 34 24.8	-1.7
USRK	Ussuriysk Ar.	53.57	14	P	P	16 34 25.9	-0.6
	comp=Z,1.6nm,0.6s,baz=182,slow=5.9,SNR=6.5						
	comp=Z,1.6nm,0.6s						
ULN	Ulaanbaatar	56.12	352	P	P	16 34 43.9	-0.9
ULN				IAmb	IAmb	16 34 45.4	
	comp=Z,3.1nm,0.6s						
SONM	Songino Array	56.18	352	P	P	16 34 45.0	-0.3
SONM				IAmb	IAmb	16 34 45.9	
	comp=Z,3.5nm,0.6s						
SONM	Songino Array	56.18	352	P	P	16 34 44.7	-0.5
	comp=Z,4.2nm,0.6s,baz=171,slow=8.9,SNR=35						
	comp=Z,4.2nm,0.6s						
JKA	Kamikawa-asahi	56.71	22	P	P	16 34 49.0	+0.2
YSS	Yuzh-Sakhalins	59.21	20	P	P	16 35 05.7	-0.3
YSS				IAmb	IAmb	16 35 11.2	
	comp=Z,25nm,1.2s						
HIZ	Hauiti	60.31	130	P	P	16 35 12.3	-1.5
PLWZ	Palliser	61.41	133	P	P	16 35 20.8	-0.3
MK31	Makanchi Array	62.45	334	P	P	16 35 26.8	-1.0
MKAR	Makanchi Array	62.45	334	P	P	16 35 26.7	-1.1
MKAR	Makanchi Array	62.45	334	P	P	16 35 27.1	-0.7
	comp=Z,1.9nm,0.6s,baz=155,slow=6.5,SNR=30						
	comp=Z,1.9nm,0.6s						
MAKZ	Makanchi	62.59	334	P	P	16 35 27.8	-1.0
AAK	Ala-Archa	63.30	326	P	P	16 35 33.0	-0.7
AAK				IAmb	IAmb	16 35 34.1	
	comp=Z,2.5nm,0.9s						
KKAR	Karatay Array	65.84	325	P	P	16 35 48.1	-1.7
KURBB	Kurchatov Arra	66.98	335	P	P	16 35 55.8	-1.0
	comp=Z,1.2nm,0.7s,baz=146,slow=5.6,SNR=14						
	comp=Z,1.2nm,0.7s						
KURK	Kurchatov	67.01	335	P	P	16 35 55.7	-1.3
ZALV	Zalesovo Beam	67.19	340	P	P	16 35 56.2	-1.8
ZALV	Zalesovo Beam	67.19	340	P	P	16 35 56.3	-1.7
	comp=Z,1.6nm,0.6s,baz=137,slow=3.6,SNR=10						
	comp=Z,1.6nm,0.6s						
PETK	Petropavlovsk-	69.89	25	P	P	16 36 14.6	0.0
PET	Petropavlovsk	70.23	25	P	P	16 36 16.2	-0.4
BVAR	Borovoye Array	72.26	333	P	P	16 36 27.9	-0.9
	comp=Z,2.7nm,0.7s,baz=142,slow=7.6,SNR=18						
	comp=Z,2.7nm,0.7s						
BRVK	Borovoye	72.33	333	P	P	16 36 28.6	-0.6
BRVK				IAmb	IAmb	16 36 29.1	
	comp=Z,1.8nm,0.8s						
ABKAR	Akbulak array	75.37	325	P	P	16 36 45.5	-1.3
NRIK	Noril'sk	79.61	350	P	P	16 37 10.5	+0.8
NRIK				IAmb	IAmb	16 37 46.9	
	comp=Z,5.3nm,1.4s						
MMAI	Mount Meron Ar	87.08	304	P	P	16 37 49.3	+0.8
	comp=Z,0.6nm,0.4s,baz=90,slow=4.3,SNR=1.7						
	comp=Z,0.6nm,0.4s						
TORD	Torodi Ar. Bea	116.13	281	PKP	PKPdf	16 43 43.7	-0.9
	comp=Z,0.6nm,0.6s,baz=56,slow=1.9,SNR=5.3						
CPUP	Villa Florida	145.58	189	PKPbc	PKPbc	16 44 40.2	+0.1
	comp=Z,1.2nm,0.7s,baz=225,slow=1.4,SNR=3.5						

*IDC **01** 16:25:41.6±5.9, 19°69S×175°96W, h164km±52km, mb3.9/16, mbtmp4.4/17, Error ellipse: s-maj=17.8km s-min=15.8km az=90.0*

*NOU **01** 16:25:45.9, 19°59S×175°28W, h235km, mb4.9/29, Tonga Islands*

*NEIC **01** 16:25:46.6±2.7, 19°8S±0°1×175°8W±0°1, h201km±8km, mb4.5/59, Error ellipse: s-maj=21.7km s-min=17.4km az=167.0*

ISC 01 16:25:45.8±0.4**, 19°91S**±0°07×**175°71W**±0°07**, h204**km**, n178, σ1§18**/154**, mb4.3**/43**, 10C-10D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAVE	Taveuni	5.10	308	P	Pn	16 27 04.4	+2.8
NIUE	Niue	5.52	82		Pn	16 27 07.7	+0.8
DGTI	Dogotuki	5.62	309	P	Pn	16 27 10.7	+2.4
DGTI	Dogotuki	5.62	309	P	Pn	16 27 10.6	+2.3
YSA	Yasawairara	7.13	296	P	Pn	16 27 30.2	+2.4
YSA	Yasawairara	7.13	296	P	Pn	16 27 30.0	+2.2
MARNC	Mare, Loyalty	15.30	261	P	P	16 29 13.1	+1.4
PINNC	Pines Island,	15.93	257	P	Pn	16 29 22.7	+3.5
	124nm,0.8s						
LIFNC	LIFOU	16.02	264	P	Pn	16 29 20.5	+0.3
LIFNC	LIFOU	16.02	264	P	Pn	16 29 22.2	+2.0
	91nm,0.9s						
LIFNC	LIFOU	16.02	264	P	Pn	16 29 20.6	+0.4
	91nm,0.9s						
YATNC	Mamie plateau,	16.39	259	P	Pn	16 29 27.4	+2.7
	44nm,0.7s						
YATNC	Mamie plateau,	16.39	259	P	Pn	16 29 26.9	+2.2
	44nm,0.7s						
OUENC	Ouen Island, N	16.47	258	P	Pn	16 29 26.3	+0.7
OUENC				IAmb	IAmb	16 29 28.5	
	comp=Z,28nm,0.7s						
OUENC	Ouen Island, N	16.47	258	P	Pn	16 29 28.2	+2.6
	comp=Z,42nm,0.7s						
DZM	Mont Dzumac	16.80	260	P	Pn	16 29 30.1	+0.4
DZM	Mont Dzumac	16.80	260	P	Pn	16 29 31.9	+2.2
DZM	Mont Dzumac	16.80	260	P	Pn	16 29 31.6	+1.9
ONTNC	Ouen Toro	16.81	259	P	Pn	16 29 29.8	+0.1
ONTNC	Ouen Toro	16.81	259	P	Pn	16 29 32.5	+2.8
	comp=Z,0.3nm,0.8s						
NOUC	Port Laguerre	16.94	259	P	Pn	16 29 32.7	+1.5
NOUC	Port Laguerre	16.94	259	P	Pn	16 29 32.9	+1.7
MXZ	Matakaoa Point	18.35	195	P	Pn	16 29 46.6	-1.0
MXZ	Matakaoa Point	18.35	195	P	Pn	16 29 46.6	-1.0
KUZ	Kuaotunu	18.38	202	P	Pn	16 29 50.1	+2.2
KOUNC	Koumac, New Ca	18.78	265		P	16 29 50.6	+0.6
KOUNC				IAmb	IAmb	16 29 56.0	
	comp=Z,34nm,0.9s						
URZ	Urewera	19.32	197	P	P	16 29 56.6	+1.1
	comp=Z,79nm,0.8s						
URZ	Urewera	19.32	197	P	P	16 29 55.0	-0.5
	comp=Z,79nm,0.8s						
URZ	Urewera	19.32	197	P	P	16 29 55.3	-0.2
	comp=Z,41nm,0.5s,baz=81,slow=4.9,SNR=88						
URZ				S	S	16 33 18.1	-5.0
	comp=Z,7.2nm,0.5s,baz=341,slow=18,SNR=2.9						
TOZ	Tahuroa Road	19.34	201	P	Pn	16 29 58.1	-1.1
TOZ				IAmb	IAmb	16 30 02.8	
	comp=Z,24nm,0.9s						
RTZ	Ruatahuna	19.69	197	P	P	16 30 00.1	+0.6
HIZ	Hauiti	20.26	202	P	P	16 30 06.3	+0.7
HIZ	Hauiti	20.26	202	P	Pn	16 30 09.0	-1.6
BKZ	Black Stump Fm	20.34	198	P	P	16 30 07.0	+0.5
BKZ				IAmb	IAmb	16 30 12.8	
	comp=Z,24nm,1.4s						
BFZ	Birch Farm	21.82	197	P	P	16 30 21.8	0.0
BFZ				IAmb	IAmb	16 30 24.0	
	comp=Z,28nm,1.0s						
BFZ	Birch Farm	21.82	197	P	P	16 30 22.8	+1.0
	comp=Z,37nm,1.5s						
SNZO	South Karori	22.84	199	P	P	16 30 31.7	+0.5
QRZ	Quartz Range	23.14	203	P	P	16 30 36.3	+2.3
LTZ	Lake Taylor	24.95	201	P	P	16 30 50.2	-0.2
INZ	Inchbonnie	25.20	203	P	P	16 30 53.0	+0.4
OXZ	Oxford	25.52	201	P	P	16 30 55.3	-0.2
OXZ				IAmb	IAmb	16 30 59.9	
	comp=Z,17nm,0.7s						
TV1H	Townsville Har	35.28	265	P	P	16 32 21.4	-0.1
CTA	Charters Tower	35.69	263	P	P	16 32 24.6	-0.4
CTAO	Charters Tower	35.69	263	P	P	16 32 24.7	-0.3
CTAO	Charters Tower	35.69	263		P	16 32 24.4	-0.5
PMG	Port Moresby	37.33	281	P	P	16 32 37.9	-0.9
PMG	Port Moresby	37.33	281	P	P	16 32 39.0	+0.2
PMG	Port Moresby	37.33	281	P	P	16 32 38.1	-0.7
MTSU	Mount Surprise	37.77	266	P	P	16 32 42.1	-0.5
STKA	Stephens Creek	39.98	244	P	P	16 32 59.9	-0.8
	comp=Z,0.9nm,0.3s,baz=97,slow=12,SNR=3.1						
	comp=Z,0.9nm,0.3s						
MANU	Manus Island	40.20	292	P	P	16 33 01.9	-0.8
MANU	Manus Island	40.20	292	P	P	16 33 02.8	+0.1
GENI	Genyem	46.37	286	P	P	16 33 52.3	+0.3
ASAR	Alice Springs	46.75	256	P	P	16 33 53.5	-1.5
	comp=Z,19nm,0.7s,baz=88,slow=8.3,SNR=134						
ASAR				PcP	PcP	16 35 24.0	-0.9
	comp=Z,1.3nm,0.7s,baz=90,slow=4.9,SNR=2.1						
	comp=Z,19nm,0.7s						
ASAR	Alice Springs	46.75	256		P	16 33 53.5	-1.5
WRA	Warramunga Arr	46.81	261	P	P	16 33 53.1	-2.4
	comp=Z,5.7nm,0.4s,baz=95,slow=6.1,SNR=84						
	comp=Z,5.7nm,0.4s						
MTN	Manton Dam	51.31	269	P	P	16 34 27.9	-1.7
WRKA	Warakurna	51.70	253	P	P	16 34 31.1	-1.3
KNRA	Kununurra	52.85	265	P	P	16 34 39.3	-1.6
BNDI	Bandanaira	55.05	279	P	P	16 34 57.0	+0.1
FITZ	Fitzroy Crossi	55.24	261	P	P	16 34 57.9	-0.3
VNDA	Vanda	58.70	186	P	P	16 35 24.4	+3.0
VNDA	Vanda	58.70	186	P	P	16 35 22.6	+1.1
	comp=Z,3.0nm,0.8s,baz=2.1,slow=6.9,SNR=12						
	comp=Z,3.0nm,0.8s						
SANI	Sanana	59.59	280	P	P	16 35 28.8	+0.2
QSPA	South Pole Qui	70.16	180	P	P	16 36 38.2	+2.1
QSPA				IAmb	IAmb	16 36 39.0	
	comp=Z,7.0nm,0.8s						
QSPA	South Pole Qui	70.16	180	P	P	16 36 38.1	+2.0
	comp=Z,6.4nm,0.8s,baz=44,slow=1.7,SNR=42						
	comp=Z,6.4nm,0.8s						
MJAR	Matsushiro Arr	71.03	322	P	P	16 36 39.8	-1.8
	comp=Z,3.6nm,0.7s,baz=153,slow=5.7,SNR=14						
	comp=Z,3.6nm,0.7s						
PETK	Petropavlovsk-	76.28	344	P	P	16 37 10.2	-1.5
	comp=Z,6.4nm,0.7s,baz=126,slow=8.1,SNR=27						
	comp=Z,6.4nm,0.7s						
ISA	Isabella, Lake	77.40	45	P	P	16 37 19.2	+0.7
ISA				IAmb	IAmb	16 37 21.6	
	comp=Z,7.2nm,1.4s						
KSRS	Korea Array	77.89	317	P	P	16 37 19.9	-1.2
	comp=Z,2.0nm,0.9s,baz=142,slow=6.3,SNR=4.9						
	comp=Z,2.0nm,0.9s						
WAKR	Walker	78.46	42	P	P	16 37 25.6	+1.2
MPK	Martis Peak	78.57	41	P	P	16 37 25.9	+0.8
MPK				IAmb	IAmb	16 37 27.3	
	comp=Z,7.1nm,1.2s						
PNTR	Pine Nut	78.71	41	P	P	16 37 25.9	0.0
PNTR				IAmb	IAmb	16 37 28.1	
	comp=Z,6.1nm,0.9s						
LHV	Little Huntoon	78.90	42	IAmb	IAmb	16 37 32.7	
	comp=Z,7.4nm,1.3s						
NVAR	Mina Array Bea	79.13	42	P	P	16 37 29.0	+0.9
	comp=Z,1.9nm,0.6s,baz=225,slow=8.5,SNR=21						
	comp=Z,1.9nm,0.6s						
KVN	Kaiserville	79.62	42	IAmb	IAmb	16 37 32.8	
	comp=Z,6.1nm,1.2s						
USRK	Ussuriysk Ar.	79.70	325	P	P	16 37 30.3	-0.4
	comp=Z,1.9nm,0.8s,baz=172,slow=3.0,SNR=5.3						
	comp=Z,1.9nm,0.8s						
J05D	Fort Rock, OR	80.33	37	P	P	16 37 35.3	+0.9
J05D				IAmb	IAmb	16 37 36.6	
	comp=Z,9.2nm,1.0s						
PINE	Pine Mountain	80.81	37	P	P	16 37 38.1	+1.1
PINE				IAmb	IAmb	16 37 39.4	
	comp=Z,5.7nm,0.8s						
G08A	Pilot Rock	82.85	37	P	P	16 37 47.9	+0.5
G08A				IAmb	IAmb	16 37 49.6	
	comp=Z,6.6nm,0.9s						
E07A	Sunnyside	83.14	35	IAmb	IAmb	16 37 50.9	
	comp=Z,9.2nm,0.9s						
CN2	Changchun	83.16	321	*e*P	P	16 37 49.1	+0.2
CN2				*e*sP	PP	16 40 56.3	-7.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HAWA	Hanford	83.21	35	IAmb	IAmb	16 37 51.2	
	comp=Z,6.6nm,1.0s						
D08A	Wollman Farm,	83.95	35	IAmb	IAmb	16 37 54.9	
	comp=Z,5.2nm,0.8s						
TMUT	Trail Mountain	84.21	45	IAmb	IAmb	16 37 57.5	
	comp=Z,4.4nm,0.8s						
F10A	Beach Ranch, E	84.23	37	IAmb	IAmb	16 37 56.5	
	comp=Z,6.7nm,0.9s						
H03S2	Juan Fernandez	84.54	124	T	T	18 10 50.9	
	baz=248,slow=75						
H03S1	Juan Fernandez	84.56	124	T	T	18 10 51.9	
	baz=248,slow=75						
H03S3	Juan Fernandez	84.56	124	T	T	18 10 50.7	
	baz=248,slow=75						
H03N2	Juan Fernandez	84.68	123	T	T	18 11 00.5	
	baz=245,slow=74						
H03N3	Juan Fernandez	84.68	124	T	T	18 11 02.6	
	baz=245						
H03N1	Juan Fernandez	84.69	124	T	T	18 11 00.1	
	baz=245,slow=74						
TXAR	Lajitas Array	84.93	57	P	P	16 38 00.0	+1.7
	comp=Z,0.7nm,0.7s,baz=220,slow=7.6,SNR=6.0						
	comp=Z,0.7nm,0.7s						
TRF	Thorofare Moun	85.44	11	IAmb	IAmb	16 38 00.5	
	comp=Z,11nm,0.6s						
RND	Reindeer	85.67	12	IAmb	IAmb	16 38 01.8	
	comp=Z,14nm,0.6s						
CCB	Clear Creek Bu	86.99	12	IAmb	IAmb	16 38 07.5	
	comp=Z,5.1nm,0.7s						
PDAR	Pinedale Array	87.07	42	P	P	16 38 08.4	-0.2
	comp=Z,0.3nm,0.6s,baz=204,slow=3.3,SNR=4.8						
	comp=Z,0.3nm,0.6s						
IL31		87.28	12	IAmb	IAmb	16 38 09.0	
	comp=Z,8.4nm,1.4s						
ILAR	Eielson Array	87.28	12	P	P	16 38 07.7	-1.2
	comp=Z,1.4nm,0.5s,baz=213,slow=5.3,SNR=50						
	comp=Z,1.4nm,0.5s						
ELIB	Princess Elisa	87.46	186	*d*P	P	16 38 11.0	+1.0
J26L	Joseph Creek	87.72	13	IAmb	IAmb	16 38 13.7	
	comp=Z,4.3nm,0.8s						
L29M	L29M	87.84	16	IAmb	IAmb	16 38 13.4	
	comp=Z,18nm,1.2s						
E19K	Redstone River	88.18	7	IAmb	IAmb	16 38 14.0	
	comp=Z,5.0nm,0.7s						
D19K	Kuna River	89.08	6	IAmb	IAmb	16 38 17.9	
	comp=Z,5.2nm,0.8s						
I30M	Mount Dempster	90.01	15	IAmb	IAmb	16 38 22.6	
	comp=Z,3.8nm,0.8s						
D22K	Ayikyak River	90.09	8	IAmb	IAmb	16 38 23.2	
	comp=Z,5.3nm,0.8s						
G31M	Satah River	91.89	15	IAmb	IAmb	16 38 31.2	
	comp=Z,8.0nm,0.9s						
CMAR	Chiang Mai Arr	91.95	289	P	P	16 38 31.4	-0.3
CMAR	Chiang Mai Arr	91.95	289	P	P	16 38 31.9	+0.2
	comp=Z,2.7nm,0.9s,baz=117,slow=2.9,SNR=16						
	comp=Z,2.7nm,0.9s						
YKA	Yellowknife Ar	95.09	24	P	P	16 38 44.8	-0.3
	comp=Z,0.6nm,0.8s,baz=240,slow=4.8,SNR=12						
	comp=Z,0.6nm,0.8s						
SONM	Songino Array	96.73	318	P	P	16 38 51.8	-1.3
	comp=Z,0.3nm,0.5s,baz=139,slow=5.1,SNR=2.4						
	comp=Z,0.3nm,0.5s						
ZALV	Zalesovo Beam	111.38	321	PKiKP	PKiKP	16 43 53.8	-1.4
	comp=Z,0.6nm,0.5s,baz=135,slow=2.0,SNR=2.5						
MKAR	Makanchi Array	112.36	313	PKiKP	PKiKP	16 43 56.3	-1.0
	comp=Z,0.3nm,0.4s,baz=130,slow=1.0,SNR=11						
KURBB	Kurchatov Arra	115.07	317	PKiKP	PKiKP	16 44 01.1	-1.3
	comp=Z,0.7nm,0.7s,baz=91,slow=1.7,SNR=7.5						
BVAR	Borovoye Array	120.00	320	PKP	PKPdf	16 44 10.9	-0.9
	comp=Z,1.8nm,0.5s,baz=112,slow=1.0,SNR=13						
ARCES	ARCESS Array B	128.71	351	PKP	PKPdf	16 44 27.6	-0.5
	comp=Z,6.1nm,1.0s,baz=18,slow=3.1,SNR=4.0						
FINES	FINESS Array B	135.78	345	PKP	PKPdf	16 44 40.6	-1.0
	comp=Z,0.9nm,0.4s,baz=102,slow=3.3,SNR=10						
HFS	Hagfors	139.26	353	PKhKP	PKPpre	16 44 37.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.4nm,0.7s,baz=86,slow=5.9,SNR=6.8						
AKASG	Malin Array Be	143.50	333	PKhKP	PKPpre	16 44 52.0	
	comp=Z,4.2nm,0.5s,baz=40,slow=4.3,SNR=41						
EKA	Eskdalemuir Ar	144.18	7	PKP	PKPab	16 44 54.7	-0.5
	comp=Z,2.6nm,0.5s,baz=317,slow=2.5,SNR=17						
BURAR	Bucovina Array	147.55	333	⇑P	PKPbc	16 45 06.3	+0.3
KOLS	Kolonicke sedl	147.63	338	*e*	PKiKP	16 45 07.0	-0.9
GHRR		147.73	329	⇑P	PKiKP	16 45 07.4	-0.8
TESR	Tescani	147.76	330	⇑P	PKPbc	16 45 06.3	-0.1
CLL	Collm	147.92	350	*i* PKPbc	PKPbc	16 45 06.4	-0.3
	comp=Z,10.0nm,1.0s						
CLL				*i* PKiKP	PKiKP	16 45 08.4	0.0
	comp=Z,11nm,0.7s						
OSTC	Ostas	147.99	346	*e*PKP	PKPbc	16 45 06.7	-0.2
CHVC	Chvalec	148.00	346	*e*PKP	PKiKP	16 45 09.2	+0.6
BRTR	Keskin Array B	148.00	314	PKPbc	PKPbc	16 45 06.8	-0.6
	comp=Z,6.0nm,0.7s,baz=139,slow=4.7,SNR=35						
UPC	Upice	148.08	346	*e*PKP	PKPbc	16 45 07.4	+0.2
DPC	Dobruska-Polom	148.15	345	*e*PKP	PKPbc	16 45 07.8	+0.4
BRG	Berggiesshubel	148.17	348	*e*PKP	PKPbc	16 45 07.7	+0.3
BRG				Amp		16 45 08.9	
	comp=Z,2.8nm,0.8s						
BRG	Berggiesshubel	148.17	348	P	PKPab	16 45 10.8	-0.1
BRG				Amp		16 45 11.4	
	comp=Z,3.4nm,0.8s						
VRI	Vrincioaia	148.20	330	⇑P	PKPbc	16 45 07.5	-0.1
PLOR	Plostina	148.24	330	⇑P	PKPbc	16 45 07.3	-0.5
PVCC	Panska Ves	148.38	347	*e*PKP	PKPbc	16 45 08.3	+0.4
LANS	Liptovska Anna	148.38	341	*e*	PKiKP	16 45 09.1	-0.4
TURR	Turia	148.39	331	⇓P	PKPbc	16 45 08.4	+0.3
HARR	Harsova	148.44	327	⇑P	PKPbc	16 45 08.6	+0.4
COVR	Voineasa-Covas	148.46	330	⇓P	PKPbc	16 45 07.3	-1.0
ANTO	Ankara	148.49	315	⇑P	PKPbc	16 45 08.9	+0.2
MAUC	Maruska	148.67	343	*e*PKP	PKPbc	16 45 09.2	+0.5
DOPR	Dopca	148.75	331	⇑P	PKiKP	16 45 09.8	-0.6
MLR	Muntele Rosu	148.84	330	⇑P	PKPbc	16 45 09.2	-0.2
PRU	Pruhonice	148.89	347	*e*PKP	PKPbc	16 45 09.0	-0.2
NKC	Novy Kostel	149.05	350	*e*PKP	PKPab	16 45 14.0	-0.5
VYHS	Vyhne	149.16	341	*e*	PKPbc	16 45 10.4	+0.4
MARR	Marisel-Cluj	149.17	334	⇓P	PKPbc	16 45 09.9	-0.3
VOIR		149.30	331	⇓P	PKPbc	16 45 10.4	-0.1
TREC	Trest	149.34	346	*e*PKP	PKPbc	16 45 10.4	0.0
MMAI	Mount Meron Ar	149.36	302	PKPbc	PKPbc	16 45 11.2	+0.1
	comp=Z,15nm,0.5s,baz=73,slow=7.1,SNR=38						
ZVC	Zvikov	149.49	347	*e*PKP	PKPbc	16 45 10.9	+0.2
MODS	Modra-Piesok	149.72	343	*e*	PKiKP	16 45 12.1	-0.2
KHC	Kasperske Hory	149.90	348	*e*PKP	PKPbc	16 45 11.5	-0.3
CKRC	Cesky Krumlov	150.05	347	*e*PKP	PKPbc	16 45 11.9	-0.2
GERES	GERESS Array B	150.15	347	PKPbc	PKPbc	16 45 12.4	-0.1
	comp=Z,3.0nm,0.7s,baz=41,slow=1.8,SNR=13						
SURR	Surduc	150.32	334	⇓P	PKPbc	16 45 12.6	-0.3
CONA	Conrad Observa	150.51	344	*e*PKP	PKPbc	16 45 13.7	+0.3
	comp=Z,3.8nm,0.5s						
RONA	Rosalia, Austr	150.61	343	*i* PKP	PKPbc	16 45 13.7	+0.2
	comp=Z,6.6nm,0.5s,SNR=10						
BZS	Buzias	150.64	335	⇓P	PKPbc	16 45 13.3	-0.3
HERR	Herculane	150.90	333	⇑P	PKPbc	16 45 14.2	-0.1
MOA	Molln	150.97	346	*e*PKP	PKPbc	16 45 14.1	-0.2
	comp=Z,2.8nm,0.5s						
BIOA	Bad Ischl, Aus	151.26	347	*i* PKP	PKPbc	16 45 14.6	-0.4
	comp=Z,1.6nm,0.4s						
MDVR	Moldovita	151.28	334	⇓P	PKPbc	16 45 14.8	-0.4
LESA	Schwarzleotal	151.71	348	*e*PKP	PKPbc	16 45 15.6	-0.5
	comp=Z,2.3nm,0.3s						
FRGS	Fruska Gora	151.72	336	⇓P	PKPbc	16 45 16.0	-0.1
BLKB	Belogradchik	151.78	331	⇓P	PKPbc	16 45 15.4	-1.0
SOKA	Soboth	151.88	344	*e*PKP	PKPbc	16 45 15.8	-0.7
	comp=Z,2.9nm,0.8s						
KBA	Koelnbreinsper	151.91	347	*e*PKP	PKPbc	16 45 16.1	-0.6
	comp=Z,4.5nm,0.6s						
WATA	Walderalm	152.00	349	*i* PKP	PKPbc	16 45 16.5	-0.3
	comp=Z,5.0nm,0.5s,SNR=6.3						
WTTA	Wattenberg	152.06	349	*i* PKP	PKPbc	16 45 16.9	-0.2
	comp=Z,9.4nm,0.4s,SNR=12						
MOTA	Moosalm	152.07	350	*e*PKP	PKPbc	16 45 16.5	-0.6
	comp=Z,1.7nm,0.4s						
OBKA	Obir	152.16	345	*e*PKP	PKiKP	16 45 18.5	+1.0
	comp=Z,3.5nm,0.6s						
SQTA	Sankt Quirin	152.18	350	*e*PKP	PKPbc	16 45 17.1	-0.2
	comp=Z,4.8nm,0.5s						
MYKA	Terra Mystica	152.27	346	*e*PKP	PKPbc	16 45 16.2	-1.2
	comp=Z,3.1nm,0.4s						
DAVA	Damuels	152.31	352	*e*PKP	PKiKP	16 45 18.0	+0.2
	comp=Z,4.4nm,0.6s						
ABTA	Abfaltersbach	152.39	348	*i* PKP	PKPbc	16 45 17.0	-0.7
	comp=Z,6.5nm,0.5s,SNR=7.9						
FETA	Feichten	152.45	350	*e*PKP	PKPbc	16 45 17.9	0.0
	comp=Z,3.1nm,0.6s						
ESDC	Sonseca Array	159.06	18	PKPab	PKPab	16 45 57.1	-0.1
	comp=Z,1.0nm,0.7s,baz=330,slow=4.3,SNR=6.5						

*DJA **01** 16:32:38.5±0.2, 8°S±3°×12°1E±°, h181km±3km, M4.5/20, mb4.4/16, mB5.1/5, MLv4.5/20, Mw(mB)4.4/5, MwMwp7.4/1, Mwp7.1/1*

*NEIC **01** 16:32:39.3±2.1, 9°.36S±0°.08×120°.92E±0°.09, h124km±8km, mb4.2/12, Error ellipse: s-maj=13.0km s-min=11.3km az=52.0*

*IDC **01** 16:32:40.2±1.2, 7°.96S×121°.76E, h215km±13km, mb3.3/6, mbtmp4.0/9, Error ellipse: s-maj=77.2km s-min=10.4km az=58.0*

ISC 01 16:32:38.5±0.6, **8°.48S**±0°.05×**121°.28E**±0°.07, **h200**km, **n88**, σ**1^{s}85**/83, **mb3.6**/8, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	0.48	123	P	Pn	16 33 03.9	-1.7
EDFI				S	Sn	16 33 22.9	-3.8
MMRI	Maumere	0.96	99		Pn	16 33 06.6	-1.4
MMRI	Maumere	0.96	99	P	Pn	16 33 06.6	-1.4
MMRI	Maumere	0.96	99	P	Pn	16 33 06.6	-1.4
MMRI				S	Sn	16 33 27.8	-2.9
BASI	Baing, Sumba	1.86	202	P	Pn	16 33 14.0	-1.6
BASI				S	Sn	16 33 42.7	-1.9
DBNI	Kabupaten Domp	2.94	269	P	Pn	16 33 27.2	-0.2
SOEI	Soe	3.21	113	Pn	Pn	16 33 30.2	-0.5
SOEI	Soe	3.21	113	P	Pn	16 33 30.6	-0.1
SOEI	Soe	3.21	113	P	Pn	16 33 30.4	-0.3
BBSI	Bau Bau	3.24	23	P	Pn	16 33 30.7	-0.3
BKSI	Bulukumba	3.34	340	P	Pn	16 33 31.2	-1.0
PLAI	Plampang	3.48	264	P	Pn	16 33 34.1	+0.2
PLAI	Plampang	3.48	264	P	Pn	16 33 33.7	-0.2
MKS	Makassar	3.71	331	P	Pn	16 33 36.7	0.0
KAPI	Kappang	3.77	336	P	Pn	16 33 37.6	+0.2
	200nm,0.7s,baz=146,slow=8.6,SNR=133						
KAPI				S	Sn	16 34 21.9	-1.7
	10nm,0.5s,baz=55,slow=16,SNR=0.6						
TWSI	Taliwang, Sumb	4.36	266	P	Pn	16 33 44.5	-0.3
SPSI	Sidrap Palu	4.73	341	P	Pn	16 33 49.3	-0.2
TTSI	Tana Toraja	5.59	345	P	Pn	16 34 00.6	+0.1
	101nm,0.9s,961nm0.3nm						
SRBI	Singaraja	6.02	273	P	Pn	16 34 05.4	-0.6
	53nm,0.7s,0.2nm						
MMSI	Mamuju	6.22	338	P	Pn	16 34 09.7	+1.1
	66nm,0.8s,548nm0.2nm						
ABJI	Asem Bagus	7.01	275	P	Pn	16 34 20.2	+1.3
	72nm,0.8s,0.2nm						
JAGI	Jajag, Banyuwa	7.05	270	Pn	Pn	16 34 16.0	-3.4
JAGI	Jajag, Banyuwa	7.05	270	P	Pn	16 34 18.7	-0.7
JAGI	Jajag, Banyuwa	7.05	270	P	Pn	16 34 17.0	-2.4
	33nm,0.8s,0.3nm						
KMMI	Kalianget	7.39	281	P	Pn	16 34 24.5	+0.7
	67nm,1.0s,0.3nm						
LUWI	Luwuk	7.54	11	Pn	Pn	16 34 36.6	+11
LUWI	Luwuk	7.54	11	P	Pn	16 34 25.1	-0.7
	81nm,1.1s,0.8nm						
BLJI	Banyuglugur	7.65	275	P	Pn	16 34 28.2	+1.1
	68nm,1.1s,0.2nm						
NLAI	Namlea	7.79	48	P	Pn	16 34 29.8	+0.8
	16nm,1.3s,20µm0.3nm						
SANI	Sanana	7.92	37	P	Pn	16 34 30.2	-0.6
	10nm,1.0s,0.1nm						
BBKI	Banjar Baru	8.12	308	P	Pn	16 34 34.6	+1.3
	18nm,1.0s						
MPSI	Mapaga	8.87	351	P	Pn	16 34 43.6	+0.5
	16nm,1.0s						
MRSI	Marisa	8.92	4	P	Pn	16 34 43.0	-0.8
	26nm,0.8s						
GTOI	Gorontalo	9.22	11	P	Pn	16 34 48.7	+1.0
	8.4nm,0.9s						
BNDI	Bandanaira	9.43	66	P	Pn	16 34 53.1	+2.8
	68nm,1.1s,22µm						
SJI	Sawahan	9.45	274	P	Pn	16 34 51.6	+0.9
	27nm,0.6s						
TOLI2	Tolitoli	9.54	357	P	Pn	16 34 54.6	+2.7
SAUI	Saumlaki	9.93	88	P	Pn	16 34 55.8	-1.1
	162nm,0.6s						
KNRA	Kununurra	10.23	135		Pn	16 34 58.6	-2.1
KNRA	Kununurra	10.23	135	P	Pn	16 35 00.4	-0.3
FITZ	Fitzroy Crossi	10.46	157	Pn	Pn	16 34 56.0	-7.7
MTN	Manton Dam	10.61	115	Pn	Pn	16 35 04.7	-0.9
MTN	Manton Dam	10.61	115	P	Pn	16 35 05.0	-0.6
UGM	Wanagama	10.66	272	Pn	Pn	16 35 05.2	-1.2
UGM	Wanagama	10.66	272	P	Pn	16 35 08.4	+2.0
SMRI	Semarang	10.84	277	Pn	Pn	16 35 08.1	-0.5
TNTI	Ternate	11.01	34	Pn	P	16 35 25.4	+8.2
KDU	Kakadu	11.77	112	P	Pn	16 35 19.8	-0.7
MBWA	Marble Bar	12.69	187	P	Pn	16 35 31.0	-1.1
PSA00	Pilbara Seismi	13.09	186		Pn	16 35 28.7	-8.4
PSA00	Pilbara Seismi	13.09	186	Pn	Pn	16 35 28.5	-8.6
GIRL	Giralia	15.62	205	P	P	16 36 03.1	-5.2
GIRL	Giralia	15.62	205	P	P	16 36 07.9	-0.4
WB0	Warramunga Arr	16.94	133		Pn	16 36 24.0	-0.1
WB0				IAmb	IAmb	16 36 27.1	
	comp=Z,6.9nm,0.8s						
WRA	Warramunga Arr	17.01	133		Pn	16 36 24.4	-0.6
WRA	Warramunga Arr	17.01	133	P	Pn	16 36 24.7	-0.4
	comp=Z,1.6nm,0.3s,baz=308,slow=12,SNR=12						
WRA				S	S	16 39 26.0	-4.8
	comp=Z,12nm,0.8s,baz=305,slow=23,SNR=10						
WB2	Warramunga Arr	17.02	133		Pn	16 36 24.9	-0.3
WB2				IAmb	IAmb	16 36 31.6	
	comp=Z,5.9nm,0.6s						
WR0	Warramunga Arr	17.17	133	P	Pn	16 36 26.4	-0.4
WR0				IAmb	IAmb	16 36 29.0	
	comp=Z,6.7nm,0.8s						
WRKA	Warakurna	17.77	159	P	Pn	16 36 34.9	+1.0
MEEK	Meekatharra	18.23	188	P	Pn	16 36 40.1	+0.8
AS31	Alice Springs	19.34	143	Pn	Pn	16 36 50.8	-1.6
AS31				IAmb	IAmb	16 36 55.8	
	comp=Z,8.0nm,0.9s						
ASAR	Alice Springs	19.34	143	P	Pn	16 36 50.8	-1.7
ASAR	Alice Springs	19.34	143	P	Pn	16 36 51.0	-1.5
	comp=Z,22nm,0.8s,baz=326,slow=11,SNR=44						
ASAR				S	S	16 40 16.9	-0.2
	comp=Z,2.1nm,0.8s,baz=322,slow=24,SNR=5.3						
MORW	Morawa	21.06	193	P	P	16 37 09.4	+2.2
QIS	Mount Isa	21.39	126	P	P	16 37 12.4	+1.7
FORT	Forrest	23.07	165	P	P	16 37 28.2	+1.7
FORT				IAmb	IAmb	16 37 52.6	
	comp=Z,16nm,0.8s						
FORT	Forrest	23.07	165	P	P	16 37 30.0	+3.6
	comp=Z,27nm,1.4s						
OOD	Oodnadatta	23.54	147	P	P	16 37 34.1	+3.3
MTSU	Mount Surprise	24.36	116	P	P	16 37 40.9	+2.6
MULG	Mulgathing	24.77	153	P	P	16 37 43.9	+2.0
BBOO	Buckleboo	27.81	153	P	P	16 38 10.8	+1.7
BBOO				IAmb	IAmb	16 38 25.3	
	comp=Z,26nm,1.4s						
BBOO	Buckleboo	27.81	153	P	P	16 38 11.4	+2.3
HTT	Hallett	29.70	149	P	P	16 38 29.5	+3.6
STKA	Stephens Creek	29.97	144	P	P	16 38 30.6	+2.3
STKA	Stephens Creek	29.97	144	P	P	16 38 30.8	+2.5
STKA	Stephens Creek	29.97	144	P	P	16 38 30.4	+2.1
	comp=Z,3.1nm,0.4s,baz=329,slow=9.0,SNR=14						
	comp=Z,3.1nm,0.4s						
TWG	Pinlang	31.11	360	P	P	16 38 52.3	+14
CMSA	Cobar Meteorol	32.28	139	P	P	16 38 51.8	+3.3
WHN	Wuhan	39.37	351	P	P	16 39 56.9	+8.3
MAJO	Matsushiro	47.53	19	P	P	16 41 09.5	+16
MJB9	Matsu-Tunnel	47.53	19	P	P	16 41 10.1	+16
SONM	Songino Array	57.60	348	P	P	16 42 05.6	-2.0
	comp=Z,0.2nm,0.3s,baz=159,slow=7.4,SNR=2.6						
	comp=Z,0.2nm,0.3s						
MKAR	Makanchi Array	65.05	332	P	P	16 42 56.7	-0.7
	comp=Z,0.2nm,0.4s,baz=150,slow=7.1,SNR=7.6						
	comp=Z,0.2nm,0.4s						
ZALV	Zalesovo Beam	69.39	338	P	P	16 43 21.7	-2.7
	comp=Z,0.6nm,0.3s,baz=133,slow=6.0,SNR=5.3						
	comp=Z,0.6nm,0.3s						
KURBB	Kurchatov Arra	69.53	333	P	P	16 43 24.2	-1.1
	comp=Z,0.2nm,0.4s,baz=138,slow=5.7,SNR=2.3						
	comp=Z,0.2nm,0.4s						
VNDA	Vanda	72.15	171	P	P	16 43 43.6	+2.8
	comp=Z,0.8nm,0.9s,baz=320,slow=7.9,SNR=2.1						
	comp=Z,0.8nm,0.9s						
BRVK	Borovoye	74.99	331	P	P	16 44 11.1	+13
ABKAR	Akbulak array	78.45	324	P	P	16 44 24.9	+7.8

*CNRM **01** 16:35:14.1, 35°.44N×3°.97W, h16km, ML1.9*

*SFS **01** 16:35:14.3, 35°.15N×4°.08W, h21km, ML2.3/15, ML3.0/11, MLv2.0/15*

*MDD **01** 16:35:15.2±0.4, 35°.33N×4°.01W, h0km, mb_Lg2.4/11, Error ellipse: s-maj=3.6km s-min=2.8km az=159.0*

*INMG **01** 16:35:15.9±1.0, 35°.35N×3°.97W, h2km, ML1.9, Error ellipse: s-maj=2.5km s-min=2.0km az=39.0*

ISC 01 16:35:14.4±0.9, **35°.35N**±0°.02×**4°.02W**±0°.02, **h11**km±7km, **n56**, σ**1^{s}44**/77, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.15	152	P	Pg	16 35 18.7	+0.9
PALE	Palemas	0.15	152	S	Sg	16 35 21.3	+1.1
PVLZ	Peæn de	0.29	233	Pg	Pg	16 35 17.9	-2.3
PVLZ				Sg	Sg	16 35 22.7	-1.4
AKLM	AKL	0.85	171	P	Pn	16 35 32.3	-0.1
AKLM	AKL	0.85	171	S	Sb	16 35 43.0	+0.4
GOG	Mont Gurugu	0.85	98	P	Pg	16 35 30.4	-0.4
GOG	Mont Gurugu	0.85	98	S	Sg	16 35 42.1	+0.2
EMEL	Melilla	0.87	93	P	Pg	16 35 31.1	-0.2
EMEL				S	Sg	16 35 41.6	-1.0
EMEL				*i* Vmb_Lg		16 35 47.8	
EALB	Alboran	1.00	53	Pn	Pg	16 35 33.0	-0.7
EALB	Alboran	1.00	53	P	Pg	16 35 33.0	-0.7
EALB				S	Sg	16 35 46.1	-0.5
EALB				*i* Vmb_Lg		16 35 48.0	
SMIR	Smir Dam	1.16	287	P	Pb	16 35 36.5	0.0
SMIR	Smir Dam	1.16	287	S	Sg	16 35 51.8	0.0
CEU	Ceuta	1.23	297	Pn	Pn	16 35 35.5	-2.1
CEU				Sn	Sb	16 35 50.5	-3.1
ECEU	Ceuta	1.23	297	Pn	Pn	16 35 36.7	-0.9
ECEU	Ceuta	1.23	297	P	Pn	16 35 38.0	+0.4
ECEU				S	Sb	16 35 52.4	-1.3
ECEU				*i* Vmb_Lg		16 35 55.3	
CHAS	Isla Isabel II	1.31	97	Pn	Pn	16 35 37.4	-1.3
CHAS				Sn	Sb	16 35 53.2	-2.8
EMIJ	Mijas	1.36	334	Pn	Pn	16 35 38.4	-1.0
EMIJ	Mijas	1.36	334	P	Pn	16 35 38.5	-0.9
EMIJ				S	Sb	16 35 57.4	0.0
EMIJ				*i* Vmb_Lg		16 36 01.0	
TAF	Taforalt	1.42	112	P	Pn	16 35 38.9	-1.4
TAF	Taforalt	1.42	112	S	Sb	16 35 57.1	-2.1
EMAL	Malaga-Limoner	1.45	347	Sn	Sn	16 36 00.5	+0.9
ELGU	Los Guajares,	1.55	12	Pn	Pn	16 35 41.4	-0.6
ELGU	Los Guajares,	1.55	12	P	Pn	16 35 41.6	-0.4
ELGU				S	Sn	16 36 02.7	+0.4
ELGU				*i* Vmb_Lg		16 36 06.0	
JBK	JBK	1.57	130	P	Pn	16 35 42.9	+0.5
JBK	JBK	1.57	130	S	Sn	16 36 01.9	-0.9
EJIF	Jimena Fronter	1.61	314	P	Pb	16 35 44.6	+0.4
EJIF				S	Sn	16 36 04.7	+1.1
EGOR	Sierra Gorda,	1.76	358	P	Pn	16 35 45.4	+0.3
EGOR				S	Sn	16 36 08.9	+1.4
EGOR				*i* Vmb_Lg		16 36 15.0	
EBER	Berja	1.80	30	Pn	Pn	16 35 45.8	+0.2
EBER	Berja	1.80	30	P	Pn	16 35 45.8	+0.2
EBER				*i* Vmb_Lg		16 36 08.7	
EBER				S	Sn	16 36 09.8	+1.3
MD31	MD31	2.55	194	P	Pn	16 35 57.2	+1.4
MD31	MD31	2.55	194	S	Sn	16 36 29.1	+2.2
EQES	Quesada	2.57	17	P	Pn	16 35 58.0	+1.9
EQES				S	Sn	16 36 29.6	+2.2
EQES				*i* Vmb_Lg		16 36 32.5	
MDT	Midelt	2.57	191	P	Pn	16 35 57.6	+1.4
MDT	Midelt	2.57	191	S	Sn	16 36 28.8	+1.3
EADA	Adamuz	2.85	351	Pn	Pn	16 36 01.9	+2.1
EADA	Adamuz	2.85	351	P	Pn	16 36 02.0	+2.1
EADA				S	Sn	16 36 36.4	+2.2
EADA				*i* Vmb_Lg		16 36 48.7	
ECAB	El Cabril	2.94	338	Pn	Pn	16 36 02.0	+0.8
ECAB	El Cabril	2.94	338	P	Pn	16 36 02.4	+1.2
ECAB				S	Sn	16 36 37.5	+1.0
EMIN	Mina Concepcio	3.22	319	P	Pn	16 36 06.3	+1.3
EGRO	El Granado	3.54	309	Pn	Pn	16 36 09.6	+0.2
EGRO	El Granado	3.54	309	P	Pn	16 36 10.5	+1.2
EGRO				S	Sn	16 36 50.0	-1.3
EGRO				*i* Vmb_Lg		16 36 50.3	
PVAQ	Vaqueiros	3.62	306	*e*S	Sn	16 36 52.0	-1.2
PBDV	Barranco-do-Ve	3.68	302	*e*P	Pn	16 36 15.0	+3.7
PBDV				*e*S	Sn	16 36 54.1	-0.6
PBAR	Barrancos	3.72	320	*e*P	Pn	16 36 13.5	+1.7
PBAR				*e*S	Sn	16 36 56.8	+1.2
PBAR	Barrancos	3.72	320	Pn	Pn	16 36 12.3	+0.5
ETOB	Tobarra	3.84	30	Pn	Pn	16 36 14.0	+0.4
ETOB	Tobarra	3.84	30	P	Pn	16 36 15.1	+1.5
ETOB				S	Sn	16 36 58.9	+0.1
PCVE	Castro Verde	3.96	306	*e*P	Pn	16 36 17.5	+2.4
PCVE				*e*S	Sn	16 37 02.2	+0.7
EBAD	Badajoz	4.16	326	Pn	Pn	16 36 18.7	+0.8
EBAD	Badajoz	4.16	326	P	Pn	16 36 18.8	+1.0
EBAD				S	Sn	16 37 05.8	-0.7
EBAD				*i* Vmb_Lg		16 37 07.5	
MESJ	Messejana	4.19	308	*e*P	Pn	16 36 21.1	+2.8
EVO	Evora	4.51	316	*e*P	Pn	16 36 24.7	+2.0
PESTR	Estremoz	4.53	322	*e*P	Pn	16 36 24.9	+2.0
PESTR				*e*S	Sn	16 37 15.2	-0.3
PMRV	Marv??o	4.88	328	*e*P	Pn	16 36 29.3	+1.5
PMTG	Montargil	5.00	319	*e*P	Pn	16 36 31.2	+1.7
PMAFR	Mafra	5.53	312	*e*P	Pn	16 36 39.2	+2.4

*SJA **01** 16:45:29.7±0.9, 24°.25S×67°.21W, h206km±7km, ML3.6, MW3.5*

*GUC **01** 16:45:32.4±0.6, 24°.20S×67°.71W, h235km±9km, ML4.0*

ISC 01 16:45:28.8±1.8, **24°.25S**±0°.04×**67°.24W**±0°.04, **h216**km±16km, **n34**, σ**1^{s}52**/54, **3C**, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.65	107	*i* P	Pn	16 46 05.6	+0.2
AZAP	Zapla	1.99	90	*i* P	Pn	16 46 08.7	0.0
AZAP				*e*S	S	16 46 38.7	-0.8
LVC	Limon Verde	2.23	316	*i* P	Pn	16 46 12.7	+1.4
LVC				*e*S	S	16 46 43.8	-0.4
LVC	Limon Verde	2.23	316	⇑*i*P	Pn	16 46 12.8	+1.4
LVC				*i* S	S	16 46 43.0	-1.2
PB15	IPOC Station P	2.29	296	*i* P	Pn	16 46 13.3	+1.6
PB15	IPOC Station P	2.29	296	*e*P	Pn	16 46 12.9	+1.2
PB15				*i* S	S	16 46 43.5	-1.4
GO02	Mina Guanaco	2.32	246	*i* P	Pn	16 46 13.5	+1.4
GO02	Mina Guanaco	2.32	246	⇑*i*P	Pn	16 46 13.6	+1.5
GO02				*i* S	S	16 46 45.2	-0.4
YJA	Yavi	2.60	38	*i* P	Pn	16 46 16.2	+0.9
YJA				*e*S	S	16 46 52.0	+0.6
PB06	IPOC Station P	2.63	305	*i* P	Pn	16 46 17.0	+1.6
PB06				*e*S	S	16 46 50.7	-0.7
PB06				IAML		16 46 53.0	
	comp=Z,253nm,0.1s						
PB06	IPOC Station P	2.63	305	⇑*i*P	Pn	16 46 17.0	+1.6
PB06				*i* S	S	16 46 49.8	-1.6
PB06				IAML		16 46 51.2	
	comp=N,491nm,0.1s						
ALOL	LOMAS DE OLMED	3.01	82	*i* P	Pn	16 46 20.1	+0.6
PB09	IPOC Station P	3.06	323	*e*P	Pn	16 46 22.3	+2.1
PB09				*i* S	S	16 46 59.6	-0.5
PB09				IAML		16 47 02.7	
	comp=E,170nm,0.3s						
PB04	IPOC Station P	3.28	305	*i* P	Pn	16 46 24.0	+1.3
PB04				*e*S	S	16 47 04.0	-0.8
PB04				IAML		16 47 05.4	
	comp=Z,186nm,0.2s						
PB04	IPOC Station P	3.28	305	*e*P	Pn	16 46 24.1	+1.4
PB04				*i* S	S	16 47 02.2	-2.5
PB07	IPOC Station P	3.50	315	*i* P	Pn	16 46 26.4	+1.1
PB07				IAML		16 47 10.7	
	comp=Z,139nm,0.4s						
PB07	IPOC Station P	3.50	315	*e*P	Pn	16 46 26.6	+1.3
PB07				*i* S	S	16 47 07.4	-1.9
AC01	Pan de Azucar	3.58	237	*e*P	Pn	16 46 27.0	+0.9
AC01				*i* S	S	16 47 08.8	-2.1
PB01	IPOC Station P	3.80	327	*i* P	Pn	16 46 30.0	+1.1
PB01				IAML		16 47 20.7	
	comp=Z,74nm,0.2s						
PB01	IPOC Station P	3.80	327	*e*P	Pn	16 46 30.1	+1.2
PB01				*i* S	S	16 47 13.8	-2.1
PB02	IPOC Station P	3.80	319	*i* P	Pn	16 46 30.2	+1.2
PB02	IPOC Station P	3.80	319	*e*P	Pn	16 46 30.3	+1.4
PB02				*i* S	S	16 47 13.7	-2.2
GO03	Copiap	4.29	218	*i* P	Pn	16 46 35.9	+1.2
GO03	Copiap	4.29	218	*e*P	Pn	16 46 35.9	+1.2
GO03				*i* S	S	16 47 25.4	-1.2
PATCX	Punta Patache	4.34	321	*i* P	Pn	16 46 36.9	+1.4
PATCX				IAML		16 47 39.4	
	comp=Z,41nm,0.5s						
PATCX	Punta Patache	4.34	321	*e*P	Pn	16 46 37.0	+1.5
PATCX				*i* S	S	16 47 25.9	-1.9
PB08	IPOC Station P	4.45	336	*i* P	Pn	16 46 39.2	+2.1
PB08				IAML		16 47 33.8	
	comp=Z,25nm,0.2s						
PB08	IPOC Station P	4.45	336	*e*P	Pn	16 46 39.3	+2.1
PB08				*i* S	S	16 47 29.8	-1.0
TA01	Diego Aracena	4.56	323	*i* P	Pn	16 46 39.4	+1.2
TA01				IAML		16 47 35.3	
	comp=Z,26nm,0.3s						
TA01	Diego Aracena	4.56	323	*e*P	Pn	16 46 39.7	+1.6
TA01				*i* S	S	16 47 30.4	-2.2
HMBC	Humberstone	4.65	328	*e*P	Pn	16 46 39.9	+0.6
HMBC				*i* S	S	16 47 32.0	-2.8
GO01	Chusmiza	4.90	338	*i* P	Pn	16 46 44.8	+1.9
PB11	IPOC Station P	4.99	333	*i* P	Pn	16 46 44.9	+1.2
PB11				IAML		16 47 45.4	
	comp=Z,25nm,0.2s						
ACLC	CERRO LA CRUZ	5.17	177	*i* P	Pn	16 46 47.6	+1.8

*BJI **01** 17:03:37.5±0.0, 40°.50N×136°.80W, h10km, mb5.0/48, mB5.4/21, Ms5.0/1, Ms7 4.9/1*

*IDC **01** 17:03:39.1±0.9, 40°.75N×136°.82W, h0km, mb4.5/22, mbtmp4.5/27, ML3.6/5, MS3.7/52, Error ellipse: s-maj=27.0km s-min=13.0km az=7.0*

*NEIC **01** 17:03:39.6±2.0, 40°.5N±0°.1×136°.9W±0°.1, h10km±1km, mb4.6/289, Error ellipse: s-maj=19.0km s-min=12.9km az=208.0*

ISC 01 17:03:39.6±0.5, **40°.54N**±0°.09×**136°.77W**±0°.06, **h10**km, **n710**, σ**0^{s}97**/598, **mb4.7**/133, **MS3.6**/49, **3C-1D**, **North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	9.58	76	Pn	Pn	17 05 56.9	-0.6
KMPM	Mount Pierce	9.64	87	Pn	Pn	17 05 57.4	-1.0
KRPM	Rodgers	9.68	82	Pn	Pn	17 05 58.9	0.0
JCC	Jacoby Creek,	9.69	84	Pn	Pn	17 05 59.2	+0.3
KRMB	Red Mountain	9.77	80	Pn	Pn	17 06 00.4	+0.2
KSXB	Camp Six Broad	9.81	78		Pn	17 06 02.0	+1.3
KMRM	Mail Ridge	9.97	88	Pn	Pn	17 06 02.1	-0.9
KCPM	Cahto Peak	10.14	91		Pn	17 06 03.4	-1.9
DBO	Dodson Butte	10.42	71		Pn	17 06 10.2	+1.1
HOPS	Hopland Field	10.66	94		Pn	17 06 09.4	-2.9
YBH	Yreka Blue Hor	10.68	79	Pn	Pn	17 06 10.4	-2.2
YBH	Yreka Blue Hor	10.68	79	Pn	Pn	17 06 14.7	+2.2
	0.2nm,0.3s,baz=271,slow=13,SNR=9.3						
YBH				LR	LR	17 09 28.1	
	comp=Z,633nm,19.4s,baz=272,slow=33						
	1.9nm,0.7s						
BUCK	Buck Mountain	10.83	66		Pn	17 06 13.7	-1.1
G03D	McMinnville, O	10.96	60	Pn	Pn	17 06 15.7	-0.6
L04D	Klamath Falls	11.00	76		Pn	17 06 16.4	-0.7
MCCM	Marconi Confer	11.02	98	Pn	Pn	17 06 14.9	-2.3
F03A	Seaside	11.04	56	Pn	Pn	17 06 17.8	+0.4
H04D	Lebanon	11.09	64		Pn	17 06 18.5	+0.3
RADR	Rader Ridge	11.10	54		Pn	17 06 17.9	-0.5
I04A	Tendick Farm,	11.14	68		Pn	17 06 16.8	-2.1
E03A	Lebam	11.31	54	Pn	Pn	17 06 20.6	-0.5
F04D	Rainier, OR	11.45	57		Pn	17 06 23.5	+0.4
WISH	Wishkah	11.46	51	Pn	Pn	17 06 20.1	-3.0
H04A	Detroit Lake	11.52	64	Pn	Pn	17 06 25.5	+1.4
NLWA	Neilton Lookou	11.54	49	Pn	Pn	17 06 21.1	-3.3
OZB	Mount Ozzard	11.62	40	Pn	Pn	17 06 22.8	-2.6
HOLB	Holberg	11.77	28	Pn	Pn	17 06 29.1	+1.7
F04A	Amboy	11.77	58	Pn	Pn	17 06 28.4	+0.9
J05D	Fort Rock, OR	11.90	72		Pn	17 06 31.4	+2.1
I05D	Terrebonne, OR	12.02	66	Pn	Pn	17 06 31.5	+0.6
HOOD	Mount Hood Mea	12.07	62		Pn	17 06 32.4	+0.7

PINE Pine Mountain 12.19 69 Pn Pn 17 06 35.6 +2.2
CLRS Cowichan Lake 12.21 43 Pn Pn 17 06 33.1 -0.3
GNW Green Mountain 12.24 50 Pn Pn 17 06 33.9 +0.1
AFDM Forest Hills D 12.27 92 Pn Pn 17 06 36.0 +1.7
HG4B Hotspring 12.37 16 Pn Pn 17 06 36.9 +1.4
CBB Campbell River 12.42 36 Pn Pn 17 06 37.6 +1.2
PGC Sidney 12.47 45 Pn 17 06 36.8 -0.2
LON Longmire 12.48 55 Pn 17 06 38.4 +1.2
SAO San Andreas Ge 12.56 103 Pn Pn 17 06 37.9 -0.4
D05A Enumclaw 12.56 53 Pn Pn 17 06 38.5 +0.3
G06A Carlson Farm, 12.73 63 Pn 17 06 41.9 +1.3
MPK Martis Peak 12.91 90 Pn 17 06 45.5 +2.1
EMB Emerald Bay 12.92 92 Pn 17 06 45.4 +1.9
BBGB Big Mountain B 12.93 103 Pn Pn 17 06 43.7 +0.2
CMB Columbia Colle 12.94 96 Pn Pn 17 06 43.6 +0.1
DIB Dawson Inlet, 13.00 12 Pn Pn 17 06 45.4 +1.1
BBB Bella Bella 13.08 24 Pn Pn 17 06 47.3 +2.0
BBB Bella Bella 13.08 24 Pn Pn 17 06 46.1 +0.8
3.5nm,0.3s,baz=228,slow=13,SNR=17
BBB LR LR 17 10 37.4
comp=Z,281nm,18.2s,baz=210,slow=32
PMPB Monarch Peak 13.25 104 Pn Pn 17 06 48.3 +0.6
I07A Izee 13.26 69 Pn Pn 17 06 48.7 +0.8
PNTR Pine Nut 13.28 91 Pn Pn 17 06 50.0 +1.7
MXC Moxie City 13.38 58 Pn Pn 17 06 50.3 +0.9
LTY Liberty 13.40 55 Pn 17 06 50.5 +0.7
B06A Marblemount 13.50 49 Pn 17 06 50.7 -0.3
WAKR Walker 13.54 93 Pn 17 06 54.5 +2.6
YERR Yerington 13.58 91 Pn 17 06 54.0 +1.6
E07A Sunnyside 13.66 58 Pn Pn 17 06 53.1 -0.1
WVOR Wild Horse Val 13.73 76 Pn 17 06 54.6 +0.2
HAWA Hanford 13.81 59 Pn Pn 17 06 56.0 +0.7
G08A Pilot Rock 13.88 64 Pn Pn 17 06 56.6 +0.1
J08A Circle Bar Ran 13.91 72 Pn 17 06 57.1 +0.4
MDPB Devils Postpil 14.04 96 Pn 17 07 00.5 +1.7
MDPB Sn 17 09 36.9 +2.0
GRNB Grenville Isla 14.09 17 Pn Pn 17 07 01.8 +2.7
E08A Dider Farm, El 14.15 59 Pn 17 07 00.8 +0.8
SMMC Simmler 14.22 106 P Pn 17 07 02.2 +1.1
baz=296
MLAC Mammoth, Mammo 14.23 96 P Pn 17 07 02.0 +0.7
baz=287
VOG Valley Oaks Go 14.26 102 P Pn 17 07 02.3 +0.8
baz=292
LHV Little Huntoon 14.31 93 Pn 17 07 04.0 +1.8
NVAR Mina Array Bea 14.42 92 Pn 17 07 04.2 +0.3
NVAR Mina Array Bea 14.42 92 Pn Pn 17 07 05.9 +2.0
0.1nm,0.3s,baz=277,slow=14,SNR=9.8
NVAR LR LR 17 11 35.6
comp=Z,322nm,18.9s,baz=279,slow=33
1.3nm,0.8s
D08A Wollman Farm, 14.43 57 Pn Pn 17 07 03.6 -0.2
KVN Kaiserville 14.43 90 Pn Pn 17 07 05.2 +1.1
RUBB Prince Rupert 14.47 15 Pn 17 07 06.5 +2.2
NV11 Mina Array Sit 14.53 92 Pn Pn 17 07 06.5 +1.2
PKM Mcpherson Peak 14.55 107 P Pn 17 07 05.7 +0.1
baz=298
VES Vestal, Richgr 14.67 103 P Pn 17 07 07.8 +0.6
baz=294,SNR=8.5
BCW Bitter Crk WRg 14.82 107 Pn Pn 17 07 10.2 +0.9
SBC Santa Barbara 14.84 109 P Pn 17 07 10.1 +0.7
baz=299
TIN Tinemaha, Big 14.87 98 P Pn 17 07 11.2 +1.2
baz=289
BMN Battle Mountai 14.88 84 Pn Pn 17 07 10.6 +0.5
BMO Blue Mountains 14.94 67 Pn Pn 17 07 11.5 +0.6
BMO IAmb IAmb 17 07 13.1
comp=Z,22nm,1.5s
C09A Chrisman Ranch 15.11 55 Pn Pn 17 07 13.1 +0.1
C09A IAmb IAmb 17 07 15.4
comp=Z,58nm,1.5s
SCZ2 Santa Cruz Isl 15.11 110 P Pn 17 07 14.6 +1.4
baz=300
CRAG Craig 15.14 8 P Pn 17 07 14.3 +1.0
baz=191
ARVC Arvin 15.16 105 P Pn 17 07 15.3 +1.5
baz=296
V35K Ketchikan 15.19 11 P 17 07 17.9 -1.2
V35K Ketchikan 15.19 11 P Pn 17 07 15.4 +1.4
baz=195
CWC Cottonwood Cre 15.19 100 P Pn 17 07 15.6 +1.2
baz=291
ISA Isabella, Lake 15.20 103 Pn Pn 17 07 14.3 0.0
ISA Isabella, Lake 15.20 103 P Pn 17 07 15.2 +0.9
baz=294,SNR=6.3
F10A Beach Ranch, E 15.23 63 Pn Pn 17 07 14.8 +0.1
F10A IAmb IAmb 17 07 23.1
comp=Z,20nm,0.9s
OSI Osito Audit: C 15.47 107 P Pn 17 07 19.0 +1.1
baz=298
GMN Gold Mountain 15.53 96 Pn 17 07 17.5 -1.2
GRAC Grapevine Rang 15.54 97 Pn 17 07 19.0 +0.3
GRAC IAmb IAmb 17 07 27.3
comp=Z,36nm,1.4s
GRAC Grapevine Rang 15.54 97 P Pn 17 07 19.6 +0.8
baz=289
SNCC San Nicolas Is 15.58 112 IAmb IAmb 17 07 30.5
comp=Z,49nm,0.9s
SNCC San Nicolas Is 15.58 112 P Pn 17 07 20.1 +0.8
baz=303
U33K Whale Pass 15.77 8 P P 17 07 24.4 -1.1
U33K IAmb IAmb 17 07 38.4
comp=Z,46nm,1.1s
U33K Whale Pass 15.77 8 P Pn 17 07 22.8 +1.2
baz=190
MPMC Manual Prospec 15.78 100 P Pn 17 07 22.8 +0.7
baz=292,SNR=8.0
LRMC Laurel Mtn Rad 15.86 102 P Pn 17 07 24.0 +1.0
baz=294,SNR=5.8
EDW2 Edwards Air Fo 15.89 105 P Pn 17 07 24.5 +1.2
baz=296
NEW Newport 16.00 55 Pn Pn 17 07 24.4 -0.3
comp=Z,0.3nm,0.3s,baz=245,slow=13,SNR=14
NEW LR LR 17 12 27.5
comp=Z,175nm,22.0s,baz=246,slow=33
comp=Z,9.1nm,1.0s
U35K Hyder 16.02 14 P P 17 07 28.4 +0.2
U35K Hyder 16.02 14 P Pn 17 07 24.7 0.0
baz=199,SNR=8.5
PASC Pasadena Art C 16.07 107 Pn 17 07 25.6 0.0
FURC Furnace Creek, 16.10 98 P Pn 17 07 26.4 +0.5
baz=291,SNR=6.3
WRAK Wrangell Islan 16.16 9 P P 17 07 30.2 +0.5
WRAK IAmb IAmb 17 08 06.0
comp=Z,70nm,1.0s
WRAK Wrangell Islan 16.16 9 P Pn 17 07 26.9 +0.3
baz=192
WCT Wildcat Mounta 16.17 97 Pn Pn 17 07 27.4 +0.5
FMP Fort Macarthur 16.22 109 P Pn 17 07 28.4 +0.9
baz=300
QSM Queen of Sheba 16.28 100 Pn Pn 17 07 28.9 +0.7
CIS Catalina Islan 16.29 110 P Pn 17 07 29.4 +0.9
baz=301
ELK Elko 16.34 82 Pn P 17 07 31.0 -1.3
comp=Z,0.1nm,0.3s,baz=274,slow=15,SNR=10
ELK LR LR 17 13 01.5
comp=Z,376nm,18.3s,baz=279,slow=34
comp=Z,8.1nm,0.9s
TPNV Topopah Spring 16.40 96 IAmb IAmb 17 07 39.2
comp=Z,33nm,1.3s
TPNV Topopah Spring 16.40 96 P Pn 17 07 30.8 +0.8
baz=289,SNR=21
SCI2 San Clemente I 16.42 112 P Pn 17 07 30.8 +0.8
baz=302
BFSC Mount Baldy Ra 16.43 106 P Pn 17 07 31.1 +0.8
baz=298,SNR=18
R11B Troy Canyon, C 16.51 91 Pn 17 07 31.9 +0.5
R11B Troy Canyon, C 16.51 91 P Pn 17 07 32.3 +1.0
baz=284,SNR=25
SIT Sitka 16.56 3 P P 17 07 34.8 +0.6
SIT IAmb IAmb 17 07 37.4
comp=Z,64nm,1.1s
SIT Sitka 16.56 3 P Pn 17 07 32.3 +0.7
baz=184
S11A Rachel 16.57 93 P P 17 07 33.5 -1.1
S11A IAmb IAmb 17 07 39.2
comp=Z,42nm,1.3s
GSC Goldstone, Bar 16.59 102 Pn 17 07 32.8 +0.5
GSC IAmb IAmb 17 07 41.2
comp=Z,41nm,1.1s
GSC Goldstone, Bar 16.59 102 P Pn 17 07 33.6 +1.3
baz=294,SNR=20
SHOC Shoshone, Teco 16.75 99 P P 17 07 35.7 -0.8
baz=292
HLID Hailey 16.87 72 P Pn 17 07 36.6 +0.7
baz=267,SNR=19
ELS Elsinore Mount 16.88 108 Pn 17 07 36.9 +0.9
Q12A Willow Creek R 16.93 88 IAmb IAmb 17 07 44.6
comp=Z,69nm,1.3s
BBRC Big Bear Solar 16.96 105 P Pn 17 07 38.2 +1.1
baz=297
T35M Bob Quinn 17.00 12 P P 17 07 39.6 +0.5
T35M IAmb IAmb 17 07 45.8
comp=Z,28nm,0.4s
T35M Bob Quinn 17.00 12 P P 17 07 38.5 -0.6
baz=197,SNR=6.8
S32K Killisnoo 17.01 4 P P 17 07 41.8 +2.7
S32K Killisnoo 17.01 4 P P 17 07 38.6 -0.5
baz=186
MURC Murrieta 17.07 108 P P 17 07 39.7 -0.4
baz=300,SNR=7.3
HEC Hector,Ludlow 17.14 103 P Pn 17 07 40.2 +1.0
baz=295
PRN Pahroc Range 17.17 93 P 17 07 41.1 -0.2
TUQ Turquoise Moun 17.19 101 P P 17 07 41.0 -0.6
baz=293,SNR=14
S31K Pelican 17.45 1 P 17 07 47.8 +3.8
S31K IAmb IAmb 17 07 51.3
comp=Z,74nm,1.3s
S31K Pelican 17.45 1 P P 17 07 44.2 +0.2
baz=182
109C Camp Elliot, M 17.50 110 P Pn 17 07 44.1 +0.6
109C Camp Elliot, M 17.50 110 P P 17 07 44.9 +0.1
baz=301
PFO Pinyon Flats O 17.60 107 P 17 07 46.1 +0.1
PFO Pinyon Flats O 17.60 107 P P 17 07 45.8 -0.3
baz=299,SNR=7.6
TPFO Pinon Flats 17.61 107 P Pn 17 07 45.8 +0.6
baz=299,SNR=8.8
MSO Missoula 17.64 62 P Pn 17 07 45.6 +0.2
baz=257,SNR=6.7
GMRC Granite Mounta 17.66 102 P Pn 17 07 45.9 +0.1
baz=295,SNR=7.7
BELC Bell Mtn. Jos 17.75 105 P P 17 07 48.5 +0.7
baz=298,SNR=15
S34M Telegraph Cree 17.77 10 P P 17 07 51.4 +3.8
S34M Telegraph Cree 17.77 10 P P 17 07 47.6 +0.1
baz=194
JIS Juneau Island 17.82 4 P P 17 07 50.6 +2.5
JIS IAmb IAmb 17 08 01.7
comp=Z,52nm,1.4s
MONP2 Monument Peak 17.99 109 P P 17 07 51.2 +0.8
baz=301,SNR=7.3
BGU Big Grassy Mou 17.99 81 P 17 07 51.0 +0.6
TKX Tecate 18.02 110 IAmb IAmb 17 07 54.9
comp=Z,25nm,0.3s
BESE Bessie Mountai 18.10 3 P P 17 07 53.0 +1.6
BESE IAmb IAmb 17 07 59.5
comp=Z,63nm,1.3s
DUG Dugway, Tooele 18.25 83 P Pn 17 07 52.7 -0.4
DUG Dugway, Tooele 18.25 83 P P 17 07 53.9 +0.7
baz=279,SNR=10
IRM Iron Mountain 18.31 103 P P 17 07 55.1 +1.3
baz=297,SNR=11
BC3 Big Chuckawall 18.32 105 P P 17 07 54.6 +0.6
baz=298,SNR=14
IKP In-Ko-Pah, Jac 18.34 109 P P 17 07 54.9 +0.8
baz=301,SNR=13
SWSC Sam W. Stewart 18.41 108 P P 17 07 55.4 +0.6
baz=300
DLBC Dease Lake 18.43 11 P P 17 07 58.8 +3.8
DLBC Dease Lake 18.43 11 P P 17 07 56.2 +1.2
baz=197
DLBC Dease Lake 18.43 11 LR LR 17 13 17.9
comp=Z,394nm,20.3s,baz=205,slow=32
NEE2 Needles Airpor 18.44 101 P P 17 07 55.9 +0.7
baz=295
Q32M Nakina River 18.66 7 P Pn 17 08 00.2 +2.3
Q32M Nakina River 18.66 7 P Pn 17 07 58.2 +0.2
baz=191
LCMT Little Creek M 18.66 93 P P 17 07 57.4 -0.4
BRLDA Berland Lookou 18.79 37 P P 17 07 58.9 -0.1
SKAG Skagway 18.97 2 P Pn 17 08 02.6 +1.2
SKAG IAmb IAmb 17 08 09.9
comp=Z,23nm,1.1s
SKAG Skagway 18.97 2 P Pn 17 08 01.9 +0.5
baz=184
CTU Camp Tracy 18.98 81 P P 17 08 00.5 -0.8
PDMCI Parker Dam,Lak 19.00 102 P Pn 17 08 02.6 +0.6
baz=296,SNR=6.1
BOZ Bozeman (W) 19.02 66 P P 17 08 00.8 -0.8
BOZ Bozeman (W) 19.02 66 P Pn 17 08 02.2 -0.1
baz=264,SNR=12
MVU Marysvale 19.04 88 P Pn 17 08 03.9 +1.2
MVU IAmb IAmb 17 08 08.9
comp=Z,30nm,1.0s
P29M Windy Craggy 19.13 358 P Pn 17 08 03.6 +0.2
baz=178
P32M Atlin 19.17 5 P Pn 17 08 05.5 +1.6
P32M Atlin 19.17 5 P Pn 17 08 04.4 +0.5
baz=187
PNL Peninsula 19.23 356 P P 17 08 04.4 +0.8
baz=174
R33M Jennings River 19.23 9 P P 17 08 01.4 -2.4
R33M Jennings River 19.23 9 P P 17 08 04.1 +0.3
baz=194
YHL Hebgen Lake 19.27 69 Pn 17 08 05.1 -0.4
AHID Auburn Hatcher 19.29 75 P Pn 17 08 05.5 -0.2
TPAW Teton Pass 19.39 73 P Pn 17 08 06.7 -0.2
TPAW IAmb IAmb 17 08 11.1
comp=Z,23nm,1.2s
REDW Red Top Meadow 19.46 73 P Pn 17 08 07.2 -0.5
YHH Holmes Hill 19.50 69 P 17 08 06.9 -0.1
FLWY Flagg Ranch 19.57 71 IAmb IAmb 17 08 13.2
comp=Z,27nm,1.2s
P30M Million Dollar 19.61 360 P P 17 08 08.4 +0.5
baz=186
TMUT Trail Mountain 19.63 85 IAmb IAmb 17 08 14.7
comp=Z,26nm,1.1s
H17A Grant Village 19.67 70 P P 17 08 09.0 0.0
baz=268,SNR=8.8
PINM Pinnacle 19.70 355 P P 17 08 08.7 -0.2
baz=172
Q16A Castle Valley 19.74 86 IAmb IAmb 17 08 16.0
comp=Z,27nm,1.2s
BSUT Blindstream Ca 19.75 81 P Pn 17 08 10.8 -0.6
O29M Mount Kennedy 19.82 357 P P 17 08 10.8 +0.6
O29M Mount Kennedy 19.82 357 P P 17 08 10.8 +0.6
baz=176
P33M Teslin, Yukon 19.85 6 P Pn 17 08 12.6 +0.5
P33M Teslin, Yukon 19.85 6 P P 17 08 10.8 +0.3
baz=189
P17A Butcher Ranch, 19.95 85 P Pn 17 08 12.9 -0.7
YMP Mirror Lake Pl 19.99 69 IAmb IAmb 17 08 54.4
comp=Z,24nm,1.2s
KAIM Kayak Island 19.99 349 P P 17 08 12.3 +0.3
baz=163
Y14A Wrangell Mtn. 20.00 102 IAmb IAmb 17 08 18.4
comp=Z,17nm,0.9s
KDAK Kodiak Island 20.03 335 P P 17 08 13.0 +0.6
baz=143
KDAK Kodiak Island 20.03 335 P P 17 08 11.5 -0.9
comp=Z,0.2nm,0.3s,baz=236,slow=15,SNR=1.3
KDAK LR LR 17 14 03.8
comp=Z,226nm,18.3s,baz=166,slow=32
comp=Z,6.1nm,0.7s
SFX San Felipe 20.11 111 IAmb IAmb 17 08 20.2
comp=Z,19nm,0.9s
WHY Whitehorse 20.18 3 P P 17 08 15.3 +1.1
WHY IAmb IAmb 17 08 21.5
comp=Z,17nm,1.1s
WHY Whitehorse 20.18 3 P P 17 08 14.9 +0.7
baz=184,SNR=5.5
SRU San Rafael Swe 20.19 85 IAmb IAmb 17 08 22.8
comp=Z,16nm,0.8s
WTLY Watson Lake, Y 20.22 12 P P 17 08 15.2 +0.7
baz=198
O30N Mendenhall 20.26 1 P P 17 08 15.9 +0.9
baz=182
P18A Preston Nutter 20.30 84 IAmb IAmb 17 08 27.5
comp=Z,20nm,1.1s
EDM Edmonton 20.31 44 P P 17 08 14.8 -0.8
EDM IAmb IAmb 17 08 19.2
comp=Z,37nm,0.9s
HYT Haines Junctio 20.32 359 P P 17 08 16.6 +0.9
baz=179
BW06 Boulder Array 20.43 75 IAmb IAmb 17 08 20.3
comp=Z,16nm,0.9s
BW06 Boulder Array 20.43 75 P P 17 08 17.7 +0.6
baz=273,SNR=22
PD31 Pinedale Array 20.43 75 P P 17 08 17.4 +0.3
PD31 IAmb IAmb 17 08 20.3
comp=Z,15nm,0.9s
PDAR Pinedale Array 20.43 75 P Pn 17 08 19.1 -0.2
comp=Z,10.0nm,0.8s,baz=271,slow=7.4,SNR=111
PDAR LR LR 17 15 35.7
comp=Z,224nm,18.4s,baz=265,slow=35
comp=Z,10.0nm,0.8s
YUK6 Outpost Mounta 20.46 358 P P 17 08 18.3 +1.0
baz=177
R18K Karluk 20.50 332 P P 17 08 18.1 +0.7
baz=139
TGL Tana Glacier 20.59 352 P 17 08 18.0 -0.6
TGL IAmb IAmb 17 08 27.5
comp=Z,43nm,1.2s
WUAZ Wupatki 20.59 96 P P 17 08 19.6 +0.7
WUAZ IAmb IAmb 17 08 24.9
comp=Z,20nm,1.0s
WUAZ Wupatki 20.59 96 P Pn 17 08 20.2 -0.9
baz=292,SNR=8.8
CRQE Cirque 20.61 351 P P 17 08 19.5 +0.6
baz=166
CRQM Cirque 20.62 351 P P 17 08 19.4 +0.4
RLMT Red Lodge 20.64 68 IAmb IAmb 17 08 28.2
comp=Z,18nm,0.8s
RLMT Red Lodge 20.64 68 P Pn 17 08 20.7 -1.0
baz=267,SNR=12
Q20K Shuyak Island 20.64 336 P P 17 08 20.5 +1.5
baz=145
RDMU Red Mountain 20.64 81 IAmb IAmb 17 08 25.9
comp=Z,25nm,1.1s
CTG Chitna Glacier 20.65 354 P P 17 08 20.2 +1.0
baz=170
CTGM Chitina Glacie 20.65 354 IAmb IAmb 17 08 27.2
comp=Z,29nm,1.2s
EGMT Eagleton 20.67 60 IAmb IAmb 17 08 24.6
comp=Z,24nm,0.9s
EGMT Eagleton 20.67 60 P P 17 08 19.8 +0.3
baz=259,SNR=12
N32M Quiet Lake 20.77 5 P P 17 08 15.0 -5.5
N32M IAmb IAmb 17 08 29.5
comp=Z,18nm,1.0s
N32M Quiet Lake 20.77 5 P P 17 08 21.5 +1.1
baz=188,SNR=5.3
BARN Barnard Glacie 20.77 353 IAmb IAmb 17 08 29.1
comp=Z,37nm,1.2s
PIX Pinacate 20.82 108 IAmb IAmb 17 08 30.4
comp=Z,40nm,1.2s
YUK8 Steele Glacier 20.86 356 P P 17 08 22.4 +0.7
baz=174
YUK4 Talbot Arm 20.87 357 P P 17 08 22.8 +1.1
baz=176,SNR=44
N30M Aishikik Lake 20.95 360 IAmb IAmb 17 08 37.2
comp=Z,20nm,1.1s
N30M Aishikik Lake 20.95 360 P P 17 08 23.6 +1.2
baz=180
N31M Braeburn, Yuko 20.99 1 P P 17 08 23.7 +0.9
N31M IAmb IAmb 17 08 28.1
comp=Z,33nm,1.2s
N31M Braeburn, Yuko 20.99 1 P P 17 08 23.5 +0.7
baz=182,SNR=6.9
BMRM Bremner River 21.02 349 P P 17 08 23.4 +0.2
baz=163
214A Organ Pipe Nat 21.09 106 P P 17 08 25.2 +1.0
baz=301,SNR=12
VRDI Verde Repeater 21.12 351 P 17 08 23.9 -0.5
VRDI IAmb IAmb 17 08 27.0
comp=Z,34nm,1.3s
BRSE Bradley Lake S 21.12 340 P P 17 08 24.6 +0.3
baz=150
SEW Seward 21.13 342 P P 17 08 24.7 +0.5
baz=153
KOTAN Kotaneelee Air 21.16 18 P P 17 08 25.2 +0.6
baz=208
CHGN Chignik 21.19 325 P P 17 08 25.2 +0.2
baz=129
R17K Ugashik Creek 21.27 330 P P 17 08 26.3 +0.5
baz=135
Q19K Cape Douglas, 21.29 335 P P 17 08 26.7 +0.7
baz=143
HOM Homer 21.29 339 P P 17 08 26.9 +0.8
baz=148
GLB Gilahina Butte 21.37 351 P P 17 08 24.4 -2.5
GLB IAmb IAmb 17 08 33.0
comp=Z,18nm,1.0s
YUK3 Moose Creek 21.39 355 P P 17 08 27.8 +0.5
baz=172
FLDN Fort Liard 21.39 18 P P 17 08 28.4 +1.3
baz=209
Q18K Katmai Hardscr 21.51 333 P P 17 08 28.5 -0.1
baz=140
SDPT Sand Point 21.57 321 P P 17 08 29.6 +0.6
baz=124
N25K Chitina, Valde 21.63 350 IAmb IAmb 17 08 36.2
comp=Z,22nm,1.1s
N25K Chitina, Valde 21.63 350 P P 17 08 30.2 +0.4
baz=164
TGTN Hyland Airport 21.65 11 P P 17 08 30.7 +0.8
baz=198
O20A White River Ci 21.72 82 P P 17 08 29.9 -1.1
O20A IAmb IAmb 17 08 35.5
comp=Z,18nm,0.8s
O20A White River Ci 21.72 82 P P 17 08 31.3 +0.3
baz=280,SNR=16
KLU Klutina 21.72 348 IAmb IAmb 17 08 36.2
comp=Z,49nm,1.5s
KLU Klutina 21.72 348 P P 17 08 31.2 +0.5
baz=161
P19K Oil Pt 21.74 337 P P 17 08 31.5 +0.6
baz=145
M31M Drury Creek, Y 21.75 3 P P 17 08 31.9 +1.0
M31M IAmb IAmb 17 08 36.4
comp=Z,15nm,0.9s
M31M Drury Creek, Y 21.75 3 P P 17 08 31.0 +0.1
baz=185,SNR=7.0
FARO Faro, Yukon 21.82 4 P P 17 08 33.9 +2.1
FARO IAmb IAmb 17 08 37.2
comp=Z,21nm,1.0s
FARO Faro, Yukon 21.82 4 P P 17 08 32.2 +0.4
baz=187,SNR=7.0
O20K Slope Mountain 21.92 338 P P 17 08 33.2 +0.3
baz=146
M29M Somme Creek 21.96 358 P P 17 08 34.0 +0.6
M29M IAmb IAmb 17 08 39.0
comp=Z,16nm,0.9s
M29M Somme Creek 21.96 358 P P 17 08 34.1 +0.8
baz=177,SNR=9.7
HILA High Level 21.98 28 P P 17 08 31.8 -1.6
W18A Petrified Fore 21.98 96 P P 17 08 34.0 +0.1
baz=292
BVCY Beaver Creek 22.05 355 P P 17 08 34.3 +0.2
baz=172
RC01 Rabbit Creek A 22.07 343 P P 17 08 33.9 -0.5
baz=153
M27K Edge Creek, AK 22.07 354 P P 17 08 33.7 -0.8
M27K IAmb IAmb 17 08 40.1
comp=Z,24nm,1.0s
M27K Edge Creek, AK 22.07 354 P P 17 08 33.8 -0.8
baz=170
M30M Minto, Yukon 22.07 360 P P 17 08 35.6 +1.1
M30M IAmb IAmb 17 08 39.8
comp=Z,19nm,1.1s
M30M Minto, Yukon 22.07 360 P P 17 08 34.2 -0.3
baz=180,SNR=7.2
KNK Knik Glacier 22.09 345 IAmb IAmb 17 08 39.1
comp=Z,38nm,1.1s
KNK Knik Glacier 22.09 345 P P 17 08 34.4 -0.2
baz=156
Q16K King Salmon 22.11 332 P P 17 08 35.1 +0.3
baz=137
CAPN Captain Cook N 22.12 341 P P 17 08 34.5 -0.3
baz=150
P18K Big Mountain, 22.16 335 P P 17 08 35.1 -0.3
baz=140
M26K Nabesna, AK 22.22 352 IAmb IAmb 17 08 42.2
comp=Z,36nm,1.1s
M26K Nabesna, AK 22.22 352 P P 17 08 35.7 -0.4
baz=168
MVCO Mesa Verde 22.22 89 P P 17 08 36.5 0.0
MVCO IAmb IAmb 17 08 41.0
comp=Z,17nm,1.1s
MVCO Mesa Verde 22.22 89 P P 17 08 36.1 -0.4
baz=287,SNR=9.2
RWWY Rawlins 22.26 77 IAmb IAmb 17 08 39.0
comp=Z,28nm,0.8s
SCM Sheep Creek Mo 22.27 347 P P 17 08 36.3 -0.3
baz=159
M23K Glacier View 22.30 346 P P 17 08 36.6 -0.4
baz=158
M24K Tolsona, Glenn 22.34 348 P P 17 08 37.3 -0.1

baz=161
PMR Palmer 22.39 344 P P 17 08 38.0 +0.2
baz=155
TUC Tucson 22.41 103 P P 17 08 38.3 0.0
TUC Tucson 22.41 103 P P 17 08 38.4 +0.1
baz=299
P17K Kvichak River 22.42 333 P P 17 08 37.6 -0.4
baz=138
SML Sawmill 22.43 346 IAmb IAmb 17 08 45.3
comp=Z,42nm,1.2s
SML Sawmill 22.43 346 P P 17 08 38.5 +0.1
baz=157
HARP HAARP 22.47 350 P P 17 08 39.2 +0.6
baz=163
O19K Port Alsworth 22.50 337 IAmb IAmb 17 08 44.1
comp=Z,35nm,1.2s
O19K Port Alsworth 22.50 337 P P 17 08 39.2 +0.2
baz=143
O18K Koktuh Hills 22.51 335 P P 17 08 39.6 +0.4
baz=141
L29M L29M 22.62 358 IAmb IAmb 17 08 47.8
comp=Z,30nm,1.1s
L29M L29M 22.62 358 P P 17 08 40.4 +0.1
baz=178
SUA Susitna One 22.63 342 IAmb IAmb 17 08 45.0
comp=Z,30nm,1.1s
SUA Susitna One 22.63 342 P P 17 08 40.1 -0.4
baz=152
K22A Casper 22.66 75 P P 17 08 40.9 -0.2
baz=275,SNR=14
M22K Willow 22.75 343 P P 17 08 41.1 -0.4
baz=153
N20K Mount Spurr 22.75 341 P P 17 08 41.5 -0.3
baz=149,SNR=11
BCAR Beaver Creek A 22.76 354 P P 17 08 41.7 -0.1
L27K Beaver Creek, 22.76 354 IAmb IAmb 17 08 47.9
comp=Z,46nm,1.3s
L27K Beaver Creek, 22.76 354 P P 17 08 41.2 -0.6
baz=170
FALS False Pass 22.77 318 P P 17 08 41.6 -0.3
baz=118
MENT Mentasta 22.82 352 IAmb IAmb 17 08 48.9
comp=Z,30nm,1.4s
P16K Nushagak River 22.85 331 P P 17 08 42.2 -0.5
baz=135
L26K Log Cabin Wild 22.86 352 IAmb IAmb 17 08 49.2
comp=Z,15nm,1.1s
L26K Log Cabin Wild 22.86 352 P P 17 08 43.0 +0.1
baz=167
LAO LASA Array 22.86 64 P P 17 08 42.7 -0.3
baz=266,SNR=19
SMCO Snowmass 22.87 84 IAmb IAmb 17 08 47.7
comp=Z,14nm,1.0s
WAT6 Susitna Watana 23.04 347 P P 17 08 45.0 +0.2
baz=158
N19K Bonanza Creek 23.05 338 P P 17 08 43.8 -1.1
N19K Bonanza Creek 23.05 338 P P 17 08 45.4 +0.5
baz=144,SNR=15
PAX Paxson 23.06 350 P P 17 08 44.9 -0.1
baz=163
O17K Koliganek Bris 23.07 333 P P 17 08 44.9 -0.1
baz=138,SNR=6.8
MAYO Mayo, Yukon 23.10 1 P 17 08 41.8 -3.5
SKT Skwentna 23.26 342 P P 17 08 47.9 +0.9
SKT Skwentna 23.26 342 P P 17 08 47.2 +0.3
baz=151,SNR=7.2
O16K Kokwok River B 23.29 332 P P 17 08 47.4 +0.2
baz=136
N23A Red Feather La 23.31 79 P P 17 08 47.2 -0.8
N23A IAmb IAmb 17 09 29.5
comp=Z,21nm,1.2s
N23A Red Feather La 23.31 79 P P 17 08 48.3 +0.4
baz=279,SNR=6.0
S22A 4UR Ranch, Cre 23.34 87 P P 17 08 48.9 +0.7
baz=286
K29M Barlow Dome 23.35 359 IAmb IAmb 17 08 54.7
comp=Z,16nm,1.1s
K29M Barlow Dome 23.35 359 P P 17 08 48.8 +0.9
baz=179,SNR=5.5
CUT Chulitna 23.36 344 P P 17 08 48.2 +0.4
baz=154
N18K Kilae Creek 23.37 336 P P 17 08 49.0 +1.0
N18K Kilae Creek 23.37 336 P P 17 08 47.8 -0.2
baz=141
WAT1 Susitna Watana 23.41 346 P P 17 08 49.5 +1.0
baz=157
DHY Denali Highway 23.44 348 IAmb IAmb 17 08 52.6
comp=Z,11nm,0.8s
DHY Denali Highway 23.44 348 P P 17 08 49.1 +0.2
baz=160
DUN6 Lazy B Ranch 23.55 101 P P 17 08 52.4 +2.1
M20K Styx River 23.57 341 P P 17 08 50.3 +0.2
baz=148
SVW2 Sparrevohn 23.60 337 P P 17 08 50.5 +0.2
DAWY Dawson 23.62 357 P P 17 08 51.3 +0.8
DAWY IAmb IAmb 17 08 57.3
comp=Z,13nm,1.1s
DAWY Dawson 23.62 357 P P 17 08 51.1 +0.6
baz=175,SNR=6.3
O15K Ungalikthiuk R 23.64 330 P P 17 08 50.1 -0.6
baz=132
N17K Nushagak Hills 23.66 335 P P 17 08 51.8 +0.9
N17K Nushagak Hills 23.66 335 P P 17 08 51.2 +0.2
baz=139
RIDG Independent Ri 23.72 351 P P 17 08 51.5 -0.1
baz=165
K27K Chicken 23.74 354 P P 17 08 51.5 -0.1
baz=170
ISCO Idaho Springs 23.76 82 P P 17 08 52.6 +0.1
ISCO Idaho Springs 23.76 82 P P 17 08 52.2 -0.3
baz=282
SCRK Sand Creek 23.86 352 P P 17 08 53.4 +0.5
SCRK IAmb IAmb 17 08 54.9
comp=Z,11nm,1.0s
SCRK Sand Creek 23.86 352 P P 17 08 53.1 +0.1
baz=166,SNR=5.5
K24K Donnelly Dome 23.90 350 P P 17 08 53.4 +0.2
baz=163
319A Douglas 23.98 104 IAmb IAmb 17 09 00.5
comp=Z,28nm,1.5s
M18K Stony River 23.98 337 P P 17 08 54.1 +0.1
baz=142
UNV Unalaska Valle 23.98 314 P P 17 08 53.9 -0.1
baz=112
RND Reindeer 24.00 347 IAmb IAmb 17 08 57.1
comp=Z,9.1nm,1.0s
HSIG 24.03 110 IAmb IAmb 17 09 01.1
comp=Z,14nm,1.2s
WRGLY Wrigley 24.07 15 P P 17 08 54.9 +0.2
WRGLY Wrigley 24.07 15 P P 17 08 55.2 +0.5
baz=206,SNR=6.7
J30M Hart River 24.08 0 P P 17 08 56.5 +1.5
J30M IAmb IAmb 17 09 01.2
comp=Z,24nm,1.4s
J30M Hart River 24.08 0 P P 17 08 54.5 -0.5
baz=181
N16K Nishlik Lake 24.16 333 P P 17 08 55.6 0.0
baz=136
PPLA Purkeypile 24.21 343 P P 17 08 56.2 -0.1
baz=151
O14K Tigyukauivet M 24.25 329 P P 17 08 56.5 0.0
baz=130
L20K Farewell, AK 24.26 341 P P 17 08 57.1 +0.5
baz=147,SNR=7.0
L19K White Mountain 24.27 339 IAmb IAmb 17 08 59.3
comp=Z,20nm,1.0s
L19K White Mountain 24.27 339 P P 17 08 57.1 +0.4
baz=145,SNR=10.0
Q24A Divide 24.30 83 P P 17 08 57.5 0.0
baz=284
TRF Thorofare Moun 24.31 345 P P 17 08 57.4 +0.3
baz=155,SNR=10.0
MCK McKinley 24.32 347 P P 17 08 57.8 +0.7
baz=157
J26L Joseph Creek 24.33 353 P P 17 08 57.8 +0.6
J26L IAmb IAmb 17 09 02.1
comp=Z,14nm,1.1s
J26L Joseph Creek 24.33 353 P P 17 08 57.6 +0.3
baz=168,SNR=10
SDCO Great Sand Dun 24.35 86 P P 17 08 58.0 +0.1
baz=286,SNR=5.8
RSSD Black Hills 24.37 71 P P 17 08 58.4 +0.3
RSSD IAmb IAmb 17 09 01.5
comp=Z,6.4nm,0.8s
RSSD Black Hills 24.37 71 P P 17 08 57.9 -0.2
baz=273
DGMT Dagmar 24.41 60 P P 17 08 58.6 +0.5
baz=263

M17K Holitna River 24.41 336 P P 17 08 57.9 0.0
baz=140
N15K Kwethluk River 24.41 331 P P 17 08 58.0 0.0
baz=133
EGAK Eagle 24.42 355 IAmb IAmb 17 09 03.8
comp=Z,26nm,1.3s
EGAK Eagle 24.42 355 P P 17 08 58.8 +0.9
baz=172
Y22D IRIS PASSCAL I 24.53 96 P P 17 09 00.1 +0.7
baz=294
ANMO Albuquerque 24.54 93 P P 17 09 00.8 +1.2
ANMO IAmb IAmb 17 09 06.2
comp=Z,11nm,1.3s
ANMO Albuquerque 24.54 93 P P 17 09 00.3 +0.7
baz=292
ANMO Albuquerque 24.54 93 LR LR 17 17 57.2
comp=Z,263nm,18.2s,baz=17,slow=35
121A Cookes Peak, D 24.54 100 P P 17 09 00.2 +0.6
baz=297,SNR=6.1
BRIGG Briggsdale 24.58 79 IAmb IAmb 17 09 03.4
comp=Z,11nm,0.7s
M16K Timber Creek 24.62 334 P P 17 09 00.6 +0.8
baz=136,SNR=13
J25K Salcha River, 24.63 351 IAmb IAmb 17 09 03.1
comp=Z,25nm,1.2s
J25K Salcha River, 24.63 351 P P 17 09 00.6 +0.7
baz=164
HDA Harding Lake 24.64 349 IAmb IAmb 17 09 01.8
comp=Z,17nm,1.0s
HDA Harding Lake 24.64 349 P P 17 09 00.5 +0.5
baz=161,SNR=7.6
CAST Castle Rocks 24.65 343 P P 17 08 59.9 -0.2
CAST Castle Rocks 24.65 343 P P 17 09 00.8 +0.7
baz=151,SNR=15
I30M Mount Dempster 24.73 0 P P 17 09 01.7 +0.8
I30M IAmb IAmb 17 09 33.4
comp=Z,6.2nm,0.8s
I30M Mount Dempster 24.73 0 P P 17 09 01.2 +0.3
baz=181,SNR=6.7
L18K Granite Mounta 24.81 338 P P 17 09 01.9 +0.3
baz=142
N14K Kuskokwak Cree 24.85 330 P P 17 09 01.9 +0.1
baz=130
I29M Ogilvie Camp, 24.88 358 IAmb IAmb 17 09 09.2
comp=Z,20nm,1.1s
I29M Ogilvie Camp, 24.88 358 P P 17 09 02.7 +0.5
baz=177,SNR=7.9
IL31 24.98 350 P P 17 09 02.6 -0.3
IL31 IAmb IAmb 17 09 05.4
comp=Z,22nm,1.1s
IL31 PcP 17 12 37.5 -0.2
ILAR Eielson Array 24.98 350 P P 17 09 03.4 +0.4
comp=Z,17nm,1.0s,baz=166,slow=6.3,SNR=62
ILAR PcP PcP 17 12 38.4 +0.6
comp=Z,2.3nm,0.6s,baz=187,slow=2.3,SNR=24
ILAR LR LR 17 16 57.6
comp=Z,107nm,18.1s,baz=158,slow=32
comp=Z,17nm,1.0s
CCB Clear Creek Bu 24.99 349 P P 17 09 02.2 -0.8
CCB IAmb IAmb 17 09 04.9
comp=Z,14nm,0.9s
M15K Kasigluk River 24.99 332 P P 17 09 03.8 +0.6
baz=133
I28M Miner Creek 25.02 357 IAmb IAmb 17 09 06.3
comp=Z,11nm,0.8s
I28M Miner Creek 25.02 357 P P 17 09 03.4 -0.1
baz=174,SNR=9.1
NIKH Nikolski High 25.03 311 P P 17 09 04.2 +0.6
baz=107
BPAW Bear Paw Mtn. 25.03 345 P P 17 09 03.1 -0.4
baz=154
K20K Telida 25.05 342 IAmb IAmb 17 09 07.1
comp=Z,15nm,0.9s
K20K Telida 25.05 342 P P 17 09 03.6 -0.1
baz=148
I26K Coal Creek Min 25.08 354 P P 17 09 04.0 0.0
baz=169
CHUM Lake Minchumin 25.11 344 P P 17 09 04.0 -0.2
baz=151,SNR=23
NEA2 Nenana 25.14 348 P P 17 09 05.1 +0.7
baz=158
TTA Tatalina 25.19 339 IAmb IAmb 17 09 09.0
comp=Z,24nm,1.0s
TTA Tatalina 25.19 339 P P 17 09 05.3 +0.3
baz=144,SNR=9.8
COLA College 25.21 349 P P 17 09 04.0 -1.0
COLA College 25.21 349 P P 17 09 05.6 +0.6
baz=160
L17K Donlin 25.23 336 P P 17 09 05.9 +0.6
baz=139,SNR=11
I27K Kandik River 25.26 355 P P 17 09 06.6 +1.0
baz=172
L16K Owhat River 25.29 335 P P 17 09 07.1 +1.2
baz=137,SNR=8.3
T25A Trinidad 25.36 87 P P 17 09 07.3 +0.3
T25A IAmb IAmb 17 09 13.3
comp=Z,23nm,1.3s
T25A Trinidad 25.36 87 P P 17 09 08.1 +1.1
baz=288
POKR Poker Plat Res 25.38 349 IAmb IAmb 17 09 08.7
comp=Z,18nm,1.1s
POKR Poker Plat Res 25.38 349 P P 17 09 07.5 +0.9
baz=161
M14K Bethel 25.49 331 P P 17 09 06.6 -1.0
M14K Bethel 25.49 331 P P 17 09 08.8 +1.1
baz=131
PRP Porcupine Dome 25.52 352 IAmb IAmb 17 09 13.5
comp=Z,32nm,1.4s
PRP Porcupine Dome 25.52 352 P P 17 09 08.9 +0.8
baz=165,SNR=7.0
K17K Iditarod 25.67 337 P P 17 09 09.8 +0.4
baz=140,SNR=5.0
YKA Yellowknife Ar 25.70 24 P P 17 09 09.3 -0.2
YKA Yellowknife Ar 25.70 24 P P 17 09 09.7 +0.2
comp=Z,7.2nm,0.9s,baz=225,slow=9.1,SNR=44
YKA PcP PcP 17 12 39.7 +0.3
comp=Z,0.5nm,0.8s,baz=237,slow=2.6,SNR=3.8
YKA LR LR 17 18 30.3
comp=Z,183nm,18.1s,baz=232,slow=35
comp=Z,7.2nm,0.9s
I23K Minto, Yukon-K 25.70 348 IAmb IAmb 17 09 11.5
comp=Z,16nm,1.1s
I23K Minto, Yukon-K 25.70 348 P P 17 09 09.9 +0.4
baz=158,SNR=6.2
H29M Whitestone 25.75 359 IAmb IAmb 17 09 19.4
comp=Z,22nm,1.2s
H29M Whitestone 25.75 359 P P 17 09 10.9 +0.9
baz=177
J20K Nowinta River 25.77 342 P P 17 09 10.5 +0.4
baz=149,SNR=40
M13K Dall Lake 25.80 329 P P 17 09 11.3 +0.8
baz=129
J18K Innoko River 25.81 339 P P 17 09 10.8 +0.1
J18K Innoko River 25.81 339 P P 17 09 11.0 +0.4
baz=144,SNR=22
MLY Manley 25.82 346 P P 17 09 10.8 0.0
baz=155
EPYK Eagle Plains 25.88 0 P P 17 09 12.1 +0.8
EPYK Eagle Plains 25.88 0 P P 17 09 12.0 +0.8
baz=180,SNR=8.7
H27K Steamboat Moun 25.88 356 P P 17 09 11.5 +0.3
baz=172
L15K Ungalak Mounta 25.95 333 P P 17 09 12.2 +0.4
baz=134
J19K Poorman 25.96 341 IAmb IAmb 17 09 13.3
comp=Z,19nm,0.8s
J19K Poorman 25.96 341 P P 17 09 12.8 +0.8
baz=146
H24K Noodor Dome 26.12 350 IAmb IAmb 17 09 16.4
comp=Z,15nm,1.0s
H24K Noodor Dome 26.12 350 P P 17 09 13.9 +0.4
baz=161
L14K Kuka Creek 26.14 331 P P 17 09 13.5 -0.1
L14K Kuka Creek 26.14 331 P P 17 09 13.8 +0.2
baz=131
I21K Tanana 26.19 345 P P 17 09 14.7 +0.7
baz=153
KSCO Kaye Shedlock' 26.19 82 P P 17 09 14.9 +0.5
baz=284
OGNE Ogallala 26.22 78 P P 17 09 14.7 0.0
baz=281,SNR=6.1
I20K Naaghedeneel 26.37 343 P P 17 09 16.1 +0.5
baz=149
K15K Wolf Creek Mou 26.39 334 P P 17 09 16.3 +0.5
baz=134
G29M Pine Creek 26.43 359 IAmb IAmb 17 09 21.6
comp=Z,22nm,1.1s
G29M Pine Creek 26.43 359 P P 17 09 16.7 +0.5

baz=178,SNR=9.2
G27K Doyon Strip 26.46 356 P P 17 09 16.7 +0.1
baz=172
G31M Satah River 26.47 2 P P 17 09 16.7 +0.2
G31M Satah River 26.47 2 P P 17 09 16.9 +0.4
baz=184,SNR=16
G30M tAoh Zraii Nji 26.50 0 P P 17 09 18.4 +1.6
G30M IAmb IAmb 17 09 21.8
comp=Z,14nm,1.3s
G30M tAoh Zraii Nji 26.50 0 P P 17 09 17.5 +0.7
baz=181
H22K Ishtalitna Cre 26.72 347 P P 17 09 19.6 +0.8
baz=155,SNR=5.9
MNTX Cornudas Mount 26.73 99 P P 17 09 20.8 +1.6
baz=298
G26K Porcupine Rive 26.75 354 P P 17 09 20.0 +1.0
baz=168
H21K Melozitna Rive 26.77 345 P P 17 09 20.1 +0.8
baz=152
G25K Bearman Lake 26.79 352 P P 17 09 19.6 +0.2
baz=164
J16K Anvik River 26.80 336 IAmb IAmb 17 09 22.1
comp=Z,27nm,1.1s
J16K Anvik River 26.80 336 P P 17 09 19.8 +0.3
baz=137,SNR=5.9
G24K Hadweenzic Riv 26.89 351 P P 17 09 20.8 +0.5
G24K IAmb IAmb 17 09 23.0
comp=Z,17nm,1.1s
G24K Hadweenzic Riv 26.89 351 P P 17 09 20.7 +0.4
baz=162
GCSA Galena City Sc 26.90 341 P P 17 09 20.5 +0.1
baz=145,SNR=7.1
F31M Tsiigehtchic 27.01 3 P P 17 09 22.1 +0.7
F31M IAmb IAmb 17 09 27.2
comp=Z,26nm,1.1s
F31M Tsiigehtchic 27.01 3 P P 17 09 21.3 0.0
baz=185
H20K Anotleneega Mo 27.06 343 P P 17 09 22.7 +0.9
baz=149
FFC Flin Flon 27.07 47 P P 17 09 21.3 -0.7
FFC IAmb IAmb 17 09 23.2
comp=Z,6.5nm,0.8s
F30M Barrier River 27.13 1 P P 17 09 22.8 +0.3
baz=182
F28M Old Crow 27.18 357 P P 17 09 23.1 +0.1
F28M IAmb IAmb 17 09 24.9
comp=Z,10.0nm,0.8s
F28M Old Crow 27.18 357 P P 17 09 23.4 +0.4
baz=175,SNR=13
G23K Bananza Creek 27.25 349 IAmb IAmb 17 09 32.6
comp=Z,14nm,1.0s
G23K Bananza Creek 27.25 349 P P 17 09 24.7 +1.1
baz=158
I17K Unalakleet 27.27 337 IAmb IAmb 17 09 26.1
comp=Z,20nm,1.1s
I17K Unalakleet 27.27 337 P P 17 09 24.1 +0.4
baz=138
J14K Nanvaranak Lak 27.39 333 P P 17 09 25.4 +0.6
baz=132
H19K Roundabout Mou 27.44 342 P P 17 09 25.4 +0.2
H19K IAmb IAmb 17 09 43.5
comp=Z,13nm,0.9s
H19K Roundabout Mou 27.44 342 P P 17 09 26.1 +0.9
baz=146
F26K Sheenjek River 27.51 354 P P 17 09 26.8 +0.9
baz=158
F25K Christian Rive 27.55 353 P P 17 09 26.9 +0.6
baz=165
LPIG La Paz 27.57 118 LR LR 17 17 41.6
comp=Z,86nm,20.4s,baz=294,slow=30
H18K Honhosa River 27.60 340 IAmb IAmb 17 09 31.7
comp=Z,18nm,1.3s
H18K Honhosa River 27.60 340 P P 17 09 27.1 +0.4
baz=143
G21K Allakaket 27.67 346 IAmb IAmb 17 09 32.3
comp=Z,19nm,1.2s
G21K Allakaket 27.67 346 P P 17 09 28.4 +1.1
baz=152
G22K Bettles 27.68 348 P P 17 09 27.4 0.0
baz=156
F24K Squaw Lake 27.72 351 P P 17 09 28.0 +0.2
baz=162
MSTX Muleshoe 27.73 93 P P 17 09 28.7 +0.5
baz=294
COLD Coldfoot 27.76 349 P P 17 09 28.9 +0.8
baz=158,SNR=5.4
E27K Coleen River 27.83 356 IAmb IAmb 17 09 39.1
comp=Z,12nm,1.1s
E27K Coleen River 27.83 356 P P 17 09 29.6 +0.9
baz=172
H17K Granite Mounta 27.84 339 P P 17 09 29.3 +0.5
baz=140
INK Inuvik 27.88 3 P P 17 09 29.6 +0.5
INK IAmb IAmb 17 09 34.0
comp=Z,15nm,1.1s
INK Inuvik 27.88 3 P P 17 09 30.1 +1.0
baz=185
INK Inuvik 27.88 3 LR LR 17 18 56.5
comp=Z,127nm,19.0s,baz=182,slow=33
E29M Blow River 27.92 359 IAmb IAmb 17 09 31.5
comp=Z,5.6nm,0.9s
E29M Blow River 27.92 359 P P 17 09 30.1 +0.7
baz=178
E25K Arctic Village 28.05 353 P P 17 09 31.2 +0.4
baz=166
G19K Purcell Mounta 28.10 343 P P 17 09 32.2 +1.1
baz=146
E28M Babbage River 28.17 358 IAmb IAmb 17 09 33.9
comp=Z,8.9nm,0.9s
E28M Babbage River 28.17 358 P P 17 09 32.9 +1.2
baz=176
AMTX Amarillo 28.20 90 P P 17 09 33.2 +0.7
baz=292
G18K Tagagawik 28.27 341 P P 17 09 33.7 +1.1
baz=143
H16K Elim 28.28 337 P P 17 09 32.9 +0.1
baz=136
F21K Alatna River 28.29 346 P P 17 09 32.8 -0.1
F21K IAmb IAmb 17 09 39.7
comp=Z,7.2nm,0.9s
F21K PcP 17 12 46.3 +0.7
F21K Alatna River 28.29 346 P P 17 09 33.2 +0.3
baz=153
E24K Your Creek 28.32 351 P P 17 09 32.9 -0.3
baz=161
F22K John River 28.32 348 P P 17 09 33.0 -0.2
baz=155
CBKS Cedar Bluff 28.42 81 IAmb IAmb 17 09 39.1
comp=Z,18nm,1.1s
CBKS Cedar Bluff 28.42 81 P P 17 09 34.8 +0.4
baz=285
E23K Chandalar 28.45 350 P P 17 09 33.7 -0.7
baz=159
G17K Kiwalik Mounta 28.47 339 P P 17 09 33.7 -0.8
baz=140
F20K Avaraart Lake 28.57 345 P P 17 09 35.2 -0.1
baz=149
E22K Anaktuvuk Pass 28.84 348 IAmb IAmb 17 09 43.0
comp=Z,12nm,1.3s
E22K Anaktuvuk Pass 28.84 348 P P 17 09 38.0 +0.3
baz=156
D27M Malcolm River 28.86 357 P P 17 09 38.1 +0.2
baz=174
G16K Koyuk River 28.87 338 P P 17 09 37.9 -0.1
baz=137
D28M Stokes Point 28.87 359 P P 17 09 38.3 +0.3
baz=177
TOLK Toolik Lake Re 29.00 350 P P 17 09 39.7 +0.5
baz=160
G15K Niukluk 29.08 336 P P 17 09 40.3 +0.5
baz=134
TX31 Lajitas Ar. Si 29.19 102 IAmb IAmb 17 09 48.2
comp=Z,10nm,1.2s
TXAR Lajitas Array 29.19 102 P P 17 09 44.3 +3.0
comp=Z,1.2nm,0.8s,baz=282,slow=6.7,SNR=9.0
TXAR LR LR 17 20 44.7
comp=Z,155nm,18.6s,baz=295,slow=35
comp=Z,1.2nm,0.8s
ANM Nome 29.20 335 P P 17 09 41.1 +0.1
baz=132
E19K Redstone River 29.23 344 P P 17 09 41.8 +0.6
baz=147
D25K Kavik River 29.30 353 P P 17 09 42.2 +0.4
baz=165
F17K Baldwin Pennin 29.35 340 P P 17 09 42.2 -0.1
baz=140
D24K Happy Valley 29.39 351 P P 17 09 43.1 +0.6
D24K IAmb IAmb 17 09 48.4

comp=Z,7.3nm,1.0s
D24K Happy Valley 29.39 351 P P 17 09 43.0 +0.5
baz=161
D23K Nanushuk River 29.45 350 P P 17 09 43.2 +0.1
baz=158
E21K Killik River 29.47 347 P P 17 09 43.1 -0.2
baz=153
C36M Paulatuk 29.65 9 P P 17 09 45.3 +0.5
C36M IAmb IAmb 17 09 49.5
comp=Z,11nm,0.9s
C36M Paulatuk 29.65 9 P P 17 09 45.6 +0.8
baz=200,SNR=12
D22K Ayikyak River 29.65 348 P P 17 09 45.5 +0.5
baz=155
E20K Nigu River 29.70 346 P P 17 09 45.8 +0.3
baz=149
ECSD EROS Data Cent 29.75 70 IAmb IAmb 17 09 55.8
comp=Z,7.1nm,1.3s
ECSD EROS Data Cent 29.75 70 P P 17 09 46.0 0.0
baz=278
C26K Camden Bay 29.75 354 P P 17 09 45.9 +0.1
baz=168
F15K North Star Dit 29.76 337 P P 17 09 45.6 -0.3
baz=134
C24K Franklin Bluff 29.91 352 P P 17 09 47.3 +0.1
baz=162
E18K Tukpahlearik C 29.96 342 P P 17 09 47.4 -0.2
baz=142
ULM Lac du Bonnet 29.98 57 P P 17 09 47.6 -0.4
comp=Z,3.4nm,0.7s,baz=281,slow=8.7,SNR=8.2
ULM LR LR 17 20 29.3
comp=Z,85nm,19.2s,baz=278,slow=34
comp=Z,3.4nm,0.7s
E17K Hotham Inlet 29.99 341 P P 17 09 47.8 -0.1
baz=140
F14K Arctic Creek 30.11 336 P P 17 09 48.6 -0.4
baz=132
D20K Etivluk River 30.18 346 P P 17 09 49.2 -0.3
baz=149
C21K Kniveblade Rid 30.24 347 P P 17 09 49.5 -0.6
baz=152
C23K Itkillik River 30.25 351 P P 17 09 50.2 +0.1
baz=159,SNR=5.7
D19K Kuna River 30.28 345 P P 17 09 50.2 -0.4
baz=147
B21K Ikpikpuk River 30.63 348 P P 17 09 53.4 0.0
baz=153
ABTX Abilene, Hawle 30.67 93 P P 17 09 55.0 +0.7
baz=296
TNA Tin City 30.68 335 P P 17 09 54.4 +0.4
baz=130
KSU1 Kansas State U 30.70 79 P P 17 09 54.5 0.0
baz=286
RDOG Red Dog Mine 31.01 341 P P 17 09 56.8 0.0
baz=140
C18K Utukok River 31.07 343 P P 17 09 57.1 -0.4
C18K IAmb IAmb 17 10 02.6
comp=Z,11nm,1.0s
C18K Utukok River 31.07 343 P P 17 09 57.3 -0.2
baz=142
B22K Teshekpuk Lake 31.09 349 P P 17 09 57.5 0.0
baz=155
C19K Lookout Ridge 31.09 344 P P 17 09 57.3 -0.4
baz=145
C17K DeLong Mountai 31.39 342 P P 17 09 59.9 -0.4
baz=140
B20K Meade River 31.39 347 P P 17 09 59.9 -0.3
baz=150
JCT Junction City 31.52 97 P P 17 10 01.7 -0.1
baz=299
BRDY Brady 31.75 95 P P 17 10 05.4 +1.5
BRDY IAmb IAmb 17 10 08.5
comp=Z,9.9nm,0.8s
B18K Kokolik River 31.77 343 P P 17 10 03.2 -0.4
baz=142
C16K Lisburne Hills 31.78 340 IAmb IAmb 17 10 05.6
comp=Z,6.9nm,0.9s
C16K Lisburne Hills 31.78 340 P P 17 10 03.9 +0.2
baz=136
A22K Sinclair Lake 31.92 349 P P 17 10 04.6 -0.2
baz=153
A36M Sachs Harbour 32.05 7 P P 17 10 07.0 +1.1
A36M Sachs Harbour 32.05 7 P P 17 10 05.9 0.0
baz=197,SNR=23
SPMN Marine on St. 32.25 67 IAmb IAmb 17 10 11.0
comp=Z,9.0nm,0.7s
SPMN Marine on St. 32.25 67 P P 17 10 08.0 -0.1
baz=278
A19K Wainwright 32.29 345 P P 17 10 08.0 -0.1
baz=144
A21K Barrow 32.45 348 P P 17 10 09.3 -0.2
baz=151
EYMN Ely 32.88 62 P P 17 10 13.2 -0.4
baz=274
833A Chaparral WMA, 32.91 100 P P 17 10 14.7 +0.6
baz=302
435B Jarrell 33.06 95 P P 17 10 16.1 +0.7
baz=298
S39A Bolivar 33.58 81 IAmb IAmb 17 10 24.1
comp=Z,7.6nm,0.9s
ZAIG Zacatecas 33.81 111 P P 17 10 18.0 -4.2
ZAIG IAmb IAmb 17 10 28.8
comp=Z,12nm,1.1s
MGMO Mountain Grove 34.55 81 P P 17 10 29.2 +0.9
MGMO IAmb IAmb 17 10 32.6
comp=Z,12nm,1.1s
CCM Cathedral Cave 35.02 79 P P 17 10 32.6 +0.3
baz=289
HDIL Hopedale 35.73 74 P P 17 10 37.7 -0.6
baz=286
RES Resolute Bay 39.20 16 P P 17 11 07.6 +0.3
RES IAmb IAmb 17 11 12.2
comp=Z,10nm,1.0s
RES Resolute Bay 39.20 16 LR LR 17 26 09.4
comp=Z,123nm,18.9s,baz=58,slow=35
P49A Miami Univ. Ec 39.39 74 P P 17 11 09.2 -0.2
baz=289
TLIG Tlapa 40.05 114 P P 17 11 10.4 -4.8
TLIG IAmb IAmb 17 11 21.8
comp=Z,15nm,0.8s
BILL Billbino 40.87 331 P P 17 11 19.4 -1.9
TKL Tuckalechee C 41.47 79 LR LR 17 28 12.1
comp=Z,164nm,18.9s,baz=320,slow=36
O53A New Philadelph 41.70 72 P P 17 11 28.5 0.0
baz=289
SADO Sadowa 41.84 64 LR LR 17 27 29.5
comp=Z,65nm,20.9s,baz=89,slow=34
GOGA Godfrey 42.63 82 P P 17 11 36.0 -0.1
baz=296
MCWV Mont Chateau 42.89 72 P P 17 11 37.9 -0.2
baz=290
CMIG Matias Romero 42.97 110 LR LR 17 27 08.9
comp=Z,126nm,21.9s,baz=357,slow=33
BLA Blacksburg 43.36 75 P P 17 11 41.1 -1.0
baz=292
KMSC Kings Mountain 43.50 79 P P 17 11 42.9 -0.3
baz=294
EUNU Eureka 43.77 11 P P 17 11 44.9 0.0
PET Petropavlovsk 44.47 309 P P 17 11 50.4 -0.3
LONY Lake Ozonia 45.00 63 P P 17 11 54.2 -0.8
baz=288
PETK Petropavlovsk- 45.02 309 P P 17 11 54.9 -0.2
comp=Z,49nm,1.0s,baz=89,slow=11,SNR=82
PETK LR LR 17 27 02.5
comp=Z,74nm,21.9s,baz=78,slow=31
comp=Z,49nm,1.0s
FRB Frobisher Bay 45.12 36 LR LR 17 29 45.3
comp=Z,172nm,20.4s,baz=264,slow=35
TEIG Tepich 45.83 101 LR LR 17 33 13.1
comp=Z,314nm,19.4s,baz=360,slow=39
SEY Seymchan 46.36 323 LR LR 17 31 19.7
comp=Z,62nm,18.3s,baz=307,slow=36
DWPF Disney Wildern 46.66 87 P P 17 12 05.8 -2.5
baz=301
PAL Palisades 46.66 68 P P 17 12 06.2 -2.0
baz=291
SCHQ Schefferville 47.21 48 P P 17 12 12.9 +0.7
comp=Z,11nm,0.8s,baz=266,slow=8.8,SNR=9.7
SCHQ LR LR 17 30 44.9
comp=Z,98nm,19.1s,baz=282,slow=34
comp=Z,11nm,0.8s
MA2 Magadan 47.61 319 P P 17 12 15.1 -0.3
MA2 Magadan 47.61 319 LR LR 17 29 34.5
comp=Z,29nm,20.6s,baz=110,slow=33
PKME Peaks-Kenny Pk 48.35 61 P P 17 12 18.2 -3.1
baz=290
SFJD Kangerlussuaq 52.02 30 LR LR 17 34 16.7
comp=Z,103nm,18.3s,baz=271,slow=35

H11N3 WAKE ISLAND Hy 52.03 264 T T 18 08 45.5
baz=53,slow=75,SNR=20
H11N2 WAKE ISLAND Hy 52.03 264 T T 18 08 53.7
baz=53,slow=75,SNR=16
H11N1 WAKE ISLAND Hy 52.04 264 T T 18 08 55.8
baz=53,slow=75,SNR=21
H11S1 WAKE ISLAND Hy 52.91 263 T T 18 10 05.3
baz=52,slow=74,SNR=16
H11S2 WAKE ISLAND Hy 52.91 263 T T 18 10 01.8
baz=52,slow=74,SNR=12
H11S3 WAKE ISLAND Hy 52.92 263 T T 18 10 01.6
baz=52,slow=74,SNR=7.2
TIXI Tiksi 53.44 337 P P 17 12 58.6 -0.6
SUMG Summit 54.26 22 P P 17 13 05.7 +0.1
SUMG IAmb IAmb 17 13 10.6
comp=Z,8.6nm,0.8s
JACO JACO, Garabito 55.29 109 P P 17 13 14.1 +0.8
LCR2 La Lucha 2 55.71 108 P P 17 13 15.2 -1.5
LCR2 IAmb IAmb 17 13 20.4
comp=Z,7.0nm,0.7s
YSS Yuzh-Sakhalins 56.08 305 P P 17 13 18.6 -0.1
PMOR Pomariorio Ree 56.21 193 eT T 18 14 07.4
comp=Z,7.5nm,0.3s
YAK Yakutsk 56.72 326 P P 17 13 22.1 -0.9
ASAJ Asahikawa 57.42 303 LR LR 17 36 50.9
comp=Z,42nm,19.1s,baz=62,slow=35
PPT Papeete 59.02 194 LR LR 17 33 17.3
comp=Z,30nm,19.5s,baz=350,slow=30
PPT2 Papeete2 59.04 194 eS S 17 21 37.1 -10
comp=Z,46nm,27.0s
PPT2 eLR LR 17 30 58.9
comp=Z,142nm,28.8s
PPT2 eLR LR 17 31 10.5
comp=Z,82nm,25.0s
KBS Kingsbay 59.38 7 P P 17 13 42.9 +1.5
SPB5 Spitsbergen Ar 60.44 6 P P 17 13 51.4 +2.7
HEH HeiHe 63.46 314 eP P 17 14 09.3 -0.1
HEH pmax pmax
comp=Z,42nm,0.7s
HEH pmax pmax
comp=Z,150nm,5.8s
BORG Borgarnes 63.62 26 LR LR 17 40 04.8
comp=Z,74nm,18.4s,baz=286,slow=34
USRK Ussuriysk Ar. 64.03 307 P P 17 14 13.5 +0.3
comp=Z,9.8nm,1.0s,baz=46,slow=4.8,SNR=9.0
comp=Z,9.8nm,1.0s
MJAR Matsushiro Arr 64.08 297 P P 17 14 14.2 +0.4
comp=Z,4.5nm,0.7s,baz=42,slow=5.3,SNR=16
comp=Z,4.5nm,0.7s
TBI Tubuai 64.64 193 eLR LR 17 33 42.0
comp=Z,622nm,28.0s
RAR Rarotonga 65.06 204 LR LR 17 36 27.9
comp=Z,34nm,20.1s,baz=332,slow=30
MDJ Mudanjiang 65.25 308 P P 17 14 21.3 0.0
MDJ pmax pmax
comp=Z,11nm,0.9s
MDJ pmax pmax
comp=Z,110nm,4.8s
NRIK Noril'sk 65.69 344 P P 17 14 22.8 -0.8
NRIK Noril'sk 65.69 344 P P 17 14 23.3 -0.3
comp=Z,5.9nm,0.9s,baz=57,slow=5.0,SNR=15
comp=Z,5.9nm,0.9s
BNX BinXian 65.92 310 ⇑P P 17 14 25.9 +0.3
BNX pmax pmax
comp=Z,36nm,0.9s
BNX pmax pmax
comp=Z,220nm,4.2s
ROSC El Rosal 66.08 105 LR LR 17 44 35.3
comp=Z,24nm,20.2s,baz=222,slow=37
SDV Santo Domingo 66.17 99 LR LR 17 47 24.2
comp=Z,25nm,18.1s,baz=272,slow=40
BAUV El Baul 68.09 97 P P 17 14 40.2 +0.4
CN2 Changchun 68.17 309 eP P 17 14 39.0 -0.9
CN2 esP pwP 17 14 50.1 +2.7
CN2 eS S 17 23 31.8 -8.1
CN2 pmax pmax
comp=Z,20nm,0.6s
ARCES ARCESS Array B 69.47 7 P P 17 14 47.0 -0.6
ARCES ARCESS Array B 69.47 7 P P 17 14 46.5 -1.0
comp=Z,4.7nm,0.9s,baz=37,slow=2.3,SNR=4.3
ARCES LR LR 17 44 38.4
comp=Z,16nm,19.9s,baz=300,slow=36
comp=Z,4.7nm,0.9s
KSRS Korea Array 70.37 303 P P 17 14 54.2 +0.6
comp=Z,5.1nm,0.9s,baz=52,slow=6.0,SNR=14
KSRS LR LR 17 44 40.5
comp=Z,20nm,19.4s,baz=35,slow=35
comp=Z,5.1nm,0.9s
KSAR Wonju Array Be 70.40 303 P P 17 14 52.8 -1.0
JNU Nakatsue 70.98 298 LR LR 17 43 17.0
comp=Z,51nm,18.5s,baz=24,slow=34
ATAH Atahualpa 71.54 117 LR LR 17 41 44.4
comp=Z,32nm,20.3s,baz=71,slow=32
ULN Ulaanbaatar 75.39 321 P P 17 15 23.3 -0.2
ULN IAmb IAmb 17 15 25.3
comp=Z,7.5nm,0.9s
NOA NORSAR Array B 75.46 15 P P 17 15 23.4 0.0
comp=Z,1.2nm,0.8s,baz=338,slow=4.9,SNR=4.0
NOA LR LR 17 46 41.5
comp=Z,72nm,18.9s,baz=330,slow=34
comp=Z,1.2nm,0.8s
SONM Songino Array 75.72 322 P P 17 15 25.2 -0.1
SONM Songino Array 75.72 322 P P 17 15 26.2 +0.9
comp=Z,16nm,0.8s,baz=57,slow=5.1,SNR=88
comp=Z,16nm,0.8s
NNA Nana 76.11 119 LR LR 17 41 11.6
comp=Z,51nm,21.1s,baz=344,slow=30
HNR Honiara 76.55 245 LR LR 17 46 32.5
comp=Z,619nm,19.4s,baz=284,slow=34
HFS Hagfors 76.78 15 P P 17 15 30.6 -0.4
comp=Z,2.7nm,0.9s,baz=135,slow=0.2,SNR=11
HFS LR LR 17 47 12.7
comp=Z,92nm,18.0s,baz=282,slow=34
comp=Z,2.7nm,0.9s
FIA1 FINESS Array S 77.42 8 P P 17 15 34.4 -0.1
FINES FINESS Array B 77.42 8 P P 17 15 34.0 -0.4
FINES FINESS Array B 77.42 8 P P 17 15 34.2 -0.2
comp=Z,5.7nm,0.7s,baz=11,slow=4.2,SNR=19
comp=Z,5.7nm,0.7s
TIA Tai'an 77.89 307 eP P 17 15 24.0 -14
TIA pmax pmax
comp=Z,7.0nm,1.9s
HHC Hu-ho-hao-te 77.97 314 eP P 17 15 36.8 -1.3
HHC pmax pmax
comp=Z,47nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.1s
HNS HongShan 78.54 310 ⇑P P 17 15 42.2 +1.1
HNS pmax pmax
comp=Z,20nm,1.0s
BTO Baotou 78.99 315 eP P 17 15 44.0 +0.3
BTO pP **sP 17 15 48.9 +2.6**
BTO sP **pwP 17 15 51.1 -0.1**
BTO PP **PP 17 18 43.7 +1.7**
BTO pmax pmax
comp=Z,27nm,0.9s
BTO pmax pmax
comp=Z,280nm,5.4s
ZAA0 Zalesovo Array 79.32 336 P P 17 15 44.6 -0.6
ZAA0 IAmb IAmb 17 15 46.1
comp=Z,5.2nm,1.1s
ZALV Zalesovo Beam 79.32 336 P P 17 15 44.4 -0.8
comp=Z,3.1nm,0.9s,baz=35,slow=5.4,SNR=15
ZALV LR LR 17 51 41.5
comp=Z,49nm,19.5s,baz=53,slow=36
comp=Z,3.1nm,0.9s
NJ2 Nanjing 79.56 303 eP P 17 15 45.2 -1.6
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,3.9s
KIRV Kirov 81.11 357 LR LR 17 54 50.6
comp=Z,24nm,18.1s,baz=0.9,slow=38
DZM Mont Dzumac 81.64 232 eLR LR 17 41 35.8
comp=Z,56nm,22.3s
DZM Mont Dzumac 81.64 232 LR LR 17 44 14.4
comp=Z,43nm,19.9s,baz=144,slow=30
LYN LuoYang 81.81 309 ⇑P P 17 15 59.5 +0.7
LYN pP PcP 17 16 04.1 -0.4
LYN pmax pmax
comp=Z,34nm,0.5s
LYN pmax pmax
comp=Z,240nm,4.5s
ETMB Extrema 81.93 110 P P 17 16 00.2 +0.5
ETMB IAmb IAmb 17 16 04.1
comp=Z,6.6nm,1.2s
MDP Montagnes des 82.25 90 LR LR 17 56 55.2
comp=Z,10nm,18.0s,baz=280,slow=39
ARU Arti 82.53 351 P P 17 16 01.3 -0.9
ARU IAmb IAmb 17 16 02.7
comp=Z,5.8nm,0.8s
ARU Arti 82.53 351 LR LR 17 52 07.9
comp=Z,25nm,21.3s,baz=114,slow=35
WHN Wuhan 83.42 305 P P 17 16 07.6 +0.3
BRVK Borovoye 83.89 344 P P 17 16 08.6 -0.7
BVAR Borovoye Array 83.90 344 P P 17 16 09.7 +0.3
comp=Z,9.2nm,0.8s,baz=32,slow=3.9,SNR=31
comp=Z,9.2nm,0.8s
KURK Kurchatov 83.99 338 P P 17 16 08.9 -0.9
KURK IAmb IAmb 17 16 10.6
comp=Z,7.8nm,1.2s
KURBB Kurchatov Arra 84.09 338 P P 17 16 10.3 -0.1
comp=Z,4.6nm,0.6s,baz=27,slow=5.0,SNR=30
comp=Z,4.6nm,0.6s
XAN Xi'an 84.25 310 ⇓P P 17 16 11.9 +0.3
XAN pmax pmax
comp=Z,14nm,0.9s
GTA Gaotai 85.17 320 eP P 17 16 16.3 +0.1
GTA pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 85.60 315 eP P 17 16 19.3 +0.8
LZH pP PcP 17 16 23.3 +1.9
LZH pmax pmax
comp=Z,18nm,1.1s
MK31 Makanchi Array 86.34 334 P P 17 16 21.4 -0.4
MK31 IAmb IAmb 17 16 44.7
comp=Z,5.4nm,1.1s
MKAR Makanchi Array 86.34 334 P P 17 16 20.7 -1.1
MKAR Makanchi Array 86.34 334 P P 17 16 21.8 0.0
comp=Z,2.2nm,0.7s,baz=41,slow=4.5,SNR=26
MKAR LR LR 17 55 31.2
comp=Z,49nm,18.9s,baz=69,slow=36
comp=Z,2.2nm,0.7s
MAKZ Makanchi 86.43 334 P P 17 16 21.6 -0.6
MAKZ IAmb IAmb 17 16 23.0
comp=Z,4.5nm,0.8s
WMQ Urumqi 86.96 329 eP P 17 16 26.0 +1.1
WMQ pP sP 17 16 28.6 +1.0
WMQ pmax pmax
comp=Z,20nm,0.7s
GERES GERESS Array B 87.25 19 P P 17 16 25.6 -0.7
comp=Z,0.7nm,0.7s,baz=339,slow=2.5,SNR=2.7
comp=Z,0.7nm,0.7s
DAVOX Davos/Dischmat 88.12 22 LR LR 17 55 41.0
comp=Z,54nm,18.4s,baz=262,slow=36
AKASG Malin Array Be 88.32 9 P P 17 16 30.1 -1.0
comp=Z,1.4nm,0.6s,baz=346,slow=4.0,SNR=11
AKASG LR LR 17 56 19.3
comp=Z,23nm,18.4s,baz=21,slow=36
comp=Z,1.4nm,0.6s
AKBB Malin Array Si 88.32 9 P P 17 16 30.5 -0.7
AKBB IAmb IAmb 17 16 31.1
comp=Z,3.7nm,0.8s
AKTO Aktyubinsk 88.48 351 LR LR 17 58 41.7
comp=Z,33nm,18.3s,baz=230,slow=37
URZ Urewera 89.05 215 LR LR 17 48 53.3
comp=Z,18nm,19.9s,baz=80,slow=30
ABKAR Akbulak array 89.38 349 P P 17 16 35.6 -0.6
GOMU GeErMu 90.14 321 P P 17 16 41.2 +0.7
GOMU pmax pmax
comp=Z,5.0nm,1.2s
H03N2 Juan Fernandez 90.91 135 T T 18 57 32.8
baz=316
H03N1 Juan Fernandez 90.92 135 T T 18 57 36.1
baz=316
H03N3 Juan Fernandez 90.92 135 T T 18 57 34.8
baz=316
GYA Guiyang 91.07 307 P P 17 16 45.7 +1.0
GYA pmax pmax
comp=Z,14nm,0.9s
DAV Davao City (W) 91.23 280 LR LR 17 50 55.6
comp=Z,47nm,21.4s,baz=27,slow=31
AAK Ala-Archa 92.51 337 LR LR 17 59 08.8
comp=Z,22nm,20.9s,baz=64,slow=36
PZH PanZhiHua 93.98 310 P P 17 16 58.4 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.0s
GNI Garni 99.68 359 LR LR 18 07 52.6
comp=Z,18nm,19.6s,baz=357,slow=39
CMAR Chiang Mai Arr 101.76 307 P Pdif 17 17 34.1 +1.0
comp=Z,1.3nm,0.9s,baz=15,slow=4.2,SNR=5.0
QSPA South Pole Qui 130.33 180 PKP PKPdf 17 22 49.7 +0.7
comp=Z,7.7nm,0.9s,baz=26,slow=0.8,SNR=31

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*IDC **01** 17:11:21.7±2.6,23°.09N×94°.48E,h91^{km}±23^{km},mb3.8/13, mbtmp4.1/14,Error ellipse: s-maj=48.3km s-min=11.8km az=58.0*

ISC 01 17:11:23.4±0.9,23°.2N±0°.2×94°.7E±0°.3,h105^{km},n18, σ0°.82/20,mb4.0/14,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MND	**Mandalay**	**1.74**	**130**	P	**Pn**	**17 11 51.9**	**-1.0**
CHTO	**Chiang Mai**	**5.87**	**137**	P	**Pn**	**17 12 49.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**6.14**	**139**	P	**Pn**	**17 12 51.5**	**-0.2**
	1.7nm,0.5s,baz=313,slow=13,SNR=25						
CMAR				S	**Sn**	**17 13 59.9**	**-0.7**
	0.8nm,0.3s,baz=273,slow=5.2,SNR=5.1						
KSH	**Kashi**	**22.76**	**320**	P	**P**	**17 16 18.8**	**+1.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**25.61**	**340**	P	**P**	**17 16 43.5**	**+0.5**
	comp=Z,4.7nm,0.7s,baz=147,slow=10,SNR=18						
	comp=Z,4.7nm,0.7s						
SONM	**Songino Array**	**26.35**	**18**	P	**P**	**17 16 49.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=196,slow=8.7,SNR=1.4						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**30.17**	**339**	P	**P**	**17 17 22.8**	**-0.6**
KURBB	comp=Z,1.1nm,0.4s,baz=155,slow=8.2,SNR=4.8			ScP	**ScP**	**17 23 55.3**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=159,slow=4.4,SNR=4.2						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**31.64**	**349**	P	**P**	**17 17 36.6**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=166,slow=9.3,SNR=5.9						
	comp=Z,0.6nm,0.4s						
NRIK	**Noril'sk**	**46.40**	**357**	P	**P**	**17 19 39.3**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=152,slow=6.8,SNR=5.7						
	comp=Z,1.3nm,0.4s						
WRA	**Warramunga Arr**	**57.72**	**135**	P	**P**	**17 21 03.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=319,slow=7.6,SNR=45						
	comp=Z,0.7nm,0.3s						
FINES	**FINESS Array B**	**59.72**	**329**	P	**P**	**17 21 16.1**	**-0.6**
	comp=Z,4.6nm,1.1s,baz=90,slow=3.8,SNR=8.4						
	comp=Z,4.6nm,1.1s						
ASAR	**Alice Springs**	**60.15**	**138**	P	**P**	**17 21 21.1**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=322,slow=6.9,SNR=18						
	comp=Z,0.9nm,0.6s						
ARCES	**ARCESS Array B**	**61.24**	**338**	P	**P**	**17 21 27.0**	**0.0**
	comp=Z,4.4nm,1.1s,baz=97,slow=6.8,SNR=9.6						
	comp=Z,4.4nm,1.1s						
SPITS	**Spitsbergen Ar**	**65.10**	**347**	P	**P**	**17 21 52.4**	**0.0**
	comp=Z,10.0nm,1.0s,baz=98,slow=10,SNR=1.5						
	comp=Z,10.0nm,1.0s						
HFS	**Hagfors**	**65.76**	**327**	P	**P**	**17 21 56.2**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=104,slow=5.4,SNR=17						
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**66.89**	**328**	P	**P**	**17 22 03.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=94,slow=5.6						
NOA	**NORSAR Array B**	**66.89**	**328**	P	**P**	**17 22 03.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=79,slow=6.8,SNR=1.9						
	comp=Z,1.1nm,0.7s						
GERES	**GERESS Array B**	**67.12**	**315**	P	**P**	**17 22 04.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=82,slow=7.0,SNR=1.4						
	comp=Z,0.3nm,0.3s						

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*IDC **01** 18:09:06.8±2.1,15°.52S×70°.51W,h168^{km}±20^{km},mb3.2/4, mbtmp3.7/8,Error ellipse: s-maj=27.5km s-min=19.4km az=56.0*

ISC 01 18:09:08.2±0.7,15°.74S±0°.1×70°.6W±0°.1,h193^{km},n13, σ1°.80/14,mb3.5/4,Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**7.02**	**167**	P	**Pn**	**18 10 49.5**	**+0.5**
	21nm,0.4s,baz=333,slow=9.6,SNR=54						
LVC				S	**Sn**	**18 12 05.3**	**-3.6**
	15nm,0.4s,baz=219,slow=23,SNR=20						
NNA	**Nana**	**7.12**	**301**	P	**Pn**	**18 10 47.7**	**-2.4**
	2.9nm,0.3s,baz=155,slow=16,SNR=2.5						
NNA				S	Sn	18 12 01.8	-9.1
	2.8nm,0.4s,baz=214,slow=14,SNR=1.7						

SIV	San Ignacio	9.17	93	P	Pn	18 11 15.9	-1.0
	0.9nm,0.6s,baz=68,slow=23,SNR=4.9						
CFA	Coronel Fontan	15.94	173	P	Pn	18 12 44.6	+2.3
	0.7nm,0.5s,baz=356,slow=13						
PDAR	Pinedale Array	68.34	330	P	P	18 19 49.7	+0.7
	0.2nm,0.5s,baz=114,slow=9.0,SNR=2.2						
	0.2nm,0.5s						
QSPA	South Pole Qui	74.42	180	P	P	18 20 27.8	+2.8
	0.9nm,0.9s,baz=121,slow=7.4,SNR=5.6						
	0.9nm,0.9s						
TORD	Torodi Ar. Bea	77.03	72	P	P	18 20 40.1	-0.3
	0.8nm,0.7s,baz=268,slow=4.7,SNR=5.4						
	0.8nm,0.7s						
YKA	Yellowknife Ar	85.25	341	P	P	18 21 22.9	+0.2
	0.4nm,0.6s,baz=138,slow=4.8,SNR=11						
	0.4nm,0.6s						
ASAR	Alice Springs	134.10	212	PKP	PKPdf	18 28 04.2	+0.7
	0.2nm,0.8s,baz=151,slow=2.1,SNR=1.9						
WRA	Warramunga Arr	136.90	215	PKP	PKiKP	18 28 10.3	-0.4
	0.2nm,0.5s,baz=154,slow=1.9,SNR=2.0						
ZALV	Zalesovo Beam	137.31	21	PKP	PKiKP	18 28 10.1	-0.3
	0.5nm,0.5s,baz=330,slow=2.1,SNR=3.9						
MJAR	Matsushiro Arr	147.07	314	PKPbc	PKPbc	18 28 29.7	+1.0
	1.0nm,0.8s,baz=86,slow=2.1,SNR=2.1						
SONM	Songino Array	147.90	4	PKPbc	PKiKP	18 28 32.1	-0.4
	0.6nm,0.6s,baz=324,slow=2.1,SNR=5.6						

*IDC **01** 18:24:02.3±0.9, 18°.38S×176°.09E, h0km, mb3.9/7, mbtmp4.0/9, ML3.3/2, MS3.4/25, Error ellipse: s-maj=32.6km s-min=22.5km az=146.0*

ISC 01 18:24:06.3±0.7, **18°.4S**±0°.2×**176°.1E**±0°.1, **h26**km, **n41**, σ**0.95s**/14, **mb4.0**/7, **MS3.5**/24, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.80	247	ePn	Pn	18 26 27.4	+1.7
	28nm,1.4s						
DZM				eLR	LR	18 28 36.6	
	comp=Z,689nm,26.1s						
DZM	Mont Dzumac	9.80	247	Pn	Pn	18 26 25.2	-0.4
	0.1nm,0.3s,baz=54,slow=12,SNR=3.5						
DZM				LR	LR	18 29 34.0	
	comp=Z,438nm,22.0s,baz=42,slow=34						
	6.5nm,1.1s						
RAO	Raoul Island	12.06	154	LR	LR	18 30 40.3	
	comp=Z,227nm,19.9s,baz=347,slow=33						
HNR	Honiara	18.07	297	LR	LR	18 34 10.1	
	comp=Z,2μm,19.1s,baz=290,slow=34						
URZ	Urewera	19.78	178	P	Pn	18 28 36.2	+0.1
	0.3nm,0.3s,baz=142,slow=2.8,SNR=3.5						
URZ				LR	LR	18 34 09.3	
	comp=Z,86nm,21.9s,baz=154,slow=31						
	8.6nm,0.9s						
RAR	Rarotonga	22.82	101	LR	LR	18 35 54.8	
	comp=Z,91nm,21.5s,baz=209,slow=31						
RPZ	Rata Peaks	25.57	189	LR	LR	18 39 14.3	
	comp=Z,42nm,18.1s,baz=45,slow=36						
CTA	Charters Tower	28.25	262	LR	LR	18 39 19.8	
	comp=Z,158nm,21.6s,baz=88,slow=32						
PMG	Port Moresby	29.49	284	LR	LR	18 40 26.1	
	comp=Z,131nm,18.8s,baz=120,slow=33						
TBI	Tubuai	32.46	105	eLR	LR	18 39 25.0	
	comp=Z,751nm,27.2s						
PPT2	Papeete2	32.59	94	eS	S	18 35 50.5	+0.2
	110nm,40.8s						
PPT2				eLR	LR	18 39 04.0	
	comp=Z,246nm,30.8s						
PPT2				eLR	LR	18 39 26.8	
	comp=Z,298nm,26.5s						
PPT	Papeete	32.59	94	LR	LR	18 40 26.1	
	comp=Z,71nm,21.2s,baz=194,slow=30						
STKA	Stephens Creek	33.86	240	LR	LR	18 43 04.5	
	comp=Z,73nm,19.8s,baz=30,slow=34						
H11S2	WAKE ISLAND Hy	37.84	345	T	T	19 11 30.6	
	baz=166,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	37.85	345	T	T	19 11 31.0	
	baz=166,slow=76,SNR=6.3						
H11S1	WAKE ISLAND Hy	37.86	345	T	T	19 11 32.0	
	baz=166,slow=76,SNR=7.3						
WRA	Warramunga Arr	39.44	261	P	P	18 31 32.9	-1.7
	1.0nm,0.9s,baz=90,slow=8.9,SNR=5.6						
	1.0nm,0.9s						
ASAR	Alice Springs	39.66	255	P	P	18 31 35.6	-0.8
	1.8nm,0.9s,baz=85,slow=8.8,SNR=20						
ASAR				LR	LR	18 47 57.5	
	comp=Z,130nm,18.3s,baz=100,slow=36						
	1.8nm,0.9s						
GUMO	Guam	44.31	314	LR	LR	18 50 35.4	
	comp=Z,27nm,18.3s,baz=140,slow=36						
DAV	Davao City (W)	55.94	292	LR	LR	18 56 59.6	
	comp=Z,22nm,19.0s,baz=96,slow=35						
KAPI	Kappang	56.58	276	LR	LR	18 57 40.4	
	comp=Z,27nm,21.0s,baz=92,slow=36						
MJAR	Matsushiro Arr	65.37	327	LR	LR	19 02 56.9	
	comp=Z,20nm,19.5s,baz=150,slow=36						
LEM	Lembang	67.53	270	LR	LR	19 04 53.4	
	comp=Z,27nm,19.7s,baz=334,slow=36						
ASAJ	Asahikawa	69.40	335	LR	LR	18 58 21.2	
	comp=Z,43nm,21.5s,baz=166,slow=30						
QSPA	South Pole Qui	71.62	180	P	P	18 35 25.0	-0.4
	3.2nm,1.2s,baz=48,slow=5.2,SNR=4.1						
	3.2nm,1.2s						
KSRS	Korea Array	71.75	321	LR	LR	19 06 09.7	
	comp=Z,17nm,18.3s,baz=205,slow=35						
KLR	Kul'dur	78.03	332	LR	LR	19 03 31.5	
	comp=Z,26nm,21.7s,baz=185,slow=30						
MA2	Magadan	80.44	347	LR	LR	19 09 23.2	
	comp=Z,20nm,19.9s,baz=150,slow=34						
YBH	Yreka Blue Hor	82.27	41	LR	LR	19 07 48.2	
	comp=Z,15nm,19.1s,baz=21,slow=32						
LPIG	La Paz	83.22	62	LR	LR	19 08 56.8	
	comp=Z,21nm,18.0s,baz=212,slow=32						
NVAR	Mina Array Bea	83.45	46	P	P	18 36 32.3	+0.3
	0.5nm,0.8s,baz=218,slow=8.0,SNR=4.6						
	0.5nm,0.8s						
CMAR	Chiang Mai Arr	84.22	292	P	P	18 36 37.4	+1.3
	2.0nm,1.1s,baz=115,slow=3.9,SNR=7.7						
	2.0nm,1.1s						
ILAR	Eielson Array	87.64	15	P	P	18 36 51.0	-0.9
	0.9nm,1.0s,baz=236,slow=6.9,SNR=5.1						
	0.9nm,1.0s						
TXAR	Lajitas Array	90.68	59	P	P	18 37 07.5	+0.3
	0.9nm,1.0s,baz=216,slow=6.2,SNR=4.9						
	0.9nm,1.0s						
PDAR	Pinedale Array	91.34	45	LR	LR	19 13 03.5	
	comp=Z,12nm,19.4s,baz=18,slow=32						
CMIG	Matias Romero	94.33	74	LR	LR	19 10 32.6	
	comp=Z,29nm,19.8s,baz=203,slow=30						
PLCA	Paso Flores	94.66	136	LR	LR	19 11 05.5	
	comp=Z,20nm,21.1s,baz=190,slow=30						
PALK	Pallekele	97.40	275	LR	LR	19 24 15.2	
	comp=Z,15nm,18.1s,baz=207,slow=37						
CONA	Conrad Observa	146.47	336	ePKP	PKPab	18 43 46.6	+0.4
	9.8nm,1.2s						
RONA	Rosalia, Austr	146.48	335	ePKiKP	PKiKP	18 43 48.2	0.0
	12nm,1.5s						
GERES	GERESS Array B	146.49	339	PKPbc	PKPbc	18 43 45.3	0.0
	2.3nm,1.1s,baz=46,slow=5.8,SNR=5.4						

*MOS **01** 19:18:34.6±1.3, 53°.13N×106°.95E, h11km, mb4.1/2, Error ellipse: s-maj=10.3km s-min=6.3km az=65.3*
MOS Felt (III) at Tyrgan.
*IDC **01** 19:18:34.7±1.0, 53°.21N×106°.91E, h0km, mb3.6/8, mbtmp3.7/13, ML3.5/4, MS3.0/4, Error ellipse: s-maj=21.2km s-min=17.7km az=123.0*
*BYKL **01** 19:18:37.0±0.2, 53°.09N×106°.92E, h15km±11km, FELT I=IV MSK at Sakhyurta, Shida; III-IV at Elantsy, Narin-Kunta, Tyrgan, Petrova, Popova; III at Irkutsk*

ISC 01 19:18:35.4±1.0, **53°.10N**±0°.02×**107°.03E**±0°.02, **h7**km±7km, **n73**, σ**1.92s**/130, **mb3.7**/9, **18C-9D**, **Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZR	Uzur	0.49	62	⇓iPg	Pb	19 18 47.6	+1.3
UZR				Pmax		19 18 47.9	
	375nm,0.2s						
UZR				eSg	Sb	19 18 54.7	+1.0
UZR				Smax		19 18 55.2	
	12μm,0.3s						
TRG	Tyrgan	0.53	231	⇓iPg	Pb	19 18 46.8	-0.3
TRG				Pmax		19 18 47.7	
	662nm,0.1s						
TRG				eSg	Sg	19 18 52.9	+0.3
TRG				Smax		19 18 54.7	
	24μm,0.1s						
TRG	Tyrgan	0.53	231	⇓iPG	Pb	19 18 46.8	-0.3
TRG				e		19 18 53.1	
TRG				pmax	pmax		
	comp=Z,680nm,0.1s						
TRG				smax	smax		
	comp=N,24μm,0.1s						
OGRR	Ongureny	0.65	32	⇓iPg	Pn	19 18 50.7	-0.4
	comp=N,449nm,0.4s						
OGRR				⇓iPg	Pn	19 18 50.7	-0.4
	comp=N,153nm,0.4s						
OGRR				⇓iPg	Pn	19 18 50.7	-0.4
	comp=N,856nm,0.4s						
OGRR				Pmax		19 18 50.9	
	comp=N,692nm,0.3s						
OGRR				eSg	Sb	19 18 59.6	+1.3
OGRR				Smax		19 19 00.3	
	comp=N,5μm,0.7s						
OGRR	Ongureny	0.65	32	ePG	Pn	19 18 50.7	-0.4
OGRR				e		19 19 00.0	
OGRR				pmax	pmax		
	comp=Z,691nm,0.4s						
OGRR				smax	smax		
	comp=E,5μm,0.8s						
KELR	Kotokel	0.72	117	⇑iPg	Pb	19 18 51.0	+0.7
KELR				eSg	Sg	19 19 00.9	+2.2
GORB	Goryachinsk	0.77	98	⇑iPg	Pb	19 18 52.1	+1.0
GORB				eSg	Sb	19 19 03.0	+1.2
STDB	Stepnoy Dvoret	1.01	204	⇑iPg	Pn	19 18 56.2	+0.1
STDB				eSg	Sb	19 19 09.0	+0.2
MXMB	Maximikha	1.05	80	ePg	Pb	19 18 57.0	+1.1
MXMB				eSg	Sb	19 19 11.3	+1.4
FFNB	Fofonovo	1.06	189	⇑iPg	Pg	19 18 56.2	+0.4
FFNB				eSg	Sg	19 19 09.8	+0.2
KAB	Kabansk	1.07	192	ePg	Pg	19 18 56.4	+0.4
KAB				Pmax		19 18 56.9	
	comp=E,2μm,0.3s						
KAB				eSg	Sg	19 19 10.5	+0.6
KAB				Smax		19 19 11.9	
	comp=E,15μm,0.6s						
KAB	Kabansk	1.07	192	⇑iPG	Pg	19 18 56.4	+0.4
KAB				e		19 19 09.5	
KAB				pmax	pmax		
	comp=Z,2μm,0.3s						
KAB				smax	smax		
	comp=N,12μm,0.4s						
UUDB	Ulan-Yde	1.29	162	⇑iPg	Pn	19 19 00.0	+0.1
UUDB				Pmax		19 19 00.6	
	comp=N,2μm,0.4s						
UUDB				eSg	Sb	19 19 16.8	0.0
UUDB				Smax		19 19 18.3	
	comp=N,4μm,0.5s						
VBR	Suhoy Ruchey	1.44	206	eSg	Sn	19 19 21.6	+0.5
HRMR	Khuramsha	1.47	182	⇑iPg	Pn	19 19 02.5	+0.1
HRMR				ePb	Pb	19 19 03.3	+0.2
HRMR				max		19 19 03.9	
	comp=N,904nm,0.4s						
HRMR				eSg	Sn	19 19 21.6	-0.3
HRMR				Smax		19 19 23.3	
	comp=N,31μm,0.4s						
LSTR	Listvyanka	1.82	228	Smax		19 19 07.8	
LSTR				Smax		19 19 08.7	
LSTR				e		19 19 14.8	
LSTR				eSg	Sn	19 19 30.8	+0.3
LSTR				Smax		19 19 32.4	
	comp=N,894nm,0.4s						
SYVR	Suvo	1.87	71	⇑iPn	Pn	19 19 09.4	+1.6
SYVR				ePg	Pg	19 19 11.5	+0.3
SYVR				e		19 19 17.2	
SYVR				max		19 19 17.7	
	comp=N,299nm,0.6s						
SYVR				e		19 19 32.9	
SYVR				eSn	Sb	19 19 34.1	+0.7
SYVR				eSg	Sg	19 19 37.0	+1.6
SYVR				Smax		19 19 41.9	
	comp=N,366nm,0.5s						
SYVR	Suvo	1.87	71	⇑iPN	Pn	19 19 09.3	+1.5
SYVR				e		19 19 11.5	
SYVR				e		19 19 33.0	
SYVR				pmax	pmax		
	comp=Z,304nm,0.7s						
SYVR				smax	smax		
	comp=E,390nm,0.3s						
IRK	Irkutsk	1.88	244	ePn	Pn	19 19 08.8	+0.7
IRK				ePg	Pb	19 19 09.9	-0.2
IRK				e		19 19 16.4	
IRK				e		19 19 19.1	
IRK				eSn	Sn	19 19 31.2	-0.8
IRK				eSg	Sb	19 19 33.8	0.0
IRK				Smax		19 19 34.5	
	comp=E,7μm,0.4s						
IRK				e		19 19 35.7	
IRK				max			
	comp=E,1μm,0.4s						
IRK	Irkutsk	1.88	244	⇑iPN	Pn	19 19 08.7	+0.7
IRK				e		19 19 09.9	
IRK				eS	Sn	19 19 30.7	-1.3
IRK				e		19 19 34.0	
IRK				pmax	pmax		
	comp=Z,309nm,0.1s						
IRK				smax	smax		
	comp=E,7μm,0.5s						
IVK	Ivanovka	2.06	232	ePn	Pn	19 19 11.0	+0.6
IVK				ePg	Pb	19 19 13.2	+0.1
IVK				e		19 19 19.0	
IVK				max		19 19 19.4	
	comp=E,827nm,0.5s						
IVK				eSn	Sn	19 19 36.2	-0.1
IVK				eSg	Sb	19 19 38.7	-0.2
IVK				Smax		19 19 39.2	
	comp=E,2μm,0.3s						
IVK				e		19 19 41.7	
TLY	Talaya	2.51	237	ePn	Pn	19 19 17.2	+0.5
TLY				ePg	Pb	19 19 21.3	+0.5
TLY				Pmax		19 19 30.7	
	comp=E,148nm,0.5s						
TLY				eSn	Sn	19 19 45.9	-1.6
TLY				eSg	Sb	19 19 51.8	-0.1
TLY				Smax		19 19 59.3	
	comp=E,895nm,0.6s						
YLYR	Ulyunkhan	3.02	52	ePn	Pn	19 19 25.7	+2.0
YLYR				ePg	Pb	19 19 31.9	+2.3
YLYR				ePgPg	Pg	19 19 37.0	+3.7
YLYR				max		19 19 37.7	
	comp=E,113nm,0.5s						
YLYR				eSg	Sg	19 20 11.1	-1.4
YLYR				Smax		19 20 18.1	
	comp=E,339nm,1.1s						
YLYR	Ulyunkhan	3.02	52	⇓iPN	Pn	19 19 25.7	+2.0
YLYR				e		19 19 31.9	
YLYR				e		19 20 10.7	
YLYR				pmax	pmax		
	comp=Z,84nm,0.3s						
YLYR				smax	smax		
	comp=N,326nm,0.4s						
ARS	Arshan	3.05	249	ePn	Pn	19 19 24.6	+0.5
ARS				ePg	Pb	19 19 29.8	-0.2
ARS				ePgPg	Pg	19 19 35.7	+1.9
ARS				max		19 19 38.8	
	comp=N,526nm,0.5s						
ARS				eSg	Sb	19 20 07.7	+0.2
ARS				eSgSg	Sg	19 20 12.2	-1.1
ARS				max		19 20 15.9	
	comp=N,3μm,0.7s						
ARS	Arshan	3.05	249	ePN	Pn	19 19 24.7	+0.6
ARS				e		19 19 31.6	
ARS				e		19 20 07.4	
ARS				pmax	pmax		
	comp=Z,525nm,0.5s						
ARS				smax	smax		
	comp=E,3μm,0.5s						
ZAK	Zakamensk	3.58	222	ePn	Pn	19 19 32.4	+1.0
ZAK				ePg	Pb	19 19 40.4	+1.3
ZAK				Pmax		19 19 55.0	
	comp=E,46nm,0.3s						
ZAK				eSn	Sn	19 20 13.4	-0.6
ZAK				eSg	Sb	19 20 26.0	+3.3
ZAK				Smax		19 20 32.1	
	comp=E,366nm,0.5s						
ZAK	Zakamensk	3.58	222	ePN	Pn	19 19 32.1	+0.7
ZAK				e		19 19 40.3	
ZAK				e		19 20 26.1	
ZAK				pmax	pmax		
	comp=Z,45nm,0.3s						
ZAK				smax	smax		
	comp=N,366nm,0.4s						
KMO	Kumora	3.71	39	ePn	Pn	19 19 35.3	+2.2
KMO				e		19 19 39.0	
KMO				ePg	Pg	19 19 44.9	-1.5
KMO				Pmax		19 19 53.1	
	comp=N,103nm,0.3s						
KMO				eSg	Sg	19 20 32.1	-2.3
KMO				Smax		19 20 45.1	
	comp=N,442nm,1.1s						
KMO	Kumora	3.71	39	⇑iPN	Pn	19 19 35.3	+2.2
KMO				e		19 19 43.3	
KMO				eS	Sn	19 20 16.6	-0.4
KMO				e		19 20 32.1	
KMO				pmax	pmax		
	comp=Z,16nm,0.3s						
KMO				smax	smax		
	comp=E,443nm,1.2s						
MOY	Mondy	3.96	251	ePN	Pn	19 19 38.5	+1.8
MOY				e		19 19 47.2	
MOY				eS	Sn	19 20 24.9	+1.4
MOY				e		19 20 38.2	
MOY				pmax	pmax		
	comp=Z,68nm,0.5s						
MOY				smax	smax		
	comp=N,588nm,0.9s						
YOA	Uoyan	4.09	40	ePg	Pg	19 19 52.1	-1.6
YOA				e		19 19 57.9	
YOA				max		19 19 59.3	
	comp=N,108nm,0.4s						
YOA				eSn	Sn	19 20 28.9	+2.5
YOA				eSg	Sg	19 20 46.0	-0.6
YOA				Smax		19 21 20.8	
	comp=N,1μm,0.7s						
CIT	Chita	4.13	103	ePg	Pb	19 19 51.4	+3.0
CIT				Pmax		19 19 58.9	
	comp=N,125nm,0.5s						
CIT				e		19 20 25.4	
CIT				eSg	Sg	19 20 46.1	-1.7
CIT				Smax		19 20 49.2	
	comp=N,505nm,0.7s						
ORL	Orlik	4.41	266	ePn	Pn	19 19 44.3	+1.4
ORL				max		19 19 46.7	
	comp=N,44nm,0.5s						
ORL				e		19 19 52.5	
ORL				eSn	Sn	19 20 33.7	-0.9
ORL				eSg	Sg	19 20 52.1	-5.0
ORL				Smax		19 21 00.3	
	comp=N,427nm,1.1s						
ORL	Orlik	4.41	266	ePN	Pn	19 19 44.6	+1.7
ORL				e		19 19 56.9	
ORL				eS	Sn	19 20 34.1	-0.5
ORL				e		19 20 53.4	
ORL				pmax	pmax		
	comp=Z,57nm,0.6s						
ORL				smax	smax		
	comp=E,428nm,1.0s						
UKT	Uakit	4.55	56	ePn	Pn	19 19 47.1	+2.4
UKT				e		19 20 02.0	
UKT				max		19 20 07.0	
	comp=E,42nm,1.1s						
UKT				Smax		19 20 08.7	
	comp=E,143nm,1.7s						
UKT				eSg	Sg	19 20 58.5	-2.9
UKT				e		19 21 31.3	
KPC	Khapcheranga	4.77	133	e	Pn	19 19 46.8	-1.0
KPC				ePg	Pb	19 20 02.9	+3.5
KPC				eSn	Sn	19 20 42.0	-1.3
KPC				eSg	Sg	19 21 05.0	-3.5
KPC				Smax		19 21 14.5	
	comp=E,134nm,0.7s						
KPC	Khapcheranga	4.77	133	ePN	Pn	19 19 47.0	-0.8
KPC				e		19 20 03.3	
KPC				eS	Sn	19 20 39.5	-3.8
KPC				e		19 21 03.2	
KPC				pmax	pmax		
	comp=Z,43nm,0.2s						
KPC				smax	smax		
	comp=E,180nm,1.5s						
ULN	Ulaanbaatar	5.24	180	cePN	Pn	19 19 54.7	+0.4
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	Songino Array	5.28	185	Pn	Pn	19 19 55.6	+0.7
	comp=Z,1.6nm,0.3s,baz=356,slow=15,SNR=36						
SONM				Pg	Pb	19 20 12.3	+4.1
	comp=Z,5.5nm,0.3s,baz=0.4,slow=17,SNR=18						
SONM				Sn	Sn	19 20 50.9	-5.1
	comp=Z,5.5nm,0.3s,baz=353,slow=23,SNR=6.5						
SONM				Lg	Lg	19 21 20.7	
	comp=Z,18nm,0.3s,baz=354,slow=30,SNR=12						
SONM				LR	LR	19 22 21.1	
	comp=Z,75nm,20.5s,baz=354,slow=42						
	comp=Z,2.3nm,0.3s						
NLYR	Nelyaty	6.06	52	ePn	Pn	19 20 07.3	+1.9
NLYR				ePg	Pb	19 20 27.0	+5.7
NLYR				e		19 20 33.5	
NLYR				max		19 20 33.9	
	comp=Z,23nm,1.1s						
NLYR				e		19 20 48.0	
NLYR				eSg	Sg	19 21 47.7	-2.2
NLYR				Smax		19 22 00.2	
	comp=Z,180nm,1.1s						
NLYR	Nelyaty	6.06	52	ePN	Pn	19 20 06.3	+0.9
NLYR				e		19 20 25.0	
BOD	Bodaibo	6.17	37	ePn	Pn	19 20 09.1	+2.2
BOD				max		19 20 44.4	
	comp=Z,16nm,1.1s						
BOD				eSg	Sg	19 21 49.6	-3.9
BOD				Smax		19 22 10.7	
	comp=Z,97nm,0.8s						
VTMR	Vitim	7.06	24	ePn	Pn	19 20 20.6	+1.5
VTMR				ePg	Pb	19 20 44.0	+5.7
VTMR				e		19 21 34.7	
VTMR				eSg	Sg	19 22 16.5	-5.4
CRS	Chara	7.50	55	ePn	Pn	19 20 28.0	+2.8
CRS				ePg	Pb	19 20 52.1	+6.3
CRS				e		19 21 00.8	
CRS				max		19 21 41.4	
	comp=Z,22nm,1.0s						
CRS				eSg	Sg	19 22 30.5	-5.6
CRS				e		19 22 53.4	
CRS				max		19 23 04.0	
	comp=Z,77nm,1.4s						
TUP	Tupik	7.78	75	ePn	Pn	19 20 30.0	+1.0
TUP				ePg	Pb	19 20 58.1	+7.6
TUP				Pmax		19 21 02.5	
	comp=Z,15nm,1.0s						
TUP				e		19 21 51.2	
TUP				eSg	Sg	19 22 38.7	-6.2
TUP				Smax		19 22 46.0	
	comp=Z,129nm,1.6s						
TUP	Tupik	7.78	75	ePN	Pn	19 20 30.0	+1.0
TUP				e		19 20 58.3	
TUP				eS	Sn	19 21 51.5	-5.8
TUP				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TUP				smax	smax		
	comp=N,128nm,1.6s						
YKLR	Yuktali	9.13	62	ePg	Pn	19 21 23.5	+36
YKLR				e		19 22 53.0	
YKLR				e		19 22 59.4	
YKLR				eSg	Sn	19 23 21.6	+51
DGZ	Jazzator, Alta	12.69	262	⇓eP	Pn	19 21 36.4	0.0
ZALV	Zalesovo Beam	13.23	283	Pn	Pn	19 21 43.9	+0.4
	comp=N,0.2nm,0.3s,baz=97,slow=12,SNR=1.7						
ZALV				Lg	Lg	19 25 26.1	
	comp=N,0.2nm,0.3s,baz=79,slow=30,SNR=8.6						
ZALV				LR	LR	19 26 58.9	
	comp=N,38nm,20.2s,baz=18,slow=38						
YAK	Yakutsk	15.02	45	⇑eP	Pn	19 22 08.1	+0.3
YAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	Yakutsk	15.02	45	Lg	Lg	19 26 22.9	
	baz=153,slow=13,SNR=2.0						
KLR	Kul'dur	15.96	94	Lg	Lg	19 26 55.9	
	comp=Z,0.1nm,0.3s,baz=84,slow=17,SNR=2.8						
MK31	Makanchi Array	17.07	258	⇑eP	Pn	19 22 32.8	-1.7
MKAR	Makanchi Array	17.07	258	iP	P	19 22 35.7	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	17.07	258	Pn	Pn	19 22 33.9	-0.5
	comp=Z,0.1nm,0.3s,baz=63,slow=9.5,SNR=12						
MKAR				Lg	Lg	19 27 26.9	
	baz=59,slow=26,SNR=2.3						
	comp=Z,1.4nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	Kurchatov	17.64	274	⇑eP	Pn	19 22 41.0	-0.4
KURK				pmax	pmax		
	comp=Z,12nm,3.8s						
KURBB	Kurchatov Arra	17.73	273	P	Pn	19 22 41.2	-1.3
	comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=2.5						
KURBB				Lg	Lg	19 27 51.9	
	comp=Z,0.1nm,0.3s,baz=73,slow=32,SNR=1.3						
	comp=Z,0.8nm,0.2s						
NRIK	Noril'sk	18.64	338	⇑eP	Pn	19 22 54.2	+0.6
NRIK				pmax	pmax		
	comp=Z,9.0nm,2.2s						
NRIK	Noril'sk	18.64	338	P	P	19 22 53.0	-0.3
	comp=Z,0.3nm,0.3s,baz=149,slow=13,SNR=2.0						
NRIK				S	Sn	19 26 06.2	-16
	comp=Z,1.7nm,0.6s,baz=246,slow=21,SNR=2.1						
NRIK				Lg	Lg	19 28 21.0	
	baz=229,slow=20						
	comp=Z,0.9nm,0.4s						
TIXI	Tiksi	20.94	19	P	P	19 23 17.8	-0.5
	comp=Z,0.3nm,0.6s,baz=253,slow=5.6,SNR=25						
TIXI				S	S	19 26 57.8	-14
	baz=305,slow=9.4,SNR=1.3						
TIXI				Lg	Lg	19 29 28.3	
	baz=24,slow=15,SNR=3.1						
	comp=Z,0.3nm,0.6s						
BVAR	Borovoye Array	21.87	285	P	P	19 23 27.6	-0.9
	comp=Z,1.2nm,0.5s,baz=97,slow=12,SNR=9.6						
	comp=Z,1.2nm,0.5s						
BRVK	Borovoye	21.92	285	⇑eP	P	19 23 28.8	-0.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	Arti	27.70	297	d iP	P	19 24 24.3	+0.5
ARU						19 25 12.6	
ARU				S	S	19 29 08.3	+2.3
ARU				SS	SnSn	19 30 20.2	+3.0
ARU				pmax	pmax		
	comp=Z,7.0nm,1.5s						
AKTO	Aktyubinsk	29.98	285	LR	LR	19 37 07.5	
	comp=Z,56nm,19.6s,baz=264,slow=37						
BELG	Belogornoye	35.07	293	LR	LR	19 39 45.5	
	comp=Z,52nm,18.3s,baz=148,slow=36						
ARCES	ARCESS Array B	38.92	326	P	P	19 25 58.6	-2.7
	comp=Z,4.0nm,0.9s,baz=77,slow=9.5,SNR=1.1						
	comp=Z,4.0nm,0.9s						
FINES	FINESS Array B	41.83	315	P	P	19 26 24.6	-0.8
	comp=Z,1.4nm,0.7s,baz=67,slow=6.3,SNR=9.8						
	comp=Z,1.4nm,0.7s						
AKBB	Malin Array Si	45.84	300	⇑eP	P	19 26 58.1	+0.4
ILAR	Eielson Array	49.53	33	P	P	19 27 26.9	+0.7
	comp=Z,1.3nm,0.8s,baz=298,slow=6.1,SNR=12						
	comp=Z,1.3nm,0.8s						
YKA	Yellowknife Ar	60.18	21	P	P	19 28 42.7	-0.6
	comp=Z,0.4nm,0.7s,baz=332,slow=7.2,SNR=7.3						
	comp=Z,0.4nm,0.7s						
WRA	Warramunga Arr	76.49	154	P	P	19 30 27.5	+1.7
	comp=Z,0.2nm,0.3s,baz=342,slow=8.8,SNR=2.7						
	comp=Z,0.2nm,0.3s						
TORD	Torodi Ar. Bea	88.57	290	P	P	19 31 28.2	-0.8
	comp=Z,0.2nm,0.6s,baz=45,slow=4.9,SNR=1.6						
	comp=Z,0.2nm,0.6s						

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*NIED **01** 19:21:59.9,22°.73N×121°.44E,h5km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.80; $M_{\theta\theta}$1.40; $M_{\phi\phi}$-0.60; $M_{r\theta}$0.66; $M_{\theta\phi}$0.16; $M_{\phi r}$0.77; Fault plane solution: $M_0$1.59000×10^{15} NP1: ϕ_s234.00000°,δ71.00000°,λ-126.00000°. NP2: ϕ_s119.00000°,δ40.00000°,λ-31.00000°.*

*JMA **01** 19:21:59.9±0.2,22°.7N±0°.6×121°.4E±0°.5,h5km±4km,MV4.2/18,TAIWAN REGION*

*IDC **01** 19:22:01.1±0.7,22°.75N×121°.42E,h0km,mb3.8/17,mbtmp3.9/19,ML3.7/2,MS3.1/6,Error ellipse: s-maj=20.7km s-min=16.3km az=66.0*

*ASIES **01** 19:22:03.0,22°.86N×121°.24E,h9km,ML4.3,Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.50; $M_{\theta\theta}$3.41; $M_{\phi\phi}$-3.91; $M_{r\theta}$0.41; $M_{\theta\phi}$-1.31; $M_{\phi r}$-1.19; Fault plane solution: $M_0$4.10925×10^{21} NP1: ϕ_s324.98000°,δ88.87000°,λ-17.03000°. NP2:ϕ_s55.33000°, δ72.98000°,λ-178.82000°. Principal axes: T Plg11.1310°, Azm11.4270°; N Plg72.9400°, Azm141.3050°; P Plg12.7620°, Azm278.8730°;*

*TAP **01** 19:22:03.0,22°.86N×121°.24E,h9km,ML4.3,C*

*NEIC **01** 19:22:03.6±2.5,22°.91N±0°.06×121°.28E±0°.04,h10km±1km,mb4.2/12,Error ellipse: s-maj=9.6km s-min=5.7km az=178.0*

ISC 01 19:22:03.1±0.7**,22°.85N**±0°.01×**121°.31E**±0°.02**,h13**km±4km**, n215,**σ**1**s**.11**/281**,mb4.0**/21**,MS3.0**/6**,10C-23D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDH	Donghe	0.13	356	⇑iP	Pg	19 22 06.2	-0.2
	baz=40						
EDH				S	Sg	19 22 09.3	+0.6
	baz=40						
LONT	Longtian	0.18	289	⇓iP	Pg	19 22 05.7	-1.5
	baz=294						
LONT				eS	Sg	19 22 08.7	-1.4
	baz=294						
TTN	Taitung	0.18	239	⇑iP	Pg	19 22 07.1	-0.1
	baz=205						
TTN				i S	Sg	19 22 11.1	+1.1
	baz=205						
TWGBT	Beinan	0.22	262	P	Pg	19 22 06.6	-1.2
TWGBT	Beinan	0.22	262	⇓iP	Pg	19 22 06.7	-1.2
	baz=258						
TWGBT				eS	Sg	19 22 09.3	-1.8
	baz=258						
LDUT	Ludao	0.22	140	⇑iP	Pb	19 22 09.2	+0.1
	baz=131						
LDUT				S	Sb	19 22 14.5	+1.5
	baz=131						
TWG	Pinlang	0.23	263	Pg	Pg	19 22 06.1	-1.9
TWG				Sg	Sg	19 22 09.2	-2.1
TWG	Pinlang	0.23	263	⇓iP	Pg	19 22 06.7	-1.3
	baz=258						
TWG				S	Sg	19 22 10.0	-1.3
	baz=258						
CHKT	Chengkung	0.26	11	⇑iP	Pg	19 22 09.1	+0.6
	baz=38						
CHKT				i S	Sg	19 22 13.9	+1.8
	baz=38						
ECS	Chishang	0.26	341	⇓iP	Pg	19 22 08.8	+0.2
ECS				eS	Sg	19 22 13.8	+1.5
EHD	Haiduan	0.32	342	⇓P	Pg	19 22 09.3	-0.3
	baz=358						
EHD				eS	Sb	19 22 15.5	-0.2
	baz=358						
FULB	Fuli	0.35	357	⇑P	Pg	19 22 10.4	+0.1
	baz=28						
FULB				eS	Sb	19 22 15.9	-0.9
	baz=28						
CHKH	Chenggong	0.35	12	⇑P	Pb	19 22 10.6	-0.7
	baz=28						
CHKH				eS	Sb	19 22 16.6	-0.1
	baz=28						
ECL	Taimali	0.41	233	⇑iP	Pg	19 22 10.8	-0.6
	baz=229						
ECL				S	Sg	19 22 15.9	-1.1
	baz=229						
ELDTW	Lidau	0.44	321	⇓iP	Pg	19 22 11.0	-0.8
	baz=333						
ELDTW				S	Sg	19 22 16.7	-1.0
	baz=333						
ECBN	Changbin	0.48	15	eP	Pg	19 22 12.8	+0.1
	baz=26						
ECBN				eS	Sb	19 22 19.9	-0.7
	baz=26						
EYUL	Yuli	0.50	1	eP	Pg	19 22 13.0	+0.1
	baz=359						
EYUL				eS	Sb	19 22 21.4	+0.4
	baz=359						
TWF1	Yuli	0.50	358	⇓iP	Pg	19 22 12.8	-0.3
	baz=358						
TWF1				eS	Sb	19 22 20.5	-0.6
	baz=358						
YULB	Yu-li	0.54	358		Pg	19 22 11.9	-1.9
YULB	Yu-li	0.54	358	P	Pg	19 22 13.3	-0.5
YULB	Yu-li	0.54	358	⇓iP	Pg	19 22 13.2	-0.5
	baz=13						
YULB				eS	Sg	19 22 19.5	-1.5
	baz=13						
STYH	Taoyuan	0.59	303	⇓iP	Pg	19 22 14.0	-0.6
	baz=308						
STYH				eS	Sb	19 22 22.3	-1.3
	baz=308						
TAW	Tawu	0.62	219	eP	Pg	19 22 14.8	-0.5
	baz=219						
TAW				eS	Sg	19 22 22.9	-0.6
	baz=219						
EAST	Anshuo	0.63	223	⇑iP	Pg	19 22 14.7	-0.7
	baz=211						
EAST				eS	Sb	19 22 24.4	-0.4
	baz=211						
SLGT	Liugui	0.63	283	⇓P	Pg	19 22 14.8	-0.7
	baz=283						
SLGT				eS	Sb	19 22 23.7	-1.2
	baz=283						
TSMG	Majia	0.63	257	⇑P	Pg	19 22 14.6	-0.8
	baz=248						
TSMG				i S	Sg	19 22 22.8	-1.1
	baz=248						
TAWH	Dawu Township	0.64	218	eP	Pg	19 22 15.1	-0.5
	baz=219						
TAWH				eS	Sg	19 22 23.6	-0.5
	baz=219						
HGSD	Ruisui	0.65	9	eP	Pg	19 22 15.5	-0.3
	baz=3.0						
HGSD				eS	Sn	19 22 28.1	-0.1
	baz=3.0						
EHY	Hungye	0.66	1	eP	Pg	19 22 14.9	-1.0
	baz=358						
EHY				eS	Sb	19 22 25.1	-0.5
	baz=358						
MASBT	Mashibuluo	0.67	250	⇓P	Pg	19 22 15.2	-1.0
	baz=234						
MASBT				eS	Sg	19 22 23.9	-1.1
	baz=234						
SGST	Jiashian	0.71	289	i P	Pg	19 22 15.7	-1.2
	baz=290						
SGST				eS	Sb	19 22 25.9	-1.3
	baz=290						
WTP	Ta-pu	0.76	302	⇓iP	Pb	19 22 17.6	-0.7
	baz=305						
WTP				eS	Sb	19 22 29.0	+0.5
	baz=305						
SCST	Cishan	0.76	273	P	Pb	19 22 17.4	-0.7
	baz=263						
SCST				eS	Sg	19 22 26.9	-0.9
	baz=263						
SGLT	Jiouru	0.77	261	eP	Pb	19 22 18.1	-0.2
	baz=256						
SGLT				eS	Sb	19 22 27.8	-0.9
	baz=256						
TPUB	Ta-pu	0.78	306		Pg	19 22 17.2	-1.0
TPUB				Sg	Sb	19 22 28.7	-0.3
TPUB	Ta-pu	0.78	306	P	Pb	19 22 17.9	-0.6
SCZT	Fangliau	0.80	234	⇑iP	Pg	19 22 17.7	-0.9
	baz=224						
CHN1	Nanshi	0.80	295	⇓iP	Pb	19 22 18.6	-0.3
	baz=308						
ALS	Alishan	0.81	325	⇓iP	Pg	19 22 18.4	-0.4
	baz=332						
ALS				eS	Sb	19 22 30.2	-0.1
	baz=332						
TWM1	Shoushan	0.82	269	⇓iP	Pb	19 22 19.5	+0.2
	baz=263						
EGFH	Guangfu	0.82	7	eP	Pg	19 22 17.5	-1.6
	baz=4.0						
LAY	Lan-yu	0.83	165	eP	Pg	19 22 18.1	-1.2
	baz=145						
LAY				eS	Sg	19 22 30.7	+0.6
	baz=145						
SNST	Tainan City	0.84	296	⇓iP	Pb	19 22 19.3	-0.2
	baz=298						
SNST				eS	Sn	19 22 32.3	-0.6
	baz=298						
TWK	Hsinying	0.87	299	⇓iP	Pb	19 22 19.5	-0.6
	baz=302						
TWK				eS	Sn	19 22 32.4	-1.3
	baz=302						
WARBT	Fenglin Townsh	0.87	4	eP	Pg	19 22 17.9	-2.0
	baz=15						
WARBT				eS	Sb	19 22 31.6	0.0
	baz=15						
LYUB	Lan-yu	0.88	163	eP	Pg	19 22 17.7	-2.4
	baz=145						
WCKO	Fanlu	0.88	312	⇓eP	Pb	19 22 19.8	-0.5
	baz=327						
WCKO				eS	Sn	19 22 32.5	-1.4
	baz=327						
TEGC	Jichi Village	0.88	14	eP	Pb	19 22 20.2	-0.1
	baz=38						
SHHT	Tainan City	0.91	281	⇓eP	Pn	19 22 22.1	+0.5
	baz=280						
SHHT				eS	Sn	19 22 35.5	+0.9
	baz=280						
SNJT	Kaohsiung City	0.91	264	eP	Pn	19 22 22.6	+1.0
	baz=258						
SNJT				i S	Sn	19 22 35.8	+1.2
	baz=258						
VWDT	VWDT	0.92	350	⇓P	Pg	19 22 19.8	-1.0
	baz=8.0						
SMST	Manzhou Townsh	0.93	208	eP	Pn	19 22 22.3	+0.3
	baz=178						
WHYT	Xinyi Township	0.95	333	⇓P	Pb	19 22 20.9	-0.5
	baz=341						
WHYT				eS	Sb	19 22 33.7	-0.2
	baz=341						
CHN5	Tsauling	0.95	322	⇓iP	Pb	19 22 21.1	-0.4
	baz=328						
SHUL	Shoufeng	0.96	14	eP	Pg	19 22 20.9	-0.8
	baz=10.0						
ESL	Shilin	0.97	6	eP	Pg	19 22 20.1	-1.7
	baz=17						
KAU	Kaohsiung	0.97	254	eP	Pn	19 22 23.7	+1.2
	baz=238						
KAU				eS	Sb	19 22 34.6	+0.1
	baz=238						
SSHA	Shanhua	0.99	287	eP	Pn	19 22 23.1	+0.4
	baz=287						
SSHA				eS	Sn	19 22 39.0	+2.4
	baz=287						
HEN	Hengchun	0.99	213	eP	Pg	19 22 22.1	-0.2
	baz=181						
SSLB	Suanglung	0.99	341		Pg	19 22 20.4	-1.9
SSLB	Suanglung	0.99	341	P	Pg	19 22 21.4	-0.9
SSLB	Suanglung	0.99	341	i P	Pg	19 22 21.2	-1.1
	baz=1.0						
WSSB	Gushan	0.99	258	P	Pn	19 22 23.8	+1.0
	baz=273						
TWKBT	Hengchun	1.01	207	eP	Pg	19 22 20.3	-2.4
	baz=178						
TWK1	Hengchun	1.01	208	eP	Pb	19 22 22.8	+0.3
	baz=178						
TAI1	Yung-k'ang	1.02	281	eP	Pn	19 22 23.5	+0.4
	baz=279						
CHY	Chiayi	1.04	309	eP	Pn	19 22 23.5	+0.1
	baz=313						
CHY				S	Sn	19 22 39.4	+1.5
	baz=313						
ICHU	Yijhu	1.08	298	i P	Pn	19 22 23.9	-0.1
	baz=301						
ICHU				S	Sn	19 22 40.2	+1.3
	baz=301						
SCLT	Jiali	1.08	288	P	Pn	19 22 24.3	+0.3
	baz=288						
SCLT				S	Sn	19 22 41.3	+2.4
	baz=288						
WGK	Gukeng	1.08	321	P	Pn	19 22 24.0	0.0
	baz=328						
WGK				eS	Sn	19 22 39.2	+0.2
	baz=328						
SMLT	Sun Moon Lake	1.10	340	i P	Pg	19 22 23.5	-0.9
	baz=358						
SMLT				eS	Sn	19 22 39.6	+0.1
	baz=358						
WDLH	Douliu	1.10	320	eP	Pn	19 22 24.7	+0.4
	baz=326						
WDLH				eS	Sn	19 22 41.5	+2.1
	baz=326						
OWD	Renai	1.11	353	eP	Pg	19 22 23.3	-1.2
	baz=16						
WJS	Zhushan	1.11	331	i P	Pn	19 22 24.9	+0.5
	baz=339						
WJS				S	Sn	19 22 41.1	+1.6
	baz=339						
ETM	Tongmen	1.13	8	eP	Pg	19 22 21.9	-2.9
	baz=18						
CHN8	Yiju	1.13	296	P	Pn	19 22 24.6	-0.1
	baz=299						
CHN8				eS	Sn	19 22 42.2	+2.1
	baz=299						
TYC	Yuchr	1.13	338	eP	Pg	19 22 24.3	-0.7
	baz=347						
TYC				eS	Sn	19 22 39.6	-0.6
	baz=347						
WUSB	Renai	1.15	351	eP	Pg	19 22 23.9	-1.4
	baz=13						
HWA	Hwalien	1.16	13	eP	Pn	19 22 25.4	+0.4
	baz=10.0						
TSCK	Chigu Township	1.17	285	eP	Pn	19 22 25.7	+0.5
	baz=285						
LXIB	Xiulin Townshi	1.17	4	eP	Pg	19 22 22.9	-2.8
	baz=14						
WNT	Mingjian	1.18	331	⇓iP	Pn	19 22 25.9	+0.6
	baz=340						
WNT				i S	Sn	19 22 43.4	+2.1
	baz=340						
WTK	Tuku	1.19	315	eP	Pn	19 22 25.4	-0.1
	baz=321						
WTK				eS	Sn	19 22 43.5	+1.9
	baz=321						
WSL	Shuilin Townsh	1.21	304	eP	Pn	19 22 25.9	+0.2
	baz=308						
WSL				i S	Sn	19 22 44.4	+2.5
	baz=308						
CHGB	Renai	1.22	354	eP	Pb	19 22 24.9	-1.2
	baz=15						
TWD	Chiawan	1.25	12	eP	Pn	19 22 25.1	-1.3
	baz=22						
WCS	Beigang Elemen	1.26	343	eP	Pb	19 22 26.5	-0.2
	baz=4.0						
WCS				eS	Sn	19 22 44.1	+0.8
	baz=4.0						
WSF	Szhu	1.28	308	eP	Pb	19 22 26.7	-0.3
	baz=314						
WSF				eS	Sn	19 22 45.1	+1.4
	baz=314						
WHF	Hehuan Shan	1.29	358	eP	Pn	19 22 26.2	-1.1
	baz=21						
ETL	Fush Village	1.34	12	eP	Pn	19 22 27.3	-0.2
	baz=22						
NACB	Ninganchiao	1.35	11		Pn	19 22 25.5	-2.1
NACB	Ninganchiao	1.35	11	P	Pg	19 22 28.5	-0.5
NACB	Ninganchiao	1.35	11	eP	Pn	19 22 25.3	-2.3
	baz=21						
WRL	Guolierlin Hig	1.36	321	P	Pb	19 22 28.2	-0.2
	baz=329						
WRL				eS	Sg	19 22 47.5	+0.6
	baz=329						
ETLH	Xiulin Townshi	1.36	6	eP	Pn	19 22 26.6	-1.4
	baz=16						
TWT	Tachien	1.41	355	eP	Pn	19 22 28.1	-0.5
	baz=18						
TDCB	Techi	1.41	354	eP	Pg	19 22 29.8	-0.4
	baz=18						
WCHH	Zhanghua	1.41	331	eP	Pg	19 22 29.6	-0.6
	baz=339						
WCHH				eS	Sg	19 22 48.9	+0.3
	baz=339						
TCU	Taichung	1.42	336	P	Pg	19 22 29.8	-0.7
	baz=345						
WHP	Taichung City	1.46	347	eP	Pg	19 22 30.4	-0.8
	baz=7.0						
WHP				eS	Sg	19 22 50.6	+0.3
	baz=7.0						
EAHA	Aohua	1.53	15	eP	Pn	19 22 29.6	-0.5
	baz=13						
EOS4	EOS4	1.57	36	eP	Pn	19 22 29.8	-0.5
	baz=58						
EOS4				eS	Sn	19 22 49.4	-0.9
	baz=58						
TWQ1	Liyutan	1.57	342	P	Pg	19 22 32.5	-0.9
	baz=352						
TWQ1				eS	Sg	19 22 54.7	+0.8
	baz=352						
NNSB	Datong	1.58	2	eP	Pn	19 22 30.0	-0.9
	baz=29						
WDGT	Dungji	1.58	285	eP	Pn	19 22 30.1	-0.7
	baz=284						
WDGT				S	Sn	19 22 50.0	-1.1
	baz=284						
NNS	Nan Shan	1.59	2	eP	Pn	19 22 30.3	-0.7
	baz=29						
WDJ	Dajia District	1.62	338	eP	Pg	19 22 33.5	-0.6
	baz=346						
ENA	Nanau	1.62	14	eP	Pn	19 22 29.8	-1.6
	baz=13						
EWUT	Wuta	1.65	15	eP	Pn	19 22 31.6	-0.1
	baz=13						
LATG	Datong	1.69	7	eP	Pn	19 22 31.3	-1.2
	baz=32						
EOS3	EOS3	1.70	33	eP	Pn	19 22 31.4	-1.0
	baz=55						
PHUB	P'eng-hu	1.73	293	eP	Pn	19 22 32.3	-0.7
	baz=294						
PHUB				eS	Sn	19 22 54.9	-0.1
	baz=294						
NDT	Datong Townshi	1.76	6	eP	Pn	19 22 33.1	-0.2
	baz=32						
PNG	Penghu	1.77	294	eP	Pn	19 22 32.8	-0.6
	baz=296						
PNG				eS	Sn	19 22 54.2	-1.6
	baz=296						
VCHM	Qimei	1.77	282	eP	Pn	19 22 33.4	-0.1
	baz=280						
VCHM				S	Sn	19 22 56.3	+0.3
	baz=280						
EOS2	EOS2	1.78	28	eP	Pn	19 22 33.6	+0.2
	baz=49						
NFF	Wufeng Townshi	1.79	354	eP	Pb	19 22 35.4	-0.4
	baz=11						
ESAO	Su ao	1.79	16	eP	Pb	19 22 35.5	-0.2
	baz=14						
NSTT	Nanjuang	1.80	351	eP	Pb	19 22 35.1	-0.9
	baz=13						
ENTT	Nioudou	1.80	7	eP	Pn	19 22 32.6	-1.3
	baz=32						
LIOB	Emei	1.81	351	eP	Pb	19 22 35.5	-0.7
	baz=13						
NDS	Dongshan	1.82	12	eP	Pn	19 22 35.0	+0.9
	baz=20						
YHNB	Yeheng	1.82	2		Pn	19 22 33.6	-0.5
YHNB	Yeheng	1.82	2	P	Pn	19 22 34.9	+0.7
YHNB	Yeheng	1.82	2	eP	Pn	19 22 34.1	0.0
	baz=27						
NSK	Sanguang	1.82	1	eP	Pn	19 22 34.3	0.0
	baz=27						
TWC	Suao	1.82	16	eP	Pn	19 22 34.4	+0.2
	baz=24						
TWE	Neicheng	1.89	10	eP	Pn	19 22 35.0	-0.1
	baz=19						
FUSB	Fushanzhiwuyua	1.92	7	eP	Pn	19 22 35.3	-0.3
	baz=32						
NWLT	Wulai	1.93	5	eP	Pn	19 22 35.7	0.0
	baz=32						
EGS		2.07	16	eP	Pb	19 22 40.3	-0.3
	baz=23						
NHDH	Xindian Distri	2.12	5	eP	Pb	19 22 40.7	-0.6
	baz=29						
TATO	Taipei	2.12	4		Pn	19 22 36.4	-1.9
TATO	Taipei	2.12	4	P	Pn	19 22 39.9	+1.6
JYNG	Yonagunijimaku	2.19	43	P	Pn	19 22 39.1	-0.1
JYNG				eS	Sn	19 23 06.7	+0.5
YOJ	Yonaguni jima	2.24	44		Pn	19 22 39.2	-0.7
YOJ	Yonaguni jima	2.24	44	P	Pn	19 22 41.0	+1.1
YOJ	Yonaguni jima	2.24	44	P	Pn	19 22 40.6	+0.7
YOJ				eS	Sn	19 23 07.2	-0.2
YOJ	Yonaguni jima	2.24	44	eP	Pn	19 22 38.5	-1.4
	baz=53						
TWB1	Santiao Chiao	2.24	16	eP	Pb	19 22 42.1	-1.4
	baz=22						
SXI1	Grass Mountain	2.30	13	eP	Pn	19 22 42.2	+1.5
	baz=19						
YM01	YM01	2.30	6	eP	Pn	19 22 41.6	+0.7
	baz=29						
HATJ	Hateruma jima	2.58	62	eS	Sn	19 23 15.9	-0.1
VWUC	VWUC	2.73	322	eP	Pn	19 22 47.0	+0.3
	baz=330						
JKRS	Kuro-shima	2.83	60	P	Pn	19 22 48.1	+0.1
JKRS				eS	Sn	19 23 22.0	-0.1
JIJ	Ishigaki jima	3.00	59	P	Pn	19 22 50.0	-0.4
JIJ				S	Sn	19 23 25.2	-1.1
KNM	Kinmen	3.07	301	eP	Pn	19 22 52.0	+0.6
	baz=305						
KNMB	Chin-men Tao	3.13	302		Pn	19 22 51.2	-1.0
KNMB	Chin-men Tao	3.13	302	eP	Pn	19 22 51.5	-0.6
	baz=307						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**3.25**	**57**	P	**Pn**	**19 22 52.9**	**-0.9**
JISG				*e*S	**Sn**	**19 23 31.9**	**-0.4**
QZH	**Quanzhou**	**3.25**	**310**	Pn	**Pn**	**19 22 54.1**	**+0.3**
QZH				Sn	**Sn**	**19 23 31.9**	**-0.5**
QZH				smax	smax		
	comp=N,220nm,0.7s						
QZH				smax	smax		
	comp=E,290nm,0.7s						
QZH				LR	LR		
	comp=Z,590nm,8.2s						
ZPLA	**Ao Xicun**	**3.45**	**289**	*e*P	**Pn**	**19 22 56.6**	**0.0**
	baz=291						
MATB	**Ma-tsu**	**3.52**	**340**	*e*P	**Pn**	**19 22 57.4**	**-0.2**
	baz=347						
JTJ	**Tarama**	**3.58**	**59**	P	**Pn**	**19 23 00.3**	**+1.9**
JTJ				*e*S	**Sn**	**19 23 42.0**	**+1.4**
DSXP	**Dongshan**	**3.68**	**284**	*e*P	**Pn**	**19 22 59.6**	**-0.1**
	baz=285						
AXDP	**Jialang**	**3.68**	**304**	*e*P	**Pn**	**19 22 58.9**	**-0.8**
	baz=310						
MHZQ	**Yeshan**	**3.85**	**328**	*e*P	**Pn**	**19 23 01.5**	**-0.6**
	baz=337						
LYJJ	**Jianjiangzhen**	**3.95**	**339**	*e*P	**Pn**	**19 23 02.3**	**-1.1**
	baz=346						
JIRB	**Irabujima**	**4.05**	**60**	P	**Pn**	**19 23 04.5**	**-0.3**
JMJ2	**Miyako jima3**	**4.13**	**62**	P	**Pn**	**19 23 06.8**	**+0.9**
JMJ2				S	**Sn**	**19 23 54.7**	**+0.5**
JMJ	**Miyako jima 2**	**4.14**	**61**	P	**Pn**	**19 23 07.5**	**+1.5**
JIKM	**Ikemajima**	**4.15**	**59**	*e*P	**Pn**	**19 23 07.9**	**+1.6**
JIKM				*e*S	**Sn**	**19 23 55.3**	**+0.6**
JOGS	**Gusukube**	**4.20**	**62**	*e*P	**Pn**	**19 23 08.8**	**+1.8**
SXFK	**Yanhouchang**	**4.86**	**317**	*e*P	**Pn**	**19 23 15.3**	**-0.8**
	baz=325						
HKPS	**Hong Kong Po S**	**6.65**	**266**	Pn	**Pn**	**19 23 41.2**	**+0.5**
HKPS	**Hong Kong Po S**	**6.65**	**266**	P	**Pn**	**19 23 41.5**	**+0.9**
JOW	**Kunigami**	**7.46**	**56**	Pn	**Pn**	**19 23 50.4**	**-1.3**
JOW	**Kunigami**	**7.46**	**56**	P	**Pn**	**19 23 52.9**	**+1.1**
JOW	**Kunigami**	**7.46**	**56**	Pn	**Pn**	**19 23 49.9**	**-1.9**
	comp=Z,3.0nm,0.3s,baz=136,slow=18,SNR=12						
JOW				Sn	**Sn**	**19 25 10.6**	**-5.7**
	comp=Z,0.8nm,0.3s,baz=75,slow=22,SNR=1.6						
	comp=Z,9.8nm,0.4s						
TIA	**Tai'an**	**13.81**	**346**	*e*P	P	19 25 34.6	+7.6
TIA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
TIA				LR	LR		
	comp=N,340nm,9.4s						
TIA				LR	LR		
	comp=E,230nm,7.0s						
TIA				LR	LR		
	comp=Z,430nm,8.0s						
KSRS	**Korea Array**	**15.63**	**20**	Pn	**Pn**	**19 25 44.4**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=6.6						
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**20.00**	**43**	P	**P**	**19 26 36.7**	**+1.2**
	comp=Z,2.9nm,1.0s,baz=236,slow=8.1,SNR=4.7						
	comp=Z,2.9nm,1.0s						
LZH	**Lanzhou**	**20.09**	**315**	*e*P	**P**	**19 26 34.0**	**-2.7**
LZH				sP	sP	19 26 42.6	+0.7
LZH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LZH				LR	LR		
	comp=N,240nm,6.2s						
LZH				LR	LR		
	comp=E,360nm,6.8s						
LZH				LR	LR		
	comp=Z,400nm,7.6s						
CHTO	**Chiang Mai**	**21.28**	**263**	P	**P**	**19 26 50.1**	**+0.5**
CM31	**Chiang Mai Arr**	**21.38**	**262**	P	**P**	**19 26 51.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**21.38**	**262**	P	**P**	**19 26 51.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.38**	**262**	P	**P**	**19 26 52.7**	**+2.1**
	comp=Z,1.6nm,0.9s,baz=63,slow=8.6,SNR=12						
CMAR				LR	LR	19 37 09.1	
	comp=Z,28nm,18.1s,baz=65,slow=42						
	comp=Z,1.6nm,0.9s						
GUMO	**Guam**	**24.16**	**108**	LR	LR	19 37 24.0	
	comp=Z,33nm,18.5s,baz=308,slow=38						
SHL	**Shillong**	**26.95**	**282**	P	**P**	**19 27 44.0**	**-0.7**
SHL				IAmb	IAmb	19 27 56.8	
	comp=Z,6.3nm,1.1s						
ASAJ	**Asahikawa**	**27.51**	**34**	LR	LR	19 39 35.2	
	comp=Z,44nm,18.1s,baz=208,slow=38						
KLR	**Kul'dur**	**27.59**	**15**	LR	LR	19 38 54.8	
	comp=Z,37nm,19.8s,baz=192,slow=37						
SONM	**Songino Array**	**27.64**	**338**	P	**P**	**19 27 51.2**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=150,slow=9.2,SNR=5.0						
	comp=Z,1.5nm,0.7s						
MK31	**Makanchi Array**	**39.38**	**317**	P	**P**	**19 29 32.4**	**-0.1**
MKAR	**Makanchi Array**	**39.38**	**317**	P	**P**	**19 29 32.4**	**-0.1**
MKAR	**Makanchi Array**	**39.38**	**317**	P	**P**	**19 29 33.8**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=111,slow=9.8,SNR=12						
MKAR				PcP	**PcP**	**19 31 40.0**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=132,slow=2.1,SNR=3.0						
	comp=Z,1.9nm,0.7s						
MAKZ	**Makanchi**	**39.59**	**317**	P	**P**	**19 29 35.0**	**+0.8**
MAKZ				IAmb	IAmb	19 29 41.1	
	comp=Z,9.3nm,1.4s						
PETK	**Petropavlovsk-**	**40.91**	**33**	P	**P**	**19 29 44.9**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=247,slow=10,SNR=2.8						
	comp=Z,3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**41.43**	**328**	P	**P**	**19 29 48.9**	**-0.4**
ZAA0				IAmb	IAmb	19 29 54.3	
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**41.43**	**328**	P	**P**	**19 29 47.5**	**-1.8**
ZALV	**Zalesovo Beam**	**41.43**	**328**	P	**P**	**19 29 49.5**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=114,slow=8.6,SNR=12						
	comp=Z,3.1nm,0.6s						
MA2	**Magadan**	**42.17**	**22**	LR	LR	19 49 20.4	
	comp=Z,25nm,18.0s,baz=262,slow=39						
H11N1	**WAKE ISLAND Hy**	**42.46**	**85**	T	T	20 15 11.8	
	baz=282,slow=74,SNR=52						
H11N2	**WAKE ISLAND Hy**	**42.46**	**85**	T	T	20 15 10.9	
	baz=282,slow=74,SNR=89						
H11N3	**WAKE ISLAND Hy**	**42.48**	**85**	T	T	20 15 18.4	
	baz=282,slow=74,SNR=83						
H11S3	**WAKE ISLAND Hy**	**42.55**	**87**	T	T	20 15 20.6	
	baz=284,slow=75,SNR=169						
H11S1	**WAKE ISLAND Hy**	**42.56**	**87**	T	T	20 15 23.4	
	baz=284,slow=75,SNR=107						
H11S2	**WAKE ISLAND Hy**	**42.57**	**87**	T	T	20 15 23.9	
	baz=284,slow=75,SNR=108						
KURBB	**Kurchatov Arra**	**43.21**	**321**	P	**P**	**19 30 03.8**	**0.0**
	comp=Z,1.8nm,0.2s,baz=119,slow=7.5,SNR=2.2						
	comp=Z,1.8nm,0.2s						
NIL	**Nilore**	**43.35**	**295**	P	**P**	**19 30 05.7**	**+0.4**
WRA	**Warramunga Arr**	**44.39**	**162**	P	**P**	**19 30 11.7**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=342,slow=8.8,SNR=2.5						
	comp=Z,0.4nm,0.5s						
KK31	**Karatay Array**	**46.38**	**308**	P	**P**	**19 30 29.7**	**+0.4**
KK31				IAmb	IAmb	19 30 36.4	
	comp=Z,3.7nm,1.1s						
KKAR	**Karatay Array**	**46.38**	**308**	P	**P**	**19 30 29.2**	**0.0**
KKAR	**Karatay Array**	**46.38**	**308**	P	**P**	**19 30 27.9**	**-1.4**
KKAR				IAmb	IAmb	19 30 36.4	
	comp=Z,3.7nm,1.1s						
ASAR	**Alice Springs**	**47.83**	**164**	P	**P**	**19 30 39.5**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=338,slow=7.1,SNR=8.7						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**48.78**	**321**	P	**P**	**19 30 47.8**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=100,slow=7.4,SNR=6.3						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**54.46**	**315**	P	**P**	**19 31 30.4**	**+0.1**
GEYT	**Alibeck**	**55.58**	**301**	P	**P**	**19 31 37.4**	**-1.2**
GEYT				IAmb	IAmb	19 31 45.6	
	comp=Z,2.5nm,0.9s						
ARU	**Arti**	**56.25**	**324**	P	**P**	**19 31 43.3**	**+0.3**
STKA	**Stephens Creek**	**57.77**	**160**	P	**P**	**19 31 53.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=339,slow=8.6,SNR=1.4						
	comp=Z,0.6nm,0.5s						
KBZ	**Khabaz**	**66.41**	**309**	P	**P**	**19 32 54.5**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=104,slow=5.6,SNR=1.8						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**70.34**	**27**	P	**P**	**19 33 18.7**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=292,slow=7.4,SNR=4.6						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**72.66**	**330**	P	**P**	**19 33 31.5**	**+1.2**
	comp=Z,5.6nm,1.1s,baz=74,slow=5.9,SNR=2.5						
	comp=Z,5.6nm,1.1s						
AKASG	**Malin Array Be**	**73.94**	**319**	P	**P**	**19 33 38.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=78,slow=2.1,SNR=1.4						
	comp=Z,0.6nm,0.6s						
NOA	**NORSAR Array B**	**79.46**	**332**	P	**P**	**19 34 11.0**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=68,slow=4.8,SNR=4.3						
NOA				LR	LR	20 13 28.7	
	comp=Z,26nm,18.1s,baz=225,slow=39						
	comp=Z,1.2nm,0.8s						
YKA	**Yellowknife Ar**	**84.15**	**23**	P	**P**	**19 34 32.4**	**-1.4**
	comp=Z,0.1nm,0.6s,baz=320,slow=6.6,SNR=2.6						
	comp=Z,0.1nm,0.6s						

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*IDC **01** 19:33:59.1±1.5, 29°.21N×142°.74E, h0km, mb3.5/6, mbtmp3.5/7, ML2.2/1, Error ellipse: s-maj=45.9km s-min=28.0km az=73.0*

ISC 01 19:34:00.7±1.3**, 29°.3N**±0°.1×**142°.6E**±0°.3**, h10**km**, n7, σ1s.39**/8**, mb3.5**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.14**	**334**	Pn	**Pn**	**19 35 58.4**	**-0.5**
	baz=0.4,slow=17,SNR=1.0						
MJAR				Sn	**Sn**	**19 37 30.4**	**-0.5**
	baz=108,slow=41,SNR=1.7						
	1.4nm,0.8s						
SONM	**Songino Array**	**33.45**	**314**	P	**P**	**19 40 38.9**	**-1.0**
	0.3nm,0.7s,baz=120,slow=8.5,SNR=1.4						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**48.11**	**318**	P	**P**	**19 42 42.3**	**+1.7**
	0.3nm,0.4s,baz=108,slow=8.7,SNR=1.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**49.41**	**308**	P	**P**	**19 42 52.3**	**+1.6**
	0.3nm,0.8s,baz=96,slow=11,SNR=3.6						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**49.57**	**190**	P	**P**	**19 42 51.4**	**-0.7**
	0.9nm,0.9s,baz=10,slow=8.2,SNR=4.9						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**51.81**	**313**	P	**P**	**19 43 10.1**	**+1.4**
	0.6nm,0.3s,baz=90,slow=6.8,SNR=6.3						
	0.6nm,0.3s						
YKA	**Yellowknife Ar**	**70.06**	**29**	P	**P**	**19 45 12.6**	**+0.1**
	0.1nm,0.6s,baz=315,slow=7.6,SNR=4.1						
	0.1nm,0.6s						

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*NEIC **01** 19:46:08.8±1.3, 4°.14N±0°.06×126°.63E±0°.09, h33km±7km, mb4.3/21, Error ellipse: s-maj=13.6km s-min=8.4km az=69.0*

*IDC **01** 19:46:18.0±1.8, 4°.01N×126°.57E, h121km±19km, mb3.4/9, mbtmp3.8/10, MS3.1/4, Error ellipse: s-maj=66.1km s-min=11.8km az=66.0*

ISC 01 19:46:05.7±0.6**, 4°.06N**±0°.06×**126°.64E**±0°.09**, h10**km**, n42, σ1s.36**/38**, mb4.2**/18**, MS3.1**/4**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.17**	**341**	Pn	Pn	19 46 52.6	-3.1
DAV	**Davao City (W)**	**3.17**	**341**	P	**Pb**	**19 47 05.7**	**+3.5**
	104nm,0.4s,baz=117,slow=8.6,SNR=3.7						
DAV				S	**Sg**	**19 47 45.6**	**-2.1**
	170nm,0.4s,baz=138,slow=17,SNR=4.3						
TNTI	**Ternate**	**3.34**	**167**		**Pn**	**19 46 58.4**	**+0.3**
LUWI	**Luwuk**	**6.37**	**217**	Pn	**Pn**	**19 47 41.0**	**+1.3**
TOLI2	**Tolitoli**	**6.54**	**244**		**Pn**	**19 47 45.0**	**+3.0**
TOLI2				Sn	**Sn**	**19 48 54.7**	**-2.1**
FAKI	**Fak Fak**	**8.91**	**141**	Pn	**Pn**	**19 48 16.3**	**+1.6**
KKM	**Kota Kinabalu**	**10.57**	**281**	Pn	Pn	19 48 32.6	-4.8
KAPI	**Kappang**	**11.34**	**217**	LR	LR	19 53 56.5	
	comp=Z,79nm,18.9s,baz=45,slow=41						
MTN	**Manton Dam**	**17.38**	**165**	Pn	**Pn**	**19 50 06.5**	**-2.0**
MTN				IAmb	IAmb	19 50 36.5	
	comp=Z,34nm,1.4s						
JAGI	**Jajag, Banyuwa**	**17.60**	**225**	Pn	**Pn**	**19 50 10.4**	**-1.0**
JAGI				IAmb	IAmb	19 50 22.9	
	comp=Z,43nm,1.5s						
TPUB	**Ta-pu**	**19.99**	**344**	P	**P**	**19 50 36.7**	**-1.9**
LEM	**Lembang**	**21.85**	**240**	LR	LR	20 00 34.3	
	comp=Z,30nm,18.6s,baz=6.5,slow=39						
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P	**P**	**19 51 00.1**	**-0.6**
WB0	**Warramunga Arr**	**24.87**	**162**	P	**P**	**19 51 28.4**	**-0.4**
WB0				IAmb	IAmb	19 51 43.0	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**25.02**	**163**	P	**P**	**19 51 30.1**	**0.0**
WRAB				IAmb	IAmb	19 51 47.2	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**19 51 29.8**	**-0.4**
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**19 51 30.1**	**0.0**
	comp=Z,3.4nm,0.7s,baz=344,slow=10,SNR=37						
	comp=Z,3.4nm,0.7s						
WB2	**Warramunga Arr**	**25.03**	**163**	P	**P**	**19 51 29.8**	**-0.4**
WB2				IAmb	IAmb	19 51 47.1	
	comp=Z,8.2nm,0.8s						
WR0	**Warramunga Arr**	**25.10**	**162**	P	**P**	**19 51 30.6**	**-0.2**
WR0				IAmb	IAmb	19 51 45.1	
	comp=Z,4.9nm,0.8s						
AS31	**Alice Springs**	**28.45**	**166**	P	**P**	**19 52 00.9**	**-0.2**
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**19 52 00.5**	**-0.6**
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**19 52 01.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=348,slow=7.1,SNR=14						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**19 52 20.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=110,slow=7.6,SNR=6.8						
CMAR				LR	LR	20 05 15.6	
	comp=Z,16nm,19.7s,baz=65,slow=37						
	comp=Z,0.6nm,0.7s						
BBOO	**Buckleboo**	**37.74**	**167**	P	**P**	**19 53 22.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.85**	**193**	P	**P**	**19 53 23.1**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.85**	**193**	P	**P**	**19 53 22.8**	**0.0**
NWAO				IAmb	IAmb	19 53 30.2	
	comp=Z,106nm,1.4s						
STKA	**Stephens Creek**	**38.47**	**159**	P	**P**	**19 53 28.1**	**0.0**
STKA	**Stephens Creek**	**38.47**	**159**	P	**P**	**19 53 28.9**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=340,slow=7.9,SNR=6.1						
STKA				LR	LR	20 09 56.6	
	comp=Z,73nm,21.5s,baz=29,slow=37						
	comp=Z,1.1nm,0.4s						
SHL	**Shillong**	**39.61**	**306**	P	**P**	**19 53 36.4**	**-1.5**
SHL				IAmb	IAmb	19 53 38.3	
	comp=Z,4.6nm,0.7s						
ARMA	**Armidale**	**41.79**	**147**	P	**P**	**19 53 56.8**	**+1.0**
ARMA				IAmb	IAmb	19 53 57.6	
	comp=Z,3.7nm,0.8s						
DZM	**Mont Dzumac**	**46.80**	**125**	*e*Pn	P	19 54 43.1	+7.1
	comp=Z,66nm,1.6s						
DZM				*e*LR	LR	19 56 01.6	
	comp=Z,1μm,25.1s						
SONM	**Songino Array**	**46.96**	**341**	P	**P**	**19 54 37.1**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=163,slow=8.1,SNR=2.2						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**57.23**	**325**	P	**P**	**19 55 52.0**	**-1.4**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**19 55 51.3**	**-2.1**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**19 55 52.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=117,slow=6.9,SNR=10						
	comp=Z,0.6nm,0.6s						
MAKZ	**Makanchi**	**57.42**	**325**	P	**P**	**19 55 53.1**	**-1.6**
MAKZ				IAmb	IAmb	19 56 30.1	
	comp=Z,4.0nm,1.4s						
ZALV	**Zalesovo Beam**	**60.26**	**333**	P	**P**	**19 56 12.7**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=122,slow=5.8,SNR=3.6						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**61.41**	**327**	P	**P**	**19 56 21.2**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=121,slow=6.6,SNR=9.5						
	comp=Z,1.4nm,0.6s						
KURK	**Kurchatov**	**61.42**	**327**	P	**P**	**19 56 20.8**	**-1.4**
KURK				IAmb	IAmb	19 56 24.5	
	comp=Z,2.3nm,0.6s						
THZ	**Tophouse**	**62.01**	**142**	P	P	19 56 25.0	-1.4
KKAR	**Karatay Array**	**62.93**	**317**	P	**P**	**19 56 31.9**	**-0.6**
BVAR	**Borovoye Array**	**67.00**	**327**	P	**P**	**19 56 59.3**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=140,slow=9.1,SNR=2.4						
	comp=Z,0.3nm,0.4s						

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*IDC **01** 19:54:29.5±1.6, 34°.30N×45°.54E, h0km, mb3.7/9, mbtmp3.8/14, ML3.4/4, MS2.5/2, Error ellipse: s-maj=31.1km s-min=18.9km az=36.0*

*ISN **01** 19:54:30.1±0.8, 34°.66N×45°.77E, h0km±995km, ML3.7*

*TEH **01** 19:54:31.8, 34°.64N×45°.82E, h7km±37km, ML3.7*

*AFAD **01** 19:54:34.5±0.0, 34°.44N×44°.82E, h6km±5km, ML3.4*

ISC 01 19:54:33.8±0.5**, 34°.60N**±0°.03×**45°.82E**±0°.03**, h10**km**, n63, σ2s.16**/77**, mb3.7**/8**, 1C, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**243**	Pg	**Pg**	**19 54 37.2**	**-1.0**
KGS1				Sg	**Sg**	**19 54 42.1**	**+1.0**
IDHR	**Dehrash**	**0.48**	**78**	Pg	**Pg**	**19 54 42.0**	**-1.1**
IGHG	**Ghaleghazi**	**0.68**	**114**	Pg	**Pg**	**19 54 46.6**	**-0.3**
ILIN	**Lien**	**0.99**	**71**	Pg	**Pg**	**19 54 52.5**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.03**	**161**	Pg	**Pg**	**19 54 52.4**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.06**	**108**	Pg	**Pg**	**19 54 54.1**	**-0.2**
IKOM	**Komasi**	**1.47**	**107**	Pg	**Pn**	**19 55 01.1**	**+0.7**
IBDR	**Badra**	**1.49**	**176**	*e*Pn	**Pn**	**19 55 01.0**	**+0.4**
IBDR				*e*Sn	**Sg**	**19 55 23.0**	**+1.2**
IBDR				AML	AML	19 55 42.3	
	comp=E,852nm,0.5s						
IBDR				AML	AML	19 55 43.7	
	comp=N,811nm,0.5s						
SDS1	**Sardasht. Az.**	**1.57**	**350**	Pg	**Pn**	**19 55 02.1**	**+0.3**
IBZA	**Bozab**	**1.69**	**94**	Pg	**Pn**	**19 55 04.8**	**+1.2**
BHD	**Baghdad**	**1.79**	**222**	*e*Pn	**Pn**	**19 55 04.0**	**-0.7**
BHD				*e*Sn	**Sg**	**19 55 29.5**	**-1.7**
BHD				AML	AML	19 55 36.0	
	comp=E,2μm,0.5s						
IALM	**Almabolaq**	**1.95**	**82**	Pn	**Pn**	**19 55 09.5**	**+2.3**
IKFM	**Kafar-mosalman**	**2.00**	**122**	⇑Pn	**Pn**	**19 55 09.8**	**+2.2**
MAHB	**Mahabad**	**2.16**	**358**	Pn	**Pn**	**19 55 11.1**	**+1.2**
HAGD	**Aghdareh**	**2.75**	**85**	Pn	**Pn**	**19 55 19.9**	**+1.8**
RAFI	**Al-Rafai**	**2.88**	**175**	*e*Pn	**Pn**	**19 55 20.5**	**+0.8**
RAFI				*e*Sn	**Sn**	**19 55 57.0**	**+2.5**
IHSH	**Hashtrud**	**2.94**	**23**	Pn	**Pn**	**19 55 20.9**	**0.0**
CUKT	**Cukurca**	**3.19**	**326**	P	**Pn**	**19 55 24.2**	**+0.1**
CUKT				S	**Sb**	**19 56 10.6**	**+1.0**
CUKT				*i* AML	AML	19 56 18.0	
	comp=E,322nm,0.8s						
CUKT				*i* AML	AML	19 56 25.0	
	comp=E,148nm,0.5s						
CUKT				*i* AML	AML	19 56 42.0	
	comp=E,481nm,0.8s						
YOVA	**Hakkari_Yksek**	**3.22**	**338**	P	**Pn**	**19 55 25.4**	**+0.7**
YOVA				S	**Sb**	**19 56 08.3**	**-2.3**
YOVA				*i* AML	AML	19 56 31.0	
	comp=E,106nm,0.9s						
QSDN	**Sirdan**	**3.33**	**54**	Pn	**Pn**	**19 55 27.9**	**+1.8**
IRAZ	**Razeghan**	**3.47**	**76**	Pn	**Pn**	**19 55 29.8**	**+1.7**
ISRB	**Sarab**	**3.55**	**24**	Pn	**Pn**	**19 55 30.0**	**+1.0**
ITBZ	**Tabriz**	**3.63**	**4**	Pn	**Pn**	**19 55 30.2**	**0.0**
IHRS	**Heris**	**3.84**	**15**	Pn	**Pn**	**19 55 34.2**	**+1.1**
SIRN	**Sırnak**	**3.99**	**317**	P	**Pb**	**19 55 46.4**	**+2.2**
SIRN				S	**Sg**	**19 56 40.3**	**-1.6**
AMIS	**Naft Sefid**	**4.13**	**134**	Pn	**Pn**	**19 55 39.0**	**+2.0**
PERV	**Siirt/Pervari-**	**4.26**	**323**	P	**Pn**	**19 55 43.5**	**+4.7**
PERV				S	**Sg**	**19 56 51.5**	**+1.0**
GEVA	**Gevas**	**4.32**	**330**	P	**Pn**	**19 55 39.8**	**+0.1**
GEVA				S	**Sn**	**19 56 30.5**	**+0.4**
IQOM	**Qom**	**4.33**	**85**	Pn	**Pn**	**19 55 41.0**	**+1.0**
TVAN	**Van**	**4.37**	**334**	P	**Pn**	**19 55 41.8**	**+1.3**
TVAN				S	**Sn**	**19 56 35.9**	**+4.3**
TVAN				*i* AML	AML	19 57 47.0	
	comp=E,55nm,2.1s						
TVAN				*i* AML	AML	19 57 50.0	
	comp=E,58nm,1.4s						
GRMI	**Germi**	**4.52**	**21**	Pn	**Pn**	**19 55 43.4**	**+1.1**
MIDY	**Mardin/Midyat-**	**4.54**	**309**	P	**Pn**	**19 55 43.8**	**+1.2**
MIDY				S	**Sn**	**19 56 38.8**	**+3.3**
IPIR	**Pirpir**	**4.65**	**113**	Pn	**Pn**	**19 55 45.3**	**+1.1**
QAMS	**Qamsar**	**4.71**	**99**	Pn	**Pn**	**19 55 46.6**	**+1.5**
MAKU	**Maku**	**4.83**	**350**	Pn	**Pn**	**19 55 47.9**	**+1.3**
IVRN	**Varamin**	**4.88**	**84**	Pn	**Pn**	**19 55 49.0**	**+1.7**
ZNGN	**Zangian**	**4.89**	**119**	Pn	**Pn**	**19 55 49.5**	**+1.9**
MARD	**Mardin**	**4.90**	**305**	P	**Pb**	**19 55 56.8**	**-2.9**
MARD				S	**Sb**	**19 57 02.6**	**+3.9**
SVAN	**Silvan-Diyarba**	**5.14**	**315**	P	**Pn**	**19 55 50.9**	**+0.1**
SVAN				S	**Sb**	**19 57 10.1**	**+4.6**
SVAN				*i* AML	AML	19 57 33.0	
	comp=E,52nm,0.9s						
IDMV	**Damavand**	**5.19**	**77**	Pn	**Pn**	**19 55 53.2**	**+1.4**
KRSH	**Karshahi**	**5.27**	**95**	Pn	**Pn**	**19 55 54.3**	**+1.6**
ISFB	**Sefidab**	**5.31**	**91**	Pn	**Pn**	**19 55 54.5**	**+1.3**
DORK	**Agr/Tutak/Do**	**5.36**	**334**	P	**Pb**	**19 56 05.7**	**-1.9**
DORK				S	**Sg**	**19 57 20.3**	**-5.5**
MUSM	**Mu-Merkez**	**5.37**	**321**	P	**Pn**	**19 55 54.6**	**+0.5**
MUSM				S	**Sb**	**19 57 18.6**	**+6.2**
KOTA	**Agri, Merkez-K**	**5.59**	**339**	P	**Pn**	**19 56 01.7**	**+4.5**
GNI	**Garni**	**5.60**	**352**	Pn	**Pn**	**19 55 59.7**	**+2.4**
	comp=E,0.6nm,0.3s,baz=186,slow=10,SNR=5.4						
GNI				Lg	Lg	19 57 38.1	
	comp=E,0.6nm,0.3s,baz=37,slow=19,SNR=3.8						
GNI				LR	LR	19 58 23.3	
	comp=E,52nm,20.5s,baz=184,slow=40						
	comp=E,4.9nm,0.7s						
IFIR	**Firoozkooh**	**5.78**	**78**	Pn	**Pn**	**19 56 01.5**	**+1.7**
EIL	**Elat**	**10.44**	**245**	LR	LR	20 01 24.5	
	comp=E,26nm,21.4s,baz=65,slow=41						
GEYT	**Alibeck**	**10.47**	**68**	Pn	**Pn**	**19 57 05.6**	**+1.6**
	comp=E,0.2nm,0.3s,baz=232,slow=14,SNR=3.7						
	comp=E,0.6nm,0.3s						
WSAR	**Wadi Sarin**	**15.92**	**132**	Pn	**Pn**	**19 58 14.9**	**-3.1**
	comp=E,0.3nm,0.3s,baz=350,slow=9.1,SNR=6.2						
	comp=E,4.1nm,0.9s						
BELG	**Belogornoye**	**17.83**	**4**	P	**Pn**	**19 58 41.4**	**-0.4**
	comp=E,0.1nm,0.3s,baz=214,slow=5.4,SNR=5.4						
	comp=E,8.3nm,0.9s						
MLR	**Muntele Rosu**	**18.65**	**312**	P	**P**	**19 58 51.0**	**-0.8**
	comp=E,0.7nm,0.8s,baz=140,slow=17,SNR=1.3						
AKASG	**Malin Array Be**	**20.12**	**328**	P	**P**	**19 59 05.9**	**-1.7**
	comp=E,0.2nm,0.3s,baz=138,slow=10,SNR=4.1						
	comp=E,0.2nm,0.3s						
ARU	**Arti**	**23.51**	**18**	P	**P**	**19 59 44.8**	**+1.2**
	comp=E,1.4nm,0.6s,baz=255,slow=10,SNR=4.7						
	comp=E,1.4nm,0.6s						
LANS	**Liptovska Anna**	**24.25**	**315**	*e*P	**P**	**19 59 55.1**	**+4.2**
LANS				*e*		20 27 30.8	
LANS				*e*		20 27 34.8	
VYHS	**Vyhne**	**24.34**	**313**	*e*P	**P**	**19 59 54.8**	**+3.1**
VYHS				*e*		20 09 53.7	
VYHS				*e*		20 12 46.4	
VYHS				*e*		20 12 46.6	
VYHS				*e*		20 27 31.7	
VYHS				*e*		20 27 37.4	
BVAR	**Borovoye Array**	**25.36**	**36**	P	**P**	**20 00 01.8**	**+1.0**
	comp=E,1.3nm,0.8s,baz=243,slow=7.6,SNR=6.2						
	comp=E,1.3nm,0.8s						
FINES	**FINESS Array B**	**29.68**	**341**	P	**P**	**20 00 37.6**	**-1.8**
	comp=E,8.1nm,1.1s,baz=150,slow=8.1,SNR=3.5						
	comp=E,8.1nm,1.1s						
MKAR	**Makanchi Array**	**29.95**	**55**	P	**P**	**20 00 43.2**	**+1.2**
	comp=E,1.4nm,0.9s,baz=255,slow=8.6,SNR=7.4						
	comp=E,1.4nm,0.9s						
HFS	**Hagfors**	**32.96**	**331**	P	**P**	**20 01 07.2**	**-1.1**
	comp=E,1.6nm,0.3s,baz=126,slow=7.5,SNR=15						
	comp=E,1.6nm,0.3s						
EKA	**Eskdalemuir Ar**	**39.35**	**317**	P	**P**	**20 02 02.2**	**-0.8**
	comp=E,0.9nm,0.6s,baz=99,slow=8.7,SNR=2.0						
	comp=E,0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.63**	**95**	P	**P**	**20 03 24.6**	**-1.1**
	comp=E,0.1nm,0.4s,baz=290,slow=8.6,SNR=1.8						
	comp=E,0.1nm,0.4s						
YKA	**Yellowknife Ar**	**81.96**	**351**	P	**P**	**20 06 50.4**	**-3.0**
	comp=E,0.4nm,0.9s,baz=13,slow=5.3,SNR=4.8						
	comp=E,0.4nm,0.9s						

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*IDC **01** 20:00:11.1±0.5, 36°.17S×100°.34W, h0km, mb4.4/11, mbtmp4.3/11, MS4.2/44, Error ellipse: s-maj=28.1km s-min=16.0km az=78.0*

*NEIC **01** 20:00:12.7±1.6, 36°.2S±0°.1×100°.4W±0°.2, h10km±1km, mb4.7/143, Error ellipse: s-maj=22.2km s-min=19.8km az=276.0*

*GCMT **01** 20:00:13.7±0.2, 36°.24S±0°.01×100°.16W±0°.02, h15km, MW5.0/122, Moment Tensor Solution. s61,c81; s122,c175; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-2.57±.14; Mθθ1.51±.11; Mφφ1.06±.11; Mrθ2.30±.24; Mθφ-3.60±.09; Mφr-0.36±.20; Best double couple: M0 4.68900×10^{16} NP1:φs284.00000°,δ68.00000°, λ-129.00000°. NP2:φs168.00000°,δ44.00000°, λ-33.00000°. Principal axes: T 5.3720, Plg14.0000°, Azm41.0000°; N -1.3650, Plg35.0000°, Azm301.0000°; P -4.0060, Plg51.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 20:00:13.0±0.4**, 36°.15S**±0°.09×**100°.42W**±0°.08**, h16**km**, n206, σ1s.18**/144**, mb4.7**/78**, MS4.3**/47**, 2D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.76**	**317**	LR	LR	20 06 13.9	
	comp=Z,2μm,18.1s,baz=162,slow=31						
H03S2	**Juan Fernandez**	**17.76**	**89**	T	T	20 22 32.7	
	baz=254,slow=75,SNR=19						
H03S1	**Juan Fernandez**	**17.78**	**89**	T	T	20 22 26.6	
	baz=254,slow=75,SNR=13						
H03S3	**Juan Fernandez**	**17.78**	**89**	T	T	20 22 22.7	
	baz=254,slow=75,SNR=19						

H03N2 Juan Fernandez 17.86 88 T T 20 22 34.3
baz=247,slow=72,SNR=18
H03N3 Juan Fernandez 17.86 88 T T 20 22 26.1
baz=247,slow=72,SNR=18
H03N1 Juan Fernandez 17.87 88 T T 20 22 25.9
baz=247,slow=72,SNR=23
LL06 Loncomilla 21.59 114 P 20 05 02.2 +0.3
LR05 Currie 22.66 109 P 20 05 13.1 -0.4
LR05 IAmb IAmb 20 05 15.8
comp=Z,34nm,1.1s
LL02 Futaleuf 23.02 117 P 20 05 17.4 +0.2
LL02 IAmb IAmb 20 05 19.8
comp=Z,23nm,1.0s
GO06 Curarrehue 23.07 107 P 20 05 18.5 +0.6
GO06 IAmb IAmb 20 05 21.3
comp=Z,24nm,1.0s
COYC Coyhaique 23.31 123 P **P 20 05 20.0 -0.1**
AY03 Cochrane 23.43 127 P **P 20 05 21.6 +0.3**
AY03 IAmb IAmb 20 05 23.6
comp=Z,24nm,1.1s
ML02 Panimavida 23.45 98 P 20 05 23.8 +2.1
VA05 Santo Domingo 23.72 92 P **P 20 05 24.6 +0.3**
PLCA Paso Flores 23.78 110 P **P 20 05 24.3 -0.6**
PLCA Paso Flores 23.78 110 P **P 20 05 25.1 +0.1**
comp=Z,14nm,0.9s,baz=280,slow=9.2,SNR=24
PLCA LR LR 20 12 20.7
comp=Z,606nm,18.1s,baz=274,slow=31
comp=Z,14nm,0.9s
MT13 San Alfonso 24.78 93 P 20 05 32.9 -1.3
MT13 IAmb IAmb 20 05 50.3
comp=Z,23nm,1.1s
LMEL Las Melosas 24.82 94 P 20 05 34.0 -0.6
GO09 Cerro Castillo 25.11 136 P 20 05 36.0 -0.9
LCO Las Campanas 25.97 83 P 20 05 44.6 -0.6
LCO IAmb IAmb 20 05 59.7
comp=Z,22nm,1.1s
CO01 Juntas del Tor 26.09 85 P 20 05 46.5 +0.3
GO02 Mina Guanaco 28.58 76 P 20 06 07.5 -1.2
GO02 IAmb IAmb 20 06 13.0
comp=Z,29nm,1.5s
PB04 IPOC Station P 29.65 71 P 20 06 17.9 -0.1
PB04 IAmb IAmb 20 06 18.6
comp=Z,25nm,1.2s
PB15 IPOC Station P 29.69 73 P 20 06 17.1 -1.3
PB06 IPOC Station P 29.89 72 P 20 06 18.9 -1.3
PB06 IAmb IAmb 20 06 28.4
comp=Z,12nm,0.7s
PB02 IPOC Station P 30.42 69 P 20 06 24.6 -0.2
PB02 IAmb IAmb 20 06 46.8
comp=Z,24nm,1.3s
LVC Limon Verde 30.45 72 P 20 06 25.9 +0.6
LVC IAmb IAmb 20 06 55.9
comp=Z,18nm,1.4s
LVC Limon Verde 30.45 72 LR LR 20 15 26.6
comp=Z,404nm,20.5s,baz=236,slow=30
PB09 IPOC Station P 30.65 71 P 20 06 27.3 +0.4
PB01 IPOC Station P 30.89 69 P 20 06 29.2 +0.2
PB01 IAmb IAmb 20 06 32.3
comp=Z,13nm,1.3s
PB11 IPOC Station P 31.53 67 P 20 06 34.9 +0.3
PB11 IAmb IAmb 20 06 36.5
comp=Z,21nm,1.3s
PB08 IPOC Station P 31.68 68 P 20 06 36.4 +0.1
PB08 IAmb IAmb 20 06 41.4
comp=Z,16nm,1.2s
PB12 IPOC Station P 31.74 65 P 20 06 35.6 -0.9
GO01 Chusmiza 31.93 67 P 20 06 38.2 -0.4
GO01 IAmb IAmb 20 06 50.3
comp=Z,14nm,1.2s
NNA Nana 32.11 47 LR LR 20 16 11.1
comp=Z,758nm,21.9s,baz=210,slow=30
PB16 IPOC Station P 32.52 65 P 20 06 42.7 -1.2
PB16 IAmb IAmb 20 06 54.2
comp=Z,19nm,1.4s
PB18 Visviri 33.02 64 P 20 06 47.7 -0.5
LPAZ La Paz 34.84 64 P 20 07 03.7 -0.4
ATAH Atahualpa 35.21 40 LR LR 20 17 53.9
comp=Z,752nm,20.6s,baz=230,slow=30
PMSA Palmer Station 35.91 154 LR LR 20 18 15.0
comp=Z,429nm,18.6s,baz=298,slow=30
ITQB Itaqui 37.09 93 P 20 07 23.8 +1.2
CPUP Villa Florida 37.86 87 P 20 07 29.7 +0.6
comp=Z,3.2nm,1.0s,baz=238,slow=9.5,SNR=3.4
CPUP LR LR 20 20 28.8
comp=Z,147nm,19.4s,baz=251,slow=32
comp=Z,3.2nm,1.0s
PLTB Pedras Altas 38.79 97 P 20 07 35.8 -1.2
SIV San Ignacio 40.29 71 LR LR 20 22 21.5
comp=Z,226nm,20.6s,baz=285,slow=33
ETMB Extrema 40.61 58 P 20 07 50.9 -1.3
OTAV Otavalo 41.57 34 P 20 08 00.1 -0.4
OTAV IAmb IAmb 20 08 13.2
comp=Z,16nm,1.1s
AQDB Aquidauana 41.98 81 P 20 08 02.6 -0.9
AQDB IAmb IAmb 20 08 11.6
comp=Z,9.3nm,0.8s
PTLB Pontes e Lacer 42.10 72 P 20 08 05.5 +1.0
SAML Samuel 43.33 61 P **P 20 08 13.7 -0.8**
TBI Tubuai 44.02 273 *e*SS SS 20 18 07.7 -0.9
TBI *e*LR LR 20 20 36.6
comp=Z,590nm,30.5s
comp=Z,2µm,35.5s
TAOE Nuku Hiva Isla 45.17 297 *e*LR LR 20 21 09.4
comp=Z,176nm,24.2s
MEH Mehetia 45.69 280 *e*T T 20 57 26.7
comp=Z,24nm,0.2s
TIAR Tiarei 46.89 280 *e*T T 20 58 55.3
comp=Z,1.9nm,0.3s
PPT2 Papeete2 47.05 280 *e*S **S 20 15 36.6 +1.0**
comp=Z,35nm,23.5s
PPT2 *e*SS **SS 20 18 58.4 -4.2**
comp=Z,381nm,28.8s
PPT2 *e*LR LR 20 22 07.7
comp=Z,173nm,22.8s
ROSC El Rosal 47.54 36 LR LR 20 26 39.2
comp=Z,455nm,19.1s,baz=233,slow=33
SRBA San Rafael, Bu 47.91 23 P **P 20 08 50.9 +0.2**
JTS Las Juntas de 48.44 21 LR LR 20 24 12.4
comp=Z,590nm,21.7s,baz=182,slow=30
MACA Manacapuru-AM 49.19 58 P **P 20 08 59.1 -1.4**
BDFB Brasilia 50.73 80 LR LR 20 28 51.6
comp=Z,279nm,18.3s,baz=239,slow=34
SDV Santo Domingo 52.84 38 P **P 20 09 27.8 -0.4**
SDV IAmb IAmb 20 09 35.1
comp=Z,12nm,0.9s
SDV Santo Domingo 52.84 38 LR LR 20 30 31.2
comp=Z,246nm,19.1s,baz=192,slow=34
CMIG Matias Romero 53.21 7 LR LR 20 26 31.9
comp=Z,361nm,21.5s,baz=183,slow=30
RAR Rarotonga 53.40 269 LR LR 20 26 29.3
comp=Z,70nm,18.9s,baz=172,slow=30
QSPA South Pole Qui 54.07 180 P **P 20 09 37.6 +1.0**
QSPA IAmb IAmb 20 09 38.3
comp=Z,8.4nm,0.8s
QSPA South Pole Qui 54.07 180 P **P 20 09 37.4 +0.9**
comp=Z,5.2nm,0.7s,baz=125,slow=2.9,SNR=16
QSPA LR LR 20 29 23.2
comp=Z,362nm,18.9s,baz=120,slow=32
comp=Z,5.2nm,0.7s
BAUV El Baul 54.22 41 P 20 09 36.2 -1.9
MOIG Morelia 55.52 359 P 20 09 49.3 +1.6
VNDA Vanda 56.66 195 P 20 09 56.5 +1.6
comp=Z,1.7nm,1.0s,baz=92,slow=3.8,SNR=3.3
VNDA LR LR 20 28 25.0
comp=Z,240nm,21.0s,baz=104,slow=30
comp=Z,1.7nm,1.0s
PCRV Puerto La Cruz 57.09 43 LR LR 20 32 46.9
comp=Z,877nm,18.2s,slow=34
TEIG Tepich 57.23 14 LR LR 20 29 35.4
comp=Z,1µm,18.1s,baz=356,slow=31
SNAA Sanae 58.45 158 P **P 20 10 07.1 -0.6**
comp=Z,3.8nm,0.9s,baz=254,slow=10,SNR=4.1
SNAA LR LR 20 32 32.0
comp=Z,304nm,18.4s,baz=286,slow=33
comp=Z,3.8nm,0.9s
ZAIG Zacatecas 58.63 358 P 20 10 10.5 +0.8
ZAIG IAmb IAmb 20 10 16.8
comp=Z,14nm,1.5s
LPIG La Paz 60.65 350 LR LR 20 30 02.1
comp=Z,122nm,20.0s,baz=208,slow=30
MDP Montagnes des 60.67 58 LR LR 20 33 56.8
comp=Z,425nm,20.2s,baz=274,slow=33
HPIG 62.94 355 P **P 20 10 39.1 +0.2**
SJG San Juan 62.96 37 LR LR 20 35 39.6
comp=Z,134nm,21.9s,baz=228,slow=34
URZ Urewera 63.53 241 LR LR 20 31 25.0
comp=Z,159nm,21.6s,baz=110,slow=30
RAO Raoul Island 63.98 252 LR LR 20 31 04.5
comp=Z,94nm,21.5s,baz=67,slow=29
RPZ Rata Peaks 65.19 233 LR LR 20 31 59.4
comp=Z,265nm,21.8s,baz=83,slow=29
TXAR Lajitas Array 65.20 357 P **P 20 10 54.2 +0.7**
TXAR Lajitas Array 65.20 357 P **P 20 10 54.3 +0.8**
comp=Z,2.6nm,0.9s,baz=179,slow=8.8,SNR=14
TXAR LR LR 20 34 06.5
comp=Z,136nm,21.9s,baz=174,slow=31
comp=Z,2.6nm,0.9s
TX31 Lajitas Ar. Si 65.21 357 P **P 20 10 54.2 +0.7**
ELIB Princess Elisa 65.31 163 *d*P **P 20 10 53.9 +0.1**
comp=Z,4.9nm,0.7s
HNDO Hondo 65.34 1 P **P 20 10 55.2 +0.9**
SAND Sanderson 65.77 358 P **P 20 10 57.9 +0.7**
SAND IAmb IAmb 20 11 00.9
comp=Z,4.1nm,0.9s
RCBR Riachuelo 66.07 79 LR LR 20 38 47.7
comp=Z,114nm,18.1s,baz=238,slow=35
ALPN Alpine 66.24 357 P **P 20 11 00.9 +0.6**
ALPN IAmb IAmb 20 11 04.2
comp=Z,6.0nm,0.9s
JCT Junction City 66.28 1 P **P 20 11 01.4 +1.1**
JCT IAmb IAmb 20 11 04.2
comp=Z,8.0nm,1.1s
435B Jarrell 66.63 3 P **P 20 11 02.6 0.0**
435B IAmb IAmb 20 11 29.7
comp=Z,8.6nm,1.0s
VHRN Van Horn 66.72 356 P **P 20 11 03.4 +0.1**
AFI Afiamalu 66.95 269 P **P 20 11 04.5 -0.7**
BRDY Brady 67.09 1 P **P 20 11 05.5 0.0**
MNHN Monahans 67.17 358 P **P 20 11 06.8 +0.7**
319A Douglas 67.68 352 P **P 20 11 10.0 +0.6**
319A IAmb IAmb 20 11 14.1
comp=Z,8.2nm,1.0s
SGCY Sterling City 67.71 359 P **P 20 11 10.2 +0.8**
WHTX Lake Whitney, 67.84 3 P **P 20 11 10.7 +0.5**
PLPT Palo Pinto 68.63 2 P **P 20 11 14.6 -0.5**
PLPT IAmb IAmb 20 11 27.5
comp=Z,8.6nm,1.1s
SN01 Snyder 1 68.65 360 P **P 20 11 14.2 -1.2**
SN01 IAmb IAmb 20 11 18.8
comp=Z,9.2nm,1.3s
214A Organ Pipe Nat 68.74 349 P **P 20 11 16.9 +1.0**
214A IAmb IAmb 20 11 20.5
comp=Z,5.7nm,1.1s
TUC Tucson 68.79 351 P **P 20 11 17.5 +1.2**
TUC IAmb IAmb 20 11 20.8
comp=Z,4.7nm,1.0s
DUN6 Lazy B Ranch 68.82 352 P **P 20 11 18.0 +1.5**
DKNS Dickens 69.45 360 P **P 20 11 20.7 +0.3**
DKNS IAmb IAmb 20 11 21.4
comp=Z,5.0nm,0.8s
MSTX Muleshoe 69.79 358 P **P 20 11 23.5 +1.0**
MSTX IAmb IAmb 20 11 25.9
comp=Z,6.2nm,0.8s
AMTX Amarillo 70.68 359 P **P 20 11 28.3 +0.5**
Y14A Wickenburg 70.71 349 P **P 20 11 28.3 +0.3**
BLYC Blythe 70.77 348 P **P 20 11 30.0 +1.6**
BLYC IAmb IAmb 20 11 34.5
comp=Z,11nm,1.5s
X18A Snowflake 70.87 352 P **P 20 11 30.6 +1.4**
X18A IAmb IAmb 20 11 34.1
comp=Z,1.1nm,1.1s
SMWD Samnorwood 70.89 0 P **P 20 11 29.1 0.0**
SMWD IAmb IAmb 20 11 32.7
comp=Z,11nm,1.1s
X16A Lo Mia Camp, P 70.95 350 P **P 20 11 30.4 +0.7**
ANMO Albuquerque 70.95 355 P **P 20 11 29.4 -0.2**
ANMO IAmb IAmb 20 11 56.6
comp=Z,8.4nm,1.5s
ANMO Albuquerque 70.95 355 LR LR 20 38 06.6
comp=Z,212nm,19.0s,baz=262,slow=32
ELS Elsinore Mount 71.23 345 P **P 20 11 32.9 +1.6**
WUAZ Wupatki 72.03 351 P **P 20 11 38.6 +2.5**
WUAZ IAmb IAmb 20 11 40.9
comp=Z,5.6nm,1.1s
U32A Winter Ranch, 72.17 1 P **P 20 11 36.7 -0.1**
RTBA Rita Blanca 72.25 358 P **P 20 11 37.6 +0.2**
OK048 Pawnee Station 72.27 3 P **P 20 11 37.1 -0.3**
OK048 IAmb IAmb 20 12 06.5
comp=Z,6.8nm,1.1s
OK038 West end E0370 72.28 1 P **P 20 11 36.9 -0.5**
LCAR Lake Charles 72.37 8 P **P 20 11 35.8 -2.1**
LCAR IAmb IAmb 20 12 11.9
comp=Z,14nm,1.4s
U38A Gravette 72.44 5 P **P 20 11 37.4 -1.0**
U38A IAmb IAmb 20 11 42.0
comp=Z,5.1nm,0.9s
GSC Goldstone, Bar 72.70 346 P **P 20 11 41.4 +1.4**
GSC IAmb IAmb 20 11 55.5
comp=Z,7.5nm,1.2s
KAN09 Caldwell North 72.96 2 P **P 20 11 42.1 +0.6**
KAN09 IAmb IAmb 20 11 44.9
comp=Z,11nm,1.1s
T25A Trinidad 73.01 357 P **P 20 11 41.6 -0.4**
U15A North Rim 73.05 350 P **P 20 11 43.8 +1.5**
U15A IAmb IAmb 20 11 47.1
comp=Z,4.9nm,1.0s
TKL Tuckaleechee C 73.10 14 LR LR 20 39 42.1
comp=Z,145nm,20.3s,baz=174,slow=32
MVCO Mesa Verde 73.37 353 P **P 20 11 45.1 +0.9**
MVCO IAmb IAmb 20 11 48.6
comp=Z,9.2nm,1.1s
GWY Greenwater Val 73.53 346 P **P 20 11 46.3 +1.3**
SHPR Sheep Range 73.57 348 P **P 20 11 41.9 -3.4**
CGM3 Cape Girardeau 73.76 9 P **P 20 11 46.1 0.0**
CGM3 IAmb IAmb 20 11 54.5
comp=Z,6.0nm,1.0s
LCMT Little Creek M 73.76 349 P **P 20 11 47.6 +1.3**
S22A 4UR Ranch, Cre 73.76 355 P **P 20 11 47.2 +0.7**
PKCU Pink Cliffs 74.05 350 P **P 20 11 48.9 +0.6**
PKCU IAmb IAmb 20 11 59.2
comp=Z,15nm,1.4s
SZCU Shurtz Canyon 74.31 350 P **P 20 11 49.9 +0.3**
CCM Cathedral Cave 74.32 8 P **P 20 11 48.7 -0.7**
CCM IAmb IAmb 20 11 50.6
comp=Z,7.7nm,0.7s
FVM French Village 74.34 8 P **P 20 11 49.7 +0.2**
FVM IAmb IAmb 20 11 53.9
comp=Z,8.5nm,1.1s
PRN Pahroc Range 74.43 348 P **P 20 11 51.8 +1.6**
PRN IAmb IAmb 20 12 04.3
comp=Z,11nm,1.3s
GMN Gold Mountain 74.73 346 P **P 20 11 54.9 +2.8**
MSU Marysvale 75.08 350 P **P 20 11 54.4 +0.3**
MZP Montezuma Peak 75.14 346 P **P 20 11 55.2 +0.7**
R11B Troy Canyon, C 75.44 348 P **P 20 11 59.3 +3.2**
SRU San Rafael Swe 75.47 352 P **P 20 11 56.9 +0.6**
TPH Tonopah 75.47 346 P **P 20 11 57.8 +1.5**
MAW Mawson 75.80 173 P **P 20 11 57.6 -0.1**
MAW Mawson 75.80 173 P **P 20 11 57.8 +0.2**
comp=Z,4.8nm,0.7s,baz=200,slow=8.6,SNR=4.5
MAW LR LR 20 42 46.1
comp=Z,183nm,20.3s,baz=194,slow=34
comp=Z,4.8nm,0.7s
SPR3 Spring Creek 3 75.87 349 P **P 20 12 00.1 +1.4**
LHV Little Huntoon 75.89 345 P **P 20 12 00.2 +1.8**
LHV IAmb IAmb 20 12 04.0
comp=Z,12nm,1.2s
P18A Preston Nutter 75.94 352 P **P 20 12 00.8 +1.6**
P18A IAmb IAmb 20 12 10.7
comp=Z,7.7nm,1.5s
Q12A Willow Creek R 75.99 348 P **P 20 12 00.1 +0.9**
NV11 Mina Array Sit 76.00 346 P **P 20 12 00.6 +1.3**
NV11 IAmb IAmb 20 12 04.2
comp=Z,10nm,1.3s
NVAR Mina Array Bea 76.03 346 P **P 20 11 59.8 +0.3**
NVAR Mina Array Bea 76.03 346 P **P 20 12 00.7 +1.2**
comp=Z,3.9nm,0.9s,baz=180,slow=6.8,SNR=18
NVAR LR LR 20 39 42.2
comp=Z,73nm,18.9s,baz=180,slow=31
comp=Z,3.9nm,0.9s
CMB Columbia Colle 76.09 344 P **P 20 11 59.9 +0.3**
KVN Kaiserville 76.59 346 IAmb IAmb 20 12 07.4
comp=Z,5.6nm,1.2s
MPK Martis Peak 77.22 345 IAmb IAmb 20 12 11.6
comp=Z,12nm,1.2s
PAHR Pah Rah Range 77.48 345 IAmb IAmb 20 12 12.7
comp=Z,12nm,1.5s
ELK Elko 77.72 349 IAmb IAmb 20 12 13.5
comp=Z,8.9nm,1.4s
ELK Elko 77.72 349 LR LR 20 39 17.6
comp=Z,125nm,21.0s,baz=157,slow=30
BMN Battle Mountai 77.76 347 IAmb IAmb 20 12 13.5
comp=Z,7.6nm,1.3s
L40A Anamosa 78.29 7 P **P 20 12 11.6 -0.2**
BW06 Boulder Array 78.98 353 IAmb IAmb 20 12 19.8
comp=Z,7.7nm,1.1s
PD31 Pinedale Array 78.98 353 IAmb IAmb 20 12 19.8
comp=Z,7.1nm,1.1s
PDAR Pinedale Array 78.98 353 P **P 20 12 16.6 +0.7**
comp=Z,1.6nm,0.6s,baz=159,slow=6.5,SNR=22
PDAR LR LR 20 41 54.8
comp=Z,82nm,19.4s,baz=170,slow=32
comp=Z,1.6nm,0.6s
ECSD EROS Data Cent 79.58 3 IAmb IAmb 20 12 22.9
comp=Z,8.6nm,1.1s
DZM Mont Dzumac 79.72 250 *e*S **SKSac 20 22 32.4 -4.8**
comp=Z,107nm,29.1s
DZM Mont Dzumac 79.72 250 *e*LR LR 20 36 51.0
comp=Z,405nm,29.1s
DZM Mont Dzumac 79.72 250 LR LR 20 40 25.6
comp=Z,99nm,19.1s,baz=154,slow=30
TPAW Teton Pass 79.84 352 IAmb IAmb 20 12 25.0
comp=Z,8.1nm,1.1s
YBH Yreka Blue Hor 80.15 343 P **P 20 12 22.5 +0.4**
YBH Yreka Blue Hor 80.15 343 LR LR 20 40 23.4
comp=Z,86nm,18.6s,baz=174,slow=30
HLID Hailey 80.35 350 IAmb IAmb 20 12 28.1
comp=Z,8.0nm,1.0s
L04D Klamath Falls 80.52 344 IAmb IAmb 20 13 01.1
comp=Z,11nm,1.3s
J05D Fort Rock, OR 81.30 345 IAmb IAmb 20 12 33.3
comp=Z,8.7nm,1.0s
DBO Dodson Butte 81.59 343 IAmb IAmb 20 12 32.3
comp=Z,10nm,1.3s
I07A Izee 81.71 346 P **P 20 12 28.8 -1.7**
PINE Pine Mountain 81.72 345 IAmb IAmb 20 12 35.7
comp=Z,11nm,1.0s
F36A Milaca 81.87 5 IAmb IAmb 20 12 35.2
comp=Z,11nm,1.1s
F10A Beach Ranch, E 83.14 348 IAmb IAmb 20 12 56.2
comp=Z,5.8nm,1.2s
HAWA Hanford 83.95 347 IAmb IAmb 20 12 46.3
comp=Z,7.4nm,1.1s
E07A Sunnyside 84.17 347 P **P 20 12 43.5 +0.5**
NEW Newport 85.35 349 LR LR 20 44 02.2
comp=Z,85nm,20.4s,baz=168,slow=31
ULM Lac du Bonnet 86.12 3 P **P 20 12 55.1 +2.5**
comp=Z,3.1nm,0.9s,baz=197,slow=8.0,SNR=3.7
comp=Z,3.1nm,0.9s
STKA Stephens Creek 90.83 229 LR LR 20 45 46.7
comp=Z,142nm,21.6s,baz=193,slow=30
HNR Honiara 92.18 257 LR LR 20 46 09.5
comp=Z,1µm,20.9s,baz=154,slow=30
SUR Sutherland 92.42 134 LR LR 20 48 34.5
comp=Z,57nm,19.4s,baz=219,slow=31
SCHQ Schefferville 95.10 19 LR LR 20 52 00.3
comp=Z,192nm,20.4s,baz=226,slow=33
CTA Charters Tower 95.78 240 LR LR 20 49 32.9
comp=Z,128nm,21.1s,baz=96,slow=31
BOSA Boshof 97.77 134 LR LR 20 54 00.2
comp=Z,54nm,18.8s,baz=198,slow=33
DBIC Dimbokro 98.38 88 LR LR 20 53 25.8
comp=Z,111nm,20.7s,baz=210,slow=32
YKA Yellowknife Ar 98.96 353 P **Pdif 20 13 52.2 +0.3**
comp=Z,0.6nm,0.9s,baz=164,slow=4.6,SNR=6.8
YKA LR LR 20 54 34.2
comp=Z,133nm,19.9s,baz=276,slow=33
comp=Z,0.6nm,0.9s
TSUM Tsumeb 99.62 122 LR LR 20 50 29.8
comp=Z,54nm,21.2s,baz=108,slow=30
H01W1 Cape Leeuwin H 102.32 209 T T 22 09 24.8
baz=150,slow=75,SNR=5.2
H01W2 Cape Leeuwin H 102.32 209 T T 22 09 22.8
baz=150,slow=75,SNR=4.5
H01W3 Cape Leeuwin H 102.33 209 T T 22 09 20.8
baz=150,slow=75,SNR=4.4
BMRD Maredsous 125.92 50 *d*PKP **PKiKP 20 19 14.9 +0.9**
BRTR Keskin Array B 143.90 70 PKP PKPbc 20 19 45.5 +0.1
comp=Z,1.5nm,0.8s,baz=210,slow=3.8,SNR=6.8
OBN Obninsk 145.16 43 PKPbc 20 19 46.3 -2.3
BNN Bunyan 145.44 72 PKPbc 20 19 50.0 -0.3
NRIK Noril'sk 146.46 355 PKPdf **PKPdf 20 19 50.2 -0.7**
NRIK Noril'sk 146.46 355 PKPbc **PKPbc 20 19 52.5 +0.2**
comp=Z,3.1nm,0.7s,baz=325,slow=4.0,SNR=5.2
KBZ Khabaz 151.06 63 PKPbc **PKPbc 20 20 04.7 -0.2**
comp=Z,4.2nm,1.0s,baz=304,slow=3.6,SNR=5.3
CMAR Chiang Mai Arr 155.45 229 PKP **PKPdf 20 20 07.7 +1.5**
comp=Z,0.5nm,1.0s,baz=151,slow=2.1,SNR=2.8
CMAR PKPab **PKPab 20 20 32.2 +0.5**
comp=Z,1.3nm,0.9s,baz=164,slow=1.9,SNR=6.7
SONM Songino Array 157.02 309 PKPab **PKPab 20 20 39.2 +1.2**
comp=Z,0.5nm,0.8s,baz=83,slow=2.7,SNR=2.3
ZALV Zalesovo Beam 161.83 350 PKP **PKPdf 20 20 10.9 -1.7**
comp=Z,0.8nm,0.8s,baz=48,slow=2.2,SNR=5.3
ZALV PKPab **PKPab 20 20 59.0 +0.7**
comp=Z,0.8nm,0.7s,baz=321,slow=0.9,SNR=2.7
BVAR Borovoye Array 161.93 18 PKP **PKPdf 20 20 12.3 -0.5**
comp=Z,0.5nm,0.8s,baz=252,slow=2.9,SNR=2.0
BVAR PKPab **PKPab 20 20 59.9 +1.0**
comp=Z,0.4nm,0.6s,baz=316,slow=4.0,SNR=2.3
KURBB Kurchatov Arra 165.51 3 PKP **PKPdf 20 20 15.2 -1.1**
comp=Z,0.5nm,0.7s,baz=24,slow=1.5,SNR=4.7
KURBB PKPab **PKPab 20 21 14.7 +0.1**
comp=Z,1.0nm,0.9s,baz=350,slow=3.7,SNR=2.4
MKAR Makanchi Array 169.17 350 PKPab **PKPab 20 21 31.5 +0.6**
comp=Z,0.8nm,1.0s,baz=0.0,slow=1.3,SNR=4.1

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*BGR **01** 20:07:43.5,21.14S×176.24W,h33km,Ms4.6*
*NEIC **01** 20:08:08.8±2.4,20.1S±0.2×176.1W±0.1,h21km±8km,*
mb4.5/115,Error ellipse: s-maj=28.5km s-min=12.4km
az=157.0
*IDC **01** 20:08:14.9±2.3,20.37S×176.32W,h279km±21km,*
mb3.8/14,mbtmp4.4/16,Error ellipse: s-maj=16.9km
s-min=9.9km az=134.0
*NOU **01** 20:08:38.7, 19.79S×179.01W,h103km,mb5.3/7,Fiji*
Islands Region

ISC 01 20:08:10.1±0.4,20.30S±0.08×176.00W±0.06,h250km,
n279,σ2$04/285,mb4.4/72,26C-18D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.36**	**307**	P	**Pn**	**20 09 06.0**	**-0.5**
LKBA	**Tubou, Lakemba**	**3.36**	**307**	P	**Pn**	**20 09 06.1**	**-0.5**
TAVE	**Taveuni**	**5.15**	**313**	P	**Pn**	**20 09 27.1**	**-0.6**
TAVE	**Taveuni**	**5.15**	**313**	P	**Pn**	**20 09 27.2**	**-0.5**
DGTI	**Dogotuki**	**5.68**	**314**	P	**Pn**	**20 09 33.3**	**-1.0**
NIUE	**Niue**	**5.84**	**79**	Pn	**Pn**	**20 09 34.7**	**-1.6**
NIUE	**Niue**	**5.84**	**79**	P	**S**	**20 10 40.4**	**-4.8**
AFI	**Afiamalu**	**7.52**	**33**	Pn	**Pn**	**20 09 55.2**	**-2.3**
MARNC	**Mare, Loyalty**	**14.98**	**263**	P	**Pn**	**20 11 30.4**	**+0.4**
MARNC	**Mare, Loyalty**	**14.98**	**263**	P	**Pn**	**20 11 32.4**	**+2.3**
PINNC	**Pines Island,**	**15.59**	**259**	P	**Pn**	**20 11 39.0**	**+1.7**
PINNC	**Pines Island,**	**15.59**	**259**	P	**Pn**	**20 11 40.2**	**+2.8**
LIFNC	**LIFOU**	**15.71**	**265**	P	**Pn**	**20 11 38.6**	**-0.2**
LIFNC	**LIFOU**	**15.71**	**265**	P	**Pn**	**20 11 39.2**	**+0.3**
YATNC	**Mamie plateau,**	**16.06**	**261**	P	**Pn**	**20 11 44.2**	**+1.2**
YATNC	**Mamie plateau,**	**16.06**	**261**	P	**Pn**	**20 11 44.9**	**+1.9**
OUENC	**Ouen Island, N**	**16.13**	**259**		**Pn**	**20 11 43.5**	**-0.3**
OUENC	**Ouen Island, N**	**16.13**	**259**	P	**Pn**	**20 11 45.1**	**+1.3**
OUENC	**Ouen Island, N**	**16.13**	**259**	P	**Pn**	**20 11 45.4**	**+1.6**
DZM	**Mont Dzumac**	**16.48**	**261**	P	**Pn**	**20 11 47.9**	**-0.1**
DZM	**Mont Dzumac**	**16.48**	**261**	P	**Pn**	**20 11 48.9**	**+0.9**
DZM	**Mont Dzumac**	**16.48**	**261**	P	**Pn**	**20 11 47.8**	**-0.1**
	62nm,0.7s,baz=80,slow=18,SNR=73						
ONTNC	**Ouen Toro**	**16.48**	**260**		**Pn**	**20 11 47.4**	**-0.5**
ONTNC	**Ouen Toro**	**16.48**	**260**	P	**Pn**	**20 11 50.8**	**+2.9**
NOUC	**Port Laguerre**	**16.61**	**261**	P	**Pn**	**20 11 49.8**	**+0.4**
KOUNC	**Koumac, New Ca**	**18.48**	**266**	P	**P**	**20 12 05.9**	**-2.1**
URZ	**Urewera**	**18.87**	**197**	P	**P**	**20 12 13.3**	**+1.3**
	3.9nm,0.3s,baz=19,slow=4.1,SNR=3.5						
URZ				S	**S**	**20 15 28.3**	**-4.6**
	2.0nm,0.5s,baz=241,slow=18,SNR=1.8						
MRZ	**Mangatainoka R**	**21.54**	**198**	P	**P**	**20 12 38.6**	**-1.1**
MRZ				IAmb	IAmb	20 12 43.9	
	comp=Z,13nm,1.4s						
SNZO	**South Karori**	**22.39**	**199**	P	**P**	**20 12 48.9**	**+1.4**
SNZO				IAmb	IAmb	20 12 56.3	
	comp=Z,23nm,1.0s						
BHW	**Baring Head**	**22.43**	**198**	P	**P**	**20 12 47.2**	**-0.7**
BHW				IAmb	IAmb	20 12 51.5	
	comp=Z,6.9nm,0.8s						
TCW	**Tory Channel**	**22.43**	**200**	P	**P**	**20 12 49.6**	**+1.7**
PLWZ	**Palliser**	**22.47**	**197**	P	**P**	**20 12 49.3**	**+1.0**
QRZ	**Quartz Range**	**22.68**	**203**	P	**P**	**20 12 51.4**	**+1.2**
TKNZ	**Takaka Hill**	**22.71**	**202**	P	**P**	**20 12 51.1**	**+0.6**

NNZ	**Nelson**	**22.73**	**201**	P	**P**	**20 12 51.9**	**+1.3**
MRNZ	**Matariki Terra**	**23.11**	**202**	P	**P**	**20 12 54.7**	**+0.7**
THZ	**Tophouse**	**23.38**	**201**	P	**P**	**20 12 55.5**	**-1.1**
DSZ	**Denniston Nort**	**23.75**	**203**	P	**P**	**20 12 58.5**	**-1.4**
KHZ	**Kahutara**	**23.76**	**200**	P	**P**	**20 13 01.9**	**+2.0**
KHZ				IAmb	IAmb	20 13 13.2	
	comp=Z,13nm,1.1s						
GVZ	**Greta Valley S**	**24.41**	**200**	P	**P**	**20 13 07.4**	**+1.5**
LTZ	**Lake Taylor**	**24.50**	**201**	P	**P**	**20 13 07.8**	**+1.0**
LTZ				IAmb	IAmb	20 13 11.6	
	comp=Z,17nm,1.1s						
INZ	**Inchbonnie**	**24.74**	**203**	P	**P**	**20 13 07.9**	**-0.9**
INZ				IAmb	IAmb	20 13 12.7	
	comp=Z,20nm,0.8s						
RPZ	**Rata Peaks**	**25.74**	**202**	P	**P**	**20 13 19.7**	**+1.8**
RPZ				IAmb	IAmb	20 13 22.8	
	comp=Z,12nm,0.9s						
RPZ	**Rata Peaks**	**25.74**	**202**	P	**P**	**20 13 19.5**	**+1.6**
	comp=Z,5.3nm,0.5s,baz=7.8,slow=15,SNR=3.3						
	comp=Z,5.3nm,0.5s						
FOZ	**Fox Glacier**	**26.04**	**204**	P	**P**	**20 13 22.0**	**+1.5**
WKZ	**Wanaka**	**27.44**	**204**	P	**P**	**20 13 39.6**	**+6.6**
MLZ	**Mavora Lakes**	**28.24**	**204**	P	**P**	**20 13 41.5**	**+1.5**
MLZ				IAmb	IAmb	20 14 21.3	
	comp=Z,28nm,1.3s						
WHZ	**Wether Hill Ro**	**28.74**	**204**	P	**P**	**20 13 46.0**	**+1.5**
WHZ				IAmb	IAmb	20 14 15.0	
	comp=Z,13nm,1.2s						
EIDS	**Eidsvold**	**30.71**	**254**	P	**P**	**20 14 01.7**	**-0.4**
EIDS				IAmb	IAmb	20 14 25.1	
	comp=Z,22nm,1.5s						
ARMA	**Armidale**	**30.85**	**244**	P	**P**	**20 14 04.0**	**+0.6**
ARMA				IAmb	IAmb	20 14 34.7	
	comp=Z,15nm,1.3s						
CTAO	**Charters Tower**	**35.38**	**264**	P	**P**	**20 14 42.6**	**+0.1**
PMG	**Port Moresby**	**37.14**	**281**	P	**P**	**20 14 57.9**	**+0.5**
TOO	**Toolangi**	**37.54**	**234**	P	**P**	**20 15 00.3**	**-0.2**
STKA	**Stephens Creek**	**39.57**	**244**	P	**P**	**20 15 17.1**	**-0.3**
	comp=Z,4.1nm,0.9s,baz=121,slow=8.1,SNR=5.8						
	comp=Z,4.1nm,0.9s						
BBOO	**Buckleboo**	**44.32**	**244**	P	**P**	**20 15 55.2**	**-0.5**
BBOO				IAmb	IAmb	20 16 24.5	
	comp=Z,21nm,1.4s						
WR0	**Warramunga Arr**	**46.30**	**261**	P	**P**	**20 16 10.4**	**-0.9**
AS31	**Alice Springs**	**46.39**	**256**	P	**P**	**20 16 12.2**	**+0.1**
ASAR	**Alice Springs**	**46.40**	**256**	P	**P**	**20 16 11.5**	**-0.6**
ASAR	**Alice Springs**	**46.40**	**256**	P	**P**	**20 16 11.9**	**-0.2**
	comp=Z,17nm,0.7s,baz=96,slow=8.2,SNR=239						
ASAR				PcP	**PcP**	**20 17 43.6**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=107,slow=3.7,SNR=5.8						
ASAR				S	**S**	**20 22 37.4**	**-3.1**
	comp=Z,0.3nm,0.9s,baz=91,slow=15,SNR=4.3						
	comp=Z,17nm,0.7s						
WB0	**Warramunga Arr**	**46.47**	**262**	P	**P**	**20 16 11.9**	**-0.8**
WB0				IAmb	IAmb	20 16 12.8	
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**46.48**	**261**	P	**P**	**20 16 12.0**	**-0.8**
WB2				IAmb	IAmb	20 16 13.4	
	comp=Z,11nm,0.7s						
WRAB	**Tennant Creek**	**46.48**	**261**	P	**P**	**20 16 12.3**	**-0.4**
WRA	**Warramunga Arr**	**46.49**	**261**	P	**P**	**20 16 11.3**	**-1.5**
WRA	**Warramunga Arr**	**46.49**	**261**	P	**P**	**20 16 12.1**	**-0.7**
	comp=Z,4.6nm,0.3s,baz=94,slow=7.5,SNR=258						
WRA				PcP	**PcP**	**20 17 44.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=88,slow=4.2,SNR=3.8						
WRA				S	**S**	**20 22 37.6**	**-4.4**
	comp=Z,0.3nm,0.8s,baz=102,slow=13,SNR=2.5						
	comp=Z,4.6nm,0.3s						
MTN	**Manton Dam**	**51.04**	**270**	P	**P**	**20 16 46.5**	**-0.8**
MTN				IAmb	IAmb	20 16 48.3	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**52.55**	**265**	P	**P**	**20 16 58.1**	**-0.3**
FAKI	**Fak Fak**	**53.29**	**282**	P	**P**	**20 17 03.2**	**-0.8**
FAKI				IAmb	IAmb	20 17 14.6	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.92**	**262**	P	**P**	**20 17 15.9**	**+0.3**
SOEI	**Soe**	**58.38**	**271**	P	**P**	**20 17 41.0**	**+0.9**
PSA00	**Pilbara Seismi**	**59.55**	**256**	P	**P**	**20 17 47.6**	**-0.3**
PSA00				IAmb	IAmb	20 17 48.1	
	comp=Z,7.9nm,1.1s						
PSA00	**Pilbara Seismi**	**59.55**	**256**	P	**P**	**20 17 48.4**	**+0.6**
PSA00				IAmb	IAmb	20 17 48.7	
	comp=Z,17nm,1.1s						
MBWA	**Marble Bar**	**59.73**	**257**	P	**P**	**20 17 48.0**	**-1.1**
MBWA				IAmb	IAmb	20 17 48.2	
	comp=Z,31nm,1.4s						
JAGI	**Jajag, Banyuwa**	**68.27**	**269**	P	**P**	**20 18 45.9**	**+1.2**
MJAR	**Matsushiro Arr**	**71.18**	**322**	P	**P**	**20 19 01.6**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=162,slow=6.0,SNR=8.2						
	comp=Z,2.9nm,0.8s						
MAJO	**Matsushiro**	**71.18**	**322**	P	**P**	**20 19 00.6**	**-1.2**
MAJO				IAmb	IAmb	20 19 24.3	
	comp=Z,22nm,1.3s						
MJB9	**Matsu-Tunnel**	**71.18**	**322**	P	**P**	**20 19 01.1**	**-0.9**
MJB9				IAmb	IAmb	20 19 25.2	
	comp=Z,20nm,1.3s						
SSLB	**Suanglung**	**75.44**	**302**	P	**P**	**20 19 25.4**	**-1.6**
TPUB	**Ta-pu**	**75.45**	**302**	P	**P**	**20 19 25.8**	**-1.3**
PEA0B	**Petropavlovsk-**	**76.57**	**344**	P	**P**	**20 19 33.5**	**+0.8**
PETK	**Petropavlovsk-**	**76.57**	**344**	P	**P**	**20 19 32.6**	**0.0**
PETK	**Petropavlovsk-**	**76.57**	**344**	P	**P**	**20 19 33.7**	**+1.0**
	comp=Z,12nm,0.8s,baz=106,slow=8.4,SNR=21						
	comp=Z,12nm,0.8s						
KMRM	**Mail Ridge**	**77.42**	**38**	P	**P**	**20 19 40.4**	**+2.6**
KMRM				IAmb	IAmb	20 19 42.5	
	comp=Z,8.0nm,0.7s						
ISA	**Isabella, Lake**	**77.86**	**45**	P	**P**	**20 19 42.4**	**+2.0**
KSRS	**Korea Array**	**77.99**	**318**	P	**P**	**20 19 41.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=131,slow=5.6,SNR=4.7						
	comp=Z,1.2nm,0.7s						
WAKR	**Walker**	**78.92**	**42**	P	P	20 19 49.8	+3.6
PNTR	**Pine Nut**	**79.18**	**41**	P	**P**	**20 19 50.1**	**+2.4**
PNTR				IAmb	IAmb	20 19 52.1	
	comp=Z,7.9nm,0.8s						
YERR	**Yerington**	**79.34**	**42**	P	P	20 19 51.6	+3.2
YERR				IAmb	IAmb	20 19 52.6	
	comp=Z,4.1nm,0.6s						
NVAR	**Mina Array Bea**	**79.59**	**42**	P	**P**	**20 19 53.0**	**+3.1**
NVAR	**Mina Array Bea**	**79.59**	**42**	P	P	20 19 53.5	+3.6
	comp=Z,1.7nm,0.6s,baz=222,slow=8.6,SNR=20						
	comp=Z,1.7nm,0.6s						
GMN	**Gold Mountain**	**79.61**	**44**	P	P	20 19 53.3	+3.3
K05A	**Summer Lake**	**80.64**	**38**	P	P	20 19 58.7	+3.4
J05D	**Fort Rock, OR**	**80.80**	**37**	P	P	20 19 59.5	+3.5
J05D				IAmb	IAmb	20 20 00.6	
	comp=Z,6.1nm,0.8s						
PINE	**Pine Mountain**	**81.28**	**37**	P	P	20 20 02.1	+3.4
PINE				IAmb	IAmb	20 20 03.4	
	comp=Z,5.0nm,0.8s						
X16A	**Lo Mia Camp, P**	**81.99**	**49**	P	**P**	**20 20 02.5**	**0.0**
U15A	**North Rim**	**82.44**	**47**	P	P	20 20 08.8	+3.8
K15K	**Wolf Creek Mou**	**83.11**	**7**	P	P	20 20 10.4	+3.0
G08A	**Pilot Rock**	**83.32**	**37**	P	P	20 20 12.6	+3.5
E07A	**Sunnyside**	**83.61**	**35**	P	**P**	**20 20 13.3**	**+2.9**
E07A				IAmb	IAmb	20 20 14.4	
	comp=Z,5.9nm,0.7s						
HAWA	**Hanford**	**83.68**	**35**	P	P	20 20 13.8	+3.1
HAWA				IAmb	IAmb	20 20 15.1	
	comp=Z,5.7nm,1.1s						
F10A	**Beach Ranch, E**	**84.70**	**37**	P	**P**	**20 20 18.6**	**+2.6**
HLID	**Hailey**	**84.95**	**40**	P	**P**	**20 20 20.1**	**+2.7**
VHRN	**Van Horn**	**84.99**	**55**	P	**P**	**20 20 20.5**	**+2.7**
CRQM	**Cirque**	**85.02**	**16**	P	**P**	**20 20 19.1**	**+1.7**
GRNC	**Granite Creek**	**85.35**	**16**	P	**P**	**20 20 21.1**	**+2.1**
TXAR	**Lajitas Array**	**85.37**	**57**	P	P	20 20 23.9	+4.2
	comp=Z,1.1nm,0.8s,baz=221,slow=8.1,SNR=12						
	comp=Z,1.1nm,0.8s						
N25K	**Chitina, Valde**	**85.40**	**14**	P	**P**	**20 20 21.3**	**+2.3**
N25K				IAmb	IAmb	20 20 22.1	
	comp=Z,12nm,0.8s						
GLB	**Gilahina Butte**	**85.45**	**15**	P	**P**	**20 20 21.3**	**+2.0**
GLB				IAmb	IAmb	20 20 21.9	
	comp=Z,9.6nm,0.8s						
M24K	**Tolsona, Glenn**	**85.49**	**14**	P	**P**	**20 20 21.5**	**+2.1**
J19K	**Poorman**	**85.50**	**9**	P	**P**	**20 20 21.9**	**+2.5**
CAST	**Castle Rocks**	**85.52**	**11**	P	**P**	**20 20 20.0**	**+0.5**
CAST				IAmb	IAmb	20 20 20.8	
	comp=Z,4.8nm,0.9s						
LOGN	**Logan Glacier**	**85.63**	**16**	P	**P**	**20 20 22.2**	**+1.9**
CTGM	**Chitina Glacie**	**85.66**	**16**	P	**P**	**20 20 22.2**	**+1.7**
CTGM				IAmb	IAmb	20 20 47.1	
	comp=Z,16nm,1.2s						
TRF	**Thorofare Moun**	**85.87**	**11**	P	**P**	**20 20 22.2**	**+0.8**
TRF				IAmb	IAmb	20 20 23.6	
	comp=Z,11nm,0.8s						

J20K	**Nowinta River**	**85.89**	**9**	P	**P**	**20 20 23.2**	**+1.9**
M26K	**Nabesna, AK**	**86.47**	**15**		**P**	**20 20 26.7**	**+2.4**
M26K				IAmb	IAmb	20 20 27.1	
	comp=Z,12nm,1.2s						
M27K	**Edge Creek, AK**	**86.71**	**15**	P	**P**	**20 20 25.9**	**+0.4**
M27K				IAmb	IAmb	20 20 28.9	
	comp=Z,7.4nm,0.8s						
ELIB	**Princess Elisa**	**87.05**	**186**	*d*P	**P**	**20 20 30.1**	**+2.9**
	comp=Z,2.0nm,0.7s						
L27K	**Beaver Creek,**	**87.32**	**15**	P	**P**	**20 20 29.4**	**+1.2**
BCAR	**Beaver Creek A**	**87.33**	**15**	P	**P**	**20 20 29.6**	**+1.3**
G19K	**Purcell Mounta**	**87.35**	**8**	P	**P**	**20 20 28.4**	**+0.1**
G19K				IAmb	IAmb	20 20 45.6	
	comp=Z,6.7nm,1.4s						
HDA	**Harding Lake**	**87.38**	**12**	P	**P**	**20 20 29.6**	**+1.2**
HDA				IAmb	IAmb	20 20 41.0	
	comp=Z,11nm,1.5s						
CCB	**Clear Creek Bu**	**87.42**	**12**	P	**P**	**20 20 30.0**	**+1.4**
CCB				IAmb	IAmb	20 20 32.4	
	comp=Z,7.6nm,1.2s						
H21K	**Melozitna Rive**	**87.49**	**9**	P	**P**	**20 20 30.1**	**+1.2**
H21K				IAmb	IAmb	20 20 48.8	
	comp=Z,11nm,1.5s						
PDAR	**Pinedale Array**	**87.53**	**43**	P	**P**	**20 20 32.4**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=219,slow=5.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						
SCRK	**Sand Creek**	**87.61**	**14**	P	**P**	**20 20 32.1**	**+2.3**
MDM	**Murphy Dome**	**87.62**	**11**	P	**P**	**20 20 30.7**	**+1.1**
MDM				IAmb	IAmb	20 20 31.5	
	comp=Z,11nm,1.2s						
IMAR	**Indian Mountai**	**87.65**	**9**	P	**P**	**20 20 31.5**	**+1.8**
ILAR	**Eielson Array**	**87.71**	**12**	P	**P**	**20 20 31.8**	**+1.7**
ILAR	**Eielson Array**	**87.71**	**12**	P	**P**	**20 20 31.3**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=224,slow=4.9,SNR=23						
	comp=Z,1.3nm,0.7s						
J25K	**Salcha River,**	**87.88**	**13**	P	**P**	**20 20 32.9**	**+2.0**
J25K				IAmb	IAmb	20 21 07.0	
	comp=Z,7.4nm,1.5s						
J26L	**Joseph Creek**	**88.16**	**13**	P	P	20 20 36.5	+4.3
J26L				IAmb	IAmb	20 20 36.7	
	comp=Z,7.1nm,0.8s						
E18K	**Tukpahlearik C**	**88.20**	**6**	P	**P**	**20 20 34.3**	**+2.1**
E18K				IAmb	IAmb	20 20 34.6	
	comp=Z,4.5nm,0.9s						
L29M	**L29M**	**88.29**	**16**	P	P	20 20 35.9	+3.1
L29M				IAmb	IAmb	20 20 37.4	
	comp=Z,13nm,1.0s						
F20K	**Avaraart Lake**	**88.39**	**8**	P	**P**	**20 20 34.8**	**+1.7**
E19K	**Redstone River**	**88.59**	**7**	P	**P**	**20 20 35.9**	**+1.7**
E19K				IAmb	IAmb	20 20 37.1	
	comp=Z,4.6nm,0.8s						
DAWY	**Dawson**	**88.76**	**15**	P	**P**	**20 20 37.5**	**+2.4**
DAWY				IAmb	IAmb	20 20 38.4	
	comp=Z,9.8nm,1.0s						
K29M	**Barlow Dome**	**89.05**	**16**	P	P	20 20 39.4	+3.0
K29M				IAmb	IAmb	20 20 40.3	
	comp=Z,7.7nm,0.9s						
D19K	**Kuna River**	**89.49**	**6**	P	**P**	**20 20 39.6**	**+1.2**
D19K				IAmb	IAmb	20 20 40.5	
	comp=Z,3.8nm,0.8s						
I28M	**Miner Creek**	**89.78**	**14**	P	**P**	**20 20 42.1**	**+2.3**
I28M				IAmb	IAmb	20 20 42.5	
	comp=Z,2.9nm,0.8s						
E21K	**Killik River**	**89.93**	**8**	P	**P**	**20 20 41.8**	**+1.4**
E22K	**Anaktuvuk Pass**	**89.94**	**9**	P	**P**	**20 20 42.5**	**+2.1**
E22K				IAmb	IAmb	20 20 43.5	
	comp=Z,8.2nm,1.1s						
I29M	**Ogilvie Camp,**	**90.09**	**15**	P	**P**	**20 20 43.0**	**+1.8**
I29M				IAmb	IAmb	20 20 43.3	
	comp=Z,4.8nm,1.1s						
I30M	**Mount Dempster**	**90.46**	**16**	P	**P**	**20 20 44.8**	**+1.8**
I30M				IAmb	IAmb	20 20 46.2	
	comp=Z,4.8nm,0.9s						
D22K	**Ayikyak River**	**90.51**	**8**		**P**	**20 20 45.6**	**+2.5**
D22K				IAmb	IAmb	20 20 45.9	
	comp=Z,17nm,1.4s						
H29M	**Whitestone**	**90.78**	**14**	P	**P**	**20 20 46.7**	**+2.3**
H29M				IAmb	IAmb	20 20 47.7	
	comp=Z,7.0nm,0.8s						
B21K	**Ikpikpuk River**	**90.96**	**7**	P	**P**	**20 20 46.6**	**+1.6**
B20K	**Meade River**	**91.04**	**6**	P	**P**	**20 20 48.0**	**+2.6**
EPYK	**Eagle Plains**	**91.30**	**15**	P	**P**	**20 20 49.1**	**+2.4**
EPYK				IAmb	IAmb	20 20 49.5	
	comp=Z,4.9nm,0.9s						
G29M	**Pine Creek**	**91.43**	**14**	P	P	20 20 50.1	+2.8
G29M				IAmb	IAmb	20 20 50.6	
	comp=Z,3.1nm,0.8s						
F28M	**Old Crow**	**91.61**	**13**	P	**P**	**20 20 50.4**	**+2.2**
F28M				IAmb	IAmb	20 20 51.0	
	comp=Z,4.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.82**	**289**	P	**P**	**20 20 51.6**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=127,slow=2.6,SNR=7.7						
	comp=Z,2.3nm,0.9s						
G30M	**tAoh Zraii Nji**	**91.91**	**15**	P	**P**	**20 20 51.8**	**+2.2**
G31M	**Satah River**	**92.33**	**15**	P	**P**	**20 20 53.4**	**+1.9**
E28M	**Babbage River**	**92.51**	**13**	P	**P**	**20 20 54.1**	**+1.9**
E28M				IAmb	IAmb	20 20 55.6	
	comp=Z,6.0nm,1.0s						
E29M	**Blow River**	**92.67**	**13**	P	**P**	**20 20 54.4**	**+1.4**
F31M	**Tsiigehtchic**	**92.87**	**15**	P	**P**	**20 20 56.0**	**+2.1**
INK	**Inuvik**	**93.59**	**15**	P	**P**	**20 20 59.0**	**+1.7**
INK				IAmb	IAmb	20 20 59.9	
	comp=Z,8.2nm,1.1s						
YKA	**Yellowknife Ar**	**95.55**	**24**	P	**P**	**20 21 08.6**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=241,slow=4.5,SNR=12						
	comp=Z,0.7nm,0.8s						
SONM	**Songino Array**	**96.84**	**318**	P	**P**	**20 21 13.6**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=96,slow=4.3,SNR=1.6						
	comp=Z,0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**111.51**	**321**	PKiKP	**PKiKP**	**20 26 15.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=119,slow=1.9,SNR=6.1						
MKAR	**Makanchi Array**	**112.42**	**313**	PKiKP	**PKiKP**	**20 26 16.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=141,slow=0.6,SNR=16						
KURBB	**Kurchatov Arra**	**115.17**	**317**	PKP	**PKiKP**	**20 26 21.9**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=95,slow=1.7,SNR=12						
BVAR	**Borovoye Array**	**120.13**	**320**	PKP	**PKiKP**	**20 26 32.0**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=109,slow=2.9,SNR=15						
ARCES	**ARCESS Array B**	**129.05**	**350**	PKP	**PKiKP**	**20 26 49.6**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=0.0,slow=1.8,SNR=9.5						
GEYT	**Alibeck**	**130.25**	**303**	PKP	**PKiKP**	**20 26 52.7**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=151,slow=3.4,SNR=4.1						
FINES	**FINESS Array B**	**136.09**	**345**	PKP	**PKPdf**	**20 26 59.4**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=73,slow=4.8,SNR=4.5						
HFS	**Hagfors**	**139.61**	**353**	PKhKP	PKPpre	20 27 02.7	
	comp=Z,4.0nm,1.0s,baz=48,slow=4.3,SNR=6.8						
AKASG	**Malin Array Be**	**143.72**	**333**	PKP	**PKPdf**	**20 27 13.7**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=38,slow=4.0,SNR=13						
EKA	**Eskdalemuir Ar**	**144.60**	**7**	PKP	**PKiKP**	**20 27 17.3**	**-3.0**
	comp=Z,7.8nm,0.8s,baz=336,slow=3.0,SNR=12						
LODK	**Lodwar**	**145.15**	**245**	PKPdf	**PKiKP**	**20 27 20.3**	**-2.5**
SORM	**Soroca**	**145.98**	**330**	⇑P	**PKiKP**	**20 27 21.1**	**-2.2**
PURM	**Purcari**	**146.37**	**327**	⇓P	**PKiKP**	**20 27 23.0**	**-1.1**
MILM	**Milestii Mici**	**146.63**	**328**	⇑P	**PKiKP**	**20 27 23.2**	**-1.5**
BNN	**Bunyan**	**146.94**	**311**	PKPbc	**PKiKP**	**20 27 24.9**	**-1.0**
RUE	**Ruedersdorf**	**146.99**	**349**	*e*PKPbc	**PKiKP**	**20 27 24.9**	**-0.4**
	baz=14,slow=2.5						
KWP	**Kalwaria Pacla**	**147.15**	**337**	PKPbc	**PKiKP**	**20 27 25.5**	**-0.2**
VASR	**Vaslui**	**147.32**	**329**	⇑P	**PKiKP**	**20 27 26.1**	**-0.1**
FLTG	**Flechtingen**	**147.53**	**352**	*e*PKPbc	**PKPab**	**20 27 26.3**	**-1.0**
	baz=14,slow=2.5						
OJC	**Ojcow**	**147.62**	**341**	PKPbc	**PKPab**	**20 27 26.3**	**-1.4**
VLDR	**Vladesti**	**147.74**	**328**	⇑P	**PKPab**	**20 27 27.2**	**-1.1**
BURAR	**Bucovina Array**	**147.78**	**333**	⇓P	**PKPab**	**20 27 27.8**	**-0.8**
TLCR		**147.82**	**326**	⇑P	**PKPab**	**20 27 26.4**	**-2.3**
SCTR	**Scanteiesti**	**147.90**	**328**	⇑P	**PKPab**	**20 27 27.4**	**-1.6**
GHRR		**147.92**	**329**	⇑P	**PKPab**	**20 27 28.4**	**-0.6**
TESR	**Tescani**	**147.96**	**330**	⇓P	**PKPab**	**20 27 27.7**	**-1.5**
NEGRR	**Negrea**	**148.06**	**327**	⇓P	**PKPab**	**20 27 28.1**	**-1.5**
BRTR	**Keskin Array B**	**148.07**	**314**	PKPbc	**PKPab**	**20 27 27.6**	**-2.6**
	comp=Z,3.6nm,0.8s,baz=134,slow=4.7,SNR=16						
CLZ	**Clausthal**	**148.12**	**353**	*e*PKPbc	**PKPab**	**20 27 28.7**	**-1.0**
	baz=14,slow=2.5						
CFR	**Carcaliu**	**148.17**	**327**	⇑P	**PKPab**	**20 27 28.2**	**-1.8**
PANC	**Panciu**	**148.18**	**329**	⇓P	**PKPab**	**20 27 28.3**	**-1.8**
TPGR	**Topolog**	**148.25**	**326**	⇑P	**PKPab**	**20 27 28.8**	**-1.7**
CLL	**Collm**	**148.25**	**349**	*i* PKPbc	**PKPab**	**20 27 28.1**	**-2.1**
	comp=Z,12nm,1.0s						
CLL				*i* PKPab	**PKiKP**	**20 27 31.6**	**+3.7**
	comp=Z,16nm,1.0s						
CLL				AMS	AMS	22 21 00.0	
	comp=Z,100nm,20.9s						
CLL	**Collm**	**148.25**	**349**	*e*PKPbc	**PKPab**	**20 27 28.6**	**-1.6**
	baz=14,slow=2.5						
OSTC	**Ostas**	**148.29**	**345**	*e*PKP	**PKPab**	**20 27 29.0**	**-1.4**
CHVC	**Chvalec**	**148.30**	**345**	*e*PKP	**PKPab**	**20 27 28.2**	**-2.3**

ODBI	**Odobesti**	**148.31**	**329**	⇑P	**PKPab**	**20 27 29.6**	**-1.0**
UPC	**Upice**	**148.39**	**345**	*e*PKP	**PKPab**	**20 27 28.9**	**-1.9**
UPC				*e*x	**PKPab**	**20 27 31.8**	**+1.0**
VRI	**Vrincioaia**	**148.39**	**329**	⇑P	**PKPab**	**20 27 28.7**	**-2.3**
PLOR	**Plostina**	**148.44**	**329**	⇑P	**PKPab**	**20 27 28.1**	**-3.1**
BMR	**Baia Mare**	**148.45**	**334**	⇑P	**PKPab**	**20 27 28.8**	**-2.4**
DPC	**Dobruska-Polom**	**148.46**	**345**	*e*PKP	**PKPab**	**20 27 29.4**	**-1.7**
DPC				*e*x	**PKPab**	**20 27 32.8**	**+1.7**
GTTG	**Gottingen**	**148.46**	**353**	*e*PKPbc	**PKPab**	**20 27 29.3**	**-1.7**
	baz=14,slow=2.5						
BRG	**Berggiesshubel**	**148.49**	**348**	*e*P	**PKPab**	**20 27 29.4**	**-1.7**
BRG				Amp		20 27 30.3	
	comp=Z,12nm,1.0s						
BRG	**Berggiesshubel**	**148.49**	**348**	P	**PKPab**	**20 27 32.9**	**+1.8**
BRG				Amp		20 27 34.0	
	comp=Z,6.2nm,0.8s						
BRG	**Berggiesshubel**	**148.49**	**348**	*e*PKPbc	**PKPab**	**20 27 29.3**	**-1.9**
	baz=14,slow=2.5						
FBE	**Freiberg**	**148.56**	**349**	*e*PKPbc	**PKPab**	**20 27 29.9**	**-1.5**
	baz=14,slow=2.5						
TURR	**Turia**	**148.59**	**330**	⇑P	**PKPab**	**20 27 30.0**	**-1.9**
KRLC	**Kraliky**	**148.60**	**344**	*e*PKP	**PKPab**	**20 27 29.6**	**-2.1**
KRLC				*e*x	**PKPab**	**20 27 33.3**	**+1.6**
COVR	**Voineasa-Covas**	**148.66**	**329**	⇓P	**PKPab**	**20 27 29.1**	**-3.0**
MORC	**Moravsky Berou**	**148.67**	**343**	⇓P	**PKPab**	**20 27 30.0**	**-2.0**
MORC	**Moravsky Berou**	**148.67**	**343**	*e*PKP	**PKPab**	**20 27 30.0**	**-2.0**
MORC				*e*		20 27 34.2	
OZUR		**148.67**	**330**	⇑P	**PKPab**	**20 27 29.6**	**-2.5**
PVCC	**Panska Ves**	**148.69**	**347**	*e*PKP	**PKPab**	**20 27 30.1**	**-1.9**
RICC	**Richard**	**148.78**	**348**	*e*PKP	**PKPab**	**20 27 30.2**	**-2.1**
RICC				*e*x	**PKPab**	**20 27 34.6**	**+2.3**
HSKC	**Hora Svate Kat**	**148.84**	**348**	*e*PKP	**PKiKP**	**20 27 28.7**	**-0.5**
MANR	**Mangalia**	**148.85**	**324**	⇑P	**PKPab**	**20 27 30.3**	**-2.6**
NEHR	**Nehoiu**	**148.92**	**329**	⇑P	**PKPab**	**20 27 30.0**	**-3.2**
DOPR	**Dopca**	**148.95**	**330**	⇑P	**PKPab**	**20 27 30.8**	**-2.5**
MAUC	**Maruska**	**148.96**	**342**	*e*PKP	**PKPab**	**20 27 30.7**	**-2.5**
MAUC				*e*x	**PKPab**	**20 27 34.7**	**+1.5**
ISR	**Istrita**	**149.02**	**328**	⇑P	**PKPab**	**20 27 30.5**	**-3.2**
MLR	**Muntele Rosu**	**149.04**	**329**	⇑P	**PKPab**	**20 27 30.5**	**-3.3**
MOX	**Moxa**	**149.12**	**351**	*e*PKPbc	**PKPab**	**20 27 31.0**	**-2.7**
	baz=14,slow=2.5						
MOX				*e*L	L	21 36 59.9	
	comp=Z,74nm,20.3s						
PRA	**Prague**	**149.15**	**347**	*e*PKP	**PKPab**	**20 27 31.5**	**-2.4**
CJR	**Cluj-Napoca**	**149.17**	**333**	⇑P	**PKPab**	**20 27 31.0**	**-3.2**
WERD	**Werda**	**149.20**	**350**	*e*PKPbc	**PKPab**	**20 27 31.5**	**-2.6**
	baz=14,slow=2.5						
TANN	**Tannenbergstha**	**149.21**	**349**	*e*PKPbc	**PKPab**	**20 27 31.3**	**-2.9**
	baz=14,slow=2.5						
PRU	**Pruhonice**	**149.21**	**347**	*e*PKP	**PKPab**	**20 27 30.8**	**-3.3**
PRU				*e*x	**PKPab**	**20 27 36.0**	**+1.9**
GUNZ	**Gunzen**	**149.28**	**350**	*e*PKPbc	**PKPab**	**20 27 31.5**	**-3.0**
	baz=14,slow=2.5						
MMAI	**Mount Meron Ar**	**149.34**	**301**	PKPbc	**PKPab**	**20 27 31.6**	**-3.8**
	comp=Z,2.7nm,0.6s,baz=91,slow=3.7,SNR=2.6						
WERN	**Wernitzgruen**	**149.34**	**349**	*e*PKPbc	**PKPab**	**20 27 31.8**	**-2.9**
	baz=14,slow=2.5						
VRAC	**Vranov**	**149.35**	**344**	⇓P	**PKiKP**	**20 27 30.2**	**-0.1**
VRAC	**Vranov**	**149.35**	**344**	*e*PKP	**PKPab**	**20 27 31.7**	**-3.1**
VRAC				*e*		20 27 36.9	
NKC	**Novy Kostel**	**149.38**	**349**	*e*PKP	**PKPab**	**20 27 31.3**	**-3.6**
MARR	**Marisel-Cluj**	**149.40**	**334**	⇓P	**PKPab**	**20 27 31.3**	**-3.9**
JAVC	**Velka Javorina**	**149.46**	**342**	*e*PKP	**PKPab**	**20 27 33.1**	**-2.2**
JAVC				*e*		20 27 38.4	
VOIR		**149.50**	**330**	⇑P	**PKPab**	**20 27 31.7**	**-3.9**
PSZ	**Piszkesteto**	**149.59**	**339**	⇓P	**PKPab**	**20 27 32.0**	**-3.9**
KRUC	**Moravsky**	**149.63**	**344**	*e*PKP	**PKPab**	**20 27 32.3**	**-3.6**
KRUC				*e*		20 27 37.9	
TREC	**Trest**	**149.64**	**345**	*e*PKP	**PKPab**	**20 27 31.9**	**-4.1**
TREC				*e*x	**PKPab**	**20 27 36.2**	**+0.2**
MANZ	**Manzenberg**	**149.68**	**350**	*e*PKPbc	**PKPab**	**20 27 32.7**	**-3.4**
	baz=14,slow=2.5						
ZVC	**Zvikov**	**149.80**	**347**	*e*PKP	**PKPab**	**20 27 32.7**	**-3.9**
ZVC				*e*x	**PKPab**	**20 27 38.5**	**+1.9**
ROTZ	**Rotzenmuhle**	**149.87**	**349**	*e*PKPbc	**PKPab**	**20 27 33.0**	**-3.9**
	baz=14,slow=2.5						
TNS	**Taunus Mts**	**149.93**	**354**	*e*PKPbc	**PKPab**	**20 27 33.0**	**-4.1**
	baz=14,slow=2.5						
GRF	**Grafenberg Arr**	**150.11**	**351**	*e*L	L	21 42 46.7	
	comp=Z,109nm,18.0s						
KHC	**Kasperske Hory**	**150.22**	**347**	*e*PKP	**PKPab**	**20 27 33.7**	**-4.7**
KHC				*e*x	**PKPab**	**20 27 40.6**	**+2.2**
SIRR	**Siria**	**150.32**	**335**	⇑P	**PKPab**	**20 27 34.1**	**-4.8**
CKRC	**Cesky Krumlov**	**150.36**	**346**	*e*PKP	**PKiKP**	**20 27 33.8**	**+1.4**
CKRC				*e*x	**PKPab**	**20 27 41.5**	**+2.5**
GEC2	**GERESS Array S**	**150.47**	**347**	*e*PKPbc	**PKiKP**	**20 27 34.5**	**+1.8**
	baz=14,slow=2.5						
GERES	**GERESS Array B**	**150.47**	**347**	PKPbc	**PKiKP**	**20 27 34.3**	**+1.5**
	comp=Z,7.1nm,0.9s,baz=29,slow=3.0,SNR=14						
SURR	**Surduc**	**150.55**	**334**	⇓P	**PKiKP**	**20 27 33.9**	**+1.1**
WLF	**Walferdange**	**150.65**	**357**	*e*PKPbc	**PKPab**	**20 27 35.5**	**-4.6**
	baz=14,slow=2.5						
CONA	**Conrad Observa**	**150.81**	**344**	*e*PKP	**PKiKP**	**20 27 35.3**	**+1.8**
	comp=Z,4.0nm,0.7s						
CONA				*e*PKP	**PKPab**	**20 27 43.2**	**+2.3**
	comp=Z,5.1nm,0.7s						
BZS	**Buzias**	**150.87**	**334**	⇓P	**PKiKP**	**20 27 34.9**	**+1.3**
RONA	**Rosalia, Austr**	**150.90**	**343**	*e*PKP	**PKiKP**	**20 27 35.3**	**+1.7**
	comp=Z,5.9nm,0.6s						
RONA				*e*PKP	**PKPab**	**20 27 43.9**	**+2.7**
	comp=Z,6.2nm,0.7s						
ELND	**Elena**	**150.91**	**326**	⇑P	**PKiKP**	**20 27 34.7**	**+1.0**
HERR	**Herculane**	**151.12**	**332**	⇓P	**PKiKP**	**20 27 34.9**	**+0.8**
PLVB	**Pleven**	**151.22**	**328**	⇓P	**PKiKP**	**20 27 35.2**	**+0.9**
MOA	**Molln**	**151.28**	**346**	*e*PKP	**PKiKP**	**20 27 35.8**	**+1.5**
	comp=Z,2.1nm,0.7s						
MORH	**Mrgy, Hungar**	**151.49**	**338**	⇓P	**PKiKP**	**20 27 36.2**	**+1.4**
MDVR	**Moldovita**	**151.51**	**333**	⇑P	**PKiKP**	**20 27 35.5**	**+0.6**
BIOA	**Bad Ischl, Aus**	**151.57**	**346**	*e*PKP	**PKPab**	**20 27 46.3**	**+2.3**
	comp=Z,4.7nm,0.6s						
RJOB	**Jochberg**	**151.71**	**347**	*e*PKPbc	**PKiKP**	**20 27 36.8**	**+1.5**
	baz=14,slow=2.5						
BFO	**Black Forest**	**151.81**	**354**	*e*PKPbc	**PKiKP**	**20 27 37.4**	**+2.0**
	baz=14,slow=2.5						
FRGS	**Fruska Gora**	**151.97**	**336**	⇑P	**PKiKP**	**20 27 37.3**	**+1.4**
BLKB	**Belogradchik**	**151.99**	**330**	⇓P	**PKiKP**	**20 27 37.2**	**+1.3**
LESA	**Schwarzleotal**	**152.03**	**347**	*e*PKP	**PKiKP**	**20 27 37.6**	**+1.6**
	comp=Z,1.4nm,0.4s						
SOKA	**Soboth**	**152.18**	**344**	*e*PKP	**PKiKP**	**20 27 37.4**	**+1.1**
	comp=Z,3.4nm,0.8s						
SOKA				*e*PKP	**PKPab**	**20 27 48.2**	**+1.5**
	comp=Z,1.0nm,0.6s						
KBA	**Koelnbreinsper**	**152.22**	**346**	*e*PKP	**PKPbc**	**20 27 31.4**	**-4.8**
	comp=Z,2.2nm,0.9s						
KBA				*e*PKP	**PKiKP**	**20 27 37.9**	**+1.4**
	comp=Z,1.2nm,0.4s						
KBA				*e*PKP	**PKPab**	**20 27 49.4**	**+2.4**
	comp=Z,4.6nm,0.7s						
UBR	**Ueberruh**	**152.24**	**351**	*e*PKPbc	**PKiKP**	**20 27 38.2**	**+1.9**
	baz=14,slow=2.5						
WATA	**Walderalm**	**152.33**	**349**	*e*PKP	**PKiKP**	**20 27 38.2**	**+1.5**
	comp=Z,1.0nm,0.4s						
WTTA	**Wattenberg**	**152.39**	**349**	*e*PKP	**PKPbc**	**20 27 31.7**	**-4.9**
	comp=Z,1.8nm,0.6s						
WTTA				*e*PKP	**PKiKP**	**20 27 38.4**	**+1.6**
	comp=Z,1.9nm,0.3s						
MOTA	**Moosalm**	**152.41**	**350**	*e*PKP	**PKiKP**	**20 27 38.5**	**+1.6**
	comp=Z,0.9nm,0.4s						
BOVS	**Bovan**	**152.42**	**332**	⇓P	**PKiKP**	**20 27 37.4**	**+0.6**
OBKA	**Obir**	**152.46**	**344**	*e*PKP	**PKPab**	**20 27 49.5**	**+1.5**
	comp=Z,3.4nm,0.7s						
DAVA	**Damuels**	**152.65**	**351**	*e*PKP	**PKiKP**	**20 27 39.3**	**+1.9**
	comp=Z,1.7nm,0.5s						
ABTA	**Abfaltersbach**	**152.71**	**347**	*e*PKP	**PKPdf**	**20 27 31.8**	**+1.9**
	comp=Z,1.4nm,0.6s						
ABTA				*e*PKP	**PKiKP**	**20 27 38.6**	**+1.2**
	comp=Z,2.7nm,0.6s						
FETA	**Feichten**	**152.78**	**350**	*e*PKP	**PKiKP**	**20 27 39.6**	**+1.9**
	comp=Z,3.2nm,0.8s						
ESDC	**Sonseca Array**	**159.51**	**18**	PKPab	**PKPab**	**20 28 19.4**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=310,slow=3.9,SNR=7.9						
TORD	**Torodi Ar. Bea**	**172.56**	**162**	PKP	**PKPdf**	**20 27 51.7**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=246,slow=2.1,SNR=4.0						
TORD				PKPab	**sPKPdf**	**20 29 18.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=177,slow=2.5,SNR=2.4						

NIED ***01*** *20:10:27.9, 22.̊84N×121.̊29E, h12km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.16; $M_{\theta\theta}$7.12; $M_{\phi\phi}$-6.96; $M_{r\theta}$0.24; $M_{\theta\phi}$0.94; $M_{\phi r}$1.50; Fault plane solution: $M_0$7.27000×10^{14} NP1: ϕ_s222.00000°, δ84.00000°, λ-170.00000°. NP2: ϕ_s131.00000°, δ80.00000°, λ-6.00000°.*

JMA ***01*** *20:10:27.9±0.2,22.8°N±0.6°×121.3°E±0.7,h12km,MV3.6/13, TAIWAN REGION*
TAP ***01*** *20:10:28.4,22.85°N×121.25E,h8km,ML3.8,C*
ASIES ***01*** *20:10:28.4,22.85°N×121.25E,h8km,ML3.8,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=1.29; $M_{\theta\theta}$=2.45; $M_{\phi\phi}$=-1.15; $M_{r\theta}$=1.12; $M_{r\phi}$=-1.52; $M_{\theta\phi}$=1.56; Fault plane solution: $M_0$3.24204×10^{21} NP1: ϕ_s252.80000°,δ67.99000°,λ-141.86000°. NP2: ϕ_s146.40000°,δ55.07000°,λ-27.20000°. Principal axes: T Plg8.0410°, Azm16.9680°; N Plg46.8190°, Azm278.3100°; P Plg42.0560°, Azm114.2910°;*
IDC ***01*** *20:10:31.8±4.5,23.35N×121.09E,h0km,mb3.2/4, mbtmp3.3/5,ML2.5/1,MS3.0/5 Error ellipse: s-maj=91.8km s-min=35.8km az=155.0*
ISC 01 20:10:28.3±0.8,22.82N±0.02×121.33E±0.02,h11km±5km, n147,σ1$00/211,mb3.2/4,16C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EDH	**Donghe** baz=25	**0.16**	**351**	⇑	*i*P	**Pg**	**20 10 31.8**	**-0.1**
EDH	baz=25				*i* S	**Sg**	**20 10 34.6**	**+0.3**
TTN	**Taitung** baz=220	**0.18**	**250**	⇑	*i*P	**Pb**	**20 10 32.6**	**-1.0**
TTN	baz=220				S	**Sg**	**20 10 36.3**	**+1.4**
LDUT	**Ludao** baz=131	**0.19**	**138**	⇓	*i*P	**Pb**	**20 10 34.6**	**+0.8**
LDUT	baz=131				*i* S	**Sg**	**20 10 39.5**	**+4.4**
LONT	**Longtian** baz=298	**0.21**	**296**	⇓	*i*P	**Pg**	**20 10 31.4**	**-1.3**
LONT	baz=298				*i* S	**Sg**	**20 10 34.0**	**-1.6**
TWGBT	**Beinan**	**0.23**	**270**		P	**Pg**	**20 10 32.2**	**-0.9**
TWGBT	**Beinan** baz=265	**0.23**	**270**	⇓	*i*P	**Pg**	**20 10 32.3**	**-0.8**
TWGBT	baz=265				*i* S	**Sg**	**20 10 35.0**	**-1.3**
TWG	**Pinlang** baz=265	**0.24**	**271**	⇓	*i*P	**Pg**	**20 10 32.3**	**-1.0**
TWG	baz=265				*i* S	**Sg**	**20 10 35.5**	**-1.0**
CHKT	**Chengkung** baz=30	**0.28**	**6**	⇑	*i*P	**Pg**	**20 10 34.5**	**+0.4**
CHKT	baz=30				*e*S	**Sb**	**20 10 39.3**	**-1.0**
ECS	**Chishang** baz=2.0	**0.30**	**340**	⇑	*i*P	**Pg**	**20 10 34.4**	**+0.1**
ECS	baz=2.0				*i* S	**Sb**	**20 10 40.1**	**-0.6**
EHD	**Haiduan** baz=357	**0.35**	**341**	⇑	P	**Pg**	**20 10 34.9**	**-0.4**
EHD	baz=357				S	**Sg**	**20 10 40.9**	**+0.9**
CHKH	**Chenggong** baz=26	**0.38**	**9**	⇑	P	**Pg**	**20 10 36.1**	**+0.3**
CHKH	baz=26				S	**Sg**	**20 10 42.1**	**+1.2**
FULB	**Fuli** baz=26	**0.38**	**355**	⇑	P	**Pg**	**20 10 35.7**	**-0.2**
FULB	baz=26				*e*S	**Sg**	**20 10 42.2**	**+1.2**
ECL	**Taimali** baz=234	**0.41**	**238**	⇑	*i*P	**Pg**	**20 10 36.3**	**-0.1**
ECL	baz=234				*e*S	**Sb**	**20 10 42.5**	**-1.4**
ELDTW	**Lidau** baz=332	**0.47**	**322**	⇑	*i*P	**Pg**	**20 10 36.7**	**-0.9**
ELDTW	baz=332				*i* S	**Sg**	**20 10 43.1**	**-0.7**
ECBN	**Changbin** baz=28	**0.51**	**13**		*e*P	**Pg**	**20 10 38.4**	**+0.1**
ECBN	baz=28				*e*S	**Sb**	**20 10 46.4**	**-0.4**
EYUL	**Yuli** baz=357	**0.53**	**359**		*e*P	**Pg**	**20 10 39.0**	**+0.3**
EYUL	baz=357				*e*S	**Sb**	**20 10 46.8**	**-0.5**
TWF1	**Yuli** baz=355	**0.53**	**357**	⇑	*i*P	**Pg**	**20 10 38.4**	**-0.4**
TWF1	baz=355				*e*S	**Sg**	**20 10 46.1**	**+0.3**
YULB	**Yu-li**	**0.57**	**357**		P	**Pg**	**20 10 38.8**	**-0.7**
YULB	**Yu-li** baz=12	**0.57**	**357**	⇑	*i*P	**Pg**	**20 10 38.8**	**-0.7**
YULB	baz=12				S	**Sg**	**20 10 47.2**	**+0.1**
TAW	**Tawu** baz=222	**0.61**	**221**		*e*P	**Pb**	**20 10 40.1**	**-0.9**
EAST	**Anshuo** baz=227	**0.62**	**226**	⇑	*i*P	**Pb**	**20 10 40.3**	**-1.0**
EAST	baz=227				*e*S	**Sb**	**20 10 50.4**	**+0.4**
STYH	**Taoyuan** baz=309	**0.62**	**305**	⇓	*i*P	**Pg**	**20 10 39.7**	**-0.6**
STYH	baz=309				*e*S	**Sg**	**20 10 47.7**	**-0.9**
TAWH	**Dawu Township** baz=222	**0.63**	**221**	⇑	*e*P	**Pb**	**20 10 40.6**	**-0.7**
TAWH	baz=222				*e*S	**Sb**	**20 10 50.3**	**+0.2**
TSMG	**Majia** baz=246	**0.64**	**260**	⇑	*e*P	**Pg**	**20 10 40.2**	**-0.6**
TSMG	baz=246				S	**Sg**	**20 10 48.2**	**-1.0**
SLGT	**Liugui** baz=284	**0.66**	**286**		*e*P	**Pg**	**20 10 40.4**	**-0.7**
SLGT	baz=284				*e*S	**Sg**	**20 10 48.8**	**-0.9**
MASBT	**Mashibuluo** baz=238	**0.68**	**253**	⇑	*i*P	**Pg**	**20 10 40.8**	**-0.6**
MASBT	baz=238				S	**Sg**	**20 10 49.2**	**-1.1**
HGSD	**Ruisui** baz=29	**0.68**	**7**		*e*P	**Pg**	**20 10 41.6**	**+0.2**
HGSD	baz=29				*e*S	**Sb**	**20 10 51.6**	**0.0**
EHY	**Hungye** baz=357	**0.69**	**359**		*e*P	**Pg**	**20 10 40.8**	**-0.8**
EHY	baz=357				*e*S	**Sg**	**20 10 51.2**	**+0.6**
SGST	**Jiashian** baz=291	**0.74**	**291**	⇓	*i*P	**Pg**	**20 10 41.3**	**-1.3**
SGST	baz=291				*e*S	**Sg**	**20 10 51.7**	**-0.6**
SCST	**Cishan** baz=265	**0.78**	**275**		*e*P	**Pb**	**20 10 43.3**	**-0.5**
SCST	baz=265				*e*S	**Sg**	**20 10 53.4**	**0.0**
SGLT	**Jiouru** baz=259	**0.78**	**263**		*e*P	**Pb**	**20 10 43.7**	**-0.2**
SGLT	baz=259				*e*S	**Sn**	**20 10 55.8**	**-1.2**
WTP	**Ta-pu** baz=305	**0.79**	**303**	⇓	*i*P	**Pg**	**20 10 43.2**	**-0.4**
WTP	baz=305				*e*S	**Sg**	**20 10 54.0**	**+0.2**
SCZT	**Fangliau** baz=216	**0.79**	**236**		*e*P	**Pb**	**20 10 43.2**	**-1.0**
SCZT	baz=216				*e*S	**Sb**	**20 10 54.1**	**-0.7**
LAY	**Lan-yu** baz=145	**0.80**	**165**		*e*P	**Pb**	**20 10 43.9**	**-0.4**
TPUB	**Ta-pu**	**0.81**	**307**		P	**Pg**	**20 10 43.5**	**-0.4**
TPUB	**Ta-pu** baz=310	**0.81**	**307**	⇓	P	**Pg**	**20 10 43.4**	**-0.4**
TPUB	baz=310				*e*S	**Sb**	**20 10 54.9**	**-0.5**
CHN1	**Nanshi** baz=297	**0.83**	**297**	⇓	*i*P	**Pg**	**20 10 44.0**	**-0.2**
CHN1	baz=297				*e*S	**Sb**	**20 10 56.2**	**+0.3**
TWM1	**Shoushan** baz=260	**0.84**	**271**	⇓	P	**Pn**	**20 10 45.0**	**-1.1**
TWM1	baz=260				*e*S	**Sb**	**20 10 56.6**	**+0.3**
ALS	**Alishan** baz=332	**0.84**	**325**	⇑	*i*P	**Pg**	**20 10 44.0**	**-0.6**
ALS	baz=332				*e*S	**Sg**	**20 10 54.8**	**-0.9**
LYUB	**Lan-yu** baz=145	**0.84**	**164**		*e*P	**Pg**	**20 10 43.2**	**-1.4**
EGFH	**Guangfu** baz=3.0	**0.85**	**6**		*e*P	**Pb**	**20 10 45.3**	**+0.1**
SNST	**Tainan City** baz=299	**0.87**	**298**		*e*P	**Pb**	**20 10 45.3**	**-0.1**
SNST	baz=299				*e*S	**Sb**	**20 10 56.7**	**-0.3**
TWK	**Hsinying** baz=302	**0.90**	**300**		*e*P	**Pb**	**20 10 45.5**	**-0.5**
TWK	baz=302				*e*S	**Sb**	**20 10 57.7**	**-0.3**
WARBT	**Fenglin Townsh** baz=15	**0.90**	**3**		*e*P	**Pg**	**20 10 43.6**	**-2.1**
WCKO	**Fanlu** baz=327	**0.91**	**313**		*e*P	**Pg**	**20 10 45.8**	**-0.1**
WCKO	baz=327				*e*S	**Sb**	**20 10 58.5**	**+0.1**
SNJT	**Kaohsiung City** baz=259	**0.92**	**266**		*e*P	**Pn**	**20 10 48.2**	**+1.0**
CHN3	**Shinhua** baz=284	**0.93**	**286**		*e*P	**Pn**	**20 10 47.1**	**-0.2**
SHHT	**Tainan City** baz=280	**0.93**	**283**		*e*P	**Pn**	**20 10 47.5**	**+0.2**
SHHT	baz=280				*e*S	**Sn**	**20 11 00.8**	**+0.1**
VWDT	**VWDT** baz=9.0	**0.95**	**349**		P	**Pg**	**20 10 45.7**	**-0.9**
HEN	**Hengchun** baz=203	**0.98**	**214**		*e*P	**Pn**	**20 10 47.0**	**-1.0**
WHYT	**Xinyi Township** baz=340	**0.98**	**333**		*e*P	**Pg**	**20 10 46.7**	**-0.5**
WHYT	baz=340				S	**Sg**	**20 10 59.0**	**-1.0**
CHN5	**Tsauling** baz=328	**0.98**	**322**		*e*P	**Pg**	**20 10 46.8**	**-0.5**
CHN5	baz=328				*e*S	**Sb**	**20 11 01.0**	**+0.5**
SHUL	**Shoufeng** baz=7.0	**0.99**	**12**		*e*P	**Pg**	**20 10 46.9**	**-0.5**
SHUL	baz=7.0				*e*S	**Sn**	**20 11 02.5**	**+0.3**
TWKBT	**Hengchun** baz=184	**0.99**	**209**		*e*P	**Pg**	**20 10 46.4**	**-1.1**
TWKBT	baz=184				*e*S	**Sn**	**20 11 00.9**	**-1.4**
TWK1	**Hengchun** baz=181	**1.00**	**209**		*e*P	**Pn**	**20 10 47.7**	**-0.5**
ESL	**Shilin** baz=17	**1.00**	**5**		*e*P	**Pg**	**20 10 46.4**	**-1.1**
WSSB	**Gushan** baz=252	**1.00**	**260**		*e*P	**Pn**	**20 10 49.6**	**+1.2**
WSSB	baz=252				*e*S	**Sn**	**20 11 06.0**	**+3.5**
SSHA	**Shanhua** baz=287	**1.01**	**289**		*e*P	**Pn**	**20 10 49.1**	**+0.6**
SSHA	baz=287				*e*S	**Sn**	**20 11 04.2**	**+1.5**
SSLB	**Suanglung**	**1.03**	**340**		P	**Pg**	**20 10 46.9**	**-1.2**
SSLB	**Suanglung** baz=2.0	**1.03**	**340**		*e*P	**Pg**	**20 10 47.0**	**-1.1**
TAI1	**Yung-k'ang** baz=279	**1.04**	**283**		*e*P	**Pn**	**20 10 50.6**	**+1.8**
CHY	**Chiayi** baz=314	**1.08**	**309**		*e*P	**Pn**	**20 10 49.0**	**-0.4**
CHY	baz=314				S	**Sn**	**20 11 04.7**	**+0.4**
SCLT	**Jiali** baz=288	**1.11**	**289**		*e*P	**Pn**	**20 10 50.1**	**+0.3**
SCLT	baz=288				*e*S	**Sn**	**20 11 06.2**	**+1.1**
ICHU	**Yijhu** baz=301	**1.11**	**299**		*e*P	**Pb**	**20 10 49.1**	**-0.4**
ICHU	baz=301				*e*S	**Sn**	**20 11 06.0**	**+0.9**
WGK	**Gukeng** baz=328	**1.12**	**321**		*e*P	**Pn**	**20 10 49.9**	**-0.1**
WGK	baz=328				S	**Sn**	**20 11 06.1**	**+0.7**
SMLT	**Sun Moon Lake** baz=1.0	**1.13**	**340**		*e*P	**Pb**	**20 10 49.0**	**-1.1**
SMLT	baz=1.0				*e*S	**Sn**	**20 11 06.0**	**+0.1**
WDLH	**Douliu** baz=326	**1.13**	**320**		*e*P	**Pn**	**20 10 50.2**	**0.0**
WDLH	baz=326				*e*S	**Sn**	**20 11 07.2**	**+1.4**
OWD	**Renai** baz=17	**1.14**	**353**		*e*P	**Pb**	**20 10 48.8**	**-1.4**
WJS	**Zhushan** baz=345	**1.14**	**331**		*e*P	**Pn**	**20 10 50.0**	**-0.3**
WJS	baz=345				*e*S	**Sn**	**20 11 06.6**	**+0.6**
ETM	**Tongmen** baz=19	**1.15**	**7**		*e*P	**Pb**	**20 10 48.6**	**-1.7**
CHN8	**Yiju** baz=299	**1.16**	**297**		*e*P	**Pg**	**20 10 50.5**	**-0.1**
CHN8	baz=299				*i* S	**Sn**	**20 11 08.5**	**+2.2**
TYC	**Yuchr** baz=2.0	**1.17**	**338**		*e*P	**Pg**	**20 10 50.9**	**+0.1**
TYC	baz=2.0				*e*S	**Sn**	**20 11 06.6**	**0.0**
HWA	**Hwalien** baz=9.0	**1.18**	**12**		*e*P	**Pg**	**20 10 51.6**	**+0.6**
WUSB	**Renai** baz=15	**1.19**	**351**		*e*P	**Pb**	**20 10 49.4**	**-1.5**
WUSB	baz=15				*e*S	**Sb**	**20 11 04.9**	**-1.5**
TSCK	**Chigu Township** baz=284	**1.19**	**286**		*e*P	**Pg**	**20 10 51.1**	**-0.2**
TSCK	baz=284				*i* S	**Sn**	**20 11 08.7**	**+1.4**
LXIB	**Xiulin Townshi** baz=15	**1.20**	**4**		*e*P	**Pn**	**20 10 49.9**	**-1.4**
LXIB	baz=15				S	**Sb**	**20 11 06.7**	**-0.2**
WNT	**Mingjian** baz=340	**1.21**	**331**		*e*P	**Pg**	**20 10 51.8**	**+0.2**
WNT	baz=340				*i* S	**Sn**	**20 11 09.1**	**+1.3**
WTK	**Tuku** baz=321	**1.23**	**315**		*i*P	**Pg**	**20 10 52.0**	**+0.1**
WTK	baz=321				*e*S	**Sn**	**20 11 09.7**	**+1.7**
WSL	**Shuilin Townsh** baz=309	**1.23**	**305**		*e*P	**Pg**	**20 10 51.9**	**-0.2**
WSL	baz=309				*e*S	**Sn**	**20 11 09.5**	**+1.2**
CHGB	**Renai** baz=17	**1.25**	**353**		*e*P	**Pn**	**20 10 50.5**	**-1.5**
CHGB	baz=17				*e*S	**Sg**	**20 11 08.8**	**+0.2**
TWD	**Chiawan** baz=10.0	**1.28**	**11**		*e*P	**Pn**	**20 10 51.8**	**-0.4**
WCS	**Beigang Elemen** baz=5.0	**1.29**	**343**		*e*P	**Pb**	**20 10 52.5**	**-0.2**
WCS	baz=5.0				*e*S	**Sg**	**20 11 10.4**	**+0.4**
WSF	**Szhu** baz=314	**1.31**	**309**		*e*P	**Pb**	**20 10 52.8**	**-0.2**
WSF	baz=314				*e*S	**Sg**	**20 11 11.1**	**+0.7**
WHF	**Hehuan Shan** baz=9.0	**1.32**	**357**		*e*P	**Pn**	**20 10 53.1**	**-0.1**
WHF	baz=9.0				*e*S	**Sb**	**20 11 09.7**	**-1.0**
ETL	**Fush Village** baz=24	**1.36**	**11**		*e*P	**Pn**	**20 10 52.3**	**-1.1**
NACB	**Ninganchiao**	**1.37**	**10**		P	**Pn**	**20 10 52.7**	**-0.8**
NACB	**Ninganchiao** baz=22	**1.37**	**10**		*e*P	**Pn**	**20 10 51.8**	**-1.7**
ETLH	**Xiulin Townshi** baz=17	**1.39**	**6**		*e*P	**Pn**	**20 10 52.9**	**-1.0**
WRL	**Guolierlin Hig** baz=330	**1.39**	**321**		*e*P	**Pb**	**20 10 53.9**	**-0.4**
WRL	baz=330				*e*S	**Sg**	**20 11 13.1**	**0.0**
TWT	**Tachien** baz=19	**1.44**	**354**		*e*P	**Pb**	**20 10 55.0**	**-0.2**
TDCB	**Techi** baz=19	**1.44**	**354**		*e*P	**Pb**	**20 10 54.9**	**-0.4**
WCHH	**Zhanghua** baz=339	**1.44**	**331**		*e*P	**Pg**	**20 10 55.5**	**-0.5**
WCHH	baz=339				*e*S	**Sg**	**20 11 16.4**	**+1.6**
TCU	**Taichung** baz=347	**1.46**	**336**		*e*P	**Pb**	**20 10 55.2**	**-0.2**
TCU	baz=347				*e*S	**Sg**	**20 11 15.7**	**+0.5**
WHP	**Taichung City** baz=7.0	**1.50**	**346**		*e*P	**Pg**	**20 10 57.0**	**-0.1**
EOS4	**EOS4** baz=54	**1.58**	**35**		*e*P	**Pn**	**20 10 55.2**	**-0.8**
EOS4	baz=54				*e*S	**Sn**	**20 11 14.9**	**-1.4**
WDGT	**Dungji** baz=284	**1.60**	**286**		*e*P	**Pn**	**20 10 56.0**	**-0.6**
WDGT	baz=284				S	**Sn**	**20 11 16.2**	**-1.1**
NNSB	**Datong** baz=32	**1.60**	**2**		*e*P	**Pn**	**20 10 55.5**	**-1.3**
TWQ1	**Liyutan** baz=354	**1.61**	**342**		*e*P	**Pb**	**20 10 58.0**	**0.0**
TWQ1	baz=354				*e*S	**Sg**	**20 11 20.2**	**+0.1**
NNS	**Nan Shan** baz=32	**1.62**	**1**		*e*P	**Pb**	**20 10 58.3**	**0.0**
ENA	**Nanau** baz=13	**1.65**	**13**		*e*P	**Pn**	**20 10 57.2**	**-0.1**
LATG	**Datong** baz=35	**1.72**	**6**		*e*P	**Pn**	**20 10 57.2**	**-1.1**
EOS3	**EOS3** baz=50	**1.72**	**32**		*e*P	**Pn**	**20 10 57.5**	**-0.7**
EOS3	baz=50				*e*S	**Sn**	**20 11 19.2**	**-0.8**
PHUB	**P'eng-hu** baz=294	**1.76**	**294**		*e*P	**Pn**	**20 10 58.8**	**0.0**
PHUB	baz=294				S	**Sn**	**20 11 21.0**	**-0.2**
NDT	**Datong Townshi** baz=34	**1.79**	**5**		*e*P	**Pn**	**20 10 59.8**	**+0.6**
VCHM	**Qimei** baz=280	**1.79**	**283**		*e*P	**Pn**	**20 10 59.5**	**+0.2**
PNG	**Penghu** baz=297	**1.80**	**295**		*e*P	**Pn**	**20 10 59.8**	**+0.6**
NFF	**Wufeng Townshi** baz=17	**1.82**	**354**		*e*P	**Pb**	**20 11 01.2**	**-0.5**
NFF	baz=17				*e*S	**Sb**	**20 11 25.5**	**+1.0**
ENTT	**Nioudou** baz=18	**1.83**	**7**		*e*P	**Pb**	**20 11 00.7**	**-1.1**
NSTT	**Nanjuang** baz=16	**1.83**	**351**		*e*P	**Pb**	**20 11 01.2**	**-0.7**
NDS	**Dongshan** baz=23	**1.84**	**11**		*e*P	**Pn**	**20 11 00.4**	**+0.4**
LIOB	**Emei** baz=15	**1.84**	**351**		*e*P	**Pb**	**20 11 01.7**	**-0.4**
YHNB	**Yeheng**	**1.84**	**1**		P	**Pn**	**20 11 00.3**	**+0.2**
YHNB	**Yeheng** baz=32	**1.84**	**1**		*e*P	**Pn**	**20 10 59.3**	**-0.7**
TWC	**Suao** baz=14	**1.85**	**15**		*e*P	**Pb**	**20 11 01.4**	**-0.8**
NSK	**Sanguang** baz=31	**1.85**	**1**		*e*P	**Pn**	**20 11 01.0**	**+0.9**
TWE	**Neicheng** baz=21	**1.92**	**9**		*e*P	**Pb**	**20 11 02.6**	**-0.8**
FUSB	**Fushanzhiwuyua** baz=34	**1.95**	**7**		*e*P	**Pn**	**20 11 01.1**	**-0.4**
TWA	**Mucha** baz=34	**2.17**	**6**		*e*P	**Pb**	**20 11 06.1**	**-1.5**
TIPB	**Shuangxi** baz=23	**2.19**	**12**		*e*P	**Pn**	**20 11 05.8**	**+1.1**
JYNG	**Yonagunijimaku**	**2.20**	**42**		*e*P	**Pn**	**20 11 05.2**	**+0.4**
JYNG					*e*S	**Sn**	**20 11 31.1**	**-1.0**
YOJ	**Yonaguni jima**	**2.25**	**43**		P	**Pn**	**20 11 06.9**	**+1.4**
YOJ	**Yonaguni jima**	**2.25**	**43**		*e*S	**Sn**	**20 11 32.7**	**-0.5**
YOJ	**Yonaguni jima** baz=44	**2.25**	**43**		*e*P	**Pn**	**20 11 05.0**	**-0.6**
SXI1	**Grass Mountain** baz=23	**2.32**	**12**		*e*P	**Pn**	**20 11 07.5**	**+0.9**
ANP	**Anpu** baz=35	**2.37**	**4**		*e*P	**Pb**	**20 11 09.1**	**-1.9**
HATJ	**Hateruma jima**	**2.59**	**61**		*e*S	**Sn**	**20 11 38.8**	**-2.8**
JKRS	**Kuro-shima**	**2.84**	**60**		*e*S	**Sn**	**20 11 48.0**	**+0.2**
JIJ	**Ishigaki jima**	**3.00**	**59**		P	**Pn**	**20 11 15.8**	**-0.1**
JIJ					*e*S	**Sn**	**20 11 50.4**	**-1.5**
KNMB	**Chin-men Tao** baz=307	**3.16**	**302**		*e*P	**Pn**	**20 11 16.4**	**-1.6**
JISG	**Ishigakijimahi**	**3.25**	**57**		P	**Pn**	**20 11 18.6**	**-0.7**
JISG					*e*S	**Sn**	**20 11 56.7**	**-1.3**
MATB	**Ma-tsu** baz=350	**3.55**	**339**		*e*P	**Pn**	**20 11 22.2**	**-1.2**
JTJ	**Tarama**	**3.58**	**59**		*e*S	**Sn**	**20 12 04.7**	**-1.6**
TGY	**Tagaytay City** comp=Z,294nm,21.7s,baz=116,slow=43	**8.68**	**183**		LR	LR	20 17 10.6	
JNU	**Nakatsue** comp=Z,70nm,18.4s,baz=210,slow=43	**13.28**	**37**		LR	LR	20 19 54.1	
KSRS	**Korea Array** comp=Z,25nm,18.4s,baz=180,slow=41	**15.65**	**20**		LR	LR	20 20 56.0	
MJAR	**Matsushiro Arr** baz=214,slow=9.5,SNR=1.9 1.9nm,1.0s	**20.01**	**43**		P	Pn	20 15 04.2	+1.3
CMAR	**Chiang Mai Arr** 0.4nm,1.0s,baz=55,slow=8.0,SNR=2.5	**21.39**	**262**		P	**P**	**20 15 19.5**	**+3.3**
CMAR	comp=Z,21nm,21.0s,baz=80,slow=36 0.4nm,1.0s				LR	LR	20 23 16.8	
KLR	**Kul'dur** comp=Z,40nm,20.0s,baz=168,slow=38	**27.62**	**15**		LR	LR	20 27 34.8	
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=103,slow=9.2,SNR=4.5 0.3nm,0.8s	**39.42**	**317**		P	**P**	**20 18 00.7**	**+2.3**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=108,slow=7.7,SNR=2.1 0.2nm,0.3s	**41.47**	**328**		P	**P**	**20 18 14.7**	**-0.4**
H11N1	**WAKE ISLAND Hy** baz=282,slow=74,SNR=23	**42.45**	**85**		T	T	21 03 38.8	
H11N2	**WAKE ISLAND Hy** baz=282,slow=74,SNR=39	**42.45**	**85**		T	T	21 03 37.2	
H11N3	**WAKE ISLAND Hy** baz=282,slow=74,SNR=32	**42.46**	**85**		T	T	21 03 38.3	
H11S3	**WAKE ISLAND Hy** baz=284,slow=75,SNR=53	**42.53**	**87**		T	T	21 03 47.4	
H11S1	**WAKE ISLAND Hy** baz=284,slow=75,SNR=28	**42.54**	**87**		T	T	21 03 47.0	
H11S2	**WAKE ISLAND Hy** baz=284,slow=75,SNR=27	**42.55**	**87**		T	T	21 03 49.2	
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=112,slow=7.3,SNR=3.6 0.3nm,0.4s	**43.24**	**321**		P	**P**	**20 18 28.8**	**-0.8**

IDC 01 20:26:26.4±7.9,19°56S×177°12W,h0km,mb3.4/3, mbtmp3.4/3,MS3.7/1,Error ellipse: s-maj=342.3km s-min=40.0km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs** 0.2nm,0.5s,baz=93,slow=8.2,SNR=6.2	**45.54**	**256**		P	P	20 34 48.1	-0.1
ASAR	comp=Z,76nm,18.8s,baz=157,slow=36 0.2nm,0.5s				LR	LR	20 53 44.8	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=97,slow=7.7,SNR=8.6 0.2nm,0.3s	**45.55**	**261**		P	P	20 34 48.3	-0.1
ILAR	**Eielson Array** 0.3nm,0.8s,baz=216,slow=4.7,SNR=4.6 0.3nm,0.8s	**87.22**	**12**		P	P	20 39 14.2	-0.1

WEL 01 20:42:33.7,38°S±11°×17°7E±2°7,h137km±28km,M2.1/13, mB5.4/1,MLv2.1/13,Mw(mB)4.9/1,Error ellipse: s-maj=0.0km s-min=0.0km az=100.9,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKRZ	**Makatiti**	**0.07**	**318**		P	Pn	20 42 50.8	-1.5
URZ	**Urewera**	**0.46**	**98**		P	Pn	20 42 45.7	-7.6
MRHZ	**Matea Rd**	**0.65**	**188**		P	Pn	20 42 54.8	+0.3
MTHZ	**Maungataniwha**	**0.70**	**160**		P	Pn	20 42 56.8	+2.0
RAGZ	**Rawiri**	**0.76**	**114**		P	Pn	20 42 56.6	+1.3
MWZ	**Matawai**	**0.80**	**101**		P	Pn	20 42 56.3	+0.7
RUGZ	**Raukumara Rang**	**0.93**	**76**		P	Pn	20 42 55.5	-1.3
HAZ	**Te Kaha**	**1.08**	**67**		P	Pn	20 42 56.7	-1.2
RIGZ	**Rimuhau**	**1.09**	**118**		P	Pn	20 42 59.8	+1.7
TMVZ	**Te Maari**	**1.13**	**215**		P	Pn	20 42 59.2	+0.7
ETVZ	**East Tongariro**	**1.14**	**214**		P	Pn	20 42 59.4	+0.8
TWGZ	**Tauwhareparae**	**1.14**	**90**		P	Pn	20 42 58.4	-0.2
OTVZ	**Oturere**	**1.18**	**215**		P	Pn	20 43 00.0	+0.9
SNVZ	**South Ngauruho**	**1.21**	**215**		P	Pn	20 43 00.4	+0.9
KWHZ	**Kaweka Forest**	**1.23**	**184**		P	Pn	20 43 01.1	+1.6
PKGZ	**Pakihiroa**	**1.26**	**77**		P	Pn	20 42 59.2	-0.6
BHHZ	**Black Hill Sta**	**1.34**	**196**		P	Pn	20 43 01.4	+0.7
WNVZ	**Wahianoa**	**1.35**	**212**		P	Pn	20 43 01.2	+0.5
CNGZ	**Carnagh Statio**	**1.35**	**103**		P	Pn	20 43 02.1	+1.4
WMGZ	**Waiomatatini S**	**1.54**	**77**		P	Pn	20 42 57.3	-5.3
MXZ	**Matakaoa Point**	**1.54**	**66**		P	Pn	20 43 01.5	-1.2

KAHZ	Kahuranaki	1.62	171	P	Pn	20 43 05.3	+1.7
PRHZ	Porangahau	2.07	178	P	Pn	20 43 09.5	+0.6
BFZ	Birch Farm	2.50	185	P	Pn	20 43 13.7	-0.4
MRZ	Mangatainoka R	2.57	196	P	Pn	20 43 13.9	-1.1
TIWZ	Tintock	2.63	191	P	Pn	20 43 14.9	-0.9
HOWZ	Holdsworth Sta	2.81	196	P	Pn	20 43 16.4	-1.7
OGWZ	Otaki Gorge	2.82	201	P	Pn	20 43 16.7	-1.5
KIW	Kapiti Island	2.94	205	P	Pn	20 43 17.7	-2.0
MTW	Mount Morrison	3.07	195	P	Pn	20 43 19.3	-2.0
CAW	Cannon Point	3.12	201	P	Pn	20 43 19.9	-2.2
BHW	Baring Head	3.46	201	P	Pn	20 43 23.6	-2.8
PLWZ	Palliser	3.51	196	P	Pn	20 43 24.4	-2.8
KHZ	Kahutara	4.80	208	P	Pn	20 43 40.1	-4.0
GVZ	Greta Valley S	5.46	208	P	Pn	20 43 48.3	-4.7
OKCZ	Okains Bay	6.12	204	P	Pn	20 44 01.8	0.0

NDI 01 20:51:46.2±3.8, 19°.83N×73°.27E, h10^{km}±16^{km}, ML2.8, MW3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOM	Bombay	1.02	205	ePg	Pn	20 52 06.7	+0.1
BOM				i Sg	Sb	20 52 20.0	+0.6
BOM				IAML		20 52 26.5	
	comp=E,119nm,0.1s						
BOM				IAML		20 52 26.6	
	comp=N,155nm,0.3s						
POO	Poona	1.40	157	eP	Pg	20 52 14.6	+1.5
POO				eS	Sg	20 52 32.6	+1.4
POO				eS	Sb	20 52 33.0	+2.5
POO				IAML		20 52 36.4	
	comp=N,214nm,0.1s						
POO				IAML		20 52 37.6	
	comp=N,283nm,0.1s						
KAD	Karad	2.65	161	eP	Pn	20 52 29.4	+0.3
KAD				i S	Sn	20 53 01.6	+0.3
AKL	Akola	3.62	75	ePN	Pn	20 52 43.9	+1.5
AKL				i PG	Pg	20 52 53.1	-2.6
AKL				eS	Sn	20 53 28.3	+3.0
AKL				ex	x	20 53 38.6	
MNGI	Mangalore	7.00	167	i x	x	20 55 25.4	
VJD	Vijayawada	7.75	114	i x	x	20 55 47.6	
KUDL	Kundal	8.79	19	i x	x	20 56 18.5	
SALM	Salem	9.41	149	i x	x	20 56 34.2	
KOD	Kodaikanal	10.36	156	eS	Sn	20 56 04.1	-7.6

IDC 01 21:19:21.5±1.8, 2°.95S×125°.13E, h0^{km}, mb3.5/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=185.5km s-min=28.3km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.14	153	P	P	21 23 45.9	-0.6
	0.1nm,0.3s,baz=329,slow=12,SNR=5.4						
	0.7nm,0.9s						
ASAR	Alice Springs	22.28	158	P	P	21 24 20.9	+0.4
	0.6nm,0.5s,baz=337,slow=11,SNR=10						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	65.86	335	P	P	21 30 08.8	0.0
	0.4nm,0.4s,baz=144,slow=5.8,SNR=2.8						
	0.4nm,0.4s						

*SJA **01** 21:35:32.3±0.4, 34°.82S×73°.03W, h123^{km}±102^{km}, ML3.6, MW3.1*
*GUC **01** 21:35:41.6±0.8, 34°.72S×71°.93W, h37^{km}±2^{km}, ML3.4*
ISC 01 21:35:39.3±2.0, 34°.73S±0°.03×72°.00W±0°.09, h13^{km}±11^{km}, n25, σ0s.91/50, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	Huala	0.29	169	eP	Pn	21 35 49.2	0.0
GO05				i S	Sn	21 35 55.1	-0.3
GO05				IAML		21 35 56.2	
	comp=E,5μm,0.1s						
BO01	Tunca	0.82	66	eP	Pg	21 35 55.4	+0.2
BO01				i S	Sg	21 36 05.6	-0.4
MT01	Popeta	1.06	36⇑	eP	Pb	21 35 59.3	-0.1
MT01				i S	Sb	21 36 12.3	-1.0
VA05	Santo Domingo	1.11	17	eP	Pn	21 36 00.8	+0.2
VA05				i S	Sb	21 36 14.3	-0.4
VA05				IAML		21 36 19.1	
	comp=N,968nm,0.4s						
ML02	Panimavida	1.14	156	eP	Pb	21 36 00.8	+0.1
ML02				i S	Sb	21 36 15.1	-0.3
ML02				IAML		21 36 20.2	
	comp=N,1μm,0.8s						
MT09	Talagante	1.26	42	eP	Pn	21 36 03.1	+0.3
MT09				i S	Sb	21 36 18.9	-0.3
MT09				IAML		21 36 22.2	
	comp=N,2μm,0.2s						
BO04	La Punta	1.36	58	eP	Pn	21 36 03.8	-0.2
BO04				i S	Sn	21 36 20.6	-1.4
MT12	Pirque	1.56	51	eP	Pn	21 36 06.8	+0.1
MT12				i S	Sn	21 36 26.5	-0.3
MT12				IAML		21 36 29.1	
	comp=N,2μm,0.5s						
MT02	Curacav	1.63	26	eP	Pn	21 36 07.9	+0.2
MT02				i S	Sn	21 36 27.7	-0.8
MT15	Las Vizcachas	1.67	48	eP	Pn	21 36 08.4	+0.1
MT15				i S	Sn	21 36 28.8	-0.8
MT05	Renca	1.69	38	eP	Pn	21 36 09.0	+0.4
MT05				i S	Sn	21 36 30.0	-0.2
MT05				IAML		21 36 33.8	
	comp=E,749nm,0.2s						
MT13	San Alfonso	1.72	56	eP	Pn	21 36 09.2	+0.1
MT13				i S	Sn	21 36 30.4	-0.5
MT13				IAML		21 36 32.9	
	comp=E,545nm,0.5s						
LMEL	Las Melosas	1.72	60	eP	Pn	21 36 09.0	-0.1
LMEL				i S	Sn	21 36 31.1	0.0
LMEL				IAML		21 36 34.1	
MT03	Universidad Ad	1.74	45	eP	Pn	21 36 09.3	0.0
MT03				i S	Sn	21 36 31.8	+0.4
MT03				IAML		21 36 34.1	
	comp=N,1μm,0.1s						
MT16	CCHEN	1.78	44	eP	Pn	21 36 10.2	+0.3
MT16				i S	Sn	21 36 31.9	-0.4
MT14	Cerro Cal¡n	1.80	43	eP	Pn	21 36 10.3	+0.3
MT14				i S	Sn	21 36 32.5	-0.3
MT14				IAML		21 36 37.7	
	comp=N,1μm,0.2s						
MT10	Hacienda Santa	1.89	40⇑	iP	Pn	21 36 11.7	+0.3
MT10				i S	Sn	21 36 35.1	0.0
MT10				IAML		21 36 40.2	
	comp=N,1μm,0.1s						
PEL	Peldehue	1.92	35	eP	Pb	21 36 13.2	-0.9
PEL				i S	Sn	21 36 36.7	+0.9
PEL				IAML		21 36 42.4	
	comp=N,394nm,0.3s						
ROCH	El Roble	1.93	25	eP	Pn	21 36 12.6	+0.6
ROCH				eP	Pn	21 36 12.7	+0.7
ROCH				i S	Sn	21 36 36.6	+0.3
ROCH				IAML		21 36 44.2	
	comp=N,468nm,0.5s						
FCH	Farellones	1.99	46	eP	Pn	21 36 13.2	+0.3
FCH				i S	Sn	21 36 37.8	0.0
FCH				IAML		21 36 43.8	
	comp=N,556nm,0.3s						
MT04	Ro Olivares	2.03	50	eP	Pn	21 36 14.0	+0.6
MT04				i S	Sn	21 36 38.6	-0.1
MT04				IAML		21 36 42.8	
	comp=N,423nm,0.3s						
AUSP	Uspallata	3.31	42	i P	Pn	21 36 33.4	+2.3
AUSP				i S	Sb	21 37 19.2	+0.8
ASAL	Salagasta	3.39	52	i P	Pn	21 36 35.2	+3.2
ASAL				i S	Sb	21 37 21.5	+1.1
RTLS	Leoncito	3.69	38	i P	Pn	21 36 38.5	+2.2
RTLS				i S	Sb	21 37 27.0	-2.4
RTLS				IAML		21 37 36.9	
	comp=Z,79nm,0.8s						
ACCO	Cerro Coronel	4.81	32	i P	Pn	21 36 52.3	+0.6
ACCO				IAML		21 38 24.3	
	comp=Z,16nm,3.4s						

*NOU **01** 21:41:07.4, 15°.94S×174°.04W, h347^{km}, mb4.8/8, Tonga Islands*
*NEIC **01** 21:41:28.8±2.3, 17°.4S±0°.2×177°.0W±0°.2, h366^{km}±8^{km}, mb4.0/25, Error ellipse: s-maj=31.7km s-min=12.4km az=137.0*
*IDC **01** 21:41:30.1±5.9, 17°.36S×177°.08W, h377^{km}±61^{km}, mb3.4/10, mbtmp4.1/11, Error ellipse: s-maj=22.8km s-min=19.8km az=148.0*
ISC 01 21:41:32.1±0.6, 17°.4S±0°.1×177°.2W±0°.1, h400^{km}, n68, σ1s.16/68, mb3.9/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	1.80	241	P	Pn	21 42 28.4	+1.6
TAVE	Taveuni	2.71	284	P	Pn	21 42 34.6	+1.6
DGTI	Dogotuki	3.16	289	P	Pn	21 42 37.7	+1.0
AFI	Afiamalu	6.22	57	Pn	Pn	21 43 00.9	-6.4
MARNC	Mare, Loyalty	14.56	251	P	P	21 44 38.2	-1.6
LIFNC	LIFOU	15.14	255	P	P	21 44 45.4	-0.6
PINNC	Pines Island,	15.38	248	P	P	21 44 48.1	-0.7
DZM	Mont Dzumac	16.13	250	P	P	21 44 56.2	-0.7
DZM				IAmb	IAmb	21 45 00.2	
	comp=Z,9.8nm,1.1s						
DZM	Mont Dzumac	16.13	250	P	P	21 44 58.3	+1.4
	comp=Z,4.4nm,0.8s,baz=73,slow=14,SNR=4.7						
KOUNC	Koumac, New Ca	17.84	257	P	P	21 45 16.5	+1.5
KOUNC				IAmb	IAmb	21 45 24.6	
	comp=Z,12nm,1.1s						
NFK	Norfolk Island	17.94	227	P	P	21 45 25.4	+9.4
	comp=Z,141nm,1.1s						
HAZ	Te Kaha	20.79	191	P	P	21 45 43.1	-0.5
MKAZ	Moumakai	20.80	198	P	P	21 45 45.4	+1.7
PKGZ	Pakihiroa	20.87	191	P	P	21 45 45.2	+0.8
PUZ	Puketiti	21.02	190	P	P	21 45 46.0	+0.2
TWGZ	Tauwhareparae	21.17	191	P	P	21 45 47.8	+0.7
MWZ	Matawai	21.40	192	P	P	21 45 48.6	-0.6
URZ	Urewera	21.41	192	P	P	21 45 47.9	-1.3
URZ	Urewera	21.41	192	P	P	21 45 48.0	-1.3
	comp=Z,7.4nm,0.3s,baz=3.0,slow=3.1,SNR=21						
	comp=Z,7.4nm,0.3s						
URZ	Urewera	21.41	192	P	P	21 45 46.8	-2.5
RTZ	Ruatahuna	21.78	192	P	P	21 45 50.4	-2.4
RTZ				IAmb	IAmb	21 45 54.4	
	comp=Z,13nm,1.1s						
RTZ	Ruatahuna	21.78	192	P	P	21 45 50.0	-2.7
MTHZ	Maungataniwha	22.04	193	P	P	21 45 55.4	+0.3
TMVZ	Te Maari	22.55	195	P	P	21 45 58.9	-0.9
ETVZ	East Tongariro	22.56	195	P	P	21 45 59.0	-0.9
OTVZ	Oturere	22.60	195	P	P	21 45 58.8	-1.5
SNVZ	South Ngauruho	22.63	195	P	P	21 45 59.6	-1.0
KWHZ	Kaweka Forest	22.68	193	P	P	21 45 59.6	-1.2
TUVZ	Tukino	22.70	195	P	P	21 46 00.5	-0.7
WNVZ	Wahianoa	22.77	195	P	P	21 46 01.6	-0.3
BHHZ	Black Hill Sta	22.82	194	P	P	21 46 00.5	-1.7
BHW	Baring Head	24.92	194	P	P	21 46 18.1	-2.7
BHW				IAmb	IAmb	21 46 20.3	
	comp=Z,6.9nm,0.8s						
QRZ	Quartz Range	25.02	199	P	P	21 46 22.0	+0.3
TKNZ	Takaka Hill	25.08	198	P	P	21 46 20.5	-1.8
TUWZ	Tuamarina	25.17	196	P	P	21 46 21.3	-1.8
THZ	Tophouse	25.77	197	P	P	21 46 27.6	-0.9
THZ				IAmb	IAmb	21 46 46.6	
	comp=Z,9.5nm,1.0s						
JCZ	Jackson Bay	29.15	201	P	P	21 46 58.9	+0.5
MLZ	Mavora Lakes	30.51	201	P	P	21 47 10.2	+0.1
MLZ				IAmb	IAmb	21 47 28.6	
	comp=Z,12nm,1.1s						
EIDS	Eidsvold	30.57	249	P	P	21 47 11.2	+0.2
EIDS				IAmb	IAmb	21 47 11.9	
	comp=Z,5.6nm,0.9s						
WHZ	Wether Hill Ro	31.03	200	P	P	21 47 14.5	-0.1
ARMA	Armidale	31.24	240	P	P	21 47 14.6	-2.2
ARMA				IAmb	IAmb	21 47 20.6	
	comp=Z,7.1nm,1.1s						
TOO	Toolangi	38.44	231	P	P	21 48 18.1	+0.7
TOO				IAmb	IAmb	21 48 20.4	
	comp=Z,7.1nm,1.1s						
STKA	Stephens Creek	39.94	241	P	P	21 48 30.8	+1.1
STKA	Stephens Creek	39.94	241	P	P	21 48 31.2	+1.5
	comp=Z,2.0nm,0.5s,baz=96,slow=11,SNR=9.1						
	comp=Z,2.0nm,0.5s						
BBOO	Buckleboo	44.71	241	P	P	21 49 08.1	+0.4
BBOO				IAmb	IAmb	21 49 09.2	
	comp=Z,12nm,1.1s						
WR0	Warramunga Arr	45.72	259	P	P	21 49 14.5	-1.2
WB0	Warramunga Arr	45.87	259	P	P	21 49 16.7	-0.1
WB2	Warramunga Arr	45.90	259	P	P	21 49 15.7	-1.4
WRA	Warramunga Arr	45.91	259	P	P	21 49 16.1	-1.0
WRA	Warramunga Arr	45.91	259	P	P	21 49 16.7	-0.4
	comp=Z,0.4nm,0.3s,baz=96,slow=7.7,SNR=23						
WRA				PcP	PcP	21 50 46.8	+0.3
	comp=Z,0.2nm,0.4s,baz=97,slow=3.4,SNR=2.0						
	comp=Z,0.4nm,0.3s						
AS31	Alice Springs	46.09	254	P	P	21 49 18.5	0.0
ASAR	Alice Springs	46.09	254	P	P	21 49 18.1	-0.4
ASAR	Alice Springs	46.09	254	P	P	21 49 18.9	+0.4
	comp=Z,6.2nm,0.3s,baz=89,slow=8.2,SNR=127						
ASAR				PcP	PcP	21 50 47.5	+0.3
	comp=Z,0.6nm,0.7s,baz=105,slow=3.9,SNR=3.3						
	comp=Z,6.2nm,0.3s						
FORT	Forrest	51.32	244	P	P	21 49 57.5	-0.1
VNDA	Vanda	61.09	185	P	P	21 51 05.4	+0.5
	comp=Z,0.4nm,0.8s,baz=340,slow=4.9,SNR=1.2						
	comp=Z,0.4nm,0.8s						
QSPA	South Pole Qui	72.69	180	P	P	21 52 18.7	+1.2
	comp=Z,0.9nm,0.3s,baz=352,slow=7.8,SNR=3.8						
	comp=Z,0.9nm,0.3s						
YERR	Yerington	77.91	42	P	P	21 52 46.5	-0.9
YERR				IAmb	IAmb	21 52 48.0	
	comp=Z,1.8nm,0.6s						
NVAR	Mina Array Bea	78.21	43	P	P	21 52 48.7	-0.4
NVAR	Mina Array Bea	78.21	43	P	P	21 52 49.3	+0.3
	comp=Z,1.0nm,0.7s,baz=226,slow=9.0,SNR=12						
	comp=Z,1.0nm,0.7s						
KVN	Kaiserville	78.68	43	P	P	21 52 50.7	-0.9
KVN				IAmb	IAmb	21 52 52.2	
	comp=Z,1.6nm,0.7s						
N25K	Chitina, Valde	82.87	15	P	P	21 53 12.1	-0.7
J20K	Nowinta River	83.21	10	P	P	21 53 13.8	-0.5
HLID	Hailey	83.44	41	P	P	21 53 16.5	+0.3
HLID				IAmb	IAmb	21 53 17.5	
	comp=Z,1.4nm,0.7s						
TXAR	Lajitas Array	84.70	57	P	P	21 53 23.3	+0.6
TXAR	Lajitas Array	84.70	57	P	P	21 53 23.7	+1.0
	comp=Z,0.9nm,0.8s,baz=212,slow=6.9,SNR=10						
	comp=Z,0.9nm,0.8s						
CCB	Clear Creek Bu	84.80	12	P	P	21 53 21.2	-1.0
ILAR	Eielson Array	85.10	13	P	P	21 53 22.9	-0.8
	comp=Z,0.7nm,0.6s,baz=228,slow=5.4,SNR=18						
	comp=Z,0.7nm,0.6s						
YKA	Yellowknife Ar	93.35	24	P	P	21 54 01.9	-0.5
	comp=Z,0.2nm,0.7s,baz=242,slow=4.7,SNR=4.5						
	comp=Z,0.2nm,0.7s						

IDC 01 21:47:51.9±1.8, 4°.14N×126°.62E, h0^{km}, mb3.5/5, mbtmp3.5/5, MS2.8/1, Error ellipse: s-maj=169.6km s-min=21.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	20.31	61	LR	LR	21 58 20.4	
	comp=Z,26nm,21.3s,baz=124,slow=31						
WRA	Warramunga Arr	25.10	163	P	P	21 53 18.5	-0.1
	1.1nm,0.7s,baz=342,slow=10,SNR=8.9						
	1.1nm,0.7s						
ASAR	Alice Springs	28.53	166	P	P	21 53 49.5	0.0
	0.4nm,0.9s,baz=348,slow=7.7,SNR=2.7						
	0.4nm,0.9s						
MKAR	Makanchi Array	57.16	325	P	P	21 57 40.0	-0.6
	0.4nm,0.7s,baz=126,slow=7.8,SNR=6.8						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	61.34	327	P	P	21 58 09.4	-0.1
	0.7nm,0.7s,baz=129,slow=5.5,SNR=5.9						
	0.7nm,0.7s						
BVAR	Borovoye Array	66.92	327	P	P	21 58 46.9	+0.8
	0.4nm,0.8s,baz=96,slow=5.8,SNR=1.8						
	0.4nm,0.8s						

IDC 01 22:00:10.1±7.1, 5°.87N×101°.94W, h0^{km}, mb3.7/4, mbtmp3.7/4, MS3.5/21, Error ellipse: s-maj=188.9km s-min=106.9km az=109.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	13.12	31	LR	LR	22 07 05.1	
	comp=Z,138nm,18.3s,baz=206,slow=32						
APG	El Apazote	14.47	50	LR	LR	22 07 58.4	
	comp=Z,14nm,21.8s,baz=274,slow=32						
JTS	Las Juntas de	17.38	74	LR	LR	22 09 23.3	
	comp=Z,344nm,21.2s,baz=287,slow=32						
LPIG	La Paz	19.84	337	LR	LR	22 09 55.8	
	comp=Z,71nm,20.5s,baz=174,slow=30						
TXAR	Lajitas Array	23.40	356	P	P	22 05 20.8	0.0
	1.8nm,0.9s,baz=182,slow=10,SNR=12						
TXAR				LR	LR	22 13 09.7	
	comp=Z,153nm,18.9s,baz=141,slow=33						
	1.8nm,0.9s						
ATAH	Atahualpa	26.81	118	LR	LR	22 13 11.9	
	comp=Z,17nm,19.5s,baz=289,slow=29						
ROSC	El Rosal	27.51	91	LR	LR	22 14 50.1	
	comp=Z,174nm,20.8s,baz=264,slow=32						
ANMO	Albuquerque	29.24	352	LR	LR	22 16 34.2	
	comp=Z,98nm,19.4s,baz=266,slow=34						
NNA	Nana	30.62	125	LR	LR	22 14 31.4	
	comp=Z,21nm,18.7s,baz=316,slow=28						
SDV	Santo Domingo	31.18	83	LR	LR	22 17 51.8	
	comp=Z,116nm,21.5s,baz=266,slow=34						
NVAR	Mina Array Bea	35.66	338	P	P	22 07 10.0	-0.2
	0.4nm,0.7s,baz=162,slow=9.0,SNR=2.5						
	0.4nm,0.7s						
PDAR	Pinedale Array	37.36	351	LR	LR	22 20 53.3	
	comp=Z,40nm,19.5s,baz=162,slow=33						
YBH	Yreka Blue Hor	40.22	336	LR	LR	22 20 40.5	
	comp=Z,45nm,21.2s,baz=288,slow=31						
LVC	Limon Verde	42.95	132	LR	LR	22 22 36.1	
	comp=Z,50nm,20.3s,baz=296,slow=31						
SADO	Sadowa	43.57	24	LR	LR	22 28 31.6	
	comp=Z,46nm,18.4s,baz=72,slow=39						
NEW	Newport	44.19	345	LR	LR	22 25 52.6	
	comp=Z,50nm,19.6s,baz=121,slow=35						
SIV	San Ignacio	45.91	119	LR	LR	22 27 43.6	
	comp=Z,94nm,19.0s,baz=286,slow=36						
MDP	Montagnes des	49.06	88	LR	LR	22 28 16.7	
	comp=Z,44nm,20.8s,baz=278,slow=34						
PPT	Papeete	52.49	243	LR	LR	22 26 12.4	
	comp=Z,36nm,18.9s,baz=44,slow=30						
SCHQ	Schefferville	56.38	24	LR	LR	22 34 18.8	
	comp=Z,25nm,20.6s,baz=54,slow=36						
YKA	Yellowknife Ar	57.28	353	P	P	22 09 59.2	0.0
	0.8nm,1.0s,baz=162,slow=7.6,SNR=7.4						
YKA				LR	LR	22 34 13.4	
	comp=Z,118nm,18.3s,baz=282,slow=36						
	0.8nm,1.0s						
BDFB	Brasilia	57.51	113	LR	LR	22 34 45.7	
	comp=Z,42nm,18.0s,baz=50,slow=36						
ILAR	Eielson Array	66.83	341	P	P	22 11 03.5	0.0
	1.8nm,0.7s,baz=150,slow=4.5,SNR=34						
	1.8nm,0.7s						
QSPA	South Pole Qui	95.86	180	LR	LR	22 51 58.6	
	comp=Z,32nm,20.4s,baz=40,slow=32						

PRU 01 22:12:37.8, 49°.97N×18°.45E, h0^{km}, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DPC	Dobruska-Polom	1.42	286	eSG	Sg	22 13 22.9	-0.5
OSTC	Ostas	1.55	293	ePG	Pn	22 13 05.2	-1.5
OSTC				eSG	Sn	22 13 27.1	-0.4

*NAO **01** 22:13:49.7, 41°.13N×24°.25E, h33^{km}, mb3.5*
*PRU **01** 22:13:49.4, 41°.73N×24°.78E, h0^{km}, M4.4*
*MOS **01** 22:13:50.9±1.1, 41°.23N×22°.80E, h14^{km}, mb4.3/11, Error ellipse: s-maj=5.6km s-min=3.4km az=81.3*
*IDC **01** 22:13:50.5±0.8, 41°.18N×22°.79E, h0^{km}, mb3.7/17, mbtmp3.7/23, ML3.6/7, MS3.1/16, Error ellipse: s-maj=14.2km s-min=11.9km az=179.0*
*TIR **01** 22:13:51.8, 41°.21N×22°.76E, h25^{km}±3^{km}, Ml3.9*
*ISK **01** 22:13:51.8, 41°.18N×22°.86E, h10^{km}, ML4.2/27*
*MED_RC **01** 22:13:51.0±0.6, 41°.22N×22°.86E, h10^{km}, MW4.1/4, Moment Tensor Solution.Mantle waves: s4,c4; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.43±.25; $M_{\theta\theta}$1.91±.17; $M_{\phi\phi}$-1.48±.27; $M_{r\theta}$-0.05±.42; $M_{\theta\phi}$0.10±.20; $M_{\phi r}$0.21±.77; Best double couple: $M_0$1.72000×10^{15} NP1:ϕ_s133.00000°,δ83.00000°,λ-9.00000°. NP2: ϕ_s224.00000°,δ81.00000°,λ-173.00000°. Principal axes: T 1.9100, Plg1.0000°, Azm178.0000°; N -0.3800, Plg79.0000°, Azm274.0000°; P -1.5300, Plg11.0000°, Azm88.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*SKO **01** 22:13:51.5, 41°.22N×22°.86E, h15^{km}, ML3.7*
*PDG **01** 22:13:51.8±0.4, 41°.22N×22°.83E, h13^{km}, ML3.5/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*SOF **01** 22:13:51.4, 41°.23N±0°.01×22°.85E±0°.01, h11^{km}±1^{km}, MD4.3/9*
*NEIC **01** 22:13:52.2±1.5, 41°.19N±0°.05×22°.87E±0°.04, h10^{km}±1^{km}, mb4.4/34, Error ellipse: s-maj=8.5km s-min=5.0km az=171.0*
*BEO **01** 22:13:52.4±0.4, 41°.22N×22°.89E, h10^{km}±2^{km}, ML3.8/12*
*THE **01** 22:13:52.3, 41°.19N×22°.88E, h10^{km}±1^{km}, ML3.9/7, Error ellipse: s-maj=1.5km s-min=0.7km az=164.0*
*ATH **01** 22:13:52.7, 41°.21N×22°.87E, h8^{km}, Mw4.0, Moment Tensor Solution. s8 Moment tensor: M_{rr}-0.91; $M_{\theta\theta}$1.29; $M_{\phi\phi}$-0.38; $M_{r\theta}$-0.35; $M_{\theta\phi}$-0.33; $M_{\phi r}$-0.45; Fault plane solution: NP1:ϕ_s73.00000°,δ59.00000°,λ-127.00000°. NP2:ϕ_s309.00000°,δ47.00000°,λ-45.00000°.*
ISC 01 22:13:52.1±0.9, 41°.21N±0°.02×22°.86E±0°.01, h11^{km}±5^{km}, n458, σ1s.24/544, mb4.2/38, MS3.0/8, 47C-39D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAY	Valandovo	0.24	298	ePg	Pg	22 13 57.5	+0.4
VAY				eSg	Sg	22 14 01.7	+1.2
VAY	Valandovo	0.24	298	i Pg	Pg	22 13 57.4	+0.4
VAY				i Sg	Sg	22 14 01.3	+0.8
VAY				eLg	Lg	22 14 02.1	
	comp=E,11μm,0.4s						
VAY				eLg	Lg	22 14 02.3	
	comp=N,15μm,0.2s						
GRG	Griva	0.42	234	Pg	Pg	22 14 00.4	0.0
GRG				Sg	Sb	22 14 07.4	-0.6
GRG	Griva	0.42	234	P	Pg	22 14 00.4	0.0
GRG				S	Sb	22 14 07.3	-0.7
	comp=N,53μm,0.3s						
GRG	Griva	0.42	234	P	Pg	22 14 00.4	0.0
GRG				S	Sb	22 14 07.3	-0.7
GRG	Griva	0.42	234	P	Pg	22 14 00.6	+0.2
GRG				S	Sb	22 14 07.3	-0.7
GRG				AML	AML	22 14 08.6	
	comp=E,93368μm,0.4s						
GRG				AML	AML	22 14 08.7	
	comp=N,90531μm,0.1s						
GRG	Griva	0.42	234⇑	iPg	Pg	22 14 00.5	0.0
GRG				i Sg	Sb	22 14 07.5	-0.4
SOH	Sokhos	0.54	135	P	Pg	22 14 02.3	-0.3
SOH	Sokhos	0.54	135	P	Pg	22 14 02.3	-0.3
SOH				S	Sg	22 14 10.1	+0.3
SOH	Sokhos	0.54	135	P	Pg	22 14 02.6	0.0
SOH				S	Sb	22 14 10.6	-0.8
SOH				AML	AML	22 14 12.6	
	comp=N,79097μm,0.5s						
SOH				AML	AML	22 14 14.6	
	comp=E,64455μm,0.4s						
SOH	Sokhos	0.54	135⇑	iPg	Pg	22 14 02.4	-0.2
SOH				i Sg	Sb	22 14 11.6	+0.2
PEHC	Pehcevo	0.57	3	i Pg	Pg	22 14 02.8	-0.4
PEHC				i Sg	Sg	22 14 11.2	+0.4
THE	Thessaloniki	0.58	172	P	Pg	22 14 03.4	0.0
	baz=164						
THE				S	Sb	22 14 12.0	-0.4
	baz=164						
THE				AMP			
	comp=E,53nm,0.4s,baz=164						
THE	Thessaloniki	0.58	172	P	Pg	22 14 03.1	-0.2
THE				S	Sg	22 14 11.5	+0.5
	comp=E,16μm,0.5s						
THE	Thessaloniki	0.58	172	P	Pg	22 14 03.3	0.0
THE				S	Sg	22 14 11.3	+0.3
THE				AML	AML	22 14 12.4	
	comp=E,29997μm,0.2s						
THE				AML	AML	22 14 12.4	
	comp=N,16971μm,0.2s						
THE	Thessaloniki	0.58	172⇑	iPg	Pg	22 14 03.1	-0.2
THE				i Sg	Sb	22 14 12.0	-0.4
HORT	Hortiatis	0.64	163	Pg	Pg	22 14 04.4	0.0

HORT				Sg	Sg	22 14 13.4	+0.6
HORT	**Hortiatis**	**0.64**	**163**	P	**Pg**	**22 14 04.3**	**-0.1**
HORT				S	**Sg**	**22 14 13.3**	**+0.5**
	comp=N,11µm,0.3s						
HORT	**Hortiatis**	**0.64**	**163**	P	**Pg**	**22 14 04.7**	**+0.2**
HORT				S	**Sg**	**22 14 13.4**	**+0.6**
HORT				AML	AML	22 14 15.8	
	comp=E,20102µm,0.2s						
HORT				AML	AML	22 14 16.8	
	comp=N,25306µm,0.5s						
KKB	**Krupnik**	**0.67**	**18**	*i* P	**Pg**	**22 14 04.6**	**-0.4**
KKB				*i* S	**Sg**	**22 14 13.4**	**-0.4**
KKB	**Krupnik**	**0.67**	**18**	⇑*i*Pg	**Pg**	**22 14 04.5**	**-0.5**
KKB				*i* Sg	**Sg**	**22 14 13.7**	**-0.1**
STIP	**Stip**	**0.70**	**314**	*i* Pg	**Pg**	**22 14 03.7**	**-2.0**
STIP				*i* Sg	**Sg**	**22 14 13.6**	**-1.2**
MMB	**Musomishta**	**0.75**	**63**	*i* P	**Pg**	**22 14 06.2**	**-0.5**
MMB				*i* S	**Sg**	**22 14 16.4**	**-0.1**
MMB	**Musomishta**	**0.75**	**63**	⇑*i*Pg	**Pg**	**22 14 06.1**	**-0.6**
MMB				*i* Sg	**Sg**	**22 14 16.7**	**+0.2**
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pb**	**22 14 07.3**	**-0.2**
NVR				S	**Sb**	**22 14 17.8**	**-0.2**
	comp=N,6µm,0.3s						
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pb**	**22 14 07.5**	**0.0**
NVR				S	**Sb**	**22 14 17.9**	**-0.2**
NVR				AML	AML	22 14 19.1	
	comp=N,10960µm,0.4s						
NVR				AML	AML	22 14 19.8	
	comp=E,11382µm,0.2s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pg**	**22 14 09.5**	**-0.9**
KOKK				S	**Sg**	**22 14 22.5**	**-0.2**
	comp=E,4µm,0.5s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pg**	**22 14 10.1**	**-0.3**
KOKK				S	**Sb**	**22 14 23.2**	**+0.2**
KTI	**Kastanea**	**0.99**	**215**	P	**Pg**	**22 14 09.8**	**-1.3**
KVLA	**Kavala**	**1.19**	**103**	P	**Pn**	**22 14 14.6**	**0.0**
KVLA				S	**Sn**	**22 14 30.5**	**-0.2**
KVLA				AML	AML	22 14 31.1	
	comp=E,7621µm,0.3s						
KVLA				AML	AML	22 14 31.3	
	comp=N,10045µm,0.6s						
FNA	**Florina**	**1.20**	**250**	Pn	**Pn**	**22 14 14.5**	**-0.2**
FNA				Sn	**Sn**	**22 14 31.2**	**+0.2**
FNA	**Florina**	**1.20**	**250**	Pn	**Pn**	**22 14 14.6**	**-0.2**
FNA					**Sn**	**22 14 31.5**	**+0.5**
FNA	**Florina**	**1.20**	**250**	P	**Pn**	**22 14 14.4**	**-0.2**
	baz=249						
FNA				S	**Sb**	**22 14 29.1**	**-1.2**
	baz=249						
FNA				AMP			
	comp=E,11nm,0.5s,baz=249						
FNA	**Florina**	**1.20**	**250**	P	**Pn**	**22 14 14.1**	**-0.7**
FNA				S	**Sn**	**22 14 30.9**	**-0.1**
	comp=E,7µm,0.6s						
FNA	**Florina**	**1.20**	**250**	*e*Pg	**Pn**	**22 14 14.6**	**-0.2**
FNA				*e*Sg	**Sn**	**22 14 31.3**	**+0.2**
FNA	**Florina**	**1.20**	**250**	P	**Pn**	**22 14 14.6**	**-0.2**
FNA						22 14 31.5	
FNA	**Florina**	**1.20**	**250**	P	**Pn**	**22 14 14.6**	**-0.2**
FNA				S	**Sn**	**22 14 31.6**	**+0.6**
FNA				AML	AML	22 14 36.4	
	comp=N,10983µm,0.3s						
FNA				AML	AML	22 14 36.4	
	comp=E,13250µm,0.5s						
FNA	**Florina**	**1.20**	**250**	⇓*i*Pg	**Pn**	**22 14 14.5**	**-0.2**
FNA				*i* Sg	**Sn**	**22 14 31.7**	**+0.6**
OUR	**Ouranopolis**	**1.22**	**135**	Pn	**Pn**	**22 14 14.9**	**-0.1**
OUR				Sn	**Sn**	**22 14 31.6**	**+0.1**
OUR	**Ouranopolis**	**1.22**	**135**	P	**Pn**	**22 14 14.7**	**-0.3**
OUR				S	**Sg**	**22 14 31.3**	**-0.1**
	comp=E,8µm,0.5s						
OUR	**Ouranopolis**	**1.22**	**135**	P	**Pn**	**22 14 15.0**	**-0.1**
OUR				S	**Sn**	**22 14 31.9**	**+0.3**
OUR				AML	AML	22 14 34.6	
	comp=E,19045µm,0.4s						
OUR				AML	AML	22 14 34.7	
	comp=N,11681µm,0.3s						
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**22 14 15.1**	**-0.6**
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**22 14 15.6**	**-0.1**
SKO	**Skopje**	**1.31**	**306**	*e*Pg	**Pn**	**22 14 16.4**	**+0.1**
SKO				*e*Sg	**Sg**	**22 14 34.3**	**+0.1**
SKO	**Skopje**	**1.31**	**306**	P	**Pn**	**22 14 14.6**	**-1.7**
SKO	**Skopje**	**1.31**	**306**	⇓*i*Pg	**Pn**	**22 14 16.4**	**+0.1**
SKO				*i* Sg	**Sg**	**22 14 34.4**	**+0.2**
BOSS	**Bosilegrad**	**1.32**	**348**	*e*Pg	**Pn**	**22 14 16.5**	**+0.1**
BOSS				*e*Sg	**Sg**	**22 14 34.6**	**+0.1**
PRVS	**Prvonek**	**1.42**	**336**	*e*Pg	**Pn**	**22 14 18.2**	**+0.3**
PRVS				*e*Sg	**Sg**	**22 14 38.1**	**+0.2**
PAIG	**Paliouri**	**1.43**	**154**	Pn	**Pn**	**22 14 17.7**	**-0.1**
PAIG	**Paliouri**	**1.43**	**154**	P	**Pn**	**22 14 17.4**	**-0.4**
VTS	**Vitosha**	**1.44**	**11**	*i* P	**Pn**	**22 14 18.3**	**+0.1**
VTS				*i* S	**Sn**	**22 14 36.9**	**-0.2**
VTS	**Vitosha**	**1.44**	**11**	*e*Pg	**Pn**	**22 14 18.5**	**+0.3**
VTS				*e*Sg	**Sn**	**22 14 36.5**	**-0.6**
RZN	**Rozhen**	**1.50**	**70**	*i* P	**Pb**	**22 14 19.7**	**-0.3**
RZN				*i* S	**Sg**	**22 14 41.3**	**+1.0**
THAS	**Thassos island**	**1.54**	**112**	P	**Pn**	**22 14 18.7**	**-0.6**
THAS	**Thassos island**	**1.54**	**112**	P	**Pn**	**22 14 19.1**	**-0.3**
THAS				S	**Sn**	**22 14 39.2**	**0.0**
THAS				AML	AML	22 14 42.2	
	comp=N,7701µm,0.3s						
THAS				AML	AML	22 14 42.9	
	comp=E,8025µm,0.4s						
OHR	**Ohrid**	**1.56**	**267**	*e*Pg	**Pb**	**22 14 20.5**	**-0.4**
OHR				*e*Sg	**Sg**	**22 14 42.9**	**+0.8**
OHR	**Ohrid**	**1.56**	**267**	*i* Pn	**Pb**	**22 14 20.6**	**-0.3**
OHR				*i* Sg	**Sg**	**22 14 43.9**	**+1.8**
OHR				*e*Lg	Lg	22 14 44.0	
	comp=N,768nm,0.5s						
OHR				*e*Lg	Lg	22 14 46.6	
	comp=E,682nm,0.6s						
NEST	**Nestorio**	**1.58**	**241**	P	**Pn**	**22 14 20.5**	**+0.3**
NEST	**Nestorio**	**1.58**	**241**	P	**Pn**	**22 14 20.4**	**+0.3**
PGB	**Panagyurishte**	**1.64**	**37**	*i* P	**Pb**	**22 14 21.8**	**-0.4**
PENT	**Pentalofos**	**1.65**	**233**	P	**Pn**	**22 14 21.3**	**+0.3**
KBN	**Korca**	**1.67**	**250**	Pn	**Pn**	**22 14 21.6**	**+0.3**
KBN				Sn	**Sn**	**22 14 43.2**	**+0.4**
KBN	**Korca**	**1.67**	**250**	P	**Pn**	**22 14 22.1**	**+0.8**
	baz=250						
KBN				S	**Sn**	**22 14 42.9**	**+0.1**
	baz=250						
KBN				AMP			
	comp=E,5.2nm,0.7s,baz=250						
KBN	**Korca**	**1.67**	**250**	P	**Pn**	**22 14 21.6**	**+0.3**
KBN						22 14 43.2	
KPRO	**Kipourio**	**1.69**	**223**	P	**Pn**	**22 14 22.3**	**+0.7**
PLD	**Plovdiv**	**1.70**	**56**	Pn	**Pn**	**22 14 22.2**	**+0.6**
PLD	**Plovdiv**	**1.70**	**56**	*e*Pg	**Pb**	**22 14 22.5**	**-0.8**
PLD				*e*Sg	**Sb**	**22 14 44.1**	**-0.6**
PLD	**Plovdiv**	**1.70**	**56**	*i* Pn	**Pn**	**22 14 21.9**	**+0.3**
PLD				*i* Sg	**Sg**	**22 14 46.2**	**-0.5**
THL	**Klokotos Trika**	**1.76**	**202**	P	**Pn**	**22 14 23.1**	**+0.6**
BARS	**Barje**	**1.78**	**335**	*e*Pg	**Pn**	**22 14 23.3**	**+0.5**
BARS				*e*Sg	**Sg**	**22 14 49.3**	**-0.1**
BARS	**Barje**	**1.78**	**335**	⇑*i*Pn	**Pn**	**22 14 23.1**	**+0.3**
BARS				*i* Sg	**Sg**	**22 14 49.3**	**-0.1**
PHP	**Peshkopia**	**1.88**	**286**	P	**Pn**	**22 14 24.4**	**+0.3**
	baz=287						
PHP				S	**Sn**	**22 14 48.2**	**+0.4**
	baz=287						
PHP				AMP			
	comp=N,1.7nm,0.6s,baz=287						
KDZ	**Kurdzhali**	**1.92**	**76**	Pn	**Pn**	**22 14 25.4**	**+0.8**
KDZ	**Kurdzhali**	**1.92**	**76**	*i* P	**Pb**	**22 14 26.0**	**-1.0**
KDZ				*i* S	**Sg**	**22 14 54.5**	**+0.8**
NEO	**Neokhori**	**1.92**	**171**	P	**Pn**	**22 14 24.9**	**+0.3**
NEO				S	**Sn**	**22 14 48.6**	**-0.2**
NEO				AML	AML	22 14 51.7	
	comp=N,3528µm,0.8s						
NEO				AML	AML	22 14 53.5	
	comp=E,4449µm,0.7s						
LSK	**Leskovik**	**2.01**	**239**	P	**Pn**	**22 14 26.9**	**+0.9**
	baz=239						
LSK				S	**Sb**	**22 14 52.6**	**-1.2**
	baz=239						
RDO	**Rodhopi**	**2.03**	**91**	Pn	**Pn**	**22 14 26.8**	**+0.7**
RDO	**Rodhopi**	**2.03**	**91**	Pn	**Pn**	**22 14 25.4**	**-0.7**
RDO				Sn	**Sn**	**22 14 51.1**	**-0.3**
RDO	**Rodhopi**	**2.03**	**91**	P	**Pn**	**22 14 26.0**	**-0.1**
ZAPS	**Zavoj**	**2.07**	**356**	*e*Pg	**Pn**	**22 14 27.6**	**+0.8**
ZAPS				*e*Sg	**Sg**	**22 14 59.1**	**+0.5**
SMTH	**Samothraki Isl**	**2.16**	**109**	P	**Pn**	**22 14 28.2**	**+0.3**
ALNA	**Alonissos**	**2.20**	**159**	P	**Pn**	**22 14 28.5**	**+0.1**

LIA	**Limnos Island**	**2.20**	**126**	P	**Pn**	**22 14 28.6**	**+0.1**
MPEP	**Malo Peshtene**	**2.25**	**17**	*i* P	**Pn**	**22 14 29.9**	**+0.8**
TIR	**Tirane**	**2.26**	**275**	Pn	**Pn**	**22 14 29.2**	**-0.1**
TIR	**Tirane**	**2.26**	**275**	P	**Pb**	**22 14 31.9**	**-0.9**
	baz=275						
TIR				S	**Sn**	**22 14 58.5**	**+1.4**
	baz=275						
TIR				AMP			
	comp=E,0.9nm,0.9s,baz=275						
TIR	**Tirane**	**2.26**	**275**	*e*Pn	**Pb**	**22 14 31.5**	**-1.3**
TIR	**Tirane**	**2.26**	**275**	P	**Pn**	**22 14 29.2**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.26**	**194**	P	**Pn**	**22 14 30.1**	**+0.8**
BCI	**Bajram Curri**	**2.38**	**300**	P	**Pn**	**22 14 31.8**	**+0.7**
	baz=301						
BCI				S	**Sg**	**22 15 09.5**	**+0.8**
	baz=301						
BCI				AMP			
	comp=E,2.8nm,0.6s,baz=301						
SELS	**Selova**	**2.39**	**328**	*e*Pn	**Pn**	**22 14 30.6**	**-0.5**
BLKB	**Belogradchik**	**2.42**	**357**	⇑P	**Pn**	**22 14 32.4**	**+0.9**
BLKB	**Belogradchik**	**2.42**	**357**		**Pn**	**22 14 32.5**	**+0.9**
ALN	**Alexandroupoli**	**2.43**	**96**	Pn	**Pn**	**22 14 32.6**	**+0.9**
ALN	**Alexandroupoli**	**2.43**	**96**	Pn	**Pn**	**22 14 31.9**	**+0.2**
ALN	**Alexandroupoli**	**2.43**	**96**	P	**Pn**	**22 14 31.9**	**+0.2**
AXAR	**Agios Charalam**	**2.44**	**184**	P	**Pn**	**22 14 32.5**	**+0.7**
VALD	**Valchedram**	**2.52**	**10**	P	**Pn**	**22 14 34.2**	**+1.3**
GADA	**Gvkgeada**	**2.53**	**113**	Pn	**Pn**	**22 14 34.0**	**+1.0**
ENEZ	**Enez**	**2.54**	**100**	Pn	**Pn**	**22 14 34.0**	**+0.8**
PLVB	**Pleven**	**2.54**	**30**	⇓P	**Pn**	**22 14 34.3**	**+1.1**
PLVB	**Pleven**	**2.54**	**30**		**Pn**	**22 14 34.3**	**+1.1**
SRN	**Sarande**	**2.55**	**240**	P	**Pb**	**22 14 35.7**	**-2.0**
	baz=239						
SRN				S	**Sb**	**22 15 09.2**	**+0.2**
	baz=239						
IGT	**Igoumenitsa**	**2.55**	**230**	P	**Pb**	**22 14 36.0**	**-1.9**
	baz=229						
IGT				S	**Sb**	**22 15 07.6**	**-1.6**
	baz=229						
IGT				AMP			
	comp=E,1.4nm,0.9s,baz=229						
PVY	**Plav**	**2.57**	**304**	⇓*i*Pn	**Pn**	**22 14 34.0**	**+0.3**
PVY				*i* Sn	**Sn**	**22 15 06.7**	**+1.7**
BOVS	**Bovan**	**2.57**	**341**	⇓P	**Pn**	**22 14 33.2**	**-0.5**
BOVS	**Bovan**	**2.57**	**341**		**Pn**	**22 14 33.1**	**-0.5**
BOVS	**Bovan**	**2.57**	**341**	*e*Pn	**Pn**	**22 14 33.0**	**-0.6**
BOVS				*e*Sn	**Sn**	**22 15 06.8**	**+2.0**
ZAGS	**Zajecar**	**2.64**	**350**	*e*Pn	**Pn**	**22 14 34.7**	**+0.1**
ZAGS				*e*Sn	**Sn**	**22 15 06.3**	**-0.3**
VLO	**Vlora**	**2.65**	**255**	Pn	**Pn**	**22 14 34.6**	**0.0**
VLO	**Vlora**	**2.65**	**255**	P	**Pn**	**22 14 34.7**	**0.0**
ANX	**Ano Chora**	**2.71**	**196**	P	**Pn**	**22 14 36.4**	**+0.8**
KYMI	**Kymi, Euboea I**	**2.74**	**159**	P	**Pn**	**22 14 36.4**	**+0.4**
IVA	**Berane**	**2.76**	**308**	⇑*i*Pn	**Pn**	**22 14 37.0**	**+0.7**
IVA				*i* Sn	**Sn**	**22 15 11.7**	**+2.0**
KEK	**Kerkira**	**2.77**	**238**	Pn	**Pn**	**22 14 37.2**	**+0.9**
KEK	**Kerkira**	**2.77**	**238**		**Pn**	**22 14 36.7**	**+0.4**
ULC	**Ulcinj**	**2.81**	**287**	⇓*i*Pn	**Pn**	**22 14 37.5**	**+0.6**
ULC				*i* Sn	**Sn**	**22 15 12.5**	**+1.7**
ERIK	**Erikli-Kesan**	**2.82**	**100**	Pn	**Pn**	**22 14 38.1**	**+1.1**
ELND	**Elena**	**2.83**	**52**	⇑P	**Pn**	**22 14 37.7**	**+0.5**
ELND	**Elena**	**2.83**	**52**		**Pn**	**22 14 37.7**	**+0.5**
UKOP	**Uzunkopru-Edir**	**2.85**	**90**	Pn	**Pn**	**22 14 38.9**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.86**	**105**	Pn	**Pn**	**22 14 39.1**	**+1.5**
DRME	**Dracevica, Mon**	**2.92**	**291**	⇑*i*Pn	**Pn**	**22 14 39.1**	**+0.7**
DRME				*i* Sn	**Sn**	**22 15 15.1**	**+1.7**
DRME	**Dracevica, Mon**	**2.92**	**291**	*e*Pn	**Pn**	**22 14 40.5**	**+2.1**
LKD2	**Lefkada island**	**2.95**	**216**	P	**Pn**	**22 14 40.6**	**+1.8**
	baz=215						
LKD2				S	**Sb**	**22 15 17.9**	**-2.7**
	baz=215						
SJES	**Sjenica**	**2.96**	**315**	*e*Pn	**Pn**	**22 14 39.6**	**+0.5**
SJES	**Sjenica**	**2.96**	**315**	*e*Pn	**Pn**	**22 14 38.8**	**-0.3**
COMU	**Canakkale**	**2.97**	**111**	Pn	**Pn**	**22 14 39.7**	**+0.6**
KOME	**Kolasin**	**2.98**	**305**	⇑*i*Pn	**Pn**	**22 14 39.8**	**+0.5**
KOME				*i* Sn	**Sn**	**22 15 16.8**	**+1.7**
EZN	**Ezine**	**2.98**	**116**	Pn	**Pn**	**22 14 40.5**	**+1.2**
EZN	**Ezine**	**2.98**	**116**	P	**Pb**	**22 14 45.0**	**-0.2**
EDRB	**Edirne**	**2.99**	**76**	Pn	**Pn**	**22 14 40.4**	**+1.1**
VLAD	**Vladila**	**3.02**	**22**	⇓P	**Pn**	**22 14 40.2**	**+0.6**
SIGR	**SIGRI**	**3.04**	**130**	Pn	**Pn**	**22 14 40.9**	**+0.8**
SIGR	**SIGRI**	**3.04**	**130**	P	**Pn**	**22 14 41.2**	**+1.2**
PUNG	**Punghina**	**3.07**	**1**	⇓P	**Pn**	**22 14 41.4**	**+1.0**
ZIMR		**3.07**	**36**	⇑P	**Pn**	**22 14 41.5**	**+1.0**
ZIMR		**3.07**	**36**		**Pn**	**22 14 41.5**	**+1.0**
ZIMR		**3.07**	**36**	P	**Pn**	**22 14 41.5**	**+1.0**
LPK	**Lapseki**	**3.08**	**104**	Pn	**Pn**	**22 14 41.3**	**+0.7**
SZH	**Strazhitsa**	**3.10**	**47**	*i* P	**Pn**	**22 14 42.3**	**+1.4**
IVAS	**Ivanjica**	**3.10**	**321**	*e*Pn	**Pn**	**22 14 40.7**	**-0.2**
GRUS	**Gruza**	**3.11**	**330**	*e*Pn	**Pn**	**22 14 40.9**	**-0.1**
BUM	**Brajici-Budva**	**3.16**	**292**	⇓*i*Pn	**Pn**	**22 14 42.1**	**+0.4**
BUM				*i* Sn	**Sn**	**22 15 21.1**	**+1.7**
CEME	**Cevo**	**3.23**	**296**	⇑*i*Pn	**Pn**	**22 14 43.4**	**+0.7**
CEME				*i* Sn	**Sn**	**22 15 22.6**	**+1.4**
PRK	**Paraskevi**	**3.27**	**126**	P	**Pn**	**22 14 44.2**	**+1.0**
SVIS	**Svilajnac**	**3.29**	**339**	*e*Pn	**Pn**	**22 14 44.7**	**+1.3**
SVIS				*e*Sn	**Sn**	**22 15 22.6**	**+0.1**
NKME	**Niksic**	**3.30**	**299**	⇓*i*Pn	**Pn**	**22 14 45.8**	**+2.1**
RKY	**Sarkoy-Tekirda**	**3.31**	**98**	Pn	**Pn**	**22 14 45.6**	**+1.7**
KUBS	**Kucevo**	**3.32**	**345**	*e*Pn	**Pn**	**22 14 42.4**	**-1.5**
PLE	**Pljevlja**	**3.33**	**311**	⇑*i*Pn	**Pn**	**22 14 44.7**	**+0.5**
PLE				*i* Sn	**Sn**	**22 15 25.2**	**+1.4**
COPA	**Copaceanca**	**3.40**	**30**	⇓P	**Pn**	**22 14 46.9**	**+1.9**
CANM	**Can-anakkale**	**3.41**	**109**	Pn	**Pn**	**22 14 46.5**	**+1.3**
SRE	**Strehaia**	**3.46**	**4**	⇑P	**Pn**	**22 14 46.3**	**+0.4**
SRE	**Strehaia**	**3.46**	**4**	P	**Pn**	**22 14 46.2**	**+0.4**
DJES	**Djerdap**	**3.46**	**356**	Pn	**Pn**	**22 14 45.6**	**-0.3**
KRBG	**Karabiga-Canak**	**3.47**	**102**	Pn	**Pn**	**22 14 47.5**	**+1.6**
HCY	**Herceg Novi**	**3.49**	**292**	⇑*i*Pn	**Pn**	**22 14 47.0**	**+0.8**
HCY				*i* Sn	**Sn**	**22 15 28.8**	**+1.4**
HCY	**Herceg Novi**	**3.49**	**292**	*e*Pn	**Pn**	**22 14 47.7**	**+1.5**
TRUS	**Trudelj**	**3.51**	**330**	*e*Pn	**Pn**	**22 14 46.2**	**-0.4**
LOZB	**Loznitsa**	**3.52**	**51**	⇑P	**Pn**	**22 14 47.3**	**+0.7**
LOZB	**Loznitsa**	**3.52**	**51**		**Pn**	**22 14 47.3**	**+0.7**
SCTE	**Santa Cesarea**	**3.52**	**253**	Pn	**Pn**	**22 14 46.8**	**+0.1**
RUDO	**Rudo**	**3.53**	**314**	*e*Pn	**Pn**	**22 14 46.7**	**-0.1**
PHSR	**Pinarhisar**	**3.54**	**82**	Pn	**Pn**	**22 14 48.6**	**+1.7**
TKR	**Tekirdag**	**3.54**	**92**	Pn	**Pn**	**22 14 48.5**	**+1.5**
UPM	**Unac-Piva**	**3.55**	**306**	⇑*i*Pn	**Pn**	**22 14 47.6**	**+0.4**
UPM				*i* Sn	**Sn**	**22 15 30.3**	**+1.1**
UPM	**Unac-Piva**	**3.55**	**306**	*e*Pn	**Pn**	**22 14 45.2**	**-2.0**
RAZG	**Razgrad**	**3.59**	**48**	⇓P	**Pn**	**22 14 49.1**	**+1.5**
RAZG	**Razgrad**	**3.59**	**48**		**Pn**	**22 14 49.1**	**+1.5**
BRY	**Bratogost**	**3.63**	**299**	⇑*i*Pn	**Pn**	**22 14 49.1**	**+0.8**
BRY				*i* Sn	**Sn**	**22 15 32.0**	**+0.8**
BRY	**Bratogost**	**3.63**	**299**	*e*Pn	**Pn**	**22 14 50.3**	**+2.0**
HUMR	**Humele**	**3.67**	**25**	⇓P	**Pn**	**22 14 49.5**	**+0.8**
MDVR	**Moldovita**	**3.67**	**347**	⇑P	**Pn**	**22 14 48.5**	**-0.2**
BBLS	**Lazići**	**3.68**	**317**	*e*Pn	**Pn**	**22 14 49.3**	**+0.4**
TREB	**Trebinje**	**3.68**	**296**	*e*Pn	**Pn**	**22 14 51.5**	**+2.6**
TREB	**Trebinje**	**3.68**	**296**	*e*Pn	**Pn**	**22 14 50.4**	**+1.5**
CRLT	**Corlu**	**3.69**	**90**	Pn	**Pn**	**22 14 50.8**	**+1.9**
HERR	**Herculane**	**3.69**	**355**	⇓P	**Pn**	**22 14 49.0**	**+0.1**
DKL	**Dikili**	**3.77**	**123**	Pn	**Pn**	**22 14 51.0**	**+1.0**
SGRR	**Singureni**	**3.79**	**36**	⇓P	**Pn**	**22 14 51.5**	**+1.2**
RFT7	**Candarli**	**3.84**	**124**	Pn	**Pn**	**22 14 52.6**	**+1.5**
PRD	**Provadia**	**3.91**	**59**	*i* P	**Pn**	**22 14 53.0**	**+1.0**
BUC1	**Bucharest**	**3.91**	**36**	⇑P	**Pn**	**22 14 53.4**	**+1.4**
BUC1	**Bucharest**	**3.91**	**36**		**Pn**	**22 14 53.4**	**+1.4**
BUC1	**Bucharest**	**3.91**	**36**	P	**Pn**	**22 14 53.4**	**+1.4**
STFAR	**Stefanesti-Arg**	**3.97**	**22**	⇓P	**Pn**	**22 14 53.5**	**+0.7**
STFAR	**Stefanesti-Arg**	**3.97**	**22**		**Pn**	**22 14 53.5**	**+0.7**
HAPS	**Han Pijesak,Bl**	**4.07**	**316**	*e*Pn	**Pn**	**22 14 54.9**	**+0.6**
HAPS	**Han Pijesak,Bl**	**4.07**	**316**	*e*Pn	**Pn**	**22 14 54.8**	**+0.5**
NEVS	**Nevesinje**	**4.10**	**302**	*e*Pn	**Pn**	**22 14 56.6**	**+1.9**
TEKS	**Tekeris**	**4.14**	**325**	*e*Pn	**Pn**	**22 14 55.0**	**-0.2**
TEKS	**Tekeris**	**4.14**	**325**	*e*Pn	**Pn**	**22 14 54.4**	**-0.8**
BALB	**Balikesir**	**4.14**	**111**	Pn	**Pn**	**22 14 55.9**	**+0.7**
STON	**Ston**	**4.18**	**295**	*e*Pn	**Pn**	**22 14 58.5**	**+2.8**
STON	**Ston**	**4.18**	**295**	*e*Pn	**Pn**	**22 14 57.3**	**+1.6**
GZR	**Gura Zlata**	**4.18**	**359**	⇓P	**Pn**	**22 14 55.7**	**-0.1**
GZR	**Gura Zlata**	**4.18**	**359**	P	**Pn**	**22 14 55.7**	**-0.1**
SULR		**4.27**	**35**	⇑P	**Pn**	**22 14 58.3**	**+1.3**
LOT	**Lotru**	**4.29**	**9**	⇓P	**Pn**	**22 14 57.6**	**+0.3**
MTUR	**Matau**	**4.33**	**21**	P	**Pn**	**22 14 59.2**	**+1.4**
BZS	**Buzias**	**4.50**	**349**	⇓P	**Pn**	**22 14 59.5**	**-0.6**
BZS	**Buzias**	**4.50**	**349**	*e*Pn	**Pn**	**22 14 59.1**	**-1.0**
BZS	**Buzias**	**4.50**	**349**	P	**Pn**	**22 14 59.3**	**-0.8**
VOIR		**4.52**	**20**	⇑P	**Pn**	**22 15 01.1**	**+0.6**
VOIR		**4.52**	**20**	P	**Pn**	**22 15 01.1**	**+0.6**
FRGS	**Fruska Gora**	**4.53**	**332**	⇑P	**Pn**	**22 15 00.5**	**-0.1**
FRGS	**Fruska Gora**	**4.53**	**332**	*e*Pn	**Pn**	**22 15 00.1**	**-0.5**

SURR	**Surduc**	**4.58**	**354**	⇑P	**Pn**	**22 15 01.0**	**-0.2**
SURR	**Surduc**	**4.58**	**354**		**Pn**	**22 15 01.0**	**-0.2**
APE	**Apeiranthos**	**4.63**	**152**	⇓P	**Pn**	**22 15 02.6**	**+0.7**
APE	**Apeiranthos**	**4.63**	**152**		**Pn**	**22 15 02.6**	**+0.7**
APE	**Apeiranthos**	**4.63**	**152**	P	**Pn**	**22 15 02.7**	**+0.7**
DEV	**Deva**	**4.67**	**0**	⇓P	**Pn**	**22 15 03.4**	**+0.9**
DEV	**Deva**	**4.67**	**0**	P	**Pn**	**22 15 05.3**	**+2.8**
AMRR	**Amara**	**4.73**	**43**	⇑P	**Pn**	**22 15 04.6**	**+1.3**
AMRR	**Amara**	**4.73**	**43**	P	**Pn**	**22 15 04.5**	**+1.3**
ISR	**Istrita**	**4.75**	**33**	⇓P	**Pn**	**22 15 05.7**	**+2.0**
ISR	**Istrita**	**4.75**	**33**	P	**Pn**	**22 15 05.6**	**+2.0**
PGOR	**Pogoanele**	**4.78**	**38**	⇑P	**Pn**	**22 15 06.0**	**+2.1**
PGOR	**Pogoanele**	**4.78**	**38**		**Pn**	**22 15 06.0**	**+2.1**
MLR	**Muntele Rosu**	**4.84**	**27**	⇓P	**Pn**	**22 15 06.8**	**+1.9**
MLR	**Muntele Rosu**	**4.84**	**27**	P	**Pn**	**22 15 06.8**	**+1.9**
MLR	**Muntele Rosu**	**4.84**	**27**	Pn	**Pn**	**22 15 06.5**	**+1.6**
	comp=E,10nm,0.3s,baz=200,slow=2.9,SNR=144						
MLR				Lg	Lg	22 16 27.3	
	comp=E,3.6nm,0.3s,baz=170,slow=23,SNR=5.3						
NEHR	**Nehoiu**	**4.91**	**30**	⇓P	**Pn**	**22 15 07.8**	**+2.1**
NEHR	**Nehoiu**	**4.91**	**30**		**Pn**	**22 15 07.8**	**+2.1**
MANR	**Mangalia**	**4.97**	**56**	⇑P	**Pn**	**22 15 08.5**	**+1.9**
MDB	**Medias**	**5.05**	**12**	⇓P	**Pn**	**22 15 09.7**	**+2.0**
MDB	**Medias**	**5.05**	**12**		**Pn**	**22 15 09.7**	**+2.0**
MDB	**Medias**	**5.05**	**12**	P	**Pn**	**22 15 09.7**	**+2.0**
TIP	**Timpagrande**	**5.09**	**249**	Pn	**Pn**	**22 15 08.4**	**+0.1**
HARR	**Harsova**	**5.10**	**45**	P	**Pn**	**22 15 10.6**	**+2.3**
SIRR	**Siria**	**5.13**	**351**	⇓P	**Pn**	**22 15 08.4**	**-0.4**
BISRR	**Bisoca**	**5.17**	**32**	⇑P	**Pn**	**22 15 11.6**	**+2.3**
TIRR	**Tirgusor**	**5.22**	**50**	⇓P	**Pn**	**22 15 10.6**	**+0.6**
TIRR	**Tirgusor**	**5.22**	**50**		**Pn**	**22 15 10.6**	**+0.6**
TIRR	**Tirgusor**	**5.22**	**50**	Pn	**Pn**	**22 15 09.8**	**-0.2**
TIRR	**Tirgusor**	**5.22**	**50**	P	**Pn**	**22 15 09.8**	**-0.2**
COVR	**Voineasa-Covas**	**5.24**	**27**	⇑P	**Pn**	**22 15 12.1**	**+1.9**
COVR	**Voineasa-Covas**	**5.24**	**27**		**Pn**	**22 15 12.1**	**+1.9**
BOSR	**Bodos**	**5.27**	**22**	⇓P	**Pn**	**22 15 11.9**	**+1.1**
MGRS	**Mrkonjic Grad**	**5.32**	**309**	*e*Pn	**Pn**	**22 15 12.9**	**+1.5**
OZUR		**5.33**	**23**	⇓P	**Pn**	**22 15 13.0**	**+1.5**
TURR	**Turia**	**5.36**	**24**	⇓P	**Pn**	**22 15 13.5**	**+1.5**
SGRT	**San Giovanni R**	**5.37**	**278**	Pn	**Pn**	**22 15 11.8**	**-0.3**
PLOR	**Plostina**	**5.40**	**29**	⇓P	**Pn**	**22 15 14.8**	**+2.2**
PLOR	**Plostina**	**5.40**	**29**	P	**Pn**	**22 15 14.3**	**+1.8**
VRI	**Vrincioaia**	**5.44**	**30**	⇓P	**Pn**	**22 15 15.1**	**+2.0**
VRI	**Vrincioaia**	**5.44**	**30**	P	**Pn**	**22 15 14.6**	**+1.5**
BLY	**Banja Luka**	**5.46**	**312**	*e*Pn	**Pn**	**22 15 14.5**	**+1.2**
BLY	**Banja Luka**	**5.46**	**312**	*e*Pn	**Pn**	**22 15 13.7**	**+0.4**
MARR	**Marisel-Cluj**	**5.47**	**2**	⇓P	**Pn**	**22 15 15.0**	**+1.4**
MARR	**Marisel-Cluj**	**5.47**	**2**		**Pn**	**22 15 15.0**	**+1.4**
TPGR	**Topolog**	**5.47**	**46**	⇑P	**Pn**	**22 15 14.6**	**+1.2**
TPGR	**Topolog**	**5.47**	**46**		**Pn**	**22 15 14.7**	**+1.2**
CUC	**Castrocucco**	**5.49**	**260**	Pn	**Pn**	**22 15 14.3**	**+0.4**
CFR	**Carcaliu**	**5.54**	**42**	⇓P	**Pn**	**22 15 15.3**	**+0.9**
CFR	**Carcaliu**	**5.54**	**42**	P	**Pn**	**22 15 15.2**	**+0.9**
PANC	**Panciu**	**5.61**	**32**	⇑P	**Pn**	**22 15 17.7**	**+2.3**
PANC	**Panciu**	**5.61**	**32**		**Pn**	**22 15 17.7**	**+2.3**
A050A	**Klekovaca**	**5.68**	**307**	*e*Pn	**Pn**	**22 15 17.7**	**+1.2**
A051A	**Mrakovica**	**5.78**	**313**	*e*Pn	**Pn**	**22 15 17.2**	**-0.6**
MORH	**Mrgy, Hungar**	**5.86**	**330**	⇓P	**Pn**	**22 15 18.7**	**-0.1**
VARL	**Varlezi**	**5.93**	**36**	⇓P	**Pn**	**22 15 21.7**	**+2.0**
VARL	**Varlezi**	**5.93**	**36**		**Pn**	**22 15 21.8**	**+2.0**
BORA	**Eskisehir**	**5.94**	**100**	Pn	**Pn**	**22 15 21.2**	**+1.2**
TESR	**Tescani**	**5.97**	**26**	⇑P	**Pn**	**22 15 22.5**	**+2.2**
VLDR	**Vladesti**	**5.99**	**38**	⇑P	**Pn**	**22 15 21.9**	**+1.3**
VLDR	**Vladesti**	**5.99**	**38**		**Pn**	**22 15 21.9**	**+1.3**
CEL	**Celeste**	**6.12**	**244**	Pn	**Pn**	**22 15 23.2**	**+0.8**
BIR	**Birlad**	**6.12**	**33**	⇓P	**Pn**	**22 15 23.7**	**+1.2**
BIR	**Birlad**	**6.12**	**33**		**Pn**	**22 15 23.7**	**+1.2**
BIR	**Birlad**	**6.12**	**33**	P	**Pn**	**22 15 23.6**	**+1.2**
GIRR	**Girov**	**6.32**	**23**	⇓P	**Pn**	**22 15 26.8**	**+1.8**
GIRR	**Girov**	**6.32**	**23**		**Pn**	**22 15 26.8**	**+1.8**
ARG	**Arkhangelos**	**6.47**	**139**	Pn	**Pn**	**22 15 26.1**	**-1.0**
ARG	**Arkhangelos**	**6.47**	**139**	P	**Pn**	**22 15 26.1**	**-1.0**
BURAR	**Bucovina Array**	**6.62**	**14**	⇑P	**Pn**	**22 15 30.6**	**+1.2**
BURAR	**Bucovina Array**	**6.62**	**14**	Pn	**Pn**	**22 15 30.4**	**+1.0**
BURAR	**Bucovina Array**	**6.62**	**14**	P	**Pn**	**22 15 30.6**	**+1.2**
BUR08	**Bucovina Ar. S**	**6.65**	**14**	Pn	**Pn**	**22 15 30.4**	**+0.6**
INTR	**Introdacqua**	**6.76**	**280**	Pn	**Pn**	**22 15 31.6**	**+0.4**
PSZ	**Piszkesteto**	**7.03**	**344**	Pn	**Pn**	**22 15 34.3**	**-0.7**
PSZ	**Piszkesteto**	**7.03**	**344**	P	**Pn**	**22 15 34.3**	**-0.7**
ELL	**Elmali**	**7.07**	**127**	Pn	**Pn**	**22 15 36.0**	**+0.4**
ELL	**Elmali**	**7.07**	**127**	P	**Pn**	**22 15 36.0**	**+0.4**
MILM	**Milestii Mici**	**7.14**	**35**	*e*P	**Pn**	**22 15 39.0**	**+2.7**
MILM				*e*L	L	22 17 45.0	
MILM				LqM		22 18 42.0	
	comp=E,500nm,10.4s						
MILM				LRM	MLR	22 19 26.0	
	comp=E,500nm,9.8s						
MILM	**Milestii Mici**	**7.14**	**35**	⇓P	**Pn**	**22 15 37.3**	**+0.9**
MILM	**Milestii Mici**	**7.14**	**35**	*e*P	**Pn**	**22 15 39.0**	**+2.7**
MILM				MLR	MLR		
	comp=Z,500nm,9.8s						
CAMP	**Campotosto**	**7.17**	**284**	Pn	**Pn**	**22 15 37.1**	**+0.2**
SRO	**Srobarova**	**7.36**	**335**	*e*P	**Pn**	**22 15 41.6**	**+2.3**
SRO	**Srobarova**	**7.36**	**335**	*e*PN	**Pn**	**22 15 41.6**	**+2.3**
NRCA	**Norcia**	**7.43**	**286**	Pn	**Pn**	**22 15 40.8**	**+0.3**
KECS	**Kecovo**	**7.47**	**348**	*e*P	**Pn**	**22 15 42.7**	**+1.9**
KECS	**Kecovo**	**7.47**	**348**	*e*PN	**Pn**	**22 15 42.7**	**+1.9**
FDMO	**Fiordimonte**	**7.49**	**287**	Pn	**Pn**	**22 15 41.3**	**+0.1**
RAFF	**Raffo Rosso**	**7.70**	**242**	Pn	**Pn**	**22 15 42.9**	**-1.2**
KOLS	**Kolonicke sedl**	**7.74**	**357**	*e*P	**Pn**	**22 15 45.6**	**+1.0**
KOLS	**Kolonicke sedl**	**7.74**	**357**	*e*PN	**Pn**	**22 15 45.6**	**+1.0**
CESX	**Cesi**	**7.79**	**284**	Pn	**Pn**	**22 15 45.3**	**-0.1**
VYHS	**Vyhne**	**7.82**	**340**	*e*P	**Pn**	**22 15 46.9**	**+1.1**
VYHS	**Vyhne**	**7.82**	**340**	*e*PN	**Pn**	**22 15 46.9**	**+1.1**
SOKA	**Soboth**	**7.86**	**317**	*e*Pn	**Pn**	**22 15 47.0**	**+0.7**
	comp=Z,2.3nm,0.5s						
SOKA				*e*Sn	**Sn**	**22 17 15.1**	**0.0**
	comp=Z,3.2nm,0.8s						
MURB	**Monte Urbino**	**7.94**	**288**		**Pn**	**22 15 48.4**	**+1.0**
OBKA	**Obir**	**8.00**	**314**	*e*Pn	**Pn**	**22 15 50.0**	**+1.7**
	comp=Z,2.0nm,0.2s						
OBKA	**Obir**	**8.00**	**314**	*e*Pn	**Pn**	**22 15 47.7**	**-0.6**
RONA	**Rosalia, Austr**	**8.01**	**326**	*e*Pn	**Pn**	**22 15 49.3**	**+1.0**
	comp=Z,1.7nm,0.3s						
ZST	**Bratislava**	**8.10**	**332**	*e*P	**Pn**	**22 15 50.3**	**+0.8**
ZST				*e*		22 17 20.8	
ZST	**Bratislava**	**8.10**	**332**	*e*PN	**Pn**	**22 15 50.3**	**+0.8**
ZST				*e*SN	**Sn**	**22 17 20.8**	**-0.1**
MODS	**Modra-Piesok**	**8.19**	**333**	*e*P	**Pn**	**22 15 52.1**	**+1.4**
MODS				*e*		22 17 23.3	
MODS	**Modra-Piesok**	**8.19**	**333**	*e*PN	**Pn**	**22 15 52.1**	**+1.4**
MODS				*e*SN	**Sn**	**22 17 23.3**	**+0.1**
SABO	**M.te Sabotino**	**8.24**	**308**	Pn	**Pn**	**22 15 52.2**	**+0.8**
BRTR	**Keskin Array B**	**8.35**	**97**	Pn	**Pn**	**22 15 54.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=274,slow=11,SNR=2.2						
BRTR				LR	LR	22 18 25.9	
	comp=Z,36nm,21.9s,baz=288,slow=33						
	comp=Z,0.5nm,0.3s						
CONA	**Conrad Observa**	**8.37**	**326**	Pn	**Pn**	**22 15 54.5**	**+1.2**
	comp=Z,2.1nm,0.4s,SNR=5.5						
CONA				*e*Sn	**Sn**	**22 17 32.2**	**+4.4**
	comp=Z,1.2nm,0.3s						
KWP	**Kalwaria Pacla**	**8.43**	**359**	Pn	**Pn**	**22 15 55.3**	**+1.3**
KWP	**Kalwaria Pacla**	**8.43**	**359**	P	**Pn**	**22 15 55.3**	**+1.3**
PRED	**Cave del Predi**	**8.51**	**311**	Pn	**Pn**	**22 15 54.9**	**-0.4**
MYKA	**Terra Mystica**	**8.57**	**312**	*e*Pn	**Pn**	**22 15 58.0**	**+1.8**
	comp=Z,2.6nm,0.5s						
SEV	**Sevastopol'**	**8.61**	**64**	*e*P	**Pn**	**22 15 56.3**	**-0.2**
SEV				Pm		22 15 58.0	
	comp=Z,4.0nm,0.3s						
SEV				*e*S	**Sn**	**22 17 29.8**	**-3.8**
SEV				Sm		22 17 33.3	
	comp=N,8.0nm,0.6s						
SEV				Sm		22 17 33.3	
	comp=E,4.0nm,0.4s						
SEV	**Sevastopol'**	**8.61**	**64**	*e*P	**Pn**	**22 15 56.3**	**-0.2**
SEV				*e*S	**Sn**	**22 17 29.8**	**-3.8**
STAL	**STALIGIAL**	**8.91**	**308**	Pn	**Pn**	**22 16 00.8**	**+0.1**
CLUD	**Cludinico**	**8.91**	**309**	Pn	**Pn**	**22 16 00.5**	**-0.2**
KBA	**Koelnbreinsper**	**9.01**	**314**	*e*Pn	**Pn**	**22 16 05.9**	**+3.7**
	comp=E,2.1nm,0.3s						
MOA	**Molln**	**9.04**	**320**	Pn	**Pn**	**22 16 05.7**	**+3.3**
	comp=E,0.8nm,0.3s						
MOA				*e*Sn	**Sn**	**22 17 42.3**	**-1.7**
	comp=E,6.7nm,0.5s						
SIM	**Simferopol'**	**9.05**	**62**	*e*P	**Pn**	**22 16 01.4**	**-1.1**
SIM				Pm		22 16 05.0	
	comp=Z,9.0nm,0.3s						
SIM				*e*S	**Sn**	**22 17 40.6**	**-3.8**
SIM				Sm		22 17 44.9	
	comp=N,3.0nm,0.4s						
SIM				Sm		22 17 44.9	

SIM Simferopol' 9.05 62 *e*P Pn **22 16 01.4 -1.1**
SIM *e*S Sn **22 17 40.6 -3.8**
KRUC Moravsky 9.08 332 P Pn **22 16 03.5 +0.5**
TEOL Teolo 9.15 301 Pn Pn **22 16 03.5 -0.4**
VRAC Vranov 9.22 334 Pn Pn **22 16 08.6 +3.7**
comp=E,0.1nm,0.3s,baz=157,slow=13,SNR=2.7
VRAC LR LR 22 20 13.9
comp=E,86nm,18.7s,baz=152,slow=42
BIOA Bad Ischl, Aus 9.24 318 *e*Pn Pn **22 16 08.4 +3.2**
comp=E,2.2nm,0.3s
ZCCA Zocca 9.28 294 Pn Pn **22 16 06.2 +0.4**
ABTA Abfaltersbach 9.28 310 Pn Pn **22 16 06.9 +1.1**
comp=E,4.9nm,0.5s,SNR=7.6
CTI Castel Tesino 9.45 305 Pn Pn **22 16 07.1 -1.1**
CTI Castel Tesino 9.45 305 P Pn **22 16 07.1 -1.1**
LESA Schwarzleotal 9.58 314 *e*Pn Pn **22 16 12.2 +2.3**
comp=E,5.4nm,0.5s
LESA *e*Sn Sn **22 17 59.6 +2.2**
comp=E,4.4nm,0.7s
SUDU Sudak 9.62 63 *e*P Pn **22 16 10.5 +0.1**
SUDU Pm 22 16 13.8
comp=Z,5.0nm,0.4s
SUDU *e*S Sn **22 17 55.9 -2.5**
SUDU Sm 22 17 56.4
comp=N,11nm,0.6s
SUDU Sm 22 17 56.4
comp=E,5.0nm,0.4s
SUDU Sudak 9.62 63 *e*P Pn **22 16 10.5 +0.1**
SUDU *e*S Sn **22 17 55.9 -2.5**
CKRC Cesky Krumlov 9.72 324 *e*PN Pn **22 16 16.0 +4.3**
CKRC Cesky Krumlov 9.72 324 *e*P Pn **22 16 16.0 +4.3**
GEC2 GERESS Array S 10.01 323 Pn Pn **22 16 15.8 0.0**
GERES GERESS Array B 10.01 323 Pn Pn **22 16 15.4 -0.4**
GERES GERESS Array B 10.01 323 P Pn **22 16 15.4 -0.4**
GERES GERESS Array B 10.01 323 Pn Pn **22 16 17.1 +1.3**
comp=E,0.2nm,0.3s,baz=149,slow=14,SNR=2.5
GERES LR LR 22 20 48.0
comp=E,157nm,18.4s,baz=194,slow=42
comp=E,0.5nm,0.5s
WTTA Wattenberg 10.07 311 *e*Pn Pn **22 16 18.5 +1.8**
comp=E,3.0nm,0.3s
WATA Walderalm 10.14 311 *i* Pn Pn **22 16 19.4 +1.8**
comp=E,3.8nm,0.4s,SNR=5.4
KHC Kasperske Hory 10.27 324 Pn Pn **22 16 21.4 +2.1**
KHC Kasperske Hory 10.27 324 *e*PN Pn **22 16 23.1 +3.8**
KHC *e*SN Sn **22 18 19.7 +5.3**
KHC Kasperske Hory 10.27 324⇑ *e*P Pn **22 16 19.4 +0.1**
KHC pmax pmax
comp=Z,10.0nm,1.4s
SQTA Sankt Quirin 10.29 310 Pn Pn **22 16 21.4 +1.7**
comp=Z,3.4nm,0.5s,SNR=4.3
AK05 Malin Array Si 10.40 23 Pn Pn **22 16 21.0 0.0**
MOTA Moosalm 10.42 310 P Pn **22 16 23.7 +2.3**
comp=Z,4.9nm,0.9s,SNR=4.7
KIEV Kiev 10.46 23 Pn Pn **22 16 22.4 +0.5**
KIEV Kiev 10.46 23 P Pn **22 16 22.4 +0.5**
FETA Feichten 10.47 308 *e*Pn Pn **22 16 25.1 +2.9**
comp=Z,3.7nm,0.8s
AKASG Malin Array Be 10.47 23 Pn Pn **22 16 22.3 +0.2**
comp=Z,0.6nm,0.3s,baz=208,slow=12,SNR=7.9
AKASG LR LR 22 20 43.1
comp=Z,70nm,18.6s,baz=203,slow=39
comp=Z,1.3nm,0.7s
AKBB Malin Array Si 10.47 23 Pn Pn **22 16 22.3 +0.3**
AKBB Malin Array Si 10.47 23⇑ *e*P Pn **22 16 22.8 +0.8**
FUORN Ofenpass-Fuorn 10.57 305 Pn Pn **22 16 24.2 +0.6**
DAVOX Davos/Dischmat 10.88 305 Pn Pn **22 16 27.5 -0.3**
comp=Z,0.5nm,0.3s,baz=141,slow=17,SNR=11
DAVOX LR LR 22 21 21.7
comp=Z,272nm,20.5s,baz=115,slow=42
comp=Z,3.0nm,0.5s
TUE Stuetta 11.08 303 Pn **22 16 32.0 +1.5**
ANN Anapa 11.26 67⇑ *e*P Pn **22 16 31.0 -1.8**
SENIN Lac Senin/Sane 12.36 300 Pn Pn **22 16 48.8 +0.8**
BNI Bardonecchia 12.43 293 Pn Pn **22 16 45.6 -3.3**
BNI Bardonecchia 12.43 293 P Pn **22 16 45.6 -3.3**
SOC Sochi 12.69 74 *e*P Pn **22 16 50.8 -1.6**
SOC *e* 22 19 12.9
SOC MLR MLR
comp=Z,70nm,18.0s
MMAI Mount Meron Ar 12.92 125 Pn Pn **22 16 57.0 +1.3**
comp=Z,0.3nm,0.3s,baz=298,slow=12,SNR=1.5
MMAI LR LR 22 22 55.5
comp=Z,78nm,18.5s,baz=266,slow=42
comp=Z,5.7nm,0.9s
KIV Kislovodsk 14.87 73 Pn Pn **22 17 20.4 -1.8**
KIV Kislovodsk 14.87 73 *i* P Pn **22 17 20.5 -1.7**
KIV pmax pmax
comp=Z,3.0nm,1.1s
VORD Divnogorie 14.98 44 *e*P P **22 17 30.3 +1.3**
VORD pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 15.00 74⇑ *e*P Pn **22 17 24.3 +0.4**
KBZ Khabaz 15.00 74 LR LR 22 23 32.9
comp=Z,26nm,20.0s,baz=295,slow=39
VSR Storozhevoye 15.06 43 *e*P Pn **22 17 21.7 -2.9**
VSR pmax pmax
comp=Z,5.0nm,1.1s
LPSR Galich'ya Gora 15.79 38 *e*P P **22 17 36.6 -1.4**
LPSR pmax pmax
comp=Z,9.0nm,0.9s
VRH Novokhopyorsk 16.40 46 *e*P Pn **22 17 38.6 -3.4**
VRH pmax pmax
comp=Z,5.0nm,1.0s
OBN Obninsk 16.61 28⇑ *e*P Pn **22 17 44.0 -0.6**
OBN pmax pmax
comp=Z,2.0nm,0.3s
HFS Hagfors 19.78 346 P P **22 18 22.1 +0.1**
comp=Z,0.1nm,0.3s,baz=149,slow=18,SNR=2.0
HFS LR LR 22 27 09.4
comp=Z,73nm,21.1s,baz=150,slow=40
comp=Z,2.2nm,0.8s
BELG Belogornoye 20.21 48 LR LR 22 26 52.2
comp=Z,58nm,20.1s,baz=295,slow=39
FINES FINESS Array B 20.36 4 P P **22 18 28.0 -0.3**
FINES FINESS Array B 20.36 4 P P **22 18 27.9 -0.3**
comp=Z,2.0nm,0.7s,baz=189,slow=9.5,SNR=5.4
FINES LR LR 22 27 05.9
comp=Z,182nm,18.1s,baz=215,slow=39
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 20.44 275 P P **22 18 29.3 -0.1**
comp=Z,1.1nm,0.9s,baz=77,slow=11,SNR=4.1
comp=Z,1.1nm,0.9s
NC602 NORSAR Array S 20.75 344 P P **22 18 31.2 -1.3**
NB201 NORSAR Array S 21.09 344 P P **22 18 36.1 -0.1**
NB201 IAmb IAmb 22 18 47.1
comp=Z,17nm,1.5s
NB2 NORSAR Subarra 21.10 344 P P **22 18 35.0 -1.3**
comp=Z,1.5nm,0.6s,baz=152,slow=11
NOA NORSAR Array B 21.10 344 P P **22 18 35.7 -0.6**
comp=Z,1.0nm,0.6s,baz=157,slow=9.3,SNR=6.2
NOA LR LR 22 28 57.2
comp=Z,29nm,18.6s,baz=175,slow=43
comp=Z,1.0nm,0.6s
NC204 NORSAR Array S 21.40 344 P P **22 18 39.0 -0.6**
NC204 IAmb IAmb 22 18 39.9
comp=Z,46nm,1.4s
KLMR Klimovskoe 22.16 22 *e*P P **22 18 44.9 -2.8**
KLMR pmax pmax
comp=Z,39nm,1.5s
EKA Eskdalemuir Ar 22.17 318 P P **22 18 47.0 -0.8**
comp=Z,1.7nm,0.8s,baz=121,slow=11,SNR=2.8
comp=Z,1.7nm,0.8s
KIRV Kirov 24.14 35 *e*P P **22 19 07.7 0.0**
AKTO Aktyubinsk 25.97 57 LR LR 22 29 35.9
comp=Z,31nm,21.7s,baz=130,slow=36
GEYT Alibeck 27.27 85 P P **22 19 37.4 +1.0**
comp=Z,0.4nm,0.4s,baz=278,slow=14,SNR=2.4
comp=Z,0.4nm,0.4s
ARU Arti 27.62 44 LR LR 22 31 36.4
comp=Z,61nm,20.1s,baz=126,slow=38
TOA0 Torodi Ar. Sit 33.51 220 P P **22 20 31.8 +0.2**
TORD Torodi Ar. Bea 33.51 220 P P **22 20 29.8 -1.9**
TORD Torodi Ar. Bea 33.51 220 P P **22 20 31.6 0.0**
comp=Z,0.8nm,0.6s,baz=32,slow=8.3,SNR=8.4
comp=Z,0.8nm,0.6s
BRVK Borovoye 33.76 53 P P **22 20 33.3 -0.2**
BRVK IAmb IAmb 22 20 35.3
comp=Z,3.0nm,1.1s
BRVK Borovoye 33.76 53⇑ *e*P P **22 20 34.5 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 33.83 53 P P **22 20 35.4 +1.3**
comp=Z,0.6nm,0.8s,baz=224,slow=8.1,SNR=2.6
comp=Z,0.6nm,0.8s

BORG Borgarnes 34.42 328 LR LR 22 36 06.7
comp=Z,51nm,19.3s,baz=216,slow=39
KKAR Karatay Array 35.01 71 P P **22 20 44.1 -0.3**
KKAR Karatay Array 35.01 71 P P **22 20 44.1 -0.3**
AAK Ala-Archa 37.96 70 LR LR 22 40 10.9
comp=Z,21nm,18.2s,baz=246,slow=42
KURBB Kurchatov Arra 39.02 57 P P **22 21 19.3 +0.9**
comp=Z,0.5nm,0.8s,baz=285,slow=7.6,SNR=4.1
comp=Z,0.5nm,0.8s
KURK Kurchatov 39.06 57 P P **22 21 19.3 +0.6**
TARG Taragay, Kyrgy 40.58 70 P P **22 21 30.6 -1.4**
TARG IAmb IAmb 22 21 47.9
comp=Z,5.8nm,1.2s
TARG Taragay, Kyrgy 40.58 70 P P **22 21 30.6 -1.4**
TARG pmax pmax
comp=Z,6.0nm,1.2s
MBAR Mbarara 42.23 168 P P **22 21 45.7 +0.3**
MBAR Mbarara 42.23 168 P P **22 21 45.7 +0.3**
MBAR pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 42.23 62 P P **22 21 44.9 -0.2**
MK31 Makanchi Array 42.23 62 *ce*P P **22 21 45.8 +0.8**
MKAR Makanchi Array 42.23 62 P P **22 21 45.4 +0.3**
MKAR Makanchi Array 42.23 62 *ce*P P **22 21 46.0 +1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 42.23 62 P P **22 21 45.8 +0.8**
comp=Z,1.0nm,0.7s,baz=281,slow=6.6,SNR=11
MKAR LR LR 22 40 50.5
comp=Z,18nm,19.6s,baz=295,slow=38
comp=Z,1.0nm,0.7s
DBIC Dimbokro 42.33 223 P P **22 21 45.5 -0.6**
DBIC IAmb IAmb 22 21 51.0
comp=Z,12nm,1.5s
DBIC Dimbokro 42.33 223 P P **22 21 45.5 -0.6**
DBIC pmax pmax
comp=Z,12nm,1.5s
ZAA0 Zalesovo Array 42.35 51 P P **22 21 45.8 -0.1**
ZALV Zalesovo Beam 42.35 51 P P **22 21 45.8 0.0**
ZALV Zalesovo Beam 42.35 51 *i* P P **22 21 45.9 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 42.35 51 P P **22 21 46.1 +0.3**
comp=Z,1.3nm,0.6s,baz=279,slow=8.9,SNR=9.9
comp=Z,1.3nm,0.6s
NRIK Noril'sk 43.28 28 P P **22 21 53.6 +0.4**
NRIK IAmb IAmb 22 22 00.6
comp=Z,9.7nm,1.4s
NRIK Noril'sk 43.28 28⇑ *e*P P **22 21 54.6 +1.4**
NRIK pmax pmax
comp=Z,8.0nm,1.4s
MBO M'Bour 43.64 244 P P **22 21 56.0 -0.6**
SONM Sonqino Array 57.17 53 P P **22 23 39.4 +0.5**
comp=Z,0.9nm,0.8s,baz=285,slow=9.1,SNR=5.9
comp=Z,0.9nm,0.8s
RES Resolute Bay 57.36 344 P P **22 23 40.0 +0.4**
RES Resolute Bay 57.36 344 P P **22 23 40.1 +0.4**
RES pmax pmax
comp=Z,2.0nm,1.2s
SCHQ Schefferville 57.48 317 P P **22 23 40.7 0.0**
SCHQ Schefferville 57.48 317 P P **22 23 40.6 -0.2**
comp=Z,3.1nm,0.7s,baz=48,slow=11,SNR=3.7
comp=Z,3.1nm,0.7s
ULN Ulaanbaatar 57.55 53⇑ *e*P P **22 23 42.0 +0.4**
ULN pmax pmax
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 63.86 58 *e*P P **22 24 24.0 -0.7**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,200nm,5.0s
A36M Sachs Harbour 64.89 350 P P **22 24 31.1 +0.4**
A36M IAmb IAmb 22 24 36.6
comp=Z,4.4nm,1.2s
PZH PanZhiHua 65.06 76 P P **22 24 34.1 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,140nm,4.3s
C36M Paulatuk 67.09 348 P P **22 24 45.0 +0.1**
FCC Fort Churchill 67.55 330 P P **22 24 48.3 +0.4**
FCC Fort Churchill 67.55 330 P P **22 24 48.3 +0.4**
CMAR Chiang Mai Arr 67.75 85 P P **22 24 49.5 -0.4**
comp=Z,0.9nm,0.9s,baz=302,slow=7.6,SNR=5.2
comp=Z,0.9nm,0.9s
C23K Itkillik River 69.17 358 P P **22 24 59.0 +1.1**
D25K Kavik River 69.50 356 P P **22 25 00.9 +0.8**
D25K IAmb IAmb 22 25 01.7
comp=Z,1.6nm,1.1s
E29M Blow River 69.78 353 P P **22 25 01.8 +0.1**
F31M Tsiigehtchic 70.23 351 P P **22 25 05.0 +0.5**
C18K Utukok River 70.42 2 P P **22 25 06.8 +1.1**
C18K IAmb IAmb 22 25 07.8
comp=Z,2.1nm,0.9s
D19K Kuna River 70.62 0 P P **22 25 06.8 -0.1**
D19K IAmb IAmb 22 25 09.0
comp=Z,4.8nm,1.1s
E21K Killik River 70.65 359 P P **22 25 07.0 -0.1**
E24K Your Creek 70.85 357 P P **22 25 08.2 -0.2**
E24K IAmb IAmb 22 25 24.2
comp=Z,4.3nm,1.5s
E22K Anaktuvuk Pass 70.91 358 P P **22 25 09.5 +0.8**
E22K IAmb IAmb 22 25 22.3
comp=Z,6.5nm,1.4s
YKA Yellowknife Ar 71.15 341 P P **22 25 10.7 +0.5**
comp=Z,0.6nm,0.8s,baz=31,slow=5.2,SNR=8.4
comp=Z,0.6nm,0.8s
G29M Pine Creek 71.22 352 P P **22 25 10.8 +0.1**
BMAR Burnt Mountain 71.27 355 P P **22 25 11.8 +0.8**
E19K Redstone River 71.66 0 P P **22 25 14.4 +1.1**
H29M Whitestone 71.93 352 P P **22 25 15.0 +0.2**
H29M IAmb IAmb 22 25 26.4
comp=Z,4.4nm,1.4s
I30M Mount Dempster 72.67 351 P P **22 25 19.7 +0.3**
I30M IAmb IAmb 22 25 24.4
comp=Z,6.1nm,1.4s
J30M Hart River 73.29 351 P P **22 25 23.5 +0.4**
J30M IAmb IAmb 22 25 26.6
comp=Z,4.4nm,1.4s
DAWY Dawson 74.13 352 P P **22 25 28.2 +0.2**
DAWY IAmb IAmb 22 25 34.9
comp=Z,9.6nm,1.4s
ULM Lac du Bonnet 74.31 324 P P **22 25 29.6 +0.4**
comp=Z,2.8nm,0.7s,baz=24,slow=9.0,SNR=5.6
comp=Z,2.8nm,0.7s
M29M Somme Creek 75.61 351 P P **22 25 36.9 +0.2**
SSFO Shawnee State 75.80 309 P P **22 25 36.4 -1.7**
PEA0B Petropavlovsk- 78.30 26⇑ *e*P P **22 25 54.3 +2.5**
SWET Sewanee 79.76 308 P P **22 25 59.8 -0.4**
SWET IAmb IAmb 22 26 03.4
comp=Z,6.9nm,0.8s
PDAR Pinedale Array 86.03 327 P P **22 26 33.0 +0.2**
comp=Z,0.3nm,0.7s,baz=59,slow=5.4,SNR=3.1
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 94.14 315 P P **22 27 11.2 +0.2**
comp=Z,0.4nm,0.8s,baz=72,slow=5.4,SNR=5.0
comp=Z,0.4nm,0.8s

IDC ***01*** *22:16:10.7±1.2,41˚.33N×22˚.44E,h0km,mb3.7/9, mbtmp3.8/10,ML3.8/1,MS2.6/1, Error ellipse: s-maj=32.1km s-min=19.2km az=126.0*
NEIC ***01*** *22:16:12.7±1.1,41˚.19N±0˚.07×22˚.86E±0˚.06,h10km±1km, mb4.0/5, Error ellipse: s-maj=13.9km s-min=3.3km az=150.0*
SKO ***01*** *22:16:12.5,41˚.22N×22˚.88E,h11km,ML3.3*
SOF ***01*** *22:16:12.4,41˚.23N±0˚.01×22˚.87E±0˚.01,h12km±1km, MD4.0/5*
TIR ***01*** *22:16:13.7,41˚.10N×22˚.72E,h25km±1km,Ml3.5*
THE ***01*** *22:16:13.1,41˚.21N×22˚.87E,h6km,ML3.6/15, Error ellipse: s-maj=0.9km s-min=0.4km az=162.0*
ATH ***01*** *22:16:13.5,41˚.20N×22˚.87E,h8km,ML3.7/9, Error ellipse: s-maj=1.4km s-min=0.7km az=169.0*
ISK ***01*** *22:16:13.7,41˚.13N×22˚.82E,h6km,ML3.9/29*
BEO ***01*** *22:16:14.1±0.4,41˚.24N×22˚.86E,h0km,ML3.4/10*
ISC 01 22:16:13.0±0.8,41˚.21N±0˚.01×22˚.86E±0˚.01,h13km±6km, n142,σ1s20/207,mb3.7/10,6C-1D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.24**	**297**	*e*Pg	**Pg**	**22 16 18.2**	**+0.1**
VAY				*e*Sg	**Sg**	**22 16 22.1**	**+0.5**
VAY	**Valandovo**	**0.24**	**297**	*i* Pg	**Pg**	**22 16 18.1**	**-0.1**
VAY				*i* Sg	**Sg**	**22 16 21.9**	**+0.3**
VAY				*e*Lg	Lg	22 16 22.2	
	comp=N,5μm,0.2s						
VAY				*e*Lg	Lg	22 16 23.4	
	comp=E,4μm,0.3s						
GRG	**Griva**	**0.43**	**234**	Pg	**Pg**	**22 16 21.4**	**0.0**
GRG				Sg	**Sg**	**22 16 27.4**	**+0.2**
GRG	**Griva**	**0.43**	**234**	P	**Pg**	**22 16 21.5**	**0.0**
GRG				S	**Sg**	**22 16 27.8**	**+0.6**
	comp=E,12μm,0.3s						
GRG	**Griva**	**0.43**	**234**	P	**Pg**	**22 16 21.5**	**0.0**
GRG				S	**Sg**	**22 16 27.6**	**+0.4**
GRG				AML	AML	22 16 28.4	
	comp=N,22612μm,0.3s						
GRG				AML	AML	22 16 28.8	
	comp=E,28448μm,0.3s						
GRG	**Griva**	**0.43**	**234** ⇑	*i* Pg	**Pg**	**22 16 21.5**	**+0.1**
GRG				*i* Sg	**Sg**	**22 16 27.9**	**+0.7**
SOH	**Sokhos**	**0.54**	**136**	P	**Pg**	**22 16 23.3**	**-0.3**
SOH				S	**Sg**	**22 16 31.0**	**+0.2**
	comp=E,14μm,0.4s						
SOH	**Sokhos**	**0.54**	**136**	P	**Pg**	**22 16 23.4**	**-0.2**
SOH				S	**Sg**	**22 16 30.7**	**0.0**
SOH				AML	AML	22 16 32.6	
	comp=E,35180μm,0.5s						
SOH				AML	AML	22 16 33.2	
	comp=N,36788μm,0.3s						
SOH	**Sokhos**	**0.54**	**136** ⇑	*i* Pg	**Pg**	**22 16 23.4**	**-0.2**
SOH				*i* Sg	**Sg**	**22 16 30.8**	**0.0**
SRS	**Serrai**	**0.56**	**99**	P	**Pg**	**22 16 23.6**	**-0.4**
SRS				S	**Sg**	**22 16 31.4**	**-0.1**
	comp=N,4μm,0.5s						
PEHC	**Pehcevo**	**0.57**	**3** ⇑	*i* Pg	**Pg**	**22 16 23.8**	**-0.3**
PEHC				*i* Sg	**Sg**	**22 16 31.8**	**+0.1**
THE	**Thessaloniki**	**0.58**	**172**	P	**Pg**	**22 16 24.2**	**-0.2**
	baz=158						
THE				S	**Sg**	**22 16 32.0**	**-0.1**
	baz=158						
THE				AMP			
	comp=N,23nm,0.6s,baz=158						
THE	**Thessaloniki**	**0.58**	**172**	P	**Pg**	**22 16 24.2**	**-0.2**
THE				S	**Sg**	**22 16 32.8**	**+0.7**
	comp=N,7μm,0.6s						
THE	**Thessaloniki**	**0.58**	**172**	P	**Pg**	**22 16 24.2**	**-0.2**
THE				S	**Sg**	**22 16 32.2**	**+0.1**
THE				AML	AML	22 16 33.1	
	comp=E,11113μm,0.4s						
THE				AML	AML	22 16 35.9	
	comp=N,16090μm,0.9s						
THE	**Thessaloniki**	**0.58**	**172** ⇑	*i* Pg	**Pg**	**22 16 24.2**	**-0.2**
THE				*i* Sg	**Sg**	**22 16 32.6**	**+0.5**
HORT	**Hortiatis**	**0.64**	**163**	Pg	**Pg**	**22 16 25.2**	**-0.2**
HORT				Sg	**Sg**	**22 16 33.8**	**-0.1**
HORT	**Hortiatis**	**0.64**	**163**	P	**Pg**	**22 16 25.3**	**-0.2**
HORT				S	**Sg**	**22 16 34.3**	**+0.4**
	comp=N,6μm,0.5s						
HORT	**Hortiatis**	**0.64**	**163**	P	**Pg**	**22 16 25.5**	**0.0**
HORT				S	**Sg**	**22 16 34.1**	**+0.2**
HORT				AML	AML	22 16 38.7	
	comp=N,12844μm,0.6s						
HORT				AML	AML	22 16 39.6	
	comp=E,12829μm,0.6s						
KKB	**Krupnik**	**0.66**	**18**	*i* S	**Sg**	**22 16 34.0**	**-0.6**
KKB	**Krupnik**	**0.66**	**18** ⇑	*i* Pg	**Pg**	**22 16 25.5**	**-0.4**
KKB				*i* Sg	**Sg**	**22 16 34.1**	**-0.6**
STIP	**Stip**	**0.70**	**314**	*i* Pg	**Pg**	**22 16 24.4**	**-2.1**
MMB	**Musomishta**	**0.75**	**63**	*i* P	**Pg**	**22 16 27.1**	**-0.5**
MMB				*i* S	**Sg**	**22 16 37.2**	**-0.2**
MMB	**Musomishta**	**0.75**	**63** ⇑	*i* Pg	**Pg**	**22 16 27.1**	**-0.5**
MMB				*i* Sg	**Sg**	**22 16 37.2**	**-0.2**
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pb**	**22 16 28.4**	**+0.1**
NVR				S	**Sb**	**22 16 38.7**	**0.0**
	comp=E,4μm,0.4s						
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pg**	**22 16 28.1**	**+0.2**
NVR				S	**Sb**	**22 16 38.6**	**0.0**
NVR				AML	AML	22 16 39.3	
	comp=N,7942μm,0.5s						
NVR				AML	AML	22 16 40.5	
	comp=E,6998μm,0.3s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pg**	**22 16 30.6**	**-0.7**
KOKK				S	**Sb**	**22 16 44.1**	**+0.3**
	comp=E,2μm,0.5s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pg**	**22 16 30.7**	**-0.6**
KOKK				S	**Sg**	**22 16 43.6**	**-0.1**
KVLA	**Kavala**	**1.19**	**103**	P	**Pb**	**22 16 35.2**	**-0.1**
KVLA				S	**Sg**	**22 16 51.0**	**-0.3**
KVLA				AML	AML	22 16 52.7	
	comp=N,5657μm,0.4s						
KVLA				AML	AML	22 16 55.8	
	comp=E,5370μm,0.4s						
FNA	**Florina**	**1.20**	**250**	Pn	**Pb**	**22 16 35.2**	**-0.3**
FNA				Sn	**Sb**	**22 16 51.9**	**+0.9**
FNA	**Florina**	**1.20**	**250**	Pn	**Pb**	**22 16 34.9**	**-0.6**
FNA	**Florina**	**1.20**	**250**	P	**Pb**	**22 16 34.5**	**-1.0**
	baz=254						
FNA				S	**Sg**	**22 16 49.2**	**-2.5**
	baz=254						
FNA				AMP			
	comp=E,4.6nm,0.5s,baz=254						
FNA	**Florina**	**1.20**	**250**	P	**Pb**	**22 16 34.9**	**-0.6**
FNA				S	**Sb**	**22 16 52.2**	**+1.3**
	comp=E,3μm,0.7s						
FNA	**Florina**	**1.20**	**250**	*e*Pg	**Pb**	**22 16 35.3**	**-0.3**
FNA				*e*Sg	**Sb**	**22 16 52.3**	**+1.3**
FNA	**Florina**	**1.20**	**250**	P	**Pb**	**22 16 35.3**	**-0.2**
FNA				S	**Sg**	**22 16 51.7**	**+0.1**
FNA				AML	AML	22 16 57.2	
	comp=E,5763μm,0.5s						
FNA				AML	AML	22 16 57.5	
	comp=N,5723μm,0.4s						
FNA	**Florina**	**1.20**	**250** ⇓	*i* Pg	**Pb**	**22 16 35.3**	**-0.2**
FNA				*i* Sg	**Sb**	**22 16 52.0**	**+1.1**
OUR	**Ouranopolis**	**1.22**	**135**	Pn	**Pb**	**22 16 36.4**	**+0.5**
OUR				Sn	**Sn**	**22 16 53.5**	**+1.4**
OUR	**Ouranopolis**	**1.22**	**135**	P	**Pb**	**22 16 35.5**	**-0.4**
OUR				S	**Sn**	**22 16 53.2**	**+1.1**
	comp=N,4μm,0.5s						
OUR	**Ouranopolis**	**1.22**	**135**	P	**Pb**	**22 16 35.6**	**-0.4**
OUR				S	**Sb**	**22 16 52.2**	**+0.6**
OUR				AML	AML	22 16 57.1	
	comp=E,8115μm,0.5s						
OUR				AML	AML	22 16 59.7	
	comp=N,8111μm,0.5s						
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**22 16 36.3**	**-0.1**
KAVA				S	**Sn**	**22 16 54.7**	**+1.4**
	comp=N,4μm,0.5s						
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**22 16 36.6**	**+0.2**
KAVA				S	**Sb**	**22 16 53.6**	**+0.6**
SKO	**Skopje**	**1.31**	**306**	*e*Pg	**Pn**	**22 16 37.5**	**+0.6**
SKO				*e*Sg	**Sb**	**22 16 54.3**	**+0.3**
SKO	**Skopje**	**1.31**	**306**	*i* Pg	**Pn**	**22 16 37.0**	**+0.1**
SKO				*i* Sg	**Sb**	**22 16 54.9**	**+0.8**
BOSS	**Bosilegrad**	**1.31**	**348**	*e*Pg	**Pn**	**22 16 37.3**	**+0.2**
BOSS				*e*Sg	**Sb**	**22 16 54.0**	**-0.3**
PRVS	**Prvonek**	**1.42**	**336**	*e*Pg	**Pn**	**22 16 39.0**	**+0.5**
PRVS				*e*Sg	**Sg**	**22 16 59.6**	**+0.8**
PAIG	**Paliouri**	**1.43**	**154**	Pn	**Pn**	**22 16 39.1**	**+0.6**
PAIG	**Paliouri**	**1.43**	**154**	P	**Pn**	**22 16 38.6**	**+0.1**
PAIG				S	**Sn**	**22 16 58.2**	**+1.0**
	comp=N,3μm,0.6s						
VTS	**Vitosha**	**1.44**	**11**	*i* P	**Pn**	**22 16 39.1**	**+0.3**
VTS				*i* S	**Sb**	**22 16 58.2**	**+0.3**
VTS	**Vitosha**	**1.44**	**11**	*e*Pg	**Pn**	**22 16 39.2**	**+0.4**
VTS				*e*Sg	**Sb**	**22 16 57.9**	**0.0**
RZN	**Rozhen**	**1.50**	**71**	*i* P	**Pn**	**22 16 40.6**	**+0.9**
RZN				*i* S	**Sn**	**22 17 00.1**	**+0.9**
THAS	**Thassos island**	**1.54**	**113**	P	**Pn**	**22 16 40.0**	**0.0**
THAS				S	**Sb**	**22 17 01.4**	**+0.8**
	comp=N,2μm,0.4s						
THAS	**Thassos island**	**1.54**	**113**	P	**Pn**	**22 16 40.1**	**+0.1**
THAS				S	**Sn**	**22 16 59.9**	**+0.1**
THAS				AML	AML	22 17 03.6	
	comp=E,4108μm,0.5s						
THAS				AML	AML	22 17 04.4	
	comp=N,4045μm,0.3s						
OHR	**Ohrid**	**1.56**	**267**	*e*Pg	**Pb**	**22 16 42.4**	**+0.8**
OHR				*e*Sg	**Sg**	**22 17 03.3**	**+0.2**
OHR	**Ohrid**	**1.56**	**267**	*i* Pg	**Pb**	**22 16 42.0**	**+0.4**
OHR				*i* Sg	**Sg**	**22 17 04.0**	**+0.9**
OHR				*e*Lg	Lg	22 17 04.1	
	comp=N,334nm,0.5s						
OHR				*e*Lg	Lg	22 17 06.0	
	comp=E,391nm,0.7s						

NEST	**Nestorio**	**1.58**	**240**	P	**Pn**	**22 16 41.2**	**+0.3**
NEST				S	**Sb**	**22 17 02.8**	**+0.7**
	comp=E,790nm,0.8s						
NEST	**Nestorio**	**1.58**	**240**	P	**Pn**	**22 16 41.1**	**+0.3**
PGB	**Panagyurishte**	**1.63**	**37**	*i* P	**Pn**	**22 16 42.4**	**+1.0**
PGB				*i* S	**Sg**	**22 17 05.5**	**0.0**
PENT	**Pentalofos**	**1.65**	**233**	P	**Pn**	**22 16 42.0**	**+0.2**
KBN	**Korca**	**1.67**	**250**	Pn	**Pn**	**22 16 42.2**	**+0.2**
KBN	**Korca**	**1.67**	**250**	P	**Pn**	**22 16 42.5**	**+0.5**
	baz=253						
KBN				S	**Sn**	**22 17 03.3**	**0.0**
	baz=253						
KBN				AMP			
	comp=E,1.9nm,0.6s,baz=253						
KBN	**Korca**	**1.67**	**250**	P	**Pn**	**22 16 42.4**	**+0.4**
KBN				S	**Sb**	**22 17 05.1**	**+0.4**
	comp=E,732nm,0.7s						
KPRO	**Kipourio**	**1.69**	**223**	P	**Pn**	**22 16 42.8**	**+0.6**
KPRO	**Kipourio**	**1.69**	**223**	P	**Pn**	**22 16 42.9**	**+0.6**
PLD	**Plovdiv**	**1.70**	**56**	Pn	**Pn**	**22 16 43.6**	**+1.3**
PLD	**Plovdiv**	**1.70**	**56**	*i* P	**Pn**	**22 16 43.0**	**+0.7**
PLD				*i* S	**Sn**	**22 17 05.4**	**+1.5**
PLD	**Plovdiv**	**1.70**	**56**	*e*Pg	**Pn**	**22 16 43.2**	**+0.9**
PLD				*e*Sg	**Sn**	**22 17 04.9**	**+1.0**
PLD	**Plovdiv**	**1.70**	**56**	*i* Pn	**Pn**	**22 16 42.9**	**+0.6**
PLD				*i* Sn	**Sb**	**22 17 06.3**	**+1.0**
THL	**Klokotos Trika**	**1.77**	**202**	P	**Pn**	**22 16 43.6**	**+0.4**
THL				S	**Sb**	**22 17 08.7**	**+1.5**
	comp=E,718nm,0.9s						
THL	**Klokotos Trika**	**1.77**	**202**	P	**Pn**	**22 16 43.6**	**+0.4**
BARS	**Barje**	**1.78**	**335**	*e*Pg	**Pb**	**22 16 45.2**	**-0.3**
BARS				*e*Sg	**Sb**	**22 17 08.7**	**+1.0**
BARS	**Barje**	**1.78**	**335**	*i* Pn	**Pn**	**22 16 44.8**	**+1.3**
BARS				*i* Sn	**Sb**	**22 17 08.5**	**+0.8**
PHP	**Peshkopia**	**1.88**	**285**	P	**Pn**	**22 16 44.9**	**+0.1**
	baz=290						
PHP				S	**Sb**	**22 17 11.3**	**+0.9**
	baz=290						
PHP	**Peshkopia**	**1.88**	**285**	P	**Pn**	**22 16 45.1**	**+0.3**
KDZ	**Kurdzhali**	**1.92**	**77**	Pn	**Pb**	**22 16 48.5**	**+0.8**
NEO	**Neokhori**	**1.92**	**171**	P	**Pn**	**22 16 45.5**	**+0.1**
NEO	**Neokhori**	**1.92**	**171**	P	**Pn**	**22 16 45.5**	**+0.1**
NEO				S	**Sn**	**22 17 09.0**	**-0.5**
RDO	**Rodhopi**	**2.02**	**91**	Pn	**Pb**	**22 16 49.7**	**+0.1**
RDO	**Rodhopi**	**2.02**	**91**	Pn	**Pn**	**22 16 47.4**	**+0.7**
RDO	**Rodhopi**	**2.02**	**91**	P	**Pn**	**22 16 47.3**	**+0.5**
ZAPS	**Zavoj**	**2.07**	**356**	*e*Pn	**Pb**	**22 16 50.4**	**0.0**
ZAPS				*e*Sn	**Sb**	**22 17 16.5**	**+0.5**
DIM	**Dimitrovgrad**	**2.21**	**67**	*i* P	**Pb**	**22 16 52.8**	**+0.1**
DIM				*i* S	**Sg**	**22 17 24.4**	**+0.6**
MPEP	**Malo Peshtene**	**2.24**	**17**	*i* P	**Pn**	**22 16 51.1**	**+1.3**
MPEP				*i* S	**Sg**	**22 17 25.8**	**+0.8**
TIR	**Tirane**	**2.26**	**274**	Pn	**Pn**	**22 16 50.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.26**	**194**	P	**Pn**	**22 16 50.8**	**+0.7**
ALN	**Alexandroupoli**	**2.43**	**96**	Pn	**Pb**	**22 16 55.3**	**-1.2**
ALN	**Alexandroupoli**	**2.43**	**96**	Pn	**Pn**	**22 16 52.7**	**+0.4**
AXAR	**Agios Charalam**	**2.45**	**184**	P	**Pn**	**22 16 53.1**	**+0.5**
VALD	**Valchedram**	**2.52**	**10**	P	**Pn**	**22 16 55.1**	**+1.6**
GADA	**Gvkgeada**	**2.53**	**113**	Pn	**Pn**	**22 16 56.4**	**+2.7**
ENEZ	**Enez**	**2.54**	**100**	Pn	**Pb**	**22 16 56.8**	**-1.6**
IGT	**Igoumenitsa**	**2.55**	**230**	P	**Pn**	**22 16 56.1**	**+2.0**
	baz=231						
IGT				S	**Sn**	**22 17 27.2**	**+2.2**
	baz=231						
IGT	**Igoumenitsa**	**2.55**	**230**	*i* Pn	**Pb**	**22 16 57.5**	**-1.1**
ENZZ	**Sultanice-Enez**	**2.56**	**103**	Pn	**Pb**	**22 16 57.3**	**-1.4**
BOVS	**Bovan**	**2.57**	**341**	*e*Pn	**Pb**	**22 16 59.3**	**+0.4**
BOVS				*e*Sn	**Sb**	**22 17 29.7**	**-0.6**
VLO	**Vlora**	**2.66**	**255**	Pn	**Pn**	**22 16 53.6**	**-1.9**
KEK	**Kerkira**	**2.77**	**238**	Pn	**Pn**	**22 16 58.5**	**+1.5**
KEK	**Kerkira**	**2.77**	**238**	Pn	**Pn**	**22 16 57.9**	**+0.8**
ERIK	**Erikli-Kesan**	**2.82**	**100**	Pn	**Pb**	**22 17 01.1**	**-2.1**
UKOP	**Uzunkopru-Edir**	**2.85**	**90**	Pn	**Pb**	**22 17 01.7**	**-2.0**
GELI	**Tayfur-Gelibol**	**2.86**	**105**	Pn	**Pb**	**22 17 01.9**	**-2.0**
LKD2	**Lefkada island**	**2.95**	**216**	P	**Pn**	**22 17 00.6**	**+1.1**
	baz=216						
COMU	**Canakkale**	**2.97**	**111**	Pn	**Pn**	**22 17 01.0**	**+1.2**
EZN	**Ezine**	**2.98**	**116**	Pn	**Pn**	**22 17 02.9**	**+3.0**
EDRB	**Edirne**	**2.99**	**76**	Pn	**Pb**	**22 17 03.7**	**-2.3**
SIGR	**SIGRI**	**3.04**	**130**	Pn	**Pn**	**22 17 03.5**	**+2.7**
LPK	**Lapseki**	**3.08**	**104**	Pn	**Pn**	**22 17 04.5**	**+3.2**
GRUS	**Gruza**	**3.11**	**330**	*e*Pn	**Pn**	**22 17 01.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**3.31**	**98**	Pn	**Pn**	**22 17 07.9**	**+3.3**
CANM	**Can-anakkale**	**3.41**	**109**	Pn	**Pn**	**22 17 09.1**	**+3.3**
KRBG	**Karabiga-Canak**	**3.47**	**102**	Pn	**Pn**	**22 17 10.1**	**+3.5**
PHSR	**Pinarhisar**	**3.54**	**82**	Pn	**Pn**	**22 17 11.3**	**+3.8**
TKR	**Tekirdag**	**3.54**	**92**	Pn	**Pn**	**22 17 11.4**	**+3.8**
CRLT	**Corlu**	**3.69**	**90**	Pn	**Pn**	**22 17 13.3**	**+3.7**
DKL	**Dikili**	**3.77**	**123**	Pn	**Pn**	**22 17 13.5**	**+2.8**
RFT7	**Candarli**	**3.84**	**124**	Pn	**Pn**	**22 17 14.9**	**+3.1**
MLR	**Muntele Rosu**	**4.83**	**27**	Pn	**Pn**	**22 17 25.8**	**+0.3**
MLR	**Muntele Rosu**	**4.83**	**27**	Pn	**Pn**	**22 17 27.1**	**+1.6**
	comp=E,3.3nm,0.3s,baz=189,slow=9.2,SNR=0.8						
MLR				Lg	Lg	22 18 49.1	
	comp=E,1.9nm,0.3s,baz=84,slow=21,SNR=2.3						
	comp=E,73nm,1.0s						
TIP	**Timpagrande**	**5.09**	**248**	Pn	**Pn**	**22 17 29.2**	**+0.2**
CUC	**Castrocucco**	**5.50**	**260**	Pn	**Pn**	**22 17 35.1**	**+0.6**
BURAR	**Bucovina Array**	**6.62**	**14**	Pn	**Pn**	**22 17 50.4**	**+0.4**
FDMO	**Fiordimonte**	**7.49**	**287**	Pn	**Pn**	**22 18 01.9**	**+0.1**
CRVS	**Cervenica-Dubn**	**7.75**	**353**	*e*PN	**Pn**	**22 18 06.7**	**+1.2**
VYHS	**Vyhne**	**7.82**	**340**	*e*PN	**Pn**	**22 18 10.6**	**+4.2**
MURB	**Monte Urbino**	**7.94**	**288**	Pn	**Pn**	**22 18 07.8**	**-0.2**
ZST	**Bratislava**	**8.10**	**332**	*e*PN	**Pn**	**22 18 11.0**	**+0.9**
MODS	**Modra-Piesok**	**8.19**	**333**	*e*PN	**Pn**	**22 18 13.1**	**+1.7**
GNI	**Garni**	**16.64**	**86**	LR	LR	22 27 32.1	
	comp=E,23nm,21.2s,baz=289,slow=40						
FINES	**FINESS Array B**	**20.36**	**4**	P	**P**	**22 20 46.7**	**-2.1**
	comp=E,6.7nm,1.1s,baz=186,slow=9.8,SNR=5.3						
	comp=E,6.7nm,1.1s						
NOA	**NORSAR Array B**	**21.09**	**344**	P	**P**	**22 20 54.0**	**-2.9**
	comp=E,0.5nm,0.6s,baz=150,slow=9.7,SNR=2.7						
	comp=E,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**28.42**	**2**	P	**P**	**22 22 05.0**	**-1.9**
	comp=E,2.9nm,0.9s,baz=184,slow=10,SNR=2.8						
	comp=E,2.9nm,0.9s						
TOA0	**Torodi Ar. Sit**	**33.52**	**220**	P	**P**	**22 22 51.4**	**-0.8**
TOA0				IAmb	IAmb	22 23 06.3	
	comp=Z,2.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**33.52**	**220**	P	**P**	**22 22 50.8**	**-1.5**
TORD				IAmb	IAmb	22 23 09.3	
	comp=Z,1.9nm,1.3s						
TORD	**Torodi Ar. Bea**	**33.52**	**220**	P	**P**	**22 22 51.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=29,slow=9.7,SNR=3.8						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**33.82**	**53**	P	**P**	**22 22 56.3**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=279,slow=12,SNR=2.8						
	comp=Z,0.7nm,0.8s						
MK31	**Makanchi Array**	**42.23**	**62**	P	**P**	**22 24 05.0**	**-0.6**
MKAR	**Makanchi Array**	**42.23**	**62**	P	**P**	**22 24 05.3**	**-0.3**
MKAR	**Makanchi Array**	**42.23**	**62**	P	**P**	**22 24 06.6**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=280,slow=6.7,SNR=9.8						
	comp=Z,1.3nm,0.7s						
ZAA0	**Zalesovo Array**	**42.35**	**51**	P	**P**	**22 24 04.5**	**-1.9**
ZAA0				IAmb	IAmb	22 24 07.6	
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**42.35**	**51**	P	**P**	**22 24 04.9**	**-1.5**
ZALV	**Zalesovo Beam**	**42.35**	**51**	P	**P**	**22 24 07.0**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=275,slow=8.6,SNR=11						
	comp=Z,2.4nm,0.6s						
SONM	**Songino Array**	**57.17**	**53**	P	**P**	**22 26 00.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=282,slow=6.8,SNR=5.9						
	comp=Z,0.6nm,0.7s						
E29M	**Blow River**	**69.77**	**353**	P	**P**	**22 27 22.8**	**+0.5**
YKA	**Yellowknife Ar**	**71.14**	**341**	P	**P**	**22 27 29.6**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=31,slow=5.4,SNR=4.2						
	comp=Z,0.3nm,0.8s						

*ISK **01** 22:19:12.8, 41°20N×22°84E, h14km, ML3.2/21*
*SOF **01** 22:19:12.4, 41°22N±0°01×22°86E±0°01, h11km±1km, MD3.6/6*
*SKO **01** 22:19:12.8, 41°23N×22°85E, h12km, ML2.9*
*ATH **01** 22:19:13.2, 41°20N×22°87E, h5km±1km, ML3.0/19, Error ellipse: s-maj=1.7km s-min=0.7km az=166.0*
*THE **01** 22:19:13.4, 41°20N×22°84E, h5km, ML3.0/15, Error ellipse: s-maj=0.9km s-min=0.4km az=173.0*
*BEO **01** 22:19:14.8±0.7, 41°28N×22°81E, h9km±4km, ML2.9/8*
ISC 01 22:19:13.2±0.9**, 41°22N**±0°01×**22°86E**±0°01**, h13**km±7km**, n98, σ0.63s**/149**, 4C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.24**	**296**	*e*Pg	**Pg**	**22 19 18.6**	**+0.2**
VAY				*e*Sg	**Sg**	**22 19 22.8**	**+1.0**
VAY	**Valandovo**	**0.24**	**296**	*i* Pg	**Pg**	**22 19 18.4**	**+0.1**
VAY				*i* Sg	**Sg**	**22 19 22.3**	**+0.4**
VAY				*e*Lg	Lg	22 19 22.8	
	comp=N,2μm,0.3s						
GRG	**Griva**	**0.43**	**233**	Pg	**Pg**	**22 19 21.6**	**-0.3**
GRG				Sg	**Sg**	**22 19 27.8**	**+0.2**
GRG	**Griva**	**0.43**	**233**	P	**Pg**	**22 19 21.7**	**-0.1**
GRG				S	**Sg**	**22 19 27.0**	**-0.6**
	comp=N,8μm,0.4s						
GRG	**Griva**	**0.43**	**233**	P	**Pg**	**22 19 21.5**	**-0.3**
GRG				S	**Sg**	**22 19 26.6**	**-1.0**
GRG				AML	AML	22 19 29.0	
	comp=E,16222μm,0.3s						
GRG				AML	AML	22 19 29.8	
	comp=N,12568μm,0.2s						
GRG	**Griva**	**0.43**	**233**⇑	*i*Pg	**Pg**	**22 19 21.7**	**-0.1**
GRG				*i* Sg	**Sg**	**22 19 28.1**	**+0.5**
SOH	**Sokhos**	**0.55**	**136**	P	**Pg**	**22 19 23.7**	**-0.2**
SOH				S	**Sg**	**22 19 30.9**	**-0.3**
	comp=N,3μm,0.4s						
SOH	**Sokhos**	**0.55**	**136**	P	**Pg**	**22 19 23.5**	**-0.5**
SOH				S	**Sg**	**22 19 29.6**	**-1.6**
SOH				AML	AML	22 19 33.4	
	comp=N,7604μm,0.4s						
SOH				AML	AML	22 19 35.4	
	comp=E,7541μm,0.4s						
SOH	**Sokhos**	**0.55**	**136**	*i* Pg	**Pg**	**22 19 24.3**	**+0.4**
SOH				*i* Sg	**Sg**	**22 19 30.9**	**-0.3**
PEHC	**Pehcevo**	**0.56**	**3**	*i* Pg	**Pg**	**22 19 24.0**	**-0.3**
PEHC				*i* Sg	**Sg**	**22 19 31.9**	**+0.1**
SRS	**Serrai**	**0.56**	**100**	P	**Pg**	**22 19 23.6**	**-0.7**
SRS				S	**Sg**	**22 19 31.4**	**-0.4**
SRS				AML	AML	22 19 32.1	
	comp=E,1966μm,0.2s						
SRS				AML	AML	22 19 32.4	
	comp=N,1790μm,0.1s						
THE	**Thessaloniki**	**0.59**	**172**	P	**Pg**	**22 19 24.4**	**-0.4**
THE				S	**Sg**	**22 19 32.8**	**+0.2**
	comp=N,2μm,0.5s						
THE	**Thessaloniki**	**0.59**	**172**	P	**Pg**	**22 19 24.4**	**-0.4**
THE				S	**Sg**	**22 19 32.1**	**-0.5**
THE				AML	AML	22 19 33.2	
	comp=E,3768μm,0.3s						
THE				AML	AML	22 19 36.1	
	comp=N,3177μm,0.4s						
THE	**Thessaloniki**	**0.59**	**172**⇑	*i*Pg	**Pg**	**22 19 24.4**	**-0.4**
THE				*i* Sg	**Sg**	**22 19 32.8**	**+0.2**
HORT	**Hortiatis**	**0.65**	**163**	Pg	**Pg**	**22 19 25.5**	**-0.3**
HORT				Sg	**Sb**	**22 19 35.2**	**-0.1**
HORT	**Hortiatis**	**0.65**	**163**	P	**Pg**	**22 19 25.6**	**-0.3**
HORT				S	**Sb**	**22 19 34.9**	**-0.4**
	comp=N,2μm,0.6s						
HORT	**Hortiatis**	**0.65**	**163**	P	**Pg**	**22 19 25.5**	**-0.3**
HORT				S	**Sg**	**22 19 33.8**	**-0.5**
HORT				AML	AML	22 19 38.9	
	comp=N,3194μm,0.5s						
HORT				AML	AML	22 19 39.8	
	comp=E,3468μm,0.6s						
KKB	**Krupnik**	**0.66**	**18**	*i* P	**Pg**	**22 19 25.7**	**-0.4**
KKB				*i* S	**Sg**	**22 19 34.6**	**-0.1**
KKB	**Krupnik**	**0.66**	**18**⇑	*i*Pg	**Pg**	**22 19 25.7**	**-0.4**
KKB				*i* Sg	**Sg**	**22 19 34.2**	**-0.5**
STIP	**Stip**	**0.69**	**314**⇓	*i*Pg	**Pg**	**22 19 24.8**	**-2.0**
STIP				*i* Sg	**Sg**	**22 19 33.2**	**-2.7**
MMB	**Musomishta**	**0.75**	**64**	*i* P	**Pg**	**22 19 27.3**	**-0.5**
MMB				*i* S	**Sg**	**22 19 37.3**	**-0.3**
MMB	**Musomishta**	**0.75**	**64**⇑	*i*Pg	**Pg**	**22 19 27.2**	**-0.5**
MMB				*i* Sg	**Sg**	**22 19 37.4**	**-0.3**
NVR	**Nevrokopi**	**0.77**	**80**	P	**Pb**	**22 19 28.7**	**+0.2**
NVR				S	**Sb**	**22 19 39.4**	**+0.5**
	comp=E,622nm,0.2s						
NVR	**Nevrokopi**	**0.77**	**80**	P	**Pb**	**22 19 28.5**	**0.0**
NVR				S	**Sg**	**22 19 37.6**	**-0.6**
NVR				AML	AML	22 19 43.9	
	comp=E,1310μm,0.2s						
NVR				AML	AML	22 19 44.1	
	comp=N,1332μm,0.3s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pg**	**22 19 31.0**	**-0.6**
KOKK				S	**Sn**	**22 19 45.7**	**0.0**
	comp=N,1μm,0.3s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pg**	**22 19 30.8**	**-0.8**
KOKK				S	**Sg**	**22 19 43.5**	**-0.5**
KOKK				AML	AML	22 19 46.6	
	comp=N,2358μm,0.4s						
KOKK				AML	AML	22 19 49.3	
	comp=E,1835μm,0.3s						
KVLA	**Kavala**	**1.19**	**103**	P	**Pn**	**22 19 35.2**	**-0.4**
KVLA				S	**Sb**	**22 19 50.6**	**-0.3**
KVLA				AML	AML	22 19 52.9	
	comp=N,1059μm,0.4s						
KVLA				AML	AML	22 19 55.9	
	comp=E,1108μm,0.5s						
FNA	**Florina**	**1.20**	**249**	Pn	**Pb**	**22 19 35.3**	**-0.6**
FNA	**Florina**	**1.20**	**249**	P	**Pb**	**22 19 35.5**	**-0.4**
FNA				S	**Sn**	**22 19 52.5**	**+0.5**
	comp=E,500nm,0.3s						
FNA	**Florina**	**1.20**	**249**	*e*Pg	**Pb**	**22 19 35.6**	**-0.4**
FNA				*e*Sg	**Sn**	**22 19 52.1**	**+0.1**
FNA	**Florina**	**1.20**	**249**	P	**Pb**	**22 19 35.3**	**-0.6**
FNA				S	**Sb**	**22 19 51.4**	**+0.1**
FNA				AML	AML	22 19 57.4	
	comp=E,2210μm,0.3s						
FNA				AML	AML	22 19 57.7	
	comp=N,2791μm,0.3s						
FNA	**Florina**	**1.20**	**249**⇓	*i*Pg	**Pb**	**22 19 35.4**	**-0.4**
FNA				*i* Sg	**Sn**	**22 19 52.6**	**+0.6**
OUR	**Ouranopolis**	**1.23**	**136**	Pn	**Pn**	**22 19 35.9**	**-0.1**
OUR	**Ouranopolis**	**1.23**	**136**	P	**Pn**	**22 19 36.0**	**-0.1**
OUR				S	**Sn**	**22 19 53.6**	**+1.1**
	comp=N,982nm,0.5s						
OUR	**Ouranopolis**	**1.23**	**136**	P	**Pn**	**22 19 36.0**	**-0.1**
OUR				AML	AML	22 19 57.2	
	comp=E,1985μm,0.5s						
OUR				AML	AML	22 19 59.8	
	comp=N,1967μm,0.6s						
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**22 19 36.4**	**-0.3**
KAVA				S	**Sg**	**22 19 56.3**	**+2.1**
	comp=N,865nm,0.5s						
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**22 19 36.3**	**-0.4**
KAVA				S	**Sn**	**22 19 54.0**	**+0.4**
SKO	**Skopje**	**1.30**	**306**	*e*Pg	**Pb**	**22 19 37.6**	**0.0**
SKO				*e*Sg	**Sn**	**22 19 54.7**	**+0.2**
SKO	**Skopje**	**1.30**	**306**	*i* Pg	**Pn**	**22 19 37.4**	**+0.2**
SKO				*i* Sg	**Sg**	**22 19 55.0**	**-0.3**
BOSS	**Bosilegrad**	**1.31**	**348**	*e*Pg	**Pn**	**22 19 37.5**	**+0.2**
BOSS				*e*Sg	**Sb**	**22 19 54.3**	**-0.1**
PRVS	**Prvonek**	**1.42**	**336**	*e*Pg	**Pn**	**22 19 39.1**	**+0.3**
PRVS				*e*Sg	**Sn**	**22 19 57.6**	**+0.3**
VTS	**Vitosha**	**1.43**	**11**	*i* P	**Pn**	**22 19 39.4**	**+0.4**
VTS				*i* S	**Sb**	**22 19 58.6**	**+0.6**
VTS	**Vitosha**	**1.43**	**11**	*e*Pg	**Pn**	**22 19 39.3**	**+0.3**
VTS				*e*Sg	**Sn**	**22 19 57.5**	**-0.3**
PAIG	**Paliouri**	**1.43**	**154**	Pn	**Pn**	**22 19 38.8**	**-0.1**
PAIG	**Paliouri**	**1.43**	**154**	P	**Pn**	**22 19 39.0**	**+0.1**
PAIG				S	**Sg**	**22 19 58.9**	**-0.5**
	comp=N,640nm,0.6s						
RZN	**Rozhen**	**1.49**	**71**	*i* P	**Pb**	**22 19 40.9**	**0.0**
THAS	**Thassos island**	**1.54**	**113**	P	**Pn**	**22 19 40.0**	**-0.3**
THAS				S	**Sb**	**22 20 01.9**	**+1.0**
	comp=N,410nm,0.5s						
THAS	**Thassos island**	**1.54**	**113**	P	**Pn**	**22 19 39.6**	**-0.7**
THAS				AML	AML	22 20 03.4	
	comp=E,742μm,0.5s						
THAS				AML	AML	22 20 05.9	
	comp=N,710μm,0.4s						
OHR	**Ohrid**	**1.56**	**267**	*e*Pg	**Pb**	**22 19 42.2**	**+0.2**
OHR				*e*Sg	**Sg**	**22 20 03.9**	**+0.5**
OHR	**Ohrid**	**1.56**	**267**	*i* Pg	**Pb**	**22 19 42.4**	**+0.5**
OHR				*i* Sg	**Sg**	**22 20 04.2**	**+0.8**
OHR				*e*Lg	Lg	22 20 04.3	
	comp=N,149nm,0.5s						
OHR				*e*Lg	Lg	22 20 06.9	
	comp=E,133nm,0.5s						
NEST	**Nestorio**	**1.59**	**240**	P	**Pn**	**22 19 41.3**	**+0.1**
NEST				S	**Sb**	**22 20 02.3**	**-0.2**
	comp=E,300nm,0.8s						
NEST	**Nestorio**	**1.59**	**240**	P	**Pn**	**22 19 40.7**	**-0.5**
NEST				AML	AML	22 20 12.7	
	comp=E,679μm,0.5s						
NEST				AML	AML	22 20 14.9	
	comp=N,603μm,0.5s						
PGB	**Panagyurishte**	**1.63**	**37**	*i* P	**Pn**	**22 19 42.5**	**+0.9**
PGB				*i* S	**Sg**	**22 20 05.1**	**-0.5**
PENT	**Pentalofos**	**1.66**	**233**	P	**Pn**	**22 19 42.3**	**+0.2**
PENT	**Pentalofos**	**1.66**	**233**	P	**Pn**	**22 19 41.9**	**-0.2**
KBN	**Korca**	**1.68**	**250**	P	**Pn**	**22 19 42.4**	**0.0**
KBN				S	**Sb**	**22 20 05.4**	**+0.4**
	comp=N,575nm,0.5s						
PLD	**Plovdiv**	**1.69**	**56**	Pn	**Pn**	**22 19 42.5**	**0.0**
PLD	**Plovdiv**	**1.69**	**56**	*i* P	**Pn**	**22 19 43.6**	**+1.1**
PLD	**Plovdiv**	**1.69**	**56**⇓	*i*Pn	**Pn**	**22 19 43.6**	**+1.1**
KPRO	**Kipourio**	**1.70**	**223**	P	**Pn**	**22 19 43.2**	**+0.6**
KPRO				S	**Sb**	**22 20 05.6**	**-0.1**
	comp=N,218nm,0.5s						
KPRO	**Kipourio**	**1.70**	**223**	P	**Pn**	**22 19 43.0**	**+0.3**
KPRO				AML	AML	22 20 19.8	
	comp=E,445μm,0.5s						
KPRO				AML	AML	22 20 24.5	
	comp=N,424μm,0.6s						
THL	**Klokotos Trika**	**1.77**	**202**	P	**Pn**	**22 19 43.9**	**+0.3**
THL				S	**Sb**	**22 20 07.3**	**-0.4**
	comp=N,175nm,0.8s						
THL	**Klokotos Trika**	**1.77**	**202**	P	**Pn**	**22 19 43.8**	**+0.2**
THL				AML	AML	22 20 15.6	
	comp=E,506μm,0.9s						
THL				AML	AML	22 20 18.4	
	comp=N,191μm,0.8s						
BARS	**Barje**	**1.78**	**334**	*e*Pg	**Pb**	**22 19 45.1**	**-0.6**
BARS				*e*Sg	**Sb**	**22 20 08.2**	**+0.3**
BARS	**Barje**	**1.78**	**334**	*i* Pn	**Pb**	**22 19 44.9**	**-0.8**
PHP	**Peshkopia**	**1.88**	**285**	P	**Pn**	**22 19 45.2**	**+0.1**
KDZ	**Kurdzhali**	**1.91**	**77**	Pn	**Pn**	**22 19 46.3**	**+0.8**
NEO	**Neokhori**	**1.93**	**172**	P	**Pn**	**22 19 45.7**	**-0.1**
NEO				S	**Sn**	**22 20 09.3**	**-0.6**
NEO				AML	AML	22 20 14.2	
	comp=E,869μm,0.6s						
NEO				AML	AML	22 20 16.2	
	comp=N,572μm,0.5s						
RDO	**Rodhopi**	**2.02**	**91**	Pn	**Pn**	**22 19 47.6**	**+0.6**
RDO	**Rodhopi**	**2.02**	**91**	P	**Pn**	**22 19 46.9**	**-0.1**
RDO				AML	AML	22 20 24.8	
	comp=E,427μm,0.3s						
RDO				AML	AML	22 20 25.6	
	comp=N,418μm,0.3s						
SMTH	**Samothraki Isl**	**2.16**	**109**	P	**Pn**	**22 19 48.4**	**-0.5**
SMTH				AML	AML	22 20 29.3	
	comp=E,139μm,0.6s						
SMTH				AML	AML	22 20 34.4	
	comp=N,185μm,0.8s						
LIA	**Limnos Island**	**2.21**	**126**	P	**Pn**	**22 19 49.3**	**-0.3**
LIA				AML	AML	22 20 27.0	
	comp=N,710μm,0.6s						
LIA				AML	AML	22 20 36.7	
	comp=E,695μm,1.1s						
MAKR	**Makrakomi, Fth**	**2.27**	**194**	P	**Pn**	**22 19 50.5**	**0.0**
ALN	**Alexandroupoli**	**2.43**	**96**	Pn	**Pn**	**22 19 53.4**	**+0.7**
ALN	**Alexandroupoli**	**2.43**	**96**	P	**Pn**	**22 19 52.6**	**-0.1**
ALN				AML	AML	22 20 40.7	
	comp=E,142μm,0.5s						
ALN				AML	AML	22 20 42.2	
	comp=N,162μm,0.6s						
EVR	**Evrytania**	**2.43**	**200**	P	**Pn**	**22 19 53.6**	**+0.8**
AXAR	**Agios Charalam**	**2.45**	**184**	P	**Pn**	**22 19 53.4**	**+0.5**
GADA	**Gvkgeada**	**2.53**	**113**	Pn	**Pn**	**22 19 54.8**	**+0.8**
ENEZ	**Enez**	**2.54**	**100**	Pn	**Pn**	**22 19 54.8**	**+0.7**
IGT	**Igoumenitsa**	**2.56**	**230**	P	**Pn**	**22 19 55.9**	**+1.5**
ANX	**Ano Chora**	**2.72**	**196**	P	**Pn**	**22 19 57.1**	**+0.4**
KYMI	**Kymi, Euboea I**	**2.75**	**159**	P	**Pn**	**22 19 56.7**	**-0.3**
KEK	**Kerkira**	**2.77**	**238**	Pn	**Pn**	**22 19 57.9**	**+0.5**
KEK	**Kerkira**	**2.77**	**238**	P	**Pn**	**22 19 57.7**	**+0.3**
ERIK	**Erikli-Kesan**	**2.82**	**100**	Pn	**Pn**	**22 19 59.4**	**+1.4**
UKOP	**Uzunkopru-Edir**	**2.85**	**91**	Pn	**Pn**	**22 19 59.7**	**+1.3**
GELI	**Tayfur-Gelibol**	**2.87**	**105**	Pn	**Pn**	**22 19 59.7**	**+1.1**
EFP	**Efpalio**	**2.88**	**195**	P	**Pn**	**22 19 59.0**	**+0.1**
LKD2	**Lefkada island**	**2.96**	**216**	P	**Pn**	**22 20 00.6**	**+0.7**
COMU	**Canakkale**	**2.97**	**111**	Pn	**Pn**	**22 20 00.2**	**+0.1**
EDRB	**Edirne**	**2.98**	**77**	Pn	**Pn**	**22 20 00.9**	**+0.6**
EZN	**Ezine**	**2.99**	**117**	Pn	**Pn**	**22 20 01.3**	**+1.0**
SIGR	**SIGRI**	**3.05**	**130**	Pn	**Pn**	**22 20 02.1**	**+1.0**
LPK	**Lapseki**	**3.08**	**105**	Pn	**Pn**	**22 20 02.6**	**+1.0**
KLV	**Kalavryta, Ach**	**3.22**	**190**	P	**Pn**	**22 20 03.7**	**+0.2**
DION	**Dionisos Attik**	**3.24**	**165**	P	**Pn**	**22 20 04.3**	**+0.5**
GUR	**Goura**	**3.30**	**187**	P	**Pn**	**22 20 05.1**	**+0.4**
RKY	**Sarkoy-Tekirda**	**3.31**	**98**	Pn	**Pn**	**22 20 05.9**	**+1.0**

*IDC **01** 23:00:44.8±1.2, 41°20N×22°72E, h0km, mb3.4/5, mbtmp3.4/8, ML3.1/2, Error ellipse: s-maj=23.2km s-min=16.4km az=130.0*
*ISK **01** 23:00:45.8, 41°21N×22°87E, h10km, ML3.7/26*
*SKO **01** 23:00:45.9, 41°22N×22°86E, h15km, ML3.1*
*TIR **01** 23:00:45.6, 41°22N×22°68E, h11km±3km, Ml3.4*
*SOF **01** 23:00:46.1, 41°24N±0°01×22°86E±0°01, h12km±1km, MD4.0/8*
*ATH **01** 23:00:46.9, 41°21N×22°87E, h5km±1km, ML3.5/9, Error ellipse: s-maj=1.5km s-min=0.6km az=175.0*
*THE **01** 23:00:46.8, 41°19N×22°89E, h6km±1km, ML3.5/15, Error ellipse: s-maj=1.5km s-min=0.7km az=168.0*
*BEO **01** 23:00:47.4±0.4, 41°26N×22°86E, h13km±2km, ML3.2/9*
*VIE **01** 23:00:47.9, 41°69N×22°31E, h0km, mb3.6/3, ML3.1/2 77 km ESE of Skopje*
ISC 01 23:00:46.4±0.9**, 41°21N**±0°01×**22°86E**±0°01**, h13**km±6km**, n169, σ0.99s**/236**, mb3.5**/4**, 17C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.24**	**297**	*e*Pg	**Pg**	**23 00 51.8**	**+0.1**
VAY				*e*Sg	**Sb**	**23 00 56.9**	**0.0**
VAY	**Valandovo**	**0.24**	**297**⇓	*i*Pg	**Pg**	**23 00 51.8**	**+0.1**
VAY				*i* Sg	**Sb**	**23 00 56.4**	**-0.5**
VAY				*e*Lg	Lg	23 00 57.5	
	comp=N,4μm,0.5s						
VAY				*e*Lg	Lg	23 00 58.2	
	comp=E,4μm,0.5s						
GRG	**Griva**	**0.43**	**234**	Pg	**Pg**	**23 00 54.8**	**-0.2**
GRG				Sg	**Sg**	**23 01 01.4**	**+0.6**
GRG	**Griva**	**0.43**	**234**	P	**Pg**	**23 00 55.1**	**+0.1**
GRG				S	**Sg**	**23 01 01.1**	**+0.4**
	comp=E,11μm,0.5s						
GRG	**Griva**	**0.43**	**234**	P	**Pg**	**23 00 55.1**	**+0.1**
GRG				S	**Sg**	**23 01 01.2**	**+0.4**
GRG				AML	AML	23 01 02.2	
	comp=N,15328μm,0.5s						
GRG				AML	AML	23 01 02.6	
	comp=E,27862μm,0.4s						
GRG	**Griva**	**0.43**	**234**⇑	*i*Pg	**Pg**	**23 00 55.1**	**+0.1**
GRG				*i* Sg	**Sg**	**23 01 01.6**	**+0.9**
SOH	**Sokhos**	**0.54**	**136**	P	**Pg**	**23 00 56.9**	**-0.2**
SOH				S	**Sg**	**23 01 03.8**	**-0.5**
	comp=E,12μm,0.4s						
SOH	**Sokhos**	**0.54**	**136**	P	**Pg**	**23 00 57.1**	**0.0**
SOH				S	**Sg**	**23 01 04.0**	**-0.3**
SOH				AML	AML	23 01 06.5	
	comp=E,22622μm,0.3s						
SOH				AML	AML	23 01 06.8	
	comp=N,34411μm,0.3s						
SOH	**Sokhos**	**0.54**	**136**	*i* Pg	**Pg**	**23 00 56.9**	**-0.2**
SOH				*i* Sg	**Sg**	**23 01 04.3**	**+0.1**
SRS	**Serrai**	**0.56**	**100**	P	**Pg**	**23 00 57.1**	**-0.4**
SRS				S	**Sg**	**23 01 04.4**	**-0.5**
	comp=N,3μm,0.1s						
PEHC	**Pehcevo**	**0.57**	**3**⇑	*i*Pg	**Pg**	**23 00 57.4**	**-0.2**
PEHC				*i* Sg	**Sg**	**23 01 05.3**	**+0.1**
THE	**Thessaloniki**	**0.59**	**172**	P	**Pg**	**23 00 58.0**	**+0.1**
	baz=160						
THE				S	**Sg**	**23 01 05.5**	**-0.1**
	baz=160						
THE				AMP			
	comp=N,10.0nm,0.1s,baz=160						
THE	**Thessaloniki**	**0.59**	**172**	P	**Pg**	**23 00 57.8**	**-0.1**
THE				S	**Sg**	**23 01 05.7**	**+0.1**
	comp=N,5μm,0.5s						
THE	**Thessaloniki**	**0.59**	**172**	P	**Pg**	**23 00 58.0**	**+0.1**
THE				S	**Sg**	**23 01 05.9**	**+0.3**
THE				AML	AML	23 01 06.6	
	comp=E,9982μm,0.2s						
THE				AML	AML	23 01 09.4	
	comp=N,7954μm,0.5s						
THE	**Thessaloniki**	**0.59**	**172**⇑	*i*Pg	**Pg**	**23 00 57.8**	**-0.1**
THE				*i* Sg	**Sg**	**23 01 06.0**	**+0.4**
HORT	**Hortiatis**	**0.64**	**163**	Pg	**Pg**	**23 00 58.6**	**-0.4**

HORT				Sg	Sg	23 01 07.9	+0.5
HORT	**Hortiatis**	**0.64**	**163**	P	**Pg**	**23 00 58.9**	**-0.1**
HORT				S	**Sg**	**23 01 07.4**	**0.0**
	comp=N,4µm,0.3s						
HORT	**Hortiatis**	**0.64**	**163**	P	**Pg**	**23 00 59.1**	**+0.1**
HORT				S	**Sg**	**23 01 07.5**	**+0.1**
HORT				AML	AML	23 01 09.2	
	comp=N,8146µm,0.3s						
HORT				AML	AML	23 01 10.8	
	comp=E,8381µm,0.3s						
KKB	**Krupnik**	**0.66**	**18**	*i* P	**Pg**	**23 00 59.1**	**-0.3**
KKB				*i* S	**Sg**	**23 01 07.7**	**-0.4**
KKB	**Krupnik**	**0.66**	**18**	⇑*i*Pg	**Pg**	**23 00 59.1**	**-0.3**
KKB				*i* Sg	**Sg**	**23 01 07.7**	**-0.4**
STIP	**Stip**	**0.70**	**314**	*i* Pg	**Pg**	**23 00 58.0**	**-2.0**
STIP				*i* Sg	**Sg**	**23 01 06.9**	**-2.3**
MMB	**Musomishta**	**0.75**	**63**	*i* P	**Pg**	**23 01 00.8**	**-0.2**
MMB				*i* S	**Sg**	**23 01 10.9**	**+0.1**
MMB	**Musomishta**	**0.75**	**63**	⇑*i*Pg	**Pg**	**23 01 00.6**	**-0.4**
MMB				*i* Sg	**Sg**	**23 01 11.0**	**+0.1**
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pb**	**23 01 01.9**	**+0.2**
NVR				S	**Sb**	**23 01 12.2**	**+0.1**
	comp=E,3µm,0.4s						
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pb**	**23 01 01.9**	**+0.2**
NVR				S	**Sb**	**23 01 11.9**	**-0.2**
NVR				AML	AML	23 01 13.7	
	comp=N,4928µm,0.1s						
NVR				AML	AML	23 01 14.0	
	comp=E,6128µm,0.2s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pb**	**23 01 04.2**	**-0.5**
KOKK				S	**Sb**	**23 01 16.8**	**-0.4**
	comp=E,2µm,0.4s						
KOKK	**Kokkinochori,**	**0.95**	**114**	P	**Pb**	**23 01 04.5**	**-0.3**
KOKK				S	**Sb**	**23 01 17.1**	**-0.1**
KTI	**Kastanea**	**0.99**	**215**	P	**Pb**	**23 01 03.8**	**-1.8**
KVLA	**Kavala**	**1.19**	**103**	P	**Pn**	**23 01 08.6**	**-0.1**
KVLA				S	**Sg**	**23 01 24.8**	**0.0**
KVLA				AML	AML	23 01 26.1	
	comp=N,3239µm,0.3s						
KVLA				AML	AML	23 01 27.9	
	comp=E,3892µm,0.2s						
FNA	**Florina**	**1.20**	**250**	Pn	**Pn**	**23 01 08.9**	**-0.1**
FNA				Sn	**Sg**	**23 01 26.2**	**+1.0**
FNA	**Florina**	**1.20**	**250**	P	**Pn**	**23 01 07.8**	**-1.2**
	baz=247						
FNA				S	**Sb**	**23 01 23.0**	**-1.5**
	baz=247						
FNA				AMP			
	comp=N,4.0nm,0.6s,baz=247						
FNA	**Florina**	**1.20**	**250**	P	**Pn**	**23 01 08.6**	**-0.4**
FNA				S	**Sb**	**23 01 24.9**	**+0.4**
	comp=N,2µm,0.5s						
FNA	**Florina**	**1.20**	**250**	*e*Pg	**Pn**	**23 01 09.0**	**-0.1**
FNA				*e*Sg	**Sg**	**23 01 26.3**	**+1.0**
FNA	**Florina**	**1.20**	**250**	P	**Pn**	**23 01 08.9**	**-0.1**
FNA				S	**Sg**	**23 01 25.7**	**+0.5**
FNA				AML	AML	23 01 30.4	
	comp=E,4192µm,0.5s						
FNA				AML	AML	23 01 31.6	
	comp=N,5139µm,0.6s						
FNA	**Florina**	**1.20**	**250**	*i* Pg	**Pn**	**23 01 08.9**	**-0.1**
FNA				*i* Sg	**Sg**	**23 01 25.8**	**+0.5**
OUR	**Ouranopolis**	**1.22**	**135**	Pn	**Pb**	**23 01 09.6**	**+0.2**
OUR				Sn	**Sg**	**23 01 26.5**	**+0.5**
OUR	**Ouranopolis**	**1.22**	**135**	P	**Pn**	**23 01 08.9**	**-0.3**
OUR				S	**Sg**	**23 01 26.4**	**+0.5**
	comp=N,3µm,0.4s						
OUR	**Ouranopolis**	**1.22**	**135**	P	**Pn**	**23 01 09.2**	**0.0**
OUR				S	**Sg**	**23 01 26.2**	**+0.3**
OUR				AML	AML	23 01 28.8	
	comp=E,6697µm,0.3s						
OUR				AML	AML	23 01 32.6	
	comp=N,4825µm,0.4s						
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**23 01 09.7**	**-0.2**
KAVA				S	**Sg**	**23 01 27.1**	**-0.3**
	comp=N,3µm,0.4s						
KAVA	**Kavala**	**1.27**	**99**	P	**Pn**	**23 01 09.8**	**0.0**
KAVA				S	**Sg**	**23 01 27.5**	**+0.2**
SKO	**Skopje**	**1.31**	**306**	*e*Pg	**Pn**	**23 01 10.6**	**+0.2**
SKO				*e*Sg	**Sn**	**23 01 27.8**	**+0.1**
SKO	**Skopje**	**1.31**	**306**	*i* Pg	**Pn**	**23 01 10.7**	**+0.2**
SKO				*i* Sg	**Sn**	**23 01 28.1**	**+0.4**
BOSS	**Bosilegrad**	**1.31**	**348**	*e*Pg	**Pb**	**23 01 10.9**	**-0.1**
BOSS				*e*Sg	**Sn**	**23 01 27.9**	**0.0**
PRVS	**Prvonek**	**1.42**	**336**	*e*Pg	**Pn**	**23 01 12.1**	**+0.1**
PRVS				*e*Sg	**Sg**	**23 01 33.2**	**+1.0**
PAIG	**Paliouri**	**1.43**	**154**	Pn	**Pn**	**23 01 12.3**	**+0.3**
PAIG	**Paliouri**	**1.43**	**154**	P	**Pn**	**23 01 11.9**	**-0.1**
PAIG				S	**Sb**	**23 01 31.0**	**0.0**
	comp=N,2µm,0.6s						
VTS	**Vitosha**	**1.43**	**11**	*i* S	**Sb**	**23 01 31.6**	**+0.3**
VTS	**Vitosha**	**1.43**	**11**	*e*Pg	**Pn**	**23 01 12.6**	**+0.3**
VTS				*e*Sg	**Sn**	**23 01 31.0**	**0.0**
RZN	**Rozhen**	**1.49**	**71**	*i* P	**Pb**	**23 01 14.1**	**0.0**
RZN				*i* S	**Sg**	**23 01 34.5**	**-0.1**
THAS	**Thassos island**	**1.54**	**113**	P	**Pn**	**23 01 13.0**	**-0.5**
THAS				S	**Sb**	**23 01 34.7**	**+0.6**
	comp=N,2µm,0.3s						
THAS	**Thassos island**	**1.54**	**113**	P	**Pn**	**23 01 13.7**	**+0.2**
THAS				S	**Sb**	**23 01 34.0**	**0.0**
THAS				AML	AML	23 01 36.7	
	comp=E,2721µm,0.4s						
THAS				AML	AML	23 01 37.9	
	comp=N,3964µm,0.3s						
OHR	**Ohrid**	**1.56**	**267**	*e*Pg	**Pg**	**23 01 16.3**	**-0.1**
OHR				*e*Sg	**Sg**	**23 01 37.4**	**+0.8**
OHR	**Ohrid**	**1.56**	**267**	*i* Pg	**Pn**	**23 01 14.6**	**+0.7**
OHR				*i* Sg	**Sg**	**23 01 37.9**	**+1.2**
OHR				*e*Lg	Lg	23 01 37.9	
	comp=N,264nm,0.5s						
OHR				*e*Lg	Lg	23 01 38.2	
	comp=E,188nm,0.5s						
NEST	**Nestorio**	**1.59**	**240**	P	**Pn**	**23 01 14.7**	**+0.4**
NEST	**Nestorio**	**1.59**	**240**	P	**Pn**	**23 01 14.8**	**+0.4**
PGB	**Panagyurishte**	**1.63**	**37**	*i* P	**Pb**	**23 01 15.8**	**-0.6**
PGB				*i* S	**Sg**	**23 01 39.6**	**+0.7**
PENT	**Pentalofos**	**1.66**	**233**	P	**Pn**	**23 01 15.7**	**+0.5**
PENT	**Pentalofos**	**1.66**	**233**	P	**Pn**	**23 01 15.8**	**+0.5**
KBN	**Korca**	**1.68**	**250**	P	**Pn**	**23 01 15.7**	**+0.2**
	baz=248						
KBN				S	**Sn**	**23 01 36.7**	**-0.2**
	baz=248						
KBN				AMP			
	comp=E,1.6nm,0.6s,baz=248						
KBN	**Korca**	**1.68**	**250**	P	**Pn**	**23 01 16.0**	**+0.5**
KBN				S	**Sg**	**23 01 42.0**	**+1.6**
	comp=E,548nm,0.5s						
PLD	**Plovdiv**	**1.69**	**56**	Pn	**Pn**	**23 01 15.6**	**-0.1**
PLD	**Plovdiv**	**1.69**	**56**	*i* P	**Pb**	**23 01 16.9**	**-0.6**
PLD				*i* S	**Sg**	**23 01 41.1**	**+0.1**
PLD	**Plovdiv**	**1.69**	**56**	*e*Pg	**Pb**	**23 01 16.8**	**-0.7**
PLD				*e*Sg	**Sb**	**23 01 38.6**	**-0.1**
PLD	**Plovdiv**	**1.69**	**56**	*i* Pn	**Pn**	**23 01 16.3**	**+0.6**
KPRO	**Kipourio**	**1.70**	**223**	P	**Pn**	**23 01 16.4**	**+0.6**
KPRO	**Kipourio**	**1.70**	**223**	P	**Pb**	**23 01 16.8**	**-0.7**
THL	**Klokotos Trika**	**1.77**	**202**	P	**Pn**	**23 01 17.0**	**+0.3**
THL	**Klokotos Trika**	**1.77**	**202**	P	**Pn**	**23 01 17.2**	**+0.5**
BARS	**Barje**	**1.78**	**334**	*e*Pg	**Pn**	**23 01 17.5**	**+0.6**
BARS				*e*Sg	**Sb**	**23 01 41.5**	**+0.3**
BARS	**Barje**	**1.78**	**334**	*i* Pn	**Pn**	**23 01 17.1**	**+0.1**
PHP	**Peshkopia**	**1.88**	**285**	P	**Pn**	**23 01 18.6**	**+0.3**
	baz=287						
PHP				S	**Sb**	**23 01 43.0**	**-1.0**
	baz=287						
PHP				AMP			
	comp=N,0.7nm,0.5s,baz=287						
PHP	**Peshkopia**	**1.88**	**285**	P	**Pn**	**23 01 18.5**	**+0.3**
KDZ	**Kurdzhali**	**1.91**	**77**	Pn	**Pn**	**23 01 19.1**	**+0.4**
KDZ	**Kurdzhali**	**1.91**	**77**	*i* P	**Pb**	**23 01 20.6**	**-0.6**
KDZ				*i* S	**Sg**	**23 01 47.2**	**-0.7**
NEO	**Neokhori**	**1.92**	**172**	P	**Pn**	**23 01 19.1**	**+0.2**
NEO	**Neokhori**	**1.92**	**172**	P	**Pn**	**23 01 19.3**	**+0.4**
LSK	**Leskovik**	**2.02**	**239**	P	**Pn**	**23 01 21.2**	**+0.9**
	baz=237						
LSK				S	**Sb**	**23 01 47.4**	**-0.7**
	baz=237						
LSK	**Leskovik**	**2.02**	**239**	P	**Pn**	**23 01 21.2**	**+0.9**
RDO	**Rodhopi**	**2.02**	**91**	Pn	**Pn**	**23 01 20.5**	**+0.3**
RDO	**Rodhopi**	**2.02**	**91**	P	**Pn**	**23 01 20.3**	**+0.1**
RDO	**Rodhopi**	**2.02**	**91**	P	**Pn**	**23 01 20.5**	**+0.3**
ZAPS	**Zavoj**	**2.07**	**355**	*e*Pn	**Pn**	**23 01 21.9**	**+1.0**
SMTH	**Samothraki Isl**	**2.16**	**109**	P	**Pn**	**23 01 21.8**	**-0.3**
LIA	**Limnos Island**	**2.21**	**126**	P	**Pn**	**23 01 22.7**	**0.0**
LIA				S	**Sb**	**23 01 52.2**	**-1.1**
	comp=N,905nm,0.6s						
LIA	**Limnos Island**	**2.21**	**126**	P	**Pn**	**23 01 22.9**	**+0.2**
MPEP	**Malo Peshtene**	**2.24**	**17**	*i* P	**Pn**	**23 01 24.5**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.27**	**194**	P	**Pn**	**23 01 24.4**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.27**	**194**	P	**Pn**	**23 01 24.4**	**+0.8**
BCI	**Bajram Curri**	**2.38**	**300**	P	**Pn**	**23 01 26.1**	**+0.9**
	baz=302						
BCI				S	**Sb**	**23 01 58.8**	**+0.2**
	baz=302						
SELS	**Selova**	**2.39**	**328**	*e*Pn	**Pn**	**23 01 25.0**	**-0.3**
ALN	**Alexandroupoli**	**2.43**	**96**	Pn	**Pn**	**23 01 26.6**	**+0.8**
ALN	**Alexandroupoli**	**2.43**	**96**	P	**Pn**	**23 01 26.2**	**+0.4**
EVR	**Evrytania**	**2.43**	**200**	P	**Pn**	**23 01 27.9**	**+2.0**
AXAR	**Agios Charalam**	**2.45**	**184**	P	**Pn**	**23 01 26.6**	**+0.5**
AXAR	**Agios Charalam**	**2.45**	**184**	P	**Pn**	**23 01 26.8**	**+0.7**
VALD	**Valchedram**	**2.51**	**10**	P	**Pn**	**23 01 28.3**	**+1.4**
GADA	**Gvkgeada**	**2.53**	**113**	Pn	**Pn**	**23 01 27.3**	**+0.2**
ENEZ	**Enez**	**2.54**	**100**	Pn	**Pn**	**23 01 27.5**	**+0.2**
SRN	**Sarande**	**2.55**	**239**	P	**Pb**	**23 01 30.2**	**-1.9**
	baz=238						
SRN				S	**Sb**	**23 02 02.6**	**-0.7**
	baz=238						
SRN	**Sarande**	**2.55**	**239**	P	**Pb**	**23 01 30.4**	**-1.7**
IGT	**Igoumenitsa**	**2.56**	**230**	P	**Pb**	**23 01 30.3**	**-1.9**
	baz=228						
IGT				S	**Sb**	**23 02 02.7**	**-0.8**
	baz=228						
IGT	**Igoumenitsa**	**2.56**	**230**	P	**Pb**	**23 01 30.1**	**-2.1**
BOVS	**Bovan**	**2.57**	**341**	⇓P	**Pn**	**23 01 27.7**	**0.0**
ZAGS	**Zajecar**	**2.64**	**350**	*e*Pn	**Pn**	**23 01 28.9**	**+0.2**
ANX	**Ano Chora**	**2.71**	**196**	P	**Pn**	**23 01 30.8**	**+1.0**
ANX	**Ano Chora**	**2.71**	**196**	P	**Pn**	**23 01 30.8**	**+1.0**
KYMI	**Kymi, Euboea I**	**2.75**	**159**	P	**Pn**	**23 01 30.5**	**+0.3**
KYMI	**Kymi, Euboea I**	**2.75**	**159**	P	**Pn**	**23 01 30.7**	**+0.5**
PVO	**Paravola**	**2.79**	**202**	P	**Pn**	**23 01 32.6**	**+1.8**
ERIK	**Erikli-Kesan**	**2.82**	**100**	Pn	**Pn**	**23 01 32.1**	**+0.9**
UKOP	**Uzunkopru-Edir**	**2.85**	**90**	Pn	**Pn**	**23 01 32.6**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.86**	**105**	Pn	**Pn**	**23 01 32.6**	**+0.8**
EFP	**Efpalio**	**2.88**	**195**	P	**Pn**	**23 01 33.0**	**+1.0**
LKD2	**Lefkada island**	**2.95**	**216**	P	**Pn**	**23 01 35.1**	**+2.1**
	baz=214						
LKD2				S	**Sb**	**23 02 13.4**	**-1.5**
	baz=214						
COMU	**Canakkale**	**2.97**	**111**	Pn	**Pn**	**23 01 34.3**	**+1.1**
EZN	**Ezine**	**2.98**	**117**	Pn	**Pn**	**23 01 34.4**	**+1.0**
EDRB	**Edirne**	**2.98**	**76**	Pn	**Pn**	**23 01 34.1**	**+0.6**
EDRB	**Edirne**	**2.98**	**76**	P	**Pn**	**23 01 33.8**	**+0.3**
EDRB				S	**Sg**	**23 02 19.6**	**-2.7**
	comp=N,222nm,0.9s						
SIGR	**SIGRI**	**3.04**	**130**	Pn	**Pn**	**23 01 35.4**	**+1.2**
LPK	**Lapseki**	**3.08**	**105**	Pn	**Pn**	**23 01 35.8**	**+1.1**
SZH	**Strazhitsa**	**3.09**	**47**	*i* P	**Pn**	**23 01 36.7**	**+1.7**
IVAS	**Ivanjica**	**3.10**	**321**	*e*Pn	**Pn**	**23 01 35.0**	**-0.1**
PRK	**Paraskevi**	**3.27**	**126**	P	**Pn**	**23 01 38.5**	**+1.1**
SVIS	**Svilajnac**	**3.28**	**339**	*e*Pn	**Pn**	**23 01 39.4**	**+1.9**
RKY	**Sarkoy-Tekirda**	**3.31**	**98**	Pn	**Pn**	**23 01 39.7**	**+1.7**
CANM	**Can-anakkale**	**3.41**	**109**	Pn	**Pn**	**23 01 40.4**	**+1.1**
KRBG	**Karabiga-Canak**	**3.47**	**102**	Pn	**Pn**	**23 01 41.2**	**+1.1**
TKR	**Tekirdag**	**3.54**	**92**	Pn	**Pn**	**23 01 42.5**	**+1.4**
RAZG	**Razgrad**	**3.58**	**48**	⇑P	**Pb**	**23 01 46.2**	**-3.5**
HUMR	**Humele**	**3.66**	**24**	⇓P	**Pn**	**23 01 43.4**	**+0.7**
CRLT	**Corlu**	**3.68**	**90**	Pn	**Pn**	**23 01 44.5**	**+1.4**
DKL	**Dikili**	**3.77**	**123**	Pn	**Pn**	**23 01 45.7**	**+1.5**
RFT7	**Candarli**	**3.84**	**125**	Pn	**Pn**	**23 01 46.8**	**+1.5**
TEKS	**Tekeris**	**4.14**	**325**	*e*Pn	**Pn**	**23 01 49.3**	**0.0**
GZR	**Gura Zlata**	**4.18**	**359**	⇑P	**Pn**	**23 01 49.8**	**-0.1**
SULR		**4.27**	**35**	⇓P	**Pn**	**23 01 53.1**	**+2.1**
LOT	**Lotru**	**4.29**	**9**	⇓P	**Pn**	**23 01 51.6**	**+0.2**
MTUR	**Matau**	**4.32**	**21**	⇑P	**Pn**	**23 01 52.9**	**+0.9**
BZS	**Buzias**	**4.49**	**349**	⇑P	**Pn**	**23 01 53.7**	**-0.5**
VOIR		**4.51**	**20**	⇓P	**Pn**	**23 01 55.3**	**+0.8**
FRGS	**Fruska Gora**	**4.53**	**332**	⇓P	**Pn**	**23 01 54.6**	**-0.2**
MLR	**Muntele Rosu**	**4.83**	**27**	⇑P	**Pn**	**23 02 00.8**	**+1.8**
MLR	**Muntele Rosu**	**4.83**	**27**	Pn	**Pn**	**23 02 00.5**	**+1.6**
	comp=N,12nm,0.4s,baz=133,slow=19						
MLR				Lg	Lg	23 03 22.0	
	comp=N,3.0nm,0.3s,baz=240,slow=23,SNR=4.3						
NEHR	**Nehoiu**	**4.90**	**30**	⇑P	**Pn**	**23 02 02.5**	**+2.6**
BISRR	**Bisoca**	**5.16**	**32**	⇓P	**Pn**	**23 02 04.9**	**+1.5**
COVR	**Voineasa-Covas**	**5.23**	**27**	⇑P	**Pn**	**23 02 06.4**	**+2.1**
BOSR	**Bodos**	**5.27**	**22**	⇑P	**Pn**	**23 02 06.3**	**+1.5**
OZUR		**5.32**	**23**	⇓P	**Pn**	**23 02 07.1**	**+1.5**
TURR	**Turia**	**5.36**	**24**	⇑P	**Pn**	**23 02 07.8**	**+1.7**
PLOR	**Plostina**	**5.39**	**29**	⇓P	**Pn**	**23 02 08.9**	**+2.3**
VRI	**Vrincioaia**	**5.43**	**30**	⇓P	**Pn**	**23 02 09.6**	**+2.5**
MORH	**Mrgy, Hungar**	**5.86**	**330**	⇑P	**Pn**	**23 02 12.9**	**-0.1**
VLDR	**Vladesti**	**5.99**	**38**	⇑P	**Pn**	**23 02 17.4**	**+2.7**
BURAR	**Bucovina Array**	**6.62**	**14**	⇑P	**Pn**	**23 02 24.3**	**+0.8**
KOLS	**Kolonicke sedl**	**7.73**	**357**	*e*PN	**Pn**	**23 02 39.8**	**+1.2**
VYHS	**Vyhne**	**7.82**	**340**	*e*PN	**Pn**	**23 02 40.0**	**+0.1**
RONA	**Rosalia, Austr**	**8.00**	**326**	*e*Pn	**Pn**	**23 02 45.0**	**+2.6**
	comp=N,1.9nm,0.4s						
MODS	**Modra-Piesok**	**8.18**	**333**	*e*PN	**Pn**	**23 02 47.3**	**+2.4**
BRTR	**Keskin Array B**	**8.35**	**97**	Pn	**Pn**	**23 02 50.0**	**+2.7**
	comp=N,0.1nm,0.3s,baz=176,slow=17,SNR=1.7						
	comp=N,0.3nm,0.3s						
CONA	**Conrad Observa**	**8.37**	**326**	*e*Pn	**Pn**	**23 02 49.3**	**+1.9**
	comp=N,0.7nm,0.3s						
SEV	**Sevastopol'**	**8.61**	**64**	*e*P	**Pn**	**23 02 52.0**	**+1.4**
SEV				Pm		23 02 52.5	
	comp=Z,2.0nm,0.3s						
SEV				*e*S	**Sn**	**23 04 27.4**	**-0.1**
SEV				Sm		23 04 27.5	
	comp=N,4.0nm,0.6s						
SEV				Sm		23 04 27.5	
	comp=E,2.0nm,0.4s						
SUDU	**Sudak**	**9.62**	**64**	*e*P	**Pn**	**23 03 05.3**	**+0.8**
SUDU				*e*S	**Sn**	**23 04 50.1**	**-2.2**
SUDU				Sm		23 04 50.5	
	comp=E,3.0nm,0.3s						
SUDU				Sm		23 04 50.5	
	comp=N,6.0nm,0.6s						
WATA	**Walderalm**	**10.14**	**311**	*e*Pn	**Pn**	**23 03 14.4**	**+2.6**
	comp=N,1.0nm,0.4s						
AKASG	**Malin Array Be**	**10.47**	**23**	Pn	**Pn**	**23 03 16.8**	**+0.7**
	comp=N,0.3nm,0.3s,baz=208,slow=10,SNR=4.4						
	comp=N,0.3nm,0.5s						
ESDC	**Sonseca Array**	**20.45**	**275**	P	**P**	**23 05 22.5**	**-1.1**
	comp=N,0.6nm,0.9s,baz=80,slow=11,SNR=2.0						
	comp=N,0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.52**	**220**	P	**P**	**23 07 25.9**	**+0.1**
	comp=N,0.6nm,0.9s,baz=37,slow=9.8,SNR=2.1						
	comp=N,0.6nm,0.9s						
MKAR	**Makanchi Array**	**42.22**	**62**	P	**P**	**23 08 40.2**	**+1.1**
	comp=N,0.6nm,0.7s,baz=282,slow=5.8,SNR=6.5						
	comp=N,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**42.35**	**51**	P	**P**	**23 08 40.5**	**+0.6**
	comp=N,1.0nm,0.6s,baz=267,slow=8.3,SNR=7.6						
	comp=N,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**71.14**	**341**	P	**P**	**23 12 04.6**	**+0.3**
	comp=N,0.2nm,0.8s,baz=35,slow=5.2,SNR=3.2						
	comp=N,0.2nm,0.8s						

IDC 01 23:01:43.3±35.0**, 34°.79N×99°.40E, h0**^{km}**, mb3.2**/2**, mbtmp3.3**/4**, ML3.0**/2**, MS2.8**/1**, Error ellipse: s-maj=483.8km s-min=72.2km az=162.0, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**14.04**	**20**	Pn	Pn	23 05 03.8	+0.2
	0.1nm,0.3s,baz=203,slow=14,SNR=4.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**17.61**	**318**	P	Pn	23 05 50.5	+0.4
	0.1nm,0.3s,baz=124,slow=13,SNR=6.8						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**21.73**	**336**	P	P	23 06 36.0	0.0
	0.6nm,0.5s,baz=134,slow=10,SNR=5.1						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**21.92**	**323**	P	P	23 06 37.8	-0.3
	0.5nm,0.4s,baz=122,slow=9.9,SNR=4.9						
	0.5nm,0.4s						
KSRS	**Korea Array**	**23.16**	**75**	LR	LR	23 17 06.1	
	comp=Z,22nm,18.4s,baz=160,slow=40						

IDC 01 23:19:21.9±1.5**, 12°.43N×143°.87E, h0**^{km}**, mb3.6**/5**, mbtmp3.6**/5**, MS2.9**/3**, Error ellipse: s-maj=69.6km s-min=26.2km az=92.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.51**	**40**	LR	LR	23 20 32.2	
	comp=Z,236nm,19.4s,baz=245,slow=47						
DAV	**Davao City (W)**	**18.79**	**255**	LR	LR	23 31 21.0	
	comp=Z,16nm,18.8s,baz=76,slow=38						
H11N1	**WAKE ISLAND Hy**	**23.26**	**69**	T	T	23 48 24.7	
	baz=255,slow=75,SNR=83						
H11N2	**WAKE ISLAND Hy**	**23.27**	**69**	T	T	23 48 25.5	
	baz=255,slow=75,SNR=55						
H11N3	**WAKE ISLAND Hy**	**23.28**	**69**	T	T	23 48 26.1	
	baz=255,slow=75,SNR=74						
WRA	**Warramunga Arr**	**33.51**	**196**	P	P	23 26 03.2	-0.1
	0.6nm,0.7s,baz=18,slow=9.2,SNR=2.5						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**37.17**	**195**	P	P	23 26 34.8	-0.1
	0.3nm,0.7s,baz=17,slow=8.5,SNR=6.9						
ASAR				LR	LR	23 42 19.1	
	comp=Z,27nm,18.5s,baz=20,slow=37						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.63**	**284**	LR	LR	23 45 36.0	
	comp=Z,13nm,19.5s,baz=65,slow=36						
MKAR	**Makanchi Array**	**61.65**	**317**	P	P	23 29 42.4	+0.7
	0.4nm,0.5s,baz=91,slow=9.3,SNR=6.5						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**84.33**	**27**	P	P	23 31 56.2	+0.5
	0.2nm,0.7s,baz=284,slow=5.2,SNR=1.9						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**91.80**	**335**	P	P	23 32 29.6	-1.9
	1.1nm,0.7s,baz=69,slow=7.6,SNR=3.3						
	1.1nm,0.7s						

*SDD **01** 23:30:40.9±1.1, 18°.47N×70°.41W, h31^{km}±15^{km}, MD3.2, ML2.3, MW3.5*

*OSPL **01** 23:30:41.6±1.4, 18°.46N×70°.45W, h2^{km}±384^{km}, ML2.1*

ISC 01 23:30:39.6±1.1**, 18°.42N**±0°.05×**70°.41W**±0°.03**, h27**^{km}±11^{km}**, n11, σ0^{s}58**/19**, 7C-4D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOSC1	**San Cristbal**	**0.29**	**92**	*i* P	**Pb**	**23 30 47.3**	**+0.7**
ABDR	**Alto Bandera**	**0.44**	**332**	⇑*e*Pg	**Pb**	**23 30 49.1**	**-0.2**
ABDR				⇓*e*Sg	**Sb**	**23 30 55.9**	**0.0**
ABDR				IAML		23 30 56.2	
	comp=E,473nm,0.3s						
ABDR				IAML		23 30 57.4	
	comp=N,386nm,0.2s						
DR08	**Loma La Naviza**	**0.66**	**34**	⇑*e*Pg	**Pb**	**23 30 52.1**	**-0.5**
DR08				⇑*e*Sg	**Sb**	**23 31 00.8**	**-0.6**
DR08				IAML		23 31 01.2	
	comp=N,1µm,0.1s						
LOBA2	**Hotel Casa Bon**	**0.73**	**243**	⇑*e*Pg	**Pb**	**23 30 54.1**	**+0.3**
LOBA2				*e*Sg	**Sn**	**23 31 04.9**	**+0.4**
PODR	**Polo**	**0.86**	**253**	⇓*e*Pg	**Pb**	**23 30 55.9**	**-0.3**
PODR				IAML		23 31 11.3	
	comp=N,63nm,0.2s						
PODR				IAML		23 31 12.9	
	comp=E,68nm,0.3s						
PODR	**Polo**	**0.86**	**253**	*i* P	**Pb**	**23 30 55.9**	**-0.3**
PODR				*e*S	**Sb**	**23 31 06.5**	**-1.0**
SDDR	**Presa de Saban**	**1.00**	**304**	⇑*e*Pg	**Pn**	**23 30 58.1**	**0.0**
SDDR				IAML		23 31 16.8	
	comp=E,36nm,0.3s						
SDDR				IAML		23 31 19.0	
	comp=N,55nm,0.4s						
SDDR	**Presa de Saban**	**1.00**	**304**	*i* P	**Pn**	**23 30 58.3**	**+0.3**
SDDR				*e*S	**Sb**	**23 31 11.0**	**-0.3**
SDDR				IAML		23 31 13.8	
	comp=Z,55nm,0.3s						
HATOM	**Hato Mayor del**	**1.04**	**69**	⇓*e*Pg	**Pn**	**23 30 58.1**	**-0.5**
HATOM				⇑*e*Sg	**Sb**	**23 31 12.2**	**-0.2**
HATOM				IAML		23 31 12.4	
	comp=E,40nm,0.3s						
HATOM				IAML		23 31 12.4	
	comp=N,93nm,0.2s						
SC01	**Santiago de lo**	**1.05**	**343**	*i* P	**Pb**	**23 30 59.2**	**0.0**
SC01				*e*S	**Sn**	**23 31 13.7**	**+1.3**
SC01				IAML		23 31 17.3	
	comp=Z,46nm,0.5s						
MIDR	**Miches**	**1.41**	**66**	⇑*e*Pg	**Pn**	**23 31 03.6**	**+0.1**
MIDR				⇓*e*Sg	**Sb**	**23 31 22.1**	**-0.7**
MIDR				IAML		23 31 22.8	
	comp=N,26nm,0.7s						
MIDR				IAML		23 31 23.1	
	comp=E,34nm,0.4s						

IDC 01 23:41:31.3±4.3**, 5°.68S×152°.00E, h0**^{km}**, mb3.2**/2**, mbtmp3.3**/2**, Error ellipse: s-maj=186.5km s-min=53.8km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.27**	**229**	P	P	23 46 29.9	-0.2
	0.4nm,0.4s,baz=53,slow=9.9,SNR=4.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**24.96**	**222**	P	P	23 46 56.8	+0.1
	0.5nm,0.8s,baz=60,slow=10.0,SNR=6.4						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.81**	**286**	PKPbc	PKPbc	00 01 24.1	-0.4
	0.3nm,0.8s,baz=67,slow=2.4,SNR=3.6						

*SKHL **01** 23:51:42.9±0.7, 46°.14N×136°.26E, h411^{km}±3^{km}, mb4.0/13, msh4.3/1*

*IDC **01** 23:51:44.0±1.0, 46°.21N×136°.16E, h418^{km}±13^{km}, mb3.1/14, mbtmp3.9/21, Error ellipse: s-maj=16.5km s-min=10.8km az=171.0*

ISC 01 23:51:43.2±0.6**, 46°.22N**±0°.07×**136°.18E**±0°.08**, h400**^{km}**, n30, σ1^{s}42**/32**, mb3.4**/13**, 1C-1D, Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEY	**Ternei**	**1.22**	**166**	⇓*i*P	**Pn**	**23 52 37.2**	**+2.0**
TEY				AMB	AMB	23 52 37.4	
	18nm,0.3s						
TEY				*e*S	**S**	**23 53 19.5**	**+2.4**
TEY				A	A	23 53 20.1	
	39nm,0.6s						
USRK	**Ussuriysk Ar.**	**3.59**	**237**	P	**Pn**	**23 52 53.5**	**+2.0**
	22nm,0.5s,baz=56,slow=9.2,SNR=65						
USRK	**Ussuriysk Ar.**	**3.59**	**237**	*e*P	**Pn**	**23 52 53.5**	**+2.0**
USRK				AMB	AMB	23 52 54.5	
	22nm,0.5s						
GRTR	**Gornotajezhnoj**	**3.80**	**230**	⇑*i*P	**Pn**	**23 52 52.4**	**-1.1**
GRTR				AMB	AMB	23 52 52.9	
	21nm,0.6s						
KLR	**Kul'dur**	**4.24**	**317**	P	**Pn**	**23 53 00.4**	**+3.0**
	1.4nm,0.4s,baz=145,slow=11,SNR=7.4						
KLR	**Kul'dur**	**4.24**	**317**	*e*P	**Pn**	**23 53 00.3**	**+2.9**
ASAJ	**Asahikawa**	**5.00**	**113**	P	**Pn**	**23 53 06.4**	**+1.2**
	34nm,0.5s,baz=281,slow=6.1,SNR=59						
PSTR	**Posyet**	**5.25**	**229**	*e*P	**Pn**	**23 53 09.4**	**+1.6**
PSTR				AMB	AMB	23 53 10.6	
	10.0nm,0.2s						
TYV	**Tymovskoe**	**6.33**	**40**	*e*P	**Pn**	**23 53 21.7**	**+2.5**
TYV				AMB	AMB	23 53 23.1	
	3.0nm,0.3s						
AKK	**Akkeshi**	**6.96**	**114**	*e*P	**Pn**	**23 53 26.5**	**+0.1**
AKK				AMB	AMB	23 53 28.1	
	3.0nm,0.1s						
NMR	**Nemuro--Hokkai**	**7.37**	**109**	*e*P	**Pn**	**23 53 30.1**	**-0.8**
NMR				AMB	AMB	23 53 33.1	
	3.0nm,0.1s						
MJAR	**Matsushiro Arr**	**9.79**	**170**	P	**P**	**23 53 58.8**	**+0.3**
	2.0nm,0.6s,baz=347,slow=11,SNR=3.7						
KSRS	**Korea Array**	**10.70**	**218**	P	**P**	**23 54 09.4**	**+0.9**
	2.6nm,0.7s,baz=40,slow=11,SNR=7.6						
KSRS	**Korea Array**	**10.70**	**218**	*e*P	**P**	**23 54 09.4**	**+0.9**
KSRS				*e*P	**Pn**	**23 54 10.4**	**+1.1**
	3.0nm,0.7s						
MA2	**Magadan**	**15.96**	**28**	P	**P**	**23 55 06.5**	**+0.9**
	7.6nm,0.6s,baz=214,slow=8.4,SNR=9.5						
SEY	**Seymchan**	**19.10**	**23**	P	**P**	**23 55 38.4**	**-0.3**
	1.4nm,0.4s,baz=244,slow=7.0,SNR=6.5						
SONM	**Songino Array**	**20.31**	**285**	P	**P**	**23 55 49.9**	**-0.6**
	3.7nm,0.6s,baz=84,slow=8.6,SNR=33						
	3.7nm,0.6s						
ZALV	**Zalesovo Beam**	**33.20**	**303**	P	**P**	**23 57 43.5**	**-0.7**
	2.4nm,0.5s,baz=84,slow=8.8,SNR=12						
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**36.48**	**291**	P	**P**	**23 58 11.5**	**-0.5**
	2.0nm,0.6s,baz=84,slow=9.4,SNR=24						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**37.68**	**298**	P	**P**	**23 58 21.3**	**-0.6**
	3.8nm,0.5s,baz=73,slow=9.0,SNR=10						
	3.8nm,0.5s						
BVAR	**Borovoye Array**	**41.80**	**304**	P	**P**	**23 58 54.8**	**-0.5**
	3.2nm,0.4s,baz=78,slow=9.9,SNR=25						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.2nm,0.4s						
ILAR	Eielson Array	44.15	37	P	P	23 59 12.8	-0.9
	0.7nm,0.7s,baz=276,slow=6.8,SNR=12						
	0.7nm,0.7s						
GEYT	Alibeck	56.35	292	P	P	00 00 43.7	-0.6
	0.7nm,0.4s,baz=70,slow=1.4,SNR=5.7						
	0.7nm,0.4s						
YKA	Yellowknife Ar	57.91	31	P	P	00 00 53.9	-0.7
	0.3nm,0.5s,baz=308,slow=6.9,SNR=8.8						
	0.3nm,0.5s						
FINES	FINESS Array B	58.90	328	P	P	00 01 00.2	-1.1
	1.4nm,0.5s,baz=51,slow=7.6,SNR=13						
	1.4nm,0.5s						
AKASG	Malin Array Be	64.74	318	P	P	00 01 38.9	-1.1
	0.3nm,0.3s,baz=43,slow=6.9,SNR=8.5						
	0.3nm,0.3s						
ASAR	Alice Springs	69.58	182	P	P	00 02 09.5	-0.8
	0.2nm,0.7s,baz=0.8,slow=6.5,SNR=2.0						
	0.2nm,0.7s						
BRTR	Keskin Array B	70.01	307	P	P	00 02 12.6	-0.4
	0.4nm,0.5s,baz=56,slow=3.5,SNR=2.5						
	0.4nm,0.5s						
NVAR	Mina Array Bea	72.57	52	P	P	00 02 28.9	+0.7
	0.3nm,0.5s,baz=316,slow=3.8,SNR=2.9						
	0.3nm,0.5s						
PDAR	Pinedale Array	73.93	44	P	P	00 02 36.0	0.0
	0.4nm,0.7s,baz=9.5,slow=1.8,SNR=4.4						
	0.4nm,0.7s						

CATAC ***01*** *23:52:58.9±0.6, 12°.82N×89°.07W, h22km±5km, ML3.6*
SNET ***01*** *23:53:00.1±0.8, 12°.87N×89°.06W, h30km, ML3.6*
ISC 01 23:52:57.7±2.7**, 12°.7N**±0°.1×**89°.10W**±0°.06**, h27**km±14km**,**
n54, σ**0s.89**/37**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.77	344	eP	Pb	23 53 13.2	+0.7
LALI				eS	Sn	23 53 23.0	-0.6
LALI	Alcalda de L	0.77	344	i P	Pn	23 53 13.3	+0.5
LALI				i S	Sn	23 53 23.8	+0.2
LALI				IAML		23 53 25.9	
	comp=Z,340nm,1.0s						
ALJI	Alcalda de J	0.78	42	eS	Sn	23 53 23.5	-0.2
ALJI	Alcalda de J	0.78	42	i P	Pb	23 53 12.7	0.0
ALJI				i S	Sn	23 53 23.5	-0.2
ALJI				IAML		23 53 25.9	
	comp=Z,1μm,1.0s						
TECO	Alcaldia de Te	0.85	22	i P	Pb	23 53 14.0	+0.1
TECO				i S	Sn	23 53 24.8	-0.7
TECO				IAML		23 53 27.3	
	comp=Z,790nm,1.0s						
PANCS	Alcalda de	0.87	355	i P	Pn	23 53 14.7	+0.5
PANCS				i S	Sn	23 53 25.4	-0.6
PANCS				IAML		23 53 25.4	
	comp=Z,2μm,1.0s						
SJTE	Alcalda de S	0.87	6	eP	Pb	23 53 14.4	+0.1
SJTE	Alcalda de S	0.87	6	i P	Pb	23 53 14.5	+0.2
SJTE				i S	Sn	23 53 26.0	-0.2
SJTE				IAML		23 53 26.6	
	comp=Z,2μm,1.0s						
LFRS	El Faro	0.88	3	eP	Pb	23 53 14.7	+0.3
COEG	Centro de Oper	0.90	14	i P	Pn	23 53 15.1	+0.4
COEG				IAML		23 53 31.8	
	comp=Z,510nm,1.0s						
LOMA	Loma Larga	0.90	356	eP	Pb	23 53 15.1	+0.3
LOMA	Loma Larga	0.90	356	i P	Pb	23 53 15.0	+0.2
LOMA				IAML		23 53 29.3	
	comp=Z,2μm,1.0s						
UESV	Universidad de	0.94	19	i P	Pb	23 53 15.3	-0.1
UESV				IAML		23 53 16.0	
	comp=Z,1μm,1.0s						
ITCA	Escuela Especi	0.94	349	i P	Pb	23 53 15.7	+0.2
ITCA				i S	Sn	23 53 27.7	-0.2
ITCA				IAML		23 53 28.8	
	comp=Z,4μm,1.0s						
SNET	Serv Nac Est T	0.95	352	i P	Pb	23 53 15.7	+0.1
SNET				i S	Sb	23 53 27.3	-0.5
SNET				IAML		23 53 30.6	
	comp=Z,4μm,1.0s						
JAYA	Jayaque - finc	0.97	340	eP	Pb	23 53 16.1	+0.2
JAYA	Jayaque - finc	0.97	340	i PA		23 53 16.2	
JAYA				i SA		23 53 28.1	
JAYA				IAML		23 53 28.8	
	comp=Z,9μm,1.0s						
IGN	Direccin Gen	0.97	356	i P	Pb	23 53 16.1	+0.2
IGN				IAML		23 53 34.9	
	comp=Z,6μm,1.0s						
UDBS	Universidad Do	0.97	357	i P	Pb	23 53 16.1	+0.2
UDBS				IAML		23 53 30.9	
	comp=Z,1μm,1.0s						
PAVA	Las Pavas	0.98	9	i PA		23 53 16.4	
PAVA				i SA		23 53 28.9	
PAVA				IAML		23 53 30.0	
	comp=Z,2μm,1.0s						
PMON	Piamonte	0.99	348	i PA		23 53 16.4	
PMON				i SA		23 53 29.1	
PMON				IAML		23 53 30.6	
	comp=Z,3μm,1.0s						
BOQS	Boqueron	1.00	350	eP	Pb	23 53 16.8	+0.2
PIC2	El Picacho	1.01	351	eP	Pn	23 53 17.0	+0.7
SCLA	Alcaldia de Sa	1.02	21	eP	Pb	23 53 16.9	+0.1
SCLA	Alcaldia de Sa	1.02	21	i PA		23 53 16.5	
SCLA				i SA		23 53 29.6	
SCLA				IAML		23 53 30.0	
	comp=Z,460nm,1.0s						
PACA	Pacayal	1.05	46	i PA		23 53 17.6	
PACA				i S	Sn	23 53 32.1	+1.5
PACA				IAML		23 53 35.3	
	comp=Z,11μm,1.0s						
CEDA	San Andres	1.09	345	i P	Pn	23 53 14.1	-3.2
QUEZ	Alcaldia de Qu	1.10	351	i PA		23 53 18.0	
QUEZ				i SA		23 53 32.4	
QUEZ				IAML		23 53 33.0	
	comp=Z,4μm,1.0s						
CNRM	Centro Naciona	1.16	51	i PA		23 53 19.0	
CNRM				IAML		23 53 56.5	
	comp=Z,2μm,1.0s						
UNIC	Universidad Ca	1.31	341	i PA		23 53 21.6	
UNIC				IAML		23 53 22.4	
	comp=Z,370nm,1.0s						
UNIC				i SA		23 53 37.7	
LCND	La Caada	1.31	64	i P	Pn	23 53 17.9	-2.3
NUBE	Las Nubes	1.33	330	eP	Pn	23 53 21.3	+0.7
NUBE	Las Nubes	1.33	330	i PA		23 53 21.2	
NUBE				i SA		23 53 37.6	
NUBE				IAML		23 53 38.8	
	comp=Z,1μm,1.0s						
CNCH	Conchagua	1.34	67	eP	Pn	23 53 21.4	+0.5
CNCH				eS	Sb	23 53 38.8	-0.4
CNCH	Conchagua	1.34	67	i PA		23 53 21.5	
CNCH				IAML		23 53 43.3	
	comp=Z,2μm,1.0s						
LLGN	La Laguna	1.42	6	i PA		23 53 22.7	
LLGN				IAML		23 53 32.7	
	comp=Z,590nm,1.0s						
AMPH	Amapala	1.51	69	eP	Pn	23 53 23.9	+1.0
AMPH	Amapala	1.51	69	i PA		23 53 23.8	
CSGN	Cosiguina Volc	1.52	81	i PA		23 53 23.7	
CSGN				IAML		23 53 47.2	
	comp=Z,950nm,1.0s						
CRIN	San Cristobal	2.00	91	i PA		23 53 31.3	
CRIN				IAML		23 53 58.5	
	comp=Z,510nm,1.0s						
SARH	Santa Rosa de	2.05	9	i P	Pn	23 53 32.1	+1.6
TGUH	Tegucigalpa,Un	2.21	53	i PA		23 53 33.9	
TGUH				IAML		23 54 08.8	
	comp=Z,120nm,1.0s						
HERN	Volcan Telica	2.22	93	i PA		23 53 33.7	
HERN				IAML		23 53 46.1	
	comp=Z,780nm,1.0s						
TELN	Telica	2.22	93	i PA		23 53 34.5	
COMHN	El Horno	2.26	41	i PA		23 53 34.1	
CNGA	Al SSO del Vol	2.35	96	i PA		23 53 35.9	
CNGA				IAML		23 55 48.6	
	comp=Z,430nm,1.0s						
CNGN	Cerro Negro	2.36	96	i PA		23 53 35.5	
CNGN				IAML		23 55 03.7	
	comp=Z,460nm,1.0s						
YUSH	Yuscaran	2.51	61	i PA		23 53 37.9	
COPN	Copaltepe	2.51	103	i PA		23 53 37.7	
COPN				IAML		23 54 17.6	
	comp=Z,86nm,1.0s						
MOMN	Momotombo	2.52	97	i PA		23 53 38.7	
MOMN				IAML		23 54 13.2	
	comp=Z,4.2nm,1.0s						
MOM3	MOM3	2.53	95	i PA		23 53 38.5	
MOM3				IAML		23 56 06.3	
	comp=Z,12nm,1.0s						
LIMN	Finca el Limon	2.69	83	i PA		23 53 40.2	
LIMN				IAML		23 53 42.2	
	comp=Z,45nm,1.0s						
RCPN	Sur Rio San Ju	3.03	75	i PA		23 53 45.1	
RCPN				IAML		23 53 47.7	
	comp=Z,0.3nm,1.0s						
BOAB	BOACO BROADBAN	3.37	95	i PA		23 53 49.2	
BOAB				IAML		23 54 05.5	
	comp=Z,26nm,1.0s						

MOS ***02*** *00:09:44.5±0.9, 36°.50N×70°.37E, h194km, mb4.6/38, Error ellipse: s-maj=5.5km s-min=3.6km az=82.8*
IDC ***02*** *00:09:45.5±0.8, 36°.34N×70°.36E, h200km±7km, mb3.9/29, mbtmp4.5/36, Error ellipse: s-maj=9.3km s-min=7.7km az=170.0*
NEIC ***02*** *00:09:46.8±1.2, 36°.52N±0°.05×70°.37E±0°.08, h199km±5km, mb4.5/165, Error ellipse: s-maj=9.4km s-min=8.0km az=85.0*
NNC ***02*** *00:09:50.7±1.4, 36°.94N×70°.47E, h217km±15km, mb4.0, mpv5.1, Error ellipse: s-maj=13.1km s-min=8.2km az=5.0*
ISC 02 00:09:45.3±0.4**, 36°.47N**±0°.03×**70°.36E**±0°.03**, h191**km±3km**,**
h191km:pP-P, n636, σ**1s.25**/691**, mb4.5**/157**, 29C-21D,**
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.20	210	Pn	Pn	00 10 26.9	+1.2
KBL				Sn	Sn	00 10 56.9	0.0
KBL	Kabul	2.20	210	PN	Pn	00 10 26.9	+1.2
KBL						00 10 56.9	
KBL	Kabul	2.20	210	P	Pn	00 10 26.9	+1.2
	SNR=166						
KBL				S	Sn	00 10 56.9	0.0
SIMJ	Simiganj	2.44	334	Pn	Pn	00 10 28.6	+0.5
NIL	Nilore	3.68	139		Pn	00 10 44.9	+2.0
NIL				Sn	Sn	00 11 28.3	+0.4
NIL	Nilore	3.68	139	PN	Pn	00 10 44.9	+2.0
NIL						00 11 28.3	
KSH	Kashi	5.38	54	P	Pn	00 11 00.3	-4.2
KSH				sP		00 11 41.4	
KSH				S	Sn	00 11 54.2	-13
KSH				pmax	pmax		
	comp=Z,84nm,0.8s						
KSH				smax	smax		
	comp=N,880nm,0.5s						
KSH				smax	smax		
	comp=E,540nm,0.7s						
CHM	Chimkent	5.87	355	eP	Pn	00 11 11.1	+0.4
	baz=354						
CHM	Chimkent	5.87	355	ePN	Pn	00 11 11.1	+0.4
AML	Almayashu	6.22	24	P	Pn	00 11 15.4	-0.2
	SNR=1325						
AML	Almayashu	6.22	24	⇓P	Pn	00 11 15.3	-0.3
	comp=E,75nm,0.6s						
AML				⇑S	Sn	00 12 23.6	-3.4
	comp=E,252nm,0.7s						
AML	Almayashu	6.22	24	PN	Pn	00 11 15.3	-0.3
AML				S	Sn	00 12 23.5	-3.4
DZA	Taraz	6.46	6	eP	Pn	00 11 18.5	0.0
	baz=6.1						
DZA	Taraz	6.46	6	ePN	Pn	00 11 18.4	0.0
UCH	Uchtor	6.59	28	P	Pn	00 11 20.2	-0.3
	SNR=424						
KK31	Karatay Array	6.63	1	P	Pn	00 11 20.1	-0.4
	comp=E,49nm,0.3s,baz=195,slow=14,SNR=1335						
KK31				⇑S	Sn	00 12 31.5	-4.5
	comp=E,30nm,0.4s,baz=144,slow=14,SNR=6.0						
KK31	Karatay Array	6.63	1	Pn	Pn	00 11 20.2	-0.4
KK31	Karatay Array	6.63	1	PN	Pn	00 11 20.2	-0.4
KKAR	Karatay Array	6.63	1	Pn	Pn	00 11 20.0	-0.7
KKAR	Karatay Array	6.63	1		Pn	00 11 19.9	-0.7
KKAR	Karatay Array	6.63	1	PN	Pn	00 11 19.9	-0.7
EKS2	Erkin-Say	6.73	22	P	Pn	00 11 22.1	+0.1
	SNR=151						
KZA	Kyzart	6.77	33	P	Pn	00 11 22.3	-0.5
	SNR=82						
AAK	Ala-Archa	6.94	26	P	Pn	00 11 24.9	+0.1
	SNR=142						
AAK	Ala-Archa	6.94	26	i P	Pn	00 11 24.7	-0.1
	SNR=151						
AAK	Ala-Archa	6.94	26	d iPN	Pn	00 11 24.7	-0.1
AAK				pmax	pmax		
	comp=Z,62nm,0.5s						
AAK	Ala-Archa	6.94	26	P	Pn	00 11 24.8	+0.1
	comp=Z,100nm,0.4s,baz=195,slow=6.1,SNR=827						
AAK				S	Sn	00 12 40.3	-3.2
	comp=Z,272nm,0.8s,baz=139,slow=19,SNR=17						
AAK	Ala-Archa	6.94	26	P	Pn	00 11 24.8	0.0
AAK				S	Sn	00 12 40.4	-3.2
HRA	Herat	6.94	255	Pn	Pn	00 11 25.9	+0.9
KBK	Karagaybulak	7.12	28	P	Pn	00 11 27.6	+0.3
	SNR=103						
CHMS	Chumysh	7.35	26	P	Pn	00 11 29.6	-0.4
	SNR=138						
ULHL	Ulahol	7.35	37	P	Pn	00 11 30.3	0.0
	SNR=24						
USP	Ospenovka	7.50	24	P	Pn	00 11 31.5	-0.5
	SNR=51						
TKM2	Tokmak 2	7.60	30	P	Pn	00 11 33.3	-0.2
	SNR=376						
TKM2	Tokmak 2	7.60	30	⇑P	Pn	00 11 33.2	-0.3
	comp=Z,249nm,0.5s						
TKM2				⇑S	Sn	00 12 55.4	-4.0
	comp=Z,92nm,0.8s						
TKM2	Tokmak 2	7.60	30	i PN	Pn	00 11 33.2	-0.3
TKM2				pmax	pmax		
	comp=Z,91nm,0.4s						
SGDS	Sogindy	7.71	24	eP	Pn	00 11 33.6	-1.2
	comp=Z,9.5nm,0.5s,baz=24						
SGDS	Sogindy	7.71	24	ePN	Pn	00 11 33.5	-1.2
SGDS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMLA	Simla	7.78	131	eP	Pn	00 11 35.3	-0.3
SMLA				eS	Sn	00 12 59.3	-3.9
TARG	Taragay, Kyrgy	7.82	46	Pn	Pn	00 11 35.5	-1.0
TARG	Taragay, Kyrgy	7.82	46	PN	Pn	00 11 35.5	-1.0
TNSS	Tian-Shan	8.29	36	eP	Pn	00 11 42.0	-0.7
	baz=35						
TNSS	Tian-Shan	8.29	36	ePN	Pn	00 11 42.0	-0.7
AAA	Alma-Ata	8.41	35	i P	Pn	00 11 44.1	+0.1
	baz=34						
AAA	Alma-Ata	8.41	35	i PN	Pn	00 11 44.0	+0.1
MDOK	Medeo	8.44	36	⇑P	Pn	00 11 43.9	-0.5
	comp=Z,42nm,0.7s						
MDOK				S	Sn	00 13 14.8	-4.3
	comp=Z,27nm,0.8s						
MDOK	Medeo	8.44	36	i P	Pn	00 11 43.9	-0.5
	baz=35						
MDOK	Medeo	8.44	36	i PN	Pn	00 11 43.8	-0.6
KUU	Kurty	8.71	30	⇓iP	Pn	00 11 46.3	-1.6
	comp=Z,30nm,0.8s,baz=30						
KUU	Kurty	8.71	30	d iPN	Pn	00 11 46.2	-1.6
KUU				pmax	pmax		
	comp=Z,30nm,0.8s						
CHKK	Chushkaly	8.95	32	⇓iP	Pn	00 11 49.5	-1.4
	baz=32						
CHKK	Chushkaly	8.95	32	⇓iPN	Pn	00 11 49.5	-1.4
BTLS	Baital	9.01	17	⇓iP	Pn	00 11 51.0	-0.7
	baz=17						
BTLS	Baital	9.01	17	d iPN	Pn	00 11 51.0	-0.7
SATY	Saty	9.04	41	⇓iP	Pn	00 11 51.3	-0.9
	comp=Z,13nm,0.9s,baz=40						
SATY	Saty	9.04	41	d iP	Pn	00 11 51.2	-0.9
SATY				pmax	pmax		
	comp=Z,13nm,0.9s						
UZB	Uzynbulak	9.43	42	eP	Pn	00 11 56.2	-1.1
	comp=Z,8.3nm,0.6s,baz=42						
UZB	Uzynbulak	9.43	42	eP	Pn	00 11 56.1	-1.1
UZB				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KHET	Khetri	9.55	150	eP	Pn	00 11 57.3	-1.6
KHET				eS	Sn	00 13 38.3	-7.4
SHLS	Shalkode	9.68	44	eP	Pn	00 12 02.7	+2.1
	baz=44						
SHLS	Shalkode	9.68	44	eP	Pn	00 12 02.6	+2.1
NDI	New Delhi	9.68	141	eP	Pn	00 11 59.7	-0.9
NDI				eS	Sn	00 13 40.2	-8.5
KUDL	Kundal	9.79	146	eP	Pn	00 12 00.7	-1.2
AYAN	Aya Nagar	9.80	142	eP	Pn	00 12 01.9	-0.2
GEYT	Alibeck	9.87	282	Pn	Pn	00 12 02.3	-0.8
GEYT	Alibeck	9.87	282	P	Pn	00 12 02.3	-0.8
GEYT	Alibeck	9.87	282	P	Pn	00 12 01.6	-1.4
	comp=Z,1.7nm,0.4s,baz=112,slow=12,SNR=11						
GEYT				S	Sn	00 13 49.2	-4.0
	comp=Z,22nm,1.0s,baz=86,slow=20,SNR=3.9						
GYA0B	ALIBECK ARRAY	9.87	282	Pn	Pn	00 12 02.5	-0.5
SONA	Sohna	9.97	143	eP	Pn	00 12 03.4	-0.9
SONA				eS	Sn	00 13 47.2	-8.4
TDK	Taldyqorghan	10.48	33	⇓iP	Pn	00 12 10.3	-0.5
	comp=Z,8.4nm,0.5s,baz=33						
TDK	Taldyqorghan	10.48	33	d iP	Pn	00 12 10.3	-0.5
TDK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAKZ	Makanchi	13.48	36	⇓P	Pn	00 12 48.0	-1.0
	comp=Z,93nm,0.6s						
MAKZ	Makanchi	13.48	36	Pn	Pn	00 12 48.4	-0.7
MAKZ	Makanchi	13.48	36	P	Pn	00 12 48.4	-0.7
NGCH	Negor - Chabah	13.60	218	P	Pn	00 12 51.5	+0.8
	SNR=7.4						
BRZS	Berezniki	13.61	6	eP	Pn	00 12 50.6	0.0
	comp=Z,14nm,0.4s,baz=6.3						
BRZS	Berezniki	13.61	6	eP	Pn	00 12 50.6	0.0
BRZS				pmax	pmax		
	comp=Z,14nm,0.4s						
MK31	Makanchi Array	13.62	37	P	Pn	00 12 50.4	-0.4
	comp=Z,42nm,0.6s,baz=222,slow=11,SNR=417						
MK31	Makanchi Array	13.62	37	Pn	Pn	00 12 50.0	-0.8
MK31	Makanchi Array	13.62	37	d iP	Pn	00 12 50.5	-0.4
MK31				pmax	pmax		
	comp=Z,42nm,0.6s						
MKAR	Makanchi Array	13.62	37	Pn	Pn	00 12 50.3	-0.5
MKAR	Makanchi Array	13.62	37	ceP	Pn	00 12 50.5	-0.3
MKAR				pmax	pmax		
	comp=Z,48nm,0.8s						
MKAR	Makanchi Array	13.62	37	P	Pn	00 12 50.5	-0.3
	comp=Z,48nm,0.8s,baz=214,slow=12,SNR=76						
MKAR				S	S	00 15 24.4	+0.5
	comp=Z,1.1nm,0.7s,baz=279,slow=16,SNR=1.5						
AB31	Akbulak array	14.87	333	⇑P	Pn	00 13 05.2	-0.9
	comp=Z,13nm,0.5s,baz=147,slow=12,SNR=474						
AB31	Akbulak array	14.87	333	i P	Pn	00 13 04.8	-1.3
AB31				i S	S	00 15 45.8	-6.2
ABKAR	Akbulak array	14.87	333	Pn	Pn	00 13 04.9	-1.2
ABKAR				P	P	00 13 07.7	+0.6
ABKAR	Akbulak array	14.87	333	Pn	Pn	00 13 05.0	-1.1
ABKAR				P	P	00 13 07.7	+0.6
JASK	Jask - Hormozg	15.02	229	P	Pn	00 13 08.3	+0.2
JASK				S	S	00 15 49.5	-6.4
WMQ	Urumqi	15.14	56	eP	Pn	00 13 09.0	-0.6
WMQ				pmax	pmax		
	comp=Z,27nm,0.7s						
KURBB	Kurchatov Arra	15.32	20	⇑P	Pn	00 13 08.9	-2.8
	comp=Z,4.9nm,0.5s						
KURBB	Kurchatov Arra	15.32	20	P	Pn	00 13 08.8	-2.8
KURBB	Kurchatov Arra	15.32	20	P	Pn	00 13 11.2	-0.5
	comp=Z,4.3nm,0.6s,baz=213,slow=9.9,SNR=22						
ZSN	Zaisan	15.36	40	eP	Pn	00 13 11.5	-0.8
	baz=40						
ZSN	Zaisan	15.36	40	eP	Pn	00 13 11.4	-0.8
KURK	Kurchatov	15.43	20		P	00 13 13.7	+0.4
KURK	Kurchatov	15.43	20	ceP	Pn	00 13 11.7	-1.3
KURK				pmax	pmax		
	comp=Z,16nm,1.7s						
KURK	Kurchatov	15.43	20	P	P	00 13 13.5	+0.1
SEM	Semipalatinsk	15.66	24	eP	Pn	00 13 15.6	-0.3
	baz=24						
SEM	Semipalatinsk	15.66	24	eP	Pn	00 13 15.6	-0.3
BANOM	Banah	15.96	233	P	P	00 13 17.6	-1.8
BANOM				S	S	00 16 10.9	-5.7
SHME	Shamm	15.97	233	i P	Pn	00 13 20.8	+1.1
	SNR=6.6						
SHME	Shamm	15.97	233	P	P	00 13 19.8	+0.3
SHME				S	S	00 16 11.9	-4.9
MASF	Masafi	16.43	232	P	Pn	00 13 26.6	+1.2
	SNR=5.1						
MASF				S	S	00 16 23.0	-3.8
MSFE	Esma-Masafi	16.44	232	i P	Pn	00 13 26.1	+0.7
	SNR=15						
AKTO	Aktyubinsk	16.55	331	⇑P	Pn	00 13 26.6	+0.1
	comp=Z,24nm,0.8s						
AKTO	Aktyubinsk	16.55	331	P	Pn	00 13 27.0	+0.5
AKTO				S	S	00 16 27.1	-1.6
AKTO	Aktyubinsk	16.55	331	P	Pn	00 13 26.7	+0.1
	comp=Z,21nm,0.4s,baz=147,slow=8.6,SNR=87						
AKTO				S	S	00 16 26.2	-2.5
	comp=Z,5.1nm,0.7s,baz=45,slow=5.7,SNR=2.6						
BVAR	Borovoye Array	16.56	0	P	Pn	00 13 26.4	-0.1
	comp=Z,10nm,0.5s,baz=168,slow=9.3,SNR=103						
BVAR				S	S	00 16 23.0	-5.7
	comp=Z,2.2nm,0.7s,baz=161,slow=14,SNR=1.7						
BRVK	Borovoye	16.59	360	⇓P	P	00 13 25.0	-1.1
	comp=Z,10nm,0.5s						
BRVK	Borovoye	16.59	360		Pn	00 13 26.7	-0.2
BRVK	Borovoye	16.59	360	deP	P	00 13 26.2	+0.1
BRVK				pmax	pmax		
	comp=Z,11nm,0.5s						
BRVK	Borovoye	16.59	360	P	P	00 13 25.0	-1.1
WSAR	Wadi Sarin	16.63	221	P	P	00 13 26.8	0.0
	comp=Z,11nm,0.6s,baz=71,slow=8.8,SNR=23						
WSAR	Wadi Sarin	16.63	221	P	Pn	00 13 29.0	+1.2
	SNR=6.2						
BIDO	Bidbid	16.67	223	P	P	00 13 27.6	+0.3
UOSS	Minazif	16.71	231	P	Pn	00 13 33.9	+5.2
UOSS				IAmb	IAmb	00 13 38.1	
	comp=Z,26nm,1.0s						
UOSS	Minazif	16.71	231	P	Pn	00 13 28.8	+0.1
UOSS				S	S	00 16 29.3	-3.2
HATD	Hatta, Dubai	16.84	230	i P	Pn	00 13 29.9	-0.3
	SNR=13						
HATD	Hatta, Dubai	16.84	230	P	P	00 13 28.9	-0.2
HATD				S	S	00 16 32.3	-2.9
WBK	Wadi Bani Khal	16.98	219	P	Pn	00 13 32.8	+0.9
	SNR=9.7						
WBK				S	S	00 16 38.5	+0.7
ASHO	Ashiyiah	16.99	230	i P	Pn	00 13 31.7	-0.3
	SNR=28						
ASHO	Ashiyiah	16.99	230	P	Pn	00 13 32.2	+0.2
	SNR=23						
ASHO				S	S	00 16 35.6	-2.7
NAZ	Nazwa, Dubai	17.02	232	i P	Pn	00 13 32.4	+0.1
	SNR=7.3						
NAZ	Nazwa, Dubai	17.02	232	P	Pn	00 13 35.0	+2.6
	SNR=9.1						
SMDO	Samad	17.09	222	P	Pn	00 13 33.8	+0.6
SOHO	SOHO	17.11	228	P	P	00 13 31.3	-0.7
JLN	Jalan Bani Buh	17.14	217	P	Pn	00 13 37.0	+3.2
	SNR=13						
FAQ	Al Faqa, Dubai	17.24	231	i P	Pn	00 13 35.1	+0.2
	SNR=11						
FAQ	Al Faqa, Dubai	17.24	231	P	Pn	00 13 34.4	-0.5
LKRN	Lenkeran, Azer	17.25	284	P	P	00 13 33.4	0.0
ASUD	Al Ashush, Dub	17.49	232	i P	Pn	00 13 37.4	-0.5
	SNR=7.8						
JMDO	Jabal Madar	17.62	220	P	Pn	00 13 39.8	+0.3
	SNR=5.4						
ALNE	Al Ain	17.64	230	i P	P	00 13 38.7	+0.8
	SNR=38						
ALNE	Al Ain	17.64	230	P	P	00 13 38.9	+1.0
	SNR=7.8						
ALNE				S	S	00 16 50.3	-1.0
ARQ	Araqi	17.72	226	P	Pn	00 13 40.4	-0.3
	SNR=6.2						
ARQ				S	S	00 16 52.5	-0.4
AJN	Ajban	17.75	232	i P	P	00 13 40.0	+0.9
	SNR=5.1						
AJN	Ajban	17.75	232	P	Pn	00 13 40.2	-0.7
	SNR=11						
AJN				S	S	00 16 51.8	-1.6
BSY	Bisya	17.80	223	P	Pn	00 13 41.4	-0.2
	SNR=5.6						
BSY				S	S	00 16 56.0	+1.5
GTK	Tadong	17.95	115	eP	Pn	00 13 43.9	+0.4
GTK				eS	S	00 16 58.5	+0.9
DGZ	Jazzator, Alta	18.12	38	c iP	Pn	00 13 44.3	-0.9
DGZ				pmax	pmax		
	comp=Z,36nm,0.8s						
SEKA	Sheki	18.63	292	P	P	00 13 47.6	-1.0
MNGR	Mingechevir, A	18.67	290	P	P	00 13 48.8	-0.1
MAK	Makhachkala	18.71	297	eP	P	00 13 49.8	+0.5
MAK				eS	S	00 17 13.6	+1.6
MAK				pmax	pmax		
	comp=Z,366nm,1.1s						
MHTO	MHTO	18.84	218	P	Pn	00 13 52.8	-0.9
	SNR=10						

JRN Qarnain Island 18.90 237 P **P** **00 13 51.0 -0.6**
ZKTA Zakatala 19.12 293 P **P** **00 13 53.6 -0.2**
GANJ Ganja 19.24 290 P P 00 13 47.6 -7.5
GOMU GeErMu 19.70 83 P **P** **00 14 01.6 +1.2**
GOMU PcP **PcP** **00 18 17.0 +6.1**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
NAX Nakhchivan 19.81 285 P **P** **00 14 01.1 -0.2**
ZAA0 Zalesovo Array 20.16 25 P **P** **00 14 05.0 +0.2**
ZALV Zalesovo Beam 20.16 25 P **P** **00 14 05.1 +0.3**
ZALV Zalesovo Beam 20.16 25 P **P** **00 14 05.1 +0.3**
ZALV Zalesovo Beam 20.16 25 P **P** **00 14 04.8 +0.1**
comp=Z,49nm,0.4s,baz=218,slow=10,SNR=214
ZALV S **S** **00 17 36.9 -3.4**
comp=Z,3.8nm,0.7s,baz=214,slow=19,SNR=5.0
comp=Z,49nm,0.4s
GNI Garni 20.41 288 P **P** **00 14 10.1 +2.3**
GNI Garni 20.41 288 P Pn 00 14 10.5 -2.2
GNI Garni 20.41 288 *de*P **P** **00 14 09.9 +2.1**
GNI pmax pmax
comp=Z,22nm,0.9s
GNI Garni 20.41 288 P **P** **00 14 09.0 +1.2**
comp=Z,20nm,0.8s,baz=18,slow=3.8,SNR=27
comp=Z,20nm,0.8s
SMRA Abu-Samra 20.43 241 P **P** **00 14 07.2 -0.7**
SMRA S **S** **00 17 41.4 -4.7**
SHL Shillong 21.36 115 P **P** **00 14 17.7 -0.3**
SHL IAmb IAmb 00 14 20.7
comp=Z,18nm,0.9s
SHL Shillong 21.36 115 *e*P **P** **00 14 18.4 +0.4**
SHL IAmb IAmb 00 14 20.6
comp=Z,13nm,0.6s
SHL Shillong 21.36 115 P **P** **00 14 17.7 -0.3**
SHL pmax pmax
comp=Z,18nm,0.9s
SVE Sverdlovsk 21.39 345 *e*P **P** **00 14 18.1 +0.3**
SVE pmax pmax
comp=Z,32nm,1.3s
AKH Akhalkalaki 21.43 292 P **P** **00 14 20.1 +1.5**
AKH Akhalkalaki 21.43 292 P **P** **00 14 20.1 +1.5**
AKH pmax pmax
comp=Z,64nm,1.0s
TEZP TEZPUR 21.46 111 *e*P **P** **00 14 19.7 +0.9**
ARU Arti 21.50 342 P **P** **00 14 18.5 -0.4**
ARU Arti 21.50 342 *d i*P **P** **00 14 19.5 +0.6**
ARU *PP **pP** **00 14 53.3 +1.2**
ARU S **S** **00 18 07.7 +3.1**
ARU pmax pmax
comp=Z,43nm,0.7s
ARU Arti 21.50 342 P **P** **00 14 19.6 +0.6**
comp=Z,35nm,0.6s,baz=157,slow=6.2,SNR=67
comp=Z,35nm,0.6s
ONI Oni 21.58 295 P **P** **00 14 21.1 +1.1**
ONI Oni 21.58 295 P **P** **00 14 21.2 +1.1**
ONI pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 22.16 298 *ce*P **P** **00 14 25.4 -0.2**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 22.16 298 P **P** **00 14 25.1 -0.4**
comp=Z,3.3nm,0.7s,baz=116,slow=11,SNR=12
comp=Z,3.3nm,0.7s
GOF Gofitskoye 22.32 301 *ce*P **P** **00 14 28.7 +1.6**
KIV Kislovodsk 22.34 298 P **P** **00 14 27.4 -0.1**
KIV Kislovodsk 22.34 298 *e*P **P** **00 14 27.6 +0.1**
KIV *PP **pP** **00 15 03.3 +2.1**
KIV *SP **sP** **00 15 24.7 -0.6**
KIV pmax pmax
comp=Z,10.0nm,1.5s
BELG Belogornoye 22.59 322 *ce*P **P** **00 14 29.9 +0.4**
BELG pmax pmax
comp=Z,10.0nm,0.9s
GTA Gaotai 23.37 74 *e*P **P** **00 14 38.2 +1.3**
GTA pP pP 00 15 23.0 +9.5
GTA sP sP 00 15 49.2 +11
GTA ScP **ScP** **00 21 35.4 -2.2**
GTA pmax pmax
comp=Z,12nm,0.8s
WHFO Wadi Hawf 23.58 223 P **P** **00 14 38.9 +0.1**
SAIH SAIHA 24.05 119 *e*P **P** **00 14 44.8 +1.6**
ABTO Aybut 24.30 223 P **P** **00 14 45.4 0.0**
VRH Novokhopyorsk 25.16 315 *e*P **P** **00 14 50.5 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.8s
KIRV Kirov 26.05 335 *ce*P **P** **00 15 01.3 +0.7**
VORD Divnogorie 26.48 313 *e*P **P** **00 15 04.5 -0.1**
VORD pmax pmax
comp=Z,50nm,0.4s
VSR Storozhevoye 26.65 313 *e*P **P** **00 15 04.3 -1.8**
VSR pmax pmax
comp=Z,8.0nm,0.6s
LZH Lanzhou 26.93 81 *e*P **P** **00 15 12.2 +3.2**
LZH pP pP 00 15 49.6 +0.3
LZH sP sP 00 16 12.9 +1.0
LZH pmax pmax
comp=Z,16nm,1.0s
LPSR Galich'ya Gora 27.32 316 *e*P **P** **00 15 10.4 -1.6**
LPSR pmax pmax
comp=Z,20nm,0.7s
ZAK Zakamensk 27.40 49 *e*P **P** **00 15 13.6 +0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
PZH PanZhiHua 28.44 101 P **P** **00 15 23.9 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,130nm,5.2s
SONM Songino Array 28.78 55 P **P** **00 15 25.8 +0.5**
SONM IAmb IAmb 00 15 27.5
comp=Z,7.0nm,0.9s
SONM Songino Array 28.78 55 P **P** **00 15 26.6 +1.3**
comp=Z,6.5nm,0.9s,baz=260,slow=9.4,SNR=51
SONM PcP **PcP** **00 18 29.2 -1.0**
comp=Z,0.4nm,0.6s,baz=234,slow=3.4,SNR=2.2
comp=Z,6.5nm,0.9s
BR131 Keskin Array S 28.95 288 P **P** **00 15 27.8 +0.9**
BR131 Keskin Array S 28.95 288 P **P** **00 15 27.8 +0.9**
BR131 pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 28.95 288 *ce*P **P** **00 15 28.2 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 28.95 288 P **P** **00 15 27.4 +0.5**
comp=Z,1.1nm,0.6s,baz=102,slow=9.5,SNR=8.7
BRTR PcP **PcP** **00 18 29.7 -1.1**
comp=Z,0.5nm,0.6s,baz=126,slow=4.6,SNR=2.1
comp=Z,1.1nm,0.6s
ULN Ulaanbaatar 29.22 56 P **P** **00 15 29.5 +0.3**
ULN IAmb IAmb 00 15 31.2
comp=Z,5.5nm,0.8s
ULN Ulaanbaatar 29.22 56 *ce*P **P** **00 15 30.2 +1.0**
ULN pmax pmax
comp=Z,9.0nm,1.7s
MOS Moscow 29.36 321 *e*P **P** **00 15 29.6 -0.5**
MOS *e* 00 16 13.2
MOS pmax pmax
comp=Z,27nm,0.8s
OBN Obninsk 29.63 320 P **P** **00 15 32.3 -0.1**
OBN Obninsk 29.63 320 *c i*P **P** **00 15 33.0 +0.6**
OBN *PP **pP** **00 16 17.0 +5.1**
OBN 00 16 38.0
OBN *i* S **S** **00 20 17.3 +3.9**
OBN pmax pmax
comp=Z,51nm,2.5s
CMAR Chiang Mai Arr 30.90 118 *ce*P **P** **00 15 45.0 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 30.90 118 P **P** **00 15 43.2 -0.9**
comp=Z,0.8nm,0.6s,baz=296,slow=8.1,SNR=7.3
CMAR ScP **ScP** **00 21 57.6 -2.9**
comp=Z,0.8nm,0.9s,baz=296,slow=6.4,SNR=4.4
comp=Z,0.8nm,0.6s
KLMR Klimovskoe 31.26 331 *e*P **P** **00 15 43.6 -3.1**
KLMR *e*PP **pP** **00 16 27.3 +1.1**
KLMR pmax pmax
comp=Z,13nm,0.6s
XAN Xi'an 31.45 83 ⇑P **P** **00 15 49.7 +0.9**
XAN pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 32.26 69 *e*P **P** **00 15 57.5 +1.6**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.0s
ELL Elmali 32.30 283 P **P** **00 15 56.7 +0.3**
ELL pmax pmax
comp=Z,15nm,0.6s
GYA Guiyang 32.37 98 *e*P **P** **00 15 58.1 +1.0**
GYA pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 32.56 309 P **P** **00 15 58.4 +0.1**
AKASG Malin Array Be 32.56 309 *ce*P **P** **00 15 58.7 +0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 32.56 309 P **P** **00 15 58.3 0.0**
comp=Z,5.3nm,0.6s,baz=82,slow=7.1,SNR=44
AKASG PcP **PcP** **00 18 37.8 -2.1**
comp=Z,0.6nm,0.5s,baz=82,slow=3.0,SNR=0.9
comp=Z,5.3nm,0.6s
AKBB Malin Array Si 32.56 309 P **P** **00 15 58.1 -0.2**
AKBB IAmb IAmb 00 15 59.2
comp=Z,8.1nm,0.6s
AKBB Malin Array Si 32.56 309 *de*P **P** **00 15 58.6 +0.3**
KIEV Kiev 32.57 309 P **P** **00 15 58.1 -0.2**
KIEV IAmb IAmb 00 15 59.2
comp=Z,7.1nm,0.7s
KIEV Kiev 32.57 309 *i* P **P** **00 16 00.0 +1.7**
SNR=7.1
KIEV Kiev 32.57 309 P **P** **00 15 58.1 -0.2**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
NRIK Noril'sk 34.25 11 P **P** **00 16 13.3 +0.7**
NRIK Noril'sk 34.25 11 *ce*P **P** **00 16 13.8 +1.2**
NRIK pmax pmax
comp=Z,25nm,0.7s
NRIK Noril'sk 34.25 11 P **P** **00 16 13.6 +1.0**
comp=Z,26nm,0.5s,baz=201,slow=6.2,SNR=79
comp=Z,26nm,0.5s
MLR Muntele Rosu 34.34 299 P **P** **00 16 15.4 +1.5**
MLR IAmb IAmb 00 16 17.1
comp=Z,8.4nm,1.0s
MLR Muntele Rosu 34.34 299 P **P** **00 16 15.4 +1.5**
MLR pmax pmax
comp=Z,8.0nm,1.0s
BURAR Bucovina Array 34.87 303 P **P** **00 16 18.7 +0.4**
BUR08 Bucovina Ar. S 34.88 303 P **P** **00 16 19.3 +0.8**
BOD Bodaibo 35.70 39 *e*P **P** **00 16 25.9 +0.7**
BOD pmax pmax
comp=Z,19nm,1.2s
SUW Suwalki 36.76 314 P **P** **00 16 33.9 -0.3**
SUW Suwalki 36.76 314 P **P** **00 16 33.9 -0.3**
SUW pmax pmax
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 36.87 305 *e*P **P** **00 16 37.4 +2.2**
KOLS Kolonicke sedl 36.87 305 *e*P **P** **00 16 37.3 +2.1**
FIA1 FINESS Array S 37.22 326 P **P** **00 16 37.8 -0.2**
FINES FINESS Array B 37.22 326 P **P** **00 16 37.8 -0.2**
FINES FINESS Array B 37.22 326 *i* P **P** **00 16 38.5 +0.5**
FINES pmax pmax
comp=Z,16nm,0.6s
FINES FINESS Array B 37.22 326 P **P** **00 16 38.3 +0.3**
comp=Z,16nm,0.6s,baz=116,slow=9.4,SNR=84
comp=Z,16nm,0.6s
LVZ Lovozero 37.30 339 P **P** **00 16 38.5 -0.1**
LVZ Lovozero 37.30 339 P **P** **00 16 38.5 -0.1**
LVZ pmax pmax
comp=Z,19nm,0.8s
OJC Ojcow 38.51 307 P **P** **00 16 49.5 +0.5**
OJC Ojcow 38.51 307 P **P** **00 16 49.5 +0.5**
OJC pmax pmax
comp=Z,6.0nm,1.0s
NJ2 Nanjing 39.99 82 *e*P **P** **00 17 01.3 -0.1**
NJ2 pP **pP** **00 17 43.7 +0.1**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NJ2 pmax pmax
comp=Z,240nm,3.5s
SMOL Smolenice 40.08 305 *e*P **P** **00 17 03.6 +1.6**
VADS Vadso 40.16 340 *e*P **P** **00 17 03.0 +0.7**
ARA0 ARCESS Array S 40.98 338 *e*P **P** **00 17 09.6 +0.6**
ARA0 IAmb IAmb 00 17 10.4
comp=Z,27nm,0.7s
ARCES ARCESS Array B 40.98 338 P **P** **00 17 08.8 -0.2**
ARCES ARCESS Array B 40.98 338 P **P** **00 17 09.6 +0.6**
comp=Z,20nm,0.6s,baz=114,slow=7.7,SNR=141
comp=Z,20nm,0.6s
CONA Conrad Observa 41.16 304 *e*P **P** **00 17 12.4 +1.5**
comp=Z,1.7nm,0.7s
KTK1 Kautokeino 41.44 336 *e*P **P** **00 17 13.1 +0.4**
HAMF Hammerfest 42.07 339 *e*P **P** **00 17 18.8 +1.0**
ZEA Zeya 42.47 47 *e*P **P** **00 17 23.1 +1.8**
GERES GERESS Array B 42.52 305 P **P** **00 17 22.2 +0.2**
comp=Z,0.5nm,0.6s,baz=140,slow=6.7,SNR=1.8
comp=Z,0.5nm,0.6s
JETT Jettan, Norway 42.58 337 *e*P **P** **00 17 22.7 +0.7**
HEH HeiHe 42.68 53 *e*P **P** **00 17 23.9 +0.9**
HEH pmax pmax
comp=Z,24nm,0.7s
HEH pmax pmax
comp=Z,280nm,4.1s
HFS Hagfors 42.77 322 P **P** **00 17 23.9 +0.3**
comp=Z,12nm,0.5s,baz=98,slow=11,SNR=50
comp=Z,12nm,0.5s
TRO Tromso 43.09 336 *e*P **P** **00 17 26.3 +0.3**
LESA Schwarzleotal 43.36 303 *e*P **P** **00 17 29.1 +0.4**
comp=Z,2.1nm,0.5s
MOR8 Moi Rana 43.59 331 *e*P **P** **00 17 29.5 -0.6**
MOR8 IAmb IAmb 00 17 30.4
comp=Z,38nm,0.7s
FAUS Fauske 43.59 333 *e*P **P** **00 17 30.1 +0.1**
FAUS IAmb IAmb 00 17 31.1
comp=Z,49nm,1.1s
STEI Steigen 43.77 333 *e*P **P** **00 17 31.8 +0.3**
NC602 NORSAR Array S 43.90 323 *e*P **P** **00 17 32.2 -0.4**
NC303 NORSAR Array S 44.04 323 P **P** **00 17 33.5 -0.2**
NB201 NORSAR Array S 44.06 323 P **P** **00 17 33.5 -0.4**
NB201 IAmb IAmb 00 17 34.3
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 44.09 323 P **P** **00 17 34.2 0.0**
comp=Z,4.2nm,0.6s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.09 323 P **P** **00 17 34.2 0.0**
baz=97,slow=7.9
NOA NORSAR Array B 44.09 323 P **P** **00 17 34.1 -0.1**
comp=Z,8.3nm,0.8s,baz=97,slow=7.9,SNR=13
comp=Z,8.3nm,0.8s
KONS Konsvik 44.19 331 *e*P **P** **00 17 35.3 +0.5**
KONS IAmb IAmb 00 17 35.9
comp=Z,16nm,0.7s
STOK Stokkvaagen 44.19 331 *e*P **P** **00 17 35.0 +0.2**
OSL Oslo 44.24 321 *e*P **P** **00 17 35.7 +0.4**
NSS Namsos 44.25 328 *e*P **P** **00 17 35.4 0.0**
YAK Yakutsk 44.29 35 P **P** **00 17 35.7 0.0**
YAK Yakutsk 44.29 35 *e*P **P** **00 17 35.5 -0.2**
YAK *e*PP **pP** **00 18 19.1 +0.8**
YAK *e* 00 19 22.8
YAK *e*S **S** **00 23 56.5 +1.8**
YAK *e*SS **SS** **00 27 17.1 -1.4**
YAK pmax pmax
comp=Z,45nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.4s
YAK smax smax
comp=E,99nm,4.5s
YAK smax smax
comp=N,83nm,4.4s
NBO00 NORSAR Array S 44.30 323 P **P** **00 17 35.6 -0.3**
NC204 NORSAR Array S 44.34 323 P **P** **00 17 36.1 -0.1**
NC204 IAmb IAmb 00 17 49.9
comp=Z,14nm,1.1s
MOTA Moosalm 44.43 303 *e*P **P** **00 17 37.8 +0.6**
comp=Z,1.7nm,0.6s
LOF Lofoten 44.44 333 *e*P **P** **00 17 37.0 +0.2**
FETA Feichten 44.73 303 *e*P **P** **00 17 41.0 +1.4**
comp=Z,0.5nm,0.4s
KONO Kongsberg 44.78 321 *e*P **P** **00 17 39.6 0.0**
TBLU Trondheim 44.80 326 *e*P **P** **00 17 39.8 +0.1**
HOPEN Hopen 44.91 346 *e*P **P** **00 17 41.3 +0.9**
DOMB Dombas 45.22 324 *e*P **P** **00 17 43.4 +0.3**
DAVA Damuels 45.26 303 *e*P **P** **00 17 43.8 +0.1**
comp=Z,3.3nm,0.6s
KSRS Korea Array 45.38 71 P **P** **00 17 44.5 -0.1**
comp=Z,1.4nm,0.5s,baz=275,slow=6.1,SNR=5.3
comp=Z,1.4nm,0.5s
KLR Kul'dur 45.58 54 *de*P **P** **00 17 46.8 +0.7**
KLR pmax pmax
comp=Z,14nm,2.5s
TIXI Tiksi 46.00 22 P **P** **00 17 49.2 +0.3**
TIXI Tiksi 46.00 22 *ce*P **P** **00 17 49.1 +0.1**
TIXI pmax pmax
comp=Z,37nm,0.8s
LODK Lodwar 46.03 233 P **P** **00 17 50.8 +0.7**
USRK Ussuriysk Ar. 46.64 61 P **P** **00 17 54.3 -0.1**
comp=Z,1.0nm,0.3s,baz=274,slow=7.1,SNR=7.9
comp=Z,1.0nm,0.3s
HSPB Hornsund (broa 47.03 345 *e*P **P** **00 17 58.3 +1.3**
SPB2 Spitsbergen Ar 47.40 347 P **P** **00 18 00.5 +0.7**
SPA0 Spitsbergen Ar 47.41 347 *e*P **P** **00 18 01.1 +1.3**
SPITS Spitsbergen Ar 47.41 347 P **P** **00 18 00.4 +0.5**
SPITS pmax pmax
comp=Z,18nm,0.7s
SPITS Spitsbergen Ar 47.41 347 P **P** **00 18 01.2 +1.3**
comp=Z,7.3nm,0.4s,baz=122,slow=11,SNR=72
comp=Z,7.3nm,0.4s
KMBO Kilima Mbogo 48.43 227 P **P** **00 18 09.4 +0.7**
KMBO Kilima Mbogo 48.43 227 ⇑ *e*P **P** **00 18 07.4 -1.4**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 48.43 227 P **P** **00 18 07.8 -1.0**
comp=Z,2.0nm,0.5s,baz=35,slow=12,SNR=14
comp=Z,2.0nm,0.5s
KBS Kingsbay 48.53 347 *e*P **P** **00 18 09.5 +1.1**
KBS IAmb IAmb 00 18 10.7
comp=Z,20nm,0.8s
KIBK Kibwezi 48.95 225 P **P** **00 18 13.3 +0.7**
EKA Eskdalemuir Ar 51.95 316 P **P** **00 18 33.8 -0.6**
comp=Z,1.0nm,0.4s,baz=74,slow=7.2,SNR=6.7
comp=Z,1.0nm,0.4s
ESK Eskdalemuir 51.98 316 P **P** **00 18 35.1 +0.6**
ESK Eskdalemuir 51.98 316 P **P** **00 18 35.2 +0.6**
YSS Yuzh-Sakhalins 53.27 55 *ce*P **P** **00 18 44.9 +0.7**
YSS pmax pmax
comp=Z,10.0nm,0.7s
MJAR Matsushiro Arr 53.45 68 P **P** **00 18 45.3 -0.4**
comp=Z,2.7nm,0.7s,baz=295,slow=11,SNR=6.7
comp=Z,2.7nm,0.7s
DAG Danmarks Havn 54.61 344 *i* P **P** **00 18 53.0 -0.5**
DAG IAmb IAmb 00 18 54.7
comp=Z,18nm,0.7s
SEY Seymchan 54.73 34 ⇓ *i*P **P** **00 18 55.7 +1.2**
SEY pmax pmax
comp=Z,9.0nm,1.3s
JMM Marumori 54.88 66 P **P** **00 18 55.7 -0.3**
ESDC Sonseca Array 57.01 298 P **P** **00 19 10.8 -0.4**
comp=Z,0.7nm,0.7s,baz=50,slow=7.4,SNR=8.6
ESDC pP **pP** **00 19 56.6 +1.8**
comp=Z,1.3nm,0.9s,baz=59,slow=6.5,SNR=3.8
comp=Z,0.7nm,0.7s
BILL Bilibino 58.86 26 P **P** **00 19 24.1 +0.6**
BILL IAmb IAmb 00 19 25.3
comp=Z,8.7nm,0.8s
PETK Petropavlovsk- 60.35 44 P **P** **00 19 33.5 -0.4**
comp=Z,2.4nm,0.6s,baz=325,slow=2.3,SNR=3.1
comp=Z,2.4nm,0.6s
SUMG Summit 60.92 341 P **P** **00 19 38.9 +0.9**
SUMG Summit 60.92 341 P **P** **00 19 38.9 +0.9**
SUMG pmax pmax
comp=Z,18nm,1.0s
SUMG Summit 60.92 341 *i* P **P** **00 19 38.0 +0.1**
SUMG IAmb IAmb 00 19 40.3
comp=Z,18nm,1.0s
NEEM North Greenlan 60.95 348 *i* P **P** **00 19 35.8 -2.2**
NEEM IAmb IAmb 00 19 39.2
comp=Z,12nm,0.8s
EUNU Eureka 63.00 356 P **P** **00 19 51.4 +0.2**
ICESG Greenland Ices 63.04 338 *i* P **P** **00 19 51.0 -1.0**
ICESG IAmb IAmb 00 19 54.2
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 65.20 268 P **P** **00 20 04.7 -1.7**
comp=Z,2.7nm,0.4s,baz=47,slow=6.1,SNR=36
TORD pP **pP** **00 20 51.9 +0.5**
comp=Z,2.1nm,0.8s,baz=45,slow=7.2,SNR=3.3
comp=Z,2.7nm,0.4s
DY2G Dye2 66.61 337 *i* P **P** **00 20 14.3 -0.7**
DY2G IAmb IAmb 00 20 16.4
comp=Z,16nm,0.9s
A19K Wainwright 67.35 17 P **P** **00 20 20.1 +0.9**
baz=317
A21K Barrow 67.48 15 P **P** **00 20 21.0 +1.0**
baz=320
C16K Lisburne Hills 67.66 19 P **P** **00 20 21.9 +0.7**
baz=314
B18K Kokolik River 67.79 18 P **P** **00 20 22.6 +0.6**
baz=317
A22K Sinclair Lake 68.06 15 P **P** **00 20 24.0 +0.3**
baz=322
C17K DeLong Mountai 68.09 19 P **P** **00 20 23.9 0.0**
baz=316
B20K Meade River 68.38 16 P **P** **00 20 26.2 +0.6**
B20K IAmb IAmb 00 20 27.2
comp=Z,6.9nm,0.8s
B20K Meade River 68.38 16 P **P** **00 20 26.0 +0.3**
baz=320,SNR=5.6
RDOG Red Dog Mine 68.46 19 P **P** **00 20 26.8 +0.6**
baz=316
C18K Utukok River 68.46 18 P **P** **00 20 26.5 +0.3**
C18K IAmb IAmb 00 20 27.5
comp=Z,7.5nm,0.8s
C18K Utukok River 68.46 18 P **P** **00 20 26.6 +0.3**
baz=317
C19K Lookout Ridge 68.51 17 P **P** **00 20 27.3 +0.7**
C19K IAmb IAmb 00 20 29.0
comp=Z,7.7nm,0.6s
C19K Lookout Ridge 68.51 17 P **P** **00 20 26.9 +0.3**
baz=318
B22K Teshekpuk Lake 68.91 15 P **P** **00 20 29.6 +0.8**
B22K IAmb IAmb 00 20 30.5
comp=Z,7.1nm,0.8s
B22K Teshekpuk Lake 68.91 15 P **P** **00 20 29.7 +0.8**
baz=323
B21K Ikpikpuk River 69.24 15 P **P** **00 20 31.6 +0.6**
B21K IAmb IAmb 00 20 32.6
comp=Z,9.1nm,0.8s
B21K Ikpikpuk River 69.24 15 P **P** **00 20 31.7 +0.8**
baz=322
D19K Kuna River 69.33 17 P **P** **00 20 31.8 +0.3**
D19K Kuna River 69.33 17 P **P** **00 20 31.9 +0.3**
baz=320
F14K Arctic Creek 69.33 22 P **P** **00 20 31.9 +0.3**
baz=314
E17K Hotham Inlet 69.45 19 P **P** **00 20 32.7 +0.4**
baz=317
D20K Etivluk River 69.51 17 P **P** **00 20 32.9 +0.2**
baz=321
E18K Tukpahlearik C 69.52 19 P **P** **00 20 33.1 +0.3**
E18K IAmb IAmb 00 20 34.6
comp=Z,6.4nm,0.8s
E18K Tukpahlearik C 69.52 19 P **P** **00 20 33.3 +0.5**
baz=318
FAKI Fak Fak 69.55 110 P **P** **00 20 33.2 -0.6**
FAKI IAmb IAmb 00 20 49.2
comp=Z,15nm,1.1s
C21K Knifeblade Rid 69.57 16 P **P** **00 20 33.5 +0.5**
baz=322
F15K North Star Dit 69.66 21 P **P** **00 20 34.4 +0.8**
F15K IAmb IAmb 00 20 36.3
comp=Z,11nm,0.9s
F15K North Star Dit 69.66 21 P **P** **00 20 33.9 +0.2**
baz=315
C23K Itkillik River 69.88 14 P **P** **00 20 35.4 +0.6**
C23K IAmb IAmb 00 20 36.9
comp=Z,12nm,0.8s
C23K Itkillik River 69.88 14 P **P** **00 20 35.5 +0.6**
baz=326,SNR=5.7
E20K Nigu River 69.96 17 P **P** **00 20 35.8 +0.3**
baz=322
F17K Baldwin Pennin 70.08 20 P **P** **00 20 37.1 +1.0**
F17K IAmb IAmb 00 20 37.7
comp=Z,9.7nm,0.8s
F17K Baldwin Pennin 70.08 20 P **P** **00 20 36.8 +0.6**
baz=318
D22K Ayikyak River 70.24 15 P **P** **00 20 38.0 +0.9**
D22K Ayikyak River 70.24 15 P **P** **00 20 37.6 +0.5**
baz=324
ANM Nome 70.26 22 P **P** **00 20 38.2 +0.9**
baz=315
E21K Killik River 70.32 16 P **P** **00 20 37.9 +0.2**
E21K IAmb IAmb 00 20 38.6
comp=Z,9.9nm,0.9s
E21K Killik River 70.32 16 P **P** **00 20 37.9 +0.2**
baz=323
C24K Franklin Bluff 70.34 13 P **P** **00 20 38.4 +0.8**
baz=327

E19K	Redstone River	70.34	18	P	**P**	00 20 38.0 +0.3
E19K	Redstone River	70.34	18	P	**P**	00 20 38.2 +0.5
	baz=321					
G15K	Niukluk	70.36	22	P	**P**	00 20 38.6 +0.7
	baz=316					
G16K	Koyuk River	70.55	21	P	**P**	00 20 39.4 +0.4
G16K	Koyuk River	70.55	21	P	**P**	00 20 39.8 +0.7
	baz=317					
D23K	Nanushuk River	70.59	15	P	**P**	00 20 40.0 +0.8
	baz=326					
D24K	Happy Valley	70.80	14	P	**P**	00 20 40.6 +0.1
D24K				IAmb	IAmb	00 20 41.9
	comp=Z,4.8nm,0.7s					
D24K	Happy Valley	70.80	14	P	**P**	00 20 40.9 +0.4
	baz=327					
G17K	Kiwalik Mounta	70.95	20	P	**P**	00 20 41.8 +0.4
	baz=318					
F20K	Avaraart Lake	71.03	17	P	**P**	00 20 41.7 -0.1
F20K	Avaraart Lake	71.03	17	P	**P**	00 20 42.3 +0.4
	baz=322					
E22K	Anaktuvuk Pass	71.04	15	P	**P**	00 20 42.4 +0.3
E22K				IAmb	IAmb	00 20 43.8
	comp=Z,8.6nm,1.1s					
E22K	Anaktuvuk Pass	71.04	15	P	**P**	00 20 42.3 +0.3
	baz=325,SNR=5.2					
TOLK	Toolik Lake Re	71.08	14	P	**P**	00 20 42.9 +0.7
TOLK	Toolik Lake Re	71.08	14	P	**P**	00 20 42.8 +0.5
	baz=327,SNR=12					
D25K	Kavik River	71.11	13	P	**P**	00 20 43.3 +0.9
D25K				IAmb	IAmb	00 20 44.3
	comp=Z,7.2nm,0.9s					
D25K	Kavik River	71.11	13	P	**P**	00 20 42.6 +0.2
	baz=329,SNR=6.8					
H16K	Elim	71.14	21	P	**P**	00 20 43.1 +0.5
	baz=318					
G18K	Tagagawik	71.19	19	P	**P**	00 20 43.5 +0.6
	baz=320					
A36M	Sachs Harbour	71.28	5	P	**P**	00 20 43.4 +0.1
A36M	Sachs Harbour	71.28	5	P	**P**	00 20 43.7 +0.4
	baz=347,SNR=14					
G19K	Purcell Mounta	71.40	18	P	**P**	00 20 44.0 -0.2
G19K				IAmb	IAmb	00 20 45.2
	comp=Z,6.5nm,0.7s					
G19K	Purcell Mounta	71.40	18	P	**P**	00 20 44.4 +0.2
	baz=321					
F21K	Alatna River	71.42	17	P	**P**	00 20 44.0 -0.3
F21K				IAmb	IAmb	00 20 45.4
	comp=Z,5.3nm,0.5s					
F21K	Alatna River	71.42	17	P	**P**	00 20 44.3 +0.1
	baz=324,SNR=7.1					
F22K	John River	71.48	16	P	**P**	00 20 44.9 +0.3
	baz=325					
E23K	Chandalar	71.56	15	P	**P**	00 20 45.6 +0.4
	baz=327					
H17K	Granite Mounta	71.58	20	P	**P**	00 20 45.0 -0.2
H17K	Granite Mounta	71.58	20	P	**P**	00 20 45.8 +0.6
	baz=319					
E24K	Your Creek	71.78	14	P	**P**	00 20 47.1 +0.7
E24K				IAmb	IAmb	00 20 48.0
	comp=Z,4.5nm,0.6s					
E24K	Your Creek	71.78	14	P	**P**	00 20 47.2 +0.7
	baz=328					
H18K	Honhosa River	71.84	20	P	**P**	00 20 47.4 +0.6
H18K	Honhosa River	71.84	20	P	**P**	00 20 46.9 +0.1
	baz=320					
G21K	Allakaket	71.98	17	P	**P**	00 20 47.6 0.0
G21K				IAmb	IAmb	00 20 48.3
	comp=Z,8.0nm,1.1s					
G21K	Allakaket	71.98	17	P	**P**	00 20 48.0 +0.3
	baz=324					
H19K	Roundabout Mou	72.05	19	P	**P**	00 20 48.8 +0.8
H19K				IAmb	IAmb	00 20 49.3
	comp=Z,6.6nm,0.9s					
H19K	Roundabout Mou	72.05	19	P	**P**	00 20 48.7 +0.7
	baz=322					
D27M	Malcolm River	72.10	11	P	**P**	00 20 49.3 +1.0
D27M	Malcolm River	72.10	11	P	**P**	00 20 49.3 +1.0
	baz=334					
G22K	Bettles	72.11	16	P	**P**	00 20 48.9 +0.6
	baz=326					
J14K	Nanvaranak Lak	72.13	23	P	**P**	00 20 49.5 +1.0
J14K				IAmb	IAmb	00 20 52.5
	comp=Z,16nm,1.1s					
J14K	Nanvaranak Lak	72.13	23	P	**P**	00 20 49.7 +1.2
	baz=317					
COLD	Coldfoot	72.14	15	P	**P**	00 20 49.0 +0.5
	baz=327,SNR=8.0					
I17K	Unalakleet	72.16	21	P	**P**	00 20 49.8 +1.2
	baz=319					
SAUI	Saumlaki	72.17	115	P	**P**	00 20 49.8 +0.3
E25K	Arctic Village	72.30	13	P	**P**	00 20 50.0 +0.5
E25K	Arctic Village	72.30	13	P	**P**	00 20 49.9 +0.5
	baz=330					
D28M	Stokes Point	72.36	10	P	**P**	00 20 50.2 +0.5
	baz=336					
IMAR	Indian Mountai	72.36	17	P	**P**	00 20 50.1 +0.2
F24K	Squaw Lake	72.37	14	P	**P**	00 20 50.3 +0.3
F24K	Squaw Lake	72.37	14	P	**P**	00 20 50.5 +0.5
	baz=328					
H20K	Anotleneega Mo	72.48	18	P	**P**	00 20 51.0 +0.4
	baz=323,SNR=6.6					
GCSA	Galena City Sc	72.56	19	P	**P**	00 20 51.6 +0.6
	baz=322					
G23K	Bananza Creek	72.61	16	P	**P**	00 20 51.5 +0.2
G23K	Bananza Creek	72.61	16	P	**P**	00 20 52.1 +0.7
	baz=327					
J16K	Anvik River	72.64	22	P	**P**	00 20 52.0 +0.5
J16K				IAmb	IAmb	00 20 53.7
	comp=Z,10nm,0.8s					
J16K	Anvik River	72.64	22	P	**P**	00 20 52.3 +0.8
	baz=319					
F25K	Christian Rive	72.75	14	P	**P**	00 20 53.0 +0.8
	baz=330					
H21K	Melozitna Rive	72.85	17	P	**P**	00 20 53.2 +0.4
H21K				IAmb	IAmb	00 20 54.5
	comp=Z,9.7nm,1.1s					
H21K	Melozitna Rive	72.85	17	P	**P**	00 20 53.2 +0.4
	baz=325					
E28M	Babbage River	72.90	11	P	**P**	00 20 54.4 +1.3
E28M	Babbage River	72.90	11	P	**P**	00 20 54.5 +1.5
	baz=335					
F26K	Sheenjek River	72.94	13	P	**P**	00 20 53.8 +0.5
	baz=332					
E27K	Coleen River	72.95	12	P	**P**	00 20 54.3 +1.0
E27K				IAmb	IAmb	00 20 55.1
	comp=Z,7.0nm,0.9s					
E27K	Coleen River	72.95	12	P	**P**	00 20 53.7 +0.4
	baz=334					
H22K	Ishtalitna Cre	72.99	17	P	**P**	00 20 54.0 +0.4
	baz=326					
BMAR	Burnt Mountain	73.09	13	P	**P**	00 20 55.1 +0.9
K15K	Wolf Creek Mou	73.10	23	P	**P**	00 20 55.6 +1.3
	baz=318					
I20K	Naaghedeneel	73.14	18	P	**P**	00 20 55.1 +0.7
	baz=324					
G24K	Hadweenzic Riv	73.16	15	P	**P**	00 20 55.2 +0.7
	baz=329					
E29M	Blow River	73.34	11	P	**P**	00 20 56.6 +1.1
E29M				IAmb	IAmb	00 20 57.5
	comp=Z,6.9nm,0.9s					
E29M	Blow River	73.34	11	P	**P**	00 20 56.2 +0.6
	baz=337					
G25K	Bearman Lake	73.38	14	P	**P**	00 20 56.1 +0.3
	baz=330					
L14K	Kuka Creek	73.45	24	P	**P**	00 20 56.8 +0.5
	baz=318					
J19K	Poorman	73.49	19	P	**P**	00 20 57.1 +0.6
J19K				IAmb	IAmb	00 20 58.5
	comp=Z,11nm,1.0s					
J19K	Poorman	73.49	19	P	**P**	00 20 56.9 +0.4
	baz=323					
L15K	Ungalak Mounta	73.58	23	P	**P**	00 20 57.7 +0.7
	baz=319					
J18K	Innoko River	73.61	20	P	**P**	00 20 57.4 +0.2
J18K				IAmb	IAmb	00 20 58.7
	comp=Z,6.6nm,0.8s					
J18K	Innoko River	73.61	20	P	**P**	00 20 57.4 +0.2
	baz=322					
G26K	Porcupine Rive	73.66	13	P	**P**	00 20 57.9 +0.5
	baz=332					
J20K	Nowinta River	73.73	19	P	**P**	00 20 58.8 +0.9
J20K				IAmb	IAmb	00 20 59.4
	comp=Z,9.5nm,0.9s					
J20K	Nowinta River	73.73	19	P	**P**	00 20 58.7 +0.8
	baz=324					
F28M	Old Crow	73.75	12	P	**P**	00 20 59.1 +1.1
F28M	Old Crow	73.75	12	P	**P**	00 20 58.8 +0.8

	baz=335					
K17K	Iditarod	73.75	21	P	**P**	00 20 58.8 +0.8
K17K	Iditarod	73.75	21	P	**P**	00 20 59.2 +1.1
	baz=321					
H24K	Noodor Dome	73.82	15	P	**P**	00 20 59.2 +0.7
H24K				IAmb	IAmb	00 21 00.3
	comp=Z,5.0nm,0.8s					
H24K	Noodor Dome	73.82	15	P	**P**	00 20 59.6 +1.2
	baz=329					
MLY	Manley	73.86	17	P	**P**	00 20 59.0 +0.2
	baz=327					
M13K	Dall Lake	73.92	25	P	**P**	00 20 59.8 +0.8
	baz=318					
C36M	Paulatuk	73.96	5	P	**P**	00 20 58.9 -0.3
C36M	Paulatuk	73.96	5	P	**P**	00 20 58.8 -0.3
	baz=348,SNR=27					
INK	Inuvik	74.02	9	P	**P**	00 21 00.1 +0.6
INK				IAmb	IAmb	00 21 01.0
	comp=Z,8.6nm,0.7s					
INK	Inuvik	74.02	9	P	**P**	00 21 00.4 +0.9
	baz=340,SNR=7.8					
INK	Inuvik	74.02	9	P	**P**	00 21 00.1 +0.6
INK				pmax	pmax	
	comp=Z,9.0nm,0.7s					
I23K	Minto, Yukon-K	74.08	16	P	**P**	00 21 00.1 +0.2
I23K				IAmb	IAmb	00 21 01.5
	comp=Z,9.8nm,1.0s					
I23K	Minto, Yukon-K	74.08	16	P	**P**	00 21 00.8 +0.9
	baz=328					
M14K	Bethel	74.13	24	P	**P**	00 21 01.6 +1.4
M14K	Bethel	74.13	24	P	**P**	00 21 01.6 +1.4
	baz=318					
G27K	Doyon Strip	74.17	13	P	**P**	00 21 01.8 +1.3
G27K				IAmb	IAmb	00 21 02.4
	comp=Z,7.3nm,0.8s					
G27K	Doyon Strip	74.17	13	P	**P**	00 21 01.8 +1.3
	baz=334					
DBIC	Dimbokro	74.18	267	P	**P**	00 21 00.2 -1.1
DBIC				IAmb	IAmb	00 21 02.0
	comp=Z,4.1nm,0.7s					
DBIC	Dimbokro	74.18	267	P	**P**	00 20 59.2 -2.1
	comp=Z,2.7nm,0.4s,baz=32,slow=6.5,SNR=14					
	comp=Z,2.7nm,0.4s					
L16K	Owhat River	74.18	22	P	**P**	00 21 01.4 +0.8
L16K	Owhat River	74.18	22	P	**P**	00 21 01.9 +1.4
	baz=320					
L17K	Donlin	74.20	22	P	**P**	00 21 01.5 +0.8
	baz=321					
TTA	Tatalina	74.23	20	P	**P**	00 21 01.6 +0.7
TTA	Tatalina	74.23	20	P	**P**	00 21 01.6 +0.7
	baz=323					
TTA	Tatalina	74.23	20	P	**P**	00 21 01.6 +0.7
TTA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KIC	Kosan Boka	74.27	266	⇑*e*P	**P**	00 21 00.5 -1.3
	comp=Z,4.4nm,0.4s					
LBTB	Lobatse	74.31	222	P	**P**	00 21 02.5 +0.6
LBTB	Lobatse	74.31	222	P	**P**	00 21 02.5 +0.6
LBTB				pmax	pmax	
	comp=Z,6.0nm,1.2s					
TIC	Toumodi	74.33	267	⇑*e*P	**P**	00 21 00.7 -1.5
	comp=Z,5.0nm,0.5s					
F30M	Barrier River	74.37	10	P	**P**	00 21 02.5 +0.9
	baz=338					
K20K	Telida	74.41	19	P	**P**	00 21 02.8 +0.8
	baz=324					
CHUM	Lake Minchumin	74.43	18	P	**P**	00 21 02.5 +0.6
	baz=326					
TSUM	Tsumeb	74.49	231	P	**P**	00 21 05.5 +2.5
TSUM				IAmb	IAmb	00 21 06.5
	comp=Z,4.5nm,0.6s					
MDM	Murphy Dome	74.49	16	P	**P**	00 21 02.8 +0.4
MDM				IAmb	IAmb	00 21 03.6
	comp=Z,15nm,1.1s					
POKR	Poker Plat Res	74.53	16	P	**P**	00 21 03.2 +0.7
POKR				IAmb	IAmb	00 21 04.2
	comp=Z,10nm,0.7s					
POKR	Poker Plat Res	74.53	16	P	**P**	00 21 03.3 +0.7
	baz=329,SNR=5.3					
LIC	Lamto	74.58	266	⇑*e*P	**P**	00 21 02.1 -1.5
	comp=Z,5.5nm,0.6s					
M15K	Kasigluk River	74.58	23	P	**P**	00 21 04.0 +1.1
	baz=320					
PRP	Porcupine Dome	74.59	15	P	**P**	00 21 04.3 +1.3
PRP	Porcupine Dome	74.59	15	P	**P**	00 21 03.7 +0.7
	baz=331					
L18K	Granite Mounta	74.61	21	P	**P**	00 21 03.5 +0.5
L18K	Granite Mounta	74.61	21	P	**P**	00 21 03.5 +0.5
	baz=322					
NEA2	Nenana	74.62	17	P	**P**	00 21 03.8 +0.8
	baz=328					
COLA	College	74.65	16	P	**P**	00 21 04.3 +1.1
	baz=329					
G29M	Pine Creek	74.69	11	P	**P**	00 21 04.5 +1.1
G29M	Pine Creek	74.69	11	P	**P**	00 21 04.2 +0.7
	baz=337					
H27K	Steamboat Moun	74.72	13	P	**P**	00 21 04.3 +0.6
	baz=334					
F31M	Tsiigehtchic	74.81	9	P	**P**	00 21 04.5 +0.4
F31M	Tsiigehtchic	74.81	9	P	**P**	00 21 04.8 +0.7
	baz=340,SNR=7.6					
CCB	Clear Creek Bu	74.86	16	P	**P**	00 21 04.0 -0.3
M16K	Timber Creek	74.87	22	P	**P**	00 21 05.8 +1.3
M16K				IAmb	IAmb	00 21 09.8
	comp=Z,7.7nm,1.1s					
CAST	Castle Rocks	74.88	18	P	**P**	00 21 05.0 +0.5
CAST	Castle Rocks	74.88	18	P	**P**	00 21 05.1 +0.5
	baz=326,SNR=9.5					
G30M	tAoh Zraii Nji	74.89	11	P	**P**	00 21 05.4 +0.8
G30M				IAmb	IAmb	00 21 06.4
	comp=Z,8.0nm,0.8s					
G30M	tAoh Zraii Nji	74.89	11	P	**P**	00 21 05.5 +0.8
	baz=338					
IL31		74.95	16	P	**P**	00 21 04.4 -0.5
IL31				IAmb	IAmb	00 21 06.0
	comp=Z,8.1nm,1.1s					
ILAR	Eielson Array	74.95	16	P	**P**	00 21 04.2 -0.8
ILAR	Eielson Array	74.95	16	P	**P**	00 21 04.2 -0.8
ILAR	Eielson Array	74.95	16	P	**P**	00 21 04.5 -0.5
	comp=Z,3.7nm,0.9s,baz=318,slow=4.9,SNR=28					
ILAR				PP	**PP**	00 23 54.7 +0.1
	comp=Z,0.5nm,0.7s,baz=319,slow=9.6,SNR=5.2					
	comp=Z,3.7nm,0.9s					
IL03	Eielson Array	74.96	16	P	**P**	00 21 04.6 -0.4
M17K	Holitna River	75.04	22	P	**P**	00 21 07.0 +1.5
M17K	Holitna River	75.04	22	P	**P**	00 21 06.9 +1.5
	baz=322					
KTH	Kantishna Hill	75.06	18	P	**P**	00 21 05.8 +0.2
KTH				IAmb	IAmb	00 21 07.0
	comp=Z,7.6nm,0.9s					
L19K	White Mountain	75.15	20	P	**P**	00 21 06.8 +0.6
L19K				IAmb	IAmb	00 21 07.7
	comp=Z,6.8nm,1.0s					
L19K	White Mountain	75.15	20	P	**P**	00 21 07.0 +0.8
	baz=324					
N15K	Kwethluk River	75.17	24	P	**P**	00 21 07.7 +1.4
N15K				IAmb	IAmb	00 21 08.8
	comp=Z,7.6nm,0.8s					
N15K	Kwethluk River	75.17	24	P	**P**	00 21 06.9 +0.6
	baz=320					
L20K	Farewell, AK	75.18	20	P	**P**	00 21 07.2 +0.8
	baz=324					
G31M	Satah River	75.23	10	P	**P**	00 21 06.9 +0.5
G31M				IAmb	IAmb	00 21 07.5
	comp=Z,8.5nm,0.8s					
G31M	Satah River	75.23	10	P	**P**	00 21 07.3 +0.8
	baz=340					
I26K	Coal Creek Min	75.24	14	P	**P**	00 21 07.5 +0.9
I26K				IAmb	IAmb	00 21 08.5
	comp=Z,5.0nm,0.8s					
I26K	Coal Creek Min	75.24	14	P	**P**	00 21 07.6 +1.0
	baz=333					
HDA	Harding Lake	75.25	16	P	**P**	00 21 05.9 -0.7
	baz=330					
H29M	Whitestone	75.27	12	P	**P**	00 21 07.4 +0.7
H29M				IAmb	IAmb	00 21 08.3
	comp=Z,9.0nm,0.7s					
H29M	Whitestone	75.27	12	P	**P**	00 21 07.3 +0.5
	baz=336					
I27K	Kandik River	75.27	13	P	**P**	00 21 07.4 +0.6
	baz=334					
PPLA	Purkeypile	75.28	19	P	**P**	00 21 07.3 +0.3
PPLA				IAmb	IAmb	00 21 24.4
	comp=Z,12nm,1.2s					
PPLA	Purkeypile	75.28	19	P	**P**	00 21 07.4 +0.3
	baz=326					

FITZ	Fitzroy Crossi	75.29	126	P	**P**	00 21 06.8 -0.7
TRF	Thorofare Moun	75.30	18	P	**P**	00 21 08.0 +0.9
MCK	McKinley	75.38	17	P	**P**	00 21 07.5 0.0
MCK				IAmb	IAmb	00 21 08.6
	comp=Z,4.6nm,0.6s					
MCK	McKinley	75.38	17	P	**P**	00 21 07.7 +0.3
	baz=328					
MCK	McKinley	75.38	17	P	**P**	00 21 07.5 0.0
MCK				pmax	pmax	
	comp=Z,5.0nm,0.6s					
EPYK	Eagle Plains	75.39	11	P	**P**	00 21 07.7 +0.3
	baz=338					
J25K	Salcha River,	75.41	15	P	**P**	00 21 07.7 +0.1
J25K				IAmb	IAmb	00 21 08.0
	comp=Z,8.0nm,1.1s					
J25K	Salcha River,	75.41	15	P	**P**	00 21 07.5 -0.1
	baz=331					
O14K	Tigyukauivet M	75.49	25	P	**P**	00 21 08.8 +0.7
KNRA	Kununurra	75.65	122	P	**P**	00 21 08.9 -0.7
KNRA				IAmb	IAmb	00 21 28.8
	comp=Z,11nm,0.9s					
RND	Reindeer	75.68	17	P	**P**	00 21 09.2 0.0
RND				IAmb	IAmb	00 21 09.4
	comp=Z,8.3nm,1.0s					
RND	Reindeer	75.68	17	P	**P**	00 21 09.2 0.0
RND				pmax	pmax	
	comp=Z,8.0nm,1.0s					
I28M	Miner Creek	75.71	13	P	**P**	00 21 09.7 +0.3
I28M				IAmb	IAmb	00 21 10.3
	comp=Z,7.3nm,0.8s					
I28M	Miner Creek	75.71	13	P	**P**	00 21 10.2 +0.9
	baz=335,SNR=8.1					
N17K	Nushagak Hills	75.80	22	P	**P**	00 21 11.6 +1.7
M20K	Styx River	75.87	20	P	**P**	00 21 11.3 +1.0
M20K				IAmb	IAmb	00 21 12.2
	comp=Z,6.4nm,1.1s					
J26L	Joseph Creek	75.88	14	P	**P**	00 21 11.0 +0.6
	baz=332					
K24K	Donnelly Dome	76.03	16	P	**P**	00 21 11.2 0.0
	baz=331					
N18K	Kilae Creek	76.07	21	P	**P**	00 21 12.3 +0.9
CUT	Chulitna	76.18	18	P	**P**	00 21 11.6 -0.4
	baz=327					
SKT	Skwentna	76.22	19	P	**P**	00 21 12.0 -0.2
SKT				IAmb	IAmb	00 21 13.2
	comp=Z,16nm,1.1s					
SKT	Skwentna	76.22	19	P	**P**	00 21 12.2 0.0
	baz=326					
WAT1	Susitna Watana	76.24	17	P	**P**	00 21 11.9 -0.4
	baz=329					
O16K	Kokwok River B	76.26	23	P	**P**	00 21 14.1 +1.7
O16K				IAmb	IAmb	00 21 14.5
	comp=Z,12nm,0.8s					
O16K	Kokwok River B	76.26	23	P	**P**	00 21 13.5 +1.1
	baz=322					
SCRK	Sand Creek	76.26	15	P	**P**	00 21 12.6 +0.1
SCRK				IAmb	IAmb	00 21 13.7
	comp=Z,5.2nm,0.6s					
SCRK	Sand Creek	76.26	15	P	**P**	00 21 12.9 +0.4
	baz=332					
I30M	Mount Dempster	76.51	11	P	**P**	00 21 14.5 +0.6
I30M				IAmb	IAmb	00 21 15.4
	comp=Z,8.6nm,0.8s					
I30M	Mount Dempster	76.51	11	P	**P**	00 21 14.4 +0.4
	baz=338,SNR=9.8					
K27K	Chicken	76.60	14	P	**P**	00 21 15.4 +1.1
K27K				IAmb	IAmb	00 21 15.9
	comp=Z,13nm,1.1s					
K27K	Chicken	76.60	14	P	**P**	00 21 15.1 +0.9
	baz=334					
WAT6	Susitna Watana	76.65	17	P	**P**	00 21 14.8 0.0
	baz=329					
PAX	Paxson	76.83	16	P	**P**	00 21 15.8 0.0
PAX				IAmb	IAmb	00 21 16.5
	comp=Z,7.5nm,0.7s					
PAX	Paxson	76.83	16	P	**P**	00 21 15.8 0.0
	baz=331					
PAX	Paxson	76.83	16	P	**P**	00 21 15.8 0.0
PAX				pmax	pmax	
	comp=Z,8.0nm,0.7s					
SUA	Susitna One	76.86	19	P	**P**	00 21 15.7 -0.2
O18K	Koktuh Hills	76.94	22	P	**P**	00 21 17.5 +1.2
O18K				IAmb	IAmb	00 21 18.0
	comp=Z,12nm,0.9s					
O18K	Koktuh Hills	76.94	22	P	**P**	00 21 17.0 +0.7
	baz=324					
GHO	Glory Hole Cre	77.06	18	P	**P**	00 21 17.0 0.0
DAWY	Dawson	77.07	13	P	**P**	00 21 17.5 +0.5
DAWY				IAmb	IAmb	00 21 17.6
	comp=Z,8.8nm,1.2s					
DAWY	Dawson	77.07	13	P	**P**	00 21 17.4 +0.5
	baz=336					
P17K	Kvichak River	77.09	23	P	**P**	00 21 18.1 +1.0
	baz=323					
J30M	Hart River	77.12	11	P	**P**	00 21 18.1 +0.7
	baz=338					
PMR	Palmer	77.16	18	P	**P**	00 21 17.4 0.0
PMR				IAmb	IAmb	00 21 26.4
	comp=Z,17nm,1.2s					
PMR	Palmer	77.16	18	P	**P**	00 21 17.5 0.0
	baz=328					
PMR	Palmer	77.16	18	P	**P**	00 21 17.4 0.0
PMR				pmax	pmax	
	comp=Z,17nm,1.2s					
SML	Sawmill	77.17	18	P	**P**	00 21 17.8 +0.1
SML	Sawmill	77.17	18	P	**P**	00 21 17.7 +0.1
	baz=329					
L26K	Log Cabin Wild	77.24	15	P	**P**	00 21 17.8 -0.1
	baz=333					
CAPN	Captain Cook N	77.33	19	P	**P**	00 21 18.8 +0.4
	baz=327					
M23K	Glacier View	77.33	17	P	**P**	00 21 18.7 +0.2
	baz=329					
BOSA	Boshof	77.39	220	P	**P**	00 21 19.5 +0.3
BOSA	Boshof	77.39	220	P	**P**	00 21 18.9 -0.4
	comp=Z,4.2nm,1.0s,baz=17,slow=3.1,SNR=13					
	comp=Z,4.2nm,1.0s					
SCM	Sheep Creek Mo	77.39	17	P	**P**	00 21 19.4 +0.5
SCM	Sheep Creek Mo	77.39	17	P	**P**	00 21 19.2 +0.3
	baz=330					
SCM	Sheep Creek Mo	77.39	17	P	**P**	00 21 19.4 +0.5
SCM				pmax	pmax	
	comp=Z,20nm,1.2s					
HARP	HAARP	77.40	16	P	**P**	00 21 20.0 +1.2
	baz=331					
M24K	Tolsona, Glenn	77.43	17	P	**P**	00 21 20.4 +1.3
M24K	Tolsona, Glenn	77.43	17	P	**P**	00 21 19.7 +0.6
	baz=331					
RC01	Rabbit Creek A	77.43	19	P	**P**	00 21 18.6 -0.3
RC01				IAmb	IAmb	00 21 27.4
	comp=Z,12nm,1.0s					
Q16K	King Salmon	77.44	23	P	**P**	00 21 19.2 +0.2
	baz=323					
L27K	Beaver Creek,	77.52	14	P	**P**	00 21 20.3 +0.8
	baz=334					
BCAR	Beaver Creek A	77.52	14	P	**P**	00 21 20.1 +0.5
K29M	Barlow Dome	77.60	12	P	**P**	00 21 20.6 +0.6
	baz=337					
AKUT	Akutan	77.64	30	P	**P**	00 21 21.5 +1.3
KLU	Klutina	78.03	17	P	**P**	00 21 22.8 +0.4
	baz=331					
MORW	Morawa	78.06	140	P	**P**	00 21 23.4 +0.6
MORW				IAmb	IAmb	00 21 36.8
	comp=Z,6.0nm,0.9s					
M27K	Edge Creek, AK	78.14	15	P	**P**	00 21 24.4 +1.3
M27K				IAmb	IAmb	00 21 24.8
	comp=Z,9.0nm,0.8s					
M27K	Edge Creek, AK	78.14	15	P	**P**	00 21 23.6 +0.5
	baz=334					
L29M	L29M	78.18	13	P	**P**	00 21 23.9 +0.8
	baz=337					
N25K	Chitina, Valde	78.23	16	P	**P**	00 21 24.9 +1.4
N25K				IAmb	IAmb	00 21 29.3
	comp=Z,7.3nm,1.1s					
N25K	Chitina, Valde	78.23	16	P	**P**	00 21 24.1 +0.6
	baz=332					
BVCY	Beaver Creek	78.30	14	P	**P**	00 21 24.3 +0.6
	baz=335					
GLB	Gilahina Butte	78.55	16	P	**P**	00 21 28.8 +3.6
GLB				IAmb	IAmb	00 21 33.9
	comp=Z,7.6nm,1.2s					
M29M	Somme Creek	78.73	13	P	**P**	00 21 26.8 +0.6
	baz=337					
CHGN	Chignik	78.74	25	P	**P**	00 21 25.8 -0.5
EYAK	Cordova Ski Ar	78.89	17	P	**P**	00 21 27.4 +0.4
	baz=331					

M30M Minto, Yukon 78.91 12 P P 00 21 27.3 +0.2
baz=338
YUK3 Moose Creek 78.96 14 P P 00 21 28.4 +0.8
baz=335
BARN Barnard Glacie 79.36 15 P P 00 21 30.0 +0.2
BARN IAmb IAmb 00 21 32.0
comp=Z,7.7nm,1.0s
CTG Chitna Glacier 79.51 15 P P 00 21 31.3 +0.7
baz=334
CTGM Chitina Glacie 79.52 15 P P 00 21 31.3 +0.7
CTGM IAmb IAmb 00 21 40.3
comp=Z,12nm,1.2s
YUK8 Steele Glacier 79.55 14 P P 00 21 31.6 +0.7
baz=336
GRNC Granite Creek 79.64 15 P P 00 21 30.8 -0.6
M31M Drury Creek, Y 79.66 12 P P 00 21 31.4 +0.2
baz=340
OHAK Old Harbor 79.67 22 P P 00 21 31.8 +0.5
FARO Faro, Yukon 79.80 11 P P 00 21 32.0 +0.1
baz=341
N30M Aishikik Lake 79.89 13 P P 00 21 32.5 0.0
baz=338
WRGLY Wrigley 80.03 6 P P 00 21 33.9 +0.9
baz=349
N31M Braeburn, Yuko 80.10 12 P P 00 21 34.1 +0.5
baz=339
YUK6 Outpost Mounta 80.13 14 P P 00 21 34.3 +0.3
baz=337
O30N Mendenhall 80.71 13 P P 00 21 37.1 +0.3
O30N Mendenhall 80.71 13 P P 00 21 37.1 +0.3
baz=339
YKA Yellowknife Ar 81.30 2 P P 00 21 40.0 +0.2
YKA Yellowknife Ar 81.30 2 *ce*P P 00 21 40.0 +0.2
YKA pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 81.30 2 P P 00 21 39.8 0.0
comp=Z,2.2nm,0.8s,baz=313,slow=2.0,SNR=52
YKA pP pP 00 22 28.3 +1.5
comp=Z,1.0nm,0.7s,baz=347,slow=5.7,SNR=5.0
comp=Z,2.2nm,0.8s
P33M Teslin, Yukon 81.80 11 P P 00 21 42.7 +0.1
P33M IAmb IAmb 00 21 43.3
comp=Z,16nm,1.1s
P33M Teslin, Yukon 81.80 11 P P 00 21 42.4 -0.2
baz=341
SCHQ Schefferville 81.92 337 P P 00 21 43.4 +0.1
SCHQ IAmb IAmb 00 21 43.8
comp=Z,7.2nm,1.1s
SKAG Skagway 82.08 13 P P 00 21 44.6 +0.7
baz=339
P32M Atlin 82.24 12 P P 00 21 45.4 +0.5
WB0 Warramunga Arr 82.33 121 P P 00 21 44.5 -1.4
WRA Warramunga Arr 82.42 121 P P 00 21 44.8 -1.5
WRA Warramunga Arr 82.42 121 P P 00 21 44.8 -1.5
WRA Warramunga Arr 82.42 121 P P 00 21 44.4 -1.9
comp=Z,2.5nm,0.6s,baz=322,slow=4.7,SNR=25
comp=Z,2.5nm,0.6s
WB2 Warramunga Arr 82.42 121 P P 00 21 44.9 -1.4
WB2 IAmb IAmb 00 21 45.4
comp=Z,7.7nm,1.1s
WR0 Warramunga Arr 82.56 121 P P 00 21 45.4 -1.7
R33M Jennings River 82.86 11 P P 00 21 48.6 +0.4
R33M Jennings River 82.86 11 P P 00 21 48.4 +0.1
baz=343
Q32M Nakina River 83.07 12 P P 00 21 49.6 +0.2
Q32M Nakina River 83.07 12 P P 00 21 49.8 +0.4
baz=342
DLBC Dease Lake 83.92 11 P P 00 21 54.0 +0.5
DLBC Dease Lake 83.92 11 P P 00 21 53.9 +0.3
baz=344
FCC Fort Churchill 84.24 352 P P 00 21 55.6 +0.6
FCC Fort Churchill 84.24 352 P P 00 21 55.6 +0.6
FCC pmax pmax
comp=Z,3.0nm,0.9s
S34M Telegraph Cree 84.26 11 P P 00 21 56.1 +0.9
AS31 Alice Springs 84.66 124 P P 00 21 56.4 -1.3
ASAR Alice Springs 84.66 124 P P 00 21 56.4 -1.3
ASAR Alice Springs 84.66 124 P P 00 21 56.4 -1.3
ASAR Alice Springs 84.66 124 P P 00 21 55.9 -1.8
comp=Z,2.9nm,0.6s,baz=310,slow=4.9,SNR=53
comp=Z,2.9nm,0.6s
PKME Peaks-Kenny Pk 90.85 333 P P 00 22 27.1 +0.2
baz=31
QSPA South Pole Qui 126.27 180 PKP PKPdf 00 28 23.7 -0.4
comp=Z,2.1nm,0.7s,baz=316,slow=1.3,SNR=8.6
CPUP Villa Florida 134.69 268 PKP PKPdf 00 28 39.8 -1.5
comp=Z,1.7nm,0.8s,baz=85,slow=3.9,SNR=4.8
PLCA Paso Flores 149.33 250 PKPbc PKPbc 00 29 10.4 -0.9
comp=Z,2.1nm,0.6s,baz=355,slow=4.1,SNR=6.9

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*UPP **02** 00:39:58.6±0.0, 67°.85N×20°.20E, h0km, ML1.6, Suspected explosion*
*IDC **02** 00:39:58.7±1.5, 67°.84N×20°.20E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=20.8km s-min=10.2km az=113.0*
ISC 02 00:39:58.4±0.9**, 67°.87N**±0°.04×**20°.19E**±0°.04**, h9**km±8km**, n12, σ0ˢ.90**/16**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**32**	P	**Pg**	**00 40 01.0**	**+0.1**
KUA				S	**Sg**	**00 40 02.8**	**0.0**
RATU	**Laukkuluspa**	**0.23**	**260**	P	**Pg**	**00 40 03.2**	**+0.2**
RATU				S	**Sg**	**00 40 06.6**	**+0.3**
LANU	**Lannavaara**	**0.71**	**74**	P	**Pg**	**00 40 11.9**	**-0.1**
DUNU	**Dundret**	**0.76**	**169**	P	**Pg**	**00 40 12.6**	**-0.4**
MASU	**Masugnsbyn**	**0.80**	**120**	P	**Pg**	**00 40 13.6**	**-0.2**
SALU	**Saltoluokta**	**0.81**	**234**	P	**Pg**	**00 40 13.7**	**-0.2**
HEF	**Hetta**	**1.41**	**66**	*e*P	**Pb**	**00 40 24.5**	**-0.3**
KTK1	**Kautokeino**	**1.61**	**43**	*e*P	**Pb**	**00 40 27.7**	**-0.6**
HARU	**Harads**	**1.74**	**169**	P	**Pb**	**00 40 30.0**	**-0.4**
ARCES	**ARCESS Array B**	**2.56**	**47**	Pn	**Pn**	**00 40 41.9**	**+1.9**
	0.2nm,0.3s,baz=229,slow=14,SNR=5.5						
ARCES				Sn	**Sb**	**00 41 14.7**	**-1.4**
	1.2nm,0.3s,baz=229,slow=24,SNR=8.4						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**6.92**	**156**	Pn	**Pn**	**00 41 41.2**	**+1.4**
	0.1nm,0.3s,baz=340,slow=15,SNR=1.6						
FINES				Sn	**Sn**	**00 42 59.2**	**+0.7**
	0.1nm,0.3s,baz=348,slow=23,SNR=1.9						
FINES				Lg	Lg	00 43 34.7	
	0.3nm,0.3s,baz=349,slow=28,SNR=1.4						
	2.3nm,0.9s						
NOA	**NORSAR Array B**	**7.86**	**214**	Pn	**Pn**	**00 41 51.9**	**-1.0**
	baz=14,slow=13,SNR=2.6						
NOA				Lg	Lg	00 44 05.1	
	baz=21,slow=12,SNR=1.4						
	0.3nm,0.7s						

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*IDC **02** 01:10:07.1±0.6, 32°.24N×40°.25W, h0km, mb4.2/26, mbtmp4.2/26, MS3.8/60, Error ellipse: s-maj=17.6km s-min=14.3km az=167.0*
*NEIC **02** 01:10:09.3±0.7, 32°.30N±0°.03×40°.2W±0°.1, h10km±1km, mb4.7/73, Error ellipse: s-maj=17.3km s-min=3.0km az=254.0*
*GCMT **02** 01:10:10.3±0.3, 32°.36N±0°.04×40°.22W±0°.03, h12km±1km, MW4.7/79, Moment Tensor Solution. s13,c16; s79,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.56±.13; Mθθ0.35±.09; Mφφ1.21±.08; Mrθ0.01±.28; Mθφ0.78±.05; Mφr-0.18±.19; Best double couple: M0 1.62600×10^16 NP1:φs27.00000°, δ48.00000°, λ-95.00000°. NP2: φs214.00000°, δ42.00000°, λ-84.00000°. Principal axes: T 1.6780, Plg3.0000°, Azm120.0000°; N -0.1030, Plg4.0000°, Azm30.0000°; P -1.5730, Plg85.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 01:10:08.7±0.4**, 32°.25N**±0°.08×**40°.19W**±0°.07**, h10**km**, n167, σ0ˢ.75**/121**, mb4.6**/65**, MS3.8**/62**, Northern Mid-Atlantic Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DRLN Deer Lake 21.38 328 P P 01 14 55.9 -0.3
DRLN IAmb IAmb 01 14 58.3
comp=Z,37nm,1.0s
SJG San Juan 27.29 245 LR LR 01 24 20.3
comp=Z,61nm,21.7s,baz=59,slow=31
SCHQ Schefferville 29.39 328 LR LR 01 26 58.0
comp=Z,454nm,20.4s,baz=126,slow=34
MDP Montagnes des 29.41 206 LR LR 01 25 12.5
comp=Z,131nm,21.4s,baz=15,slow=31
MDT Midelt 29.92 79 LR LR 01 25 34.1
comp=Z,271nm,19.2s,baz=292,slow=31
ESDC Sonseca Array 30.09 65 P P 01 16 19.0 +0.6
comp=Z,1.2nm,1.0s,baz=20,slow=38,SNR=3.5
ESDC LR LR 01 26 18.1
comp=Z,58nm,18.1s,baz=255,slow=32
comp=Z,1.2nm,1.0s
SADO Sadowa 32.63 304 LR LR 01 29 37.0
comp=Z,140nm,18.6s,baz=112,slow=36
EKA Eskdalemuir Ar 34.69 37 P P 01 16 57.9 -0.4
comp=Z,2.1nm,0.8s,baz=236,slow=6.7,SNR=4.9
comp=Z,2.1nm,0.8s
BAUV El Baul 34.69 234 P P 01 16 59.3 +0.6
TKL Tuckaleechee C 36.09 288 LR LR 01 29 15.2
comp=Z,373nm,21.3s,baz=86,slow=32
FRB Frobisher Bay 36.17 339 LR LR 01 30 51.0
comp=Z,91nm,18.3s,baz=170,slow=34
SDV Santo Domingo 36.54 237 LR LR 01 29 26.2
comp=Z,60nm,20.6s,baz=78,slow=32
RCBR Riachuelo 38.08 173 LR LR 01 29 18.7
comp=Z,111nm,20.6s,baz=40,slow=30
MACA Manacapuru-AM 40.23 213 P P 01 17 46.5 +0.8
MACA IAmb IAmb 01 17 54.4
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 40.58 54 LR LR 01 31 31.2
comp=Z,69nm,20.1s,baz=258,slow=32
KEST Kesra 40.88 71 LR LR 01 31 29.5
comp=Z,76nm,21.7s,baz=247,slow=31
DBIC Dimbokro 41.59 120 P P 01 17 56.8 -0.2
DBIC Dimbokro 41.59 120 P P 01 17 57.3 +0.3
comp=Z,2.2nm,0.7s,baz=290,slow=11,SNR=4.4
DBIC LR LR 01 33 36.7
comp=Z,234nm,18.1s,baz=328,slow=34
comp=Z,2.2nm,0.7s
ROSC El Rosal 41.97 237 LR LR 01 34 00.7
comp=Z,123nm,20.7s,baz=52,slow=34
TOA0 Torodi Ar. Sit 42.73 107 P P 01 18 05.5 -0.8
TORD Torodi Ar. Bea 42.73 107 P P 01 18 06.0 -0.3
TORD Torodi Ar. Bea 42.73 107 P P 01 18 05.8 -0.6
comp=Z,2.1nm,0.8s,baz=317,slow=8.9,SNR=11
TORD LR LR 01 33 37.0
comp=Z,172nm,21.4s,baz=320,slow=33
comp=Z,2.1nm,0.8s
FDMO Fiordimonte 42.90 60 P P 01 18 07.7 +0.2
FDMO IAmb IAmb 01 18 12.1
comp=Z,13nm,1.2s
CLL Collm 42.95 48 *i* P P 01 18 08.2 +0.6
comp=Z,24nm,1.6s
CLL AMS AMS 01 32 00.0
comp=Z,100nm,21.5s
PRED Cave del Predi 43.11 55 P P 01 18 08.8 -0.4
GERES GERESS Array B 43.24 51 P P 01 18 10.6 +0.4
comp=Z,1.8nm,0.7s,baz=282,slow=8.0,SNR=3.0
GERES LR LR 01 33 44.6
comp=Z,60nm,18.1s,baz=294,slow=33
comp=Z,1.8nm,0.7s
BRG Berggiesshubel 43.50 48 *e*P P 01 18 13.1 +1.0
BRG Amp 01 18 15.1
comp=Z,41nm,2.0s
NB2 NORSAR Subarra 43.85 33 P P 01 18 15.3 +0.4
comp=Z,1.4nm,0.7s,baz=253,slow=8.6
NOA NORSAR Array B 43.85 33 P P 01 18 15.0 +0.1
comp=Z,2.6nm,0.8s,baz=254,slow=8.1,SNR=6.6
NOA LR LR 01 32 36.4
comp=Z,48nm,21.0s,baz=250,slow=31
comp=Z,2.6nm,0.8s
NC303 NORSAR Array S 43.98 33 P P 01 18 15.6 -0.2
NC303 IAmb IAmb 01 18 30.6
comp=Z,17nm,1.4s
TEIG Tepich 44.43 267 LR LR 01 33 58.9
comp=Z,1μm,19.4s,baz=190,slow=32
ULM Lac du Bonnet 44.45 311 LR LR 01 37 36.6
comp=Z,111nm,18.3s,baz=92,slow=37
FCC Fort Churchill 44.48 323 P P 01 18 19.9 0.0
VAE Valguarnera 44.59 67 LR LR 01 33 16.6
comp=Z,93nm,21.6s,baz=328,slow=31
HFS Hagfors 44.79 35 P P 01 18 22.5 +0.2
comp=Z,4.0nm,0.9s,baz=243,slow=6.3,SNR=3.1
HFS LR LR 01 33 27.6
comp=Z,91nm,18.7s,baz=246,slow=31
comp=Z,4.0nm,0.9s
KRUC Moravsky 45.02 51 *e*P P 01 18 24.3 0.0
VRAC Vranov 45.15 51 *e*P P 01 18 25.6 +0.2
VRAC Vranov 45.15 51 LR LR 01 35 50.9
comp=Z,39nm,19.4s,baz=242,slow=34
MORC Moravsky Berou 45.77 50 *e*P P 01 18 30.0 -0.3
SAML Samuel 46.48 212 P P 01 18 36.2 0.0
SAML IAmb IAmb 01 18 38.4
comp=Z,10nm,1.2s
VYHS Vyhne 46.64 52 *e*P P 01 18 37.6 +0.4
VYHS *e* 01 56 30.9
JTS Las Juntas de 46.66 252 LR LR 01 35 21.0
comp=Z,61nm,21.4s,baz=86,slow=32
H10N2 ASCENSION HYDR 46.79 144 T T 02 08 20.9
baz=329,slow=75,SNR=368
H10N3 ASCENSION HYDR 46.80 144 T T 02 08 21.2
baz=329,slow=75,SNR=318
H10N1 ASCENSION HYDR 46.81 144 T T 02 08 22.3
baz=329,slow=75,SNR=327
H10S3 ASCENSION HYDR 47.68 145 T T 02 09 27.1
baz=329,slow=74,SNR=613
H10S2 ASCENSION HYDR 47.69 145 T T 02 09 28.2
baz=251,slow=74,SNR=237
OTAV Otavalo 48.12 236 P P 01 18 49.9 +0.3
OTAV IAmb IAmb 01 18 58.1
comp=Z,8.4nm,1.2s
BDFB Brasilia 48.20 190 P P 01 18 50.4 +0.7
comp=Z,3.5nm,1.0s,baz=25,slow=8.7,SNR=4.5
BDFB LR LR 01 36 45.0
comp=Z,81nm,19.0s,baz=319,slow=33
comp=Z,3.5nm,1.0s
ETMB Extrema 48.66 215 P P 01 18 53.4 +0.3
ETMB IAmb IAmb 01 18 54.5
comp=Z,11nm,1.5s
SLOR San Lorenzo - 48.84 235 P P 01 18 55.1 0.0
VILB Vilhena 48.86 206 P P 01 18 55.3 +0.7
VILB IAmb IAmb 01 19 11.4
comp=Z,9.0nm,0.9s
KWP Kalwaria Pacla 49.12 50 P P 01 18 56.2 -0.1
KWP IAmb IAmb 01 19 05.5
comp=Z,13nm,1.3s
SMWD Samnorwood 49.39 291 P P 01 18 58.5 -0.2
SMWD IAmb IAmb 01 19 06.1
comp=Z,7.7nm,1.1s
CHSH Refugio Sur-Vo 49.64 235 P P 01 19 01.2 -0.2
CHSH IAmb IAmb 01 19 25.9
comp=Z,13nm,1.2s
PABE Paberze 49.70 42 P P 01 18 59.5 -1.1
RES Resolute Bay 50.06 344 LR LR 01 40 01.5
comp=Z,66nm,19.2s,baz=359,slow=36
HNDO Hondo 50.22 283 P P 01 19 05.8 +0.7
HNDO IAmb IAmb 01 19 17.9
comp=Z,7.6nm,1.1s
JCT Junction City 50.35 285 P P 01 19 06.2 +0.1
JCT IAmb IAmb 01 19 13.3
comp=Z,5.5nm,0.8s
CZSB Cruzeiro do Su 50.42 224 P P 01 19 05.8 -0.8
CZSB IAmb IAmb 01 19 12.9
comp=Z,10nm,1.0s
BOSC San Juan Bosco 50.58 233 P P 01 19 06.9 -1.1
PTLB Pontes e Lacer 50.78 204 P P 01 19 10.2 +1.1
BUR08 Bucovina Ar. S 50.97 52 P P 01 19 09.8 -0.7
BUR08 IAmb IAmb 01 19 12.4
comp=Z,12nm,1.3s
BURAR Bucovina Array 50.98 52 P P 01 19 10.0 -0.6
FINES FINESS Array B 50.98 34 P P 01 19 10.1 -0.1
FINES FINESS Array B 50.98 34 P P 01 19 10.4 +0.1
comp=Z,9.4nm,1.0s,baz=256,slow=5.6,SNR=12
FINES LR LR 01 36 47.3
comp=Z,79nm,21.6s,baz=243,slow=31
comp=Z,9.4nm,1.0s
DRIO Del Rio 51.36 284 P P 01 19 14.0 +0.4
CMIG Matias Romero 51.43 267 LR LR 01 38 44.5
comp=Z,73nm,21.9s,baz=26,slow=33
ARCES ARCESS Array B 51.70 24 P P 01 19 15.6 0.0
ARCES ARCESS Array B 51.70 24 P P 01 19 15.3 -0.2
comp=Z,4.5nm,0.7s,baz=269,slow=8.5,SNR=8.8
comp=Z,4.5nm,0.7s
MLR Muntele Rosu 51.79 55 P P 01 19 16.6 -0.2
MLR Muntele Rosu 51.79 55 LR LR 01 38 47.4
comp=Z,37nm,19.6s,baz=289,slow=33
MNK Minsk 51.98 43 *i* P P 01 19 17.6 -0.3
comp=E,14nm,1.4s
MNK *i* P P 01 19 17.6 -0.3
comp=N,18nm,1.1s
MNK *i* P P 01 19 17.6 -0.3
comp=Z,20nm,1.0s,baz=274
MNK *i* PP PP 01 21 15.6 -0.1
MNK *i* PPP PPP 01 22 16.4
MNK *i* S S 01 26 41.5 +0.5
MNK *i* SS SS 01 30 04.7 -13
MNK *i* SSS SSS 01 31 58.7
MNK *i* LQ LQ 01 37 38.4
MNK *i* LR LR 01 41 35.6
KIEV Kiev 53.17 48 P P 01 19 26.3 -0.4
AKASG Malin Array Be 53.18 48 P P 01 19 26.1 -0.7
comp=Z,4.3nm,0.7s,baz=276,slow=6.6,SNR=29
AKASG LR LR 01 39 21.2
comp=Z,89nm,20.0s,baz=222,slow=33
comp=Z,4.3nm,0.7s
AKBB Malin Array Si 53.18 48 P P 01 19 26.3 -0.5
ATAH Atahualpa 53.47 230 LR LR 01 42 47.4
comp=Z,20nm,19.2s,baz=29,slow=37
TXAR Lajitas Array 53.90 285 P P 01 19 32.0 -0.5
TXAR Lajitas Array 53.90 285 P P 01 19 32.3 -0.2
comp=Z,0.8nm,0.9s,baz=95,slow=8.9,SNR=6.6
comp=Z,0.8nm,0.9s
ANMO Albuquerque 54.34 292 LR LR 01 40 34.2
comp=Z,238nm,21.1s,baz=168,slow=34
VHRN Van Horn 54.48 287 P P 01 19 36.8 0.0
VHRN IAmb IAmb 01 19 45.3
comp=Z,8.4nm,1.4s
PD31 Pinedale Array 54.61 302 P P 01 19 37.6 -0.1
PDAR Pinedale Array 54.61 302 P P 01 19 37.5 -0.1
PDAR Pinedale Array 54.61 302 P P 01 19 37.2 -0.5
comp=Z,3.5nm,1.1s,baz=82,slow=7.3,SNR=15
PDAR LR LR 01 41 31.8
comp=Z,200nm,20.3s,baz=98,slow=34
comp=Z,3.5nm,1.1s
YKA Yellowknife Ar 54.83 327 P P 01 19 38.5 -0.1
comp=Z,1.3nm,0.9s,baz=88,slow=6.7,SNR=11
YKA LR LR 01 42 08.4
comp=Z,217nm,19.7s,baz=73,slow=35
comp=Z,1.3nm,0.9s
RDMU Red Mountain 55.15 300 P P 01 19 41.8 +0.1
RDMU IAmb IAmb 01 19 50.0
comp=Z,7.9nm,1.2s
YMR Madison River 55.17 305 P P 01 19 42.0 +0.4
YMR IAmb IAmb 01 19 50.9
comp=Z,9.7nm,1.2s
LPAZ La Paz 55.19 213 P P 01 19 42.4 -0.1
IMW Indian Meadow 55.33 304 P P 01 19 42.3 -0.6
IMW IAmb IAmb 01 19 46.3
comp=Z,7.3nm,1.4s
HPIG 56.41 283 P P 01 19 51.1 +0.3
HPIG IAmb IAmb 01 19 59.6
comp=Z,16nm,1.5s
OBN Obninsk 56.90 42 P P 01 19 53.5 -0.1
OBN Obninsk 56.90 42 LR LR 01 42 59.9
comp=Z,76nm,20.0s,baz=332,slow=35
DUG Dugway, Tooele 57.64 300 P P 01 19 58.9 -0.4
DUG IAmb IAmb 01 20 08.0
comp=Z,6.8nm,1.3s
MVU Marysvale 57.69 298 P P 01 19 59.6 -0.2
ANTO Ankara 58.00 60 P P 01 20 01.8 0.0
ANTO IAmb IAmb 01 20 08.9
comp=Z,8.6nm,1.1s
A36M Sachs Harbour 58.17 339 P P 01 20 03.2 +0.9
NEW Newport 58.46 310 LR LR 01 44 24.8
comp=Z,126nm,20.1s,baz=68,slow=35
PLID Pearl Lake 58.53 306 P P 01 20 05.8 +0.2
GO01 Chusmiza 58.62 212 P P 01 20 06.2 -0.4
GO01 IAmb IAmb 01 20 12.6
comp=Z,12nm,1.4s
BR131 Keskin Array S 58.67 60 P P 01 20 06.0 -0.5
BRTR Keskin Array B 58.67 60 P P 01 20 05.7 -0.8
BRTR Keskin Array B 58.67 60 P P 01 20 06.1 -0.4
comp=Z,1.6nm,0.9s,baz=282,slow=6.2,SNR=7.5
comp=Z,1.6nm,0.9s
PB11 IPOC Station P 58.91 213 P P 01 20 08.3 +0.1
ELK Elko 59.24 301 LR LR 01 44 33.7
comp=Z,179nm,20.1s,baz=77,slow=35
CPUP Villa Florida 60.50 198 LR LR 01 45 54.7
comp=Z,25nm,18.5s,baz=43,slow=36
V12A Nelson 60.59 296 P P 01 20 20.3 +0.6
V12A IAmb IAmb 01 20 24.5
comp=Z,4.4nm,1.1s
J08A Circle Bar Ran 60.74 305 P P 01 20 20.8 +0.2
J08A IAmb IAmb 01 20 24.5
comp=Z,9.2nm,1.1s
LVC Limon Verde 61.07 210 P P 01 20 23.1 -0.2
comp=Z,2.4nm,0.7s,baz=90,slow=4.0,SNR=1.9
LVC LR LR 01 46 07.1
comp=Z,22nm,18.3s,baz=3.5,slow=35
comp=Z,2.4nm,0.7s
LPIG La Paz 61.38 282 LR LR 01 45 41.9
comp=Z,61nm,20.2s,baz=52,slow=35
INK Inuvik 61.66 335 P P 01 20 26.8 +0.5
INK IAmb IAmb 01 20 27.6
comp=Z,8.7nm,1.2s
INK Inuvik 61.66 335 LR LR 01 45 09.8
comp=Z,146nm,21.5s,baz=14,slow=34
GWY Greenwater Val 61.80 297 P P 01 20 27.9 -0.1
GWY IAmb IAmb 01 20 37.6
comp=Z,4.2nm,1.0s
QSM Queen of Sheba 62.03 297 P P 01 20 29.6 +0.2
QSM IAmb IAmb 01 20 39.0
comp=Z,9.5nm,1.3s
NVAR Mina Array Bea 62.24 300 P P 01 20 29.0 -2.0
comp=Z,0.6nm,0.7s,baz=65,slow=5.9,SNR=5.4
NVAR LR LR 01 46 29.5
comp=Z,238nm,19.5s,baz=68,slow=35
comp=Z,0.6nm,0.7s
K05A Summer Lake 62.62 305 P P 01 20 32.5 -1.0
G30M tAoh Zraii Nji 63.05 334 P P 01 20 36.0 +0.3
DLBC Dease Lake 63.07 324 LR LR 01 47 40.5
comp=Z,483nm,19.5s,baz=80,slow=36
MDPB Devils Postpil 63.09 299 P P 01 20 36.9 +0.1
EIL Elat 63.22 70 LR LR 01 49 23.5
comp=Z,24nm,18.0s,baz=164,slow=37
ISA Isabella, Lake 63.36 297 P P 01 20 38.4 +0.1
ISA IAmb IAmb 01 20 43.2
comp=Z,7.2nm,1.2s
D27M Malcolm River 63.92 337 P P 01 20 41.6 +0.1
D27M IAmb IAmb 01 20 43.3
comp=Z,5.9nm,1.0s
KBZ Khabaz 63.92 53 P P 01 20 42.9 +1.1
comp=Z,4.4nm,1.0s,baz=20,slow=2.6,SNR=5.1
comp=Z,4.4nm,1.0s
BELG Belogornoye 63.94 43 LR LR 01 46 22.5
comp=Z,99nm,19.5s,baz=141,slow=34
BBB Bella Bella 64.06 317 LR LR 01 48 58.1
comp=Z,226nm,18.4s,baz=66,slow=36
H29M Whitestone 64.12 334 P P 01 20 42.8 +0.1
YBH Yreka Blue Hor 64.23 305 LR LR 01 48 52.9
comp=Z,78nm,18.9s,baz=42,slow=36
K29M Barlow Dome 64.65 331 P P 01 20 46.9 +0.5
GURO Guroymak-BITLI 65.20 59 P P 01 20 49.7 -0.7
GURO IAmb IAmb 01 20 52.4
comp=Z,4.7nm,1.1s
GNI Garni 66.52 56 P P 01 20 58.7 -0.3
C23K Itkillik River 66.70 339 P P 01 20 59.8 +0.4
ILAR Eielson Array 67.95 334 P P 01 21 07.6 +0.2
comp=Z,1.8nm,1.1s,baz=43,slow=6.2,SNR=8.2
ILAR LR LR 01 51 18.8
comp=Z,119nm,18.1s,baz=90,slow=36
comp=Z,1.8nm,1.1s
ARU Arti 68.29 36 P P 01 21 10.1 +0.5
ARU Arti 68.29 36 LR LR 01 48 19.5
comp=Z,55nm,19.3s,baz=286,slow=34
CFA Coronel Fontan 68.83 205 LR LR 01 49 04.7
comp=Z,30nm,22.0s,baz=329,slow=34
AKTO Aktyubinsk 70.68 42 LR LR 01 50 50.8
comp=Z,63nm,19.6s,baz=279,slow=35
NRIK Noril'sk 71.80 17 P P 01 21 31.8 +0.8
NRIK Noril'sk 71.80 17 P P 01 21 32.5 +1.6
comp=Z,7.8nm,1.0s,baz=284,slow=5.3,SNR=15
comp=Z,7.8nm,1.0s
ABKAR Akbulak array 72.33 43 P P 01 21 34.2 -0.3
ABKAR Akbulak array 72.33 43 P P 01 21 34.6 +0.1
ABKAR IAmb IAmb 01 21 36.1
comp=Z,6.2nm,1.1s
H09N1 TRISTAN DA CUN 73.72 157 T T 02 42 02.8
SNR=6.4
H09W1 TRISTAN DA CUN 73.74 157 T T 02 42 06.9
SNR=12
KDAK Kodiak Island 74.01 329 LR LR 01 54 05.4
comp=Z,173nm,20.6s,baz=77,slow=36
TSUM Tsumeb 75.32 124 LR LR 01 48 45.0
comp=Z,68nm,21.1s,baz=330,slow=31
BRVK Borovoye 75.85 36 P P 01 21 55.5 +0.5
BVAR Borovoye Array 75.92 36 P P 01 21 56.3 +0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.5nm,0.7s,baz=310,slow=5.6,SNR=14						
BVAR				LR	LR	01 54 53.2	
	comp=Z,44nm,18.0s,baz=281,slow=35						
	comp=Z,2.5nm,0.7s						
PLCA	Paso Flores	77.85	203	LR	LR	01 55 41.7	
	comp=Z,33nm,20.7s,baz=2.5,slow=35						
BILL	Bilibino	78.07	350	P	P	01 22 07.2	-0.1
BILL				IAmb	IAmb	01 22 09.5	
	comp=Z,9.9nm,1.3s						
ATD	Arta Tunnel	78.11	84	LR	LR	01 57 06.5	
	comp=Z,4.8nm,18.1s,baz=308,slow=36						
KMBO	Kilima Mbogo	79.99	98	P	P	01 22 19.4	+0.4
	comp=Z,0.9nm,0.8s,baz=240,slow=9.1,SNR=3.5						
KMBO				LR	LR	01 58 28.8	
	comp=Z,58nm,18.7s,baz=271,slow=36						
	comp=Z,0.9nm,0.8s						
LSZ	Lusaka	80.66	115	LR	LR	01 55 08.0	
	comp=Z,78nm,21.3s,baz=306,slow=34						
KURK	Kurchatov	81.36	34	P	P	01 22 25.7	+0.3
KURK				IAmb	IAmb	01 22 26.7	
	comp=Z,5.7nm,1.0s						
KURBB	Kurchatov Arra	81.38	34	P	P	01 22 25.7	+0.2
	comp=Z,3.1nm,0.8s,baz=312,slow=5.8,SNR=32						
	comp=Z,3.1nm,0.8s						
ZAA0	Zalesovo Array	81.90	29	P	P	01 22 28.4	+0.2
ZAA0				IAmb	IAmb	01 22 29.6	
	comp=Z,7.8nm,1.1s						
ZALV	Zalesovo Beam	81.90	29	P	P	01 22 28.3	+0.1
	comp=Z,3.0nm,0.8s,baz=297,slow=6.5,SNR=17						
	comp=Z,3.0nm,0.8s						
SIMJ	Simiganj	83.56	48	P	P	01 22 37.2	-0.2
SIMJ				IAmb	IAmb	01 22 38.9	
	comp=Z,8.2nm,1.1s						
AAK	Ala-Archa	84.42	42	LR	LR	01 59 27.5	
	comp=Z,53nm,18.6s,baz=311,slow=35						
MAKZ	Makanchi	85.64	36	P	P	01 22 48.0	+0.4
MAKZ				IAmb	IAmb	01 22 48.5	
	comp=Z,3.5nm,0.9s						
MK31	Makanchi Array	85.81	36	P	P	01 22 48.5	+0.2
MKAR	Makanchi Array	85.81	36	P	P	01 22 48.4	0.0
MKAR	Makanchi Array	85.81	36	P	P	01 22 48.5	+0.1
	comp=Z,2.5nm,1.0s,baz=318,slow=4.9,SNR=15						
MKAR				LR	LR	02 00 06.3	
	comp=Z,42nm,19.1s,baz=268,slow=35						
	comp=Z,2.5nm,1.0s						
MA2	Magadan	88.07	354	LR	LR	02 01 24.6	
	comp=Z,24nm,18.2s,baz=46,slow=35						
PETK	Petropavlovsk-	93.58	349	LR	LR	02 03 09.0	
	comp=Z,38nm,19.2s,baz=55,slow=34						
SONM	Songino Array	94.83	22	P	P	01 23 30.9	0.0
	comp=Z,0.6nm,0.8s,baz=315,slow=7.1,SNR=4.4						
	comp=Z,0.6nm,0.8s						
XLT	XiLinHaoTe	101.18	17	*e*P	Pdif	01 23 54.2	-5.3
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,62nm,3.6s						
HHC	Hu-ho-hao-te	102.73	22	*e*P	Pdif	01 24 04.8	-1.7
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,230nm,5.2s						
URZ	Urewera	149.10	248	PKPbc	PKPbc	01 29 56.7	-0.5
	comp=Z,7.9nm,1.0s,baz=2.8,slow=1.2,SNR=5.0						
ASAR	Alice Springs	169.99	33	PKP	PKPdf	01 30 15.1	-2.1
	comp=Z,1.4nm,1.2s,baz=283,slow=0.3,SNR=6.9						
ASAR				PKPab	PKPab	01 31 32.0	0.0
	comp=Z,1.2nm,0.9s,baz=325,slow=3.9,SNR=8.0						

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*IDC **02** 01:23:43.7±6.7, 19°.40S×177°.36W, h528km±71km, mb2.8/6, mbtmp3.7/6, Error ellipse: s-maj=37.2km s-min=28.1km az=125.0*

ISC 02 01:23:45.2±0.9**, 19°.4S**±0°.2×**177°.4W**±0°.2**, h550**km**, n12, σ0.s77**/12**, mb3.2**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.30	261	P	P	01 31 14.9	+0.3
	0.4nm,0.7s,baz=97,slow=5.7,SNR=2.3						
	0.4nm,0.7s						
ASAR	Alice Springs	45.31	256	P	P	01 31 14.7	0.0
	0.5nm,0.6s,baz=76,slow=7.6,SNR=7.4						
ASAR				PcP	PcP	01 32 43.3	+0.6
	0.1nm,0.3s,baz=93,slow=3.9,SNR=4.3						
	0.5nm,0.6s						
VNDA	Vanda	59.04	185	P	P	01 32 52.3	+0.2
	1.1nm,0.9s,baz=0.0,slow=7.1,SNR=2.4						
	1.1nm,0.9s						
PETK	Petropavlovsk-	75.36	345	P	P	01 34 32.7	+0.4
	1.6nm,0.8s,baz=124,slow=7.4,SNR=1.9						
	1.6nm,0.8s						
NVAR	Mina Array Bea	79.86	43	P	P	01 34 57.6	+0.3
	0.2nm,0.6s,baz=212,slow=8.2,SNR=2.9						
	0.2nm,0.6s						
ILAR	Eielson Array	87.13	13	P	P	01 35 32.8	+0.3
	1.0nm,1.2s,baz=229,slow=5.3,SNR=8.1						
	1.0nm,1.2s						
MKAR	Makanchi Array	110.84	314	PKiKP	PKiKP	01 41 15.6	-0.4
	0.1nm,0.4s,baz=122,slow=1.3,SNR=4.6						
BVAR	Borovoye Array	118.59	320	PKP	PKiKP	01 41 30.7	0.0
	0.4nm,0.3s,baz=119,slow=2.5,SNR=4.8						
ARCES	ARCESS Array B	127.95	350	PKP	PKiKP	01 41 48.3	-0.4
	1.4nm,0.8s,baz=14,slow=1.9,SNR=4.2						
AKASG	Malin Array Be	142.32	332	PKhKP	PKPpre	01 42 11.9	
	0.2nm,0.3s,baz=44,slow=3.8,SNR=4.7						
BRTR	Keskin Array B	146.50	314	PKPbc	PKiKP	01 42 26.0	-1.7
	0.5nm,0.5s,baz=133,slow=3.6,SNR=4.9						
MMAI	Mount Meron Ar	147.73	301	PKPbc	PKiKP	01 42 29.2	-1.1
	11nm,1.2s,baz=61,slow=7.2,SNR=6.0						

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*DJA **02** 01:47:44.5±0.5, 7°S±5°×12°8E±°, h196km±16km, M4.1/7, mb4.0/4, mB4.5/2, MLv4.1/7, Mw(mB)3.7/2*

*IDC **02** 01:47:52.4±7.5, 7°.74S×128°.61E, h217km±83km, mb2.9/3, mbtmp3.5/5, Error ellipse: s-maj=124.4km s-min=31.3km az=72.0*

ISC 02 01:47:45.9±0.9**, 7°.43S**±0°.09×**128°.3E**±0°.1**, h150**km**, n10, σ2.s08**/10**, mb3.2**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.99	101	P	Pn	01 48 35.5	+2.3
BNDI	Bandanaira	3.29	28	P	Pn	01 48 36.9	-0.1
SOEI	Soe	4.63	240	P	Pn	01 48 55.4	+0.8
FAKI	Fak Fak	5.94	41	P	Pn	01 49 09.6	-2.3
	13nm,1.1s,580nm0.1nm						
PLAI	Plampang	10.54	262	P	Pn	01 50 11.5	-1.7
WRA	Warramunga Arr	13.73	156	P	Pn	01 50 52.2	-2.3
	1.5nm,0.7s,baz=341,slow=12,SNR=16						
WRA				S	Sn	01 53 14.1	-13
	2.1nm,0.4s,baz=327,slow=22,SNR=9.4						
ASAR	Alice Springs	17.00	162	P	P	01 51 34.0	-0.4
	0.5nm,0.3s,baz=338,slow=9.9,SNR=8.1						
ASAR				S	S	01 54 34.3	-10
	0.6nm,0.4s,baz=326,slow=19,SNR=3.6						
SONM	Songino Array	58.34	343	P	P	01 57 27.8	+2.5
	0.3nm,0.8s,baz=168,slow=7.4,SNR=2.0						
	0.3nm,0.8s						
MKAR	Makanchi Array	67.69	328	P	P	01 58 28.6	+1.6
	0.2nm,0.5s,baz=124,slow=8.1,SNR=6.3						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	72.02	329	P	P	01 58 54.8	+1.5
	0.2nm,0.5s,baz=124,slow=4.9,SNR=2.7						
	0.2nm,0.5s						

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*IDC **02** 02:16:16.4±0.4, 38°.87S×46°.45E, h0km, mb4.6/29, mbtmp4.6/29, MS4.4/54, Error ellipse: s-maj=15.0km s-min=12.4km az=50.0*

*BJI **02** 02:16:17.5±0.0, 38°.66S×46°.22E, h13km, mb4.9/30, mB5.4/10, Ms4.9/14, Ms7 4.7/17*

*NEIC **02** 02:16:18.1±1.6, 38°.91S±0°.08×46°.4E±0°.1, h10km±1km, mb5.0/69, Mww5.2/24, Error ellipse: s-maj=16.7km s-min=12.3km az=246.0*

*NEIC **02** 02:16:18.3, 38°.89S×46°.19E, h20km, Moment Tensor Solution. Duration: 2.s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.25; $M_{\theta\theta}$6.80; $M_{\phi\phi}$0.46; $M_{r\theta}$-5.97; $M_{\theta\phi}$1.19; $M_{\phi r}$-0.38; Fault plane solution: $M_0$9.31000×10^{16} NP1:ϕ_s83.87000°, δ65.01000°, λ-86.57000°. NP2:ϕ_s255.80000°, δ25.21000°, λ-97.31000°. Principal axes: T 9.1718, Plg20.0000°, Azm171.0000°; N 0.2766, Plg3.0000°, Azm262.0000°; P -9.4484, Plg70.0000°, Azm1.0000°;*

*NEIC **02** 02:16:18.3, 38°.89S×46°.45E, h20km*

*GCMT **02** 02:16:21.1±0.2, 38°.74S±0°.01×46°.42E±0°.02, h12km, MW5.1/124, Moment Tensor Solution. s50,c71; s124,c196; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.72±.12; $M_{\theta\theta}$6.08±.10; $M_{\phi\phi}$-0.35±.13; $M_{r\theta}$0.93±.30; $M_{\theta\phi}$1.66±.10; $M_{\phi r}$1.18±.46; Best double couple: $M_0$6.29600×10^{16} NP1:ϕ_s247.00000°, δ51.00000°, λ-103.00000°. NP2:ϕ_s87.00000°, δ40.00000°, λ-75.00000°. Principal axes: T 6.5970, Plg6.0000°, Azm346.0000°; N -0.6000, Plg10.0000°, Azm255.0000°; P -5.9960, Plg79.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 02:16:19.1±0.3**, 38°.92S**±0°.05×**46°.39E**±0°.06**, h18**km**, n398, σ0.s76**/377**, mb5.0**/78**, MS4.5**/62**, 7C-2D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS	8.26	153	Pn	Pn	02 18 17.5	-0.2
	baz=322,slow=12						
H04N1				T	T	02 26 53.7	
	baz=330,slow=76						
H04N2	CROZET ISLANDS	8.27	153	Pn	Pn	02 18 17.3	-0.5
	baz=322,slow=12						
H04N2				T	T	02 26 52.5	
	baz=330,slow=76						
H04N3	CROZET ISLANDS	8.28	153	Pn	Pn	02 18 17.2	-0.8
	baz=322,slow=12						
H04N3				T	T	02 27 00.8	
	baz=330,slow=76,SNR=5708						
CRZF	Crozet Islands	8.52	154	Pn	Pn	02 18 20.6	-0.9
H04S3	CROZET ISLANDS	8.88	155	Pn	Pn	02 18 27.5	+1.2
	baz=326,slow=15						
H04S1	CROZET ISLANDS	8.89	155	Pn	Pn	02 18 27.2	+0.7
	baz=326,slow=15						
H04S2	CROZET ISLANDS	8.90	155	Pn	Pn	02 18 27.5	+0.9
	baz=326,slow=15						
FOMA	Nahampoana Res	13.91	2	Pn	Pn	02 19 36.2	+0.9
VOI	Vohitsoka	16.96	1		Pn	02 20 15.2	-0.4
VOI	Vohitsoka	16.96	1	P	P	02 20 19.1	+1.7
VOI	Vohitsoka	16.96	1	P	Pn	02 20 12.5	-3.1
GRHM	Grahamstown, E	17.11	283	Pn	Pn	02 20 15.1	-2.3
GRHM				IAmb	IAmb	02 20 22.1	
	comp=Z,104nm,1.2s						
SOE	Somerset East	17.97	284		Pn	02 20 27.9	-0.2
RER	Riviere de l'E	19.44	27	P	P	02 20 42.5	-2.3
ABPO	Ambohimpanom	19.84	2		P	02 20 48.0	-1.3
OPO	Ambohidratompo	20.29	2	P	P	02 20 53.5	-0.5
	comp=Z,12nm,0.9s,baz=188,slow=12,SNR=9.4						
	comp=Z,12nm,0.9s						
BOSA	Boshof	20.31	294	P	P	02 20 53.9	-0.4
BOSA	Boshof	20.31	294	P	P	02 20 54.0	-0.2
	comp=Z,14nm,0.8s,baz=131,slow=11,SNR=16						
BOSA				S	S	02 24 28.4	-13
	comp=Z,5.3nm,0.9s,baz=124,slow=15,SNR=2.2						
BOSA				LR	LR	02 27 32.4	
	comp=Z,641nm,21.3s,baz=134,slow=33						
	comp=Z,14nm,0.8s						
SUR	Sutherland	21.74	280	P	P	02 21 10.3	+0.5
SUR				IAmb	IAmb	02 21 13.1	
	comp=Z,84nm,1.1s						
SUR	Sutherland	21.74	280	P	P	02 21 10.3	+0.5
	comp=Z,54nm,1.0s,baz=112,slow=11,SNR=9.8						
SUR				S	S	02 24 55.6	-14
	comp=Z,4.4nm,0.8s,baz=143,slow=20,SNR=1.1						
SUR				LR	LR	02 28 14.6	
	comp=Z,515nm,19.1s,baz=110,slow=33						
	comp=Z,54nm,1.0s						
SUR	Sutherland	21.74	280	P	P	02 21 11.3	+1.5
SUR				S	S	02 25 11.7	+1.9
LBTB	Lobatse	22.36	302	P	P	02 21 15.7	-0.7
LBTB				IAmb	IAmb	02 21 23.9	
	comp=Z,100nm,1.2s						
LBTB	Lobatse	22.36	302	LR	LR	02 28 30.6	
	comp=Z,1μm,21.4s,baz=130,slow=33						
MATP	Matopo	24.03	315	LR	LR	02 29 32.4	
	comp=Z,640nm,21.1s,baz=120,slow=33						
LSZ	Lusaka	28.47	321	P	P	02 22 12.4	-1.0
LSZ				IAmb	IAmb	02 22 16.2	
	comp=Z,65nm,1.8s						
LSZ	Lusaka	28.47	321	LR	LR	02 32 28.5	
	comp=Z,2μm,19.6s,baz=145,slow=34						
LSZ	Lusaka	28.47	321	P	P	02 22 12.4	-1.0
LSZ				P	P	02 22 12.4	-1.0
MAW	Mawson	30.17	168	P	P	02 22 28.0	+0.2
	comp=Z,5.5nm,0.9s,baz=333,slow=8.5,SNR=5.4						
MAW				LR	LR	02 31 32.5	
	comp=Z,1μm,21.4s,baz=339,slow=30						
	comp=Z,5.5nm,0.9s						
TSUM	Tsumeb	31.73	300	P	P	02 22 41.6	-0.6
TSUM				IAmb	IAmb	02 23 09.1	
	comp=Z,25nm,1.4s						
TSUM	Tsumeb	31.73	300	LR	LR	02 34 45.8	
	comp=Z,1μm,19.7s,baz=158,slow=35						
ELIB	Princess Elisa	35.09	192	*d*P	P	02 23 11.2	+0.3
	comp=Z,11nm,1.3s						
ELIB				*d*S	S	02 28 41.5	-1.0
KIBK	Kibwezi	37.19	346	P	P	02 23 28.8	-0.7
KIBK	Kibwezi	37.19	346	P	P	02 23 29.1	-0.3
KMBO	Kilima Mbogo	38.53	345	P	P	02 23 39.8	-1.1
KMBO	Kilima Mbogo	38.53	345	P	P	02 23 40.1	-0.8
	comp=Z,1.7nm,0.8s,baz=148,slow=8.6,SNR=6.2						
KMBO				LR	LR	02 38 04.7	
	comp=Z,1μm,19.6s,baz=150,slow=34						
	comp=Z,1.7nm,0.8s						
H08S1	Diego Carcia H	39.00	44	T	T	03 05 09.4	
	baz=215						
H08S2	Diego Garcia H	39.01	44	T	T	03 05 11.6	
	baz=215,slow=74						
H08S3	Diego Garcia H	39.02	44	T	T	03 05 12.6	
	baz=215,slow=74						
TROLL	Troll, Antarti	39.69	200	⇑P	P	02 23 49.5	-0.4
MBAR	Mbarara	40.74	336	P	P	02 23 59.5	+0.3
MBAR	Mbarara	40.74	336	P	P	02 24 00.5	+1.2
SNAA	Sanae	41.00	201	P	P	02 24 02.1	+1.4
SNAA				IAmb	IAmb	02 24 10.1	
	comp=Z,60nm,1.8s						
SNAA	Sanae	41.00	201	⇑P	P	02 24 01.8	+1.1
	comp=Z,108nm,0.8s						
SNAA	Sanae	41.00	201	P	P	02 24 00.9	+0.2
	comp=Z,3.8nm,0.8s,baz=100,slow=9.4,SNR=8.0						
SNAA				LR	LR	02 38 18.6	
	comp=Z,530nm,18.5s,baz=16,slow=32						
	comp=Z,3.8nm,0.8s						
VNA2	Neumayer--Watz	42.06	203	⇑P	P	02 24 10.9	+1.5
	comp=Z,5.1nm,0.7s,baz=39,slow=5.0						
LODK	Lodwar	43.34	344	P	P	02 24 19.9	-0.4
CASY	Casey	44.78	149	P	P	02 24 31.2	-0.1
CASY				IAmb	IAmb	02 24 41.3	
	comp=Z,28nm,1.4s						
ATD	Arta Tunnel	50.29	355	LR	LR	02 43 45.6	
	comp=Z,43nm,21.8s,baz=169,slow=33						
BELA	Belgrano 2	50.41	196	P	P	02 25 15.5	+0.6
QSPA	South Pole Qui	51.28	180	P	P	02 25 21.8	0.0
QSPA	South Pole Qui	51.28	180	P	P	02 25 21.7	0.0
	comp=Z,0.9nm,0.3s,baz=293,slow=4.4,SNR=4.4						
QSPA				PcP	PcP	02 26 35.6	-0.9
	comp=Z,5.1nm,0.9s,baz=178,slow=5.7,SNR=4.0						
QSPA				LR	LR	02 44 46.5	
	comp=Z,1μm,20.9s,baz=248,slow=33						
	comp=Z,0.9nm,0.3s						
H01W2	Cape Leeuwin H	53.19	108	T	T	03 22 46.5	
	baz=244,slow=75,SNR=86						
H01W3	Cape Leeuwin H	53.20	108	T	T	03 22 57.7	
	baz=244,slow=75,SNR=87						
H01W1	Cape Leeuwin H	53.21	108	T	T	03 23 00.9	
	baz=244,slow=75,SNR=86						
PALK	Pallekele	55.91	42	LR	LR	02 43 44.4	
	comp=Z,530nm,21.2s,baz=317,slow=30						
PALK	Pallekele	55.91	42	P	P	02 25 54.9	-1.2
PALK				P	P	02 25 54.9	-1.2
PALK				S	S	02 33 44.8	+1.6
PALK				S	S	02 33 44.8	+1.6
NWAO	Narrogin (SRO)	56.38	107	P	P	02 25 59.1	-0.2
	comp=Z,7.4nm,0.9s,baz=248,slow=11,SNR=2.4						
NWAO				LR	LR	02 44 21.4	
	comp=Z,391nm,21.1s,baz=232,slow=30						
	comp=Z,7.4nm,0.9s						
NWAO	Narrogin (SRO)	56.38	107	P	P	02 25 58.5	-0.8
DMTO	DMTO	56.90	10	P	P	02 26 03.0	0.0
WHFO	Wadi Hawf	56.96	8	P	P	02 26 03.3	-0.2
VNDA	Vanda	57.47	167	P	P	02 26 06.8	+0.4
VNDA	Vanda	57.47	167	P	P	02 26 05.8	-0.6
	comp=Z,1.2nm,0.8s,baz=219,slow=7.2,SNR=3.6						
VNDA				LR	LR	02 48 47.8	
	comp=Z,461nm,19.1s,baz=245,slow=34						
	comp=Z,1.2nm,0.8s						
MHTO	MHTO	60.57	12	P	P	02 26 28.1	-0.3
	SNR=11						
MHTO				P	P	02 26 28.1	-0.3
	SNR=11						
JLN	Jalan Bani Buh	61.96	14	P	P	02 26 37.2	-0.6
JLN				P	P	02 26 37.2	-0.6
PDSI	Padang	62.12	66	P	P	02 26 40.4	+1.1
	comp=Z,18nm,1.1s						
BSY	Bisya	62.17	11	P	P	02 26 40.0	+0.7
	SNR=5.1						
BSY				P	P	02 26 40.0	+0.7
	SNR=5.1						
WBK	Wadi Bani Khal	62.33	13	P	P	02 26 40.1	-0.3
WBK				P	P	02 26 40.1	-0.3
SMDO	Samad	62.61	12	P	P	02 26 41.2	-1.1
SMDO				P	P	02 26 41.2	-1.1
ARQ	Araqi	62.65	10	P	P	02 26 42.6	+0.1
ARQ				P	P	02 26 42.6	+0.1
WSAR	Wadi Sarin	62.88	13	LR	LR	02 48 22.6	
	comp=Z,464nm,20.8s,baz=227,slow=31						
WSAR	Wadi Sarin	62.88	13	P	P	02 26 43.9	-0.2
PMSA	Palmer Station	63.35	207	LR	LR	02 51 15.1	
	comp=Z,158nm,18.2s,baz=122,slow=33						
BKNI	Bangkinang	63.40	66	P	P	02 26 49.2	+1.5
SOHO	SOHO	63.44	10	P	P	02 26 47.4	-0.2
SOHO				P	P	02 26 47.4	-0.2
LEM	Lembang	63.47	77	P	P	02 26 47.8	-0.6
	comp=Z,11nm,0.4s,baz=132,slow=15,SNR=1.6						
LEM				LR	LR	02 49 17.3	
	comp=Z,86nm,18.1s,baz=226,slow=31						
	comp=Z,11nm,0.4s						
RPSI	Rantau Prapat	63.59	62	P	P	02 26 47.8	-1.2
RPSI				IAmb	IAmb	02 26 51.5	
	comp=Z,11nm,1.1s						
HYB	Hyderabad	63.62	35	*e*P	P	02 26 49.0	-0.1
PSI	Prapat	63.67	62	P	P	02 26 48.1	-1.6
	comp=Z,11nm,1.1s						
ASUD	Al Ashush, Dub	63.76	9	P	P	02 26 50.3	+0.5
ASUD				P	P	02 26 50.3	+0.5
JRN	Qarnain Island	63.81	7	P	P	02 26 50.5	+0.4
ASHO	Ashiyiah	63.91	10	P	P	02 26 50.9	+0.1
	SNR=5.9						
HATD	Hatta, Dubai	64.06	10	P	P	02 26 52.2	+0.4
	SNR=6.7						
HATD				P	P	02 26 52.2	+0.4
	SNR=6.7						
PSA00	Pilbara Seismi	64.19	98	P	P	02 26 52.5	-0.4
PSA00				IAmb	IAmb	02 27 01.6	
	comp=Z,21nm,1.4s						
MASF	Masafi	64.60	10	P	P	02 26 55.1	-0.3
	SNR=5.2						
MASF				P	P	02 26 55.1	-0.3
	SNR=5.2						
KIC	Kosan Boka	65.31	302⇑	*e*P	P	02 27 01.0	+0.8
	comp=Z,30nm,1.2s						
LIC	Lamto	65.40	301⇑	*e*P	P	02 27 01.5	+0.7
	comp=Z,29nm,1.1s						
FORT	Forrest	65.43	111	P	P	02 26 59.9	-1.0
FORT				IAmb	IAmb	02 27 02.9	
	comp=Z,17nm,0.9s						
DBIC	Dimbokro	65.61	302	P	P	02 27 02.4	+0.2
DBIC	Dimbokro	65.61	302	P	P	02 27 02.9	+0.8
	comp=Z,24nm,1.1s,baz=122,slow=8.4,SNR=11						
DBIC				LR	LR	02 54 12.9	
	comp=Z,198nm,18.6s,baz=137,slow=35						
	comp=Z,24nm,1.1s						
TIC	Toumodi	65.70	302⇑	*e*P	P	02 26 59.4	-3.4
	comp=Z,32nm,0.6s						
IPM	Ipoh	66.32	63	P	P	02 27 01.8	-5.0
TOA0	Torodi Ar. Sit	66.50	312	P	P	02 27 06.8	-1.0
TOA0	Torodi Ar. Sit	66.50	312	P	P	02 27 08.2	+0.4
TOA0				P	P	02 27 08.2	+0.4
TOA0				P	P	02 27 08.4	+0.6
TOA0				P	P	02 27 08.4	+0.6
TOA0				P	P	02 27 08.4	+0.6
	SNR=9.3						
TOA0				P	P	02 27 08.4	+0.6
	SNR=9.3						
TORD	Torodi Ar. Bea	66.50	312	P	P	02 27 07.8	0.0
TORD	Torodi Ar. Bea	66.50	312	P	P	02 27 07.9	+0.1
	comp=Z,13nm,1.0s,baz=131,slow=5.7,SNR=42						
TORD				PP	PP	02 29 36.1	+1.5
	comp=Z,3.7nm,1.2s,baz=129,slow=5.3,SNR=3.7						
TORD				LR	LR	02 56 31.9	
	comp=Z,320nm,18.6s,baz=140,slow=36						
	comp=Z,13nm,1.0s						
JAGI	Jajag, Banyuwa	67.44	83	P	P	02 27 23.5	+10
SRBI	Singaraja	68.50	83	P	P	02 27 22.0	+1.4
	comp=Z,39nm,1.3s,comp=Z,878nm						
EIL	Elat	69.06	349	LR	LR	02 55 55.9	
	comp=Z,222nm,20.5s,baz=196,slow=34						
TWSI	Taliwang, Sumb	69.39	85	P	P	02 27 27.5	+1.3
	comp=Z,27nm,1.1s,comp=Z,834nm						
PLAI	Plampang	70.03	85	P	P	02 27 30.5	+0.4
	comp=Z,64nm,1.1s,comp=Z,498nm						
PLAI				pP	sP	02 27 37.5	+0.8
	comp=Z,64nm,1.1s,comp=Z,498nm						
BBOO	Buckleboo	70.05	116	P	P	02 27 29.7	-0.3
FITZ	Fitzroy Crossi	70.64	98	P	P	02 27 33.3	-0.4
DBNI	Kabupaten Domp	70.65	85	P	P	02 27 34.5	+0.6
	comp=Z,46nm,1.5s						
MMAI	Mount Meron Ar	72.29	350	LR	LR	02 57 03.9	
	comp=Z,199nm,20.6s,baz=154,slow=34						
SRDT	SRDT	72.32	54	P	P	02 27 44.2	+0.4
	comp=Z,54nm,1.0s,comp=Z,4μm						
TAM	Tamanrasset	72.33	321	IAmb	IAmb	02 27 54.1	
	comp=Z,8.6nm,1.0s						
EDFI	Ende, Flores	73.13	88	P	P	02 27 49.0	+0.1
	comp=Z,39nm,1.4s,comp=Z,495nm						
MMRI	Maumere	73.63	88	P	P	02 27 50.6	-1.1
ASAR	Alice Springs	73.70	107	P	P	02 27 51.9	-0.2
ASAR	Alice Springs	73.70	107	P	P	02 27 52.5	+0.4
	comp=Z,11nm,0.9s,baz=229,slow=5.6,SNR=69						
ASAR				LR	LR	02 54 56.1	
	comp=Z,413nm,20.5s,baz=224,slow=32						
	comp=Z,11nm,0.9s						
AS31	Alice Springs	73.70	107	P	P	02 27 52.1	0.0
KAPI	Kappang	73.93	83	LR	LR	02 54 21.7	
	comp=Z,136nm,20.7s,baz=241,slow=31						
BKSI	Bulukumba	74.03	84	P	P	02 27 53.5	-0.5
	comp=Z,22nm,1.3s,comp=Z,423nm						
HRA	Herat	74.40	14	P	P	02 27 55.3	-0.6
HRA				IAmb	IAmb	02 28 05.5	
	comp=Z,27nm,1.8s						
STKA	Stephens Creek	74.42	118	P	P	02 27 54.8	-1.4
STKA	Stephens Creek	74.42	118	P	P	02 27 56.9	+0.7
	comp=Z,13nm,0.6s,baz=237,slow=3.9,SNR=27						
STKA				LR	LR	02 56 59.8	
	comp=Z,188nm,18.1s,baz=208,slow=33						
	comp=Z,13nm,0.6s						
SOEI	Soe	74.53	90	P	P	02 27 57.0	-0.1
SOEI				IAmb	IAmb	02 28 20.8	
	comp=Z,38nm,1.2s						
TTSI	Tana Toraja	75.22	82	P	P	02 28 02.2	+1.2
	comp=Z,12nm,0.9s,comp=Z,954nm						
CM31	Chiang Mai Arr	75.33	51	P	P	02 28 00.5	-0.9
CM31				IAmb	IAmb	02 28 03.7	
	comp=Z,14nm,1.0s						
CM31	Chiang Mai Arr	75.33	51	P	P	02 28 01.9	+0.5
CM31				P	P	02 28 01.9	+0.5
CMAR	Chiang Mai Arr	75.33	51	P	P	02 28 00.9	-0.5
CMAR	Chiang Mai Arr	75.33	51	P	P	02 28 01.5	+0.1
	comp=Z,9.0nm,0.9s,baz=231,slow=6.7,SNR=38						
CMAR				LR	LR	02 57 45.8	
	comp=Z,147nm,18.0s,baz=220,slow=33						
	comp=Z,9.0nm,0.9s						
CHTO	Chiang Mai	75.60	51	P	P	02 28 02.1	-0.9
CHTO	Chiang Mai	75.60	51	P	P	02 28 03.2	+0.2
CHTO				P	P	02 28 03.2	+0.2
CHTO	Chiang Mai	75.60	51	P	P	02 28 02.3	-0.7
	comp=Z,8.7nm,1.2s						
KBL	Kabul	76.04	19	P	P	02 28 04.8	-0.6
KBL				IAmb	IAmb	02 28 17.7	
	comp=Z,15nm,1.1s						
KBL	Kabul	76.04	19	P	P	02 28 06.1	+0.7
	SNR=10						
WRA	Warramunga Arr	76.21	105	P	P	02 28 06.6	-0.1
WRA	Warramunga Arr	76.21	105	P	P	02 28 07.4	+0.7
	comp=Z,14nm,0.9s,baz=228,slow=4.9,SNR=76						
	comp=Z,14nm,0.9s						
WB2	Warramunga Arr	76.22	105	P	P	02 28 07.0	+0.3
WRAB	Tennant Creek	76.22	105	P	P	02 28 06.7	0.0
NIL	Nilore	76.38	23	P	P	02 28 07.2	+0.1
SHL	Shillong	76.97	41	P	P	02 28 10.1	-0.7

SHL IAmb IAmb 02 28 19.3
comp=Z,26nm,1.1s
SHL Shillong 76.97 41 P **P 02 28 11.1 +0.3**
SNR=9.4
GEYT Alibeck 77.23 9 IAmb IAmb 02 28 22.4
comp=Z,15nm,1.4s
GEYT Alibeck 77.23 9 P **P 02 28 11.9 +0.1**
comp=Z,1.4nm,0.7s,baz=124,slow=4.5,SNR=5.1
comp=Z,1.4nm,0.7s
GYA0B ALIBECK ARRAY 77.23 9 IAmb IAmb 02 28 22.3
comp=Z,12nm,1.4s
CAN Canberra 77.24 125 P **P 02 28 13.0 +0.7**
CAN IAmb IAmb 02 28 22.4
comp=Z,28nm,1.2s
MPSI Mapaga 77.42 79 P **P 02 28 13.8 +0.3**
comp=Z,17nm,1.5s
CRAI Chiangrai 77.54 51 P **P 02 28 13.8 -0.2**
CRAI IAmb IAmb 02 28 23.8
comp=Z,16nm,1.4s
ARPR Arapgir-MALATY 77.98 354 P **P 02 28 16.2 +0.1**
ARPR IAmb IAmb 02 29 03.3
comp=Z,21nm,0.8s
GNI Garni 78.70 359 LR LR 03 02 21.8
comp=Z,456nm,21.5s,baz=180,slow=35
BR131 Keskin Array S 79.13 350 P **P 02 28 20.8 -1.6**
BRTR Keskin Array B 79.13 350 P **P 02 28 21.4 -1.0**
BRTR Keskin Array B 79.13 350 P **P 02 28 21.8 -0.7**
comp=Z,1.5nm,0.8s,baz=178,slow=7.4,SNR=8.4
BRTR LR LR 03 02 09.6
comp=Z,135nm,20.9s,baz=156,slow=35
comp=Z,1.5nm,0.8s
SIMJ Simiganj 79.95 18 P **P 02 28 26.3 -0.6**
SIMJ IAmb IAmb 02 28 38.7
comp=Z,22nm,1.3s
SLVN Son La 80.54 53 P **P 02 28 30.0 -0.5**
SLVN IAmb IAmb 02 28 32.3
comp=Z,12nm,1.1s
VAE Valguarnera 81.52 335 LR LR 03 05 52.2
comp=Z,405nm,18.2s,baz=158,slow=36
KEST Kesra 81.78 330 LR LR 03 04 51.1
comp=Z,276nm,20.0s,baz=107,slow=36
PLCA Paso Flores 82.06 223 P **P 02 28 37.8 -0.6**
PLCA IAmb IAmb 02 28 47.4
comp=Z,36nm,1.6s
PLCA Paso Flores 82.06 223 P **P 02 28 38.6 +0.2**
comp=Z,3.1nm,0.9s,baz=124,slow=8.4,SNR=4.1
PLCA LR LR 02 58 26.9
comp=Z,120nm,20.6s,baz=134,slow=31
comp=Z,3.1nm,0.9s
KBZ Khabaz 82.33 357 LR LR 03 05 14.4
comp=Z,190nm,19.9s,baz=171,slow=36
KIV Kislovodsk 82.56 357 P **P 02 28 40.8 +0.2**
KIV P **P 02 28 40.8 +0.2**
KSH Kashi 82.63 23 P **P 02 28 39.9 -1.2**
KSH sP sP 02 28 47.4 -0.3
KSH pmax pmax
comp=Z,7.0nm,1.2s
KSH LR LR
comp=Z,220nm,19.6s
KSH LR LR
comp=Z,320nm,19.5s
QIZ Qiongzhong 82.70 59 P **P 02 28 42.5 +0.7**
QIZ S **SKSac 02 39 02.0 -0.4**
QIZ LR LR
comp=Z,260nm,13.1s
PZH PanZhiHua 83.12 48 P **P 02 28 46.5 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,4.3s
CPUP Villa Florida 83.69 241 P **P 02 28 47.5 +0.6**
comp=Z,4.4nm,1.1s,baz=142,slow=6.8,SNR=4.0
CPUP LR LR 02 59 26.3
comp=Z,114nm,19.3s,baz=141,slow=31
comp=Z,4.4nm,1.1s
BDFB Brasilia 83.69 255 P **P 02 28 48.0 +0.7**
comp=Z,4.7nm,1.1s,baz=89,slow=6.8,SNR=4.8
BDFB LR LR 03 00 32.2
comp=Z,152nm,18.4s,baz=138,slow=32
comp=Z,4.7nm,1.1s
RPZ Rata Peaks 83.74 143 LR LR 03 00 14.4
comp=Z,300nm,18.0s,baz=232,slow=32
CTA Charters Tower 84.95 112 P **P 02 28 54.0 +0.4**
comp=Z,11nm,0.9s,baz=238,slow=6.1,SNR=7.6
CTA LR LR 03 02 16.5
comp=Z,90nm,19.1s,baz=260,slow=32
comp=Z,11nm,0.9s
CTAO Charters Tower 84.95 112 P **P 02 28 51.7 -1.8**
AAK Ala-Archa 85.09 20 P **P 02 28 53.7 0.0**
AAK Ala-Archa 85.09 20 P **P 02 28 54.1 +0.4**
MDT Midelt 85.64 319 LR LR 03 07 36.1
comp=Z,834nm,19.5s,baz=156,slow=36
GYA Guiyang 86.02 51 i/P **P 02 28 59.8 +1.2**
GYA pmax pmax
comp=Z,22nm,0.7s
MLR Muntele Rosu 86.02 346 IAmb IAmb 02 29 01.1
comp=Z,21nm,1.4s
MLR Muntele Rosu 86.02 346 LR LR 03 08 31.2
comp=Z,210nm,20.2s,baz=172,slow=36
DAV Davao City (W) 86.06 78 LR LR 03 06 50.8
comp=Z,30nm,18.1s,baz=166,slow=35
AQDB Aquidauana 86.31 247 P **P 02 28 59.9 -0.3**
AQDB IAmb IAmb 02 29 10.3
comp=Z,30nm,1.5s
CFA Coronel Fontan 87.20 231 LR LR 03 02 51.0
comp=Z,166nm,18.8s,baz=118,slow=32
CD2 Chengdu 87.61 46 P **P 02 29 06.8 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
BUR08 Bucovina Ar. S 88.23 346 IAmb IAmb 02 29 12.7
comp=Z,12nm,1.4s
AKTO Aktyubinsk 89.56 7 LR LR 03 09 15.2
comp=Z,135nm,20.9s,baz=200,slow=36
PSZ Piszkesteto 89.61 343 P **P 02 29 14.9 -0.3**
PSZ IAmb IAmb 02 29 24.0
comp=Z,8.6nm,1.0s
KOLS Kolonicke sedl 90.04 344 *eP* **P 02 29 19.1 +1.9**
VYHS Vyhne 90.41 342 *eP* **P 02 29 19.1 +0.2**
VYHS *e* 03 05 43.6
WMQ Urumqi 90.43 29 *eP* **P 02 29 21.0 +1.8**
WMQ LR LR
comp=Z,180nm,19.5s
WMQ LR LR
comp=Z,480nm,22.5s
WMQ LR LR
comp=Z,280nm,23.8s
ABTA Abfaltersbach 90.51 337 *eP* **P 02 29 20.7 +1.2**
AKASG Malin Array Be 90.51 349 P **P 02 29 20.0 +0.7**
comp=Z,0.2nm,0.4s,baz=13,slow=0.3,SNR=4.0
AKASG LR LR 03 11 15.7
comp=Z,101nm,20.3s,baz=174,slow=36
comp=Z,0.2nm,0.4s
MODS Modra-Piesok 90.68 341 *eP* **P 02 29 21.7 +1.6**
ESDC Sonseca Array 90.78 324 P **P 02 29 21.6 +0.7**
comp=Z,1.8nm,1.2s,baz=298,slow=28,SNR=4.5
ESDC LR LR 03 11 56.6
comp=Z,270nm,18.9s,baz=130,slow=37
comp=Z,1.8nm,1.2s
URZ Urewera 90.85 143 LR LR 03 02 47.9
comp=Z,255nm,22.0s,baz=315,slow=31
LANS Liptovska Anna 90.87 343 *eP* **P 02 29 22.0 +0.9**
BELG Belogornoye 90.94 1 LR LR 03 09 45.4
comp=Z,155nm,21.4s,baz=164,slow=35
MAKZ Makanchi 91.08 24 P **P 02 29 21.8 -0.3**
MAKZ IAmb IAmb 02 29 30.5
comp=Z,13nm,1.4s
MK31 Makanchi Array 91.17 24 IAmb IAmb 02 29 31.7
comp=Z,13nm,1.4s
MKAR Makanchi Array 91.17 24 P **P 02 29 22.3 -0.2**
comp=Z,3.7nm,1.1s,baz=212,slow=4.3,SNR=15
MKAR LR LR 03 07 52.7
comp=Z,141nm,18.6s,baz=209,slow=34
comp=Z,3.7nm,1.1s
DAVOX Davos/Dischmat 91.35 336 LR LR 03 14 28.5
comp=Z,100nm,18.6s,baz=259,slow=38
LZH Lanzhou 91.55 43 *eP* **P 02 29 26.1 +1.4**
LZH sP pwP 02 29 33.4 -0.5
LZH pmax pmax
comp=Z,11nm,1.0s
LZH LR LR
comp=Z,310nm,16.5s
LZH LR LR
comp=Z,230nm,19.9s
LZH LR LR
comp=Z,250nm,20.6s
VRAC Vranov 91.71 341 LR LR 03 12 04.0
comp=Z,104nm,19.1s,baz=162,slow=36

GTA Gaotai 92.03 39 *eP* **P 02 29 26.8 0.0**
GTA sP sP 02 29 34.5 +1.1
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA LR LR
comp=Z,190nm,21.4s
GTA LR LR
comp=Z,120nm,16.7s
GTA LR LR
comp=Z,310nm,23.6s
PTLB Pontes e Lacer 92.05 248 P **P 02 29 27.8 +0.4**
PTLB IAmb IAmb 02 29 37.0
comp=Z,9.3nm,1.1s
GERES GERESS Array B 92.06 339 P **P 02 29 27.7 +1.1**
comp=Z,0.5nm,0.8s,baz=331,slow=32,SNR=1.7
GERES LR LR 03 11 14.3
comp=Z,74nm,19.9s,baz=236,slow=36
comp=Z,0.5nm,0.8s
PMG Port Moresby 92.42 104 LR LR 03 07 52.9
comp=Z,245nm,18.0s,baz=186,slow=34
SIV San Ignacio 93.09 247 LR LR 03 04 50.9
comp=Z,142nm,21.6s,baz=110,slow=31
KURBB Kurchatov Arra 93.53 20 P **P 02 29 32.7 -0.6**
comp=Z,4.1nm,1.2s,baz=207,slow=5.1,SNR=12
comp=Z,4.1nm,1.2s
BVAR Borovoye Array 93.91 14 P **P 02 29 34.2 -0.7**
comp=Z,7.7nm,1.2s,baz=176,slow=4.3,SNR=14
comp=Z,7.7nm,1.2s
BRVK Borovoye 93.92 14 P **P 02 29 35.0 0.0**
LVC Limon Verde 93.95 237 LR LR 03 05 32.0
comp=Z,112nm,21.4s,baz=154,slow=31
OBN Obninsk 94.04 354 LR LR 03 13 49.3
comp=Z,139nm,19.1s,slow=37
DZM Mont Dzumac 97.39 126 *e*SS SS 02 47 45.5 -7.7
comp=Z,121nm,27.8s
DZM Mont Dzumac 97.39 126 *e*LR LR 03 01 33.4
comp=Z,293nm,22.4s
DZM Mont Dzumac 97.39 126 LR LR 03 06 07.4
comp=Z,184nm,19.9s,baz=254,slow=31
NJ2 Nanjing 97.52 55 *eP* Pdif 02 29 53.6 +1.6
NJ2 pP pP 02 29 56.9 0.0
NJ2 sP sP 02 29 59.6 +1.1
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
ZAA0 Zalesovo Array 98.25 22 IAmb IAmb 02 30 03.6
comp=Z,3.6nm,0.9s
ZALV Zalesovo Beam 98.25 22 P **P 02 29 53.4 -1.2**
ZALV Zalesovo Beam 98.25 22 P **P 02 29 53.5 -1.1**
comp=Z,2.1nm,0.9s,baz=232,slow=4.9,SNR=9.2
ZALV LR LR 03 10 27.9
comp=Z,113nm,20.6s,baz=233,slow=33
comp=Z,2.1nm,0.9s
HHC Hu-ho-hao-te 99.16 44 *eP* **Pdif 02 30 01.3 +2.0**
MDJ Mudanjiang 111.84 50 Pdif **Pdif 02 30 57.2 +1.8**
MDJ PP **PP 02 35 37.6 +1.6**
MDJ SS SS 02 51 16.1 +4.1
TBI Tubuai 116.31 164 *e*LR LR 03 10 22.2
comp=Z,2µm,28.0s
PPT2 Papeete2 121.84 162 *e*SS SS 02 53 19.8 -0.4
comp=Z,139nm,28.5s
PPT2 Papeete2 121.84 162 *e*LR LR 03 12 47.6
comp=Z,348nm,24.2s
PPT2 *e*LR LR 03 12 48.8
comp=Z,369nm,23.5s
SOCE Pocosol 128.00 250 **PKiKP 02 35 24.5 -0.5**
TAOE Nuku Hiva Isla 132.09 171 *e*LR LR 03 17 13.4
comp=Z,354nm,27.2s
SFIN Lafayette 144.47 287 P **PKPab 02 35 52.0 -0.4**
baz=103
OXF Oxford 144.55 277 PKPbc 02 35 53.2 +0.2
L44A Lake County Fo 145.44 290 P **PKPdf 02 35 55.4 -0.3**
baz=100
A21K Barrow 145.45 13 P **PKPab 02 35 55.0 0.0**
baz=328
A19K Wainwright 145.49 16 P **PKPab 02 35 55.7 +0.5**
baz=321
C16K Lisburne Hills 145.86 20 P **PKPab 02 35 56.7 +0.1**
baz=313
B18K Kokolik River 145.97 17 P **PKPab 02 35 57.4 +0.3**
baz=319
A22K Sinclair Lake 146.00 12 P **PKPab 02 35 57.2 +0.1**
baz=329
PBMO Poplar Bluff 146.07 280 **PKPdf 02 35 56.5 -0.3**
C17K DeLong Mountai 146.29 19 P **PKPab 02 35 58.3 0.0**
baz=316
B20K Meade River 146.45 14 P **PKPab 02 35 58.6 -0.2**
baz=326
A36M Sachs Harbour 146.59 355 P **PKPbc 02 35 58.0 -0.2**
baz=12
C18K Utukok River 146.66 18 P **PKPbc 02 35 58.9 +0.3**
baz=319
RDOG Red Dog Mine 146.67 20 P **PKPab 02 35 59.1 -0.7**
baz=316
C19K Lookout Ridge 146.68 17 P **PKPab 02 35 59.7 -0.2**
baz=322
TNA Tin City 146.82 25 P **PKPab 02 36 00.1 -0.3**
baz=306
B22K Teshekpuk Lake 146.84 12 P **PKPab 02 35 59.8 -0.5**
baz=331
CCM Cathedral Cave 147.04 282 **PKPdf 02 35 58.3 -0.2**
CCM Cathedral Cave 147.04 282 P **PKPbc 02 36 00.3 -0.3**
baz=105
B21K Ikpikpuk River 147.26 13 P **PKPbc 02 36 00.4 +0.2**
baz=329
JFWS Jewell Farm 147.26 291 P **PKPbc 02 36 00.8 -0.3**
baz=98
F14K Arctic Creek 147.40 25 P **PKPab 02 36 01.5 -1.2**
baz=308
D19K Kuna River 147.49 17 P **PKPbc 02 36 01.5 +0.5**
baz=323
NATX Nacogdoches 147.62 269 P **PKPbc 02 36 02.0 -0.4**
baz=114
C21K Knifeblade Rid 147.62 14 P **PKPbc 02 36 02.0 +0.7**
baz=328
D20K Etivluk River 147.63 15 P **PKPbc 02 36 01.6 +0.2**
baz=325
E17K Hotham Inlet 147.66 20 P **PKPbc 02 36 02.1 +0.7**
baz=316
C23K Itkillik River 147.73 11 P **PKPbc 02 36 02.1 +0.6**
baz=335
E18K Tukpahlearik C 147.73 19 P **PKPbc 02 36 02.0 +0.4**
baz=318
HKT Hockley 147.77 266 PKPdf **PKPdf 02 35 58.6 -1.3**
F15K North Star Dit 147.79 24 P **PKiKP 02 36 02.6 -1.1**
baz=311
FCC Fort Churchill 147.95 321 PKPdf **PKPdf 02 35 58.5 -0.8**
E20K Nigu River 148.10 16 P **PKPbc 02 36 03.2 +0.6**
baz=326
C24K Franklin Bluff 148.10 10 P **PKiKP 02 36 03.6 -0.6**
baz=337
D22K Ayikyak River 148.25 13 P **PKiKP 02 36 03.8 -0.8**
baz=331
F17K Baldwin Pennin 148.28 21 P **PKiKP 02 36 03.9 -0.8**
baz=316
ANM Nome 148.29 26 P **PKPbc 02 36 03.7 +0.5**
baz=309
C26K Camden Bay 148.36 7 P **PKPbc 02 36 03.7 +0.5**
baz=343
E21K Killik River 148.39 14 P **PKPbc 02 36 03.8 +0.5**
baz=329
EYMN Ely 148.45 300 P **PKPbc 02 36 04.3 +0.2**
baz=89
G15K Niuluk 148.45 24 P **PKPbc 02 36 03.8 +0.3**
baz=311
D23K Nanushuk River 148.50 12 P **PKPbc 02 36 04.0 +0.4**
baz=334
E19K Redstone River 148.52 17 P **PKiKP 02 36 04.4 -0.8**
baz=323
D24K Happy Valley 148.61 10 P **PKiKP 02 36 04.9 -0.5**
baz=337
G16K Koyuk River 148.71 23 P **PKiKP 02 36 05.6 0.0**
baz=314
D25K Kavik River 148.77 9 P **PKiKP 02 36 05.2 -0.5**
baz=341
F19K Shaleruckik Mo 148.89 18 P **PKiKP 02 36 05.8 -0.2**
baz=322
TOLK Toolik Lake Re 148.97 11 P **PKiKP 02 36 05.8 -0.4**
baz=335
E22K Anaktuvuk Pass 149.06 13 PKPdf **PKPdf 02 36 01.2 +0.3**
E22K Anaktuvuk Pass 149.06 13 P **PKiKP 02 36 06.1 -0.2**
baz=332
C36M Paulatuk 149.08 353 P **PKiKP 02 36 06.0 -0.3**
baz=14,SNR=7.0
G17K Kiwalik Mounta 149.14 22 P **PKPbc 02 36 05.6 +0.3**
baz=316
F20K Avaraart Lake 149.20 17 P **PKiKP 02 36 06.0 -0.5**
baz=325
H16K Elim 149.27 24 P **PKiKP 02 36 06.2 -0.5**
baz=313,SNR=7.0
SCIA State Center 149.29 289 P **PKPbc 02 36 06.4 0.0**
baz=98
SPMN Marine on St. 149.31 295 P **PKPbc 02 36 06.2 -0.1**
baz=93
D27M Malcolm River 149.35 5 P **PKiKP 02 36 06.4 -0.6**
baz=349
G18K Tagagawik 149.40 20 PKPdf **PKPdf 02 36 02.4 +0.9**
G18K Tagagawik 149.40 20 P **PKiKP 02 36 06.4 -0.6**
baz=320
D28M Stokes Point 149.40 4 P **PKiKP 02 36 06.6 -0.3**
baz=352
435B Jarrell 149.49 266 P **PKPbc 02 36 07.3 0.0**
baz=115
E23K Chandalar 149.50 12 P **PKiKP 02 36 07.2 -0.1**
baz=335
F21K Alatna River 149.53 15 P **PKiKP 02 36 07.0 -0.3**
baz=328
F22K John River 149.54 14 P **PKiKP 02 36 07.1 -0.2**
baz=331
G19K Purcell Mounta 149.61 19 P **PKiKP 02 36 07.1 -0.3**
baz=322
E24K Your Creek 149.66 11 P **PKiKP 02 36 07.9 +0.3**
baz=337
H17K Granite Mounta 149.76 22 P **PKiKP 02 36 07.8 0.0**
baz=317
833A Chaparral WMA, 149.77 260 P **PKPbc 02 36 07.7 -0.3**
baz=119
WHTX Lake Whitney, 149.89 268 P **PKiKP 02 36 08.6 -0.5**
baz=114
TUL3 Leonard 149.95 276 P **PKPbc 02 36 08.4 +0.1**
baz=107
SPIA Saint Paul Isl 149.96 40 P **PKiKP 02 36 08.3 -0.1**
baz=292
E25K Arctic Village 150.01 9 P **PKiKP 02 36 08.5 +0.3**
baz=341
H18K Honhosa River 150.04 21 P **PKiKP 02 36 08.4 0.0**
baz=319
J14K Nanvaranak Lak 150.06 27 P **PKiKP 02 36 08.9 +0.4**
baz=309
E28M Babbage River 150.08 4 P **PKiKP 02 36 08.5 +0.1**
baz=351
G21K Allakaket 150.13 16 P **PKiKP 02 36 08.3 -0.3**
baz=328
COLD Coldfoot 150.15 13 P **PKiKP 02 36 08.6 +0.1**
baz=333
G22K Bettles 150.18 14 P **PKiKP 02 36 08.9 +0.3**
baz=331
H19K Roundabout Mou 150.26 19 P **PKiKP 02 36 09.2 +0.4**
baz=322
F24K Squaw Lake 150.26 11 P **PKiKP 02 36 09.0 +0.2**
baz=337
I17K Unalakleet 150.28 24 P **PKiKP 02 36 09.4 +0.6**
baz=314
E27K Coleen River 150.35 6 P **PKiKP 02 36 09.4 +0.4**
baz=347
E29M Blow River 150.38 3 P **PKiKP 02 36 09.1 +0.1**
baz=353
M11K Mekoryuk 150.40 33 P **PKiKP 02 36 09.5 +0.3**
baz=302
F25K Christian Rive 150.50 9 P **PKiKP 02 36 09.8 +0.4**
baz=341
INK Inuvik 150.55 360 **PKPdf 02 36 03.3 +0.1**
INK Inuvik 150.55 360 P **PKPbc 02 36 08.7 +0.1**
baz=0.1,SNR=22
F26K Sheenjek River 150.58 8 P **PKiKP 02 36 09.7 +0.2**
baz=343
G23K Bananza Creek 150.65 13 P **PKiKP 02 36 09.9 +0.2**
baz=333
H20K Anotleneega Mo 150.67 18 P **PKiKP 02 36 09.6 -0.1**
baz=325
J16K Anvik River 150.72 25 P **PKiKP 02 36 10.0 +0.2**
baz=314
GCSA Galena City Sc 150.76 20 P **PKiKP 02 36 10.0 +0.2**
baz=321
T35A Sooner Cattle 150.79 278 **PKPdf 02 36 04.5 -0.2**
H21K Melozitna Rive 151.01 16 P **PKiKP 02 36 10.4 0.0**
baz=328,SNR=22
F28M Old Crow 151.04 5 P **PKiKP 02 36 10.1 -0.3**
baz=350,SNR=24
K15K Wolf Creek Mou 151.08 27 P **PKiKP 02 36 11.2 +0.6**
baz=311
G24K Hadweenzic Riv 151.08 11 **PKPab 02 36 18.8 +1.1**
G24K Hadweenzic Riv 151.08 11 P **PKiKP 02 36 10.8 +0.2**
baz=337
JCT Junction City 151.09 263 P **PKPbc 02 36 11.1 0.0**
baz=116
H22K Ishtalitna Cre 151.11 15 P **PKiKP 02 36 11.1 +0.5**
baz=330
ULM Lac du Bonnet 151.13 306 PKP **PKPdf 02 36 04.6 -0.1**
comp=Z,2.5nm,0.9s,baz=258,slow=4.3,SNR=2.6
ULM PKPbc **pPKPdf 02 36 09.7 0.0**
comp=Z,6.1nm,0.9s,baz=26,slow=4.5,SNR=7.1
ULM PKPab **PKPab 02 36 18.0 -0.4**
comp=Z,6.4nm,0.8s,baz=85,slow=6.3,SNR=5.1
G25K Bearman Lake 151.22 10 P **PKiKP 02 36 11.3 +0.6**
baz=340
F30M Barrier River 151.23 2 P **PKiKP 02 36 11.3 +0.5**
baz=356
L14K Kuka Creek 151.26 29 P **PKiKP 02 36 11.0 +0.1**
baz=308
G26K Porcupine Rive 151.34 8 P **PKiKP 02 36 10.9 -0.1**
baz=343,SNR=16
I20K Naaghedeneel 151.34 19 P **PKiKP 02 36 11.5 +0.5**
baz=325
KSU1 Kansas State U 151.37 282 P **PKiKP 02 36 11.6 -0.4**
baz=101
F31M Tsiigehtchic 151.42 0 P **PKPbc 02 36 10.4 -0.3**
baz=360,SNR=8.0
L15K Ungalak Mounta 151.50 28 P **PKiKP 02 36 11.5 +0.1**
baz=310
M13K Dall Lake 151.56 31 P **PKiKP 02 36 11.7 +0.1**
baz=306
G27K Doyon Strip 151.69 7 P **PKiKP 02 36 11.8 0.0**
baz=347
J19K Poorman 151.69 20 P **PKiKP 02 36 12.1 +0.3**
baz=322,SNR=5.4
J18K Innoko River 151.79 22 P **PKiKP 02 36 12.0 -0.1**
baz=320
H24K Noodor Dome 151.81 12 P **PKiKP 02 36 12.4 +0.3**
baz=336
ABTX Abilene, Hawle 151.84 268 P **PKPbc 02 36 12.6 -0.2**
baz=112
G29M Pine Creek 151.84 4 P **PKiKP 02 36 12.3 +0.2**
baz=353
G30M tAoh Zraii Nji 151.85 2 P **PKPbc 02 36 11.6 -0.1**
baz=356,SNR=8.2
K17K Iditarod 151.87 24 P **PKiKP 02 36 12.4 +0.2**
baz=316
M14K Bethel 151.90 30 P **PKiKP 02 36 12.5 +0.2**
baz=308
J20K Nowinta River 151.93 19 P **PKiKP 02 36 12.8 +0.5**
baz=324
G31M Satah River 151.94 1 P **PKiKP 02 36 11.9 -0.3**
baz=359,SNR=13
ECSD EROS Data Cent 151.96 292 PKPdf **PKPdf 02 36 06.4 +0.2**
ECSD EROS Data Cent 151.96 292 P **PKPbc 02 36 12.6 -0.1**
baz=93
MLY Manley 152.00 15 P **PKiKP 02 36 12.7 +0.2**
baz=331,SNR=10
NIKH Nikolski High 152.08 48 P **PKiKP 02 36 13.1 +0.2**
baz=286
I23K Minto, Yukon-K 152.17 14 P **PKiKP 02 36 13.1 +0.3**
baz=333,SNR=11
L16K Owhat River 152.19 26 P **PKiKP 02 36 13.5 +0.6**
baz=313
H27K Steamboat Moun 152.27 7 P **PKiKP 02 36 13.0 0.0**
baz=347,SNR=10
L17K Donlin 152.29 25 P **PKiKP 02 36 14.1 +0.9**
baz=316
TTA Tatalina 152.41 22 P **PKiKP 02 36 13.7 +0.2**
baz=320
M15K Kasigluk River 152.43 29 P **PKiKP 02 36 13.7 +0.3**
baz=310
EPYK Eagle Plains 152.44 3 P **PKPbc 02 36 12.8 -0.3**
baz=355,SNR=12
PRP Porcupine Dome 152.47 11 **PKiKP 02 36 14.3 +0.7**
PRP Porcupine Dome 152.47 11 P **PKiKP 02 36 13.8 +0.2**
baz=340,SNR=13
H29M Whitestone 152.52 4 P **PKiKP 02 36 13.7 +0.2**
baz=352
K20K Telida 152.62 20 P **PKiKP 02 36 14.2 +0.4**
baz=324
CHUM Lake Minchumin 152.63 18 P **PKiKP 02 36 14.6 +0.8**
baz=327
COLA College 152.70 13 P **PKiKP 02 36 14.3 +0.5**
baz=335
L18K Granite Mounta 152.75 24 P **PKiKP 02 36 14.6 +0.6**

	baz=318						
I27K	Kandik River	152.87	7	P	PKiKP	02 36 15.0	+0.7
	baz=346						
ILAR	Eielson Array	152.96	12	PKP	PKPdf	02 36 06.1	-0.9
	comp=Z,5.9nm,0.8s,baz=325,slow=2.5,SNR=5.3						
ILAR				PKPbc	sPKPdf	02 36 13.4	-0.3
	comp=Z,6.3nm,0.9s,baz=323,slow=3.4,SNR=40						
I26K	Coal Creek Min	152.99	9	P	PKiKP	02 36 15.2	+0.7
	baz=343						
CAST	Castle Rocks	153.08	18	P	PKiKP	02 36 15.3	+0.6
	baz=327						
M17K	Holitna River	153.10	25	P	PKiKP	02 36 15.4	+0.5
	baz=316						
I28M	Miner Creek	153.17	6	P	PKiKP	02 36 15.2	+0.2
	baz=349						
HDA	Harding Lake	153.28	13	P	PKiKP	02 36 15.3	+0.2
	baz=336						
L19K	White Mountain	153.33	22	P	PKiKP	02 36 15.9	+0.6
	baz=321						
J25K	Salcha River,	153.35	11	P	PKiKP	02 36 15.3	-0.1
	baz=339,SNR=7.0						
I29M	Ogilvie Camp,	153.37	4	P	PKiKP	02 36 15.6	+0.2
	baz=352,SNR=5.5						
L20K	Farewell, AK	153.38	21	P	PKiKP	02 36 15.9	+0.5
	baz=323						
TRF	Thorofare Moun	153.47	17	P	PKiKP	02 36 16.1	+0.4
	baz=330						
PPLA	Purkeypile	153.49	19	P	PKiKP	02 36 16.4	+0.6
	baz=326						
MCK	McKinley	153.52	15	P	PKiKP	02 36 16.4	+0.8
	baz=332						
TXAR	Lajitas Array	153.53	258	PKP	PKPdf	02 36 10.2	+1.1
	comp=Z,2.2nm,1.1s,baz=195,slow=1.9,SNR=7.6						
TXAR				PKPbc	PKiKP	02 36 17.5	+0.6
	comp=Z,6.3nm,1.0s,baz=128,slow=4.4,SNR=23						
TXAR				PKPab	pPKPab	02 36 31.8	-2.4
	comp=Z,3.0nm,1.0s,baz=138,slow=9.6,SNR=6.1						
I30M	Mount Dempster	153.60	3	P	PKiKP	02 36 16.2	+0.3
	baz=355						
YKA	Yellowknife Ar	153.71	340	PKPdf	PKPdf	02 36 08.6	+0.5
YKA	Yellowknife Ar	153.71	340	PKP	PKPdf	02 36 07.8	-0.2
	comp=Z,1.0nm,1.0s,baz=43,slow=1.6,SNR=8.9						
YKA				PKPbc	PKPbc	02 36 15.7	-0.3
	comp=Z,2.9nm,1.0s,baz=31,slow=1.9,SNR=18						
J26L	Joseph Creek	153.71	10	P	PKiKP	02 36 16.7	+0.6
	baz=342						
EGAK	Eagle	153.72	7	P	PKiKP	02 36 16.6	+0.6
	baz=347						
N17K	Nushagak Hills	153.81	27	P	PKiKP	02 36 16.9	+0.6
	baz=315						
K24K	Donnelly Dome	154.04	12	P	PKiKP	02 36 17.1	+0.4
	baz=338						
M20K	Styx River	154.07	21	P	PKiKP	02 36 17.2	+0.3
	baz=323						
SCRK	Sand Creek	154.15	10	P	PKiKP	02 36 17.5	+0.5
	baz=341						
K27K	Chicken	154.35	9	P	PKiKP	02 36 18.4	+1.1
	baz=345						
O17K	Koliganek Bris	154.38	28	P	PKiKP	02 36 18.3	+0.9
	baz=314						
CUT	Chulitna	154.38	18	P	PKiKP	02 36 18.2	+0.8
	baz=329						
WAT1	Susitna Watana	154.40	16	P	PKiKP	02 36 18.2	+0.7
	baz=332						
DHY	Denali Highway	154.42	15	P	PKiKP	02 36 18.4	+0.7
	baz=334						
SKT	Skwentna	154.42	20	P	PKiKP	02 36 18.3	+0.7
	baz=326						
N19K	Bonanza Creek	154.50	24	P	PKiKP	02 36 18.1	+0.3
	baz=320						
DAWY	Dawson	154.58	6	P	PKiKP	02 36 18.5	+0.6
	baz=349						
MSTX	Muleshoe	154.77	268	P	PKiKP	02 36 19.4	+0.1
	baz=110						
WAT6	Susitna Watana	154.79	15	P	PKiKP	02 36 19.0	+0.5
	baz=333						
PAX	Paxson	154.87	13	P	PKiKP	02 36 19.4	+0.9
	baz=338						
N20K	Mount Spurr	154.88	21	P	PKiKP	02 36 19.7	+1.1
	baz=324						
WRGLY	Wrigley	154.90	349	P	PKiKP	02 36 19.7	+1.3
	baz=19						
K29M	Barlow Dome	154.93	4	P	PKiKP	02 36 19.7	+1.1
	baz=353						
O18K	Koktuh Hills	154.99	26	P	PKiKP	02 36 19.5	+0.7
	baz=317						
L26K	Log Cabin Wild	155.15	11	P	PKPdf	02 36 20.1	+10
	baz=342						
L27K	Beaver Creek,	155.32	9	P	PKPdf	02 36 20.5	+10
	baz=344						
SML	Sawmill	155.35	17	P	PKPdf	02 36 19.9	+9.4
	baz=332						
PDAR	Pinedale Array	161.42	290	PKP	PKPdf	02 36 17.3	-1.4
	comp=Z,2.1nm,1.0s,baz=60,slow=4.3,SNR=11						
G08A	Pilot Rock	167.40	305		PKPdf	02 36 24.2	+0.4
NVAR	Mina Array Bea	168.02	272	PKP	PKPdf	02 36 25.5	+1.0
	comp=Z,1.1nm,0.9s,baz=81,slow=2.8,SNR=4.9						

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*IDC **02** 02:21:29.4±5.7, 8°.54S×120°.33E, h125km±101km, mb4.3/1, mbtmp4.1/4, ML4.1/3, Error ellipse: s-maj=113.0km s-min=46.2km az=33.0*
*NEIC **02** 02:21:29.3±2.2, 8°.36S±0°.08×119°.92E±0°.08, h169km±8km, mb4.3/17, Error ellipse: s-maj=12.7km s-min=10.0km az=47.0*
*DJA **02** 02:21:29.7±0.4, 8°S±3°×12°0E±°, h172km±7km, M3.2/13, mb2.0/1, MLv3.9/13*
ISC 02 02:21:28.7±0.5**, 8°.30S**±0°.05×**119°.99E**±0°.05**, h172**km**, n63,** σ**1s.32**/69**, mb4.4**/9**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBNI	Kabupaten Domp	1.67	263	P	Pn	02 22 03.6	+1.9
EDFI	Ende, Flores	1.74	105	P	Pn	02 22 03.7	+1.1
BASI	Baing, Sumba	1.99	163	P	Pn	02 22 06.7	+1.5
BASI				S	Sn	02 22 34.4	+0.9
PLAI	Plampang	2.25	256	P	Pn	02 22 10.3	+2.3
PLAI	Plampang	2.25	256	P	Pn	02 22 10.1	+2.1
PLAI				S	Sn	02 22 39.3	+0.8
MMRI	Maumere	2.25	99	Pn	Pn	02 22 09.0	+0.9
MMRI	Maumere	2.25	99	P	Pn	02 22 09.3	+1.2
BKSI	Bulukumba	2.96	3	P	Pn	02 22 17.4	+0.8
BKSI				S	Sn	02 22 54.8	+0.9
TWSI	Taliwang, Sumb	3.10	262	P	Pn	02 22 19.8	+1.5
MKS	Makassar	3.10	350	P	Pn	02 22 19.0	+0.6
KAPI	Kappang	3.27	356	P	Pn	02 22 21.7	+1.3
	3.3nm,0.3s,baz=183,slow=12,SNR=12						
	13nm,0.4s						
BBSI	Bau Bau	3.79	43	P	Pn	02 22 27.8	+0.8
SOEI	Soe	4.47	109	Pn	Pn	02 22 36.6	+0.8
SOEI	Soe	4.47	109	P	Pn	02 22 37.1	+1.3
SOEI	Soe	4.47	109	P	Pn	02 22 36.9	+1.1
SRBI	Singaraja	4.73	272	P	Pn	02 22 39.3	+0.3
IGBI	Denpasar	4.81	264	P	Pn	02 22 41.1	+1.0
JAGI	Jajag, Banyuwa	5.78	268	Pn	Pn	02 22 51.0	-1.7
JAGI	Jajag, Banyuwa	5.78	268	P	Pn	02 22 51.0	-1.7
JAGI				S	Sn	02 23 55.9	-2.8
UGM	Wanagama	9.38	272	Pn	Pn	02 23 40.0	-0.3
UGM	Wanagama	9.38	272	P	Pn	02 23 41.5	+1.2
FITZ	Fitzroy Crossi	11.19	151	Pn	Pn	02 24 05.3	+1.4
FITZ	Fitzroy Crossi	11.19	151	P	Pn	02 24 07.3	+3.4
KNRA	Kununurra	11.29	131	Pn	Pn	02 24 04.2	-1.1
KNRA	Kununurra	11.29	131	P	Pn	02 24 04.3	-0.9
	15nm,0.7s						
MTN	Manton Dam	11.85	113		Pn	02 24 12.5	-0.1
MTN	Manton Dam	11.85	113	P	Pn	02 24 12.6	0.0
MBWA	Marble Bar	12.79	181	Pn	Pn	02 24 23.0	-1.5
KDU	Kakadu	13.03	111	P	Pn	02 24 27.5	-0.1
PSA00	Pilbara Seismi	13.20	181	Pn	Pn	02 24 28.3	-1.4
FAKI	Fak Fak	13.32	67	Pn	Pn	02 24 29.7	-1.7
FAKI	Fak Fak	13.32	67	P	Pn	02 24 30.4	-1.0
GIRL	Giralia	15.29	201	Pn	Pn	02 24 54.0	-1.8
WB0	Warramunga Arr	18.02	131	P	Pn	02 25 27.7	-0.9
WRA	Warramunga Arr	18.08	131		P	02 25 27.5	0.0
WRA	Warramunga Arr	18.08	131	P	P	02 25 27.8	+0.3
	0.8nm,0.3s,baz=305,slow=13,SNR=26						
WRA				S	S	02 28 43.3	-2.7
	0.5nm,0.4s,baz=296,slow=22,SNR=1.5						
	1.5nm,0.5s						
WB2	Warramunga Arr	18.09	131	P	P	02 25 27.9	+0.3
WR0	Warramunga Arr	18.24	131		Pn	02 25 30.2	-1.1
WR0				IAmb	IAmb	02 25 32.5	
	comp=Z,4.5nm,0.8s						
MEEK	Meekatharra	18.29	184	P	Pn	02 25 32.8	+1.1
WRKA	Warakurna	18.44	156	P	Pn	02 25 34.0	+0.5
AS31	Alice Springs	20.28	140	P	P	02 25 52.5	+1.3
AS31				IAmb	IAmb	02 25 55.6	
	comp=Z,4.5nm,0.2s						
ASAR	Alice Springs	20.28	140	P	P	02 25 52.9	+1.7
ASAR	Alice Springs	20.28	140	P	P	02 25 52.5	+1.3
	comp=Z,1.4nm,0.3s,baz=317,slow=9.2,SNR=32						
ASAR				S	S	02 29 27.7	-1.6
	comp=Z,0.4nm,0.8s,baz=311,slow=20,SNR=2.2						
	comp=Z,2.1nm,0.3s						
MORW	Morawa	20.99	190	P	P	02 25 58.1	-0.6
MORW				IAmb	IAmb	02 26 01.3	
	comp=Z,12nm,1.2s						
QIS	Mount Isa	22.54	125	P	P	02 26 15.7	+1.2
FORT	Forrest	23.60	162	P	P	02 26 24.5	+0.5
FORT				IAmb	IAmb	02 26 27.3	
	comp=Z,10nm,0.7s						
FORT	Forrest	23.60	162	P	P	02 26 25.3	+1.3
	comp=Z,17nm,1.0s						
GSI	Gunungsitoli	24.29	292	P	P	02 26 32.1	+1.6
OOD	Oodnadatta	24.42	145	P	P	02 26 32.8	+1.3
	comp=Z,8.2nm,0.4s						
MULG	Mulgathing	25.53	151	P	P	02 26 43.5	+1.9
MANU	Manus Island	27.95	79	P	P	02 27 02.5	-0.9
	comp=Z,25nm,0.7s						
CTAO	Charters Tower	27.98	118	P	P	02 27 03.5	-0.1
CTAO				IAmb	IAmb	02 27 09.8	
	comp=Z,18nm,1.5s						
BBOO	Buckleboo	28.58	151	P	P	02 27 09.7	+0.9
STKA	Stephens Creek	30.89	142	P	P	02 27 30.8	+1.6
STKA	Stephens Creek	30.89	142	P	P	02 27 31.1	+1.9
	comp=Z,3.4nm,0.4s,baz=311,slow=11,SNR=18						
	comp=Z,3.4nm,0.4s						
CHTO	Chiang Mai	34.01	323	P	P	02 27 57.3	+0.8
CHTO				IAmb	IAmb	02 28 04.0	
	comp=Z,9.9nm,1.1s						
ARMA	Armidale	36.87	131	P	P	02 28 20.7	-0.2
ERM	Erimo	54.38	21	P	P	02 30 38.5	+0.7
MRZ	Mangatainoka R	58.77	133	P	P	02 31 08.6	-0.3
RTZ	Ruatahuna	59.24	130	P	P	02 31 11.3	-1.0
RTZ				IAmb	IAmb	02 31 17.9	
	comp=Z,3.6nm,0.9s						
KBL	Kabul	64.29	315	P	P	02 31 45.6	-0.6
KBL				IAmb	IAmb	02 31 46.2	
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	64.29	332	P	P	02 31 45.5	-0.3
SBA	Scott Base	73.52	171	P	P	02 32 42.9	+0.8
SBA				IAmb	IAmb	02 32 49.8	
	comp=Z,6.9nm,1.2s						

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*NSSP **02** 02:25:32.1, 39°.52N×44°.67E, h5km, Ms3.4*
*TEH **02** 02:25:32.9, 39°.47N×44°.73E, h8km±35km, ML3.1*
*AFAD **02** 02:25:32.0±0.0, 39°.56N×44°.73E, h5km±12km, MW3.6*
*ISK **02** 02:25:33.9, 39°.56N×44°.55E, h5km, ML2.9/17*
ISC 02 02:25:32.9±1.2**, 39°.54N**±0°.02×**44°.72E**±0°.02**, h0**km±11km**, n65,** σ**1s.11**/95**, 8C-8D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAKU	Maku	0.19	189	Pg	Pg	02 25 35.2	-1.2
HYR	Heyderabad	0.20	29	Pg	Pg	02 25 38.4	+1.6
NRKZ	NAREK	0.46	354	⇓iP	Pb	02 25 42.8	-1.1
NRKZ				⇑iS	Sb	02 25 50.2	-1.2
TASB	TASBURUN-IGDIR	0.58	320	Pg	Pg	02 25 44.5	+0.5
TASB				Sg	Sg	02 25 52.2	+0.7
TASB	TASBURUN-IGDIR	0.58	320	Pg	Pg	02 25 44.5	+0.5
IGDI	IGDIR	0.60	304	P	Pg	02 25 44.2	-0.1
IGDI				S	Sg	02 25 52.7	+0.6
IGDI				i AML	AML	02 25 54.0	
	comp=N,1µm,0.3s						
IGDI				i AML	AML	02 25 54.0	
	comp=E,920nm,0.3s						
IGDI				i AML	AML	02 25 57.0	
	comp=Z,485nm,0.5s						
IGDI	IGDIR	0.60	304	Pg	Pg	02 25 44.1	-0.1
GNI	Garni	0.61	1	⇑iP	Pb	02 25 45.7	-0.8
GNI				⇑iS	Sb	02 25 55.1	-0.6
SBZ	Shahbuz	0.66	102	Pg	Pg	02 25 46.0	+0.5
NAX	Nakhchivan	0.70	121	Pg	Pg	02 25 46.6	+0.3
CLDR	Caldiran	0.74	238	Pg	Pg	02 25 46.9	-0.1
CLDR				Sg	Sg	02 25 57.5	+0.9
CLDR	Caldiran	0.74	238	P	Pg	02 25 47.1	0.0
CLDR				S	Sg	02 25 57.2	+0.6
CLDR				i AML	AML	02 25 58.0	
	comp=Z,1µm,0.4s						
CLDR				i AML	AML	02 25 58.0	
	comp=N,2µm,0.4s						
CLDR				i AML	AML	02 26 00.0	
	comp=E,2µm,0.4s						
CLDR	Caldiran	0.74	238	Pg	Pg	02 25 47.0	-0.1
KAPZ	Kaputan	0.78	359	⇓iP	Pb	02 25 48.5	-1.0
KAPZ				⇓iS	Sb	02 25 59.8	-0.9
METS	Metsamor	0.79	321	⇓iP	Pg	02 25 47.4	-0.6
METS				⇑iS	Sg	02 25 58.1	0.0
DYDN	Diyadin	0.80	271	P	Pg	02 25 48.3	+0.1
DYDN				S	Sb	02 26 01.6	+0.4
DYDN				i AML	AML	02 26 04.0	
	comp=E,322nm,0.5s						
DYDN				i AML	AML	02 26 10.0	
	comp=N,319nm,0.5s						
DYDN				i AML	AML	02 26 18.0	
	comp=Z,186nm,0.7s						
DYDN	Diyadin	0.80	271	Pg	Pg	02 25 48.2	+0.1
ARUZ	Aruch	0.89	327	⇑iP	Pg	02 25 49.7	-0.1
ARUZ				⇑iS	Sb	02 26 02.2	-1.4
VNNZ	Vanand	0.89	309	⇑iP	Pg	02 25 49.0	-0.9
VNNZ				⇓iS	Sg	02 26 01.0	-0.6
AMBZ	Amberd	0.92	337	⇑iP	Pg	02 25 50.6	+0.2
AMBZ				⇓iS	Sb	02 26 03.9	-0.9
OZAP	Van, Ozalp-Mer	1.04	213	P	Pg	02 25 52.8	0.0
OZAP				S	Sn	02 26 10.6	+0.3
OZAP				i AML	AML	02 26 15.0	
	comp=N,538nm,0.7s						
OZAP				i AML	AML	02 26 15.0	
	comp=E,293nm,0.7s						
OZAP				i AML	AML	02 26 19.0	
	comp=Z,101nm,1.0s						
VMUR	Van-Muradiye	1.05	239	P	Pg	02 25 52.7	-0.3
VMUR				S	Sg	02 26 06.2	-0.3
VMUR				i AML	AML	02 26 14.0	
	comp=Z,233nm,0.6s						
VMUR				i AML	AML	02 26 14.0	
	comp=N,382nm,0.9s						
VMUR				i AML	AML	02 26 15.0	
	comp=E,357nm,0.5s						
VMUR	Van-Muradiye	1.05	239	Pg	Pg	02 25 52.6	-0.3
IMRD	Marand	1.12	137	Pg	Pg	02 25 53.2	-1.2
ERCV	ERCIS-VAN	1.19	245	Pn	Pg	02 25 55.9	+0.2
ERCV				Sn	Sb	02 26 11.9	-0.6
KOTA	Agri, Merkez-K	1.20	283	P	Pn	02 25 56.7	-0.3
KOTA				S	Sb	02 26 12.6	-0.1
KOTA				i AML	AML	02 26 18.0	
	comp=E,84nm,0.8s						
KOTA				i AML	AML	02 26 26.0	
	comp=N,103nm,0.6s						
KOTA				i AML	AML	02 26 40.0	
	comp=Z,56nm,1.0s						
DIGO	Kars	1.36	311	P	Pb	02 25 59.0	-0.3
DIGO				S	Sn	02 26 18.2	+0.1
DIGO				i AML	AML	02 26 23.0	
	comp=Z,141nm,0.4s						
DIGO				i AML	AML	02 26 25.0	
	comp=N,494nm,0.5s						
DIGO				i AML	AML	02 26 30.0	
	comp=E,401nm,0.9s						
VANB	Van	1.40	228	Pn	Pg	02 26 00.9	+1.2
VANB				Sn	Sn	02 26 21.9	+2.9
EAK	Akyaka	1.43	324	P	Pn	02 25 59.6	-0.6
EAK				S	Sb	02 26 18.0	-1.3
EAK				i AML	AML	02 26 23.0	
	comp=Z,222nm,0.5s						
EAK				i AML	AML	02 26 23.0	
	comp=E,470nm,0.7s						
EAK				i AML	AML	02 26 29.0	
	comp=N,455nm,0.5s						
ISHB	Shabestar	1.44	151	Pg	Pn	02 25 57.4	-2.9
TVAN	Van	1.44	226	P	Pg	02 26 01.0	+0.6
TVAN				S	Sg	02 26 22.3	+3.2
TVAN				i AML	AML	02 26 32.0	
	comp=E,224nm,0.8s						
TVAN				i AML	AML	02 26 39.0	
	comp=Z,90nm,1.2s						
TVAN				i AML	AML	02 26 40.0	
	comp=N,136nm,0.8s						
STEZ	Stepenevan	1.48	350	⇓iP	Pn	02 26 00.3	-0.6
STEZ				⇓S	Sg	02 26 22.0	+1.6
DORK	Agr/Tutak/Do	1.51	265	P	Pn	02 26 01.0	-0.4
DORK				S	Sg	02 26 21.6	+0.2
DORK				i AML	AML	02 26 27.0	
	comp=Z,121nm,0.6s						
DORK				i AML	AML	02 26 29.0	
	comp=N,190nm,0.8s						
DORK				i AML	AML	02 26 34.0	
	comp=E,169nm,0.8s						
KARS	Kars	1.67	311	Pn	Pb	02 26 03.5	-1.0
ITBZ	Tabriz	1.71	139	Pg	Pn	02 26 02.8	-1.3
ADCV	BITLIS_Adilcev	1.72	245	P	Pb	02 26 05.3	-0.1
ADCV				S	Sg	02 26 28.2	+0.2
ADCV				i AML	AML	02 26 33.0	
	comp=Z,48nm,0.6s						
ADCV				i AML	AML	02 26 33.0	
	comp=N,70nm,0.7s						
ADCV				i AML	AML	02 26 33.0	
	comp=E,58nm,0.7s						
MLAZ	Malazgirt-MUS	1.73	257	Pn	Pb	02 26 04.7	-0.9
EATA	Eleskirt	1.75	281	P	Pb	02 26 05.9	-0.1
EATA				S	Sg	02 26 31.6	+2.4
EATA				i AML	AML	02 26 38.0	
	comp=E,58nm,0.6s						
EATA				i AML	AML	02 26 41.0	
	comp=N,68nm,0.5s						
EATA				i AML	AML	02 26 46.0	
	comp=Z,35nm,1.2s						
GEVA	Gevas	1.79	227	P	Pb	02 26 06.1	-0.4
GEVA				S	Sg	02 26 30.4	+0.2
GEVA				i AML	AML	02 26 37.0	
	comp=Z,37nm,0.6s						
GEVA				i AML	AML	02 26 39.0	
	comp=N,34nm,1.0s						
GEVA				i AML	AML	02 26 48.0	
	comp=E,38nm,0.7s						
AKDM	Akdamar-Van	1.82	229	Pn	Pb	02 26 06.5	-0.6
DMNI	Dmanisi	1.83	347	P	Pb	02 26 06.0	-1.3
DMNI				S	Sg	02 26 31.1	-0.7
BGD	Bogdanovka	1.93	334	P	Pb	02 26 08.1	-0.9
BGD				S	Sg	02 26 34.0	-0.8
SENK	Senkaya-Erzuru	2.09	300	Pn	Pn	02 26 09.7	+0.4
AKH	Akhalkalaki	2.09	334	Pn	Pb	02 26 10.2	-1.6
AKH	Akhalkalaki	2.09	334	P	Pb	02 26 10.4	-1.3
VSHL	Vashlovani	2.12	37	P	Pg	02 26 13.6	+0.1
VSHL				S	Sg	02 26 44.1	+3.2
IHRS	Heris	2.18	123	Pn	Pn	02 26 11.2	+0.6
DDFL	Dedoflistskaro	2.18	29	P	Pg	02 26 15.0	+0.3
KOPR	Koprukoy-ERZUR	2.26	282	Pn	Pn	02 26 11.8	+0.2
GURO	Guroymak-BITLI	2.32	246	Pn	Pn	02 26 12.9	+0.5
BLIS	Bitlis-Merkez	2.32	242	P	Pb	02 26 15.6	-0.1
BLIS				S	Sg	02 26 48.1	+0.7
BLIS				i AML	AML	02 26 50.0	
	comp=Z,11nm,0.4s						
BLIS				i AML	AML	02 26 52.0	
	comp=E,26nm,0.6s						
BLIS				i AML	AML	02 26 55.0	
	comp=N,28nm,0.5s						
PERV	Siirt/Pervari-	2.33	228	P	Pb	02 26 14.7	-1.1
PERV				i AML	AML	02 26 54.0	
	comp=N,44nm,0.9s						
PERV				i AML	AML	02 26 59.0	
	comp=E,41nm,0.6s						
PERV				i AML	AML	02 27 07.0	
	comp=Z,23nm,0.8s						
CUKT	Cukurca	2.45	201	Pn	Pb	02 26 16.3	-1.5
VRTB	Varto-Mus	2.56	263	Pn	Pn	02 26 17.1	+1.4
LGD	Lagodekhi	2.57	26	P	Pb	02 26 20.4	+0.6
GRMI	Germi	2.57	106	Pn	Pn	02 26 16.6	+0.8
ABS	Abastumani	2.65	327	P	Pb	02 26 20.4	-0.9
ALIG	Mtskhetisjvari	2.69	343	P	Pb	02 26 21.1	-0.8
ALIG				S	Sg	02 26 57.7	-1.5
CHRG	Chargali	2.79	3	P	Pn	02 26 20.5	+1.6
SVAN	Silvan-Diyarba	3.08	244	Pn	Pn	02 26 23.6	+0.8
SHTL	Shatili	3.13	6	P	Pb	02 26 28.1	-1.4
MTEO	Meteo	3.14	357	P	Pb	02 26 30.5	+0.7
BNGB	Bingl	3.19	261	Pn	Pn	02 26 25.2	+0.9
ONI	Oni	3.20	343	Pn	Pb	02 26 26.9	-3.6
YEDI	Yedisu-Bingol	3.23	270	Pn	Pn	02 26 25.9	+0.9

TRN 02 02:47:43.3, 9°.48N×62°.17W, h17km**, MD3.6, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.39	33	eP	Pn	02 48 08.3	+0.4
TRN				eS	Sb	02 48 26.3	+0.1
GRGR	Grenville	2.69	11	eP	Pn	02 48 26.1	+0.3
GRGR				eS	Sn	02 48 57.5	-0.5
GCMP	Grenada, Carri	3.08	14	eP	Pn	02 48 32.1	+1.0
GCMP				eS	Sn	02 49 07.0	-0.6
SVB	Belmont	3.88	13	eP	Pn	02 48 43.6	+1.4
SVB				eS	Sn	02 49 27.1	-0.2
BAUV	El Baul	5.82	265	eP	Pn	02 49 09.2	+0.3
BAUV	El Baul	5.82	265	eS	Sn	02 50 13.8	-1.5

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*IDC **02** 02:49:45.4±5.1, 5°.79S×146°.96E, h75km±58km, mb3.0/4, mbtmp3.4/6, ML2.8/2, MS3.3/2, Error ellipse: s-maj=59.6km s-min=30.1km az=113.0*
ISC 02 02:49:45.7±1.0**, 5°.78S**±0°.09×**146°.9E**±0°.3**, h78**km**, n9,** σ**0s.95**/9**, mb3.4**/5**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.61	176	P	Pn	02 50 39.7	+0.3
	7.0nm,0.3s,baz=0.0,slow=10,SNR=14						
PMG				S	Sn	02 51 20.7	-0.2
	38nm,0.5s,baz=346,slow=14,SNR=3.8						
PMG				LR	LR	02 52 30.4	
	comp=Z,94nm,18.4s,baz=330,slow=46						
	25nm,0.5s						
WRA	Warramunga Arr	18.65	220	P	P	02 53 56.7	-0.8
	0.1nm,0.3s,baz=44,slow=11,SNR=5.7						
	0.3nm,0.5s						
ASAR	Alice Springs	21.75	214	P	P	02 54 31.1	+0.1
	0.2nm,0.3s,baz=54,slow=9.0,SNR=1.4						
	0.2nm,0.3s						
ASAJ	Asahikawa	49.82	356	P	P	02 58 29.2	-1.5
	11nm,1.0s,baz=169,slow=10,SNR=4.4						
KLR	Kul'dur	56.36	348	LR	LR	03 21 05.5	
	comp=Z,116nm,21.6s,baz=244,slow=33						
SONM	Songino Array	64.17	331	P	P	03 00 13.7	+1.5
	0.2nm,0.4s,baz=150,slow=4.6,SNR=4.2						
	0.2nm,0.4s						
MKAR	Makanchi Array	77.27	320	P	P	03 01 31.6	-0.1
	0.1nm,0.4s,baz=113,slow=3.7,SNR=2.2						
	0.1nm,0.4s						
ILAR	Eielson Array	85.31	23	P	P	03 02 14.1	+0.3
	0.4nm,0.8s,baz=243,slow=4.0,SNR=2.4						
	0.4nm,0.8s						
TORD	Torodi Ar. Bea	144.95	285	PKPbc	PKPbc	03 09 14.2	-0.2
	0.6nm,1.0s,baz=62,slow=3.7,SNR=4.1						

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*IDC **02** 02:53:43.4±2.2, 23°.11N×143°.00E, h69km±17km, mb3.8/23, mbtmp4.1/27, MS3.3/2, Error ellipse: s-maj=19.1km s-min=13.5km az=90.0*
*NEIC **02** 02:53:46.7±1.9, 23°.15N±0°.08×143°.00E±0°.09, h91km±5km, mb4.4/44, Error ellipse: s-maj=13.2km s-min=10.9km az=49.0*
*JMA **02** 02:53:47.1±0.2, 23°.3N±0°.9×14°3E±°, h154km±2km, MV5.0/31, IOTO ISLANDS REGION*
ISC 02 02:53:47.3±0.5**, 23°.24N**±0°.06×**142°.90E**±0°.08**, h100**km**, n112,** σ**1s.67**/117**, mb4.4**/52**, 1C, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	3.44	349	P	Pn	02 54 40.4	+1.4
JHH2				eS	Sn	02 55 21.1	+2.2
CBIJ	Chichi jima	3.89	351	P	Pn	02 54 45.8	+0.8
CBIJ				eS	Sn	02 55 31.2	+1.5
JCJ	Chichijima	3.89	351	Pn	Pn	02 54 44.9	-0.1
JCJ				Sn	Sn	02 55 31.3	+1.5
JCJ	Chichijima	3.89	351	P	Pn	02 54 42.1	-2.9
	282nm,0.5s,baz=162,slow=18,SNR=18						
JCJ				S	Sn	02 55 27.4	-2.4
	368nm,0.3s,baz=121,slow=19,SNR=15						
JHJ	Hachijo jima 2	10.22	345	LR	LR	02 59 23.2	
	comp=Z,276nm,18.0s,baz=91,slow=33						
JMZ	Minamidaito 2	10.94	286	Pn	Pn	02 56 22.7	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO4	Boso 4	11.92	350	eP	Pn	02 56 32.4	-1.3
BSO4				eS	Sn	02 58 42.9	-1.9
JOD2	Odawara 2	12.43	345	eP	Pn	02 56 39.3	-1.4
JOD2				eS	Sn	02 58 54.4	-3.0
JHU	Hanno	12.96	347	eP	Pn	02 56 44.7	-2.8
JRY	Ryogami san	13.20	346	eP	Pn	02 56 48.4	-2.3
JAG	Ashikaga	13.47	348	eP	Pn	02 56 51.0	-3.3
JHO	Hitachi	13.48	352	eP	Pn	02 56 52.2	-2.1
JHO				eS	Sn	02 59 17.7	-4.9
JOW	Kunigami	13.73	288		P	02 57 01.8	-1.2
JOW	Kunigami	13.73	288	P	Pn	02 56 55.3	-2.5
	4.5nm,0.5s,baz=112,slow=19,SNR=2.2						
MJAR	Matsushiro Arr	13.86	344	P	Pn	02 56 56.7	-2.7
	1.0nm,0.3s,baz=161,slow=10,SNR=16						
MJAR				S	Sn	02 59 28.5	-3.5
	1.0nm,0.6s,baz=183,slow=30,SNR=1.7						
MAJO	Matsushiro	13.87	344	Pn	Pn	02 56 57.5	-1.9
JNU	Nakatsue	14.46	316	Pn	P	02 57 08.4	-2.6
JMM	Marumori	14.69	353	Pn	Pn	02 57 08.9	-1.1
JTM	Tenmabayashi	17.56	355	P	Pn	02 57 45.9	+0.3
KSRS	Korea Array	19.14	321	P	Pn	02 58 03.5	-0.9
	4.0nm,0.6s,baz=135,slow=12,SNR=10						
KSAR	Wonju Array Be	19.16	321	P	Pn	02 58 03.9	-0.8
YULB	Yu-li	19.84	275	P	Pn	02 58 12.2	-0.6
YULB				IAmb	IAmb	02 58 25.8	
	comp=Z,54nm,1.5s						
SSLB	Suanglung	20.14	276	P	Pn	02 58 15.8	-0.4
SSLB				IAmb	IAmb	02 58 23.2	
	comp=Z,42nm,1.2s						
ASAJ	Asahikawa	20.82	359	P	P	02 58 21.7	+1.0
	comp=Z,6.1nm,0.7s,baz=262,slow=11,SNR=2.0						
	comp=Z,6.1nm,0.7s						
H11N1	WAKE ISLAND Hy	22.59	94	T	T	03 22 42.2	
	baz=282,slow=75,SNR=17						
H11N2	WAKE ISLAND Hy	22.59	94	T	T	03 22 42.6	
	baz=282,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy	22.61	94	T	T	03 22 44.0	
	baz=282,slow=75,SNR=17						
H11S3	WAKE ISLAND Hy	22.71	98	T	T	03 22 23.9	
	baz=284,slow=75,SNR=25						
H11S1	WAKE ISLAND Hy	22.72	98	T	T	03 22 29.6	
	baz=284,slow=75,SNR=10.0						
H11S2	WAKE ISLAND Hy	22.73	98	T	T	03 22 26.5	
	baz=284,slow=75,SNR=11						
USRK	Ussuriysk Ar.	22.75	339	P	P	02 58 40.3	-0.7
USRK	Ussuriysk Ar.	22.75	339	P	P	02 58 41.5	+0.5
	comp=Z,4.1nm,0.8s,baz=149,slow=12,SNR=5.6						
	comp=Z,4.1nm,0.8s						
USA0B	Ussuriysk Arra	22.75	339	P	P	02 58 40.9	-0.1
USA0B				IAmb	IAmb	02 58 42.6	
	comp=Z,16nm,1.4s						
NJ2	Nanjing	23.00	298	eP	P	02 58 44.6	+1.0
NJ2				pP	pP	02 59 02.0	-0.9
NJ2				sP	sP	02 59 09.3	-5.8
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,4.2s						
MDJ	Mudanjiang	23.95	336	P	P	02 58 42.6	-10
MDJ				pP	pP	02 59 01.8	-11
MDJ				PP	PnPn	02 59 28.4	+1.5
MDJ				PcP	PcP	03 01 55.6	-36
MDJ				S	S	03 03 11.9	+10
MDJ				sS	sS	03 03 49.8	+12
MDJ				SS	SnSn	03 04 29.3	+36
MDJ				pmax	pmax		
	comp=Z,13nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,390nm,4.1s						
TIA	Tai'an	25.76	306	P	P	02 59 09.5	+0.8
TIA				pmax	pmax		
	comp=Z,12nm,0.7s						
HNS	HongShan	28.01	307	⇑P	P	02 59 29.8	+1.0
HHC	Hu-ho-hao-te	31.61	311	eP	P	03 00 04.4	+3.6
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.4s						
HHC				LR	LR		
	comp=N,290nm,16.0s						
HHC				LR	LR		
	comp=E,300nm,16.0s						
HHC				LR	LR		
	comp=Z,270nm,15.3s						
BTO	Baotou	32.60	310	eP	P	03 00 14.7	+5.3
BTO				pP	pwP	03 00 32.4	-2.7
BTO				sP	sP	03 00 41.4	-0.7
BTO				PP	PP	03 01 25.2	+0.4
BTO				S	S	03 05 30.2	+12
BTO				SS	SnSn	03 07 26.1	+3.2
BTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,220nm,5.0s						
BTO				LR	LR		
	comp=N,560nm,16.7s						
BTO				LR	LR		
	comp=E,400nm,19.6s						
BTO				LR	LR		
	comp=Z,300nm,10.2s						
GYA	Guiyang	32.97	283	eP	P	03 00 15.3	+2.4
GYA				pmax	pmax		
	comp=Z,22nm,0.6s						
PZH	PanZhiHua	37.37	284	P	P	03 00 51.4	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,4.7s						
SONM	Songino Array	38.00	319	P	P	03 00 56.2	+0.6
SONM	Songino Array	38.00	319	P	P	03 00 56.7	+1.1
	comp=Z,1.2nm,0.5s,baz=132,slow=6.7,SNR=20						
	comp=Z,1.2nm,0.5s						
CMAR	Chiang Mai Arr	41.24	272	P	P	03 01 23.2	+0.4
	comp=Z,1.3nm,0.3s,baz=62,slow=8.3,SNR=7.1						
CMAR				LR	LR	03 19 40.2	
	comp=Z,16nm,18.0s,baz=105,slow=38						
	comp=Z,1.3nm,0.3s						
GOMU	GeErMu	43.31	299	P	P	03 01 41.9	+2.1
GOMU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WB2	Warramunga Arr	43.72	192	P	P	03 01 40.7	-2.0
WB2				IAmb	IAmb	03 02 06.6	
	comp=Z,8.0nm,1.4s						
WRA	Warramunga Arr	43.73	192	P	P	03 01 41.2	-1.6
WRA	Warramunga Arr	43.73	192	P	P	03 01 40.9	-1.8
	comp=Z,0.6nm,0.4s,baz=17,slow=9.2,SNR=14						
WRA				ScP	ScP	03 07 10.1	-0.5
	comp=Z,0.7nm,0.8s,baz=11,slow=4.4,SNR=5.8						
	comp=Z,0.6nm,0.4s						
FITZ	Fitzroy Crossi	44.41	204	P	P	03 01 46.6	-1.6
SHL	Shillong	46.29	284	P	P	03 02 03.2	-0.1
AS31	Alice Springs	47.44	191	P	P	03 02 09.6	-2.4
ASAR	Alice Springs	47.44	191	P	P	03 02 09.2	-2.8
ASAR	Alice Springs	47.44	191	P	P	03 02 08.9	-3.0
	comp=Z,0.3nm,0.6s,baz=14,slow=8.8,SNR=7.3						
ASAR				PcP	PcP	03 03 39.8	-1.2
	comp=Z,0.2nm,0.5s,baz=10,slow=5.7,SNR=1.4						
ASAR				ScP	ScP	03 07 24.9	-1.0
	comp=Z,0.5nm,0.8s,baz=9.0,slow=4.2,SNR=5.2						
	comp=Z,0.3nm,0.6s						
WMQ	Urumqi	49.41	308	eP	P	03 02 29.0	+1.9
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
ZAA0	Zalesovo Array	52.85	321	P	P	03 02 53.0	+0.6
ZAA0				IAmb	IAmb	03 02 54.0	
	comp=Z,7.5nm,1.3s						
ZALV	Zalesovo Beam	52.85	321	P	P	03 02 53.1	+0.7
	comp=Z,1.7nm,0.3s,baz=112,slow=7.2,SNR=19						
	comp=Z,1.7nm,0.3s						
MK31	Makanchi Array	53.47	312	P	P	03 02 58.7	+1.4
MKAR	Makanchi Array	53.47	312	P	P	03 02 58.6	+1.4
	comp=Z,7.2nm,0.4s,baz=88,slow=9.5,SNR=233						
	comp=Z,7.2nm,0.4s						
MAKZ	Makanchi	53.69	312	P	P	03 03 00.1	+1.3
KURK	Kurchatov	56.18	316	P	P	03 03 17.6	+1.0
KURBB	Kurchatov Arra	56.23	316	P	P	03 03 18.1	+1.1
	comp=Z,13nm,0.6s,baz=94,slow=7.7,SNR=96						
	comp=Z,13nm,0.6s						
C18K	Utukok River	56.36	21	P	P	03 03 17.9	+0.2
C18K				IAmb	IAmb	03 03 39.2	
	comp=Z,5.1nm,1.4s						
NRIK	Noril'sk	56.47	339	P	P	03 03 19.1	+0.7
NRIK				IAmb	IAmb	03 03 19.9	
	comp=Z,1.9nm,0.6s						
NRIK	Noril'sk	56.47	339	P	P	03 03 19.6	+1.2
	comp=Z,1.1nm,0.3s,baz=97,slow=6.3,SNR=4.1						
	comp=Z,1.1nm,0.3s						
D19K	Kuna River	57.35	22	P	P	03 03 25.6	+0.9
D19K				IAmb	IAmb	03 03 36.3	
	comp=Z,4.4nm,1.5s						
KSH	Kashi	58.16	303	P	P	03 03 35.7	+4.7
KSH				pP	pwP	03 03 56.4	-2.3
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
B20K	Meade River	58.20	20	P	P	03 03 31.1	+0.6
B20K				IAmb	IAmb	03 03 38.5	
	comp=Z,6.5nm,1.2s						
E21K	Killik River	58.79	23	P	P	03 03 36.4	+1.7
B21K	Ikpikpuk River	58.91	21	P	P	03 03 36.4	+0.9
B21K				IAmb	IAmb	03 03 47.9	
	comp=Z,6.4nm,1.5s						
AAK	Ala-Archa	59.03	307	P	P	03 03 38.5	+1.5
AAK				IAmb	IAmb	03 03 45.3	
	comp=Z,6.4nm,1.4s						
D22K	Ayikyak River	59.36	22	P	P	03 03 41.2	+2.6
D22K				IAmb	IAmb	03 04 08.9	
	comp=Z,7.4nm,1.5s						
E24K	Your Creek	60.69	24	P	P	03 03 47.9	+0.2
ILAR	Eielson Array	60.79	28	P	P	03 03 48.7	+0.2
	comp=Z,0.3nm,0.6s,baz=260,slow=4.4,SNR=5.6						
	comp=Z,0.3nm,0.6s						
NIL	Nilore	61.10	297	P	P	03 03 51.9	+0.7
NIL				IAmb	IAmb	03 03 53.9	
	comp=Z,7.2nm,0.8s						
BVAR	Borovoye Array	61.34	319	P	P	03 03 53.7	+1.4
	comp=Z,27nm,0.4s,baz=86,slow=6.9,SNR=224						
BRVK	Borovoye	61.40	319	P	P	03 03 53.9	+1.1
N25K	Chitina, Valde	61.52	31	P	P	03 03 53.9	+0.3
KK31	Karatay Array	61.90	308	P	P	03 03 57.4	+1.0
KK31				IAmb	IAmb	03 03 59.1	
	comp=Z,2.6nm,0.7s						
KKAR	Karatay Array	61.90	308	P	P	03 03 57.2	+0.8
BMAR	Burnt Mountain	62.06	25	P	P	03 03 58.6	+1.6
SIMJ	Simiganj	63.65	303	P	P	03 04 07.9	-0.2
SIMJ				IAmb	IAmb	03 04 16.6	
	comp=Z,2.8nm,0.7s						
I28M	Miner Creek	63.78	27	P	P	03 04 09.9	+1.4
I28M				IAmb	IAmb	03 04 29.9	
	comp=Z,3.3nm,1.2s						
F28M	Old Crow	63.88	25	P	P	03 04 10.5	+1.5
E28M	Babbage River	64.05	23	P	P	03 04 11.8	+1.7
E28M				IAmb	IAmb	03 04 18.0	
	comp=Z,4.0nm,1.3s						
H29M	Whitestone	64.43	26	P	P	03 04 14.5	+1.8
H29M				IAmb	IAmb	03 04 41.7	
	comp=Z,7.7nm,1.3s						
E29M	Blow River	64.64	24	P	P	03 04 14.7	+0.7
G31M	Satah River	66.06	25	P	P	03 04 23.5	+0.4
G31M				IAmb	IAmb	03 04 30.0	
	comp=Z,7.3nm,1.1s						
INK	Inuvik	66.27	24	P	P	03 04 25.2	+0.9
INK				IAmb	IAmb	03 04 27.1	
	comp=Z,6.9nm,1.4s						
ARU	Arti	67.88	323	P	P	03 04 35.3	+0.5
ABKAR	Akbulak array	68.27	316	P	P	03 04 38.2	+0.8
ABKAR	Akbulak array	68.27	316	P	P	03 04 38.1	+0.7
GEYT	Alibeck	72.17	304	P	P	03 05 00.5	-1.0
	comp=Z,1.0nm,0.6s,baz=82,slow=11,SNR=4.3						
	comp=Z,1.0nm,0.6s						
GYA0B	ALIBECK ARRAY	72.17	304	P	P	03 05 01.3	-0.1
GYA0B				IAmb	IAmb	03 05 03.0	
	comp=Z,3.7nm,1.2s						
PYZ	Puysegur Point	72.37	163	P	P	03 05 00.9	-1.3
SPITS	Spitsbergen Ar	74.28	350	P	P	03 05 13.9	+0.8
	comp=Z,8.5nm,0.9s,baz=20,slow=4.6,SNR=1.7						
	comp=Z,8.5nm,0.9s						
YKA	Yellowknife Ar	75.22	28	P	P	03 05 19.7	+0.9
	comp=Z,0.4nm,0.7s,baz=7.7,slow=5.2,SNR=9.9						
	comp=Z,0.4nm,0.7s						
ARCES	ARCESS Array B	77.38	341	P	P	03 05 31.0	+0.1
	comp=Z,1.2nm,0.9s,baz=68,slow=6.9,SNR=7.4						
	comp=Z,1.2nm,0.9s						
KBZ	Khabaz	81.12	314	P	P	03 05 53.0	+1.4
	comp=Z,4.7nm,0.7s,baz=102,slow=6.7,SNR=12						
	comp=Z,4.7nm,0.7s						
FIA1	FINESS Array S	81.68	334	P	P	03 05 54.1	-0.2
FINES	FINESS Array B	81.68	334	P	P	03 05 54.0	-0.3
FINES	FINESS Array B	81.68	334	P	P	03 05 54.2	-0.1
	comp=Z,1.1nm,0.3s,baz=74,slow=5.5,SNR=26						
	comp=Z,1.1nm,0.3s						
NVAR	Mina Array Bea	82.39	52	P	P	03 05 58.5	-0.3
	comp=Z,0.3nm,0.5s,baz=275,slow=6.9,SNR=4.7						
	comp=Z,0.3nm,0.5s						
TPH	Tonopah	83.31	52	P	P	03 06 04.0	+0.4
TPH				IAmb	IAmb	03 06 17.3	
	comp=Z,13nm,1.2s						
TPNV	Topopah Spring	84.48	52	P	P	03 06 10.4	+0.9
GWY	Greenwater Val	84.50	53	P	P	03 06 10.6	+1.1
BGU	Big Grassy Mou	85.03	48	P	P	03 06 13.1	+1.0
AKASG	Malin Array Be	86.11	324	P	P	03 06 16.3	-0.7
	comp=Z,0.3nm,0.3s,baz=55,slow=4.9,SNR=6.4						
	comp=Z,0.3nm,0.3s						
PDAR	Pinedale Array	86.48	45	P	P	03 06 19.4	0.0
	comp=Z,0.1nm,0.4s,baz=318,slow=2.4,SNR=1.5						
	comp=Z,0.1nm,0.4s						
HFS	Hagfors	87.21	337	P	P	03 06 20.9	-1.4
	comp=Z,1.2nm,0.5s,baz=64,slow=6.8,SNR=6.3						
	comp=Z,1.2nm,0.5s						
NOA	NORSAR Array B	87.42	339	P	P	03 06 22.4	-0.8
	comp=Z,0.3nm,0.5s,baz=47,slow=4.8,SNR=1.7						
	comp=Z,0.3nm,0.5s						
BRTR	Keskin Array B	89.10	313	P	P	03 06 31.2	-0.5
	comp=Z,1.4nm,0.9s,baz=101,slow=3.1,SNR=5.0						
	comp=Z,1.4nm,0.9s						
PLCA	Paso Flores	146.95	130	PKPbc	PKPbc	03 13 18.3	-0.2
	comp=Z,1.6nm,0.5s,baz=256,slow=2.4,SNR=6.8						

IDC 02 03:15:39.7±2.8, 17°98S×177°79W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=238.9km s-min=27.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.20	260	P	P	03 23 58.4	-0.5
	0.4nm,0.4s,baz=96,slow=7.1,SNR=16						
	0.4nm,0.4s						
ASAR	Alice Springs	45.34	254	P	P	03 24 00.2	+0.2
	3.0nm,0.5s,baz=87,slow=8.6,SNR=77						
	3.0nm,0.5s						
NVAR	Mina Array Bea	79.07	44	P	P	03 27 46.7	+0.4
	0.1nm,0.3s,baz=227,slow=6.0,SNR=1.8						
	0.1nm,0.3s						
TXAR	Lajitas Array	85.53	57	P	P	03 28 19.8	-0.4
	0.1nm,0.7s,baz=233,slow=4.4,SNR=1.9						
	0.1nm,0.7s						

IDC 02 03:21:19.7±3.8, 4°63S×151°63E, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=163.9km s-min=49.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.70	226	P	P	03 26 23.1	-0.1
	0.3nm,0.6s,baz=53,slow=10,SNR=4.7						
	0.3nm,0.6s						
ASAR	Alice Springs	25.50	220	P	P	03 26 50.4	+0.3
	0.5nm,0.8s,baz=56,slow=9.5,SNR=5.5						
	0.5nm,0.8s						
TORD	Torodi Ar. Bea	149.14	288	PKPbc	PKPbc	03 41 10.5	-0.8
	0.7nm,0.6s,baz=56,slow=4.3,SNR=5.2						

IDC 02 03:43:51.1±1.1, 34°62N×23°40E, h0km, mb3.9/13, mbtmp3.8/21, ML3.8/8, MS3.2/3, Error ellipse: s-maj=22.1km s-min=16.8km az=9.0

ATH 02 03:43:57.2±0.8, 34°63N×23°51E, h17km±5km, ML3.1/12, Manual Solution by N.Liadopoulou This location: 2020/05/07 15:03:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km

THE 02 03:43:58.3, 34°67N×23°47E, h5km±7km, ML2.8/5, Error ellipse: s-maj=7.6km s-min=1.2km az=158.0

ISC 02 03:43:56.7±1.3, 34°52N±0°08×23°54E±0°06, h45km±12km, n53, σ1s25/64, mb3.9/13, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.55	55	P	Pn	03 44 08.7	+0.4
GVD				S	Sn	03 44 16.9	+0.3
	3μm,0.5s						
GVD	Gavdhos	0.55	55	P	Pn	03 44 08.7	+0.4
GVD				S	Sn	03 44 16.5	-0.2
IMMV	Iera Moni Meta	1.00	21	P	Pn	03 44 14.8	+0.4
IMMV				S	Sn	03 44 27.7	+0.3
	1μm,0.7s						
IMMV	Iera Moni Meta	1.00	21	P	Pn	03 44 14.6	+0.2
IMMV				S	Sn	03 44 27.7	+0.3
RODP	Rodopos	1.05	10	P	Pn	03 44 16.4	+1.4
RODP				S	Sn	03 44 29.4	+0.9
	230nm,0.5s						
RODP	Rodopos	1.05	10	P	Pn	03 44 15.2	+0.1
RODP				S	Sn	03 44 28.8	+0.3
CH01	Chania	1.07	22	P	Pn	03 44 15.7	+0.5
CH01				S	Sn	03 44 29.7	+0.8
CHAN	Chania	1.08	23	P	Pn	03 44 15.4	+0.1
CHAN				S	Sn	03 44 29.2	+0.1
TMBK	Timbaki Herakl	1.15	61	P	Pn	03 44 19.4	+3.1
TMBK	Timbaki Herakl	1.15	61	P	Pn	03 44 17.3	+1.0
PRNS	Prines Rethymn	1.16	43	P	Pn	03 44 17.6	+1.2
PRNS				S	Sn	03 44 32.6	+1.6
	315nm,0.5s						
PRNS	Prines Rethymn	1.16	43	P	Pn	03 44 16.6	+0.3
PRNS				S	Sn	03 44 30.9	-0.1
ANKY	Antikythira Is	1.35	352	P	Pn	03 44 20.1	+1.0
ANKY				S	Sn	03 44 38.4	+2.5
	528nm,1.3s						
ANKY	Antikythira Is	1.35	352	P	Pn	03 44 20.1	+1.0
ANKY				S	Sn	03 44 36.1	+0.1
IACM	Heraklion	1.48	58	P	Pn	03 44 23.1	+2.3
VLI	Veliai	2.25	348	P	Pn	03 44 32.4	+1.1
VLI	Veliai	2.25	348	P	Pn	03 44 32.1	+0.8
MHLO	Agia Marina, M	2.27	18	P	Pn	03 44 32.9	+1.2
ZKR	Zakros	2.28	74	P	Pn	03 44 34.3	+2.5
PYL	PYLOS	2.78	329	P	Pn	03 44 39.2	+0.5
KRND	KRANIDI	2.87	354	P	Pn	03 44 41.4	+1.4
VLY	Voula,Athens	3.33	4	P	Pn	03 44 46.4	+0.2
ATHU	Athens Univers	3.44	3	P	Pn	03 44 48.2	+0.5
GUR	Goura	3.54	345	P	Pn	03 44 50.2	+0.9
BRTR	Keskin Array B	9.59	54	Pn	Pn	03 46 13.1	+0.9
	0.1nm,0.3s,baz=234,slow=16,SNR=6.2						
BRTR				LR	LR	03 50 57.4	
	comp=Z,41nm,19.2s,baz=264,slow=44						
	0.8nm,0.7s						
MMAI	Mount Meron Ar	9.99	95	Pn	Pn	03 46 18.8	+1.1
	0.5nm,0.3s,baz=288,slow=10,SNR=1.6						
MMAI				Sn	Sn	03 48 04.3	-4.1
	0.4nm,0.3s,baz=270,slow=27,SNR=2.2						
	0.8nm,0.3s						
EIL	Elat	10.82	113	Pn	Pn	03 46 28.8	-0.1
	0.2nm,0.3s,baz=0.0,slow=18,SNR=1.8						
	2.1nm,0.6s						
MLR	Muntele Rosu	11.11	9	Pn	Pn	03 46 31.9	-1.0
	0.1nm,0.3s,baz=202,slow=18,SNR=2.0						
	1.1nm,0.7s						
VRAC	Vranov	15.64	343	Pn	Pn	03 47 34.3	+0.5
	0.4nm,0.3s,baz=151,slow=11,SNR=4.3						
	1.5nm,0.5s						
CKRC	Cesky Krumlov	15.84	337	eP	P	03 47 40.2	+0.6
TREC	Trest	15.91	340	eP	P	03 47 41.1	+0.7
GERES	GERESS Array B	16.06	336	Pn	Pn	03 47 39.5	+0.2
	0.4nm,0.3s,baz=157,slow=13,SNR=1.9						
	0.7nm,0.3s						
KHC	Kasperske Hory	16.35	336	eP	P	03 47 46.7	+1.4
ZVC	Zvikov	16.42	338	eP	P	03 47 47.2	+1.2
AKASG	Malin Array Be	16.69	13	Pn	Pn	03 47 46.1	-1.1
	1.3nm,0.3s,baz=204,slow=9.7,SNR=11						
	0.5nm,0.4s						
OSTC	Ostas	16.89	344	eP	P	03 47 51.3	+0.1
UPC	Upice	16.89	343	eP	P	03 47 52.3	+1.1
KBZ	Khabaz	17.58	53	P	Pn	03 47 59.4	+1.2
	0.1nm,0.3s,baz=230,slow=14,SNR=3.0						
	2.0nm,0.9s						
ESDC	Sonseca Array	22.49	291	P	P	03 48 49.6	-2.6
	1.7nm,1.3s,baz=110,slow=30,SNR=2.2						
	1.7nm,1.3s						
HFS	Hagfors	26.42	349	P	P	03 49 27.7	-1.1
	2.1nm,0.5s,baz=144,slow=11,SNR=8.8						
	2.1nm,0.5s						
NOA	NORSAR Array B	27.70	347	P	P	03 49 40.0	-0.3
	1.2nm,1.1s,baz=150,slow=11,SNR=4.2						
	1.2nm,1.1s						
EKA	Eskdalemuir Ar	27.81	327	P	P	03 49 41.0	-0.3
	0.7nm,0.4s,baz=123,slow=8.0,SNR=12						
	0.7nm,0.4s						
TORD	Torodi Ar. Bea	29.06	228	P	P	03 49 53.6	+0.7
	0.5nm,0.7s,baz=35,slow=9.4,SNR=4.3						
	0.5nm,0.7s						
WSAR	Wadi Sarin	32.57	101	LR	LR	04 07 08.6	
	comp=Z,37nm,18.6s,baz=48,slow=43						
ARCES	ARCESS Array B	35.08	1	P	P	03 50 43.5	-1.5
	1.1nm,0.7s,baz=117,slow=4.2,SNR=4.8						
	1.1nm,0.7s						
BVAR	Borovoye Array	37.75	46	P	P	03 51 07.5	-0.5
	0.3nm,0.6s,baz=260,slow=6.7,SNR=1.9						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	42.56	50	P	P	03 51 48.6	+0.8
	0.6nm,0.5s,baz=272,slow=8.7,SNR=9.8						
	0.6nm,0.5s						
SPITS	Spitsbergen Ar	43.87	358	P	P	03 51 56.4	-1.6
	13nm,1.0s,baz=141,slow=12,SNR=2.4						
	13nm,1.0s						
MKAR	Makanchi Array	45.24	56	P	P	03 52 10.8	+1.4
	1.3nm,0.4s,baz=269,slow=7.7,SNR=38						
	1.3nm,0.4s						
ZALV	Zalesovo Beam	46.41	46	P	P	03 52 18.8	+0.3
	0.7nm,0.4s,baz=270,slow=9.4,SNR=4.3						
	0.7nm,0.4s						
LSZ	Lusaka	49.72	174	LR	LR	04 12 42.5	
	comp=Z,78nm,19.2s,baz=253,slow=35						
SONM	Songino Array	60.92	50	P	P	03 54 05.8	+0.8
	0.5nm,0.5s,baz=282,slow=6.5,SNR=5.3						
	0.5nm,0.5s						
USRK	Ussuriysk Ar.	78.23	44	P	P	03 55 52.9	+1.5
	1.1nm,0.7s,baz=288,slow=5.1,SNR=2.0						
	1.1nm,0.7s						

IDC 02 03:53:03.5±1.1, 38°66N×70°74E, h0km, mb3.6/7, mbtmp3.5/14, ML2.9/7, Error ellipse: s-maj=17.2km s-min=11.3km az=146.0

NNC 02 03:53:06.4±2.4, 38°77N×70°51E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=24.6km s-min=11.9km az=161.0

ISC 02 03:53:06.2±0.9, 38°81N±0°08×70°48E±0°07, h10km, n24, σ2s86/31, mb3.5/7, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.12	35	P	Pn	03 54 11.5	+1.9
	SNR=6.8						
AML	Almayashu	4.12	35	⇑Pn	Pn	03 54 11.5	+1.9
	0.8nm,0.5s						
AML				⇓Sn	Sn	03 55 01.6	+3.5
	6.8nm,0.7s						
KK31	Karatay Array	4.29	0	Pn	Pn	03 54 14.6	+3.0
	11nm,0.5s,baz=185,slow=13,SNR=179						
KK31				⇓Sn	Sn	03 55 06.3	+4.7
	19nm,0.7s,baz=180,slow=23,SNR=5.4						
KZA	Kyzart	4.88	47	P	Pn	03 54 23.0	+2.9
	SNR=7.8						
AAK	Ala-Archa	4.89	37	P	Pn	03 54 22.0	+2.1
	SNR=8.5						
AAK	Ala-Archa	4.89	37	Pn	Pn	03 54 21.9	+2.0
	1.7nm,0.3s,baz=212,slow=7.2,SNR=17						
AAK				Sn	Sn	03 55 20.0	+3.4
	0.9nm,0.3s,baz=61,slow=14,SNR=1.9						
AAK				Lg	Lg	03 55 37.4	
	0.9nm,0.3s,baz=343,slow=18,SNR=4.1						
	5.4nm,0.4s						
KBK	Karagaybulak	5.12	40	P	Pn	03 54 26.5	+3.3
	SNR=18						
TKM2	Tokmak 2	5.64	42	P	Pn	03 54 32.9	+2.5
	SNR=11						
TKM2	Tokmak 2	5.64	42	⇓Pn	Pn	03 54 32.1	+1.7
	4.0nm,0.6s						
TKM2				⇓Sn	Sn	03 55 38.6	+3.3
	11nm,0.9s						
GEYT	Alibeck	9.75	269	Pn	Pn	03 55 26.7	+0.1
	0.2nm,0.3s,baz=113,slow=11,SNR=1.5						
GEYT				Sn	Sn	03 57 18.1	+1.9
	0.3nm,0.3s,baz=70,slow=17,SNR=1.6						
GEYT				Lg	Lg	03 58 19.9	
	0.1nm,0.3s,baz=270,slow=18,SNR=2.4						
	0.4nm,0.3s						
MKAR	Makanchi Array	11.77	44	Pn	Pn	03 55 54.3	+0.1
	baz=234,slow=13,SNR=3.3						
MKAR				Lg	Lg	03 59 13.7	

	baz=239,slow=25,SNR=1.9						
	0.4nm,0.6s						
AB31	**Akbulak array**	**12.89**	**327**	P	**Pn**	**03 56 09.3**	**0.0**
	1.6nm,0.5s,baz=145,slow=12,SNR=52						
KURBB	**Kurchatov Arra**	**13.11**	**23**	Pn	**Pn**	**03 56 10.6**	**-1.8**
	baz=216,slow=13,SNR=2.1						
KURBB				Lg	Lg	04 00 01.7	
	baz=227,slow=36,SNR=1.7						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**14.21**	**360**	Pn	**Pn**	**03 56 24.9**	**-2.5**
	baz=160,slow=14,SNR=4.1						
BVAR				Sn	**Sn**	**03 58 59.4**	**-5.8**
	baz=164,slow=27,SNR=3.9						
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**14.60**	**327**	⇑P	**Pn**	**03 56 34.1**	**+1.3**
	2.4nm,0.8s						
AKTO	**Aktyubinsk**	**14.60**	**327**	Pn	**Pn**	**03 56 32.3**	**-0.4**
	0.2nm,0.3s,baz=137,slow=12,SNR=3.5						
AKTO				Sn	**Sn**	**03 59 07.7**	**-6.7**
	0.1nm,0.3s,baz=116,slow=16,SNR=1.8						
AKTO				Lg	Lg	04 00 54.0	
	baz=229,slow=18,SNR=2.4						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**18.03**	**28**	Pn	**Pn**	**03 57 15.2**	**-1.5**
	0.1nm,0.3s,baz=210,slow=8.6,SNR=2.0						
	0.2nm,0.4s						
SONM	**Songino Array**	**27.43**	**59**	P	**P**	**03 58 48.8**	**-3.4**
	0.4nm,0.9s,baz=282,slow=7.1,SNR=1.6						
	0.4nm,0.9s						
BRTR	**Keskin Array B**	**28.41**	**284**	P	**P**	**03 59 02.9**	**+1.8**
	0.2nm,0.3s,baz=52,slow=9.3,SNR=1.7						
	0.2nm,0.3s						
HFS	**Hagfors**	**41.01**	**320**	P	**P**	**04 00 49.5**	**+0.3**
	1.8nm,0.5s,baz=106,slow=14,SNR=6.3						
	1.8nm,0.5s						
NOA	**NORSAR Array B**	**42.30**	**322**	P	**P**	**04 00 59.8**	**0.0**
	1.1nm,0.9s,baz=93,slow=8.7,SNR=3.0						
	1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**65.39**	**267**	P	**P**	**04 03 49.8**	**+0.5**
	0.3nm,0.4s,baz=52,slow=6.0,SNR=3.0						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**78.95**	**2**	P	**P**	**04 05 09.3**	**-0.3**
	0.2nm,0.7s,baz=348,slow=5.7,SNR=6.1						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**83.56**	**122**	P	**P**	**04 05 31.9**	**-2.8**
	0.2nm,0.6s,baz=328,slow=4.7,SNR=2.2						
	0.2nm,0.6s						

*IDC **02** 03:56:23.3±1.1, 31.°91N×48.°67E, h0km, mb3.9/17, mbtmp3.9/20, ML3.7/3, MS3.1/8, Error ellipse: s-maj=25.5km s-min=14.4km az=162.0*
*NEIC **02** 03:56:24.8±0.8, 31.°85N±0.°09×48.°80E±0.°08, h10km±1km, mb4.4/16, Error ellipse: s-maj=17.2km s-min=8.5km az=150.0*
*TEH **02** 03:56:24.6, 31.°85N×48.°74E, h8km±33km, ML3.8*
ISC 02 03:56:24.6±0.5**, 31.°86N**±0.°04×**48.°72E**±0.°04**, h10**km**, n76, σ1.s40**/75**, mb4.1**/28**, MS3.2**/4**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.52**	**112**	Pg	**Pg**	**03 56 34.2**	**-0.5**
AMIS				Sg	**Sb**	**03 56 42.4**	**-1.1**
AHWZ	**Ahwaz**	**0.53**	**187**	Pg	**Pb**	**03 56 35.4**	**-0.6**
JHBN	**Jahan bin**	**1.69**	**77**	Pg	**Pg**	**03 56 56.4**	**-0.7**
IKFM	**Kafar-mosalman**	**1.82**	**336**	Pn	**Pb**	**03 56 58.5**	**+0.5**
ZNGN	**Zangian**	**1.83**	**81**	Pn	**Pb**	**03 56 58.7**	**+0.3**
IPIR	**Pirpir**	**2.02**	**65**	Pn	**Pb**	**03 57 01.1**	**-0.4**
IBRJ	**Brojen**	**2.16**	**88**	Pn	**Pb**	**03 57 02.9**	**-1.1**
HSAM	**Samen**	**2.35**	**358**	Pn	**Pb**	**03 57 05.7**	**-1.5**
IKOM	**Komasi**	**2.52**	**337**	Pn	**Pb**	**03 57 08.3**	**-1.7**
KLNJ	**Kolanjah**	**2.60**	**108**	Pn	**Pn**	**03 57 08.6**	**+1.6**
ILBA	**Ilam Banvizeh**	**2.75**	**310**	Pn	**Pn**	**03 57 10.5**	**+1.7**
KCHF	**Cheshme Sefid,**	**2.79**	**330**	Pn	**Pn**	**03 57 11.6**	**+2.1**
IKLH	**Kolahrood**	**2.82**	**58**	Pn	**Pn**	**03 57 12.1**	**+2.2**
IGAR	**Gharneh**	**2.87**	**78**	Pn	**Pn**	**03 57 13.0**	**+2.4**
QAMS	**Qamsar**	**2.93**	**50**	Pn	**Pn**	**03 57 13.7**	**+2.2**
IRAM	**Ramesheh**	**3.12**	**90**	Pn	**Pn**	**03 57 15.8**	**+1.8**
IZEF	**Zefreh**	**3.23**	**70**	Pn	**Pn**	**03 57 18.0**	**+2.5**
IDHR	**Dehrash**	**3.44**	**326**	Pn	**Pn**	**03 57 20.5**	**+2.0**
KRSH	**Karshahi**	**3.56**	**53**	Pn	**Pn**	**03 57 22.0**	**+1.9**
IQOM	**Qom**	**3.57**	**33**	Pn	**Pn**	**03 57 22.5**	**+2.2**
IRAZ	**Razeghan**	**3.68**	**16**	Pn	**Pn**	**03 57 24.8**	**+3.1**
ISFB	**Sefidab**	**3.86**	**49**	Pn	**Pn**	**03 57 25.9**	**+1.8**
IVRN	**Varamin**	**4.01**	**38**	Pn	**Pn**	**03 57 28.7**	**+2.5**
KLST	**Kelardasht - M**	**5.04**	**22**	Pn	**Pn**	**03 57 43.2**	**+2.7**
IFIR	**Firoozkooh**	**5.05**	**41**	Pn	**Pn**	**03 57 42.3**	**+1.7**
MZPU	**Pul - Mazandar**	**5.14**	**27**	Pn	**Pn**	**03 57 45.2**	**+3.3**
UOSS	**Minazif**	**9.53**	**134**	Pn	**Pn**	**03 58 45.5**	**+3.6**
GEYT	**Alibeck**	**9.81**	**49**	Pn	**Pn**	**03 58 45.2**	**-0.6**
GEYT	**Alibeck**	**9.81**	**49**	LR	LR	04 03 21.1	
	comp=Z,224nm,20.5s,baz=299,slow=43						
MMAI	**Mount Meron Ar**	**11.31**	**279**	Pn	**Pn**	**03 59 05.6**	**-0.7**
	0.5nm,0.3s,baz=84,slow=16,SNR=1.1						
MMAI				LR	LR	04 04 10.1	
	comp=Z,64nm,21.4s,baz=66,slow=42						
	1.0nm,0.5s						
EIL	**Elat**	**12.04**	**263**	Pn	**Pn**	**03 59 17.1**	**+0.8**
	0.5nm,0.3s,baz=106,slow=10,SNR=4.8						
EIL				Sn	**Sn**	**04 01 30.1**	**-0.5**
	0.3nm,0.3s,baz=40,slow=23,SNR=1.8						
EIL				Lg	Lg	04 02 45.6	
	0.3nm,0.3s,baz=72,slow=20,SNR=1.8						
EIL				LR	LR	04 04 54.0	
	comp=Z,92nm,20.1s,baz=82,slow=43						
	3.0nm,0.5s						
WSAR	**Wadi Sarin**	**12.28**	**132**	Pn	**Pn**	**03 59 18.8**	**-0.9**
	0.5nm,0.3s,baz=352,slow=9.8,SNR=6.4						
WSAR				Sn	Sn	04 01 27.2	-9.5
	0.2nm,0.3s,baz=157,slow=21,SNR=2.0						
	3.1nm,0.6s						
KBZ	**Khabaz**	**12.71**	**340**	LR	LR	04 05 14.0	
	comp=Z,17nm,19.2s,baz=164,slow=42						
BRTR	**Keskin Array B**	**14.53**	**307**	Pn	**P**	**03 59 56.0**	**-1.1**
	0.2nm,0.3s,baz=135,slow=12,SNR=5.6						
ABKAR	**Akbulak array**	**19.32**	**23**		**P**	**04 00 49.3**	**-0.5**
ALN	**Alexandroupoli**	**20.32**	**303**	P	**P**	**04 01 01.7**	**+0.9**
ALN				IAmb	IAmb	04 01 08.2	
	comp=Z,16nm,1.0s						
KKAR	**Karatay Array**	**20.56**	**51**	P	**P**	**04 01 02.8**	**-0.6**
MLR	**Muntele Rosu**	**22.29**	**314**	P	**P**	**04 01 24.9**	**+2.7**
AAK	**Ala-Archa**	**23.08**	**55**	LR	LR	04 12 17.5	
	comp=Z,109nm,18.9s,baz=265,slow=41						
FNA	**Florina**	**23.69**	**300**	P	**P**	**04 01 38.8**	**+2.3**
FNA				IAmb	IAmb	04 02 01.6	
	comp=Z,7.5nm,1.4s						
AKASG	**Malin Array Be**	**23.73**	**328**	P	**P**	**04 01 35.8**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=128,slow=7.1,SNR=8.8						
	comp=Z,0.4nm,0.4s						
AKBB	**Malin Array Si**	**23.73**	**328**	P	**P**	**04 01 36.9**	**+0.3**
KIEV	**Kiev**	**23.73**	**328**	P	**P**	**04 01 37.0**	**+0.3**
BURAR	**Bucovina Array**	**23.83**	**318**	P	**P**	**04 01 38.1**	**+0.3**
BUR08	**Bucovina Ar. S**	**23.85**	**318**	P	**P**	**04 01 38.6**	**+0.5**
BUR08				IAmb	IAmb	04 02 15.2	
	comp=Z,7.6nm,1.5s						
KOLS	**Kolonicke sedl**	**26.20**	**318**	*e*P	**P**	**04 02 01.0**	**+1.7**
BVAR	**Borovoye Array**	**26.32**	**30**	P	**P**	**04 02 00.6**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=225,slow=7.3,SNR=20						
BVAR				LR	LR	04 13 20.3	
	comp=Z,58nm,19.3s,baz=234,slow=39						
	comp=Z,2.7nm,0.5s						
KURBB	**Kurchatov Arra**	**28.93**	**41**	P	**P**	**04 02 24.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=241,slow=9.8,SNR=5.3						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**29.68**	**50**	P	**P**	**04 02 30.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=246,slow=7.2,SNR=4.6						
MKAR				LR	LR	04 15 59.8	
	comp=Z,52nm,19.0s,baz=301,slow=40						
	comp=Z,0.4nm,0.6s						
WTTA	**Wattenberg**	**32.12**	**309**	*e*P	**P**	**04 02 52.2**	**0.0**
	comp=Z,2.0nm,0.5s						
WATA	**Walderalm**	**32.18**	**310**	*e*P	**P**	**04 02 52.3**	**-0.3**
	comp=Z,1.8nm,0.4s						
SQTA	**Sankt Quirin**	**32.39**	**309**	*e*P	**P**	**04 02 54.3**	**-0.2**
	comp=Z,2.9nm,0.4s						
MOTA	**Moosalm**	**32.49**	**309**	*i* P	**P**	**04 02 55.0**	**-0.4**
	comp=Z,0.9nm,0.4s						
FETA	**Feichten**	**32.66**	**309**	*i* P	**P**	**04 02 56.5**	**-0.4**
	comp=Z,0.8nm,0.5s						
FIA1	**FINESS Array S**	**33.07**	**340**	P	**P**	**04 02 58.8**	**-1.3**
FINES	**FINESS Array B**	**33.07**	**340**	P	**P**	**04 02 59.8**	**-0.3**
FINES	**FINESS Array B**	**33.07**	**340**	P	**P**	**04 02 59.6**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=143,slow=12,SNR=12						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**33.89**	**39**	P	**P**	**04 03 07.7**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=262,slow=10,SNR=3.6						
ZALV				LR	LR	04 17 15.5	
	comp=Z,33nm,18.8s,baz=320,slow=37						
	comp=Z,0.6nm,0.5s						
SENIN	**Lac Senin/Sane**	**34.83**	**307**	P	**P**	**04 03 16.4**	**+0.5**
SENIN				IAmb	IAmb	04 03 46.6	
	comp=Z,46nm,1.4s						
BNI	**Bardonecchia**	**35.07**	**304**	P	**P**	**04 03 17.0**	**-0.8**
BNI				IAmb	IAmb	04 03 21.3	
	comp=Z,5.0nm,0.9s						
HFS	**Hagfors**	**36.53**	**331**	P	**P**	**04 03 29.1**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=116,slow=10,SNR=8.2						
	comp=Z,2.8nm,0.8s						
NOA	**NORSAR Array B**	**38.06**	**331**	P	**P**	**04 03 41.5**	**-1.5**
	comp=Z,1.4nm,1.1s,baz=123,slow=6.9,SNR=2.0						
	comp=Z,1.4nm,1.1s						
ARCES	**ARCESS Array B**	**39.94**	**348**	P	**P**	**04 03 58.8**	**+0.2**
	comp=Z,5.7nm,1.2s,baz=161,slow=7.7,SNR=8.2						
	comp=Z,5.7nm,1.2s						
ESDC	**Sonseca Array**	**42.93**	**296**	P	**P**	**04 04 24.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=73,slow=8.5,SNR=5.1						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**43.01**	**319**	P	**P**	**04 04 23.2**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=112,slow=9.4,SNR=2.3						
	comp=Z,2.8nm,0.9s						
SONM	**Songino Array**	**46.00**	**52**	P	**P**	**04 04 48.7**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=260,slow=8.4,SNR=1.9						
	comp=Z,0.3nm,0.8s						
TOA0	**Torodi Ar. Sit**	**46.86**	**258**	P	**P**	**04 04 54.9**	**-0.2**
TOA0				IAmb	IAmb	04 04 55.0	
	comp=Z,3.9nm,1.3s						
TORD	**Torodi Ar. Bea**	**46.86**	**258**	P	**P**	**04 04 55.4**	**+0.3**
TORD				IAmb	IAmb	04 04 59.2	
	comp=Z,1.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**46.86**	**258**	P	**P**	**04 04 54.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=55,slow=7.7,SNR=12						
	comp=Z,1.2nm,0.7s						
SPB2	**Spitsbergen Ar**	**48.53**	**352**	P	**P**	**04 05 07.5**	**+0.3**
SPB2				IAmb	IAmb	04 05 11.0	
	comp=Z,32nm,1.1s						
SPA0	**Spitsbergen Ar**	**48.53**	**352**	P	**P**	**04 05 07.2**	**0.0**
SPITS	**Spitsbergen Ar**	**48.53**	**352**	P	**P**	**04 05 07.3**	**0.0**
	comp=Z,2.5nm,0.4s,baz=137,slow=8.7,SNR=26						
	comp=Z,2.5nm,0.4s						
SPA1	**Spitsbergen Ar**	**48.53**	**352**	P	**P**	**04 05 07.5**	**+0.2**
DBIC	**Dimbokro**	**55.77**	**255**	P	**P**	**04 06 02.3**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=71,slow=7.4,SNR=2.0						
	comp=Z,1.6nm,0.7s						
SCHQ	**Schefferville**	**77.52**	**328**	P	**P**	**04 08 19.9**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=22,slow=5.4,SNR=1.8						
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**82.92**	**7**	P	**P**	**04 08 50.3**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=343,slow=1.5,SNR=2.3						
	comp=Z,0.3nm,0.9s						

*IDC **02** 04:01:07.5±3.5, 22.°99N×94.°21E, h74km±33km, mb3.4/11, mbtmp3.7/12, Error ellipse: s-maj=52.3km s-min=14.4km az=57.0*
ISC 02 04:01:06.0±1.1**, 23.°0N**±0.°2×**94.°2E**±0.°3**, h58**km**, n12, σ1.s14**/13**, mb3.8**/11**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.38**	**134**	P	**Pn**	**04 02 39.0**	**+1.5**
	2.2nm,0.5s,baz=310,slow=13,SNR=7.9						
CMAR				S	**Sn**	**04 03 47.8**	**-1.3**
	0.8nm,0.4s,baz=302,slow=16,SNR=1.0						
MKAR	**Makanchi Array**	**25.57**	**341**	P	**P**	**04 06 30.2**	**+0.7**
	1.8nm,0.6s,baz=149,slow=9.3,SNR=19						
	1.8nm,0.6s						
SONM	**Songino Array**	**26.63**	**19**	P	**P**	**04 06 40.0**	**+0.9**
	0.1nm,0.3s,baz=320,slow=44,SNR=1.5						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**30.12**	**340**	P	**P**	**04 07 11.0**	**+0.9**
	0.5nm,0.3s,baz=163,slow=7.6,SNR=2.1						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**31.68**	**349**	P	**P**	**04 07 24.9**	**+1.2**
	0.3nm,0.4s,baz=181,slow=12,SNR=2.6						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**34.99**	**335**	P	**P**	**04 07 53.0**	**+0.4**
	0.3nm,0.5s,baz=144,slow=8.5,SNR=2.2						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**56.74**	**316**	P	**P**	**04 10 43.0**	**-0.8**
	0.2nm,0.3s,baz=76,slow=6.7,SNR=4.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**57.98**	**134**	P	**P**	**04 10 52.5**	**-0.4**
	0.4nm,0.5s,baz=322,slow=7.4,SNR=8.8						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**59.58**	**329**	P	**P**	**04 11 03.6**	**+0.2**
	2.1nm,1.0s,baz=176,slow=5.7,SNR=1.2						
	2.1nm,1.0s						
ASAR	**Alice Springs**	**60.38**	**138**	P	**P**	**04 11 09.9**	**+0.4**
	0.6nm,0.5s,baz=318,slow=6.8,SNR=4.8						
	0.6nm,0.5s						
ARCES	**ARCESS Array B**	**61.18**	**338**	P	**P**	**04 11 14.1**	**-0.2**
	2.4nm,0.9s,baz=103,slow=7.5,SNR=1.6						
	2.4nm,0.9s						
ILAR	**Eielson Array**	**80.79**	**22**	P	**P**	**04 13 10.9**	**-2.1**
	0.4nm,1.0s,baz=303,slow=4.1,SNR=2.4						
	0.4nm,1.0s						

*NEIC **02** 04:13:36.8±0.2, 18.°7N±0.°2×65.°3W±0.°1, h64km±37km, ML2.3/16, Md3.4/10(RSPR), Error ellipse: s-maj=25.3km s-min=16.1km az=197.0*
*RSPR **02** 04:13:37.9, 18.°64N×65.°29W, h59km±2km, MD3.4/10*
ISC 02 04:13:35.1±1.8**, 18.°7N**±0.°1×**65.°19W**±0.°05**, h50**km**, n40, σ0.s57**/42**, 7C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**0.94**	**244**	⇑*e*P	**Pn**	**04 13 52.9**	**+0.8**
GCPR	**Guaynabo City**	**0.94**	**244**	*e*S	**Sn**	**04 14 04.6**	**+0.1**
GCPR	**Guaynabo City**	**0.94**	**244**		**Pn**	**04 13 52.9**	**+0.8**
GCPR					**Sn**	**04 14 04.6**	**+0.1**
GCPR	**Guaynabo City**	**0.94**	**244**	IAML		04 14 05.8	
	comp=E,64nm,0.5s						
SJG	**San Juan**	**1.10**	**236**	⇑*e*P	**Pn**	**04 13 54.9**	**+0.7**
SJG	**San Juan**	**1.10**	**236**	*e*S	**Sn**	**04 14 07.8**	**-0.4**
SJG	**San Juan**	**1.10**	**236**		**Sn**	**04 14 08.3**	**0.0**
SJG				IAML		04 14 12.0	
	comp=E,65nm,0.2s						
SJG				IAML		04 14 12.1	
	comp=E,53nm,0.2s						
SJG	**San Juan**	**1.10**	**236**		**Pn**	**04 13 54.9**	**+0.7**
IGPR	**InterUniversit**	**1.16**	**229**	⇓*e*P	**Pn**	**04 13 55.6**	**+0.6**
IGPR	**InterUniversit**	**1.16**	**229**	*e*S	**Sn**	**04 14 09.0**	**-0.6**
IGPR	**InterUniversit**	**1.16**	**229**		**Pn**	**04 13 55.6**	**+0.6**
IGPR					**Sn**	**04 14 09.0**	**-0.6**
CELP	**Cerrillos**	**1.47**	**244**	⇑*e*P	**Pn**	**04 13 59.7**	**+0.5**
CELP	**Cerrillos**	**1.47**	**244**	*e*S	**Sn**	**04 14 16.9**	**-0.5**
CELP	**Cerrillos**	**1.47**	**244**		**Pn**	**04 13 59.7**	**+0.5**
CELP					**Sn**	**04 14 16.9**	**-0.5**
CELP	**Cerrillos**	**1.47**	**244**	IAML		04 14 17.8	
	comp=N,38nm,0.4s						
OBIP	**Obispado Ponce**	**1.51**	**243**	⇑*e*P	**Pn**	**04 14 00.4**	**+0.7**
OBIP	**Obispado Ponce**	**1.51**	**243**	*e*S	**Sn**	**04 14 17.6**	**-0.6**
OBIP	**Obispado Ponce**	**1.51**	**243**		**Pn**	**04 14 00.0**	**+0.3**
OBIP	**Obispado Ponce**	**1.51**	**243**		**Sn**	**04 14 17.6**	**-0.6**
OBIP	**Obispado Ponce**	**1.51**	**243**	IAML		04 14 18.9	
	comp=E,29nm,0.3s						
OBIP				IAML		04 14 21.5	
	comp=N,27nm,0.6s						
AOPR	**Arecibo Observ**	**1.53**	**256**	⇑*e*P	**Pn**	**04 14 00.5**	**+0.4**
AOPR	**Arecibo Observ**	**1.53**	**256**	*e*S	**Sn**	**04 14 18.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.53**	**256**		**Pn**	**04 14 00.5**	**+0.4**
AOPR	**Arecibo Observ**	**1.53**	**256**		**Sn**	**04 14 18.3**	**-0.5**
AGPR	**Aguadilla, PR**	**1.84**	**262**	⇑*e*P	**Pn**	**04 14 04.6**	**+0.3**
AGPR	**Aguadilla, PR**	**1.84**	**262**	*e*S	**Sn**	**04 14 26.2**	**-0.1**
AGPR	**Aguadilla, PR**	**1.84**	**262**		**Pn**	**04 14 04.6**	**+0.3**
AGPR	**Aguadilla, PR**	**1.84**	**262**		**Sn**	**04 14 26.2**	**-0.1**
LSP	**Las Mesas**	**1.88**	**253**	⇑*e*P	**Pn**	**04 14 04.7**	**-0.2**
LSP	**Las Mesas**	**1.88**	**253**	*e*S	**Sn**	**04 14 26.8**	**-0.6**
LSP	**Las Mesas**	**1.88**	**253**		**Pn**	**04 14 04.7**	**-0.2**
LSP					**Sn**	**04 14 26.8**	**-0.6**
MLPR	**Magueyes Islan**	**1.91**	**247**	⇓*e*P	**Pn**	**04 14 05.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.91**	**247**	*e*S	**Sn**	**04 14 27.6**	**-0.6**
MLPR	**Magueyes Islan**	**1.91**	**247**		**Pn**	**04 14 05.0**	**-0.3**
MLPR				IAML		04 15 12.2	
	comp=N,25nm,3.0s						
MLPR	**Magueyes Islan**	**1.91**	**247**		**Sn**	**04 14 27.6**	**-0.6**
MLPR	**Magueyes Islan**	**1.91**	**247**	IAML		04 14 26.7	
	comp=E,34nm,2.7s						
CRPR	**Cabo Rojo, PR**	**1.96**	**249**	⇓*e*P	**Pn**	**04 14 06.5**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.96**	**249**	*e*S	**Sn**	**04 14 28.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.96**	**249**		**Pn**	**04 14 06.1**	**+0.3**
CRPR				IAML		04 14 25.2	
	comp=E,43nm,2.9s						
CRPR					**Sn**	**04 14 28.6**	**-0.7**
CRPR				IAML		04 14 31.2	
	comp=N,41nm,2.2s						
ANBD	**Bethesda, Anti**	**3.67**	**117**	*e*P	**Pn**	**04 14 30.2**	**+0.8**
ANBD				*e*S	**Sn**	**04 15 10.1**	**-1.3**

*NAO **02** 04:23:55.6, 39.°21N×24.°42E, h33km, mb4.8*
*AFAD **02** 04:24:01.9±0.0, 41.°46N×21.°70E, h5km±3km, MW5.0*
*PRU **02** 04:24:13.1, 41.°10N×23.°95E, h10km, M5.1*
*BJI **02** 04:24:15.0±0.0, 41.°20N×22.°90E, h8km, mb4.8/57, mB5.2/29, Ms4.8/22, Ms7 4.5/23*
*IDC **02** 04:24:15.6±0.4, 41.°22N×22.°83E, h0km, mb4.6/34, mbtmp4.6/48, ML4.1/14, MS4.0/70, Error ellipse: s-maj=7.4km s-min=6.8km az=177.0*
*SOF **02** 04:24:15.7, 41.°18N±0.°02×22.°82E±0.°02, h9km±2km, MD5.0/9*
*ISK **02** 04:24:15.8, 41.°24N×22.°86E, h10km, ML5.0/38*
*MOS **02** 04:24:15.9±1.0, 41.°26N×22.°87E, h14km, mb5.1/44, MS4.3/24, Error ellipse: s-maj=3.6km s-min=2.4km az=84.0*
*MED_RC **02** 04:24:16.0±0.2, 41.°16N×22.°93E, h18km, MW4.9/40, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s40,c63; Duration: 1.s4 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.31±.16; $M_{\theta\theta}$2.75±.11; $M_{\phi\phi}$-0.44±.08; $M_{r\theta}$-0.60±.15; $M_{\theta\phi}$-0.05±.06; $M_{\phi r}$0.05±.14; Best double couple: $M_0$2.60000×10^{16} NP1:ϕ_s92.00000°,δ52.00000°, λ-89.00000°. NP2:ϕ_s270.00000°,δ38.00000°, λ-92.00000°. Principal axes: T 2.8200, Plg7.0000°, Azm181.0000°; N -0.4400, Plg1.0000°, Azm271.0000°; P -2.3800, Plg83.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **02** 04:24:16.4, 41.°27N×22.°84E, h1km*
*GCMT **02** 04:24:16.8±0.2, 41.°11N±0.°01×22.°90E±0.°03, h21km, MW4.9/92, Moment Tensor Solution. s34,c40; s92,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.76±.16; $M_{\theta\theta}$2.95±.10; $M_{\phi\phi}$-0.18±.09; $M_{r\theta}$-0.15±.13; $M_{\theta\phi}$-0.36±.06; $M_{\phi r}$0.40±.18; Best double couple: $M_0$2.90900×10^{16} NP1:ϕ_s105.00000°,δ48.00000°,λ-79.00000°. NP2: ϕ_s268.00000°,δ44.00000°,λ-102.00000°. Principal axes: T 2.9970, Plg2.0000°, Azm187.0000°; N -0.1710, Plg8.0000°, Azm277.0000°; P -2.8210, Plg82.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*PDG **02** 04:24:16.6±0.5, 41.°24N×22.°84E, h14km, MD5.0/5, ML4.9/12 Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*SKO **02** 04:24:16.2, 41.°20N×22.°84E, h15km, ML4.8*
*NEIC **02** 04:24:17, 41.°26N×22.°84E, h18km*
*TIR **02** 04:24:17.0, 41.°23N×22.°78E, h32km±1km, Ml5.0*
*NEIC **02** 04:24:17.8±1.6, 41.°28N±0.°05×22.°84E±0.°06, h12km±3km, mb5.1/328, Mwr4.8/32, Mww4.9/15, Error ellipse: s-maj=7.5km s-min=5.7km az=158.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.60; $M_{\theta\theta}$1.88; $M_{\phi\phi}$-0.28; $M_{r\theta}$-0.56; $M_{\theta\phi}$-0.06; $M_{\phi r}$0.03; Fault plane solution: $M_0$1.84000×10^{16} NP1:ϕ_s92.10000°, δ53.88000°,λ-89.34000°. NP2:ϕ_s270.98000°,δ36.13000°, λ-90.91000°. Principal axes: T 1.9688, Plg9.0000°, Azm182.0000°; N -0.2820, Plg1.0000°, Azm272.0000°; P -1.6867, Plg81.0000°, Azm5.0000°;*
*NEIC **02** 04:24:17, 41.°26N×22.°84E, h18km, Moment Tensor Solution. Duration: 1.s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.77; $M_{\theta\theta}$2.32; $M_{\phi\phi}$-0.55; $M_{r\theta}$1.27; $M_{\theta\phi}$-0.23; $M_{\phi r}$0.35; Fault plane solution: $M_0$2.45000×10^{16} NP1: ϕ_s260.99000°,δ62.05000°,λ-105.45000°. NP2: ϕ_s111.52000°,δ31.63000°,λ-63.34000°. Principal axes: T 2.6827, Plg16.0000°, Azm2.0000°; N -0.4609, Plg14.0000°, Azm268.0000°; P -2.2217, Plg69.0000°, Azm139.0000°;*
*THE **02** 04:24:17.9, 41.°18N×22.°89E, h14km, ML4.7/13 Error ellipse: s-maj=0.9km s-min=0.4km az=166.0*
*GII **02** 04:24:18.8±0.7, 41.°22N×22.°83E, h10km, confirmed*
*BEO **02** 04:24:18.4±0.4, 41.°28N×22.°84E, h10km±2km, ML4.6/9*
*ATH **02** 04:24:18.3, 41.°19N×22.°88E, h12km, Mw4.7, Moment Tensor Solution. s7 Moment tensor: M_{rr}-1.36; $M_{\theta\theta}$1.58; $M_{\phi\phi}$-0.22; $M_{r\theta}$-0.42; $M_{\theta\phi}$-0.08; $M_{\phi r}$0.59; Fault plane solution: NP1:ϕ_s113.00000°,δ57.00000°,λ-65.00000°. NP2:ϕ_s252.00000°,δ40.00000°,λ-123.00000°.*
*CFUSG **02** 04:24:19.4, 41.°25N×23.°30E, h5km, mb4.0/6, Greece Magtype MSH 4.2 from 6 stations*
ISC 02 04:24:17.3±0.6**, 41.°21N**±0.°01×**22.°86E**±0.°01**, h12**km±3km**, n1414, σ1.s30**/1432**, mb5.1**/242**, MS4.1**/75**, 63C-73D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.25**	**296**	*e*Pg	**Pg**	**04 24 22.6**	**+0.1**
VAY				*e*Sg	**Sg**	**04 24 26.3**	**+0.3**
VAY	**Valandovo**	**0.25**	**296**	*i* Pg	**Pg**	**04 24 22.2**	**-0.3**
VAY				*i* Sg	**Sg**	**04 24 26.2**	**+0.1**
VAY				*e*Lg	Lg	04 24 26.4	
	comp=N,375µm,0.5s						
VAY				*e*Lg	Lg	04 24 29.0	
	comp=E,181µm,0.7s						
SOH	**Sokhos**	**0.54**	**136**	P	**Pg**	**04 24 27.5**	**-0.3**
SOH				S	**Sg**	**04 24 34.7**	**-0.3**
	comp=E,132µm,0.4s						
SOH	**Sokhos**	**0.54**	**136**	P	**Pg**	**04 24 27.5**	**-0.3**
SOH				S	**Sg**	**04 24 34.7**	**-0.3**
SOH	**Sokhos**	**0.54**	**136**	P	**Pg**	**04 24 27.9**	**+0.1**
SOH				S	**Sg**	**04 24 35.2**	**+0.2**
SOH	**Sokhos**	**0.54**	**136**	⇑*i*Pg	**Pg**	**04 24 27.5**	**-0.3**
SOH				*i* Sg	**Sb**	**04 24 35.8**	**-0.6**
PEHC	**Pehcevo**	**0.57**	**3**	*i* Pg	**Pg**	**04 24 27.6**	**-0.8**
PEHC				*i* Sg	**Sg**	**04 24 36.4**	**+0.4**
THE	**Thessaloniki**	**0.58**	**172**	P	**Pg**	**04 24 28.4**	**-0.3**
	baz=166						
THE				S	**Sb**	**04 24 39.1**	**+1.4**
	baz=166						
THE				AMP			
	comp=N,285nm,0.6s,baz=166						
THE	**Thessaloniki**	**0.58**	**172**	P	**Pg**	**04 24 28.4**	**-0.3**
THE				S	**Sg**	**04 24 36.6**	**+0.2**
	comp=N,81µm,0.6s						
THE	**Thessaloniki**	**0.58**	**172**	P	**Pg**	**04 24 28.4**	**-0.3**
THE				S	**Sg**	**04 24 36.9**	**+0.5**
THE	**Thessaloniki**	**0.58**	**172**	⇑*i*Pg	**Pg**	**04 24 28.4**	**-0.3**
THE				*i* Sg	**Sb**	**04 24 37.3**	**-0.3**
HORT	**Hortiatis**	**0.64**	**164**	Pg	**Pg**	**04 24 29.5**	**-0.2**
HORT				Sg	**Sb**	**04 24 38.8**	**-0.5**
HORT	**Hortiatis**	**0.64**	**164**	P	**Pg**	**04 24 29.6**	**-0.2**
HORT				S	**Sg**	**04 24 38.3**	**+0.1**
	comp=N,69µm,0.5s						
HORT	**Hortiatis**	**0.64**	**164**	P	**Pg**	**04 24 29.8**	**+0.1**
HORT				S	**Sb**	**04 24 38.7**	**-0.5**
KKB	**Krupnik**	**0.66**	**17**	*i* P	**Pg**	**04 24 29.7**	**-0.5**
KKB				*i* S	**Sg**	**04 24 38.7**	**-0.2**
KKB	**Krupnik**	**0.66**	**17**	⇑*i*Pg	**Pg**	**04 24 29.6**	**-0.5**
KKB				*i* Sg	**Sg**	**04 24 38.9**	**0.0**
STIP	**Stip**	**0.70**	**314**	*i* Pg	**Pg**	**04 24 28.6**	**-2.3**
STIP				*i* Sg	**Sg**	**04 24 38.6**	**-1.6**
MMB	**Musomishta**	**0.75**	**63**	*i* P	**Pg**	**04 24 31.6**	**-0.2**
MMB				*i* S	**Sg**	**04 24 41.7**	**+0.1**
MMB	**Musomishta**	**0.75**	**63**	⇑*i*Pg	**Pg**	**04 24 31.3**	**-0.5**
MMB				*i* Sg	**Sb**	**04 24 42.5**	**+0.1**
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pb**	**04 24 32.6**	**+0.1**
NVR				S	**Sb**	**04 24 43.1**	**+0.2**
	comp=N,34µm,0.3s						
NVR	**Nevrokopi**	**0.77**	**79**	P	**Pb**	**04 24 33.0**	**+0.5**
NVR				S	**Sb**	**04 24 43.3**	**+0.4**
KOKK	**Kokkinochori,**	**0.94**	**114**	P	**Pg**	**04 24 34.8**	**-0.7**
KOKK				S	**Sg**	**04 24 47.6**	**-0.3**
	comp=N,41µm,0.8s						
KOKK	**Kokkinochori,**	**0.94**	**114**	P	**Pb**	**04 24 35.6**	**+0.1**
KOKK				S	**Sb**	**04 24 48.3**	**+0.2**
KTI	**Kastanea**	**1.00**	**215**	P	**Pg**	**04 24 35.2**	**-1.3**
KVLA	**Kavala**	**1.18**	**103**	P	**Pn**	**04 24 39.7**	**+0.1**
KVLA				S	**Sg**	**04 24 55.2**	**-0.2**
FNA	**Florina**	**1.21**	**250**	Pn	**Pn**	**04 24 39.3**	**-0.7**
FNA				Sn	**Sn**	**04 24 56.2**	**0.0**

FNA	Florina	1.21	250		Pn	04 24 39.2	-0.7
FNA				Sn	Sn	04 24 56.6	+0.4
FNA	Florina	1.21	250	P	Pn	04 24 39.2	-0.7
	baz=248						
FNA				S	Sb	04 24 55.5	-0.1
	baz=248						
FNA				AMP			
	comp=E,39nm,0.8s,baz=248						
FNA	Florina	1.21	250	P	Pn	04 24 39.2	-0.7
FNA				S	Sb	04 24 55.2	-0.4
	comp=E,32µm,0.8s						
FNA	Florina	1.21	250	P	Pb	04 24 40.0	-0.1
FNA				S	Sb	04 24 55.5	-0.1
FNA	Florina	1.21	250	ePg	Pb	04 24 40.0	-0.1
FNA				eSg	Sn	04 24 57.6	+1.4
FNA	Florina	1.21	250	P	Pn	04 24 39.2	-0.7
FNA						04 24 56.6	
FNA	Florina	1.21	250	P	Pb	04 24 39.9	-0.1
FNA				S	Sg	04 24 56.0	-0.2
FNA	Florina	1.21	250	i Pg	Pn	04 24 39.3	-0.7
OUR	Ouranopolis	1.22	136	Pn	Pn	04 24 39.6	-0.6
OUR				Sn	Sn	04 24 57.4	+0.9
OUR	Ouranopolis	1.22	136	P	Pn	04 24 39.5	-0.6
OUR				S	Sn	04 24 56.5	0.0
	comp=E,48µm,0.9s						
OUR	Ouranopolis	1.22	136	P	Pn	04 24 40.0	-0.1
OUR				S	Sb	04 24 55.7	-0.3
KAVA	Kavala	1.27	99	P	Pn	04 24 40.3	-0.4
KAVA				S	Sn	04 24 57.5	-0.2
	comp=E,75µm,0.6s						
KAVA	Kavala	1.27	99	P	Pb	04 24 40.8	-0.3
KAVA				S	Sn	04 24 57.4	-0.2
SKO	Skopje	1.31	306	ePg	Pn	04 24 41.3	-0.1
SKO				eSg	Sg	04 24 59.3	-0.2
SKO	Skopje	1.31	306	P	Pn	04 24 40.9	-0.5
SKO				S	Sg	04 24 59.4	-0.1
SKO	Skopje	1.31	306	i Pg	Pn	04 24 40.9	-0.5
SKO				i Sg	Sg	04 24 59.4	-0.1
BOSS	Bosilegrad	1.31	348	ePg	Pb	04 24 41.6	-0.3
BOSS				eSg	Sb	04 24 58.4	-0.3
PLNA	Plana	1.33	18	i P	Pg	04 24 42.9	0.0
PLNA				i S	Sg	04 25 01.7	+1.5
PRVS	Prvonek	1.42	336	ePg	Pn	04 24 43.2	+0.2
PRVS				eSg	Sb	04 25 02.1	+0.3
PAIG	Paliouri	1.43	154	Pn	Pn	04 24 42.4	-0.5
PAIG				Sn	Sb	04 25 02.4	+0.5
PAIG	Paliouri	1.43	154	P	Pn	04 24 42.5	-0.5
PAIG				S	Sn	04 25 00.4	-1.2
	comp=E,26µm,0.8s						
VTS	Vitosha	1.43	11	i P	Pb	04 24 43.5	-0.5
VTS				i S	Sg	04 25 02.9	-0.6
VTS	Vitosha	1.43	11	ePg	Pb	04 24 43.4	-0.5
VTS				eSg	Sn	04 25 01.5	-0.5
RZN	Rozhen	1.49	71	i P	Pb	04 24 45.0	0.0
RZN				i S	Sg	04 25 06.0	+0.7
SOF	Sofia	1.51	14	i P	Pg	04 24 45.8	-0.5
SOF				i S	Sg	04 25 06.2	+0.2
THAS	Thassos island	1.53	113	P	Pn	04 24 43.8	-0.6
THAS				S	Sn	04 25 02.9	-1.3
	comp=E,21µm,0.4s						
THAS	Thassos island	1.53	113	P	Pn	04 24 44.2	-0.2
THAS				S	Sn	04 25 03.8	-0.4
OHR	Ohrid	1.56	267	ePg	Pb	04 24 45.5	-0.6
OHR				eSg	Sg	04 25 07.4	-0.2
OHR	Ohrid	1.56	267	i Pg	Pn	04 24 45.0	+0.1
OHR				i Sg	Sg	04 25 07.9	+0.3
OHR				eLg	Lg	04 25 11.0	
	comp=N,11µm,0.9s						
OHR				eLg	Lg	04 25 12.9	
	comp=E,5µm,0.7s						
NEST	Nestorio	1.59	241	P	Pn	04 24 45.4	+0.1
NEST				S	Sb	04 25 06.6	-0.1
	comp=E,14µm,1.4s						
NEST	Nestorio	1.59	241	P	Pn	04 24 45.6	+0.3
PGB	Panagyurishte	1.63	37	i P	Pb	04 24 46.8	-0.4
PGB				i S	Sg	04 25 09.1	-0.6
PENT	Pentalofos	1.66	233	P	Pn	04 24 46.2	0.0
PENT	Pentalofos	1.66	233	P	Pn	04 24 46.3	0.0
KBN	Korca	1.68	250		Pn	04 24 46.4	-0.1
KBN				Sn	Sb	04 25 09.8	+0.6
KBN	Korca	1.68	250	P	Pn	04 24 47.0	+0.4
	baz=249						
KBN				S	Sn	04 25 08.2	+0.3
	baz=249						
KBN				AMP			
	comp=N,68nm,0.7s,baz=249						
KBN	Korca	1.68	250	P	Pn	04 24 46.1	-0.4
KBN				S	Sb	04 25 09.6	+0.3
	comp=N,12µm,1.4s						
KBN	Korca	1.68	250	P	Pn	04 24 46.4	-0.1
KBN						04 25 09.8	
PLD	Plovdiv	1.69	56	Pn	Pn	04 24 46.8	+0.2
PLD				Sn	Sn	04 25 06.9	-1.3
PLD	Plovdiv	1.69	56	ePg	Pn	04 24 47.3	+0.7
PLD				eSg	Sb	04 25 10.0	+0.5
PLD	Plovdiv	1.69	56	⇓ i Pn	Pn	04 24 46.9	+0.2
KPRO	Kipourio	1.70	223	P	Pn	04 24 46.6	-0.2
KPRO	Kipourio	1.70	223	P	Pn	04 24 47.1	+0.3
THL	Klokotos Trika	1.77	202	P	Pn	04 24 47.2	-0.5
THL	Klokotos Trika	1.77	202	P	Pn	04 24 47.6	0.0
BARS	Barje	1.78	334	ePg	Pn	04 24 48.5	+0.6
BARS				eSg	Sb	04 25 12.0	-0.2
BARS	Barje	1.78	334	⇓ i Pn	Pn	04 24 47.7	-0.2
BARS				i Sn	Sg	04 25 13.8	-0.9
PHP	Peshkopia	1.88	285	P	Pn	04 24 49.2	0.0
	baz=286						
PHP				S	Sb	04 25 14.1	-1.0
	baz=286						
PHP				AMP			
	comp=N,38nm,0.9s,baz=286						
PHP	Peshkopia	1.88	285	P	Pn	04 24 48.9	-0.4
PHP				S	Sn	04 25 12.1	-0.9
KDZ	Kurdzhali	1.91	77	Pn	Pn	04 24 49.5	-0.1
KDZ				Sn	Sn	04 25 13.8	+0.3
NEO	Neokhori	1.92	172	P	Pn	04 24 49.5	-0.3
NEO	Neokhori	1.92	172	P	Pn	04 24 50.0	+0.2
RDO	Rodhopi	2.02	91	Pn	Pn	04 24 50.8	-0.3
RDO				Sn	Sn	04 25 16.8	+0.6
RDO	Rodhopi	2.02	91	Pn	Pn	04 24 51.2	0.0
RDO	Rodhopi	2.02	91	P	Pn	04 24 50.9	-0.2
RDO				S	Sn	04 25 16.1	-0.1
	comp=N,11µm,0.3s						
RDO	Rodhopi	2.02	91	P	Pn	04 24 51.1	0.0
LSK	Leskovik	2.02	239	P	Pn	04 24 52.5	+1.2
	baz=238						
LSK				S	Sb	04 25 18.2	-0.9
	baz=238						
LSK				AMP			
	comp=E,83nm,0.8s,baz=238						
LSK	Leskovik	2.02	239	P	Pn	04 24 51.8	+0.6
ZAPS	Zavoj	2.07	355	ePn	Pn	04 24 52.7	+0.9
SMTH	Samothraki Isl	2.15	109	P	Pn	04 24 52.6	-0.4
SMTH	Samothraki Isl	2.15	109	P	Pn	04 24 52.6	-0.4
JAN	Janina	2.19	225	P	Pb	04 24 55.1	-1.7
JAN	Janina	2.19	225	P	Pb	04 24 55.1	-1.7
DIM	Dimitrovgrad	2.20	67	i P	Pn	04 24 54.5	+0.9
DIM				i S	Sg	04 25 28.9	+1.0
LIA	Limnos Island	2.20	126	P	Pn	04 24 53.4	-0.2
LIA	Limnos Island	2.20	126	P	Pn	04 24 53.5	-0.2
MPEP	Malo Peshtene	2.24	17	i P	Pn	04 24 55.2	+1.0
MPEP				i S	Sg	04 25 30.9	+1.6
TIR	Tirane	2.26	274	⇑P	Pb	04 24 57.3	-0.8
TIR	Tirane	2.26	274		Pn	04 24 55.3	+0.8
TIR	Tirane	2.26	274	P	Pn	04 24 55.2	+0.7
	baz=274						
TIR				S	Sn	04 25 23.2	+0.9
	baz=274						
TIR				AMP			
	comp=N,12nm,1.0s,baz=274						
TIR	Tirane	2.26	274	P	Pn	04 24 55.5	+1.0
TIR	Tirane	2.26	274	ePn	Pb	04 24 56.7	-1.4
TIR	Tirane	2.26	274	P	Pn	04 24 55.3	+0.8
MAKR	Makrakomi, Fth	2.27	195	P	Pn	04 24 54.6	0.0
MAKR	Makrakomi, Fth	2.27	195	P	Pn	04 24 55.0	+0.4
BCI	Bajram Curri	2.39	300	P	Pn	04 24 56.7	+0.5
	baz=301						
BCI				S	Sn	04 25 26.4	+1.0
	baz=301						
SELS	Selova	2.39	328	ePn	Pn	04 24 56.0	-0.2
BLKB	Belogradchik	2.41	357	⇑P	Pn	04 24 57.3	+0.7
BLKB	Belogradchik	2.41	357		Pn	04 24 57.3	+0.7
ALN	Alexandroupoli	2.43	96	Pn	Pn	04 24 56.6	-0.1
ALN	Alexandroupoli	2.43	96		Pn	04 24 57.0	+0.3
ALN	Alexandroupoli	2.43	96	P	Pn	04 24 56.6	-0.1
ALN	Alexandroupoli	2.43	96	P	Pn	04 24 56.8	+0.1
ALN				S	Sg	04 25 33.4	-1.9
ALN				i AML	AML	04 25 40.0	
	comp=N,2µm,1.1s						
ALN	Alexandroupoli	2.43	96	P	Pn	04 24 57.0	+0.3
ALN	Alexandroupoli	2.43	96	P	Pn	04 24 56.5	-0.1
EVR	Evrytania	2.43	200	P	Pn	04 24 58.0	+1.2
EVR	Evrytania	2.43	200	P	Pn	04 24 58.1	+1.2
AXAR	Agios Charalam	2.45	184	P	Pn	04 24 57.1	+0.1
AXAR	Agios Charalam	2.45	184	P	Pn	04 24 57.6	+0.5
VALD	Valchedram	2.51	10	i P	Pn	04 24 58.3	+0.4
GADA	Gvkgeada	2.52	113	Pn	Pn	04 24 58.2	+0.2
GADA				Sn	Sn	04 25 29.3	+0.7
GOKC	Gokceada-Canak	2.53	113	Pn	Pn	04 24 58.7	+0.5
PLVB	Pleven	2.53	30	⇑P	Pn	04 24 59.3	+1.1
PLVB	Pleven	2.53	30		Pn	04 24 59.3	+1.1
ENEZ	Enez	2.54	100	Pn	Pn	04 24 58.5	+0.3
ENEZ				Sn	Sn	04 25 29.7	+0.7
ENEZ	Enez	2.54	100	P	Pn	04 24 58.5	+0.3
GOAD	anakkale-G¶	2.54	113	P	Pn	04 24 59.0	+0.7
GOAD				S	Sg	04 25 37.3	-1.7
GOAD				i AML	AML	04 25 45.0	
	comp=N,2µm,1.1s						
CAVK	Edirne/Enez-Ca	2.56	101	P	Pn	04 24 58.6	+0.1
CAVK				S	Sg	04 25 40.1	+0.7
CAVK				i AML	AML	04 25 56.0	
	comp=N,2µm,0.7s						
ENZZ	Sultanice-Enez	2.56	103	Pn	Pn	04 24 58.8	+0.3
SRN	Sarande	2.56	240	P	Pb	04 25 01.1	-1.9
	baz=239						
SRN				S	Sb	04 25 32.5	-1.9
	baz=239						
SRN	Sarande	2.56	240	P	Pn	04 25 00.6	+2.1
IGT	Igoumenitsa	2.56	230	P	Pn	04 25 00.7	+2.2
	baz=229						
IGT				S	Sb	04 25 35.0	+0.4
	baz=229						
IGT				AMP			
	comp=E,14nm,0.9s,baz=229						
IGT	Igoumenitsa	2.56	230	P	Pn	04 25 00.7	+2.2
IGT	Igoumenitsa	2.56	230	P	Pn	04 25 00.8	+2.2
BOVS	Bovan	2.57	341	⇑P	Pn	04 24 58.5	-0.2
BOVS	Bovan	2.57	341		Pn	04 24 58.5	-0.2
BOVS	Bovan	2.57	341	ePn	Pn	04 24 58.2	-0.5
PVY	Plav	2.57	303	⇓ i Pn	Pn	04 24 58.6	-0.2
PVY				i Sn	Sn	04 25 31.4	+1.3
ZAGS	Zajecar	2.64	350	ePn	Pn	04 24 59.8	+0.1
VLO	Vlora	2.66	255		Pn	04 25 01.6	+1.7
VLO	Vlora	2.66	255	P	Pb	04 25 02.4	-2.4
	baz=255						
VLO				S	Sn	04 25 34.0	+1.9
	baz=255						
VLO	Vlora	2.66	255	P	Pn	04 25 02.1	+2.2
VLO	Vlora	2.66	255	P	Pn	04 25 01.6	+1.7
SKY	Skiros Island	2.67	150	P	Pn	04 25 00.4	+0.4
SKY	Skiros Island	2.67	150	P	Pn	04 25 00.5	+0.5
ANX	Ano Chora	2.71	196	P	Pn	04 25 01.2	+0.4
ANX	Ano Chora	2.71	196	P	Pn	04 25 01.5	+0.7
KYMI	Kymi, Euboea I	2.75	159	P	Pn	04 25 01.0	-0.1
KYMI	Kymi, Euboea I	2.75	159	P	Pn	04 25 01.3	+0.2
IVA	Berane	2.77	308	⇑ i Pn	Pn	04 25 01.8	+0.3
IVA				i Sn	Sn	04 25 35.9	+1.1
ECEA	Canakkale, Ece	2.78	114	P	Pn	04 25 02.0	+0.5
ECEA				S	Sg	04 25 44.4	-2.1
ECEA				i AML	AML	04 26 05.0	
	comp=E,2µm,0.8s						
KEK	Kerkira	2.78	238		Pn	04 25 01.9	+0.3
BOZC	Bozcaada	2.79	118	P	Pn	04 24 49.5	-12
BOZC				S	Sn	04 25 31.8	-3.4
PVO	Paravola	2.79	202	P	Pn	04 25 02.8	+1.1
ERIK	Erikli-Kesan	2.82	100	Pn	Pn	04 25 01.8	-0.3
ERIK	Erikli-Kesan	2.82	100	P	Pn	04 25 02.2	+0.2
ERIK				S	Sg	04 25 46.4	-1.4
ERIK				i AML	AML	04 26 05.0	
	comp=E,1µm,1.0s						
ULC	Ulcinj	2.82	287	⇓ i Pn	Pn	04 25 02.8	+0.7
ULC				i Sn	Sn	04 25 37.4	+1.4
ELND	Elena	2.82	52	⇓P	Pn	04 25 02.9	+0.7
ELND	Elena	2.82	52		Pn	04 25 02.9	+0.7
BAIL	Bailesti	2.83	7	⇑P	Pn	04 25 03.0	+0.8
UKOP	Uzunkopru-Edir	2.85	90	Pn	Pn	04 25 03.2	+0.7
UKOP	Uzunkopru-Edir	2.85	90	P	Pn	04 25 03.7	+1.2
UKOP				S	Sg	04 25 48.7	0.0
UKOP				i AML	AML	04 25 54.0	
	comp=E,2µm,0.6s						
GELI	Tayfur-Gelibol	2.86	105	Pn	Pn	04 25 02.4	-0.2
EFP	Efpalio	2.88	195	P	Pn	04 25 03.2	+0.3
DRME	Dracevica, Mon	2.92	291	⇑ i Pn	Pn	04 25 03.9	+0.4
DRME				i Sn	Sn	04 25 39.8	+1.3
DRME	Dracevica, Mon	2.92	291	ePn	Pn	04 25 05.6	+2.1
TSLK	Tsoukalades, L	2.93	216	P	Pn	04 25 05.3	+1.7
LKD2	Lefkada island	2.95	216	P	Pn	04 25 05.7	+1.7
	baz=215						
LKD2				S	Sn	04 25 42.2	+2.9
	baz=215						
LKD2	Lefkada island	2.95	216	P	Pn	04 25 05.5	+1.5
COMU	Canakkale	2.96	111	Pn	Pn	04 25 04.7	+0.6
SJES	Sjenica	2.97	315	ePn	Pn	04 25 04.8	+0.5
SJES	Sjenica	2.97	315	ePn	Pn	04 25 03.9	-0.4
EZN	Ezine	2.98	117	Pn	Pn	04 25 04.8	+0.5
EZN	Ezine	2.98	117	P	Pn	04 25 04.9	+0.6
EZN	Ezine	2.98	117	P	Pn	04 25 05.4	+1.1
EZN				S	Sb	04 25 48.2	+1.6
EZN				i AML	AML	04 26 08.0	
	comp=E,948nm,1.0s						
EZN	Ezine	2.98	117	P	Pn	04 25 06.3	+2.0
EDRB	Edirne	2.98	76	Pn	Pn	04 25 04.3	-0.1
EDRB	Edirne	2.98	76	P	Pn	04 25 04.2	-0.1
EDRB	Edirne	2.98	76	P	Pn	04 25 04.6	+0.3
EDRB				S	Sb	04 25 47.3	+0.7
EDRB				i AML	AML	04 25 58.0	
	comp=E,2µm,0.7s						
KOME	Kolasin	2.98	304	⇓ i Pn	Pn	04 25 05.4	+0.9
KOME				i Sn	Sn	04 25 41.1	+0.9
NYDR	Nydri-Lefkada	3.00	214	P	Pn	04 25 06.1	+1.5
ALIK	Aliki, Aigiali	3.00	191	P	Pn	04 25 06.1	+1.5
VLAD	Vladila	3.01	22	⇓P	Pn	04 25 05.2	+0.5
JMB	Yambol	3.02	64	Pn	Pn	04 25 05.5	+0.6
KOCA	Canakkale, Ayv	3.03	123	P	Pn	04 25 06.0	+1.0
KOCA				S	Sg	04 25 53.9	-0.7
SIGR	SIGRI	3.04	130	Pn	Pn	04 25 05.8	+0.7
SIGR	SIGRI	3.04	130	P	Pn	04 25 06.0	+0.9
SIGR	SIGRI	3.04	130	P	Pn	04 25 05.2	+0.1
GPNR	Gulpinar-Canak	3.05	124	Pn	Pn	04 25 06.0	+0.7
VILL	Villia	3.06	173	P	Pn	04 25 05.7	+0.2
PUNG	Punghina	3.06	1	⇑P	Pn	04 25 06.0	+0.5
ZIMR		3.07	36	⇓P	Pn	04 25 07.4	+1.9
ZIMR		3.07	36		Pn	04 25 07.3	+1.9
ZIMR		3.07	36	P	Pn	04 25 07.4	+1.9
LPK	Lapseki	3.07	105	Pn	Pn	04 25 05.9	+0.3
DRAG	Dragano-Lefkad	3.08	216	P	Pn	04 25 07.1	+1.4
EVGI	Lefkada island	3.10	214	P	Pn	04 25 07.1	+1.2
IVAS	Ivanjica	3.10	321	ePn	Pn	04 25 06.1	0.0
GRUS	Gruza	3.11	330	ePn	Pn	04 25 06.1	0.0
BUM	Brajici-Budva	3.16	291	⇓ i Pn	Pn	04 25 07.1	+0.2
BUM				i Sn	Sn	04 25 45.9	+1.3
BAYC	CANAKKALE_Bayr	3.17	116	P	Pn	04 25 07.9	+0.9
BAYC				S	Sb	04 25 51.3	-0.7
BAYC				i AML	AML	04 26 11.0	
	comp=E,771nm,1.0s						
THAL	Thalero	3.17	183	P	Pn	04 25 07.3	+0.3
KLV	Kalavryta, Ach	3.21	190	P	Pn	04 25 07.8	+0.2
LOUT	Loutraki	3.22	178	P	Pn	04 25 07.7	0.0
KIRK	Kırklareli	3.23	78	P	Pn	04 25 08.2	+0.4
KIRK				S	Sb	04 25 57.0	+3.2
KIRK				i AML	AML	04 26 05.0	
	comp=E,1µm,1.0s						
CEME	Cevo	3.23	296	⇓ i Pn	Pn	04 25 07.6	-0.3
CEME				i Sn	Sn	04 25 48.2	+1.9
DION	Dionisos Attik	3.24	165	P	Pn	04 25 09.2	+1.3
PTL	Penteli	3.25	166	P	Pn	04 25 09.4	+1.3
PRK	Paraskevi	3.27	126	P	Pn	04 25 09.3	+1.1
PRK	Paraskevi	3.27	126	P	Pn	04 25 09.3	+1.1
FSK	Fiskardo	3.27	214	P	Pn	04 25 09.2	+0.9
SVIS	Svilajnac	3.28	339	ePn	Pn	04 25 09.1	+0.6
GUR	Goura	3.30	187	P	Pn	04 25 08.7	-0.1
ATH	Athens Observa	3.30	168	P	Pn	04 25 09.2	+0.5
NKME	Niksic	3.30	299	⇑ i Pn	Pn	04 25 08.7	-0.1
NKME				i Sn	Sn	04 25 49.1	+1.1
RKY	Sarkoy-Tekirda	3.31	98	Pn	Pn	04 25 09.0	+0.1
RKY	Sarkoy-Tekirda	3.31	98	P	Pn	04 25 09.7	+0.8
RKY				S	Sg	04 26 01.1	-2.5
RKY				i AML	AML	04 26 15.0	
	comp=E,2µm,1.3s						
SART	Tekirdag	3.31	98	P	Pn	04 25 09.2	+0.3
SART				S	Sg	04 26 01.1	-2.5
SART				i AML	AML	04 26 15.0	
	comp=E,2µm,1.3s						
KUBS	Kucevo	3.32	345	ePn	Pn	04 25 07.7	-1.3
ATHU	Athens Univers	3.32	167	P	Pn	04 25 09.3	+0.3
PLE	Pljevlja	3.34	311	⇑ i Pn	Pn	04 25 09.4	+0.1
PLE				i Sn	Sn	04 25 49.9	+1.0
VLY	Voula,Athens	3.43	168	P	Pn	04 25 10.8	+0.3
RMGR	Halanga-Turnu	3.45	358	⇑P	Pn	04 25 10.9	+0.1
RMGR	Halanga-Turnu	3.45	358		Pn	04 25 10.9	+0.1
SRE	Strehaia	3.46	4	⇓P	Pn	04 25 12.4	+1.5
SRE	Strehaia	3.46	4	P	Pn	04 25 12.4	+1.5
DJES	Djerdap	3.46	356	⇓P	Pn	04 25 10.9	0.0
DJES	Djerdap	3.46	356	Pn	Pn	04 25 10.2	-0.8
DJES	Djerdap	3.46	356	ePn	Pn	04 25 13.5	+2.5
KRBG	Karabiga-Canak	3.46	102	Pn	Pn	04 25 11.9	+0.9
KRBG	Karabiga-Canak	3.46	102	P	Pn	04 25 12.1	+1.2
KRBG				S	Sg	04 26 05.0	-3.5
KRBG				i AML	AML	04 26 15.0	
	comp=E,898nm,0.7s						
ARMN	Kirklareli, Me	3.49	78	P	Pn	04 25 12.0	+0.6
ARMN				S	Sb	04 26 01.7	+0.4
ARMN				i AML	AML	04 26 14.0	
	comp=E,2µm,0.8s						
AYVA	Ayvalik	3.49	122	P	Pn	04 25 12.8	+1.4
AYVA				S	Sb	04 26 04.2	+2.9
AYVA				i AML	AML	04 26 17.0	
	comp=E,697nm,0.8s						
HCY	Herceg Novi	3.49	292	⇓ i Pn	Pn	04 25 11.4	0.0
HCY				i Sn	Sn	04 25 53.4	+0.8
HCY	Herceg Novi	3.49	292	ePn	Pn	04 25 12.5	+1.1
VLS	Valsamata	3.50	211	P	Pn	04 25 13.0	+1.5
LOZB	Loznitsa	3.51	51	⇓P	Pn	04 25 12.5	+0.9
LOZB	Loznitsa	3.51	51		Pn	04 25 12.5	+0.9
TRUS	Trudelj	3.51	330	ePn	Pn	04 25 11.6	-0.1
LESV	Lesvos island,	3.53	125	P	Pn	04 25 13.0	+1.2
PHSR	Pinarhisar	3.53	82	Pn	Pn	04 25 12.2	+0.3
PHSR	Pinarhisar	3.53	82	P	Pn	04 25 12.0	+0.1
PHSR				S	Sb	04 26 06.1	+3.7
PHSR				i AML	AML	04 26 19.0	
	comp=E,702nm,0.4s						
RUDO	Rudo	3.53	314	ePn	Pn	04 25 12.2	+0.3
SCTE	Santa Cesarea	3.53	253		Pn	04 25 12.1	+0.2
SCTE	Santa Cesarea	3.53	253	P	Pn	04 25 12.4	+0.5
	baz=252						
TKR	Tekirdag	3.54	92	Pn	Pn	04 25 12.4	+0.4
EAG3	Mitilini, Lesv	3.55	126	P	Pn	04 25 14.1	+2.0
UPM	Unac-Piva	3.55	305	⇓ i Pn	Pn	04 25 12.3	0.0
UPM				i Sn	Sn	04 25 55.1	+0.8
UPM	Unac-Piva	3.55	305	ePn	Pn	04 25 13.3	+1.0
PSDA	Pessada-Kefalo	3.56	210	P	Pn	04 25 13.9	+1.6
RAZG	Razgrad	3.58	48	⇓P	Pn	04 25 14.0	+1.4
RAZG	Razgrad	3.58	48		Pn	04 25 14.0	+1.4
BRY	Bratogost	3.64	299	⇑ i Pn	Pn	04 25 13.5	0.0
BRY				i Sn	Sn	04 25 57.1	+0.7
BRY	Bratogost	3.64	299	ePn	Pn	04 25 15.3	+1.8
BUHA	Balikesir, Bur	3.64	117	P	Pn	04 25 14.9	+1.4
BUHA				S	Sb	04 26 03.8	-2.0
BUHA				i AML	AML	04 26 18.0	
	comp=E,680nm,1.4s						
EAG2	Marmaro, Chios	3.65	136	P	Pn	04 25 14.6	+1.1
MDVR	Moldovita	3.67	347	⇑P	Pn	04 25 13.4	-0.4
CRLT	Corlu	3.68	90	Pn	Pn	04 25 14.7	+0.8
HERR	Herculane	3.68	355	⇓P	Pn	04 25 13.7	-0.3
BBLS	Lazići	3.68	317	ePn	Pn	04 25 14.5	+0.4
BBLS	Lazići	3.68	317	ePn	Pn	04 25 14.3	+0.2
TREB	Trebinje	3.69	296	ePn	Pn	04 25 15.9	+1.9
TREB	Trebinje	3.69	296	ePn	Pn	04 25 15.7	+1.7
KARB	zmir-Karabur	3.73	132	P	Pn	04 25 15.3	+0.6
KARB				S	Sg	04 26 17.4	+0.3
KARB				i AML	AML	04 26 21.0	
	comp=E,337nm,1.4s						
DKL	Dikili	3.76	123	Pn	Pn	04 25 16.5	+1.5
DKL	Dikili	3.76	123	P	Pn	04 25 16.6	+1.5
DKL				S	Sb	04 26 10.8	+1.7
DKL				i AML	AML	04 26 29.0	
	comp=E,417nm,0.8s						
CAND	Candarli	3.77	125	Pn	Pn	04 25 16.6	+1.4
KRND	KRANIDI	3.83	177	P	Pn	04 25 16.3	+0.3
LTHK	Lithakia	3.83	205	P	Pn	04 25 18.7	+2.7
RFT7	Candarli	3.84	125	Pn	Pn	04 25 17.4	+1.2
GONE	Gonen-Balikesi	3.85	106	Pn	Pn	04 25 16.6	+0.3
NEF	NEVSHA	3.86	56	i P	Pn	04 25 17.3	+0.8
FOCM	Foa	3.88	129	Pn	Pn	04 25 17.9	+1.2
EDC	Edincik	3.89	101	Pn	Pn	04 25 17.4	+0.5
BUC1	Bucharest	3.90	36	⇓P	Pn	04 25 18.7	+1.7
BUC1	Bucharest	3.90	36		Pn	04 25 18.7	+1.7
BUC1	Bucharest	3.90	36	P	Pn	04 25 18.7	+1.7
CESE	eme	3.91	136	Pn	Pn	04 25 17.9	+0.8
BEO	Beograd	4.00	335	ePn	Pn	04 25 20.3	+2.0
SLVT	Silivri	4.03	88	Pn	Pn	04 25 19.6	+0.8
HAPS	Han Pijesak,Bl	4.07	316	ePn	Pn	04 25 19.9	+0.5
HAPS	Han Pijesak,Bl	4.07	316	ePn	Pn	04 25 19.9	+0.5
ZEYE	Izmir, Urla-Ze	4.08	135	P	Pn	04 25 20.6	+1.1
ZEYE				S	Sn	04 26 06.7	-0.5
ZEYE				i AML	AML	04 26 47.0	
	comp=E,327nm,1.3s						
CTYL	Yalikoy Yolu	4.09	85	Pn	Pn	04 25 19.6	0.0
KIYI	Yalıkoy-Catalc	4.10	84	Pn	Pn	04 25 20.5	+0.8
NEVS	Nevesinje	4.10	302	ePn	Pn	04 25 22.9	+3.1
BALB	Balikesir	4.14	111	Pn	Pn	04 25 21.4	+1.2
BALB	Balikesir	4.14	111		Pn	04 25 21.7	+1.5
TEKS	Tekeris	4.14	325	ePn	Pn	04 25 20.0	-0.3
TEKS	Tekeris	4.14	325	ePn	Pn	04 25 20.0	-0.3
GZR	Gura Zlata	4.18	359	⇑P	Pn	04 25 22.3	+1.4
GZR	Gura Zlata	4.18	359	P	Pn	04 25 22.3	+1.4
STON	Ston	4.19	295	ePn	Pn	04 25 22.3	+1.4
STON	Ston	4.19	295	ePn	Pn	04 25 21.7	+0.8
KLMT	Kalamata	4.19	189	P	Pn	04 25 23.6	+2.6
SULR		4.27	35	⇓P	Pn	04 25 23.9	+1.9
LOT	Lotru	4.29	9	⇓P	Pn	04 25 22.6	+0.2
MTUR	Matau	4.32	21	⇓P	Pn	04 25 23.8	+1.0
MTUR	Matau	4.32	21		Pn	04 25 23.8	+1.0
MTUR	Matau	4.32	21	P	Pn	04 25 23.8	+1.0
BANR	Banloc	4.36	344	⇓P	Pn	04 25 23.1	-0.1
PYL	PYLOS	4.40	192	P	Pn	04 25 25.8	+2.0
GMLD	Gumuldur	4.42	134	Pn	Pn	04 25 25.3	+1.1
BLJ	Bijeljina	4.44	325	ePn	Pn	04 25 24.6	+0.3
VLI	Veliai	4.49	179	P	Pn	04 25 25.2	+0.1
BZS	Buzias	4.50	349	⇓P	Pn	04 25 25.3	+0.2
BZS	Buzias	4.50	349	ePn	Pn	04 25 24.3	-0.8
BZS	Buzias	4.50	349	P	Pn	04 25 25.3	+0.2
VOIR		4.51	20	⇑P	Pn	04 25 26.2	+0.7
VOIR		4.51	20	P	Pn	04 25 26.1	+0.7
FRGS	Fruska Gora	4.53	332	⇓P	Pn	04 25 26.5	+0.9
FRGS	Fruska Gora	4.53	332	ePn	Pn	04 25 24.9	-0.8
FRGS	Fruska Gora	4.53	332	ePn	Pn	04 25 23.3	-2.4
SURR	Surduc	4.57	353	⇓P	Pn	04 25 26.3	+0.1
SURR	Surduc	4.57	353		Pn	04 25 26.3	+0.1
PSN	Preselentsi	4.59	56	i P	Pn	04 25 27.5	+1.0
APE	Apeiranthos	4.63	153	P	Pn	04 25 27.7	+0.7
APE	Apeiranthos	4.63	153c	i P	Pn	04 25 27.7	+0.7
APE	Apeiranthos	4.63	153	P	Pn	04 25 27.6	+0.6
APE	Apeiranthos	4.63	153	S	Sn	04 26 22.3	+1.6
SMG	Samos	4.66	137	P	Pn	04 25 28.4	+1.0
DEV	Deva	4.67	0	⇑P	Pn	04 25 29.2	+1.7
DEV	Deva	4.67	0	P	Pn	04 25 29.2	+1.7
ISK	Istanbul-Kandi	4.68	90	P	Pn	04 25 27.6	-0.1
MATE	Matera	4.70	265	⇑P	Pn	04 25 29.4	+1.5
MATE	Matera	4.70	265	Pn	Pn	04 25 27.4	-0.5
MATE	Matera	4.70	265		Pn	04 25 29.4	+1.5
AMRR	Amara	4.72	43	⇑P	Pn	04 25 30.8	+2.5
AMRR	Amara	4.72	43	P	Pn	04 25 30.7	+2.5
ISR	Istrita	4.74	33	⇓P	Pn	04 25 30.4	+1.7
ISR	Istrita	4.74	33	P	Pn	04 25 30.3	+1.7
MLR	Muntele Rosu	4.83	27	⇑P	Pn	04 25 31.7	+1.9
MLR	Muntele Rosu	4.83	27	Pn	Pn	04 25 30.8	+0.9
MLR	Muntele Rosu	4.83	27	Pn	Pn	04 25 31.4	+1.5
	comp=E,32nm,0.3s,baz=232,slow=3.4,SNR=338						
MLR				Sn	Sn	04 26 28.1	+2.3
	comp=E,51nm,0.3s,baz=283,slow=16,SNR=3.9						
MLR				Lg	Lg	04 26 50.9	
	comp=E,55nm,0.3s,baz=156,slow=17,SNR=5.6						
NEHR	Nehoiu	4.90	30	⇑P	Pn	04 25 32.7	+2.0
NEHR	Nehoiu	4.90	30		Pn	04 25 32.7	+2.0

DOB Doboj 4.96 317 *e*Pn Pn 04 25 30.6 -0.9
MFTR Murfatlar 5.06 52 ⇓P Pn 04 25 34.3 +1.5
MFTR Murfatlar 5.06 52 Pn 04 25 34.3 +1.5
HARR Harsova 5.09 45 ⇑P Pn 04 25 34.4 +1.1
HARR Harsova 5.09 45 Pn 04 25 34.4 +1.1
HARR Harsova 5.09 45 P Pn 04 25 34.4 +1.1
DOPR Dopca 5.09 20 ⇑P Pn 04 25 34.3 +0.9
TIP Timpagrande 5.10 249 Pn Pn 04 25 33.1 -0.4
BISRR Bisoca 5.16 32 ⇑P Pn 04 25 37.0 +2.6
KULA Kula-Manisa 5.21 119 P Pn 04 25 36.5 +1.4
TIRR Tirgusor 5.21 50 Pn Pn 04 25 35.5 +0.5
TIRR Tirgusor 5.21 50 P Pn 04 25 35.5 +0.5
COVR Voineasa-Covas 5.23 27 ⇓P Pn 04 25 37.7 +2.4
COVR Voineasa-Covas 5.23 27 Pn 04 25 37.7 +2.4
BOSR Bodos 5.27 22 ⇑P Pn 04 25 37.0 +1.2
MGRS Mrkonjic Grad 5.32 309 *e*Pn Pn 04 25 37.8 +1.3
OZUR 5.32 22 ⇑P Pn 04 25 38.0 +1.5
AMBH Ambrzfalva 5.36 344 ⇓P Pn 04 25 37.1 +0.1
SGRT San Giovanni R 5.38 278 Pn Pn 04 25 36.4 -1.0
PLOR Plostina 5.39 29 ⇑P Pn 04 25 39.7 +2.1
PLOR Plostina 5.39 29 P Pn 04 25 39.6 +2.1
VRI Vrincioaia 5.43 30 ⇓P Pn 04 25 39.9 +1.8
VRI Vrincioaia 5.43 30 P Pn 04 25 39.8 +1.8
BLY Banja Luka 5.46 312 *e*Pn Pn 04 25 39.3 +0.9
BLY Banja Luka 5.46 312 *e*Pn Pn 04 25 39.3 +0.9
MARR Marisel-Cluj 5.47 2 ⇓P Pn 04 25 39.3 +0.7
MARR Marisel-Cluj 5.47 2 Pn 04 25 39.3 +0.7
CUC Castrocucco 5.50 260 Pn Pn 04 25 40.1 +1.1
CJR Cluj-Napoca 5.53 5 ⇑P Pn 04 25 40.6 +1.2
CJR Cluj-Napoca 5.53 5 P Pn 04 25 40.5 +1.2
CFR Carcaliu 5.53 42 ⇑P Pn 04 25 40.3 +0.9
CFR Carcaliu 5.53 42 P Pn 04 25 40.2 +0.9
SCHLR Schela 5.59 39 ⇑P Pn 04 25 41.1 +0.9
IZVR Izvoarele 5.61 38 ⇑P Pn 04 25 41.2 +0.8
IZVR Izvoarele 5.61 38 Pn 04 25 41.2 +0.8
SLCR Slobozia Conac 5.65 38 ⇑P Pn 04 25 41.8 +0.8
A050A Klekovaca 5.69 307 *e*Pn Pn 04 25 42.8 +1.2
A051A Mrakovica 5.78 313 *e*Pn Pn 04 25 43.4 +0.5
TATR Tatarca 5.79 39 ⇓P Pn 04 25 44.4 +1.5
TATR Tatarca 5.79 39 Pn 04 25 44.4 +1.5
SCTR Scanteiesti 5.82 38 ⇑P Pn 04 25 45.5 +2.2
SCTR Scanteiesti 5.82 38 Pn 04 25 45.5 +2.2
GHRR 5.86 33 ⇓P Pn 04 25 45.6 +1.7
MORH Mrgy, Hungar 5.86 330 ⇑P Pn 04 25 43.8 -0.1
PRIJ Prijedor 5.87 312 *e*Pn Pn 04 25 44.1 +0.1
TLCR 5.89 46 ⇑P Pn 04 25 45.5 +1.2
TLCR 5.89 46 Pn 04 25 45.5 +1.2
TLCR 5.89 46 P Pn 04 25 45.4 +1.2
VARL Varlezi 5.92 36 ⇓P Pn 04 25 46.1 +1.4
VARL Varlezi 5.92 36 Pn 04 25 46.1 +1.4
BORR Bors 5.93 353 ⇓P Pn 04 25 45.6 +0.8
BORR Bors 5.93 353 Pn 04 25 45.6 +0.8
TESR Tescani 5.96 26 ⇓P Pn 04 25 46.8 +1.5
VLDR Vladesti 5.98 38 ⇓P Pn 04 25 47.3 +1.8
VLDR Vladesti 5.98 38 Pn 04 25 47.3 +1.8
BIR Birlad 6.12 33 ⇓P Pn 04 25 49.5 +2.1
BIR Birlad 6.12 33 Pn 04 25 49.5 +2.1
BIR Birlad 6.12 33 P Pn 04 25 49.5 +2.1
CEL Celeste 6.13 244 Pn 04 25 47.8 +0.2
MDUB Mudurnu 6.36 94 Pn 04 25 52.3 +1.4
ARG Arkhangelos 6.46 139 Pn 04 25 54.1 +1.9
ARG Arkhangelos 6.46 139 P Pn 04 25 54.1 +1.9
VASR Vaslui 6.49 32 ⇓P Pn 04 25 53.6 +1.1
VASR Vaslui 6.49 32 Pn 04 25 53.6 +1.1
LEOM Leova 6.54 35 ⇓P Pn 04 25 54.8 +1.5
LEOM Leova 6.54 35 P Pn 04 25 54.7 +1.5
KARP Karpathos 6.58 148 Pn Pn 04 25 54.8 +0.9
KARP Karpathos 6.58 148 P Pn 04 25 57.0 +3.1
BURAR Bucovina Array 6.62 14 ⇓P Pn 04 25 56.4 +2.0
BURAR Bucovina Array 6.62 14 Pn 04 25 54.9 +0.5
BURAR Bucovina Array 6.62 14 P Pn 04 25 56.4 +2.0
BUR08 Bucovina Ar. S 6.64 14 Pn 04 25 55.2 +0.4
INTR Introdacqua 6.76 280 Pn Pn 04 25 56.0 -0.4
ISP Isparta 6.82 117 Pn 04 25 57.5 +0.3
ISP Isparta 6.82 117⇑*e*P Pn 04 25 56.0 -1.2
ISP Isparta 6.82 117 P Pn 04 25 59.6 +2.4
PSZ Piszkesteto 7.03 343 Pn Pn 04 25 58.8 -1.2
PSZ Piszkesteto 7.03 343 P Pn 04 25 58.8 -1.2
ELL Elmali 7.07 127 Pn 04 26 01.8 +1.2
ELL Elmali 7.07 127 P Pn 04 26 01.8 +1.2
KOGS Kog 7.09 320 *i* Pn Pn 04 26 01.3 +0.6
KOGS *e*Sn Sn 04 27 21.0 -0.1
KOGS *e* 04 27 43.3
KOGS *e* 04 28 06.5
KOGS IAML 04 28 28.3
comp=Z,2µm,2.4s
MILM Milestii Mici 7.13 35 *e*P Pn 04 26 02.0 +0.7
MILM Milestii Mici 7.13 35 *e*PP Pb 04 26 14.0 -7.0
MILM *e*L L 04 28 05.0
MILM LqM 04 29 04.0
comp=Z,4µm,14.7s
MILM LRM MLR 04 29 54.0
comp=Z,5µm,10.0s
MILM Milestii Mici 7.13 35 *e*P Pn 04 26 04.0 +2.7
MILM *e* 04 27 32.0
MILM MLR MLR
comp=E,4µm,10.0s
MILM MLR MLR
comp=Z,5µm,10.0s
CAMP Campotosto 7.18 284 Pn Pn 04 26 02.5 +0.4
KIS Kishinev 7.20 35 *e*P Pn 04 26 06.0 +3.8
KIS Kishinev 7.20 35 *e*PP Pb 04 26 14.0 -8.1
KIS *e*L L 04 28 13.0
KIS *e*Lq LQ 04 28 40.0
KIS LRM MLR 04 29 55.0
comp=Z,2µm,10.5s
KIS Kishinev 7.20 35 *e*P Pn 04 26 06.0 +3.8
KIS *e* 04 27 32.0
KIS MLR MLR
comp=Z,2µm,10.0s
KIS MLR MLR
comp=E,2µm,10.5s
GUMA Gualdo di Mace 7.32 288 Pn 04 26 03.6 -0.4
SRO Srobarova 7.36 335 *e*P Pn 04 26 05.7 +1.3
SRO Srobarova 7.36 335 *e*PN Pn 04 26 05.7 +1.3
NRCA Norcia 7.44 286 Pn 04 26 05.7 0.0
KECS Kecovo 7.46 348 *e*P Pn 04 26 06.7 +0.8
KECS Kecovo 7.46 348 *e*PN Pn 04 26 06.7 +0.8
FDMO Fiordimonte 7.49 287 Pn 04 26 06.3 0.0
VAE Valguarnera 7.54 243 Pn Pn 04 26 08.0 +1.0
comp=E,21nm,0.7s,baz=0.9,slow=4.2,SNR=4.7
VAE Sn Sn 04 27 34.7 +2.4
comp=E,0.7nm,0.3s,baz=79,slow=12,SNR=2.5
BR231 Keskin MP Arra 7.67 97 Pn Pn 04 26 09.2 +0.3
ANTO Ankara 7.68 97 Pn 04 26 08.6 -0.4
ANTO Ankara 7.68 97 P Pn 04 26 08.6 -0.4
ANTO Ankara 7.68 97 P Pn 04 26 09.9 +0.9
RAFF Raffo Rosso 7.71 242 Pn 04 26 07.8 -1.4
KOLS Kolonicke sedl 7.73 357 *e*P Pn 04 26 10.9 +1.3
KOLS Kolonicke sedl 7.73 357 *e*PN Pn 04 26 10.9 +1.3
CRVS Cervenica-Dubn 7.75 353 *e*P Pn 04 26 10.4 +0.5
CRVS Cervenica-Dubn 7.75 353 *e*PN Pn 04 26 10.4 +0.5
CESX Cesi 7.80 284 Pn Pn 04 26 10.0 -0.5
VYHS Vyhne 7.82 340 *e*P Pn 04 26 11.3 +0.5
VYHS *e* 04 27 43.9
VYHS Vyhne 7.82 340 *e*PN Pn 04 26 11.3 +0.5
VYHS *e*SN Sn 04 27 43.9 +4.7
SOKA Soboth 7.86 317 *e*Pn Pn 04 26 12.6 +1.2
comp=E,11nm,0.4s
SOP Sopron 7.88 327 P Pn 04 26 12.5 +0.8
SORM Soroca 7.95 28 ⇓P Pn 04 26 13.0 +0.5
SORM Soroca 7.95 28 Pn 04 26 13.0 +0.5
SORM Soroca 7.95 28 P Pn 04 26 13.0 +0.5
OBKA Obir 8.01 314 *e*Pn Pn 04 26 14.7 +1.3
comp=E,12nm,0.4s
OBKA Obir 8.01 314 *e*Pn Pn 04 26 14.3 +0.8
OBKA Obir 8.01 314 *e*Pn Pn 04 26 12.9 -0.5
RONA Rosalia, Austr 8.01 326 *e*Pn Pn 04 26 14.1 +0.7
comp=E,12nm,0.4s,SNR=15
ZST Bratislava 8.10 332 *e*P Pn 04 26 15.6 +1.0
ZST *e* 04 27 47.7
ZST Bratislava 8.10 332 *e*PN Pn 04 26 15.6 +1.0
ZST *e*SN Sn 04 27 47.7 +1.7
MODS Modra-Piesok 8.19 333 *e*P Pn 04 26 17.2 +1.4
MODS *e* 04 27 47.0
MODS Modra-Piesok 8.19 333 *e*PN Pn 04 26 17.2 +1.4
MODS *e*SN Sn 04 27 47.0 -1.2
SABO M.te Sabotino 8.24 308 Pn Pn 04 26 16.3 -0.3
SMOL Smolenice 8.26 334 *e*P Pn 04 26 17.8 +1.0
LANS Liptovska Anna 8.29 344 *e*P Pn 04 26 18.2 +0.9
LANS Liptovska Anna 8.29 344 *e*PN Pn 04 26 18.2 +0.9

BR131 Keskin Array S 8.35 97 Pn Pn 04 26 18.4 +0.2
BR131 Keskin Array S 8.35 97*ce*P Pn 04 26 17.8 -0.4
BR131 Keskin Array S 8.35 97 P Pn 04 26 19.1 +0.9
BR131 S Sn 04 27 50.0 -2.4
BRTR Keskin Array B 8.35 97 Pn Pn 04 26 19.1 +0.9
comp=E,0.7nm,0.3s,baz=273,slow=12,SNR=20
BRTR Sn Sn 04 27 50.0 -2.4
comp=E,0.5nm,0.3s,baz=135,slow=32,SNR=1.2
BRTR Lg Lg 04 28 48.2
baz=289,slow=12
BRTR LR LR 04 29 54.7
comp=E,2µm,21.9s,baz=280,slow=40
comp=E,3.2nm,0.5s
CONA Conrad Observa 8.37 326 *e*Pn Pn 04 26 19.0 +0.6
comp=E,31nm,0.6s,SNR=18
CONA *e*Sn Sn 04 27 57.3 +4.6
comp=E,44nm,0.7s
NIE Niedzica 8.40 348 *e*P Pn 04 26 21.1 +2.3
NIE *e*S Sn 04 28 01.2 +7.7
KWP Kalwaria Pacla 8.42 359 *e*P Pn 04 26 21.8 +2.8
KWP Kalwaria Pacla 8.42 359 Pn 04 26 19.0 0.0
KWP Kalwaria Pacla 8.42 359 P Pn 04 26 19.0 0.0
JAVC Velka Javorina 8.48 336 *e*PN Pn 04 26 20.7 +0.8
JAVC Velka Javorina 8.48 336 *e*Pn Pn 04 26 20.0 +0.1
PRED Cave del Predi 8.51 311 Pn 04 26 20.7 +0.3
MYKA Terra Mystica 8.58 312 *e*Pn Pn 04 26 23.2 +1.9
comp=E,17nm,0.7s,SNR=9.8
SEV Sevastopol' 8.60 64 *e*P Pn 04 26 20.8 -0.7
SEV Pm 04 26 22.8
comp=Z,59nm,0.4s
SEV *e*S Sn 04 27 55.7 -2.7
SEV Sm 04 27 58.7
comp=N,42nm,0.6s
SEV Sm 04 27 58.7
comp=E,23nm,0.4s
SEV Sevastopol' 8.60 64 *e*P Pn 04 26 20.8 -0.7
SEV *e*S Sn 04 27 55.7 -2.7
LVV L'vov 8.65 5 *e*P Pn 04 26 26.9 +4.8
LVV *e*S Sn 04 28 06.2 +6.7
LVV pmax pmax
comp=Z,50nm,1.1s
LVV MLR MLR
comp=E,2µm,6.2s
LVV MLR MLR
comp=N,3µm,7.2s
LVV MLR MLR
comp=Z,2µm,8.2s
MAUC Maruska 8.89 338 *e*PN Pn 04 26 25.8 +0.3
MAUC AMS AMS 04 30 20.0
comp=Z,4µm,12.8s
STAL STALIGIAL 8.91 308 Pn 04 26 25.2 -0.6
CLUD Cludinico 8.91 309 Pn 04 26 25.8 -0.1
YAL Yalta 8.92 65⇑*e*P Pn 04 26 25.3 -0.5
YAL Pm 04 26 35.7
comp=Z,50nm,1.3s
YAL *e*S Sn 04 28 01.7 -4.4
YAL Sm 04 28 06.0
comp=N,70nm,1.4s
YAL Sm 04 28 06.0
comp=E,41nm,1.1s
YAL Yalta 8.92 65 *e*P Pn 04 26 25.3 -0.5
YAL *e*S Sn 04 28 01.7 -4.4
KBA Koelnbreinsper 9.01 314 *e*Pn Pn 04 26 30.9 +3.6
comp=E,8.8nm,0.4s
KBA Koelnbreinsper 9.01 314 P Pn 04 26 32.1 +4.8
MOA Molln 9.04 320 *e*Pn Pn 04 26 30.7 +3.2
comp=E,34nm,1.0s,SNR=8.8
MOA *e*Sn Sn 04 28 06.6 -2.5
comp=E,33nm,0.7s
MOA Molln 9.04 320 *e*Pn Pn 04 26 29.0 +1.5
SIM Simferopol' 9.04 62⇑*e*P Pn 04 26 27.5 -0.1
SIM Pm 04 26 28.5
comp=Z,118nm,0.5s
SIM *e*S Sn 04 28 05.4 -3.8
SIM Sm 04 28 17.9
comp=E,349nm,1.4s,comp=N,278nm,1.4s
SIM Simferopol' 9.04 62α*i*P Pn 04 26 27.4 -0.1
SIM 04 28 12.0
SIM pmax pmax
comp=Z,100nm,0.5s
SIM smax smax
comp=N,1.0nm,13.0s
SIM MLR MLR
comp=Z,730nm,12.0s
KRUC Moravsky 9.08 332 *e*PN Pn 04 26 29.9 +1.8
KRUC Moravsky 9.08 332 P Pn 04 26 30.4 +2.3
KRUC Moravsky 9.08 332 *e*Pn Pn 04 26 28.1 0.0
ALU Alushta 9.14 64⇑*e*P Pn 04 26 28.1 -0.8
ALU Pm 04 26 29.1
comp=Z,101nm,0.9s
ALU *e*S Sn 04 28 07.8 -3.9
ALU Sm 04 28 10.0
comp=N,15nm,0.5s
ALU Sm 04 28 10.0
comp=E,14nm,0.4s
ALU Alushta 9.14 64 *e*P Pn 04 26 28.1 -0.8
ALU *e*S Sn 04 28 07.8 -3.9
TEOL Teolo 9.15 301 Pn Pn 04 26 27.5 -1.6
VRAC Vranov 9.22 334 *e*PN Pn 04 26 31.4 +1.4
VRAC Vranov 9.22 334 Pn Pn 04 26 30.9 +0.9
comp=E,0.7nm,0.3s,baz=144,slow=11,SNR=15
VRAC Sn Sn 04 28 16.6 +3.0
comp=E,0.9nm,0.3s,baz=145,slow=9.3,SNR=1.7
VRAC Lg Lg 04 29 01.1
baz=306,slow=13
comp=E,19nm,1.0s
OKC Ostrava-Krasne 9.24 341 *e*PN Pn 04 26 30.0 -0.2
OKC AMS AMS 04 30 30.0
comp=E,4µm,10.4s
OKC Ostrava-Krasne 9.24 341 *e*P Pn 04 26 30.0 -0.2
OKC MLR MLR
comp=Z,4µm,10.4s
BIOA Bad Ischl, Aus 9.24 318 *e*Pn Pn 04 26 31.9 +1.6
comp=Z,20nm,0.6s,SNR=8.1
OJC Ojcow 9.26 348 *e*P Pn 04 26 31.9 +1.4
OJC Ojcow 9.26 348 Pn 04 26 30.6 +0.1
OJC Ojcow 9.26 348 P Pn 04 26 30.6 +0.1
ABTA Abfaltersbach 9.29 310 *i* Pn Pn 04 26 31.8 +0.8
comp=Z,38nm,0.6s,SNR=27
ZCCA Zocca 9.29 294 Pn 04 26 31.6 +0.6
MORC Moravsky Berou 9.34 338 ⇓P Pn 04 26 32.4 +0.7
MORC Moravsky Berou 9.34 338 Pn 04 26 31.4 -0.3
MORC Moravsky Berou 9.34 338 *e*PN Pn 04 26 32.3 +0.6
MORC Moravsky Berou 9.34 338 P Pn 04 26 31.4 -0.3
CTI Castel Tesino 9.46 304 Pn Pn 04 26 32.4 -0.9
CTI Castel Tesino 9.46 304 P Pn 04 26 32.4 -0.9
LESA Schwarzleotal 9.58 314 *e*Pn Pn 04 26 37.1 +2.1
comp=Z,22nm,0.4s
LESA *e*Sn Sn 04 28 21.1 -1.5
comp=Z,22nm,0.6s
TREC Trest 9.61 330 AMS AMS 04 30 20.0
comp=Z,2µm,8.4s
SUDU Sudak 9.61 63⇑*e*P Pn 04 26 35.2 -0.2
SUDU Pm 04 26 38.8
comp=Z,43nm,0.3s
SUDU *e*S Sn 04 28 19.2 -4.0
SUDU Sm 04 28 42.0
comp=N,288nm,1.1s
SUDU Sm 04 28 42.0
comp=E,109nm,0.9s
SUDU Sudak 9.61 63 *e*P Pn 04 26 35.2 -0.2
SUDU *e*S Sn 04 28 19.2 -4.0
CKRC Cesky Krumlov 9.72 324 *e*PN Pn 04 26 39.1 +2.3
CKRC *e*SN Sn 04 28 29.6 +3.8
CKRC Cesky Krumlov 9.72 324 *e*P Pn 04 26 39.1 +2.3
CKRC *e* 04 28 29.6
KRLC Kraliky 9.83 336 *e*PN Pn 04 26 38.8 +0.4
KRLC AMS AMS 04 31 00.0
comp=E,2µm,11.2s
KRLC Kraliky 9.83 336 *e*P Pn 04 26 38.8 +0.4
KRLC MLR MLR
comp=Z,2µm,11.2s
PRMA PARMA 9.86 295 Pn 04 26 38.6 -0.1
FEO Feodosiya 9.92 63⇑*e*P Pn 04 26 39.0 -0.5
FEO Pm 04 26 40.5
comp=Z,314nm,1.2s
FEO *e*S Sn 04 28 27.6 -3.0
FEO Sm 04 28 48.0
comp=N,391nm,1.1s
FEO Sm 04 28 48.0
comp=E,638nm,1.5s
FEO Feodosiya 9.92 63 *e*P Pn 04 26 39.0 -0.5
FEO *e*S Sn 04 28 27.6 -3.0
GEC2 GERESS Array S 10.01 323 Pn 04 26 41.3 +0.4
GEC2 GERESS Array S 10.01 323 *e*Pn Pn 04 26 41.8 +0.9

GERES GERESS Array B 10.01 323 Pn 04 26 40.0 -0.8
GERES GERESS Array B 10.01 323 Pn Pn 04 26 42.3 +1.4
comp=E,1.8nm,0.3s,baz=126,slow=6.8,SNR=10.0
GERES Sn Sn 04 28 30.2 -2.9
comp=E,0.4nm,0.3s,baz=147,slow=22,SNR=1.1
GERES Lg Lg 04 29 33.6
baz=134,slow=36
GERES LR LR 04 31 18.2
comp=E,1µm,18.5s,baz=148,slow=42
comp=E,4.0nm,0.5s
WTTA Wattenberg 10.07 311 *i* Pn Pn 04 26 42.9 +1.1
comp=E,5.2nm,0.5s,SNR=24
WTTA Wattenberg 10.07 311 *e*Pn Pn 04 26 43.0 +1.2
WATA Walderalm 10.14 311 *i* Pn Pn 04 26 44.4 +1.7
comp=E,18nm,0.6s,SNR=22
WATA *e*Sn Sn 04 28 38.3 +1.9
comp=E,20nm,0.7s
DPC Dobruska-Polom 10.21 336 *e*PN Pn 04 26 45.3 +1.7
DPC AMS AMS 04 31 10.0
comp=E,2µm,9.5s
DPC Dobruska-Polom 10.21 336 *e*P Pn 04 26 45.3 +1.7
DPC MLR MLR
comp=Z,2µm,9.5s
BNN Bunyan 10.23 99 Pn Pn 04 26 45.3 +1.3
ZVC Zvikov 10.24 326 *e*PN Pn 04 26 46.1 +2.2
ZVC *e*SN Sn 04 28 40.8 +2.3
ZVC AMS AMS 04 30 30.0
comp=Z,3µm,10.2s
KHC Kasperske Hory 10.27 324 Pn 04 26 43.7 -0.7
KHC Kasperske Hory 10.27 324 *e*PN Pn 04 26 46.4 +2.0
KHC *e*SN Sn 04 28 44.0 +4.5
KHC AMS AMS 04 30 50.0
comp=Z,4µm,9.7s
KHC Kasperske Hory 10.27 324⇑*e*P Pn 04 26 43.7 -0.7
SQTA Sankt Quirin 10.29 310 *i* Pn Pn 04 26 46.2 +1.4
comp=Z,9.2nm,0.6s,SNR=14
SQTA *e*Sn Sn 04 28 42.9 +2.8
comp=Z,39nm,1.1s
CSS Mathiatis 10.34 124 Pn Pn 04 26 46.0 +0.7
CSS Mathiatis 10.34 124 P Pn 04 26 49.4 +4.0
CSS Mathiatis 10.34 124 P Pn 04 26 48.2 +2.8
GOPC GO Pecny, Ondr 10.38 330 AMS AMS 04 30 30.0
comp=Z,1µm,12.6s
MOTA Moosalm 10.42 310 *i* Pn Pn 04 26 47.6 +1.1
comp=Z,6.6nm,0.8s,SNR=24
MOTA *e*Sn Sn 04 28 45.5 +2.2
comp=Z,19nm,1.0s
OSTC Ostas 10.43 336 *e*PN Pn 04 26 48.2 +1.7
OSTC AMS AMS 04 31 30.0
comp=Z,1µm,12.9s
OSTC Ostas 10.43 336 *e*P Pn 04 26 48.2 +1.7
OSTC MLR MLR
comp=Z,1µm,12.9s
UPC Upice 10.45 335 *e*PN Pn 04 26 47.4 +0.6
UPC AMS AMS 04 31 20.0
comp=Z,2µm,13.8s
UPC Upice 10.45 335 *e*P Pn 04 26 47.4 +0.6
UPC MLR MLR
comp=Z,2µm,13.8s
KIEV Kiev 10.46 23 Pn 04 26 46.1 -0.8
KIEV Kiev 10.46 23 P Pn 04 26 46.1 -0.8
AKASG Malin Array Be 10.47 23 Pn 04 26 46.1 -0.9
AKASG Malin Array Be 10.47 23 P Pn 04 26 46.1 -0.9
AKASG Malin Array Be 10.47 23 Pn Pn 04 26 46.7 -0.4
comp=Z,3.3nm,0.3s,baz=208,slow=11,SNR=23
AKASG Sn Sn 04 28 41.0 -3.1
comp=Z,1.3nm,0.3s,baz=48,slow=26,SNR=4.0
AKASG Lg Lg 04 29 47.4
baz=212,slow=26
AKASG LR LR 04 30 59.9
comp=Z,930nm,19.7s,baz=203,slow=39
comp=Z,3.2nm,0.5s
AKBB Malin Array Si 10.47 23 Pn 04 26 46.3 -0.7
AKBB Malin Array Si 10.47 23*de*P Pn 04 26 47.2 +0.2
FETA Feichten 10.47 308 *e*Pn Pn 04 26 48.4 +1.0
comp=Z,7.5nm,0.8s,SNR=14
CHVC Chvalec 10.50 336 *e*PN Pn 04 26 48.8 +1.2
CHVC AMS AMS 04 31 20.0
comp=Z,2µm,9.6s
CHVC Chvalec 10.50 336 *e*P Pn 04 26 48.8 +1.2
CHVC MLR MLR
comp=Z,2µm,9.6s
PRU Pruhonice 10.53 329 *e*PN Pn 04 26 49.0 +1.1
PRU *e*SN Sn 04 28 48.3 +2.6
PRU AMS AMS 04 30 50.0
comp=Z,2µm,8.2s
PRU Pruhonice 10.53 329 *e*P Pn 04 26 49.0 +1.1
PRU *e* 04 28 48.3
PRU MLR MLR
comp=Z,2µm,8.2s
FUORN Ofenpass-Fuorn 10.57 305 Pn 04 26 48.9 +0.2
PRA Prague 10.64 329 AMS AMS 04 30 40.0
comp=Z,2µm,7.9s
KSP Ksiaz 10.65 337 *e*P Pn 04 26 50.8 +1.2
RETA Reutte 10.69 310 *i* P Pn 04 26 50.8 +0.6
comp=Z,4.3nm,0.7s
BEL Belsk 10.72 353 *e*P Pn 04 26 49.3 -1.2
DAVOX Davos/Dischmat 10.88 305 Pn Pn 04 26 53.5 +0.6
comp=Z,1.1nm,0.3s,baz=135,slow=12,SNR=16
DAVOX Sn Sn 04 28 56.2 +1.6
comp=Z,0.2nm,0.3s,baz=295,slow=23,SNR=2.8
DAVOX Lg Lg 04 29 58.5
baz=255,slow=9.9
DAVOX LR LR 04 31 51.3
comp=Z,2µm,18.2s,baz=136,slow=42
comp=Z,28nm,0.7s
PVCC Panska Ves 10.96 331 AMS AMS 04 31 00.0
comp=Z,2µm,8.8s
TUE Stuetta 11.08 303 Pn 04 26 56.2 +0.5
DAVA Damuels 11.11 307 Sn Sn 04 29 06.1 +5.9
comp=Z,10nm,0.4s
RICC Richard 11.15 330 AMS AMS 04 31 00.0
comp=Z,1µm,10.5s
UBR Ueberruh 11.17 310 *e*Pn Pn 04 26 59.0 +2.3
ANN Anapa 11.25 67 *e*P Pn 04 26 56.5 -1.3
ANN *e*S Sn 04 29 01.2 -2.2
ANN pmax pmax
comp=Z,48nm,1.1s
PLONS Plons/SG 11.30 306 *e*Pn Pn 04 26 59.7 +1.1
HSKC Hora Svate Kat 11.46 328 *e*PN Pn 04 27 02.3 +1.7
HSKC AMS AMS 04 31 20.0
comp=Z,2µm,9.8s
BRG Berggiesshubel 11.47 330 *e*P Pn 04 27 04.1 +3.3
BRG Amp 04 27 04.8
comp=Z,18nm,1.4s
BRG Berggiesshubel 11.47 330 *e*P Pn 04 27 04.1 +3.3
BRG pmax pmax
comp=Z,18nm,1.4s
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG MLR MLR
comp=N,768nm,7.6s
BRG MLR MLR
comp=E,2µm,7.7s
BRG MLR MLR
comp=Z,1µm,9.2s
NKC Novy Kostel 11.58 325 *e*PN Pn 04 27 05.0 +2.7
NKC AMS AMS 04 31 40.0
comp=Z,3µm,10.7s
NKC Novy Kostel 11.58 325 *e*P Pn 04 27 05.0 +2.7
NKC MLR MLR
comp=Z,3µm,10.7s
GAZ Gaziantep 11.84 105 Pn Pn 04 27 07.4 +1.5
KEST Kesra 11.92 247 Pn Pn 04 27 08.3 +1.3
comp=Z,0.2nm,0.3s,baz=20,slow=16,SNR=2.1
KEST LR LR 04 32 42.2
comp=Z,491nm,18.1s,baz=323,slow=43
comp=Z,3.6nm,0.8s
KEST Kesra 11.92 247 P Pn 04 27 10.9 +3.8
SLE Schleitheim 12.17 307 P Pn 04 27 10.0 -0.3
SLE Schleitheim 12.17 307 *e*Pn Pn 04 27 09.0 -1.3
CLL Collm 12.17 329 *e*P Pn 04 27 12.0 +1.6
comp=Z,40nm,1.8s
CLL *i* x x 04 27 22.1
CLL *e*x x 04 29 02.0
CLL AMS AMS 04 31 00.0
MOX Moxa 12.25 324 P Pn 04 27 15.3 +3.9
STU Stuttgart 12.27 313 Pn 04 27 11.3 -0.4
STU Stuttgart 12.27 313 P Pn 04 27 11.3 -0.4
SULZ Cheisacher 12.29 306 *e*Pn Pn 04 27 11.2 -0.8
SENIN Lac Senin/Sane 12.37 300 Pn 04 27 12.9 -0.4
BNI Bardonecchia 12.43 293 Pn 04 27 13.6 -0.5
BNI Bardonecchia 12.43 293 P Pn 04 27 13.6 -0.5
LPL La Plagne 12.50 296 P Pn 04 27 17.2 +2.1
BFO Black Forest 12.53 309 Pn 04 27 14.3 -1.0

BFO Black Forest 12.53 309 P **Pn** 04 27 14.3 -1.0
GKP Gorka Klasztor 12.65 344 *e*P Pn 04 27 21.8 +5.0
SOC Sochi 12.68 74 *e*P **Pn** 04 27 16.2 -1.2
SOC *e* 04 29 40.6
SOC pmax pmax
comp=Z,34nm,0.8s
SOC MLR MLR
comp=Z,210nm,13.0s
SUW Suwalki 12.81 1 *e*P **Pn** 04 27 19.6 +0.6
SUW Suwalki 12.81 1 *e*P **Pn** 04 27 17.5 -1.5
SUW Suwalki 12.81 1 P **Pn** 04 27 17.5 -1.5
SUW Suwalki 12.81 1 *e*P P 04 27 24.6 -5.4
MMA0B Mount Meron ar 12.91 125 P **Pn** 04 27 23.8 +3.2
MMAI Mount Meron Ar 12.91 125 Pn **Pn** 04 27 21.9 +1.2
comp=Z,1.4nm,0.3s,baz=308,slow=14,SNR=3.6
MMAI Sn **Sn** 04 29 45.9 +1.5
comp=Z,1.1nm,0.3s,baz=341,slow=35,SNR=1.8
MMAI LR LR 04 33 30.2
comp=Z,338nm,18.8s,baz=298,slow=43
comp=Z,39nm,1.0s
GEM Giv'at Ha'Em 12.95 124 P **Pn** 04 27 24.1 +3.1
ECH Echery 13.17 307 **Pn** 04 27 22.2 -1.8
ECH Echery 13.17 307 P **Pn** 04 27 22.2 -1.8
KSHT Keshet 13.19 124 P **Pn** 04 27 27.1 +2.7
MMLI Mount Malkishu 13.32 127 P **Pn** 04 27 28.8 +2.6
SHMJ Saham 13.33 125 P **Pn** 04 27 29.7 +3.4
QRNJ Al-Qirein 13.49 127 P **Pn** 04 27 31.4 +3.0
HMDT Nahal Hemdat 13.52 127 P **Pn** 04 27 30.7 +1.9
LABN Labinsk 13.53 69 *e*P **P** 04 27 34.7 -3.4
LABN *e*S Sn 04 30 10.4 +11
LABN pmax pmax
comp=Z,89nm,0.7s
ERBR Yeremizino-Bor 13.56 65 *e*P **Pn** 04 27 29.3 0.0
ERBR *e*S **Sn** 04 30 03.0 +3.1
ERBR pmax pmax
comp=Z,65nm,1.5s
UJAP Al Uja 13.69 128 P **Pn** 04 27 34.8 +3.6
MNK Minsk 13.71 12 *i* P **Pn** 04 27 30.0 -1.3
comp=E,11nm,1.1s
MNK *i* P **Pn** 04 27 30.0 -1.3
comp=N,39nm,1.1s
MNK *i* P **Pn** 04 27 30.0 -1.3
comp=Z,16nm,0.9s,baz=196
MNK *i* PP **PnPn** 04 27 37.9 -1.3
MNK *i* S **Sn** 04 30 05.1 +1.6
MNK *i* SS **SnSn** 04 30 19.1 +3.3
MNK *i* LQ LQ 04 31 20.9
MNK *i* LR LR 04 32 33.4
MNK *i* LRM MLR 04 32 37.9
comp=E,443nm,17.0s
MNK *i* LRM MLR 04 33 16.4
comp=Z,1μm,15.6s
MNK *i* LRM MLR 04 33 18.6
comp=N,1μm,18.3s
MNK Minsk 13.71 12 *d i* P **Pn** 04 27 30.0 -1.3
KZIT Kziot 13.87 134 P **Pn** 04 27 35.8 +2.2
KZIT Kziot 13.87 134 P **Pn** 04 27 34.9 +1.3
YTIR Yattir 13.92 131 P **Pn** 04 27 36.5 +2.1
NACGM Naroch 13.95 9 *e*P **Pn** 04 27 33.6 -0.9
comp=E,614nm,0.7s
SSB Saint Sauveur 13.96 293 Pn **Pn** 04 27 33.1 -1.7
SSB Saint Sauveur 13.96 293 P **Pn** 04 27 33.1 -1.7
PABE Paberze 14.32 3 **Pn** 04 27 39.0 -0.7
PABE Paberze 14.32 3 *e*P **Pn** 04 27 42.2 +2.6
KARJ KARJ 14.41 130 P Pn 04 27 35.0 -6.0
WLF Walferdange 14.44 311 **Pn** 04 27 42.0 +0.7
WLF Walferdange 14.44 311 *d*P **P** 04 27 49.3 +1.2
comp=Z,16nm,1.3s
WLF Walferdange 14.44 311 P **Pn** 04 27 42.0 +0.7
ISAL Salakas 14.53 7 *e*P **P** 04 27 48.0 -1.1
ZFRI Zfri 14.57 133 P **Pn** 04 27 46.3 +3.1
PRNI Paran 14.63 134 P **Pn** 04 27 47.0 +2.9
PRNI Paran 14.63 134 P **Pn** 04 27 46.5 +2.4
KRMI Paran Flat 14.66 135 P **Pn** 04 27 46.7 +2.2
KIV Kislovodsk 14.86 73 **Pn** 04 27 45.5 -1.6
KIV Kislovodsk 14.86 73 *e*P **Pn** 04 27 48.0 +0.9
KIV S **Sn** 04 30 36.0 +4.4
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 14.86 73 P **Pn** 04 27 48.4 +1.2
KVAR Kislovodsk Arr 14.86 73 Pn **Pn** 04 27 48.0 +0.7
baz=85,slow=23
KVAR Sn **Sn** 04 30 31.5 -0.3
baz=283,slow=21
comp=Z,1.2nm,0.3s
BHOU Houvegnez 14.87 314 *d*P **P** 04 27 52.8 -0.1
HRFI Mount Harif 14.89 135 P **Pn** 04 27 50.0 +2.4
BTNL Ternell 14.92 315 *d*P **P** 04 27 55.1 +1.5
GURO Guroymak-BITLI 14.96 94 **Pn** 04 27 48.9 +0.3
VORD Divnogorie 14.97 44 *e*P **Pn** 04 27 46.3 -2.2
VORD pmax pmax
comp=Z,60nm,1.0s
VORD MLR MLR
comp=Z,1μm,9.0s
KBZ Khabaz 15.00 74 *e*P **Pn** 04 27 48.6 -0.3
KBZ Khabaz 15.00 74 Pn **Pn** 04 27 50.9 +2.0
comp=Z,0.2nm,0.3s,baz=260,slow=11,SNR=4.5
KBZ Sn **Sn** 04 30 34.1 -0.7
comp=Z,0.1nm,0.3s,baz=22,slow=16,SNR=1.6
KBZ LR LR 04 35 53.8
comp=Z,301nm,18.4s,baz=278,slow=46
comp=Z,8.3nm,1.1s
MEM Membach 15.00 314 *d*P **P** 04 27 56.0 +1.7
comp=Z,29nm,1.0s
MBRI Mt Berech 15.02 136 P **Pn** 04 27 51.1 +1.7
MBRI Mt Berech 15.02 136 P **Pn** 04 27 50.8 +1.4
VSR Storozhevoye 15.05 43 *e*P **Pn** 04 27 47.0 -2.6
VSR pmax pmax
comp=Z,80nm,1.2s
VSR MLR MLR
comp=Z,2μm,12.0s
EIL Elat 15.14 136 Pn **Pn** 04 27 52.9 +2.1
comp=Z,1.1nm,0.3s,baz=322,slow=10,SNR=10
comp=Z,19nm,0.9s
EIL Elat 15.14 136 P **Pn** 04 27 53.3 +2.4
RCHB Rochefort 15.20 312 *d*P **P** 04 27 55.0 -1.6
GOF Gofitskoye 15.22 69 *e*P **Pn** 04 27 52.5 +0.6
BSTI Sart Tilman 15.23 314 *d*P **P** 04 27 58.5 +1.7
comp=Z,5.4nm,1.0s
BCLA Clavier 15.29 313 *d*P **P** 04 27 58.4 +0.8
comp=Z,22nm,1.0s
KARS Kars 15.30 86 **Pn** 04 27 53.0 -0.1
KARS Kars 15.30 86 P **Pn** 04 27 53.0 -0.1
KARS pmax pmax
comp=Z,37nm,1.0s
BGES Gesves 15.39 313 *d*P **P** 04 27 59.8 +1.1
comp=Z,18nm,1.1s
ONI Oni 15.39 78 **Pn** 04 27 54.6 +0.3
ONI Oni 15.39 78 P **Pn** 04 27 54.6 +0.3
ONI pmax pmax
comp=Z,76nm,1.7s
AKH Akhalkalaki 15.51 82 **Pn** 04 27 56.7 +0.9
AKH IAmb IAmb 04 27 59.8
comp=Z,89nm,1.1s
AKH Akhalkalaki 15.51 82 P **Pn** 04 27 56.7 +0.9
AKH pmax pmax
comp=Z,89nm,1.1s
DOU Dourbes 15.53 311 *d*P **P** 04 28 00.7 +0.4
comp=Z,18nm,1.0s
BMRD Maredsous 15.53 312 *d*P **P** 04 27 59.5 -0.7
LPSR Galich'ya Gora 15.78 38 *e*P **Pn** 04 27 56.7 -2.4
LPSR pmax pmax
comp=Z,120nm,1.0s
LPSR MLR MLR
comp=Z,940nm,10.0s
VRH Novokhopyorsk 16.39 46 *e*P **Pn** 04 28 05.3 -1.7
VRH pmax pmax
comp=Z,70nm,1.0s
VRH MLR MLR
comp=Z,2μm,10.0s
OBN Obninsk 16.60 28 Pn **Pn** 04 28 05.6 -4.0
OBN Obninsk 16.60 28 *c i* P **Pn** 04 28 06.6 -3.0
OBN pmax pmax
comp=Z,26nm,0.6s
OBN MLR MLR
comp=Z,864nm,15.0s
OBN Obninsk 16.60 28 Pn **Pn** 04 28 05.7 -3.9
comp=Z,2.8nm,0.3s,baz=7.3,slow=22,SNR=6.5
OBN Sn Sn 04 31 01.9 -12
comp=Z,3.1nm,0.3s,baz=21,slow=23,SNR=1.5
OBN Lg Lg 04 33 01.7
comp=Z,1.4nm,0.3s,baz=135,slow=22,SNR=1.3
OBN LR LR 04 35 40.4
comp=Z,531nm,21.4s,baz=206,slow=41
comp=Z,17nm,0.5s

GNI Garni 16.63 86 **Pn** 04 28 09.3 -1.0
GNI Garni 16.63 86 *e*P **P** 04 28 12.0 -0.7
GNI Garni 16.63 86 Pn **P** 04 28 11.5 -1.2
comp=Z,0.2nm,0.3s,baz=174,slow=3.9,SNR=7.3
comp=Z,26nm,1.1s
GNI Garni 16.63 86 P **Pn** 04 28 10.8 +0.5
VSU Vasula 17.44 7 *e*P **Pn** 04 28 20.1 0.0
VSU pmax pmax
comp=Z,89nm,1.3s
VSU Vasula 17.44 7 *e*P **P** 04 28 21.2 -0.2
MOS Moscow 17.46 29 *e*P **Pn** 04 28 16.5 -4.0
MOS *e*S **Sn** 04 31 31.7 -2.9
MOS pmax pmax
comp=Z,158nm,1.5s
MOS pmax pmax
comp=E,62nm,1.1s
MOS pmax pmax
comp=N,44nm,1.1s
MOS pmax pmax
comp=Z,400nm,2.0s
MOS MLR MLR
comp=N,1μm,12.0s
MOS MLR MLR
comp=E,900nm,12.0s
MOS MLR MLR
comp=Z,1μm,12.0s
MAK Makhachkala 18.36 76 *e*P **Pn** 04 28 27.1 -4.5
MAK *e*S **Sn** 04 31 50.9 -5.5
MAK pmax pmax
comp=Z,295nm,1.1s
MAK MLR MLR
comp=Z,307nm,11.0s
MEF Metsahovi 19.05 2 *e*P **P** 04 28 38.5 -0.5
PUL Pulkovo 19.16 12 *e*P **P** 04 28 40.1 -0.1
PUL pmax pmax
comp=Z,32nm,0.9s
HFS Hagfors 19.78 346 P **P** 04 28 46.7 -0.3
comp=Z,0.4nm,0.3s,baz=168,slow=10,SNR=12
HFS LR LR 04 37 38.9
comp=Z,592nm,18.9s,baz=162,slow=41
comp=Z,12nm,0.8s
RAF Rauma 19.85 358 *e*P **P** 04 28 46.8 -1.0
BELG Belogornoye 20.20 48 P **P** 04 28 51.4 -0.3
comp=Z,48nm,0.7s,baz=324,slow=1.7,SNR=21
BELG LR LR 04 37 20.1
comp=Z,488nm,21.8s,baz=289,slow=39
comp=Z,48nm,0.7s
KONO Kongsberg 20.23 340 P **P** 04 28 50.1 -1.8
KONO Kongsberg 20.23 340 *e*P **P** 04 28 50.6 -1.3
KONO pmax pmax
comp=Z,27nm,1.1s
FINES FINESS Array B 20.35 4 P **P** 04 28 51.5 -1.7
FINES FINESS Array B 20.35 4 P **P** 04 28 51.7 -1.6
comp=Z,8.0nm,0.7s,baz=183,slow=9.0,SNR=32
FINES PcP **PcP** 04 33 04.8 -0.9
comp=Z,2.1nm,0.8s,baz=225,slow=3.7,SNR=1.8
FINES LR LR 04 37 31.2
comp=Z,1μm,19.1s,baz=186,slow=39
comp=Z,8.0nm,0.7s
ESBB Sonseca Array 20.45 275 P **P** 04 28 54.0 -0.5
ESDC Sonseca Array 20.45 275 P **P** 04 28 53.3 -1.3
ESDC Sonseca Array 20.45 275 P **P** 04 28 53.6 -1.0
comp=Z,16nm,0.8s,baz=73,slow=11,SNR=50
ESDC LR LR 04 37 52.3
comp=Z,302nm,20.1s,baz=73,slow=40
comp=Z,16nm,0.8s
NC602 NORSAR Array S 20.75 344 P **P** 04 28 57.0 -0.6
PAB San Pablo 20.77 274 P **P** 04 28 57.2 -0.9
PAB San Pablo 20.77 274 P **P** 04 28 57.2 -0.9
PAB pmax pmax
comp=Z,30nm,1.1s
NAO01 NORSAR Array S 20.99 344 P **P** 04 28 59.9 -0.2
NC405 NORSAR Array S 21.06 345 P **P** 04 29 00.6 -0.3
NC405 IAmb IAmb 04 29 06.8
comp=Z,152nm,2.0s
NB201 NORSAR Array S 21.09 344 P **P** 04 29 00.8 -0.4
NB2 NORSAR Subarra 21.09 344 P **P** 04 28 59.8 -1.5
comp=Z,46nm,1.2s,baz=153,slow=10
NOA NORSAR Array B 21.09 344 P **P** 04 29 00.6 -0.8
comp=Z,16nm,1.1s,baz=151,slow=11,SNR=17
NOA LR LR 04 37 32.2
comp=Z,162nm,18.1s,baz=165,slow=38
comp=Z,16nm,1.1s
NBO00 NORSAR Array S 21.18 344 P **P** 04 29 01.3 -0.9
NC303 NORSAR Array S 21.23 345 P **P** 04 29 03.5 +0.7
NC204 NORSAR Array S 21.40 344 P **P** 04 29 03.5 -1.1
NC204 IAmb IAmb 04 29 10.6
comp=Z,54nm,0.9s
PBRG Braganca 22.13 281 *e*P **P** 04 29 16.5 +3.8
comp=Z,42nm,2.0s
KLMR Klimovskoe 22.16 22 *e*P **P** 04 29 07.8 -4.9
KLMR S **S** 04 33 10.9 -5.4
KLMR pmax pmax
comp=Z,233nm,1.3s
KLMR MLR MLR
comp=Z,2μm,10.0s
EKA Eskdalemuir Ar 22.18 318 P **P** 04 29 12.0 -1.0
EKA Eskdalemuir Ar 22.18 318 P **P** 04 29 11.9 -1.0
comp=Z,8.3nm,0.8s,baz=114,slow=9.9,SNR=9.9
comp=Z,8.3nm,0.8s
MVO Moncoro 22.45 280 *e*P **P** 04 29 18.2 +2.1
comp=Z,94nm,1.5s
MTE Manteigas 22.98 278 *e*P **P** 04 29 21.9 +0.2
comp=Z,50nm,1.4s
PMRV Marv??o 23.09 276 *e*P **P** 04 29 23.4 +0.7
comp=Z,82nm,1.3s
PBAR Barrancos 23.16 272 *e*P **P** 04 29 22.2 -1.2
comp=Z,86nm,1.2s
PGAV Gavieira, Arco 23.24 282 *e*P **P** 04 29 25.7 +1.3
comp=Z,157nm,1.6s
PESTR Estremoz 23.38 274 *e*P **P** 04 29 25.2 -0.5
comp=Z,96nm,1.3s
PESTR Estremoz 23.38 274 P **P** 04 29 25.2 -0.5
PESTR IAmb IAmb 04 29 30.4
comp=Z,88nm,1.2s
TAM Tamanrasset 23.45 224 P **P** 04 29 27.7 +1.0
TAM Tamanrasset 23.45 224 P **P** 04 29 27.7 +1.0
TAM pmax pmax
comp=Z,34nm,1.3s
COI Coimbra 23.67 278 *e*P **P** 04 29 28.7 +0.2
comp=Z,128nm,1.4s
EVO Evora 23.79 274 *e*P **P** 04 29 30.1 +0.4
comp=Z,40nm,1.0s
PMTG Montargil 23.80 275 *e*P **P** 04 29 30.0 +0.2
comp=Z,96nm,1.3s
PVAQ Vaqueiros 23.90 271 P **P** 04 29 31.2 +0.4
PCVE Castro Verde 24.07 272 *e*P **P** 04 29 31.8 -0.6
comp=Z,79nm,1.3s
PBDV Barranco-do-Ve 24.12 271 *e*P **P** 04 29 36.3 +3.4
comp=Z,94nm,1.2s
PSBE So Bento 24.12 276 *e*P **P** 04 29 33.2 +0.4
comp=Z,120nm,1.8s
KIRV Kirov 24.13 35 *d i* P **P** 04 29 31.9 -0.8
MESJ Messejana 24.15 272 *e*P **P** 04 29 35.4 +2.3
comp=Z,61nm,1.2s
MESJ Messejana 24.15 272 *e*P **P** 04 29 34.0 +0.9
MESJ IAmb IAmb 04 29 37.5
comp=Z,40nm,1.1s
MESJ Messejana 24.15 272 *e*P **P** 04 29 33.9 +0.9
MESJ pmax pmax
comp=Z,40nm,1.1s
PNCL Nicolau / Gran 24.30 273 *e*P **P** 04 29 36.2 +1.7
comp=Z,52nm,1.6s
AKTO Aktyubinsk 25.96 57 P **P** 04 29 49.0 -0.5
AKTO Aktyubinsk 25.96 57 LR LR 04 41 46.1
comp=Z,316nm,18.5s,baz=342,slow=40
APA Apatity 27.03 9 *i* P **P** 04 29 56.2 -2.7
APA *i* S **S** 04 34 27.0 -9.0
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,1μm,11.0s
AB31 Akbulak array 27.10 60 *i* P **P** 04 29 59.7 0.0
ABKAR Akbulak array 27.10 60 P **P** 04 29 59.2 -0.5
ABKAR Akbulak array 27.10 60 P **P** 04 30 00.1 +0.3
ABKAR IAmb IAmb 04 30 25.4
comp=Z,52nm,1.9s
GEYT Alibeck 27.26 85 P **P** 04 30 02.3 +1.0
GEYT Alibeck 27.26 85 P **P** 04 30 02.6 +1.3
comp=Z,8.5nm,0.6s,baz=269,slow=7.4,SNR=22
comp=Z,8.5nm,0.6s
GYA0B ALIBECK ARRAY 27.26 85 P **P** 04 30 02.2 +0.9
LVZ Lovozero 27.50 10 *e*P **P** 04 30 03.2 0.0
LVZ pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 27.61 44 P **P** 04 30 02.9 -1.3

ARU Arti 27.61 44 *d i* P **P** 04 30 03.5 -0.7
ARU 04 30 48.3
ARU S **S** 04 34 47.1 +1.8
ARU SS **SnSn** 04 35 59.7 +3.4
ARU pmax pmax
comp=Z,30nm,1.0s
ARU MLR MLR
comp=Z,675nm,13.0s
ARU Arti 27.61 44 LR LR 04 41 14.7
comp=Z,296nm,21.9s,baz=249,slow=37
ARCES ARCESS Array B 28.42 2 P **P** 04 30 10.1 -1.3
comp=Z,2.5nm,0.6s,baz=184,slow=9.5,SNR=20
ARCES LR LR 04 42 13.2
comp=Z,702nm,20.2s,baz=196,slow=38
comp=Z,2.5nm,0.6s
SVE Sverdlovsk 28.82 44 *de*P **P** 04 30 15.7 +0.7
SVE *e*S **S** 04 35 10.7 +6.3
SVE pmax pmax
comp=Z,44nm,1.1s
SVE MLR MLR
comp=Z,991nm,12.0s
JRN Qarnain Island 29.72 114 P **P** 04 30 23.8 +0.6
JRN P **P** 04 30 23.8 +0.6
SHME Shamm 31.34 108 P **P** 04 30 37.3 -0.3
SHME P **P** 04 30 37.3 -0.3
ASUD Al Ashush, Dub 31.65 111 P **P** 04 30 39.9 -0.4
HRA Herat 31.65 89 P **P** 04 30 40.4 -0.1
HRA IAmb IAmb 04 30 42.6
comp=Z,27nm,1.1s
NAZ Nazwa, Dubai 31.65 110 P **P** 04 30 40.9 +0.6
NAZ P **P** 04 30 40.9 +0.6
FAQ Al Faqa, Dubai 31.76 111 P **P** 04 30 41.5 +0.3
MASF Masafi 31.77 109 P **P** 04 30 41.0 -0.4
MASF P **P** 04 30 41.0 -0.4
UOSS Minazif 32.06 110 P **P** 04 30 45.3 +1.3
HATD Hatta, Dubai 32.09 110 P **P** 04 30 44.3 +0.1
SNR=6.8
HATD P **P** 04 30 44.3 +0.1
SNR=6.8
ASHO Ashiyiah 32.12 111 P **P** 04 30 44.7 +0.1
SNR=6.1
ALNE Al Ain 32.30 112 P **P** 04 30 46.6 +0.5
SNR=5.6
JASK Jask - Hormozg 32.69 107 P **P** 04 30 50.6 +1.1
SOHO SOHO 32.80 111 P **P** 04 30 50.6 +0.1
SOHO P **P** 04 30 50.6 +0.1
ARQ Araqi 33.31 112 P **P** 04 30 55.3 +0.4
TOA0 Torodi Ar. Sit 33.52 220 P **P** 04 30 56.4 -0.4
TOA0 Torodi Ar. Sit 33.52 220 P **P** 04 30 56.2 -0.5
TORD Torodi Ar. Bea 33.52 220 P **P** 04 30 56.4 -0.3
TORD Torodi Ar. Bea 33.52 220 P **P** 04 30 56.8 0.0
comp=Z,5.2nm,0.6s,baz=30,slow=10.0,SNR=40
TORD LR LR 04 46 26.6
comp=Z,149nm,19.0s,baz=21,slow=40
comp=Z,5.2nm,0.6s
BRVK Borovoye 33.75 53 P **P** 04 30 59.1 +0.6
BRVK IAmb IAmb 04 31 00.5
comp=Z,25nm,0.8s
BRVK Borovoye 33.75 53 *de*P **P** 04 30 58.8 +0.3
BRVK pmax pmax
comp=Z,30nm,1.1s
BRVK Borovoye 33.75 53 P **P** 04 30 60.0 +1.5
BVA0 Borovoye Array 33.82 53 *i* P **P** 04 30 59.0 0.0
BVAR Borovoye Array 33.82 53 P **P** 04 31 00.1 +1.1
comp=Z,12nm,0.8s,baz=269,slow=7.5,SNR=62
BVAR PcP **PcP** 04 33 36.8 -1.0
comp=Z,0.5nm,0.5s,baz=270,slow=1.4,SNR=1.5
BVAR LR LR 04 45 50.7
comp=Z,227nm,18.7s,baz=267,slow=38
comp=Z,12nm,0.8s
BSY Bisya 34.16 112 P **P** 04 31 02.3 -0.1
BORG Borgarnes 34.42 328 LR LR 04 45 59.6
comp=Z,188nm,18.3s,baz=118,slow=38
CHM Chimkent 34.54 72 *e*P **P** 04 31 04.9 -0.6
baz=72
CHM Chimkent 34.54 72 *e*P **P** 04 31 04.8 -0.6
SMDO Samad 34.56 111 P **P** 04 31 04.7 -1.1
SMDO P **P** 04 31 04.7 -1.1
WSAR Wadi Sarin 34.85 110 LR LR 04 48 48.6
comp=Z,136nm,18.9s,baz=324,slow=42
WSAR Wadi Sarin 34.85 110 P **P** 04 31 09.2 +0.8
KK31 Karatay Array 35.00 71 P **P** 04 31 09.8 +0.4
KK31 IAmb IAmb 04 31 11.8
comp=Z,61nm,1.6s
KK31 Karatay Array 35.00 71 P **P** 04 31 09.8 +0.4
KK31 pmax pmax
comp=Z,61nm,1.7s
KKAR Karatay Array 35.00 71 P **P** 04 31 09.6 +0.2
KKAR Karatay Array 35.00 71 P **P** 04 31 09.6 +0.2
JMDO Jabal Madar 35.04 112 P **P** 04 31 09.6 -0.4
SIMJ Simiganj 35.16 79 P **P** 04 31 10.9 -0.1
WHFO Wadi Hawf 35.21 122 P **P** 04 31 11.0 -0.4
ABTO Aybut 35.33 123 P **P** 04 31 12.5 0.0
ABTO P **P** 04 31 12.5 0.0
BRZS Berezniki 35.36 58 *e*P **P** 04 31 12.2 -0.2
baz=58
BRZS *e*S **S** 04 36 47.6 +1.1
baz=58
BRZS Berezniki 35.36 58 *e*P **P** 04 31 12.2 -0.2
BRZS *e*S **S** 04 36 47.5 +1.1
WBK Wadi Bani Khal 35.50 110 P **P** 04 31 14.2 +0.3
WBK P **P** 04 31 14.2 +0.3
DZA Taraz 35.63 71 *e*P **P** 04 31 15.1 +0.1
baz=71
DZA Taraz 35.63 71 *e*P **P** 04 31 15.0 +0.1
RBK Rabkut 35.79 122 P **P** 04 31 16.5 0.0
MHTO MHTO 35.86 113 P **P** 04 31 17.1 +0.2
MHTO P **P** 04 31 17.1 +0.2
JLN Jalan Bani Buh 36.10 110 P **P** 04 31 19.0 0.0
JLN P **P** 04 31 19.0 0.0
DMTO DMTO 36.12 121 P **P** 04 31 18.9 -0.3
KBL Kabul 36.71 85 P **P** 04 31 24.2 -0.2
KBL Kabul 36.71 85 P **P** 04 31 24.2 -0.2
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 36.71 85 P **P** 04 31 25.8 +1.4
SNR=5.1
BTLS Baital 37.04 66 *e*P **P** 04 31 27.0 +0.1
baz=66
BTLS Baital 37.04 66 *e*P **P** 04 31 27.0 +0.1
SCO Scoresbysund 37.06 337 P **P** 04 31 26.6 0.0
SCO Scoresbysund 37.06 337 P **P** 04 31 26.6 0.0
SCO pmax pmax
comp=Z,14nm,1.0s
SPITS Spitsbergen Ar 37.17 358 P **P** 04 31 26.7 -0.9
comp=Z,5.1nm,0.8s,baz=118,slow=13,SNR=1.7
SPITS PcP **PcP** 04 33 47.4 +0.1
comp=Z,14nm,1.1s,baz=145,slow=3.5,SNR=2.0
SPITS LR LR 04 47 45.3
comp=Z,320nm,20.2s,baz=140,slow=38
comp=Z,5.1nm,0.8s
EKS2 Erkin-Say 37.44 70 P **P** 04 31 32.3 +2.0
SNR=27
AML Almayashu 37.52 71 P **P** 04 31 31.8 +0.4
SGDS Sogindy 37.83 69 *e*P **P** 04 31 33.2 -0.4
baz=69
SGDS Sogindy 37.83 69 *e*P **P** 04 31 33.2 -0.4
AAK Ala-Archa 37.95 70 P **P** 04 31 36.7 +1.9
SNR=15
AAK Ala-Archa 37.95 70 P **P** 04 31 35.8 +1.1
AAK IAmb IAmb 04 31 37.5
comp=Z,68nm,1.6s
AAK Ala-Archa 37.95 70 *de*P **P** 04 31 35.9 +1.1
AAK pmax pmax
comp=Z,53nm,1.7s
AAK Ala-Archa 37.95 70 LR LR 04 50 28.6
comp=Z,177nm,18.8s,baz=292,slow=41
AAK Ala-Archa 37.95 70 P **P** 04 31 36.6 +1.8
CHMS Chumysh 38.03 70 P **P** 04 31 36.6 +1.3
SNR=8.8
UCH Uchtor 38.08 71 P **P** 04 31 38.0 +1.8
SNR=12
KBK Karagaybulak 38.27 70 P **P** 04 31 39.1 +1.7
SNR=6.4
KZA Kyzart 38.65 71 P **P** 04 31 43.1 +2.2
SNR=12
TKM2 Tokmak 2 38.65 69 *i* P **P** 04 31 39.4 -1.3
TKM2 pmax pmax
comp=Z,10.0nm,1.0s
KUU Kurty 38.91 68 *e*P **P** 04 31 43.0 +0.2
baz=68
KUU Kurty 38.91 68 *e*P **P** 04 31 42.9 +0.2
KURBB Kurchatov Arra 39.01 57 P **P** 04 31 42.9 -0.5
KURBB Kurchatov Arra 39.01 57 P **P** 04 31 43.8 +0.5
comp=Z,7.3nm,0.9s,baz=282,slow=9.3,SNR=39

KURBB PP **PnPn** **04 33 14.4 -0.6**
comp=Z,3.4nm,0.9s,baz=281,slow=11,SNR=6.2
KURBB PcP **PcP** **04 33 52.8 -0.6**
comp=Z,1.5nm,0.2s,baz=279,slow=3.6,SNR=4.1
KURBB LR LR 04 51 20.8
comp=Z,285nm,18.3s,baz=201,slow=42
comp=Z,7.3nm,0.9s
KURK Kurchatov 39.05 57 P **P** **04 31 43.7 0.0**
KURK Kurchatov 39.05 57*de*P **P** **04 31 44.0 +0.3**
KURK pmax pmax
comp=Z,33nm,1.7s
KURK Kurchatov 39.05 57 P **P** **04 31 44.4 +0.7**
LODK Lodwar 39.27 160 P **P** **04 31 46.7 +0.8**
LODK Lodwar 39.27 160 P **P** **04 31 47.1 +1.2**
CHKK Chushkaly 39.38 68 *e*P **P** **04 31 46.7 +0.1**
baz=68
CHKK Chushkaly 39.38 68 *e*P **P** **04 31 46.6 +0.1**
AAA Alma-Ata 39.50 69 *e*P **P** **04 31 47.8 +0.1**
baz=69
AAA Alma-Ata 39.50 69 *e*P **P** **04 31 47.8 +0.1**
TNSS Tian-Shan 39.57 69 *e*P **P** **04 31 48.2 -0.5**
baz=69
TNSS Tian-Shan 39.57 69 *e*P **P** **04 31 48.1 -0.5**
MDOK Medeo 39.61 69 *e*P **P** **04 31 48.5 -0.1**
baz=69
MDOK Medeo 39.61 69 *e*P **P** **04 31 48.5 -0.1**
KSH Kashi 39.98 74 P **P** **04 31 51.9 +0.2**
KSH pmax pmax
comp=Z,15nm,1.7s
KSH LR LR
comp=Z,260nm,13.3s
KSH LR LR
comp=Z,230nm,13.1s
KSH LR LR
comp=Z,360nm,15.7s
TDK Taldyqorghan 40.06 65 *e*P **P** **04 31 52.0 -0.2**
comp=Z,25nm,0.8s,baz=65
TDK Taldyqorghan 40.06 65 *e*P **P** **04 31 52.0 -0.2**
TDK pmax pmax
comp=Z,25nm,0.8s
NIL Nilore 40.25 84 P **P** **04 31 54.5 +0.6**
NIL IAmb IAmb 04 31 56.1
comp=Z,46nm,0.8s
NIL Nilore 40.25 84 P **P** **04 31 54.5 +0.6**
NIL pmax pmax
comp=Z,46nm,0.8s
NIL Nilore 40.25 84 P **P** **04 31 55.4 +1.5**
NIL P **P** **04 31 55.4 +1.5**
TARG Taragay, Kyrgy 40.57 70 IAmb IAmb 04 32 00.3
comp=Z,47nm,1.3s
SATY Saty 40.59 68 *e*P **P** **04 31 56.9 0.0**
comp=Z,22nm,1.2s,baz=68
SATY Saty 40.59 68 *e*P **P** **04 31 56.8 0.0**
SATY pmax pmax
comp=Z,22nm,1.2s
SHLS Shalkode 41.30 68 *e*P **P** **04 32 04.4 +1.7**
baz=68
SHLS Shalkode 41.30 68 *e*P **P** **04 32 04.3 +1.7**
MAKZ Makanchi 42.01 62 P **P** **04 32 08.9 +0.7**
MAKZ Makanchi 42.01 62 P **P** **04 32 08.9 +0.7**
MAKZ pmax pmax
comp=Z,25nm,1.1s
MK31 Makanchi Array 42.22 62*d i*P **P** **04 32 10.4 +0.4**
MK31 pmax pmax
comp=Z,28nm,0.8s
MKAR Makanchi Array 42.22 62 P **P** **04 32 10.8 +0.8**
MKAR Makanchi Array 42.22 62 P **P** **04 32 10.8 +0.8**
MKAR Makanchi Array 42.22 62 P **P** **04 32 11.0 +1.0**
comp=Z,23nm,0.8s,baz=281,slow=6.6,SNR=220
MKAR LR LR 04 51 15.3
comp=Z,293nm,21.4s,baz=294,slow=38
comp=Z,23nm,0.8s
DBIC Dimbokro 42.34 223 P **P** **04 32 10.4 -0.8**
DBIC Dimbokro 42.34 223 P **P** **04 32 10.4 -0.8**
DBIC pmax pmax
comp=Z,37nm,1.6s
DBIC Dimbokro 42.34 223 P **P** **04 32 11.1 -0.1**
comp=Z,8.0nm,0.8s,baz=26,slow=8.7,SNR=9.0
comp=Z,8.0nm,0.8s
ZAA0 Zalesovo Array 42.35 51 IAmb IAmb 04 32 12.2
comp=Z,43nm,0.8s
ZALV Zalesovo Beam 42.35 51 P **P** **04 32 11.6 +0.7**
comp=Z,39nm,0.6s,baz=277,slow=8.7,SNR=213
ZALV LR LR 04 51 15.9
comp=Z,248nm,19.5s,baz=276,slow=38
comp=Z,39nm,0.6s
SUMG Summit 42.70 337 P **P** **04 32 14.2 +0.2**
SUMG Summit 42.70 337 P **P** **04 32 14.2 +0.2**
SUMG pmax pmax
comp=Z,14nm,1.1s
NRIK Noril'sk 43.27 28 P **P** **04 32 18.8 +0.6**
NRIK IAmb IAmb 04 32 20.7
comp=Z,39nm,1.2s
NRIK Noril'sk 43.27 28*d i*P **P** **04 32 19.3 +1.1**
NRIK pmax pmax
comp=Z,24nm,1.0s
NRIK Noril'sk 43.27 28 P **P** **04 32 19.0 +0.8**
comp=Z,16nm,0.9s,baz=255,slow=5.5,SNR=23
NRIK LR LR 04 52 26.6
comp=Z,383nm,18.2s,baz=270,slow=39
comp=Z,16nm,0.9s
ZSN Zaisan 43.75 60 *e*P **P** **04 32 21.5 -0.8**
comp=Z,27nm,0.9s,baz=60
ZSN Zaisan 43.75 60 *e*P **P** **04 32 21.5 -0.8**
ZSN pmax pmax
comp=Z,27nm,0.9s
KMBO Kilima Mbogo 44.12 159↑ *e*P **P** **04 32 26.3 +0.4**
KMBO Kilima Mbogo 44.12 159 P **P** **04 32 27.4 +1.5**
comp=Z,2.1nm,0.7s,baz=1.0,slow=12,SNR=7.0
comp=Z,2.1nm,0.7s
KMBO Kilima Mbogo 44.12 159 P **P** **04 32 28.0 +2.1**
DGZ Jazzator, Alta 44.80 56*de*P **P** **04 32 31.0 +0.1**
DGZ pmax pmax
comp=Z,15nm,0.9s
KIBK Kibwezi 45.50 158 P **P** **04 32 37.3 +0.6**
WMQ Urumqi 46.76 64 *e*P **P** **04 32 47.2 +0.9**
WMQ pP sP 04 32 51.9 0.0
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=Z,310nm,18.1s
WMQ LR LR
comp=Z,570nm,11.7s
WMQ LR LR
comp=Z,240nm,15.3s
EUNU Eureka 52.91 348 P **P** **04 33 33.1 +0.4**
HYB Hyderabad 53.04 99 *e*P **P** **04 33 33.5 -0.8**
ZAK Zakamensk 54.22 51 *e*P **P** **04 33 43.9 +1.2**
ZAK pmax pmax
comp=Z,13nm,1.1s
FRB Frobisher Bay 54.58 327 LR LR 04 59 06.0
comp=Z,125nm,19.1s,baz=88,slow=38
GOMU GeErMu 54.90 70 P **P** **04 33 49.1 +0.9**
TIXI Tiksi 56.17 22 P **P** **04 33 55.1 -1.1**
TIXI IAmb IAmb 04 34 03.2
comp=Z,26nm,1.4s
TIXI Tiksi 56.17 22↓ *e*P **P** **04 33 56.2 -0.1**
TIXI pmax pmax
comp=Z,24nm,1.7s
TIXI Tiksi 56.17 22 LR LR 05 01 11.9
comp=Z,21nm,21.2s,baz=322,slow=39
LSZ Lusaka 56.42 174 P **P** **04 33 59.8 +1.0**
LSZ Lusaka 56.42 174 P **P** **04 33 59.8 +1.0**
LSZ pmax pmax
comp=Z,13nm,1.2s
LSZ Lusaka 56.42 174 P **P** **04 34 01.8 +3.0**
GTA Gaotai 56.84 64 *e*P **P** **04 34 01.9 +0.2**
GTA pP pP 04 34 05.9 +0.1
GTA PcP **PcP** **04 34 57.3 0.0**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,140nm,19.3s
GTA LR LR
comp=Z,160nm,14.9s
GTA LR LR
comp=Z,210nm,16.4s
BOD Bodaibo 56.88 40 *e*P **P** **04 34 01.1 -0.4**
BOD pmax pmax
comp=Z,17nm,1.3s
SONM Songino Array 57.16 53 IAmb IAmb 04 34 05.5
comp=Z,15nm,0.8s
SONM Songino Array 57.16 53 P **P** **04 34 04.8 +0.9**
comp=Z,11nm,0.8s,baz=287,slow=8.7,SNR=77
SONM PcP **PcP** **04 34 59.0 +0.5**
comp=Z,0.7nm,0.7s,baz=277,slow=5.8,SNR=2.0
SONM LR LR 05 01 01.3
comp=Z,193nm,18.6s,baz=274,slow=39
comp=Z,11nm,0.8s
RES Resolute Bay 57.36 344 P **P** **04 34 04.9 +0.2**
RES Resolute Bay 57.36 344 P **P** **04 34 04.9 +0.2**
RES pmax pmax
comp=Z,5.0nm,1.0s
SCHQ Schefferville 57.48 317 P **P** **04 34 05.4 -0.5**
comp=Z,8.3nm,0.7s,baz=62,slow=3.1,SNR=9.2
SCHQ LR LR 04 57 34.1
comp=Z,130nm,18.2s,baz=80,slow=35
comp=Z,8.3nm,0.7s
ULN Ulaanbaatar 57.54 53 P **P** **04 34 06.9 +0.4**
ULN IAmb IAmb 04 34 08.3
comp=Z,13nm,0.8s
ULN Ulaanbaatar 57.54 53*d i*P **P** **04 34 07.0 +0.4**
ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 57.54 53 P **P** **04 34 07.5 +1.0**
SHL Shillong 58.28 82 P **P** **04 34 10.7 -1.5**
SHL IAmb IAmb 04 34 15.5
comp=Z,21nm,1.0s
SHL Shillong 58.28 82 P **P** **04 34 10.7 -1.5**
SHL pmax pmax
comp=Z,21nm,1.0s
SHL Shillong 58.28 82 P **P** **04 34 11.0 -1.2**
SNR=6.0
TSUM Tsumeb 60.30 186 LR LR 05 02 22.1
comp=Z,184nm,19.0s,baz=191,slow=38
PALK Pallekele 61.25 107 P **P** **04 34 31.5 -1.0**
PALK IAmb IAmb 04 34 32.8
comp=Z,18nm,0.9s
PALK Pallekele 61.25 107 P **P** **04 34 31.5 -1.0**
LZH Lanzhou 61.27 66 *e*P **P** **04 34 32.8 +0.3**
LZH pP pP 04 34 36.4 -0.2
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,210nm,15.1s
LZH LR LR
comp=Z,280nm,14.8s
LZH LR LR
comp=Z,230nm,17.9s
YAK Yakutsk 61.58 31↑ *e*P **P** **04 34 34.5 +0.5**
YAK pmax pmax
comp=Z,25nm,1.7s
YAK Yakutsk 61.58 31 LR LR 05 02 22.1
comp=Z,9.3nm,19.7s,baz=292,slow=37
BTO Baotou 63.00 59 *e*P **P** **04 34 42.7 -1.3**
BTO pP **pP** **04 34 47.1 -1.0**
BTO sP **sP** **04 34 49.7 +0.1**
BTO PP **PP** **04 36 59.4 -2.8**
BTO S **S** **04 43 12.9 -1.2**
BTO SS **SS** **04 47 16.4 -2.6**
BTO pmax pmax
comp=Z,25nm,0.8s
BTO pmax pmax
comp=Z,520nm,5.1s
BTO LR LR
comp=Z,530nm,10.2s
BTO LR LR
comp=Z,260nm,9.0s
BTO LR LR
comp=Z,200nm,7.3s
HHC Hu-ho-hao-te 63.86 58 *e*P **P** **04 34 49.9 +0.2**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.8s
HHC LR LR
comp=Z,430nm,16.8s
HHC LR LR
comp=Z,460nm,16.5s
HHC LR LR
comp=Z,690nm,16.0s
CD2 Chengdu 64.02 71 *e*P **P** **04 34 50.2 -0.6**
A36M Sachs Harbour 64.88 350 IAmb IAmb 04 34 57.1
comp=Z,16nm,0.9s
A36M Sachs Harbour 64.88 350 P **P** **04 34 56.1 +0.4**
baz=26,SNR=9.6
XLT XiLinHaoTe 64.98 53↑ *i*P **P** **04 34 57.9 +0.9**
XLT pmax pmax
comp=Z,14nm,0.8s
XLT pmax pmax
comp=Z,120nm,5.4s
XLT LR LR
comp=Z,290nm,16.5s
XLT LR LR
comp=Z,210nm,14.6s
PZH PanZhiHua 65.06 76 P **P** **04 34 57.0 -0.8**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,140nm,5.0s
ZEA Zeya 65.38 39 *e*P **P** **04 34 59.9 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=Z,200nm,15.0s
XAN Xi'an 65.87 65↑ P **P** **04 35 02.8 0.0**
XAN pP pP 04 35 07.2 +0.2
XAN pmax pmax
comp=Z,16nm,1.1s
LBTB Lobatse 65.94 177 LR LR 05 05 56.7
comp=Z,106nm,18.2s,baz=359,slow=38
KMI Kunming 66.59 77↑ P **P** **04 35 07.4 -0.4**
KMI pmax pmax
comp=Z,11nm,0.8s
C36M Paulatuk 67.09 348 IAmb IAmb 04 35 10.5
comp=Z,9.0nm,0.9s
C36M Paulatuk 67.09 348 P **P** **04 35 09.9 0.0**
baz=26,SNR=11
CHTO Chiang Mai 67.52 84 P **P** **04 35 12.5 -1.0**
CHTO IAmb IAmb 04 35 13.5
comp=Z,14nm,0.8s
CHTO Chiang Mai 67.52 84 P **P** **04 35 12.5 -1.0**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 67.52 84 P **P** **04 35 12.7 -0.8**
CHTO Chiang Mai 67.52 84 P **P** **04 35 12.9 -0.6**
comp=Z,18nm,0.9s
FCC Fort Churchill 67.55 330 IAmb IAmb 04 35 17.3
comp=Z,31nm,1.5s
HEH HeiHe 67.57 42 *e*P **P** **04 35 13.5 +0.2**
HEH pmax pmax
comp=Z,22nm,0.9s
HEH pmax pmax
comp=Z,290nm,3.9s
HEH LR LR
comp=Z,660nm,15.4s
HEH LR LR
comp=Z,480nm,17.0s
HEH LR LR
comp=Z,460nm,13.4s
BILL Bilibino 67.65 14 P **P** **04 35 13.0 -0.5**
BILL IAmb IAmb 04 35 14.8
comp=Z,17nm,1.2s
CM31 Chiang Mai Arr 67.74 85 P **P** **04 35 14.3 -0.6**
SNR=5.4
CMAR Chiang Mai Arr 67.74 85 *i* P **P** **04 35 14.1 -0.7**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 67.74 85 P **P** **04 35 14.2 -0.7**
comp=Z,7.5nm,0.7s,baz=304,slow=7.7,SNR=44
CMAR LR LR 05 11 00.8
comp=Z,48nm,20.7s,baz=310,slow=41
comp=Z,7.5nm,0.7s
HNS HongShan 67.81 59↓ P **P** **04 35 15.0 -0.1**
HNS pmax pmax
comp=Z,7.0nm,0.8s
A22K Sinclair Lake 68.08 359 P **P** **04 35 16.8 +0.6**
baz=1.8
SEY Seymchan 68.65 22↓ *e*P **P** **04 35 20.7 +0.8**
SEY pmax pmax
comp=Z,28nm,1.7s
SEY Seymchan 68.65 22 LR LR 05 09 28.8
comp=Z,301nm,19.5s,baz=322,slow=40
GYA Guiyang 68.66 73 *e*P **P** **04 35 24.7 +4.0**
GYA pmax pmax
comp=Z,18nm,0.7s
B22K Teshekpuk Lake 68.73 359 P **P** **04 35 21.4 +1.1**
baz=3.0
PAL Palisades 68.80 306 P **P** **04 35 22.1 +0.9**
baz=53
A19K Wainwright 68.86 1 P **P** **04 35 22.3 +1.3**
baz=357
D28M Stokes Point 68.94 353 P **P** **04 35 22.1 +0.6**
baz=15
B20K Meade River 69.09 0 P **P** **04 35 22.5 0.0**
B20K IAmb IAmb 04 35 24.6
comp=Z,11nm,0.8s
B20K Meade River 69.09 0 P **P** **04 35 23.9 +1.4**
baz=360
C23K Itkillik River 69.16 358 P **P** **04 35 23.7 +0.8**
baz=5.3,SNR=6.4
C24K Franklin Bluff 69.21 357 P **P** **04 35 24.4 +1.1**
baz=6.8
D27M Malcolm River 69.21 354 IAmb IAmb 04 35 25.2
comp=Z,13nm,1.2s
D27M Malcolm River 69.21 354 P **P** **04 35 23.7 +0.3**
baz=13
BINY Binghamton 69.33 308 P **P** **04 35 25.8 +1.3**
baz=53
INK Inuvik 69.37 351 P **P** **04 35 24.2 0.0**
baz=19
INK Inuvik 69.37 351 LR LR 05 09 37.6
comp=Z,66nm,19.2s,baz=48,slow=39
B21K Ikpikpuk River 69.47 359 IAmb IAmb 04 35 27.5
comp=Z,17nm,1.3s
B21K Ikpikpuk River 69.47 359 P **P** **04 35 25.8 +1.0**
baz=2.0,SNR=5.8
D25K Kavik River 69.50 356 IAmb IAmb 04 35 26.8
comp=Z,11nm,1.1s
D25K Kavik River 69.50 356 P **P** **04 35 26.0 +0.9**
baz=8.7
BOSA Boshof 69.51 178 P **P** **04 35 26.7 +1.0**
comp=Z,7.3nm,1.1s,baz=23,slow=4.9,SNR=5.0
BOSA LR LR 05 08 04.6
comp=Z,134nm,18.2s,baz=12,slow=38
comp=Z,7.3nm,1.1s
SADO Sadowa 69.58 312 LR LR 05 05 20.0
comp=Z,218nm,18.5s,baz=72,slow=35
B18K Kokolik River 69.69 2 P **P** **04 35 27.1 +0.9**
baz=356
SLVN Son La 69.70 79 P **P** **04 35 26.1 -1.0**
E28M Babbage River 69.72 353 P **P** **04 35 27.3 +0.8**
baz=14
E29M Blow River 69.77 353 P **P** **04 35 27.3 +0.5**
baz=15
D24K Happy Valley 69.78 357 P **P** **04 35 27.1 +0.3**
baz=6.7
C21K Knifeblade Rid 69.94 359 P **P** **04 35 28.7 +1.0**
baz=1.9
C19K Lookout Ridge 69.99 1 IAmb IAmb 04 35 30.7
comp=Z,24nm,1.6s
C19K Lookout Ridge 69.99 1 P **P** **04 35 28.9 +0.8**
baz=358
D23K Nanushuk River 70.04 358 P **P** **04 35 29.0 +0.6**
baz=5.2
TIA Tai'an 70.08 59 P **P** **04 35 29.0 -0.2**
TIA pmax pmax
comp=Z,9.0nm,0.7s
D22K Ayikyak River 70.18 358 IAmb IAmb 04 35 31.5
comp=Z,16nm,1.1s
D22K Ayikyak River 70.18 358 P **P** **04 35 29.6 +0.4**
baz=3.6
F31M Tsiigehtchic 70.22 351 IAmb IAmb 04 35 30.7
comp=Z,16nm,0.8s
F31M Tsiigehtchic 70.22 351 P **P** **04 35 29.5 0.0**
baz=19,SNR=8.6
E27K Coleen River 70.30 354 IAmb IAmb 04 35 37.1
comp=Z,32nm,1.6s
E27K Coleen River 70.30 354 P **P** **04 35 30.4 +0.3**
baz=12
F30M Barrier River 70.30 351 P **P** **04 35 30.5 +0.5**
baz=17
TOLK Toolik Lake Re 70.32 357 P **P** **04 35 30.6 +0.4**
baz=6.1
BNX BinXian 70.38 46↓ P **P** **04 35 30.1 -0.7**
BNX pmax pmax
comp=Z,11nm,1.0s
BNX pmax pmax
comp=Z,280nm,3.4s
KLR Kul'dur 70.39 41*de*P **P** **04 35 30.9 0.0**
KLR pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 70.39 41 LR LR 05 08 12.8
comp=Z,83nm,18.9s,baz=334,slow=38
D20K Etivluk River 70.39 360 P **P** **04 35 31.1 +0.5**
baz=0.4
SRDT SRDT 70.41 88 P **P** **04 35 30.5 -0.9**
comp=Z,71nm,0.9s,comp=Z,7μm
C18K Utukok River 70.42 2 IAmb IAmb 04 35 36.9
comp=Z,18nm,1.1s
C18K Utukok River 70.42 2 P **P** **04 35 31.6 +0.8**
baz=357
CN2 Changchun 70.51 49 *e*P **P** **04 35 31.9 +0.2**
CN2 *e*S **S** **04 44 44.9 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,200nm,13.0s
C17K DeLong Mountai 70.54 2 P **P** **04 35 32.6 +1.1**
baz=355
D19K Kuna River 70.61 0 IAmb IAmb 04 35 34.0
comp=Z,16nm,0.9s
D19K Kuna River 70.61 0 P **P** **04 35 32.5 +0.6**
baz=359
E21K Killik River 70.64 359 P **P** **04 35 32.7 +0.6**
baz=2.5
E25K Arctic Village 70.64 355 IAmb IAmb 04 35 39.6
comp=Z,42nm,1.9s
E25K Arctic Village 70.64 355 P **P** **04 35 32.9 +0.8**
baz=9.2
C16K Lisburne Hills 70.66 3 IAmb IAmb 04 35 34.0
comp=Z,24nm,1.4s
C16K Lisburne Hills 70.66 3 P **P** **04 35 32.7 +0.6**
baz=354
F28M Old Crow 70.71 353 P **P** **04 35 33.2 +0.7**
baz=14,SNR=5.5
G31M Satah River 70.78 351 IAmb IAmb 04 35 39.8
comp=Z,35nm,1.6s
G31M Satah River 70.78 351 P **P** **04 35 33.1 +0.2**
baz=18
MA2 Magadan 70.79 25 P **P** **04 35 33.7 +0.6**
MA2 Magadan 70.79 25*de*P **P** **04 35 33.7 +0.6**
MA2 pmax pmax
comp=Z,37nm,1.7s
MA2 Magadan 70.79 25 LR LR 05 08 35.4
comp=Z,58nm,19.1s,baz=312,slow=38
E24K Your Creek 70.84 357 IAmb IAmb 04 35 48.8
comp=Z,22nm,1.6s
E24K Your Creek 70.84 357 P **P** **04 35 33.8 +0.4**
baz=6.9
E20K Nigu River 70.85 360 P **P** **04 35 33.9 +0.4**
baz=0.8
E22K Anaktuvuk Pass 70.90 358 P **P** **04 35 34.2 +0.4**
baz=4.3,SNR=6.5
E23K Chandalar 70.91 357 P **P** **04 35 34.8 +1.0**
baz=6.0
G30M tAoh Zraii Nji 70.96 351 IAmb IAmb 04 35 53.8
comp=Z,47nm,1.9s
G30M tAoh Zraii Nji 70.96 351 P **P** **04 35 34.5 +0.4**
baz=16
RDOG Red Dog Mine 70.97 2 IAmb IAmb 04 35 40.4
comp=Z,39nm,1.8s
RDOG Red Dog Mine 70.97 2 P **P** **04 35 34.7 +0.6**
baz=355
F26K Sheenjek River 70.97 355 P **P** **04 35 34.5 +0.3**
baz=10
YKA Yellowknife Ar 71.14 341 P **P** **04 35 35.2 0.0**
comp=Z,5.6nm,1.0s,baz=31,slow=5.6,SNR=40
YKA LR LR 05 07 26.2
comp=Z,77nm,18.4s,baz=39,slow=36
comp=Z,5.6nm,1.0s
F25K Christian Rive 71.17 355 P **P** **04 35 35.8 +0.4**
baz=9.1
G29M Pine Creek 71.22 352 IAmb IAmb 04 35 37.0
comp=Z,17nm,1.0s
G29M Pine Creek 71.22 352 P **P** **04 35 35.6 0.0**
baz=15
F24K Squaw Lake 71.37 356 IAmb IAmb 04 35 39.2
comp=Z,14nm,1.1s
F24K Squaw Lake 71.37 356 P **P** **04 35 37.2 +0.7**
baz=7.4
F22K John River 71.54 358 P **P** **04 35 38.6 +1.0**
baz=4.0
EPYK Eagle Plains 71.60 351 P **P** **04 35 38.6 +0.7**
baz=16

G27K	Doyon Strip	71.66	354	P	P	04 35 38.9	+0.6
	baz=12						
E19K	Redstone River	71.66	0	IAmb	IAmb	04 35 40.2	
	comp=Z,15nm,0.8s						
E19K	Redstone River	71.66	0	P	P	04 35 38.9	+0.6
	baz=360						
E18K	Tukpahlearik C	71.66	1	IAmb	IAmb	04 35 40.1	
	comp=Z,10nm,0.8s						
E18K	Tukpahlearik C	71.66	1	P	P	04 35 39.1	+0.9
	baz=357						
G26K	Porcupine Rive	71.68	355	P	P	04 35 39.4	+1.0
	baz=11,SNR=5.4						
COLD	Coldfoot	71.76	357	P	P	04 35 39.8	+1.0
	baz=5.5,SNR=5.5						
F21K	Alatna River	71.86	359	P	P	04 35 40.4	+0.9
	baz=2.9						
H29M	Whitestone	71.92	352	IAmb	IAmb	04 35 46.4	
	comp=Z,12nm,1.0s						
H29M	Whitestone	71.92	352	P	P	04 35 40.6	+0.7
	baz=15						
E17K	Hotham Inlet	71.97	2	P	P	04 35 40.8	+0.6
	baz=356,SNR=6.2						
G25K	Bearman Lake	72.02	355	P	P	04 35 41.1	+0.6
	baz=8.7						
F20K	Avaraart Lake	72.06	359	IAmb	IAmb	04 35 48.2	
	comp=Z,18nm,1.4s						
F20K	Avaraart Lake	72.06	359	P	P	04 35 41.7	+1.0
	baz=1.1						
G22K	Bettles	72.11	358	P	P	04 35 41.9	+1.0
	baz=4.5						
G24K	Hadweenzic Riv	72.16	356	P	P	04 35 42.2	+0.9
	baz=7.7						
H27K	Steamboat Moun	72.21	353	P	P	04 35 42.3	+0.6
	baz=12,SNR=8.7						
G23K	Bananza Creek	72.27	357	P	P	04 35 42.5	+0.5
	baz=5.6						
MDJ	Mudanjiang	72.28	46	P	P	04 35 41.4	-1.0
MDJ				PcP	PcP	04 35 59.8	-0.7
MDJ				S	S	04 45 03.1	-2.0
MDJ				ScS	SKKSac	04 45 46.8	0.0
MDJ				SS	SS	04 49 41.6	-0.5
MDJ				pmax	pmax		
	comp=Z,15nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.1s						
F19K	Shaleruckik Mo	72.28	0	P	P	04 35 42.4	+0.4
	baz=360						
WRGLY	Wrigley	72.49	345	IAmb	IAmb	04 35 44.8	
	comp=Z,21nm,1.1s						
WRGLY	Wrigley	72.49	345	P	P	04 35 44.0	+0.7
	baz=26,SNR=7.1						
G21K	Allakaket	72.57	358	IAmb	IAmb	04 35 49.8	
	comp=Z,16nm,1.1s						
G21K	Allakaket	72.57	358	P	P	04 35 44.4	+0.7
	baz=2.9						
F17K	Baldwin Pennin	72.63	2	P	P	04 35 44.9	+0.9
	baz=357						
I30M	Mount Dempster	72.67	351	P	P	04 35 44.9	+0.4
	baz=16						
I29M	Ogilvie Camp,	72.75	352	IAmb	IAmb	04 35 46.2	
	comp=Z,22nm,1.2s						
I29M	Ogilvie Camp,	72.75	352	P	P	04 35 45.0	+0.1
	baz=15,SNR=5.8						
I28M	Miner Creek	72.83	353	P	P	04 35 45.6	+0.1
	baz=14						
I27K	Kandik River	72.84	353	P	P	04 35 46.3	+0.9
	baz=12						
G19K	Purcell Mounta	72.98	360	P	P	04 35 47.1	+0.9
	baz=0.1						
H24K	Noodor Dome	73.04	356	P	P	04 35 47.6	+1.0
	baz=7.3						
H22K	Ishtalitna Cre	73.14	358	P	P	04 35 48.4	+1.3
	baz=4.5						
MCWV	Mont Chateau	73.20	308	P	P	04 35 48.9	+1.0
	baz=50						
G18K	Tagagawik	73.22	1	IAmb	IAmb	04 35 49.5	
	comp=Z,19nm,1.2s						
G18K	Tagagawik	73.22	1	P	P	04 35 48.3	+0.7
	baz=359,SNR=8.5						
PRP	Porcupine Dome	73.22	355	P	P	04 35 48.4	+0.6
	baz=9.1						
TNA	Tin City	73.23	5	P	P	04 35 48.2	+0.6
	baz=352						
SUR	Sutherland	73.25	182	LR	LR	05 09 55.0	
	comp=Z,143nm,19.1s,baz=351,slow=37						
F15K	North Star Dit	73.25	3	IAmb	IAmb	04 35 49.7	
	comp=Z,31nm,1.3s						
F15K	North Star Dit	73.25	3	P	P	04 35 48.3	+0.5
	baz=354						
I26K	Coal Creek Min	73.26	354	P	P	04 35 47.9	0.0
	baz=11						
J30M	Hart River	73.29	351	IAmb	IAmb	04 35 55.4	
	comp=Z,18nm,1.0s						
J30M	Hart River	73.29	351	P	P	04 35 48.7	+0.5
	baz=16						
F14K	Arctic Creek	73.41	4	P	P	04 35 49.4	+0.7
	baz=353						
H21K	Melozitna Rive	73.41	358	IAmb	IAmb	04 35 51.5	
	comp=Z,20nm,1.1s						
H21K	Melozitna Rive	73.41	358	P	P	04 35 50.0	+1.3
	baz=3.4,SNR=9.4						
FFC	Flin Flon	73.47	330	P	P	04 35 49.2	0.0
FFC	Flin Flon	73.47	330	P	P	04 35 49.2	0.0
FFC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
G17K	Kiwalik Mounta	73.59	2	P	P	04 35 50.6	+0.8
	baz=357						
H19K	Roundabout Mou	73.59	360	P	P	04 35 50.1	+0.3
	baz=0.6						
EGAK	Eagle	73.61	353	P	P	04 35 50.4	+0.5
	baz=12						
H20K	Anotleneega Mo	73.62	359	P	P	04 35 50.4	+0.5
	baz=1.8						
O53A	New Philadelph	73.62	309	P	P	04 35 51.1	+0.6
	baz=50						
G16K	Koyuk River	73.65	2	IAmb	IAmb	04 35 52.2	
	comp=Z,21nm,1.1s						
G16K	Koyuk River	73.65	2	P	P	04 35 50.5	+0.4
	baz=356						
AAM	Ann Arbor	73.68	312	P	P	04 35 51.2	+0.5
	baz=49						
POKR	Poker Plat Res	73.74	356	P	P	04 35 51.1	+0.5
	baz=7.6						
NJ2	Nanjing	73.75	62	*e*P	P	04 35 51.0	-0.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
I23K	Minto, Yukon-K	73.80	357	P	P	04 35 52.0	+1.0
	baz=6.1						
USRK	Ussuriysk Ar.	73.85	45	P	P	04 35 51.0	-0.6
	comp=Z,3.4nm,0.9s,baz=274,slow=4.0,SNR=4.4						
USRK				LR	LR	05 12 53.2	
	comp=Z,90nm,21.8s,baz=324,slow=40						
	comp=Z,3.4nm,0.9s						
I21K	Tanana	73.87	358	P	P	04 35 52.4	+1.0
	baz=4.0						
MDM	Murphy Dome	73.94	356	IAmb	IAmb	04 35 53.7	
	comp=Z,25nm,1.4s						
EYMN	Ely	73.94	320	P	P	04 35 52.5	+0.3
	baz=46						
H18K	Honhosa River	73.97	1	IAmb	IAmb	04 35 58.9	
	comp=Z,41nm,1.6s						
H18K	Honhosa River	73.97	1	P	P	04 35 53.0	+0.9
	baz=359						
MLY	Manley	73.98	357	P	P	04 35 52.8	+0.6
	baz=5.0						
G15K	Niukluk	73.99	3	P	P	04 35 52.8	+0.6
	baz=355						
ILAR	Eielson Array	74.05	355	P	P	04 35 53.3	+0.8
	comp=Z,2.4nm,1.0s,baz=354,slow=4.5,SNR=17						
ILAR				LR	LR	05 11 55.4	
	comp=Z,51nm,18.2s,baz=22,slow=39						
	comp=Z,2.4nm,1.0s						
COWI	Conover	74.05	318	IAmb	IAmb	04 35 54.2	
	comp=Z,25nm,1.1s						
J26L	Joseph Creek	74.08	354	P	P	04 35 53.4	+0.6
	baz=11						
J25K	Salcha River,	74.11	355	P	P	04 35 53.7	+0.7
	baz=9.2						
DAWY	Dawson	74.13	352	P	P	04 35 53.8	+0.8
	baz=14,SNR=5.6						
K29M	Barlow Dome	74.14	351	P	P	04 35 54.0	+0.9
	baz=15						
H17K	Granite Mounta	74.17	1	P	P	04 35 54.2	+1.1
	baz=358						
ULM	Lac du Bonnet	74.31	324	IAmb	IAmb	04 35 55.3	
	comp=Z,29nm,1.0s						
ULM	Lac du Bonnet	74.31	324	P	P	04 35 54.2	-0.1
	comp=Z,22nm,1.0s,baz=42,slow=5.4,SNR=25						
ULM				LR	LR	05 08 09.4	
	comp=Z,130nm,18.2s,baz=90,slow=36						
	comp=Z,22nm,1.0s						
ANM	Nome	74.36	4	IAmb	IAmb	04 35 56.0	
	comp=Z,21nm,1.1s						
ANM	Nome	74.36	4	P	P	04 35 54.8	+0.5
	baz=354						
GCSA	Galena City Sc	74.38	360	P	P	04 35 54.9	+0.5
	baz=0.2						
H16K	Elim	74.41	2	P	P	04 35 55.1	+0.5
	baz=356,SNR=6.0						
HDA	Harding Lake	74.41	355	P	P	04 35 55.0	+0.4
	baz=8.0						
K27K	Chicken	74.42	353	IAmb	IAmb	04 36 01.8	
	comp=Z,32nm,1.4s						
K27K	Chicken	74.42	353	P	P	04 35 55.6	+0.9
	baz=12						
P52A	Corning	74.56	309	P	P	04 35 56.3	+0.4
	baz=49						
ACSO	Alum Creek Sta	74.66	310	P	P	04 35 56.8	+0.3
	baz=49						
B35A	Bob, Littlefor	74.70	322	IAmb	IAmb	04 36 01.6	
	comp=Z,34nm,1.4s						
CNNC	Cliffs of the	74.83	304	P	P	04 35 58.9	+1.5
	baz=50						
J20K	Nowinta River	74.93	359	P	P	04 35 58.0	+0.4
	baz=2.4						
K24K	Donnelly Dome	74.94	355	P	P	04 35 58.4	+0.6
	baz=8.8						
TGTN	Hyland Airport	74.96	346	P	P	04 35 58.9	+1.0
	baz=22						
BLA	Blacksburg	75.12	306	P	P	04 35 58.9	-0.4
	baz=49						
J19K	Poorman	75.13	359	P	P	04 35 59.7	+0.9
	baz=1.2						
FARO	Faro, Yukon	75.14	349	P	P	04 35 59.8	+0.9
	baz=18						
CHUM	Lake Minchumin	75.18	358	P	P	04 35 59.8	+0.7
	baz=3.8						
MCK	McKinley	75.20	356	P	P	04 35 59.6	+0.4
	baz=6.4						
I17K	Unalakleet	75.21	2	P	P	04 35 59.8	+0.6
	baz=357						
M30M	Minto, Yukon	75.27	350	P	P	04 35 59.3	-0.4
	baz=16						
M31M	Drury Creek, Y	75.31	349	IAmb	IAmb	04 36 02.6	
	comp=Z,32nm,1.6s						
M31M	Drury Creek, Y	75.31	349	P	P	04 36 00.5	+0.7
	baz=18						
L27K	Beaver Creek,	75.35	353	P	P	04 36 00.6	+0.5
	baz=12						
L26K	Log Cabin Wild	75.52	354	P	P	04 36 01.5	+0.4
	baz=11						
TRF	Thorofare Moun	75.54	357	P	P	04 36 01.7	+0.4
	baz=5.3						
M29M	Somme Creek	75.60	351	IAmb	IAmb	04 36 04.1	
	comp=Z,12nm,0.8s						
M29M	Somme Creek	75.60	351	P	P	04 36 02.2	+0.6
	baz=14						
CAST	Castle Rocks	75.64	358	P	P	04 36 02.4	+0.7
	baz=3.9						
J18K	Innoko River	75.67	360	P	P	04 36 02.7	+0.8
	baz=0.3						
PAX	Paxson	75.74	355	P	P	04 36 02.4	0.0
	baz=9.1						
K20K	Telida	75.75	359	IAmb	IAmb	04 36 41.8	
	comp=Z,37nm,1.4s						
K20K	Telida	75.75	359	P	P	04 36 03.5	+1.1
	baz=2.4						
MDP	Montagnes des	75.75	264	LR	LR	05 06 29.0	
	comp=Z,48nm,18.8s,baz=111,slow=34						
DHY	Denali Highway	75.77	355	IAmb	IAmb	04 36 11.4	
	comp=Z,21nm,1.1s						
DHY	Denali Highway	75.77	355	P	P	04 36 03.1	+0.5
	baz=7.6						
J16K	Anvik River	75.81	2	P	P	04 36 03.4	+0.7
	baz=357						
O48B	Farmland	75.89	311	P	P	04 36 03.8	+0.3
	baz=48						
BVCY	Beaver Creek	75.89	352	P	P	04 36 04.0	+0.8
	baz=13						
KSRS	Korea Array	76.03	52	P	P	04 36 04.4	+0.1
	comp=Z,3.5nm,0.7s,baz=310,slow=4.6,SNR=9.5						
KSRS				LR	LR	05 12 46.2	
	comp=Z,181nm,18.1s,baz=315,slow=38						
	comp=Z,3.5nm,0.7s						
M27K	Edge Creek, AK	76.05	353	P	P	04 36 03.4	-0.9
	baz=12						
M26K	Nabesna, AK	76.11	353	P	P	04 36 05.0	+0.5
	baz=11						
N32M	Quiet Lake	76.12	348	P	P	04 36 05.7	+1.1
	baz=18						
PPLA	Purkeypile	76.16	358	P	P	04 36 05.1	+0.2
	baz=3.9						
N31M	Braeburn, Yuko	76.19	350	P	P	04 36 05.6	+0.6
	baz=16						
J14K	Nanvaranak Lak	76.26	3	P	P	04 36 05.7	+0.5
	baz=355						
WAT6	Susitna Watana	76.28	356	P	P	04 36 05.4	-0.2
	baz=7.3						
WTLY	Watson Lake, Y	76.38	346	P	P	04 36 07.0	+1.0
	baz=22						
N30M	Aishikik Lake	76.39	350	P	P	04 36 06.7	+0.6
	baz=15						
F36A	Milaca	76.40	320	IAmb	IAmb	04 36 07.2	
	comp=Z,16nm,0.9s						
F36A	Milaca	76.40	320	P	P	04 36 06.0	-0.4
	baz=44						
K17K	Iditarod	76.42	1	P	P	04 36 07.0	+0.8
	baz=359						
YUK3	Moose Creek	76.48	352	P	P	04 36 07.3	+0.5
	baz=13						
SPMN	Marine on St.	76.50	319	IAmb	IAmb	04 36 12.0	
	comp=Z,19nm,1.1s						
SPMN	Marine on St.	76.50	319	P	P	04 36 07.4	+0.5
	baz=44						
SPMN	Marine on St.	76.50	319	P	P	04 36 06.9	-0.1
	baz=44						
K15K	Wolf Creek Mou	76.78	2	P	P	04 36 08.7	+0.5
	baz=357						
JFWS	Jewell Farm	76.84	316	P	P	04 36 08.3	-0.6
JFWS				IAmb	IAmb	04 36 09.6	
	comp=Z,18nm,1.0s						
JFWS	Jewell Farm	76.84	316	P	P	04 36 08.6	-0.3
	baz=45						
JFWS	Jewell Farm	76.84	316	P	P	04 36 08.6	-0.3
	baz=45						
JFWS	Jewell Farm	76.84	316	P	P	04 36 08.3	-0.6
JFWS				pmax	pmax		
	comp=Z,18nm,1.0s						
YUK8	Steele Glacier	76.88	351	P	P	04 36 09.0	-0.1
	baz=13						
SFIN	Lafayette	76.89	313	P	P	04 36 09.8	+0.5
	baz=47						
L18K	Granite Mounta	76.92	360	P	P	04 36 09.8	+0.8
	baz=0.4						
O30N	Mendenhall	76.92	350	P	P	04 36 08.6	-0.5
	baz=16						
L19K	White Mountain	76.94	359	IAmb	IAmb	04 36 11.3	
	comp=Z,24nm,1.1s						
L19K	White Mountain	76.94	359	P	P	04 36 09.8	+0.7
	baz=1.8						
P33M	Teslin, Yukon	76.97	348	P	P	04 36 09.9	+0.5
	baz=19						
SCM	Sheep Creek Mo	77.00	355	P	P	04 36 10.5	+0.9
	baz=7.6						
L17K	Donlin	77.00	1	P	P	04 36 10.0	+0.6
	baz=359						
N25K	Chitina, Valde	77.03	354	P	P	04 36 09.9	+0.1
	baz=9.7						
YUK6	Outpost Mounta	77.05	351	P	P	04 36 09.9	-0.2
	baz=14						
SKT	Skwentna	77.06	357	P	P	04 36 09.3	-0.5
	baz=4.3						
M23K	Glacier View	77.06	355	P	P	04 36 09.4	-0.5
	baz=7.3						
SML	Sawmill	77.08	356	P	P	04 36 09.9	-0.1
	baz=6.8						
L42A	Oliver, Polo	77.17	315	IAmb	IAmb	04 36 11.7	
	comp=Z,22nm,1.1s						
M20K	Styx River	77.20	358	P	P	04 36 10.7	0.0
	baz=3.1						
M22K	Willow	77.23	357	P	P	04 36 10.6	0.0
	baz=5.4						
KLU	Klutina	77.24	355	P	P	04 36 11.6	+0.7
	baz=8.7						
YSS	Yuzh-Sakhalins	77.26	38	P	P	04 36 11.9	+0.7
YSS	Yuzh-Sakhalins	77.26	38	*de*P	P	04 36 11.0	-0.1
YSS				pmax	pmax		
	comp=Z,47nm,0.9s						
PMR	Palmer	77.34	356	P	P	04 36 12.0	+0.6
	baz=6.2						
L15K	Ungalak Mounta	77.40	2	P	P	04 36 12.5	+0.8
	baz=357						
L16K	Owhat River	77.41	1	P	P	04 36 12.2	+0.5
	baz=358						
R33M	Jennings River	77.44	347	P	P	04 36 13.2	+1.1
	baz=20						
TZTN	Tazewell	77.44	308	P	P	04 36 13.3	+0.9
	baz=48						
KNK	Knik Glacier	77.48	356	P	P	04 36 12.8	+0.5
	baz=6.7						
SUA	Susitna One	77.55	357	P	P	04 36 13.2	+0.5
	baz=4.9						
SJG	San Juan	77.58	283	LR	LR	05 05 23.1	
	comp=Z,24nm,21.4s,baz=46,slow=32						
M18K	Stony River	77.64	359	P	P	04 36 13.7	+0.6
	baz=1.0						
NHSC	New Hope	77.65	303	P	P	04 36 13.6	0.0
	baz=49						
BMRM	Bremner River	77.66	354	P	P	04 36 12.7	-0.5
	baz=9.6						
P30M	Million Dollar	77.67	350	P	P	04 36 13.6	+0.3
	baz=15						
O29M	Mount Kennedy	77.70	351	P	P	04 36 12.8	-0.7
	baz=14						
M17K	Holitna River	77.74	0	P	P	04 36 14.4	+0.8
	baz=360						
F33A	5 Mile Ranch,	77.74	321	IAmb	IAmb	04 36 14.9	
	comp=Z,17nm,1.1s						
F33A	5 Mile Ranch,	77.74	321	P	P	04 36 14.0	+0.1
	baz=42						
CRQE	Cirque	77.74	353	P	P	04 36 14.2	+0.4
	baz=11						
MDND	Maddock	77.74	324	P	P	04 36 14.1	+0.2
	baz=40						
O44A	Mansfield	77.81	313	P	P	04 36 14.5	+0.1
	baz=46						
N20K	Mount Spurr	77.86	358	P	P	04 36 14.4	0.0
	baz=3.8						
RC01	Rabbit Creek A	77.87	356	P	P	04 36 14.4	0.0
	baz=5.7						
T50A	Nancy	77.89	309	P	P	04 36 15.4	+0.6
	baz=47						
T50A				P	P	04 36 15.4	+0.6
	baz=47						
WCI	Wyandotte Cave	77.91	310	P	P	04 36 14.1	-0.9
WCI				IAmb	IAmb	04 36 19.2	
	comp=Z,24nm,1.3s						
WCI	Wyandotte Cave	77.91	310	P	P	04 36 15.0	0.0
	baz=47						
WCI	Wyandotte Cave	77.91	310	P	P	04 36 14.1	-0.9
WCI				pmax	pmax		
	comp=Z,24nm,1.3s						
L40A	Anamosa	77.95	316	P	P	04 36 15.2	+0.1
	baz=45						
HDIL	Hopedale	77.98	314	P	P	04 36 15.3	0.0
	baz=46						
Q32M	Nakina River	78.07	347	P	P	04 36 15.1	-0.7
	baz=19						
SKAG	Skagway	78.08	349	P	P	04 36 15.1	-0.4
	baz=17						
PINM	Pinnacle	78.10	351	P	P	04 36 15.5	-0.2
	baz=13						
M16K	Timber Creek	78.11	1	P	P	04 36 16.2	+0.6
	baz=359						
TKL	Tuckaleechee C	78.17	307	LR	LR	05 11 08.1	
	comp=Z,131nm,18.2s,baz=56,slow=36						
P29M	Windy Craggy	78.25	350	P	P	04 36 17.5	+1.0
	baz=15						
PETK	Petropavlovsk-	78.29	26	P	P	04 36 15.9	-0.9
	comp=Z,2.9nm,0.7s,baz=0.0,slow=1.5,SNR=4.2						
PETK				LR	LR	05 15 29.7	
	comp=Z,118nm,18.6s,baz=312,slow=39						
	comp=Z,2.9nm,0.7s						
N19K	Bonanza Creek	78.31	359	P	P	04 36 17.5	+0.6
	baz=2.0						
M14K	Bethel	78.31	2	P	P	04 36 17.4	+0.6
	baz=356						
M15K	Kasigluk River	78.41	2	P	P	04 36 18.1	+0.8
	baz=357						
PNL	Peninsula	78.42	351	P	P	04 36 18.5	+1.1
	baz=14						
V51A	Loudon	78.42	308	P	P	04 36 16.9	-0.9
	baz=47						
N18K	Kilae Creek	78.46	359	P	P	04 36 18.8	+1.1
	baz=1.0						
O22K	Cooper Landing	78.48	356	P	P	04 36 17.4	-0.3
	baz=5.7						
M11K	Mekoryuk	78.49	5	P	P	04 36 17.6	-0.1
	baz=353						
M13K	Dall Lake	78.60	3	P	P	04 36 18.8	+0.4
	baz=355						
N17K	Nushagak Hills	78.62	0	P	P	04 36 18.9	+0.5
	baz=360						
EDM	Edmonton	78.64	335	IAmb	IAmb	04 36 20.1	
	comp=Z,26nm,1.1s						
P43A	Skaggs, Pawnee	78.74	313	IAmb	IAmb	04 36 20.6	
	comp=Z,43nm,1.5s						
U49A	Red Boiling Sp	78.78	309	IAmb	IAmb	04 36 21.9	
	comp=Z,30nm,1.2s						
U49A	Red Boiling Sp	78.78	309	P	P	04 36 20.1	+0.3
	baz=47,SNR=6.6						
SEW	Seward	78.84	356	P	P	04 36 19.6	-0.1
	baz=5.9						
S34M	Telegraph Cree	78.87	346	P	P	04 36 19.8	-0.1
	baz=20						
N15K	Kwethluk River	78.95	2	P	P	04 36 21.0	+0.7
	baz=358						
N14K	Kuskokwak Cree	79.15	2	P	P	04 36 22.0	+0.6
	baz=356						
T47A	Sharon Grove	79.23	310	IAmb	IAmb	04 36 23.3	
	comp=Z,40nm,1.4s						
T47A	Sharon Grove	79.23	310	P	P	04 36 22.2	0.0
	baz=46						
O18K	Koktuh Hills	79.28	359	P	P	04 36 22.6	+0.4
	baz=1.5						
ASAJ	Asahikawa	79.29	40	LR	LR	05 16 27.1	
	comp=Z,130nm,19.4s,baz=52,slow=40						
O17K	Koliganek Bris	79.37	360	P	P	04 36 23.3	+0.7
	baz=0.1						
ECSD	EROS Data Cent	79.45	320	IAmb	IAmb	04 36 24.5	
	comp=Z,30nm,1.5s						
ECSD	EROS Data Cent	79.45	320	P	P	04 36 23.6	+0.2
	baz=42,SNR=6.2						
ECSD	EROS Data Cent	79.45	320	P	P	04 36 23.4	0.0
	baz=42						
O16K	Kokwok River B	79.55	0	P	P	04 36 24.4	+0.8
	baz=359						
T35M	Bob Quinn	79.58	345	P	P	04 36 24.7	+0.9
	baz=20						
O14K	Tigyukauivet M	79.84	2	P	P	04 36 26.1	+1.0
	baz=357						
V48A	Smith Brothers	79.93	309	P	P	04 36 26.1	0.0
	baz=46						
SIUC	Southern Illin	79.93	312	IAmb	IAmb	04 36 32.9	
	comp=Z,18nm,1.1s						
S44A	Carbondale	79.96	312	IAmb	IAmb	04 36 27.9	
	comp=Z,22nm,1.1s						
SUSD	Miller	80.03	322	P	P	04 36 27.5	+1.0
	baz=40						
P40A	Paris	80.19	315	IAmb	IAmb	04 36 28.2	
	comp=Z,25nm,1.3s						
WVT	Waverly	80.24	310	P	P	04 36 27.3	-0.4
	baz=46						
FVM	French Village	80.41	313	IAmb	IAmb	04 36 29.4	
	comp=Z,19nm,1.1s						
FVM	French Village	80.41	313	P	P	04 36 28.9	+0.2
	baz=44,SNR=7.3						
CGM3	Cape Girardeau	80.47	312	IAmb	IAmb	04 36 30.7	
	comp=Z,30nm,1.3s						
Q16K	King Salmon	80.47	360	P	P	04 36 28.0	-0.5
	baz=0.4						
WRAK	Wrangell Islan	80.50	346	P	P	04 36 28.6	-0.2
	baz=19						
L34A	Svendsen Farm,	80.65	319	IAmb	IAmb	04 36 35.1	
	comp=Z,16nm,0.8s						
JNU	Nakatsue	80.73	54	LR	LR	05 15 59.2	
	comp=Z,161nm,19.4s,baz=318,slow=38						
CCM	Cathedral Cave	80.81	313	P	P	04 36 29.4	-1.4
CCM				IAmb	IAmb	04 36 36.5	
	comp=Z,13nm,0.8s						
CCM	Cathedral Cave	80.81	313	P	P	04 36 31.0	+0.2
	baz=44						
CCM	Cathedral Cave	80.81	313	P	P	04 36 30.6	-0.2
	baz=44,SNR=8.8						

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
CCM	**Cathedral Cave**	**80.81**	**313**	P	**P**	**04 36 29.4**	**-1.4**
CCM				pmax	pmax		
	comp=Z,13nm,0.8s						
Q17K	**Contact Creek**	**80.88**	**359**	P	**P**	**04 36 30.2**	**-0.7**
	baz=1.0						
P38A	**Dawn**	**80.92**	**316**	IAmb	IAmb	04 36 35.8	
	comp=Z,31nm,1.4s						
P38A	**Dawn**	**80.92**	**316**	P	**P**	**04 36 31.7**	**+0.4**
	baz=43,SNR=5.4						
R40A	**Maddies Statio**	**81.21**	**314**	IAmb	IAmb	04 36 34.9	
	comp=Z,27nm,1.2s						
R40A	**Maddies Statio**	**81.21**	**314**	P	**P**	**04 36 32.3**	**-0.6**
	baz=44,SNR=11						
PBMO	**Poplar Bluff**	**81.27**	**312**	IAmb	IAmb	04 36 34.7	
	comp=Z,28nm,1.6s						
LAO	**LASA Array**	**81.45**	**327**	P	**P**	**04 36 35.1**	**+1.0**
	baz=36,SNR=16						
LAO	**LASA Array**	**81.45**	**327**	P	**P**	**04 36 35.3**	**+1.2**
	baz=36,SNR=16						
R16K	**Pilot Point**	**81.58**	**0**	P	**P**	**04 36 35.7**	**+1.2**
	baz=360						
K30B	**Basset**	**81.69**	**321**	P	**P**	**04 36 36.2**	**+0.8**
	baz=40						
EGMT	**Eagleton**	**81.75**	**330**	P	**P**	**04 36 37.0**	**+1.3**
	baz=34,SNR=18						
LRAL	**Lakeview Retre**	**81.91**	**307**	IAmb	IAmb	04 36 46.5	
	comp=Z,13nm,0.8s						
LRAL	**Lakeview Retre**	**81.91**	**307**	P	**P**	**04 36 36.9**	**+0.2**
	baz=46						
BGNE	**Belgrade**	**81.95**	**319**	P	**P**	**04 36 37.2**	**+0.4**
	baz=41						
BGNE	**Belgrade**	**81.95**	**319**	P	**P**	**04 36 37.5**	**+0.7**
	baz=41						
LCAR	**Lake Charles**	**82.19**	**312**	IAmb	IAmb	04 36 40.2	
	comp=Z,18nm,1.3s						
LCAR	**Lake Charles**	**82.19**	**312**	P	**P**	**04 36 39.0**	**+0.9**
	baz=44						
S39A	**Bolivar**	**82.21**	**314**	IAmb	IAmb	04 36 46.0	
	comp=Z,23nm,1.2s						
S39A	**Bolivar**	**82.21**	**314**	P	**P**	**04 36 38.8**	**+0.5**
	baz=43,SNR=8.2						
OXF	**Oxford**	**82.30**	**310**	P	**P**	**04 36 39.1**	**+0.4**
	baz=45						
RSSD	**Black Hills**	**82.58**	**324**	P	**P**	**04 36 39.8**	**-0.5**
RSSD				IAmb	IAmb	04 36 42.0	
	comp=Z,10nm,0.9s						
RSSD	**Black Hills**	**82.58**	**324**	P	**P**	**04 36 40.9**	**+0.6**
	baz=37						
RSSD	**Black Hills**	**82.58**	**324**	P	**P**	**04 36 41.1**	**+0.8**
	baz=37,SNR=6.4						
RSSD	**Black Hills**	**82.58**	**324**	P	**P**	**04 36 39.8**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**82.59**	**47**	P	**P**	**04 36 40.5**	**+0.2**
	comp=Z,7.9nm,0.9s,baz=319,slow=5.4,SNR=17						
MJAR				LR	LR	05 15 15.9	
	comp=Z,64nm,19.8s,baz=342,slow=37						
	comp=Z,7.9nm,0.9s						
FCAR	**Ozark Folk Cen**	**82.86**	**312**	IAmb	IAmb	04 36 43.0	
	comp=Z,13nm,1.2s						
KSU1	**Kansas State U**	**82.91**	**317**	P	**P**	**04 36 42.2**	**+0.4**
	baz=41,SNR=7.8						
KSU1	**Kansas State U**	**82.91**	**317**	P	**P**	**04 36 42.1**	**+0.3**
	baz=41,SNR=7.8						
U40A	**Yellville**	**82.93**	**313**	P	**P**	**04 36 42.4**	**+0.4**
	baz=43,SNR=6.6						
U40A				P	**P**	**04 36 42.4**	**+0.4**
	baz=43,SNR=6.6						
SHEM	**Shemya Is, Ala**	**83.18**	**17**	LR	LR	05 21 23.3	
	comp=Z,73nm,18.2s,baz=325,slow=41						
JOW	**Kunigami**	**83.37**	**60**	LR	LR	05 18 04.5	
	comp=Z,76nm,18.5s,baz=154,slow=39						
BBB	**Bella Bella**	**83.63**	**343**	LR	LR	05 13 46.5	
	comp=Z,42nm,18.6s,baz=26,slow=36						
U38A	**Gravette**	**83.71**	**314**	P	**P**	**04 36 45.3**	**-0.8**
	baz=42,SNR=9.4						
RLMT	**Red Lodge**	**83.96**	**328**	P	**P**	**04 36 47.6**	**+0.2**
	baz=34,SNR=6.3						
NEW	**Newport**	**84.13**	**334**	P	**P**	**04 36 48.5**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=59,slow=4.2,SNR=9.0						
NEW				LR	LR	05 16 39.5	
	comp=Z,66nm,18.8s,baz=22,slow=37						
	comp=Z,4.6nm,0.9s						
RLO	**Rose Lookout**	**84.26**	**314**	IAmb	IAmb	04 36 50.1	
	comp=Z,33nm,1.3s						
X40A	**Basin Creek Fa**	**84.28**	**312**	IAmb	IAmb	04 36 50.4	
	comp=Z,18nm,1.5s						
MSO	**Missoula**	**84.29**	**332**	IAmb	IAmb	04 36 50.3	
	comp=Z,26nm,1.6s						
MSO	**Missoula**	**84.29**	**332**	P	**P**	**04 36 48.9**	**0.0**
	baz=31						
BOZ	**Bozeman (W)**	**84.48**	**330**	IAmb	IAmb	04 36 52.1	
	comp=Z,15nm,1.1s						
BOZ	**Bozeman (W)**	**84.48**	**330**	P	**P**	**04 36 50.7**	**+0.7**
	baz=33,SNR=12						
T35B	**Sooner Cattle**	**84.50**	**315**	P	**P**	**04 36 50.4**	**+0.4**
	baz=41,SNR=14						
CBKS	**Cedar Bluff**	**84.71**	**319**	P	**P**	**04 36 51.5**	**+0.4**
	baz=40,SNR=7.0						
CBKS	**Cedar Bluff**	**84.71**	**319**	P	**P**	**04 36 51.4**	**+0.3**
	baz=40,SNR=7.0						
K22A	**Casper**	**84.84**	**325**	P	**P**	**04 36 51.6**	**-0.2**
	baz=36,SNR=9.7						
K22A	**Casper**	**84.84**	**325**	P	**P**	**04 36 51.0**	**-0.9**
	baz=36,SNR=9.7						
YNR	**Norris Junctio**	**84.86**	**329**	IAmb	IAmb	04 37 00.8	
	comp=Z,16nm,1.3s						
TUL3	**Leonard**	**84.86**	**314**	P	**P**	**04 36 52.7**	**+0.8**
	baz=42,SNR=10.0						
TUL3	**Leonard**	**84.86**	**314**	P	**P**	**04 36 51.9**	**0.0**
	baz=42,SNR=10.0						
CBB	**Campbell River**	**84.95**	**340**	IAmb	IAmb	04 36 54.4	
	comp=Z,19nm,1.2s						
UNV	**Unalaska Valle**	**84.97**	**6**	P	**P**	**04 36 52.8**	**+0.7**
	baz=353						
H17A	**Grant Village**	**85.08**	**329**	P	**P**	**04 36 55.5**	**+2.3**
	baz=33,SNR=12						
YFT	**Old Faithful**	**85.14**	**329**	IAmb	IAmb	04 36 57.2	
	comp=Z,15nm,0.9s						
KAN14	**Manchester OK**	**85.23**	**316**	IAmb	IAmb	04 36 55.0	
	comp=Z,17nm,1.0s						
PHWY	**Pilot Hill**	**85.46**	**324**	IAmb	IAmb	04 36 56.7	
	comp=Z,13nm,0.9s						
CROK	**Carrier**	**85.58**	**316**	IAmb	IAmb	04 36 56.9	
	comp=Z,18nm,1.0s						
IMW	**Indian Meadow**	**85.64**	**328**	IAmb	IAmb	04 36 58.9	
	comp=Z,18nm,1.1s						
NIKH	**Nikolski High**	**85.64**	**7**	P	**P**	**04 36 55.6**	**+0.1**
	baz=351						
MOOW	**Moose Ponds**	**85.69**	**328**	IAmb	IAmb	04 36 58.7	
	comp=Z,12nm,1.4s						
FXWY	**Fox Creek**	**85.89**	**328**	IAmb	IAmb	04 36 59.8	
	comp=Z,17nm,1.4s						
RWWY	**Rawlins**	**85.92**	**325**	IAmb	IAmb	04 37 27.7	
	comp=Z,25nm,1.6s						
KSCO	**Kaye Shedlock'**	**85.97**	**321**	P	**P**	**04 36 57.6**	**0.0**
	baz=38						
TPAW	**Teton Pass**	**85.99**	**328**	IAmb	IAmb	04 37 00.0	
	comp=Z,14nm,1.4s						
E09A	**Wood Farm, Sta**	**86.00**	**334**	IAmb	IAmb	04 36 59.0	
	comp=Z,20nm,1.0s						
N23A	**Red Feather La**	**86.01**	**324**	IAmb	IAmb	04 37 04.2	
	comp=Z,14nm,1.1s						
N23A	**Red Feather La**	**86.01**	**324**	P	**P**	**04 36 58.8**	**+0.9**
	baz=36,SNR=8.4						
PDAR	**Pinedale Array**	**86.03**	**327**	P	**P**	**04 36 57.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=56,slow=6.0,SNR=9.5						
PDAR				LR	LR	05 18 56.5	
	comp=Z,75nm,18.2s,baz=38,slow=38						
	comp=Z,1.3nm,0.7s						
BW06	**Boulder Array**	**86.03**	**327**	P	**P**	**04 36 58.0**	**+0.1**
	baz=34						
F10A	**Beach Ranch, E**	**86.17**	**333**	IAmb	IAmb	04 36 59.5	
	comp=Z,16nm,1.2s						
E08A	**Dider Farm, El**	**86.32**	**335**	IAmb	IAmb	04 37 01.6	
	comp=Z,20nm,1.5s						
BDFB	**Brasilia**	**86.43**	**246**	IAmb	IAmb	04 37 06.2	
	comp=Z,13nm,0.8s						
BDFB	**Brasilia**	**86.43**	**246**	P	**P**	**04 37 01.5**	**+1.5**
	comp=Z,12nm,0.8s,baz=45,slow=16,SNR=14						
BDFB				LR	LR	05 17 59.4	
	comp=Z,52nm,18.3s,baz=12,slow=37						
	comp=Z,12nm,0.8s						
GNW	**Green Mountain**	**86.51**	**338**	IAmb	IAmb	04 37 06.7	
	comp=Z,16nm,1.1s						
HAWA	**Hanford**	**86.56**	**335**	IAmb	IAmb	04 37 06.2	
	comp=Z,22nm,1.4s						
ISCO	**Idaho Springs**	**86.74**	**323**	P	**P**	**04 37 01.8**	**+0.2**
	baz=36						
ISCO	**Idaho Springs**	**86.74**	**323**	P	**P**	**04 37 01.8**	**+0.2**
	baz=36						
SDV	**Santo Domingo**	**86.83**	**279**	P	**P**	**04 37 01.0**	**-1.2**
SDV				IAmb	IAmb	04 37 07.5	
	comp=Z,7.6nm,0.8s						
SDV	**Santo Domingo**	**86.83**	**279**	LR	LR	05 12 42.1	
	comp=Z,24nm,20.0s,baz=101,slow=34						
Q24A	**Divide**	**87.20**	**322**	P	**P**	**04 37 03.3**	**-0.5**
	baz=36						
HLID	**Hailey**	**87.26**	**330**	P	**P**	**04 37 04.3**	**+0.5**
	baz=31						
G08A	**Pilot Rock**	**87.35**	**334**	IAmb	IAmb	04 37 10.1	
	comp=Z,23nm,1.8s						
O20A	**White River Ci**	**87.64**	**325**	IAmb	IAmb	04 37 06.5	
	comp=Z,9.2nm,1.0s						
O20A	**White River Ci**	**87.64**	**325**	P	**P**	**04 37 05.8**	**0.0**
	baz=34,SNR=5.6						
HWUT	**Hardware Ranch**	**87.82**	**328**	IAmb	IAmb	04 37 07.5	
	comp=Z,11nm,0.9s						
MFID	**Camas Ranch**	**87.91**	**331**	IAmb	IAmb	04 37 08.5	
	comp=Z,16nm,1.1s						
TCUT	**Toone Canyon**	**88.16**	**327**	IAmb	IAmb	04 37 13.2	
	comp=Z,9.2nm,1.1s						
T25A	**Trinidad**	**88.31**	**320**	P	**P**	**04 37 09.2**	**+0.2**
	baz=37						
SDCO	**Great Sand Dun**	**88.34**	**322**	P	**P**	**04 37 09.3**	**+0.1**
	baz=36,SNR=7.3						
SDCO	**Great Sand Dun**	**88.34**	**322**	P	**P**	**04 37 08.8**	**-0.4**
	baz=36						
BSUT	**Blindstream Ca**	**88.38**	**327**	IAmb	IAmb	04 37 17.9	
	comp=Z,12nm,1.2s						
PLPT	**Palo Pinto**	**88.56**	**314**	IAmb	IAmb	04 37 11.5	
	comp=Z,9.4nm,1.0s						
I07A	**Izee**	**88.60**	**334**	IAmb	IAmb	04 37 36.7	
	comp=Z,23nm,2.0s						
P18A	**Preston Nutter**	**88.93**	**326**	IAmb	IAmb	04 37 21.8	
	comp=Z,10nm,1.1s						
S22A	**4UR Ranch, Cre**	**88.96**	**322**	IAmb	IAmb	04 37 13.3	
	comp=Z,8.2nm,1.0s						
S22A	**4UR Ranch, Cre**	**88.96**	**322**	P	**P**	**04 37 12.7**	**+0.5**
	baz=35,SNR=9.3						
BGU	**Big Grassy Mou**	**88.98**	**328**	IAmb	IAmb	04 37 13.6	
	comp=Z,12nm,1.2s						
PINE	**Pine Mountain**	**89.33**	**335**	IAmb	IAmb	04 37 16.3	
	comp=Z,21nm,1.4s						
ABTX	**Abilene, Hawle**	**89.43**	**315**	IAmb	IAmb	04 37 15.5	
	comp=Z,20nm,1.2s						
ABTX	**Abilene, Hawle**	**89.43**	**315**	P	**P**	**04 37 14.9**	**+0.8**
	baz=39,SNR=7.3						
ABTX	**Abilene, Hawle**	**89.43**	**315**	P	**P**	**04 37 14.6**	**+0.5**
	baz=39						
SRU	**San Rafael Swe**	**89.48**	**326**	IAmb	IAmb	04 37 14.9	
	comp=Z,8.9nm,0.9s						
DUG	**Dugway, Tooele**	**89.51**	**328**	IAmb	IAmb	04 37 19.8	
	comp=Z,9.2nm,1.1s						
DUG	**Dugway, Tooele**	**89.51**	**328**	P	**P**	**04 37 15.2**	**+0.7**
	baz=32,SNR=8.4						
435B	**Jarrell**	**89.70**	**312**	IAmb	IAmb	04 37 17.3	
	comp=Z,18nm,1.1s						
435B	**Jarrell**	**89.70**	**312**	P	**P**	**04 37 15.8**	**+0.4**
	baz=40						
WVOR	**Wild Horse Val**	**89.76**	**333**	IAmb	IAmb	04 37 17.3	
	comp=Z,18nm,1.7s						
SN01	**Snyder 1**	**89.91**	**316**	IAmb	IAmb	04 37 17.3	
	comp=Z,9.2nm,1.0s						
ELK	**Elko**	**90.00**	**330**	P	**P**	**04 37 17.8**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=50,slow=3.6,SNR=6.2						
ELK				LR	LR	05 20 35.1	
	comp=Z,121nm,19.2s,baz=35,slow=38						
	comp=Z,2.3nm,1.0s						
BRDY	**Brady**	**90.10**	**313**	IAmb	IAmb	04 37 19.6	
	comp=Z,20nm,1.2s						
MVCO	**Mesa Verde**	**90.16**	**323**	IAmb	IAmb	04 37 18.8	
	comp=Z,13nm,1.1s						
MVCO	**Mesa Verde**	**90.16**	**323**	P	**P**	**04 37 18.2**	**+0.4**
	baz=34,SNR=6.0						
TCRU	**Three Creeks R**	**90.71**	**327**	IAmb	IAmb	04 37 22.0	
	comp=Z,10nm,0.9s						
BMN	**Battle Mountai**	**91.02**	**331**	IAmb	IAmb	04 37 27.4	
	comp=Z,11nm,1.3s						
ANMO	**Albuquerque**	**91.06**	**321**	P	**P**	**04 37 20.6**	**-1.2**
ANMO	**Albuquerque**	**91.06**	**321**	P	**P**	**04 37 22.1**	**+0.2**
	baz=36						
ANMO	**Albuquerque**	**91.06**	**321**	P	**P**	**04 37 22.3**	**+0.4**
	baz=36						
ANMO	**Albuquerque**	**91.06**	**321**	P	**P**	**04 37 20.7**	**-1.2**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ANMO	**Albuquerque**	**91.06**	**321**	P	**P**	**04 37 21.8**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=160,slow=3.6,SNR=5.4						
ANMO				LR	LR	05 19 16.8	
	comp=Z,213nm,18.3s,baz=140,slow=36						
	comp=Z,2.1nm,1.0s						
MTPU	**Mount Pierson**	**91.08**	**326**	IAmb	IAmb	04 37 24.0	
	comp=Z,7.1nm,1.0s						
SPR3	**Spring Creek 3**	**91.14**	**328**	IAmb	IAmb	04 37 28.9	
	comp=Z,9.8nm,1.3s						
JCT	**Junction City**	**91.16**	**313**	IAmb	IAmb	04 37 24.5	
	comp=Z,16nm,1.4s						
JCT	**Junction City**	**91.16**	**313**	P	**P**	**04 37 23.0**	**+0.7**
	baz=39						
Q12A	**Willow Creek R**	**91.31**	**328**	IAmb	IAmb	04 37 29.7	
	comp=Z,12nm,1.2s						
TEIG	**Tepich**	**91.72**	**299**	LR	LR	05 16 22.7	
	comp=Z,308nm,19.2s,baz=302,slow=34						
YBH	**Yreka Blue Hor**	**91.75**	**335**	LR	LR	05 22 21.7	
	comp=Z,70nm,18.0s,baz=33,slow=38						
MNHN	**Monahans**	**92.08**	**316**	IAmb	IAmb	04 37 27.4	
	comp=Z,18nm,1.6s						
R11B	**Troy Canyon, C**	**92.20**	**329**	IAmb	IAmb	04 37 29.8	
	comp=Z,11nm,1.6s						
R11B	**Troy Canyon, C**	**92.20**	**329**	P	**P**	**04 37 27.7**	**+0.6**
	baz=30						
DRIO	**Del Rio**	**92.43**	**313**	IAmb	IAmb	04 37 30.0	
	comp=Z,15nm,1.2s						
PAHR	**Pah Rah Range**	**92.44**	**332**	IAmb	IAmb	04 37 30.1	
	comp=Z,7.0nm,1.2s						
U15A	**North Rim**	**92.49**	**325**	IAmb	IAmb	04 37 33.7	
	comp=Z,17nm,1.6s						
PECS	**Pecos**	**92.63**	**317**	IAmb	IAmb	04 37 31.2	
	comp=Z,16nm,1.4s						
WUAZ	**Wupatki**	**92.85**	**324**	IAmb	IAmb	04 37 31.8	
	comp=Z,12nm,1.2s						
WUAZ	**Wupatki**	**92.85**	**324**	P	**P**	**04 37 30.3**	**+0.2**
	baz=33						
YERR	**Yerington**	**93.03**	**331**	IAmb	IAmb	04 37 36.9	
	comp=Z,12nm,1.3s						
MPK	**Martis Peak**	**93.03**	**332**	IAmb	IAmb	04 37 33.8	
	comp=Z,14nm,1.2s						
MNTX	**Cornudas Mount**	**93.15**	**318**	P	**P**	**04 37 31.3**	**0.0**
	baz=36						
MNTX	**Cornudas Mount**	**93.15**	**318**	P	**P**	**04 37 31.0**	**-0.4**
	baz=36						
NVAR	**Mina Array Bea**	**93.17**	**330**	P	**P**	**04 37 32.2**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=37,slow=3.1,SNR=18						
NVAR				LR	LR	05 20 44.0	
	comp=Z,121nm,18.6s,baz=36,slow=36						
	comp=Z,1.7nm,0.8s						
ALPN	**Alpine**	**93.30**	**316**	IAmb	IAmb	04 37 33.5	
	comp=Z,6.7nm,1.1s						
EMB	**Emerald Bay**	**93.34**	**332**	IAmb	IAmb	04 37 39.1	
	comp=Z,16nm,1.4s						
WAKR	**Walker**	**93.52**	**331**	IAmb	IAmb	04 37 34.8	
	comp=Z,11nm,1.4s						
121A	**Cookes Peak, D**	**93.66**	**320**	P	**P**	**04 37 34.3**	**+0.4**
	baz=35						
TPNV	**Topopah Spring**	**93.67**	**328**	P	**P**	**04 37 34.1**	**+0.2**
	baz=30						
X16A	**Lo Mia Camp, P**	**93.81**	**324**	IAmb	IAmb	04 37 40.5	
	comp=Z,14nm,1.6s						
GRAC	**Grapevine Rang**	**94.07**	**329**	P	**P**	**04 37 36.0**	**+0.5**
	baz=29						
MLAC	**Mammoth, Mammo**	**94.07**	**330**	P	**P**	**04 37 36.0**	**+0.2**
	baz=28						
TX31	**Lajitas Ar. Si**	**94.14**	**315**	IAmb	IAmb	04 37 37.4	
	comp=Z,13nm,1.1s						
TX31	**Lajitas Ar. Si**	**94.14**	**315**	P	**P**	**04 37 35.9**	**-0.2**
	baz=37						
TXAR	**Lajitas Array**	**94.14**	**315**	P	**P**	**04 37 36.5**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=58,slow=4.1,SNR=21						
TXAR				LR	LR	05 19 48.7	
	comp=Z,84nm,18.4s,baz=26,slow=35						
	comp=Z,3.2nm,0.9s						
MDPB	**Devils Postpil**	**94.16**	**331**	IAmb	IAmb	04 38 59.4	
	comp=Z,11nm,1.7s						
FURC	**Furnace Creek,**	**94.34**	**328**	P	**P**	**04 37 37.7**	**+1.0**
	baz=29						
GWY	**Greenwater Val**	**94.50**	**328**	IAmb	IAmb	04 37 39.7	
	comp=Z,7.0nm,1.1s						
CWC	**Cottonwood Cre**	**94.83**	**329**	P	**P**	**04 37 39.9**	**+0.6**
	baz=28						
DAV	**Davao City (W)**	**94.85**	**76**	LR	LR	05 28 34.4	
	comp=Z,51nm,18.0s,baz=331,slow=41						
TUQ	**Turquoise Moun**	**94.86**	**327**	P	**P**	**04 37 39.8**	**+0.5**
	baz=30						
MPMC	**Manual Prospec**	**94.94**	**329**	P	**P**	**04 37 40.1**	**+0.4**
	baz=29						
PDMCI	**Parker Dam,Lak**	**95.08**	**325**	P	**P**	**04 37 41.0**	**+0.8**
	baz=31						
TUC	**Tucson**	**95.27**	**322**	P	**P**	**04 37 41.0**	**-0.2**
TUC	**Tucson**	**95.27**	**322**	P	**P**	**04 37 42.0**	**+0.8**
	baz=33						
TUC	**Tucson**	**95.27**	**322**	P	**P**	**04 37 41.0**	**-0.2**
TUC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GSC	**Goldstone, Bar**	**95.33**	**328**	P	**P**	**04 37 42.3**	**+0.8**
	baz=29						
IRM	**Iron Mountain**	**95.64**	**326**	P	**P**	**04 37 43.2**	**+0.5**
	baz=30						
ISA	**Isabella, Lake**	**95.67**	**329**	P	**P**	**04 37 43.3**	**+0.4**
	baz=28						
VES	**Vestal, Richgr**	**95.75**	**330**	P	**P**	**04 37 43.7**	**+0.5**
	baz=28						
SIV	**San Ignacio**	**95.91**	**254**	LR	LR	05 19 13.4	
	comp=Z,52nm,21.8s,baz=106,slow=34						
BELC	**Belle Mtn. Jos**	**96.13**	**327**	P	**P**	**04 37 45.1**	**0.0**
	baz=30						
EDW2	**Edwards Air Fo**	**96.17**	**329**	P	**P**	**04 37 46.2**	**+1.0**
	baz=28						
BC3	**Big Chuckawall**	**96.20**	**326**	P	**P**	**04 37 45.8**	**+0.4**
	baz=30						
ARVC	**Arvin**	**96.28**	**329**	P	**P**	**04 37 46.2**	**+0.6**
	baz=28						
BBRC	**Big Bear Solar**	**96.28**	**327**	P	**P**	**04 37 46.2**	**+0.3**
	baz=29						
JTS	**Las Juntas de**	**96.36**	**289**	LR	LR	05 15 31.3	
	comp=Z,24nm,21.2s,baz=48,slow=32						
214A	**Organ Pipe Nat**	**96.49**	**323**	P	**P**	**04 37 46.7**	**0.0**
	baz=32						
SMMC	**Simmler**	**96.56**	**330**	P	**P**	**04 37 47.6**	**+0.6**
	baz=27						
BFSC	**Mount Baldy Ra**	**96.60**	**328**	P	**P**	**04 37 47.6**	**+0.3**
	baz=29						
PFO	**Pinyon Flats O**	**96.65**	**327**	P	**P**	**04 37 47.3**	**-0.2**
PFO				IAmb	IAmb	04 37 49.4	
	comp=Z,5.7nm,1.2s						
PFO	**Pinyon Flats O**	**96.65**	**327**	P	**P**	**04 37 48.4**	**+0.9**
	baz=30						
PFO	**Pinyon Flats O**	**96.65**	**327**	P	**P**	**04 37 47.3**	**-0.2**
PFO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TPFO	**Pinon Flats**	**96.66**	**327**	P	**P**	**04 37 48.5**	**+1.0**
	baz=30						
PKM	**Mcpherson Peak**	**96.86**	**330**	P	**P**	**04 37 49.4**	**+0.9**
	baz=27						
SWSC	**Sam W. Stewart**	**96.95**	**326**	P	**P**	**04 37 49.0**	**+0.3**
	baz=30						
MURC	**Murrieta**	**96.97**	**327**	P	**P**	**04 37 49.1**	**+0.3**
	baz=29						
MONP2	**Monument Peak**	**97.26**	**326**	P	Pdif	04 37 50.5	0.0
	baz=30						
IKP	**In-Ko-Pah, Jac**	**97.34**	**326**	P	Pdif	04 37 50.6	-0.1
	baz=30						
CMIG	**Matias Romero**	**98.29**	**301**	LR	LR	05 25 16.2	
	comp=Z,35nm,18.6s,baz=7.5,slow=37						
KAPI	**Kappang**	**98.46**	**89**	LR	LR	05 26 52.3	
	comp=Z,22nm,21.7s,baz=263,slow=38						
PLCA	**Paso Flores**	**117.44**	**239**	PKP	**PKPdf**	**04 43 01.6**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=313,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**118.84**	**92**	PKP	**PKiKP**	**04 43 06.2**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=272,slow=3.6,SNR=1.6						
ASAR	**Alice Springs**	**120.69**	**96**	PKP	**PKPdf**	**04 43 07.8**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=323,slow=1.7,SNR=9.2						
ASAR				PP	**PP**	**04 44 39.5**	**+2.0**
	comp=Z,1.5nm,1.2s,baz=306,slow=5.8,SNR=4.2						

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*SOF **02** 04:28:41.7, 41.°20N±0.°02×22.°79E±0.°02, h9km±2km, MD3.9/8*
*SKO **02** 04:28:41.8, 41.°21N×22.°86E, h11km, ML3.1*
*THE **02** 04:28:42.9, 41.°19N×22.°86E, h8km, ML3.3/14, Error ellipse: s-maj=1.1km s-min=0.5km az=166.0*
*ATH **02** 04:28:42.9, 41.°19N×22.°86E, h10km±1km, ML3.3/11, Error ellipse: s-maj=1.4km s-min=0.7km az=167.0*
*BEO **02** 04:28:43.9±0.4, 41.°27N×22.°77E, h8km±4km, ML3.1/10*
*ISK **02** 04:28:43.8, 41.°06N×22.°78E, h21km, ML3.5/22*
ISC 02 04:28:42.7±0.8**, 41.°21N**±0.°01×**22.°84E**±0.°01**, h13**km±6km**,**
n105, σ0.s92/165**, 5C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.06**	**134**	P	**Pg**	**04 28 45.2**	**0.0**
VAY	**Valandovo**	**0.23**	**300**	*e*Pg	**Pg**	**04 28 47.2**	**-0.4**
VAY				*e*Sg	**Sg**	**04 28 50.7**	**-0.3**
VAY	**Valandovo**	**0.23**	**300**	*i* Pg	**Pg**	**04 28 47.3**	**-0.4**
VAY				*i* Sg	**Sg**	**04 28 50.9**	**-0.1**
VAY				*e*Lg	Lg	04 28 51.0	
	comp=N,9μm,0.4s						
VAY				*e*Lg	Lg	04 28 51.0	
	comp=E,7μm,0.2s						
GRG	**Griva**	**0.41**	**233**	Pg	**Pg**	**04 28 50.7**	**-0.3**
GRG				Sg	**Sg**	**04 28 56.6**	**+0.1**
GRG	**Griva**	**0.41**	**233**	P	**Pg**	**04 28 50.6**	**-0.3**
GRG				S	**Sg**	**04 28 56.8**	**+0.3**
	comp=E,10μm,0.2s						
GRG	**Griva**	**0.41**	**233**	P	**Pg**	**04 28 50.6**	**-0.3**
GRG				S	**Sg**	**04 28 56.7**	**+0.3**
GRG				AML	AML	04 28 57.2	
	comp=N,20313μm,0.2s						
GRG				AML	AML	04 28 57.9	
	comp=E,18432μm,0.3s						
GRG	**Griva**	**0.41**	**233** ⇑	*i*Pg	**Pg**	**04 28 50.7**	**-0.3**
GRG				*i* Sg	**Sg**	**04 28 56.8**	**+0.3**
SOH	**Sokhos**	**0.55**	**134**	P	**Pg**	**04 28 52.9**	**-0.5**
SOH				S	**Sg**	**04 29 00.0**	**-0.7**
	comp=E,5μm,0.4s						
SOH	**Sokhos**	**0.55**	**134**	P	**Pg**	**04 28 52.9**	**-0.5**
SOH				S	**Sg**	**04 28 59.8**	**-0.8**
SOH				AML	AML	04 29 02.3	
	comp=E,11346μm,0.2s						
SOH				AML	AML	04 29 02.9	
	comp=N,12391μm,0.3s						
SOH	**Sokhos**	**0.55**	**134** ⇑	*i*Pg	**Pg**	**04 28 52.9**	**-0.5**
SOH				*i* Sg	**Sg**	**04 29 00.7**	**+0.1**
PEHC	**Pehcevo**	**0.57**	**5**	*i* Pg	**Pg**	**04 28 53.2**	**-0.7**
PEHC				*i* Sg	**Sg**	**04 29 01.1**	**-0.5**
SRS	**Serrai**	**0.58**	**99**	P	**Pg**	**04 28 53.4**	**-0.5**
SRS				S	**Sg**	**04 29 01.3**	**-0.3**
	comp=N,2μm,0.2s						
SRS	**Serrai**	**0.58**	**99**	P	**Pg**	**04 28 53.3**	**-0.7**
SRS				S	**Sg**	**04 29 00.8**	**-0.8**
SRS				AML	AML	04 29 01.7	
	comp=E,5223μm,0.3s						
SRS				AML	AML	04 29 01.8	
	comp=N,3532μm,0.1s						
THE	**Thessaloniki**	**0.58**	**170**	P	**Pg**	**04 28 53.7**	**-0.3**
THE				S	**Sg**	**04 29 02.0**	**+0.3**
	comp=N,3μm,0.4s						
THE	**Thessaloniki**	**0.58**	**170**	P	**Pg**	**04 28 53.5**	**-0.5**
THE				S	**Sg**	**04 29 01.3**	**-0.4**
THE				AML	AML	04 29 04.5	
	comp=N,6540μm,0.4s						
THE				AML	AML	04 29 04.8	
	comp=E,4417μm,0.3s						
THE	**Thessaloniki**	**0.58**	**170** ⇑	*i*Pg	**Pg**	**04 28 53.5**	**-0.5**
THE				*i* Sg	**Sg**	**04 29 02.2**	**+0.5**
HORT	**Hortiatis**	**0.64**	**162**	Pg	**Pg**	**04 28 54.9**	**-0.2**
HORT				Sg	**Sg**	**04 29 02.4**	**-1.2**
HORT	**Hortiatis**	**0.64**	**162**	P	**Pg**	**04 28 54.9**	**-0.2**
HORT				S	**Sb**	**04 29 04.3**	**-0.3**
	comp=E,3μm,0.5s						
HORT	**Hortiatis**	**0.64**	**162**	P	**Pg**	**04 28 54.8**	**-0.4**
HORT				S	**Sg**	**04 29 04.0**	**+0.4**
HORT				AML	AML	04 29 05.3	
	comp=E,4361μm,0.3s						
HORT				AML	AML	04 29 08.7	
	comp=N,3942μm,0.4s						
KKB	**Krupnik**	**0.67**	**19**	*i* P	**Pg**	**04 28 55.0**	**-0.8**
KKB				*i* S	**Sg**	**04 29 03.8**	**-0.8**
KKB	**Krupnik**	**0.67**	**19** ⇑	*i*Pg	**Pg**	**04 28 55.0**	**-0.8**
KKB				*i* Sg	**Sg**	**04 29 03.8**	**-0.8**
STIP	**Stip**	**0.69**	**315**	*i* Pg	**Pg**	**04 28 53.5**	**-2.6**
STIP				*i* Sg	**Sg**	**04 29 02.3**	**-2.9**
MMB	**Musomishta**	**0.77**	**63**	*i* P	**Pg**	**04 28 56.9**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MMB				*i* S	Sg	04 29 07.2	-0.4
MMB	Musomishta	0.77	63	⇑*i*Pg	Pg	04 28 56.8	-0.8
MMB				*i* Sg	Sg	04 29 07.2	-0.4
NVR	Nevrokopi	0.79	79	P	Pb	04 28 58.2	-0.1
NVR				S	Sb	04 29 09.2	+0.4
	comp=N,2µm,0.4s						
NVR	Nevrokopi	0.79	79	P	Pb	04 28 58.2	-0.1
NVR				S	Sg	04 29 07.5	-0.6
NVR				AML	AML	04 29 12.6	
	comp=E,4045µm,0.2s						
NVR				AML	AML	04 29 13.6	
	comp=N,3441µm,0.2s						
KOKK	Kokkinochori,	0.96	113	P	Pg	04 29 00.3	-0.9
KOKK				S	Sb	04 29 14.4	+0.6
	comp=N,1µm,0.6s						
KOKK	Kokkinochori,	0.96	113	P	Pg	04 29 00.1	-1.1
KOKK				S	Sg	04 29 13.1	-0.6
FNA	Florina	1.18	250	Pn	Pb	04 29 04.5	-0.5
FNA				Sn	Sb	04 29 19.1	-1.2
FNA	Florina	1.18	250	P	Pb	04 29 04.6	-0.5
FNA				S	Sg	04 29 21.5	+0.6
	comp=N,955nm,0.7s						
FNA	Florina	1.18	250	*e*Pg	Pb	04 29 04.5	-0.5
FNA	Florina	1.18	250	*e*Pg	Pb	04 29 04.6	-0.5
FNA				*e*Sg	Sb	04 29 21.0	+0.7
FNA	Florina	1.18	250	P	Pb	04 29 04.4	-0.5
FNA				S	Sg	04 29 21.6	+0.6
FNA				AML	AML	04 29 25.6	
	comp=N,1883µm,0.6s						
FNA				AML	AML	04 29 26.9	
	comp=E,1609µm,0.8s						
FNA	Florina	1.18	250	⇓*i*Pg	Pb	04 29 04.5	-0.5
FNA				*i* Sg	Sg	04 29 21.5	+0.6
KVLA	Kavala	1.20	102	P	Pb	04 29 04.8	-0.5
KVLA				AML	AML	04 29 21.5	
	comp=N,2659µm,0.3s						
KVLA				AML	AML	04 29 21.7	
	comp=E,3162µm,0.4s						
OUR	Ouranopolis	1.23	135	Pn	Pn	04 29 05.9	+0.3
OUR				Sn	Sb	04 29 21.1	-0.4
OUR	Ouranopolis	1.23	135	P	Pn	04 29 05.2	-0.4
OUR				S	Sg	04 29 22.2	-0.1
	comp=E,2µm,0.7s						
OUR	Ouranopolis	1.23	135	P	Pn	04 29 04.9	-0.7
OUR				S	Sb	04 29 21.7	+0.2
OUR				AML	AML	04 29 26.5	
	comp=N,3505µm,0.6s						
OUR				AML	AML	04 29 26.7	
	comp=E,5601µm,0.8s						
KAVA	Kavala	1.28	99	P	Pn	04 29 06.1	-0.2
KAVA				S	Sg	04 29 23.5	-0.5
	comp=E,2µm,0.3s						
KAVA	Kavala	1.28	99	P	Pn	04 29 05.8	-0.5
SKO	Skopje	1.30	307	*e*Pg	Pn	04 29 06.6	0.0
SKO				*e*Sg	Sb	04 29 23.4	-0.2
SKO	Skopje	1.30	307	*i* Pg	Pn	04 29 06.8	+0.2
SKO				*i* Sg	Sb	04 29 23.7	+0.1
BOSS	Bosilegrad	1.32	348	*e*Pg	Pn	04 29 06.5	-0.4
BOSS				*e*Sg	Sb	04 29 23.8	-0.3
PLNA	Plana	1.34	19	*i* P	Pn	04 29 07.6	+0.3
PLNA				*i* S	Sn	04 29 25.8	+0.7
PRVS	Prvonek	1.42	337	*e*Pg	Pn	04 29 08.1	-0.2
PRVS				*e*Sg	Sn	04 29 26.0	-0.9
PAIG	Paliouri	1.43	153	Pn	Pn	04 29 08.1	-0.2
PAIG				Sn	Sn	04 29 24.7	-2.3
PAIG	Paliouri	1.43	153	P	Pn	04 29 08.2	-0.1
PAIG				S	Sb	04 29 27.7	+0.4
	comp=E,1µm,0.7s						
VTS	Vitosha	1.44	12	*i* P	Pn	04 29 08.2	-0.5
VTS				*i* S	Sn	04 29 27.7	+0.1
VTS	Vitosha	1.44	12	*e*Sg	Sn	04 29 27.0	-0.6
RZN	Rozhen	1.51	71	*i* P	Pn	04 29 10.3	+0.7
RZN				*i* S	Sg	04 29 31.3	0.0
OHR	Ohrid	1.54	267	*e*Pg	Pn	04 29 11.1	+1.1
OHR				*e*Sg	Sn	04 29 30.3	+0.4
OHR	Ohrid	1.54	267	*i* Pg	Pb	04 29 11.8	+0.6
OHR				*i* Sg	Sg	04 29 32.9	+0.6
OHR				*e*Lg	Lg	04 29 33.1	
	comp=N,98nm,0.5s						
OHR				*e*Lg	Lg	04 29 35.7	
	comp=E,99nm,0.6s						
THAS	Thassos island	1.55	112	P	Pn	04 29 09.4	-0.5
THAS				S	Sb	04 29 31.0	+0.3
	comp=E,932nm,0.3s						
THAS	Thassos island	1.55	112	P	Pn	04 29 09.3	-0.7
THAS				AML	AML	04 29 32.2	
	comp=E,1850µm,0.3s						
THAS				AML	AML	04 29 32.9	
	comp=N,1950µm,0.2s						
TYRN	Tyrnavos	1.56	197	P	Pn	04 29 10.0	-0.2
NEST	Nestorio	1.57	240	P	Pn	04 29 10.3	-0.1
NEST				S	Sb	04 29 32.4	+0.9
	comp=N,265nm,1.1s						
NEST	Nestorio	1.57	240	P	Pn	04 29 10.1	-0.3
PENT	Pentalofos	1.64	233	P	Pn	04 29 12.0	+0.6
PENT	Pentalofos	1.64	233	P	Pn	04 29 12.0	+0.6
PGB	Panagyurishte	1.64	37	*i* P	Pn	04 29 11.9	+0.5
PGB				*i* S	Sg	04 29 35.2	-0.4
KBN	Korca	1.66	250	P	Pn	04 29 12.0	+0.4
KBN				S	Sb	04 29 34.9	+0.9
	comp=N,332nm,0.6s						
KPRO	Kipourio	1.68	222	P	Pn	04 29 11.8	-0.1
PLD	Plovdiv	1.71	56	Pn	Pb	04 29 13.7	-0.3
PLD				Sn	Sb	04 29 36.5	+1.0
PLD	Plovdiv	1.71	56	*e*Pg	Pn	04 29 12.6	+0.4
PLD				*e*Sg	Sg	04 29 37.3	-0.4
PLD	Plovdiv	1.71	56	⇓*i*Pn	Pn	04 29 12.7	+0.4
PLD				*i* Sn	Sg	04 29 37.9	+0.1
THL	Klokotos Trika	1.76	201	P	Pn	04 29 12.8	0.0
BARS	Barje	1.78	335	*e*Pg	Pn	04 29 14.7	+1.5
BARS				*e*Sg	Sn	04 29 36.4	+0.6
BARS	Barje	1.78	335	*i* Pn	Pn	04 29 14.2	+0.9
BARS				*i* Sn	Sb	04 29 38.4	+0.9
XOR	Xorichti	1.86	172	P	Pn	04 29 13.9	-0.4
NEO	Neokhori	1.92	171	P	Pn	04 29 14.7	-0.4
KDZ	Kurdzhali	1.93	76	Pn	Pb	04 29 17.6	-0.1
KDZ				Sn	Sb	04 29 42.2	+0.5
KDZ	Kurdzhali	1.93	76	*i* P	Pb	04 29 18.4	+0.7
KDZ				*i* S	Sg	04 29 43.9	-0.8
RDO	Rodhopi	2.04	91	P	Pn	04 29 16.5	-0.3
RDO				AML	AML	04 29 52.3	
	comp=E,1139µm,0.2s						
RDO				AML	AML	04 29 55.3	
	comp=N,951µm,0.2s						
ZAPS	Zavoj	2.07	356	*e*Pg	Pb	04 29 20.7	+0.5
ZAPS				*e*Sg	Sb	04 29 47.4	+1.5
SMTH	Samothraki Isl	2.17	109	P	Pn	04 29 17.8	-0.7
ALNA	Alonissos	2.20	159	P	Pn	04 29 18.6	-0.3
LIA	Limnos Island	2.21	125	P	Pn	04 29 18.5	-0.6
DIM	Dimitrovgrad	2.22	67	*e*P	Pn	04 29 20.6	+1.4
DIM				*e*S	Sg	04 29 54.4	+0.4
MPEP	Malo Peshtene	2.25	17	*i* P	Pn	04 29 19.8	+0.1
MAKR	Makrakomi, Fth	2.26	194	P	Pn	04 29 19.5	-0.2
AXAR	Agios Charalam	2.44	183	P	Pn	04 29 22.1	-0.2
ALN	Alexandroupoli	2.44	96	Pn	Pn	04 29 24.2	+1.9
ALN	Alexandroupoli	2.44	96	P	Pn	04 29 22.0	-0.3
VALD	Valchedram	2.52	10	P	Pn	04 29 24.7	+1.3
ENEZ	Enez	2.55	100	Pn	Pn	04 29 25.5	+1.7
ANX	Ano Chora	2.70	195	P	Pn	04 29 26.5	+0.5
KYMI	Kymi, Euboea I	2.75	159	P	Pn	04 29 25.8	-0.7
ERIK	Erikli-Kesan	2.83	100	Pn	Pn	04 29 29.5	+1.8
UKOP	Uzunkopru-Edir	2.87	90	Pn	Pn	04 29 30.6	+2.5
EFP	Efpalio	2.87	195	P	Pn	04 29 28.1	0.0
GELI	Tayfur-Gelibol	2.88	105	Pn	Pn	04 29 29.9	+1.7
LKD2	Lefkada island	2.94	215	P	Pn	04 29 29.4	+0.2
COMU	Canakkale	2.98	111	Pn	Pn	04 29 31.4	+1.7
EZN	Ezine	2.99	116	Pn	Pn	04 29 31.3	+1.4
EDRB	Edirne	3.00	76	Pn	Pn	04 29 32.9	+2.9
VIL2	Platees	3.01	174	P	Pn	04 29 30.7	+0.6
SIGR	SIGRI	3.05	130	Pn	Pn	04 29 31.6	+1.0
LPK	Lapseki	3.09	104	Pn	Pn	04 29 33.1	+1.9
DION	Dionisos Attik	3.24	165	P	Pn	04 29 34.1	+0.9
GUR	Goura	3.29	187	P	Pn	04 29 34.6	+0.5
RKY	Sarkoy-Tekirda	3.33	98	Pn	Pn	04 29 36.7	+2.2
CANM	Can-anakkale	3.42	109	Pn	Pn	04 29 37.7	+1.9
KRBG	Karabiga-Canak	3.48	102	Pn	Pn	04 29 38.7	+2.2
TKR	Tekirdag	3.56	92	Pn	Pn	04 29 40.4	+2.8
CRLT	Corlu	3.70	90	Pn	Pn	04 29 42.4	+2.9

*BJI **02** 05:16:55.1±0.0, 17.°55S×174.°93W, h223km, mb4.9/31, mB5.3/13*

*NEIC **02** 05:16:57.7±1.9, 18.°18S±0.°09×175.°3W±0.°1, h244km±6km, mb4.6/193, Error ellipse: s-maj=15.6km s-min=12.5km az=113.0*

*NOU **02** 05:16:58.1, 18.°10S×175.°04W, h261km, mb5.1/69, Tonga Islands*

*IDC **02** 05:17:02.3±2.0, 18.°16S×175.°51W, h282km±18km, mb4.1/21, mbtmp4.7/22, Error ellipse: s-maj=12.2km s-min=8.5km az=148.0*

ISC 02 05:16:57.8±0.3**, 18.°34S**±0.°04×**175.°33W**±0.°05**, h250**km**, n703,** σ**1§27**/651**, mb4.7**/154**, 28C-37D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	3.31	271	P	Pn	05 17 58.7	+4.9
TAVE	Taveuni	4.66	290	P	Pn	05 18 13.4	+3.9
DGTI	Dogotuki	5.13	293	P	Pn	05 18 18.2	+2.9
NIUE	Niue	5.17	99		Pn	05 18 15.5	-0.2
NIUE	Niue	5.17	99	P	Pn	05 18 15.1	-0.6
AFI	Afiamalu	5.57	38		Pn	05 18 15.8	-5.0
AFI	Afiamalu	5.57	38	P	Pn	05 18 16.0	-4.8
YSA	Yasawairara	6.96	282	P	Pn	05 18 40.3	+2.2
RIZ	Raoul Island	11.12	192	S	S	05 21 28.7	-6.0
RAO	Raoul Island	11.12	192	Pn	Pn	05 19 29.1	-1.3
RAO	Raoul Island	11.12	192	P	Pn	05 19 29.7	-0.7
	149nm,0.3s,baz=76,slow=16,SNR=2.0						
RAO				S	S	05 21 29.0	-5.8
	225nm,0.3s,baz=48,slow=23,SNR=2.9						
GLKZ	Green Lake	11.13	192	P	Pn	05 19 29.2	-1.3
GLKZ				S	S	05 21 27.2	-7.8
MARNC	Mare, Loyalty	15.96	256	P	Pn	05 20 28.1	-1.4
LIFNC	LIFOU	16.61	259	P	Pn	05 20 35.2	-2.0
LIFNC	LIFOU	16.61	259	P	Pn	05 20 39.1	+2.0
	134nm,0.7s						
OUENC	Ouen Island, N	17.20	253	P	Pn	05 20 42.6	-1.5
OUENC	Ouen Island, N	17.20	253	P	Pn	05 20 45.8	+1.7
	34nm,1.3s						
DZM	Mont Dzumac	17.50	255	*e*P	Pn	05 20 46.8	-1.0
	94nm,1.1s						
DZM	Mont Dzumac	17.50	255		Pn	05 20 46.4	-1.4
DZM	Mont Dzumac	17.50	255	P	Pn	05 20 47.9	+0.1
DZM	Mont Dzumac	17.50	255	P	Pn	05 20 46.6	-1.2
	25nm,0.7s,baz=81,slow=20,SNR=28						
DZM				S	S	05 23 52.2	-2.0
	5.2nm,1.1s,baz=0.8,slow=23,SNR=1.6						
ONTNC	Ouen Toro	17.53	254		Pn	05 20 47.0	-1.0
ONTNC	Ouen Toro	17.53	254	P	Pn	05 20 50.0	+2.0
	0.3nm,0.9s						
NOUC	Port Laguerre	17.64	255	P	Pn	05 20 50.3	+1.1
KOUNC	Koumac, New Ca	19.35	260	P	P	05 21 04.2	-0.9
KOUNC				IAmb	IAmb	05 21 16.9	
	comp=Z,36nm,1.1s						
OUZ	Omahuta	19.48	208	P	Pn	05 21 08.2	-2.5
WCZ	Waipu Caves	19.77	205	P	Pn	05 21 12.6	-1.5
MXZ	Matakaoa Point	19.95	195	P	P	05 21 11.7	+0.5
MXZ	Matakaoa Point	19.95	195	P	Pn	05 21 15.0	-1.2
MXZ	Matakaoa Point	19.95	195	P	P	05 21 09.5	-1.7
MXZ				S	S	05 24 43.0	+1.4
KUZ	Kuaotunu	19.96	201	P	Pn	05 21 14.5	-1.8
KUZ	Kuaotunu	19.96	201	P	P	05 21 13.1	+1.7
WMGZ	Waiomatatini S	20.17	194	P	Pn	05 21 15.9	-2.9
WMGZ				S	S	05 24 43.1	-2.5
HAZ	Te Kaha	20.27	196	P	P	05 21 15.0	+0.5
HAZ				S	S	05 24 46.6	-0.7
PUZ	Puketiti	20.45	195	P	P	05 21 18.2	+1.6
PUZ				S	S	05 24 50.8	+0.2
RUGZ	Raukumara Rang	20.49	196	P	P	05 21 19.0	+1.8
RUGZ				S	S	05 24 53.5	+1.9
WHRZ	Whale Island	20.58	198	P	Pn	05 21 22.7	-0.9
TWGZ	Tauwhareparae	20.61	195	P	Pn	05 21 21.9	-2.2
TWGZ				S	S	05 24 53.0	-0.5
TGRZ	Tauranga	20.68	199	P	Pn	05 21 21.9	-2.8
OPRZ	Ohinepanea	20.69	198	P	Pn	05 21 22.7	-2.2
CNGZ	Carnagh Statio	20.85	194	P	Pn	05 21 23.8	-3.0
CNGZ				S	S	05 25 00.2	+2.8
MWZ	Matawai	20.88	196	P	P	05 21 22.9	+1.8
MWZ				S	S	05 24 58.4	+0.5
EDRZ	Edgecumbe	20.88	198	P	Pn	05 21 24.1	-3.1
TKGZ	Te Karaka	20.89	195	P	Pn	05 21 23.9	-3.4
TKGZ				S	S	05 25 00.8	+2.7
URZ	Urewera	20.92	197	P	P	05 21 20.5	-0.9
	comp=Z,70nm,0.4s,baz=90,slow=1.1,SNR=67						
URZ				S	S	05 24 59.9	+1.4
	comp=Z,20nm,0.6s,baz=142,slow=23,SNR=8.8						
URZ	Urewera	20.92	197	P	P	05 21 21.2	-0.2
URZ				S	S	05 25 05.5	+7.0
KARZ	Kaharoa	20.95	199	P	Pn	05 21 25.0	-3.0
OMRZ	Omania	20.99	199	P	P	05 21 26.0	+3.8
RAGZ	Rawiri	21.06	196	P	P	05 21 24.7	+1.8
RAGZ				S	S	05 25 03.1	+2.1
TARZ	Mount Tarawera	21.07	198	P	P	05 21 25.7	+2.6
HLRZ	Highlands Stat	21.13	198	P	P	05 21 26.7	+3.1
RRRZ	Republican Roa	21.16	198	P	P	05 21 25.5	+1.5
RIGZ	Rimuhau	21.17	195	P	P	05 21 26.2	+2.2
RIGZ				S	S	05 25 04.1	+1.4
HRRZ	Handcock Road	21.28	198	P	P	05 21 27.5	+2.4
RTZ	Ruatahuna	21.29	197	P	P	05 21 25.7	+0.5
RTZ	Ruatahuna	21.29	197	P	P	05 21 27.8	+2.5
RTZ				S	S	05 25 08.1	+3.4
GRRZ	Galatos Road	21.29	199	P	P	05 21 30.7	+5.5
BKZ	Black Stump Fm	21.94	197	P	P	05 21 31.1	-0.1
BKZ				IAmb	IAmb	05 21 39.4	
	comp=Z,28nm,0.9s						
BKZ	Black Stump Fm	21.94	197	P	P	05 21 33.1	+1.9
BFZ	Birch Farm	23.42	196	P	P	05 21 46.6	+2.0
	comp=Z,85nm,0.7s						
PAE	Paea	24.49	92	*e*T	T	05 46 27.0	
	comp=Z,4.8nm,0.2s						
PPT2	Papeete2	24.50	92	*e*LR	LR	05 27 16.5	
	comp=Z,140nm,25.8s						
PPT2	Papeete2	24.50	92	*e*T	T	05 46 30.0	
	comp=Z,3.2nm,0.3s						
TBI	Tubuai	24.67	106	*e*LR	LR	05 27 46.9	
	comp=Z,346nm,37.8s						
TBI	Tubuai	24.67	106	*e*T	T	05 46 39.1	
	comp=Z,8.2nm,0.3s						
QRZ	Quartz Range	24.72	202	P	P	05 21 59.6	+3.1
HNR	Honiara	25.55	287	P	P	05 22 02.8	-1.5
HNR	Honiara	25.55	287	P	P	05 22 05.5	+1.3
HNR	Honiara	25.55	287	P	P	05 22 04.8	+0.6
	comp=Z,2µm,0.6s,baz=330,slow=0.2,SNR=6.7						
MEH	Mehetia	25.91	93	*e*T	T	05 48 42.5	
	comp=Z,11nm,0.2s						
VAH	Vaihoa	26.69	88	*e*T	T	05 49 00.1	
	comp=Z,2.7nm,0.3s						
JCZ	Jackson Bay	28.93	204	P	P	05 22 36.0	+2.0
EIDS	Eidsvold	31.89	251	P	P	05 22 59.9	-0.2
EIDS				IAmb	IAmb	05 23 01.1	
	comp=Z,16nm,1.1s						
RK1H	Rockhampton Ha	32.28	255	P	P	05 23 05.9	+2.4
ARMA	Armidale	32.29	242	P	P	05 23 04.3	+0.6
ARMA				IAmb	IAmb	05 23 06.9	
	comp=Z,8.0nm,0.6s						
AULRC	Lightning Ridg	35.18	245	P	P	05 23 30.2	+1.8
	comp=Z,28nm,0.8s						
CTA	Charters Tower	36.27	261	P	P	05 23 38.1	+0.3
CTA	Charters Tower	36.27	261	P	P	05 23 37.4	-0.4
	comp=Z,7.8nm,0.4s,baz=88,slow=9.6,SNR=20						
	comp=Z,7.8nm,0.4s						
CTAO	Charters Tower	36.27	261	P	P	05 23 37.2	-0.6
CTAO				IAmb	IAmb	05 23 40.4	
	comp=Z,15nm,0.8s						
CTAO	Charters Tower	36.27	261	P	P	05 23 38.6	+0.8
PMG	Port Moresby	37.42	279	P	P	05 23 47.2	-0.2
PMG	Port Moresby	37.42	279	P	P	05 23 48.5	+1.0
	comp=Z,49nm,0.8s						
PMG	Port Moresby	37.42	279	P	P	05 23 48.2	+0.7
	comp=Z,48nm,0.8s						
CMSA	Cobar Meteorol	37.51	242	P	P	05 23 49.2	+1.1
	comp=Z,20nm,1.0s						
QLP	Quilpie	38.13	250	P	P	05 23 55.1	+1.8
MTSU	Mount Surprise	38.27	264	P	P	05 23 54.9	+0.3
	comp=Z,14nm,0.7s						
TOO	Toolangi	39.20	233	P	P	05 24 02.1	0.0
MANU	Manus Island	39.99	290	P	P	05 24 09.4	+0.6
MANU	Manus Island	39.99	290	P	P	05 24 08.9	+0.1
STKA	Stephens Creek	41.01	242	P	P	05 24 17.9	+1.0
STKA	Stephens Creek	41.01	242	P	P	05 24 18.5	+1.6
STKA	Stephens Creek	41.01	242	P	P	05 24 17.5	+0.6
	comp=Z,11nm,0.8s,baz=83,slow=11,SNR=17						
	comp=Z,11nm,0.8s						
INKA	Innaminka	41.31	249	P	P	05 24 21.1	+1.7
HTT	Hallett	43.47	241	P	P	05 24 38.4	+1.6
LCRK	Leigh Creek	43.72	245	P	P	05 24 39.9	+1.2
TABU	Tabubil	44.34	282	P	P	05 24 45.4	+1.5
BBOO	Buckleboo	45.77	242	P	P	05 24 55.2	+0.3
BBOO				IAmb	IAmb	05 24 56.1	
	comp=Z,22nm,0.7s						
BBOO	Buckleboo	45.77	242	P	P	05 24 56.3	+1.4
OOD	Oodnadatta	45.79	249	P	P	05 24 56.7	+1.7
GENI	Genyem	46.31	284	P	P	05 24 59.9	+0.7
MULG	Mulgathing	47.29	245	P	P	05 25 07.0	+0.4
WB0	Warramunga Arr	47.41	260	P	P	05 25 06.9	-0.8
WRAB	Tennant Creek	47.42	260	P	P	05 25 06.9	-0.9
WRA	Warramunga Arr	47.43	259	P	P	05 25 06.8	-1.1
	comp=Z,30nm,0.4s,baz=97,slow=7.7,SNR=183						
WRA				PcP	PcP	05 26 34.9	+0.7
	comp=Z,1.5nm,0.6s,baz=107,slow=3.6,SNR=1.3						
WRA				S	S	05 31 40.0	-3.1
	comp=Z,2.0nm,0.9s,baz=99,slow=12,SNR=7.0						
	comp=Z,30nm,0.4s						
AS31	Alice Springs	47.49	254	P	P	05 25 08.7	+0.3
ASAR	Alice Springs	47.50	254	P	P	05 25 08.4	+0.1
	comp=Z,221nm,0.6s,baz=90,slow=8.0,SNR=2629						
ASAR				PcP	PcP	05 26 35.1	+0.7
	comp=Z,3.6nm,0.6s,baz=89,slow=4.6,SNR=1.3						
ASAR				S	S	05 31 41.2	-2.7
	comp=Z,8.6nm,0.8s,baz=92,slow=15,SNR=42						
KDU	Kakadu	50.48	268	P	P	05 25 30.7	-0.2
MTN	Manton Dam	51.71	268	P	P	05 25 39.6	-0.5
MTN	Manton Dam	51.71	268	P	P	05 25 39.8	-0.3
FORT	Forrest	52.48	245	P	P	05 25 45.4	-0.1
FORT				IAmb	IAmb	05 25 46.0	
	comp=Z,30nm,0.7s						
FORT	Forrest	52.48	245	P	P	05 25 46.3	+0.8
WRKA	Warakurna	52.50	252	P	P	05 25 46.3	+0.4
KNRA	Kununurra	53.36	264	P	P	05 25 51.6	-0.5
	comp=Z,106nm,0.8s						
SIJI	Sorong	55.19	282	P	P	05 26 05.5	+0.2
	comp=Z,83nm,0.7s						
SWI	Sorong	55.20	282	P	P	05 26 05.8	+0.4
	comp=Z,145nm,0.7s						
KRAI	Karang Ratu	57.01	278	P	P	05 26 19.2	+1.0
	comp=Z,96nm,1.1s,comp=Z,4µmcomp=Z,122µm						
NLAI	Namlea	58.26	278	P	P	05 26 27.1	+0.2
	comp=Z,34nm,0.9s,comp=Z,4µm						
SOEI	Soe	59.00	269	P	P	05 26 32.9	+0.8
SOEI	Soe	59.00	269	P	P	05 26 34.3	+2.2
SOEI	Soe	59.00	269	P	P	05 26 33.0	+0.8
	comp=Z,185nm,0.7s,comp=Z,2µm						
TNTI	Ternate	59.41	282	P	P	05 26 34.4	-0.4
SANI	Sanana	59.70	279	P	P	05 26 36.6	-0.2
SANI	Sanana	59.70	279	P	P	05 26 35.9	-0.9
SBA	Scott Base	60.19	184	P	P	05 26 42.8	+3.7
SBA				IAmb	IAmb	05 26 44.2	
	comp=Z,20nm,0.8s						
VNDA	Vanda	60.28	186	P	P	05 26 42.9	+3.2
VNDA				IAmb	IAmb	05 26 43.9	
	comp=Z,10nm,0.8s						
VNDA	Vanda	60.28	186	P	P	05 26 42.9	+3.2
	comp=Z,9.4nm,0.8s,baz=360,slow=7.4,SNR=41						
	comp=Z,9.4nm,0.8s						
PSA00	Pilbara Seismi	60.63	255	P	P	05 26 42.5	-0.5
PSA00				IAmb	IAmb	05 26 43.5	
	comp=Z,18nm,0.8s						
PSA00	Pilbara Seismi	60.63	255	P	P	05 26 42.9	-0.1
MBWA	Marble Bar	60.81	256	P	P	05 26 43.8	-0.4
MBWA				IAmb	IAmb	05 26 44.8	
	comp=Z,45nm,1.4s						
MBWA	Marble Bar	60.81	256	P	P	05 26 44.6	+0.4
MMRI	Maumere	61.23	270	P	P	05 26 46.4	-0.7
MMRI	Maumere	61.23	270	P	P	05 26 46.7	-0.4
MMRI	Maumere	61.23	270	P	P	05 26 46.6	-0.5
	comp=Z,99nm,0.7s,comp=Z,2µm						
KLBR	Kellerberrin	61.26	244	P	P	05 26 47.2	+0.1
	comp=Z,52nm,0.7s						
EDFI	Ende, Flores	61.72	270	P	P	05 26 50.0	-0.5
	comp=Z,74nm,0.8s,comp=Z,672nm						
LUWI	Luwuk	63.06	278	P	P	05 27 01.6	+2.4
	comp=Z,66nm,1.1s						
KAPI	Kappang	64.64	273	P	P	05 27 09.2	-0.4
KAPI				IAmb	IAmb	05 27 09.8	
	comp=Z,13nm,0.6s						
PLAI	Plampang	65.41	269	P	P	05 27 14.7	+0.2
PLAI	Plampang	65.41	269	P	P	05 27 14.0	-0.5
	comp=Z,86nm,1.0s,comp=Z,787nm						
TOLI2	Tolitoli	65.67	280	P	P	05 27 15.8	-0.3
TOLI2				IAmb	IAmb	05 27 16.6	
	comp=Z,14nm,0.8s						
TOLI2	Tolitoli	65.67	280	P	P	05 27 17.4	+1.3
PMSI	Majene	65.90	274	P	P	05 27 18.9	+1.3
	comp=Z,101nm,0.7s,comp=Z,1µm						
MPSI	Mapaga	66.23	279	P	P	05 27 19.5	-0.2
	comp=Z,38nm,1.0s						
TWSI	Taliwang, Sumb	66.29	268	P	P	05 27 19.6	-0.4
	comp=Z,89nm,1.0s						
CASY	Casey	66.98	205	P	P	05 27 24.1	+0.6
CASY				IAmb	IAmb	05 27 25.4	
	comp=Z,10nm,1.1s						
JAGI	Jajag, Banyuwa	68.95	268	P	P	05 27 35.2	-1.5
JAGI	Jajag, Banyuwa	68.95	268	P	P	05 27 36.0	-0.7
	comp=Z,90nm,0.7s,comp=Z,1µm						
MJAR	Matsushiro Arr	70.03	322	P	P	05 27 42.0	-0.8
	comp=Z,16nm,0.6s,baz=153,slow=5.7,SNR=71						
	comp=Z,16nm,0.6s						
MAJO	Matsushiro	70.03	322	P	P	05 27 41.2	-1.5
MAJO	Matsushiro	70.03	322	P	P	05 27 42.5	-0.2
MJB9	Matsu-Tunnel	70.04	322	P	P	05 27 42.6	-0.1
JOW	Kunigami	70.77	308	P	P	05 27 48.0	+0.6
JMN	Monobe	70.88	317	P	P	05 27 48.3	+0.4
NIKH	Nikolski High	71.23	4	P	P	05 27 48.3	-1.2
	baz=186						
QSPA	South Pole Qui	71.72	180	P	P	05 27 54.4	+1.7
QSPA	South Pole Qui	71.72	180	P	P	05 27 55.3	+2.7
	comp=Z,27nm,0.8s,baz=29,slow=1.4,SNR=78						
	comp=Z,27nm,0.8s						
UNV	Unalaska Valle	72.29	5	P	P	05 27 54.9	-0.9
	baz=189						
JNU	Nakatsue	72.50	315	P	P	05 27 56.6	-1.0
UGM	Wanagama	72.56	267	P	P	05 27 58.1	-0.3
UGM	Wanagama	72.56	267	P	P	05 27 58.4	0.0
	comp=Z,167nm,0.6s						
FALS	False Pass	73.61	7	P	P	05 28 01.9	-1.5
	baz=192						
SCZ2	Santa Cruz Isl	74.29	45	P	P	05 28 06.8	-1.2
	baz=235						
SDPT	Sand Point	74.47	9	P	P	05 28 09.4	+0.9
	baz=195						
PKM	Mcpherson Peak	74.69	45	P	P	05 28 10.8	+0.4
	baz=234						
SAO	San Andreas Ge	74.74	42	P	P	05 28 10.9	+0.5
SAO				IAmb	IAmb	05 28 12.0	
	comp=Z,11nm,1.1s						
CIS	Catalina Islan	74.79	47	P	P	05 28 11.1	+0.3
	baz=236						
SMMC	Simmler	74.82	44	P	P	05 28 11.6	+0.6
	baz=234						
PETK	Petropavlovsk-	74.88	344	P	P	05 28 10.3	-0.5
	comp=Z,16nm,0.8s,baz=119,slow=8.5,SNR=18						
	comp=Z,16nm,0.8s						
YSS	Yuzh-Sakhalins	75.15	332	P	P	05 28 12.7	+0.2
YSS	Yuzh-Sakhalins	75.15	332	P	P	05 28 11.8	-0.7
BBJI	Bungbulang	75.41	267	P	P	05 28 14.9	0.0
ARVC	Arvin	75.49	45	P	P	05 28 15.9	+1.2
	baz=235						
KMRM	Mail Ridge	75.50	38	P	P	05 28 15.4	+0.6
KSM	Kuching	75.64	276	P	P	05 28 17.1	+1.0
	comp=Z,69nm,0.9s						
VES	Vestal, Richgr	75.73	44	P	P	05 28 15.8	-0.3
	baz=235,SNR=5.3						
BFSC	Mount Baldy Ra	75.78	46	P	P	05 28 16.6	0.0
	baz=236						
MONP2	Monument Peak	75.90	48	P	P	05 28 17.4	0.0
	baz=237						
EDW2	Edwards Air Fo	75.91	46	P	P	05 28 18.0	+0.7
	baz=236,SNR=7.3						
IKP	In-Ko-Pah, Jac	75.99	48	P	P	05 28 18.2	+0.5
	baz=237						
ISA	Isabella, Lake	76.03	45	P	P	05 28 18.3	+0.4
ISA				IAmb	IAmb	05 28 19.6	
	comp=Z,8.4nm,1.1s						
ISA	Isabella, Lake	76.03	45	P	P	05 28 18.3	+0.4
	baz=235						
PFO	Pinyon Flats O	76.26	47	P	P	05 28 19.7	+0.3
	baz=237						
TPFO	Pinon Flats	76.26	47	P	P	05 28 19.6	+0.2
	baz=237						
SWSC	Sam W. Stewart	76.36	48	P	P	05 28 20.1	+0.4
	baz=237						

LRMC **Laurel Mtn Rad** 76.46 45 P P 05 28 20.9 +0.5
baz=236,SNR=6.4
CWC **Cottonwood Cre** 76.74 44 P P 05 28 22.5 +0.5
baz=235
MDPB **Devils Postpil** 76.77 43 P P 05 28 22.3 0.0
BELC **Belle Mtn. Jos** 76.80 47 P P 05 28 23.1 +0.8
baz=237
MPMC **Manual Prospec** 76.91 45 P P 05 28 23.1 +0.1
baz=236,SNR=8.3
GSC **Goldstone, Bar** 76.95 46 P P 05 28 23.2 +0.1
GSC **Goldstone, Bar** 76.95 46 P P 05 28 23.8 +0.7
baz=236,SNR=5.7
BC3 **Big Chuckawall** 76.99 48 P P 05 28 23.4 0.0
baz=238
KSRS **Korea Array** 76.99 317 P P 05 28 24.1 +1.0
comp=Z,8.2nm,0.8s,baz=136,slow=6.4,SNR=23
comp=Z,8.2nm,0.8s
KSAR **Wonju Array Be** 77.01 317 P P 05 28 23.6 +0.4
YBH **Yreka Blue Hor** 77.04 38 P P 05 28 23.9 +0.5
PNTR **Pine Nut** 77.30 41 P P 05 28 25.2 +0.1
PNTR IAmb IAmb 05 28 27.4
comp=Z,7.0nm,0.8s
GMRC **Granite Mounta** 77.45 47 P P 05 28 26.1 +0.1
baz=237
YERR **Yerington** 77.46 41 IAmb IAmb 05 28 28.1
comp=Z,9.4nm,1.3s
IRM **Iron Mountain** 77.47 47 P P 05 28 26.7 +0.7
baz=238
CGJI **Cibinong** 77.52 267 P P 05 28 26.7 +0.1
comp=Z,94nm,0.7s,comp=Z,1µm
GRAC **Grapevine Rang** 77.52 44 P P 05 28 26.9 +0.7
baz=236
FURC **Furnace Creek,** 77.56 45 P P 05 28 27.3 +1.0
baz=236
L04D **Klamath Falls** 77.58 37 P P 05 28 26.9 +0.4
L04D IAmb IAmb 05 28 27.8
comp=Z,6.4nm,0.9s
TUQ **Turquoise Moun** 77.63 46 P P 05 28 27.9 +0.9
baz=237
SHOC **Shoshone, Teco** 77.64 45 P P 05 28 28.0 +1.1
baz=236
NVAR **Mina Array Bea** 77.73 42 P P 05 28 27.8 +0.2
NVAR **Mina Array Bea** 77.73 42 P P 05 28 28.0 +0.5
comp=Z,2.8nm,0.7s,baz=226,slow=9.0,SNR=25
comp=Z,2.8nm,0.7s
NV11 **Mina Array Sit** 77.83 42 P P 05 28 27.7 -0.3
Q17K **Contact Creek** 78.00 10 P P 05 28 29.1 +0.7
baz=199
214A **Organ Pipe Nat** 78.00 50 P P 05 28 29.7 +0.8
baz=240
O14K **Tigyukauivet M** 78.17 7 P P 05 28 30.2 +1.2
baz=194
TPNV **Topopah Spring** 78.24 45 IAmb IAmb 05 28 31.3
comp=Z,5.2nm,0.7s
TPNV **Topopah Spring** 78.24 45 P P 05 28 31.0 +0.7
baz=236,SNR=6.8
PDMCI **Parker Dam,Lak** 78.26 48 P P 05 28 30.8 +0.6
baz=238
Q16K **King Salmon** 78.26 10 P P 05 28 29.6 0.0
baz=198
O15K **Ungalikthiuk R** 78.27 8 P P 05 28 29.4 -0.4
baz=195
P16K **Nushagak River** 78.39 9 P P 05 28 30.6 +0.2
baz=197
Q18K **Katmai Hardscr** 78.51 11 P P 05 28 30.2 -1.0
baz=200
USRK **Ussuriysk Ar.** 78.64 324 P P 05 28 33.0 +1.0
comp=Z,3.4nm,0.7s,baz=105,slow=3.0,SNR=5.9
comp=Z,3.4nm,0.7s
K05A **Summer Lake** 78.72 38 IAmb IAmb 05 28 34.9
comp=Z,16nm,1.3s
N14K **Kuskokwak Cree** 78.77 7 P P 05 28 32.2 -0.2
baz=193
P17K **Kvichak River** 78.79 10 P P 05 28 31.6 -0.9
baz=198
J05D **Fort Rock, OR** 78.86 37 P P 05 28 33.7 +0.2
J05D IAmb IAmb 05 28 35.0
comp=Z,9.9nm,0.9s
O16K **Kokwok River B** 78.92 9 P P 05 28 31.9 -1.3
baz=197
Q20K **Shuyak Island** 78.97 12 P P 05 28 33.2 -0.3
baz=202
KASI **Kota Agung** 78.97 268 P P 05 28 34.2 -0.4
Q19K **Cape Douglas,** 79.02 11 P P 05 28 34.3 +0.5
baz=201
M13K **Dall Lake** 79.07 6 P P 05 28 34.7 +0.7
baz=192
P18K **Big Mountain,** 79.18 10 P P 05 28 34.3 -0.3
baz=199
N15K **Kwethluk River** 79.20 8 P P 05 28 35.0 +0.3
baz=195
O17K **Koliganek Bris** 79.24 9 P P 05 28 35.0 +0.1
baz=198
PINE **Pine Mountain** 79.35 37 IAmb IAmb 05 28 37.8
comp=Z,9.9nm,0.9s
R11B **Troy Canyon, C** 79.45 44 P P 05 28 36.5 -0.3
baz=237
M14K **Bethel** 79.55 7 P P 05 28 37.1 +0.6
baz=193
O18K **Koktuh Hills** 79.62 10 P P 05 28 36.7 -0.3
baz=199
M15K **Kasigluk River** 79.64 7 P P 05 28 37.3 +0.2
baz=194
TUC **Tucson** 79.67 51 P P 05 28 38.2 +0.2
TUC **Tucson** 79.67 51 P P 05 28 39.0 +1.0
baz=241
N16K **Nishlik Lake** 79.67 8 P P 05 28 36.1 -1.2
baz=196
HOOD **Mount Hood Mea** 79.90 35 IAmb IAmb 05 28 40.1
comp=Z,14nm,1.2s
L14K **Kuka Creek** 80.05 6 P P 05 28 40.3 +1.0
baz=192
O19K **Port Alsworth** 80.09 10 P P 05 28 38.8 -0.7
baz=200
M16K **Timber Creek** 80.17 8 P P 05 28 40.7 +0.7
baz=196
MDJ **Mudanjiang** 80.25 324 P P 05 28 40.4 -0.3
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,360nm,3.6s
MDJ **Mudanjiang** 80.25 324 IAmb IAmb 05 28 42.5
comp=Z,13nm,0.9s
MDJ **Mudanjiang** 80.25 324 P P 05 28 41.7 +1.0
N18K **Kilae Creek** 80.29 10 P P 05 28 40.2 -0.4
baz=199
NJ2 **Nanjing** 80.49 308 eP P 05 28 43.5 +1.2
NJ2 pmax pmax
comp=Z,16nm,0.6s
L15K **Ungalak Mounta** 80.50 7 P P 05 28 41.4 -0.2
baz=193
J08A **Circle Bar Ran** 80.51 38 IAmb IAmb 05 28 43.6
comp=Z,11nm,1.1s
N19K **Bonanza Creek** 80.65 10 P P 05 28 41.8 -0.8
baz=200
M17K **Holitna River** 80.75 9 P P 05 28 43.2 +0.3
baz=197
L16K **Owhat River** 80.77 8 IAmb IAmb 05 28 44.7
comp=Z,19nm,1.1s
L16K **Owhat River** 80.77 8 P P 05 28 44.4 +1.3
baz=195
WUAZ **Wupatki** 80.83 48 P P 05 28 44.4 +0.1
baz=240
DUN6 **Lazy B Ranch** 81.04 51 IAmb IAmb 05 28 47.8
comp=Z,23nm,0.9s
M18K **Stony River** 81.07 9 P P 05 28 45.3 +0.6
baz=199
K15K **Wolf Creek Mou** 81.10 6 P P 05 28 45.7 +0.9
baz=193,SNR=11
L17K **Donlin** 81.33 8 P P 05 28 47.5 +1.4
baz=196
BELA **Belgrano 2** 81.36 172 P P 05 28 46.8 +0.6
BELA IAmb IAmb 05 28 47.8
comp=Z,7.0nm,0.8s
G08A **Pilot Rock** 81.38 36 P P 05 28 47.0 +0.1
G08A IAmb IAmb 05 28 48.2
comp=Z,8.0nm,0.9s
L18K **Granite Mounta** 81.64 9 IAmb IAmb 05 28 48.6
comp=Z,11nm,0.7s
L18K **Granite Mounta** 81.64 9 P P 05 28 47.9 +0.3
baz=198
E07A **Sunnyside** 81.65 35 IAmb IAmb 05 28 49.0
comp=Z,6.8nm,0.9s
HAWA **Hanford** 81.73 35 IAmb IAmb 05 28 49.9
comp=Z,8.2nm,1.1s
W18A **Petrified Fore** 81.80 49 P P 05 28 48.2 -1.2
baz=241
M20K **Styx River** 81.88 10 P P 05 28 49.9 +0.9
baz=201
K17K **Iditarod** 81.89 8 P P 05 28 49.3 +0.4
baz=196
SUA **Susitna One** 81.92 12 P P 05 28 49.0 -0.3
baz=204
121A **Cookes Peak, D** 82.00 52 P P 05 28 51.1 +0.7
baz=242
E08A **Dide Farm, El** 82.05 35 IAmb IAmb 05 28 51.4
comp=Z,12nm,1.4s
BMO **Blue Mountains** 82.07 38 IAmb IAmb 05 28 51.5
comp=Z,10nm,1.4s
BNX **BinXian** 82.16 324 ⇑P P 05 28 51.0 +0.3
BNX pmax pmax
comp=Z,26nm,0.9s
BNX pmax pmax
comp=Z,430nm,4.3s
J16K **Anvik River** 82.17 7 P P 05 28 51.4 +1.1
baz=194
CN2 **Changchun** 82.17 321 eP P 05 28 51.1 +0.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
DUG **Dugway, Tooele** 82.26 43 P P 05 28 51.4 -0.2
baz=238
M22K **Willow** 82.31 12 P P 05 28 51.5 +0.4
baz=204
L20K **Farewell, AK** 82.31 10 P P 05 28 51.4 +0.2
baz=200
KNK **Knik Glacier** 82.34 13 P P 05 28 51.0 -0.3
baz=206
PMR **Palmer** 82.36 12 P P 05 28 51.4 0.0
baz=205
TTA **Tatalina** 82.41 9 P P 05 28 52.0 +0.3
baz=198
D08A **Wollman Farm,** 82.47 35 P P 05 28 52.5 +0.3
D08A IAmb IAmb 05 28 53.6
comp=Z,11nm,1.2s
I17K **Unalakleet** 82.75 6 P P 05 28 54.4 +1.1
baz=194
F10A **Beach Ranch, E** 82.77 37 P P 05 28 53.5 -0.5
F10A IAmb IAmb 05 28 54.8
comp=Z,12nm,1.1s
BMRM **Bremner River** 82.80 15 P P 05 28 53.4 -0.4
BMRM **Bremner River** 82.80 15 P P 05 28 53.8 +0.1
baz=209
J18K **Innoko River** 82.83 8 IAmb IAmb 05 28 54.9
comp=Z,16nm,1.1s
J18K **Innoko River** 82.83 8 P P 05 28 54.0 +0.2
baz=198
TMUT **Trail Mountain** 82.85 45 IAmb IAmb 05 28 56.9
comp=Z,7.7nm,0.7s
CUT **Chulitna** 82.88 11 P P 05 28 53.4 -0.7
baz=204
SCM **Sheep Creek Mo** 82.95 13 P P 05 28 54.7 +0.2
baz=207
HLID **Hailey** 83.06 40 P P 05 28 56.4 +0.8
baz=237,SNR=9.5
K20K **Telida** 83.11 9 P P 05 28 55.2 0.0
baz=200
SRU **San Rafael Swe** 83.22 45 IAmb IAmb 05 28 58.1
comp=Z,8.6nm,0.7s
WHN **Wuhan** 83.23 305 P P 05 28 57.8 +1.2
H16K **Elim** 83.33 6 P P 05 28 56.6 +0.4
baz=192,SNR=8.5
VHRN **Van Horn** 83.36 55 IAmb IAmb 05 28 59.7
comp=Z,5.2nm,0.8s
N25K **Chitina, Valde** 83.36 14 P P 05 28 56.6 -0.1
baz=209
MNTX **Cornudas Mount** 83.45 54 P P 05 28 58.7 +1.0
baz=244
J19K **Poorman** 83.48 9 P P 05 28 57.4 +0.3
baz=199
CAST **Castle Rocks** 83.49 10 P P 05 28 55.9 -1.3
baz=202
P29M **Windy Craggy** 83.51 18 P P 05 28 57.3 -0.1
baz=216
G15K **Niukluk** 83.52 5 P P 05 28 57.4 +0.2
baz=191
WAT6 **Susitna Watana** 83.54 12 P P 05 28 57.6 0.0
baz=206
WAT1 **Susitna Watana** 83.60 12 P P 05 28 57.4 -0.3
baz=206
CTG **Chitna Glacier** 83.61 16 P P 05 28 57.7 -0.3
baz=212
TCUT **Toone Canyon** 83.65 43 IAmb IAmb 05 29 00.3
comp=Z,13nm,0.8s
P18A **Preston Nutter** 83.66 45 IAmb IAmb 05 29 09.7
comp=Z,6.1nm,0.9s
TIA **Tai'an** 83.72 311 P P 05 28 59.3 +0.4
TIA pmax pmax
comp=Z,15nm,0.9s
TX31 **Lajitas Ar. Si** 83.77 56 IAmb IAmb 05 29 01.9
comp=Z,8.5nm,1.2s
TXAR **Lajitas Array** 83.77 56 P P 05 29 00.9 +1.5
comp=Z,1.4nm,0.7s,baz=217,slow=8.0,SNR=18
comp=Z,1.4nm,0.7s
O29M **Mount Kennedy** 83.81 17 P P 05 28 59.4 +0.4
baz=215
TNA **Tin City** 83.83 3 P P 05 28 59.2 +0.4
baz=187
F14K **Arctic Creek** 83.83 4 P P 05 28 59.0 +0.2
baz=189
TRF **Thorofare Moun** 83.84 11 P P 05 28 58.4 -0.7
baz=204
H17K **Granite Mounta** 83.85 7 IAmb IAmb 05 28 59.7
comp=Z,7.9nm,0.8s
H17K **Granite Mounta** 83.85 7 P P 05 28 59.1 +0.1
baz=195
J20K **Nowinta River** 83.87 9 IAmb IAmb 05 28 59.9
comp=Z,16nm,0.8s
J20K **Nowinta River** 83.87 9 P P 05 28 59.4 +0.3
baz=200
CHUM **Lake Minchumin** 83.89 10 P P 05 28 58.6 -0.5
baz=202
T35M **Bob Quinn** 83.94 23 P P 05 29 00.1 +0.5
baz=223
GCSA **Galena City Sc** 84.03 8 P P 05 29 00.6 +0.8
baz=198
G16K **Koyuk River** 84.06 5 IAmb IAmb 05 29 00.6
comp=Z,10nm,0.8s
G16K **Koyuk River** 84.06 5 P P 05 29 00.1 +0.2
baz=192
ANMO **Albuquerque** 84.09 50 P P 05 29 01.3 +0.2
ANMO **Albuquerque** 84.09 50 P P 05 29 01.7 +0.6
baz=243
ANMO **Albuquerque** 84.09 50 P P 05 29 01.9 +0.8
comp=Z,2.6nm,0.8s,baz=310,slow=5.6,SNR=7.6
comp=Z,2.6nm,0.8s
P30M **Million Dollar** 84.14 18 P P 05 29 00.8 +0.2
baz=216
F15K **No-n Star Dit** 84.18 4 P P 05 29 00.0 -0.6
baz=190
H18K **Honhosa River** 84.24 7 P P 05 29 00.6 -0.3
baz=196
YUK8 **Steele Glacier** 84.30 16 P P 05 29 01.9 +0.3
baz=214
S34M **Telegraph Cree** 84.32 22 P P 05 29 02.1 +0.7
baz=222
G17K **Kiwalik Mounta** 84.32 6 P P 05 29 01.7 +0.5
baz=194
MCK **McKinley** 84.35 11 P P 05 29 01.6 +0.1
baz=205,SNR=7.5
PAX **Paxson** 84.36 13 P P 05 29 01.5 -0.2
baz=208
M26K **Nabesna, AK** 84.43 14 IAmb IAmb 05 29 03.9
comp=Z,15nm,1.0s
M26K **Nabesna, AK** 84.43 14 P P 05 29 02.0 +0.1
baz=211
MAW **Mawson** 84.43 199 P P 05 29 03.6 +1.6
comp=Z,5.0nm,0.6s,baz=144,slow=7.8,SNR=6.4
comp=Z,5.0nm,0.6s
YUK3 **Moose Creek** 84.53 16 P P 05 29 02.2 -0.5
baz=213
YUK4 **Talbot Arm** 84.65 17 P P 05 29 04.2 +0.9
baz=215
Q32M **Nakina River** 84.71 21 P P 05 29 04.2 +0.6
baz=221
P32M **Atlin** 84.72 20 P P 05 29 04.0 +0.5
baz=219
H19K **Roundabout Mou** 84.83 8 IAmb IAmb 05 29 05.0
comp=Z,15nm,0.9s
H19K **Roundabout Mou** 84.83 8 P P 05 29 04.6 +0.8
baz=198
HEH **HeiHe** 84.84 327 eP P 05 29 03.7 -0.5
HEH pmax pmax
comp=Z,11nm,1.3s
HEH pmax pmax
comp=Z,180nm,5.0s
L26K **Log Cabin Wild** 84.89 14 P P 05 29 04.8 +0.5
baz=210
O30N **Mendenhall** 84.92 18 P P 05 29 04.8 +0.3
baz=217
G18K **Tagagawik** 84.92 7 IAmb IAmb 05 29 04.8
comp=Z,12nm,0.8s
G18K **Tagagawik** 84.92 7 P P 05 29 03.9 -0.4
baz=196
BVCY **Beaver Creek** 84.96 15 P P 05 29 04.8 +0.2
baz=213
H20K **Anotleneega Mo** 85.01 8 P P 05 29 05.0 +0.3
baz=200
K24K **Donnelly Dome** 85.04 13 P P 05 29 05.5 +0.6
baz=208,SNR=5.2
DLBC **Dease Lake** 85.10 22 P P 05 29 06.1 +0.7
baz=223
DLBC **Dease Lake** 85.10 22 P P 05 29 05.3 -0.1
comp=Z,5.3nm,0.8s,baz=229,slow=6.9,SNR=8.3
comp=Z,5.3nm,0.8s
S22A **4UR Ranch, Cre** 85.11 48 P P 05 29 06.7 +0.5
baz=242
H03S2 **Juan Fernandez** 85.11 124 T T 07 02 40.3
baz=248,slow=75,SNR=55
MSO **Missoula** 85.13 37 P P 05 29 06.2 +0.4
baz=237
H03S1 **Juan Fernandez** 85.13 124 T T 07 02 41.2
baz=248,slow=75,SNR=59
H03S3 **Juan Fernandez** 85.13 124 T T 07 02 40.8
baz=248,slow=75,SNR=52
I21K **Tanana** 85.15 10 P P 05 29 06.0 +0.7
baz=202
RIDG **Independent Ri** 85.18 13 P P 05 29 06.9 +1.2
baz=209
F17K **Baldwin Pennin** 85.18 6 IAmb IAmb 05 29 06.5
comp=Z,18nm,0.8s
F17K **Baldwin Pennin** 85.18 6 P P 05 29 06.1 +0.6
baz=193
MLY **Manley** 85.21 10 IAmb IAmb 05 29 05.6
comp=Z,17nm,1.0s
MLY **Manley** 85.21 10 P P 05 29 05.1 -0.7
baz=203,SNR=8.6
SAND **Sanderson** 85.25 56 IAmb IAmb 05 29 08.8
comp=Z,6.0nm,0.9s
O20A **White River Ci** 85.25 45 P P 05 29 06.6 -0.2
baz=241
L27K **Beaver Creek,** 85.28 15 P P 05 29 06.3 +0.2
baz=212
MNHN **Monahans** 85.32 55 IAmb IAmb 05 29 09.0
comp=Z,7.4nm,0.7s
HDA **Harding Lake** 85.34 12 P P 05 29 06.2 -0.2
baz=207,SNR=7.0
G19K **Purcell Mounta** 85.34 7 IAmb IAmb 05 29 07.4
comp=Z,17nm,1.0s
G19K **Purcell Mounta** 85.34 7 P P 05 29 06.7 +0.3
baz=197
CCB **Clear Creek Bu** 85.39 12 P P 05 29 05.4 -1.2
H21K **Melozitna Rive** 85.46 9 IAmb IAmb 05 29 08.8
comp=Z,11nm,1.0s
H21K **Melozitna Rive** 85.46 9 P P 05 29 07.3 +0.3
baz=201
R33M **Jennings River** 85.48 21 P P 05 29 07.3 -0.1
baz=222
P33M **Teslin, Yukon** 85.49 20 P P 05 29 07.1 -0.2
baz=220
I23K **Minto, Yukon-K** 85.56 11 IAmb IAmb 05 29 10.9
comp=Z,20nm,1.2s
I23K **Minto, Yukon-K** 85.56 11 P P 05 29 07.2 -0.1
baz=205
SCRK **Sand Creek** 85.57 13 IAmb IAmb 05 29 07.9
comp=Z,8.1nm,0.8s
SCRK **Sand Creek** 85.57 13 P P 05 29 07.8 +0.1
baz=210,SNR=5.2
COLA **College** 85.58 11 P P 05 29 07.0 -0.5
COLA **College** 85.58 11 P P 05 29 06.7 -0.8
comp=Z,27nm,0.8s
COLA **College** 85.58 11 P P 05 29 07.4 -0.1
baz=206
MDM **Murphy Dome** 85.59 11 P P 05 29 07.0 -0.7
M29M **Somme Creek** 85.61 16 P P 05 29 07.7 -0.2
baz=215
IMAR **Indian Mountai** 85.63 9 P P 05 29 07.3 -0.5
BW06 **Boulder Array** 85.67 42 P P 05 29 08.5 -0.3
baz=240
PDAR **Pinedale Array** 85.67 42 P P 05 29 08.6 -0.3
comp=Z,0.7nm,0.6s,baz=216,slow=5.0,SNR=11
comp=Z,0.7nm,0.6s
IL31 85.68 12 P P 05 29 06.9 -1.0
ILAR **Eielson Array** 85.68 12 P P 05 29 06.2 -1.8
ILAR **Eielson Array** 85.68 12 P P 05 29 07.0 -1.0
comp=Z,4.8nm,0.6s,baz=227,slow=6.0,SNR=101
comp=Z,4.8nm,0.6s
YHL **Hebgen Lake** 85.71 40 IAmb IAmb 05 29 12.0
comp=Z,12nm,1.5s
E17K **Hotham Inlet** 85.76 5 P P 05 29 08.6 +0.2
baz=193
BOZ **Bozeman (W)** 85.83 39 P P 05 29 09.3 -0.1
baz=239
J25K **Salcha River,** 85.84 12 IAmb IAmb 05 29 09.4
comp=Z,10nm,0.8s
J25K **Salcha River,** 85.84 12 P P 05 29 08.6 -0.3
baz=208,SNR=6.5
POKR **Poker Plat Res** 85.88 11 P P 05 29 07.7 -1.4
POKR **Poker Plat Res** 85.88 11 P P 05 29 08.6 -0.4
baz=206,SNR=6.8
H22K **Ishtalitna Cre** 85.91 10 P P 05 29 09.2 0.0
baz=203
F19K **Shaleruckik Mo** 85.92 7 IAmb IAmb 05 29 09.9
comp=Z,10.0nm,0.8s
F19K **Shaleruckik Mo** 85.92 7 P P 05 29 09.5 +0.3
baz=197
HNS **HongShan** 85.98 311 ⇓P P 05 29 11.3 +1.2
HNS pmax pmax
comp=Z,18nm,1.3s
SDCO **Great Sand Dun** 86.04 48 P P 05 29 10.8 -0.1
baz=243
K27K **Chicken** 86.05 14 IAmb IAmb 05 29 11.4
comp=Z,15nm,1.1s
K27K **Chicken** 86.05 14 P P 05 29 10.5 +0.7
baz=212
J26L **Joseph Creek** 86.12 13 P P 05 29 10.9 +0.6
baz=210
BJI **Beijing** 86.16 314 P P 05 29 11.8 +0.9
BJI pmax pmax
comp=Z,4.0nm,0.7s
G21K **Allakaket** 86.17 9 IAmb IAmb 05 29 11.3
comp=Z,11nm,0.8s
G21K **Allakaket** 86.17 9 P P 05 29 10.9 +0.5
baz=201
M30M **Minto, Yukon** 86.17 17 IAmb IAmb 05 29 11.3
comp=Z,8.9nm,0.8s
M30M **Minto, Yukon** 86.17 17 P P 05 29 10.7 +0.1
baz=216
E18K **Tukpahlearik C** 86.20 6 IAmb IAmb 05 29 11.6
comp=Z,7.0nm,0.6s
E18K **Tukpahlearik C** 86.20 6 P P 05 29 11.1 +0.5
baz=194
DRIO **Del Rio** 86.23 57 IAmb IAmb 05 29 13.7
comp=Z,12nm,0.8s
L29M **L29M** 86.24 16 P P 05 29 11.1 +0.2
baz=215
F20K **Avaraart Lake** 86.37 8 P P 05 29 11.0 -0.3
F20K IAmb IAmb 05 29 11.7
comp=Z,7.9nm,1.1s
F20K **Avaraart Lake** 86.37 8 P P 05 29 11.8 +0.4
baz=199
LYN **LuoYang** 86.38 308 ⇓P P 05 29 13.2 +1.0
LYN pmax pmax
comp=Z,30nm,0.8s
H24K **Noodor Dome** 86.45 11 P P 05 29 12.4 +0.5
baz=206
E19K **Redstone River** 86.58 7 IAmb IAmb 05 29 13.8
comp=Z,10nm,0.6s
E19K **Redstone River** 86.58 7 P P 05 29 12.7 +0.3
baz=197
PRP **Porcupine Dome** 86.61 12 IAmb IAmb 05 29 14.6
comp=Z,8.2nm,0.9s
PRP **Porcupine Dome** 86.61 12 P P 05 29 13.1 +0.4
baz=208
RDOG **Red Dog Mine** 86.62 5 P P 05 29 13.9 +1.3
baz=192
C16K **Lisburne Hills** 86.67 4 P P 05 29 13.2 +0.5
baz=190
DAWY **Dawson** 86.72 15 P P 05 29 12.5 -0.6
DAWY IAmb IAmb 05 29 14.2
comp=Z,9.6nm,0.8s
DAWY **Dawson** 86.72 15 P P 05 29 13.6 +0.5
baz=214,SNR=7.1
833A **Chaparral WMA,** 86.80 59 P P 05 29 14.6 +0.3
baz=247

F21K Alatna River 86.83 8 P P 05 29 13.6 0.0
baz=201
PSI Prapat 86.84 274 P P 05 29 15.2 +0.2
comp=Z,31nm,1.1s
G22K Bettles 86.84 9 P P 05 29 13.8 +0.2
baz=203
G23K Bananza Creek 86.88 10 P P 05 29 14.1 +0.2
baz=204
FARO Faro, Yukon 86.88 18 P P 05 29 13.5 -0.5
baz=220
ISCO Idaho Springs 86.89 46 P P 05 29 14.4 -0.5
baz=243
EGAK Eagle 86.89 14 P P 05 29 13.2 -0.7
EGAK IAmb IAmb 05 29 14.7
comp=Z,18nm,1.2s
EGAK Eagle 86.89 14 P P 05 29 13.7 -0.2
baz=212
I26K Coal Creek Min 86.91 13 IAmb IAmb 05 29 15.1
comp=Z,8.4nm,0.9s
I26K Coal Creek Min 86.91 13 P P 05 29 14.3 +0.3
baz=210
ENH Enshi 86.95 303 P P 05 29 16.5 +1.5
K29M Barlow Dome 87.00 16 IAmb IAmb 05 29 16.0
comp=Z,16nm,1.1s
K29M Barlow Dome 87.00 16 P P 05 29 15.2 +0.6
baz=216
C17K DeLong Mountai 87.02 4 P P 05 29 14.4 -0.1
baz=192
N23A Red Feather La 87.16 45 P P 05 29 16.1 0.0
baz=243
BILL Bilibino 87.18 353 P P 05 29 14.4 -0.8
BILL IAmb IAmb 05 29 15.8
comp=Z,17nm,1.0s
F22K John River 87.28 9 P P 05 29 16.2 +0.4
baz=202
G24K Hadweenzic Riv 87.30 11 P P 05 29 16.3 +0.4
baz=206
JCT Junction City 87.30 57 P P 05 29 17.0 +0.3
baz=247
COLD Coldfoot 87.32 10 P P 05 29 16.5 +0.5
baz=204,SNR=6.3
C18K Utukok River 87.34 5 P P 05 29 15.7 -0.4
baz=193
E20K Nigu River 87.47 7 P P 05 29 16.6 -0.1
baz=198
D19K Kuna River 87.49 6 IAmb IAmb 05 29 17.2
comp=Z,8.0nm,0.8s
D19K Kuna River 87.49 6 P P 05 29 16.9 +0.2
baz=196
I27K Kandik River 87.50 13 P P 05 29 16.9 0.0
baz=212
GSI Gunungsitoli 87.65 272 P P 05 29 19.2 +0.5
GSI Gunungsitoli 87.65 272 P P 05 29 19.9 +1.2
I28M Miner Creek 87.74 14 P P 05 29 17.4 -0.6
baz=213
D20K Ettiviuk River 87.86 7 P P 05 29 18.4 0.0
baz=198
J30M Hart River 87.90 16 P P 05 29 19.2 +0.3
baz=217
E21K Killik River 87.92 8 IAmb IAmb 05 29 18.7
comp=Z,5.5nm,0.7s
E21K Killik River 87.92 8 P P 05 29 18.9 +0.2
baz=200
E22K Anaktuvuk Pass 87.92 9 IAmb IAmb 05 29 19.5
comp=Z,10nm,0.8s
E22K Anaktuvuk Pass 87.92 9 P P 05 29 19.0 +0.2
baz=202
C19K Lookout Ridge 87.93 6 IAmb IAmb 05 29 19.2
comp=Z,7.2nm,0.7s
C19K Lookout Ridge 87.93 6 P P 05 29 18.9 +0.1
baz=195
TGTN Hyland Airport 87.96 21 P P 05 29 18.9 -0.2
baz=224
F24K Squaw Lake 87.96 10 IAmb IAmb 05 29 19.9
comp=Z,4.1nm,0.6s
F24K Squaw Lake 87.96 10 P P 05 29 19.6 +0.6
baz=206
B18K Kokolik River 88.00 5 P P 05 29 19.1 +0.1
baz=193
SRIT Nakonsritamara 88.03 280 P P 05 29 21.6 +1.1
H27K Steamboat Moun 88.05 13 P P 05 29 19.7 +0.2
baz=212
I29M Ogilvie Camp, 88.05 15 P P 05 29 19.3 -0.1
baz=215
EGMT Eagleton 88.17 38 P P 05 29 20.0 -0.5
baz=240
E23K Chandalar 88.18 9 P P 05 29 20.7 +0.7
baz=204
G26K Porcupine Rive 88.21 12 P P 05 29 20.6 +0.6
baz=210
ABTX Abilene, Hawle 88.26 55 P P 05 29 21.2 0.0
baz=247
E24K Your Creek 88.37 10 IAmb IAmb 05 29 21.7
comp=Z,4.6nm,0.7s
E24K Your Creek 88.37 10 P P 05 29 21.1 +0.1
baz=205
I30M Mount Dempster 88.41 15 IAmb IAmb 05 29 22.1
comp=Z,7.3nm,0.9s
I30M Mount Dempster 88.41 15 P P 05 29 21.1 -0.1
baz=217
F25K Christian Rive 88.42 11 P P 05 29 21.6 +0.5
baz=208
KOTAN Kotaneelee Air 88.47 23 P P 05 29 21.5 0.0
baz=228
C21K Knifeblade Rid 88.49 7 P P 05 29 21.9 +0.5
baz=200
D22K Ayikyak River 88.50 8 P P 05 29 21.9 +0.4
baz=202
G27K Doyon Strip 88.52 13 P P 05 29 21.3 -0.3
baz=212
TOLK Toolik Lake Re 88.72 9 IAmb IAmb 05 29 23.2
comp=Z,4.6nm,0.7s
TOLK Toolik Lake Re 88.72 9 P P 05 29 22.7 +0.2
baz=204
F26K Sheenjek River 88.79 11 P P 05 29 23.6 +0.7
baz=210
D23K Nanushuk River 88.85 9 P P 05 29 23.6 +0.6
baz=203
XAN Xi'an 88.86 306 ⇑P P 05 29 25.5 +1.5
XAN pmax pmax
comp=Z,25nm,1.3s
A19K Wainwright 88.88 5 P P 05 29 23.3 +0.2
baz=194
PLCA Paso Flores 88.90 133 P P 05 29 24.9 +0.7
comp=Z,1.7nm,0.9s,baz=164,slow=5.7,SNR=2.6
comp=Z,1.7nm,0.9s
E25K Arctic Village 88.90 11 IAmb IAmb 05 29 25.3
comp=Z,4.0nm,0.8s
E25K Arctic Village 88.90 11 P P 05 29 23.5 +0.2
baz=208
EDM Edmonton 88.94 32 P P 05 29 23.1 -0.9
EDM IAmb IAmb 05 29 25.5
comp=Z,20nm,1.3s
B21K Ikpikpuk River 88.95 7 IAmb IAmb 05 29 24.0
comp=Z,6.7nm,0.7s
B21K Ikpikpuk River 88.95 7 P P 05 29 23.3 -0.2
baz=200
B20K Meade River 89.04 6 IAmb IAmb 05 29 24.6
comp=Z,8.2nm,0.7s
B20K Meade River 89.04 6 P P 05 29 24.0 +0.1
baz=197
ELIB Princess Elisa 89.05 186 dP P 05 29 25.2 +0.8
comp=Z,5.4nm,0.8s
ELIB dpP pP 05 30 06.4 -18
ELIB dsP pwP 05 30 33.0 +5.8
EPYK Eagle Plains 89.25 15 P P 05 29 24.9 -0.1
baz=216
D24K Happy Valley 89.30 9 IAmb IAmb 05 29 26.0
comp=Z,5.1nm,0.7s
D24K Happy Valley 89.30 9 P P 05 29 25.4 +0.2
baz=205
G29M Pine Creek 89.39 14 P P 05 29 26.0 +0.4
baz=215
F28M Old Crow 89.57 13 P P 05 29 26.7 +0.3
baz=214
LAO LASA Array 89.64 40 P P 05 29 28.1 +0.7
baz=243
C23K Itkillik River 89.66 8 IAmb IAmb 05 29 27.8
comp=Z,10nm,0.8s
C23K Itkillik River 89.66 8 P P 05 29 27.4 +0.6
baz=203
HHC Hu-ho-hao-te 89.68 313 eP P 05 29 28.9 +1.2
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,230nm,5.6s
E27K Coleen River 89.70 12 P P 05 29 27.2 +0.1
baz=212

WMOK Wichita Mounta 89.74 53 P P 05 29 29.3 +1.2
baz=248
B22K Teshekpuk Lake 89.77 7 IAmb IAmb 05 29 28.0
comp=Z,8.4nm,0.8s
B22K Teshekpuk Lake 89.77 7 P P 05 29 27.5 +0.2
baz=201
C24K Franklin Bluff 89.83 9 P P 05 29 28.2 +0.6
baz=244
RSSD Black Hills 89.86 43 P P 05 29 28.2 -0.5
baz=244
G30M tAoh Zraii Nji 89.87 14 P P 05 29 27.4 -0.5
baz=217
TROLL Troll, Antarti 89.87 179 ⇑P P 05 29 29.3 +1.1
comp=Z,307nm,0.8s
SNAA Sanae 90.07 178 ⇑P P 05 29 30.0 +1.0
comp=Z,83nm,0.8s
SNAA Sanae 90.07 178 P P 05 29 29.7 +0.7
comp=Z,3.8nm,0.8s,baz=153,slow=5.6,SNR=5.4
comp=Z,3.8nm,0.8s
VNA3 Neumayer Olymp 90.10 175 ⇑P P 05 29 30.3 +1.2
comp=Z,10nm,0.9s
A22K Sinclair Lake 90.22 7 P P 05 29 29.4 0.0
baz=199
G31M Satah River 90.29 15 P P 05 29 29.9 +0.2
baz=219,SNR=7.9
E28M Babbage River 90.47 12 P P 05 29 31.1 +0.5
baz=214
F30M Barrier River 90.47 14 P P 05 29 31.3 +0.6
baz=217
VNA2 Neumayer--Watz 90.58 176 ⇑P P 05 29 32.7 +1.4
comp=Z,11nm,0.6s,baz=184,slow=4.0
E29M Blow River 90.63 13 P P 05 29 31.4 0.0
baz=215
BTO Baotou 90.65 313 eP P 05 29 34.9 +2.6
BTO pP pP 05 30 29.2 -2.9
BTO sP sP 05 30 50.1 -7.8
BTO PP PP 05 33 12.8 +1.3
BTO S S 05 40 07.6 +1.2
BTO pmax pmax
comp=Z,19nm,0.5s
BTO pmax pmax
comp=Z,230nm,3.6s
BTO LR LR
comp=Z,400nm,5.1s
BTO LR LR
comp=Z,180nm,4.2s
BTO LR LR
comp=Z,200nm,6.5s
D27M Malcolm River 90.72 12 P P 05 29 31.8 0.0
baz=212
WRGLY Wrigley 90.76 21 P P 05 29 31.9 -0.2
baz=228
F31M Tsiigehtchic 90.83 15 P P 05 29 32.6 +0.4
baz=219
CRAI Chiangrai 91.08 291 IAmb IAmb 05 29 37.0
comp=Z,14nm,1.3s
INK Inuvik 91.55 14 P P 05 29 35.4 -0.2
baz=219
CMAR Chiang Mai Arr 91.79 289 P P 05 29 39.5 +1.6
comp=Z,5.1nm,0.9s,baz=103,slow=2.8,SNR=34
comp=Z,5.1nm,0.9s
NATX Nacogdoches 91.87 57 P P 05 29 38.5 +0.5
baz=250
CHTO Chiang Mai 91.90 289 P P 05 29 39.3 +0.9
CHTO IAmb IAmb 05 29 40.7
comp=Z,9.7nm,1.0s
CHTO Chiang Mai 91.90 289 P P 05 29 40.1 +1.7
PZH PanZhiHua 91.95 297 P P 05 29 40.0 +1.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.7s
TUL3 Leonard 92.44 53 P P 05 29 41.0 +0.5
baz=249
BGNE Belgrade 92.72 47 P P 05 29 43.2 +1.4
baz=248
KSU1 Kansas State U 92.97 50 P P 05 29 43.8 +0.9
baz=249
LZH Lanzhou 93.48 307 eP P 05 29 47.9 +2.4
LZH pP pP 05 30 44.3 -1.1
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,180nm,5.5s
YKA Yellowknife Ar 93.52 24 P P 05 29 44.6 -0.2
comp=Z,1.8nm,0.8s,baz=243,slow=4.6,SNR=28
comp=Z,1.8nm,0.8s
ECSD EROS Data Cent 94.63 45 P P 05 29 50.8 +0.4
baz=249
C36M Paulatuk 94.67 16 P P 05 29 49.8 -0.1
baz=228
SONM Songino Array 95.80 318 P P 05 29 55.7 0.0
comp=Z,0.4nm,0.6s,baz=64,slow=3.4,SNR=3.8
comp=Z,0.4nm,0.6s
A36M Sachs Harbour 96.17 14 P P 05 29 56.4 -0.3
A36M Sachs Harbour 96.17 14 P P 05 29 56.9 +0.2
baz=227
TIXI Tiksi 97.33 345 P P 05 30 00.7 -1.3
TIXI IAmb IAmb 05 30 01.7
comp=Z,4.6nm,0.9s
GTA Gaotai 97.57 309 eP Pdif 05 30 06.8 +2.8
GTA pmax pmax
comp=Z,2.0nm,1.2s
GLMI Grayling 103.19 47 P Pdif 05 30 28.6 -0.1
baz=257
ZALV Zalesovo Beam 110.38 322 PKiKP PKiKP 05 34 59.1 -0.9
comp=Z,1.4nm,0.6s,baz=170,slow=1.8,SNR=8.3
L61B Northampton 111.36 51 P PKiKP 05 35 02.2 0.0
baz=264
MKAR Makanchi Array 111.54 314 PKiKP PKiKP 05 35 01.6 -0.8
comp=Z,1.7nm,0.6s,baz=136,slow=0.5,SNR=26
PKME Peaks-Kenny Pk 114.00 48 P PKiKP 05 35 07.0 -0.1
baz=268
KURBB Kurchatov Arra 114.16 318 PKiKP PKiKP 05 35 06.5 -0.7
comp=Z,1.2nm,0.5s,baz=92,slow=1.7,SNR=13
BVAR Borovoye Array 119.02 321 PKP PKiKP 05 35 16.2 -0.4
comp=Z,4.1nm,0.4s,baz=84,slow=1.2,SNR=32
SPITS Spitsbergen Ar 119.85 357 PKP PKiKP 05 35 17.3 -0.3
comp=Z,6.2nm,0.7s,baz=108,slow=2.7,SNR=5.6
ARCES ARCESS Array B 127.23 351 PKP PKiKP 05 35 31.5 -0.9
comp=Z,3.2nm,0.6s,baz=21,slow=1.3,SNR=23
GEYT Aldeck 129.70 304 PKP PKiKP 05 35 37.9 -0.5
comp=Z,2.0nm,0.6s,baz=129,slow=2.1,SNR=4.9
FINES FINESS Array B 134.36 346 PKhKP PKPpre 05 35 41.6
comp=Z,1.9nm,0.5s,baz=27,slow=2.1,SNR=9.5
FINES PKP PKPdf 05 35 45.1 -0.4
comp=Z,1.9nm,0.5s,baz=36,slow=2.7,SNR=15
NB2 NORSAR Subarra137.09 355 PKP PKiKP 05 35 52.2 -0.4
comp=Z,1.7nm,0.9s,baz=11,slow=4.0
NOA NORSAR Array B137.09 355 PKP PKPdf 05 35 49.2 -1.5
comp=Z,0.9nm,0.7s,baz=13,slow=4.1,SNR=3.9
HFS Hagfors 137.75 353 PKhKP PKPpre 05 35 40.2
comp=Z,3.5nm,1.0s,baz=64,slow=5.1,SNR=5.3
HFS PKP PKPdf 05 35 50.9 -1.0
comp=Z,2.7nm,0.8s,baz=56,slow=3.8,SNR=4.7
AKASG Malin Array Be 142.25 334 PKhKP PKPpre 05 35 55.0
comp=Z,1.7nm,0.4s,baz=39,slow=4.2,SNR=15
AKASG PKP PKiKP 05 36 01.5 -1.9
comp=Z,0.4nm,0.4s,baz=42,slow=3.9,SNR=4.0
EKA Eskdalemuir Ar 142.59 7 PKhKP PKPpre 05 35 57.1
comp=Z,1.1nm,0.7s,baz=331,slow=2.9,SNR=1.9
EKA PKP PKiKP 05 36 01.3 -2.6
comp=Z,0.9nm,0.7s,baz=262,slow=2.3,SNR=3.5
BEL Belsk 144.24 343 ePKPbc PKPdf 05 36 03.2 -0.5
SORM Soroca 144.58 332 ⇓P PKPbc 05 36 02.8 -1.0
GORT1 Trebel 145.03 353 ePKPbc PKPab 05 36 05.6 +0.4
baz=12,slow=2.8
RUE Ruedersdorf 145.19 350 ePKPbc PKPab 05 36 05.4 -0.4
baz=12,slow=2.8
MILM Milestii Mici 145.27 331 ⇓iPKP PKPdf 05 36 04.0 -1.7
comp=Z,80nm,1.1s
RETH Rethem/Aller, 145.47 355 ePKPbc PKPab 05 36 06.6 -0.4
baz=12,slow=2.8
KWP Kalwaria Pacla 145.57 339 ePKPbc PKPdf 05 36 05.4 -0.8
NRDL Niedersach Rie 145.65 354 ePKPbc PKPab 05 36 07.1 -0.5
baz=12,slow=2.8
FLTG Flechtingen 145.69 353 ePKPbc PKPab 05 36 06.9 -0.9
baz=12,slow=2.8
OJC Ojcow 145.96 343 ePKPbc PKPab 05 36 07.8 -1.2
IBBN Ibbenburen 146.02 357 ePKPbc PKPab 05 36 08.7 -0.3
baz=12,slow=2.8
CLZ Clausthal 146.27 354 ePKPbc PKPab 05 36 09.3 -0.8
baz=12,slow=2.8
KSP Ksiaz 146.27 347 ePKPbc PKPab 05 36 09.2 -0.9
BURAR Bucovina Array 146.31 335 ⇑P PKiKP 05 36 10.4 -1.6
VLDR Vladesti 146.40 330 ⇑P PKPab 05 36 09.9 -0.9
CLL Collm 146.44 351 ePKPbc PKPab 05 36 09.0 -1.8
comp=Z,29nm,0.8s

CLL comp=Z,23nm,0.9s *i* (PKPab) PKiKP 05 36 10.7 -1.3
CLL *i* x x 05 36 26.4
CLL Collm 146.44 351 ePKPbc PKPab 05 36 09.5 -1.3
baz=12,slow=2.8
TLCR 146.52 328 ⇓P PKPab 05 36 09.9 -1.4
NIE Niedzica 146.53 341 ePKPbc PKPab 05 36 10.3 -0.9
GHRR 146.56 331 ⇓P PKiKP 05 36 10.9 -1.5
OSTC Ostas 146.56 347 ePKP PKPab 05 36 10.3 -1.0
TESR Tescani 146.56 332 ⇓P PKPab 05 36 09.9 -1.5
CHVC Chvalec 146.56 347 ePKP PKPab 05 36 09.6 -1.7
GTTG Gottingen 146.60 354 ePKPbc PKPab 05 36 10.1 -1.3
baz=12,slow=2.8
CRVS Cervenica-Dubn 146.62 340 ePKP PKPab 05 36 10.4 -1.2
UPC Upice 146.65 347 ePKP PKPab 05 36 09.9 -1.7
UPC *ex* x 05 36 26.2
BRG Berggiesshubel 146.71 349 ePKP PKPdf 05 36 07.8 -0.2
BRG Amp 05 36 09.0
comp=Z,2.4nm,0.7s
BRG Berggiesshubel 146.71 349 P PKPab 05 36 10.7 -1.2
BRG Amp 05 36 11.4
comp=Z,13nm,0.8s
BRG Berggiesshubel 146.71 349 ePKPbc PKPab 05 36 10.4 -1.4
baz=12,slow=2.8
NEUB Neuenburg 146.72 352 ePKPbc PKPab 05 36 10.4 -1.4
baz=12,slow=2.8
DPC Dobruska-Polom 146.73 346 ePKP PKPab 05 36 10.3 -1.7
DPC *ex* x 05 36 26.7
OKC Ostrava-Krasne 146.76 344 ePKP PKPab 05 36 10.5 -1.6
FBE Freiberg 146.76 350 ePKPbc PKPab 05 36 10.9 -1.1
baz=12,slow=2.8
PANC Panciu 146.82 331 ⇑P PKiKP 05 36 11.7 -1.2
CFR Carcaliu 146.86 329 ⇑P PKiKP 05 36 10.9 -1.7
KRLC Kraliky 146.88 346 ePKP PKPab 05 36 11.1 -1.5
KRLC *ex* x 05 36 26.5
PVCC Panska Ves 146.92 348 ePKP PKPab 05 36 10.7 -2.0
PVCC *ex* x 05 36 28.0
BMR Baia Mare 146.94 336 ⇑P PKPab 05 36 10.9 -1.9
ODBI Odobesti 146.94 331 ⇑P PKiKP 05 36 12.4 -0.8
TPGR Topolog 146.95 328 ⇓P PKPab 05 36 11.7 -1.3
MORC Moravsky Berou 146.97 345 ⇓P PKPab 05 36 10.9 -2.1
MORC Moravsky Berou 146.97 345 ePKP PKPab 05 36 11.4 -1.6
RICC Richard 147.00 349 ePKP PKPab 05 36 11.0 -2.0
LANS Liptovska Anna 147.02 342 ePKP PKiKP 05 36 12.4 -0.9
VRI Vrincioaia 147.02 331 ⇑P PKPab 05 36 11.6 -1.7
HSKC Hora Svate Kat 147.05 350 ePKP PKPbc 05 36 10.7 -0.4
HSKC *ex* x 05 36 28.3
PLOR Plostina 147.06 331 ⇓P PKPbc 05 36 11.1 -0.3
KASTN Kahler Asten 147.07 356 ePKPbc PKPab 05 36 11.3 -2.0
baz=12,slow=2.8
ARCR ARCALIA 147.08 335 ⇑P PKPab 05 36 11.9 -1.5
BRTR Keskin Array B 147.14 317 PKPbc PKiKP 05 36 11.9 -2.1
comp=Z,16nm,0.9s,baz=139,slow=3.9,SNR=44
TURR Turia 147.19 332 ⇑P PKPab 05 36 12.9 -1.1
OZUR 147.26 332 ⇓P PKiKP 05 36 12.1 -1.8
COVR Voineasa-Covas 147.27 332 ⇑P PKiKP 05 36 12.1 -1.9
MAUC Maruska 147.28 344 ePKP PKiKP 05 36 12.4 -1.4
MOX Moxa 147.29 352 ePKPbc PKiKP 05 36 12.0 -1.8
baz=12,slow=2.8
MOX eL L 06 40 46.4
comp=Z,57nm,18.1s
HARR Harsova 147.31 329 ⇑P PKiKP 05 36 12.6 -1.4
BOSR Bodos 147.34 332 ⇑P PKiKP 05 36 12.9 -1.1
PLN Plauen 147.37 351 ePKPbc PKiKP 05 36 12.3 -1.6
baz=12,slow=2.8
PRA Prague 147.39 348 ePKP PKiKP 05 36 12.2 -1.8
WERD Werda 147.39 351 ePKPbc PKiKP 05 36 12.4 -1.7
baz=12,slow=2.8
TANN Tannenbergstha 147.40 351 ePKPbc PKiKP 05 36 12.4 -1.7
baz=12,slow=2.8
PRU Pruhonice 147.44 348 ePKP PKiKP 05 36 12.7 -1.4
PRU *ex* x 05 36 29.3
GUNZ Gunzen 147.47 351 ePKPbc PKiKP 05 36 12.6 -1.6
baz=12,slow=2.8
WERN Wernitzgruen 147.53 351 ePKPbc PKiKP 05 36 13.0 -1.4
baz=12,slow=2.8
DOPR Dopca 147.54 333 ⇑P PKPab 05 36 13.8 -1.6
NEHR Nehoiu 147.55 331 ⇓P PKiKP 05 36 13.3 -1.3
NKC Novy Kostel 147.57 351 ePKP PKiKP 05 36 12.9 -1.5
MESR Meseseni 147.58 336 ⇓P PKiKP 05 36 13.1 -1.4
BEBN Eben Emael 147.60 359 dPKP PKPab 05 36 15.4 +0.1
VRAC Vranov 147.64 345 ⇑P PKPbc 05 36 11.9 -0.8
VRAC Vranov 147.64 345 ePKP PKiKP 05 36 13.1 -1.5
VRAC *e* 05 36 15.9
MLR Muntele Rosu 147.66 332 ⇓P PKiKP 05 36 12.9 -2.0
CBBR Cluj-Babes-Bol 147.66 335 ⇓P PKPdf 05 36 09.9 +0.1
ISR Istrita 147.66 330 ⇑P PKiKP 05 36 13.3 -1.5
CJR Cluj-Napoca 147.69 335 ⇑P PKiKP 05 36 13.4 -1.4
JAVC Jelka Javorina 147.78 344 ePKP PKPab 05 36 14.5 -1.8
MEM Memmbach 147.78 358 dPKP PKPdf 05 36 09.9 +0.1
VYHS Vyhne 147.79 342 ePKP PKiKP 05 36 13.6 -1.3
BTNL Ternell 147.81 358 dPKP PKPbc 05 36 11.1 -2.1
BSTI Sart Tilman 147.82 359 dPcP PKiKP 05 36 13.2 -1.6
MANZ Manzenberg 147.87 351 ePKPbc PKiKP 05 36 13.7 -1.4
baz=12,slow=2.8
MARR Marisel-Cluj 147.91 336 ⇑P PKiKP 05 36 14.4 -0.9
KRUC Moravsky 147.92 345 ePKP PKiKP 05 36 13.6 -1.5
KRUC *e* 05 36 16.7
PSZ Piszkesteto 147.98 341 ⇓P PKiKP 05 36 14.6 -0.8
BCLA Clavier 147.99 359 dPcP PKPab 05 36 16.3 -0.6
BGES Gesves 148.03 359 dPKP PKPab 05 36 16.6 -0.5
ZVC Zvikov 148.04 348 ePKP PKiKP 05 36 13.8 -1.6
ZVC *ex* x 05 36 17.3
BHOU Houvegnez 148.04 358 dPKP PKiKP 05 36 14.2 -1.1
TNS Taunus Mts 148.05 355 ePKPbc PKiKP 05 36 14.0 -1.4
baz=12,slow=2.8
ROTZ Rotzenmuhle 148.06 351 ePKPbc PKiKP 05 36 14.2 -1.2
baz=12,slow=2.8
VOIR 148.10 332 ⇓P PKiKP 05 36 14.4 -1.3
BMRD Maredsous 148.11 360 dPKP PKPbc 05 36 12.9 -0.9
GRF Grafenberg Arr 148.28 352 eL L 06 36 12.4
comp=Z,63nm,21.6s
DOU Dourbes 148.32 0 dPKP PKPbc 05 36 13.9 -0.6
MODS Modra-Piesok 148.33 344 ePKP PKiKP 05 36 15.4 -0.6
MODS *e* 05 36 19.1
KHC Kasperske Hory 148.45 349 ePKP PKiKP 05 36 15.1 -1.2
KHC *ex* x 05 36 19.6
KHC *ex* x 05 36 31.3
ZST Bratislava 148.54 344 ePKP PKiKP 05 36 16.3 -0.1
SRO Srobarova 148.56 342 ePKP PKiKP 05 36 16.3 -0.1
SRO *e* 05 36 20.3
CKRC Cesky Krumlov 148.60 348 ePKP PKiKP 05 36 15.6 -1.0
CKRC *ex* x 05 36 31.1
GEC2 GERESS Array S 148.70 348 ePKPbc PKiKP 05 36 15.7 -1.2
baz=12,slow=2.8
GERES GERESS Array B 148.70 348 PKPbc PKiKP 05 36 15.9 -1.0
comp=Z,5.0nm,0.7s,baz=134,slow=5.6,SNR=8.5
WLF Walferdange 148.73 358 dPKP PKiKP 05 36 16.3 -0.5
WLF Walferdange 148.73 358 ePKPbc PKiKP 05 36 16.4 -0.3
baz=12,slow=2.8
SIRR Siria 148.80 337 ⇓P PKiKP 05 36 16.1 -0.9
MMAI Mount Meron Ar 148.82 304 PKPbc PKiKP 05 36 16.7 -0.9
comp=Z,7.4nm,0.5s,baz=75,slow=7.0,SNR=13
HUMR Humele 148.84 331 ⇓P PKiKP 05 36 15.6 -1.5
SURR Surduc 149.06 336 ⇓P PKiKP 05 36 16.5 -1.1
GZR Gura Zlata 149.10 335 ⇑P PKiKP 05 36 16.8 -0.9
CONA Conrad Observa 149.10 345 *i* PKP PKiKP 05 36 16.9 -0.8
comp=Z,15nm,1.0s,SNR=6.3
CONA ePKP PKPab 05 36 22.4 +0.8
comp=Z,12nm,0.7s
RONA Rosalia, Austr 149.21 345 *i* PKP PKiKP 05 36 17.6 -0.2
comp=Z,10.0nm,0.8s,SNR=5.5
RONA ePKP PKPab 05 36 22.7 +0.6
comp=Z,17nm,0.9s
BZS Buzias 149.37 336 ⇓P PKiKP 05 36 17.5 -0.7
SRE Strehaia 149.51 333 ⇓P PKiKP 05 36 17.8 -0.7
MOA Molln 149.54 347 ePKP PKiKP 05 36 17.6 -1.0
comp=Z,5.7nm,0.9s
ELND Elena 149.61 328 ⇑P PKPab 05 36 23.9 +0.1
HERR Herculane 149.66 335 ⇓P PKiKP 05 36 18.2 -0.7
BIOA Bad Ischl, Aus 149.82 348 ePKP PKiKP 05 36 18.1 -1.0
comp=Z,8.3nm,1.3s
BIOA ePKP PKPab 05 36 25.2 +0.7
comp=Z,13nm,1.0s
PLVB Pleven 149.88 330 ⇑P PKiKP 05 36 19.0 -0.3
MORH Mrgy, Hungar 149.89 340 ⇑P PKiKP 05 36 18.0 -1.2
BFO Black Forest 149.94 355 ePKPbc PKiKP 05 36 18.4 -0.9
baz=12,slow=2.8
LESA Schwarzleotal 150.26 349 ePKP PKiKP 05 36 19.4 -0.7
comp=Z,4.1nm,0.5s
UBR Ueberruh 150.40 353 ePKPbc PKiKP 05 36 20.0 -0.4
baz=12,slow=2.8
SOKA Soboth 150.47 345 ePKP PKiKP 05 36 19.7 -0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.3nm,0.3s						
SOKA				ePKP	PKPab	05 36 27.2	-0.2
	comp=Z,6.9nm,0.7s						
PERS	Pernice	150.49	345	i PKPbc	PKiKP	05 36 19.5	-1.1
RETA	Reutte	150.50	352	ePKP	PKiKP	05 36 19.9	-0.7
	comp=Z,7.5nm,0.8s						
RETA				ePKP	PKPab	05 36 27.5	+0.1
	comp=Z,16nm,1.3s						
WATA	Walderalm	150.53	350	ePKP	PKiKP	05 36 20.1	-0.7
	comp=Z,6.6nm,0.5s						
WATA				ePKP	PKPab	05 36 27.8	+0.1
	comp=Z,11nm,1.0s						
BLKB	Belogradchik	150.57	333	⇑P	PKiKP	05 36 19.9	-1.0
WTTA	Wattenberg	150.59	350	i PKP	PKiKP	05 36 20.4	-0.6
	comp=Z,21nm,0.5s,SNR=8.3						
MOTA	Moosalm	150.59	351	ePKP	PKiKP	05 36 20.4	-0.5
	comp=Z,17nm,1.1s						
SQTA	Sankt Quirin	150.70	351	i PKP	PKiKP	05 36 20.8	-0.2
	comp=Z,17nm,0.8s,SNR=5.1						
DAVA	Damuels	150.81	353	ePKiKP	PKiKP	05 36 21.5	+0.2
	comp=Z,34nm,1.1s						
MYKA	Terra Mystica	150.83	347	i PKP	PKiKP	05 36 20.1	-1.2
	comp=Z,9.1nm,0.6s						
MYKA				ePKP	PKPab	05 36 28.5	-0.3
	comp=Z,5.7nm,0.6s						
ABTA	Abfaltersbach	150.94	349	i PKP	PKiKP	05 36 20.7	-0.9
	comp=Z,18nm,0.6s,SNR=6.5						
FETA	Feichten	150.96	351	i PKiKP	PKiKP	05 36 21.7	0.0
	comp=Z,16nm,0.8s,SNR=5.6						
BOVS	Bovan	150.98	334	⇓P	PKPbc	05 36 20.2	-0.9
LJU	Ljubljana	151.19	346	i PKPbc	PKiKP	05 36 21.4	-0.5
CRNS	Crni Vrh	151.22	346	i PKPbc	PKiKP	05 36 21.1	-1.0
ESDC	Sonseca Array	157.46	18	PKPab	PKPab	05 36 57.5	+0.3
	comp=Z,2.9nm,0.8s,baz=325,slow=3.3,SNR=11						
TORD	Torodi Ar. Bea	174.10	151	PKP	PKPdf	05 36 37.4	-0.9
	comp=Z,0.5nm,0.8s,baz=180,slow=2.7,SNR=3.9						
TORD				PKPab	PKPab	05 38 12.6	+1.6
	comp=Z,1.2nm,1.0s,baz=191,slow=3.8,SNR=5.2						

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*JMA **02** 06:35:17.8±0.1, 38°.7N±0°.2×142°.2E±0°.7, h39km±1km, MD3.8/40, MV4.1/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
*NIED **02** 06:35:17.8, 38°.70N×142°.21E, h39km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr-2.46; Mθθ5.16; Mφφ-2.69; Mrθ-3.52; Mθφ1.54; Mφr1.83; Fault plane solution: M0 6.11000×10^{14} NP1: φs113.00000°, δ75.00000°, λ-51.00000°. NP2: φs221.00000°, δ41.00000°, λ-157.00000°.*
*IDC **02** 06:35:20.2±2.1, 38°.66N×142°.18E, h62km±19km, mb3.3/14, mbtmp3.6/19, MS2.8/3 Error ellipse: s-maj=21.2km s-min=10.7km az=117.0*
ISC 02 06:35:16.7±1.9**, 38°.65N**±0°.06×**142°.25E**±0°.07**, h29**km±12km**, n42, σ1s.17**/42**, mb3.6**/14**, 8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.62	314	i P	Pn	06 35 29.4	-0.3
OFUJ				eS	Sb	06 35 37.3	-0.2
OFUJ	Ofunato	0.62	314	A	A	06 35 29.4	
	comp=E,9.0nm,0.3s,comp=N,9.0nm,0.3s						
JKMT	Kesennumamotoy	0.63	285	⇓iP	Pn	06 35 29.6	0.0
JKMT				⇓S	Sb	06 35 37.6	0.0
JKMT	Kesennumamotoy	0.63	285	A	A	06 35 29.6	
	comp=E,6.0nm,0.3s,comp=N,8.0nm,0.4s						
JIKH	Ishinomakikobu	0.70	241	⇓iP	Pn	06 35 31.1	+0.4
JIKH				⇓S	Sn	06 35 40.5	0.0
JIKH	Ishinomakikobu	0.70	241	A	A	06 35 31.1	
	comp=E,5.0nm,0.6s,comp=N,5.0nm,0.6s						
JIO	Ouri	0.73	255	⇓iP	Pn	06 35 31.3	+0.2
JIO				⇓S	Sb	06 35 40.6	0.0
JMK	Ichinoseki	0.86	291	⇓iP	Pn	06 35 32.9	+0.1
JMK				⇓S	Sb	06 35 43.7	-0.5
JMK	Ichinoseki	0.86	291	A	A	06 35 32.9	
	comp=E,5.0nm,0.7s,comp=N,13nm,0.3s						
JOM	Ohasama	1.11	318	i P	Pn	06 35 36.5	+0.1
JOM				S	Sb	06 35 49.8	-1.6
JOM	Ohasama	1.11	318	A	A	06 35 36.5	
	comp=E,17nm,0.4s,comp=N,14nm,0.4s						
JOU	Okura	1.27	258	i P	Pb	06 35 39.3	-0.8
JOU				eS	Sn	06 35 54.9	+0.2
JTH	Tanohata	1.32	347	i P	Pn	06 35 38.9	-0.4
JMM	Marumori	1.39	236	i P	Pn	06 35 40.6	+0.5
JMM				eS	Sn	06 35 57.4	-0.1
JRG	Rokugo	1.46	301	P	Pn	06 35 41.9	+0.7
JRG				eS	Sn	06 36 00.1	+0.8
JYK	Kaneyama	1.50	281	P	Pn	06 35 42.3	+0.6
JYK				eS	Sn	06 35 59.7	-0.6
MJAR	Matsushiro Arr	3.83	238	P	Pn	06 36 16.6	+2.8
	comp=N,16nm,0.5s,baz=35,slow=14,SNR=74						
MJAR				S	Sn	06 37 00.6	+2.7
	comp=N,3.5nm,0.4s,baz=86,slow=33,SNR=1.2						
MJAR				LR	LR	06 37 59.3	
	comp=N,135nm,19.2s,baz=51,slow=42						
ASAJ	Asahikawa	5.47	3	P	Pn	06 36 37.4	+1.1
	comp=N,7.2nm,0.4s,baz=195,slow=14,SNR=12						
ASAJ				S	Sn	06 37 40.7	+2.5
	comp=N,15nm,0.7s,baz=97,slow=6.3,SNR=4.8						
USRK	Ussuriysk Ar.	9.49	309	P	Pn	06 37 34.3	+2.9
	comp=N,1.2nm,0.5s,baz=109,slow=11,SNR=2.4						
JNU	Nakatsue	10.74	243	P	Pn	06 37 50.0	+1.4
	comp=N,7.7nm,1.0s,baz=93,slow=12,SNR=2.3						
JNU				LR	LR	06 42 39.6	
	comp=N,24nm,21.5s,baz=114,slow=41						
KSRS	Korea Array	11.36	268	P	Pn	06 37 59.1	+2.2
	comp=N,1.3nm,0.6s,baz=85,slow=16,SNR=2.1						
SEY	Seymchan	25.08	11	P	P	06 40 39.1	+0.7
	comp=N,1.7nm,0.7s,baz=211,slow=15,SNR=6.2						
	comp=N,1.7nm,0.7s						
H11N2	WAKE ISLAND Hy	28.46	124	T	T	07 11 33.5	
	baz=317,slow=75,SNR=583						
H11N1	WAKE ISLAND Hy	28.47	125	T	T	07 11 30.7	
	baz=317,slow=75,SNR=365						
H11N3	WAKE ISLAND Hy	28.48	124	T	T	07 11 31.4	
	baz=317,slow=75,SNR=396						
H11S1	WAKE ISLAND Hy	29.23	126	T	T	07 12 27.6	
	baz=318,slow=76,SNR=66						
H11S3	WAKE ISLAND Hy	29.23	126	T	T	07 12 28.4	
	baz=318,slow=76,SNR=90						
H11S2	WAKE ISLAND Hy	29.25	126	T	T	07 12 29.1	
	baz=318,slow=76,SNR=52						
DAV	Davao City (W)	34.86	210	LR	LR	06 56 02.8	
	comp=N,37nm,20.6s,baz=220,slow=36						
ZALV	Zalesovo Beam	41.34	311	P	P	06 42 58.3	-1.3
	comp=N,0.6nm,0.5s,baz=94,slow=8.8,SNR=4.2						
	comp=N,0.6nm,0.5s						
MKAR	Makanchi Array	43.84	301	P	P	06 43 20.1	-0.1
	comp=N,0.2nm,0.5s,baz=80,slow=11,SNR=2.5						
	comp=N,0.2nm,0.5s						
KURBB	Kurchatov Arra	45.55	307	P	P	06 43 33.2	-0.4
	comp=N,0.5nm,0.4s,baz=81,slow=8.1,SNR=7.7						
	comp=N,0.5nm,0.4s						
ILAR	Eielson Array	47.78	33	P	P	06 43 51.4	+0.4
	comp=N,0.6nm,0.6s,baz=272,slow=6.2,SNR=10						
	comp=N,0.6nm,0.6s						
BVAR	Borovoye Array	49.99	311	P	P	06 44 06.9	-1.2
	comp=N,0.3nm,0.4s,baz=156,slow=44,SNR=2.0						
	comp=N,0.3nm,0.4s						
WRA	Warramunga Arr	58.75	189	P	P	06 45 11.1	-0.9
	comp=N,0.5nm,0.6s,baz=7.1,slow=7.2,SNR=5.4						
	comp=N,0.5nm,0.6s						
YKA	Yellowknife Ar	62.08	31	P	P	06 45 34.2	-0.2
	comp=N,0.2nm,0.8s,baz=302,slow=6.9,SNR=2.5						
	comp=N,0.2nm,0.8s						
ASAR	Alice Springs	62.48	189	P	P	06 45 36.9	-0.6
	comp=N,0.3nm,0.6s,baz=9.9,slow=6.1,SNR=6.6						
	comp=N,0.3nm,0.6s						
ARCES	ARCESS Array B	62.72	339	P	P	06 45 37.9	-0.7
	comp=N,4.4nm,1.0s,baz=12,slow=7.4,SNR=2.6						
	comp=N,4.4nm,1.0s						
AKASG	Malin Array Be	73.42	322	P	P	06 46 45.3	-0.6
	comp=N,0.1nm,0.4s,baz=319,slow=4.9,SNR=1.8						
	comp=N,0.1nm,0.4s						
NVAR	Mina Array Bea	73.50	54	P	P	06 46 47.1	+0.1
	comp=N,0.3nm,0.7s,baz=269,slow=8.9,SNR=4.1						
	comp=N,0.3nm,0.7s						
PDAR	Pinedale Array	76.07	46	P	P	06 47 02.5	+0.7
	comp=N,0.4nm,0.6s,baz=262,slow=1.8,SNR=5.1						
	comp=N,0.4nm,0.6s						
TXAR	Lajitas Array	88.62	53	P	P	06 48 06.2	-1.2
	comp=N,0.2nm,0.6s,baz=274,slow=1.7,SNR=3.8						
	comp=N,0.2nm,0.6s						

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*REN **02** 06:38:12.8±1.6, 37°.08N±0°.03×113°.91W±0°.01, h13km±8km, Error ellipse: s-maj=3.9km s-min=1.3km az=188.0*
*NEIC **02** 06:38:12.1±1.5, 37°.05N±0°.02×113°.96W±0°.02, h1km±2km, Error ellipse: s-maj=2.9km s-min=1.8km az=175.0*
UUSS 02 06:38:12.8±1.6**, 37°.04N**±0°.02×**113°.919W**±0°.008**, h9**km±8km**, ML2.4**/3**, ML2.6**/16(REN)**, ML2.4**/62(NEIC)**, Error ellipse: s-maj=3.2km s-min=0.7km az=191.0, Utah**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ICU	Indian Springs	0.11	358		Pg	06 38 15.6	0.0
SCUT	Santa Clara	0.24	68		Pg	06 38 18.0	+0.3
SGSU	St. George Fir	0.25	88		Pg	06 38 18.4	+0.5
WDO	Saint George	0.27	76		Pg	06 38 18.8	+0.4
WCO	Washington Cit	0.34	73		Pg	06 38 20.0	+0.3
LCMT	Little Creek M	0.54	93		Pg	06 38 23.6	+0.3
LCMT					Sg	06 38 31.4	+0.9
LCMT	Little Creek M	0.54	93	IAML		06 38 31.5	
	comp=N,202nm,0.2s						
LCMT				IAML		06 38 31.7	
	comp=E,204nm,0.1s						
ARUT	Antelope Range	0.84	27		Pg	06 38 29.2	+0.2
SZCU	Shurtz Canyon	0.86	50		Pg	06 38 29.3	-0.2
SZCU					Sg	06 38 40.4	-0.4
SZCU	Shurtz Canyon	0.86	50	IAML		06 38 41.8	
	comp=N,139nm,0.1s						
SZCU				IAML		06 38 42.1	
	comp=E,234nm,0.2s						
KNB	Kanab	0.88	91		Pg	06 38 29.7	-0.1
KNB					Sb	06 38 42.1	-0.2
PRN	Pahroc Range	0.97	292		Pg	06 38 31.6	0.0
PRN					Sg	06 38 44.2	-0.1
SHPR	Sheep Range	1.13	242		Pg	06 38 34.5	-0.1
EKU	East Kanab	1.14	88		Pg	06 38 34.5	-0.3
WTNK	Soaring Height	1.22	226		Pb	06 38 36.1	0.0
WTNK	Soaring Height	1.22	226	IAML		06 38 54.1	
	comp=E,46nm,0.1s						
WTNK				IAML		06 38 54.3	
	comp=N,54nm,0.1s						
PKCU	Pink Cliffs	1.34	72		Pg	06 38 38.7	0.0
U15A	North Rim	1.44	115		Pb	06 38 40.3	+0.2
U15A	North Rim	1.44	115	IAML		06 39 02.9	
	comp=N,75nm,0.7s						
V12A	Nelson	1.51	210		Pb	06 38 40.9	-0.3
V12A					Sg	06 39 01.3	-0.2
V12A	Nelson	1.51	210	IAML		06 39 03.0	
	comp=E,41nm,0.5s						
V12A				IAML		06 39 03.0	
	comp=N,49nm,0.4s						
S11A	Rachel	1.58	293		Pn	06 38 41.6	+0.4
MTPU	Mount Pierson	1.70	54		Pb	06 38 44.8	+0.2
MTPU	Mount Pierson	1.70	54	IAML		06 39 08.1	
	comp=N,31nm,0.7s						
R11B	Troy Canyon, C	1.86	315		Pb	06 38 46.4	-0.7
R11B				IAML		06 39 13.2	
	comp=E,31nm,0.4s						
R11B				IAML		06 39 13.4	
	comp=N,25nm,0.5s						
TPNV	Topopah Spring	1.87	268		Pn	06 38 45.4	+0.2
TPNV	Topopah Spring	1.87	268	IAML		06 39 15.1	
	comp=N,60nm,0.4s						
TPNV				IAML		06 39 15.6	
	comp=N,31nm,0.4s						
W13A	Hualapai Mount	1.94	179	Pn	Pn	06 38 47.1	+0.9
TCRU	Three Creeks R	1.95	36	Pn	Pb	06 38 48.4	-0.4
TCRU				IAML		06 39 18.5	
	comp=E,22nm,0.6s						
TCRU				IAML		06 39 21.1	
	comp=N,19nm,0.5s						
SPR3	Spring Creek 3	1.98	351	Pn	Pn	06 38 47.8	+0.9
SPR3				IAML		06 39 14.1	
	comp=E,18nm,0.3s						
SPR3				IAML		06 39 14.3	
	comp=N,24nm,0.5s						
AMDNV	Amargosa	1.99	254		Pn	06 38 47.7	+1.0
MVU	Marysvale	1.99	42	Pn	Pb	06 38 50.2	+0.8
MSU	Marysvale	2.02	43	Pn	Pn	06 38 48.2	+0.9
Q12A	Willow Creek R	2.12	340		Pn	06 38 48.3	-0.4
Q12A				IAML		06 39 20.2	
	comp=E,28nm,0.6s						
Q12A				IAML		06 39 23.8	
	comp=N,37nm,0.7s						
WCT	Wildcat Mounta	2.18	264	Pn	Pn	06 38 49.8	+0.4
TUQ	Turquoise Moun	2.28	226		Pn	06 38 51.4	+0.5
GWY	Greenwater Val	2.37	250		Pn	06 38 52.8	+0.7
GWY	Greenwater Val	2.37	250	IAML		06 39 29.6	
	comp=E,20nm,0.3s						
GWY				IAML		06 39 30.6	
	comp=N,21nm,0.3s						
SGV	South Grapevin	2.49	270		Pn	06 38 54.3	+0.6
WUAZ	Wupatki	2.56	126	Pn	Pb	06 38 59.7	+0.7
QSM	Queen of Sheba	2.61	247		Pn	06 38 56.1	+0.8
QSM	Queen of Sheba	2.61	247	IAML		06 39 37.5	
	comp=E,9.5nm,0.5s						
GRAC	Grapevine Rang	2.76	270	Pn	Pn	06 38 58.0	+0.7
GRAC				IAML		06 39 46.8	
	comp=E,25nm,0.6s						
TPH	Tonopah	2.82	292		Pn	06 38 58.7	+0.3
MZP	Montezuma Peak	2.84	284		Pn	06 38 58.9	+0.3
Y14A	Wickenburg	3.18	166	Pn	Pn	06 39 04.5	+1.3
Y14A				IAML		06 40 31.2	
	comp=E,6.6nm,4.4s						
NV08	Mina Array Sit	3.74	293		Pn	06 39 11.3	+0.3
LHV	Little Huntoon	3.83	290		Pn	06 39 13.1	+1.0
LHV				IAML		06 40 01.0	
	comp=N,7.6nm,4.9s						
LHV				IAML		06 40 07.9	
	comp=E,10.0nm,4.9s						

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*IDC **02** 06:42:47.0±1.3, 52°.28N×173°.68E, h0km, mb3.5/10, mbtmp3.7/13, ML3.2/2, Error ellipse: s-maj=24.8km s-min=14.0km az=163.0*
*NEIC **02** 06:42:52.5±1.8, 52°.32N±0°.09×173°.7E±0°.1, h32km±8km, mb4.0/15, Error ellipse: s-maj=13.2km s-min=9.7km az=151.0*
ISC 02 06:42:52.1±0.8**, 52°.30N**±0°.10×**173°.66E**±0°.06**, h33**km**, n42, σ0s.85**/36**, mb3.8**/15**, Near Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	0.51	32	Pn	Pn	06 43 02.4	-0.6
	218nm,0.3s,baz=196,slow=2.9,SNR=17						
SHEM				Sn	Sn	06 43 11.4	+0.8
	241nm,0.3s,baz=196,slow=2.4,SNR=8.5						
SMY	Shemya	0.51	32		Pn	06 43 02.5	-0.5
AMKA	Amchitka	3.62	103	Pn	Pn	06 43 45.5	-0.3
KIWB	Kanaga Island	5.69	91	Pn	Pn	06 44 13.8	-0.4
ADK	Adak	5.97	90	Pn	Pn	06 44 18.2	+0.2
GSTR	Great Sitkin T	6.33	88	Pn	Pn	06 44 22.8	-0.2
PETK	Petropavlovsk-	9.72	281	Pn	Pn	06 45 10.2	+0.7
	0.2nm,0.3s,baz=243,slow=12,SNR=1.0						
PETK				Sn	Sn	06 46 56.7	-0.8
	baz=126,slow=43,SNR=1.3						
	0.9nm,0.7s						
AKUT	Akutan	12.46	73	Pn	Pn	06 45 45.6	-1.3
MA2	Magadan	14.69	309	Pn	Pn	06 46 17.5	+0.2
	3.6nm,0.3s,baz=8.0,slow=23,SNR=3.2						
M13K	Dall Lake	15.04	48	Pn	Pn	06 46 23.6	+1.7
M13K				IAmb	IAmb	06 46 53.8	
	comp=Z,40nm,1.4s						
ANM	Nome	16.37	33	Pn	Pn	06 46 39.2	+0.2
ANM				IAmb	IAmb	06 47 08.8	
	comp=Z,16nm,1.4s						
F17K	Baldwin Pennin	18.88	32		Pn	06 47 09.7	-0.2
F17K				IAmb	IAmb	06 47 15.0	
	comp=Z,13nm,1.4s						
H18K	Honhosa River	19.18	37	Pn	Pn	06 47 13.9	+0.2
G18K	Tagagawik	19.45	35		Pn	06 47 16.5	-0.4
KDAK	Kodiak Island	19.96	61	P	P	06 47 19.9	-1.2
	comp=Z,0.4nm,0.3s,baz=164,slow=18,SNR=1.7						
	comp=Z,22nm,1.1s						
J20K	Nowinta River	20.43	42	P	Pn	06 47 27.1	-1.3
J20K				IAmb	IAmb	06 47 28.6	
	comp=Z,3.7nm,0.6s						
E19K	Redstone River	20.76	32	P	Pn	06 47 30.6	-1.6
E19K				IAmb	IAmb	06 47 40.0	
	comp=Z,9.5nm,1.5s						
D19K	Kuna River	21.07	29	P	P	06 47 34.4	+1.3
D19K				IAmb	IAmb	06 47 35.4	
	comp=Z,6.2nm,1.2s						
SML	Sawmill	22.43	50	P	P	06 47 47.8	0.0
E22K	Anaktuvuk Pass	22.89	33	P	P	06 47 51.9	-0.6
SCM	Sheep Creek Mo	22.91	50	P	P	06 47 52.1	-0.7
ILAR	Eielson Array	23.61	43	P	P	06 47 59.5	-0.2
	comp=Z,0.7nm,0.7s,baz=253,slow=7.9,SNR=9.0						
	comp=Z,0.7nm,0.7s						
TOLK	Toolik Lake Re	23.85	33	P	P	06 48 02.4	+0.4
TOLK				IAmb	IAmb	06 48 05.5	
	comp=Z,2.0nm,0.6s						
C23K	Itkillik River	24.06	30	P	P	06 48 04.0	+0.2
C23K				IAmb	IAmb	06 48 05.2	
	comp=Z,15nm,1.4s						
BARN	Barnard Glacie	25.58	52	P	P	06 48 19.2	+1.3
DAWY	Dawson	26.73	46	P	P	06 48 30.8	+2.7
DAWY				IAmb	IAmb	06 49 11.7	
	comp=Z,6.1nm,1.4s						
H11N2	WAKE ISLAND Hy	32.93	192	T	T	07 24 07.9	
	baz=8.4,slow=76,SNR=6.2						
H11N3	WAKE ISLAND Hy	32.94	192	T	T	07 24 09.9	
	baz=8.4,slow=76,SNR=6.0						
H11N1	WAKE ISLAND Hy	32.95	192	T	T	07 24 09.3	
	baz=8.4,slow=76,SNR=6.5						
H11S1	WAKE ISLAND Hy	34.16	192	T	T	07 25 45.0	
	baz=8.1,slow=76,SNR=5.6						
H11S3	WAKE ISLAND Hy	34.18	192	T	T	07 25 41.4	
	baz=8.1,slow=76,SNR=4.9						
H11S2	WAKE ISLAND Hy	34.18	192	T	T	07 25 39.5	
	baz=8.1,slow=76,SNR=4.8						
YKA	Yellowknife Ar	37.97	46	P	P	06 50 05.7	-0.5
	comp=Z,0.1nm,0.5s,baz=252,slow=8.0,SNR=5.3						
	comp=Z,0.1nm,0.5s						
NVAR	Mina Array Bea	48.02	78	P	P	06 51 29.0	+1.0
	comp=Z,0.2nm,0.6s,baz=322,slow=7.3,SNR=2.2						
	comp=Z,0.2nm,0.6s						
SPITS	Spitsbergen Ar	49.04	354	P	P	06 51 35.1	-0.1
	comp=Z,7.3nm,1.0s,baz=46,slow=6.0,SNR=5.1						
KURBB	Kurchatov Arra	55.01	309	P	P	06 52 20.2	+0.3
	comp=Z,0.3nm,0.4s,baz=53,slow=7.8,SNR=2.7						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	55.71	304	P	P	06 52 24.4	-0.6
	comp=Z,0.2nm,0.5s,baz=57,slow=6.8,SNR=4.1						
	comp=Z,0.2nm,0.5s						
ARCES	ARCESS Array B	56.26	347	P	P	06 52 27.9	-0.7
	comp=Z,3.0nm,1.1s,baz=31,slow=7.4,SNR=7.1						
	comp=Z,3.0nm,1.1s						
BVAR	Borovoye Array	57.05	316	P	P	06 52 34.9	+0.4
	comp=Z,0.4nm,0.6s,baz=57,slow=8.2,SNR=2.3						
	comp=Z,0.4nm,0.6s						
TXAR	Lajitas Array	63.06	76	P	P	06 53 15.3	-0.8
	comp=Z,0.4nm,0.8s,baz=304,slow=6.1,SNR=4.6						
	comp=Z,0.4nm,0.8s						
NOA	NORSAR Array B	66.14	351	P	P	06 53 36.1	+0.5
	comp=Z,0.4nm,0.5s,baz=11,slow=6.4,SNR=1.5						
	comp=Z,0.4nm,0.5s						
HFS	Hagfors	66.76	349	P	P	06 53 39.3	-0.2
	comp=Z,5.2nm,1.1s,baz=63,slow=6.6,SNR=4.4						
	comp=Z,5.2nm,1.1s						

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*NNC **02** 06:59:36.6±1.4, 52°.00N×74°.38E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=82.2km s-min=9.2km az=25.0, Suspected Mining explosion.*
*IDC **02** 06:59:38.9±1.1, 51°.93N×74°.19E, h0km, mbtmp2.4/4, ML1.6/4, Error ellipse: s-maj=33.2km s-min=9.3km az=30.0*
ISC 02 06:59:36.7±1.1**, 51°.9N**±0°.1×**74°.10E**±0°.08**, h0**km**, n9, σ1s.32**/8**, 2C-5D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BVA0	Borovoye Array	2.53	298	⇓Pg	Pg	07 00 24.9	-0.3
	2.8nm,0.8s,baz=117,slow=14,SNR=16						
BVA0				⇓Lg	Lg	07 00 59.4	
	4.0nm,0.6s,baz=106,slow=28,SNR=9.8						
BVAR	Borovoye Array	2.53	298	Pn	Pb	07 00 22.4	-0.6
	baz=118,slow=15,SNR=14						
BVAR				Lg	Lg	07 00 57.7	
	0.3nm,0.3s,baz=116,slow=28,SNR=25						
	2.9nm,0.8s						
KURBB	Kurchatov Arra	3.07	113	⇓Pg	Pb	07 00 30.7	-1.5
	2.0nm,0.7s						
KURBB				⇑Lg	Lg	07 01 08.8	
	15nm,0.7s						
KURBB	Kurchatov Arra	3.07	113	Pn	Pn	07 00 26.2	-0.2
	baz=298,slow=14,SNR=5.4						
KURBB				Lg	Lg	07 01 08.2	
	0.1nm,0.3s,baz=302,slow=32,SNR=5.8						
	0.8nm,0.9s						
KURK	Kurchatov	3.08	111	⇑Pg	Pb	07 00 31.8	-0.5
	1.3nm,0.7s						
KURK				⇓Lg	Lg	07 01 08.8	
	7.8nm,0.6s						
I46RU	ZALESOVO INFRA	6.80	68	I	I	07 41 30.0	
	0.1nm,0.9s,baz=252,slow=335,SNR=1.9						
ZALV	Zalesovo Beam	6.80	68	Pn	Pn	07 01 18.9	+1.3
	0.1nm,0.3s,baz=257,slow=11,SNR=4.3						
	0.5nm,0.5s						
MK31	Makanchi Array	7.40	131	⇓Lg	Lg	07 03 23.3	
	1.4nm,0.7s,baz=321,slow=26,SNR=3.9						
MKAR	Makanchi Array	7.40	131	Pn	Pn	07 01 28.0	+2.0
	baz=317,slow=14,SNR=1.6						
MKAR				Sn	Sn	07 02 50.6	-0.1
	baz=320,slow=22,SNR=2.0						
MKAR				Lg	Lg	07 03 27.2	
	0.1nm,0.3s,baz=312,slow=26,SNR=6.7						
	0.1nm,0.6s						

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*ISK **02** 07:04:28.8, 38°.79N×43°.44E, h7km, ML2.3/10*
*AFAD **02** 07:04:29.5±0.0, 38°.79N×43°.47E, h7km±4km, ML2.5*
ISC 02 07:04:29.8±0.9**, 38°.80N**±0°.03×**43°.46E**±0°.03**, h16**km±7km**, n17, σ0s.97**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.20	25	P	Pg	07 04 33.9	-0.9
VMUR				S	Sg	07 04 38.4	+0.2
VMUR				i AML	AML	07 04 40.0	
	comp=N,1μm,0.3s						
VMUR				i AML	AML	07 04 41.0	
	comp=E,1μm,0.4s						
VANB	Van	0.22	195	Pg	Pg	07 04 35.0	+0.1
VANB				Sg	Sg	07 04 39.7	+1.3
TVAN	Van	0.28	189	P	Pg	07 04 35.1	-0.9
TVAN				S	Sb	07 04 40.1	-1.0
TVAN				i AML	AML	07 04 41.0	
	comp=E,1μm,0.3s						
TVAN				i AML	AML	07 04 41.0	
	comp=N,1μm,0.4s						
OZAP	Van, Ozalp-Mer	0.44	109	P	Pg	07 04 38.2	-0.6
OZAP				S	Sb	07 04 47.1	+1.3
OZAP				i AML	AML	07 04 50.0	
	comp=E,287nm,1.1s						
OZAP				i AML	AML	07 04 53.0	
	comp=N,245nm,0.7s						
CLDR	Caldiran	0.49	46	Pg	Pg	07 04 38.8	-0.9
CLDR				Sg	Sb	07 04 46.8	-0.4
CLDR	Caldiran	0.49	46	P	Pg	07 04 38.3	-1.4
CLDR				S	Sb	07 04 46.9	-0.4
CLDR				i AML	AML	07 04 47.0	
	comp=N,847nm,0.5s						
CLDR				i AML	AML	07 04 47.0	
	comp=E,429nm,0.4s						
ADCV	BITLIS_Adilcev	0.57	271	P	Pb	07 04 41.6	0.0
ADCV				S	Sb	07 04 49.8	+0.2
ADCV				i AML	AML	07 04 52.0	
	comp=E,212nm,0.2s						
ADCV				i AML	AML	07 04 52.0	
	comp=N,336nm,0.4s						
GEVA	Gevas	0.58	213	P	Pg	07 04 40.3	-1.1
GEVA				S	Sb	07 04 50.3	+0.5
AKDM	Akdamar-Van	0.61	219	Pg	Pg	07 04 40.7	-1.2
AKDM				Sg	Sg	07 04 48.9	-1.1
MLAZ	Malazgirt-MUS	0.79	296	Pg	Pg	07 04 44.6	-0.6
DORK	Agr/Tutak/Do	0.79	318	P	Pg	07 04 44.4	-0.9
DORK				S	Sb	07 04 56.6	+0.8
DORK				i AML	AML	07 04 57.0	
	comp=E,73nm,0.3s						
DORK				i AML	AML	07 05 00.0	
	comp=N,69nm,0.6s						
AGRB	Hanur-Agry	0.85	335	Pg	Pg	07 04 45.6	-0.9
AGRB				Sg	Sb	07 04 58.6	+1.0
GURO	Guroymak-BITLI	1.15	258	Pn	Pg	07 04 50.3	-1.7
TASB	TASBURUN-IGDIR	1.32	27	Pn	Pn	07 04 54.0	+0.3
KOPR	Koprukoy-ERZUR	1.72	314	Pn	Pn	07 05 00.3	+1.1
SVAN	Silvan-Diyarba	1.89	251	Pn	Pn	07 05 02.3	+0.8
SENK	Senkaya-Erzuru	1.95	334	Pn	Pn	07 05 03.2	+0.7

*IDC **02** 07:11:55.9±3.8, 1°.17N×99°.47E, h191km±31km, mb3.8/10, mbtmp4.3/10, Error ellipse: s-maj=53.2km s-min=13.2km az=54.0*
*DJA **02** 07:11:56.8±0.4, 1°N±4°×10°0E±°, h185km±5km, M4.3/13, mb4.5/2, MLv4.3/13*
ISC 02 07:11:57.0±0.7**, 1°.37N**±0°.07×**99°.68E**±0°.07**, h200km, n30, σ1s.47**/29**, mb3.9**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.60**	**332**	P	**Pn**	**07 12 29.8**	**-2.0**
PSI				S	**Sn**	**07 12 54.3**	**-4.6**
BKNI	**Bangkinang**	**1.71**	**127**	P	**Pn**	**07 12 32.1**	**-0.6**
BKNI				S	**Sn**	**07 12 59.2**	**-1.2**
PBSI	**Pulau Batu**	**1.99**	**225**	P	**Pn**	**07 12 34.9**	**-0.5**
GSI	**Gunungsitoli**	**2.10**	**268**	P	**Pn**	**07 12 36.5**	**-0.1**
PDSI	**Padang**	**2.40**	**161**	P	**Pn**	**07 12 39.2**	**-0.7**
KCSI	**Kotacane, Aceh**	**2.86**	**318**	P	**Pn**	**07 12 43.9**	**-1.1**
SNSI	**Sinabang, Aceh**	**3.50**	**287**	P	**Pn**	**07 12 52.4**	**-0.3**
KULM	**Kulim**	**4.01**	**14**	P	**Pn**	**07 12 57.8**	**-1.1**
PPSI	**Pulau Pagai**	**4.12**	**175**	P	**Pn**	**07 12 58.0**	**-2.3**
MLSI	**Meulaboh, Aceh**	**4.35**	**311**	P	**Pn**	**07 13 02.3**	**-0.9**
DSRI	**Dabo**	**5.24**	**111**	P	**Pn**	**07 13 13.9**	**-0.6**
	19nm,0.5s,0.2nm						
MNAI	**Manna**	**6.57**	**150**	P	**Pn**	**07 13 30.6**	**-1.1**
EGSI	**Enggano, Bengk**	**7.17**	**159**	P	**Pn**	**07 13 36.5**	**-3.0**
H08S2	**Diego Garcia H**	**28.56**	**251**	T	T	07 45 25.7	
	baz=77						
H08S3	**Diego Garcia H**	**28.56**	**251**	T	T	07 45 26.8	
	baz=77,SNR=22						
H08S1	**Diego Carcia H**	**28.57**	**251**	T	T	07 45 28.4	
	baz=77						
WRA	**Warramunga Arr**	**40.05**	**124**	P	**P**	**07 19 13.2**	**+0.1**
	0.8nm,0.3s,baz=304,slow=8.9,SNR=17						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**41.55**	**129**	P	**P**	**07 19 25.1**	**-0.2**
	0.1nm,0.3s,baz=302,slow=7.8,SNR=4.8						
ASAR				ScP	**ScP**	**07 24 50.4**	**+0.4**
	0.3nm,0.6s,baz=302,slow=3.6,SNR=6.7						
SONM	**Songino Array**	**46.64**	**6**	P	**P**	**07 20 07.1**	**+1.6**
	5.7nm,0.6s,baz=189,slow=9.9,SNR=45						
SONM				PcP	**PcP**	**07 21 36.4**	**+0.5**
	0.6nm,0.5s,baz=185,slow=4.9,SNR=5.1						
	5.7nm,0.6s						
MKAR	**Makanchi Array**	**47.72**	**344**	P	**P**	**07 20 14.4**	**+0.8**
	0.8nm,0.4s,baz=161,slow=8.2,SNR=21						
MKAR				PcP	**PcP**	**07 21 41.3**	**+1.7**
	0.2nm,0.5s,baz=182,slow=5.7,SNR=1.7						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**52.25**	**343**	P	**P**	**07 20 48.2**	**+0.7**
	0.8nm,0.5s,baz=162,slow=6.9,SNR=11						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**53.82**	**349**	P	**P**	**07 20 59.8**	**+0.8**
	5.1nm,0.4s,baz=167,slow=6.6,SNR=32						
	5.1nm,0.4s						
BVAR	**Borovoye Array**	**56.93**	**339**	P	**P**	**07 21 21.4**	**+0.2**
	1.1nm,0.4s,baz=146,slow=9.8,SNR=8.6						
	1.1nm,0.4s						
H04N2	**CROZET ISLANDS**	**63.32**	**215**	T	T	08 29 04.0	
	baz=57,slow=75,SNR=9.1						
H04N1	**CROZET ISLANDS**	**63.34**	**215**	T	T	08 28 57.4	
	baz=57,slow=75,SNR=4.6						
H04N3	**CROZET ISLANDS**	**63.34**	**215**	T	T	08 29 04.7	
	baz=57,slow=75,SNR=7.0						
BRTR	**Keskin Array B**	**70.83**	**312**	P	**P**	**07 22 52.2**	**-0.1**
	0.6nm,0.6s,baz=142,slow=5.4,SNR=2.5						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**81.00**	**332**	P	**P**	**07 23 49.8**	**+0.7**
	4.0nm,0.9s,baz=132,slow=7.9,SNR=2.3						
	4.0nm,0.9s						
ARCES	**ARCESS Array B**	**83.21**	**340**	P	**P**	**07 24 01.3**	**+0.8**
	2.0nm,0.8s,baz=106,slow=5.7,SNR=6.8						
	2.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**87.29**	**348**	P	**P**	**07 24 20.3**	**-0.3**
	10nm,1.0s,baz=114,slow=7.5,SNR=9.2						
	10nm,1.0s						

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*OMAN **02** 07:24:14.3±1.2, 26°.33N×58°.93E, h10km, mb4.5/1, ml3.0/14, Error ellipse: s-maj=13.6km s-min=5.6km az=27.0*
*DSN **02** 07:24:15.1±1.0, 26°.09N×58°.95E, h15km, ML2.8/4, Error ellipse: s-maj=13.8km s-min=8.8km az=138.0*
*TEH **02** 07:24:15.6, 26°.51N×58°.79E, h11km, ML3.3*
ISC 02 07:24:15.6±1.9**, 26°.28N**±0°.05×**58°.82E**±0°.04**, h9km**±15km**, n26, σ1s.72**/45**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JASK	**Jask - Hormozg**	**0.95**	**245**	Pg	**Pn**	**07 24 35.7**	**+0.5**
JASK				Sg	**Sn**	**07 24 51.5**	**+2.5**
JASK	**Jask - Hormozg**	**0.95**	**245**	P	**Pn**	**07 24 35.8**	**+0.6**
	SNR=52						
JASK				S	**Sn**	**07 24 52.8**	**+3.8**
CHBR	**Chabahar**	**1.64**	**114**	Pg	**Pg**	**07 24 47.9**	**+0.8**
KHNJ	**Kahnooj**	**1.94**	**329**	Pg	**Pn**	**07 24 47.0**	**-1.7**
BANOM	**Banah**	**2.30**	**262**	P	**Pn**	**07 24 55.2**	**+1.5**
BANOM				S	**Sn**	**07 25 23.1**	**+0.9**
SHME	**Shamm**	**2.42**	**265**	P	**Pn**	**07 24 55.3**	**-0.1**
SHME	**Shamm**	**2.42**	**265**	P	**Pn**	**07 24 56.6**	**+1.2**
SHME				S	**Sb**	**07 25 28.2**	**-1.2**
UOSS	**Minazif**	**2.71**	**241**	P	**Pb**	**07 25 03.8**	**-0.6**
UOSS				S	**Sb**	**07 25 35.3**	**-2.4**
BIDO	**Bidbid**	**2.82**	**193**	P	**Pn**	**07 25 00.5**	**-0.4**
BIDO				S	**Sn**	**07 25 34.3**	**-0.8**
HATD	**Hatta, Dubai**	**2.83**	**240**	P	**Pn**	**07 25 00.2**	**-0.8**
HATD	**Hatta, Dubai**	**2.83**	**240**	P	**Pn**	**07 25 00.9**	**-0.1**
HATD				S	**Sn**	**07 25 33.5**	**-1.8**
ASHO	**Ashiyiah**	**2.96**	**238**	P	**Pn**	**07 25 02.1**	**-0.8**
ASHO				S	**Sn**	**07 25 37.7**	**-0.9**
ASHO	**Ashiyiah**	**2.96**	**238**	P	**Pn**	**07 25 02.1**	**-0.8**
ASHO				S	**Sb**	**07 25 44.3**	**-0.7**
SOHO	**SOHO**	**2.98**	**225**	P	**Pn**	**07 25 00.6**	**-2.5**
SOHO	**SOHO**	**2.98**	**225**	P	**Pn**	**07 25 01.7**	**-1.3**
SOHO				S	**Sn**	**07 25 37.9**	**-1.1**
WSAR	**Wadi Sarin**	**3.04**	**183**	P	**Pn**	**07 25 04.7**	**+0.9**
WSAR				S	**Sn**	**07 25 40.7**	**+0.3**
SMDO	**Samad**	**3.29**	**193**	P	**Pn**	**07 25 07.3**	**-0.1**
SMDO				S	**Sn**	**07 25 48.1**	**+1.5**
SRVN	**Saravan**	**3.38**	**70**	Pn	**Pn**	**07 25 10.1**	**+1.3**
ASUD	**Al Ashush, Dub**	**3.56**	**243**	P	**Pn**	**07 25 13.0**	**+1.9**
ASUD				S	**Sn**	**07 25 57.7**	**+4.4**
ZHDN	**Zahedan**	**3.57**	**29**	Pn	**Pn**	**07 25 11.0**	**-0.4**
ARQ	**Araqi**	**3.60**	**216**	P	**Pn**	**07 25 13.5**	**+1.8**
	SNR=9.0						
ARQ				S	**Sb**	**07 25 60.0**	**-3.4**
WBK	**Wadi Bani Khal**	**3.66**	**178**	P	**Pn**	**07 25 12.8**	**+0.3**
WBK				S	**Sn**	**07 25 55.6**	**-0.2**
BSY	**Bisya**	**3.82**	**203**	P	**Pn**	**07 25 16.4**	**+1.7**
BSY				S	**Sn**	**07 26 03.6**	**+3.9**
JMDO	**Jabal Madar**	**3.95**	**190**	P	**Pn**	**07 25 16.5**	**+0.1**
JMDO				S	**Sn**	**07 26 04.3**	**+1.4**
JLN	**Jalan Bani Buh**	**4.15**	**172**	P	**Pn**	**07 25 18.9**	**-0.3**
JLN				S	**Sn**	**07 26 05.8**	**-2.0**
MHTO	**MHTO**	**5.33**	**189**	P	**Pn**	**07 25 36.3**	**+0.9**
MHTO				S	**Sn**	**07 26 38.0**	**+1.1**

IDC 02 07:27:19.8±1.2**, 1°.53N**×**126°.13E, h0km, mb3.5**/5**, mbtmp3.5**/5**, Error ellipse: s-maj=136.4km s-min=19.2km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.81**	**160**	P	P	07 32 24.4	0.0
	1.3nm,0.5s,baz=338,slow=11,SNR=12						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**26.16**	**164**	P	P	07 32 56.1	+0.1
	0.4nm,0.6s,baz=345,slow=7.5,SNR=13						
ASAR				PcP	PcP	07 36 22.9	-0.6
	0.3nm,0.5s,baz=338,slow=2.1,SNR=6.4						
	0.4nm,0.6s						
SONM	**Songino Array**	**49.19**	**343**	P	P	07 36 09.7	-0.1
	0.2nm,0.5s,baz=163,slow=6.0,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.02**	**326**	P	P	07 37 21.1	-0.4
	0.5nm,0.6s,baz=118,slow=7.8,SNR=11						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.27**	**328**	P	P	07 37 50.8	+0.5
	0.3nm,0.5s,baz=128,slow=6.1,SNR=5.3						
	0.3nm,0.5s						

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*IDC **02** 07:43:11.1±2.2, 25°.09S×179°.86E, h500km±22km, mb3.4/6, mbtmp4.3/9, Error ellipse: s-maj=23.0km s-min=17.9km az=169.0*
*NEIC **02** 07:43:11.8±1.4, 25°.1S±0°.2×180°.0W±0°.2, h525km±12km, mb4.6/27, Error ellipse: s-maj=24.9km s-min=19.7km az=132.0*
*NOU **02** 07:43:13.3, 25°.03S×179°.96W, h550km, mb4.2/29, South of Fiji Islands*
ISC 02 07:43:11.3±0.6**, 25°.09S**±0°.08×**179°.84E**±0°.08**, h501km, n99, σ1s.53**/97**, mb4.3**/17**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**8.35**	**2**	P	**P**	**07 45 14.2**	**+2.7**
DGTI	**Dogotuki**	**8.75**	**359**	P	**P**	**07 45 17.8**	**+2.1**
NIUE	**Niue**	**11.21**	**60**	P	**P**	**07 45 42.4**	**+0.8**
NIUE	**Niue**	**11.21**	**60**	P	**P**	**07 45 42.8**	**+1.2**
OUZ	**Omahuta**	**11.44**	**207**	P	**P**	**07 45 47.8**	**+4.0**
PINNC	**Pines Island,**	**11.61**	**280**	P	**P**	**07 45 47.6**	**+1.9**
WCZ	**Waipu Caves**	**11.80**	**202**	P	P	07 46 08.0	+20
KUZ	**Kuaotunu**	**12.14**	**196**	P	**P**	**07 45 53.6**	**+2.4**
KUZ	**Kuaotunu**	**12.14**	**196**	P	**P**	**07 45 53.7**	**+2.6**
OUENC	**Ouen Island, N**	**12.20**	**280**	P	**P**	**07 45 53.9**	**+1.9**
WIAZ	**Waiheke Island**	**12.34**	**198**	P	**P**	**07 45 56.2**	**+2.9**
MXZ	**Matakaoa Point**	**12.50**	**186**	P	**P**	**07 45 55.2**	**+0.2**
MXZ	**Matakaoa Point**	**12.50**	**186**	P	**P**	**07 45 58.0**	**+3.0**
ETAZ	**East Tamaki Re**	**12.55**	**198**	P	P	07 46 04.8	+9.3
MKAZ	**Moumakai**	**12.62**	**197**	P	**P**	**07 45 59.0**	**+2.7**
DZM	**Mont Dzumac**	**12.65**	**281**	P	**P**	**07 45 58.9**	**+1.9**
DZM	**Mont Dzumac**	**12.65**	**281**	P	**P**	**07 46 00.3**	**+3.4**
DZM	**Mont Dzumac**	**12.65**	**281**	P	**P**	**07 45 58.1**	**+1.2**
	3.6nm,0.6s,baz=118,slow=23,SNR=8.1						
HAZ	**Te Kaha**	**12.74**	**187**	P	**P**	**07 45 58.7**	**+1.2**
RUGZ	**Raukumara Rang**	**12.96**	**188**	P	**P**	**07 46 02.2**	**+2.2**
PUZ	**Puketiti**	**13.01**	**186**	P	**P**	**07 46 03.0**	**+2.6**
TOZ	**Tahuroa Road**	**13.13**	**195**	P	**P**	**07 46 04.5**	**+2.9**
TOZ	**Tahuroa Road**	**13.13**	**195**	P	**P**	**07 46 04.2**	**+2.5**
KMRZ	**Kaimai**	**13.14**	**194**	P	P	07 46 07.2	+5.4
TWGZ	**Tauwhareparae**	**13.14**	**186**	P	**P**	**07 46 04.3**	**+2.5**
URZ	**Urewera**	**13.33**	**189**	P	**P**	**07 46 02.4**	**-1.3**
	12nm,0.5s,baz=106,slow=2.1,SNR=16						
URZ				S	**S**	**07 48 28.3**	**+2.4**
	7.1nm,0.5s,baz=308,slow=21,SNR=9.2						
URZ	**Urewera**	**13.33**	**189**	P	**P**	**07 46 03.1**	**-0.6**
MWZ	**Matawai**	**13.35**	**188**	P	**P**	**07 46 05.7**	**+1.7**
AFI	**Afiamalu**	**13.64**	**37**	P	**P**	**07 46 04.0**	**-3.4**
RTZ	**Ruatahuna**	**13.70**	**190**	P	**P**	**07 46 07.9**	**+0.2**
HIZ	**Hauiti**	**14.03**	**196**	P	P	07 46 16.8	+5.7
BKZ	**Black Stump Fm**	**14.31**	**191**	P	**P**	**07 46 12.5**	**-1.7**
BFZ	**Birch Farm**	**15.83**	**190**	P	**P**	**07 46 28.4**	**-1.6**
BFZ	**Birch Farm**	**15.83**	**190**	P	**P**	**07 46 31.8**	**+1.8**
MRZ	**Mangatainoka R**	**15.93**	**192**	P	**P**	**07 46 28.3**	**-2.7**
MRZ				IAmb	IAmb	07 46 34.7	
	comp=Z,24nm,1.3s						
TCW	**Tory Channel**	**16.73**	**195**	P	**P**	**07 46 37.7**	**-1.6**
SNZO	**South Karori**	**16.73**	**194**	P	**P**	**07 46 37.5**	**-1.8**
SNZO	**South Karori**	**16.73**	**194**	P	**P**	**07 46 39.7**	**+0.4**
BHW	**Baring Head**	**16.79**	**193**	P	**P**	**07 46 38.7**	**-1.2**
QRZ	**Quartz Range**	**16.84**	**199**	P	**P**	**07 46 41.0**	**+0.5**
QRZ	**Quartz Range**	**16.84**	**199**	P	**P**	**07 46 40.5**	**+0.1**
PLWZ	**Palliser**	**16.87**	**192**	P	**P**	**07 46 40.4**	**-0.4**
TKNZ	**Takaka Hill**	**16.90**	**198**	P	**P**	**07 46 40.1**	**-0.9**
NNZ	**Nelson**	**16.96**	**197**	P	**P**	**07 46 40.9**	**-0.7**
NNZ				IAmb	IAmb	07 47 02.6	
	comp=Z,31nm,1.1s						
TUWZ	**Tuamarina**	**17.02**	**195**	P	**P**	**07 46 41.1**	**-1.1**
MRNZ	**Matariki Terra**	**17.30**	**198**	P	**P**	**07 46 43.9**	**-1.0**
DSZ	**Denniston Nort**	**17.90**	**200**	P	**P**	**07 46 50.7**	**+0.2**
INZ	**Inchbonnie**	**18.90**	**199**	P	**P**	**07 46 59.5**	**-0.2**
OXZ	**Oxford**	**19.28**	**197**	P	**P**	**07 47 01.7**	**-1.5**
OXZ				IAmb	IAmb	07 47 06.2	
	comp=Z,13nm,0.7s						
RPZ	**Rata Peaks**	**19.92**	**199**	P	**P**	**07 47 08.8**	**-0.2**
RPZ				IAmb	IAmb	07 47 11.2	
	comp=Z,11nm,0.6s						
RPZ	**Rata Peaks**	**19.92**	**199**	P	**P**	**07 47 09.7**	**+0.7**
RPZ	**Rata Peaks**	**19.92**	**199**	P	**P**	**07 47 09.0**	**0.0**
	comp=Z,8.8nm,0.5s,baz=331,slow=1.4,SNR=11						
JCZ	**Jackson Bay**	**20.97**	**203**	P	**P**	**07 47 18.6**	**0.0**
ODZ	**Otahua Downs**	**21.25**	**198**	P	**P**	**07 47 22.2**	**+1.2**
MLZ	**Mavora Lakes**	**22.33**	**202**	P	**P**	**07 47 30.6**	**-0.2**
MLZ				IAmb	IAmb	07 48 06.0	
	comp=Z,16nm,1.3s						
WHZ	**Wether Hill Ro**	**22.85**	**202**	P	**P**	**07 47 34.4**	**-1.0**
WHZ				IAmb	IAmb	07 47 46.1	
	comp=Z,36nm,1.5s						
ARMA	**Armidale**	**25.49**	**252**	P	**P**	**07 47 59.7**	**+0.4**
ARMA				IAmb	IAmb	07 48 12.7	
	comp=Z,14nm,1.4s						
CAN	**Canberra**	**28.44**	**242**	P	**P**	**07 48 25.3**	**+0.3**
CAN				IAmb	IAmb	07 49 06.0	
	comp=Z,22nm,1.5s						
CAN	**Canberra**	**28.44**	**242**	P	**P**	**07 48 26.2**	**+1.2**
CMSA	**Cobar Meteorol**	**30.66**	**250**	P	**P**	**07 48 44.9**	**+0.6**
CTA	**Charters Tower**	**31.36**	**272**	P	**P**	**07 48 51.3**	**+0.8**
CTAO	**Charters Tower**	**31.36**	**272**	P	**P**	**07 48 50.9**	**+0.4**
CTAO				IAmb	IAmb	07 48 51.9	
	comp=Z,8.7nm,0.8s						
CTAO	**Charters Tower**	**31.36**	**272**	P	**P**	**07 48 51.3**	**+0.8**
TOO	**Toolangi**	**31.69**	**239**	P	**P**	**07 48 53.3**	**+0.2**
TOO				IAmb	IAmb	07 49 22.8	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**34.16**	**250**	P	**P**	**07 49 14.3**	**+0.2**
STKA	**Stephens Creek**	**34.16**	**250**	P	**P**	**07 49 14.7**	**+0.5**
	comp=Z,3.1nm,0.4s,baz=94,slow=9.8,SNR=23						
	comp=Z,3.1nm,0.4s						
HTT	**Hallett**	**36.47**	**247**	P	**P**	**07 49 33.6**	**+0.2**
QIS	**Mount Isa**	**37.27**	**269**	P	**P**	**07 49 40.4**	**+0.3**
BBOO	**Buckleboo**	**38.86**	**248**	P	**P**	**07 49 51.8**	**-1.1**
BBOO				IAmb	IAmb	07 50 08.9	
	comp=Z,18nm,1.3s						
BBOO	**Buckleboo**	**38.86**	**248**	P	**P**	**07 49 52.6**	**-0.4**
OOD	**Oodnadatta**	**39.47**	**256**	P	**P**	**07 49 58.7**	**+0.7**
MULG	**Mulgathing**	**40.66**	**252**	P	**P**	**07 50 07.1**	**-0.4**
AS31	**Alice Springs**	**41.71**	**262**		**P**	**07 50 16.0**	**-0.1**
ASAR	**Alice Springs**	**41.71**	**262**	P	**P**	**07 50 15.3**	**-0.7**
ASAR	**Alice Springs**	**41.71**	**262**	P	**P**	**07 50 15.8**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=93,slow=7.2,SNR=90						
ASAR				ScP	**ScP**	**07 55 03.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=116,slow=4.2,SNR=2.3						
ASAR				S	**S**	**07 55 52.6**	**-3.9**
	comp=Z,0.3nm,0.8s,baz=104,slow=15,SNR=3.5						
	comp=Z,1.7nm,0.3s						
WR0	**Warramunga Arr**	**42.01**	**268**	P	**P**	**07 50 17.6**	**-0.8**
WB2	**Warramunga Arr**	**42.19**	**268**	P	**P**	**07 50 18.7**	**-1.0**
WB2				IAmb	IAmb	07 50 19.8	
	comp=Z,5.7nm,0.7s						
WB0	**Warramunga Arr**	**42.20**	**268**	P	**P**	**07 50 19.1**	**-0.8**
WB0				IAmb	IAmb	07 50 19.9	
	comp=Z,7.0nm,0.6s						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**07 50 19.0**	**-0.9**
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**07 50 19.4**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=100,slow=6.9,SNR=52						
WRA				ScP	**ScP**	**07 55 06.3**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=114,slow=3.7,SNR=5.0						
	comp=Z,6.2nm,0.6s						
FORT	**Forrest**	**45.77**	**251**	P	**P**	**07 50 46.5**	**-1.0**
FORT				IAmb	IAmb	07 50 47.2	
	comp=Z,14nm,0.7s						
FORT	**Forrest**	**45.77**	**251**	P	**P**	**07 50 46.5**	**-1.0**
WRKA	**Warakurna**	**46.45**	**259**	P	**P**	**07 50 52.2**	**-0.6**
KNRA	**Kununurra**	**48.55**	**271**	P	**P**	**07 51 08.3**	**-0.3**
KNRA				IAmb	IAmb	07 51 08.9	
	comp=Z,11nm,0.6s						
KNRA	**Kununurra**	**48.55**	**271**	P	**P**	**07 51 08.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.60**	**267**	P	**P**	**07 51 23.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**50.60**	**267**	P	**P**	**07 51 23.9**	**+0.1**
MORW	**Morawa**	**56.34**	**251**	P	**P**	**07 52 03.1**	**-1.3**
PLAI	**Plampang**	**61.05**	**274**	P	**P**	**07 52 35.8**	**-0.6**
KSM	**Kuching**	**72.17**	**280**	P	**P**	**07 53 43.5**	**-1.9**
NVAR	**Mina Array Bea**	**85.71**	**44**	P	**P**	**07 54 57.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=223,slow=7.3,SNR=6.6						
	comp=Z,0.6nm,0.7s						
PLCA	**Paso Flores**	**87.54**	**134**	P	**P**	**07 55 04.8**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=240,slow=8.1,SNR=3.0						
	comp=Z,1.4nm,0.9s						
TXAR	**Lajitas Array**	**91.18**	**58**	P	**P**	**07 55 24.5**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=213,slow=6.2,SNR=10						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**121.23**	**318**	PKP	**PKPdf**	**08 01 05.9**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=104,slow=1.8,SNR=2.5						
ARCES	**ARCESS Array B**	**133.02**	**348**	PKP	**PKPdf**	**08 01 28.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=34,slow=4.5,SNR=3.8						
NOA	**NORSAR Array B**	**143.23**	**351**	PKP	PKPab	08 01 45.0	-0.3
	comp=Z,0.8nm,0.8s,baz=21,slow=4.3,SNR=3.6						
HFS	**Hagfors**	**143.68**	**348**	PKP	PKPab	08 01 45.8	-1.2
	comp=Z,2.8nm,0.4s,baz=58,slow=3.9,SNR=18						
AKASG	**Malin Array Be**	**145.89**	**326**	PKPbc	**PKPdf**	**08 01 53.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=47,slow=4.1,SNR=3.0						
EKA	**Eskdalemuir Ar**	**149.71**	**3**	PKPbc	**PKPbc**	**08 02 02.7**	**-1.0**
	comp=Z,3.1nm,1.0s,baz=346,slow=2.8,SNR=3.6						

SJA 02 07:50:48.3±1.1**, 22°.58S**×**66°.32W, h241km**±7km**, ML3.4, MW3.5, 1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.85**	**62**	*i* P	Pn	07 51 22.9	+0.7
YJA				⇓*i*P		07 51 22.9	
YJA				*i* S	S	07 51 48.2	-0.3
YJA				*i* S	S	07 51 48.4	-0.2
AZAP	**Zapla**	**2.00**	**145**	*i* P	Pn	07 51 30.6	+0.3
AZAP				*i* S	S	07 52 02.4	-0.9
LVC	**Limon Verde**	**2.39**	**269**	*i* P	Pn	07 51 35.0	+0.8
LVC				*i* S	S	07 52 08.3	-2.0
ALOL	**LOMAS DE OLMED**	**2.48**	**120**	*i* P	Pn	07 51 34.9	+0.2
PB09	**IPOC Station P**	**2.82**	**286**	*i* P	Pn	07 51 39.7	+1.3
PB09				*i* S	S	07 52 16.6	-1.4
PB15	**IPOC Station P**	**2.97**	**257**	*i* P	Pn	07 51 41.5	+1.3
PB15				*i* S	S	07 52 18.9	-2.1
PB06	**IPOC Station P**	**3.01**	**267**	*i* P	Pn	07 51 40.9	+0.4
PB06				IAML		07 52 26.9	
	comp=Z,41nm,0.1s						
PB01	**IPOC Station P**	**3.32**	**297**	*i* P	Pn	07 51 44.1	+0.2
PB01				IAML		07 52 29.5	
	comp=Z,63nm,0.1s						
PB07	**IPOC Station P**	**3.41**	**284**	*i* P	Pn	07 51 45.5	+0.4
PB07				IAML		07 52 31.7	
	comp=Z,64nm,0.3s						
PB02	**IPOC Station P**	**3.55**	**290**	*i* P	Pn	07 51 46.9	+0.3
PB04	**IPOC Station P**	**3.55**	**273**	*i* P	Pn	07 51 47.0	+0.4
PB04				IAML		07 52 34.8	
	comp=Z,65nm,0.3s						
PB08	**IPOC Station P**	**3.59**	**312**	*i* P	Pn	07 51 48.4	+1.1
PB08				IAML		07 52 36.7	
	comp=Z,26nm,0.4s						
PB05	**IPOC Station P**	**3.59**	**265**	*i* P	Pn	07 51 47.2	+0.1
PB05				IAML		07 52 36.9	
	comp=Z,27nm,0.2s						
GO02	**Mina Guanaco**	**3.95**	**229**	*i* P	Pn	07 51 51.9	+0.6
GO01	**Chusmiza**	**3.95**	**317**	*i* P	Pn	07 51 52.4	+0.8
PATCX	**Punta Patache**	**3.97**	**295**	*i* P	Pn	07 51 51.5	0.0
PATCX				IAML		07 52 44.2	
	comp=Z,46nm,0.4s						
TA01	**Diego Aracena**	**4.11**	**298**	*i* P	Pn	07 51 52.9	-0.2
TA01				IAML		07 52 45.5	
	comp=Z,24nm,0.4s						
PB11	**IPOC Station P**	**4.19**	**311**	*i* P	Pn	07 51 53.8	-0.4
PB11				IAML		07 52 46.8	
	comp=Z,43nm,0.2s						
PB16	**IPOC Station P**	**5.17**	**324**	*i* P	Pn	07 52 06.7	+0.1
PB16				IAML		07 53 09.9	
	comp=Z,8.5nm,1.2s						
AC01	**Pan de Azucar**	**5.28**	**227**	*i* P	Pn	07 52 06.5	-0.7

IDC 02 07:55:13.2±2.7**, 6°.28S**×**127°.84E, h0km, mb3.5**/1**, mbtmp3.5**/3**, ML3.4**/2**, Error ellipse: s-maj=317.3km s-min=30.9km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.98**	**156**	Pn	Pn	07 58 47.4	+1.1
	0.1nm,0.3s,baz=334,slow=13,SNR=4.8						
WRA				Sn	Sn	08 01 23.6	-9.5
	0.2nm,0.3s,baz=331,slow=23,SNR=5.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**18.24**	**162**	P	Pn	07 59 27.2	-0.8
	0.3nm,0.3s,baz=343,slow=10,SNR=22						
ASAR				S	Sn	08 02 35.4	-17
	0.2nm,0.4s,baz=345,slow=24,SNR=5.7						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**66.46**	**328**	P	P	08 06 04.6	+0.1
	0.2nm,0.4s,baz=118,slow=9.3,SNR=5.9						
	0.2nm,0.4s						

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*IDC **02** 08:09:59.2±0.6, 18°.77S×169°.33E, h236km±5km, mb4.2/15, mbtmp4.8/16, Error ellipse: s-maj=12.7km s-min=9.4km az=96.0*
*NEIC **02** 08:09:59.6, 18°.80S×169°.34E, h270km, Moment Tensor Solution. Duration: 1s.9 Moment tensor: Scale 10^16Nm; Mrr3.27; Mθθ1.52; Mϕϕ-4.79; Mrθ3.64; Mθϕ-1.42; Mϕr-4.96; Fault plane solution: M0 7.57000×10^16 NP1: ϕs156.19000°, δ76.18000°, λ62.39000°. NP2: ϕs41.65000°, δ30.63000°, λ152.04000°. Principal axes: T 7.9781, Plg51.0000°, Azm35.0000°; N -0.8198, Plg27.0000°, Azm163.0000°; P -7.1583, Plg26.0000°, Azm268.0000°;*
*NEIC **02** 08:09:59.6, 18°.80S×169°.34E, h270km*
*NOU **02** 08:10:00.1, 18°.76S×169°.22E, h238km, mb4.9/44, Vanuatu Islands*
*NEIC **02** 08:10:00.1±1.4, 18°.84S±0°.09×169°.35E±0°.10, h243km±5km, mb5.0/52, Mww5.2/19, Error ellipse: s-maj=14.0km s-min=12.6km az=146.0*
*GCMT **02** 08:10:02.1±0.2, 18°.87S±0°.02×169°.23E±0°.01, h246km±1km, MW5.2/109, Moment Tensor Solution. s67,c88; s109,c156; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.90±.15; Mθθ0.59±.16; Mϕϕ-3.50±.15; Mrθ2.79±.15; Mθϕ-1.16±.18; Mϕr-4.91±.14; Best double couple: M0 6.57700×10^16 NP1: ϕs160.00000°, δ77.00000°, λ69.00000°. NP2: ϕs40.00000°, δ24.00000°, λ148.00000°. Principal axes: T 6.9780, Plg53.0000°, Azm45.0000°; N -0.8070, Plg20.0000°, Azm165.0000°; P -6.1770, Plg29.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 08:09:60.0±0.4**, 18°.80S**±0°.05×**169°.35E**±0°.05**, h247km**±3km**, h247km:pP-P, n531, σ1s.15**/548**, mb4.9**/72**, 6C-14D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.79**	**225**	Pn	**Pn**	**08 10 48.2**	**-1.7**
LIFNC	**LIFOU**	**2.79**	**225**	P	**Pn**	**08 10 48.3**	**-1.7**
MARNC	**Mare, Loyalty**	**2.94**	**205**		**Pn**	**08 10 49.8**	**-1.7**
MARNC	**Mare, Loyalty**	**2.94**	**205**	P	**Pn**	**08 10 50.0**	**-1.6**
YATNC	**Mamie plateau,**	**3.98**	**215**	P	**Pn**	**08 11 01.4**	**-1.9**
PINNC	**Pines Island,**	**4.19**	**205**		**Pn**	**08 11 04.8**	**-1.1**
DZM	**Mont Dzumac**	**4.24**	**219**	*e*Pn	**Pn**	**08 11 05.4**	**-1.2**
	2μm,1.5s						
DZM				*e*Sn	**S**	**08 11 59.2**	**-0.3**
	2μm,1.4s						
DZM	**Mont Dzumac**	**4.24**	**219**	P	**Pn**	**08 11 06.0**	**-0.6**
DZM	**Mont Dzumac**	**4.24**	**219**	P	**Pn**	**08 11 06.0**	**-0.6**
	247nm,0.6s,baz=44,slow=16,SNR=455						
DZM				S	**S**	**08 11 59.7**	**+0.1**
	391nm,0.6s,baz=210,slow=6.1,SNR=7.8						
OUENC	**Ouen Island, N**	**4.30**	**213**		**Pn**	**08 11 06.3**	**-0.8**
OUENC	**Ouen Island, N**	**4.30**	**213**	P	**Pn**	**08 11 06.7**	**-0.4**
NOUC	**Port Laguerre**	**4.35**	**220**	P	**Pn**	**08 11 07.4**	**-0.4**
ONTNC	**Ouen Toro**	**4.42**	**217**	Pn	**Pn**	**08 11 08.3**	**-0.3**
ONTNC	**Ouen Toro**	**4.42**	**217**	P	**Pn**	**08 11 08.4**	**-0.2**
KOUNC	**Koumac, New Ca**	**5.08**	**249**	Pn	**Pn**	**08 11 17.2**	**+0.6**
KOUNC	**Koumac, New Ca**	**5.08**	**249**	P	**Pn**	**08 11 17.7**	**+1.1**
YSA	**Yasawairara**	**8.12**	**76**	P	**Pn**	**08 11 56.8**	**+2.0**
DGTI	**Dogotuki**	**10.22**	**78**	P	**Pn**	**08 12 23.1**	**+1.7**
NFK	**Norfolk Island**	**10.28**	**187**	P	**Pn**	**08 12 24.5**	**+2.5**
	baz=10,SNR=3.1						
HNR	**Honiara**	**13.03**	**314**	P	**Pn**	**08 12 56.7**	**+0.3**
HNR	**Honiara**	**13.03**	**314**	P	**Pn**	**08 12 56.9**	**+0.5**
	3μm,0.7s,baz=161,slow=3.0,SNR=22						
LHI	**Lord Howe Isla**	**15.71**	**214**	P	**Pn**	**08 13 29.1**	**+0.4**
	baz=16,SNR=4.4						
LHI	**Lord Howe Isla**	**15.71**	**214**		**Pn**	**08 13 29.0**	**+0.4**
OUZ	**Omahuta**	**16.79**	**168**	P	**Pn**	**08 13 41.3**	**0.0**
EIDS	**Eidsvold**	**18.14**	**246**	P	**P**	**08 13 55.6**	**+1.3**
	baz=18,SNR=18						
EIDS	**Eidsvold**	**18.14**	**246**		**P**	**08 13 55.3**	**+1.1**
EIDS	**Eidsvold**	**18.14**	**246**	P	**P**	**08 13 55.4**	**+1.1**
AFI	**Afiamalu**	**18.75**	**78**	P	**P**	**08 14 00.8**	**-0.3**
ARMA	**Armidale**	**19.80**	**231**	P	**P**	**08 14 13.3**	**+1.1**
	baz=20,SNR=22						
ARMA	**Armidale**	**19.80**	**231**	P	**P**	**08 14 12.8**	**+0.6**
ARMA	**Armidale**	**19.80**	**231**	P	**P**	**08 14 13.2**	**+1.0**

URZ Urewera 20.54 162 P **P** **08 14 21.1 +1.2**
6.9nm,0.7s,baz=158,slow=11,SNR=5.3
URZ S **S** **08 17 59.5 +4.9**
6.6nm,0.8s,baz=255,slow=20,SNR=2.7
6.9nm,0.7s
RTZ Ruatahuna 20.83 163 P **P** **08 14 24.4 +1.3**
TWVZ Taurewa 20.88 167 P **P** **08 14 26.3 +2.7**
MTHZ Maungataniwha 21.02 164 P **P** **08 14 27.5 +2.6**
OTVZ Oturere 21.02 166 P **P** **08 14 27.8 +2.7**
NMHZ Naumai 21.24 164 P **P** **08 14 31.7 +4.6**
TV1H Townsville Har 21.32 265 P **P** **08 14 29.2 +1.2**
PRGZ Paritu Road 21.38 161 P P 08 14 38.3 +10
BHHZ Black Hill Sta 21.42 166 P **P** **08 14 30.0 +1.2**
KWHZ Kaweka Forest 21.45 165 P **P** **08 14 30.4 +1.3**
KRHZ Kereru 21.64 165 P **P** **08 14 31.9 +1.0**
MGCD Mangrove Creek 21.74 225 P **P** **08 14 32.8 +1.0**
baz=22,SNR=7.4
MGCD Mangrove Creek 21.74 225 P **P** **08 14 32.6 +0.8**
CTAO Charters Tower 21.81 263 P **P** **08 14 32.0 -0.6**
CTAO Charters Tower 21.81 263 P **P** **08 14 32.1 -0.6**
KAHZ Kahuranaki 21.91 164 P **P** **08 14 33.7 +0.4**
RIV Riverview 22.08 224 P **P** **08 14 36.4 +1.5**
baz=22,SNR=4.7
MRZ Mangatainoka R 22.44 168 **P** **08 14 37.4 -0.7**
MRZ Mangatainoka R 22.44 168 P **P** **08 14 38.3 +0.2**
OGWZ Otaki Gorge 22.51 168 P **P** **08 14 39.0 +0.2**
CAW Cannon Point 22.77 169 P **P** **08 14 41.1 0.0**
MTW Mount Morrison 22.90 168 P **P** **08 14 42.2 -0.1**
SNZO South Karori 22.90 170 P **P** **08 14 45.5 +3.2**
PAWZ Paruwai Farm 23.10 168 P **P** **08 14 44.0 -0.2**
PLWZ Palliser 23.25 169 P **P** **08 14 45.2 -0.3**
PLWZ Palliser 23.25 169 P **P** **08 14 45.4 -0.1**
PMG Port Moresby 23.43 290 P **P** **08 14 47.6 +0.2**
PMG Port Moresby 23.43 290 P **P** **08 14 46.8 -0.6**
139nm,0.9s,953nm
MTSU Mount Surprise 23.75 268 P **P** **08 14 50.6 +0.3**
baz=24,SNR=56
CAN Canberra 24.40 223 P **P** **08 14 55.5 -0.6**
CAN Canberra 24.40 223 P **P** **08 14 56.6 +0.5**
QLP Quilpie 24.40 247 P **P** **08 14 56.4 +0.2**
baz=25,SNR=8.9
CMSA Cobar Meteorol 24.82 235 P **P** **08 14 59.9 0.0**
baz=25,SNR=34
CMSA Cobar Meteorol 24.82 235 P **P** **08 15 00.0 +0.1**
MILA Mila 25.38 220 P **P** **08 15 04.9 -0.1**
baz=26,SNR=3.3
MILA Mila 25.38 220 P **P** **08 15 05.1 +0.2**
LBZ Lake Benmore 25.52 179 P **P** **08 15 05.4 -0.6**
TOO Toolangi 28.01 223 P **P** **08 15 30.1 +1.8**
baz=28,SNR=4.7
TOO Toolangi 28.01 223 P **P** **08 15 28.4 +0.1**
TOO IAmb IAmb 08 16 21.3
comp=Z,37nm,1.3s
TOO Toolangi 28.01 223 P **P** **08 15 28.7 +0.4**
QIS Mount Isa 28.04 261 P **P** **08 15 28.6 -0.2**
baz=28,SNR=23
QIS Mount Isa 28.04 261 P **P** **08 15 28.4 -0.4**
STKA Stephens Creek 28.17 237 P **P** **08 15 30.1 +0.3**
baz=28,SNR=63
STKA Stephens Creek 28.17 237 P **P** **08 15 30.1 +0.3**
STKA Stephens Creek 28.17 237 P **P** **08 15 30.0 +0.3**
STKA Stephens Creek 28.17 237 P **P** **08 15 30.1 +0.3**
comp=Z,38nm,0.7s,baz=64,slow=8.8,SNR=116
STKA pP **pP** **08 16 17.0 0.0**
comp=Z,23nm,0.9s,baz=80,slow=7.0,SNR=6.8
STKA ScP **ScP** **08 21 56.5 +2.1**
comp=Z,4.9nm,0.9s,baz=103,slow=6.3,SNR=6.0
comp=Z,38nm,0.7s
GLAD Gladstone 28.68 215 P **P** **08 15 34.8 +0.6**
ARPS Mount Arapiles 30.05 228 P **P** **08 15 46.7 +0.4**
baz=30,SNR=6.1
MOO Moorlands 30.14 214 P **P** **08 15 47.7 +0.7**
baz=30,SNR=6.0
MOO Moorlands 30.14 214 P **P** **08 15 47.6 +0.6**
TAU Tasmania Unive 30.40 213 P **P** **08 15 49.3 +0.1**
TAU IAmb IAmb 08 16 30.6
comp=Z,63nm,1.2s
LCRK Leigh Creek 30.48 242 P **P** **08 15 50.1 -0.1**
HTT Hallett 30.82 236 P **P** **08 15 53.2 0.0**
baz=31,SNR=10
HTT Hallett 30.82 236 P **P** **08 15 53.2 0.0**
OOD Oodnadatta 32.10 248 P **P** **08 16 04.6 +0.3**
GENI Genyem 32.79 296 P **P** **08 16 10.2 -0.3**
comp=Z,151nm,1.1s
WR0 Warramunga Arr 32.82 262 P **P** **08 16 08.9 -1.8**
WR0 IAmb IAmb 08 16 10.4
comp=Z,32nm,0.9s
BBOO Buckleboo 32.90 238 P **P** **08 16 11.0 -0.3**
baz=33,SNR=19
BBOO Buckleboo 32.90 238 P **P** **08 16 10.8 -0.5**
BBOO IAmb IAmb 08 16 12.0
comp=Z,39nm,0.9s
BBOO Buckleboo 32.90 238 P **P** **08 16 11.0 -0.3**
WB0 Warramunga Arr 32.97 262 P **P** **08 16 10.6 -1.4**
WB0 IAmb IAmb 08 16 11.7
comp=Z,63nm,0.9s
WB2 Warramunga Arr 33.00 262 P **P** **08 16 11.0 -1.2**
WB2 IAmb IAmb 08 16 12.0
comp=Z,58nm,1.1s
WRA Warramunga Arr 33.01 262 P **P** **08 16 10.7 -1.7**
WRA Warramunga Arr 33.01 262 P **P** **08 16 10.8 -1.5**
comp=Z,32nm,0.9s,baz=92,slow=8.5,SNR=109
WRA pP **pP** **08 17 00.8 +0.6**
comp=Z,4.2nm,0.8s,baz=96,slow=8.0,SNR=2.7
WRA PP **PP** **08 17 36.0 +3.4**
comp=Z,3.9nm,1.0s,baz=84,slow=9.8,SNR=5.3
WRA S **S** **08 21 08.7 -3.7**
comp=Z,8.6nm,1.1s,baz=90,slow=14,SNR=14
WRA ScP **ScP** **08 22 12.2 +1.5**
comp=Z,1.5nm,0.9s,baz=100,slow=3.6,SNR=5.3
WRA P3KPbc 08 47 25.4
comp=Z,0.3nm,0.7s,baz=278,slow=2.3,SNR=6.3
comp=Z,32nm,0.9s
AS31 Alice Springs 33.33 255 P **P** **08 16 14.4 -0.7**
ASAR Alice Springs 33.33 255 P **P** **08 16 14.6 -0.5**
ASAR Alice Springs 33.33 255 P **P** **08 16 14.5 -0.6**
comp=Z,143nm,0.7s,baz=83,slow=8.9,SNR=171?
ASAR S **S** **08 21 14.6 -2.8**
comp=Z,2.1nm,0.9s,baz=79,slow=19,SNR=6.5
ASAR P3KPbc 08 47 24.4
comp=Z,0.5nm,0.9s,baz=262,slow=5.2,SNR=4.8
MULG Mulgathing 33.94 244 P **P** **08 16 19.9 -0.3**
KDU Kakadu 35.96 274 P **P** **08 16 36.8 -0.7**
baz=36,SNR=8.0
KDU Kakadu 35.96 274 P **P** **08 16 36.6 -1.0**
MTN Manton Dam 37.19 273 P **P** **08 16 47.3 -0.6**
baz=37,SNR=13
MTN Manton Dam 37.19 273 P **P** **08 16 47.5 -0.5**
MTN IAmb IAmb 08 16 48.2
comp=Z,57nm,0.8s
WRKA Warakurna 38.48 253 P **P** **08 16 58.1 -0.6**
baz=39,SNR=55
WRKA Warakurna 38.48 253 P **P** **08 16 57.9 -0.8**
TBI Tubuai 38.61 104 *e*SS SS 08 25 21.2 -17
comp=Z,1μm,31.2s
KNRA Kununurra 38.83 268 P **P** **08 17 00.7 -0.9**
baz=39,SNR=28
KNRA Kununurra 38.83 268 P **P** **08 17 00.9 -0.7**
KNRA Kununurra 38.83 268 P **P** **08 17 00.7 -0.9**
PPT2 Papeete2 38.98 95 *e*PKP1 P 08 16 56.8 -6.2
PPT2 *e*pP pwP 08 18 02.8 +6.4
comp=Z,70nm,26.2s
PPT2 *e*S S 08 22 29.8 -13
comp=Z,80nm,26.5s
PPT2 *e*SS **SS** **08 25 36.3 -10**
comp=Z,188nm,24.5s
FORT Forrest 39.13 244 P **P** **08 17 03.3 -0.7**
baz=39,SNR=12
FORT Forrest 39.13 244 P **P** **08 17 03.4 -0.5**
FORT IAmb IAmb 08 17 04.3
comp=Z,47nm,0.9s
FORT Forrest 39.13 244 P **P** **08 17 03.0 -0.9**
SIJI Sorong 41.37 291 P **P** **08 17 21.6 -0.9**
comp=Z,30nm,0.9s,comp=Z,585nm
SWI Sorong 41.38 291 P **P** **08 17 22.4 -0.2**
comp=Z,53nm,0.7s
FITZ Fitzroy Crossi 41.39 264 P **P** **08 17 22.6 0.0**
baz=42,SNR=24
FITZ Fitzroy Crossi 41.39 264 P **P** **08 17 22.6 0.0**
FITZ Fitzroy Crossi 41.39 264 P **P** **08 17 22.7 +0.1**
KMBL Kambalda 44.46 244 P **P** **08 17 46.3 -0.7**
baz=45,SNR=5.8
SOEI Soe 44.50 275 P **P** **08 17 47.8 +0.2**
comp=Z,21nm,0.8s
SANI Sanana 45.60 286 P **P** **08 17 55.7 -0.4**
comp=Z,16nm,1.6s
PSA00 Pilbara Seismi 46.39 258 P **P** **08 18 01.9 -0.3**
PSA00 IAmb IAmb 08 18 03.0
comp=Z,57nm,0.8s
PSA00 Pilbara Seismi 46.39 258 P **P** **08 18 02.1 -0.1**
PSA00 IAmb IAmb 08 18 03.0
comp=Z,25nm,0.9s
PSA00 Pilbara Seismi 46.39 258 P **P** **08 18 02.1 -0.1**
MBWA Marble Bar 46.54 258 P **P** **08 18 03.4 0.0**
MBWA IAmb IAmb 08 18 04.2
comp=Z,57nm,0.8s
MBWA Marble Bar 46.54 258 P **P** **08 18 03.1 -0.3**
MBWA Marble Bar 46.54 258 P **P** **08 18 03.2 -0.2**
MBWA pP **pP** **08 18 55.5 +1.6**
MBWA PcP **PcP** **08 19 34.8 +1.4**
MEEK Meekatharra 47.20 251 P **P** **08 18 08.0 -0.5**
baz=47,SNR=46
MEEK Meekatharra 47.20 251 P **P** **08 18 07.8 -0.6**
EDFI Ende, Flores 47.22 275 P **P** **08 18 07.4 -1.4**
comp=Z,14nm,1.3s,comp=Z,515nm
KLBR Kellerberrin 47.99 244 P **P** **08 18 13.7 -0.7**
baz=48,SNR=15
KLBR Kellerberrin 47.99 244 P **P** **08 18 13.4 -1.0**
NWAO Narrogin (SRO) 48.51 242 P **P** **08 18 17.8 -0.5**
baz=49,SNR=6.5
NWAO P **P** **08 18 17.8 -0.5**
baz=49,SNR=6.5
NWAO Narrogin (SRO) 48.51 242 P **P** **08 18 17.7 -0.6**
NWAO Narrogin (SRO) 48.51 242 P **P** **08 18 17.5 -0.8**
RKGY Rocky Gully 48.84 240 P **P** **08 18 20.7 -0.1**
baz=49,SNR=5.7
MORW Morawa 49.43 248 P **P** **08 18 24.4 -1.0**
BKSI Bulukumba 49.79 279 P **P** **08 18 27.6 -0.7**
comp=Z,18nm,1.1s
KAPI Kappang 50.24 279 P **P** **08 18 30.9 -0.7**
DBNI Kabupaten Domp 50.48 274 P **P** **08 18 32.8 -0.7**
comp=Z,31nm,1.1s
KEKH Kekaha 50.59 38 P **P** **08 18 34.3 +0.3**
PLAI Plampang 50.89 274 P **P** **08 18 36.0 -0.5**
comp=Z,32nm,1.1s
KHLU Kahalu`u 51.17 44 P **P** **08 18 38.9 +0.4**
KIP Kipapa 51.17 40 P **P** **08 18 38.2 -0.2**
KIP IAmb IAmb 08 18 39.1
comp=Z,48nm,0.8s
KIP Kipapa 51.17 40 P **P** **08 18 38.4 +0.1**
AIN Ainahou 51.30 44 P **P** **08 18 39.7 +0.2**
POHA Pohakuloa 51.53 44 P **P** **08 18 41.6 +0.3**
POHA Pohakuloa 51.53 44 P **P** **08 18 41.6 +0.3**
TOLI2 Tolitoli 51.64 287 P **P** **08 18 41.6 -0.4**
TWSI Taliwang, Sumb 51.77 274 P **P** **08 18 42.5 -0.5**
comp=Z,23nm,1.3s,comp=Z,538nm
MPSI Mapaga 52.12 286 P **P** **08 18 45.4 -0.2**
comp=Z,24nm,0.9s
LEM Lembang 61.09 273 P **P** **08 19 49.0 +0.2**
MJAR Matsushiro Arr 62.41 332 P **P** **08 19 56.9 0.0**
comp=Z,7.4nm,0.9s,baz=161,slow=6.2,SNR=12
comp=Z,7.4nm,0.9s
MAJO Matsushiro 62.41 332 P **P** **08 19 57.0 +0.1**
MAJO IAmb IAmb 08 21 05.7
comp=Z,68nm,1.8s
MAJO Matsushiro 62.41 332 P **P** **08 19 57.2 +0.3**
JKA Kamikawa-asahi 67.22 339 P **P** **08 20 28.1 +0.5**
JKA IAmb IAmb 08 20 30.2
comp=Z,40nm,1.0s
KSRS Korea Array 68.20 325 P **P** **08 20 35.5 +1.6**
comp=Z,2.5nm,0.9s,baz=139,slow=6.3,SNR=5.7
comp=Z,2.5nm,0.9s
YSS Yuzh-Sakhalins 69.70 341 P **P** **08 20 44.4 +1.5**
NJ2 Nanjing 69.97 316 *e*P **P** **08 20 48.1 +3.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
QSPA South Pole Qui 71.25 180 P **P** **08 20 52.3 0.0**
QSPA South Pole Qui 71.25 180 P **P** **08 20 51.8 -0.5**
comp=Z,6.0nm,0.9s,baz=37,slow=2.2,SNR=11
QSPA pP **pP** **08 21 46.7 -2.3**
comp=Z,12nm,1.0s,baz=24,slow=1.2,SNR=7.7
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 71.39 333 P **P** **08 20 54.2 +1.0**
comp=Z,8.5nm,0.9s,baz=136,slow=5.8,SNR=5.1
comp=Z,8.5nm,0.9s
PEA0B Petropavlovsk- 72.31 353 P **P** **08 20 58.7 +0.2**
PEA0B IAmb IAmb 08 21 00.4
comp=Z,53nm,1.0s
PETK Petropavlovsk- 72.31 353 P **P** **08 20 58.5 0.0**
PETK Petropavlovsk- 72.31 353 P **P** **08 20 59.3 +0.8**
comp=Z,33nm,0.8s,baz=157,slow=7.9,SNR=37
comp=Z,33nm,0.8s
MDJ Mudanjiang 72.79 331 P **P** **08 21 02.0 +0.6**
MDJ PcP **PcP** **08 21 18.2 +1.0**
MDJ sP sP 08 22 24.8 -0.1
MDJ S **S** **08 30 04.4 -2.2**
MDJ ScS **SKKSac** **08 30 42.8 0.0**
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ pmax pmax
comp=Z,500nm,4.5s
TIA Tai'an 73.69 318 P **P** **08 21 07.4 +0.5**
TIA pmax pmax
comp=Z,15nm,0.9s
NIKH Nikolski High 73.93 14 P **P** **08 21 07.8 0.0**
baz=201
CN2 Changchun 74.14 329 *e*P **P** **08 21 10.0 +0.7**
CN2 pmax pmax
comp=Z,20nm,1.0s
BNX BinXian 74.64 331 ⇓P **P** **08 21 12.2 0.0**
BNX pmax pmax
comp=Z,12nm,0.9s
BNX pmax pmax
comp=Z,130nm,5.8s
UNV Unalaska Valle 75.28 15 P **P** **08 21 15.6 0.0**
baz=204
LYN LuoYang 75.73 314 ⇑P **P** **08 21 19.6 +1.0**
LYN pP pP 08 22 17.4 +1.0
LYN pmax pmax
comp=Z,23nm,0.8s
BJI Beijing 76.66 321 P **P** **08 21 24.5 +0.8**
BJI S **S** **08 30 52.8 +3.3**
BJI pmax pmax
comp=Z,4.0nm,0.9s
XAN Xi'an 77.89 312 ⇑P **P** **08 21 31.3 +0.6**
XAN pmax pmax
comp=Z,13nm,0.8s
HEH HeiHe 78.07 334 *e*P **P** **08 21 31.5 +0.3**
HEH pmax pmax
comp=Z,15nm,1.1s
HEH pmax pmax
comp=Z,170nm,4.5s
CMAR Chiang Mai Arr 78.42 294 P **P** **08 21 35.4 +1.4**
comp=Z,1.3nm,0.7s,baz=123,slow=4.3,SNR=8.0
CMAR pP **pP** **08 22 30.1 -1.8**
comp=Z,2.6nm,0.9s,baz=135,slow=4.2,SNR=4.7
comp=Z,1.3nm,0.7s
MAW Mawson 78.88 202 pP pP 08 22 31.3 -2.1
comp=Z,10.0nm,1.2s,baz=116,slow=4.3,SNR=4.5
XLT XiLinHaoTe 79.15 324 *e*P **P** **08 21 37.0 -0.4**
XLT pmax pmax
comp=Z,7.0nm,1.7s
XLT pmax pmax
comp=Z,110nm,4.8s
PZH PanZhiHua 79.56 303 P **P** **08 21 42.4 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,190nm,5.4s
CHGN Chignik 79.59 18 P **P** **08 21 40.0 +0.7**
baz=211
HHC Hu-ho-hao-te 79.95 319 *e*P **P** **08 21 43.3 +1.4**
HHC S **S** **08 31 20.9 -3.9**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,160nm,3.8s
BTO Baotou 80.78 318 *e*P **P** **08 21 48.0 +1.8**
BTO sP **sP** **08 23 15.3 +4.8**
BTO S **S** **08 31 32.5 -0.8**
BTO pmax pmax
comp=Z,7.0nm,0.7s
BTO pmax pmax
comp=Z,130nm,6.6s
BTO LR LR
comp=Z,570nm,5.9s
BTO LR LR
comp=Z,280nm,5.9s
BTO LR LR
comp=Z,270nm,8.7s
SII Sitkinak Islan 81.08 19 P **P** **08 21 48.1 +0.8**
baz=215
R17K Ugashik Creek 81.31 18 P **P** **08 21 50.0 +1.5**
baz=213
O14K Tigyukauivet M 81.42 15 P **P** **08 21 50.4 +1.4**
baz=208
TNCH TengChong 81.52 300 P **P** **08 21 51.2 +0.6**
TNCH pmax pmax
comp=Z,30nm,0.6s
O15K Ungalikthiuk R 81.70 15 P **P** **08 21 51.4 +0.9**
baz=209
R18K Karluk 81.83 19 P **P** **08 21 52.2 +1.1**
baz=214
OHAK Old Harbor 81.91 19 P **P** **08 21 53.1 +1.5**
baz=215
N14K Kuskokwak Cree 81.91 14 P **P** **08 21 52.4 +0.9**
baz=208
M13K Dall Lake 81.97 13 P **P** **08 21 52.5 +0.7**
baz=206
Q17K Contact Creek 81.99 18 P **P** **08 21 52.8 +0.7**
baz=213
Q16K King Salmon 82.12 17 P **P** **08 21 53.4 +0.8**
baz=212
N15K Kwethluk River 82.51 15 P **P** **08 21 55.5 +0.9**
N15K Kwethluk River 82.51 15 P **P** **08 21 55.5 +0.9**
baz=209
LZH Lanzhou 82.51 312 *e*P **P** **08 21 53.4 -2.1**
LZH sP sP 08 23 20.1 +0.2
LZH pmax pmax
comp=Z,18nm,1.0s
O16K Kokwok River B 82.51 16 P **P** **08 21 54.9 +0.3**
baz=211
BELA Belgrano 2 82.53 175 P **P** **08 21 53.4 -1.2**
Q18K Katmai Hardscr 82.56 18 P **P** **08 21 55.5 +0.4**
baz=214,SNR=8.8
M14K Bethel 82.58 14 P **P** **08 21 56.2 +1.2**
baz=207
P17K Kvichak River 82.61 17 P **P** **08 21 55.3 +0.2**
baz=212
M15K Kasigluk River 82.83 14 P **P** **08 21 56.5 +0.2**
baz=208
O17K Koliganek Bris 82.93 16 P **P** **08 21 56.8 0.0**
baz=212
L14K Kuka Creek 82.95 13 P **P** **08 21 57.3 +0.4**
L14K Kuka Creek 82.95 13 P **P** **08 21 57.5 +0.6**
baz=207
N16K Nishlik Lake 83.10 15 P **P** **08 21 58.4 +0.7**
baz=210
P18K Big Mountain, 83.12 17 P **P** **08 21 57.6 -0.2**
P18K Big Mountain, 83.12 17 P **P** **08 21 58.2 +0.4**
baz=214,SNR=6.3
Q19K Cape Douglas, 83.20 18 P **P** **08 21 58.3 0.0**
baz=215
Q20K Shuyak Island 83.31 19 P **P** **08 21 59.0 +0.2**
baz=216
O18K Koktuh Hills 83.51 17 P **P** **08 22 00.4 +0.5**
baz=214
L15K Ungalak Mounta 83.52 14 P **P** **08 22 00.4 +0.7**
baz=208
M16K Timber Creek 83.53 15 P **P** **08 22 01.3 +1.4**
M16K Timber Creek 83.53 15 P **P** **08 22 00.6 +0.8**
baz=210
N17K Nushagak Hills 83.55 16 P **P** **08 22 01.4 +1.4**
baz=212,SNR=6.2
P19K Oil Pt 83.91 18 P **P** **08 22 02.6 +0.7**
baz=215
L16K Owhat River 84.00 14 P **P** **08 22 02.6 +0.4**
L16K Owhat River 84.00 14 P **P** **08 22 03.3 +1.1**
baz=210
N18K Kilae Creek 84.02 16 P **P** **08 22 03.1 +0.8**
baz=213
J14K Nanvaranak Lak 84.04 12 P **P** **08 22 03.5 +1.2**
baz=206
O19K Port Alsworth 84.04 17 P **P** **08 22 02.8 +0.3**
baz=214
K15K Wolf Creek Mou 84.05 13 P **P** **08 22 03.3 +0.9**
baz=208
M17K Holitna River 84.23 15 P **P** **08 22 05.3 +1.9**
M17K Holitna River 84.23 15 P **P** **08 22 04.6 +1.2**
baz=211
HOM Homer 84.39 19 P **P** **08 22 05.0 +0.9**
baz=217
N19K Bonanza Creek 84.51 17 P **P** **08 22 05.6 +0.6**
baz=214
L17K Donlin 84.65 15 P **P** **08 22 06.9 +1.4**
baz=211,SNR=9.4
M18K Stony River 84.72 16 P **P** **08 22 07.2 +1.4**
baz=213
BRSE Bradley Lake S 84.73 19 P **P** **08 22 07.1 +1.1**
baz=218
L18K Granite Mounta 85.12 15 P **P** **08 22 09.2 +1.4**
L18K Granite Mounta 85.12 15 P **P** **08 22 08.9 +1.2**
baz=212
J16K Anvik River 85.13 13 P **P** **08 22 09.2 +1.4**
baz=208
K17K Iditarod 85.15 14 P **P** **08 22 09.5 +1.5**
baz=211
SNCC San Nicolas Is 85.30 53 P **P** **08 22 10.1 +0.7**
baz=244
ANM Nome 85.35 11 P **P** **08 22 09.8 +0.9**
baz=204
SAO San Andreas Ge 85.46 49 P **P** **08 22 10.9 +0.8**
SAO IAmb IAmb 08 22 12.2
comp=Z,21nm,0.9s
SCZ2 Santa Cruz Isl 85.54 52 P **P** **08 22 10.9 +0.3**
baz=244
L19K White Mountain 85.55 16 P **P** **08 22 10.6 +0.6**
L19K IAmb IAmb 08 22 13.3
comp=Z,26nm,1.0s
L19K White Mountain 85.55 16 P **P** **08 22 11.0 +1.0**
baz=214
O22K Cooper Landing 85.63 19 P **P** **08 22 11.6 +1.3**
baz=218
I17K Unalakleet 85.64 13 P **P** **08 22 11.5 +1.2**
baz=208
SBC Santa Barbara 85.68 52 P **P** **08 22 12.1 +0.9**
baz=244
M20K Styx River 85.76 17 P **P** **08 22 12.2 +1.1**
baz=215
PKM Mcpherson Peak 85.80 51 P **P** **08 22 12.8 +0.7**
baz=244,SNR=7.5
SMMC Simmler 85.86 51 P **P** **08 22 12.7 +0.5**
baz=244
TNA Tin City 85.86 9 P **P** **08 22 12.1 +0.7**
baz=202
TTA Tatalina 85.89 15 P **P** **08 22 12.7 +1.0**
baz=213
SCI2 San Clemente I 85.92 53 P **P** **08 22 13.0 +0.5**
baz=245
G15K Niukluk 85.98 11 P **P** **08 22 12.7 +0.7**
baz=205
H16K Elim 86.00 12 P **P** **08 22 12.8 +0.7**
baz=207
F14K Arctic Creek 86.03 10 P **P** **08 22 12.9 +0.7**
baz=203
L20K Farewell, AK 86.05 16 P **P** **08 22 12.9 +0.4**
baz=215
SUA Susitna One 86.10 18 P **P** **08 22 12.6 -0.2**
baz=218
RC01 Rabbit Creek A 86.11 19 P **P** **08 22 12.6 0.0**
baz=218
J18K Innoko River 86.17 15 P **P** **08 22 13.1 +0.1**
J18K IAmb IAmb 08 22 14.4
comp=Z,18nm,0.7s
J18K Innoko River 86.17 15 P **P** **08 22 13.6 +0.6**
baz=212,SNR=13
CIS Catalina Islan 86.20 53 P **P** **08 22 14.1 +0.3**
baz=245
FMP Fort Macarthur 86.43 53 P **P** **08 22 15.2 +0.3**
baz=245
OSI Osito Audit: C 86.49 52 P **P** **08 22 15.5 +0.3**
baz=244
M22K Willow 86.52 18 P **P** **08 22 14.3 -0.3**
baz=218
F15K North Star Dit 86.53 10 P **P** **08 22 15.2 +0.5**
baz=205
ULN Ulaanbaatar 86.57 323 P **P** **08 22 15.5 0.0**
ULN IAmb IAmb 08 22 17.0
comp=Z,18nm,1.0s
ELIB Princess Elisa 86.59 190 *d*P **P** **08 22 13.9 -1.3**
BILL Bilibino 86.62 359 P **P** **08 22 14.8 -0.2**
BILL IAmb IAmb 08 22 16.2
comp=Z,26nm,0.9s
ARVC Arvin 86.63 51 P **P** **08 22 16.2 +0.3**
baz=244,SNR=9.0
G16K Koyuk River 86.66 11 P **P** **08 22 16.1 +0.9**
G16K IAmb IAmb 08 22 17.8
comp=Z,22nm,0.9s

G16K Koyuk River 86.66 11 P **P** 08 22 16.0 +0.8
baz=207
PMR Palmer 86.68 19 P **P** 08 22 15.6 +0.2
baz=219
K20K Telida 86.73 16 P **P** 08 22 15.8 +0.1
baz=214
H17K Granite Mounta 86.73 13 P **P** 08 22 16.0 +0.4
baz=209
KNK Knik Glacier 86.75 19 P **P** 08 22 15.9 +0.1
baz=220
VES Vestal, Richgr 86.75 51 P **P** 08 22 16.9 +0.5
baz=244,SNR=7.6
CMB Columbia Colle 86.79 48 P **P** 08 22 17.2 +0.6
CMB IAmb IAmb 08 22 18.3
comp=Z,20nm,0.9s
J19K Poorman 86.88 15 P **P** 08 22 16.6 +0.3
baz=213
GTA Gaotai 86.90 313 *e*P **P** 08 22 17.7 +0.5
GTA pP pP 08 23 16.7 +0.3
GTA pmax pmax
comp=Z,6.0nm,1.0s
YBH Yreka Blue Hor 86.91 44 P **P** 08 22 18.1 +1.0
YBH IAmb IAmb 08 22 19.5
comp=Z,27nm,1.1s
SONM Songino Array 86.93 323 P **P** 08 22 16.8 -0.3
SONM Songino Array 86.93 323 P **P** 08 22 17.6 +0.4
comp=Z,8.2nm,0.9s,baz=148,slow=5.8,SNR=38
SONM pP **pP** 08 23 14.0 -2.3
comp=Z,2.8nm,1.0s,baz=136,slow=4.5,SNR=4.8
comp=Z,8.2nm,0.9s
109C Camp Elliot, M 86.98 54 P **P** 08 22 18.0 +0.4
baz=245,SNR=6.2
CUT Chulitna 86.99 18 P **P** 08 22 16.6 -0.3
baz=218
G17K Kiwalik Mounta 87.08 12 P **P** 08 22 18.4 +1.1
baz=208
SML Sawmill 87.09 19 P **P** 08 22 18.6 +1.1
baz=220
ISA Isabella, Lake 87.12 51 P **P** 08 22 18.7 +0.4
ISA IAmb IAmb 08 22 20.3
comp=Z,21nm,0.9s
ISA Isabella, Lake 87.12 51 P **P** 08 22 18.6 +0.3
baz=244,SNR=24
BFSC Mount Baldy Ra 87.13 52 P **P** 08 22 18.3 -0.1
baz=245,SNR=12
EDW2 Edwards Air Fo 87.15 52 P **P** 08 22 18.9 +0.4
baz=245,SNR=17
MURC Murrieta 87.21 53 P **P** 08 22 19.2 +0.5
baz=245,SNR=12
GCSA Galena City Sc 87.22 14 P **P** 08 22 18.4 +0.5
baz=212,SNR=9.5
H18K Honhosa River 87.25 13 P **P** 08 22 18.5 +0.4
baz=210
CAST Castle Rocks 87.30 16 P **P** 08 22 18.1 -0.3
baz=216
J20K Nowinta River 87.39 15 P **P** 08 22 18.7 -0.1
baz=214
SCM Sheep Creek Mo 87.42 19 P **P** 08 22 19.3 +0.3
baz=221
MONP2 Monument Peak 87.51 54 P **P** 08 22 21.0 +0.6
baz=246,SNR=29
KLU Klutina 87.60 20 P **P** 08 22 19.9 0.0
baz=222
CHUM Lake Minchumin 87.61 16 P **P** 08 22 19.9 +0.1
baz=216
LRMC Laurel Mtn Rad 87.63 51 P **P** 08 22 21.7 +0.9
baz=245,SNR=27
IKP In-Ko-Pah, Jac 87.65 54 P **P** 08 22 21.6 +0.8
baz=246,SNR=16
BBRC Big Bear Solar 87.69 53 P **P** 08 22 21.4 +0.2
baz=245
CWC Cottonwood Cre 87.75 50 P **P** 08 22 21.3 -0.1
baz=245
PFO Pinyon Flats O 87.77 53 P **P** 08 22 21.7 +0.2
baz=246,SNR=6.9
TPFO Pinon Flats 87.78 53 P **P** 08 22 21.5 0.0
baz=246,SNR=7.2
F17K Baldwin Pennin 87.80 11 P **P** 08 22 21.9 +1.3
baz=208
TRF Thorofare Moun 87.81 17 P **P** 08 22 20.7 -0.3
baz=218
WAT1 Susitna Watana 87.82 18 P **P** 08 22 21.3 +0.4
baz=219
G18K Tagagawik 87.83 13 P **P** 08 22 21.3 +0.5
baz=210
WAT6 Susitna Watana 87.86 18 P **P** 08 22 21.3 0.0
baz=220
RRX Edison Barstow 87.89 52 P **P** 08 22 22.4 +0.5
baz=245
H19K Roundabout Mou 87.98 14 P **P** 08 22 22.1 +0.6
baz=212
CRQE Cirque 88.00 21 P **P** 08 22 22.3 +0.4
baz=224
SWSC Sam W. Stewart 88.01 54 P **P** 08 22 23.0 +0.5
baz=246,SNR=15
MPMC Manual Prospec 88.02 51 P **P** 08 22 22.9 +0.2
baz=245,SNR=17
N25K Chitina, Valde 88.11 20 P **P** 08 22 23.0 +0.7
baz=223
GSC Goldstone, Bar 88.21 52 P **P** 08 22 23.8 +0.4
baz=245,SNR=9.2
E17K Hotham Inlet 88.26 11 P **P** 08 22 23.2 +0.4
baz=207
BELC Belle Mtn. Jos 88.28 53 P **P** 08 22 24.0 +0.1
baz=246,SNR=18
H20K Anotleneega Mo 88.31 14 P **P** 08 22 23.5 +0.4
baz=214,SNR=5.8
HEC Hector,Ludlow 88.36 52 P **P** 08 22 24.1 -0.1
baz=246,SNR=17
G19K Purcell Mounta 88.37 13 P **P** 08 22 23.7 +0.4
baz=212
MCK McKinley 88.41 17 P **P** 08 22 23.0 -0.6
baz=219
NVAR Mina Array Bea 88.43 48 P **P** 08 22 25.3 +0.7
comp=Z,6.7nm,0.8s,baz=227,slow=7.8,SNR=50
comp=Z,6.7nm,0.8s
GRAC Grapevine Rang 88.50 50 P **P** 08 22 25.4 +0.7
baz=245,SNR=9.8
SIT Sitka 88.50 27 P **P** 08 22 25.8 +1.6
baz=231
BC3 Big Chuckawall 88.56 54 P **P** 08 22 26.0 +0.8
baz=246,SNR=9.7
D17K Noatak River 88.60 10 P **P** 08 22 25.4 +1.0
baz=206
FURC Furnace Creek, 88.65 51 P **P** 08 22 26.3 +1.0
baz=245,SNR=20
S31K Pelican 88.69 26 P **P** 08 22 25.5 +0.5
baz=230
CTG Chitna Glacier 88.76 22 P **P** 08 22 25.7 +0.2
baz=226
C16K Lisburne Hills 88.77 9 P **P** 08 22 25.9 +0.8
baz=204
E18K Tukpahlearik C 88.79 11 P **P** 08 22 26.5 +1.2
baz=208
F19K Shaleruckik Mo 88.82 12 P **P** 08 22 26.5 +1.1
baz=211
SHOC Shoshone, Teco 88.85 51 P **P** 08 22 27.0 +0.7
baz=246,SNR=20
GMRC Granite Mounta 88.86 53 P **P** 08 22 27.4 +0.8
baz=246,SNR=7.7
TUQ Turquoise Moun 88.92 52 P **P** 08 22 27.7 +0.8
baz=246,SNR=17
NLWA Neilton Lookou 88.93 39 P **P** 08 22 27.8 +1.3
NLWA IAmb IAmb 08 22 28.9
comp=Z,34nm,1.2s
H21K Melozitna Rive 88.94 15 P **P** 08 22 26.2 +0.2
baz=216
RDOG Red Dog Mine 88.95 10 P **P** 08 22 26.6 +0.5
baz=206
TROLL Troll, Antarti 88.98 184 ⇓P **P** 08 22 25.6 -0.9
comp=Z,188nm,0.7s
TROLL ⇑pP **pP** 08 23 22.9 -3.3
comp=Z,277nm,0.7s
IMAR Indian Mountai 88.98 14 P **P** 08 22 26.2 0.0
IRM Iron Mountain 88.99 53 P **P** 08 22 28.2 +1.1
baz=246,SNR=23
TPH Tonopah 89.06 49 P **P** 08 22 27.5 0.0
V35K Ketchikan 89.10 29 P **P** 08 22 27.9 +0.9
baz=234
M26K Nabesna, AK 89.21 20 P **P** 08 22 28.0 +0.5
baz=224
C17K DeLong Mountai 89.29 10 P **P** 08 22 28.3 +0.7
baz=206
TPNV Topopah Spring 89.29 51 P **P** 08 22 29.4 +0.8
TPNV IAmb IAmb 08 22 30.6
comp=Z,25nm,1.0s
TPNV Topopah Spring 89.29 51 P **P** 08 22 29.6 +1.0
baz=246,SNR=24
SLBS Sierra La Lagu 89.30 65 P **P** 08 22 29.3 +0.5
F20K Avaraart Lake 89.43 13 P **P** 08 22 29.1 +0.8
baz=213
E19K Redstone River 89.47 12 P **P** 08 22 29.2 +0.7
baz=211
G21K Allakaket 89.48 14 P **P** 08 22 28.8 +0.3
baz=215
H22K Ishtalitna Cre 89.48 15 P **P** 08 22 28.9 +0.4
baz=217
HDA Harding Lake 89.49 17 P **P** 08 22 28.9 +0.2
baz=221
YUK8 Steele Glacier 89.53 22 P **P** 08 22 29.3 +0.1
baz=227
L26K Log Cabin Wild 89.55 20 P **P** 08 22 28.9 -0.1
baz=224
M27K Edge Creek, AK 89.55 21 P **P** 08 22 28.9 -0.3
baz=225
COLA College 89.59 17 P **P** 08 22 28.8 -0.3
baz=220
SNAA Sanae 89.60 182 ⇓P **P** 08 22 28.0 -1.3
comp=Z,34nm,0.6s
SNAA ⇑pP **pP** 08 23 27.2 -1.9
comp=Z,62nm,0.7s
SNAA Sanae 89.60 182 P **P** 08 22 28.4 -0.9
comp=Z,2.4nm,0.7s,baz=184,slow=10,SNR=4.1
SNAA pP **pP** 08 23 26.1 -2.9
comp=Z,2.6nm,0.7s,baz=205,slow=9.8,SNR=3.6
comp=Z,2.4nm,0.7s
YUK3 Moose Creek 89.63 21 P **P** 08 22 29.4 -0.2
baz=227
NEE2 Needles Airpor 89.63 53 P **P** 08 22 30.5 +0.5
baz=247,SNR=10
C18K Utukok River 89.77 10 P **P** 08 22 30.2 +0.3
baz=208
ILAR Eielson Array 89.78 17 P **P** 08 22 28.9 -1.1
comp=Z,5.8nm,0.9s,baz=236,slow=4.7,SNR=52
comp=Z,5.8nm,0.9s
P30M Million Dollar 89.80 24 P **P** 08 22 30.9 +0.6
baz=230
PDMCI Parker Dam,Lak 89.81 54 P **P** 08 22 31.2 +0.4
baz=247,SNR=10
POKR Poker Plat Res 89.89 17 P **P** 08 22 30.6 +0.1
baz=220
BVCY Beaver Creek 89.93 21 P **P** 08 22 30.8 0.0
baz=226
214A Organ Pipe Nat 89.95 56 P **P** 08 22 32.8 +1.1
baz=248,SNR=18
SKAG Skagway 90.01 25 P **P** 08 22 31.5 +0.4
baz=231
SCRK Sand Creek 90.04 19 P **P** 08 22 31.8 +0.5
baz=224
HYT Haines Junctio 90.05 23 P **P** 08 22 31.4 -0.1
baz=229
F21K Alatna River 90.06 14 P **P** 08 22 31.5 +0.2
baz=215
L27K Beaver Creek, 90.06 20 P **P** 08 22 31.2 -0.2
baz=225
J25K Salcha River, 90.10 18 P **P** 08 22 31.3 -0.2
baz=222
D19K Kuna River 90.19 11 P **P** 08 22 32.7 +0.9
baz=211
VNA3 Neumayer Olymp 90.19 180 ⇓P **P** 08 22 30.9 -1.2
comp=Z,8.9nm,0.8s
VNA3 ⇑pP **pP** 08 23 29.8 -2.1
comp=Z,12nm,0.6s
G22K Bettles 90.27 14 P **P** 08 22 32.7 +0.5
baz=217
B18K Kokolik River 90.31 10 P **P** 08 22 33.2 +0.9
baz=207
H24K Noodor Dome 90.33 16 P **P** 08 22 32.0 -0.6
baz=220
R11B Troy Canyon, C 90.34 49 P **P** 08 22 33.9 +0.4
baz=246
E20K Nigu River 90.36 12 P **P** 08 22 33.7 +1.0
baz=212
C19K Lookout Ridge 90.45 11 P **P** 08 22 34.2 +1.1
baz=209
G23K Bananza Creek 90.46 15 P **P** 08 22 33.7 +0.5
baz=218
VNA2 Neumayer--Watz 90.48 181 ⇓P **P** 08 22 32.5 -0.9
comp=Z,6.5nm,0.7s,baz=227,slow=3.0
VNA2 ⇑pP **pP** 08 23 31.5 -1.6
comp=Z,12nm,0.6s,baz=182,slow=4.0
O30N Mendenhall 90.54 24 P **P** 08 22 33.5 -0.2
baz=230
J26L Joseph Creek 90.55 18 P **P** 08 22 34.5 +0.8
baz=224
D20K Etivluk River 90.66 12 P **P** 08 22 34.7 +0.6
baz=212
K27K Chicken 90.67 19 P **P** 08 22 34.7 +0.6
baz=225
T35M Bob Quinn 90.68 28 P **P** 08 22 34.9 +0.5
baz=235
PRP Porcupine Dome 90.72 17 P **P** 08 22 34.6 +0.1
baz=222
P32M Atlin 90.74 25 P **P** 08 22 34.3 -0.3
baz=232
M29M Somme Creek 90.77 22 P **P** 08 22 34.8 0.0
baz=228
S34M Telegraph Cree 90.83 27 P **P** 08 22 35.4 +0.5
baz=235
COLD Coldfoot 90.83 15 P **P** 08 22 35.5 +0.7
baz=218,SNR=6.9
WHY Whitehorse 90.94 24 P **P** 08 22 35.8 +0.2
baz=232
Q32M Nakina River 90.95 26 P **P** 08 22 36.1 +0.3
baz=234
E21K Killik River 90.97 13 P **P** 08 22 35.8 +0.4
baz=214
A19K Wainwright 91.17 10 P **P** 08 22 36.6 +0.3
baz=208
E22K Anaktuvuk Pass 91.18 14 P **P** 08 22 36.8 +0.3
baz=216,SNR=8.9
I26K Coal Creek Min 91.25 18 P **P** 08 22 37.0 +0.2
baz=224
L29M L29M 91.33 21 P **P** 08 22 37.0 -0.2
baz=229
C21K Knifeblade Rid 91.39 12 P **P** 08 22 38.3 +0.9
baz=214
M30M Minto, Yukon 91.45 22 P **P** 08 22 37.8 0.0
baz=230
P33M Teslin, Yukon 91.47 25 P **P** 08 22 37.9 -0.2
baz=233
EGAK Eagle 91.48 19 P **P** 08 22 38.0 +0.1
baz=226
G25K Bearman Lake 91.50 16 P **P** 08 22 38.4 +0.6
baz=222
DAWY Dawson 91.55 20 P **P** 08 22 38.5 +0.2
baz=228
D22K Ayikyak River 91.60 13 P **P** 08 22 39.1 +0.7
baz=216
DLBC Dease Lake 91.61 27 P **P** 08 22 39.5 +0.8
baz=236,SNR=7.0
F24K Squaw Lake 91.62 15 P **P** 08 22 39.2 +0.7
baz=220
E23K Chandalar 91.62 14 P **P** 08 22 39.4 +0.8
baz=218,SNR=6.4
B20K Meade River 91.67 11 P **P** 08 22 39.1 +0.5
baz=212
TUC Tucson 91.68 57 P **P** 08 22 41.1 +1.4
baz=249
R33M Jennings River 91.75 26 P **P** 08 22 39.7 +0.3
baz=235
B21K Ikpikpuk River 91.82 12 P **P** 08 22 40.2 +0.9
baz=214
I27K Kandik River 91.92 18 P **P** 08 22 40.0 0.0
baz=226
N32M Quiet Lake 91.93 24 P **P** 08 22 40.5 +0.3
baz=233
K29M Barlow Dome 92.02 21 P **P** 08 22 40.5 0.0
baz=229
M31M Drury Creek, Y 92.08 23 P **P** 08 22 40.3 -0.4
baz=232
TOLK Toolik Lake Re 92.09 14 P **P** 08 22 40.9 +0.2
baz=218,SNR=5.1
D23K Nanushuk River 92.10 13 P **P** 08 22 41.6 +1.0
baz=218,SNR=11
F25K Christian Rive 92.24 16 P **P** 08 22 41.6 +0.2
baz=222
G26K Porcupine Rive 92.26 17 P **P** 08 22 42.2 +0.8
baz=224
I28M Miner Creek 92.32 19 P **P** 08 22 42.2 +0.3
baz=227
WUAZ Wupatki 92.38 53 P **P** 08 22 43.4 +0.4
baz=249
H27K Steamboat Moun 92.38 18 P **P** 08 22 42.6 +0.5
baz=226
FARO Faro, Yukon 92.48 23 P **P** 08 22 42.2 -0.4
baz=233
B22K Teshekpuk Lake 92.64 12 P **P** 08 22 43.3 +0.2
baz=215
E25K Arctic Village 92.65 15 P **P** 08 22 43.3 0.0
baz=222
D24K Happy Valley 92.66 14 P **P** 08 22 43.4 +0.2
baz=219
F26K Sheenjek River 92.70 16 P **P** 08 22 43.6 +0.1
baz=223
G27K Doyon Strip 92.75 17 P **P** 08 22 43.5 -0.3
baz=226
I29M Ogilvie Camp, 92.76 19 P **P** 08 22 43.8 0.0
baz=229
C23K Itkillik River 92.81 13 P **P** 08 22 44.7 +0.8
baz=218
A21K Barrow 92.88 10 P **P** 08 22 44.5 +0.3
baz=212
J30M Hart River 92.89 21 P **P** 08 22 44.6 +0.1
baz=230
A22K Sinclair Lake 92.90 11 P **P** 08 22 44.6 +0.3
baz=214
DUG Dugway, Tooele 93.04 49 P **P** 08 22 46.0 +0.1
baz=248
C24K Franklin Bluff 93.13 13 P **P** 08 22 45.7 +0.4
baz=219
HLID Hailey 93.22 45 P **P** 08 22 47.4 +0.8
baz=247
I30M Mount Dempster 93.29 20 P **P** 08 22 46.2 -0.2
baz=230
H29M Whitestone 93.31 19 P **P** 08 22 46.4 +0.1
baz=229
D25K Kavik River 93.36 14 P **P** 08 22 46.4 -0.1
baz=222
W18A Petrified Fore 93.49 54 P **P** 08 22 48.4 +0.3
baz=250
E27K Coleen River 93.73 16 P **P** 08 22 48.4 +0.2
baz=226,SNR=6.0
F28M Old Crow 93.81 17 P **P** 08 22 48.8 +0.2
baz=227
G29M Pine Creek 93.88 18 P **P** 08 22 49.3 +0.4
baz=229
EPYK Eagle Plains 93.92 19 P **P** 08 22 49.3 +0.2
baz=230
TGTN Hyland Airport 94.05 25 P **P** 08 22 50.1 +0.2
baz=237
121A Cookes Peak, D 94.13 57 P **P** 08 22 51.8 +0.7
baz=250
121A Cookes Peak, D 94.13 57 P **P** 08 22 52.1 +1.0
baz=250
C26K Camden Bay 94.14 14 P **P** 08 22 51.1 +1.1
baz=223
G30M tAoh Zraii Nji 94.46 19 P **P** 08 22 51.8 +0.2
baz=231
E28M Babbage River 94.58 17 P **P** 08 22 52.6 +0.5
baz=228
D27M Malcolm River 94.63 16 P **P** 08 22 53.3 +0.9
baz=226
E29M Blow River 94.88 17 P **P** 08 22 53.5 0.0
baz=229
F30M Barrier River 94.99 18 P **P** 08 22 54.4 +0.4
baz=231
G31M Satah River 95.03 19 P **P** 08 22 54.2 +0.1
baz=232,SNR=9.1
KOTAN Kotaneelee Air 95.11 27 P **P** 08 22 55.1 +0.5
baz=241
Y22A Socorro 95.25 56 P **P** 08 22 56.8 +0.7
baz=251
D28M Stokes Point 95.28 16 P **P** 08 22 55.6 +0.4
baz=228
Y22D IRIS PASSCAL I 95.32 56 P **P** 08 22 57.7 +1.2
baz=251
Y22F Passcal Instru 95.32 56 P **P** 08 22 57.1 +0.6
baz=251
FLDN Fort Liard 95.41 28 P **P** 08 22 56.9 +0.9
baz=241
F31M Tsiigehtchic 95.51 19 P **P** 08 22 56.4 +0.2
baz=233,SNR=14
MNTX Cornudas Mount 95.79 59 P **P** 08 22 58.6 +0.1
baz=252
MNTX Cornudas Mount 95.79 59 P **P** 08 22 59.1 +0.6
baz=252
BOZ Bozeman (W) 95.82 44 P **P** 08 22 58.9 +0.4
baz=249
ANMO Albuquerque 95.97 55 P **P** 08 22 59.8 +0.4
baz=251
ANMO Albuquerque 95.97 55 P **P** 08 22 59.7 +0.2
baz=251
INK Inuvik 96.10 18 P **P** 08 22 58.6 -0.3
baz=233,SNR=8.3
H17A Grant Village 96.10 45 P **P** 08 23 00.4 +0.5
baz=250
BW06 Boulder Array 96.24 47 P **P** 08 23 01.3 +0.8
baz=250
PDAR Pinedale Array 96.24 47 P **P** 08 23 01.1 +0.6
comp=Z,1.1nm,0.9s,baz=251,slow=4.5,SNR=7.7
PDAR PP **PP** 08 26 51.4 -6.2
comp=Z,0.5nm,0.9s,baz=258,slow=8.0,SNR=3.2
comp=Z,1.1nm,0.9s
O20A White River Ci 96.30 50 P **P** 08 23 00.9 0.0
baz=251
TX31 Lajitas Ar. Si 96.47 61 P **P** 08 23 01.7 0.0
baz=252
TXAR Lajitas Array 96.47 61 P **P** 08 23 02.1 +0.4
comp=Z,2.5nm,0.9s,baz=221,slow=5.8,SNR=21
comp=Z,2.5nm,0.9s
S22A 4UR Ranch, Cre 96.57 52 P **P** 08 23 02.0 -0.2
baz=251
WRGLY Wrigley 96.85 25 P **P** 08 23 02.9 +0.4
baz=242
WMQ Urumqi 96.98 314 *e*P **P** 08 23 06.7 +3.1
WMQ pmax pmax
comp=Z,16nm,0.9s
SDCO Great Sand Dun 97.57 53 P Pdif 08 23 06.8 0.0
baz=252
SDCO Great Sand Dun 97.57 53 P **P** 08 23 06.3 -0.4
baz=252
N23A Red Feather La 98.20 50 P Pdif 08 23 09.5 +0.1
baz=252
T25A Trinidad 98.22 54 P **P** 08 23 09.6 0.0
baz=253
MSTX Muleshoe 98.57 57 P **P** 08 23 11.1 0.0
baz=253
C36M Paulatuk 99.55 19 P **Pdif** 08 23 13.8 -0.5
baz=242
AMTX Amarillo 99.69 56 P **Pdif** 08 23 15.8 -0.2
baz=254
LAO LASA Array 99.73 44 P **Pdif** 08 23 15.5 -0.4
baz=253
YKA Yellowknife Ar 100.23 27 P **Pdif** 08 23 17.1 -0.4
comp=Z,3.6nm,0.8s,baz=256,slow=4.9,SNR=48
YKA pP pP 08 24 17.4 +0.2
comp=Z,0.5nm,0.7s,baz=254,slow=5.1,SNR=3.4
YKA PP **PP** 08 27 24.4 -2.7
comp=Z,0.6nm,1.0s,baz=254,slow=6.7,SNR=5.1
A36M Sachs Harbour 100.47 17 P **Pdif** 08 23 18.4 0.0
baz=241
RSSD Black Hills 100.48 47 P **Pdif** 08 23 20.2 +0.7
baz=254
ABTX Abilene, Hawle 100.72 59 P **Pdif** 08 23 20.3 -0.2
baz=254
ABTX Abilene, Hawle 100.72 59 P **Pdif** 08 23 20.3 -0.2
baz=254
MKAR Makanchi Array 101.50 316 P **Pdif** 08 23 24.9 +1.3
comp=Z,0.7nm,0.8s,baz=110,slow=5.6,SNR=6.4
CBKS Cedar Bluff 102.23 53 P **Pdif** 08 23 26.7 -0.4
baz=256
KURBB Kurchatov Arra 104.81 319 PP **PKiKP** 08 27 52.3 +0.2
comp=Z,0.4nm,0.8s,baz=126,slow=6.2,SNR=4.3
BOSA Boshof 121.47 217 PKP **PKiKP** 08 28 25.6 +0.7
comp=Z,5.2nm,1.0s,baz=201,slow=4.7,SNR=3.4
ARCES ARCESS Array B 124.67 345 PKP **PKPdf** 08 28 28.6 -0.9
comp=Z,2.1nm,0.7s,baz=37,slow=2.2,SNR=11
FINES FINESS Array B 130.22 338 SKPbc **SKPbc** 08 31 39.8 -0.1
comp=Z,2.0nm,0.6s,baz=93,slow=6.0,SNR=4.8
VYHS Vyhne 141.97 328 *e*PKP **PKPdf** 08 28 59.2 -3.2
ZVC Zvikov 143.50 333 *e*PKP PKPab 08 29 02.4 +0.4
FRGS Fruska Gora 143.52 323 *e*P PKPab 08 29 02.6 +0.3
RONA Rosalia, Austr 143.76 329 *i* PKP PKPbc 08 29 04.6 +0.7
SNR=6.3
CKRC Cesky Krumlov 143.90 332 *e*PKP PKPab 08 29 03.7 0.0
KHC Kasperske Hory 143.99 333 *e*PKP PKPab 08 29 04.1 +0.1
TEKS Tekeris 144.04 322 *e*P **PKPab** 08 29 04.3 -0.1
GERES GERESS Array B 144.15 332 PKP PKPbc 08 29 05.0 -0.2
comp=Z,8.3nm,0.9s,baz=22,slow=4.3,SNR=10
BBLS Lazići 144.51 321 *e*P **PKPab** 08 29 06.2 0.0
SJES Sjenica 144.51 320 *e*P **PKPab** 08 29 06.0 -0.3
MOA Molln 144.63 331 *i* PKP PKPbc 08 29 06.7 +0.2
SNR=11
HAPS Han Pijesak,Bl 144.65 322 *e*P PKPbc 08 29 07.0 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUDO	**Rudo**	**144.67**	**321**	*e*P	**PKPab**	**08 29 06.5**	**-0.3**
FNA	**Florina**	**144.91**	**316**		PKPbc	08 29 06.6	-1.1
SOKA	**Soboth**	**145.09**	**329**	*i* PKP	**PKPbc**	**08 29 08.2**	**+0.1**
	SNR=6.8						
A051A	**Mrakovica**	**145.23**	**325**	*e*P	**PKPdf**	**08 29 08.0**	**-0.3**
BLY	**Banja Luka**	**145.25**	**324**	*e*P	**PKPdf**	**08 29 08.2**	**0.0**
OBKA	**Obir**	**145.45**	**329**	*e*P	**PKPab**	**08 29 09.6**	**-0.1**
MGRS	**Mrkonjic Grad**	**145.51**	**324**	*e*P	**PKPdf**	**08 29 01.9**	**-6.9**
BRY	**Bratogost**	**145.58**	**321**	*e*P	**PKPdf**	**08 29 08.1**	**-1.0**
BTNL	**Ternell**	**145.58**	**341**	*d*PKP	**PKPdf**	**08 29 07.7**	**-1.0**
BTNL				*d*P	**PKPbc**	**08 29 08.9**	**-0.5**
MEM	**Membach**	**145.60**	**341**	*d*PKP	**PKPab**	**08 29 10.3**	**+0.3**
BSTI	**Sart Tilman**	**145.76**	**342**	*d*PKP	**PKPbc**	**08 29 09.7**	**-0.1**
A050A	**Klekovaca**	**145.78**	**324**	*e*P	**PKPdf**	**08 29 07.2**	**-2.1**
BGES	**Gesves**	**146.08**	**342**	*d*PKP	**PKPbc**	**08 29 10.3**	**-0.5**
BMRD	**Maredsous**	**146.24**	**342**	*d*PcP	**PKPbc**	**08 29 10.8**	**-0.4**
WLF	**Walferdange**	**146.38**	**340**		**PKPbc**	**08 29 11.8**	**+0.1**
WLF	**Walferdange**	**146.38**	**340**	*d*PKP	**PKPdf**	**08 29 10.7**	**+0.7**
MOTA	**Moosalm**	**146.43**	**333**	*i* PKP	**PKPbc**	**08 29 12.0**	**-0.1**
	SNR=5.5						
DOU	**Dourbes**	**146.48**	**342**	*d*PKP	**PKPbc**	**08 29 11.4**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**147.35**	**333**		**PKPbc**	**08 29 14.9**	**0.0**
KEST	**Kesra**	**155.57**	**318**	PKPab	**PKPab**	**08 29 52.5**	**+0.6**
	comp=Z,9.3nm,1.0s,baz=298,slow=6.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**166.87**	**246**		**PKPdf**	**08 29 35.0**	**-1.8**
TORD	**Torodi Ar. Bea**	**166.87**	**246**	PKP	**PKPdf**	**08 29 36.0**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=26,slow=2.8,SNR=17						

*JMA **02** 08:20:03.2±0.1, 22°.8N±0°.5×121°.3E±0°.6, h21km, TAIWAN REGION*
*TAP **02** 08:20:04.7, 22°.86N×121°.25E, h9km, ML3.0, C*
ISC 02 08:20:04.0±0.9, **22°.83N**±0°.02×**121°.27E**±0°.02, **h16**km±6km, **n56**, σ0s.**69**/81, **3C-5D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.14**	**236**	⇑*i*P	**Pb**	**08 20 08.7**	**+0.4**
	baz=208						
TTN				*i* S	**Sb**	**08 20 12.3**	**+1.2**
	baz=208						
EDH	**Donghe**	**0.14**	**12**	*i* P	**Pg**	**08 20 08.1**	**+0.2**
	baz=29						
EDH				*i* S	**Sg**	**08 20 10.6**	**+0.1**
	baz=29						
LONT	**Longtian**	**0.15**	**300**	⇓*i*P	**Pg**	**08 20 07.4**	**-0.7**
	baz=286						
TWGBT	**Beinan**	**0.18**	**266**	⇓*i*P	**Pg**	**08 20 08.3**	**-0.1**
	baz=260						
TWGBT				*i* S	**Sb**	**08 20 11.8**	**-0.5**
	baz=260						
TWG	**Pinlang**	**0.18**	**267**	⇓*i*P	**Pg**	**08 20 08.3**	**-0.2**
	baz=260						
TWG				*i* S	**Sb**	**08 20 11.8**	**-0.6**
	baz=260						
LDUT	**Ludao**	**0.24**	**131**	*i* P	**Pb**	**08 20 10.7**	**+0.7**
	baz=131						
LDUT				*i* S	**Sb**	**08 20 16.0**	**+1.9**
	baz=131						
ECS	**Chishang**	**0.27**	**350**	*i* P	**Pb**	**08 20 10.7**	**+0.1**
	baz=356						
CHKT	**Chengkung**	**0.28**	**18**	⇓*i*P	**Pb**	**08 20 10.7**	**0.0**
	baz=36						
CHKT				*i* S	**Sb**	**08 20 15.6**	**+0.4**
	baz=36						
EHD	**Haiduan**	**0.32**	**349**	*e*P	**Pg**	**08 20 11.1**	**+0.3**
	baz=357						
EHD				*e*S	**Sb**	**08 20 17.2**	**+0.8**
	baz=357						
FULB	**Fuli**	**0.37**	**3**	*i* P	**Pb**	**08 20 12.3**	**+0.1**
	baz=24						
FULB				S	**Sb**	**08 20 19.5**	**+1.7**
	baz=24						
ECL	**Taimali**	**0.38**	**232**	*i* P	**Pb**	**08 20 12.4**	**+0.1**
	baz=231						
ECL				*i* S	**Sb**	**08 20 19.1**	**+1.2**
	baz=231						
CHKH	**Chenggong**	**0.38**	**18**	P	**Pg**	**08 20 10.9**	**-0.8**
	baz=27						
CHKH				S	**Sb**	**08 20 18.3**	**+0.3**
	baz=27						
ELDTW	**Lidau**	**0.43**	**327**	⇓*i*P	**Pg**	**08 20 12.8**	**+0.1**
	baz=332						
ELDTW				*i* S	**Sb**	**08 20 19.8**	**+0.3**
	baz=332						
ECBN	**Changbin**	**0.51**	**19**	P	**Pg**	**08 20 14.0**	**-0.2**
	baz=29						
ECBN				*e*S	**Sb**	**08 20 22.6**	**+0.7**
	baz=29						
EYUL	**Yuli**	**0.52**	**5**	*e*P	**Pb**	**08 20 14.8**	**0.0**
	baz=358						
EYUL				*e*S	**Sn**	**08 20 24.1**	**-1.2**
	baz=358						
TWF1	**Yuli**	**0.52**	**3**	*i* P	**Pg**	**08 20 14.6**	**+0.2**
	baz=357						
TWF1				*i* S	**Sb**	**08 20 22.5**	**+0.4**
	baz=357						
YULB	**Yu-li**	**0.56**	**2**	P	**Pg**	**08 20 15.0**	**-0.1**
	baz=357						
YULB				S	**Sg**	**08 20 23.0**	**+0.5**
	baz=357						
STYH	**Taoyuan**	**0.57**	**307**	*i* P	**Pb**	**08 20 15.8**	**+0.2**
	baz=308						
STYH				S	**Sn**	**08 20 25.1**	**-1.4**
	baz=308						
TAW	**Tawu**	**0.59**	**216**	*e*P	**Pb**	**08 20 16.0**	**+0.1**
	baz=220						
TAW				*e*S	**Sb**	**08 20 25.1**	**+1.1**
	baz=220						
TSMG	**Majia**	**0.59**	**258**	*e*P	**Pg**	**08 20 15.5**	**-0.2**
	baz=252						
TSMG				S	**Sb**	**08 20 24.6**	**+0.4**
	baz=252						
EAST	**Anshuo**	**0.59**	**221**	P	**Pb**	**08 20 15.8**	**-0.3**
	baz=214						
SLGT	**Liugui**	**0.60**	**286**	P	**Pb**	**08 20 16.6**	**+0.4**
	baz=283						
SLGT				S	**Sb**	**08 20 25.0**	**+0.6**
	baz=283						
TAWH	**Dawu Township**	**0.60**	**216**	P	**Pb**	**08 20 16.9**	**+0.7**
	baz=220						
TAWH				S	**Sn**	**08 20 27.0**	**-0.5**
	baz=220						
MASBT	**Mashibuluo**	**0.63**	**250**	⇑*i*P	**Pb**	**08 20 16.9**	**+0.3**
	baz=235						
MASBT				*i* S	**Sb**	**08 20 25.6**	**+0.4**
	baz=235						
EHY	**Hungye**	**0.67**	**4**	P	**Pg**	**08 20 16.8**	**-0.4**
	baz=11						
HGSD	**Ruisui**	**0.67**	**12**	P	**Pg**	**08 20 17.5**	**+0.3**
	baz=3.0						
SGST	**Jiashian**	**0.68**	**292**	⇑*i*P	**Pb**	**08 20 17.6**	**0.0**
	baz=290						
SGST				*i* S	**Sn**	**08 20 28.6**	**-0.8**
	baz=290						
SCST	**Cishan**	**0.72**	**274**	*e*P	**Pn**	**08 20 19.0**	**-0.6**
	baz=263						
TPUB	**Ta-pu**	**0.75**	**308**	*i* P	**Pn**	**08 20 19.5**	**-0.6**
	baz=310						
TPUB				S	**Sn**	**08 20 31.3**	**+0.1**
	baz=310						
SCZT	**Fangliau**	**0.76**	**233**	*e*P	**Pn**	**08 20 19.4**	**-0.6**
	baz=225						
CHN1	**Nanshi**	**0.77**	**297**	P	**Pn**	**08 20 20.4**	**+0.1**
	baz=308						
TWM1	**Shoushan**	**0.78**	**270**	*e*P	**Pn**	**08 20 20.5**	**0.0**
	baz=257						
ALS	**Alishan**	**0.80**	**328**	*i* P	**Pb**	**08 20 20.1**	**+0.4**
	baz=332						
CHN4	**Tsaushan**	**0.81**	**310**	P	**Pn**	**08 20 20.6**	**-0.2**
	baz=311						
CHN4				S	**Sn**	**08 20 33.5**	**+0.9**
	baz=311						
SNST	**Tainan City**	**0.81**	**299**	*e*P	**Pb**	**08 20 20.1**	**+0.4**
	baz=298						
LAY	**Lan-yu**	**0.83**	**162**	*e*P	**Pg**	**08 20 19.5**	**-0.7**
	baz=146						
TWK	**Hsinying**	**0.84**	**301**	P	**Pn**	**08 20 21.3**	**0.0**
	baz=301						
WCKO	**Fanlu**	**0.86**	**315**	*e*P	**Pn**	**08 20 21.6**	**+0.1**
	baz=317						
WARBT	**Fenglin Townsh**	**0.89**	**7**	*e*P	**Pn**	**08 20 21.9**	**0.0**
	baz=14						
VWDT	**VWDT**	**0.93**	**353**	*e*P	**Pb**	**08 20 21.6**	**-0.1**
	baz=8.0						
CHN5	**Tsauling**	**0.94**	**324**	*e*P	**Pn**	**08 20 22.8**	**+0.2**
	baz=328						
WHYT	**Xinyi Township**	**0.94**	**336**	*e*P	**Pn**	**08 20 22.8**	**+0.1**
	baz=341						
TWKBT	**Hengchun**	**0.98**	**206**	*e*P	**Pg**	**08 20 22.8**	**-0.3**
	baz=178						
ESL	**Shilin**	**0.99**	**9**	*e*P	**Pb**	**08 20 22.8**	**0.0**
	baz=17						
SHUL	**Shoufeng**	**0.99**	**16**	*e*P	**Pn**	**08 20 23.8**	**+0.5**
	baz=8.0						
SSLB	**Suanglung**	**1.00**	**343**	*e*P	**Pb**	**08 20 21.6**	**-1.3**
CHY	**Chiayi**	**1.02**	**311**	*e*P	**Pn**	**08 20 24.5**	**+0.7**
	baz=313						
SMLT	**Sun Moon Lake**	**1.10**	**342**	*e*P	**Pb**	**08 20 24.9**	**+0.1**
	baz=359						
TYC	**Yuchr**	**1.13**	**340**	*e*P	**Pg**	**08 20 26.9**	**+0.9**
	baz=356						
WUSB	**Renai**	**1.16**	**353**	*e*P	**Pn**	**08 20 25.6**	**-0.2**
	baz=19						
LXIB	**Xiulin Townshi**	**1.19**	**6**	*e*P	**Pn**	**08 20 25.8**	**-0.4**
	baz=33						
CHGB	**Renai**	**1.23**	**356**	*e*P	**Pn**	**08 20 26.2**	**-0.6**
	baz=21						
NACB	**Ninganchiao**	**1.37**	**12**	*e*P	**Pn**	**08 20 28.2**	**-0.3**
	baz=20						
ETLH	**Xiulin Townshi**	**1.38**	**8**	*e*P	**Pn**	**08 20 29.1**	**+0.3**
	baz=35						
JIJ	**Ishigaki jima**	**3.04**	**59**	*e*P	**Pn**	**08 20 52.3**	**+0.8**
JIJ				*e*S	**Sn**	**08 21 27.0**	**-0.7**
JISG	**Ishigakijimahi**	**3.29**	**57**	P	**Pn**	**08 20 52.2**	**-2.7**

*DSN **02** 08:54:26.9±2.2, 26°.11N×59°.41E, h15km, ML2.8/6, Error ellipse: s-maj=29.5km s-min=18.3km az=136.0*
*TEH **02** 08:54:32.0, 26°.54N×58°.81E, h11km, ML3.2*
*OMAN **02** 08:54:34.8±1.7, 26°.29N×58°.79E, h28km±21km, ml3.0/15, Error ellipse: s-maj=15.7km s-min=5.6km az=21.0*
ISC 02 08:54:30.4±1.5, **26°.49N**±0°.05×**58°.89E**±0°.04, **h17**km±14km, **n28**, σ**1s.75**/42, **Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JASK	**Jask - Hormozg**	**1.10**	**236**	Pg	**Pn**	**08 54 52.6**	**+1.5**
JASK				Sg	**Sn**	**08 55 09.5**	**+3.6**
JASK	**Jask - Hormozg**	**1.10**	**236**	P	**Pn**	**08 54 52.9**	**+1.8**
	SNR=152						
JASK				S	**Sb**	**08 55 05.4**	**+0.2**
	SNR=7.8						
CHBR	**Chabahar**	**1.69**	**121**	Pg	**Pg**	**08 55 05.0**	**+2.2**
KHNJ	**Kahnooj**	**1.80**	**324**	Pg	**Pg**	**08 55 04.1**	**-0.8**
NGCH	**Negor - Chabah**	**2.31**	**118**	P	**Pg**	**08 55 13.6**	**-1.2**
	SNR=5.3						
BANOM	**Banah**	**2.39**	**257**	P	**Pb**	**08 55 12.2**	**-0.8**
SHME	**Shamm**	**2.50**	**261**	P	**Pb**	**08 55 13.4**	**-1.5**
SHME	**Shamm**	**2.50**	**261**	P	**Pb**	**08 55 13.6**	**-1.3**
SHME				S	**Sn**	**08 55 42.8**	**+2.3**
MDH	**Madha**	**2.61**	**244**	P	**Pn**	**08 55 11.2**	**-0.6**
MDH	**Madha**	**2.61**	**244**	P	**Pn**	**08 55 11.7**	**-0.2**
MDH				S	**Sn**	**08 55 41.6**	**-1.6**
KBAM	**BAM**	**2.67**	**352**	Pn	**Pb**	**08 55 17.2**	**-0.5**
HATD	**Hatta, Dubai**	**2.99**	**237**	P	**Pn**	**08 55 15.6**	**-1.3**
HATD	**Hatta, Dubai**	**2.99**	**237**	P	**Pn**	**08 55 16.8**	**-0.2**
HATD				S	**Sn**	**08 55 50.6**	**-1.8**
BIDO	**Bidbid**	**3.03**	**193**	P	**Pn**	**08 55 17.5**	**-0.1**
BIDO				S	**Sn**	**08 55 52.2**	**-1.3**
ASHO	**Ashiyiah**	**3.12**	**236**	P	**Pn**	**08 55 19.1**	**+0.2**
ASHO				S	**Sn**	**08 55 59.2**	**+3.4**
ASHO	**Ashiyiah**	**3.12**	**236**	P	**Pn**	**08 55 19.3**	**+0.4**
	SNR=21						
ASHO				S	**Sn**	**08 55 54.6**	**-1.2**
SOHO	**SOHO**	**3.17**	**223**	P	**Pn**	**08 55 18.6**	**-0.8**
SOHO	**SOHO**	**3.17**	**223**	P	**Pn**	**08 55 18.9**	**-0.5**
SOHO				S	**Sn**	**08 55 54.5**	**-2.3**
WSAR	**Wadi Sarin**	**3.24**	**184**	P	**Pn**	**08 55 21.9**	**+1.4**
WSAR				S	**Sn**	**08 55 57.9**	**-0.8**
SRVN	**Saravan**	**3.27**	**73**	Pn	**Pb**	**08 55 27.4**	**-0.6**
SMDO	**Samad**	**3.50**	**193**	P	**Pn**	**08 55 24.6**	**+0.5**
	SNR=9.5						
SMDO				S	**Sn**	**08 56 04.9**	**-0.2**
ASUD	**Al Ashush, Dub**	**3.71**	**241**	P	**Pn**	**08 55 29.9**	**+3.0**
	SNR=15						
ASUD				S	**Sn**	**08 56 10.4**	**+0.2**
ARQ	**Araqi**	**3.80**	**215**	P	**Pn**	**08 55 31.0**	**+2.8**
	SNR=18						
WBK	**Wadi Bani Khal**	**3.86**	**179**	P	**Pn**	**08 55 30.0**	**+1.0**
	SNR=33						
WBK				S	**Sn**	**08 56 12.7**	**-1.3**
BSY	**Bisya**	**4.03**	**203**	P	**Pn**	**08 55 33.8**	**+2.4**
	SNR=11						
JMDO	**Jabal Madar**	**4.16**	**190**	P	**Pn**	**08 55 35.0**	**+1.9**
	SNR=19						
JLN	**Jalan Bani Buh**	**4.34**	**174**	P	**Pn**	**08 55 36.0**	**+0.4**
JLN				S	**Sn**	**08 56 22.1**	**-3.8**
MHTO	**MHTO**	**5.54**	**189**	P	**Pn**	**08 55 54.3**	**+2.2**

*SDD **02** 09:15:22.2±4.0, 19°.20N×68°.36W, h20km±103km, MD3.7, ML3.5, MW3.7*
*RSPR **02** 09:15:24.0, 19°.20N×68°.49W, h62km±14km, MD3.5/13*
*OSPL **02** 09:15:23.0±3.1, 19°.30N×68°.31W, h0km±27km, ML3.6*
*NEIC **02** 09:15:26.2±1.5, 18°.93N±0°.07×68°.39W±0°.05, h28km±15km, ML3.8/26, Md3.6/13(RSPR), Error ellipse: s-maj=11.2km s-min=6.3km az=194.0*
ISC 02 09:15:19.4±1.2, **19°.29N**±0°.05×**68°.38W**±0°.02, **h10**km±10km, **n68**, σ**1s.33**/93, **27C-18D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.77**	**205**	⇓*e*Pg	**Pg**	**09 15 34.3**	**+0.1**
HIDR				IAML		09 15 48.7	
	comp=N,2.9nm,0.2s						
SMDR	**Samana, DR**	**0.77**	**270**	⇑*e*Pg	**Pn**	**09 15 36.4**	**+0.2**
SMDR				⇑*e*Sg	**Sn**	**09 15 48.5**	**+0.6**
SMDR				IAML		09 15 50.1	
	comp=N,2μm,0.3s						
HATOM	**Hato Mayor del**	**1.07**	**242**	⇓*e*Pg	**Pb**	**09 15 40.0**	**-0.2**
HATOM				⇑*e*Sg	**Sb**	**09 15 52.1**	**-2.1**
HATOM				IAML		09 15 55.1	
	comp=N,666nm,0.2s						
SADR	**Isla Saona**	**1.16**	**199**	⇓*e*Pg	**Pn**	**09 15 40.9**	**-0.8**
SADR				⇑*e*Sg	**Sb**	**09 15 55.2**	**-1.4**
SADR				IAML		09 15 57.2	
	comp=N,2μm,0.6s						
IDE	**Isla Desecheo**	**1.24**	**136**	⇑*e*P	**Pn**	**09 15 42.1**	**-0.8**
IDE	**Isla Desecheo**	**1.24**	**136**	*e*S	**Sb**	**09 15 58.5**	**-0.6**
IDE	**Isla Desecheo**	**1.24**	**136**		**Pn**	**09 15 42.1**	**-0.8**
IDE					**Sb**	**09 15 58.5**	**-0.6**
LONA1	**Toro Cenizo, N**	**1.41**	**274**	*i* P	**Pg**	**09 15 48.1**	**+1.6**
LONA1				*e*S	**Sg**	**09 16 08.9**	**+4.2**
LONA1				IAML		09 16 14.0	
	comp=Z,2μm,5.0s						
AGPR	**Aguadilla, PR**	**1.45**	**124**	⇓*e*P	**Pg**	**09 15 47.6**	**+0.3**
AGPR	**Aguadilla, PR**	**1.45**	**124**	*e*S	**Sg**	**09 16 06.1**	**-0.1**
AGPR	**Aguadilla, PR**	**1.45**	**124**		**Pg**	**09 15 48.1**	**+0.8**
AGPR					**Sg**	**09 16 06.1**	**-0.1**
AGPR				IAML		09 16 09.9	
	comp=E,1μm,0.6s						
AGPR				IAML		09 16 10.8	
	comp=N,974nm,0.3s						
AGPR	**Aguadilla, PR**	**1.45**	**124**	⇓*e*Pg	**Pg**	**09 15 47.5**	**+0.3**
AGPR				⇑*e*Sg	**Sg**	**09 16 07.3**	**+1.2**
AGPR				IAML		09 16 10.7	
	comp=N,909nm,0.5s						
AGPR	**Aguadilla, PR**	**1.45**	**124**	*i* P	**Pg**	**09 15 47.6**	**+0.3**
AGPR				*e*S	**Sg**	**09 16 07.4**	**+1.3**
CADR	**Cabrera**	**1.52**	**285**	⇑*e*Pg	**Pg**	**09 15 47.5**	**-1.2**
CADR				⇓*e*Sg	**Sg**	**09 16 10.6**	**+2.2**
CADR				IAML		09 16 23.2	
	comp=N,2μm,0.4s						
PRSN	**Puerto Rico Se**	**1.58**	**132**	⇓*e*P	**Pb**	**09 15 48.7**	**0.0**
PRSN	**Puerto Rico Se**	**1.58**	**132**	*e*S	**Sb**	**09 16 08.8**	**-0.1**
PRSN	**Puerto Rico Se**	**1.58**	**132**		**Pb**	**09 15 48.6**	**-0.2**
PRSN				Sn	**Sn**	**09 16 07.6**	**-0.5**
PRSN				IAML		09 16 14.3	
	comp=E,2μm,0.3s						
DR08	**Loma La Naviza**	**1.59**	**258**	⇑*e*Pg	**Pg**	**09 15 50.2**	**+0.3**
DR08				⇓*e*Sg	**Sg**	**09 16 10.4**	**-0.1**
LSP	**Las Mesas**	**1.65**	**132**	⇑*e*P	**Pb**	**09 15 49.1**	**-0.9**
LSP	**Las Mesas**	**1.65**	**132**	*e*S	**Sg**	**09 16 12.2**	**-0.4**
LSP	**Las Mesas**	**1.65**	**132**		**Pb**	**09 15 49.1**	**-0.9**
SDD	**Santo Domingo**	**1.67**	**241**	⇑*e*P	**Pb**	**09 15 50.2**	**-0.1**
SDD	**Santo Domingo**	**1.67**	**241**	Pn	**Pb**	**09 15 50.9**	**+0.6**
SDD	**Santo Domingo**	**1.67**	**241**	⇑*e*Pg	**Pb**	**09 15 50.8**	**+0.5**
SDD				⇓*e*Sg	**Sb**	**09 16 12.2**	**+0.7**
SDD				IAML		09 16 12.8	
	comp=N,133nm,0.6s						
SDD	**Santo Domingo**	**1.67**	**241**	*i* P	**Pg**	**09 15 51.3**	**-0.3**
SDD				*e*S	**Sb**	**09 16 11.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.75**	**137**	⇓*e*P	**Pb**	**09 15 51.3**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.75**	**137**		**Pb**	**09 15 51.2**	**-0.5**
CRPR					**Sn**	**09 16 11.0**	**-1.2**
CRPR	**Cabo Rojo, PR**	**1.75**	**137**	⇓*e*Pg	**Pb**	**09 15 51.3**	**-0.5**
CRPR				⇓*e*Sg	**Sg**	**09 16 15.7**	**-0.2**
CRPR				IAML		09 16 19.2	
	comp=N,443nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.75**	**137**	*i* P	**Pb**	**09 15 51.2**	**-0.5**
CRPR				*e*S	**Sb**	**09 16 14.1**	**+0.3**
CRPR				IAML		09 16 20.7	
	comp=Z,760nm,0.5s						
MLPR	**Magueyes Islan**	**1.82**	**136**	⇑*e*P	**Pb**	**09 15 51.3**	**-1.6**
MLPR	**Magueyes Islan**	**1.82**	**136**	*e*S	**Sn**	**09 16 14.3**	**+0.3**
MLPR	**Magueyes Islan**	**1.82**	**136**		**Pb**	**09 15 53.0**	**+0.1**
MLPR					**Sn**	**09 16 14.3**	**+0.3**
MLPR				IAML		09 16 19.0	
	comp=N,586nm,0.6s						
MLPR				IAML		09 16 22.2	
	comp=E,500nm,0.5s						
LOSC1	**San Cristbal**	**1.86**	**242**	*i* P	**Pb**	**09 15 54.0**	**+0.5**
OBIP	**Obispado Ponce**	**2.09**	**126**	⇑*e*P	**Pb**	**09 15 57.1**	**-0.3**
OBIP	**Obispado Ponce**	**2.09**	**126**	*e*S	**Sb**	**09 16 22.9**	**-0.5**
OBIP	**Obispado Ponce**	**2.09**	**126**		**Pb**	**09 15 56.9**	**-0.5**
OBIP				IAML		09 16 27.4	
	comp=N,675nm,0.7s						
OBIP				IAML		09 16 30.6	
	comp=E,651nm,0.6s						
CELP	**Cerrillos**	**2.09**	**125**	⇓*e*P	**Pb**	**09 15 57.4**	**0.0**
CELP	**Cerrillos**	**2.09**	**125**	*e*S	**Sb**	**09 16 23.3**	**-0.2**
CELP	**Cerrillos**	**2.09**	**125**		**Pb**	**09 15 57.2**	**-0.3**
CELP					**Sb**	**09 16 23.1**	**-0.4**
CELP				IAML		09 16 27.4	
	comp=E,892nm,0.7s						
CELP				IAML		09 16 28.7	
	comp=N,1μm,0.6s						
SODR	**Sosua Marina B**	**2.12**	**283**	⇑*e*Pg	**Pg**	**09 16 00.3**	**+0.2**
SODR				⇑*e*Sg	**Sg**	**09 16 27.7**	**0.0**
SODR				IAML		09 16 47.0	
	comp=N,763nm,1.3s						
ABDR	**Alto Bandera**	**2.18**	**258**	⇓*e*Pg	**Pg**	**09 15 59.9**	**-1.4**
ABDR				⇑*e*Sg	**Sg**	**09 16 28.6**	**-1.0**
ABDR				IAML		09 16 34.1	
	comp=N,771nm,0.3s						
GCPR	**Guaynabo City**	**2.38**	**114**	⇑*e*P	**Pb**	**09 16 01.1**	**-1.3**
GCPR	**Guaynabo City**	**2.38**	**114**	*e*S	**Sb**	**09 16 29.7**	**-2.2**
GCPR	**Guaynabo City**	**2.38**	**114**		**Pb**	**09 16 01.3**	**-1.1**
GCPR					**Sb**	**09 16 30.0**	**-1.9**
SJG	**San Juan**	**2.42**	**119**	⇑*e*P	**Pb**	**09 16 00.8**	**-2.2**
SJG	**San Juan**	**2.42**	**119**	*e*S	**Sn**	**09 16 29.4**	**+0.8**
SJG	**San Juan**	**2.42**	**119**		**Pb**	**09 16 00.8**	**-2.2**
SJG				IAML		09 16 36.8	
	comp=N,360nm,0.7s						
SJG				IAML		09 16 38.2	
	comp=N,500nm,0.7s						
SJG	**San Juan**	**2.42**	**119**	⇑*e*Pg	**Pb**	**09 16 00.8**	**-2.2**
SJG				⇑*e*Sg	**Sb**	**09 16 30.9**	**-2.0**
IGPR	**InterUniversit**	**2.52**	**121**	⇑*e*P	**Pb**	**09 16 03.1**	**-1.7**
IGPR	**InterUniversit**	**2.52**	**121**		**Pb**	**09 16 03.1**	**-1.7**
MADR	**Mao Valverde**	**2.59**	**277**	⇑*e*Pg	**Pb**	**09 16 05.4**	**-0.5**
MADR				⇓*e*Sg	**Sg**	**09 16 42.6**	**+0.1**
MADR				IAML		09 16 57.0	
	comp=N,1μm,0.6s						
SDDR	**Presa de Saban**	**2.77**	**264**		**Pb**	**09 16 08.3**	**-0.9**
SDDR				IAML		09 16 53.9	
	comp=N,522nm,0.6s						
SDDR				IAML		09 16 57.4	
	comp=N,430nm,0.7s						
SDDR	**Presa de Saban**	**2.77**	**264**	*e*P	**Pb**	**09 16 08.2**	**-0.9**
SDDR				*e*S	**Sg**	**09 16 47.6**	**-0.9**
SDDR	**Presa de Saban**	**2.77**	**264**	⇓*e*Pg	**Pb**	**09 16 08.2**	**-0.9**
SDDR				⇑*e*Sg	**Sg**	**09 16 47.0**	**-1.4**
SDDR				IAML		09 16 57.1	
	comp=N,380nm,0.8s						
SDDR	**Presa de Saban**	**2.77**	**264**	*i* P	**Pb**	**09 16 08.2**	**-0.9**
SDDR				IAML		09 16 52.8	
	comp=Z,235nm,0.4s						
PODR	**Polo**	**2.97**	**248**	⇑*e*Pg	**Pb**	**09 16 11.3**	**-1.3**
PODR				⇓*e*Sg	**Sb**	**09 16 50.0**	**+0.9**
PODR				IAML		09 16 57.8	
	comp=N,240nm,0.3s						
PODR	**Polo**	**2.97**	**248**	*i* P	**Pb**	**09 16 11.3**	**-1.3**
PODR				*e*S	**Sb**	**09 16 48.3**	**-0.7**
NEDR	**Neiba UASD**	**2.99**	**255**	⇑*e*Pg	**Pb**	**09 16 12.3**	**-0.5**
NEDR				⇑*e*Sg	**Sb**	**09 16 50.9**	**+1.6**
NEDR				IAML		09 17 01.1	
	comp=N,180nm,0.5s						
MCDR	**Montecristi**	**3.15**	**282**	⇑*e*Pg	**Pb**	**09 16 14.1**	**-1.4**
MCDR				⇓*e*Sg	**Sg**	**09 16 56.6**	**-4.0**
MCDR				IAML		09 17 12.2	
	comp=N,358nm,0.7s						
LOPE2	**Hotel El Peder**	**3.43**	**249**	*i* P	**Pb**	**09 16 18.4**	**-1.9**
LOPE2				IAML		09 17 16.7	
	comp=Z,121nm,0.8s						
PAPH	**Port-au-Prince**	**3.79**	**259**	Pn	Pb	09 16 21.6	-4.9
PAPH				IAML		09 17 22.2	
	comp=E,196nm,0.8s						
PAPH	**Port-au-Prince**	**3.79**	**259**	*i* P	**Pb**	**09 16 22.1**	**-4.3**
PAPH				IAML		09 17 22.4	
	comp=Z,42nm,0.7s						
SABA	**Saba**	**5.15**	**108**	Pn	**Pn**	**09 16 39.9**	**+3.3**
SMRT	**St. Maarten**	**5.18**	**103**	Pn	Pn	09 16 41.0	+4.0
ANBD	**Bethesda, Anti**	**6.67**	**108**	*e*P	Pn	09 17 01.1	+3.6
ANBD	**Bethesda, Anti**	**6.67**	**108**	*e*S	Sb	09 18 23.6	-12
BAUV	**El Baul**	**10.29**	**178**		**Pn**	**09 17 48.7**	**+1.5**
SDV	**Santo Domingo**	**10.57**	**192**	Pn	**Pn**	**09 17 52.6**	**+1.4**

*NEIC **02** 09:40:29.8±2.1, 12°.27N±0°.06×86°.68W±0°.06, h134km±4km, mb4.6/260, Error ellipse: s-maj=9.1km s-min=7.2km az=220.0*
*IDC **02** 09:40:29.5±0.8, 12°.44N×86°.25W, h144km±6km, mb4.0/14, mbtmp4.4/15, Error ellipse: s-maj=20.1km s-min=10.3km az=60.0*
*UPA **02** 09:40:29.1±6.5, 11°.90N×78°.17W, h10km±999km, MW5.2*
*CATAC **02** 09:40:30.8±0.2, 12°.21N×86°.73W, h107km±3km, MB5.4, mb5.2, ML4.4*
*SNET **02** 09:40:31.6±1.2, 12°.29N×86°.93W, h129km±42km, ML4.3*
*UCR **02** 09:40:34.3±1.0, 11°.94N×86°.53W, h8km±17km, MW4.5*
ISC 02 09:40:28.3±0.4, **12°.21N**±0°.03×**86°.72W**±0°.04, **h138**km±3km, **n652**, σ**1s.22**/585, **mb4.6**/127, **2C, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.13**	**104**	*i* P	**Pn**	**09 40 46.5**	**-0.5**
COPN				IAML		09 41 01.3	
	comp=Z,26μm,1.0s						
BC86	**Nagarote**	**0.16**	**71**	*i* P	**Pn**	**09 40 45.9**	**-1.1**
BC86				*i* S	**Sn**	**09 40 59.6**	**-1.5**
BC86				IAML		09 41 06.8	
	comp=Z,17μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.21**	**29**	*i* P	**Pn**	**09 40 46.5**	**-0.6**
LEVN				*i* S	**Sn**	**09 41 00.4**	**-1.0**
LEVN				IAML		09 41 02.6	
	comp=Z,20μm,1.0s						
BC84	**Volcan Momotom**	**0.25**	**45**	*i* P	**Pn**	**09 40 46.7**	**-0.5**
BC84				IAML		09 41 05.4	
	comp=Z,12μm,1.0s						
MOMN	**Momotombo**	**0.26**	**42**	*i* P	**Pn**	**09 40 46.6**	**-0.7**
MOMN				IAML		09 40 47.3	
	comp=Z,540nm,1.0s						
MOMN				*i* S	**Sn**	**09 41 00.1**	**-1.6**
CNGA	**Al SSO del Vol**	**0.28**	**4**	*i* P	**Pn**	**09 40 46.9**	**-0.5**
CNGA				IAML		09 41 09.2	
	comp=Z,14μm,1.0s						
CNGN	**Cerro Negro**	**0.29**	**5**		**Pn**	**09 40 46.9**	**-0.5**
CNGN				Sn	**Sn**	**09 41 01.2**	**-0.7**
CNGN	**Cerro Negro**	**0.29**	**5**	⇑*i*P	**Pn**	**09 40 46.8**	**-0.6**
CNGN	**Cerro Negro**	**0.29**	**5**	*e*P	**Pn**	**09 40 46.9**	**-0.5**
CNGN				*e*S	**Sn**	**09 41 00.6**	**-1.3**
CNGN	**Cerro Negro**	**0.29**	**5**	*i* P	**Pn**	**09 40 46.8**	**-0.6**
CNGN				IAML		09 41 08.1	
	comp=Z,12μm,1.0s						
SAPS	**Ciudad Sandino**	**0.31**	**98**	*i* P	**Pn**	**09 40 47.1**	**-0.3**
SAPS				*i* S	**Sn**	**09 41 01.2**	**-0.7**
SAPS				IAML		09 41 05.4	
	comp=Z,17μm,1.0s						
MOM2	**El Cardon**	**0.32**	**46**	*i* P	**Pn**	**09 40 47.3**	**-0.2**
MOM2				IAML		09 40 47.8	

comp=Z,8µm,1.0s
APYN Apoyeque 0.36 87 *i* P **Pn** **09 40 47.4 -0.2**
APYN IAML 09 41 13.0
comp=Z,8µm,1.0s
APQ2 Apoyeque 0.39 92 *i* P **Pn** **09 40 47.4 -0.3**
APQ2 *i* S **Sn** **09 41 02.9 +0.6**
APQ2 IAML 09 41 05.0
comp=Z,11µm,1.0s
TELN Telica 0.40 345 *i* P **Pn** **09 40 47.7 -0.2**
TELN IAML 09 40 49.0
comp=Z,690nm,1.0s
HERN Volcan Telica 0.41 345 *i* P **Pn** **09 40 47.3 -0.6**
HERN IAML 09 40 49.7
comp=Z,8µm,1.0s
ABCN Banco Central 0.41 103 *i* P **Pn** **09 40 47.8 0.0**
ABCN *i* S **Sn** **09 41 01.7 -0.9**
ABCN IAML 09 41 09.5
comp=Z,41µm,1.0s
APQN BB Volcan Apoy 0.41 89 *i* P **Pn** **09 40 47.3 -0.5**
MSHP Masachapa 0.42 154 *i* P **Pn** **09 40 47.8 -0.1**
MSHP IAML 09 41 03.6
comp=Z,22µm,1.0s
ALLN Telcor Managua 0.44 97 *i* P **Pn** **09 40 47.4 -0.5**
ALLN IAML 09 41 07.5
comp=Z,14µm,1.0s
POLN Al Sur del Vol 0.44 349 *i* P **Pn** **09 40 47.2 -0.8**
POLN IAML 09 40 49.4
comp=Z,25nm,1.0s
TISN Laguna Tiscapa 0.45 99 *i* P **Pn** **09 40 47.6 -0.4**
TISN IAML 09 41 08.1
comp=Z,770nm,1.0s
UNAN Cigeo UNAN 0.45 103 *i* P **Pn** **09 40 47.6 -0.4**
UNAN *i* S **Sn** **09 41 02.4 -0.5**
UNAN IAML 09 41 08.5
comp=Z,69µm,1.0s
ENAN Enatrel Managu 0.46 102 *i* PA 09 40 48.3
ENAN IAML 09 41 08.2
comp=Z,22µm,1.0s
MGA1 Managua 0.47 98 *i* PA 09 40 48.8
MGA1 IAML 09 41 05.4
comp=Z,11µm,1.0s
CRUN El Crucero 0.47 119 *i* PA 09 40 48.5
CRUN IAML 09 41 03.3
comp=Z,34nm,1.0s
BC87 San Francisco 0.51 55 *i* PA 09 40 48.6
BC87 IAML 09 41 05.3
comp=Z,16µm,1.0s
WILN Americas 2 0.53 96 *i* PA 09 40 48.3
WILN IAML 09 41 14.0
comp=Z,10µm,1.0s
AERN Aeropuerto Man 0.55 97 *i* PA 09 40 50.4
AERN IAML 09 41 13.4
comp=Z,11µm,1.0s
HUEN 0.55 77 *i* PA 09 40 48.6
HUEN IAML 09 41 07.7
comp=Z,5µm,1.0s
CHNN El Viejo 0.57 316 *i* PA 09 40 48.4
CHNN IAML 09 40 48.6
comp=Z,17µm,1.0s
CRIN San Cristobal 0.58 327 **Pn** **09 40 48.7 -0.2**
CRIN Sn **Sn** **09 41 04.3 -0.1**
CRIN San Cristobal 0.58 327 *i* P **Pn** **09 40 48.6 -0.2**
CRIN San Cristobal 0.58 327 *eP* **Pn** **09 40 48.5 -0.3**
CRIN *eS* **Sn** **09 41 04.2 -0.2**
CRIN San Cristobal 0.58 327 *i* PA 09 40 48.7
CRIN IAML 09 41 08.2
comp=Z,50µm,1.0s
ADRN Diriamba 0.59 127 *i* P **Pn** **09 40 48.7 -0.2**
ADRN IAML 09 41 07.6
comp=Z,51µm,1.0s
MASN Masaya 0.60 112 *i* PA 09 40 51.5
MASN IAML 09 41 06.8
comp=Z,3µm,1.0s
TIPN Tipitapa 0.61 92 *i* PA 09 40 50.2
TIPN IAML 09 41 20.2
comp=Z,10µm,1.0s
BRAN Las Pilas 0.62 36 *i* P **Pn** **09 40 47.1 -1.9**
BRAN IAML 09 40 47.8
comp=Z,14µm,1.0s
BRAN *i* S **Sn** **09 41 01.8 -2.9**
AESN El Sauce Leon 0.69 15 IAML 09 40 49.4
comp=Z,6µm,1.0s
AESN *i* PA 09 40 49.7
GRNN Granada 0.80 110 *i* PA 09 40 50.9
GRNN IAML 09 41 13.4
comp=Z,12µm,1.0s
LIMN Finca el Limon 0.91 22 *i* PA 09 40 51.6
LIMN IAML 09 40 51.7
comp=Z,10µm,1.0s
MATN Matagalpa 1.06 47 **Pn** **09 40 52.7 +0.2**
MATN Sn **Sn** **09 41 11.3 +0.3**
MATN Matagalpa 1.06 47 *eP* **Pn** **09 40 52.7 +0.2**
MATN *eS* **Sn** **09 41 10.4 -0.6**
MATN Matagalpa 1.06 47 *i* PA 09 40 52.8
MATN IAML 09 40 53.3
comp=Z,4µm,1.0s
JAPN Al SSO del Vol 1.23 124 *i* PA 09 40 55.2
JAPN IAML 09 41 27.0
comp=Z,7µm,1.0s
MORN Al O del Volca 1.24 122 *i* PA 09 40 54.9
MORN IAML 09 41 23.5
comp=Z,17µm,1.0s
CONN Concepcion 1.25 121 *i* PA 09 40 54.9
CONN IAML 09 40 55.4
comp=Z,47µm,1.0s
OMEN Al SSO del Vol 1.28 123 *i* PA 09 40 54.5
OMEN IAML 09 41 23.9
comp=Z,8µm,1.0s
AMPH Amapala 1.41 320 *i* PA 09 40 56.4
RCPN Sur Rio San Ju 1.44 25 *i* PA 09 40 56.4
RCPN IAML 09 40 56.5
comp=Z,19nm,1.0s
CNCH Conchagua 1.52 314 *eP* **Pn** **09 40 57.5 +0.2**
CNCH *eS* **Sn** **09 41 19.4 +0.1**
CNCH IAML 09 41 23.6
comp=Z,8µm,0.4s
CNCH Conchagua 1.52 314 *i* PA 09 40 57.7
CNCH IAML 09 41 26.1
comp=Z,7µm,1.0s
ACON Acoyapa 1.53 99 **Pn** **09 40 57.8 +0.4**
ACON Acoyapa 1.53 99 *i* P **Pn** **09 40 57.6 +0.4**
ACON Acoyapa 1.53 99 *eP* **Pn** **09 40 57.6 +0.3**
ACON *eS* **Sn** **09 41 19.8 +0.3**
ACON Acoyapa 1.53 99 *i* PA 09 40 57.8
ACON IAML 09 40 58.3
comp=Z,8µm,1.0s
LCND La Caada 1.58 314 *i* PA 09 40 59.2
LCND IAML 09 41 37.5
comp=Z,18µm,1.0s
YUSH Yuscaran 1.73 356 *i* PA 09 41 00.7
HZTE Horizontes, Gu 1.85 143 **Pn** **09 41 01.9 +0.9**
HZTE Horizontes, Gu 1.85 143 *eP* **Pn** **09 41 01.7 +0.7**
HZTE Horizontes, Gu 1.85 143 *i* PA 09 41 02.1
HZTE IAML 09 41 27.8
comp=Z,7µm,1.0s
TGUH Tegucigalpa,Un 1.91 344 Pn **Pn** **09 41 02.6 +0.8**
TGUH Tegucigalpa,Un 1.91 344 *eP* **Pn** **09 41 02.7 +0.9**
TGUH Tegucigalpa,Un 1.91 344 *i* PA 09 41 02.9
TGUH IAML 09 41 03.3
comp=Z,2µm,1.0s
BLLM Bellamira 1.92 310 *i* P **Pn** **09 41 03.7 +1.9**
VRLE La Escondida, 1.94 137 *i* PA 09 41 04.7
VRLE IAML 09 41 30.6
comp=Z,3µm,1.0s
LCY Lacayo 1.95 308 *eP* **Pn** **09 41 03.1 +0.8**
LCY IAML 09 41 34.2
comp=Z,2µm,0.2s
PACA Pacayal 2.00 309 *eP* **Pn** **09 41 03.8 +1.0**
PACA Pacayal 2.00 309 *i* PA 09 41 04.3
PACA IAML 09 41 34.2
comp=Z,18µm,1.0s
DELF Filadelfia 2.10 147 *eP* **Pn** **09 41 05.0 +1.2**
DELF *eS* **Sn** **09 41 30.7 -0.5**
VMAR Armenia, Volca 2.10 131 *eP* **Pn** **09 41 04.3 +0.3**
VMAR *eS* **Sn** **09 41 30.5 -0.9**
VMAR Armenia, Volca 2.10 131 *i* PA 09 41 04.8
VMAR IAML 09 41 33.7
comp=Z,4µm,1.0s
ALJI Alcalda de J 2.12 302 *i* PA 09 41 04.3
ALJI IAML 09 41 04.7
comp=Z,2µm,1.0s
CAHU Cacacuatique 2.12 317 *eP* **Pn** **09 41 05.5 +1.1**
TECA Tecapa 2.15 306 *eP* **Pn** **09 41 05.4 +0.6**
ORTG Ortega, Santa 2.22 146 Pn **Pn** **09 41 06.5 +1.0**
ORTG Ortega, Santa 2.22 146 *eP* **Pn** **09 41 06.5 +1.0**
ORTG *eS* **Sn** **09 41 33.1 -0.9**
ORTG Ortega, Santa 2.22 146 *i* PA 09 41 06.6
ORTG IAML 09 41 34.3
comp=Z,2µm,1.0s
SACU Santa Cruz 2.24 150 *eP* **Pn** **09 41 06.6 +1.0**
SACU *eS* **Sn** **09 41 32.7 -1.5**
VERA Finca Concepci 2.26 126 *eP* **Pn** **09 41 06.5 +0.6**
PLVR Palo Verde 2.29 144 *eP* **Pn** **09 41 07.6 +1.1**
JUD3 Juan Diaz 3 2.34 150 *eP* **Pn** **09 41 07.9 +0.9**
JUD3 *eS* **Sn** **09 41 35.3 -1.4**
COMHN El Horno 2.36 340 *i* PA 09 41 08.1
CNAS Canas 2.38 138 *eP* **Pn** **09 41 08.6 +1.1**
TECO Alcaldia de Te 2.40 303 *i* PA 09 41 09.8
TECO IAML 09 41 42.8
comp=Z,1µm,1.0s
NICO Nicoya 2.41 149 *eP* **Pn** **09 41 08.8 +0.9**
NICO *eS* **Sn** **09 41 36.3 -1.9**
UESV Universidad de 2.46 305 *i* PA 09 41 10.1
UESV IAML 09 41 42.3
comp=Z,1µm,1.0s
CMARA Lajas Hojancha 2.52 150 *eP* **Pn** **09 41 10.1 +0.8**
COEG Centro de Oper 2.53 304 *i* PA 09 41 10.4
COEG IAML 09 41 47.8
comp=Z,2µm,1.0s
JTS Las Juntas de 2.58 138 **Pn** **09 41 10.3 +0.4**
JTS Las Juntas de 2.58 138 P **Pn** **09 41 10.4 +0.5**
comp=Z,315nm,0.3s,baz=297,slow=24,SNR=169
JTS S **Sn** **09 41 37.8 -4.2**
comp=Z,173nm,0.3s,baz=110,slow=22,SNR=5.2
JTS Las Juntas de 2.58 138 *eP* **Pn** **09 41 10.6 +0.7**
JTS Las Juntas de 2.58 138 *eP* **Pn** **09 41 10.8 +0.9**
CEDE Laguna Cedeo 2.62 131 *eP* **Pn** **09 41 11.1 +0.7**
INDI Punta indio, G 2.62 153 *eP* **Pn** **09 41 11.1 +0.7**
INDI Punta indio, G 2.62 153 *i* PA 09 41 11.2
INDI IAML 09 41 42.1
comp=Z,3µm,1.0s
PAVA Las Pavas 2.62 305 *i* PA 09 41 12.1
PAVA IAML 09 41 50.3
comp=Z,2µm,1.0s
ARE1 Arenal 1 2.62 131 **Pn** **09 41 11.2 +0.8**
ARE1 Arenal 1 2.62 131 *eP* **Pn** **09 41 11.1 +0.6**
SJTE Alcalda de S 2.63 302 *i* PA 09 41 11.8
SJTE IAML 09 41 46.2
comp=Z,2µm,1.0s
VACR Volcan Arenal 2.65 131 *i* PA 09 41 13.5
VACR IAML 09 42 06.7
comp=Z,980nm,1.0s
LFRS El Faro 2.68 302 *eP* **Pn** **09 41 11.9 +0.7**
COVE Coope Vega, Sa 2.72 123 **Pn** **09 41 12.0 +0.4**
COVE Coope Vega, Sa 2.72 123 *i* PA 09 41 12.8
COVE IAML 09 42 25.2
comp=Z,710nm,1.0s
SOCE Pocosol 2.75 131 **Pn** **09 41 12.6 +0.5**
SOCE Pocosol 2.75 131 *eP* **Pn** **09 41 12.5 +0.4**
SOCE Pocosol 2.75 131 *i* PA 09 41 13.4
SOCE IAML 09 41 54.7
comp=Z,850nm,1.0s
PANCS Alcalda de 2.77 300 *i* PA 09 41 14.2
PANCS IAML 09 41 46.3
comp=Z,3µm,1.0s
LOMA Loma Larga 2.78 301 *i* PA 09 41 14.0
LOMA IAML 09 41 48.0
comp=Z,2µm,1.0s
IGN Direccin Gen 2.81 302 *i* PA 09 41 15.4
IGN IAML 09 41 49.7
comp=Z,6µm,1.0s
LALI Alcalda de L 2.83 297 *i* PA 09 41 14.0
LALI IAML 09 41 48.7
comp=Z,500nm,1.0s
UTEC Universidad Te 2.83 302 *i* PA 09 41 15.6
UTEC IAML 09 41 56.3
comp=Z,2µm,1.0s
SNET Serv Nac Est T 2.85 301 **Pn** **09 41 14.4 +1.1**
SNET Serv Nac Est T 2.85 301 *eP* **Pn** **09 41 14.5 +1.1**
SNET *eS* **Sn** **09 41 47.3 -0.9**
SNET Serv Nac Est T 2.85 301 *i* P Pn 09 41 23.1 +10
SEMO Seminario San 2.85 302 *i* PA 09 41 15.8
SEMO IAML 09 41 49.6
comp=Z,5µm,1.0s
ITCA Escuela Especi 2.88 301 *i* PA 09 41 15.3
ITCA IAML 09 41 56.3
comp=Z,7µm,1.0s
BLUN Bluefields 2.89 94 *i* PA 09 41 15.0
BLUN IAML 09 41 15.2
comp=Z,1µm,1.0s
MAGS Ministerio de 2.90 301 *i* PA 09 41 15.6
MAGS IAML 09 41 52.9
comp=Z,2µm,1.0s
LLGN La Laguna 2.91 312 *i* PA 09 41 16.0
LLGN IAML 09 41 45.8
comp=Z,440nm,1.0s
BOQS Boqueron 2.92 302 *eP* **Pn** **09 41 15.9 +1.5**
PMON Piamonte 2.93 301 *i* PA 09 41 16.0
PMON IAML 09 41 53.6
comp=Z,3µm,1.0s
CPMI Catarata Coope 2.99 130 *i* PA 09 41 19.4
CPMI IAML 09 41 58.8
comp=Z,970nm,1.0s
JAYA Jayaque - finc 3.02 299 *i* PA 09 41 18.8
JAYA IAML 09 41 52.4
comp=Z,7µm,1.0s
TRB2 Turrubares 3.19 135 *eP* **Pn** **09 41 18.6 +0.8**
TCS1 Tacares 3.21 132 *eP* **Pn** **09 41 19.1 +1.1**
TCS1 Tacares 3.21 132 *i* PA 09 41 19.8
TCS1 IAML 09 42 06.8
comp=Z,7µm,1.0s
SARH Santa Rosa de 3.23 322 *i* PA 09 41 20.6
JACO JACO, Garabito 3.24 141 **Pn** **09 41 19.5 +1.1**
JACO JACO, Garabito 3.24 141 *eP* **Pn** **09 41 19.5 +1.1**
JACO JACO, Garabito 3.24 141 *i* PA 09 41 19.9
JACO IAML 09 41 59.3
comp=Z,1µm,1.0s
SBLS San Blas 3.26 300 *eP* **Pn** **09 41 20.2 +1.4**
SBLS IAML 09 42 04.0
comp=Z,298nm,0.3s
UNIC Universidad Ca 3.27 303 *i* PA 09 41 20.1
UNIC IAML 09 42 05.0
comp=Z,500nm,1.0s
RTR El Retiro 3.31 301 *eP* **Pn** **09 41 21.1 +1.7**
RIFO Rio Frio, Sara 3.33 124 *eP* **Pn** **09 41 19.9 +0.4**
RIFO Rio Frio, Sara 3.33 124 *i* PA 09 41 20.6
RIFO IAML 09 42 18.4
comp=Z,490nm,1.0s
TRT2 Tortugero 3.36 119 *i* PA 09 41 20.8
TRT2 IAML 09 41 29.1
comp=Z,540nm,1.0s
HDC Heredia 3.37 130 **Pn** **09 41 21.4 +1.2**
HDC3 Heredia 3 3.38 130 *i* P **Pn** **09 41 21.4 +1.2**
HDC3 *i* S **Sn** **09 41 58.6 -1.8**
HDC3 IAML 09 42 15.2
comp=Z,710nm,1.0s
NUBE Las Nubes 3.42 300 *i* P **Pn** **09 41 21.8 +1.0**
NUBE *i* S **Sn** **09 42 01.1 -0.3**
NUBE IAML 09 42 04.4
comp=Z,1µm,1.0s
OCM Ochomogo 3.56 130 *i* P **Pn** **09 41 23.7 +1.0**
OCM *i* S **Sn** **09 42 06.5 +1.8**
OCM IAML 09 42 14.1
comp=Z,510nm,1.0s
HAYA Volcan Irazu 3.59 128 *i* PA 09 41 26.3
HAYA IAML 09 42 19.3
comp=Z,660nm,1.0s
LCR2 La Lucha 2 3.63 132 **Pn** **09 41 24.4 +0.8**
LCR2 La Lucha 2 3.63 132 *eP* **Pn** **09 41 24.4 +0.8**
LCR2 La Lucha 2 3.63 132 *i* P **Pn** **09 41 24.7 +1.1**
LCR2 *i* S **Sn** **09 42 07.1 +0.8**
LCR2 IAML 09 42 10.0
comp=Z,760nm,1.0s
RAFA San Farael, Vo 3.63 128 *i* P **Pn** **09 41 25.5 +1.7**
RAFA IAML 09 42 20.7
comp=Z,2µm,1.0s
PCAYA Pacayas 3.66 128 *eP* **Pn** **09 41 26.1 +2.1**
REPA Paraso 3.67 130 *eP* **Pn** **09 41 26.3 +2.2**
RIMA Rio Macho 3.71 131 Pn **Pn** **09 41 25.8 +1.1**
RIMA Rio Macho 3.71 131 *eP* **Pn** **09 41 25.6 +0.9**
RIMA Rio Macho 3.71 131 *i* P **Pn** **09 41 25.8 +1.1**
RIMA IAML 09 42 14.0
comp=Z,480nm,1.0s
NISHN Nisperales Com 3.72 342 *i* P **Pn** **09 41 26.5 +1.9**
CDM Cerro de Muert 3.93 132 *i* P **Pn** **09 41 30.2 +2.4**
CDM IAML 09 42 18.9
comp=Z,970nm,1.0s
OCHAL Ojochal 4.33 135 *i* P **Pn** **09 41 34.6 +2.0**
OCHAL IAML 09 42 28.4
comp=Z,6.1nm,1.0s
DRK0 Durika 4.50 130 **Pn** **09 41 37.1 +2.0**
POTG Potrero Grande 4.73 131 *i* P **Pn** **09 41 40.5 +2.4**
POTG IAML 09 42 39.1
comp=Z,640nm,1.0s
CNI2 El Empalme, Bo 5.01 123 *eP* **Pn** **09 41 44.4 +2.6**
CNI2 *eS* **Sn** **09 42 41.5 +2.6**
PIRO Carate, Puerto 5.04 138 *i* P **Pn** **09 41 44.0 +1.9**
PIRO IVmB_BB 09 41 45.6
comp=Z,5µm,1.0s
PIRO IAmb IAmb 09 41 45.7
comp=Z,160nm,0.4s
PIRO IAML 09 42 42.9
comp=Z,550nm,1.0s
BRU2 Volcan 5.22 130 Pn **Pn** **09 41 46.5 +1.8**
BRU2 Volcan 5.22 130 *eP* **Pn** **09 41 47.0 +2.3**
BRU2 *eS* **Sn** **09 42 45.1 +0.9**
CDITO Canoas 5.24 133 **Pn** **09 41 46.1 +1.4**
BCO2 Palmira 5.39 130 *eP* **Pn** **09 41 48.9 +1.9**
BCO2 *eS* **Sn** **09 42 49.0 +0.7**
DVD David 5.63 131 *eP* **Pn** **09 41 51.7 +1.6**
DVD *eS* **Sn** **09 42 53.9 0.0**
CCIG Comitan 6.63 308 Pn **Pn** **09 42 05.8 +2.3**
BCIP Isla Barro Col 7.41 113 Pn **Pn** **09 42 15.7 +1.7**
CACAO El Cacao, Vera 7.53 129 *eP* **Pn** **09 42 11.4 -4.2**
TEIG Tepich 8.11 350 Pn **Pn** **09 42 23.4 +0.2**
TEIG Tepich 8.11 350 P **Pn** **09 42 26.1 +2.9**
comp=Z,45nm,0.3s,baz=113,slow=18,SNR=2.0
CMIG Matias Romero 9.27 303 P **Pn** **09 42 39.8 +1.0**
comp=Z,8.2nm,0.5s,baz=164,slow=8.7,SNR=30
CMIG S **Sn** **09 44 14.7 -6.8**
comp=Z,5.1nm,0.8s,baz=93,slow=15,SNR=1.8
APAC Apartado, Choc 10.87 112 *eP* **Pn** **09 42 59.5 -0.6**
UREC San Jos de Ur 11.88 111 *eP* **Pn** **09 43 13.3 -0.2**
CBOC Ciudad Bolivar 12.31 120 *eP* **Pn** **09 43 20.9 +1.6**
ARGC Ariguani, Magd 12.47 100 *eP* Pn 09 43 11.0 -10
ZARC Zaragoza, Cauc 12.59 111 *eP* **Pn** **09 43 21.6 -1.3**
TLIG Tlapa 12.62 296 **Pn** **09 43 25.6 +2.3**
YOTC Yotoco, Valle 13.12 128 *eP* **Pn** **09 43 30.2 +0.4**
GUY2C Guyana, Caldas 13.20 121 *eP* **Pn** **09 43 32.7 +1.7**
PAYG Puerto Ayora 13.28 196 Pn **Pn** **09 43 32.2 +0.5**
PAYG Puerto Ayora 13.28 196 *eP* **P** **09 43 36.4 0.0**
PTBC PUERTO BERRIO, 13.35 114 *eP* **Pn** **09 43 34.3 +1.8**
JAMC Jamundi, Valle 13.38 131 *eP* **P** **09 43 38.8 +1.1**
GTBY Guantanamo Bay 13.54 54 Pn **Pn** **09 43 33.9 -1.0**
GTBY Guantanamo Bay 13.54 54 *eP* **P** **09 43 41.7 +2.5**
CRJC Cerrejon, Guaj 13.61 94 *eP* **P** **09 43 41.8 +1.6**
OCAC Ocana 13.77 105 *eP* **Pn** **09 43 38.3 +0.2**
BBAC Balboa, Cauca 13.81 136 *eP* **Pn** **09 43 40.1 +1.4**
POPC Popayan, Colom 13.83 133 *eP* **Pn** **09 43 40.8 +1.9**
ORTC Ortega, Tolima 14.03 125 *eP* **P** **09 44 00.4 -0.8**
SPBC San Pablo de B 14.09 116 *eP* **Pn** **09 43 43.5 +1.4**
ROSC El Rosal 14.28 120 Pn **Pn** **09 43 41.9 -2.9**
ROSC El Rosal 14.28 120 P **P** **09 43 49.1 +1.2**
comp=Z,14nm,0.6s,baz=95,slow=16,SNR=7.9
GCUF Volcan Galeras 14.34 139 *eP* **P** **09 43 49.2 +0.5**
PRAC Prado 14.44 125 Pn **Pn** **09 43 45.0 -1.4**
PRAC Prado 14.44 125 *eP* **P** **09 43 49.0 -0.3**
OTAV Otavalo 14.45 145 Pn **Pn** **09 43 45.2 -1.8**
OTAV Otavalo 14.45 145 *eP* **P** **09 43 49.1 -0.8**
TULM Tulcn-Chalpat 14.46 142 Pn **Pn** **09 43 48.5 +1.4**
BARC Barichara 14.47 111 *eP* **P** **09 43 48.8 -1.2**
IMBA Imbabura, San 14.56 144 Pn **Pn** **09 43 49.6 +1.2**
PAMC Pamplona, Colo 14.64 108 *eP* **Pn** **09 43 47.9 -1.5**
FLOC Florencia 15.23 133 *eP* **P** **09 43 59.1 +1.0**
SLOR San Lorenzo - 15.23 147 Pn **Pn** **09 43 55.2 -1.6**
PAPH Port-au-Prince 15.25 64 **Pn** **09 43 54.0 -2.6**
CHSH Refugio Sur-Vo 15.69 150 Pn **Pn** **09 44 01.4 -1.2**
CHSH IAmb IAmb 09 44 09.9
comp=Z,14nm,0.7s
MOIG Morelia 15.76 300 Pn **Pn** **09 44 01.8 -1.3**
MOIG IAmb IAmb 09 44 08.5
comp=Z,36nm,1.3s
SDV Santo Domingo 16.16 100 **P** **09 44 08.4 -0.2**
SDV IAmb IAmb 09 44 09.6
comp=Z,24nm,0.8s
SDV Santo Domingo 16.16 100 P **Pn** **09 44 08.1 +0.2**
comp=Z,25nm,0.7s,baz=270,slow=6.1,SNR=44
SDV Santo Domingo 16.16 100 *eP* **Pn** **09 44 07.8 -0.1**
COHC Cochancay 16.36 153 **P** **09 44 11.5 +1.0**
COHC Cochancay 16.36 153 *eP* **P** **09 44 10.7 +0.1**
DWPF Disney Wildern 16.57 17 P **P** **09 44 13.1 +0.3**
baz=198
PTLC Puerto Leguiza 16.83 134 *eP* **Pn** **09 44 17.2 +1.3**
MCRA Macar, Loja 17.80 157 P **Pn** **09 44 29.0 +1.4**
MCRA Macar, Loja 17.80 157 *eP* **P** **09 44 22.9 -3.5**
BAUV El Baul 18.65 98 P **P** **09 44 36.2 +0.5**
BRAL Brewton 18.87 359 P **Pn** **09 44 40.1 0.0**
BRAL Brewton 18.87 359 P **Pn** **09 44 40.2 +0.2**
baz=179
352A Blakely 19.25 5 P **Pn** **09 44 45.1 +0.7**
346A Big Creek Wild 19.25 353 P **Pn** **09 44 45.0 +0.5**
346A IAmb IAmb 09 44 45.8
comp=Z,28nm,0.9s
TIGA Tifton 19.35 8 P **Pn** **09 44 45.9 +0.2**
TIGA Tifton 19.35 8 P **Pn** **09 44 45.6 -0.1**
baz=189
HKT Hockley 19.57 336 P **P** **09 44 47.0 +1.4**
250A Grady 19.68 1 P **Pn** **09 44 49.5 0.0**
250A IAmb IAmb 09 44 50.4
comp=Z,47nm,1.2s
833A Chaparral WMA, 19.93 325 P **P** **09 44 50.2 +0.7**
833A IAmb IAmb 09 44 54.4
comp=Z,19nm,0.8s
833A Chaparral WMA, 19.93 325 P **Pn** **09 44 51.4 -1.1**
baz=141
VBMS Vicksburg 20.22 351 P Pn 09 44 55.2 -0.6
baz=169
CELP Cerrillos 20.29 71 P **P** **09 44 54.4 +1.0**
CELP IAmb IAmb 09 44 57.6
comp=Z,24nm,0.8s
152A Waverly Hall 20.44 5 P **P** **09 44 56.7 +1.8**
154A Montrose 20.57 9 P Pn 09 44 59.1 -1.0
SJG San Juan 20.70 71 P Pn 09 45 00.4 -1.3
SJG IAmb IAmb 09 45 00.9
comp=Z,18nm,0.8s
SJG San Juan 20.70 71 P **P** **09 44 58.8 +1.1**
comp=Z,13nm,0.7s,baz=237,slow=8.6,SNR=4.8
LRAL Lakeview Retre 20.73 359 P **P** **09 44 59.9 +2.0**
LRAL IAmb IAmb 09 45 02.9
comp=Z,35nm,1.1s
LRAL Lakeview Retre 20.73 359 P Pn 09 45 00.7 -1.2
baz=179,SNR=9.7
NATX Nacogdoches 20.78 341 P **P** **09 45 00.0 +1.4**
NATX IAmb IAmb 09 45 04.7
comp=Z,20nm,0.8s
NATX Nacogdoches 20.78 341 P Pn 09 45 00.9 -1.6
baz=158
GCPR Guaynabo City 20.80 71 P **P** **09 44 59.3 +0.3**
GCPR IAmb IAmb 09 45 02.5
comp=Z,18nm,0.7s
HNDO Hondo 20.82 328 P **P** **09 44 59.7 +0.7**
Z47A Carrollton 20.93 357 IAmb IAmb 09 45 08.8
comp=Z,18nm,0.8s
ATAH Atahualpa 20.93 156 P Pn 09 45 04.7 -0.2
comp=Z,12nm,0.7s,baz=11,slow=9.3,SNR=6.8
435B Jarrell 21.04 333 P **P** **09 45 02.0 +0.7**
435B IAmb IAmb 09 45 05.7
comp=Z,32nm,1.1s
435B Jarrell 21.04 333 P **P** **09 45 02.9 +1.6**
baz=149
Z51A Franklin 21.05 4 P **P** **09 45 01.8 +0.3**
Z51A IAmb IAmb 09 45 06.1
comp=Z,35nm,0.9s
GOGA Godfrey 21.31 8 P **P** **09 45 05.6 +1.4**
GOGA Godfrey 21.31 8 P **P** **09 45 06.6 +2.3**
baz=189,SNR=9.8
DRIO Del Rio 21.46 325 P **P** **09 45 07.3 +1.5**
DRIO IAmb IAmb 09 45 09.2
comp=Z,18nm,1.0s
Y49A Blount Mountai 21.55 1 IAmb IAmb 09 45 09.6
comp=Z,32nm,0.7s
NHSC New Hope 21.64 15 P **P** **09 45 08.4 +0.6**
baz=197
PCRV Puerto La Cruz 21.76 93 P **P** **09 45 10.2 +1.0**
comp=Z,16nm,0.6s,baz=207,slow=5.3,SNR=15
JCT Junction City 21.85 328 P **P** **09 45 11.7 +1.7**
baz=144,SNR=6.9
WHTX Lake Whitney, 22.02 335 IAmb IAmb 09 45 13.7
comp=Z,18nm,0.6s
WHTX Lake Whitney, 22.02 335 P **P** **09 45 12.7 +0.9**
baz=151,SNR=7.9

BRDY Brady 22.11 331 P **P** 09 45 12.3 -0.3
BRDY IAmb IAmb 09 45 15.2
comp=Z,15nm,0.7s
X48A Hartselle 22.14 359 P **P** 09 45 14.3 +1.3
WLAR White Oak Lake 22.16 346 P **P** 09 45 14.9 +1.8
WLAR IAmb IAmb 09 45 15.4
comp=Z,20nm,1.1s
FPAL Fort Paine 22.25 2 P **P** 09 45 15.8 +1.7
FPAL IAmb IAmb 09 45 16.2
comp=Z,24nm,0.7s
Z38A Mt. Pleasant 22.27 341 P **P** 09 45 14.9 +0.7
Z38A IAmb IAmb 09 45 16.7
comp=Z,24nm,1.3s
HODGE Hodges 22.29 10 P **P** 09 45 16.0 +1.6
HODGE IAmb IAmb 09 45 17.3
comp=Z,39nm,1.1s
X51A Calhoun 22.32 4 IAmb IAmb 09 45 17.9
comp=Z,24nm,0.7s
OXF Oxford 22.33 354 P **P** 09 45 13.2 -1.6
OXF Oxford 22.33 354 P **P** 09 45 14.8 0.0
baz=173,SNR=5.9
Y57A Sumter 22.46 14 IAmb IAmb 09 45 19.5
comp=Z,49nm,1.1s
JSC Jenkinsville 22.53 12 P **P** 09 45 18.1 +1.4
PLAL Pickwick Lake 22.70 357 P **P** 09 45 19.3 +0.9
PLAL IAmb IAmb 09 45 20.4
comp=Z,27nm,0.8s
OZNA Ozona 22.89 327 IAmb IAmb 09 45 23.6
comp=Z,23nm,1.4s
SWET Sewanee 22.91 2 P **P** 09 45 22.1 +1.7
SWET IAmb IAmb 09 45 23.0
comp=Z,23nm,0.8s
W50A Signal Mountai 22.92 3 P **P** 09 45 21.9 +1.4
W50A IAmb IAmb 09 45 23.3
comp=Z,26nm,0.6s
PAULI Pauline 22.95 10 P **P** 09 45 22.5 +1.8
PAULI IAmb IAmb 09 45 23.5
comp=Z,34nm,0.7s
UALR University of 23.04 348 P **P** 09 45 21.8 +0.3
UALR IAmb IAmb 09 45 23.1
comp=Z,39nm,1.4s
HPIG 23.04 312 P **P** 09 45 23.9 +2.0
HPIG IAmb IAmb 09 45 25.6
comp=Z,13nm,0.8s
PLPT Palo Pinto 23.10 334 P **P** 09 45 23.5 +1.4
PLPT IAmb IAmb 09 45 24.5
comp=Z,36nm,0.9s
Z35A Perchaven, San 23.12 337 IAmb IAmb 09 45 25.6
comp=Z,17nm,0.7s
TX31 Lajitas Ar. Si 23.21 320 P **P** 09 45 24.4 +1.0
TX31 IAmb IAmb 09 45 25.9
comp=Z,11nm,0.8s
TXAR Lajitas Array 23.21 320 P **P** 09 45 24.1 +0.8
TXAR Lajitas Array 23.21 320 P **P** 09 45 24.5 +1.1
comp=Z,10nm,0.8s,baz=140,slow=9.4,SNR=100
TXAR pP **pP** 09 45 54.2 +4.4
comp=Z,3.2nm,0.7s,baz=137,slow=9.3,SNR=4.7
TXAR PcP **PcP** 09 49 08.1 +0.8
comp=Z,1.3nm,0.9s,baz=144,slow=4.5,SNR=5.7
comp=Z,10nm,0.8s
KMSC Kings Mountain 23.35 11 IAmb IAmb 09 45 27.0
comp=Z,31nm,0.8s
KMSC Kings Mountain 23.35 11 P **P** 09 45 25.7 +1.4
baz=193,SNR=8.5
V48A Smith Brothers 23.43 360 IAmb IAmb 09 45 29.2
comp=Z,15nm,0.7s
TKL Tuckaleechee C 23.50 6 P **P** 09 45 27.3 +1.6
ABTX Abilene, Hawle 23.52 332 IAmb IAmb 09 45 27.8
comp=Z,12nm,0.6s
ABTX Abilene, Hawle 23.52 332 P **P** 09 45 26.8 +0.7
baz=147,SNR=9.1
SMRT St. Maarten 23.54 73 P **P** 09 45 25.6 -0.7
V51A Loudon 23.59 5 IAmb IAmb 09 45 29.1
comp=Z,24nm,0.7s
V53A Saluda 23.62 8 IAmb IAmb 09 45 31.6
comp=Z,26nm,0.8s
X37A Clayton 23.62 342 P **P** 09 45 27.3 +0.4
W57A Gilead 23.64 14 P **P** 09 45 28.2 +1.2
SGCY Sterling City 23.67 328 P **P** 09 45 27.9 +0.4
SGCY IAmb IAmb 09 45 29.2
comp=Z,10nm,0.5s
LOOK Love County 23.69 338 **P** 09 45 28.6 +1.1
V52A Sevierville 23.70 6 P **P** 09 45 27.8 +0.2
V52A IAmb IAmb 09 45 31.3
comp=Z,15nm,0.8s
CLTN Cedars of Leba 23.78 1 P **P** 09 45 27.8 -0.5
WVT Waverly 23.84 358 P **P** 09 45 29.2 +0.4
WVT Waverly 23.84 358 P **P** 09 45 30.9 +2.1
baz=177
ALPN Alpine 23.92 322 P **P** 09 45 30.4 +0.6
WTFS Witchita Falls 23.98 335 **P** 09 45 31.2 +1.0
WTFS IAmb IAmb 09 45 32.4
comp=Z,22nm,0.6s
W59A Clinton 24.05 17 P **P** 09 45 31.1 +0.4
V55A Taylorsville 24.06 11 P **P** 09 45 32.7 +1.9
V55A IAmb IAmb 09 45 35.7
comp=Z,30nm,1.2s
FCAR Ozark Folk Cen 24.07 349 P **P** 09 45 30.5 -0.5
LCAR Lake Charles 24.09 351 P **P** 09 45 31.0 0.0
MNHN Monahans 24.11 325 P **P** 09 45 32.1 +0.7
MNHN IAmb IAmb 09 45 34.3
comp=Z,15nm,0.7s
U49A Red Boiling Sp 24.21 2 P **P** 09 45 33.3 +1.1
U49A IAmb IAmb 09 45 36.1
comp=Z,17nm,0.8s
CZSB Cruzeiro do Su 24.22 144 P **P** 09 45 34.4 +1.8
CZSB IAmb IAmb 09 45 36.4
comp=Z,15nm,0.7s
CZSB Cruzeiro do Su 24.22 144 *e*P **P** 09 45 27.3 -5.2
CNNC Cliffs of the 24.28 18 P **P** 09 45 34.3 +1.5
baz=201
SN01 Snyder 1 24.31 330 P **P** 09 45 33.7 +0.5
APMT Aspermont 24.33 332 P **P** 09 45 34.5 +1.2
APMT IAmb IAmb 09 45 36.2
comp=Z,21nm,0.8s
TZTN Tazewell 24.39 6 P **P** 09 45 35.4 +1.5
baz=187
V58A Windy Hill, Pi 24.46 15 P **P** 09 45 36.2 +1.7
ODSA Odessa 24.59 326 P **P** 09 45 36.8 +1.0
ODSA IAmb IAmb 09 45 38.8
comp=Z,18nm,1.1s
U54A Nelsons Funny 24.60 10 P **P** 09 45 37.3 +1.4
U54A IAmb IAmb 09 45 40.6
comp=Z,27nm,0.9s
T47A Sharon Grove 24.67 359 IAmb IAmb 09 45 40.0
comp=Z,21nm,0.9s
T50A Nancy 24.76 4 P **P** 09 45 38.0 +0.8
T50A IAmb IAmb 09 45 38.9
comp=Z,8.7nm,0.7s
PECS Pecos 24.77 323 P **P** 09 45 38.9 +1.4
POST Post 24.78 329 P **P** 09 45 37.9 +0.4
POST IAmb IAmb 09 45 40.9
comp=Z,15nm,0.8s
HHAR Hobbs 24.83 346 P **P** 09 45 37.7 -0.2
WMOK Wichita Mounta 24.96 336 IAmb IAmb 09 45 43.0
comp=Z,30nm,1.1s
TUL3 Leonard 24.98 342 P **P** 09 45 39.0 -0.1
TUL3 IAmb IAmb 09 45 40.0
comp=Z,19nm,1.0s
TUL3 Leonard 24.98 342 P **P** 09 45 39.2 0.0
baz=159,SNR=6.0
DKNS Dickens 24.98 331 P **P** 09 45 39.9 +0.6
DKNS IAmb IAmb 09 45 42.4
comp=Z,12nm,0.7s
DEOK Depew 25.13 341 IAmb IAmb 09 45 41.0
comp=Z,14nm,0.6s
OK029 Liberty Lake 25.41 339 IAmb IAmb 09 45 43.4
comp=Z,23nm,0.7s
CLNB Carlsbad 25.43 324 P **P** 09 45 45.0 +1.5
OK033 Mehan 25.46 340 IAmb IAmb 09 45 44.4
comp=Z,25nm,1.0s
S51A Beattyville 25.48 6 IAmb IAmb 09 45 45.5
comp=Z,17nm,0.6s
BLA Blacksburg 25.53 12 IAmb IAmb 09 45 50.3
comp=Z,36nm,1.3s
BLA Blacksburg 25.53 12 P **P** 09 45 45.0 +0.8
baz=194
T57A Hurt 25.58 14 P **P** 09 45 46.0 +1.4
T57A IAmb IAmb 09 45 47.0
comp=Z,14nm,0.7s
GDL2 Guadalupe Moun 25.66 324 P **P** 09 45 45.5 -0.1
OK048 Pawnee Station 25.80 341 **P** 09 45 47.0 +0.4
OK048 IAmb IAmb 09 45 47.8
comp=Z,13nm,0.8s
OK051 E0350 and S346 25.85 341 **P** 09 45 47.1 0.0
OK051 IAmb IAmb 09 45 48.3
comp=Z,7.9nm,0.7s
SMWD Samnorwood 25.88 334 IAmb IAmb 09 45 51.9
comp=Z,20nm,0.8s
WCI Wyandotte Cave 25.91 1 P **P** 09 45 47.7 +0.1
WCI IAmb IAmb 09 45 49.0
comp=Z,11nm,0.8s
WCI Wyandotte Cave 25.91 1 P **P** 09 45 48.6 +1.0
baz=181
MNTX Cornudas Mount 25.91 321 P **P** 09 45 48.6 +0.8
baz=134,SNR=7.4
R49A Shelbyville 26.01 3 P **P** 09 45 49.4 +0.9
R49A IAmb IAmb 09 45 49.8
comp=Z,10nm,0.7s
S39A Bolivar 26.05 348 IAmb IAmb 09 45 52.1
comp=Z,12nm,0.8s
CCM Cathedral Cave 26.05 352 P **P** 09 45 48.5 -0.4
CCM IAmb IAmb 09 45 50.3
comp=Z,18nm,1.1s
CCM Cathedral Cave 26.05 352 P **P** 09 45 49.2 +0.3
baz=170
MSTX Muleshoe 26.14 329 P **P** 09 45 49.5 -0.4
MSTX IAmb IAmb 09 45 54.2
comp=Z,25nm,1.4s
MSTX Muleshoe 26.14 329 P **P** 09 45 50.2 +0.4
baz=142
CROK Carrier 26.23 339 IAmb IAmb 09 45 50.7
comp=Z,27nm,1.1s
AMTX Amarillo 26.34 331 IAmb IAmb 09 45 56.2
comp=Z,28nm,1.4s
AMTX Amarillo 26.34 331 P **P** 09 45 52.7 +1.1
baz=145
R53A Hurricane 26.36 8 IAmb IAmb 09 45 53.2
comp=Z,15nm,0.5s
ELIS Ellis County 26.37 336 IAmb IAmb 09 45 56.6
comp=Z,23nm,1.0s
OK038 West end E0370 26.48 338 P **P** 09 45 53.1 +0.4
OK038 IAmb IAmb 09 45 53.3
comp=Z,8.7nm,0.8s
U32A Winter Ranch, 26.48 337 P **P** 09 45 53.2 +0.4
U32A IAmb IAmb 09 45 53.7
comp=Z,14nm,0.8s
OK032 Salt Plains WL 26.58 339 IAmb IAmb 09 45 53.9
comp=Z,11nm,0.7s
Q52A Bidwell 26.93 8 P **P** 09 45 57.1 +0.4
Q52A IAmb IAmb 09 45 58.8
comp=Z,17nm,0.6s
P48A Milroy 27.16 2 IAmb IAmb 09 46 00.2
comp=Z,11nm,0.7s
Q54A Coxs Mills 27.17 10 P **P** 09 46 00.1 +1.2
CBN Corbin Frederi 27.20 16 P **P** 09 45 59.7 +0.6
CBN Corbin Frederi 27.20 16 P **P** 09 46 00.7 +1.6
baz=200,SNR=5.0
P49A Miami Univ. Ec 27.27 3 P **P** 09 45 59.5 -0.3
baz=184
P51A Williamsport 27.35 6 P **P** 09 45 59.7 -0.8
P51A IAmb IAmb 09 46 01.7
comp=Z,13nm,0.6s
Q56A Snyder Ridge, 27.55 13 IAmb IAmb 09 46 07.2
comp=Z,14nm,0.7s
P52A Corning 27.61 8 P **P** 09 46 03.2 +0.4
baz=190,SNR=5.6
O44A Mansfield 27.87 357 P **P** 09 46 05.1 0.0
O44A IAmb IAmb 09 46 06.6
comp=Z,9.8nm,0.7s
P38A Dawn 27.96 349 IAmb IAmb 09 46 06.4
comp=Z,8.2nm,0.8s
O48B Farmland 27.97 3 IAmb IAmb 09 46 09.1
comp=Z,24nm,1.3s
O48B Farmland 27.97 3 P **P** 09 46 06.3 +0.3
baz=183
121A Cookes Peak, D 27.97 320 P **P** 09 46 07.4 +1.1
baz=132,SNR=5.9
MCWV Mont Chateau 28.01 11 P **P** 09 46 07.8 +1.5
MCWV IAmb IAmb 09 46 08.5
comp=Z,15nm,0.6s
MCWV Mont Chateau 28.01 11 P **P** 09 46 07.0 +0.7
baz=194
SFIN Lafayette 28.06 359 P **P** 09 46 07.1 +0.4
baz=179
ACSO Alum Creek Sta 28.10 6 P **P** 09 46 08.2 +1.0
ACSO Alum Creek Sta 28.10 6 P **P** 09 46 08.2 +1.0
baz=188,SNR=6.5
RTBA Rita Blanca 28.11 332 IAmb IAmb 09 46 14.2
comp=Z,7.8nm,0.9s
KSU1 Kansas State U 28.18 344 IAmb IAmb 09 46 09.2
comp=Z,15nm,0.8s
KSU1 Kansas State U 28.18 344 P **P** 09 46 07.8 0.0
baz=159,SNR=5.1
R32A Long Quarter, 28.20 340 P **P** 09 46 07.8 -0.3
R32A IAmb IAmb 09 46 08.9
comp=Z,11nm,0.8s
319A Douglas 28.22 316 IAmb IAmb 09 46 11.4
comp=Z,6.7nm,0.7s
P57A Homestead Farm 28.24 14 P **P** 09 46 09.5 +1.1
P57A IAmb IAmb 09 46 11.0
comp=Z,13nm,0.6s
HDIL Hopedale 28.32 356 P **P** 09 46 09.9 +0.8
baz=175
O53A New Philadelph 28.35 9 P **P** 09 46 10.3 +0.9
baz=191,SNR=9.4
Y22F Passcal Instru 28.50 323 P **P** 09 46 11.9 +0.9
baz=135
N49A Columbus Grove 28.69 4 P **P** 09 46 12.9 +0.6
DUN6 Lazy B Ranch 28.83 318 IAmb IAmb 09 46 22.1
comp=Z,31nm,1.3s
ANMO Albuquerque 28.86 325 P **P** 09 46 14.6 +0.5
ANMO Albuquerque 28.86 325 P **P** 09 46 15.2 +1.0
baz=137
N53A Lisbon 28.95 9 P **P** 09 46 15.7 +1.1
T25A Trinidad 29.46 330 P **P** 09 46 20.9 +1.4
baz=143
M53A WI Miller and 29.59 9 P **P** 09 46 21.4 +1.1
baz=192
N35A Tabor 29.60 346 P **P** 09 46 20.2 -0.2
N35A IAmb IAmb 09 46 22.3
comp=Z,17nm,0.8s
L42A Oliver, Polo 29.79 356 P **P** 09 46 22.7 +0.6
TUC Tucson 29.80 316 P **P** 09 46 23.3 +0.9
TUC Tucson 29.80 316 P **P** 09 46 23.4 +0.9
baz=127
ETMB Extrema 29.90 136 P **P** 09 46 23.0 -0.3
ETMB IAmb IAmb 09 46 23.9
comp=Z,15nm,0.7s
N33A J Bar K, Exete 29.94 344 P **P** 09 46 23.8 +0.4
L40A Anamosa 30.00 353 IAmb IAmb 09 46 25.0
comp=Z,15nm,0.9s
ERPA Erie 30.37 10 P **P** 09 46 28.5 +1.3
baz=193
SDCO Great Sand Dun 30.47 330 P **P** 09 46 30.2 +1.7
SDCO Great Sand Dun 30.47 330 P **P** 09 46 29.5 +1.0
baz=142,SNR=6.5
JFWS Jewell Farm 30.74 355 P **P** 09 46 30.7 +0.3
baz=173
BGNE Belgrade 30.76 343 P **P** 09 46 30.9 +0.2
BGNE Belgrade 30.76 343 P **P** 09 46 30.9 +0.2
baz=158
PAL Palisades 30.81 19 P **P** 09 46 32.6 +1.5
baz=205
W18A Petrified Fore 30.90 321 IAmb IAmb 09 46 35.2
comp=Z,12nm,0.7s
W18A Petrified Fore 30.90 321 P **P** 09 46 33.4 +1.2
baz=132,SNR=5.3
214A Organ Pipe Nat 31.01 313 P **P** 09 46 34.0 +1.0
baz=124
S22A 4UR Ranch, Cre 31.14 328 P **P** 09 46 35.2 +0.8
baz=140
Q24A Divide 31.27 332 P **P** 09 46 37.0 +1.4
baz=144
BINY Binghamton 31.31 15 P **P** 09 46 37.0 +1.5
baz=200
SAML Samuel 31.45 131 P **P** 09 46 35.2 -1.9
SAML Samuel 31.45 131 *e*P **P** 09 46 35.1 -1.9
X16A Lo Mia Camp, P 31.52 319 P **P** 09 46 39.3 +1.6
X16A IAmb IAmb 09 46 40.5
comp=Z,6.1nm,0.7s
L59A Walton 31.55 17 P **P** 09 46 38.9 +1.3
OGNE Ogallala 31.62 338 P **P** 09 46 40.0 +1.6
baz=150,SNR=5.4
MVCO Mesa Verde 31.64 326 P **P** 09 46 40.3 +1.6
MVCO Mesa Verde 31.64 326 P **P** 09 46 39.7 +1.0
baz=136
ISCO Idaho Springs 32.15 332 P **P** 09 46 44.7 +1.4
baz=144
WUAZ Wupatki 32.17 320 IAmb IAmb 09 46 46.8
comp=Z,9.2nm,1.1s
WUAZ Wupatki 32.17 320 P **P** 09 46 44.9 +1.5
baz=130,SNR=7.5
K30B Basset 32.35 342 P **P** 09 46 45.3 +0.7
J57A Williamstown 32.44 15 P **P** 09 46 46.3 +1.0
TRY Troy 32.45 18 P **P** 09 46 47.3 +1.8
L61B Northampton 32.51 20 P **P** 09 46 47.1 +1.2
L61B Northampton 32.51 20 P **P** 09 46 46.9 +1.0
baz=206
ECSD EROS Data Cent 32.55 347 IAmb IAmb 09 46 46.3
comp=Z,20nm,1.3s
ECSD EROS Data Cent 32.55 347 P **P** 09 46 47.0 +0.7
baz=162,SNR=8.0
GLMI Grayling 32.55 3 P **P** 09 46 46.5 +0.2
baz=184
PDMCI Parker Dam,Lak 33.25 316 P **P** 09 46 53.8 +1.3
baz=125
SPMN Marine on St. 33.31 352 IAmb IAmb 09 46 52.8
comp=Z,25nm,1.1s
SPMN Marine on St. 33.31 352 P **P** 09 46 53.2 +0.4
baz=169
O20A White River Ci 33.67 330 IAmb IAmb 09 47 00.5
comp=Z,6.4nm,0.9s
O20A White River Ci 33.67 330 P **P** 09 46 57.2 +0.8
baz=140
SWSC Sam W. Stewart 33.67 313 P **P** 09 46 57.2 +1.0
baz=121
IKP In-Ko-Pah, Jac 33.75 312 P **P** 09 46 58.4 +1.4
baz=120
BC3 Big Chuckawall 33.80 314 P **P** 09 46 58.5 +1.1
baz=122
IRM Iron Mountain 33.85 315 P **P** 09 46 59.1 +1.3
baz=123
LONY Lake Ozonia 33.93 16 P **P** 09 46 58.7 +0.4
LONY Lake Ozonia 33.93 16 P **P** 09 46 59.1 +0.8
baz=202,SNR=8.9
PKCU Pink Cliffs 34.00 322 IAmb IAmb 09 47 02.6
comp=Z,15nm,1.0s
F36A Milaca 34.03 351 IAmb IAmb 09 46 59.0
comp=Z,8.8nm,0.8s
KNB Kanab 34.03 321 IAmb IAmb 09 47 02.6
comp=Z,7.8nm,1.0s
MONP2 Monument Peak 34.10 312 P **P** 09 47 01.6 +1.5
baz=120
SRU San Rafael Swe 34.11 326 P **P** 09 47 01.6 +1.4
SRU IAmb IAmb 09 47 02.2
comp=Z,4.8nm,0.7s
LCMT Little Creek M 34.29 321 P **P** 09 47 03.5 +1.8
MTPU Mount Pierson 34.32 323 P **P** 09 47 03.8 +1.7
P18A Preston Nutter 34.33 327 P **P** 09 47 03.9 +1.7
LBNH Lisbon 34.36 19 P **P** 09 47 03.5 +1.5
baz=206
BELC Belle Mtn. Jos 34.37 314 P **P** 09 47 04.1 +1.7
baz=122
PMD Palm Desert 34.45 313 P **P** 09 47 04.9 +2.0
TPFO Pinon Flats 34.48 313 P **P** 09 47 05.1 +1.7
baz=121
P17A Butcher Ranch, 34.48 326 P **P** 09 47 04.4 +1.1
P17A IAmb IAmb 09 47 05.5
comp=Z,5.5nm,0.8s
F33A 5 Mile Ranch, 34.49 348 P **P** 09 47 02.2 -0.9
PFO Pinyon Flats O 34.49 313 P **P** 09 47 05.3 +1.8
baz=121
V12A Nelson 34.54 317 P **P** 09 47 05.7 +1.9
GMRC Granite Mounta 34.55 315 P **P** 09 47 05.8 +1.9
baz=124
SZCU Shurtz Canyon 34.56 322 P **P** 09 47 06.0 +1.9
MSU Marysvale 34.63 324 P **P** 09 47 06.2 +1.6
PB16 IPOC Station P 34.78 150 P **P** 09 47 07.2 +0.7
TCRU Three Creeks R 34.85 323 P **P** 09 47 08.2 +1.6
TCRU IAmb IAmb 09 47 36.0
comp=Z,8.3nm,0.4s
K22A Casper 34.86 334 P **P** 09 47 08.4 +1.8
baz=145
MNTQ Montreal, Queb 35.00 16 P **P** 09 47 08.2 +0.8
MURC Murrieta 35.01 312 P **P** 09 47 09.5 +1.7
baz=120
HEC Hector,Ludlow 35.04 315 P **P** 09 47 09.6 +1.5
baz=123
TUQ Turquoise Moun 35.09 316 P **P** 09 47 10.0 +1.4
baz=124
RSSD Black Hills 35.11 338 P **P** 09 47 10.7 +2.0
baz=150
ELS Elsinore Mount 35.20 312 P **P** 09 47 11.4 +2.0
MPU Maple Canyon 35.35 326 P **P** 09 47 11.9 +1.0
MPU IAmb IAmb 09 47 13.6
comp=Z,9.4nm,1.4s
GSC Goldstone, Bar 35.62 315 P **P** 09 47 14.6 +1.6
baz=123
BFSC Mount Baldy Ra 35.66 313 P **P** 09 47 14.3 +0.8
baz=120
G62A West of Eustis 35.68 20 P **P** 09 47 14.3 +1.0
CIS Catalina Islan 35.80 311 P **P** 09 47 15.8 +1.2
baz=119
GO01 Chusmiza 36.08 151 P **P** 09 47 19.9 +2.4
GO01 IAmb IAmb 09 47 20.9
comp=Z,5.9nm,0.7s
DUG Dugway, Tooele 36.13 325 P **P** 09 47 19.0 +1.6
baz=133
PKME Peaks-Kenny Pk 36.14 21 P **P** 09 47 18.7 +1.5
baz=210
TPNV Topopah Spring 36.17 318 P **P** 09 47 19.4 +1.6
baz=125,SNR=5.8
SPR3 Spring Creek 3 36.22 322 P **P** 09 47 19.4 +1.1
EDW2 Edwards Air Fo 36.23 314 P **P** 09 47 20.2 +2.0
baz=121
E28A Huff 36.23 344 P **P** 09 47 17.8 -0.2
E28A IAmb IAmb 09 47 19.1
comp=Z,19nm,0.9s
VILB Vilhena 36.29 133 P **P** 09 47 18.2 -0.7
VILB IAmb IAmb 09 47 18.5
comp=Z,8.1nm,0.7s
FURC Furnace Creek, 36.30 317 P **P** 09 47 20.9 +2.2
baz=124
BW06 Boulder Array 36.32 331 P **P** 09 47 19.9 +0.9
baz=140
PD31 Pinedale Array 36.32 331 P **P** 09 47 19.6 +0.5
PDAR Pinedale Array 36.32 331 P **P** 09 47 19.2 +0.1
PDAR Pinedale Array 36.32 331 P **P** 09 47 19.4 +0.4
comp=Z,1.4nm,0.6s,baz=127,slow=9.9,SNR=19
comp=Z,1.4nm,0.6s
LRMC Laurel Mtn Rad 36.32 315 P **P** 09 47 20.0 +0.9
baz=122
CCAC Calif City Air 36.38 314 P **P** 09 47 19.5 -0.1
HWUT Hardware Ranch 36.45 328 P **P** 09 47 20.4 +0.2
HWUT IAmb IAmb 09 47 21.9
comp=Z,6.8nm,0.8s
HWUT **PcP** 09 49 41.5 +0.2
MPMC Manual Prospec 36.50 316 P **P** 09 47 21.9 +1.2
baz=123
R11B Troy Canyon, C 36.58 320 P **P** 09 47 22.5 +1.3
baz=128
VLDQ Val d'Or 36.62 10 P **P** 09 47 21.7 +0.5
VLDQ IAmb IAmb 09 47 22.0
comp=Z,14nm,1.2s
SPUT South Promonto 36.70 327 P **P** 09 47 23.5 +1.2
BGU Big Grassy Mou 36.75 326 P **P** 09 47 24.7 +2.0
ARVC Arvin 36.95 314 P **P** 09 47 25.3 +1.0
baz=120
ISA Isabella, Lake 36.97 315 P **P** 09 47 25.8 +1.3
baz=121
AHID Auburn Hatcher 37.06 330 P **P** 09 47 25.6 +0.2
CWC Cottonwood Cre 37.11 316 P **P** 09 47 26.4 +0.7
baz=122
MDND Maddock 37.13 346 P **P** 09 47 25.5 -0.1
MDND Maddock 37.13 346 P **P** 09 47 26.1 +0.5
baz=159
REDW Red Top Meadow 37.39 331 P **P** 09 47 29.4 +1.2
SNOW Snow King Moun 37.42 331 IAmb IAmb 09 47 30.3
comp=Z,5.5nm,0.7s
LOHW Long Hollow 37.46 331 P **P** 09 47 29.8 +1.1
VES Vestal, Richgr 37.49 314 P **P** 09 47 30.5 +1.8
baz=121
PKM Mcpherson Peak 37.53 313 P **P** 09 47 30.5 +1.1
baz=119
TPAW Teton Pass 37.53 331 P **P** 09 47 30.1 +0.7
MOOW Moose Ponds 37.63 331 P **P** 09 47 31.0 +0.8
FXWY Fox Creek 37.68 331 P **P** 09 47 31.7 +1.1
LMQ La Malbaie 37.82 18 P **P** 09 47 32.0 +0.6
ELK Elko 37.88 324 P **P** 09 47 33.1 +0.9
LDAQ Lac Daran 37.92 17 P **P** 09 47 32.1 -0.2
LAO LASA Array 38.11 338 P **P** 09 47 34.8 +0.9
baz=148
NV11 Mina Array Sit 38.26 319 P **P** 09 47 37.6 +2.2
LMN Caledonia Moun 38.35 25 P **P** 09 47 36.8 +1.0
NVAR Mina Array Bea 38.35 318 P **P** 09 47 38.4 +2.1
comp=Z,1.7nm,0.7s,baz=129,slow=7.8,SNR=18
NVAR pP **pP** 09 48 10.1 +3.5

comp=Z,0.8nm,0.7s,baz=128,slow=7.2,SNR=3.6
NVAR PcP **PcP** **09 49 48.6 +1.4**
comp=Z,1.7nm,0.7s,baz=144,slow=4.4,SNR=12
NVAR ScP **ScP** **09 53 23.6 +1.1**
comp=Z,0.5nm,0.6s,baz=121,slow=5.2,SNR=5.8
comp=Z,1.7nm,0.7s
ULM Lac du Bonnet 38.67 351 IAmb IAmb 09 47 37.6
comp=Z,10nm,0.7s
ULM Lac du Bonnet 38.67 351 P **P** **09 47 37.1 -1.3**
comp=Z,7.0nm,0.5s,baz=166,slow=9.0,SNR=20
comp=Z,7.0nm,0.5s
BMN Battle Mountai 38.85 322 IAmb IAmb 09 47 42.8
comp=Z,7.1nm,1.0s
BBGB Big Mountain B 39.22 314 P **P** **09 47 44.6 +1.2**
BBGB IAmb IAmb 09 47 58.1
comp=Z,16nm,1.3s
YERR Yerington 39.27 319 P **P** **09 47 45.4 +1.5**
HLID Hailey 39.32 328 P **P** **09 47 45.0 +0.8**
HLID Hailey 39.32 328 P **P** **09 47 45.3 +1.1**
baz=134
BOZ Bozeman (W) 39.45 332 P **P** **09 47 45.9 +0.7**
baz=140
PNTR Pine Nut 39.56 318 P **P** **09 47 47.8 +1.4**
EGMT Eagleton 40.56 336 P **P** **09 47 53.9 -0.3**
baz=144
ORV Oroville 41.05 318 P **P** **09 47 60.0 +1.6**
PLID Pearl Lake 41.20 328 P **P** **09 47 59.5 -0.2**
MSO Missoula 41.43 332 P **P** **09 48 01.9 +0.5**
baz=138
FFC Flin Flon 44.08 347 P **P** **09 48 22.2 -0.3**
FFC IAmb IAmb 09 48 23.4
comp=Z,8.1nm,0.8s
E07A Sunnyside 44.19 327 P **P** **09 48 23.3 -0.3**
E07A IAmb IAmb 09 48 24.7
comp=Z,7.2nm,0.8s
H04A Detroit Lake 44.33 324 P **P** **09 48 24.7 -0.1**
H04A IAmb IAmb 09 48 43.9
comp=Z,11nm,1.3s
HOOD Mount Hood Mea 44.40 325 P **P** **09 48 26.6 +1.2**
HOOD IAmb IAmb 09 48 28.1
comp=Z,15nm,0.9s
SCHQ Schefferville 45.30 16 P **P** **09 48 31.6 -0.7**
comp=Z,8.7nm,0.5s,baz=218,slow=6.1,SNR=63
comp=Z,8.7nm,0.5s
EDM Edmonton 46.10 338 IAmb IAmb 09 48 38.7
comp=Z,9.3nm,0.9s
FCC Fort Churchill 46.79 355 P **P** **09 48 42.9 -0.8**
FCC IAmb IAmb 09 48 44.0
comp=Z,7.1nm,0.8s
BDFB Brasilia 47.26 125 P **P** **09 48 45.8 -2.4**
comp=Z,1.6nm,0.5s,baz=308,slow=12,SNR=3.5
comp=Z,1.6nm,0.5s
CPUP Villa Florida 47.80 144 P **P** **09 48 50.7 -1.4**
comp=Z,1.7nm,0.8s,baz=325,slow=8.4,SNR=3.4
comp=Z,1.7nm,0.8s
BO01 Tunca 48.67 163 P **P** **09 48 59.2 +0.6**
BO01 IAmb IAmb 09 49 00.9
comp=Z,23nm,1.2s
GO05 Huala 49.01 164 P **P** **09 49 02.5 +1.3**
BO02 Sierra Bellavi 49.13 163 P **P** **09 49 03.5 +1.4**
BO02 IAmb IAmb 09 49 04.6
comp=Z,9.2nm,0.8s
YKA Yellowknife Ar 54.03 344 P **P** **09 49 37.4 -0.7**
comp=Z,1.8nm,0.8s,baz=141,slow=7.0,SNR=30
YKA PcP **PcP** **09 50 40.5 -0.9**
comp=Z,0.6nm,0.7s,baz=144,slow=3.7,SNR=7.0
comp=Z,1.8nm,0.8s
PLCA Paso Flores 54.77 165 P **P** **09 49 43.9 +0.1**
PLCA Paso Flores 54.77 165 P **P** **09 49 45.2 +1.4**
comp=Z,11nm,0.8s,baz=327,slow=8.4,SNR=44
PLCA PcP **PcP** **09 50 45.6 +1.0**
comp=Z,4.9nm,0.8s,baz=325,slow=4.3,SNR=6.8
comp=Z,11nm,0.8s
T35M Bob Quinn 55.67 333 P **P** **09 49 50.5 +0.4**
baz=125
CRAG Craig 56.17 330 P **P** **09 49 54.3 +0.7**
baz=122
COYC Coyhaique 59.02 168 P **P** **09 50 15.1 +1.5**
O29M Mount Kennedy 61.12 333 P **P** **09 50 28.8 +0.8**
baz=119
PINM Pinnacle 61.77 333 P **P** **09 50 33.4 +1.2**
baz=117
RES Resolute Bay 62.63 358 P **P** **09 50 37.9 +0.3**
I30M Mount Dempster 62.78 339 P **P** **09 50 38.9 0.0**
baz=123
BARN Barnard Glacie 62.82 333 P **P** **09 50 40.0 +0.6**
G31M Satah River 63.05 341 P **P** **09 50 40.7 +0.2**
baz=126
F31M Tsiigehtchic 63.19 342 P **P** **09 50 41.7 +0.3**
baz=127
M27K Edge Creek, AK 63.48 335 P **P** **09 50 43.9 +0.2**
baz=116
EPYK Eagle Plains 63.53 340 P **P** **09 50 43.7 0.0**
baz=123
I29M Ogilvie Camp, 63.55 338 P **P** **09 50 43.9 +0.1**
baz=121
INK Inuvik 63.65 342 P **P** **09 50 44.6 +0.2**
baz=127
BCAR Beaver Creek A 63.76 335 P **P** **09 50 45.5 +0.2**
L27K Beaver Creek, 63.78 335 P **P** **09 50 45.3 -0.1**
baz=117
F30M Barrier River 63.92 341 P **P** **09 50 46.5 +0.2**
baz=125
H29M Whitestone 64.02 339 P **P** **09 50 46.9 0.0**
baz=121
A36M Sachs Harbour 64.04 348 P **P** **09 50 46.1 -0.9**
A36M IAmb IAmb 09 50 46.4
comp=Z,4.9nm,1.1s
A36M Sachs Harbour 64.04 348 P **P** **09 50 46.4 -0.6**
baz=137
G29M Pine Creek 64.26 340 P **P** **09 50 49.3 +0.8**
baz=122
EGAK Eagle 64.31 337 P **P** **09 50 49.8 +1.0**
baz=118
K27K Chicken 64.31 336 P **P** **09 50 48.5 -0.4**
baz=117
KLU Klutina 64.88 333 P **P** **09 50 53.5 +0.8**
baz=112
HARP HAARP 64.89 334 P **P** **09 50 52.8 +0.1**
baz=113
P23K Montague Islan 65.02 331 P **P** **09 50 53.9 +0.3**
baz=110
E29M Blow River 65.02 341 P **P** **09 50 53.3 -0.1**
baz=123
SCRK Sand Creek 65.05 336 P **P** **09 50 53.0 -0.8**
baz=115
H27K Steamboat Moun 65.13 339 P **P** **09 50 54.7 +0.5**
baz=118
F28M Old Crow 65.25 340 P **P** **09 50 54.7 -0.2**
baz=120
I26K Coal Creek Min 65.30 337 P **P** **09 50 55.2 0.0**
baz=116
G27K Doyon Strip 65.45 339 P **P** **09 50 57.2 +0.9**
baz=118
E28M Babbage River 65.65 341 P **P** **09 50 57.5 +0.1**
baz=121
D28M Stokes Point 65.79 342 P **P** **09 50 58.3 0.0**
baz=122
J25K Salcha River, 65.86 336 P **P** **09 50 59.2 +0.3**
baz=114
D27M Malcolm River 66.42 342 P **P** **09 51 02.3 -0.1**
baz=120
ILAR Eielson Array 66.52 336 P **P** **09 51 01.9 -1.2**
comp=Z,1.0nm,0.8s,baz=136,slow=5.1,SNR=12
ILAR pP **pP** **09 51 37.0 +0.6**
comp=Z,0.2nm,0.5s,baz=89,slow=21,SNR=2.2
comp=Z,1.0nm,0.8s
F25K Christian Rive 67.19 339 P **P** **09 51 07.7 +0.3**
baz=115
H24K Noodor Dome 67.31 337 P **P** **09 51 08.8 +0.6**
baz=112
SKT Skwentna 67.56 332 P **P** **09 51 10.6 +0.9**
baz=107
I23K Minto, Yukon-K 67.64 336 P **P** **09 51 10.3 +0.1**
baz=110
P19K Oil Pt 67.73 330 P **P** **09 51 10.0 -0.8**
baz=104
Q19K Cape Douglas, 67.76 329 P **P** **09 51 10.7 -0.4**
baz=104
MLY Manley 68.15 336 P **P** **09 51 12.7 -0.8**
baz=109
D25K Kavik River 68.17 341 P **P** **09 51 12.7 -0.7**
baz=115
COLD Coldfoot 68.68 338 P **P** **09 51 16.9 +0.3**
baz=110
E23K Chandalar 68.77 339 P **P** **09 51 17.2 0.0**
baz=111
G22K Bettles 69.06 338 P **P** **09 51 19.2 +0.2**
baz=109
K20K Telida 69.06 334 P **P** **09 51 18.9 -0.1**
baz=105
C24K Franklin Bluff 69.08 341 P **P** **09 51 19.2 +0.3**
baz=112
L19K White Mountain 69.12 332 P **P** **09 51 19.5 +0.1**
baz=104
H21K Kvichak River 69.17 336 P **P** **09 51 19.7 +0.1**
baz=107
P17K Kvichak River 69.23 329 P **P** **09 51 19.2 -0.9**
baz=101
N18K Kilae Creek 69.26 331 P **P** **09 51 20.1 -0.3**
baz=102
E22K Anaktuvuk Pass 69.57 339 P **P** **09 51 21.5 -0.6**
baz=109
G21K Allakaket 69.69 337 P **P** **09 51 21.9 -1.0**
baz=107
C23K Itkillik River 69.74 341 P **P** **09 51 22.6 -0.4**
baz=111
TTA Tatalina 69.81 333 P **P** **09 51 23.1 -0.7**
baz=103
F21K Alatna River 69.89 338 P **P** **09 51 23.8 -0.3**
baz=107
L18K Granite Mounta 69.96 332 P **P** **09 51 24.0 -0.6**
baz=102
P16K Nushagak River 69.99 329 P **P** **09 51 23.7 -1.0**
baz=100
D22K Ayikyak River 70.11 339 P **P** **09 51 24.9 -0.5**
baz=108
N16K Nishlik Lake 70.62 330 P **P** **09 51 28.3 -0.3**
baz=100
F20K Avaraart Lake 70.69 337 P **P** **09 51 28.7 -0.1**
baz=105
SDPT Sand Point 70.81 325 P **P** **09 51 29.0 -0.8**
baz=96
B22K Teshekpuk Lake 70.81 341 P **P** **09 51 29.0 -0.5**
baz=108
B21K Ikpikpuk River 70.99 340 P **P** **09 51 30.4 -0.2**
baz=107
E20K Nigu River 71.17 338 P **P** **09 51 31.4 -0.5**
baz=105
H18K Honhosa River 71.30 335 P **P** **09 51 32.6 0.0**
baz=102
D20K Etivluk River 71.43 339 P **P** **09 51 32.4 -1.0**
baz=104
G18K Tagagawik 71.57 336 P **P** **09 51 34.7 +0.5**
baz=102
D19K Kuna River 71.92 338 P **P** **09 51 36.2 -0.1**
baz=103
J16K Anvik River 71.93 333 P **P** **09 51 36.7 +0.3**
baz=99
B20K Meade River 71.94 340 P **P** **09 51 36.1 -0.2**
baz=104
K15K Wolf Creek Mou 72.21 332 P **P** **09 51 38.6 +0.6**
baz=98
C19K Lookout Ridge 72.57 339 P **P** **09 51 40.5 +0.3**
baz=102
H16K Elim 72.84 334 P **P** **09 51 40.7 -1.1**
baz=98
E17K Hotham Inlet 73.03 337 P **P** **09 51 42.3 -0.6**
baz=99
C18K Utukok River 73.06 338 P **P** **09 51 42.4 -0.6**
baz=100
J14K Nanvaranak Lak 73.19 332 P **P** **09 51 43.3 -0.6**
baz=96
B18K Kokolik River 73.39 339 P **P** **09 51 44.7 -0.3**
baz=100
RDOG Red Dog Mine 73.59 338 P **P** **09 51 46.0 -0.1**
baz=98
D17K Noatak River 73.61 337 P **P** **09 51 45.6 -0.6**
baz=98
UNV Unalaska Valle 74.21 323 P **P** **09 51 50.4 +0.4**
baz=91
C16K Lisburne Hills 74.52 338 P **P** **09 51 51.6 +0.1**
baz=96
EKA Eskdalemuir Ar 76.40 36 P **P** **09 52 00.3 -2.2**
comp=Z,2.2nm,0.8s,baz=271,slow=6.2,SNR=6.1
comp=Z,2.2nm,0.8s
ESDC Sonseca Array 76.78 52 P **P** **09 52 03.5 -1.6**
comp=Z,3.7nm,0.7s,baz=285,slow=5.6,SNR=16
ESDC pP **pP** **09 52 38.9 -0.4**
comp=Z,0.7nm,0.6s,baz=327,slow=38,SNR=2.0
comp=Z,3.7nm,0.7s
TORD Torodi Ar. Bea 85.77 78 P **P** **09 52 49.5 -3.3**
comp=Z,0.3nm,0.5s,baz=304,slow=6.1,SNR=5.3
ARCES ARCESS Array B 86.18 19 P **P** **09 52 52.2 -1.6**
comp=Z,2.3nm,0.9s,baz=282,slow=5.4,SNR=1.6
comp=Z,2.3nm,0.9s
LANS Lipovska Anna 91.17 39 eP **P** **09 53 19.8 +1.9**
NRIK Noril'sk 98.56 2 P **P** **09 53 48.2 -2.9**
comp=Z,1.3nm,0.3s,baz=49,slow=5.4,SNR=4.0
comp=Z,1.3nm,0.3s
BOSA Boshof 114.95 116 PKP PKPdf 09 58 53.0 -0.8
comp=Z,6.0nm,1.1s,baz=196,slow=6.4,SNR=3.9
STKA Stephens Creek 131.57 238 PKP **PKiKP** **09 59 26.9 +0.5**
comp=Z,6.9nm,0.6s,baz=99,slow=3.5,SNR=23
BBOO Buckleboo 135.86 235 PKPdf **PKiKP** **09 59 34.5 -0.5**
WR0 Warramunga Arr 139.69 254 PKPdf **PKPdf** **09 59 41.8 +1.0**
AS31 Alice Springs 139.84 248 PKPdf **PKiKP** **09 59 42.2 -1.2**
ASAR Alice Springs 139.84 248 PKhKP PKPpre 09 59 35.2
comp=Z,3.1nm,0.7s,baz=111,slow=3.6,SNR=26
ASAR PKP **PKPdf** **09 59 42.0 +1.1**
comp=Z,8.1nm,0.7s,baz=98,slow=1.7,SNR=37
ASAR SKPbc **SKPbc** **10 03 05.2 +0.9**
comp=Z,0.7nm,0.7s,baz=108,slow=3.1,SNR=7.1
WB0 Warramunga Arr 139.85 254 PKPdf **PKiKP** **09 59 42.5 -1.0**
WB2 Warramunga Arr 139.87 254 PKPdf **PKPdf** **09 59 42.2 +1.1**
WRAB Tennant Creek 139.88 254 PKPdf **PKiKP** **09 59 42.5 -1.0**
WRA Warramunga Arr 139.89 254 PKPdf **PKiKP** **09 59 42.4 -1.2**
WRA Warramunga Arr 139.89 254 PKhKP PKPpre 09 59 34.8
comp=Z,0.8nm,0.4s,baz=92,slow=3.0,SNR=14
WRA PKP **PKPdf** **09 59 42.2 +1.1**
comp=Z,14nm,0.6s,baz=90,slow=2.2,SNR=69
WRA SKPbc **SKPbc** **10 03 05.0 +0.6**
comp=Z,0.9nm,1.0s,baz=89,slow=2.2,SNR=4.7
FORT Forrest 142.95 235 PKPdf **PKPdf** **09 59 45.3 -1.0**
MTN Manton Dam 143.06 265 PKPdf **PKPdf** **09 59 46.0 -0.9**
KNRA Kununurra 145.41 260 **PKPab** **09 59 52.6 +1.2**
MND Mandalay 145.87 355 PKPdf **PKPdf** **09 59 51.7 +0.1**
CRAI Chiangrai 147.01 348 **PKPbc** **09 59 55.1 -0.7**
FITZ Fitzroy Crossi 148.25 255 PKPbc **PKPbc** **09 59 59.8 +0.6**
CMAR Chiang Mai Arr 149.02 350 **PKPbc** **10 00 00.6 -0.5**
CMAR Chiang Mai Arr 149.02 350 PKP **PKPdf** **09 59 56.6 -0.4**
comp=Z,0.3nm,0.3s,baz=305,slow=3.2,SNR=2.7
CMAR PKPbc **PKPbc** **09 59 59.9 -1.3**
comp=Z,1.1nm,0.7s,baz=334,slow=3.0,SNR=8.2
SOEI Soe 149.49 271 PKPbc **PKiKP** **10 00 05.0 +1.4**
MYLDM Lahad Datu 149.55 303 PKPbc **PKPbc** **10 00 03.0 +0.5**
NWAO Narrogin (SRO) 149.90 223 PKPbc **PKPbc** **10 00 03.2 +0.3**
NWAO Narrogin (SRO) 149.90 223 **PKiKP** **10 00 03.6 -0.2**
AIS Amsterdam Isla 150.91 154 PKPbc **PKPbc** **10 00 04.8 -0.4**
PSA00 Pilbara Seismi 152.97 246 PKPdf **PKPdf** **10 00 03.4 +0.5**
PSA00 PKPbc **PKiKP** **10 00 10.9 +0.5**
PSA00 PKPab **PKPab** **10 00 21.4 -0.6**
MBWA Marble Bar 153.18 247 PKPdf **PKPdf** **10 00 03.4 +0.2**
MBWA PKPbc **PKiKP** **10 00 11.3 +0.5**
MBWA PKPab **PKPab** **10 00 22.8 -0.1**
IPM Ipoh 161.72 335 PKPdf **PKPdf** **10 00 11.9 -2.2**
IPM PKPab **PKPab** **10 00 58.2 -1.6**

*NEIC **02** 09:48:38.9, 15˚.95N×94˚.88W, h46km*
*GCG **02** 09:48:39.3±3.3, 15˚.95N×94˚.91W, h30km, MD4.9*
*IDC **02** 09:48:39.6±1.8, 15˚.89N×94˚.78W, h56km±14km, mb4.0/18, mbtmp4.3/20, MS3.5/40, Error ellipse: s-maj=25.2km s-min=9.9km az=56.0*
*NEIC **02** 09:48:39.2±2.4, 15˚.92N±0˚.05×94˚.84W±0˚.02, h48km±6km, mb4.6/254, Mwr4.6/8, Md4.9/144(MEX), Error ellipse: s-maj=8.3km s-min=1.2km az=198.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.96; Mθθ=0.51; Mφφ=0.45; Mrθ=0.03; Mrφ=-0.54; Mθφ=-0.20; Fault plane solution: M0=1.01000×10^16 NP1:φs=125.75000°, δ=40.95000°, λ=-101.51000°. NP2:φs=320.83000°, δ=50.04000°, λ=-80.18000°. Principal axes: T 1.0356, Plg5.0000°, Azm44.0000°; N -0.0448, Plg8.0000°, Azm134.0000°; P -0.9908, Plg81.0000°, Azm283.0000°;*
*MEX **02** 09:48:39.4±0.7, 15˚.77N×94˚.92W, h24km±15km, MD4.6*
*CATAC **02** 09:48:47.0±1.1, 15˚.54N×94˚.49W, h76km±34km, MB5.1, mb5.1, ML5.0*
ISC 02 09:48:38.3±0.8, **15˚.80N**±0˚.04×**94˚.86W**±0˚.03, **h49**km±7km, **n678**, σ1s**88**/697, **mb4.6**/97, **MS3.5**/41, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.79**	**17**	*eP*		**Pn**	**09 48 52.7**	**-0.6**
NILT				*eS*		**Sn**	**09 49 03.5**	**-0.7**
CARR	**Arriaga**	**1.01**	**64**	*eP*		**Pn**	**09 48 55.7**	**-0.5**
CARR				*eS*		**Sn**	**09 49 08.7**	**-0.8**
HUIG	**Huatulco**	**1.20**	**269**			**Pn**	**09 48 57.3**	**-1.5**
HUIG						**Sn**	**09 49 10.9**	**-3.0**
HUIG	**Huatulco**	**1.20**	**269**	*eP*		**Pn**	**09 48 57.3**	**-1.5**
HUIG				*eS*		**Sn**	**09 49 10.9**	**-3.0**
CMIG	**Matias Romero**	**1.28**	**359**			**Pn**	**09 48 59.5**	**-0.4**
CMIG						**Sn**	**09 49 12.0**	**-3.9**
CMIG	**Matias Romero**	**1.28**	**359**	P		**Pn**	**09 48 59.3**	**-0.5**
	2μm,0.3s,baz=190,slow=10,SNR=8223							
CMIG				S		**Sn**	**09 49 15.3**	**-0.7**
	7μm,0.4s,baz=111,slow=23,SNR=22							
CMIG				LR		LR	09 49 48.9	
	comp=Z,1μm,21.6s,baz=190,slow=58							
CMIG	**Matias Romero**	**1.28**	**359**	*eP*		**Pn**	**09 48 59.5**	**-0.4**
CMIG				*eS*		**Sn**	**09 49 12.0**	**-3.9**
PCIG		**1.59**	**93**			**Pn**	**09 49 03.9**	**-0.1**
PCIG						**Sn**	**09 49 23.3**	**0.0**
PCIG		**1.59**	**93**	*eP*		**Pn**	**09 49 03.9**	**-0.1**
PCIG				*eS*		**Sn**	**09 49 23.3**	**0.0**
UXUV	**UXUV**	**1.66**	**24**	*eP*		**Pn**	**09 49 05.8**	**+0.8**
UXUV				*eS*		**Sn**	**09 49 25.4**	**+0.3**
TGIG		**1.93**	**60**			**Pn**	**09 49 09.1**	**+0.2**
TGIG						**Sn**	**09 49 35.5**	**+3.5**
TGIG		**1.93**	**60**	*eP*		**Pn**	**09 49 09.1**	**+0.2**
TGIG				*eS*		**Sn**	**09 49 35.5**	**+3.5**
TGBT	**Tuxtla Gutierr**	**1.96**	**60**			**Pn**	**09 49 10.7**	**+1.6**
TGBT						**Sn**	**09 49 34.6**	**+2.1**
TGBT	**Tuxtla Gutierr**	**1.96**	**60**	*eP*		**Pn**	**09 49 10.7**	**+1.6**
TGBT				*eS*		**Sn**	**09 49 34.6**	**+2.1**
NEUV	**Arroyo Zacate**	**2.10**	**335**	*eP*		**Pn**	**09 49 11.1**	**0.0**
NEUV				*eS*		**Sn**	**09 49 27.5**	**-8.6**
OXLC	**Oaxaca**	**2.17**	**306**	*eP*		**Pn**	**09 49 13.3**	**+1.2**
OXLC				*eS*		**Sn**	**09 49 37.2**	**-0.7**
OXIG	**Oaxaca**	**2.19**	**305**			**Pn**	**09 49 13.6**	**+1.0**
OXIG						**Sn**	**09 49 37.9**	**-0.7**
VHO	**Vista Hermosa**	**2.19**	**305**	*eP*		**Pn**	**09 49 13.6**	**+1.0**
VHO				*eS*		**Sn**	**09 49 37.9**	**-0.7**
MIHL	**Minatitlan**	**2.19**	**8**	*eP*		**Pn**	**09 49 13.0**	**+0.6**
MIHL				*i* S		**Sn**	**09 49 41.7**	**+3.4**
PATR	**El Naranjo**	**2.62**	**105**	*eP*		**Pn**	**09 49 18.9**	**+0.4**
PATR				*eS*		**Sn**	**09 49 48.9**	**-0.4**
PAVE	**Pavencul**	**2.66**	**103**	*eP*		**Pn**	**09 49 19.8**	**+0.8**
PAVE				*eS*		**Sn**	**09 49 50.8**	**+0.7**
THIG		**2.66**	**109**			**Pn**	**09 49 19.4**	**+0.7**
THIG						**Sn**	**09 49 49.5**	**-0.2**
THIG		**2.66**	**109**	*eP*		**Pn**	**09 49 19.4**	**+0.7**
THIG				*eS*		**Sn**	**09 49 49.5**	**-0.2**
CCIG	**Comitan**	**2.66**	**79**			**Pn**	**09 49 19.6**	**+0.6**
CCIG	**Comitan**	**2.66**	**79**	*eP*		**Pn**	**09 49 19.8**	**+0.9**
CCIG				*eS*		**Sn**	**09 49 51.4**	**+1.3**
CCIG	**Comitan**	**2.66**	**79**	*i* P		**Pn**	**09 49 20.3**	**+1.3**
CCIG				*i* S		**Sn**	**09 49 56.1**	**+6.0**
CCIG				IAML			09 50 03.4	
	comp=Z,6μm,1.0s							
PMUV	**Sontecomapan**	**2.74**	**355**	*eP*		**Pn**	**09 49 18.6**	**-1.3**
PMUV				*eS*		**Sn**	**09 49 47.1**	**-4.7**
CHUJ	**Union Juarez**	**2.75**	**104**	*eP*		**Pn**	**09 49 20.6**	**+0.4**
CHUJ				*eS*		**Sn**	**09 49 49.5**	**-2.8**
YOIG	**Yosondua**	**2.78**	**293**			**Pn**	**09 49 21.0**	**+0.4**
YOIG						**Sn**	**09 49 51.5**	**-1.6**
YOIG	**Yosondua**	**2.78**	**293**	*eP*		**Pn**	**09 49 21.0**	**+0.4**
YOIG				*eS*		**Sn**	**09 49 51.5**	**-1.6**
VHSA	**Villahermosa**	**2.84**	**40**	*eP*		**Pn**	**09 49 22.3**	**+1.0**
VHSA				*eS*		**Sn**	**09 49 53.8**	**-0.5**
SMCA	**Catarina**	**2.85**	**109**	*i* P		**Pn**	**09 49 22.8**	**+1.4**
SMCA				*i* S		**Sn**	**09 49 52.6**	**-1.9**
SMCA				IAML			09 50 12.6	
	comp=Z,4μm,1.0s							
TOIG	**Toxpalan**	**3.10**	**318**			**Pn**	**09 49 27.6**	**+2.6**
TOIG						**Sn**	**09 50 01.4**	**+0.5**
TOIG	**Toxpalan**	**3.10**	**318**	*eP*		**Pn**	**09 49 27.6**	**+2.6**
TOIG				*eS*		**Sn**	**09 50 01.4**	**-0.5**
TXIG	**Tlaxiaco**	**3.14**	**298**			**Pn**	**09 49 26.7**	**+1.1**
TXIG						**Sn**	**09 50 00.5**	**-1.5**
TXIG	**Tlaxiaco**	**3.14**	**298**	*eP*		**Pn**	**09 49 26.7**	**+1.1**
TXIG				*eS*		**Sn**	**09 50 00.5**	**-1.5**
HUEH	**Huehuetenango**	**3.27**	**98**	Pn		**Pn**	**09 49 30.8**	**+3.4**
RTAL	**Retalhuleu**	**3.31**	**112**	Pn		**Pn**	**09 49 29.4**	**+1.7**
STG3	**Santiaguito 3,**	**3.36**	**108**	*eP*		**Pn**	**09 49 30.0**	**+1.5**
HLIG	**Huajuapan de L**	**3.46**	**306**			**Pn**	**09 49 31.7**	**+1.8**
HLIG						**Sn**	**09 50 09.2**	**-0.7**
HLIG	**Huajuapan de L**	**3.46**	**306**	*eP*		**Pn**	**09 49 31.7**	**+1.8**
HLIG				*eS*		**Sn**	**09 50 09.2**	**-0.7**
SOKI	**Kika Raxquin**	**3.48**	**106**	*i* P		**Pn**	**09 49 34.6**	**+4.3**
SOKI				IAML			09 50 40.8	
	comp=Z,3μm,1.0s							
SULM	**Suchitepequez,**	**3.52**	**115**	*eP*		**Pn**	**09 49 32.7**	**+2.2**
TPIG	**Tehuac#an**	**3.53**	**318**			**Sn**	**09 49 33.0**	**+2.1**
TPIG						**Sn**	**09 50 06.5**	**-5.0**
TPIG	**Tehuac#an**	**3.53**	**318**	*eP*		**Pn**	**09 49 33.0**	**+2.1**
TPIG				*eS*		**Sn**	**09 50 06.5**	**-5.0**
QUIS	**Sacapulas**	**3.67**	**97**	*i* P		**Pn**	**09 49 35.3**	**+2.6**
QUIS				IAML			09 50 46.6	
	comp=Z,3μm,1.0s							
CHTG	**Tecpan**	**3.88**	**105**	*i* P		Pn	09 49 40.7	+4.9
CHTG				IAML			09 50 50.5	
	comp=Z,4μm,1.0s							
MGIG	**Malinaltepec**	**3.89**	**292**			**Pn**	**09 49 36.5**	**+0.7**
MGIG						**Sn**	**09 50 16.5**	**-3.7**
MGIG	**Malinaltepec**	**3.89**	**292**	*eP*		**Pn**	**09 49 36.5**	**+0.7**
MGIG				*eS*		**Sn**	**09 50 16.5**	**-3.7**
TLIG	**Tlapa**	**3.96**	**297**			**Pn**	**09 49 38.1**	**+1.5**
TLIG					Sn	**Sn**	**09 50 20.6**	**-1.3**
TLIG	**Tlapa**	**3.96**	**297**	*eP*		**Pn**	**09 49 38.1**	**+1.5**
TLIG				*eS*		**Sn**	**09 50 18.2**	**-3.7**
JAUV	**Jalcomulco**	**4.00**	**333**	*eP*		**Pn**	**09 49 35.7**	**-1.5**
JAUV				*eS*		**Sn**	**09 50 19.1**	**-3.7**
HMTT	**Tlapaneco**	**4.06**	**300**			**Sn**	**09 50 23.1**	**-1.3**
HMTT	**Tlapaneco**	**4.06**	**300**	*eP*		Pn	09 49 49.1	+11
HMTT				*eS*		**Sn**	**09 50 23.1**	**-1.3**
FUG	**Fuego 3**	**4.11**	**109**	*eP*		**Pn**	**09 49 42.6**	**+3.8**
LVIG	**Laguna Verde**	**4.17**	**339**	*eP*		**Pn**	**09 49 39.5**	**0.0**
LVIG				*eS*		**Sn**	**09 50 19.3**	**-7.7**
XALA	**Xalapa**	**4.18**	**333**	*eP*		**Pn**	**09 49 38.7**	**-1.1**
XALA				*eS*		**Sn**	**09 50 22.2**	**-5.3**
CRIG	**Cruz Grande**	**4.20**	**283**			**Pn**	**09 49 39.4**	**-0.5**
CRIG						**Sn**	**09 50 19.8**	**-8.0**
CRIG	**Cruz Grande**	**4.20**	**283**	*eP*		**Pn**	**09 49 39.4**	**-0.5**
CRIG				*eS*		**Sn**	**09 50 19.8**	**-8.0**
GUMI	**Mixco**	**4.26**	**105**	*i* P		**Pn**	**09 49 45.0**	**+4.0**
GUMI				IAML			09 51 11.1	
	comp=Z,2μm,1.0s							
AVCB	**Coban**	**4.31**	**94**	*i* P		**Pn**	**09 49 43.6**	**+2.1**
AVCB				*i* S		**Sn**	**09 50 28.6**	**-2.0**
AVCB				IAML			09 51 15.3	
	comp=Z,4μm,1.0s							
GCG4	**OSOP**	**4.35**	**106**	*i* P		**Pn**	**09 49 46.7**	**+4.6**
GCG4				IAML			09 51 12.3	
	comp=Z,2μm,1.0s							
PHPU	**Puebla**	**4.51**	**316**			**Pn**	**09 49 44.7**	**+0.3**
PHPU						**Sn**	**09 50 37.0**	**+1.3**
PHPU	**Puebla**	**4.51**	**316**	*eP*		**Pn**	**09 49 44.7**	**+0.3**
PHPU				*eS*		**Sn**	**09 50 37.0**	**+1.3**
NBG	**Las Nubes**	**4.53**	**105**	*eP*		**Pn**	**09 49 48.4**	**+3.9**
SCIG	**Sabancuy**	**4.71**	**48**	*eP*		**Pn**	**09 49 47.0**	**+0.1**
SCIG				*eS*		**Sn**	**09 50 36.7**	**-3.6**
DAIG	**Los Arroyos**	**4.75**	**285**			**Pn**	**09 49 47.4**	**0.0**
DAIG						**Sn**	**09 50 33.0**	**-8.3**
DAIG	**Los Arroyos**	**4.75**	**285**	*eP*		**Pn**	**09 49 47.4**	**0.0**
DAIG				*eS*		**Sn**	**09 50 33.0**	**-8.3**
PPM	**Popocatepetl**	**4.84**	**313**	*eP*		**Pn**	**09 49 52.8**	**+3.7**
PPM				*eS*		**Sn**	**09 50 43.3**	**-0.9**
PPIG	**Popocatepetl**	**4.84**	**313**			**Pn**	**09 49 52.8**	**+3.7**
PPIG						**Sn**	**09 50 43.3**	**-1.0**
PETF	**Flores**	**4.92**	**76**	Pn		**Pn**	**09 49 50.6**	**+0.8**
ACP2	**Acapulco**	**4.94**	**283**	*eP*		Pn	09 49 44.5	-5.5
ACP2				*eS*		**Sn**	**09 50 36.7**	**-9.2**
AMVM	**AMECAMECA**	**5.00**	**312**			**Pn**	**09 49 52.7**	**+1.6**
AMVM						**Sn**	**09 50 45.7**	**-2.0**
AMVM	**AMECAMECA**	**5.00**	**312**	*eP*		**Pn**	**09 49 52.7**	**+1.6**
AMVM				*eS*		**Sn**	**09 50 45.7**	**-2.0**
MEIG	**Mezcala**	**5.02**	**296**			**Pn**	**09 49 53.0**	**+1.8**
MEIG						**Sn**	**09 50 43.0**	**-5.1**
MEIG	**Mezcala**	**5.02**	**296**	*eP*		**Pn**	**09 49 53.0**	**+1.8**
MEIG				*eS*		**Sn**	**09 50 43.0**	**-5.1**

MPVM San Francisco 5.21 311 *e*P Pn 09 49 57.7 +3.8
MPVM eS Sn 09 50 54.5 +1.7
THVM De Xico 5.25 312 *e*P Pn 09 49 58.3 +3.8
THVM eS Sn 09 50 57.9 +4.0
NUBE Las Nubes 5.27 110 *i* P Pn 09 49 57.1 +2.4
NUBE IAML 09 51 16.5
comp=Z,420nm,1.0s
TXVM Universitario 5.29 314 *e*P Pn 09 50 03.8 +8.7
TXVM eS Sn 09 51 01.0 +6.1
TLVM San Miguel Top 5.31 310 *e*P Pn 09 49 56.7 +1.2
TLVM eS Sn 09 50 57.2 +1.6
XCVM Xochimilco 5.31 311 *e*P Pn 09 49 58.7 +3.2
XCVM eS Sn 09 50 54.9 -0.6
COVM Coyoacan 5.41 311 *e*P Pn 09 50 01.2 +4.5
COVM eS Sn 09 50 58.7 +0.9
UNM Universidad Na 5.41 311 Pn Pn 09 49 55.4 -1.3
CUP5 Mexico City 5.41 311 *e* 09 50 56.7
PBVM Pinon 5.41 313 Pn 09 49 57.7 +1.2
PBVM Sn 09 50 55.8 -1.8
PBVM Pinon 5.41 313 *e*P Pn 09 49 57.7 +1.2
PBVM eS Sn 09 50 55.8 -1.8
VTVM Tizayuca 5.43 317 *e*P Pn 09 50 02.5 +5.5
VTVM eS Sn 09 50 53.7 -4.6
BJVM Benito Juarez 5.43 311 *e*P Pn 09 50 05.1 +8.1
BJVM *e* 09 51 18.5
AOVM Tlapan 5.47 310 *e*P Pn 09 50 00.4 +2.6
AOVM eS Sn 09 51 00.3 +0.5
MTO3 Montecristo 5.50 104 Pn Pn 09 49 59.2 +1.3
CJVM Cuajimalpa 5.50 311 *e*P Pn 09 49 56.7 -1.4
CJVM eS Sn 09 51 02.0 +1.8
PTVM Pico Tres Padr 5.53 314 Pn 09 49 59.3 +0.9
PTVM Sn 09 50 56.1 -4.8
PTVM Pico Tres Padr 5.53 314 *e*P Pn 09 49 59.3 +0.9
PTVM eS Sn 09 50 56.1 -4.8
INVM La Marquesa 5.53 309 *e*P Pn 09 50 01.2 +2.7
INVM eS Sn 09 50 59.5 -1.6
AZVM Cuida Lopez Ma 5.65 312 *e*P Pn 09 50 03.9 +3.9
AZVM *e* 09 51 17.2
ZUVM ZUMPANGO 5.67 316 Pn 09 49 59.4 -0.9
ZUVM ZUMPANGO 5.67 316 *e*P Pn 09 49 59.4 -0.9
ZUVM eS Sn 09 50 57.0 -7.3
PMON Piamonte 5.76 110 *i* P Pn 09 50 03.5 +2.2
PMON IVmB_BB 09 50 12.8
comp=Z,3µm,1.0s
PMON IAmb IAmb 09 50 12.9
comp=Z,240nm,0.5s
PMON IAML 09 51 24.2
comp=Z,410nm,1.0s
ARIG Puente Sto Nin 5.80 296 Pn 09 50 03.9 +2.1
ARIG Sn 09 51 02.9 -4.1
ARIG Puente Sto Nin 5.80 296 *e*P Pn 09 50 03.9 +2.1
ARIG eS Sn 09 51 02.9 -4.1
LALI Alcalda de L 5.84 113 *i* P Pn 09 50 05.1 +2.8
LALI IAmb IAmb 09 50 24.8
comp=Z,82nm,0.7s
LALI IVmB_BB 09 51 04.7
comp=Z,2µm,1.0s
LALI IAML 09 51 29.2
comp=Z,180nm,1.0s
SNET Serv Nac Est T 5.84 110 Pn 09 50 04.0 +1.5
SARH Santa Rosa de 5.98 99 *i* P Pn 09 50 06.1 +1.8
PAVA Las Pavas 6.10 109 *i* P Pn 09 50 10.0 +4.0
PAVA IAmb IAmb 09 50 12.7
comp=Z,260nm,0.9s
PAVA IAML 09 51 39.1
comp=Z,530nm,1.0s
ATVM ATLACOMULCO 6.16 310 Pn 09 50 04.2 -2.9
ATVM ATLACOMULCO 6.16 310 *e*P Pn 09 50 04.2 -2.9
ATVM *e* 09 51 17.5
COEG Centro de Oper 6.18 110 *i* P Pn 09 50 09.9 +2.7
COEG IVmB_BB 09 50 16.7
comp=Z,3µm,1.0s
COEG IAML 09 50 16.8
comp=Z,300nm,1.0s
COEG IAmb IAmb 09 50 16.8
comp=Z,210nm,0.5s
SCLA Alcaldia de Sa 6.29 109 *i* P Pn 09 50 12.1 +3.5
SCLA IAmb IAmb 09 50 27.3
comp=Z,58nm,0.9s
SCLA IVmB_BB 09 51 09.7
comp=Z,1µm,1.0s
SCLA IAML 09 51 56.9
comp=Z,180nm,1.0s
ACIG Acambay 6.33 312 *e*P Pn 09 50 16.0 +6.7
ACIG eS Sn 09 51 21.3 +1.0
CTUV Llano Grande 6.54 330 *e*P Pn 09 50 11.4 -0.5
CTUV eS Sn 09 51 22.7 -2.5
NISHN Nisperales Com 6.72 89 *i* P Pn 09 50 13.6 -0.9
MOIG Morelia 7.15 304 Pn 09 50 20.2 -0.4
MOIG Morelia 7.15 304 *e*P Pn 09 50 24.5 +3.8
MOIG eS Sn 09 51 35.2 -5.5
JRQG Juriquilla Cam 7.20 313 *e*P Pn 09 50 26.7 +4.8
JRQG eS Sn 09 52 09.7 +28
TGUH Tegucigalpa,Un 7.54 102 Pn Pn 09 50 28.1 +2.2
TGUH Tegucigalpa,Un 7.54 102 *e*P Pn 09 50 28.0 +2.2
TEIG Tepich 7.66 54 P Pn 09 50 26.1 -1.1
comp=Z,3µm,0.4s,baz=192,slow=2.3,SNR=172
TEIG S Sn 09 51 47.9 -4.8
comp=Z,1µm,0.3s,baz=171,slow=15,SNR=9.0
TEIG LR LR 09 53 44.7
comp=Z,5µm,21.9s,baz=1.5,slow=40
TEIG Tepich 7.66 54 *e*P Pn 09 50 26.1 -1.1
TEIG Tepich 7.66 54 *e*P Pn 09 50 26.0 -1.3
RPIG Rio Verde 7.75 322 *e*P Pn 09 51 31.0 +2.3
RPIG eS Sn 09 52 14.5 +19
CRIN San Cristobal 8.18 111 Pn 09 50 36.6 +2.1
CRIN San Cristobal 8.18 111 *e*P Pn 09 50 32.3 -2.2
CNGN Cerro Negro 8.57 111 Pn 09 50 40.5 +0.6
CNGN Cerro Negro 8.57 111 *e*P Pn 09 50 34.4 -5.5
COIG Colima 9.07 293 *e*P Pn 09 50 50.1 +3.4
COIG eS Sn 09 52 26.6 -0.9
JUBC Volcan de Coli 9.08 295 *e*P Pn 09 50 51.7 +4.5
JUBC eS Sn 09 52 28.8 +0.6
EZ5V 9.10 295 *e*P Pn 09 50 50.9 +3.5
EZ5V eS Sn 09 52 26.9 -1.6
MNGA Volcan de Coli 9.11 295 *e*P Pn 09 50 51.5 +4.0
MNGA eS Sn 09 52 30.2 +1.4
INCO Volcan de Coli 9.12 295 *e*P Pn 09 50 52.8 +5.1
INCO eS Sn 09 52 32.0 +2.8
MATN Matagalpa 9.12 107 Pn 09 50 49.9 +2.4
SOMAC Volcano de Col 9.14 295 *e*P Pn 09 50 52.1 +4.1
SOMAC eS Sn 09 52 34.2 +4.5
CDAR Ciudad de Arme 9.27 291 *e*P Pn 09 51 17.4 +2.2
CDAR eS Sn 09 52 28.8 -3.7
CEGR Campo Tres 9.29 294 *e*P Pn 09 50 53.2 +3.4
CEGR eS Sn 09 52 25.4 -7.7
AAIG Aguscalientes 9.39 312 *e*P Pn 09 50 54.0 +2.7
CIHU Emiliano Zapat 10.03 292 *i* P Pn 09 51 02.1 +2.3
CIHU eS Sn 09 52 45.9 -5.1
ACON Acoyapa 10.15 111 Pn Pn 09 51 02.6 +1.1
ACON Acoyapa 10.15 111 *e*P Pn 09 51 01.5 +0.1
HZTE Horizontes, Gu 10.34 118 Pn 09 51 07.8 +3.7
CJM Chamela 10.38 292 *e*P Pn 09 51 04.7 +0.1
CJM eS Sn 09 52 54.6 -4.9
ORTG Ortega, Santa 10.64 119 Pn Pn 09 51 10.8 +2.6
DUNO Dulce Nombre, 10.76 121 Pn 09 51 12.5 +2.7
JTS Las Juntas de 11.10 118 Pn 09 51 16.8 +2.3
JTS Las Juntas de 11.10 118 P Pn 09 51 17.0 +2.5
comp=Z,7.2nm,0.3s,baz=318,slow=18,SNR=9.8
JTS Las Juntas de 11.10 118 *e*P Pn 09 51 16.9 +2.3
ARE1 Arenal 1 11.21 117 Pn 09 51 14.9 -1.2
SOCE Pocosol 11.34 117 Pn Pn 09 51 21.4 +3.6
COVE Coope Vega, Sa 11.37 115 Pn Pn 09 51 19.6 +1.5
LCR2 La Lucha 2 12.18 118 Pn 09 51 31.7 +2.2
RIMA Rio Macho 12.29 118 Pn 09 51 31.7 +0.8
DRK0 Durika 13.07 118 Pn 09 51 42.8 +1.2
833A Chaparral WMA, 13.15 342 Pn Pn 09 51 43.5 +1.1
833A Chaparral WMA, 13.15 342 P Pn 09 51 43.8 +1.4
baz=160,SNR=23
SOR Soroa 13.17 56 Pn Pn 09 51 39.8 -3.0
735A Kenedy 13.27 349 Pn 09 51 42.7 -1.4
EF01 Eagle Ford 01 13.65 347 Pn Pn 09 51 47.1 -2.2
CDITO Canoas 13.74 120 Pn Pn 09 51 51.0 +0.4
BRIJ2 Volcan 13.78 119 Pn Pn 09 51 50.0 -1.2
HKT Hockley 14.11 357 Pn Pn 09 51 54.1 -1.3
HNDO Hondo 14.25 344 Pn 09 51 55.9 -1.5
DRIO Del Rio 14.55 340 Pn Pn 09 52 00.2 -1.2
HPIG 14.95 320 Pn Pn 09 52 07.1 +0.3
435B Jarrell 15.12 351 Pn 09 52 09.3 +0.5
435B Jarrell 15.12 351 P Pn 09 52 10.0 +1.3
baz=169

JCT Junction City 15.29 344 Pn 09 52 10.5 -0.6
JCT IAmb IAmb 09 52 20.2
comp=Z,45nm,0.8s
JCT Junction City 15.29 344 P Pn 09 52 11.8 +0.7
baz=161,SNR=7.3
SAND Sanderson 15.59 336 Pn 09 52 13.5 -1.4
TX31 Lajitas Ar. Si 15.72 330 Pn 09 52 17.8 +1.2
TXAR Lajitas Array 15.72 330 Pn Pn 09 52 16.7 +0.1
TXAR Lajitas Array 15.72 330 P P 09 52 18.3 -1.5
comp=Z,4.0nm,0.9s,baz=145,slow=14,SNR=22
TXAR LR LR 09 59 33.4
comp=Z,35nm,18.2s,baz=136,slow=42
BRDY Brady 15.87 347 Pn 09 52 19.4 +1.0
BRDY IAmb IAmb 09 52 30.8
comp=Z,47nm,0.9s
NATX Nacogdoches 15.89 1 Pn 09 52 17.4 -1.3
NATX IAmb IAmb 09 52 24.5
comp=Z,25nm,0.8s
NATX Nacogdoches 15.89 1 P Pn 09 52 19.2 +0.5
baz=180
OZNA Ozona 16.10 340 P Pn 09 52 22.7 +1.2
OZNA IAmb IAmb 09 52 30.2
comp=Z,69nm,1.0s
237A Washetta, Mont 16.15 357 P P 09 52 23.2 -1.3
237A IAmb IAmb 09 52 26.6
comp=Z,48nm,0.9s
346A Big Creek Wild 16.28 17 P P 09 52 24.7 -1.2
WHTX Lake Whitney, 16.29 352 P Pn 09 52 24.3 +0.5
WHTX IAmb IAmb 09 52 45.8
comp=Z,58nm,0.8s
WHTX Lake Whitney, 16.29 352 P P 09 52 25.2 -0.8
baz=171,SNR=22
ALPN Alpine 16.59 332 P P 09 52 28.9 -0.6
FW13 Cleburne 16.64 352 P Pn 09 52 27.7 -0.4
FW13 IAmb IAmb 09 52 45.3
comp=Z,44nm,0.6s
FW14 Alvarado 16.66 353 P Pn 09 52 28.8 +0.4
LPIG La Paz 16.69 302 LR LR 09 58 42.6
comp=Z,263nm,18.7s,baz=128,slow=36
FW16 Waxahatchie 16.71 354 P Pn 09 52 29.3 +0.3
MTDJ Mount Denham 16.75 79 *e*P Pn 09 52 28.9 -0.8
VBMS Vicksburg 16.81 13 P Pn 09 52 29.7 -0.6
VBMS IAmb IAmb 09 52 36.6
comp=Z,37nm,1.1s
VBMS Vicksburg 16.81 13 P Pn 09 52 30.2 -0.1
baz=194
BRAL Brewton 16.88 24 P Pn 09 52 31.0 -0.2
baz=206
TREL Terrell 16.89 356 P P 09 52 32.1 -0.6
TREL IAmb IAmb 09 52 36.1
comp=Z,46nm,0.8s
SGCY Sterling City 17.02 342 Pn 09 52 33.5 +0.5
SGCY IAmb IAmb 09 52 38.2
comp=Z,64nm,0.8s
FW07 Weatherford 17.03 352 P P 09 52 34.3 0.0
MNHN Monahans 17.07 336 P P 09 52 34.1 -0.6
MNHN IAmb IAmb 09 52 48.1
comp=Z,23nm,0.7s
143A Socs Landing, 17.12 10 P P 09 52 34.5 -0.7
PLPT Palo Pinto 17.22 350 P Pn 09 52 34.4 -1.0
PLPT IAmb IAmb 09 52 55.9
comp=Z,56nm,0.8s
FW06 Azle 17.27 352 P Pn 09 52 35.8 -0.2
ABTX Abilene, Hawle 17.30 346 Pn 09 52 36.4 0.0
ABTX Abilene, Hawle 17.30 346 P P 09 52 37.4 +0.1
baz=164,SNR=60
Z38A Mt. Pleasant 17.38 360 P P 09 52 37.6 -0.5
Z38A IAmb IAmb 09 52 41.2
comp=Z,78nm,0.9s
FW03 Perrin-Whitt E 17.41 351 P Pn 09 52 37.6 -0.1
DWPF Disney Wildern 17.45 43 P Pn 09 52 37.2 -1.0
baz=228
Z41A Richland Creek 17.48 6 P Pn 09 52 37.3 -1.3
Z41A IAmb IAmb 09 52 46.3
comp=Z,30nm,0.7s
VHRN Van Horn 17.56 330 P Pn 09 52 38.7 -1.0
146A Union 17.57 16 P Pn 09 52 38.8 -0.9
146A IAmb IAmb 09 52 41.5
comp=Z,43nm,1.1s
Z35A Perchaven, San 17.59 353 P Pn 09 52 38.5 -1.4
Z35A IAmb IAmb 09 52 55.2
comp=Z,66nm,1.1s
ODSA Odessa 17.69 338 P Pn 09 52 39.6 -1.7
ODSA IAmb IAmb 09 52 46.5
comp=Z,38nm,0.9s
SN01 Snyder 1 17.84 343 P Pn 09 52 41.3 -1.8
SN01 IAmb IAmb 09 52 47.6
comp=Z,54nm,1.0s
WLAR White Oak Lake 17.88 5 P Pn 09 52 41.4 -2.0
WLAR IAmb IAmb 09 52 47.3
comp=Z,33nm,1.0s
352A Blakely 18.05 28 P Pn 09 52 44.6 -0.9
APMT Aspermont 18.08 346 P Pn 09 52 46.7 +0.6
APMT IAmb IAmb 09 52 48.8
comp=Z,33nm,0.8s
WTFS Witchita Falls 18.18 350 Pn 09 52 47.9 +0.8
POST Post 18.21 342 P P 09 52 46.1 -1.3
POST IAmb IAmb 09 52 57.3
comp=Z,30nm,0.7s
LOOK Love County 18.23 354 P 09 52 47.1 -0.4
LOOK IAmb IAmb 09 53 12.6
comp=Z,65nm,0.9s
Z47A Carrollton 18.38 18 P P 09 52 47.7 -1.4
Z47A IAmb IAmb 09 53 12.0
comp=Z,53nm,1.2s
MNTX Cornudas Mount 18.50 331 P Pn 09 52 51.3 +0.2
baz=146,SNR=13
LRAL Lakeview Retre 18.58 21 P P 09 52 50.5 -0.8
LRAL Lakeview Retre 18.58 21 P P 09 52 51.0 -0.3
baz=204
DKNS Dickens 18.61 344 P P 09 52 51.7 0.0
DKNS IAmb IAmb 09 53 10.1
comp=Z,79nm,1.3s
Y45A Yeager Farm, C 18.61 14 P 09 52 51.5 -0.2
Y45A IAmb IAmb 09 52 54.5
comp=Z,74nm,1.3s
TIGA Tifton 18.66 31 P P 09 52 51.5 -0.7
baz=216
X40A Basin Creek Fa 18.70 5 P P 09 52 51.7 -0.9
UALR University of 19.03 6 P P 09 52 56.0 -0.3
152A Waverly Hall 19.15 27 P P 09 52 57.9 +0.3
152A IAmb IAmb 09 53 00.2
comp=Z,31nm,1.1s
WMOK Wichita Mounta 19.18 350 P 09 52 57.2 -0.8
WMOK IAmb IAmb 09 53 18.1
comp=Z,27nm,1.0s
WMOK Wichita Mounta 19.18 350 P P 09 52 58.2 +0.3
baz=168
GTBY Guantanamo Bay 19.24 75 P P 09 52 57.6 -1.1
GTBY IAmb IAmb 09 53 22.2
comp=Z,34nm,0.9s
OXF Oxford 19.27 14 P P 09 52 56.7 -2.1
OXF IAmb IAmb 09 53 17.3
comp=Z,61nm,1.2s
OXF Oxford 19.27 14 P P 09 52 58.5 -0.3
baz=196
W35A Tecumseh 19.35 355 P 09 53 00.0 +0.2
MSTX Muleshoe 19.45 340 P Pn 09 53 03.1 +0.7
MSTX IAmb IAmb 09 53 12.7
comp=Z,21nm,0.9s
MSTX Muleshoe 19.45 340 P P 09 53 01.4 +0.4
baz=156
FNO Franklin 19.51 354 P 09 53 01.9 +0.4
WHAR Wooly Hollow 19.54 6 P P 09 53 01.4 -0.5
WHAR IAmb IAmb 09 53 10.9
comp=Z,30nm,1.2s
OKCSW OKLAHOMA CITY 19.66 354 P 09 53 03.5 +0.3
SMWD Samnorwood 19.82 347 P P 09 53 05.3 +0.4
HSIG 19.82 314 P P 09 53 05.2 +0.2
ADOK Arcadia Dam 19.89 354 P P 09 53 05.7 0.0
AMTX Amarillo 19.96 343 IAmb IAmb 09 53 12.7
comp=Z,46nm,0.8s
AMTX Amarillo 19.96 343 P Pn 09 53 07.6 -1.0
baz=160
TUL3 Leonard 20.04 358 P P 09 53 06.0 -1.3
TUL3 IAmb IAmb 09 53 27.9
comp=Z,46nm,1.0s
TUL3 Leonard 20.04 358 P Pn 09 53 08.3 -1.1
baz=177,SNR=12
PLAL Pickwick Lake 20.05 16 IAmb IAmb 09 53 26.6
comp=Z,29nm,1.4s
FCAR Ozark Folk Cen 20.15 6 IAmb IAmb 09 53 29.0
comp=Z,19nm,0.7s
OK052 Battle Ridge R 20.18 355 P 09 53 08.1 -0.8
RLO Rose Lookout 20.28 360 IAmb IAmb 09 53 26.9
comp=Z,13nm,0.7s
319A Douglas 20.33 322 P P 09 53 11.2 +0.5
319A IAmb IAmb 09 53 37.1
comp=Z,27nm,1.0s
GOGA Godfrey 20.34 28 P P 09 53 09.8 -0.7
baz=213
121A Cookes Peak, D 20.37 327 IAmb IAmb 09 53 27.6
comp=Z,21nm,0.9s
121A Cookes Peak, D 20.37 327 P Pn 09 53 13.0 -0.6
baz=141,SNR=27
HHAR Hobbs 20.41 2 P P 09 53 09.9 -1.4
LCAR Lake Charles 20.45 9 P P 09 53 10.3 -1.4
Y52A Lilburn 20.45 26 P P 09 53 09.6 -2.2
Y52A IAmb IAmb 09 53 33.6
comp=Z,40nm,1.1s
U38A Gravette 20.56 1 P P 09 53 10.3 -2.6
U38A IAmb IAmb 09 53 18.8
comp=Z,25nm,1.1s
ELIS Ellis County 20.59 349 P P 09 53 12.2 -1.1
CBOC Ciudad Bolivar 20.96 116 *e*P Pn 09 53 20.1 -0.6
T35A Sooner Cattle 21.08 356 P P 09 53 17.1 -1.5
V48A Smith Brothers 21.12 18 P P 09 53 16.6 -2.3
OK032 Salt Plains WL 21.13 353 IAmb IAmb 09 53 34.2
comp=Z,30nm,0.7s
Y22D IRIS PASSCAL I 21.19 331 IAmb IAmb 09 53 40.9
comp=Z,32nm,0.8s
Y22D IRIS PASSCAL I 21.19 331 P P 09 53 20.9 +1.0
baz=146
Y22F Passcal Instru 21.19 331 P P 09 53 21.0 +1.1
baz=146
WVT Waverly 21.19 16 P P 09 53 17.2 -2.5
WVT Waverly 21.19 16 P P 09 53 20.1 +0.3
baz=199
PLMC San Jos del P 21.22 119 *e*P P 09 53 20.7 +0.4
ZARC Zaragoza, Cauc 21.25 111 *e*P P 09 53 20.5 0.0
KAN14 Manchester OK 21.25 353 IAmb IAmb 09 53 44.5
comp=Z,20nm,0.6s
PBMO Poplar Bluff 21.26 10 P P 09 53 18.9 -1.5
KAN17 Caldwell West 21.31 354 IAmb IAmb 09 53 39.0
comp=Z,37nm,0.8s
KAN05 Bluff City Nor 21.39 353 P P 09 53 21.1 -0.7
KAN09 Caldwell North 21.39 354 P P 09 53 20.5 -1.3
KAN01 Argonia South 21.42 354 P P 09 53 21.2 -1.0
CLTN Cedars of Leba 21.59 19 IAmb IAmb 09 53 37.4
comp=Z,22nm,1.2s
YOTC Yotoco, Valle 21.67 121 *e*P P 09 53 25.4 +0.3
RTBA Rita Blanca 21.71 343 P P 09 53 26.0 +0.5
ANMO Albuquerque 21.72 334 P P 09 53 24.7 -0.9
ANMO Albuquerque 21.72 334 P P 09 53 26.4 +0.8
baz=148
ANMO Albuquerque 21.72 334 P P 09 53 27.2 +1.6
comp=Z,3.7nm,0.8s,baz=236,slow=11,SNR=18
comp=Z,3.7nm,0.8s
NHSC New Hope 21.76 35 P P 09 53 25.7 -0.1
baz=221
GUY2C Guyana, Caldas 21.84 117 *e*P P 09 53 29.1 +1.8
JAMC Jamundi, Valle 21.84 123 *e*P P 09 53 18.0 -9.1
S39A Bolivar 21.84 3 P P 09 53 24.7 -2.0
TUC Tucson 21.89 321 P P 09 53 28.8 +1.4
TUC IAmb IAmb 09 53 51.9
comp=Z,31nm,0.9s
TUC Tucson 21.89 321 P P 09 53 28.9 +1.5
baz=134
BG3 Lake Jocassee 21.90 27 IAmb IAmb 09 53 50.1
comp=Z,33nm,1.2s
PTBC PUERTO BERRIO, 22.01 112 *e*P P 09 53 29.2 +0.5
BBAC Balboa, Cauca 22.11 127 *e*P P 09 53 30.2 +0.2
TKL Tuckaleechee C 22.12 25 P P 09 53 28.1 -1.5
TKL IAmb IAmb 09 53 36.3
comp=Z,50nm,1.4s
TKL Tuckaleechee C 22.12 25 LR LR 10 03 34.6
comp=Z,80nm,20.8s,baz=204,slow=41
U49A Red Boiling Sp 22.16 20 P P 09 53 27.7 -2.3
U49A IAmb IAmb 09 53 46.9
comp=Z,24nm,1.0s
T47A Sharon Grove 22.20 17 IAmb IAmb 09 53 48.0
comp=Z,27nm,0.8s
POPC Popayan, Colom 22.24 125 *e*P P 09 53 31.1 -0.3
S44A Carbondale 22.36 12 IAmb IAmb 09 53 41.5
comp=Z,40nm,0.9s
CCM Cathedral Cave 22.40 8 P P 09 53 30.3 -2.3
CCM Cathedral Cave 22.40 8 P P 09 53 32.0 -0.6
baz=189
OTAV Otavalo 22.40 132 P P 09 53 33.3 0.0
OTAV Otavalo 22.40 132 *e*P P 09 53 35.1 +1.7
FVM French Village 22.44 9 P P 09 53 32.5 -0.6
R40A Maddies Statio 22.52 5 P P 09 53 32.5 -1.4
R40A IAmb IAmb 09 53 36.7
comp=Z,21nm,1.1s
GCUF Volcan Galeras 22.55 128 *e*P P 09 53 37.5 +2.5
TULM Tulcn-Chalpat 22.55 130 IAmb IAmb 09 53 58.2
comp=Z,29nm,1.2s
ORTC Ortega, Tolima 22.62 119 *e*P P 09 53 36.7 +1.4
R32A Long Quarter, 22.79 352 IAmb IAmb 09 53 40.1
comp=Z,29nm,0.9s
T25A Trinidad 22.88 340 P P 09 53 38.6 +0.6
T25A IAmb IAmb 09 53 58.8
comp=Z,20nm,0.9s
T25A Trinidad 22.88 340 P P 09 53 39.1 +1.1
baz=155,SNR=7.9
214A Organ Pipe Nat 22.92 318 P P 09 53 39.1 +0.8
214A IAmb IAmb 09 54 00.4
comp=Z,25nm,1.3s
214A Organ Pipe Nat 22.92 318 P P 09 53 39.4 +1.1
baz=130
ROSC El Rosal 22.93 116 P P 09 53 40.9 +2.0
ROSC IAmb IAmb 09 53 45.9
comp=Z,24nm,0.8s
ROSC El Rosal 22.93 116 P P 09 53 41.0 +2.1
comp=Z,20nm,0.7s,baz=110,slow=19,SNR=7.5
comp=Z,20nm,0.7s
TZTN Tazewell 22.98 24 P P 09 53 38.1 -0.7
baz=209
PRAC Prado 23.03 119 *e*P P 09 53 40.8 +1.2
SLOR San Lorenzo - 23.05 134 P P 09 53 42.7 +2.6
X18A Snowflake 23.06 327 P P 09 53 41.2 +1.4
X18A IAmb IAmb 09 54 02.4
comp=Z,21nm,0.9s
BARC Barichara 23.13 111 *e*P P 09 53 42.1 +1.4
KSU1 Kansas State U 23.26 357 P P 09 53 39.2 -2.3
KSU1 IAmb IAmb 09 54 01.0
comp=Z,20nm,0.8s
KSU1 Kansas State U 23.26 357 P P 09 53 41.0 -0.5
baz=175
PAMC Pamplona, Colo 23.27 109 *e*P P 09 53 43.2 +0.9
CBKS Cedar Bluff 23.32 350 P P 09 53 42.9 +0.7
baz=168
CHSH Refugio Sur-Vo 23.35 136 IAmb IAmb 09 53 50.6
comp=Z,16nm,1.0s
W18A Petrified Fore 23.40 328 P P 09 53 44.1 +1.0
baz=141
Q44A Meyer Farm, Va 23.58 11 P P 09 53 41.9 -2.7
Q44A IAmb IAmb 09 53 57.6
comp=Z,15nm,0.8s
WCI Wyandotte Cave 23.58 17 P P 09 53 42.0 -2.6
WCI IAmb IAmb 09 54 03.8
comp=Z,21nm,0.7s
WCI Wyandotte Cave 23.58 17 P P 09 53 43.8 -0.8
baz=201
OLIL Olney 23.61 13 P P 09 53 42.6 -2.1
OLIL IAmb IAmb 09 54 04.4
comp=Z,24nm,1.0s
FLOC Florencia 23.63 125 *e*P P 09 53 44.3 -0.9
P40A Paris 23.77 5 IAmb IAmb 09 53 45.4
comp=Z,45nm,1.5s
X16A Lo Mia Camp, P 23.79 324 P P 09 53 48.3 +1.5
X16A IAmb IAmb 09 54 10.2
comp=Z,16nm,0.9s
SDCO Great Sand Dun 23.79 339 P P 09 53 46.1 -0.7
SDCO Great Sand Dun 23.79 339 P P 09 53 47.6 +0.7
baz=154,SNR=17
COHC Cochancay 23.83 138 P P 09 53 48.1 +1.0
COHC Cochancay 23.83 138 *e*P P 09 53 48.0 +1.0
R49A Shelbyville 23.98 19 P P 09 53 45.9 -2.3
R49A IAmb IAmb 09 54 06.5
comp=Z,29nm,1.4s
113A Mohawk Valley, 24.06 318 P P 09 53 47.2 -1.9
KSCO Kaye Shedlock' 24.10 345 P P 09 53 50.4 +0.8
baz=161
ARNL Arenillas 24.17 141 P P 09 53 49.1 -1.0
ARNL IAmb IAmb 09 53 55.2
comp=Z,14nm,1.0s
P43A Skaggs, Pawnee 24.20 10 P P 09 53 48.2 -2.0
P43A IAmb IAmb 09 54 16.1
comp=Z,14nm,1.0s

S22A 4UR Ranch, Cre 24.28 336 P P 09 53 50.8 -0.6
S22A 4UR Ranch, Cre 24.28 336 P P 09 53 52.5 +1.1
baz=151
BLO Bloomington 24.40 16 P P
BLO IAmb IAmb 09 54 13.0
comp=Z,18nm,0.8s
TAMC Tame, Arauca 24.45 110 eP P 09 53 54.5 +1.7
MVCO Mesa Verde 24.51 333 P P 09 53 55.3 +1.9
baz=146
WUAZ Wupatki 24.57 326 P P 09 53 54.7 +0.8
WUAZ IAmb IAmb 09 54 17.4
comp=Z,19nm,0.9s
WUAZ Wupatki 24.57 326 P P 09 53 56.1 +2.3
baz=138,SNR=11
SDV Santo Domingo 24.63 103 P P 09 53 54.2 -0.5
SDV Santo Domingo 24.63 103 P P 09 53 56.3 +1.6
comp=Z,4.3nm,0.5s,baz=275,slow=5.6,SNR=5.5
SDV LR LR 10 04 04.4
comp=Z,118nm,21.9s,baz=305,slow=38
comp=Z,4.3nm,0.5s
SDV Santo Domingo 24.63 103 eP P 09 53 48.7 -5.9
P46A Rosedale 24.65 14 P P 09 53 52.5 -1.8
P46A IAmb IAmb 09 53 55.3
comp=Z,28nm,1.1s
Q24A Divide 24.78 341 P P 09 53 57.9 +2.0
baz=155
BOSC San Juan Bosco 24.84 138 P P 09 53 59.1 +2.6
BLA Blacksburg 24.87 28 P P 09 53 57.5 +1.0
baz=215
MCRA Macar, Loja 24.89 142 P P 09 53 58.0 +1.1
MCRA Macar, Loja 24.89 142 eP P 09 53 57.6 +0.8
PTLC Puerto Leguiza 25.17 126 eP P 09 54 03.0 +3.7
P49A Miami Univ. Ec 25.25 19 P P 09 54 00.6 +0.8
baz=203
PDMCI Parker Dam,Lak 25.30 320 P P 09 54 02.2 +1.9
baz=132
SFIN Lafayette 25.40 14 P P 09 54 02.1 +0.9
baz=197
YUH Yuha Desert 25.42 315 P P 09 54 01.2 -0.2
SWSC Sam W. Stewart 25.51 316 P P 09 54 04.2 +2.0
baz=127
IKP In-Ko-Pah, Jac 25.54 315 P P 09 54 04.4 +1.7
baz=126
BGNE Belgrade 25.67 354 P P 09 54 04.7 +1.0
baz=172
ISCO Idaho Springs 25.69 341 P P 09 54 05.7 +1.6
ISCO Idaho Springs 25.69 341 P P 09 54 05.5 +1.4
baz=155
W13A Hualapai Mount 25.69 322 P P 09 54 06.2 +2.1
BC3 Big Chuckawall 25.71 317 P P 09 54 05.7 +1.4
baz=128,SNR=6.1
CBX Cerro Bola 25.73 314 P P 09 54 06.6 +2.2
U15A North Rim 25.74 326 P P 09 54 03.6 -1.0
U15A IAmb IAmb 09 54 28.5
comp=Z,23nm,1.4s
O48B Farmland 25.79 17 P P 09 54 05.7 +1.0
baz=202
OGNE Ogallala 25.81 347 P P 09 54 06.8 +1.8
OGNE Ogallala 25.81 347 P P 09 54 07.3 +2.3
baz=164,SNR=10
IRM Iron Mountain 25.83 319 P P 09 54 07.0 +1.8
baz=130,SNR=6.9
MONP2 Monument Peak 25.90 315 P P 09 54 07.6 +1.6
baz=126
NEE2 Needles Airpor 25.91 320 P P 09 54 07.7 +1.9
baz=132
O49A Covington 25.97 19 P P 09 54 04.8 -1.6
O49A IAmb IAmb 09 54 23.6
comp=Z,20nm,0.7s
BRIGG Briggsdale 26.02 343 P P 09 54 06.7 -0.2
BRIGG IAmb IAmb 09 54 33.6
comp=Z,14nm,0.8s
SCIA State Center 26.05 3 P P 09 54 05.8 -1.2
SCIA State Center 26.05 3 P P 09 54 06.9 -0.1
baz=183
BELC Belle Mtn. Jos 26.28 317 P P 09 54 11.3 +1.8
baz=128
PMD Palm Desert 26.32 316 P P 09 54 10.7 +1.1
TPFO Pinon Flats 26.34 316 P P 09 54 11.8 +1.9
baz=127
PFO Pinyon Flats O 26.35 316 P P 09 54 11.7 +1.7
PFO Pinyon Flats O 26.35 316 P P 09 54 11.9 +1.9
baz=127
109C Camp Elliot, M 26.37 314 P P 09 54 12.0 +2.0
109C Camp Elliot, M 26.37 314 P P 09 54 12.1 +2.0
baz=124
ACSO Alum Creek Sta 26.45 21 P P 09 54 11.4 +0.7
baz=206
KNB Kanab 26.46 326 P P 09 54 11.2 +0.2
KNB IAmb IAmb 09 54 35.9
comp=Z,19nm,1.4s
L42A Oliver, Polo 26.49 9 P P 09 54 09.7 -1.3
L42A IAmb IAmb 09 54 30.9
comp=Z,14nm,0.8s
GMRC Granite Mounta 26.56 319 P P 09 54 13.8 +1.8
baz=130
V12A Nelson 26.69 322 IAmb IAmb 09 54 36.1
comp=Z,14nm,1.1s
N23A Red Feather La 26.79 341 P P 09 54 15.0 +1.0
baz=155
K38A Parkersburg 26.81 3 IAmb IAmb 09 54 32.5
comp=Z,26nm,1.1s
MURC Murrieta 26.84 315 P P 09 54 16.2 +1.9
baz=126
O20A White River Ci 26.90 337 P P 09 54 16.2 +1.2
baz=150
MTPU Mount Pierson 26.91 329 P P 09 54 13.2 -2.1
SRU San Rafael Swe 26.98 332 P P 09 54 14.0 -1.6
HEC Hector,Ludlow 27.02 318 P P 09 54 17.6 +1.7
baz=129
O53A New Philadelph 27.10 23 P P 09 54 17.5 +0.9
baz=210
CBN Corbin Frederi 27.12 31 P P 09 54 17.7 +1.0
baz=219
TUQ Turquoise Moun 27.15 320 P P 09 54 18.3 +1.1
baz=130
MSU Marysvale 27.27 329 P P 09 54 19.0 +0.6
JFWS Jewell Farm 27.31 7 P P 09 54 17.9 -0.4
JFWS IAmb IAmb 09 54 38.8
comp=Z,19nm,0.7s
JFWS Jewell Farm 27.31 7 P P 09 54 18.5 +0.2
baz=190
P17A Butcher Ranch, 27.37 333 P P 09 54 20.4 +1.3
SHPR Sheep Range 27.41 323 P P 09 54 20.5 +1.0
BFSC Mount Baldy Ra 27.52 316 P P 09 54 21.7 +1.2
baz=126
SJG San Juan 27.55 81 LR LR 10 06 28.7
comp=Z,56nm,18.2s,baz=269,slow=39
CIS Catalina Islan 27.56 314 P P 09 54 22.0 +1.2
baz=123
GSC Goldstone, Bar 27.62 319 P P 09 54 22.0 +0.6
baz=129
SHOC Shoshone, Teco 27.67 320 P P 09 54 20.7 -1.0
baz=130
ECSD EROS Data Cent 27.88 357 P P 09 54 23.7 +0.3
ECSD IAmb IAmb 09 54 45.4
comp=Z,12nm,1.1s
ECSD EROS Data Cent 27.88 357 P P 09 54 23.8 +0.3
baz=176,SNR=6.2
DECC Green Verdugo 27.99 315 P P 09 54 24.9 +0.3
baz=125
ATAH Atahualpa 28.03 143 P P 09 54 27.9 +2.4
comp=Z,7.7nm,0.8s,baz=249,slow=1.8,SNR=4.1
ATAH LR LR 10 03 51.6
comp=Z,93nm,18.1s,baz=308,slow=32
comp=Z,7.7nm,0.8s
GWY Greenwater Val 28.10 320 P P 09 54 27.6 +1.9
AAM Ann Arbor 28.11 18 P P 09 54 24.7 -0.8
baz=203
EDW2 Edwards Air Fo 28.13 317 P P 09 54 25.9 0.0
baz=126
MPU Maple Canyon 28.21 332 P P 09 54 28.1 +1.4
SNCC San Nicolas Is 28.26 312 P P 09 54 28.3 +1.4
baz=122
LRMC Laurel Mtn Rad 28.29 318 P P 09 54 28.8 +1.5
baz=128
M53A WI Miller and 28.34 23 P P 09 54 26.6 -1.0
baz=210
TPNV Topopah Spring 28.35 322 P P 09 54 29.3 +1.4
baz=132
FURC Furnace Creek, 28.40 321 P P 09 54 28.8 +0.7
baz=130
MPMC Manual Prospec 28.52 319 P P 09 54 30.0 +0.5
baz=129
ARVC Arvin 28.83 316 P P 09 54 33.3 +1.3
baz=126
R11B Troy Canyon, C 28.93 325 P P 09 54 34.5 +1.4
baz=135
TCUT Toone Canyon 29.01 334 IAmb IAmb 09 54 57.3
comp=Z,18nm,1.1s
CWC Cottonwood Cre 29.14 319 P P 09 54 36.2 +1.3
baz=128
GMN Gold Mountain 29.18 321 P P 09 54 35.3 -0.1
PKM Mcpherson Peak 29.35 315 P P 09 54 37.9 +1.0
baz=124
SPMN Marine on St. 29.38 3 P P 09 54 35.4 -1.4
SPMN Marine on St. 29.38 3 P P 09 54 35.5 -1.2
baz=184,SNR=8.8
VES Vestal, Richgr 29.41 317 P P 09 54 38.5 +1.3
baz=126
TPH Tonopah 29.68 323 IAmb IAmb 09 55 02.1
comp=Z,22nm,1.1s
PDAR Pinedale Array 29.68 338 P P 09 54 41.4 +1.7
comp=Z,0.2nm,0.5s,baz=140,slow=8.2,SNR=5.8
PDAR PcP PcP 09 57 42.3 -0.8
comp=Z,0.5nm,0.6s,baz=138,slow=5.3,SNR=4.5
comp=Z,0.2nm,0.5s
PCRV Puerto La Cruz 29.96 97 LR LR 10 08 27.5
comp=Z,70nm,18.1s,slow=40
F36A Milaca 29.99 2 P P 09 54 40.2 -2.0
F36A IAmb IAmb 09 54 43.6
comp=Z,11nm,1.3s
GLMI Grayling 30.20 15 P P 09 54 45.1 +1.1
baz=200
NV11 Mina Array Sit 30.46 322 P P 09 54 45.3 -1.3
NV11 IAmb IAmb 09 55 10.3
comp=Z,12nm,1.1s
ELK Elko 30.50 329 P P 09 54 47.6 +0.6
ELK Elko 30.50 329 LR LR 10 09 41.3
comp=Z,85nm,18.3s,baz=154,slow=41
MDPB Devils Postpil 30.50 320 P P 09 54 46.3 -0.9
MDPB IAmb IAmb 09 55 10.7
comp=Z,12nm,1.0s
NVAR Mina Array Bea 30.55 322 P P 09 54 49.7 +2.3
comp=Z,3.9nm,0.8s,baz=140,slow=9.2,SNR=32
NVAR PcP PcP 09 57 46.2 +0.8
comp=Z,1.3nm,0.9s,baz=140,slow=3.4,SNR=4.4
NVAR LR LR 10 08 17.1
comp=Z,126nm,19.3s,baz=134,slow=39
comp=Z,3.9nm,0.8s
LHV Little Huntoon 30.55 322 IAmb IAmb 09 55 10.8
comp=Z,8.7nm,0.8s
SNOW Snow King Moun 30.72 337 P P 09 54 49.1 +0.1
SNOW IAmb IAmb 09 55 14.8
comp=Z,14nm,0.8s
LOHW Long Hollow 30.79 337 P P 09 54 50.9 +1.3
E38A The Farm, Brul 30.84 4 P P 09 54 47.8 -1.9
KVN Kaiserville 30.84 323 P P 09 54 48.7 -1.3
E28A Huff 31.06 352 IAmb IAmb 09 54 53.9
comp=Z,17nm,0.8s
YERR Yerington 31.46 322 IAmb IAmb 09 55 18.9
comp=Z,11nm,1.3s
PNTR Pine Nut 31.75 322 P P 09 54 58.2 +0.2
PNTR IAmb IAmb 09 55 21.7
comp=Z,15nm,1.2s
SADO Sadowa 31.79 21 LR LR 10 10 13.7
comp=Z,81nm,18.3s,baz=33,slow=41
PAHR Pah Rah Range 32.02 323 P P 09 55 01.1 +0.8
CZSB Cruzeiro do Su 32.07 135 P P 09 55 00.9 +0.1
MPK Martis Peak 32.13 322 P P 09 55 00.9 -0.6
MPK IAmb IAmb 09 55 25.3
comp=Z,17nm,1.2s
EYMN Ely 32.17 4 P P 09 55 00.5 -0.9
baz=186
MDND Maddock 32.19 354 P P 09 55 01.3 -0.3
baz=171
LAO LASA Array 32.22 345 P P 09 55 00.9 -1.0
baz=159
HLID Hailey 32.30 333 P P 09 55 02.6 -0.1
HLID Hailey 32.30 333 P P 09 55 03.1 +0.4
baz=143
B35A Bob, Littlefor 32.48 1 P P 09 55 02.5 -1.5
B35A IAmb IAmb 09 55 04.1
comp=Z,11nm,0.7s
L61B Northampton 32.67 31 P P 09 55 05.9 0.0
baz=222
NNA Nana 32.87 146 LR LR 10 06 01.6
comp=Z,64nm,20.6s,baz=342,slow=32
BOZ Bozeman (W) 32.87 338 P P 09 55 09.1 +1.4
baz=149
WVOR Wild Horse Val 33.47 327 P P 09 55 13.9 +0.9
WVOR IAmb IAmb 09 55 35.7
comp=Z,19nm,1.2s
PLID Pearl Lake 34.20 333 IAmb IAmb 09 55 21.3
comp=Z,6.1nm,0.9s
ULM Lac du Bonnet 34.37 359 P P 09 55 19.2 -1.2
ULM IAmb IAmb 09 55 20.0
comp=Z,7.6nm,0.9s
ULM Lac du Bonnet 34.37 359 P P 09 55 19.3 -1.2
comp=Z,4.5nm,0.6s,baz=170,slow=9.3,SNR=8.9
ULM LR LR 10 11 11.4
comp=Z,69nm,18.9s,baz=204,slow=39
comp=Z,4.5nm,0.6s
EGMT Eagleton 34.40 342 P P 09 55 18.7 -2.1
EGMT Eagleton 34.40 342 P P 09 55 18.8 -2.1
baz=154,SNR=5.3
YBH Yreka Blue Hor 35.26 323 LR LR 10 11 12.8
comp=Z,142nm,20.6s,baz=162,slow=38
F10A Beach Ranch, E 35.43 333 P P 09 55 30.7 +0.9
F10A IAmb IAmb 09 55 52.6
comp=Z,10nm,1.0s
H04A Detroit Lake 36.89 327 P P 09 55 43.0 +0.8
H04A IAmb IAmb 09 56 04.5
comp=Z,12nm,1.0s
NEW Newport 37.19 335 LR LR 10 13 32.2
comp=Z,87nm,19.6s,baz=144,slow=40
C09A Chrisman Ranch 37.30 334 P P 09 55 46.6 +1.0
C09A IAmb IAmb 09 56 06.8
comp=Z,5.5nm,0.9s
ETMB Extrema 38.12 130 P P 09 55 52.9 0.0
LON Longmire 38.13 330 P P 09 55 53.9 +1.1
FFC Flin Flon 39.23 353 P P 09 56 00.4 -1.3
FFC IAmb IAmb 09 56 22.3
comp=Z,14nm,1.4s
SAML Samuel 39.86 126 P P 09 56 06.2 -1.4
SAML IAmb IAmb 09 56 07.0
comp=Z,11nm,1.1s
SAML Samuel 39.86 126 eP P 09 56 06.1 -1.4
EDM Edmonton 40.07 343 P P 09 56 08.2 -0.6
EDM IAmb IAmb 09 56 29.3
comp=Z,7.5nm,0.8s
LPAZ La Paz 41.39 139 P P 09 56 19.9 -0.8
PB16 IPOC Station P 42.12 143 P P 09 56 27.2 +0.6
MDP Montagnes des 42.77 100 LR LR 10 16 01.1
comp=Z,61nm,18.6s,baz=280,slow=38
FCC Fort Churchill 42.89 1 P P 09 56 30.8 -1.0
PB11 IPOC Station P 43.16 144 P P 09 56 35.3 +0.7
PB11 IAmb IAmb 09 56 36.3
comp=Z,17nm,1.1s
GO01 Chusmiza 43.35 144 P P 09 56 35.6 -1.0
GO01 IAmb IAmb 09 56 38.9
comp=Z,7.4nm,0.9s
PB08 IPOC Station P 43.75 144 P P 09 56 40.5 +0.8
PB02 IPOC Station P 44.28 146 P P 09 56 43.6 +0.1
SCHQ Schefferville 44.57 23 LR LR 10 17 29.2
comp=Z,81nm,18.9s,baz=224,slow=39
VILB Vilhena 44.63 128 P P 09 56 46.2 -0.2
VILB IAmb IAmb 09 57 01.3
comp=Z,12nm,0.8s
RPN Rapa Nui 44.93 198 LR LR 10 10 49.8
comp=Z,55nm,21.9s,baz=61,slow=30
HILA High Level 45.74 344 P P 09 56 53.3 -1.2
LVC Limon Verde 45.86 146 LR LR 10 15 14.1
comp=Z,39nm,20.6s,baz=324,slow=35
PTLB Pontes e Lacer 47.00 130 P P 09 57 04.6 -0.3
PTLB IAmb IAmb 09 57 05.3
comp=Z,12nm,1.4s
YKA Yellowknife Ar 48.67 348 P P 09 57 16.8 -0.5
YKA Yellowknife Ar 48.67 348 P P 09 57 16.9 -0.4
comp=Z,0.9nm,0.6s,baz=156,slow=6.9,SNR=26
YKA PcP PcP 09 58 41.3 -0.6
comp=Z,0.7nm,0.8s,baz=159,slow=2.6,SNR=4.9
comp=Z,0.9nm,0.6s
AC06 Mina Casimiro 49.05 151 P P 09 57 21.1 +0.4
KOTAN Kotaneelee Air 49.08 341 P P 09 57 21.0 +0.5
baz=141
AC05 El Transito 50.34 152 P P 09 57 31.4 +0.7
FRB Frobisher Bay 51.23 15 LR LR 10 23 29.1
comp=Z,41nm,18.6s,baz=213,slow=41
CO03 El Pedregal 51.88 153 P P 09 57 43.0 +0.9
S31K Pelican 52.11 333 P P 09 57 44.2 +0.9
baz=126
P33M Teslin, Yukon 52.16 337 P P 09 57 44.5 +0.7
baz=131
N32M Quiet Lake 52.88 338 P P 09 57 49.5 +0.5
baz=132
WHY Whitehorse 53.23 337 P P 09 57 51.8 +0.1
baz=129
CFA Coronel Fontan 53.62 152 LR LR 10 15 47.7
comp=Z,40nm,20.5s,baz=290,slow=30
P30M Million Dollar 53.71 335 P P 09 57 55.0 -0.2
baz=127
O30N Mendenhall 53.76 336 P P 09 57 55.8 +0.3
baz=128
M31M Drury Creek, Y 54.04 338 P P 09 57 58.0 +0.4
baz=131
LMEL Las Melosas 54.69 155 P P 09 58 04.3 +1.6
M30M Minto, Yukon 55.15 338 P P 09 58 06.3 +0.7
baz=128
CPUP Villa Florida 55.55 138 P P 09 58 07.8 -1.0
comp=Z,2.8nm,0.9s,baz=340,slow=14,SNR=3.7
CPUP LR LR 10 22 09.4
comp=Z,37nm,18.7s,baz=25,slow=36
comp=Z,2.8nm,0.9s
M29M Somme Creek 55.68 337 P P 09 58 10.4 +0.9
baz=126
BDFB Brasilia 55.82 122 P P 09 58 10.9 -0.2
BDFB IAmb IAmb 09 58 11.7
comp=Z,8.3nm,0.9s
BDFB Brasilia 55.82 122 P P 09 58 11.1 0.0
comp=Z,6.0nm,0.8s,baz=263,slow=3.4,SNR=8.7
BDFB LR LR 10 23 17.0
comp=Z,41nm,18.6s,baz=341,slow=37
comp=Z,6.0nm,0.8s
L29M L29M 55.96 338 P P 09 58 12.2 +0.8
baz=127
J30M Hart River 56.25 340 P P 09 58 14.1 +0.5
baz=130
I30M Mount Dempster 56.69 340 P P 09 58 16.9 +0.2
baz=130
DAWY Dawson 56.98 338 P P 09 58 19.4 +0.7
baz=126
G31M Satah River 57.18 343 P P 09 58 20.1 +0.2
baz=133
BCAR Beaver Creek A 57.29 337 P P 09 58 21.8 +1.0
L27K Beaver Creek, 57.30 337 P P 09 58 23.0 +2.1
baz=123
F31M Tsiigehtchic 57.40 343 P P 09 58 21.6 +0.2
baz=134
M26K Nabesna, AK 57.40 336 P P 09 58 21.7 0.0
baz=122
EPYK Eagle Plains 57.54 341 P P 09 58 22.3 -0.2
baz=130
G30M tAoh Zraii Nji 57.79 342 P P 09 58 23.2 -1.1
baz=131
K27K Chicken 57.93 338 P P 09 58 25.0 -0.3
baz=123
INK Inuvik 57.95 344 P P 09 58 24.5 -0.8
INK IAmb IAmb 09 58 29.0
comp=Z,8.5nm,1.1s
INK Inuvik 57.95 344 P P 09 58 25.4 +0.2
baz=135,SNR=6.0
INK Inuvik 57.95 344 LR LR 10 27 32.1
comp=Z,100nm,18.1s,baz=178,slow=40
H29M Whitestone 57.96 341 P P 09 58 25.7 +0.3
baz=128
I28M Miner Creek 58.00 340 P P 09 58 26.2 +0.3
baz=126
F30M Barrier River 58.09 343 P P 09 58 27.0 +0.7
baz=132,SNR=5.5
HARP HAARP 58.27 335 P P 09 58 29.6 +1.9
baz=119
G29M Pine Creek 58.29 342 P P 09 58 27.5 -0.2
baz=129
SCRK Sand Creek 58.61 337 P P 09 58 31.3 +1.1
baz=121
SFJD Kangerlussuaq 58.67 19 LR LR 10 25 47.8
comp=Z,52nm,18.2s,baz=178,slow=38
PAX Paxson 58.68 336 P P 09 58 30.3 -0.3
PAX IAmb IAmb 09 58 47.1
comp=Z,8.2nm,1.1s
PAX Paxson 58.68 336 P P 09 58 31.7 +1.1
baz=119
J26L Joseph Creek 58.73 338 P P 09 58 32.0 +1.0
baz=122
RES Resolute Bay 58.89 360 P P 09 58 32.1 +0.3
RES IAmb IAmb 09 58 34.3
comp=Z,3.7nm,0.7s
RES Resolute Bay 58.89 360 LR LR 10 27 48.6
comp=Z,53nm,18.1s,baz=20,slow=40
A36M Sachs Harbour 58.96 349 P P 09 58 33.7 +1.4
baz=145
H27K Steamboat Moun 58.99 340 P P 09 58 33.6 +0.9
baz=125
I26K Coal Creek Min 59.02 339 P P 09 58 33.6 +0.8
baz=123
E29M Blow River 59.20 343 P P 09 58 35.1 +1.0
baz=130
F28M Old Crow 59.29 342 P P 09 58 34.2 -0.5
F28M IAmb IAmb 09 58 36.3
comp=Z,5.8nm,0.8s
F28M Old Crow 59.29 342 P P 09 58 35.6 +0.9
baz=128,SNR=6.7
G27K Doyon Strip 59.37 340 P P 09 58 35.7 +0.4
baz=125
WAT6 Susitna Watana 59.41 335 P P 09 58 36.7 +0.9
baz=117
J25K Salcha River, 59.46 337 P P 09 58 36.4 +0.4
baz=120
PMR Palmer 59.57 333 P P 09 58 36.9 +0.2
baz=115
E28M Babbage River 59.80 343 P P 09 58 38.8 +0.6
baz=128
HOM Homer 59.94 331 P P 09 58 40.8 +1.6
baz=111
HDA Harding Lake 59.95 337 P P 09 58 40.4 +1.1
baz=118
M22K Willow 60.06 333 P P 09 58 40.8 +0.8
baz=114
IL31 60.11 337 P P 09 58 39.3 -1.0
IL31 IAmb IAmb 09 58 57.0
comp=Z,4.3nm,0.9s
ILAR Eielson Array 60.11 337 P P 09 58 40.0 -0.3
ILAR Eielson Array 60.11 337 P P 09 58 40.5 +0.2
comp=Z,1.1nm,0.6s,baz=131,slow=6.0,SNR=16
comp=Z,1.1nm,0.6s
E27K Coleen River 60.16 342 P P 09 58 41.3 +0.7
baz=126
MCK McKinley 60.41 336 P P 09 58 42.6 +0.1
baz=116
D27M Malcolm River 60.61 343 P P 09 58 44.5 +0.7
baz=127
PLCA Paso Flores 60.61 159 P P 09 58 44.5 +0.4
PLCA Paso Flores 60.61 159 P P 09 58 44.5 +0.4
comp=Z,7.5nm,0.8s,baz=318,slow=7.0,SNR=14
PLCA LR LR 10 20 31.4
comp=Z,23nm,18.4s,baz=348,slow=32
comp=Z,7.5nm,0.8s
BMAR Burnt Mountain 60.66 340 P P 09 58 43.9 -0.3
F26K Sheenjek River 60.67 341 P P 09 58 45.2 +1.0
baz=123
H24K Noodle Dome 60.98 338 P P 09 58 46.7 +0.3
baz=118
F25K Christian Rive 61.10 340 P P 09 58 47.4 +0.3
baz=121
I23K Minto, Yukon-K 61.21 337 P P 09 58 48.6 +0.8
baz=116
Q18K Katmai Hardscr 61.23 329 P P 09 58 48.6 +0.4
baz=108
G24K Hadweenzic Riv 61.26 339 P P 09 58 49.0 +0.8
baz=119
E25K Arctic Village 61.35 341 P P 09 58 49.5 +0.7
baz=122
PPLA Purkeypile 61.40 334 P P 09 58 48.3 -1.0
baz=112
R17K Ugashik Creek 61.64 328 P P 09 58 50.8 0.0
baz=106
N19K Bonanza Creek 61.67 331 P P 09 58 51.3 +0.1
baz=109
MLY Manley 61.69 336 P P 09 58 51.5 +0.4
baz=115
O18K Koktuh Hills 61.70 330 P P 09 58 51.5 +0.2
baz=108
F24K Squaw Lake 61.80 340 P P 09 58 52.0 +0.2
baz=119
CHUM Lake Minchumin 61.84 335 P P 09 58 52.2 +0.1
baz=113
L20K Farewell, AK 61.97 333 P P 09 58 52.8 -0.3
baz=111
P17K Kvichak River 62.10 329 P P 09 58 53.8 -0.1
baz=106

G23K	**Bananza Creek**	**62.16 338**	P	**P**	**09 58 54.6**	**+0.3**
	baz=116					
R16K	**Pilot Point**	**62.24 327**	P	**P**	**09 58 55.9**	**+1.1**
	baz=105					
D25K	**Kavik River**	**62.24 342**	P	**P**	**09 58 55.5**	**+0.8**
D25K			IAmb	IAmb	09 58 56.2	
	comp=Z,7.4nm,1.1s					
D25K	**Kavik River**	**62.24 342**	P	**P**	**09 58 55.0**	**+0.3**
	baz=121					
N18K	**Kilae Creek**	**62.28 331**	P	**P**	**09 58 55.9**	**+0.7**
	baz=108					
H22K	**Ishtalitna Cre**	**62.30 337**	P	**P**	**09 58 55.8**	**+0.7**
	baz=115					
L19K	**White Mountain**	**62.30 333**	P	**P**	**09 58 56.2**	**+1.0**
	baz=110					
K20K	**Telida**	**62.37 334**	P	**P**	**09 58 56.7**	**+1.0**
	baz=111					
CHGN	**Chignik**	**62.37 326**	P	**P**	**09 58 56.7**	**+0.9**
	baz=103					
COLD	**Coldfoot**	**62.46 339**	P	**P**	**09 58 57.2**	**+1.0**
	baz=117					
M18K	**Stony River**	**62.51 332**	P	**P**	**09 58 56.9**	**+0.3**
	baz=108					
O17K	**Koliganek Bris**	**62.59 330**	P	**P**	**09 58 57.9**	**+0.8**
	baz=106					
E23K	**Chandalar**	**62.64 340**	P	**P**	**09 58 58.5**	**+1.0**
	baz=118					
J20K	**Nowinta River**	**62.70 335**	P	**P**	**09 58 58.3**	**+0.4**
	baz=111					
H21K	**Melozitna Rive**	**62.74 337**	P	**P**	**09 58 58.8**	**+0.7**
	baz=113					
G22K	**Bettles**	**62.78 338**	P	**P**	**09 58 59.4**	**+1.0**
	baz=115					
TOLK	**Toolik Lake Re**	**62.90 340**	P	**P**	**09 58 59.5**	**+0.3**
	baz=118					
TTA	**Tatalina**	**63.05 333**	P	**P**	**09 59 00.3**	**0.0**
	baz=109					
C24K	**Franklin Bluff**	**63.15 342**	P	**P**	**09 59 02.1**	**+1.4**
	baz=119					
M17K	**Holitna River**	**63.22 331**	P	**P**	**09 59 02.7**	**+1.4**
	baz=107					
J19K	**Poorman**	**63.24 334**	P	**P**	**09 59 01.9**	**+0.5**
	baz=110					
PPT	**Papeete**	**63.30 241**	LR	LR	10 18 10.8	
	comp=Z,44nm,20.6s,baz=48,slow=28					
PPT2	**Papeete2**	**63.31 241**	*e*LR	LR	10 18 04.5	
	comp=Z,79nm,25.0s					
PPT2			*e*LR	LR	10 18 11.7	
	comp=Z,62nm,23.8s					
D23K	**Nanushuk River**	**63.41 340**	P	**P**	**09 59 03.2**	**+0.7**
	baz=117					
E22K	**Anaktuvuk Pass**	**63.41 339**	P	**P**	**09 59 03.2**	**+0.6**
	baz=115					
J18K	**Innoko River**	**63.53 334**	P	**P**	**09 59 04.2**	**+0.8**
	baz=108					
N16K	**Nishlik Lake**	**63.59 330**	P	**P**	**09 59 04.5**	**+0.7**
	baz=105					
F21K	**Alatna River**	**63.61 338**	IAmb	IAmb	09 59 05.8	
	comp=Z,7.8nm,0.9s					
F21K	**Alatna River**	**63.61 338**	P	**P**	**09 59 04.2**	**+0.3**
	baz=113					
C23K	**Itkillik River**	**63.79 341**	P	**P**	**09 59 05.3**	**+0.4**
	baz=117					
D22K	**Ayikyak River**	**64.02 340**	IAmb	IAmb	09 59 23.3	
	comp=Z,6.9nm,0.9s					
D22K	**Ayikyak River**	**64.02 340**	P	**P**	**09 59 06.9**	**+0.3**
	baz=115					
F20K	**Avaraart Lake**	**64.36 338**	P	**P**	**09 59 09.0**	**+0.3**
F20K			IAmb	IAmb	09 59 25.7	
	comp=Z,7.2nm,1.3s					
F20K	**Avaraart Lake**	**64.36 338**	P	**P**	**09 59 09.7**	**+1.0**
	baz=111					
EUNU	**Eureka**	**64.40 2**	P	**P**	**09 59 09.2**	**+0.2**
EUNU			IAmb	IAmb	09 59 12.5	
	comp=Z,7.6nm,0.9s					
O14K	**Tigyukauivet M**	**64.52 329**	P	**P**	**09 59 11.6**	**+1.7**
	baz=102					
C21K	**Knifeblade Rid**	**64.82 340**	P	**P**	**09 59 12.4**	**+0.7**
	baz=113					
N14K	**Kuskokwak Cree**	**64.87 329**	P	**P**	**09 59 12.9**	**+0.7**
	baz=102					
B22K	**Teshekpuk Lake**	**64.87 341**	P	**P**	**09 59 12.7**	**+0.7**
B22K			IAmb	IAmb	09 59 13.3	
	comp=Z,6.4nm,0.8s					
B22K	**Teshekpuk Lake**	**64.87 341**	P	**P**	**09 59 12.7**	**+0.7**
	baz=115					
B21K	**Ikpikpuk River**	**64.95 340**	P	**P**	**09 59 13.2**	**+0.6**
B21K			IAmb	IAmb	09 59 31.9	
	comp=Z,9.0nm,1.4s					
B21K	**Ikpikpuk River**	**64.95 340**	P	**P**	**09 59 12.6**	**+0.1**
	baz=113					
E20K	**Nigu River**	**64.96 339**	P	**P**	**09 59 13.0**	**+0.3**
	baz=111					
F19K	**Shaleruckik Mo**	**65.04 337**	P	**P**	**09 59 13.9**	**+0.8**
F19K	**Shaleruckik Mo**	**65.04 337**	P	**P**	**09 59 13.6**	**+0.4**
	baz=109					
E19K	**Redstone River**	**65.05 338**	P	**P**	**09 59 13.8**	**+0.5**
	baz=110					
G18K	**Tagagawik**	**65.08 336**	P	**P**	**09 59 14.4**	**+0.9**
	baz=108					
J16K	**Anvik River**	**65.15 333**	P	**P**	**09 59 13.7**	**-0.2**
	baz=104					
D20K	**Etivluk River**	**65.27 339**	P	**P**	**09 59 15.9**	**+1.2**
	baz=111					
A22K	**Sinclair Lake**	**65.62 342**	P	**P**	**09 59 17.9**	**+1.0**
	baz=113					
D19K	**Kuna River**	**65.71 339**	P	**P**	**09 59 18.0**	**+0.4**
D19K			IAmb	IAmb	09 59 18.8	
	comp=Z,6.4nm,1.1s					
D19K	**Kuna River**	**65.71 339**	P	**P**	**09 59 18.0**	**+0.4**
	baz=109					
G17K	**Kiwalik Mounta**	**65.76 335**	P	**P**	**09 59 19.2**	**+1.3**
	baz=106					
B20K	**Meade River**	**65.92 341**	P	**P**	**09 59 19.7**	**+0.9**
B20K			IAmb	IAmb	09 59 23.1	
	comp=Z,8.0nm,0.8s					
B20K	**Meade River**	**65.92 341**	P	**P**	**09 59 20.1**	**+1.3**
	baz=111					
TBI	**Tubuai**	**66.05 235**	*e*LR	LR	10 19 07.7	
	comp=Z,379nm,27.8s					
A21K	**Barrow**	**66.23 342**	P	**P**	**09 59 21.8**	**+1.0**
	baz=112					
E18K	**Tukpahlearik C**	**66.27 337**	P	**P**	**09 59 21.3**	**+0.2**
	baz=106					
J14K	**Nanvaranak Lak**	**66.34 332**	P	**P**	**09 59 21.3**	**-0.3**
	baz=102					
C19K	**Lookout Ridge**	**66.42 339**	P	**P**	**09 59 22.5**	**+0.5**
	baz=108					
E17K	**Hotham Inlet**	**66.64 337**	P	**P**	**09 59 24.1**	**+0.7**
	baz=105,SNR=5.7					
C18K	**Utukok River**	**66.84 339**	P	**P**	**09 59 24.9**	**+0.1**
C18K			IAmb	IAmb	09 59 26.1	
	comp=Z,10nm,1.4s					
C18K	**Utukok River**	**66.84 339**	P	**P**	**09 59 24.7**	**-0.1**
	baz=106					
A19K	**Wainwright**	**67.25 340**	P	**P**	**09 59 28.3**	**+1.0**
	baz=107					
B18K	**Kokolik River**	**67.25 339**	P	**P**	**09 59 27.7**	**+0.4**
	baz=106					
D17K	**Noatak River**	**67.26 337**	P	**P**	**09 59 28.1**	**+0.7**
	baz=104					
RDOG	**Red Dog Mine**	**67.29 338**	P	**P**	**09 59 28.2**	**+0.6**
	baz=104					
F15K	**North Star Dit**	**67.42 335**	P	**P**	**09 59 29.0**	**+0.5**
	baz=102					
ANM	**Nome**	**67.49 334**	P	**P**	**09 59 29.3**	**+0.3**
	baz=101					
C17K	**DeLong Mountai**	**67.49 338**	P	**P**	**09 59 29.4**	**+0.5**
	baz=104					
NIKH	**Nikolski High**	**67.91 321**	P	**P**	**09 59 31.7**	**0.0**
NIKH	**Nikolski High**	**67.91 321**	P	**P**	**09 59 31.4**	**-0.3**
	baz=93					
C16K	**Lisburne Hills**	**68.23 338**	P	**P**	**09 59 32.9**	**-0.6**
	baz=102					
BORG	**Borgarnes**	**68.81 26**	LR	LR	10 30 51.7	
	comp=Z,35nm,18.0s,baz=252,slow=37					
RAR	**Rarotonga**	**73.53 242**	LR	LR	10 24 30.5	
	comp=Z,27nm,21.9s,baz=185,slow=29					
EKA	**Eskdalemuir Ar**	**78.13 36**	P	**P**	**10 00 31.3**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=280,slow=5.5,SNR=5.9					
	comp=Z,1.5nm,0.7s					
SPITS	**Spitsbergen Ar**	**78.88 11**	LR	LR	10 37 43.8	
	comp=Z,57nm,21.4s,baz=245,slow=37					
ESDC	**Sonseca Array**	**80.77 51**	P	**P**	**10 00 47.1**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=297,slow=5.6,SNR=7.3					
ESDC			LR	LR	10 30 43.2	
	comp=Z,62nm,20.4s,baz=289,slow=31					
	comp=Z,1.9nm,0.9s					
NB2	**NORSAR Subarra**	**83.88 28**	P	**P**	**10 01 03.1**	**+0.4**
	comp=Z,6.8nm,1.0s,baz=294,slow=5.1					
NOA	**NORSAR Array B**	**83.88 28**	P	**P**	**10 01 03.2**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=292,slow=5.0,SNR=7.7					
NOA			LR	LR	10 37 14.8	
	comp=Z,35nm,21.4s,baz=285,slow=35					
	comp=Z,2.8nm,0.9s					
ARCES	**ARCESS Array B**	**85.29 18**	P	**P**	**10 01 11.3**	**+1.7**
	comp=Z,0.9nm,0.4s,baz=300,slow=4.3,SNR=17					
ARCES			LR	LR	10 40 20.9	
	comp=Z,24nm,18.5s,baz=274,slow=36					
	comp=Z,0.9nm,0.4s					
HFS	**Hagfors**	**85.36 28**	LR	LR	10 38 30.4	
	comp=Z,40nm,21.0s,baz=258,slow=35					
TIXI	**Tiksi**	**87.92 347**	P	**P**	**10 01 21.3**	**-1.0**
TIXI			IAmb	IAmb	10 01 37.9	
	comp=Z,1.9nm,0.8s					
DBIC	**Dimbokro**	**88.22 84**	P	**P**	**10 01 24.0**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=308,slow=10,SNR=3.4					
DBIC			LR	LR	10 34 59.8	
	comp=Z,20nm,20.4s,baz=349,slow=32					
	comp=Z,2.6nm,0.9s					
DAVOX	**Davos/Dischmat**	**88.38 42**	LR	LR	10 39 21.3	
	comp=Z,33nm,19.7s,baz=257,slow=34					
GERES	**GERESS Array B**	**89.96 39**	LR	LR	10 42 16.4	
	comp=Z,24nm,19.9s,baz=264,slow=36					
TORD	**Torodi Ar. Bea**	**92.63 76**	P	**P**	**10 01 45.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=292,slow=5.1,SNR=2.6					
	comp=Z,0.3nm,0.6s					
AKASG	**Malin Array Be**	**97.71 32**	LR	LR	10 45 13.2	
	comp=Z,19nm,21.7s,baz=29,slow=35					
URZ	**Urewera**	**98.09 233**	LR	LR	10 37 39.4	
	comp=Z,31nm,19.1s,baz=88,slow=30					
OBN	**Obninsk**	**98.31 26**	LR	LR	10 45 12.6	
	comp=Z,24nm,21.7s,baz=190,slow=35					
DZM	**Mont Dzumac**	**103.66 251**	*e*LR	LR	10 36 43.8	
	comp=Z,64nm,23.6s					
MKAR	**Makanchi Array**	**117.64 2**	PKP	**PKPdf**	**10 07 17.8**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=338,slow=2.0,SNR=4.3					
BOSA	**Boshof**	**123.62 114**	PKP	**PKPdf**	**10 07 29.2**	**-2.0**
	comp=Z,4.1nm,0.8s,baz=227,slow=6.1,SNR=4.7					
STKA	**Stephens Creek**	**126.50 242**	PKP	**PKPdf**	**10 07 36.4**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=349,slow=1.7,SNR=5.7					
WRA	**Warramunga Arr**	**133.12 257**	PKP	**PKPdf**	**10 07 49.3**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=86,slow=2.5,SNR=14					
AS31	**Alice Springs**	**133.61 252**	PKPdf	**PKPdf**	**10 07 50.7**	**+0.4**
ASAR	**Alice Springs**	**133.62 252**	PKPdf	**PKPdf**	**10 07 50.6**	**+0.3**
ASAR	**Alice Springs**	**133.62 252**	PKhKP	PKPpre	10 07 43.0	
	comp=Z,0.3nm,0.8s,baz=81,slow=2.5,SNR=4.1					
ASAR			PKP	**PKPdf**	**10 07 49.6**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=89,slow=2.0,SNR=11					
CMAR	**Chiang Mai Arr**	**143.34 338**	PKhKP	PKPpre	10 08 04.7	
	comp=Z,1.4nm,0.9s,baz=341,slow=3.5,SNR=5.6					
PSA00	**Pilbara Seismi**	**146.67 255**	PKPbc	**PKPbc**	**10 08 15.4**	**-0.1**
MBWA	**Marble Bar**	**146.81 255**	PKPbc	**PKPdf**	**10 08 15.0**	**+0.9**

DJA 02 09:53:01.4±0.5**, 4°N**±5°×**12°7E**±°**, h12**km±6km**, M3.7**/5**, MLv3.7**/5**, Talaud Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.05 268**	P	Pb	09 53 21.2	-0.3
SGSI			S	Sn	09 53 36.0	-0.5
TNTI	**Ternate**	**3.03 165**	P	Pn	09 53 49.2	0.0
DAV	**Davao City (W)**	**3.47 343**	P	Pn	09 53 55.3	0.0
LUWI	**Luwuk**	**6.07 219**	P	Pn	09 54 30.4	-0.7

JMA 02 09:53:57.0±0.2**, 24°1N**±1°0×**14°1E**±°**, h161**km**, MV4.5**/22**, IOTO ISLANDS REGION, Volcano Islands region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.60 14**	*e*P	Pn	09 54 40.2	+0.3
JHH2			*e*S	Sn	09 55 13.4	+0.3
CBIJ	**Chichi jima**	**3.05 12**	*e*P	Pn	09 54 45.9	+0.5
CBIJ			S	Sn	09 55 23.6	+0.5
BSO1	**Boso 1**	**10.52 358**	*e*P	Pn	09 56 23.9	+0.8
BSO3	**Boso 3**	**10.69 356**	*e*P	Pn	09 56 26.1	+0.5
BSO3			*e*S	Sn	09 58 23.6	-0.3
BSO4	**Boso 4**	**10.89 355**	P	Pn	09 56 29.3	+0.9
JOD2	**Odawara 2**	**11.31 350**	P	Pn	09 56 35.3	+1.4
JRY	**Ryogami san**	**12.08 350**	*e*P	Pn	09 56 45.3	+1.4
JYT	**Yasato**	**12.13 355**	*e*P	Pn	09 56 45.2	+0.6
JAG	**Ashikaga**	**12.40 352**	P	Pn	09 56 47.6	-0.4
JHO	**Hitachi**	**12.49 357**	P	Pn	09 56 49.1	-0.1

*NNC **02** 09:57:44.5±2.2, 51°70N×75°40E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=111.1km s-min=14.3km az=26.0, Suspected Mining explosion.*
*IDC **02** 09:57:46.9±1.4, 51°72N×75°54E, h0km, mbtmp2.6/3, ML1.7/3, Error ellipse: s-maj=23.6km s-min=11.9km az=26.0*
ISC 02 09:57:41.5±1.4**, 52°7N**±0°1×**76°59E**±0°10**, h0**km**, n9,** σ**0°08**/6**, 2C-3D, Eastern Kazakhstan**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.39 147**	⇓Pg	**Pb**	**09 58 25.4**	**+0.1**
	2.8nm,0.7s					
KURK			⇓Lg	Lg	09 58 54.8	
	8.4nm,0.9s					
KURBB	**Kurchatov Arra**	**2.44 150**	⇓Pg	**Pb**	**09 58 26.3**	**0.0**
	2.1nm,0.5s					
KURBB			⇑Lg	Lg	09 58 55.8	
	8.6nm,0.5s					
KURBB	**Kurchatov Arra**	**2.44 150**	Pg	**Pb**	**09 58 26.2**	**0.0**
	0.2nm,0.3s,baz=305,slow=18,SNR=10					
KURBB			Lg	Lg	09 58 55.4	
	0.2nm,0.3s,baz=305,slow=32,SNR=11					
BVA0	**Borovoye Array**	**3.77 277**	Lg	Lg	09 59 29.2	
	3.8nm,0.9s,baz=114,slow=29,SNR=4.9					
BVAR	**Borovoye Array**	**3.77 277**	Pn	**Pn**	**09 58 40.8**	**0.0**
	baz=119,slow=15,SNR=2.4					
BVAR			Lg	Lg	09 59 29.2	
	0.1nm,0.3s,baz=100,slow=25,SNR=4.5					
	0.7nm,0.5s					
I46RU	**ZALESOVO INFRA**	**5.08 73**	I	I	10 39 10.0	
	baz=245,slow=309,SNR=7.4					
ZALV	**Zalesovo Beam**	**5.08 73**	Pn	**Pg**	**09 59 18.7**	**0.0**
	0.1nm,0.3s,baz=246,slow=14,SNR=3.6					
ZALV			Lg	Lg	10 01 01.1	
	baz=265,slow=30					
	0.3nm,0.3s					
MK31	**Makanchi Array**	**7.00 146**	⇑Lg	Lg	10 01 14.3	
	1.3nm,0.7s,baz=321,slow=30,SNR=4.2					
MKAR	**Makanchi Array**	**7.00 146**	Pn	**Pn**	**09 59 25.2**	**-0.1**
	baz=303,slow=14,SNR=2.9					
MKAR			Lg	Lg	10 01 09.3	
	0.2nm,0.3s,baz=337,slow=22,SNR=7.4					
	0.4nm,0.8s					

*UPA **02** 10:02:14.5±0.3, 9°65N×82°66W, h24km±3km, ML3.4*
*CATAC **02** 10:02:15.8±0.9, 9°55N×82°72W, h10km±7km, ML1.9*
ISC 02 10:02:15.4±1.4**, 9°58N**±0°05×**82°70W**±0°04**, h18**km±3km**, n11,** σ**0°59**/20**, Panama-Costa Rica border region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	**El Empalme, Bo**	**0.27 123**	*e*P	**Pg**	**10 02 20.9**	**-0.5**
CNI2			*e*S	**Sb**	**10 02 26.0**	**+0.3**
POTG	**Potrero Grande**	**0.66 219**	*i* P	**Pg**	**10 02 27.8**	**-0.7**
POTG			*i* S	**Sg**	**10 02 37.7**	**+0.3**
POTG			IAML		10 02 42.4	
	comp=Z,190nm,1.0s					
MRVA	**Moravia de Chi**	**0.77 289**	*i* P	**Pn**	**10 02 31.4**	**-0.1**
MRVA			*i* S	**Sg**	**10 02 41.4**	**+0.5**
MRVA			IAML		10 02 49.9	
	comp=Z,0.6nm,1.0s					
BRU2	**Volcan**	**0.78 179**	*e*P	**Pb**	**10 02 30.3**	**-0.1**
BRU2			*e*S	**Sg**	**10 02 42.3**	**+1.3**
BRU2	**Volcan**	**0.78 179**	*i* P	**Pb**	**10 02 30.3**	**-0.1**
BRU2			*i* S	**Sg**	**10 02 41.8**	**+0.8**
BRU2			IAML		10 02 47.6	
	comp=Z,73nm,1.0s					
BCO2	**Palmira**	**0.87 169**	*e*P	**Pb**	**10 02 31.7**	**-0.3**
BCO2			AMP		10 02 32.0	
	comp=Z,1μm,0.2s					
BCO2			*e*S	**Sg**	**10 02 44.5**	**+0.6**
CDITO	**Canoas**	**1.01 190**	*i* P	**Pb**	**10 02 34.0**	**-0.3**
CDITO			IAML		10 02 59.8	
	comp=Z,93nm,1.0s					
OCHAL	**Ojochal**	**1.05 243**	*i* P	**Pg**	**10 02 35.9**	**+0.2**
OCHAL			IAML		10 02 36.2	
	comp=Z,2.1nm,1.0s					
CDM	**Cerro de Muert**	**1.05 269**	*i* P	**Pb**	**10 02 35.4**	**+0.2**
CDM			IAML		10 02 38.8	
	comp=Z,44nm,1.0s					
CDM			*i* S	**Sg**	**10 02 49.8**	**+0.1**
RIOS	**Rincon, Osa**	**1.18 223**	*i* P	**Pn**	**10 02 36.9**	**-0.1**
RIOS			*i* S	**Sb**	**10 02 51.3**	**-1.0**
LCR2	**La Lucha 2**	**1.30 277**	*i* P	**Pb**	**10 02 39.1**	**-0.2**
LCR2			*i* S	**Sn**	**10 02 56.4**	**+0.7**
LCR2			IAML		10 03 02.3	
	comp=Z,26nm,1.0s					

IDC 02 10:36:20.9±2.2**, 7°48S**×**127°24E, h0**km**, mb3.2**/1**, mbtmp3.5**/3**, ML3.6**/2**, Error ellipse: s-maj=219.5km s-min=33.0km az=63.0, Banda Sea**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.17 152**	Pn	Pn	10 39 41.7	-1.4
	0.2nm,0.3s,baz=325,slow=14,SNR=14					
WRA			Sn	Sn	10 42 06.0	-15
	0.9nm,0.3s,baz=323,slow=24,SNR=15					
	0.5nm,0.5s					
ASAR	**Alice Springs**	**17.32 159**	P	P	10 40 25.3	-0.5
	0.4nm,0.3s,baz=339,slow=10,SNR=64					
ASAR			S	Sn	10 43 27.0	-11
	0.7nm,0.6s,baz=326,slow=20,SNR=5.2					
	2.7nm,0.6s					
MKAR	**Makanchi Array**	**67.16 328**	P	P	10 47 16.7	0.0
	0.1nm,0.5s,baz=133,slow=6.3,SNR=1.8					
	0.1nm,0.5s					

*NEIC **02** 10:48:39.8±2.5, 35°58N±0°05×140°03E±0°08, h42km±7km, mb4.5/73, Error ellipse: s-maj=9.1km s-min=7.3km az=104.0*
*NIED **02** 10:48:40.3, 35°65N×139°99E, h48km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.97; $M_{\theta\theta}$0.95; $M_{\phi\phi}$0.02; $M_{r\theta}$0.26; $M_{\theta\phi}$1.33; $M_{\phi r}$1.67; Fault plane solution: $M_0$2.35000×10^{15} NP1: ϕ_s200.00000°, δ75.00000°, λ-125.00000°. NP2: ϕ_s90.00000°, δ38.00000°, λ-25.00000°.*
*JMA **02** 10:48:40.3±0.2, 35°7N±0°5×140°0E±0°5, h48km±1km, MD4.3/40, MV4.3/40, CENTRAL CHIBA PREF*
JMA Felt III J1 at CENTRAL CHIBA PREF .
*IDC **02** 10:48:41.0±1.2, 35°50N×139°93E, h62km±11km, mb3.9/26, mbtmp4.2/30, MS3.2/8, Error ellipse: s-maj=14.5km s-min=6.2km az=67.0*
ISC 02 10:48:39.6±0.7**, 35°53N**±0°04×**140°01E**±0°04**, h48**km±7km**, n184,** σ**1°25**/157**, mb4.4**/62**, MS3.3**/7**, 1C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19 125**	P	**Pn**	**10 48 49.5**	**+1.7**
JCN	**Nagara**	**0.19 125**	A	A	10 48 49.5	
	comp=E,91nm,1.0s,comp=N,41nm,0.3s					
TOK	**Tokyo**	**0.26 308**	⇓*i*P	**Pn**	**10 48 49.1**	**+0.9**
TOK	**Tokyo**	**0.26 308**	A	A	10 48 49.1	
	comp=E,113nm,0.3s,comp=N,117nm,0.7s					
JSMT	**Sammumatsuo**	**0.38 72**	*i* P	**Pn**	**10 48 50.4**	**+1.0**
JSMT			S	**Sn**	**10 48 58.8**	**+2.6**
JSMT	**Sammumatsuo**	**0.38 72**	A	A	10 48 50.4	
	comp=E,51nm,0.3s,comp=N,91nm,1.0s					
JKUC	**kamogawauchiur**	**0.40 157**	A	A	10 48 51.6	
	comp=E,38nm,1.0s,comp=N,15nm,0.6s					
JYO	**Yokosk**	**0.41 223**	A	A	10 48 51.4	
	comp=E,54nm,0.7s,comp=N,42nm,0.3s					
TATJ	**Tateyama 2**	**0.51 191**	A	A	10 48 52.9	
	comp=E,36nm,0.5s,comp=N,31nm,0.4s					
JIHU	**Itakohorinouch**	**0.61 44**	A	A	10 48 51.8	
	comp=E,31nm,1.6s,comp=N,30nm,0.5s					
JSGW	**Sagamiharawaka**	**0.66 277**	A	A	10 48 53.2	
	comp=E,28nm,0.6s,comp=N,21nm,1.6s					
JHU	**Hanno**	**0.67 299**	A	A	10 48 52.8	
	comp=E,45nm,0.4s,comp=N,23nm,0.5s					
JYT	**Yasato**	**0.71 12**	A	A	10 48 52.7	
	comp=E,29nm,0.4s,comp=N,24nm,0.5s					
JOD2	**Odawara 2**	**0.80 251**	⇓*i*P	**Pn**	**10 48 55.3**	**+0.7**
JOD2			⇓S	**Sn**	**10 49 06.1**	**+0.6**
JOD2	**Odawara 2**	**0.80 251**	A	A	10 48 55.3	
	comp=E,11nm,0.7s,comp=N,16nm,0.4s					
BSO3	**Boso 3**	**0.83 150**	P	**Pn**	**10 48 56.0**	**+1.1**
JHYU	**Hitachinakayam**	**0.94 30**	A	A	10 48 55.9	
	comp=E,7.0nm,1.1s,comp=N,9.0nm,1.4s					
JIM2	**Oshima 3**	**0.94 210**	P	**Pn**	**10 48 57.1**	**+0.6**
JIM2			S	**Sn**	**10 49 09.7**	**+0.8**
JIM2	**Oshima 3**	**0.94 210**	A	A	10 48 57.1	
	comp=E,23nm,0.5s,comp=N,23nm,0.3s					
JHTM	**Izuhatsuma**	**1.00 236**	A	A	10 48 59.0	
	comp=E,33nm,0.3s,comp=N,40nm,0.3s					
JAG	**Ashikaga**	**1.00 333**	*i* P	**Pn**	**10 48 56.7**	**-0.7**
JAG			*e*S	**Sn**	**10 49 09.5**	**-0.9**
JAG	**Ashikaga**	**1.00 333**	A	A	10 48 56.7	
	comp=E,7.0nm,0.5s,comp=N,13nm,0.5s					
JRY	**Ryogami san**	**1.02 299**	⇓*i*P	**Pn**	**10 48 57.8**	**+0.1**
JRY			⇓S	**Sn**	**10 49 11.2**	**+0.2**
JRY	**Ryogami san**	**1.02 299**	A	A	10 48 57.8	
	comp=E,11nm,1.2s,comp=N,7.0nm,1.7s					
JFNN	**Fujinakano**	**1.13 253**	*i* P	**Pn**	**10 48 59.9**	**+0.8**
JFNN			S	**Sn**	**10 49 15.0**	**+1.5**
JFNN	**Fujinakano**	**1.13 253**	A	A	10 48 59.9	
	comp=E,7.0nm,2.1s,comp=N,12nm,0.7s					
BSO1	**Boso 1**	**1.18 137**	P	**Pn**	**10 48 59.9**	**+0.6**
JYN	**Shimob**	**1.19 269**	⇓*i*P	**Pn**	**10 49 00.5**	**+0.5**
JYN			⇓S	**Sn**	**10 49 15.5**	**+0.3**
JYN	**Shimob**	**1.19 269**	A	A	10 49 00.5	
	comp=E,10.0nm,0.6s,comp=N,13nm,0.3s					
JIZS	**Izushimoda**	**1.23 229**	⇓*i*P	**Pn**	**10 49 01.3**	**+0.9**
JIZS			⇓S	**Sn**	**10 49 16.8**	**+0.9**
JIZS	**Izushimoda**	**1.23 229**	A	A	10 49 01.3	
	comp=E,8.0nm,1.1s,comp=N,10.0nm,1.2s					
JKT	**Katashina**	**1.38 334**	*i* P	**Pn**	**10 49 01.7**	**-0.9**
JKT			S	**Sn**	**10 49 18.9**	**-0.9**
JKT	**Katashina**	**1.38 334**	A	A	10 49 01.7	
	comp=E,26nm,0.3s,comp=N,23nm,0.4s					
JSB	**Shiboa**	**1.44 357**	A	A	10 49 02.8	
	comp=E,10.0nm,1.3s,comp=N,7.0nm,3.7s					
JGK	**Kuni**	**1.51 313**	A	A	10 49 04.3	
	comp=E,6.0nm,0.3s,comp=N,5.0nm,0.8s					
SHZ3	**Shizuoka 3**	**1.54 253**	A	A	10 49 06.3	
	comp=E,16nm,0.7s,comp=N,15nm,0.9s					
ONAJ	**Iwakimizuishiy**	**1.69 22**	A	A	10 49 06.7	
	comp=E,12nm,0.4s,comp=N,9.0nm,0.3s					
JSG	**Sagara**	**1.72 241**		**Pn**	**10 49 09.6**	**+2.5**
JSG	**Sagara**	**1.72 241**	P	**Pn**	**10 49 10.0**	**+2.9**
JNY	**Yasuok**	**1.76 265**	A	A	10 49 09.1	
	comp=E,6.0nm,3.9s,comp=N,13nm,1.5s					
MJAR	**Matsushiro Arr**	**1.77 305**	P	**Pn**	**10 49 07.3**	**-0.6**
	comp=N,254nm,0.3s,baz=157,slow=14,SNR=927					
MJAR			S	**Sn**	**10 49 30.7**	**+1.4**
	comp=N,252nm,0.4s,baz=33,slow=47,SNR=4.9					
MJAR			LR	LR	10 50 06.0	
	comp=N,426nm,19.3s,baz=104,slow=49					
MAJO	**Matsushiro**	**1.78 305**	Pn	**Pn**	**10 49 08.3**	**+0.4**
MAJO	**Matsushiro**	**1.78 305**	P	**Pn**	**10 49 08.4**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.78 305**		**Pn**	**10 49 09.2**	**+1.3**
JGF	**Kuroka**	**2.16 273**	Pn	**Pn**	**10 49 12.3**	**-0.9**
JHJ	**Hachijo jima 2**	**2.41 184**	P	**Pn**	**10 49 17.9**	**+1.2**
	comp=N,657nm,0.3s,baz=105,slow=22,SNR=40					
JHJ			S	**Sn**	**10 49 45.8**	**+0.9**
	comp=N,2μm,0.3s,baz=232,slow=23,SNR=25					
JHJ2	**Mitsune**	**2.42 184**		**Pn**	**10 49 17.6**	**+0.9**
JHJ2	**Mitsune**	**2.42 184**	P	**Pn**	**10 49 17.9**	**+1.2**
JMM	**Marumori**	**2.42 15**	Pn	**Pn**	**10 49 16.1**	**-0.6**
JMM	**Marumori**	**2.42 15**	P	**Pn**	**10 49 16.7**	**0.0**
JSD	**Sado**	**2.87 331**	Pn	**Pn**	**10 49 21.6**	**-1.3**
JWT	**Wachi**	**3.77 268**	Pn	**Pn**	**10 49 36.0**	**+0.7**
JTM	**Tenmabayashi**	**5.32 9**	Pn	**Pn**	**10 49 57.3**	**+0.9**
JTM	**Tenmabayashi**	**5.32 9**	P	**Pn**	**10 49 57.3**	**+0.9**
JMN	**Monobe**	**5.36 252**	Pn	**Pn**	**10 49 58.0**	**+0.9**
JMN	**Monobe**	**5.36 252**	P	**Pn**	**10 49 59.0**	**+1.9**
ERM	**Erimo**	**6.93 20**	P	**Pn**	**10 50 17.5**	**-1.0**
JEM	**Erimo**	**6.93 20**	P	**Pn**	**10 50 17.6**	**-0.9**
JNU	**Nakatsue**	**7.92 255**	P	**Pn**	**10 50 34.3**	**+2.0**
	comp=N,9.5nm,0.7s,baz=20,slow=7.4,SNR=7.1					
JCJ	**Chichijima**	**8.61 167**	Pn	**Pn**	**10 50 41.3**	**-0.4**
JCJ	**Chichijima**	**8.61 167**	P	**Pn**	**10 50 40.8**	**-0.9**
JCJ	**Chichijima**	**8.61 167**	P	Pn	10 50 36.5	-5.1
	comp=N,101nm,0.3s,baz=94,slow=23,SNR=9.1					
JCJ			S	**Sn**	**10 52 10.9**	**-6.5**

comp=N,71nm,0.5s,baz=329,slow=21,SNR=1.9
ASAJ Asahikawa 8.80 12 P **Pn 10 50 41.8 -2.4**
comp=N,7.9nm,0.3s,baz=221,slow=12,SNR=54
JKA Kamikawa-asahi 8.80 12 Pn **Pn 10 50 43.0 -1.3**
KSRS Korea Array 9.92 285 P **Pn 10 51 03.1 +3.6**
comp=N,5.3nm,0.8s,baz=93,slow=14,SNR=9.2
KSRS LR LR 10 54 56.5
comp=N,126nm,18.3s,baz=80,slow=38
KSAR Wonju Array Be 9.95 285 Pn **Pn 10 50 58.9 -1.1**
KS19 Wonju Array Si 9.97 285 Pn **Pn 10 50 58.9 -1.4**
USRK Ussuriysk Ar. 10.62 327 Pn **Pn 10 51 07.5 -1.7**
USRK Ussuriysk Ar. 10.62 327 P **Pn 10 51 10.2 +1.1**
comp=N,1.5nm,0.5s,baz=146,slow=12,SNR=6.9
YSS Yuzh-Sakhalins 11.60 9 Pn **Pn 10 51 20.7 -1.7**
BNX BinXian 13.97 321 ⇑P **Pn 10 51 52.8 -2.0**
BNX pmax pmax
comp=Z,10.0nm,2.2s
BNX pmax pmax
comp=Z,280nm,4.2s
KLR Kul'dur 14.98 339 P **Pn 10 52 07.3 -0.8**
comp=Z,1.1nm,0.4s,baz=165,slow=12,SNR=2.9
YOJ Yonaguni jima 18.37 238 P **P 10 52 48.4 -1.9**
TATO Taipei 19.11 242 P **P 10 52 57.7 -0.9**
NACB Ninganchiao 19.54 240 IAmb IAmb 10 53 02.1
comp=Z,16nm,0.9s
NACB P **P 10 53 03.4 +0.2**
PETK Petropavlovsk- 21.56 30 P **P 10 53 24.3 -0.5**
comp=Z,3.7nm,0.8s,baz=206,slow=9.9,SNR=4.0
comp=Z,3.7nm,0.8s
HHC Hu-ho-hao-te 22.93 292 *eP* **P 10 53 40.1 +0.5**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,220nm,5.2s
MA2 Magadan 25.07 13 P **P 10 53 59.7 +0.5**
MA2 IAmb IAmb 10 54 00.7
comp=Z,12nm,0.8s
ULN Ulaanbaatar 27.31 307 P **P 10 54 19.2 -0.6**
SONM Songino Array 27.73 307 P **P 10 54 22.8 -0.7**
SONM Songino Array 27.73 307 P **P 10 54 21.9 -1.7**
comp=Z,1.6nm,0.5s,baz=112,slow=9.7,SNR=9.5
comp=Z,1.6nm,0.5s
H11N2 WAKE ISLAND Hy 28.43 116 T T 11 24 07.0
baz=308,slow=75,SNR=155
H11N1 WAKE ISLAND Hy 28.43 117 T T 11 24 11.3
baz=308,slow=75,SNR=114
H11N3 WAKE ISLAND Hy 28.44 116 T T 11 24 02.8
baz=308,slow=75,SNR=152
H11S3 WAKE ISLAND Hy 29.07 119 T T 11 24 24.0
baz=312,slow=75,SNR=46
H11S1 WAKE ISLAND Hy 29.07 119 T T 11 24 24.0
baz=312,slow=75,SNR=64
H11S2 WAKE ISLAND Hy 29.08 119 T T 11 24 25.2
baz=312,slow=75,SNR=43
PZH PanZhiHua 33.83 265 P **P 10 55 19.9 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,160nm,5.4s
BILL Bilibino 35.79 17 P **P 10 55 35.1 +1.3**
BILL IAmb IAmb 10 55 45.7
comp=Z,7.8nm,1.5s
TNTI Ternate 36.53 202 P **P 10 55 40.6 0.0**
TIXI Tiksi 36.66 354 P **P 10 55 40.3 -0.8**
TIXI IAmb IAmb 10 55 48.0
comp=Z,2.6nm,0.6s
MIDW Midway 36.70 89 P **P 10 55 41.2 -0.8**
CMAR Chiang Mai Arr 40.02 256 P **P 10 56 09.8 -0.3**
comp=Z,0.4nm,0.6s,baz=58,slow=8.6,SNR=1.6
CMAR LR LR 11 14 05.7
comp=Z,13nm,18.5s,baz=60,slow=38
comp=Z,0.4nm,0.6s
ZAA0 Zalesovo Array 42.11 314 P **P 10 56 26.1 -0.7**
ZAA0 IAmb IAmb 10 56 27.2
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 42.11 314 P **P 10 56 26.1 -0.7**
ZALV Zalesovo Beam 42.11 314 P **P 10 56 25.7 -1.1**
comp=Z,8.5nm,0.5s,baz=90,slow=6.8,SNR=52
ZALV LR LR 11 12 57.9
comp=Z,20nm,19.1s,baz=120,slow=35
comp=Z,8.5nm,0.5s
KSM Kuching 43.69 226 P **P 10 56 38.6 -1.4**
MK31 Makanchi Array 43.97 303 P **P 10 56 42.2 +0.2**
MK31 IAmb IAmb 10 56 43.0
comp=Z,6.2nm,0.8s
MKAR Makanchi Array 43.97 303 P **P 10 56 42.2 +0.2**
MKAR Makanchi Array 43.97 303 P **P 10 56 42.0 0.0**
comp=Z,4.4nm,0.5s,baz=90,slow=10.0,SNR=40
MKAR LR LR 11 14 54.8
comp=Z,42nm,21.4s,baz=136,slow=36
comp=Z,4.4nm,0.5s
NRIK Noril'sk 44.17 336 P **P 10 56 42.6 -0.7**
NRIK Noril'sk 44.17 336 P **P 10 56 44.1 +0.9**
comp=Z,1.5nm,0.4s,baz=90,slow=20,SNR=4.6
comp=Z,1.5nm,0.4s
MAKZ Makanchi 44.19 303 P **P 10 56 43.8 +0.1**
MAKZ IAmb IAmb 10 56 44.8
comp=Z,7.5nm,0.9s
C16K Lisburne Hills 44.55 26 P **P 10 56 46.8 +0.5**
C16K IAmb IAmb 10 56 50.2
comp=Z,16nm,1.5s
SDPT Sand Point 44.67 44 P **P 10 56 45.9 -1.4**
KURK Kurchatov 45.98 309 P **P 10 56 57.2 -0.7**
KURBB Kurchatov Arra 46.05 309 P **P 10 56 57.6 -0.7**
comp=Z,20nm,0.5s,baz=83,slow=7.7,SNR=357
E18K Tukpahlearik C 46.05 27 P **P 10 56 59.7 +1.6**
E18K IAmb IAmb 10 57 19.6
comp=Z,11nm,1.5s
C18K Utukok River 46.13 26 P **P 10 56 59.6 +0.8**
C18K IAmb IAmb 10 57 00.4
comp=Z,5.2nm,0.7s
G18K Tagagawik 46.52 30 P **P 10 57 03.0 +1.1**
H18K Honhosa River 46.52 31 P **P 10 57 03.1 +1.2**
H18K IAmb IAmb 10 57 29.2
comp=Z,7.9nm,1.2s
C19K Lookout Ridge 46.80 25 P **P 10 57 05.8 +1.7**
C19K IAmb IAmb 10 57 25.3
comp=Z,4.3nm,1.0s
D19K Kuna River 47.19 26 P **P 10 57 08.2 +1.0**
D19K IAmb IAmb 10 57 14.4
comp=Z,11nm,1.4s
E19K Redstone River 47.33 28 IAmb IAmb 10 57 10.3
comp=Z,4.2nm,0.7s
SOEI Soe 47.43 201 P **P 10 57 10.9 +1.2**
TARG Taragay, Kyrgy 48.06 297 P **P 10 57 15.1 +0.4**
B21K Ikpikpuk River 48.63 25 IAmb IAmb 10 57 23.5
comp=Z,4.3nm,0.7s
D22K Ayikyak River 49.22 26 IAmb IAmb 10 57 25.5
comp=Z,3.0nm,0.7s
KSH Kashi 49.99 295 P **P 10 57 32.3 +3.1**
KSH pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 50.22 299 P **P 10 57 30.9 0.0**
AAK IAmb IAmb 10 57 31.6
comp=Z,3.8nm,0.7s
O22K Cooper Landing 50.28 37 P **P 10 57 32.1 +1.2**
BVAR Borovoye Array 50.76 313 P **P 10 57 33.9 -0.7**
comp=Z,2.5nm,0.3s,baz=104,slow=9.1,SNR=39
comp=Z,2.5nm,0.3s
BRVK Borovoye 50.81 313 P **P 10 57 34.7 -0.3**
DHY Denali Highway 51.24 34 P **P 10 57 40.1 +1.8**
HDA Harding Lake 51.36 32 P **P 10 57 38.5 -0.5**
HDA IAmb IAmb 10 57 52.8
comp=Z,6.0nm,1.0s
IL31 51.37 32 P **P 10 57 38.6 -0.4**
IL31 IAmb IAmb 10 57 39.8
comp=Z,3.5nm,1.0s
ILAR Eielson Array 51.37 32 P **P 10 57 39.2 +0.2**
comp=Z,1.3nm,0.8s,baz=269,slow=6.2,SNR=11
comp=Z,1.3nm,0.8s
KK31 Karatay Array 52.91 301 P **P 10 57 50.2 -0.6**
KKAR Karatay Array 52.91 301 P **P 10 57 50.6 -0.2**
WB0 Warramunga Arr 55.25 186 P **P 10 58 08.1 +0.1**
WB0 IAmb IAmb 10 58 24.4
comp=Z,4.6nm,0.8s
SIMJ Simiganj 55.40 296 P **P 10 58 08.8 -0.4**
WR0 Warramunga Arr 55.43 186 P **P 10 58 09.3 +0.1**
WR0 IAmb IAmb 10 58 26.3
comp=Z,7.3nm,1.1s
WB2 Warramunga Arr 55.43 186 P **P 10 58 10.7 +1.5**
WB2 IAmb IAmb 10 58 29.8
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 55.43 186 P **P 10 58 09.6 +0.3**
WRA Warramunga Arr 55.43 186 P **P 10 58 09.2 -0.1**
comp=Z,1.0nm,0.4s,baz=0.8,slow=7.6,SNR=26
comp=Z,1.0nm,0.4s
ARU Arti 56.74 319 P **P 10 58 17.6 -0.7**
ABKAR Akbulak array 58.05 310 P **P 10 58 27.2 -0.4**
A36M Sachs Harbour 58.07 21 P **P 10 58 29.3 +1.9**
A36M IAmb IAmb 10 58 33.4
comp=Z,5.1nm,0.8s
AKTO Aktyubinsk 58.84 312 P **P 10 58 32.2 -0.9**
comp=Z,2.4nm,0.5s,baz=63,slow=4.9,SNR=11
comp=Z,2.4nm,0.5s
AS31 Alice Springs 59.15 187 P **P 10 58 35.6 +0.1**
ASAR Alice Springs 59.16 187 P **P 10 58 36.2 +0.7**
comp=Z,0.4nm,0.4s,baz=18,slow=12,SNR=15
comp=Z,0.4nm,0.4s
C36M Paulatuk 59.27 24 P **P 10 58 35.7 0.0**
C36M IAmb IAmb 10 58 55.8
comp=Z,2.9nm,0.8s
KIRV Kirov 60.77 323 P **P 10 58 45.0 -1.1**
comp=Z,8.2nm,0.5s,baz=354,slow=3.1,SNR=3.5
KIRV LR LR 11 26 13.5
comp=Z,31nm,18.6s,baz=23,slow=37
comp=Z,8.2nm,0.5s
GEYT Alibeck 63.57 299 P **P 10 59 05.3 -0.1**
comp=Z,1.7nm,0.7s,baz=126,slow=9.6,SNR=2.1
comp=Z,1.7nm,0.7s
BELG Belogornoye 64.13 317 P **P 10 59 08.3 -0.4**
comp=Z,6.6nm,0.5s,baz=191,slow=5.0,SNR=4.3
comp=Z,6.6nm,0.5s
ARCES ARCESS Array B 65.00 339 P **P 10 59 14.1 -0.1**
comp=Z,1.1nm,0.3s,baz=57,slow=7.2,SNR=22
comp=Z,1.1nm,0.3s
YKA Yellowknife Ar 65.68 29 P **P 10 59 18.7 +0.1**
comp=Z,0.6nm,0.8s,baz=302,slow=6.9,SNR=9.5
comp=Z,0.6nm,0.8s
FINES FINESS Array B 69.61 332 P **P 10 59 42.6 -0.8**
comp=Z,2.4nm,0.4s,baz=42,slow=7.7,SNR=19
FINES LR LR 11 32 23.6
comp=Z,17nm,21.3s,baz=207,slow=38
comp=Z,2.4nm,0.4s
KBZ Khabaz 71.02 310 P **P 10 59 52.7 +0.4**
comp=Z,3.6nm,0.8s,baz=75,slow=3.5,SNR=7.2
comp=Z,3.6nm,0.8s
GNI Garni 71.69 306 LR LR 11 32 45.2
comp=Z,20nm,18.8s,baz=36,slow=37
AKASG Makin Array Be 74.79 322 P **P 11 00 13.5 -1.0**
comp=Z,1.5nm,0.4s,baz=48,slow=6.3,SNR=22
AKASG LR LR 11 38 56.0
comp=Z,28nm,20.4s,baz=124,slow=40
comp=Z,1.5nm,0.4s
HFS Hagfors 74.98 335 P **P 11 00 15.7 +0.2**
comp=Z,1.0nm,0.5s,baz=93,slow=3.0,SNR=6.5
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 75.13 337 P **P 11 00 15.7 -0.7**
comp=Z,0.8nm,0.5s,baz=41,slow=5.9
NOA NORSAR Array B 75.13 337 P **P 11 00 16.2 -0.2**
comp=Z,0.9nm,0.5s,baz=40,slow=5.7,SNR=6.6
comp=Z,0.9nm,0.5s
NVAR Mina Array Bea 76.80 52 P **P 11 00 27.9 +1.3**
comp=Z,0.9nm,0.6s,baz=303,slow=5.5,SNR=12
comp=Z,0.9nm,0.6s
BUR08 Bucovina Ar. S 78.77 321 P **P 11 00 37.3 +0.1**
BUR08 IAmb IAmb 11 01 15.7
comp=Z,5.2nm,1.2s
BURAR Bucovina Array 78.78 321 P **P 11 00 37.2 0.0**
BRTR Keskin Array B 78.99 311 P **P 11 00 38.8 +0.1**
comp=Z,0.9nm,0.7s,baz=38,slow=5.5,SNR=5.5
comp=Z,0.9nm,0.7s
BW06 Boulder Array 79.53 45 P **P 11 00 42.4 +0.7**
PD31 Pinedale Array 79.53 45 P **P 11 00 41.5 -0.1**
PDAR Pinedale Array 79.53 45 P **P 11 00 42.2 +0.6**
comp=Z,0.9nm,0.5s,baz=345,slow=0.3,SNR=24
comp=Z,0.9nm,0.5s
SHPR Sheep Range 79.95 52 P **P 11 00 45.0 +1.0**
MPU Maple Canyon 80.03 48 P **P 11 00 45.9 +1.6**
ELS Elsinore Mount 80.15 56 P **P 11 00 45.0 0.0**
MSU Marysvale 80.62 49 P **P 11 00 49.6 +2.0**
V12A Nelson 80.62 53 P **P 11 00 48.9 +1.5**
PFO Pinyon Flats O 80.82 55 P **P 11 00 49.5 +0.9**
PMD Palm Desert 80.86 55 P **P 11 00 49.0 +0.4**
PMD IAmb IAmb 11 00 50.3
comp=Z,2.8nm,0.7s
LCMT Little Creek M 80.87 51 P **P 11 00 50.3 +1.5**
RDMU Red Mountain 80.91 46 P **P 11 00 49.9 +0.9**
RDMU IAmb IAmb 11 00 51.1
comp=Z,12nm,1.4s
KNB Kanab 81.14 51 P **P 11 00 52.1 +1.8**
KNB IAmb IAmb 11 00 53.0
comp=Z,5.1nm,1.1s
BAR Barrett 81.23 56 P **P 11 00 51.7 +1.0**
BAR IAmb IAmb 11 00 52.0
comp=Z,2.6nm,0.6s
SRU San Rafael Swe 81.26 48 P **P 11 00 52.3 +1.4**
SRU IAmb IAmb 11 00 52.7
comp=Z,3.5nm,0.6s
VYHS Vyhne 81.31 325 *eP* **P 11 00 49.0 -1.8**
ULM Lac du Bonnet 81.38 33 P **P 11 00 51.8 +0.7**
comp=Z,1.7nm,0.9s,baz=2.1,slow=4.5,SNR=1.9
comp=Z,1.7nm,0.9s
CBX Cerro Bola 81.46 56 P **P 11 00 53.3 +1.3**
CBX IAmb IAmb 11 00 53.8
comp=Z,4.5nm,0.6s
YUH Yuha Desert 81.76 56 P **P 11 00 53.7 +0.2**
YUH IAmb IAmb 11 01 26.4
comp=Z,5.1nm,1.4s
U15A North Rim 81.83 51 P **P 11 00 55.9 +1.8**
X16A Lo Mia Camp, P 83.63 52 P **P 11 01 04.5 +1.1**
X16A IAmb IAmb 11 01 05.9
comp=Z,3.3nm,1.1s
TXAR Lajitas Array 91.94 52 P **P 11 01 44.3 +0.9**
comp=Z,0.4nm,0.5s,baz=290,slow=3.1,SNR=12
comp=Z,0.4nm,0.5s
TORD Torodi Ar. Bea 117.56 313 PKP **PKPdf 11 07 20.4 -0.4**
comp=Z,0.2nm,0.5s,baz=349,slow=0.7,SNR=2.0
H03N2 Juan Fernandez 147.97 98 T T 13 53 28.3
baz=292
H03N3 Juan Fernandez 147.98 98 T T 13 53 33.3
baz=292,SNR=5.8
H03N1 Juan Fernandez 147.99 98 T T 13 53 21.6
baz=292

IDC 02** 11:03:34.8±6.6, 6°55S×131°41E, h296km±84km, **mb3.2**/1, **mbtmp3.3**/3, **Error ellipse: s-maj=240.6km s-min=27.6km az=76.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.62**	**168**	P	P	11 06 35.0	-2.0
	0.1nm,0.3s,baz=348,slow=11,SNR=11						
WRA				S	S	11 08 59.2	-8.2
	0.7nm,0.4s,baz=331,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.19**	**172**	P	P	11 07 16.6	+0.5
	0.2nm,0.5s,baz=346,slow=9.2,SNR=6.7						
ASAR				S	S	11 10 20.4	+0.6
	0.1nm,0.5s,baz=26,slow=37,SNR=4.1						
MKAR	**Makanchi Array**	**68.62**	**326**	P	P	11 14 06.5	+0.1
	0.5nm,0.5s,baz=108,slow=7.9,SNR=8.3						
	0.5nm,0.5s						

*IDC **02** 11:05:41.3±9.4, 19°.88S×178°.97W, h650km±93km, mb3.1/4, mbtmp4.2/5, Error ellipse: s-maj=122.3km s-min=46.3km az=131.0*

ISC 02 11:05:41.7**±2.7, **20°.2S**±0°.7×**178°.8W**±0°.5, **h665**km, **n6**, σ0**s71**/7, **mb3.9**/4, **Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.92**	**259**	P	P	**11 08 38.6**	**+0.7**
	8.2nm,0.5s,baz=86,slow=19,SNR=14						
STKA	**Stephens Creek**	**37.29**	**244**	P	P	11 12 00.3	-0.5
	2.3nm,0.6s,baz=83,slow=10,SNR=5.7						
	2.3nm,0.6s						
ASAR	**Alice Springs**	**43.89**	**256**	P	P	11 12 52.7	-0.2
	3.6nm,0.6s,baz=89,slow=8.4,SNR=46						
ASAR				PcP	PcP	11 14 24.3	+0.9
	0.5nm,0.5s,baz=100,slow=4.0,SNR=5.9						
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**43.93**	**262**	P	P	11 12 52.4	-0.8
	1.7nm,0.3s,baz=97,slow=7.4,SNR=37						
	1.7nm,0.3s						
ILAR	**Eielson Array**	**88.14**	**13**	P	P	11 17 23.4	-0.1
	0.3nm,0.8s,baz=218,slow=5.1,SNR=4.2						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**118.34**	**320**	PKP	PKPdf	11 23 15.3	-0.1
	0.4nm,0.5s,baz=82,slow=2.5,SNR=3.6						

*IDC **02** 11:54:18.8±1.3, 6°.31S×129°.60E, h0km, mb4.1/5, mbtmp4.0/7, ML4.0/2, MS3.3/1, Error ellipse: s-maj=65.2km s-min=28.0km az=71.0*
*DJA **02** 11:54:33.4±0.2, 7°.5±2°×13°.0E±°, h172km±6km, M4.4/16, mb4.2/16, mB4.9/6, MLv4.6/13, Mw(mB)4.2/6, MwMwp5.3/1, Mwp5.5/1*

ISC 02 11:54:33.6**±0.8, **6°.65S**±0°.07×**129°.81E**±0°.09, **h150**km, **n24**, σ1**s93**/25, **mb4.0**/5, **Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.99**	**132**	P	Pn	**11 55 10.8**	**+2.2**
SAUI				S	Sn	**11 55 38.3**	**+2.8**
BNDI	**Bandanaira**	**2.12**	**3**	P	Pn	**11 55 09.9**	**-0.3**
FAKI	**Fak Fak**	**4.43**	**33**	P	Pn	**11 55 38.2**	**-1.4**
KMPI	**Kaimana, Papua**	**4.89**	**53**	P	Pn	**11 55 43.6**	**-2.0**
SIJI	**Sorong**	**5.92**	**14**	P	Pn	**11 55 57.9**	**-1.5**
SWI	**Sorong**	**5.93**	**14**	P	Pn	**11 55 57.8**	**-1.6**
	12nm,0.8s,0.4nm						
SOEI	**Soe**	**6.29**	**240**	P	Pn	**11 56 06.0**	**+1.6**
	71nm,1.1s,944nm0.3nm						
LBMI	**Labuha**	**6.40**	**339**	P	Pn	**11 56 05.7**	**0.0**
	54nm,0.8s,1μm0.2nm						
BBSI	**Bau Bau**	**7.29**	**279**	P	Pn	**11 56 16.7**	**-0.9**
	81nm,0.9s,0.3nm						
MMRI	**Maumere**	**7.76**	**255**	P	Pn	**11 56 24.2**	**+0.3**
	14nm,0.6s,0.1nm						
EDFI	**Ende, Flores**	**8.31**	**255**	P	Pn	**11 56 31.7**	**+0.4**
	5.7nm,0.6s						
LUWI	**Luwuk**	**8.96**	**308**	P	Pn	**11 56 38.0**	**-1.9**
	55nm,0.9s,2μm						
KMSI	**Cibinong**	**9.24**	**321**	P	Pn	**11 56 42.6**	**-1.0**
	61nm,0.5s						
BKSI	**Bulukumba**	**9.72**	**277**	P	Pn	**11 56 49.8**	**-0.2**
MPSI	**Mapaga**	**12.08**	**305**	P	Pn	**11 57 19.5**	**-1.6**
	9.2nm,1.4s						
PLAI	**Plampang**	**12.12**	**259**	P	Pn	**11 57 22.3**	**+0.8**
	13nm,0.7s						
WRA	**Warramunga Arr**	**13.93**	**162**	Pn	Pn	**11 57 42.7**	**-2.0**
	0.7nm,0.3s,baz=332,slow=14,SNR=42						
WRA				Sn	Sn	12 00 10.6	-8.5
	1.5nm,0.3s,baz=342,slow=22,SNR=11						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**17.37**	**167**	P	Pn	**11 58 27.9**	**+0.8**
	0.4nm,0.3s,baz=353,slow=13,SNR=21						
ASAR				S	**S**	**12 01 33.5**	**-6.1**
	0.5nm,0.5s,baz=349,slow=24,SNR=2.1						
	0.9nm,0.8s						
JNU	**Nakatsue**	**39.56**	**1**	LR	LR	12 15 30.4	
	comp=Z,46nm,21.2s,baz=182,slow=32						
PETK	**Petropavlovsk-**	**64.05**	**18**	P	**P**	**12 04 52.5**	**+1.2**
	3.9nm,1.1s,baz=194,slow=3.8,SNR=4.5						
	3.9nm,1.1s						
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**12 05 17.1**	**+1.5**
	2.0nm,0.5s,baz=116,slow=8.1,SNR=31						
	2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**71.19**	**334**	P	**P**	**12 05 36.5**	**+0.5**
	0.6nm,0.4s,baz=143,slow=4.7,SNR=4.0						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**72.11**	**329**	P	**P**	**12 05 42.7**	**+1.2**
	0.7nm,0.2s,baz=133,slow=5.4,SNR=5.2						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**77.67**	**328**	P	**P**	**12 06 14.3**	**+0.8**
	0.3nm,0.4s,baz=121,slow=6.6,SNR=4.6						
	0.3nm,0.4s						

*TRN **02** 11:57:50.5, 10°.27N×61°.93W, h9km, MD3.6*
*FUNV **02** 11:57:55.5, 10°.44N×61°.85W, h25km, MW3.6*

ISC 02 11:57:52.0**±1.8, **10°.3N**±0°.2×**61°.9W**±0°.2, **h17**km±21km, **n12**, σ1**s58**/20, **Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.58**	**54**	*eP*	**Pg**	**11 58 03.0**	**-0.4**
CRUV	**Carupano**	**1.39**	**285**	*eP*	**Pn**	**11 58 17.4**	**+0.9**
CRUV				*eS*	**Sn**	**11 58 34.8**	**+0.3**
GRGR	**Grenville**	**1.83**	**7**	*eP*	**Pn**	**11 58 23.4**	**+0.7**
GRGR				*eS*	**Sb**	**11 58 47.2**	**-0.5**
GRHS	**Sauteurs**	**1.92**	**7**	*eP*	**Pn**	**11 58 24.1**	**+0.2**
GRHS				*eS*	**Sn**	**11 58 48.7**	**+1.0**
GCMP	**Grenada, Carri**	**2.21**	**12**	*eP*	**Pn**	**11 58 27.9**	**-0.1**
GCMP				*eS*	**Sb**	**11 58 57.5**	**-1.2**
PCRV	**Puerto La Cruz**	**2.72**	**268**	*eP*	**Pn**	**11 58 37.0**	**+2.1**
PCRV				*eS*	**Sn**	**11 59 07.2**	**-0.3**
SVB	**Belmont**	**3.01**	**12**	*eP*	**Pn**	**11 58 40.8**	**+1.8**
SVB				*eS*	**Sn**	**11 59 14.5**	**-0.2**
SLBI	**Saint Lucia, B**	**3.80**	**13**	*eP*	**Pn**	**11 58 50.1**	**+0.3**
SLBI				*eS*	**Sn**	**11 59 34.9**	**+0.7**
TACV	**Tcata**	**5.07**	**269**	*eP*	**Pn**	**11 59 08.7**	**+1.4**
TACV				*eS*	**Sn**	**12 00 03.5**	**-2.1**
CACV	**CAICARA DEL OR**	**5.35**	**240**	*eP*	Pn	11 59 07.1	-4.0
CACV				*eS*	Sn	12 00 01.5	-11
BENV	**Beln**	**5.64**	**267**	*eP*	**Pn**	**11 59 17.3**	**+2.1**
BAUV	**El Baul**	**6.23**	**258**	*eP*	**Pn**	**11 59 24.6**	**+1.5**
BAUV				*eS*	**Sn**	**12 00 30.2**	**-3.8**

*DJA **02** 12:04:07.3±0.4, 6°.N±2°×12°.7E±°, h97km±3km, M4.7/33, mb4.7/33, mB5.2/14, MLv4.9/11, Mw(mB)4.6/14, MwMwp4.7/1, Mwp5.0/1*
*NEIC **02** 12:04:08.3±1.8, 6°.18N±0°.07×126°.87E±0°.09, h106km±6km, mb4.6/65, Error ellipse: s-maj=14.1km s-min=8.9km az=59.0*
*IDC **02** 12:04:08.4±1.1, 6°.15N×126°.86E, h113km±8km, mb4.2/36, mbtmp4.6/37, MS3.1/3, Error ellipse: s-maj=16.1km s-min=8.7km az=69.0*

ISC 02 12:04:05.4**±0.3, **6°.15N**±0°.04×**126°.93E**±0°.06, **h83**km, **n180**, σ1**s62**/196, **mb4.6**/76, **1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.62**	**304**	‖*eP*	**Pn**	**12 04 33.0**	**+0.6**
DAV	**Davao City (W)**	**1.62**	**304**		**Pn**	**12 04 34.9**	**+2.5**
DAV				Sn	**Sn**	**12 04 56.6**	**+3.7**
DAV	**Davao City (W)**	**1.62**	**304**	P	Pn	12 04 37.9	+5.5
DAV	**Davao City (W)**	**1.62**	**304**	P	**Pn**	**12 04 35.0**	**+2.6**
	248nm,0.4s,baz=90,slow=12,SNR=5.5						
DAV				S	**Sn**	**12 04 57.7**	**+4.8**
	706nm,0.3s,baz=165,slow=20,SNR=31						
DAV	**Davao City (W)**	**1.62**	**304**	P	Pn	**12 04 33.1**	**+0.6**
DAV				S	**Sn**	**12 04 54.0**	**+1.1**
SGSI	**Sangihe**	**2.82**	**210**	P	Pn	**12 04 51.9**	**+3.5**
SGSI				S	**Sn**	**12 05 24.2**	**+2.7**
TNTI	**Ternate**	**5.36**	**175**	Pn	Pn	**12 05 24.8**	**+1.7**
TNTI	**Ternate**	**5.36**	**175**	P	Pn	**12 05 26.1**	**+3.1**
TNTI	**Ternate**	**5.36**	**175**	P	Pn	**12 05 24.7**	**+1.7**
	92nm,0.7s,2μm0.5nm						
TNTI				S	**Sn**	**12 06 25.9**	**+2.4**
	92nm,0.7s,2μm0.5nm						
KMSI	**Cibinong**	**6.27**	**208**	P	Pn	**12 05 37.4**	**+2.0**
	467nm,0.7s,5μm1.5nm						
GTOI	**Gorontalo**	**6.73**	**216**	P	Pn	**12 05 43.3**	**+1.6**
	109nm,0.6s,932nm0.4nm						
LBMI	**Labuha**	**6.77**	**175**	P	Pn	**12 05 45.0**	**+2.8**
	66nm,0.8s,1μm0.5nm						
TOLI2	**Tolitoli**	**7.92**	**231**	Pn	Pn	**12 05 58.5**	**+0.6**
TOLI2	**Tolitoli**	**7.92**	**231**	P	Pn	**12 05 58.8**	**+0.9**
SANI	**Sanana**	**8.20**	**187**	P	Pn	**12 06 01.8**	**+0.1**
SANI	**Sanana**	**8.20**	**187**	P	Pn	**12 06 01.0**	**-0.7**
	39nm,0.5s,1μm						
SIJI	**Sorong**	**8.21**	**148**	P	Pn	**12 06 04.4**	**+2.5**
	16nm,0.5s,1μm0.1nm						
LUWI	**Luwuk**	**8.26**	**210**	Pn	Pn	**12 06 03.0**	**+0.4**
LUWI	**Luwuk**	**8.26**	**210**	P	Pn	**12 06 01.7**	**-0.9**
	129nm,1.0s,2μm2μm0.6nm						
MPSI	**Mapaga**	**9.09**	**231**	P	Pn	**12 06 15.1**	**+1.3**
	22nm,1.0s						
NLAI	**Namlea**	**9.33**	**179**	P	Pn	**12 06 18.2**	**+1.0**
	28nm,0.9s						
FAKI	**Fak Fak**	**10.46**	**149**	Pn	Pn	**12 06 36.5**	**+3.9**
FAKI	**Fak Fak**	**10.46**	**149**	P	Pn	**12 06 35.5**	**+2.9**
FAKI	**Fak Fak**	**10.46**	**149**	P	Pn	**12 06 36.1**	**+3.5**
	20nm,1.6s						
TTSI	**Tana Toraja**	**11.57**	**218**	P	Pn	**12 06 46.6**	**-1.1**
	65nm,0.9s,855nm						
SPSI	**Sidrap Palu**	**12.33**	**216**	P	Pn	**12 06 58.4**	**+0.4**
	15nm,0.7s						
BKB	**Balikpapan**	**12.43**	**234**	P	Pn	**12 06 58.8**	**-0.5**
	83nm,0.6s						
KAPI	**Kappang**	**13.21**	**213**	Pn	Pn	**12 07 10.3**	**+0.6**
KAPI	**Kappang**	**13.21**	**213**	P	Pn	**12 07 09.9**	**+0.3**
	9.0nm,0.5s,baz=116,slow=13,SNR=6.5						
KAPI				LR	LR	12 12 43.2	
	comp=Z,57nm,20.3s,baz=43,slow=39						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SBUM	**Sibu**	**15.12**	**257**		**P**	**12 07 38.2**	**+0.4**
SBUM				IAmb	IAmb	12 07 41.3	
	comp=Z,39nm,0.8s						
SBUM	**Sibu**	**15.12**	**257**	P	**Pn**	**12 07 33.6**	**-0.9**
	comp=Z,52nm,0.8s,comp=Z,402nm						
BBKI	**Banjar Baru**	**15.39**	**232**	P	**Pn**	**12 07 38.6**	**+0.6**
MMRI	**Maumere**	**15.42**	**198**	Pn	**Pn**	**12 07 39.3**	**+1.0**
MMRI				IAmb	IAmb	12 08 06.5	
	comp=Z,14nm,0.7s						
MMRI	**Maumere**	**15.42**	**198**	P	**Pn**	**12 07 39.5**	**+1.2**
EDFI	**Ende, Flores**	**15.70**	**199**	P	**P**	**12 07 44.2**	**-0.2**
	comp=Z,15nm,0.8s						
SOEI	**Soe**	**16.02**	**190**		**P**	**12 07 49.4**	**+1.4**
SOEI				IAmb	IAmb	12 08 07.2	
	comp=Z,30nm,0.8s						
SOEI	**Soe**	**16.02**	**190**	P	**P**	**12 07 47.6**	**-0.4**
	comp=Z,41nm,1.2s						
DBNI	**Kabupaten Domp**	**16.90**	**211**	P	**P**	**12 07 57.4**	**-0.2**
	comp=Z,13nm,0.8s						
KSM	**Kuching**	**17.22**	**255**		**P**	**12 08 02.2**	**+1.2**
KSM	**Kuching**	**17.22**	**255**	P	**Pn**	**12 08 00.3**	**-0.5**
	comp=Z,23nm,0.8s,comp=Z,1μm						
PLAI	**Plampang**	**17.45**	**212**	P	**P**	**12 08 08.0**	**+4.3**
PLAI	**Plampang**	**17.45**	**212**	P	**Pn**	**12 08 02.2**	**-1.4**
	comp=Z,32nm,1.0s						
TWG	**Pinlang**	**17.51**	**342**	P	**P**	**12 08 03.2**	**-1.0**
TWG				IAmb	IAmb	12 08 23.9	
	comp=Z,20nm,0.7s						
TWSI	**Taliwang, Sumb**	**17.86**	**214**	P	**Pn**	**12 08 08.8**	**+0.2**
MTN	**Manton Dam**	**19.33**	**168**	P	**Pn**	**12 08 26.6**	**+0.5**
MTN	**Manton Dam**	**19.33**	**168**	P	**Pn**	**12 08 26.1**	**0.0**
	comp=Z,14nm,1.0s						
JOW	**Kunigami**	**20.61**	**3**	P	**P**	**12 08 38.5**	**+0.5**
	comp=Z,15nm,0.7s,baz=193,slow=19,SNR=2.2						
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**21.77**	**175**	P	**P**	**12 08 52.4**	**+1.9**
KNRA				IAmb	IAmb	12 08 55.7	
	comp=Z,21nm,0.7s						
KNRA	**Kununurra**	**21.77**	**175**	P	**P**	**12 08 51.3**	**+0.9**
PPBI	**Pangkal Pinang**	**22.34**	**249**	P	**P**	**12 08 56.2**	**-0.5**
LEM	**Lembang**	**23.18**	**237**	P	**P**	**12 09 05.0**	**-0.5**
	comp=Z,10.0nm,0.3s,baz=353,slow=9.5,SNR=3.5						
	comp=Z,10.0nm,0.3s						
LEM	**Lembang**	**23.18**	**237**	P	**P**	**12 09 05.4**	**-0.1**
	comp=Z,23nm,1.1s						
DSRI	**Dabo**	**23.26**	**254**	P	**P**	**12 09 06.7**	**+0.7**
	comp=Z,42nm,0.9s,comp=Z,1μm						
MYKOM	**Kota Tinggi**	**23.42**	**260**	P	**P**	**12 09 06.4**	**-1.1**
	comp=Z,33nm,1.1s						
LAE	**Lae**	**23.67**	**122**	P	**P**	**12 09 11.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**24.13**	**183**	P	**P**	**12 09 14.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.13**	**183**	P	**P**	**12 09 16.2**	**+2.5**
KULM	**Kulim**	**26.16**	**269**	P	**P**	**12 09 32.0**	**-0.3**
KULM				IAmb	IAmb	12 09 56.4	
	comp=Z,36nm,1.5s						
WB0	**Warramunga Arr**	**26.78**	**164**	P	**P**	**12 09 38.7**	**+0.9**
NJ2	**Nanjing**	**26.85**	**345**	*e*P	**P**	**12 09 39.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WRA	**Warramunga Arr**	**26.94**	**164**	P	**P**	**12 09 39.8**	**+0.6**
WRA	**Warramunga Arr**	**26.94**	**164**	P	**P**	**12 09 38.7**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=346,slow=9.9,SNR=23						
WRA				PcP	**PcP**	**12 12 59.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=325,slow=2.6,SNR=1.3						
WRA				ScP	**ScP**	**12 16 29.9**	**-2.5**
	comp=Z,0.5nm,0.8s,baz=344,slow=3.4,SNR=7.4						
	comp=Z,1.6nm,0.6s						
WB2	**Warramunga Arr**	**26.94**	**164**	P	**P**	**12 09 39.4**	**+0.2**
WR0	**Warramunga Arr**	**27.01**	**164**	P	**P**	**12 09 39.9**	**+0.1**
PDSI	**Padang**	**27.34**	**256**	P	**P**	**12 09 42.5**	**-0.4**
	comp=Z,34nm,0.9s						
PSA00	**Pilbara Seismi**	**28.41**	**194**	P	**P**	**12 09 52.7**	**+0.4**
PSA00				IAmb	IAmb	12 09 53.4	
	comp=Z,8.3nm,0.8s						
CRAI	**Chiangrai**	**29.33**	**301**	P	**P**	**12 10 01.1**	**+0.5**
CRAI				IAmb	IAmb	12 10 01.8	
	comp=Z,7.7nm,0.8s						
GSI	**Gunungsitoli**	**29.67**	**262**	P	**P**	**12 10 00.7**	**-3.0**
CMAR	**Chiang Mai Arr**	**29.89**	**297**	P	**P**	**12 10 04.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**29.89**	**297**	P	**P**	**12 10 05.8**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=110,slow=7.3,SNR=14						
CMAR				PcP	**PcP**	**12 13 07.2**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=210,slow=0.8,SNR=4.3						
CMAR				ScP	**ScP**	**12 16 39.1**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=110,slow=1.1,SNR=1.6						
CMAR				LR	LR	12 23 54.5	
	comp=Z,33nm,18.2s,baz=110,slow=40						
	comp=Z,1.7nm,0.6s						
CHTO	**Chiang Mai**	**30.02**	**297**	P	**P**	**12 10 06.0**	**-0.7**
CHTO				IAmb	IAmb	12 10 07.7	
	comp=Z,4.6nm,0.7s						
AS31	**Alice Springs**	**30.41**	**167**	P	**P**	**12 10 10.2**	**+0.1**
ASAR	**Alice Springs**	**30.41**	**167**	P	**P**	**12 10 08.8**	**-1.3**
ASAR	**Alice Springs**	**30.41**	**167**	P	**P**	**12 10 10.3**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=352,slow=7.6,SNR=42						
ASAR				PcP	**PcP**	**12 13 07.8**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=348,slow=2.5,SNR=11						
ASAR				ScP	**ScP**	**12 16 40.8**	**-2.5**
	comp=Z,1.2nm,0.7s,baz=354,slow=2.9,SNR=9.0						
	comp=Z,1.1nm,0.5s						
KSRS	**Korea Array**	**31.17**	**2**	P	**P**	**12 10 17.0**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=180,slow=11,SNR=1.8						
	comp=Z,0.5nm,0.5s						
PZH	**PanZhiHua**	**31.40**	**313**	P	**P**	**12 10 18.6**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,160nm,4.9s						
MJAR	**Matsushiro Arr**	**31.96**	**17**	P	**P**	**12 10 24.8**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=192,slow=8.5,SNR=1.1						
	comp=Z,0.9nm,0.5s						
CTA	**Charters Tower**	**32.27**	**144**	P	**P**	**12 10 25.7**	**-0.7**
	comp=Z,7.6nm,1.1s,baz=293,slow=7.7,SNR=1.6						
	comp=Z,7.6nm,1.1s						
XAN	**Xi'an**	**32.38**	**331**	⇑P	**P**	**12 10 26.5**	**-0.8**
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
HNS	**HongShan**	**33.04**	**342**	⇓P	**P**	**12 10 35.4**	**+2.5**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BJI	**Beijing**	**35.10**	**346**	P	**P**	**12 10 53.3**	**+2.6**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LZH	**Lanzhou**	**36.55**	**328**	*e*P	**P**	**12 11 04.2**	**+0.8**
LZH				pP	sP	12 11 30.6	-0.8
LZH				sP	pwP	12 11 39.9	+14
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
MORW	**Morawa**	**36.55**	**196**	P	**P**	**12 11 03.4**	**+0.1**
MORW				IAmb	IAmb	12 11 29.6	
	comp=Z,13nm,1.2s						
HHC	**Hu-ho-hao-te**	**37.18**	**341**	*e*P	**P**	**12 11 09.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,38nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,4.0s						
BTO	**Baotou**	**37.50**	**339**	*e*P	**P**	**12 11 14.7**	**+3.4**
BTO				pP	**sP**	**12 11 40.0**	**+0.9**
BTO				sP	pwP	12 11 51.8	+18
BTO				PP	**PnPn**	**12 12 49.6**	**+9.4**
BTO				S	**S**	**12 16 59.0**	**+4.7**
BTO				SS	**SnSn**	**12 19 39.6**	**-0.6**
BTO				pmax	pmax		
	comp=Z,12nm,0.6s						
BTO				pmax	pmax		
	comp=Z,330nm,5.4s						
BTO				LR	LR		
	comp=N,350nm,6.3s						
BTO				LR	LR		
	comp=E,240nm,4.9s						
BTO				LR	LR		
	comp=Z,250nm,4.7s						
USRK	**Ussuriysk Ar.**	**38.16**	**6**	P	**P**	**12 11 15.8**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=179,slow=9.0,SNR=5.6						
	comp=Z,1.8nm,0.5s						
SHL	**Shillong**	**38.65**	**304**	P	**P**	**12 11 20.9**	**-0.5**
BBOO	**Buckleboo**	**39.71**	**168**	P	**P**	**12 11 30.1**	**+0.4**
BBOO				IAmb	IAmb	12 11 30.2	
	comp=Z,28nm,1.4s						
NWAO	**Narrogin (SRO)**	**39.94**	**193**	P	**P**	**12 11 32.2**	**+0.5**
NWAO				IAmb	IAmb	12 11 33.8	
	comp=Z,24nm,1.1s						
STKA	**Stephens Creek**	**40.32**	**161**	P	**P**	**12 11 36.0**	**+1.2**
STKA	**Stephens Creek**	**40.32**	**161**	P	**P**	**12 11 35.5**	**+0.7**
	comp=Z,7.7nm,0.7s,baz=332,slow=8.3,SNR=16						
STKA				LR	LR	12 32 09.3	
	comp=Z,35nm,18.7s,baz=16,slow=42						
	comp=Z,7.7nm,0.7s						
GTA	**Gaotai**	**41.15**	**328**	P	**P**	**12 11 42.1**	**+0.3**
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
GOMU	**GeErMu**	**41.94**	**320**	P	**P**	**12 11 49.4**	**+0.8**
GOMU				pP	sP	12 12 18.1	+1.3
GOMU				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARMA	**Armidale**	**43.39**	**148**	P	**P**	**12 11 59.8**	**-0.2**
ARMA				IAmb	IAmb	12 12 18.2	
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**45.09**	**341**	P	**P**	**12 12 13.5**	**+0.1**
SONM	**Songino Array**	**45.09**	**341**	P	**P**	**12 12 13.0**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=149,slow=7.5,SNR=9.8						
SONM				PcP	**PcP**	**12 13 50.5**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=169,slow=5.4,SNR=1.8						
	comp=Z,2.8nm,0.8s						
WMQ	**Urumqi**	**50.88**	**324**	*e*P	**P**	**12 12 58.0**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
PETK	**Petropavlovsk-**	**53.13**	**23**	P	**P**	**12 13 15.5**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=194,slow=3.7,SNR=7.0						
	comp=Z,1.3nm,0.6s						
MK31	**Makanchi Array**	**55.70**	**324**	P	**P**	**12 13 33.1**	**-0.3**
MK31				IAmb	IAmb	12 13 34.1	
	comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**55.70**	**324**	P	**P**	**12 13 33.2**	**-0.2**
	comp=Z,12nm,0.4s,baz=116,slow=7.5,SNR=227						
MKAR				PcP	**PcP**	**12 14 30.9**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=110,slow=3.6,SNR=8.4						
MKAR				ScP	**ScP**	**12 18 18.7**	**-4.9**
	comp=Z,0.5nm,0.7s,baz=144,slow=5.2,SNR=4.4						
	comp=Z,12nm,0.4s						
YAK	**Yakutsk**	**55.80**	**2**	P	**P**	**12 13 32.5**	**-1.2**
YAK				IAmb	IAmb	12 13 33.6	
	comp=Z,9.1nm,0.8s						
MAKZ	**Makanchi**	**55.89**	**324**	P	**P**	**12 13 34.2**	**-0.5**
TARG	**Taragay, Kyrgy**	**56.10**	**317**	P	**P**	**12 13 34.4**	**-2.4**
TARG				IAmb	IAmb	12 13 48.0	
	comp=Z,6.6nm,0.9s						
KSH	**Kashi**	**56.50**	**314**	P	**P**	**12 13 40.3**	**+1.0**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NIL	**Nilore**	**56.63**	**306**	P	**P**	**12 13 39.5**	**-0.7**
MIDW	**Midway**	**57.01**	**60**	P	**P**	**12 13 42.3**	**-0.6**
ULHL	**Ulahol**	**57.38**	**317**	P	**P**	**12 13 45.3**	**-0.3**
	SNR=5.2						
KZA	**Kyzart**	**57.99**	**316**	P	**P**	**12 13 50.4**	**+0.3**
	SNR=9.0						
TKM2	**Tokmak 2**	**58.09**	**317**	P	**P**	**12 13 50.7**	**+0.1**
	SNR=9.9						
ZAA0	**Zalesovo Array**	**58.54**	**332**	P	**P**	**12 13 51.4**	**-1.8**
ZAA0				IAmb	IAmb	12 13 52.9	
	comp=Z,4.9nm,0.9s						
ZALV	**Zalesovo Beam**	**58.54**	**332**	P	**P**	**12 13 51.9**	**-1.2**
ZALV	**Zalesovo Beam**	**58.54**	**332**	P	**P**	**12 13 52.1**	**-1.1**
	comp=Z,3.9nm,0.3s,baz=125,slow=7.3,SNR=29						
	comp=Z,3.9nm,0.3s						
UCH	**Uchtor**	**58.55**	**316**	P	**P**	**12 13 54.8**	**+0.7**
	SNR=13						
CHMS	**Chumysh**	**58.69**	**317**	P	**P**	**12 13 54.4**	**-0.1**
	SNR=5.3						
AAK	**Ala-Archa**	**58.72**	**317**	P	**P**	**12 13 55.2**	**+0.3**
	SNR=5.3						
AAK	**Ala-Archa**	**58.72**	**317**	P	**P**	**12 13 53.4**	**-1.4**
AAK				IAmb	IAmb	12 13 56.6	
	comp=Z,3.6nm,0.8s						
USP	**Ospenovka**	**58.96**	**317**	P	**P**	**12 13 55.7**	**-0.7**
	SNR=8.8						
AML	**Almayashu**	**59.08**	**316**	P	**P**	**12 13 57.7**	**+0.1**
	SNR=16						
EKS2	**Erkin-Say**	**59.22**	**317**	P	**P**	**12 13 58.3**	**0.0**
	SNR=14						
SEY	**Seymchan**	**59.64**	**13**	P	**P**	**12 14 02.3**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=198,slow=9.6,SNR=1.8						
	comp=Z,0.5nm,0.3s						
KURK	**Kurchatov**	**59.83**	**327**	P	**P**	**12 14 01.3**	**-0.8**
KURBB	**Kurchatov Arra**	**59.83**	**327**	P	**P**	**12 14 01.9**	**-0.3**
	comp=Z,25nm,0.5s,baz=126,slow=6.9,SNR=325						
	comp=Z,25nm,0.5s						
KBL	**Kabul**	**60.23**	**306**	P	**P**	**12 14 04.3**	**-1.2**
KK31	**Karatay Array**	**61.62**	**316**	P	**P**	**12 14 13.8**	**-0.7**
KKAR	**Karatay Array**	**61.62**	**316**	P	**P**	**12 14 13.8**	**-0.7**
BVAR	**Borovoye Array**	**65.42**	**326**	P	**P**	**12 14 38.9**	**-0.5**
	comp=Z,14nm,0.5s,baz=129,slow=8.1,SNR=128						
	comp=Z,14nm,0.5s						
BRVK	**Borovoye**	**65.49**	**326**	P	**P**	**12 14 39.5**	**-0.2**
GEYT	**Alibeck**	**69.55**	**308**	P	**P**	**12 15 03.6**	**-2.1**
GEYT				IAmb	IAmb	12 15 06.6	
	comp=Z,10nm,0.9s						
GEYT	**Alibeck**	**69.55**	**308**	P	**P**	**12 15 05.0**	**-0.7**
	comp=Z,5.6nm,0.8s,baz=101,slow=7.7,SNR=11						
	comp=Z,5.6nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**69.55**	**308**	P	**P**	**12 15 04.1**	**-1.6**
GYA0B				IAmb	IAmb	12 15 06.6	
	comp=Z,7.3nm,0.9s						
ABKAR	**Akbulak array**	**70.42**	**320**	P	**P**	**12 15 09.9**	**-0.8**
ABKAR				IAmb	IAmb	12 15 11.1	
	comp=Z,10nm,0.9s						
AKTO	**Aktyubinsk**	**71.90**	**321**	P	**P**	**12 15 18.8**	**-0.9**
	comp=Z,5.1nm,0.5s,baz=94,slow=6.2,SNR=20						
	comp=Z,5.1nm,0.5s						
ARU	**Arti**	**73.01**	**327**	P	**P**	**12 15 24.9**	**-1.3**
	comp=Z,14nm,0.4s,baz=106,slow=4.0,SNR=36						
	comp=Z,14nm,0.4s						
CASY	**Casey**	**73.23**	**187**	P	**P**	**12 15 28.4**	**+1.2**
CASY				IAmb	IAmb	12 15 28.6	
	comp=Z,15nm,1.1s						
KIRV	**Kirov**	**78.27**	**329**	P	**P**	**12 15 55.1**	**-1.0**
	comp=Z,13nm,0.5s,baz=92,slow=2.8,SNR=9.1						
	comp=Z,13nm,0.5s						
BELG	**Belogornoye**	**78.62**	**322**	P	**P**	**12 15 57.2**	**-0.9**
	comp=Z,16nm,0.6s,baz=163,slow=19,SNR=5.8						
	comp=Z,16nm,0.6s						
IMAR	**Indian Mountai**	**80.06**	**24**	P	**P**	**12 16 04.8**	**-1.0**
D22K	**Ayikyak River**	**80.83**	**21**	P	**P**	**12 16 08.8**	**-1.0**
BPAW	**Bear Paw Mtn.**	**81.04**	**26**	P	**P**	**12 16 11.5**	**+0.4**
BPAW				IAmb	IAmb	12 16 13.9	
	comp=Z,6.8nm,1.0s						
AKH	**Akhalkalaki**	**81.04**	**311**	P	**P**	**12 16 11.9**	**+0.1**
ONI	**Oni**	**81.07**	**312**	P	**P**	**12 16 11.8**	**0.0**
ONI				IAmb	IAmb	12 16 20.6	
	comp=Z,6.0nm,0.8s						
MLY	**Manley**	**81.22**	**25**	P	**P**	**12 16 10.6**	**-1.4**
KBZ	**Khabaz**	**81.47**	**313**	P	**P**	**12 16 13.0**	**-0.7**
	comp=Z,5.6nm,1.0s,baz=117,slow=3.1,SNR=5.6						
	comp=Z,5.6nm,1.0s						
C23K	**Itkillik River**	**81.66**	**20**	P	**P**	**12 16 14.9**	**+0.8**
C23K				IAmb	IAmb	12 16 16.8	
	comp=Z,6.1nm,0.6s						
TOLK	**Toolik Lake Re**	**81.94**	**22**	P	**P**	**12 16 17.2**	**+1.4**
KNK	**Knik Glacier**	**82.06**	**29**	P	**P**	**12 16 15.5**	**-1.0**
GURO	**Guroymak-BITLI**	**82.22**	**308**	P	**P**	**12 16 18.5**	**+0.5**
GURO				IAmb	IAmb	12 16 19.3	
	comp=Z,12nm,0.8s						
E24K	**Your Creek**	**82.31**	**22**	P	**P**	**12 16 18.5**	**+0.8**
ILAR	**Eielson Array**	**82.85**	**26**	P	**P**	**12 16 19.9**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=246,slow=5.5,SNR=21						
	comp=Z,0.8nm,0.5s						
VOI	**Vohitsoka**	**83.18**	**247**	P	**P**	**12 16 22.1**	**-1.1**
VOI				IAmb	IAmb	12 16 39.2	
	comp=Z,21nm,1.4s						
KLU	**Klutina**	**83.27**	**29**	P	**P**	**12 16 24.5**	**+1.6**
KLU				IAmb	IAmb	12 16 40.4	
	comp=Z,17nm,1.2s						
BMAR	**Burnt Mountain**	**83.78**	**23**	P	**P**	**12 16 27.5**	**+2.2**
OBN	**Obninsk**	**85.21**	**325**	P	**P**	**12 16 31.8**	**-0.8**
	comp=Z,8.4nm,0.3s,baz=76,slow=4.2,SNR=1.9						
	comp=Z,8.4nm,0.3s						
F28M	**Old Crow**	**85.58**	**23**	P	**P**	**12 16 34.5**	**+0.2**
F28M				IAmb	IAmb	12 16 37.3	
	comp=Z,2.9nm,0.7s						
I28M	**Miner Creek**	**85.76**	**25**	P	**P**	**12 16 35.5**	**+0.2**
I28M				IAmb	IAmb	12 16 38.3	
	comp=Z,3.4nm,0.6s						
VNDA	**Vanda**	**85.79**	**173**	P	**P**	**12 16 35.0**	**-0.1**
VNDA	**Vanda**	**85.79**	**173**	P	**P**	**12 16 34.9**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=328,slow=4.4,SNR=4.5						
	comp=Z,1.6nm,0.9s						
GAZ	**Gaziantep**	**86.10**	**307**	P	**P**	**12 16 38.1**	**+0.5**
BNN	**Bunyan**	**87.03**	**309**	P	**P**	**12 16 41.6**	**-0.6**
MMAI	**Mount Meron Ar**	**87.96**	**303**	P	**P**	**12 16 46.6**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=101,slow=7.5,SNR=2.5						
	comp=Z,2.3nm,0.5s						
SPITS	**Spitsbergen Ar**	**88.16**	**349**	P	**P**	**12 16 46.0**	**-0.6**
	comp=Z,4.9nm,0.8s,baz=88,slow=9.6,SNR=5.3						
	comp=Z,4.9nm,0.8s						
ARCES	**ARCESS Array B**	**88.26**	**340**	P	**P**	**12 16 45.9**	**-1.3**
	comp=Z,2.9nm,0.6s,baz=82,slow=5.8,SNR=17						
	comp=Z,2.9nm,0.6s						
BR131	**Keskin Array S**	**88.64**	**310**	P	**P**	**12 16 48.5**	**-1.4**
BR131				IAmb	IAmb	12 16 50.2	
	comp=Z,4.1nm,0.8s						
BRTR	**Keskin Array B**	**88.64**	**310**	P	**P**	**12 16 48.9**	**-1.0**
BRTR	**Keskin Array B**	**88.64**	**310**	P	**P**	**12 16 48.2**	**-1.7**
	comp=Z,3.2nm,0.9s,baz=127,slow=3.6,SNR=11						
	comp=Z,3.2nm,0.9s						
FIA1	**FINESS Array S**	**89.80**	**332**	P	**P**	**12 16 52.6**	**-2.0**
FINES	**FINESS Array B**	**89.80**	**332**	P	**P**	**12 16 53.6**	**-1.0**
FINES	**FINESS Array B**	**89.80**	**332**	P	**P**	**12 16 53.4**	**-1.3**
	comp=Z,3.7nm,0.7s,baz=71,slow=3.6,SNR=12						
	comp=Z,3.7nm,0.7s						
AKASG	**Malin Array Be**	**90.15**	**321**	P	**P**	**12 16 54.6**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=62,slow=4.9,SNR=7.3						
	comp=Z,0.4nm,0.4s						
BURAR	**Bucovina Array**	**93.33**	**318**	P	**P**	**12 17 09.6**	**-1.9**
BUR08	**Bucovina Ar. S**	**93.34**	**318**	P	**P**	**12 17 09.3**	**-2.2**
BUR08				IAmb	IAmb	12 17 11.8	
	comp=Z,2.2nm,1.1s						
HFS	**Hagfors**	**95.98**	**332**	P	**P**	**12 17 21.7**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=95,slow=3.4,SNR=2.0						
	comp=Z,2.1nm,0.7s						
QSPA	**South Pole Qui**	**96.04**	**180**	P	**P**	**12 17 23.2**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=334,slow=1.4,SNR=4.4						
	comp=Z,0.8nm,0.3s						
NB2	**NORSAR Subarra**	**96.72**	**334**	P	**P**	**12 17 26.4**	**-0.1**
	comp=Z,4.5nm,1.1s,baz=65,slow=4.6						
NB2	**NORSAR Subarra**	**96.72**	**334**	P	**P**	**12 17 26.4**	**-0.1**
	baz=65,slow=4.6						
NOA	**NORSAR Array B**	**96.72**	**334**	P	**P**	**12 17 26.2**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=65,slow=4.5,SNR=5.1						
	comp=Z,1.2nm,0.7s						
OZB	**Mount Ozzard**	**96.77**	**39**	P	**P**	**12 17 25.9**	**-1.2**
YKA	**Yellowknife Ar**	**97.22**	**24**	P	**P**	**12 17 28.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=296,slow=4.7,SNR=5.5						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**109.41**	**41**	PKKPab	PKKPab	12 33 42.4	-3.3
	comp=Z,0.4nm,0.6s,baz=113,slow=6.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**122.32**	**290**	PKP	**PKPdf**	**12 22 50.4**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=42,slow=2.9,SNR=3.5						

KRSC ***02*** *12:16:03.2±1.4, 49°.21N×151°.64E, h309km±67km, Ml4.9*
SKHL ***02*** *12:16:05.6±0.9, 49°.10N×151°.90E, h324km±11km, mb5.0/6, mbv5.1/3, msh4.7/2, msha5.3/5*
MOS ***02*** *12:16:05.6±0.8, 49°.40N×151°.49E, h309km, mb3.9/6, Error ellipse: s-maj=14.4km s-min=5.2km az=59.8*
NEIC ***02*** *12:16:06.8±1.3, 49°.50N±0°.09×151°.4E±0°.1, h296km±9km, mb4.0/39, Error ellipse: s-maj=13.3km s-min=11.6km az=162.0*
IDC ***02*** *12:16:07.6±1.7, 49°.71N×151°.40E, h296km±17km, mb3.2/18, mbtmp3.9/22, Error ellipse: s-maj=15.9km s-min=10.1km az=154.0*
ISC 02 12:16:05.3±0.5**, 49°.20N**±0°.07×**151°.82E**±0°.07**, h300**km**,**
n156, σ1.s**88**/172**, mb3.9**/40**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.15**	**60**	PN	**Pn**	**12 17 04.4**	**+2.0**
SKR	**Severo-Kuril's**	**3.15**	**60**	*e*P	**Pn**	**12 17 04.4**	**+2.0**
SKR	**Severo-Kuril's**	**3.15**	**60**	*e*P	**Pn**	**12 17 03.8**	**+1.4**
SKR				AMB	AMB	12 17 04.9	
	260nm,0.5s						
SKR				AMB	AMB	12 17 06.5	
	470nm,1.6s						
SKR				*e*S	**S**	**12 17 49.3**	**+1.2**
SKR				A	A	12 17 54.5	
	80nm,0.5s						
SKR				A	A	12 17 54.5	
	100nm,0.5s						
SKR				A	A	12 17 59.4	
	730nm,2.0s						
SKR				A	A	12 17 59.4	
	660nm,2.0s						
PAU	**Pauzhetka**	**3.92**	**53**	PN	**Pn**	**12 17 13.1**	**+2.6**
PAU	**Pauzhetka**	**3.92**	**53**	*e*P	**Pn**	**12 17 13.1**	**+2.6**
PAU	**Pauzhetka**	**3.92**	**53**	*e*P	**Pn**	**12 17 12.4**	**+1.9**
PAU				AMB	AMB	12 17 13.7	
	160nm,0.4s						
PAU				AMB	AMB	12 17 16.4	
	420nm,3.0s						
PAU				*e*S	**S**	**12 18 04.3**	**+1.5**
PAU				A	A	12 18 09.9	
	40nm,0.2s						
PAU				A	A	12 18 09.9	
	90nm,0.2s						
PAU				A	A	12 18 11.0	
	620nm,4.0s						
PAU				A	A	12 18 11.0	
	520nm,4.0s						
KDTR	**Khodutka, Kamc**	**4.77**	**54**	PN	**Pn**	**12 17 20.7**	**+0.7**
KDTR				S	**S**	**12 18 16.5**	**-3.6**
KDTR	**Khodutka, Kamc**	**4.77**	**54**	*e*P	**Pn**	**12 17 20.7**	**+0.7**
KDTR				*e*S	**S**	**12 18 16.5**	**-3.6**
KDTR	**Khodutka, Kamc**	**4.77**	**54**	*e*P	**Pn**	**12 17 20.7**	**+0.7**
KDTR				*e*rx	rx	12 18 16.5	
ASAK	**Asacha**	**5.00**	**48**	PN	**Pn**	**12 17 24.0**	**+1.2**
ASAK	**Asacha**	**5.00**	**48**	*e*P	**Pn**	**12 17 24.0**	**+1.2**
APC	**Apacha**	**5.03**	**40**	PN	**Pn**	**12 17 22.2**	**-0.7**
APC	**Apacha**	**5.03**	**40**	*e*P	**Pn**	**12 17 22.2**	**-0.7**
GRL	**Gorelyy**	**5.19**	**47**	PN	**Pn**	**12 17 27.6**	**+2.6**
GRL	**Gorelyy**	**5.19**	**47**	*e*P	**Pn**	**12 17 27.6**	**+2.6**
PEA0B	**Petropavlovsk-**	**5.39**	**41**	Pn	**Pn**	**12 17 27.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**5.39**	**41**	PN	**Pn**	**12 17 27.7**	**+0.5**
PETK	**Petropavlovsk-**	**5.39**	**41**	P	**Pn**	**12 17 27.3**	**+0.1**
	4.0nm,0.5s,baz=173,slow=7.0,SNR=43						
PETK				S	S	12 18 15.4	-18
	2.5nm,0.5s,baz=141,slow=1.3,SNR=5.3						
KRMR	**Karymshinskiy**	**5.39**	**45**	PN	**Pn**	**12 17 28.3**	**+1.1**
KRMR	**Karymshinskiy**	**5.39**	**45**	*e*P	**Pn**	**12 17 28.3**	**+1.1**
KRMR	**Karymshinskiy**	**5.39**	**45**	*e*P	**Pn**	**12 17 28.3**	**+1.1**
PET	**Petropavlovsk**	**5.76**	**46**	*e*rx	rx	12 17 27.3	
DALK	**Dalny**	**5.81**	**46**	PN	**Pn**	**12 17 33.8**	**+1.6**
DALK	**Dalny**	**5.81**	**46**	*e*P	**Pn**	**12 17 33.8**	**+1.6**
KOK	**Koryaka**	**5.93**	**44**	PN	**Pn**	**12 17 36.1**	**+2.4**
KOK	**Koryaka**	**5.93**	**44**	*e*P	**Pn**	**12 17 36.1**	**+2.4**
KOK	**Koryaka**	**5.93**	**44**	*e*P	**Pn**	**12 17 36.1**	**+2.4**
AVH	**Avacha**	**5.95**	**44**	PN	**Pn**	**12 17 36.4**	**+2.4**
AVH	**Avacha**	**5.95**	**44**	*e*P	**Pn**	**12 17 36.4**	**+2.4**
AVH	**Avacha**	**5.95**	**44**	*e*P	**Pn**	**12 17 36.4**	**+2.4**
UGLR	**Uglovaya**	**5.96**	**45**	PN	**Pn**	**12 17 36.5**	**+2.4**
UGLR				S	**S**	**12 18 44.3**	**-1.3**
UGLR	**Uglovaya**	**5.96**	**45**	*e*P	**Pn**	**12 17 36.5**	**+2.4**
UGLR				*e*S	**S**	**12 18 44.3**	**-1.3**
KRX	**Arik**	**5.98**	**43**	PN	**Pn**	**12 17 35.8**	**+1.5**
KRX	**Arik**	**5.98**	**43**	*e*P	**Pn**	**12 17 35.8**	**+1.5**
SMAR	**Somma**	**5.98**	**44**	PN	**Pn**	**12 17 36.3**	**+1.8**
SMAR	**Somma**	**5.98**	**44**	*e*P	**Pn**	**12 17 36.3**	**+1.8**
TYV	**Tymovskoe**	**6.14**	**289**	*e*P	**Pn**	**12 17 37.1**	**+1.0**
SHO	**Shikotan**	**6.34**	**215**	PN	**Pn**	**12 17 37.9**	**-0.8**
SHO				pmax	pmax		
	comp=Z,13nm,0.1s						
SHO				pmax	pmax		
	comp=N,19nm,0.2s						
SHO				pmax	pmax		
	comp=E,28nm,0.2s						
SHO	**Shikotan**	**6.34**	**215**	*e*P	**Pn**	**12 17 37.9**	**-0.8**
SHO				*e*S	**S**	**12 18 48.1**	**-6.0**
SHO	**Shikotan**	**6.34**	**215**	*e*P	**Pn**	**12 17 37.8**	**-0.9**
SHO				AMB	AMB	12 17 41.0	
	comp=E,10.0nm,0.1s						
SHO				AMB	AMB	12 17 43.9	
	comp=E,940nm,3.0s						
SHO				*e*S	**S**	**12 18 48.5**	**-5.6**
SHO				A	A	12 18 50.2	
	comp=E,60nm,0.5s						
SHO				A	A	12 18 50.2	
	comp=E,140nm,0.5s						
UGL	**Uglegorsk**	**6.40**	**273**	*e*P	**Pn**	**12 17 41.1**	**+1.8**
UGL				AMB	AMB	12 17 42.2	
	comp=E,60nm,0.7s						
SPN	**Mys Shipunski**	**6.47**	**50**	PN	**Pn**	**12 17 41.8**	**+1.7**
SPN				S	**S**	**12 18 51.9**	**-4.7**
SPN	**Mys Shipunski**	**6.47**	**50**	*e*P	**Pn**	**12 17 41.8**	**+1.7**
SPN				*e*S	**S**	**12 18 51.9**	**-4.7**
SPN	**Mys Shipunski**	**6.47**	**50**	*e*P	**Pn**	**12 17 41.8**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.47**	**253**	*e*PN	**Pn**	**12 17 42.8**	**+2.5**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.47**	**253**	*e*P	**Pn**	**12 17 41.7**	**+1.4**

YUK	**Yuzh-Kuril'sk**	**6.59**	**221**	PN	**Pn**	**12 17 42.8**	**+1.1**
YUK				S	**S**	**12 18 56.5**	**-3.1**
YUK				pmax	pmax		
	comp=Z,66nm,0.2s						
YUK				smax	smax		
	comp=N,125nm,0.4s						
YUK				smax	smax		
	comp=E,92nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.59**	**221**	*e*P	**Pn**	**12 17 42.4**	**+0.7**
YUK				AMB	AMB	12 17 45.5	
	comp=E,70nm,0.2s						
YUK				*e*S	**S**	**12 18 58.8**	**-0.8**
YUK				A	A	12 19 02.1	
	comp=E,130nm,0.4s						
YUK				A	A	12 19 02.1	
	comp=E,90nm,0.4s						
KII	**Karymskiy**	**6.78**	**42**	PN	**Pn**	**12 17 45.7**	**+1.7**
KII	**Karymskiy**	**6.78**	**42**	*e*P	**Pn**	**12 17 45.7**	**+1.7**
RUSJ	**Misakicho**	**6.81**	**224**	*e*PN	**Pn**	**12 17 46.1**	**+1.7**
RUSJ				S	**S**	**12 19 01.0**	**-3.4**
OKH	**Okha**	**7.06**	**311**	*e*P	**Pn**	**12 17 49.5**	**+2.2**
NMR	**Nemuro--Hokkai**	**7.19**	**218**	*e*PN	**Pn**	**12 17 48.0**	**-1.0**
NMR	**Nemuro--Hokkai**	**7.19**	**218**	*e*P	**Pn**	**12 17 48.5**	**-0.5**
AKK	**Akkeshi**	**7.85**	**221**	*e*P	**Pn**	**12 17 55.5**	**-1.6**
TUMR	**Tumrok**	**7.95**	**37**	PN	**Pn**	**12 18 00.0**	**+1.8**
TUMR	**Tumrok**	**7.95**	**37**	*e*P	**Pn**	**12 18 00.0**	**+1.8**
TUMD	**Tumrok D**	**7.99**	**38**	*e*P	**Pn**	**12 18 00.4**	**+1.8**
NKL	**Nikolayevsk**	**8.04**	**304**	*e*P	**Pn**	**12 18 00.6**	**+1.4**
JKA	**Kamikawa-asahi**	**8.12**	**235**	Pn	**Pn**	**12 18 01.9**	**+1.5**
JKA	**Kamikawa-asahi**	**8.12**	**235**	*e*P	**Pn**	**12 18 01.9**	**+1.5**
ASAJ	**Asahikawa**	**8.13**	**235**	PN	**Pn**	**12 18 01.9**	**+1.5**
ASAJ	**Asahikawa**	**8.13**	**235**	P	**Pn**	**12 18 03.3**	**+2.9**
	comp=E,10nm,0.7s,baz=68,slow=11,SNR=10						
ERM	**Erimo**	**9.40**	**223**	Pn	**Pn**	**12 18 17.7**	**+1.7**
ERM	**Erimo**	**9.40**	**223**	PN	**Pn**	**12 18 17.7**	**+1.7**
SMKR	**Semkarok**	**9.41**	**35**	PN	**Pn**	**12 18 17.5**	**+1.4**
SMKR	**Semkarok**	**9.41**	**35**	*e*P	**Pn**	**12 18 17.5**	**+1.4**
KBG	**Krutoberegovo**	**9.66**	**39**	PN	**Pn**	**12 18 18.8**	**-0.2**
KBG				S	**S**	**12 20 01.7**	**-6.4**
KBG	**Krutoberegovo**	**9.66**	**39**	*e*P	**Pn**	**12 18 18.8**	**-0.2**
KBG				*e*S	**S**	**12 20 01.7**	**-6.4**
KBG	**Krutoberegovo**	**9.66**	**39**	*e*P	**Pn**	**12 18 19.5**	**+0.5**
KBTR	**Krutoberegovo**	**9.68**	**39**	PN	**Pn**	**12 18 19.1**	**-0.2**
KBTR	**Krutoberegovo**	**9.68**	**39**	*e*P	**Pn**	**12 18 19.1**	**-0.2**
KLR	**Kul'dur**	**13.12**	**278**	P	**P**	**12 19 03.0**	**+1.5**
	comp=E,7.3nm,0.6s,baz=80,slow=11,SNR=23						
KLR	**Kul'dur**	**13.12**	**278**	*e*P	**P**	**12 19 03.3**	**+1.8**
SEY	**Seymchan**	**13.77**	**1**	P	**P**	**12 19 08.3**	**-0.2**
	comp=E,3.9nm,0.5s,baz=174,slow=10.0,SNR=16						
JMM	**Marumori**	**13.85**	**219**	P	**Pn**	**12 19 12.4**	**+2.4**
USRK	**Ussuriysk Ar.**	**14.48**	**257**	P	**P**	**12 19 17.4**	**+0.8**
	comp=E,1.4nm,0.5s,baz=60,slow=12,SNR=6.8						
MJAR	**Matsushiro Arr**	**16.08**	**223**	P	**Pn**	**12 19 37.3**	**+1.1**
	comp=E,1.8nm,0.4s,baz=15,slow=12,SNR=21						
KSRS	**Korea Array**	**20.88**	**245**	P	**P**	**12 20 26.9**	**+2.0**
	comp=E,0.8nm,0.4s,baz=48,slow=9.7,SNR=4.7						
	comp=E,0.8nm,0.4s						
JNU	**Nakatsue**	**22.39**	**232**	P	**P**	**12 20 39.5**	**+0.6**
TIXI	**Tiksi**	**24.87**	**343**	P	**P**	**12 20 58.7**	**-2.0**
TIXI				IAmb	IAmb	12 21 00.9	
	comp=Z,2.9nm,0.3s						
TIXI	**Tiksi**	**24.87**	**343**	P	**P**	**12 20 58.7**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
C16K	**Lisburne Hills**	**28.40**	**32**	P	**P**	**12 21 32.5**	**+0.3**
C16K				IAmb	IAmb	12 22 09.3	
	comp=Z,6.5nm,1.2s						
C18K	**Utukok River**	**29.98**	**32**	P	**P**	**12 21 46.3**	**+0.2**
C18K				IAmb	IAmb	12 21 47.9	
	comp=Z,3.0nm,0.8s						
G18K	**Tagagawik**	**30.34**	**38**	P	**P**	**12 21 50.4**	**+1.1**
G18K				IAmb	IAmb	12 21 51.2	
	comp=Z,3.3nm,0.6s						
C19K	**Lookout Ridge**	**30.66**	**32**	P	**P**	**12 21 52.7**	**+0.6**
C19K				IAmb	IAmb	12 21 54.1	
	comp=Z,3.3nm,0.8s						
D19K	**Kuna River**	**31.03**	**33**	P	**P**	**12 21 56.5**	**+1.1**
E19K	**Redstone River**	**31.16**	**35**	P	**P**	**12 21 58.2**	**+1.9**
E19K				IAmb	IAmb	12 22 26.7	
	comp=Z,5.5nm,1.5s						
TTA	**Tatalina**	**31.21**	**44**	P	**P**	**12 21 58.1**	**+1.1**
TTA				IAmb	IAmb	12 22 07.6	
	comp=Z,9.9nm,1.4s						
TTA	**Tatalina**	**31.21**	**44**	P	**P**	**12 21 58.1**	**+1.1**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
B20K	**Meade River**	**31.72**	**31**	P	**P**	**12 22 02.5**	**+1.3**
J20K	**Nowinta River**	**32.08**	**42**	P	**P**	**12 22 05.3**	**+0.9**
J20K				IAmb	IAmb	12 22 07.4	
	comp=Z,4.2nm,1.1s						
IMAR	**Indian Mountai**	**32.34**	**38**	P	**P**	**12 22 07.7**	**+1.0**
B21K	**Ikpikpuk River**	**32.50**	**32**	P	**P**	**12 22 09.5**	**+1.6**
H21K	**Melozitna Rive**	**32.71**	**39**	P	**P**	**12 22 11.1**	**+1.2**
H21K				IAmb	IAmb	12 22 25.8	
	comp=Z,4.1nm,1.3s						
CAST	**Castle Rocks**	**33.00**	**43**	P	**P**	**12 22 13.7**	**+1.3**
CAST				IAmb	IAmb	12 22 31.5	
	comp=Z,4.1nm,1.2s						
B22K	**Teshekpuk Lake**	**33.03**	**30**	P	**P**	**12 22 13.3**	**+0.7**
B22K				IAmb	IAmb	12 22 22.1	
	comp=Z,4.3nm,1.4s						
D22K	**Ayikyak River**	**33.06**	**33**	P	**P**	**12 22 14.2**	**+1.4**
D22K				IAmb	IAmb	12 22 17.8	
	comp=Z,2.6nm,0.6s						
E22K	**Anaktuvuk Pass**	**33.29**	**35**	P	**P**	**12 22 16.3**	**+1.5**
E22K				IAmb	IAmb	12 22 17.2	
	comp=Z,6.2nm,1.1s						
KTH	**Kantishna Hill**	**33.51**	**43**	P	**P**	**12 22 18.1**	**+1.3**
KTH				IAmb	IAmb	12 22 57.2	
	comp=Z,12nm,1.4s						
C23K	**Itkillik River**	**33.91**	**32**	P	**P**	**12 22 21.4**	**+1.3**
TOLK	**Toolik Lake Re**	**34.16**	**34**	P	**P**	**12 22 23.6**	**+1.3**
TOLK				IAmb	IAmb	12 22 24.3	
	comp=Z,3.3nm,0.5s						
E24K	**Your Creek**	**34.53**	**35**	P	**P**	**12 22 27.1**	**+1.6**
F24K	**Squaw Lake**	**34.74**	**36**	P	**P**	**12 22 28.1**	**+0.8**
IL31		**35.22**	**41**	P	**P**	**12 22 32.8**	**+1.6**
ILAR	**Eielson Array**	**35.22**	**41**	P	**P**	**12 22 33.0**	**+1.7**
ILAR	**Eielson Array**	**35.22**	**41**	P	**P**	**12 22 32.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=270,slow=4.9,SNR=15						
	comp=Z,0.4nm,0.3s						
D25K	**Kavik River**	**35.35**	**33**	P	**P**	**12 22 33.8**	**+1.4**
E25K	**Arctic Village**	**35.62**	**35**	P	**P**	**12 22 36.2**	**+1.4**
BMAR	**Burnt Mountain**	**36.01**	**36**	P	**P**	**12 22 39.3**	**+1.3**
BCAR	**Beaver Creek A**	**37.66**	**43**	P	**P**	**12 22 53.2**	**+1.3**
F28M	**Old Crow**	**37.81**	**35**	P	**P**	**12 22 54.5**	**+1.5**
I28M	**Miner Creek**	**38.06**	**39**	P	**P**	**12 22 56.4**	**+1.1**
I28M				IAmb	IAmb	12 23 03.3	
	comp=Z,5.3nm,1.4s						
E29M	**Blow River**	**38.46**	**34**	P	**P**	**12 23 00.1**	**+1.7**
I30M	**Mount Dempster**	**39.57**	**39**	P	**P**	**12 23 09.4**	**+1.7**
INK	**Inuvik**	**40.07**	**34**	P	**P**	**12 23 13.2**	**+1.6**
INK				IAmb	IAmb	12 23 16.1	
	comp=Z,5.9nm,0.5s						
INK	**Inuvik**	**40.07**	**34**	P	**P**	**12 23 13.2**	**+1.6**
INK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
F31M	**Tsiigehtchic**	**40.16**	**35**	P	**P**	**12 23 14.1**	**+1.8**
F31M				IAmb	IAmb	12 23 17.4	
	comp=Z,5.0nm,0.7s						
ZALV	**Zalesovo Beam**	**40.51**	**303**	P	**P**	**12 23 13.9**	**-1.4**
ZALV	**Zalesovo Beam**	**40.51**	**303**	P	**P**	**12 23 13.3**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=56,slow=7.7,SNR=4.7						
ZALV				PcP	**PcP**	**12 25 11.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=94,slow=3.7,SNR=4.5						
	comp=Z,0.7nm,0.5s						
C36M	**Paulatuk**	**43.15**	**31**	P	**P**	**12 23 37.1**	**+0.8**
C36M				IAmb	IAmb	12 23 40.1	
	comp=Z,4.5nm,0.6s						
MK31	**Makanchi Array**	**45.09**	**295**	P	**P**	**12 23 50.9**	**-1.1**
MK31	**Makanchi Array**	**45.09**	**295**	P	**P**	**12 23 50.9**	**-1.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.5s						
MKAR	**Makanchi Array**	**45.09**	**295**	P	**P**	**12 23 51.3**	**-0.7**
MKAR	**Makanchi Array**	**45.09**	**295**	P	**P**	**12 23 51.3**	**-0.7**
MKAR	**Makanchi Array**	**45.09**	**295**	P	**P**	**12 23 51.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=68,slow=8.5,SNR=8.6						
MKAR				PcP	**PcP**	**12 25 27.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=72,slow=3.7,SNR=4.9						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.09**	**295**	*e*P	**P**	**12 23 51.3**	**-0.7**
KURK	**Kurchatov**	**45.32**	**301**	P	**P**	**12 23 52.8**	**-0.9**
KURK				IAmb	IAmb	12 23 54.0	
	comp=Z,3.4nm,0.7s						
KURK	**Kurchatov**	**45.32**	**301**	P	**P**	**12 23 52.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**45.32**	**301**	*e*P	**P**	**12 23 52.8**	**-0.9**
KURBB	**Kurchatov Arra**	**45.41**	**301**	P	**P**	**12 23 54.0**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=67,slow=8.5,SNR=26						
	comp=Z,3.1nm,0.6s						
BVAR	**Borovoye Array**	**48.66**	**307**	P	**P**	**12 24 18.6**	**-0.7**
	comp=Z,3.5nm,0.4s,baz=58,slow=7.4,SNR=42						
BVAR				PcP	**PcP**	**12 25 39.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=71,slow=6.4,SNR=2.4						
	comp=Z,3.5nm,0.4s						
BRVK	**Borovoye**	**48.70**	**307**	P	**P**	**12 24 18.6**	**-0.9**
BRVK				IAmb	IAmb	12 24 19.7	
	comp=Z,3.6nm,0.6s						
BRVK	**Borovoye**	**48.70**	**307**	P	**P**	**12 24 18.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**48.70**	**307**	*e*P	**P**	**12 24 18.6**	**-0.9**
YKA	**Yellowknife Ar**	**49.49**	**38**	P	**P**	**12 24 25.8**	**+0.4**
YKA	**Yellowknife Ar**	**49.49**	**38**	P	**P**	**12 24 26.6**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=303,slow=7.2,SNR=16						
	comp=Z,1.5nm,0.6s						
ARCES	**ARCESS Array B**	**55.25**	**340**	P	**P**	**12 25 05.7**	**-1.7**
	comp=Z,3.5nm,0.9s,baz=32,slow=6.6,SNR=12						
	comp=Z,3.5nm,0.9s						
LUWI	**Luwuk**	**55.96**	**216**	P	**P**	**12 25 14.9**	**+1.9**
ABKAR	**Akbulak array**	**56.21**	**308**	P	**P**	**12 25 12.9**	**-1.5**
BOZ	**Bozeman (W)**	**60.99**	**53**	P	**P**	**12 25 49.1**	**+1.7**
BOZ	**Bozeman (W)**	**60.99**	**53**	P	**P**	**12 25 49.1**	**+1.7**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FIA1	**FINESS Array S**	**61.45**	**334**	P	**P**	**12 25 48.3**	**-1.7**
FINES	**FINESS Array B**	**61.46**	**334**	P	**P**	**12 25 48.3**	**-1.7**
FINES	**FINESS Array B**	**61.46**	**334**	P	**P**	**12 25 48.6**	**-1.4**
	comp=Z,2.1nm,0.4s,baz=37,slow=7.5,SNR=23						
	comp=Z,2.1nm,0.4s						
NVAR	**Mina Array Bea**	**62.08**	**63**	P	**P**	**12 25 57.3**	**+2.5**
	comp=Z,0.2nm,0.7s,baz=311,slow=8.2,SNR=2.2						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**64.01**	**54**		**P**	**12 26 08.8**	**+1.4**
PDAR	**Pinedale Array**	**64.01**	**54**	P	**P**	**12 26 09.8**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=339,slow=1.9,SNR=7.7						
	comp=Z,0.4nm,0.5s						
NOA	**NORSAR Array B**	**65.63**	**340**	P	**P**	**12 26 16.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=29,slow=6.2,SNR=3.4						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**65.86**	**339**	P	**P**	**12 26 17.4**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=46,slow=4.3,SNR=11						
	comp=Z,1.4nm,0.3s						
AKASG	**Malin Array Be**	**69.03**	**325**	P	**P**	**12 26 36.6**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=33,slow=6.6,SNR=2.5						
	comp=Z,0.3nm,0.4s						
SCHQ	**Schefferville**	**71.38**	**22**	P	**P**	**12 26 52.6**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=328,slow=9.5,SNR=5.2						
	comp=Z,2.1nm,0.8s						
EKA	**Eskdalemuir Ar**	**73.75**	**345**	P	**P**	**12 27 05.0**	**-1.5**
EKA	**Eskdalemuir Ar**	**73.75**	**345**	P	**P**	**12 27 05.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=21,slow=5.7,SNR=1.6						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**74.28**	**197**	P	P	12 27 15.7	+5.9
	comp=Z,0.1nm,0.4s,baz=10,slow=5.9,SNR=8.4						
	comp=Z,0.1nm,0.4s						
TXAR	**Lajitas Array**	**77.04**	**60**	P	**P**	**12 27 28.1**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=288,slow=5.8,SNR=5.3						
	comp=Z,0.4nm,0.7s						

IDC 02 12:23:16.9±2.4**, 6°.67S**×**150°.39E, h62**km±22km**, mb2.7**/2**, mbtmp3.1**/3**, ML1.0**/1**, Error ellipse: s-maj=113.4km s-min=9.8km az=132.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.86**	**35**	P	Pn	12 24 01.5	+1.4
	50nm,0.3s,baz=5.4,slow=0.6,SNR=1.5						
KRVT				S	Sn	12 24 33.5	+0.1
	97nm,0.4s,baz=97,slow=0.5,SNR=2.0						
PMG	**Port Moresby**	**4.20**	**229**	P	Pn	12 24 18.7	+0.3
	0.6nm,0.3s,baz=50,slow=7.9,SNR=2.6						
PMG				S	Sn	12 25 06.9	+0.7
	18nm,0.5s,baz=332,slow=21,SNR=11						
	4.9nm,0.5s						
WRA	**Warramunga Arr**	**20.42**	**228**	P	P	12 27 48.3	-0.8
	0.4nm,0.8s,baz=54,slow=11,SNR=6.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**23.16**	**221**	P	P	12 28 17.9	-0.4
	0.3nm,0.4s,baz=56,slow=8.8,SNR=7.1						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.52**	**284**	PKPbc	PKPbc	12 42 58.0	+0.2
	0.3nm,0.6s,baz=61,slow=2.7,SNR=2.4						

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*IDC **02** 12:35:37.6±6.1, 17°.97S×178°.14W, h641km±71km, mb2.9/6, mbtmp3.9/7, Error ellipse: s-maj=92.1km s-min=30.8km az=145.0*

ISC 02 12:35:33.5±1.6**, 17°.9S**±0°.6×**178°.0W**±0°.4**, h590**km**, n7, σ1s.25**/9**, mb3.6**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.18**	**251**	P	**P**	**12 38 45.6**	**+1.8**
	2.0nm,0.5s,baz=93,slow=19,SNR=5.8						
STKA	**Stephens Creek**	**38.96**	**241**	P	**P**	**12 42 09.6**	**-0.7**
	1.3nm,0.5s,baz=58,slow=4.3,SNR=4.2						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**44.99**	**259**	P	**P**	**12 42 58.0**	**+0.2**
	2.3nm,0.4s,baz=98,slow=6.8,SNR=93						
WRA				PcP	**PcP**	**12 44 24.9**	**-1.2**
	0.3nm,1.0s,baz=90,slow=3.6,SNR=1.5						
	2.3nm,0.4s						
ASAR	**Alice Springs**	**45.15**	**254**	P	**P**	**12 42 58.9**	**0.0**
	3.9nm,0.7s,baz=87,slow=8.3,SNR=42						
ASAR				PcP	**PcP**	**12 44 25.4**	**-1.2**
	0.1nm,0.4s,baz=106,slow=3.9,SNR=1.3						
	3.9nm,0.7s						
TXAR	**Lajitas Array**	**85.67**	**57**	P	**P**	**12 47 12.5**	**+1.2**
	0.2nm,0.7s,baz=219,slow=5.6,SNR=2.0						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**12 47 11.1**	**+0.3**
	0.3nm,0.8s,baz=225,slow=5.6,SNR=5.3						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**94.15**	**25**	P	**P**	**12 47 48.5**	**-1.1**
	0.2nm,0.8s,baz=261,slow=5.7,SNR=3.8						
	0.2nm,0.8s						

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*NNC **02** 12:41:11.8±18.0, 43°.49N×76°.99E, h0km, mpv2.5, Error ellipse: s-maj=131.4km s-min=123.8km az=137.0*

SOME 02 12:41:10.4, 43°.15N×**81°.92E, h0**km**, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.78**	**277**	Pg	Pg	12 41 45.6	+1.0
PDGK				Lg	Lg	12 42 11.2	
DJR	**Jarkent**	**1.94**	**308**	Pg	Pg	12 41 48.0	+0.4
DJR				Lg	Lg	12 42 15.1	
DJR	**Jarkent**	**1.94**	**308**	*e*P	Pg	12 41 48.0	+0.4
	0.6nm,0.1s						
DJR				*e*S	Sg	12 42 15.1	+2.3
	1.5nm,0.2s						
UZB	**Uzynbulak**	**2.12**	**271**	*e*P	Pg	12 41 50.6	-0.4
	1.6nm,0.1s						
UZB				*e*S	Sg	12 42 19.6	+1.1
	2.3nm,0.2s						
KNOS	**Konyrlen**	**2.32**	**302**	P	Pn	12 41 45.3	-4.7
	1.1nm,0.2s						
KNOS				S	Sn	12 42 11.0	-8.4
	2.2nm,0.2s						

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*GII **02** 12:49:34.8±0.7, 33°.643N±0°.004×29°.546E±0°.001, h80km, Mws2.6, confirmed*
*ISK **02** 12:49:38.5, 33°.88N×29°.61E, h131km±2km, ML3.0/17*
*AFAD **02** 12:49:40.6±0.0, 34°.22N×29°.34E, h6km±3km, MW3.4*
*NIC **02** 12:49:42.3, 34°.27N×29°.74E, h15km±31km, Ml2.7/4*

ISC 02 12:49:34.3±2.0**, 33°.70N**±0°.05×**29°.61E**±0°.04**, h16**km±14km**, n56, σ2s.21**/75**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSC1	**CSNet OBS 1**	**1.41**	**98**	AML	AML	12 50 44.8	
	0.5nm,0.1s						
OSC1				AML	AML	12 50 44.8	
	0.3nm,0.1s						
KSL	**Kastellorizon**	**2.45**	**360**	P	**Pb**	**12 50 16.1**	**-1.8**
KSL				S	**Sn**	**12 50 36.9**	**-6.2**
AKMS	**Akamas**	**2.61**	**59**	P	**Pb**	**12 50 18.8**	**-1.9**
AKMS				S	**Sn**	**12 50 48.3**	**+1.1**
AKMS				AML	AML	12 50 54.9	
	0.1nm,0.3s						
AKMS				AML	AML	12 50 55.4	
	0.1nm,0.3s						
KARP	**Karpathos**	**2.73**	**313**	Pn	**Pb**	**12 50 20.9**	**-1.9**
KARP				Sn	**Sn**	**12 50 52.1**	**+1.8**
KARP	**Karpathos**	**2.73**	**313**	P	**Pb**	**12 50 21.0**	**-1.9**
KARP				S	**Sn**	**12 50 53.2**	**+2.9**
IZZE	**Mula-Seydike**	**2.75**	**354**	P	**Pb**	**12 50 20.2**	**-2.9**
IZZE				S	**Sn**	**12 50 47.4**	**-3.2**
ARG	**Arkhangelos**	**2.79**	**335**	Pn	**Pn**	**12 50 20.9**	**+2.6**
ARG				Sn	**Sn**	**12 50 52.2**	**+0.6**
ARG	**Arkhangelos**	**2.79**	**335**	P	**Pn**	**12 50 20.9**	**+2.6**
ALFC	**Alefka**	**2.87**	**59**	P	**Pn**	**12 50 21.9**	**+2.5**
ALFC				S	**Sn**	**12 50 54.4**	**+0.8**
ALFC				AML	AML	12 50 56.0	
	0.1nm,0.2s						
ALFC				AML	AML	12 50 56.1	
	0.1nm,0.1s						
FETY	**Fethiye**	**2.96**	**352**	Pn	**Pn**	**12 50 22.9**	**+2.2**
FETY				Sn	**Sn**	**12 50 55.6**	**-0.3**
FETY	**Fethiye**	**2.96**	**352**	P	**Pb**	**12 50 23.5**	**-3.2**
FETY				S	**Sn**	**12 50 55.5**	**-0.3**
KNIK	**Mula-Seydike**	**3.14**	**359**	P	**Pb**	**12 50 26.4**	**-3.4**
KNIK				S	**Sn**	**12 51 00.2**	**-0.2**
ASGA	**Asgata**	**3.21**	**69**	P	**Pb**	**12 50 27.8**	**-3.0**
ASGA				S	**Sn**	**12 51 04.0**	**+2.1**
ASGA				AML	AML	12 51 05.5	
	0.1nm,0.2s						
ASGA				AML	AML	12 51 05.5	
	0.1nm,0.4s						
DALY	**Dalyan (Mula)**	**3.21**	**346**	Pn	**Pn**	**12 50 26.4**	**+2.4**
DALY				Sn	**Sn**	**12 51 01.3**	**-0.6**
CAME	**Cameli-Denizli**	**3.25**	**356**	Pn	**Pn**	**12 50 26.8**	**+2.1**
TURN	**Turunc**	**3.27**	**340**	Pn	**Pn**	**12 50 27.3**	**+2.5**
TURN	**Turunc**	**3.27**	**340**	P	**Pn**	**12 50 27.8**	**+3.0**
TURN				S	**Sn**	**12 51 03.0**	**-0.4**
CSS	**Mathiatis**	**3.33**	**67**	Pn	**Pn**	**12 50 29.2**	**+3.5**
CSS	**Mathiatis**	**3.33**	**67**	P	**Pn**	**12 50 27.7**	**+2.0**
CSS				S	**Sn**	**12 51 07.8**	**+2.8**
CSS	**Mathiatis**	**3.33**	**67**	S	**Sn**	**12 51 05.4**	**+0.4**
GAZI	**Gazipasa**	**3.37**	**41**	Pn	**Pn**	**12 50 28.9**	**+2.6**
CAEL	**Denizli, Camel**	**3.43**	**356**	P	**Pn**	**12 50 29.4**	**+2.3**
CAEL				S	**Sn**	**12 51 07.4**	**-0.1**
DAT	**Datca**	**3.45**	**332**	Pn	**Pn**	**12 50 29.7**	**+2.2**
DAT	**Datca**	**3.45**	**332**	P	**Pn**	**12 50 29.7**	**+2.2**
DAT				S	**Sn**	**12 51 06.9**	**-1.2**
GOLH	**Golhisar**	**3.53**	**359**	P	**Pn**	**12 50 31.9**	**+3.3**
GOLH				S	**Sn**	**12 51 11.1**	**+1.0**
KEPZ	**Antalya-Kepez**	**3.59**	**26**	P	**Pg**	**12 50 44.0**	**+0.9**
KEPZ				S	**Sn**	**12 51 11.6**	**+0.2**
YER	**Yerkesik**	**3.60**	**343**	Pn	**Pn**	**12 50 31.5**	**+2.1**
APMY	**Acipayam-Deniz**	**3.77**	**356**	Pn	**Pn**	**12 50 33.7**	**+1.8**
TAVA	**DENIZLI_Tavas**	**3.80**	**352**	P	**Pn**	**12 50 35.5**	**+3.1**
TAVA				S	**Sn**	**12 51 14.6**	**-2.1**
BODT	**Bodrum**	**3.85**	**331**	Pn	**Pn**	**12 50 34.9**	**+2.1**
DNIZ	**Denizli-Tavas-**	**3.95**	**353**	P	**Pn**	**12 50 37.4**	**+3.1**
DNIZ				S	**Sn**	**12 51 19.4**	**-0.9**
BERE	**Bereket-Mersin**	**3.97**	**47**	Pn	**Pn**	**12 50 37.1**	**+2.4**
TISA	**Tisan-Mersin**	**4.15**	**53**	Pn	**Pn**	**12 50 39.7**	**+2.7**
TEVE	**Tevekalti-Mers**	**4.17**	**48**	Pn	**Pn**	**12 50 39.7**	**+2.4**
IKL	**Isikli**	**4.20**	**52**	Pn	**Pn**	**12 50 40.3**	**+2.7**
KEBE	**Keben-Mersin**	**4.34**	**50**	Pn	**Pn**	**12 50 42.1**	**+2.4**
OFRI	**`Ofer**	**4.64**	**102**	S	**Sn**	**12 51 36.2**	**-1.0**
APE	**Apeiranthos**	**4.73**	**316**	P	**Pn**	**12 50 46.7**	**+1.7**
APE	**Apeiranthos**	**4.73**	**316**	S	**Sn**	**12 51 37.0**	**-2.6**
SLTI	**Sal'it**	**4.79**	**106**	S	**Sn**	**12 51 40.7**	**-0.3**
MMA0B	**Mount Meron ar**	**4.90**	**96**	S	**Sn**	**12 51 42.7**	**-1.0**
KZIT	**Kziot**	**4.92**	**123**	S	**Sn**	**12 51 43.0**	**-1.1**
SALP	**Salfit**	**4.97**	**108**	S	**Sn**	**12 51 45.0**	**-0.4**
AMAZ	**Amatzia**	**4.97**	**114**	S	**Sn**	**12 51 44.1**	**-1.3**
MMLI	**Mount Malkishu**	**5.04**	**103**	S	**Sn**	**12 51 45.9**	**-1.2**
YTIR	**Yattir**	**5.20**	**115**	S	**Sn**	**12 51 50.5**	**-0.8**
UJAP	**Al Uja**	**5.23**	**108**	S	**Sn**	**12 51 50.4**	**-1.3**
DSI	**Dead Sea**	**5.31**	**112**	S	**Sn**	**12 51 52.9**	**-0.9**
MDBI	**Mazsada**	**5.41**	**115**	S	**Sn**	**12 51 54.6**	**-1.5**
MSBI	**Mazada**	**5.41**	**115**	S	**Sn**	**12 51 55.1**	**-1.0**
KRMI	**Paran Flat**	**5.63**	**128**	S	**Sn**	**12 51 59.4**	**-2.3**
PRNI	**Paran**	**5.67**	**125**	S	**Sn**	**12 52 00.3**	**-2.3**
ZFRI	**Zfri**	**5.67**	**122**	S	**Sn**	**12 52 00.3**	**-2.3**
HRFI	**Mount Harif**	**5.89**	**127**	S	**Sn**	**12 52 06.3**	**-1.7**
MBRI	**Mt Berech**	**5.96**	**129**	S	**Sn**	**12 52 08.5**	**-1.4**
EIL	**Elat**	**6.07**	**130**	S	**Sn**	**12 52 10.8**	**-1.7**

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*MOS **02** 12:49:52.7±1.2, 43°.92N×147°.96E, h72km, mb4.8/33, Error ellipse: s-maj=7.9km s-min=5.7km az=93.3*
MOS Felt (III) at Malokuril'skoye.
*SKHL **02** 12:49:53.7±0.3, 43°.90N×148°.10E, h76km±3km, mb5.1/6*
*IDC **02** 12:49:54.0±2.4, 43°.96N×147°.95E, h64km±21km, mb3.9/25, mbtmp4.2/30, MS3.1/11, Error ellipse: s-maj=15.4km s-min=11.9km az=149.0*
*JMA **02** 12:49:54.1±0.3, 44°N±1°×14°8E±°, h19km, MV4.5/38, E OFF HOKKAIDO*
*NIED **02** 12:49:54.1, 43°.71N×147°.81E, h19km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.09; $M_{\theta\theta}$1.15; $M_{\phi\phi}$-1.24; $M_{r\theta}$2.74; $M_{\theta\phi}$-0.98; $M_{\phi r}$0.57; Fault plane solution: $M_0$3.16000×10^{15} NP1:ϕ_s71.00000°, δ90.00000°, λ119.00000°. NP2:ϕ_s161.00000°, δ29.00000°, λ0.00000°.*
*NEIC **02** 12:49:55.8±1.6, 44°.02N±0°.08×148°.0E±0°.1, h70km±8km, mb4.7/137 Error ellipse: s-maj=13.7km s-min=10.7km az=135.0*

ISC 02 12:49:53.8±0.5**, 43°.93N**±0°.05×**148°.00E**±0°.05**, h64**km±3km**, h64**km**:pP-P, n527, σ1s.44**/550**, mb4.6**/128**, 4C-2D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.85**	**266**	*e*PN	**Pn**	**12 50 09.4**	**-0.6**
SHO				*e*S	**Sn**	**12 50 21.6**	**-0.4**
SHO				smax	smax		
	comp=E,9μm,0.4s						
SHO				smax	smax		
	comp=N,25μm,0.5s						
SHO	**Shikotan**	**0.85**	**266**	*e*P	**Pn**	**12 50 09.7**	**-0.3**
SHO				AMB	AMB	12 50 10.8	
	comp=N,680nm,0.2s						
SHO				*e*S	**Sn**	**12 50 21.9**	**-0.1**
SHO				A	A	12 50 23.3	
	comp=N,28μm,0.6s						
SHO				A	A	12 50 23.3	
	comp=N,9μm,0.6s						
KUR	**Kuril'sk**	**1.31**	**356**	*d i*PN	**Pn**	**12 50 16.8**	**+0.8**
KUR				*i* S	**Sn**	**12 50 33.5**	**+0.9**
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=E,215nm,0.5s						
KUR				pmax	pmax		
	comp=N,441nm,0.3s						
KUR				smax	smax		
	comp=N,4μm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.2s						
KUR	**Kuril'sk**	**1.31**	**356**	*i* P	**Pn**	**12 50 16.8**	**+0.8**
KUR				AMB	AMB	12 50 22.9	
	comp=E,1μm,0.4s						
KUR				*i* S	**Sn**	**12 50 33.9**	**+1.3**
KUR				A	A	12 50 36.0	
	comp=E,4μm,0.3s						
KUR				A	A	12 50 36.0	
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.55**	**275**	*e*PN	**Pn**	**12 50 19.0**	**-0.2**
YUK				S	**Sn**	**12 50 38.7**	**+0.4**
YUK				smax	smax		
	comp=N,4μm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.55**	**275**	*e*P	**Pn**	**12 50 19.4**	**+0.2**
YUK				AMB	AMB	12 50 19.7	
	comp=E,540nm,0.2s						
YUK				*e*S	**Sn**	**12 50 38.0**	**-0.3**
YUK				A	A	12 50 40.9	
	comp=E,8μm,0.5s						
YUK				A	A	12 50 40.9	
	comp=E,9μm,0.5s						
NEM2	**Nemuro 2**	**1.73**	**252**	*e*P	**Pn**	**12 50 21.1**	**-0.6**
NEM2				*e*S	**Sn**	**12 50 40.8**	**-1.9**

NMR	**Nemuro--Hokkai**	**1.74**	**252**	*e*PN	**Pn**	**12 50 21.0**	**-0.7**
NMR				*e*S	**Sn**	**12 50 41.1**	**-1.9**
NMR	**Nemuro--Hokkai**	**1.74**	**252**	*e*P	**Pn**	**12 50 21.1**	**-0.7**
RUSJ	**Misakicho**	**1.99**	**276**	*e*PN	**Pn**	**12 50 26.4**	**+1.2**
RUSJ				*e*S	**Sn**	**12 50 50.7**	**+1.6**
JRA	**Rausu**	**2.08**	**271**	*e*P	**Pn**	**12 50 27.0**	**+0.6**
JRA	**Rausu**	**2.08**	**271**	A	A	12 50 27.0	
	comp=E,4.0nm,1.0s,comp=N,6.0nm,1.6s						
JNSB	**Nemuroshibetsu**	**2.17**	**267**	*e*P	**Pn**	**12 50 28.4**	**+0.7**
JKHN	**Kushirohamanak**	**2.23**	**249**	*e*P	**Pn**	**12 50 28.3**	**-0.2**
JKHN				*e*S	**Sn**	**12 50 53.4**	**-1.5**
JNK	**Nakash**	**2.40**	**263**	*i* P	**Pn**	**12 50 30.9**	**+0.1**
JNK				*e*S	**Sn**	**12 50 58.4**	**-0.7**
AKK	**Akkeshi**	**2.47**	**249**	*e*P	**Pn**	**12 50 31.2**	**-0.5**
JAK	**Akkeshi**	**2.58**	**250**	*e*P	**Pn**	**12 50 32.7**	**-0.4**
JAK				*e*S	**Sn**	**12 51 01.1**	**-2.3**
JTKR	**Abashiri--Toko**	**2.96**	**272**	P	**Pn**	**12 50 39.5**	**+1.2**
JAR	**Ashorobuto**	**3.14**	**260**	*e*P	**Pn**	**12 50 41.5**	**+0.8**
JAR				*e*S	**Sn**	**12 51 16.4**	**-0.6**
JOB	**Onbets**	**3.20**	**253**	*e*P	**Pn**	**12 50 41.9**	**+0.3**
JOB				*e*S	**Sn**	**12 51 17.4**	**-1.3**
JMP	**Maruseppu**	**3.35**	**273**	P	**Pn**	**12 50 45.2**	**+1.5**
JCH	**Churui**	**3.63**	**250**	*e*P	**Pn**	**12 50 47.4**	**-0.1**
JKK2	**Kamakawa 2**	**3.80**	**271**	*e*P	**Pn**	**12 50 51.8**	**+2.0**
JKA	**Kamikawa-asahi**	**3.90**	**275**		**Pn**	**12 50 53.4**	**+2.2**
JKA	**Kamikawa-asahi**	**3.90**	**275**	*e*P	**Pn**	**12 50 52.9**	**+1.7**
ASAJ	**Asahikawa**	**3.90**	**275**	*e*P	**Pn**	**12 50 53.2**	**+1.9**
ASAJ	**Asahikawa**	**3.90**	**275**	P	**Pn**	**12 50 52.9**	**+1.6**
	comp=N,9.7nm,0.5s,baz=81,slow=12,SNR=24						
ASAJ				S	**Sn**	**12 51 38.8**	**+3.0**
	comp=N,46nm,0.6s,baz=131,slow=15,SNR=3.7						
ASAJ				LR	LR	12 51 41.6	
	comp=N,48nm,19.5s,baz=121,slow=28						
JSE	**Soyaes**	**4.01**	**287**	*e*P	**Pn**	**12 50 54.5**	**+1.7**
ERM	**Erimo**	**4.04**	**243**	Pn	**Pn**	**12 50 54.6**	**+1.6**
ERM	**Erimo**	**4.04**	**243**	*i* PN	**Pn**	**12 50 54.4**	**+1.4**
JNBK	**Urakawa-nobuka**	**4.18**	**249**	*e*P	**Pn**	**12 50 55.0**	**0.0**
JSS	**Shosan**	**4.45**	**278**	*e*P	**Pn**	**12 51 01.8**	**+3.1**
JWK2	**Keihoku**	**4.57**	**290**	*e*P	**Pn**	**12 51 03.9**	**+3.5**
YSS	**Yuzh-Sakhalins**	**4.77**	**311**		**Pn**	**12 51 05.1**	**+2.0**
YSS	**Yuzh-Sakhalins**	**4.77**	**311**	*ce*PN	**Pn**	**12 51 04.5**	**+1.5**
YSS				pmax	pmax		
	comp=Z,35nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.77**	**311**	*e*P	**Pn**	**12 51 04.6**	**+1.5**
YSS				*e*S	**Sn**	**12 51 57.0**	**0.0**
JEW	**Eniwo**	**4.90**	**259**	*e*P	**Pn**	**12 51 06.9**	**+2.1**
JTM	**Tenmabayashi**	**6.02**	**241**	Pn	**Pn**	**12 51 20.4**	**+0.2**
UGL	**Uglegorsk**	**6.58**	**324**	*e*P	**Pn**	**12 51 29.6**	**+1.8**
TYV	**Tymovskoe**	**7.83**	**334**	*e*PN	**Pn**	**12 51 47.0**	**+2.2**
TYV				*e*S	**Sn**	**12 53 13.0**	**+1.1**
TYV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,200nm,2.9s						
TYV				smax	smax		
	comp=N,8.0nm,2.4s						
TYV				smax	smax		
	comp=E,13nm,2.4s						
TYV				smax	smax		
	comp=N,500nm,5.1s						
TYV				smax	smax		
	comp=E,300nm,5.1s						
TYV	**Tymovskoe**	**7.83**	**334**	*e*P	**Pn**	**12 51 46.4**	**+1.6**
TYV				*e*S	**Sn**	**12 53 11.8**	**-0.1**
JMM	**Marumori**	**8.15**	**224**	Pn	**Pn**	**12 51 46.9**	**-2.5**
SKR	**Severo-Kuril's**	**8.72**	**36**	*i* PN	**Pn**	**12 51 56.7**	**-0.3**
SKR	**Severo-Kuril's**	**8.72**	**36**	*e*P	**Pn**	**12 51 57.9**	**+0.9**
SKR				AMB	AMB	12 52 00.7	
	comp=E,50nm,0.5s						
PAU	**Pauzhetka**	**9.59**	**35**	*e*P	**Pn**	**12 52 09.8**	**+0.8**
PAU				AMB	AMB	12 52 11.6	
	comp=E,50nm,0.5s						
OKH	**Okha**	**10.19**	**343**	*e*P	**Pn**	**12 52 19.0**	**+1.9**
NKL	**Nikolayevsk**	**10.42**	**335**	*e*P	**Pn**	**12 52 21.2**	**+1.0**
MJB9	**Matsu-Tunnel**	**10.50**	**229**	Pn	**Pn**	**12 52 21.6**	**+0.1**
MAJO	**Matsushiro**	**10.50**	**229**	Pn	**Pn**	**12 52 20.4**	**-1.2**
MAJO	**Matsushiro**	**10.50**	**229**	PN	**Pn**	**12 52 20.4**	**-1.2**
MJAR	**Matsushiro Arr**	**10.50**	**229**	P	**Pn**	**12 52 20.4**	**-1.1**
	comp=E,1.0nm,0.6s,baz=27,slow=15,SNR=6.4						
MJAR				S	**Sn**	**12 54 22.3**	**+4.7**
	comp=E,1.4nm,0.5s,baz=294,slow=31,SNR=1.3						
MJAR				LR	LR	12 56 29.1	
	comp=E,67nm,18.9s,baz=36,slow=38						
PEA0B	**Petropavlovsk-**	**11.20**	**32**	Pn	**Pn**	**12 52 30.0**	**-1.0**
PEA0B	**Petropavlovsk-**	**11.20**	**32**	*i* PN	**Pn**	**12 52 30.0**	**-1.0**
PETK	**Petropavlovsk-**	**11.20**	**32**	Pn	**Pn**	**12 52 29.2**	**-1.8**
PETK	**Petropavlovsk-**	**11.20**	**32**	P	**Pn**	**12 52 30.5**	**-0.5**
	comp=E,3.3nm,0.6s,baz=202,slow=8.0,SNR=24						
PETK				LR	LR	12 56 26.2	
	comp=E,97nm,21.7s,baz=258,slow=35						
PET	**Petropavlovsk**	**11.51**	**34**		**Pn**	**12 52 34.1**	**-1.0**
JSG	**Sagara**	**11.96**	**223**	Pn	**Pn**	**12 52 42.0**	**+0.6**
KLR	**Kul'dur**	**12.37**	**301**	P	**Pn**	**12 52 50.0**	**+3.2**
	comp=E,1.0nm,0.7s,baz=137,slow=19,SNR=1.4						
KLR				LR	LR	12 58 02.0	
	comp=E,60nm,18.6s,baz=100,slow=40						
MA2	**Magadan**	**15.76**	**5**	Pn	**Pn**	**12 53 32.2**	**+0.6**
MA2	**Magadan**	**15.76**	**5**	P	**Pn**	**12 53 32.2**	**+0.6**
MA2				pmax	pmax		
	comp=Z,18nm,0.8s						
MA2	**Magadan**	**15.76**	**5**	P	**Pn**	**12 53 30.9**	**-0.7**
	comp=Z,16nm,0.7s,baz=180,slow=7.8,SNR=17						
MA2				LR	LR	12 59 01.0	
	comp=Z,54nm,19.0s,baz=184,slow=35						
MA2	**Magadan**	**15.76**	**5**	*e*P	**Pn**	**12 53 30.4**	**-1.2**
JCJ	**Chichijima**	**17.44**	**198**	P	**P**	**12 53 53.5**	**+0.4**
SEY	**Seymchan**	**19.21**	**6**	P	**P**	**12 54 11.5**	**-0.7**
	comp=Z,4.2nm,0.5s,baz=181,slow=9.8,SNR=29						
YAK	**Yakutsk**	**21.08**	**336**	P	**P**	**12 54 29.2**	**-3.3**
YAK	**Yakutsk**	**21.08**	**336**	*e*P	**P**	**12 54 29.2**	**-3.3**
YAK				*e*S	**S**	**12 58 17.3**	**-6.0**
YAK				*e**SS	Sn	12 58 38.6	+5.5
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				smax	smax		
	comp=N,107nm,3.6s						
YAK				smax	smax		
	comp=E,110nm,3.5s						
YAK	**Yakutsk**	**21.08**	**336**	P	**P**	**12 54 29.1**	**-3.4**
	comp=E,3.1nm,0.8s,baz=130,slow=1.9,SNR=24						
AMKA	**Amchitka**	**22.23**	**59**	P	**P**	**12 54 44.4**	**-0.5**
BILL	**Bilibino**	**26.02**	**16**	P	**P**	**12 55 20.0**	**-0.5**
BILL	**Bilibino**	**26.02**	**16**	*i* P	**P**	**12 55 19.8**	**-0.7**
BILL				pmax	pmax		
	comp=Z,25nm,3.5s						
BTO	**Baotou**	**28.14**	**277**	*e*P	**P**	**12 55 41.9**	**+2.0**
BTO				pP	**pP**	**12 55 56.4**	**+1.1**
BTO				sP	**sP**	**12 56 01.9**	**-0.8**
BTO				PP	**PnPn**	**12 56 34.7**	**+4.1**
BTO				S	**S**	**13 00 26.0**	**+5.5**
BTO				SS	**SnSn**	**13 01 47.0**	**+5.3**
BTO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,480nm,4.5s						
BTO				LR	LR		
	comp=N,310nm,5.2s						
BTO				LR	LR		
	comp=E,250nm,5.5s						
BTO				LR	LR		
	comp=Z,170nm,8.6s						
ULN	**Ulaanbaatar**	**28.53**	**292**	P	**P**	**12 55 43.1**	**-0.2**
ULN	**Ulaanbaatar**	**28.53**	**292**	P	**P**	**12 55 43.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**28.53**	**292**	*e*P	**P**	**12 55 43.6**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.84**	**141**	T	T	13 26 34.2	
	baz=332,slow=76,SNR=144						
H11N1	**WAKE ISLAND Hy**	**28.85**	**141**	T	T	13 26 36.3	
	baz=332,slow=76,SNR=156						
H11N3	**WAKE ISLAND Hy**	**28.86**	**141**	T	T	13 26 37.4	
	baz=332,slow=76,SNR=140						
SONM	**Songino Array**	**28.97**	**293**	P	**P**	**12 55 47.7**	**+0.5**
SONM	**Songino Array**	**28.97**	**293**	P	**P**	**12 55 47.7**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=82,slow=8.3,SNR=20						
SONM				LR	LR	13 08 25.8	
	comp=Z,42nm,18.7s,baz=354,slow=38						
	comp=Z,2.9nm,0.6s						
TIXI	**Tiksi**	**29.31**	**348**	P	**P**	**12 55 47.5**	**-2.3**
TIXI	**Tiksi**	**29.31**	**348**	*i* P	**P**	**12 55 46.6**	**-3.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,3.3s						
NIKH	**Nikolski High**	**29.61**	**57**	P	**P**	**12 55 54.4**	**+1.7**
	baz=270						
H11S1	**WAKE ISLAND Hy**	**29.82**	**142**	T	T	13 27 46.3	
	baz=332,slow=76,SNR=460						
H11S3	**WAKE ISLAND Hy**	**29.83**	**142**	T	T	13 27 43.4	
	baz=332,slow=76,SNR=266						
H11S2	**WAKE ISLAND Hy**	**29.84**	**142**	T	T	13 27 47.3	
	baz=332,slow=76,SNR=322						
TNA	**Tin City**	**32.37**	**33**	P	**P**	**12 56 17.9**	**+1.2**
	baz=250						
F14K	**Arctic Creek**	**32.97**	**33**	P	**P**	**12 56 22.7**	**+0.6**
	baz=252						
ANM	**Nome**	**33.09**	**35**	P	**P**	**12 56 22.9**	**-0.2**
ANM				IAmb	IAmb	12 56 50.6	
	comp=Z,19nm,1.3s						
ANM	**Nome**	**33.09**	**35**	P	**P**	**12 56 24.0**	**+0.9**
	baz=254						
ANM	**Nome**	**33.09**	**35**	P	**P**	**12 56 22.9**	**-0.2**
ANM				pmax	pmax		
	comp=Z,19nm,1.3s						
M13K	**Dall Lake**	**33.17**	**43**	P	**P**	**12 56 19.7**	**-4.0**
J14K	**Nanvaranak Lak**	**33.45**	**39**	P	**P**	**12 56 25.8**	**-0.4**
J14K				IAmb	IAmb	12 56 32.3	
	comp=Z,20nm,1.4s						
J14K	**Nanvaranak Lak**	**33.45**	**39**	P	**P**	**12 56 26.5**	**+0.3**
	baz=259						
L14K	**Kuka Creek**	**33.62**	**41**	P	**P**	**12 56 28.1**	**+0.5**
L14K				IAmb	IAmb	12 56 49.7	
	comp=Z,14nm,1.2s						
L14K	**Kuka Creek**	**33.62**	**41**	P	**P**	**12 56 28.2**	**+0.5**
	baz=262						
F15K	**North Star Dit**	**33.70**	**33**	P	**P**	**12 56 29.6**	**+1.1**
F15K				IAmb	IAmb	12 56 52.5	
	comp=Z,14nm,1.4s						
G15K	**Niukluk**	**33.75**	**35**	P	**P**	**12 56 29.3**	**+0.4**
	baz=255						
M14K	**Bethel**	**33.89**	**42**	P	**P**	**12 56 30.9**	**+0.8**
M14K				IAmb	IAmb	12 56 32.7	
	comp=Z,11nm,0.8s						
M14K	**Bethel**	**33.89**	**42**	P	**P**	**12 56 30.5**	**+0.4**
	baz=264						
N14K	**Kuskokwak Cree**	**33.94**	**44**	P	**P**	**12 56 31.5**	**+1.0**
	baz=265						
O14K	**Tigyukauivet M**	**34.10**	**45**	P	**P**	**12 56 32.9**	**+1.0**
	baz=266						
L15K	**Ungalak Mounta**	**34.23**	**41**	P	**P**	**12 56 34.1**	**+1.0**
	baz=263						
C16K	**Lisburne Hills**	**34.28**	**29**	P	**P**	**12 56 32.3**	**-1.1**
C16K	**Lisburne Hills**	**34.28**	**29**	P	**P**	**12 56 33.4**	**+0.1**
	baz=249						
H16K	**Elim**	**34.42**	**36**	P	**P**	**12 56 35.2**	**+0.6**
	baz=258						
SDPT	**Sand Point**	**34.49**	**52**	P	**P**	**12 56 34.9**	**-0.4**
M15K	**Kasigluk River**	**34.50**	**43**	P	**P**	**12 56 36.6**	**+1.1**
	baz=265						
G16K	**Koyuk River**	**34.54**	**34**	P	**P**	**12 56 35.5**	**-0.2**
G16K				IAmb	IAmb	12 57 03.1	
	comp=Z,12nm,1.2s						
N15K	**Kwethluk River**	**34.76**	**44**	P	**P**	**12 56 38.5**	**+0.9**
N15K				IAmb	IAmb	12 56 42.0	
	comp=Z,10nm,0.9s						
N15K	**Kwethluk River**	**34.76**	**44**	P	**P**	**12 56 39.6**	**+1.9**
	baz=266						
O15K	**Ungalikthiuk R**	**34.84**	**45**	P	**P**	**12 56 40.0**	**+1.7**
	baz=268						
J16K	**Anvik River**	**34.87**	**38**	P	**P**	**12 56 40.6**	**+2.0**
J16K				IAmb	IAmb	12 56 43.9	
	comp=Z,11nm,1.4s						
RDOG	**Red Dog Mine**	**35.07**	**30**	P	**P**	**12 56 41.1**	**+0.9**
	baz=252						
C17K	**DeLong Mountai**	**35.10**	**29**	P	**P**	**12 56 41.8**	**+1.2**
	baz=251,SNR=5.7						
E17K	**Hotham Inlet**	**35.18**	**31**	P	**P**	**12 56 42.6**	**+1.4**
	baz=255						
L16K	**Owhat River**	**35.19**	**41**	P	**P**	**12 56 42.0**	**+0.7**
L16K				IAmb	IAmb	12 56 43.3	
	comp=Z,6.0nm,0.9s						
L16K	**Owhat River**	**35.19**	**41**	P	**P**	**12 56 43.0**	**+1.7**
	baz=265						
F17K	**Baldwin Pennin**	**35.24**	**33**	P	**P**	**12 56 42.9**	**+1.3**
F17K	**Baldwin Pennin**	**35.24**	**33**	P	**P**	**12 56 43.4**	**+1.7**
	baz=256						
G17K	**Kiwalik Mounta**	**35.26**	**34**	P	**P**	**12 56 43.8**	**+1.9**
	baz=258,SNR=8.3						
HKPS	**Hong Kong Po S**	**35.28**	**243**	P	**P**	**12 56 42.1**	**-0.4**
M16K	**Timber Creek**	**35.38**	**42**	P	**P**	**12 56 43.9**	**+1.0**
M16K				IAmb	IAmb	12 56 49.8	
	comp=Z,11nm,1.3s						
M16K	**Timber Creek**	**35.38**	**42**	P	**P**	**12 56 44.6**	**+1.7**
	baz=266						
N16K	**Nishlik Lake**	**35.43**	**43**	P	**P**	**12 56 45.0**	**+1.5**
	baz=267						
E18K	**Tukpahlearik C**	**35.73**	**31**	P	**P**	**12 56 47.2**	**+1.3**
E18K	**Tukpahlearik C**	**35.73**	**31**	P	**P**	**12 56 46.9**	**+1.0**
	baz=256						
O16K	**Kokwok River B**	**35.73**	**45**	P	**P**	**12 56 47.9**	**+1.9**
	baz=269						
L17K	**Donlin**	**35.78**	**40**	P	**P**	**12 56 48.0**	**+1.6**
	baz=265						
K17K	**Iditarod**	**35.84**	**39**	P	**P**	**12 56 47.5**	**+0.7**
K17K				IAmb	IAmb	12 56 53.4	
	comp=Z,17nm,1.3s						
K17K	**Iditarod**	**35.84**	**39**	P	**P**	**12 56 49.2**	**+2.3**
	baz=264						
C18K	**Utukok River**	**35.85**	**29**	P	**P**	**12 56 47.6**	**+0.6**
C18K				IAmb	IAmb	12 56 49.8	
	comp=Z,8.0nm,0.8s						
C18K	**Utukok River**	**35.85**	**29**	P	**P**	**12 56 48.1**	**+1.1**
	baz=253						
B18K	**Kokolik River**	**35.86**	**28**	P	**P**	**12 56 47.7**	**+0.7**
	baz=252						
R16K	**Pilot Point**	**36.01**	**48**	P	**P**	**12 56 48.4**	**+0.1**
	baz=272						
M17K	**Holitna River**	**36.13**	**42**	P	**P**	**12 56 51.2**	**+1.8**
M17K	**Holitna River**	**36.13**	**42**	P	**P**	**12 56 51.6**	**+2.2**
	baz=267						
H18K	**Honhosa River**	**36.14**	**35**	P	**P**	**12 56 48.6**	**-0.8**
H18K	**Honhosa River**	**36.14**	**35**	P	**P**	**12 56 50.8**	**+1.4**
	baz=261						
G18K	**Tagagawik**	**36.15**	**34**	P	**P**	**12 56 50.9**	**+1.4**
G18K	**Tagagawik**	**36.15**	**34**	P	**P**	**12 56 51.1**	**+1.6**
	baz=260,SNR=10.0						
N17K	**Nushagak Hills**	**36.22**	**43**	P	**P**	**12 56 50.9**	**+0.7**
N17K	**Nushagak Hills**	**36.22**	**43**	P	**P**	**12 56 51.2**	**+1.1**
	baz=268						
O17K	**Koliganek Bris**	**36.24**	**44**	P	**P**	**12 56 51.3**	**+1.0**
	baz=269						
A19K	**Wainwright**	**36.38**	**26**	P	**P**	**12 56 52.3**	**+1.0**
	baz=251						
C19K	**Lookout Ridge**	**36.54**	**29**	P	**P**	**12 56 53.4**	**+0.5**
C19K				IAmb	IAmb	12 56 55.6	
	comp=Z,8.4nm,0.9s						
C19K	**Lookout Ridge**	**36.54**	**29**	P	**P**	**12 56 53.9**	**+1.0**
	baz=254						
L18K	**Granite Mounta**	**36.54**	**40**	P	**P**	**12 56 53.8**	**+1.0**
L18K				IAmb	IAmb	12 56 56.0	
	comp=Z,9.2nm,1.0s						
L18K	**Granite Mounta**	**36.54**	**40**	P	**P**	**12 56 54.0**	**+1.1**
	baz=266						
P17K	**Kvichak River**	**36.58**	**45**	P	**P**	**12 56 54.5**	**+1.3**
	baz=271						
J18K	**Innoko River**	**36.63**	**38**	P	**P**	**12 56 54.3**	**+0.6**
J18K				IAmb	IAmb	12 57 08.7	
	comp=Z,13nm,1.4s						
J18K	**Innoko River**	**36.63**	**38**	P	**P**	**12 56 54.6**	**+1.0**
	baz=265						
F19K	**Shaleruckik Mo**	**36.67**	**33**	P	**P**	**12 56 54.7**	**+0.7**
F19K	**Shaleruckik Mo**	**36.67**	**33**	P	**P**	**12 56 54.9**	**+0.9**
	baz=259						
GCSA	**Galena City Sc**	**36.70**	**36**	P	**P**	**12 56 55.1**	**+0.9**
	baz=263						
G19K	**Purcell Mounta**	**36.82**	**34**	P	**P**	**12 56 56.3**	**+1.1**
G19K				IAmb	IAmb	12 56 57.1	
	comp=Z,8.0nm,0.8s						
G19K	**Purcell Mounta**	**36.82**	**34**	P	**P**	**12 56 56.5**	**+1.3**
	baz=261						
N18K	**Kilae Creek**	**36.86**	**43**	P	**P**	**12 56 55.7**	**0.0**
N18K	**Kilae Creek**	**36.86**	**43**	P	**P**	**12 56 57.0**	**+1.3**
	baz=269						
D19K	**Kuna River**	**36.90**	**30**	P	**P**	**12 56 56.5**	**+0.7**
D19K				IAmb	IAmb	12 57 01.9	
	comp=Z,10nm,0.9s						
D19K	**Kuna River**	**36.90**	**30**	P	**P**	**12 56 56.6**	**+0.7**
	baz=257						
TTA	**Tatalina**	**36.90**	**39**	P	**P**	**12 56 58.0**	**+2.0**
TTA	**Tatalina**	**36.90**	**39**	P	**P**	**12 56 58.0**	**+2.0**
	baz=266						
TTA	**Tatalina**	**36.90**	**39**	P	**P**	**12 56 58.0**	**+2.0**
TTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
M18K	**Stony River**	**36.91**	**42**	P	**P**	**12 56 57.7**	**+1.7**
	baz=268						
H19K	**Roundabout Mou**	**36.99**	**35**	P	**P**	**12 56 58.1**	**+1.5**
H19K	**Roundabout Mou**	**36.99**	**35**	P	**P**	**12 56 58.4**	**+1.9**
	baz=262						
E19K	**Redstone River**	**37.00**	**32**	P	**P**	**12 56 58.4**	**+1.6**
E19K	**Redstone River**	**37.00**	**32**	P	**P**	**12 56 57.9**	**+1.1**
	baz=259						
SVW2	**Sparrevohn**	**37.02**	**42**	P	**P**	**12 56 57.5**	**+0.5**
J19K	**Poorman**	**37.16**	**37**	P	**P**	**12 56 58.9**	**+0.8**
J19K				IAmb	IAmb	12 57 08.3	
	comp=Z,15nm,1.4s						
J19K	**Poorman**	**37.16**	**37**	P	**P**	**12 56 59.1**	**+1.0**
	baz=265						
Q18K	**Katmai Hardscr**	**37.33**	**46**	P	**P**	**12 57 00.9**	**+1.2**
	baz=273						
L19K	**White Mountain**	**37.40**	**40**	P	**P**	**12 57 01.0**	**+0.8**
L19K	**White Mountain**	**37.40**	**40**	P	**P**	**12 57 01.7**	**+1.5**
	baz=268						
D20K	**Etivluk River**	**37.49**	**30**	P	**P**	**12 57 01.6**	**+0.8**
	baz=258,SNR=9.4						
F20K	**Avaraart Lake**	**37.51**	**32**	P	**P**	**12 57 02.0**	**+1.0**
F20K				IAmb	IAmb	12 57 03.0	
	comp=Z,8.0nm,1.2s						
F20K	**Avaraart Lake**	**37.51**	**32**	P	**P**	**12 57 02.1**	**+1.2**
	baz=261						
E20K	**Nigu River**	**37.55**	**30**	P	**P**	**12 57 02.9**	**+1.5**
	baz=259						
B20K	**Meade River**	**37.60**	**27**	P	**P**	**12 57 02.7**	**+1.0**
B20K	**Meade River**	**37.60**	**27**	P	**P**	**12 57 02.4**	**+0.7**
	baz=256						
H20K	**Anotleneega Mo**	**37.63**	**35**	P	**P**	**12 57 03.5**	**+1.4**
	baz=264						
K20K	**Telida**	**37.81**	**39**	P	**P**	**12 57 05.9**	**+2.3**
	baz=267						
J20K	**Nowinta River**	**37.83**	**37**	P	**P**	**12 57 05.2**	**+1.5**
J20K				IAmb	IAmb	12 57 14.1	
	comp=Z,6.8nm,1.1s						
J20K	**Nowinta River**	**37.83**	**37**	P	**P**	**12 57 04.9**	**+1.2**
	baz=266						
Q19K	**Cape Douglas,**	**38.03**	**46**	P	**P**	**12 57 08.1**	**+2.5**
	baz=274						
IMAR	**Indian Mountai**	**38.15**	**34**	P	**P**	**12 57 08.1**	**+1.6**
C21K	**Knifeblade Rid**	**38.23**	**29**	P	**P**	**12 57 08.3**	**+1.3**
	baz=259						
G21K	**Allakaket**	**38.31**	**33**	P	**P**	**12 57 09.8**	**+2.0**
G21K	**Allakaket**	**38.31**	**33**	P	**P**	**12 57 09.7**	**+2.0**
	baz=264						
B21K	**Ikpikpuk River**	**38.38**	**28**	P	**P**	**12 57 09.3**	**+1.0**
B21K	**Ikpikpuk River**	**38.38**	**28**	P	**P**	**12 57 09.5**	**+1.2**
	baz=259						
F21K	**Alatna River**	**38.40**	**32**	P	**P**	**12 57 08.4**	**-0.1**
F21K				IAmb	IAmb	12 57 11.2	
	comp=Z,7.8nm,0.8s						
F21K	**Alatna River**	**38.40**	**32**	P	**P**	**12 57 10.3**	**+1.8**
	baz=263						
H21K	**Melozitna Rive**	**38.51**	**35**	P	**P**	**12 57 10.5**	**+1.0**
H21K				IAmb	IAmb	12 57 12.0	
	comp=Z,9.6nm,0.9s						
H21K	**Melozitna Rive**	**38.51**	**35**	P	**P**	**12 57 11.3**	**+1.8**
	baz=266						
A22K	**Sinclair Lake**	**38.56**	**26**	P	**P**	**12 57 10.1**	**+0.4**
	baz=257						
CHUM	**Lake Minchumin**	**38.62**	**38**	P	**P**	**12 57 12.0**	**+1.6**
	baz=268						
N20K	**Mount Spurr**	**38.66**	**42**	P	**P**	**12 57 12.6**	**+1.8**
	baz=272						
CAST	**Castle Rocks**	**38.70**	**38**	P	**P**	**12 57 11.4**	**+0.2**
CAST				IAmb	IAmb	12 57 13.8	
	comp=Z,7.3nm,0.9s						
CAST	**Castle Rocks**	**38.70**	**38**	P	**P**	**12 57 13.2**	**+2.0**
	baz=269						
B22K	**Teshekpuk Lake**	**38.92**	**27**	P	**P**	**12 57 13.2**	**+0.5**
B22K	**Teshekpuk Lake**	**38.92**	**27**	P	**P**	**12 57 13.5**	**+0.7**
	baz=259						
D22K	**Ayikyak River**	**38.92**	**30**	P	**P**	**12 57 14.1**	**+1.2**
D22K				IAmb	IAmb	12 57 15.5	
	comp=Z,6.1nm,0.8s						
D22K	**Ayikyak River**	**38.92**	**30**	P	**P**	**12 57 14.2**	**+1.2**
	baz=262						
HOM	**Homer**	**39.01**	**45**	P	**P**	**12 57 15.1**	**+1.4**
	baz=274						
H22K	**Ishtalitna Cre**	**39.11**	**35**	P	**P**	**12 57 16.1**	**+1.6**
	baz=267						
G22K	**Bettles**	**39.14**	**33**	P	**P**	**12 57 15.7**	**+1.0**
	baz=265						
E22K	**Anaktuvuk Pass**	**39.14**	**31**	P	**P**	**12 57 15.6**	**+0.8**
E22K	**Anaktuvuk Pass**	**39.14**	**31**	P	**P**	**12 57 16.2**	**+1.4**
	baz=264,SNR=14						
BPAW	**Bear Paw Mtn.**	**39.21**	**37**	P	**P**	**12 57 16.5**	**+1.2**
	baz=269						
KTH	**Kantishna Hill**	**39.23**	**38**	P	**P**	**12 57 17.6**	**+2.0**
KTH				IAmb	IAmb	12 57 17.9	
	comp=Z,7.3nm,1.0s						
MLY	**Manley**	**39.34**	**36**	P	**P**	**12 57 17.4**	**+1.0**
	baz=268						
SUA	**Susitna One**	**39.35**	**42**	P	**P**	**12 57 17.7**	**+1.0**
	baz=273						
BRSE	**Bradley Lake S**	**39.46**	**44**	P	**P**	**12 57 18.8**	**+1.4**
	baz=275						
TRF	**Thorofare Moun**	**39.51**	**38**	P	**P**	**12 57 19.9**	**+1.9**
	baz=271						
D23K	**Nanushuk River**	**39.65**	**30**	P	**P**	**12 57 20.5**	**+1.5**
	baz=264						
COLD	**Coldfoot**	**39.67**	**33**	P	**P**	**12 57 20.7**	**+1.6**
	baz=266,SNR=5.5						
G23K	**Bananza Creek**	**39.71**	**33**	P	**P**	**12 57 20.6**	**+1.2**
G23K				IAmb	IAmb	12 57 21.8	
	comp=Z,8.7nm,0.8s						
G23K	**Bananza Creek**	**39.71**	**33**	P	**P**	**12 57 21.0**	**+1.5**
	baz=267						
C23K	**Itkillik River**	**39.79**	**28**	P	**P**	**12 57 21.3**	**+1.3**
C23K	**Itkillik River**	**39.79**	**28**	P	**P**	**12 57 21.5**	**+1.5**
	baz=263						
I23K	**Minto, Yukon-K**	**39.92**	**36**	P	**P**	**12 57 21.4**	**+0.2**
I23K	**Minto, Yukon-K**	**39.92**	**36**	P	**P**	**12 57 22.7**	**+1.5**
	baz=269						
E23K	**Chandalar**	**39.96**	**31**	P	**P**	**12 57 22.8**	**+1.2**
	baz=266						
TOLK	**Toolik Lake Re**	**40.02**	**30**	P	**P**	**12 57 22.9**	**+0.8**
TOLK				IAmb	IAmb	12 57 23.7	
	comp=Z,4.1nm,0.6s						
TOLK	**Toolik Lake Re**	**40.02**	**30**	P	**P**	**12 57 23.2**	**+1.2**
	baz=265,SNR=7.6						
NEA2	**Nenana**	**40.04**	**37**	P	**P**	**12 57 24.1**	**+1.8**
NEA2				IAmb	IAmb	12 57 24.4	
	comp=Z,6.9nm,0.6s						
NEA2	**Nenana**	**40.04**	**37**	P	**P**	**12 57 23.7**	**+1.5**
	baz=270						
MCK	**McKinley**	**40.11**	**38**	P	**P**	**12 57 24.6**	**+1.7**
	baz=272						
WAT1	**Susitna Watana**	**40.32**	**39**	P	**P**	**12 57 26.5**	**+1.9**
	baz=273						
D24K	**Happy Valley**	**40.34**	**30**	P	**P**	**12 57 25.9**	**+1.3**
D24K				IAmb	IAmb	12 57 26.3	
	comp=Z,8.5nm,0.7s						
D24K	**Happy Valley**	**40.34**	**30**	P	**P**	**12 57 26.2**	**+1.5**
	baz=265						
E24K	**Your Creek**	**40.38**	**31**	P	**P**	**12 57 26.4**	**+1.4**
E24K	**Your Creek**	**40.38**	**31**	P	**P**	**12 57 26.7**	**+1.7**
	baz=267						
MDM	**Murphy Dome**	**40.40**	**36**	P	**P**	**12 57 26.0**	**+0.7**
MDM				IAmb	IAmb	12 57 31.2	
	comp=Z,10.0nm,1.0s						
C24K	**Franklin Bluff**	**40.43**	**29**	P	**P**	**12 57 26.7**	**+1.4**
	baz=265						
SML	**Sawmill**	**40.48**	**41**	P	**P**	**12 57 28.0**	**+2.0**
	baz=274						
H24K	**Noodor Dome**	**40.55**	**35**	P	**P**	**12 57 27.9**	**+1.5**
H24K	**Noodor Dome**	**40.55**	**35**	P	**P**	**12 57 28.1**	**+1.6**
	baz=270						
COLA	**College**	**40.56**	**36**	P	**P**	**12 57 28.4**	**+1.9**
	baz=271						
F24K	**Squaw Lake**	**40.58**	**32**	P	**P**	**12 57 27.9**	**+1.2**
F24K				IAmb	IAmb	12 57 30.5	
	comp=Z,6.7nm,0.7s						
F24K	**Squaw Lake**	**40.58**	**32**	P	**P**	**12 57 28.3**	**+1.6**
	baz=268						
CCB	**Clear Creek Bu**	**40.59**	**37**	P	**P**	**12 57 27.6**	**+0.9**
G24K	**Hadweenzic Riv**	**40.72**	**33**	P	**P**	**12 57 28.9**	**+1.1**
G24K	**Hadweenzic Riv**	**40.72**	**33**	P	**P**	**12 57 29.6**	**+1.8**
	baz=269						

POKR Poker Plat Res 40.74 36 P P 12 57 29.1 +1.1
POKR IAmb IAmb 12 57 30.8
comp=Z,8.6nm,0.8s
POKR Poker Plat Res 40.74 36 P P 12 57 29.5 +1.5
baz=271
DGZ Jazzator, Alta 40.86 300 *i* P P 12 57 26.8 -2.6
DGZ pmax pmax
comp=Z,10.0nm,2.5s
HDA Harding Lake 40.97 37 P P 12 57 30.1 +0.2
baz=272
IL31 40.98 36 P P 12 57 30.8 +0.9
IL31 IAmb IAmb 12 57 31.5
comp=Z,12nm,1.4s
ILAR Eielson Array 40.98 36 P P 12 57 29.9 -0.1
comp=Z,1.7nm,0.7s,baz=272,slow=9.0,SNR=29
comp=Z,1.7nm,0.7s
D25K Kavik River 41.22 29 P P 12 57 32.8 +0.8
D25K IAmb IAmb 12 57 33.7
comp=Z,10nm,0.6s
D25K Kavik River 41.22 29 P P 12 57 33.2 +1.3
baz=267
G25K Bearman Lake 41.27 33 P P 12 57 33.9 +1.7
baz=270
ZAA0 Zalesovo Array 41.38 307 P P 12 57 33.5 +0.1
ZALV Zalesovo Beam 41.38 307 P P 12 57 33.0 -0.4
ZALV Zalesovo Beam 41.38 307 *i* P P 12 57 31.7 -1.7
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 41.38 307 P P 12 57 32.1 -1.3
comp=Z,0.7nm,0.5s,baz=79,slow=7.7,SNR=6.8
ZALV PcP PcP 12 59 30.3 -0.1
comp=Z,1.2nm,0.7s,baz=88,slow=4.0,SNR=6.9
ZALV LR LR 13 14 34.2
comp=Z,40nm,19.9s,baz=50,slow=36
comp=Z,0.7nm,0.5s
F25K Christian Rive 41.44 32 P P 12 57 35.4 +1.6
baz=270
E25K Arctic Village 41.48 31 P P 12 57 35.9 +1.8
E25K Arctic Village 41.48 31 P P 12 57 36.1 +2.0
baz=270,SNR=6.1
PRP Porcupine Dome 41.53 35 P P 12 57 35.9 +1.3
baz=272
J25K Salcha River, 41.64 37 P P 12 57 34.9 -0.5
J25K Salcha River, 41.64 37 P P 12 57 37.0 +1.5
baz=274
KLU Klutina 41.66 41 P P 12 57 37.6 +1.9
baz=277
PAX Paxson 41.72 39 P P 12 57 38.2 +2.1
baz=275
C26K Camden Bay 41.76 29 P P 12 57 37.0 +0.7
baz=268
BMAR Burnt Mountain 41.85 32 P P 12 57 38.5 +1.4
HARP HAARP 41.92 40 P P 12 57 39.8 +2.1
baz=276
F26K Sheenjek River 42.02 32 P P 12 57 40.4 +2.0
baz=271
G26K Porcupine Rive 42.18 33 P P 12 57 42.1 +2.4
baz=272
N25K Chitina, Valde 42.27 41 P P 12 57 42.6 +1.9
baz=278
SCRK Sand Creek 42.29 37 P P 12 57 40.8 0.0
SCRK Sand Creek 42.29 37 P P 12 57 41.5 +0.7
baz=276
J26L Joseph Creek 42.42 37 P P 12 57 42.2 +0.3
J26L Joseph Creek 42.42 37 P P 12 57 42.5 +0.7
baz=275
M26K Nabesna, AK 42.91 40 P P 12 57 48.1 +2.2
baz=278
E27K Coleen River 42.96 31 P P 12 57 47.5 +1.4
E27K Coleen River 42.96 31 P P 12 57 47.9 +1.8
baz=273
G27K Doyon Strip 43.02 33 P P 12 57 48.6 +2.0
baz=274
CRQM Cirque 43.10 42 P P 12 57 48.4 +1.0
CRQE Cirque 43.12 42 P P 12 57 49.5 +1.9
baz=280
K27K Chicken 43.12 37 P P 12 57 48.3 +0.9
K27K IAmb IAmb 12 57 49.9
comp=Z,10.0nm,1.0s
K27K Chicken 43.12 37 P P 12 57 49.1 +1.7
baz=277
H27K Steamboat Moun 43.12 34 P P 12 57 49.3 +1.8
baz=275
I27K Kandik River 43.14 35 P P 12 57 48.4 +0.8
baz=276
D27M Malcolm River 43.15 30 P P 12 57 47.9 +0.3
D27M Malcolm River 43.15 30 P P 12 57 48.8 +1.2
baz=272
L27K Beaver Creek, 43.36 39 P P 12 57 51.1 +1.7
L27K Beaver Creek, 43.36 39 P P 12 57 51.8 +2.4
baz=278
BCAR Beaver Creek A 43.38 39 P P 12 57 51.3 +1.8
EGAK Eagle 43.43 36 P P 12 57 50.9 +1.1
EGAK IAmb IAmb 12 57 52.8
comp=Z,16nm,1.4s
EGAK Eagle 43.43 36 P P 12 57 51.3 +1.4
baz=277
M27K Edge Creek, AK 43.44 40 P P 12 57 52.6 +2.4
M27K IAmb IAmb 12 57 55.1
comp=Z,16nm,1.2s
M27K Edge Creek, AK 43.44 40 P P 12 57 52.1 +2.0
baz=279
F28M Old Crow 43.65 32 P P 12 57 53.4 +1.8
F28M IAmb IAmb 12 57 54.7
comp=Z,11nm,0.8s
F28M Old Crow 43.65 32 P P 12 57 53.9 +2.2
baz=275,SNR=10
E28M Babbage River 43.70 30 P P 12 57 53.5 +1.5
E28M IAmb IAmb 12 57 54.6
comp=Z,14nm,1.4s
E28M Babbage River 43.70 30 P P 12 57 53.9 +1.9
baz=274
GRNC Granite Creek 43.77 42 P P 12 57 53.1 +0.2
I28M Miner Creek 43.86 35 P P 12 57 53.5 +0.1
I28M IAmb IAmb 12 57 56.1
comp=Z,5.7nm,0.7s
I28M Miner Creek 43.86 35 P P 12 57 55.0 +1.6
baz=277
YUK3 Moose Creek 44.19 40 P P 12 57 58.0 +1.7
baz=281
DAWY Dawson 44.28 37 P P 12 57 58.8 +2.0
baz=279
E29M Blow River 44.32 31 P P 12 57 58.7 +1.8
E29M Blow River 44.32 31 P P 12 57 59.0 +2.1
baz=276
H29M Whitestone 44.40 34 P P 12 57 58.1 +0.5
H29M IAmb IAmb 12 58 00.6
comp=Z,17nm,1.4s
H29M Whitestone 44.40 34 P P 12 57 59.8 +2.1
baz=278
G29M Pine Creek 44.44 33 P P 12 57 59.4 +1.4
G29M IAmb IAmb 12 58 01.4
comp=Z,17nm,1.1s
G29M Pine Creek 44.44 33 P P 12 58 00.2 +2.2
baz=278
I29M Ogilvie Camp, 44.54 35 P P 12 58 00.4 +1.5
I29M IAmb IAmb 12 58 01.2
comp=Z,8.4nm,0.8s
I29M Ogilvie Camp, 44.54 35 P P 12 58 00.8 +1.9
baz=279,SNR=5.0
L29M L29M 45.01 38 P P 12 58 03.2 +0.6
L29M IAmb IAmb 12 58 31.7
comp=Z,11nm,1.4s
L29M L29M 45.01 38 P P 12 58 05.3 +2.8
baz=281
EPYK Eagle Plains 45.03 33 P P 12 58 04.1 +1.4
EPYK IAmb IAmb 12 58 08.8
comp=Z,8.7nm,1.0s
EPYK Eagle Plains 45.03 33 P P 12 58 04.6 +1.9
baz=279
MK31 Makanchi Array 45.05 298 P P 12 58 03.5 +0.5
MK31 Makanchi Array 45.05 298 *i* P P 12 58 03.2 +0.1
MKAR Makanchi Array 45.05 298 P P 12 58 03.5 +0.4
MKAR Makanchi Array 45.05 298 *ce* P P 12 58 03.5 +0.4
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 45.05 298 P P 12 58 03.2 +0.2
comp=Z,4.6nm,0.8s,baz=78,slow=8.5,SNR=37
MKAR LR LR 13 18 28.4
comp=Z,40nm,19.0s,baz=139,slow=38
comp=Z,4.6nm,0.8s
MKAR Makanchi Array 45.05 298 *e* P P 12 58 03.5 +0.4
G30M tAoh Zraii Nji 45.13 33 P P 12 58 04.7 +1.2
G30M IAmb IAmb 12 58 06.2
comp=Z,8.8nm,0.7s
G30M tAoh Zraii Nji 45.13 33 P P 12 58 05.0 +1.5
baz=279

K29M Barlow Dome 45.14 37 P P 12 58 05.4 +1.8
baz=281
F30M Barrier River 45.21 32 P P 12 58 06.9 +2.9
baz=279,SNR=20
MAKZ Makanchi 45.24 298 P P 12 58 05.1 +0.5
MAKZ Makanchi 45.24 298 P P 12 58 05.1 +0.5
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
I30M Mount Dempster 45.37 35 P P 12 58 06.7 +1.2
I30M IAmb IAmb 12 58 08.0
comp=Z,7.1nm,0.7s
I30M Mount Dempster 45.37 35 P P 12 58 07.2 +1.8
baz=281
M30M Minto, Yukon 45.72 39 P P 12 58 09.1 +0.9
HYT Haines Junctio 45.79 41 P P 12 58 09.6 +0.7
HYT IAmb IAmb 12 58 12.1
comp=Z,9.6nm,0.8s
HYT Haines Junctio 45.79 41 P P 12 58 11.3 +2.4
baz=284
N30M Aishikik Lake 45.84 40 P P 12 58 11.7 +2.6
baz=284
G31M Satah River 45.90 32 P P 12 58 10.9 +1.5
G31M IAmb IAmb 12 58 11.6
comp=Z,17nm,1.4s
G31M Satah River 45.90 32 P P 12 58 11.0 +1.5
baz=281
INK Inuvik 45.94 30 P P 12 58 11.0 +1.3
INK IAmb IAmb 12 58 12.0
comp=Z,9.7nm,0.8s
INK Inuvik 45.94 30 P P 12 58 11.3 +1.6
baz=280,SNR=9.5
INK Inuvik 45.94 30 P P 12 58 11.0 +1.3
INK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 45.94 304 P P 12 58 09.4 -0.6
KURK IAmb IAmb 12 58 10.9
comp=Z,6.7nm,0.6s
KURK Kurchatov 45.94 304 P P 12 58 10.9 +0.9
KURK 12 59 46.2
KURK Kurchatov 45.94 304 *e* P P 12 58 10.9 +0.9
P29M Windy Craggy 45.97 43 P P 12 58 12.3 +2.1
baz=285
F31M Tsiigehtchic 46.01 32 P P 12 58 11.6 +1.3
F31M IAmb IAmb 12 58 12.8
comp=Z,12nm,0.9s
F31M Tsiigehtchic 46.01 32 P P 12 58 12.0 +1.7
baz=281,SNR=6.9
KURBB Kurchatov Arra 46.02 304 P P 12 58 10.9 +0.2
comp=Z,5.0nm,0.7s,baz=72,slow=8.7,SNR=34
KURBB PcP PcP 12 59 46.1 0.0
comp=Z,0.6nm,0.5s,baz=77,slow=3.6,SNR=5.1
comp=Z,5.0nm,0.7s
P30M Million Dollar 46.22 42 P P 12 58 14.9 +2.7
baz=285
N31M Braeburn, Yuko 46.44 40 P P 12 58 15.4 +1.6
baz=285
O30N Mendenhall 46.47 41 P P 12 58 14.8 +0.7
baz=285
M31M Drury Creek, Y 46.89 39 P P 12 58 19.4 +2.0
baz=285
WHY Whitehorse 47.08 41 P P 12 58 20.8 +1.8
baz=286
S31K Pelican 47.19 45 P P 12 58 21.3 +1.6
baz=288
SKAG Skagway 47.20 43 P P 12 58 21.6 +1.9
baz=287
FARO Faro, Yukon 47.36 39 P P 12 58 21.3 +0.3
baz=286
A36M Sachs Harbour 47.95 25 P P 12 58 26.6 +1.3
A36M IAmb IAmb 12 58 42.6
comp=Z,7.7nm,0.9s
CMAR Chiang Mai Arr 48.17 254 P P 12 58 26.4 -1.3
comp=Z,0.2nm,0.5s,baz=41,slow=7.8,SNR=1.3
comp=Z,0.2nm,0.5s
P33M Teslin, Yukon 48.19 41 P P 12 58 28.9 +1.4
baz=288
C36M Paulatuk 49.03 28 P P 12 58 34.5 +0.8
C36M Paulatuk 49.03 28 P P 12 58 34.9 +1.1
baz=287,SNR=15
WRAK Wrangell Islan 49.69 46 P P 12 58 40.3 +1.3
baz=292
S34M Telegraph Cree 49.77 44 P P 12 58 40.8 +1.3
baz=291
BVAR Borovoye Array 49.86 309 P P 12 58 40.7 +0.4
comp=Z,3.0nm,0.6s,baz=71,slow=9.6,SNR=19
BVAR PcP PcP 13 00 00.6 +0.6
comp=Z,1.2nm,0.8s,baz=79,slow=3.2,SNR=4.0
comp=Z,3.0nm,0.6s
BRVK Borovoye 49.91 310 P P 12 58 40.0 -0.7
BRVK IAmb IAmb 12 58 42.4
comp=Z,5.5nm,0.8s
BRVK Borovoye 49.91 310 *i* P P 12 58 40.5 -0.2
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 49.91 310 *eP* P 12 58 40.5 -0.2
SVE Sverdlovsk 53.43 317 *eP* P 12 59 06.3 -0.5
SVE pmax pmax
comp=Z,8.0nm,1.1s
SVE Sverdlovsk 53.43 317 *eP* P 12 59 06.3 -0.5
KK31 Karatay Array 54.17 298 P P 12 59 11.5 -1.0
KK31 Karatay Array 54.17 298 P P 12 59 11.5 -1.0
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 54.17 298 P P 12 59 11.5 -1.0
KKAR Karatay Array 54.17 298 P P 12 59 11.5 -1.0
RES Resolute Bay 54.62 17 P P 12 59 14.8 -0.4
RES Resolute Bay 54.62 17 P P 12 59 14.8 -0.4
RES pmax pmax
comp=Z,7.0nm,0.6s
RES Resolute Bay 54.62 17 LR LR 13 24 58.8
comp=Z,18nm,18.1s,baz=24,slow=39
ARU Arti 54.63 317 P P 12 59 13.9 -1.7
ARU Arti 54.63 317 *c i* P P 12 59 14.9 -0.7
ARU S S 13 06 50.2 -0.2
ARU SS SS 13 10 28.1 -5.1
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 54.63 317 *eP* P 12 59 14.9 -0.7
SPITS Spitsbergen Ar 54.72 349 P P 12 59 13.9 -2.1
comp=Z,8.4nm,1.0s,baz=19,slow=9.3,SNR=1.6
comp=Z,8.4nm,1.0s
YKA Yellowknife Ar 55.31 34 P P 12 59 20.0 -0.4
YKA Yellowknife Ar 55.31 34 P P 12 59 20.8 +0.5
comp=Z,1.0nm,0.7s,baz=300,slow=7.5,SNR=18
comp=Z,1.0nm,0.7s
NIL Nilore 57.33 287 P P 12 59 36.5 +1.3
NIL Nilore 57.33 287 P P 12 59 36.5 +1.3
NIL pmax pmax
comp=Z,9.0nm,1.0s
ABKAR Akbulak array 57.43 309 P P 12 59 36.4 +0.8
SIMJ Simiganj 57.45 294 P P 12 59 36.4 +0.3
SIMJ IAmb IAmb 12 59 37.2
comp=Z,4.3nm,0.7s
NEEM North Greenlan 58.32 5 *i* P P 12 59 40.0 -1.9
NEEM IAmb IAmb 12 59 42.0
comp=Z,6.7nm,0.6s
DAG Danmarks Havn 59.28 356 *i* P P 12 59 45.9 -2.2
DAG IAmb IAmb 12 59 47.9
comp=Z,1.9nm,1.4s
ARCES ARCESS Array B 59.29 340 P P 12 59 48.0 -0.3
comp=Z,5.3nm,0.9s,baz=45,slow=8.1,SNR=19
comp=Z,5.3nm,0.9s
KBL Kabul 59.70 290 P P 12 59 51.8 -0.2
KBL IAmb IAmb 12 59 52.2
comp=Z,4.6nm,0.7s
KBL Kabul 59.70 290 P P 12 59 51.8 -0.2
KBL pmax pmax
comp=Z,5.0nm,0.7s
BELG Belogornoye 62.19 317 *i* P P 13 00 06.2 -2.0
BELG pmax pmax
comp=Z,3.0nm,1.3s
SUMG Summit 63.71 2 P P 13 00 18.7 +0.2
SUMG Summit 63.71 2 P P 13 00 18.7 +0.2
SUMG pmax pmax
comp=Z,33nm,1.5s
SUMG Summit 63.71 2 *i* P P 13 00 19.0 +0.5
SUMG IAmb IAmb 13 00 21.0
comp=Z,6.4nm,0.6s
MSO Missoula 64.34 49 P P 13 00 23.1 +0.4
baz=308
WRA Warramunga Arr 64.78 194 P P 13 00 24.8 -0.8
comp=Z,0.8nm,0.9s,baz=13,slow=6.8,SNR=5.6
comp=Z,0.8nm,0.9s
BPMT Black Pine Rid 64.85 49 P P 13 00 27.4 +1.1
GEYT Alibeck 64.89 299 P P 13 00 27.0 +0.7
GEYT Alibeck 64.89 299 P P 13 00 26.0 -0.3

comp=Z,2.4nm,0.7s,baz=20,slow=11,SNR=4.8
comp=Z,2.4nm,0.7s
FINES FINESS Array B 64.99 333 P P 13 00 26.9 +0.3
FINES FINESS Array B 64.99 333 *i* P P 13 00 26.2 -0.3
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 64.99 333 P P 13 00 26.0 -0.5
comp=Z,5.5nm,0.7s,baz=49,slow=6.4,SNR=16
comp=Z,5.5nm,0.7s
FFC Flin Flon 65.19 37 P P 13 00 29.1 +1.2
FFC IAmb IAmb 13 00 29.5
comp=Z,6.0nm,1.1s
FFC Flin Flon 65.19 37 P P 13 00 29.1 +1.2
FFC pmax pmax
comp=Z,6.0nm,1.1s
OBN Obninsk 65.53 324 ||| *eP* P 13 00 29.4 -0.7
OBN *PP pP 13 00 46.0 -1.1
OBN *SP sP 13 00 53.0 -1.2
OBN 13 01 00.0
OBN pmax pmax
comp=Z,9.0nm,1.4s
OBN Obninsk 65.53 324 *eP* P 13 00 29.5 -0.7
VRH Novokhopyorsk 65.80 319 *eP* P 13 00 29.8 -2.1
VRH pmax pmax
comp=Z,10.0nm,0.7s
YERR Yerington 66.04 58 P P 13 00 35.1 +1.2
LPSR Galich'ya Gora 66.18 321 *eP* P 13 00 33.0 -1.3
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BOZ Bozeman (W) 66.36 49 P P 13 00 37.1 +1.2
BOZ Bozeman (W) 66.36 49 P P 13 00 36.4 +0.6
baz=309
BOZ Bozeman (W) 66.36 49 P P 13 00 37.1 +1.2
BOZ pmax pmax
comp=Z,3.0nm,0.8s
KVN Kaiserville 66.70 58 P P 13 00 39.5 +1.3
KVN Kaiserville 66.70 58 P P 13 00 39.5 +1.3
KVN pmax pmax
comp=Z,4.0nm,1.0s
LHV Little Huntoon 66.95 59 P P 13 00 41.5 +2.0
NVAR Mina Array Bea 66.96 58 P P 13 00 41.1 +1.3
NVAR Mina Array Bea 66.96 58 P P 13 00 41.0 +1.1
comp=Z,1.7nm,0.7s,baz=295,slow=6.9,SNR=13
comp=Z,1.7nm,0.7s
VSR Storozhevoye 67.00 320 *eP* P 13 00 37.3 -2.3
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 67.11 319 *eP* P 13 00 39.7 -0.6
VORD pmax pmax
comp=Z,10.0nm,0.6s
ICESG Greenland Ices 67.16 3 *i* P P 13 00 40.7 -0.1
ICESG IAmb IAmb 13 00 42.2
comp=Z,16nm,0.9s
H17A Grant Village 67.70 49 P P 13 00 46.1 +1.6
baz=310
TPH Tonopah 67.85 58 P P 13 00 46.9 +1.4
TPH IAmb IAmb 13 00 47.4
comp=Z,9.7nm,0.8s
TPH Tonopah 67.85 58 P P 13 00 46.9 +1.4
TPH pmax pmax
comp=Z,10.0nm,0.8s
MOOW Moose Ponds 68.03 50 P P 13 00 48.0 +1.4
PKM Mcpherson Peak 68.22 62 P P 13 00 49.6 +1.8
baz=309
CWC Cottonwood Cre 68.34 60 P P 13 00 50.1 +1.6
baz=309
ASAR Alice Springs 68.50 194 P P 13 00 49.7 +0.5
comp=Z,0.5nm,0.7s,baz=14,slow=6.7,SNR=15
comp=Z,0.5nm,0.7s
R11B Troy Canyon, C 68.67 57 P P 13 00 51.6 +1.0
baz=310
FRB Frobisher Bay 68.83 16 P P 13 00 50.2 -0.6
comp=Z,5.0nm,0.6s,baz=336,slow=7.4,SNR=13
comp=Z,5.0nm,0.6s
SCZ2 Santa Cruz Isl 68.90 63 P P 13 00 54.0 +2.2
baz=310
MPMC Manual Prospec 68.95 60 P P 13 00 53.1 +0.7
baz=310
FURC Furnace Creek, 69.08 59 P P 13 00 54.4 +1.5
baz=310
DUG Dugway, Tooele 69.14 54 P P 13 00 54.3 +0.8
baz=310
TPNV Topopah Spring 69.16 59 P P 13 00 54.6 +1.0
baz=310
BW06 Boulder Array 69.32 50 P P 13 00 54.9 +0.3
baz=311
PDAR Pinedale Array 69.32 50 P P 13 00 55.6 +1.0
PDAR Pinedale Array 69.32 50 P P 13 00 54.9 +0.3
comp=Z,0.6nm,0.7s,baz=249,slow=2.4,SNR=8.5
comp=Z,0.6nm,0.7s
DY2G Dye2 69.38 6 *i* P P 13 00 54.6 0.0
DY2G IAmb IAmb 13 00 55.7
comp=Z,6.2nm,0.7s
EDW2 Edwards Air Fo 69.39 61 P P 13 00 56.0 +1.1
baz=310
SNCC San Nicolas Is 69.44 63 P P 13 00 57.1 +1.9
baz=310
NC204 NORSAR Array S 69.57 340 P P 13 00 55.8 +0.2
NC204 IAmb IAmb 13 01 13.3
comp=Z,6.8nm,0.9s
NB201 NORSAR Array S 69.63 339 P P 13 00 55.9 0.0
NB2 NORSAR Subarra 69.66 339 P P 13 00 56.0 -0.1
comp=Z,9.1nm,0.9s,baz=30,slow=6.2
NOA NORSAR Array B 69.66 339 P P 13 00 55.8 -0.3
comp=Z,4.8nm,0.7s,baz=32,slow=6.3,SNR=23
comp=Z,4.8nm,0.7s
HFS Hagfors 69.76 338 P P 13 00 56.0 -0.7
HFS Hagfors 69.76 338 P P 13 00 56.0 -0.7
comp=Z,8.1nm,0.7s,baz=57,slow=5.5,SNR=17
HFS LR LR 13 34 42.2
comp=Z,36nm,18.1s,baz=318,slow=39
comp=Z,8.1nm,0.7s
NBO00 NORSAR Array S 69.78 339 P P 13 00 57.5 +0.6
NBO00 IAmb IAmb 13 01 10.9
comp=Z,10nm,1.4s
NAO01 NORSAR Array S 69.91 339 P P 13 00 57.6 0.0
NAO01 IAmb IAmb 13 00 58.4
comp=Z,11nm,0.9s
KIV Kislovodsk 70.10 312 ||| *iP* P 13 01 00.7 +1.5
KIV *PP pP 13 01 18.0 +1.7
KIV *SP sP 13 01 24.8 +1.4
KIV pmax pmax
comp=Z,9.0nm,0.8s
KIV MLR MLR
comp=Z,34nm,21.0s
KIV Kislovodsk 70.10 312 *eP* P 13 00 59.8 +0.6
SHPR Sheep Range 70.11 58 P P 13 01 00.9 +1.4
KBZ Khabaz 70.14 312 *i* P P 13 00 59.4 +0.1
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 70.14 312 P P 13 00 59.9 +0.6
comp=Z,6.8nm,0.9s,baz=46,slow=5.8,SNR=12
KBZ LR LR 13 33 18.5
comp=Z,28nm,18.0s,baz=22,slow=37
comp=Z,6.8nm,0.9s
KBZ Khabaz 70.14 312 *eP* P 13 00 59.4 +0.1
BBRC Big Bear Solar 70.46 61 P P 13 01 01.9 +0.2
baz=310
RDMU Red Mountain 70.77 52 P P 13 01 04.9 +1.4
RDMU IAmb IAmb 13 01 05.4
comp=Z,5.4nm,0.9s
GMRC Granite Mounta 70.92 60 P P 13 01 05.1 +0.8
baz=311
IRM Iron Mountain 71.65 60 P P 13 01 10.0 +1.3
baz=311
AKASG Malin Array Be 71.80 324 P P 13 01 09.6 +0.4
AKASG Malin Array Be 71.80 324 P P 13 01 09.2 -0.1
comp=Z,3.6nm,0.7s,baz=38,slow=6.0,SNR=20
comp=Z,3.6nm,0.7s
AKBB Malin Array Si 71.80 324 P P 13 01 09.3 +0.1
AKBB IAmb IAmb 13 01 10.1
comp=Z,7.8nm,0.8s
AKBB Malin Array Si 71.80 324 *i* P P 13 01 08.8 -0.4
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 71.81 324 P P 13 01 09.3 0.0
KIEV IAmb IAmb 13 01 10.1
comp=Z,7.3nm,0.8s
KIEV Kiev 71.81 324 P P 13 01 09.3 0.0
KIEV pmax pmax
comp=Z,7.0nm,0.9s
O20A White River Ci 71.81 52 P P 13 01 10.5 +0.8
baz=313
S22A 4UR Ranch, Cre 74.24 53 P P 13 01 24.7 +0.4
baz=314
OGNE Ogallala 74.67 48 P P 13 01 26.8 +0.4
baz=316

SDCO	**Great Sand Dun**	**75.00**	**52**	P	**P**	**13 01 29.1**	**+0.4**
	baz=314						
KWP	**Kalwaria Pacla**	**75.30**	**327**	P	**P**	**13 01 29.7**	**-0.1**
KWP				IAmb	IAmb	13 01 33.2	
	comp=Z,13nm,1.1s						
KWP	**Kalwaria Pacla**	**75.30**	**327**	P	**P**	**13 01 29.7**	**-0.1**
KWP				pmax	pmax		
	comp=Z,13nm,1.1s						
ECSD	**EROS Data Cent**	**75.42**	**43**	P	**P**	**13 01 30.9**	**+0.2**
	baz=318						
TUC	**Tucson**	**75.60**	**59**	P	**P**	**13 01 33.0**	**+1.1**
	baz=313						
BUR08	**Bucovina Ar. S**	**75.84**	**324**	P	**P**	**13 01 33.6**	**+0.5**
BUR08				IAmb	IAmb	13 01 35.5	
	comp=Z,5.1nm,0.7s						
BURAR	**Bucovina Array**	**75.85**	**324**	P	**P**	**13 01 33.7**	**+0.5**
KOLS	**Kolonicke sedl**	**76.03**	**327**	*e*P	**P**	**13 01 36.1**	**+2.1**
KOLS	**Kolonicke sedl**	**76.03**	**327**	*e*P	**P**	**13 01 36.1**	**+2.1**
CRVS	**Cervenica-Dubn**	**76.37**	**327**	*e*P	**P**	**13 01 38.1**	**+2.2**
CRVS	**Cervenica-Dubn**	**76.37**	**327**	*e*P	**P**	**13 01 38.1**	**+2.2**
LANS	**Liptovska Anna**	**76.94**	**328**	*e*P	**P**	**13 01 41.2**	**+2.0**
LANS	**Liptovska Anna**	**76.94**	**328**	*e*P	**P**	**13 01 41.2**	**+2.0**
MORC	**Moravsky Berou**	**77.15**	**330**	*e*P	**P**	**13 01 41.7**	**+1.4**
SCHQ	**Schefferville**	**77.25**	**20**	P	**P**	**13 01 40.8**	**0.0**
	comp=Z,2.7nm,0.6s,baz=309,slow=5.7,SNR=5.5						
	comp=Z,2.7nm,0.6s						
121A	**Cookes Peak, D**	**77.28**	**57**	P	**P**	**13 01 42.1**	**+0.5**
	baz=314						
CLL	**Collm**	**77.44**	**333**	P	**P**	**13 01 42.0**	**+0.1**
CLL				IAmb	IAmb	13 01 43.9	
	comp=Z,7.8nm,0.7s						
CLL	**Collm**	**77.44**	**333**	P	**P**	**13 01 42.0**	**+0.1**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CLL	**Collm**	**77.44**	**333**	*i* P	**P**	**13 01 41.9**	**+0.1**
	comp=Z,9.0nm,0.9s						
VYHS	**Vyhne**	**77.72**	**328**	*e*P	**P**	**13 01 45.9**	**+2.4**
VYHS	**Vyhne**	**77.72**	**328**	*e*P	**P**	**13 01 45.9**	**+2.4**
JAVC	**Velka Javorina**	**77.86**	**329**	*e*P	**P**	**13 01 46.1**	**+1.8**
BRTR	**Keskin Array B**	**77.86**	**314**	P	**P**	**13 01 43.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=52,slow=4.8,SNR=3.6						
	comp=Z,0.8nm,0.7s						
VRAC	**Vranov**	**77.88**	**330**	*e*P	**P**	**13 01 45.3**	**+0.9**
EKA	**Eskdalemuir Ar**	**78.13**	**344**	P	**P**	**13 01 45.9**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=14,slow=4.9,SNR=6.1						
	comp=Z,2.5nm,0.7s						
KRUC	**Moravsky**	**78.16**	**330**	*e*P	**P**	**13 01 46.5**	**+0.6**
KHC	**Kasperske Hory**	**79.10**	**331**	P	**P**	**13 01 51.7**	**+0.6**
KHC	**Kasperske Hory**	**79.10**	**331**	*i* P	**P**	**13 01 50.2**	**-0.9**
KHC				pmax	pmax		
	comp=Z,34nm,2.5s						
GERES	**GERESS Array B**	**79.30**	**331**	P	**P**	**13 01 52.4**	**+0.1**
GERES	**GERESS Array B**	**79.30**	**331**	P	**P**	**13 01 52.4**	**+0.1**
GERES	**GERESS Array B**	**79.30**	**331**	P	**P**	**13 01 49.7**	**-2.6**
	comp=Z,1.5nm,0.6s,baz=37,slow=5.0,SNR=2.6						
CONA	**Conrad Observa**	**79.30**	**330**	*i* P	**P**	**13 01 49.9**	**-2.5**
	comp=Z,4.0nm,0.9s						
MNTX	**Cornudas Mount**	**79.32**	**56**	P	**P**	**13 01 53.2**	**+0.6**
	baz=316						
RONA	**Rosalia, Austr**	**79.33**	**329**	*i* P	**P**	**13 01 51.0**	**-1.5**
	comp=Z,6.7nm,1.3s						
SOKA	**Soboth**	**80.66**	**329**	*i* P	**P**	**13 02 00.3**	**+0.6**
	comp=Z,3.8nm,0.8s						
L44A	**Lake County Fo**	**80.71**	**39**	P	**P**	**13 01 59.7**	**-0.2**
	baz=323						
LESA	**Schwarzleotal**	**80.87**	**331**	*i* P	**P**	**13 02 00.0**	**-0.7**
	comp=Z,5.9nm,1.1s						
WMOK	**Wichita Mounta**	**80.93**	**50**	P	**P**	**13 02 01.7**	**+0.4**
	baz=318						
WATA	**Walderalm**	**81.33**	**332**	*i* P	**P**	**13 02 02.2**	**-1.1**
	comp=Z,3.3nm,0.6s						
WTTA	**Wattenberg**	**81.37**	**332**	*i* P	**P**	**13 02 00.6**	**-3.0**
	comp=Z,4.1nm,0.8s						
MOTA	**Moosalm**	**81.48**	**332**	*e*P	**P**	**13 02 04.1**	**0.0**
	comp=Z,10.0nm,1.0s						
SQTA	**Sankt Quirin**	**81.55**	**332**	*e*P	**P**	**13 02 02.4**	**-2.1**
	comp=Z,2.8nm,0.6s						
FETA	**Feichten**	**81.89**	**332**	*e*PcP	**P**	**13 02 06.8**	**+0.5**
	comp=Z,6.6nm,1.3s						
TXAR	**Lajitas Array**	**82.04**	**57**	P	**P**	**13 02 07.9**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=300,slow=4.1,SNR=20						
	comp=Z,1.4nm,0.7s						
CCM	**Cathedral Cave**	**82.37**	**43**	P	**P**	**13 02 08.8**	**0.0**
	baz=322						
O48B	**Farmland**	**83.49**	**38**	P	**P**	**13 02 14.4**	**-0.1**
	baz=325						
ERPA	**Erie**	**84.14**	**34**	P	**P**	**13 02 17.9**	**+0.2**
	baz=328						
WCI	**Wyandotte Cave**	**84.61**	**40**	P	**P**	**13 02 19.1**	**-1.2**
	baz=324						
PKME	**Peaks-Kenny Pk**	**85.21**	**25**	P	**P**	**13 02 21.8**	**-1.3**
	baz=334						
833A	**Chaparral WMA,**	**85.33**	**55**	P	**P**	**13 02 24.9**	**+0.9**
	baz=318						
MCWV	**Mont Chateau**	**86.27**	**35**	P	**P**	**13 02 28.4**	**0.0**
	baz=328						
L61B	**Northampton**	**86.60**	**29**	P	**P**	**13 02 29.6**	**-0.4**
	baz=332						
PAL	**Palisades**	**87.42**	**30**	P	**P**	**13 02 33.8**	**-0.2**
	baz=331						
BLA	**Blacksburg**	**88.08**	**37**	P	**P**	**13 02 36.4**	**-0.9**
	baz=328						
CBN	**Corbin Frederi**	**88.51**	**34**	P	**P**	**13 02 39.9**	**+0.7**
	baz=329						
GOGA	**Godfrey**	**89.86**	**41**	P	**P**	**13 02 46.2**	**+0.6**
	baz=326						
BRAL	**Brewton**	**89.93**	**45**	P	**P**	**13 02 46.2**	**+0.2**
	baz=324						
DWPF	**Disney Wildern**	**95.22**	**42**	P	**P**	**13 03 10.9**	**+0.4**
	baz=327						
H03N2	**Juan Fernandez**	**142.35**	**90**	T	T	15 48 34.9	
	baz=304,slow=77,SNR=29						
H03N3	**Juan Fernandez**	**142.36**	**90**	T	T	15 48 35.8	
	baz=304,slow=77,SNR=30						
H03N1	**Juan Fernandez**	**142.36**	**90**	T	T	15 48 36.2	
	baz=304,slow=77,SNR=34						

WEL 02 12:51:15.6, 38°S±17°×**17°8E**±1°1, **h22**km±12km, **M2.3**/15, **mB6.8**/1, **ML2.8**/25, **MLv2.3**/15, **Mw(mB)6.7**/1, **Error ellipse: s-maj=0.0km s-min=0.0km az=2.2, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.02**	**218**	P	Pb	12 51 19.4	0.0
WMGZ	**Waiomatatini S**	**0.28**	**165**	P	Pb	12 51 23.2	+1.1
PKGZ	**Pakihiroa**	**0.39**	**210**	P	Pn	12 51 26.0	-0.1
HAZ	**Te Kaha**	**0.48**	**244**	P	Pn	12 51 26.6	-0.5
PUZ	**Puketiti**	**0.53**	**186**	P	Pn	12 51 27.2	-0.7
RUGZ	**Raukumara Rang**	**0.66**	**230**	P	Pn	12 51 31.2	+1.4
TWGZ	**Tauwhareparae**	**0.69**	**203**	P	Pn	12 51 30.5	+0.4
CNGZ	**Carnagh Statio**	**0.94**	**186**	P	Pb	12 51 33.3	+0.1
MWZ	**Matawai**	**1.01**	**218**	P	Pn	12 51 35.4	+0.9
RAGZ	**Rawiri**	**1.19**	**217**	P	Pb	12 51 38.2	+0.7
URZ	**Urewera**	**1.20**	**233**	P	Pb	12 51 38.4	+0.9
RIGZ	**Rimuhau**	**1.24**	**201**	P	Pn	12 51 37.1	-0.6
EDRZ	**Edgecumbe**	**1.37**	**245**	P	Pb	12 51 41.2	+0.5
OPRZ	**Ohinepanea**	**1.43**	**257**	P	Pn	12 51 40.8	+0.5
SNGZ	**Shannon Statio**	**1.46**	**212**	P	Pn	12 51 40.9	+0.3
RTZ	**Ruatahuna**	**1.50**	**224**	P	Pb	12 51 42.4	-0.5
KNZ	**Kokohu**	**1.56**	**199**	P	Pn	12 51 40.6	-1.5
MTHZ	**Maungataniwha**	**1.75**	**221**	P	Pn	12 51 45.8	+1.1
NMHZ	**Naumai**	**1.96**	**217**	P	Pn	12 51 48.4	+0.8
BKZ	**Black Stump Fm**	**2.17**	**221**	P	Pn	12 51 50.9	+0.5
KUZ	**Kuaotunu**	**2.23**	**290**	P	Pn	12 51 48.7	-2.4
MCHZ	**McNeill Hill**	**2.29**	**213**	P	Pn	12 51 51.7	-0.3
KWHZ	**Kaweka Forest**	**2.40**	**218**	P	Pn	12 51 53.4	-0.2
KAHZ	**Kahuranaki**	**2.52**	**206**	P	Pn	12 51 53.8	-1.4
MKAZ	**Moumakai**	**2.56**	**279**	P	Pn	12 51 55.9	+0.1
TMVZ	**Te Maari**	**2.59**	**232**	P	Pn	12 51 57.1	+0.8
NTVZ	**North Tongarir**	**2.60**	**233**	P	Pn	12 51 57.2	+0.8
ETVZ	**East Tongariro**	**2.60**	**231**	P	Pn	12 51 57.1	+0.7
OTVZ	**Oturere**	**2.64**	**231**	P	Pn	12 51 57.8	+0.7
SNVZ	**South Ngauruho**	**2.67**	**231**	P	Pn	12 51 58.1	+0.6
NGZ	**Ngauruhoe**	**2.69**	**232**	P	Pn	12 51 58.2	+0.5
PXZ	**Pawanui**	**2.73**	**204**	P	Pb	12 52 04.0	+0.2
WCZ	**Waipu Caves**	**3.58**	**295**	P	Pn	12 52 07.9	-1.8
OUZ	**Omahuta**	**4.46**	**300**	P	Pn	12 52 20.7	-1.3
TUWZ	**Tuamarina**	**5.15**	**220**	P	Pn	12 52 33.2	+1.8
MHCZ	**Mount Hutt**	**7.89**	**219**	P	Pn	12 53 11.3	+2.3

IDC 02 12:52:39.5±1.6, **5°.05S**×**151°.04E**, **h46**km±25km, **mb3.3**/2, **mbtmp3.5**/3, **ML1.4**/1, **Error ellipse: s-maj=75.4km s-min=10.6km az=136.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.23**	**53**	P	Pn	12 52 59.4	-0.9
	baz=232,slow=20						
KRVT				S	Sn	12 53 15.9	+0.1
	baz=180,slow=20						
PMG	**Port Moresby**	**5.79**	**221**	P	Pn	12 54 04.1	+1.2
	0.7nm,0.3s,baz=5.8,slow=22,SNR=1.8						
PMG				S	Sn	12 55 07.7	-0.4
	4.9nm,0.7s,baz=323,slow=16,SNR=2.2						
	1.7nm,0.3s						
WRA	**Warramunga Arr**	**21.98**	**226**	P	P	12 57 31.4	+1.6
	1.1nm,0.5s,baz=52,slow=10,SNR=14						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**24.80**	**220**	P	P	12 57 56.9	-0.5
	0.9nm,0.8s,baz=55,slow=9.1,SNR=18						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.71**	**287**	PKPbc	PKPbc	13 12 21.7	-1.1
	0.1nm,0.4s,baz=94,slow=2.2,SNR=2.8						

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*IDC **02** 12:55:16.7±1.1, 6°.34N×126°.96E, h106km±8km, mb4.2/32, mbtmp4.5/32, MS3.1/7, Error ellipse: s-maj=15.5km s-min=9.1km az=68.0*

*NEIC **02** 12:55:17.9±1.5, 6°.28N±0°.07×126°.83E±0°.08, h106km±5km, mb4.7/64, Error ellipse: s-maj=13.9km s-min=7.1km az=50.0*

*DJA **02** 12:55:17.1±0.5, 6°N±4°×12°7E±°, h97km±5km, M4.7/24, mB5.1/12, mb4.9/24, MLv4.9/9, Mw(mB)4.4/12*

ISC 02 12:55:16.6±0.3, **6°.34N**±0°.05×**126°.91E**±0°.06, **h100**km, **n182**, σ**1s11**/177, **mb4.6**/73, **3C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.50**	**299**	⇓*i*P	**Pn**	**12 55 44.0**	**+1.1**
DAV	**Davao City (W)**	**1.50**	**299**	P	**Pn**	**12 55 44.2**	**+1.3**
DAV	**Davao City (W)**	**1.50**	**299**	P	**Pn**	**12 55 44.1**	**+1.1**
	3μm,0.3s,baz=108,slow=3.8,SNR=73						
DAV				S	**Sn**	**12 56 04.5**	**+1.6**
	2μm,0.3s,baz=126,slow=20,SNR=13						
DAV	**Davao City (W)**	**1.50**	**299**	P	**Pn**	**12 55 43.8**	**+0.9**
SGSI	**Sangihe**	**2.97**	**208**	P	**Pn**	**12 56 03.5**	**+1.5**
TNTI	**Ternate**	**5.55**	**175**	Pn	**Pn**	**12 56 37.3**	**+0.4**
TNTI	**Ternate**	**5.55**	**175**	P	**Pn**	**12 56 37.2**	**+0.4**
TNTI	**Ternate**	**5.55**	**175**	P	**Pn**	**12 56 38.5**	**+1.7**
	54nm,0.7s,966nm0.4nm						
KMSI	**Cibinong**	**6.43**	**207**	P	**Pn**	**12 56 51.0**	**+2.3**
	187nm,0.7s,3μm1.0nm						
GTOI	**Gorontalo**	**6.87**	**215**	P	**Pn**	**12 56 55.4**	**+0.7**
	37nm,0.7s,360nm0.1nm						
LBMI	**Labuha**	**6.96**	**175**	P	**Pn**	**12 56 58.1**	**+2.2**
	58nm,0.9s,2μm0.5nm						
TOLI2	**Tolitoli**	**8.02**	**230**	Pn	**Pn**	**12 57 09.2**	**-1.2**
TOLI2	**Tolitoli**	**8.02**	**230**	P	**Pn**	**12 57 09.2**	**-1.2**
SWI	**Sorong**	**8.37**	**149**	P	**Pn**	**12 57 16.8**	**+1.6**
	72nm,0.8s,3μm0.3nm						
SIJI	**Sorong**	**8.38**	**149**	P	**Pn**	**12 57 16.4**	**+1.1**
	36nm,0.5s,1μm						
SANI	**Sanana**	**8.38**	**186**	P	**Pn**	**12 57 13.2**	**-2.1**
SANI	**Sanana**	**8.38**	**186**	P	**Pn**	**12 57 16.7**	**+1.4**
	25nm,0.7s,720nm						
LUWI	**Luwuk**	**8.41**	**210**	Pn	**Pn**	**12 57 13.9**	**-1.8**
NLAI	**Namlea**	**9.52**	**179**	P	**Pn**	**12 57 33.7**	**+3.0**
	22nm,0.6s						
FAKI	**Fak Fak**	**10.63**	**150**	Pn	**Pn**	**12 57 47.3**	**+1.3**
FAKI	**Fak Fak**	**10.63**	**150**	P	**Pn**	**12 57 47.0**	**+1.0**
KAPI	**Kappang**	**13.35**	**213**	LR	LR	13 04 14.2	
	comp=Z,61nm,19.7s,baz=25,slow=40						
SAUI	**Saumlaki**	**14.89**	**163**	P	**Pn**	**12 58 43.9**	**+1.9**
	89nm,0.6s,14μm						
SBUM	**Sibu**	**15.14**	**256**	Pn	**Pn**	**12 58 43.0**	**-2.2**
SBUM				IAmb	IAmb	12 58 51.3	
	comp=Z,50nm,0.7s						
SBUM	**Sibu**	**15.14**	**256**	P	**P**	**12 58 48.5**	**+0.5**
	comp=Z,74nm,1.1s,comp=Z,590nm						
BBKI	**Banjar Baru**	**15.49**	**231**	P	**P**	**12 58 53.7**	**+1.8**
EDFI	**Ende, Flores**	**15.87**	**199**	P	**P**	**12 58 56.0**	**-0.1**
	comp=Z,10.0nm,0.7s						
SOEI	**Soe**	**16.20**	**189**	Pn	**Pn**	**12 58 57.5**	**-1.1**
STKI	**Sintang**	**16.61**	**249**	P	**P**	**12 59 04.7**	**+0.4**
KSM	**Kuching**	**17.25**	**254**	P	**Pn**	**12 59 09.9**	**-1.4**
KSM				IAmb	IAmb	12 59 15.1	
	comp=Z,33nm,0.9s						
KSM	**Kuching**	**17.25**	**254**	P	**P**	**12 59 13.0**	**+1.7**
	comp=Z,49nm,1.1s						
KSM	**Kuching**	**17.25**	**254**	P	**P**	**12 59 12.9**	**+1.6**
TWG	**Pinlang**	**17.32**	**342**	P	**P**	**12 59 11.6**	**-0.5**
TWG				IAmb	IAmb	12 59 21.2	
	comp=Z,56nm,1.4s						
PLAI	**Plampang**	**17.60**	**211**	P	**Pn**	**12 59 17.4**	**+1.8**
TABU	**Tabubil**	**18.36**	**129**	P	**Pn**	**12 59 26.6**	**+1.8**
MTN	**Manton Dam**	**19.52**	**168**	P	**P**	**12 59 36.7**	**+0.6**
MTN				IAmb	IAmb	12 59 38.2	
	comp=Z,15nm,0.6s						
KDU	**Kakadu**	**19.70**	**164**	P	**P**	**12 59 38.7**	**+0.6**
JOW	**Kunigami**	**20.42**	**4**	P	**P**	**12 59 47.4**	**+1.6**
JOW				IAmb	IAmb	12 59 47.9	
	comp=Z,33nm,0.9s						
JOW	**Kunigami**	**20.42**	**4**	P	**P**	**12 59 45.7**	**-0.1**
	comp=Z,12nm,0.3s,baz=159,slow=12,SNR=24						
	comp=Z,12nm,0.3s						
KNRA	**Kununurra**	**21.95**	**175**	P	**P**	**13 00 02.8**	**+0.6**
KNRA				IAmb	IAmb	13 00 03.9	
	comp=Z,29nm,0.6s						
MANU	**Manus Island**	**22.06**	**112**	P	**P**	**13 00 04.1**	**+0.6**
LEM	**Lembang**	**23.27**	**236**	LR	LR	13 11 03.0	
	comp=Z,27nm,18.8s,baz=270,slow=41						
FITZ	**Fitzroy Crossi**	**24.31**	**183**	P	**P**	**13 00 25.5**	**+0.6**
JCJ	**Chichijima**	**25.25**	**33**	P	P	13 00 28.3	-5.1
	comp=Z,75nm,0.4s,baz=270,slow=20,SNR=5.7						
PMG	**Port Moresby**	**25.53**	**128**	LR	LR	13 12 03.7	
	comp=Z,31nm,18.1s,baz=300,slow=40						
NJ2	**Nanjing**	**26.66**	**345**	*e*P	**P**	**13 00 48.8**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
JNU	**Nakatsue**	**26.90**	**7**	P	**P**	**13 00 46.0**	**-2.3**
	comp=Z,9.5nm,0.8s,baz=202,slow=5.4,SNR=2.6						
	comp=Z,9.5nm,0.8s						
WB0	**Warramunga Arr**	**26.97**	**164**	P	**P**	**13 00 47.8**	**-1.2**
WRA	**Warramunga Arr**	**27.12**	**165**	P	**P**	**13 00 49.2**	**-1.2**
WRA	**Warramunga Arr**	**27.12**	**165**	P	**P**	**13 00 48.6**	**-1.8**
	comp=Z,1.2nm,0.4s,baz=12,slow=7.1,SNR=7.0						
WRA				PcP	**PcP**	**13 04 09.1**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=345,slow=2.1,SNR=1.1						
WRA				ScP	**ScP**	**13 07 40.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=339,slow=3.2,SNR=8.6						
	comp=Z,1.2nm,0.4s						
WB2	**Warramunga Arr**	**27.12**	**164**	P	**P**	**13 00 50.6**	**+0.2**
WR0	**Warramunga Arr**	**27.19**	**164**	P	**P**	**13 00 49.0**	**-2.0**
PDSI	**Padang**	**27.36**	**256**	P	**P**	**13 00 53.9**	**+1.2**
	comp=Z,28nm,1.1s						
RPSI	**Rantau Prapat**	**28.12**	**264**	P	**P**	**13 00 58.8**	**-0.6**
PSA00	**Pilbara Seismi**	**28.59**	**194**	P	**P**	**13 01 04.1**	**+0.7**
LASI	**Langsa, Aceh**	**28.87**	**268**	P	P	13 01 17.7	+12
CRAI	**Chiangrai**	**29.21**	**301**	P	**P**	**13 01 09.8**	**+0.8**
CRAI				IAmb	IAmb	13 01 10.9	
	comp=Z,10nm,0.8s						
GSI	**Gunungsitoli**	**29.68**	**262**	P	**P**	**13 01 10.7**	**-2.6**
GSI				IAmb	IAmb	13 01 13.0	
	comp=Z,14nm,0.7s						
KMI	**Kunming**	**29.73**	**312**	⇓P	**P**	**13 01 15.0**	**+1.2**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CM31	**Chiang Mai Arr**	**29.79**	**296**	P	**P**	**13 01 15.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**29.79**	**296**	P	**P**	**13 01 14.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**29.79**	**296**	P	**P**	**13 01 15.2**	**+1.0**
	comp=Z,3.6nm,0.6s,baz=105,slow=7.2,SNR=31						
CMAR				PcP	**PcP**	**13 04 16.2**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=117,slow=0.3,SNR=7.4						
CMAR				LR	LR	13 12 52.5	
	comp=Z,18nm,21.7s,baz=105,slow=35						
	comp=Z,3.6nm,0.6s						
CHTO	**Chiang Mai**	**29.92**	**297**	P	**P**	**13 01 15.1**	**-0.2**
CHTO				IAmb	IAmb	13 01 16.5	
	comp=Z,6.8nm,0.6s						
CHTO	**Chiang Mai**	**29.92**	**297**	P	**P**	**13 01 16.1**	**+0.8**
	comp=Z,8.0nm,0.6s						
AS31	**Alice Springs**	**30.59**	**167**	P	**P**	**13 01 21.4**	**+0.2**
ASAR	**Alice Springs**	**30.60**	**167**	P	**P**	**13 01 20.8**	**-0.4**
ASAR	**Alice Springs**	**30.60**	**167**	P	**P**	**13 01 21.1**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=341,slow=7.2,SNR=55						
ASAR				PcP	**PcP**	**13 04 17.9**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=349,slow=2.5,SNR=11						
ASAR				S	**S**	**13 06 12.5**	**-3.7**
	comp=Z,0.4nm,0.8s,baz=342,slow=12,SNR=2.4						
ASAR				ScP	**ScP**	**13 07 50.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=334,slow=2.8,SNR=4.9						
	comp=Z,1.1nm,0.4s						
PZH	**PanZhiHua**	**31.26**	**313**	P	**P**	**13 01 27.2**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,190nm,5.5s						
MJAR	**Matsushiro Arr**	**31.79**	**17**	P	**P**	**13 01 30.3**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=184,slow=9.6,SNR=4.9						
	comp=Z,1.2nm,0.8s						
XAN	**Xi'an**	**32.20**	**331**	⇑P	**P**	**13 01 34.5**	**-0.8**
XAN				pP	pP	13 01 58.0	+0.6
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
CTA	**Charters Tower**	**32.43**	**145**	P	**P**	**13 01 36.6**	**-0.7**
	comp=Z,7.7nm,1.2s,baz=350,slow=11,SNR=1.6						
	comp=Z,7.7nm,1.2s						
HNS	**HongShan**	**32.85**	**342**	⇓P	**P**	**13 01 40.4**	**-0.4**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
JMM	**Marumori**	**33.83**	**20**	P	**P**	**13 01 49.3**	**0.0**
LZH	**Lanzhou**	**36.38**	**328**	*e*P	**P**	**13 02 11.4**	**-0.1**
LZH				sP	sP	13 02 47.3	+2.4
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
MORW	**Morawa**	**36.72**	**196**	P	**P**	**13 02 15.1**	**+0.9**
MORW				IAmb	IAmb	13 02 38.4	
	comp=Z,7.7nm,1.1s						
FORT	**Forrest**	**36.92**	**178**	P	**P**	**13 02 16.4**	**+0.6**
FORT				IAmb	IAmb	13 02 44.5	
	comp=Z,15nm,0.9s						
HHC	**Hu-ho-hao-te**	**37.00**	**341**	*e*P	**P**	**13 02 20.0**	**+3.4**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,5.4s						
USRK	**Ussuriysk Ar.**	**37.97**	**6**	P	**P**	**13 02 25.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**37.97**	**6**	P	**P**	**13 02 23.8**	**-0.8**
	comp=Z,3.3nm,0.7s,baz=173,slow=6.7,SNR=10						
	comp=Z,3.3nm,0.7s						
MDJ	**Mudanjiang**	**38.20**	**3**	P	P	13 02 36.9	+10
MDJ				pmax	pmax		
	comp=Z,22nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,490nm,3.8s						
SHL	**Shillong**	**38.53**	**304**	P	**P**	**13 02 29.6**	**-0.2**
BBOO	**Buckleboo**	**39.89**	**168**	P	**P**	**13 02 40.9**	**+0.2**
BBOO				IAmb	IAmb	13 02 45.0	
	comp=Z,18nm,1.2s						
JKA	**Kamikawa-asahi**	**40.06**	**18**	P	**P**	**13 02 41.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**40.12**	**193**	P	**P**	**13 02 42.5**	**-0.1**
STKA	**Stephens Creek**	**40.51**	**161**	P	**P**	**13 02 46.5**	**+0.7**
STKA	**Stephens Creek**	**40.51**	**161**	P	**P**	**13 02 45.8**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=332,slow=8.5,SNR=6.9						
	comp=Z,1.8nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**40.58**	**69**	T	T	13 46 57.6	
	baz=254,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.60**	**69**	T	T	13 47 08.4	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**40.60**	**69**	T	T	13 47 06.4	
	baz=254,slow=74						
GTA	**Gaotai**	**40.98**	**327**	P	**P**	**13 02 50.3**	**+0.4**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**41.04**	**67**	T	T	13 47 49.5	
H11N2	**WAKE ISLAND Hy**	**41.05**	**67**	T	T	13 48 03.2	
H11N3	**WAKE ISLAND Hy**	**41.05**	**67**	T	T	13 47 31.3	
GOMU	**GeErMu**	**41.79**	**320**	P	**P**	**13 02 57.4**	**+0.6**
GOMU				pP	pwP	13 03 22.9	+0.4
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	**Ulaanbaatar**	**44.72**	**341**	P	**P**	**13 03 20.4**	**+0.5**
SONM	**Songino Array**	**44.91**	**340**	P	**P**	**13 03 21.9**	**+0.5**
SONM	**Songino Array**	**44.91**	**340**	P	**P**	**13 03 21.1**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=160,slow=9.9,SNR=8.8						
SONM				PcP	**PcP**	**13 05 00.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=156,slow=3.9,SNR=3.0						
	comp=Z,1.3nm,0.5s						
DZM	**Mont Dzumac**	**47.93**	**127**	P	**P**	**13 03 45.2**	**-0.1**
	comp=Z,14nm,1.3s,baz=261,slow=17,SNR=3.2						
	comp=Z,14nm,1.3s						
WMQ	**Urumqi**	**50.72**	**324**	*e*P	**P**	**13 04 06.0**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
PETK	**Petropavlovsk-**	**52.97**	**23**	P	**P**	**13 04 23.6**	**+0.9**
PETK	**Petropavlovsk-**	**52.97**	**23**	P	**P**	**13 04 22.7**	**0.0**
	comp=Z,4.0nm,0.9s,baz=202,slow=5.5,SNR=6.7						
	comp=Z,4.0nm,0.9s						
SHLS	**Shalkode**	**55.48**	**319**	*e*P	**P**	**13 04 39.5**	**-1.8**
	baz=319						
MK31	**Makanchi Array**	**55.54**	**324**	P	**P**	**13 04 41.8**	**+0.3**
MK31				IAmb	IAmb	13 04 43.1	
	comp=Z,5.8nm,0.6s						
MKAR	**Makanchi Array**	**55.54**	**324**	P	**P**	**13 04 41.6**	**+0.1**
MKAR	**Makanchi Array**	**55.54**	**324**	P	**P**	**13 04 41.7**	**+0.2**
	comp=Z,8.2nm,0.5s,baz=123,slow=8.2,SNR=111						
MKAR				PcP	**PcP**	**13 05 40.1**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=118,slow=4.7,SNR=5.5						
MKAR				ScP	**ScP**	**13 09 26.7**	**-3.5**
	comp=Z,0.3nm,0.6s,baz=127,slow=6.4,SNR=2.4						
	comp=Z,8.2nm,0.5s						
MAKZ	**Makanchi**	**55.73**	**324**	P	**P**	**13 04 43.0**	**+0.1**
MAKZ				IAmb	IAmb	13 04 44.9	
	comp=Z,7.4nm,0.8s						
UZB	**Uzynbulak**	**55.76**	**319**	*e*P	**P**	**13 04 42.8**	**-0.5**
	comp=Z,12nm,1.3s,baz=319						
SATY	**Saty**	**56.13**	**319**	*e*P	**P**	**13 04 46.1**	**+0.2**
	comp=Z,9.8nm,1.0s,baz=318						
ZHN	**Zhinishke**	**56.16**	**319**	*i* P	**P**	**13 04 46.3**	**+0.2**
	baz=319						
KSH	**Kashi**	**56.35**	**314**	P	**P**	**13 04 49.2**	**+1.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NIL	**Nilore**	**56.51**	**306**	P	**P**	**13 04 49.1**	**+0.5**
TDK	**Taldyqorghan**	**57.01**	**321**	*e*P	**P**	**13 04 52.0**	**0.0**
	comp=Z,10nm,1.2s,baz=321						
MDOK	**Medeo**	**57.07**	**318**	*e*P	**P**	**13 04 52.6**	**0.0**
	baz=318						
TNSS	**Tian-Shan**	**57.08**	**318**	*e*P	**P**	**13 04 53.2**	**+0.2**
	baz=318						
AAA	**Alma-Ata**	**57.18**	**318**	*e*P	**P**	**13 04 53.6**	**+0.4**
	baz=318						
ULHL	**Ulahol**	**57.23**	**317**	P	**P**	**13 04 54.5**	**+0.7**
	SNR=5.6						
CHKK	**Chushkaly**	**57.40**	**319**	*e*P	**P**	**13 04 54.2**	**-0.6**
	baz=319						
KZA	**Kyzart**	**57.84**	**316**	P	**P**	**13 04 59.2**	**+0.9**
	SNR=14						
KUU	**Kurty**	**57.84**	**319**	⇑*i*P	**P**	**13 04 57.6**	**-0.3**
	comp=Z,6.5nm,0.7s,baz=319						
TKM2	**Tokmak 2**	**57.94**	**317**	P	**P**	**13 04 59.0**	**+0.3**
	SNR=9.3						
KBK	**Karagaybulak**	**58.27**	**317**	P	**P**	**13 05 01.7**	**+0.6**
	SNR=6.8						
ZAA0	**Zalesovo Array**	**58.37**	**332**	P	**P**	**13 05 00.7**	**-0.6**
ZAA0				IAmb	IAmb	13 05 01.4	
	comp=Z,6.3nm,0.8s						
ZALV	**Zalesovo Beam**	**58.37**	**332**	P	**P**	**13 05 00.5**	**-0.8**
ZALV	**Zalesovo Beam**	**58.37**	**332**	P	**P**	**13 05 00.2**	**-1.0**
	comp=Z,3.7nm,0.3s,baz=119,slow=6.5,SNR=35						
	comp=Z,3.7nm,0.3s						
UCH	**Uchtor**	**58.40**	**316**	P	**P**	**13 05 03.3**	**+1.0**
	SNR=18						
AAK	**Ala-Archa**	**58.57**	**317**	P	**P**	**13 05 03.6**	**+0.4**
AAK				IAmb	IAmb	13 05 06.1	
	comp=Z,3.6nm,0.8s						
AAK	**Ala-Archa**	**58.57**	**317**	LR	LR	13 32 09.2	
	comp=Z,34nm,18.9s,baz=79,slow=38						
SGDS	**Sogindy**	**58.80**	**318**	*e*P	**P**	**13 05 03.9**	**-0.7**
	baz=318						
USP	**Ospenovka**	**58.81**	**317**	P	**P**	**13 05 04.5**	**-0.2**
	SNR=7.8						
AML	**Almayashu**	**58.93**	**316**	P	**P**	**13 05 06.7**	**+0.7**
	SNR=16						
EKS2	**Erkin-Say**	**59.07**	**317**	P	**P**	**13 05 07.1**	**+0.6**
	SNR=15						
SEY	**Seymchan**	**59.47**	**13**	P	**P**	**13 05 08.8**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=173,slow=12,SNR=4.1						
	comp=Z,0.8nm,0.4s						
KURK	**Kurchatov**	**59.66**	**327**	P	**P**	**13 05 10.4**	**+0.1**
KURBB	**Kurchatov Arra**	**59.66**	**327**	P	**P**	**13 05 10.3**	**0.0**
	comp=Z,13nm,0.7s,baz=125,slow=6.2,SNR=160						
	comp=Z,13nm,0.7s						
BTLS	**Baital**	**59.81**	**319**	*e*P	**P**	**13 05 11.2**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,6.9nm,1.3s,baz=319						
KBL	Kabul	60.11	306	P	P	13 05 13.9	-0.1
DZA	Taraz	60.83	316	eP	P	13 05 18.0	-0.5
	comp=Z,6.7nm,0.6s,baz=316						
KK31	Karatay Array	61.47	316	P	P	13 05 22.7	-0.1
KK31				IAmb	IAmb	13 05 23.6	
	comp=Z,12nm,0.8s						
KKAR	Karatay Array	61.47	316	P	P	13 05 22.7	-0.1
BRZS	Berezniki	62.69	324	⇑iP	P	13 05 30.7	-0.1
	baz=324						
RPZ	Rata Peaks	63.79	146	LR	LR	13 34 32.1	
	comp=Z,17nm,19.1s,baz=332,slow=37						
URZ	Urewera	64.33	138	LR	LR	13 33 58.4	
	comp=Z,28nm,20.7s,baz=304,slow=36						
BVAR	Borovoye Array	65.25	326	P	P	13 05 47.4	-0.1
	comp=Z,8.2nm,0.5s,baz=116,slow=6.2,SNR=56						
	comp=Z,8.2nm,0.5s						
BRVK	Borovoye	65.32	326	P	P	13 05 48.1	+0.2
HRA	Herat	65.58	305	P	P	13 05 49.9	-0.4
HRA				IAmb	IAmb	13 05 50.2	
	comp=Z,4.4nm,0.8s						
NRIK	Noril'sk	67.95	346	P	P	13 06 04.8	+0.5
NRIK				IAmb	IAmb	13 06 08.6	
	comp=Z,4.0nm,0.7s						
NRIK	Noril'sk	67.95	346	P	P	13 06 03.1	-1.3
	comp=Z,5.2nm,0.8s,baz=138,slow=7.4,SNR=2.9						
	comp=Z,5.2nm,0.8s						
GEYT	Alibeck	69.42	308	P	P	13 06 14.5	+0.3
GEYT				IAmb	IAmb	13 06 15.7	
	comp=Z,18nm,0.8s						
GEYT	Alibeck	69.42	308	P	P	13 06 14.7	+0.5
	comp=Z,11nm,0.7s,baz=143,slow=5.4,SNR=26						
	comp=Z,11nm,0.7s						
GYA0B	ALIBECK ARRAY	69.42	308	P	P	13 06 14.3	+0.1
GYA0B				IAmb	IAmb	13 06 15.7	
	comp=Z,15nm,0.8s						
ABKAR	Akbulak array	70.26	320	P	P	13 06 18.9	-0.1
ARU	Arti	72.84	327	P	P	13 06 33.9	-0.5
ARU	Arti	72.84	327	P	P	13 06 33.7	-0.7
	comp=Z,20nm,0.5s,baz=106,slow=3.9,SNR=27						
	comp=Z,20nm,0.5s						
KIRV	Kirov	78.10	328	P	P	13 07 03.0	-1.3
	comp=Z,25nm,0.6s,baz=56,slow=1.7,SNR=12						
	comp=Z,25nm,0.6s						
AKH	Akhalkalaki	80.91	311	P	P	13 07 21.5	+1.3
ONI	Oni	80.93	312	P	P	13 07 21.2	+1.1
ONI				IAmb	IAmb	13 07 34.6	
	comp=Z,8.6nm,1.1s						
KARS	Kars	81.23	310	P	P	13 07 23.1	+1.2
KBZ	Khabaz	81.33	313	P	P	13 07 21.3	-0.8
	comp=Z,2.5nm,0.7s,baz=135,slow=1.6,SNR=5.0						
	comp=Z,2.5nm,0.7s						
KIV	Kislovodsk	81.48	313	P	P	13 07 23.5	+0.4
KIV				IAmb	IAmb	13 07 24.9	
	comp=Z,17nm,0.8s						
GURO	Guroymak-BITLI	82.08	308	P	P	13 07 27.5	+1.1
GURO				IAmb	IAmb	13 07 28.5	
	comp=Z,14nm,0.8s						
IL31		82.69	26	P	P	13 07 29.4	+0.7
ILAR	Eielson Array	82.69	26	P	P	13 07 27.6	-1.2
	comp=Z,0.5nm,0.6s,baz=240,slow=5.2,SNR=9.4						
	comp=Z,0.5nm,0.6s						
VOI	Vohitsoka	83.23	247	P	P	13 07 31.3	-1.4
VOI				IAmb	IAmb	13 07 33.6	
	comp=Z,11nm,0.7s						
BMAR	Burnt Mountain	83.62	23	P	P	13 07 34.9	+1.2
ARPR	Arapgir-MALATY	84.94	309	P	P	13 07 42.5	+1.4
ARPR				IAmb	IAmb	13 07 43.3	
	comp=Z,14nm,0.8s						
GAZ	Gaziantep	85.97	307	P	P	13 07 45.8	-0.3
VNDA	Vanda	85.98	173	P	P	13 07 44.3	-0.8
MMAI	Mount Meron Ar	87.85	303	P	P	13 07 55.1	-0.2
	comp=Z,3.0nm,0.5s,baz=57,slow=9.2,SNR=3.5						
	comp=Z,3.0nm,0.5s						
SPITS	Spitsbergen Ar	87.97	349	P	P	13 07 55.3	+0.4
	comp=Z,4.4nm,0.7s,baz=96,slow=8.5,SNR=7.2						
	comp=Z,4.4nm,0.7s						
ARCES	ARCESS Array B	88.08	340	P	P	13 07 54.2	-1.3
	comp=Z,1.1nm,0.4s,baz=84,slow=5.6,SNR=15						
	comp=Z,1.1nm,0.4s						
BR131	Keskin Array S	88.50	310	P	P	13 07 57.7	-0.6
BR131				IAmb	IAmb	13 08 00.2	
	comp=Z,3.8nm,0.8s						
BRTR	Keskin Array B	88.50	310	P	P	13 07 57.4	-1.0
BRTR	Keskin Array B	88.50	310	P	P	13 07 57.1	-1.3
	comp=Z,3.0nm,0.8s,baz=101,slow=4.5,SNR=11						
	comp=Z,3.0nm,0.8s						
A36M	Sachs Harbour	89.46	17	P	P	13 08 02.4	+0.4
A36M				IAmb	IAmb	13 08 30.0	
	comp=Z,4.8nm,1.0s						
FINES	FINESS Array B	89.63	332	P	P	13 08 02.3	-0.7
	comp=Z,1.9nm,0.4s,baz=79,slow=4.6,SNR=12						
	comp=Z,1.9nm,0.4s						
AKASG	Malin Array Be	89.99	321	P	P	13 08 03.8	-1.1
	comp=Z,1.4nm,0.6s,baz=68,slow=4.2,SNR=7.4						
	comp=Z,1.4nm,0.6s						
BURAR	Bucovina Array	93.18	318	P	P	13 08 18.9	-1.0
BURAR				IAmb	IAmb	13 08 23.4	
	comp=Z,1.9nm,0.7s						
BUR08	Bucovina Ar. S	93.19	318	P	P	13 08 20.3	+0.4
BUR08				IAmb	IAmb	13 08 23.5	
	comp=Z,2.1nm,0.8s						
HFS	Hagfors	95.80	332	P	P	13 08 30.3	-1.1
	comp=Z,2.2nm,0.8s,baz=129,slow=5.9,SNR=5.9						
	comp=Z,2.2nm,0.8s						
NOA	NORSAR Array B	96.54	334	P	P	13 08 33.0	-1.9
	comp=Z,0.9nm,0.8s,baz=64,slow=4.6,SNR=2.4						
	comp=Z,0.9nm,0.8s						
YKA	Yellowknife Ar	97.06	24	P	P	13 08 36.3	-0.8
	comp=Z,0.3nm,0.8s,baz=300,slow=5.2,SNR=4.4						
	comp=Z,0.3nm,0.8s						
TORD	Torodi Ar. Bea	122.24	290	PKP	PKPdf	13 14 00.2	-0.7
	comp=Z,1.7nm,0.6s,baz=37,slow=2.8,SNR=14						

IDC ***02*** *12:56:03.6±14.0, 15°.45S×174°.88W, h204km±141km, mb3.7/9, mbtmp4.2/9, MS3.1/1, Error ellipse: s-maj=60.5km s-min=23.2km az=158.0*
NEIC ***02*** *12:56:09.1±0.8, 15°.4S±0°.2×175°.0W±0°.2, h250km±12km, mb4.2/13, Error ellipse: s-maj=27.2km s-min=18.8km az=127.0*
NOU ***02*** *12:56:12.3, 15°.45S×174°.74W, h256km, MLv4.4/10, Tonga Islands*
ISC 02 12:56:09.6±0.6**, 15°.4S**±0°.1×**174°.85W**±0°.09**, h262**km**, n31, σ1s32**/30**, mb4.0**/17**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.31	64		Pn	12 57 06.8	+0.5
AFI	Afiamalu	3.31	64	P	Pn	12 57 07.4	+1.1
TAVE	Taveuni	5.04	254	P	Pn	12 57 30.0	+3.8
DGTI	Dogotuki	5.29	259	P	Pn	12 57 32.6	+3.3
NIUE	Niue	5.96	129		Pn	12 57 37.7	+0.2
NIUE	Niue	5.96	129	P	Pn	12 57 38.7	+1.2
WHZ	Wether Hill Ro	33.67	202	P	P	13 02 25.4	-0.5
ARMA	Armidale	34.16	238	P	P	13 02 28.5	-2.0
ARMA				IAmb	IAmb	13 02 31.6	
	comp=Z,13nm,1.2s						
CTA	Charters Tower	37.29	257	P	P	13 02 56.0	-1.0
	comp=Z,8.0nm,1.2s,baz=122,slow=15,SNR=1.4						
	comp=Z,8.0nm,1.2s						
TOO	Toolangi	41.40	230	P	P	13 03 29.2	-1.5
TOO				IAmb	IAmb	13 03 52.2	
	comp=Z,22nm,1.4s						
STKA	Stephens Creek	42.84	240	P	P	13 03 41.1	-1.2
	comp=Z,2.2nm,0.4s,baz=89,slow=11,SNR=3.8						
STKA				LR	LR	13 20 45.2	
	comp=Z,26nm,20.4s,baz=20,slow=35						
	comp=Z,2.2nm,0.4s						
BBOO	Buckleboo	47.61	240	P	P	13 04 18.4	-1.3
BBOO				IAmb	IAmb	13 04 24.2	
	comp=Z,36nm,1.5s						
WR0	Warramunga Arr	48.30	257	P	P	13 04 23.6	-1.5
WB0	Warramunga Arr	48.45	257	P	P	13 04 25.2	-1.1
WB0				IAmb	IAmb	13 04 29.4	
	comp=Z,7.1nm,1.0s						
WB2	Warramunga Arr	48.48	257	P	P	13 04 24.8	-1.7
WB2				IAmb	IAmb	13 04 27.1	
	comp=Z,6.7nm,0.7s						
WRA	Warramunga Arr	48.49	257	P	P	13 04 25.1	-1.5
WRA	Warramunga Arr	48.49	257	P	P	13 04 25.2	-1.4
	comp=Z,3.6nm,0.6s,baz=92,slow=7.6,SNR=24						
	comp=Z,3.6nm,0.6s						
AS31	Alice Springs	48.79	252	P	P	13 04 27.8	-1.0
AS31				IAmb	IAmb	13 04 29.4	
	comp=Z,7.2nm,0.6s						
ASAR	Alice Springs	48.79	252	P	P	13 04 28.0	-0.8
ASAR	Alice Springs	48.79	252	P	P	13 04 28.1	-0.7
	comp=Z,26nm,0.5s,baz=87,slow=7.9,SNR=177						
FORT	Forrest	54.18	243	P	P	13 05 07.0	-1.5
PSA00	Pilbara Seismi	61.87	254	P	P	13 06 00.7	-1.1
MORW	Morawa	64.63	245	P	P	13 06 19.6	-0.1
PETK	Petropavlovsk-	72.20	343	P	P	13 07 07.1	+1.3
	comp=Z,2.9nm,0.9s,baz=142,slow=7.5,SNR=3.1						
	comp=Z,2.9nm,0.9s						
YBH	Yreka Blue Hor	74.44	38	P	P	13 07 20.3	+1.0
YBH				IAmb	IAmb	13 07 21.6	
	comp=Z,2.3nm,0.7s						
NVAR	Mina Array Bea	75.26	43	P	P	13 07 25.2	+1.0
	comp=Z,1.7nm,0.7s,baz=226,slow=8.8,SNR=18						
	comp=Z,1.7nm,0.7s						
TXAR	Lajitas Array	81.77	57	P	P	13 08 00.7	+1.0
	comp=Z,0.4nm,0.7s,baz=213,slow=9.0,SNR=5.9						
	comp=Z,0.4nm,0.7s						
ILAR	Eielson Array	82.71	12	P	P	13 08 03.2	-0.4
	comp=Z,0.6nm,0.5s,baz=223,slow=5.3,SNR=6.1						
	comp=Z,0.6nm,0.5s						
PDAR	Pinedale Array	83.19	42	P	P	13 08 07.2	+0.3
	comp=Z,2.2nm,0.6s,baz=216,slow=3.4,SNR=28						
	comp=Z,2.2nm,0.6s						
CMAR	Chiang Mai Arr	91.29	289	P	P	13 08 47.2	+1.2
	comp=Z,0.7nm,0.8s,baz=82,slow=1.8,SNR=5.6						
	comp=Z,0.7nm,0.8s						
BRTR	Keskin Array B	145.26	320	PKPbc	PKPdf	13 15 16.6	+0.1
	comp=Z,0.3nm,0.3s,baz=45,slow=2.2,SNR=2.1						

NOU ***02*** *13:28:39.1, 30°.66S×178°.57W, h420km, mb4.3/33, Kermadec Islands, New Zealand*
NEIC ***02*** *13:28:41.6±1.7, 30°.3S±0°.1×179°.7W±0°.2, h367km±7km, mb4.3/23, Error ellipse: s-maj=23.3km s-min=16.1km az=107.0*
IDC ***02*** *13:28:42.0±1.1, 30°.31S×179°.72W, h376km±10km, mb3.8/10, mbtmp4.5/12, Error ellipse: s-maj=15.4km s-min=11.9km az=172.0*
ISC 02 13:28:37.1±0.7**, 30°.56S**±0°.06×**178°.97W**±0°.10**, h400**km**, n207, σ2s59**/180**, mb4.3**/21**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.58	35	P	Pn	13 29 33.1	+2.4
GLKZ				S	S	13 30 12.8	-1.2
RAO	Raoul Island	1.59	35	Pn	Pn	13 29 33.3	+2.5
RAO	Raoul Island	1.59	35	P	Pn	13 29 33.8	+3.0
RAO	Raoul Island	1.59	35	P	Pn	13 29 33.7	+2.9
	475nm,0.3s,baz=79,slow=23,SNR=14						
RAO				S	S	13 30 11.0	-3.1
	742nm,0.4s,baz=257,slow=23,SNR=6.2						
RIZ	Raoul Island	1.59	35	P	Pn	13 29 33.4	+2.6
RIZ				S	S	13 30 14.2	+0.1
MXZ	Matakaoa Point	7.34	197	Pn	P	13 30 28.9	+4.0
MXZ	Matakaoa Point	7.34	197	P	P	13 30 29.0	+4.0
MXZ	Matakaoa Point	7.34	197	P	P	13 30 27.1	+2.2
MXZ				S	S	13 31 51.3	-1.0
WMGZ	Waiomatatini S	7.56	196	P	P	13 30 30.0	+2.6
WMGZ				S	S	13 31 54.6	-2.2
KUZ	Kuaotunu	7.59	214	P	P	13 30 31.8	+4.0
HAZ	Te Kaha	7.67	200	P	P	13 30 30.0	+1.4
HAZ				S	S	13 31 57.5	-1.5
PKGZ	Pakihiroa	7.71	198	P	P	13 30 29.4	+0.3
PKGZ				S	S	13 31 58.1	-2.0
OUZ	Omahuta	7.79	231	P	P	13 30 32.7	+2.7
PUZ	Puketiti	7.84	196	P	P	13 30 32.1	+1.6
PUZ				S	S	13 32 00.9	-1.7
WIAZ	Waiheke Island	7.92	217	P	P	13 30 35.2	+3.8
TWGZ	Tauwhareparae	8.01	198	P	P	13 30 34.6	+2.2
TWGZ				S	S	13 32 05.2	-1.0
WHRZ	Whale Island	8.01	204	P	P	13 30 38.6	+6.1
WHRZ				S	S	13 32 07.7	+1.3
MBAZ	Motutapu North	8.03	218	P	P	13 30 38.2	+5.6
MKAZ	Moumakai	8.15	215	P	P	13 30 38.3	+4.4
ETAZ	East Tamaki Re	8.15	217	P	P	13 30 39.8	+5.8
OPRZ	Ohinepanea	8.16	206	P	P	13 30 36.9	+2.8
OPRZ				S	S	13 32 11.7	+2.4
TGRZ	Tauranga	8.17	208	P	P	13 30 39.4	+5.2
RVAZ	Riverhead Bore	8.20	219	P	P	13 30 39.3	+4.7
CNGZ	Carnagh Statio	8.24	196	P	P	13 30 37.3	+2.3
MWZ	Matawai	8.28	199	P	P	13 30 35.4	0.0
MWZ				S	S	13 32 09.0	-2.9
TKGZ	Te Karaka	8.29	198	P	P	13 30 37.1	+1.6
TKGZ				S	S	13 32 09.4	-2.6
EDRZ	Edgecumbe	8.32	204	P	P	13 30 41.0	+5.0
WTAZ	Waiatarua	8.32	218	P	P	13 30 40.6	+4.7
URZ	Urewera	8.33	202	P	P	13 30 37.3	+1.3
URZ	Urewera	8.33	202	P	P	13 30 36.7	+0.7
	37nm,0.4s,baz=7.2,slow=1.4,SNR=57						
URZ				S	S	13 32 08.5	-4.5
	138nm,0.3s,baz=217,slow=23,SNR=22						
URZ	Urewera	8.33	202	P	P	13 30 36.9	+0.9
URZ				S	S	13 32 10.6	-2.4
KARZ	Kaharoa	8.43	207	P	P	13 30 40.5	+3.4
OMRZ	Omania	8.46	206	P	P	13 30 42.9	+5.5
RAGZ	Rawiri	8.46	200	P	P	13 30 37.4	-0.1
RAGZ				S	S	13 32 14.6	-1.2
TOZ	Tahuroa Road	8.49	211		P	13 30 41.0	+3.2
TARZ	Mount Tarawera	8.52	205	P	P	13 30 42.8	+4.6
NGRZ	Ngongotaha	8.52	207	P	P	13 30 44.3	+6.2
RIGZ	Rimuhau	8.56	197	P	P	13 30 40.7	+2.1
RIGZ				S	S	13 32 14.3	-3.6
HLRZ	Highlands Stat	8.59	205	P	P	13 30 43.4	+4.4
RRRZ	Republican Roa	8.61	204	P	P	13 30 43.0	+3.9
MUGZ	Murupara	8.64	203	P	P	13 30 41.0	+1.5
MUGZ				S	S	13 32 18.6	-1.1
HSRZ	Hossack Road	8.68	206	P	P	13 30 44.3	+4.4
HSRZ				S	S	13 32 25.1	+4.6
RTZ	Ruatahuna	8.70	201	Pn	P	13 30 40.8	+0.6
RTZ	Ruatahuna	8.70	201	P	P	13 30 42.2	+2.1
RTZ				S	S	13 32 17.2	-3.7
HRRZ	Handcock Road	8.74	205	P	P	13 30 44.4	+3.8
HRRZ				S	S	13 32 25.1	+3.4
SNGZ	Shannon Statio	8.75	199	P	P	13 30 42.3	+1.6
SNGZ				S	S	13 32 20.9	-0.9
PRRZ	Plateau Road	8.79	205	P	P	13 30 44.2	+3.0
PRRZ				S	S	13 32 19.4	-3.4
ALRZ	Allen Road	8.87	205	P	P	13 30 45.6	+3.6
ALRZ				S	S	13 32 23.9	-0.5
KNZ	Kokohu	8.88	197	P	P	13 30 41.3	-0.8
KNZ				S	S	13 32 22.0	-2.6
WPRZ	Whakapapatarin	8.90	205	P	P	13 30 45.9	+3.6
RAHZ	Arahi	8.95	200	P	Pn	13 30 44.9	+2.1
RAHZ				S	S	13 32 22.6	-3.4
MHGZ	Mahia Peninsul	8.95	196	P	Pn	13 30 46.8	+4.0
MHGZ				S	S	13 32 21.0	-5.1
MTHZ	Maungataniwha	8.96	201	P	Pn	13 30 47.0	+4.0
MTHZ				S	S	13 32 22.6	-3.9
TLZ	Tolley Road	8.98	209	P	Pn	13 30 48.1	+4.9
KUTZ	Kaahu Road	9.00	207	P	Pn	13 30 48.0	+4.6
WHHZ	Waihua	9.05	199	P	Pn	13 30 46.9	+2.9
WHHZ				S	S	13 32 23.2	-5.0
MRHZ	Matea Rd	9.08	203	P	Pn	13 30 46.9	+2.5
MRHZ				S	S	13 32 24.6	-4.4
WHTZ	Whakaora	9.10	206	P	Pn	13 30 50.4	+5.8
NMHZ	Naumai	9.20	201	P	Pn	13 30 45.6	-0.2
NMHZ				S	S	13 32 28.5	-2.9
ARHZ	Aropaoanui	9.29	200	P	Pn	13 30 47.7	+1.0
ARHZ				S	S	13 32 30.4	-2.9
BKZ	Black Stump Fm	9.36	202	Pn	P	13 30 46.5	-1.0
BKZ	Black Stump Fm	9.36	202	P	Pn	13 30 51.0	+3.4
BKZ	Black Stump Fm	9.36	202	P	Pn	13 30 49.5	+1.9
BKZ				S	S	13 32 32.4	-2.3
RITZ	Rihia Road	9.41	205	P	Pn	13 30 50.8	+2.6
RITZ				S	S	13 32 36.7	+0.9
HIZ	Hauiti	9.43	211	Pn	Pn	13 30 48.7	+0.4
HIZ	Hauiti	9.43	211	P	Pn	13 30 51.1	+2.8
KATZ	Kakaramea	9.47	206	P	Pn	13 30 52.2	+3.2
MCHZ	McNeill Hill	9.55	201	P	Pn	13 30 50.6	+0.8
MCHZ				S	S	13 32 35.7	-2.9
NTVZ	North Tongarir	9.59	206	P	Pn	13 30 52.6	+2.3
TMVZ	Te Maari	9.59	206	P	Pn	13 30 52.6	+2.2
TMVZ				S	S	13 32 38.0	-1.7
KRVZ	Karewarewa	9.60	206	P	Pn	13 30 52.5	+2.1
ETVZ	East Tongariro	9.61	206	P	Pn	13 30 52.6	+2.1
ETVZ				S	S	13 32 40.2	+0.2
KWHZ	Kaweka Forest	9.62	202	P	Pn	13 30 50.8	+0.2
KWHZ				S	S	13 32 37.2	-2.8
WTVZ	West Tongariro	9.63	206	P	Pn	13 30 52.8	+1.9
WTVZ				S	S	13 32 39.0	-1.6
CKHZ	Cape Kidnapper	9.64	199	P	Pn	13 30 52.1	+1.4
CKHZ				S	S	13 32 36.7	-3.6
NNVZ	North Ngauruho	9.64	206	P	Pn	13 30 53.1	+2.1
TWVZ	Taurewa	9.65	207	P	Pn	13 30 53.2	+2.1
SNVZ	South Ngauruho	9.68	206	P	Pn	13 30 53.1	+1.7
NGZ	Ngauruhoe	9.68	206	P	Pn	13 30 53.7	+2.3
NGZ				S	S	13 32 36.6	-5.0
COVZ	Chateau Observ	9.72	206	P	Pn	13 30 55.3	+3.4
COVZ				S	S	13 32 42.6	+0.2
TUVZ	Tukino	9.74	205	P	Pn	13 30 53.8	+1.7
TUVZ				S	S	13 32 37.9	-4.9
FWVZ	Far West T-bar	9.77	206	P	Pn	13 30 54.5	+2.0
FWVZ				S	S	13 32 40.4	-3.1
MAVZ	Matarangi	9.78	206	P	Pn	13 30 54.1	+1.4
WHVZ	Whangaehu Hut	9.78	206	P	Pn	13 30 54.5	+1.8
TRVZ	Turoa	9.81	206	P	Pn	13 30 54.6	+1.6
KAHZ	Kahuranaki	9.82	199	P	Pn	13 30 54.3	+1.4
KAHZ				S	S	13 32 37.8	-6.4
MOVZ	Moawhango	9.83	205	P	Pn	13 30 54.3	+1.3
KRHZ	Kereru	9.83	202	P	Pn	13 30 53.8	+0.8
KRHZ				S	S	13 32 41.4	-3.0
MTVZ	Mangateitei	9.91	206	P	Pn	13 30 56.2	+2.2
PXZ	Pawanui	10.04	199	P	Pn	13 30 58.4	+3.0
PNHZ	Pukenui	10.13	202	P	Pn	13 30 57.6	+1.1
WPHZ	Waipukurau	10.20	200	P	Pn	13 30 59.7	+2.5
PRHZ	Porangahau	10.33	199	P	Pn	13 30 59.6	+0.9
TSZ	Takapari Road	10.34	202	P	Pn	13 30 59.1	+0.1
WAZ	Wanganui	10.42	207	P	Pn	13 31 01.6	+1.8
DVHZ	Dannevirke	10.49	201	P	Pn	13 31 01.9	+1.2
ANWZ	Angora Road	10.55	199	P	Pn	13 31 03.6	+2.3
POWZ	Post Office Ro	10.70	202	P	Pn	13 31 06.0	+2.8
PRWZ	Pori Road	10.79	201	P	Pn	13 31 06.8	+2.8
BFZ	Birch Farm	10.82	200	Pn	P	13 31 03.1	-0.5
BFZ	Birch Farm	10.82	200	P	Pn	13 31 04.7	+0.2
BFZ	Birch Farm	10.82	200	P	Pn	13 31 04.3	-0.1
MRZ	Mangatainoka R	11.01	202	Pn	P	13 31 04.9	-0.8
TIWZ	Tintock	11.02	201	P	Pn	13 31 08.2	+1.4
OGWZ	Otaki Gorge	11.29	203	P	Pn	13 31 10.4	+0.6
TMWZ	Te Maipa	11.32	200	P	Pn	13 31 12.8	+2.6
KIW	Kapiti Island	11.41	204	P	Pn	13 31 11.1	-0.3
MTW	Mount Morrison	11.48	201	P	Pn	13 31 13.4	+1.2
CAW	Cannon Point	11.58	203	P	Pn	13 31 12.8	-0.5
TRWZ	Traveller	11.64	200	P	Pn	13 31 16.5	+2.5
PAWZ	Paruwai Farm	11.71	201	P	Pn	13 31 15.7	+0.9
SNZO	South Karori	11.88	204		Pn	13 31 15.8	-0.9
SNZO	South Karori	11.88	204	P	Pn	13 31 17.8	+1.1
BHW	Baring Head	11.91	203	P	Pn	13 31 16.9	-0.1
PLWZ	Palliser	11.93	201	P	Pn	13 31 17.9	+0.5
TCW	Tory Channel	11.95	205	P	Pn	13 31 18.1	+0.5
TUWZ	Tuamarina	12.27	206		P	13 31 19.4	-0.1
TKNZ	Takaka Hill	12.33	210	P	P	13 31 20.0	-0.2
QRZ	Quartz Range	12.35	212	P	Pn	13 31 23.3	+1.2
KHZ	Kahutara	13.27	205	P	Pn	13 31 31.6	-1.2
KHZ	Kahutara	13.27	205	P	Pn	13 31 32.4	-0.4
NIUE	Niue	14.07	38	P	P	13 31 40.0	+0.5
DGTI	Dogotuki	14.24	355	P		13 31 45.6	
OXZ	Oxford	14.62	207	P	P	13 31 47.0	+1.8
RPZ	Rata Peaks	15.34	208	P	P	13 31 58.3	+5.3
	2.0nm,0.4s,baz=18,slow=3.2,SNR=2.2						
RPZ				S	S	13 34 33.1	-2.1
	9.7nm,0.4s,baz=359,slow=22,SNR=14						
DZM	Mont Dzumac	15.56	299	P	P	13 32 01.9	+6.1
DZM	Mont Dzumac	15.56	299	P	P	13 31 55.3	-0.5
	2.8nm,0.7s,baz=125,slow=19,SNR=2.2						
ODZ	Otahua Downs	16.60	207	P	P	13 32 08.3	+1.7
JCZ	Jackson Bay	16.61	212	P	P	13 32 08.8	+2.0
KOUNC	Koumac, New Ca	18.08	300	P	P	13 32 27.9	+5.4
ARMA	Armidale	25.31	263	P	P	13 33 34.7	+5.1
EIDS	Eidsvold	26.91	274	P	P	13 33 42.5	-1.3
EIDS				IAmb	IAmb	13 33 49.1	
	comp=Z,15nm,1.0s						
CAN	Canberra	27.23	251	P	P	13 33 48.5	+2.0
CAN				IAmb	IAmb	13 34 26.4	
	comp=Z,34nm,1.5s						
YNG	Young	27.73	254	P	P	13 33 55.0	+4.1
RK1H	Rockhampton Ha	28.08	277	P	P	13 33 58.0	+4.0
PPT	Papeete	29.69	71	P	P	13 34 19.8	+11
	comp=Z,14nm,0.9s,baz=239,slow=18,SNR=2.3						
	comp=Z,14nm,0.9s						
TOO	Toolangi	30.13	247	P	P	13 34 15.0	+3.1
TOO				IAmb	IAmb	13 34 41.0	
	comp=Z,33nm,1.4s						
TOO	Toolangi	30.13	247	P	P	13 34 15.0	+3.0
CMSA	Cobar Meteorol	30.21	259	P	P	13 34 17.3	+4.6
CTA	Charters Tower	33.00	280	P	P	13 34 40.5	+3.6
CTAO	Charters Tower	33.00	280	P	P	13 34 39.3	+2.4
CTAO	Charters Tower	33.00	280	P	P	13 34 40.6	+3.7
STKA	Stephens Creek	33.63	257	P	P	13 34 44.0	+1.9
STKA	Stephens Creek	33.63	257	P	P	13 34 45.3	+3.2
	comp=Z,9.2nm,0.8s,baz=84,slow=9.6,SNR=16						
	comp=Z,9.2nm,0.8s						
HTT	Hallett	35.65	254	P	P	13 35 02.3	+3.0
LCRK	Leigh Creek	36.72	259	P	P	13 35 11.1	+2.9
BBOO	Buckleboo	38.12	255	P	P	13 35 22.0	+2.2
BBOO				IAmb	IAmb	13 35 22.7	
	comp=Z,10nm,0.9s						
BBOO	Buckleboo	38.12	255	P	P	13 35 22.4	+2.6
QIS	Mount Isa	38.49	275	P	P	13 35 25.7	+2.7
OOD	Oodnadatta	39.48	262	P	P	13 35 34.1	+3.1
MULG	Mulgathing	40.27	258	P	P	13 35 39.8	+2.4
AS31	Alice Springs	42.26	268	P	P	13 35 54.1	+0.7
ASAR	Alice Springs	42.26	268	P	P	13 35 54.0	+0.5
ASAR	Alice Springs	42.26	268	P	P	13 35 54.9	+1.4
	comp=Z,3.9nm,0.6s,baz=107,slow=7.5,SNR=114						
ASAR				PcP	PP	13 37 42.7	+1.2
	comp=Z,0.9nm,0.7s,baz=113,slow=5.7,SNR=2.8						
ASAR				ScP	ScP	13 40 58.2	+7.6
	comp=Z,2.0nm,1.0s,baz=101,slow=4.0,SNR=7.4						
ASAR				S	S	13 41 42.7	-1.2
	comp=Z,0.2nm,0.7s,baz=106,slow=15,SNR=2.1						
	comp=Z,3.9nm,0.6s						
WR0	Warramunga Arr	43.09	273	P	P	13 36 00.6	+0.6
WR0				IAmb	IAmb	13 36 03.6	
	comp=Z,9.5nm,0.9s						
WRAB	Tennant Creek	43.26	273	P	P	13 36 01.8	+0.4
WRAB				IAmb	IAmb	13 36 04.4	
	comp=Z,9.2nm,0.8s						
WRA	Warramunga Arr	43.27	273	P	P	13 36 01.8	+0.4
WRA	Warramunga Arr	43.27	273	P	P	13 36 03.0	+1.5
	comp=Z,8.4nm,0.5s,baz=112,slow=7.8,SNR=154						
WRA				PcP	PP	13 37 46.7	-4.7
	comp=Z,1.0nm,0.7s,baz=115,slow=3.2,SNR=2.9						
WRA				ScP	ScP	13 41 01.0	+6.4
	comp=Z,0.8nm,0.8s,baz=101,slow=3.7,SNR=4.8						
WRA				S	S	13 41 55.6	-2.7
	comp=Z,0.7nm,0.8s,baz=110,slow=14,SNR=6.5						
	comp=Z,8.4nm,0.5s						
WB0	Warramunga Arr	43.29	273	P	P	13 36 01.9	+0.3
WB0				IAmb	IAmb	13 36 04.6	
	comp=Z,22nm,1.1s						
FORT	Forrest	45.20	256	P	P	13 36 18.2	+1.9
FORT				IAmb	IAmb	13 36 26.0	
	comp=Z,17nm,1.0s						
FORT	Forrest	45.20	256	P	P	13 36 18.4	+2.1
WRKA	Warakurna	46.63	263	P	P	13 36 29.1	+1.6
KNRA	Kununurra	49.88	275	P	P	13 36 54.8	+2.7
KNRA				IAmb	IAmb	13 36 55.8	
	comp=Z,28nm,1.2s						
FITZ	Fitzroy Crossi	51.52	271	P	P	13 37 06.8	+2.7
CASY	Casey	54.61	208	P	P	13 37 30.7	+5.1
MBWA	Marble Bar	55.37	264	P	P	13 37 33.7	+1.9
MBWA				IAmb	IAmb	13 38 10.9	
	comp=Z,22nm,1.2s						
MORW	Morawa	55.68	254	P	P	13 37 36.3	+2.5
MORW				IAmb	IAmb	13 38 05.1	
	comp=Z,29nm,1.5s						
QSPA	South Pole Qui	59.55	180	P	P	13 38 09.2	+9.3
QSPA				IAmb	IAmb	13 38 10.3	
	comp=Z,7.9nm,0.8s						
QSPA	South Pole Qui	59.55	180	P	P	13 38 08.8	+8.9
	comp=Z,7.6nm,0.7s,baz=24,slow=0.7,SNR=20						
	comp=Z,7.6nm,0.7s						
UGM	Wanagama	69.25	273	P	P	13 39 06.0	+3.2
SNAA	Sanae	78.02	179	P	P	13 40 00.5	+8.3
SNAA				IAmb	IAmb	13 40 01.6	
	comp=Z,6.9nm,1.2s						
SNAA	Sanae	78.02	179	P	P	13 40 00.6	+8.5
	comp=Z,1.5nm,0.7s,baz=176,slow=15,SNR=8.0						
	comp=Z,1.5nm,0.7s						
TPUB	Ta-pu	78.89	305	P	P	13 39 59.9	+2.3
JNU	Nakatsue	79.12	319	P	P	13 40 03.1	+4.4
AMKA	Amchitka	81.60	359	P	P	13 40 16.2	+5.2
KSRS	Korea Array	83.93	320	P	P	13 40 27.4	+4.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.3nm,0.9s,baz=131,slow=5.5,SNR=4.1						
	comp=Z,2.3nm,0.9s						
PEA0B	Petropavlovsk-	85.76	346	P	P	13 40 37.5	+5.5
PETK	Petropavlovsk-	85.76	346	P	P	13 40 37.5	+5.6
PETK	Petropavlovsk-	85.76	346	P	P	13 40 37.8	+5.8
	comp=Z,6.3nm,0.9s,baz=93,slow=5.4,SNR=9.2						
	comp=Z,6.3nm,0.9s						
USRK	Ussuriysk Ar.	86.83	327	P	P	13 40 43.2	+6.0
	comp=Z,4.7nm,1.0s,baz=170,slow=4.5,SNR=4.8						
	comp=Z,4.7nm,1.0s						
NVAR	Mina Array Bea	88.93	43	P	P	13 40 55.4	+7.8
	comp=Z,0.2nm,0.5s,baz=220,slow=7.9,SNR=2.9						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	117.23	310	PKP	PKiKP	13 46 40.5	+5.2
	comp=Z,0.5nm,0.5s,baz=98,slow=1.5,SNR=10						
ZALV	Zalesovo Beam	117.59	318	PKP	PKiKP	13 46 40.6	+4.9
	comp=Z,0.5nm,0.5s,baz=133,slow=2.5,SNR=2.6						
KURK	Kurchatov	120.55	314		PKiKP	13 46 47.0	+5.4
KURBB	Kurchatov Arra	120.59	314	PKP	PKiKP	13 46 47.2	+5.5
	comp=Z,1.8nm,0.5s,baz=112,slow=1.9,SNR=9.2						
KK31	Karatay Array	124.46	304		PKiKP	13 46 55.6	+6.0
KKAR	Karatay Array	124.46	304		PKiKP	13 46 55.6	+5.9
BVAR	Borovoye Array	125.93	316	PKP	PKiKP	13 46 57.6	+5.4
	comp=Z,3.2nm,0.7s,baz=73,slow=1.4,SNR=20						
BRVK	Borovoye	126.00	316		PKiKP	13 46 57.9	+5.5
ARCES	ARCESS Array B	138.56	347	PKhKP	PKPpre	13 47 14.2	
	comp=Z,2.6nm,0.9s,baz=358,slow=14,SNR=11						
ARCES				PKP	PKiKP	13 47 20.4	+3.1
	comp=Z,3.5nm,0.9s,baz=90,slow=1.2,SNR=7.5						
KBZ	Khabaz	144.50	304	PKP	PKiKP	13 47 31.6	+1.4
	comp=Z,4.9nm,0.9s,baz=60,slow=4.8,SNR=8.0						
OBN	Obninsk	144.82	325		PKiKP	13 47 32.1	+1.7
FINES	FINESS Array B	145.00	339	PKP	PKiKP	13 47 32.9	+2.2
	comp=Z,40nm,0.8s,baz=64,slow=4.4,SNR=38						
NC405	NORSAR Array S	148.63	350	PKPbc	PKPab	13 47 43.6	+1.5
NB2	NORSAR Subarra	148.78	350	PKP	PKPab	13 47 43.6	+0.9
	comp=Z,3.7nm,0.7s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.78	350	PKPbc	PKPab	13 47 44.0	+1.3
	comp=Z,3.2nm,0.7s,baz=18,slow=4.0,SNR=14						
HFS	Hagfors	149.23	348	PKPbc	PKPab	13 47 44.6	+0.1
	comp=Z,4.4nm,0.5s,baz=73,slow=2.0,SNR=17						
MMAI	Mount Meron Ar	150.75	284	PKPbc	PKPab	13 47 50.0	-1.9
	comp=Z,11nm,0.7s,baz=72,slow=4.7,SNR=7.9						
AKASG	Malin Array Be	150.91	322		PKPab	13 47 48.5	-3.4
AKASG	Malin Array Be	150.91	322	PKPbc	PKPab	13 47 48.7	-3.1
	comp=Z,7.7nm,0.7s,baz=50,slow=2.6,SNR=22						
AKBB	Malin Array Si	150.91	322		PKPab	13 47 48.7	-3.1
KIEV	Kiev	150.93	322		PKPab	13 47 48.8	-3.1
BR131	Keskin Array S	151.94	298		PKPab	13 47 50.7	-6.0
BRTR	Keskin Array B	151.94	298		PKPab	13 47 50.7	-6.1
BRTR	Keskin Array B	151.94	298	PKPbc	PKPab	13 47 51.4	-5.4
	comp=Z,2.6nm,0.6s,baz=130,slow=3.7,SNR=12						
BRTR				PKPab	PKiKP	13 48 01.1	+15
	comp=Z,1.4nm,0.7s,baz=104,slow=6.1,SNR=5.4						
TORD	Torodi Ar. Bea	162.66	182		PKPab	13 48 50.8	+7.5
TORD	Torodi Ar. Bea	162.66	182	PKP	PKPdf	13 48 00.1	+7.5
	comp=Z,0.6nm,0.8s,baz=135,slow=1.1,SNR=3.9						
TORD				PKPab	PKPab	13 48 50.6	+7.4
	comp=Z,2.1nm,0.6s,baz=154,slow=3.8,SNR=12						

IDC 02 13:31:43.2±3.1, 22°.75N×11°.53W, h0km, mb3.4/1, mbtmp3.4/2, ML2.9/1, Error ellipse: s-maj=108.6km s-min=50.0km az=57.0, Mauritania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.78	125	Pn	Pn	13 35 28.2	+1.3
	0.1nm,0.3s,baz=312,slow=11,SNR=2.8						
TORD				Sn	Sn	13 38 21.7	-0.9
	0.1nm,0.3s,baz=312,slow=20,SNR=1.9						
	0.5nm,0.6s						
MKAR	Makanchi Array	76.28	45	P	P	13 43 34.1	+0.1
	0.2nm,0.5s,baz=301,slow=4.9,SNR=6.3						
	0.2nm,0.5s						
WRA	Warramunga Arr	148.12	91	PKPbc	PKPbc	13 51 31.1	-0.7
	0.3nm,0.7s,baz=288,slow=2.7,SNR=2.6						
ASAR	Alice Springs	148.26	99	PKPbc	PKPbc	13 51 31.2	-0.9
	0.3nm,0.7s,baz=270,slow=2.8,SNR=6.0						

*NEIC **02** 13:42:52±0.9, 31°.223N±0°.010×103°.57W±0°.01, h5km±1km, mb_Lg3.1/52, ML3.1/64, Error ellipse: s-maj=2.9km s-min=2.0km az=320.0*
*ANF **02** 13:42:53.7±0.4, 31°.24N×103°.55W, h5km, ML3.9/5, Error ellipse: s-maj=4.5km s-min=3.9km az=145.0*
ISC 02 13:42:52.3±1.2, 31°.23N±0°.03×103°.57W±0°.03, h4km±11km, n48, σ0s.81/48, Western Texas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PECS	Pecos	0.29	299	Pg	Pg	13 42 58.2	+0.2
PECS				Sg	Sg	13 43 03.0	+1.1
PECS				IAML		13 43 06.4	
	3µm,0.4s						
PECS				IAML		13 43 06.6	
	3µm,0.5s						
MNHN	Monahans	0.70	81		Pg	13 43 05.7	-0.1
MNHN				Sg	Sg	13 43 15.8	+1.0
ALPN	Alpine	0.85	184		Pg	13 43 08.3	-0.4
ALPN				Sg	Sg	13 43 19.8	0.0
CLNB	Carlsbad	1.07	346	Pg	Pg	13 43 12.5	-0.4
GDL2	Guadalupe Moun	1.18	325	Pg	Pg	13 43 14.2	-0.8
CLN7	Carlsbad 7	1.20	350	Pg	Pg	13 43 14.7	-0.7
ODSA	Odessa	1.24	44		Pg	13 43 15.5	-0.6
VHRN	Van Horn	1.29	250		Pg	13 43 16.4	-0.8
VHRN				Sg	Sg	13 43 33.0	-1.0
VHRN				IAML		13 43 41.1	
	328nm,0.4s						
MNTX	Cornudas Mount	1.62	287	P	Pn	13 43 22.3	+0.5
	baz=107						
MNTX				S	Sb	13 43 44.4	+0.7
	baz=107						
SAND	Sanderson	1.78	135	Pn	Pn	13 43 24.3	+0.3
SAND					Sn	13 43 47.0	-0.1
CPRX	Cap Rock	1.81	352	Pn	Pn	13 43 25.3	+0.7
TX31	Lajitas Ar. Si	1.89	183	Pn	Pn	13 43 25.8	+0.3
TX31					Sb	13 43 52.1	+0.6
TX31	Lajitas Ar. Si	1.89	183	P	Pn	13 43 26.9	+1.3
	baz=2.7						
TX31				S	Sg	13 43 53.2	+0.1
	baz=2.7						
TXAR	Lajitas Array	1.89	183		Pn	13 43 25.6	+0.1
OZNA	Ozona	2.12	98	Pn	Pn	13 43 29.0	+0.4
OZNA				IAmb_Lg		13 44 03.1	
	comp=Z,95nm,0.9s						
SGCY	Sterling City	2.19	71	Pn	Pn	13 43 29.6	-0.1
SGCY				IAmb_Lg		13 44 05.3	
	comp=Z,76nm,0.8s						
POST	Post	2.54	43		Pn	13 43 34.5	+0.1
POST				IAmb_Lg		13 44 18.3	
	comp=Z,54nm,0.7s						
SN01	Snyder 1	2.80	54		Pn	13 43 38.5	+0.6
SN01				IAmb_Lg		13 44 26.1	
	comp=Z,66nm,0.8s						
SN05	Snyder 5	2.81	53	IAmb_Lg		13 44 23.3	
	comp=Z,60nm,0.7s						
MSTX	Muleshoe	2.81	14	P	Pn	13 43 40.0	+1.8
	baz=194						
MSTX				S	Sb	13 44 16.3	-1.9
	baz=194						
DRIO	Del Rio	3.12	124	Pn	Pn	13 43 42.7	+0.3
DKNS	Dickens	3.30	42		Pn	13 43 44.8	-0.1
DKNS				IAmb_Lg		13 44 43.5	
	comp=Z,42nm,0.7s						
JCT	Junction City	3.32	102	IAmb_Lg		13 44 38.0	
	comp=Z,44nm,0.7s						
APMT	Aspermont	3.59	53	IAmb_Lg		13 44 51.1	
	comp=Z,43nm,0.8s						
ABTX	Abilene, Hawle	3.62	66	Pn	Pn	13 43 49.4	+0.2
ABTX				IAmb_Lg		13 44 54.2	
	comp=Z,35nm,0.7s						
ABTX	Abilene, Hawle	3.62	66	P	Pn	13 43 50.5	+1.3
	baz=248						
ABTX				S	Sn	13 44 33.6	+1.3
	baz=248						
121A	Cookes Peak, D	3.82	291		Pn	13 43 51.4	-0.7
121A				IAML		13 44 59.4	
	comp=E,46nm,0.5s						
BRDY	Brady	3.91	88	Pn	Pn	13 43 53.9	+0.6
BRDY				IAmb_Lg		13 45 02.5	
	comp=Z,48nm,0.8s						
Y22A	Socorro	3.94	314	P	Pn	13 43 55.6	+1.8
	baz=133						
AMTX	Amarillo	3.97	23	IAmb_Lg		13 45 09.2	
	comp=Z,50nm,0.8s						
ANMO	Albuquerque	4.43	328	Pn	Pn	13 43 59.6	-0.9
ANMO				IAML		13 45 15.3	
	comp=Z,20nm,0.9s						
HPIG		4.66	204		Pn	13 44 04.4	+0.7
HPIG				IAML		13 45 27.4	
	comp=N,16nm,0.7s						
PLPT	Palo Pinto	4.73	69	Pn	Pn	13 44 05.1	+0.5
PLPT				IAmb_Lg		13 45 32.7	
	comp=Z,28nm,0.8s						
319A	Douglas	4.89	273	Pn	Pn	13 44 06.5	-0.3
EF01	Eagle Ford 01	4.96	114	Pn	Pn	13 44 06.5	-1.1
FW07	Weatherford	5.13	72	IAmb_Lg		13 45 44.2	
	comp=Z,33nm,1.1s						
RTBA	Rita Blanca	5.24	7		Pn	13 44 11.3	-0.3
RTBA				IAmb_Lg		13 45 49.9	
	comp=Z,25nm,0.8s						
WHTX	Lake Whitney,	5.27	80	Pn	Pn	13 44 12.0	+0.1
WHTX	Lake Whitney,	5.27	80	P	Pn	13 44 12.4	+0.5
	baz=263						
WHTX				S	Sn	13 45 12.0	-1.1
	baz=263						
WMOK	Wichita Mounta	5.33	48	Pn	Pn	13 44 13.2	+0.5
FW14	Alvarado	5.55	76	IAmb_Lg		13 46 01.3	
	comp=Z,29nm,0.8s						
Z35A	Perchaven, San	5.74	67	IAmb_Lg		13 46 06.5	
	comp=Z,34nm,1.2s						
ELIS	Ellis County	5.94	35	Pn	Pn	13 44 21.8	+0.7
LOOK	Love County	6.05	61	Pn	Pn	13 44 23.1	+0.5
FNO	Franklin	6.54	50	IAmb_Lg		13 46 32.7	
	comp=Z,28nm,0.9s						
W35A	Tecumseh	6.84	53	IAmb_Lg		13 46 46.4	
	comp=Z,18nm,0.8s						
KAN06	Argonia West S	7.64	37	IAmb_Lg		13 47 08.4	
	comp=Z,21nm,1.3s						
R32A	Long Quarter,	8.21	28	IAmb_Lg		13 47 22.7	
	comp=Z,22nm,1.2s						

IDC 02 13:59:14.9±56.0, 16°.47S×179°.37W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1014.0km s-min=156.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.54	239	P	P	14 06 39.4	-0.1
	0.6nm,0.3s,baz=68,slow=11,SNR=4.5						
	0.6nm,0.3s						
WRA	Warramunga Arr	44.01	258	P	P	14 07 24.4	-0.2
	0.2nm,0.2s,baz=92,slow=7.6,SNR=12						
	0.2nm,0.2s						
ASAR	Alice Springs	44.31	253	P	P	14 07 26.9	-0.1
	3.7nm,0.8s,baz=89,slow=8.0,SNR=86						
	3.7nm,0.8s						

TEH 02 14:15:03.0, 31°.39N×56°.32E, h8km±32km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.46	156	Pg	Pb	14 15 13.3	-0.2
ZRDN				Sg	Sb	14 15 20.4	-0.2
IBAF	Bafgh	0.67	288	Pg	Pb	14 15 16.7	-0.4
KHGB	Koh Gabri	1.02	172	Pg	Pn	14 15 23.7	-0.1
KRM1	Kerman Provinc	1.21	137	Pg	Pn	14 15 28.0	+1.7
TVBK	TV Kerman	1.45	165	Pg	Pg	14 15 32.3	+1.5
IMEH	Mehriz	1.46	270	Pg	Pg	14 15 31.5	+0.5
TPRV	Parvadeh(Tabas	1.66	11	Pg	Pg	14 15 35.7	+0.8
NGRK	Negar Kerman	1.78	168	Pg	Pg	14 15 38.6	+1.5
ICHK	Chekchek	1.83	298	Pn	Pg	14 15 38.4	+0.1
CHMN	Cheshme madani	1.85	145	Pn	Pg	14 15 38.7	+0.1
TKDS	Koohdasht(Taba	2.32	17	Pn	Pb	14 15 44.8	-0.4
BSRN	Basiran	2.46	76	Pn	Pb	14 15 46.6	-1.1
IKOO	Kooshah	2.51	65	Pn	Pb	14 15 47.3	-1.1
ITEG	Tejag	2.55	53	Pn	Pb	14 15 48.0	-1.2
TNSJ	Nastanj	2.58	5	Pn	Pb	14 15 48.2	-1.4
ANAR	Anarak	2.83	310	Pn	Pb	14 15 52.2	-1.8
KBAM	BAM	2.91	140	Pn	Pb	14 15 53.3	-1.9
AFRZ	Afriz	3.06	48	Pn	Pn	14 15 54.5	+2.7
NHDN	Nehbandan	3.19	89	Pn	Pb	14 15 57.0	-3.1
IRAM	Ramesheh	3.38	278	Pn	Pb	14 15 59.9	-3.5
IZEF	Zefreh	3.70	295	Pn	Pn	14 16 04.4	+3.6
SHRT	Shahrakht	4.04	55	Pn	Pn	14 16 08.9	+3.6
KLNJ	Kolanjah	4.07	266	Pn	Pn	14 16 09.7	+3.8
KRSH	Karshahi	4.36	307	Pn	Pn	14 16 13.2	+3.4
ISFB	Sefidab	4.53	312	Pn	Pn	14 16 15.8	+3.9
SBZV	Sabzevar	5.10	12	Pn	Pn	14 16 23.6	+3.6
ISFR	Sfrayin	5.82	13	Pn	Pn	14 16 33.6	+3.8
IEMG	Emamgholi	6.31	17	Pn	Pn	14 16 39.9	+3.2

*ROM **02** 14:27:45.4±0.3, 41°.19N±0°.02×17°.86E±0°.02, h14km±2km, ML2.7/9, Error ellipse: s-maj=1.8km s-min=1.3km az=203.0*
*PDG **02** 14:27:53.2±0.1, 41°.73N×17°.91E, h12km, ML2.3/10, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
ISC 02 14:27:43.6±1.1, 41°.18N±0°.03×17°.93E±0°.03, h14km±9km, n28, σ1s.40/46, 5C-5D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MESG	Mesagne	0.59	186	P	Pn	14 27 57.2	-0.4
MESG				S	Sn	14 28 05.0	-2.0
MESG				AML	AML		
	comp=E,946µm,0.5s						
MESG				AML	AML		
	comp=N,1345µm,0.3s						
NOCI	Noci	0.76	239	P	Pn	14 27 58.9	-1.0
NOCI				S	Sg	14 28 08.0	-0.4
NOCI				AML	AML		
	comp=E,994µm,1.5s						
NOCI				AML	AML		
	comp=N,1175µm,0.2s						
NOCI				AML	AML		
	comp=E,994µm,0.5s						
AMUR	Altamura	1.04	255	P	Pg	14 28 03.9	+0.3
AMUR				S	Sb	14 28 17.0	+0.2
AMUR				AML	AML		
	comp=E,293µm,1.5s						
AMUR				AML	AML		
	comp=N,224µm,1.1s						
AMUR				AML	AML		
	comp=E,293µm,0.5s						
AMUR				AML	AML		
	comp=N,224µm,0.9s						
MATE	Matera	1.07	241	P	Pg	14 28 04.5	+0.3
MATE				S	Sg	14 28 17.9	-0.1
MATE				AML	AML		
	comp=E,300µm,0.5s						
MATE				AML	AML		
	comp=N,421µm,1.1s						
MATE				AML	AML		
	comp=E,300µm,1.5s						
SCTE	Santa Cesarea	1.18	159	P	Pn	14 28 07.6	+1.9
SCTE				S	Sn	14 28 23.9	+2.3
ULC	Ulcinj	1.26	51	⇓iPg	Pg	14 28 12.2	+4.3
ULC				i Sg	Sg	14 28 28.7	+4.4
MIGL	Miglionico	1.26	243	P	Pg	14 28 07.9	0.0
MIGL				S	Sg	14 28 24.3	0.0
MRVN	Minervino Murg	1.31	265	P	Pg	14 28 08.6	-0.3
MRVN				S	Sn	14 28 25.0	+0.1
BUM	Brajici-Budva	1.33	33	⇑iPg	Pg	14 28 10.3	+1.1
BUM				i Sg	Sg	14 28 25.2	-1.4
HCY	Herceg Novi	1.34	18	⇓iPg	Pg	14 28 09.1	-0.2
HCY				i Sg	Sn	14 28 22.0	-3.4
DRME	Dracevica, Mon	1.38	43	⇑iPg	Pg	14 28 12.7	+2.6
DRME				i Sg	Sg	14 28 29.5	+1.5
CRAC	Craco	1.40	235	P	Pg	14 28 10.7	+0.3
DBRK	Dubrovnik	1.50	6	ePg	Pg	14 28 12.3	0.0
DBRK				Sg	Sn	14 28 29.4	0.0
ACER	Acerenza	1.55	256	P	Pg	14 28 13.3	-0.1
ACER				S	Sb	14 28 32.6	+1.0
ACER				AML	AML		
	comp=E,180µm,1.4s						
ACER				AML	AML		
	comp=N,154µm,1.6s						
ACER				AML	AML		
	comp=N,154µm,0.4s						
CEME	Cevo	1.55	28	⇑iPg	Pg	14 28 13.8	+0.4
CEME				i Sg	Sb	14 28 31.1	-0.6
PTRP	Pietrapertosa	1.56	246	P	Pg	14 28 13.5	-0.1
MSAG	Monte S. Angel	1.61	290	P	Pb	14 28 12.6	-0.4
MSAG				AML	AML		
	comp=E,66µm,1.2s						
MSAG				AML	AML		
	comp=N,126µm,0.9s						
STON	Ston	1.70	354	ePn	Pb	14 28 14.5	-0.1
STON				Sg	Sn	14 28 35.4	+1.1
SGRT	San Giovanni R	1.74	290	P	Pn	14 28 14.2	+0.7
NKME	Niksic	1.76	25	⇓iPg	Pg	14 28 17.2	-0.2
NKME				i Sg	Sb	14 28 37.9	+0.2
LSTV	Lastovo	1.77	334	ePn	Pn	14 28 14.6	+0.9
LSTV				Sg	Sn	14 28 36.3	+0.3
BRY	Bratogost	1.78	15	⇓iPg	Pg	14 28 16.6	-1.2
BRY				i Sg	Sn	14 28 36.4	-0.2
KOME	Kolasin	2.05	35	⇑iPn	Pg	14 28 22.9	+0.1
KOME				i Sn	Sg	14 28 46.7	-2.7
PVY	Plav	2.07	46	⇓iPn	Pg	14 28 24.4	+1.0
PVY				i Sn	Sg	14 28 49.0	-1.3
IVA	Berane	2.24	40	⇑iPn	Pg	14 28 25.9	-0.6
IVA				i Sn	Sg	14 28 51.8	-3.7
RICI	Ricice	2.39	346	ePn	Pn	14 28 24.1	+1.8
RICI				Sn	Sn	14 28 52.1	+0.7
KIJV	Kijevo	3.04	339	Sn	Sn	14 29 08.1	+0.6
FDMO	Fiordimonte	4.05	299	AML	AML		
	comp=E,113µm,0.1s						
FDMO				AML	AML		
	comp=N,140µm,0.3s						

*JMA **02** 14:33:29.0±0.5, 45°N±2°×14°6E±°, h198km, MV2.9/26, NEAR ETOROFU ISLAND*
*SKHL **02** 14:33:28.7±0.3, 44°.60N×146°.60E, h179km±5km, mb4.1/3, msha4.6/3*
ISC 02 14:33:27.6±3.9, 44°.8N±0°.2×146°.6E±0°.1, h201km±21km, n15, σ0s.61/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.93	213	eP	Pn	14 33 57.2	+0.2
YUK				AMB	AMB	14 33 58.5	
	80nm,0.6s						
YUK				eS	S	14 34 18.4	-1.2
YUK				A	A	14 34 23.0	
	90nm,0.6s						
YUK				A	A	14 34 23.0	
	200nm,0.6s						
SHO	Shikotan	0.96	169	eP	Pn	14 33 57.3	+0.1
SHO				AMB	AMB	14 33 57.4	
	60nm,0.2s						
SHO				eS	S	14 34 19.7	-0.2
SHO				A	A	14 34 20.9	
	130nm,0.2s						
SHO				A	A	14 34 20.9	
	130nm,0.2s						
JRA	Rausu	1.35	230	eP	Pn	14 34 00.6	+0.4
NEM2	Nemuro 2	1.56	203	eP	Pn	14 34 02.0	+0.1
NEM2				eS	S	14 34 28.4	+0.3
NMR	Nemuro--Hokkai	1.56	203	eP	Pn	14 34 02.1	+0.1
NMR				AMB	AMB	14 34 02.2	
	30nm,0.1s						
NMR				eS	S	14 34 28.4	+0.3
NMR				A	A	14 34 29.4	
	10.0nm,0.1s						
NMR				A	A	14 34 29.4	
	20nm,0.1s						
JNK	Nakash	1.81	228	P	Pn	14 34 05.0	+0.7
JKHN	Kushirohamanak	2.00	211	eP	Pn	14 34 06.7	+0.4
JTKR	Abashiri--Toko	2.08	247	eP	Pn	14 34 07.2	+0.2
AKK	Akkeshi	2.18	215	eP	Pn	14 34 08.2	+0.1
AKK				eS	S	14 34 38.9	-0.1
JAK	Akkeshi	2.26	217	eP	Pn	14 34 09.2	+0.3
JAK				eS	S	14 34 40.5	0.0
JMP	Maruseppu	2.44	252	eP	Pn	14 34 10.9	+0.1
JAR	Ashorobuto	2.52	234	eP	Pn	14 34 13.0	+1.2
JOB	Onbets	2.75	227	eP	Pn	14 34 15.1	+0.8
JOB				eS	S	14 34 50.3	+0.2
JCH	Churui	3.20	228	eP	Pn	14 34 19.8	+0.2
JCH				eS	S	14 34 58.2	-1.4
JNBK	Urakawa-nobuka	3.75	229	eP	Pn	14 34 25.7	-0.7

*IDC **02** 14:45:44.0±3.9, 36°.08N×71°.38E, h76km±32km, mb3.3/6, mbtmp3.7/11, Error ellipse: s-maj=35.4km s-min=25.4km az=157.0*
*NNC **02** 14:45:50.7±3.6, 36°.96N×71°.02E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=39.5km s-min=20.7km az=142.0*
ISC 02 14:45:57.2±1.8, 37°.0N±0°.1×71°.4E±0°.1, h150km, n26, σ1s.60/29, mb3.4/5, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.43	19	P	Pn	14 47 15.9	-0.7
	SNR=148						
AML	Almayashu	5.43	19	⇑P	Pn	14 47 15.7	-1.0
	0.9nm,0.3s						
AML				⇑S	Sn	14 48 21.1	+2.4
	9.0nm,0.7s						
UCH	Uchtor	5.76	24	P	Pn	14 47 20.4	-0.7
	SNR=8.0						
KZA	Kyzart	5.90	29	P	Pn	14 47 21.7	-1.1
	SNR=8.2						
EKS2	Erkin-Say	5.95	17	P	Pn	14 47 23.1	-0.2
	SNR=14						
AAK	Ala-Archa	6.13	22	P	Pn	14 47 24.9	-0.7
	SNR=19						
AAK	Ala-Archa	6.13	22	P	Pn	14 47 25.4	-0.2
	7.0nm,0.3s,baz=174,slow=7.6,SNR=46						
AAK				S	Sn	14 48 37.2	+2.4
	7.9nm,0.6s,baz=1.7,slow=23,SNR=13						
KK31	Karatay Array	6.13	354	P	Pn	14 47 24.5	-1.1
	7.7nm,0.2s,baz=176,slow=12,SNR=410						
KK31				⇓S	Sn	14 48 35.7	+0.9
	6.5nm,0.4s,baz=178,slow=25,SNR=4.1						
KBK	Karagaybulak	6.29	25	P	Pn	14 47 28.1	+0.2
	SNR=6.6						
ULHL	Ulahol	6.45	34	P	Pn	14 47 29.5	-0.6
	SNR=6.4						
CHMS	Chumysh	6.53	22	P	Pn	14 47 30.5	-0.5
	SNR=6.3						
USP	Ospenovka	6.71	20	P	Pn	14 47 32.2	-1.1
	SNR=7.8						
TKM2	Tokmak 2	6.75	28	P	Pn	14 47 33.1	-0.9
	SNR=17						
TKM2	Tokmak 2	6.75	28	⇓P	Pn	14 47 32.9	-1.1
	5.9nm,0.6s						
TKM2				⇓S	Sn	14 48 53.4	+3.5
	2.9nm,0.6s						
GEYT	Alibeck	10.57	279	P	Pn	14 48 14.4	-10
	1.2nm,0.4s,baz=96,slow=12,SNR=5.1						
GEYT				S	Sn	14 50 06.5	-15
	1.9nm,0.3s,baz=93,slow=20,SNR=15						
MKAR	Makanchi Array	12.72	36	P	Pn	14 48 50.0	-2.7
	0.8nm,0.9s,baz=225,slow=14,SNR=3.7						
KURBB	Kurchatov Arra	14.56	18	P	P	14 49 18.6	+0.3
	1.1nm,0.3s,baz=207,slow=11,SNR=5.6						
AB31	Akbulak array	14.79	329	⇑P	Pn	14 49 17.0	-1.8
	0.9nm,0.5s,baz=140,slow=13,SNR=44						
BVAR	Borovoye Array	16.04	358	P	P	14 49 36.2	+1.5
	0.6nm,0.4s,baz=168,slow=8.5,SNR=7.5						
BVAR				S	S	14 52 30.7	-1.8
	0.5nm,0.5s,baz=161,slow=22,SNR=5.6						
AKTO	Aktyubinsk	16.50	329	⇑P	Pn	14 49 41.1	+1.3
	0.8nm,0.4s						
ZALV	Zalesovo Beam	19.34	25	P	P	14 50 11.1	+0.3
	2.9nm,0.3s,baz=218,slow=10,SNR=19						
ZALV				S	Sn	14 53 48.0	-3.6
	0.3nm,0.3s,baz=196,slow=15,SNR=2.1						
	2.9nm,0.3s						
FINES	FINESS Array B	37.23	326	P	P	14 52 54.1	+0.3
	2.7nm,0.9s,baz=123,slow=12,SNR=1.5						
	2.7nm,0.9s						
ARCES	ARCESS Array B	40.79	337	P	P	14 53 24.9	+1.6
	1.3nm,0.8s,baz=115,slow=8.2,SNR=5.9						
	1.3nm,0.8s						
TORD	Torodi Ar. Bea	66.02	269	P	P	14 56 23.0	-5.0
	0.2nm,0.4s,baz=36,slow=5.7,SNR=1.5						
	0.2nm,0.4s						
YKA	Yellowknife Ar	80.73	3	P	P	14 57 53.2	-0.1
	0.2nm,0.7s,baz=346,slow=4.6,SNR=3.7						
	0.2nm,0.7s						
ASAR	Alice Springs	84.31	125	P	P	14 58 05.4	-7.0
	0.2nm,0.7s,baz=314,slow=4.7,SNR=1.8						
	0.2nm,0.7s						

*BJI **02** 14:57:16.7±0.0, 24°.55S×178°.59E, h566km, mb5.4/83,*

mB5.8/63
NEIC ***02*** *14:57:18.8, 24°.82S × 178°.47E, h590km*
NEIC ***02*** *14:57:18.8, 24°.82S × 178°.69E, h590km, Moment Tensor Solution. Duration: 4s8 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.51; $M_{\theta\theta}$0.36; $M_{\phi\phi}$0.15; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.66; $M_{\phi r}$-0.63; Fault plane solution: $M_0$1.04000×10^{18} NP1: ϕ_s345.94000°, δ67.17000°, λ-45.56000°. NP2: ϕ_s97.53000°, δ48.85000°, λ-148.98000°. Principal axes: T 0.9718, Plg11.0000°, Azm46.0000°; N 0.1369, Plg40.0000°, Azm145.0000°; P -1.1087, Plg48.0000°, Azm303.0000°;*
MOS ***02*** *14:57:18.1±0.8, 24°.78S × 178°.36E, h577km, mb5.6/29 Error ellipse: s-maj=9.3km s-min=7.8km az=130.0*
NOU ***02*** *14:57:18.6, 24°.82S × 178°.58E, h581km, ML5.7/167, South of Fiji Islands*
NEIC ***02*** *14:57:18.8, 24°.82S × 178°.47E, h577km*
IPGP ***02*** *14:57:18.0, 24°.82S × 178°.48E, h593km, Mw6.1, Fault plane solution: NP1: ϕ_s341.00000°, δ65.00000°, λ-37.00000°. NP2: ϕ_s89.00000°, δ57.00000°, λ-150.00000°.*
IDC ***02*** *14:57:19.2±0.4, 24°.81S × 178°.43E, h583km±4km, mb4.7/22, mbtmp5.6/23, Error ellipse: s-maj=8.9km s-min=8.3km az=2.0*
NEIC ***02*** *14:57:19.1±1.9, 24°.82S±0°.09 × 178°.45E±0°.10, h579km±3km, mb5.5/422, Mwb6.0/39, Mww5.9/38, Error ellipse: s-maj=13.0km s-min=12.3km az=123.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.72; $M_{\theta\theta}$0.61; $M_{\phi\phi}$0.10; $M_{r\theta}$-0.15; $M_{\theta\phi}$-0.77; $M_{\phi r}$-0.90; Fault plane solution: $M_0$1.37000×10^{18} NP1: ϕ_s340.39000°, δ68.24000°, λ-50.40000°. NP2: ϕ_s94.52000°, δ44.31000°, λ-147.95000°. Principal axes: T 1.2729, Plg14.0000°, Azm43.0000°; N 0.1773, Plg36.0000°, Azm143.0000°; P -1.4502, Plg50.0000°, Azm295.0000°;*
GCMT ***02*** *14:57:23.1±0.1, 24°.80S±0°.01 × 178°.42E±0°.01, h588km, MW6.0/148, Moment Tensor Solution. s148,c303; s114,c131; Duration: 2s3 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.56±.01; $M_{\theta\theta}$0.47±.01; $M_{\phi\phi}$0.08±.01; $M_{r\theta}$-0.24±.01; $M_{\theta\phi}$-0.72±.01; $M_{\phi r}$-0.65±.01; Best double couple: $M_0$1.12000×10^{18} NP1: ϕ_s343.00000°, δ66.00000°, λ-43.00000°. NP2: ϕ_s94.00000°, δ51.00000°, λ-148.00000°. Principal axes: T 1.0530, Plg9.0000°, Azm41.0000°; N 0.1340, Plg42.0000°, Azm139.0000°; P -1.1870, Plg47.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
ISC 02 14:57:18.7±0.2**, 24°.86S**±0°.03 × **178°.49E**±0°.03**, h584**km±1km**, h584km:pP-P, n1923, σ1s35**/2025**, mb5.5**/371**, 122C-170D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.41**	**145**	P	**P**	**14 58 55.0**	**+1.2**
RIZ				S	**S**	**15 00 13.3**	**+1.6**
RAO	**Raoul Island**	**5.42**	**145**	P	**P**	**14 58 53.6**	**-0.3**
RAO	**Raoul Island**	**5.42**	**145**	P	**P**	**14 58 55.9**	**+2.0**
RAO	**Raoul Island**	**5.42**	**145**	⇓P	**P**	**14 58 54.9**	**+0.9**
RAO	**Raoul Island**	**5.42**	**145**	P	**P**	**14 58 54.8**	**+0.9**
	17µm,0.2s,baz=75,slow=4.5,SNR=222						
RAO				S	**S**	**15 00 14.4**	**+2.6**
	5µm,0.4s,baz=265,slow=24,SNR=1.0						
GLKZ	**Green Lake**	**5.43**	**145**	P	**P**	**14 58 55.1**	**+1.1**
GLKZ				S	**S**	**15 00 14.3**	**+2.3**
YSA	**Yasawairara**	**8.17**	**354**	P	**P**	**14 59 19.4**	**+0.2**
TAVE	**Taveuni**	**8.25**	**11**	P	**P**	**14 59 20.9**	**+0.9**
DGTI	**Dogotuki**	**8.60**	**8**	P	**P**	**14 59 23.8**	**+0.4**
MARNC	**Mare, Loyalty**	**10.19**	**287**	P	**P**	**14 59 39.4**	**+0.3**
NFK	**Norfolk Island**	**10.29**	**244**	P	**P**	**14 59 42.0**	**+2.0**
	baz=10						
NFK	**Norfolk Island**	**10.29**	**244**	P	**P**	**14 59 42.2**	**+2.2**
NFK	**Norfolk Island**	**10.29**	**244**	⇑P	**P**	**14 59 41.9**	**+1.8**
PINNC	**Pines Island,**	**10.36**	**280**	P	**P**	**14 59 41.8**	**+1.0**
PINNC	**Pines Island,**	**10.36**	**280**	P	**P**	**14 59 42.2**	**+1.4**
OUENC	**Ouen Island, N**	**10.95**	**280**	P	**P**	**14 59 47.7**	**+0.9**
OUENC	**Ouen Island, N**	**10.95**	**280**	P	**P**	**14 59 48.3**	**+1.5**
YATNC	**Mamie plateau,**	**11.00**	**282**	P	**P**	**14 59 48.7**	**+1.3**
LIFNC	**LIFOU**	**11.14**	**289**	P	**P**	**14 59 47.9**	**-0.8**
LIFNC	**LIFOU**	**11.14**	**289**	P	**P**	**14 59 48.5**	**-0.2**
OUZ	**Omahuta**	**11.16**	**201**	P	**P**	**14 59 51.1**	**+2.4**
OUZ	**Omahuta**	**11.16**	**201**	⇑P	**P**	**14 59 51.0**	**+2.4**
ONTNC	**Ouen Toro**	**11.32**	**281**	P	**P**	**14 59 50.0**	**-0.6**
ONTNC	**Ouen Toro**	**11.32**	**281**	P	**P**	**14 59 51.7**	**+1.1**
DZM	**Mont Dzumac**	**11.40**	**282**	*e*Pn	**P**	**14 59 52.6**	**+1.1**
	1µm,1.0s						
DZM				*e*Sn	**S**	**15 01 58.9**	**+1.9**
	745nm,1.4s						
DZM	**Mont Dzumac**	**11.40**	**282**	P	**P**	**14 59 52.0**	**+0.5**
DZM	**Mont Dzumac**	**11.40**	**282**	P	**P**	**14 59 52.4**	**+0.9**
DZM	**Mont Dzumac**	**11.40**	**282**	P	**P**	**14 59 52.7**	**+1.2**
	579nm,0.9s,baz=84,slow=18,SNR=219						
DZM				S	**S**	**15 01 57.7**	**+0.7**
	148nm,1.1s,baz=184,slow=16,SNR=6.9						
DZM				ScP	**ScP**	**15 07 30.2**	**+3.1**
	15nm,0.6s,baz=213,slow=4.9,SNR=7.8						
DZM				ScS	**ScS**	**15 11 11.3**	**+8.2**
	7.4nm,1.0s,baz=354,slow=22,SNR=7.1						
NOUC	**Port Laguerre**	**11.52**	**281**	P	**P**	**14 59 53.6**	**+1.1**
KUZ	**Kuaotunu**	**12.08**	**191**	P	**P**	**14 59 59.0**	**+1.0**
NIUE	**Niue**	**12.19**	**64**	P	**P**	**14 59 59.0**	**-0.4**
	baz=12						
NIUE	**Niue**	**12.19**	**64**	P	**P**	**14 59 58.5**	**-0.9**
NIUE	**Niue**	**12.19**	**64**	P	**P**	**14 59 58.7**	**-0.7**
NIUE	**Niue**	**12.19**	**64**	P	**P**	**14 59 58.8**	**-0.6**
NIUE				S	**S**	**15 02 09.7**	**-1.9**
MXZ	**Matakaoa Point**	**12.66**	**181**	P	**P**	**15 00 00.8**	**-3.1**
MXZ	**Matakaoa Point**	**12.66**	**181**	P	**P**	**15 00 00.8**	**-3.1**
WHRZ	**Whale Island**	**13.02**	**185**	P	**P**	**15 00 08.4**	**+0.7**
WHRZ				S	**S**	**15 02 24.7**	**-1.9**
OPRZ	**Ohinepanea**	**13.05**	**187**	P	**P**	**15 00 07.9**	**0.0**
TOZ	**Tahuroa Road**	**13.08**	**191**	P	**P**	**15 00 08.7**	**+0.5**
KMRZ	**Kaimai**	**13.13**	**189**	P	**P**	**15 00 09.8**	**+1.0**
MARZ	**Manawahe**	**13.18**	**186**	P	**P**	**15 00 10.5**	**+1.3**
LIRZ	**Lichensteins R**	**13.22**	**187**	P	**P**	**15 00 11.2**	**+1.5**
KARZ	**Kaharoa**	**13.26**	**188**	P	**P**	**15 00 10.9**	**+0.8**
EDRZ	**Edgecumbe**	**13.29**	**186**	P	**P**	**15 00 10.3**	**-0.2**
EDRZ				S	**S**	**15 02 34.1**	**+2.5**
OMRZ	**Omania**	**13.33**	**187**	P	**P**	**15 00 12.2**	**+1.4**
NGRZ	**Ngongotaha**	**13.35**	**188**	P	**P**	**15 00 12.0**	**+0.9**
MKRZ	**Makatiti**	**13.35**	**187**	P	**P**	**15 00 14.0**	**+2.9**
URZ	**Urewera**	**13.41**	**185**	P	**P**	**15 00 08.6**	**-3.0**
URZ	**Urewera**	**13.41**	**185**	P	**P**	**15 00 08.1**	**-3.5**
	237nm,0.3s,baz=14,slow=2.0,SNR=222						
URZ				S	S	15 02 24.3	-9.4
	270nm,0.9s,baz=232,slow=4.4,SNR=4.6						
URZ				ScP	**ScP**	**15 07 29.5**	**-0.3**
	19nm,0.6s,baz=282,slow=0.3,SNR=3.0						
URZ				ScS	**ScS**	**15 11 01.7**	**-5.2**
	24nm,0.6s,baz=170,slow=22,SNR=10						
URZ	**Urewera**	**13.41**	**185**	P	**P**	**15 00 08.4**	**-3.2**
URZ				S	**S**	**15 02 25.8**	**-7.9**
URZ				ScP	**ScP**	**15 07 30.2**	**+0.4**
UTU	**Utuhina**	**13.42**	**188**	P	**P**	**15 00 14.0**	**+2.3**
TARZ	**Mount Tarawera**	**13.44**	**187**	P	**P**	**15 00 12.0**	**0.0**
MWZ	**Matawai**	**13.46**	**183**	P	**P**	**15 00 08.6**	**-3.5**
MWZ				S	**S**	**15 02 27.3**	**-7.4**
MWZ				ScP	**ScP**	**15 07 30.6**	**+0.6**
HLRZ	**Highlands Stat**	**13.47**	**187**	P	**P**	**15 00 12.6**	**+0.2**
RRRZ	**Republican Roa**	**13.54**	**187**	P	**P**	**15 00 12.0**	**-1.0**
HSRZ	**Hossack Road**	**13.54**	**188**	P	**P**	**15 00 14.1**	**+1.1**
TKGZ	**Te Karaka**	**13.55**	**182**	P	**P**	**15 00 10.2**	**-2.9**
TKGZ				S	**S**	**15 02 30.7**	**-5.5**
GRRZ	**Galatos Road**	**13.60**	**188**	P	**P**	**15 00 14.4**	**+0.8**
HRRZ	**Handcock Road**	**13.62**	**187**	P	**P**	**15 00 13.4**	**-0.4**
RAGZ	**Rawiri**	**13.62**	**184**	P	**P**	**15 00 11.5**	**-2.4**
RAGZ				ScP	**ScP**	**15 07 31.8**	**+1.4**
MUGZ	**Murupara**	**13.65**	**186**	P	**P**	**15 00 12.4**	**-1.8**
TLZ	**Tolley Road**	**13.66**	**190**	P	**P**	**15 00 15.0**	**+0.8**
PRRZ	**Plateau Road**	**13.71**	**187**	P	**P**	**15 00 13.7**	**-1.0**
WPRZ	**Whakapapatarin**	**13.76**	**188**	P	**P**	**15 00 15.4**	**+0.1**
RTZ	**Ruatahuna**	**13.77**	**185**	P	**P**	**15 00 13.2**	**-2.3**
KUTZ	**Kaahu Road**	**13.78**	**189**	P	**P**	**15 00 16.5**	**+1.2**
ALRZ	**Allen Road**	**13.78**	**187**	P	**P**	**15 00 14.7**	**-0.8**
KOUNC	**Koumac, New Ca**	**13.79**	**285**	P	**P**	**15 00 16.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**13.79**	**285**	P	**P**	**15 00 16.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**13.79**	**285**	⇓P	**P**	**15 00 16.2**	**+0.4**
RIGZ	**Rimuhau**	**13.82**	**182**	P	**P**	**15 00 12.4**	**-3.4**
RIGZ				ScP	**ScP**	**15 07 32.3**	**+1.7**
SNGZ	**Shannon Statio**	**13.91**	**184**	P	**P**	**15 00 13.2**	**-3.6**
SNGZ				ScP	**ScP**	**15 07 31.9**	**+1.2**
WHTZ	**Whakaora**	**13.93**	**188**	P	**P**	**15 00 17.3**	**+0.3**
HIZ	**Hauiti**	**13.96**	**192**	P	**P**	**15 00 16.7**	**-0.4**
HIZ	**Hauiti**	**13.96**	**192**	P	**P**	**15 00 18.2**	**+1.0**
HIZ	**Hauiti**	**13.96**	**192**	P	**P**	**15 00 18.1**	**+0.9**
WATZ	**Wairara**	**14.00**	**189**	P	**P**	**15 00 17.9**	**+0.2**
MTHZ	**Maungataniwha**	**14.02**	**185**	P	**P**	**15 00 14.7**	**-3.2**
PRGZ	**Paritu Road**	**14.03**	**182**	P	**P**	**15 00 15.2**	**-2.7**
MRHZ	**Matea Rd**	**14.04**	**187**	P	**P**	**15 00 15.6**	**-2.5**
RAHZ	**Arahi**	**14.06**	**185**	P	**P**	**15 00 15.0**	**-3.3**
HATZ	**Hinemaiaia**	**14.13**	**188**	P	**P**	**15 00 18.1**	**-0.8**
KNZ	**Kokohu**	**14.14**	**183**	P	**P**	**15 00 15.5**	**-3.4**
KNZ				ScP	**ScP**	**15 07 32.2**	**+1.2**
WHHZ	**Waihua**	**14.21**	**184**	P	**P**	**15 00 17.8**	**-1.9**
AFI	**Afiamalu**	**14.24**	**42**		**P**	**15 00 16.1**	**-4.3**
AFI	**Afiamalu**	**14.24**	**42**	P	**P**	**15 00 16.2**	**-4.2**
AFI	**Afiamalu**	**14.24**	**42**	⇑P	**P**	**15 00 16.0**	**-4.3**
AFI	**Afiamalu**	**14.24**	**42**	P	**P**	**15 00 16.1**	**-4.3**
RITZ	**Rihia Road**	**14.25**	**188**	P	**P**	**15 00 19.2**	**-0.9**
MHGZ	**Mahia Peninsul**	**14.26**	**182**	P	**P**	**15 00 17.7**	**-2.5**
NMHZ	**Naumai**	**14.27**	**185**	P	**P**	**15 00 17.7**	**-2.6**
KATZ	**Kakaramea**	**14.27**	**189**	P	**P**	**15 00 20.6**	**+0.2**
BKZ	**Black Stump Fm**	**14.36**	**186**		**P**	**15 00 17.6**	**-3.6**
BKZ	**Black Stump Fm**	**14.36**	**186**	P	**P**	**15 00 18.3**	**-2.9**
BKZ	**Black Stump Fm**	**14.36**	**186**	P	**P**	**15 00 18.5**	**-2.7**
NTVZ	**North Tongarir**	**14.39**	**189**	P	**P**	**15 00 20.7**	**-0.9**
KRVZ	**Karewarewa**	**14.39**	**189**	P	**P**	**15 00 20.5**	**-1.1**
TWVZ	**Taurewa**	**14.40**	**190**	P	**P**	**15 00 21.4**	**-0.2**
TMVZ	**Te Maari**	**14.41**	**189**	P	**P**	**15 00 20.3**	**-1.4**
ARHZ	**Aropaoanui**	**14.42**	**185**	P	**P**	**15 00 19.7**	**-1.9**
WTVZ	**West Tongariro**	**14.42**	**189**	P	**P**	**15 00 20.8**	**-1.0**
ETVZ	**East Tongariro**	**14.43**	**189**	P	**P**	**15 00 20.4**	**-1.5**
NNVZ	**North Ngauruho**	**14.44**	**189**	P	**P**	**15 00 21.1**	**-1.0**
OTVZ	**Oturere**	**14.46**	**189**	P	**P**	**15 00 20.8**	**-1.4**
NGZ	**Ngauruhoe**	**14.48**	**189**	P	**P**	**15 00 21.5**	**-0.9**
SNVZ	**South Ngauruho**	**14.48**	**189**	P	**P**	**15 00 21.3**	**-1.2**
COVZ	**Chateau Observ**	**14.51**	**189**	P	**P**	**15 00 21.8**	**-0.9**
TUVZ	**Tukino**	**14.56**	**189**	P	**P**	**15 00 21.7**	**-1.5**
FWVZ	**Far West T-bar**	**14.56**	**189**	P	**P**	**15 00 22.6**	**-0.8**
VRZ	**Vera Road**	**14.57**	**192**	P	**P**	**15 00 24.4**	**+1.3**
MAVZ	**Matarangi**	**14.58**	**189**	P	**P**	**15 00 22.5**	**-1.0**
WHVZ	**Whangaehu Hut**	**14.59**	**189**	P	**P**	**15 00 22.5**	**-1.0**
MHEZ	**Mangahewa**	**14.61**	**193**	P	**P**	**15 00 26.9**	**+3.5**
TRVZ	**Turoa**	**14.61**	**189**	P	**P**	**15 00 22.7**	**-1.1**
MCHZ	**McNeill Hill**	**14.62**	**186**	P	**P**	**15 00 21.1**	**-2.5**
KWHZ	**Kaweka Forest**	**14.63**	**186**	P	**P**	**15 00 20.3**	**-3.4**
PKVZ	**Pokaka**	**14.63**	**190**	P	**P**	**15 00 22.8**	**-1.0**
WNVZ	**Wahianoa**	**14.63**	**189**	P	**P**	**15 00 22.4**	**-1.4**
MOVZ	**Moawhango**	**14.69**	**188**	P	**P**	**15 00 22.3**	**-2.1**
MTVZ	**Mangateitei**	**14.70**	**189**	P	**P**	**15 00 23.8**	**-0.7**
BHHZ	**Black Hill Sta**	**14.73**	**187**	P	**P**	**15 00 21.8**	**-2.9**
DREZ	**Durham Road**	**14.74**	**193**	P	**P**	**15 00 27.0**	**+2.3**
PKE	**Pukeiti**	**14.79**	**194**	P	**P**	**15 00 27.4**	**+2.1**
CKHZ	**Cape Kidnapper**	**14.80**	**184**	P	**P**	**15 00 23.1**	**-2.2**
NEZ	**North Egmont**	**14.84**	**193**	P	**P**	**15 00 28.0**	**+2.2**
KRHZ	**Kereru**	**14.85**	**186**	P	**P**	**15 00 22.9**	**-2.9**
KRHZ				ScP	**ScP**	**15 07 33.4**	**+1.1**
KHEZ	**Kahui Hut**	**14.88**	**194**	P	**P**	**15 00 28.6**	**+2.5**
KHEZ	**Kahui Hut**	**14.88**	**194**	P	**P**	**15 00 28.7**	**+2.6**
NBEZ	**Newall Road No**	**14.89**	**194**	P	**P**	**15 00 28.4**	**+2.3**
PREZ	**Palmer Road**	**14.89**	**193**	P	**P**	**15 00 29.8**	**+3.5**
KAHZ	**Kahuranaki**	**14.95**	**185**	P	**P**	**15 00 24.2**	**-2.6**
KAHZ				ScP	**ScP**	**15 07 34.8**	**+2.2**
LREZ	**Lake Rotokare**	**14.96**	**192**	P	**P**	**15 00 29.0**	**+2.2**
NMEZ	**Namu Road**	**15.02**	**194**	P	**P**	**15 00 29.7**	**+2.4**
PNHZ	**Pukenui**	**15.13**	**187**	P	**P**	**15 00 25.8**	**-2.6**
PNHZ				ScP	**ScP**	**15 07 34.6**	**+1.6**
WAZ	**Wanganui**	**15.14**	**190**	P	**P**	**15 00 27.8**	**-0.7**
PXZ	**Pawanui**	**15.19**	**185**	P	**P**	**15 00 26.4**	**-2.6**
PXZ				ScP	**ScP**	**15 07 35.1**	**+2.1**
WPHZ	**Waipukurau**	**15.26**	**186**	P	**P**	**15 00 27.6**	**-2.0**
TSZ	**Takapari Road**	**15.30**	**187**	P	**P**	**15 00 27.1**	**-3.0**
TSZ				ScP	**ScP**	**15 07 34.3**	**+1.1**
PRHZ	**Porangahau**	**15.44**	**185**	P	**P**	**15 00 29.0**	**-2.4**
DVHZ	**Dannevirke**	**15.52**	**187**	P	**P**	**15 00 29.3**	**-2.8**
DVHZ				ScP	**ScP**	**15 07 35.2**	**+1.6**
OHWZ	**Ohakea**	**15.53**	**189**	P	**P**	**15 00 31.0**	**-1.1**
ANWZ	**Angora Road**	**15.65**	**186**	P	**P**	**15 00 31.1**	**-2.2**
ANWZ				ScP	**ScP**	**15 07 35.2**	**+1.4**
POWZ	**Post Office Ro**	**15.65**	**188**	P	**P**	**15 00 31.4**	**-1.9**
PRWZ	**Pori Road**	**15.79**	**187**	P	**P**	**15 00 32.4**	**-2.3**
PRWZ				ScP	**ScP**	**15 07 37.2**	**+3.1**
BFZ	**Birch Farm**	**15.89**	**186**	P	**P**	**15 00 32.0**	**-3.6**
BFZ	**Birch Farm**	**15.89**	**186**	P	**P**	**15 00 32.7**	**-2.9**
BFZ	**Birch Farm**	**15.89**	**186**	P	**P**	**15 00 32.8**	**-2.8**
MRZ	**Mangatainoka R**	**15.94**	**188**	P	**P**	**15 00 32.7**	**-3.4**
MRZ				ScP	**ScP**	**15 07 35.6**	**+1.2**
TIWZ	**Tintock**	**16.02**	**187**	P	**P**	**15 00 34.5**	**-2.3**
TIWZ				ScP	**ScP**	**15 07 36.6**	**+2.0**
CPWZ	**Castlepoint**	**16.12**	**186**	P	**P**	**15 00 36.5**	**-1.2**
OGWZ	**Otaki Gorge**	**16.15**	**189**	P	**P**	**15 00 35.8**	**-2.2**
OGWZ				ScP	**ScP**	**15 07 36.2**	**+1.4**
HOWZ	**Holdsworth Sta**	**16.18**	**188**	P	**P**	**15 00 35.9**	**-2.4**
HOWZ				ScP	**ScP**	**15 07 36.0**	**+1.1**
FUNA	**Funafuti**	**16.26**	**3**		**P**	**15 00 37.5**	**-1.8**
FUNA	**Funafuti**	**16.26**	**3**	P	**P**	**15 00 38.6**	**-0.8**
FUNA	**Funafuti**	**16.26**	**3**	⇑P	**P**	**15 00 38.0**	**-1.4**
WEL	**Wellington**	**16.67**	**190**	P	**P**	**15 00 41.9**	**-0.8**
TCW	**Tory Channel**	**16.68**	**191**	P	**P**	**15 00 41.5**	**-1.3**
QRZ	**Quartz Range**	**16.68**	**196**	P	**P**	**15 00 43.3**	**+0.5**
QRZ	**Quartz Range**	**16.68**	**196**	P	**P**	**15 00 43.5**	**+0.7**
SNZO	**South Karori**	**16.71**	**190**	P	**P**	**15 00 41.7**	**-1.3**
SNZO	**South Karori**	**16.71**	**190**	P	**P**	**15 00 41.1**	**-1.9**
BHW	**Baring Head**	**16.78**	**189**	P	**P**	**15 00 41.7**	**-2.0**
NNZ	**Nelson**	**16.86**	**193**	P	**P**	**15 00 44.0**	**-0.4**
THZ	**Tophouse**	**17.48**	**194**	P	**P**	**15 00 49.7**	**-0.5**
KHZ	**Kahutara**	**17.98**	**192**	P	**P**	**15 00 53.3**	**-1.3**
KHZ	**Kahutara**	**17.98**	**192**	P	**P**	**15 00 53.5**	**-1.1**
LHI	**Lord Howe Isla**	**18.35**	**244**	P	**P**	**15 00 59.9**	**+1.7**
	baz=18						
LHI	**Lord Howe Isla**	**18.35**	**244**	P	**P**	**15 00 59.8**	**+1.6**
LHI	**Lord Howe Isla**	**18.35**	**244**	⇑P	**P**	**15 01 00.4**	**+2.2**
CTZ	**Chatham Island**	**19.25**	**169**	P	**P**	**15 01 08.6**	**+2.4**
CTZ	**Chatham Island**	**19.25**	**169**	P	**P**	**15 01 09.2**	**+3.0**
AKCZ	**Akaroa Harbour**	**19.51**	**192**	P	**P**	**15 01 08.1**	**-0.4**
RPZ	**Rata Peaks**	**19.77**	**196**	P	**P**	**15 01 10.0**	**-0.9**
RPZ	**Rata Peaks**	**19.77**	**196**	P	**P**	**15 01 08.8**	**-2.1**
	61nm,0.4s,baz=150,slow=0.5,SNR=106						
RPZ				S	**S**	**15 04 13.9**	**-4.9**
	157nm,0.9s,baz=165,slow=21,SNR=6.5						
RPZ				ScP	**ScP**	**15 07 42.5**	**-0.2**
	29nm,0.9s,baz=20,slow=5.3,SNR=3.6						
RAR	**Rarotonga**	**20.33**	**84**	P	**P**	**15 01 15.6**	**-0.7**
RAR	**Rarotonga**	**20.33**	**84**	P	**P**	**15 01 17.1**	**+0.8**
RAR	**Rarotonga**	**20.33**	**84**	⇑P	**P**	**15 01 16.9**	**+0.7**
RAR	**Rarotonga**	**20.33**	**84**	P	**P**	**15 01 16.9**	**+0.7**
	166nm,0.9s,baz=234,slow=7.5,SNR=21						
RAR				ScP	**ScP**	**15 07 45.4**	**+1.0**
	18nm,0.8s,baz=143,slow=5.1,SNR=3.1						
	166nm,0.9s						
LBZ	**Lake Benmore**	**20.62**	**197**	P	**P**	**15 01 16.3**	**-2.3**
JCZ	**Jackson Bay**	**20.74**	**200**	P	**P**	**15 01 19.5**	**-0.3**
ODZ	**Otahua Downs**	**21.12**	**196**	P	**P**	**15 01 21.0**	**-2.0**
ODZ	**Otahua Downs**	**21.12**	**196**	P	**P**	**15 01 21.8**	**-1.2**
WKZ	**Wanaka**	**21.35**	**199**	P	**P**	**15 01 23.7**	**-1.5**
MLZ	**Mavora Lakes**	**22.11**	**200**	P	**P**	**15 01 31.4**	**-0.6**
DCZ	**Deep Cove**	**22.50**	**201**	P	**P**	**15 01 35.2**	**-0.1**
GC1S	**Gold Coast 1 S**	**22.58**	**256**	P	**P**	**15 01 39.1**	**+2.8**
	243nm,0.7s						
WHZ	**Wether Hill Ro**	**22.64**	**199**	P	**P**	**15 01 36.4**	**-0.2**
SYZ	**Scrubby Hill**	**22.89**	**197**	P	**P**	**15 01 38.6**	**-0.2**
PYZ	**Puysegur Point**	**23.28**	**201**	P	**P**	**15 01 41.2**	**-1.0**
PYZ	**Puysegur Point**	**23.28**	**201**	P	**P**	**15 01 44.6**	**+2.3**
HNR	**Honiara**	**23.39**	**308**	P	**P**	**15 01 42.3**	**-1.4**
HNR	**Honiara**	**23.39**	**308**	P	**P**	**15 01 42.6**	**-1.1**
HNR	**Honiara**	**23.39**	**308**	⇓P	**P**	**15 01 42.2**	**-1.4**
HNR	**Honiara**	**23.39**	**308**	P	**P**	**15 01 42.3**	**-1.4**
HNR	**Honiara**	**23.39**	**308**	ScS	ScS	15 11 43.5	+3.5
	334nm,0.9s,baz=218,slow=21,SNR=4.4						
ARMA	**Armidale**	**24.40**	**251**	P	**P**	**15 01 53.8**	**+1.2**
	baz=24,SNR=80						
ARMA	**Armidale**	**24.40**	**251**	P	**P**	**15 01 53.7**	**+1.1**
ARMA	**Armidale**	**24.40**	**251**	P	**P**	**15 01 54.4**	**+1.8**
ARMA	**Armidale**	**24.40**	**251**	⇑P	**P**	**15 01 54.3**	**+1.7**
EIDS	**Eidsvold**	**24.81**	**263**	P	**P**	**15 01 56.8**	**+0.7**
	baz=25,SNR=114						
EIDS	**Eidsvold**	**24.81**	**263**	P	**P**	**15 01 56.4**	**+0.3**
EIDS	**Eidsvold**	**24.81**	**263**	P	**P**	**15 01 56.8**	**+0.7**
EIDS	**Eidsvold**	**24.81**	**263**	⇓P	**P**	**15 01 56.9**	**+0.7**
MGCD	**Mangrove Creek**	**25.29**	**244**	P	**P**	**15 02 02.1**	**+1.9**
	baz=25,SNR=50						
MGCD	**Mangrove Creek**	**25.29**	**244**	P	**P**	**15 02 02.1**	**+1.9**
RIV	**Riverview**	**25.39**	**243**	P	**P**	**15 02 02.6**	**+1.5**
	baz=26,SNR=5.4						
RIV	**Riverview**	**25.39**	**243**	P	**P**	**15 02 03.1**	**+2.0**
RK1H	**Rockhampton Ha**	**25.58**	**267**	P	**P**	**15 02 04.2**	**+1.3**
SYDH	**Sydney Hard Ro**	**25.71**	**243**	P	**P**	**15 02 05.8**	**+1.9**
RMQ	**Roma**	**26.82**	**260**	P	**P**	**15 02 13.6**	**-0.2**
	baz=27,SNR=8.3						
RMQ	**Roma**	**26.82**	**260**	P	**P**	**15 02 16.2**	**+2.4**
CAN	**Canberra**	**27.47**	**241**	P	**P**	**15 02 19.9**	**+0.5**
CAN	**Canberra**	**27.47**	**241**	P	**P**	**15 02 20.9**	**+1.5**
CAN	**Canberra**	**27.47**	**241**	⇑P	**P**	**15 02 20.8**	**+1.4**
CAN	**Canberra**	**27.47**	**241**	P	**P**	**15 02 20.0**	**+0.5**
YNG	**Young**	**27.72**	**243**	P	**P**	**15 02 23.0**	**+1.4**
MILA	**Mila**	**27.82**	**237**	P	**P**	**15 02 24.6**	**+2.1**
	baz=28,SNR=5.8						
MILA	**Mila**	**27.82**	**237**	P	**P**	**15 02 24.3**	**+1.8**
MILA	**Mila**	**27.82**	**237**	⇑P	**P**	**15 02 23.3**	**+0.8**
TBI	**Tubuai**	**29.26**	**94**	*e*P	**P**	**15 02 36.2**	**+1.1**
	529nm,1.1s						
TBI				*e*sS	sS	15 09 53.6	+12
	12µm,44.0s						
CMSA	**Cobar Meteorol**	**29.58**	**250**	P	**P**	**15 02 38.6**	**+0.8**
	baz=30,SNR=548						
CMSA	**Cobar Meteorol**	**29.58**	**250**	P	**P**	**15 02 38.6**	**+0.8**
TV1H	**Townsville Har**	**29.85**	**274**	P	**P**	**15 02 40.8**	**+0.6**
GLAD	**Gladstone**	**30.02**	**230**	P	**P**	**15 02 42.6**	**+1.2**
CTA	**Charters Tower**	**30.12**	**273**	P	**P**	**15 02 43.4**	**+0.8**
	1µm,0.6s,baz=102,slow=12,SNR=371						
CTA				S	**S**	**15 06 58.1**	**-3.3**
	50nm,0.9s,baz=10.0,slow=23,SNR=14						
CTA				ScP	**ScP**	**15 08 13.1**	**+0.3**
	9.6nm,0.8s,baz=46,slow=6.1,SNR=3.7						
CTAO	**Charters Tower**	**30.12**	**273**	P	**P**	**15 02 43.3**	**+0.8**
CTAO	**Charters Tower**	**30.12**	**273**	P	**P**	**15 02 43.3**	**+0.8**
CTAO	**Charters Tower**	**30.12**	**273**	⇓P	**P**	**15 02 43.3**	**+0.8**
CTAO	**Charters Tower**	**30.12**	**273**	P	**P**	**15 02 43.3**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,1µm,0.6s						
CTAO	**Charters Tower**	**30.12**	**273**	P	**P**	**15 02 43.3**	**+0.8**
CTAO				pP	**pP**	**15 04 16.4**	**+1.0**
PAE	**Paea**	**30.56**	**83**	*e*P	**P**	**15 02 46.2**	**0.0**
	comp=Z,171nm,1.2s						
PAE				*e*ScP	**ScP**	**15 08 12.3**	**-1.9**
	comp=Z,78nm,1.3s						
PPT2	**Papeete2**	**30.58**	**83**	*e*P	**P**	**15 02 46.7**	**+0.1**
	comp=Z,457nm,1.3s						
PPT2				*e*ScP	**ScP**	**15 08 13.8**	**-0.6**
	comp=Z,281nm,1.3s						
PPT2				*e*sS	**SS**	**15 10 13.9**	**-3.3**
	comp=Z,4µm,24.0s						
PPT	**Papeete**	**30.59**	**83**	P	**P**	**15 02 47.9**	**+1.4**
	comp=Z,246nm,0.9s,baz=244,slow=5.6,SNR=44						
PPT				ScP	**ScP**	**15 08 15.6**	**+1.3**
	comp=Z,167nm,1.1s,baz=295,slow=1.3,SNR=11						
	comp=Z,246nm,0.9s						
PPTF	**Pamatai, Papee**	**30.59**	**83**	P	**P**	**15 02 47.4**	**+0.8**
PPTF	**Pamatai, Papee**	**30.59**	**83**	P	**P**	**15 02 49.0**	**+2.3**
PPTF	**Pamatai, Papee**	**30.59**	**83**	P	**P**	**15 02 48.0**	**+1.4**
PPTF				ScP	**ScP**	**15 08 16.2**	**+1.7**
TOO	**Toolangi**	**30.77**	**238**	P	**P**	**15 02 48.9**	**+1.0**
	baz=31,SNR=16						
TOO	**Toolangi**	**30.77**	**238**	P	**P**	**15 02 48.6**	**+0.8**
TOO	**Toolangi**	**30.77**	**238**	P	**P**	**15 02 49.0**	**+1.0**
TOO	**Toolangi**	**30.77**	**238**	⇑P	**P**	**15 02 48.9**	**+1.0**
TOO	**Toolangi**	**30.77**	**238**	P	**P**	**15 02 48.7**	**+0.8**
TOO				pmax	pmax		
	comp=Z,242nm,1.1s						
TIAR	**Tiarei**	**30.80**	**83**	*e*P	**P**	**15 02 48.3**	**-0.1**
	comp=Z,69nm,1.2s						
TIAR				*e*ScP	**ScP**	**15 08 14.1**	**-1.0**
	comp=Z,16nm,1.2s						
TVO	**Taravao**	**30.81**	**83**	*e*P	**P**	**15 02 48.5**	**0.0**
	comp=Z,181nm,1.2s						
TVO				*e*ScP	**ScP**	**15 08 13.9**	**-1.3**
	comp=Z,79nm,1.3s						
QLP	**Quilpie**	**30.86**	**259**	P	**P**	**15 02 49.3**	**+0.5**
	baz=31,SNR=186						
QLP	**Quilpie**	**30.86**	**259**	P	**P**	**15 02 49.3**	**+0.5**
QLP	**Quilpie**	**30.86**	**259**	⇓P	**P**	**15 02 49.2**	**+0.5**
MOO	**Moorlands**	**31.17**	**228**	P	**P**	**15 02 52.5**	**+1.3**
	baz=31,SNR=10						
MOO	**Moorlands**	**31.17**	**228**	P	**P**	**15 02 52.5**	**+1.3**
TAU	**Tasmania Unive**	**31.27**	**227**	P	**P**	**15 02 52.7**	**+0.7**
TAU	**Tasmania Unive**	**31.27**	**227**	P	**P**	**15 02 53.1**	**+1.1**
TAU	**Tasmania Unive**	**31.27**	**227**	⇑P	**P**	**15 02 53.1**	**+1.1**
TAU	**Tasmania Unive**	**31.27**	**227**	P	**P**	**15 02 52.7**	**+0.7**
TAU				pmax	pmax		
	comp=Z,348nm,1.3s						
TAU	**Tasmania Unive**	**31.27**	**227**	P	**P**	**15 02 53.2**	**+1.2**
TAU				PcP	**PcP**	**15 05 29.3**	**+1.4**
GEXS	**Deakin Univers**	**31.85**	**237**	P	**P**	**15 02 58.5**	**+1.5**
MEH	**Mehetia**	**31.85**	**84**	*e*P	**P**	**15 02 57.2**	**-0.1**
	comp=Z,182nm,1.3s						
MEH				*e*ScP	**ScP**	**15 08 17.6**	**-1.1**
	comp=Z,111nm,1.2s						
BRAT	**Ballarat**	**31.97**	**238**	P	**P**	**15 02 59.8**	**+1.8**
MTSU	**Mount Surprise**	**32.43**	**275**	P	**P**	**15 03 03.1**	**+0.9**
	baz=32,SNR=1000						
MTSU	**Mount Surprise**	**32.43**	**275**	P	**P**	**15 03 03.1**	**+0.9**
PMOR	**Pomariorio Ree**	**33.01**	**79**	*e*P	**P**	**15 03 07.0**	**-0.1**
	comp=Z,744nm,1.2s						
PMOR				*e*ScP	**ScP**	**15 08 21.7**	**-1.0**
	comp=Z,635nm,1.3s						
STKA	**Stephens Creek**	**33.09**	**249**	P	**P**	**15 03 08.5**	**+0.9**
	baz=33,SNR=514						
STKA	**Stephens Creek**	**33.09**	**249**	IAmb	IAmb	15 03 09.7	
	comp=Z,65nm,0.6s						
STKA	**Stephens Creek**	**33.09**	**249**	P	**P**	**15 03 08.6**	**+0.9**
STKA	**Stephens Creek**	**33.09**	**249**	P	**P**	**15 03 08.0**	**+0.3**
	comp=Z,244nm,0.5s,baz=89,slow=11,SNR=850						
STKA				PcP	**PcP**	**15 05 33.0**	**-0.2**
	comp=Z,34nm,0.5s,baz=90,slow=6.4,SNR=3.8						
STKA				S	**S**	**15 07 45.7**	**-0.7**
	comp=Z,40nm,0.8s,baz=236,slow=18,SNR=8.8						
STKA				SS	**SS**	**15 10 52.8**	**-5.9**
	comp=Z,4.9nm,0.9s,baz=318,slow=10,SNR=1.4						
STKA				ScS	**ScS**	**15 12 24.4**	**-0.7**
	comp=Z,4.2nm,0.9s,baz=208,slow=22,SNR=2.1						
STKA				PKiKP	**PKiKP**	**15 12 56.6**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=323,slow=9.8,SNR=3.0						
	comp=Z,244nm,0.5s						
VAH	**Vaihoa**	**33.16**	**80**	*e*P	**P**	**15 03 08.0**	**-0.4**
	comp=Z,562nm,1.3s						
VAH				*e*ScP	**ScP**	**15 08 22.1**	**-1.1**
	comp=Z,263nm,1.4s						
ARPS	**Mount Arapiles**	**33.45**	**240**	P	**P**	**15 03 11.2**	**+0.7**
	baz=34,SNR=151						
ARPS	**Mount Arapiles**	**33.45**	**240**	P	**P**	**15 03 11.2**	**+0.7**
PMG	**Port Moresby**	**33.53**	**292**	P	**P**	**15 03 11.4**	**-0.1**
PMG	**Port Moresby**	**33.53**	**292**	P	**P**	**15 03 11.6**	**0.0**
PMG	**Port Moresby**	**33.53**	**292**	⇓P	**P**	**15 03 11.5**	**0.0**
PMG	**Port Moresby**	**33.53**	**292**	*d i*P	**P**	**15 03 11.4**	**-0.1**
PMG				pmax	pmax		
	comp=Z,763nm,0.7s						
PMG	**Port Moresby**	**33.53**	**292**	PcP	**PcP**	**15 05 34.3**	**-0.5**
	comp=Z,75nm,0.9s,baz=63,slow=4.5,SNR=5.2						
PMG				S	**S**	**15 07 50.8**	**-2.6**
	comp=Z,5.3nm,0.7s,baz=202,slow=18,SNR=1.0						
PMG				SS	**SS**	**15 11 03.3**	**-3.5**
	comp=Z,3.4nm,0.5s,baz=229,slow=19,SNR=1.5						
PMG				ScS	**ScS**	**15 12 31.2**	**+3.3**
	comp=Z,3.4nm,0.7s,baz=251,slow=22,SNR=6.8						
PMG	**Port Moresby**	**33.53**	**292**	P	**P**	**15 03 11.5**	**0.0**
PMG				PcP	**PcP**	**15 05 35.8**	**+1.0**
PMG				ScP	**ScP**	**15 08 28.0**	**+3.5**
PMG	**Port Moresby**	**33.53**	**292**	P	**P**	**15 03 11.1**	**-0.4**
	comp=Z,1µm,0.8s,comp=Z,10µmcomp=Z,6µm						
INKA	**Innaminka**	**33.87**	**257**	P	**P**	**15 03 15.7**	**+1.5**
KAVG	**Kavieng**	**34.68**	**305**	P	**P**	**15 03 20.0**	**-1.1**
HTT	**Hallett**	**35.43**	**247**	P	**P**	**15 03 27.6**	**+0.4**
	baz=36,SNR=422						
HTT	**Hallett**	**35.43**	**247**	P	**P**	**15 03 27.6**	**+0.4**
HTT	**Hallett**	**35.43**	**247**	⇑P	**P**	**15 03 27.5**	**+0.4**
XMAS	**Kiritimati**	**35.50**	**45**	P	**P**	**15 03 29.0**	**+1.1**
XMAS	**Kiritimati**	**35.50**	**45**	P	**P**	**15 03 29.4**	**+1.5**
XMAS	**Kiritimati**	**35.50**	**45**	⇑P	**P**	**15 03 29.2**	**+1.3**
XMAS	**Kiritimati**	**35.50**	**45**	P	**P**	**15 03 29.1**	**+1.3**
XMAS				ScP	**ScP**	**15 08 34.3**	**+2.6**
LCRK	**Leigh Creek**	**35.97**	**252**	P	**P**	**15 03 32.1**	**+0.5**
QIS	**Mount Isa**	**36.04**	**269**	P	**P**	**15 03 32.2**	**-0.1**
	baz=36,SNR=214						
QIS	**Mount Isa**	**36.04**	**269**	P	**P**	**15 03 32.3**	**-0.1**
PTPS	**Port Pirie**	**36.19**	**247**	P	**P**	**15 03 34.3**	**+1.0**

WHYH Whyalla 36.53 248 P P 15 03 36.9 +0.7
PATS Pohnpei 37.13 325 P P 15 03 41.2 0.0
baz=37,SNR=8.4
PATS Pohnpei 37.13 325 P P 15 03 40.6 -0.6
PATS Pohnpei 37.13 325 P P 15 03 40.9 -0.3
MANU Manus Island 37.63 302 P P 15 03 44.6 -0.7
MANU Manus Island 37.63 302 P P 15 03 45.3 -0.1
MANU Manus Island 37.63 302 ⇓P P 15 03 45.2 -0.2
BBOO Buckleboo 37.80 248 P P 15 03 46.5 -0.1
baz=36,SNR=799
BBOO Buckleboo 37.80 248 P P 15 03 46.4 -0.1
OOD Oodnadatta 38.33 256 P P 15 03 52.0 +1.1
MULG Mulgathing 39.56 252 P P 15 04 01.0 +0.2
MMPI Merauke 39.80 288 P P 15 04 02.9 +0.1
comp=Z,2µm,0.8s
ASAR Alice Springs 40.53 262 P P 15 04 08.6 -0.1
comp=Z,649nm,0.9s,baz=81,slow=7.6,SNR=2085
ASAR PcP pwP 15 05 54.0 +0.8
comp=Z,29nm,0.9s,baz=96,slow=6.6,SNR=4.6
ASAR ScP ScP 15 08 51.5 +0.5
comp=Z,5.8nm,0.9s,baz=116,slow=4.2,SNR=1.6
ASAR S S 15 09 36.0 -0.8
comp=Z,49nm,0.8s,baz=104,slow=15,SNR=14
ASAR PKiKP PKiKP 15 13 02.6 -1.3
comp=Z,1.8nm,0.5s,baz=110,slow=1.4,SNR=6.8
ASAR P3KPbc 15 33 39.1
comp=Z,0.8nm,1.0s,baz=288,slow=3.5,SNR=10.0
ASAR PKP2bc 15 36 48.9
comp=Z,2.4nm,1.2s,baz=276,slow=2.3,SNR=5.1
ASAR P4KPbc 15 42 06.2
comp=Z,0.2nm,0.4s,baz=105,slow=4.3,SNR=8.1
comp=Z,649nm,0.9s
TABU Tabubil 40.70 292 P P 15 04 12.3 +2.2
WRAB Tennant Creek 40.97 268 P P 15 04 11.5 -0.6
WRAB Tennant Creek 40.97 268 P P 15 04 11.5 -0.6
WRAB pmax pmax
comp=Z,792nm,0.6s
WRA Warramunga Arr 40.98 268 IAmb IAmb 15 04 13.2
comp=Z,112nm,0.6s
WRA Warramunga Arr 40.98 268 P P 15 04 11.8 -0.4
comp=Z,902nm,0.6s,baz=105,slow=8.2,SNR=751
WRA PcP pwP 15 05 57.7 +0.3
comp=Z,47nm,0.9s,baz=98,slow=4.9,SNR=9.7
WRA ScP ScP 15 08 54.6 +1.8
comp=Z,22nm,1.0s,baz=111,slow=4.4,SNR=9.5
WRA S S 15 09 40.1 -3.2
comp=Z,56nm,0.8s,baz=100,slow=14,SNR=15
WRA PKiKP PKiKP 15 13 03.6 -0.8
comp=Z,1.9nm,0.4s,baz=62,slow=0.5,SNR=7.7
WRA PKP2bc 15 36 44.8
comp=Z,1.7nm,1.0s,baz=292,slow=3.8,SNR=7.0
WRA P4KPbc 15 42 08.7
comp=Z,1.3nm,0.7s,baz=97,slow=4.1,SNR=23
TAOE Nuku Hiva Isla 42.46 75 eP P 15 04 24.7 +0.7
comp=Z,1µm,1.2s
TAOE eScP ScP 15 08 57.9 -1.0
comp=Z,531nm,1.4s
TAOE eS S 15 10 04.7 -0.2
comp=Z,797nm,25.6s
TAOE Nuku Hiva Isla 42.46 75 P P 15 04 24.9 +0.9
TAOE Nuku Hiva Isla 42.46 75 P P 15 04 25.9 +1.9
TAOE Nuku Hiva Isla 42.46 75 ⇑P P 15 04 25.8 +1.8
GENI Genyem 43.05 295 P P 15 04 28.6 +0.2
GENI Genyem 43.05 295 ⇓P P 15 04 28.2 -0.2
GENI Genyem 43.05 295 P P 15 04 27.8 -0.6
comp=Z,959nm,0.8s,comp=Z,13µmcomp=Z,6µm
FORT Forrest 44.69 251 P P 15 04 40.3 -0.5
baz=45,SNR=863
FORT Forrest 44.69 251 P P 15 04 40.2 -0.7
FORT Forrest 44.69 251 P P 15 04 40.4 -0.5
FORT Forrest 44.69 251 ⇓P P 15 04 40.2 -0.7
KDU Kakadu 45.02 277 P P 15 04 43.0 -0.6
baz=45,SNR=153
KDU Kakadu 45.02 277 P P 15 04 42.7 -0.9
KDU Kakadu 45.02 277 ⇓P P 15 04 42.9 -0.6
WRKA Warakurna 45.29 259 P P 15 04 45.4 -0.2
baz=45,SNR=1000
WRKA Warakurna 45.29 259 P P 15 04 45.6 0.0
WRKA Warakurna 45.29 259 ⇓P P 15 04 45.4 -0.2
WAKE Wake Island 45.37 344 P P 15 04 46.3 +0.3
WAKE Wake Island 45.37 344 ⇓P P 15 04 46.3 +0.3
WAKE Wake Island 45.37 344 P P 15 04 46.4 +0.3
H11N1 WAKE ISLAND Hy 45.72 345 P P 15 04 48.6 +0.1
baz=244,slow=74,SNR=8.5
H11N3 WAKE ISLAND Hy 45.72 345 P P 15 04 48.6 0.0
baz=244,slow=74,SNR=6.4
H11N2 WAKE ISLAND Hy 45.74 345 P P 15 04 48.8 +0.1
baz=244,slow=74,SNR=3.8
MTN Manton Dam 46.17 276 P P 15 04 51.4 -1.0
baz=46,SNR=60
MTN Manton Dam 46.17 276 IAmb IAmb 15 04 53.1
comp=Z,125nm,0.7s
MTN Manton Dam 46.17 276 P P 15 04 51.6 -0.7
MTN Manton Dam 46.17 276 ⇓P P 15 04 51.3 -1.0
KNRA Kununurra 47.32 271 P P 15 05 01.1 +0.2
baz=47,SNR=384
KNRA Kununurra 47.32 271 P P 15 05 01.0 +0.1
KMPI Kaimana, Papua 47.93 289 P P 15 05 07.1 +1.5
comp=Z,671nm,1.2s,comp=Z,9µmcomp=Z,5µm
SAUI Saumlaki 48.00 282 P P 15 05 06.0 -0.1
SAUI Saumlaki 48.00 282 P P 15 05 07.2 +1.1
SAUI Saumlaki 48.00 282 ⇓P P 15 05 06.4 +0.4
SAUI Saumlaki 48.00 282 P P 15 05 06.5 +0.4
comp=Z,1µm,1.0s,comp=Z,14µmcomp=Z,8µm
DRV Dumont d'Urvil 48.18 199 ⇑P P 15 05 06.8 +0.2
DRV ScP ScP 15 09 21.4 -0.3
FITZ Fitzroy Crossi 49.39 267 P P 15 05 16.5 +0.2
baz=49,SNR=408
FITZ Fitzroy Crossi 49.39 267 IAmb IAmb 15 05 18.5
comp=Z,157nm,0.8s
FAKI Fak Fak 49.56 289 P P 15 05 16.5 -1.1
FAKI Fak Fak 49.56 289 P P 15 05 16.8 -0.8
FAKI Fak Fak 49.56 289 ⇓P P 15 05 16.8 -0.8
FAKI Fak Fak 49.56 289 P P 15 05 17.4 -0.2
comp=Z,326nm,1.1s,comp=Z,6µmcomp=Z,5µm
KMBL Kambalda 49.89 249 P P 15 05 19.1 -0.7
baz=50,SNR=66
KMBL Kambalda 49.89 249 P P 15 05 19.2 -0.7
GUMO Guam 50.36 316 P P 15 05 22.5 -0.8
GUMO Guam 50.36 316 P P 15 05 22.8 -0.5
GUMO Guam 50.36 316 ⇓P P 15 05 22.5 -0.8
GUMO Guam 50.36 316 P P 15 05 22.5 -0.8
GUMO pmax pmax
comp=Z,517nm,0.9s
GUMO Guam 50.36 316 P P 15 05 22.6 -0.8
KHLU Kahalu`u 50.74 32 P P 15 05 27.0 +0.8
KHLU IAmb IAmb 15 05 28.6
comp=Z,298nm,1.1s
BNDI Bandanaira 50.81 285 P P 15 05 26.4 -0.3
BNDI Bandanaira 50.81 285 ⇓P P 15 05 26.0 -0.7
BNDI Bandanaira 50.81 285 P P 15 05 26.6 -0.1
comp=Z,1µm,0.8s,comp=Z,13µmcomp=Z,6µm
MLOA Mauna Loa Obse 50.84 32 IAmb IAmb 15 05 29.6
comp=Z,270nm,1.1s
HMH Humu'ula Sheep 50.94 32 P P 15 05 28.5 +0.6
POHA Pohakuloa 51.05 32 P P 15 05 30.0 +1.5
POHA Pohakuloa 51.05 32 P P 15 05 29.0 +0.5
POHA ScP ScP 15 09 37.6 +2.5
KEKH Kekaha 51.15 26 P P 15 05 29.7 +0.8
KEKH IAmb IAmb 15 05 31.4
comp=Z,196nm,0.7s
KIP Kipapa 51.36 28 iP P 15 05 31.2 +0.7
KIP pmax pmax
comp=Z,259nm,1.9s
SIJI Sorong 51.45 290 P P 15 05 30.7 -0.7
comp=Z,1µm,0.7s,comp=Z,9µmcomp=Z,4µm
SWI Sorong 51.46 290 P P 15 05 30.8 -0.6
comp=Z,2µm,0.7s,comp=Z,14µmcomp=Z,5µm
OPA Opana 51.60 28 IAmb IAmb 15 05 35.1
comp=Z,345nm,1.3s
KHLH Kahului Airpor 51.61 30 IAmb IAmb 15 05 35.0
comp=Z,275nm,1.3s
KRAI Karang Ratu 52.71 286 P P 15 05 40.2 -0.2
comp=Z,761nm,0.8s,comp=Z,10µm
VNDA Vanda 53.31 184 P P 15 05 44.6 +1.0
VNDA Vanda 53.31 184 P P 15 05 44.8 +1.2
comp=Z,35nm,0.8s,baz=12,slow=7.8,SNR=136
VNDA PcP PcP 15 06 40.5 -1.0
comp=Z,22nm,0.8s,baz=358,slow=5.7,SNR=4.5
VNDA ScP ScP 15 09 44.3 +0.6
comp=Z,23nm,1.1s,baz=352,slow=5.5,SNR=9.8
VNDA S S 15 12 33.0 +1.2
comp=Z,1.4nm,0.9s,baz=106,slow=23,SNR=7.7
VNDA P4KPbc 15 43 00.3
comp=Z,0.8nm,0.8s,baz=44,slow=2.5,SNR=3.8
comp=Z,35nm,0.8s
VNDA Vanda 53.31 184 ⇑P P 15 05 44.8 +1.2
VNDA PcP PcP 15 06 43.2 +1.7
VNDA ScP ScP 15 09 44.4 +0.7
SBA Scott Base 53.34 183 P P 15 05 45.9 +2.1
SBA IAmb IAmb 15 05 47.4
comp=Z,248nm,0.9s
SBA Scott Base 53.34 183 P P 15 05 45.9 +2.1
SBA pmax pmax
comp=Z,248nm,0.9s
SBA Scott Base 53.34 183 ⇑P P 15 05 45.9 +2.1
SBA PcP PcP 15 06 43.8 +2.2
SBA ScP ScP 15 09 45.1 +1.3
KLBR Kellerberrin 53.35 248 P P 15 05 44.2 -0.4
baz=53,SNR=263
KLBR Kellerberrin 53.35 248 P P 15 05 44.3 -0.4
MEEK Meekatharra 53.52 254 P P 15 05 45.0 -1.0
baz=54,SNR=88
MEEK Meekatharra 53.52 254 P P 15 05 45.0 -1.0
SOEI Soe 53.56 276 P P 15 05 47.9 +1.3
SOEI Soe 53.56 276 ⇓P P 15 05 47.7 +1.2
SOEI Soe 53.56 276 P P 15 05 47.3 +0.7
comp=Z,865nm,0.9s,comp=Z,11µmcomp=Z,6µm
RKGY Rocky Gully 53.57 244 P P 15 05 46.4 +0.3
baz=54,SNR=22
RKGY Rocky Gully 53.57 244 P P 15 05 46.7 +0.5
NWAO Narrogin (SRO) 53.59 246 P P 15 05 46.4 +0.1
baz=54,SNR=42
NWAO P P 15 05 46.4 +0.1
baz=54,SNR=42
NWAO Narrogin (SRO) 53.59 246 P P 15 05 45.9 -0.4
NWAO IAmb IAmb 15 05 47.7
comp=Z,151nm,0.8s
NWAO Narrogin (SRO) 53.59 246 IAmb IAmb 15 05 47.7
comp=Z,475nm,0.8s
NWAO Narrogin (SRO) 53.59 246 P P 15 05 46.4 +0.1
NWAO Narrogin (SRO) 53.59 246 P P 15 05 46.3 +0.1
NWAO Narrogin (SRO) 53.59 246 P P 15 05 45.9 -0.4
NWAO pmax pmax
comp=Z,151nm,0.8s
NWAO Narrogin (SRO) 53.59 246 P P 15 05 46.4 +0.1
NWAO Narrogin (SRO) 53.59 246 P P 15 05 46.5 +0.1
NWAO pP pP 15 07 36.4 +1.8
NWAO ScP ScP 15 09 47.6 +1.8
PSA00 Pilbara Seismi 53.64 261 IAmb IAmb 15 05 47.3
comp=Z,207nm,0.6s
PSA00 Pilbara Seismi 53.64 261 IAmb IAmb 15 05 47.3
comp=Z,207nm,0.6s
PSA00 Pilbara Seismi 53.64 261 P P 15 05 46.2 -0.7
MBWA Marble Bar 53.86 261 P P 15 05 47.7 -0.7
MBWA Marble Bar 53.86 261 P P 15 05 47.7 -0.7
MBWA Marble Bar 53.86 261 ⇓P P 15 05 47.6 -0.7
MBWA Marble Bar 53.86 261 P P 15 05 47.8 -0.7
MBWA Marble Bar 53.86 261 P P 15 05 47.5 -0.8
MBWA pP pP 15 07 37.7 +0.9
NLAI Namlea 53.88 285 P P 15 05 48.0 -0.6
comp=Z,335nm,1.0s,comp=Z,4µm
MUN Mundaring 54.59 247 P P 15 05 53.1 -0.2
baz=55,SNR=47
MUN Mundaring 54.59 247 P P 15 05 53.2 -0.2
LBMI Labuha 54.80 288 P P 15 05 54.7 -0.4
comp=Z,561nm,0.8s,comp=Z,7µm
MTKN Mount Kenneth 54.96 247 P P 15 05 58.3 +2.4
MORW Morawa 55.26 251 P P 15 05 57.6 -0.5
baz=55,SNR=75
MORW Morawa 55.26 251 P P 15 05 57.8 -0.3
MORW Morawa 55.26 251 ⇓P P 15 05 57.5 -0.5
SANI Sanana 55.42 286 P P 15 05 58.8 -0.6
SANI Sanana 55.42 286 ⇓P P 15 05 58.6 -0.8
SANI Sanana 55.42 286 P P 15 05 58.2 -1.2
comp=Z,879nm,0.8s,comp=Z,9µmcomp=Z,5µm
TNTI Ternate 55.63 289 IAmb IAmb 15 06 02.3
comp=Z,357nm,0.9s
TNTI Ternate 55.63 289 P P 15 06 00.5 -0.3
TNTI Ternate 55.63 289 ⇓P P 15 06 00.4 -0.4
TNTI Ternate 55.63 289 P P 15 06 00.1 -0.7
comp=Z,436nm,0.9s,comp=Z,6µmcomp=Z,2µm
H01W1 Cape Leeuwin H 55.84 244 P P 15 06 03.3 +1.6
baz=118,slow=5.1,SNR=9.4
MMRI Maumere 55.85 277 P P 15 06 02.1 -0.2
MMRI Maumere 55.85 277 ⇓P P 15 06 01.8 -0.5
MMRI Maumere 55.85 277 P P 15 06 01.5 -0.8
comp=Z,680nm,0.9s,comp=Z,8µmcomp=Z,4µm
H01W2 Cape Leeuwin H 55.85 244 P P 15 06 03.4 +1.6
baz=118,slow=5.1,SNR=8.8
H01W3 Cape Leeuwin H 55.86 244 P P 15 06 03.4 +1.6
baz=118,slow=5.1,SNR=10
EDFI Ende, Flores 56.30 276 P P 15 06 04.2 -1.3
comp=Z,772nm,0.7s,comp=Z,8µm
BASI Baing, Sumba 56.72 274 P P 15 06 09.3 +1.0
comp=Z,1µm,0.9s,comp=Z,13µmcomp=Z,3µm
BBSI Bau Bau 56.88 280 P P 15 06 11.1 +1.7
comp=Z,249nm,0.7s,comp=Z,3µmcomp=Z,2µm
CCD Concordia, Ant 57.45 195 ⇑P P 15 06 13.0 +0.2
CCD PcP PcP 15 06 58.9 +0.6
CCD ScP ScP 15 10 02.3 -0.2
GIRL Giralia 58.36 258 P P 15 06 20.2 +0.8
baz=58,SNR=52
GIRL Giralia 58.36 258 P P 15 06 20.1 +0.8
GIRL Giralia 58.36 258 ⇓P P 15 06 20.1 +0.8
KMSI Cibinong 58.45 287 P P 15 06 19.2 -0.8
comp=Z,1µm,0.8s,comp=Z,11µmcomp=Z,3µm
CASY Casey 58.65 206 P P 15 06 20.1 -0.3
CASY IAmb IAmb 15 06 21.3
comp=Z,215nm,0.7s
CASY Casey 58.65 206 ⇑P P 15 06 20.2 -0.3
CASY Casey 58.65 206 P P 15 06 20.3 -0.2
CASY pP pP 15 08 11.7 -0.1
CASY ScP ScP 15 10 07.3 -0.1
SGSI Sangihe 58.71 291 P P 15 06 22.6 +0.8
comp=Z,535nm,0.7s,comp=Z,9µmcomp=Z,4µm
LUWI Luwuk 58.72 285 P P 15 06 22.0 +0.1
LUWI Luwuk 58.72 285 ⇓P P 15 06 21.8 -0.1
LUWI Luwuk 58.72 285 P P 15 06 21.8 -0.1
comp=Z,863nm,0.8s,comp=Z,9µm
BKSI Bulukumba 59.14 279 P P 15 06 23.7 -1.0
comp=Z,855nm,0.7s,comp=Z,7µmcomp=Z,3µm
DBNI Kabupaten Domp 59.45 275 P P 15 06 25.7 -1.0
comp=Z,1µm,0.7s,comp=Z,11µm
KAPI Kappang 59.60 279 P P 15 06 27.2 -0.5
KAPI IAmb IAmb 15 06 30.4
comp=Z,455nm,1.4s
KAPI Kappang 59.60 279 P P 15 06 27.2 -0.5
KAPI pmax pmax
comp=Z,455nm,1.5s
MKS Makassar 59.77 279 P P 15 06 28.9 0.0
comp=Z,222nm,0.9s,comp=Z,3µm
PLAI Plampang 59.80 274 P P 15 06 28.9 -0.2
PLAI Plampang 59.80 274 P P 15 06 28.3 -0.8
comp=Z,2µm,0.7s,comp=Z,16µmcomp=Z,4µm
SPSI Sidrap Palu 60.05 280 P P 15 06 29.1 -1.6
comp=Z,353nm,0.8s,comp=Z,3µmcomp=Z,3µm
MRSI Marisa 60.18 286 P P 15 06 30.0 -1.6
comp=Z,355nm,0.6s,comp=Z,3µmcomp=Z,3µm
TTSI Tana Toraja 60.41 281 P P 15 06 32.6 -0.5
comp=Z,194nm,1.6s,comp=Z,3µm
DAV Davao City (W) 60.49 295 P P 15 06 32.9 -0.7
DAV Davao City (W) 60.49 295 P P 15 06 32.2 -1.4
DAV Davao City (W) 60.49 295 P P 15 06 33.9 +0.3
comp=Z,791nm,0.7s,comp=Z,9µmcomp=Z,5µm
TWSI Taliwang, Sumb 60.65 274 P P 15 06 33.9 -0.8
comp=Z,642nm,0.9s,comp=Z,9µmcomp=Z,4µm
PMSI Majene 61.02 280 P P 15 06 36.9 -0.2
comp=Z,872nm,0.8s,comp=Z,8µmcomp=Z,4µm
MMSI Mamuju 61.38 281 P P 15 06 39.0 -0.5
comp=Z,158nm,0.8s,comp=Z,2µm
TOLI2 Tolitoli 61.50 286 P P 15 06 39.1 -1.1
MPSI Mapaga 61.90 285 P P 15 06 41.5 -1.3
comp=Z,305nm,0.9s,comp=Z,3µm
DNP Denpasar 62.19 273 P P 15 06 45.4 +0.7
comp=Z,1µm,0.7s,comp=Z,23µm
JCJ Chichijima 62.41 323 P P 15 06 45.9 +0.1
SRBI Singaraja 62.42 274 P P 15 06 45.4 -0.8
comp=Z,638nm,0.9s,comp=Z,7µmcomp=Z,4µm
JAGI Jajag, Banyuwa 63.23 273 P P 15 06 50.1 -1.3
JAGI Jajag, Banyuwa 63.23 273 ⇓P P 15 06 50.0 -1.5
JAGI Jajag, Banyuwa 63.23 273 P P 15 06 49.9 -1.5
comp=Z,569nm,0.8s,comp=Z,7µmcomp=Z,3µm
ABJI Asem Bagus 63.43 274 P P 15 06 52.3 -0.3
comp=Z,339nm,1.0s,comp=Z,5µm
BKB Balikpapan 63.82 282 P P 15 06 57.4 +2.3
comp=Z,369nm,0.9s,comp=Z,6µmcomp=Z,4µm
KMMI Kalianget 63.97 274 P P 15 06 56.1 0.0
comp=Z,670nm,0.9s,comp=Z,8µm
BLJI Banyuglugur 64.03 273 P P 15 06 56.0 -0.4
comp=Z,750nm,0.8s,comp=Z,7µm
BBKI Banjar Baru 64.69 278 P P 15 07 00.8 +0.2
comp=Z,622nm,0.8s,comp=Z,8µmcomp=Z,4µm
KRKI Karangkates 64.90 273 P P 15 07 02.6 +0.7
comp=Z,511nm,0.7s
QSPA South Pole Qui 65.23 180 P P 15 07 04.7 +1.4
comp=Z,453nm,0.8s,baz=26,slow=2.7
comp=Z,453nm,0.8s
QSPA South Pole Qui 65.23 180 ⇑P P 15 07 04.6 +1.4
SJI Sawahan 65.69 273 P P 15 07 06.6 -0.4
comp=Z,660nm,0.8s,comp=Z,6µm
MTKI Muara Teweh, K 65.75 281 P P 15 07 06.8 -0.5
comp=Z,563nm,0.8s,comp=Z,10µm
PKKI Palangkaraya 66.00 279 P P 15 07 08.9 +0.1
comp=Z,2µm,0.8s,comp=Z,18µmcomp=Z,3µm
NGJI Ngawi 66.11 273 P P 15 07 11.4 +1.9
comp=Z,331nm,0.9s,comp=Z,5µm
UGM Wanagama 66.75 272 P P 15 07 12.8 -0.7
UGM Wanagama 66.75 272 P P 15 07 13.3 -0.2
UGM Wanagama 66.75 272 P P 15 07 13.6 +0.1
comp=Z,675nm,0.8s,comp=Z,6µmcomp=Z,4µm
YOGI Yogyakarta 66.99 272 P P 15 07 15.5 +0.5
comp=Z,502nm,0.8s,comp=Z,5µm
SMRI Semarang 67.17 273 ⇓P P 15 07 16.2 +0.1
SMRI Semarang 67.17 273 P P 15 07 16.5 +0.5
comp=Z,493nm,1.2s,comp=Z,6µm
KKM Kota Kinabalu 67.88 288 P P 15 07 20.5 +0.1
KKM Kota Kinabalu 67.88 288 ⇓P P 15 07 20.2 -0.3
KKM Kota Kinabalu 67.88 288 P P 15 07 20.2 -0.3
comp=Z,398nm,1.6s,comp=Z,6µmcomp=Z,4µm
JMZ Minamidaito 2 68.01 314 P P 15 07 20.7 -0.1
KPJI Karang Pucung 68.42 272 P P 15 07 23.2 -0.5
comp=Z,349nm,1.3s,comp=Z,4µm
CMJI Cimerak 68.68 271 P P 15 07 25.0 -0.2
comp=Z,376nm,1.1s,comp=Z,4µm
STKI Sintang 69.25 280 P P 15 07 28.8 +0.2
comp=Z,650nm,0.8s,comp=Z,8µm
JCJI Jatiwangi 69.36 272 P P 15 07 29.4 +0.1
comp=Z,942nm,1.0s,comp=Z,10µm
BBJI Bungbulang 69.53 271 P P 15 07 29.5 -0.9
BBJI Bungbulang 69.53 271 P P 15 07 29.2 -1.2
comp=Z,524nm,0.8s,comp=Z,5µmcomp=Z,2µm
SBUM Sibu 69.67 283 IAmb IAmb 15 07 33.2
comp=Z,115nm,1.2s
SBUM Sibu 69.67 283 P P 15 07 30.9 -0.2
comp=Z,88nm,1.1s,comp=Z,2µmcomp=Z,1µm
LEM Lembang 69.82 272 P P 15 07 31.9 -0.3
comp=Z,274nm,0.8s,comp=Z,8µmcomp=Z,3µm
CNJI Cibinong 70.07 271 P P 15 07 32.2 -1.3
comp=Z,260nm,0.8s,comp=Z,2µm
XMI Christmas Isla 70.15 267 P P 15 07 34.7 +0.7
XMIS Christmas Isla 70.17 267 P P 15 07 33.5 -0.6
XMIS Christmas Isla 70.17 267 P P 15 07 34.6 +0.5
JOW Kunigami 70.63 313 P P 15 07 36.1 -0.4
JOW Kunigami 70.63 313 P P 15 07 36.6 +0.1
JOW Kunigami 70.63 313 ⇓P P 15 07 36.6 +0.1
SKJI Sukabumi 70.71 271 P P 15 07 36.7 -0.6
comp=Z,889nm,0.7s,comp=Z,8µmcomp=Z,3µm
DBJI Dramaga 70.72 272 P P 15 07 36.8 -0.5
comp=Z,845nm,1.2s,comp=Z,12µmcomp=Z,4µm
KSM Kuching 70.92 281 P P 15 07 38.0 -0.5
comp=Z,618nm,0.8s,comp=Z,6µm
TNG Tangerang 70.97 272 P P 15 07 38.8 0.0
comp=Z,977nm,0.5s
SBJI Serang 71.46 272 P P 15 07 42.4 +0.8
comp=Z,514nm,1.7s,comp=Z,8µm
CGJI Cibinong 71.65 271 P P 15 07 41.3 -1.5
comp=Z,950nm,0.7s,comp=Z,8µm
JMM Marumori 71.74 329 P P 15 07 44.6 +1.9
MJAR Matsushiro Arr 71.92 327 P P 15 07 43.4 -0.5
comp=Z,52nm,0.7s,baz=152,slow=5.6,SNR=117
MJAR PKPPKP P'P'df 15 35 28.7 +4.3
comp=Z,3.3nm,1.1s,baz=316,slow=7.0,SNR=4.2
comp=Z,52nm,0.7s
MAJO Matsushiro 71.93 327 P P 15 07 43.0 -0.9
MAJO IAmb IAmb 15 07 46.0
comp=Z,148nm,1.0s
MAJO Matsushiro 71.93 327 P P 15 07 44.0 +0.1
MAJO Matsushiro 71.93 327 ⇓P P 15 07 43.5 -0.4
MAJO Matsushiro 71.93 327 iP P 15 07 43.5 -0.4
MAJO pmax pmax
comp=Z,373nm,2.1s
MAJO Matsushiro 71.93 327 P P 15 07 43.5 -0.4
MAJO PcP PcP 15 07 59.4 +0.9
MJB9 Matsu-Tunnel 71.93 327 IAmb IAmb 15 07 47.0
comp=Z,151nm,1.0s
JMN Monobe 72.07 322 IAmb IAmb 15 07 47.0
comp=Z,124nm,0.9s
JMN Monobe 72.07 322 P P 15 07 45.0 +0.3
JMN Monobe 72.07 322 ⇓P P 15 07 45.0 +0.3
YOJ Yonaguni jima 72.72 308 P P 15 07 48.2 -0.5
YOJ Yonaguni jima 72.72 308 ⇓P P 15 07 48.0 -0.7
PPBI Pangkal Pinang 73.09 276 P P 15 07 50.9 -0.2
comp=Z,269nm,1.0s,comp=Z,4µm
TWGBT Beinan 73.13 306 P P 15 07 49.2 -1.8
TWG Pinlang 73.13 306 IAmb IAmb 15 07 50.3
comp=Z,143nm,0.6s
KASI Kota Agung 73.18 272 P P 15 07 50.1 -1.5
comp=Z,526nm,1.0s,comp=Z,5µm
YULB Yu-li 73.31 306 IAmb IAmb 15 07 51.9
comp=Z,66nm,0.7s
YULB Yu-li 73.31 306 P P 15 07 50.4 -1.7
JNU Nakatsue 73.35 320 IAmb IAmb 15 07 53.6
comp=Z,116nm,0.7s
JNU Nakatsue 73.35 320 P P 15 07 51.8 -0.3
JHS Saijyo 73.43 322 IAmb IAmb 15 10 00.7
comp=Z,38nm,0.4s
NACB Ninganchiao 73.57 307 IAmb IAmb 15 07 54.8
comp=Z,190nm,1.1s
NACB Ninganchiao 73.57 307 P P 15 07 52.8 -0.7
TPUB Ta-pu 73.75 306 P P 15 07 52.7 -1.9
LWLI Liwa 73.78 272 P P 15 07 53.9 -1.3
comp=Z,1µm,0.7s,comp=Z,12µmcomp=Z,3µm
SSLB Suanglung 73.80 306 P P 15 07 53.3 -1.6
JTM Tenmabayashi 73.99 331 IAmb IAmb 15 07 56.8
comp=Z,314nm,1.3s
JTM Tenmabayashi 73.99 331 P P 15 07 56.3 +0.8
YHNB Yeheng 74.03 307 P P 15 07 56.1 -0.1
ERM Erimo 74.13 333 P P 15 07 57.9 +1.7
TATO Taipei 74.13 308 P P 15 07 55.4 -1.3
TATO Taipei 74.13 308 P P 15 07 56.3 -0.3
TATO Taipei 74.13 308 P P 15 07 55.9 -0.8
JEM Erimo 74.13 333 P P 15 07 58.3 +2.1
MNAI Manna 75.06 272 P P 15 08 01.3 -0.9
MNAI Manna 75.06 272 P P 15 08 02.2 0.0
MNAI Manna 75.06 272 ⇓P P 15 08 01.6 -0.6
MNAI Manna 75.06 272 P P 15 08 02.6 +0.4
comp=Z,803nm,1.0s,comp=Z,9µm
DSRI Dabo 75.21 276 P P 15 08 03.0 0.0
comp=Z,220nm,0.9s,comp=Z,3µm
EGSI Enggano, Bengk 75.27 271 P P 15 08 03.4 +0.1
comp=Z,879nm,0.7s,comp=Z,9µmcomp=Z,4µm
JMBI JAMBI 75.57 275 P P 15 08 07.3 +2.3
comp=Z,350nm,1.3s,comp=Z,5µm
BELA Belgrano 2 75.65 173 P P 15 08 04.5 +0.1
BELA IAmb IAmb 15 08 05.6
comp=Z,152nm,0.6s
SMAI San Martin Ant 75.70 159 IAmb IAmb 15 08 07.4
comp=Z,116nm,0.7s
TPRI Tanjung Pinang 75.86 278 P P 15 08 06.9 +0.3
comp=Z,294nm,0.9s,comp=Z,4µmcomp=Z,3µm
UBSI University, Be 75.92 272 P P 15 08 06.2 -0.8
comp=Z,1µm,0.6s,comp=Z,13µm
JKA Kamikawa-asahi 76.11 334 IAmb IAmb 15 08 09.9
comp=Z,132nm,1.1s
QZH Quanzhou 76.22 306 ⇓iP P 15 08 08.2 0.0
QZH sP sP 15 11 06.0 -1.4
QZH eS S 15 17 06.1 0.0
QZH ScS SKKSac 15 17 27.4 +2.1
QZH pmax pmax
comp=Z,200nm,1.4s
QZH pmax pmax
comp=Z,1µm,4.7s
MAW Mawson 76.37 201 P P 15 08 08.8 +0.4
MAW Mawson 76.37 201 P P 15 08 09.1 +0.7
comp=Z,111nm,0.7s,baz=117,slow=7.3,SNR=60
MAW S S 15 17 04.0 -2.4
comp=Z,1.9nm,0.3s,baz=215,slow=17,SNR=6.5
comp=Z,111nm,0.7s
KIWB Kanaga Island 76.48 3 P P 15 08 08.8 -0.3
ADK Adak 76.53 3 P P 15 08 08.9 -0.4
ADK IAmb IAmb 15 08 10.7
comp=Z,461nm,1.6s
ADK Adak 76.53 3 P P 15 08 09.5 +0.2
ADK Adak 76.53 3 P P 15 08 08.9 -0.4
ADK pmax pmax

comp=Z,461nm,1.6s
MYKOM **Kota Tinggi** 76.85 278 IAmb IAmb 15 08 13.8
comp=Z,202nm,0.9s
MYKOM **Kota Tinggi** 76.85 278 ⇓P **P** **15 08 12.0 0.0**
MYKOM **Kota Tinggi** 76.85 278 P **P** **15 08 12.0 0.0**
comp=Z,283nm,1.1s,comp=Z,4μmcomp=Z,3μm
ATKA Atka Island 77.00 5 P **P** **15 08 11.8 0.0**
KRJI Kerinci 77.35 274 P **P** **15 08 14.6 -0.3**
comp=Z,805nm,0.7s,comp=Z,18μmcomp=Z,3μm
COCO West Island 77.49 262 P **P** **15 08 15.0 -0.4**
COCO West Island 77.49 262 P **P** **15 08 15.0 -0.4**
COCO pmax pmax
comp=Z,1μm,1.9s
TJN Taejon 77.69 320 P **P** **15 08 16.8 +0.8**
TJN Taejon 77.69 320 *ce*P **P** **15 08 15.6 -0.4**
SKR Severo-Kuril's 77.77 346 *e*P P 15 08 11.2 -4.9
SKR pmax pmax
comp=Z,600nm,8.7s
SKR MLR MLR
comp=Z,300nm,19.0s
SSE Sheshan 78.11 312 P **P** **15 08 18.1 -0.2**
SSE S **S** **15 17 17.6 -8.2**
SSE pmax pmax
comp=Z,31nm,0.8s
SSE pmax pmax
comp=Z,470nm,5.7s
KSRS Korea Array 78.11 321 P **P** **15 08 18.6 +0.4**
comp=Z,58nm,0.7s,baz=133,slow=5.7,SNR=130
comp=Z,58nm,0.7s
KS19 Wonju Array Si 78.18 321 IAmb IAmb 15 08 20.7
comp=Z,93nm,0.8s
NIKH Nikolski High 78.28 8 P **P** **15 08 18.8 0.0**
NIKH Nikolski High 78.28 8 P **P** **15 08 18.6 -0.2**
baz=192,SNR=5.6
PPSI Pulau Pagai 78.39 272 P **P** **15 08 22.7 +2.4**
comp=Z,389nm,1.0s,comp=Z,8μm
YSS Yuzh-Sakhalins 78.43 336 P **P** **15 08 20.8 +1.1**
YSS IAmb IAmb 15 08 23.1
comp=Z,159nm,0.8s
YSS Yuzh-Sakhalins 78.43 336 P **P** **15 08 21.7 +2.0**
YSS Yuzh-Sakhalins 78.43 336 κ *i*P **P** **15 08 21.4 +1.7**
YSS *e**PP **pwP** **15 10 24.6 -1.5**
YSS *e**SP **PP** **15 11 28.0 -0.4**
YSS *e*S **S** **15 17 31.9 +3.5**
YSS *e*SS **SS** **15 22 50.5 +1.0**
YSS pmax pmax
comp=Z,2μm,3.3s
YSS pmax pmax
comp=Z,180nm,1.1s
YSS smax smax
comp=N,900nm,4.8s
PMSA Palmer Station 78.57 157 P **P** **15 08 21.5 +1.2**
PMSA IAmb IAmb 15 11 05.4
comp=Z,108nm,0.5s
PMSA Palmer Station 78.57 157 ⇓P **P** **15 08 21.9 +1.7**
BKNI Bangkinang 78.75 276 IAmb IAmb 15 08 23.3
comp=Z,298nm,1.0s
BKNI Bangkinang 78.75 276 ⇓P **P** **15 08 21.6 -0.6**
BKNI Bangkinang 78.75 276 P **P** **15 08 22.2 -0.1**
comp=Z,151nm,0.7s,comp=Z,4μmcomp=Z,3μm
PDSI Padang 78.75 274 P **P** **15 08 20.6 -1.7**
comp=Z,286nm,0.8s,comp=Z,3μmcomp=Z,2μm
INCN Inchon 78.87 320 P **P** **15 08 22.2 -0.1**
INCN IAmb IAmb 15 08 24.7
comp=Z,255nm,1.4s
INCN Inchon 78.87 320 P **P** **15 08 22.2 -0.1**
INCN pmax pmax
comp=Z,255nm,1.5s
INCN Inchon 78.87 320 P **P** **15 08 22.5 +0.2**
UNV Unalaska Valle 79.45 9 P **P** **15 08 24.7 -0.2**
UNV Unalaska Valle 79.45 9 P **P** **15 08 24.6 -0.3**
baz=194
PET Petropavlovsk 79.46 348 P **P** **15 08 24.4 -0.5**
PET Petropavlovsk 79.46 348 P **P** **15 08 25.0 0.0**
PET Petropavlovsk 79.46 348 κ *i*P **P** **15 08 25.0 0.0**
PET *e**PP **pP** **15 10 28.5 +2.0**
PET *e**SP **sP** **15 11 26.1 +0.9**
PET *e*S **S** **15 17 39.6 +0.9**
PET *e* 15 17 59.5
PET *e*SP **SPn** **15 18 30.0 +2.3**
PET *e*SS **SS** **15 23 05.5 +1.1**
PET *e*SSS SSS 15 26 30.4
PET pmax pmax
comp=Z,107nm,0.8s
PET pmax pmax
comp=Z,600nm,15.2s
PEA0B Petropavlovsk- 79.72 347 IAmb IAmb 15 08 28.6
comp=Z,448nm,1.6s
PEA0B Petropavlovsk- 79.72 347 *ce*P **P** **15 08 26.7 +0.3**
PETK Petropavlovsk- 79.72 347 P **P** **15 08 26.4 0.0**
comp=Z,34nm,0.8s,baz=123,slow=7.1,SNR=71
PETK pP **pwP** **15 10 31.3 -2.1**
comp=Z,12nm,0.9s,baz=117,slow=7.9,SNR=4.8
PETK PKiKP **PKiKP** **15 13 50.8 -0.7**
comp=Z,2.6nm,0.5s,baz=102,slow=4.0,SNR=11
comp=Z,34nm,0.8s
QIZ Qiongzhong 79.78 296 P **P** **15 08 28.6 +1.1**
QIZ pP **pP** **15 10 28.8 -0.1**
QIZ sP **sP** **15 11 27.6 -0.1**
QIZ S **SKSac** **15 17 46.8 -2.8**
QIZ sS **sS** **15 21 21.6 +1.2**
QIZ SS **SS** **15 23 12.2 +1.9**
QIZ pmax pmax
comp=Z,60nm,1.1s
QIZ Qiongzhong 79.78 296 P **P** **15 08 27.7 +0.2**
AKUT Akutan 79.83 9 P **P** **15 08 26.8 -0.1**
NJ2 Nanjing 80.26 312 ⇓ *i*P **P** **15 08 30.1 +0.4**
NJ2 PP **PP** **15 11 43.6 -0.1**
NJ2 S **SKSac** **15 17 50.2 -2.1**
NJ2 pmax pmax
comp=Z,95nm,0.8s
NJ2 pmax pmax
comp=Z,420nm,4.3s
PSTR Posyet 80.27 326 *i* P **P** **15 08 30.1 +0.6**
UGL Uglegorsk 80.47 337 *e*P **P** **15 08 31.5 +1.2**
UGL *e*S **S** **15 17 49.2 0.0**
UGL pmax pmax
comp=Z,160nm,1.0s
UGL pmax pmax
comp=Z,2μm,5.0s
UGL smax smax
comp=N,620nm,4.0s
UGL smax smax
comp=E,3μm,4.0s
USA0B Ussuriysk Arra 80.83 328 IAmb IAmb 15 08 35.8
comp=Z,220nm,1.3s
USA0B Ussuriysk Arra 80.83 328 *i* P **P** **15 08 33.1 +0.7**
USRK Ussuriysk Ar. 80.83 328 P **P** **15 08 33.2 +0.9**
comp=Z,55nm,0.7s,baz=122,slow=3.5,SNR=89
comp=Z,55nm,0.7s
FALS False Pass 80.90 10 P **P** **15 08 32.4 0.0**
baz=197
KULM Kulim 81.24 280 IAmb IAmb 15 08 36.8
comp=Z,139nm,0.7s
KULM Kulim 81.24 280 P **P** **15 08 35.0 -0.2**
comp=Z,266nm,1.1s,comp=Z,3μmcomp=Z,3μm
TRSI Tarutung 81.36 276 P **P** **15 08 37.2 +1.2**
comp=Z,388nm,0.7s
RPSI Rantau Prapat 81.67 277 IAmb IAmb 15 08 38.1
comp=Z,160nm,0.9s
PSI Prapat 81.72 277 P **P** **15 08 37.0 -0.8**
PSI Prapat 81.72 277 P **P** **15 08 36.2 -1.6**
comp=Z,229nm,0.9s,comp=Z,2μmcomp=Z,1μm
TYV Tymovskoe 81.76 338 *e*P **P** **15 08 38.8 +1.9**
TYV *e*S **S** **15 18 07.2 +5.0**
TYV pmax pmax
comp=Z,2μm,5.1s
TYV pmax pmax
comp=Z,122nm,1.0s
TYV smax smax
comp=N,1μm,6.3s
TYV smax smax
comp=E,3μm,6.3s
TYV smax smax
comp=N,19nm,3.2s
TYV smax smax
comp=E,30nm,3.2s
SDPT Sand Point 81.89 12 P **P** **15 08 37.7 +0.3**
SDPT Sand Point 81.89 12 P **P** **15 08 37.8 +0.3**
baz=199
ELIB Princess Elisa 81.94 188 *d*P **P** **15 08 38.0 +0.1**
comp=Z,166nm,0.8s
ELIB *dp*P **pP** **15 10 38.5 -1.7**
ELIB *dS* **SKSac** **15 18 00.9 -1.8**
GO09 Cerro Castillo 82.08 143 IAmb IAmb 15 10 50.5
comp=Z,225nm,1.6s
SKLT Songkhla 82.09 282 P **P** **15 08 39.2 -0.3**
SKLT Songkhla 82.09 282 P **P** **15 08 40.8 +1.3**
comp=Z,557nm,0.9s,comp=Z,8μm
CNSH ChangSha 82.22 306 ⇑ *i*P **P** **15 08 39.4 -0.4**
CNSH pmax pmax
comp=Z,49nm,1.2s
SPIA Saint Paul Isl 82.27 6 P **P** **15 08 41.1 +1.8**
SPIA Saint Paul Isl 82.27 6 P **P** **15 08 40.3 +1.0**
baz=190
GSI Gunungsitoli 82.30 275 P **P** **15 08 41.0 +0.4**
GSI Gunungsitoli 82.30 275 P **P** **15 08 41.0 +0.4**
comp=Z,651nm,0.7s,comp=Z,7μmcomp=Z,4μm
MDJ Mudanjiang 82.31 327 P **P** **15 08 40.7 +0.8**
MDJ pP pP 15 10 43.5 +1.0
MDJ S **S** **15 18 11.2 +3.3**
MDJ sS sS 15 21 47.4 +0.5
MDJ SS **SS** **15 23 51.0 +4.3**
MDJ pmax pmax
comp=Z,130nm,0.8s
MDJ pmax pmax
comp=Z,2μm,6.2s
MDJ Mudanjiang 82.31 327 IAmb IAmb 15 08 41.6
comp=Z,94nm,0.9s
MDJ Mudanjiang 82.31 327 P **P** **15 08 40.6 +0.7**
WHN Wuhan 82.50 308 ⇓ *i*P **P** **15 08 41.7 +0.5**
WHN sP **sP** **15 11 41.5 -0.7**
WHN S **S** **15 18 10.5 0.0**
WHN pmax pmax
comp=Z,510nm,1.0s
WHN pmax pmax
comp=Z,4μm,3.0s
PAF Port-aux-Franc 82.53 219 P **P** **15 08 41.8 +0.7**
PAF Port-aux-Franc 82.53 219 P **P** **15 08 41.8 +0.7**
PAF pmax pmax
comp=Z,511nm,1.3s
SNCC San Nicolas Is 82.57 48 P **P** **15 08 41.8 +0.4**
baz=234
DL2 Dalian 82.76 319 P **P** **15 08 42.5 +0.2**
DL2 *es*P **sP** **15 11 41.3 -2.1**
DL2 S **SKSac** **15 18 07.1 -1.3**
DL2 pmax pmax
comp=Z,76nm,1.5s
DL2 pmax pmax
comp=Z,910nm,6.0s
SCZ2 Santa Cruz Isl 82.93 48 P **P** **15 08 44.2 +0.9**
baz=234
S14K Fog Glacier 82.95 12 P **P** **15 08 43.8 +0.9**
baz=200
KCSI Kotacane, Aceh 83.06 277 P **P** **15 08 44.2 -0.3**
comp=Z,92nm,0.9s,comp=Z,4μm
SBC Santa Barbara 83.14 47 P **P** **15 08 44.0 -0.3**
baz=234
CHGN Chignik 83.19 13 P **P** **15 08 44.8 +0.8**
baz=201,SNR=6.7
LASI Langsa, Aceh 83.28 278 P **P** **15 08 44.9 -0.6**
comp=Z,589nm,1.9s,comp=Z,8μm
CHIR Chirikof Islan 83.33 14 P **P** **15 08 46.6 +1.9**
baz=204
PKM Mcpherson Peak 83.34 47 P **P** **15 08 46.6 +1.1**
baz=234,SNR=14
TROLL Troll, Antarti 83.35 181 ⇓P **P** **15 08 45.5 +0.6**
comp=Z,13μm,0.5s
TROLL ⇑SKSac **SKSac** **15 18 09.8 -2.0**
comp=Z,420nm,1.0s
CIS Catalina Islan 83.41 49 P **P** **15 08 46.6 +0.9**
baz=235
SMMC Simmler 83.47 46 P **P** **15 08 48.1 +2.1**
baz=233,SNR=9.8
SNY Shenyang 83.54 322 ⇓P **P** **15 08 46.0 -0.1**
SNY S **SKSac** **15 18 10.9 -2.3**
SNY pmax pmax
comp=Z,27nm,1.1s
SNY pmax pmax
comp=Z,930nm,8.0s
BBGB Big Mountain B 83.55 45 IAmb IAmb 15 08 50.6
comp=Z,121nm,1.5s
BCW Bitter Crk WRg 83.64 47 IAmb IAmb 15 08 50.6
comp=Z,95nm,1.1s
FMP Fort Macarthur 83.67 48 P **P** **15 08 48.1 +1.2**
baz=235
SNAA Sanae 83.73 180 ⇓P **P** **15 08 46.9 +0.1**
comp=Z,1μm,0.6s
SNAA ⇓SKSac **SKSac** **15 18 11.7 -2.3**
comp=Z,246nm,1.0s
SNAA ⇓S **SKKSac** **15 18 20.4 -0.3**
comp=Z,246nm,1.0s
SNAA Sanae 83.73 180 P **P** **15 08 46.8 +0.1**
comp=Z,56nm,0.6s,baz=193,slow=6.4,SNR=204
SNAA S **SKSac** **15 18 11.7 -2.3**
comp=Z,5.2nm,0.9s,baz=14,slow=22,SNR=18
comp=Z,56nm,0.6s
HOPS Hopland Field 83.77 42 IAmb IAmb 15 08 51.1
comp=Z,92nm,1.2s
SURA Surathani 83.85 283 P **P** **15 08 49.5 +1.2**
CN2 Changchun 83.85 324 *e*P **P** **15 08 47.8 +0.2**
CN2 pmax pmax
comp=Z,200nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
SNSI Sinabang, Aceh 83.90 275 P **P** **15 08 50.2 +1.6**
comp=Z,391nm,1.0s,comp=Z,6μm
OSI Osito Audit: C 83.90 48 P **P** **15 08 49.4 +1.2**
baz=234
TIA Tai'an 83.91 314 P **P** **15 08 48.8 +0.7**
TIA SKS **SKSac** **15 18 13.9 -2.0**
TIA S **S** **15 18 24.4 +0.4**
TIA pmax pmax
comp=Z,260nm,0.8s
TIA pmax pmax
comp=Z,2μm,6.5s
DECC Green Verdugo 83.96 48 P **P** **15 08 49.7 +1.3**
baz=234
GRNR Gornyy 83.96 335 ⇓ *i*P **P** **15 08 49.8 +1.8**
GRNR pmax pmax
comp=E,20nm,0.7s
GRNR pmax pmax
comp=N,8.0nm,1.1s
GRNR pmax pmax
comp=Z,50nm,0.9s
VNA3 Neumayer Olymp 83.99 177 ⇓P **P** **15 08 48.0 +0.1**
comp=Z,94nm,0.7s
VNA3 ⇓pP **pwP** **15 10 56.6 +0.2**
comp=Z,22nm,0.7s
VNA3 ⇓SKSac **SKSac** **15 18 13.9 -1.6**
VNA3 ⇓S **SKKSac** **15 18 22.9 +0.2**
comp=Z,19nm,1.0s
109C Camp Elliot, M 84.02 50 IAmb IAmb 15 08 52.0
comp=Z,92nm,1.4s
109C Camp Elliot, M 84.02 50 P **P** **15 08 50.3 +1.6**
baz=235
KMPM Mount Pierce 84.05 40 IAmb IAmb 15 08 52.2
comp=Z,113nm,1.2s
ARVC Arvin 84.13 47 P **P** **15 08 50.8 +1.6**
baz=234
NVL N'lazarevskaya 84.17 184 *e*P **P** **15 08 48.2 -0.6**
NVL *e**PP **pwP** **15 10 56.3 -0.7**
NVL *e*S **SKSac** **15 18 14.0 -2.6**
NVL pmax pmax
comp=Z,243nm,1.5s
NVL smax smax
comp=N,2μm,14.9s
BNX BinXian 84.19 327 ⇑P **P** **15 08 49.7 +0.5**
BNX pP **pwP** **15 10 55.7 -2.5**
BNX PP **PP** **15 12 14.0 -1.1**
BNX S **S** **15 18 24.0 -2.4**
BNX sS **sS** **15 22 03.3 -3.1**
BNX pmax pmax
comp=N,86nm,0.8s
BNX pmax pmax
comp=N,2μm,3.3s
SII Sitkinak Islan 84.34 15 P **P** **15 08 51.1 +1.4**
baz=205
NKL Nikolayevsk 84.35 338 *e*P **P** **15 08 49.2 -0.5**
NKL *e*S **S** **15 18 30.5 +3.1**
NKL pmax pmax
comp=E,81nm,0.7s
NKL pmax pmax
comp=N,136nm,1.2s
NKL pmax pmax
comp=Z,559nm,1.4s
NKL smax smax
comp=N,620nm,4.4s
NKL smax smax
comp=E,946nm,4.4s
MURC Murrieta 84.36 49 P **P** **15 08 52.0 +1.6**
baz=235
VES Vestal, Richgr 84.38 46 P **P** **15 08 51.7 +1.3**
baz=234,SNR=7.5
VNA2 Neumayer--Watz 84.39 178 ⇓P **P** **15 08 50.4 +0.4**
comp=Z,82nm,0.5s,baz=179,slow=5.0
VNA2 ⇓pP **pwP** **15 11 02.8 +4.4**
comp=Z,26nm,1.1s,baz=170,slow=5.0
VNA2 ⇓SKSac **SKSac** **15 18 16.8 -1.2**
comp=Z,5.7nm,0.7s,baz=152,slow=3.0
VNA2 ⇑S **S** **15 18 27.1 -0.6**
comp=Z,5.3nm,0.7s,baz=196,slow=11
BFSC Mount Baldy Ra 84.41 48 P **P** **15 08 51.9 +1.1**
baz=235
VOG Valley Oaks Go 84.47 46 P **P** **15 08 51.6 +0.8**
baz=234
SLBS Sierra La Lagu 84.47 61 P **P** **15 08 53.5 +2.3**
SLBS IAmb IAmb 15 08 55.1
comp=Z,106nm,1.4s
MONP2 Monument Peak 84.49 50 P **P** **15 08 52.9 +1.6**
baz=236,SNR=22
LHMI Lhok Sumawe 84.53 278 P **P** **15 08 52.3 +0.6**
LHMI Lhok Sumawe 84.53 278 P **P** **15 08 53.1 +1.4**
comp=Z,541nm,0.8s,comp=Z,5μmcomp=Z,3μm
EDW2 Edwards Air Fo 84.55 48 P **P** **15 08 52.8 +1.4**
baz=235,SNR=12
RMX La Rumorosa 84.57 50 IAmb IAmb 15 08 55.3
comp=Z,88nm,1.2s
IKP In-Ko-Pah, Jac 84.58 50 P **P** **15 08 53.4 +1.9**
baz=236,SNR=15
MLSI Meulaboh, Aceh 84.61 277 P **P** **15 08 51.7 -0.4**
comp=Z,372nm,0.7s,comp=Z,4μm
VNA1 Neumayer--Stat 84.64 178 ⇓P **P** **15 08 51.5 +0.4**
comp=Z,82nm,0.9s
VNA1 ⇓pP **pwP** **15 10 58.2 -1.5**
comp=Z,28nm,1.1s
ISA Isabella, Lake 84.68 47 P **P** **15 08 53.3 +1.3**
baz=234,SNR=46
KLR Kul'dur 84.70 331 *i* P **P** **15 08 52.4 +0.8**
KLR pmax pmax
comp=Z,170nm,1.3s
R17K Ugashik Creek 84.84 13 IAmb IAmb 15 08 54.4
comp=Z,160nm,1.4s
R17K Ugashik Creek 84.84 13 P **P** **15 08 53.2 +1.1**
baz=203
PFO Pinyon Flats O 84.87 49 P **P** **15 08 54.2 +1.2**
PFO Pinyon Flats O 84.87 49 P **P** **15 08 54.3 +1.2**
baz=236,SNR=6.7
PFO Pinyon Flats O 84.87 49 P **P** **15 08 54.2 +1.2**
PFO pmax pmax
comp=Z,26nm,1.1s
TPFO Pinon Flats 84.87 49 P **P** **15 08 54.5 +1.5**
baz=236,SNR=7.3
BBRC Big Bear Solar 84.92 49 P **P** **15 08 54.7 +1.3**
baz=235
SWSC Sam W. Stewart 84.96 50 P **P** **15 08 54.8 +1.5**
baz=236,SNR=16
LRMC Laurel Mtn Rad 85.10 47 P **P** **15 08 55.7 +1.6**
baz=235,SNR=16
COYC Coyhaique 85.11 138 IAmb IAmb 15 08 57.2
comp=Z,75nm,0.8s
OHAK Old Harbor 85.15 15 P **P** **15 08 54.1 +0.5**
baz=206
R18K Karluk 85.20 14 P **P** **15 08 54.1 +0.3**
baz=204
RRX Edison Barstow 85.22 48 P **P** **15 08 54.8 +0.3**
baz=235
CWC Cottonwood Cre 85.39 46 P **P** **15 08 55.9 +0.4**
baz=234
BELC Belle Mtn. Jos 85.41 49 P **P** **15 08 57.1 +1.5**
baz=236,SNR=13
O14K Tigyukauivet M 85.46 10 IAmb IAmb 15 08 57.4
comp=Z,72nm,1.1s
O14K Tigyukauivet M 85.46 10 P **P** **15 08 56.4 +1.4**
baz=198
KEBM Edson Butte 85.50 38 IAmb IAmb 15 08 59.8
comp=Z,171nm,1.6s
Q17K Contact Creek 85.53 13 P **P** **15 08 56.0 +0.5**
baz=203,SNR=8.6
MPMC Manual Prospec 85.56 47 P **P** **15 08 57.6 +1.2**
baz=235,SNR=17
GSC Goldstone, Bar 85.59 48 P **P** **15 08 57.9 +1.6**
baz=235,SNR=7.3
BC3 Big Chuckawall 85.59 50 P **P** **15 08 58.4 +1.9**
baz=236,SNR=12
MLAC Mammoth, Mammo 85.59 45 P **P** **15 08 58.1 +1.6**
baz=234
O15K Ungalikthiuk R 85.63 11 P **P** **15 08 56.3 +0.4**
baz=200
HEC Hector,Ludlow 85.64 48 P **P** **15 08 57.5 +0.9**
baz=236,SNR=23
TIN Tinemaha, Big 85.65 46 P **P** **15 08 57.3 +0.6**
baz=234
Q16K King Salmon 85.75 13 P **P** **15 08 56.8 +0.4**
baz=202,SNR=9.3
SLVN Son La 85.76 296 IAmb IAmb 15 09 00.3
comp=Z,292nm,1.8s
KDAK Kodiak Island 85.82 15 P **P** **15 08 58.1 +1.3**
baz=206
P16K Nushagak River 85.82 12 P **P** **15 08 57.4 +0.6**
baz=201
M11K Mekoryuk 85.85 8 P **P** **15 08 58.4 +1.5**
baz=194
J01E Myrtle Point 85.91 38 IAmb IAmb 15 09 00.8
comp=Z,78nm,1.2s
PNTR Pine Nut 85.97 43 IAmb IAmb 15 09 01.0
comp=Z,54nm,0.9s
N14K Kuskokwak Cree 86.03 10 P **P** **15 08 58.1 +0.4**
baz=198,SNR=11
GYA Guiyang 86.06 301 ⇓ *i*P **P** **15 08 58.9 0.0**
GYA pP pP 15 11 02.2 -0.6
GYA sP sP 15 12 01.9 +1.0
GYA PP **PP** **15 12 31.2 +0.7**
GYA SKS **SKSac** **15 18 28.9 -1.0**
GYA S **ScS** **15 18 48.8 -2.3**
GYA sS sS 15 22 27.1 +0.6
GYA SS **SS** **15 24 48.2 +6.1**
GYA pmax pmax
comp=Z,67nm,0.8s
GYA pmax pmax
comp=Z,1μm,3.7s
LYN LuoYang 86.06 311 ⇓ *i*P **P** **15 08 59.7 +1.2**
LYN sP sP 15 12 02.4 +1.8
LYN PP **PP** **15 12 25.5 -4.7**
LYN SKS **SKSac** **15 18 28.9 -0.4**
LYN S **S** **15 18 46.7 +1.9**
LYN sS sS 15 22 26.1 +0.3
LYN pmax pmax
comp=Z,240nm,1.4s
LYN pmax pmax
comp=Z,3μm,6.2s
Q18K Katmai Hardscr 86.06 14 P **P** **15 08 58.6 +0.5**
baz=204,SNR=7.1
GMRC Granite Mounta 86.08 49 P **P** **15 09 00.0 +1.2**
baz=236,SNR=17
IRM Iron Mountain 86.08 50 P **P** **15 09 00.1 +1.5**
baz=236,SNR=23
HUMO Hull Mountain 86.11 39 IAmb IAmb 15 09 02.9
comp=Z,113nm,1.5s
HNS HongShan 86.17 314 ⇓P **P** **15 08 59.9 +1.0**
HNS SKS **SKSac** **15 18 28.1 -1.7**
HNS S **S** **15 18 47.2 +1.6**
HNS pmax pmax
comp=Z,150nm,1.5s
HNS pmax pmax
comp=Z,2μm,6.3s
GRAC Grapevine Rang 86.18 46 P **P** **15 08 60.0 +0.9**
baz=235
FURC Furnace Creek, 86.21 47 P **P** **15 09 00.2 +1.1**
baz=235,SNR=7.0
L04D Klamath Falls 86.24 40 IAmb IAmb 15 09 02.2
comp=Z,115nm,1.3s
M13K Dall Lake 86.25 9 P **P** **15 09 00.4 +1.6**
baz=196
TUQ Turquoise Moun 86.26 48 P **P** **15 09 00.9 +1.3**
baz=236,SNR=7.1
P17K Kvichak River 86.27 13 P **P** **15 08 59.2 +0.3**
baz=203,SNR=5.6
SHOC Shoshone, Teco 86.28 48 P **P** **15 09 00.5 +1.0**
baz=236,SNR=8.8
O16K Kokwok River B 86.33 12 P **P** **15 09 00.2 +1.1**
baz=201
HSIG 86.39 56 IAmb IAmb 15 09 03.8
comp=Z,69nm,1.1s
NVAR Mina Array Bea 86.40 45 P **P** **15 09 02.1 +1.8**
comp=Z,20nm,0.9s,baz=221,slow=8.0,SNR=30
NVAR S **SKSac** **15 18 27.4 -4.3**
comp=Z,0.1nm,0.5s,baz=221,slow=44,SNR=1.4

NVAR PKKPbc **PKKPbc** **15 26 55.2 +0.9**
comp=Z,1.0nm,0.7s,baz=69,slow=3.9,SNR=7.9
NVAR PKPPKP **P'P'df** **15 35 01.6 +2.3**
comp=Z,1.1nm,0.7s,baz=81,slow=3.2,SNR=7.6
comp=Z,20nm,0.9s
LL02 **Futaleuf** **86.47 136** IAmb IAmb 15 09 03.4
comp=Z,65nm,0.8s
N15K **Kwethluk River** **86.52 11** P **P** **15 09 01.0 +0.9**
baz=199,SNR=16
214A **Organ Pipe Nat** **86.54 53** P **P** **15 09 02.3 +1.4**
baz=238,SNR=20
I03D **Drain, OR** **86.58 38** IAmb IAmb 15 09 04.6
comp=Z,117nm,1.5s
SRDT **SRDT** **86.59 287** P **P** **15 09 03.2 +1.8**
Q20K **Shuyak Island** **86.61 15** P **P** **15 09 01.2 +0.7**
baz=206
Q19K **Cape Douglas,** **86.61 14** P **P** **15 09 01.7 +1.1**
baz=205
O17K **Koliganek Bris** **86.68 12** P **P** **15 09 02.1 +1.3**
baz=202
P18K **Big Mountain,** **86.70 13** P **P** **15 09 00.9 0.0**
P18K IAmb IAmb 15 09 03.1
comp=Z,216nm,1.6s
P18K **Big Mountain,** **86.70 13** P **P** **15 09 01.7 +0.7**
baz=204,SNR=7.2
M14K **Bethel** **86.78 9** IAmb IAmb 15 09 03.6
comp=Z,239nm,1.6s
M14K **Bethel** **86.78 9** P **P** **15 09 01.9 +0.7**
baz=198,SNR=8.2
NEE2 **Needles Airpor** **86.78 49** P **P** **15 09 02.9 +0.9**
baz=237,SNR=7.1
BJI **Beijing** **86.78 317** P **P** **15 09 02.4 +0.7**
BJI sP **sP** **15 12 04.6 +0.5**
BJI SKS **SKSac** **15 18 32.2 -1.1**
BJI S **ScS** **15 18 54.7 -1.5**
BJI SS **SS** **15 24 53.6 +1.8**
BJI pmax pmax
comp=Z,54nm,1.9s
BJI pmax pmax
comp=Z,780nm,4.3s
BJI LR LR
comp=Z,210nm,17.2s
BJI LR LR
comp=Z,220nm,18.7s
BJI LR LR
comp=Z,310nm,21.1s
K04D **Chiloquin, OR** **86.81 40** IAmb IAmb 15 09 05.0
comp=Z,76nm,1.1s
PDMCI **Parker Dam,Lak** **86.86 50** P **P** **15 09 03.7 +1.4**
baz=237,SNR=12
TPNV **Topopah Spring** **86.89 47** P **P** **15 09 04.3 +1.7**
baz=236,SNR=38
M15K **Kasigluk River** **86.92 10** P **P** **15 09 02.6 +0.7**
baz=199
N16K **Nishlik Lake** **87.03 11** P **P** **15 09 03.3 +0.8**
baz=201
BUCK **Buck Mountain** **87.09 38** IAmb IAmb 15 09 07.2
comp=Z,132nm,1.3s
O18K **Koktuh Hills** **87.13 13** P **P** **15 09 03.4 +0.5**
baz=204,SNR=9.4
I04A **Tendick Farm,** **87.16 38** IAmb IAmb 15 09 06.2
comp=Z,69nm,1.3s
MA2 **Magadan** **87.17 346** P **P** **15 09 02.9 -0.2**
MA2 **Magadan** **87.17 346** *ce*P **P** **15 09 03.0 -0.1**
MA2 pmax pmax
comp=Z,226nm,1.8s
L14K **Kuka Creek** **87.24 9** IAmb IAmb 15 09 05.7
comp=Z,144nm,1.5s
L14K **Kuka Creek** **87.24 9** P **P** **15 09 04.6 +1.2**
baz=197,SNR=11
Q09A **Carvers** **87.35 45** IAmb IAmb 15 09 08.1
comp=Z,90nm,1.4s
P19K **Oil Pt** **87.36 14** P **P** **15 09 04.8 +0.8**
baz=206
N17K **Nushagak Hills** **87.37 12** IAmb IAmb 15 09 07.0
comp=Z,163nm,2.0s
N17K **Nushagak Hills** **87.37 12** P **P** **15 09 04.9 +0.8**
baz=202
HEH **HeiHe** **87.37 330** *e*P **P** **15 09 04.4 +0.1**
HEH sP **sP** **15 12 07.4 +0.6**
HEH S **S** **15 18 59.6 +3.3**
HEH pmax pmax
comp=Z,81nm,0.7s
HEH pmax pmax
comp=Z,1μm,4.5s
K05A **Summer Lake** **87.38 40** IAmb IAmb 15 09 08.0
comp=Z,95nm,1.1s
H04D **Lebanon** **87.44 38** IAmb IAmb 15 09 08.0
comp=Z,96nm,1.2s
M16K **Timber Creek** **87.52 11** P **P** **15 09 04.7 0.0**
baz=200
J05D **Fort Rock, OR** **87.52 39** IAmb IAmb 15 09 08.5
comp=Z,103nm,1.1s
G03D **McMinnville, O** **87.58 37** IAmb IAmb 15 09 08.6
comp=Z,111nm,1.3s
O19K **Port Alsworth** **87.62 13** P **P** **15 09 05.4 +0.2**
baz=205,SNR=19
HOM **Homer** **87.72 15** P **P** **15 09 05.9 +0.2**
baz=207
L15K **Ungalak Mounta** **87.73 9** P **P** **15 09 06.0 +0.3**
baz=198,SNR=16
N18K **Kilae Creek** **87.75 12** P **P** **15 09 05.8 0.0**
baz=203
ORCD **Orcadas** **87.77 160** P **P** **15 09 03.2 -2.9**
TIY **Taiyuan** **87.84 314** ⇓P **P** **15 09 08.0 +1.1**
TIY PP **PP** **15 12 40.5 -3.8**
TIY SKS **SKSac** **15 18 39.4 -0.6**
TIY S **ScS** **15 19 07.9 +2.6**
TIY pmax pmax
comp=Z,76nm,0.7s
TIY pmax pmax
comp=Z,1μm,5.3s
H04A **Detroit Lake** **87.85 38** IAmb IAmb 15 09 09.9
comp=Z,120nm,1.5s
F03A **Seaside** **87.88 36** IAmb IAmb 15 09 09.9
comp=Z,68nm,1.0s
O20K **Slope Mountain** **87.88 14** P **P** **15 09 07.1 +0.6**
baz=206
PRN **Pahroc Range** **87.94 47** IAmb IAmb 15 09 11.3
comp=Z,61nm,1.2s
PINE **Pine Mountain** **88.00 39** IAmb IAmb 15 09 11.5
comp=Z,114nm,1.1s
BRSE **Bradley Lake S** **88.01 15** P **P** **15 09 07.1 +0.1**
baz=208
L16K **Owhat River** **88.08 10** IAmb IAmb 15 09 10.3
comp=Z,146nm,1.6s
L16K **Owhat River** **88.08 10** P **P** **15 09 08.4 +1.1**
baz=200,SNR=12
I05D **Terrebonne, OR** **88.11 39** IAmb IAmb 15 09 10.8
comp=Z,62nm,1.1s
R11B **Troy Canyon, C** **88.11 46** P **P** **15 09 09.0 +0.7**
baz=236,SNR=12
M17K **Holitna River** **88.13 11** IAmb IAmb 15 11 21.7
comp=Z,165nm,1.4s
M17K **Holitna River** **88.13 11** P **P** **15 09 08.3 +0.7**
baz=202
N19K **Bonanza Creek** **88.15 13** IAmb IAmb 15 09 08.9
comp=Z,112nm,1.6s
N19K **Bonanza Creek** **88.15 13** P **P** **15 09 07.3 -0.5**
baz=204
CRAI **Chiangrai** **88.17 293** IAmb IAmb 15 09 11.6
comp=Z,100nm,1.1s
TUC **Tucson** **88.19 53** P **P** **15 09 11.2 +2.5**
TUC **Tucson** **88.19 53** P **P** **15 09 08.9 +0.2**
baz=239
TUC **Tucson** **88.19 53** P **P** **15 09 11.2 +2.5**
TUC pmax pmax
comp=Z,42nm,1.1s
SVW2 **Sparrevohn** **88.20 12** IAmb IAmb 15 09 54.4
comp=Z,87nm,1.6s
SVW2 **Sparrevohn** **88.20 12** P **P** **15 09 07.8 -0.1**
BMN **Battle Mountai** **88.24 43** IAmb IAmb 15 09 12.2
comp=Z,83nm,1.2s
XAN **Xi'an** **88.26 309** ⇓P **P** **15 09 09.8 +0.9**
XAN PP **PP** **15 12 45.3 -2.4**
XAN SKS **SKSac** **15 18 41.2 -1.3**
XAN pmax pmax
comp=Z,130nm,1.1s
XAN pmax pmax
comp=Z,2μm,6.9s
XAN LR LR
comp=Z,260nm,11.0s
XAN LR LR
comp=Z,310nm,11.4s
E03A **Lebam** **88.27 36** IAmb IAmb 15 09 11.6
comp=Z,87nm,1.0s
K15K **Wolf Creek Mou** **88.31 9** P **P** **15 09 09.1 +0.7**
baz=198
J14K **Nanvaranak Lak** **88.47 8** IAmb IAmb 15 11 23.4
comp=Z,110nm,1.8s
J14K **Nanvaranak Lak** **88.47 8** P **P** **15 09 10.1 +1.0**
baz=196
F04A **Amboy** **88.50 37** IAmb IAmb 15 09 12.3
comp=Z,98nm,1.1s
KMI **Kunming** **88.50 298** ⇓P **P** **15 09 11.6 +1.1**
KMI sP sP 15 12 15.4 +2.3
KMI PP **PP** **15 12 49.0 -0.9**
KMI SKS **SKSac** **15 18 45.0 +0.3**
KMI S **S** **15 19 09.3 +1.0**
KMI sS sS 15 22 48.2 -4.8
KMI pmax pmax
comp=Z,130nm,1.1s
KMI pmax pmax
comp=Z,1.0nm,2.6s
KMI LR LR
comp=Z,300nm,15.9s
KMI LR LR
comp=Z,170nm,11.2s
KMI LR LR
comp=Z,340nm,18.6s
M18K **Stony River** **88.51 12** P **P** **15 09 09.7 +0.3**
baz=203
WISH **Wishkah** **88.53 35** IAmb IAmb 15 09 13.2
comp=Z,53nm,0.9s
WVOR **Wild Horse Val** **88.54 41** IAmb IAmb 15 09 13.0
comp=Z,65nm,1.1s
HOOD **Mount Hood Mea** **88.54 38** IAmb IAmb 15 09 12.6
comp=Z,74nm,1.5s
CM31 **Chiang Mai Arr** **88.57 291** P **P** **15 09 11.8 +1.2**
SNR=47
CMAR **Chiang Mai Arr** **88.57 291** P **P** **15 09 11.9 +1.3**
comp=Z,50nm,0.8s,baz=138,slow=3.4,SNR=135
CMAR pP **pP** **15 11 17.7 +2.2**
comp=Z,2.9nm,1.0s,baz=139,slow=4.8,SNR=2.3
CMAR PP **PP** **15 12 50.6 +0.3**
comp=Z,17nm,0.9s,baz=128,slow=6.1,SNR=13
CMAR S **SKSac** **15 18 40.4 -4.5**
comp=Z,0.2nm,0.3s,baz=295,slow=33,SNR=1.1
CMAR PKKPbc **PKKPbc** **15 26 47.5 -0.4**
comp=Z,1.5nm,0.6s,baz=287,slow=4.3,SNR=10
CMAR SKKPbc **SKKPbc** **15 29 30.7 -1.4**
comp=Z,0.6nm,0.7s,baz=293,slow=3.7,SNR=3.6
comp=Z,50nm,0.8s
PLCA **Paso Flores** **88.58 135** P **P** **15 09 12.0 +1.5**
PLCA IAmb IAmb 15 11 24.2
comp=Z,149nm,1.7s
PLCA **Paso Flores** **88.58 135** P **P** **15 09 12.0 +1.5**
PLCA pmax pmax
comp=Z,149nm,1.7s
PLCA **Paso Flores** **88.58 135** P **P** **15 09 12.6 +2.1**
comp=Z,9.5nm,0.8s,baz=239,slow=6.7,SNR=22
PLCA pP **pwP** **15 11 19.1 +0.4**
comp=Z,8.2nm,1.1s,baz=265,slow=6.9,SNR=5.5
PLCA S **SKSac** **15 18 41.0 -3.7**
comp=Z,1.2nm,0.9s,baz=344,slow=8.9,SNR=1.2
PLCA PKKPbc **PKKPbc** **15 26 47.9 -0.8**
comp=Z,2.8nm,0.5s,baz=37,slow=2.3,SNR=6.8
comp=Z,9.5nm,0.8s
GO06 **Curarrehue** **88.58 133** IAmb IAmb 15 11 24.0
comp=Z,184nm,2.0s
DIB **Dawson Inlet,** **88.61 27** IAmb IAmb 15 09 12.7
comp=Z,89nm,1.1s
H02S1 **DAWSON INLET T** **88.61 27** P **P** **15 09 11.2 +1.3**
SEW **Seward** **88.64 15** P **P** **15 09 10.1 +0.2**
baz=209
NLWA **Neilton Lookou** **88.65 35** IAmb IAmb 15 09 13.5
comp=Z,64nm,1.1s
L17K **Donlin** **88.67 11** P **P** **15 09 11.0 +1.0**
baz=201
GAMB **Gambell** **88.67 4** P **P** **15 09 10.5 +0.5**
baz=189
HOLB **Holberg** **88.70 31** IAmb IAmb 15 09 13.4
comp=Z,83nm,0.9s
CHTO **Chiang Mai** **88.73 291** P **P** **15 09 12.1 +0.7**
CHTO **Chiang Mai** **88.73 291** P **P** **15 09 12.9 +1.5**
CHTO **Chiang Mai** **88.73 291** P **P** **15 09 12.1 +0.7**
CHTO pmax pmax
comp=Z,261nm,1.4s
CHTO **Chiang Mai** **88.73 291** P **P** **15 09 12.1 +0.7**
CHTO **Chiang Mai** **88.73 291** P **P** **15 09 12.1 +0.7**
comp=Z,158nm,1.3s,comp=Z,2μm
319A **Douglas** **88.83 55** IAmb IAmb 15 09 15.9
comp=Z,60nm,1.1s
CAPN **Captain Cook N** **88.83 14** P **P** **15 09 11.1 +0.4**
baz=207
Q23K **Middleton Isla** **88.84 17** P **P** **15 09 11.4 +0.5**
baz=212
O22K **Cooper Landing** **88.90 15** P **P** **15 09 11.4 +0.2**
baz=209
N20K **Mount Spurr** **88.98 14** P **P** **15 09 11.0 -0.6**
baz=206,SNR=7.1
Q12A **Willow Creek R** **88.98 46** IAmb IAmb 15 09 15.0
comp=Z,38nm,1.0s
I07A **Izee** **89.00 40** IAmb IAmb 15 09 15.2
comp=Z,47nm,1.1s
L18K **Granite Mounta** **89.03 11** IAmb IAmb 15 09 13.9
comp=Z,98nm,1.4s
L18K **Granite Mounta** **89.03 11** P **P** **15 09 12.3 +0.6**
baz=202
P23K **Montague Islan** **89.05 16** P **P** **15 09 11.9 0.0**
baz=211
EFI **East Falkland** **89.12 149** P **P** **15 09 14.0 +1.4**
EFI IAmb IAmb 15 09 15.1
comp=Z,83nm,0.9s
EFI **East Falkland** **89.12 149** *ce*P **P** **15 09 13.7 +1.1**
EFI pmax pmax
comp=Z,84nm,0.9s
XLT **XiLinHaoTe** **89.12 320** ⇓*i*P **P** **15 09 12.9 +0.2**
XLT SKS **SKSac** **15 18 43.4 -3.8**
XLT S **ScS** **15 19 15.8 0.0**
XLT SS **SS** **15 25 26.5 +0.9**
XLT pmax pmax
comp=Z,110nm,1.2s
XLT pmax pmax
comp=Z,930nm,6.7s
J08A **Circle Bar Ran** **89.17 41** IAmb IAmb 15 09 16.5
comp=Z,67nm,1.2s
K17K **Iditarod** **89.22 10** IAmb IAmb 15 09 14.9
comp=Z,124nm,1.6s
K17K **Iditarod** **89.22 10** P **P** **15 09 13.3 +0.7**
baz=201
KNB **Kanab** **89.22 48** IAmb IAmb 15 09 16.6
comp=Z,39nm,1.1s
B04A **Port Angeles** **89.27 35** IAmb IAmb 15 09 16.3
comp=Z,47nm,1.1s
U15A **North Rim** **89.27 49** IAmb IAmb 15 09 17.0
comp=Z,39nm,0.8s
SPR3 **Spring Creek 3** **89.28 46** IAmb IAmb 15 09 16.8
comp=Z,49nm,1.4s
GNW **Green Mountain** **89.31 35** IAmb IAmb 15 09 16.2
comp=Z,51nm,1.1s
L19K **White Mountain** **89.33 12** P **P** **15 09 13.8 +0.6**
baz=204,SNR=30
J16K **Anvik River** **89.39 9** IAmb IAmb 15 09 15.8
comp=Z,124nm,1.5s
J16K **Anvik River** **89.39 9** P **P** **15 09 14.6 +1.2**
baz=199,SNR=14
M20K **Styx River** **89.40 13** P **P** **15 09 13.0 -0.6**
baz=206
WUAZ **Wupatki** **89.43 50** P **P** **15 09 14.5 0.0**
baz=239,SNR=15
RC01 **Rabbit Creek A** **89.44 15** P **P** **15 09 13.5 -0.2**
baz=209
SUA **Susitna One** **89.54 14** IAmb IAmb 15 09 15.5
comp=Z,62nm,0.9s
SUA **Susitna One** **89.54 14** P **P** **15 09 13.9 -0.3**
baz=208,SNR=5.0
CBB **Campbell River** **89.61 32** IAmb IAmb 15 09 17.6
comp=Z,57nm,1.2s
PGC **Sidney** **89.67 34** IAmb IAmb 15 09 17.6
comp=Z,42nm,1.0s
BBB **Bella Bella** **89.77 30** P **P** **15 09 16.8 +1.5**
comp=Z,12nm,0.8s,baz=253,slow=5.2,SNR=6.5
comp=Z,12nm,0.8s
KAIM **Kayak Island** **89.79 18** P **P** **15 09 14.1 -1.1**
baz=213
L20K **Farewell, AK** **89.79 12** P **P** **15 09 15.3 0.0**
baz=205,SNR=9.7
PKCU **Pink Cliffs** **89.79 48** IAmb IAmb 15 09 19.9
comp=Z,56nm,1.0s
TTA **Tatalina** **89.81 11** IAmb IAmb 15 09 17.4
comp=Z,91nm,1.4s
TTA **Tatalina** **89.81 11** P **P** **15 09 15.5 +0.1**
TTA **Tatalina** **89.81 11** P **P** **15 09 15.9 +0.4**
baz=203,SNR=16
SKT **Skwentna** **89.83 14** IAmb IAmb 15 09 47.8
comp=Z,83nm,1.7s
SKT **Skwentna** **89.83 14** P **P** **15 09 14.9 -0.5**
baz=207
ZEA **Zeya** **89.91 332** *e*P **P** **15 09 16.9 +0.9**
ZEA pmax pmax
comp=Z,60nm,0.7s
SEY **Seymchan** **89.92 348** *ce*P **P** **15 09 16.3 +0.5**
SEY pmax pmax
comp=Z,50nm,0.9s
M22K **Willow** **89.93 14** P **P** **15 09 16.0 +0.1**
baz=208
PZH **PanZhiHua** **89.94 299** P **P** **15 09 17.2 +0.2**
PZH sP **sP** **15 12 18.0 -1.8**
PZH PP **PP** **15 13 01.0 0.0**
PZH SKS **SKSac** **15 18 50.9 -1.9**
PZH S **S** **15 19 20.6 -0.5**
PZH pmax pmax
comp=Z,70nm,0.9s
PZH pmax pmax
comp=Z,710nm,7.7s
I17K **Unalakleet** **89.95 9** IAmb IAmb 15 09 18.2
comp=Z,62nm,1.4s
I17K **Unalakleet** **89.95 9** P **P** **15 09 16.3 +0.4**
baz=199,SNR=8.9
EYAK **Cordova Ski Ar** **89.95 17** P **P** **15 09 15.7 -0.3**
EYAK **Cordova Ski Ar** **89.95 17** P **P** **15 09 16.8 +0.8**
baz=212
CRAG **Craig** **90.01 25** P **P** **15 09 16.3 -0.1**
baz=223
ANM **Nome** **90.02 7** P **P** **15 09 16.9 +0.6**
baz=195
PMR **Palmer** **90.02 15** IAmb IAmb 15 09 17.8
comp=Z,151nm,1.6s
PMR **Palmer** **90.02 15** P **P** **15 09 16.6 +0.3**
baz=209,SNR=6.1
KNK **Knik Glacier** **90.02 15** P **P** **15 09 16.9 +0.5**
baz=210
G08A **Pilot Rock** **90.03 39** IAmb IAmb 15 11 31.4
comp=Z,45nm,1.2s
GRNB **Grenville Isla** **90.12 28** IAmb IAmb 15 09 20.0
comp=Z,39nm,1.1s
HHC **Hu-ho-hao-te** **90.13 316** *e*P **P** **15 09 18.5 +1.0**
HHC sP sP 15 12 20.3 -0.2
HHC SKS **SKSac** **15 18 51.8 -1.4**
HHC S **S** **15 19 22.3 +0.2**
HHC pmax pmax
comp=Z,150nm,1.4s
HHC pmax pmax
comp=Z,2μm,6.5s
J18K **Innoko River** **90.18 11** IAmb IAmb 15 09 18.9
comp=Z,50nm,0.8s
J18K **Innoko River** **90.18 11** P **P** **15 09 17.3 +0.2**
baz=202
MTPU **Mount Pierson** **90.19 48** IAmb IAmb 15 09 21.8
comp=Z,41nm,0.9s
GHO **Glory Hole Cre** **90.22 15** IAmb IAmb 15 11 30.4
comp=Z,113nm,1.2s
E07A **Sunnyside** **90.29 37** IAmb IAmb 15 09 21.5
comp=Z,39nm,1.1s
HAWA **Hanford** **90.37 38** IAmb IAmb 15 11 33.7
comp=Z,107nm,1.9s
SIT **Sitka** **90.38 23** P **P** **15 09 18.7 +0.6**
baz=221
W18A **Petrified Fore** **90.38 51** P **P** **15 09 19.4 +0.5**
baz=240,SNR=17
SML **Sawmill** **90.39 15** P **P** **15 09 19.0 +0.9**
baz=210
HIA **Hailar** **90.41 326** IAmb IAmb 15 09 21.0
comp=Z,61nm,1.3s
MVU **Marysvale** **90.42 47** IAmb IAmb 15 09 22.3
comp=Z,89nm,1.0s
H16K **Elim** **90.46 8** P **P** **15 09 18.9 +0.6**
baz=198,SNR=24
CD2 **Chengdu** **90.46 304** P **P** **15 09 20.3 +1.1**
CD2 pmax pmax
comp=Z,180nm,0.8s
CUT **Chulitna** **90.48 14** P **P** **15 09 18.5 +0.1**
baz=208,SNR=6.5
U33K **Whale Pass** **90.49 25** P **P** **15 09 18.8 +0.2**
baz=223
V35K **Ketchikan** **90.50 26** P **P** **15 09 18.2 -0.5**
baz=224
121A **Cookes Peak, D** **90.50 54** IAmb IAmb 15 11 36.2
comp=Z,56nm,1.6s
121A **Cookes Peak, D** **90.50 54** P **P** **15 09 19.2 -0.3**
baz=241
121A **Cookes Peak, D** **90.50 54** P **P** **15 09 21.5 +2.0**
baz=241
121A S **S** **15 19 29.5 +3.6**
baz=241
PPLA **Purkeypile** **90.51 13** P **P** **15 09 18.4 -0.4**
baz=206
M23K **Glacier View** **90.53 15** P **P** **15 09 19.1 +0.4**
baz=210
K20K **Telida** **90.56 12** IAmb IAmb 15 09 20.6
comp=Z,144nm,1.6s
K20K **Telida** **90.56 12** P **P** **15 09 18.4 -0.4**
baz=205
G15K **Niukluk** **90.58 7** P **P** **15 09 19.2 +0.4**
baz=196
BMRM **Bremner River** **90.61 17** P **P** **15 09 19.7 +0.5**
baz=213
GO05 **Huala** **90.64 129** IAmb IAmb 15 09 22.8
comp=Z,49nm,1.1s
SCM **Sheep Creek Mo** **90.66 15** P **P** **15 09 19.9 +0.5**
baz=211
KLU **Klutina** **90.71 16** P **P** **15 09 19.9 +0.3**
baz=212
BMO **Blue Mountains** **90.73 40** IAmb IAmb 15 11 34.2
comp=Z,81nm,1.9s
TNA **Tin City** **90.73 6** P **P** **15 09 20.1 +0.6**
baz=192,SNR=9.7
S31K **Pelican** **90.75 22** P **P** **15 09 20.0 +0.3**
baz=220
F14K **Arctic Creek** **90.80 6** P **P** **15 09 20.7 +0.8**
baz=194
CRQE **Cirque** **90.84 18** P **P** **15 09 21.0 +0.6**
baz=214
J19K **Poorman** **90.86 11** IAmb IAmb 15 09 22.3
comp=Z,132nm,1.8s
J19K **Poorman** **90.86 11** P **P** **15 09 20.6 +0.4**
baz=203
DUG **Dugway, Tooele** **90.92 46** P **P** **15 09 21.6 +0.4**
baz=238,SNR=12
S32K **Killisnoo** **90.95 23** P **P** **15 09 20.7 0.0**
baz=222
BTO **Baotou** **90.99 315** *e*P **P** **15 09 22.8 +1.3**
BTO sP **sP** **15 12 24.2 -0.3**
BTO PP **PP** **15 13 14.2 +5.3**
BTO SKS **SKSac** **15 18 57.9 -0.1**
BTO S **SKKSac** **15 19 22.2 +6.3**
BTO SS **SS** **15 25 57.7 +5.5**
BTO pmax pmax
comp=Z,120nm,0.9s
BTO pmax pmax
comp=Z,2μm,5.3s
BTO LR LR
comp=Z,380nm,5.5s
BTO LR LR
comp=Z,350nm,5.6s
CAST **Castle Rocks** **91.00 13** IAmb IAmb 15 11 32.9
comp=Z,87nm,1.4s
CAST **Castle Rocks** **91.00 13** P **P** **15 09 20.0 -0.9**
baz=206,SNR=12
WRAK **Wrangell Islan** **91.00 25** P **P** **15 09 21.4 +0.5**
baz=223
PNL **Peninsula** **91.05 20** P **P** **15 09 22.1 +1.0**
PNL **Peninsula** **91.05 20** P **P** **15 09 21.5 +0.4**
baz=218
H17K **Granite Mounta** **91.06 9** IAmb IAmb 15 09 23.6
comp=Z,73nm,1.4s
H17K **Granite Mounta** **91.06 9** P **P** **15 09 21.6 +0.5**
baz=200,SNR=7.8
T33K **Petersburg** **91.06 24** P **P** **15 09 21.5 +0.3**
baz=223
TLIG **Tlapa** **91.09 71** IAmb IAmb 15 09 26.2
comp=Z,71nm,1.7s
D08A **Wollman Farm,** **91.10 37** IAmb IAmb 15 11 36.2
comp=Z,31nm,1.1s
PINM **Pinnacle** **91.13 19** P **P** **15 09 21.0 -0.6**
baz=217
N25K **Chitina, Valde** **91.15 17** P **P** **15 09 21.9 +0.2**
baz=213
G16K **Koyuk River** **91.17 8** P **P** **15 09 22.1 +0.6**
baz=197
M24K **Tolsona, Glenn** **91.17 16** P **P** **15 09 21.5 -0.2**

baz=212
GRNC **Granite Creek** 91.20 18 IAmb IAmb 15 11 35.7
comp=Z,112nm,1.4s
F15K **North Star Dit** 91.20 7 P **P** **15 09 20.8 -0.9**
baz=195
WAT6 **Susitna Watana** 91.20 15 P **P** **15 09 21.7 -0.3**
baz=210,SNR=6.9
GLB **Gilahina Butte** 91.22 17 IAmb IAmb 15 11 35.4
comp=Z,99nm,1.4s
WAT1 **Susitna Watana** 91.23 14 P **P** **15 09 20.9 -1.1**
baz=210
R31K **City Hall, Gus** 91.26 22 P **P** **15 09 21.6 -0.5**
baz=221
J20K **Nowinta River** 91.29 12 IAmb IAmb 15 09 23.9
comp=Z,31nm,1.1s
J20K **Nowinta River** 91.29 12 P **P** **15 09 22.6 +0.5**
baz=205,SNR=12
Q16A **Castle Valley** 91.33 47 IAmb IAmb 15 09 27.1
comp=Z,40nm,1.1s
GCSA **Galena City Sc** 91.34 10 P **P** **15 09 22.5 +0.2**
baz=202,SNR=14
CHUM **Lake Minchumin** 91.37 12 P **P** **15 09 22.2 -0.3**
baz=206,SNR=6.0
TRF **Thorofare Moun** 91.40 13 P **P** **15 09 22.9 0.0**
baz=208,SNR=6.7
F10A **Beach Ranch, E** 91.42 39 IAmb IAmb 15 11 36.0
comp=Z,36nm,0.9s
H18K **Honhosa River** 91.49 10 IAmb IAmb 15 09 25.3
comp=Z,61nm,1.6s
H18K **Honhosa River** 91.49 10 P **P** **15 09 23.0 0.0**
baz=201
G17K **Kiwalik Mounta** 91.49 9 P **P** **15 09 23.7 +0.7**
baz=199
TMUT **Trail Mountain** 91.50 47 IAmb IAmb 15 09 27.2
comp=Z,46nm,0.9s
CTG **Chitna Glacier** 91.51 18 P **P** **15 09 24.1 +0.7**
baz=216
P29M **Windy Craggy** 91.54 21 P **P** **15 09 24.2 +0.8**
baz=219
U35K **Hyder** 91.55 26 P **P** **15 09 23.9 +0.4**
baz=225
BO02 **Sierra Bellavi** 91.56 130 IAmb IAmb 15 11 39.0
comp=Z,126nm,1.7s
R32K **Eaglecrest** 91.58 23 P **P** **15 09 24.4 +0.8**
baz=222
PLID **Pearl Lake** 91.62 40 IAmb IAmb 15 11 38.5
comp=Z,47nm,1.4s
HARP **HAARP** 91.67 16 P **P** **15 09 24.5 +0.5**
baz=213
MT01 **Popeta** 91.71 129 IAmb IAmb 15 09 27.6
comp=Z,62nm,0.9s
DHY **Denali Highway** 91.72 15 P **P** **15 09 25.2 +0.9**
baz=211
HLID **Hailey** 91.73 42 P **P** **15 09 25.7 +0.8**
baz=237,SNR=15
SPUT **South Promonto** 91.74 45 IAmb IAmb 15 09 27.6
comp=Z,30nm,1.1s
Y22A **Socorro** 91.78 53 P **P** **15 09 27.1 +1.7**
baz=241
I20K **Naaghedeneel** 91.80 11 P **P** **15 09 25.1 +0.7**
baz=204
O29M **Mount Kennedy** 91.80 20 P **P** **15 09 25.4 +0.7**
baz=218
BPAW **Bear Paw Mtn.** 91.83 13 IAmb IAmb 15 11 37.9
comp=Z,54nm,1.6s
BPAW **Bear Paw Mtn.** 91.83 13 P **P** **15 09 24.0 -0.7**
baz=208
TNCH **TengChong** 91.85 297 ⇓P **P** **15 09 26.1 +0.2**
TNCH pP pP 15 11 30.3 -1.0
TNCH sP sP 15 12 27.7 -1.2
TNCH PP **PP** **15 13 17.2 +1.2**
TNCH SKS **SKSac** **15 19 03.7 0.0**
TNCH S **S** **15 19 34.6 -3.6**
TNCH pmax pmax
comp=Z,56nm,2.1s
TNCH pmax pmax
comp=Z,590nm,4.6s
SRU **San Rafael Swe** 91.86 47 IAmb IAmb 15 09 28.1
comp=Z,36nm,1.0s
Y22D **IRIS PASSCAL I** 91.88 53 P **P** **15 09 26.1 +0.3**
baz=241
Y22F **Passcal Instru** 91.88 53 P **P** **15 09 25.7 -0.1**
baz=241
MNTX **Cornudas Mount** 91.89 56 P **P** **15 09 25.3 -0.4**
baz=242
MNTX **Cornudas Mount** 91.89 56 P **P** **15 09 27.5 +1.8**
baz=242
MNTX S **S** **15 19 41.3 +3.5**
baz=242
C09A **Chrisman Ranch** 91.89 37 IAmb IAmb 15 11 39.4
comp=Z,66nm,1.7s
MCK **McKinley** 91.94 14 P **P** **15 09 25.0 -0.1**
baz=209
MT09 **Talagante** 91.94 129 IAmb IAmb 15 11 40.4
comp=Z,82nm,1.4s
PAX **Paxson** 92.08 16 P **P** **15 09 25.9 0.0**
baz=212
TX31 **Lajitas Ar. Si** 92.11 59 IAmb IAmb 15 11 40.9
comp=Z,63nm,1.3s
TX31 **Lajitas Ar. Si** 92.11 59 P **P** **15 09 28.5 +1.6**
baz=243
TXAR **Lajitas Array** 92.11 59 P **P** **15 09 28.6 +1.7**
comp=Z,7.3nm,0.8s,baz=214,slow=6.3,SNR=70
TXAR pP **pwP** **15 11 35.2 -0.4**
comp=Z,6.1nm,0.9s,baz=214,slow=5.7,SNR=4.6
TXAR S **SKSac** **15 19 03.8 -0.9**
comp=Z,0.1nm,0.7s,baz=298,slow=21,SNR=0.8
TXAR PKKPbc **PKKPbc** **15 26 40.7 +1.1**
comp=Z,2.8nm,0.5s,baz=136,slow=2.3,SNR=24
TXAR PKPPKP **P'P'df** **15 34 54.4 +4.8**
comp=Z,0.3nm,0.8s,baz=82,slow=2.0,SNR=3.6
comp=Z,7.3nm,0.8s
H19K **Roundabout Mou** 92.14 10 IAmb IAmb 15 09 28.1
comp=Z,112nm,1.6s
H19K **Roundabout Mou** 92.14 10 P **P** **15 09 26.3 +0.3**
baz=203
G18K **Tagagawik** 92.14 9 IAmb IAmb 15 09 27.6
comp=Z,90nm,1.7s
G18K **Tagagawik** 92.14 9 P **P** **15 09 26.0 -0.1**
baz=201
P30M **Million Dollar** 92.17 21 P **P** **15 09 28.1 +1.8**
baz=220
SKAG **Skagway** 92.19 22 P **P** **15 09 27.7 +1.3**
baz=221
T35M **Bob Quinn** 92.22 25 P **P** **15 09 29.0 +2.4**
baz=225
YUK8 **Steele Glacier** 92.22 19 P **P** **15 09 28.5 +1.6**
baz=217,SNR=5.5
M26K **Nabesna, AK** 92.23 17 IAmb IAmb 15 11 41.2
comp=Z,106nm,1.6s
M26K **Nabesna, AK** 92.23 17 P **P** **15 09 27.0 +0.4**
baz=214
MVCO **Mesa Verde** 92.29 50 P **P** **15 09 28.4 +0.7**
baz=240
F17K **Baldwin Pennin** 92.31 8 P **P** **15 09 27.6 +0.8**
baz=198
TCUT **Toone Canyon** 92.31 45 IAmb IAmb 15 09 30.3
comp=Z,29nm,0.9s
H20K **Anotleneega Mo** 92.36 11 P **P** **15 09 27.6 +0.6**
baz=204
YUK6 **Outpost Mounta** 92.37 20 P **P** **15 09 27.5 0.0**
baz=218
YUK3 **Moose Creek** 92.42 18 P **P** **15 09 28.2 +0.5**
baz=217,SNR=13
BSUT **Blindstream Ca** 92.43 46 IAmb IAmb 15 09 31.0
comp=Z,38nm,1.0s
MT13 **San Alfonso** 92.46 129 IAmb IAmb 15 11 43.6
comp=Z,115nm,1.9s
PEL **Peldehue** 92.49 128 IAmb IAmb 15 09 31.3
comp=Z,23nm,0.8s
M27K **Edge Creek, AK** 92.50 17 P **P** **15 09 28.1 +0.2**
baz=216
HYT **Haines Junctio** 92.54 20 P **P** **15 09 28.2 +0.1**
baz=219
S34M **Telegraph Cree** 92.54 24 P **P** **15 09 29.8 +1.8**
baz=224
YUK4 **Talbot Arm** 92.60 19 P **P** **15 09 28.8 +0.3**
baz=218
ALPN **Alpine** 92.60 58 IAmb IAmb 15 11 42.9
comp=Z,80nm,1.9s
G19K **Purcell Mounta** 92.61 10 IAmb IAmb 15 09 30.1
comp=Z,87nm,1.5s
G19K **Purcell Mounta** 92.61 10 P **P** **15 09 29.0 +0.9**
baz=202
ANMO **Albuquerque** 92.63 53 P **P** **15 09 29.9 +0.6**
ANMO **Albuquerque** 92.63 53 P **P** **15 09 29.8 +0.6**
baz=241
ANMO **Albuquerque** 92.63 53 P **P** **15 09 30.7 +1.4**
baz=241
ANMO **Albuquerque** 92.63 53 P **P** **15 09 29.9 +0.6**
ANMO pmax pmax
comp=Z,11nm,1.0s
L26K **Log Cabin Wild** 92.66 16 IAmb IAmb 15 11 42.3
comp=Z,72nm,1.5s
L26K **Log Cabin Wild** 92.66 16 P **P** **15 09 28.2 -0.3**
baz=214
NEA2 **Nenana** 92.66 13 P **P** **15 09 28.0 -0.5**
baz=209
MLY **Manley** 92.71 13 IAmb IAmb 15 11 41.2
comp=Z,28nm,1.1s
MLY **Manley** 92.71 13 P **P** **15 09 28.1 -0.6**
baz=208,SNR=5.2
NEW **Newport** 92.79 37 P **P** **15 09 29.4 0.0**
baz=235
BVCY **Beaver Creek** 92.82 18 P **P** **15 09 29.8 +0.6**
baz=216
P32M **Atlin** 92.84 22 P **P** **15 09 30.0 +0.6**
baz=222
E17K **Hotham Inlet** 92.85 8 P **P** **15 09 30.1 +0.9**
baz=198,SNR=46
H21K **Melozitna Rive** 92.88 11 P **P** **15 09 29.9 +0.5**
baz=206
Q32M **Nakina River** 92.88 23 P **P** **15 09 29.7 -0.1**
baz=224
RIDG **Independent Ri** 92.88 15 P **P** **15 09 29.8 +0.2**
baz=213
LZH **Lanzhou** 92.88 309 ⇓iP **P** **15 09 31.5 +1.1**
LZH sP sP 15 12 29.5 -4.0
LZH PP **PP** **15 13 21.6 -2.1**
LZH SKS **SKSac** **15 19 07.1 -1.7**
LZH S **ScS** **15 19 49.3 +1.7**
LZH SS **SS** **15 26 16.4 -3.0**
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,860nm,5.4s
O30N **Mendenhall** 92.94 20 P **P** **15 09 30.0 +0.1**
baz=220
HDA **Harding Lake** 92.96 14 P **P** **15 09 30.2 +0.4**
baz=211,SNR=7.0
CCB **Clear Creek Bu** 92.98 14 IAmb IAmb 15 11 42.6
comp=Z,57nm,1.0s
BILL **Bilibino** 93.06 355 P **P** **15 09 30.0 -0.2**
BILL IAmb IAmb 15 09 32.4
comp=Z,102nm,1.6s
L27K **Beaver Creek,** 93.08 17 P **P** **15 09 31.2 +0.7**
baz=216
I23K **Minto, Yukon-K** 93.09 13 IAmb IAmb 15 11 43.8
comp=Z,52nm,1.4s
I23K **Minto, Yukon-K** 93.09 13 P **P** **15 09 31.1 +0.7**
baz=209
F19K **Shaleruckik Mo** 93.15 9 P **P** **15 09 31.1 +0.5**
baz=202
N30M **Aishikik Lake** 93.16 20 P **P** **15 09 30.8 -0.1**
baz=220
COLA **College** 93.17 14 P **P** **15 09 30.3 -0.4**
COLA **College** 93.17 14 P **P** **15 09 30.1 -0.6**
baz=210
WHY **Whitehorse** 93.25 21 P **P** **15 09 31.5 +0.1**
baz=221
CO02 **Combarbal** 93.28 126 IAmb IAmb 15 09 34.7
comp=Z,30nm,0.8s
IL31 93.29 14 IAmb IAmb 15 11 44.2
comp=Z,65nm,1.2s
ILAR **Eielson Array** 93.29 14 P **P** **15 09 30.8 -0.5**
comp=Z,4.9nm,0.6s,baz=226,slow=5.4,SNR=60
ILAR PP **PP** **15 13 23.7 -2.3**
comp=Z,2.8nm,0.7s,baz=227,slow=7.2,SNR=5.5
ILAR PKiKP **PKiKP** **15 14 13.3 -0.2**
comp=Z,1.0nm,0.6s,baz=229,slow=4.5,SNR=6.3
ILAR S **SKSac** **15 19 10.3 +1.1**
comp=Z,0.6nm,0.9s,baz=188,slow=8.7,SNR=5.5
ILAR PKKPbc **PKKPdf** **15 26 35.5 -0.9**
comp=Z,1.1nm,0.5s,baz=4.5,slow=2.5,SNR=12
ILAR SKKS **SKKSdf** **15 32 46.8 -7.1**
comp=Z,1.6nm,1.1s,baz=9.9,slow=3.8,SNR=8.2
comp=Z,4.9nm,0.6s
SCRK **Sand Creek** 93.29 16 IAmb IAmb 15 11 45.3
comp=Z,129nm,2.0s
SCRK **Sand Creek** 93.29 16 P **P** **15 09 32.3 +0.8**
baz=214,SNR=6.5
E18K **Tukpahlearik C** 93.32 8 IAmb IAmb 15 09 33.3
comp=Z,86nm,1.4s
E18K **Tukpahlearik C** 93.32 8 P **P** **15 09 32.0 +0.6**
baz=199
DLBC **Dease Lake** 93.33 24 P **P** **15 09 32.7 +1.0**
baz=225
DLBC **Dease Lake** 93.33 24 P **P** **15 09 32.4 +0.7**
comp=Z,4.1nm,1.0s,baz=234,slow=7.3,SNR=4.0
comp=Z,4.1nm,1.0s
H22K **Ishtalitna Cre** 93.36 12 P **P** **15 09 31.8 +0.2**
baz=207
AHID **Auburn Hatcher** 93.36 44 IAmb IAmb 15 11 46.8
comp=Z,33nm,1.3s
POKR **Poker Plat Res** 93.47 14 IAmb IAmb 15 11 44.8
comp=Z,36nm,1.1s
POKR **Poker Plat Res** 93.47 14 P **P** **15 09 31.4 -0.8**
baz=211
J25K **Salcha River,** 93.50 15 IAmb IAmb 15 11 45.7
comp=Z,45nm,1.3s
J25K **Salcha River,** 93.50 15 P **P** **15 09 32.8 +0.4**
baz=212
M29M **Somme Creek** 93.52 19 IAmb IAmb 15 11 46.5
comp=Z,43nm,1.2s
M29M **Somme Creek** 93.52 19 P **P** **15 09 32.8 +0.3**
baz=218,SNR=7.9
G21K **Allakaket** 93.53 11 P **P** **15 09 33.2 +0.8**
baz=205
N31M **Braeburn, Yuko** 93.59 20 P **P** **15 09 34.0 +1.2**
baz=221
P33M **Teslin, Yukon** 93.60 22 P **P** **15 09 33.9 +1.0**
baz=223
C16K **Lisburne Hills** 93.62 6 IAmb IAmb 15 09 35.5
comp=Z,74nm,1.4s
C16K **Lisburne Hills** 93.62 6 P **P** **15 09 33.2 +0.5**
baz=195
RDOG **Red Dog Mine** 93.66 7 IAmb IAmb 15 09 35.1
comp=Z,68nm,1.6s
RDOG **Red Dog Mine** 93.66 7 P **P** **15 09 34.3 +1.4**
baz=197,SNR=5.4
F20K **Avaraart Lake** 93.66 10 P **P** **15 09 33.5 +0.6**
baz=203
R33M **Jennings River** 93.66 23 P **P** **15 09 34.5 +1.2**
baz=225
CO03 **El Pedregal** 93.70 126 IAmb IAmb 15 11 48.5
comp=Z,75nm,1.8s
S22A **4UR Ranch, Cre** 93.71 50 P **P** **15 09 34.2 0.0**
baz=241,SNR=14
MSO **Missoula** 93.78 39 P **P** **15 09 34.0 -0.1**
baz=237
E19K **Redstone River** 93.81 9 P **P** **15 09 34.5 +0.9**
baz=202
K27K **Chicken** 93.81 16 P **P** **15 09 34.2 +0.5**
baz=215
J26L **Joseph Creek** 93.83 15 P **P** **15 09 35.0 +1.1**
baz=214
O20A **White River Ci** 93.90 47 P **P** **15 09 35.5 +0.5**
baz=241,SNR=6.0
SNOW **Snow King Moun** 93.93 44 IAmb IAmb 15 11 49.5
comp=Z,34nm,1.2s
H24K **Noodor Dome** 94.00 13 P **P** **15 09 34.8 +0.2**
baz=210
C17K **DeLong Mountai** 94.03 7 P **P** **15 09 35.0 +0.3**
baz=197
IMW **Indian Meadow** 94.04 43 IAmb IAmb 15 11 50.1
comp=Z,27nm,1.2s
M30M **Minto, Yukon** 94.11 19 IAmb IAmb 15 09 37.0
comp=Z,28nm,0.9s
M30M **Minto, Yukon** 94.11 19 P **P** **15 09 35.6 +0.5**
baz=220
L29M **L29M** 94.14 18 P **P** **15 09 35.6 +0.3**
baz=219
F21K **Alatna River** 94.18 11 IAmb IAmb 15 11 48.9
comp=Z,31nm,1.3s
F21K **Alatna River** 94.18 11 P **P** **15 09 35.5 +0.1**
baz=205,SNR=10
N32M **Quiet Lake** 94.20 21 P **P** **15 09 35.9 +0.3**
baz=223
PRP **Porcupine Dome** 94.23 14 IAmb IAmb 15 11 49.7
comp=Z,43nm,1.2s
PRP **Porcupine Dome** 94.23 14 P **P** **15 09 35.9 +0.2**
baz=212
G22K **Bettles** 94.25 11 P **P** **15 09 36.3 +0.7**
baz=207,SNR=6.6
FLWY **Flagg Ranch** 94.28 43 IAmb IAmb 15 11 53.3
comp=Z,40nm,1.4s
G23K **Bananza Creek** 94.34 12 IAmb IAmb 15 11 50.0
comp=Z,51nm,1.5s
G23K **Bananza Creek** 94.34 12 P **P** **15 09 37.0 +0.9**
baz=208
BW06 **Boulder Array** 94.34 45 IAmb IAmb 15 11 50.6
comp=Z,29nm,1.6s
BW06 **Boulder Array** 94.34 45 P **P** **15 09 36.9 0.0**
baz=240
PDAR **Pinedale Array** 94.34 45 P **P** **15 09 37.6 +0.7**
comp=Z,2.0nm,0.7s,baz=206,slow=2.8,SNR=19
PDAR pP **pP** **15 11 43.4 +0.2**
comp=Z,4.2nm,0.9s,baz=204,slow=3.3,SNR=7.8
PDAR PP **PP** **15 13 31.7 -3.1**
comp=Z,26nm,1.4s,baz=246,slow=7.4,SNR=12
PDAR S **SKSac** **15 19 14.1 -2.4**
comp=Z,0.2nm,0.7s,baz=66,slow=31,SNR=1.7
PDAR PKKP **PKKPdf** **15 26 34.2 +0.2**
comp=Z,0.9nm,0.5s,baz=90,slow=5.2,SNR=12
PDAR PKPPKP **P'P'df** **15 34 42.8 -1.7**
comp=Z,0.7nm,0.9s,baz=92,slow=4.6,SNR=3.6
comp=Z,2.0nm,0.7s
YHL **Hebgen Lake** 94.38 42 IAmb IAmb 15 11 52.1
comp=Z,27nm,1.1s
C18K **Utukok River** 94.42 7 IAmb IAmb 15 09 38.3
comp=Z,56nm,1.4s
C18K **Utukok River** 94.42 7 P **P** **15 09 36.8 +0.3**
baz=198,SNR=18
BOZ **Bozeman (W)** 94.49 41 P **P** **15 09 38.0 +0.5**
baz=239,SNR=6.3
H17A **Grant Village** 94.52 43 P **P** **15 09 38.4 +0.7**
baz=239
DRIO **Del Rio** 94.53 60 IAmb IAmb 15 11 51.2
comp=Z,36nm,1.1s
DAWY **Dawson** 94.54 17 IAmb IAmb 15 11 51.0
comp=Z,42nm,1.2s
DAWY **Dawson** 94.54 17 P **P** **15 09 38.0 +0.9**
baz=218,SNR=8.3
M31M **Drury Creek, Y** 94.56 20 P **P** **15 09 37.7 +0.5**
baz=222
I26K **Coal Creek Min** 94.60 15 P **P** **15 09 38.0 +0.7**
baz=214
SDCO **Great Sand Dun** 94.63 51 P **P** **15 09 38.4 -0.1**
baz=242,SNR=12
SDCO **Great Sand Dun** 94.63 51 P **P** **15 09 39.7 +1.2**
baz=242
EGAK **Eagle** 94.65 16 P **P** **15 09 38.1 +0.7**
baz=216,SNR=7.9
F22K **John River** 94.66 11 P **P** **15 09 37.5 0.0**
baz=206
D19K **Kuna River** 94.66 8 IAmb IAmb 15 09 39.4
comp=Z,59nm,1.3s
D19K **Kuna River** 94.66 8 P **P** **15 09 38.4 +0.9**
baz=201
E20K **Nigu River** 94.71 9 P **P** **15 09 38.8 +1.0**
baz=203
COLD **Coldfoot** 94.76 12 P **P** **15 09 39.0 +1.0**
baz=208,SNR=5.7
G24K **Hadweenzic Riv** 94.83 13 P **P** **15 09 39.4 +1.1**
baz=211
MSTX **Muleshoe** 94.88 55 P **P** **15 09 39.4 -0.1**
baz=243
K29M **Barlow Dome** 94.88 18 IAmb IAmb 15 11 53.0
comp=Z,44nm,1.2s
K29M **Barlow Dome** 94.88 18 P **P** **15 09 39.8 +1.1**
baz=219
YAK **Yakutsk** 94.97 339 P **P** **15 09 38.2 -0.7**
YAK IAmb IAmb 15 09 40.9
comp=Z,34nm,0.8s
YAK **Yakutsk** 94.97 339 *d* iP **P** **15 09 38.5 -0.5**
YAK *e* 15 13 37.7
YAK *e*S **SKSac** **15 19 15.9 -2.3**
YAK *e* 15 20 03.6
YAK *e**SS pS 15 22 16.9 -26
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.6s
YAK pmax pmax
comp=Z,181nm,2.6s
YAK pmax pmax
comp=N,79nm,2.3s
YAK pmax pmax
comp=E,148nm,4.2s
YAK smax smax
comp=E,56nm,1.7s
YAK smax smax
comp=N,237nm,2.9s
833A **Chaparral WMA,** 95.02 61 P **P** **15 09 40.3 +0.3**
baz=244
B18K **Kokolik River** 95.03 7 P **P** **15 09 40.5 +1.4**
baz=198
C19K **Lookout Ridge** 95.05 8 P **P** **15 09 40.2 +0.9**
baz=200
D20K **Etivluk River** 95.07 9 P **P** **15 09 40.2 +0.8**
baz=203,SNR=17
T25A **Trinidad** 95.12 51 P **P** **15 09 40.3 -0.3**
baz=243
MAYO **Mayo, Yukon** 95.16 19 P **P** **15 09 41.1 +1.3**
baz=221
G25K **Bearman Lake** 95.17 13 P **P** **15 09 39.9 +0.1**
baz=212
E21K **Killik River** 95.21 10 P **P** **15 09 40.6 +0.6**
baz=205
I27K **Kandik River** 95.21 16 P **P** **15 09 40.8 +0.7**
baz=216
E22K **Anaktuvuk Pass** 95.28 11 IAmb IAmb 15 11 54.3
comp=Z,60nm,1.2s
E22K **Anaktuvuk Pass** 95.28 11 P **P** **15 09 40.6 +0.3**
baz=207,SNR=8.7
Q24A **Divide** 95.44 50 P **P** **15 09 41.3 -0.8**
baz=242
F24K **Squaw Lake** 95.45 12 IAmb IAmb 15 11 55.4
comp=Z,23nm,1.1s
F24K **Squaw Lake** 95.45 12 P **P** **15 09 41.5 +0.4**
baz=210,SNR=6.3
I28M **Miner Creek** 95.50 16 IAmb IAmb 15 11 56.0
comp=Z,96nm,1.9s
I28M **Miner Creek** 95.50 16 P **P** **15 09 41.9 +0.4**
baz=217
E23K **Chandalar** 95.60 12 P **P** **15 09 42.4 +0.5**
baz=209
C21K **Knifeblade Rid** 95.74 9 P **P** **15 09 42.9 +0.6**
baz=204
H27K **Steamboat Moun** 95.74 15 P **P** **15 09 43.4 +0.9**
baz=216
J30M **Hart River** 95.78 18 IAmb IAmb 15 11 57.0
comp=Z,34nm,1.6s
J30M **Hart River** 95.78 18 P **P** **15 09 43.3 +0.5**
baz=220
N23A **Red Feather La** 95.80 48 P **P** **15 09 43.3 -0.3**
baz=242
D22K **Ayikyak River** 95.81 10 IAmb IAmb 15 11 57.1
comp=Z,39nm,1.1s
D22K **Ayikyak River** 95.81 10 P **P** **15 09 43.8 +1.1**
baz=206,SNR=13
G26K **Porcupine Rive** 95.82 14 P **P** **15 09 43.9 +1.2**
baz=214
E24K **Your Creek** 95.82 12 P **P** **15 09 43.5 +0.7**
baz=210
I29M **Ogilvie Camp,** 95.85 17 IAmb IAmb 15 11 57.3
comp=Z,59nm,1.4s
I29M **Ogilvie Camp,** 95.85 17 P **P** **15 09 43.2 +0.3**
baz=219,SNR=11
A19K **Wainwright** 95.92 7 P **P** **15 09 42.9 -0.2**
baz=199
F25K **Christian River** 95.97 13 P **P** **15 09 43.7 +0.2**
baz=212
TOLK **Toolik Lake Re** 96.12 11 IAmb IAmb 15 11 59.0
comp=Z,70nm,1.6s
TOLK **Toolik Lake Re** 96.12 11 Pdiff **P** **15 09 44.7 +0.6**
baz=209
G27K **Doyon Strip** 96.18 15 Pdiff **P** **15 09 44.9 +0.5**
baz=216
B21K **Ikpikpuk River** 96.19 9 IAmb IAmb 15 11 58.5
comp=Z,37nm,1.3s
B21K **Ikpikpuk River** 96.19 9 Pdiff **P** **15 09 45.4 +1.1**
baz=204
B20K **Meade River** 96.20 8 Pdiff **P** **15 09 45.3 +1.0**
baz=202
D23K **Nanushuk River** 96.22 11 Pdiff **P** **15 09 45.7 +1.3**
baz=208
K22A **Casper** 96.24 46 Pdiff **P** **15 09 44.9 -0.5**
baz=242
I30M **Mount Dempster** 96.26 17 IAmb IAmb 15 11 58.7
comp=Z,35nm,1.2s
I30M **Mount Dempster** 96.26 17 Pdiff **P** **15 09 45.6 +0.6**

baz=220
F26K **Sheenjek River** 96.36 13 Pdiff P 15 09 46.4 +1.2
baz=214
E25K **Arctic Village** 96.43 13 IAmb IAmb 15 11 59.9
comp=Z,30nm,1.4s
E25K **Arctic Village** 96.43 13 Pdiff P 15 09 46.1 +0.6
baz=212
H29M **Whitestone** 96.51 16 Pdiff P 15 09 46.7 +0.9
baz=219
ULN **Ulaanbaatar** 96.57 320 P P 15 09 45.7 -1.0
ULN **Ulaanbaatar** 96.57 320 *ce*P P 15 09 46.5 -0.2
ULN pmax pmax
comp=Z,62nm,1.7s
ULN **Ulaanbaatar** 96.57 320 P P 15 09 46.7 0.0
ULN **Ulaanbaatar** 96.57 320 P P 15 09 46.6 -0.2
comp=Z,133nm,1.9s,comp=Z,2µm
ABTX **Abilene, Hawle** 96.66 57 Pdiff P 15 09 47.4 +0.1
baz=245
D24K **Happy Valley** 96.70 11 Pdiff P 15 09 47.6 +1.0
baz=210
KOTAN **Kotaneelee Air** 96.74 25 Pdiff P 15 09 47.6 +0.6
baz=230
EGMT **Eagleton** 96.83 40 Pdiff P 15 09 47.5 -0.4
baz=240
SONM **Songino Array** 96.94 320 IAmb IAmb 15 09 49.8
comp=Z,54nm,1.5s
SONM **Songino Array** 96.94 320 P P 15 09 48.0 -0.3
comp=Z,5.2nm,0.6s,baz=127,slow=5.7,SNR=31
SONM PP PP 15 13 50.0 -4.4
comp=Z,4.3nm,0.9s,baz=122,slow=7.8,SNR=5.9
SONM PKiKP PKiKP 15 14 20.7 +0.1
comp=Z,0.9nm,0.7s,baz=60,slow=1.4,SNR=5.8
SONM PKKP PKKPbc 15 26 28.1 +0.4
comp=Z,2.5nm,0.8s,baz=274,slow=2.8,SNR=13
SONM SKKPbc SKKPbc 15 29 10.3 -4.5
comp=Z,1.4nm,1.1s,baz=300,slow=3.3,SNR=3.9
SONM PKPPKP P'P'df 15 34 39.5 +0.3
comp=Z,0.2nm,0.5s,baz=242,slow=3.2,SNR=4.0
comp=Z,5.2nm,0.6s
C23K **Itkillik River** 97.00 10 Pdiff P 15 09 48.6 +0.7
baz=208
B22K **Teshekpuk Lake** 97.02 9 IAmb IAmb 15 12 02.3
comp=Z,36nm,1.2s
B22K **Teshekpuk Lake** 97.02 9 Pdiff P 15 09 48.7 +0.7
baz=206
EPYK **Eagle Plains** 97.05 17 Pdiff P 15 09 48.7 +0.4
baz=220
G29M **Pine Creek** 97.14 16 IAmb IAmb 15 12 02.6
comp=Z,60nm,1.6s
G29M **Pine Creek** 97.14 16 Pdiff P 15 09 49.3 +0.7
baz=219
C24K **Franklin Bluff** 97.22 11 Pdiff P 15 09 49.3 +0.4
baz=210
KSCO **Kaye Shedlock'** 97.22 50 Pdiff Pdif 15 09 49.8 -0.1
baz=244
GTA **Gaotai** 97.25 310 P P 15 09 50.3 +0.3
GTA pP pP 15 11 57.4 +1.4
GTA PP PP 15 14 00.5 +3.6
GTA SKS SKSac 15 19 29.9 -1.5
GTA S ScS 15 20 22.4 -1.4
GTA pmax pmax
comp=Z,33nm,1.5s
GTA pmax pmax
comp=Z,310nm,4.9s
F28M **Old Crow** 97.25 15 IAmb IAmb 15 12 02.6
comp=Z,20nm,1.4s
F28M **Old Crow** 97.25 15 Pdiff P 15 09 49.5 +0.4
baz=218
H31M **Peel River** 97.26 18 Pdiff P 15 09 49.4 +0.1
baz=222
D25K **Kavik River** 97.29 12 Pdiff P 15 09 50.4 +1.0
baz=212
E27K **Coleen River** 97.32 14 Pdiff P 15 09 50.0 +0.5
baz=216
A22K **Sinclair Lake** 97.41 8 Pdiff P 15 09 50.8 +1.1
baz=204
435B **Jarrell** 97.48 60 Pdiff Pdif 15 09 50.0 -1.0
baz=246
A21K **Barrow** 97.49 8 Pdiff P 15 09 51.2 +1.2
baz=203
SHL **Shillong** 97.52 295 IAmb IAmb 15 13 58.1
comp=Z,29nm,0.8s
G30M **tAoh Zraii Nji** 97.65 16 Pdiff P 15 09 51.3 +0.4
baz=221
C26K **Camden Bay** 98.07 12 Pdiff P 15 09 53.5 +0.7
baz=213
WHTX **Lake Whitney,** 98.08 59 Pdiff Pdif 15 09 52.6 -1.1
baz=246
G31M **Satah River** 98.11 17 Pdiff P 15 09 53.9 +0.9
baz=222
E28M **Babbage River** 98.11 14 IAmb IAmb 15 12 07.3
comp=Z,23nm,1.2s
E28M **Babbage River** 98.11 14 Pdiff P 15 09 53.5 +0.5
baz=218
WMOK **Wichita Mounta** 98.19 56 Pdiff Pdif 15 09 53.8 -0.4
baz=246
F30M **Barrier River** 98.24 16 Pdiff P 15 09 54.1 +0.6
baz=221
LAO **LASA Array** 98.31 42 Pdiff Pdif 15 09 54.0 -0.4
baz=243
D27M **Malcolm River** 98.31 14 Pdiff P 15 09 54.7 +0.8
baz=217
E29M **Blow River** 98.32 15 Pdiff P 15 09 54.3 +0.4
baz=219
OGNE **Ogallala** 98.47 49 Pdiff Pdif 15 09 53.9 -1.4
baz=244
RSSD **Black Hills** 98.52 45 Pdiff Pdif 15 09 55.4 -0.3
baz=244
RSSD **Black Hills** 98.52 45 P P 15 09 56.8 +1.1
baz=244
F31M **Tsiigehtchic** 98.64 17 Pdiff P 15 09 55.4 +0.1
baz=223
D28M **Stokes Point** 98.86 14 Pdiff Pdif 15 09 56.0 -0.2
baz=219
CBKS **Cedar Bluff** 99.17 52 Pdiff Pdif 15 09 57.7 -0.7
baz=246
INK **Inuvik** 99.33 16 Pdiff Pdif 15 09 58.8 +0.5
baz=223
INK **Inuvik** 99.33 16 P Pdif 15 09 58.0 -0.2
comp=Z,5.0nm,0.8s,baz=214,slow=4.2,SNR=13
INK PKiKP PKiKP 15 14 24.2 +0.2
comp=Z,1.8nm,0.5s,baz=237,slow=1.6,SNR=2.5
comp=Z,5.0nm,0.8s
GOMU **GeErMu** 99.49 305 P Pdif 15 10 01.3 +1.0
GOMU PP PP 15 14 12.3 -1.8
GOMU SKS SKSac 15 19 43.5 +0.4
GOMU pmax pmax
comp=Z,11nm,1.5s
ZAK **Zakamensk** 99.94 321 *eP* Pdif 15 10 01.3 -0.3
ZAK pmax pmax
comp=Z,13nm,2.0s
ZAK pmax pmax
comp=Z,9.0nm,1.9s
PALK **Pallekele** 100.06 273 P Pdif 15 10 03.8 +0.8
TUL3 **Leonard** 100.90 56 Pdiff Pdif 15 10 04.6 -1.6
baz=247
KSU1 **Kansas State U** 101.53 52 Pdiff Pdif 15 10 08.6 -0.2
baz=247
YKA **Yellowknife Ar** 101.82 26 P Pdif 15 10 09.5 0.0
comp=Z,0.4nm,0.7s,baz=248,slow=4.5,SNR=6.0
YKA PKiKP PKiKP 15 14 28.2 -0.4
comp=Z,1.4nm,0.6s,baz=268,slow=1.9,SNR=8.6
YKA PKKPbc PKKPbc 15 26 11.3 -2.9
comp=Z,2.3nm,0.5s,baz=34,slow=2.3,SNR=32
YKA PKPPKP P'P'df 15 34 27.6 -1.2
comp=Z,0.2nm,0.7s,baz=56,slow=2.9,SNR=4.1
C36M **Paulatuk** 102.56 18 Pdiff Pdif 15 10 13.0 +0.4
baz=232
A36M **Sachs Harbour** 103.91 15 Pdiff Pdif 15 10 19.7 +1.1
baz=231
SCIA **State Center** 104.95 51 PKiKP PKiKP 15 14 34.7 -0.4
baz=250
OXF **Oxford** 105.27 59 PKiKP PKiKP 15 14 34.4 -1.4
baz=250
CPUP **Villa Florida** 105.88 129 PKKPbc PKKPbc 15 26 00.8 -0.9
comp=Z,3.1nm,0.7s,baz=326,slow=4.9,SNR=2.9
HYB **Hyderabad** 105.90 282 *e*PKiKP PKiKP 15 14 38.1 +0.5
ULM **Lac du Bonnet** 106.03 42 PKiKP PKiKP 15 14 36.8 0.0
comp=Z,3.0nm,0.5s,baz=201,slow=0.6,SNR=5.2
ULM PKKPbc PKKPbc 15 26 00.0 -1.4
comp=Z,4.0nm,0.6s,baz=51,slow=3.2,SNR=6.5
WVT **Waverly** 107.02 58 PKiKP PKiKP 15 14 38.5 -0.6
baz=251
WMQ **Urumqi** 107.31 311 Pdif Pdif 15 10 35.9 +1.4
WMQ AMB AMB
comp=Z,560nm,5.1s
WMQ LR LR
comp=Z,170nm,22.7s

JFWS **Jewell Farm** 107.36 50 PKiKP PKiKP 15 14 38.6 -1.0
baz=252
ROSC **El Rosal** 107.61 93 Pdiff Pdif 15 10 42.1 +5.2
comp=Z,56nm,0.5s,baz=19,slow=23,SNR=15
EYMN **Ely** 108.04 45 PKiKP PKiKP 15 14 39.6 -1.0
baz=253
L44A **Lake County Fo** 108.79 52 PKiKP PKiKP 15 14 41.9 -0.3
baz=253
WCI **Wyandotte Cave** 108.83 56 PKiKP PKiKP 15 14 41.3 -1.1
baz=253
TIGA **Tifton** 108.91 63 PKiKP PKiKP 15 14 40.8 -2.0
baz=252
GOGA **Godfrey** 109.60 62 PKiKP PKiKP 15 14 42.9 -1.2
baz=253
DWPF **Disney Wildern** 109.66 67 PKiKP PKiKP 15 14 42.9 -1.4
baz=252
ZSN **Zaisan** 110.24 314 *e*PKiKP PKiKP 15 14 44.4 -0.5
baz=314
ZSN **Zaisan** 110.24 314 *i* PKiKP PKiKP 15 14 44.4 -0.5
O48B **Farmland** 110.25 54 PKiKP PKiKP 15 14 44.0 -1.1
baz=254
P49A **Miami Univ. Ec** 110.38 55 PKiKP PKiKP 15 14 43.9 -1.4
baz=254
TZTN **Tazewell** 110.44 58 PKiKP PKiKP 15 14 44.1 -1.4
baz=254
KMSC **Kings Mountain** 111.79 60 PKiKP PKiKP 15 14 46.7 -1.5
baz=254
MK31 **Makanchi Array** 111.79 313 *i* PKiKP PKiKP 15 14 46.6 -1.2
MKAR **Makanchi Array** 111.79 313 Pdiff Pdif 15 10 55.9 +1.6
comp=Z,4.2nm,0.6s,baz=93,slow=5.9,SNR=37
MKAR pPdiff pPdif 15 13 00.8 +0.3
comp=Z,1.1nm,0.7s,baz=115,slow=7.1,SNR=3.7
MKAR PKiKP PKiKP 15 14 47.4 -0.5
comp=Z,7.0nm,0.5s,baz=129,slow=0.7,SNR=33
MKAR PP PP 15 15 42.5 0.0
comp=Z,4.2nm,0.8s,baz=99,slow=7.5,SNR=4.6
MKAR SKP 15 17 29.2
comp=Z,2.5nm,0.6s,baz=117,slow=0.6,SNR=3.6
MKAR PKKPbc PKKPbc 15 25 43.1 -0.2
comp=Z,2.1nm,0.5s,baz=275,slow=3.3,SNR=21
MKAR SKKPbc SKKPbc 15 28 29.4 -4.4
comp=Z,0.8nm,0.6s,baz=275,slow=4.5,SNR=4.2
ZALV **Zalesovo Beam** 111.81 321 Pdiff Pdif 15 10 55.7 +1.5
comp=Z,0.7nm,0.6s,baz=114,slow=3.6,SNR=3.5
ZALV PKiKP PKiKP 15 14 46.8 -0.8
comp=Z,7.3nm,0.5s,baz=133,slow=1.4,SNR=39
ZALV PKKPbc PKKPbc 15 25 42.5 -0.8
comp=Z,1.0nm,0.6s,baz=266,slow=4.1,SNR=4.4
MAKZ **Makanchi** 112.00 313 ⇑PKiKP PKiKP 15 14 47.5 -0.7
P52A **Corning** 112.33 55 PKiKP PKiKP 15 14 48.7 -0.4
baz=256
SHLS **Shalkode** 112.91 308 *i* PKiKP PKiKP 15 14 49.4 -0.8
baz=308
SHLS *i* PP PP 15 15 46.3 -4.2
baz=308
SHLS **Shalkode** 112.91 308 *i* PKiKP PKiKP 15 14 49.4 -0.8
SHLS *i* 15 15 46.3
BLA **Blacksburg** 113.03 58 PKiKP PKiKP 15 14 49.8 -0.8
baz=256
O53A **New Philadelph** 113.17 55 PKiKP PKiKP 15 14 50.1 -0.5
baz=256
UZB **Uzunbulak** 113.22 308 *i* PKiKP PKiKP 15 14 50.5 -0.3
baz=308
UZB **Uzunbulak** 113.22 308 *i* PKiKP PKiKP 15 14 50.5 -0.3
NRIK **Noril'sk** 113.34 337 Pdiff Pdif 15 11 03.0 +2.4
comp=Z,0.7nm,0.3s,baz=168,slow=3,SNR=5.0
NRIK PKiKP PKiKP 15 14 49.9 -0.2
comp=Z,7.8nm,0.5s,baz=104,slow=2.4,SNR=21
SATY **Saty** 113.64 308 ⇓*i* PKiKP PKiKP 15 14 51.3 -0.4
baz=308
SATY **Saty** 113.64 308 *d i* PKiKP PKiKP 15 14 51.2 -0.4
ZHN **Zhinishke** 113.64 308 *i* PKiKP PKiKP 15 14 51.0 -0.6
baz=308
ZHN **Zhinishke** 113.64 308 *i* PKiKP PKiKP 15 14 51.0 -0.6
M53A **WI Miller and** 113.83 54 PKiKP PKiKP 15 14 50.7 -1.2
baz=257
SEM **Semipalatinsk** 113.86 316 *e*PKiKP PKiKP 15 14 51.4 -0.5
baz=316
SEM **Semipalatinsk** 113.86 316 *i* PKiKP PKiKP 15 14 51.4 -0.5
VOI **Vohitsoka** 113.96 229 PKP PKiKP 15 14 54.1 +1.2
VOI **Vohitsoka** 113.96 229 P PKiKP 15 14 53.1 +0.2
TDK **Taldyqorghan** 114.05 310 *i* PKiKP PKPdf 15 14 51.6 -0.6
baz=310
TDK **Taldyqorghan** 114.05 310 *i* PKiKP PKPdf 15 14 51.5 -0.7
ERPA **Erie** 114.48 53 PKiKP PKPdf 15 14 52.3 -0.8
baz=258
MDOK **Medeo** 114.63 308 *e*PKiKP PKPdf 15 14 53.0 -0.6
baz=308
MDOK **Medeo** 114.63 308 *i* PKiKP PKPdf 15 14 52.9 -0.7
KSH **Kashi** 114.66 304 PKP PKiKP 15 14 54.6 +0.9
KSH AMB AMB
comp=Z,580nm,8.2s
TNSS **Tian-Shan** 114.68 308 *e*PKiKP PKPdf 15 14 53.7 -0.3
baz=308
TNSS **Tian-Shan** 114.68 308 *i* PKiKP PKPdf 15 14 53.6 -0.4
AAA **Alma-Ata** 114.74 308 *e*PKiKP PKPdf 15 14 53.3 -0.4
baz=308
AAA **Alma-Ata** 114.74 308 *i* PKiKP PKPdf 15 14 53.2 -0.5
CHKK **Chushkaly** 114.81 309 *e*PKiKP PKPdf 15 14 52.6 -1.1
baz=309
CHKK **Chushkaly** 114.81 309 *i* PKiKP PKPdf 15 14 52.6 -1.1
KURK **Kurchatov** 114.94 316 PKPdf 15 14 52.8 -0.9
KURK **Kurchatov** 114.94 316 *i* PKiKP PKPdf 15 14 52.8 -0.9
KURK **Kurchatov** 114.94 316 P PKPdf 15 14 53.2 -0.5
KURBB **Kurchatov Arra** 114.98 316 PKiKP PKPdf 15 14 52.5 -1.3
KURBB **Kurchatov Arra** 114.98 316 Pdiff Pdif 15 11 11.0 +2.6
comp=Z,0.5nm,0.7s,baz=93,slow=4.1,SNR=4.3
KURBB PKiKP PKPdf 15 14 53.0 -0.7
comp=Z,11nm,0.5s,baz=109,slow=1.7,SNR=108
KURBB PP PP 15 16 00.7 -3.9
comp=Z,5.5nm,0.9s,baz=97,slow=7.3,SNR=8.5
KURBB SKP 15 17 35.4
comp=Z,3.3nm,0.7s,baz=96,slow=1.7,SNR=4.8
KURBB PKKPbc PKKPbc 15 25 33.2 +0.5
comp=Z,3.6nm,0.8s,baz=278,slow=4.0,SNR=22
KURBB SKKPbc SKKPbc 15 28 20.0 -4.3
comp=Z,1.7nm,1.0s,baz=283,slow=3.7,SNR=4.4
KUU **Kurty** 115.28 309 *i* PKiKP PKPdf 15 14 53.7 -0.9
baz=309
KUU **Kurty** 115.28 309 *i* PKiKP PKPdf 15 14 53.6 -1.0
NIL **Nilore** 115.45 297 PKPdf 15 14 54.6 -0.7
NIL **Nilore** 115.45 297 PKiKP PKPdf 15 14 54.6 -0.7
CBN **Corbin Frederi** 115.61 58 PKiKP PKPdf 15 14 54.9 -0.4
baz=258
TKM2 **Tokmak 2** 115.63 307 P PKPdf 15 14 55.1 -0.5
SNR=34
TKM2 **Tokmak 2** 115.63 307 PKiKP PKPdf 15 14 54.6 -1.0
KZA **Kyzart** 115.72 306 P PKiKP 15 14 56.4 +0.3
SNR=15
KBK **Karagaybulak** 116.05 307 P PKPdf 15 14 56.2 -0.2
SNR=19
CHMS **Chumysh** 116.25 307 P PKPdf 15 14 56.3 -0.2
SNR=14
UCH **Uchtor** 116.29 306 P PKiKP 15 14 57.4 +0.2
SNR=17
AAK **Ala-Archa** 116.38 307 P PKPdf 15 14 56.7 -0.3
SNR=14
AAK **Ala-Archa** 116.38 307 PKPdf 15 14 56.3 -0.7
AAK **Ala-Archa** 116.38 307 *i* PKPdf PKPdf 15 14 56.8 -0.3
SNR=17
AAK **Ala-Archa** 116.38 307 PKiKP PKPdf 15 14 56.3 -0.7
AAK **Ala-Archa** 116.38 307 PKP PKPdf 15 14 56.6 -0.3
comp=Z,6.5nm,0.5s,baz=142,slow=4.4,SNR=32
AAK PP PP 15 16 15.0 +0.3
comp=Z,2.3nm,0.6s,baz=105,slow=6.5,SNR=4.5
AAK PKKPbc PKKPbc 15 25 28.4 +0.4
comp=Z,2.4nm,0.5s,baz=236,slow=3.3,SNR=11
AAK **Ala-Archa** 116.38 307 P PKPdf 15 14 56.9 -0.1
SGDS **Sogindy** 116.42 308 *e*PKiKP PKPdf 15 14 56.0 -1.0
baz=308
SGDS **Sogindy** 116.42 308 *i* PKiKP PKPdf 15 14 55.9 -1.0
USP **Ospenovka** 116.48 308 P PKPdf 15 14 56.7 -0.3
SNR=17
AML **Almayashu** 116.87 306 P PKiKP 15 14 58.3 +0.1
SNR=32
AML **Almayashu** 116.87 306 PKiKP PKPdf 15 14 57.8 -0.4
EKS2 **Erkin-Say** 116.90 307 P PKPdf 15 14 57.4 -0.6
SNR=15
BTLS **Baital** 117.09 310 *i* PKiKP PKPdf 15 14 57.6 -0.4
baz=310
BTLS **Baital** 117.09 310 *i* PKiKP PKPdf 15 14 57.6 -0.4
MSEY **Mahe Island** 117.35 250 P PKiKP 15 14 59.6 0.0
BINY **Binghamton** 117.42 54 PKiKP PKPdf 15 14 58.6 -0.2
baz=260
BRZS **Berezniki** 118.62 315 *i* PKiKP PKPdf 15 14 60.0 -0.9
baz=315
BRZS **Berezniki** 118.62 315 *i* PKiKP PKPdf 15 14 59.9 -0.9

MERW **Merweville** 118.71 202 *e*S PKPdf 15 15 05.5 +3.7
DZA **Taraz** 118.72 307 *e*PKiKP PKPdf 15 15 00.8 -0.5
baz=307
DZA **Taraz** 118.72 307 *i* PKiKP PKPdf 15 15 00.7 -0.5
BFON **Badsfontein, M** 118.73 204 *e*S PKPdf 15 15 02.1 +0.2
PAL **Palisades** 118.76 55 PKiKP PKPdf 15 15 01.0 -0.3
baz=261
LONY **Lake Ozonia** 118.79 51 PKiKP PKPdf 15 15 01.1 -0.2
baz=263
KBL **Kabul** 119.05 297 PKPdf 15 15 02.4 0.0
KBL **Kabul** 119.05 297 PKiKP PKPdf 15 15 02.4 0.0
KBL **Kabul** 119.05 297 P PKiKP 15 15 02.9 +0.4
SNR=25
SUR **Sutherland** 119.22 202 PKPdf 15 15 02.7 -0.3
SUR **Sutherland** 119.22 202 P PKiKP 15 15 03.5 +0.5
KK31 **Karatay Array** 119.34 307 *i* PKiKP PKPdf 15 15 01.9 -0.6
BDFB **Brasilia** 119.37 127 PKPdf 15 15 02.3 -1.1
BDFB **Brasilia** 119.37 127 PKiKP PKPdf 15 15 02.3 -1.1
BDFB **Brasilia** 119.37 127 PKP PKPdf 15 15 03.2 -0.3
comp=Z,6.1nm,0.4s,baz=206,slow=1.1,SNR=9.3
BDFB SKP 15 17 43.3
comp=Z,5.1nm,0.8s,baz=275,slow=16,SNR=4.2
BDFB PKKPbc PKKPbc 15 25 19.0 +1.5
comp=Z,15nm,0.8s,baz=45,slow=3.1,SNR=10
L61B **Northampton** 119.88 54 PKiKP PKPdf 15 15 02.9 -0.5
baz=263
CHM **Chimkent** 119.90 306 *e*PKiKP PKPdf 15 15 03.4 -0.2
baz=306
CHM **Chimkent** 119.90 306 *i* PKiKP PKPdf 15 15 03.4 -0.2
BVA0 **Borovoye Array** 120.24 318 *i* PKiKP PKPdf 15 15 02.8 -1.0
BVAR **Borovoye Array** 120.24 318 PKP PKPdf 15 15 03.4 -0.4
comp=Z,88nm,0.5s,baz=119,slow=1.3,SNR=242
BVAR PKKPbc PKKPbc 15 25 14.2 -0.1
comp=Z,1.4nm,0.6s,baz=244,slow=3.6,SNR=9.2
BVAR SKKPbc SKKPbc 15 28 04.0 -4.0
comp=Z,0.8nm,0.7s,baz=277,slow=2.7,SNR=3.6
BRVK **Borovoye** 120.31 318 PKPdf 15 15 03.7 -0.2
BRVK **Borovoye** 120.31 318 PKiKP PKPdf 15 15 03.2 -0.7
BRVK **Borovoye** 120.31 318 P PKPdf 15 15 03.8 -0.1
LBNH **Lisbon** 120.63 52 PKiKP PKPdf 15 15 04.9 0.0
baz=264
HRV **Adam Dziewonsk** 120.71 54 PKiKP PKPdf 15 15 04.7 -0.4
baz=263
BOSA **Boshof** 120.92 207 PKiKP 15 15 06.5 +0.1
BOSA **Boshof** 120.92 207 *i* P PKPdf 15 15 05.9 -0.3
BOSA **Boshof** 120.92 207 PKiKP PKiKP 15 15 06.5 +0.1
BOSA **Boshof** 120.92 207 PKP PKiKP 15 15 06.7 +0.3
comp=Z,17nm,0.5s,baz=146,slow=2.2,SNR=47
BOSA PKKPbc PKKPbc 15 25 12.7 +0.2
comp=Z,5.0nm,0.7s,baz=342,slow=4.1,SNR=17
BOSA **Boshof** 120.92 207 *i* P PKiKP 15 15 07.2 +0.8
BOSA **Boshof** 120.92 207 *e*S PKiKP 15 15 07.1 +0.7
G62A **West of Eustis** 121.71 51 PKPdf 15 15 06.5 -0.4
NEEM **North Greenlan** 122.47 11 *i* P PKPdf 15 15 06.4 -1.4
PKME **Peaks-Kenny Pk** 122.59 51 PKiKP PKPdf 15 15 08.1 -0.4
baz=266
SMRT **St. Maarten** 122.70 84 PKPdf 15 15 08.4 -1.2
D62A **Allapoint, All** 122.85 49 PKPdf 15 15 08.4 -0.6
FDF **Fort de France** 123.36 88 PKPdf 15 15 09.8 -1.2
FDF **Fort de France** 123.36 88 PKiKP PKPdf 15 15 09.8 -1.2
UPNV **Upernavik** 123.76 17 *i* P PKPdf 15 15 08.7 -1.3
LBTB **Lobatse** 123.91 210 *i* P PKPdf 15 15 11.6 -0.4
LBTB **Lobatse** 123.91 210 *i* P PKiKP 15 15 12.8 +0.5
H05N1 **Guadeloupe/Mar** 123.98 87 PKP PKPdf 15 15 10.6 -1.5
SNR=13
SCHQ **Schefferville** 124.09 39 PKP PKPdf 15 15 09.8 -1.4
comp=Z,8.6nm,0.5s,baz=273,slow=4.6,SNR=20
SCHQ PKKPbc PKKPab 15 24 58.7 +0.3
comp=Z,2.8nm,0.4s,baz=140,slow=2.1,SNR=12
JLN **Jalan Bani Buh** 124.47 281 P PKPdf 15 15 13.0 +0.1
SNR=19
WBK **Wadi Bani Khal** 124.99 281 P PKiKP 15 15 14.4 +0.1
SNR=8.7
MHTO **MHTO** 125.45 279 P PKiKP 15 15 15.0 -0.2
SNR=22
WSAR **Wadi Sarin** 125.45 282 PKP PKPdf 15 15 14.3 -0.5
comp=Z,21nm,0.9s,baz=172,slow=2.1,SNR=27
WSAR **Wadi Sarin** 125.45 282 P PKPdf 15 15 13.9 -0.8
SNR=15
KBS **Kingsbay** 125.52 357 *e*PKPdf PKiKP 15 15 14.5 +0.8
KBS **Kingsbay** 125.52 357 *i* P PKPdf 15 15 12.1 -1.2
DQM **DQM** 125.53 277 P PKiKP 15 15 15.2 -0.2
SNR=6.4
SVE **Sverdlovsk** 125.63 323 *e*PKiKP PKPdf 15 15 14.1 +0.1
SVE pmax pmax
comp=Z,138nm,1.6s
JMDO **Jabal Madar** 125.70 281 P PKPdf 15 15 15.0 -0.3
SNR=14
LMN **Caledonia Moun** 125.76 50 PKPdf 15 15 14.3 -0.3
UMMG **Uummannaq** 125.88 19 *i* P PKPdf 15 15 14.2 +0.1
SMDO **Samad** 125.92 281 P PKiKP 15 15 16.1 -0.2
SNR=26
BIDO **Bidbid** 125.97 282 P PKiKP 15 15 16.1 -0.1
SNR=17
SPA0 **Spitsbergen Ar** 125.97 356 *e*PKPdf PKPdf 15 15 14.1 -0.1
SPITS **Spitsbergen Ar** 125.97 356 PKP PKPdf 15 15 14.4 +0.2
comp=Z,33nm,0.5s,baz=64,slow=3.4,SNR=82
SPITS PKKPbc PKKPab 15 24 50.3 +0.4
comp=Z,3.9nm,0.7s,baz=165,slow=3.5,SNR=6.3
MATP **Matopo** 126.35 216 *i* P PKPdf 15 15 16.2 -0.5
MATP **Matopo** 126.35 216 PKP PKiKP 15 15 17.1 -0.1
comp=Z,14nm,0.6s,baz=162,slow=2.7,SNR=42
MATP **Matopo** 126.35 216 *i* P PKPdf 15 15 16.9 +0.2
BSY **Bisya** 126.60 281 P PKPdf 15 15 17.0 0.0
SNR=18
HOPEN **Hopen** 126.67 352 *e*PKPdf PKiKP 15 15 15.9 -0.2
SHAO **Shalim** 126.70 275 *i* PKiKP PKiKP 15 15 17.5 -0.3
SNR=5.3
SHAO **Shalim** 126.70 275 P PKiKP 15 15 17.7 -0.1
JASK **Jask - Hormozg** 126.75 285 P PKiKP 15 15 18.4 +0.6
ARU **Arti** 126.83 323 PKPdf 15 15 16.1 -0.3
ARU **Arti** 126.83 323 *i* PKiKP PKiKP 15 15 16.6 -0.3
ARU 15 21 31.2
AB31 **Akbulak array** 126.89 314 *i* PKiKP PKPdf 15 15 16.0 -0.7
ILULI **Ilulissat** 126.92 20 *i* P PKPdf 15 15 15.5 -0.6
DMTO **DMTO** 127.22 274 P PKPdf 15 15 18.3 +0.1
SNR=5.8
ARQ **Araqi** 127.35 281 P PKiKP 15 15 19.0 0.0
SNR=15
DAG **Danmarks Havn** 127.36 5 *i* P PKPdf 15 15 15.9 -0.9
SOHO **SOHO** 127.53 282 *i* PKPdf PKPdf 15 15 17.9 -0.8
SNR=36
SOHO **SOHO** 127.53 282 P PKPdf 15 15 18.4 -0.3
RBK **Rabkut** 127.83 273 P PKiKP 15 15 20.4 +0.3
SNR=28
AKTO **Aktyubinsk** 128.03 316 PKiKP PKPdf 15 15 18.2 -0.6
HATD **Hatta, Dubai** 128.05 283 *i* PKPdf PKPdf 15 15 19.2 -0.5
SNR=14
HATD **Hatta, Dubai** 128.05 283 P PKPdf 15 15 19.2 -0.5
SNR=18
ASHO **Ashiyiah** 128.08 283 *i* PKPdf PKPdf 15 15 19.4 -0.4
SNR=14
ASHO **Ashiyiah** 128.08 283 P PKPdf 15 15 19.3 -0.4
SNR=16
SUMG **Summit** 128.13 13 PKPdf 15 15 18.8 -0.1
SUMG **Summit** 128.13 13 PKiKP PKPdf 15 15 18.8 -0.1
SUMG **Summit** 128.13 13 *i* P PKPdf 15 15 17.8 -1.1
MSFE **Esma-Masafi** 128.14 284 *i* PKPdf PKPdf 15 15 19.7 -0.2
SNR=9.3
MASF **Masafi** 128.14 284 P PKiKP 15 15 20.2 -0.3
SNR=8.2
SFJD **Kangerlussuaq** 128.18 22 PKiKP 15 15 19.0 -0.3
SFJD **Kangerlussuaq** 128.18 22 PKP PKPdf 15 15 18.8 +0.3
comp=Z,22nm,0.5s,baz=182,slow=1.4,SNR=38
SFJD SKPbc SKPbc 15 17 44.3
comp=Z,17nm,1.0s,baz=254,slow=4.1,SNR=4.3
SFJD **Kangerlussuaq** 128.18 22 *i* P PKPdf 15 15 18.3 -0.2
ALNE **Al Ain** 128.21 282 *i* PKPdf PKPdf 15 15 19.8 -0.2
SNR=16
ALNE **Al Ain** 128.21 282 P PKiKP 15 15 20.8 +0.1
SNR=20
GEYT **Alibeck** 128.25 300 PKP PKiKP 15 15 20.1 -0.3
comp=Z,28nm,0.7s,baz=197,slow=1.5,SNR=36
GEYT PP PP 15 17 32.1 -1.6
comp=Z,5.8nm,0.9s,baz=64,slow=3.4,SNR=4.1
GEYT SKPbc SKPbc 15 17 47.1
comp=Z,9.5nm,0.7s,baz=85,slow=2.4,SNR=6.3
GYA0 **ALIBECK ARRAY** 128.25 300 PKiKP PKPdf 15 15 19.8 +0.1
WHFO **Wadi Hawf** 128.35 274 P PKiKP 15 15 21.0 -0.2
SNR=16
NAZ **Nazwa, Dubai** 128.50 283 *i* PKPdf PKPdf 15 15 20.3 -0.2
SNR=10
NAZ **Nazwa, Dubai** 128.50 283 P PKiKP 15 15 21.2 -0.1
SNR=12
FAQ **Al Faqa, Dubai** 128.51 283 *i* PKPdf PKPdf 15 15 20.5 0.0

SNR=10
FAQ Al Faqa, Dubai 128.51 283 P PKPdf 15 15 20.8 +0.2
SNR=6.5
ABTO Aybut 128.60 273 P PKiKP 15 15 21.4 -0.3
SNR=15
UMQ Umm Al-Quwin 128.62 284 P PKiKP 15 15 21.8 +0.4
ASUD Al Ashush, Dub 128.72 282 i PKPdf PKPdf 15 15 21.2 +0.3
SNR=8.6
ASUD Al Ashush, Dub 128.72 282 P PKiKP 15 15 21.4 -0.3
SNR=5.3
AJN Ajban 129.00 282 i PKPdf PKPdf 15 15 21.7 +0.3
SNR=5.8
NUUK Nuuk 129.08 26 i P PKiKP 15 15 21.0 -0.2
DY2G Dye2 129.93 22 i P PKPdf 15 15 21.7 -0.5
ICESG Greenland Ices 130.29 17 i P PKPdf 15 15 22.1 -0.9
LSZ Lusaka 130.70 219 PKP PKiKP 15 15 26.7 +0.6
comp=Z,21nm,0.5s,baz=178,slow=7.1,SNR=20
LSZ SKPbc SKPbc 15 17 55.0 -0.3
comp=Z,45nm,1.1s,baz=163,slow=3.3,SNR=28
LSZ Lusaka 130.70 219 P PKiKP 15 15 26.9 +0.8
JRN Qarnain Island 130.98 282 P PKiKP 15 15 26.0 -0.2
KIRV Kirov 131.00 327 i PKiKP PKPdf 15 15 24.1 0.0
VADS Vadso 131.27 346 ePKPdf PKiKP 15 15 25.0 -0.5
IVI Ivigtut 131.89 28 i P PKPdf 15 15 25.5 -0.2
HAMF Hammerfest 131.93 349 ePKPdf PKPdf 15 15 24.4 -1.3
APA Apatity 132.22 343 i PKiKP PKPdf 15 15 22.0 -4.2
APA i *PP PP 15 17 59.0 +1.4
APA i 15 18 35.2
APA pmax pmax
comp=Z,11nm,0.4s
TRNA Turayna 132.40 282 P PKiKP 15 15 29.0 0.0
TSUM Tsumeb 132.42 205 PKP PKiKP 15 15 29.6 0.0
comp=Z,17nm,0.5s,baz=155,slow=6.5,SNR=12
TSUM SKPbc SKPbc 15 18 00.5 -0.8
comp=Z,35nm,1.1s,baz=152,slow=5.2,SNR=13
ARA0 ARCESS Array S 132.53 347 ePKPdf PKPdf 15 15 26.4 -0.4
ARCES ARCESS Array B 132.53 347 PKhKP PKPpre 15 15 12.0
comp=Z,1.1nm,0.5s,baz=66,slow=2.1,SNR=11
ARCES PKP PKPdf 15 15 26.9 +0.1
comp=Z,33nm,0.7s,baz=42,slow=1.5,SNR=44
ARCES SKPbc SKPab 15 18 01.0 -1.0
comp=Z,19nm,0.8s,baz=45,slow=3.6,SNR=9.1
ARCES PKKP PKKPdf 15 25 19.1 -2.7
comp=Z,1.0nm,0.5s,baz=180,slow=0.8,SNR=11
ARCES SKKPbc SKKPbc 15 27 22.7 -4.1
comp=Z,3.3nm,0.6s,baz=191,slow=3.2,SNR=16
SMRA Abu-Samra 132.74 281 P PKiKP 15 15 29.5 -0.3
SCO Scoresbysund 132.83 9 PKPdf 15 15 27.6 +0.3
SCO Scoresbysund 132.83 9 PKiKP PKPdf 15 15 27.6 +0.3
SCO Scoresbysund 132.83 9 i P PKPdf 15 15 26.5 -0.8
SHMA Al-Shehemyia 132.84 283 P PKiKP 15 15 29.7 -0.2
ISOG Isortoq, Green 132.87 20 i P PKPdf 15 15 26.6 -0.8
ANGG Ammassalik, Gr 133.23 20 i P PKPdf 15 15 27.2 -0.9
SAKB Bahrain 133.24 283 P PKiKP 15 15 30.5 -0.3
KTK1 Kautokeino 133.41 348 ePKPdf PKPdf 15 15 28.3 -0.2
JETT Jettan, Norway 133.44 350 ePKPdf PKPdf 15 15 27.9 -0.6
TRO Tromso 133.60 350 ePKPdf PKPdf 15 15 29.1 +0.3
BELG Belogornoye 134.00 320 i PKiKP PKPdf 15 15 29.9 -0.1
KMBO Kilima Mbogo 134.43 241 PKPdf 15 15 31.6 -0.8
KMBO Kilima Mbogo 134.43 241 i PKiKP PKiKP 15 15 33.3 -0.6
SNR=6.4
KMBO Kilima Mbogo 134.43 241 PKP PKPdf 15 15 32.2 -0.1
comp=Z,9.7nm,0.8s,baz=63,slow=4.9,SNR=12
KMBO SKPbc SKPbc 15 18 07.2 -1.0
comp=Z,22nm,1.0s,baz=98,slow=2.7,SNR=12
KMBO Kilima Mbogo 134.43 241 eP PKiKP 15 15 33.4 -0.5
KLMR Klimovskoe 134.43 333 ePKiKP PKPpre 15 15 24.2
KLMR pmax pmax
comp=Z,102nm,1.5s
HARA HARA 134.70 258 eP PKiKP 15 15 35.9 +1.5
RCBR Riachuelo 134.72 128 SKPbc SKPbc 15 18 08.1 -0.8
comp=Z,22nm,0.6s,baz=230,slow=4.0,SNR=23
STEI Steigen 135.71 351 e PKPpre 15 15 25.9
LOF Lofoten 135.75 352 e PKPpre 15 15 27.6
ATD Arta Tunnel 136.02 261 PKP PKiKP 15 15 36.5 -0.3
comp=Z,0.3nm,0.4s,baz=42,slow=1.8,SNR=9.7
ATD SKPbc SKPbc 15 18 13.5 +0.8
comp=Z,0.4nm,0.6s,baz=53,slow=2.8,SNR=4.4
ATD Arta Tunnel 136.02 261 eP PKiKP 15 15 36.5 -0.3
MAK Makhachkala 136.16 307 eP Pdif 15 12 35.6 -7.1
MAK i 15 15 32.1
MAK e 15 21 27.1
MAK e 15 21 52.3
MAK eSSS SSS 15 40 50.0
MAK pmax pmax
comp=Z,424nm,1.1s
FAUS Fauske 136.21 351 e PKPpre 15 15 26.7
KONS Konsvik 137.35 351 e PKPpre 15 15 30.1
MOR8 Moi Rana 137.47 350 e PKPpre 15 15 26.7
DILA Dilla 137.74 251 eP PKPdf 15 15 39.0 +0.6
VRH Novokhopyorsk 137.85 320 ePKHKP PKPpre 15 15 26.7
VRH pmax pmax
comp=Z,75nm,1.5s
MOS Moscow 138.01 328 ePKiKP PKPdf 15 15 36.2 -1.1
MOS e 15 18 30.8
MOS pmax pmax
comp=Z,100nm,1.4s
FURI Furi 138.59 255 eP PKPdf 15 15 41.0 +0.9
GNI Garni 138.59 303 PKPpre 15 15 31.4
GNI Garni 138.59 303 PKPdf PKPpre 15 15 34.1
GNI Garni 138.59 303 i PKHKP PKPpre 15 15 33.6
GNI i 15 15 40.9
GNI Garni 138.59 303 PKhKP PKPpre 15 15 33.4
comp=Z,13nm,0.8s,baz=305,slow=5.3,SNR=7.5
GNI PKP PKiKP 15 15 40.4 -1.1
comp=Z,26nm,0.9s,baz=192,slow=3.4,SNR=9.6
LODK Lodwar 138.61 245 PKPpre 15 15 29.8
LODK Lodwar 138.61 245 eP PKiKP 15 15 41.7 -0.5
WLRA Wolmera 138.66 255 eP PKPdf 15 15 39.5 -0.8
DESE Dese 138.72 258 eP PKiKP 15 15 42.1 -0.5
LPSR Galich'ya Gora 138.85 323 ePKHKP PKPpre 15 15 29.6
LPSR pmax pmax
comp=Z,80nm,1.6s
OBN Obninsk 138.85 327 PKPpre 15 15 29.8
OBN Obninsk 138.85 327 ePKiKP PKPdf 15 15 38.3 -0.6
OBN e 15 18 38.2
OBN e 15 18 47.9
OBN i PPP PPP 15 21 51.3
OBN 15 21 56.0
OBN i 15 31 08.4
OBN i SS SS 15 36 07.8 -1.1
OBN i SSS SSS 15 41 26.2
OBN pmax pmax
comp=Z,28nm,1.4s
NCK Nalchik 138.88 308 i PKiKP PKPdf 15 15 39.8 +0.4
FINES FINESS Array B 138.90 340 PKhKP PKPpre 15 15 30.2
comp=Z,18nm,0.6s,baz=50,slow=3.7,SNR=68
FINES PKP PKPdf 15 15 39.1 +0.4
comp=Z,18nm,0.5s,baz=81,slow=3.8,SNR=10.0
FINES SKPbc SKPbc 15 18 20.8 +1.4
comp=Z,8.8nm,0.5s,baz=43,slow=3.7,SNR=6.2
FINES SKKPbc SKKPbc 15 27 02.0 -0.6
comp=Z,4.6nm,1.1s,baz=72,slow=18,SNR=4.0
GOF Gofitskoye 138.91 311 ce PKiKP PKPdf 15 15 36.0 -3.4
VSR Storozhevoye 139.32 321 ePKHKP PKPpre 15 15 32.1
VSR pmax pmax
comp=Z,60nm,0.7s
KBZ Khabaz 139.32 309 i PKiKP PKPdf 15 15 40.2 +0.1
KBZ Khabaz 139.32 309 PKhKP PKPpre 15 15 32.9
comp=Z,4.5nm,0.7s,baz=140,slow=1.1,SNR=14
KBZ SKPbc SKiKP 15 18 23.4 -0.4
comp=Z,4.1nm,0.7s,baz=64,slow=5.4,SNR=6.7
NSS Namsos 139.37 351 e PKPpre 15 15 32.6
KIV Kislovodsk 139.42 309 i PKPdf PKPpre 15 15 36.0
SNR=9.7
KIV Kislovodsk 139.42 309 d i PKiKP PKPdf 15 15 40.2 -0.3
KIV i 15 18 47.7
KIV i 15 18 49.9
KIV i PPP PPP 15 21 53.6
KIV i 15 31 16.5
KIV i SS SS 15 36 10.6 -6.3
KIV pmax pmax
comp=Z,73nm,1.4s
KIV pmax pmax
comp=Z,18nm,0.8s
MEF Metsahovi 140.37 340 eP PKPpre 15 15 36.0
ERBR Yeremizino-Bor 140.47 313 i PKiKP PKiKP 15 15 46.1 +1.2
RAF Rauma 140.49 342 eP PKPpre 15 15 36.4
LABN Labinsk 140.62 311 i PKHKP PKPpre 15 15 26.0
BCA Borcka 140.72 306 PKPpre 15 15 38.0
VSU Vasula 140.92 337 eP PKPdf 15 15 39.3 -3.2
SOC Sochi 141.60 310 ePKHKP PKPpre 15 15 35.7
SOC eSS SS 15 36 37.9 -3.7
SOC eSSS SSS 15 42 04.7
SOC pmax pmax
comp=Z,41nm,0.9s
MTSE Matsula 141.73 339 eP PKPdf 15 15 40.3 -3.7
MOL Molde 141.81 353 e PKPdf 15 15 40.8 -3.2
DOMB Dombas 142.15 352 e PKPpre 15 15 39.4
AKN Aaknes 142.25 353 ePKPdf PKPdf 15 15 41.7 -3.2
GRD1 Great Renaissa 142.77 255 eP PKPdf 15 15 44.2 -3.1
NB2 NORSAR Subarra 142.80 350 PKP PKPdf 15 15 42.9 -3.0
comp=Z,108nm,0.9s,baz=16,slow=3.2
NB2 SKPa 15 18 30.7
comp=Z,3.7nm,0.6s,baz=17,slow=2.6
NB2 SKKP 15 26 45.2
comp=Z,0.8nm,0.6s,baz=189,slow=4.6
NB2 NORSAR Subarra 142.80 350 PKPab PKPdf 15 15 42.9 -3.0
baz=16,slow=3.2
NOA NORSAR Array B 142.80 350 PKP PKPdf 15 15 43.5 -2.3
comp=Z,58nm,0.6s,baz=22,slow=3.9,SNR=383
NOA SKPbc SKiKP 15 18 30.9 +0.4
comp=Z,3.7nm,0.5s,baz=18,slow=4.2,SNR=4.3
NOA SKKPbc SKKPab 15 26 42.9 -3.1
comp=Z,1.7nm,0.8s,baz=192,slow=4.5,SNR=5.2
ANN Anapa 142.81 312 i PKHKP PKPpre 15 15 43.5
ANN pmax pmax
comp=Z,348nm,1.1s
FOO Floro 143.01 355 ePKPbc PKPab 15 15 43.0 -0.8
NC602 NORSAR Array S 143.03 349 ePKPbc PKPab 15 15 43.8 -0.2
SLIT Slitere, Latvi 143.09 339 eP PKPab 15 15 44.0 -0.2
HFS Hagfors 143.20 347 PKP PKPab 15 15 44.6 -0.1
comp=Z,248nm,0.5s,baz=72,slow=4.8,SNR=776
HFS SKKPbc SKKPbc 15 26 42.1 -3.5
comp=Z,4.5nm,0.8s,baz=254,slow=4.3,SNR=5.3
ISAL Salakas 143.24 334 eP PKPdf 15 15 47.1 +0.4
MNK Minsk 143.25 331 i PKiKP PKPbc 15 15 45.5 +0.2
MNK i 15 18 56.3
MNK i 15 21 57.0
MNK i PPP PPP 15 22 22.9
MNK pmax pmax
comp=E,12nm,15.1s
MNK pmax pmax
comp=N,33nm,9.2s
MNK pmax pmax
comp=Z,162nm,11.1s
HYA Hoyanger 143.33 354 ePKPbc PKPbc 15 15 45.2 -0.1
SKAR Skarslia 143.56 352 ePKPbc PKPbc 15 15 46.4 +0.2
SUE Sulen 143.56 355 ePKPbc PKPbc 15 15 46.1 0.0
SUE IVmB_BB 15 15 47.4
comp=Z,5μm,1.4s
VSVD Vaisvydziai 143.79 336 eP PKPdf 15 15 47.7 0.0
OSL Oslo 143.92 350 ePKPbc PKPab 15 15 47.3 -0.1
H10S2 ASCENSION HYDR 144.03 158 PKPbc PKPdf 15 15 49.3 +0.2
baz=20,slow=74,SNR=8.6
H10S3 ASCENSION HYDR 144.03 158 PKPbc PKPbc 15 15 48.6 0.0
baz=200,slow=74,SNR=7.4
PABE Paberze 144.13 335 eP PKPab 15 15 48.5 +0.2
BER Bergen 144.18 354 ePKPbc PKPab 15 15 48.3 -0.1
KONO Kongsberg 144.37 350 PKPdf 15 15 48.3 -0.3
KONO Kongsberg 144.37 350 ePKPbc PKPdf 15 15 48.5 -0.1
KONO IVmBBB 15 15 49.9
comp=Z,4μm,0.8s
KONO eSS SS 15 37 14.0 +3.0
KONO Kongsberg 144.37 350 PKiKP PKPdf 15 15 48.4 -0.2
PBUR Paburge 144.48 337 eP PKPab 15 15 49.5 -0.1
ODD1 Odda 144.51 353 ePKPbc PKPbc 15 15 49.4 +0.3
LRW Lerwick 144.74 360 eP PKPdf 15 15 49.1 0.0
SIM Simferopol' 144.95 314 x i PKiKP PKPab 15 15 51.4 -0.5
SIM pmax pmax
comp=Z,659nm,0.8s
AKASG Malin Array Be 145.00 325 PKP PKPbc 15 15 50.4 -0.5
comp=Z,86nm,0.5s,baz=45,slow=4.1,SNR=463
AKASG SKPbc SKPbc 15 18 35.0 +0.1
comp=Z,8.7nm,0.6s,baz=41,slow=2.6,SNR=7.1
AKASG SKKPbc SKKPab 15 26 35.6 -0.5
comp=Z,7.3nm,0.7s,baz=244,slow=4.2,SNR=21
BLS5 Blasjo 145.01 353 ePKPbc PKPbc 15 15 50.9 +0.3
KIEV Kiev 145.01 325 PKPab 15 15 51.6 -0.3
KIEV Kiev 145.01 325 PKPdf 15 15 49.3 -0.6
KIEV Kiev 145.01 325 i PKPdf PKPdf 15 15 50.2 +0.3
SNR=149
KIEV Kiev 145.01 325 PKiKP PKPab 15 15 51.6 -0.3
H10N3 ASCENSION HYDR 145.12 157 PKPbc PKPab 15 15 52.9 0.0
H10N1 ASCENSION HYDR 145.12 157 PKPbc PKPab 15 15 53.0 0.0
H10N2 ASCENSION HYDR 145.13 157 PKPbc PKPdf 15 15 49.8 -1.1
SNR=1.8
DIKM Dikmen 145.30 308 PKPab 15 15 52.8 -0.5
SUW Suwalki 145.55 334 ePKPdf PKPdf 15 15 49.9 -0.8
SUW ePKPbc PKPbc 15 15 51.6 -0.7
SUW Suwalki 145.55 334 eP PKPbc 15 15 51.9 -0.4
SNART Snartemo 145.98 352 ePKPbc PKPbc 15 15 53.5 +0.1
SNART Snartemo 145.98 352 i P PKPdf 15 15 50.0 -1.3
BEIL Beino 146.03 295 eP PKPbc 15 15 55.0 +0.6
HWQ Hawqa 146.25 295 eP PKPbc 15 15 55.3 +0.2
BIGH Upper Bighouse 146.35 2 eP PKPbc 15 15 54.2 -0.2
DEL Delary 146.50 345 i P PKPdf 15 15 51.0 -1.3
LEWI Lewis, Hebride 146.52 5 eP PKPdf 15 15 54.2 -0.7
BHL Bharnes 146.53 294 eP PKPbc 15 15 56.4 +0.5
MMAI Mount Meron Ar 146.82 293 PKPbc PKiKP 15 15 57.7 -0.8
comp=Z,183nm,0.5s,baz=72,slow=4.5,SNR=264
MMAI pPKPbc pPKPab 15 18 09.5 +1.1
comp=Z,15nm,0.8s,baz=118,slow=5.2,SNR=4.1
PURM Purcari 146.92 319 PKPbc 15 15 56.8 +0.5
SORM Soroca 146.94 322 PKPbc 15 15 56.6 +0.3
SORM Soroca 146.94 322 PKP2 PKPbc 15 15 56.6 +0.3
BRTR Keskin Array B 147.03 305 PKPbc PKPbc 15 15 57.0 0.0
comp=Z,45nm,0.6s,baz=134,slow=4.2,SNR=92
BRTR SKKPbc 15 26 26.5
comp=Z,0.3nm,0.3s,baz=208,slow=9.4,SNR=4.5
MCD Coleburn Disti 147.28 2 eP PKPbc 15 15 56.4 -0.5
KIS Kishinev 147.30 320 i PKP PKPbc 15 15 57.0 -0.3
comp=Z,410nm,1.7s
KIS Kishinev 147.30 320 ePKiKP PKPbc 15 15 57.0 -0.3
KIS e 15 16 01.0
KIS pmax pmax
comp=Z,410nm,1.6s
EIL Elat 147.32 287 PKPbc PKPbc 15 15 56.9 -1.0
comp=Z,137nm,0.9s,baz=0.2,slow=1.3,SNR=21
EIL SKKPbc 15 26 27.8
comp=Z,13nm,1.1s,baz=215,slow=4.4,SNR=5.8
MILM Milestii Mici 147.34 320 ePKP PKPdf 15 15 49.0 -5.0
comp=Z,1μm,1.9s
MILM Milestii Mici 147.34 320 PKP PKPbc 15 15 57.1 -0.3
MILM Milestii Mici 147.34 320 ePKHKP PKPpre 15 15 49.0
MILM e 15 16 01.0
MILM pmax pmax
comp=Z,1μm,1.9s
LUNU Lund 147.36 344 i P PKPbc 15 15 56.0 -1.1
BSD Bornholm Skovb 147.44 342 eP PKPbc 15 15 57.6 +0.3
BSD Bornholm Skovb 147.44 342 i P PKPbc 15 15 56.0 -1.3
BSD i P PKiKP 15 15 57.0 -1.9
MUD Monsted U'grnd 147.49 349 i P PKPbc 15 15 56.7 -0.7
COP Copenhagen 147.55 345 i P PKPbc 15 15 56.9 -0.7
ANTO Ankara 147.61 306 PKPdf 15 15 54.6 -0.2
ANTO PKPbc PKPbc 15 15 58.6 +0.2
ANTO Ankara 147.61 306 PKP2 PKPbc 15 15 58.6 +0.2
IAS Iasi 147.92 321 PKPbc 15 15 59.2 +0.4
IAS Iasi 147.92 321 PKP2 PKPbc 15 15 59.2 +0.4
DRUM Mains of Drumt 147.97 1 eP PKPbc 15 15 58.4 -0.2
VASR Vaslui 148.08 320 PKiKP 15 16 00.0 -0.5
BEL Belsk 148.14 334 ePKPdf PKPdf 15 15 55.1 -0.1
BEL ePKPbc PKiKP 15 16 00.1 -0.4
LVV L'vov 148.15 328 ePKP2 PKPbc 15 15 59.7 +0.3
TLCR 148.22 317 PKiKP 15 16 00.3 -0.5
TLCR 148.22 317 PKP2 PKiKP 15 16 00.3 -0.5
GKP Gorka Klasztor 148.31 338 ePKPdf PKPdf 15 15 55.6 +0.3
GKP ePKPbc PKiKP 15 16 00.2 -0.6
GKP Gorka Klasztor 148.31 338 eP PKiKP 15 16 00.2 -0.2
SSRD Sdr. Stenderup 148.33 348 i P PKPbc 15 15 59.5 0.0
VLDR Vladesti 148.34 319 PKiKP 15 16 01.0 -0.1
BIR Birlad 148.38 320 PKiKP 15 16 01.3 +0.1
BIR Birlad 148.38 320 PKP2 PKiKP 15 16 01.3 +0.1
INVG Invergeldie, C 148.41 3 eP PKPbc 15 15 59.6 -0.2
VARL Varlezi 148.44 319 PKiKP 15 16 01.2 -0.1
SCTR Scanteiesti 148.47 319 PKiKP 15 16 01.3 -0.1
TATR Tatarca 148.48 319 PKiKP 15 16 01.2 -0.2
LAWE Loch Awe, Argy 148.50 4 eP PKPbc 15 16 00.0 0.0
NEGRR Negrea 148.62 319 PKiKP 15 16 01.4 -0.2
GHRR 148.62 320 PKiKP 15 16 01.8 +0.2
TPGR Topolog 148.63 317 PKiKP 15 16 01.6 -0.2
CFR Carcaliu 148.64 318 PKPdf 15 15 56.4 +0.2
CFR Carcaliu 148.64 318 PKHKP PKPpre 15 15 56.4
SLCR Slobozia Conac 148.65 319 PKiKP 15 16 01.8 +0.1
SCHLR Schela 148.68 318 PKPdf 15 15 58.3 +2.1
IZVR Izvoarele 148.68 319 PKiKP 15 16 01.6 -0.1
TUDR 148.71 319 PKiKP 15 16 02.0 +0.2
TESR Tescani 148.81 321 PKiKP 15 16 01.7 -0.4
TIRR Tirgusor 148.83 316 PKiKP 15 16 01.9 -0.2
TIRR Tirgusor 148.83 316 PKP2 PKiKP 15 16 01.9 -0.2
EFOR EFORIE 148.87 316 PKiKP 15 16 02.2 0.0
PANC Panciu 148.87 320 PKiKP 15 16 02.2 0.0
KWP Kalwaria Pacla 148.91 329 ePKPbc PKiKP 15 16 01.9 -0.3
MFTR Murfatlar 148.96 316 PKiKP 15 16 02.1 -0.3
BURAR Bucovina Array 148.96 324 PKPdf 15 15 58.2 +1.5
ODBI Odobesti 148.99 319 PKiKP 15 16 02.8 +0.4
PGBU Glenifferbraes 149.00 3 eP PKPbc 15 16 00.7 -0.5
HARR Harsova 149.01 317 PKiKP 15 16 02.3 -0.2
TLBR Topalu 149.01 317 PKiKP 15 16 02.4 -0.1
MANR Mangalia 149.02 315 PKiKP 15 16 02.3 -0.2
VRI Vrincioaia 149.12 320 PKiKP 15 16 02.4 -0.4
VRI Vrincioaia 149.12 320 PKHKP PKPpre 15 16 02.4
PLOR Plostina 149.18 320 PKPbc 15 16 01.9 -0.1
PLOR Plostina 149.18 320 PKHKP PKPpre 15 16 01.9
GRER 149.24 319 PKiKP 15 16 03.6 +0.6
BISRR Bisoca 149.31 319 PKiKP 15 16 03.4 +0.2
ICOR Ion Corvin 149.38 316 PKiKP 15 16 03.4 +0.1
AMRR Amara 149.42 317 PKiKP 15 16 03.6 +0.3
AMRR Amara 149.42 317 PKHKP PKPpre 15 16 03.6
TURR Turia 149.43 321 PKiKP 15 16 03.6 +0.2
COVR Voineasa-Covas 149.44 320 PKPbc 15 16 02.9 +0.2
PGOR Pogoanele 149.48 318 PKiKP 15 16 04.3 +0.9
EKA Eskdalemuir Ar 149.54 2 PKPbc PKPbc 15 16 02.4 -0.1
comp=Z,14nm,0.4s,baz=347,slow=2.6,SNR=34
EKA pPKPbc pPKPbc 15 18 15.4 -0.1
comp=Z,13nm,0.8s,baz=335,slow=2.6,SNR=7.8
EKA SKKPbc 15 26 16.4
comp=Z,5.5nm,1.0s,baz=159,slow=4.3,SNR=3.5
OZUR 149.54 321 PKiKP 15 16 03.3 -0.3
ESK Eskdalemuir 149.55 2 PKPbc 15 16 02.5 -0.1
ESK Eskdalemuir 149.55 2 eP PKPbc 15 16 01.9 -0.7
ESK Eskdalemuir 149.55 2 PKHKP PKPpre 15 16 02.5
KOLS Kolonicke sedl 149.59 328 ePKHKP PKPpre 15 15 58.5
KOLS Kolonicke sedl 149.59 328 ePKP PKPdf 15 15 58.5 +0.9
KOLS e 15 16 04.2
NEHR Nehoiu 149.62 319 PKPbc 15 16 03.3 +0.2
CLGH Cloghs, Cushen 149.62 5 eP PKiKP 15 16 03.2 -0.2
BOSR Bodos 149.62 321 PKiKP 15 16 03.9 +0.1
ISR Istrita 149.64 319 PKiKP 15 16 03.7 -0.2
ISR Istrita 149.64 319 PKHKP PKPpre 15 16 03.7
BSEG Bad Segeberg 149.64 346 ePKPdf PKPdf 15 15 57.9 +0.5
baz=26,slow=2.3
BSEG ePKPbc PKiKP 15 16 03.5 +0.1
baz=26,slow=2.3
NEWG New Galloway 149.71 3 eP PKPbc 15 16 02.7 -0.2
ARCR ARCALIA 149.75 324 PKiKP 15 16 04.2 +0.2
OJC Ojcow 149.78 332 ePKPdf PKPdf 15 15 57.8 0.0
OJC ePKPbc PKiKP 15 16 03.9 -0.1
MLR Muntele Rosu 149.79 320 PKPbc 15 16 03.6 0.0
MLR Muntele Rosu 149.79 320 PKHKP PKPpre 15 16 03.6
BMR Baia Mare 149.83 325 PKiKP 15 16 04.0 -0.1
BMR Baia Mare 149.83 325 PKHKP PKPpre 15 16 04.0
DOPR Dopca 149.84 321 PKPbc 15 16 02.5 -1.2
HLG Helgoland 149.88 349 ePKPbc PKiKP 15 16 03.7 -0.3
baz=26,slow=2.3
GAL1 Galloway 149.94 4 eP PKPbc 15 16 03.1 -0.3
CRVS Cervenica-Dubn 150.00 329 ePKiKP PKPdf 15 15 58.8 +0.6
CRVS Cervenica-Dubn 150.00 329 ePKP PKPdf 15 15 58.8 +0.6
CRVS e 15 16 05.0
CRVS e 15 18 24.9
SULR 150.04 318 PKiKP 15 16 04.6 0.0
EDMD Edmundbyers 150.06 1 eP PKPbc 15 16 03.4 -0.4
RUE Ruedersdorf 150.08 341 eP PKiKP 15 16 05.0 +0.6
RUE Ruedersdorf 150.08 341 ePKPbc PKiKP 15 16 04.5 +0.1
baz=26,slow=2.3
NIE Niedzica 150.16 331 ePKPdf PKPdf 15 15 59.3 +0.8
NIE ePKPbc PKiKP 15 16 05.4 +0.6
KESW Keswick, Cumbr 150.28 2 eP PKPbc 15 16 04.4 +0.1
GORT1 Trebel 150.29 344 ePKPdf PKPdf 15 15 59.1 +0.7
baz=26,slow=2.3
GORT1 ePKPbc PKiKP 15 16 05.2 +0.4
baz=26,slow=2.3
MDB Medias 150.31 322 PKiKP 15 16 06.0 +0.8
MDB Medias 150.31 322 PKiKP 15 16 06.0 +0.8
VOIR 150.34 320 PKiKP 15 16 05.3 -0.1
VOIR 150.34 320 PKiKP 15 16 05.3 -0.1
CBBR Cluj-Babes-Bol 150.38 324 PKPbc 15 16 02.4 -2.4
CJR Cluj-Napoca 150.38 324 PKiKP 15 16 05.5 +0.1
CJR Cluj-Napoca 150.38 324 PKiKP 15 16 05.5 +0.1
MESR Meseseni 150.45 325 PKiKP 15 16 05.7 +0.3
MTUR Matau 150.45 320 PKiKP 15 16 07.4 +1.8
MTUR Matau 150.45 320 PKiKP 15 16 07.4 +1.8
SGRR Singureni 150.46 318 PKiKP 15 16 05.2 +0.2
RAZG Razgrad 150.46 316 PKiKP 15 16 05.7 +0.1
GDLE Glaisdale, N Y 150.47 359 eP PKPbc 15 16 04.9 +0.2
LOZB Loznitsa 150.51 316 PKiKP 15 16 05.6 -0.1
IOMK Kirk Michael 150.55 4 eP PKPbc 15 16 04.7 -0.2
KSP Ksiaz 150.65 337 ePKPdf PKPdf 15 15 59.5 +0.4
KSP ePKPbc PKiKP 15 16 06.3 +0.6
KSP ePKPab PKPab 15 16 15.5 +0.6
WIM Isle of Man 150.65 4 eP PKiKP 15 16 05.4 -0.2
MARR Marisel-Cluj 150.66 324 PKPdf 15 15 59.1 -0.3
STFAR Stefanesti-Arg 150.72 320 PKiKP 15 16 06.6 +0.5
LANS Liptovska Anna 150.72 331 ePKiKP PKPdf 15 16 00.5 +1.1
LANS Liptovska Anna 150.72 331 ePKP PKPdf 15 16 00.5 +1.1
LANS e 15 16 07.4
LANS e 15 18 20.8
LANS e 15 18 26.9
KECS Kecovo 150.75 329 ePKiKP PKiKP 15 16 07.1 +1.1
KECS e 15 16 16.6
KECS Kecovo 150.75 329 ePKP PKiKP 15 16 07.1 +1.1
KECS e 15 16 16.6
OKC Ostrava-Krasne 150.75 334 ePKP PKPbc 15 16 05.5 0.0
OKC Ostrava-Krasne 150.75 334 ePKiKP PKPbc 15 16 05.5 0.0
LTVH Ltavrtes, Hu 150.83 326 PKiKP 15 16 06.8 +0.6
HUMR Humele 150.89 319 PKPbc 15 16 05.8 -0.2
FLTG Flechtingen 150.91 344 ePKPdf PKPdf 15 15 59.4 0.0
baz=26,slow=2.3
FLTG ePKPbc PKiKP 15 16 06.2 +0.1
baz=26,slow=2.3
OSTC Ostas 150.92 336 ePKPDF PKPdf 15 16 00.2 +0.6
OSTC ePKP PKiKP 15 16 06.7 +0.4
OSTC Ostas 150.92 336 ePKiKP PKPdf 15 16 00.2 +0.6
HPK Haverah Park 150.94 0 eP PKPbc 15 16 05.8 0.0
CHVC Chvalec 150.95 337 PKP PKiKP 15 16 06.5 +0.1
CHVC Chvalec 150.95 337 ePKiKP PKiKP 15 16 06.5 +0.1
COPA Copaceanca 150.97 318 PKPbc 15 16 06.2 0.0
RETH Rethem/Aller, 150.97 346 ePKPdf PKPdf 15 15 60.0 +0.5
baz=26,slow=2.3
RETH ePKPbc PKiKP 15 16 06.6 +0.4
baz=26,slow=2.3
NRDL Niedersach Rie 151.03 345 ePKPdf PKPdf 15 15 59.9 +0.4
baz=26,slow=2.3
NRDL ePKPbc PKiKP 15 16 06.7 +0.4
baz=26,slow=2.3
UPC Upice 151.03 337 ePKPDF PKPdf 15 16 01.1 +1.4
UPC ePKP PKiKP 15 16 07.0 +0.5
UPC Upice 151.03 337 ePKiKP PKPdf 15 16 01.1 +1.4
MORC Moravsky Berou 151.04 334 PKP PKPdf 15 16 00.1 +0.3
MORC Moravsky Berou 151.04 334 ePKP PKPdf 15 16 00.4 +0.6
MORC e 15 16 06.9
MORC e 15 18 19.1
MORC Moravsky Berou 151.04 334 PKiKP PKPdf 15 16 00.1 +0.3
DPC Dobruska-Polom 151.05 336 ePKPDF PKPdf 15 16 00.6 +0.8
DPC ePKP PKiKP 15 16 06.8 +0.2
DPC Dobruska-Polom 151.05 336 ePKiKP PKPdf 15 16 00.6 +0.8
KSL Kastellorizon 151.06 300 P PKPbc 15 16 05.4 -1.3
LOT Lotru 151.06 322 PKPbc 15 16 06.3 -0.2
KULA Kula-Manisa 151.09 305 P PKPbc 15 16 06.9 +0.1
BORR Bors 151.09 326 PKiKP 15 16 07.5 +0.8
KRLC Kraliky 151.10 335 ePKPDF PKPdf 15 15 59.9 0.0
KRLC ePKP PKiKP 15 16 06.6 -0.1
KRLC Kraliky 151.10 335 ePKiKP PKPdf 15 15 59.9 0.0
EDRB Edirne 151.13 313 P PKPbc 15 16 06.4 -0.3
H07S1 FLORES T-PHASE 151.14 53 PKPbc PKiKP 15 16 09.4 +2.3
SNR=8.9
ELND Elena 151.18 316 PKPbc 15 16 07.3 +0.3
ASSE Asse, Remlinge 151.23 344 ePKPdf PKPdf 15 16 00.2 +0.3
baz=26,slow=2.3
ASSE ePKPbc PKiKP 15 16 07.1 +0.3
baz=26,slow=2.3
MAUC Maruska 151.25 333 ePKPDF PKPdf 15 16 01.9 +1.8
MAUC ePKP PKiKP 15 16 07.4 +0.3
DEV Deva 151.28 323 PKPbc 15 16 07.2 0.0
DEV Deva 151.28 323 PKiKP PKiKP 15 16 07.2 0.0
CLL Collm 151.34 341 ePKPdf PKPdf 15 16 00.4 +0.2
baz=26,slow=2.3
CLL ePKPbc PKiKP 15 16 07.5 +0.4

Sta	Name	Dist	Az	Phase	ID	Time	Res
	baz=26,slow=2.3						
WPS	Cemaes, Angles	151.41	4	eP	PKPbc	15 16 06.3	-0.6
BRG	Berggiesshubel	151.43	339	⇓iPKPf		15 16 01.0	
BRG				Amp		15 16 02.9	
	comp=Z,98nm,1.6s						
BRG				PKPab	PKiKP	15 16 07.8	+0.5
BRG				Amp		15 16 09.0	
	comp=Z,121nm,0.7s						
BRG				⇑PKP	PKPab	15 16 19.0	+0.9
BRG				Amp		15 16 20.8	
	comp=Z,69nm,1.1s						
BRG	Berggiesshubel	151.43	339	i PKIKP	PKPdf	15 16 00.9	+0.6
BRG				pmax	pmax		
	comp=Z,98nm,1.6s						
BRG	Berggiesshubel	151.43	339	ePKPdf	PKPdf	15 16 00.7	+0.4
	baz=26,slow=2.3						
BRG				ePKPbc	PKiKP	15 16 07.8	+0.5
	baz=26,slow=2.3						
LMK	Market Rasen	151.43	359	eP	PKPbc	15 16 06.9	0.0
PSZ	Piszkesteto	151.43	329	⇑P	PKPdf	15 16 00.4	-0.1
PSZ	Piszkesteto	151.43	329	⇑PKIKP	PKPdf	15 16 00.4	-0.1
VYHS	Vyhne	151.49	331	ePKIKP	PKPdf	15 16 00.6	+0.1
VYHS				e		15 16 19.8	
VYHS	Vyhne	151.49	331	ePKP	PKPdf	15 16 00.6	+0.1
VYHS				e		15 16 08.1	
VYHS				e		15 16 19.8	
VYHS				e		15 18 27.2	
LBWR	Ladybower, Pea	151.50	0	eP	PKPbc	15 16 06.4	-0.7
PVCC	Panska Ves	151.52	338	⇑ePKP	PKiKP	15 16 08.0	+0.5
PVCC	Panska Ves	151.52	338	ePKIKP	PKiKP	15 16 08.0	+0.5
WLF1	Llynfaes	151.53	4	eP	PKPbc	15 16 07.2	0.0
VLAD	Vladila	151.53	319	⇑P	PKiKP	15 16 08.5	+0.8
CLZ	Clausthal	151.57	344	ePKPdf	PKPdf	15 16 01.2	+0.7
	baz=26,slow=2.3						
CLZ				ePKPbc	PKiKP	15 16 08.2	+0.6
	baz=26,slow=2.3						
FBE	Freiberg	151.57	340	ePKPdf	PKPdf	15 16 01.2	+0.7
	baz=26,slow=2.3						
FBE				ePKPbc	PKiKP	15 16 08.2	+0.6
	baz=26,slow=2.3						
RICC	Richard	151.66	339	⇑ePKP	PKPbc	15 16 07.6	0.0
SIRR	Siria	151.70	325	⇑P	PKiKP	15 16 08.7	+0.6
IBBN	Ibbenburen	151.70	348	ePKPdf	PKPdf	15 16 01.0	+0.4
	baz=26,slow=2.3						
IBBN				ePKPbc	PKiKP	15 16 08.2	+0.4
	baz=26,slow=2.3						
JAVC	Velka Javorina	151.71	333	ePKP	PKPdf	15 16 02.3	+1.4
JAVC				e		15 16 09.4	
JAVC				e		15 18 20.4	
PLVB	Pleven	151.73	317	⇓P	PKiKP	15 16 08.7	+0.5
NEUB	Neuenburg	151.78	342	ePKPdf	PKPdf	15 16 01.5	+0.7
	baz=26,slow=2.3						
NEUB				ePKPbc	PKiKP	15 16 08.4	+0.4
	baz=26,slow=2.3						
SURR	Surduc	151.78	324	⇓P	PKiKP	15 16 08.1	-0.1
VRAC	Vranov	151.79	335	⇑P	PKiKP	15 16 08.8	+0.7
VRAC	Vranov	151.79	335	ePKP	PKPdf	15 16 01.1	+0.2
VRAC				e		15 16 08.4	
VRAC				e		15 16 19.6	
VRAC				e		15 18 20.1	
VRAC	Vranov	151.79	335	⇑PKIKP	PKiKP	15 16 08.8	+0.7
YER	Yerkesik	151.80	303	P	PKPbc	15 16 06.9	-1.5
STNC	Stoke	151.80	1	eP	PKiKP	15 16 08.3	+0.3
HSKC	Hora Svate Kat	151.82	340	⇑ePKP	PKiKP	15 16 08.3	+0.1
SRE	Strehaia	151.85	321	⇑P	PKiKP	15 16 09.2	+0.8
SRE	Strehaia	151.85	321	⇑PKIKP	PKiKP	15 16 09.2	+0.8
GTTG	Gottingen	151.94	345	ePKPdf	PKPdf	15 16 01.3	+0.3
	baz=26,slow=2.3						
GTTG				ePKPbc	PKiKP	15 16 08.9	+0.5
	baz=26,slow=2.3						
PRA	Prague	151.95	338	⇑ePKP	PKiKP	15 16 08.5	+0.1
PRA	Prague	151.95	338	ePKIKP	PKiKP	15 16 08.5	+0.1
GOPC	GO Pecny, Ondr	151.96	337	⇑ePKP	PKPbc	15 16 08.3	0.0
GOPC				ePKPAB	PKPab	15 16 21.6	+1.1
GOPC	GO Pecny, Ondr	151.96	337	ePKIKP	PKPbc	15 16 08.3	0.0
GOPC				e		15 16 21.6	
FOEL	Foel Wylfa	151.98	2	eP	PKPbc	15 16 08.0	-0.2
PRU	Pruhonice	151.98	338	⇑ePKP	PKPbc	15 16 08.3	0.0
PRU				ex	x	15 16 15.3	
PRU	Pruhonice	151.98	338	ePKIKP	PKPbc	15 16 08.3	0.0
LLW	Llanuwychllyn	152.00	3	eP	PKPbc	15 16 07.7	-0.5
ALN	Alexandroupoli	152.03	312	P	PKPbc	15 16 07.2	-1.5
KRUC	Moravsky	152.06	334	ePKP	PKPdf	15 16 01.5	+0.2
KRUC				e		15 16 08.9	
KRUC				e		15 16 21.0	
KRUC				e		15 18 20.8	
SMOL	Smolenice	152.08	333	ePKIKP	PKiKP	15 16 09.8	+1.0
SMOL				e		15 18 23.1	
AMBH	Ambrzfalva	152.12	326	⇑P	PKiKP	15 16 09.7	+0.9
WACR	West Acre	152.13	357	eP	PKiKP	15 16 08.6	-0.1
BZS	Buzias	152.15	324	⇑P	PKPdf	15 16 01.4	-0.1
BZS	Buzias	152.15	324	⇑PKIKP	PKPdf	15 16 01.4	-0.1
BAIL	Bailesti	152.15	320	⇑P	PKiKP	15 16 09.9	+0.9
CWF	Charnwood Fore	152.16	360	eP	PKiKP	15 16 08.6	-0.1
HERR	Herculane	152.17	322	⇓P	PKPbc	15 16 08.4	-0.5
ARG	Arkhangelos	152.18	301	P	PKPbc	15 16 07.1	-2.1
TREC	Trest	152.22	336	⇑ePKP	PKPbc	15 16 08.8	-0.1
TREC				ePKPAB	PKPab	15 16 21.9	+0.3
TREC	Trest	152.22	336	ePKIKP	PKPbc	15 16 08.8	-0.1
TREC				e		15 16 21.9	
SRO	Srobarova	152.23	331	ePKIKP	PKiKP	15 16 09.5	+0.4
SRO				e		15 16 22.8	
SRO				e		15 18 23.8	
SRO	Srobarova	152.23	331	ePKP	PKiKP	15 16 09.5	+0.4
SRO				e		15 16 22.8	
SRO				e		15 18 23.8	
DJES	Djerdap	152.24	321	⇓P	PKiKP	15 16 09.2	0.0
MODS	Modra-Piesok	152.25	333	ePKIKP	PKPdf	15 16 02.4	+0.8
MODS	Modra-Piesok	152.25	333	ePKP	PKPdf	15 16 02.4	+0.8
MODS				e		15 16 09.6	
MODS				e		15 16 23.1	
MODS				e		15 18 23.2	
RDO	Rodhopi	152.26	312	P	PKPbc	15 16 08.4	-0.8
TANN	Tannenbergstha	152.29	341	ePKPdf	PKPdf	15 16 01.7	+0.1
	baz=26,slow=2.3						
TANN				ePKPbc	PKiKP	15 16 09.6	+0.4
	baz=26,slow=2.3						
EZN	Ezine	152.29	309	P	PKPbc	15 16 08.3	-1.0
WERD	Werda	152.31	341	ePKPdf	PKPdf	15 16 02.0	+0.3
	baz=26,slow=2.3						
WERD				ePKPbc	PKiKP	15 16 09.7	+0.5
	baz=26,slow=2.3						
PLN	Plauen	152.32	341	ePKPdf	PKPdf	15 16 01.9	+0.2
	baz=26,slow=2.3						
PLN				ePKPbc	PKiKP	15 16 09.6	+0.4
	baz=26,slow=2.3						
MOX	Moxa	152.33	342	ePKPdf	PKPdf	15 16 01.8	+0.2
	baz=26,slow=2.3						
MOX				ePKPbc	PKiKP	15 16 09.6	+0.4
	baz=26,slow=2.3						
GUNZ	Gunzen	152.37	341	ePKPdf	PKPdf	15 16 02.4	+0.6
	baz=26,slow=2.3						
GUNZ				ePKPbc	PKiKP	15 16 09.9	+0.6
	baz=26,slow=2.3						
WERN	Wernitzgruen	152.43	341	ePKPdf	PKPdf	15 16 02.1	+0.3
	baz=26,slow=2.3						
WERN				ePKPbc	PKiKP	15 16 10.3	+0.8
	baz=26,slow=2.3						
NKC	Novy Kostel	152.45	340	⇑ePKP	PKiKP	15 16 09.7	+0.2
NKC	Novy Kostel	152.45	340	ePKIKP	PKiKP	15 16 09.7	+0.2
DAT	Datca	152.46	302	P	PKPbc	15 16 09.1	-0.8
ZST	Bratislava	152.46	332	ePKIKP	PKPdf	15 16 03.0	+1.1
ZST	Bratislava	152.46	332	ePKP	PKPdf	15 16 03.0	+1.1
ZST				e		15 16 10.2	
ZST				e		15 18 24.1	
BANR	Banloc	152.56	324	⇓P	PKiKP	15 16 10.5	+0.7
PRK	Paraskevi	152.56	308	P	PKPbc	15 16 09.4	-0.5
BODT	Bodrum	152.56	303	P	PKPbc	15 16 08.7	-1.3
SMTH	Samothraki Isl	152.57	311	P	PKPbc	15 16 08.5	-1.4
ZVC	Zvikov	152.57	337	ePKPDF	PKPdf	15 16 02.0	0.0
ZVC				⇑ePKP	PKiKP	15 16 09.8	+0.1
ZVC				ePKPAB	PKPab	15 16 23.3	+0.2
UBBA	Unterbreizbach	152.60	344	ePKPdf	PKPdf	15 16 02.0	+0.1
	baz=26,slow=2.3						
UBBA				ePKPbc	PKiKP	15 16 10.7	+1.1
	baz=26,slow=2.3						
KASTN	Kahler Asten	152.61	346	ePKPdf	PKPdf	15 16 02.0	-0.1
	baz=26,slow=2.3						
KASTN				ePKPbc	PKiKP	15 16 10.2	+0.4
	baz=26,slow=2.3						
MDVR	Moldovita	152.62	322	⇓P	PKPdf	15 16 02.3	0.0
SMG	Samos	152.71	305	P	PKPbc	15 16 09.2	-1.1
ELMS	Elmsett, Ipswi	152.74	357	eP	PKPbc	15 16 09.7	-0.2
BLKB	Belogradchik	152.77	319	⇑P	PKiKP	15 16 10.5	+0.1
MANZ	Manzenberg	152.77	341	ePKPdf	PKPdf	15 16 02.3	-0.1
	baz=26,slow=2.3						
MANZ				ePKPbc	PKiKP	15 16 10.8	+0.6
	baz=26,slow=2.3						
SIGR	SIGRI	152.87	308	P	PKPbc	15 16 09.5	-1.1
MCH1	Michaelchurch	152.88	2	eP	PKPbc	15 16 09.6	-0.6
ROTZ	Rotzenmuhle	152.94	340	ePKPdf	PKPdf	15 16 02.5	-0.1
	baz=26,slow=2.3						
ROTZ				ePKPbc	PKiKP	15 16 10.9	+0.4
	baz=26,slow=2.3						
KAVA	Kavala	153.01	313	P	PKPbc	15 16 10.2	-0.6
MONM	Monmouth	153.04	2	eP	PKPbc	15 16 09.9	-0.6
KHC	Kasperske Hory	153.04	338	ePKPDF	PKPdf	15 16 02.9	+0.1
KHC				⇑ePKP	PKiKP	15 16 11.0	+0.2
KHC				ePKPAB	PKPab	15 16 26.0	+0.8
KHC				epPKP	pPKPbc	15 18 25.0	+0.9
KHC	Kasperske Hory	153.04	338	ePKIKP	PKPdf	15 16 02.9	+0.1
KHC				e		15 16 26.0	
CHOS	Chios island	153.05	307	P	PKPbc	15 16 10.6	-0.5
CKRC	Cesky Krumlov	153.05	337	ePKPDF	PKPdf	15 16 03.1	+0.3
CKRC				⇑ePKP	PKiKP	15 16 11.2	+0.4
CKRC	Cesky Krumlov	153.05	337	ePKIKP	PKPdf	15 16 03.1	+0.3
LIA	Limnos Island	153.06	310	P	PKPbc	15 16 09.8	-1.1
THAS	Thassos island	153.06	312	P	PKPbc	15 16 10.8	-0.1
KARP	Karpathos	153.12	300	P	PKPbc	15 16 10.2	-1.1
CONA	Conrad Observa	153.19	334	ePKP	PKPdf	15 16 02.2	-0.9
	comp=Z,37nm,1.5s,SNR=9.5						
CONA				i PKP	PKPab	15 16 27.1	+1.2
	comp=Z,36nm,0.7s						
CONA				i pPKiKP	pPKiKP	15 18 25.2	+0.4
	comp=Z,17nm,1.1s						
RONA	Rosalia, Austr	153.19	333	i PKP	PKPdf	15 16 02.9	-0.1
	comp=Z,42nm,1.5s,SNR=9.2						
RONA				i PKP	PKPab	15 16 27.0	+1.1
	comp=Z,129nm,1.5s						
RONA				i pPKP	pPKPbc	15 18 25.1	+0.7
	comp=Z,16nm,1.0s						
GEC2	GERESS Array S	153.25	337	ePKPdf	PKPdf	15 16 02.9	-0.3
	baz=26,slow=2.3						
GEC2				ePKPbc	PKiKP	15 16 11.5	+0.2
	baz=26,slow=2.3						
GERES	GERESS Array B	153.25	337	PKP	PKPdf	15 16 02.8	-0.3
	comp=Z,4.1nm,0.8s,baz=11,slow=2.7,SNR=17						
GERES				PKPbc	PKiKP	15 16 11.4	+0.2
	comp=Z,10nm,0.5s,baz=26,slow=2.5,SNR=28						
GERES				PKPab	PKPab	15 16 26.3	+0.2
	comp=Z,12nm,0.6s,baz=46,slow=3.9,SNR=11						
GERES				pPKPbc	pPKPbc	15 18 24.9	+0.3
	comp=Z,4.1nm,0.7s,baz=351,slow=2.6,SNR=3.6						
MORH	Mrgy, Hungar	153.25	328	⇑P	PKPdf	15 16 02.9	-0.1
NVR	Nevrokopi	153.27	314	P	PKPbc	15 16 11.4	0.0
WET	Wettzell	153.27	339	ePKPdf	PKPdf	15 16 03.1	0.0
	baz=26,slow=2.3						
WET				ePKPbc	PKiKP	15 16 11.8	+0.6
	baz=26,slow=2.3						
GRF	Grafenberg Arr	153.30	341	ePKPdf	PKPdf	15 16 03.6	+0.5
	baz=26,slow=2.3						
GRF				ePKPbc	PKiKP	15 16 11.8	+0.6
	baz=26,slow=2.3						
GRFO	Grafenberg	153.30	341		PKPdf	15 16 03.2	+0.1
GRFO					PKPab	15 16 27.0	+0.8
GRFO	Grafenberg	153.30	341	PKIKP	PKPdf	15 16 03.2	+0.1
GRFO						15 16 27.0	
BOVS	Bovan	153.33	320	⇓P	PKPbc	15 16 10.9	-0.6
FRGS	Fruska Gora	153.40	325	⇓P	PKiKP	15 16 11.9	+0.3
KOKK	Kokkinochori,	153.44	313	P	PKPbc	15 16 11.2	-0.6
AHRW	Bad Neuenahr-A	153.51	348	ePKPdf	PKPdf	15 16 04.6	+1.3
	baz=26,slow=2.3						
BEBN	Eben Emael	153.52	350	dPKiKP	PKPbc	15 16 11.3	-0.3
BEBN				dPKP	PKPab	15 16 27.2	+0.2
TNS	Taunus Mts	153.53	346	ePKPdf	PKPdf	15 16 03.7	+0.2
	baz=26,slow=2.3						
TNS				ePKPbc	PKiKP	15 16 12.1	+0.4
	baz=26,slow=2.3						
SRS	Serrai	153.56	314	P	PKPbc	15 16 09.2	-2.8
MEM	Membach	153.64	349	dPKPdf	PKPdf	15 16 03.0	-0.5
MEM				dPKiKP	PKiKP	15 16 12.0	+0.1
MEM				dPKP	PKPab	15 16 27.9	+0.3
MEM				dpPKP	pPKPab	15 18 32.2	-2.7
BTNL	Ternell	153.65	349	dPKPdf	PKPdf	15 16 03.4	-0.2
BTNL				dPKiKP	PKiKP	15 16 12.2	+0.2
BTNL				dPKP	PKPab	15 16 26.9	-0.8
BTNL				dpPKP	pPKPab	15 18 32.2	-2.8
OUR	Ouranopolis	153.68	312	P	PKPbc	15 16 11.0	-1.3
BSTI	Sart Tilman	153.74	350	dPKPdf	PKPdf	15 16 03.9	+0.2
BSTI				dPKiKP	PKiKP	15 16 12.5	+0.4
BSTI				dPKP	PKPab	15 16 27.4	-0.6
MOA	Molln	153.88	335	i PKP	PKPdf	15 16 03.4	-0.5
	comp=Z,12nm,0.7s,SNR=6.4						
MOA				ePKP	PKPab	15 16 30.2	+1.5
	comp=Z,56nm,1.1s						
BHOU	Houvegnez	153.89	349	dPKPdf	PKPdf	15 16 04.3	+0.4
BHOU				dPKiKP	PKPbc	15 16 12.1	-0.3
BHOU				dPKP	PKPab	15 16 29.1	+0.4
APE	Apeiranthos	153.91	304	⇑P	PKPbc	15 16 11.6	-1.4
APE	Apeiranthos	153.91	304	P	PKPbc	15 16 11.5	-1.4
APE	Apeiranthos	153.91	304	⇑PKIKP	PKPbc	15 16 11.6	-1.4
BCLA	Clavier	153.94	350	dPKPdf	PKPdf	15 16 03.4	-0.6
BCLA				dPKiKP	PKiKP	15 16 12.9	+0.4
BCLA				dPKP	PKPab	15 16 28.7	-0.2
BCLA				dpPKP	pPKPbc	15 18 27.1	+1.1
ZKR	Zakros	153.98	300	P	PKPbc	15 16 11.2	-1.9
KNT	Kendrikon	153.99	315	P	PKPbc	15 16 11.4	-1.5
BGES	Gesves	154.01	350	dPKiKP	PKiKP	15 16 13.5	+0.8
BGES				dPKP	PKPab	15 16 29.2	0.0
PAIG	Paliouri	154.08	312	P	PKPbc	15 16 09.1	-4.0
BMRD	Maredsous	154.14	351	dPKPdf	PKPdf	15 16 04.6	+0.4
BMRD				dPKiKP	PKPbc	15 16 12.6	-0.3
BMRD				dPKP	PKPab	15 16 29.3	-0.4
HORT	Hortiatis	154.14	313	P	PKPab	15 16 27.9	-2.4
KOGS	Kog	154.19	331	ePKPdf	PKPdf	15 16 03.7	-0.7
KOGS				i PKPdif	PKPbc	15 16 13.0	-0.2
KOGS				i PKPab	PKPab	15 16 30.2	+0.1
RCHB	Rochefort	154.21	350	dPKPdf	PKPdf	15 16 04.1	-0.2
RCHB				dPKiKP	PKPbc	15 16 13.2	+0.2
RCHB				dPKP	PKPab	15 16 28.1	-1.9
BIOA	Bad Ischl, Aus	154.24	336	i PKP	PKPdf	15 16 04.6	+0.1
	comp=Z,28nm,1.4s,SNR=7.1						
BIOA				i PKP	PKPab	15 16 31.2	+0.8
	comp=Z,128nm,1.6s						
BIOA				i pPKP	pPKPbc	15 18 26.3	-0.5
	comp=Z,24nm,1.7s						
KYMI	Kymi, Euboea I	154.36	309	P	PKiKP	15 16 13.0	-0.8
DOU	Dourbes	154.36	351	dPKiKP	PKPbc	15 16 13.7	+0.3
DOU				dPKP	PKPab	15 16 28.1	-2.6
DOU				dpPKP	pPKPab	15 18 34.1	-3.8
GRG	Griva	154.42	315	P	PKiKP	15 16 12.4	-1.5
SOKA	Soboth	154.53	333	i PKP	PKPdf	15 16 04.7	-0.3
	comp=Z,36nm,1.4s,SNR=8.5						
SOKA				i PKP	PKPab	15 16 31.9	+0.2
	comp=Z,90nm,1.5s						
SOKA				i pPKP	pPKPbc	15 18 26.0	-1.4
	comp=Z,16nm,1.4s						
WLF	Walferdange	154.53	348	dPKPdf	PKPdf	15 16 05.1	+0.3
WLF				dPKiKP	PKiKP	15 16 12.9	-0.9
WLF				dPKP	PKPab	15 16 31.4	0.0
WLF				dpPKP	pPKPab	15 18 35.0	-3.7
WLF	Walferdange	154.53	348	ePKPdf	PKPdf	15 16 05.4	+0.7
	baz=26,slow=2.3						
WLF				ePKPbc	PKPbc	15 16 14.3	+0.6
	baz=26,slow=2.3						
FUR	Furstenfeldbru	154.64	340	ePKPdf	PKPdf	15 16 04.7	-0.4
	baz=26,slow=2.3						
STU	Stuttgart	154.69	343	ePKPdf	PKPdf	15 16 05.1	0.0
	baz=26,slow=2.3						
DION	Dionisos Attik	154.71	307	P	PKPdf	15 16 08.9	+3.5
PTL	Penteli	154.77	307	P	PKiKP	15 16 13.8	-0.9
LESA	Schwarzleotal	154.81	337	ePKP	PKPdf	15 16 05.0	-0.4
	comp=Z,45nm,1.3s						
LESA				i PKP	PKPab	15 16 33.7	+0.8
	comp=Z,82nm,1.7s						
LESA				i pPKP	pPKPbc	15 18 27.4	-0.7
	comp=Z,15nm,1.2s						
ATHU	Athens Univers	154.86	307	P	PKiKP	15 16 14.8	0.0
OBKA	Obir	154.86	333	ePKP	PKPdf	15 16 05.6	+0.1
	comp=Z,19nm,1.4s						
OBKA				i PKP	PKPab	15 16 33.6	+0.5
	comp=Z,16nm,0.7s						
OBKA				epPKP	pPKPbc	15 18 28.2	0.0
	comp=Z,24nm,2.0s						
KBA	Koelnbreinsper	154.86	336	ePKP	PKPdf	15 16 05.0	-0.6
	comp=Z,21nm,1.6s						
KBA				i PKP	PKPab	15 16 34.6	+1.4
	comp=Z,33nm,0.8s						
VLY	Voula,Athens	154.90	307	P	PKiKP	15 16 12.9	-2.0
VILL	Villia	155.12	308	P	PKPdf	15 16 14.6	+8.6
MYKA	Terra Mystica	155.12	335	i PKP	PKPdf	15 16 05.9	+0.2
	comp=Z,27nm,1.6s,SNR=5.6						
MYKA				i PKP	PKPab	15 16 34.1	-0.1
	comp=Z,43nm,0.6s,SNR=5.5						
MYKA				i pPKP	pPKPbc	15 18 27.1	-1.7
	comp=Z,18nm,1.7s						
TYRN	Tyrnavos	155.16	312	P	PKPdf	15 16 14.0	+8.1
FNA	Florina	155.17	315	P	PKPdf	15 16 13.5	+7.5
LJU	Ljubljana	155.24	333	i PKPdf	PKPdf	15 16 05.7	-0.2
LJU				i PKPdif	PKPab	15 16 15.4	-19
LJU				i PKPab	PKPab	15 16 34.6	-0.1
PHP	Peshkopia	155.24	318	P	PKPdf	15 16 15.6	+10
WATA	Walderalm	155.27	338	i PKP	PKPdf	15 16 05.8	-0.2
	comp=Z,48nm,1.5s,SNR=11						
WATA				i PKP	PKPab	15 16 36.3	+1.4
	comp=Z,67nm,1.4s						
WATA				i pPKP	pPKPbc	15 18 28.3	-0.9
	comp=Z,19nm,1.2s						
AXAR	Agios Charalam	155.31	310	P	PKPdf	15 16 15.3	+9.1
WTTA	Wattenberg	155.31	338	i PKP	PKPdf	15 16 06.0	-0.1
	comp=Z,67nm,1.5s,SNR=13						
WTTA				i PKP	PKPab	15 16 35.1	0.0
	comp=Z,37nm,0.9s						
WTTA				i pPKP	pPKPbc	15 18 27.9	-1.4
	comp=Z,32nm,1.7s						
BFO	Black Forest	155.32	344		PKPdf	15 16 05.1	-0.8
BFO					PKPab	15 16 35.1	+0.2
BFO	Black Forest	155.32	344	PKIKP	PKPdf	15 16 05.1	-0.8
BFO						15 16 35.1	
BFO	Black Forest	155.32	344	ePKPdf	PKPdf	15 16 05.2	-0.8
	baz=26,slow=2.3						
BOJS	Bojanci	155.36	331	i PKPdf	PKPdf	15 16 05.9	-0.2
BOJS				i PKPdif	PKPab	15 16 16.1	-19
BOJS				i PKPab	PKPab	15 16 35.4	+0.3
THL	Klokotos Trika	155.38	312	P	PKPdf	15 16 14.8	+8.6
RETA	Reutte	155.40	340	i PKP	PKPdf	15 16 06.7	+0.5
	comp=Z,24nm,1.6s						
RETA				i PKP	PKPab	15 16 36.2	+0.9
	comp=Z,106nm,1.5s,SNR=6.4						
RETA				i pPKP	pPKPbc	15 18 29.5	+0.2
	comp=Z,10nm,1.0s						
MOTA	Moosalm	155.42	339	i PKP	PKPdf	15 16 05.9	-0.4
	comp=Z,38nm,1.2s,SNR=9.8						
MOTA				i PKP	PKPab	15 16 36.0	+0.4
	comp=Z,113nm,1.5s,SNR=6.5						
MOTA				i pPKP	pPKPbc	15 18 29.2	-0.3
	comp=Z,17nm,1.1s						
AGG	Agios Georgios	155.42	311	P	PKPdf	15 16 05.4	-1.0
UBR	Ueberruh	155.43	341	ePKPdf	PKPdf	15 16 05.6	-0.6
	baz=26,slow=2.3						
ABTA	Abfaltersbach	155.45	336	i PKP	PKPdf	15 16 05.5	-0.7
	comp=Z,64nm,1.5s,SNR=14						
ABTA				i PKP	PKPab	15 16 35.0	-0.6
	comp=Z,23nm,0.7s						
ABTA				epPKP	pPKPbc	15 18 27.6	-1.8
	comp=Z,30nm,1.8s						
EPID	Epidavros	155.48	307	P	PKPdf	15 15 55.0	-11
SQTA	Sankt Quirin	155.49	339	i PKP	PKPdf	15 16 06.0	-0.3
	comp=Z,40nm,1.3s,SNR=8.9						
SQTA				i PKP	PKPab	15 16 36.8	+1.0
	comp=Z,96nm,1.8s						
SQTA				i pPKP	pPKPbc	15 18 28.1	-1.5
	comp=Z,13nm,0.9s						
MAKR	Makrakomi, Fth	155.56	311	P	PKPdf	15 16 15.8	+9.2
NEST	Nestorio	155.57	315	P	PKPdf	15 16 09.2	+2.6
KPRO	Kipourio	155.61	314	P	PKPdf	15 16 06.3	-0.3
PENT	Pentalofos	155.63	314	P	PKPdf	15 16 14.4	+7.7
TIR	Tirane	155.79	318	⇓P	PKPab	15 16 38.5	+1.3
TIR	Tirane	155.79	318	⇓PKP2	PKPab	15 16 38.5	+1.3
FETA	Feichten	155.82	339	i PKP	PKPdf	15 16 06.9	+0.1
	comp=Z,38nm,1.0s,SNR=11						
FETA				ePKP	PKPab	15 16 37.1	-0.2
	comp=Z,44nm,1.1s						
FETA				i pPKP	pPKPbc	15 18 28.9	-1.4
	comp=Z,12nm,1.1s						
EVR	Evrytania	155.83	311	P	PKPdf	15 16 15.8	+8.8
DAVA	Damuels	155.85	341	i PKP	PKPdf	15 16 06.7	-0.2
	comp=Z,19nm,1.3s						
DAVA				i PKP	PKPab	15 16 37.7	+0.3
	comp=Z,48nm,0.8s						
DAVA				i pPKP	pPKPbc	15 18 30.6	+0.2
	comp=Z,13nm,0.9s						
ANX	Ano Chora	155.91	310	P	PKPdf	15 16 10.8	+3.7
GUR	Goura	155.91	308	P	PKPdf	15 16 16.0	+8.9
VLI	Veliai	155.97	305	P	PKPdf	15 16 16.0	+8.9
EFP	Efpalio	155.99	310	P	PKPdf	15 16 16.9	+10
KLV	Kalavryta, Ach	155.99	309	P	PKPdf	15 16 16.6	+9.4
RLS	Riolos of Patr	156.47	309	P	PKPdf	15 16 16.4	+8.7
IGT	Igoumenitsa	156.51	314	P	PKPdf	15 16 15.1	+7.4
SRN	Sarande	156.54	315	P	PKPdf	15 16 17.4	+10
MATE	Matera	158.10	320	⇓P	PKPab	15 16 46.9	-0.3
TIP	Timpagrande	158.99	317	⇑P	PKPab	15 16 52.9	+1.7
LIC	Lamto	161.16	169	⇑iPKP2	PKPab	15 17 02.1	+1.0
	comp=Z,93nm,0.7s						
LIC	Lamto	161.16	169	⇑iP	PKPdf	15 16 14.3	+0.4
	comp=Z,56nm,1.2s						
KIC	Kosan Boka	161.35	170	⇑iPKP2	PKPab	15 17 02.9	+1.0
	comp=Z,58nm,0.6s						
KIC	Kosan Boka	161.35	170	⇑eP	PKPdf	15 16 11.0	-3.1
	comp=Z,40nm,0.8s						
TIC	Toumodi	161.58	169	⇑iPKP2	PKPab	15 17 03.8	+0.9
	comp=Z,15nm,0.4s						
TIC	Toumodi	161.58	169	⇓iP	PKPdf	15 16 14.1	-0.2
	comp=Z,53nm,1.2s						
DBIC	Dimbokro	161.63	169		PKPdf	15 16 13.9	-0.4
DBIC	Dimbokro	161.63	169	⇓PKIKP	PKPdf	15 16 14.1	-0.2
DBIC	Dimbokro	161.63	169	PKP	PKPdf	15 16 14.3	0.0
	comp=Z,13nm,0.8s,baz=157,slow=1.6,SNR=16						
DBIC				PKPab	PKPab	15 17 04.1	+1.0
	comp=Z,12nm,0.5s,baz=188,slow=3.8,SNR=13						
DBIC				PP	PP	15 20 51.2	+4.1
	comp=Z,8.6nm,0.9s,baz=162,slow=6.8,SNR=4.8						
PGAV	Gavieira, Arco	162.04	17	ePKPdf	PKPdf	15 16 13.8	-0.3
PBRG	Braganca	162.55	13	ePKPdf	PKPdf	15 16 15.4	+0.9
PBRG	Braganca	162.55	13	ePKPab	PKPab	15 17 06.4	-0.2
POLO	Lamas de Olo	162.72	16	ePKPdf	PKPdf	15 16 16.4	+1.7
POLO	Lamas de Olo	162.72	16	ePKPab	PKPab	15 17 07.6	+0.1
PVRL	Vila Real	162.83	16	ePKPdf	PKPdf	15 16 16.2	+1.4
PVRL	Vila Real	162.83	16	ePKPab	PKPab	15 17 08.6	+0.7
MVO	Moncorvo	163.10	14	ePKPdf	PKPdf	15 16 16.2	+1.1
MVO	Moncorvo	163.10	14	ePKPab	PKPab	15 17 09.2	+0.1
PVIS	Viseu	163.31	17	ePKPdf	PKPdf	15 16 17.0	+1.7
PVIS	Viseu	163.31	17	ePKPab	PKPab	15 17 09.8	-0.2
MTE	Manteigas	163.70	17	ePKPdf	PKPdf	15 16 16.8	+1.2
MTE	Manteigas	163.70	17	ePKPab	PKPab	15 17 11.5	-0.3
PCAS	Casmilo, Conde	163.75	19	ePKPdf	PKPdf	15 16 16.7	+1.1
PCAS	Casmilo, Conde	163.75	19	ePKPab	PKPab	15 17 12.5	+0.5
PCBR	Castelo Branco	164.24	17	ePKPdf	PKPdf	15 16 17.3	+1.3
PCBR	Castelo Branco	164.24	17	ePKPab	PKPab	15 17 13.6	-0.5
PMRV	Marv??o	164.65	17	ePKPdf	PKPdf	15 16 14.0	-2.4
PMRV	Marv??o	164.65	17	ePKPab	PKPab	15 17 16.0	+0.1
ESDC	Sonseca Array	165.09	7	PKP	PKPdf	15 16 17.2	+0.3
	comp=Z,2.0nm,0.8s,baz=350,slow=2.9,SNR=8.8						
ESDC				PKPab	PKPab	15 17 17.7	-0.2
	comp=Z,9.0nm,0.7s,baz=347,slow=4.6,SNR=23						
PESTR	Estremoz	165.12	19	ePKPdf	PKPdf	15 16 17.8	+0.9
PESTR	Estremoz	165.12	19	ePKPab	PKPab	15 17 18.1	+0.1
EVO	Evora	165.30	20	ePKPdf	PKPdf	15 16 18.0	+1.0
PNCL	Nicolau / Gran	165.50	23	ePKPdf	PKPdf	15 16 17.8	+0.7
PNCL	Nicolau / Gran	165.50	23	ePKPab	PKPab	15 17 19.1	-0.6
KEST	Kesra	165.68	322	PKPab	PKPab	15 17 21.5	+0.7
	comp=Z,18nm,0.6s,baz=342,slow=1.0,SNR=15						
PBEJ	Beja	165.81	21	ePKPdf	PKPdf	15 16 18.8	+1.4
PBEJ	Beja	165.81	21	ePKPab	PKPab	15 17 20.9	-0.2
MESJ	Messejana	165.86	22	ePKPdf	PKPdf	15 16 17.6	+0.1
MESJ	Messejana	165.86	22	ePKPdf	PKPdf	15 16 17.7	+0.3
MESJ				ePKPab	PKPab	15 17 21.7	+0.4
PBAR	Barrancos	165.92	18	ePKPdf	PKPdf	15 16 18.6	+1.1
PBAR	Barrancos	165.92	18	ePKPab	PKPab	15 17 20.9	-0.6
PTEO	Sao Teotonio	165.94	24	ePKPdf	PKPdf	15 16 19.4	+1.9
PTEO	Sao Teotonio	165.94	24	ePKPab	PKPab	15 17 20.9	-0.7
PCVE	Castro Verde	166.10	22	ePKPdf	PKPdf	15 16 18.6	+0.9
PCVE	Castro Verde	166.10	22	ePKPab	PKPab	15 17 22.2	-0.2
MORF	Marmelete	166.18	25	ePKPdf	PKPdf	15 16 19.2	+1.4
MORF	Marmelete	166.18	25	ePKPab	PKPab	15 17 22.2	-0.6
MORF	Marmelete	166.18	25	ePKPdf	PKPdf	15 16 18.1	+0.3
MORF				ePKPab	PKPab	15 17 23.1	+0.3
PFVI	Vila Bisbo	166.26	25	ePKPdf	PKPdf	15 16 19.3	+1.5
PFVI	Vila Bisbo	166.26	25	ePKPab	PKPab	15 17 23.6	+0.5
PVAQ	Vaqueiros	166.42	22	ePKPab	PKPab	15 17 23.6	-0.2
PBDV	Barranco-do-Ve	166.49	22	ePKPdf	PKPdf	15 16 19.2	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**166.49**	**22**	*e*PKPab	**PKPab**	**15 17 23.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**167.96**	**195**	PKP	**PKPdf**	**15 16 19.1**	**-0.5**
	comp=Z,6.6nm,0.5s,baz=21,slow=1.5,SNR=79						
TORD				PKPab	**PKPab**	**15 17 31.2**	**+0.2**
	comp=Z,37nm,0.5s,baz=162,slow=4.2,SNR=58						
TORD				PP	**PP**	**15 21 20.3**	**+0.5**
	comp=Z,8.6nm,0.9s,baz=143,slow=3.4,SNR=7.4						

*IDC **02** 15:37:48.0±2.1, 4°.85S×69°.21E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=67.8km s-min=24.5km az=61.0*

ISC 02 15:37:49.6±2.1**, 4°.8S**±0°.3×**69°.3E**±0°.4**, h10km, n12,** σ**0s.76**/11**, mb3.7**/8**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**4.24**	**131**	T	T	15 43 36.8	
	baz=312,slow=74						
H08S1	**Diego Carcia H**	**4.25**	**131**	T	T	15 43 41.0	
	baz=312						
H08S2	**Diego Garcia H**	**4.26**	**131**	T	T	15 43 37.7	
	baz=312,slow=74						
CMAR	**Chiang Mai Arr**	**37.30**	**51**	P	**P**	**15 45 01.6**	**-0.7**
	0.2nm,0.4s,baz=237,slow=9.5,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**52.68**	**11**	P	**P**	**15 47 04.4**	**+0.2**
	0.5nm,0.9s,baz=183,slow=7.2,SNR=4.5						
MKAR				PcP	**PcP**	**15 48 12.9**	**-1.2**
	1.0nm,1.0s,baz=217,slow=6.9,SNR=4.2						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**55.81**	**7**	P	**P**	**15 47 27.4**	**+0.5**
	0.6nm,1.0s,baz=202,slow=7.1,SNR=5.1						
KURBB				PcP	**PcP**	**15 48 24.9**	**-1.0**
	0.4nm,0.9s,baz=190,slow=4.6,SNR=2.3						
	0.6nm,1.0s						
BVAR	**Borovoye Array**	**57.65**	**1**	P	**P**	**15 47 40.5**	**+0.6**
	0.5nm,0.8s,baz=190,slow=37,SNR=2.2						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**60.00**	**11**	P	**P**	**15 47 56.1**	**-0.2**
	0.6nm,0.7s,baz=198,slow=8.7,SNR=4.2						
	0.6nm,0.7s						
SONM	**Songino Array**	**61.74**	**28**	P	**P**	**15 48 09.3**	**+0.8**
	1.6nm,1.1s,baz=204,slow=3.2,SNR=7.7						
	1.6nm,1.1s						
ASAR	**Alice Springs**	**64.87**	**114**	P	**P**	**15 48 29.6**	**-0.1**
	0.6nm,0.8s,baz=290,slow=6.8,SNR=6.8						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**64.95**	**110**	P	**P**	**15 48 30.9**	**+0.7**
	1.9nm,0.9s,baz=286,slow=6.2,SNR=12						
	1.9nm,0.9s						
NVAR	**Mina Array Bea**	**145.85**	**11**	PKPbc	**PKPdf**	**15 57 29.6**	**+0.1**
	1.3nm,0.9s,baz=343,slow=1.9,SNR=9.6						

*NNC **02** 15:53:45.1±4.3, 39°.08N×71°.80E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=35.5km s-min=22.9km az=173.0*
*KRNET **02** 15:53:45.1±0.1, 39°.34N×71°.68E, h14km, mb3.1*
*SOME **02** 15:53:45.0, 39°.42N×72°.00E, h15km*

ISC 02 15:53:47.9±1.5**, 39°.47N**±0°.08×**71°.65E**±0°.04**, h10km, n39,** σ**2s.57**/55**, 14C-16D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.87**	**313**	⇓*i*P	**Pg**	**15 54 03.9**	**-0.9**
	baz=17						
BTK				⇓*i*S	**Sb**	**15 54 17.4**	**+0.4**
	baz=17						
OHH	**Osh**	**1.37**	**39**	⇑*i*P	**Pb**	**15 54 12.5**	**-1.2**
	baz=35						
OHH				⇑*i*S	**Sg**	**15 54 32.5**	**+0.6**
	baz=35						
SFK	**Sufi-Kurgan**	**1.53**	**69**	⇑*i*P	**Pb**	**15 54 14.1**	**-2.4**
	baz=64						
SFK				⇑*i*S	**Sg**	**15 54 35.5**	**-1.6**
	baz=64						
TRKS	**Terek-Say**	**2.10**	**349**	⇑*i*P	**Pb**	**15 54 24.2**	**-1.9**
	baz=50						
TRKS				⇑*i*S	**Sb**	**15 54 52.7**	**+0.4**
	baz=50						
ARSB	**Arslanbob**	**2.11**	**28**	⇓*i*P	**Pb**	**15 54 24.8**	**-1.6**
	baz=26						
ARSB				⇓*i*S	**Sb**	**15 54 53.9**	**+1.1**
	baz=26						
ARK	**Arkit**	**2.34**	**6**	⇑*e*P	**Pb**	**15 54 28.5**	**-1.8**
	baz=5.0						
ARK				⇑*i*S	**Sb**	**15 54 59.7**	**+0.5**
	baz=5.0						
AML	**Almayashu**	**3.08**	**30**	P	**Pb**	**15 54 41.0**	**-2.0**
	SNR=11						
AML	**Almayashu**	**3.08**	**30**	⇓Pn	**Pb**	**15 54 41.1**	**-2.0**
	0.4nm,0.3s						
AML				⇓Sn	**Sb**	**15 55 22.4**	**+1.6**
	1.9nm,0.5s						
AML	**Almayashu**	**3.08**	**30**	⇓*i*P	**Pn**	**15 54 38.2**	**+1.2**
	baz=28						
AML				⇓*i*S	**Sb**	**15 55 17.5**	**-3.3**
	baz=28						
ARLS	**Aral**	**3.14**	**39**	⇓*i*P	**Pn**	**15 54 38.9**	**+1.3**
	baz=38						
ARLS				⇓*i*S	**Sn**	**15 55 17.9**	**+2.8**
	baz=38						
CHM	**Chimkent**	**3.24**	**332**	*e*P	**Pg**	**15 54 47.6**	**-2.5**
	39nm,0.1s						
CHM				*e*S	**Sg**	**15 55 32.9**	**+0.8**
	129nm,0.2s						
DZA	**Taraz**	**3.43**	**356**	Pg	**Pb**	**15 54 49.6**	**+0.8**
	45nm,0.1s						
DZA				Lg	Lg	15 55 36.1	
	139nm,0.2s						
DZA	**Taraz**	**3.43**	**356**	*e*P	**Pb**	**15 54 48.5**	**-0.2**
	43nm,0.1s						
DZA				*e*S	**Sb**	**15 55 34.1**	**+3.5**
	48nm,0.2s						
MRKS	**Merke**	**3.48**	**19**	*e*P	**Pb**	**15 54 47.0**	**-2.7**
	6.3nm,0.3s						
MRKS				*e*S	**Sb**	**15 55 31.5**	**-0.6**
	17nm,0.3s						
UCH	**Uchtor**	**3.51**	**37**	P	**Pb**	**15 54 46.4**	**-3.9**
	SNR=11						
EKS2	**Erkin-Say**	**3.57**	**26**	P	**Pb**	**15 54 47.3**	**-4.0**
	SNR=13						
EKS2	**Erkin-Say**	**3.57**	**26**	⇑*i*P	**Pn**	**15 54 45.2**	**+1.7**
	baz=25						
EKS2				⇑*i*S	**Sn**	**15 55 29.1**	**+3.3**
	baz=25						
KK31	**Karatay Array**	**3.73**	**347**	⇑Pn	**Pn**	**15 54 48.9**	**+3.2**
	2.0nm,0.3s,baz=169,slow=12,SNR=46						
KK31				⇓Sn	**Sb**	**15 55 37.0**	**-2.3**
	4.5nm,0.5s,baz=161,slow=31,SNR=7.5						
KZA	**Kyzart**	**3.77**	**45**	P	**Pb**	**15 54 50.4**	**-4.5**
	SNR=11						
KZA	**Kyzart**	**3.77**	**45**	⇑*e*P	**Pn**	**15 54 47.8**	**+1.2**
	baz=44						
KZA				⇑*i*S	**Sn**	**15 55 33.7**	**+2.5**
	baz=44						
AAK	**Ala-Archa**	**3.83**	**33**	P	**Pb**	**15 54 51.5**	**-4.1**
	SNR=14						
KBK	**Karagaybulak**	**4.04**	**37**	P	Pb	15 54 54.4	-5.0
	SNR=8.1						
KBK	**Karagaybulak**	**4.04**	**37**	⇓*i*P	**Pn**	**15 54 51.5**	**+1.5**
	baz=36						
KBK				⇓*i*S	**Sn**	**15 55 40.1**	**+2.6**
	baz=36						
CHMS	**Chumysh**	**4.23**	**33**	P	Pb	15 54 56.2	-6.2
	SNR=13						
USP	**Ospenovka**	**4.36**	**29**	P	Pn	15 54 57.7	+3.5
	SNR=6.6						
ULHL	**Ulahol**	**4.45**	**50**	P	Pn	15 54 58.9	+3.2
	SNR=7.3						
TKM2	**Tokmak 2**	**4.55**	**40**	⇓Pn	**Pn**	**15 55 00.1**	**+3.0**
	1.8nm,0.4s						
TKM2				⇓Sn	**Sn**	**15 55 55.2**	**+5.0**
	3.2nm,0.5s						
KST	**Kastek**	**4.83**	**41**	Pg	**Pb**	**15 55 09.5**	**-3.1**
	1.8nm,0.5s						
KST				Lg	Lg	15 56 10.5	
	5.7nm,0.6s						
KST	**Kastek**	**4.83**	**41**	*e*P	**Pb**	**15 55 10.4**	**-2.3**
	1.8nm,0.5s						
KST				*e*S	**Sb**	**15 56 11.5**	**+0.7**
	2.6nm,0.3s						
DGS	**Degeres**	**4.88**	**38**	Pg	**Pb**	**15 55 11.8**	**-1.8**
	2.1nm,0.2s						
DGS				Lg	Lg	15 56 14.5	
	3.6nm,0.5s						
DGS	**Degeres**	**4.88**	**38**	*e*P	**Pb**	**15 55 11.8**	**-1.8**
	2.1nm,0.2s						
DGS				*e*S	**Sb**	**15 56 14.5**	**+2.1**
	3.6nm,0.5s						
TNSS	**Tian-Shan**	**5.35**	**47**	Pg	**Pb**	**15 55 23.3**	**+1.6**
	1.5nm,0.3s						
TNSS	**Tian-Shan**	**5.35**	**47**	*e*P	**Pb**	**15 55 22.2**	**+0.5**
	0.6nm,0.1s						
TNSS				*e*S	**Sb**	**15 56 31.8**	**+5.6**
	1.2nm,0.4s						
KTBS	**Karatobe**	**5.67**	**40**	Pg	**Pb**	**15 55 28.9**	**+1.9**
	1.0nm,0.1s						
KTBS				Lg	Lg	15 56 43.7	
	6.1nm,0.6s						
KTBS	**Karatobe**	**5.67**	**40**	*e*P	**Pb**	**15 55 28.9**	**+1.9**
	1.0nm,0.1s						
KTBS				*e*S	**Sg**	**15 56 43.7**	**-6.3**
	6.1nm,0.6s						
BTLS	**Baital**	**5.84**	**17**	Pg	Pg	15 55 34.3	-5.5
	1.1nm,0.4s						
BTLS				Lg	Lg	15 56 53.0	
	1.9nm,0.8s						
BTLS	**Baital**	**5.84**	**17**	*e*P	Pg	15 55 34.3	-5.5
	1.1nm,0.4s						
BTLS				*e*S	**Sg**	**15 56 53.0**	**-2.5**
	1.9nm,0.8s						
AB31	**Akbulak array**	**12.87**	**323**	⇓P	**Pn**	**15 56 49.5**	**-1.2**
	0.4nm,0.5s,baz=148,slow=11,SNR=24						
AKTO	**Aktyubinsk**	**14.58**	**323**	⇑P	**P**	**15 57 20.3**	**-0.4**
	1.9nm,0.9s						

IDC 02 16:15:04.3±11.0**, 16°.46S**×**175°.58W, h0km, mb4.0**/3**, mbtmp4.0**/3**, Error ellipse: s-maj=492.3km s-min=36.9km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.57**	**258**	P	P	16 23 41.5	-0.6
	0.4nm,0.3s,baz=88,slow=6.7,SNR=24						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**47.80**	**253**	P	P	16 23 44.3	+0.4
	3.9nm,0.4s,baz=89,slow=7.7,SNR=96						
	3.9nm,0.4s						
ILAR	**Eielson Array**	**83.89**	**12**	P	P	16 27 35.6	0.0
	0.2nm,0.5s,baz=217,slow=4.4,SNR=5.2						
	0.2nm,0.5s						

*IDC **02** 16:20:24.8±2.4, 29°.37N×130°.39E, h37km±20km, mb3.5/11, mbtmp3.7/15, ML3.4/4, MS2.9/2, Error ellipse: s-maj=21.8km s-min=13.8km az=94.0*
*JMA **02** 16:20:25.6±0.1, 29°.4N±0°.5×130°.3E±0°.9, h50km±2km, MV3.7/34, NEAR AMAMI-OSHIMA ISLAND*
*NIED **02** 16:20:25.6, 29°.39N×130°.34E, h50km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.64; Mθθ0.46; Mφφ0.18; Mrθ0.39; Mθφ-0.20; Mφr1.18; Fault plane solution: M0 1.30000×10^15 NP1: φs194.00000°, δ82.00000°, λ-84.00000°. NP2: φs341.00000°, δ10.00000°, λ-123.00000°.*

ISC 02 16:20:25.0±1.1**, 29°.33N**±0°.03×**130°.46E**±0°.06**, h42km**±10km**, n38,** σ**1s.05**/51**, mb3.7**/11**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.72**	**315**	*i* P	**Pn**	**16 20 38.4**	**-0.5**
JNN				*e*S	**Sn**	**16 20 47.1**	**-1.7**
JYAK	**Yakushimahirau**	**0.91**	**3**	*i* P	**Pn**	**16 20 41.6**	**+0.3**
JYAK				S	**Sn**	**16 20 54.2**	**+0.9**
JZK	**Kikaishima**	**1.10**	**203**	P	**Pn**	**16 20 45.2**	**+1.3**
JTAJ	**Takarajima**	**1.11**	**261**	*i* P	**Pn**	**16 20 44.3**	**+0.2**
JMTN	**Minamitane**	**1.13**	**20**	*i* P	**Pn**	**16 20 45.0**	**+0.5**
JMTN				*e*S	**Sn**	**16 21 00.2**	**+1.4**
JKC	**Kuchinoerabu**	**1.15**	**349**	P	**Pn**	**16 20 44.7**	**0.0**
JKC				*e*S	**Sn**	**16 20 58.4**	**-1.0**
JAM	**Amami Oshima**	**1.18**	**220**	*i* P	**Pn**	**16 20 45.8**	**+0.7**
JTN	**Tanegashima 3**	**1.40**	**19**	P	**Pn**	**16 20 48.8**	**+0.7**
JTN				*e*S	**Sn**	**16 21 07.0**	**+1.7**
JAMN	**Amaminishikomi**	**1.56**	**227**	*i* P	**Pn**	**16 20 51.0**	**+0.7**
JAMN				*e*S	**Sn**	**16 21 11.6**	**+2.3**
JTSR	**Tashiro 2**	**1.88**	**12**	P	**Pn**	**16 20 55.3**	**+0.7**
JTSR				*e*S	**Sn**	**16 21 18.0**	**+0.9**
JTK	**Tokunoshima**	**2.03**	**221**	P	**Pn**	**16 20 57.7**	**+0.9**
JTK				S	**Sn**	**16 21 22.9**	**+2.0**
JSU	**Suzuyama**	**2.17**	**360**	P	**Pn**	**16 20 59.0**	**+0.3**
JOKE	**Okinoerabujima**	**2.57**	**221**	P	**Pn**	**16 21 05.0**	**+0.8**
JYRO	**Yoronjima**	**2.90**	**218**	*i* P	**Pn**	**16 21 09.1**	**+0.4**
JYRO				*e*S	**Sn**	**16 21 42.0**	**-0.3**
JOW	**Kunigami**	**3.15**	**218**	P	**Pn**	**16 21 12.3**	**+0.2**
JOW	**Kunigami**	**3.15**	**218**	Pn	**Pn**	**16 21 12.3**	**+0.2**
	20nm,0.3s,baz=86,slow=15,SNR=87						
JOW				Sn	**Sn**	**16 21 47.0**	**-1.4**
	18nm,0.3s,baz=137,slow=26,SNR=6.6						
JOW				LR	LR	16 22 49.7	
	comp=Z,222nm,18.9s,baz=44,slow=46						
	51nm,0.4s						
JIH	**Iheya**	**3.17**	**225**	P	**Pn**	**16 21 12.8**	**+0.4**
JKDJ	**Kitadaitoujima**	**3.45**	**167**	P	**Pn**	**16 21 15.9**	**-0.3**
JKDJ				S	**Sn**	**16 21 52.9**	**-2.9**
JNTH	**Nagotoyohara**	**3.53**	**218**	P	**Pn**	**16 21 17.8**	**+0.4**
JMZ	**Minamidaito 2**	**3.56**	**169**	P	**Pn**	**16 21 17.2**	**-0.6**
JNU	**Nakatsue**	**3.80**	**5**	Pn	**Pn**	**16 21 22.4**	**+1.3**
	4.1nm,0.3s,baz=82,slow=1.3,SNR=80						
JNU				Sn	**Sn**	**16 22 04.5**	**-0.1**
	1.9nm,0.3s,baz=1.7,slow=6.5,SNR=4.1						
	12nm,0.4s						
JJT3	**Tamagusuku3**	**3.96**	**217**	P	**Pn**	**16 21 23.7**	**+0.4**
JKE	**Kume jima 2**	**4.42**	**228**	P	**Pn**	**16 21 29.7**	**+0.2**
KSRS	**Korea Array**	**8.38**	**346**	LR	LR	16 25 39.7	
	comp=Z,62nm,20.3s,baz=155,slow=38						
MJAR	**Matsushiro Arr**	**9.70**	**40**	Pn	**Pn**	**16 22 43.4**	**+1.4**
	0.1nm,0.3s,baz=245,slow=14,SNR=7.0						
	2.3nm,1.0s						
KLR	**Kul'dur**	**19.90**	**2**	P	**P**	**16 24 52.6**	**-0.2**
	0.1nm,0.3s,baz=43,slow=19,SNR=1.8						
	0.6nm,0.5s						
SONM	**Songino Array**	**26.19**	**322**	P	**P**	**16 25 55.4**	**-0.3**
	0.9nm,0.6s,baz=130,slow=10,SNR=6.2						
	0.9nm,0.6s						
PETK	**Petropavlovsk-**	**31.03**	**32**	PN	**P**	**16 26 37.8**	**-0.8**
PETK	**Petropavlovsk-**	**31.03**	**32**	P	**P**	**16 26 37.8**	**-0.8**
	1.0nm,0.6s,baz=214,slow=12,SNR=6.0						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**41.04**	**309**	P	**P**	**16 28 04.2**	**0.0**
	0.2nm,0.4s,baz=92,slow=10,SNR=10						
MKAR				ScP	**ScP**	**16 33 52.5**	**+2.6**
	0.3nm,0.7s,baz=73,slow=4.9,SNR=2.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.06**	**314**	P	**P**	**16 28 28.2**	**-0.4**
	1.2nm,0.5s,baz=100,slow=9.0,SNR=16						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**49.13**	**175**	P	**P**	**16 29 09.0**	**+0.4**
	0.4nm,0.4s,baz=353,slow=8.2,SNR=5.7						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.34**	**316**	P	**P**	**16 29 09.6**	**-0.4**
	1.3nm,0.6s,baz=90,slow=9.2,SNR=9.8						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**52.79**	**176**	P	**P**	**16 29 36.9**	**+0.8**
	0.5nm,0.6s,baz=4.9,slow=11,SNR=24						
ASAR				PcP	**PcP**	**16 30 45.8**	**+0.6**
	0.1nm,0.3s,baz=0.0,slow=3.7,SNR=4.1						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**60.78**	**29**	P	**P**	**16 30 32.4**	**+0.1**
	0.3nm,0.7s,baz=277,slow=7.2,SNR=2.5						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**71.15**	**331**	P	**P**	**16 31 37.7**	**-1.2**
	1.1nm,0.8s,baz=69,slow=7.6,SNR=4.4						
	1.1nm,0.8s						
AKASG	**Malin Array Be**	**74.46**	**320**	P	**P**	**16 31 58.0**	**-0.7**
	0.4nm,0.4s,baz=57,slow=6.8,SNR=3.0						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**74.89**	**26**	P	**P**	**16 32 01.1**	**+0.1**
	0.2nm,0.7s,baz=303,slow=5.5,SNR=3.5						
	0.2nm,0.7s						

*MOS **02** 16:24:00.2±1.3, 44°.23N×148°.41E, h31km, mb4.3/1, Error ellipse: s-maj=17.0km s-min=14.7km az=153.0*
*SKHL **02** 16:24:02.1±0.1, 44°.40N×148°.30E, h37km±3km, mb4.8/3*
*JMA **02** 16:24:02.8±0.5, 44°N±2°×14°8E±°, h0km, MV4.1/31, SE OFF ETOROFU*
*IDC **02** 16:24:17.6±2.9, 44°.14N×146°.63E, h157km±24km, mb2.9/5, mbtmp3.3/6, Error ellipse: s-maj=31.0km s-min=24.5km az=104.0*

ISC 02 16:24:00.7±2.0**, 44°.37N**±0°.06×**148°.4E**±0°.1**, h45km**±16km**, n44,** σ**2s.03**/48**, mb3.3**/5**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.94**	**338**	*d i*PN	**Pn**	**16 24 17.7**	**+0.2**
KUR				*i* S	**Sn**	**16 24 29.3**	**-0.4**
KUR				pmax	pmax		
	comp=Z,446nm,0.3s						
KUR				pmax	pmax		
	comp=N,196nm,0.2s						
KUR				pmax	pmax		
	comp=E,225nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,3μm,0.2s						
KUR	**Kuril'sk**	**0.94**	**338**	*i* P	**Pn**	**16 24 17.7**	**+0.2**
KUR				AMB	AMB	16 24 20.8	
	comp=E,450nm,0.3s						
KUR				*i* S	**Sn**	**16 24 29.3**	**-0.4**
KUR				A	A	16 24 30.3	
	comp=E,2μm,0.2s						
KUR				A	A	16 24 30.3	
	comp=E,3μm,0.2s						
SHO	**Shikotan**	**1.22**	**246**	*e*PN	**Pn**	**16 24 21.6**	**+0.3**
SHO				*e*S	**Sn**	**16 24 35.2**	**-1.4**
SHO				pmax	pmax		
	comp=Z,101nm,0.2s						
SHO				smax	smax		
	comp=N,733nm,0.3s						
SHO				smax	smax		
	comp=E,929nm,0.3s						
SHO	**Shikotan**	**1.22**	**246**	*e*P	**Pn**	**16 24 21.6**	**+0.3**
SHO				AMB	AMB	16 24 22.5	
	comp=E,100nm,0.2s						
SHO				*e*S	**Sn**	**16 24 34.9**	**-1.7**
SHO				A	A	16 24 37.9	
	comp=E,730nm,0.3s						
SHO				A	A	16 24 37.9	
	comp=E,930nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**260**	*e*PN	**Pn**	**16 24 30.6**	**+0.8**
YUK				*e*S	**Sn**	**16 24 52.1**	**+0.3**
YUK				pmax	pmax		
	comp=Z,405nm,0.2s						
YUK				pmax	pmax		
	comp=N,145nm,0.1s						
YUK				pmax	pmax		
	comp=E,196nm,0.3s						
YUK				smax	smax		
	comp=N,801nm,0.2s						
YUK				smax	smax		
	comp=E,623nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**260**	*e*P	**Pn**	**16 24 30.7**	**+0.9**
YUK				AMB	AMB	16 24 32.3	
	comp=E,410nm,0.2s						
YUK				*e*S	**Sn**	**16 24 51.2**	**-0.6**
YUK				A	A	16 25 00.6	
	comp=E,800nm,0.4s						
YUK				A	A	16 25 00.6	
	comp=E,620nm,0.4s						
NEM2	**Nemuro 2**	**2.15**	**243**	*e*P	**Pn**	**16 24 34.4**	**+0.4**
NEM2				*e*S	**Sn**	**16 24 57.9**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.16**	**243**	*e*PN	**Pn**	**16 24 34.4**	**+0.2**
NMR				*e*S	**Sn**	**16 24 59.0**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.16**	**243**	*e*P	**Pn**	**16 24 34.6**	**+0.4**
NMR				*e*S	**Sn**	**16 24 59.0**	**-0.7**
RUSJ	**Misakicho**	**2.26**	**264**	*e*PN	**Pn**	**16 24 37.8**	**+2.2**
RUSJ				*e*S	**Sn**	**16 25 04.6**	**+2.4**
JRA	**Rausu**	**2.38**	**261**	*e*P	**Pn**	**16 24 39.2**	**+2.1**
JNSB	**Nemuroshibetsu**	**2.50**	**257**	*e*P	**Pn**	**16 24 40.9**	**+2.1**
JKHN	**Kushirohamanak**	**2.66**	**242**	*e*P	**Pn**	**16 24 42.0**	**+1.0**
JNK	**Nakash**	**2.75**	**255**	*i* P	**Pn**	**16 24 43.9**	**+1.6**
JNK				*e*S	**Sn**	**16 25 14.4**	**+0.1**
AKK	**Akkeshi**	**2.90**	**243**	*e*P	**Pn**	**16 24 45.1**	**+0.8**
JAK	**Akkeshi**	**3.00**	**244**	*e*P	**Pn**	**16 24 46.7**	**+1.0**
JTKR	**Abashiri--Toko**	**3.24**	**264**	*e*P	**Pn**	**16 24 50.7**	**+1.7**
JAR	**Ashorobuto**	**3.50**	**254**	*e*P	**Pn**	**16 24 54.9**	**+2.3**
JOB	**Onbets**	**3.60**	**248**	*e*P	**Pn**	**16 24 56.0**	**+2.0**
JMP	**Maruseppu**	**3.62**	**266**	*e*P	**Pn**	**16 24 56.3**	**+2.0**
JCH	**Churui**	**4.04**	**246**	*e*P	**Pn**	**16 25 01.8**	**+1.7**
JKK2	**Kamakawa 2**	**4.08**	**265**	*e*P	**Pn**	**16 25 05.1**	**+4.5**
JKA	**Kamikawa-asahi**	**4.16**	**269**	*e*P	**Pn**	**16 25 03.7**	**+2.1**
ASAJ	**Asahikawa**	**4.16**	**269**	P	**Pn**	**16 25 03.6**	**+2.0**
	comp=E,4.9nm,0.5s,baz=57,slow=21,SNR=11						
ASAJ				S	**Sn**	**16 25 40.7**	**-8.2**
	comp=E,7.6nm,0.5s,baz=86,slow=19,SNR=1.8						
JNBK	**Urakawa-nobuka**	**4.60**	**245**	*e*P	**Pn**	**16 25 09.1**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.71**	**305**	*e*PN	**Pn**	**16 25 10.6**	**+1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.71**	**305**	*e*P	**Pn**	**16 25 10.6**	**+1.4**
YSS				*e*S	**Sn**	**16 26 03.4**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**29.02**	**142**	T	T	17 00 42.7	
	baz=333,slow=76,SNR=108						
H11N1	**WAKE ISLAND Hy**	**29.03**	**142**	T	T	17 00 48.9	
	baz=333,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**29.04**	**142**	T	T	17 00 49.3	
	baz=333,slow=76,SNR=89						
H11S1	**WAKE ISLAND Hy**	**30.01**	**143**	T	T	17 01 59.8	
	baz=334,slow=76,SNR=181						
H11S3	**WAKE ISLAND Hy**	**30.02**	**143**	T	T	17 01 56.6	
	baz=334,slow=76,SNR=144						
H11S2	**WAKE ISLAND Hy**	**30.03**	**143**	T	T	17 02 01.0	
	baz=334,slow=76,SNR=98						
ILAR	**Eielson Array**	**40.47**	**37**	P	P	16 31 48.0	+13
	comp=Z,0.4nm,1.0s,baz=273,slow=9.4,SNR=4.1						
	comp=Z,0.4nm,1.0s						
MKAR	**Makanchi Array**	**45.08**	**298**	P	**P**	**16 32 10.0**	**-2.1**
MKAR	**Makanchi Array**	**45.08**	**298**	P	**P**	**16 32 10.0**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=74,slow=8.8,SNR=1.9						
	comp=Z,0.2nm,0.4s						
KURK	**Kurchatov**	**45.91**	**304**	P	**P**	**16 32 17.2**	**-1.4**
KURK						16 33 55.1	
KURBB	**Kurchatov Arra**	**46.00**	**304**	P	**P**	**16 32 17.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=70,slow=8.0,SNR=2.4						
KURBB				PcP	**PcP**	**16 33 55.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=71,slow=3.7,SNR=2.8						
	comp=Z,0.1nm,0.3s						
WRA	**Warramunga Arr**	**65.27**	**195**	P	**P**	**16 34 38.8**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=6.9,slow=6.8,SNR=3.2						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**68.99**	**194**	P	**P**	**16 35 03.0**	**+1.7**
ASAR	**Alice Springs**	**68.99**	**194**	P	**P**	**16 35 03.0**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=8.1,slow=5.6,SNR=4.6						
	comp=Z,0.3nm,0.7s						
H03N2	**Juan Fernandez**	**142.08**	**90**	T	T	19 22 29.7	
	baz=304,slow=77,SNR=2.1						
H03N3	**Juan Fernandez**	**142.09**	**90**	T	T	19 22 23.7	
	baz=304,slow=77,SNR=5.6						
H03N1	**Juan Fernandez**	**142.10**	**90**	T	T	19 22 01.4	
	baz=304,slow=77,SNR=6.5						

AFAD 02 16:54:00.7±0.0**, 37°.11N**×**28°.61E, h7km**±2km**, ML1.1, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.27**	**303**	P	Pg	16 54 07.0	+0.8
MULA				S	Sg	16 54 10.6	+0.8
MULA				*i* AML	AML	16 54 12.0	
	comp=E,22nm,0.1s						
SABU	**Mula-Dalaman**	**0.40**	**135**	P	Pg	16 54 08.9	+0.4
SABU				S	Sg	16 54 15.2	+1.3
SABU				*i* AML	AML	16 54 18.0	
	comp=N,16nm,1.6s						
TAVA	**DENIZLI_Tavas**	**0.43**	**34**	P	Pg	16 54 08.8	-0.3
TAVA				S	Sg	16 54 14.9	+0.1
TURN	**Turunc**	**0.44**	**222**	P	Pg	16 54 10.0	+0.7
TURN				S	Sg	16 54 16.3	+1.2
DNIZ	**Denizli-Tavas-**	**0.62**	**33**	P	Pg	16 54 13.2	+0.6
DNIZ				S	Sg	16 54 20.5	-0.2
DNIZ				*i* AML	AML	16 54 25.0	
	comp=N,22nm,0.6s						
ESEN	**Aydn-Nazilli**	**0.72**	**343**	P	Pg	16 54 14.6	0.0
ESEN				S	Sg	16 54 23.5	-0.4
ESEN				*i* AML	AML	16 54 35.0	
	comp=N,8.6nm,1.9s						

ISK 02 16:54:31.2, 36°.94N×**27°.29E, h10km**±1km**, ML1.5**/3**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RFTB	**Kemer-Bodrum**	**0.03**	**327**	Pg	Pg	16 54 33.4	+0.4
RFTB				Sg	Sg	16 54 34.8	+0.5
BODT	**Bodrum**	**0.12**	**7**	Pg	Pg	16 54 34.4	+0.2

BODT				Sg	Sg	16 54 36.8	+0.5
DAT	**Datca**	**0.31**	**132**	Pg	Pg	16 54 37.8	+0.3
DAT				Sg	Sg	16 54 42.5	+0.8
TURN	**Turunc**	**0.78**	**102**	Pg	Pb	16 54 46.8	-0.1
TURN				Sg	Sb	16 54 58.2	+0.7

*JMA **02** 17:01:27.9±0.0, 37°.9N±0°.1×140°.4E±0°.2, h9km±1km, MV3.4/20, MID FUKUSHIMA PREF*
JMA Felt I J1 at MID FUKUSHIMA PREF .
*IDC **02** 17:01:34.0±3.7, 38°.14N×139°.78E, h55km±35km, mb3.2/4, mbtmp3.4/6, ML2.1/2, Error ellipse: s-maj=40.8km s-min=24.6km az=80.0*
ISC 02 17:01:27.0±0.9**, 37°.88N**±0°.04×**140°.36E**±0°.03**, h16**km±6km**, n16,** σ**1s.52**/27**, mb3.4**/4**, 10D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYAR	**Yonezawaarcadi**	**0.18**	**279**	⇓iP	**Pb**	**17 01 32.1**	**+0.1**
JYAR				⇓S	**Sg**	**17 01 35.1**	**+0.8**
JOTO	**OTAMA OYAMA**	**0.32**	**184**	i P	**Pg**	**17 01 33.8**	**0.0**
JOTO				S	**Sg**	**17 01 38.3**	**-0.2**
JMM	**Marumori**	**0.34**	**93**	⇓iP	**Pg**	**17 01 34.3**	**+0.2**
JMM				⇓S	**Sg**	**17 01 38.8**	**-0.1**
JYS	**Shirataka**	**0.41**	**325**	⇓iP	**Pn**	**17 01 36.7**	**-1.6**
JYS				⇓S	**Sb**	**17 01 43.0**	**+1.1**
JOU	**Okura**	**0.54**	**26**	i P	**Pn**	**17 01 38.9**	**-1.1**
JOU				S	**Sn**	**17 01 46.4**	**-2.4**
JFK	**Kawauchi**	**0.66**	**142**	⇓iP	**Pg**	**17 01 39.5**	**-0.4**
JFK				⇓S	**Sg**	**17 01 47.8**	**-0.8**
JFY	**Yanaizu**	**0.71**	**228**	i P	**Pn**	**17 01 41.6**	**-0.7**
JFY				S	**Sb**	**17 01 50.8**	**+0.3**
JNS	**Sasagawa**	**0.83**	**266**	⇓iP	**Pn**	**17 01 43.9**	**-0.1**
JNS				⇓S	**Sn**	**17 01 54.7**	**-1.2**
JYA	**Atsumi**	**0.87**	**324**	P	**Pn**	**17 01 44.9**	**+0.3**
JYA				S	**Sn**	**17 01 57.1**	**+0.1**
JIO	**Ouri**	**0.96**	**53**	i P	**Pn**	**17 01 45.6**	**-0.3**
JIO				S	**Sb**	**17 01 58.4**	**+0.6**
MJAR	**Matsushiro Arr**	**2.18**	**233**	P	**Pb**	**17 02 05.4**	**-0.7**
	0.3nm,0.3s,baz=37,slow=12,SNR=48						
MJAR				S	**Sg**	**17 02 36.1**	**-1.0**
	3.5nm,0.6s,baz=63,slow=28,SNR=3.1						
	7.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**8.93**	**318**	P	**Pn**	**17 03 34.6**	**-0.7**
	0.1nm,0.3s,baz=128,slow=14,SNR=1.0						
	3.7nm,1.1s						
SONM	**Songino Array**	**26.62**	**303**	P	**P**	**17 07 00.6**	**-4.1**
	0.2nm,0.5s,baz=108,slow=8.8,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**44.82**	**307**	P	**P**	**17 09 39.4**	**-0.6**
	0.5nm,0.3s,baz=82,slow=8.8,SNR=1.1						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**49.23**	**33**	P	**P**	**17 10 16.3**	**+2.1**
	0.4nm,0.8s,baz=270,slow=6.3,SNR=2.1						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.80**	**187**	P	**P**	**17 11 21.4**	**+3.9**
	0.4nm,0.9s,baz=3.4,slow=7.3,SNR=2.2						
	0.4nm,0.9s						

*IDC **02** 17:33:02.5±2.5, 2°.87S×127°.52E, h0km, mb3.2/2, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=215.9km s-min=29.3km az=66.0*
*DJA **02** 17:33:07.9±0.6, 3°S±4°×12°8E±°, h28km±8km, M3.9/13, mb4.4/5, MLv3.6/13*
ISC 02 17:33:08.1±1.0**, 2°.89S**±0°.06×**127°.78E**±0°.05**, h35**km**, n15,** σ**0s.90**/17**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**0.75**	**125**	P	**Pn**	**17 33 22.2**	**0.0**
KRAI				S	**Sn**	**17 33 32.8**	**+0.5**
NLAI	**Namlea**	**0.76**	**243**	P	**Pn**	**17 33 23.2**	**+0.8**
NLAI				S	**Sn**	**17 33 33.6**	**+0.9**
SANI	**Sanana**	**1.98**	**295**	P	**Pn**	**17 33 38.9**	**-0.2**
LBMI	**Labuha**	**2.25**	**353**	P	**Pn**	**17 33 44.0**	**+1.0**
BNDI	**Bandanaira**	**2.67**	**127**	P	**Pn**	**17 33 49.7**	**+1.1**
TNTI	**Ternate**	**3.66**	**353**	P	**Pn**	**17 34 03.0**	**+0.7**
SWI	**Sorong**	**4.02**	**60**	P	**Pn**	**17 34 08.0**	**+0.8**
SIJI	**Sorong**	**4.02**	**60**	P	**Pn**	**17 34 07.5**	**+0.2**
FAKI	**Fak Fak**	**4.46**	**90**	P	**Pn**	**17 34 14.5**	**+1.2**
KMSI	**Cibinong**	**5.13**	**312**	P	**Pn**	**17 34 23.3**	**+0.8**
	20nm,0.6s,0.2nm						
LUWI	**Luwuk**	**5.33**	**290**	P	**Pn**	**17 34 26.1**	**+0.8**
	36nm,1.1s,0.2nm						
KMPI	**Kaimana, Papua**	**5.96**	**98**	P	**Pn**	**17 34 33.9**	**-0.1**
	276nm,0.8s,1.2nm						
WRA	**Warramunga Arr**	**18.12**	**160**	P	**Pn**	**17 37 16.1**	**-1.0**
	0.1nm,0.3s,baz=341,slow=12,SNR=3.3						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**21.49**	**165**	P	**P**	**17 37 54.5**	**+0.5**
	0.3nm,0.4s,baz=345,slow=12,SNR=7.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**63.60**	**327**	P	**P**	**17 43 34.1**	**-1.4**
	0.3nm,0.8s,baz=120,slow=7.0,SNR=2.1						
	0.3nm,0.8s						

*IDC **02** 17:36:31.5±0.8, 41°.28N×22°.81E, h0km, mb3.9/16, mbtmp3.9/21, ML3.7/5, MS3.2/7, Error ellipse: s-maj=13.3km s-min=12.0km az=162.0*
*AFAD **02** 17:36:31.6±0.0, 41°.19N×22°.78E, h15km±6km, MW4.2*
*MOS **02** 17:36:31.5±1.2, 41°.22N×22°.77E, h10km, mb4.4/9, Error ellipse: s-maj=5.0km s-min=3.3km az=76.2*
*SOF **02** 17:36:32.9, 41°.20N±0°.02×22°.86E±0°.02, h13km±2km, MD4.5/16*
*SKO **02** 17:36:33.5, 41°.21N×22°.84E, h15km, ML3.7*
*ISK **02** 17:36:33.3, 41°.21N×22°.84E, h15km, ML4.2/24*
*PDG **02** 17:36:33.5±0.5, 41°.21N×22°.82E, h18km, ML4.2/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*PRU **02** 17:36:33.4, 40°.70N×22°.40E, h0km, M4.3*
*THE **02** 17:36:34.4, 41°.18N×22°.86E, h11km, ML4.0/13, Error ellipse: s-maj=0.9km s-min=0.5km az=172.0*
*NEIC **02** 17:36:34.1±2.2, 41°.26N±0°.03×22°.84E±0°.05, h11km±4km, mb4.3/19, Error ellipse: s-maj=7.0km s-min=3.1km az=127.0*
*ATH **02** 17:36:34.6, 41°.20N×22°.85E, h10km±1km, ML3.9/23, Error ellipse: s-maj=1.7km s-min=0.7km az=161.0*
*BEO **02** 17:36:34.0±0.3, 41°.22N×22°.86E, h14km±2km, ML3.8/10*
*NAO **02** 17:36:34.7, 41°.22N×22°.84E, h0km, mb4.0*
*TIR **02** 17:36:35.9, 41°.26N×22°.47E, h19km±7km, Md4.3, Ml3.8*
ISC 02 17:36:33.7±0.6**, 41°.20N**±0°.01×**22°.84E**±0°.01**, h14**km±3km**, n552,** σ**1s.34**/653**, mb4.2**/27**, MS3.1**/4**, 49C-38D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.06**	**133**	Pg	**Pg**	**17 36 36.8**	**+0.3**
KNT				Sg	**Sg**	**17 36 38.5**	**+0.1**
KNT	**Kendrikon**	**0.06**	**133**	P	**Pg**	**17 36 36.8**	**+0.3**
KNT				S	**Sg**	**17 36 38.4**	**+0.1**
	261μm,0.4s						
KNT	**Kendrikon**	**0.06**	**133**	P	**Pg**	**17 36 36.8**	**+0.3**
KNT				S	**Sg**	**17 36 38.4**	**+0.1**
KNT	**Kendrikon**	**0.06**	**133**	⇓iPg	**Pg**	**17 36 36.8**	**+0.3**
KNT				i Sg	**Sg**	**17 36 38.4**	**+0.1**
VAY	**Valandovo**	**0.24**	**300**	ePg	**Pg**	**17 36 38.8**	**0.0**
VAY				eSg	**Sg**	**17 36 42.4**	**+0.1**
VAY	**Valandovo**	**0.24**	**300**	⇓iPg	**Pg**	**17 36 38.9**	**0.0**
VAY				i Sg	**Sg**	**17 36 42.3**	**0.0**
VAY				eLg	Lg	17 36 42.5	
	comp=N,32μm,0.3s						
VAY				eLg	Lg	17 36 42.8	
	comp=E,16μm,0.3s						
GRG	**Griva**	**0.41**	**234**	Pg	**Pg**	**17 36 42.2**	**+0.2**
GRG				Sg	**Sb**	**17 36 48.4**	**-0.5**
GRG	**Griva**	**0.41**	**234**	P	**Pg**	**17 36 42.2**	**+0.2**
GRG				S	**Sg**	**17 36 47.7**	**+0.1**
	comp=E,46μm,0.3s						
GRG	**Griva**	**0.41**	**234**	P	**Pg**	**17 36 42.2**	**+0.2**
GRG				S	**Sg**	**17 36 47.7**	**+0.1**
GRG	**Griva**	**0.41**	**234**	P	**Pg**	**17 36 42.1**	**+0.2**
GRG				S	**Sg**	**17 36 47.7**	**+0.1**
GRG				AML	AML	17 36 49.3	
GRG				AML	AML	17 36 49.8	
	comp=N,82827μm,0.3s						
GRG	**Griva**	**0.41**	**234**	⇑iPg	**Pg**	**17 36 42.3**	**+0.2**
GRG				i Sg	**Sb**	**17 36 48.2**	**-0.6**
SOH	**Sokhos**	**0.54**	**134**	P	**Pg**	**17 36 44.5**	**+0.1**
SOH				S	**Sg**	**17 36 51.9**	**+0.3**
	comp=N,22μm,0.5s						
SOH	**Sokhos**	**0.54**	**134**	P	**Pg**	**17 36 44.5**	**+0.1**
SOH				S	**Sg**	**17 36 51.9**	**+0.3**
SOH	**Sokhos**	**0.54**	**134**	P	**Pg**	**17 36 44.6**	**+0.1**
SOH				S	**Sg**	**17 36 52.0**	**+0.4**
SOH				AML	AML	17 36 56.0	
	comp=N,61012μm,0.4s						
SOH				AML	AML	17 36 56.7	
	comp=E,47444μm,0.5s						
SOH	**Sokhos**	**0.54**	**134**	i Pg	**Pg**	**17 36 44.6**	**+0.1**
SOH				i Sg	**Sb**	**17 36 52.2**	**-0.4**
SRS	**Serrai**	**0.57**	**98**	P	**Pg**	**17 36 44.9**	**0.0**
SRS				S	**Sg**	**17 36 52.2**	**-0.4**
	comp=E,7μm,0.2s						
SRS	**Serrai**	**0.57**	**98**	ePg	**Pg**	**17 36 45.0**	**0.0**
SRS				eSg	**Sg**	**17 36 53.0**	**+0.4**
SRS	**Serrai**	**0.57**	**98**	P	**Pg**	**17 36 44.9**	**0.0**
SRS				S	**Sg**	**17 36 52.2**	**-0.4**
SRS	**Serrai**	**0.57**	**98**	P	**Pg**	**17 36 45.1**	**+0.1**
SRS				S	**Sg**	**17 36 52.9**	**+0.3**
SRS				AML	AML	17 36 53.5	
	comp=E,13982μm,0.2s						
SRS				AML	AML	17 37 01.0	
	comp=N,15657μm,0.3s						
SRS	**Serrai**	**0.57**	**98**	i Pg	**Pg**	**17 36 45.0**	**0.0**
SRS				i Sg	**Sg**	**17 36 53.0**	**+0.4**
THE	**Thessaloniki**	**0.58**	**171**	P	**Pg**	**17 36 45.0**	**0.0**
THE				S	**Sg**	**17 36 53.0**	**+0.3**
	comp=N,13μm,0.6s						
THE	**Thessaloniki**	**0.58**	**171**	P	**Pg**	**17 36 45.1**	**+0.1**
THE				S	**Sb**	**17 36 53.4**	**-0.2**
THE				AML	AML	17 36 55.7	
	comp=E,25619μm,0.6s						
THE				AML	AML	17 36 56.2	
	comp=N,27365μm,0.5s						
THE	**Thessaloniki**	**0.58**	**171**	⇑iPg	**Pb**	**17 36 45.3**	**-0.2**
PEHC	**Pehcevo**	**0.58**	**4**	i Pg	**Pg**	**17 36 45.1**	**0.0**
PEHC				i Sg	**Sb**	**17 36 53.4**	**-0.4**
HORT	**Hortiatis**	**0.64**	**162**	Pg	**Pb**	**17 36 46.4**	**-0.1**
HORT				Sg	**Sb**	**17 36 55.7**	**+0.4**
HORT	**Hortiatis**	**0.64**	**162**	P	**Pb**	**17 36 46.4**	**-0.1**
HORT				S	**Sb**	**17 36 55.1**	**-0.2**
	comp=N,7μm,0.5s						
HORT	**Hortiatis**	**0.64**	**162**	P	**Pb**	**17 36 46.5**	**-0.1**
HORT				AML	AML	17 36 58.5	
	comp=N,16140μm,0.6s						
HORT				AML	AML	17 36 59.3	
	comp=E,12265μm,0.3s						
KKB	**Krupnik**	**0.68**	**19**	P	**Pg**	**17 36 46.5**	**-0.4**
KKB				S	**Sg**	**17 36 55.0**	**-0.8**
KKB	**Krupnik**	**0.68**	**19**	⇑iPg	**Pg**	**17 36 46.6**	**-0.3**
KKB				i Sg	**Sg**	**17 36 55.4**	**-0.4**
MMB	**Musomishta**	**0.77**	**63**	P	**Pg**	**17 36 48.3**	**-0.3**
MMB				S	**Sg**	**17 36 58.2**	**-0.5**
MMB	**Musomishta**	**0.77**	**63**	⇑iPg	**Pg**	**17 36 48.5**	**-0.1**
MMB				i Sg	**Sg**	**17 36 58.9**	**+0.2**
NVR	**Nevrokopi**	**0.78**	**79**	P	**Pn**	**17 36 49.8**	**-0.5**
NVR				S	**Sb**	**17 37 00.0**	**+0.4**
	comp=E,10μm,0.6s						
NVR	**Nevrokopi**	**0.78**	**79**	P	**Pn**	**17 36 49.8**	**-0.5**
NVR				S	**Sb**	**17 37 00.3**	**+0.7**
NVR				AML	AML	17 37 03.5	
	comp=E,17572μm,0.2s						
NVR				AML	AML	17 37 05.0	
	comp=N,21850μm,0.6s						
KOKK	**Kokkinochori,**	**0.96**	**113**	P	**Pb**	**17 36 51.8**	**-0.2**
KOKK				S	**Sg**	**17 37 05.2**	**+0.5**
	comp=N,5μm,0.8s						
KOKK	**Kokkinochori,**	**0.96**	**113**	P	**Pb**	**17 36 52.1**	**+0.1**
KTI	**Kastanea**	**0.98**	**214**	P	**Pb**	**17 36 51.7**	**-0.7**
FNA	**Florina**	**1.18**	**250**	Pn	**Pn**	**17 36 55.6**	**-0.2**
FNA	**Florina**	**1.18**	**250**	Pn	**Pn**	**17 36 55.6**	**-0.2**
FNA					**Sg**	**17 37 12.6**	**+0.6**
FNA	**Florina**	**1.18**	**250**	P	**Pn**	**17 36 55.8**	**-0.1**
	baz=241						
FNA				S	**Sb**	**17 37 07.4**	**-3.7**
	baz=241						
FNA	**Florina**	**1.18**	**250**	P	**Pn**	**17 36 55.6**	**-0.2**
FNA				S	**Sn**	**17 37 11.5**	**-0.3**
	comp=N,4μm,0.4s						
FNA	**Florina**	**1.18**	**250**	P	**Pn**	**17 36 55.5**	**-0.4**
FNA				S	**Sb**	**17 37 08.6**	**-2.5**
FNA	**Florina**	**1.18**	**250**	ePg	**Pb**	**17 36 55.9**	**0.0**
FNA				eSg	**Sg**	**17 37 13.1**	**+1.2**
FNA	**Florina**	**1.18**	**250**	P	**Pn**	**17 36 55.7**	**-0.1**
FNA				S	**Sn**	**17 37 11.5**	**-0.3**
FNA	**Florina**	**1.18**	**250**	P	**Pn**	**17 36 55.7**	**-0.2**
FNA				AML	AML	17 37 17.2	
	comp=N,8534μm,0.5s						
FNA				AML	AML	17 37 17.8	
	comp=E,8022μm,0.4s						
FNA	**Florina**	**1.18**	**250**	i Pg	**Pn**	**17 36 55.8**	**-0.1**
KVLA	**Kavala**	**1.20**	**102**	P	**Pg**	**17 36 56.5**	**-0.2**
KVLA				AML	AML	17 37 13.3	
	comp=N,12820μm,0.7s						
KVLA				AML	AML	17 37 13.6	
	comp=E,9131μm,0.4s						
OUR	**Ouranopolis**	**1.23**	**135**	Pn	**Pb**	**17 36 56.6**	**0.0**
OUR	**Ouranopolis**	**1.23**	**135**	P	**Pb**	**17 36 56.5**	**0.0**
OUR				S	**Sg**	**17 37 13.9**	**+0.7**
	comp=E,9μm,0.7s						
OUR	**Ouranopolis**	**1.23**	**135**	P	**Pb**	**17 36 56.8**	**+0.2**
OUR				AML	AML	17 37 18.4	
	comp=E,19878μm,0.8s						
OUR				AML	AML	17 37 19.1	
	comp=N,16324μm,0.5s						
KAVA	**Kavala**	**1.28**	**99**	P	**Pn**	**17 36 57.2**	**+0.1**
KAVA				S	**Sg**	**17 37 14.6**	**-0.4**
	comp=N,9μm,0.6s						
KAVA	**Kavala**	**1.28**	**99**	P	**Pb**	**17 36 57.6**	**+0.1**
SKO	**Skopje**	**1.30**	**307**	ePg	**Pb**	**17 36 57.8**	**-0.1**
SKO				eSg	**Sg**	**17 37 17.4**	**+1.7**
SKO	**Skopje**	**1.30**	**307**	i Pg	**Pn**	**17 36 57.6**	**+0.2**
BOSS	**Bosilegrad**	**1.32**	**348**	ePg	**Pb**	**17 36 58.1**	**-0.1**
BOSS				eSg	**Sn**	**17 37 15.4**	**+0.3**
PLNA	**Plana**	**1.35**	**19**	P	**Pb**	**17 36 58.8**	**+0.1**
PLNA				S	**Sg**	**17 37 16.7**	**-0.4**
PRVS	**Prvonek**	**1.42**	**337**	ePg	**Pn**	**17 36 59.4**	**+0.3**
PRVS				eSg	**Sg**	**17 37 18.9**	**-0.7**
PAIG	**Paliouri**	**1.43**	**153**	Pn	**Pn**	**17 36 59.3**	**+0.2**
PAIG	**Paliouri**	**1.43**	**153**	P	**Pn**	**17 36 59.2**	**+0.2**
PAIG				S	**Sn**	**17 37 17.7**	**+0.1**
	comp=N,4μm,0.6s						
VTS	**Vitosha**	**1.45**	**12**	P	**Pn**	**17 36 59.8**	**+0.3**
VTS	**Vitosha**	**1.45**	**12**	ePg	**Pb**	**17 37 00.2**	**-0.2**
VTS				eSg	**Sn**	**17 37 18.3**	**-0.1**
RZN	**Rozhen**	**1.51**	**70**	P	**Pb**	**17 37 01.5**	**-0.1**
RZN				S	**Sg**	**17 37 21.7**	**-0.7**
SOF	**Sofia**	**1.52**	**15**	P	**Pb**	**17 37 01.5**	**-0.2**
SOF				S	**Sg**	**17 37 22.4**	**-0.4**
OHR	**Ohrid**	**1.54**	**267**	ePg	**Pb**	**17 37 01.5**	**-0.6**
OHR				eSg	**Sg**	**17 37 24.4**	**+1.0**
OHR	**Ohrid**	**1.54**	**267**	i Pn	**Pn**	**17 37 01.4**	**+0.6**
OHR				i Sg	**Sg**	**17 37 22.8**	**-0.6**
OHR				eLg	Lg	17 37 24.3	
	comp=E,769nm,0.5s						
OHR				eLg	Lg	17 37 24.6	
	comp=N,476nm,0.5s						
THAS	**Thassos island**	**1.54**	**112**	P	**Pn**	**17 37 00.7**	**0.0**
THAS				S	**Sn**	**17 37 20.8**	**+0.3**
	comp=N,3μm,0.4s						
THAS	**Thassos island**	**1.54**	**112**	P	**Pn**	**17 37 00.9**	**+0.2**
THAS				AML	AML	17 37 24.6	
	comp=N,6169μm,0.5s						
THAS				AML	AML	17 37 24.6	
	comp=E,6305μm,0.3s						
TYRN	**Tyrnavos**	**1.56**	**197**	P	**Pn**	**17 37 01.4**	**+0.5**
TYRN	**Tyrnavos**	**1.56**	**197**	P	**Pn**	**17 37 01.6**	**+0.6**
LRSO	**Larissa Observ**	**1.57**	**193**	P	**Pb**	**17 37 01.9**	**-0.5**
LRSO	**Larissa Observ**	**1.57**	**193**	P	**Pb**	**17 37 02.1**	**-0.3**
NEST	**Nestorio**	**1.57**	**241**	P	**Pn**	**17 37 01.8**	**+0.6**
NEST	**Nestorio**	**1.57**	**241**	P	**Pn**	**17 37 01.8**	**+0.6**
NEST				AML	AML	17 37 34.1	
	comp=N,3811μm,1.4s						
NEST				AML	AML	17 37 36.0	
	comp=E,3043μm,0.7s						
PENT	**Pentalofos**	**1.64**	**233**	P	**Pn**	**17 37 02.8**	**+0.7**
PENT	**Pentalofos**	**1.64**	**233**	P	**Pn**	**17 37 02.9**	**+0.7**
PGB	**Panagyurishte**	**1.65**	**37**	P	**Pb**	**17 37 03.1**	**-0.7**
KBN	**Korca**	**1.66**	**250**		**Pn**	**17 37 03.0**	**+0.6**
KBN				Sn	**Sg**	**17 37 26.2**	**-0.9**
KBN	**Korca**	**1.66**	**250**	P	**Pb**	**17 37 03.2**	**-0.8**
	baz=244						
KBN				S	**Sn**	**17 37 23.0**	**-0.6**
	baz=244						
KBN				AMP			
	comp=N,6.6nm,0.5s,baz=244						
KBN	**Korca**	**1.66**	**250**	P	**Pn**	**17 37 02.8**	**+0.4**
KPRO	**Kipourio**	**1.68**	**223**	P	**Pn**	**17 37 03.4**	**+0.7**
KPRO	**Kipourio**	**1.68**	**223**	P	**Pn**	**17 37 03.4**	**+0.7**
PLD	**Plovdiv**	**1.71**	**56**	Pn	**Pn**	**17 37 03.8**	**+0.8**
PLD	**Plovdiv**	**1.71**	**56**	P	**Pn**	**17 37 03.9**	**+0.9**
PLD				S	**Sb**	**17 37 25.7**	**-0.6**
PLD	**Plovdiv**	**1.71**	**56**	ePg	**Pb**	**17 37 04.4**	**-0.5**
PLD				eSg	**Sg**	**17 37 27.6**	**-1.2**
PLD	**Plovdiv**	**1.71**	**56**	i Pn	**Pb**	**17 37 04.2**	**-0.7**
THL	**Klokotos Trika**	**1.75**	**201**	P	**Pn**	**17 37 03.8**	**+0.2**
THL	**Klokotos Trika**	**1.75**	**201**	P	**Pn**	**17 37 04.3**	**+0.7**
THL				AML	AML	17 37 37.8	
	comp=N,2170μm,0.7s						
THL				AML	AML	17 37 38.3	
	comp=E,3263μm,0.9s						
BARS	**Barje**	**1.79**	**335**	ePg	**Pn**	**17 37 04.2**	**+0.1**
BARS				eSg	**Sg**	**17 37 31.2**	**+0.1**
BARS	**Barje**	**1.79**	**335**	i Pn	**Pb**	**17 37 05.7**	**-0.5**
XOR	**Xorichti**	**1.85**	**172**	P	**Pn**	**17 37 05.3**	**+0.3**
XOR	**Xorichti**	**1.85**	**172**	P	**Pn**	**17 37 05.6**	**+0.5**
XOR				AML	AML	17 37 34.4	
	comp=E,4597μm,0.6s						
XOR				AML	AML	17 37 35.0	
	comp=N,6847μm,0.7s						
PHP	**Peshkopia**	**1.87**	**286**	P	**Pn**	**17 37 05.2**	**0.0**
	baz=287						
PHP				S	**Sn**	**17 37 28.1**	**-0.5**
	baz=287						
PHP				AMP			
	comp=N,2.7nm,0.9s,baz=287						
PHP	**Peshkopia**	**1.87**	**286**	P	**Pn**	**17 37 05.4**	**+0.2**
NEO	**Neokhori**	**1.92**	**171**	P	**Pn**	**17 37 06.3**	**+0.4**
NEO	**Neokhori**	**1.92**	**171**	P	**Pn**	**17 37 06.7**	**+0.8**
NEO				AML	AML	17 37 36.5	
	comp=E,5275μm,0.5s						
NEO				AML	AML	17 37 37.9	
	comp=N,4242μm,0.6s						
KDZ	**Kurdzhali**	**1.93**	**76**	Pn	**Pn**	**17 37 06.5**	**+0.5**
KDZ	**Kurdzhali**	**1.93**	**76**	P	**Pn**	**17 37 06.9**	**+0.9**
KDZ				S	**Sg**	**17 37 34.2**	**-1.5**
LSK	**Leskovik**	**2.00**	**239**	P	**Pn**	**17 37 08.3**	**+1.2**
	baz=233						
LSK	**Leskovik**	**2.00**	**239**	P	**Pn**	**17 37 08.0**	**+0.9**
RDO	**Rodhopi**	**2.04**	**91**	Pn	**Pn**	**17 37 07.8**	**+0.4**
RDO	**Rodhopi**	**2.04**	**91**		**Pn**	**17 37 07.9**	**+0.4**
RDO	**Rodhopi**	**2.04**	**91**	P	**Pn**	**17 37 08.0**	**+0.5**
RDO	**Rodhopi**	**2.04**	**91**	P	**Pn**	**17 37 08.2**	**+0.7**
RDO				AML	AML	17 37 41.2	
	comp=N,7455μm,0.7s						
RDO				AML	AML	17 37 41.6	
	comp=E,6175μm,0.4s						
ZAPS	**Zavoj**	**2.08**	**356**	ePg	**Pb**	**17 37 10.3**	**-0.8**
ZAPS				eSg	**Sg**	**17 37 40.3**	**-0.1**
JAN	**Janina**	**2.17**	**225**	P	**Pb**	**17 37 11.5**	**-1.1**
JAN	**Janina**	**2.17**	**225**	P	**Pb**	**17 37 11.1**	**-1.6**
SMTH	**Samothraki Isl**	**2.17**	**109**	P	**Pn**	**17 37 09.4**	**+0.1**
SMTH	**Samothraki Isl**	**2.17**	**109**	P	**Pn**	**17 37 09.5**	**+0.1**
SMTH				AML	AML	17 37 55.6	
	comp=N,1208μm,0.6s						
SMTH				AML	AML	17 37 57.0	
	comp=E,1271μm,0.5s						
ALNA	**Alonissos**	**2.20**	**159**	P	**Pn**	**17 37 10.2**	**+0.5**
ALNA				AML	AML	17 37 36.8	
	comp=N,3150μm,0.7s						
ALNA				AML	AML	17 37 42.6	
	comp=E,3591μm,0.8s						
LIA	**Limnos Island**	**2.21**	**125**	P	**Pn**	**17 37 10.1**	**+0.2**
LIA	**Limnos Island**	**2.21**	**125**	P	**Pn**	**17 37 10.4**	**+0.6**
LIA				AML	AML	17 37 48.3	
	comp=N,3998μm,0.6s						
LIA				AML	AML	17 37 50.2	
	comp=E,5920μm,0.7s						
AGG	**Agios Georgios**	**2.21**	**190**	Pn	**Pn**	**17 37 10.7**	**+0.7**
AGG	**Agios Georgios**	**2.21**	**190**	Pn	**Pn**	**17 37 10.7**	**+0.7**
AGG	**Agios Georgios**	**2.21**	**190**	P	**Pn**	**17 37 10.5**	**+0.6**
AGG	**Agios Georgios**	**2.21**	**190**	P	**Pn**	**17 37 10.7**	**+0.7**
AGG				S	**Sb**	**17 37 40.3**	**-0.4**
AGG	**Agios Georgios**	**2.21**	**190**	P	**Pn**	**17 37 10.7**	**+0.7**
AGG	**Agios Georgios**	**2.21**	**190**	P	**Pn**	**17 37 10.5**	**+0.6**
DIM	**Dimitrovgrad**	**2.22**	**67**	P	**Pn**	**17 37 10.7**	**+0.7**
TIR	**Tirane**	**2.25**	**275**	⇑P	**Pn**	**17 37 09.6**	**-0.8**
TIR	**Tirane**	**2.25**	**275**	Pn	**Pb**	**17 37 13.1**	**-0.9**
TIR	**Tirane**	**2.25**	**275**	P	**Pb**	**17 37 15.0**	**+1.0**
	baz=274						
TIR				S	**Sg**	**17 37 45.1**	**-0.8**
	baz=274						
TIR	**Tirane**	**2.25**	**275**	ePn	**Pn**	**17 37 11.5**	**+1.1**
TIR	**Tirane**	**2.25**	**275**	P	**Pn**	**17 37 09.6**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.25**	**194**	P	**Pn**	**17 37 11.3**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.25**	**194**	P	**Pn**	**17 37 11.5**	**+0.9**
MAKR				AML	AML	17 37 56.3	
	comp=E,2829μm,0.7s						
MAKR				AML	AML	17 37 58.2	
	comp=N,3331μm,0.7s						
MPEP	**Malo Peshtene**	**2.25**	**17**	P	**Pn**	**17 37 11.5**	**+1.0**
BCI	**Bajram Curri**	**2.38**	**300**	P	**Pn**	**17 37 13.5**	**+1.3**
	baz=303						
BCI				S	**Sn**	**17 37 42.0**	**+0.8**
	baz=303						
SELS	**Selova**	**2.39**	**328**	ePn	**Pn**	**17 37 12.0**	**-0.4**
EVR	**Evrytania**	**2.42**	**199**	P	**Pn**	**17 37 14.7**	**+1.9**
EVR	**Evrytania**	**2.42**	**199**	P	**Pn**	**17 37 14.7**	**+1.9**
BLKB	**Belogradchik**	**2.42**	**357**	⇑P	**Pn**	**17 37 14.0**	**+1.2**
BLKB	**Belogradchik**	**2.42**	**357**		**Pn**	**17 37 14.0**	**+1.2**
AXAR	**Agios Charalam**	**2.44**	**183**	P	**Pn**	**17 37 13.8**	**+0.8**
AXAR	**Agios Charalam**	**2.44**	**183**	P	**Pn**	**17 37 14.0**	**+0.9**
ALN	**Alexandroupoli**	**2.44**	**96**	Pn	**Pn**	**17 37 13.7**	**+0.7**
ALN	**Alexandroupoli**	**2.44**	**96**	Pn	**Pn**	**17 37 13.8**	**+0.7**
ALN	**Alexandroupoli**	**2.44**	**96**	P	**Pn**	**17 37 13.7**	**+0.7**
ALN	**Alexandroupoli**	**2.44**	**96**	P	**Pn**	**17 37 13.9**	**+0.9**
ALN				S	**Sb**	**17 37 47.5**	**+0.3**
ALN	**Alexandroupoli**	**2.44**	**96**	P	**Pn**	**17 37 13.8**	**+0.7**
ALN	**Alexandroupoli**	**2.44**	**96**	P	**Pn**	**17 37 13.7**	**+0.7**
ALN				AML	AML	17 37 56.2	
	comp=E,1564μm,0.5s						
ALN				AML	AML	17 37 59.0	
	comp=N,1581μm,0.5s						
VALD	**Valchedram**	**2.52**	**10**	P	**Pb**	**17 37 16.7**	**-2.0**
GADA	**Gvkgeada**	**2.54**	**112**	Pn	**Pn**	**17 37 15.1**	**+0.8**
SRN	**Sarande**	**2.54**	**240**	P	**Pn**	**17 37 15.8**	**+1.5**
	baz=235						
SRN				S	**Sb**	**17 37 49.1**	**-0.8**
	baz=235						
SRN	**Sarande**	**2.54**	**240**	P	**Pb**	**17 37 16.9**	**-2.0**
IGT	**Igoumenitsa**	**2.54**	**230**	P	**Pb**	**17 37 17.0**	**-2.0**
IGT	**Igoumenitsa**	**2.54**	**230**	P	**Pn**	**17 37 16.4**	**+1.9**
IGT				AML	AML	17 37 57.1	
	comp=E,798μm,0.5s						
IGT				AML	AML	17 37 57.6	
	comp=N,732μm,0.7s						
ENEZ	**Enez**	**2.55**	**99**	Pn	**Pn**	**17 37 15.6**	**+1.0**
PLVB	**Pleven**	**2.55**	**31**	⇑P	**Pn**	**17 37 15.6**	**+1.0**
PLVB				⇓S	**Sb**	**17 37 48.5**	**-2.0**
PLVB	**Pleven**	**2.55**	**31**		**Pn**	**17 37 15.6**	**+1.0**
PLVB					**Sb**	**17 37 48.5**	**-2.0**
GOAD	**anakkale-G¶**	**2.56**	**113**	P	**Pn**	**17 37 15.1**	**+0.5**
PVY	**Plav**	**2.56**	**304**	⇑iPn	**Pn**	**17 37 14.9**	**0.0**
PVY				i Sn	**Sn**	**17 37 47.1**	**+1.2**
ENZZ	**Sultanice-Enez**	**2.57**	**102**	Pn	**Pn**	**17 37 15.8**	**+1.0**
BOVS	**Bovan**	**2.57**	**341**	⇓S	**Sn**	**17 37 46.8**	**+0.9**
BOVS	**Bovan**	**2.57**	**341**		**Sn**	**17 37 46.8**	**+0.9**
BOVS	**Bovan**	**2.57**	**341**	ePn	**Pn**	**17 37 14.5**	**-0.4**
CAVK	**Edirne/Enez-Ca**	**2.57**	**100**	P	**Pb**	**17 37 17.8**	**-1.8**
CAVK				S	**Sb**	**17 37 53.5**	**+2.5**
PVL	**Pavlikeni**	**2.59**	**41**	P	**Pn**	**17 37 16.1**	**+1.0**
VLO	**Vlora**	**2.64**	**255**		**Pn**	**17 37 15.6**	**-0.2**
VLO	**Vlora**	**2.64**	**255**	P	**Pn**	**17 37 15.6**	**-0.2**
ZAGS	**Zajecar**	**2.65**	**350**	ePn	**Pn**	**17 37 16.1**	**+0.2**
SKY	**Skiros Island**	**2.67**	**150**	P	**Pn**	**17 37 17.1**	**+1.0**
ANX	**Ano Chora**	**2.70**	**195**	P	**Pn**	**17 37 17.6**	**+0.9**
ANX	**Ano Chora**	**2.70**	**195**	P	**Pn**	**17 37 17.7**	**+1.0**
KYMI	**Kymi, Euboea I**	**2.74**	**159**	P	**Pn**	**17 37 17.7**	**+0.5**
KYMI	**Kymi, Euboea I**	**2.74**	**159**	P	**Pn**	**17 37 17.8**	**+0.6**
KEK	**Kerkira**	**2.76**	**238**	Pn	**Pn**	**17 37 18.6**	**+1.2**
KEK	**Kerkira**	**2.76**	**238**	Pn	**Pn**	**17 37 18.0**	**+0.6**
KEK	**Kerkira**	**2.76**	**238**	P	**Pn**	**17 37 18.0**	**+0.6**
KEK	**Kerkira**	**2.76**	**238**	P	**Pn**	**17 37 18.2**	**+0.8**
BEY	**Berane**	**2.76**	**308**	i Pn	**Pn**	**17 37 18.3**	**+0.8**
IVA	**Berane**	**2.76**	**308**	⇑iPn	**Pn**	**17 37 17.6**	**+0.1**

IVA				i Sn	Sn	17 37 51.9	+1.3
PVO	Paravola	2.77	202	P	Pn	17 37 19.9	+2.3
PVO	Paravola	2.77	202	P	Pn	17 37 19.5	+1.9
ECEA	Canakkale, Ece	2.79	113	P	Pn	17 37 20.0	+2.2
ECEA				S	Sb	17 37 54.6	-2.6
ULC	Ulcinj	2.80	287	⇓iPn	Pn	17 37 18.7	+0.6
ULC				i Sn	Sn	17 37 53.0	+1.3
ULC	Ulcinj	2.80	287	i Pn	Pb	17 37 20.9	-2.6
ERIK	Erikli-Kesan	2.83	100	Pn	Pn	17 37 19.1	+0.7
ERIK	Erikli-Kesan	2.83	100	P	Pn	17 37 18.6	+0.2
ERIK				S	Sn	17 37 53.5	+1.2
BAIL	Bailesti	2.84	7	⇑P	Pn	17 37 19.8	+1.3
ELND	Elena	2.84	52	⇑P	Pn	17 37 19.5	+0.9
ELND	Elena	2.84	52		Pn	17 37 19.5	+0.9
UKOP	Uzunkopru-Edir	2.86	90	Pn	Pn	17 37 19.9	+1.0
UKOP	Uzunkopru-Edir	2.86	90	P	Pb	17 37 24.6	+0.1
GELI	Tayfur-Gelibol	2.87	105	Pn	Pn	17 37 19.6	+0.6
TSLK	Tsoukalades, L	2.91	216	P	Pn	17 37 21.9	+2.4
TSLK	Tsoukalades, L	2.91	216	P	Pn	17 37 21.6	+2.1
DRME	Dracevica, Mon	2.91	291	⇑iPn	Pn	17 37 21.3	+1.8
DRME				i Sn	Sn	17 37 55.5	+1.3
DRME	Dracevica, Mon	2.91	291	ePn	Pn	17 37 21.5	+2.0
CNKL	anakkale-Mer	2.93	112	P	Pn	17 37 19.4	-0.3
CNKL				P	Pb	17 37 21.1	-4.5
CNKL				S	Sb	17 37 59.6	-1.6
LKD2	Lefkada island	2.94	216	P	Pn	17 37 21.9	+2.0
LKD2	Lefkada island	2.94	216	P	Pn	17 37 22.1	+2.2
SJES	Sjenica	2.96	315	ePn	Pn	17 37 20.5	+0.2
KOME	Kolasin	2.98	305	⇑iPn	Pn	17 37 21.0	+0.5
KOME				i Sn	Sn	17 37 57.2	+1.2
COMU	Canakkale	2.98	111	Pn	Pn	17 37 21.5	+1.1
NYDR	Nydri-Lefkada	2.98	214	P	Pn	17 37 22.7	+2.2
NYDR	Nydri-Lefkada	2.98	214	P	Pn	17 37 22.4	+2.0
EZN	Ezine	2.99	116	Pn	Pn	17 37 21.1	+0.5
EDRB	Edirne	3.00	76	Pn	Pn	17 37 21.3	+0.5
EDRB	Edirne	3.00	76	P	Pn	17 37 21.0	+0.2
VIL2	Platees	3.00	174	P	Pn	17 37 22.4	+1.5
VLAD	Vladila	3.02	22	⇑P	Pn	17 37 21.8	+0.7
KOCA	Canakkale, Ayv	3.04	123	P	Pn	17 37 22.6	+1.3
JMB	Yambol	3.04	64	P	Pn	17 37 21.6	+0.3
SIGR	SIGRI	3.05	130	Pn	Pn	17 37 22.9	+1.5
SIGR	SIGRI	3.05	130	P	Pn	17 37 22.9	+1.5
SIGR	SIGRI	3.05	130	P	Pn	17 37 22.7	+1.3
SIGR				AML	AML	17 38 16.3	
	comp=N,925µm,0.9s						
SIGR				AML	AML	17 38 23.0	
	comp=E,587µm,0.8s						
VILL	Villia	3.06	173	P	Pn	17 37 22.0	+0.4
DRAG	Dragano-Lefkad	3.06	215	P	Pn	17 37 23.4	+1.8
PUNG	Punghina	3.08	1	⇓P	Pn	17 37 22.5	+0.8
EVGI	Lefkada island	3.08	214	P	Pn	17 37 24.0	+2.2
EVGI	Lefkada island	3.08	214	P	Pn	17 37 23.8	+2.0
ZIMR		3.08	36	⇑P	Pn	17 37 23.9	+2.0
ZIMR		3.08	36		Pn	17 37 23.9	+2.0
ZIMR		3.08	36	P	Pn	17 37 23.9	+2.0
LPK	Lapseki	3.09	104	Pn	Pn	17 37 22.7	+0.7
IVAS	Ivanjica	3.10	321	ePn	Pn	17 37 21.9	-0.3
GRUS	Gruza	3.11	330	ePn	Pn	17 37 22.2	-0.1
SZH	Strazhitsa	3.11	47	P	Pn	17 37 22.9	+0.6
BUM	Brajici-Budva	3.15	292	⇓iPn	Pn	17 37 23.4	+0.5
BUM				i Sn	Sn	17 38 01.4	+1.1
BAYC	CANAKKALE_Bayr	3.18	116	P	Pn	17 37 23.4	+0.2
BAYC				S	Sn	17 38 00.8	-0.2
CEME	Cevo	3.22	296	⇑iPn	Pn	17 37 24.6	+0.7
CEME				i Sn	Sn	17 38 02.9	+0.8
DION	Dionisos Attik	3.23	165	P	Pn	17 37 25.8	+1.8
KIRK	Kırklareli	3.25	78	P	Pn	17 37 25.0	+0.8
KIRK				S	Sb	17 38 11.4	+0.9
PRK	Paraskevi	3.27	126	P	Pn	17 37 26.4	+1.9
PRK	Paraskevi	3.27	126	P	Pn	17 37 26.3	+1.8
PRK				AML	AML	17 38 25.0	
	comp=E,1475µm,0.8s						
PRK				AML	AML	17 38 30.7	
	comp=N,1811µm,0.9s						
SVIS	Svilajnac	3.29	339	ePn	Pn	17 37 24.8	+0.1
NKME	Niksic	3.29	300	⇓iPn	Pn	17 37 25.2	+0.4
NKME				i Sn	Sn	17 38 04.8	+1.0
ATHU	Athens Univers	3.31	167	P	Pn	17 37 26.0	+1.0
RLS	Riolos of Patr	3.31	199	P	Pn	17 37 27.8	+2.7
KUBS	Kucevo	3.32	345	ePn	Pn	17 37 23.9	-1.3
RKY	Sarkoy-Tekirda	3.33	97	Pn	Pn	17 37 26.3	+1.0
SART	Tekirdag	3.33	97	P	Pn	17 37 26.0	+0.7
SART				S	Sb	17 38 10.7	-2.1
PLE	Pljevlja	3.33	311	⇑iPn	Pn	17 37 25.9	+0.5
PLE				i Sn	Sn	17 38 05.9	+1.1
DRO	Drossia	3.36	195	P	Pn	17 37 27.3	+1.6
COPA	Copaceanca	3.42	30	⇓P	Pn	17 37 27.6	+1.2
VLY	Voula,Athens	3.43	167	P	Pn	17 37 27.6	+1.0
RMGR	Halanga-Turnu	3.46	358	⇓P	Pn	17 37 27.4	+0.3
RMGR	Halanga-Turnu	3.46	358		Pn	17 37 27.4	+0.3
SRE	Strehaia	3.47	4	⇓P	Pn	17 37 28.9	+1.6
SRE	Strehaia	3.47	4	P	Pn	17 37 28.8	+1.6
DJES	Djerdap	3.47	356	Pn	Pn	17 37 26.9	-0.4
HCY	Herceg Novi	3.48	292	⇓iPn	Pn	17 37 28.5	+1.2
HCY				i Sn	Sn	17 38 09.1	+0.8
HCY	Herceg Novi	3.48	292	ePn	Pn	17 37 29.2	+1.9
KRBG	Karabiga-Canak	3.48	102	Pn	Pn	17 37 28.4	+1.1
AYVA	Ayvalik	3.50	121	P	Pn	17 37 29.2	+1.5
ARMN	Kirklareli, Me	3.51	78	P	Pn	17 37 28.6	+0.9
ARMN				S	Sb	17 38 17.7	-0.3
TRUS	Trudelj	3.51	330	ePn	Pn	17 37 27.5	-0.3
SCTE	Santa Cesarea	3.51	253	Pn	Pn	17 37 28.4	+0.6
RUDO	Rudo	3.52	314	ePn	Pn	17 37 28.7	+0.7
UPM	Unac-Piva	3.54	306	ePn	Pn	17 37 30.1	+1.7
EPID	Epidavros	3.59	176	P	Pn	17 37 29.8	+0.9
EPID	Epidavros	3.59	176	P	Pn	17 37 30.0	+1.2
RAZG	Razgrad	3.60	48	⇑P	Pn	17 37 30.6	+1.6
RAZG	Razgrad	3.60	48		Pn	17 37 30.6	+1.6
BRY	Bratogost	3.62	299	⇓iPn	Pn	17 37 30.2	+0.7
BRY				i Sn	Sn	17 38 13.0	+0.9
BRY	Bratogost	3.62	299	ePn	Pn	17 37 31.5	+2.0
BUHA	Balikesir, Bur	3.66	116	P	Pn	17 37 31.4	+1.6
MDVR	Moldovita	3.67	347	⇓P	Pn	17 37 29.7	-0.3
TREB	Trebinje	3.67	296	ePn	Pn	17 37 30.5	+0.5
TREB	Trebinje	3.67	296	ePn	Pn	17 37 31.4	+1.4
HUMR	Humele	3.68	25	⇓P	Pn	17 37 30.7	+0.7
BBLS	Lazići	3.68	318	ePn	Pn	17 37 31.2	+1.1
BBLS	Lazići	3.68	318	ePn	Pn	17 37 30.7	+0.6
HERR	Herculane	3.69	355	⇑P	Pn	17 37 30.0	-0.2
KARB	zmir-Karabur	3.74	132	P	Pn	17 37 32.3	+1.4
CHOS	Chios island	3.75	138	P	Pn	17 37 32.7	+1.6
VIZE	Kirklareli, Vi	3.78	83	P	Pn	17 37 31.2	-0.3
KRND	KRANIDI	3.82	176	P	Pn	17 37 33.1	+1.1
ROIA	ROIAK	3.87	59	P	Pn	17 37 34.0	+1.3
NEF	NEVSHA	3.88	56	P	Pn	17 37 33.3	+0.4
PRD	Provadia	3.92	59	P	Pn	17 37 34.3	+0.9
BUC1	Bucharest	3.92	36	⇓P	Pn	17 37 34.7	+1.3
BUC1	Bucharest	3.92	36		Pn	17 37 34.7	+1.3
BUC1	Bucharest	3.92	36	P	Pn	17 37 34.7	+1.3
BALY	Balya	3.93	110	P	Pn	17 37 37.0	+3.4
CIOR	Ciorogarla	3.94	34	⇓P	Pn	17 37 35.3	+1.6
CIOR	Ciorogarla	3.94	34		Pn	17 37 35.2	+1.6
ZEDA	zmir-Bergama	3.94	123	P	Pn	17 37 35.9	+2.2
STFAR	Stefanesti-Arg	3.98	22	⇓P	Pn	17 37 35.9	+1.7
STFAR	Stefanesti-Arg	3.98	22		Pn	17 37 35.9	+1.7
HAPS	Han Pijesak,Bl	4.07	316	ePn	Pn	17 37 36.0	+0.5
HAPS	Han Pijesak,Bl	4.07	316	ePn	Pn	17 37 35.6	+0.1
AVR	AVREN	4.07	60	P	Pn	17 37 36.5	+1.1
BAND	Balkesir-Ban	4.08	100	P	Pn	17 37 35.5	-0.1
NEVS	Nevesinje	4.09	302	ePn	Pn	17 37 39.5	+3.7
TEKS	Tekeris	4.14	325	ePn	Pn	17 37 36.1	-0.3
TEKS	Tekeris	4.14	325	ePn	Pn	17 37 36.0	-0.3
BKES	Balkesir-Mer	4.15	109	P	Pn	17 37 37.7	+1.2
BKES				S	Sn	17 38 26.1	+1.3
BALB	Balikesir	4.15	110	Pn	Pn	17 37 38.0	+1.4
STEP	BALIKESIR_Sava	4.15	114	P	Pn	17 37 39.2	+2.5
STON	Ston	4.18	295	ePn	Pn	17 37 37.6	+0.7
STON	Ston	4.18	295	ePn	Pn	17 37 35.8	-1.1
GZR	Gura Zlata	4.19	359	⇑P	Pn	17 37 37.8	+0.6
GZR	Gura Zlata	4.19	359	P	Pn	17 37 37.7	+0.6
SULR		4.28	35	⇓P	Pn	17 37 40.3	+1.9
LOT	Lotru	4.30	9	⇑P	Pn	17 37 39.5	+0.8
MTUR	Matau	4.34	21	⇑P	Pn	17 37 40.2	+1.0
MTUR	Matau	4.34	21		Pn	17 37 40.2	+1.0
MTUR	Matau	4.34	21	P	Pn	17 37 40.2	+1.0
BZS	Buzias	4.50	349	⇑P	Pn	17 37 40.5	-0.9
BZS	Buzias	4.50	349	ePn	Pn	17 37 40.5	-0.9
BZS	Buzias	4.50	349	P	Pn	17 37 40.4	-0.9
VOIR		4.53	20	⇑P	Pn	17 37 42.6	+0.8
VOIR		4.53	20	P	Pn	17 37 42.6	+0.8
FRGS	Fruska Gora	4.53	332	⇑P	Pn	17 37 41.6	-0.2
FRGS	Fruska Gora	4.53	332	ePn	Pn	17 37 41.3	-0.6
FRGS	Fruska Gora	4.53	332	ePn	Pn	17 37 41.2	-0.6
SURR	Surduc	4.58	354	⇑P	Pn	17 37 43.5	+1.1
SURR	Surduc	4.58	354		Pn	17 37 43.5	+1.1
DURS	Dursunbey	4.59	109	P	Pn	17 37 43.1	+0.4
PSN	Preselentsi	4.61	56	P	Pn	17 37 44.0	+1.1
APE	Apeiranthos	4.63	152	⇓P	Pn	17 37 44.3	+1.1
APE	Apeiranthos	4.63	152		Pn	17 37 44.3	+1.1
APE	Apeiranthos	4.63	152	P	Pn	17 37 44.3	+1.1
AMRR	Amara	4.74	43	⇑P	Pn	17 37 46.5	+1.8
AMRR	Amara	4.74	43	P	Pn	17 37 46.5	+1.8
ISR	Istrita	4.76	33	⇓P	Pn	17 37 47.4	+2.4
ISR	Istrita	4.76	33	P	Pn	17 37 47.4	+2.4
PGOR	Pogoanele	4.79	38	⇑P	Pn	17 37 47.5	+2.2
PGOR	Pogoanele	4.79	38		Pn	17 37 47.5	+2.2
MLR	Muntele Rosu	4.85	27	⇓P	Pn	17 37 48.0	+1.7
MLR	Muntele Rosu	4.85	27	Pn	Pn	17 37 47.8	+1.6
MLR	Muntele Rosu	4.85	27	Pn	Pn	17 37 47.9	+1.7
	comp=N,14nm,0.3s,baz=191,slow=2.7,SNR=79						
MLR				Sn	Sn	17 38 40.3	-1.9
	comp=N,11nm,0.3s,baz=170,slow=14,SNR=3.4						
MLR				Lg	Lg	17 39 02.8	
	comp=N,6.6nm,0.3s,baz=307,slow=20,SNR=1.5						
NEHR	Nehoiu	4.92	30	⇑P	Pn	17 37 49.5	+2.4
NEHR	Nehoiu	4.92	30		Pn	17 37 49.5	+2.4
MANR	Mangalia	4.99	57	⇓P	Pn	17 37 49.6	+1.5
MDB	Medias	5.06	12	⇑P	Pn	17 37 50.6	+1.5
MDB	Medias	5.06	12		Pn	17 37 50.6	+1.5
MDB	Medias	5.06	12	P	Pn	17 37 50.6	+1.5
TIP	Timpagrande	5.08	249	Pn	Pn	17 37 49.3	-0.1
HARR	Harsova	5.11	45	⇑P	Pn	17 37 51.4	+1.7
HARR	Harsova	5.11	45		Pn	17 37 51.4	+1.7
HARR	Harsova	5.11	45	P	Pn	17 37 51.4	+1.7
DOPR	Dopca	5.11	20	⇓P	Pn	17 37 51.1	+1.3
BISRR	Bisoca	5.18	32	⇓P	Pn	17 37 53.1	+2.4
TIRR	Tirgusor	5.23	50	⇓P	Pn	17 37 52.5	+1.1
TIRR	Tirgusor	5.23	50		Pn	17 37 52.2	+0.9
TIRR	Tirgusor	5.23	50		Pn	17 37 52.5	+1.1
TIRR	Tirgusor	5.23	50	P	Pn	17 37 52.5	+1.1
COVR	Voineasa-Covas	5.25	27	⇓P	Pn	17 37 53.5	+1.8
COVR	Voineasa-Covas	5.25	27		Pn	17 37 53.5	+1.8
BOSR	Bodos	5.28	22	⇓P	Pn	17 37 53.5	+1.4
MGRS	Mrkonjic Grad	5.31	309	ePn	Pn	17 37 53.3	+0.7
OZUR		5.34	23	⇑P	Pn	17 37 54.3	+1.3
SGRT	San Giovanni R	5.36	278	Pn	Pn	17 37 52.5	-0.7
TURR	Turia	5.37	24	⇑P	Pn	17 37 55.2	+1.8
PLOR	Plostina	5.41	30	⇓P	Pn	17 37 56.1	+2.2
PLOR	Plostina	5.41	30	P	Pn	17 37 56.1	+2.2
VRI	Vrincioaia	5.45	30	⇑P	Pn	17 37 56.9	+2.4
VRI	Vrincioaia	5.45	30	P	Pn	17 37 56.8	+2.4
BLY	Banja Luka	5.46	312	ePn	Pn	17 37 55.4	+0.9
BLY	Banja Luka	5.46	312	ePn	Pn	17 37 54.9	+0.4
MARR	Marisel-Cluj	5.48	2	⇑P	Pn	17 37 56.3	+1.5
MARR	Marisel-Cluj	5.48	2		Pn	17 37 56.3	+1.5
CUC	Castrocucco	5.48	260	Pn	Pn	17 37 55.0	0.0
TPGR	Topolog	5.48	46	⇓P	Pn	17 37 56.4	+1.6
TPGR	Topolog	5.48	46		Pn	17 37 56.4	+1.6
ODBI	Odobesti	5.49	33	⇓P	Pn	17 37 56.6	+1.6
ODBI	Odobesti	5.49	33		Pn	17 37 56.5	+1.6
CJR	Cluj-Napoca	5.54	5	⇓P	Pn	17 37 56.9	+1.2
CJR	Cluj-Napoca	5.54	5	P	Pn	17 37 56.8	+1.2
CFR	Carcaliu	5.55	42	⇑P	Pn	17 37 56.8	+1.1
CFR	Carcaliu	5.55	42	P	Pn	17 37 56.8	+1.1
PANC	Panciu	5.62	32	⇑P	Pn	17 37 59.1	+2.3
PANC	Panciu	5.62	32		Pn	17 37 59.1	+2.3
A050A	Klekovaca	5.68	307	ePn	Pn	17 37 58.6	+1.0
A051A	Mrakovica	5.78	313	ePn	Pn	17 37 59.6	+0.7
MORH	Mrgy, Hungar	5.86	330	⇑P	Pn	17 37 60.0	-0.1
GHRR		5.88	33	⇓P	Pn	17 38 01.7	+1.5
TLCR		5.91	46	⇑P	Pn	17 38 02.3	+1.6
TLCR		5.91	46		Pn	17 38 02.3	+1.6
TLCR		5.91	46	P	Pn	17 38 02.3	+1.6
VARL	Varlezi	5.94	36	⇑P	Pn	17 38 02.7	+1.6
VARL	Varlezi	5.94	36		Pn	17 38 02.7	+1.6
BORA	Eskisehir	5.95	100	Pn	Pn	17 38 02.2	+0.9
TESR	Tescani	5.98	26	⇓P	Pn	17 38 03.3	+1.6
VLDR	Vladesti	6.00	38	⇑P	Pn	17 38 03.7	+1.7
VLDR	Vladesti	6.00	38		Pn	17 38 03.7	+1.7
CEL	Celeste	6.11	243	Pn	Pn	17 38 02.7	-0.8
BIR	Birlad	6.13	33	⇓P	Pn	17 38 05.3	+1.5
BIR	Birlad	6.13	33		Pn	17 38 05.3	+1.5
BIR	Birlad	6.13	33	P	Pn	17 38 05.3	+1.5
MDUB	Mudurnu	6.38	94	Pn	Pn	17 38 07.4	+0.1
ARG	Arkhangelos	6.47	139	Pn	Pn	17 38 09.8	+1.4
ARG	Arkhangelos	6.47	139	P	Pn	17 38 09.8	+1.4
VASR	Vaslui	6.51	32	⇑P	Pn	17 38 10.4	+1.5
VASR	Vaslui	6.51	32		Pn	17 38 10.4	+1.5
KARP	Karpathos	6.59	148	Pn	Pn	17 38 09.8	-0.3
BURAR	Bucovina Array	6.63	14	⇓P	Pn	17 38 12.2	+1.5
BURAR	Bucovina Array	6.63	14		Pn	17 38 10.3	-0.4
BURAR	Bucovina Array	6.63	14	P	Pn	17 38 12.2	+1.5
BUR08	Bucovina Ar. S	6.66	14	Pn	Pn	17 38 11.8	+0.7
INTR	Introdacqua	6.75	280	Pn	Pn	17 38 12.3	0.0
PSZ	Piszkesteto	7.04	344	Pn	Pn	17 38 16.4	+0.1
PSZ	Piszkesteto	7.04	344	P	Pn	17 38 16.4	+0.1
ELL	Elmali	7.08	127	Pn	Pn	17 38 15.4	-1.4
ELL	Elmali	7.08	127	P	Pn	17 38 15.5	-1.4
MILM	Milestii Mici	7.15	35	eP	Pn	17 38 20.0	+2.3
MILM				eL	L	17 40 31.0	
MILM				LRM	MLR	17 41 57.0	
	comp=N,250nm,12.5s						
MILM	Milestii Mici	7.15	35	eP	Pn	17 38 20.0	+2.3
MILM				MLR	MLR		
	comp=Z,250nm,12.5s						
CAMP	Campotosto	7.17	284		Pn	17 38 18.7	+0.6
GUMA	Gualdo di Mace	7.31	288		Pn	17 38 20.7	+0.8
NRCA	Norcia	7.42	286		Pn	17 38 22.0	+0.4
KECS	Kecovo	7.47	348	eP	Pn	17 38 23.3	+1.2
KECS	Kecovo	7.47	348	ePN	Pn	17 38 23.3	+1.2
FDMO	Fiordimonte	7.48	287		Pn	17 38 22.5	+0.2
RAFF	Raffo Rosso	7.69	242	Pn	Pn	17 38 23.8	-1.4
ANTO	Ankara	7.70	97	Pn	Pn	17 38 25.5	+0.2
ANTO	Ankara	7.70	97	P	Pn	17 38 25.5	+0.2
KOLS	Kolonicke sedl	7.74	357	eP	Pn	17 38 27.1	+1.2
KOLS	Kolonicke sedl	7.74	357	ePN	Pn	17 38 27.1	+1.2
CESX	Cesi	7.78	284	Pn	Pn	17 38 26.7	+0.3
VYHS	Vyhne	7.83	340	eP	Pn	17 38 27.6	+0.6
VYHS				e		17 40 00.4	
VYHS	Vyhne	7.83	340	ePN	Pn	17 38 27.6	+0.6
VYHS				eSN	Sn	17 40 00.4	+5.1
SOKA	Soboth	7.85	317	ePn	Pn	17 38 28.0	+0.5
	comp=Z,1.8nm,0.5s						
OBKA	Obir	8.00	314	i Pn	Pn	17 38 31.1	+1.6
	comp=Z,2.8nm,0.3s						
OBKA	Obir	8.00	314	ePn	Pn	17 38 30.7	+1.2
RONA	Rosalia, Austr	8.00	326	i Pn	Pn	17 38 31.5	+2.0
	comp=Z,1.4nm,0.4s						
ZST	Bratislava	8.10	332	eP	Pn	17 38 28.5	-2.2
ZST	Bratislava	8.10	332	ePN	Pn	17 38 28.5	-2.2
MODS	Modra-Piesok	8.19	333	eP	Pn	17 38 32.4	+0.4
MODS				e		17 40 00.7	
MODS	Modra-Piesok	8.19	333	ePN	Pn	17 38 32.4	+0.4
MODS				eSN	Sn	17 40 00.7	-3.5
SABO	M.te Sabotino	8.23	309		Pn	17 38 33.2	+0.6
CLTB	Caltabellotta	8.28	247	Pn	Pn	17 38 34.2	+0.8
BR131	Keskin Array S	8.36	97	Pn	Pn	17 38 35.5	+0.9
BR131	Keskin Array S	8.36	97	P	Pn	17 38 35.5	+0.9
BRTR	Keskin Array B	8.37	97	Pn	Pn	17 38 35.2	+0.7
	comp=Z,0.6nm,0.5s,baz=280,slow=16,SNR=1.4						
BRTR				Sn	Sn	17 40 05.0	-3.8
	comp=Z,0.1nm,0.3s,baz=290,slow=21,SNR=1.4						
BRTR				LR	LR	17 42 34.4	
	comp=Z,82nm,19.8s,baz=300,slow=43						
CONA	Conrad Observa	8.37	326	ePn	Pn	17 38 36.3	+1.8
	comp=Z,0.8nm,0.3s						
KWP	Kalwaria Pacla	8.43	359	Pn	Pn	17 38 36.3	+1.0
KWP	Kalwaria Pacla	8.43	359	P	Pn	17 38 36.3	+1.0
PRED	Cave del Predi	8.51	311	Pn	Pn	17 38 34.8	-1.6
MYKA	Terra Mystica	8.57	312	i Pn	Pn	17 38 39.6	+2.3
	comp=Z,2.3nm,0.5s						
SEV	Sevastopol'	8.62	64	eP	Pn	17 38 38.3	+0.4
SEV				Pm		17 38 41.2	
	comp=Z,80nm,1.1s						
SEV				eS	Sn	17 40 12.2	-2.7
SEV				Sm		17 40 14.9	
	comp=N,14nm,0.7s						
SEV				Sm		17 40 14.9	
	comp=E,10.0nm,0.7s						
SEV	Sevastopol'	8.62	64	eP	Pn	17 38 38.3	+0.4
SEV				eS	Sn	17 40 12.2	-2.7
OSSC	Osservatorio P	8.89	289	Pn	Pn	17 38 42.0	+0.3
STAL	STALIGIAL	8.90	308	Pn	Pn	17 38 42.1	+0.2
CLUD	Cludinico	8.91	309		Pn	17 38 42.3	+0.4
YAL	Yalta	8.94	65	eP	Pn	17 38 47.0	+4.8
YAL				Pm		17 38 47.4	
	comp=Z,9.0nm,0.5s						
YAL				eS	Sn	17 40 27.0	+4.4
YAL	Yalta	8.94	65	eP	Pn	17 38 47.0	+4.8
YAL				eS	Sn	17 40 27.0	+4.4
KBA	Koelnbreinsper	9.00	314	i Pn	Pn	17 38 44.8	+1.5
	comp=Z,4.1nm,0.5s						
TEOL	Teolo	9.14	301	Pn	Pn	17 38 44.8	-0.3
ALU	Alushta	9.16	64	eP	Pn	17 38 48.1	+2.7
ALU				Pm		17 38 49.3	
	comp=Z,7.0nm,0.4s						
ALU				eS	Sn	17 40 32.0	+3.8
ALU	Alushta	9.16	64	eP	Pn	17 38 48.1	+2.7
ALU				eS	Sn	17 40 32.0	+3.8
VRAC	Vranov	9.22	334	LR	LR	17 42 54.4	
	comp=Z,84nm,19.4s,baz=160,slow=42						
BIOA	Bad Ischl, Aus	9.24	318	ePn	Pn	17 38 48.8	+2.4
	comp=Z,1.9nm,0.5s						
ABTA	Abfaltersbach	9.28	310	i Pn	Pn	17 38 48.2	+1.2
	comp=Z,5.2nm,0.6s						
CTI	Castel Tesino	9.45	305	Pn	Pn	17 38 48.9	-0.4
CTI	Castel Tesino	9.45	305	P	Pn	17 38 48.9	-0.4
LESA	Schwarzleotal	9.57	314	i Pn	Pn	17 38 54.1	+3.0
	comp=Z,5.3nm,0.5s						
SUDU	Sudak	9.63	63	eP	Pn	17 38 51.8	0.0
SUDU				Pm		17 38 57.5	
	comp=Z,18nm,0.5s						
SUDU				eS	Sn	17 40 36.9	-2.8
SUDU				Sm		17 40 40.8	
	comp=N,14nm,0.4s						
SUDU				Sm		17 40 40.8	
	comp=E,34nm,1.0s						
SUDU	Sudak	9.63	63	eP	Pn	17 38 51.8	0.0
SUDU				eS	Sn	17 40 36.9	-2.8
CKRC	Cesky Krumlov	9.72	324	ePN	Pn	17 38 56.4	+3.5
CKRC	Cesky Krumlov	9.72	324	eP	Pn	17 38 56.4	+3.5
SALO	Salr	9.99	300		Pn	17 38 56.1	-0.6
GEC2	GERESS Array S	10.01	323	Pn	Pn	17 38 55.9	-1.1
GERES	GERESS Array B	10.01	323	Pn	Pn	17 38 56.2	-0.7
	comp=E,0.1nm,0.3s,baz=141,slow=13,SNR=3.2						
	comp=E,0.6nm,0.6s						
WTTA	Wattenberg	10.06	311	ePn	Pn	17 39 00.0	+2.2
	comp=E,0.1nm,0.1s						
WATA	Walderalm	10.14	311	ePn	Pn	17 39 01.4	+2.6
	comp=E,3.4nm,0.5s						
KHC	Kasperske Hory	10.27	324	Pn	Pn	17 39 00.6	+0.1
KHC	Kasperske Hory	10.27	324	ePN	Pn	17 39 03.9	+3.4
KHC				eSN	Sn	17 40 56.3	+0.9
KHC	Kasperske Hory	10.27	324	eP	Pn	17 39 03.9	+3.4
KHC				e		17 40 56.3	
MSSA	Maissana	10.28	292	Pn	Pn	17 39 00.1	-0.7
SQTA	Sankt Quirin	10.29	310	i Pn	Pn	17 39 02.4	+1.6
	comp=E,2.1nm,0.4s						
MOTA	Moosalm	10.41	310	ePn	Pn	17 39 04.8	+2.2
	comp=E,3.7nm,0.7s						
FETA	Feichten	10.47	308	ePn	Pn	17 39 05.1	+1.7
	comp=E,0.9nm,0.5s						
KIEV	Kiev	10.47	23	Pn	Pn	17 39 02.5	-0.7
KIEV	Kiev	10.47	23	P	Pn	17 39 02.5	-0.7
AKASG	Malin Array Be	10.48	23	Pn	Pn	17 39 02.6	-0.8
AKASG	Malin Array Be	10.48	23	i P	Pn	17 39 03.4	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	10.48	23	Pn	Pn	17 39 00.7	-2.7
	comp=Z,0.9nm,0.3s,baz=210,slow=11,SNR=7.5						
AKASG				LR	LR	17 43 42.4	
	comp=Z,102nm,21.1s,baz=356,slow=41						
	comp=Z,0.6nm,0.4s						
AKBB	Malin Array Si	10.48	23	Pn	Pn	17 39 02.6	-0.8
AKBB	Malin Array Si	10.48	23	ceP	Pn	17 39 03.6	+0.2
FUORN	Ofenpass-Fuorn	10.56	305	Pn	Pn	17 39 05.4	+0.6
DAVOX	Davos/Dischmat	10.87	305	Pn	Pn	17 39 08.9	0.0
	comp=Z,0.9nm,0.3s,baz=151,slow=17,SNR=8.4						
	comp=Z,3.1nm,0.5s						
TUE	Stuetta	11.07	303	Pn	Pn	17 39 12.6	+0.9
DAVA	Damuels	11.10	308	ePn	Pn	17 39 14.8	+2.8
	comp=Z,1.4nm,0.3s						
CLL	Collm	12.17	329	ePx	Px	17 39 29.0	
SENIN	Lac Senin/Sane	12.35	300	Pn	Pn	17 39 28.6	-0.6
BNI	Bardonecchia	12.42	293	Pn	Pn	17 39 28.8	-1.2
BNI	Bardonecchia	12.42	293	P	Pn	17 39 28.8	-1.2
BFO	Black Forest	12.52	310	Pn	Pn	17 39 31.2	-0.1
BFO	Black Forest	12.52	310	P	Pn	17 39 31.2	-0.1
SOC	Sochi	12.70	74	eP	Pn	17 39 31.4	-2.4
SOC				e		17 41 54.9	
SOC				MLR	MLR		
	comp=Z,77nm,8.0s						
KIV	Kislovodsk	14.88	73	⇓eP	Pn	17 40 06.3	+2.7
KIV				S	Sn	17 42 55.0	+6.9
KIV				pmax	pmax		
	comp=Z,13nm,2.1s						
GURO	Guroymak-BITLI	14.97	94	Pn	Pn	17 40 04.3	-0.6
VORD	Divnogorie	14.99	44	eP	Pn	17 40 03.3	-1.6
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBZ	Khabaz	15.02	74	i P	Pn	17 40 06.8	+1.5
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
VSR	Storozhevoye	15.07	43	eP	Pn	17 40 03.0	-3.0
VSR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KARS	Kars	15.31	85	Pn	Pn	17 40 08.5	-0.9
KARS	Kars	15.31	85	P	Pn	17 40 08.5	-0.9
KARS				pmax	pmax		
	comp=Z,58nm,1.4s						
AKH	Akhalkalaki	15.52	82		Pn	17 40 12.3	+0.1
AKH				IAmb	IAmb	17 40 21.0	
	comp=Z,22nm,0.9s						
AKH	Akhalkalaki	15.52	82	P	Pn	17 40 12.3	+0.1
AKH				pmax	pmax		
	comp=Z,22nm,0.9s						
LPSR	Galich'ya Gora	15.80	38	eP	P	17 40 18.3	-1.0
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRH	Novokhopyorsk	16.41	46	eP	Pn	17 40 20.5	-2.9
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
OBN	Obninsk	16.62	28	⇑eP	Pn	17 40 26.2	+0.3
OBN				S	Sn	17 43 33.0	+3.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,40nm,10.0s						
GNI	Garni	16.65	86	ceP	Pn	17 40 27.3	+0.7
GNI				pmax	pmax		
	comp=Z,11nm,1.3s						
MAK	Makhachkala	18.38	76	eP	P	17 40 36.3	-12
MAK				MLR	MLR		
	comp=Z,134nm,11.0s						
HFS	Hagfors	19.79	346	P	P	17 41 03.5	+0.3
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=2.1						
	comp=Z,1.8nm,0.7s						
BELG	Belogornoye	20.22	48	i P	P	17 41 07.8	-0.2
BELG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BELG	Belogornoye	20.22	48	P	P	17 41 05.7	-2.3
	comp=Z,8.8nm,0.8s,baz=236,slow=3.8,SNR=7.7						
	comp=Z,8.8nm,0.8s						
FINES	FINESS Array B	20.37	4	i P	P	17 41 10.1	+0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	20.37	4	P	P	17 41 07.6	-1.9
	comp=Z,2.1nm,0.7s,baz=174,slow=8.8,SNR=7.4						
FINES				LR	LR	17 49 30.8	
	comp=Z,103nm,18.4s,baz=236,slow=38						
	comp=Z,2.1nm,0.7s						
ESDC	Sonseca Array	20.43	275	P	P	17 41 10.2	-0.3
	comp=Z,1.6nm,0.8s,baz=83,slow=10,SNR=5.0						
	comp=Z,1.6nm,0.8s						
NC602	NORSAR Array S	20.75	344	P	P	17 41 13.3	-0.4
NC602				IAmb	IAmb	17 41 15.4	
	comp=Z,8.4nm,1.0s						
NC405	NORSAR Array S	21.07	345	P	P	17 41 15.7	-1.4
NC405				IAmb	IAmb	17 41 55.1	
	comp=Z,19nm,1.4s						
NB201	NORSAR Array S	21.09	344		P	17 41 16.6	-0.8
NB201				IAmb	IAmb	17 41 58.1	
	comp=Z,29nm,1.4s						
NB2	NORSAR Subarra	21.10	344	P	P	17 41 16.6	-0.9
	comp=Z,11nm,1.4s,baz=155,slow=11						
NOA	NORSAR Array B	21.10	344	P	P	17 41 16.1	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.8nm,1.0s,baz=153,slow=10,SNR=8.6						
NOA				LR	LR	17 50 36.5	
	comp=Z,27nm,18.2s,baz=15,slow=40						
	comp=Z,2.8nm,1.0s						
NBO00	NORSAR Array S	21.18	344	P	P	17 41 18.1	-0.3
NBO00				IAmb	IAmb	17 42 01.5	
	comp=Z,21nm,1.5s						
NC204	NORSAR Array S	21.41	344	P	P	17 41 20.0	-0.8
EKA	Eskdalemuir Ar	22.17	318	P	P	17 41 28.2	-0.8
	comp=Z,0.8nm,0.5s,baz=114,slow=10,SNR=2.1						
	comp=Z,0.8nm,0.5s						
KLMR	Klimovskoe	22.17	22	*e*P	P	17 41 26.4	-2.5
KLMR				pmax	pmax		
	comp=Z,28nm,1.6s						
KIRV	Kirov	24.15	35	*ce*P	P	17 41 48.4	-0.6
ABKAR	Akbulak array	27.12	60	P	P	17 42 16.9	+0.9
GEYT	Alibeck	27.28	85	P	P	17 42 18.0	+0.4
	comp=Z,2.0nm,0.7s,baz=266,slow=12,SNR=3.8						
	comp=Z,2.0nm,0.7s						
ARU	Arti	27.63	44	*d i*P	P	17 42 19.3	-1.2
ARU				S	S	17 47 01.7	+0.2
ARU				SS	SnSn	17 48 13.0	+0.2
ARU				pmax	pmax		
	comp=Z,16nm,3.0s						
ARCES	ARCESS Array B	28.43	2	P	P	17 42 26.9	-0.7
	comp=Z,1.3nm,0.8s,baz=181,slow=8.6,SNR=3.9						
ARCES				LR	LR	17 55 38.3	
	comp=Z,43nm,18.7s,baz=282,slow=40						
	comp=Z,1.3nm,0.8s						
TORD	Torodi Ar. Bea	33.50	220	P	P	17 43 13.1	+0.5
TORD	Torodi Ar. Bea	33.50	220	P	P	17 43 12.7	+0.1
	comp=Z,0.8nm,0.6s,baz=30,slow=10,SNR=7.4						
	comp=Z,0.8nm,0.6s						
BVAR	Borovoye Array	33.84	53	P	P	17 43 15.0	-0.3
BVAR	Borovoye Array	33.84	53	P	P	17 43 14.9	-0.3
	comp=Z,1.0nm,0.6s,baz=286,slow=5.5,SNR=4.8						
	comp=Z,1.0nm,0.6s						
KKAR	Karatay Array	35.02	71	P	P	17 43 25.7	0.0
KKAR	Karatay Array	35.02	71	P	P	17 43 25.0	-0.7
KKAR				IAmb	IAmb	17 43 33.9	
	comp=Z,1.7nm,0.7s						
KKAR	Karatay Array	35.02	71	P	P	17 43 25.7	0.0
AAK	Ala-Archa	37.97	70	P	P	17 43 51.0	0.0
AAK	Ala-Archa	37.97	70	*ce*P	P	17 43 52.8	+1.8
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KURBB	Kurchatov Arra	39.03	57	P	P	17 44 00.1	+0.5
	comp=Z,0.6nm,0.3s,baz=284,slow=9.4,SNR=3.4						
	comp=Z,0.6nm,0.3s						
KURK	Kurchatov	39.08	57	*i* P	P	17 44 01.4	+1.4
KURK				pmax	pmax		
	comp=Z,16nm,4.3s						
MK31	Makanchi Array	42.24	62	P	P	17 44 27.0	+0.8
MK31	Makanchi Array	42.24	62	*ce*P	P	17 44 26.7	+0.5
MKAR	Makanchi Array	42.24	62	P	P	17 44 26.5	+0.3
MKAR				PcP	PcP	17 46 17.7	-2.3
MKAR	Makanchi Array	42.24	62	*i* P	P	17 44 27.6	+1.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	42.24	62	P	P	17 44 27.1	+0.9
	comp=Z,2.4nm,0.6s,baz=280,slow=6.6,SNR=28						
	comp=Z,2.4nm,0.6s						
ZAA0	Zalesovo Array	42.37	51	P	P	17 44 27.1	0.0
ZAA0				IAmb	IAmb	17 44 28.6	
	comp=Z,5.5nm,0.7s						
ZALV	Zalesovo Beam	42.37	51	P	P	17 44 26.7	-0.4
ZALV	Zalesovo Beam	42.37	51	P	P	17 44 27.8	+0.7
	comp=Z,5.2nm,0.6s,baz=276,slow=8.5,SNR=29						
	comp=Z,5.2nm,0.6s						
NRIK	Noril'sk	43.29	28	*ce*P	P	17 44 34.6	+0.2
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.8s						
DGZ	Jazzator, Alta	44.82	56	*i* P	P	17 44 48.1	+0.9
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI	Tiksi	56.19	21	*i* P	P	17 46 13.0	+0.5
TIXI				pmax	pmax		
	comp=Z,10.0nm,3.3s						
SONM	Songino Array	57.18	53	P	P	17 46 21.1	+1.0
SONM	Songino Array	57.18	53	P	P	17 46 21.1	+1.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	57.18	53	P	P	17 46 20.3	+0.2
	comp=Z,1.5nm,0.7s,baz=285,slow=9.2,SNR=13						
	comp=Z,1.5nm,0.7s						
SCHQ	Schefferville	57.47	317	P	P	17 46 21.0	-0.9
SCHQ	Schefferville	57.47	317	P	P	17 46 20.8	-1.1
	comp=Z,4.0nm,0.9s,baz=80,slow=6.1,SNR=2.6						
	comp=Z,4.0nm,0.9s						
YAK	Yakutsk	61.60	31	*i* P	P	17 46 50.2	0.0
YAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PZH	PanZhiHua	65.08	76	P	P	17 47 15.2	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,5.7s						
CMAR	Chiang Mai Arr	67.76	85	P	P	17 47 30.3	-0.8
	comp=Z,0.9nm,0.7s,baz=303,slow=8.0,SNR=9.7						
	comp=Z,0.9nm,0.7s						
C18K	Utukok River	70.43	2	P	P	17 47 47.1	+0.2
C18K				IAmb	IAmb	17 48 01.3	
	comp=Z,2.3nm,1.4s						
D19K	Kuna River	70.62	0	P	P	17 47 49.0	+0.9
D19K				IAmb	IAmb	17 47 50.5	
	comp=Z,1.5nm,1.0s						
G31M	Satah River	70.79	351	P	P	17 47 48.5	-0.6
G31M				IAmb	IAmb	17 47 55.6	
	comp=Z,3.6nm,1.3s						
YKA	Yellowknife Ar	71.15	341	P	P	17 47 50.5	-0.8
	comp=Z,0.2nm,0.6s,baz=27,slow=6.6,SNR=5.0						
	comp=Z,0.2nm,0.6s						
E19K	Redstone River	71.67	0	P	P	17 47 55.4	+1.0
IMAR	Indian Mountai	73.12	359	P	P	17 48 04.1	+1.1
DAV	Davao City (W)	94.87	76	LR	LR	18 38 47.7	
	comp=Z,36nm,19.1s,baz=342,slow=39						

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*NEIC **02** 17:43:48.9±0.3, 36.°146N±0.°009×97.°669W±0.°009, h2km±3km, Error ellipse: s-maj=1.4km s-min=0.9km az=155.0*

*IDC **02** 17:43:49.0±1.8, 36.°26N×97.°85W, h0km, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=24.9km s-min=10.7km az=105.0*

*ANF **02** 17:43:49.4±0.2, 36.°16N×97.°67W, h5km, ML4.1/13, Error ellipse: s-maj=2.7km s-min=1.7km az=166.0*

*TUL **02** 17:43:49.2±0.5, 36.°152N±0.°010×97.°67W±0.°01, h4km±5km, ML3.5, mb_Lg3.4/133(NEIC), ML3.7/66(NEIC), Error ellipse: s-maj=1.3km s-min=1.3km az=68.0*

ISC 02 17:43:49.1±0.9**, 36.°13N**±0.°02×**97.°68W**±0.°02**, h15**km±8km**, n179,** σ1.s17/190**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.38	152		Pb	17 43 57.1	-0.4
OK029				Sg	Sg	17 44 02.6	+0.6
CROK	Carrier	0.45	327		Pg	17 43 57.9	-0.2
CROK				Sg	Sg	17 44 04.0	-0.2
CROK				IAML		17 44 08.8	
	comp=N,5µm,0.2s						
CROK				IAML		17 44 10.5	
	comp=E,5µm,0.3s						
ADOK	Arcadia Dam	0.54	152		Pb	17 44 00.1	-0.2
OK033	Mehan	0.60	98		Pg	17 44 01.1	+0.1
OK033				Sg	Sg	17 44 09.3	+0.3
OK033				IAML		17 44 11.9	
	comp=E,4µm,0.6s						
OK048	Pawnee Station	0.66	64		Pg	17 44 01.7	-0.3
OK048				Sg	Sg	17 44 10.2	-0.5
OK052	Battle Ridge R	0.72	101		Pg	17 44 03.1	0.0
OK052				Sg	Sg	17 44 12.9	+0.2
OK052				IAML		17 44 15.6	
	comp=E,3µm,0.5s						
BLOK	Blackwell	0.73	30		Pg	17 44 03.1	-0.3
BLOK				IAML		17 44 13.3	
	comp=E,5µm,0.3s						
BLOK				IAML		17 44 15.9	
	comp=N,5µm,0.2s						
GC02	Grant County #	0.74	348		Pg	17 44 03.0	-0.5
GC02				Sg	Sg	17 44 12.8	-0.4
OKCSW	OKLAHOMA CITY	0.75	165		Pb	17 44 04.0	+0.2
OKCSW				IAmb_Lg		17 44 14.1	
	comp=Z,702nm,1.0s						
OKCSW				IAML		17 44 24.1	
	comp=E,3µm,0.6s						
OK051	E0350 and S346	0.78	61		Pg	17 44 03.9	-0.3
OK051				IAML		17 44 22.2	
	comp=E,2µm,0.2s						
QUOK	Quay	0.79	87		Pg	17 44 04.2	-0.2
QUOK				Sg	Sg	17 44 14.5	-0.2
QUOK				IAML		17 44 15.1	
	comp=N,3µm,0.4s						
OK032	Salt Plains WL	0.80	328		Pg	17 44 04.1	-0.6
OK032				Sg	Sg	17 44 14.7	-0.5
OK032				IAML		17 44 19.9	
	comp=N,4µm,0.1s						
OK032				IAML		17 44 20.3	
	comp=N,4µm,0.2s						
KAN14	Manchester OK	0.86	344		Pg	17 44 05.0	-0.8
KAN14				Sg	Sg	17 44 16.5	-0.5
KAN14				IAML		17 44 21.0	
	comp=N,2µm,0.2s						
KAN14				IAML		17 44 21.1	
	comp=E,3µm,0.5s						
KAN13	South Haven SW	0.90	10		Pg	17 44 06.0	-0.5
KAN13				Sg	Sg	17 44 17.9	-0.4
FNO	Franklin	0.90	165		Pb	17 44 06.6	+0.2
FNO				IAmb_Lg		17 44 19.0	
	comp=Z,276nm,1.0s						
FNO				IAML		17 44 29.2	
	comp=E,2µm,0.5s						
KAN17	Caldwell West	0.92	356		Pg	17 44 06.3	-0.6
KAN17				Sg	Sg	17 44 18.3	-0.6
KAN17				IAML		17 44 22.3	
	comp=N,4µm,0.3s						
OK038	West end E0370	0.93	292		Pg	17 44 06.7	-0.4
CSTR	Hydro, Custer	0.95	240		Pb	17 44 07.5	+0.2
KAN05	Bluff City Nor	0.99	351		Pg	17 44 07.6	-0.7
KAN05				Sg	Sg	17 44 20.9	-0.4
DEOK	Depew	1.00	106		Pg	17 44 07.9	-0.5
DEOK				Sg	Sg	17 44 21.4	0.0
DEOK				IAML		17 44 22.5	
	comp=N,2µm,0.3s						
KAN09	Caldwell North	1.01	3		Pg	17 44 07.9	-0.7
KAN09				Sg	Sg	17 44 21.2	-0.6
OK035	E0210 Rd and N	1.01	305		Pg	17 44 08.2	-0.6
OK035				Sg	Sb	17 44 21.8	+0.2
KAN01	Argonia South	1.02	356		Pg	17 44 08.3	-0.7
KAN01				Sg	Sg	17 44 21.7	-0.7
KAN01				IAML		17 44 23.7	
	comp=N,1µm,0.1s						
KAN01				IAML		17 44 26.3	
	comp=E,2µm,0.3s						
KAN10	Anthony SW Sta	1.05	341		Pg	17 44 08.7	-0.7
KAN10				IAML		17 44 24.6	
	comp=E,1µm,0.1s						
KAN10				IAML		17 44 28.9	
	comp=N,1µm,0.3s						
U32A	Winter Ranch,	1.10	284		Pb	17 44 10.0	+0.1
U32A				IAML		17 44 30.4	
	comp=E,1µm,0.2s						
U32A				IAML		17 44 34.9	
	comp=N,2µm,0.8s						
U32A	Winter Ranch,	1.10	284	P	Pb	17 44 09.9	+0.1
	baz=102,SNR=68						
U32A				S	Sb	17 44 25.4	+1.4
	baz=102						
KAN08	Anthony NE Sta	1.12	348		Pg	17 44 10.0	-0.8
KAN08				IAML		17 44 27.6	
	comp=E,1µm,0.6s						
KAN06	Argonia West S	1.13	353		Pg	17 44 10.0	-0.8
KAN06				IAML		17 44 28.5	
	comp=E,2µm,0.2s						
KAN06				IAML		17 44 28.8	
	comp=N,2µm,0.1s						
NOKA	Waynoka	1.13	297	Pg	Pg	17 44 10.2	-0.7
KS21	Milan North St	1.16	1		Pg	17 44 10.7	-0.8
W35A	Tecumseh	1.17	146		Pg	17 44 11.1	-0.7
W35A				IAML		17 44 32.7	
	comp=N,2µm,0.3s						
W35A				IAML		17 44 33.1	
	comp=E,1µm,0.2s						
KAN12	Harper NE Stat	1.19	348		Pg	17 44 11.1	-1.0
T35A	Sooner Cattle	1.22	50		Pg	17 44 11.8	-0.9
T35A				IAML		17 44 32.2	
	comp=N,2µm,0.5s						
T35A				IAML		17 44 32.3	
	comp=E,2µm,0.5s						
T35B	Sooner Cattle	1.22	50	P	Pg	17 44 11.9	-0.8
	baz=231,SNR=789						
T35B				S	Sg	17 44 28.3	-0.3
	baz=231						
ELIS	Ellis County	1.41	268		Pg	17 44 15.5	-0.8
TUL3	Leonard	1.54	98		Pn	17 44 17.1	+1.0
TUL3				IAmb_Lg		17 44 39.5	
	comp=Z,329nm,0.8s						
TUL3	Leonard	1.54	98	P	Pn	17 44 17.2	+1.1
	baz=280,SNR=153						
TUL3				S	Sb	17 44 38.1	+1.4
	baz=280						
WMOK	Wichita Mounta	1.66	213	Pg	Pb	17 44 19.1	-0.2
WMOK				IAmb_Lg		17 44 46.0	
	comp=Z,212nm,0.9s						
WMOK	Wichita Mounta	1.66	213	P	Pb	17 44 19.2	-0.1
	baz=32,SNR=34						
WMOK				S	Sg	17 44 41.8	-0.6
	baz=32						
RLO	Rose Lookout	2.15	88		Pn	17 44 26.0	+1.6
LOOK	Love County	2.17	169		Pn	17 44 27.1	+2.4
LOOK				IAmb_Lg		17 45 04.1	
	comp=Z,138nm,0.8s						
SMWD	Samnorwood	2.33	245		Pn	17 44 29.0	+2.1
SMWD				IAmb_Lg		17 45 06.1	
	comp=Z,218nm,0.8s						
X37A	Clayton	2.43	129	Pn	Pn	17 44 30.7	+2.4
R32A	Long Quarter,	2.43	340		Pn	17 44 30.0	+1.7
R32A	Long Quarter,	2.43	340	P	Pn	17 44 29.8	+1.5
	baz=160						
WTFS	Witchita Falls	2.44	196		Pn	17 44 31.1	+2.6
U38A	Gravette	2.68	82		Pn	17 44 33.4	+1.7
U38A	Gravette	2.68	82	P	Pn	17 44 33.5	+1.8
	baz=265						
Z35A	Perchaven, San	2.81	173		Pn	17 44 35.5	+2.0
Z35A	Perchaven, San	2.81	173	S	Sb	17 45 11.8	-1.5
	baz=353						
HHAR	Hobbs	3.03	86		Pn	17 44 37.9	+1.5
HHAR	Hobbs	3.03	86	P	Pn	17 44 38.0	+1.6
	baz=269						
KSU1	Kansas State U	3.08	16		Pn	17 44 38.9	+1.7
KSU1				IAmb_Lg		17 45 28.2	
	comp=Z,123nm,0.8s						
CBKS	Cedar Bluff	3.14	329		Pn	17 44 39.9	+1.8
CBKS	Cedar Bluff	3.14	329	P	Pn	17 44 39.9	+1.8
	baz=148,SNR=21						
PLPT	Palo Pinto	3.35	189		Pn	17 44 42.6	+1.7
FW07	Weatherford	3.42	182	IAmb_Lg		17 45 44.7	
	comp=Z,76nm,0.7s						
AMTX	Amarillo	3.50	250		Pn	17 44 45.3	+2.3
AMTX	Amarillo	3.50	250	P	Pn	17 44 45.3	+2.3
	baz=68,SNR=9.5						
Z38A	Mt. Pleasant	3.62	141		Pn	17 44 46.8	+2.2
Z38A				IAmb_Lg		17 45 48.4	
	comp=Z,101nm,0.8s						
Z38A	Mt. Pleasant	3.62	141	P	Pn	17 44 47.2	+2.6
	baz=323						
DKNS	Dickens	3.63	228		Pn	17 44 47.2	+2.4
TREL	Terrell	3.63	158		Pn	17 44 44.9	0.0
TREL				IAmb_Lg		17 45 47.6	
	comp=Z,119nm,1.0s						
FW14	Alvarado	3.74	174	IAmb_Lg		17 45 51.5	
	comp=Z,73nm,0.9s						
S39A	Bolivar	3.82	65		Pn	17 44 49.0	+1.7
S39A				IAmb_Lg		17 45 53.7	
	comp=Z,76nm,0.8s						
S39A	Bolivar	3.82	65	P	Pn	17 44 49.0	+1.7
	baz=247,SNR=32						
ABTX	Abilene, Hawle	3.86	206		Pn	17 44 49.8	+1.9
ABTX				IAmb_Lg		17 45 55.8	
	comp=Z,110nm,1.1s						
U40A	Yellville	3.91	85	P	Pn	17 44 49.9	+1.3
	baz=268,SNR=15						
U40A				P	Pn	17 44 49.9	+1.3
	baz=268,SNR=15						
RTBA	Rita Blanca	4.10	276		Pn	17 44 53.2	+1.9
RTBA				IAmb_Lg		17 46 01.8	
	comp=Z,74nm,0.7s						
WHTX	Lake Whitney,	4.13	177		Pn	17 44 53.6	+1.9
SN01	Snyder 1	4.20	220		Pn	17 44 54.5	+1.8
SN01				IAmb_Lg		17 46 05.1	
	comp=Z,90nm,0.9s						
X40A	Basin Creek Fa	4.29	111		Pn	17 44 56.0	+2.2
X40A				IAmb_Lg		17 46 07.7	
	comp=Z,125nm,0.9s						
POST	Post	4.39	227		Pn	17 44 57.4	+2.1
POST				IAmb_Lg		17 46 09.4	
	comp=Z,66nm,0.8s						
237A	Washetta, Mont	4.40	159		Pn	17 44 56.7	+1.3
237A				IAmb_Lg		17 46 18.1	
	comp=Z,60nm,0.9s						
WHAR	Wooly Hollow	4.46	99		Pn	17 44 57.6	+1.4
WHAR				IAmb_Lg		17 46 23.1	
	comp=Z,118nm,0.8s						
MGMO	Mountain Grove	4.47	75		Pn	17 44 57.8	+1.5
MGMO				IAmb_Lg		17 46 10.3	
	comp=Z,124nm,0.9s						
WLAR	White Oak Lake	4.47	122	Pn	Pn	17 44 58.1	+1.8
FCAR	Ozark Folk Cen	4.51	91		Pn	17 44 57.8	+1.0
FCAR				IAmb_Lg		17 46 17.8	
	comp=Z,98nm,0.8s						
UALR	University of	4.56	106	Pn	Pn	17 44 58.2	+0.7
N33A	J Bar K, Exete	4.61	2		Pn	17 44 58.8	+0.6
N33A				IAmb_Lg		17 46 24.5	
	comp=Z,100nm,0.8s						
MSTX	Muleshoe	4.70	244		Pn	17 45 00.5	+0.9
P38A	Dawn	4.79	42		Pn	17 45 01.9	+1.2
P38A				IAmb_Lg		17 46 26.5	
	comp=Z,67nm,0.8s						
P38A	Dawn	4.79	42	P	Pn	17 45 02.3	+1.7
	baz=224						
R40A	Maddies Statio	4.83	62		Pn	17 45 02.3	+1.1
R40A				IAmb_Lg		17 46 23.6	
	comp=Z,67nm,0.7s						
R40A	Maddies Statio	4.83	62	P	Pn	17 45 02.6	+1.4
	baz=245,SNR=14						
KSCO	Kaye Shedlock'	4.87	308		Pn	17 45 03.2	+1.2
Z41A	Richland Creek	4.93	124	Pn	Pn	17 45 02.9	+0.3
Z41A				IAmb_Lg		17 46 38.8	
	comp=Z,95nm,0.8s						
BRDY	Brady	4.96	193	Pn	Pn	17 45 04.0	+1.0
BRDY				IAmb_Lg		17 46 32.1	
	comp=Z,73nm,0.8s						
N35A	Tabor	4.99	18		Pn	17 45 02.6	-0.8
NATX	Nacogdoches	5.03	149	Pn	Pn	17 45 05.0	+1.0
SGCY	Sterling City	5.09	215		Pn	17 45 05.7	+0.8
LCAR	Lake Charles	5.28	89	Pn	Pn	17 45 07.6	+0.2
LCAR				IAmb_Lg		17 46 43.4	
	comp=Z,47nm,0.8s						
BGNE	Belgrade	5.28	356		Pn	17 45 07.6	+0.1
CCAR	Cane Creek	5.32	113	Pn	Pn	17 45 08.6	+0.5
435B	Jarrell	5.33	179	Pn	Pn	17 45 09.0	+0.8
T42A	Van Buren	5.37	78	Pn	Pn	17 45 09.6	+0.8
T42A				IAmb_Lg		17 46 43.6	
	comp=Z,70nm,0.7s						
CCM	Cathedral Cave	5.49	68	Pn	Pn	17 45 11.4	+1.1
CCM				IAmb_Lg		17 46 52.2	
	comp=Z,70nm,0.8s						
CCM	Cathedral Cave	5.49	68	P	Pn	17 45 11.7	+1.4
	baz=252,SNR=12						
T25A	Trinidad	5.51	283		Pn	17 45 09.5	-1.3
P40A	Paris	5.60	51		Pn	17 45 13.5	+1.7
P40A				IAmb_Lg		17 46 49.6	
	comp=Z,64nm,0.7s						
HBAR	Harrisburg	5.73	94	Pn	Pn	17 45 13.2	-0.4
PBMO	Poplar Bluff	5.88	82	Pn	Pn	17 45 16.6	+0.9
PBMO				IAmb_Lg		17 46 56.3	
	comp=Z,92nm,0.7s						
OGNE	Ogallala	5.90	326		Pn	17 45 17.5	+1.6
OGNE				IAmb_Lg		17 46 57.9	
	comp=Z,70nm,0.8s						
JCT	Junction City	5.91	198		Pn	17 45 15.8	-0.4
L34A	Svendsen Farm,	5.92	9		Pn	17 45 17.9	+1.8
OZNA	Ozona	5.94	210		Pn	17 45 19.2	+2.7
OZNA				IAmb_Lg		17 47 03.9	
	comp=Z,55nm,0.9s						
CPRX	Cap Rock	5.97	241	Pn	Pn	17 45 18.9	+1.8
FVM	French Village	6.09	70		Pn	17 45 17.8	-0.7
FVM				IAmb_Lg		17 47 04.2	
	comp=Z,63nm,0.9s						
143A	Socs Landing,	6.21	122	Pn	Pn	17 45 19.6	-0.6
143A				IAmb_Lg		17 47 22.5	
	comp=Z,61nm,0.9s						
HDBT	Hernando Brdge	6.28	97	Pn	Pn	17 45 19.6	-1.6
CLN7	Carlsbad 7	6.29	236	Pn	Pn	17 45 20.9	-0.5
PEBM	Pemiscott Bayo	6.33	88	Pn	Pn	17 45 20.5	-1.3
MNHN	Monahans	6.38	223	Pn	Pn	17 45 23.7	+1.1
CLNB	Carlsbad	6.42	235	Pn	Pn	17 45 22.7	-0.6
SLM	Saint Louis	6.43	65	Pn	Pn	17 45 22.1	-1.1
SLM				IAmb_Lg		17 47 13.9	
	comp=Z,71nm,0.8s						
SDCO	Great Sand Dun	6.47	287		Pn	17 45 23.3	-0.8
CGM3	Cape Girardeau	6.55	77	Pn	Pn	17 45 24.5	-0.3
CGM3				IAmb_Lg		17 47 29.3	
	comp=Z,45nm,0.8s						
Q24A	Divide	6.58	298		Pn	17 45 24.8	-0.8
Q24A				IAmb_Lg		17 47 27.5	
	comp=Z,36nm,0.8s						
LNXT	Lenox	6.63	88	Pn	Pn	17 45 25.4	-0.5
K30B	Basset	6.71	348	Pn	Pn	17 45 26.5	-0.5
K30B				IAmb_Lg		17 47 24.0	
	comp=Z,61nm,0.8s						
HNDO	Hondo	6.72	192	Pn	Pn	17 45 27.1	-0.2
SCIA	State Center	6.73	30	Pn	Pn	17 45 26.6	-0.8
GLAT	Glass	6.79	86	Pn	Pn	17 45 30.4	+2.3
GDL2	Guadalupe Moun	6.79	237	Pn	Pn	17 45 27.9	-0.4
HICK	Hickman	6.83	84	Pn	Pn	17 45 28.7	0.0
BRIGG	Briggsdale	6.85	312	Pn	Pn	17 45 29.0	-0.2
BRIGG				IAmb_Lg		17 47 42.5	
	comp=Z,41nm,0.7s						
S44A	Carbondale	6.92	74	Pn	Pn	17 45 31.2	+1.2
OXF	Oxford	6.95	101	Pn	Pn	17 45 31.5	+1.1
SIUC	Southern Illin	6.96	74	Pn	Pn	17 45 29.8	-0.7
PECS	Pecos	7.01	229	Pn	Pn	17 45 32.4	+1.2
EF01	Eagle Ford 01	7.01	185	Pn	Pn	17 45 31.8	+0.7
EF01				IAmb_Lg		17 47 34.1	
	comp=Z,54nm,0.8s						
N41A	Harden Midland	7.04	47	Pn	Pn	17 45 31.4	-0.1
Y45A	Yeager Farm, C	7.05	106	IAmb_Lg		17 47 37.8	
	comp=Z,50nm,0.7s						
DRIO	Del Rio	7.13	201	Pn	Pn	17 45 32.4	-0.5
DRIO				IAmb_Lg		17 47 55.9	
	comp=Z,34nm,0.8s						
SAND	Sanderson	7.20	212		Pn	17 45 33.7	-0.1
SAND				IAmb_Lg		17 47 47.9	
	comp=Z,44nm,0.7s						
ANMO	Albuquerque	7.25	263	Pn	Pn	17 45 33.5	-1.3
ANMO	Albuquerque	7.25	263	Pn	Pn	17 45 33.9	-0.9
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=1.9						
ANMO				Pg	Pb	17 45 58.5	+3.7
	comp=Z,0.5nm,0.3s,baz=191,slow=5.2,SNR=3.3						
ANMO				Lg	Lg	17 47 36.0	
	comp=Z,1.8nm,0.3s,baz=66,slow=18,SNR=6.7						
	comp=Z,0.9nm,0.4s						
ISCO	Idaho Springs	7.26	303	Pn	Pn	17 45 34.1	-0.8
T45A	Paducah	7.32	80	Pn	Pn	17 45 35.8	+0.3
P43A	Skaggs, Pawnee	7.34	59	Pn	Pn	17 45 36.0	+0.3
Q44A	Meyer Farm, Va	7.42	66	IAmb_Lg		17 47 57.0	
	comp=Z,52nm,0.8s						
S22A	4UR Ranch, Cre	7.51	285	Pn	Pn	17 45 39.0	+0.8
K38A	Parkersburg	7.54	29	Pn	Pn	17 45 39.8	+1.4
BNM	Barren Site	7.59	258	Pn	Pn	17 45 39.8	+0.3
ALPN	Alpine	7.61	223	Pn	Pn	17 45 39.9	+0.4
ECSD	EROS Data Cent	7.64	6	Pn	Pn	17 45 39.8	-0.1
ECSD				IAmb_Lg		17 48 02.5	
	comp=Z,30nm,1.1s						
CRNM	Carthage	7.74	256	Pn	Pn	17 45 42.0	+0.6
L40A	Anamosa	7.76	38	Pn	Pn	17 45 41.8	+0.3
L40A				IAmb_Lg		17 47 58.6	
	comp=Z,64nm,0.9s						
Y22D	IRIS PASSCAL I	7.85	258	IAmb_Lg		17 48 07.2	
	comp=Z,55nm,0.7s						
LENM	Lemitar	7.86	258	Pn	Pn	17 45 44.6	+1.5
PLAL	Pickwick Lake	7.91	96	Pn	Pn	17 45 42.9	-0.7
833A	Chaparral WMA,	7.92	191	Pn	Pn	17 45 43.7	0.0
833A				IAmb_Lg		17 48 11.1	
	comp=Z,36nm,0.8s						
WVT	Waverly	7.97	87	Pn	Pn	17 45 44.2	-0.1
WVT				IAmb_Lg		17 48 17.7	
	comp=Z,30nm,1.0s						
PHWY	Pilot Hill	7.98	313	Pn	Pn	17 45 44.3	-0.4
N23A	Red Feather La	8.04	309	Pn	Pn	17 45 45.3	-0.3
N23A				IAmb_Lg		17 48 15.4	
	comp=Z,60nm,0.8s						
VHRN	Van Horn	8.10	231	Pn	Pn	17 45 47.5	+1.2
O44A	Mansfield	8.29	58	Pn	Pn	17 45 48.9	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
O44A				IAmb_Lg		17 48 13.9	
	comp=Z,53nm,0.9s						
TX31	**Lajitas Ar. Si**	**8.45**	**218**	Pn	**Pn**	**17 45 51.8**	**+0.8**
TXAR	**Lajitas Array**	**8.45**	**218**	Pn	**Pn**	**17 45 51.1**	**0.0**
TXAR	**Lajitas Array**	**8.45**	**218**	Pn	**Pn**	**17 45 51.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=43,slow=11,SNR=16						
TXAR				Sn	**Sn**	**17 47 24.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=41,slow=14,SNR=1.2						
TXAR				Lg	Lg	17 48 11.7	
	comp=Z,2.1nm,0.3s,baz=40,slow=25,SNR=8.2						
	comp=Z,0.3nm,0.3s						
I37A	**Lemond, Waseca**	**8.53**	**21**	IAmb_Lg		17 48 27.4	
	comp=Z,42nm,0.7s						
T47A	**Sharon Grove**	**8.55**	**81**	Pn	**Pn**	**17 45 52.6**	**+0.3**
L42A	**Oliver, Polo**	**8.55**	**44**	Pn	**Pn**	**17 45 51.9**	**-0.5**
L42A				IAmb_Lg		17 48 20.6	
	comp=Z,39nm,0.7s						
JFWS	**Jewell Farm**	**8.88**	**38**	Pn	**Pn**	**17 45 55.9**	**-0.9**
M44A	**Midewin, Midew**	**9.17**	**52**	Pn	**Pn**	**17 46 02.2**	**+1.4**
RWWY	**Rawlins**	**9.27**	**310**	IAmb_Lg		17 48 53.6	
	comp=Z,28nm,0.9s						
RSSD	**Black Hills**	**9.35**	**331**	Pn	**Pn**	**17 46 04.7**	**+1.2**
K22A	**Casper**	**9.45**	**316**	IAmb_Lg		17 49 01.8	
	comp=Z,29nm,0.9s						
I40A	**Norwalk**	**9.45**	**33**	IAmb_Lg		17 48 49.6	
	comp=Z,23nm,0.8s						
U49A	**Red Boiling Sp**	**9.61**	**84**	Pn	**Pn**	**17 46 08.7**	**+1.8**
F33A	**5 Mile Ranch,**	**9.76**	**6**	Pn	**Pn**	**17 46 08.9**	**+0.1**
SPMN	**Marine on St.**	**9.81**	**21**	IAmb_Lg		17 49 03.6	
	comp=Z,36nm,1.0s						
F36A	**Milaca**	**10.21**	**17**	Pn	**Pn**	**17 46 14.7**	**-0.4**
CPCT	**Cooper Cave**	**10.71**	**90**	Pn	**Pn**	**17 46 23.5**	**+1.6**
G40A	**Rib Lake**	**10.74**	**30**	Pn	**Pn**	**17 46 22.9**	**+0.6**
TKL	**Tuckaleechee C**	**11.29**	**88**	Lg	Lg	17 49 37.8	
	comp=Z,1.2nm,0.3s,baz=88,slow=9.8,SNR=4.6						
PD31	**Pinedale Array**	**11.32**	**309**	Pn	**Pn**	**17 46 29.6**	**-0.8**
PDAR	**Pinedale Array**	**11.32**	**309**	Pn	**Pn**	**17 46 30.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=116,slow=12,SNR=1.4						
PDAR				Pg		17 47 11.6	
	comp=Z,0.3nm,0.3s,baz=115,slow=15,SNR=2.4						
PDAR				Lg	Lg	17 49 36.4	
	comp=Z,0.2nm,0.3s,baz=114,slow=33,SNR=2.7						
ULM	**Lac du Bonnet**	**14.17**	**5**	Pn	Pn	17 47 03.5	-5.7
	comp=Z,0.2nm,0.3s,baz=190,slow=13,SNR=1.1						
ULM				Sn	Sn	17 49 33.8	-12
	comp=Z,0.4nm,0.3s,baz=180,slow=7.1,SNR=2.3						
ULM				Lg	Lg	17 51 04.8	
	baz=282,slow=19						
	comp=Z,0.7nm,0.3s						

*NEIC **02** 17:47:10.2±2.0, 0°04N±0°06×123°45E±0°06, h139km±6km, mb4.4/49, Error ellipse: s-maj=9.0km s-min=8.4km az=157.0*
*IDC **02** 17:47:11.3±1.9, 0°15N×123°60E, h155km±17km, mb3.7/17, mbtmp4.2/18, Error ellipse: s-maj=22.7km s-min=10.0km az=70.0*
*DJA **02** 17:47:11.5±0.2, 0°S±2°×12°4E±°, h120km±3km, M4.5/19, mB4.8/4, mb4.5/16, MLv4.6/19, Mw(mB)4.1/4*
ISC 02 17:47:10.4±0.6**, 0°04N**±0°04×**123°47E**±0°04**, h146**km±5km**, n111, σ1s47**/130**, mb4.3**/44**, 1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.73**	**44**	P	**Pn**	**17 47 33.2**	**+0.4**
KMSI				S	**Sn**	**17 47 50.0**	**+0.2**
GTOI	**Gorontalo**	**0.75**	**322**	P	**Pn**	**17 47 34.2**	**+1.3**
GTOI				S	**Sn**	**17 47 49.9**	**-0.1**
LUWI	**Luwuk**	**1.28**	**213**		**Pn**	**17 47 36.3**	**-1.2**
LUWI				Sn	**Sn**	**17 47 55.4**	**-2.9**
LUWI	**Luwuk**	**1.28**	**213**	P	**Pn**	**17 47 36.7**	**-0.8**
LUWI				S	**Sn**	**17 47 56.1**	**-2.1**
MRSI	**Marisa**	**1.59**	**286**	P	**Pn**	**17 47 39.9**	**-0.8**
MRSI				S	**Sn**	**17 48 01.9**	**-1.9**
TOLI2	**Tolitoli**	**2.89**	**292**		**Pn**	**17 47 55.5**	**-0.8**
TOLI2				Sn	**Sn**	**17 48 29.8**	**-2.0**
SANI	**Sanana**	**3.26**	**130**	P	**Pn**	**17 47 58.6**	**-2.4**
MPSI	**Mapaga**	**3.59**	**275**	P	**Pn**	**17 48 06.4**	**+1.2**
TNTI	**Ternate**	**3.96**	**79**		**Pn**	**17 48 09.1**	**-1.0**
TNTI				Sn	**Sn**	**17 48 53.7**	**-2.7**
TNTI	**Ternate**	**3.96**	**79**	P	**Pn**	**17 48 09.2**	**-0.9**
LBMI	**Labuha**	**4.08**	**100**	P	**Pn**	**17 48 10.4**	**-1.3**
LBMI				S	**Sn**	**17 48 57.1**	**-2.2**
TTSI	**Tana Toraja**	**4.77**	**230**	P	**Pn**	**17 48 21.5**	**+0.7**
NLAI	**Namlea**	**4.88**	**132**	P	**Pn**	**17 48 22.1**	**-0.1**
MMSI	**Mamuju**	**5.31**	**239**	P	**Pn**	**17 48 28.9**	**+1.0**
	21nm,0.6s,330nm0.1nm						
SPSI	**Sidrap Palu**	**5.43**	**223**	P	**Pn**	**17 48 31.6**	**+2.0**
	32nm,0.4s,775nm0.3nm						
KAPI	**Kappang**	**6.25**	**216**	Pn	**Pn**	**17 48 38.7**	**-1.8**
KAPI				Sn	**Sn**	**17 49 48.8**	**-2.1**
KAPI	**Kappang**	**6.25**	**216**	P	**Pn**	**17 48 44.0**	**+3.5**
	6.1nm,0.3s,baz=84,slow=2.3,SNR=4.3						
KAPI				S	**Sn**	**17 49 53.8**	**+2.9**
	14nm,0.4s,baz=2.9,slow=22,SNR=3.8						
BKSI	**Bulukumba**	**6.29**	**212**	P	**Pn**	**17 48 41.6**	**+0.5**
	19nm,0.7s,0.1nm						
MKS	**Makassar**	**6.58**	**217**	P	**Pn**	**17 48 45.8**	**+0.9**
	29nm,1.0s,0.1nm						
BKB	**Balikpapan**	**6.70**	**259**		**Pn**	**17 48 44.3**	**-2.2**
BKB	**Balikpapan**	**6.70**	**259**	P	**Pn**	**17 48 48.9**	**+2.4**
	94nm,0.7s,0.4nm						
SWI	**Sorong**	**7.84**	**97**	P	**Pn**	**17 49 02.1**	**+0.4**
	49nm,0.9s,2μm0.2nm						
SIJI	**Sorong**	**7.84**	**97**	P	**Pn**	**17 49 02.1**	**+0.2**
	38nm,0.9s,0.1nm						
BNDI	**Bandanaira**	**7.86**	**125**	P	**Pn**	**17 49 02.0**	**-0.1**
	126nm,0.8s,0.6nm						
MMRI	**Maumere**	**8.71**	**188**	P	**Pn**	**17 49 14.2**	**+0.8**
	17nm,1.2s						
FAKI	**Fak Fak**	**9.25**	**109**	Pn	**Pn**	**17 49 18.8**	**-1.9**
FAKI	**Fak Fak**	**9.25**	**109**	P	**Pn**	**17 49 20.7**	**0.0**
	37nm,1.3s						
KKM	**Kota Kinabalu**	**9.38**	**310**	P	**Pn**	**17 49 25.5**	**+3.0**
	60nm,0.7s						
SOEI	**Soe**	**9.77**	**175**	Pn	**Pn**	**17 49 24.3**	**-3.3**
MTN	**Manton Dam**	**14.89**	**150**		**Pn**	**17 50 34.1**	**+0.3**
KNRA	**Kununurra**	**16.47**	**162**	P	**P**	**17 50 54.2**	**+1.0**
KNRA				IAmb	IAmb	17 50 57.9	
	comp=Z,20nm,0.7s						
GENI	**Genyem**	**16.89**	**99**	P	**Pn**	**17 51 01.1**	**+2.7**
	comp=Z,31nm,1.3s,comp=Z,1μm						
FITZ	**Fitzroy Crossi**	**18.15**	**173**	P	**Pn**	**17 51 12.4**	**-0.9**
MBWA	**Marble Bar**	**21.39**	**190**	P	**P**	**17 51 45.9**	**-0.7**
MBWA				IAmb	IAmb	17 52 12.9	
	comp=Z,17nm,1.2s						
PSA00	**Pilbara Seismi**	**21.77**	**189**	P	**P**	**17 51 50.9**	**+0.1**
WB0	**Warramunga Arr**	**22.41**	**152**	P	**P**	**17 51 56.8**	**-0.3**
WB0				IAmb	IAmb	17 51 58.6	
	comp=Z,7.9nm,0.6s						
WRAB	**Tennant Creek**	**22.53**	**152**	P	**P**	**17 51 58.2**	**-0.1**
WRAB				IAmb	IAmb	17 51 59.9	
	comp=Z,9.2nm,0.6s						
WRA	**Warramunga Arr**	**22.54**	**152**	P	**P**	**17 51 57.5**	**-0.8**
WRA	**Warramunga Arr**	**22.54**	**152**	P	**P**	**17 51 58.2**	**-0.1**
	comp=Z,5.9nm,0.5s,baz=333,slow=10.0,SNR=146						
WRA				S	**S**	**17 55 50.9**	**-3.8**
	comp=Z,1.2nm,0.7s,baz=333,slow=16,SNR=8.8						
WRA				ScP	**ScP**	**17 59 10.1**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=329,slow=2.5,SNR=5.0						
	comp=Z,5.9nm,0.5s						
WB2	**Warramunga Arr**	**22.54**	**152**	P	**P**	**17 51 58.0**	**-0.3**
WB2				IAmb	IAmb	17 51 59.9	
	comp=Z,10nm,0.6s						
WR0	**Warramunga Arr**	**22.64**	**152**	P	**P**	**17 51 58.8**	**-0.6**
TPUB	**Ta-pu**	**23.28**	**353**	P	**P**	**17 52 05.4**	**+0.2**
TPUB				IAmb	IAmb	17 52 40.5	
	comp=Z,24nm,1.0s						
SSLB	**Suanglung**	**23.73**	**354**	P	**P**	**17 52 10.3**	**+1.0**
AS31	**Alice Springs**	**25.65**	**157**	P	**P**	**17 52 27.1**	**+0.3**
ASAR	**Alice Springs**	**25.65**	**157**	P	**P**	**17 52 26.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=346,slow=15,SNR=17						
ASAR				PcP	**PcP**	**17 55 54.2**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=343,slow=2.3,SNR=6.6						
ASAR				ScP	**ScP**	**17 59 19.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=339,slow=2.8,SNR=9.2						
	comp=Z,1.2nm,0.6s						
CTAO	**Charters Tower**	**29.96**	**133**	P	**P**	**17 53 07.2**	**+1.9**
CTAO				IAmb	IAmb	17 53 15.9	
	comp=Z,10nm,1.2s						
CRAI	**Chiangrai**	**30.23**	**313**	P	**P**	**17 53 06.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.26**	**309**	P	**P**	**17 53 07.8**	**0.0**
CMAR	**Chiang Mai Arr**	**30.26**	**309**	P	**P**	**17 53 09.4**	**+1.5**
	comp=Z,2.6nm,0.7s,baz=133,slow=7.1,SNR=13						
	comp=Z,2.6nm,0.7s						
CHTO	**Chiang Mai**	**30.46**	**309**	P	**P**	**17 53 10.1**	**+0.5**
CHTO				IAmb	IAmb	17 53 13.3	
	comp=Z,5.7nm,0.8s						
CHTO	**Chiang Mai**	**30.46**	**309**	P	**P**	**17 53 12.7**	**+3.1**
FORT	**Forrest**	**30.96**	**172**	P	**P**	**17 53 14.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**33.32**	**190**	P	**P**	**17 53 35.3**	**+0.9**
PZH	**PanZhiHua**	**33.62**	**323**	P	**P**	**17 53 39.6**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,120nm,5.0s						
BBOO	**Buckleboo**	**34.77**	**161**	P	**P**	**17 53 47.1**	**+0.2**
JMN	**Monobe**	**34.91**	**15**	P	**P**	**17 53 48.5**	**+0.4**
STKA	**Stephens Creek**	**36.08**	**153**	P	**P**	**17 53 58.5**	**+0.3**
STKA	**Stephens Creek**	**36.08**	**153**	P	**P**	**17 53 58.9**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=324,slow=9.6,SNR=20						
	comp=Z,5.7nm,0.7s						
TIA	**Tai'an**	**36.47**	**351**	P	**P**	**17 53 59.4**	**-2.0**
TIA				pmax	pmax		
	comp=Z,42nm,0.5s						
XAN	**Xi'an**	**36.47**	**339**	⇑P	**P**	**17 54 02.9**	**+1.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MJAR	**Matsushiro Arr**	**38.80**	**19**	P	**P**	**17 54 19.7**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=186,slow=9.7,SNR=5.5						
	comp=Z,2.1nm,0.7s						
LZH	**Lanzhou**	**40.24**	**335**	*e*P	**P**	**17 54 35.4**	**+2.3**
LZH				pP	pP	17 55 08.8	+3.3
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARMA	**Armidale**	**40.43**	**141**	P	**P**	**17 54 36.8**	**+2.1**
ARMA				IAmb	IAmb	17 55 19.5	
	comp=Z,13nm,1.4s						
HHC	**Hu-ho-hao-te**	**42.03**	**346**	*e*P	**P**	**17 54 49.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,530nm,5.7s						
CAN	**Canberra**	**42.48**	**149**	P	**P**	**17 54 53.5**	**+2.2**
USA0B	**Ussuriysk Arra**	**44.62**	**9**	P	**P**	**17 55 09.0**	**+0.8**
USA0B				IAmb	IAmb	17 55 10.8	
	comp=Z,15nm,1.1s						
USRK	**Ussuriysk Ar.**	**44.62**	**9**	P	**P**	**17 55 09.8**	**+1.7**
USRK	**Ussuriysk Ar.**	**44.62**	**9**	P	**P**	**17 55 08.3**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=188,slow=3.0,SNR=9.3						
	comp=Z,2.2nm,0.6s						
GTA	**Gaotai**	**44.76**	**334**	*e*P	**P**	**17 55 11.2**	**+1.6**
GTA				pP	pP	17 55 44.0	+1.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**49.73**	**346**	P	**P**	**17 55 47.3**	**-0.6**
ULN				IAmb	IAmb	17 55 49.7	
	comp=Z,2.7nm,0.5s						
SONM	**Songino Array**	**49.87**	**345**	P	**P**	**17 55 49.0**	**+0.1**
SONM				PcP	**PcP**	**17 57 06.7**	**-0.6**
SONM	**Songino Array**	**49.87**	**345**	P	**P**	**17 55 48.5**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=162,slow=8.7,SNR=23						
SONM				PcP	**PcP**	**17 57 06.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=176,slow=4.0,SNR=3.6						
	comp=Z,2.9nm,0.7s						
MK31	**Makanchi Array**	**58.83**	**328**	P	**P**	**17 56 53.1**	**-0.5**
MK31				IAmb	IAmb	17 57 35.1	
	comp=Z,3.5nm,1.4s						
MK31					**PcP**	**17 57 40.7**	**-0.8**
MKAR	**Makanchi Array**	**58.83**	**328**	P	**P**	**17 56 53.0**	**-0.6**
MKAR					**PcP**	**17 57 40.5**	**-1.0**
MKAR	**Makanchi Array**	**58.83**	**328**	P	**P**	**17 56 53.4**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=122,slow=8.3,SNR=38						
MKAR				PcP	**PcP**	**17 57 40.2**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=144,slow=2.8,SNR=7.8						
	comp=Z,1.9nm,0.4s						
PEA0B	**Petropavlovsk-**	**60.06**	**23**	P	**P**	**17 57 03.5**	**+1.7**
PETK	**Petropavlovsk-**	**60.06**	**23**	P	**P**	**17 57 02.9**	**+1.0**
PETK	**Petropavlovsk-**	**60.06**	**23**	P	**P**	**17 57 01.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=201,slow=3.8,SNR=6.1						
	comp=Z,1.0nm,0.6s						
QRZ	**Quartz Range**	**60.21**	**139**	P	**P**	**17 57 05.2**	**+2.0**
YAK	**Yakutsk**	**62.01**	**3**	P	**P**	**17 57 14.3**	**-0.5**
BKZ	**Black Stump Fm**	**62.15**	**135**	P	**P**	**17 57 17.2**	**+0.9**
ZAA0	**Zalesovo Array**	**62.47**	**335**	P	**P**	**17 57 17.2**	**-0.8**
ZAA0				IAmb	IAmb	17 57 18.6	
	comp=Z,3.4nm,1.0s						
ZALV	**Zalesovo Beam**	**62.47**	**335**	P	**P**	**17 57 16.3**	**-1.8**
ZALV	**Zalesovo Beam**	**62.47**	**335**	P	**P**	**17 57 17.2**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=122,slow=5.4,SNR=12						
	comp=Z,1.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.16**	**330**	P	**P**	**17 57 22.0**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=134,slow=6.5,SNR=18						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**63.18**	**330**	P	**P**	**17 57 21.3**	**-1.5**
KK31	**Karatay Array**	**63.79**	**319**	P	**P**	**17 57 24.3**	**-2.8**
KKAR	**Karatay Array**	**63.79**	**319**	P	**P**	**17 57 24.2**	**-2.8**
BVAR	**Borovoye Array**	**68.69**	**329**	P	**P**	**17 57 56.6**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=153,slow=6.9,SNR=2.5						
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**71.58**	**2**	P	**P**	**17 58 14.2**	**-1.1**
TIXI				IAmb	IAmb	17 58 15.6	
	comp=Z,6.8nm,1.1s						
NRIK	**Noril'sk**	**73.25**	**347**	P	**P**	**17 58 23.6**	**-1.6**
	comp=Z,1.9nm,0.6s,baz=120,slow=7.2,SNR=5.7						
	comp=Z,1.9nm,0.6s						
VNDA	**Vanda**	**80.22**	**172**	P	**P**	**17 59 04.8**	**+0.6**
VNDA	**Vanda**	**80.22**	**172**	P	**P**	**17 59 04.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=345,slow=4.2,SNR=2.3						
	comp=Z,0.7nm,0.8s						
L14K	**Kuka Creek**	**82.25**	**28**	P	**P**	**17 59 15.6**	**+0.4**
M14K	**Bethel**	**82.45**	**29**	P	**P**	**17 59 17.1**	**+0.9**
K15K	**Wolf Creek Mou**	**83.01**	**27**	P	**P**	**17 59 20.5**	**+1.3**
K15K				IAmb	IAmb	17 59 52.6	
	comp=Z,11nm,1.3s						
N15K	**Kwethluk River**	**83.23**	**29**	P	**P**	**17 59 21.8**	**+1.5**
G16K	**Koyuk River**	**83.40**	**24**	P	**P**	**17 59 22.6**	**+1.6**
G16K				IAmb	IAmb	17 59 23.3	
	comp=Z,4.0nm,0.8s						
C18K	**Utukok River**	**84.64**	**21**	P	**P**	**17 59 28.5**	**+1.2**
C18K				IAmb	IAmb	17 59 29.3	
	comp=Z,2.5nm,0.7s						
C19K	**Lookout Ridge**	**85.31**	**21**	P	**P**	**17 59 32.0**	**+1.3**
C19K				IAmb	IAmb	17 59 33.5	
	comp=Z,3.9nm,0.8s						
G19K	**Purcell Mounta**	**85.69**	**24**	P	**P**	**17 59 33.3**	**+0.8**
G19K				IAmb	IAmb	17 59 34.3	
	comp=Z,4.7nm,0.7s						
J20K	**Nowinta River**	**86.63**	**26**	P	**P**	**17 59 38.2**	**+1.0**
IMAR	**Indian Mountai**	**87.01**	**24**	P	**P**	**17 59 39.6**	**+0.6**
B22K	**Teshekpuk Lake**	**87.63**	**20**	P	**P**	**17 59 42.2**	**+0.4**
B22K				IAmb	IAmb	18 00 21.8	
	comp=Z,6.5nm,1.4s						
H24K	**Noodor Dome**	**89.41**	**24**	P	**P**	**17 59 51.1**	**+0.8**
H24K				IAmb	IAmb	18 00 28.5	
	comp=Z,4.4nm,1.4s						
ILAR	**Eielson Array**	**89.81**	**25**	P	**P**	**17 59 50.2**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=238,slow=5.6,SNR=8.5						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**89.84**	**310**	P	**P**	**17 59 54.2**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=331,slow=7.2,SNR=4.2						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**92.75**	**340**	P	**P**	**18 00 05.6**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=96,slow=8.3,SNR=1.4						
	comp=Z,2.7nm,1.0s						
SPITS	**Spitsbergen Ar**	**93.44**	**349**	P	**P**	**18 00 07.7**	**-1.1**
	comp=Z,14nm,1.1s,baz=111,slow=11,SNR=5.7						
TORD	**Torodi Ar. Bea**	**120.85**	**285**	PKP	**PKPdf**	**18 05 44.5**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=50,slow=3.6,SNR=3.3						
TXAR	**Lajitas Array**	**126.41**	**53**	PKP	**PKPdf**	**18 05 55.8**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=228,slow=1.1,SNR=2.7						

*CATAC **02** 17:57:50.8±0.2, 9°27N×83°86W, h29km±2km, ML3.3*
*UCR **02** 17:57:50.6±0.8, 9°25N×83°81W, h65km±4km, MW3.6*
*UPA **02** 17:57:50.6±0.9, 9°39N×83°64W, h0km±17km, MW3.3*
ISC 02 17:57:51.2±1.0**, 9°22N**±0°03×**83°87W**±0°03**, h31**km±10km**, n52, σ0s81**/84**, 5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.25**	**119**	*i* P	**Pn**	**17 57 58.7**	**-0.1**
OCHAL				IAML		17 58 01.2	
	comp=Z,41nm,1.0s						
OCHAL				*i* S	**Sn**	**17 58 06.1**	**+2.4**
LLNJ	**Naranjito**	**0.34**	**317**	*e*P	**Pn**	**17 58 00.9**	**+0.8**
CDM	**Cerro de Muert**	**0.35**	**17**	*e*P	**Pn**	**17 58 01.4**	**+0.8**
CDM				*e*S	**Sn**	**17 58 09.3**	**+2.6**
CDM	**Cerro de Muert**	**0.35**	**17**	*i* P	**Pb**	**17 57 59.7**	**-0.1**
CDM				*i* S	**Sn**	**17 58 07.8**	**+1.1**
CDM				IAML		17 58 11.5	
	comp=Z,2μm,1.0s						
BUS1	**Rivas**	**0.35**	**19**	*e*P	**Pn**	**17 58 01.3**	**+0.6**
RAZU	**San Marcos de**	**0.46**	**340**	*e*P	**Pn**	**17 58 02.5**	**+0.5**
SRBA	**San Rafael, Bu**	**0.50**	**89**	*e*P	**Pn**	**17 58 02.1**	**-0.3**
SRBA	**San Rafael, Bu**	**0.50**	**89**	*i* P	**Pn**	**17 58 01.8**	**-0.6**
SRBA				*i* S	**Sn**	**17 58 09.0**	**-1.0**
SRBA				IAML		17 58 13.9	
	comp=Z,550nm,1.0s						
ABE2	**San Pablo**	**0.52**	**339**	*e*P	**Pn**	**17 58 03.0**	**+0.3**
LCR2	**La Lucha 2**	**0.54**	**345**	*e*P	**Pb**	**17 58 03.0**	**+0.6**
LCR2	**La Lucha 2**	**0.54**	**345**	*i* P	**Pb**	**17 58 02.3**	**-0.1**
LCR2				*i* S	**Sb**	**17 58 10.0**	**-0.1**
LCR2				IAML		17 58 12.4	
	comp=Z,1μm,1.0s						
RIMA	**Rio Macho**	**0.54**	**0**	*e*P	**Pn**	**17 58 03.0**	**-0.1**
RIMA				*e*S	**Sn**	**17 58 12.1**	**+0.9**
RIMA	**Rio Macho**	**0.54**	**0**	*i* P	**Pb**	**17 58 02.5**	**0.0**
RIMA				*i* S	**Sb**	**17 58 10.0**	**-0.3**
RIMA				IAML		17 58 12.8	
	comp=Z,4μm,1.0s						
REPA	**Paraso**	**0.60**	**360**	*e*P	**Pn**	**17 58 04.8**	**+0.9**
TBLN	**Tablon, Guarco**	**0.61**	**348**	*i* P	**Pb**	**17 58 03.4**	**-0.3**
TBLN				*i* S	**Sb**	**17 58 11.8**	**-0.4**
TBLN				IAML		17 58 14.8	
	comp=Z,3μm,1.0s						
ACOS	**Acosta**	**0.64**	**333**	*e*P	**Pb**	**17 58 04.4**	**+0.3**
ACOS				*e*S	**Sn**	**17 58 14.6**	**+0.9**
TAGO	**Cartago**	**0.64**	**355**	*e*P	**Pb**	**17 58 04.5**	**+0.3**
OCM	**Ochomogo**	**0.68**	**352**	*e*P	**Pb**	**17 58 04.7**	**-0.1**
OCM	**Ochomogo**	**0.68**	**352**	*i* P	**Pb**	**17 58 04.1**	**-0.6**
OCM				IAML		17 58 04.7	
	comp=Z,2μm,1.0s						
OCM				*i* S	**Sb**	**17 58 13.2**	**-0.7**
LUJA	**Lujan**	**0.73**	**344**	*e*P	**Pb**	**17 58 06.6**	**+1.0**
POTG	**Potrero Grande**	**0.76**	**103**	*e*P	**Pn**	**17 58 05.4**	**-0.5**
POTG	**Potrero Grande**	**0.76**	**103**	*i* P	**Pn**	**17 58 05.1**	**-0.8**
POTG				*i* S	**Sn**	**17 58 16.3**	**0.0**
POTG				IAML		17 58 19.5	
	comp=Z,1μm,1.0s						
CORON	**Coronado**	**0.76**	**350**	*e*P	**Pn**	**17 58 06.3**	**+0.3**
SANTA	**Santa Ana**	**0.78**	**336**	*e*P	**Pn**	**17 58 06.0**	**-0.2**
VTLA	**Turrialba Volc**	**0.78**	**7**	*e*P	**Pn**	**17 58 06.1**	**-0.4**
VTLA				*e*S	**Sn**	**17 58 17.8**	**+0.4**
CVTQ	**Turrialba Volc**	**0.79**	**7**	*e*P	**Pn**	**17 58 06.2**	**-0.3**
CVTV	**Tajo**	**0.79**	**8**	*e*P	**Pn**	**17 58 06.1**	**-0.4**
CVTR	**Volcan Turrial**	**0.80**	**8**	*e*P	**Pn**	**17 58 06.3**	**-0.5**
CVIMO	**Finca Echandi**	**0.80**	**355**	*e*P	**Pn**	**17 58 06.5**	**-0.1**
HDC	**Heredia**	**0.81**	**342**	*e*P	**Pn**	**17 58 06.8**	**0.0**
HDC				*e*S	**Sb**	**17 58 19.0**	**+1.2**
HDC3	**Heredia 3**	**0.81**	**343**	*i* P	**Pn**	**17 58 06.4**	**-0.3**
HDC3				IAML		17 58 07.1	
	comp=Z,2μm,1.0s						
HDC3				*i* S	**Sb**	**17 58 17.0**	**-0.7**
BELE	**Belen**	**0.81**	**337**	*e*P	**Pb**	**17 58 07.6**	**+0.6**
BELE				*e*S	**Sb**	**17 58 19.4**	**+1.6**
JACO	**JACO, Garabito**	**0.90**	**299**	*e*P	**Pn**	**17 58 07.5**	**-0.3**
JACO				*e*S	**Sn**	**17 58 20.4**	**+0.7**
JACO	**JACO, Garabito**	**0.90**	**299**	*i* P	**Pn**	**17 58 07.5**	**-0.3**
JACO				*i* S	**Sn**	**17 58 19.7**	**0.0**
JACO				IAML		17 58 22.1	
	comp=Z,430nm,1.0s						
LCOCO	**El Coco**	**0.91**	**19**	*e*P	**Pn**	**17 58 07.5**	**-0.5**
PIRO	**Carate, Puerto**	**0.96**	**147**	*i* P	**Pb**	**17 58 09.4**	**0.0**
PIRO				*i* S	**Sb**	**17 58 23.5**	**+1.7**
PIRO				IAML		17 58 30.8	
	comp=Z,860nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.09**	**357**	*e*P	**Pn**	**17 58 10.2**	**-0.3**
RIFO	**Rio Frio, Sara**	**1.09**	**357**	*i* P	**Pn**	**17 58 09.9**	**-0.5**
RIFO				IAML		17 58 10.5	
	comp=Z,600nm,1.0s						
RIFO				*i* S	**Sn**	**17 58 23.6**	**-0.9**
CPMI	**Catarata Coope**	**1.17**	**334**	*e*P	**Pn**	**17 58 11.6**	**-0.1**
CPMI	**Catarata Coope**	**1.17**	**334**	*i* P	**Pn**	**17 58 11.2**	**-0.5**
CPMI				IAML		17 58 11.8	
	comp=Z,310nm,1.0s						
CPMI				*i* S	**Sn**	**17 58 26.3**	**-0.5**
CCOL	**Caracol de Cor**	**1.20**	**132**	*i* P	**Pb**	**17 58 12.2**	**-1.1**
CCOL				*i* S	**Sb**	**17 58 28.1**	**-0.3**
CCOL				IAML		17 58 38.4	
	comp=Z,820nm,1.0s						
BRU2	**Volcan**	**1.23**	**110**	*e*P	**Pn**	**17 58 12.4**	**-0.1**
BRU2				⇓*e*S	**Sb**	**17 58 29.0**	**-0.8**
TRT2	**Tortugero**	**1.33**	**6**	*i* P	**Pn**	**17 58 12.8**	**-1.0**
TRT2				IAML		17 58 13.8	
	comp=Z,970nm,1.0s						
TRT2				*i* S	**Sn**	**17 58 29.2**	**-1.3**
SOCE	**Pocosol**	**1.37**	**327**	*i* P	**Pn**	**17 58 14.0**	**-0.3**
SOCE				*i* S	**Sn**	**17 58 31.4**	**-0.1**
SOCE				IAML		17 58 35.2	
	comp=Z,1μm,1.0s						
PTPM	**Petroterminale**	**1.40**	**136**	⇓*e*P	**Pb**	**17 58 16.7**	**-0.1**
PTPM				*e*S	**Sb**	**17 58 36.7**	**+2.3**
BCO2	**Palmira**	**1.41**	**111**	⇓*e*P	**Pn**	**17 58 15.1**	**+0.1**
BCO2				⇓*e*S	**Sb**	**17 58 34.4**	**-0.3**
VACR	**Volcan Arenal**	**1.48**	**327**	*i* P	**Pn**	**17 58 15.5**	**-0.3**
VACR				*i* S	**Sn**	**17 58 33.4**	**-0.7**
VACR				IAML		17 58 42.5	
	comp=Z,1μm,1.0s						
CHGR2	**Aguacate**	**1.72**	**99**	⇓*e*P	**Pn**	**17 58 19.1**	**0.0**
CHGR2				*e*S	**Sn**	**17 58 40.2**	**+0.1**
INDI	**Punta indio, G**	**1.74**	**292**	*i* P	**Pn**	**17 58 19.6**	**+0.3**
INDI				*i* S	**Sn**	**17 58 38.8**	**-1.6**
INDI				IAML		17 58 56.5	
	comp=Z,100nm,1.0s						
ORTG	**Ortega, Santa**	**1.94**	**306**	*i* P	**Pn**	**17 58 21.0**	**-1.2**
ORTG				*i* S	**Sn**	**17 58 44.7**	**-0.8**
ORTG				IAML		17 58 59.5	
	comp=Z,58nm,1.0s						
VMAR	**Armenia, Volca**	**2.00**	**322**	*i* P	**Pn**	**17 58 21.7**	**-1.3**
VMAR				*i* S	**Sn**	**17 58 47.6**	**+0.5**
VMAR				IAML		17 58 57.4	
	comp=Z,120nm,1.0s						
HZTE	**Horizontes, Gu**	**2.26**	**311**	*i* P	**Pn**	**17 58 26.5**	**0.0**
HZTE				*i* S	**Sn**	**17 58 52.9**	**-0.5**
HZTE				IAML		17 59 55.4	
	comp=Z,140nm,1.0s						

*IDC **02** 18:01:41.4±1.3, 40°67N×136°82W, h0km, mb4.1/15, mbtmp4.0/19, ML3.3/4, MS3.3/13, Error ellipse: s-maj=37.9km s-min=14.9km az=8.0*
*NEIC **02** 18:01:43.2±2.7, 40°5N±0°1×136°8W±0°1, h10km±2km, mb3.8/65, Error ellipse: s-maj=21.5km s-min=17.2km az=205.0*
ISC 02 18:01:42.1±0.9**, 40°5N**±0°1×**136°82W**±0°07**, h10**km**, n134, σ1s13**/124**, mb4.3**/14**, MS3.1**/8**, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	**9.73**	**82**	Pn	**Pn**	**18 04 03.1**	**+0.9**
JCC	**Jacoby Creek,**	**9.73**	**84**	Pn	**Pn**	**18 04 02.5**	**+0.3**
KRMB	**Red Mountain**	**9.82**	**80**	Pn	**Pn**	**18 04 03.8**	**+0.2**
KSXB	**Camp Six Broad**	**9.86**	**78**	Pn	**Pn**	**18 04 04.0**	**0.0**
KMRM	**Mail Ridge**	**10.02**	**87**	Pn	**Pn**	**18 04 06.5**	**+0.4**
KCPM	**Cahto Peak**	**10.18**	**90**	Pn	**Pn**	**18 04 09.0**	**+0.5**
HEBO	**Mount Hebo**	**10.71**	**59**	Pn	**Pn**	**18 04 15.0**	**-0.5**
YBH	**Yreka Blue Hor**	**10.73**	**79**	Pn	**Pn**	**18 04 16.6**	**+0.7**
YBH	**Yreka Blue Hor**	**10.73**	**79**	Pn	**Pn**	**18 04 16.8**	**+0.9**
	0.2nm,0.3s,baz=264,slow=14,SNR=4.2						
YBH				Sn	**Sn**	**18 06 15.9**	**-0.2**
	0.3nm,0.3s,baz=112,slow=5.4,SNR=2.7						
YBH				LR	LR	18 07 30.3	
	comp=Z,172nm,21.1s,baz=270,slow=33						
	1.1nm,0.4s						
K04D	**Chiloquin, OR**	**11.50**	**74**	Pn	**Pn**	**18 04 27.0**	**+0.6**
NLWA	**Neilton Lookou**	**11.62**	**49**	Pn	**Pn**	**18 04 26.4**	**-1.6**
OZB	**Mount Ozzard**	**11.70**	**40**	Pn	**Pn**	**18 04 28.7**	**-0.4**
HOLB	**Holberg**	**11.85**	**28**	Pn	**Pn**	**18 04 31.2**	**+0.1**
HOOD	**Mount Hood Mea**	**12.14**	**61**	Pn	**Pn**	**18 04 34.6**	**-0.6**
PINE	**Pine Mountain**	**12.25**	**69**	Pn	**Pn**	**18 04 38.1**	**+1.3**
CLRS	**Cowichan Lake**	**12.30**	**43**	Pn	**Pn**	**18 04 36.5**	**-0.7**
AFDM	**Forest Hills D**	**12.30**	**92**	Pn	**Pn**	**18 04 38.7**	**+1.3**
HG4B	**Hotspring**	**12.45**	**16**	Pn	**Pn**	**18 04 39.8**	**+0.5**
LON	**Longmire**	**12.56**	**55**	Pn	**Pn**	**18 04 41.2**	**+0.3**
BBGB	**Big Mountain B**	**12.95**	**102**	Pn	**Pn**	**18 04 46.8**	**+0.4**
DIB	**Dawson Inlet,**	**13.09**	**12**	Pn	**Pn**	**18 04 48.3**	**+0.4**
BBB	**Bella Bella**	**13.17**	**24**	Pn	**Pn**	**18 04 49.3**	**+0.3**
BBB	**Bella Bella**	**13.17**	**24**	Pn	**Pn**	**18 04 50.5**	**+1.4**
	1.1nm,0.3s,baz=233,slow=11,SNR=9.8						
BBB				LR	LR	18 08 18.3	

	comp=Z,103nm,19.6s,baz=200,slow=31						
PMPB	**Monarch Peak**	**13.27**	**104**	Pn	**Pn**	**18 04 50.5**	**-0.1**
WAKR	**Walker**	**13.57**	**93**	Pn	**Pn**	**18 04 56.2**	**+1.3**
B06A	**Marblemount**	**13.58**	**49**		**Pn**	**18 04 53.9**	**-0.7**
G08A	**Pilot Rock**	**13.96**	**64**	Pn	**Pn**	**18 04 58.9**	**-1.1**
J08A	**Circle Bar Ran**	**13.97**	**72**	Pn	**Pn**	**18 04 58.4**	**-1.8**
MDPB	**Devils Postpil**	**14.08**	**96**		**Pn**	**18 05 03.0**	**+1.2**
GRNB	**Grenville Isla**	**14.17**	**17**	Pn	**Pn**	**18 05 04.5**	**+1.7**
E08A	**Dider Farm, El**	**14.23**	**59**	Pn	**Pn**	**18 05 03.4**	**-0.2**
LHV	**Little Huntoon**	**14.35**	**93**	Pn	**Pn**	**18 05 05.9**	**+0.6**
NVAR	**Mina Array Bea**	**14.46**	**92**	Pn	**Pn**	**18 05 06.3**	**-0.6**
NVAR	**Mina Array Bea**	**14.46**	**92**	Pn	**Pn**	**18 05 07.1**	**+0.1**
	baz=292,slow=14,SNR=2.5						
	0.3nm,0.5s						
KVN	**Kaiserville**	**14.47**	**90**	Pn	**Pn**	**18 05 06.0**	**-1.2**
D08A	**Wollman Farm,**	**14.51**	**57**	Pn	**Pn**	**18 05 05.8**	**-1.6**
NV11	**Mina Array Sit**	**14.57**	**92**		**Pn**	**18 05 08.2**	**-0.3**
BMN	**Battle Mountai**	**14.93**	**84**		**Pn**	**18 05 13.8**	**+0.5**
BMO	**Blue Mountains**	**15.01**	**67**	Pn	**Pn**	**18 05 14.2**	**-0.1**
C09A	**Chrisman Ranch**	**15.19**	**55**		**Pn**	**18 05 14.8**	**-1.7**
C09A				IAmb	IAmb	18 05 23.5	
	comp=Z,5.5nm,0.8s						
CRAG	**Craig**	**15.22**	**8**	Pn	**Pn**	**18 05 18.6**	**+1.7**
ISA	**Isabella, Lake**	**15.22**	**102**	Pn	**Pn**	**18 05 18.2**	**+1.0**
ISA				IAmb	IAmb	18 05 28.6	
	comp=Z,7.5nm,1.3s						
V35K	**Ketchikan**	**15.27**	**11**	Pn	**Pn**	**18 05 20.3**	**+2.7**
F10A	**Beach Ranch, E**	**15.30**	**62**		**Pn**	**18 05 17.9**	**-0.3**
TPH	**Tonopah**	**15.37**	**93**		**Pn**	**18 05 19.2**	**-0.1**
GMN	**Gold Mountain**	**15.56**	**95**		**Pn**	**18 05 20.3**	**-1.4**
U33K	**Whale Pass**	**15.85**	**8**	Pn	**Pn**	**18 05 25.9**	**+0.8**
MFID	**Camas Ranch**	**15.90**	**72**		**Pn**	**18 05 25.8**	**-0.2**
MFID				IAmb	IAmb	18 05 31.5	
	comp=Z,5.2nm,0.9s						
NEW	**Newport**	**16.07**	**54**		**Pn**	**18 05 26.9**	**-1.3**
NEW				IAmb	IAmb	18 05 33.4	
	comp=Z,11nm,0.8s						
NEW	**Newport**	**16.07**	**54**	Pn	**Pn**	**18 05 26.5**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=241,slow=10,SNR=5.3						
NEW				LR	LR	18 10 28.7	
	comp=Z,93nm,18.8s,baz=246,slow=33						
	comp=Z,2.9nm,0.9s						
WCT	**Wildcat Mounta**	**16.20**	**97**		**Pn**	**18 05 27.0**	**-2.9**
WRAK	**Wrangell Islan**	**16.24**	**9**	Pn	**Pn**	**18 05 29.1**	**-1.0**
QSM	**Queen of Sheba**	**16.31**	**100**		**Pn**	**18 05 30.0**	**-1.2**
GWY	**Greenwater Val**	**16.38**	**99**		**Pn**	**18 05 30.7**	**-1.6**
ELK	**Elko**	**16.40**	**82**	Pn	**Pn**	**18 05 29.9**	**-2.6**
ELK				IAmb	IAmb	18 05 38.3	
	comp=Z,5.0nm,0.9s						
ELK	**Elko**	**16.40**	**82**	Pn	**Pn**	**18 05 33.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=259,slow=10,SNR=5.0						
ELK				LR	LR	18 11 03.5	
	comp=Z,96nm,18.3s,baz=286,slow=34						
	comp=Z,4.1nm,0.9s						
TPNV	**Topopah Spring**	**16.43**	**96**		**Pn**	**18 05 30.3**	**-2.7**
TPNV				IAmb	IAmb	18 05 41.6	
	comp=Z,12nm,1.4s						
R11B	**Troy Canyon, C**	**16.55**	**90**	Pn	**Pn**	**18 05 31.9**	**-2.5**
S11A	**Rachel**	**16.61**	**93**	Pn	**Pn**	**18 05 32.9**	**-2.2**
S11A				IAmb	IAmb	18 06 15.9	
	comp=Z,16nm,1.4s						
GSC	**Goldstone, Bar**	**16.61**	**102**		**Pn**	**18 05 33.2**	**-2.0**
GSC				IAmb	IAmb	18 05 43.6	
	comp=Z,12nm,1.1s						
ELS	**Elsinore Mount**	**16.89**	**108**	Pn	**Pn**	**18 05 38.1**	**-0.6**
ELS				IAmb	IAmb	18 05 46.6	
	comp=Z,5.9nm,1.1s						
HLID	**Hailey**	**16.93**	**72**	Pn	**Pn**	**18 05 37.3**	**-1.9**
HLID				IAmb	IAmb	18 05 41.1	
	comp=Z,6.4nm,1.1s						
Q12A	**Willow Creek R**	**16.97**	**88**		**Pn**	**18 05 38.4**	**-1.3**
T35M	**Bob Quinn**	**17.08**	**12**	Pn	**Pn**	**18 05 41.0**	**+0.2**
S32K	**Killisnoo**	**17.09**	**4**	Pn	**Pn**	**18 05 40.1**	**-0.8**
PRN	**Pahroc Range**	**17.21**	**93**		**Pn**	**18 05 40.5**	**-2.2**
SPR3	**Spring Creek 3**	**17.36**	**88**	P	**Pn**	**18 05 43.9**	**-0.9**
PFO	**Pinyon Flats O**	**17.62**	**106**		**Pn**	**18 05 47.1**	**-0.7**
PFO				IAmb	IAmb	18 05 57.1	
	comp=Z,8.0nm,1.3s						
PFO	**Pinyon Flats O**	**17.62**	**106**	LR	LR	18 11 08.9	
	comp=Z,118nm,18.3s,baz=302,slow=32						
MSO	**Missoula**	**17.71**	**61**	P	**Pn**	**18 05 45.5**	**-3.4**
BPMT	**Black Pine Rid**	**17.96**	**63**	P	**Pn**	**18 05 50.1**	**-2.0**
BGU	**Big Grassy Mou**	**18.04**	**81**	P	**Pn**	**18 05 52.7**	**-0.4**
BGU				IAmb	IAmb	18 05 55.6	
	comp=Z,5.4nm,0.9s						
MCMT	**McKenzie Canyo**	**18.15**	**68**	P	**Pn**	**18 05 54.4**	**0.0**
DUG	**Dugway, Tooele**	**18.30**	**83**	P	**Pn**	**18 05 57.1**	**+0.8**
DUG				IAmb	IAmb	18 05 59.7	
	comp=Z,4.1nm,0.8s						
SPUT	**South Promonto**	**18.44**	**79**	P	**Pn**	**18 05 58.7**	**+0.8**
SPUT				IAmb	IAmb	18 06 00.1	
	comp=Z,6.6nm,1.0s						
LRM	**Limekiln Ridge**	**18.55**	**65**	P	**P**	**18 05 59.0**	**-0.1**
SZCU	**Shurtz Canyon**	**18.65**	**91**	P	**Pn**	**18 06 01.8**	**+1.2**
SZCU				IAmb	IAmb	18 06 03.8	
	comp=Z,6.9nm,1.1s						
LCMT	**Little Creek M**	**18.70**	**93**	P	**P**	**18 06 00.6**	**-0.2**
LCMT				IAmb	IAmb	18 06 05.3	
	comp=Z,8.1nm,1.5s						
LYMT	**Lyon Mountain**	**18.85**	**62**	P	**P**	**18 06 02.2**	**-0.2**
BRLDA	**Berland Lookou**	**18.87**	**37**	P	**P**	**18 06 03.4**	**+0.9**
W13A	**Hualapai Mount**	**18.89**	**99**	P	**Pn**	**18 06 04.4**	**+0.9**
NLU	**North Lily Min**	**18.90**	**83**	P	**P**	**18 06 03.4**	**+0.4**
KNB	**Kanab**	**19.02**	**93**	P	**P**	**18 06 04.9**	**+0.6**
KNB				IAmb	IAmb	18 06 16.9	
	comp=Z,7.7nm,1.3s						
HWUT	**Hardware Ranch**	**19.07**	**78**	P	**P**	**18 06 05.5**	**+0.6**
HWUT				IAmb	IAmb	18 06 07.9	
	comp=Z,5.0nm,0.8s						
BOZ	**Bozeman (W)**	**19.09**	**66**	P	**P**	**18 06 04.7**	**-0.3**
BOZ				IAmb	IAmb	18 06 08.8	
	comp=Z,5.3nm,1.1s						
MSU	**Marysvale**	**19.11**	**88**	P	**P**	**18 06 05.8**	**+0.4**
TCUT	**Toone Canyon**	**19.24**	**80**	P	**P**	**18 06 08.1**	**+1.3**
TCUT				IAmb	IAmb	18 06 09.8	
	comp=Z,5.8nm,0.6s						
YHL	**Hebgen Lake**	**19.33**	**68**	P	**P**	**18 06 08.6**	**+0.8**
YHL				IAmb	IAmb	18 06 12.4	
	comp=Z,5.6nm,1.0s						
AHID	**Auburn Hatcher**	**19.35**	**75**	P	**P**	**18 06 08.9**	**+1.0**
AHID				IAmb	IAmb	18 06 12.5	
	comp=Z,11nm,1.4s						
FXWY	**Fox Creek**	**19.39**	**72**	P	**Pn**	**18 06 10.0**	**+0.4**
FXWY				IAmb	IAmb	18 06 12.8	
	comp=Z,9.1nm,1.4s						
TPAW	**Teton Pass**	**19.45**	**73**	P	**P**	**18 06 10.2**	**+1.1**
TPAW				IAmb	IAmb	18 06 15.6	
	comp=Z,4.1nm,0.9s						
IMW	**Indian Meadow**	**19.46**	**71**		**P**	**18 06 10.3**	**+1.1**
REDW	**Red Top Meadow**	**19.52**	**73**	P	**P**	**18 06 10.8**	**+1.0**
MOOW	**Moose Ponds**	**19.60**	**72**	P	**P**	**18 06 12.1**	**+1.5**
MOOW				IAmb	IAmb	18 06 15.0	
	comp=Z,6.0nm,1.3s						
U15A	**North Rim**	**19.61**	**94**		**P**	**18 06 12.4**	**+1.4**
FLWY	**Flagg Ranch**	**19.64**	**71**	P	**P**	**18 06 11.1**	**0.0**
TMUT	**Trail Mountain**	**19.68**	**85**	P	**P**	**18 06 13.1**	**+1.4**
LOHW	**Long Hollow**	**19.70**	**72**		**P**	**18 06 12.6**	**+0.9**
H17A	**Grant Village**	**19.74**	**70**	P	**P**	**18 06 13.5**	**+1.3**
H17A				IAmb	IAmb	18 06 17.2	
	comp=Z,3.9nm,0.8s						
Q16A	**Castle Valley**	**19.79**	**86**	P	**Pn**	**18 06 15.5**	**+1.3**
Q16A				IAmb	IAmb	18 06 21.5	
	comp=Z,6.7nm,1.0s						
BSUT	**Blindstream Ca**	**19.80**	**81**		**Pn**	**18 06 14.7**	**+0.2**
BSUT				IAmb	IAmb	18 06 21.4	
	comp=Z,5.1nm,1.1s						
OHAK	**Old Harbor**	**19.88**	**333**	P	**P**	**18 06 14.1**	**+0.8**
113A	**Mohawk Valley,**	**20.00**	**105**	P	**Pn**	**18 06 17.2**	**+0.7**
113A				IAmb	IAmb	18 06 19.8	
	comp=Z,9.4nm,1.5s						
Y14A	**Wickenburg**	**20.03**	**101**	P	**Pn**	**18 06 17.2**	**+0.3**
Y14A				IAmb	IAmb	18 06 26.6	
	comp=Z,3.5nm,0.7s						
YMP	**Mirror Lake Pl**	**20.05**	**69**	P	**P**	**18 06 15.5**	**-0.2**
SRU	**San Rafael Swe**	**20.24**	**85**		**P**	**18 06 17.6**	**0.0**
SRU				IAmb	IAmb	18 06 23.2	
	comp=Z,6.7nm,0.9s						
P18A	**Preston Nutter**	**20.34**	**84**	P	**P**	**18 06 17.9**	**-1.0**
P18A				IAmb	IAmb	18 06 29.8	
	comp=Z,4.8nm,1.0s						
EDM	**Edmonton**	**20.39**	**43**		**P**	**18 06 18.0**	**-1.0**
PDAR	**Pinedale Array**	**20.49**	**75**	P	**P**	**18 06 21.5**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=270,slow=7.6,SNR=42						
PDAR				LR	LR	18 13 26.9	
	comp=Z,73nm,18.3s,baz=254,slow=34						
	comp=Z,4.4nm,0.8s						
ANMO	**Albuquerque**	**24.58**	**93**	LR	LR	18 15 59.1	
	comp=Z,74nm,18.8s,baz=43,slow=35						
ILAR	**Eielson Array**	**25.04**	**350**	P	**P**	**18 07 05.5**	**-0.6**
	comp=Z,4.8nm,1.1s,baz=170,slow=7.8,SNR=16						
ILAR				PcP	**PcP**	**18 10 40.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=199,slow=1.7,SNR=7.8						
	comp=Z,4.8nm,1.1s						
YKA	**Yellowknife Ar**	**25.78**	**24**	P	**P**	**18 07 11.9**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=226,slow=8.9,SNR=12						
	comp=Z,1.9nm,0.9s						
LPIG	**La Paz**	**27.58**	**118**	LR	LR	18 15 53.5	
	comp=Z,32nm,18.0s,baz=236,slow=31						
TXAR	**Lajitas Array**	**29.21**	**102**	P	**P**	**18 07 45.6**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=299,slow=5.4,SNR=3.7						
TXAR				LR	LR	18 18 56.6	
	comp=Z,39nm,18.4s,baz=328,slow=35						
	comp=Z,0.2nm,0.6s						
CMIG	**Matias Romero**	**42.98**	**110**	LR	LR	18 25 44.5	
	comp=Z,31nm,18.2s,baz=20,slow=34						
PETK	**Petropavlovsk-**	**45.04**	**309**	P	**P**	**18 09 57.6**	**-0.2**
	comp=Z,12nm,0.9s,baz=90,slow=11,SNR=19						
PETK				LR	LR	18 29 19.9	
	comp=Z,18nm,18.0s,baz=253,slow=37						
	comp=Z,12nm,0.9s						
FRB	**Frobisher Bay**	**45.21**	**36**	LR	LR	18 28 09.7	
	comp=Z,66nm,19.5s,baz=141,slow=35						
SCHQ	**Schefferville**	**47.29**	**48**	P	**P**	**18 10 15.5**	**0.0**
	comp=Z,3.4nm,0.7s,baz=266,slow=8.1,SNR=3.6						
	comp=Z,3.4nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**51.98**	**264**	T	T	19 07 01.6	
	baz=53,slow=75						
H11N2	**WAKE ISLAND Hy**	**51.98**	**264**	T	T	19 06 59.0	
	baz=53,slow=75						
H11N1	**WAKE ISLAND Hy**	**51.99**	**264**	T	T	19 07 06.4	
	baz=53,slow=75						
H11S1	**WAKE ISLAND Hy**	**52.85**	**263**	T	T	19 08 05.1	
	baz=52,slow=74						
H11S2	**WAKE ISLAND Hy**	**52.86**	**263**	T	T	19 08 05.5	
	baz=52,slow=74						
H11S3	**WAKE ISLAND Hy**	**52.87**	**263**	T	T	19 08 04.0	
	baz=52,slow=74						
MJAR	**Matsushiro Arr**	**64.08**	**297**	P	**P**	**18 12 16.9**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=49,slow=6.7,SNR=3.1						
	comp=Z,1.4nm,0.7s						
NRIK	**Noril'sk**	**65.75**	**344**	P	**P**	**18 12 26.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=64,slow=3.0,SNR=3.9						
	comp=Z,2.0nm,0.7s						
KSRS	**Korea Array**	**70.38**	**303**	P	**P**	**18 12 56.1**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=49,slow=5.7,SNR=2.9						
	comp=Z,1.3nm,0.8s						
ATAH	**Atahualpa**	**71.54**	**117**	LR	LR	18 37 55.9	
	comp=Z,18nm,19.8s,baz=341,slow=30						
SONM	**Songino Array**	**75.76**	**322**	P	**P**	**18 13 28.6**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=57,slow=4.8,SNR=17						
	comp=Z,3.9nm,0.8s						
FINES	**FINESS Array B**	**77.50**	**8**	P	**P**	**18 13 36.6**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=318,slow=2.6,SNR=4.6						
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**79.38**	**336**	P	**P**	**18 13 48.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=65,slow=7.0,SNR=3.5						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**83.96**	**344**	P	**P**	**18 14 11.9**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=29,slow=3.3,SNR=8.6						
	comp=Z,2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**84.15**	**338**	P	**P**	**18 14 12.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=28,slow=4.8,SNR=12						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**86.39**	**334**	P	**P**	**18 14 24.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=20,slow=3.7,SNR=5.4						
	comp=Z,0.5nm,0.7s						

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*IDC **02** 18:08:45.5±6.2, 23°.57S×179°.47W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=170.2km s-min=98.9km az=146.0*

*NEIC **02** 18:09:24.9±1.3, 22°.7S±0°.1×178°.5W±0°.2, h529km±12km, mb4.5/17, Error ellipse: s-maj=27.8km s-min=18.4km az=121.0*

ISC 02 18:09:25.0±0.9**, 22°.6S**±0°.2×**178°.5W**±0°.1**, h550km, n43,** σ**1^{s}40**/40**, mb4.2**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.73**	**68**	P	**P**	**18 11 29.4**	**-0.7**
PINNC	**Pines Island,**	**13.02**	**267**	P	**P**	**18 12 13.6**	**-0.5**
OUENC	**Ouen Island, N**	**13.59**	**268**	P	**P**	**18 12 19.5**	**-0.5**
DZM	**Mont Dzumac**	**13.98**	**269**	P	**P**	**18 12 22.0**	**-2.2**
TOZ	**Tahuroa Road**	**15.92**	**198**	P	**P**	**18 12 43.9**	**+0.3**
TOZ				IAmb	IAmb	18 13 11.0	
	comp=Z,15nm,1.4s						
PXZ	**Pawanui**	**17.79**	**192**	P	P	18 13 17.1	+16
BFZ	**Birch Farm**	**18.54**	**193**	P	P	18 13 18.0	+10
MRZ	**Mangatainoka R**	**18.67**	**194**	P	**P**	**18 13 08.0**	**-0.8**
MRZ				IAmb	IAmb	18 13 31.6	
	comp=Z,9.8nm,1.1s						
DUWZ	**D'Urville Isla**	**19.22**	**198**	P	**P**	**18 13 14.4**	**+0.5**
WEL	**Wellington**	**19.45**	**195**	P	**P**	**18 13 19.0**	**+3.1**
SNZO	**South Karori**	**19.49**	**196**	P	**P**	**18 13 17.0**	**+0.8**
TCW	**Tory Channel**	**19.51**	**197**	P	**P**	**18 13 16.3**	**-0.1**
TCW	**Tory Channel**	**19.51**	**197**	P	**P**	**18 13 17.6**	**+1.2**
BHW	**Baring Head**	**19.54**	**195**	P	**P**	**18 13 17.3**	**+0.5**
BHW				IAmb	IAmb	18 13 50.1	
	comp=Z,27nm,1.2s						
BHW	**Baring Head**	**19.54**	**195**	P	**P**	**18 13 17.8**	**+1.1**
PLWZ	**Palliser**	**19.61**	**194**	P	**P**	**18 13 18.7**	**+1.4**
QRZ	**Quartz Range**	**19.67**	**201**	P	**P**	**18 13 18.1**	**+0.1**
QRZ	**Quartz Range**	**19.67**	**201**	P	**P**	**18 13 18.2**	**+0.3**
TKNZ	**Takaka Hill**	**19.72**	**200**	P	**P**	**18 13 18.4**	**0.0**
NNZ	**Nelson**	**19.76**	**198**	P	**P**	**18 13 19.0**	**+0.3**
NNZ	**Nelson**	**19.76**	**198**	P	**P**	**18 13 19.1**	**+0.4**
TUWZ	**Tuamarina**	**19.80**	**197**	P	**P**	**18 13 19.0**	**0.0**
THZ	**Tophouse**	**20.40**	**199**	P	**P**	**18 13 24.8**	**+0.2**
THZ				IAmb	IAmb	18 13 34.2	
	comp=Z,19nm,1.2s						
THZ	**Tophouse**	**20.40**	**199**	P	**P**	**18 13 25.5**	**+0.8**
DSZ	**Denniston Nort**	**20.73**	**201**	P	**P**	**18 13 27.6**	**-0.1**
DSZ	**Denniston Nort**	**20.73**	**201**	P	**P**	**18 13 28.3**	**+0.7**
KHZ	**Kahutara**	**20.83**	**197**	P	**P**	**18 13 25.4**	**-2.9**
GVZ	**Greta Valley S**	**21.48**	**197**	P	**P**	**18 13 35.5**	**+1.2**
LTZ	**Lake Taylor**	**21.52**	**199**	P	**P**	**18 13 36.4**	**+1.6**
MLZ	**Mavora Lakes**	**25.19**	**203**	P	**P**	**18 14 07.6**	**+0.3**
MLZ				IAmb	IAmb	18 14 18.1	
	comp=Z,5.7nm,1.0s						
STKA	**Stephens Creek**	**36.52**	**247**	P	**P**	**18 15 42.3**	**-2.1**
STKA	**Stephens Creek**	**36.52**	**247**	P	**P**	**18 15 42.5**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=108,slow=12,SNR=4.1						
	comp=Z,0.9nm,0.5s						
BBOO	**Buckleboo**	**41.25**	**246**	P	**P**	**18 16 20.7**	**-1.9**
BBOO				IAmb	IAmb	18 16 32.7	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**43.65**	**259**	P	**P**	**18 16 43.0**	**+1.4**
ASAR	**Alice Springs**	**43.65**	**259**	P	**P**	**18 16 42.4**	**+0.8**
ASAR	**Alice Springs**	**43.65**	**259**	P	**P**	**18 16 43.1**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=91,slow=7.3,SNR=32						
	comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**43.91**	**265**	P	**P**	**18 16 45.9**	**+2.3**
WB2	**Warramunga Arr**	**43.91**	**264**	P	**P**	**18 16 45.7**	**+2.0**
WRA	**Warramunga Arr**	**43.92**	**264**	P	**P**	**18 16 45.9**	**+2.2**
	comp=Z,1.2nm,0.6s,baz=104,slow=8.0,SNR=18						
	comp=Z,1.2nm,0.6s						
XMIS	**Christmas Isla**	**73.10**	**265**	P	**P**	**18 20 01.6**	**+1.3**
JNU	**Nakatsue**	**73.54**	**317**	P	**P**	**18 20 03.9**	**+1.5**
JNU				IAmb	IAmb	18 20 30.4	
	comp=Z,22nm,1.2s						
SSLB	**Suanglung**	**74.80**	**304**	P	**P**	**18 20 08.4**	**-1.3**
SSLB				IAmb	IAmb	18 20 37.5	
	comp=Z,25nm,1.2s						
HFS	**Hagfors**	**141.56**	**350**	PKP	PKiKP	18 28 19.2	+23
	comp=Z,0.9nm,0.4s,baz=34,slow=3.8,SNR=8.6						

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*IDC **02** 18:30:58.4±0.9, 9°.13N×125°.29E, h0km, mb3.9/8, mbtmp3.9/9, ML4.1/1, MS3.2/3, Error ellipse: s-maj=49.5km s-min=16.1km az=75.0*

*NEIC **02** 18:30:58.4±2.3, 9°.27N±0°.09×125°.2E±0°.2, h5km±5km, mb4.5/26, Error ellipse: s-maj=28.6km s-min=12.3km az=82.0*

ISC 02 18:30:59.2±0.5**, 9°.22N**±0°.06×**125°.2E**±0°.2**, h10km, n45,** σ**1^{s}32**/44**, mb4.4**/20**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.16**	**171**	P	**Pg**	**18 31 41.0**	**+0.2**
DAV	**Davao City (W)**	**2.16**	**171**		**Pn**	**18 31 36.3**	**+0.9**
DAV	**Davao City (W)**	**2.16**	**171**	Pn	**Pn**	**18 31 35.5**	**+0.1**
	62nm,0.3s,baz=321,slow=6.5,SNR=2.3						
DAV				Sn	**Sn**	**18 32 01.9**	**-0.4**
	50nm,0.3s,baz=332,slow=20,SNR=9.2						
	86nm,0.4s						
LUWI	**Luwuk**	**10.49**	**194**	Pn	**Pn**	**18 33 29.0**	**-0.8**
JOW	**Kunigami**	**17.75**	**9**	LR	LR	18 42 30.8	
	comp=Z,99nm,18.1s,baz=240,slow=39						
SOEI	**Soe**	**18.88**	**183**	P	**P**	**18 35 18.6**	**-1.5**
SOEI				IAmb	IAmb	18 36 00.4	
	comp=Z,20nm,1.2s						
KNRA	**Kununurra**	**24.98**	**172**	P	**P**	**18 36 22.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.15**	**179**	P	**P**	**18 36 43.3**	**+0.5**
MJAR	**Matsushiro Arr**	**29.64**	**21**	LR	LR	18 46 55.9	
	comp=Z,42nm,21.6s,baz=178,slow=32						
WB0	**Warramunga Arr**	**30.18**	**163**	P	**P**	**18 37 09.8**	**-0.1**
WB0				IAmb	IAmb	18 37 50.1	
	comp=Z,4.9nm,1.1s						
WRA	**Warramunga Arr**	**30.33**	**163**	P	**P**	**18 37 12.2**	**+0.9**
WRA	**Warramunga Arr**	**30.33**	**163**	P	**P**	**18 37 10.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=343,slow=9.6,SNR=4.1						
	comp=Z,0.5nm,0.6s						
WR0	**Warramunga Arr**	**30.41**	**163**	P	**P**	**18 37 13.7**	**+1.8**
WR0				IAmb	IAmb	18 37 32.4	
	comp=Z,6.6nm,1.4s						
ASAR	**Alice Springs**	**33.77**	**166**	P	**P**	**18 37 40.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=345,slow=6.9,SNR=16						
ASAR				LR	LR	18 51 48.6	
	comp=Z,39nm,18.1s,baz=54,slow=37						
	comp=Z,0.3nm,0.4s						
BBOO	**Buckleboo**	**43.05**	**167**	P	**P**	**18 38 59.4**	**0.0**
STKA	**Stephens Creek**	**43.76**	**160**	P	**P**	**18 39 04.5**	**-0.6**
PETK	**Petropavlovsk-**	**51.01**	**25**	P	**P**	**18 40 02.1**	**+0.8**
PETK	**Petropavlovsk-**	**51.01**	**25**	P	**P**	**18 40 01.7**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=235,slow=5.2,SNR=5.5						
	comp=Z,1.4nm,0.6s						
MK31	**Makanchi Array**	**52.25**	**324**	P	**P**	**18 40 12.1**	**+1.4**
MK31				IAmb	IAmb	18 40 17.7	
	comp=Z,4.5nm,1.4s						
MKAR	**Makanchi Array**	**52.25**	**324**	P	**P**	**18 40 10.7**	**-0.1**
MKAR	**Makanchi Array**	**52.25**	**324**	P	**P**	**18 40 12.8**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=120,slow=8.6,SNR=5.0						
	comp=Z,0.4nm,0.6s						
TAU	**Tasmania Unive**	**55.66**	**160**	P	**P**	**18 40 36.9**	**+1.4**
KURBB	**Kurchatov Arra**	**56.36**	**326**	P	**P**	**18 40 41.6**	**+1.0**
	comp=Z,0.4nm,0.2s,baz=126,slow=6.9,SNR=4.6						
	comp=Z,0.4nm,0.2s						
BVAR	**Borovoye Array**	**61.95**	**326**	P	**P**	**18 41 20.8**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=109,slow=7.8,SNR=3.6						
	comp=Z,1.3nm,1.0s						
TIXI	**Tiksi**	**62.41**	**1**	P	**P**	**18 41 21.7**	**-0.3**
TIXI				IAmb	IAmb	18 41 38.9	
	comp=Z,4.3nm,0.8s						
QRZ	**Quartz Range**	**66.14**	**142**	P	**P**	**18 41 47.9**	**+0.9**
THZ	**Tophouse**	**66.94**	**143**	P	**P**	**18 41 52.3**	**+0.2**
ABKAR	**Akbulak array**	**67.01**	**320**	P	**P**	**18 41 52.0**	**-0.5**
F17K	**Baldwin Pennin**	**75.02**	**24**	P	**P**	**18 42 41.3**	**+0.6**
C18K	**Utukok River**	**75.50**	**21**	P	**P**	**18 42 42.5**	**-1.1**
H18K	**Honhosa River**	**75.97**	**25**	P	**P**	**18 42 45.4**	**-0.9**
H18K				IAmb	IAmb	18 43 18.0	
	comp=Z,10nm,1.4s						
D19K	**Kuna River**	**76.58**	**22**	P	**P**	**18 42 47.8**	**-1.9**
D19K				IAmb	IAmb	18 43 17.9	
	comp=Z,5.8nm,1.4s						
G19K	**Purcell Mounta**	**76.63**	**24**	P	**P**	**18 42 47.8**	**-2.2**
G19K				IAmb	IAmb	18 43 05.5	
	comp=Z,6.1nm,1.4s						
E19K	**Redstone River**	**76.75**	**23**	P	**P**	**18 42 48.1**	**-2.5**
E19K				IAmb	IAmb	18 42 57.0	
	comp=Z,4.3nm,1.0s						
H19K	**Roundabout Mou**	**76.82**	**25**	P	**P**	**18 42 49.2**	**-1.8**
H19K				IAmb	IAmb	18 42 56.4	
	comp=Z,8.2nm,1.5s						
B21K	**Ikpikpuk River**	**77.98**	**21**	P	**P**	**18 42 56.9**	**-0.5**
B21K				IAmb	IAmb	18 43 03.0	
	comp=Z,3.4nm,0.9s						
B22K	**Teshekpuk Lake**	**78.45**	**20**	P	**P**	**18 42 59.4**	**-0.7**
B22K				IAmb	IAmb	18 43 15.1	
	comp=Z,3.5nm,0.9s						
C23K	**Itkillik River**	**79.38**	**21**	P	**P**	**18 43 03.5**	**-1.6**
C23K				IAmb	IAmb	18 43 16.5	
	comp=Z,10nm,1.4s						
BMAR	**Burnt Mountain**	**81.62**	**23**	P	**P**	**18 43 16.5**	**-0.8**
E28M	**Babbage River**	**83.39**	**22**	P	**P**	**18 43 25.5**	**-1.0**
M29M	**Somme Creek**	**84.80**	**28**	P	**P**	**18 43 34.3**	**+0.4**
FINES	**FINESS Array B**	**86.33**	**332**	P	**P**	**18 43 40.5**	**-0.8**
FINES	**FINESS Array B**	**86.33**	**332**	P	**P**	**18 43 41.8**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=100,slow=5.8,SNR=3.3						
	comp=Z,2.7nm,0.9s						
P32M	**Atlin**	**87.66**	**30**	P	**P**	**18 43 43.9**	**-4.0**
YKA	**Yellowknife Ar**	**95.12**	**24**	P	**P**	**18 44 25.0**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=298,slow=4.7,SNR=7.0						
	comp=Z,0.4nm,0.8s						

IDC 02 18:35:36.0±6.7**, 22°.61N**×**143°.81E, h0km, mb3.5**/5**, mbtmp3.5**/5**, Error ellipse: s-maj=273.0km s-min=24.0km az=76.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.29**	**193**	P	P	18 43 39.9	+0.1
	0.2nm,0.3s,baz=14,slow=8.7,SNR=6.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.99**	**192**	P	P	18 44 08.7	-0.5
	0.2nm,0.8s,baz=10,slow=7.6,SNR=4.5						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**54.51**	**312**	P	P	18 45 06.0	+0.2
	0.3nm,0.5s,baz=83,slow=8.7,SNR=6.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**57.26**	**317**	P	P	18 45 25.0	-0.2
	0.3nm,0.2s,baz=91,slow=7.8,SNR=5.6						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	**62.36**	**319**	P	P	18 46 00.2	-0.2
	1.1nm,0.7s,baz=88,slow=7.8,SNR=7.0						
	1.1nm,0.7s						

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*IDC **02** 18:47:55.2±1.9, 7°.24S×128°.78E, h0km, mb4.1/1, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=112.1km s-min=30.8km az=66.0*

ISC 02 18:47:55.7±1.4**, 7°.38S**±0°.09×**128°.9E**±0°.2**, h10km, n7,** σ**4^{s}21**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.43**	**105**	P	**Pb**	**18 48 40.5**	**+0.9**
FAKI	**Fak Fak**	**5.53**	**37**	P	**Pn**	**18 49 16.6**	**-1.6**
MTN	**Manton Dam**	**5.85**	**158**	P	Pb	18 49 33.2	-4.7
KDU	**Kakadu**	**6.33**	**147**	P	Pn	18 49 36.4	+7.2
WRA	**Warramunga Arr**	**13.55**	**158**	Pn	**Pn**	**18 51 10.4**	**+2.2**
	0.4nm,0.3s,baz=336,slow=12,SNR=26						
WRA				Sn	Sn	18 53 30.4	-8.6
	1.0nm,0.3s,baz=338,slow=24,SNR=9.1						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**16.89**	**164**	P	**P**	**18 51 56.1**	**+1.7**
	0.3nm,0.3s,baz=342,slow=12,SNR=42						
ASAR				S	**Sn**	**18 54 53.8**	**-6.5**
	0.5nm,0.4s,baz=346,slow=23,SNR=5.5						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**18 58 54.9**	**-0.1**
	1.1nm,0.6s,baz=121,slow=8.1,SNR=12						
	1.1nm,0.6s						

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*WEL **02** 19:02:22.9±0.5, 41°S±2°×17°2E±°, h5km, M3.2/9, ML3.4/10, MLv3.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=116.2, confirmed*

*NOU **02** 19:02:22.5, 40°.85S×172°.28E, h6km, MLv3.5/8, Off W. Coast of S. Island, N.Z.*

ISC 02 19:02:23.0±0.9**, 40°.91S**±0°.03×**172°.35E**±0°.03**, h13km**±6km**, n87,** σ**1^{s}26**/110**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.16**	**59**	P	**Pg**	**19 02 27.0**	**+0.1**
QRZ	**Quartz Range**	**0.16**	**59**	P	**Pg**	**19 02 27.2**	**+0.3**
QRZ				S	**Sg**	**19 02 29.7**	**+0.1**
TSFS	**Takaka Scotts**	**0.36**	**81**	P	**Pg**	**19 02 29.0**	**-1.4**
TSFS				S	**Sg**	**19 02 34.4**	**-0.9**
KASC	**Karamea School**	**0.38**	**207**	P	**Pg**	**19 02 31.2**	**+0.5**
KASC				S	**Sg**	**19 02 36.8**	**+0.9**
KHLK	**Kaihoka Lakes**	**0.40**	**30**	P	**Pb**	**19 02 31.7**	**-0.2**
KHLK				S	**Sb**	**19 02 37.6**	**-0.4**
TKNZ	**Takaka Hill**	**0.48**	**105**	P	**Pg**	**19 02 32.2**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKNZ				S	Sg	19 02 38.0	-1.0
MOTS	Motueka DOC wo	0.55	114	P	Pg	19 02 33.2	-0.6
MOTS				S	Sg	19 02 40.9	-0.1
MRNZ	Matariki Terra	0.58	148	P	Pg	19 02 34.1	-0.3
MRNZ				S	Sg	19 02 41.8	-0.3
MATW	Matariki Wadsw	0.58	153	P	Pg	19 02 34.2	-0.3
MATW				S	Sg	19 02 41.9	-0.4
BTWS	Nelson Brightw	0.76	129	P	Pg	19 02 35.9	-1.9
BTWS				S	Sg	19 02 46.0	-1.7
NCBS	Nelson Council	0.80	117	P	Pg	19 02 36.4	-2.0
NCBS				S	Sg	19 02 47.1	-1.7
NNZ	Nelson	0.84	112	P	Pg	19 02 38.2	-1.1
NNZ				S	Sg	19 02 49.7	-0.5
DSZ	Denniston Nort	0.93	206	P	Pg	19 02 40.5	-0.6
DSZ				S	Sg	19 02 52.9	-0.4
THZ	Tophouse	0.95	154	P	Pg	19 02 40.0	-1.4
DUWZ	D'Urville Isla	1.20	85	P	Pg	19 02 44.4	-1.7
DUWZ				S	Sg	19 03 01.3	-0.4
TUWZ	Tuamarina	1.31	114	P	Pn	19 02 46.2	-0.7
TUWZ				S	Sb	19 03 03.1	-1.1
BSWZ	Blackbirch Sta	1.41	126	P	Pn	19 02 48.9	+0.6
BSWZ				S	Sb	19 03 07.4	+0.6
TCW	Tory Channel	1.49	102	P	Pn	19 02 49.5	+0.1
CMWZ	Cape Campbell	1.64	121	P	Pb	19 02 53.9	+0.9
CMWZ				S	Sg	19 03 16.2	+0.5
KHZ	Kahutara	1.75	150	P	Pn	19 02 54.4	+1.4
KHZ	Kahutara	1.75	150	P	Pn	19 02 54.4	+1.4
SNZO	South Karori	1.83	103	P	Pn	19 02 55.6	+1.6
WEL	Wellington	1.87	102	P	Pb	19 02 57.2	+0.3
WEL				S	Sb	19 03 20.8	+0.7
LTZ	Lake Taylor	1.87	182	P	Pn	19 02 54.8	+0.1
LTZ				S	Sb	19 03 20.9	+0.5
INZ	Inchbonnie	1.94	200	P	Pn	19 02 56.0	+0.5
KIW	Kapiti Island	1.94	89	P	Pn	19 02 56.5	+0.8
BHW	Baring Head	1.97	106	P	Pn	19 02 57.0	+1.0
BHW				S	Sn	19 03 22.0	+1.5
KHEZ	Kahui Hut	2.06	39	P	Pn	19 02 58.0	+0.7
KHEZ	Kahui Hut	2.06	39	P	Pn	19 02 57.7	+0.4
KHEZ				S	Sn	19 03 23.6	+0.8
CAW	Cannon Point	2.07	96	P	Pn	19 02 58.9	+1.5
CAW				S	Sb	19 03 26.9	+1.0
NEZ	North Egmont	2.12	40	P	Pn	19 02 58.5	+0.4
NEZ				S	Sn	19 03 24.9	+0.6
GVZ	Greta Valley S	2.12	166	P	Pn	19 02 58.8	+0.7
PKE	Pukeiti	2.12	37	P	Pn	19 02 58.4	+0.2
PKE				S	Sn	19 03 25.4	+1.0
LREZ	Lake Rotokare	2.14	48	P	Pn	19 02 59.6	+1.3
OGWZ	Otaki Gorge	2.14	88	P	Pn	19 03 00.1	+1.7
PLWZ	Palliser	2.29	108	P	Pn	19 03 01.1	+0.6
WAZ	Wanganui	2.32	61	P	Pn	19 03 01.7	+0.8
PAWZ	Paruwai Farm	2.37	103	P	Pn	19 03 02.8	+1.2
MTW	Mount Morrison	2.40	97	P	Pn	19 03 04.7	+2.7
HOWZ	Holdsworth Sta	2.40	91	P	Pn	19 03 04.2	+2.2
OXZ	Oxford	2.43	185	P	Pn	19 03 03.7	+1.4
MRZ	Mangatainoka R	2.46	85	P	Pn	19 03 05.2	+2.4
WVZ	Waitaha Valley	2.48	208	P	Pn	19 03 02.5	-0.4
TRWZ	Traveller	2.57	102	P	Pg	19 03 11.2	-1.1
VRZ	Vera Road	2.57	47	P	Pn	19 03 04.5	+0.2
POWZ	Post Office Ro	2.65	80	P	Pb	19 03 12.1	+1.8
MHCZ	Mount Hutt	2.69	192	P	Pn	19 03 06.0	+0.1
TIWZ	Tintock	2.69	88	P	Pb	19 03 09.2	-1.7
TMWZ	Te Maipa	2.69	95	P	Pb	19 03 09.9	-1.1
PRWZ	Pori Road	2.78	84	P	Pb	19 03 11.5	-0.9
PKVZ	Pokaka	2.81	56	P	Pn	19 03 08.4	+0.7
MTVZ	Mangateitei	2.84	59	P	Pn	19 03 10.3	+2.3
GCSZ	Gaunt Creek Bo	2.84	211	P	Pn	19 03 08.0	+0.1
TSZ	Takapari Road	2.88	74	P	Pb	19 03 12.1	-2.2
TRVZ	Turoa	2.93	58	P	Pn	19 03 10.6	+1.1
WNVZ	Wahianoa	2.95	59	P	Pn	19 03 11.0	+1.4
RPZ	Rata Peaks	2.96	198	P	Pn	19 03 10.0	+0.3
RPZ	Rata Peaks	2.96	198	P	Pn	19 03 09.7	0.0
DVHZ	Dannevirke	2.97	79	P	Pb	19 03 14.6	-1.2
MOVZ	Moawhango	3.01	61	P	Pn	19 03 13.1	+2.7
TUVZ	Tukino	3.02	58	P	Pn	19 03 11.7	+1.1
NGZ	Ngauruhoe	3.04	56	P	Pn	19 03 11.8	+1.0
SNVZ	South Ngauruho	3.06	57	P	Pn	19 03 12.2	+1.1
WTVZ	West Tongariro	3.07	55	P	Pn	19 03 12.4	+1.2
NNVZ	North Ngauruho	3.07	56	P	Pn	19 03 12.2	+0.8
HIZ	Hauiti	3.08	40	P	Pn	19 03 10.7	-0.5
HIZ	Hauiti	3.08	40	P	Pn	19 03 10.8	-0.4
OTVZ	Oturere	3.09	57	P	Pn	19 03 12.5	+1.0
PNHZ	Pukenui	3.10	73	P	Pb	19 03 17.4	-0.7
KRVZ	Karewarewa	3.11	55	P	Pn	19 03 14.8	+3.0
ETVZ	East Tongariro	3.13	57	P	Pn	19 03 13.8	+1.7
NTVZ	North Tongarir	3.13	56	P	Pn	19 03 13.6	+1.5
TMVZ	Te Maari	3.14	56	P	Pn	19 03 13.7	+1.5
BHHZ	Black Hill Sta	3.18	65	P	Pn	19 03 16.1	+3.4
FOZ	Fox Glacier	3.23	215	P	Pn	19 03 12.7	-0.6
KWHZ	Kaweka Forest	3.46	66	P	Pn	19 03 20.4	+3.9
TMZ	Timaru	3.61	195	P	Pn	19 03 18.1	-0.5
JCZ	Jackson Bay	4.12	219	P	Pn	19 03 26.8	+1.2
JCZ	Jackson Bay	4.12	219	P	Pn	19 03 26.2	+0.6
AWAZ	Awhitu Peninsu	4.24	26	P	Pn	19 03 27.4	+0.2
RTZ	Ruatahuna	4.24	59	P	Pn	19 03 30.3	+3.0
ODZ	Otahua Downs	4.32	196	P	Pn	19 03 29.1	+0.8
ODZ	Otahua Downs	4.32	196	P	Pn	19 03 27.1	-1.2
MKAZ	Moumakai	4.38	31	P	Pn	19 03 29.7	+0.4
MBAZ	Motutapu North	4.59	27	P	Pn	19 03 32.2	+0.2
WIAZ	Waiheke Island	4.65	29	P	Pn	19 03 33.3	+0.4
WCZ	Waipu Caves	5.20	18	P	Pn	19 03 40.4	0.0

NEIC ***02*** *19:20:21.1±1.9, 22°.40N±0°.05×143°.5E±0°.2, h101km±10km, mb4.3/4, Error ellipse: s-maj=31.8km s-min=7.4km az=88.0*

IDC ***02*** *19:20:35.7±6.1, 22°.34N×143°.57E, h251km±57km, mb3.2/10, mbtmp3.8/10, Error ellipse: s-maj=42.3km s-min=15.5km az=79.0*

ISC 02 19:20:22.4±1.1**, 22°.5N**±0°.1×**143°.4E**±0°.3**, h118**km**, n19, σ0s.93**/18**, mb4.1**/12**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.76	346	Pn	Pn	19 21 31.1	-1.1
KSRS	Korea Array	20.07	322	P	Pn	19 24 52.1	+2.9
	1.5nm,0.8s,baz=149,slow=8.6,SNR=7.5						
	1.5nm,0.8s						
WB2	Warramunga Arr	43.06	193	P	P	19 28 10.4	-0.3
WB2				IAmb	IAmb	19 28 17.7	
	comp=Z,6.5nm,1.3s						
WRA	Warramunga Arr	43.06	193	P	P	19 28 10.5	-0.2
	comp=Z,0.1nm,0.3s,baz=13,slow=8.9,SNR=6.0						
	comp=Z,0.1nm,0.3s						
ASAR	Alice Springs	46.77	192	P	P	19 28 39.6	-0.5
	comp=Z,0.3nm,0.9s,baz=16,slow=6.5,SNR=4.8						
	comp=Z,0.3nm,0.9s						
ZALV	Zalesovo Beam	53.77	321	P	P	19 29 33.0	+0.6
	comp=Z,0.6nm,0.5s,baz=117,slow=8.5,SNR=3.8						
	comp=Z,0.6nm,0.5s						
MK31	Makanchi Array	54.37	312	P	P	19 29 38.1	+1.2
MK31				IAmb	IAmb	19 29 49.5	
	comp=Z,1.9nm,1.2s						
MKAR	Makanchi Array	54.37	312	P	P	19 29 38.0	+1.0
MKAR	Makanchi Array	54.37	312	P	P	19 29 38.2	+1.2
	comp=Z,0.4nm,0.6s,baz=90,slow=7.4,SNR=4.7						
	comp=Z,0.4nm,0.6s						
F17K	Baldwin Pennin	55.99	23	P	P	19 29 49.5	+1.3
F17K				IAmb	IAmb	19 30 07.5	
	comp=Z,13nm,1.4s						
KURBB	Kurchatov Arra	57.14	317	P	P	19 29 57.4	+0.8
	comp=Z,1.4nm,0.5s,baz=91,slow=7.4,SNR=9.6						
	comp=Z,1.4nm,0.5s						
C23K	Itkillik River	60.86	21	P	P	19 30 22.7	+0.7
ILAR	Eielson Array	61.26	27	P	P	19 30 24.7	-0.1
	comp=Z,1.2nm,1.3s,baz=264,slow=5.3,SNR=1.3						
	comp=Z,1.2nm,1.3s						
BVAR	Borovoye Array	62.26	319	P	P	19 30 32.5	+0.8
	comp=Z,1.5nm,0.4s,baz=74,slow=6.8,SNR=7.0						
	comp=Z,1.5nm,0.4s						
G31M	Satah River	66.55	25	P	P	19 31 00.0	+0.7
ABKAR	Akbulak array	69.18	316	P	P	19 31 16.3	+0.1
FIA1	FINESS Array S	82.61	335	P	P	19 32 31.5	-0.6
FINES	FINESS Array B	82.61	335	P	P	19 32 31.4	-0.7
	comp=Z,5.0nm,1.1s,baz=60,slow=4.6,SNR=16						
	comp=Z,5.0nm,1.1s						
HFS	Hagfors	88.13	337	P	P	19 32 58.0	-1.5
	comp=Z,4.2nm,1.2s,baz=328,slow=5.1,SNR=4.5						
	comp=Z,4.2nm,1.2s						

MDD ***02*** *19:34:47.5±1.5, 35°.93N×9°.96W, h4km±42km, mb_Lg2.4/2, Error ellipse: s-maj=53.0km s-min=14.8km az=46.0*

INMG ***02*** *19:34:48.5±1.3, 35°.77N×10°.07W, h38km, ML1.7, Error ellipse: s-maj=9.4km s-min=5.2km az=89.0*

SFS ***02*** *19:34:48.7, 36°.03N×9°.87W, h0km, ML2.6/8, ML3.2/6, MLv1.9/8*

CNRM ***02*** *19:34:57.5, 34°.99N×9°.40W, h89km*

ISC 02 19:34:47.8±2.8**, 36°.00N**±0°.06×**9°.8W**±0°.1**, h4**km±17km**, n34, σ0s.92**/40**, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.37	34	eP	Pb	19 35 14.0	0.0
PFVI				eS	Sn	19 35 34.1	+1.8
PFVI				A	A	19 35 39.4	
	5.8nm,0.8s						
MORF	Marmelete	1.59	34	eP	Pn	19 35 17.2	+0.4
MORF				eS	Sg	19 35 39.3	+0.4
MORF				A	A	19 35 40.7	
	3.5nm,0.5s						
PTEO	Sao Teotonio	1.76	28	eS	Sb	19 35 42.6	-0.6
PBDV	Barranco-do-Ve	1.94	49	eP	Pb	19 35 23.0	-0.7
PBDV				eS	Sb	19 35 48.0	-0.2
PBDV				A	A	19 35 50.1	
	2.6nm,0.7s						
PCVE	Castro Verde	2.15	40	eP	Pn	19 35 25.6	+1.2
PCVE				eS	Sn	19 35 52.6	+1.1
PCVE				A	A	19 36 08.8	
	1.8nm,0.8s						
PCVE	Castro Verde	2.15	40	Pn	Pn	19 35 25.2	+0.8
PVAQ	Vaqueiros	2.17	49	eP	Pn	19 35 26.1	+1.4
PVAQ				eS	Sn	19 35 53.2	+1.1
MESJ	Messejana	2.22	34	eP	Pn	19 35 26.0	+0.5
MESJ				eS	Sn	19 35 54.8	+1.4
MESJ				A	A	19 36 09.8	
	1.5nm,0.6s						
PNCL	Nicolau / Gran	2.33	25	eP	Pn	19 35 27.3	+0.3
PNCL				eS	Sn	19 35 56.1	-0.1
PNCL				A	A	19 36 01.3	
	2.7nm,0.7s						
PNCL	Nicolau / Gran	2.33	25	Pn	Pn	19 35 26.6	-0.4
PNCL				Sn	Sn	19 35 55.9	-0.3
EGRO	El Granado	2.40	49	Pn	Pn	19 35 28.5	+0.7
EGRO				Sn	Sn	19 35 58.4	+0.7
EGRO	El Granado	2.40	49	P	Pn	19 35 27.8	0.0
EGRO				S	Sn	19 35 58.9	+1.2
EGRO				i Vmb_Lg		19 36 11.9	
EVO	Evora	2.90	29	eS	Sn	19 36 10.2	+0.2
EVO				A	A	19 36 10.3	
	2.1nm,0.4s						
EVO	Evora	2.90	29	Sn	Sn	19 36 08.8	-1.2
PBAR	Barrancos	3.08	44	eP	Pn	19 35 38.1	+0.8
PBAR				eS	Sn	19 36 15.1	+0.4
PBAR				A	A	19 36 24.3	
	1.3nm,0.7s						
PBAR	Barrancos	3.08	44	Pn	Pn	19 35 37.9	+0.6
ESPR	Espera	3.28	73	Sn	Sn	19 36 19.8	+0.4
PMTG	Montargil	3.31	21	eP	Pn	19 35 40.2	-0.2
PMTG				eS	Sn	19 36 19.2	-0.9
PMTG				A	A	19 36 22.8	
	1.6nm,0.8s						
EBAD	Badajoz	3.52	38	S	Sn	19 36 26.6	+1.0
EBAD				i Vmb_Lg		19 36 30.8	
PMRV	Marv??o	3.91	28	eP	Pn	19 35 47.9	-0.8
PMRV				eS	Sn	19 36 34.3	-0.8
PMRV				A	A	19 36 36.0	
	3.7nm,0.8s						
ECAB	El Cabril	4.06	58	Pn	Pn	19 35 51.1	+0.3
ECAB				Sn	Sn	19 36 36.9	-1.8
ECAB	El Cabril	4.06	58	P	Pn	19 35 51.4	+0.7
ECAB				S	Sn	19 36 37.3	-1.4
EADA	Adamuz	4.69	61	S	Sn	19 36 54.0	-0.2
OUK	Oukaimeden	5.04	161	P	Pn	19 35 57.3	-7.1
OUK	Oukaimeden	5.04	161	S	Sn	19 36 43.1	-20
AKLM	AKL	5.06	105	P	Pn	19 36 03.1	-1.4
AKLM	AKL	5.06	105	S	Sn	19 36 54.4	-9.1
MD31	MD31	5.19	126	P	Pn	19 36 02.0	-4.3
MD31	MD31	5.19	126	S	Sn	19 36 52.6	-14
MDT	Midelt	5.32	125	P	Pn	19 36 03.3	-4.8
MDT	Midelt	5.32	125	S	Sn	19 36 56.3	-14
TIO	Tiouine	5.47	157	Pn	Pn	19 36 11.3	+1.0
OUZM	OUZ	5.66	153	P	Pn	19 36 05.6	-7.3
OUZM	OUZ	5.66	153	S	Sn	19 36 59.6	-19

NEIC ***02*** *19:41:52.7±1.4, 36°.87N±0°.02×121°.61W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.5km az=215.0*

NCEDC 02 19:41:52.9±2.0**, 36°.88N**±0°.02×**121°.62W**±0°.02**, h6**km±2km**, Md3.0**/111**, ML2.7**/88(NEIC)**, Error ellipse: s-maj=2.8km s-min=1.8km az=58.0, Central California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANZ	Anzar Road	0.02	84		Pg	19 41 54.1	-0.1
HTUM	Tustin Road	0.06	202		Pg	19 41 56.1	+1.6
HBTM	San Juan Bauti	0.06	122		Pg	19 41 54.6	+0.1
HCOM	Corn Cob Canyo	0.07	274		Pg	19 41 55.1	+0.4
OCR	O'Connell Ranc	0.09	68		Pg	19 41 54.6	-0.4
HERM	Elkhorn Road	0.11	222		Pg	19 41 55.9	+0.5
HSFM	Saint Francis	0.12	127		Pg	19 41 54.6	-0.8
HLPM	Lions Peak	0.16	355		Pg	19 41 56.6	+0.4
FRP	Fremont Peak	0.16	142		Pg	19 41 56.3	0.0
JELB	Ellicott, Sant	0.18	285		Pg	19 41 57.0	+0.5
JELB					Sg	19 42 00.4	+1.5
CDC	Canada Road	0.18	36		Pg	19 41 57.1	+0.6
HCAM	Canada Road	0.18	36		Pg	19 41 57.1	+0.6
HCAM					Sg	19 42 00.3	+1.4
SAO	San Andreas Ge	0.18	131	Pg	Pg	19 41 56.5	0.0
SAO				Sg	Sg	19 41 59.3	+0.4
HFEM	San Felipe	0.20	60		Pg	19 41 57.6	+0.7
BSRM	Salinas Radio	0.23	160		Pg	19 41 57.5	0.0
BSLM	Silva Ranch	0.24	117		Pg	19 41 58.8	+1.2
HLTM	Lone Tree Road	0.25	90		Pg	19 41 54.6	-3.2
GHS	Gilroy Hot Spr	0.25	32		Pg	19 41 58.5	+0.6
JTGM	Trout Gulch Ro	0.26	305		Pg	19 41 54.1	-3.9
CADM	Anderson Res.	0.28	358		Pg	19 41 58.9	+0.4
JLAB	Laurel Hill	0.29	341		Pg	19 41 59.1	+0.5
PACP	Pacheco Peak	0.29	64		Pg	19 41 59.4	+0.8
PACP					Sg	19 42 04.1	+1.5
BPCNC	Pine Canyon	0.31	182		Pg	19 41 59.3	+0.3
HPCM	Pacheco Lake	0.32	57		Pg	19 42 00.0	+0.7
SCZ	Santa Cruz	0.33	149		Pg	19 41 59.2	-0.2
BJOM	Mount Johnson	0.35	136		Pg	19 41 59.8	+0.1
SLD	San Luis Dam	0.37	59		Pg	19 42 00.8	+0.7
SLD					Sg	19 42 06.4	+1.4
HMOM	Monterey	0.37	221		Pg	19 42 00.4	+0.3
HMOM					Sg	19 42 05.9	+0.8
CCOB	Coe Ranch Numb	0.38	353		Pb	19 42 01.5	-0.6
BJCM	Johnson Can.	0.38	152		Pg	19 42 00.2	-0.1
C054	Valleyhaven Wa	0.42	337		Pg	19 42 01.7	+0.6
JJOM	Saint Joseph's	0.43	318		Pg	19 42 01.3	0.0
SCCB	Santa Clara Co	0.45	334		Pg	19 42 02.3	+0.6
BVL	Bear Valley	0.46	132		Pg	19 42 01.7	-0.1
MHC	Mount Hamilton	0.46	357		Pg	19 42 02.6	+0.8
ARN	Arnold Ranch	0.47	8		Pg	19 42 02.7	+0.6
BPRM	Ponciano Ridge	0.48	191		Pg	19 42 02.3	+0.1
HAST	Hastings Reser	0.50	174		Pg	19 42 02.5	0.0
HAST					Sg	19 42 09.2	+0.3
BSMM	Soledad Missio	0.52	163		Pg	19 42 03.0	+0.1
BAVM	Antelope Valle	0.53	117		Pg	19 42 03.6	+0.5
SCKWR	San Luis Creek	0.53	55		Pb	19 42 04.5	0.0
CMPM	Mikes Peak	0.53	27		Pg	19 42 03.9	+0.7
BPIM	Pinnacles	0.53	137		Pg	19 42 02.8	-0.4
BSGM	Shirttail Gulc	0.55	148		Pg	19 42 03.1	-0.5
BBGB	Big Mountain B	0.55	123		Pg	19 42 04.3	+0.7
BBNM	San Benito	0.57	131		Pg	19 42 04.1	+0.2
CMMM	Mount Mocho	0.58	10		Pg	19 42 04.8	+0.7
CALM	Calaveras Res.	0.59	346		Pb	19 42 05.0	-0.5
JSJM	St Joseph	0.59	320		Pg	19 42 04.6	+0.3
CMLM	Mount Lewis	0.59	357		Pb	19 42 05.1	-0.7
JBMM	Black Mountain	0.61	315		Pg	19 42 04.7	0.0
JFP	Foothills Park	0.66	316		Pg	19 42 05.5	-0.2
MTOS	Mt Oso, Westle	0.66	20		Pg	19 42 06.3	+0.6
LRV	Little Rabbit	0.66	133		Pg	19 42 05.7	0.0
BPOM	Post Ranch	0.66	191		Pg	19 42 05.5	-0.2
JPSM		0.67	299		Pg	19 42 05.5	-0.2
JSFB	Stanford Teles	0.69	319		Pb	19 42 06.8	-0.4
BAPM	Anderson Peak	0.71	182		Pg	19 42 06.3	-0.2
JRSC	Jasper Ridge	0.72	316		Pg	19 42 06.4	-0.4
WENL	Wente Vineyard	0.75	351		Pb	19 42 08.2	-0.1
CSTL	Corral Hollow	0.76	7		Pb	19 42 08.6	+0.1
CVLM	Vallecito	0.76	347		Pb	19 42 08.4	-0.2
CNIC	Niles Canyon	0.78	339		Pg	19 42 08.3	+0.4
PCCM	Crazy Canyon	0.87	155		Pg	19 42 09.4	-0.3
HULI	Fort Hunter Li	0.91	160		Pg	19 42 10.0	-0.4
CSLM	San Leandro Hi	0.93	335		Pg	19 42 10.8	0.0
CBSNC	Byron Hot Spri	0.93	359		Pn	19 42 12.6	+0.1
PMPB	Monarch Peak	0.93	135		Pg	19 42 10.4	-0.5
PMPB				Sg	Sg	19 42 23.1	+0.1
PMPB				IAML		19 42 29.2	
	comp=N,343nm,0.6s						
CMOB	Morgan Territo	0.94	351		Pn	19 42 12.3	-0.3
SAC	San Andreas	0.95	318		Pg	19 42 10.7	-0.4
PAPM	Alder Peak	0.99	168		Pg	19 42 11.5	-0.4
BGC	Bolinger Road	1.00	339		Pg	19 42 11.7	-0.4
JSBM	San Bruno Moun	1.01	322		Pg	19 42 11.4	-0.9
JMGM	Milagra Ridge	1.02	318		Pg	19 42 11.4	-1.1
PSAM	San Ardo	1.04	145		Pg	19 42 12.3	-0.5
PJUM	Juniper Ridge	1.05	128		Pg	19 42 12.9	-0.2
PPTM	Peach Tree Val	1.06	137		Pg	19 42 12.7	-0.5
BKS	Berkeley--Byer	1.11	334		Pg	19 42 12.9	-1.3
CVPM	Vollmer Peak	1.11	334		Pg	19 42 13.2	-1.0
PDRM	Domengine Ranc	1.14	118		Pg	19 42 14.5	-0.3
PHSB	Hesperia Broad	1.15	157		Pg	19 42 14.0	-1.0
PSMM	Smith Mountain	1.16	134		Pg	19 42 14.3	-0.8
CPIM	Pinole Ridge	1.20	337		Pg	19 42 14.7	-1.3
PHPM	Hope Ranch	1.21	138		Pg	19 42 14.7	-1.5
PANM	San Antonio Re	1.24	152		Pg	19 42 15.5	-1.2
PHCM	Hearst Castle	1.25	163		Pb	19 42 15.4	-1.6
PPO	Portuguese Can	1.30	141		Pn	19 42 16.4	-1.1
PVCM	Vineyard Canyo	1.30	137		Pn	19 42 15.8	-1.8
PSTM	Stockdale Moun	1.31	136		Pn	19 42 15.7	-2.0
RAMR	Ramage Ranch	1.38	154		Pn	19 42 17.3	-1.5
PWKM	Work Ranch	1.39	140		Pn	19 42 17.7	-1.2
PHFM	Heflinger Ranc	1.40	135		Pn	19 42 17.8	-1.2
PSRM	Scobie Ranch	1.49	133		Pn	19 42 18.8	-1.4
ARDC	Alexander Ranc	1.51	160		Pn	19 42 18.5	-1.9
CMB	Columbia Colle	1.51	40		Pn	19 42 19.4	-1.1
CMB	Columbia Colle	1.51	40		Sn	19 42 38.1	-2.4
CMB	Columbia Colle	1.51	40		Pn	19 42 19.1	-1.4
PKLM	Kerr Lake	1.51	137		Pn	19 42 19.3	-1.2
TCAS	Cass Winery, P	1.53	146		Pn	19 42 19.3	-1.5
FRI	Friant	1.53	85		Pn	19 42 20.4	-0.3
MCCM	Marconi Confer	1.61	322		Pn	19 42 20.2	-1.6
MCCM				IAML		19 42 48.2	
	comp=E,84nm,1.2s						
TRAM	Private Proper	1.62	138		Pn	19 42 20.6	-1.4
PTAM	Tassajara Cree	1.66	153		Pn	19 42 21.0	-1.6
TSCN	Private Proper	1.68	142		Pn	19 42 21.5	-1.4
TSCS	Shell Creek So	1.76	144		Pn	19 42 22.3	-1.6
DPD	Davis Peak	1.78	157		Pn	19 42 22.5	-1.7
PBPM	Bitterwater Pu	1.80	136		Pn	19 42 23.7	-0.8
NBPM	Berryessa Peak	1.84	346		Pn	19 42 24.1	-0.9
AFDM	Forest Hills D	2.12	14		Pn	19 42 27.4	-1.5
GDXM	Geysers	2.14	334	Pn	Pn	19 42 26.9	-2.2
PMLM	Mount Lospe	2.15	157		Pn	19 42 27.7	-1.6
MDPB	Devils Postpil	2.16	69		Pn	19 42 29.7	+0.1
MDPB				IAML		19 43 00.6	
	comp=E,76nm,0.3s						
MRDM	Red Cones	2.16	70		Pn	19 42 30.0	+0.3
MDCM	Deadman Creek	2.21	67		Pn	19 42 30.7	+0.3
CRGC	Crocker Grade	2.24	136		Pn	19 42 29.6	-1.0
MCBM	Casa Benchmark	2.30	70		Pb	19 42 33.5	-1.4
MCVM	Convict Lake	2.33	72		Pn	19 42 33.3	+1.2
WAKR	Walker	2.37	46		Pn	19 42 31.6	-0.8
WAKR				IAML		19 43 08.9	
	comp=N,32nm,0.5s						
WAKR				IAML		19 43 13.6	
	comp=E,40nm,0.9s						
EMB	Emerald Bay	2.41	29		Pn	19 42 30.8	-2.2
EMB				IAML		19 43 14.4	
	comp=E,49nm,0.8s						
EMB				IAML		19 43 17.8	
	comp=N,47nm,0.5s						
PKM	Mcpherson Peak	2.47	143		Pn	19 42 32.6	-1.2
BHPR	Bishop	2.54	80		Pn	19 42 36.0	+1.2
BCW	Bitter Crk WRg	2.64	137		Pn	19 42 35.6	-0.4
BCW				IAML		19 43 29.9	
	comp=E,37nm,0.8s						
BCW				IAML		19 43 37.0	
	comp=N,36nm,1.9s						
ORV	Oroville	2.67	2		Pn	19 42 35.5	-0.9
MPK	Martis Peak	2.71	27		Pn	19 42 35.2	-2.1
MPK				IAML		19 43 25.5	
	comp=E,42nm,0.7s						
MPK				IAML		19 43 31.5	
	comp=N,44nm,0.8s						
PNTR	Pine Nut	2.72	35		Pn	19 42 36.6	-0.7
PNTR				IAML		19 43 35.8	
	comp=E,35nm,1.4s						
PNTR				IAML		19 43 41.6	
	comp=N,36nm,1.1s						
ISA	Isabella, Lake	2.81	115		Pn	19 42 37.5	-1.0
YERR	Yerington	2.82	41		Pn	19 42 37.9	-0.7
YERR				IAML		19 43 28.6	
	comp=N,27nm,0.6s						
LHV	Little Huntoon	2.82	60		Pn	19 42 40.4	+1.8
LHV				IAML		19 43 34.4	
	comp=N,33nm,1.0s						
NVAR	Mina Array Bea	3.05	59		Pn	19 42 42.2	+0.4
NV11	Mina Array Sit	3.15	60	Pn	Pn	19 42 44.0	+0.8
NV11				IAML		19 43 41.0	
	comp=E,15nm,2.2s						
KCPM	Cahto Peak	3.20	332	Pn	Pn	19 42 44.0	+0.2
KCPM				IAML		19 43 39.0	
	comp=N,23nm,5.0s						
KCPM				IAML		19 43 43.9	
	comp=E,25nm,2.6s						
PAHR	Pah Rah Range	3.32	31		Pn	19 42 46.4	+0.9
CCAC	Calif City Air	3.39	120		Pn	19 42 47.5	+1.1
CCAC				IAML		19 43 53.6	
	comp=N,24nm,1.1s						
CCAC				IAML		19 43 57.2	
	comp=E,19nm,1.3s						
GRAC	Grapevine Rang	3.41	87		Pn	19 42 46.5	-0.1
GRAC				IAML		19 43 45.1	
	comp=E,24nm,1.1s						
GRAC				IAML		19 44 45.5	
	comp=N,18nm,4.0s						
MZP	Montezuma Peak	3.47	75		Pn	19 42 46.6	-1.1
GMN	Gold Mountain	3.51	82		Pn	19 42 48.5	+0.3
GMN				IAML		19 43 49.1	
	comp=N,11nm,0.5s						
KVN	Kaiserville	3.52	51		Pn	19 42 46.5	-1.8
KVN				IAML		19 43 52.6	
	comp=N,8.4nm,2.5s						
TPH	Tonopah	3.69	70		Pn	19 42 48.1	-2.6
KMRM	Mail Ridge	3.72	334	Pn	Pn	19 42 47.8	-3.1
KMRM				IAML		19 43 58.8	
	comp=E,20nm,4.0s						
KMRM				IAML		19 44 24.8	
	comp=N,21nm,4.8s						
QSM	Queen of Sheba	3.94	102		Pn	19 42 51.4	-2.4
QSM				IAML		19 43 28.0	
	comp=N,6.7nm,4.4s						
WCT	Wildcat Mounta	4.00	90		Pn	19 42 53.5	-1.4
WCT				IAML		19 44 06.9	
	comp=E,11nm,4.8s						
WCT				IAML		19 44 14.6	
	comp=N,7.5nm,4.3s						
SNCC	San Nicolas Is	4.01	154	Pn	Pn	19 42 52.5	-2.4
KMPM	Mount Pierce	4.04	332		Pn	19 42 55.0	-0.3
GWY	Greenwater Val	4.04	98	Pn	Pn	19 42 53.1	-2.3
GWY				IAML		19 43 25.6	
	comp=N,5.5nm,3.4s						
GWY				IAML		19 44 19.0	
	comp=E,8.9nm,3.5s						
GSC	Goldstone, Bar	4.20	111		Pn	19 42 55.2	-2.4
GSC				IAML		19 44 04.4	
	comp=E,13nm,4.8s						
GSC				IAML		19 44 20.2	
	comp=N,6.9nm,2.2s						
TPNV	Topopah Spring	4.30	88		Pn	19 42 57.5	-1.4
TPNV				IAML		19 44 21.6	
	comp=N,11nm,3.4s						
TPNV				IAML		19 44 34.1	
	comp=N,9.3nm,4.0s						
JCC	Jacoby Creek,	4.36	335	Pn	Pn	19 42 58.5	-1.1
ELS	Elsinore Mount	4.71	132	Pn	Pn	19 43 01.7	-2.8
ELS				IAML		19 44 59.5	
	comp=E,5.2nm,3.7s						
ELS				IAML		19 45 21.8	
	comp=N,4.7nm,4.4s						
S11A	Rachel	4.74	79	Pn	Pn	19 43 02.8	-2.3
BMN	Battle Mountai	4.94	43	Pn	Pn	19 43 05.7	-2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BMN				IAML		19 44 21.0	
	comp=E,5.9nm,4.2s						
BMN				IAML		19 45 54.1	
	comp=N,6.2nm,4.8s						
KRMB	Red Mountain	4.96	340	Pn	Pn	19 43 06.3	-1.7
KSXB	Camp Six Broad	5.24	341	Pn	Pn	19 43 11.7	-0.2

*NEIC **02** 19:49:20.9±2.4, 3°.2S±0°.1×28°.72E±0°.08, h10km±1km, mb4.5/7, Error ellipse: s-maj=19.5km s-min=10.2km az=145.0*

*IDC **02** 19:49:20.8±0.9, 3°.05S×28°.48E, h0km, mb3.8/9, mbtmp3.9/13, ML2.5/2, MS3.1/6, Error ellipse: s-maj=24.3km s-min=18.7km az=106.0*

ISC 02 19:49:21.6±0.6, **3°.10S**±0°.07×**28°.66E**±0°.08, **h10km, n28,** σ**1s.59**/28, **mb4.1**/12, **MS3.1**/4, **Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBAR	Mbarara	3.24	40		Pn	19 50 13.9	+1.2
MBAR				Sn	Sn	19 50 48.7	-2.7
MBAR	Mbarara	3.24	40	eP	Pn	19 50 15.1	+2.5
MBAR				eS	Sb	19 51 00.0	+1.1
KMBO	Kilima Mbogo	8.81	77		Pn	19 51 27.0	-2.3
KMBO	Kilima Mbogo	8.81	77	Pn	Pn	19 51 31.0	+1.7
	2.6nm,0.3s,baz=245,slow=17,SNR=10						
KMBO				Sn	Sn	19 53 06.2	-2.6
	0.6nm,0.3s,baz=226,slow=23,SNR=1.9						
KMBO				Lg	Lg	19 53 58.5	
	3.0nm,0.3s,baz=352,slow=24,SNR=12						
KMBO				LR	LR	19 55 13.3	
	comp=Z,62nm,18.2s,baz=22,slow=39						
LODK	Lodwar	9.32	46	Pn	Pn	19 51 35.7	-0.5
KIBK	Kibwezi	9.41	86		Pn	19 51 35.4	-2.0
LSZ	Lusaka	12.11	182	Pn	Pn	19 52 15.7	+1.3
LSZ	Lusaka	12.11	182	Pn	Pn	19 52 15.2	+0.7
	2.4nm,0.3s,baz=14,slow=11,SNR=7.7						
LSZ				Sn	Sn	19 54 20.3	-9.4
	1.2nm,0.3s,baz=324,slow=23,SNR=3.6						
LSZ				Lg	Lg	19 55 40.7	
	1.6nm,0.3s,baz=100,slow=19,SNR=12						
LSZ				LR	LR	19 56 52.3	
	comp=Z,47nm,20.0s,baz=6.5,slow=37						
MATP	Matopo	17.22	181	Pn	Pn	19 53 23.3	+0.8
	0.1nm,0.3s,baz=358,slow=14,SNR=5.7						
MATP				Sn	Sn	19 56 24.7	-10
	0.1nm,0.3s,baz=100,slow=12,SNR=2.5						
MATP				Lg	Lg	19 58 16.4	
	baz=270,slow=18,SNR=2.3						
	2.0nm,0.9s						
TSUM	Tsumeb	19.32	213	Pn	P	19 53 47.8	+0.5
	0.3nm,0.3s,baz=24,slow=12,SNR=1.5						
TSUM				Sn	Sn	19 57 11.5	-14
	0.3nm,0.3s,baz=272,slow=20,SNR=1.6						
TSUM				Lg	Lg	19 59 23.2	
	baz=82,slow=23						
	1.4nm,0.5s						
LBTB	Lobatse	21.99	187	LR	LR	20 02 10.5	
	comp=Z,44nm,18.4s,baz=15,slow=35						
BOSA	Boshof	25.58	187	P	P	19 54 49.5	-1.6
BOSA				IAmb	IAmb	19 55 05.3	
	comp=Z,19nm,1.5s						
BOSA	Boshof	25.58	187	P	P	19 54 52.7	+1.6
	comp=Z,2.8nm,0.7s,baz=348,slow=4.7,SNR=4.7						
BOSA				LR	LR	20 05 36.5	
	comp=Z,30nm,18.3s,baz=14,slow=38						
	comp=Z,2.8nm,0.7s						
TOA0	Torodi Ar. Sit	31.26	302	P	P	19 55 39.5	-2.4
TOA0				IAmb	IAmb	19 55 47.4	
	comp=Z,3.1nm,0.8s						
TORD	Torodi Ar. Bea	31.26	302	P	P	19 55 39.4	-2.5
TORD	Torodi Ar. Bea	31.26	302	P	P	19 55 40.5	-1.4
	comp=Z,2.0nm,0.6s,baz=103,slow=7.8,SNR=15						
TORD				LR	LR	20 08 29.0	
	comp=Z,59nm,21.4s,baz=120,slow=37						
	comp=Z,2.0nm,0.6s						
DBIC	Dimbokro	34.84	286	P	P	19 56 12.1	-1.1
DBIC				IAmb	IAmb	19 56 51.8	
	comp=Z,12nm,1.4s						
DBIC	Dimbokro	34.84	286	P	P	19 56 12.3	-0.9
	comp=Z,1.1nm,0.4s,baz=96,slow=7.6,SNR=5.0						
	comp=Z,1.1nm,0.4s						
BRTR	Keskin Array B	42.86	6	P	P	19 57 21.5	+1.3
	comp=Z,0.4nm,0.5s,baz=182,slow=8.9,SNR=2.1						
	comp=Z,0.4nm,0.5s						
MDT	Midelt	47.62	321	LR	LR	20 19 49.4	
	comp=Z,65nm,20.6s,baz=21,slow=38						
MLR	Muntele Rosu	48.44	357	P	P	19 58 03.1	-1.2
MLR				IAmb	IAmb	19 58 21.9	
	comp=Z,13nm,1.5s						
GERES	GERESS Array B	53.35	348	P	P	19 58 41.6	+0.5
	comp=Z,0.8nm,0.7s,baz=178,slow=6.9,SNR=2.4						
	comp=Z,0.8nm,0.7s						
KHC	Kasperske Hory	53.64	348	P	P	19 58 42.5	-0.8
KHC				IAmb	IAmb	19 58 43.8	
	comp=Z,1.9nm,0.7s						
ARU	Arti	64.14	18	P	P	19 59 57.0	+1.0
NOA	NORSAR Array B	65.37	351	P	P	20 00 04.3	+0.3
	comp=Z,0.4nm,0.7s,baz=156,slow=6.6,SNR=1.9						
	comp=Z,0.4nm,0.7s						
KURBB	Kurchatov Arra	68.38	32	P	P	20 00 24.8	+1.4
	comp=Z,0.6nm,0.9s,baz=238,slow=6.6,SNR=4.1						
	comp=Z,0.6nm,0.9s						
MKAR	Makanchi Array	68.42	37	P	P	20 00 25.2	+1.5
	comp=Z,0.4nm,0.6s,baz=243,slow=5.3,SNR=4.4						
	comp=Z,0.4nm,0.6s						
ZALV	Zalesovo Beam	73.42	31	P	P	20 00 54.3	+0.4
	comp=Z,1.0nm,0.7s,baz=267,slow=5.9,SNR=4.5						
	comp=Z,1.0nm,0.7s						

*JMA **02** 20:04:27.6±0.1, 24°N±2°×122°.3E±0°.5, h80km±1km, MV1.7/10, TAIWAN REGION*

*TAP **02** 20:04:28.3, 24°.64N×122°.12E, h79km, ML2.5, C*

ISC 02 20:04:27.8±1.4, **24°.63N**±0°.03×**122°.25E**±0°.03, **h77**km±7km, **n84,** σ**1s.09**/154, **11C-10D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS2	EOS2	0.21	185	iP	Pn	20 04 39.6	+0.5
	baz=171						
EOS2				eS	Sn	20 04 49.1	+1.7
	baz=171						
EOS3	EOS3	0.35	170	iP	Pn	20 04 40.4	+0.5
	baz=170						
EOS3				eS	Sn	20 04 50.7	+2.0
	baz=170						
EGS		0.36	307	eP	Pn	20 04 40.3	+0.2
	baz=317						
EGS				eS	Sn	20 04 50.1	+0.9
	baz=317						
TWC	Suao	0.37	267	eP	Pn	20 04 39.6	-0.5
	baz=263						
TWC				S	Sn	20 04 48.4	-0.9
	baz=263						
ESAO	Su ao	0.37	262	P	Pn	20 04 41.1	+0.8
	baz=256						
ESAO				S	Sn	20 04 48.7	-0.7
	baz=256						
TWB1	Santiao Chiao	0.45	328	eP	Pn	20 04 40.7	-0.1
	baz=340						
TWB1				eS	Sn	20 04 49.7	-0.7
	baz=340						
EWUT	Wuta	0.47	247	eP	Pn	20 04 41.0	0.0
	baz=238						
EWUT				S	Sn	20 04 50.8	+0.1
	baz=238						
NDS	Dongshan	0.49	270	eP	Pn	20 04 41.1	-0.1
	baz=270						
NDS				S	Sn	20 04 50.7	-0.3
	baz=270						
ENA	Nanau	0.51	247	eP	Pn	20 04 41.2	-0.1
	baz=238						
ENA				S	Sn	20 04 51.5	+0.3
	baz=238						
EOS4	EOS4	0.51	173	eP	Pn	20 04 42.1	+1.1
	baz=167						
EOS4				S	Sn	20 04 51.5	+0.9
	baz=167						
TIPB	Shuangxi	0.51	311	eP	Pn	20 04 41.0	-0.4
	baz=325						
TIPB				iS	Sn	20 04 50.6	-0.9
	baz=325						
TWE	Neicheng	0.54	280	iP	Pn	20 04 41.4	-0.2
	baz=288						
TWE				iS	Sn	20 04 51.4	-0.4
	baz=288						
EAHA	Aohua	0.55	237	P	Pn	20 04 41.6	-0.1
	baz=220						
EAHA				iS	Sn	20 04 52.4	+0.3
	baz=220						
SXI1	Grass Mountain	0.57	324	eP	Pn	20 04 42.0	-0.1
	baz=326						
SXI1				eS	Sn	20 04 52.5	-0.1
	baz=326						
NWF	Wu-fen Shan	0.61	316	S	Sn	20 04 53.0	-0.2
	baz=318						
WFSB	Wu-fen Shan	0.61	316	eS	Sn	20 04 52.9	-0.2
	baz=318						
FUSB	Fushanzhiwuyua	0.62	282	eP	Pn	20 04 42.2	-0.2
	baz=290						
FUSB				S	Sn	20 04 52.6	-0.7
	baz=290						
ENTT	Nioudou	0.62	271	eP	Pn	20 04 42.7	+0.2
	baz=267						
ENTT				S	Sn	20 04 53.4	+0.1
	baz=267						
JYNG	Yonagunijimaku	0.66	106	P	Pn	20 04 42.7	0.0
JYNG				S	Sn	20 04 53.9	+0.1
LATG	Datong	0.67	262	⇑P	Pn	20 04 42.8	-0.2
	baz=254						
LATG				S	Sn	20 04 54.6	+0.3
	baz=254						
NDT	Datong Townshi	0.67	268	⇑iP	Pn	20 04 43.1	+0.2
	baz=267						
NDT				S	Sn	20 04 54.3	+0.2
	baz=267						
NWLT	Wulai	0.70	282	⇓P	Pn	20 04 43.3	+0.1
	baz=294						
NWLT				S	Sn	20 04 53.7	-1.0
	baz=294						
TWA	Mucha	0.70	300	S	Sn	20 04 53.7	-1.0
	baz=306						
YOJ	Yonaguni jima	0.71	103	P	Pn	20 04 43.3	0.0
YOJ				eS	Sn	20 04 54.7	-0.2
YOJ	Yonaguni jima	0.71	103	⇓eP	Pn	20 04 43.4	0.0
	baz=101						
YOJ				eS	Sn	20 04 54.9	0.0
	baz=101						
NHDH	Xindian Distri	0.74	297	P	Pn	20 04 44.0	+0.4
	baz=308						
NHDH				iS	Sn	20 04 54.2	-1.2
	baz=308						
ETL	Fush Village	0.74	231	eP	Pn	20 04 44.9	+1.1
	baz=217						
ETL				S	Sn	20 04 55.0	-0.5
	baz=217						
NACB	Ninganchiao	0.75	233	⇓iP	Pn	20 04 43.2	-0.6
	baz=220						
NACB				S	Sn	20 04 54.8	-0.8
	baz=220						
TATO	Taipei	0.77	297	eP	Pn	20 04 43.1	-0.9
	baz=307						
TATO				eS	Sn	20 04 54.7	-1.3
	baz=307						
YM01	YM01	0.80	310	P	Pn	20 04 43.8	-0.6
	baz=316						
YM01				S	Sn	20 04 55.8	-1.0
	baz=316						
TWD	Chiawan	0.81	228	P	Pn	20 04 44.0	-0.4
	baz=216						
TWD				eS	Sn	20 04 56.1	-0.7
	baz=216						
NSK	Sanguang	0.81	273	⇑iP	Pn	20 04 44.5	-0.1
	baz=273						
NSK				eS	Sn	20 04 56.6	-0.4
	baz=273						
NNSB	Datong	0.81	256	⇓iP	Pn	20 04 44.4	-0.2
	baz=247						
NNSB				eS	Sn	20 04 57.2	+0.1
	baz=247						
YM08	YM08	0.82	313	P	Pn	20 04 43.9	-0.6
	baz=314						
YM08				iS	Sn	20 04 55.5	-1.5
	baz=314						
ETLH	Xiulin Townshi	0.82	239	eP	Pn	20 04 43.8	-0.8
	baz=233						
ETLH				eS	Sn	20 04 56.0	-1.1
	baz=233						
NNS	Nan Shan	0.82	257	iP	Pn	20 04 44.5	-0.2
	baz=248						
NNS				eS	Sn	20 04 56.6	-0.7
	baz=248						
TWY	Chenhua	0.87	318	eS	Sn	20 04 58.8	+0.7
	baz=324						
TWS1	Kuangyinshan	0.89	302	⇑P	Pn	20 04 44.9	-0.5
	baz=310						
TWS1				S	Sn	20 04 57.8	-0.6
	baz=310						
ETM	Tongmen	0.96	226	P	Pn	20 04 45.5	-0.7
	baz=230						
ETM				S	Sn	20 04 58.4	-1.5
	baz=230						
LXIB	Xiulin Townshi	0.97	232	P	Pn	20 04 45.8	-0.8
	baz=226						
LXIB				S	Sn	20 04 59.2	-1.2
	baz=226						
WHF	Hehuan Shan	1.02	242	P	Pn	20 04 46.9	-0.4
	baz=237						
WHF				S	Sn	20 05 00.9	-0.9
	baz=237						
NFF	Wufeng Townshi	1.03	270	⇓iP	Pn	20 04 47.1	0.0
	baz=276						
NFF				eS	Sn	20 05 01.6	0.0
	baz=276						
SHUL	Shoufeng	1.05	217	⇓P	Pn	20 04 48.0	+0.8
	baz=211						
SHUL				S	Sn	20 05 02.2	+0.5
	baz=211						
TWT	Tachien	1.05	249	eP	Pn	20 04 48.7	+1.3
	baz=239						
TWT				S	Sn	20 05 02.1	0.0
	baz=239						
TDCB	Techi	1.06	250	eP	Pn	20 04 48.4	+0.8
	baz=239						
TDCB				eS	Sn	20 05 02.1	-0.3
	baz=239						
ESL	Shilin	1.10	223	eP	Pn	20 04 45.8	-2.2
	baz=224						
ESL				S	Sn	20 05 00.9	-2.1
	baz=224						
LIOB	Emei	1.12	271	eP	Pn	20 04 48.3	+0.1
	baz=270						
LIOB				eS	Sn	20 05 03.4	-0.1
	baz=270						
CHGB	Renai	1.13	240	⇓iP	Pn	20 04 48.5	0.0
	baz=229						
CHGB				S	Sn	20 05 03.3	-0.7
	baz=229						
NSTT	Nanjuang	1.14	270	⇑P	Pn	20 04 48.3	0.0
	baz=269						
NSTT				eS	Sn	20 05 03.6	-0.1
	baz=269						
OWD	Renai	1.19	236	⇓iP	Pn	20 04 48.9	-0.3
	baz=226						
OWD				S	Sn	20 05 03.9	-1.2
	baz=226						
WARBT	Fenglin Townsh	1.20	221	⇑eP	Pn	20 04 47.8	-1.4
	baz=222						
WARBT				S	Sn	20 05 02.8	-2.5
	baz=222						
WUSB	Renai	1.21	239	iP	Pn	20 04 49.6	+0.1
	baz=229						
WUSB				S	Sn	20 05 04.6	-1.1
	baz=229						
EGFH	Guangfu	1.22	218	eP	Pn	20 04 50.0	+0.6
	baz=221						
EGFH				S	Sn	20 05 03.8	-1.7
	baz=221						
WHP	Taichung City	1.24	254	eP	Pn	20 04 50.6	+0.9
	baz=251						
WHP				eS	Sn	20 05 07.1	+0.9
	baz=251						
VWDT	VWDT	1.34	229	⇑iP	Pn	20 04 50.8	-0.1
	baz=220						
VWDT				eS	Sn	20 05 08.1	-0.1
	baz=220						
WCS	Beigang Elemen	1.35	245	⇓P	Pn	20 04 51.6	+0.5
	baz=252						
WCS				eS	Sn	20 05 09.4	+0.8
	baz=252						
HGSD	Ruisui	1.36	214	⇓P	Pn	20 04 51.8	+0.6
	baz=218						
HGSD				eS	Sn	20 05 08.0	-0.9
	baz=218						
EHY	Hungye	1.41	217	P	Pn	20 04 50.6	-1.2
	baz=220						
EHY				eS	Sn	20 05 06.6	-3.2
	baz=220						
SMLT	Sun Moon Lake	1.44	239	⇑eP	Pn	20 04 53.6	+1.2
	baz=236						
SMLT				eS	Sn	20 05 13.0	+2.2
	baz=236						
SSLB	Suanglung	1.45	235	⇑eP	Pn	20 04 53.6	+1.2
	baz=226						
SSLB				eS	Sn	20 05 12.6	+1.6
	baz=226						
TYC	Yuchr	1.46	241	⇑P	Pn	20 04 53.6	+1.1
	baz=237						
TYC				eS	Sn	20 05 11.9	+0.7
	baz=237						
YULB	Yu-li	1.51	215	⇑P	Pn	20 04 52.1	-1.1
	baz=218						
YULB				iS	Sn	20 05 09.7	-2.6
	baz=218						
TWF1	Yuli	1.54	215	P	Pn	20 04 52.7	-0.9
	baz=217						
TWF1				S	Sn	20 05 10.5	-2.6
	baz=217						
WHYT	Xinyi Township	1.58	234	eP	Pn	20 04 55.1	+1.0
	baz=225						
WHYT				eS	Sn	20 05 15.0	+1.1
	baz=225						
WJS	Zhushan	1.61	240	eS	Sn	20 05 16.6	+2.0
	baz=248						
JKRS	Kuro-shima	1.65	103	P	Pn	20 04 55.4	+0.5
JKRS				S	Sn	20 05 16.4	+0.8
FULB	Fuli	1.67	212	P	Pn	20 04 54.7	-0.6
	baz=215						
FULB				eS	Sn	20 05 15.5	-0.7
	baz=215						
ALS	Alishan	1.73	230	iP	Pn	20 04 57.2	+0.9
	baz=219						
ALS				eS	Sn	20 05 18.5	+0.6
	baz=219						
JIJ	Ishigaki jima	1.75	98	P	Pn	20 04 56.2	0.0
EHD	Haiduan	1.76	213	eP	Pn	20 04 54.9	-1.5
	baz=216						
EHD				eS	Sn	20 05 15.2	-2.9
	baz=216						
CHN5	Tsauling	1.77	235	eP	Pn	20 04 57.5	+0.9
	baz=242						
CHN5				eS	Sn	20 05 20.1	+1.6
	baz=242						
WDLH	Douliu	1.82	239	eS	Sn	20 05 21.2	+1.5
	baz=247						
ELDTW	Lidau	1.83	218	eP	Pn	20 04 58.1	+0.7
	baz=214						
ELDTW				S	Sn	20 05 18.5	-1.4
	baz=214						
EDH	Donghe	1.86	208	eS	Sn	20 05 16.9	-3.7
	baz=213						
JISG	Ishigakijimahi	1.88	91	eP	Pn	20 04 58.2	+0.3
WCKO	Fanlu	1.92	232	eP	Pn	20 04 59.9	+1.4
	baz=219						
WCKO				eS	Sn	20 05 23.3	+1.4
	baz=219						
STYH	Taoyuan	1.98	223	eP	Pn	20 05 00.7	+1.3
	baz=212						
STYH				eS	Sn	20 05 23.9	+0.5
	baz=212						
TPUB	Ta-pu	1.99	229	eP	Pn	20 05 01.0	+1.5
	baz=237						
TPUB				eS	Sn	20 05 25.3	+1.7
	baz=237						
WTP	Ta-pu	2.04	228	eP	Pn	20 05 01.4	+1.3
	baz=236						
WTP				eS	Sn	20 05 26.5	+1.7
	baz=236						
LDUT	Ludao	2.08	200	eS	Sn	20 05 23.0	-2.7
	baz=191						
TWK	Hsinying	2.11	230	eS	Sn	20 05 28.0	+1.5
	baz=215						
CHN1	Nanshi	2.13	228	eS	Sn	20 05 28.4	+1.3
	baz=224						
SLGT	Liugui	2.19	222	eS	Sn	20 05 29.9	+1.4
	baz=218						
JTJ	Tarama	2.23	89	eS	Sn	20 05 28.3	-1.1

*SKHL **02** 20:12:23.5±0.4, 45°.70N×143°.40E, h322km±1km, mb4.0/3, msh4.5/2*

*JMA **02** 20:12:23.2±0.3, 46°N±3°×14°3E±°, h332km, MV3.0/15, NE OFF HOKKAIDO*

ISC 02 20:12:21.7±3.7, **45°.68N**±0°.10×**143°.4E**±0°.1, **h331**km±26km, **n13,** σ**1s.59**/19, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	Keihoku	1.11	251	eP	Pn	20 13 06.8	+1.0
JWK2				eS	S	20 13 41.0	-0.2
YSS	Yuzh-Sakhalins	1.35	341	eP	Pn	20 13 07.3	+0.3
YSS				AMB	AMB	20 13 08.8	
	40nm,0.4s						
YSS				eS	S	20 13 41.7	-1.5
YSS				A	A	20 13 42.2	
	40nm,0.5s						
YSS				A	A	20 13 42.2	
	10.0nm,0.5s						
JMP	Maruseppu	1.68	181	eP	Pn	20 13 10.5	+1.3
JTKR	Abashiri--Toko	1.75	168	eP	Pn	20 13 11.3	+1.7
JNK	Nakash	2.30	155	eP	Pn	20 13 15.2	+1.6
JAR	Ashorobuto	2.40	173	eP	Pn	20 13 16.3	+1.9
JAK	Akkeshi	2.84	160	eP	Pn	20 13 19.0	+0.8
JAK				eS	S	20 14 03.2	-0.4
NMR	Nemuro--Hokkai	2.85	143	eP	Pn	20 13 19.1	+0.8
NMR				eS	S	20 14 01.8	-1.9
AKK	Akkeshi	2.86	158	eP	Pn	20 13 19.0	+0.6
AKK				eS	S	20 14 02.4	-1.5
AKK				A	A	20 14 02.6	
	50nm,0.6s						
AKK				A	A	20 14 02.6	
	50nm,0.6s						
JBT2	Biratori 2	3.00	195	eP	Pn	20 13 21.5	+1.8
JBT2				eS	S	20 14 06.3	+0.2
SHO	Shikotan	3.05	125	eS	S	20 14 06.2	-0.8
JCH	Churui	3.07	180	eP	Pn	20 13 20.7	+0.4
JOT	Ohata	4.62	202	eS	S	20 14 33.0	-3.4

*IDC **02** 20:20:33.2±8.6, 12°.64S×166°.75E, h259km±93km, mb3.1/4, mbtmp3.7/5, Error ellipse: s-maj=75.3km s-min=31.0km az=162.0*

*NOU **02** 20:22:36.3, 21°.70S×166°.69E, h0km, MLv1.8/4, New Caledonia*

ISC 02 20:20:32.5±1.2, **12°.6S**±0°.1×**166°.7E**±0°.3, **h250km, n10,** σ**0s.99**/11, **mb3.4**/4, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YATNC	Mamie plateau,	9.44	179	P	Pn	20 22 44.1	0.0
DZM	Mont Dzumac	9.46	181	P	Pn	20 22 44.9	+0.5
DZM	Mont Dzumac	9.46	181	P	Pn	20 22 44.5	+0.1
	2.7nm,0.3s,baz=65,slow=14,SNR=17						
DZM				S	S	20 24 29.7	-1.4
	3.9nm,0.9s,baz=128,slow=19,SNR=2.0						
NOUC	Port Laguerre	9.49	182	P	Pn	20 22 46.4	+1.7
OUENC	Ouen Island, N	9.80	179	P	Pn	20 22 50.1	+1.5
WRA	Warramunga Arr	31.88	252	P	P	20 26 34.9	0.0
	0.1nm,0.4s,baz=84,slow=8.8,SNR=4.8						
	0.1nm,0.4s						
ASAR	Alice Springs	32.99	246	P	P	20 26 44.5	-0.1
	0.3nm,0.5s,baz=76,slow=9.3,SNR=8.4						
	0.3nm,0.5s						
ILAR	Eielson Array	84.65	18	P	P	20 32 37.4	-0.4
	0.8nm,0.9s,baz=240,slow=5.7,SNR=5.0						
	0.8nm,0.9s						
MKAR	Makanchi Array	95.27	317	P	P	20 33 27.8	-0.3
	0.5nm,0.7s,baz=109,slow=5.5,SNR=4.7						
	0.5nm,0.7s						
ARCES	ARCESS Array B	118.03	346	PKP	PKPdf	20 38 49.3	+0.3
	4.7nm,1.1s,baz=53,slow=2.1,SNR=5.7						

*KRSC **02** 20:25:52.4±0.9, 55°.71N×164°.35E, h66km±18km, Ml3.9*

*IDC **02** 20:25:56.5±2.0, 56°.06N×163°.08E, h0km, mb3.5/5, mbtmp3.4/6, ML2.1/1, Error ellipse: s-maj=54.3km s-min=24.3km az=146.0*

ISC 02 20:25:54.9±3.0, **55°.76N**±0°.05×**163°.81E**±0°.09, **h7**km±16km,

n36,σ1§29/42,mb3.5/5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.71	309	eP	Pn	20 26 10.7	-0.6
KBTR				eS	Sn	20 26 24.6	+2.1
BKI	Bering	1.35	114	eP	Pn	20 26 12.5	-7.6
BKI				eS	Sn	20 26 27.7	-11
SMKR	Semkarok	1.54	303	eP	Pb	20 26 24.3	+0.5
SMKR				eS	Sg	20 26 47.3	+2.8
BDR	Baidarnaya	1.66	300	eP	Pb	20 26 26.2	+0.4
BZGR	Bezymyannyi-Gr	1.76	277	eP	Pb	20 26 27.1	-0.4
KLY	Klyuchi	1.85	289	eP	Pn	20 26 27.3	+0.3
KLY				eS	Sg	20 26 53.5	-1.0
BZWR	Bezymyannyi-We	1.88	278	eP	Pb	20 26 29.8	+0.3
KIRR	Kirishev	1.96	277	eP	Pb	20 26 30.7	-0.3
KMNR	Kamenistaya	2.02	271	eP	Pb	20 26 31.9	0.0
TUMD	Tumrok D	2.02	255	eP	Pb	20 26 30.8	-1.0
TUMD				eS	Sg	20 26 58.9	-0.8
KPT	Kopyto	2.03	277	eP	Pb	20 26 31.5	-0.6
KPT				eS	Sg	20 26 58.6	-1.5
TUMR	Tumrok	2.14	258	eP	Pb	20 26 33.4	-0.6
KOZ	Kozyrevsk	2.23	279	eP	Pb	20 26 35.1	-0.5
SRDR	Sredinnyy	2.36	285	eP	Pb	20 26 36.5	-1.2
ESO	Esso	2.88	275	eP	Pn	20 26 43.0	+1.8
KII	Karymskiy	3.05	237	eP	Pn	20 26 43.8	+0.2
SPN	Mys Shipunski	3.47	221	eP	Pn	20 26 49.7	+0.6
SPN				eS	Sn	20 27 28.6	-1.8
OSSR	Ossora	3.52	354	eP	Pn	20 26 48.6	-1.2
OSSR				eS	Sn	20 27 29.6	-2.1
SMAR	Somma	3.84	231	eP	Pn	20 26 55.0	+0.4
KRX	Arik	3.85	233	eP	Pn	20 26 55.9	+1.4
AVH	Avacha	3.87	232	eP	Pn	20 26 55.7	+0.9
UGLR	Uglovaya	3.87	231	eP	Pn	20 26 55.3	+0.4
KOK	Koryaka	3.90	233	eP	Pn	20 26 56.5	+1.3
DALK	Dalny	4.03	229	eP	Pn	20 26 57.0	+0.2
DALK				eS	Sn	20 27 43.3	-0.9
KRMR	Karymshinskiy	4.44	231	eP	Pn	20 27 03.1	+0.6
KRMR				eS	Sn	20 27 54.3	0.0
PETK	Petropavlovsk-	4.45	236	Pn	Pn	20 27 03.1	+0.4
	0.5nm,0.3s,baz=62,slow=17,SNR=20						
PETK				Sn	Sn	20 27 55.7	+1.1
	0.6nm,0.3s,baz=70,slow=22,SNR=3.9						
	0.8nm,0.4s						
GRL	Gorelyy	4.66	229	eP	Pn	20 27 06.3	+0.7
ASAK	Asacha	4.85	228	eP	Pn	20 27 09.4	+1.1
ILAR	Eielson Array	25.41	49	P	P	20 31 26.4	+3.9
	1.0nm,1.1s,baz=285,slow=9.8,SNR=4.5						
	1.0nm,1.1s						
SONM	Songino Array	35.44	282	P	P	20 32 51.5	0.0
	0.4nm,0.6s,baz=68,slow=8.0,SNR=2.6						
	0.4nm,0.6s						
H11N2	WAKE ISLAND Hy	36.05	175	T	T	21 11 53.6	
	baz=358,slow=74,SNR=32						
H11N3	WAKE ISLAND Hy	36.06	175	T	T	21 11 53.8	
	baz=358,slow=74,SNR=24						
H11N1	WAKE ISLAND Hy	36.07	175	T	T	21 12 00.3	
	baz=358						
KURBB	Kurchatov Arra	48.27	302	P	P	20 34 34.4	-1.7
	0.5nm,0.6s,baz=56,slow=7.8,SNR=7.1						
	0.5nm,0.6s						
MKAR	Makanchi Array	48.95	296	P	P	20 34 39.9	-1.6
	0.1nm,0.4s,baz=51,slow=6.2,SNR=1.8						
	0.1nm,0.4s						
CMAR	Chiang Mai Arr	60.83	260	P	P	20 36 07.5	-0.2
	0.6nm,0.7s,baz=12,slow=6.3,SNR=5.5						
	0.6nm,0.7s						

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*SJA **02** 20:30:33.4±0.7, 22°.68S×66°.18W, h268km±4km, ML3.8, MW3.8*
ISC 02 20:30:35.0±1.3**, 22°.69S**±0°.05×**66°.31W**±0°.06**, h250**km**, n34, σ1§14**/59**, 4C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	Yavi	0.89	55	eP	Pn	20 31 10.7	+0.7
YJA				eS	S	20 31 37.8	+0.3
YJA				IAML		20 31 38.0	
	comp=Z,25nm,0.5s						
AZAP	Zapla	1.91	144	eP	Pn	20 31 16.6	-0.3
AZAP				IAML		20 31 50.4	
	comp=Z,48nm,0.6s						
LVC	Limon Verde	2.41	271	eP	Pn	20 31 22.9	+1.2
LVC	Limon Verde	2.41	271	⇑eP	Pn	20 31 22.9	+1.2
LVC				eS	S	20 31 58.9	+0.4
PB09	IPOC Station P	2.86	287	eP	Pn	20 31 27.9	+1.7
PB09				eS	S	20 32 08.4	+1.7
PB09				IAML		20 32 11.2	
	comp=Z,130nm,0.2s						
PB09	IPOC Station P	2.86	287	⇑eP	Pn	20 31 27.9	+1.7
PB09				eS	S	20 32 06.8	+0.2
PB09				IAML		20 32 11.4	
	comp=N,529nm,0.1s						
PB15	IPOC Station P	2.96	259	eP	Pn	20 31 28.7	+1.4
PB15				eS	S	20 32 08.8	+0.1
PB15				IAML		20 32 09.7	
	comp=Z,1μm,0.2s						
PB15	IPOC Station P	2.96	259	eP	Pn	20 31 28.8	+1.4
PB15				i S	S	20 32 09.0	+0.4
PB06	IPOC Station P	3.02	269	eP	Pn	20 31 29.0	+1.2
PB06				eS	S	20 32 10.0	+0.4
PB06				IAML		20 32 14.2	
	comp=Z,110nm,0.2s						
PB06	IPOC Station P	3.02	269	eP	Pn	20 31 28.9	+1.2
PB06				i S	S	20 32 09.3	-0.3
PB06				IAML		20 32 11.6	
	comp=E,226nm,0.1s						
PB01	IPOC Station P	3.38	298	eP	Pn	20 31 32.6	+0.8
PB01				IAML		20 32 19.1	
	comp=Z,165nm,0.2s						
PB01	IPOC Station P	3.38	298	⇑eP	Pn	20 31 32.6	+0.8
PB01				eS	S	20 32 15.7	-1.1
FSA	Cafayete	3.42	175	eP	Pn	20 31 32.6	+0.3
PB07	IPOC Station P	3.45	285	eP	Pn	20 31 33.5	+0.8
PB07				IAML		20 32 20.3	
	comp=Z,172nm,0.1s						
PB07	IPOC Station P	3.45	285	eP	Pn	20 31 33.5	+0.8
PB07				i S	S	20 32 16.7	-1.6
PB04	IPOC Station P	3.57	275	eP	Pn	20 31 34.9	+0.9
PB04				eS	S	20 32 20.0	-0.8
PB04				IAML		20 32 21.5	
	comp=Z,179nm,0.4s						
PB04	IPOC Station P	3.57	275	eP	Pn	20 31 34.8	+0.7
PB04				i S	S	20 32 18.9	-1.9
PB02	IPOC Station P	3.60	292	eP	Pn	20 31 34.9	+0.6
PB02				eS	S	20 32 20.0	-1.2
PB02				IAML		20 32 23.3	
	comp=Z,346nm,0.2s						
PB02	IPOC Station P	3.60	292	eP	Pn	20 31 35.0	+0.6
PB02				i S	S	20 32 19.6	-1.7
PB05	IPOC Station P	3.60	267	eP	Pn	20 31 34.9	+0.7
PB05				eS	S	20 32 20.5	-0.8
PB05				IAML		20 32 21.3	
	comp=Z,62nm,0.2s						
PB05	IPOC Station P	3.60	267	⇑eP	Pn	20 31 35.0	+0.7
PB05				i S	S	20 32 19.6	-1.7
PB08	IPOC Station P	3.67	313	eP	Pn	20 31 37.1	+1.7
PB08				IAML		20 32 28.8	
	comp=Z,41nm,0.3s						
PB08	IPOC Station P	3.67	313	eP	Pn	20 31 37.2	+1.8
PB08				i S	S	20 32 23.4	+0.2
GO02	Mina Guanaco	3.89	230	eP	Pn	20 31 38.3	+0.6
GO02				eS	S	20 32 27.2	-0.4
PATCX	Punta Patache	4.03	297	eP	Pn	20 31 39.8	+0.5
PATCX				IAML		20 32 32.0	
	comp=Z,74nm,0.3s						
PATCX	Punta Patache	4.03	297	⇓eP	Pn	20 31 39.6	+0.4
PATCX				eS	S	20 32 28.5	-1.8
GO01	Chusmiza	4.04	318	eP	Pn	20 31 41.0	+1.3
GO01	Chusmiza	4.04	318	eP	Pn	20 31 41.1	+1.3
GO01				eS	S	20 32 31.6	+0.5
HMBC	Humberstone	4.11	305	eP	Pn	20 31 40.0	-0.2
HMBC				eS	S	20 32 30.2	-1.9
HMBC				IAML		20 32 32.3	
	comp=Z,194nm,0.4s						
HMBC	Humberstone	4.11	305	eP	Pn	20 31 40.2	0.0
HMBC				i S	S	20 32 29.9	-2.1
TA01	Diego Aracena	4.18	300	eP	Pn	20 31 40.9	0.0
TA01				i S	S	20 32 31.1	-2.2
PB11	IPOC Station P	4.27	312	eP	Pn	20 31 42.3	+0.1
PB11				eS	S	20 32 34.5	-1.1
PB11				IAML		20 32 36.6	
	comp=Z,99nm,0.3s						
PB11	IPOC Station P	4.27	312	eP	Pn	20 31 42.4	+0.1
PB11				i S	S	20 32 34.0	-1.6
GUSE	Guasayan	5.34	166	eP	Pn	20 31 54.3	-0.6

BER 02 20:31:14.6±1.5**, 72°.97N**×**4°.85E, h10**km**, mb(Pn)4.0, Confirmed Earthquake, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen	4.60	251	eP	Pn	20 32 22.6	-1.4
JMI	Jan Mayen	4.69	251	eP	Pn	20 32 23.2	-2.1
TRO	Tromso	5.62	120	eP	Pn	20 32 35.0	-3.0
LOF	Lofoten	5.66	145	eP	Pn	20 32 36.5	-2.1
SPA0	Spitsbergen Ar	5.96	23	eP	Pn	20 32 41.7	-1.0
JETT	Jettan, Norway	6.06	117	eP	Pn	20 32 41.6	-2.5
JETT				e		20 33 42.0	
JETT				IAML		20 33 44.6	
	comp=Z,4.7nm,0.3s						
STEI	Steigen	6.14	140	eP	Pn	20 32 42.4	-2.7
STEI				eS	Sn	20 33 46.3	-8.9
STEI				IAML		20 33 52.4	
	comp=Z,2.5nm,0.5s						
KBS	Kingsbay	6.23	13	eP	Pn	20 32 44.4	-2.0
HAMF	Hammerfest	6.33	102	eP	Pn	20 32 44.0	-3.8
HOPEN	Hopen	6.37	47	eP	Pn	20 32 45.6	-2.7
KIF	Kilpisjarvi	6.54	120	eP	Pn	20 32 47.7	-2.9
FAUS	Fauske	6.63	143	eP	Pn	20 32 49.0	-2.9
KONS	Konsvik	7.10	152	eP	Pn	20 32 55.8	-2.5
KONS				eS	Sn	20 34 08.8	-10
KONS				IAML		20 34 15.8	
	comp=Z,2.1nm,0.7s						
KTK1	Kautokeino	7.17	115	eP	Pn	20 32 56.6	-2.7
DAG	Danmarks Havn	7.19	313	eP	Pn	20 32 56.8	-2.7
DAG				eS	Sn	20 34 11.2	-10
STOK	Stokkvaagen	7.24	153	eP	Pn	20 32 57.9	-2.3
ARA0	ARCESS Array S	7.47	107	eP	Pn	20 33 00.8	-2.6
MOR8	Moi Rana	7.60	149	eP	Pn	20 33 02.3	-2.9
HEF	Hetta	7.70	117	eP	Pn	20 33 04.0	-2.6
KEV	Kevo	7.76	104	eP	Pn	20 33 03.2	-4.2
VADS	Vadso	8.24	98	eP	Pn	20 33 10.6	-3.4

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*SDD **02** 20:39:31.1±2.8, 19°.00N×75°.80W, h15km±18km, MD3.4, ML3.1, MW3.4*
*OSPL **02** 20:39:32.0±1.6, 19°.63N×76°.21W, h6km±17km, ML2.7*
*SSNC **02** 20:39:33.1±1.1, 19°.79N×76°.27W, h34km±4km, MD3.0, ML3.1, MW3.0*
ISC 02 20:39:31.8±1.1**, 19°.80N**±0°.04×**76°.28W**±0°.03**, h33**km±3km**, n28, σ1§11**/46**, 3C-3D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHIV	Chivirico	0.21	324	eP	Pn	20 39 39.5	+1.3
CHIV				eS	Sb	20 39 43.9	+0.7
MARVS	Santiago de Cu	0.41	61	eP	Pb	20 39 41.4	+0.3
MARVS				eS	Sb	20 39 47.3	-0.1
YAR	Yar	0.57	352	eP	Pb	20 39 43.9	+0.3
YAR				eS	Sb	20 39 51.3	-0.4
RCC	Rio Carpintero	0.58	71	eP	Pn	20 39 43.7	-0.1
RCC				eS	Sb	20 39 51.2	-0.7
LMGC	Las Mercedes	0.73	291	eP	Pn	20 39 45.9	+0.1
LMGC				eS	Sn	20 39 55.1	-0.8
LMGC				IAML		20 39 56.0	
	comp=E,934nm,0.1s						
LMGC				IAML		20 39 56.5	
	comp=N,2μm,0.1s						
PINC	Pinares de May	0.82	34	eP	Pn	20 39 46.7	-0.4
PILO	Pilon	1.06	276	eP	Pn	20 39 50.6	+0.1
PILO				eS	Sn	20 40 03.0	-1.1
SABCS	La Quijada	1.07	58	eP	Pn	20 39 50.5	0.0
SABCS				eS	Sn	20 40 03.2	-1.0
HLGC	Holguin	1.10	11	eP	Pn	20 39 51.9	+0.9
GTBY	Guantanamo Bay	1.11	83	⇑ePg	Pn	20 39 51.4	+0.3
GTBY				eSg	Sn	20 40 05.2	+0.1
GTBY				IAML		20 40 05.6	
	comp=E,390nm,0.8s						
GTBY				IAML		20 40 06.3	
	comp=N,264nm,0.2s						
GTBY	Guantanamo Bay	1.11	83	eP	Pn	20 39 51.3	+0.3
GTBY				eS	Sn	20 40 04.6	-0.5
GTBY	Guantanamo Bay	1.11	83	i P	Pn	20 39 51.4	+0.3
GTBY				eS	Sn	20 40 05.1	-0.1
GTBY				IAML		20 40 06.5	
	comp=Z,167nm,0.1s						
GTMO	Guantanamo	1.11	75	eP	Pn	20 39 52.4	+1.4
NMDO	Nuevo Mundo	1.43	58	eP	Pn	20 39 55.1	-0.3
NMDO				eS	Sn	20 40 11.3	-1.9
MOAC	Moa	1.51	55	eP	Pn	20 39 56.5	+0.1
MOAC				eS	Sn	20 40 13.6	-1.4
MOAC				IAML		20 40 19.1	
	comp=N,135nm,0.3s						
MOAC				IAML		20 40 19.3	
	comp=E,156nm,0.2s						
GNEO	Boca de Quibij	1.67	71	eP	Pn	20 39 57.9	-0.9
GNEO				eS	Sn	20 40 16.4	-2.7
GNEO				IAML		20 40 17.5	
	comp=E,157nm,0.1s						
GNEO				IAML		20 40 18.4	
	comp=N,253nm,0.2s						
GWJ	Greenwich	1.77	194	i P	Pn	20 40 00.6	+0.3
STH	Stony Hill	1.79	196	i P	Pn	20 40 00.8	+0.4
HOJ	Hope	1.84	194	i P	Pn	20 40 01.6	+0.5
MASC	Masc	1.96	79	eP	Pn	20 40 02.5	-0.2
MASC				eS	Sn	20 40 24.6	-1.7
MASC				IAML		20 40 32.3	
	comp=E,154nm,0.2s						
MASC				IAML		20 40 32.5	
	comp=N,90nm,0.2s						
MASC	Masc	1.96	79	i P	Pn	20 40 02.7	-0.1
MASC				eS	Sn	20 40 27.7	+1.5
MASC				IAML		20 40 31.0	
	comp=Z,58nm,0.6s						
MTDJ	Mount Denham	1.97	217	⇓ePg	Pn	20 40 03.5	+0.6
MTDJ				⇑eSg	Sn	20 40 25.5	-1.0
MTDJ				IAML		20 40 27.3	
	comp=E,326nm,0.3s						
MTDJ				IAML		20 40 28.2	
	comp=N,202nm,0.5s						
MTDJ	Mount Denham	1.97	217	eP	Pn	20 40 03.5	+0.6
MTDJ				eS	Sn	20 40 24.7	-1.8
MTDJ	Mount Denham	1.97	217	i P	Pn	20 40 03.7	+0.7
MTDJ				eS	Sn	20 40 25.3	-1.2
MTDJ				IAML		20 40 27.4	
	comp=Z,116nm,0.2s						
MCDR	Montecristi	4.35	88	ePg	Pn	20 40 38.4	+2.7
MCDR				IAML		20 42 22.0	
	comp=N,36nm,2.6s						
SDDR	Presa de Saban	4.78	99	⇓ePg	Pn	20 40 43.7	+2.0
SDDR				Sn	Sn	20 41 22.9	-13
SDDR				IAML		20 41 42.1	
	comp=N,20nm,2.0s						
PODR	Polo	5.00	108	⇓ePg	Pn	20 40 44.8	0.0
PODR				IAML		20 41 55.7	
	comp=N,18nm,0.7s						
ABDR	Alto Bandera	5.43	100	⇑ePg	Pn	20 40 53.0	+2.2
ABDR				IAML		20 42 48.0	
	comp=N,18nm,1.8s						

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*CRAAG **02** 20:45:51.2, 36°.36N×2°.58E, Ml3.0, Algerie 07km SE Oued-Djer*
*MDD **02** 20:45:55.2±0.8, 36°.48N×2°.55E, h10km±15km, Mb3.6/17, M_mb2.8/14, Error ellipse: s-maj=20.1km s-min=4.0km az=144.0*
*CNRM **02** 20:46:00.8, 36°.19N×1°.92E, h17km, ML3.0*
ISC 02 20:45:52.3±0.9**, 36°.38N**±0°.04×**2°.55E**±0°.04**, h18**km**, n39, σ1§88**/52**, 13C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABKD	Sidi Amar	0.25	308	P	Pg	20 45 57.7	-0.2
ACHR	Chrea	0.27	81	P	Pg	20 45 57.6	-0.8
EDDR	Deurdeur	0.47	216	P	Pg	20 46 01.1	-0.6
ABA	Alger-Bouzarea	0.57	43	P	Pg	20 46 03.3	-0.4
ABRIN	Birine	0.89	148	P	Pb	20 46 10.2	+1.0
ATKB	Taksebt	1.30	77	P	Pb	20 46 16.7	+0.6
EIBI	Ibiza	2.81	340	Pn	Pn	20 46 37.2	+1.0
EIBI				Sn	Sn	20 47 07.6	-2.1
EIBI	Ibiza	2.81	340	P	Pn	20 46 37.2	+1.0
EIBI				⇑iVmb_V		20 46 38.9	
	257nm,SNR=21						
EIBI				S	Sn	20 47 07.3	-2.4
CART	Cartagena	3.09	294	Pn	Pn	20 46 40.0	0.0
CART				Sn	Sn	20 47 12.8	-3.7
EBEN2	Beniarda presa	3.16	317	P	Pn	20 46 41.3	+0.2
EBEN2				⇑iVmb_V		20 46 43.5	
	143nm,SNR=7.0						
EBEN2				S	Sn	20 47 17.2	-1.2
EMUR	La Murta	3.36	297	Pn	Pn	20 46 45.8	+1.8
EMUR	La Murta	3.36	297	S	Sn	20 47 22.5	-0.9
ETOS	Mallorca	3.39	3	Pn	Pn	20 46 44.7	+0.4
ETOS				Sn	Sn	20 47 20.3	-3.7
ETOS	Mallorca	3.39	3	P	Pn	20 46 44.6	+0.4
ETOS				⇑iVmb_V		20 46 48.6	
	202nm,SNR=46						
ETOS				S	Sn	20 47 21.8	-2.1
EZAR	Zarzadilla de	3.71	295	P	Pn	20 46 49.1	+0.4
EZAR				⇑iVmb_V		20 46 51.6	
	38nm,SNR=7.7						
EZAR				S	Sn	20 47 31.5	-0.4
ETOB	Tobarra	3.96	306	Pn	Pn	20 46 54.3	+2.1
ETOB	Tobarra	3.96	306	P	Pn	20 46 53.5	+1.3
ETOB				⇑iVmb_V		20 46 56.3	
	63nm,SNR=12						
ETOB				S	Sn	20 47 38.3	0.0
EVIV	Cofrentes, Val	4.09	316	P	Pn	20 46 55.0	+1.0
EVIV				⇑iVmb_V		20 46 57.3	
	164nm,SNR=7.2						
EVIV				S	Sn	20 47 39.7	-1.6
ECHE	Chera	4.24	320	Pn	Pn	20 46 57.8	+1.9
TAF	Taforalt	4.34	250	P	Pn	20 46 58.6	+1.2
TAF	Taforalt	4.34	250	S	Sn	20 47 44.0	-3.5
EBER	Berja	4.41	278	Pn	Pn	20 46 58.5	+0.2
EBER				Sn	Sn	20 47 48.1	-1.2
EBER	Berja	4.41	278	P	Pn	20 46 58.7	+0.3
EBER				⇑iVmb_V		20 46 59.5	
	35nm,SNR=8.3						
EBER				S	Sn	20 47 49.4	0.0
EMOS	Mosqueruela	4.63	330	P	Pn	20 47 02.8	+1.3
EMOS				⇑iVmb_V		20 47 03.6	
	206nm,SNR=37						
EMOS				S	Sn	20 47 53.2	-1.7
JBK	JBK	4.65	245	P	Pn	20 47 03.1	+1.3
JBK	JBK	4.65	245	S	Sn	20 47 54.0	-1.5
EQES	Quesada	4.71	289	P	Pn	20 47 05.3	+2.8
EQES				⇑iVmb_V		20 47 08.1	
	33nm,SNR=14						
EQES				S	Sn	20 47 58.0	+1.2
ERTA	Horta de San J	4.89	340	P	Pn	20 47 06.6	+1.8
ERTA				⇑iVmb_V		20 47 07.5	
	32nm,SNR=3.7						
FIGM	Figuig	5.29	218	P	Pn	20 47 12.1	+1.6
FIGM	Figuig	5.29	218	S	Sn	20 48 10.0	-1.0
AKLM	AKL	5.56	252	P	Pn	20 47 16.7	+2.6
AKLM	AKL	5.56	252	S	Sn	20 48 14.8	-2.9
ETOR	Torete	5.71	322	P	Pn	20 47 19.5	+3.3
ETOR				⇑iVmb_V		20 47 21.2	
	12nm,SNR=5.7						
PAB	San Pablo	6.30	302	P	Pn	20 47 25.5	+1.2
PAB				⇑iVmb_V		20 47 28.2	
	13nm,SNR=4.5						
MDT	Midelt	6.89	241	P	Pn	20 47 34.7	+2.2
MDT	Midelt	6.89	241	S	Sn	20 48 47.3	-3.2
MD31	MD31	6.97	242	P	Pn	20 47 35.3	+1.7
MD31	MD31	6.97	242	S	Sn	20 48 48.4	-4.1
ELAN	Lanestosa	8.24	328	P	Pn	20 47 53.5	+2.5
ELAN				⇑iVmb_V		20 47 55.0	
	44nm,SNR=5.7						

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*IDC **02** 20:47:39.5±0.7, 7°.06N×92°.06E, h0km, mb4.2/17, mbtmp4.3/19, ML4.5/2, MS3.9/30, Error ellipse: s-maj=24.9km s-min=14.0km az=47.0*
*BJI **02** 20:47:40.9±0.0, 6°.88N×92°.13E, h30km, mb4.4/42, mB5.1/21, Ms4.4/23, Ms7 4.1/25*
*GCMT **02** 20:47:43.8±0.4, 7°.07N±0°.02×92°.07E±0°.02, h22km±2km, MW4.8/83, Moment Tensor Solution. s9,c9; s83,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.60±.15; $M_{\theta\theta}$-1.73±.11; $M_{\phi\phi}$1.13±.09; $M_{r\theta}$-0.02±.17; $M_{\theta\phi}$-1.24±.11; $M_{\phi r}$-0.12±.17; Best double couple: $M_0$1.89900×10^{16} NP1:ϕ_s205.00000°,δ87.00000°,λ5.00000°. NP2: ϕ_s114.00000°,δ85.00000°,λ177.00000°. Principal axes: T 1.6040, Plg6.0000°, Azm70.0000°; N 0.5890, Plg84.0000°, Azm239.0000°; P -2.1940, Plg1.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 20:47:43.8±1.6, 7°.13N±0°.07×92°.17E±0°.07, h30km±5km, mb4.9/76 Error ellipse: s-maj=10.7km s-min=9.0km az=210.0*
*DJA **02** 20:47:43.0±0.7, 7°N±2°×9°2E±°, h34km±10km, M5.1/20, mB5.6/7, mb5.0/20, MLv5.2/6, Mw(mB)5.1/7*
*NDI **02** 20:47:54.1±3.8, 8°.00N×91°.48E, h33km, mb4.5, mb4.9(NEIC)*
ISC 02 20:47:43.1±0.4**, 7°.02N**±0°.04×**92°.11E**±0°.05**, h28**km±2km**, h28**km**:pP-P, n246, σ1§55**/229**, mb4.7**/70**, MS3.9**/38**, 7C-7D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	4.65	8		Pn	20 48 49.8	-1.6
MLSI	Meulaboh, Aceh	5.08	122	P	Pn	20 48 57.1	-0.2
	115nm,0.8s,6μm2.0nm						
MLSI				S	Sn	20 49 55.7	+0.7
	115nm,0.8s,6μm2.0nm						
LHMI	Lhok Sumawe	5.13	110	Pn	Pn	20 48 58.1	+0.1
LHMI	Lhok Sumawe	5.13	110	P	Pn	20 48 59.3	+1.2
	113nm,1.4s,1.5nm						
LHMI				S	Sn	20 49 58.4	+2.0
	113nm,1.4s,1.5nm						
SNSI	Sinabang, Aceh	6.22	137	P	Pn	20 49 13.1	+0.1
	126nm,1.0s,1.3nm						
SNSI				S	Sn	20 50 22.1	-1.1
	126nm,1.0s,1.3nm						
KCSI	Kotacane, Aceh	6.62	121	P	Pn	20 49 19.3	+0.7
	58nm,0.8s,4μm0.7nm						
KCSI				S	Sn	20 50 30.2	-3.1
	58nm,0.8s,4μm0.7nm						
GSI	Gunungsitoli	7.87	136		Pn	20 49 35.9	+0.2
GSI	Gunungsitoli	7.87	136	P	Pn	20 49 34.9	-0.9
PSI	Prapat	7.98	121	P	Pn	20 49 37.7	+0.4
	17nm,0.7s						
RPSI	Rantau Prapat	8.04	122	Pn	Pn	20 49 37.6	-0.4
TRSI	Tarutung	8.44	126	P	Pn	20 49 44.2	+0.5
	196nm,0.5s						
SKLT	Songkhla	8.45	88	P	Pn	20 49 43.6	-0.1
	95nm,1.1s						
KULM	Kulim	8.66	101	Pn	Pn	20 49 45.4	-1.2
KULM	Kulim	8.66	101	P	Pn	20 49 47.1	+0.5
	18nm,1.0s						
PBSI	Pulau Batu	9.34	139	P	Pn	20 49 56.3	+0.3
	271nm,1.1s						
PALK	Pallekele	11.32	272	Pn	Pn	20 50 22.0	-1.1
PALK	Pallekele	11.32	272	Pn	Pn	20 50 22.0	-1.1
	8.5nm,0.3s,baz=190,slow=14,SNR=69						
PALK				Sn	Sn	20 52 15.2	-14
	36nm,0.3s,baz=278,slow=16,SNR=14						
PALK				LR	LR	20 54 15.8	
	comp=Z,743nm,20.0s,baz=191,slow=35						
	17nm,0.3s						
PALK	Pallekele	11.32	272	P	Pn	20 50 21.8	-1.3
	78nm,0.7s						
PDSI	Padang	11.47	133	P	Pn	20 50 25.7	+0.6
	18nm,1.0s						
CM31	Chiang Mai Arr	13.17	30		Pn	20 50 45.2	-3.1
CMAR	Chiang Mai Arr	13.17	30	Pn	Pn	20 50 50.5	+2.1
CMAR	Chiang Mai Arr	13.17	30	Pn	Pn	20 50 48.7	+0.3
	0.4nm,0.3s,baz=233,slow=13,SNR=37						
CMAR				LR	LR	20 56 43.2	
	comp=Z,158nm,18.2s,baz=210,slow=41						
	8.0nm,0.9s						
CHTO	Chiang Mai	13.48	29	Pn	Pn	20 50 45.6	-6.9
CHTO	Chiang Mai	13.48	29	P	Pn	20 50 54.3	+1.8
	20nm,1.0s						
SALM	Salem	14.47	290	eP	Pn	20 51 05.8	-0.3
DSRI	Dabo	14.50	120	P	P	20 51 16.1	+3.2
KOD	Kodaikanal	14.82	283	eP	Pn	20 51 09.1	-2.1
CRAI	Chiangrai	15.38	31	Pn	Pn	20 51 15.2	-3.1
SAIH	SAIHA	15.40	3	eP	Pn	20 51 16.2	-2.4
MNAI	Manna	15.65	136	Pn	Pn	20 51 20.4	-1.4
MNAI				IAmb	IAmb	20 51 29.6	

comp=Z,66nm,0.8s
EGSI Enggano, Bengk 15.94 140 P **Pn** 20 51 24.9 -0.6
comp=Z,140nm,0.9s
HYB Hyderabad 16.79 309 *e*P **Pn** 20 51 36.5 +0.2
LWLI Liwa 16.89 135 P **P** 20 51 39.1 -0.4
comp=Z,118nm,0.7s,comp=Z,2µm
KASI Kota Agung 17.55 135 P **P** 20 51 47.5 +0.7
comp=Z,85nm,1.0s
IMP Imphal 17.80 5 *e*P **Pn** 20 51 47.1 -1.8
IMP IAmb IAmb 20 51 58.1
comp=Z,44nm,1.2s
SLVN Son La 18.23 38 P **Pn** 20 51 52.0 -2.3
SHL Shillong 18.44 359 P **P** 20 51 53.3 -3.4
SHL Shillong 18.44 359 *e*P **P** 20 51 54.7 -2.0
SHL IAmb IAmb 20 52 01.9
comp=Z,21nm,1.1s
KOHI KOHIMA 18.69 6 *e*P **P** 20 51 56.9 -2.5
TNCH TengChong 18.93 18 ⇓P **Pn** 20 52 02.7 -0.1
TNCH pP pP 20 52 06.0 -2.5
TNCH PP **PnPn** 20 52 18.1 +2.5
TNCH S **Sn** 20 55 27.2 -6.9
TNCH SS **SnSn** 20 55 51.7 +3.1
TNCH pmax pmax
comp=Z,11nm,1.2s
TNCH pmax pmax
comp=Z,58nm,4.2s
TNCH LR LR
comp=Z,260nm,14.1s
TNCH LR LR
comp=Z,210nm,10.4s
TNCH LR LR
comp=Z,390nm,19.0s
TEZP TEZPUR 19.50 2 *e*P **Pn** 20 52 11.6 +2.1
TEZP IAmb IAmb 20 52 22.6
comp=Z,26nm,0.8s
ITAN ITANAGAR 20.07 4 *e*P **P** 20 52 14.3 0.0
GTK Tadong 20.46 351 *e*P Pn 20 52 19.8 -1.2
GTK IAmb IAmb 20 52 30.4
comp=Z,609nm,1.9s
ZIRO ZIRO 20.46 4 *e*P **P** 20 52 18.8 +0.1
ZIRO IAmb IAmb 20 52 31.8
SBUM Sibu 20.55 102 P **P** 20 52 18.4 -1.2
KMI Kunming 20.67 28 ⇑P Pn 20 52 22.9 -0.6
KMI S **S** 20 56 10.6 -0.3
KMI pmax pmax
comp=Z,30nm,0.9s
KMI LR LR
comp=Z,200nm,19.7s
KMI LR LR
comp=Z,300nm,20.8s
LEM Lembang 20.70 131 LR LR 21 01 52.4
comp=Z,544nm,18.9s,baz=230,slow=41
QIZ Qiongzhong 20.97 54 P **P** 20 52 24.1 -0.1
QIZ S **S** 20 56 17.2 +0.6
QIZ LR LR
comp=Z,930nm,10.2s
QIZ LR LR
comp=Z,410nm,7.3s
QIZ LR LR
comp=Z,580nm,10.6s
PZH PanZhiHua 21.44 24 P **P** 20 52 29.5 +0.3
PZH pP **sP** 20 52 38.8 -0.1
PZH S **S** 20 56 19.8 -6.0
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,180nm,5.5s
PZH LR LR
comp=Z,250nm,16.1s
PZH LR LR
comp=Z,220nm,14.3s
PZH LR LR
comp=Z,360nm,17.2s
XMIS Christmas Isla 22.00 142 P **P** 20 52 34.9 -0.4
XMIS IAmb IAmb 20 52 43.0
comp=Z,69nm,1.0s
GYA Guiyang 23.78 34 P **P** 20 52 54.1 +0.5
GYA S **S** 20 57 06.0 -1.7
GYA pmax pmax
comp=Z,9.0nm,1.0s
GYA pmax pmax
comp=Z,180nm,4.4s
GYA LR LR
comp=Z,450nm,16.4s
H08S3 Diego Garcia H 24.39 234 T T 21 19 14.1
baz=54,slow=75,SNR=28
H08S2 Diego Garcia H 24.39 234 T T 21 19 26.4
baz=54,slow=75,SNR=22
H08S1 Diego Carcia H 24.41 234 T T 21 19 28.9
baz=54,slow=75,SNR=6.5
LGTI Lohaghat 24.95 335 *e*P **P** 20 53 05.0 +0.9
PTH Pithoragarh 25.05 335 *e*P **P** 20 53 06.2 +0.9
SRBI Singaraja 27.49 123 P **P** 20 53 25.4 -1.9
SMLA Simla 27.76 332 *e*P **P** 20 53 28.9 -0.6
SMLA IAmb IAmb 20 53 32.8
comp=Z,5.0nm,1.4s
GOMU GeErMu 29.14 4 P **P** 20 53 46.8 +4.6
TGY Tagaytay City 29.18 74 LR LR 21 06 41.4
comp=Z,202nm,18.5s,baz=115,slow=39
KAPI Kappang 30.07 113 P **P** 20 53 51.0 +0.8
KAPI IAmb IAmb 20 53 54.7
comp=Z,15nm,1.3s
KAPI Kappang 30.07 113 LR LR 21 07 36.2
comp=Z,225nm,18.2s,baz=289,slow=40
LZH Lanzhou 30.86 19 *e*P **P** 20 54 00.3 +3.1
LZH pP sP 20 54 06.6 -0.7
LZH pmax pmax
comp=Z,11nm,1.3s
LZH LR LR
comp=Z,320nm,20.6s
LZH LR LR
comp=Z,330nm,15.5s
LZH LR LR
comp=Z,400nm,20.6s
XAN Xi'an 31.05 28 ⇓P **P** 20 54 00.0 +1.2
XAN LR LR
comp=Z,490nm,12.4s
XAN LR LR
comp=Z,430nm,13.7s
XAN LR LR
comp=Z,600nm,15.1s
NIL Nilore 31.73 329 P **P** 20 54 04.1 -0.6
NIL IAmb IAmb 20 54 15.6
comp=Z,28nm,1.1s
NIL Nilore 31.73 329 P **P** 20 54 04.7 0.0
NIL pP **sP** 20 54 14.7 -0.1
GTA Gaotai 32.98 11 P **P** 20 54 16.4 +0.6
GTA sP sP 20 54 26.4 +0.6
GTA pmax pmax
comp=Z,10.0nm,1.1s
DAV Davao City (W) 33.21 88 LR LR 21 10 17.0
comp=Z,197nm,18.1s,baz=200,slow=41
KBL Kabul 34.67 325 P **P** 20 54 29.3 -1.3
NJ2 Nanjing 35.23 41 *e*P **P** 20 54 35.9 +0.7
NJ2 pP **pP** 20 54 42.3 0.0
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,3.6s
NJ2 LR LR
comp=Z,820nm,15.7s
NJ2 LR LR
comp=Z,2µm,17.1s
NJ2 LR LR
comp=Z,240nm,14.2s
KSH Kashi 35.46 338 P **P** 20 54 35.8 -1.4
KSH pP pP 20 54 45.6 +1.2
KSH PP **PP** 20 56 00.0 +2.0
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH LR LR
comp=Z,260nm,17.1s
KSH LR LR
comp=Z,330nm,18.5s
KSH LR LR
comp=Z,390nm,20.3s
WSAR Wadi Sarin 35.98 300 P **P** 20 54 41.5 -0.3
comp=Z,1.6nm,0.7s,baz=94,slow=16,SNR=1.8
comp=Z,1.6nm,0.7s
SOEI Soe 36.11 117 P **P** 20 54 41.0 -2.1
WMQ Urumqi 36.86 355 *e*P **P** 20 54 50.3 +1.3
WMQ LR LR
comp=Z,200nm,23.8s
BTO Baotou 37.08 23 *e*P **P** 20 54 51.6 +0.6
BTO pP **pP** 20 54 55.6 -2.6
BTO PP **PnPn** 20 56 22.3 +6.1
BTO S **S** 21 00 40.0 +4.6
BTO SS **SnSn** 21 03 09.8 -0.8
BTO pmax pmax
comp=Z,8.0nm,0.7s
BTO pmax pmax
comp=Z,500nm,5.4s
BTO LR LR
comp=Z,480nm,5.3s
BTO LR LR
comp=Z,500nm,4.1s
BTO LR LR
comp=Z,320nm,7.4s
SIMJ Simiganj 37.78 330 P **P** 20 54 56.4 -0.7
SIMJ pP **sP** 20 55 06.5 -0.7
HHC Hu-ho-hao-te 37.90 24 *e*P **P** 20 55 00.8 +2.9
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,380nm,4.5s
HHC LR LR
comp=Z,410nm,13.0s
HHC LR LR
comp=Z,490nm,13.0s
HHC LR LR
comp=Z,390nm,13.4s
UCH Uchtor 38.37 339 P **P** 20 55 03.6 +1.3
SNR=6.5
AML Almayashu 38.58 338 P **P** 20 55 05.3 +1.2
SNR=22
KBK Karagaybulak 38.59 340 P **P** 20 55 05.4 +1.5
SNR=9.0
AAK Ala-Archa 38.73 339 P **P** 20 55 06.3 +1.2
SNR=7.9
AAK Ala-Archa 38.73 339 P **P** 20 55 05.2 +0.1
AAK IAmb IAmb 20 55 17.0
comp=Z,19nm,1.1s
AAK Ala-Archa 38.73 339 P **P** 20 55 06.1 +1.1
AAK pP **sP** 20 55 16.1 +0.9
AAK sP **pwP** 20 55 20.5 +3.0
EKS2 Erkin-Say 39.01 338 P **P** 20 55 09.0 +1.7
SNR=6.5
USP Ospenovka 39.28 340 P **P** 20 55 10.3 +0.9
SNR=6.4
JOW Kunigami 39.60 56 LR LR 21 13 46.4
comp=Z,127nm,18.6s,baz=326,slow=40
MK31 Makanchi Array 40.52 350 P **P** 20 55 18.6 -1.1
MKAR Makanchi Array 40.52 350 P **P** 20 55 18.4 -1.2
MKAR Makanchi Array 40.52 350 P **P** 20 55 19.6 0.0
comp=Z,4.1nm,0.7s,baz=168,slow=8.5,SNR=32
MKAR LR LR 21 16 11.8
comp=Z,167nm,18.1s,baz=176,slow=42
comp=Z,4.1nm,0.7s
MAKZ Makanchi 40.59 349 P **P** 20 55 19.0 -1.2
MAKZ Makanchi 40.59 349 P **P** 20 55 19.5 -0.7
MAKZ pP **sP** 20 55 29.8 -0.5
MAKZ sP **pwP** 20 55 34.0 +1.0
KK31 Karatay Array 40.66 336 P **P** 20 55 19.8 -1.1
KK31 IAmb IAmb 20 55 31.8
comp=Z,11nm,0.8s
KKAR Karatay Array 40.66 336 P **P** 20 55 20.1 -0.7
KKAR Karatay Array 40.66 336 P **P** 20 55 19.9 -1.0
KKAR IAmb IAmb 20 55 31.8
comp=Z,11nm,0.8s
FITZ Fitzroy Crossi 41.45 127 P **P** 20 55 27.5 -0.2
baz=41,SNR=5.0
FITZ Fitzroy Crossi 41.45 127 P **P** 20 55 27.5 -0.2
SONM Songino Array 42.45 14 P **P** 20 55 35.3 -0.4
SONM Songino Array 42.45 14 P **P** 20 55 36.0 +0.3
comp=Z,2.5nm,0.7s,baz=195,slow=8.9,SNR=13
SONM LR LR 21 15 42.5
comp=Z,186nm,21.3s,baz=194,slow=40
comp=Z,2.5nm,0.7s
ULN Ulaanbaatar 42.65 15 P **P** 20 55 37.2 0.0
MTN Manton Dam 43.51 117 P **P** 20 55 44.9 +0.4
baz=44,SNR=4.0
GEYT Alibeck 43.52 320 P **P** 20 55 45.5 +1.2
GEYT IAmb IAmb 20 55 56.4
comp=Z,17nm,0.8s
GEYT Alibeck 43.52 320 P **P** 20 55 45.7 +1.3
comp=Z,6.8nm,0.7s,baz=165,slow=7.7,SNR=15
GEYT LR LR 21 15 00.0
comp=Z,241nm,21.8s,baz=138,slow=38
comp=Z,6.8nm,0.7s
GYA0B ALIBECK ARRAY 43.52 320 P **P** 20 55 45.3 +0.9
GYA0B IAmb IAmb 20 55 56.3
comp=Z,14nm,0.8s
JNU Nakatsue 44.32 49 LR LR 21 15 21.2
comp=Z,106nm,18.9s,baz=250,slow=38
KSRS Korea Array 44.43 42 LR LR 21 15 20.3
comp=Z,77nm,19.5s,baz=90,slow=37
KURBB Kurchatov Arra 44.91 348 P **P** 20 55 55.5 +0.3
comp=Z,4.5nm,0.8s,baz=173,slow=6.5,SNR=4.2
KURBB LR LR 21 16 53.6
comp=Z,131nm,20.8s,baz=164,slow=39
comp=Z,4.5nm,0.8s
KURK Kurchatov 44.98 348 P **P** 20 55 55.3 -0.4
KURK Kurchatov 44.98 348 P **P** 20 55 55.8 +0.1
KURK pP **sP** 20 56 05.9 -0.1
NWAO Narrogin (SRO) 46.36 150 LR LR 21 15 49.2
comp=Z,116nm,18.4s,baz=271,slow=36
H01W3 Cape Leeuwin H 46.58 155 T T 21 46 26.9
baz=329
H01W2 Cape Leeuwin H 46.59 155 T T 21 46 25.8
baz=329
H01W1 Cape Leeuwin H 46.60 155 T T 21 46 24.7
baz=329
ZAA0 Zalesovo Array 47.16 354 P **P** 20 56 11.8 -1.0
ZALV Zalesovo Beam 47.16 354 P **P** 20 56 12.4 -0.4
ZALV Zalesovo Beam 47.16 354 P **P** 20 56 13.1 +0.3
comp=Z,3.9nm,0.8s,baz=167,slow=7.0,SNR=20
comp=Z,3.9nm,0.8s
WRKA Warakurna 47.50 133 P **P** 20 56 15.9 -0.1
baz=47,SNR=4.0
BNX BinXian 49.15 32 ⇑P **P** 20 56 28.6 +0.2
BNX pmax pmax
comp=Z,6.0nm,1.5s
BNX pmax pmax
comp=Z,230nm,4.6s
BVAR Borovoye Array 49.17 343 P **P** 20 56 28.3 -0.1
comp=Z,2.0nm,0.8s,baz=144,slow=8.6,SNR=12
BVAR LR LR 21 19 33.0
comp=Z,166nm,19.1s,baz=197,slow=39
comp=Z,2.0nm,0.8s
BRVK Borovoye 49.23 343 P **P** 20 56 28.8 -0.1
BRVK IAmb IAmb 20 56 39.9
comp=Z,10nm,1.0s
BRVK Borovoye 49.23 343 P **P** 20 56 28.7 -0.1
BRVK pP **sP** 20 56 38.5 -0.6
WB0 Warramunga Arr 49.40 123 P **P** 20 56 31.1 +0.4
WB0 IAmb IAmb 20 56 57.4
comp=Z,15nm,1.1s
WRA Warramunga Arr 49.44 124 P **P** 20 56 31.4 +0.4
WRA Warramunga Arr 49.44 124 P **P** 20 56 31.9 +0.9
comp=Z,4.4nm,0.8s,baz=303,slow=8.7,SNR=32
comp=Z,4.4nm,0.8s
WRAB Tennant Creek 49.44 124 P **P** 20 56 31.1 +0.1
WRAB IAmb IAmb 20 57 07.0
comp=Z,13nm,0.8s
WB2 Warramunga Arr 49.45 124 P **P** 20 56 31.5 +0.4
WB2 IAmb IAmb 20 56 33.0
comp=Z,11nm,0.9s
WR0 Warramunga Arr 49.61 124 P **P** 20 56 31.6 -0.7
WR0 IAmb IAmb 20 56 59.2
comp=Z,17nm,1.2s
ABKAR Akbulak array 50.04 333 P **P** 20 56 34.8 -0.3
ABKAR IAmb IAmb 20 56 46.2
comp=Z,14nm,0.8s
ABKAR Akbulak array 50.04 333 P **P** 20 56 35.0 -0.1
AS31 Alice Springs 50.95 128 P **P** 20 56 42.9 +0.4
ASAR Alice Springs 50.95 128 P **P** 20 56 42.9 +0.5
ASAR Alice Springs 50.95 128 P **P** 20 56 43.6 +1.2
comp=Z,6.8nm,0.8s,baz=300,slow=7.5,SNR=70
ASAR LR LR 21 18 47.4
comp=Z,74nm,20.9s,baz=307,slow=37
comp=Z,6.8nm,0.8s
GUMO Guam 52.23 78 LR LR 21 19 44.3
comp=Z,49nm,19.2s,baz=272,slow=37
GNI Garni 53.61 316 P **P** 20 57 03.6 +1.4
GNI IAmb IAmb 20 57 16.2
comp=Z,12nm,0.9s
GNI Garni 53.61 316 P **P** 20 57 05.7 +3.5
comp=Z,2.9nm,0.7s,baz=204,slow=18,SNR=2.1
GNI LR LR 21 23 56.7
comp=Z,109nm,18.2s,baz=99,slow=41
GNI Garni 53.61 316 P **P** 20 57 05.3 +3.2
GNI pP **pwP** 20 57 15.4 +0.6
QIS Mount Isa 54.12 122 P **P** 20 57 04.4 -1.6
baz=54,SNR=3.8
GURO Guroymak-BITLI 54.91 313 P **P** 20 57 13.0 +1.3
KMBO Kilima Mbogo 55.33 264 P **P** 20 57 15.6 +0.5
comp=Z,0.5nm,0.4s,baz=52,slow=18,SNR=2.0
comp=Z,0.5nm,0.4s
ARU Arti 55.91 338 P **P** 20 57 17.5 -0.7
ARU IAmb IAmb 20 57 28.8
comp=Z,16nm,1.1s
ARU Arti 55.91 338 P **P** 20 57 18.2 0.0
ARU pP **sP** 20 57 27.8 -0.8
ARU sP **pwP** 20 57 32.3 +1.3
KBZ Khabaz 56.38 319 P **P** 20 57 23.1 +1.3
comp=Z,1.5nm,0.9s,baz=120,slow=8.1,SNR=2.1
comp=Z,1.5nm,0.9s
LODK Lodwar 56.60 269 P **P** 20 57 23.0 -1.1
KIV Kislovodsk 56.61 319 P **P** 20 57 22.8 -0.9
KIV IAmb IAmb 20 57 34.8
comp=Z,19nm,1.2s
ERM Erimo 56.91 44 P **P** 20 57 25.5 -0.1
PMG Port Moresby 57.22 106 LR LR 21 27 32.3
comp=Z,71nm,18.4s,baz=288,slow=42
CTA Charters Tower 59.67 118 LR LR 21 25 12.2
comp=Z,91nm,20.8s,baz=268,slow=38
STKA Stephens Creek 61.00 132 P **P** 20 57 56.0 +1.8
baz=61,SNR=9.3
STKA Stephens Creek 61.00 132 P **P** 20 57 54.5 +0.2
STKA Stephens Creek 61.00 132 P **P** 20 57 55.8 +1.5
comp=Z,4.4nm,0.6s,baz=308,slow=6.8,SNR=16
comp=Z,4.4nm,0.6s
YAK Yakutsk 61.45 19 P **P** 20 57 55.6 -1.1
YAK IAmb IAmb 20 58 07.2
comp=Z,11nm,0.9s
BR131 Keskin Array S 61.47 312 P **P** 20 57 56.3 -1.2
BR131 IAmb IAmb 20 58 07.3
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 61.47 312 P **P** 20 57 56.6 -0.9
BRTR Keskin Array B 61.47 312 P **P** 20 57 57.2 -0.3
comp=Z,1.6nm,0.9s,baz=123,slow=6.2,SNR=4.5
comp=Z,1.6nm,0.9s
NRIK Noril'sk 62.31 358 P **P** 20 58 01.1 -1.3
NRIK IAmb IAmb 20 58 13.0
comp=Z,10nm,1.4s
ELL Elmali 63.63 308 P **P** 20 58 11.5 -0.5
CMSA Cobar Meteorol 63.90 130 P **P** 20 58 15.8 +2.2
baz=64,SNR=18
H04N2 CROZET ISLANDS 63.98 210 T T 22 08 52.0
baz=46,slow=75,SNR=122
H04N1 CROZET ISLANDS 63.98 210 T T 22 08 58.8
baz=46,slow=75,SNR=84
H04N3 CROZET ISLANDS 63.99 210 T T 22 09 02.3
baz=46,slow=75,SNR=131
H04S1 CROZET ISLANDS 64.39 209 T T 22 09 38.8
baz=44
H04S3 CROZET ISLANDS 64.40 209 T T 22 09 39.4
baz=44,SNR=3.5
H04S2 CROZET ISLANDS 64.41 209 T T 22 09 39.9
baz=44
AKASG Malin Array Be 67.58 322 P **P** 20 58 37.1 +0.1
comp=Z,0.3nm,0.4s,baz=90,slow=4.9,SNR=2.8
AKBB Malin Array Si 67.58 322 P **P** 20 58 39.4 +2.4
AKBB IAmb IAmb 20 58 46.8
comp=Z,11nm,1.2s
KIEV Kiev 67.59 322 P **P** 20 58 37.7 +0.6
KIEV IAmb IAmb 20 58 46.9
comp=Z,10nm,1.2s
POGA Pongola 67.63 237 P **P** 20 58 38.9 +1.1
POGA IAmb IAmb 20 58 50.5
comp=Z,17nm,1.2s
RDO Rodhopi 67.81 312 P **P** 20 58 38.6 0.0
RDO IAmb IAmb 21 00 29.4
comp=Z,8.1nm,1.2s
VRI Vrincioaia 67.93 317 ⇓P **P** 20 58 40.4 +1.0
PLOR Plostina 67.98 317 ⇓P **P** 20 58 40.8 +1.1
ARMA Armidale 68.05 127 P **P** 20 58 41.1 +0.6
CAN Canberra 68.07 132 P **P** 20 58 41.2 +0.8
TESR Tescani 68.13 317 ⇑P **P** 20 58 40.7 +0.1
MLR Muntele Rosu 68.38 316 ⇑P **P** 20 58 43.8 +1.5
MLR Muntele Rosu 68.38 316 P **P** 20 58 42.3 -0.1
TURR Turia 68.45 317 ⇑P P 20 58 53.0 +10
TIXI Tiksi 68.46 12 P **P** 20 58 41.9 -0.3
TIXI Tiksi 68.46 12 P **P** 20 58 42.1 -0.1
TIXI pP **sP** 20 58 52.1 -0.5
DOPR Dopca 68.86 317 ⇓P P 20 58 54.8 +10
VOIR 68.98 316 ⇓P P 20 58 55.4 +9.4
BURAR Bucovina Array 69.33 318 ⇑P **P** 20 58 48.6 +0.4
BURAR Bucovina Array 69.33 318 P **P** 20 58 47.6 -0.6
BURAR IAmb IAmb 20 59 00.4
comp=Z,4.8nm,1.0s
BUR08 Bucovina Ar. S 69.35 318 P **P** 20 58 48.0 -0.3
BUR08 IAmb IAmb 20 59 00.4
comp=Z,12nm,1.4s
HNR Honiara 69.53 103 LR LR 21 32 40.2
comp=Z,468nm,18.4s,baz=304,slow=39
PET Petropavlovsk 70.40 36 P **P** 20 58 53.3 -1.2
KWP Kalwaria Pacla 71.38 320 *e*P **P** 20 58 58.6 -1.9
KWP Kalwaria Pacla 71.38 320 P **P** 20 58 59.8 -0.7
KWP IAmb IAmb 20 59 11.1
comp=Z,18nm,1.1s
PABE Paberze 71.93 326 P **P** 20 59 03.0 -0.7
SUW Suwalki 72.02 325 *e*P **P** 20 59 00.7 -3.6
SUW Suwalki 72.02 325 P **P** 20 59 02.8 -1.5
FIA1 FINESS Array S 72.53 333 P **P** 20 59 06.4 -0.8
FINES FINESS Array B 72.53 333 P **P** 20 59 06.4 -0.8
FINES FINESS Array B 72.53 333 P **P** 20 59 06.6 -0.5
comp=Z,2.5nm,0.7s,baz=120,slow=7.3,SNR=6.2
comp=Z,2.5nm,0.7s
WAKE Wake Island 73.16 72 P **P** 20 59 08.9 -2.8
OJC Ojcow 73.33 320 *e*P **P** 20 59 11.0 -1.2
OJC Ojcow 73.33 320 P **P** 20 59 10.6 -1.6
OJC IAmb IAmb 20 59 22.8
comp=Z,12nm,1.0s
MORH Mrgy, Hungar 73.53 316 ⇑P **P** 20 59 12.2 -1.2
VYHS Vyhne 73.70 318 *e*P P 20 59 24.0 +10
MORC Moravsky Berou 74.71 320 P **P** 20 59 20.9 +0.6
MORC IAmb IAmb 20 59 32.0
comp=Z,9.3nm,1.2s
MORC Moravsky Berou 74.71 320 *e*P **P** 20 59 21.6 +1.3
VRAC Vranov 75.27 319 *e*P **P** 20 59 24.4 +0.9
RONA Rosalia, Austr 75.29 317 *e*P **P** 20 59 24.7 +1.0
comp=Z,6.6nm,0.7s
KRUC Moravsky 75.37 319 *e*P **P** 20 59 26.4 +2.3
DPC Dobruska-Polom 75.56 320 *e*pP pP 20 59 35.5 +2.6
CONA Conrad Observa 75.61 318 *i* P **P** 20 59 25.9 +0.3
comp=Z,6.8nm,1.2s
KSP Ksiaz 75.63 321 *e*P **P** 20 59 24.5 -1.0
OSTC Ostas 75.65 320 *e*pP pP 20 59 35.8 +2.4
CHVC Chvalec 75.76 320 *e*pP pP 20 59 35.5 +1.5
UPC Upice 75.77 320 *e*pP pP 20 59 36.2 +2.1
KOUNC Koumac, New Ca 75.97 113 P **P** 20 59 27.9 -0.2
PRU Pruhonice 76.66 320 *e*pP pP 20 59 42.0 +2.9
ZVC Zvikov 76.84 319 *e*pP pP 20 59 42.7 +2.5
PRED Cave del Predi 77.05 316 P **P** 20 59 34.5 +0.7
PRED IAmb IAmb 20 59 47.8
comp=Z,24nm,1.6s
BIOA Bad Ischl, Aus 77.08 317 *e*P **P** 20 59 38.1 +4.2
comp=Z,6.8nm,1.3s
BRG Berggiesshubel 77.12 320 *e*P P 20 59 39.4 +5.5
BRG Amp 20 59 39.8
comp=Z,2.9nm,0.9s
GEC2 GERESS Array S 77.12 318 P **P** 20 59 34.3 +0.1
GEC2 IAmb IAmb 20 59 45.2
comp=Z,10nm,1.0s
GERES GERESS Array B 77.12 318 P **P** 20 59 33.8 -0.4
GERES GERESS Array B 77.12 318 P **P** 20 59 34.6 +0.5
comp=Z,1.4nm,0.7s,baz=46,slow=5.8,SNR=4.2
comp=Z,1.4nm,0.7s
KHC Kasperske Hory 77.22 319 *e*pP pP 20 59 44.5 +2.1
CLUD Cludinico 77.53 316 P **P** 20 59 36.2 -0.2
BILL Bilibino 77.62 22 P **P** 20 59 36.9 +0.5
BILL IAmb IAmb 21 01 09.8
comp=Z,24nm,2.0s
STAL STALIGIAL 77.63 316 P **P** 20 59 36.2 -0.8
STAL IAmb IAmb 20 59 49.1
comp=Z,10nm,1.0s
LESA Schwarzleotal 77.72 317 *i* P **P** 20 59 39.4 +1.9
comp=Z,4.9nm,0.6s
CLL Collm 77.74 321 *e*P **P** 20 59 36.0 -1.5
CLL *e*pP **PcP** 20 59 47.0 -0.4
HFS Hagfors 78.18 330 P **P** 20 59 40.6 +0.9
comp=Z,2.0nm,0.7s,baz=93,slow=3.3,SNR=2.9
HFS LR LR 21 38 25.0
comp=Z,176nm,18.7s,baz=260,slow=39
comp=Z,2.0nm,0.7s
DZM Mont Dzumac 78.27 114 LR LR 21 40 10.3

	comp=Z,21nm,18.3s,baz=198,slow=40						
CTI	Castel Tesino	78.36	315	P	P	20 59 41.0	-0.2
CTI				IAmb	IAmb	20 59 52.1	
	comp=Z,13nm,1.0s						
WTTA	Wattenberg	78.42	317	eP	P	20 59 45.5	+3.9
	comp=Z,7.5nm,0.9s						
WATA	Walderalm	78.46	317	eP	P	20 59 42.5	+0.8
	comp=Z,9.0nm,1.2s						
SQTA	Sankt Quirin	78.70	317	i P	P	20 59 43.1	+0.1
	comp=Z,4.7nm,0.6s						
MOTA	Moosalm	78.78	317	i P	P	20 59 43.2	-0.3
	comp=Z,9.7nm,0.8s						
ZCCA	Zocca	78.79	314	P	P	20 59 43.9	+0.4
RETA	Reutte	79.02	317	eP	P	20 59 44.1	-0.6
	comp=Z,10.0nm,1.2s						
FUORN	Ofenpass-Fuorn	79.34	316	P	P	20 59 46.2	-0.5
FUORN				IAmb	IAmb	21 02 35.3	
	comp=Z,7.7nm,0.8s						
NB2	NORSAR Subarra	79.48	331	P	P	20 59 55.7	+8.8
	comp=Z,1.0nm,0.7s,baz=96,slow=5.3						
NOA	NORSAR Array B	79.48	331	P	P	20 59 47.5	+0.6
	comp=Z,1.0nm,0.9s,baz=92,slow=6.5,SNR=2.0						
NOA				LR	LR	21 38 40.7	
	comp=Z,126nm,18.3s,baz=115,slow=38						
	comp=Z,1.0nm,0.9s						
DAVOX	Davos/Dischmat	79.60	316	LR	LR	21 40 55.7	
	comp=Z,102nm,20.5s,baz=296,slow=40						
DAVA	Damuels	79.61	317	eP	P	20 59 48.3	+0.3
	comp=Z,20nm,2.1s						
SENIN	Lac Senin/Sane	81.39	316	P	P	20 59 57.1	-0.6
TAM	Tamanrasset	84.19	292	P	P	21 00 12.2	-0.4
RPZ	Rata Peaks	86.88	135	LR	LR	21 40 16.7	
	comp=Z,86nm,20.1s,baz=274,slow=36						
ELIB	Princess Elisa	90.19	197	dx	x	21 00 44.1	
URZ	Urewera	90.39	128	LR	LR	21 44 48.3	
	comp=Z,31nm,18.6s,baz=318,slow=38						
MDT	Midelt	91.85	303	LR	LR	21 49 33.9	
	comp=Z,29nm,19.2s,baz=18,slow=40						
VNDA	Vanda	92.51	168	LR	LR	21 37 22.4	
	comp=Z,46nm,18.4s,baz=262,slow=32						
BORG	Borgarnes	93.42	337	LR	LR	21 43 41.7	
	comp=Z,129nm,21.9s,baz=139,slow=36						
TXAR	Lajitas Array	140.79	22	PKP	PKPdf	21 07 11.4	+0.2
	comp=Z,0.4nm,0.8s,baz=119,slow=1.1,SNR=2.7						

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*IDC **02** 20:57:19.8±5.8, 31°.35N×49°.12E, h0km, mb3.7/8, mbtmp3.7/10, ML2.8/2, Error ellipse: s-maj=102.8km s-min=28.3km az=180.0*

*TEH **02** 20:57:21.5, 31°.18N×49°.34E, h16km±27km, ML3.5*

ISC 02 20:57:20.9±1.0**, 31°.18N**±0°.07×**49°.34E**±0°.05**, h10km, n38,** σ1.54/39**, mb3.4**/7**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	Naft Sefid	0.49	355	Pg	Pg	20 57 30.7	+0.2
AMIS				Sg	Sb	20 57 39.0	0.0
AHWZ	Ahwaz	0.61	285	Pg	Pg	20 57 33.8	+1.0
JHBN	Jahan bin	1.55	47	Pg	Pg	20 57 50.8	+0.1
ZNGN	Zangian	1.60	54	Pg	Pb	20 57 51.0	+0.2
KLNJ	Kolanjah	1.94	94	Pn	Pn	20 57 55.8	+1.4
IPIR	Pirpir	2.00	41	Pn	Pn	20 57 56.8	+1.7
IGAR	Gharneh	2.61	61	Pn	Pn	20 58 05.5	+2.1
IKFM	Kafar-mosalman	2.66	332	Pn	Pn	20 58 05.6	+1.7
IRAM	Ramesheh	2.68	76	Pn	Pn	20 58 06.0	+1.7
IKLH	Kolahrood	2.86	41	Pn	Pn	20 58 08.4	+1.6
IZEF	Zefreh	3.07	55	Pn	Pn	20 58 11.5	+1.8
QAMS	Qamsar	3.09	34	Pn	Pn	20 58 12.2	+2.1
IKOM	Komasi	3.36	333	Pn	Pn	20 58 14.8	+1.1
ILBA	Ilam Banvizeh	3.60	314	Pn	Pn	20 58 17.7	+0.8
HAGD	Aghdareh	3.64	357	Pn	Pn	20 58 19.1	+1.6
KCHF	Cheshme Sefid,	3.65	329	Pn	Pn	20 58 18.7	+1.1
KRSH	Karshahi	3.65	40	Pn	Pn	20 58 20.0	+2.3
IGHG	Ghaleghazi	3.91	324	Pn	Pn	20 58 22.9	+1.6
ISFB	Sefidab	4.00	37	Pn	Pn	20 58 24.1	+1.7
ILIN	Lien	4.23	333	Pn	Pn	20 58 27.1	+1.4
IRAZ	Razeghan	4.25	7	Pn	Pn	20 58 27.6	+1.7
IMEH	Mehriz	4.52	86	Pn	Pn	20 58 31.1	+1.4
KGS1	Ghasr-e-Shirin	4.58	317	Pn	Pn	20 58 31.1	+0.8
IDMV	Damavand	4.94	26	Pn	Pn	20 58 37.0	+1.5
ILAS	Lasjerd	5.18	35	Pn	Pn	20 58 40.2	+1.5
QSDN	Sirdan	5.32	359	Pn	Pn	20 58 42.0	+1.4
JIR1	Jirandeh	5.53	4	Pn	Pn	20 58 45.2	+1.7
MZPU	Pul - Mazandar	5.57	19	Pn	Pn	20 58 46.2	+2.1
GEYT	Alibeck	9.89	45	Pn	Pn	20 59 43.0	-0.1
	0.1nm,0.3s,baz=231,slow=11,SNR=1.9						
	1.2nm,0.6s						
BRTR	Keskin Array B	15.36	308	Pn	Pn	21 00 59.3	+1.5
	baz=130,slow=13,SNR=5.7						
	1.2nm,0.8s						
AKTO	Aktyubinsk	20.30	16	P	P	21 01 56.2	-0.7
	1.2nm,0.5s,baz=266,slow=5.2,SNR=3.4						
	1.2nm,0.5s						
BELG	Belogornoye	21.24	357	P	P	21 02 05.2	-1.7
	9.9nm,0.6s,baz=330,slow=4.9,SNR=6.4						
	9.9nm,0.6s						
AKASG	Malin Array Be	24.58	328	P	P	21 02 39.3	-1.7
	0.4nm,0.4s,baz=140,slow=8.6,SNR=7.3						
	0.4nm,0.4s						
BVAR	Borovoye Array	26.66	29	P	P	21 02 59.5	-0.3
	0.4nm,0.6s,baz=223,slow=8.6,SNR=3.6						
	0.4nm,0.6s						
MKAR	Makanchi Array	29.72	49	P	P	21 03 28.3	+1.0
	0.4nm,0.8s,baz=248,slow=7.6,SNR=2.8						
	0.4nm,0.8s						
FINES	FINESS Array B	33.89	340	P	P	21 04 01.7	-1.9
	0.7nm,0.5s,baz=154,slow=6.7,SNR=6.6						
	0.7nm,0.5s						
HFS	Hagfors	37.38	331	P	P	21 04 31.8	-1.8
	1.0nm,0.3s,baz=138,slow=9.0,SNR=12						
	1.0nm,0.3s						
NOA	NORSAR Array B	38.91	331	P	P	21 04 44.2	-2.3
	0.5nm,0.6s,baz=122,slow=8.3,SNR=3.6						
	0.5nm,0.6s						

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*BGR **02** 20:59:34.0, 36°.01N×2°.75E, h33km, mb4.6, Ms3.5*

*NEIC **02** 20:59:37.9±1.5, 36°.38N±0°.07×2°.55E±0°.07, h8km±4km, mb4.9/204, Mww4.7/9, Error ellipse: s-maj=9.5km s-min=8.3km az=175.0*

*CRAAG **02** 20:59:37.4, 36°.41N×2°.56E, Ml5.0, Algerie 02km SE Oued-Djer*

*LDG **02** 20:59:37.3±0.2, 36°.31N×2°.56E, h10km, Ml4.3/23, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*IDC **02** 20:59:37.4±0.4, 36°.45N×2°.56E, h0km, mb4.4/35, mbtmp4.4/43, ML4.6/8, MS4.1/64, Error ellipse: s-maj=11.4km s-min=9.6km az=152.0*

*MOS **02** 20:59:37.7±1.3, 36°.41N×2°.51E, h18km, mb5.0/37, MS4.2/10, Error ellipse: s-maj=6.9km s-min=3.3km az=62.5*

*NEIC **02** 20:59:37.9, 36°.36N×2°.52E, h12km*

*NEIC **02** 20:59:37.9, 36°.36N×2°.52E, h12km, Moment Tensor Solution. Duration: 1.2 Moment tensor: Scale 10^{16}Nm; M_{rr}0.96; $M_{\theta\theta}$-1.13; $M_{\phi\phi}$0.17; $M_{r\theta}$-0.04; $M_{\theta\phi}$-1.31; $M_{\phi r}$0.39; Fault plane solution: $M_0$1.64000×10^{16} NP1:ϕ_s23.40000°, δ63.11000°, λ37.05000°. NP2:ϕ_s274.54000°, δ57.49000°, λ147.57000°. Principal axes: T 1.3282, Plg44.0000°, Azm241.0000°; N 0.6267, Plg45.0000°, Azm54.0000°; P -1.9549, Plg3.0000°, Azm148.0000°;*

*BJI **02** 20:59:38.6±0.0, 36°.81N×2°.68E, h10km, mb4.7/40, mB5.4/16, Ms5.1/4, Ms7 4.7/4*

*MDD **02** 20:59:38.2±0.4, 36°.28N×2°.68E, h10km±5km, Mb5.1/52, M_mb4.6/44, Error ellipse: s-maj=7.3km s-min=1.9km az=137.0*

*GCMT **02** 20:59:38.9±0.3, 36°.34N±0°.02×2°.67E±0°.03, h12km, MW4.8/88, Moment Tensor Solution. s14,c16; s88,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.10±.07; $M_{\theta\theta}$-1.34±.06; $M_{\phi\phi}$0.24±.07; $M_{r\theta}$0.08±.20; $M_{\theta\phi}$-1.54±.05; $M_{\phi r}$-0.38±.19; Best double couple: $M_0$1.89800×10^{16} NP1:ϕ_s202.00000°, δ64.00000°, λ34.00000°. NP2: ϕ_s96.00000°, δ60.00000°, λ149.00000°. Principal axes: T 1.5100, Plg42.0000°, Azm60.0000°; N 0.7770, Plg48.0000°, Azm236.0000°; P -2.2850, Plg2.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MED_RC **02** 20:59:38.0±0.4, 36°.30N×2°.60E, h8km, MW4.8/16, Moment Tensor Solution. Mantle waves: s16,c23; Duration: 1.3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.00±.06; $M_{\theta\theta}$-0.79±.05; $M_{\phi\phi}$-0.21±.06; $M_{r\theta}$-0.83±.27; $M_{\theta\phi}$-1.26±.04; $M_{\phi r}$-0.08±.28; Best double couple: $M_0$1.71000×10^{16} NP1:ϕ_s259.00000°, δ66.00000°, λ125.00000°. NP2:ϕ_s19.00000°, δ42.00000°, λ38.00000°. Principal axes: T 1.4500, Plg55.0000°, Azm214.0000°; N 0.5100, Plg32.0000°, Azm62.0000°; P -1.9600, Plg14.0000°, Azm324.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*IGIL **02** 20:59:39.2, 36°.28N×2°.68E, h5km, ML3.4*

*INMG **02** 20:59:39.6±2.2, 36°.41N×2°.53E, h8km, ML3.6, Error ellipse: s-maj=6.5km s-min=3.9km az=127.0*

*CNRM **02** 20:59:46.7, 36°.48N×1°.94E, h71km, ML4.7*

*NAO **02** 20:59:59.8, 38°.30N×2°.68E, h33km, mb4.5*

ISC 02 20:59:38.7±0.6**, 36°.43N**±0°.03×**2°.55E**±0°.02**, h13**km±3km**, n815,** σ**2.03**/841**, mb4.9**/173**, MS4.2**/70**, 71C-24D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABKD	Sidi Amar	0.22	298	P	Pg	20 59 43.0	-0.5
ACHR	Chrea	0.27	92	P	Pg	20 59 43.5	-1.0
ADOR	Douera	0.38	52	P	Pb	20 59 46.8	-0.6
EHRZ	Djelida	0.42	237	P	Pg	20 59 46.2	-1.0
EARB	Arib	0.46	254	P	Pg	20 59 47.3	-0.5
EDDR	Deurdeur	0.51	212	P	Pb	20 59 48.2	-1.3
ABA	Alger-Bouzarea	0.54	47	P	Pg	20 59 49.1	-0.3
EBNR	Beni Rached	0.83	261	P	Pb	20 59 55.3	+0.2
OKGL	Djebel Kef Gue	1.59	256	P	Pn	21 00 04.0	-2.6
OJGS	Djebel Guires	1.73	238	P	Pn	21 00 07.0	-1.5
ESMB	Sidi M'hamed B	1.81	242	P	Pn	21 00 09.3	-0.3
OJBR	Djebel Berber	1.98	245	P	Pn	21 00 06.0	-5.9
SET	Setif	2.32	95	P	Pb	21 00 20.0	-0.4
ODJA	Bouhanifia	2.45	244	P	Pn	21 00 19.0	+0.6
USTO	Oran	2.60	255	P	Pg	21 00 27.0	-1.6
EIBI	Ibiza	2.76	340	P	Pn	21 00 23.2	+0.6
EIBI	Ibiza	2.76	340	P	Pn	21 00 23.2	+0.6
EIBI				⇑iVmb_V		21 00 25.0	
	12μm,SNR=32						
EIBI				S	Sn	21 00 54.9	-1.0
CART	Cartagena	3.06	293	Pn	Pn	21 00 25.0	-1.8
CART	Cartagena	3.06	293	S	Sn	21 00 59.4	-3.9
CART				P	Pn	21 00 25.8	-1.0
CART	Cartagena	3.06	293	S	Sn	21 00 57.8	-5.5
ETRV	Los Montesinos	3.08	302	P	Pn	21 00 27.9	+0.9
ETRV				⇑iVmb_V		21 00 30.4	
	4μm,SNR=5.6						
ETRV				S	Sn	21 01 04.1	+0.4
EBEN2	Beniarda presa	3.12	317	P	Pn	21 00 27.6	-0.1
EBEN2				⇑iVmb_V		21 00 29.0	
	4μm,SNR=12						
EBEN2				S	Sn	21 01 04.5	-0.3
CASM	Ain Smara	3.19	92	P	Pb	21 00 32.8	-2.4
AFON	Font Roja	3.32	313	P	Pn	21 00 30.7	+0.3
AFON				⇑iVmb_V		21 00 34.2	
	2μm,SNR=11						
AFON				S	Sn	21 01 10.0	+0.3
EMUR	La Murta	3.34	296	P	Pn	21 00 30.2	-0.4
EMUR				S	Sn	21 01 07.7	-2.4
EMUR	La Murta	3.34	296	P	Pn	21 00 30.2	-0.4
EMUR				⇑iVmb_V		21 00 34.9	
	3μm,SNR=29						
EMUR				S	Sn	21 01 09.3	-0.8
ETOS	Mallorca	3.34	4	P	Pn	21 00 30.9	+0.3
ETOS				S	Sn	21 01 06.6	-3.5
ETOS	Mallorca	3.34	4	P	Pn	21 00 30.9	+0.3
ETOS				⇑iVmb_V		21 00 34.3	
	9μm,SNR=20						
ETOS				S	Sn	21 01 09.9	-0.3
CAEH	'Ain El Ouahch	3.48	83	P	Pn	21 00 30.2	-2.4
TLOR	Lorca, Murcia	3.60	291	P	Pn	21 00 35.1	+0.9
TLOR				S	Sn	21 01 13.6	-3.0
TLOR	Lorca, Murcia	3.60	291	P	Pn	21 00 35.4	+1.2
TLOR				S	Sn	21 01 17.3	+0.6
ELOR	Lorca, Murcia	3.64	291	P	Pn	21 00 36.3	+1.6
ELOR				⇑iVmb_V		21 00 38.0	
	3μm,SNR=5.4						
ELOR				S	Sn	21 01 16.6	-1.0
EZAR	Zarzadilla de	3.68	294	P	Pn	21 00 35.4	0.0
EZAR				⇑iVmb_V		21 00 40.7	
	4μm,SNR=34						
EZAR				S	Sn	21 01 17.3	-1.4
ECOL	Islas Columbre	3.76	338	P	Pn	21 00 36.7	+0.4
ECOL				S	Sn	21 01 19.2	-1.2
ENIJ	Nijar	3.86	279	P	Pn	21 00 36.1	-1.7
ENIJ				S	Sn	21 01 19.7	-3.2
ENIJ	Nijar	3.86	279	P	Pn	21 00 35.9	-1.9
ENIJ				⇑iVmb_V		21 00 39.3	
	1μm,SNR=8.7						
ENIJ				S	Sn	21 01 22.3	-0.6
CMAH	Djebel Manchou	3.93	86	P	Pn	21 00 33.3	-5.5
ETOB	Tobarra	3.93	305	P	Pn	21 00 39.9	+1.0
ETOB				S	Sn	21 01 24.6	-0.3
ETOB	Tobarra	3.93	305	P	Pn	21 00 40.6	+1.7
ETOB				⇑iVmb_V		21 00 42.7	
	4μm,SNR=32						
ETOB				S	Sn	21 01 26.3	+1.4
ABSA	Djebel Ababsia	3.98	91	P	Pn	21 00 40.3	+0.7
EVIV	Cofrentes, Val	4.05	315	P	Pn	21 00 40.8	+0.4
EVIV				⇑iVmb_V		21 00 43.8	
	3μm,SNR=17						
EVIV				S	Sn	21 01 25.8	-2.0
ECHE	Chera	4.20	320	P	Pn	21 00 43.2	+0.7
ECHE				S	Sn	21 01 30.3	-1.1
ECHE	Chera	4.20	320	P	Pn	21 00 43.8	+1.3
ECHE				⇑iVmb_V		21 00 45.1	
	2μm,SNR=12						
ECHE				S	Sn	21 01 29.8	-1.7
TAF	Taforalt	4.35	250	P	Pn	21 00 44.6	0.0
TAF	Taforalt	4.35	250	S	Sn	21 01 30.4	-4.7
TAF				S	Sn	21 01 30.4	-4.7
TAF				S	Sn	21 01 30.4	-4.7
EBER	Berja	4.39	278	P	Pn	21 00 44.1	-1.2
EBER				S	Sn	21 01 35.6	-0.8
EBER	Berja	4.39	278	P	Pn	21 00 44.4	-0.9
EBER				⇑iVmb_V		21 00 45.9	
	1μm,SNR=9.0						
EBER				S	Sn	21 01 35.7	-0.7
EALB	Alboran	4.54	265	P	Pn	21 00 43.4	-3.7
EALB				S	Sn	21 01 37.7	-2.0
EMOS	Mosqueruela	4.59	330	P	Pn	21 00 48.8	+0.9
EMOS				⇑iVmb_V		21 00 49.8	
	8μm,SNR=50						
EMOS				S	Sn	21 01 39.5	-1.7
EMEL	Melilla	4.61	257	S	Sn	21 01 39.3	-2.1
GOG	Mont Gurugu	4.66	257	P	Pn	21 00 47.8	-1.1
GOG	Mont Gurugu	4.66	257	S	Sn	21 01 35.7	-7.2
JBK	JBK	4.67	245	P	Pn	21 00 49.7	+0.5
JBK	JBK	4.67	245	S	Sn	21 01 39.7	-3.6
EQES	Quesada	4.69	289	P	Pn	21 00 50.8	+1.5
EQES				⇑iVmb_V		21 00 54.7	
	2μm,SNR=18						
EQES				S	Sn	21 01 45.2	+1.5
ERTA	Horta de San J	4.84	340	P	Pn	21 00 51.9	+0.6
ERTA				⇑iVmb_V		21 00 54.1	
	944nm,SNR=5.3						
ERTA				S	Sn	21 01 46.2	-0.9
EQUE	Quentar	4.87	281	P	Pn	21 00 52.3	+0.7
EQUE				⇑iVmb_V		21 00 55.3	
	865nm,SNR=7.5						
EQUE				S	Sn	21 01 49.7	+1.8
EQTA	Presa de Quent	4.87	281	P	Pn	21 00 51.6	-0.1
ELGU	Los Guajares,	4.98	277	P	Pn	21 00 52.2	-1.0
ELGU				S	Sn	21 01 50.0	-0.7
ELGU	Los Guajares,	4.98	277	P	Pn	21 00 52.6	-0.7
ELGU				⇑iVmb_V		21 00 56.7	
	2μm,SNR=12						
ELGU				S	Sn	21 01 47.7	-3.1
EPOB	Poblet	5.05	347	P	Pn	21 00 54.4	+0.2
EPOB				⇑iVmb_V		21 00 58.6	
	606nm,SNR=4.1						
EPOB				S	Sn	21 01 47.7	-4.6
FIGM	Figuig	5.32	217	P	Pn	21 00 58.8	+0.9
FIGM	Figuig	5.32	217	S	Sn	21 02 00.3	+1.1
EGOR	Sierra Gorda,	5.39	279	P	Pn	21 00 59.7	+0.8
EGOR	Sierra Gorda,	5.39	279	P	Pn	21 01 00.8	+1.9
EGOR				⇑iVmb_V		21 01 05.4	
	588nm,SNR=6.3						
EGOR				S	Sn	21 02 02.7	+1.9
PALE	Palemas	5.41	259	P	Pn	21 00 57.0	-2.1
PALE	Palemas	5.41	259	S	Sn	21 01 55.4	-5.8
EMIR	Miracle	5.53	352	P	Pn	21 01 02.1	+1.3
EMIR				⇑iVmb_V		21 01 06.8	
	4μm,SNR=18						
EMIR				S	Sn	21 02 03.2	-1.1
KEST	Kesra	5.55	95	Pn	Pn	21 01 01.0	-0.1
KEST	Kesra	5.55	95	Pn	Pn	21 01 02.3	+1.2
	19nm,0.3s,baz=250,slow=3.7,SNR=43						
KEST				Sn	Sn	21 02 07.1	+2.4
	7.5nm,0.3s,baz=328,slow=22,SNR=1.2						
	98nm,0.5s						
AKLM	AKL	5.57	252	P	Pn	21 01 02.0	+0.7
AKLM	AKL	5.57	252	S	Sn	21 02 00.6	-4.6
ETOR	Torete	5.67	322	P	Pn	21 01 05.5	+2.8
ETOR				⇑iVmb_V		21 01 09.8	
	977nm,SNR=7.2						
ETOR				S	Sn	21 02 13.7	+5.9
ESAC	San Caprasio	5.78	337	P	Pn	21 01 05.5	+1.3
ESAC				⇑iVmb_V		21 01 10.0	
	2μm,SNR=7.8						
ESAC				S	Sn	21 02 10.7	+0.3
EMIJ	Mijas	5.90	273	P	Pn	21 01 03.5	-2.3
EMIJ				S	Sn	21 02 07.5	-5.8
EMIJ	Mijas	5.90	273	P	Pn	21 01 04.2	-1.6
EMIJ				⇑iVmb_V		21 01 07.3	
	547nm,SNR=2.1						
EMIJ				S	Sn	21 02 09.7	-3.6
EADA	Adamuz	5.94	289	P	Pn	21 01 05.8	-0.6
EADA				S	Sn	21 02 11.5	-2.7
EADA	Adamuz	5.94	289	P	Pn	21 01 06.0	-0.4
EADA				⇑iVmb_V		21 01 09.3	
	239nm,SNR=2.7						
EADA				S	Sn	21 02 13.2	-1.1
UCM	Universidad Co	5.97	312	P	Pn	21 01 07.7	+0.9
EJON	La Jonquera	6.01	2	P	Pn	21 01 08.0	+0.6
EJON	La Jonquera	6.01	2	P	Pn	21 01 08.6	+1.2
EJON				⇑iVmb_V		21 01 12.2	
	1μm,SNR=8.8						
EJON				S	Sn	21 02 12.7	-3.5
ESBB	Sonseca Array	6.07	304		Pn	21 01 07.9	-0.3
ESDC	Sonseca Array	6.07	304		Pn	21 01 07.8	-0.4
ESDC	Sonseca Array	6.07	304	P	Pn	21 01 09.0	+0.8
ESDC				⇑iVmb_V		21 01 12.2	
	789nm,SNR=8.8						
ESDC				S	Sn	21 02 15.7	-1.9
ESDC	Sonseca Array	6.07	304	Pn	Pn	21 01 08.9	+0.7
	8.9nm,0.3s,baz=123,slow=12,SNR=185						
ESDC				Sn	Sn	21 02 17.5	-0.1
	5.6nm,0.3s,baz=118,slow=23,SNR=9.3						
ESDC				LR	LR	21 03 28.7	
	comp=Z,2μm,21.5s,baz=118,slow=38						
	20nm,0.4s						
VSL	Villasalto	6.20	58	Pn	Pn	21 01 08.9	-1.1
PAB	San Pablo	6.27	302		Pn	21 01 11.0	+0.1
PAB	San Pablo	6.27	302	P	Pn	21 01 11.4	+0.5
PAB				⇑iVmb_V		21 01 14.7	
	527nm,SNR=5.1						
PAB				S	Sn	21 02 20.6	-1.9
PAB	San Pablo	6.27	302	P	Pn	21 01 11.0	+0.1
CEU	Ceuta	6.43	268	P	Pn	21 01 10.6	-2.5
EJIF	Jimena Fronter	6.46	273	P	Pn	21 01 13.8	+0.3
EJIF				S	Sn	21 02 25.2	-1.9
SMIR	Smir Dam	6.47	266	P	Pn	21 01 11.3	-2.2
SMIR	Smir Dam	6.47	266	S	Sn	21 02 21.4	-5.8
ECHI	Chisagues Biel	6.49	344	P	Pn	21 01 15.5	+1.6
ECHI				⇑iVmb_V		21 01 20.3	
	503nm,SNR=4.5						
ECHI				S	Sn	21 02 27.5	-0.3
CHEFC	Chefchaouen	6.55	261	P	Pn	21 01 13.4	-1.4
CHEFC	Chefchaouen	6.55	261	S	Sn	21 02 22.8	-6.5
ECAB	El Cabril	6.56	287	P	Pn	21 01 14.0	-0.9
ECAB	El Cabril	6.56	287	P	Pn	21 01 14.2	-0.7
ECAB				⇑iVmb_V		21 01 16.7	
	309nm,SNR=3.2						
ECAB				S	Sn	21 02 27.1	-2.5
LCRM	LCR	6.66	248	P	Pn	21 01 18.0	+1.6
GUD	Guadarrama	6.73	311	P	Pn	21 01 18.3	+1.0
GUD				⇑iVmb_V		21 01 21.6	
	828nm,SNR=7.9						
GUD				S	Sn	21 02 31.6	-2.2
ESPR	Espera	6.77	276	P	Pn	21 01 19.0	+1.2
EPF	Esparros	6.81	346	eP	Pn	21 01 20.3	+2.0
	SNR=1.0						
EPF				eSn	Sn	21 02 29.9	-5.7
	61nm,0.4s						
SICH	Sidi Chahed	6.84	252	P	Pn	21 01 17.1	-1.6
SICH	Sidi Chahed	6.84	252	S	Sn	21 02 29.4	-7.0
ETSF	Etsaut	6.89	341	eP	Pn	21 01 21.7	+2.3
	SNR=1.0						
ETSF				eSn	Sn	21 02 30.5	-7.2
	57nm,0.4s,SNR=1.0						
MTLF	Montolieu	6.91	358	ePn	Pn	21 01 19.7	+0.1
	SNR=1.0						
MTLF				eSn	Sn	21 02 33.3	-4.7
	42nm,0.5s						
MDT	Midelt	6.91	241	Pn	Pn	21 01 21.0	+1.2
	3.8nm,0.3s,baz=304,slow=10,SNR=90						
MDT				Lg	Lg	21 03 19.4	
	7.5nm,0.3s,baz=150,slow=18,SNR=4.3						
	14nm,0.3s						
MDT	Midelt	6.91	241	P	Pn	21 01 20.4	+0.6
MDT	Midelt	6.91	241	S	Sn	21 02 32.4	-6.0
IFR	Ifrane	6.94	247	P	Pn	21 01 21.3	+1.1
MD31	MD31	6.99	242	P	Pn	21 01 21.3	+0.4
MD31	MD31	6.99	242	S	Sn	21 02 34.3	-6.0
EARA	Aranguren	7.09	335	P	Pn	21 01 24.5	+2.4
EORO	Oroz-Betelu	7.11	336	P	Pn	21 01 25.8	+3.4
EORO				S	Sn	21 02 41.2	-1.8
SJPF	Ste Jean	7.28	338	eP	Pn	21 01 26.3	+1.6
	SNR=1.0						
SJPF				eSn	Sn	21 02 42.8	-4.4
	63nm,0.5s						
EALK	Alkurruntz	7.46	337	P	Pn	21 01 29.3	+2.0
EALK				⇑iVmb_V		21 01 33.6	
	1μm,SNR=3.5						
EALK				S	Sn	21 02 49.6	-2.2
EMIN	Mina Concepcio	7.49	283	P	Pn	21 01 26.8	-0.8
EMIN	Mina Concepcio	7.49	283	P	Pn	21 01 27.6	+0.1
EMIN				⇑iVmb_V		21 01 31.4	
	232nm,SNR=2.8						
EMIN				S	Sn	21 02 48.7	-3.6
ARF	Arif	7.51	230	P	Pn	21 01 30.7	+2.7
LMR	La Mourre	7.54	23	ePn	Pn	21 01 28.2	0.0
	SNR=1.0						
LMR				eSn	Sn	21 02 49.6	-3.9
	42nm,0.2s						
EPLA	Plasencia	7.70	301	P	Pn	21 01 31.7	+1.2
EPLA				⇑iVmb_V		21 01 33.2	
	266nm,SNR=2.1						
EPLA				S	Sn	21 02 56.3	-1.2
LASF	Ste Croix	7.70	7	ePn	Pn	21 01 31.1	+0.6
	SNR=1.0						
LASF				eSn	Sn	21 02 53.4	-4.2
	76nm,0.6s						
PBAR	Barrancos	7.84	286	eP	Pn	21 01 32.7	+0.3
PBAR				eS	Sn	21 02 56.3	-4.6
PBAR	Barrancos	7.84	286	P	Pn	21 01 31.9	-0.4
SMRF	Simiane la Rot	7.88	16	ePn	Pn	21 01 34.5	+1.4
	SNR=1.0						
SMRF				eSn	Sn	21 03 01.4	-0.7
	13nm,0.4s						
PGF	Pioggiola	7.88	37	ePn	Pn	21 01 33.3	+0.2
	SNR=1.0						
PGF				eSn	Sn	21 02 55.1	-7.1
	67nm,0.3s,SNR=1.0						
EBAD	Badajoz	7.94	290	P	Pn	21 01 33.3	-0.5
EBAD	Badajoz	7.94	290	P	Pn	21 01 33.6	-0.2
EBAD				⇑iVmb_V		21 01 36.6	
	249nm,SNR=2.2						
EBAD				S	Sn	21 03 01.5	-1.9
EGRO	El Granado	8.10	281	P	Pn	21 01 35.0	-1.0
EGRO	El Granado	8.10	281	P	Pn	21 01 34.8	-1.3
EGRO				⇑iVmb_V		21 01 39.9	
	354nm,SNR=4.5						
EGRO				S	Sn	21 03 04.2	-3.3
ZHG	ZHG	8.11	251	P	Pn	21 01 38.0	+1.7
ELAN	Lanestosa	8.20	328	P	Pn	21 01 39.8	+2.4
ELAN				⇑iVmb_V		21 01 41.7	
	2μm,SNR=6.7						
PVAQ	Vaqueiros	8.28	280	eP	Pn	21 01 37.8	-0.7
PVAQ				eS	Sn	21 03 06.1	-5.7
PVAQ	Vaqueiros	8.28	280		Pn	21 01 37.2	-1.2
PVAQ	Vaqueiros	8.28	280	P	Pn	21 01 38.0	-0.4
PVAQ	Vaqueiros	8.28	280	P	Pn	21 01 38.3	-0.1
PVAQ	Vaqueiros	8.28	280	S	Sn	21 03 03.8	-8.0
SBF	Sospel	8.31	25	ePn	Pn	21 01 37.8	-1.1

SBF eSn **Sn** 21 03 05.6 -7.1
78nm,0.4s,SNR=1.0
PESTR Estremoz 8.40 290 eP **Pn** 21 01 41.1 +1.0
PESTR eS **Sn** 21 03 11.4 -3.4
PESTR Estremoz 8.40 290 **Pn** 21 01 40.3 +0.1
PESTR Estremoz 8.40 290 P **Pn** 21 01 40.5 +0.4
PESTR Estremoz 8.40 290 P **Pn** 21 01 39.7 -0.4
PMRV Marv??o 8.40 294 eP **Pn** 21 01 41.3 +1.1
PMRV eS **Sn** 21 03 10.9 -4.0
PBDV Barranco-do-Ve 8.44 279 eP **Pn** 21 01 40.3 -0.4
PBDV eS **Sn** 21 03 10.6 -5.2
PBEJ Beja 8.46 284 eP **Pn** 21 01 40.7 -0.2
PBEJ eS **Sn** 21 03 12.3 -3.9
CAF Calviac 8.49 358 eP **Pn** 21 01 44.8 +3.4
SNR=1.0
PCVE Castro Verde 8.55 281 eP **Pn** 21 01 41.5 -0.7
PCVE eS **Sn** 21 03 15.2 -3.3
VIVF Saint-Julien-l 8.57 10 ePn **Pn** 21 01 43.7 +1.2
SNR=1.0
VIVF eSn **Sn** 21 03 14.3 -4.7
53nm,0.6s
PCBR Castelo Branco 8.60 296 eP **Pn** 21 01 44.2 +1.4
PCBR eS **Sn** 21 03 17.2 -2.5
LFF La Frestale 8.61 351 ePn **Pn** 21 01 42.6 -0.3
SNR=1.0
LFF La Frestale 8.61 351 eP **Pn** 21 01 46.9 +4.0
LFF eSn **Sn** 21 03 12.4 -7.5
45nm,0.6s,SNR=1.0
EVO Evora 8.65 287 eP **Pn** 21 01 43.7 +0.1
EVO eS **Sn** 21 03 18.4 -2.6
MESJ Messejana 8.71 282 eP **Pn** 21 01 44.0 -0.4
MESJ eS **Sn** 21 03 18.4 -4.1
MESJ Messejana 8.71 282 **Pn** 21 01 43.0 -1.4
MESJ Messejana 8.71 282 eP **Pn** 21 01 43.7 -0.7
MESJ eS **Sn** 21 03 14.5 -8.0
MESJ IAML 21 03 23.7
comp=N,12nm,0.2s
MESJ Messejana 8.71 282 P **Pn** 21 01 43.0 -1.4
AVE Averroes 8.76 252 Pn **Pn** 21 01 44.9 -0.2
AVE Averroes 8.76 252 P **Pn** 21 01 46.0 +0.9
AVE Averroes 8.76 252 P **Pn** 21 01 46.0 +0.9
MVO Moncorvo 8.84 305 eP **Pn** 21 01 47.1 +0.9
MVO eS **Sn** 21 03 21.5 -4.2
ORIF Oris-en-Rattie 8.85 16 ePn **Pn** 21 01 46.9 +0.6
SNR=1.0
ORIF eSn **Sn** 21 03 18.3 -7.6
comp=N,17nm,0.5s,SNR=1.0
MTE Manteigas 8.86 300 eP **Pn** 21 01 48.2 +1.8
MTE eS Sn 21 03 16.1 -10
MTE Manteigas 8.86 300 Pn **Pn** 21 01 46.8 +0.4
MBDF Montbardon 8.89 20 ePn **Pn** 21 01 47.2 +0.3
SNR=1.0
MBDF eSn **Sn** 21 03 24.7 -2.2
comp=N,11nm,0.4s
RJF Les Rejaudoux 8.90 355 eSn **Sn** 21 03 24.1 -2.9
comp=N,12nm,0.4s
PMTG Montargil 8.93 290 eP **Pn** 21 01 47.9 +0.5
PMTG eS **Sn** 21 03 22.9 -4.9
SSB Saint Sauveur 8.97 9 Pn **Pn** 21 01 49.5 +1.6
SSB Saint Sauveur 8.97 9 P **Pn** 21 01 49.5 +1.6
PNCL Nicolau / Gran 8.99 284 eP **Pn** 21 01 47.9 -0.3
PNCL eS **Sn** 21 03 25.7 -3.5
PNCL Nicolau / Gran 8.99 284 P **Pn** 21 01 47.3 -0.9
PBRG Braganca 8.99 309 eP **Pn** 21 01 49.7 +1.4
PBRG eS **Sn** 21 03 26.0 -3.4
MORF Marmelete 9.02 279 **Pn** 21 01 48.9 +0.2
MORF Marmelete 9.02 279 eS Sn 21 03 21.4 -8.6
MORF IAML 21 03 29.8
comp=E,26nm,0.8s
MORF Marmelete 9.02 279 P **Pn** 21 01 48.9 +0.2
CASP Castiglione de 9.03 43 Pn **Pn** 21 01 48.5 -0.2
ECAL Calabor 9.06 310 P **Pn** 21 01 49.7 +0.4
ECAL Calabor 9.06 310 P **Pn** 21 01 50.3 +1.0
ECAL ⇑*i*Vmb_V 21 01 51.6
comp=E,1μm,SNR=8.2
ECAL S **Sn** 21 03 29.2 -2.1
EARI Arriondas 9.09 321 P **Pn** 21 01 51.6 +2.1
EARI ⇑*i*Vmb_V 21 01 53.6
comp=E,1μm,SNR=2.5
EARI S **Sn** 21 03 29.0 -2.7
PTEO Sao Teotonio 9.09 280 eP **Pn** 21 01 49.3 -0.2
PTEO eS **Sn** 21 03 27.9 -3.8
PFVI Vila Bisbo 9.15 278 eP **Pn** 21 01 50.4 0.0
PFVI eS **Sn** 21 03 28.0 -5.3
PFVI Vila Bisbo 9.15 278 Pn **Pn** 21 01 48.5 -2.0
PFVI Vila Bisbo 9.15 278 P **Pn** 21 01 49.4 -1.0
BNI Bardonecchia 9.16 19 **Pn** 21 01 52.7 +2.0
BNI Bardonecchia 9.16 19 P **Pn** 21 01 52.5 +1.8
BNI Bardonecchia 9.16 19 P **Pn** 21 01 52.7 +2.0
PVIS Viseu 9.23 301 eP **Pn** 21 01 52.4 +0.9
PVIS eS **Sn** 21 03 31.4 -3.8
ZGR Zagora 9.29 230 P **Pn** 21 01 53.7 +1.2
PVRL Vila Real 9.35 304 eP **Pn** 21 01 53.7 +0.5
PVRL eS **Sn** 21 03 35.1 -3.1
COI Coimbra 9.40 297 eP **Pn** 21 01 55.5 +1.7
COI Coimbra 9.40 297 **Pn** 21 01 54.8 +1.0
COI Coimbra 9.40 297 P **Pn** 21 01 54.8 +1.0
PCAS Casmilo, Conde 9.41 296 eP **Pn** 21 01 55.3 +1.3
PCAS eS **Sn** 21 03 36.3 -3.3
POLO Lamas de Olo 9.45 305 eP **Pn** 21 01 55.4 +0.8
POLO eS **Sn** 21 03 37.0 -3.7
PSBE So Bento 9.47 292 eP **Pn** 21 01 55.5 +0.7
PSBE eS **Sn** 21 03 38.2 -2.9
MSSA Maissana 9.50 32 Pn **Pn** 21 01 54.9 -0.3
RAFF Raffo Rosso 9.51 82 Pn **Pn** 21 01 55.7 +0.4
LPG La Plagne 9.60 18 ePn **Pn** 21 01 59.2 +2.4
SNR=1.0
LPG eSn **Sn** 21 03 40.0 -4.6
comp=E,16nm,0.5s
LPL La Plagne 9.61 18 ePn **Pn** 21 01 59.7 +2.8
SNR=1.0
LPL eSn **Sn** 21 03 38.7 -6.1
comp=E,20nm,0.7s
PMAFR Mafra 9.71 289 eS **Sn** 21 03 43.0 -3.9
OSSC Osservatorio P 9.73 41 Pn **Pn** 21 01 58.1 -0.2
PCAB Cabril 9.76 306 eP **Pn** 21 02 00.2 +1.4
PCAB eS **Sn** 21 03 46.1 -2.2
CESX Cesi 9.90 48 Pn **Pn** 21 02 00.5 -0.2
PGAV Gavieira, Arco 10.05 307 eP **Pn** 21 02 02.7 -0.1
PGAV eS **Sn** 21 03 49.5 -5.8
BGF Bois d'Agland 10.12 1 eP **Pn** 21 02 04.4 +2.7
ZCCA Zocca 10.19 36 Pn **Pn** 21 02 06.5 +1.9
PRMA PARMA 10.20 33 Pn **Pn** 21 02 04.1 -0.7
SMF Signal de Mont 10.25 5 eP **Pn** 21 02 07.5 +2.0
SMF eSn Sn 21 03 51.9 -8.3
comp=E,9.1nm,0.6s,SNR=1.0
NRCA Norcia 10.35 49 **Pn** 21 02 06.4 -0.6
MFF Saint Martin d 10.36 350 eP **Pn** 21 02 08.7 +1.8
MFF eSn Sn 21 03 54.6 -8.2
comp=E,15nm,0.4s,SNR=1.0
AVF Avril sur Loir 10.37 3 eP **Pn** 21 02 09.6 +2.6
CAMP Campotosto 10.37 51 **Pn** 21 02 06.8 -0.4
INTR Introdacqua 10.42 54 Pn **Pn** 21 02 06.4 -1.5
FDMO Fiordimonte 10.45 48 **Pn** 21 02 09.1 +0.8
CABF La Chapelle 10.51 13 ePn **Pn** 21 02 11.2 +2.1
SNR=1.0
SENIN Lac Senin/Sane 10.54 18 Pn **Pn** 21 02 11.5 +1.8
GUMA Gualdo di Mace 10.62 48 **Pn** 21 02 11.6 +1.1
SSF Saint Saulge 10.65 4 ePn **Pn** 21 02 10.8 -0.1
SNR=1.0
SSF Saint Saulge 10.65 4 eP Pn 21 02 15.7 +4.8
LOR Lormes 10.87 5 eP **Pn** 21 02 17.4 +3.4
LOR eSn **Sn** 21 04 09.4 -6.0
comp=E,5.7nm,0.6s
SALO Salr 10.97 31 Pn **Pn** 21 02 16.4 +1.0
TUE Stuetta 11.25 25 Pn **Pn** 21 02 20.1 +0.8
TEOL Teolo 11.27 35 Pn **Pn** 21 02 19.5 +0.1
TIP Timpagrande 11.57 72 Pn **Pn** 21 02 22.1 -1.5
DAVOX Davos/Dischmat 11.70 26 Pn **Pn** 21 02 26.5 +1.0
comp=E,0.5nm,0.3s,baz=224,slow=10,SNR=1.7
DAVOX LR LR 21 06 41.0
comp=E,776nm,19.1s,baz=220,slow=36
comp=E,2.1nm,0.4s
FUORN Ofenpass-Fuorn 11.70 27 Pn **Pn** 21 02 26.2 +0.6
CTI Castel Tesino 11.79 33 **Pn** 21 02 26.8 +0.1
CTI Castel Tesino 11.79 33 P **Pn** 21 02 26.8 +0.1
HINF Hinteralfeld 11.81 14 ePn **Pn** 21 02 27.6 +0.7
HAU Haudompre 11.90 12 eP **Pn** 21 02 29.6 +1.5
SFTF Sexfontaines 11.91 8 eP **Pn** 21 02 30.5 +2.4
DAVA Damuels 12.14 24 ePn **Pn** 21 02 33.4 +2.0
comp=E,2.5nm,0.3s
MEZF Maizieres J'vi 12.20 8 eP **Pn** 21 02 35.3 +3.2

FETA Feichten 12.21 27 *i* Pn **Pn** 21 02 36.6 +4.2
comp=E,1.8nm,0.7s
QUIF Quistinic 12.23 342 eP **Pn** 21 02 33.3 +0.8
QUIF eSn **Sn** 21 04 42.9 -5.7
comp=E,22nm,0.6s,SNR=1.0
ECH Echery 12.26 15 Pn **Pn** 21 02 32.4 -0.5
ECH Echery 12.26 15 P **Pn** 21 02 32.4 -0.5
LDF La Druitiere 12.31 352 eP **Pn** 21 02 34.8 +1.2
LDF eSn **Sn** 21 04 44.4 -6.2
comp=E,9.9nm,0.6s,SNR=1.0
SAVF Savonnieres en 12.32 8 eP **Pn** 21 02 36.7 +2.9
PAGF Fort de Pagny 12.34 10 eP **Pn** 21 02 36.4 +2.4
SGMF Saint Gilles 12.40 344 eP **Pn** 21 02 36.5 +1.7
STAL STALIGIAL 12.43 35 **Pn** 21 02 37.8 +2.5
SQTA Sankt Quirin 12.56 28 *i* Pn **Pn** 21 02 41.4 +4.3
comp=E,2.8nm,0.5s
MOTA Moosalm 12.62 28 *i* Pn **Pn** 21 02 41.7 +3.7
comp=E,1.1nm,0.3s
BFO Black Forest 12.63 18 Pn **Pn** 21 02 37.6 -0.4
BFO Black Forest 12.63 18 P **Pn** 21 02 37.6 -0.4
BFO Black Forest 12.63 18 eL L 21 06 24.6
comp=E,220nm,21.3s
ROSF Rostrenen 12.65 342 eP **Pn** 21 02 38.7 +0.5
CLUD Cludinico 12.65 34 **Pn** 21 02 38.2 -0.1
ABTA Abfaltersbach 12.71 33 ePn **Pn** 21 02 41.8 +2.6
comp=E,2.1nm,0.5s
WTTA Wattenberg 12.76 29 *i* Pn **Pn** 21 02 43.5 +3.6
comp=E,2.1nm,0.5s
WATA Walderalm 12.79 29 ePn **Pn** 21 02 44.2 +3.9
comp=E,7.0nm,0.7s
PRED Cave del Predi 12.96 36 Pn **Pn** 21 02 42.5 -0.1
MYKA Terra Mystica 13.13 36 ePn **Pn** 21 02 48.1 +3.2
comp=E,0.4nm,0.4s
LESA Schwarzleotal 13.31 31 ePn **Pn** 21 02 50.7 +3.4
comp=E,3.4nm,0.5s
FUR Furstenfeldbru 13.38 26 eL L 21 07 43.7
comp=E,565nm,18.0s
WLF Walferdange 13.48 10 Pn **Pn** 21 02 48.9 -0.7
WLF Walferdange 13.48 10 P **Pn** 21 02 48.9 -0.7
OBKA Obir 13.49 38 ePn **Pn** 21 02 51.9 +2.1
comp=E,2.7nm,0.7s
BAIF Baives 13.68 5 eP **Pn** 21 02 54.8 +2.6
DOU Dourbes 13.74 6 dP **Pn** 21 02 54.4 +1.3
GIVF Givet 13.76 6 eP **Pn** 21 02 56.0 +2.6
TAM Tamanrasset 13.84 168 Pn **Pn** 21 02 52.4 -2.3
TAM Tamanrasset 13.84 168 P **Pn** 21 02 52.4 -2.3
RCHB Rochefort 13.86 7 dP **Pn** 21 02 57.9 +3.2
BIOA Bad Ischl, Aus 13.93 33 *i* Pn **Pn** 21 02 57.8 +2.0
comp=E,0.6nm,0.3s
BMRD Maredsous 13.96 6 dP **Pn** 21 03 00.2 +4.1
BGES Gesves 14.07 7 dx x 21 03 00.1
BCLA Clavier 14.12 7 dP **P** 21 03 04.6 -1.4
BSTI Sart Tilman 14.31 8 dP **Pn** 21 03 04.6 +3.6
MOA Molln 14.32 34 *i* Pn **Pn** 21 03 04.7 +3.6
comp=E,4.1nm,1.0s
BTNL Ternell 14.38 9 dP **Pn** 21 03 02.5 +0.6
MEM Membach 14.39 9 dP **Pn** 21 03 04.2 +2.2
TNS Tanus Mts 14.43 15 eL L 21 07 49.7
comp=E,426nm,19.8s
BEBN Eben Emael 14.54 8 dx x 21 03 09.5
GRFO Grafenberg 14.68 23 **Pn** 21 03 07.5 +1.6
GRFO Grafenberg 14.68 23 P **Pn** 21 03 07.5 +1.6
GRA1 Grafenberg Arr 14.68 23 **Pn** 21 03 07.3 +1.3
GRF Grafenberg Arr 14.68 23 P **Pn** 21 03 07.3 +1.3
GRF Grafenberg Arr 14.68 23 eP **Pn** 21 03 09.1 +3.2
comp=E,54nm,1.2s,baz=205,slow=12
GRF eL L 21 08 03.3
comp=E,647nm,18.2s
WET Wettzell 14.78 27 eP **Pn** 21 03 07.7 +0.4
comp=E,28nm,1.6s,baz=205,slow=12
WET eL L 21 08 26.8
comp=E,222nm,20.3s
GEC2 GERESS Array S 14.85 30 Pn **Pn** 21 03 08.6 +0.1
GEC2 GERESS Array S 14.85 30 eP **Pn** 21 03 09.4 +0.9
comp=E,41nm,1.6s,baz=205,slow=12
GEC2 eL L 21 08 19.5
comp=E,331nm,19.8s
GERES GERESS Array B 14.85 30 **Pn** 21 03 08.5 +0.1
GERES GERESS Array B 14.85 30 P **Pn** 21 03 08.5 +0.1
GERES GERESS Array B 14.85 30 Pn **Pn** 21 03 09.5 +1.1
comp=E,0.5nm,0.3s,baz=224,slow=13,SNR=10
GERES LR LR 21 08 30.2
comp=E,349nm,19.9s,baz=256,slow=36
comp=E,3.5nm,0.6s
KBN Korca 14.88 68 **Pn** 21 03 09.9 +1.1
KBN Korca 14.88 68 P **Pn** 21 03 09.9 +1.1
KHC Kasperske Hory 15.03 29 **Pn** 21 03 11.3 +0.5
KHC Kasperske Hory 15.03 29 eP **Pn** 21 03 11.3 +0.5
KHC epP **P** 21 03 17.6 +1.4
KHC AMS AMS 21 11 40.0
comp=E,2μm,7.1s
KHC Kasperske Hory 15.03 29 *ce*P **Pn** 21 03 09.9 -0.9
KHC pmax pmax
comp=Z,27nm,1.7s
CKRC Cesky Krumlov 15.08 31 eP **Pn** 21 03 12.7 +1.3
CKRC *ex* x 21 03 18.4
CKRC Cesky Krumlov 15.08 31 eP **Pn** 21 03 12.7 +1.3
CONA Conrad Observa 15.12 36 *i* Pn **P** 21 03 15.0 -2.1
comp=Z,1.5nm,0.6s
RONA Rosalia, Austr 15.17 38 ePn **Pn** 21 03 14.8 +2.1
comp=Z,1.8nm,0.5s
FNA Florina 15.35 68 Pn **Pn** 21 03 15.0 0.0
FNA Florina 15.35 68 P **Pn** 21 03 15.0 0.0
FNA pmax pmax
comp=Z,5.0nm,1.1s
UBBA Unterbreizbach 15.35 18 eP **P** 21 03 20.1 +0.7
comp=Z,63nm,1.9s,baz=205,slow=12
MORH Mrgy, Hungar 15.52 46 ⇑P **P** 21 03 19.8 -1.7
ZVC Zvikov 15.52 29 eP **Pn** 21 03 18.1 +0.9
ZVC *ex* x 21 03 22.5
ZVC AMS AMS 21 09 30.0
comp=Z,900nm,9.0s
NKC Novy Kostel 15.54 24 AMS AMS 21 11 50.0
comp=Z,1μm,8.3s
MOX Moxa 15.64 22 eL L 21 08 31.0
comp=Z,270nm,21.7s
FRGS Fruska Gora 15.69 51 ⇑P **Pn** 21 03 21.1 +1.7
TANN Tannenbergstha 15.70 24 eP **Pn** 21 03 21.2 +1.7
comp=Z,22nm,1.5s,baz=205,slow=12
AGG Agios Georgios 15.87 75 Pn **Pn** 21 03 21.4 -0.3
AGG Agios Georgios 15.87 75 P **Pn** 21 03 21.4 -0.3
AGG pmax pmax
comp=Z,20nm,1.3s
TREC Trest 15.95 32 AMS AMS 21 11 30.0
comp=Z,800nm,9.8s
PRU Pruhonice 16.10 29 eP **Pn** 21 03 25.2 +0.6
PRU AMS AMS 21 10 10.0
comp=Z,1μm,8.1s
PRU Pruhonice 16.10 29 eP **Pn** 21 03 25.2 +0.6
PRU MLR MLR
comp=Z,1μm,8.1s
MODS Modra-Piesok 16.11 38 eP **Pn** 21 03 21.6 -3.3
MODS Modra-Piesok 16.11 38 ePN **Pn** 21 03 21.6 -3.3
MODS Modra-Piesok 16.11 38 eP **P** 21 03 27.9 -0.2
PRA Prague 16.12 29 AMS AMS 21 09 30.0
comp=Z,800nm,14.6s
GOPC GO Pecny, Ondr 16.13 30 AMS AMS 21 10 20.0
comp=Z,1μm,8.5s
KRUC Moravsky 16.18 34 ePN **Pn** 21 03 25.9 +0.3
HSKC Hora Svate Kat 16.19 26 AMS AMS 21 09 00.0
comp=Z,900nm,12.0s
SRO Srobarova 16.28 41 eP **P** 21 03 29.6 -0.3
SRO pmax pmax
comp=Z,54nm,1.7s
SRO Srobarova 16.28 41 eP **P** 21 03 29.6 -0.3
SMOL Smolenice 16.28 38 eP **P** 21 03 31.0 +1.0
SMOL pmax pmax
comp=Z,63nm,2.4s
BOVS Bovan 16.32 58 ⇓P **Pn** 21 03 28.1 +0.5
FBE Freiberg 16.43 25 eP **P** 21 03 31.2 -0.4
comp=Z,39nm,1.6s,baz=205,slow=12
VRAC Vranov 16.45 34 ePN **Pn** 21 03 29.9 +0.8
VRAC Vranov 16.45 34 Pn **P** 21 03 31.4 -0.4
comp=Z,0.6nm,0.3s,baz=242,slow=13,SNR=4.7
VRAC LR LR 21 10 29.7
comp=Z,408nm,18.2s,baz=234,slow=40
comp=Z,2.8nm,0.9s
PVCC Panska Ves 16.54 28 AMS AMS 21 11 00.0
comp=Z,900nm,10.1s
BRG Berggiesshubel 16.59 26 eP **P** 21 03 33.3 -0.1
BRG Amp 21 03 39.6
comp=Z,5.6nm,1.0s
BRG Amp 21 09 32.0
comp=E,1.2nm,15.6s
BRG Amp 21 09 38.0
comp=Z,0.9nm,20.5s
BRG Amp 21 09 39.0
comp=N,1.3nm,16.6s
BRG Berggiesshubel 16.59 26 eP **P** 21 03 33.3 -0.1
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=E,1μm,15.6s
BRG MLR MLR
comp=Z,885nm,20.5s
BRG MLR MLR
comp=N,1μm,16.6s
JAVC Velka Javorina 16.64 37 ePN **P** 21 03 34.3 +0.4
CLL Collm 16.65 23 **Pn** 21 03 31.0 -0.6
CLL Collm 16.65 23 P **Pn** 21 03 31.0 -0.6
CLL pmax pmax
comp=Z,21nm,1.4s
CLL Collm 16.65 23 *i* P **Pn** 21 03 32.5 +0.9
comp=Z,20nm,1.4s
CLL eS **Sn** 21 06 30.0 -6.1
CLL AMS AMS 21 09 00.0
comp=Z,300nm,21.0s
CLL Collm 16.65 23 eL L 21 09 11.5
comp=Z,327nm,21.0s
MDVR Moldovita 16.75 54 ⇓P **P** 21 03 34.1 -1.1
VYHS Vyhne 16.98 40 eP **P** 21 03 37.8 +0.1
VYHS pmax pmax
comp=Z,62nm,1.6s
VYHS Vyhne 16.98 40 eP **P** 21 03 37.8 +0.1
RETH Rethem/Aller, 17.00 14 eP **P** 21 03 41.8 +4.0
comp=Z,114nm,1.6s,baz=205,slow=12
BZS Buzias 17.03 52 ⇑P **P** 21 03 37.6 -0.7
MAUC Maruska 17.06 36 eP **P** 21 03 39.6 +1.0
MAUC AMS AMS 21 11 10.0
comp=Z,3μm,7.1s
KRLC Kraliky 17.09 33 AMS AMS 21 11 20.0
comp=Z,700nm,10.6s
UPC Upice 17.09 30 eP **P** 21 03 39.2 +0.3
UPC AMS AMS 21 12 00.0
comp=Z,800nm,9.5s
UPC Upice 17.09 30 eP **P** 21 03 39.2 +0.3
UPC MLR MLR
comp=Z,800nm,9.5s
DPC Dobruska-Polom 17.10 31 eP **Pn** 21 03 37.8 +0.4
DPC AMS AMS 21 12 00.0
comp=Z,1μm,9.1s
DPC Dobruska-Polom 17.10 31 eP **Pn** 21 03 37.8 +0.4
DPC MLR MLR
comp=Z,1μm,9.1s
PSZ Piszkesteto 17.19 43 Pn **Pn** 21 03 37.3 -1.3
PSZ Piszkesteto 17.19 43 P **Pn** 21 03 37.3 -1.3
PSZ pmax pmax
comp=Z,46nm,1.4s
MORC Moravsky Berou 17.21 35 **Pn** 21 03 37.9 -0.9
MORC Moravsky Berou 17.21 35 ePN **P** 21 03 39.7 -0.6
MORC Moravsky Berou 17.21 35 P **Pn** 21 03 37.9 -0.9
MORC pmax pmax
comp=Z,25nm,1.5s
OSTC Ostas 17.21 31 eP **P** 21 03 41.0 +0.7
OSTC AMS AMS 21 12 20.0
comp=Z,1μm,7.5s
OSTC Ostas 17.21 31 eP **P** 21 03 41.0 +0.7
OSTC MLR MLR
comp=Z,1μm,7.5s
DJES Djerdap 17.23 55 **Pn** 21 03 39.0 0.0
KSP Ksiaz 17.46 30 eP **P** 21 03 43.3 +0.3
OKC Ostrava-Krasne 17.53 35 AMS AMS 21 12 10.0
comp=Z,1μm,7.6s
LANS Liptovska Anna 17.72 39 eP **P** 21 03 48.2 +2.3
LANS pmax pmax
comp=Z,26nm,1.5s
LANS Liptovska Anna 17.72 39 eP **P** 21 03 48.2 +2.3
NIE Niedzica 18.31 39 eP **P** 21 03 54.5 +2.0
BSEG Bad Segeberg 18.32 15 eP **P** 21 03 55.1 +2.7
comp=Z,117nm,1.6s,baz=205,slow=12
BSEG eL L 21 10 22.2
comp=Z,555nm,18.6s
MARR Marisel-Cluj 18.44 50 ⇑P **Pn** 21 03 55.4 +1.4
RDO Rodhopi 18.51 68 P **P** 21 03 53.9 -0.7
OJC Ojcow 18.58 37 eP **Pn** 21 03 55.8 +0.2
OJC Ojcow 18.58 37 **P** 21 03 54.7 -0.6
OJC Ojcow 18.58 37 P **P** 21 03 54.7 -0.6
OJC pmax pmax
comp=Z,61nm,1.4s
CRVS Cervenica-Dubn 18.61 42 eP **Pn** 21 03 59.1 +3.1
CRVS pmax pmax
comp=Z,150nm,1.4s
CRVS Cervenica-Dubn 18.61 42 eP **Pn** 21 03 59.1 +3.1
STHS Stebnicka Huta 18.80 41 eP **Pn** 21 04 00.4 +2.1
STHS pmax pmax
comp=Z,28nm,1.2s
STHS Stebnicka Huta 18.80 41 eP **Pn** 21 04 00.4 +2.1
ALN Alexandroupoli 18.87 69 P **Pn** 21 03 58.7 -0.4
ALN Alexandroupoli 18.87 69 P **Pn** 21 03 58.7 -0.4
ALN pmax pmax
comp=Z,33nm,1.4s
KOLS Kolonicke sedl 19.07 43 eP **Pn** 21 04 04.0 +2.4
KOLS pmax pmax
comp=Z,48nm,0.7s
KOLS Kolonicke sedl 19.07 43 eP **Pn** 21 04 04.0 +2.4
VOIR 19.18 55 ⇑P **Pn** 21 04 03.7 +0.7
EKA Eskdalemuir Ar 19.30 350 P **Pn** 21 04 05.6 +1.3
baz=164,slow=13
comp=Z,3.9nm,0.6s
DOPR Dopca 19.59 54 ⇓P **Pn** 21 04 08.4 +0.5
KWP Kalwaria Pacla 19.70 42 eP **Pn** 21 04 10.3 +1.2
KWP Kalwaria Pacla 19.70 42 **P** 21 04 07.9 +0.3
KWP IAmb IAmb 21 04 11.8
comp=Z,129nm,1.4s
KWP Kalwaria Pacla 19.70 42 P **P** 21 04 07.9 +0.3
KWP pmax pmax
comp=Z,129nm,1.4s
GKP Gorka Klasztor 19.73 27 eP **Pn** 21 04 11.5 +2.2
MLR Muntele Rosu 19.80 56 ⇓P **Pn** 21 04 10.8 +0.4
MLR Muntele Rosu 19.80 56 P **P** 21 04 09.2 +0.4
MLR IAmb IAmb 21 04 12.6
comp=Z,65nm,1.2s
MLR Muntele Rosu 19.80 56 P **P** 21 04 09.2 +0.4
MLR pmax pmax
comp=Z,65nm,1.2s
MLR Muntele Rosu 19.80 56 P **Pn** 21 04 10.3 0.0
comp=Z,3.1nm,0.3s,baz=278,slow=7.3,SNR=40
comp=Z,49nm,1.2s
OZUR 19.90 54 ⇑P **Pn** 21 04 11.8 +0.3
TURR Turia 20.03 54 ⇑P Pn 21 04 13.2 +0.1
COVR Voineasa-Covas 20.09 55 ⇑P Pn 21 04 13.5 -0.2
BURAR Bucovina Array 20.14 49 ⇓P Pn 21 04 15.1 +0.7
BURAR Bucovina Array 20.14 49 P Pn 21 04 13.6 -0.7
BURAR IAmb IAmb 21 04 17.6
comp=Z,33nm,0.8s
BUR08 Bucovina Ar. S 20.14 49 Pn 21 04 14.3 -0.1
BUR08 IAmb IAmb 21 04 17.2
comp=Z,70nm,1.1s
BISRR Bisoca 20.32 56 ⇑P Pn 21 04 15.5 -1.1
PLOR Plostina 20.38 55 ⇓P Pn 21 04 16.1 -1.0
VRI Vrincioaia 20.44 55 ⇓P Pn 21 04 17.7 -0.1
LVV L'vov 20.52 43 eP Pn 21 04 18.2 -0.5
TESR Tescani 20.61 53 ⇑P Pn 21 04 19.4 -0.3
PANC Panciu 20.72 55 ⇑P Pn 21 04 19.8 -1.2
HARR Harsova 20.91 59 ⇓P Pn 21 04 22.1 -1.2
CFR Carcaliu 21.18 58 ⇓P **P** 21 04 24.3 +0.6
TPGR Topolog 21.29 59 ⇑P **P** 21 04 25.6 +0.7
VLDR Vladesti 21.33 56 ⇑P **P** 21 04 26.1 +0.8
VASR Vaslui 21.39 54 ⇑P **P** 21 04 27.3 +1.4
TLCR 21.65 58 ⇓P **P** 21 04 29.4 +0.7
TLCR 21.65 58 P **P** 21 04 33.0 +4.3
KLNR Kaliningrad 21.88 28 *i* P **P** 21 04 32.3 +1.3
KLNR pmax pmax
comp=Z,220nm,1.5s
ELL Elmali 21.95 81 P **P** 21 04 33.7 +1.5
ELL Elmali 21.95 81 P **P** 21 04 33.7 +1.5
ELL pmax pmax
comp=Z,118nm,1.2s
MILM Milestii Mici 22.14 54 eP **P** 21 04 31.0 -3.0
comp=Z,260nm,1.7s
MILM eL L 21 13 54.0
MILM LRM MLR 21 14 42.0
comp=Z,600nm,14.0s
MILM Milestii Mici 22.14 54 ⇓P **P** 21 04 34.8 +0.8
MILM Milestii Mici 22.14 54 eP **P** 21 04 31.0 -3.0
MILM *i* 21 04 34.0
MILM pmax pmax
comp=Z,260nm,1.7s
MILM pmax pmax

comp=E,760nm,4.3s
MILM MLR MLR
comp=Z,600nm,14.0s
KIS Kishinev 22.17 53 *i* P **P 21 04 35.0 +0.7**
comp=Z,210nm,4.3s
KIS Kishinev 22.17 53 *e*P **P 21 04 35.0 +0.7**
KIS *e* 21 04 54.0
KIS *e* 21 08 37.0
KIS pmax pmax
comp=Z,210nm,4.3s
KIS MLR MLR
comp=Z,350nm,15.0s
SORM Soroca 22.28 50 ⇑P **P 21 04 35.5 +0.1**
SUW Suwalki 22.67 33 *e*P **P 21 04 38.8 -0.7**
SUW Suwalki 22.67 33 P **P 21 04 38.2 -1.4**
SUW Suwalki 22.67 33 P **P 21 04 38.2 -1.4**
SUW pmax pmax
comp=Z,226nm,1.1s
SUW Suwalki 22.67 33 *e*P **P 21 04 40.1 +0.6**
MDUB Mudurnu 22.75 71 P **P 21 04 39.8 -0.9**
TOA0 Torodi Ar. Sit 23.20 182 P **P 21 04 43.8 -1.6**
TORD Torodi Ar. Bea 23.20 182 P **P 21 04 43.7 -1.6**
TORD Torodi Ar. Bea 23.20 182 P **P 21 04 45.0 -0.3**
comp=Z,3.7nm,0.6s,baz=4.0,slow=12,SNR=14
TORD Lg Lg 21 11 54.4
comp=Z,0.1nm,0.3s,baz=6.8,slow=29,SNR=2.0
TORD LR LR 21 13 01.5
comp=Z,774nm,20.3s,baz=6.0,slow=35
comp=Z,3.7nm,0.6s
KONO Kongsberg 23.68 9 P **P 21 04 49.6 -0.1**
KONO IAmb IAmb 21 04 52.6
comp=Z,59nm,1.3s
KONO Kongsberg 23.68 9*ce*P **P 21 04 50.0 +0.2**
KONO pmax pmax
comp=Z,71nm,1.7s
KIEV Kiev 23.84 45 P **P 21 04 49.5 -1.9**
KIEV Kiev 23.84 45 P **P 21 04 49.5 -1.9**
KIEV pmax pmax
comp=Z,90nm,1.5s
AKASG Malin Array Be 23.86 45 P **P 21 04 48.8 -2.7**
AKASG Malin Array Be 23.86 45 P **P 21 04 50.2 -1.4**
comp=Z,8.1nm,0.6s,baz=243,slow=11,SNR=16
AKASG PcP **PcP 21 08 34.9 +0.7**
comp=Z,0.3nm,0.3s,baz=267,slow=2.1,SNR=2.1
comp=Z,8.1nm,0.6s
AKBB Malin Array Si 23.86 45 P **P 21 04 49.5 -2.1**
AKBB Malin Array Si 23.86 45 P **P 21 04 49.5 -2.1**
AKBB pmax pmax
comp=Z,100nm,1.5s
PABE Paberze 24.02 31 P **P 21 04 52.5 -0.6**
PABE IAmb IAmb 21 04 56.2
comp=Z,37nm,0.7s
PABE Paberze 24.02 31 *e*P **P 21 04 53.8 +0.7**
BR131 Keskin Array S 24.63 73 P **P 21 04 59.0 0.0**
BR131 Keskin Array S 24.63 73 *i* P **P 21 04 59.9 +0.9**
BRTR Keskin Array B 24.63 73 P **P 21 04 58.4 -0.7**
BRTR Keskin Array B 24.63 73 P **P 21 04 59.3 +0.3**
comp=Z,1.8nm,0.7s,baz=266,slow=11,SNR=9.2
BRTR PcP **PcP 21 08 37.1 +0.8**
comp=Z,1.7nm,1.1s,baz=230,slow=3.1,SNR=4.0
comp=Z,1.8nm,0.7s
HFS Hagfors 24.78 13 P **P 21 05 00.2 +0.2**
comp=Z,7.8nm,0.7s,baz=194,slow=10,SNR=17
HFS PcP **PcP 21 08 37.0 +0.9**
comp=Z,1.5nm,0.7s,baz=189,slow=8.2,SNR=2.0
HFS LR LR 21 14 33.7
comp=Z,301nm,19.2s,baz=196,slow=36
comp=Z,7.8nm,0.7s
NACGM Naroch 24.85 34⇑ *i*P **P 21 05 01.9 +1.3**
comp=Z,33nm,1.1s,baz=232
ISAL Salakas 24.98 33 *e*P **P 21 05 03.0 +1.2**
NC602 NORSAR Array S 24.99 10 P **P 21 05 02.1 +0.3**
CSS Mathiatis 25.00 84 P **P 21 05 01.1 -1.1**
CSS IAmb IAmb 21 05 07.8
comp=Z,50nm,1.5s
NAO01 NORSAR Array S 25.00 10 P **P 21 05 02.7 +0.7**
NAO01 IAmb IAmb 21 05 05.5
comp=Z,53nm,1.4s
MNK Minsk 25.12 36 *i* P **P 21 05 02.0 -1.1**
comp=E,18nm,1.6s
MNK *i* P **P 21 05 02.0 -1.1**
comp=N,44nm,1.4s
MNK *i* P **P 21 05 02.0 -1.1**
comp=Z,44nm,1.4s,baz=234
MNK *i* PP **PnPn 21 05 36.2 -0.5**
MNK *i* S **S 21 09 27.3 0.0**
MNK *i* SS **SnSn 21 10 20.6 +3.7**
MNK *i* LQ LQ 21 12 57.9
MNK *i* LR LR 21 14 53.3
MNK *i* LRM MLR 21 15 44.8
comp=N,117nm,14.7s
MNK *i* LRM MLR 21 16 04.3
comp=E,89nm,13.9s
MNK *i* LRM MLR 21 16 06.9
comp=Z,163nm,15.0s
MNK Minsk 25.12 36 *i* P **P 21 05 01.9 -1.1**
MNK *i* 21 05 36.2
MNK *i* S **S 21 09 27.2 0.0**
MNK *i* SS **SnSn 21 10 20.6 +3.7**
MNK pmax pmax
comp=Z,44nm,1.4s
MNK pmax pmax
comp=E,18nm,1.6s
MNK pmax pmax
comp=N,44nm,1.4s
MNK MLR MLR
comp=N,117nm,15.0s
MNK MLR MLR
comp=E,89nm,14.0s
MNK MLR MLR
comp=Z,163nm,15.0s
NBO00 NORSAR Array S 25.17 9 P **P 21 05 03.7 +0.2**
NBO00 IAmb IAmb 21 05 07.1
comp=Z,28nm,1.4s
NB2 NORSAR Subarra 25.24 10 P **P 21 05 04.5 +0.4**
comp=Z,266nm,1.2s,baz=197,slow=10
NOA NORSAR Array B 25.24 10 P **P 21 05 04.6 +0.4**
comp=Z,2.9nm,0.7s,baz=197,slow=9.7,SNR=12
NOA PcP **PcP 21 08 37.6 +0.4**
comp=Z,0.5nm,0.6s,baz=175,slow=1.7,SNR=4.1
NOA LR LR 21 15 08.7
comp=Z,184nm,19.2s,baz=200,slow=37
comp=Z,2.9nm,0.7s
NB201 NORSAR Array S 25.26 10 P **P 21 05 03.8 -0.5**
NB201 IAmb IAmb 21 05 08.1
comp=Z,38nm,1.3s
BNN Bunyan 26.40 75 P **P 21 05 14.2 -0.9**
BNN IAmb IAmb 21 05 21.2
comp=Z,20nm,1.1s
MMAI Mount Meron Ar 27.15 87 P **P 21 05 23.7 +1.9**
comp=Z,10nm,0.5s,baz=288,slow=8.7,SNR=21
MMAI LR LR 21 18 54.2
comp=Z,111nm,19.1s,baz=210,slow=43
comp=Z,10nm,0.5s
EIL Elat 27.90 95 P **P 21 05 29.5 +1.1**
comp=Z,7.4nm,0.8s,baz=309,slow=4.9,SNR=3.8
EIL LR LR 21 19 11.3
comp=Z,186nm,18.6s,baz=296,slow=42
comp=Z,7.4nm,0.8s
ASF Jabal al Asfar 28.60 88 P **P 21 05 35.5 +0.7**
comp=Z,4.1nm,0.7s,baz=305,slow=2.5,SNR=3.9
comp=Z,4.1nm,0.7s
FINES FINESS Array B 29.09 23 P **P 21 05 38.1 -0.5**
FINES FINESS Array B 29.09 23 P **P 21 05 39.3 +0.6**
comp=Z,2.6nm,0.7s,baz=197,slow=6.0,SNR=8.2
FINES PcP **PcP 21 08 46.9 +0.6**
comp=Z,1.6nm,0.6s,baz=198,slow=1.2,SNR=4.2
comp=Z,2.6nm,0.7s
FIA1 FINESS Array S 29.09 23 P **P 21 05 37.7 -1.0**
FIA1 IAmb IAmb 21 05 40.4
comp=Z,32nm,1.1s
OBN Obninsk 29.77 40⇓ *e*P **P 21 05 44.9 +0.1**
OBN *SP **pP 21 05 48.0 -0.9**
OBN pmax pmax
comp=Z,14nm,1.7s
OBN MLR MLR
comp=Z,318nm,16.0s
VSR Storozhevoye 29.91 49 *e*P **P 21 05 43.2 -2.9**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 29.92 49 *e*P P 21 05 39.6 -6.6
VORD pmax pmax
comp=Z,7.0nm,0.5s
LPSR Galich'ya Gora 30.17 46 *e*P P 21 05 57.3 +9.0
LPSR pmax pmax
comp=Z,10.0nm,0.5s

DBIC Dimbokro 30.39 195 P **P 21 05 48.6 -2.0**
DBIC Dimbokro 30.39 195 P **P 21 05 51.7 +1.2**
comp=Z,1.6nm,0.6s,baz=337,slow=7.6,SNR=5.8
DBIC LR LR 21 18 27.1
comp=Z,289nm,21.8s,baz=4.0,slow=37
comp=Z,1.6nm,0.6s
MOS Moscow 30.58 40 *e*P **P 21 05 50.4 -1.5**
MOS pmax pmax
comp=Z,42nm,1.4s
VRH Novokhopyorsk 31.47 50 *e*P **P 21 05 57.7 -2.1**
VRH pmax pmax
comp=Z,17nm,1.4s
GOF Gofitskoye 31.59 61*ce*P **P 21 06 00.8 -0.2**
BORG Borgarnes 31.74 341 LR LR 21 18 23.7
comp=Z,418nm,18.2s,baz=154,slow=36
ONI Oni 31.92 66 P **P 21 06 02.6 -1.4**
ONI Oni 31.92 66 P **P 21 06 02.6 -1.4**
ONI pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 33.10 71*ce*P **P 21 06 13.9 -0.6**
GNI pmax pmax
comp=Z,8.0nm,1.3s
MAK Makhachkala 34.87 65 *e*P P 21 06 24.6 -5.0
MAK *eS* **S 21 11 53.0 -7.3**
MAK pmax pmax
comp=Z,330nm,1.1s
JMIC Jan Mayen 35.11 354 LR LR 21 20 13.2
comp=Z,225nm,18.3s,baz=98,slow=35
BELG Belogornoye 35.29 49 P **P 21 06 33.0 0.0**
comp=Z,9.7nm,0.7s,baz=290,slow=2.1,SNR=5.1
BELG LR LR 21 21 35.7
comp=Z,236nm,18.8s,baz=206,slow=37
comp=Z,9.7nm,0.7s
ARCES ARCESS Array B 35.45 14 P **P 21 06 34.0 -0.2**
ARCES IAmb IAmb 21 07 15.8
comp=Z,18nm,1.4s
ARCES ARCESS Array B 35.45 14 P **P 21 06 34.0 -0.2**
comp=Z,1.7nm,0.5s,baz=256,slow=4.9,SNR=15
ARCES PcP **PcP 21 09 04.2 +0.6**
comp=Z,4.1nm,0.9s,baz=211,slow=1.4,SNR=4.7
comp=Z,1.7nm,0.5s
APA Apatity 35.74 20⇓ *i*P **P 21 06 38.7 +1.9**
APA pmax pmax
comp=Z,5.0nm,1.2s
APA MLR MLR
comp=Z,700nm,11.0s
KIRV Kirov 37.58 39 P **P 21 06 52.5 0.0**
comp=Z,12nm,0.6s,baz=341,slow=0.6,SNR=6.7
KIRV LR LR 21 23 31.6
comp=Z,288nm,19.1s,baz=234,slow=38
comp=Z,12nm,0.6s
SUMG Summit 41.65 343 P **P 21 07 26.1 -0.7**
SUMG Summit 41.65 343 P **P 21 07 26.1 -0.7**
SUMG pmax pmax
comp=Z,12nm,1.1s
AKTO Aktyubinsk 41.68 52 P **P 21 07 26.8 0.0**
comp=Z,3.8nm,0.6s,baz=273,slow=7.8,SNR=14
AKTO LR LR 21 25 07.7
comp=Z,154nm,21.6s,baz=116,slow=37
comp=Z,3.8nm,0.6s
ARU Arti 42.09 43 P **P 21 07 29.4 -0.7**
ARU IAmb IAmb 21 07 31.3
comp=Z,62nm,1.5s
ARU Arti 42.09 43*c i*P **P 21 07 30.1 0.0**
ARU PPP PPP 21 09 39.1
ARU S **S 21 13 51.2 +2.2**
ARU SS **SS 21 16 52.1 -4.1**
ARU pmax pmax
comp=Z,45nm,1.5s
ARU Arti 42.09 43 P **P 21 07 30.2 +0.1**
comp=Z,11nm,0.6s,baz=266,slow=7.5,SNR=29
comp=Z,11nm,0.6s
SFJD Kangerlussuaq 42.80 332 LR LR 21 23 20.6
comp=Z,325nm,20.5s,baz=118,slow=33
ABKAR Akbulak array 43.00 54 P **P 21 07 37.1 -0.4**
ABKAR Akbulak array 43.00 54 P **P 21 07 36.9 -0.7**
ABKAR PcP **PcP 21 09 28.3 +0.6**
SVE Sverdlovsk 43.26 43⇑ *e*P **P 21 07 40.7 +1.1**
SVE pmax pmax
comp=Z,21nm,1.1s
SVE MLR MLR
comp=Z,285nm,13.0s
GEYT Alibeck 43.74 71 P **P 21 07 44.2 +0.4**
comp=Z,1.9nm,0.8s,baz=294,slow=21,SNR=4.6
comp=Z,1.9nm,0.8s
ATD Arta Tunnel 43.92 114 LR LR 21 29 23.5
comp=Z,9.4nm,19.2s,baz=318,slow=41
MBAR Mbarara 45.20 138*ce*P **P 21 07 58.0 +2.2**
MBAR pmax pmax
comp=Z,2.0nm,0.7s
UOSS Minazif 47.01 88 P **P 21 08 08.6 -1.3**
GBN Guysborough 48.07 302 P **P 21 08 16.3 -1.4**
BRVK Borovoye 49.02 48 P **P 21 08 24.2 -0.8**
BRVK IAmb IAmb 21 08 26.4
comp=Z,15nm,1.4s
BRVK Borovoye 49.02 48*ce*P **P 21 08 25.4 +0.4**
BRVK pmax pmax
comp=Z,14nm,1.7s
BVAR Borovoye Array 49.08 48 P **P 21 08 26.0 +0.5**
comp=Z,1.4nm,0.6s,baz=286,slow=8.7,SNR=12
comp=Z,1.4nm,0.6s
KMBO Kilima Mbogo 49.36 131 *i* P **P 21 08 29.1 +0.8**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 49.36 131 P **P 21 08 29.0 +0.8**
comp=Z,1.5nm,0.8s,baz=308,slow=7.9,SNR=4.8
KMBO LR LR 21 31 06.5
comp=Z,180nm,18.1s,baz=268,slow=38
comp=Z,1.5nm,0.8s
SCHQ Schefferville 49.72 315 P **P 21 08 30.0 -0.3**
SCHQ IAmb IAmb 21 08 33.8
comp=Z,29nm,1.4s
SCHQ Schefferville 49.72 315 P **P 21 08 30.0 -0.3**
comp=Z,6.2nm,0.7s,baz=82,slow=7.1,SNR=8.1
SCHQ LR LR 21 26 02.2
comp=Z,228nm,21.3s,baz=68,slow=32
comp=Z,6.2nm,0.7s
WSAR Wadi Sarin 49.77 89 LR LR 21 32 27.6
comp=Z,168nm,20.6s,baz=258,slow=40
FRB Frobisher Bay 49.77 327 LR LR 21 26 35.7
comp=Z,207nm,19.7s,baz=58,slow=32
BATG Bathurst New B 50.70 305 P **P 21 08 36.8 -1.1**
BATG IAmb IAmb 21 08 41.9
comp=Z,22nm,1.1s
KK31 Karatay Array 51.38 60 P **P 21 08 42.6 -0.4**
KK31 Karatay Array 51.38 60 P **P 21 08 42.6 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 51.38 60 P **P 21 08 41.9 -1.2**
KKAR Karatay Array 51.38 60 P **P 21 08 42.6 -0.4**
KKAR IAmb IAmb 21 09 06.3
comp=Z,1.8nm,0.9s
KKAR Karatay Array 51.38 60 P **P 21 08 42.6 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
PQI Presque Isle 52.15 305 P **P 21 08 48.7 -0.1**
PQI IAmb IAmb 21 08 56.1
comp=Z,24nm,1.3s
G65A Princeton 52.26 303 P **P 21 08 49.2 -0.3**
F64A Sherman 52.60 304 P **P 21 08 52.7 +0.6**
F64A IAmb IAmb 21 08 53.5
comp=Z,17nm,1.1s
D62A Allapoint, All 52.72 305 P **P 21 08 52.6 -0.3**
D62A IAmb IAmb 21 08 57.0
comp=Z,12nm,0.8s
F63A Nahmakanta, Br 53.15 304 P **P 21 08 57.1 +1.0**
F63A IAmb IAmb 21 09 31.2
comp=Z,25nm,1.4s
E62A Clayton Lake 53.16 305 P **P 21 08 55.5 -0.7**
E62A IAmb IAmb 21 09 11.4
comp=Z,19nm,1.4s
LMQ La Malbaie 53.43 306 P **P 21 08 56.9 -1.3**
LMQ IAmb IAmb 21 09 08.0
comp=Z,18nm,1.3s
LDAQ Lac Daran 53.91 307 P **P 21 09 01.1 -0.6**
LDAQ IAmb IAmb 21 09 06.3
comp=Z,26nm,1.3s
G62A West of Eustis 54.25 304 P **P 21 09 03.3 -1.0**
G62A IAmb IAmb 21 09 37.1
comp=Z,29nm,1.5s
AAK Ala-Archa 54.30 60 *i* P **P 21 09 03.0 -1.9**
AAK pmax pmax
comp=Z,4.0nm,1.4s
AAK Ala-Archa 54.30 60 LR LR 21 36 47.3
comp=Z,173nm,18.0s,baz=303,slow=41
KURBB Kurchatov Arra 54.53 49 P **P 21 09 06.3 +0.2**
comp=Z,2.2nm,0.7s,baz=292,slow=8.0,SNR=18
KURBB LR LR 21 33 13.6
comp=Z,157nm,20.5s,baz=174,slow=37
comp=Z,2.2nm,0.7s
KURK Kurchatov 54.56 49*ce*P **P 21 09 06.8 +0.4**
KURK pmax pmax
comp=Z,13nm,1.3s
NRIK Noril'sk 54.71 26 P **P 21 09 07.6 +0.5**
NRIK IAmb IAmb 21 09 10.3
comp=Z,10nm,1.2s
NRIK Noril'sk 54.71 26*ce*P **P 21 09 09.4 +2.2**
NRIK Noril'sk 54.71 26 P **P 21 09 07.7 +0.5**
comp=Z,1.7nm,0.6s,baz=316,slow=6.0,SNR=5.5
comp=Z,1.7nm,0.6s
I62A Tamworth 55.23 302 P **P 21 09 10.1 -1.2**
RCBR Riachuelo 55.34 229 LR LR 21 29 59.6
comp=Z,202nm,20.6s,baz=60,slow=33
KSH Kashi 56.45 63 P **P 21 09 20.6 +0.3**
KSH sP sP 21 09 30.2 +3.9
KSH PcP **PcP 21 10 19.3 +2.1**
KSH pmax pmax
comp=Z,6.0nm,1.0s
LSZ Lusaka 56.85 150 P **P 21 09 23.4 +0.1**
LSZ Lusaka 56.85 150 P **P 21 09 23.4 +0.1**
LSZ pmax pmax
comp=Z,7.0nm,1.2s
LSZ Lusaka 56.85 150 LR LR 21 35 47.1
comp=Z,535nm,18.8s,baz=352,slow=38
TARG Taragay, Kyrgy 56.93 60 P **P 21 09 23.8 -0.2**
TARG Taragay, Kyrgy 56.93 60 P **P 21 09 23.8 -0.2**
TARG pmax pmax
comp=Z,6.0nm,1.2s
RES Resolute Bay 57.16 342 P **P 21 09 25.4 +0.7**
RES Resolute Bay 57.16 342 P **P 21 09 25.4 +0.7**
RES pmax pmax
comp=Z,5.0nm,1.3s
RES Resolute Bay 57.16 342 LR LR 21 32 50.3
comp=Z,256nm,20.2s,baz=42,slow=35
ZAA0 Zalesovo Array 57.25 44 P **P 21 09 25.4 -0.1**
ZAA0 IAmb IAmb 21 09 27.2
comp=Z,12nm,1.3s
ZALV Zalesovo Beam 57.25 44 P **P 21 09 25.7 +0.1**
ZALV Zalesovo Beam 57.25 44 P **P 21 09 26.1 +0.6**
comp=Z,2.9nm,0.5s,baz=291,slow=6.3,SNR=20
ZALV LR LR 21 35 39.3
comp=Z,203nm,18.6s,baz=275,slow=38
comp=Z,2.9nm,0.5s
MK31 Makanchi Array 58.11 53 P **P 21 09 31.3 -0.5**
MK31 Makanchi Array 58.11 53*ce*P **P 21 09 33.1 +1.3**
MKAR Makanchi Array 58.11 53 P **P 21 09 31.3 -0.5**
MKAR Makanchi Array 58.11 53 *i* P **P 21 09 32.2 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 58.11 53 P **P 21 09 32.3 +0.5**
comp=Z,3.3nm,0.6s,baz=288,slow=5.5,SNR=36
MKAR LR LR 21 37 10.3
comp=Z,154nm,18.4s,baz=302,slow=39
comp=Z,3.3nm,0.6s
MDP Montagnes des 59.28 252 LR LR 21 31 17.9
comp=Z,104nm,20.9s,baz=106,slow=32
SADO Sadowa 60.13 306 P **P 21 09 45.0 -0.8**
SADO Sadowa 60.13 306 P **P 21 09 46.7 +0.9**
comp=Z,12nm,0.9s,baz=57,slow=3.5,SNR=2.2
SADO LR LR 21 32 47.6
comp=Z,223nm,20.5s,baz=69,slow=33
comp=Z,12nm,0.9s
M57A Sunshine Farm, 60.14 301 P **P 21 09 44.0 -1.9**
M57A IAmb IAmb 21 09 48.6
comp=Z,13nm,1.0s
DGZ Jazzator, Alta 60.24 48 *i* P **P 21 09 47.6 +0.9**
DGZ pmax pmax
comp=Z,16nm,1.6s
M55A Ridgway 61.21 302 P **P 21 09 53.2 -0.1**
WMQ Urumqi 62.78 54 *e*P **P 21 10 03.7 -0.1**
WMQ sP sP 21 10 14.3 +4.5
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ LR LR
comp=Z,340nm,14.5s
WMQ LR LR
comp=Z,130nm,20.1s
E46A Sault Ste Mari 62.79 309 P **P 21 10 03.0 -0.7**
O54A Avella 62.86 301 P **P 21 10 02.9 -1.4**
FCC Fort Churchill 62.87 324 P **P 21 10 03.9 -0.1**
FCC Fort Churchill 62.87 324 P **P 21 10 03.9 -0.1**
FCC pmax pmax
comp=Z,24nm,1.5s
M52A Chesterland 62.94 303 P **P 21 10 04.0 -0.8**
N51A Ashland 63.90 303 P **P 21 10 11.1 -0.1**
P52A Corning 64.32 301 P **P 21 10 14.3 +0.4**
P52A Corning 64.32 301 P **P 21 10 15.3 +1.4**
baz=63
E43A Lone Tree Farm 64.46 310 P **P 21 10 13.6 -1.2**
ACSO Alum Creek Sta 64.63 302 P **P 21 10 16.2 +0.2**
ACSO Alum Creek Sta 64.63 302 P **P 21 10 17.4 +1.5**
baz=63
Q52A Bidwell 64.72 301 P **P 21 10 16.1 -0.5**
R53A Hurricane 64.79 300 P **P 21 10 16.5 -0.5**
L48A N Adams 64.82 305 P **P 21 10 16.8 -0.5**
W57A Gilead 64.87 296 P **P 21 10 17.9 +0.3**
LBTB Lobatse 64.87 157 P **P 21 10 17.6 -0.1**
LBTB IAmb IAmb 21 10 59.0
comp=Z,7.4nm,0.9s
LBTB Lobatse 64.87 157 *i* P **P 21 10 18.3 +0.7**
LBTB Lobatse 64.87 157 P **P 21 10 17.6 -0.1**
LBTB pmax pmax
comp=Z,7.0nm,0.9s
LBTB Lobatse 64.87 157 LR LR 21 38 02.9
comp=Z,327nm,18.5s,baz=339,slow=36
LBTB Lobatse 64.87 157 *i* P **P 21 10 18.3 +0.7**
P51A Williamsport 65.02 302 P **P 21 10 17.7 -0.9**
Q51A Peebles 65.43 301 P **P 21 10 21.2 0.0**
SSFO Shawnee State 65.48 301 P **P 21 10 21.4 -0.2**
O49A Covington 65.57 303 P **P 21 10 21.8 -0.2**
TIXI Tiksi 65.83 16 P **P 21 10 24.4 +1.2**
TIXI Tiksi 65.83 16*ce*P **P 21 10 24.9 +1.7**
TIXI pmax pmax
comp=Z,16nm,1.3s
A36M Sachs Harbour 65.91 344 P **P 21 10 22.7 -1.0**
A36M IAmb IAmb 21 10 26.0
comp=Z,9.3nm,0.9s
N47A Urbana 66.16 304 P **P 21 10 24.7 -1.2**
S51A Beattyville 66.26 300 P **P 21 10 24.7 -1.9**
EYMN Ely 66.45 313 P **P 21 10 27.0 -0.7**
TKL Tuckaleechee C 67.34 298 LR LR 21 38 06.9
comp=Z,76nm,18.6s,baz=58,slow=34
T50A Nancy 67.42 300 P **P 21 10 34.3 +0.3**
T50A IAmb IAmb 21 11 00.5
comp=Z,6.6nm,0.9s
ULM Lac du Bonnet 67.82 317 P **P 21 10 35.6 -0.6**
ULM Lac du Bonnet 67.82 317 P **P 21 10 35.7 -0.6**
ULM pmax pmax
comp=Z,10.0nm,0.7s
ULM Lac du Bonnet 67.82 317 P **P 21 10 36.2 0.0**
comp=Z,8.7nm,0.6s,baz=71,slow=6.4,SNR=18
comp=Z,8.7nm,0.6s
BOSA Boshof 68.14 159 P **P 21 10 37.1 -1.4**
BOSA IAmb IAmb 21 10 41.2
comp=Z,14nm,1.2s
BOSA Boshof 68.14 159 P **P 21 10 38.3 -0.2**
comp=Z,5.1nm,1.0s,baz=337,slow=7.7,SNR=4.1
BOSA LR LR 21 38 53.7
comp=Z,208nm,20.2s,baz=344,slow=35
comp=Z,5.1nm,1.0s
SPMN Marine on St. 68.58 311 P **P 21 10 40.5 -0.6**
AGMN Agassiz Nation 68.81 315 P **P 21 10 43.5 +1.0**
baz=59
OLIL Olney 68.82 303 P **P 21 10 41.4 -1.3**
T47A Sharon Grove 69.02 301 P **P 21 10 42.5 -1.5**
ZAK Zakamensk 69.02 42 *eP* **P 21 10 44.8 +0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
L40A Anamosa 69.20 307 P **P 21 10 44.5 -0.6**
P43A Skaggs, Pawnee 69.31 304 P **P 21 10 44.8 -1.0**
YKA Yellowknife Ar 69.34 334 P **P 21 10 45.7 +0.2**
YKA Yellowknife Ar 69.34 334 P **P 21 10 46.4 +0.8**
comp=Z,0.8nm,0.6s,baz=50,slow=6.0,SNR=17
YKA LR LR 21 39 10.9
comp=Z,241nm,20.3s,baz=30,slow=34
comp=Z,0.8nm,0.6s
Q44A Meyer Farm, Va 69.35 304 P **P 21 10 45.2 -0.9**
V48A Smith Brothers 69.45 300 P **P 21 10 46.0 -0.7**
V48A IAmb IAmb 21 10 53.2
comp=Z,17nm,1.4s
152A Waverly Hall 69.51 296 P **P 21 10 46.6 -0.5**

N41A **Harden Midland** 69.65 306 P **P** 21 10 47.5 -0.3
BOD **Bodaibo** 70.03 32 *e*P **P** 21 10 49.5 -0.3
BOD pmax pmax
comp=Z,12nm,1.6s
Y49A **Blount Mountai** 70.12 298 P **P** 21 10 50.1 -0.8
Y49A IAmb IAmb 21 11 06.6
comp=Z,21nm,1.3s
F33A **5 Mile Ranch,** 70.36 313 P **P** 21 10 51.4 -0.7
F33A IAmb IAmb 21 10 54.9
comp=Z,8.2nm,0.8s
BDFB **Brasilia** 70.42 232 P **P** 21 10 53.9 +1.0
comp=Z,2.6nm,0.7s,baz=112,slow=6.3,SNR=4.3
BDFB LR LR 21 41 36.2
comp=Z,103nm,18.1s,baz=19,slow=36
comp=Z,2.6nm,0.7s
INK **Inuvik** 70.55 344 P **P** 21 10 54.0 +1.1
INK **Inuvik** 70.55 344 P **P** 21 10 54.0 +1.1
INK pmax pmax
comp=Z,8.0nm,1.4s
INK **Inuvik** 70.55 344 LR LR 21 41 23.0
comp=Z,203nm,18.4s,baz=358,slow=36
SUR **Sutherland** 70.56 164 LR LR 21 43 33.1
comp=Z,180nm,18.2s,baz=338,slow=37
CGM3 **Cape Girardeau** 70.61 302 P **P** 21 10 52.4 -1.4
CGM3 IAmb IAmb 21 10 56.7
comp=Z,12nm,1.3s
PLAL **Pickwick Lake** 70.72 300 P **P** 21 10 53.5 -0.9
PLAL IAmb IAmb 21 10 55.1
comp=Z,13nm,1.1s
FVM **French Village** 70.77 303 P **P** 21 10 54.0 -0.8
FVM **French Village** 70.77 303 P **P** 21 10 54.0 -0.8
FVM pmax pmax
comp=Z,36nm,1.5s
GLAT **Glass** 70.89 301 P **P** 21 10 55.1 -0.4
GOMU **GeErMu** 71.22 59 P **P** 21 10 58.9 +0.9
GOMU PcP **PcP** 21 11 21.4 +3.4
GOMU pmax pmax
comp=Z,4.0nm,0.7s
SDV **Santo Domingo** 71.26 267 LR LR 21 37 54.9
comp=Z,36nm,20.2s,baz=78,slow=32
CCM **Cathedral Cave** 71.28 304 P **P** 21 10 57.6 -0.3
CCM IAmb IAmb 21 10 59.0
comp=Z,5.7nm,0.8s
CCM **Cathedral Cave** 71.28 304 P **P** 21 10 58.0 +0.1
baz=58
CCM **Cathedral Cave** 71.28 304 P **P** 21 10 57.6 -0.3
CCM pmax pmax
comp=Z,6.0nm,0.8s
F31M **Tsiigehtchic** 71.30 344 P **P** 21 10 57.8 +0.4
F31M IAmb IAmb 21 10 59.9
comp=Z,18nm,1.5s
F31M **Tsiigehtchic** 71.30 344 P **P** 21 10 58.9 +1.5
baz=36
E29M **Blow River** 71.41 346 P **P** 21 10 58.3 +0.2
E29M IAmb IAmb 21 11 06.6
comp=Z,8.0nm,1.1s
E29M **Blow River** 71.41 346 P **P** 21 10 59.7 +1.6
baz=33
PBMO **Poplar Bluff** 71.41 302 P **P** 21 10 57.9 -0.8
PBMO IAmb IAmb 21 11 11.4
comp=Z,21nm,1.4s
VOI **Vohitsoka** 71.51 137 P **P** 21 10 58.7 -0.7
A22K **Sinclair Lake** 71.66 352 P **P** 21 11 02.1 +2.6
baz=19
ECSD **EROS Data Cent** 71.69 311 P **P** 21 11 00.2 0.0
ECSD IAmb IAmb 21 11 04.6
comp=Z,8.3nm,0.9s
ECSD **EROS Data Cent** 71.69 311 P **P** 21 11 00.6 +0.4
baz=57
WRGLY **Wrigley** 71.79 337 P **P** 21 11 01.1 +0.7
WRGLY IAmb IAmb 21 11 03.9
comp=Z,10nm,1.1s
R40A **Maddies Statio** 71.84 304 P **P** 21 11 00.0 -1.2
R40A IAmb IAmb 21 11 02.3
comp=Z,10nm,1.0s
G31M **Satah River** 71.85 344 P **P** 21 10 59.8 -1.0
G31M IAmb IAmb 21 11 02.8
comp=Z,9.7nm,1.2s
P38A **Dawn** 71.96 306 P **P** 21 11 00.8 -1.1
P38A IAmb IAmb 21 11 08.5
comp=Z,24nm,1.4s
D25K **Kavik River** 72.10 349 P **P** 21 11 04.7 +2.4
baz=26
B22K **Teshekpuk Lake** 72.12 352 P **P** 21 11 04.5 +2.2
baz=20
SONM **Songino Array** 72.13 43 P **P** 21 11 03.7 +0.7
comp=Z,1.5nm,0.6s,baz=285,slow=7.0,SNR=15
SONM LR LR 21 44 42.4
comp=Z,176nm,18.2s,baz=268,slow=38
comp=Z,1.5nm,0.6s
C23K **Itkillik River** 72.24 351 P **P** 21 11 03.1 +0.1
C23K IAmb IAmb 21 11 08.6
comp=Z,6.4nm,0.8s
C23K **Itkillik River** 72.24 351 P **P** 21 11 05.5 +2.5
baz=22
LCAR **Lake Charles** 72.28 302 P **P** 21 11 03.4 -0.5
LCAR IAmb IAmb 21 11 04.7
comp=Z,16nm,1.4s
E27K **Coleen River** 72.29 347 P **P** 21 11 04.2 +0.7
E27K **Coleen River** 72.29 347 P **P** 21 11 05.4 +1.9
baz=30
MGMO **Mountain Grove** 72.45 303 IAmb IAmb 21 11 06.6
comp=Z,9.8nm,0.9s
ULN **Ulaanbaatar** 72.47 43 *ce*P **P** 21 11 06.9 +1.8
ULN pmax pmax
comp=Z,5.0nm,1.7s
D24K **Happy Valley** 72.62 350 P **P** 21 11 07.7 +2.4
baz=24
GTA **Gaotai** 72.85 54 P **P** 21 11 08.5 +1.1
GTA sP sP 21 11 16.3 +2.8
GTA pmax pmax
comp=Z,5.0nm,1.2s
S39A **Bolivar** 72.87 304 P **P** 21 11 07.5 +0.1
S39A IAmb IAmb 21 11 08.8
comp=Z,12nm,0.9s
B21K **Ikpikpuk River** 72.93 352 P **P** 21 11 09.6 +2.5
baz=19
A19K **Wainwright** 73.00 354 P **P** 21 11 11.0 +3.4
baz=14
YAK **Yakutsk** 73.03 23 P **P** 21 11 08.6 +0.8
YAK **Yakutsk** 73.03 23 *ce*P **P** 21 11 09.2 +1.4
YAK pmax pmax
comp=Z,41nm,1.7s
YAK **Yakutsk** 73.03 23 LR LR 21 46 45.5
comp=Z,6.9nm,18.2s,baz=290,slow=39
E25K **Arctic Village** 73.05 348 P **P** 21 11 08.4 +0.4
E25K **Arctic Village** 73.05 348 P **P** 21 11 10.4 +2.4
baz=26
D23K **Nanushuk River** 73.06 350 P **P** 21 11 10.4 +2.5
baz=22
F26K **Sheenjek River** 73.19 347 P **P** 21 11 11.2 +2.4
baz=28
TOLK **Toolik Lake Re** 73.20 350 P **P** 21 11 10.2 +1.3
TOLK **Toolik Lake Re** 73.20 350 P **P** 21 11 11.4 +2.5
baz=23
H29M **Whitestone** 73.34 345 P **P** 21 11 11.3 +1.5
baz=32
C21K **Knifeblade Rid** 73.40 352 P **P** 21 11 12.7 +2.7
baz=19
D22K **Ayikyak River** 73.40 351 P **P** 21 11 12.2 +2.2
baz=21
I30M **Mount Dempster** 73.74 343 IAmb IAmb 21 11 14.9
comp=Z,13nm,1.4s
I30M **Mount Dempster** 73.74 343 P **P** 21 11 14.1 +1.9
baz=34
E23K **Chandalar** 73.75 349 P **P** 21 11 14.6 +2.5
baz=23
G26K **Porcupine Rive** 73.79 347 P **P** 21 11 14.9 +2.6
baz=28
B18K **Kokolik River** 73.88 354 P **P** 21 11 15.8 +3.0
baz=13
C19K **Lookout Ridge** 73.95 353 IAmb IAmb 21 11 17.2
comp=Z,17nm,1.5s
C19K **Lookout Ridge** 73.95 353 P **P** 21 11 16.0 +2.7
baz=15
F24K **Squaw Lake** 73.98 349 IAmb IAmb 21 11 22.6
comp=Z,11nm,1.4s
F24K **Squaw Lake** 73.98 349 P **P** 21 11 16.4 +3.0
baz=24
E22K **Anaktuvuk Pass** 73.99 350 P **P** 21 11 15.4 +1.9
baz=21
H27K **Steamboat Moun** 73.99 346 P **P** 21 11 15.9 +2.3
baz=30
D20K **Etivluk River** 74.03 352 P **P** 21 11 15.8 +2.2
baz=17
HHAR **Hobbs** 74.05 303 P **P** 21 11 14.9 +0.5
HHAR IAmb IAmb 21 11 17.9
comp=Z,12nm,1.1s
I29M **Ogilvie Camp,** 74.06 344 IAmb IAmb 21 11 16.6
comp=Z,9.7nm,1.1s
I29M **Ogilvie Camp,** 74.06 344 P **P** 21 11 15.8 +1.9
baz=32
I28M **Miner Creek** 74.34 345 P **P** 21 11 17.1 +1.5
I28M **Miner Creek** 74.34 345 P **P** 21 11 17.3 +1.7
baz=31
D19K **Kuna River** 74.39 353 P **P** 21 11 16.8 +0.9
D19K IAmb IAmb 21 11 19.2
comp=Z,17nm,1.2s
D19K **Kuna River** 74.39 353 P **P** 21 11 18.3 +2.4
baz=16
E20K **Nigu River** 74.41 352 P **P** 21 11 18.2 +2.2
baz=18
C18K **Utukok River** 74.53 354 P **P** 21 11 17.4 +0.7
C18K IAmb IAmb 21 11 20.3
comp=Z,23nm,1.4s
C18K **Utukok River** 74.53 354 P **P** 21 11 19.3 +2.6
baz=14
I27K **Kandik River** 74.56 345 P **P** 21 11 19.1 +2.3
baz=29
COLD **Coldfoot** 74.60 349 P **P** 21 11 18.9 +1.9
baz=22
F22K **John River** 74.62 350 P **P** 21 11 19.7 +2.5
baz=21
SHL **Shillong** 74.80 69 P **P** 21 11 17.6 -1.5
SHL **Shillong** 74.80 69 P **P** 21 11 17.6 -1.5
SHL pmax pmax
comp=Z,35nm,1.2s
C17K **DeLong Mountai** 74.86 355 P **P** 21 11 21.1 +2.6
baz=12
EDM **Edmonton** 74.89 326 P **P** 21 11 18.3 -0.7
EDM **Edmonton** 74.89 326 P **P** 21 11 18.3 -0.7
EDM pmax pmax
comp=Z,30nm,1.3s
G23K **Bananza Creek** 75.05 349 P **P** 21 11 22.2 +2.4
baz=23
F21K **Alatna River** 75.07 351 P **P** 21 11 19.6 -0.2
F21K IAmb IAmb 21 11 23.2
comp=Z,16nm,1.3s
F21K **Alatna River** 75.07 351 P **P** 21 11 22.3 +2.5
baz=20
BILL **Bilibino** 75.13 6 P **P** 21 11 20.8 +0.8
BILL IAmb IAmb 21 11 23.8
comp=Z,12nm,1.3s
C16K **Lisburne Hills** 75.22 355 P **P** 21 11 21.6 +1.0
C16K IAmb IAmb 21 11 23.8
comp=Z,20nm,1.4s
C16K **Lisburne Hills** 75.22 355 P **P** 21 11 22.8 +2.3
baz=10
RDOG **Red Dog Mine** 75.26 354 IAmb IAmb 21 11 24.8
comp=Z,14nm,1.4s
RDOG **Red Dog Mine** 75.26 354 P **P** 21 11 23.0 +2.2
baz=12
E19K **Redstone River** 75.30 352 P **P** 21 11 22.1 +1.1
E19K **Redstone River** 75.30 352 P **P** 21 11 23.5 +2.5
baz=17
DAWY **Dawson** 75.41 344 P **P** 21 11 22.6 +0.8
DAWY IAmb IAmb 21 11 24.9
comp=Z,19nm,1.4s
DAWY **Dawson** 75.41 344 P **P** 21 11 24.3 +2.5
baz=31
F20K **Avaraart Lake** 75.52 351 IAmb IAmb 21 11 25.1
comp=Z,12nm,1.5s
F20K **Avaraart Lake** 75.52 351 P **P** 21 11 24.8 +2.5
baz=18
E18K **Tukpahlearik C** 75.68 353 IAmb IAmb 21 11 28.4
comp=Z,5.9nm,0.7s
E18K **Tukpahlearik C** 75.68 353 P **P** 21 11 25.7 +2.5
baz=14
G21K **Allakaket** 75.74 350 IAmb IAmb 21 11 26.9
comp=Z,17nm,1.4s
G21K **Allakaket** 75.74 350 P **P** 21 11 26.0 +2.4
baz=20
M31M **Drury Creek, Y** 75.76 341 P **P** 21 11 27.2 +3.4
baz=35
F19K **Shaleruckik Mo** 75.96 352 P **P** 21 11 25.7 +0.9
F19K IAmb IAmb 21 11 28.6
comp=Z,25nm,1.4s
F19K **Shaleruckik Mo** 75.96 352 P **P** 21 11 26.8 +2.0
baz=16
R32A **Long Quarter,** 75.98 307 P **P** 21 11 25.3 -0.2
R32A IAmb IAmb 21 11 30.2
comp=Z,17nm,0.9s
H22K **Ishtalitna Cre** 76.02 349 P **P** 21 11 27.5 +2.2
baz=21
KAN01 **Argonia South** 76.10 306 IAmb IAmb 21 11 28.0
comp=Z,17nm,0.9s
POKR **Poker Plat Res** 76.10 347 P **P** 21 11 28.4 +2.7
baz=25
E17K **Hotham Inlet** 76.12 354 P **P** 21 11 27.6 +1.9
baz=13
KAN17 **Caldwell West** 76.16 306 IAmb IAmb 21 11 31.7
comp=Z,19nm,1.1s
PALK **Pallekele** 76.20 91 LR LR 21 47 04.2
comp=Z,90nm,20.3s,baz=34,slow=37
IMAR **Indian Mountai** 76.28 350 P **P** 21 11 28.0 +1.4
ILAR **Eielson Array** 76.31 347 P **P** 21 11 28.4 +1.5
comp=Z,1.0nm,0.8s,baz=8.8,slow=6.2,SNR=8.8
comp=Z,1.0nm,0.8s
CBKS **Cedar Bluff** 76.41 308 P **P** 21 11 28.5 +0.5
CBKS **Cedar Bluff** 76.41 308 P **P** 21 11 28.5 +0.5
CBKS pmax pmax
comp=Z,28nm,1.2s
H21K **Melozitna Rive** 76.45 350 IAmb IAmb 21 11 31.4
comp=Z,15nm,1.4s
SCRK **Sand Creek** 76.47 346 P **P** 21 11 30.3 +2.4
baz=27
EGMT **Eagleton** 76.54 320 P **P** 21 11 29.1 +0.5
EGMT IAmb IAmb 21 11 35.0
comp=Z,18nm,1.2s
EGMT **Eagleton** 76.54 320 P **P** 21 11 30.7 +2.1
baz=50
G19K **Purcell Mounta** 76.55 352 P **P** 21 11 30.7 +2.5
baz=17
ROSC **El Rosal** 76.58 266 LR LR 21 42 54.6
comp=Z,98nm,19.6s,baz=66,slow=34
HDA **Harding Lake** 76.65 347 P **P** 21 11 30.4 +1.5
baz=25
MLY **Manley** 76.73 349 P **P** 21 11 31.5 +2.2
baz=22
H20K **Anotleneega Mo** 76.89 351 P **P** 21 11 32.8 +2.6
baz=18
P33M **Teslin, Yukon** 76.95 339 P **P** 21 11 33.6 +2.9
36
G18K **Tagagawik** 76.96 352 P **P** 21 11 31.1 +0.6
G18K **Tagagawik** 76.96 352 P **P** 21 11 33.0 +2.4
baz=16
H19K **Roundabout Mou** 77.06 351 IAmb IAmb 21 11 34.8
comp=Z,11nm,1.1s
H19K **Roundabout Mou** 77.06 351 P **P** 21 11 33.6 +2.6
baz=17
LZH **Lanzhou** 77.36 54 ⇑P **P** 21 11 35.2 +1.6
LZH pP sP 21 11 40.6 +1.0
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,270nm,14.1s
LZH LR LR
comp=Z,280nm,16.1s
LZH LR LR
comp=Z,240nm,15.1s
DLBC **Dease Lake** 77.53 337 LR LR 21 46 41.7
comp=Z,161nm,19.7s,baz=58,slow=36
F15K **North Star Dit** 77.70 355 P **P** 21 11 37.0 +2.3
baz=11
PTLB **Pontes e Lacer** 77.74 240 P **P** 21 11 36.5 +1.0
G16K **Koyuk River** 77.82 354 IAmb IAmb 21 11 38.1
comp=Z,17nm,1.2s
G16K **Koyuk River** 77.82 354 P **P** 21 11 38.0 +2.6
baz=12
YUK6 **Outpost Mounta** 77.85 342 P **P** 21 11 39.0 +3.1
baz=31
DHY **Denali Highway** 77.95 347 P **P** 21 11 38.7 +2.4
baz=24
H17K **Granite Mounta** 78.03 352 IAmb IAmb 21 11 43.5
comp=Z,24nm,1.4s
H17K **Granite Mounta** 78.03 352 P **P** 21 11 39.5 +2.9
baz=14
CHUM **Lake Minchumin** 78.05 349 P **P** 21 11 38.7 +2.1
baz=20
PHWY **Pilot Hill** 78.41 313 P **P** 21 11 40.1 +0.7
PHWY IAmb IAmb 21 11 41.9
comp=Z,11nm,0.9s
BTO **Baotou** 78.52 48 *e*P **P** 21 11 38.9 -0.9
BTO pP **pP** 21 11 43.4 -0.9
BTO sP **sP** 21 11 46.0 +0.1
BTO PP **PP** 21 14 37.5 +0.6
BTO S **S** 21 21 35.8 -0.2
BTO SS **SS** 21 26 36.9 -1.6
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,510nm,5.6s
BTO LR LR
comp=Z,320nm,6.0s
BTO LR LR
comp=Z,300nm,5.3s
BTO LR LR
comp=Z,290nm,5.2s
K20K **Telida** 78.81 349 IAmb IAmb 21 11 43.8
comp=Z,23nm,1.2s
K20K **Telida** 78.81 349 P **P** 21 11 42.9 +2.0
baz=19
YMP **Mirror Lake Pl** 78.88 318 IAmb IAmb 21 12 02.8
comp=Z,15nm,1.3s
TEIG **Tepich** 78.91 287 LR LR 21 41 44.2
comp=Z,807nm,18.8s,baz=180,slow=32
N23A **Red Feather La** 78.95 313 P **P** 21 11 41.3 -1.1
N23A IAmb IAmb 21 11 45.1
comp=Z,18nm,1.4s
J18K **Innoko River** 79.08 351 P **P** 21 11 44.8 +2.5
baz=17
BOZ **Bozeman (W)** 79.10 319 P **P** 21 11 44.6 +1.6
baz=48
ETMB **Extrema** 79.18 249 P **P** 21 11 44.1 +0.5
HHC **Hu-ho-hao-te** 79.29 47 *e*P **P** 21 11 44.2 +0.2
HHC pP sP 21 11 49.6 -0.5
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,250nm,6.3s
BW06 **Boulder Array** 79.83 316 IAmb IAmb 21 11 48.8
comp=Z,11nm,1.2s
BW06 **Boulder Array** 79.83 316 P **P** 21 11 48.2 +1.0
baz=49
PD31 **Pinedale Array** 79.83 316 P **P** 21 11 46.2 -1.0
PD31 IAmb IAmb 21 11 51.9
comp=Z,14nm,1.4s
PDAR **Pinedale Array** 79.83 316 P **P** 21 11 46.9 -0.3
PDAR **Pinedale Array** 79.83 316 P **P** 21 11 47.9 +0.7
comp=Z,3.2nm,1.0s,baz=59,slow=6.1,SNR=14
PDAR LR LR 21 45 17.0
comp=Z,154nm,18.1s,baz=40,slow=34
comp=Z,3.2nm,1.0s
MOOW **Moose Ponds** 79.84 317 P **P** 21 11 48.0 +0.8
IMW **Indian Meadow** 79.85 318 P **P** 21 11 47.9 +0.5
NEW **Newport** 80.03 324 LR LR 21 45 09.1
comp=Z,168nm,18.6s,baz=27,slow=34
TNCH **TengChong** 80.06 66 P **P** 21 11 48.0 -0.6
TNCH sP sP 21 11 54.0 -0.7
TNCH S **S** 21 21 48.5 -4.4
TNCH pmax pmax
comp=Z,7.0nm,2.3s
TNCH pmax pmax
comp=Z,86nm,4.8s
TPAW **Teton Pass** 80.13 317 IAmb IAmb 21 11 54.7
comp=Z,14nm,1.4s
CD2 **Chengdu** 80.36 59 *e*P **P** 21 11 48.8 -1.2
SDCO **Great Sand Dun** 80.66 310 P **P** 21 11 51.1 -0.7
SDCO **Great Sand Dun** 80.66 310 P **P** 21 11 52.9 +1.1
baz=51
MA2 **Magadan** 80.79 16 P **P** 21 11 51.7 +0.1
MA2 IAmb IAmb 21 11 54.9
comp=Z,17nm,1.1s
MA2 **Magadan** 80.79 16 *ce*P **P** 21 11 54.6 +2.9
MA2 pmax pmax
comp=Z,27nm,1.7s
MA2 **Magadan** 80.79 16 LR LR 21 50 18.3
comp=Z,63nm,20.0s,baz=332,slow=38
RDMU **Red Mountain** 81.27 314 IAmb IAmb 21 12 00.5
comp=Z,9.0nm,1.1s
S22A **4UR Ranch, Cre** 81.47 311 P **P** 21 11 55.6 -0.5
S22A IAmb IAmb 21 12 02.0
comp=Z,11nm,1.4s
PZH **PanZhiHua** 81.55 63 P **P** 21 11 56.5 0.0
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,190nm,6.1s
F10A **Beach Ranch, E** 81.69 322 P **P** 21 11 57.0 +0.1
HWUT **Hardware Ranch** 81.72 316 P **P** 21 11 57.1 -0.1
BBB **Bella Bella** 81.81 332 LR LR 21 48 29.5
comp=Z,109nm,18.4s,baz=23,slow=36
XAN **Xi'an** 81.91 54 ⇓P **P** 21 11 59.6 +1.4
XAN pmax pmax
comp=Z,17nm,1.3s
BSUT **Blindstream Ca** 81.98 315 P **P** 21 11 58.7 -0.1
JTS **Las Juntas de** 81.98 277 LR LR 21 42 39.8
comp=Z,58nm,21.6s,baz=77,slow=32
BMO **Blue Mountains** 82.53 322 IAmb IAmb 21 12 05.6
comp=Z,16nm,1.5s
MXC **Moxie City** 82.74 324 IAmb IAmb 21 12 08.4
comp=Z,16nm,1.4s
SRU **San Rafael Swe** 82.78 314 P **P** 21 12 02.6 -0.2
SRU **San Rafael Swe** 82.78 314 P **P** 21 12 02.6 -0.2
SRU pmax pmax
comp=Z,7.0nm,1.3s
BGU **Big Grassy Mou** 82.99 316 IAmb IAmb 21 12 08.8
comp=Z,9.3nm,1.5s
ANMO **Albuquerque** 83.03 309 LR LR 21 47 44.9
comp=Z,127nm,19.2s,baz=132,slow=35
LON **Longmire** 83.32 325 IAmb IAmb 21 12 14.8
comp=Z,8.1nm,0.8s
KLR **Kul'dur** 83.55 31 LR LR 21 52 19.4
comp=Z,157nm,19.2s,baz=358,slow=38
PECS **Pecos** 83.61 304 P **P** 21 12 08.0 +1.0
PECS IAmb IAmb 21 12 13.4
comp=Z,5.2nm,0.9s
KDAK **Kodiak Island** 83.84 347 LR LR 21 50 50.4
comp=Z,88nm,21.9s,baz=60,slow=37
G06A **Carlson Farm,** 83.88 324 IAmb IAmb 21 12 16.3
comp=Z,12nm,1.5s
CPUP **Villa Florida** 84.12 231 P **P** 21 12 09.3 -0.1
CPUP IAmb IAmb 21 12 13.6
comp=Z,12nm,1.2s
CPUP **Villa Florida** 84.12 231 P **P** 21 12 09.3 -0.1
CPUP pmax pmax
comp=Z,12nm,1.3s
CPUP **Villa Florida** 84.12 231 P **P** 21 12 10.8 +1.4
comp=Z,1.9nm,0.5s,baz=84,slow=4.5,SNR=4.6
CPUP LR LR 21 47 52.8
comp=Z,143nm,20.6s,baz=56,slow=34
comp=Z,1.9nm,0.5s
CMAR **Chiang Mai Arr** 84.22 71 P **P** 21 12 10.2 -0.1
CMAR **Chiang Mai Arr** 84.22 71 P **P** 21 12 10.2 -0.1
CMAR **Chiang Mai Arr** 84.22 71 P **P** 21 12 11.3 +1.1
comp=Z,1.1nm,0.7s,baz=309,slow=7.3,SNR=12
comp=Z,1.1nm,0.7s
BNX **BinXian** 84.30 35 ⇓P **P** 21 12 10.8 +0.6
BNX pmax pmax
comp=Z,18nm,1.2s
BNX pmax pmax
comp=Z,160nm,3.0s
ELK **Elko** 84.33 318 IAmb IAmb 21 12 19.1
comp=Z,13nm,1.5s
ELK **Elko** 84.33 318 P **P** 21 12 12.5 +1.7
comp=Z,1.1nm,0.9s,baz=20,slow=3.7,SNR=6.4
ELK LR LR 21 48 04.9
comp=Z,180nm,18.2s,baz=44,slow=34
comp=Z,1.1nm,0.9s
MTPU **Mount Pierson** 84.47 314 P **P** 21 12 10.9 -0.7
MTPU IAmb IAmb 21 12 19.6
comp=Z,12nm,1.4s
TX31 **Lajitas Ar. Si** 84.75 303 IAmb IAmb 21 12 15.2
comp=Z,7.5nm,1.1s
TXAR **Lajitas Array** 84.75 303 P **P** 21 12 14.2 +1.3
comp=Z,0.9nm,0.6s,baz=83,slow=4.9,SNR=9.9
TXAR LR LR 21 48 05.5
comp=Z,46nm,21.7s,baz=42,slow=34
comp=Z,0.9nm,0.6s
SPR3 **Spring Creek 3** 85.04 316 IAmb IAmb 21 12 23.7
comp=Z,20nm,1.5s
GYA **Guiyang** 85.08 61 *e*P **P** 21 12 16.0 +1.3
GYA pmax pmax
comp=Z,14nm,1.0s
GYA pmax pmax
comp=Z,360nm,3.6s
PINE **Pine Mountain** 85.09 323 P **P** 21 12 14.4 -0.2
PINE IAmb IAmb 21 12 23.2
comp=Z,11nm,1.4s
Q12A **Willow Creek R** 85.29 316 IAmb IAmb 21 12 29.2

	comp=Z,19nm,1.3s						
CMIG	**Matias Romero**	**85.82**	**288**	LR	LR	21 46 49.2	
	comp=Z,104nm,19.8s,baz=19,slow=33						
R11B	**Troy Canyon, C**	**86.19**	**316**	IAmb	IAmb	21 12 28.0	
	comp=Z,7.7nm,1.4s						
PRN	**Pahroc Range**	**86.55**	**315**	P	**P**	**21 12 21.5**	**-0.3**
PRN				IAmb	IAmb	21 12 31.7	
	comp=Z,10nm,1.5s						
YBH	**Yreka Blue Hor**	**87.50**	**322**	LR	LR	21 49 21.2	
	comp=Z,156nm,19.5s,baz=29,slow=34						
USRK	**Ussuriysk Ar.**	**87.58**	**34**	LR	LR	21 55 57.1	
	comp=Z,90nm,18.3s,baz=345,slow=39						
NVAR	**Mina Array Bea**	**87.64**	**318**	LR	LR	21 48 21.7	
	comp=Z,183nm,21.9s,baz=40,slow=33						
NNA	**Nana**	**88.67**	**254**	LR	LR	21 49 10.9	
	comp=Z,27nm,21.7s,baz=28,slow=34						
LVC	**Limon Verde**	**89.37**	**241**	LR	LR	21 52 59.2	
	comp=Z,56nm,18.1s,baz=342,slow=36						
NJ2	**Nanjing**	**89.50**	**50**	*e*P	**P**	**21 12 35.3**	**-0.5**
NJ2				pP	**pP**	**21 12 39.1**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,280nm,3.5s						
PFO	**Pinyon Flats O**	**90.03**	**313**	LR	LR	21 50 49.2	
	comp=Z,65nm,18.6s,baz=24,slow=34						
KSRS	**Korea Array**	**90.77**	**40**	LR	LR	21 57 45.5	
	comp=Z,76nm,20.2s,baz=315,slow=38						
ASAJ	**Asahikawa**	**92.01**	**28**	LR	LR	21 57 25.0	
	comp=Z,74nm,18.3s,baz=308,slow=38						
LPIG	**La Paz**	**92.64**	**303**	LR	LR	21 52 55.3	
	comp=Z,115nm,20.4s,baz=34,slow=34						
CFA	**Coronel Fontan**	**94.70**	**234**	LR	LR	21 54 40.2	
	comp=Z,87nm,20.2s,baz=92,slow=35						
QSPA	**South Pole Qui**	**126.31**	**180**	PKP	**PKiKP**	**21 18 40.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=275,slow=2.5,SNR=4.4						
CTA	**Charters Tower**	**144.37**	**73**	PKP	**PKPdf**	**21 19 14.8**	**-0.3**
	comp=Z,7.3nm,0.6s,baz=177,slow=3.6,SNR=6.5						
STKA	**Stephens Creek**	**145.99**	**95**	PKPbc	**PKPbc**	**21 19 18.1**	**-0.1**
	comp=Z,5.3nm,0.5s,baz=287,slow=3.8,SNR=16						

IDC ***02*** *21:14:04.7±1.6, 6°.93S×129°.20E, h0km, mb3.9/4, mbtmp3.9/6, ML4.3/2, Error ellipse: s-maj=137.6km s-min=28.6km az=68.0*
DJA ***02*** *21:14:17.1±0.9, 8°S±2°×12°8E±°, h12km±6km, M4.4/12, mB5.2/6, mb4.3/12, MLv4.4/12, Mw(mB)4.6/6*
ISC 02 21:14:19.8±0.7**, 7°.68S**±0°.06×**128°.47E**±0°.06**, h151**km**, n27,** σ**2.69**/30**, mb3.6**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.81**	**96**	P	**Pn**	**21 15 03.2**	**-1.7**
SAUI				S	**Sn**	**21 15 38.0**	**-1.7**
BNDI	**Bandanaira**	**3.45**	**24**	P	**Pn**	**21 15 12.0**	**-1.0**
BNDI				S	**Sn**	**21 15 52.1**	**-2.1**
SOEI	**Soe**	**4.64**	**243**	P	**Pn**	**21 15 25.3**	**-3.4**
SOEI				S	**Sn**	**21 16 22.0**	**-0.3**
MTN	**Manton Dam**	**5.76**	**153**	P	**Pn**	**21 15 43.8**	**+0.5**
FAKI	**Fak Fak**	**6.04**	**39**	P	**Pn**	**21 15 45.3**	**-1.9**
FAKI	**Fak Fak**	**6.04**	**39**	P	**Pn**	**21 15 45.2**	**-1.9**
	16nm,0.5s,0.1nm						
SANI	**Sanana**	**6.12**	**336**	P	Pn	21 15 44.3	-3.9
	7.3nm,0.9s,0.0nm						
MMRI	**Maumere**	**6.25**	**261**	P	**Pn**	**21 15 46.6**	**-3.3**
	11nm,0.6s,0.1nm						
KDU	**Kakadu**	**6.34**	**142**	P	**Pn**	**21 15 51.0**	**-0.1**
EDFI	**Ende, Flores**	**6.80**	**261**	P	**Pn**	**21 15 56.7**	**-0.6**
	4.1nm,0.7s,427nm0.0nm						
SIJI	**Sorong**	**7.32**	**22**	P	**Pn**	**21 16 03.5**	**-0.7**
	8.9nm,0.5s,761nm0.1nm						
SWI	**Sorong**	**7.32**	**22**	P	**Pn**	**21 16 03.7**	**-0.5**
	19nm,1.0s,0.1nm						
KNRA	**Kununurra**	**7.95**	**178**	P	**Pn**	**21 16 12.4**	**-0.2**
BASI	**Baing, Sumba**	**8.20**	**252**	P	**Pn**	**21 16 13.6**	**-2.3**
	60nm,0.9s						
PLAI	**Plampang**	**10.65**	**263**	P	**Pn**	**21 16 48.3**	**-0.2**
PLAI	**Plampang**	**10.65**	**263**	P	**Pn**	**21 16 47.4**	**-1.1**
	7.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**10.71**	**195**	P	**Pn**	**21 16 47.8**	**-1.5**
WRA	**Warramunga Arr**	**13.45**	**156**	Pn	**Pn**	**21 17 22.8**	**-2.0**
	2.1nm,0.3s,baz=342,slow=13,SNR=57						
WRA				Sn	Sn	21 19 43.7	-10
	2.2nm,0.3s,baz=327,slow=24,SNR=12						
	2.4nm,0.3s						
MBWA	**Marble Bar**	**15.84**	**211**	P	**P**	**21 17 56.8**	**+1.5**
PSA00	**Pilbara Seismi**	**16.13**	**210**	P	**P**	**21 17 59.4**	**+0.9**
ASAR	**Alice Springs**	**16.73**	**162**	P	**Pn**	**21 18 07.0**	**+1.6**
	0.4nm,0.3s,baz=336,slow=9.4,SNR=37						
ASAR				S	**S**	**21 21 03.5**	**-8.0**
	0.8nm,0.4s,baz=319,slow=15,SNR=6.4						
	1.4nm,0.5s						
QIS	**Mount Isa**	**16.73**	**141**	P	**Pn**	**21 18 10.2**	**+4.7**
OOD	**Oodnadatta**	**21.14**	**162**	P	**P**	**21 18 59.1**	**+6.2**
MKAR	**Makanchi Array**	**67.98**	**328**	P	**P**	**21 25 04.4**	**+1.8**
	0.4nm,0.5s,baz=119,slow=8.1,SNR=14						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**71.53**	**335**	P	**P**	**21 25 25.3**	**+1.2**
	0.4nm,0.4s,baz=132,slow=5.7,SNR=3.0						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.31**	**329**	P	**P**	**21 25 30.6**	**+1.8**
	1.0nm,0.6s,baz=133,slow=4.8,SNR=12						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**77.84**	**328**	P	**P**	**21 26 02.2**	**+1.7**
	0.5nm,0.4s,baz=125,slow=9.6,SNR=7.8						
	0.5nm,0.4s						

IDC ***02*** *21:14:38.6±7.6, 18°.70N×108°.65W, h0km, mb3.3/5, mbtmp3.4/6, ML3.3/1, MS3.2/6, Error ellipse: s-maj=123.7km s-min=71.3km az=154.0*
ISC 02 21:14:43.4±6.6**, 18°.6N**±0°.7×**108°.7W**±0°.5**, h35**km**, n11,** σ**1.83**/6**, mb3.4**/5**, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**5.63**	**345**	LR	LR	21 17 34.1	
	comp=Z,160nm,20.2s,baz=174,slow=31						
TXAR	**Lajitas Array**	**11.59**	**22**	Pn	**Pn**	**21 17 27.1**	**+0.6**
	0.1nm,0.3s,baz=200,slow=15,SNR=12						
TXAR				LR	LR	21 21 10.4	
	comp=Z,49nm,19.9s,baz=26,slow=34						
	1.2nm,0.8s						
CMIG	**Matias Romero**	**13.24**	**95**	LR	LR	21 23 08.2	
	comp=Z,63nm,19.0s,baz=12,slow=39						
ANMO	**Albuquerque**	**16.36**	**7**	LR	LR	21 23 40.4	
	comp=Z,70nm,21.2s,baz=218,slow=33						
PFO	**Pinyon Flats O**	**16.44**	**337**	LR	LR	21 23 29.3	
	comp=Z,119nm,20.1s,baz=144,slow=32						
NVAR	**Mina Array Bea**	**21.42**	**339**	P	**P**	**21 19 29.8**	**+1.3**
	1.6nm,0.8s,baz=163,slow=12,SNR=11						
	1.6nm,0.8s						
ELK	**Elko**	**22.73**	**347**	P	**P**	**21 19 40.1**	**-2.5**
	1.1nm,0.8s,baz=189,slow=8.6,SNR=4.5						
	1.1nm,0.8s						
PDAR	**Pinedale Array**	**24.06**	**358**	P	**P**	**21 19 54.4**	**-1.1**
	0.4nm,0.7s,baz=168,slow=7.6,SNR=4.0						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**44.00**	**356**	P	**P**	**21 22 46.9**	**-0.2**
	0.3nm,0.7s,baz=162,slow=8.2,SNR=5.9						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**52.66**	**341**	P	**P**	**21 23 54.5**	**+0.6**
	0.7nm,0.9s,baz=142,slow=5.9,SNR=5.5						
	0.7nm,0.9s						
SFJD	**Kangerlussuaq**	**60.71**	**22**	LR	LR	21 52 19.6	
	comp=Z,107nm,18.8s,baz=106,slow=37						

ISK ***02*** *21:23:27.9, 36°.92N×27°.37E, h13km, ML3.3/23*
THE ***02*** *21:23:28.9, 36°.94N×27°.39E, h8km, ML3.3/10, Error ellipse: s-maj=0.8km s-min=0.6km az=262.0*
AFAD ***02*** *21:23:28.3±0.0, 36°.93N×27°.38E, h11km±1km, MW3.7*
ATH ***02*** *21:23:29.1, 36°.93N×27°.36E, h14km±1km, ML3.3/12, Error ellipse: s-maj=2.0km s-min=0.9km az=235.0*
ISC 02 21:23:27.7±0.8**, 36°.93N**±0°.02×**27°.39E**±0°.02**, h17**km±4km**, n71,** σ**0.66**/116**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	**Kemer-Bodrum**	**0.10**	**289**	Pg	**Pb**	**21 23 31.4**	**+0.3**
RFTB				Sg	**Sb**	**21 23 33.5**	**+0.1**
BDRM	**Kayabasi**	**0.14**	**19**	P	**Pb**	**21 23 31.8**	**-0.2**
BDRM				S	**Sg**	**21 23 34.0**	**-0.3**
BODT	**Bodrum**	**0.14**	**335**	Pg	**Pb**	**21 23 31.9**	**-0.1**
BODT				Sg	**Sb**	**21 23 34.5**	**-0.4**
BODT	**Bodrum**	**0.14**	**335**	P	**Pb**	**21 23 31.9**	**-0.1**
BODT				S	**Sb**	**21 23 34.5**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.21**	**336**	Pg	**Pb**	**21 23 32.8**	**-0.3**
YKAV				Sg	**Sb**	**21 23 36.5**	**-0.3**
DAT	**Datca**	**0.25**	**143**	Pg	**Pb**	**21 23 33.7**	**-0.2**
DAT	**Datca**	**0.25**	**143**	P	**Pb**	**21 23 33.9**	**0.0**
DAT				S	**Sb**	**21 23 38.3**	**+0.2**
DAT	**Datca**	**0.25**	**143**	P	**Pb**	**21 23 33.9**	**0.0**
YAZI	**Mula-Dat§a-**	**0.26**	**168**	P	**Pb**	**21 23 33.8**	**-0.1**
YAZI				S	**Sg**	**21 23 36.3**	**-0.9**
DATC	**Datca-Mugla**	**0.28**	**128**	Pg	**Pb**	**21 23 34.5**	**+0.2**
RFTAA	**Mazikoy-Bodrum**	**0.29**	**77**	Pg	**Pb**	**21 23 34.6**	**+0.1**
RFTAA				Sg	**Sb**	**21 23 39.6**	**+0.5**
KLNA	**Kalymnos**	**0.33**	**275**	P	**Pb**	**21 23 35.2**	**+0.1**
KLNA				S	**Sb**	**21 23 39.8**	**-0.5**
KLNA				AML	AML	21 23 40.6	
	comp=E,40369µm,0.3s						
KLNA				AML	AML	21 23 40.7	
	comp=N,24386µm,0.3s						
NISR	**Nisiros**	**0.38**	**213**	P	**Pb**	**21 23 36.2**	**+0.2**
NISR				S	**Sb**	**21 23 43.0**	**+1.4**
	comp=N,7µm,0.2s						
NISR	**Nisiros**	**0.38**	**213**	P	**Pb**	**21 23 36.2**	**+0.2**
NISR				S	**Sb**	**21 23 42.0**	**+0.4**
NISR				AML	AML	21 23 43.3	
	comp=E,22071µm,0.4s						
NISR				AML	AML	21 23 43.5	
	comp=N,6602µm,0.2s						
MLSB	**Milas**	**0.48**	**40**	Pg	**Pb**	**21 23 37.8**	**+0.1**
DDIM	**Aydin, Didim**	**0.54**	**347**	P	**Pb**	**21 23 39.2**	**+0.5**
DDIM				S	**Sb**	**21 23 46.7**	**+0.6**
TURN	**Turunc**	**0.70**	**103**	Pg	**Pb**	**21 23 41.6**	**+0.1**
TURN				Sg	**Sn**	**21 23 53.1**	**-0.3**
TURN	**Turunc**	**0.70**	**103**	P	**Pb**	**21 23 41.7**	**+0.1**
TURN				S	**Sn**	**21 23 53.1**	**-0.3**
YER	**Yerkesik**	**0.74**	**74**	Pg	**Pn**	**21 23 43.3**	**-0.2**
YER	**Yerkesik**	**0.74**	**74**	P	**Pn**	**21 23 43.0**	**-0.5**
YER				S	**Sn**	**21 23 54.6**	**+0.1**
GCAM	**G?zelcaml?**	**0.78**	**351**	Pg	**Pn**	**21 23 43.4**	**-0.5**
GCAM	**G?zelcaml?**	**0.78**	**351**	P	**Pn**	**21 23 43.3**	**-0.5**
GCAM				S	**Sn**	**21 23 55.2**	**0.0**
MULA	**Mugla, Merkez-**	**0.81**	**66**	P	**Pn**	**21 23 44.2**	**-0.3**
MULA				S	**Sb**	**21 23 55.0**	**+0.8**
SMG	**Samos**	**0.89**	**331**	P	**Pn**	**21 23 45.4**	**-0.1**
SMG				S	**Sn**	**21 23 58.8**	**+0.7**
	comp=N,9µm,0.5s						
SMG	**Samos**	**0.89**	**331**	P	**Pn**	**21 23 45.2**	**-0.3**
SMG				S	**Sn**	**21 23 58.2**	**+0.2**
SMG				AML	AML	21 24 02.6	
	comp=E,22850µm,0.4s						
SMG				AML	AML	21 24 03.0	
	comp=N,11992µm,0.3s						
ARG	**Arkhangelos**	**0.93**	**140**	Pg	**Pn**	**21 23 46.3**	**+0.3**
ARG	**Arkhangelos**	**0.93**	**140**	P	**Pn**	**21 23 46.1**	**+0.1**
ARG				S	**Sn**	**21 24 00.5**	**+1.6**
	comp=N,3µm,0.5s						
ARG	**Arkhangelos**	**0.93**	**140**	P	**Pn**	**21 23 46.0**	**+0.1**
ARG				S	**Sn**	**21 23 59.9**	**+1.0**
ARG				AML	AML	21 24 02.4	
	comp=E,4962µm,0.4s						
ARG				AML	AML	21 24 03.5	
	comp=N,6856µm,0.6s						
DALY	**Dalyan (Mula)**	**1.02**	**96**	Pg	**Pn**	**21 23 47.9**	**+0.7**
ESEN	**Aydn-Nazilli**	**1.16**	**41**	P	**Pg**	**21 23 49.9**	**-0.1**
ESEN				S	**Sb**	**21 24 04.0**	**0.0**
DGB	**zmir**	**1.19**	**340**	P	**Pg**	**21 23 50.1**	**-0.5**
GMLD	**Gumuldur**	**1.20**	**342**	Pn	**Pg**	**21 23 51.5**	**+0.6**
SABU	**Mula-Dalaman**	**1.27**	**94**	P	**Pg**	**21 23 52.6**	**+0.4**
SABU				S	**Sg**	**21 24 09.0**	**+0.2**
IZMR	**zmir-demi**	**1.28**	**20**	P	**Pg**	**21 23 52.1**	**-0.3**
IZMR				P	**Pb**	**21 23 52.4**	**+0.9**
IZMR				S	**Sg**	**21 24 08.5**	**-0.7**
IZMR				S	**Sg**	**21 24 08.6**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.33**	**66**	P	**Pg**	**21 23 53.8**	**+0.4**
TAVA				S	**Sg**	**21 24 11.2**	**+0.5**
FETY	**Fethiye**	**1.39**	**102**	Pn	**Pg**	**21 23 54.2**	**-0.3**
KARP	**Karpathos**	**1.39**	**188**	Pn	**Pb**	**21 23 52.8**	**-0.5**
KARP	**Karpathos**	**1.39**	**188**	P	**Pb**	**21 23 53.1**	**-0.2**
KARP				S	**Sb**	**21 24 11.1**	**+0.3**
	comp=N,942nm,0.5s						
KARP	**Karpathos**	**1.39**	**188**	P	**Pb**	**21 23 53.1**	**-0.2**
KARP				S	**Sn**	**21 24 10.5**	**0.0**
KARP				AML	AML	21 24 15.2	
	comp=E,2411µm,0.6s						
KARP				AML	AML	21 24 18.9	
	comp=N,1346µm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**1.48**	**332**	P	**Pn**	**21 23 53.6**	**0.0**
ZEYE				S	**Sb**	**21 24 14.0**	**+0.7**
DNIZ	**Denizli-Tavas-**	**1.49**	**62**	P	**Pg**	**21 23 55.8**	**-0.6**
DNIZ				S	**Sg**	**21 24 14.7**	**-1.0**
APE	**Apeiranthos**	**1.49**	**276**	Pn	**Pb**	**21 23 54.8**	**-0.2**
APE	**Apeiranthos**	**1.49**	**276**	P	**Pb**	**21 23 54.5**	**-0.5**
APE				S	**Sg**	**21 24 14.9**	**-1.0**
	comp=N,652nm,0.4s						
APE	**Apeiranthos**	**1.49**	**276**	P	**Pb**	**21 23 54.6**	**-0.5**
APE				S	**Sn**	**21 24 12.6**	**-0.3**
APE				AML	AML	21 24 20.0	
	comp=E,1366µm,0.4s						
APE				AML	AML	21 24 21.1	
	comp=N,1237µm,0.4s						
KIRA	**zmir-Kiraz**	**1.50**	**32**	P	**Pb**	**21 23 55.2**	**0.0**
KIRA				S	**Sn**	**21 24 12.1**	**-1.1**
CAME	**Cameli-Denizli**	**1.53**	**89**	Pn	**Pg**	**21 23 57.0**	**-0.2**
CAEL	**Denizli, Camel**	**1.56**	**82**	P	**Pg**	**21 23 57.7**	**+0.1**
CAEL				S	**Sg**	**21 24 19.2**	**+1.2**
IZZE	**Mula-Seydike**	**1.56**	**108**	P	**Pb**	**21 23 56.4**	**+0.3**
IZZE				S	**Sg**	**21 24 16.8**	**-1.1**
APMY	**Acipayam-Deniz**	**1.62**	**70**	Pn	**Pb**	**21 23 57.6**	**+0.4**
CMBO	**Columbo, Santo**	**1.66**	**254**	P	**Pn**	**21 23 56.8**	**+0.8**
CMBO				S	**Sb**	**21 24 18.9**	**+0.5**
	comp=N,918nm,0.6s						
KNIK	**Mula-Seydike**	**1.75**	**92**	P	**Pg**	**21 24 01.2**	**-0.2**
GOLH	**Golhisar**	**1.77**	**79**	P	**Pb**	**21 24 00.2**	**+0.5**
CHOS	**Chios island**	**1.80**	**324**	Pn	**Pn**	**21 23 58.9**	**+0.9**
CHOS	**Chios island**	**1.80**	**324**	P	**Pn**	**21 23 59.1**	**+1.1**
CHOS				S	**Sn**	**21 24 21.6**	**+1.1**
	comp=N,740nm,0.5s						
CHOS	**Chios island**	**1.80**	**324**	P	**Pn**	**21 23 58.9**	**+0.9**
CHOS				AML	AML	21 24 32.7	
	comp=E,1519µm,0.5s						
CHOS				AML	AML	21 24 32.8	
	comp=N,1460µm,0.4s						
MANT	**Manisa**	**1.81**	**30**	P	**Pb**	**21 23 59.6**	**-0.9**
KULA	**Kula-Manisa**	**1.88**	**32**	Pn	**Pb**	**21 24 00.9**	**-0.7**
KULA	**Kula-Manisa**	**1.88**	**32**	P	**Pb**	**21 24 00.6**	**-1.0**
TNSA	**Tinos**	**1.88**	**290**	P	**Pn**	**21 24 00.0**	**+1.0**
TNSA				S	**Sn**	**21 24 22.8**	**+0.5**
TNSA				AML	AML	21 24 30.3	
	comp=E,676µm,0.3s						
TNSA				AML	AML	21 24 33.7	
	comp=N,668µm,0.5s						
KARB	**zmir-Karabur**	**1.89**	**336**	P	**Pn**	**21 24 00.1**	**+0.8**
EAG2	**Marmaro, Chios**	**1.90**	**328**	P	**Pn**	**21 23 59.8**	**+0.5**
KSL	**Kastellorizon**	**1.93**	**113**	P	**Pb**	**21 24 01.4**	**-1.1**
KSL				S	**Sb**	**21 24 25.3**	**-1.0**
	comp=N,172nm,0.9s						
KSL	**Kastellorizon**	**1.93**	**113**	P	**Pb**	**21 24 01.7**	**-0.7**
KSL				S	**Sn**	**21 24 24.1**	**+0.4**
KSL				AML	AML	21 24 35.8	
	comp=E,275µm,1.0s						
KSL				AML	AML	21 24 44.0	
	comp=N,302µm,1.2s						
ELL	**Elmali**	**2.03**	**94**	Pn	**Pb**	**21 24 03.4**	**-0.8**
ZKR	**Zakros**	**2.05**	**208**	Pn	**Pn**	**21 24 02.5**	**+1.1**
ZKR	**Zakros**	**2.05**	**208**	P	**Pb**	**21 24 03.2**	**-1.2**
ZKR				S	**Sb**	**21 24 28.5**	**-1.1**
	comp=N,168nm,0.5s						
ZKR	**Zakros**	**2.05**	**208**	P	**Pb**	**21 24 02.9**	**-1.5**
ZKR				S	**Sn**	**21 24 25.8**	**-0.8**
ZKR				AML	AML	21 24 38.8	
	comp=E,440µm,0.5s						
ZKR				AML	AML	21 24 39.8	
	comp=N,232µm,0.5s						
RFT7	**Candarli**	**2.06**	**350**	Pn	**Pb**	**21 24 03.3**	**-1.3**
DKL	**Dikili**	**2.17**	**350**	Pn	**Pn**	**21 24 04.5**	**+1.4**
PRK	**Paraskevi**	**2.47**	**339**	P	**Pn**	**21 24 08.4**	**+1.2**
PRK				S	**Sn**	**21 24 37.5**	**+0.5**
PRK				AML	AML	21 24 57.1	
	comp=E,940µm,1.0s						
PRK				AML	AML	21 24 58.0	
	comp=N,727µm,0.9s						
SIGR	**SIGRI**	**2.58**	**332**	P	**Pn**	**21 24 09.9**	**+1.2**
SIGR				S	**Sn**	**21 24 40.0**	**+0.4**
SIGR				AML	AML	21 24 56.2	
	comp=N,301µm,0.4s						
SIGR				AML	AML	21 24 58.6	
	comp=E,371µm,0.5s						

IDC ***02*** *21:24:11.1±0.7, 37°.21N×142°.32E, h0km, mb4.0/15, mbtmp4.0/21, ML3.6/6, MS3.4/7, Error ellipse: s-maj=16.8km s-min=14.7km az=126.0*
JMA ***02*** *21:24:13.7±0.2, 37°3N±0°.6×14°2E±°, h33km±4km, MD4.4/39, MV4.2/39, E OFF FUKUSHIMA PREF*
NIED ***02*** *21:24:13.7, 37°.32N×142°.14E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.76; $M_{\theta\theta}$0.29; $M_{\phi\phi}$0.47; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.74; $M_{\phi r}$1.12; Fault plane solution: $M_0$1.50000×10^{15} NP1: ϕ_s169.00000°, δ73.00000°, λ-63.00000°. NP2: ϕ_s289.00000°, δ32.00000°, λ-146.00000°.*
NEIC ***02*** *21:24:16.4±1.3, 37°.30N±0°.06×142°.09E±0°.08, h34km±4km, mb4.3/23 Error ellipse: s-maj=9.4km s-min=7.7km az=64.0*
ISC 02 21:24:11.9±1.8**, 37°.29N**±0°.05×**142°.16E**±0°.06**, h5**km±10km**, n101,** σ**1.31**/96**, mb4.2**/34**, 2C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.02**	**275**	P	**Pg**	**21 24 31.8**	**+0.2**
JFK				*e*S	**Sg**	**21 24 44.4**	**-0.5**
JMST	**Minamisoumatoc**	**1.10**	**294**	P	**Pg**	**21 24 32.7**	**-0.3**
JMST				*e*S	**Sg**	**21 24 46.4**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.10**	**260**	P	**Pg**	**21 24 32.9**	**-0.1**
JIKH	**Ishinomakikobu**	**1.16**	**332**	P	**Pg**	**21 24 33.3**	**-0.7**
JIKH				S	**Sg**	**21 24 47.8**	**-1.2**
JMM	**Marumori**	**1.23**	**298**		**Pb**	**21 24 34.7**	**-0.8**
JMM				Sn	**Sb**	**21 24 49.4**	**-2.3**
JMM	**Marumori**	**1.23**	**298**	P	**Pb**	**21 24 34.7**	**-0.8**
JMM				*e*S	**Sb**	**21 24 49.1**	**-2.5**
JIO	**Ouri**	**1.32**	**331**	⇓P	**Pn**	**21 24 36.0**	**-1.1**
JOTO	**OTAMA OYAMA**	**1.48**	**281**	*i* P	**Pn**	**21 24 39.3**	**+0.1**
JOTO	**OTAMA OYAMA**	**1.48**	**281**	A	A	21 24 39.3	
	comp=E,18nm,0.7s,comp=N,13nm,1.5s						
JOU	**Okura**	**1.59**	**313**	P	**Pn**	**21 24 40.7**	**-0.1**
JOU				*e*S	**Sn**	**21 25 00.3**	**-1.6**
JOU	**Okura**	**1.59**	**313**	A	A	21 24 40.7	
	comp=E,7.0nm,0.8s,comp=N,9.0nm,3.0s						
JYAR	**Yonezawaarcadi**	**1.71**	**292**	A	A	21 24 41.9	
	comp=E,12nm,1.3s,comp=N,13nm,0.6s						
JMK	**Ichinoseki**	**1.81**	**336**	P	**Pn**	**21 24 43.5**	**-0.3**
JYS	**Shirataka**	**1.90**	**300**	P	**Pb**	**21 24 46.7**	**-0.4**
JYS				*e*S	**Sn**	**21 25 09.5**	**+0.1**
JFY	**Yanaizu**	**1.96**	**274**	P	**Pn**	**21 24 46.6**	**+0.8**
JYK	**Kaneyama**	**2.15**	**319**	P	**Pn**	**21 24 48.6**	**+0.1**
JOM	**Ohasama**	**2.28**	**343**	P	**Pn**	**21 24 50.4**	**+0.2**
MJAR	**Matsushiro Arr**	**3.25**	**258**	Pn	**Pn**	**21 25 05.4**	**+1.8**
	comp=N,2.6nm,0.3s,baz=96,slow=9.4,SNR=71						
MJAR				Sn	**Sb**	**21 25 47.1**	**-3.0**
	comp=N,1.5nm,0.3s,baz=93,slow=28,SNR=6.2						
MJAR				LR	LR	21 26 39.2	
	comp=N,835nm,18.1s,baz=110,slow=44						
	comp=N,26nm,0.5s						
MAJO	**Matsushiro**	**3.25**	**258**		**Pn**	**21 25 03.7**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.25**	**258**		**Pn**	**21 25 05.0**	**+1.3**
JTM	**Tenmabayashi**	**3.59**	**347**		**Pn**	**21 25 09.2**	**+1.0**
JSG	**Sagara**	**4.15**	**232**		**Pn**	**21 25 17.7**	**+1.8**
JHJ2	**Mitsune**	**4.59**	**205**	Pn	**Pn**	**21 25 21.5**	**-0.5**
JHJ	**Hachijo jima 2**	**4.59**	**206**	Pn	**Pn**	**21 25 22.2**	**+0.2**
	comp=N,62nm,0.3s,baz=142,slow=22,SNR=7.3						
JHJ				Sn	**Sn**	**21 26 11.9**	**-3.9**
	comp=N,72nm,0.3s,baz=56,slow=23,SNR=6.4						
	comp=N,171nm,0.3s						
ERM	**Erimo**	**4.78**	**9**	Pn	**Pn**	**21 25 25.5**	**+0.9**
ASAJ	**Asahikawa**	**6.83**	**3**	Pn	**Pn**	**21 25 53.9**	**+1.2**
	comp=N,2.1nm,0.3s,baz=152,slow=6.6,SNR=4.0						
ASAJ				Sn	**Sn**	**21 27 07.2**	**-3.6**
	comp=N,1.6nm,0.3s,baz=194,slow=31,SNR=1.7						
	comp=N,5.5nm,0.3s						
JKA	**Kamikawa-asahi**	**6.83**	**3**	Pn	**Pn**	**21 25 52.8**	**+0.2**
JMN	**Monobe**	**7.63**	**245**		**Pn**	**21 26 05.9**	**+2.1**
JNU	**Nakatsue**	**10.12**	**249**	Pn	**Pn**	**21 26 40.0**	**+2.1**
JNU	**Nakatsue**	**10.12**	**249**	Pn	**Pn**	**21 26 40.6**	**+2.7**
	comp=N,0.3nm,0.3s,baz=39,slow=9.3,SNR=4.7						
JNU				LR	LR	21 30 36.4	
	comp=N,125nm,19.6s,baz=77,slow=38						
	comp=N,22nm,1.0s						
USA0B	**Ussuriysk Arra**	**10.34**	**315**	Pn	**Pn**	**21 26 41.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.34**	**315**	Pn	**Pn**	**21 26 41.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.34**	**315**	Pn	**Pn**	**21 26 43.4**	**+2.5**
	comp=N,0.2nm,0.3s,baz=125,slow=14,SNR=4.3						
USRK				LR	LR	21 30 18.5	
	comp=N,128nm,18.5s,baz=164,slow=35						
	comp=N,3.0nm,0.7s						
KSRS	**Korea Array**	**11.33**	**275**	Pn	**Pn**	**21 26 59.1**	**+4.7**
	comp=N,0.3nm,0.3s,baz=86,slow=14,SNR=7.0						
KSRS				LR	LR	21 31 00.6	
	comp=N,148nm,19.8s,baz=90,slow=36						
KLR	**Kul'dur**	**14.12**	**331**	Pn	**Pn**	**21 27 35.6**	**+3.1**
	comp=N,0.1nm,0.3s,baz=198,slow=6.4,SNR=2.4						
KLR				LR	LR	21 32 49.7	
	comp=N,110nm,19.6s,baz=190,slow=36						
	comp=N,1.5nm,0.9s						
PETK	**Petropavlovsk-**	**19.17**	**29**	LR	LR	21 35 10.0	
	comp=N,73nm,21.5s,baz=258,slow=34						
TIA	**Tai'an**	**20.08**	**275**	P	Pn	21 28 47.9	0.0
TIA				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC	**Hu-ho-hao-te**	**23.95**	**288**	*e*P	**P**	**21 29 27.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,28nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,5.5s						
LYN	**LuoYang**	**24.15**	**272**	*e*P	**P**	**21 29 28.5**	**-0.5**
LYN				pmax	pmax		
	comp=Z,16nm,0.6s						
YAK	**Yakutsk**	**25.95**	**347**	P	**P**	**21 29 44.8**	**-0.1**
XAN	**Xi'an**	**27.12**	**273**	⇑P	**P**	**21 29 55.9**	**0.0**
ULN	**Ulaanbaatar**	**27.70**	**304**	P	**P**	**21 30 00.8**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**27.78**	**122**	T	T	21 59 04.3	
	baz=315,slow=75,SNR=238						
H11N1	**WAKE ISLAND Hy**	**27.78**	**122**	T	T	21 58 58.4	
	baz=315,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy**	**27.79**	**122**	T	T	21 59 00.1	
	baz=315,slow=75,SNR=67						
ENH	**Enshi**	**27.95**	**265**	P	**P**	**21 30 02.5**	**-0.8**
SONM	**Songino Array**	**28.14**	**303**	P	**P**	**21 30 04.7**	**-0.2**
SONM	**Songino Array**	**28.14**	**303**	P	**P**	**21 30 05.8**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=103,slow=9.3,SNR=14						
	comp=Z,2.2nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.51**	**124**	T	T	22 00 10.3	
	baz=317,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**28.51**	**124**	T	T	22 00 02.1	
	baz=317,slow=76,SNR=121						
H11S2	**WAKE ISLAND Hy**	**28.52**	**124**	T	T	22 00 06.5	
	baz=317,slow=76,SNR=92						
LZH	**Lanzhou**	**30.61**	**280**	*e*P	**P**	**21 30 27.5**	**+0.4**
LZH				pP	sP	21 30 35.6	+7.0
LZH				sP	pP	21 30 42.4	+14
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
KMI	**Kunming**	**35.59**	**262**	⇑P	**P**	**21 31 10.1**	**-0.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH	**PanZhiHua**	**35.72**	**264**	P	**P**	**21 31 12.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,140nm,5.7s						
WMQ	**Urumqi**	**41.25**	**297**	*e*P	**P**	**21 32 01.3**	**+3.3**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.14**	**256**	P	**P**	**21 32 06.7**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=45,slow=6.3,SNR=4.4						
	comp=Z,0.4nm,0.4s						
ZAA0	**Zalesovo Array**	**42.18**	**312**	P	**P**	**21 32 04.4**	**-0.9**
ZAA0				IAmb	IAmb	21 32 13.2	
	comp=Z,4.6nm,0.9s						
ZALV	**Zalesovo Beam**	**42.18**	**312**	P	**P**	**21 32 04.8**	**-0.5**
ZALV	**Zalesovo Beam**	**42.18**	**312**	P	**P**	**21 32 05.9**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=85,slow=6.3,SNR=9.6						
	comp=Z,1.7nm,0.7s						
C16K	**Lisburne Hills**	**42.21**	**26**	P	**P**	**21 32 05.2**	**-0.2**
C16K				IAmb	IAmb	21 32 06.7	
	comp=Z,4.4nm,0.9s						
L16K	**Owhat River**	**43.14**	**36**	P	**P**	**21 32 13.1**	**+0.1**
L16K				IAmb	IAmb	21 32 21.2	
	comp=Z,10nm,1.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M17K	**Holitna River**	**44.08**	**37**	P	**P**	**21 32 21.3**	**+0.7**
MK31	**Makanchi Array**	**44.48**	**302**		**P**	**21 32 23.5**	**-0.6**
MK31				IAmb	IAmb	21 32 30.5	
	comp=Z,3.1nm,0.7s						
MKAR	**Makanchi Array**	**44.48**	**302**		**P**	**21 32 24.1**	**0.0**
MKAR	**Makanchi Array**	**44.48**	**302**	P	**P**	**21 32 24.8**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=85,slow=9.5,SNR=22						
	comp=Z,2.3nm,0.6s						
D19K	**Kuna River**	**44.84**	**27**	P	**P**	**21 32 26.9**	**+0.2**
D19K				IAmb	IAmb	21 32 40.9	
	comp=Z,8.7nm,1.5s						
IMAR	**Indian Mountai**	**46.13**	**31**	P	**P**	**21 32 36.8**	**0.0**
KURK	**Kurchatov**	**46.24**	**308**		**P**	**21 32 37.9**	**0.0**
KURBB	**Kurchatov Arra**	**46.31**	**308**	P	**P**	**21 32 39.0**	**+0.5**
	comp=Z,6.0nm,0.6s,baz=82,slow=8.0,SNR=35						
	comp=Z,6.0nm,0.6s						
ILAR	**Eielson Array**	**48.96**	**32**	P	**P**	**21 32 58.9**	**0.0**
	comp=Z,1.7nm,0.8s,baz=265,slow=6.7,SNR=17						
	comp=Z,1.7nm,0.8s						
BMAR	**Burnt Mountain**	**49.82**	**29**	P	**P**	**21 33 06.0**	**+0.6**
BVAR	**Borovoye Array**	**50.84**	**312**	P	**P**	**21 33 14.0**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=71,slow=7.2,SNR=7.5						
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**50.89**	**298**	P	**P**	**21 33 14.4**	**+0.4**
AAK				IAmb	IAmb	21 33 20.3	
	comp=Z,1.9nm,0.8s						
I30M	**Mount Dempster**	**53.34**	**31**	P	**P**	**21 33 32.7**	**+0.7**
I30M				IAmb	IAmb	21 33 33.9	
	comp=Z,4.4nm,0.8s						
KKAR	**Karatay Array**	**53.51**	**300**	P	**P**	**21 33 34.0**	**+0.6**
INK	**Inuvik**	**53.88**	**27**	P	**P**	**21 33 36.2**	**+0.6**
SIMJ	**Simiganj**	**56.20**	**296**	P	**P**	**21 33 52.9**	**-0.2**
SIMJ				IAmb	IAmb	21 34 02.0	
	comp=Z,5.0nm,0.9s						
ARU	**Arti**	**56.56**	**319**	P	**P**	**21 33 55.5**	**+0.4**
ARU				IAmb	IAmb	21 34 03.5	
	comp=Z,3.5nm,0.6s						
ARU	**Arti**	**56.56**	**319**	LR	LR	22 00 25.1	
	comp=Z,80nm,18.4s,baz=306,slow=38						
FITZ	**Fitzroy Crossi**	**57.25**	**199**	P	**P**	**21 33 60.0**	**-0.4**
FITZ				IAmb	IAmb	21 34 07.4	
	comp=Z,3.3nm,1.4s						
WR0	**Warramunga Arr**	**57.40**	**189**	P	**P**	**21 34 00.5**	**-0.9**
WR0				IAmb	IAmb	21 34 09.9	
	comp=Z,3.1nm,0.7s						
WRA	**Warramunga Arr**	**57.40**	**189**	P	**P**	**21 34 00.4**	**-1.1**
WRA	**Warramunga Arr**	**57.40**	**189**	P	**P**	**21 34 00.4**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=4.9,slow=7.3,SNR=28						
	comp=Z,1.0nm,0.5s						
KBL	**Kabul**	**57.88**	**291**	P	**P**	**21 34 03.3**	**-1.8**
KBL				IAmb	IAmb	21 34 23.2	
	comp=Z,4.1nm,1.2s						
ABKAR	**Akbulak array**	**58.23**	**310**	P	**P**	**21 34 06.5**	**-0.6**
ABKAR				IAmb	IAmb	21 34 21.7	
	comp=Z,3.0nm,1.1s						
AS31	**Alice Springs**	**61.13**	**189**	P	**P**	**21 34 27.1**	**-0.2**
ASAR	**Alice Springs**	**61.13**	**189**	P	**P**	**21 34 26.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=360,slow=5.3,SNR=11						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**63.28**	**30**	P	**P**	**21 34 41.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=301,slow=6.7,SNR=7.7						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**68.86**	**332**	P	**P**	**21 35 16.4**	**-0.7**
FINES	**FINESS Array B**	**68.86**	**332**	P	**P**	**21 35 17.7**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=44,slow=10,SNR=1.9						
	comp=Z,2.4nm,0.9s						
HFS	**Hagfors**	**74.10**	**336**	P	**P**	**21 35 50.5**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=116,slow=9.8,SNR=1.4						
	comp=Z,1.5nm,0.9s						
NVAR	**Mina Array Bea**	**74.36**	**54**	P	**P**	**21 35 51.1**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=282,slow=6.6,SNR=4.9						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**74.45**	**323**	P	**P**	**21 35 51.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=47,slow=6.0,SNR=2.2						
	comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**77.06**	**46**	P	**P**	**21 36 05.8**	**-0.6**
PDAR	**Pinedale Array**	**77.06**	**46**	P	**P**	**21 36 05.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=0.0,slow=0.6,SNR=7.5						
	comp=Z,0.8nm,0.7s						
BURAR	**Bucovina Array**	**78.47**	**322**	P	**P**	**21 36 13.3**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**85.98**	**329**	P	**P**	**21 36 53.4**	**-0.2**
TXAR	**Lajitas Array**	**89.49**	**53**	P	**P**	**21 37 10.4**	**-0.1**
H03N2	**Juan Fernandez**	**146.46**	**96**	T	T	00 27 22.1	
	baz=292,slow=76,SNR=4.0						
H03N3	**Juan Fernandez**	**146.47**	**96**	T	T	00 27 22.3	
	baz=292,slow=76,SNR=3.8						
H03N1	**Juan Fernandez**	**146.48**	**96**	T	T	00 27 29.5	
	baz=292,slow=76,SNR=4.9						

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*CRAAG **02** 21:33:07.7, 36°.40N×2°.56E, Ml3.1, Algerie 02km SE Oued-Djer*

*MDD **02** 21:33:11.7±1.1, 36°.53N×2°.57E, h10km±17km, Mb3.4/9, M_mb2.6/9, Error ellipse: s-maj=24.1km s-min=5.1km az=144.0*

*CNRM **02** 21:33:16.5, 36°.45N×1°.80E, h125km, ML2.9*

ISC 02 21:33:08.1±0.9**, 36°.37N**±0°.04×**2°.52E**±0°.04**, h18**km**, n37, σ2s.22**/47**, 8C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABKD	**Sidi Amar**	**0.24**	**314**	P	**Pb**	**21 33 13.6**	**-0.2**
ACHR	**Chrea**	**0.29**	**79**	P	**Pg**	**21 33 14.0**	**-0.7**
EHRZ	**Djelida**	**0.38**	**243**	P	**Pg**	**21 33 16.4**	**+0.4**
ADOR	**Douera**	**0.43**	**47**	P	**Pg**	**21 33 17.1**	**0.0**
ABA	**Alger-Bouzarea**	**0.60**	**44**	P	**Pg**	**21 33 20.6**	**+0.6**
ADJB	**Djebel Djouab**	**0.77**	**106**	P	**Pb**	**21 33 22.9**	**-0.2**
EIBI	**Ibiza**	**2.81**	**341**	Pn	**Pn**	**21 33 53.0**	**+0.8**
EIBI				Sn	**Sn**	**21 34 24.4**	**-1.3**
EIBI	**Ibiza**	**2.81**	**341**	P	**Pn**	**21 33 53.1**	**+0.9**
EIBI				⇑iVmb_V		21 33 54.2	
	135nm,SNR=11						
EIBI				S	**Sn**	**21 34 23.4**	**-2.3**
CART	**Cartagena**	**3.07**	**294**	Sn	**Sn**	**21 34 29.6**	**-2.4**
CART	**Cartagena**	**3.07**	**294**	P	**Pn**	**21 33 57.5**	**+1.7**
CART	**Cartagena**	**3.07**	**294**	S	**Sn**	**21 34 27.4**	**-4.7**
EBEN2	**Beniarda presa**	**3.15**	**318**	P	**Pn**	**21 33 57.9**	**+1.0**
EBEN2				⇑iVmb_V		21 33 59.7	
	76nm,SNR=5.9						
EBEN2				S	**Sn**	**21 34 33.1**	**-1.1**
EMUR	**La Murta**	**3.35**	**297**	Pn	**Pn**	**21 34 01.8**	**+2.2**
EMUR	**La Murta**	**3.35**	**297**	P	**Pn**	**21 34 02.9**	**+3.3**
EMUR				⇑iVmb_V		21 34 12.6	
	125nm,SNR=1.5						
EMUR				S	**Sn**	**21 34 38.4**	**-0.5**
ETOS	**Mallorca**	**3.40**	**4**	Pn	**Pn**	**21 34 00.6**	**+0.3**
ETOS	**Mallorca**	**3.40**	**4**	P	**Pn**	**21 34 00.6**	**+0.3**
ETOS				⇑iVmb_V		21 34 03.6	
	65nm,SNR=15						
ETOS				S	**Sn**	**21 34 37.5**	**-2.7**
ETOB	**Tobarra**	**3.95**	**306**	Pn	**Pn**	**21 34 10.2**	**+2.2**
ETOB				Sn	**Sn**	**21 34 52.8**	**-1.1**
ETOB	**Tobarra**	**3.95**	**306**	P	**Pn**	**21 34 10.6**	**+2.6**
ETOB				⇑iVmb_V		21 34 12.2	
	35nm,SNR=7.2						
ETOB				S	**Sn**	**21 34 54.8**	**+0.9**
ECHE	**Chera**	**4.24**	**320**	Pn	**Pn**	**21 34 14.1**	**+2.2**
ECHE	**Chera**	**4.24**	**320**	P	**Pn**	**21 34 14.0**	**+2.2**
ECHE				⇑iVmb_V		21 34 15.3	
	33nm,SNR=8.5						
TAF	**Taforalt**	**4.31**	**250**	P	**Pn**	**21 34 14.5**	**+1.6**
TAF	**Taforalt**	**4.31**	**250**	S	**Sn**	**21 34 57.4**	**-5.4**
EBER	**Berja**	**4.38**	**279**	Pn	**Pn**	**21 34 14.6**	**+0.6**
EBER	**Berja**	**4.38**	**279**	P	**Pn**	**21 34 14.4**	**+0.4**
EBER				S	**Sn**	**21 35 04.6**	**-0.1**
EALB	**Alboran**	**4.52**	**266**	Pn	**Pn**	**21 34 17.0**	**+1.4**
JBK	**JBK**	**4.63**	**245**	P	**Pn**	**21 34 19.5**	**+2.2**
JBK	**JBK**	**4.63**	**245**	S	**Sn**	**21 35 10.3**	**-0.4**
EMOS	**Mosqueruela**	**4.63**	**330**	P	**Pn**	**21 34 18.7**	**+1.3**
EMOS				⇑iVmb_V		21 34 19.1	
	85nm,SNR=17						
EMOS				S	**Sn**	**21 35 08.9**	**-1.9**
EQES	**Quesada**	**4.70**	**289**	P	**Pn**	**21 34 21.8**	**+3.6**
EQES				⇑iVmb_V		21 34 24.1	
	16nm,SNR=5.9						
EQES				S	**Sn**	**21 35 14.3**	**+2.0**
ELGU	**Los Guajares,**	**4.97**	**278**	Pn	**Pn**	**21 34 22.9**	**+0.9**
FIGM	**Figuig**	**5.26**	**218**	P	**Pn**	**21 34 28.0**	**+2.0**
FIGM	**Figuig**	**5.26**	**218**	S	**Sn**	**21 35 28.1**	**+1.9**
ETOR	**Torete**	**5.71**	**322**	P	**Pn**	**21 34 34.5**	**+2.4**
MDT	**Midelt**	**6.87**	**241**	P	**Pn**	**21 34 48.6**	**+0.6**
MDT	**Midelt**	**6.87**	**241**	S	**Sn**	**21 36 01.6**	**-4.2**
MD31	**MD31**	**6.95**	**242**	P	**Pn**	**21 34 49.8**	**+0.7**
MD31	**MD31**	**6.95**	**242**	S	**Sn**	**21 36 01.8**	**-5.9**

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*SJA **02** 21:37:20.3±0.6, 23°.98S×66°.85W, h222km±6km, ML3.8, MW3.8*

*GUC **02** 21:37:22.2±0.4, 23°.87S×67°.25W, h228km±5km, ML4.0*

ISC 02 21:37:19.8±1.8**, 23°.91S**±0°.04×**66°.87W**±0°.05**, h225**km±15km**, n36, σ1s.42**/61**, 5C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**123**	eP	**Pn**	**21 37 56.2**	**+0.4**
AF01	**San Pedro de A**	**1.54**	**308**	⇑iP	**Pn**	**21 37 58.0**	**+1.5**
AZAP	**Zapla**	**1.68**	**101**	eP	**Pn**	**21 37 57.3**	**-0.2**
YJA	**Yavi**	**2.13**	**36**	eP	**Pn**	**21 38 03.8**	**+1.7**
LVC	**Limon Verde**	**2.28**	**304**	eP	**Pn**	**21 38 04.7**	**+1.2**
LVC				eS	**S**	**21 38 37.7**	**+0.3**
LVC	**Limon Verde**	**2.28**	**304**	⇑iP	**Pn**	**21 38 04.6**	**+1.2**
LVC				i S	**S**	**21 38 36.4**	**-1.0**
LVC				IAML		21 38 38.6	
	comp=Z,517nm,0.2s						
FSA	**Cafayete**	**2.33**	**160**	eP	**Pn**	**21 38 04.0**	**+0.3**
PB15	**IPOC Station P**	**2.49**	**286**	eP	**Pn**	**21 38 06.8**	**+1.4**
PB15				eS	**S**	**21 38 40.5**	**-0.4**
PB15	**IPOC Station P**	**2.49**	**286**	eP	**Pn**	**21 38 06.3**	**+0.9**
PB15				i S	**S**	**21 38 39.7**	**-1.3**
ALOL	**LOMAS DE OLMED**	**2.64**	**89**	eP	**Pn**	**21 38 07.2**	**+0.4**
PB06	**IPOC Station P**	**2.76**	**295**	eP	**Pn**	**21 38 09.6**	**+1.2**
PB06				eS	**S**	**21 38 45.1**	**-1.0**
PB06				IAML		21 38 48.9	
	comp=Z,182nm,0.2s						
PB06	**IPOC Station P**	**2.76**	**295**	eP	**Pn**	**21 38 09.2**	**+0.9**
PB06				i S	**S**	**21 38 44.8**	**-1.3**
PB06				IAML		21 38 47.0	
	comp=E,391nm,0.3s						
GO02	**Mina Guanaco**	**2.77**	**243**	eP	**Pn**	**21 38 09.9**	**+1.3**
GO02				eS	**S**	**21 38 46.9**	**+0.3**
GO02	**Mina Guanaco**	**2.77**	**243**	⇑iP	**Pn**	**21 38 09.9**	**+1.3**
GO02				i S	**S**	**21 38 46.5**	**-0.2**
GO02				IAML		21 38 47.6	
	comp=E,568nm,0.5s						
PB09	**IPOC Station P**	**3.04**	**313**	eP	**Pn**	**21 38 13.4**	**+1.9**
PB09				eS	**S**	**21 38 52.1**	**+0.3**
PB09				IAML		21 38 54.4	
	comp=Z,274nm,0.3s						
PB09	**IPOC Station P**	**3.04**	**313**	⇑eP	**Pn**	**21 38 13.4**	**+1.9**
PB09				i S	**S**	**21 38 51.6**	**-0.2**
PB09				IAML		21 38 54.7	
	comp=E,176nm,0.4s						
AHML	**Horco Molle**	**3.18**	**154**	eP	**Pn**	**21 38 13.6**	**+0.8**
PB05	**IPOC Station P**	**3.24**	**288**	eP	**Pn**	**21 38 14.7**	**+1.0**
PB05				eS	**S**	**21 38 54.1**	**-1.7**
PB05				IAML		21 38 56.5	
	comp=Z,115nm,0.5s						
PB05	**IPOC Station P**	**3.24**	**288**	eP	**Pn**	**21 38 14.4**	**+0.8**
PB05				i S	**S**	**21 38 53.8**	**-2.0**
PB05				IAML		21 38 58.9	
	comp=E,197nm,0.3s						
PB14	**IPOC Station P**	**3.30**	**257**	eP	**Pn**	**21 38 15.4**	**+0.8**
PB14				eS	**S**	**21 38 56.5**	**-1.0**
PB14				IAML		21 38 58.0	
	comp=Z,98nm,0.2s						
PB04	**IPOC Station P**	**3.40**	**297**	eP	**Pn**	**21 38 16.9**	**+1.3**
PB04				eS	**S**	**21 38 58.1**	**-1.2**
PB04				IAML		21 39 03.4	
	comp=Z,216nm,0.4s						
PB04	**IPOC Station P**	**3.40**	**297**	⇑iP	**Pn**	**21 38 16.6**	**+0.9**
PB04				i S	**S**	**21 38 57.6**	**-1.8**
PB07	**IPOC Station P**	**3.53**	**307**	eP	**Pn**	**21 38 18.1**	**+1.0**
PB07				eS	**S**	**21 39 00.3**	**-1.8**
PB07				IAML		21 39 01.8	
	comp=Z,271nm,0.4s						
PB07	**IPOC Station P**	**3.53**	**307**	eP	**Pn**	**21 38 18.3**	**+1.1**
PB07				i S	**S**	**21 38 59.8**	**-2.3**
PB01	**IPOC Station P**	**3.74**	**319**	eP	**Pn**	**21 38 20.6**	**+1.0**
PB01				eS	**S**	**21 39 05.1**	**-1.4**
PB01				IAML		21 39 06.4	
	comp=Z,76nm,0.2s						
PB01	**IPOC Station P**	**3.74**	**319**	eP	**Pn**	**21 38 20.8**	**+1.2**
PB01				i S	**S**	**21 39 04.6**	**-1.9**
PB02	**IPOC Station P**	**3.81**	**312**	eP	**Pn**	**21 38 21.5**	**+1.1**
PB02				eS	**S**	**21 39 06.3**	**-1.5**
PB02	**IPOC Station P**	**3.81**	**312**	eP	**Pn**	**21 38 21.1**	**+0.8**
PB02				i S	**S**	**21 39 05.1**	**-2.8**
AC01	**Pan de Azucar**	**4.05**	**236**	eP	**Pn**	**21 38 23.4**	**+0.2**
AC01				i S	**S**	**21 39 10.8**	**-2.3**
PB08	**IPOC Station P**	**4.31**	**330**	eP	**Pn**	**21 38 28.7**	**+2.0**
PB08				IAML		21 39 23.4	
	comp=Z,47nm,0.5s						
PB08	**IPOC Station P**	**4.31**	**330**	eP	**Pn**	**21 38 28.5**	**+1.8**
PB08				i S	**S**	**21 39 18.6**	**-0.8**
PATCX	**Punta Patache**	**4.32**	**315**	eP	**Pn**	**21 38 28.1**	**+1.5**
PATCX				i S	**S**	**21 39 15.6**	**-3.7**
CYA	**Choya**	**4.61**	**168**	eP	**Pn**	**21 38 31.7**	**+1.6**
GO01	**Chusmiza**	**4.74**	**332**	eP	**Pn**	**21 38 34.4**	**+2.2**
GO03	**Copiap**	**4.76**	**219**	eP	**Pn**	**21 38 32.2**	**+0.4**
GO03				eS	**S**	**21 39 30.1**	**+1.2**
PB11	**IPOC Station P**	**4.87**	**327**	eP	**Pn**	**21 38 33.8**	**+0.3**
PB11				IAML		21 39 30.9	
	comp=Z,50nm,0.6s						

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*NEIC **02** 21:42:49.3±1.6, 37°.29N±0°.07×71°.63E±0°.10, h115km±8km, mb4.2/7, Error ellipse: s-maj=12.0km s-min=8.2km az=55.0*

*IDC **02** 21:42:50.0±3.0, 37°.31N×71°.70E, h110km±25km, mb3.4/10, mbtmp3.8/17, MS3.0/1, Error ellipse: s-maj=24.4km s-min=16.8km az=179.0*

*NNC **02** 21:42:52.0±2.3, 37°.52N×71°.41E, h116km±45km, mb3.1, mpv3.5, Error ellipse: s-maj=20.3km s-min=19.4km az=124.0*

ISC 02 21:42:48.3±0.6**, 37°.26N**±0°.05×**71°.64E**±0°.05**, h109**km**, n51, σ2s.09**/61**, mb3.9**/13**, 3C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMJ	**Simiganj**	**2.51**	**305**		**Pn**	**21 43 28.1**	**+0.2**
SIMJ				Sn	**Sn**	**21 43 57.5**	**-0.8**
KBL	**Kabul**	**3.44**	**219**		**Pn**	**21 43 42.0**	**+1.7**
KBL				Sn	**Sn**	**21 44 22.0**	**+1.6**
NIL	**Nilore**	**3.83**	**160**		**Pn**	**21 43 47.3**	**+1.8**
NIL				Sn	**Sn**	**21 44 30.2**	**+0.5**
AML	**Almayashu**	**5.12**	**17**	P	**Pn**	**21 44 04.3**	**+1.3**
	SNR=175						
AML	**Almayashu**	**5.12**	**17**	⇑P	**Pn**	**21 44 04.5**	**+1.6**
	0.4nm,0.2s						
AML				⇓S	**Sn**	**21 45 00.5**	**-0.5**
	6.9nm,0.7s						
UCH	**Uchtor**	**5.43**	**23**	P	**Pn**	**21 44 08.6**	**+1.4**
	SNR=9.6						
KZA	**Kyzart**	**5.56**	**29**	P	**Pn**	**21 44 10.5**	**+1.5**
	SNR=9.5						
EKS2	**Erkin-Say**	**5.64**	**16**	P	**Pn**	**21 44 11.6**	**+1.8**
	SNR=10						
AAK	**Ala-Archa**	**5.80**	**21**	P	**Pn**	**21 44 13.9**	**+1.9**
	SNR=17						
AAK	**Ala-Archa**	**5.80**	**21**		**Pn**	**21 44 13.6**	**+1.6**
AAK	**Ala-Archa**	**5.80**	**21**	P	**Pn**	**21 44 13.9**	**+1.9**
	7.9nm,0.3s,baz=195,slow=5.6,SNR=85						
AAK				S	**Sn**	**21 45 17.4**	**+0.1**
	4.8nm,0.4s,baz=339,slow=21,SNR=2.8						
KK31	**Karatay Array**	**5.90**	**352**	⇓P	**Pn**	**21 44 13.9**	**+0.7**
	5.6nm,0.4s,baz=178,slow=12,SNR=3.6						
KK31				⇑S	**Sn**	**21 45 17.6**	**-1.9**
	6.7nm,0.5s,baz=177,slow=22,SNR=7.4						
KK31	**Karatay Array**	**5.90**	**352**		**Pn**	**21 44 13.9**	**+0.7**
KKAR	**Karatay Array**	**5.90**	**352**		**Pn**	**21 44 13.7**	**+0.4**
CHMS	**Chumysh**	**6.21**	**22**	P	**Pn**	**21 44 19.0**	**+1.7**
	SNR=6.4						
DHRM	**DHARAMSHALA**	**6.30**	**141**	eP	**Pn**	**21 44 19.5**	**+0.6**
DHRM				eS	**Sn**	**21 45 27.4**	**-2.1**
TKM2	**Tokmak 2**	**6.41**	**27**	P	**Pn**	**21 44 22.1**	**+1.7**
	SNR=11						
TKM2	**Tokmak 2**	**6.41**	**27**	⇓P	**Pn**	**21 44 21.8**	**+1.5**
	3.1nm,0.6s						
TKM2				⇓S	**Sn**	**21 45 33.8**	**+1.6**
	3.9nm,0.7s						
TARG	**Taragay, Kyrgy**	**6.53**	**45**	Pn	**Pn**	**21 44 23.5**	**+1.4**
SMLA	**Simla**	**7.64**	**142**	eP	**Pn**	**21 44 36.1**	**-0.7**
SMLA				eS	**Sn**	**21 45 55.9**	**-5.8**
SMLA				IAML		21 45 57.5	
	comp=E,105nm,0.8s						
SMLA				IAML		21 46 00.8	
	comp=E,95nm,0.3s						
PTH	**Pithoragarh**	**10.51**	**135**	eP	**Pn**	**21 45 13.6**	**-2.4**
PTH				eS	Sn	21 46 57.2	-15
LGTI	**Lohaghat**	**10.60**	**135**	eP	**Pn**	**21 45 14.1**	**-2.9**
LGTI				eS	Sn	21 46 58.9	-15
LGTI				IAML		21 47 08.8	
	comp=N,18nm,0.1s						
LGTI				IAML		21 47 09.6	
	comp=E,15nm,0.3s						
GEYT	**Alibeck**	**10.76**	**278**	P	**Pn**	**21 45 20.3**	**+1.2**
	comp=E,1.4nm,0.3s,baz=102,slow=12,SNR=5.3						
GEYT				S	**Sn**	**21 47 10.6**	**-6.9**
	comp=E,9.2nm,0.5s,baz=122,slow=21,SNR=9.1						
GYA0B	**ALIBECK ARRAY**	**10.76**	**278**	Pn	Pn	21 45 10.7	-8.4
MK31	**Makanchi Array**	**12.37**	**36**	Pn	**Pn**	**21 45 39.3**	**-1.3**
MKAR	**Makanchi Array**	**12.37**	**36**	Pn	**Pn**	**21 45 39.5**	**-1.1**
MKAR	**Makanchi Array**	**12.37**	**36**	P	**Pn**	**21 45 41.1**	**+0.5**
	comp=E,0.9nm,0.8s,baz=213,slow=13,SNR=6.3						
MKAR				LR	LR	21 50 54.2	
	comp=E,67nm,19.6s,baz=360,slow=39						
KURBB	**Kurchatov Arra**	**14.24**	**18**	P	**Pn**	**21 46 06.8**	**+2.1**
	comp=E,0.7nm,0.6s,baz=205,slow=11,SNR=9.0						
AB31	**Akbulak array**	**14.69**	**328**	⇓P	**Pn**	**21 46 08.9**	**-1.5**
	comp=E,1.3nm,0.5s,baz=137,slow=13,SNR=61						
ABKAR	**Akbulak array**	**14.69**	**328**		**Pn**	**21 46 08.7**	**-1.8**
ABKAR	**Akbulak array**	**14.69**	**328**	Pn	**Pn**	**21 46 08.2**	**-2.3**
BVAR	**Borovoye Array**	**15.79**	**357**	P	**Pn**	**21 46 24.0**	**-0.3**
	comp=E,1.3nm,0.6s,baz=164,slow=10,SNR=8.1						
AKTO	**Aktyubinsk**	**16.40**	**328**	⇑P	**Pn**	**21 46 32.0**	**+0.2**
	comp=E,5.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.40**	**328**	P	**P**	**21 46 33.5**	**+0.8**
	comp=E,9.7nm,0.5s,baz=138,slow=6.3,SNR=20						
AKTO				S	**Sn**	**21 49 26.1**	**-7.6**
	comp=E,1.8nm,0.5s,baz=149,slow=22,SNR=3.0						
ZAA0	**Zalesovo Array**	**19.01**	**24**		**P**	**21 47 00.8**	**-0.4**
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**21 47 01.9**	**+0.6**
	comp=E,1.1nm,0.3s,baz=219,slow=9.3,SNR=8.3						
ARU	**Arti**	**21.09**	**340**	P	**P**	**21 47 25.3**	**+1.6**
	comp=E,1.1nm,0.4s,baz=167,slow=11,SNR=3.7						
	comp=E,1.1nm,0.4s						
GNI	**Garni**	**21.16**	**286**	P	**P**	**21 47 27.8**	**+2.9**
	comp=E,4.3nm,0.6s,baz=69,slow=8.6,SNR=3.6						
	comp=E,4.3nm,0.6s						
SONM	**Songino Array**	**27.48**	**56**	P	**P**	**21 48 25.5**	**+1.2**
	comp=E,0.4nm,0.8s,baz=282,slow=6.6,SNR=2.7						
	comp=E,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.38**	**121**	P	**P**	**21 48 51.4**	**+1.3**
	comp=E,0.3nm,0.6s,baz=305,slow=9.5,SNR=2.6						
	comp=E,0.3nm,0.6s						
FINES	**FINESS Array B**	**37.15**	**325**	P	**P**	**21 49 49.3**	**+1.2**
	comp=E,1.2nm,0.7s,baz=141,slow=6.4,SNR=4.4						
	comp=E,1.2nm,0.7s						
ARCES	**ARCESS Array B**	**40.64**	**337**	P	**P**	**21 50 18.8**	**+1.6**
	comp=E,1.9nm,0.7s,baz=109,slow=6.9,SNR=10						
	comp=E,1.9nm,0.7s						
HFS	**Hagfors**	**42.79**	**321**	P	**P**	**21 50 36.2**	**+1.4**
	comp=E,2.4nm,0.4s,baz=96,slow=11,SNR=18						
	comp=E,2.4nm,0.4s						
NB201	**NORSAR Array S**	**44.05**	**323**	P	**P**	**21 50 45.3**	**+0.4**
NB2	**NORSAR Subarra**	**44.09**	**323**	P	**P**	**21 50 46.2**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**21 50 46.3**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=106,slow=7.2,SNR=4.5						
	comp=Z,0.4nm,0.4s						
KONO	**Kongsberg**	**44.82**	**320**	P	**P**	**21 50 51.4**	**+0.4**
KONO				IAmb	IAmb	21 51 14.4	
	comp=Z,16nm,1.4s						
ESDC	**Sonseca Array**	**57.56**	**298**	P	**P**	**21 52 27.8**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=58,slow=6.2,SNR=5.1						
	comp=Z,0.4nm,0.6s						
D19K	**Kuna River**	**68.26**	**18**	P	**P**	**21 53 37.4**	**+0.5**
D19K				IAmb	IAmb	21 53 41.2	
	comp=Z,5.7nm,1.4s						
H29M	**Whitestone**	**74.28**	**12**	P	**P**	**21 54 13.8**	**+0.7**
H29M				IAmb	IAmb	21 54 27.4	
	comp=Z,7.0nm,1.5s						
YKA	**Yellowknife Ar**	**80.46**	**3**	P	**P**	**21 54 48.7**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=343,slow=5.8,SNR=3.0						
	comp=Z,0.3nm,0.9s						

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*IDC **02** 21:58:09.9±1.1, 18°.18S×175°.84E, h0km, mb3.9/7, mbtmp3.9/7, MS3.5/17, Error ellipse: s-maj=40.1km s-min=25.4km az=148.0*

ISC 02 21:58:15.3±0.9**, 18°.2S**±0°.2×**175°.9E**±0°.2**, h35**km**, n30, σ1s.07**/9**, mb3.8**/6**, MS3.6**/17**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.71**	**245**	eP	**Pn**	**22 00 33.9**	**+1.3**
	87nm,24.0s						
DZM				eLR	LR	22 03 06.0	
	comp=Z,604nm,25.1s						
DZM	**Mont Dzumac**	**9.71**	**245**	LR	LR	22 03 39.9	
	comp=Z,491nm,21.4s,baz=48,slow=34						
RAO	**Raoul Island**	**12.36**	**154**	LR	LR	22 04 47.3	
	comp=Z,221nm,20.0s,baz=20,slow=32						
HNR	**Honiara**	**17.79**	**297**	LR	LR	22 08 14.7	
	comp=Z,2μm,19.8s,baz=138,slow=34						
URZ	**Urewera**	**20.01**	**177**	P	**P**	**22 02 44.5**	**-0.5**
	10nm,0.7s,baz=141,slow=9.2,SNR=5.0						
	10nm,0.7s						
RAR	**Rarotonga**	**23.06**	**101**	LR	LR	22 10 01.5	
	comp=Z,94nm,21.9s,baz=311,slow=31						
CTA	**Charters Tower**	**28.08**	**261**	LR	LR	22 13 25.2	
	comp=Z,153nm,21.8s,baz=82,slow=33						
TBI	**Tubuai**	**32.71**	**105**	eLR	LR	22 13 30.3	
	comp=Z,1μm,27.0s						
PPT2	**Papeete2**	**32.80**	**94**	eLR	LR	22 13 13.7	
	comp=Z,235nm,28.8s						
PPT2				eLR	LR	22 13 33.9	
	comp=Z,324nm,26.8s						
PPT	**Papeete**	**32.81**	**94**	LR	LR	22 14 43.2	
	comp=Z,43nm,19.8s,baz=294,slow=30						
STKA	**Stephens Creek**	**33.80**	**240**	LR	LR	22 17 19.9	
	comp=Z,99nm,19.1s,baz=31,slow=34						
H11S2	**WAKE ISLAND Hy**	**37.57**	**346**	T	T	22 45 35.2	
	baz=166,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**37.58**	**346**	T	T	22 45 37.8	
	baz=166,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**37.59**	**346**	T	T	22 45 37.8	
	baz=166,slow=76,SNR=8.0						
WRA	**Warramunga Arr**	**39.28**	**261**	P	**P**	**22 05 39.8**	**-1.3**
	0.6nm,0.8s,baz=93,slow=8.2,SNR=4.7						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**39.52**	**255**	P	**P**	**22 05 41.8**	**-1.3**
	1.3nm,0.8s,baz=86,slow=9.1,SNR=22						
ASAR				LR	LR	22 21 44.3	
	comp=Z,165nm,18.5s,baz=79,slow=36						
	1.3nm,0.8s						
MJAR	**Matsushiro Arr**	**65.07**	**327**	LR	LR	22 38 14.0	
	comp=Z,20nm,18.6s,baz=129,slow=37						
LEM	**Lembang**	**67.33**	**270**	LR	LR	22 39 32.9	
	comp=Z,36nm,18.1s,baz=359,slow=37						
ASAJ	**Asahikawa**	**69.10**	**335**	LR	LR	22 34 40.7	
	comp=Z,52nm,19.6s,baz=170,slow=32						
SHEM	**Shemya Is, Ala**	**70.65**	**359**	LR	LR	22 37 04.6	
	comp=Z,42nm,19.5s,baz=344,slow=33						
KSRS	**Korea Array**	**71.45**	**321**	LR	LR	22 40 24.8	
	comp=Z,18nm,18.3s,baz=105,slow=36						
PETK	**Petropavlovsk-**	**72.74**	**349**	LR	LR	22 38 45.3	
	comp=Z,28nm,21.1s,baz=107,slow=34						
MA2	**Magadan**	**80.17**	**347**	LR	LR	22 44 07.0	
	comp=Z,26nm,19.2s,baz=84,slow=34						
NVAR	**Mina Array Bea**	**83.44**	**46**	P	**P**	**22 10 40.1**	**+0.5**
	0.2nm,0.5s,baz=210,slow=5.2,SNR=2.8						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**83.94**	**292**	P	**P**	**22 10 42.5**	**+0.2**
	0.6nm,0.4s,baz=112,slow=3.7,SNR=9.6						
CMAR				LR	LR	22 48 17.1	
	comp=Z,10.0nm,18.5s,baz=135,slow=36						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**87.47**	**15**	P	**P**	**22 10 58.0**	**-0.8**
	0.7nm,1.0s,baz=220,slow=7.0,SNR=4.6						
	0.7nm,1.0s						
SONM	**Songino Array**	**90.31**	**321**	LR	LR	22 50 27.8	
	comp=Z,31nm,19.0s,baz=101,slow=35						
TXAR	**Lajitas Array**	**90.74**	**59**	P	**P**	**22 11 15.8**	**+0.6**
	0.5nm,0.8s,baz=243,slow=6.0,SNR=2.8						
	0.5nm,0.8s						
PALK	**Pallekele**	**97.18**	**275**	LR	LR	22 58 20.5	
	comp=Z,32nm,18.4s,baz=79,slow=37						
GERES	**GERESS Array B**	**146.21**	**339**	PKPbc	**PKPdf**	**22 17 51.6**	**+0.6**
	1.4nm,0.8s,baz=42,slow=4.2,SNR=5.7						

IDC 02 22:15:57.3±3.4**, 22°.83N**×**145°.07E, h0**km**, mb3.7**/4**, mbtmp3.7**/4**, Error ellipse: s-maj=138.5km**

s-min=32.9km az=80.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.78	195	P	P	22 24 04.8	-0.1
	0.1nm,0.3s,baz=18,slow=8.8,SNR=4.6						
	0.1nm,0.3s						
MKAR	Makanchi Array	55.23	312	P	P	22 25 31.8	-0.4
	0.3nm,0.5s,baz=88,slow=8.0,SNR=5.9						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	57.90	316	P	P	22 25 50.8	-0.3
	0.3nm,0.4s,baz=93,slow=8.1,SNR=2.1						
	0.3nm,0.4s						
FINES	FINESS Array B	82.91	335	P	P	22 28 24.2	+0.6
	2.9nm,0.9s,baz=87,slow=5.7,SNR=4.2						
	2.9nm,0.9s						

IDC 02 22:17:42.8±999.0**, 41°.71N×119°.20W, h0km, Error ellipse: s-maj=884.4km s-min=142.3km az=15.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I56US	NEWPORT INFRAS	6.72	12	I	I	22 54 00.0	
	0.1nm,0.7s,baz=193,slow=330,SNR=1.6						
I10CA	LAC DU BONNET	18.16	54	I	I	00 09 30.0	
	baz=243,slow=160						
I18DK	QAANAAQ INFRAS	41.23	15	I	I	02 32 40.0	
	baz=238,slow=339,SNR=1.1						

JMA 02 22:26:25.5±0.2**, 38°.0N**±0°.8**×14°4E**±°**, h50km, MV3.7**/32**, FAR E OFF NORTH HONSHU, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.04	279	P	Pn	22 26 58.3	+1.0
JIKH				S	Sn	22 27 22.1	+0.6
OFUJ	Ofunato	2.13	301	P	Pn	22 26 59.6	+1.0
OFUJ				S	Sn	22 27 25.2	+1.4
JIO	Ouri	2.15	283	P	Pn	22 27 00.1	+1.2
JIO				S	Sn	22 27 25.3	+1.0
JKMT	Kesennumamotoy	2.15	292	eP	Pn	22 27 00.0	+1.1
JKMT				S	Sn	22 27 25.4	+1.0
JMK	Ichinoseki	2.39	294	P	Pn	22 27 03.5	+1.4
JMK				eS	Sn	22 27 32.1	+1.9
JOM	Ohasama	2.58	305	P	Pn	22 27 06.3	+1.5
JOM				eS	Sn	22 27 37.1	+2.1
JOTO	OTAMA OYAMA	2.96	262	P	Pn	22 27 11.7	+1.8
JOTO				S	Sn	22 27 46.0	+1.8
JYK	Kaneyama	3.01	289	eS	Sn	22 27 48.0	+2.5
JANG	Nango	3.06	321	P	Pn	22 27 12.1	+0.8
JANG				eS	Sn	22 27 47.0	+0.4
JOT	Ohata	4.07	327	eS	Sn	22 28 11.6	+0.1
BSO1	Boso 1	4.16	217	eS	Sn	22 28 12.2	-0.7
JRY	Ryogami san	4.55	246	P	Pn	22 27 32.7	+0.8
JRY				S	Sn	22 28 22.3	-1.3
JCH	Churui	4.62	354	P	Pn	22 27 32.3	-0.4
JCH				S	Sn	22 28 22.4	-2.8
JOD2	Odawara 2	4.82	237	eS	Sn	22 28 27.4	-2.8
NEM2	Nemuro 2	5.50	13	eP	Pn	22 27 42.1	-2.8
NEM2				eS	Sn	22 28 40.4	-6.4
JTKR	Abashiri--Toko	5.95	359	P	Pn	22 27 50.4	-0.6
JTKR				eS	Sn	22 28 53.3	-4.4
JHR	Hokuryu	5.98	344	P	Pn	22 27 53.5	+2.1

*SNET **02** 22:37:40.1±3.0, 13°.19N×89°.39W, h30km, ML3.6*
*CATAC **02** 22:37:40.3±0.4, 13°.32N×89°.31W, h33km±3km, ML3.3*
ISC 02 22:37:38.9±1.7**, 13°.18N**±0°.07**×89°.36W**±0°.04**, h29km**±12km**, n45, σ1°.02**/80**, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.31	7	eP	Pn	22 37 48.6	+1.0
LALI				eS	Sn	22 37 56.4	+3.3
LALI	Alcalda de L	0.31	7	i P	Pn	22 37 48.6	+1.0
LALI				IAML		22 37 48.7	
	comp=Z,700nm,1.0s						
LALI				i S	Sn	22 37 53.4	+0.2
PANCS	Alcalda de	0.47	22	i P	Pn	22 37 49.5	-0.3
PANCS				i S	Sn	22 37 56.9	-0.2
PANCS				IAML		22 37 59.7	
	comp=Z,6μm,1.0s						
JAYA	Jayaque - finc	0.48	350	eP	Pn	22 37 50.2	+0.1
JAYA				eS	Sn	22 37 59.9	+2.2
JAYA	Jayaque - finc	0.48	350	i P	Pn	22 37 50.1	0.0
JAYA				i S	Sn	22 37 57.5	-0.1
JAYA				IAML		22 38 00.1	
	comp=Z,7μm,1.0s						
LOMA	Loma Larga	0.50	21	eP	Pn	22 37 51.0	+0.7
LOMA				eS	Sn	22 38 00.9	+2.9
LOMA	Loma Larga	0.50	21	i P	Pn	22 37 50.8	+0.5
LOMA				i S	Sn	22 37 57.4	-0.6
LOMA				IAML		22 38 02.0	
	comp=Z,4μm,1.0s						
ITCA	Escuela Especi	0.50	9	i P	Pn	22 37 50.5	+0.2
ITCA				IAML		22 38 02.6	
	comp=Z,5μm,1.0s						
SNET	Serv Nac Est T	0.52	14	i P	Pn	22 37 50.8	+0.2
SNET				i S	Sn	22 37 57.4	-1.1
SNET				IAML		22 38 02.9	
	comp=Z,6μm,1.0s						
LFRS	El Faro	0.53	33	eP	Pn	22 37 51.4	+0.7
PMON	Piamonte	0.54	5	i P	Pn	22 37 51.2	+0.5
PMON				i S	Sn	22 37 57.8	-1.0
PMON				IAML		22 38 03.1	
	comp=Z,4μm,1.0s						
SEMO	Seminario San	0.54	14	i P	Pb	22 37 50.4	+0.3
SEMO				i S	Sn	22 37 57.6	-1.3
SEMO				IAML		22 38 05.0	
	comp=Z,4μm,1.0s						
UTEC	Universidad Te	0.55	16	i P	Pb	22 37 50.5	+0.3
UTEC				i S	Sn	22 37 57.9	-1.1
UTEC				IAML		22 38 04.0	
	comp=Z,1μm,1.0s						
SJTE	Alcalda de S	0.56	38	eP	Pn	22 37 51.3	+0.3
SJTE				eS	Sn	22 38 01.6	+2.3
SJTE	Alcalda de S	0.56	38	i P	Pn	22 37 51.1	+0.1
SJTE				i S	Sn	22 37 58.9	-0.4
SJTE				IAML		22 38 02.4	
	comp=Z,1μm,1.0s						
BOQS	Boqueron	0.56	8	eP	Pn	22 37 51.8	+0.5
IGN	Direccin Gen	0.57	19	i P	Pn	22 37 51.6	+0.5
IGN				i S	Sn	22 37 58.7	-0.8
IGN				IAML		22 38 03.8	
	comp=Z,7μm,1.0s						
UDBS	Universidad Do	0.57	20	i P	Pn	22 37 51.5	+0.3
UDBS				i S	Sn	22 37 59.1	-0.6
UDBS				IAML		22 38 05.8	
	comp=Z,1μm,1.0s						
PIC2	El Picacho	0.57	10	eP	Pn	22 37 51.8	+0.4
PIC2				eS	Sn	22 38 02.9	+2.9
LFU	La Fuente	0.62	23	eP	Pn	22 37 52.6	+0.7
CEDA	San Andres	0.62	357	i P	Pb	22 37 51.4	-0.1
CEDA				i S	Sn	22 38 00.0	-1.0
CEDA				IAML		22 38 07.1	
	comp=Z,4μm,1.0s						
COEG	Centro de Oper	0.64	46	eP	Pn	22 37 52.3	+0.1
COEG				eS	Sn	22 38 01.4	-0.1
COEG	Centro de Oper	0.64	46	i P	Pb	22 37 52.0	+0.2
COEG				i S	Sn	22 38 01.1	-0.3
COEG				IAML		22 38 09.4	
	comp=Z,490nm,1.0s						
TECO	Alcaldia de Te	0.67	57	i P	Pb	22 37 52.0	-0.2
TECO				i S	Sn	22 38 01.6	-0.4
TECO				IAML		22 38 07.9	
	comp=Z,620nm,1.0s						
PAVA	Las Pavas	0.67	37	eP	Pn	22 37 53.2	+0.5
PAVA	Las Pavas	0.67	37	i P	Pn	22 37 53.3	+0.6
PAVA				IAML		22 37 54.3	
	comp=Z,2μm,1.0s						
PAVA				i S	Sn	22 38 02.1	-0.2
CEVE	Cerro Verde	0.70	338	eP	Pb	22 37 53.1	+0.3
CEVE				eS	Sn	22 38 05.0	+2.0
CEVE	Cerro Verde	0.70	338	i P	Pb	22 37 52.9	+0.1
CEVE				IAML		22 38 07.0	
	comp=Z,2μm,1.0s						
SBLS	San Blas	0.71	339	eP	Pb	22 37 53.2	+0.2
UESV	Universidad de	0.72	50	i P	Pb	22 37 53.1	+0.1
UESV				i S	Sn	22 38 02.9	-0.4
UESV				IAML		22 38 07.0	
	comp=Z,490nm,1.0s						
SNJE	San Jose	0.73	341	eP	Pb	22 37 53.5	+0.2
SNJE				eS	Sn	22 38 05.3	+1.5
RTR	El Retiro	0.77	339	eP	Pn	22 37 54.1	+0.1
SCLA	Alcaldia de Sa	0.81	49	i P	Pn	22 37 53.9	-0.5
SCLA				i S	Sb	22 38 04.1	-1.0
SCLA				IAML		22 38 18.2	
	comp=Z,160nm,1.0s						
UNIC	Universidad Ca	0.82	347	i P	Pn	22 37 54.5	-0.1
UNIC				IAML		22 37 55.9	
	comp=Z,350nm,1.0s						
UNIC				i S	Sn	22 38 04.9	-1.0
NUBE	Las Nubes	0.83	331	eP	Pn	22 37 54.2	-0.6
NUBE				eS	Sn	22 38 06.6	+0.4
NUBE	Las Nubes	0.83	331	i P	Pn	22 37 54.2	-0.6
NUBE				i S	Sb	22 38 05.3	-0.6
NUBE				IAML		22 38 07.3	
	comp=Z,850nm,1.0s						
TECA	Tecapa	0.89	69	eP	Pn	22 37 55.6	-0.1
LOAL	Lomas de Alarc	0.92	333	i P	Pn	22 37 56.0	+0.1
LOAL				i S	Sn	22 38 07.2	-0.9
LOAL				IAML		22 38 12.3	
	comp=Z,1μm,1.0s						
PACA	Pacayal	1.05	74	eP	Pn	22 37 58.8	+0.9
PACA				eS	Sb	22 38 13.5	+1.4
PACA	Pacayal	1.05	74	i P	Pn	22 37 58.7	+0.9
PACA				i S	Sn	22 38 10.2	-1.4
PACA				IAML		22 38 14.7	
	comp=Z,6μm,1.0s						
LLGN	La Laguna	1.06	22	i P	Pn	22 37 56.6	-1.4
LLGN				i S	Sn	22 38 10.4	-1.4
LLGN				IAML		22 38 17.4	
	comp=Z,390nm,1.0s						
MTO3	Montecristo	1.22	360	eP	Pn	22 37 60.0	-0.2
MTO3				eS	Sb	22 38 16.2	-0.8
MTO3	Montecristo	1.22	360	i P	Pn	22 37 59.6	-0.6
MTO3				i S	Sn	22 38 14.1	-1.7
MTO3				IAML		22 38 19.0	
	comp=Z,200nm,1.0s						
CNCH	Conchagua	1.49	86	i P	Pn	22 38 04.7	+0.8
CNCH				i S	Sn	22 38 21.4	-1.0
CNCH				IAML		22 38 27.9	
	comp=Z,990nm,1.0s						
CSGN	Cosiguina Volc	1.77	96	i P	Pn	22 38 07.4	-0.2
CSGN				IAML		22 38 33.9	
	comp=Z,570nm,1.0s						

IDC 02 22:41:56.6±999.0**, 41°.71N×118°.97W, h0km, Error ellipse: s-maj=532.7km s-min=135.1km az=17.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I56US	NEWPORT INFRAS	6.68	11	I	I	23 17 00.0	
	baz=192,slow=332,SNR=1.5						
I10CA	LAC DU BONNET	18.01	54	I	I	00 33 00.0	
	baz=250,slow=339,SNR=1.1						
I18DK	QAANAAQ INFRAS	41.18	15	I	I	02 57 50.0	
	baz=232,slow=339,SNR=0.5						

*IDC **02** 22:45:14.2±0.6, 52°.87S×117°.97W, h0km, mb4.2/10, mbtmp4.2/10, MS4.2/41, Error ellipse: s-maj=23.6km s-min=17.9km az=150.0*
*NEIC **02** 22:45:16.0±1.5, 53°.1S±0°.1×117°.9W±0°.2, h10km±1km, mb4.9/30, Error ellipse: s-maj=24.5km s-min=20.0km az=322.0*
*GCMT **02** 22:45:20.0±0.2, 53°.23S±0°.02×117°.87W±0°.02, h13km±1km, MW4.8/92, Moment Tensor Solution. s33,c39; s92,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.75±.11; $M_{\theta\theta}$-1.00±.08; $M_{\phi\phi}$1.75±.10; $M_{r\theta}$-0.25±.19; $M_{\theta\phi}$-1.88±.07; $M_{\phi r}$-0.23±.19; Best double couple: $M_0$2.37100×10^{16} NP1:ϕ_s17.00000°, δ81.00000°, λ-11.00000°. NP2: ϕ_s109.00000°, δ79.00000°, λ-171.00000°. Principal axes: T 2.7070, Plg1.0000°, Azm63.0000°; N -0.6740, Plg76.0000°, Azm159.0000°; P -2.0350, Plg14.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 22:45:15.7±0.4**, 52°.94S**±0°.09**×117°.95W**±0°.09**, h10km, n142, σ0°.86**/89**, mb4.8**/27**, MS4.2**/44**, 2C-2D, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	26.58	17	LR	LR	22 59 05.3	
	comp=Z,268nm,19.3s,baz=62,slow=31						
SMAI	San Martin Ant	28.21	142	P	P	22 51 08.3	+0.2
SMAI				IAmb	IAmb	22 51 20.1	
	comp=Z,22nm,1.3s						
PMSA	Palmer Station	29.30	135	LR	LR	22 59 24.7	
	comp=Z,285nm,21.8s,baz=283,slow=29						
H03S2	Juan Fernandez	33.64	71	T	T	23 27 22.6	
	baz=221,slow=74,SNR=175						
H03S1	Juan Fernandez	33.65	71	T	T	23 27 23.9	
	baz=221,slow=74,SNR=212						
H03S3	Juan Fernandez	33.66	71	T	T	23 27 23.0	
	baz=221,slow=74,SNR=243						
H03N3	Juan Fernandez	33.92	71	T	T	23 27 36.1	
	baz=223,slow=72,SNR=903						
H03N2	Juan Fernandez	33.92	71	T	T	23 27 47.6	
	baz=223,slow=72,SNR=1340						
H03N1	Juan Fernandez	33.93	71	T	T	23 27 37.2	
	baz=223,slow=72,SNR=825						
PLCA	Paso Flores	34.03	88	P	P	22 52 00.2	+0.5
	comp=Z,1.8nm,0.9s,baz=225,slow=11,SNR=3.0						
PLCA				LR	LR	23 02 44.7	
	comp=Z,257nm,18.5s,baz=224,slow=31						
	comp=Z,1.8nm,0.9s						
VNDA	Vanda	36.92	201	P	P	22 52 25.2	+1.1
	comp=Z,2.0nm,1.1s,baz=95,slow=9.7,SNR=3.4						
	comp=Z,2.0nm,1.1s						
QSPA	South Pole Qui	37.25	180	P	P	22 52 27.0	-0.3
QSPA	South Pole Qui	37.25	180	P	P	22 52 28.2	+1.0
	comp=Z,4.0nm,0.9s,baz=238,slow=3.2,SNR=11						
QSPA				LR	LR	23 05 37.1	
	comp=Z,260nm,20.4s,baz=93,slow=33						
	comp=Z,4.0nm,0.9s						
BELA	Belgrano 2	37.54	160	P	P	22 52 28.5	-0.8
TBI	Tubuai	38.01	309	eLR	LR	23 03 01.5	
	comp=Z,2μm,26.8s						
TBI	Tubuai	38.01	309	eT	T	23 32 55.0	
	comp=Z,6.7nm,0.3s						
TRQA	Tornquist	40.89	92	P	P	22 52 57.4	-0.4
TRQA				IAmb	IAmb	22 53 05.2	
	comp=Z,24nm,1.2s						
CFA	Coronel Fontan	41.49	79	LR	LR	23 05 57.5	
	comp=Z,492nm,21.6s,baz=238,slow=30						
MEH	Mehetia	42.15	315	eT	T	23 38 05.4	
	comp=Z,9.3nm,0.3s						
PPT2	Papeete2	43.06	313	eS	S	22 59 39.6	-1.9
	comp=Z,44nm,23.5s						
PPT2				eSS	ScS	23 03 18.8	+2.4
	comp=Z,491nm,26.0s						
PPT2				eLR	LR	23 05 22.0	
	comp=Z,757nm,26.0s						
PPT2				eLR	LR	23 05 29.4	
	comp=Z,569nm,25.8s						
PPT	Papeete	43.08	313	LR	LR	23 06 31.0	
	comp=Z,203nm,19.6s,baz=171,slow=30						
VAH	Vaihoa	44.32	317	eT	T	23 40 48.6	
	comp=Z,6.9nm,0.3s						
PMOR	Pomariorio Ree	44.64	317	eT	T	23 41 13.5	
	comp=Z,3.3nm,0.2s						
RAR	Rarotonga	44.99	298	LR	LR	23 07 08.8	
	comp=Z,74nm,18.9s,baz=32,slow=29						
URZ	Urewera	46.15	261	LR	LR	23 08 57.5	
	comp=Z,311nm,19.7s,baz=28,slow=31						
VNA3	Neumayer Olymp	46.23	155	⇓P	P	22 53 39.5	-0.8
	comp=Z,9.8nm,0.8s						
RPZ	Rata Peaks	46.28	252	LR	LR	23 08 18.0	
	comp=Z,161nm,20.7s,baz=122,slow=30						
VNA1	Neumayer--Stat	46.95	155	⇑P	P	22 53 45.0	-1.0
	comp=Z,17nm,1.0s						
VNA2	Neumayer--Watz	47.01	155	⇓P	P	22 53 46.0	-0.5
	comp=Z,9.0nm,0.8s,baz=248,slow=7.0						
TAOE	Nuku Hiva Isla	47.51	330	eLR	LR	23 07 35.8	
	comp=Z,542nm,24.3s						
SNAA	Sanae	47.63	157	P	P	22 53 50.1	-1.3
SNAA				IAmb	IAmb	22 54 14.8	
	comp=Z,15nm,1.4s						
SNAA	Sanae	47.63	157	P	P	22 53 51.2	-0.2
	comp=Z,1.5nm,0.2s,baz=200,slow=12,SNR=6.6						
SNAA				LR	LR	23 12 32.6	
	comp=Z,344nm,20.7s,baz=190,slow=34						
	comp=Z,1.5nm,0.2s						
LVC	Limon Verde	47.87	70	P	P	22 53 54.2	+0.1
LVC				IAmb	IAmb	22 54 03.7	
	comp=Z,10nm,1.1s						
LVC	Limon Verde	47.87	70	LR	LR	23 08 32.3	
	comp=Z,254nm,21.8s,baz=222,slow=29						
TROLL	Troll, Antarti	48.60	159	⇑P	P	22 53 59.1	+0.1
	comp=Z,623nm,0.8s						
RAO	Raoul Island	49.33	274	LR	LR	23 12 17.4	
	comp=Z,96nm,18.6s,baz=32,slow=33						
ITQB	Itaqui	49.85	87	P	P	22 54 08.7	-0.2
PLTB	Pedras Altas	50.20	92	P	P	22 54 11.0	-0.5
PLTB				IAmb	IAmb	22 54 12.3	
	comp=Z,19nm,0.9s						
CPUP	Villa Florida	51.86	84	P	P	22 54 23.8	-0.2
CPUP				IAmb	IAmb	22 54 31.5	
	comp=Z,22nm,1.5s						
CPUP	Villa Florida	51.86	84	P	P	22 54 24.1	0.0
	comp=Z,4.4nm,0.8s,baz=239,slow=5.7,SNR=9.2						
CPUP				LR	LR	23 13 35.8	
	comp=Z,581nm,18.3s,baz=230,slow=33						
	comp=Z,4.4nm,0.8s						
NNA	Nana	52.38	54	LR	LR	23 10 49.6	
	comp=Z,222nm,19.4s,baz=204,slow=29						
LPAZ	La Paz	53.35	66	P	P	22 54 35.9	0.0
ATAH	Atahualpa	55.86	50	LR	LR	23 13 19.0	
	comp=Z,316nm,18.4s,baz=238,slow=30						
SIV	San Ignacio	57.59	73	LR	LR	23 15 36.7	
	comp=Z,110nm,20.0s,baz=250,slow=32						
MCRA	Macar, Loja	57.60	47	P	P	22 55 05.8	0.0
CZSB	Cruzeiro do Su	58.09	56	P	P	22 55 09.5	+0.4
CZSB				IAmb	IAmb	22 55 11.7	
	comp=Z,26nm,1.0s						
PTLB	Pontes e Lacer	59.14	74	P	P	22 55 15.8	-0.8
PTLB				IAmb	IAmb	22 55 23.6	
	comp=Z,14nm,1.4s						
BOSC	San Juan Bosco	59.33	48	P	P	22 55 18.4	+0.4
COHC	Cochancay	59.61	46	P	P	22 55 20.4	+0.7
ETMB	Extrema	59.72	64	P	P	22 55 20.1	-0.5
ETMB				IAmb	IAmb	22 55 21.6	
	comp=Z,7.2nm,0.9s						
MAW	Mawson	59.77	180	LR	LR	23 18 58.8	
	comp=Z,91nm,21.4s,baz=168,slow=34						
VILB	Vilhena	60.52	71	P	P	22 55 25.7	-0.4
VILB				IAmb	IAmb	22 55 33.9	
	comp=Z,14nm,1.2s						
CHSH	Refugio Sur-Vo	60.65	46	P	P	22 55 27.8	+0.3
SAML	Samuel	62.10	66	P	P	22 55 36.5	-0.2
SAML				IAmb	IAmb	22 55 44.0	
	comp=Z,14nm,1.4s						
PULU	Pululahua	62.16	46	P	P	22 55 36.9	-0.6
OTAV	Otavalo	62.38	46	P	P	22 55 38.9	-0.2
OTAV				IAmb	IAmb	22 55 42.3	
	comp=Z,13nm,1.1s						
IMBA	Imbabura, San	62.52	46	P	P	22 55 40.8	+0.8
TBTG	Tabatinga, AM	62.53	57	P	P	22 55 39.3	-0.2
TULM	Tulcn-Chalpat	63.09	46	P	P	22 55 44.2	+0.3
TULM				IAmb	IAmb	22 55 48.0	
	comp=Z,7.6nm,0.9s						
DZM	Mont Dzumac	64.09	267	eLR	LR	23 15 14.5	
	comp=Z,372nm,26.2s						
DZM	Mont Dzumac	64.09	267	LR	LR	23 18 10.7	
	comp=Z,126nm,20.8s,baz=70,slow=31						
BDFB	Brasilia	65.59	84	P	P	22 55 58.3	-1.5
BDFB				IAmb	IAmb	22 56 00.3	
	comp=Z,8.4nm,1.0s						
BDFB	Brasilia	65.59	84	P	P	22 55 59.9	+0.1
	comp=Z,4.4nm,0.7s,baz=200,slow=7.5,SNR=7.7						
BDFB				LR	LR	23 21 19.7	
	comp=Z,353nm,21.6s,baz=193,slow=33						
	comp=Z,4.4nm,0.7s						
MACA	Manacapuru-AM	68.26	65	P	P	22 56 15.4	-1.3
MACA				IAmb	IAmb	22 56 16.9	
	comp=Z,12nm,0.6s						
ROSC	El Rosal	68.30	48	P	P	22 56 17.8	+0.4
ROSC	El Rosal	68.30	48	LR	LR	23 20 11.4	
	comp=Z,187nm,19.8s,baz=240,slow=31						
JTS	Las Juntas de	69.01	35	LR	LR	23 19 15.5	
	comp=Z,201nm,20.1s,baz=324,slow=30						
STKA	Stephens Creek	71.04	242	P	P	22 56 32.8	-0.9
STKA	Stephens Creek	71.04	242	P	P	22 56 34.3	+0.6
	comp=Z,0.8nm,0.4s,baz=114,slow=1.0,SNR=3.8						
STKA				LR	LR	23 21 06.5	
	comp=Z,212nm,21.5s,baz=198,slow=30						
	comp=Z,0.8nm,0.4s						
SDV	Santo Domingo	73.55	49	LR	LR	23 26 09.8	
	comp=Z,96nm,18.0s,baz=182,slow=33						
BAUV	El Baul	74.81	52	P	P	22 56 55.2	-0.9
LPIG	La Paz	77.00	7	P	P	22 57 07.9	-0.5
	comp=Z,20nm,0.3s,baz=141,slow=6.5,SNR=3.9						
LPIG				LR	LR	23 23 46.5	
	comp=Z,90nm,19.4s,baz=43,slow=30						
TEIG	Tepich	77.28	28	LR	LR	23 25 50.7	
	comp=Z,824nm,18.3s,baz=91,slow=32						
PCRV	Puerto La Cruz	77.52	54	LR	LR	23 28 12.9	
	comp=Z,177nm,19.3s,slow=33						
CTA	Charters Tower	77.62	253	LR	LR	23 26 17.9	
	comp=Z,80nm,19.2s,baz=89,slow=32						
HNR	Honiara	77.78	271	LR	LR	23 28 25.7	
	comp=Z,747nm,18.5s,baz=349,slow=33						
MDP	Montagnes des	79.55	67	LR	LR	23 28 53.9	
	comp=Z,122nm,19.2s,baz=202,slow=33						
RCBR	Riachuelo	80.59	87	LR	LR	23 31 16.7	
	comp=Z,329nm,18.1s,baz=240,slow=34						
H01W1	Cape Leeuwin H	81.50	221	T	T	00 28 10.2	
	baz=150,slow=75,SNR=8.8						
H01W2	Cape Leeuwin H	81.50	221	T	T	00 28 07.1	
	baz=150,slow=75,SNR=9.4						
H01W3	Cape Leeuwin H	81.52	221	T	T	00 28 08.2	
	baz=150,slow=75,SNR=9.0						
ASAR	Alice Springs	81.66	242	P	P	22 57 32.1	-2.1
ASAR	Alice Springs	81.66	242	P	P	22 57 34.1	-0.1
	comp=Z,1.6nm,1.0s,baz=142,slow=5.5,SNR=4.9						
ASAR				LR	LR	23 28 11.6	
	comp=Z,229nm,20.5s,baz=141,slow=32						
	comp=Z,1.6nm,1.0s						
NWAO	Narrogin (SRO)	81.95	224	LR	LR	23 27 10.7	
	comp=Z,75nm,18.3s,baz=182,slow=31						
TXAR	Lajitas Array	82.87	13	P	P	22 57 42.0	+1.9
TXAR	Lajitas Array	82.87	13	P	P	22 57 39.9	-0.2
	comp=Z,0.9nm,0.8s,baz=187,slow=7.1,SNR=2.5						
	comp=Z,0.9nm,0.8s						
SJG	San Juan	83.69	49	LR	LR	23 32 20.7	
	comp=Z,65nm,18.7s,baz=251,slow=34						
WR0	Warramunga Arr	84.32	244	P	P	22 57 47.2	-0.7
WR0				IAmb	IAmb	22 57 55.2	
	comp=Z,14nm,1.2s						
WRA	Warramunga Arr	84.45	244	P	P	22 57 47.2	-1.4
WRA	Warramunga Arr	84.45	244	P	P	22 57 48.3	-0.3
	comp=Z,1.1nm,0.6s,baz=144,slow=4.5,SNR=14						
	comp=Z,1.1nm,0.6s						
PFO	Pinyon Flats O	86.20	1	LR	LR	23 27 01.9	
	comp=Z,118nm,20.0s,baz=352,slow=29						
SUR	Sutherland	87.75	146	LR	LR	23 32 18.5	
	comp=Z,48nm,20.4s,baz=226,slow=32						
NVAR	Mina Array Bea	91.00	360	LR	LR	23 31 09.4	
	comp=Z,88nm,18.4s,baz=115,slow=30						
BOSA	Boshof	92.69	148	LR	LR	23 32 38.7	
	comp=Z,97nm,21.1s,baz=193,slow=31						
ELK	Elko	93.34	2	LR	LR	23 32 14.2	
	comp=Z,80nm,18.9s,baz=18,slow=30						
YBH	Yreka Blue Hor	94.39	356	LR	LR	23 30 54.5	
	comp=Z,116nm,21.8s,baz=46,slow=29						
H11S2	WAKE ISLAND Hy	96.06	293	T	T	00 45 36.2	
	baz=143,slow=75,SNR=137						
H11S3	WAKE ISLAND Hy	96.08	293	T	T	00 45 37.3	
	baz=143,slow=75,SNR=115						
H11S1	WAKE ISLAND Hy	96.08	293	T	T	00 45 39.5	
	baz=143,slow=75,SNR=66						
LBTB	Lobatse	96.14	147	LR	LR	23 37 44.6	
	comp=Z,56nm,19.2s,baz=270,slow=33						
H11N3	WAKE ISLAND Hy	96.93	293	T	T	00 46 43.5	
	baz=144,slow=76,SNR=59						
H11N1	WAKE ISLAND Hy	96.94	293	T	T	00 46 41.3	
	baz=144,slow=76,SNR=54						
H11N2	WAKE ISLAND Hy	96.95	293	T	T	00 46 47.6	
	baz=144,slow=76,SNR=39						
TSUM	Tsumeb	98.51	138	LR	LR	23 35 49.2	
	comp=Z,64nm,20.8s,baz=300,slow=31						
ILAR	Eielson Array	119.49	346	PKP	PKPdf	23 04 04.2	+0.2
	comp=Z,0.6nm,0.9s,baz=188,slow=3.6,SNR=3.6						
CMAR	Chiang Mai Arr	135.23	234	PKP	PKiKP	23 04 36.4	-0.6
	comp=Z,0.3nm,0.2s,baz=194,slow=3.3,SNR=2.4						
YAK	Yakutsk	144.16	312	PKPdf	PKPdf	23 04 50.1	-0.1
ECH	Echery	145.55	75	PKPdf	PKPbc	23 04 53.7	+0.3
ZCCA	Zocca	145.83	84	PKPbc	PKPbc	23 04 54.4	0.0
TIXI	Tiksi	146.15	328	PKPbc	PKPbc	23 04 55.1	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIP	Timpagrande	146.29	96	PKPbc	PKPdf	23 04 55.4	+0.7
FUORN	Ofenpass-Fuorn	146.60	80	PKPbc	PKPbc	23 04 56.6	-0.3
DAVA	Damuels	146.70	78	ePKP	PKiKP	23 04 59.6	-0.1
	comp=Z,4.8nm,0.8s						
TEOL	Teolo	146.79	83	PKPbc	PKPbc	23 04 57.6	+0.5
FETA	Feichten	147.07	79	i PKP	PKiKP	23 05 00.7	+0.2
	comp=Z,9.9nm,1.2s						
CTI	Castel Tesino	147.13	81	PKPdf	PKPdf	23 04 56.9	+0.9
RETA	Reutte	147.32	79	i PKP	PKPbc	23 04 59.5	+0.9
	comp=Z,19nm,1.7s						
MOTA	Moosalm	147.46	79	i PKP	PKPbc	23 05 00.2	+1.1
	comp=Z,16nm,1.2s						
SQTA	Sankt Quirin	147.46	79	i PKP	PKiKP	23 05 01.7	+0.4
	comp=Z,11nm,1.3s						
WATA	Walderalm	147.73	79	i PKiKP	PKPab	23 05 06.3	+4.0
	comp=Z,6.9nm,1.2s						
WTTA	Wattenberg	147.73	79	ePKP	PKPbc	23 05 00.6	+0.7
	comp=Z,9.8nm,1.1s						
ABTA	Abfaltersbach	148.00	81	i PKP	PKiKP	23 05 01.6	-0.7
	comp=Z,8.8nm,1.4s						
CLUD	Cludinico	148.08	82	PKPbc	PKPbc	23 05 00.7	0.0
LESA	Schwarzleotal	148.43	80	ePKP	PKPbc	23 05 01.9	+0.3
	comp=Z,17nm,1.5s						
MYKA	Terra Mystica	148.62	82	i PKP	PKPbc	23 05 02.4	+0.3
	comp=Z,4.9nm,0.7s						
OBKA	Obir	149.10	83	ePKP	PKiKP	23 05 04.5	-0.1
	comp=Z,17nm,1.5s						
BIOA	Bad Ischl, Aus	149.13	80	ePKP	PKPbc	23 05 03.4	+0.1
	comp=Z,6.8nm,1.1s						
SOKA	Soboth	149.48	83	ePKP	PKPbc	23 05 02.2	-2.1
	comp=Z,2.9nm,0.8s						
MOA	Molln	149.58	80	i PKP	PKPbc	23 05 03.5	-0.9
	comp=Z,12nm,1.3s						
GEC2	GERESS Array S	149.70	78	PKPbc	PKPbc	23 05 04.9	+0.1
GERES	GERESS Array B	149.70	78	PKPbc	PKPbc	23 05 04.7	0.0
	comp=Z,2.2nm,0.7s,baz=245,slow=2.5,SNR=8.1						
CONA	Conrad Observa	150.57	81	i PKP	PKPbc	23 05 07.1	+0.2
	comp=Z,7.0nm,1.3s						
RONA	Rosalia, Austr	150.72	82	ePKP	PKiKP	23 05 07.7	-0.1
	comp=Z,3.9nm,1.1s						
ULN	Ulaanbaatar	151.24	278	PKPbc	PKPbc	23 05 09.0	+0.4
SONM	Songino Array	151.62	278	PKPbc	PKPbc	23 05 09.7	+0.2
SONM	Songino Array	151.62	278	PKPbc	PKPbc	23 05 09.5	+0.1
	comp=Z,1.5nm,0.7s,baz=115,slow=2.1,SNR=10						
NB2	NORSAR Subarra	151.82	53	PKP	PKiKP	23 05 09.9	+0.2
	comp=Z,2.4nm,0.9s,baz=267,slow=2.4						
NOA	NORSAR Array B	151.82	53	PKPbc	PKPbc	23 05 09.4	+0.1
	comp=Z,0.7nm,0.6s,baz=230,slow=3.6,SNR=4.4						
HFS	Hagfors	152.93	55	PKPbc	PKPbc	23 05 11.5	-0.2
	comp=Z,2.6nm,1.0s,baz=235,slow=6.8,SNR=2.0						
MKAR	Makanchi Array	165.59	253	PKPab	PKPab	23 06 18.4	-0.2
	comp=Z,4.1nm,1.1s,baz=121,slow=2.1,SNR=5.7						
MKAR				PP	PP	23 10 06.8	+0.6
	comp=Z,1.1nm,1.1s,baz=129,slow=3.9,SNR=2.4						
ZALV	Zalesovo Beam	166.40	283	PKPab	PKPab	23 06 22.1	+0.2
	comp=Z,0.7nm,0.6s,baz=132,slow=2.1,SNR=3.4						
BVAR	Borovoye Array	174.96	274	PKPab	PKPab	23 06 59.8	0.0
	comp=Z,0.3nm,0.7s,baz=72,slow=4.7,SNR=2.4						

IDC 02 22:47:01.2±3.4, 10°.96S×118°.75E, h0km, mb3.6/1, mbtmp3.2/3, ML2.9/2, MS3.2/1, Error ellipse: s-maj=243.0km s-min=30.1km az=48.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.47	123	P	Pn	22 51 06.6	+0.1
	baz=292,slow=13,SNR=1.6						
WRA				S	Sn	22 54 07.1	-15
	0.2nm,0.6s,baz=289,slow=23,SNR=1.5						
	0.3nm,0.8s						
ASAR	Alice Springs	19.19	133	P	P	22 51 27.1	+0.4
	baz=313,slow=12,SNR=4.2						
	0.2nm,0.5s						
STKA	Stephens Creek	29.64	138	LR	LR	23 05 54.3	
	comp=Z,43nm,19.8s,baz=23,slow=38						
MKAR	Makanchi Array	66.08	333	P	P	22 57 49.9	-0.1
	0.4nm,0.5s,baz=151,slow=6.1,SNR=5.8						
	0.4nm,0.5s						

IDC 02 22:48:12.3±4.0, 6°.48S×153°.83E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=140.7km s-min=37.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.18	233	P	P	22 53 21.0	+0.1
	1.3nm,0.9s,baz=56,slow=11,SNR=5.2						
	1.3nm,0.9s						
ASAR	Alice Springs	25.67	226	P	P	22 53 44.6	+0.4
	0.5nm,0.8s,baz=59,slow=9.8,SNR=4.7						
	0.5nm,0.8s						
MKAR	Makanchi Array	82.25	319	P	P	23 00 36.6	+0.9
	0.3nm,0.5s,baz=95,slow=6.6,SNR=5.8						
	0.3nm,0.5s						
TORD	Torodi Ar. Bea	151.77	286	PKPbc	PKPbc	23 08 08.3	-1.8
	0.2nm,0.4s,baz=86,slow=1.1,SNR=2.4						

*NEIC **02** 22:58:14.0±1.4, 53°.0S±0°.2×118°.6W±0°.2, h10km±1km, mb4.6/7, Error ellipse: s-maj=35.9km s-min=10.3km az=319.0*

*IDC **02** 22:58:16.1±1.1, 53°.02S×117°.20W, h0km, mb4.0/4, mbtmp4.0/4, MS3.7/10, Error ellipse: s-maj=55.5km s-min=31.3km az=90.0*

ISC 02 22:58:17.3±0.9, 53°.1S±0°.2×117°.3W±0°.2, h10km, n41, σ1s.03/15, mb4.3/7, MS3.7/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	26.59	16	LR	LR	23 11 45.0	
	comp=Z,61nm,18.6s,baz=49,slow=30						
H03S2	Juan Fernandez	33.29	70	T	T	23 40 19.8	
	baz=221,slow=74,SNR=14						
H03S1	Juan Fernandez	33.30	70	T	T	23 40 21.1	
	baz=221,slow=74,SNR=15						
H03S3	Juan Fernandez	33.31	70	T	T	23 40 20.1	
	baz=221,slow=74,SNR=12						
H03N3	Juan Fernandez	33.57	70	T	T	23 40 38.0	
	baz=223,slow=72,SNR=126						
H03N2	Juan Fernandez	33.58	70	T	T	23 40 35.8	
	baz=223,slow=72,SNR=165						
H03N1	Juan Fernandez	33.59	70	T	T	23 40 36.4	
	baz=223,slow=72,SNR=114						
PLCA	Paso Flores	33.62	88	LR	LR	23 15 41.9	
	comp=Z,61nm,18.3s,baz=190,slow=31						
VNDA	Vanda	36.95	201	LR	LR	23 18 11.8	
	comp=Z,111nm,18.1s,baz=88,slow=32						
QSPA	South Pole Qui	37.12	180	P	P	23 05 25.4	-2.4
QSPA				IAmb	IAmb	23 05 31.0	
	comp=Z,12nm,1.4s						
QSPA	South Pole Qui	37.12	180	P	P	23 05 28.3	+0.6
	comp=Z,3.2nm,1.0s,baz=90,slow=7.6,SNR=5.1						
	comp=Z,3.2nm,1.0s						
CFA	Coronel Fontan	41.11	78	LR	LR	23 18 55.6	
	comp=Z,132nm,21.1s,baz=188,slow=30						
RPZ	Rata Peaks	46.63	251	LR	LR	23 21 39.5	
	comp=Z,64nm,18.1s,baz=105,slow=30						
SNAA	Sanae	47.35	157	P	P	23 06 51.0	+0.3
SNAA				IAmb	IAmb	23 06 51.3	
	comp=Z,13nm,1.5s						
SNAA	Sanae	47.35	157	P	P	23 06 51.3	+0.5
	comp=Z,1.9nm,0.9s,baz=231,slow=6.5,SNR=2.9						
	comp=Z,1.9nm,0.9s						
LVC	Limon Verde	47.52	69	LR	LR	23 21 30.2	
	comp=Z,75nm,21.0s,baz=243,slow=29						
NNA	Nana	52.12	54	LR	LR	23 23 47.8	
	comp=Z,50nm,20.0s,baz=201,slow=29						
LPAZ	La Paz	53.03	65	P	P	23 07 36.4	+1.2
PTLB	Pontes e Lacer	58.78	73	P	P	23 08 16.1	+0.5
PTLB				IAmb	IAmb	23 08 22.2	
	comp=Z,7.0nm,1.3s						
BOSC	San Juan Bosco	59.12	47	P	P	23 08 18.2	0.0
BOSC				IAmb	IAmb	23 08 19.9	
	comp=Z,1.1nm,0.9s						
COHC	Cochancay	59.40	46	P	P	23 08 19.1	-0.8
CHSH	Refugio Sur-Vo	60.44	46	P	P	23 08 27.4	-0.3
OTAV	Otavalo	62.17	45	P	P	23 08 38.1	-1.2
OTAV				IAmb	IAmb	23 08 50.8	
	comp=Z,12nm,1.4s						
JTS	Las Juntas de	68.88	34	LR	LR	23 31 41.6	
	comp=Z,98nm,22.0s,baz=358,slow=29						
STKA	Stephens Creek	71.34	242	LR	LR	23 34 05.5	
	comp=Z,63nm,21.8s,baz=200,slow=30						
CMIG	Matias Romero	72.50	22	LR	LR	23 33 18.9	
	comp=Z,53nm,18.5s,baz=24,slow=29						
H01W1	Cape Leeuwin H	81.67	221	T	T	00 41 02.4	
	baz=150,slow=76,SNR=2.9						
H01W2	Cape Leeuwin H	81.67	220	T	T	00 41 02.9	
	baz=150,slow=76,SNR=4.9						
H01W3	Cape Leeuwin H	81.69	220	T	T	00 41 04.5	
	baz=150,slow=76,SNR=5.9						
ASAR	Alice Springs	81.97	241	P	P	23 10 29.5	-7.9
TXAR	Lajitas Array	82.91	12	P	P	23 10 41.0	-1.0
TXAR	Lajitas Array	82.91	12	P	P	23 10 42.2	+0.2
	comp=Z,1.2nm,1.0s,baz=166,slow=5.8,SNR=5.8						
	comp=Z,1.2nm,1.0s						
WRA	Warramunga Arr	84.76	244	P	P	23 10 52.9	+1.1
	comp=Z,0.4nm,0.7s,baz=145,slow=4.5,SNR=5.1						
	comp=Z,0.4nm,0.7s						
H11S2	WAKE ISLAND Hy	96.50	292	T	T	00 58 46.0	
	baz=143,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy	96.51	292	T	T	00 58 50.0	
	baz=143,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	96.51	292	T	T	00 58 41.8	
	baz=143,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	97.37	293	T	T	00 59 46.5	
	baz=144,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	97.38	293	T	T	00 59 47.6	
	baz=144,slow=76,SNR=9.0						
H11N2	WAKE ISLAND Hy	97.39	293	T	T	00 59 48.5	
	baz=144,slow=76,SNR=6.1						
GERES	GERESS Array B	149.32	78	PKPbc	PKPbc	23 18 05.4	-0.1
	comp=Z,1.0nm,0.8s,baz=238,slow=4.6,SNR=4.7						
SONM	Songino Array	152.05	277	PKPbc	PKPbc	23 18 11.6	-0.4
	comp=Z,0.5nm,0.7s,baz=119,slow=1.8,SNR=2.3						

*IDC **02** 23:03:02.2±0.8, 29°.01N×139°.68E, h377km±14km, mb3.2/14, mbtmp4.0/15, Error ellipse: s-maj=36.3km s-min=11.7km az=75.0*

*JMA **02** 23:03:04.1±0.2, 29°N±2°×14°0E±°, h420km, MV3.6/16, NEAR TORISHIMA IS*

ISC 02 23:03:04.4±0.7, 29°.03N±0°.09×140°.2E±0°.2, h424km, n25, σ1s.50/31, mb3.6/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.58	138	P	P	23 04 06.8	+0.4
CBIJ				S	S	23 04 56.8	+0.2
JCJ	Chichijima	2.58	138	P	P	23 04 02.8	-3.6
	91nm,0.3s,baz=292,slow=22,SNR=20						
JCJ				S	S	23 04 52.2	-4.4
	188nm,0.3s,baz=269,slow=23,SNR=13						
JHH2	Haha-jima-NKT2	2.94	144	P	P	23 04 09.6	+0.6
JHH2				S	S	23 05 00.7	-0.7
BSO1	Boso 1	5.65	6	P	P	23 04 34.4	+1.1
BSO1				S	S	23 05 45.1	-1.1
JHU	Hanno	6.85	353	P	P	23 04 45.5	-1.6
JRY	Ryogami san	7.06	351	P	P	23 04 48.5	-0.9
JAG	Ashikaga	7.41	355	P	P	23 04 51.6	-1.6
JHO	Hitachi	7.57	2	P	P	23 04 55.1	+0.2
JFK	Kawauchi	8.34	4	P	P	23 05 04.5	+1.3
USRK	Ussuriysk Ar.	16.51	339	P	P	23 06 32.4	+0.2
	2.6nm,0.5s,baz=142,slow=10.0,SNR=11						
KLR	Kul'dur	21.20	344	P	P	23 07 19.5	+1.5
	0.8nm,0.5s,baz=160,slow=9.0,SNR=4.5						
	0.8nm,0.5s						
SONM	Songino Array	32.13	315	P	P	23 08 53.4	-1.6
	0.6nm,0.6s,baz=125,slow=8.5,SNR=5.1						
	0.6nm,0.6s						
ZALV	Zalesovo Beam	46.91	318	P	P	23 10 53.5	-1.1
	0.2nm,0.3s,baz=117,slow=8.3,SNR=2.0						
ZALV				PcP	PcP	23 12 19.8	+0.6
	0.5nm,0.5s,baz=76,slow=4.2,SNR=2.5						
	0.2nm,0.3s						
MKAR	Makanchi Array	47.93	308	P	P	23 11 01.1	-1.4
	0.5nm,0.5s,baz=87,slow=10.0,SNR=12						
	0.5nm,0.5s						
WRA	Warramunga Arr	49.01	187	P	P	23 11 12.0	+1.1
	1.4nm,0.3s,baz=3.5,slow=7.7,SNR=31						
	1.4nm,0.3s						
KURBB	Kurchatov Arra	50.47	313	P	P	23 11 20.1	-1.2
	1.9nm,0.6s,baz=91,slow=8.0,SNR=13						
	1.9nm,0.6s						
ASAR	Alice Springs	52.74	187	P	P	23 11 39.5	+1.3
	0.5nm,0.4s,baz=8.9,slow=8.9,SNR=15						
	0.5nm,0.4s						
BVAR	Borovoye Array	55.46	316	P	P	23 11 56.7	-0.5
	1.3nm,0.6s,baz=88,slow=7.2,SNR=11						
BVAR				PcP	PcP	23 12 52.3	+1.0
	0.6nm,0.4s,baz=121,slow=2.5,SNR=5.9						
	1.3nm,0.6s						
ARCES	ARCESS Array B	71.16	340	P	P	23 13 40.1	+1.8
	1.2nm,0.5s,baz=73,slow=7.5,SNR=14						
	1.2nm,0.5s						
KBZ	Khabaz	75.44	312	P	P	23 14 03.6	+0.2
	2.1nm,0.8s,baz=94,slow=5.0,SNR=5.2						
	2.1nm,0.8s						
FINES	FINESS Array B	75.46	333	P	P	23 14 04.0	+0.8
	1.2nm,0.5s,baz=76,slow=5.0,SNR=20						
	1.2nm,0.5s						
AKASG	Malin Array Be	80.05	323	P	P	23 14 28.7	+0.3
	0.3nm,0.4s,baz=52,slow=5.0,SNR=5.9						
	0.3nm,0.4s						
HFS	Hagfors	80.97	336	P	P	23 14 34.2	+1.1
	1.3nm,0.5s,baz=83,slow=4.6,SNR=10						
	1.3nm,0.5s						
NB2	NORSAR Subarra	81.18	338	P	P	23 14 34.9	+0.7
	comp=Z,1.9nm,0.7s,baz=46,slow=5.1						
NOA	NORSAR Array B	81.18	338	P	P	23 14 35.1	+0.9
	comp=Z,0.5nm,0.5s,baz=59,slow=8.0,SNR=5.3						
	comp=Z,0.5nm,0.5s						

*CRAAG **02** 23:06:12.2, 36°.37N×2°.58E, Ml3.1, Algerie 05km SE Oued-Djer*

*MDD **02** 23:06:13.9±1.0, 36°.46N×2°.62E, h0km, Mb3.7/11, M_mb3.0/11, Error ellipse: s-maj=8.6km s-min=4.7km az=147.0*

ISC 02 23:06:13.5±1.4, 36°.43N±0°.05×2°.60E±0°.03, h19km±5km, n23, σ1s.18/34, 8C, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACHR	Chrea	0.22	92	P	Pg	23 06 18.8	-0.2
ABKD	Sidi Amar	0.26	294	P	Pg	23 06 18.9	-0.5
EARB	Arib	0.50	255	P	Pb	23 06 22.1	-1.6
ABA	Alger-Bouzarea	0.51	43	P	Pb	23 06 24.4	+0.5
AKED	El Kharrouba	0.69	71	P	Pn	23 06 28.2	-0.1
ADJB	Djebel Djouab	0.73	112	P	Pg	23 06 27.6	-0.2
AFDJ	Sidi Ladjel	1.03	181	P	Pb	23 06 32.9	+0.1
EIBI	Ibiza	2.78	339	Pn	Pn	23 06 56.9	-0.1
EIBI				Sn	Sn	23 07 27.7	-2.3
EIBI	Ibiza	2.78	339	P	Pn	23 06 57.9	+0.8
EIBI				⇑ iVmb_V		23 07 02.3	
	484nm,SNR=0.9						
EIBI				S	Sn	23 07 30.4	+0.4
CART	Cartagena	3.11	293	Pn	Pn	23 07 01.0	-0.5
EBEN2	Beniarda presa	3.15	316	P	Pn	23 07 03.1	+0.9
EBEN2				⇑ iVmb_V		23 07 05.5	
	50nm,SNR=2.6						
EBEN2				S	Sn	23 07 39.2	-0.2
ETOS	Mallorca	3.33	3	Pn	Pn	23 07 06.2	+1.4
ETOS				Sn	Sn	23 07 41.8	-2.0
ETOS	Mallorca	3.33	3	P	Pn	23 07 06.1	+1.4
ETOS				⇑ iVmb_V		23 07 07.5	
	410nm,SNR=0.7						
ETOS				S	Sn	23 07 42.2	-1.6
AFON	Font Roja	3.35	313	P	Pn	23 07 05.1	+0.1
AFON				⇑ iVmb_V		23 07 07.5	
	205nm,SNR=1.3						
AFON				S	Sn	23 07 45.2	+0.9
EMUR	La Murta	3.38	296	Pn	Pn	23 07 07.2	+1.9
EMUR	La Murta	3.38	296	P	Pn	23 07 06.3	+1.0
EMUR				⇑ iVmb_V		23 07 09.7	
	111nm,SNR=1.2						
EMUR				S	Sn	23 07 45.5	+0.6
ETOB	Tobarra	3.97	305	Pn	Pn	23 07 15.3	+1.8
ETOB	Tobarra	3.97	305	P	Pn	23 07 14.4	+1.0
ETOB				⇑ iVmb_V		23 07 17.6	
	106nm,SNR=0.8						
ETOB				S	Sn	23 08 00.1	+0.5
EBER	Berja	4.44	278	Pn	Pn	23 07 20.1	0.0
EBER	Berja	4.44	278	P	Pn	23 07 20.0	0.0
EBER				⇑ iVmb_V		23 07 24.1	
	19nm,SNR=2.1						
EBER				S	Sn	23 08 12.0	+0.6
EMOS	Mosqueruela	4.61	329	P	Pn	23 07 24.1	+1.7
EMOS				⇑ iVmb_V		23 07 24.5	
	185nm,SNR=0.9						
EMOS				S	Sn	23 08 14.4	-1.1
EQES	Quesada	4.74	288	P	Pn	23 07 25.6	+1.6
EQES				S	Sn	23 08 19.5	+1.0
EGOR	Sierra Gorda,	5.43	279	Pn	Pn	23 07 35.1	+1.4

ROM 02 23:14:07.7±0.1, 42°.924N±0°.004×13°.184E±0°.005, h8km, ML1.9/46, 9C-9D, Error ellipse: s-maj=0.4km s-min=0.3km az=281.0, Central Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MC2	Monte Cornacci	0.01	158	P	Pg	23 14 09.3	-0.1
MC2				S	Sg	23 14 10.1	-0.5
NRCA	Norcia	0.10	210	⇓P	Pg	23 14 10.9	+0.6
NRCA				S	Sg	23 14 12.9	+0.9
NRCA				AML	AML		
	comp=N,4225µm,1.2s						
NRCA				AML	AML		
	comp=E,5120µm,0.1s						
NRCA				AML	AML		
	comp=N,4350µm,0.2s						
NRCA				AML	AML		
	comp=N,4225µm,1.2s						
NRCA				AML	AML		
	comp=E,5420µm,0.1s						
NRCA				AML	AML		
	comp=E,5120µm,0.1s						
FEMA	Monte Fema	0.11	291	⇓P	Pg	23 14 10.9	+0.6
FEMA				S	Sg	23 14 13.0	+0.9
FEMA				AML	AML		
	comp=N,1295µm,0.7s						
FEMA				AML	AML		
	comp=E,1410µm,0.1s						
FEMA				AML	AML		
	comp=E,1410µm,0.1s						
FEMA				AML	AML		
	comp=N,1290µm,0.7s						
MMO1	Montemonaco	0.11	103	P	Pg	23 14 10.6	+0.3
MMO1				S	Sg	23 14 12.5	+0.4
FDMO	Fiordimonte	0.13	328	P	Pg	23 14 11.0	+0.3
FDMO				S	Sg	23 14 13.2	+0.6
FDMO				AML	AML		
	comp=N,604µm,0.7s						
FDMO				AML	AML		
	comp=E,802µm,1.0s						
FDMO				AML	AML		
	comp=N,604µm,1.3s						
FDMO				AML	AML		
	comp=E,802µm,1.0s						
CSP1	Cessapalombo	0.17	5	⇑P	Pg	23 14 11.7	+0.4
CSP1				S	Sg	23 14 14.6	+0.9
CSP1				AML	AML		
	comp=E,304µm,1.1s						
CSP1				AML	AML		
	comp=E,303µm,1.1s						
CSP1				AML	AML		
	comp=N,190µm,0.5s						
CSP1				AML	AML		
	comp=E,303µm,0.9s						
GUMA	Gualdo di Mace	0.18	39	⇑P	Pg	23 14 12.1	+0.7
GUMA				S	Sg	23 14 15.5	+1.6
GUMA				AML	AML		
	comp=N,2850µm,0.3s						
GUMA				AML	AML		
	comp=E,2645µm,0.3s						
GUMA				AML	AML		
	comp=N,2860µm,0.2s						
GUMA				AML	AML		
	comp=E,2155µm,0.7s						
MF5	Montefalcone A	0.21	72	⇑P	Pg	23 14 12.9	+0.9
MF5				AML	AML		
	comp=E,429µm,0.7s						
MF5				AML	AML		
	comp=E,430µm,0.7s						
MF5				AML	AML		
	comp=N,412µm,0.5s						
CESI	CESI - Serrava	0.22	292	⇑P	Pg	23 14 12.9	+0.7
CESI				S	Sg	23 14 16.8	+1.6
CESI				AML	AML		
	comp=N,548µm,0.4s						
CESI				AML	AML		
	comp=E,442µm,0.4s						
CESI				AML	AML		
	comp=N,547µm,0.4s						
SMA1	SAN MARTINO	0.31	159	⇓P	Pg	23 14 14.5	+0.6
SMA1				S	Sb	23 14 20.1	-0.8
SMA1				AML	AML		
	comp=E,380µm,0.2s						
SMA1				AML	AML		
	comp=N,380µm,0.5s						
GAVE	Gavelli	0.32	223	⇑P	Pg	23 14 14.7	+0.8
GAVE				S	Sb	23 14 20.2	-0.8
GAVE				AML	AML		
	comp=E,616µm,0.2s						
GAVE				AML	AML		
	comp=N,440µm,0.1s						
LNSS	Leonessa	0.34	198	P	Pg	23 14 15.2	+0.8
LNSS				S	Sb	23 14 20.8	-0.8
LNSS				AML	AML		
	comp=E,585µm,1.3s						
LNSS				AML	AML		
	comp=N,766µm,0.4s						
LNSS				AML	AML		
	comp=E,585µm,0.7s						
OFFI	Offida	0.37	88	⇓P	Pb	23 14 16.5	0.0
OFFI				AML	AML		
	comp=E,392µm,0.6s						
OFFI				AML	AML		
	comp=N,410µm,0.6s						
OFFI				AML	AML		
	comp=N,410µm,1.4s						
SNTG	Esanatoglia	0.38	332	⇓P	Pg	23 14 15.7	+0.6
SNTG				AML	AML		
	comp=E,79µm,0.6s						
SNTG				AML	AML		
	comp=N,97µm,0.6s						
ASSB	Assisi San Ben	0.40	287	P	Pg	23 14 16.0	+0.4
ASSB				AML	AML		
	comp=E,170µm,0.3s						
ASSB				AML	AML		
	comp=N,140µm,1.0s						
ASSB				AML	AML		
	comp=N,125µm,0.2s						
EL6	Elcito	0.41	352	⇓P	Pg	23 14 16.1	+0.4
EL6				AML	AML		
	comp=N,194µm,0.3s						
EL6				AML	AML		
	comp=E,162µm,0.1s						
RM33	Pellescritta (	0.42	177	P	Pg	23 14 16.5	+0.6
RM33				AML	AML		
	comp=E,488µm,0.3s						
RM33				AML	AML		
	comp=N,372µm,0.5s						
RM33				AML	AML		
	comp=E,437µm,0.3s						
RM33				AML	AML		
	comp=N,308µm,0.9s						
RM33				AML	AML		
	comp=N,308µm,1.1s						
CAMP	Campotosto	0.42	157	⇓P	Pg	23 14 16.3	+0.3
CAMP				AML	AML		
	comp=N,139µm,0.7s						
CAMP				AML	AML		
	comp=E,174µm,0.9s						
TERO	Teramo	0.43	134	P	Pg	23 14 16.5	+0.4
TERO				AML	AML		
	comp=N,177µm,0.3s						
TERO				AML	AML		
	comp=E,200µm,0.3s						
CING	Cingoli	0.45	1	P	Pg	23 14 17.0	+0.5
CING				AML	AML		
	comp=E,119µm,1.1s						
CING				AML	AML		
	comp=N,85µm,1.6s						
CING				AML	AML		
	comp=E,119µm,0.9s						
CING				AML	AML		
	comp=N,67µm,0.5s						
ARRO	Arrone	0.46	222	P	Pb	23 14 17.4	-0.7
MOMA	Monte Martano	0.47	255	⇓P	Pg	23 14 17.5	+0.7
MOMA				AML	AML		
	comp=E,146µm,0.8s						
MOMA				AML	AML		
	comp=N,140µm,1.0s						
MOMA				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,125µm,0.3s						
FOSV	Fossato di Vic	0.48	320	⇑P	Pg	23 14 17.7	+0.6
FOSV				AML	AML		
	comp=E,74µm,0.6s						
FOSV				AML	AML		
	comp=N,119µm,0.4s						
FOSV				AML	AML		
	comp=E,74µm,0.6s						
CESX	Cesi	0.55	235	⇑P	Pg	23 14 18.6	+0.3
CESX				S	Sb	23 14 27.6	+0.2
PP3	Marolino	0.55	34	AML	AML		
	comp=E,375µm,1.4s						
PP3				AML	AML		
	comp=N,290µm,1.2s						
PP3				AML	AML		
	comp=E,374µm,1.4s						
ARVD	Arcevia	0.60	343	⇑P	Pb	23 14 19.9	-0.5
FAGN	Fagnano	0.72	156	⇑P	Pb	23 14 22.6	0.0
FAGN				AML	AML		
	comp=N,144µm,1.4s						
FAGN				AML	AML		
	comp=N,144µm,0.6s						
FAGN				AML	AML		
	comp=E,123µm,1.6s						
T0110	Collepietro	0.82	148	⇓P	Pg	23 14 23.8	+0.2

*IDC **02** 23:16:06.2±0.7, 38.81N×72.59E, h0km, mb3.9/18, mbtmp4.0/27, ML3.3/9, MS3.6/18, Error ellipse: s-maj=12.7km s-min=11.0km az=129.0*
*NNC **02** 23:16:06.4±1.4, 38.73N×72.29E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=12.6km s-min=10.0km az=171.0*
*MOS **02** 23:16:07.8±1.4, 38.93N×72.50E, h17km, mb4.6/14, Error ellipse: s-maj=6.5km s-min=3.3km az=80.0*
*NEIC **02** 23:16:09.3±2.5, 38.79N±0.06×72.55E±0.05, h18km±4km, mb4.5/27, Error ellipse: s-maj=8.5km s-min=5.6km az=196.0*
ISC 02 23:16:09.7±0.6**, 38.88N**±0.04×**72.53E**±0.03**, h26**km±4km**, n220, σ2.42**/238**, mb4.3**/52**, MS3.7**/15**, 9C-11D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.36	33	PG	Pn	23 16 29.4	-3.9
SFK				S	Sn	23 16 49.1	-1.5
OHH	Osh	1.66	7	ePN	Pn	23 16 35.7	-1.5
OHH				S	Sb	23 17 00.2	+0.1
BTK	Batken	1.77	312	ePN	Pn	23 16 38.1	-0.7
BTK				S	Sb	23 17 04.4	+0.9
ARSB	Arslanbob	2.47	8	ePN	Pn	23 16 47.2	-1.2
ARSB				S	Sn	23 17 20.1	+2.3
KSH	Kashi	2.75	75	P	Pn	23 16 48.8	-3.5
KSH				pP	Pb	23 16 51.1	-7.1
KSH				sP		23 16 57.2	
KSH				S	Sn	23 17 24.2	-0.5
KSH				pmax	pmax		
	comp=Z,200nm,0.5s						
KSH				smax	smax		
	comp=N,1µm,0.8s						
KSH				smax	smax		
	comp=E,720nm,1.1s						
SIMJ	Simiganj	2.76	267		Pn	23 16 53.9	+1.4
TRKS	Terek-Say	2.86	339	ePN	Pn	23 16 52.4	-1.4
TRKS				S	Sn	23 17 28.8	+1.4
ARK	Arkit	2.95	352	ePN	Pn	23 16 54.3	-0.7
ARK				S	Sn	23 17 32.5	+2.9
AML	Almayashu	3.37	15	P	Pn	23 17 03.7	+2.7
	SNR=219						
AML	Almayashu	3.37	15	⇑Pn	Pn	23 17 03.7	+2.7
	comp=E,8.9nm,0.5s						
AML				⇓Sn	Sb	23 17 47.6	-2.1
	comp=E,162nm,0.8s						
AML	Almayashu	3.37	15	i PN	Pn	23 17 03.6	+2.6
AML				pmax	pmax		
	comp=Z,9.0nm,0.4s						
UCH	Uchtor	3.67	24	P	Pn	23 17 07.6	+2.4
	SNR=50						
UCH	Uchtor	3.67	24	ePN	Pn	23 17 03.6	-1.6
UCH				S	Sn	23 17 48.4	+0.5
KZA	Kyzart	3.81	32	P	Pn	23 17 09.7	+2.6
	SNR=11						
KZA	Kyzart	3.81	32	ePN	Pn	23 17 05.1	-2.0
KZA				S	Sn	23 17 51.1	-0.2
EKS2	Erkin-Say	3.90	14	P	Pn	23 17 12.2	+4.2
	SNR=26						
EKS2	Erkin-Say	3.90	14	ePN	Pn	23 17 07.0	-1.0
EKS2				S	Sn	23 17 54.2	+1.2
MRKS	Merke	3.90	8	Lg	Lg	23 18 00.2	
	comp=Z,181nm,0.7s						
AAK	Ala-Archa	4.04	21	P	Pn	23 17 13.2	+3.1
	SNR=77						
AAK	Ala-Archa	4.04	21	Pn	Pn	23 17 13.1	+3.0
AAK	Ala-Archa	4.04	21	cePN	Pn	23 17 12.6	+2.6
AAK				pmax	pmax		
	comp=Z,61nm,0.8s						
AAK	Ala-Archa	4.04	21	Pn	Pn	23 17 14.1	+4.1
	comp=Z,3.6nm,0.3s,baz=207,slow=10,SNR=95						
AAK				Sn	Sb	23 18 04.3	-4.4
	comp=Z,8.1nm,0.3s,baz=13,slow=9.5,SNR=17						
AAK				LR	LR	23 18 50.6	
	comp=Z,167nm,18.8s,baz=18,slow=40						
	comp=Z,63nm,0.8s						
CHM	Chimkent	4.10	328	ePN	Pn	23 17 14.2	+3.5
CHM				S	Sb	23 18 06.7	-3.5
DZA	Taraz	4.11	348	Pg	Pn	23 17 14.0	+3.1
	comp=Z,396nm,0.6s						
DZA	Taraz	4.11	348	eP	Pn	23 17 12.8	+1.9
	baz=350						
DZA	Taraz	4.11	348	ePN	Pn	23 17 12.8	+1.9
KBK	Karagaybulak	4.20	25	P	Pn	23 17 16.9	+4.7
	SNR=24						
KBK	Karagaybulak	4.20	25	ePN	Pn	23 17 10.7	-1.5
KBK				S	Sn	23 18 00.7	+0.2
FRU1	Bishkek	4.24	21	ePN	Pn	23 17 11.5	-1.2
FRU1				S	Sn	23 18 02.2	+0.8
ULHL	Ulahol	4.39	39	P	Pn	23 17 18.7	+3.8
	SNR=9.4						
ULHL	Ulahol	4.39	39	ePN	Pn	23 17 12.8	-2.1
ULHL				S	Sn	23 18 04.4	-1.0
CHMS	Chumysh	4.45	22	P	Pn	23 17 12.2	-3.3
	SNR=9.2						
KK31	Karatay Array	4.49	341	⇓Pn	Pn	23 17 18.1	+2.0
	comp=Z,19nm,0.3s,baz=162,slow=12,SNR=655						
KK31				⇑Sn	Sn	23 18 12.7	+5.3
	comp=Z,53nm,0.6s,baz=153,slow=23,SNR=5.5						
KK31	Karatay Array	4.49	341	Pn	Pn	23 17 18.3	+2.2
KK31	Karatay Array	4.49	341	PN	Pn	23 17 18.3	+2.2
KKAR	Karatay Array	4.49	341	Pn	Pn	23 17 17.5	+1.4
KKAR	Karatay Array	4.49	341	Pn	Pn	23 17 18.3	+2.3
KKAR	Karatay Array	4.49	341	PN	Pn	23 17 17.5	+1.4
USP	Ospenovka	4.63	18	P	Pn	23 17 21.4	+3.4
	SNR=11						
USP	Ospenovka	4.63	18	ePN	Pn	23 17 16.8	-1.2
USP				S	Sn	23 18 11.3	+0.3
TKM2	Tokmak 2	4.66	29	P	Pn	23 17 21.1	+2.6
	SNR=15						
TKM2	Tokmak 2	4.66	29	⇓Pn	Pn	23 17 21.2	+2.6
	comp=Z,72nm,1.4s						
TKM2				⇑Lg	Lg	23 18 36.8	
	comp=Z,197nm,1.1s						
TKM2	Tokmak 2	4.66	29	i PN	Pn	23 17 21.1	+2.6
TKM2				pmax	pmax		
	comp=Z,72nm,1.4s						
SGDS	Sogindy	4.84	18	P	Pn	23 17 24.5	+3.6
	comp=Z,4.5nm,0.1s						
SGDS	Sogindy	4.84	18	eP	Pn	23 17 23.6	+2.6
	baz=21						
SGDS	Sogindy	4.84	18	ePN	Pn	23 17 23.5	+2.6
KST	Kastek	4.91	31	P	Pn	23 17 24.9	+3.0
	comp=Z,9.2nm,1.3s						
TARG	Taragay, Kyrgy	4.94	53	Pn	Pn	23 17 25.0	+2.4
TARG	Taragay, Kyrgy	4.94	53	PN	Pn	23 17 25.0	+2.4
DGS	Degeres	5.00	28	P	Pn	23 17 26.6	+3.5
	comp=Z,5.8nm,0.8s						
KBL	Kabul	5.16	214	Pn	Pn	23 17 29.5	+4.1
KBL	Kabul	5.16	214	PN	Pn	23 17 29.5	+4.1
MTBS	Maitube	5.17	34	P	Pn	23 17 28.9	+3.4
	comp=Z,0.4nm,0.1s						
NIL	Nilore	5.25	173	Pn	Pn	23 17 29.5	+3.0
NIL	Nilore	5.25	173	PN	Pn	23 17 29.5	+3.0
TNSS	Tian-Shan	5.33	37	P	Pn	23 17 30.6	+2.5
	comp=Z,4.1nm,0.9s						
TNSS	Tian-Shan	5.33	37	eP	Pn	23 17 31.6	+3.6
	baz=39						
TNSS	Tian-Shan	5.33	37	ePN	Pn	23 17 31.6	+3.6
MDOK	Medeo	5.48	37	⇓Pn	Pn	23 17 32.2	+2.5
	comp=Z,38nm,0.9s						
MDOK				⇓Lg	Lg	23 19 04.6	
	comp=Z,103nm,1.0s						
MDOK	Medeo	5.48	37	eP	Pn	23 17 32.9	+3.1
	baz=39						
MDOK	Medeo	5.48	37	ePN	Pn	23 17 32.8	+3.1
ANVS	Anan'yevo	5.51	43	ePN	Pn	23 17 27.9	-2.4
KOTS	Kotyrbulak	5.56	37	P	Pn	23 17 33.8	+2.9
	comp=Z,4.3nm,1.5s						
PRZ	Przheval'sk	5.73	49	ePN	Pn	23 17 30.8	-2.5
KTBS	Karatobe	5.75	32	P	Pn	23 17 36.4	+2.9
	comp=Z,1.0nm,1.1s						
KUU	Kurty	5.77	29	P	Pn	23 17 36.9	+3.2
	comp=Z,1.1nm,0.6s						
KUU	Kurty	5.77	29	eP	Pn	23 17 36.4	+2.7
	baz=30						
KUU	Kurty	5.77	29	ePN	Pn	23 17 36.3	+2.7
CHKK	Chushkaly	6.00	33	eP	Pn	23 17 39.6	+2.9
	baz=34						
CHKK	Chushkaly	6.00	33	ePN	Pn	23 17 39.6	+2.9
SATY	Saty	6.10	45	P	Pn	23 17 41.4	+3.1
	comp=Z,5.6nm,0.8s						
SATY	Saty	6.10	45	eP	Pn	23 17 41.3	+3.0
	baz=46						
SATY	Saty	6.10	45	ePN	Pn	23 17 41.3	+3.0
BTLS	Baital	6.26	10	eP	Pn	23 17 41.4	+1.0
	baz=12						
BTLS	Baital	6.26	10	ePN	Pn	23 17 41.3	+1.0
KURS	Kuram	6.27	41	P	Pn	23 17 43.2	+2.6
	comp=Z,6.5nm,0.7s						
UZB	Uzynbulak	6.50	47	P	Pn	23 17 45.8	+1.9
	comp=Z,6.8nm,0.6s						
UZB	Uzynbulak	6.50	47	eP	Pn	23 17 47.3	+3.5
	baz=48						
UZB	Uzynbulak	6.50	47	ePN	Pn	23 17 47.3	+3.5
SHLS	Shalkode	6.76	49	eP	Pn	23 17 53.5	+6.1
	baz=51						
SHLS	Shalkode	6.76	49	ePN	Pn	23 17 53.5	+6.1
PDGK	Podgornoye	6.88	48	P	Pn	23 17 50.4	+1.4
	comp=Z,3.8nm,0.6s						
SMLA	Simla	8.61	152	eP	Pn	23 18 12.7	+0.1
SMLA				eS	Sn	23 19 45.2	-3.8
SMLA				IAML		23 19 55.9	
	comp=E,101nm,1.3s						
SMLA				IAML		23 19 59.6	
	comp=N,85nm,0.8s						
HRA	Herat	9.40	245	Pn	Pn	23 18 22.7	-1.0
MAKZ	Makanchi	10.53	38	Pn	Pn	23 18 38.0	-0.9
MAKZ	Makanchi	10.53	38	P	Pn	23 18 38.0	-0.9
MK31	Makanchi Array	10.67	39	Pn	Pn	23 18 42.5	+1.7
MK31	Makanchi Array	10.67	39	ceP	Pn	23 18 44.2	+3.4
MKAR	Makanchi Array	10.67	39	Pn	Pn	23 18 40.9	+0.1
MKAR	Makanchi Array	10.67	39	i P	Pn	23 18 44.5	+3.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	10.67	39	Pn	Pn	23 18 42.5	+1.7
	comp=Z,0.1nm,0.3s,baz=226,slow=15,SNR=14						
	comp=Z,3.0nm,0.9s						
BRZS	Berezniki	11.10	0	⇓eP	Pn	23 18 47.1	+0.3
	baz=1.4						
BRZS	Berezniki	11.10	0	deP	Pn	23 18 47.0	+0.3
KUDL	Kundal	11.20	162	eP	Pn	23 18 46.0	-2.1
PTH	Pithoragarh	11.27	143	eP	Pn	23 18 46.7	-2.5
PTH				eS	Sn	23 20 45.7	-8.7
GEYT	Alibeck	11.35	270	Pn	Pn	23 18 48.3	-1.9
GEYT	Alibeck	11.35	270	Pn	Pn	23 18 49.9	-0.3
	comp=Z,1.0nm,0.3s,baz=103,slow=11,SNR=16						
GEYT				Sn	Sn	23 20 52.8	-3.4
	comp=Z,0.8nm,0.3s,baz=78,slow=29,SNR=9.8						
	comp=Z,5.6nm,0.6s						
GYA0B	ALIBECK ARRAY	11.35	270	⇑Pn	Pn	23 18 48.9	-1.3
GYA0B				⇓Sn	Sn	23 20 51.5	-4.7
GYA0B	ALIBECK ARRAY	11.35	270	Pn	Pn	23 18 49.1	-1.1
LGTI	Lohaghat	11.36	144	eP	Pn	23 18 48.3	-2.0
LGTI				eS	Sn	23 20 49.7	-6.7
WMQ	Urumqi	12.42	62	eP	Pn	23 19 09.7	+4.9
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				LR	LR		
	comp=Z,250nm,24.1s						
ZSN	Zaisan	12.42	42	eP	Pn	23 19 08.0	+3.3
	baz=43						
ZSN	Zaisan	12.42	42	eP	Pn	23 19 08.0	+3.3
KURBB	Kurchatov Arra	12.49	18	Pn	Pn	23 19 04.7	-0.9
	comp=Z,0.1nm,0.3s,baz=210,slow=9.6,SNR=5.5						
KURBB				Sn	Sn	23 21 21.9	-1.9
	baz=231,slow=20						
KURBB				Lg	Lg	23 22 39.8	
	baz=219,slow=31,SNR=5.6						
KURBB				LR	LR	23 24 06.3	
	comp=Z,132nm,21.2s,baz=166,slow=38						
	comp=Z,0.5nm,0.6s						
AJM	Ajmer	12.49	171	eP	Pn	23 19 04.9	-0.9
KURK	Kurchatov	12.60	18	Pn	Pn	23 19 08.5	+1.4
KURK	Kurchatov	12.60	18	P	Pn	23 19 08.5	+1.4
SEM	Semipalatinsk	12.76	23	eP	Pn	23 19 11.2	+1.6
	baz=24						
SEM	Semipalatinsk	12.76	23	eP	Pn	23 19 11.2	+1.6
AB31	Akbulak array	13.75	323	⇓P	Pn	23 19 20.2	-2.6
	comp=Z,6.0nm,0.6s,baz=134,slow=13,SNR=149						
AB31	Akbulak array	13.75	323	P	Pn	23 19 20.2	-2.6
ABKAR	Akbulak array	13.75	323	Pn	Pn	23 19 19.7	-3.1
BVA0	Borovoye Array	14.23	355	P	Pn	23 19 27.7	-1.7
BVAR	Borovoye Array	14.23	355	Pn	Pn	23 19 27.6	-1.8
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=23						
BVAR				Sn	Sn	23 22 00.9	-5.4
	baz=155,slow=25,SNR=1.6						
BVAR				Lg	Lg	23 23 37.3	
	baz=165,slow=23,SNR=4.2						
BVAR				LR	LR	23 25 18.8	
	comp=Z,210nm,18.1s,baz=173,slow=39						
	comp=Z,3.5nm,0.6s						
BRVK	Borovoye	14.27	354	Pn	Pn	23 19 28.2	-1.7
BRVK	Borovoye	14.27	354	i P	Pn	23 19 29.3	-0.6
DGZ	Jazzator, Alta	15.17	40	i P	Pn	23 19 42.4	+0.2
AKTO	Aktyubinsk	15.46	323	⇑P	Pn	23 19 44.5	-1.4
	comp=Z,21nm,0.9s						
AKTO	Aktyubinsk	15.46	323	Pn	Pn	23 19 44.5	-1.4
	comp=Z,0.5nm,0.3s,baz=120,slow=15,SNR=13						
AKTO				Sn	Sn	23 22 30.6	-5.8
	comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=2.6						
AKTO				LR	LR	23 26 09.5	
	comp=Z,226nm,18.7s,baz=228,slow=39						
	comp=Z,5.1nm,0.6s						
ZAA0	Zalesovo Array	17.25	25	Pn	Pn	23 20 07.1	-1.5
ZALV	Zalesovo Beam	17.25	25	Pn	Pn	23 20 08.1	-0.5
ZALV	Zalesovo Beam	17.25	25	i P	P	23 20 11.0	+1.0
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV	Zalesovo Beam	17.25	25	P	Pn	23 20 08.3	-0.4
	comp=Z,0.6nm,0.3s,baz=215,slow=13,SNR=11						
	comp=Z,1.9nm,0.6s						
GOMU	GeErMu	17.87	92	P	Pn	23 20 15.2	-1.6
GOMU				PcP	PcP	23 24 57.1	+4.5
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAK	Makhachkala	19.32	290	eP	P	23 20 30.7	-2.1
MAK				eS	Sn	23 24 04.8	-5.0
MAK				pmax	pmax		
	comp=Z,353nm,1.3s						
MAK				MLR	MLR		
	comp=Z,243nm,16.0s						
WSAR	Wadi Sarin	19.58	221	P	P	23 20 36.4	+0.6
	comp=Z,0.1nm,0.3s,baz=63,slow=14,SNR=1.9						
WSAR				LR	LR	23 30 26.0	
	comp=Z,62nm,18.7s,baz=57,slow=44						
	comp=Z,1.6nm,0.6s						
SVE	Sverdlovsk	19.60	340	eP	P	23 20 35.6	-0.2
SVE				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARU	Arti	19.85	337		P	23 20 38.6	0.0
ARU	Arti	19.85	337	d iP	Pn	23 20 40.2	0.0
ARU				S	Sn	23 24 24.0	+1.6
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARU	Arti	19.85	337	P	Pn	23 20 39.8	-0.4
	baz=146,slow=4.7,SNR=10						
ARU				LR	LR	23 28 47.7	
	comp=Z,200nm,18.9s,baz=66,slow=38						
	comp=Z,6.3nm,0.8s						
TEZP	TEZPUR	20.92	120	eP	P	23 20 50.4	0.0
SHL	Shillong	21.02	123	P	P	23 20 49.3	-2.3
SHL				IAmb	IAmb	23 20 56.0	
	comp=Z,35nm,1.4s						
SHL	Shillong	21.02	123	P	P	23 20 49.3	-2.3
SHL				pmax	pmax		
	comp=Z,35nm,1.4s						
ZIRO	ZIRO	21.07	116	eP	P	23 20 52.5	+0.3
GTA	Gaotai	21.14	80	P	P	23 20 53.8	+1.0
GTA				sP	sP	23 21 09.8	+4.6
GTA				pmax	pmax		
	comp=Z,16nm,0.9s						
GTA				LR	LR		
	comp=N,270nm,12.4s						
GTA				LR	LR		
	comp=E,270nm,14.5s						
GTA				LR	LR		
	comp=Z,170nm,13.8s						
GNI	Garni	21.45	282	P	P	23 20 55.9	-0.2
GNI	Garni	21.45	282	P	P	23 20 57.6	+1.5
	comp=Z,5.0nm,0.8s,baz=12,slow=9.3,SNR=5.8						
	comp=Z,5.0nm,0.8s						
BELG	Belogornoye	21.90	316	P	P	23 21 01.5	+0.9
	comp=Z,34nm,0.9s,baz=159,slow=6.4,SNR=5.3						
	comp=Z,34nm,0.9s						
NCK	Nalchik	22.20	291	i P	P	23 21 02.0	-2.0
NCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ONI	Oni	22.29	289	P	P	23 21 04.7	-0.3
ONI				IAmb	IAmb	23 21 12.1	
	comp=Z,18nm,1.1s						
ONI	Oni	22.29	289	P	P	23 21 04.7	-0.3
ONI				pmax	pmax		
	comp=Z,18nm,1.1s						
AKH	Akhalkalaki	22.30	286	P	P	23 21 06.3	+1.0
AKH	Akhalkalaki	22.30	286	P	P	23 21 06.3	+1.0
AKH				pmax	pmax		
	comp=Z,53nm,1.0s						
KBZ	Khabaz	22.72	292	i P	P	23 21 11.9	+2.5
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	Khabaz	22.72	292	P	P	23 21 10.5	+1.0
	comp=Z,2.6nm,0.8s,baz=100,slow=11,SNR=5.4						
	comp=Z,2.6nm,0.8s						
KIV	Kislovodsk	22.88	292	P	P	23 21 11.5	+0.3
KIV				IAmb	IAmb	23 21 49.7	
	comp=Z,11nm,0.8s						
KIV	Kislovodsk	22.88	292	⇓eP	P	23 21 11.6	+0.3
KIV				i *PP	pP	23 21 19.0	-0.7
KIV				S	S	23 25 15.0	-4.4
KIV				eSSS	SSS	23 26 00.6	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,82nm,18.0s						
SAIH	SAIHA	23.92	127	eP	P	23 21 22.8	+1.1
SAIH				IAmb	IAmb	23 21 25.9	
	comp=Z,16nm,0.9s						
ZAK	Zakamensk	24.54	52	eP	P	23 21 27.3	+0.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIRV	Kirov	24.70	331	ceP	P	23 21 28.3	-0.1
VRH	Novokhopyorsk	24.82	310	eP	P	23 21 30.6	+1.1
VRH				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LZH	Lanzhou	24.94	87	eP	P	23 21 35.4	+4.3
LZH				pP	pP	23 21 39.6	-0.5
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
SONM	Songino Array	26.02	59	P	P	23 21 41.1	+0.4
	comp=Z,1.4nm,0.8s,baz=263,slow=13,SNR=7.2						
	comp=Z,1.4nm,0.8s						
VORD	Divnogorie	26.22	308	eP	P	23 21 40.8	-1.5
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	26.36	309	eP	P	23 21 42.4	-1.2
VSR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ULN	Ulaanbaatar	26.47	59	i P	P	23 21 44.8	0.0
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPSR	Galich'ya Gora	26.89	312	eP	P	23 21 41.8	-6.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH	PanZhiHua	27.38	108	P	P	23 21 57.5	+4.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
HHC	Hu-ho-hao-te	29.86	74	eP	P	23 22 19.4	+4.4
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,260nm,5.1s						
HHC				LR	LR		
	comp=N,380nm,11.4s						
HHC				LR	LR		
	comp=E,440nm,12.8s						
HHC				LR	LR		
	comp=Z,320nm,13.3s						
BRTR	Keskin Array B	29.95	284	P	P	23 22 17.7	+1.8
	comp=Z,0.2nm,0.3s,baz=93,slow=7.2,SNR=2.9						
	comp=Z,0.2nm,0.3s						
CMAR	Chiang Mai Arr	30.65	124	P	P	23 22 22.6	+0.5
	comp=Z,0.2nm,0.3s,baz=308,slow=10,SNR=1.5						
	comp=Z,0.2nm,0.3s						
EIL	Elat	32.20	265	LR	LR	23 38 46.5	
	comp=Z,68nm,19.0s,baz=64,slow=42						
PALK	Pallekele	32.32	165	LR	LR	23 36 01.2	
	comp=Z,77nm,18.9s,baz=88,slow=37						
AKASG	Malin Array Be	32.48	306	P	P	23 22 39.2	+1.4
	comp=Z,0.1nm,0.3s,baz=78,slow=7.8,SNR=3.4						
AKASG				LR	LR	23 36 24.5	
	comp=Z,138nm,18.7s,baz=344,slow=37						
	comp=Z,0.1nm,0.3s						
NACGM	Naroch	34.42	313	eP	P	23 22 55.2	+0.5
	comp=Z,16nm,1.0s,baz=99						
FINES	FINESS Array B	36.24	324	P	P	23 23 10.6	+0.3
	comp=Z,3.2nm,0.7s,baz=112,slow=11,SNR=25						
FINES				LR	LR	23 38 13.9	
	comp=Z,105nm,19.3s,baz=276,slow=37						
	comp=Z,3.2nm,0.7s						
NJ2	Nanjing	38.01	86	eP	P	23 23 29.9	+4.2
NJ2				pP	pP	23 23 36.5	+1.6
NJ2				sP	sP	23 23 39.7	+1.0
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,3.6s						
ARCES	ARCESS Array B	39.44	336	P	P	23 23 38.8	+1.6
ARCES				IAmb	IAmb	23 23 46.7	
	comp=Z,17nm,1.4s						
ARCES	ARCESS Array B	39.44	336	P	P	23 23 38.8	+1.6
ARCES				pmax	pmax		
	comp=Z,17nm,1.4s						
ARCES	ARCESS Array B	39.44	336	P	P	23 23 37.7	+0.5
	comp=Z,1.8nm,0.6s,baz=116,slow=7.1,SNR=15						
	comp=Z,1.8nm,0.6s						
HEH	HeiHe	39.87	55	eP	P	23 23 41.0	0.0
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LHMI	Lhok Sumawe	40.15	140	P	P	23 23 44.3	+0.7
YAK	Yakutsk	41.33	37	eP	P	23 24 02.8	+10
YAK				e*PP	sP	23 24 12.3	+6.5
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,164nm,4.1s						
YAK				pmax	pmax		
	comp=E,158nm,4.1s						
YAK				pmax	pmax		
	comp=N,110nm,4.3s						
PRU	Pruhonice	41.88	305	eP	P	23 24 03.2	+5.6
PRU	Pruhonice	41.88	305	eP	P	23 24 03.2	+5.6
HFS	Hagfors	41.98	320	P	P	23 23 58.8	+0.5
	comp=N,3.5nm,0.5s,baz=102,slow=11,SNR=11						
	comp=N,3.5nm,0.5s						
GERES	GERESS Array B	42.59	303	P	P	23 24 05.1	+1.6
	comp=N,1.0nm,0.7s,baz=45,slow=7.7,SNR=3.5						
	comp=N,1.0nm,0.7s						
KHC	Kasperske Hory	42.63	304	P	P	23 24 06.3	+2.5
KHC				IAmb	IAmb	23 24 12.0	
	comp=Z,12nm,1.5s						
KHC	Kasperske Hory	42.63	304	eP	P	23 24 06.4	+2.7
KHC	Kasperske Hory	42.63	304	P	P	23 24 06.3	+2.5
KHC				pmax	pmax		
	comp=Z,12nm,1.5s						
CLL	Collm	42.69	307	eP	P	23 24 06.0	+1.9
CLL				esP	pP	23 24 13.0	-0.3
KLR	Kul'dur	42.79	56	LR	LR	23 43 02.8	

comp=Z,91nm,19.6s,baz=260,slow=38
KSRS Korea Array 43.00 74 LR LR 23 44 25.2
comp=Z,76nm,20.8s,baz=215,slow=40
TIXI Tiksi 43.12 23 ceP P 23 24 06.9 -0.4
TIXI pmax pmax
comp=Z,4.0nm,0.6s
NB201 NORSAR Array S 43.21 321 P P 23 24 10.1 +1.8
NB201 IAmb IAmb 23 24 31.8
comp=Z,21nm,1.4s
NB2 NORSAR Subarra 43.25 321 P P 23 24 08.4 -0.2
comp=Z,1.0nm,0.6s,baz=91,slow=8.6
NOA NORSAR Array B 43.25 321 P P 23 24 09.7 +1.1
comp=Z,0.9nm,0.6s,baz=83,slow=8.2,SNR=6.7
NOA LR LR 23 43 09.2
comp=Z,97nm,19.6s,baz=240,slow=38
comp=Z,0.9nm,0.6s
NC204 NORSAR Array S 43.47 322 P P 23 24 10.4 0.0
MOTA Moosalm 44.59 302 eP P 23 24 15.9 -3.8
comp=Z,1.2nm,0.5s
DAVA Damuels 45.41 302 eP P 23 24 23.4 -2.9
comp=Z,2.4nm,0.6s
JOW Kunigami 47.68 87 LR LR 23 47 41.1
comp=Z,63nm,18.1s,baz=166,slow=40
ASAJ Asahikawa 51.30 60 LR LR 23 48 21.1
comp=Z,97nm,18.2s,baz=328,slow=38
KMBO Kilima Mbogo 51.33 228 LR LR 23 48 12.4
comp=Z,55nm,19.0s,baz=82,slow=38
DAG Danmarks Havn 52.80 343 i P P 23 25 23.0 +0.8
DAG IAmb IAmb 23 25 24.9
comp=Z,3.6nm,0.9s
ESDC Sonseca Array 57.44 297 P P 23 25 57.5 +1.2
comp=Z,0.9nm,0.9s,baz=50,slow=7.3,SNR=4.5
comp=Z,0.9nm,0.9s
NEEM North Greenlan 58.97 348 i P P 23 26 06.7 0.0
NEEM IAmb IAmb 23 26 15.3
comp=Z,4.3nm,0.9s
SUMG Summit 59.21 341 P P 23 26 10.2 +1.7
SUMG IAmb IAmb 23 26 33.0
comp=Z,1.8nm,0.9s
SUMG Summit 59.21 341 P P 23 26 10.3 +1.7
SUMG pmax pmax
comp=Z,2.0nm,0.9s
SUMG Summit 59.21 341 i P P 23 26 09.4 +0.9
SUMG IAmb IAmb 23 26 12.1
comp=Z,3.5nm,0.8s
MDT Midelt 61.09 290 LR LR 23 58 09.6
comp=Z,123nm,18.0s,baz=275,slow=41
TOA0 Torodi Ar. Sit 66.99 269 P P 23 27 00.7 +0.2
TOA0 IAmb IAmb 23 27 05.5
comp=Z,1.9nm,0.8s
TORD Torodi Ar. Bea 66.99 269 P P 23 26 59.6 -0.9
TORD Torodi Ar. Bea 66.99 269 P P 23 27 00.4 -0.1
comp=Z,1.2nm,0.6s,baz=48,slow=5.9,SNR=11
comp=Z,1.2nm,0.6s
D25K Kavik River 68.37 14 P P 23 27 09.6 +1.1
D25K IAmb IAmb 23 27 11.9
comp=Z,5.0nm,0.9s
MLY Manley 71.05 18 P P 23 27 26.7 +1.7
I23K Minto, Yukon-K 71.28 17 P P 23 27 26.2 -0.1
INK Inuvik 71.36 10 P P 23 27 28.3 +1.5
comp=Z,1.2nm,0.6s,baz=30,slow=6.5,SNR=6.2
comp=Z,1.2nm,0.6s
MDM Murphy Dome 71.70 17 P P 23 27 29.4 +0.5
MDM IAmb IAmb 23 27 54.6
comp=Z,4.8nm,1.1s
IL31 72.16 17 P P 23 27 30.9 -0.7
IL31 IAmb IAmb 23 27 44.0
comp=Z,8.8nm,1.4s
ILAR Eielson Array 72.16 17 P P 23 27 30.7 -1.0
ILAR Eielson Array 72.16 17 P P 23 27 30.7 -1.0
G31M Satah River 72.55 11 P P 23 27 34.0 +0.1
G31M IAmb IAmb 23 27 50.1
comp=Z,8.5nm,1.4s
EPYK Eagle Plains 72.69 12 P P 23 27 37.2 +2.3
DBIC Dimbokro 76.03 267 LR LR 00 06 53.3
comp=Z,58nm,18.3s,baz=350,slow=40
YKA Yellowknife Ar 78.81 3 P P 23 28 11.2 +1.3
comp=Z,1.0nm,0.9s,baz=346,slow=5.5,SNR=8.4
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 82.24 123 P P 23 28 29.0 +0.1
WRA Warramunga Arr 82.24 123 P P 23 28 29.0 +0.1
WRA Warramunga Arr 82.24 123 P P 23 28 28.2 -0.6
comp=Z,0.8nm,0.6s,baz=327,slow=5.0,SNR=4.1
comp=Z,0.8nm,0.6s
WB2 Warramunga Arr 82.25 123 P P 23 28 27.7 -1.1
WB2 IAmb IAmb 23 28 42.2
comp=Z,4.7nm,1.1s
ASAR Alice Springs 84.64 126 P P 23 28 41.6 +0.5
comp=Z,0.3nm,0.7s,baz=327,slow=4.4,SNR=1.9
comp=Z,0.3nm,0.7s

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*IDC **02** 23:17:24.7±0.6, 29°.56N×140°.43E, h0km, mb4.0/23, mbtmp4.0/26, ML2.6/2, MS3.6/11, Error ellipse: s-maj=19.9km s-min=14.4km az=73.0*
*NEIC **02** 23:17:27.4±1.3, 29°.51N±0°.08×140°.6E±0°.1, h10km±1km, mb4.5/60, Error ellipse: s-maj=21.9km s-min=11.7km az=252.0*
ISC 02 23:17:26.5±0.4, **29°.56N**±0°.06×**140°.72E**±0°.08, **h10**km, **n135**, σ1^{s}**46**/121, **mb4.5**/62, **MS3.8**/8, **3D**, **Southeast of Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JCJ Chichijima 2.77 152 Pn Pn 23 18 11.3 +0.3
JCJ Chichijima 2.77 152 Pn Pn 23 18 10.1 -0.9
259nm,0.4s,baz=81,slow=23,SNR=18
JCJ Sn Sn 23 18 43.2 -1.3
134nm,0.3s,baz=274,slow=22,SNR=9.2
MJAR Matsushiro Arr 7.28 344 Pn Pn 23 19 11.9 -1.0
baz=126,slow=12,SNR=1.7
MJAR LR LR 23 21 54.2
comp=Z,268nm,19.1s,baz=158,slow=37
1.7nm,0.9s
MAJO Matsushiro 7.28 344 Pn Pn 23 19 12.4 -0.5
MJB9 Matsu-Tunnel 7.28 344 Pn Pn 23 19 13.2 +0.2
JMM Marumori 8.29 0 Pn Pn 23 19 25.4 -1.3
JNU Nakatsue 9.13 295 LR LR 23 22 47.2
comp=Z,232nm,18.6s,baz=119,slow=36
JOW Kunigami 11.31 259 LR LR 23 23 48.4
comp=Z,247nm,21.4s,baz=352,slow=35
KSRS Korea Array 13.26 310 Pn Pn 23 20 39.2 +4.5
0.2nm,0.3s,baz=120,slow=15,SNR=4.8
USRK Ussuriysk Ar. 16.18 337 Pn Pn 23 21 13.7 -0.3
0.1nm,0.3s,baz=132,slow=19,SNR=2.4
USRK LR LR 23 26 51.0
comp=Z,115nm,21.2s,baz=151,slow=35
3.4nm,0.9s
NJ2 Nanjing 18.95 283 eP Pn 23 21 50.6 +2.3
NJ2 pP pwP 23 21 56.0 +2.8
NJ2 sP sP 23 22 03.0 +12
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 pmax pmax
comp=Z,210nm,3.6s
BNX BinXian 19.25 331 ⇓P Pn 23 21 52.3 +0.4
BNX pmax pmax
comp=Z,8.0nm,1.2s
BNX pmax pmax
comp=Z,260nm,3.4s
KLR Kul'dur 20.80 343 P P 23 22 07.7 -0.1
comp=Z,4.0nm,0.6s,baz=151,slow=5.4,SNR=15
comp=Z,4.0nm,0.6s
HNS HongShan 23.01 297 ⇓P P 23 22 33.3 +1.7
HNS pmax pmax
comp=Z,5.0nm,1.4s
H11N2 WAKE ISLAND Hy 25.67 106 T T 23 50 06.1
baz=297,slow=75,SNR=365
H11N1 WAKE ISLAND Hy 25.68 106 T T 23 50 06.4
baz=297,slow=75,SNR=284
H11N3 WAKE ISLAND Hy 25.69 106 T T 23 50 07.5
baz=297,slow=75,SNR=319
H11S3 WAKE ISLAND Hy 26.09 109 T T 23 50 44.0
baz=300,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 26.09 109 T T 23 50 38.2
baz=300,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 26.11 109 T T 23 50 38.7
baz=300,slow=75,SNR=23
HHC Hu-ho-hao-te 26.23 303 eP P 23 23 02.1 +0.3
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,240nm,5.6s
PETK Petropavlovsk- 26.63 23 LR LR 23 36 52.6
comp=Z,61nm,18.5s,baz=197,slow=44
XAN Xi'an 27.33 288 ⇓P P 23 23 11.0 -0.7
XAN sP pwP 23 23 28.2 +11
XAN LR LR
comp=E,390nm,17.2s
LZH Lanzhou 31.53 292 eP P 23 23 52.1 +3.0
LZH sP pwP 23 24 07.2 +12
LZH pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 32.06 314 P P 23 23 52.4 -1.2
comp=Z,0.4nm,0.8s,baz=98,slow=11,SNR=1.8
comp=Z,0.4nm,0.8s
YAK Yakutsk 33.28 351 P P 23 24 04.5 +0.7
PZH PanZhiHua 34.43 275 P P 23 24 13.0 -1.5
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,170nm,5.7s
CRAI Chiangrai 37.60 265 P P 23 24 40.9 -0.6
CRAI IAmb IAmb 23 24 49.2
comp=Z,11nm,1.4s
CHTO Chiang Mai 39.39 264 P P 23 24 56.1 -0.5
CMAR Chiang Mai Arr 39.54 263 P P 23 24 56.7 -1.2
comp=Z,0.3nm,0.3s,baz=64,slow=6.1,SNR=1.4
CMAR LR LR 23 42 02.9
comp=Z,58nm,18.8s,baz=140,slow=38
comp=Z,0.3nm,0.3s
KAPI Kappang 39.84 214 LR LR 23 41 27.1
comp=Z,109nm,21.8s,baz=144,slow=36
MMRI Maumere 41.94 208 P P 23 25 18.2 +0.6
WMQ Urumqi 44.11 304 eP P 23 25 33.6 -1.5
WMQ pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 47.93 308 P P 23 26 06.6 +1.5
MKAR Makanchi Array 47.93 308 P P 23 26 03.2 -1.9
comp=Z,0.6nm,0.9s,baz=98,slow=7.6,SNR=2.5
comp=Z,0.6nm,0.9s
F15K North Star Dit 49.05 27 P P 23 26 16.0 +2.6
F15K IAmb IAmb 23 26 16.5
comp=Z,6.0nm,0.9s
WB0 Warramunga Arr 49.42 188 P P 23 26 16.6 0.0
WB0 IAmb IAmb 23 26 28.4
comp=Z,8.2nm,1.4s
FITZ Fitzroy Crossi 49.56 199 P P 23 26 18.1 +0.4
WR0 Warramunga Arr 49.59 188 P P 23 26 17.4 -0.6
WR0 IAmb IAmb 23 26 24.4
comp=Z,2.6nm,0.7s
WB2 Warramunga Arr 49.59 188 P P 23 26 18.2 +0.2
WB2 IAmb IAmb 23 26 33.2
comp=Z,3.9nm,0.9s
WRA Warramunga Arr 49.59 188 P P 23 26 17.6 -0.5
WRA Warramunga Arr 49.59 188 P P 23 26 17.6 -0.5
comp=Z,0.8nm,0.4s,baz=4.8,slow=7.7,SNR=19
WRA PcP PcP 23 27 39.7 +0.1
comp=Z,1.1nm,0.8s,baz=13,slow=8.6,SNR=1.5
comp=Z,0.8nm,0.4s
N15K Kwethluk River 49.60 34 P P 23 26 19.3 +1.7
C16K Lisburne Hills 49.72 23 P P 23 26 18.9 +0.5
C16K IAmb IAmb 23 26 28.0
comp=Z,8.8nm,1.5s
KURBB Kurchatov Arra 50.41 313 P P 23 26 22.9 -1.0
comp=Z,0.4nm,0.6s,baz=93,slow=8.2,SNR=2.1
comp=Z,0.4nm,0.6s
F17K Baldwin Pennin 50.59 26 P P 23 26 27.2 +2.1
F17K IAmb IAmb 23 26 33.7
comp=Z,5.7nm,0.8s
C18K Utukok River 51.29 23 P P 23 26 31.4 +0.9
H18K Honhosa River 51.41 28 P P 23 26 32.8 +1.5
G19K Purcell Mounta 52.14 27 P P 23 26 37.4 +0.7
H19K Roundabout Mou 52.27 28 P P 23 26 38.8 +1.2
H19K IAmb IAmb 23 26 46.0
comp=Z,4.7nm,0.8s
D19K Kuna River 52.33 24 P P 23 26 39.4 +1.2
J19K Poorman 52.34 30 P P 23 26 39.6 +1.4
E19K Redstone River 52.39 25 P P 23 26 39.8 +1.3
E19K IAmb IAmb 23 26 41.1
comp=Z,5.3nm,0.8s
K20K Telida 52.93 31 P P 23 26 44.8 +2.2
J20K Nowinta River 53.01 30 P P 23 26 45.0 +1.8
J20K IAmb IAmb 23 26 47.2
comp=Z,11nm,1.3s
ASAR Alice Springs 53.32 188 P P 23 26 45.2 -0.7
comp=Z,0.3nm,0.4s,baz=6.8,slow=8.6,SNR=3.2
ASAR PcP PcP 23 27 53.6 +0.2
comp=Z,1.2nm,0.9s,baz=15,slow=4.1,SNR=6.0
comp=Z,0.3nm,0.4s
IMAR Indian Mountai 53.45 28 P P 23 26 47.5 +1.1
H21K Melozitna Rive 53.79 28 P P 23 26 51.0 +2.1
E21K Killik River 53.80 25 P P 23 26 49.8 +0.8
B21K Ikpikpuk River 53.82 23 P P 23 26 50.1 +1.0
B21K IAmb IAmb 23 26 57.0
comp=Z,4.7nm,0.7s
D22K Ayikyak River 54.35 24 P P 23 26 54.3 +1.4
D22K IAmb IAmb 23 27 02.4
comp=Z,8.5nm,1.5s
E22K Anaktuvuk Pass 54.54 25 P P 23 26 55.8 +1.4
E22K IAmb IAmb 23 27 02.3
comp=Z,3.3nm,0.7s
MLY Manley 54.57 29 P P 23 26 56.5 +1.8
MLY IAmb IAmb 23 26 58.0
comp=Z,6.7nm,1.1s
C23K Itkillik River 55.23 23 P P 23 27 01.0 +1.7
C23K IAmb IAmb 23 27 07.7
comp=Z,5.1nm,0.9s
BVAR Borovoye Array 55.37 316 P P 23 26 58.6 -1.9
comp=Z,0.8nm,0.6s,baz=111,slow=7.9,SNR=3.4
comp=Z,0.8nm,0.6s
TOLK Toolik Lake Re 55.43 25 P P 23 27 02.2 +1.4
TOLK IAmb IAmb 23 27 16.6
comp=Z,3.9nm,0.8s
MDM Murphy Dome 55.63 29 P P 23 27 04.1 +1.8
D24K Happy Valley 55.76 24 P P 23 27 04.4 +1.3
H24K Noodor Dome 55.83 28 P P 23 27 05.3 +1.6
F24K Squaw Lake 55.95 26 P P 23 27 06.0 +1.5
F24K IAmb IAmb 23 27 13.2
comp=Z,3.4nm,0.7s
IL31 56.19 29 P P 23 27 06.4 +0.1
IL31 IAmb IAmb 23 27 13.7
comp=Z,5.7nm,1.1s
ILAR Eielson Array 56.19 29 P P 23 27 07.1 +0.8
ILAR Eielson Array 56.19 29 P P 23 27 06.7 +0.4
comp=Z,2.1nm,0.9s,baz=270,slow=6.4,SNR=15
comp=Z,2.1nm,0.9s
M24K Tolsona, Glenn 56.48 33 P P 23 27 10.0 +1.6
E25K Arctic Village 56.87 25 P P 23 27 13.1 +2.0
E25K IAmb IAmb 23 27 19.6
comp=Z,3.5nm,0.7s
BMAR Burnt Mountain 57.21 26 P P 23 27 16.0 +2.4
SCRK Sand Creek 57.45 30 P P 23 27 16.9 +1.5
SCRK IAmb IAmb 23 27 17.8
comp=Z,5.4nm,1.0s
J26L Joseph Creek 57.62 30 P P 23 27 17.6 +1.0
J26L IAmb IAmb 23 27 23.7
comp=Z,6.5nm,0.9s
E27K Coleen River 58.35 25 P P 23 27 23.4 +1.9
BCAR Beaver Creek A 58.48 31 P P 23 27 24.4 +1.9
F28M Old Crow 59.02 26 P P 23 27 27.0 +0.8
F28M IAmb IAmb 23 27 36.4
comp=Z,5.8nm,1.4s
E28M Babbage River 59.10 25 P P 23 27 27.6 +0.8
I28M Miner Creek 59.12 29 P P 23 27 28.5 +1.5
G29M Pine Creek 59.79 27 P P 23 27 33.4 +1.9
G29M IAmb IAmb 23 27 43.5
comp=Z,6.5nm,1.1s
M29M Somme Creek 60.06 32 P P 23 27 36.5 +3.0
PALK Pallekele 60.42 261 LR LR 23 53 12.7
comp=Z,55nm,20.7s,baz=259,slow=36
G30M tAoh Zraii Nji 60.48 27 P P 23 27 37.4 +1.1
N31M Braeburn, Yuko 61.45 33 P P 23 27 45.5 +2.5
ARU Arti 61.70 321 P P 23 27 42.3 -2.3
comp=Z,3.2nm,0.7s,baz=202,slow=5.4,SNR=4.0
comp=Z,3.2nm,0.7s
M31M Drury Creek, Y 61.97 32 P P 23 27 47.9 +1.5
ABKAR Akbulak array 62.47 313 P P 23 27 48.9 -1.0
A36M Sachs Harbour 63.42 20 P P 23 27 57.7 +1.8
BELG Belogornoye 68.96 319 P P 23 28 30.0 -1.7
comp=Z,6.7nm,0.7s,baz=18,slow=6.4,SNR=1.5
comp=Z,6.7nm,0.7s
RES Resolute Bay 69.98 13 P P 23 28 37.8 +0.1
comp=Z,1.8nm,0.8s,baz=288,slow=5.7,SNR=7.3
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 70.60 28 P P 23 28 42.0 +0.4
comp=Z,1.4nm,0.9s,baz=295,slow=6.1,SNR=9.0
comp=Z,1.4nm,0.9s
ARCES ARCESS Array B 70.80 340 P P 23 28 42.5 -0.3
comp=Z,3.2nm,1.0s,baz=65,slow=4.3,SNR=1.9
comp=Z,3.2nm,1.0s
NEEM North Greenlan 73.00 3 i P P 23 28 55.2 -1.1
NEEM IAmb IAmb 23 28 57.9
comp=Z,4.1nm,0.9s
DAG Danmarks Havn 73.15 355 i P P 23 28 55.7 -1.0
DAG IAmb IAmb 23 29 03.6
comp=Z,2.1nm,0.9s
H04A Detroit Lake 74.50 47 P P 23 29 06.9 +1.6
H04A IAmb IAmb 23 29 09.1
comp=Z,6.2nm,1.0s
FIA1 FINESS Array S 75.17 333 P P 23 29 07.7 -1.1
FINES FINESS Array B 75.17 333 P P 23 29 07.6 -1.2
comp=Z,2.4nm,0.6s,baz=62,slow=5.2,SNR=11
comp=Z,2.4nm,0.6s
KBZ Khabaz 75.40 312 P P 23 29 09.3 -1.1
comp=Z,2.2nm,0.8s,baz=118,slow=6.0,SNR=4.3
comp=Z,2.2nm,0.8s
J05D Fort Rock, OR 75.74 48 P P 23 29 14.1 +1.4
J05D IAmb IAmb 23 29 16.4
comp=Z,6.5nm,1.1s
J08A Circle Bar Ran 77.49 47 P P 23 29 23.2 +0.8
J08A IAmb IAmb 23 29 26.1
comp=Z,7.2nm,1.1s
BMO Blue Mountains 77.50 45 P P 23 29 24.0 +1.5
BMO IAmb IAmb 23 29 25.8
comp=Z,4.6nm,1.2s
SUMG Summit 78.14 360 i P P 23 29 25.0 -0.9
SUMG IAmb IAmb 23 29 33.1
comp=Z,4.2nm,1.1s
LYMT Lyon Mountain 79.44 42 P P 23 29 34.7 +1.4
AKASG Malin Array Be 79.88 323 P P 23 29 33.3 -2.0
comp=Z,0.5nm,0.5s,baz=51,slow=4.1,SNR=5.2
comp=Z,0.5nm,0.5s
KIEV Kiev 79.89 323 P P 23 29 33.8 -1.5
KIEV IAmb IAmb 23 29 40.8
comp=Z,11nm,1.3s
HLID Hailey 79.95 46 P P 23 29 37.6 +1.5
NVAR Mina Array Bea 80.01 52 P P 23 29 37.9 +1.4
NVAR Mina Array Bea 80.01 52 P P 23 29 38.7 +2.1
comp=Z,1.4nm,0.9s,baz=287,slow=5.0,SNR=7.8
NVAR LR LR 23 57 07.7
comp=Z,62nm,20.4s,baz=26,slow=30
comp=Z,1.4nm,0.9s
FFC Flin Flon 80.33 32 P P 23 29 38.5 +0.8
FFC IAmb IAmb 23 29 44.9
comp=Z,4.3nm,0.8s
BOZ Bozeman (W) 80.56 43 P P 23 29 40.6 +1.3
BOZ Bozeman (W) 80.56 43 P P 23 29 40.6 +1.3
BOZ Bozeman (W) 80.56 43 pmax pmax
comp=Z,3.0nm,1.2s
HFS Hagfors 80.66 336 P P 23 29 39.2 -0.2
comp=Z,1.6nm,0.8s,baz=104,slow=6.1,SNR=1.8
comp=Z,1.6nm,0.8s
NB2 NORSAR Subarra 80.85 338 P P 23 29 38.2 -2.2
comp=Z,4.9nm,1.1s,baz=47,slow=5.1
NOA NORSAR Array B 80.85 338 P P 23 29 39.1 -1.3
comp=Z,1.5nm,0.9s,baz=43,slow=5.2,SNR=4.4
comp=Z,1.5nm,0.9s
ELK Elko 80.88 48 LR LR 23 59 33.0
comp=Z,61nm,19.5s,baz=12,slow=31
TPH Tonopah 80.92 51 P P 23 29 43.1 +1.7
ICESG Greenland Ices 81.64 0 i P P 23 29 43.4 -1.4
ICESG IAmb IAmb 23 30 21.6
comp=Z,5.6nm,0.9s
DUG Dugway, Tooele 82.74 48 P P 23 29 52.1 +1.2
DUG IAmb IAmb 23 29 54.0
comp=Z,5.6nm,1.3s
DUG Dugway, Tooele 82.74 48 P P 23 29 52.2 +1.2
DUG Dugway, Tooele 82.74 48 pmax pmax
comp=Z,6.0nm,1.3s
PDAR Pinedale Array 83.37 44 P P 23 29 55.0 +0.7
PDAR Pinedale Array 83.37 44 P P 23 29 55.2 +0.9
comp=Z,0.5nm,0.8s,baz=303,slow=6.3,SNR=3.7
comp=Z,0.5nm,0.8s
BRTR Keskin Array B 83.39 312 P P 23 29 53.0 -1.3
comp=Z,1.2nm,1.0s,baz=57,slow=4.6,SNR=4.4
comp=Z,1.2nm,1.0s
ANMO Albuquerque 89.87 49 LR LR 00 02 56.0
comp=Z,63nm,20.8s,baz=104,slow=30
TXAR Lajitas Array 95.14 52 P P 23 30 51.7 +1.2
TXAR Lajitas Array 95.14 52 P P 23 30 51.7 +1.2
comp=Z,0.5nm,0.8s,baz=258,slow=2.7,SNR=2.8
comp=Z,0.5nm,0.8s
H03N2 Juan Fernandez 146.11 107 T T 02 20 41.0
baz=279,slow=75,SNR=16
H03N3 Juan Fernandez 146.12 107 T T 02 20 40.9
baz=279,slow=75,SNR=16
H03N1 Juan Fernandez 146.13 107 T T 02 20 43.0
baz=279,slow=75,SNR=11
PLCA Paso Flores 152.24 122 PKPbc PKPbc 23 37 23.4 +0.8
comp=Z,2.0nm,0.8s,baz=228,slow=4.6,SNR=2.9

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*NEIC **02** 23:31:50.4±0.3, 36°.145N±0°.009×97°.670W±0°.008, h4km±4km, Error ellipse: s-maj=1.4km s-min=0.9km az=159.0*
TUL 02 23:31:50.8±0.4, **36°.152N**±0°.010×**97°.67W**±0°.01, **h7**km±1km, **ML2.4**, **mb_Lg2.3**/24(NEIC), **ML2.7**/62(NEIC), **Error ellipse: s-maj=1.6km s-min=1.3km az=45.0**, **Oklahoma**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
OK029 Liberty Lake 0.39 154 Pg Pg 23 31 58.6 +0.1
OK029 Sg Sg 23 32 04.2 +0.6
CROK Carrier 0.44 324 Pg Pg 23 31 59.4 +0.1
CROK Sg Sg 23 32 05.6 +0.6
ADOK Arcadia Dam 0.55 154 Pg Pg 23 32 01.6 +0.2
OK033 Mehan 0.60 100 Pg Pg 23 32 02.3 0.0
OK033 Sg Sg 23 32 10.4 +0.3
OK033 IAML 23 32 13.2
484nm,0.5s
OK048 Pawnee Station 0.64 65 Pg Pg 23 32 03.1 -0.1
OK048 Sg Sg 23 32 11.6 +0.1
BLOK Blackwell 0.71 31 Pg Pg 23 32 04.3 -0.1
BLOK IAML 23 32 19.0
comp=N,373nm,0.2s
BLOK IAML 23 32 25.4
comp=E,474nm,0.2s
GC02 Grant County # 0.72 347 Pg Pg 23 32 04.3 -0.3
GC02 Sg Sg 23 32 14.2 +0.3
OK052 Battle Ridge R 0.72 102 Pg Pg 23 32 04.4 -0.1
OK052 Sg Sg 23 32 14.1 +0.2
OK052 IAML 23 32 16.9
comp=E,409nm,0.3s
OK051 E0350 and S346 0.76 62 Pg Pg 23 32 05.2 -0.2
OK051 Sg Sg 23 32 15.5 +0.3
OK051 IAML 23 32 20.4
comp=E,291nm,0.2s
OK051 IAML 23 32 20.6
comp=E,266nm,0.2s
OKCSW OKLAHOMA CITY 0.77 166 Pg Pg 23 32 05.2 -0.4
OKCSW IAmb_Lg 23 32 16.4
comp=Z,30nm,0.7s
OKCSW IAML 23 32 17.2
comp=E,258nm,0.3s
OKCSW IAML 23 32 23.5
comp=N,392nm,0.6s
QUOK Quay 0.78 88 Pg Pg 23 32 05.6 -0.1
QUOK Sg Sg 23 32 16.2 +0.4
QUOK IAML 23 32 19.0
comp=E,251nm,0.2s
OK032 Salt Plains WL 0.79 326 Pg Pg 23 32 05.5 -0.4
OK032 Sg Sg 23 32 16.1 0.0
OK032 IAML 23 32 20.1
comp=E,286nm,0.2s
OK032 IAML 23 32 23.9
comp=E,287nm,0.2s
KAN14 Manchester OK 0.84 343 Pg Pg 23 32 06.5 -0.4
KAN14 IAML 23 32 21.1
comp=N,332nm,0.1s
KAN14 IAML 23 32 22.9
comp=E,370nm,0.1s
KAN13 South Haven SW 0.87 10 Pg Pg 23 32 07.3 -0.2
KAN13 IAML 23 32 27.3
comp=N,328nm,0.3s
KAN17 Caldwell West 0.89 355 Pg Pg 23 32 07.7 -0.3
KAN17 IAML 23 32 24.6
comp=E,311nm,0.2s
KAN17 IAML 23 32 25.7
comp=N,256nm,0.3s
FNO Franklin 0.92 166 Pg Pg 23 32 07.9 -0.6
FNO IAML 23 32 24.1
comp=E,173nm,0.1s
OK038 West end E0370 0.93 291 Pg Pg 23 32 08.0 -0.6
KAN05 Bluff City Nor 0.97 350 Pg Pg 23 32 09.1 -0.4
CSTR Hydro, Custer 0.97 239 Pg Pg 23 32 08.9 -0.6
KAN09 Caldwell North 0.98 2 Pg Pg 23 32 09.1 -0.6
DEOK Depew 1.00 108 Pg Pg 23 32 09.3 -0.6
DEOK IAML 23 32 24.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,197nm,0.1s						
KAN01	Argonia South	1.00	356	Pg	Pg	23 32 09.6	-0.4
KAN01				IAML		23 32 24.6	
	comp=E,194nm,0.2s						
KAN01				IAML		23 32 24.6	
	comp=N,213nm,0.1s						
OK035	E0210 Rd and N	1.01	304	Pg	Pg	23 32 09.4	-0.7
OK035				IAML		23 32 26.1	
	comp=N,296nm,0.2s						
KAN10	Anthony SW Sta	1.03	341	Pg	Pg	23 32 09.7	-0.9
KAN10				IAML		23 32 28.0	
	comp=N,143nm,0.1s						
KAN10				IAML		23 32 29.3	
	comp=E,143nm,0.1s						
KAN08	Anthony NE Sta	1.10	347	Pg	Pg	23 32 11.3	-0.6
KAN08				IAML		23 32 29.0	
	comp=N,132nm,0.1s						
KAN08				IAML		23 32 31.0	
	comp=E,132nm,0.1s						
U32A	Winter Ranch,	1.10	282	Pg	Pg	23 32 11.2	-0.8
U32A				IAML		23 32 28.4	
	comp=N,213nm,0.1s						
U32A				IAML		23 32 29.8	
	comp=E,158nm,0.1s						
KAN06	Argonia West S	1.10	352	Pg	Pg	23 32 11.3	-0.7
KAN06				IAML		23 32 32.7	
	comp=E,179nm,0.1s						
KS21	Milan North St	1.13	0	Pg	Pg	23 32 12.2	-0.4
KAN12	Harper NE Stat	1.17	347	Pg	Pg	23 32 12.5	-0.8
W35A	Tecumseh	1.19	147	Pg	Pg	23 32 12.4	-1.1
W35A				IAML		23 32 34.1	
	comp=N,145nm,0.3s						
W35A				IAML		23 32 35.6	
	comp=E,133nm,0.3s						
ELIS	Ellis County	1.42	267		Pn	23 32 17.0	-0.1
TUL3	Leonard	1.54	98		Pn	23 32 18.4	-0.3
WMOK	Wichita Mounta	1.68	213	IAmb_Lg		23 32 47.8	
	comp=Z,13nm,0.8s						
LOOK	Love County	2.19	169	Pn	Pn	23 32 28.4	+0.7
SMWD	Samnorwood	2.34	244	Pn	Pn	23 32 30.4	+0.5
SMWD				IAmb_Lg		23 33 07.1	
	comp=Z,15nm,0.8s						
R32A	Long Quarter,	2.42	340	Pn	Pn	23 32 31.5	+0.7
R32A				IAmb_Lg		23 33 06.9	
	comp=Z,8.1nm,0.7s						
U38A	Gravette	2.67	83	Pn	Pn	23 32 32.9	-1.3
HHAR	Hobbs	3.02	86	Pn	Pn	23 32 38.5	-0.5
KSU1	Kansas State U	3.06	16	IAmb_Lg		23 33 29.6	
	comp=Z,8.8nm,0.9s						
CBKS	Cedar Bluff	3.13	329	Pn	Pn	23 32 39.5	-1.1
PLPT	Palo Pinto	3.37	189	IAmb_Lg		23 33 42.9	
	comp=Z,8.0nm,0.8s						
S39A	Bolivar	3.80	65	Pn	Pn	23 32 50.5	+0.6
RTBA	Rita Blanca	4.11	275	Pn	Pn	23 32 53.0	-1.2
SN01	Snyder 1	4.23	220	IAmb_Lg		23 34 10.7	
	comp=Z,6.4nm,0.9s						
X40A	Basin Creek Fa	4.29	111	Pn	Pn	23 32 55.8	-0.6
X40A				IAmb_Lg		23 34 07.2	
	comp=Z,12nm,0.9s						
R40A	Maddies Statio	4.81	62	Pn	Pn	23 33 04.0	+0.3
BRDY	Brady	4.98	193	IAmb_Lg		23 34 35.2	
	comp=Z,8.3nm,1.2s						
SGCY	Sterling City	5.11	215	IAmb_Lg		23 34 43.7	
	comp=Z,8.2nm,0.8s						
SAND	Sanderson	7.22	212	IAmb_Lg		23 35 49.4	
	comp=Z,2.8nm,0.9s						
K22A	Casper	9.44	316	IAmb_Lg		23 36 48.9	
	comp=Z,2.9nm,1.0s						

IDC ***02*** *23:39:12.9±1.4, 31.°10N×49.°21E, h0km, mb3.7/12, mbtmp3.7/17, ML3.3/5, MS4.1/4, Error ellipse: s-maj=26.5km s-min=18.7km az=178.0*
NEIC ***02*** *23:39:14.9±2.0, 31.°15N±0.°09×49.°39E±0.°06, h10km±2km, mb4.3/8, Error ellipse: s-maj=16.0km s-min=9.3km az=181.0*
TEH ***02*** *23:39:15.7, 31.°11N×49.°35E, h14km±41km, ML3.7*
DSN ***02*** *23:39:31.2±5.2, 31.°52N×53.°66E, h576km, ML3.0/5, Error ellipse: s-maj=495.4km s-min=62.0km az=73.0*
ISC 02 23:39:13.6±0.6, **30.°95N**±0.°06×**49.°32E**±0.°04, **h10**km, **n73**, σ**1.s70**/71, **mb4.0**/15, **MS4.1**/4, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.69	304	Pg	Pb	23 39 28.7	+0.9
AMIS	Naft Sefid	0.72	358	Pg	Pg	23 39 26.0	-1.6
JHBN	Jahan bin	1.72	42	Pg	Pg	23 39 46.0	-0.8
ZNGN	Zangian	1.76	48	Pg	Pb	23 39 46.6	+0.4
KLNJ	Kolanjah	1.96	88	Pn	Pb	23 39 50.1	+0.6
IPIR	Pirpir	2.19	37	Pn	Pn	23 39 51.9	+1.4
IRAM	Ramesheh	2.76	71	Pn	Pn	23 40 01.2	+3.1
IKFM	Kafar-mosalman	2.86	335	Pn	Pn	23 40 00.7	+1.4
DSBU	Dashti - Bushe	3.08	146	Pn	Pn	23 40 07.7	+5.3
IZEF	Zefreh	3.22	52	Pn	Pn	23 40 06.6	+2.1
IKOM	Komasi	3.56	335	Pn	Pn	23 40 10.4	+1.3
IBZA	Bozab	3.72	341	Pn	Pn	23 40 12.8	+1.3
ILBA	Ilam Banvizeh	3.75	316	Pn	Pn	23 40 12.5	+0.9
KCHF	Cheshme Sefid,	3.84	331	Pn	Pn	23 40 13.7	+0.8
ISAD	Sadrabad	3.86	74	Pn	Pn	23 40 15.8	+2.5
HAGD	Aghdareh	3.87	358	Pn	Pn	23 40 14.6	+1.2
QIR1	Qir	4.07	126	Pn	Pn	23 40 19.7	+3.7
IGHG	Ghaleghazi	4.09	326	Pn	Pn	23 40 17.4	+0.9
ISFB	Sefidab	4.20	35	Pn	Pn	23 40 19.1	+1.3
ILIN	Lien	4.43	334	Pn	Pn	23 40 22.4	+1.2
IDHR	Dehrash	4.48	327	Pn	Pn	23 40 22.6	+0.8
ICHK	Chekchek	4.53	72	Pn	Pn	23 40 24.8	+2.2
IMEH	Mehriz	4.56	83	Pn	Pn	23 40 25.5	+2.6
KGS1	Ghasr-e-Shirin	4.74	319	Pn	Pn	23 40 26.1	+0.9
ILAS	Lasjerd	5.38	34	Pn	Pn	23 40 34.8	+0.7
IFIR	Firoozkooh	5.50	31	Pn	Pn	23 40 37.2	+1.4
QSDN	Sirdan	5.55	359	Pn	Pn	23 40 37.3	+0.8
KLST	Kelardasht - M	5.75	14	Pn	Pn	23 40 40.7	+1.4
SDS1	Sardasht. Az.	6.10	329	Pn	Pn	23 40 45.1	+1.2
TPRV	Parvadeh(Tabas	6.60	70	Pn	Pn	23 40 52.9	+2.1
TNSJ	Nastanj	6.86	62	Pn	Pn	23 40 55.8	+1.4
TKDS	Koohdasht(Taba	7.12	66	Pn	Pn	23 40 59.9	+1.8
SHME	Shamm	7.73	127	P	Pn	23 41 06.3	0.0
UOSS	Minazif	8.53	133	Pn	Pn	23 41 19.7	+2.4
UOSS	Minazif	8.53	133	P	Pn	23 41 24.5	+7.2
HATD	Hatta, Dubai	8.57	134	P	Pn	23 41 20.6	+2.7
ASHO	Ashiyiah	8.63	135	P	Pn	23 41 20.9	+2.2
ASHO				S	Sn	23 42 52.4	-3.7
ALNE	Al Ain	8.93	139	P	Pn	23 41 25.2	+2.5
SOHO	SOHO	9.33	135	P	Pn	23 41 29.3	+1.2
GEYT	Alibeck	10.06	44	Pn	Pn	23 41 37.3	-0.9
GEYT	Alibeck	10.06	44	Pn	Pn	23 41 39.0	+0.7
	0.3nm,0.3s,baz=243,slow=22,SNR=2.7						
	1.8nm,0.6s						
GYA0B	ALIBECK ARRAY	10.06	44	Pn	Pn	23 41 35.8	-2.5
ASF	Jabal al Asfar	10.67	280	Pn	Pn	23 41 46.5	-0.1
	0.3nm,0.3s,baz=117,slow=16,SNR=1.8						
ASF				Sn	Sn	23 43 42.9	-3.3
	0.3nm,0.3s,baz=24,slow=20,SNR=1.4						
	1.0nm,0.4s						
WSAR	Wadi Sarin	11.30	131	Pn	Pn	23 41 57.1	+1.9
	0.5nm,0.3s,baz=334,slow=10,SNR=7.9						
WSAR				Sn	Sn	23 43 57.1	-4.4
	0.2nm,0.3s,baz=296,slow=21,SNR=2.1						
	2.4nm,0.5s						
KBZ	Khabaz	13.74	340	Pn	Pn	23 42 31.8	+3.4
	0.1nm,0.3s,baz=137,slow=12,SNR=2.9						
	2.1nm,0.9s						
BRTR	Keskin Array B	15.49	309	Pn	Pn	23 42 53.2	+0.9
	0.1nm,0.3s,baz=137,slow=11,SNR=2.4						
	1.1nm,0.9s						
ABKAR	Akbulak array	19.98	21	P	P	23 43 45.8	-0.2
AKTO	Aktyubinsk	20.53	16	P	P	23 43 51.6	-0.4
	1.5nm,0.5s,baz=201,slow=9.5,SNR=4.7						
	1.5nm,0.5s						
KKAR	Karatay Array	20.76	48	P	P	23 43 54.0	-0.5
BELG	Belogornoye	21.47	357	P	P	23 44 01.1	-0.9
	14nm,0.6s,baz=234,slow=9.0,SNR=7.8						
	14nm,0.6s						
AKASG	Malin Array Be	24.77	329	P	P	23 44 34.8	-0.6
	0.8nm,0.4s,baz=139,slow=8.7,SNR=9.2						
	0.8nm,0.4s						
AKBB	Malin Array Si	24.77	329	P	P	23 44 34.2	-1.2
AKBB				IAmb	IAmb	23 44 35.8	
	comp=Z,4.0nm,0.7s						
KIEV	Kiev	24.77	329	P	P	23 44 34.6	-0.8
KIEV				IAmb	IAmb	23 44 35.8	
	comp=Z,3.6nm,0.7s						
BURAR	Bucovina Array	24.85	319	P	P	23 44 37.2	+1.0
BUR08	Bucovina Ar. S	24.88	319	P	P	23 44 36.9	+0.4
BUR08				IAmb	IAmb	23 44 55.5	
	comp=Z,10nm,1.5s						
MKAR	Makanchi Array	29.89	49	P	P	23 45 22.4	+1.0
	comp=Z,0.3nm,0.7s,baz=252,slow=8.7,SNR=2.2						
	comp=Z,0.3nm,0.7s						
MORC	Moravsky Berou	30.33	317	P	P	23 45 25.6	+0.3
NRCA	Norcia	31.06	303	P	P	23 45 33.4	+1.5
FINES	FINESS Array B	34.10	340	P	P	23 45 56.9	-1.2
FINES	FINESS Array B	34.10	340	P	P	23 45 57.0	-1.1
	comp=Z,0.7nm,0.4s,baz=150,slow=8.2,SNR=9.9						
	comp=Z,0.7nm,0.4s						
FIA1	FINESS Array S	34.10	340	P	P	23 45 57.2	-0.9
DAVOX	Davos/Dischmat	34.13	309	LR	LR	00 01 50.4	
	comp=Z,280nm,18.5s,baz=303,slow=40						
ZALV	Zalesovo Beam	34.29	38	P	P	23 46 00.0	+0.1
	comp=Z,0.3nm,0.5s,baz=264,slow=8.7,SNR=2.5						
	comp=Z,0.3nm,0.5s						
HFS	Hagfors	37.58	331	P	P	23 46 27.2	-0.8
	comp=Z,1.4nm,0.3s,baz=133,slow=8.7,SNR=20						
	comp=Z,1.4nm,0.3s						
NC405	NORSAR Array S	38.94	332	P	P	23 46 37.6	-1.9
NC405				IAmb	IAmb	23 47 05.4	
	comp=Z,12nm,1.2s						
NB2	NORSAR Subarra	39.10	332	P	P	23 46 39.3	-1.5
	comp=Z,2.7nm,0.8s,baz=122,slow=7.9						
NOA	NORSAR Array B	39.10	332	P	P	23 46 39.5	-1.4
	comp=Z,0.7nm,0.6s,baz=122,slow=8.2,SNR=4.8						
	comp=Z,0.7nm,0.6s						
ARCES	ARCESS Array B	40.94	347	P	P	23 46 55.3	-0.6
	comp=Z,1.1nm,0.8s,baz=158,slow=11,SNR=1.7						
ARCES				LR	LR	00 06 34.6	
	comp=Z,71nm,21.5s,baz=236,slow=40						
	comp=Z,1.1nm,0.8s						
SONM	Songino Array	46.15	52	P	P	23 47 39.0	+0.5
	comp=Z,0.2nm,0.5s,baz=280,slow=8.2,SNR=1.9						
	comp=Z,0.2nm,0.5s						
TORD	Torodi Ar. Bea	47.17	259	P	P	23 47 47.6	+1.0
	comp=Z,0.8nm,0.6s,baz=53,slow=9.6,SNR=6.3						
	comp=Z,0.8nm,0.6s						
PETK	Petropavlovsk-	75.83	36	LR	LR	00 25 13.1	
	comp=Z,308nm,19.4s,baz=67,slow=36						
YKA	Yellowknife Ar	85.99	353	P	P	23 51 53.7	-0.2
	comp=Z,0.2nm,0.7s,baz=6.1,slow=5.3,SNR=4.2						
	comp=Z,0.2nm,0.7s						
KDAK	Kodiak Island	89.71	12	LR	LR	00 38 37.7	
	comp=Z,93nm,18.0s,baz=59,slow=40						

NAO ***02*** *23:49:19.8±1.0, 76.°95N×18.°82E, h11km±10km, ML3.0*
KOLA ***02*** *23:49:20.9, 77.°02N×18.°68E, h0km, ML2.7, Error ellipse: s-maj=13.7km s-min=6.2km az=130.0, Storfjorden zone*
FCIAR ***02*** *23:49:22.0, 76.°97N×18.°79E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.40*
BER ***02*** *23:49:22.1±2.8, 76.°98N×18.°91E, h21km±11km, ML2.6, ML3.0(NAO), Confirmed Earthquake*
ISC 02 23:49:19.6±0.8, **77.°00N**±0.°04×**19.°00E**±0.°04, **h10**km, **n40**, σ**1.s20**/53, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	0.79	272	P	Pg	23 49 34.4	-0.3
HSPB				S	Sg	23 49 44.5	-0.4
HSPB	Hornsund (broa	0.79	272	eP	Pg	23 49 34.6	-0.2
HSPB				eS	Sg	23 49 44.1	-0.8
HSPB				IAML		23 49 48.1	
	comp=Z,246nm,0.4s						
HSPB	Hornsund (broa	0.79	272	Pg	Pg	23 49 34.5	-0.2
HSPB				Lg	Lg	23 49 44.0	
SPA0	Spitsbergen Ar	1.32	336	Pn	Pn	23 49 43.5	-0.5
	baz=151,slow=18						
SPA0				Pg	Pb	23 49 44.4	0.0
	baz=145,slow=18						
SPA0				Sg	Sb	23 50 02.7	+1.4
	baz=142,slow=37						
SPA0	Spitsbergen Ar	1.32	336	eP	Pn	23 49 43.7	-0.3
SPA0				eS	Sb	23 49 59.7	-1.6
SPA0	Spitsbergen Ar	1.32	336	Pn	Pn	23 49 43.5	-0.5
	baz=151,slow=18						
SPA0				Pg	Pb	23 49 44.4	0.0
	baz=145,slow=18						
SPA0				Lg	Lg	23 50 02.7	
	baz=142,slow=37						
SPITS	Spitsbergen Ar	1.32	336	P	Pn	23 49 43.4	-0.6
SPITS				S	Sb	23 50 02.0	+0.7
HOPEN	Hopen	1.47	107	eP	Pn	23 49 46.2	+0.1
HOPEN				ePg	Pb	23 49 48.5	+1.6
HOPEN				eS	Sn	23 50 03.1	-2.2
HOPEN				eSg	Sb	23 50 06.6	+1.0
HOPEN				IAML		23 50 09.4	
	comp=Z,128nm,0.4s						
HOPEN	Hopen	1.47	107	eP	Pn	23 49 45.7	-0.4
HOPEN				eS	Sn	23 50 04.3	-0.9
HOPEN	Hopen	1.47	107	Pn	Pn	23 49 46.2	+0.1
HOPEN				Lg	Lg	23 50 06.8	
BRBA	Barentsburg A	1.49	318	ePg	Pn	23 49 47.6	+1.2
BRBA				eSg	Sn	23 50 07.6	+1.8
BRBA				IAML		23 50 08.6	
	comp=Z,186nm,0.4s						
BRBA	Barentsburg A	1.49	318	Pn	Pn	23 49 47.6	+1.2
BRBA				Lg	Lg	23 50 06.9	
BRBB	Barentsburg B	1.52	319	P	Pn	23 49 46.3	-0.3
BRBB				S	Sn	23 50 05.7	-0.7
BRBB	Barentsburg B	1.52	319	eP	Pn	23 49 46.4	-0.3
BRBB				ePg	Pb	23 49 48.0	+0.3
BRBB				eS	Sn	23 50 04.6	-1.9
BRBB				eSg	Sb	23 50 08.4	+1.4
BRBB	Barentsburg B	1.52	319	Pn	Pn	23 49 46.5	-0.2
BRBB				Pg	Pb	23 49 48.0	+0.3
BRBB				Sn	Sn	23 50 04.9	-1.6
BRBB				Lg	Lg	23 50 08.2	
KBS	Kingsbay	2.44	326	P	Pn	23 50 02.7	+3.3
KBS				S	Sb	23 50 35.1	+1.7
KBS	Kingsbay	2.44	326	eP	Pn	23 49 58.5	-0.9
KBS				ePg	Pb	23 50 04.5	+1.1
KBS				eSg	Sb	23 50 35.0	+1.6
KBS				IAML		23 50 41.6	
	comp=Z,142nm,0.4s						
KBS	Kingsbay	2.44	326	eP	Pn	23 49 58.6	-0.7
KBS	Kingsbay	2.44	326	Pn	Pn	23 50 00.1	+0.8
KBS				Pg	Pb	23 50 04.5	+1.1
KBS				Lg	Lg	23 50 35.2	
BJO1	Bjornoya	2.51	180	eSg	Sb	23 50 37.0	+1.5
BJO1				IAML		23 50 45.7	
	comp=Z,70nm,0.5s						
BJO1	Bjornoya	2.51	180	Lg	Lg	23 50 38.1	
HAMF	Hammerfest	6.52	166	eS	Sn	23 52 01.2	-8.4
HAMF	Hammerfest	6.52	166	Sn	Sn	23 52 00.8	-8.9
ZFI2	Zemlya Franca-	6.63	42	eP	Pn	23 50 56.4	-0.5
ZFI2				eS	Sn	23 52 05.9	-6.5
	comp=Z,17nm,1.6s						
OMEGA	Omega	6.64	42	eP	Pn	23 50 56.8	-0.1
OMEGA				eS	Sn	23 52 06.5	-6.0
	comp=Z,12nm,2.9s						
TRO	Tromso	7.41	180	eS	Sn	23 52 21.1	-10
TRO				IAML		23 52 34.9	
	comp=Z,2.0nm,0.7s						
VADS	Vadso	7.49	152	S	Sn	23 52 26.9	-6.7
VADS	Vadso	7.49	152	eP	Pn	23 51 07.0	-1.8
VADS				eS	Sn	23 52 25.9	-7.6
VADS				IAML		23 52 40.7	
	comp=Z,4.8nm,0.6s						
JETT	Jettan, Norway	7.49	176	eP	Pn	23 51 06.7	-2.1
JETT				eS	Sn	23 52 23.7	-10
KEV	Kevo	7.62	159	eP	Pn	23 51 09.3	-1.2
KEV				eS	Sn	23 52 27.8	-9.0
KEV	Kevo	7.62	159	Pn	Pn	23 51 11.9	+1.4
KEV				Sn	Sn	23 52 28.9	-7.9
ARA0	ARCESS Array S	7.73	163	Pn	Pn	23 51 10.5	-1.4
	baz=358,slow=10						
ARA0				Sn	Sn	23 52 30.0	-9.3
	baz=1.8,slow=22						
ARA0	ARCESS Array S	7.73	163	Pn	Pn	23 51 10.5	-1.4
	baz=358,slow=10						
ARA0				Sn	Sn	23 52 30.0	-9.3
	baz=1.8,slow=22						
ARCES	ARCESS Array B	7.73	163	P	Pn	23 51 12.9	+0.9
ARCES				S	Sn	23 52 30.3	-9.0
KIF	Kilpisjarvi	8.05	175	eP	Pn	23 51 15.3	-1.1
KIF				eS	Sn	23 52 35.9	-11
KIF	Kilpisjarvi	8.05	175	Sn	Sn	23 52 39.4	-8.0
KTK1	Kautokeino	8.12	169	eS	Sn	23 52 40.7	-8.4
PRVG	Vayda Guba	8.18	146	P	Pn	23 51 17.3	-0.8
PRVG				S	Sn	23 52 41.2	-9.2
TERR	Teriberka	9.08	141	P	Pn	23 51 27.9	-2.5
TERR				S	Sn	23 53 01.7	-11
APA0	Apatity Array	10.30	149	S	Sn	23 53 31.7	-11

VIE ***03*** *00:08:24.9±0.7, 49.°93N×19.°21E, h0km, mb3.0/3, ml2.4/4, ms4.1/2, Error ellipse: s-maj=15.8km s-min=3.5km az=150.0 38 km S of Sosnowice Suspected Mining induced.*
PRU ***03*** *00:08:25.8, 50.°20N×19.°09E, h0km*
IPEC ***03*** *00:08:25.4±0.2, 50.°17N×19.°14E, h1km, ML2.7/4, Error ellipse: s-maj=2.5km s-min=1.0km az=167.0*
IDC ***03*** *00:08:26.5±1.1, 49.°99N×19.°06E, h0km, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=22.7km s-min=7.6km az=151.0*
ISC 03 00:08:24.1±0.7, **50.°17N**±0.°03×**19.°22E**±0.°02, **h0**km, **n42**, σ**1.s19**/70, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.38	82	ePg	Pb	00 08 33.8	+0.1
OJC				eSg	Sb	00 08 39.9	-0.2
OKC	Ostrava-Krasne	0.77	245	ePG	Pg	00 08 39.6	+0.8
OKC				eSG	Sg	00 08 48.2	-0.5
NIE	Niedzica	1.03	137	ePg	Pb	00 08 45.4	+0.6
NIE				eSg	Sn	00 09 00.3	-0.6
LANS	Liptovska Anna	1.03	171	ePG	Pb	00 08 44.9	0.0
LANS				eSG	Sb	00 08 58.7	-0.2
LANS				eLG	Lg	00 08 59.2	
MORC	Moravsky Berou	1.15	251	ePg	Pg	00 08 46.4	+0.3
	baz=68						
MORC				eSg	Sg	00 09 00.3	-0.7
	116nm,0.7s,baz=68						
MORC	Moravsky Berou	1.15	251	ePG	Pg	00 08 46.5	+0.3
MORC				eSG	Sg	00 09 00.4	-0.6
MAUC	Maruska	1.21	229	eSG	Sb	00 09 03.3	-0.7
STHS	Stebnicka Huta	1.51	119	ePN	Pg	00 08 54.4	+1.3
STHS				eLG	Lg	00 09 26.6	
KRLC	Kraliky	1.57	268	ePG	Pn	00 08 52.8	-0.5
KRLC				eSG	Sn	00 09 13.6	-0.7
	comp=Z,62nm,0.7s						
JAVC	Velka Javorina	1.65	218	ePn	Pn	00 08 54.9	+0.5
	baz=36						
JAVC	Velka Javorina	1.65	218	ePN	Pn	00 08 55.0	+0.5
VYHS	Vyhne	1.69	189	ePN	Pn	00 08 54.9	0.0
VYHS				eSN	Sn	00 09 17.1	-0.2
DPC	Dobruska-Polom	1.87	277	ePG	Pn	00 08 57.9	+0.5
DPC				eSG	Sb	00 09 22.8	-0.2
	comp=Z,48nm,0.7s						
KECS	Kecovo	1.88	153	ePN	Pn	00 08 57.7	+0.2
KECS				eSN	Sn	00 09 21.0	-0.9
KECS				eLG	Lg	00 09 29.6	
VRAC	Vranov	1.91	244	ePn	Pn	00 08 58.0	+0.2
	baz=62						
VRAC				eSg	Sb	00 09 23.9	-0.2
	42nm,0.8s,baz=62						
VRAC	Vranov	1.91	244	ePN	Pn	00 08 58.1	+0.2
VRAC				eSG	Sb	00 09 24.0	-0.2
VRAC	Vranov	1.91	244	Pg	Pn	00 08 58.2	+0.4
	4.2nm,0.3s,baz=64,slow=16,SNR=32						
VRAC				Lg	Lg	00 09 21.6	
	4.3nm,0.3s,baz=3.8,slow=20,SNR=7.5						
CRVS	Cervenica-Dubn	1.94	130	ePN	Pg	00 09 01.7	+0.5
CRVS				eSN	Sg	00 09 26.1	-0.1
OSTC	Ostas	1.96	283	ePG	Pn	00 08 59.8	+1.2
KSP	Ksiaz	1.98	291	ePg	Pg	00 09 02.2	0.0
KSP				eSg	Sg	00 09 28.2	+0.4
CHVC	Chvalec	2.07	283	ePG	Pn	00 09 00.6	+0.5
UPC	Upice	2.08	281	ePG	Pb	00 09 02.3	-0.4
UPC				eSG	Sb	00 09 29.1	0.0
	comp=Z,25nm,0.7s						
KRUC	Moravsky	2.14	240	ePn	Pn	00 09 01.8	+0.7
	baz=57						
KRUC				eSg	Sb	00 09 31.2	+0.3
	40nm,0.9s,baz=57						
KOLS	Kolonicke sedl	2.34	121	ePG	Pg	00 09 09.2	+0.2
KOLS				eSN	Sn	00 09 34.5	+1.2
KOLS				eLG	Lg	00 09 40.0	
GOPC	GO Pecny, Ondr	2.87	267	eSG	Sb	00 09 53.7	+1.9
	comp=Z,25nm,0.7s						
PRU	Pruhonice	3.02	268	eSG	Sg	00 09 58.9	-2.1
	comp=Z,12nm,0.7s						
CONA	Conrad Observa	3.15	226	ePn	Pn	00 09 13.1	-1.8
	0.7nm,0.3s						
CONA				eSn	Sn	00 09 52.7	-0.5
	3.9nm,0.4s						
BRG	Berggiesshubel	3.44	284	Pn	Pb	00 09 28.4	+2.5
BRG				Pg	Pg	00 09 33.5	+3.5
BRG				Sg	Sg	00 10 13.4	-1.1
BRG				Amp		00 10 21.2	
	comp=Z,10nm,0.5s						
CKRC	Cesky Krumlov	3.47	249	ePG	Pb	00 09 26.6	+0.2
KHC	Kasperske Hory	3.81	256	ePN	Pn	00 09 24.2	+0.2
KHC				ePG	Pb	00 09 31.0	-1.2
KHC				eSN	Sn	00 10 09.5	0.0
KHC				eSG	Sg	00 10 23.7	-2.7
	comp=Z,9.8nm,0.5s						
GERES	GERESS Array B	3.83	252	Pn	Pn	00 09 24.9	+0.5
	comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=4.9						
GERES				Pg	Pb	00 09 33.6	+1.0
	comp=Z,0.9nm,0.3s,baz=68,slow=17,SNR=11						
GERES				Sn	Sn	00 10 09.0	-1.1
	comp=Z,0.8nm,0.3s,baz=73,slow=18,SNR=5.0						
GERES				Lg	Lg	00 10 24.8	
	comp=Z,1.6nm,0.3s,baz=70,slow=25,SNR=4.6						
	comp=Z,0.6nm,0.4s						
MOA	Molln	4.00	236	Pn	Pn	00 09 26.9	+0.3
	comp=Z,0.5nm,0.1s						
MOA				Sg	Sg	00 10 30.9	-1.7
	comp=Z,2.9nm,0.3s						
CLL	Collm	4.11	288	eSg	Sg	00 10 37.0	+1.0
	comp=Z,17nm,1.2s						
BIOA	Bad Ischl, Aus	4.43	238	Sg	Sg	00 10 47.0	+0.5
	comp=Z,7.2nm,0.4s						
ABTA	Abfaltersbach	5.62	235	eSg	Sg	00 11 26.4	+1.8
	comp=Z,4.1nm,0.7s						
MOTA	Moosalm	6.06	245	eSg	Sg	00 11 39.8	+1.1
	comp=Z,6.3nm,0.6s						
RETA	Reutte	6.19	248	eSg	Sg	00 11 44.0	+1.0
	comp=Z,7.4nm,0.7s						
AKASG	Malin Array Be	6.42	81	Pn	Pn	00 10 01.4	+1.6
	comp=Z,0.2nm,0.3s,baz=264,slow=13,SNR=1.7						
AKASG				Pg	Pb	00 10 18.9	+2.3
	comp=Z,0.3nm,0.3s,baz=271,slow=15,SNR=1.9						
AKASG				Lg	Lg	00 11 46.9	
	comp=Z,0.5nm,0.3s,baz=258,slow=22,SNR=1.4						
	comp=Z,0.1nm,0.3s						
FETA	Feichten	6.45	244	eSg	Sg	00 11 52.7	+1.6
	comp=Z,4.1nm,0.9s						
NACGM	Naroch	6.62	41	eP	Pb	00 10 20.6	+0.7
DAVOX	Davos/Dischmat	7.07	245	Pn	Pn	00 10 09.5	+0.5
	comp=Z,0.3nm,0.3s,baz=337,slow=18,SNR=1.7						
DAVOX				Lg	Lg	00 12 08.5	
	comp=Z,0.2nm,0.3s,baz=256,slow=23,SNR=2.5						
	comp=Z,0.6nm,0.4s						
FINES	FINESS Array B	11.93	16	Pn	Pn	00 11 14.3	-1.0
	comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=4.5						
FINES				Sn	Sn	00 13 24.7	-4.2
	comp=Z,0.2nm,0.3s,baz=206,slow=21,SNR=4.2						
	comp=Z,3.1nm,1.0s						

IDC 03 00:11:36.4±4.2, **4.°76S**×**132.°54E**, **h0**km, **mb3.4**/2, **mbtmp3.5**/4, **ML3.6**/2, **Error ellipse: s-maj=303.3km s-min=29.0km az=76.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.20	174	Pn	Pn	00 15 10.5	-2.0
	0.2nm,0.3s,baz=351,slow=14,SNR=16						
	0.5nm,0.4s						
ASAR	Alice Springs	18.85	176	P	Pn	00 15 58.9	+0.3
	0.2nm,0.3s,baz=4.6,slow=10,SNR=23						
	2.3nm,0.8s						
MKAR	Makanchi Array	67.79	325	P	P	00 22 35.7	-0.5
	0.2nm,0.5s,baz=123,slow=7.6,SNR=2.5						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	70.74	332	P	P	00 22 54.7	+0.5
	0.2nm,0.4s,baz=126,slow=7.3,SNR=1.6						
	0.2nm,0.4s						

IDC 03 00:14:40.3±9.0, **5.°18S**×**105.°50W**, **h0**km, **mb3.4**/5, **mbtmp3.4**/5, **MS3.2**/2, **Error ellipse: s-maj=256.7km**

s-min=128.8km az=119.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**22.13**	**189**	LR	LR	00 26 17.0	
	comp=Z,78nm,18.7s,baz=310,slow=32						
CMIG	**Matias Romero**	**24.48**	**25**	LR	LR	00 26 21.6	
	comp=Z,48nm,18.8s,baz=16,slow=29						
TXAR	**Lajitas Array**	**34.36**	**3**	P	P	00 21 30.0	+0.8
	0.4nm,0.7s,baz=188,slow=12,SNR=2.1						
	0.4nm,0.7s						
H03N2	**Juan Fernandez**	**37.44**	**142**	T	T	01 02 11.1	
	baz=317,slow=77,SNR=20						
H03N1	**Juan Fernandez**	**37.45**	**142**	T	T	01 02 05.4	
	baz=317,slow=77,SNR=26						
H03N3	**Juan Fernandez**	**37.45**	**142**	T	T	01 02 01.0	
	baz=317,slow=77,SNR=30						
NVAR	**Mina Array Bea**	**44.98**	**346**	P	P	00 22 57.6	-0.1
	0.2nm,0.3s,baz=164,slow=10,SNR=1.3						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**47.86**	**356**	P	P	00 23 19.3	-1.0
	0.3nm,0.6s,baz=160,slow=8.2,SNR=4.3						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**67.84**	**355**	P	P	00 25 39.7	-0.4
	0.2nm,0.8s,baz=164,slow=5.8,SNR=3.3						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**76.16**	**343**	P	P	00 26 30.5	+0.5
	0.7nm,0.9s,baz=140,slow=7.1,SNR=5.0						
	0.7nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**89.47**	**290**	T	T	02 06 53.9	
	baz=95,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**89.48**	**290**	T	T	02 06 59.3	
	baz=95,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**89.48**	**290**	T	T	02 06 55.1	
	baz=95,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**89.54**	**288**	T	T	02 07 06.2	
	baz=95,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**89.55**	**289**	T	T	02 07 04.4	
	baz=95,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**89.56**	**288**	T	T	02 07 05.2	
	baz=95,slow=75,SNR=16						

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*KRSC **03** 00:22:34.8±0.7, 54°.80N×162°.51E, h81km±20km, Ml4.8, Felt [III-IV] at kordon Kronoki.*

*MOS **03** 00:22:37.8±1.0, 54°.87N×162°.22E, h67km, mb4.8/28, Error ellipse: s-maj=6.7km s-min=3.7km az=88.1*

*NEIC **03** 00:22:38.7±1.6, 55°.0N±0°.1×162°.1E±0°.2, h50km±9km, mb4.5/150, Error ellipse: s-maj=21.5km s-min=13.3km az=143.0*

*IDC **03** 00:22:40.2±1.8, 54°.98N×162°.01E, h65km±16km, mb4.0/28, mbtmp4.3/32, MS3.4/14, Error ellipse: s-maj=13.1km s-min=10.1km az=147.0*

ISC 03 00:22:36.8±0.5**, 54°.84N**±0°.03×**162°.37E**±0°.03**, h42**km±4km**, n582, σ1s.35**/568**, mb4.6**/124**, MS3.4**/10**, 10C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.19**	**289**	*e*P	**Pn**	**00 22 57.7**	**+0.6**
TUMD				*e*S	**Sn**	**00 23 14.3**	**+2.2**
TUMR	**Tumrok**	**1.36**	**290**	PN	**Pn**	**00 22 57.7**	**-1.7**
TUMR				S	**Sn**	**00 23 14.3**	**-1.9**
TUMR	**Tumrok**	**1.36**	**290**	*e*P	**Pn**	**00 23 00.5**	**+1.2**
KBTR	**Krutoberegovo**	**1.40**	**10**	PN	**Pn**	**00 23 00.2**	**+0.4**
KBTR	**Krutoberegovo**	**1.40**	**10**	*e*P	**Pn**	**00 23 00.2**	**+0.4**
KBG	**Krutoberegovo**	**1.44**	**7**	PN	**Pn**	**00 23 00.8**	**+0.5**
KBG				S	**Sn**	**00 23 20.7**	**+2.8**
KBG	**Krutoberegovo**	**1.44**	**7**	*e*P	**Pn**	**00 23 00.8**	**+0.5**
KBG				*e*S	**Sn**	**00 23 20.7**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**1.46**	**320**	PN	**Pn**	**00 23 02.2**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**1.46**	**320**	*e*P	**Pn**	**00 23 02.2**	**+1.4**
ZLN	**Zelenaya**	**1.48**	**324**	PN	**Pn**	**00 23 02.7**	**+1.6**
ZLN	**Zelenaya**	**1.48**	**324**	*e*P	**Pn**	**00 23 02.7**	**+1.6**
BZP	**Bezymyannyi-Pe**	**1.50**	**317**	*e*P	**Pn**	**00 23 02.9**	**+1.4**
KMNR	**Kamenistaya**	**1.53**	**308**	PN	**Pn**	**00 23 03.2**	**+1.5**
KMNR	**Kamenistaya**	**1.53**	**308**	*e*P	**Pn**	**00 23 03.2**	**+1.5**
BZMR	**Bezymyannaya**	**1.54**	**317**	PN	**Pn**	**00 23 03.5**	**+1.6**
BZMR	**Bezymyannaya**	**1.54**	**317**	*e*P	**Pn**	**00 23 03.5**	**+1.6**
BZWR	**Bezymyannyi-We**	**1.56**	**317**	PN	**Pn**	**00 23 04.2**	**+2.0**
BZWR	**Bezymyannyi-We**	**1.56**	**317**	*e*P	**Pn**	**00 23 04.2**	**+2.0**
CIRR	**Tsirk**	**1.58**	**325**	PN	**Pn**	**00 23 04.3**	**+1.8**
CIRR	**Tsirk**	**1.58**	**325**	*e*P	**Pn**	**00 23 04.3**	**+1.8**
KIRR	**Kirishev**	**1.61**	**315**	PN	**Pn**	**00 23 04.6**	**+1.7**
KIRR	**Kirishev**	**1.61**	**315**	*e*P	**Pn**	**00 23 04.6**	**+1.7**
KPT	**Kopyto**	**1.67**	**314**	PN	**Pn**	**00 23 05.5**	**+1.9**
KPT	**Kopyto**	**1.67**	**314**	*e*P	**Pn**	**00 23 05.5**	**+1.9**
KRSR	**Krestovskiy**	**1.72**	**324**	PN	**Pn**	**00 23 05.5**	**+1.1**
KRSR	**Krestovskiy**	**1.72**	**324**	*e*P	**Pn**	**00 23 05.5**	**+1.1**
KLY	**Klyuchi**	**1.77**	**327**	PN	**Pn**	**00 23 05.3**	**+0.3**
KLY				S	**Sn**	**00 23 27.5**	**+1.2**
KLY	**Klyuchi**	**1.77**	**327**	*e*P	**Pn**	**00 23 05.3**	**+0.3**
KLY				*e*S	**Sn**	**00 23 27.5**	**+1.2**
SMKR	**Semkarok**	**1.82**	**344**	PN	**Pn**	**00 23 07.4**	**+1.7**
SMKR	**Semkarok**	**1.82**	**344**	*e*P	**Pn**	**00 23 07.4**	**+1.7**
BDR	**Baidarnaya**	**1.86**	**340**	PN	**Pn**	**00 23 08.2**	**+2.0**
BDR	**Baidarnaya**	**1.86**	**340**	*e*P	**Pn**	**00 23 08.2**	**+2.0**
KOZ	**Kozyrevsk**	**1.88**	**312**	PN	**Pn**	**00 23 08.9**	**+2.5**
KOZ	**Kozyrevsk**	**1.88**	**312**	*e*P	**Pn**	**00 23 08.9**	**+2.5**
KII	**Karymskiy**	**1.89**	**246**	PN	**Pn**	**00 23 07.9**	**+1.3**
KII	**Karymskiy**	**1.89**	**246**	*e*P	**Pn**	**00 23 07.9**	**+1.3**
BKI	**Bering**	**2.11**	**78**	PN	**Pn**	**00 23 09.4**	**-0.1**
BKI				S	**Sn**	**00 23 32.9**	**-1.5**
BKI	**Bering**	**2.11**	**78**	*e*P	**Pn**	**00 23 09.4**	**-0.1**
BKI				*e*S	**Sn**	**00 23 32.9**	**-1.5**
SRDR	**Sredinnyy**	**2.12**	**316**	PN	**Pn**	**00 23 11.6**	**+1.9**
SRDR	**Sredinnyy**	**2.12**	**316**	*e*P	**Pn**	**00 23 11.6**	**+1.9**
SPN	**Mys Shipunski**	**2.23**	**220**	PN	**Pn**	**00 23 10.6**	**-0.6**
SPN				S	**Sn**	**00 23 36.7**	**-0.7**
SPN	**Mys Shipunski**	**2.23**	**220**	*e*P	**Pn**	**00 23 10.6**	**-0.6**
SPN				*e*S	**Sn**	**00 23 36.7**	**-0.7**
ESO	**Esso**	**2.36**	**299**	PN	**Pn**	**00 23 15.4**	**+2.3**
ESO				S	**Sn**	**00 23 44.2**	**+3.4**
ESO	**Esso**	**2.36**	**299**	*e*P	**Pn**	**00 23 15.4**	**+2.3**
ESO				*e*S	**Sn**	**00 23 44.2**	**+3.4**
SMAR	**Somma**	**2.63**	**235**	PN	**Pn**	**00 23 18.5**	**+1.6**
SMAR	**Somma**	**2.63**	**235**	*e*P	**Pn**	**00 23 18.5**	**+1.6**
KRX	**Arik**	**2.64**	**238**	PN	**Pn**	**00 23 18.5**	**+1.5**
KRX	**Arik**	**2.64**	**238**	*e*P	**Pn**	**00 23 18.5**	**+1.5**
UGLR	**Uglovaya**	**2.65**	**234**	PN	**Pn**	**00 23 18.8**	**+1.6**
UGLR	**Uglovaya**	**2.65**	**234**	*e*P	**Pn**	**00 23 18.8**	**+1.6**
AVH	**Avacha**	**2.66**	**235**	PN	**Pn**	**00 23 19.1**	**+1.9**
AVH	**Avacha**	**2.66**	**235**	*e*P	**Pn**	**00 23 19.1**	**+1.9**
KOK	**Koryaka**	**2.69**	**236**	PN	**Pn**	**00 23 19.5**	**+1.9**
KOK	**Koryaka**	**2.69**	**236**	*e*P	**Pn**	**00 23 19.5**	**+1.9**
DALK	**Dalny**	**2.80**	**231**	PN	**Pn**	**00 23 20.2**	**+1.2**
DALK				S	**Sn**	**00 23 53.1**	**+1.6**
DALK	**Dalny**	**2.80**	**231**	*e*P	**Pn**	**00 23 20.2**	**+1.2**
DALK				*e*S	**Sn**	**00 23 53.1**	**+1.6**
GNL	**Ganaly**	**2.84**	**248**	PN	**Pn**	**00 23 21.7**	**+2.0**
GNL	**Ganaly**	**2.84**	**248**	*e*P	**Pn**	**00 23 21.7**	**+2.0**
PET	**Petropavlovsk**	**2.85**	**232**		**Pn**	**00 23 21.1**	**+1.4**
PET	**Petropavlovsk**	**2.85**	**232**	*ce*PN	**Pn**	**00 23 21.2**	**+1.5**
PET				pmax	pmax		
	comp=Z,324nm,0.4s						
PET	**Petropavlovsk**	**2.85**	**232**	*e*P	**Pn**	**00 23 21.3**	**+1.6**
PET				*e*S	**Sn**	**00 23 54.2**	**+1.4**
KRMR	**Karymshinskiy**	**3.22**	**233**	PN	**Pn**	**00 23 26.8**	**+2.0**
KRMR				S	**Sn**	**00 24 03.9**	**+2.1**
KRMR	**Karymshinskiy**	**3.22**	**233**	*e*P	**Pn**	**00 23 26.8**	**+2.0**
KRMR				*e*S	**Sn**	**00 24 03.9**	**+2.1**
PEA0B	**Petropavlovsk-**	**3.26**	**240**		**Pn**	**00 23 26.9**	**+1.6**
PEA0B	**Petropavlovsk-**	**3.26**	**240**	*ce*PN	**Pn**	**00 23 27.9**	**+2.6**
PETK	**Petropavlovsk-**	**3.26**	**240**	Pn	**Pn**	**00 23 26.4**	**+1.0**
PETK	**Petropavlovsk-**	**3.26**	**240**	P	**Pn**	**00 23 26.7**	**+1.4**
	comp=Z,110nm,0.3s,baz=93,slow=15,SNR=356						
PETK				S	**Sn**	**00 24 04.6**	**+1.7**
	comp=Z,121nm,0.5s,baz=180,slow=15,SNR=4.5						
GRL	**Gorelyy**	**3.43**	**230**	PN	**Pn**	**00 23 29.8**	**+2.0**
GRL	**Gorelyy**	**3.43**	**230**	*e*P	**Pn**	**00 23 29.8**	**+2.0**
ASAK	**Asacha**	**3.62**	**229**	PN	**Pn**	**00 23 32.6**	**+2.2**
ASAK	**Asacha**	**3.62**	**229**	*e*P	**Pn**	**00 23 32.6**	**+2.2**
APC	**Apacha**	**3.63**	**240**	PN	**Pn**	**00 23 31.1**	**+0.7**
APC	**Apacha**	**3.63**	**240**	*e*P	**Pn**	**00 23 31.1**	**+0.7**
KDTR	**Khodutka, Kamc**	**3.98**	**222**	PN	**Pn**	**00 23 36.1**	**+0.9**
KDTR	**Khodutka, Kamc**	**3.98**	**222**	*e*P	**Pn**	**00 23 36.1**	**+0.9**
OSSR	**Ossora**	**4.44**	**5**	PN	**Pn**	**00 23 42.0**	**+0.4**
OSSR				S	**Sn**	**00 24 31.1**	**-0.8**
OSSR	**Ossora**	**4.44**	**5**	*e*P	**Pn**	**00 23 42.0**	**+0.4**
OSSR				*e*S	**Sn**	**00 24 31.1**	**-0.8**
SKR	**Severo-Kuril's**	**5.63**	**225**	*e*PN	**Pn**	**00 23 59.9**	**+2.0**
SKR				pmax	pmax		
	comp=Z,147nm,0.9s						
SKR				MLR	MLR		
	comp=Z,200nm,14.0s						
SKR	**Severo-Kuril's**	**5.63**	**225**	*e*P	**Pn**	**00 23 59.0**	**+1.1**
TILK	**Tilichiki**	**5.98**	**18**	PN	**Pn**	**00 24 04.2**	**+1.6**
TILK	**Tilichiki**	**5.98**	**18**	*e*P	**Pn**	**00 24 04.2**	**+1.6**
MA2	**Magadan**	**7.89**	**312**	P	**Pn**	**00 24 29.5**	**+0.7**
	comp=Z,7.5nm,0.6s,baz=116,slow=12,SNR=6.5						
MA2				LR	LR	00 27 56.2	
	comp=Z,109nm,19.8s,baz=187,slow=41						
SEY	**Seymchan**	**9.61**	**332**	P	**Pn**	**00 24 54.2**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=124,slow=9.4,SNR=4.2						
SEY				LR	LR	00 28 50.1	
	comp=Z,150nm,21.1s,baz=222,slow=39						
BILL	**Bilibino**	**13.38**	**6**	Pn	**Pn**	**00 25 44.5**	**+0.7**
BILL	**Bilibino**	**13.38**	**6**	⇑*e*PN	**Pn**	**00 25 46.8**	**+3.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
JKA	**Kamikawa-asahi**	**16.67**	**238**	P	**P**	**00 26 28.6**	**-0.5**
JKA				IAmb	IAmb	00 26 40.7	
	comp=Z,51nm,1.3s						
ASAJ	**Asahikawa**	**16.68**	**238**	P	**P**	**00 26 28.6**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,51nm,1.3s						
ASAJ	**Asahikawa**	**16.68**	**238**	P	**Pn**	**00 26 28.1**	**+0.8**
	comp=Z,25nm,1.1s,baz=45,slow=8.6,SNR=3.3						
ASAJ				LR	LR	00 33 12.2	
	comp=Z,108nm,18.2s,baz=48,slow=38						
M11K	**Mekoryuk**	**17.61**	**59**	P	**Pn**	**00 26 38.8**	**+0.2**
	baz=266						
ERM	**Erimo**	**18.01**	**232**	P	**Pn**	**00 26 39.6**	**-4.1**
ERM				IAmb	IAmb	00 27 03.4	
	comp=Z,53nm,1.1s						
ERM	**Erimo**	**18.01**	**232**	P	**Pn**	**00 26 39.6**	**-4.1**
ERM				pmax	pmax		
	comp=Z,53nm,1.2s						
UNV	**Unalaska Valle**	**18.10**	**80**	P	**Pn**	**00 26 45.7**	**+0.9**
	baz=286						
YAK	**Yakutsk**	**18.40**	**306**	*e*P	**P**	**00 26 47.7**	**-0.3**
YAK				*e*S	**Sn**	**00 30 11.2**	**-1.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				smax	smax		
	comp=E,134nm,4.4s						
YAK				smax	smax		
	comp=N,80nm,4.3s						
ANM	**Nome**	**18.74**	**46**	P	**Pn**	**00 26 52.5**	**0.0**
ANM	**Nome**	**18.74**	**46**	P	**P**	**00 26 51.6**	**-0.1**
	baz=255						
ANM	**Nome**	**18.74**	**46**	P	**Pn**	**00 26 52.5**	**0.0**
ANM				pmax	pmax		
	comp=Z,22nm,1.4s						
M13K	**Dall Lake**	**19.03**	**59**	P	**Pn**	**00 26 57.0**	**+1.2**
M13K				IAmb	IAmb	00 27 29.8	
	comp=Z,55nm,1.4s						
M13K	**Dall Lake**	**19.03**	**59**	P	**Pn**	**00 26 56.0**	**+0.2**
	baz=269						
J14K	**Nanvaranak Lak**	**19.14**	**52**	P	**Pn**	**00 26 58.1**	**+0.8**
J14K	**Nanvaranak Lak**	**19.14**	**52**	P	**Pn**	**00 26 57.7**	**+0.4**
	baz=262						
F15K	**North Star Dit**	**19.38**	**43**	P	**Pn**	**00 26 59.6**	**-0.4**
	baz=252						
L14K	**Kuka Creek**	**19.40**	**56**	P	**Pn**	**00 27 01.4**	**+1.0**
L14K				IAmb	IAmb	00 27 21.2	
	comp=Z,29nm,1.4s						
G15K	**Niukluk**	**19.41**	**45**	P	**Pn**	**00 27 00.1**	**-0.3**
	baz=255						
KLR	**Kul'dur**	**19.55**	**266**	*i* P	**P**	**00 27 00.2**	**-0.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KLR	**Kul'dur**	**19.55**	**266**	P	**P**	**00 27 00.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=56,slow=7.3,SNR=2.0						
KLR				LR	LR	00 35 11.7	
	comp=Z,86nm,18.2s,baz=44,slow=39						
FALS	**False Pass**	**19.59**	**76**	P	**Pn**	**00 27 03.4**	**+0.8**
	baz=285						
M14K	**Bethel**	**19.72**	**58**	P	**Pn**	**00 27 04.8**	**+0.7**
M14K				IAmb	IAmb	00 27 05.9	
	comp=Z,24nm,1.0s						
M14K	**Bethel**	**19.72**	**58**	P	**Pn**	**00 27 03.9**	**-0.2**
	baz=269						
N14K	**Kuskokwak Cree**	**19.86**	**61**	P	**Pn**	**00 27 05.3**	**-0.4**
	baz=272						
JTM	**Tenmabayashi**	**19.94**	**234**	P	**P**	**00 27 01.9**	**-3.1**
L15K	**Ungalak Mounta**	**19.99**	**55**	P	**Pn**	**00 27 06.4**	**-1.0**
	baz=267						
K15K	**Wolf Creek Mou**	**20.02**	**54**	P	Pn	00 27 08.5	+0.8
K15K				IAmb	IAmb	00 27 09.5	
	comp=Z,17nm,0.8s						
K15K	**Wolf Creek Mou**	**20.02**	**54**	P	Pn	00 27 07.6	-0.1
	baz=265,SNR=5.3						
H16K	**Elim**	**20.07**	**47**	P	Pn	00 27 07.8	-0.5
	baz=258,SNR=9.0						
C16K	**Lisburne Hills**	**20.10**	**35**	P	Pn	00 27 07.8	-0.7
C16K				IAmb	IAmb	00 27 09.1	
	comp=Z,21nm,0.8s						
C16K	**Lisburne Hills**	**20.10**	**35**	P	Pn	00 27 07.9	-0.7
	baz=245						
G16K	**Koyuk River**	**20.20**	**44**	P	Pn	00 27 08.7	-1.1
	baz=256						
M15K	**Kasigluk River**	**20.35**	**58**	P	Pn	00 27 10.8	-0.7
	baz=270						
ZEA	**Zeya**	**20.41**	**281**	*e*P	**P**	**00 27 05.2**	**-4.7**
J16K	**Anvik River**	**20.55**	**51**	P	Pn	00 27 13.6	-0.4
J16K	**Anvik River**	**20.55**	**51**	P	Pn	00 27 13.5	-0.4
	baz=264						
I17K	**Unalakleet**	**20.59**	**49**	P	Pn	00 27 14.3	-0.1
I17K				IAmb	IAmb	00 27 15.6	
	comp=Z,30nm,0.9s						
I17K	**Unalakleet**	**20.59**	**49**	P	Pn	00 27 13.8	-0.6
	baz=262,SNR=13						
N15K	**Kwethluk River**	**20.65**	**60**	P	Pn	00 27 14.6	-0.5
	baz=272						
O15K	**Ungalikthiuk R**	**20.84**	**63**	P	Pn	00 27 16.3	-1.1
	baz=275						
RDOG	**Red Dog Mine**	**20.84**	**37**	P	Pn	00 27 16.3	-1.0
	baz=248						
E17K	**Hotham Inlet**	**20.89**	**40**	P	Pn	00 27 16.7	-1.1
	baz=252,SNR=9.5						
C17K	**DeLong Mountai**	**20.91**	**36**	P	**P**	**00 27 16.2**	**+0.9**
	baz=247						
F17K	**Baldwin Pennin**	**20.92**	**42**	P	**P**	**00 27 16.1**	**+0.7**
	baz=255						
G17K	**Kiwalik Mounta**	**20.92**	**45**	P	**P**	**00 27 16.6**	**+1.2**
	baz=258						
L16K	**Owhat River**	**20.95**	**55**	P	Pn	00 27 17.7	-0.9
L16K	**Owhat River**	**20.95**	**55**	P	**P**	**00 27 17.0**	**+1.2**
	baz=269						
H17K	**Granite Mounta**	**21.11**	**46**	P	**P**	**00 27 19.8**	**+2.4**
H17K				IAmb	IAmb	00 27 20.8	
	comp=Z,15nm,0.8s						
H17K	**Granite Mounta**	**21.11**	**46**	P	**P**	**00 27 18.7**	**+1.3**
	baz=260,SNR=7.4						
M16K	**Timber Creek**	**21.19**	**57**	P	**P**	**00 27 20.3**	**+1.9**
	baz=271						
N16K	**Nishlik Lake**	**21.30**	**59**	P	**P**	**00 27 21.0**	**+1.5**
	baz=273						
E18K	**Tukpahlearik C**	**21.45**	**39**	P	**P**	**00 27 21.8**	**+0.7**
	baz=253						
L17K	**Donlin**	**21.52**	**54**	P	**P**	**00 27 23.1**	**+1.3**
	baz=269						
K17K	**Iditarod**	**21.55**	**53**	IAmb	IAmb	00 27 27.3	
	comp=Z,18nm,0.9s						
K17K	**Iditarod**	**21.55**	**53**	P	**P**	**00 27 23.8**	**+1.7**
	baz=267						
C18K	**Utukok River**	**21.65**	**36**	P	**P**	**00 27 24.7**	**+1.4**
C18K	**Utukok River**	**21.65**	**36**	P	**P**	**00 27 24.0**	**+0.8**
	baz=249						
O16K	**Kokwok River B**	**21.69**	**61**	P	**P**	**00 27 25.8**	**+2.1**
	baz=275						
B18K	**Kokolik River**	**21.72**	**34**	P	**P**	**00 27 24.6**	**+0.7**
	baz=247						
H18K	**Honhosa River**	**21.79**	**46**	P	**P**	**00 27 25.6**	**+0.8**
	baz=261						
G18K	**Tagagawik**	**21.81**	**44**	P	**P**	**00 27 25.7**	**+0.7**
	baz=259						
M17K	**Holitna River**	**21.92**	**56**	P	**P**	**00 27 28.0**	**+1.8**
M17K				IAmb	IAmb	00 27 32.0	
	comp=Z,48nm,1.4s						
M17K	**Holitna River**	**21.92**	**56**	P	**P**	**00 27 27.8**	**+1.6**
	baz=271						
N17K	**Nushagak Hills**	**22.08**	**59**	P	**P**	**00 27 28.2**	**+0.4**
	baz=274						
TIXI	**Tiksi**	**22.11**	**332**	P	**P**	**00 27 28.3**	**+0.2**
TIXI	**Tiksi**	**22.11**	**332**	*ce*P	**P**	**00 27 27.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**22.11**	**332**	P	**P**	**00 27 27.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=130,slow=9.5,SNR=23						
O17K	**Koliganek Bris**	**22.18**	**61**	P	**P**	**00 27 30.3**	**+1.4**
	baz=276						
USRK	**Ussuriysk Ar.**	**22.23**	**254**	P	**P**	**00 27 29.3**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=53,slow=8.8,SNR=1.2						
USRK				LR	LR	00 36 56.3	
	comp=Z,76nm,19.7s,baz=18,slow=39						
L18K	**Granite Mounta**	**22.28**	**54**	P	**P**	**00 27 31.2**	**+1.2**
L18K	**Granite Mounta**	**22.28**	**54**	P	**P**	**00 27 31.1**	**+1.1**
	baz=270						
A19K	**Wainwright**	**22.30**	**32**	P	**P**	**00 27 30.6**	**+0.4**
	baz=246						
J18K	**Innoko River**	**22.31**	**51**	P	**P**	**00 27 31.2**	**+0.8**
	baz=267						
C19K	**Lookout Ridge**	**22.36**	**36**	P	**P**	**00 27 31.9**	**+1.0**
	baz=250						
F19K	**Shaleruckik Mo**	**22.36**	**42**	P	**P**	**00 27 31.4**	**+0.6**
	baz=258						
GCSA	**Galena City Sc**	**22.36**	**47**	P	**P**	**00 27 32.1**	**+1.3**
	baz=264						
JMM	**Marumori**	**22.43**	**230**	P	**P**	**00 27 33.1**	**+1.3**
JMM				IAmb	IAmb	00 27 46.0	
	comp=Z,23nm,0.8s						
G19K	**Purcell Mounta**	**22.49**	**44**	P	**P**	**00 27 33.8**	**+1.6**
G19K	**Purcell Mounta**	**22.49**	**44**	P	**P**	**00 27 33.0**	**+0.8**
	baz=260,SNR=5.4						
P17K	**Kvichak River**	**22.57**	**62**	P	**P**	**00 27 34.5**	**+1.4**
	baz=278						
TTA	**Tatalina**	**22.61**	**52**	P	**P**	**00 27 35.4**	**+1.8**
TTA	**Tatalina**	**22.61**	**52**	P	**P**	**00 27 34.7**	**+1.1**
	baz=269						
TTA	**Tatalina**	**22.61**	**52**	P	**P**	**00 27 35.4**	**+1.8**
TTA				pmax	pmax		
	comp=Z,11nm,1.3s						
H19K	**Roundabout Mou**	**22.64**	**45**	P	**P**	**00 27 35.0**	**+1.1**
H19K				IAmb	IAmb	00 27 36.9	
	comp=Z,11nm,0.7s						
H19K	**Roundabout Mou**	**22.64**	**45**	P	**P**	**00 27 33.6**	**-0.3**
	baz=262						
D19K	**Kuna River**	**22.67**	**38**	P	**P**	**00 27 34.9**	**+0.7**
	baz=253						
M18K	**Stony River**	**22.70**	**56**	P	**P**	**00 27 34.5**	**+0.1**
	baz=272						
N18K	**Kilae Creek**	**22.71**	**58**	P	**P**	**00 27 34.6**	**0.0**
	baz=274						
E19K	**Redstone River**	**22.71**	**40**	P	**P**	**00 27 34.0**	**-0.5**
	baz=257						
J19K	**Poorman**	**22.83**	**49**	P	**P**	**00 27 36.5**	**+0.6**
J19K	**Poorman**	**22.83**	**49**	P	**P**	**00 27 36.2**	**+0.3**
	baz=267						
R17K	**Ugashik Creek**	**22.84**	**66**	P	**P**	**00 27 36.5**	**+0.6**
	baz=281						
L19K	**White Mountain**	**23.14**	**54**	P	**P**	**00 27 39.4**	**+0.4**
	baz=272						
F20K	**Avaraart Lake**	**23.19**	**42**	P	**P**	**00 27 39.6**	**+0.1**
	baz=259						
D20K	**Etivluk River**	**23.26**	**37**	P	**P**	**00 27 40.6**	**+0.5**
	baz=255						
H20K	**Anotleneega Mo**	**23.29**	**46**	P	**P**	**00 27 41.0**	**+0.6**
	baz=264,SNR=6.2						
E20K	**Nigu River**	**23.29**	**39**	P	**P**	**00 27 40.9**	**+0.4**
	baz=256						
Q18K	**Katmai Hardscr**	**23.38**	**63**	P	**P**	**00 27 42.5**	**+1.0**
	baz=280						
N19K	**Bonanza Creek**	**23.39**	**58**	P	**P**	**00 27 42.5**	**+1.0**
	baz=275						
I20K	**Naaghedeneel**	**23.39**	**48**	P	**P**	**00 27 42.4**	**+1.0**
	baz=266						
B20K	**Meade River**	**23.47**	**34**	P	**P**	**00 27 42.7**	**+0.6**
	baz=251						
J20K	**Nowinta River**	**23.49**	**49**	P	**P**	**00 27 42.9**	**+0.5**
	baz=268						
K20K	**Telida**	**23.50**	**51**	P	**P**	**00 27 42.7**	**+0.2**
	baz=270						
O19K	**Port Alsworth**	**23.52**	**59**	P	**P**	**00 27 43.0**	**+0.3**
	baz=277						
L20K	**Farewell, AK**	**23.59**	**53**	P	**P**	**00 27 43.7**	**+0.4**
	baz=272						
IMAR	**Indian Mountai**	**23.81**	**45**	P	**P**	**00 27 45.4**	**0.0**
M20K	**Styx River**	**23.96**	**55**	P	**P**	**00 27 48.0**	**+1.0**
M20K	**Styx River**	**23.96**	**55**	P	**P**	**00 27 48.0**	**+1.0**
	baz=274						
G21K	**Allakaket**	**23.97**	**43**	P	**P**	**00 27 46.8**	**-0.1**
	baz=263						
C21K	**Knifeblade Rid**	**24.01**	**37**	P	**P**	**00 27 48.1**	**+0.8**
	baz=256						
Q19K	**Cape Douglas,**	**24.04**	**62**	P	**P**	**00 27 48.8**	**+1.3**
F21K	**Alatna River**	**24.09**	**42**	IAmb	IAmb	00 27 50.7	
	comp=Z,11nm,0.8s						
F21K	**Alatna River**	**24.09**	**42**	P	**P**	**00 27 48.4**	**+0.5**
	baz=261						
E21K	**Killik River**	**24.13**	**39**	P	**P**	**00 27 48.7**	**+0.4**
	baz=258						
P19K	**Oil Pt**	**24.14**	**60**	P	**P**	**00 27 49.9**	**+1.4**
	baz=279						
H21K	**Melozitna Rive**	**24.16**	**46**	P	**P**	**00 27 48.8**	**+0.2**
H21K				IAmb	IAmb	00 27 51.3	
	comp=Z,19nm,1.5s						
H21K	**Melozitna Rive**	**24.16**	**46**	P	**P**	**00 27 49.8**	**+1.2**
	baz=266						
B21K	**Ikpikpuk River**	**24.20**	**36**	P	**P**	**00 27 50.2**	**+1.4**
B21K	**Ikpikpuk River**	**24.20**	**36**	P	**P**	**00 27 49.4**	**+0.6**
	baz=255,SNR=58						
CHUM	**Lake Minchumin**	**24.29**	**50**	P	**P**	**00 27 50.8**	**+1.0**
	baz=270,SNR=8.3						
PPLA	**Purkeypile**	**24.36**	**52**	P	**P**	**00 27 50.9**	**+0.3**
	baz=272						
CAST	**Castle Rocks**	**24.39**	**51**	P	**P**	**00 27 52.0**	**+1.2**
CAST				IAmb	IAmb	00 27 54.2	
	comp=Z,21nm,0.9s						
CAST	**Castle Rocks**	**24.39**	**51**	P	**P**	**00 27 51.9**	**+1.1**
	baz=271,SNR=9.9						
N20K	**Mount Spurr**	**24.45**	**56**	P	**P**	**00 27 53.0**	**+1.6**
	baz=276						
I21K	**Tanana**	**24.47**	**47**	P	**P**	**00 27 52.6**	**+1.1**
	baz=267						
A22K	**Sinclair Lake**	**24.49**	**32**	P	**P**	**00 27 52.0**	**+0.5**
	baz=252						
OHAK	**Old Harbor**	**24.56**	**66**	P	**P**	**00 27 54.0**	**+1.7**
	baz=284						
F22K	**John River**	**24.63**	**41**	P	**P**	**00 27 53.7**	**+0.8**
	baz=262						
MJAR	**Matsushiro Arr**	**24.68**	**232**	P	**P**	**00 27 54.4**	**+0.8**
	comp=Z,8.0nm,0.9s,baz=31,slow=9.2,SNR=13						
MJAR				LR	LR	00 37 36.6	
	comp=Z,115nm,21.7s,baz=12,slow=36						
	comp=Z,8.0nm,0.9s						
D22K	**Ayikyak River**	**24.69**	**38**	P	**P**	**00 27 54.0**	**+0.6**
D22K				IAmb	IAmb	00 27 56.6	
	comp=Z,7.9nm,0.7s						
D22K	**Ayikyak River**	**24.69**	**38**	P	**P**	**00 27 53.9**	**+0.5**
	baz=259						
SKT	**Skwentna**	**24.71**	**54**	P	**P**	**00 27 54.9**	**+1.2**
	baz=275						
Q20K	**Shuyak Island**	**24.73**	**63**	P	**P**	**00 27 55.2**	**+1.3**
	baz=282						
SYI	**Shuyak Island**	**24.74**	**63**	P	**P**	**00 27 56.1**	**+2.3**
H22K	**Ishtalitna Cre**	**24.77**	**45**	P	**P**	**00 27 55.0**	**+0.8**
	baz=266						
KDAK	**Kodiak Island**	**24.81**	**65**	P	**P**	**00 27 55.5**	**+1.0**
KDAK	**Kodiak Island**	**24.81**	**65**	P	**P**	**00 27 55.6**	**+1.0**
	baz=283						
KDAK	**Kodiak Island**	**24.81**	**65**	P	**P**	**00 27 55.5**	**+1.0**
KDAK				pmax	pmax		
	comp=Z,146nm,1.5s						
G22K	**Bettles**	**24.81**	**43**	P	**P**	**00 27 55.0**	**+0.6**
	baz=264						
E22K	**Anaktuvuk Pass**	**24.86**	**40**	P	**P**	**00 27 56.0**	**+0.9**
	baz=261						
BPAW	**Bear Paw Mtn.**	**24.87**	**49**	P	**P**	**00 27 56.1**	**+1.0**
BPAW				IAmb	IAmb	00 27 58.7	
	comp=Z,26nm,1.4s						
BPAW	**Bear Paw Mtn.**	**24.87**	**49**	P	**P**	**00 27 56.0**	**+0.8**
	baz=271						
KTH	**Kantishna Hill**	**24.91**	**51**	P	**P**	**00 27 56.3**	**+0.7**
KTH				IAmb	IAmb	00 27 59.4	
	comp=Z,12nm,0.9s						
MLY	**Manley**	**24.99**	**47**	P	**P**	**00 27 57.5**	**+1.3**
MLY	**Manley**	**24.99**	**47**	P	**P**	**00 27 56.7**	**+0.5**
	baz=269						
CAPN	**Captain Cook N**	**25.01**	**57**	P	**P**	**00 27 57.2**	**+0.8**
	baz=278						
SUA	**Susitna One**	**25.13**	**56**	P	**P**	**00 27 58.6**	**+1.0**
	baz=277						

CNPM China Poot 25.16 60 P P 00 27 58.5 +0.8
TRF Thorofare Moun 25.20 51 P P 00 27 59.2 +0.9
TRF Thorofare Moun 25.20 51 P P 00 27 59.6 +1.4
baz=273
COLD Coldfoot 25.35 42 P P 00 28 00.5 +1.1
baz=265
G23K Bananza Creek 25.38 43 P P 00 28 00.5 +0.8
baz=266
D23K Nanushuk River 25.41 38 P P 00 28 00.9 +0.9
baz=261
BWN Browne 25.54 49 P P 00 28 02.7 +1.6
I23K Minto, Yukon-K 25.58 47 P P 00 28 02.6 +1.1
I23K Minto, Yukon-K 25.58 47 P P 00 28 02.1 +0.7
baz=270
C23K Itkillik River 25.60 36 P P 00 28 02.7 +1.1
baz=259
E23K Chandalar 25.67 40 P P 00 28 02.2 -0.1
baz=264
NEA2 Nenana 25.70 48 P P 00 28 03.6 +0.9
baz=271
TOLK Toolik Lake Re 25.76 39 P P 00 28 03.8 +0.6
TOLK Toolik Lake Re 25.76 39 P P 00 28 04.2 +1.0
baz=262
MCK McKinley 25.79 50 P P 00 28 05.1 +1.6
baz=273
WAT1 Susitna Watana 26.02 52 P P 00 28 06.0 +0.4
baz=276
D24K Happy Valley 26.10 38 P P 00 28 06.1 0.0
D24K Happy Valley 26.10 38 P P 00 28 07.1 +0.9
baz=262
H24K Noodor Dome 26.20 45 P P 00 28 07.5 +0.3
baz=270
KNK Knik Glacier 26.23 55 P P 00 28 07.7 +0.3
KNK IAmb IAmb 00 28 24.5
comp=Z,22nm,1.2s
C24K Franklin Bluff 26.23 36 P P 00 28 07.8 +0.5
baz=261
SML Sawmill 26.23 55 P P 00 28 08.2 +0.7
baz=278
CCB Clear Creek Bu 26.25 48 P P 00 28 07.8 +0.3
F24K Squaw Lake 26.27 42 P P 00 28 08.3 +0.5
baz=266
G24K Hadweenzic Riv 26.39 43 P P 00 28 09.9 +1.2
G24K IAmb IAmb 00 28 11.2
comp=Z,10nm,0.8s
G24K Hadweenzic Riv 26.39 43 P P 00 28 09.8 +1.0
baz=268
POKR Poker Plat Res 26.39 47 P P 00 28 09.5 +0.6
baz=272
M23K Glacier View 26.52 54 P P 00 28 11.1 +1.1
baz=278
HDA Harding Lake 26.63 49 P P 00 28 11.7 +0.7
HDA Harding Lake 26.63 49 P P 00 28 12.2 +1.2
baz=274
IL31 26.64 48 P P 00 28 12.1 +1.1
ILAR Eielson Array 26.64 48 P P 00 28 11.5 +0.5
comp=Z,2.0nm,0.7s,baz=262,slow=8.4,SNR=20
ILAR LR LR 00 38 13.6
comp=Z,131nm,19.6s,baz=230,slow=35
comp=Z,2.0nm,0.7s
SCM Sheep Creek Mo 26.70 54 P P 00 28 12.2 +0.4
SCM Sheep Creek Mo 26.70 54 P P 00 28 12.1 +0.3
baz=278
SCM Sheep Creek Mo 26.70 54 P P 00 28 12.2 +0.4
SCM pmax pmax
comp=Z,66nm,1.5s
G25K Bearman Lake 26.93 43 P P 00 28 14.7 +1.0
baz=270
P23K Montague Islan 26.98 58 P P 00 28 14.8 +0.6
baz=282
D25K Kavik River 26.99 38 P P 00 28 13.9 -0.3
baz=264,SNR=8.9
F25K Christian Rive 27.14 41 P P 00 28 16.2 +0.6
baz=268
PRP Porcupine Dome 27.18 46 P P 00 28 16.5 +0.4
baz=273
E25K Arctic Village 27.19 40 P P 00 28 17.2 +1.2
M24K Tolsona, Glenn 27.20 54 P P 00 28 16.7 +0.4
baz=279
FYU Fort Yukon 27.28 44 P P 00 28 20.7 +3.9
FYU IAmb IAmb 00 28 21.4
comp=Z,15nm,1.1s
J25K Salcha River, 27.30 48 P P 00 28 17.2 +0.1
J25K Salcha River, 27.30 48 P P 00 28 17.1 +0.1
baz=274
KLU Klutina 27.42 55 P P 00 28 18.4 +0.2
baz=280
BMAR Burnt Mountain 27.54 42 P P 00 28 20.5 +1.3
C26K Camden Bay 27.56 36 P P 00 28 20.1 +0.8
baz=265
Q23K Middleton Isla 27.62 59 P P 00 28 22.0 +2.1
baz=284
F26K Sheenjek River 27.71 41 P P 00 28 21.7 +1.0
baz=270
G26K Porcupine Rive 27.85 43 P P 00 28 23.1 +1.3
baz=271
SCRK Sand Creek 27.96 49 P P 00 28 24.3 +1.3
baz=277
N25K Chitina, Valde 28.02 54 P P 00 28 24.3 +0.7
N25K IAmb IAmb 00 28 52.2
comp=Z,25nm,1.4s
N25K Chitina, Valde 28.02 54 P P 00 28 24.0 +0.4
baz=281
J26L Joseph Creek 28.08 48 P P 00 28 24.7 +0.6
baz=276
BMRM Bremner River 28.14 56 P P 00 28 25.7 +1.1
baz=282
I26K Coal Creek Min 28.19 46 P P 00 28 25.8 +0.9
baz=275
E27K Coleen River 28.67 40 P P 00 28 29.4 +0.2
baz=271
G27K Doyon Strip 28.70 43 P P 00 28 30.2 +0.7
baz=274
H27K Steamboat Moun 28.78 44 P P 00 28 31.0 +0.7
baz=275
K27K Chicken 28.79 49 P P 00 28 30.2 -0.1
baz=278
MCARA McCarthy VSAT 28.81 55 P P 00 28 31.4 +0.9
baz=282
CRQM Cirque 28.89 56 P P 00 28 33.0 +1.6
CRQE Cirque 28.91 56 P P 00 28 31.1 -0.4
baz=283
L27K Beaver Creek, 29.04 51 P P 00 28 33.6 +1.0
L27K Beaver Creek, 29.04 51 P P 00 28 33.2 +0.6
baz=280
BCAR Beaver Creek A 29.06 51 P P 00 28 34.4 +1.7
EGAK Eagle 29.08 47 P P 00 28 33.1 +0.2
EGAK Eagle 29.08 47 P P 00 28 33.1 +0.2
baz=278
KSRS Korea Array 29.12 248 LR LR 00 39 32.4
comp=Z,48nm,20.5s,baz=40,slow=35
M27K Edge Creek, AK 29.15 52 P P 00 28 33.6 0.0
baz=281
F28M Old Crow 29.34 41 P P 00 28 36.5 +1.3
F28M Old Crow 29.34 41 P P 00 28 34.2 -1.0
baz=274
E28M Babbage River 29.43 39 P P 00 28 36.3 +0.4
baz=272
I28M Miner Creek 29.51 46 P P 00 28 36.9 +0.1
baz=277
BARN Barnard Glacie 29.52 55 P P 00 28 38.1 +1.1
BARN IAmb IAmb 00 28 50.5
comp=Z,19nm,1.3s
D28M Stokes Point 29.70 38 P P 00 28 37.4 -0.8
baz=272
YUK3 Moose Creek 29.92 53 P P 00 28 41.1 +0.6
baz=283
DAWY Dawson 29.95 48 P P 00 28 41.7 +1.1
DAWY Dawson 29.95 48 P P 00 28 41.4 +0.8
baz=280
E29M Blow River 30.04 40 P P 00 28 42.3 +1.0
baz=274
H29M Whitestone 30.06 44 P P 00 28 42.4 +0.8
baz=277
G29M Pine Creek 30.12 43 P P 00 28 42.0 0.0
baz=276
I29M Ogilvie Camp, 30.20 46 P P 00 28 43.7 +0.9
baz=279
M29M Somme Creek 30.68 51 P P 00 28 47.7 +0.5
baz=284
L29M L29M 30.69 50 P P 00 28 48.9 +1.7
L29M IAmb IAmb 00 28 51.4
comp=Z,5.2nm,0.7s
L29M L29M 30.69 50 P P 00 28 48.3 +1.2
baz=283
EPYK Eagle Plains 30.70 44 P P 00 28 47.8 +0.5
baz=278

K29M Barlow Dome 30.80 49 P P 00 28 48.6 +0.4
baz=282
G30M tAoh Zraii Nji 30.82 42 P P 00 28 49.2 +1.0
baz=278
F30M Barrier River 30.90 41 P P 00 28 50.0 +1.1
baz=277
JNU Nakatsue 30.95 238 LR LR 00 41 41.6
comp=Z,60nm,20.8s,baz=34,slow=37
I30M Mount Dempster 31.02 46 P P 00 28 50.9 +0.8
baz=281
J30M Hart River 31.16 47 P P 00 28 51.5 +0.1
baz=282
G31M Satah River 31.58 42 P P 00 28 55.3 +0.4
G31M Satah River 31.58 42 P P 00 28 54.9 +0.1
baz=280
INK Inuvik 31.66 40 P P 00 28 56.4 +0.8
INK Inuvik 31.66 40 P P 00 28 55.0 -0.5
baz=278
INK Inuvik 31.66 40 P P 00 28 56.4 +0.8
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 31.66 40 LR LR 00 42 00.5
comp=Z,96nm,18.6s,baz=5.0,slow=37
F31M Tsiigehtchic 31.71 41 P P 00 28 56.7 +0.8
F31M Tsiigehtchic 31.71 41 P P 00 28 56.6 +0.6
baz=279
P29M Windy Craggy 31.79 57 P P 00 28 57.5 +0.7
baz=289
N31M Braeburn, Yuko 32.16 53 P P 00 29 00.7 +0.6
baz=287
M31M Drury Creek, Y 32.58 51 P P 00 29 05.0 +1.3
baz=287
A36M Sachs Harbour 33.94 32 P P 00 29 15.8 +0.5
baz=279,SNR=6.9
SONM Songino Array 34.83 282 P P 00 29 22.9 -0.7
comp=Z,0.2nm,0.5s,baz=55,slow=7.4,SNR=1.8
SONM PcP PcP 00 31 55.7 -0.1
comp=Z,0.9nm,0.5s,baz=12,slow=0.5,SNR=7.0
C36M Paulatuk 34.84 37 P P 00 29 24.2 +1.0
C36M Paulatuk 34.84 37 P P 00 29 23.7 +0.5
baz=284,SNR=5.4
R33M Jennings River 35.11 55 P P 00 29 26.6 +0.8
baz=293
H11N2 WAKE ISLAND Hy 35.21 173 T T 01 06 41.8
baz=355,slow=76,SNR=356
H11N3 WAKE ISLAND Hy 35.23 173 T T 01 06 43.8
baz=355,slow=76,SNR=365
H11N1 WAKE ISLAND Hy 35.23 173 T T 01 06 44.0
baz=355,slow=76,SNR=502
NRIK Noril'sk 35.28 324 PcP PcP 00 31 56.5 -0.1
comp=Z,1.7nm,0.5s,baz=64,slow=4.4,SNR=5.0
U33K Whale Pass 35.40 61 P P 00 29 29.3 +1.2
baz=296
DLBC Dease Lake 35.94 56 P P 00 29 35.3 +2.4
HHC Hu-ho-hao-te 36.02 269 eP P 00 29 35.7 +1.9
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,250nm,5.1s
H11S1 WAKE ISLAND Hy 36.41 173 T T 01 08 15.2
baz=352,slow=74
H11S3 WAKE ISLAND Hy 36.42 173 T T 01 08 26.1
baz=352,slow=74
H11S2 WAKE ISLAND Hy 36.43 173 T T 01 08 18.5
baz=352,slow=74
T35M Bob Quinn 36.45 58 P P 00 29 40.8 +3.6
NJ2 Nanjing 38.09 251 eP P 00 29 52.4 +1.1
NJ2 pP pP 00 30 00.8 -2.1
NJ2 sP sP 00 30 04.1 -3.8
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 pmax pmax
comp=Z,81nm,4.3s
BBB Bella Bella 39.88 64 LR LR 00 45 38.7
comp=Z,118nm,18.0s,baz=328,slow=34
YKA Yellowknife Ar 40.97 45 P P 00 30 15.3 +0.4
YKA Yellowknife Ar 40.97 45 P P 00 30 16.2 +1.2
comp=Z,3.4nm,0.7s,baz=299,slow=8.2,SNR=45
YKA PcP PcP 00 32 14.9 +0.6
comp=Z,0.5nm,0.7s,baz=305,slow=4.0,SNR=5.5
comp=Z,3.4nm,0.7s
ZALV Zalesovo Beam 42.98 302 PcP PcP 00 32 20.6 -0.5
comp=Z,0.3nm,0.3s,baz=64,slow=3.2,SNR=2.1
SPITS Spitsbergen Ar 45.63 351 P P 00 30 51.5 -0.8
comp=Z,7.8nm,0.5s,baz=40,slow=7.5,SNR=42
comp=Z,7.8nm,0.5s
SPB2 Spitsbergen Ar 45.63 351 P P 00 30 52.1 -0.2
WMQ Urumqi 47.66 289 eP P 00 31 08.9 +0.1
WMQ pP pP 00 31 19.7 -1.0
WMQ pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 47.96 302 P P 00 31 08.4 -2.4
KURK Kurchatov 47.96 302 i P P 00 31 08.2 -2.6
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 48.06 302 P P 00 31 09.5 -2.2
comp=Z,1.4nm,0.6s,baz=56,slow=7.8,SNR=13
KURBB PcP PcP 00 32 38.3 -0.5
comp=Z,0.4nm,0.5s,baz=43,slow=3.3,SNR=3.4
comp=Z,1.4nm,0.6s
MK31 Makanchi Array 48.61 296 i P P 00 31 14.5 -1.5
MKAR Makanchi Array 48.61 296 P P 00 31 14.1 -1.9
MKAR Makanchi Array 48.61 296 ceP P 00 31 14.8 -1.2
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 48.61 296 P P 00 31 14.4 -1.6
comp=Z,1.3nm,0.8s,baz=49,slow=7.0,SNR=9.0
MKAR PcP PcP 00 32 39.0 -2.0
comp=Z,0.3nm,0.7s,baz=54,slow=2.1,SNR=1.8
comp=Z,1.3nm,0.8s
J05D Fort Rock, OR 48.96 70 P P 00 31 21.0 +2.2
L04D Klamath Falls 49.09 72 P P 00 31 22.0 +2.2
L04D IAmb IAmb 00 31 22.9
comp=Z,5.8nm,0.7s
K05A Summer Lake 49.52 71 P P 00 31 25.0 +1.8
K05A IAmb IAmb 00 31 55.4
comp=Z,12nm,1.5s
BVAR Borovoye Array 50.36 308 P P 00 31 27.5 -1.7
comp=Z,2.1nm,0.5s,baz=57,slow=7.9,SNR=18
BVAR PcP PcP 00 32 46.4 -0.8
comp=Z,0.5nm,0.4s,baz=65,slow=2.8,SNR=5.3
comp=Z,2.1nm,0.5s
BRVK Borovoye 50.39 308 P P 00 31 27.9 -1.4
BRVK IAmb IAmb 00 31 30.8
comp=Z,2.2nm,0.6s
BRVK Borovoye 50.39 308 ceP P 00 31 27.0 -2.4
BRVK pmax pmax
comp=Z,10.0nm,3.2s
MSO Missoula 50.46 62 P P 00 31 31.1 +0.9
baz=312
PLID Pearl Lake 50.55 65 P P 00 31 32.6 +1.6
BPMT Black Pine Rid 50.97 62 P P 00 31 35.0 +0.8
LYMT Lyon Mountain 51.20 61 P P 00 31 37.5 +1.6
FCC Fort Churchill 51.28 40 P P 00 31 36.5 +0.6
FCC Fort Churchill 51.28 40 P P 00 31 36.5 +0.6
FCC pmax pmax
comp=Z,8.0nm,0.8s
PZH PanZhiHua 51.95 263 P P 00 31 43.2 +1.6
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
ARCES ARCESS Array B 52.04 342 P P 00 31 40.5 -1.0
ARCES ARCESS Array B 52.04 342 P P 00 31 40.3 -1.3
comp=Z,0.6nm,0.4s,baz=22,slow=7.1,SNR=7.8
ARCES PcP PcP 00 32 53.0 -0.2
comp=Z,2.0nm,0.8s,baz=46,slow=5.2,SNR=5.3
comp=Z,0.6nm,0.4s
SUMG Summit 52.06 8 P P 00 31 41.5 -0.6
SUMG Summit 52.06 8 P P 00 31 41.5 -0.6
SUMG pmax pmax
comp=Z,15nm,1.2s
MPK Martis Peak 52.34 73 P P 00 31 46.8 +2.2
MPK IAmb IAmb 00 31 47.8
comp=Z,8.5nm,1.3s
HLID Hailey 52.42 66 P P 00 31 46.5 +1.5
HLID Hailey 52.42 66 P P 00 31 46.2 +1.2
baz=314
BOZ Bozeman (W) 52.47 62 P P 00 31 46.3 +1.1
baz=314
PNTR Pine Nut 52.73 73 P P 00 31 49.7 +2.4
PNTR IAmb IAmb 00 31 50.8
comp=Z,6.5nm,0.8s
ARU Arti 53.02 318 P P 00 31 47.1 -1.8
ARU Arti 53.02 318 ci P P 00 31 47.0 -2.0
ARU S S 00 39 11.2 -4.2

ARU SS SS 00 42 45.8 -8.3
ARU pmax pmax
comp=Z,2.0nm,0.4s
ARU Arti 53.02 318 P P 00 31 47.0 -2.0
comp=Z,4.1nm,0.5s,baz=48,slow=5.2,SNR=11
comp=Z,4.1nm,0.5s
WAKR Walker 53.23 73 P P 00 31 53.3 +2.3
WAKR IAmb IAmb 00 31 54.5
comp=Z,5.3nm,0.6s
KVN Kaiserville 53.58 72 P P 00 31 55.4 +1.8
KVN IAmb IAmb 00 31 57.0
comp=Z,4.3nm,0.7s
KVN Kaiserville 53.58 72 P P 00 31 55.4 +1.8
KVN pmax pmax
comp=Z,4.0nm,0.7s
RYN Ryan 53.65 73 P P 00 31 56.0 +2.0
RYN IAmb IAmb 00 31 57.4
comp=Z,3.4nm,0.7s
NVAR Mina Array Bea 53.91 73 P P 00 31 58.4 +2.4
comp=Z,4.1nm,0.6s,baz=301,slow=7.3,SNR=39
comp=Z,4.1nm,0.6s
LHV Little Huntoon 53.93 73 IAmb IAmb 00 31 60.0
comp=Z,4.2nm,0.8s
NV11 Mina Array Sit 53.99 73 P P 00 31 58.3 +1.7
NV11 IAmb IAmb 00 32 00.0
comp=Z,3.6nm,0.7s
IMW Indian Meadow 54.00 63 IAmb IAmb 00 32 00.2
comp=Z,4.7nm,1.3s
AHID Auburn Hatcher 54.72 64 IAmb IAmb 00 32 07.9
comp=Z,3.9nm,0.8s
SMMC Simmler 55.20 77 P P 00 32 07.0 +1.8
baz=317
GMN Gold Mountain 55.29 73 IAmb IAmb 00 32 09.7
comp=Z,3.0nm,0.7s
CWC Cottonwood Cre 55.46 74 P P 00 32 08.8 +1.6
baz=317
R11B Troy Canyon, C 55.46 71 P P 00 32 08.4 +1.2
baz=316
BW06 Boulder Array 55.52 63 IAmb IAmb 00 32 10.7
comp=Z,4.0nm,1.1s
BW06 Boulder Array 55.52 63 P P 00 32 08.8 +1.1
baz=316
PD31 Pinedale Array 55.52 63 IAmb IAmb 00 32 10.7
comp=Z,3.7nm,1.1s
PDAR Pinedale Array 55.52 63 P P 00 32 09.5 +1.9
comp=Z,2.4nm,0.9s,baz=330,slow=3.3,SNR=14
comp=Z,2.4nm,0.9s
PKM Mcpherson Peak 55.61 77 P P 00 32 09.2 +0.9
baz=317
DUG Dugway, Tooele 55.64 68 IAmb IAmb 00 32 11.9
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 55.64 68 P P 00 32 09.3 +0.9
baz=316,SNR=6.0
SPR3 Spring Creek 3 55.68 70 P P 00 32 12.0 +3.0
SPR3 IAmb IAmb 00 32 13.2
comp=Z,5.7nm,0.8s
ISA Isabella, Lake 55.80 75 P P 00 32 10.9 +1.4
baz=317
TPNV Topopah Spring 56.11 73 P P 00 32 13.0 +1.2
baz=317
KLMR Klimovskoe 56.11 330 eP P 00 32 10.4 -0.9
KLMR pmax pmax
comp=Z,27nm,2.0s
LRMC Laurel Mtn Rad 56.38 75 P P 00 32 14.9 +1.2
baz=317
OSI Oslo Audit: C 56.42 76 P P 00 32 15.5 +1.5
baz=317
GWY Greenwater Val 56.43 74 IAmb IAmb 00 32 17.4
comp=Z,3.1nm,0.7s
PRN Pahroc Range 56.43 71 IAmb IAmb 00 32 17.8
comp=Z,4.8nm,1.1s
QSM Queen of Sheba 56.48 74 IAmb IAmb 00 32 17.2
comp=Z,2.2nm,0.6s
BSUT Blindstream Ca 56.48 66 IAmb IAmb 00 32 18.5
comp=Z,7.7nm,1.2s
EDW2 Edwards Air Fo 56.64 76 P P 00 32 16.4 +0.9
baz=317
ULM Lac du Bonnet 56.65 49 P P 00 32 16.4 +1.1
comp=Z,3.8nm,0.5s,baz=310,slow=6.7,SNR=7.6
comp=Z,3.8nm,0.5s
MDND Maddock 56.74 53 P P 00 32 16.8 +0.8
baz=317
SNCC San Nicolas Is 56.97 78 P P 00 32 20.3 +2.5
baz=318
GSC Goldstone, Bar 56.99 74 P P 00 32 19.9 +1.8
baz=317
TMUT Trail Mountain 57.14 67 IAmb IAmb 00 32 22.9
comp=Z,4.4nm,0.9s
K22A Casper 57.15 61 P P 00 32 19.6 +0.4
baz=317
BFSC Mount Baldy Ra 57.30 76 P P 00 32 21.7 +1.4
baz=318
RSSD Black Hills 57.33 59 P P 00 32 21.4 +0.9
RSSD Black Hills 57.33 59 P P 00 32 20.8 +0.3
baz=317
RSSD Black Hills 57.33 59 P P 00 32 21.4 +0.9
RSSD pmax pmax
comp=Z,9.0nm,0.8s
P18A Preston Nutter 57.41 66 IAmb IAmb 00 32 34.9
comp=Z,6.4nm,1.2s
HEC Hector,Ludlow 57.60 74 P P 00 32 24.0 +1.6
baz=316
AKTO Aktyubinsk 57.63 313 P P 00 32 21.4 -0.9
comp=Z,1.6nm,0.5s,baz=37,slow=5.2,SNR=8.1
comp=Z,1.6nm,0.5s
SRU San Rafael Swe 57.64 67 IAmb IAmb 00 32 26.3
comp=Z,7.2nm,1.0s
ABKAR Akbulak array 57.68 311 P P 00 32 21.8 -0.8
GMRC Granite Mounta 58.01 74 P P 00 32 26.8 +1.5
baz=318
O20A White River Ci 58.10 65 P P 00 32 27.8 +1.9
O20A White River Ci 58.10 65 P P 00 32 27.9 +1.9
baz=317
PFO Pinyon Flats O 58.43 75 P P 00 32 29.7 +1.4
baz=318
TPFO Pinon Flats 58.44 75 P P 00 32 30.2 +2.0
baz=318
N23A Red Feather La 58.73 62 P P 00 32 32.4 +2.0
baz=318
IRM Iron Mountain 58.76 74 P P 00 32 32.7 +2.3
baz=318
BC3 Big Chuckawall 58.96 75 P P 00 32 34.1 +2.2
baz=318
MONP2 Monument Peak 58.98 76 P P 00 32 34.3 +2.1
baz=318
FINES FINESS Array B 59.04 337 ceP P 00 32 31.6 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 59.04 337 P P 00 32 31.7 -0.2
comp=Z,3.1nm,0.4s,baz=38,slow=7.4,SNR=43
comp=Z,3.1nm,0.4s
PDMCI Parker Dam,Lak 59.21 73 P P 00 32 35.1 +1.7
baz=318
ISCO Idaho Springs 59.71 63 IAmb IAmb 00 32 41.1
comp=Z,3.5nm,1.0s
ISCO Idaho Springs 59.71 63 P P 00 32 38.0 +0.7
baz=318
CMAR Chiang Mai Arr 59.85 259 LR LR 01 01 20.6
comp=Z,26nm,19.0s,baz=70,slow=39
Y14A Wickenburg 60.11 73 IAmb IAmb 00 32 43.2
comp=Z,5.8nm,1.2s
MVCO Mesa Verde 60.12 67 P P 00 32 41.8 +1.8
baz=318
S22A 4UR Ranch, Cre 60.60 65 P P 00 32 44.6 +1.2
X16A Lo Mia Camp, P 60.61 71 IAmb IAmb 00 32 47.2
comp=Z,2.6nm,0.6s
ECSD EROS Data Cent 61.20 54 P P 00 32 47.7 +0.8
baz=320
SDCO Great Sand Dun 61.30 65 P P 00 32 48.6 +0.5
baz=319
OBN Obninsk 61.76 328 eP P 00 32 49.6 -0.9
OBN e 00 33 32.4
OBN e 00 35 05.8
OBN pmax pmax
comp=Z,5.0nm,1.0s
NB2 NORSAR Subarra 62.23 345 P P 00 32 53.4 -0.3
comp=Z,2.4nm,0.6s,baz=19,slow=6.9
NOA NORSAR Array B 62.23 345 P P 00 32 53.1 -0.6
comp=Z,3.9nm,0.7s,baz=19,slow=6.8,SNR=16
NOA LR LR 01 01 23.0
comp=Z,20nm,18.8s,baz=255,slow=37
comp=Z,3.9nm,0.7s
HFS Hagfors 62.69 343 P P 00 32 55.7 -1.0
comp=Z,3.7nm,0.6s,baz=45,slow=4.4,SNR=18
comp=Z,3.7nm,0.6s
ANMO Albuquerque 62.91 67 P P 00 32 59.3 +0.5
baz=320
LPSR Galich'ya Gora 63.13 325 eP P 00 32 57.3 -2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**64.22**	**324**	*e*P	**P**	**00 33 03.9**	**-3.0**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MSTX	**Muleshoe**	**65.61**	**65**	P	**P**	**00 33 16.5**	**+0.1**
	baz=321						
MNTX	**Cornudas Mount**	**65.97**	**69**	P	**P**	**00 33 19.3**	**+0.6**
	baz=321,SNR=5.6						
POST	**Post**	**66.98**	**65**	P	**P**	**00 33 26.3**	**+1.2**
POST				IAmb	IAmb	00 33 27.4	
	comp=Z,4.6nm,0.8s						
WMOK	**Wichita Mounta**	**67.08**	**62**	P	**P**	**00 33 26.5**	**+0.8**
WMOK				IAmb	IAmb	00 33 27.9	
	comp=Z,5.1nm,0.8s						
WMOK	**Wichita Mounta**	**67.08**	**62**	P	**P**	**00 33 26.5**	**+0.8**
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GEYT	**Alibeck**	**67.25**	**304**	P	**P**	**00 33 25.6**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=17,slow=1.5,SNR=3.9						
	comp=Z,1.1nm,0.6s						
R40A	**Maddies Statio**	**67.50**	**55**	P	**P**	**00 33 28.3**	**+0.2**
AKASG	**Malin Array Be**	**67.80**	**330**	P	**P**	**00 33 28.8**	**-1.0**
AKASG	**Malin Array Be**	**67.80**	**330**	*ce*P	**P**	**00 33 29.2**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**67.80**	**330**	P	**P**	**00 33 29.1**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=28,slow=6.3,SNR=12						
	comp=Z,1.3nm,0.3s						
KIEV	**Kiev**	**67.81**	**330**	P	**P**	**00 33 29.2**	**-0.7**
KIEV				IAmb	IAmb	00 33 30.0	
	comp=Z,4.6nm,0.8s						
KIEV	**Kiev**	**67.81**	**330**	P	**P**	**00 33 29.2**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHAR	**Hobbs**	**68.29**	**58**	P	**P**	**00 33 33.8**	**+0.5**
HHAR				IAmb	IAmb	00 33 34.4	
	comp=Z,8.0nm,1.0s						
ABTX	**Abilene, Hawle**	**68.30**	**64**	P	**P**	**00 33 33.8**	**+0.4**
	baz=322						
FVM	**French Village**	**68.61**	**54**	P	**P**	**00 33 36.5**	**+1.3**
FVM	**French Village**	**68.61**	**54**	P	**P**	**00 33 36.5**	**+1.3**
FVM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TX31	**Lajitas Ar. Si**	**68.74**	**69**	P	**P**	**00 33 38.2**	**+2.0**
TX31				IAmb	IAmb	00 33 39.1	
	comp=Z,6.1nm,0.7s						
TXAR	**Lajitas Array**	**68.74**	**69**	P	**P**	**00 33 38.8**	**+2.6**
TXAR	**Lajitas Array**	**68.74**	**69**	P	**P**	**00 33 38.8**	**+2.6**
TXAR	**Lajitas Array**	**68.74**	**69**	P	**P**	**00 33 38.3**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=296,slow=4.3,SNR=19						
	comp=Z,2.6nm,0.6s						
KIV	**Kislovodsk**	**69.07**	**318**	*i* P	**P**	**00 33 35.2**	**-2.9**
KIV				*e**PP	**sP**	**00 33 55.8**	**+0.8**
KIV				*e*PPP	PPP	00 37 50.4	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NCK	**Nalchik**	**69.10**	**317**	*i* P	**P**	**00 33 38.7**	**+0.5**
NCK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
O48B	**Farmland**	**69.16**	**49**	P	**P**	**00 33 37.9**	**-0.6**
	baz=325						
KBZ	**Khabaz**	**69.18**	**318**	*i* P	**P**	**00 33 39.3**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBZ	**Khabaz**	**69.18**	**318**	P	**P**	**00 33 39.1**	**+0.5**
	comp=Z,6.7nm,0.8s,baz=52,slow=5.2,SNR=16						
	comp=Z,6.7nm,0.8s						
FCAR	**Ozark Folk Cen**	**69.48**	**57**	P	**P**	**00 33 39.9**	**-0.7**
FCAR				IAmb	IAmb	00 33 41.6	
	comp=Z,4.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**69.55**	**351**	P	**P**	**00 33 40.8**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=18,slow=5.8,SNR=14						
	comp=Z,1.9nm,0.4s						
ESK	**Eskdalemuir**	**69.57**	**351**	P	**P**	**00 33 41.0**	**+0.1**
ESK	**Eskdalemuir**	**69.57**	**351**	P	**P**	**00 33 41.0**	**+0.1**
ESK				pmax	pmax		
	comp=Z,61nm,1.5s						
LONY	**Lake Ozonia**	**69.78**	**40**	P	**P**	**00 33 41.1**	**-1.3**
	baz=329						
E62A	**Clayton Lake**	**69.83**	**35**	P	**P**	**00 33 42.2**	**-0.4**
WHAR	**Wooly Hollow**	**69.88**	**57**	P	**P**	**00 33 43.6**	**+0.5**
WHAR				IAmb	IAmb	00 34 16.9	
	comp=Z,9.3nm,1.2s						
JCT	**Junction City**	**69.90**	**66**	P	**P**	**00 33 44.0**	**+0.7**
	baz=323						
P49A	**Miami Univ. Ec**	**69.94**	**49**	P	**P**	**00 33 43.0**	**-0.4**
	baz=326						
M55A	**Ridgway**	**70.84**	**44**	P	**P**	**00 33 48.8**	**-0.1**
T47A	**Sharon Grove**	**70.96**	**52**	P	**P**	**00 33 50.3**	**+0.7**
T47A				IAmb	IAmb	00 34 29.8	
	comp=Z,9.9nm,1.1s						
STHS	**Stebnicka Huta**	**71.12**	**334**	*e*P	**P**	**00 33 51.1**	**+0.6**
STHS				pmax	pmax		
	comp=Z,11nm,1.6s						
STHS	**Stebnicka Huta**	**71.12**	**334**	*e*P	**P**	**00 33 51.1**	**+0.6**
CLL	**Collm**	**71.19**	**340**	*e*P	**P**	**00 33 51.0**	**+0.2**
	comp=Z,6.0nm,0.7s						
OSTC	**Ostas**	**71.23**	**338**	*e*P	**P**	**00 33 51.7**	**+0.6**
OSTC	**Ostas**	**71.23**	**338**	*e*P	**P**	**00 33 51.7**	**+0.6**
KOLS	**Kolonicke sedl**	**71.31**	**333**	*e*P	**P**	**00 33 52.4**	**+0.8**
KOLS	**Kolonicke sedl**	**71.31**	**333**	*e*P	**P**	**00 33 52.4**	**+0.8**
WVT	**Waverly**	**71.33**	**54**	P	**P**	**00 33 52.3**	**+0.4**
WVT				IAmb	IAmb	00 33 53.0	
	comp=Z,7.5nm,1.1s						
WVT	**Waverly**	**71.33**	**54**	P	**P**	**00 33 52.2**	**+0.4**
	baz=325						
WVT	**Waverly**	**71.33**	**54**	P	**P**	**00 33 52.3**	**+0.4**
WVT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
DPC	**Dobruska-Polom**	**71.41**	**338**	*e*P	**P**	**00 33 52.9**	**+0.7**
DPC	**Dobruska-Polom**	**71.41**	**338**	*e*P	**P**	**00 33 52.9**	**+0.7**
MORC	**Moravsky Berou**	**71.67**	**337**	*e*P	**P**	**00 33 54.0**	**+0.2**
RICC	**Richard**	**71.69**	**339**	*e*P	**P**	**00 33 54.7**	**+0.9**
BUR08	**Bucovina Ar. S**	**71.70**	**331**	P	**P**	**00 33 53.9**	**-0.2**
BUR08				IAmb	IAmb	00 33 55.0	
	comp=Z,3.5nm,0.8s						
HSKC	**Hora Svate Kat**	**71.77**	**340**	*e*P	**P**	**00 33 54.9**	**+0.6**
LANS	**Liptovska Anna**	**71.81**	**335**	*e*P	**P**	**00 33 56.4**	**+1.8**
LANS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LANS	**Liptovska Anna**	**71.81**	**335**	*e*P	**P**	**00 33 56.4**	**+1.8**
T50A	**Nancy**	**71.96**	**51**	P	**P**	**00 33 55.6**	**-0.1**
T50A				IAmb	IAmb	00 34 32.9	
	comp=Z,9.3nm,1.2s						
PRU	**Pruhonice**	**72.13**	**339**	*e*P	**P**	**00 33 57.0**	**+0.5**
PRU	**Pruhonice**	**72.13**	**339**	*e*P	**P**	**00 33 57.0**	**+0.5**
GOPC	**GO Pecny, Ondr**	**72.15**	**339**	*e*P	**P**	**00 33 57.4**	**+0.8**
GOPC	**GO Pecny, Ondr**	**72.15**	**339**	*e*P	**P**	**00 33 57.4**	**+0.8**
NKC	**Novy Kostel**	**72.32**	**340**	*e*P	**P**	**00 33 58.3**	**+0.7**
NKC	**Novy Kostel**	**72.32**	**340**	*e*P	**P**	**00 33 58.3**	**+0.7**
VRAC	**Vranov**	**72.33**	**337**	*e*P	**P**	**00 33 58.0**	**+0.4**
VRAC	**Vranov**	**72.33**	**337**	P	**P**	**00 33 58.1**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=34,slow=8.6,SNR=5.4						
	comp=Z,2.2nm,0.6s						
JAVC	**Velka Javorina**	**72.50**	**336**	*e*P	**P**	**00 33 59.7**	**+0.9**
VYHS	**Vyhne**	**72.57**	**336**	*e*P	**P**	**00 33 59.8**	**+0.6**
VYHS	**Vyhne**	**72.57**	**336**	*e*P	**P**	**00 33 59.8**	**+0.6**
KRUC	**Moravsky**	**72.60**	**337**	*e*P	**P**	**00 33 59.9**	**+0.6**
ZVC	**Zvikov**	**72.72**	**339**	*e*P	**P**	**00 34 00.8**	**+0.8**
SMOL	**Smolenice**	**72.88**	**336**	*e*P	**P**	**00 34 00.5**	**-0.5**
SWET	**Sewanee**	**72.95**	**53**	P	**P**	**00 34 01.7**	**0.0**
MODS	**Modra-Piesok**	**73.05**	**336**	*e*P	**P**	**00 34 02.9**	**+0.9**
MODS	**Modra-Piesok**	**73.05**	**336**	*e*P	**P**	**00 34 02.9**	**+0.9**
KHC	**Kasperske Hory**	**73.14**	**339**	*e*P	**P**	**00 34 03.4**	**+0.8**
KHC	**Kasperske Hory**	**73.14**	**339**	*e*P	**P**	**00 34 03.4**	**+0.8**
CKRC	**Cesky Krumlov**	**73.28**	**339**	*e*P	**P**	**00 34 03.5**	**+0.1**
CKRC	**Cesky Krumlov**	**73.28**	**339**	*e*P	**P**	**00 34 03.5**	**+0.1**
GEC2	**GERESS Array S**	**73.39**	**339**	P	**P**	**00 34 04.1**	**0.0**
GEC2				IAmb	IAmb	00 34 28.9	
	comp=Z,7.2nm,1.4s						
GERES	**GERESS Array B**	**73.39**	**339**	P	**P**	**00 34 04.4**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=30,slow=5.9,SNR=6.9						
	comp=Z,1.6nm,0.5s						
CPCT	**Cooper Cave**	**73.41**	**52**	P	**P**	**00 34 04.9**	**+0.6**
CPCT				IAmb	IAmb	00 34 16.6	
	comp=Z,15nm,1.4s						
MLR	**Muntele Rosu**	**73.44**	**330**	P	**P**	**00 34 04.8**	**+0.3**
MLR				IAmb	IAmb	00 34 06.4	
	comp=Z,7.0nm,0.8s						
MLR	**Muntele Rosu**	**73.44**	**330**	P	**P**	**00 34 04.8**	**+0.3**
MLR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FPAL	**Fort Paine**	**73.66**	**53**	P	**P**	**00 34 06.0**	**+0.2**
CONA	**Conrad Observa**	**73.79**	**337**	*e*P	**P**	**00 34 07.5**	**+1.0**
	comp=Z,5.5nm,1.4s						
Y49A	**Blount Mountai**	**73.85**	**54**	P	**P**	**00 34 07.3**	**+0.3**
Y49A				IAmb	IAmb	00 34 33.4	
	comp=Z,9.1nm,1.1s						
LRAL	**Lakeview Retre**	**74.26**	**55**	P	**P**	**00 34 09.7**	**+0.4**
LRAL				IAmb	IAmb	00 34 12.6	
	comp=Z,10nm,1.3s						
LRAL	**Lakeview Retre**	**74.26**	**55**	P	**P**	**00 34 09.5**	**+0.2**
	baz=326						
LESA	**Schwarzleotal**	**74.95**	**339**	*e*P	**P**	**00 34 14.4**	**+1.2**
	comp=Z,0.8nm,0.4s						
KBA	**Koelnbreinsper**	**75.14**	**339**	*e*P	**P**	**00 34 15.8**	**+1.4**
	comp=Z,6.1nm,0.7s						
WATA	**Walderalm**	**75.26**	**340**	*e*P	**P**	**00 34 15.9**	**+0.8**
	comp=Z,1.5nm,0.4s						
WTTA	**Wattenberg**	**75.31**	**340**	*e*P	**P**	**00 34 16.6**	**+1.2**
	comp=Z,1.8nm,0.5s						
MOTA	**Moosalm**	**75.34**	**340**	*e*P	**P**	**00 34 16.0**	**+0.4**
	comp=Z,1.7nm,0.5s						
OBKA	**Obir**	**75.42**	**338**	*e*P	**P**	**00 34 17.2**	**+1.3**
	comp=Z,2.5nm,0.5s						
SQTA	**Sankt Quirin**	**75.44**	**340**	*e*P	**P**	**00 34 17.1**	**+1.1**
	comp=Z,3.1nm,0.6s						
ABTA	**Abfaltersbach**	**75.63**	**339**	P	**P**	**00 34 17.9**	**+0.8**
	comp=Z,3.3nm,0.7s,SNR=5.7						
W57A	**Gilead**	**75.66**	**49**	P	**P**	**00 34 18.4**	**+1.1**
PRED	**Cave del Predi**	**75.70**	**338**	P	**P**	**00 34 17.4**	**-0.1**
PRED				IAmb	IAmb	00 34 18.5	
	comp=Z,7.2nm,0.7s						
FETA	**Feichten**	**75.72**	**340**	P	**P**	**00 34 18.8**	**+1.1**
	comp=Z,3.2nm,0.8s,SNR=7.9						
BR131	**Keskin Array S**	**76.11**	**322**	P	**P**	**00 34 19.7**	**-0.3**
BR131				IAmb	IAmb	00 34 21.0	
	comp=Z,3.4nm,0.7s						
BR131	**Keskin Array S**	**76.11**	**322**	P	**P**	**00 34 19.7**	**-0.3**
BR131				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**76.11**	**322**	P	**P**	**00 34 20.1**	**+0.1**
BRTR	**Keskin Array B**	**76.11**	**322**	*ce*P	**P**	**00 34 20.3**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR	**Keskin Array B**	**76.11**	**322**	P	**P**	**00 34 19.8**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=28,slow=2.8,SNR=18						
	comp=Z,2.8nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**76.20**	**341**	P	**P**	**00 34 21.1**	**+0.5**
FUORN				IAmb	IAmb	00 34 21.1	
	comp=Z,7.5nm,1.4s						
CTI	**Castel Tesino**	**76.47**	**339**	P	**P**	**00 34 21.8**	**-0.1**
CTI	**Castel Tesino**	**76.47**	**339**	P	**P**	**00 34 21.8**	**-0.1**
CTI				pmax	pmax		
	comp=Z,16nm,1.5s						
TIGA	**Tifton**	**77.18**	**53**	P	**P**	**00 34 26.0**	**0.0**
	baz=328						
ZCCA	**Zocca**	**78.24**	**339**	P	**P**	**00 34 33.8**	**+2.0**
WRA	**Warramunga Arr**	**78.24**	**207**	P	**P**	**00 34 32.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=23,slow=6.2,SNR=7.0						
	comp=Z,0.3nm,0.5s						
BNI	**Bardonecchia**	**78.37**	**343**	P	**P**	**00 34 33.3**	**+0.7**
BNI				IAmb	IAmb	00 34 57.8	
	comp=Z,6.7nm,1.1s						
BNI	**Bardonecchia**	**78.37**	**343**	P	**P**	**00 34 33.3**	**+0.7**
BNI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
OSSC	**Osservatorio P**	**78.97**	**339**	P	**P**	**00 34 36.3**	**+0.5**
MMAI	**Mount Meron Ar**	**81.37**	**317**	P	**P**	**00 34 49.0**	**0.0**
	comp=Z,3.7nm,0.5s,baz=27,slow=5.8,SNR=13						
	comp=Z,3.7nm,0.5s						
ASAR	**Alice Springs**	**81.91**	**206**	P	**P**	**00 34 53.0**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=18,slow=5.1,SNR=9.3						
ASAR				LR	LR	01 08 31.5	
	comp=Z,25nm,21.8s,baz=6.5,slow=34						
	comp=Z,0.5nm,0.7s						
ESDC	**Sonseca Array**	**85.13**	**349**	P	**P**	**00 35 08.8**	**+0.6**
ESDC				IAmb	IAmb	00 35 10.2	
	comp=Z,7.0nm,1.1s						
ESDC	**Sonseca Array**	**85.13**	**349**	P	**P**	**00 35 09.1**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=360,slow=5.3,SNR=17						
	comp=Z,3.7nm,0.9s						

*LDG **03** 00:23:11.7±0.4, 36˚.17N×2˚.62E, h5km, Ml3.2/6, Error ellipse: s-maj=10.4km s-min=3.4km az=145.0*
*CRAAG **03** 00:23:14.6, 36˚.43N×2˚.50E, Ml3.6, Algerie 05km NW Oued-Djer*
*MDD **03** 00:23:17.7±0.6, 36˚.31N×2˚.61E, h25km±8km, Mb4.2/29, M_mb3.6/29, Error ellipse: s-maj=8.3km s-min=2.9km az=150.0*
*CNRM **03** 00:23:22.6, 36˚.43N×2˚.02E, h24km, ML3.4*
ISC 03 00:23:16.3±0.8**, 36˚.43N**±0˚.04×**2˚.59E**±0˚.04**, h18km, n76, σ2s05**/106**, 23C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACHR	**Chrea**	**0.24**	**91**	P	**Pb**	**00 23 23.1**	**+1.1**
ABKD	**Sidi Amar**	**0.25**	**296**	P	**Pg**	**00 23 21.1**	**-0.9**
ADOR	**Douera**	**0.35**	**49**	P	**Pg**	**00 23 24.4**	**+0.5**
EHRZ	**Djelida**	**0.45**	**239**	P	**Pg**	**00 23 23.9**	**-1.6**
EDDR	**Deurdeur**	**0.52**	**215**	P	**Pg**	**00 23 24.9**	**-1.8**
ABA	**Alger-Bouzarea**	**0.52**	**44**	P	**Pg**	**00 23 26.6**	**-0.2**
AKED	**El Kharrouba**	**0.70**	**71**	P	**Pb**	**00 23 30.1**	**+0.1**
ADJB	**Djebel Djouab**	**0.74**	**111**	P	**Pb**	**00 23 29.9**	**-0.8**
OKGL	**Djebel Kef Gue**	**1.62**	**257**	P	**Pg**	**00 23 49.0**	**+1.6**
OJGS	**Djebel Guires**	**1.75**	**239**	P	**Sb**	**00 24 13.0**	**+3.4**
OJBR	**Djebel Berber**	**2.00**	**246**	P	**Pn**	**00 23 48.0**	**-1.3**
ODJA	**Bouhanifia**	**2.48**	**245**	P	**Pg**	**00 24 06.0**	**+2.2**
EIBI	**Ibiza**	**2.78**	**340**	Pn	**Pn**	**00 24 00.7**	**+0.9**
EIBI				Sn	**Sn**	**00 24 30.6**	**-2.2**
EIBI	**Ibiza**	**2.78**	**340**	P	**Pn**	**00 24 00.8**	**+0.9**
EIBI				⇑*i*Vmb_V		00 24 02.0	
	904nm,SNR=1.7						
EIBI				S	**Sn**	**00 24 30.7**	**-2.2**
CART	**Cartagena**	**3.10**	**293**	Pn	**Pn**	**00 24 03.3**	**-1.0**
CART				Sn	**Sn**	**00 24 37.7**	**-3.1**
CART	**Cartagena**	**3.10**	**293**	P	**Pn**	**00 24 05.0**	**+0.8**
CART	**Cartagena**	**3.10**	**293**	S	**Sn**	**00 24 36.0**	**-4.8**
EBEN2	**Beniarda presa**	**3.15**	**316**	P	**Pn**	**00 24 05.8**	**+0.8**
EBEN2				⇑*i*Vmb_V		00 24 06.6	
	427nm,SNR=1.5						
EBEN2				S	**Sn**	**00 24 39.8**	**-2.3**
ETOS	**Mallorca**	**3.34**	**3**	Pn	**Pn**	**00 24 07.8**	**+0.2**
ETOS				Sn	**Sn**	**00 24 45.1**	**-1.8**
ETOS	**Mallorca**	**3.34**	**3**	P	**Pn**	**00 24 07.8**	**+0.2**
ETOS				⇑*i*Vmb_V		00 24 09.1	
	487nm,SNR=1.1						
ETOS				S	**Sn**	**00 24 45.5**	**-1.3**
EMUR	**La Murta**	**3.37**	**296**	Pn	**Pn**	**00 24 07.9**	**-0.1**
EMUR	**La Murta**	**3.37**	**296**	P	**Pn**	**00 24 08.5**	**+0.5**
EMUR				⇑*i*Vmb_V		00 24 11.3	
	142nm,SNR=1.0						
EMUR				S	**Sn**	**00 24 45.0**	**-2.5**
ELOR	**Lorca, Murcia**	**3.67**	**291**	P	**Pn**	**00 24 12.6**	**+0.4**
ELOR				⇑*i*Vmb_V		00 24 15.6	
	466nm,SNR=1.4						
EZAR	**Zarzadilla de**	**3.71**	**294**	P	**Pn**	**00 24 12.6**	**-0.2**
EZAR				⇑*i*Vmb_V		00 24 14.2	
	223nm,SNR=1.2						
EZAR				S	**Sn**	**00 24 54.6**	**-1.5**
ECOL	**Islas Columbre**	**3.78**	**337**	P	**Pn**	**00 24 14.5**	**+0.9**
ECOL				S	**Sn**	**00 24 57.4**	**-0.1**
ENIJ	**Nijar**	**3.89**	**279**	Pn	**Pn**	**00 24 14.4**	**-0.7**
ENIJ				Sn	**Sn**	**00 24 58.9**	**-1.5**
ENIJ	**Nijar**	**3.89**	**279**	P	**Pn**	**00 24 14.4**	**-0.7**
ENIJ				⇑*i*Vmb_V		00 24 17.5	
	176nm,SNR=1.4						
ENIJ				S	**Sn**	**00 24 59.0**	**-1.5**
ETOB	**Tobarra**	**3.96**	**305**	Pn	**Pn**	**00 24 16.9**	**+0.7**
ETOB	**Tobarra**	**3.96**	**305**	P	**Pn**	**00 24 17.0**	**+0.8**
ETOB				⇑*i*Vmb_V		00 24 20.6	
	251nm,SNR=2.2						
ETOB				S	**Sn**	**00 25 01.5**	**-0.7**
EVIV	**Cofrentes, Val**	**4.08**	**315**	P	**Pn**	**00 24 18.8**	**+1.0**
EVIV				⇑*i*Vmb_V		00 24 22.3	
	311nm,SNR=1.6						
EVIV				S	**Sn**	**00 25 02.7**	**-2.4**
TAF	**Taforalt**	**4.38**	**250**	P	**Pn**	**00 24 22.2**	**+0.2**
TAF	**Taforalt**	**4.38**	**250**	S	**Sn**	**00 25 09.2**	**-3.3**
EBER	**Berja**	**4.43**	**278**	Pn	**Pn**	**00 24 22.0**	**-0.7**
EBER				Sn	**Sn**	**00 25 12.7**	**-1.2**
EBER	**Berja**	**4.43**	**278**	P	**Pn**	**00 24 22.1**	**-0.7**
EBER				⇑*i*Vmb_V		00 24 23.1	
	171nm,SNR=1.1						
EBER				S	**Sn**	**00 25 13.6**	**-0.2**
EMOS	**Mosqueruela**	**4.61**	**330**	P	**Pn**	**00 24 25.8**	**+0.6**
EMOS				⇑*i*Vmb_V		00 24 26.7	
	409nm,SNR=1.9						
EMOS				S	**Sn**	**00 25 15.9**	**-2.4**
JBK	**JBK**	**4.70**	**245**	P	**Pn**	**00 24 27.3**	**+0.8**
JBK	**JBK**	**4.70**	**245**	S	**Sn**	**00 25 17.8**	**-2.8**
EQES	**Quesada**	**4.72**	**289**	P	**Pn**	**00 24 27.7**	**+1.0**
EQES				⇑*i*Vmb_V		00 24 31.0	
	171nm,SNR=1.5						
EQES				S	**Sn**	**00 25 22.0**	**+0.9**
ERTA	**Horta de San J**	**4.85**	**339**	P	**Pn**	**00 24 29.2**	**+0.7**
ERTA				⇑*i*Vmb_V		00 24 30.2	
	189nm,SNR=0.9						
ERTA				S	**Sn**	**00 25 22.0**	**-2.2**
ELGU	**Los Guajares,**	**5.01**	**277**	Pn	**Pn**	**00 24 29.4**	**-1.3**
ELGU	**Los Guajares,**	**5.01**	**277**	P	**Pn**	**00 24 29.5**	**-1.2**
ELGU				⇑*i*Vmb_V		00 24 35.0	
	208nm,SNR=1.6						
ELGU				S	**Sn**	**00 25 26.2**	**-2.1**
EPOB	**Poblet**	**5.06**	**347**	P	**Pn**	**00 24 32.2**	**+0.9**
EPOB				⇑*i*Vmb_V		00 24 36.1	
	232nm,SNR=1.3						
EPOB				S	**Sn**	**00 25 27.1**	**-2.1**
FIGM	**Figuig**	**5.34**	**218**	P	**Pn**	**00 24 36.8**	**+1.6**
FIGM	**Figuig**	**5.34**	**218**	S	**Sn**	**00 25 36.8**	**+0.5**
EGOR	**Sierra Gorda,**	**5.42**	**279**	P	**Pn**	**00 24 36.5**	**+0.1**
EGOR				S	**Sn**	**00 25 38.3**	**0.0**
AKLM	**AKL**	**5.60**	**252**	P	**Pn**	**00 24 38.6**	**-0.2**
AKLM	**AKL**	**5.60**	**252**	S	**Sn**	**00 25 40.1**	**-2.5**
ETOR	**Torete**	**5.69**	**322**	P	**Pn**	**00 24 42.7**	**+2.6**
ETOR				⇑*i*Vmb_V		00 24 47.3	
	103nm,SNR=0.8						
EMIJ	**Mijas**	**5.93**	**274**	Pn	**Pn**	**00 24 41.4**	**-1.8**
EMIJ	**Mijas**	**5.93**	**274**	P	**Pn**	**00 24 41.9**	**-1.3**
EMIJ				⇑*i*Vmb_V		00 24 44.1	
	217nm,SNR=1.0						
EADA	**Adamuz**	**5.97**	**289**	Pn	**Pn**	**00 24 43.4**	**-0.3**
EADA	**Adamuz**	**5.97**	**289**	P	**Pn**	**00 24 43.6**	**-0.2**
EADA				⇑*i*Vmb_V		00 24 49.4	
	82nm,SNR=1.0						
EADA				S	**Sn**	**00 25 49.7**	**-2.0**
UCM	**Universidad Co**	**6.00**	**312**	Pn	**Pn**	**00 24 45.6**	**+1.4**
EJON	**La Jonquera**	**6.02**	**2**	P	**Pn**	**00 24 46.4**	**+2.0**
EJON				⇑*i*Vmb_V		00 24 49.1	
	211nm,SNR=0.9						
EJON				S	**Sn**	**00 25 48.6**	**-4.3**
VSL	**Villasalto**	**6.18**	**58**	P	**Pn**	**00 24 46.2**	**-0.4**
VSL				S	**Sn**	**00 25 53.5**	**-3.4**
PAB	**San Pablo**	**6.30**	**302**	P	**Pn**	**00 24 49.0**	**+0.6**
PAB				⇑*i*Vmb_V		00 24 53.7	
	92nm,SNR=1.0						
ECAB	**El Cabril**	**6.59**	**287**	Pn	**Pn**	**00 24 51.0**	**-1.4**
ECAB	**El Cabril**	**6.59**	**287**	P	**Pn**	**00 24 51.9**	**-0.4**
ECAB				⇑*i*Vmb_V		00 24 55.8	
	63nm,SNR=0.8						
ECAB				S	**Sn**	**00 26 06.2**	**-0.9**
GUD	**Guadarrama**	**6.75**	**311**	P	**Pn**	**00 24 56.4**	**+1.8**
EPF	**Esparros**	**6.82**	**346**	*e*P	**Pn**	**00 24 58.3**	**+2.9**
EPF				*e*Sn	**Sn**	**00 26 09.7**	**-2.9**
	0.8nm,0.2s						
MTLF	**Montolieu**	**6.91**	**358**	*e*P	**Pn**	**00 25 00.2**	**+3.5**
MTLF				*e*Sn	**Sn**	**00 26 11.1**	**-3.7**
	2.0nm,0.3s						
MDT	**Midelt**	**6.94**	**241**	P	**Pn**	**00 24 57.9**	**+0.8**
MDT	**Midelt**	**6.94**	**241**	S	**Sn**	**00 26 12.3**	**-3.3**
MD31	**MD31**	**7.02**	**242**	P	**Pn**	**00 24 58.8**	**+0.6**
LMR	**La Mourre**	**7.53**	**22**	*e*P	**Pn**	**00 25 08.4**	**+3.3**
LMR				*e*Sn	**Sn**	**00 26 26.4**	**-3.6**
	2.0nm,0.2s						
LASF	**Ste Croix**	**7.70**	**7**	*e*P	**Pn**	**00 25 09.6**	**+2.1**
LASF				*e*Sn	**Sn**	**00 26 31.2**	**-3.1**
	2.2nm,0.4s						
SMRF	**Simiane la Rot**	**7.88**	**16**	*e*P	**Pn**	**00 25 13.1**	**+3.1**
ELAN	**Lanestosa**	**8.22**	**328**	P	**Pn**	**00 25 17.0**	**+2.3**
ELAN				⇑*i*Vmb_V		00 25 20.7	
	103nm,SNR=1.8						
SBF	**Sospel**	**8.30**	**25**	*e*Sn	**Sn**	**00 26 44.2**	**-4.9**
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	**8.57**	**10**	*e*P	**Pn**	**00 25 22.2**	**+2.8**
VIVF				*e*Sn	**Sn**	**00 26 51.7**	**-3.9**
	3.0nm,0.5s						
ECAL	**Calabor**	**9.09**	**310**	P	**Pn**	**00 25 28.4**	**+1.7**
EARI	**Arriondas**	**9.11**	**321**	P	**Pn**	**00 25 29.0**	**+2.2**
EARI				⇑*i*Vmb_V		00 25 30.1	
	56nm,SNR=0.8						
LPG	**La Plagne**	**9.59**	**18**	*e*P	**Pn**	**00 25 37.4**	**+3.7**
LPL	**La Plagne**	**9.61**	**18**	*e*P	**Pn**	**00 25 37.4**	**+3.6**
SMF	**Signal de Mont**	**10.25**	**5**	*e*Pn	**Pn**	**00 25 40.8**	**-1.7**
SMF	**Signal de Mont**	**10.25**	**5**	*e*P	**Pn**	**00 25 46.7**	**+4.2**

*IDC **03** 00:30:34.9±0.6, 8˚.38S×74˚.81W, h129km±6km, mb4.0/11, mbtmp4.4/14, Error ellipse: s-maj=12.4km s-min=9.4km az=28.0*
*VAO **03** 00:30:36.6±0.9, 8˚.38S×74˚.78W, h137km±6km, mb4.7*
*NEIC **03** 00:30:37.3±1.9, 8˚.42S±0˚.08×74˚.81W±0˚.07, h148km±8km, mb4.6/101, Error ellipse: s-maj=11.8km s-min=10.5km az=177.0*
*OSUNB **03** 00:30:38.6±0.7, 8˚.27S×74˚.57W, h143km±4km, mb4.6/25, Error ellipse: s-maj=4.7km s-min=5.8km az=0.0, Hypocentre not reviewed by the ISC*
ISC 03 00:30:35.4±0.4**, 8˚.41S**±0˚.05×**74˚.84W**±0˚.05**, h136km, n185, σ1s07**/194**, mb4.6**/57**, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.22**	**72**	Pn	**Pn**	**00 31 13.3**	**+1.0**
CZSB	**Cruzeiro do Su**	**2.22**	**72**	*e*P	**Pn**	**00 31 13.4**	**+1.0**
CZSB				*e*S	**Sn**	**00 31 42.2**	**+1.5**
CZSB	**Cruzeiro do Su**	**2.22**	**72**	*e*P		00 31 13.3	
CZSB				*e*S		00 31 40.5	
ATAH	**Atahualpa**	**3.75**	**290**	P	**Pn**	**00 31 32.6**	**+0.3**
	368nm,0.4s,baz=42,slow=3.9,SNR=425						
ATAH				S	**Sn**	**00 32 16.7**	**+0.3**
	186nm,0.5s,baz=88,slow=21,SNR=6.9						
NNA	**Nana**	**4.07**	**209**	Pn	**Pn**	**00 31 37.5**	**+1.2**
NNA	**Nana**	**4.07**	**209**	P	**Pn**	**00 31 37.2**	**+1.0**
	17nm,0.3s,baz=31,slow=6.5,SNR=17						
NNA				S	**Sn**	**00 32 23.2**	**-0.3**
	146nm,0.4s,baz=171,slow=13,SNR=13						
BOSC	**San Juan Bosco**	**6.37**	**325**	Pn	**Pn**	**00 32 03.1**	**-4.0**
TBTG	**Tabatinga, AM**	**6.45**	**50**	Pn	**Pn**	**00 32 07.5**	**-0.5**
TBTG	**Tabatinga, AM**	**6.45**	**50**	*e*P	**Pn**	**00 32 07.5**	**-0.5**
TBTG	**Tabatinga, AM**	**6.45**	**50**	*e*P		00 32 07.7	
MCRA	**Macar, Loja**	**6.48**	**308**	Pn	**Pn**	**00 32 04.3**	**-4.2**
ARNL	**Arenillas**	**7.10**	**313**	Pn	**Pn**	**00 32 13.6**	**-3.1**
COHC	**Cochancay**	**7.36**	**323**	Pn	**Pn**	**00 32 18.6**	**-1.7**
CHSH	**Refugio Sur-Vo**	**7.96**	**329**	Pn	**Pn**	**00 32 28.4**	**-0.4**
SLOR	**San Lorenzo -**	**8.46**	**334**	Pn	**Pn**	**00 32 33.6**	**-1.8**
ETMB	**Extrema**	**8.63**	**100**	Pn	**Pn**	**00 32 34.9**	**-2.4**
ETMB	**Extrema**	**8.63**	**100**	*e*P		00 32 35.5	
SALI	**Salinas**	**8.70**	**315**	Pn	**Pn**	**00 32 37.0**	**-1.3**
BONI	**La Bonita**	**9.20**	**343**	*e*P	**Pn**	**00 32 43.6**	**-1.7**
IMBA	**Imbabura, San**	**9.26**	**339**	Pn	**Pn**	**00 32 45.8**	**-0.3**
OTAV	**Otavalo**	**9.31**	**337**	Pn	**Pn**	**00 32 47.0**	**+0.1**
OTAV	**Otavalo**	**9.31**	**337**	*e*P	**Pn**	**00 32 47.6**	**+0.7**
OTAV	**Otavalo**	**9.31**	**337**	*e*P	**Pn**	**00 32 47.5**	**+0.6**
OTAV	**Otavalo**	**9.31**	**337**	*e*P		00 32 48.6	
PAC1	**Pacto, Paraso**	**9.48**	**335**	*e*P	**Pn**	**00 32 50.2**	**+1.3**
TULM	**Tulcn-Chalpat**	**9.53**	**342**	Pn	**Pn**	**00 32 49.6**	**-0.2**
CMBC	**Cumbal**	**9.75**	**342**	*e*P	**Pn**	**00 32 54.0**	**+1.2**
GCUF	**Volcan Galeras**	**9.89**	**345**	*e*P	**Pn**	**00 32 54.1**	**-0.6**
FLOC	**Florencia**	**9.96**	**355**	*e*P	**Pn**	**00 32 54.1**	**-1.0**
CRUC	**La Cruz**	**10.13**	**348**	*e*P	**Pn**	**00 32 56.1**	**-1.7**
LPAZ	**La Paz**	**10.21**	**141**	Pn	**Pn**	**00 32 58.2**	**-0.8**
GARC	**Garzon, Huila**	**10.55**	**356**	*e*P	**Pn**	**00 33 02.4**	**-0.8**
BBAC	**Balboa, Cauca**	**10.64**	**347**	*e*P	**Pn**	**00 33 03.5**	**-0.9**
POPC	**Popayan, Colom**	**11.03**	**350**	*e*P	**Pn**	**00 33 09.2**	**-0.4**
TEFE	**Tefe**	**11.25**	**65**	*e*P		00 33 10.1	
TEFE	**Tefe**	**11.25**	**65**	*e*P	**Pn**	**00 33 10.9**	**-1.5**
SAML	**Samuel**	**11.53**	**94**	Pn	**Pn**	**00 33 12.6**	**-3.5**
SAML	**Samuel**	**11.53**	**94**	*e*P	**Pn**	**00 33 13.1**	**-3.0**
SAML	**Samuel**	**11.53**	**94**	*e*P		00 33 13.0	
ORTC	**Ortega, Tolima**	**12.24**	**358**	*e*P	**Pn**	**00 33 24.9**	**-0.5**
YOTC	**Yotoco, Valle**	**12.40**	**353**	*e*P	**Pn**	**00 33 27.7**	**+0.2**
GUY2C	**Guyana, Caldas**	**13.55**	**358**	*e*P	**P**	**00 33 45.9**	**-1.2**
CBOC	**Ciudad Bolivar**	**14.23**	**355**	*e*P	**Pn**	**00 33 52.3**	**+1.3**
PTBC	**PUERTO BERRIO,**	**14.86**	**1**	*e*P	**Pn**	**00 33 57.8**	**-1.0**
MACA	**Manacapuru-AM**	**15.01**	**70**	Pn	**Pn**	**00 33 59.5**	**-1.2**
MACA	**Manacapuru-AM**	**15.01**	**70**	*e*P	**Pn**	**00 34 01.4**	**+0.7**
MACA	**Manacapuru-AM**	**15.01**	**70**	*e*P		00 33 58.2	
VILB	**Vilhena**	**15.07**	**109**	*e*P	**Pn**	**00 34 01.8**	**+0.3**
VILB	**Vilhena**	**15.07**	**109**	*e*P		00 34 01.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	15.22	159	eP		00 34 08.1	
LVC	Limon Verde	15.23	159		P	00 34 04.9	-0.6
LVC	Limon Verde	15.23	159	P	P	00 34 07.6	+2.2
	14nm,0.9s,baz=338,slow=6.3,SNR=9.6						
DBBC	Dabeiba	15.39	355	eP	P	00 34 09.6	+2.6
SIV	San Ignacio	15.41	121	P	Pn	00 34 05.9	+0.2
	20nm,0.6s,baz=289,slow=11,SNR=85						
PAMC	Pamplona, Colo	15.79	8	eP	P	00 34 12.7	+0.8
ZARC	Zaragoza, Cauc	15.80	360	eP	P	00 34 12.6	+1.1
BBSD	Serra de San D	16.38	124	eP	P	00 34 18.4	+0.5
PTLB	Pontes e Lacer	16.87	116	P	P	00 34 23.2	-0.2
PTLB				IAmb	IAmb	00 34 26.8	
	comp=Z,14nm,0.8s						
PTLB	Pontes e Lacer	16.87	116	eP	Pn	00 34 25.0	+1.4
PTLB	Pontes e Lacer	16.87	116	eP		00 34 24.2	
BBRB	Robore, Bolivi	17.59	125	eP	Pn	00 34 32.4	+0.1
BOAV	Boa Vista	17.86	54	P	Pn	00 34 35.2	-0.3
BOAV	Boa Vista	17.86	54	eP	Pn	00 34 35.4	-0.1
BOAV	Boa Vista	17.86	54	eP		00 34 35.5	
PDRB	Porto dos Gac	18.11	102	eP	Pn	00 34 37.6	-0.9
PDRB	Porto dos Gac	18.11	102	eP		00 34 37.1	
BAUV	El Baul	18.52	22	P	P	00 34 42.0	+0.6
BAUV				IAmb	IAmb	00 34 43.3	
	comp=Z,19nm,0.7s						
CLDB	Colider	18.93	99	eP	P	00 34 46.8	+0.8
CLDB	Colider	18.93	99	eP		00 34 45.9	
NPGB	Novo Progresso	19.35	87	eP	P	00 34 50.6	0.0
NPGB	Novo Progresso	19.35	87	eP		00 34 50.0	
ITTB	Itaituba	19.40	79	eP	P	00 34 51.5	+0.5
ITTB	Itaituba	19.40	79	eP		00 34 51.4	
SALV	Santo Antonio	20.13	114	eP		00 34 59.9	
LCR2	La Lucha 2	20.21	333	P	Pn	00 35 01.5	-1.7
LCR2				IAmb	IAmb	00 35 03.0	
	comp=Z,12nm,0.7s						
MALB	Monte Alegre	21.49	73	eP	P	00 35 13.8	+0.3
MALB	Monte Alegre	21.49	73	eP		00 35 13.7	
AQDB	Aquidauana	22.04	125	P	P	00 35 19.0	-0.3
AQDB	Aquidauana	22.04	125	eP		00 35 19.7	
SNDB	Serra Nova Dou	23.44	101	eP	P	00 35 32.6	0.0
SNDB	Serra Nova Dou	23.44	101	eP		00 35 32.4	
MCPB	Macapa, AP	24.06	72	eP	P	00 35 39.6	+1.3
MCPB	Macapa, AP	24.06	72	eP		00 35 38.6	
GRGR	Grenville	24.25	33	P	P	00 35 38.5	-1.4
CPUP	Villa Florida	24.37	139	P	P	00 35 40.9	-0.1
	comp=Z,3.3nm,0.9s,baz=320,slow=7.9,SNR=5.0						
CPUP				pP	pP	00 36 08.0	-1.2
	comp=Z,1.9nm,0.7s,baz=352,slow=13,SNR=2.4						
	comp=Z,3.3nm,0.9s						
PRPB	Parauapebas	24.92	87	eP		00 35 47.4	
CAN3	Cana Brava	26.48	102	eP		00 36 04.3	
MTDJ	Mount Denham	26.60	354	P	P	00 36 03.0	+1.8
PTGB	Pitanga	27.12	129	eP		00 36 05.5	
PTGB	Pitanga	27.12	129	eP	P	00 36 06.2	+0.3
BDFB	Brasilia	27.18	108	P	P	00 36 08.9	+2.3
BDFB				IAmb	IAmb	00 36 10.2	
	comp=Z,11nm,0.7s						
BDFB	Brasilia	27.18	108	P	P	00 36 07.9	+1.3
	comp=Z,8.7nm,0.4s,baz=281,slow=8.2,SNR=21						
	comp=Z,8.7nm,0.4s						
BDFB	Brasilia	27.18	108	eP		00 36 09.0	
IPMB	Ipameri, GO	27.58	113	eP		00 36 09.5	
SDBA	SAO DESIDERIO	29.70	100	eP		00 36 28.3	
PLTB	Pedras Altas	30.50	143	P	P	00 36 35.2	-0.5
PLTB				IAmb	IAmb	00 37 06.3	
	comp=Z,10nm,0.8s						
JANB	Januaria	30.59	105	eP		00 36 36.7	
DIAM	Diamantina, MG	31.82	111	eP		00 36 47.2	
GDU01	Guandu, BA	34.98	102	eP		00 37 13.8	
NAN01	Guarapari, ES	35.02	109	eP		00 37 18.0	
RIB01	Linhares ES	35.08	112	eP	P	00 37 17.7	+2.0
RIB01	Linhares ES	35.08	112	eP		00 37 18.0	
ALF01	Guarapari-ES	35.10	114	eP		00 37 18.2	
GUA01	Guaratinga, BA	35.11	107	eP		00 37 17.7	
154A	Montrose	41.55	349	P	P	00 38 09.8	+0.3
GOGA	Godfrey	42.39	349	P	P	00 38 16.8	+0.5
GOGA				IAmb	IAmb	00 38 52.6	
	comp=Z,14nm,1.1s						
Y49A	Blount Mountai	43.45	346	P	P	00 38 24.1	-0.8
Y49A				IAmb	IAmb	00 38 45.0	
	comp=Z,18nm,1.2s						
W57A	Gilead	43.60	354	P	P	00 38 25.7	-0.3
W57A				IAmb	IAmb	00 38 34.0	
	comp=Z,30nm,1.4s						
FPAL	Fort Paine	43.92	347	P	P	00 38 28.4	-0.3
FPAL				IAmb	IAmb	00 38 30.9	
	comp=Z,25nm,1.5s						
V58A	Windy Hill, Pi	44.15	355	P	P	00 38 30.6	+0.1
V58A				IAmb	IAmb	00 38 31.6	
	comp=Z,13nm,0.9s						
HNDO	Hondo	44.46	329	P	P	00 38 32.6	-0.5
W50A	Signal Mountai	44.49	348	P	P	00 38 32.9	-0.3
W50A				IAmb	IAmb	00 39 12.7	
	comp=Z,20nm,1.4s						
CPCT	Cooper Cave	44.57	349	P	P	00 38 33.0	-0.8
CPCT				IAmb	IAmb	00 38 34.4	
	comp=Z,18nm,1.2s						
U59A	Littleton	44.61	357	P	P	00 38 34.8	+0.7
U59A				IAmb	IAmb	00 38 35.7	
	comp=Z,11nm,0.9s						
SWET	Sewanee	44.64	347	P	P	00 38 33.4	-1.0
SWET				IAmb	IAmb	00 38 34.7	
	comp=Z,21nm,1.4s						
V52A	Sevierville	44.78	350	P	P	00 38 35.1	-0.4
V52A				IAmb	IAmb	00 38 59.8	
	comp=Z,29nm,1.4s						
237A	Washetta, Mont	44.90	334	P	P	00 38 37.8	+1.3
T59A	Double "B" Far	45.21	357	P	P	00 38 39.1	+0.3
T59A				IAmb	IAmb	00 38 40.3	
	comp=Z,14nm,0.9s						
V48A	Smith Brothers	45.34	346	P	P	00 38 38.9	-1.1
V48A				IAmb	IAmb	00 39 16.9	
	comp=Z,13nm,1.2s						
T57A	Hurt	45.36	355	P	P	00 38 40.5	+0.5
BRDY	Brady	45.75	331	P	P	00 38 44.4	+1.1
S57A	Dark Hollow, R	46.09	355	P	P	00 38 46.0	+0.2
S57A				IAmb	IAmb	00 38 47.3	
	comp=Z,15nm,0.7s						
SAND	Sanderson	46.30	327	P	P	00 38 48.1	+0.5
WHAR	Wooly Hollow	46.48	340	P	P	00 38 48.5	-0.4
OZNA	Ozona	46.53	328	P	P	00 38 49.9	+0.5
TX31	Lajitas Ar. Si	46.68	325	P	P	00 38 51.1	+0.4
TXAR	Lajitas Array	46.68	325	P	P	00 38 51.0	+0.3
TXAR	Lajitas Array	46.68	325	P	P	00 38 51.2	+0.5
	comp=Z,1.3nm,0.6s,baz=144,slow=9.0,SNR=7.5						
TXAR				PcP	PcP	00 40 22.3	+0.1
	comp=Z,0.5nm,0.6s,baz=144,slow=7.8,SNR=2.9						
	comp=Z,1.3nm,0.6s						
PLPT	Palo Pinto	46.70	333	P	P	00 38 51.8	+1.1
PLPT				IAmb	IAmb	00 38 52.6	
	comp=Z,12nm,0.6s						
R55A	Marlinton	46.71	354	P	P	00 38 51.4	+0.7
R55A				IAmb	IAmb	00 39 09.9	
	comp=Z,13nm,1.1s						
FCAR	Ozark Folk Cen	46.98	341	P	P	00 38 51.8	-1.0
ABTX	Abilene, Hawle	47.16	331	P	P	00 38 55.2	+1.0
SGCY	Sterling City	47.32	329	P	P	00 38 55.9	+0.4
Q56A	Snyder Ridge,	47.38	355	P	P	00 38 57.3	+1.4
Q56A				IAmb	IAmb	00 39 37.7	
	comp=Z,15nm,1.1s						
WTFS	Witchita Falls	47.57	333	P	P	00 38 58.5	+1.2
WTFS				IAmb	IAmb	00 38 59.3	
	comp=Z,14nm,1.0s						
MNHN	Monahans	47.72	327	P	P	00 39 00.2	+1.6
SN01	Snyder 1	47.96	330	P	P	00 39 01.3	+0.8
P53A	Whipple	48.04	353	P	P	00 39 00.7	-0.2
P53A				IAmb	IAmb	00 39 20.3	
	comp=Z,20nm,1.4s						
MVL	Millersville	48.18	358	P	P	00 39 02.5	+0.6
MVL				IAmb	IAmb	00 39 03.8	
	comp=Z,13nm,0.8s						
P52A	Corning	48.27	352	P	P	00 39 02.0	-0.7
POST	Post	48.43	330	P	P	00 39 05.0	+0.9
POST				IAmb	IAmb	00 39 05.8	
	comp=Z,12nm,0.8s						
DEOK	Depew	48.52	336	P	P	00 39 05.3	+0.7
VHRN	Van Horn	48.53	325	P	P	00 39 05.7	+0.8
N58A	Sunbury	49.03	358	P	P	00 39 09.3	+0.8
N58A				IAmb	IAmb	00 39 12.3	
	comp=Z,17nm,1.2s						
R40A	Maddies Statio	49.22	342	P	P	00 39 09.2	-0.8
M57A	Sunshine Farm,	49.55	358	P	P	00 39 12.2	-0.1
M57A				IAmb	IAmb	00 39 44.7	
	comp=Z,14nm,1.2s						
M55A	Ridgway	49.76	356	P	P	00 39 13.8	-0.2
M55A				IAmb	IAmb	00 39 55.3	
	comp=Z,14nm,1.4s						
N47A	Urbana	50.05	349	P	P	00 39 14.5	-1.7
BINY	Binghamton	50.37	359	P	P	00 39 19.3	+0.7
K57A	Scipio Center	50.92	358	P	P	00 39 23.2	+0.6
J58A	Remsen	51.52	360	P	P	00 39 26.6	-0.5
J57A	Williamstown	51.58	359	P	P	00 39 27.6	+0.1
RTBA	Rita Blanca	51.74	331	P	P	00 39 29.6	+0.5
RTBA				IAmb	IAmb	00 39 53.9	
	comp=Z,11nm,1.5s						
NCB	Newcomb	52.13	1	P	P	00 39 32.2	+0.5
T25A	Trinidad	53.11	330	P	P	00 39 40.6	+1.3
T25A				IAmb	IAmb	00 39 41.4	
	comp=Z,8.0nm,0.9s						
I42A	Draeger Farm,	53.60	347	P	P	00 39 41.3	-1.1
SDCO	Great Sand Dun	54.12	330	P	P	00 39 47.4	+0.7
SDCO				IAmb	IAmb	00 39 48.6	
	comp=Z,6.0nm,0.8s						
S22A	4UR Ranch, Cre	54.79	329	P	P	00 39 52.8	+1.2
E46A	Sault Ste Mari	55.18	352	P	P	00 39 52.2	-1.6
ECSD	EROS Data Cent	55.53	341	P	P	00 39 56.0	-0.5
COWI	Conover	55.75	348	P	P	00 39 57.1	-0.8
LDAQ	Lac Daran	56.22	3	P	P	00 40 01.1	-0.1
F36A	Milaca	56.56	344	P	P	00 40 03.0	-0.7
KNB	Kanab	57.52	324	P	P	00 40 12.1	+1.3
KNB				IAmb	IAmb	00 40 12.8	
	comp=Z,4.6nm,0.9s						
LCMT	Little Creek M	57.76	324	P	P	00 40 13.5	+1.1
MTPU	Mount Pierson	57.87	326	P	P	00 40 13.3	-0.1
RDMU	Red Mountain	58.31	329	P	P	00 40 17.0	+0.6
RDMU				IAmb	IAmb	00 40 17.8	
	comp=Z,4.4nm,0.8s						
DRLN	Deer Lake	59.40	13	P	P	00 40 23.7	+0.3
TCUT	Toone Canyon	59.66	329	P	P	00 40 26.1	+0.5
DUG	Dugway, Tooele	59.73	327	P	P	00 40 26.7	+0.6
DUG				IAmb	IAmb	00 40 28.2	
	comp=Z,4.4nm,0.8s						
SPR3	Spring Creek 3	59.74	325	P	P	00 40 26.9	+0.5
PDAR	Pinedale Array	59.96	331	P	P	00 40 27.1	-0.6
PDAR	Pinedale Array	59.96	331	P	P	00 40 27.5	-0.2
	comp=Z,1.0nm,0.8s,baz=127,slow=9.5,SNR=7.4						
PDAR				PcP	PcP	00 41 12.4	-0.1
	comp=Z,0.3nm,0.5s,baz=119,slow=7.3,SNR=5.2						
	comp=Z,1.0nm,0.8s						
R11B	Troy Canyon, C	60.03	324	P	P	00 40 29.3	+1.2
HWUT	Hardware Ranch	60.09	329	P	P	00 40 28.7	+0.2
HWUT				IAmb	IAmb	00 40 29.9	
	comp=Z,5.2nm,0.8s						
ULM	Lac du Bonnet	61.22	345	P	P	00 40 35.0	-0.7
	comp=Z,6.4nm,0.6s,baz=160,slow=7.4,SNR=11						
	comp=Z,6.4nm,0.6s						
MDPB	Devils Postpil	61.68	321	P	P	00 40 40.6	+1.2
NVAR	Mina Array Bea	61.70	322	P	P	00 40 40.5	+1.0
	comp=Z,1.2nm,0.7s,baz=130,slow=6.8,SNR=8.1						
NVAR				PcP	PcP	00 41 20.0	+0.4
	comp=Z,0.6nm,0.8s,baz=155,slow=4.9,SNR=4.5						
	comp=Z,1.2nm,0.7s						
YHL	Hebgen Lake	62.31	332	P	P	00 40 44.8	+1.3
HLID	Hailey	62.96	329	P	P	00 40 49.3	+1.6
BOZ	Bozeman (W)	63.08	332	P	P	00 40 48.3	-0.1
BOZ				IAmb	IAmb	00 40 50.4	
	comp=Z,7.3nm,1.3s						
SCHQ	Schefferville	63.36	5	P	P	00 40 49.7	-0.2
SCHQ				IAmb	IAmb	00 41 19.8	
	comp=Z,10nm,1.4s						
SCHQ	Schefferville	63.36	5	P	P	00 40 49.8	-0.2
	comp=Z,3.4nm,0.7s,baz=182,slow=2.8,SNR=8.2						
	comp=Z,3.4nm,0.7s						
MFID	Camas Ranch	63.60	328	P	P	00 40 52.5	+0.7
MFID				IAmb	IAmb	00 40 54.0	
	comp=Z,7.7nm,0.8s						
K05A	Summer Lake	65.94	324	P	P	00 41 08.5	+1.4
K05A				IAmb	IAmb	00 41 09.3	
	comp=Z,10nm,1.2s						
F10A	Beach Ranch, E	66.08	329	P	P	00 41 09.1	+1.3
F10A				IAmb	IAmb	00 41 13.3	
	comp=Z,7.6nm,1.1s						
L04D	Klamath Falls	66.45	323	P	P	00 41 10.5	+0.2
L04D				IAmb	IAmb	00 41 22.0	
	comp=Z,11nm,1.4s						
J05D	Fort Rock, OR	66.48	325	P	P	00 41 11.4	+0.9
FFC	Flin Flon	66.90	343	P	P	00 41 12.3	-0.4
FFC				IAmb	IAmb	00 41 13.6	
	comp=Z,12nm,1.4s						
KSXB	Camp Six Broad	67.16	322	P	P	00 41 15.6	+0.8
KSXB				IAmb	IAmb	00 41 56.4	
	comp=Z,10nm,1.3s						
FCC	Fort Churchill	68.73	349	P	P	00 41 23.8	-0.3
EDM	Edmonton	69.55	336	P	P	00 41 29.1	-0.3
DBIC	Dimbokro	71.36	80	P	P	00 41 40.5	-0.6
	comp=Z,6.5nm,0.3s,baz=254,slow=5.2,SNR=12						
DBIC				pP	pP	00 42 12.7	-1.9
	comp=Z,2.1nm,0.4s,baz=235,slow=3.1,SNR=2.7						
	comp=Z,6.5nm,0.3s						
HILA	High Level	74.89	339	P	P	00 42 01.3	+0.3
YKA	Yellowknife Ar	77.03	342	P	P	00 42 12.7	-0.3
YKA	Yellowknife Ar	77.03	342	P	P	00 42 12.9	0.0
	comp=Z,3.8nm,0.8s,baz=139,slow=6.0,SNR=50						
	comp=Z,3.8nm,0.8s						
DY2G	Dye2	77.54	11	iP	P	00 42 15.5	-0.6
DY2G				IAmb	IAmb	00 42 16.6	
	comp=Z,5.8nm,1.1s						
ISOG	Isortoq, Green	78.37	14	iP	P	00 42 19.1	-1.1
ISOG				IAmb	IAmb	00 42 21.5	
	comp=Z,28nm,0.7s						
TORD	Torodi Ar. Bea	78.95	75	P	P	00 42 24.2	-0.5
	comp=Z,0.7nm,0.5s,baz=263,slow=5.2,SNR=9.5						
TORD				pP	pP	00 42 57.4	-1.3
	comp=Z,2.2nm,0.8s,baz=299,slow=6.1,SNR=6.7						
	comp=Z,0.7nm,0.5s						
ICESG	Greenland Ices	81.10	12	iP	P	00 42 35.5	0.0
ICESG				IAmb	IAmb	00 42 36.9	
	comp=Z,5.7nm,1.0s						
O30N	Mendenhall	83.86	334	P	P	00 42 50.1	+0.5
O30N				IAmb	IAmb	00 42 59.6	
	comp=Z,11nm,1.4s						
M31M	Drury Creek, Y	83.87	336	P	P	00 42 50.5	+0.9
SUMG	Summit	84.18	10	P	P	00 42 52.1	+0.7
SUMG				IAmb	IAmb	00 43 27.3	
	comp=Z,12nm,1.0s						
SUMG	Summit	84.18	10	iP	P	00 42 51.0	-0.4
SUMG				IAmb	IAmb	00 42 52.9	
	comp=Z,4.5nm,0.6s						
M30M	Minto, Yukon	85.03	336	P	P	00 42 55.6	+0.2
M30M				IAmb	IAmb	00 43 27.5	
	comp=Z,7.6nm,1.4s						
NEEM	North Greenlan	86.77	5	iP	P	00 43 04.4	+0.3
NEEM				IAmb	IAmb	00 43 06.9	
	comp=Z,3.3nm,0.9s						
ILAR	Eielson Array	90.03	336	P	P	00 43 19.2	-0.1
	comp=Z,1.7nm,0.9s,baz=134,slow=3.4,SNR=15						
	comp=Z,1.7nm,0.9s						
DAG	Danmarks Havn	90.83	11	iP	P	00 43 21.3	-1.5
DAG				IAmb	IAmb	00 43 24.2	
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	127.35	26	PKP	PKiKP	00 49 24.7	+0.2
	comp=Z,0.9nm,0.7s,baz=325,slow=1.8,SNR=7.4						
GEYT	Alibeck	128.47	48	PKP	PKiKP	00 49 27.3	+0.1
	comp=Z,1.1nm,0.9s,baz=309,slow=9.1,SNR=2.2						
ZALV	Zalesovo Beam	131.72	16	PKP	PKiKP	00 49 32.8	-0.4
	comp=Z,0.7nm,0.3s,baz=318,slow=2.5,SNR=11						
ZALV				pPKP	pPKPdf	00 50 07.3	-1.3
	comp=Z,1.0nm,0.7s,baz=208,slow=2.9,SNR=2.3						
KURBB	Kurchatov Arra	132.48	23	PKP	PKiKP	00 49 34.3	-0.5
	comp=Z,0.5nm,1.1s,baz=313,slow=2.6,SNR=6.7						
MKAR	Makanchi Array	137.04	23	PKP	PKPdf	00 49 43.0	+0.5
	comp=Z,1.0nm,0.9s,baz=318,slow=1.6,SNR=6.5						
ASAR	Alice Springs	137.51	221	PKP	PKPdf	00 49 44.8	+0.7
	comp=Z,0.5nm,0.4s,baz=127,slow=2.4,SNR=5.2						
WRA	Warramunga Arr	139.77	225	PKP	PKPdf	00 49 49.0	+0.8
	comp=Z,1.0nm,0.5s,baz=128,slow=2.1,SNR=6.5						
SONM	Songino Array	140.70	359	PKP	PKiKP	00 49 50.6	-1.3
	comp=Z,0.7nm,0.7s,baz=8.7,slow=1.9,SNR=3.4						
KSRS	Korea Array	144.49	328	PKP	PKPab	00 49 54.0	-0.7
	comp=Z,1.4nm,0.6s,baz=23,slow=4.0,SNR=4.2						
CMAR	Chiang Mai Arr	168.33	31	PKPab	PKPab	00 51 36.5	+0.5
	comp=Z,0.9nm,0.6s,baz=303,slow=5.2,SNR=5.8						

NNC 03 00:39:16.8±1.1, 39.°34N×78.°76E, h0km, mb3.5, mpv3.2, 2C-1D, Error ellipse: s-maj=10.9km s-min=6.9km az=69.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SATY	Saty	3.73	356	Pg	Pb	00 40 25.2	+1.5
	3.5nm,0.8s						
SATY				Lg	Lg	00 41 16.2	
	16nm,0.7s						
TNSS	Tian-Shan	3.94	340	Pg	Pb	00 40 29.1	+1.6
	1.9nm,0.2s						
TNSS				Lg	Lg	00 41 23.0	
	5.1nm,0.7s						
MDOK	Medeo	4.04	342	P	Pb	00 40 29.5	+0.6
	2.2nm,0.7s						
MDOK				Pg	Pg	00 40 30.4	-3.8
	2.3nm,0.5s						
MDOK				⇓S	Sg	00 41 23.5	-3.0
	15nm,0.6s						
MDOK				Lg	Lg	00 41 25.3	
	16nm,0.5s						
KOTS	Kotyrbulak	4.09	343	Pg	Pb	00 40 31.6	+1.8
	1.5nm,0.1s						
KOTS				Lg	Lg	00 41 27.1	
	20nm,0.5s						
MTBS	Maitube	4.18	336	Pg	Pb	00 40 33.2	+1.9
	1.6nm,0.1s						
MTBS				Lg	Lg	00 41 30.9	
	8.7nm,0.3s						
KST	Kastek	4.26	331	Pg	Pb	00 40 34.6	+1.8
	1.7nm,0.3s						
KST				Lg	Lg	00 41 33.0	
	7.2nm,0.5s						
TKM2	Tokmak 2	4.31	327	⇑P	Pb	00 40 28.9	-4.6
	3.8nm,1.4s						
TKM2				⇑S	Sg	00 41 34.0	-1.2
	7.3nm,0.8s						
DGS	Degeres	4.51	331	Pg	Pb	00 40 38.8	+2.0
	2.2nm,0.5s						
DGS				Lg	Lg	00 41 40.3	
	7.4nm,0.5s						
KTBS	Karatobe	4.64	341	Lg	Lg	00 41 42.4	
	12nm,0.4s						
CHKK	Chushkaly	4.71	344	Pg	Pb	00 40 41.8	+1.6
	1.3nm,0.3s						
CHKK				Lg	Lg	00 41 44.8	
	8.2nm,0.6s						
ARXS	Arharly	4.92	352	Lg	Lg	00 41 51.0	
	6.0nm,0.4s						
KNOS	Konyrlen	5.03	3	Pg	Pb	00 40 48.7	+2.9
	1.7nm,0.2s						
KNOS				Lg	Lg	00 41 56.1	
	4.2nm,0.5s						

DJA 03 00:40:34.4±0.3, 12°S±4°×11°8E±°, h10km, M4.4/14, mb4.5/10, mB5.0/2, MLv4.3/14, Mw(mB)4.3/2
IDC 03 00:40:34.9±3.5, 10.°62S×118.°37E, h0km, mb3.4/2, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=245.1km s-min=26.5km az=49.0
ISC 03 00:40:36.8±0.9, 11.°62S±0.°09×117.°66E±0.°08, h34km, n28, σ1.s83/29, South of Sumbawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.77	2	P	Pn	00 41 18.8	0.0
TWSI	Taliwang, Sumb	2.96	345	P	Pn	00 41 20.8	-0.6
DBNI	Kabupaten Domp	3.16	12	P	Pn	00 41 24.5	+0.3
BASI	Baing, Sumba	3.19	64	P	Pn	00 41 24.1	-0.4
IGBI	Denpasar	3.72	318	P	Pn	00 41 31.4	-0.4
SRBI	Singaraja	4.25	325	P	Pn	00 41 40.1	+0.9
JAGI	Jajag, Banyuwa	4.66	312	P	Pn	00 41 43.6	-1.1
JAGI	Jajag, Banyuwa	4.66	312	P	Pn	00 41 43.3	-1.4
EDFI	Ende, Flores	4.89	55	P	Pn	00 41 46.7	-1.3
ABJI	Asem Bagus	5.08	318	P	Pn	00 41 50.9	+0.4
	30nm,0.5s,0.3nm						
BLJI	Banyuglugur	5.55	313	P	Pn	00 41 56.8	-0.2
	38nm,0.4s,0.5nm						
KMMI	Kalianget	5.82	321	P	Pn	00 42 00.3	-0.4
	9.7nm,2.0s,2μm0.1nm						
KRKI	Karangkates	6.17	303	P	Pn	00 42 05.1	-0.4
	130nm,0.5s,1.3nm						
BKSI	Bulukumba	6.71	22	P	Pn	00 42 13.6	+0.6
	12nm,0.6s,0.1nm						
SOEI	Soe	6.76	75	P	Pn	00 42 15.9	+2.2
SOEI	Soe	6.76	75	P	Pn	00 42 14.6	+0.9
	31nm,0.9s,0.1nm						
PWJI	Pagerwojo	6.78	301	P	Pn	00 42 13.3	-0.6
	16nm,0.9s,646nm0.1nm						
BBSI	Bau Bau	7.79	39	P	Pn	00 42 28.2	+0.4
	25nm,1.0s,0.1nm						
UGM	Wanagama	7.93	297	P	Pn	00 42 30.1	+0.3
UGM	Wanagama	7.93	297	P	Pn	00 42 29.5	-0.3
	91nm,2.0s,0.6nm						
MBWA	Marble Bar	9.70	168	P	Pn	00 42 54.6	+0.7
FITZ	Fitzroy Crossi	10.05	131	P	Pn	00 42 59.9	+1.1
PSA00	Pilbara Seismi	10.12	168	P	Pn	00 43 00.3	+0.5
BKB	Balikpapan	10.31	356	P	Pn	00 42 59.6	-2.8
	115nm,0.5s						
WRA	Warramunga Arr	18.05	119	P	P	00 44 46.0	+0.7
	0.2nm,0.3s,baz=292,slow=14,SNR=11						
WRA				S	Sn	00 47 53.4	-12
	0.8nm,0.7s,baz=287,slow=25,SNR=2.4						
	0.4nm,0.7s						
ASAR	Alice Springs	19.55	130	P	Pn	00 45 06.5	+3.2
	0.2nm,0.3s,baz=308,slow=12,SNR=16						
ASAR				S	S	00 48 33.9	-7.1
	0.6nm,0.8s,baz=206,slow=36,SNR=4.7						
	0.9nm,0.6s						
MKAR	Makanchi Array	66.20	334	P	P	00 51 21.4	+0.3
	0.1nm,0.4s,baz=150,slow=6.4,SNR=4.0						
	0.1nm,0.4s						
ZALV	Zalesovo Beam	71.02	340	P	P	00 51 49.3	-1.7
	0.3nm,0.4s,baz=131,slow=6.6,SNR=2.2						
	0.3nm,0.4s						

PRU 03 00:43:08.7, 51.°54N×16.°16E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	0.96	184	ePG	Pg	00 43 26.0	-1.0
CHVC				eSG	Sg	00 43 39.4	+0.1
UPC	Upice	1.04	185	ePG	Pg	00 43 27.6	-1.0
UPC				eSG	Sg	00 43 42.3	+0.3
DPC	Dobruska-Polom	1.20	175	ePG	Pg	00 43 29.6	-2.0
DPC				eSG	Sg	00 43 45.5	-1.6

DJA 03 00:44:31.5±2.1, 3°N±11°×12°4E±°, h338km±24km, M3.7/7, mb3.8/1, mB4.6/1, MLv3.6/7, Mw(mB)3.8/1, Celebes Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	2.60	211	P	Pn	00 45 25.5	-1.0
LBMI	Labuha	4.70	138	P	Pn	00 45 48.1	+0.8
SANI	Sanana	5.16	162	P	Pn	00 45 51.6	-0.8

ISK 03 00:47:10.9, 39.°01N×26.°03E, h9km, ML3.1/28
ATH 03 00:47:11.9, 38.°98N×26.°07E, h11km±2km, ML2.9/12, Error ellipse: s-maj=2.4km s-min=0.9km az=96.0
AFAD 03 00:47:11.3±0.0, 39.°01N×26.°06E, h7km±2km, MW3.6
THE 03 00:47:11.3, 38.°99N×26.°05E, h0km±1km, ML2.9/8, Error ellipse: s-maj=1.7km s-min=0.7km az=213.0
ISC 03 00:47:11.5±0.9, 39.°00N±0.°01×26.°07E±0.°02, h13km±8km, n84, σ0.s91/120, 8C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.29	32	P	Pg	00 47 17.6	0.0
PRK				S	Sb	00 47 22.9	-0.4
	4μm,0.5s						
PRK	Paraskevi	0.29	32	P	Pg	00 47 17.6	0.0
PRK				S	Sb	00 47 22.9	-0.4
PRK				AML	AML	00 47 26.9	
	comp=E,5374μm,0.6s						
PRK				AML	AML	00 47 27.4	
	comp=N,9155μm,0.5s						
EAG3	Mitilini, Lesv	0.40	77	P	Pg	00 47 19.7	+0.2
EAG3				S	Sg	00 47 25.0	+0.1
EAG3				AML	AML	00 47 26.8	
	comp=N,10750μm,0.4s						
EAG3				AML	AML	00 47 27.2	
	comp=E,10214μm,0.3s						
LESV	Lesvos island,	0.40	74	P	Pg	00 47 19.5	0.0
LESV				S	Sg	00 47 25.2	+0.3
	comp=E,19μm,0.4s						
KARB	zmir-Karabur	0.43	141	P	Pg	00 47 19.8	-0.2
KARB				S	Sg	00 47 24.4	-1.3
EAG2	Marmaro, Chios	0.45	176	P	Pg	00 47 20.1	-0.3

EAG2				S	Sg	00 47 26.4	-0.1
EAG2				AML	AML	00 47 28.4	
	comp=N,39789μm,0.3s						
EAG2				AML	AML	00 47 30.9	
	comp=E,45974μm,0.4s						
GPNR	Gulpinar-Canak	0.46	6	Pg	Pg	00 47 20.4	-0.2
GPNR				Sg	Sg	00 47 26.9	+0.1
KOCA	Canakkale, Ayv	0.51	6	P	Pg	00 47 21.4	-0.1
KOCA				S	Sg	00 47 28.3	+0.1
AYVA	Ayvalik	0.57	57	P	Pg	00 47 22.8	+0.1
AYVA				S	Sg	00 47 29.0	-1.4
CAND	Candarli	0.57	94	Pg	Pg	00 47 22.9	+0.2
CAND				Sg	Sb	00 47 31.7	+0.3
FOCM	Foa	0.59	119	Pg	Pg	00 47 23.4	+0.4
FOCM				Sg	Sb	00 47 32.8	+1.0
CHOS	Chios island	0.61	181	Pg	Pg	00 47 23.3	-0.1
CHOS				Sg	Sb	00 47 32.8	+0.3
CHOS	Chios island	0.61	181	P	Pg	00 47 22.9	-0.5
CHOS				S	Sb	00 47 32.5	0.0
	comp=E,3μm,0.3s						
CHOS	Chios island	0.61	181	P	Pg	00 47 23.1	-0.3
CHOS				S	Sg	00 47 32.2	+0.7
CHOS				AML	AML	00 47 35.2	
	comp=E,9369μm,0.3s						
CHOS				AML	AML	00 47 35.2	
	comp=N,4487μm,0.3s						
DKL	Dikili	0.66	83	Pg	Pg	00 47 24.5	+0.2
RFT7	Candarli	0.67	93	Pg	Pg	00 47 24.7	+0.3
CESE	eme	0.69	165	Pg	Pg	00 47 25.0	+0.1
ZEDA	zmir-Bergama	0.79	92	P	Pg	00 47 26.9	+0.2
ZEDA				S	Sb	00 47 37.7	+0.2
BAYC	CANAKKALE_Bayr	0.83	26	P	Pg	00 47 27.3	-0.3
BAYC				S	Sb	00 47 39.0	+0.1
ZEYE	Izmir, Urla-Ze	0.83	156	P	Pg	00 47 27.3	-0.3
ZEYE				S	Sg	00 47 38.2	-0.3
BUHA	Balikesir, Bur	0.93	57	P	Pg	00 47 29.3	-0.2
BUHA				S	Sg	00 47 40.8	-0.8
EFSA	Agios Efstrati	1.00	303	P	Pb	00 47 30.8	+0.2
EFSA				S	Sn	00 47 44.8	-0.2
EFSA				AML	AML	00 47 49.0	
	comp=N,1143μm,0.5s						
EFSA				AML	AML	00 47 55.9	
	comp=E,1446μm,0.8s						
ECEA	Canakkale, Ece	1.05	4	P	Pg	00 47 31.2	-0.5
ECEA				S	Sb	00 47 45.7	+0.6
CNKL	anakkale-Mer	1.09	13	P	Pg	00 47 31.7	-0.9
CNKL				P	Pg	00 47 31.8	-0.9
CNKL				S	Sb	00 47 46.6	+0.2
CNKL				S	Sb	00 47 46.7	+0.2
LIA	Limnos Island	1.13	323	P	Pb	00 47 32.8	0.0
LIA				S	Sn	00 47 48.7	+0.4
	comp=E,2μm,0.4s						
LIA	Limnos Island	1.13	323	P	Pb	00 47 32.9	0.0
LIA				S	Sb	00 47 47.6	+0.1
LIA				AML	AML	00 47 48.5	
	comp=E,4818μm,0.4s						
LIA				AML	AML	00 47 49.6	
	comp=N,2795μm,0.3s						
DGB	zmir	1.14	146	P	Pn	00 47 33.8	+0.8
DGB				S	Sg	00 47 46.5	-1.7
GOAD	anakkale-G¶	1.17	354	P	Pb	00 47 33.2	-0.3
GOAD				S	Sg	00 47 47.7	-1.6
SKY	Skiros Island	1.19	265	P	Pg	00 47 34.0	-0.4
SKY				AML	AML	00 47 54.9	
	comp=N,537μm,0.6s						
SKY				AML	AML	00 47 55.2	
	comp=E,820μm,0.5s						
GADA	Gvkgeada	1.20	354	Pn	Pb	00 47 33.7	-0.3
STEP	BALIKESIR_Sava	1.34	73	P	Pn	00 47 36.0	+0.1
STEP				S	Sb	00 47 51.5	-1.9
AKS	Akhisar	1.36	94	Pn	Pb	00 47 37.1	+0.2
AKHS	Akhisar	1.37	94	P	Pg	00 47 37.8	+0.1
BALY	Balya	1.41	58	P	Pb	00 47 37.9	+0.2
BALY				S	Sb	00 47 54.7	-0.9
SMG	Samos	1.42	155	P	Pn	00 47 36.2	-0.8
SMG				S	Sg	00 47 58.9	+1.6
SMG	Samos	1.42	155	P	Pn	00 47 37.7	+0.8
SMG				S	Sn	00 47 55.0	-0.5
SMG				AML	AML	00 48 00.7	
	comp=E,1603μm,0.6s						
SMG				AML	AML	00 48 02.2	
	comp=N,1470μm,0.3s						
GELI	Tayfur-Gelibol	1.43	12	Pn	Pg	00 47 38.4	-0.6
LPK	Lapseki	1.47	21	Pn	Pn	00 47 38.1	+0.4
SMTH	Samothraki Isl	1.53	344	P	Pb	00 47 39.2	-0.4
SMTH				S	Sg	00 48 00.5	-0.2
	comp=N,158nm,0.4s						
SMTH	Samothraki Isl	1.53	344	P	Pb	00 47 39.3	-0.4
SMTH				AML	AML	00 48 01.4	
	comp=E,337μm,0.5s						
SMTH				AML	AML	00 48 02.1	
	comp=N,290μm,0.3s						
BALB	Balikesir	1.54	65	Pn	Pn	00 47 39.4	+0.8
KYMI	Kymi, Euboea I	1.58	257	P	Pn	00 47 38.6	-0.5
GCAM	G?zelcaml?	1.59	144	Pn	Pn	00 47 39.7	+0.5
GCAM	G?zelcaml?	1.59	144	P	Pb	00 47 40.9	+0.3
GCAM				S	Sn	00 47 59.4	-0.1
ENZZ	Sultanice-Enez	1.61	2	Pn	Pb	00 47 40.4	-0.6
BKES	Balkesir-Mer	1.62	62	P	Pn	00 47 39.7	+0.1
BKES				S	Sn	00 47 56.9	-3.4
GONE	Gonen-Balikesi	1.63	50	Pn	Pn	00 47 40.7	+0.9
KRBG	Karabiga-Canak	1.69	34	Pn	Pn	00 47 40.9	+0.3
ERIK	Erikli-Kesan	1.71	11	Pn	Pn	00 47 41.8	+0.9
IZMR	zmir-demi	1.71	120	P	Pn	00 47 40.7	-0.2
ENEZ	Enez	1.74	2	Pn	Pn	00 47 41.7	+0.4
ENEZ	Enez	1.74	2	P	Pn	00 47 42.0	+0.7
ENEZ				S	Sb	00 48 05.3	+0.4
	comp=N,342nm,0.5s						
DDIM	Aydin, Didim	1.79	149	P	Pg	00 47 45.6	-0.3
RKY	Sarkoy-Tekirda	1.89	26	Pn	Pn	00 47 44.4	+0.9
ALN	Alexandroupoli	1.90	359	Pn	Pn	00 47 43.9	+0.4
ALN	Alexandroupoli	1.90	359	P	Pn	00 47 43.6	+0.1
ALN				S	Sb	00 48 10.2	+0.7
	comp=N,78nm,0.7s						
ALN	Alexandroupoli	1.90	359	P	Pn	00 47 44.3	+0.8
ALN				AML	AML	00 48 15.9	
	comp=E,144μm,0.5s						
ALN				AML	AML	00 48 16.0	
	comp=N,170μm,0.5s						
THAS	Thassos island	1.91	328	P	Pn	00 47 43.6	-0.1
THAS	Thassos island	1.91	328	P	Pn	00 47 43.5	-0.1
THAS				AML	AML	00 48 18.6	
	comp=N,177μm,0.3s						
THAS				AML	AML	00 48 21.8	
	comp=E,129μm,0.5s						
EDC	Edincik	1.93	45	Pn	Pn	00 47 44.3	+0.3
APE	Apeiranthos	1.97	193	Pn	Pn	00 47 44.4	-0.2
APE	Apeiranthos	1.97	193	P	Pn	00 47 43.5	-1.1
KIRA	zmir-Kiraz	1.99	113	P	Pn	00 47 45.1	+0.2
MANT	Manisa	2.01	104	P	Pn	00 47 45.0	-0.3
PAIG	Paliouri	2.07	297	Pn	Pn	00 47 45.8	-0.1
KULA	Kula-Manisa	2.08	103	P	Pn	00 47 46.7	+0.6
OUR	Ouranopolis	2.09	310	Pn	Pn	00 47 46.6	+0.4
UKOP	Uzunkopru-Edir	2.17	11	Pn	Pn	00 47 48.1	+0.8
KCTX	Karacabey (Bur	2.17	54	Pn	Pn	00 47 48.9	+1.6
RDO	Rodhopi	2.19	349	Pn	Pn	00 47 48.1	+0.7
RDO	Rodhopi	2.19	349	P	Pn	00 47 47.8	+0.4
RDO	Rodhopi	2.19	349	P	Pn	00 47 47.6	+0.2
RDO				AML	AML	00 48 28.6	
	comp=N,83μm,0.6s						
RDO				AML	AML	00 48 30.4	
	comp=E,85μm,0.6s						
TKR	Tekirdag	2.29	29	Pn	Pn	00 47 48.9	0.0
KAVA	Kavala	2.33	330	P	Pn	00 47 49.7	+0.3
KOKK	Kokkinochori,	2.42	319	P	Pn	00 47 50.8	+0.2
PLVB	Pleven	4.52	346	⇑P	Pn	00 48 21.3	+1.8
BOVS	Bovan	5.68	326	⇑P	Pn	00 48 37.3	+1.8
MLR	Muntele Rosu	6.49	359	⇑P	Pn	00 48 48.6	+1.9
GZR	Gura Zlata	6.84	340	⇑P	Pn	00 48 53.4	+1.9
VRI	Vrincioaia	6.88	4	⇑P	Pn	00 48 54.8	+2.8
DOPR	Dopca	6.98	356	⇑P	Pn	00 48 55.1	+1.7
VLDR	Vladesti	7.00	12	⇓P	Pn	00 48 56.1	+2.5
TURR	Turia	7.05	360	⇑P	Pn	00 48 57.6	+3.2
TESR	Tescani	7.52	3	⇑P	Pn	00 49 02.5	+1.8

*NEIC **03** 00:52:01.3±0.8, 18.°74N±0.°05×65.°40W±0.°05, h35km±2km, ML2.6/18, Md3.3/9(RSPR), Error ellipse: s-maj=10.4km s-min=4.4km az=314.0*
*RSPR **03** 00:52:02.5, 18.°74N×65.°39W, h43km±7km, MD3.3/9*
ISC 03 00:52:00.2±2.0, **18.°8N**±0.°1×**65.°38W**±0.°03, **h30**km±13km, **n36**, σ0.70/49, **4C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	Guaynabo City	0.80	236	⇓iP	Pn	00 52 16.1	+0.6
GCPR	Guaynabo City	0.80	236	eS	Sn	00 52 26.6	+0.2
GCPR	Guaynabo City	0.80	236		Pn	00 52 15.8	+0.3
GCPR					Sb	00 52 26.3	+0.1
SJG	San Juan	0.97	229	⇓eP	Pb	00 52 18.2	-0.2
SJG	San Juan	0.97	229	Pn	Pn	00 52 17.9	+0.1
SJG				IAML		00 52 31.6	
	131nm,0.2s						
SJG				IAML		00 52 32.7	
	149nm,0.2s						
SJG	San Juan	0.97	229	eP	Pb	00 52 18.4	-0.1
SJG				eS	Sb	00 52 30.9	-0.1
IGPR	InterUniversit	1.05	221	⇓iP	Pb	00 52 19.4	-0.3
IGPR	InterUniversit	1.05	221	eS	Sn	00 52 32.7	+0.3
IGPR	InterUniversit	1.05	221		Pb	00 52 19.4	-0.3
IGPR					Sn	00 52 32.7	+0.3
CELP	Cerrillos	1.32	239	⇑iP	Pn	00 52 23.6	+0.9
CELP	Cerrillos	1.32	239	eS	Sn	00 52 39.8	+0.4
CELP	Cerrillos	1.32	239	Pn	Pn	00 52 23.1	+0.4
CELP				Sn	Sn	00 52 38.9	-0.5
CELP				IAML		00 52 40.3	
	comp=N,122nm,0.5s						
CELP				IAML		00 52 40.4	
	comp=E,133nm,0.3s						
OBIP	Obispado Ponce	1.36	239	⇑eP	Pn	00 52 24.1	+0.9
OBIP	Obispado Ponce	1.36	239	eS	Sn	00 52 40.8	+0.5
OBIP	Obispado Ponce	1.36	239	Pn	Pn	00 52 23.0	-0.2
OBIP				Sn	Sn	00 52 40.1	-0.2
OBIP				IAML		00 52 41.5	
	comp=E,181nm,0.3s						
OBIP				IAML		00 52 41.5	
	comp=N,71nm,0.2s						
AOPR	Arecibo Observ	1.37	253	⇑eP	Pn	00 52 24.0	+0.8
AOPR	Arecibo Observ	1.37	253	eS	Sn	00 52 40.9	+0.5
AOPR	Arecibo Observ	1.37	253	Pn	Pn	00 52 23.4	+0.1
AOPR				Sn	Sn	00 52 40.6	+0.2
GBPR	Guanica, Bosqu	1.62	242	⇑eP	Pn	00 52 27.7	+0.9
GBPR	Guanica, Bosqu	1.62	242		Pn	00 52 27.7	+0.9
AGPR	Aguadilla, PR	1.67	260	⇓eP	Pn	00 52 28.1	+0.7
AGPR	Aguadilla, PR	1.67	260	eS	Sn	00 52 48.0	+0.2
AGPR	Aguadilla, PR	1.67	260	Pn	Pn	00 52 27.7	+0.3
AGPR				Sn	Sn	00 52 47.1	-0.7
AGPR				IAML		00 52 50.2	
	comp=N,97nm,0.5s						
AGPR				IAML		00 52 54.1	
	comp=E,95nm,1.2s						
LSP	Las Mesas	1.72	251	⇑eP	Pn	00 52 28.3	+0.1
LSP	Las Mesas	1.72	251	eS	Sn	00 52 48.0	-1.2
LSP	Las Mesas	1.72	251		Pn	00 52 28.3	+0.1
LSP					Sn	00 52 48.0	-1.2
MLPR	Magueyes Islan	1.76	244	⇑iP	Pn	00 52 28.9	+0.1
MLPR	Magueyes Islan	1.76	244	eS	Sn	00 52 49.8	-0.4
MLPR	Magueyes Islan	1.76	244	Pn	Pn	00 52 28.1	-0.6
MLPR				Sn	Sn	00 52 48.7	-1.5
MLPR				IAML		00 52 50.8	
	comp=N,51nm,0.4s						
CRPR	Cabo Rojo, PR	1.80	246	⇑iP	Pn	00 52 30.4	+1.2
CRPR	Cabo Rojo, PR	1.80	246	eS	Sn	00 52 51.1	-0.1
CRPR	Cabo Rojo, PR	1.80	246	Pn	Pn	00 52 29.6	+0.3
CRPR				Sn	Sn	00 52 49.4	-1.8
CRPR				IAML		00 53 01.1	
	comp=E,39nm,2.2s						
SMRT	St. Maarten	2.30	107	Pn	Pn	00 52 36.7	+0.6
MBFL	Flemmings, Mon	3.62	123	eP	Pn	00 52 55.2	+1.0
MBFL				eS	Sn	00 53 35.8	-0.3
MLYT	Lee's Yard	3.65	123	eP	Pn	00 52 55.1	+0.4
MLYT				eS	Sn	00 53 35.5	-1.4
ANBD	Bethesda, Anti	3.84	116	eP	Pn	00 52 58.2	+0.9
ANBD				eS	Sn	00 53 40.5	-0.9

IDC 03 01:00:05.2±1.9, **2.°73N×128.°60E, h0**km, **mb3.8**/4, **mbtmp3.8**/4, **Error ellipse: s-maj=147.1km s-min=20.5km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.22	166	P	P	01 05 14.6	+0.4
	2.8nm,0.7s,baz=346,slow=11,SNR=31						
WRA				S	S	01 09 14.1	-13
	0.3nm,0.5s,baz=253,slow=6.5,SNR=1.6						
	2.8nm,0.7s						
ASAR	Alice Springs	26.74	169	P	P	01 05 46.3	-0.3
	1.1nm,0.5s,baz=356,slow=8.0,SNR=32						
	1.1nm,0.5s						
MKAR	Makanchi Array	59.44	325	P	P	01 10 10.2	+0.4
	0.2nm,0.4s,baz=114,slow=8.1,SNR=8.8						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	63.59	327	P	P	01 10 37.2	-0.5
	0.6nm,0.5s,baz=127,slow=6.0,SNR=6.8						
	0.6nm,0.5s						

*NEIC **03** 01:15:47.6±1.6, 54.°19N±0.°03×161.°03W±0.°06, h27km±9km, mb3.4/5, ML3.7/20, ML3.5(AEIC), Error ellipse: s-maj=5.5km s-min=4.6km az=69.0*
AEIC 03 01:15:47.4±1.7, **54.°17N**±0.°04×**161.°09W**±0.°06, **h31**km±7km, **Error ellipse: s-maj=6.0km s-min=4.6km az=209.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	Dutton Round H	1.17	324		Pn	01 16 07.0	-0.6
DT1					Sn	01 16 21.4	-1.0
SDPT	Sand Point	1.24	16		Pn	01 16 08.3	-0.2
SDPT					Sn	01 16 23.7	-0.4
SDPT				IAML		01 16 25.6	
	comp=N,754nm,0.5s						
PS4A	Pavlof South-4	1.26	340		Pn	01 16 09.1	+0.2
PS4A					Sn	01 16 25.2	+0.4
PVV	Pavlof Volcano	1.28	342		Pn	01 16 09.3	+0.2
PVV					Sn	01 16 25.8	+0.6
PS1A	Pavlof South-1	1.31	344		Pn	01 16 09.8	+0.3
PS1A					Sn	01 16 26.8	+0.8
PN7A	Pavlof North-7	1.38	338		Pn	01 16 11.1	+0.6
PN7A					Sb	01 16 29.4	-0.3
FALS	False Pass	1.52	298	Pn	Pn	01 16 12.7	+0.3
FALS	False Pass	1.52	298		Sb	01 16 32.7	-1.1
ISLZ	Isanotski Laza	1.63	291		Pn	01 16 14.0	0.0
ISLZ					Sn	01 16 34.5	+0.6
ISNN	Isanotski Nort	1.71	294		Pn	01 16 16.0	+1.1
ISNN					Sb	01 16 37.6	-1.4
SSLN	Shishaldin Nor	1.82	292		Pn	01 16 17.8	+1.3
SSLN					Sb	01 16 40.5	-1.8
SSBA	Shishaldin	1.87	290		Pn	01 16 18.0	+0.7
WESE	West Dahl East	2.07	280		Pn	01 16 20.9	+0.9
WEBT	Westdahl Beart	2.19	283		Pn	01 16 22.8	+1.3
VNFG	Fog Glacier, M	2.30	22		Pn	01 16 23.8	+0.6
VNFG				IAML		01 17 04.8	
	comp=E,458nm,1.7s						
VNFG				IAML		01 17 17.5	
	comp=N,436nm,1.1s						
CHGN	Chignik	2.63	34	Pn	Pn	01 16 27.4	-0.3
AKSA	Akutan Strait	2.71	271		Pn	01 16 29.7	+1.0
AKUT	Akutan	2.75	271	Pn	Pn	01 16 28.9	-0.4
LVA	Lava Point	2.91	272		Pn	01 16 32.0	+0.5
UNV	Unalaska Valle	3.21	266	Pn	Pn	01 16 35.4	-0.2
MNAT	Makushin Natee	3.31	267		Pn	01 16 37.7	+0.7
CHIR	Chirikof Islan	3.56	60	Pn	Pn	01 16 40.5	+0.2
CHIR				IAML		01 17 05.5	
	comp=N,233nm,3.4s						
CHIR				IAML		01 18 21.9	
	comp=E,231nm,3.2s						
R16K	Pilot Point	3.94	29	Pn	Pn	01 16 45.7	+0.1
R17K	Ugashik Creek	4.37	35	Pn	Pn	01 16 52.1	+0.5
R17K				IAML		01 18 29.8	
	comp=E,68nm,4.8s						
R17K				IAML		01 19 18.2	
	comp=N,58nm,3.9s						
SII	Sitkinak Islan	4.61	56	Pn	Pn	01 16 55.4	+0.5
CNTC	Contact Creek	5.03	33		Pn	01 17 02.2	+1.5
O15K	Ungalikthiuk R	5.07	7		Pn	01 17 02.4	+1.2
O14K	Tigyukauivet M	5.10	359	Pn	Pn	01 17 01.8	+0.3
O14K				IAML		01 18 42.1	
	comp=E,35nm,3.5s						
O14K				IAML		01 18 42.4	
	comp=N,37nm,3.7s						
ANCK	Angle Creek	5.11	35		Pn	01 17 02.6	+0.8
P16K	Nushagak River	5.17	18		Pn	01 17 03.3	+0.9
OHAK	Old Harbor	5.37	52	Pn	Pn	01 17 03.3	-1.9
OHAK				IAML		01 17 59.8	
	comp=N,65nm,3.1s						
KAHC	Katmai Hardscr	5.62	34		Pn	01 17 10.0	+1.2
KAHG	Katmai Hook Gl	5.66	37		Pn	01 17 10.5	+1.2
O16K	Kokwok River B	5.68	16	Pn	Pn	01 17 10.6	+1.1
N14K	Kuskokwak Cree	5.78	357		Pn	01 17 12.2	+1.3
KDAK	Kodiak Island	5.99	49	Pn	Pn	01 17 11.9	-1.9
N15K	Kwethluk River	6.04	5	Pn	Pn	01 17 14.3	-0.2
Q19K	Cape Douglas,	6.30	38	Pn	Pn	01 17 17.4	-0.6
M13K	Dall Lake	6.38	350	Pn	Pn	01 17 19.6	+0.5
N16K	Nishlik Lake	6.45	10		Pn	01 17 21.4	+1.3
M15K	Kasigluk River	6.55	2		Pn	01 17 22.6	+1.2
SYI	Shuyak Island	6.57	44	Pn	Pn	01 17 22.6	+1.0
M14K	Bethel	6.62	356	Pn	Pn	01 17 23.4	+1.1
M16K	Timber Creek	6.97	9	Pn	Pn	01 17 28.1	+0.9
L14K	Kuka Creek	7.25	354	Pn	Pn	01 17 31.8	+0.8
M17K	Holitna River	7.51	14	Pn	Pn	01 17 34.5	-0.1
L15K	Ungalak Mounta	7.54	359		Pn	01 17 36.1	+1.2
N19K	Bonanza Creek	7.55	25	Pn	Pn	01 17 35.4	+0.2
K15K	Wolf Creek Mou	8.16	359	Pn	Pn	01 17 44.1	+0.6
L18K	Granite Mounta	8.40	14	Pn	Pn	01 17 46.5	-0.3
L19K	White Mountain	8.68	20	Pn	Pn	01 17 50.7	0.0
K17K	Iditarod	8.70	9	Pn	Pn	01 17 52.5	+1.6
J14K	Nanvaranak Lak	8.71	352	Pn	Pn	01 17 51.2	+0.3
M20K	Styx River	8.81	25	Pn	Pn	01 17 54.4	+2.0
J16K	Anvik River	9.15	1	Pn	Pn	01 17 57.9	+0.9
SUA	Susitna One	9.15	33	Pn	Pn	01 17 56.8	-0.4
TTA	Tatalina	9.18	15	Pn	Pn	01 17 56.3	-1.3
K20K	Telida	9.90	19	Pn	Pn	01 18 05.8	-1.6
GHO	Glory Hole Cre	9.98	35	Pn	Pn	01 18 06.5	-2.0
HIN	Hinchinbrook I	10.05	46	Pn	Pn	01 18 07.6	-1.8
SCM	Sheep Creek Mo	10.58	38	Pn	Pn	01 18 16.1	-0.6
J20K	Nowinta River	10.64	17	Pn	Pn	01 18 18.3	+0.8
KLU	Klutina	10.90	42	Pn	Pn	01 18 20.2	-0.8
TGL	Tana Glacier	11.81	49	Pn	Pn	01 18 33.6	0.0
IMAR	Indian Mountai	12.39	14	Pn	Pn	01 18 41.2	-0.2
L27K	Beaver Creek,	13.37	41	Pn	Pn	01 18 55.5	+0.8
BCAR	Beaver Creek A	13.39	41	Pn	Pn	01 18 54.4	-0.6
O29M	Mount Kennedy	13.61	54	Pn	Pn	01 18 58.5	+0.4
P29M	Windy Craggy	13.84	57	Pn	Pn	01 19 01.6	+0.4
M29M	Somme Creek	14.43	46	Pn	Pn	01 19 08.5	-0.7
D19K	Kuna River	14.45	4	P	P	01 19 15.8	0.0
C18K	Utukok River	14.54	360	P	P	01 19 16.5	-0.3
E21K	Killik River	14.71	10	P	P	01 19 16.9	-1.9
K29M	Barlow Dome	15.43	42	Pn	Pn	01 19 23.6	+1.0
K29M				IAmb	IAmb	01 19 28.0	
	comp=Z,5.5nm,1.2s						
B20K	Meade River	16.00	5	P	P	01 19 31.9	-1.0
B20K				IAmb	IAmb	01 20 09.0	
	comp=Z,3.1nm,1.3s						
G30M	tAoh Zraii Nji	17.55	33	Pn	Pn	01 19 48.8	-0.5
G30M				IAmb	IAmb	01 20 30.6	
	comp=Z,3.3nm,1.2s						
G31M	Satah River	18.16	35		P	01 19 57.2	+0.4
PEA0B	Petropavlovsk-	24.22	284	P	P	01 21 01.0	+0.1
PETK	Petropavlovsk-	24.22	284	P	P	01 21 00.5	-0.5

*ZUR **03** 01:23:25.7, 47.°34N×6.°53E, h1km±1km, MLh2.2/19, Error ellipse: s-maj=3410.5km s-min=1347.3km az=105.0*
*LDG **03** 01:23:26.3±0.1, 47.°31N×6.°50E, h3km, Ml2.8/19, Error ellipse: s-maj=1.1km s-min=1.0km az=134.0*
*BGR **03** 01:23:26.7±0.7, 47.°32N×6.°51E, h10km, ML2.5/15, Error ellipse: s-maj=4.4km s-min=3.3km az=51.0*
*STR **03** 01:23:26.7±0.5, 47°N±2°×°±°, h5km, MLv2.7/19, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, preliminary*
ISC 03 01:23:25.0±0.9, **47.°31N**±0.°01×**6.°46E**±0.°01, **h10**km±6km, **n107**, σ0.95/161, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMF	Charmoille	0.14	116	Pg	Pg	01 23 28.4	+0.1
CHMF				Sg	Sg	01 23 30.1	-0.5
CHMF	Charmoille	0.14	116	Pg	Pg	01 23 28.4	+0.1
CHMF				Sg	Sg	01 23 30.2	-0.4
BRANT	Les Verrieres	0.37	179	Pg	Pb	01 23 33.7	-0.1
BRANT				Sg	Sb	01 23 39.5	-0.2
BRANT	Les Verrieres	0.37	179	Pg	Pb	01 23 33.7	-0.1
SAIRA	Les Sairains D	0.42	91	Sg	Sg	01 23 39.3	+0.3
SNES2	Neuenburg, Obs	0.46	133	Pg	Pg	01 23 34.5	+0.6
SNES2				Sg	Sg	01 23 40.7	+0.7
MTI02	Mont Terri, (H	0.48	82	Pg	Pg	01 23 34.7	+0.3
BOURR	Bourrignon	0.53	81	Pg	Pb	01 23 35.8	-0.5
BOURR	Bourrignon	0.53	81	Pg	Pb	01 23 35.9	-0.5
HINF	Hinteralfeld	0.57	28	ePg	Pb	01 23 36.3	-0.8
	SNR=1.0						
HINF				eSg	Sg	01 23 43.3	-0.3
	73nm,0.4s						
SCOU	Cournillens	0.63	136	Sg	Sg	01 23 46.7	+1.1
ILLF	Illfurth	0.65	55	Pg	Pb	01 23 38.3	-0.2
ILLF				Sg	Sb	01 23 47.1	-0.6
RIVEL	MONT RIVEL	0.67	214	Pg	Pb	01 23 39.6	+0.9
SMOE	Moudon cole,	0.68	160	Sg	Sb	01 23 48.8	+0.4
WOLEN	Wohlen bei Ber	0.69	117	Pg	Pg	01 23 38.8	+0.4
HAU	Haudompre	0.70	354	ePg	Pb	01 23 39.4	+0.1
	SNR=1.0						
HAU				eSg	Sb	01 23 48.4	-0.6
	121nm,0.2s,SNR=1.0						
MOF	Molkenrain	0.71	40	Pg	Pb	01 23 39.8	+0.3
SOLB	Solothurn Schu	0.73	98	Sg	Sg	01 23 49.1	+0.6
CABF	La Chapelle	0.75	200	ePg	Pb	01 23 40.8	+0.7
	SNR=1.0						
CABF				eSg	Sb	01 23 51.0	+0.6
	39nm,0.3s,SNR=1.0						
GIMEL	St. Georges /	0.79	190	Pg	Pb	01 23 41.7	+0.8
GIMEL	St. Georges /	0.79	190	Pg	Pb	01 23 41.7	+0.8
GIMEL	St. Georges /	0.79	190	Sg	Sn	01 23 54.2	+0.1
MATTE	Schuetzenmatte	0.79	72	Pg	Pb	01 23 41.3	+0.5
BALST	Balsthal	0.84	88	Pg	Pb	01 23 41.8	+0.1
BALST	Balsthal	0.84	88	Pg	Pb	01 23 41.8	+0.1
BALST	Balsthal	0.84	88	Sg	Sg	01 23 52.4	+0.3
BALST	Balsthal	0.84	88	ePg	Pn	01 23 42.9	0.0
BALST				eSg	Sb	01 23 53.1	0.0
WALT	Westhalten	0.85	40	Pg	Pn	01 23 42.5	-0.6
WALT				Sg	Sn	01 23 55.1	-0.6
ENDD	Endenburg	0.95	65	Pg	Pn	01 23 44.0	-0.5
ENDD	Endenburg	0.95	65	Sg	Sb	01 23 56.7	+0.4
ECH	Echery	1.02	27	Pg	Pn	01 23 44.8	-0.6
ECH	Echery	1.02	27	Pg	Pn	01 23 45.1	-0.3
ECH				Sg	Sn	01 23 58.8	-0.9
ECH	Echery	1.02	27	ePg	Pn	01 23 45.3	-0.1
ECH				eSg	Sn	01 23 59.0	-0.8
WIMIS	Wimmis	1.03	129	Pg	Pg	01 23 45.1	+0.4
AIGLE	Aigle	1.03	161	Pg	Pn	01 23 45.8	+0.3
SENIN	Lac Senin/Sane	1.11	148	Pg	Pn	01 23 47.5	+0.8
SULZ	Cheisacher	1.14	78	Pg	Pn	01 23 47.7	+0.6
SULZ	Cheisacher	1.14	78	ePg	Pn	01 23 47.5	+0.5
SULZ				eSg	Sn	01 24 02.4	-0.3
GRYON	Gryon	1.15	157	Pg	Pn	01 23 48.1	+0.9
KIZ	Kirchzarten	1.18	56	Pg	Pg	01 23 46.9	-0.6
KIZ	Kirchzarten	1.18	56	Sg	Sb	01 24 02.9	+0.2
FELD	Feldberg im Sc	1.19	61	Pg	Pn	01 23 48.0	+0.2
FELD	Feldberg im Sc	1.19	61	Sg	Sn	01 24 03.5	-0.5
LKBD2	Leukerbad 2	1.24	139	Pg	Pg	01 23 49.9	+1.1
WLS	Welschbruch	1.25	28	Pg	Pn	01 23 48.5	-0.1
METMA	Mettma DE	1.28	71	eSn	Sb	01 24 05.0	-0.6
BERGE	Lenzkirch (DE)	1.29	64	ePn	Pn	01 23 49.1	0.0
	SNR=2.5						
BERGE				ePg	Pg	01 23 50.7	+0.9
BERGE				eSn	Sb	01 24 05.5	-0.5
BERGE				eSg	Sn	01 24 06.9	+0.4
SFTF	Sexfontaines	1.31	313	ePn	Pg	01 23 50.0	-0.2
	baz=128						
SFTF				eSg	Sn	01 24 08.6	+1.6
	35nm,0.3s						
PAGF	Fort de Pagny	1.34	339	ePg	Pg	01 23 52.0	+1.3
	baz=157						
PAGF				eSg	Sn	01 24 09.1	+1.5
	35nm,0.3s						
DIX	Grande Dixence	1.39	152	Pg	Pb	01 23 51.9	+0.7
DIX	Grande Dixence	1.39	152	Sg	Sg	01 24 11.7	+1.8
EMBD	Embd, Matterta	1.45	139	Pn	Pb	01 23 52.7	+0.7
EMBD	Embd, Matterta	1.45	139	Sg	Sg	01 24 12.2	+0.8
SLE	Schleitheim	1.45	71	Pn	Pn	01 23 50.8	-0.5
SLE	Schleitheim	1.45	71	ePn	Pn	01 23 50.8	-0.5
	SNR=3.3						
SLE				ePg	Pg	01 23 54.4	+1.6
SLE				eSn	Sn	01 24 09.7	-0.7
SLE				eSg	Sg	01 24 11.1	-0.5
MEZF	Maizieres J'vi	1.52	322	ePg	Pg	01 23 55.7	+1.5
	baz=138,SNR=1.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEZF				eSg	Sg	01 24 15.5	+1.6
	74nm,0.6s,SNR=1.0						
BFO	Black Forest	1.62	50	ePn	Pn	01 23 53.3	-0.3
	SNR=1.3						
BFO				eSn	Sn	01 24 13.3	-1.3
BFO				eSg	Sg	01 24 17.0	0.0
OPP	Oppenau	1.66	44	Pn	Pb	01 23 55.1	-0.6
OPP	Oppenau	1.66	44	Sn	Sn	01 24 15.6	+0.1
OPP				Sg	Sg	01 24 18.5	+0.2
WILA	Wila	1.67	86	ePg	Pg	01 23 57.4	+0.4
WILA				eSn	Sn	01 24 15.5	-0.3
WILA				eSg	Sg	01 24 18.3	-0.2
EMING	Emmingen-Lipti	1.71	69	ePg	Pg	01 23 58.5	+0.7
EMING				eSn	Sn	01 24 15.5	-1.4
EMING				eSg	Sg	01 24 19.4	-0.6
LOR	Lormes	1.77	270	ePn	Pb	01 23 57.2	-0.4
	baz=90,SNR=1.0						
LOR	Lormes	1.77	270	ePg	Pg	01 23 58.2	-0.8
	SNR=1.0						
LOR				eSn	Sn	01 24 18.0	-0.3
	17nm,0.3s,SNR=1.0						
LOR				eSg	Sg	01 24 22.5	+0.6
	18nm,0.3s						
LOR	Lormes	1.77	270	Pn	Pg	01 24 00.2	+1.2
LPL	La Plagne	1.81	174	ePn	Pn	01 23 57.7	+1.3
	SNR=1.0						
LPL	La Plagne	1.81	174	ePg	Pg	01 24 00.5	+0.9
LPL				eSn	Sn	01 24 18.3	-1.1
	SNR=1.0						
LPL				eSg	Sg	01 24 23.7	+0.7
	7.8nm,0.3s,SNR=1.0						
BABA	Baden-Baden-Ne	1.82	39	Pn	Pn	01 23 55.4	-1.0
LPG	La Plagne	1.83	174	ePn	Pn	01 23 57.7	+1.0
	SNR=1.0						
LPG	La Plagne	1.83	174	ePg	Pg	01 24 00.4	+0.4
LPG				eSg	Sg	01 24 24.3	+0.6
	6.9nm,0.3s,SNR=1.0						
WALHA	Wallhausen, DE	1.86	75	eSn	Sn	01 24 19.4	-1.0
WALHA				eSg	Sg	01 24 23.8	-0.8
SMF	Signal de Mont	1.91	251	ePg	Pg	01 24 01.9	+0.2
	SNR=1.0						
SMF				eSg	Sg	01 24 27.3	+0.8
	15nm,0.4s,SNR=1.0						
LEMB	Lembach	1.93	26	Pn	Pg	01 24 02.0	+0.1
LEMB				Sn	Sg	01 24 27.3	+0.3
GUT	Gutenstein	1.95	66	Pn	Pn	01 23 57.5	-0.6
TRAV	Traversella	2.01	153	Pn	Pb	01 24 01.4	-0.2
PLONS	Plons/SG	2.01	96	ePg	Pg	01 24 03.0	-0.5
PLONS				eSn	Sn	01 24 23.8	-0.4
PLONS				eSg	Sg	01 24 29.1	-0.4
SSF	Saint Saulge	2.03	264	ePg	Pg	01 24 05.2	+1.3
	SNR=1.0						
SSF				eSg	Sg	01 24 30.5	+0.3
	9.8nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	2.19	257	ePg	Pg	01 24 06.7	-0.2
	SNR=1.0						
AVF				eSg	Sg	01 24 35.3	0.0
	6.3nm,0.4s,SNR=1.0						
RSP	Reno Superiore	2.23	165	Pn	Pb	01 24 04.5	-1.0
DAVA	Damuels	2.33	89	ePn	Pg	01 24 08.8	-0.8
	0.6nm,0.1s						
DAVA				eSn	Sg	01 24 39.5	-0.2
	7.3nm,0.2s						
WLF	Walferdange	2.36	355	eSg	Sg	01 24 41.3	+0.4
ORIF	Oris-en-Rattie	2.43	190	ePn	Pn	01 24 04.7	-0.1
	SNR=1.0						
ORIF	Oris-en-Rattie	2.43	190	ePg	Pg	01 24 11.7	+0.2
	SNR=1.0						
ORIF				eSg	Sg	01 24 42.3	-0.7
	8.4nm,0.3s,SNR=1.0						
UBR	Ueberruh	2.50	80	eSg	Sg	01 24 44.4	-0.8
BGF	Bois d'Agland	2.59	254	ePg	Pg	01 24 14.2	-0.4
	SNR=1.0						
MBDF	Montbardon	2.59	175	ePn	Pn	01 24 07.4	+0.3
	SNR=1.0						
MBDF	Montbardon	2.59	175	ePg	Pg	01 24 14.1	-0.6
MBDF				eSg	Sg	01 24 47.7	-0.6
	6.6nm,0.6s,SNR=1.0						
OBER	Oberstdorf	2.61	86	eSg	Sg	01 24 49.1	+0.4
VIVF	Saint-Julien-l	2.75	208	ePg	Pg	01 24 17.4	-0.3
	SNR=1.0						
VIVF				eSg	Sg	01 24 51.8	-1.6
	5.8nm,0.3s,SNR=1.0						
FETA	Feichten	2.93	94	ePn	Pb	01 24 15.8	-1.6
	0.1nm,0.1s						
FETA				eSn	Sg	01 24 60.0	+1.1
	0.5nm,0.2s						
RETA	Reutte	2.93	85	ePn	Pg	01 24 22.1	+1.0
	0.3nm,0.1s						
RETA				Sn	Sg	01 24 59.6	+0.7
	0.8nm,0.1s						
NORI	Noerdlinger Ri	3.13	62	eSg	Sg	01 25 04.5	-1.0
MILB	Miltenberg	3.14	36	eSg	Sg	01 25 06.3	+0.4
MOTA	Moosalm	3.16	88	ePn	Pn	01 24 16.5	+1.6
	0.8nm,0.4s						
MOTA				eSn	Sg	01 25 05.4	-1.0
	2.2nm,0.3s						
TNS	Taunus Mts	3.19	24	eSg	Sg	01 25 07.6	0.0
SQTA	Sankt Quirin	3.23	90	ePn	Pn	01 24 18.4	+2.5
	0.7nm,0.1s						
SQTA				eSn	Sn	01 24 57.3	+2.8
	0.2nm,0.1s						
SMRF	Simiane la Rot	3.39	191	ePn	Pn	01 24 18.3	+0.3
SMRF	Simiane la Rot	3.39	191	ePg	Pg	01 24 29.1	-0.9
WATA	Walderalm	3.48	88	ePn	Pn	01 24 21.7	+2.4
	0.6nm,0.2s						
SBF	Sospel	3.52	168	ePn	Pn	01 24 19.4	-0.3
SBF				eSn	Sn	01 24 58.1	-3.3
	26nm,0.9s,SNR=1.0						
WTTA	Wattenberg	3.52	89	ePn	Pn	01 24 22.5	+2.5
	0.9nm,0.2s						
WTTA				eSn	Sn	01 25 04.8	+3.1
	1.9nm,0.4s						
LASF	Ste Croix	3.71	210	ePn	Pn	01 24 23.3	+0.9
	SNR=1.0						
LASF	Ste Croix	3.71	210	ePg	Pg	01 24 36.3	+0.2
	SNR=1.0						
LASF				eSg	Sg	01 25 21.9	-2.3
	5.4nm,0.4s,SNR=1.0						
LMR	La Mourre	3.98	180	ePn	Pn	01 24 26.3	+0.3
LMR	La Mourre	3.98	180	ePg	Pg	01 24 39.9	-1.3
LMR				eSn	Sn	01 25 10.4	-2.3
LMR				eSg	Sg	01 25 31.2	-1.5
	60nm,1.2s						
LESA	Schwarzleotal	4.22	86	ePn	Pn	01 24 31.3	+1.8
	0.7nm,0.2s						
MFF	Saint Martin d	4.58	264	eSn	Sn	01 25 26.9	-0.6
	7.0nm,0.5s,SNR=1.0						
GRR	Gorron	5.04	285	ePg	Pg	01 25 00.1	-1.4
	SNR=1.0						

*IDC **03** 01:32:06.5±1.8, 2°.14N×79°.81W, h0km, mb3.7/7, mbtmp3.7/8, ML2.6/1, MS3.2/6, Error ellipse: s-maj=56.2km s-min=24.3km az=15.0*

*RSNC **03** 01:32:11.4±1.8, 2°.30N×79°.74W, h32km±10km, ML3.4*

*NEIC **03** 01:32:19.1±0.9, 1°.99N±0°.09×79°.20W±0°.10, h38km±16km, mb4.2/7, Error ellipse: s-maj=15.5km s-min=11.0km az=121.0*

ISC 03 01:32:11.1±2.0**, 2°.28N**±0°.04×**79°.74W**±0°.07**, h27**km±14km**, n61, σ1§97**/76**, mb3.7**/7**, MS3.2**/4**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUMC	Tumaco	1.11	114	Pn	Pn	01 32 30.1	-0.8
TUMC	Tumaco	1.11	114	i Pg	Pn	01 32 30.9	0.0
TUMC				eS	Sn	01 32 42.6	-2.8
TUMC				i		01 32 56.5	
	comp=Z,781nm,0.5s						
GR1C	Gorgona, Isla	1.73	65	ePg	Pn	01 32 37.5	-1.9
GR1C				ePn	Pb	01 32 44.4	+2.2
GR1C				eS	Sn	01 32 58.6	-2.0
GR1C				i		01 33 00.7	
	comp=Z,3μm,0.7s						
PAC1	Pacto, Paraso	2.21	155	eP	Pn	01 32 44.9	-1.4
PAC1				eS	Sn	01 33 10.9	-1.9
PAC1				i		01 33 15.4	
	comp=Z,427nm,0.2s						
CUSE	Cuicocha Este	2.37	146	eP	Pn	01 32 48.6	-0.2
CUSE				eS	Sn	01 33 16.9	-0.4
CUSE				i		01 33 19.5	
	comp=Z,351nm,0.3s						
OTAV	Otavalo	2.40	148	Pn	Pn	01 32 48.6	-0.6
OTAV	Otavalo	2.40	148	eP	Pn	01 32 48.5	-0.6
OTAV				eS	Sn	01 33 17.2	-0.8
TULM	Tulcn-Chalpat	2.49	128	Pn	Pn	01 32 47.5	-2.9
TULM	Tulcn-Chalpat	2.49	128	eP	Pn	01 32 49.6	-0.8
TULM				eS	Sn	01 33 20.6	+0.3
BBAC	Balboa, Cauca	2.50	96	eP	Pn	01 32 50.0	-0.2
BBAC				eS	Sn	01 33 19.3	-0.8
BBAC				i		01 33 22.3	
	comp=Z,93nm,0.4s						
IMBA	Imbabura, San	2.52	142	Pn	Pn	01 32 51.2	+0.6
PULU	Pululahua	2.56	151	Pn	Pn	01 32 51.0	-0.2
GCUF	Volcan Galeras	2.61	114	eP	Pn	01 32 54.0	+1.9
GCUF				eS	Sb	01 33 27.3	-2.1
GCUF				i		01 33 28.9	
	comp=Z,646nm,1.0s						
BONI	La Bonita	2.86	129	eP	Pn	01 32 57.9	+2.7
BONI				eS	Sb	01 33 33.0	-3.3
CRUC	La Cruz	2.88	104	eP	Pn	01 32 58.2	+2.7
CRUC				eS	Sb	01 33 34.0	-2.8
MALC	Bahia Malaga	2.96	54	eP	Pn	01 32 55.5	-0.8
MALC				eS	Sn	01 33 31.0	0.0
MALC				i		01 33 36.0	
	comp=Z,67nm,0.3s						
POPC	Popayan, Colom	3.07	85	eP	Pn	01 32 57.9	-0.3
POPC				eS	Sn	01 33 31.3	-2.8
POPC				i		01 33 39.0	
	comp=Z,60nm,0.5s						
JAMC	Jamundi, Valle	3.20	73	eP	Pn	01 32 58.9	-1.0
JAMC				eS	Sn	01 33 35.5	-1.9
JAMC				i		01 33 47.2	
	comp=Z,71nm,0.4s						
SLOR	San Lorenzo -	3.24	157	Pn	Pn	01 33 01.8	+1.2
YOTC	Yotoco, Valle	3.79	63	eP	Pn	01 33 06.4	-1.5
YOTC				eS	Sn	01 33 47.9	-3.8
YOTC				i		01 33 53.4	
	comp=Z,38nm,0.6s						
CHSH	Refugio Sur-Vo	3.85	167	Pn	Pn	01 33 10.7	+1.6
FLOC	Florencia	4.14	100	eP	Pn	01 33 14.7	+2.0
FLOC				eS	Sn	01 33 59.2	-1.2
FLOC				i		01 34 04.5	
	comp=Z,22nm,0.5s						
GARC	Garzon, Huila	4.24	91	eP	Pn	01 33 16.1	+1.8
GARC				i		01 33 17.1	
	comp=Z,47nm,0.2s						
GARC				eS	Sn	01 34 03.2	+0.1
BETC	Betania	4.31	85	eP	Pn	01 33 18.1	+3.0
BETC				eS	Sn	01 34 09.9	+5.3
BETC				i		01 34 11.8	
	comp=Z,42nm,0.7s						
PLMC	San Jos del P	4.33	53	eS	Sn	01 34 03.3	-1.6
PLMC				i		01 34 10.1	
	comp=Z,29nm,0.4s						
SALI	Salinas	4.61	196	Pn	Pn	01 33 24.9	+5.9
COHC	Cochancay	4.74	174	Pn	Pn	01 33 23.3	+2.5
ORTC	Ortega, Tolima	4.77	70	eP	Pn	01 33 24.0	+2.7
ORTC				eS	Sn	01 34 17.6	+1.8
ORTC				i		01 34 26.9	
	comp=Z,47nm,0.6s						
PRAC	Prado	5.05	73	eP	Pn	01 33 28.1	+2.9
PRAC				eS	Sn	01 34 24.3	+1.5
PRAC				i		01 34 34.0	
	comp=Z,38nm,0.7s						
CBOC	Ciudad Bolivar	5.15	46	eP	Pn	01 33 24.2	-2.5
GUY2C	Guyana, Caldas	5.25	56	eP	Pn	01 33 29.1	+0.7
GUY2C				eS	Sn	01 34 29.1	+0.7
GUY2C				i		01 34 35.4	
	comp=Z,42nm,0.6s						
BOSC	San Juan Bosco	5.54	167	Pn	Pn	01 33 33.5	+1.5
ARNL	Arenillas	5.80	183	Pn	Pn	01 33 39.2	+3.8
ROSC	El Rosal	5.98	65	Pn	Pn	01 33 40.5	+2.3
ROSC	El Rosal	5.98	65	Pn	Pn	01 33 40.1	+1.9
	comp=Z,3.3nm,0.3s,baz=87,slow=22,SNR=5.9						
ROSC				Sn	Sn	01 34 49.5	+3.4
	comp=Z,1.3nm,0.3s,baz=270,slow=22,SNR=2.3						
ROSC				LR	LR	01 36 16.6	
	comp=Z,173nm,20.0s,baz=240,slow=41						
	comp=Z,6.5nm,0.3s						
SPBC	San Pablo de B	6.57	59	eP	Pn	01 33 47.4	+1.3
SPBC				i		01 35 14.6	
	comp=Z,4.6nm,0.4s						
MCRA	Macar, Loja	6.61	182	Pn	Pn	01 33 49.8	+3.2
PTBC	PUERTO BERRIO,	6.76	51	eP	Pn	01 33 50.8	+2.1
PTBC				eS	Sn	01 35 02.5	-2.3
PTBC				i		01 35 17.1	
	comp=Z,2.9nm,0.5s						
ZARC	Zaragoza, Cauc	7.10	43	eP	Pn	01 33 55.0	+1.7
ZARC				eS	Sn	01 35 11.6	-1.7
ZARC				i		01 35 17.0	
	comp=Z,4.1nm,0.5s						
SDV	Santo Domingo	11.19	54	LR	LR	01 39 40.1	
	comp=Z,92nm,18.9s,baz=80,slow=40						
ETMB	Extrema	18.05	132	Pn	Pn	01 36 18.3	-1.9
GTBY	Guantanamo Bay	18.11	14	P	P	01 36 31.3	+10
GTBY				IAmb	IAmb	01 36 33.8	
	comp=Z,49nm,1.5s						
BOAV	Boa Vista	19.20	89	P	Pn	01 36 33.3	-0.9
BOAV				IAmb	IAmb	01 36 40.6	
	comp=Z,7.9nm,1.1s						
SAML	Samuel	19.92	124	P	P	01 36 41.5	+0.5
SAML				IAmb	IAmb	01 36 51.0	
	comp=Z,6.7nm,0.9s						
SJG	San Juan	20.62	39	P	Pn	01 36 55.2	+4.2
SJG				IAmb	IAmb	01 37 12.2	
	comp=Z,17nm,1.1s						
GCPR	Guaynabo City	20.81	39	P	Pn	01 36 52.5	-0.7
GCPR				IAmb	IAmb	01 36 53.0	
	comp=Z,13nm,0.8s						
CMIG	Matias Romero	20.93	316	LR	LR	01 43 18.7	
	comp=Z,59nm,20.1s,baz=40,slow=32						
LPAZ	La Paz	21.72	149	P	P	01 37 03.6	+2.5
VILB	Vilhena	24.60	128	P	P	01 37 29.6	+0.2
MDP	Montagnes des	27.18	83	LR	LR	01 48 01.7	
	comp=Z,41nm,18.9s,baz=288,slow=35						
CPUP	Villa Florida	35.75	144	LR	LR	01 55 42.9	
	comp=Z,55nm,19.5s,baz=2.5,slow=40						
BDFB	Brasilia	36.07	121	LR	LR	01 54 40.1	
	comp=Z,58nm,20.1s,baz=128,slow=38						
PDAR	Pinedale Array	48.31	331	P	P	01 40 51.1	+0.6
	comp=Z,0.2nm,0.3s,baz=139,slow=14,SNR=2.8						
	comp=Z,0.2nm,0.3s						
NVAR	Mina Array Bea	50.35	321	P	P	01 41 07.8	+1.5
	comp=Z,0.3nm,0.7s,baz=130,slow=8.3,SNR=2.2						
	comp=Z,0.3nm,0.7s						
YKA	Yellowknife Ar	65.44	343	P	P	01 42 50.1	-1.2
	comp=Z,0.3nm,0.7s,baz=136,slow=6.1,SNR=5.9						
	comp=Z,0.3nm,0.7s						
DBIC	Dimbokro	74.73	84	P	P	01 43 49.9	+0.5
	comp=Z,2.3nm,0.8s,baz=263,slow=5.6,SNR=4.1						
	comp=Z,2.3nm,0.8s						
ESDC	Sonseca Array	77.61	50	P	P	01 44 05.7	+0.3
	comp=Z,0.5nm,0.6s,baz=260,slow=6.8,SNR=5.3						
	comp=Z,0.5nm,0.6s						
ILAR	Eielson Array	78.35	336	P	P	01 44 08.9	+0.1
	comp=Z,0.7nm,0.7s,baz=131,slow=5.0,SNR=7.7						
	comp=Z,0.7nm,0.7s						
TORD	Torodi Ar. Bea	81.15	77	P	P	01 44 25.0	0.0
	comp=Z,0.8nm,0.7s,baz=286,slow=5.2,SNR=5.9						
	comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	141.12	234	PKP	PKPdf	01 51 39.5	-0.6
	comp=Z,0.3nm,0.6s,baz=99,slow=2.9,SNR=1.5						
WRA	Warramunga Arr	142.37	240	PKP	PKPdf	01 51 40.8	-1.6
	comp=Z,0.3nm,0.6s,baz=133,slow=2.5,SNR=1.6						

*IDC **03** 01:38:26.7±0.8, 2°.36N×127°.47E, h0km, mb3.9/10, mbtmp3.9/10, MS2.7/2, Error ellipse: s-maj=77.7km s-min=15.4km az=69.0*

*DJA **03** 01:38:34.0±3.8, 2°N±4°×12°7E±°, h16km±36km, M3.8/10, mb3.9/4, mB5.1/1, MLv3.8/10, Mw(mB)4.4/1*

*NEIC **03** 01:38:37.3±1.5, 2°.09N±0°.07×127°.1E±0°.2, h89km±5km, mb4.1/13, Error ellipse: s-maj=25.0km s-min=7.9km az=71.0*

ISC 03 01:38:37.7±0.7**, 2°.21N**±0°.07×**127°.21E**±0°.10**, h100**km**, n39, σ1§66**/32**, mb4.0**/15**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.43	174	Pn	Pn	01 39 00.5	-2.7
TNTI	Ternate	1.43	174	P	Pn	01 39 01.3	-1.9
SGSI	Sangihe	2.23	311	P	Pn	01 39 09.5	-3.8
LBMI	Labuha	2.84	174	P	Pn	01 39 21.1	-0.3
SANI	Sanana	4.40	196	P	Pn	01 39 42.0	-0.3
GTOI	Gorontalo	4.48	250	P	Pn	01 39 43.7	+0.3
SWI	Sorong	5.07	127	P	Pn	01 39 50.0	-1.4
	18nm,0.5s,2μm0.3nm						
SIJI	Sorong	5.08	127	P	Pn	01 39 50.5	-1.0
DAV	Davao City (W)	5.10	341	LR	LR	01 41 08.1	
	comp=Z,31nm,20.7s,baz=334,slow=32						
TOLI2	Tolitoli	6.52	261	Pn	Pn	01 40 09.2	-1.9
MTN	Manton Dam	15.45	166	Pn	Pn	01 42 07.5	-2.7
MTN				IAmb	IAmb	01 42 16.0	
	comp=Z,26nm,1.3s						
KNRA	Kununurra	17.83	175	P	Pn	01 42 37.4	-2.1
FITZ	Fitzroy Crossi	20.23	184	P	Pn	01 43 05.4	-2.5
LEM	Lembang	21.52	245	LR	LR	01 53 33.8	
	comp=Z,61nm,20.7s,baz=234,slow=42						
WB0	Warramunga Arr	22.95	162	P	P	01 43 32.9	-0.7
WB0				IAmb	IAmb	01 43 45.6	
	comp=Z,9.3nm,1.3s						
WRA	Warramunga Arr	23.10	163	P	P	01 43 32.6	-2.5
WRA	Warramunga Arr	23.10	163	P	P	01 43 35.2	+0.1
	comp=Z,2.0nm,0.6s,baz=341,slow=11,SNR=18						
	comp=Z,2.0nm,0.6s						
WB2	Warramunga Arr	23.10	163	P	P	01 43 34.4	-0.7
WB2				IAmb	IAmb	01 44 02.8	
	comp=Z,14nm,1.5s						
WR0	Warramunga Arr	23.17	162	P	P	01 43 34.6	-1.2
WR0				IAmb	IAmb	01 43 54.1	
	comp=Z,8.1nm,1.1s						
AS31	Alice Springs	26.53	166	P	P	01 44 04.3	-1.9
ASAR	Alice Springs	26.53	166	P	P	01 44 04.3	-1.9
ASAR	Alice Springs	26.53	166	P	P	01 44 06.5	+0.3
	comp=Z,0.5nm,0.6s,baz=354,slow=7.8,SNR=11						
ASAR				PcP	PcP	01 47 30.5	+1.8
	comp=Z,0.3nm,0.6s,baz=354,slow=2.8,SNR=2.1						
	comp=Z,0.5nm,0.6s						
BBOO	Buckleboo	35.82	167	P	P	01 45 27.2	-0.4
STKA	Stephens Creek	36.54	159	P	P	01 45 35.6	+1.8
	comp=Z,2.6nm,0.8s,baz=331,slow=10,SNR=4.4						
	comp=Z,2.6nm,0.8s						
SONM	Songino Array	48.89	341	P	P	01 47 14.2	+0.7
SONM				IAmb	IAmb	01 47 16.4	
	comp=Z,1.2nm,0.8s						
SONM	Songino Array	48.89	341	P	P	01 47 15.3	+1.8
	comp=Z,0.9nm,0.7s,baz=160,slow=9.8,SNR=6.7						
	comp=Z,0.9nm,0.7s						
MKAR	Makanchi Array	59.08	326	P	P	01 48 27.5	-0.1
MKAR	Makanchi Array	59.08	326	P	P	01 48 29.1	+1.6
	comp=Z,0.7nm,0.5s,baz=116,slow=7.8,SNR=13						
	comp=Z,0.7nm,0.5s						
ZALV	Zalesovo Beam	62.16	333	P	P	01 48 47.9	-0.3
	comp=Z,0.3nm,0.4s,baz=144,slow=12,SNR=1.6						
	comp=Z,0.3nm,0.4s						
KURBB	Kurchatov Arra	63.27	328	P	P	01 48 57.4	+1.7
	comp=Z,4.9nm,0.8s,baz=129,slow=6.2,SNR=56						
	comp=Z,4.9nm,0.8s						
KURK	Kurchatov	63.28	328	P	P	01 48 57.4	+1.6
BVAR	Borovoye Array	68.85	327	P	P	01 49 32.9	+1.5
	comp=Z,0.6nm,0.4s,baz=133,slow=8.1,SNR=5.9						
	comp=Z,0.6nm,0.4s						
NRIK	Noril'sk	72.01	346	P	P	01 49 51.2	+0.8
	comp=Z,1.4nm,0.6s,baz=116,slow=3.8,SNR=4.3						
	comp=Z,1.4nm,0.6s						
ABKAR	Akbulak array	73.63	321	P	P	01 50 01.4	+1.1
G19K	Purcell Mounta	82.22	23	P	P	01 50 50.0	+2.4
G19K				IAmb	IAmb	01 51 03.2	
	comp=Z,3.5nm,1.2s						
D19K	Kuna River	82.36	21	P	P	01 50 50.2	+1.9
D19K				IAmb	IAmb	01 51 05.8	
	comp=Z,2.8nm,1.3s						
IMAR	Indian Mountai	83.53	24	P	P	01 50 56.2	+1.9
ILAR	Eielson Array	86.27	25	P	P	01 51 08.5	+0.5
	comp=Z,0.5nm,0.9s,baz=251,slow=5.6,SNR=2.8						
	comp=Z,0.5nm,0.9s						
AKASG	Malin Array Be	93.37	321	LR	LR	02 38 47.5	
	comp=Z,191nm,18.4s,baz=276,slow=39						

*NOU **03** 01:42:50.9, 37°.16S×179°.65E, h0km, MLv4.3/7, Off E. Coast of N. Island, N.Z.*

*WEL **03** 01:42:59.4±0.9, 37°S±4°×17°9E±°, h12km, M4.0/24, ML4.2/23, MLv4.0/24, Error ellipse: s-maj=0.0km s-min=0.0km az=94.9, confirmed*

*IDC **03** 01:43:04.7±3.7, 38°.16S×179°.09E, h90km±24km, mb3.9/3, mbtmp4.1/4, MS3.0/1, Error ellipse: s-maj=36.3km s-min=32.9km az=117.0*

ISC 03 01:42:57.8±2.3**, 37°.25S**±0°.06×**179°.07E**±0°.08**, h13**km±11km**, n120, σ1§27**/123**, mb4.1**/3**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.68	243	P	Pb	01 43 12.1	+0.6
MXZ	Matakaoa Point	0.68	243	P	Pb	01 43 12.2	+0.8
MXZ				S	Sb	01 43 20.0	-0.8
PKGZ	Pakihiroa	1.01	231	P	Pn	01 43 18.5	+0.8
PUZ	Puketiti	1.04	218	P	Pn	01 43 19.5	+1.4
PUZ				S	Sn	01 43 33.1	+0.6
HAZ	Te Kaha	1.14	243	P	Pb	01 43 19.0	-0.2
HAZ				S	Sn	01 43 34.7	-0.1
RUGZ	Raukumara Rang	1.31	237	P	Pg	01 43 23.1	+0.1
RUGZ				S	Sg	01 43 39.9	-0.3
WIZ	White Island	1.52	259	P	Pn	01 43 23.8	-0.8
TKGZ	Te Karaka	1.53	219	P	Pn	01 43 25.9	+1.2
MWZ	Matawai	1.63	228	P	Pn	01 43 27.3	+1.1
WHRZ	Whale Island	1.77	249	P	Pn	01 43 29.2	+1.1
RIGZ	Rimuhau	1.78	215	P	Pn	01 43 29.3	+1.0
URZ	Urewera	1.85	236	P	Pn	01 43 30.3	+1.2
URZ	Urewera	1.85	236	P	Pn	01 43 30.2	+1.0
	402nm,0.3s,baz=338,slow=2.2,SNR=1434						
URZ				S	Sn	01 43 51.4	-1.0
	532nm,0.3s,baz=248,slow=21,SNR=28						
URZ				LR	LR	01 44 24.1	
	comp=Z,234nm,20.5s,baz=116,slow=51						
URZ	Urewera	1.85	236	P	Pn	01 43 30.2	+1.0
URZ				S	Sn	01 43 51.6	-0.7
PRGZ	Paritu Road	1.91	209	P	Pn	01 43 31.1	+1.1
EDRZ	Edgecumbe	2.04	244	P	Pn	01 43 32.8	+1.0
MARZ	Manawahe	2.04	248	P	Pn	01 43 32.2	+0.5
KNZ	Kokohu	2.08	211	P	Pn	01 43 32.6	+0.2
OPRZ	Ohinepanea	2.08	253	P	Pn	01 43 32.5	+0.2
MHGZ	Mahia Peninsul	2.11	205	P	Pn	01 43 33.8	+1.1
MHGZ				S	Sn	01 43 59.2	+0.4
RTZ	Ruatahuna	2.14	230	P	Pn	01 43 34.2	+0.9
RTZ				S	Sn	01 43 59.8	+0.1
MUGZ	Murupara	2.19	235	P	Pn	01 43 35.1	+1.2
MKRZ	Makatiti	2.25	246	P	Pb	01 43 38.5	+0.3
TARZ	Mount Tarawera	2.26	243	P	Pn	01 43 36.4	+1.5
RAHZ	Arahi	2.28	223	P	Pn	01 43 36.2	+1.0
TGRZ	Tauranga	2.28	257	P	Pn	01 43 35.5	+0.4
RRRZ	Republican Roa	2.29	241	P	Pn	01 43 36.7	+1.4
OMRZ	Omania	2.30	247	P	Pn	01 43 37.1	+1.7
WHHZ	Waihua	2.33	218	P	Pn	01 43 38.1	+2.4
KARZ	Kaharoa	2.37	250	P	Pn	01 43 36.9	+0.6
HLRZ	Highlands Stat	2.37	244	P	Pn	01 43 37.7	+1.4
MTHZ	Maungataniwha	2.38	227	P	Pn	01 43 37.7	+1.3
NGRZ	Ngongotaha	2.44	249	P	Pb	01 43 41.5	0.0
PRRZ	Plateau Road	2.46	239	P	Pn	01 43 38.6	+1.1
UTU	Utuhina	2.46	247	P	Pb	01 43 41.8	0.0
HSRZ	Hossack Road	2.47	244	P	Pn	01 43 39.6	+1.8
HRRZ	Handcock Road	2.48	242	P	Pn	01 43 40.1	+2.2
ALRZ	Allen Road	2.52	238	P	Pn	01 43 39.4	+1.0
KMRZ	Kaimai	2.55	256	P	Pn	01 43 39.9	+1.0
NMHZ	Naumai	2.56	223	P	Pn	01 43 40.2	+1.2
GRRZ	Galatos Road	2.59	244	P	Pn	01 43 40.9	+1.6
ARHZ	Aropaoanui	2.59	218	P	Pn	01 43 40.2	+0.9
MRHZ	Matea Rd	2.62	232	P	Pn	01 43 40.8	+0.9
KUZ	Kuaotunu	2.73	280	P	Pn	01 43 40.3	-0.9
KUZ	Kuaotunu	2.73	280	P	Pn	01 43 40.2	-0.9
BKZ	Black Stump Fm	2.79	226	P	Pn	01 43 43.1	+1.0
BKZ	Black Stump Fm	2.79	226	P	Pn	01 43 42.9	+0.8
KUTZ	Kaahu Road	2.85	243	P	Pn	01 43 44.4	+1.5
CKHZ	Cape Kidnapper	2.87	212	P	Pn	01 43 43.2	0.0
MCHZ	McNeill Hill	2.88	220	P	Pn	01 43 43.8	+0.5
TOZ	Tahuroa Road	2.88	259	P	Pn	01 43 43.1	-0.2
TLZ	Tolley Road	3.00	248	P	Pn	01 43 45.9	+1.0
KWHZ	Kaweka Forest	3.00	223	P	Pn	01 43 45.2	+0.1
WATZ	Wairara	3.01	240	P	Pb	01 43 49.5	-1.7
RATZ	Rangitukua	3.06	237	P	Pn	01 43 47.7	+1.8
RITZ	Rihia Road	3.06	235	P	Pn	01 43 47.4	+1.5
GRZ	Great Barrier	3.06	288	P	Pn	01 43 45.7	-0.1
KAHZ	Kahuranaki	3.07	213	P	Pn	01 43 45.9	0.0
MKAZ	Moumakai	3.12	271	P	Pn	01 43 46.4	-0.3
KATZ	Kakaramea	3.17	236	P	Pn	01 43 49.0	+1.6
WIAZ	Waiheke Island	3.18	277	P	Pn	01 43 47.2	-0.3
KRHZ	Kereru	3.19	221	P	Pn	01 43 47.5	-0.2
TMVZ	Te Maari	3.24	234	P	Pn	01 43 48.9	+0.5
ETVZ	East Tongariro	3.25	234	P	Pn	01 43 48.9	+0.4
NTVZ	North Tongarir	3.25	234	P	Pn	01 43 49.0	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHHZ	Black Hill Sta	3.25	226	P	Pn	01 43 48.9	+0.4
KRVZ	Karewarewa	3.27	235	P	Pn	01 43 49.4	+0.6
OTVZ	Oturere	3.29	233	P	Pn	01 43 49.6	+0.4
NNVZ	North Ngauruho	3.31	234	P	Pn	01 43 50.3	+1.0
WTVZ	West Tongariro	3.31	235	P	Pn	01 43 51.0	+1.6
SNVZ	South Ngauruho	3.32	233	P	Pn	01 43 50.3	+0.7
ETAZ	East Tamaki Re	3.32	274	P	Pn	01 43 49.5	+0.1
NGZ	Ngauruhoe	3.34	234	P	Pn	01 43 50.3	+0.5
TUVZ	Tukino	3.36	232	P	Pn	01 43 50.5	+0.5
MBAZ	Motutapu North	3.37	277	P	Pn	01 43 50.1	+0.1
MOVZ	Moawhango	3.38	229	P	Pn	01 43 50.6	+0.3
TWVZ	Taurewa	3.39	236	P	Pn	01 43 52.0	+1.5
WHVZ	Whangaehu Hut	3.41	232	P	Pn	01 43 52.2	+1.4
FWVZ	Far West T-bar	3.41	233	P	Pn	01 43 52.2	+1.3
MAVZ	Matarangi	3.42	233	P	Pn	01 43 51.2	+0.2
WNVZ	Wahianoa	3.43	232	P	Pn	01 43 51.3	+0.2
TRVZ	Turoa	3.44	232	P	Pn	01 43 52.0	+0.7
ABAZ	Army Bay	3.45	280	P	Pn	01 43 51.5	+0.3
EPAZ	Eden Park BICE	3.48	275	P	Pn	01 43 52.1	+0.6
PNHZ	Pukenui	3.48	219	P	Pn	01 43 51.0	-0.7
HBAZ	Herne Bay Bore	3.49	275	P	Pn	01 43 52.5	+0.8
AWAZ	Awhitu Peninsu	3.54	272	P	Pn	01 43 52.8	+0.4
MTVZ	Mangateitei	3.54	232	P	Pn	01 43 53.1	+0.7
PRHZ	Porangahau	3.56	212	P	Pn	01 43 51.6	-1.1
HIZ	Hauiti	3.56	248	P	Pn	01 43 54.4	+1.7
HIZ	Hauiti	3.56	248	P	Pn	01 43 54.3	+1.7
PKVZ	Pokaka	3.57	234	P	Pn	01 43 54.3	+1.5
WTAZ	Waiatarua	3.61	274	P	Pn	01 43 53.9	+0.5
RVAZ	Riverhead Bore	3.62	276	P	Pn	01 43 54.1	+0.5
DVHZ	Dannevirke	3.79	216	P	Pn	01 43 54.7	-1.3
VRZ	Vera Road	3.88	240	P	Pn	01 43 58.6	+1.6
WCZ	Waipu Caves	4.02	288	P	Pn	01 43 59.7	+0.7
POWZ	Post Office Ro	4.06	218	P	Pn	01 43 59.2	-0.3
WAZ	Wanganui	4.06	231	P	Pn	01 44 00.6	+1.0
BFZ	Birch Farm	4.07	212	P	Pn	01 43 57.9	-1.8
PRWZ	Pori Road	4.09	215	P	Pn	01 43 59.2	-0.7
LREZ	Lake Rotokare	4.28	238	P	Pn	01 44 04.5	+1.9
TIWZ	Tintock	4.30	214	P	Pn	01 44 01.5	-1.4
NEZ	North Egmont	4.40	241	P	Pn	01 44 08.4	+4.1
PKE	Pukeiti	4.45	243	P	Pn	01 44 07.9	+3.0
KHEZ	Kahui Hut	4.47	241	P	Pn	01 44 08.8	+3.6
OUZ	Omahuta	4.86	293	P	Pn	01 44 11.6	+1.0
OUZ	Omahuta	4.86	293	P	Pn	01 44 11.7	+1.1
CTZ	Chatham Island	7.26	154	P	Pn	01 44 47.0	+3.5
RPZ	Rata Peaks	8.88	221	P	Pn	01 45 00.4	-5.4
	3.0nm,0.3s,baz=236,slow=10,SNR=1.8						
RPZ				S	Sn	01 46 33.2	-12
	14nm,0.4s,baz=127,slow=20,SNR=17						
DZM	Mont Dzumac	18.66	321	LR	LR	01 53 26.1	
	comp=Z,40nm,18.6s,baz=68,slow=32						
STKA	Stephens Creek	31.18	269	P	P	01 49 16.4	-0.2
	1.1nm,0.4s,baz=117,slow=11,SNR=3.2						
	1.1nm,0.4s						
ASAR	Alice Springs	40.85	276	P	P	01 50 38.0	-1.4
	0.9nm,0.5s,baz=116,slow=7.2,SNR=16						
	0.9nm,0.5s						
WRA	Warramunga Arr	42.47	281	P	P	01 50 51.3	-1.3
	3.5nm,0.4s,baz=123,slow=7.0,SNR=82						
	3.5nm,0.4s						
H03N3	Juan Fernandez	78.94	124	T	T	03 21 36.9	
	baz=235,slow=72,SNR=22						
H03N2	Juan Fernandez	78.94	124	T	T	03 21 54.3	
	baz=235,slow=72,SNR=19						
H03N1	Juan Fernandez	78.95	124	T	T	03 21 30.9	
	baz=235,slow=72,SNR=18						
KURBB	Kurchatov Arra	123.89	311	PKP	PKPdf	02 01 52.9	-2.0
	0.1nm,0.4s,baz=116,slow=1.7,SNR=1.8						
ARCES	ARCESS Array B	144.64	344	PKPbc	PKPab	02 02 31.3	-0.3
	0.5nm,0.3s,baz=1.7,slow=3.0,SNR=8.4						
FINES	FINESS Array B	150.48	334	PKPbc	PKPdf	02 02 47.0	+4.2
	1.1nm,0.5s,baz=49,slow=4.2,SNR=15						

*IDC **03** 01:58:36.6±3.9, 9.82S×116.54E, h0^{km}, mb3.2/2, mbtmp3.1/3, ML2.6/1, Error ellipse: s-maj=265.2km s-min=29.7km az=48.0*
*DJA **03** 01:58:40.8±0.5, 10°S±6°×11°7E±°, h10^{km}, M3.8/9, mb4.1/2, MLv3.6/9*
ISC 03 01:58:39.3±1.3**, 10.0S**±0.1×**116.59E**±0.06**, h10**^{km}**, n14, σ1.68**/14**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	1.27	13	P	Pn	01 59 03.4	+0.2
PLAI	Plampang	1.64	46	P	Pn	01 59 08.9	+0.6
IGBI	Denpasar	1.83	309	P	Pn	01 59 11.2	+0.3
DBNI	Kabupaten Domp	2.25	49	P	Pn	01 59 19.2	+2.5
SRBI	Singaraja	2.33	324	P	Pn	01 59 20.4	+2.7
JAGI	Jajag, Banyuwa	2.84	302	P	Pn	01 59 24.8	+0.1
ABJI	Asem Bagus	3.18	313	P	Pn	01 59 31.2	+1.7
BLJI	Banyuglugur	3.70	307	P	Pn	01 59 38.4	+1.8
KMMI	Kalianget	3.90	318	P	Pn	01 59 41.1	+1.7
EDFI	Ende, Flores	5.18	77	P	Pn	01 59 58.6	+1.5
	17nm,1.0s,0.0nm						
BKSI	Bulukumba	5.81	37	P	Pn	02 00 05.6	0.0
WRA	Warramunga Arr	19.78	122	P	P	02 03 09.4	-0.5
	baz=293,slow=13,SNR=1.4						
	0.2nm,0.9s						
ASAR	Alice Springs	21.41	132	P	P	02 03 28.1	+0.6
	0.9nm,0.7s,baz=308,slow=9.0,SNR=10						
	0.9nm,0.7s						
MKAR	Makanchi Array	64.28	335	P	P	02 09 12.7	-2.2
	0.1nm,0.3s,baz=149,slow=5.7,SNR=1.5						
	0.1nm,0.3s						

RSNC 03 02:01:13.3±0.5**, 5.46N×76.05W, h7**^{km}±4^{km}**, ML0.9, Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBOC	Ciudad Bolivar	0.40	5	eP	Pg	02 01 20.6	-0.5
CBOC				eS	Sg	02 01 26.8	+0.4
CBOC				i		02 01 27.5	
	comp=Z,6.6nm,0.1s						
GUY2C	Guyana, Caldas	0.72	109	eP	Pg	02 01 26.8	-0.5
GUY2C				eS	Sg	02 01 36.8	+0.1
GUY2C				i		02 01 38.1	
	comp=Z,2.4nm,0.6s						
PTBC	PUERTO BERRIO,	1.91	56	eP	Pb	02 01 48.9	+0.4
PTBC				eS	Sn	02 02 09.6	-1.0
PTBC				i		02 02 13.5	
	comp=Z,2.1nm,0.1s						
PTBC	PUERTO BERRIO,	1.91	56	eP	Pb	02 01 48.9	+0.4
PTBC				eS	Sn	02 02 09.4	-1.2
PTBC				i		02 02 13.5	
	comp=Z,2.1nm,0.1s						
ZARC	Zaragoza, Cauc	2.34	30	eP	Pb	02 01 56.3	+0.5
ZARC				eS	Sn	02 02 19.9	-1.2
ZARC	Zaragoza, Cauc	2.34	30	eP	Pb	02 01 56.2	+0.4
ZARC				eS	Sn	02 02 20.1	-1.1
ZARC				i		02 02 25.5	
	comp=Z,3.3nm,0.4s						

RSNC 03 02:01:24.9±0.9**, 6.85N×73.16W, h125**^{km}±9^{km}**, ML1.3, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.25	186	eP	Pn	02 01 41.8	-0.8
BARC				eS	Sn	02 01 56.0	-0.1
BARC				i		02 01 58.7	
	comp=Z,3.8nm,0.4s						
PAMC	Pamplona, Colo	0.67	43	eP	Pn	02 01 44.6	-0.5
PAMC				i		02 02 03.1	
	comp=Z,4.6nm,0.2s						
SPBC	San Pablo de B	1.50	218	eS	Sn	02 02 13.8	-0.1
SPBC				i		02 02 17.7	
	comp=Z,2.5nm,0.2s						

*IDC **03** 02:15:31.3±0.9, 71.41N×3.96W, h0^{km}, mb3.5/7, mbtmp3.6/13, ML3.0/5, MS3.5/5, Error ellipse: s-maj=21.1km s-min=16.1km az=38.0*
*BER **03** 02:15:33.6±3.5, 71.51N×4.31W, h10^{km}, mb(Pn)3.8, ML3.6(NAO), Confirmed Earthquake*
*NAO **03** 02:15:33.3±777.0, 71.47N×3.43W, h9^{km}±350^{km}, ML3.6*
*DNK **03** 02:15:37.9±1.3, 72.00N×5.27W, h3^{km}±25^{km}, ML2.3*
ISC 03 02:15:31.3±0.6**, 71.49N**±0.05×**3.68W**±0.05**, h10**^{km}**, n67, σ2.91**/82**, mb3.4**/7**, MS3.3**/3**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	1.64	254	eS	Sn	02 16 16.5	-4.8
JMIC				IAML		02 16 23.3	
	comp=Z,36nm,0.8s						
JMIC	Jan Mayen	1.64	254	Pn	Pn	02 15 59.1	-1.1
	comp=Z,4.7nm,0.3s,baz=127,slow=19,SNR=1.7						
JMIC				Sn	Sn	02 16 16.0	-5.3
	comp=Z,9.8nm,0.3s,baz=178,slow=22,SNR=2.6						
JMI	Jan Mayen	1.73	253	eS	Sn	02 16 19.0	-4.5
JMI				IAML		02 16 25.1	
	comp=Z,37nm,0.5s						
SCO	Scoresbysund	6.05	269	iP	Pn	02 17 00.8	+0.2
SCO	Scoresbysund	6.05	269	iP	Pn	02 17 00.8	+0.2
DAG	Danmarks Havn	6.68	329	e	Pn	02 17 06.2	-3.1
	baz=135,slow=16						
DAG				iP	Pn	02 17 07.0	-2.3
DAG				iS	Sn	02 18 11.2	-14
DAG				IAML		02 18 20.2	
	comp=Z,11nm,0.3s						
DAG	Danmarks Havn	6.68	329	e	Pn	02 17 06.2	-3.1
	baz=135,slow=16						
DAG				iP	Pn	02 17 07.0	-2.3
DAG				iS	Sn	02 18 11.2	-14
DAG				IAML		02 18 20.2	
	comp=Z,11nm,0.3s						
LOF	Lofoten	6.83	111	eP	Pn	02 17 13.1	+1.8
LOF				eS	Sn	02 18 25.7	-3.4
LOF				IAML		02 18 37.3	
	comp=Z,4.3nm,0.6s						
LOF	Lofoten	6.83	111	Pn	Pn	02 17 13.2	+1.8
STEI	Steigen	7.46	109	eP	Pn	02 17 21.8	+1.7
STEI				eS	Sn	02 18 41.0	-3.6
STEI				IAML		02 18 50.9	
	comp=Z,2.4nm,0.7s						
HSPB	Hornsund (broa	7.56	34	eP	Pn	02 17 22.8	+1.4
HSPB	Hornsund (broa	7.56	34	Pn	Pn	02 17 22.8	+1.4
TRO	Tromso	7.75	93	eP	Pn	02 17 25.1	+1.2
TRO				eS	Sn	02 18 47.0	-4.5
TRO				IAML		02 18 49.4	
	comp=Z,2.1nm,0.7s						
TRO	Tromso	7.75	93	Pn	Pn	02 17 24.7	+0.8
TRO				Sn	Sn	02 18 47.1	-4.3
KONS	Konsvik	7.82	122	eP	Pn	02 17 26.0	+1.1
KONS				eS	Sn	02 18 48.7	-4.6
KONS				IAML		02 18 52.3	
	comp=Z,3.0nm,0.5s						
KONS	Konsvik	7.82	122	Pn	Pn	02 17 26.3	+1.4
KONS				Sn	Sn	02 18 48.2	-5.1
FAUS	Fauske	7.82	113	eP	Pn	02 17 26.4	+1.5
FAUS				eS	Sn	02 18 47.3	-6.1
FAUS				IAML		02 18 59.6	
	comp=Z,2.8nm,0.6s						
STOK	Stokkvaagen	7.91	123	eP	Pn	02 17 27.5	+1.3
STOK				eS	Sn	02 18 50.4	-5.3
BRBA	Barentsburg A	8.05	27	eP	Pn	02 17 28.5	+0.4
BRBB	Barentsburg B	8.07	27	eP	Pn	02 17 29.2	+0.9
BRBB	Barentsburg B	8.07	27	Pn	Pn	02 17 29.4	+1.0
JETT	Jettan, Norway	8.25	92	Pn	Pn	02 17 32.0	+1.2
JETT	Jettan, Norway	8.25	92	Pn	Pn	02 17 32.0	+1.2
KBS	Kingsbay	8.42	21	eP	Pn	02 17 33.6	+0.4
KBS				eS	Sn	02 19 01.9	-6.1
KBS				IAML		02 19 03.3	
	comp=Z,2.8nm,0.9s						
KBS	Kingsbay	8.42	21	iP	Pn	02 17 33.8	+0.7
KBS				eS	Sn	02 19 01.4	-6.7
KBS	Kingsbay	8.42	21	Pn	Pn	02 17 33.3	+0.1
MOR8	Moi Rana	8.42	120	eP	Pn	02 17 35.3	+2.1
SPA0	Spitsbergen Ar	8.46	29	Pn	Pn	02 17 35.8	+2.2
	baz=223,slow=16						
SPA0	Spitsbergen Ar	8.46	29	Pn	Pn	02 17 35.8	+2.2
	baz=223,slow=16						
SPITS	Spitsbergen Ar	8.46	29	Pn	Pn	02 17 35.4	+1.8
	comp=Z,17nm,0.7s,baz=220,slow=16,SNR=79						
KIF	Kilpisjarvi	8.62	95	eP	Pn	02 17 37.2	+1.4
KIF				eS	Sn	02 19 08.7	-4.3
KIF	Kilpisjarvi	8.62	95	Pn	Pn	02 17 37.2	+1.4
KIF				Sn	Sn	02 19 08.9	-4.1
SALU	Saltoluokta	8.79	107	eP	Pn	02 17 39.9	+1.6
NSS	Namsos	9.09	132	eP	Pn	02 17 43.2	+0.9
NSS				eS	Sn	02 19 17.1	-7.4
NSS				IAML		02 19 22.4	
	comp=Z,2.8nm,0.6s						
HOPEN	Hopen	9.28	44	eP	Pn	02 17 46.6	+1.7
HOPEN	Hopen	9.28	44	Pn	Pn	02 17 47.5	+2.7
KTK1	Kautokeino	9.39	92	eP	Pn	02 17 48.1	+1.6
HEF	Hetta	9.82	95	eP	Pn	02 17 54.0	+1.6
ARCES	ARCESS Array B	9.88	87	Pn	Pn	02 17 54.4	+1.1
	comp=Z,0.1nm,0.3s,baz=286,slow=11,SNR=15						
	comp=Z,1.9nm,0.7s						
ARA0	ARCESS Array S	9.89	87	Pn	Pn	02 17 54.2	+0.9
	baz=286,slow=12						
ARA0				eP		02 17 55.2	
ARA0	ARCESS Array S	9.89	87	Pn	Pn	02 17 54.2	+0.9
	baz=286,slow=12						
AKN	Aaknes	10.23	151	Pn	Pn	02 17 59.1	+1.2
AKN				Sn	Sn	02 19 45.9	-6.6
AKN	Aaknes	10.23	151	Pn	Pn	02 17 59.1	+1.2
AKN				Sn	Sn	02 19 45.9	-6.6
KEV	Kevo	10.27	85	eP	Pn	02 18 02.0	+3.5
KEV	Kevo	10.27	85	Pn	Pn	02 17 59.6	+1.2
NOA	NORSAR Array B	12.03	143	Pn	Pn	02 18 23.0	+0.4
	baz=331,slow=12,SNR=1.9						
NOA				LR	LR	02 22 40.8	
	comp=Z,158nm,18.1s,baz=250,slow=36						
	comp=Z,0.5nm,0.8s						
NRA0	NORESS Array S	12.37	143	Pn	Pn	02 18 28.1	+0.8
NRA0	NORESS Array S	12.37	143	Pn	Pn	02 18 28.1	+0.8
APA0	Apatity Array	13.23	89	Pn	Pn	02 18 40.3	+1.4
APA0	Apatity Array	13.23	89	Pn	Pn	02 18 40.3	+1.4
HFS	Hagfors	13.36	140	Pn	Pn	02 18 42.7	+2.0
	baz=335,slow=12						
HFS	Hagfors	13.36	140	Pn	Pn	02 18 40.6	0.0
	comp=Z,0.3nm,0.3s,baz=331,slow=11,SNR=10						
HFS				LR	LR	02 23 23.6	
	comp=Z,282nm,21.2s,baz=265,slow=35						
	comp=Z,1.9nm,0.6s						
HFS	Hagfors	13.36	140	Pn	Pn	02 18 42.7	+2.0
	baz=335,slow=12						
FIA0	FINESS Array S	15.36	116	P	Pn	02 19 08.1	+0.4
	baz=338,slow=16						
FIA0	FINESS Array S	15.36	116	P	Pn	02 19 08.1	+0.4
	baz=338,slow=16						
FINES	FINESS Array B	15.36	116	Pn	Pn	02 19 08.1	+0.4
	comp=Z,0.1nm,0.3s,baz=323,slow=11,SNR=1.8						
	comp=Z,1.8nm,0.8s						
EKA	Eskdalemuir Ar	16.22	179	Pn	Pn	02 19 18.1	-0.9
	baz=357,slow=12						
	comp=Z,0.7nm,0.5s						
GERES	GERESS Array B	24.11	151	P	P	02 20 48.8	+1.9
	comp=Z,0.3nm,0.3s,baz=347,slow=13,SNR=2.1						
	comp=Z,0.3nm,0.3s						
RES	Resolute Bay	24.25	320	LR	LR	02 29 27.3	
	comp=Z,94nm,20.9s,baz=22,slow=34						
FRB	Frobisher Bay	24.62	285	LR	LR	02 29 53.9	
	comp=Z,103nm,20.6s,baz=44,slow=35						
AKASG	Malin Array Be	25.60	127	P	P	02 21 02.3	+2.1
	comp=Z,0.3nm,0.4s,baz=337,slow=9.7,SNR=2.0						
	comp=Z,0.3nm,0.4s						
BVAR	Borovoye Array	36.08	80	P	P	02 22 36.4	+3.8
	comp=Z,0.3nm,0.5s,baz=318,slow=4.1,SNR=2.3						
	comp=Z,0.3nm,0.5s						
BRTR	Keskin Array B	36.95	129	P	P	02 22 41.7	+1.3
	comp=Z,0.2nm,0.3s,baz=343,slow=9.3,SNR=1.8						
	comp=Z,0.2nm,0.3s						
YKA	Yellowknife Ar	38.16	315	P	P	02 22 50.9	+0.8
	comp=Z,0.2nm,0.7s,baz=28,slow=8.8,SNR=4.8						
	comp=Z,0.2nm,0.7s						
MDT	Midelt	38.74	181	LR	LR	02 37 12.3	
	comp=Z,115nm,20.4s,baz=354,slow=34						
ILAR	Eielson Array	41.70	337	P	P	02 23 21.0	+1.4
	comp=Z,1.2nm,1.3s,baz=7.6,slow=7.5,SNR=1.9						
	comp=Z,1.2nm,1.3s						
TORD	Torodi Ar. Bea	58.40	174	P	P	02 25 28.9	+2.2
	comp=Z,0.9nm,0.7s,baz=356,slow=8.3,SNR=5.4						
	comp=Z,0.9nm,0.7s						

*SSNC **03** 02:16:08.1±2.2, 19.49N×77.69W, h5^{km}±12^{km}, MD2.7, ML2.3, MW2.4*
*JSN **03** 02:16:08.7±0.4, 19.55N×77.79W, h30^{km}±999^{km}, MD3.7*
ISC 03 02:16:07.5±1.6**, 19.44N**±0.05×**77.6W**±0.1**, h7**^{km}±11^{km}**, n14, σ0.92**/25**, 2D, Cuba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PILO	Pilon	0.50	20	eP	Pg	02 16 17.5	+0.3
PILO				eS	Sb	02 16 25.6	-0.6
PILO				IAML		02 16 26.5	
	comp=E,451nm,0.4s						
PILO				IAML		02 16 26.7	
	comp=N,402nm,0.5s						
LMGC	Las Mercedes	0.83	41	eP	Pg	02 16 23.5	+0.1
LMGC				eS	Sg	02 16 34.9	+0.6
LMGC				IAML		02 16 38.2	
	comp=N,124nm,0.1s						
LMGC				IAML		02 16 38.3	
	comp=E,141nm,0.1s						
MTDJ	Mount Denham	1.21	178	iP	Pg	02 16 30.4	-0.3
MTDJ				iS	Sg	02 16 46.6	+0.3
MTDJ	Mount Denham	1.21	178	eP	Pg	02 16 30.0	-0.7
MTDJ				eS	Sg	02 16 46.3	0.0
MTDJ				IAML		02 16 48.1	
	comp=E,74nm,0.2s						
MTDJ				IAML		02 16 48.2	
	comp=E,88nm,0.3s						
CHIV	Chivirico	1.22	64	eP	Pn	02 16 30.0	-1.1
CHIV				eS	Sg	02 16 46.3	-0.6
STH	Stony Hill	1.54	151	⇓iP	Pn	02 16 36.0	+0.6
STH	Stony Hill	1.54	151	eP	Pn	02 16 35.1	-0.4
STH				eS	Sn	02 16 56.8	+1.0
GWJ	Greenwich	1.58	149	⇓iP	Pn	02 16 36.5	+0.4
MARVS	Santiago de Cu	1.68	70	eP	Pn	02 16 36.9	-0.5
MARVS				eS	Sn	02 16 57.7	-1.5
RCC	Rio Carpintero	1.86	72	eP	Pn	02 16 39.4	-0.5
RCC				eS	Sn	02 17 02.8	-0.9
PINC	Pinares de May	1.98	58	eP	Pn	02 16 41.3	-0.2
PINC				eS	Sn	02 17 06.9	+0.2
PINC				IAML		02 17 09.5	
	comp=E,6.4nm,0.1s						
PINC				IAML		02 17 10.4	
	comp=N,7.0nm,0.1s						
GTBY	Guantanamo Bay	2.38	78	eP	Pn	02 16 47.0	0.0
GTBY				eS	Sn	02 17 18.0	+1.5
GTMO	Guantanamo	2.39	74	eP	Pn	02 16 48.8	+1.6
GTMO				eS	Sn	02 17 16.6	-0.1
GNEO	Boca de Quibij	2.95	72	eP	Pn	02 16 56.9	+2.0

*MEX **03** 02:20:22.4±1.2, 14.40N×92.46W, h80^{km}±19^{km}, MD3.7*
*GCG **03** 02:20:24.4±0.3, 14.43N×92.38W, h50^{km}±999^{km}, MD3.1*
ISC 03 02:20:24.9±1.7**, 14.50N**±0.10×**92.42W**±0.07**, h52**^{km}±16^{km}**, n14, σ1.32**/27**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.43	21	eP	Pn	02 20 35.2	-0.4
THIG				eS	Sn	02 20 45.0	+1.8
PATR	El Naranjo	0.64	17	eP	Pn	02 20 37.0	-1.3
PATR				eS	Sn	02 20 48.4	+0.5
CHUJ	Union Juarez	0.66	27	eP	Pn	02 20 37.5	-1.1
CHUJ				eS	Sn	02 20 49.1	+0.7
RTAL	Retalhuleu	0.71	88	eP	Pn	02 20 37.7	-1.2
RTAL				iS	Sn	02 20 49.1	+0.1
PAVE	Pavencul	0.73	19	eP	Pn	02 20 38.6	-0.8
PAVE				eS	Sn	02 20 50.8	+0.9
SMSP	San Marcos	0.78	53	eP	Pn	02 20 38.2	-1.9
SMSP				eS	Sn	02 20 51.6	+0.5
STG3	Santiaguito 3,	0.85	76	eP	Pn	02 20 40.4	-0.5
STG3				eS	Sn	02 20 53.0	+0.3
SULM	Suchitepequez,	0.85	103	eP	Pn	02 20 40.7	-0.1
HUEH	Huehuetenango	1.21	47	eP	Pn	02 20 46.2	+0.4
HUEH				eS	Sn	02 21 04.2	+3.1
PCIG		1.42	327	eP	Pn	02 20 47.3	-1.2
PCIG				eS	Sn	02 21 05.1	-1.0
FUG	Fuego 3	1.53	92	eP	Pn	02 20 49.3	-0.8
FUG				eS	Sn	02 21 08.8	-0.2
TGIG		2.36	344	eP	Pn	02 20 59.3	-2.1
TGIG				iS	Sn	02 21 28.9	-0.3
UXUV	UXUV	3.25	330	eP	Pn	02 21 14.0	+0.5
UXUV				eS	Sn	02 21 51.2	+0.2
CMIG	Matias Romero	3.50	318	eP	Pn	02 21 19.6	+2.8
CMIG				eS	Sn	02 21 56.1	-0.9

*IDC **03** 02:28:57.2±2.1, 15.01N×94.21W, h0^{km}, mb3.9/9, mbtmp3.9/12, ML3.4/2, MS3.4/4, Error ellipse: s-maj=41.0km s-min=24.4km az=22.0*
*GCG **03** 02:29:00.7±3.5, 15.99N×93.77W, h226^{km}±371^{km}, MD4.3*
*MEX **03** 02:29:03.7±1.3, 15.10N×94.58W, h16^{km}±13^{km}, MD4.4*
*NEIC **03** 02:29:03.3±2.5, 15.32N±0.07×94.56W±0.04, h10^{km}±2^{km}, mb4.3/53, Md4.4/83(MEX), Error ellipse: s-maj=11.3km s-min=6.9km az=186.0*
*CATAC **03** 02:29:07.1±0.8, 15.40N×94.26W, h10^{km}, MB5.0, mb4.9, ML4.6*
ISC 03 02:29:01.6±2.0**, 15.24N**±0.04×**94.55W**±0.02**, h13**^{km}±13^{km}**, n177, σ2.31**/230**, mb4.2**/19**, MS3.2**/3**, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CARR	Arriaga	1.18	31	eP	Pb	02 29 22.9	-1.0
CARR				eS	Sg	02 29 35.8	-3.8
NILT	Santiago Nilte	1.32	357	eP	Pn	02 29 24.6	-1.1
NILT				eS	Sb	02 29 40.8	-2.4
PCIG		1.37	70		Pn	02 29 25.6	-0.8
PCIG		1.37	70	eP	Pn	02 29 25.6	-0.8
PCIG				eS	Sb	02 29 42.3	-2.2
HUIG	Huatulco	1.59	290		Pn	02 29 28.8	-0.7
HUIG	Huatulco	1.59	290	eP	Pn	02 29 28.8	-0.7
HUIG				eS	Sn	02 29 46.0	-4.0
CMIG	Matias Romero	1.87	350	Pn	Pn	02 29 33.6	+0.3
	1μm,0.3s,baz=174,slow=12,SNR=3160						
CMIG				Sn	Sn	02 29 56.0	-0.9
	528nm,0.3s,baz=173,slow=17,SNR=48						
CMIG				LR	LR	02 30 27.9	
	comp=Z,381nm,21.2s,baz=222,slow=42						
CMIG	Matias Romero	1.87	350	eP	Pn	02 29 33.7	+0.3
CMIG				eS	Sn	02 29 55.7	-1.2
TGIG		2.06	42		Pn	02 29 37.0	+1.0
TGIG					Sn	02 30 02.1	+0.6
TGIG		2.06	42	eP	Pn	02 29 37.0	+1.0
TGIG				eS	Sn	02 30 02.1	+0.6
TGBT	Tuxtla Gutierr	2.08	42		Pn	02 29 36.6	+0.4
TGBT					Sn	02 30 02.5	+0.5
TGBT	Tuxtla Gutierr	2.08	42	eP	Pn	02 29 36.6	+0.4
TGBT				eS	Sn	02 30 02.5	+0.5
UXUV	UXUV	2.10	11	eP	Pn	02 29 38.0	+1.5
UXUV				eS	Sn	02 30 02.8	+0.1
THIG		2.23	98		Pn	02 29 38.1	-0.2
THIG		2.23	98	eP	Pn	02 29 38.1	-0.2
THIG				eS	Sn	02 30 03.2	-2.6
PATR	El Naranjo	2.24	93	eP	Pn	02 29 37.7	-1.0
PATR				eS	Sn	02 30 03.3	-3.0
PAVE	Pavencul	2.29	91	eP	Pn	02 29 39.2	-0.2
PAVE				eS	Sn	02 30 04.9	-2.7
CHUJ	Union Juarez	2.36	93	eP	Pn	02 29 39.8	-0.6
CHUJ				eS	Sn	02 30 06.5	-2.8
SMCA	Catarina	2.42	99	iP	Pn	02 29 40.3	-0.7
SMCA				iS	Sn	02 30 08.1	-2.4
CCIG	Comitan	2.55	66		Pn	02 29 44.4	+1.6
CCIG	Comitan	2.55	66	eP	Pn	02 29 43.9	+1.1
CCIG				eS	Sn	02 30 14.7	+0.9
CCIG	Comitan	2.55	66	iP	Pn	02 29 44.1	+1.3
CCIG				iS	Sn	02 30 12.0	-1.8
CCIG				IAML		02 30 17.8	
	comp=Z,2μm,1.0s						
PEIG	Puerto Escondi	2.61	287		Pn	02 29 43.1	-0.5
PEIG	Puerto Escondi	2.61	287	eP	Pn	02 29 43.1	-0.5
PEIG				eS	Sn	02 30 09.5	-5.8
SMSP	San Marcos	2.69	95	eP	Pn	02 29 45.4	+0.5
SMSP				eS	Sn	02 30 16.1	-1.3
SMSP	San Marcos	2.69	95	iP	Pn	02 29 45.6	+0.7
SMSP				iS	Sn	02 30 15.7	-1.8
SMSP				IAML		02 30 21.0	
	comp=Z,4μm,1.0s						
NEUV	Arroyo Zacate	2.74	334	eP	Pn	02 29 45.6	+0.3
NEUV				iS	Sn	02 30 17.2	-1.1
OXLC	Oaxaca	2.75	312	eP	Pn	02 29 47.8	+2.1
OXLC				eS	Sn	02 30 18.4	-0.5
OXIG	Oaxaca	2.78	311		Pn	02 29 48.0	+1.9
OXIG					Sn	02 30 19.1	-0.5
VHO	Vista Hermosa	2.78	311	iP	Pn	02 29 48.0	+1.9
VHO				eS	Sn	02 30 19.1	-0.5

TUIG	Tuzandepetl	2.78	3	eP	Pn	02 29 47.6	+1.7
TUIG				eS	Sn	02 30 20.6	+1.2
RTAL	Retalhuleu	2.85	104	Pn	Pn	02 29 48.2	+1.4
RTAL	Retalhuleu	2.85	104	eP	Pn	02 29 47.2	+0.4
RTAL				eS	Sn	02 30 19.5	-1.6
RTAL	Retalhuleu	2.85	104	i P	Pn	02 29 48.4	+1.5
RTAL				IAML		02 30 29.4	
	comp=Z,990nm,1.0s						
STG3	Santiaguito 3,	2.93	100	eP	Pn	02 29 48.8	+0.8
STG3				eS	Sn	02 30 22.6	-0.6
HUEH	Huehuetenango	2.94	88	Pn	Pn	02 29 50.7	+2.4
HUEH	Huehuetenango	2.94	88	eP	Pn	02 29 50.4	+2.1
HUEH				eS	Sn	02 30 24.9	+1.2
HUEH	Huehuetenango	2.94	88	i P	Pn	02 29 51.0	+2.7
HUEH				i S	Sn	02 30 25.1	+1.4
HUEH				IAML		02 30 34.6	
	comp=Z,5µm,1.0s						
SULM	Suchitepequez,	3.03	107	eP	Pn	02 29 51.2	+1.8
SULM				eS	Sn	02 30 22.2	-3.4
SOKI	Kika Raxquin	3.07	97	i P	Pn	02 29 51.2	+1.0
SOKI				i S	Sn	02 30 30.4	+3.4
SOKI				IAML		02 30 48.0	
	comp=Z,830nm,1.0s						
YOIG	Yosondua	3.30	300		Pn	02 29 55.3	+2.1
YOIG	Yosondua	3.30	300	eP	Pn	02 29 55.3	+2.1
YOIG				eS	Sn	02 30 30.0	-2.5
PMUV	Sontecomapan	3.33	351	eP	Pn	02 29 52.5	-1.1
PMUV				eS	Sn	02 30 29.5	-3.6
QUIS	Sacapulas	3.34	89	i P	Pn	02 29 56.4	+2.7
QUIS				i S	Sn	02 30 34.7	+1.4
QUIS				IAML		02 30 40.9	
	comp=Z,1µm,1.0s						
PNIG	Pinotepa	3.63	289		Pn	02 29 57.8	+0.2
PNIG	Pinotepa	3.63	289	eP	Pn	02 29 57.8	+0.2
FUG	Fuego 3	3.67	102	eP	Pn	02 29 50.5	-7.8
FUG				eS	Sn	02 30 40.9	-0.7
TXIG	Tlaxiaco	3.68	303		Pn	02 30 00.9	+2.4
TXIG					Sn	02 30 40.3	-1.7
TXIG	Tlaxiaco	3.68	303	eP	Pn	02 30 00.9	+2.4
TXIG				i S	Sn	02 30 40.3	-1.7
TOIG	Toxpalan	3.73	320		Pn	02 30 03.0	+4.0
TOIG					Sn	02 30 46.1	+3.3
TOIG	Toxpalan	3.73	320	eP	Pn	02 30 03.0	+4.0
TOIG				eS	Sn	02 30 46.1	+3.3
PCG	Pacaya	3.91	102	eS	Sn	02 30 42.5	-5.0
HLIG	Huajuapan de L	4.05	310		Pn	02 30 06.4	+2.9
HLIG	Huajuapan de L	4.05	310	eP	Pn	02 30 06.4	+2.9
HLIG				eS	Sn	02 30 48.1	-2.8
GUNB	GUNB	4.12	98	i P	Pn	02 30 07.5	+3.0
GUNB				IAML		02 31 22.7	
	comp=Z,300nm,1.0s						
NBG	Las Nubes	4.12	98	eS	Sn	02 30 54.5	+1.8
TPIG	Tehuac#an	4.15	320		Pn	02 30 09.6	+4.7
TPIG					Sn	02 30 55.5	+2.1
TPIG	Tehuac#an	4.15	320	eP	Pn	02 30 09.6	+4.7
TPIG				eS	Sn	02 30 55.5	+2.1
FTIG	Fresnillo de T	4.34	308		Pn	02 30 10.6	+3.1
FTIG					Sn	02 30 56.8	-1.3
FTIG	Fresnillo de T	4.34	308	eP	Pn	02 30 10.6	+3.1
FTIG				eS	Sn	02 30 56.8	-1.3
MGIG	Malinaltepec	4.39	297		Pn	02 30 10.6	+2.3
MGIG	Malinaltepec	4.39	297	eP	Pn	02 30 10.6	+2.3
MGIG				eS	Sn	02 30 56.1	-3.3
TLIG	Tlapa	4.49	302	Pn	Pn	02 30 12.2	+2.6
TLIG	Tlapa	4.49	302	eP	Pn	02 30 12.4	+2.8
TLIG				eS	Sn	02 30 59.4	-2.5
TLIG	Tlapa	4.49	302	i P	Pn	02 30 12.4	+2.8
JAUV	Jalcomulco	4.63	333	eP	Pn	02 30 11.4	-0.1
JAUV				eS	Sn	02 30 59.5	-5.6
CRIG	Cruz Grande	4.65	289		Pn	02 30 12.5	+0.9
CRIG	Cruz Grande	4.65	289	eP	Pn	02 30 12.5	+0.9
CRIG				eS	Sn	02 30 58.3	-7.2
PETF	Flores	4.80	69	Pn	Pn	02 30 14.3	+0.6
PETF	Flores	4.80	69	eS	Pn	02 30 15.8	+2.1
PETF				eS	Sn	02 31 02.7	-6.5
PETF	Flores	4.80	69	i P	Pn	02 30 15.2	+1.5
PETF				i S	Sn	02 31 08.4	-0.8
PETF				IAML		02 31 16.4	
	comp=Z,450nm,1.0s						
NUBE	Las Nubes	4.81	105	i P	Pn	02 30 15.5	+1.6
NUBE				IAML		02 31 17.5	
	comp=Z,200nm,1.0s						
SCIG	Sabancuy	4.91	40	eP	Pn	02 30 16.1	+0.9
SCIG				eS	Sn	02 31 06.6	-5.3
CEVE	Cerro Verde	4.97	106	i P	Pn	02 30 17.9	+1.6
CEVE				IAML		02 31 36.3	
	comp=Z,340nm,1.0s						
ESQI	Esquipulas	5.08	97	Pn	Pn	02 30 21.0	+3.4
MTO3	Montecristo	5.09	99	Pn	Pn	02 30 21.0	+3.1
JAYA	Jayaque - finc	5.19	107	i P	Pn	02 30 23.7	+4.6
JAYA				i S	Sn	02 31 16.7	-2.3
DAIG	Los Arroyos	5.21	291		Pn	02 30 20.1	+0.8
DAIG	Los Arroyos	5.21	291⇑	eP	Pn	02 30 20.1	+0.8
DAIG				eS	Sn	02 31 13.1	-6.2
PMON	Piamonte	5.29	106	i P	Pn	02 30 24.3	+3.7
PMON				IAmb	IAmb	02 30 27.9	
	comp=Z,86nm,0.5s						
PMON				IVmB_BB		02 30 33.5	
	comp=Z,2µm,1.0s						
PMON				IAML		02 31 48.1	
	comp=Z,240nm,1.0s						
PPM	Popocatepetl	5.45	315	eP	Pn	02 30 26.3	+3.2
PPM				i S	Sn	02 31 23.1	-2.7
PPIG	Popocatepetl	5.45	315		Pn	02 30 26.3	+3.2
MEIG	Mezcala	5.55	300		Pn	02 30 25.7	+1.7
MEIG	Mezcala	5.55	300	eP	Pn	02 30 25.7	+1.7
MEIG				eS	Sn	02 31 22.7	-5.1
SJTE	Alcalda de S	5.61	106	i P	Pn	02 30 28.8	+3.9
SJTE				IAmb	IAmb	02 30 38.4	
	comp=Z,33nm,0.6s						
SJTE				IAML		02 31 58.2	
	comp=Z,96nm,1.0s						
SARH	Santa Rosa de	5.61	94	i P	Pn	02 30 29.6	+4.7
YAIG	Yautepec	5.62	310		Pn	02 30 29.5	+4.4
YAIG	Yautepec	5.62	310	eP	Pn	02 30 29.5	+4.4
YAIG				eS	Sn	02 31 26.0	-3.7
PAVA	Las Pavas	5.64	105	i P	Pn	02 30 29.4	+4.0
PAVA				IAML		02 30 51.0	
	comp=Z,220nm,1.0s						
PAVA				IAmb	IAmb	02 30 51.3	
	comp=Z,100nm,0.5s						
PLIG	Platanillo	5.69	304		Pn	02 30 30.3	+4.4
PLIG					Sn	02 31 28.9	-2.2
PLIG	Platanillo	5.69	304	eP	Pn	02 30 30.3	+4.4
PLIG				eS	Sn	02 31 28.9	-2.2
COEG	Centro de Oper	5.72	106	i P	Pn	02 30 30.6	+4.1
COEG				IAML		02 30 34.5	
	comp=Z,98nm,1.0s						
COEG				IAmb	IAmb	02 30 34.9	
	comp=Z,63nm,0.5s						
COEG				IVmB_BB		02 30 57.0	
	comp=Z,2µm,1.0s						
CAIG	El Cayaco	5.78	289		Pn	02 30 28.5	+1.4
CAIG	El Cayaco	5.78	289	eP	Pn	02 30 28.5	+1.4
CAIG				eS	Sn	02 31 25.5	-7.8
SCLA	Alcaldia de Sa	5.84	104	i P	Pn	02 30 34.7	+6.6
ARIG	Puente Sto Nin	6.32	299		Pn	02 30 37.2	+2.5
ARIG	Puente Sto Nin	6.32	299	eP	Pn	02 30 37.2	+2.5
ARIG				i S	Sn	02 31 40.7	-6.1
NISHN	Nisperales Com	6.45	84	i P	Pn	02 30 35.8	-0.6
MOIG	Morelia	7.72	306	Pn	Pn	02 30 55.1	+1.1
TEIG	Tepich	7.77	49	Pn	Pn	02 30 53.8	-0.7
TEIG	Tepich	7.77	49	Pn	Pn	02 30 51.8	-2.6
	comp=Z,150nm,0.3s,baz=144,slow=0.4,SNR=56						
TEIG				Sn	Sn	02 32 19.2	-3.1
	comp=Z,56nm,0.3s,baz=88,slow=22,SNR=2.5						
HZTE	Horizontes, Gu	9.82	116	Pn	Pn	02 31 25.1	+2.5
HZTE	Horizontes, Gu	9.82	116	i P	Pn	02 31 28.1	+5.5
DUNO	Dulce Nombre,	10.22	119	Pn	Pn	02 31 30.8	+2.7
JTS	Las Juntas de	10.57	117	Pn	Pn	02 31 36.3	+3.3
JTS	Las Juntas de	10.57	117	Pn	Pn	02 31 25.1	-7.8
	comp=Z,0.2nm,0.3s,baz=302,slow=17,SNR=1.3						
	comp=Z,2.3nm,0.4s						
JACO	JACO, Garabito	11.13	119	Pn	Pn	02 31 43.6	+3.0
RIMA	Rio Macho	11.76	116	Pn	Pn	02 31 51.1	+1.7
SOR	Soroa	13.25	54	Pn	Pn	02 32 07.8	-1.7
833A	Chaparral WMA,	13.77	342	Pn	Pn	02 32 19.3	+2.6
HNDO	Hondo	14.88	344	Pn	Pn	02 32 34.0	+2.2
435B	Jarrell	15.72	350	Pn	Pn	02 32 42.4	-0.5
435B				IAmb	IAmb	02 32 48.3	
	comp=Z,14nm,0.7s						
JCT	Junction City	15.92	343	Pn	Pn	02 32 46.4	+0.9
SAND	Sanderson	16.22	336		P	02 32 52.6	+0.1
TX31	Lajitas Ar. Si	16.36	331		P	02 32 54.0	0.0
TXAR	Lajitas Array	16.36	331		P	02 32 53.9	-0.2
TXAR	Lajitas Array	16.36	331	Pn	P	02 32 54.7	+0.7
	baz=153,slow=13,SNR=6.8						
	comp=Z,0.5nm,0.7s						
BRDY	Brady	16.48	346	Pn	Pn	02 32 53.0	+0.2
237A	Washetta, Mont	16.73	356	Pn	Pn	02 32 55.8	+0.1
237A				IAmb	IAmb	02 33 19.3	
	comp=Z,23nm,0.9s						
OZNA	Ozona	16.73	340		Pn	02 32 57.4	+1.5
OZNA				IAmb	IAmb	02 33 11.6	
	comp=Z,15nm,0.7s						
WHTX	Lake Whitney,	16.89	351		P	02 33 00.4	+0.6
WHTX				IAmb	IAmb	02 33 02.5	
	comp=Z,18nm,0.6s						
ALPN	Alpine	17.22	333		P	02 33 05.3	+1.6
SGCY	Sterling City	17.65	341		P	02 33 09.3	+0.9
SGCY				IAmb	IAmb	02 33 14.2	
	comp=Z,14nm,0.8s						
PLPT	Palo Pinto	17.83	350		P	02 33 11.5	+1.3
PLPT				IAmb	IAmb	02 33 30.8	
	comp=Z,21nm,1.3s						
ABTX	Abilene, Hawle	17.92	346		P	02 33 12.2	+1.0
ABTX				IAmb	IAmb	02 33 16.8	
	comp=Z,21nm,1.1s						
VHRN	Van Horn	18.20	330		P	02 33 16.5	+2.1
SN01	Snyder 1	18.47	343		P	02 33 19.2	+2.0
SN01				IAmb	IAmb	02 33 23.3	
	comp=Z,8.1nm,0.6s						
Z47A	Carrollton	18.82	17		P	02 33 19.0	-2.2
LRAL	Lakeview Retre	19.00	20	P	P	02 33 23.4	+0.3
DKNS	Dickens	19.23	344	P	P	02 33 26.5	+0.8
WMOK	Wichita Mounta	19.79	350	P	P	02 33 32.5	+0.7
W35A	Tecumseh	19.94	354	P	P	02 33 32.6	-0.8
Y49A	Blount Mountai	19.95	20	P	P	02 33 32.5	-1.0
SMWD	Samnorwood	20.43	347	P	P	02 33 39.8	+1.0
SMWD				IAmb	IAmb	02 33 46.6	
	comp=Z,13nm,0.8s						
AMTX	Amarillo	20.59	343	P	P	02 33 40.5	0.0
AMTX				IAmb	IAmb	02 33 47.1	
	comp=Z,10nm,0.8s						
OK029	Liberty Lake	20.64	353	P	P	02 33 40.1	-0.9
OK029				IAmb	IAmb	02 33 45.6	
	comp=Z,18nm,1.1s						
FCAR	Ozark Folk Cen	20.68	6	P	P	02 33 41.2	-0.2
FCAR				IAmb	IAmb	02 33 45.2	
	comp=Z,7.0nm,0.7s						
OK052	Battle Ridge R	20.77	355	P	P	02 33 42.0	-0.4
OK052				IAmb	IAmb	02 33 45.8	
	comp=Z,16nm,1.0s						
QUOK	Quay	20.94	355	P	P	02 33 46.0	+1.8
121A	Cookes Peak, D	21.01	327	P	P	02 33 47.3	+2.1
121A				IAmb	IAmb	02 33 50.9	
	comp=Z,9.2nm,0.9s						
OK051	E0350 and S346	21.28	355	P	P	02 33 49.3	+1.4
OK051				IAmb	IAmb	02 33 50.8	
	comp=Z,12nm,0.8s						
CROK	Carrier	21.40	352	P	P	02 33 49.4	+0.3
U32A	Winter Ranch,	21.43	350	P	P	02 33 49.7	+0.2
U32A				IAmb	IAmb	02 33 55.8	
	comp=Z,16nm,0.8s						
BLOK	Blackwell	21.57	354	P	P	02 33 51.4	+0.5
OK032	Salt Plains WL	21.73	352	P	P	02 33 53.8	+1.1
OK032				IAmb	IAmb	02 33 55.1	
	comp=Z,15nm,1.1s						
KAN09	Caldwell North	21.98	353	P	P	02 33 56.2	+0.8
KAN05	Bluff City Nor	21.98	353	P	P	02 33 56.6	+1.2
KAN08	Anthony NE Sta	22.11	353	P	P	02 33 56.5	-0.3
KAN12	Harper NE Stat	22.18	353	P	P	02 33 58.2	+0.6
ANMO	Albuquerque	22.35	334	P	P	02 34 01.1	+1.5
	comp=Z,1.3nm,0.8s,baz=240,slow=11,SNR=5.6						
	comp=Z,1.3nm,0.8s						
TKL	Tuckaleechee C	22.51	23	P	P	02 33 59.1	-2.0
	comp=Z,10nm,1.2s,baz=209,slow=11,SNR=2.7						
	comp=Z,10nm,1.2s						
R32A	Long Quarter,	23.39	352	P	P	02 34 09.3	-0.8
T25A	Trinidad	23.51	340	P	P	02 34 12.9	+1.3
T25A				IAmb	IAmb	02 34 14.8	
	comp=Z,16nm,1.4s						
SDV	Santo Domingo	24.21	102	LR	LR	02 44 37.9	
	comp=Z,69nm,18.1s,baz=264,slow=40						
X16A	Lo Mia Camp, P	24.42	324	P	P	02 34 21.9	+1.7
SDCO	Great Sand Dun	24.43	339	P	P	02 34 22.6	+2.3
WUAZ	Wupatki	25.20	326	P	P	02 34 30.3	+3.0
WUAZ				IAmb	IAmb	02 34 32.7	
	comp=Z,7.6nm,1.1s						
TCUT	Toone Canyon	29.65	334	P	P	02 35 07.9	+0.7
PDAR	Pinedale Array	30.31	338	P	P	02 35 13.3	+0.2
	comp=Z,0.5nm,0.8s,baz=143,slow=9.1,SNR=4.8						
	comp=Z,0.5nm,0.8s						
NVAR	Mina Array Bea	31.18	322	P	P	02 35 21.1	+0.4
NVAR	Mina Array Bea	31.18	322	P	P	02 35 22.9	+2.2
	comp=Z,1.1nm,0.8s,baz=138,slow=9.0,SNR=9.1						
	comp=Z,1.1nm,0.8s						
SNOW	Snow King Moun	31.36	337	P	P	02 35 23.3	+1.0
NNA	Nana	32.24	146	LR	LR	02 46 11.6	
	comp=Z,37nm,18.4s,baz=4.0,slow=32						
HLID	Hailey	32.93	333	P	P	02 35 36.8	+0.8
HLID				IAmb	IAmb	02 35 39.2	
	comp=Z,3.5nm,1.1s						
J08A	Circle Bar Ran	34.69	329	P	P	02 35 52.7	+1.5
J08A				IAmb	IAmb	02 35 54.3	
	comp=Z,4.5nm,1.0s						
PLID	Pearl Lake	34.84	333	P	P	02 35 53.5	+0.9
PLID				IAmb	IAmb	02 35 54.5	
	comp=Z,4.5nm,0.9s						
ULM	Lac du Bonnet	34.94	359	P	P	02 35 53.4	+0.3
	comp=Z,1.1nm,0.5s,baz=178,slow=10,SNR=3.0						
	comp=Z,1.1nm,0.5s						
F10A	Beach Ranch, E	36.07	333	P	P	02 36 03.4	+0.4
F10A				IAmb	IAmb	02 36 06.5	
	comp=Z,4.6nm,0.8s						
YKA	Yellowknife Ar	49.28	348	P	P	02 37 48.9	-1.0
	comp=Z,1.1nm,0.7s,baz=153,slow=7.2,SNR=18						
	comp=Z,1.1nm,0.7s						
IL31		60.74	337	P	P	02 39 12.4	-0.3
ILAR	Eielson Array	60.74	337	P	P	02 39 12.4	-0.4
ILAR	Eielson Array	60.74	337	P	P	02 39 12.6	-0.2
	comp=Z,1.1nm,0.9s,baz=150,slow=4.2,SNR=9.6						
	comp=Z,1.1nm,0.9s						
BMAR	Burnt Mountain	61.29	340	P	P	02 39 16.6	0.0
F21K	Alatna River	64.24	338	P	P	02 39 36.2	0.0
EKA	Eskdalemuir Ar	78.41	36	P	P	02 40 59.7	-2.3
	comp=Z,4.5nm,0.8s,baz=261,slow=7.5,SNR=3.5						
	comp=Z,4.5nm,0.8s						
SPITS	Spitsbergen Ar	79.37	11	LR	LR	03 17 41.8	
	comp=Z,116nm,20.3s,baz=192,slow=37						
ARCES	ARCESS Array B	85.73	18	P	P	02 41 37.3	-2.9
	comp=Z,1.5nm,0.9s,baz=303,slow=5.0,SNR=1.1						
	comp=Z,1.5nm,0.9s						

*IDC **03** 02:51:16.2±1.8, 16.°77S×69.°42W, h160km±20km, mb3.4/4, mbtmp3.9/7, Error ellipse: s-maj=26.5km s-min=15.6km az=47.0*
*GUC **03** 02:51:20.1±0.6, 16.°96S×69.°78W, h207km±5km, ML3.7*
ISC 03 02:51:19.4±0.8**, 17.°01S**±0.°07×**69.°8W**±0.°1**, h200**km**, n21,** σ**1.s37**/34**, mb3.5**/4**, 1C-5D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB16	IPOC Station P	1.35	167⇓	iP	Pn	02 51 53.6	+1.1
PB16				i S	Sn	02 52 20.7	+2.3
PB12	IPOC Station P	1.67	197	i P	Pn	02 51 55.4	+0.7
PB12				i S	Sn	02 52 23.0	+0.6
PB12				IAML		02 52 24.6	
	comp=N,216nm,0.3s						
GO01	Chusmiza	2.71	167⇓	iP	Pn	02 52 07.6	+1.4
GO01				i S	Sn	02 52 44.8	+2.0
PB11	IPOC Station P	2.74	177	i P	Pn	02 52 07.3	+1.1
PB11				i S	Sn	02 52 43.4	+0.5
PB11				IAML		02 52 44.9	
	comp=E,178nm,0.3s						
PB08	IPOC Station P	3.18	169⇑	iP	Pn	02 52 13.2	+1.7
PB08				i S	Sn	02 52 52.9	+0.3
HMBC	Humberstone	3.25	181⇓	iP	Pn	02 52 13.1	+0.9
HMBC				i S	Sn	02 52 53.2	-0.5
TA02	Huaiquique	3.26	185	eP	Pn	02 52 12.9	+0.8
TA01	Diego Aracena	3.56	185⇓	iP	Pn	02 52 16.5	+0.8
TA01				i S	Sn	02 52 58.9	-1.1
PATCX	Punta Patache	3.81	185	eP	Pn	02 52 20.1	+1.3
PATCX				eS	Sn	02 53 04.9	-0.8
PB01	IPOC Station P	4.03	175⇓	iP	Pn	02 52 22.6	+1.0
PB01				i S	Sn	02 53 09.6	-1.1
PB02	IPOC Station P	4.29	181	eP	Pn	02 52 26.6	+1.7
PB02				eS	Sn	02 53 15.7	-0.9
PB07	IPOC Station P	4.70	181	eP	Pn	02 52 31.7	+1.6
PB07				eS	Sn	02 53 24.3	-1.6
PB09	IPOC Station P	4.80	173	i P	Pn	02 52 33.1	+1.7
PB09				i S	Sn	02 53 27.2	-1.0
LVC	Limon Verde	5.64	171	P	Pn	02 52 42.6	+0.3
	comp=E,4.6nm,0.3s,baz=25,slow=8.2,SNR=43						
LVC				S	Sn	02 53 46.7	-1.3
	comp=E,11nm,0.3s,baz=227,slow=20,SNR=20						
NNA	Nana	8.43	305	P	Pn	02 53 18.6	+0.2
	comp=E,5.7nm,0.4s,baz=136,slow=11,SNR=5.2						
NNA				S	Sn	02 54 52.7	-0.5
	comp=E,3.6nm,0.3s,baz=199,slow=11,SNR=1.9						
SIV	San Ignacio	8.46	84	P	Pn	02 53 11.2	-7.6
	comp=E,4.3nm,0.4s,baz=268,slow=11,SNR=40						
PDAR	Pinedale Array	69.81	330	P	P	03 02 10.3	+1.9
	comp=E,0.2nm,0.6s,baz=123,slow=9.8,SNR=3.2						
	comp=E,0.2nm,0.6s						
ULM	Lac du Bonnet	70.79	343	P	P	03 02 13.1	-0.8
	comp=E,1.2nm,0.4s,baz=160,slow=7.1,SNR=5.5						
	comp=E,1.2nm,0.4s						
TORD	Torodi Ar. Bea	76.72	72	P	P	03 02 47.0	-2.2
	comp=E,0.7nm,0.6s,baz=266,slow=4.8,SNR=8.2						
	comp=E,0.7nm,0.6s						
YKA	Yellowknife Ar	86.68	341	P	P	03 03 41.2	+1.1
	comp=E,0.5nm,0.8s,baz=132,slow=4.8,SNR=8.7						
	comp=E,0.5nm,0.8s						
SONM	Songino Array	149.10	5	PKPbc	PKPab	03 10 46.1	-2.8
	comp=E,1.1nm,0.6s,baz=325,slow=2.3,SNR=5.4						

*IDC **03** 02:57:39.9±0.8, 9.°08S×157.°97E, h0km, mb4.0/10, mbtmp4.0/10, MS3.3/3, Error ellipse: s-maj=24.9km s-min=17.8km az=155.0*
ISC 03 02:57:43.3±0.7**, 9.°1S**±0.°2×**158.°00E**±0.°08**, h23**km**, n19,** σ**0.s97**/13**, mb4.0**/10**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.94	99	Pn	Pn	02 58 14.2	-0.7
	696nm,0.3s,baz=197,slow=4.2,SNR=5.3						
HNR				Sn	Sb	02 58 42.6	+0.7
	2µm,0.3s,baz=262,slow=19,SNR=4.6						
HNR				LR	LR	02 58 53.9	
	comp=Z,3µm,20.3s,baz=328,slow=37						
CTA	Charters Tower	15.74	225	LR	LR	03 06 54.4	
	comp=Z,88nm,19.5s,baz=84,slow=35						
WRA	Warramunga Arr	25.27	242	P	P	03 03 08.4	+0.2
	2.0nm,0.8s,baz=67,slow=9.3,SNR=15						
	2.0nm,0.8s						
ASAR	Alice Springs	27.21	235	P	P	03 03 25.1	-0.6
	0.9nm,0.9s,baz=74,slow=7.9,SNR=8.3						
ASAR				LR	LR	03 13 20.0	
	comp=Z,68nm,20.8s,baz=80,slow=35						
	0.9nm,0.9s						
STKA	Stephens Creek	27.30	212	P	P	03 03 26.4	+0.1
	2.1nm,0.8s,baz=46,slow=14,SNR=5.4						
STKA				LR	LR	03 13 26.5	
	comp=Z,65nm,21.0s,baz=27,slow=35						
	2.1nm,0.8s						
H11S3	WAKE ISLAND Hy	28.74	17	T	T	03 32 31.2	
	baz=199,slow=76,SNR=15						
H11S2	WAKE ISLAND Hy	28.74	17	T	T	03 32 21.7	
	baz=199,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	28.76	17	T	T	03 32 20.2	
	baz=199,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	29.95	17	T	T	03 34 04.7	
	baz=195,slow=76,SNR=4.4						
H11N3	WAKE ISLAND Hy	29.96	17	T	T	03 34 01.4	
	baz=195,slow=76,SNR=5.3						
H11N2	WAKE ISLAND Hy	29.97	17	T	T	03 34 15.4	
	baz=195,slow=76,SNR=4.3						
PETK	Petropavlovsk-	61.98	360	P	P	03 08 00.9	-0.5
	5.2nm,0.9s,baz=153,slow=6.4,SNR=5.5						
	5.2nm,0.9s						
CMAR	Chiang Mai Arr	64.38	295	P	P	03 08 19.2	+1.2
	0.8nm,0.4s,baz=126,slow=5.9,SNR=5.6						
	0.8nm,0.4s						
SONM	Songino Array	72.73	326	P	P	03 09 09.2	-0.6
	0.4nm,0.9s,baz=128,slow=4.2,SNR=1.7						
	0.4nm,0.9s						
ILAR	Eielson Array	84.27	21	P	P	03 10 12.6	-0.3
	1.5nm,1.0s,baz=245,slow=5.0,SNR=7.4						
	1.5nm,1.0s						
MKAR	Makanchi Array	86.96	318	P	P	03 10 26.9	+0.2
	0.8nm,0.7s,baz=103,slow=5.5,SNR=8.8						
	0.8nm,0.7s						
NVAR	Mina Array Bea	90.70	51	P	P	03 10 46.9	+2.0
	1.2nm,0.8s,baz=243,slow=7.5,SNR=8.1						
	1.2nm,0.8s						
YKA	Yellowknife Ar	96.81	28	P	P	03 11 11.1	-1.0
	0.2nm,0.8s,baz=261,slow=4.7,SNR=2.1						
	0.2nm,0.8s						
BDFB	Brasilia	144.38	133	PKP	PKPdf	03 17 17.9	-1.0
	2.3nm,0.7s,baz=244,slow=8.3,SNR=5.7						

*TRN **03** 03:26:10.2, 10.°65N×62.°76W, h112km, MD3.4*
*FUNV **03** 03:26:12.2, 10.°58N×62.°72W, h86km, MW3.2*
ISC 03 03:26:09.3±1.4**, 10.°58N**±0.°06×**62.°77W**±0.°04**, h108**km±12km**, n14,** σ**1.s80**/20**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUV	Carupano	0.47	282	eP	Pn	03 26 26.2	+0.5
CRUV				eS	Sn	03 26 36.0	-2.1
TRN	Trinidad (W)	1.34	87	eP	Pn	03 26 36.1	+2.0
TRN				eS	Sn	03 26 53.2	+0.3
CUMV	Cumana_UDO	1.41	264	eP	Pn	03 26 36.9	+1.9
PCRV	Puerto La Cruz	1.88	258	eP	Pn	03 26 42.4	+1.6
PCRV				eS	Sn	03 27 04.8	0.0
GRGR	Grenville	1.89	35	eP	Pn	03 26 41.4	+0.6
GRGR				eS	Sn	03 27 04.9	0.0
GRHS	Sauteurs	1.97	34	eP	Pn	03 26 42.3	+0.5
GCMP	Grenada, Carri	2.31	35	eP	Pn	03 26 46.3	+0.2
GCMP				eS	Sn	03 27 12.4	-2.0
CACV	CAICARA DEL OR	4.78	232	eP	Pn	03 27 15.7	-3.5
CACV				eS	Sn	03 28 03.7	-10
BENV	Beln	4.80	263	eP	Pn	03 27 21.5	+2.0
BENV				eS	Sn	03 28 12.9	-1.1
LUEV	Luepa	4.88	165	eP	Pn	03 27 21.6	+0.9
LUEV				eS	Sn	03 28 13.5	-2.7
BAUV	El Baul	5.45	253	eP	Pn	03 27 29.8	+1.6
BAUV				eS	Sn	03 28 26.6	-3.1
BAUV	El Baul	5.45	253	eP	Pn	03 27 29.6	+1.4
BAUV	El Baul	5.45	253	eS	Sn	03 28 27.5	-2.2
ANBD	Bethesda, Anti	6.50	8	eP	Pn	03 27 51.3	+8.8

DJA 03 03:37:10.1±0.7**, 1.°N**±6.°×**12.°5E**±.°**, h29**km±7km**, M4.0**/7**, mb4.6**/1**, mB5.3**/1**, MLv3.6**/7**, Mw(mB)4.7**/1**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.79	243	P	Pn	03 37 39.0	-0.1
TNTI	Ternate	2.84	104	P	Pn	03 37 54.0	+0.5
MRSI	Marisa	2.84	250	P	Pn	03 37 52.9	-0.6
MPSI	Mapaga	4.84	257	P	Pn	03 38 22.0	+1.0
NLAI	Namlea	5.28	152	P	Pn	03 38 27.1	0.0
	31nm,0.4s,3µm0.1nm						

IDC 03 03:39:14.2±2.7**, 6.°33S**×**127.°55E, h0**km**, mb3.3**/1**, mbtmp3.8**/3**, ML4.0**/2**, MS3.2**/2**, Error ellipse: s-maj=314.2km s-min=32.2km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.06	155	Pn	Pn	03 42 49.6	+1.1
	0.5nm,0.3s,baz=333,slow=13,SNR=19						
WRA				Sn	Sn	03 45 25.8	-10
	0.1nm,0.3s,baz=335,slow=23,SNR=2.7						
	1.0nm,0.4s						
ASAR	Alice Springs	18.29	161	P	Pn	03 43 28.9	-0.8
	1.1nm,0.3s,baz=342,slow=11,SNR=79						
ASAR				S	Sn	03 46 47.1	-7.6
	0.1nm,0.5s,baz=350,slow=21,SNR=1.9						
	5.6nm,0.6s						
STKA	Stephens Creek	28.61	154	LR	LR	03 57 45.9	
	comp=Z,40nm,18.6s,baz=201,slow=39						
DZM	Mont Dzumac	40.67	117	LR	LR	04 03 57.3	
	comp=Z,38nm,18.3s,baz=69,slow=36						
MKAR	Makanchi Array	66.35	328	P	P	03 50 05.0	+0.1

0.2nm,0.6s,baz=121,slow=7.8,SNR=1.7
0.2nm,0.6s

KRSC 03 03:52:28.6±1.3**,49°21N×158°57E,h34**^{km}±25^{km}**,Ml3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.17	314	eP	Pn	03 53 04.2	+2.0
SKR				eS	Sn	03 53 30.2	+2.3
KDTR	Khodutka, Kamc	2.62	353	eP	Pb	03 53 12.0	-2.9
KDTR				eS	Sn	03 53 42.6	+3.4
ASAK	Asacha	3.21	353	eP	Pn	03 53 20.6	+3.9
ASAK				eS	Sn	03 53 57.9	+4.2
GRL	Gorelyy	3.36	355	eP	Pb	03 53 23.3	-4.3
GRL				eS	Sn	03 54 02.4	+4.7
KRMR	Karymshinskiy	3.64	356	eP	Pn	03 53 27.1	+4.6
KRMR				eS	Sn	03 54 09.6	+5.4
PET	Petropavlovsk	3.82	1	eP	Pn	03 53 28.4	+3.4
UGLR	Uglovaya	4.01	2	eP	Pn	03 53 31.5	+3.8
SMAR	Somma	4.06	2	eP	Pn	03 53 32.6	+4.1
KOK	Koryaka	4.09	1	eP	Pn	03 53 33.4	+4.6
KRX	Arik	4.16	1	eP	Pn	03 53 33.8	+4.0
GNL	Ganaly	4.51	355	eP	Pn	03 53 39.8	+5.2
TUMD	Tumrok D	6.11	10	eP	Pn	03 54 01.4	+4.9
TUMR	Tumrok	6.16	8	eP	Pn	03 54 02.9	+5.6
KMNR	Kamenistaya	6.64	8	eP	Pn	03 54 09.9	+6.1

*TRN **03** 03:59:59.2, 18°29N×63°65W, h133^{km}, MD4.7*
*NEIC **03** 04:00:02.7±1.3, 18°0N±0°2×63°80W±0°10, h114^{km}±10^{km}, ML3.4/26, Md4.2/16(RSPR), Error ellipse: s-maj=32.3km s-min=8.4km az=199.0*
*RSPR **03** 04:00:03.1, 18°00N×63°84W, h118^{km}±2^{km}, MD4.2/16*
ISC 03 04:00:01.5±2.0**,18°1N**±0°1×**63°78W**±0°06**,h127**^{km}±16^{km}**, n66,σ0^{s}89**/77**,5C-4D,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	0.67	94	⇓iP	Pn	04 00 22.3	+1.0
SMRT	St. Maarten	0.67	94	eS	Sn	04 00 36.4	+0.1
SMRT	St. Maarten	0.67	94		Pn	04 00 22.2	+0.9
SMRT					Sn	04 00 36.1	-0.3
SABA	Saba	0.70	133	⇑eP	Pn	04 00 22.0	+0.4
SABA	Saba	0.70	133	eS	Sn	04 00 36.5	-0.2
SABA	Saba	0.70	133		Pn	04 00 21.8	+0.2
SABA					Sn	04 00 35.8	-0.9
SABA				IAML		04 00 39.5	
	comp=N,979nm,0.4s						
SABA				IAML		04 00 41.4	
	comp=E,1μm,0.7s						
MBFL	Flemmings, Mon	2.01	132	eP	Pn	04 00 35.6	+0.2
MBFL				eS	Sn	04 01 02.4	+0.9
MLYT	Lee's Yard	2.05	132	e	Pn	04 00 37.1	+1.2
MLYT	Lee's Yard	2.05	132	e	Pn	04 01 06.4	+31
ANBD	Bethesda, Anti	2.19	118	⇑iP	Pn	04 00 37.4	-0.2
ANBD				eS	Sn	04 01 03.5	-1.8
GCPR	Guaynabo City	2.20	276	⇑iP	Pn	04 00 38.0	+0.3
GCPR	Guaynabo City	2.20	276	eS	Sn	04 01 05.1	-0.4
GCPR	Guaynabo City	2.20	276		Pn	04 00 38.0	+0.3
GCPR	Guaynabo City	2.20	276		Sn	04 01 05.5	-0.1
GCPR				IAML		04 01 11.3	
	comp=E,110nm,0.3s						
GCPR				IAML		04 01 13.5	
	comp=N,85nm,0.4s						
IGPR	InterUniversit	2.22	267	⇑iP	Pn	04 00 38.5	+0.6
IGPR	InterUniversit	2.22	267	eS	Sn	04 01 06.3	+0.4
IGPR	InterUniversit	2.22	267		Pn	04 00 38.5	+0.6
IGPR					Sn	04 01 06.3	+0.4
SJG	San Juan	2.25	271	⇑iP	Pn	04 00 39.4	+1.0
SJG	San Juan	2.25	271	eS	Sn	04 01 06.7	-0.1
SJG	San Juan	2.25	271		Pn	04 00 39.3	+0.9
SJG				IAML		04 01 08.2	
	comp=N,106nm,0.5s						
SJG				IAML		04 01 17.0	
	comp=N,101nm,0.2s						
SJG	San Juan	2.25	271	eP	Pn	04 00 39.4	+1.0
SJG				eS	Sn	04 01 08.2	+1.5
GDHS	Morne Mazeau,	2.65	133		Pn	04 00 43.2	-0.3
GDHS				IAML		04 01 26.7	
	comp=E,308nm,0.4s						
GDHS				IAML		04 01 28.9	
	comp=N,288nm,0.5s						
CELP	Cerrillos	2.66	270	⇑iP	Pn	04 00 44.4	+0.7
CELP	Cerrillos	2.66	270	eS	Sn	04 01 16.0	0.0
CELP	Cerrillos	2.66	270		Pn	04 00 44.3	+0.7
CELP				IAML		04 01 27.7	
	comp=N,64nm,0.4s						
CELP	Cerrillos	2.66	270		Sn	04 01 16.0	0.0
OBIP	Obispado Ponce	2.69	269	⇑iP	Pn	04 00 44.7	+0.7
OBIP	Obispado Ponce	2.69	269	eS	Sn	04 01 15.8	-0.9
OBIP	Obispado Ponce	2.69	269		Pn	04 00 44.6	+0.7
OBIP	Obispado Ponce	2.69	269		Sn	04 01 15.8	-0.9
OBIP	Obispado Ponce	2.69	269	IAML		04 01 40.8	
	comp=E,52nm,0.7s						
ABD	La Joyeuse, An	2.72	126	eP	Pn	04 00 43.7	-0.7
ABD				eS	Sn	04 01 16.1	-1.4
AOPR	Arecibo Observ	2.84	275	⇑eP	Pn	04 00 46.8	+0.9
AOPR	Arecibo Observ	2.84	275	eS	Sn	04 01 20.4	+0.3
AOPR	Arecibo Observ	2.84	275		Pn	04 00 46.2	+0.3
AOPR	Arecibo Observ	2.84	275		Sn	04 01 20.4	+0.3
AOPR	Arecibo Observ	2.84	275	IAML		04 01 22.5	
	comp=N,256nm,0.3s						
AOPR				IAML		04 01 27.4	
	comp=E,469nm,0.3s						
AOPR	Arecibo Observ	2.84	275	eP	Pn	04 00 46.5	+0.6
AOPR				eS	Sn	04 01 21.0	+0.9
CBE	Ff, Capester	2.90	134		Pn	04 00 46.8	+0.1
CBE	Ff, Capester	2.90	134		Sn	04 01 22.4	+0.8
CBE	Ff, Capester	2.90	134	eP	Pn	04 00 46.8	+0.1
CBE				eS	Sn	04 01 21.8	+0.2
MLPR	Magueyes Islan	3.11	268	⇓iP	Pn	04 00 48.6	-0.7
MLPR	Magueyes Islan	3.11	268	eS	Sn	04 01 26.7	+0.4
MLPR	Magueyes Islan	3.11	268		Pn	04 00 48.6	-0.7
MLPR					Sn	04 01 26.7	+0.4
LSP	Las Mesas	3.14	272	⇑eP	Pn	04 00 49.6	-0.3
LSP	Las Mesas	3.14	272	eS	Sn	04 01 24.8	-2.5
LSP	Las Mesas	3.14	272		Pn	04 00 49.6	-0.3
LSP					Sn	04 01 24.8	-2.5
CRPR	Cabo Rojo, PR	3.17	269	⇓iP	Pn	04 00 50.5	+0.3
CRPR	Cabo Rojo, PR	3.17	269	eS	Sn	04 01 28.4	+0.6
CRPR	Cabo Rojo, PR	3.17	269		Pn	04 00 50.4	+0.2
CRPR					Sn	04 01 27.9	+0.2
AGPR	Aguadilla, PR	3.19	277	⇓eP	Pn	04 00 50.6	+0.2
AGPR	Aguadilla, PR	3.19	277	eS	Sn	04 01 26.7	-1.5
AGPR	Aguadilla, PR	3.19	277		Pn	04 00 50.6	+0.2
AGPR					Sn	04 01 26.9	-1.3
AGPR				IAML		04 01 35.1	
	comp=E,97nm,0.3s						
AGPR				IAML		04 01 42.0	
	comp=N,85nm,0.3s						
PRSN	Puerto Rico Se	3.20	273	⇑eP	Pn	04 00 51.8	+1.2
PRSN	Puerto Rico Se	3.20	273	eS	Sn	04 01 28.3	-0.2
PRSN	Puerto Rico Se	3.20	273		Pn	04 00 51.1	+0.5
PRSN					Sn	04 01 28.5	0.0
PRSN				IAML		04 01 34.1	
	comp=N,142nm,0.3s						
FDF	Fort de France	4.19	143	e	Pn	04 01 10.6	+6.8
BIM	Bigot	4.41	143	eP	Pn	04 01 05.9	-0.8
BIM	Bigot	4.41	143	eS	Sn	04 01 56.5	-0.9
MPOM	Morne Pois Mar	4.59	142	eP	Pn	04 01 09.4	+0.3
MPOM	Morne Pois Mar	4.59	142	eS	Sn	04 01 59.6	-2.0
SLBI	Saint Lucia, B	4.87	146	eP	Pn	04 01 12.2	-0.6
SVB	Belmont	5.38	153	eP	Pn	04 01 20.0	+0.3
SDDR	Presa de Saban	7.17	278		Pn	04 01 44.0	+0.1
SDDR					Sn	04 03 03.5	-0.6
SDDR	Presa de Saban	7.17	278	eP	Pn	04 01 43.8	-0.1
SDDR	Presa de Saban	7.17	278	eS	Sn	04 03 01.2	-2.8

*NEIC **03** 04:00:29.7±0.5, 36°14N±0°01×98°36W±0°02, h12^{km}±5^{km}, Error ellipse: s-maj=2.1km s-min=2.0km az=212.0*
*TUL **03** 04:00:29.8±1.7, 36°16N±0°01×98°38W±0°01, h6^{km}±6^{km}, ML3.4, mb_Lg3.4/115(NEIC), ML3.6/30(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=157.0*
*ANF **03** 04:00:30.4±0.4, 36°14N×98°34W, h10^{km}, ML4.0/11, Error ellipse: s-maj=4.2km s-min=3.5km az=7.0*
*IDC **03** 04:00:32.5±1.7, 36°26N×98°85W, h0^{km}, mbtmp3.2/4, ML2.0/2, Error ellipse: s-maj=23.4km s-min=11.3km az=101.0*
ISC 03 04:00:29.9±1.1**,36°15N**±0°03×**98°34W**±0°02**,h8**^{km}±10^{km}**, n123,σ0^{s}84**/109**,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.46	39	Pg	Pg	04 00 39.2	+0.5
CROK				Sg	Sg	04 00 46.0	+1.2
CROK				IAML		04 00 46.2	
	comp=E,5μm,0.5s						
CROK				IAML		04 00 46.2	
	comp=N,6μm,0.3s						
OK038	West end E0370	0.46	315		Pg	04 00 38.6	-0.3
U32A	Winter Ranch,	0.58	293	Pg	Pg	04 00 40.7	-0.5
U32A				Sg	Sg	04 00 48.4	-0.4
U32A				IAML		04 00 49.2	
	comp=E,3μm,0.2s						
U32A	Winter Ranch,	0.58	293	P	Pg	04 00 40.8	-0.4
	baz=114						
U32A				S	Sg	04 00 48.6	-0.2
	baz=114						
OK035	E0210 Rd and N	0.63	332	Pg	Pg	04 00 41.7	-0.4
OK035				Sg	Sg	04 00 50.3	-0.1
OK032	Salt Plains WL	0.66	9	Pg	Pg	04 00 42.5	-0.2
OK032				Sg	Sg	04 00 51.7	+0.4
OK032				IAML		04 00 56.8	
	comp=E,4μm,0.2s						
GC02	Grant County #	0.80	29	Pg	Pg	04 00 45.2	0.0
GC02				Sg	Sg	04 00 56.2	+0.5
KAN14	Manchester OK	0.86	21		Pg	04 00 46.2	-0.3
KAN14				Sg	Sg	04 00 57.9	+0.3
ELIS	Ellis County	0.88	265		Pg	04 00 45.9	-0.9
ELIS				Sg	Sg	04 00 58.1	-0.1
ELIS				IAML		04 01 05.3	
	comp=N,2μm,0.3s						
ELIS				IAML		04 01 10.0	
	comp=E,2μm,0.2s						
KAN10	Anthony SW Sta	0.99	11	Pg	Pg	04 00 48.6	-0.4
KAN17	Caldwell West	1.00	27	Pg	Pg	04 00 48.8	-0.4
KAN05	Bluff City Nor	1.03	21		Pg	04 00 49.2	-0.4
OKCSW	OKLAHOMA CITY	1.04	135	Pg	Pg	04 00 49.5	-0.4
OKCSW				IAML		04 01 07.4	
	comp=N,1μm,0.5s						
OKCSW				IAML		04 01 11.9	
	comp=E,963nm,0.5s						
KAN01	Argonia South	1.10	25	Pg	Pb	04 00 50.6	-0.7
KAN13	South Haven SW	1.10	39	Pg	Pb	04 00 50.7	-0.5
KAN08	Anthony NE Sta	1.11	15	Pg	Pb	04 00 50.3	-1.1
OK033	Mehan	1.14	95	Pg	Pb	04 00 51.5	-0.4
OK033				IAML		04 01 11.7	
	comp=E,1μm,0.5s						
KAN09	Caldwell North	1.14	30	Pg	Pb	04 00 51.2	-0.7
OK048	Pawnee Station	1.16	76		Pb	04 00 51.8	-0.3
OK048				IAML		04 01 11.8	
	comp=E,871nm,0.5s						
KAN06	Argonia West S	1.16	19		Pb	04 00 51.4	-0.8
FNO	Franklin	1.18	139	Pn	Pb	04 00 52.0	-0.4
FNO				IAML		04 01 13.6	
	comp=E,1μm,0.4s						
FNO				IAML		04 01 14.1	
	comp=N,967nm,0.6s						
KAN12	Harper NE Stat	1.18	13		Pb	04 00 51.0	-1.5
OK052	Battle Ridge R	1.25	97	Pn	Pn	04 00 53.3	-0.4
OK052				IAML		04 01 17.1	
	comp=N,1μm,0.4s						
KS21	Milan North St	1.26	25		Pn	04 00 53.3	-0.5
OK051	E0350 and S346	1.26	73		Pn	04 00 53.5	-0.3
OK051				IAML		04 01 14.5	
	comp=N,1μm,0.3s						
OK051				IAML		04 01 15.5	
	comp=N,2μm,0.3s						
QUOK	Quay	1.32	89		Pn	04 00 54.6	0.0
WMOK	Wichita Mounta	1.46	194	Pn	Pn	04 00 55.7	-0.8
WMOK	Wichita Mounta	1.46	194	P	Pn	04 00 55.9	-0.6
	baz=14,SNR=17						
WMOK				Sb	Sn	04 01 15.5	-0.3
	baz=14						
DEOK	Depew	1.52	101		Pn	04 00 57.9	+0.4
W35A	Tecumseh	1.55	129		Pn	04 00 58.2	+0.4
T35A	Sooner Cattle	1.66	62		Pn	04 00 59.7	+0.4
T35A				IAmb_Lg		04 01 27.0	
	comp=Z,139nm,1.0s						
T35B	Sooner Cattle	1.66	62	P	Pn	04 01 00.2	+0.9
	baz=243,SNR=160						
T35B				Sb	Sb	04 01 23.0	+1.3
	baz=243						
SMWD	Samnorwood	1.87	237		Pn	04 01 02.6	+0.4
TUL3	Leonard	2.08	96		Pn	04 01 06.0	+1.0
TUL3				IAmb_Lg		04 01 39.8	
	comp=Z,180nm,0.9s						
TUL3	Leonard	2.08	96	P	Pn	04 01 06.1	+1.0
	baz=277,SNR=29						
TUL3				Sb	Sb	04 01 34.3	+0.4
	baz=277						
R32A	Long Quarter,	2.29	353	Pn	Pn	04 01 08.5	+0.6
R32A				IAmb_Lg		04 01 41.6	
	comp=Z,166nm,0.8s						
R32A	Long Quarter,	2.29	353	P	Pn	04 01 09.2	+1.2
	baz=173,SNR=41						
R32A				Sb	Sb	04 01 40.8	+0.9
	baz=173						
LOOK	Love County	2.35	156	Pn	Pn	04 01 10.2	+1.3
WTFS	Witchita Falls	2.38	183		Pn	04 01 09.5	+0.3
RLO	Rose Lookout	2.68	89	Pn	Pn	04 01 13.6	+0.2
CBKS	Cedar Bluff	2.88	338	Pn	Pn	04 01 16.8	+0.7
CBKS	Cedar Bluff	2.88	338	P	Pn	04 01 16.7	+0.5
	baz=157						
Z35A	Perchaven, San	2.95	162		Pn	04 01 17.1	0.0
AMTX	Amarillo	3.00	246		Pn	04 01 17.9	0.0
AMTX	Amarillo	3.00	246	P	Pn	04 01 19.0	+1.1
	baz=64,SNR=16						
U38A	Gravette	3.21	84	Pn	Pn	04 01 21.5	+0.9
KSU1	Kansas State U	3.25	24		Pn	04 01 21.1	0.0
KSU1				IAmb_Lg		04 02 17.0	
	comp=Z,100nm,0.8s						
DKNS	Dickens	3.26	221		Pn	04 01 22.0	+0.6
PLPT	Palo Pinto	3.33	180		Pn	04 01 23.2	+0.9
HHAR	Hobbs	3.56	87	Pn	Pn	04 01 26.1	+0.7
RTBA	Rita Blanca	3.56	276	Pn	Pn	04 01 26.3	+0.7
ABTX	Abilene, Hawle	3.68	197	Pn	Pn	04 01 27.5	+0.4
ABTX				IAmb_Lg		04 02 26.9	
	comp=Z,108nm,0.8s						
TREL	Terrell	3.89	151	Pn	Pn	04 01 30.3	+0.4
SN01	Snyder 1	3.90	213	Pn	Pn	04 01 30.0	-0.2
SN01				IAmb_Lg		04 02 37.5	
	comp=Z,119nm,0.7s						
Z38A	Mt. Pleasant	3.99	135	Pn	Pn	04 01 32.4	+1.0
Z38A				IAmb_Lg		04 02 42.1	
	comp=Z,74nm,0.8s						
POST	Post	4.03	221		Pn	04 01 32.7	+0.7
POST				IAmb_Lg		04 02 38.9	
	comp=Z,82nm,0.8s						
WHTX	Lake Whitney,	4.21	170		Pn	04 01 34.9	+0.5
WHTX	Lake Whitney,	4.21	170	P	Pn	04 01 35.4	+1.0
	baz=350,SNR=6.7						
MSTX	Muleshoe	4.24	240	Pn	Pn	04 01 35.0	+0.2
S39A	Bolivar	4.30	68	Pn	Pn	04 01 36.0	+0.4
S39A				IAmb_Lg		04 02 56.8	
	comp=Z,54nm,0.7s						
S39A	Bolivar	4.30	68	P	Pn	04 01 35.9	+0.2
	baz=250,SNR=17						
KSCO	Kaye Shedlock'	4.44	311	Pn	Pn	04 01 38.4	+0.7
KSCO				IAmb_Lg		04 02 58.5	
	comp=Z,63nm,0.8s						
KSCO	Kaye Shedlock'	4.44	311	P	Pn	04 01 38.4	+0.7
	baz=129						
N33A	J Bar K, Exete	4.63	8	Pn	Pn	04 01 40.6	+0.4
N33A				IAmb_Lg		04 03 03.2	
	comp=Z,76nm,0.8s						
237A	Washetta, Mont	4.64	152		Pn	04 01 40.3	0.0
X40A	Basin Creek Fa	4.80	109	Pn	Pn	04 01 44.1	+1.7
SGCY	Sterling City	4.82	209	Pn	Pn	04 01 42.9	+0.1
BRDY	Brady	4.88	187		Pn	04 01 43.7	0.0
BRDY				IAmb_Lg		04 03 08.3	
	comp=Z,43nm,0.9s						
WLAR	White Oak Lake	4.95	118	Pn	Pn	04 01 43.0	-1.5
WLAR				IAmb_Lg		04 03 20.5	
	comp=Z,54nm,0.9s						
T25A	Trinidad	4.98	283	Pn	Pn	04 01 45.5	+0.4
MGMO	Mountain Grove	4.98	77		Pn	04 01 45.9	+0.9
MGMO				IAmb_Lg		04 03 20.1	
	comp=Z,55nm,0.9s						
WHAR	Wooly Hollow	5.00	98	Pn	Pn	04 01 45.2	0.0
WHAR				IAmb_Lg		04 03 18.7	
	comp=Z,63nm,0.8s						
FCAR	Ozark Folk Cen	5.04	91	Pn	Pn	04 01 45.4	-0.4
FCAR				IAmb_Lg		04 03 12.6	
	comp=Z,61nm,0.9s						
P38A	Dawn	5.14	46	Pn	Pn	04 01 47.4	+0.2
P38A				IAmb_Lg		04 03 15.5	
	comp=Z,43nm,0.7s						
N35A	Tabor	5.16	23	Pn	Pn	04 01 47.6	+0.2
BGNE	Belgrade	5.25	2	Pn	Pn	04 01 47.8	-0.9
R40A	Maddies Statio	5.29	64	Pn	Pn	04 01 49.5	+0.3
R40A	Maddies Statio	5.29	64	P	Pn	04 01 49.5	+0.3
	baz=248,SNR=13						
ODSA	Odessa	5.33	222	Pn	Pn	04 01 50.3	+0.5
435B	Jarrell	5.39	173	IAmb_Lg		04 03 35.5	
	comp=Z,67nm,0.8s						
Z41A	Richland Creek	5.40	121	Pn	Pn	04 01 53.1	+2.5
Z41A				IAmb_Lg		04 03 35.8	
	comp=Z,65nm,1.0s						
OGNE	Ogallala	5.59	330	IAmb_Lg		04 03 38.6	
	comp=Z,64nm,0.7s						
OGNE	Ogallala	5.59	330	P	Pn	04 01 54.8	+1.4
	baz=148,SNR=9.4						
OZNA	Ozona	5.71	205	Pn	Pn	04 01 54.7	-0.4
JCT	Junction City	5.79	193	Pn	Pn	04 01 55.9	-0.2
CCAR	Cane Creek	5.83	111	IAmb_Lg		04 03 52.3	
	comp=Z,57nm,0.9s						
T42A	Van Buren	5.90	79	IAmb_Lg		04 03 46.5	
	comp=Z,38nm,0.8s						
SDCO	Great Sand Dun	5.95	288	P	Pn	04 02 00.6	+2.0
	baz=104,SNR=6.9						
CCM	Cathedral Cave	5.98	69	IAmb_Lg		04 03 40.3	
	comp=Z,49nm,0.7s						
P40A	Paris	6.01	54	Pn	Pn	04 01 59.6	+0.5
Q24A	Divide	6.09	299	IAmb_Lg		04 03 45.7	
	comp=Z,46nm,0.7s						
PBMO	Poplar Bluff	6.41	82	Pn	Pn	04 02 05.4	+0.9
PBMO				IAmb_Lg		04 04 03.5	
	comp=Z,49nm,0.8s						
BRIGG	Briggsdale	6.45	315	IAmb_Lg		04 04 03.0	
	comp=Z,58nm,0.8s						
FVM	French Village	6.59	72	Pn	Pn	04 02 07.4	+0.4
143A	Socs Landing,	6.68	119	IAmb_Lg		04 04 19.0	
	comp=Z,55nm,0.9s						
ANMO	Albuquerque	6.73	262	Pn	Pn	04 02 08.5	-0.6
ANMO	Albuquerque	6.73	262	Pn	Pn	04 02 05.7	-3.4
	baz=59,slow=19,SNR=1.4						
ANMO				Pg	Pb	04 02 29.7	+2.6
	comp=Z,0.7nm,0.3s,baz=175,slow=16,SNR=14						
ANMO				Lg	Lg	04 03 55.8	
	comp=Z,3.2nm,0.3s,baz=97,slow=14,SNR=7.0						
	comp=Z,0.2nm,0.3s						
ISCO	Idaho Springs	6.80	305	Pn	Pn	04 02 10.8	+0.5
ISCO	Idaho Springs	6.80	305	P	Pn	04 02 10.9	+0.6
	baz=120,SNR=17						
SLM	Saint Louis	6.91	67	IAmb_Lg		04 04 08.0	
	comp=Z,33nm,0.9s						
EF01	Eagle Ford 01	7.00	180	IAmb_Lg		04 04 19.7	
	comp=Z,51nm,0.9s						
CGM3	Cape Girardeau	7.07	78	IAmb_Lg		04 04 11.2	
	comp=Z,60nm,0.9s						
HALT	Halls	7.30	89	IAmb_Lg		04 04 25.0	
	comp=Z,46nm,0.7s						
Y22D	IRIS PASSCAL I	7.33	256	IAmb_Lg		04 04 39.1	
	comp=Z,36nm,0.8s						
SIUC	Southern Illin	7.47	75	IAmb_Lg		04 04 35.0	
	comp=Z,43nm,0.8s						
OXF	Oxford	7.48	100	IAmb_Lg		04 04 42.5	
	comp=Z,51nm,0.9s						
Y45A	Yeager Farm, C	7.57	105	IAmb_Lg		04 04 47.0	
	comp=Z,34nm,0.9s						
PHWY	Pilot Hill	7.58	315		Pn	04 02 19.7	-1.2
PHWY				IAmb_Lg		04 04 39.8	
	comp=Z,26nm,0.8s						
N23A	Red Feather La	7.61	311	IAmb_Lg		04 04 40.0	
	comp=Z,47nm,0.8s						
ECSD	EROS Data Cent	7.69	9	IAmb_Lg		04 04 41.7	
	comp=Z,26nm,1.0s						
P43A	Skaggs, Pawnee	7.79	61	IAmb_Lg		04 04 53.6	
	comp=Z,42nm,0.7s						
Q44A	Meyer Farm, Va	7.90	67	IAmb_Lg		04 04 52.4	
	comp=Z,39nm,0.9s						
TX31	Lajitas Ar. Si	8.14	215	Pn	Pn	04 02 28.1	-0.4
TXAR	Lajitas Array	8.14	215	Pn	Pn	04 02 28.6	+0.1
	comp=Z,0.7nm,0.3s,baz=30,slow=12,SNR=16						
TXAR				Pg	Pb	04 02 57.8	+6.5
	comp=Z,1.3nm,0.3s,baz=33,slow=13,SNR=12						
TXAR				Lg	Lg	04 04 42.3	
	comp=Z,1.9nm,0.3s,baz=75,slow=15,SNR=4.1						
SUSD	Miller	8.30	357	IAmb_Lg		04 05 04.3	
	comp=Z,33nm,0.8s						
146A	Union	8.43	112	IAmb_Lg		04 05 21.5	
	comp=Z,40nm,1.2s						
I37A	Lemond, Waseca	8.72	24	IAmb_Lg		04 05 11.9	
	comp=Z,35nm,0.8s						
RWWY	Rawlins	8.85	311	IAmb_Lg		04 05 16.5	
	comp=Z,40nm,1.3s						
K22A	Casper	9.07	318	IAmb_Lg		04 05 37.9	
	comp=Z,45nm,1.3s						
JFWS	Jewell Farm	9.20	40	IAmb_Lg		04 05 47.3	
	comp=Z,32nm,0.8s						
SPMN	Marine on St.	9.99	23	IAmb_Lg		04 05 57.1	
	comp=Z,22nm,1.1s						
PDAR	Pinedale Array	10.90	311	Pn	Pn	04 03 06.0	-0.4
	comp=Z,0.6nm,0.5s,baz=128,slow=14,SNR=11						
PDAR				Lg	Lg	04 06 00.5	
	comp=Z,0.2nm,0.3s,baz=128,slow=30,SNR=2.5						
ULM	Lac du Bonnet	14.21	6	Pn	Pn	04 03 49.6	-1.6
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=1.3						
ULM				Sn	Sn	04 06 18.8	-10
	comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=1.9						
ULM				Lg	Lg	04 07 49.4	
	comp=Z,0.2nm,0.3s,baz=281,slow=21,SNR=3.1						
	comp=Z,1.4nm,0.9s						

*SOME **03** 04:02:17.4, 39°32N×71°98E, h0^{km}*
*NNC **03** 04:02:19.8±6.1, 38°69N×72°75E, h0^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=46.6km s-min=36.5km az=162.0*
ISC 03 04:02:20.5±3.1**,38°6N**±0°2×**72°6E**±0°1**,h10**^{km}**,n11, σ1^{s}57**/17**,3C,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.60	14	Pn	Pn	04 03 16.6	-0.1
	2.1nm,0.5s						
AML				⇑Sn	Sn	04 04 00.6	+1.1
	17nm,0.8s						
MRKS	Merke	4.14	7	Pg	Pn	04 03 24.6	+0.8
	5.8nm,0.4s						
MRKS				Lg	Lg	04 04 11.8	
	17nm,0.5s						
MRKS	Merke	4.14	7	eP	Pn	04 03 24.6	+0.8
	5.8nm,0.4s						
MRKS				eS	Sn	04 04 11.8	-0.5
	17nm,0.5s						
KK31	Karatay Array	4.73	342	⇑Pn	Pn	04 03 31.4	-0.5
	7.9nm,0.5s,baz=155,slow=11,SNR=135						
KK31				⇑Sn	Sn	04 04 27.8	+1.1
	19nm,0.6s,baz=152,slow=25						
DGS	Degeres	5.21	27	eP	Pb	04 03 47.7	-4.0
	1.8nm,0.2s						
DGS				eS	Sb	04 04 50.8	-3.6
	7.4nm,0.7s						
KOTS	Kotyrbulak	5.75	35	Pg	Pb	04 04 00.3	-0.6
	1.8nm,0.2s						
KOTS				Lg	Lg	04 05 12.0	
	12nm,0.5s						
KOTS	Kotyrbulak	5.75	35	eP	Pb	04 04 00.3	-0.6
	1.8nm,0.2s						
KOTS				eS	Sb	04 05 12.1	+2.2
	12nm,0.5s						
KTBS	Karatobe	5.95	30	eP	Pb	04 04 03.3	-1.0
	1.7nm,0.3s						
KTBS				eS	Sb	04 05 17.6	+1.9
	6.3nm,0.7s						
KUU	Kurty	5.98	27	Pg	Pb	04 04 02.9	-1.8
	2.3nm,0.6s						
KUU				Lg	Lg	04 05 17.1	
	9.7nm,0.8s						
KUU	Kurty	5.98	27	eP	Pb	04 04 02.9	-1.8
	1.4nm,0.3s						
KUU				eS	Sb	04 05 17.1	+0.7
	9.7nm,0.8s						
AB31	Akbulak array	13.95	324	P	Pn	04 05 38.7	+0.6
	0.6nm,0.5s,baz=132,slow=13,SNR=23						

*TEH **03** 04:13:09.7, 30°68N×57°34E, h13^{km}±57^{km}, ML4.7*

MOS ***03*** *04:13:10.5±1.2, 30.°74N×57.°34E, h12km, mb4.9/29, Error ellipse: s-maj=5.9km s-min=4.3km az=97.0*
THR ***03*** *04:13:11.0±1.4, 30.°72N×57.°35E, h14km±9km, ML4.8*
NEIC ***03*** *04:13:12.6±1.7, 30.°77N±0.°07×57.°39E±0.°09, h10km±1km, mb4.6/60, Error ellipse: s-maj=13.8km s-min=11.9km az=111.0*
OMAN ***03*** *04:13:13.7±0.1, 30.°70N×57.°27E, h10km, mb5.1/31, ml4.4/3, ms2.8/1, Error ellipse: s-maj=2.9km s-min=1.0km az=262.0*
DSN ***03*** *04:13:13.3±1.0, 30.°49N×58.°32E, h15km, ML4.1/9, Error ellipse: s-maj=54.0km s-min=8.4km az=107.0*
IDC ***03*** *04:13:16.0±1.8, 30.°63N×57.°31E, h43km±17km, mb4.2/28, mbtmp4.4/38, ML3.9/10, MS3.5/17, Error ellipse: s-maj=10.7km s-min=10.5km az=125.0*
ISC 03 04:13:11.6±0.6**, 30.°74N**±0.°03×**57.°32E**±0.°03**, h7km**±3km**, n406,** σ1.s55/448**, mb4.6**/98**, MS3.7**/11**, 18C-8D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.24**	**191**	Pg	**Pg**	**04 13 15.3**	**-1.2**
ZRDN	**Zarand Kerman**	**0.71**	**288**	Pg	**Pg**	**04 13 25.6**	**+0.2**
KHGB	**Koh Gabri**	**0.82**	**244**	Pg	**Pg**	**04 13 26.6**	**-0.7**
KHGB				Sg	**Sg**	**04 13 37.2**	**-0.8**
TVBK	**TV Kerman**	**0.90**	**213**	Pg	**Pg**	**04 13 27.9**	**-1.0**
CHMN	**Cheshme madani**	**0.90**	**168**	Pg	**Pg**	**04 13 26.7**	**-2.2**
KRBR	**Kerman**	**0.90**	**213**	*e*Pg	**Pg**	**04 13 28.1**	**-0.8**
NGRK	**Negar Kerman**	**1.21**	**205**	Pg	**Pg**	**04 13 33.7**	**-1.2**
IBAF	**Bafgh**	**1.73**	**300**	Pg	**Pb**	**04 13 43.4**	**-0.3**
KBAM	**BAM**	**1.88**	**148**	Pn	**Pn**	**04 13 43.7**	**-0.5**
BSRN	**Basiran**	**1.96**	**51**	*e*Pn	**Pn**	**04 13 45.6**	**+0.1**
BSRN				*e*Sg	**Sb**	**04 14 12.5**	**0.0**
BSRN	**Basiran**	**1.96**	**51**	Pn	**Pn**	**04 13 45.5**	**+0.1**
IKOO	**Kooshah**	**2.21**	**40**	Pn	**Pn**	**04 13 49.4**	**+0.5**
TPRV	**Parvadeh(Tabas**	**2.34**	**347**	Pn	**Pn**	**04 13 52.2**	**+1.6**
IMEH	**Mehriz**	**2.41**	**286**	Pn	**Pn**	**04 13 52.9**	**+1.2**
NHDN	**Nehbandan**	**2.43**	**74**	Pn	**Pn**	**04 13 52.0**	**+0.2**
ITEG	**Tejag**	**2.47**	**29**	Pn	**Pn**	**04 13 53.1**	**+0.7**
KHNJ	**Kahnooj**	**2.81**	**173**	Pn	**Pn**	**04 13 56.7**	**-0.2**
YZKH	**Yazd**	**2.85**	**306**	*e*Pn	**Pn**	**04 13 58.8**	**+1.3**
YZKH				*e*Sg	**Sb**	**04 14 40.2**	**+2.3**
YZKH				IAML		04 14 43.8	
	comp=N,2μm,0.4s						
YZKH				IAML		04 14 47.0	
	comp=E,3μm,0.5s						
TKDS	**Koohdasht(Taba**	**2.87**	**357**	Pn	**Pn**	**04 13 59.3**	**+1.5**
TABS	**Tabas**	**2.90**	**357**	*e*Pn	**Pn**	**04 13 59.5**	**+1.3**
ICHK	**Chekchek**	**2.91**	**302**	Pn	**Pn**	**04 14 00.2**	**+1.8**
IDAH	**Dahanechah**	**2.94**	**47**	Pn	**Pn**	**04 13 59.5**	**+0.5**
AFRZ	**Afriz**	**3.04**	**28**	Pn	**Pn**	**04 14 00.6**	**+0.4**
ZHSF	**Zahedan**	**3.19**	**110**	*e*Pn	**Pn**	**04 14 02.9**	**+0.6**
TNSJ	**Nastanj**	**3.27**	**350**	Pn	**Pn**	**04 14 04.5**	**+1.2**
ZHDN	**Zahedan**	**3.31**	**113**	Pn	**Pn**	**04 14 04.0**	**+0.1**
ISAD	**Sadrabad**	**3.32**	**291**	Pn	**Pn**	**04 14 06.0**	**+1.8**
BNDS	**Bandar-Abbas**	**3.48**	**197**	*e*Pn	**Pn**	**04 14 08.5**	**+2.2**
BNDS				IAML		04 14 53.7	
	comp=N,930nm,0.6s						
SHRT	**Shahrakht**	**3.83**	**40**	*e*Pn	**Pn**	**04 14 12.3**	**+1.3**
SHRT	**Shahrakht**	**3.83**	**40**	Pn	**Pn**	**04 14 12.2**	**+1.1**
JHRM	**Jahrom**	**3.95**	**237**	Pn	**Pn**	**04 14 13.9**	**+1.2**
SHI	**Shiraz**	**4.31**	**256**	Pn	**Pn**	**04 14 19.1**	**+1.4**
NASN	**Na'in**	**4.36**	**299**	*e*Pn	**Pn**	**04 14 19.7**	**+1.2**
IRAM	**Ramesheh**	**4.36**	**285**	Pn	**Pn**	**04 14 20.2**	**+1.7**
GHIR	**Ghir-Karzin**	**4.50**	**238**	*e*Pn	**Pn**	**04 14 21.3**	**+1.0**
IZEF	**Zefreh**	**4.76**	**298**	Pn	**Pn**	**04 14 25.9**	**+1.9**
SHME	**Shamm**	**4.79**	**193**	*i* P	**Pn**	**04 14 25.6**	**+1.4**
	SNR=7.7						
SHME	**Shamm**	**4.79**	**193**	P	**Pn**	**04 14 25.8**	**+1.6**
	SNR=7.7						
SHME				S	**Sn**	**04 15 22.2**	**+2.3**
IGAR	**Gharneh**	**4.80**	**292**	Pn	**Pn**	**04 14 26.6**	**+2.1**
JASK	**Jask - Hormozg**	**4.88**	**174**	Pn	**Pn**	**04 14 26.3**	**+0.9**
JASK	**Jask - Hormozg**	**4.88**	**174**	P	**Pn**	**04 14 27.0**	**+1.6**
	SNR=33						
BANOM	**Banah**	**4.89**	**191**	*i* P	**Pn**	**04 14 26.1**	**+0.6**
	SNR=9.5						
BANOM	**Banah**	**4.89**	**191**	P	**Pn**	**04 14 27.8**	**+2.3**
BANOM				S	**Sn**	**04 15 24.9**	**+2.6**
TBHD	**Torbat heydari**	**4.93**	**19**	Pn	**Pn**	**04 14 27.2**	**+1.1**
KLNJ	**Kolanjah**	**4.93**	**275**	Pn	**Pn**	**04 14 28.1**	**+1.6**
TBJM	**Torbat-e-JAM**	**5.17**	**28**	Pn	**Pn**	**04 14 30.6**	**+1.0**
SHRO	**Shahrood**	**5.35**	**348**	*e*Pn	**Pn**	**04 14 33.8**	**+1.9**
SHRO				IAML		04 16 10.3	
	comp=N,453nm,0.5s						
SHRO				IAML		04 16 13.2	
	comp=E,360nm,0.4s						
UMQ	**Umm Al-Quwin**	**5.40**	**196**	P	**Pn**	**04 14 35.3**	**+2.8**
UMQ				S	**Sn**	**04 15 40.2**	**+5.2**
KRSH	**Karshahi**	**5.44**	**308**	Pn	**Pn**	**04 14 34.9**	**+1.7**
MASF	**Masafi**	**5.45**	**191**	P	**Pn**	**04 14 35.4**	**+2.1**
	SNR=13						
MASF				S	**Sn**	**04 15 38.6**	**+2.4**
MSFE	**Esma-Masafi**	**5.46**	**191**	*i* P	**Pn**	**04 14 35.1**	**+1.7**
	SNR=13						
IANJ	**Anjilo**	**5.51**	**330**	Pn	**Pn**	**04 14 35.4**	**+1.1**
IKLH	**Kolahrood**	**5.51**	**299**	Pn	**Pn**	**04 14 35.9**	**+1.6**
HRA	**Herat**	**5.52**	**48**	Pn	**Pn**	**04 14 34.1**	**-0.2**
SRVN	**Saravan**	**5.55**	**126**	Pn	**Pn**	**04 14 35.2**	**+0.5**
ISFB	**Sefidab**	**5.60**	**311**	Pn	**Pn**	**04 14 36.8**	**+1.5**
SBZV	**Sabzevar**	**5.63**	**2**	Pn	**Pn**	**04 14 37.6**	**+1.6**
ZNGN	**Zangian**	**5.70**	**286**	Pn	**Pn**	**04 14 39.0**	**+2.2**
JRKH	**Jarkhoshk**	**5.74**	**25**	Pn	**Pn**	**04 14 38.7**	**+1.4**
CHBR	**Chabahar**	**5.84**	**151**	*e*Pn	**Pn**	**04 14 36.9**	**-1.6**
CHBR	**Chabahar**	**5.84**	**151**	Pn	**Pn**	**04 14 37.0**	**-1.6**
QAMS	**Qamsar**	**5.84**	**302**	Pn	**Pn**	**04 14 41.0**	**+2.2**
UOSS	**Minazif**	**5.86**	**190**	Pn	**Pn**	**04 14 41.2**	**+2.4**
JHBN	**Jahan bin**	**5.88**	**286**	Pn	**Pn**	**04 14 41.1**	**+1.7**
ILAS	**Lasjerd**	**5.90**	**323**	Pn	**Pn**	**04 14 41.4**	**+1.8**
NAZ	**Nazwa, Dubai**	**5.92**	**195**	*i* P	**Pn**	**04 14 41.2**	**+1.6**
	SNR=30						
NAZ	**Nazwa, Dubai**	**5.92**	**195**	P	**Pn**	**04 14 41.8**	**+2.1**
	SNR=30						
IAKL	**Akhelmad**	**5.96**	**11**	Pn	**Pn**	**04 14 42.0**	**+1.5**
HATD	**Hatta, Dubai**	**5.99**	**190**	P	**Pn**	**04 14 42.4**	**+1.8**
	SNR=9.4						
HATD				S	**Sn**	**04 15 52.4**	**+2.9**
IMYA	**Miami**	**6.05**	**22**	Pn	**Pn**	**04 14 43.9**	**+2.3**
ASHO	**Ashiyiah**	**6.14**	**191**	*i* P	**Pn**	**04 14 44.1**	**+1.4**
	SNR=18						
ASHO				S	**Sn**	**04 15 54.6**	**+1.4**
ASHO	**Ashiyiah**	**6.14**	**191**	P	**Pn**	**04 14 44.5**	**+1.8**
	SNR=18						
ASHO				S	**Sn**	**04 15 54.9**	**+1.6**
FAQ	**Al Faqa, Dubai**	**6.17**	**195**	*i* P	**Pn**	**04 14 44.6**	**+1.5**
	SNR=20						
FAQ	**Al Faqa, Dubai**	**6.17**	**195**	P	**Pn**	**04 14 45.1**	**+2.0**
	SNR=20						
FAQ				S	**Sn**	**04 15 54.8**	**+0.9**
IFIR	**Firoozkooh**	**6.21**	**323**	Pn	**Pn**	**04 14 45.3**	**+1.4**
IKRD	**Kardeh**	**6.29**	**16**	Pn	**Pn**	**04 14 46.9**	**+1.9**
GHVR	**GHOM**	**6.30**	**308**	*e*Pn	**Pn**	**04 14 47.1**	**+2.1**
ISFR	**Sfrayin**	**6.32**	**5**	Pn	**Pn**	**04 14 47.0**	**+1.6**
NGCH	**Negor - Chabah**	**6.33**	**147**	P	**Pn**	**04 14 49.3**	**+4.0**
IVRN	**Varamin**	**6.33**	**313**	Pn	**Pn**	**04 14 47.3**	**+1.9**
ASUD	**Al Ashush, Dub**	**6.34**	**197**	*i* P	**Pn**	**04 14 47.1**	**+1.6**
	SNR=10						
ASUD	**Al Ashush, Dub**	**6.34**	**197**	P	**Pn**	**04 14 48.0**	**+2.5**
	SNR=10						
ASUD				S	**Sn**	**04 15 59.5**	**+1.3**
IGLO	**Ghaloghah**	**6.44**	**334**	Pn	**Pn**	**04 14 49.5**	**+2.5**
AJN	**Ajban**	**6.50**	**199**	P	**Pn**	**04 14 49.7**	**+2.2**
AJN				S	**Sn**	**04 16 01.2**	**-0.7**
IDMV	**Damavand**	**6.55**	**319**	Pn	**Pn**	**04 14 50.4**	**+1.8**
SOHO	**SOHO**	**6.62**	**186**	*i* P	**Pn**	**04 14 48.5**	**-0.8**
	SNR=12						
SOHO	**SOHO**	**6.62**	**186**	P	**Pn**	**04 14 50.5**	**+1.2**
DAMV	**Damavand**	**6.62**	**319**	*e*Pn	**Pn**	**04 14 50.9**	**+1.3**
IQOM	**Qom**	**6.66**	**309**	Pn	**Pn**	**04 14 52.5**	**+2.4**
IEMG	**Emamgholi**	**6.75**	**9**	Pn	**Pn**	**04 14 52.6**	**+1.3**
ALNE	**Al Ain**	**6.81**	**192**	*i* P	**Pn**	**04 14 53.7**	**+1.9**
	SNR=8.5						
ALNE	**Al Ain**	**6.81**	**192**	P	**Pn**	**04 14 53.3**	**+1.4**
	SNR=8.5						
ALNE				S	**Sn**	**04 16 09.0**	**-0.6**
IPRN	**Peran**	**6.88**	**324**	Pn	**Pn**	**04 14 55.0**	**+2.0**
IHSB	**Hasanabad**	**6.90**	**314**	Pn	**Pn**	**04 14 55.4**	**+2.1**
KHMZ	**Khomeyn**	**6.92**	**298**	*e*Pn	**Pn**	**04 14 54.4**	**+0.8**
BJRD	**Bojnurd**	**6.94**	**1**	*e*Pn	**Pn**	**04 14 55.1**	**+1.3**
MRVT	**Maraveh tapeh**	**6.97**	**352**	*e*Pn	**Pn**	**04 14 55.6**	**+1.4**
MRVT	**Maraveh tapeh**	**6.97**	**352**	Pn	**Pn**	**04 14 56.0**	**+1.8**
JRN	**Qarnain Island**	**7.00**	**215**	P	**Pn**	**04 14 56.1**	**+1.5**
JRN				S	**Sn**	**04 16 14.3**	**-0.1**
HOQ	**Hoqain**	**7.13**	**180**	P	**Pn**	**04 14 57.3**	**+1.0**
	SNR=22						
HOQ				P	**Pn**	**04 14 57.3**	**+1.0**
	SNR=22						
GEYT	**Alibeck**	**7.20**	**5**	Pn	**Pn**	**04 14 57.8**	**+0.6**
GEYT	**Alibeck**	**7.20**	**5**	P	**Pn**	**04 14 57.8**	**+0.6**
GEYT	**Alibeck**	**7.20**	**5**	P	**Pn**	**04 14 59.8**	**+2.5**
	comp=E,1.7nm,0.3s,baz=189,slow=15,SNR=6.3						
GEYT				S	**Sn**	**04 16 17.4**	**-1.9**
	comp=E,24nm,0.7s,baz=215,slow=27,SNR=1.9						
GEYT				LR	LR	04 18 47.9	
	comp=E,79nm,18.3s,baz=192,slow=45						
	comp=E,5.7nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**7.20**	**5**		**Pn**	**04 14 57.0**	**-0.2**
ASAO	**Ashtian**	**7.23**	**304**	*e*Pn	**Pn**	**04 15 01.8**	**+3.9**
BIDO	**Bidbid**	**7.23**	**174**	P	**Pn**	**04 14 57.4**	**-0.3**
	SNR=8.3						
BIDO				S	**Sn**	**04 16 22.5**	**+2.5**
CHTH	**Charan**	**7.31**	**316**	*e*Pn	**Pn**	**04 15 00.1**	**+1.2**
ARQ	**Araqi**	**7.41**	**186**	P	**Pn**	**04 15 02.2**	**+2.0**
	SNR=20						
SHMA	**Al-Shehemyia**	**7.42**	**231**	P	**Pn**	**04 15 01.7**	**+1.4**
SHMA				S	**Sn**	**04 16 23.9**	**-0.8**
THKV	**Tehran--Karaj**	**7.46**	**315**	*e*Pn	**Pn**	**04 15 02.4**	**+1.4**
WSAR	**Wadi Sarin**	**7.56**	**171**	P	**Pn**	**04 15 02.0**	**-0.3**
	comp=E,19nm,0.3s,baz=6.1,slow=11,SNR=214						
WSAR				S	**Sn**	**04 16 25.2**	**-3.1**
	comp=E,20nm,0.7s,baz=335,slow=16,SNR=1.4						
WSAR				LR	LR	04 18 57.0	
	comp=E,151nm,18.8s,baz=10,slow=46						
	comp=E,56nm,0.4s						
WSAR	**Wadi Sarin**	**7.56**	**171**	P	**Pn**	**04 15 02.8**	**+0.5**
	SNR=11						
WSAR				S	**Sn**	**04 16 30.6**	**+2.3**
SMDO	**Samad**	**7.68**	**175**	P	**Pn**	**04 15 05.2**	**+1.2**
	SNR=17						
KLST	**Kelardasht - M**	**7.77**	**319**	Pn	**Pn**	**04 15 07.8**	**+2.5**
BSY	**Bisya**	**7.97**	**181**	P	**Pn**	**04 15 09.5**	**+1.7**
	SNR=26						
TRNA	**Turayna**	**8.07**	**224**	P	**Pn**	**04 15 08.9**	**-0.2**
	SNR=21						
HSAM	**Samen**	**8.14**	**297**	Pn	**Pn**	**04 15 12.8**	**+2.4**
WBK	**Wadi Bani Khal**	**8.23**	**169**	Pn	**Pn**	**04 15 10.8**	**-0.7**
WBK	**Wadi Bani Khal**	**8.23**	**169**	P	**Pn**	**04 15 11.3**	**-0.2**
	SNR=13						
SMRA	**Abu-Samra**	**8.30**	**226**	P	**Pn**	**04 15 11.9**	**-0.4**
	SNR=8.2						
JMDO	**Jabal Madar**	**8.37**	**175**	P	**Pn**	**04 15 14.4**	**+1.1**
	SNR=10						
IKFM	**Kafar-mosalman**	**8.50**	**292**	Pn	**Pn**	**04 15 16.4**	**+1.4**
JLN	**Jalan Bani Buh**	**8.76**	**167**	P	**Pn**	**04 15 19.8**	**+1.1**
	SNR=10.0						
QSDN	**Sirdan**	**8.89**	**312**	Pn	**Pn**	**04 15 22.7**	**+1.9**
IKOM	**Komasi**	**8.97**	**295**	Pn	**Pn**	**04 15 23.2**	**+1.6**
ZNJK	**Zanjan**	**9.31**	**312**	*e*Pn	**Pn**	**04 15 28.1**	**+1.7**
SNGE	**Sanandaj**	**9.44**	**300**	*e*Pn	**Pn**	**04 15 29.9**	**+1.8**
MHTO	**MHTO**	**9.73**	**176**	P	**Pn**	**04 15 34.0**	**+1.9**
	SNR=22						
ILBA	**Ilam Banvizeh**	**9.85**	**290**	*e*Pn	**Pn**	**04 15 34.5**	**+0.9**
DQM	**DQM**	**10.77**	**179**	P	**Pn**	**04 15 46.1**	**-0.2**
GRMI	**Germi**	**11.17**	**319**	*e*Pn	**Pn**	**04 15 54.3**	**+2.6**
SHAO	**Shalim**	**12.76**	**187**	P	**Pn**	**04 16 11.3**	**-2.1**
	SNR=8.6						
DMTO	**DMTO**	**13.15**	**190**	P	**Pn**	**04 16 15.8**	**-3.0**
	SNR=8.5						
WHFO	**Wadi Hawf**	**13.17**	**195**	P	**Pn**	**04 16 16.5**	**-2.6**
	SNR=27						
RBK	**Rabkut**	**13.48**	**193**	P	**Pn**	**04 16 21.2**	**-2.2**
	SNR=7.3						
ABTO	**Aybut**	**13.82**	**196**	P	**Pn**	**04 16 24.7**	**-3.4**
	SNR=54						
GNI	**Garni**	**13.89**	**316**	P	**Pn**	**04 16 31.4**	**+2.5**
	comp=E,0.3nm,0.3s,baz=114,slow=19,SNR=2.4						
GNI				LR	LR	04 22 50.0	
	comp=E,55nm,18.8s,baz=276,slow=41						
	comp=E,2.8nm,0.5s						
MAK	**Makhachkala**	**14.49**	**330**	*e*P	**Pn**	**04 16 33.3**	**-3.7**
MAK				*e*S	**Sn**	**04 19 12.0**	**-5.9**
MAK				pmax	pmax		
	comp=Z,249nm,1.1s						
MAK				MLR	MLR		
	comp=Z,105nm,10.0s						
GURO	**Guroymak-BITLI**	**14.79**	**306**	Pn	**Pn**	**04 16 43.3**	**+2.0**
KK31	**Karatay Array**	**16.20**	**37**	Pn	**Pn**	**04 17 00.6**	**+0.9**
KK31	**Karatay Array**	**16.20**	**37**	P	**Pn**	**04 17 00.6**	**+0.9**
KK31				pmax	pmax		
	comp=Z,14nm,1.2s						
KKAR	**Karatay Array**	**16.20**	**37**	Pn	**Pn**	**04 16 57.2**	**-2.5**
KKAR	**Karatay Array**	**16.20**	**37**	Pn	**Pn**	**04 17 00.0**	**+0.3**
KKAR				IAmb	IAmb	04 17 06.7	
	comp=Z,14nm,1.2s						
KKAR	**Karatay Array**	**16.20**	**37**	P	**Pn**	**04 17 00.0**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,14nm,1.2s						
ONI	**Oni**	**16.21**	**321**	P	**Pn**	**04 16 59.1**	**-0.7**
ONI	**Oni**	**16.21**	**321**	P	**Pn**	**04 16 59.1**	**-0.7**
ONI				pmax	pmax		
	comp=Z,23nm,1.3s						
NCK	**Nalchik**	**16.76**	**323**	*i* P	**P**	**04 17 08.3**	**-0.7**
KBZ	**Khabaz**	**17.29**	**323**	P	**P**	**04 17 15.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=138,slow=8.6,SNR=10.0						
	comp=Z,4.1nm,0.8s						
ASF	**Jabal al Asfar**	**17.49**	**280**	P	**Pn**	**04 17 15.5**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=97,slow=8.1,SNR=7.3						
	comp=Z,11nm,0.7s						
KVAR	**Kislovodsk Arr**	**17.55**	**323**	P	**P**	**04 17 17.5**	**-0.4**
	baz=20,slow=12						
	comp=Z,2.5nm,0.7s						
KIV	**Kislovodsk**	**17.55**	**323**	P	**Pn**	**04 17 16.2**	**-0.6**
KIV				IAmb	IAmb	04 17 25.6	
	comp=Z,52nm,1.1s						
KIV	**Kislovodsk**	**17.55**	**323**	*e*P	**P**	**04 17 17.4**	**-0.5**
KIV				pmax	pmax		
	comp=Z,45nm,1.1s						
KIV	**Kislovodsk**	**17.55**	**323**	P	**P**	**04 17 19.6**	**+1.7**
KSH	**Kashi**	**17.56**	**55**	P	**Pn**	**04 17 11.6**	**-5.4**
KSH				pP	P	04 17 16.5	-1.6
KSH				S	Sn	04 20 18.3	-15
KSH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARPR	**Arapgir-MALATY**	**17.64**	**303**		**P**	**04 17 19.4**	**+0.5**
AAK	**Ala-Archa**	**18.14**	**44**	P	**Pn**	**04 17 23.7**	**-0.4**
AAK	**Ala-Archa**	**18.14**	**44**	*ce*P	**Pn**	**04 17 23.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,15nm,1.1s						
AAK	**Ala-Archa**	**18.14**	**44**	P	**P**	**04 17 26.4**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=216,slow=11,SNR=12						
AAK				LR	LR	04 25 23.2	
	comp=Z,133nm,18.2s,baz=284,slow=40						
	comp=Z,4.9nm,0.8s						
ABKAR	**Akbulak array**	**18.60**	**5**	P	**P**	**04 17 29.1**	**-0.1**
ABKAR	**Akbulak array**	**18.60**	**5**	P	**P**	**04 17 28.7**	**-0.6**
ABKAR				IAmb	IAmb	04 17 36.6	
	comp=Z,13nm,1.1s						
SGDS	**Sogindy**	**18.70**	**43**	*e*P	**P**	**04 17 29.8**	**-0.7**
	baz=43						
SGDS				*i* S	**Sn**	**04 20 59.1**	**-1.1**
	baz=43						
SGDS	**Sogindy**	**18.70**	**43**	*e*P	**P**	**04 17 29.8**	**-0.7**
SGDS				*i* S	**Sn**	**04 20 59.1**	**-1.1**
MMAI	**Mount Meron Ar**	**18.75**	**283**	P	**Pn**	**04 17 33.5**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=3.2						
MMAI				LR	LR	04 26 17.7	
	comp=Z,90nm,18.2s,baz=216,slow=42						
	comp=Z,3.0nm,0.7s						
EIL	**Elat**	**19.36**	**273**	P	**Pn**	**04 17 39.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=29,slow=7.9,SNR=6.0						
EIL				LR	LR	04 26 40.4	
	comp=Z,151nm,18.2s,baz=62,slow=42						
	comp=Z,8.3nm,0.8s						
BNN	**Bunyan**	**19.38**	**300**	P	**Pn**	**04 17 39.0**	**-0.1**
BNN				IAmb	IAmb	04 17 48.3	
	comp=Z,73nm,1.4s						
BTLS	**Baital**	**19.39**	**38**	*e*P	**P**	**04 17 38.1**	**+0.2**
	baz=38						
BTLS	**Baital**	**19.39**	**38**	*e*P	**P**	**04 17 38.1**	**+0.2**
AKTO	**Aktyubinsk**	**19.68**	**1**	P	**Pn**	**04 17 42.4**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=182,slow=9.7,SNR=25						
AKTO				LR	LR	04 26 49.6	
	comp=Z,216nm,20.0s,baz=170,slow=41						
	comp=Z,9.3nm,0.6s						
TARG	**Taragay, Kyrgy**	**19.78**	**51**	P	**P**	**04 17 41.5**	**-1.2**
TARG	**Taragay, Kyrgy**	**19.78**	**51**	P	**P**	**04 17 41.5**	**-1.2**
TARG				pmax	pmax		
	comp=Z,16nm,1.2s						
TNSS	**Tian-Shan**	**19.87**	**46**	*e*P	**P**	**04 17 43.3**	**-0.3**
	baz=47						
TNSS	**Tian-Shan**	**19.87**	**46**	*e*P	**P**	**04 17 43.3**	**-0.3**
KUU	**Kurty**	**19.96**	**44**	*e*P	**P**	**04 17 44.6**	**+0.3**
	comp=Z,47nm,2.6s,baz=44						
KUU	**Kurty**	**19.96**	**44**	*e*P	**P**	**04 17 44.6**	**+0.3**
KUU				pmax	pmax		
	comp=Z,47nm,2.6s						
MDOK	**Medeo**	**20.00**	**46**	*e*P	**P**	**04 17 45.1**	**+0.3**
	baz=46						
MDOK	**Medeo**	**20.00**	**46**	*e*P	**P**	**04 17 45.1**	**+0.3**
CHKK	**Chushkaly**	**20.33**	**44**	*e*P	**P**	**04 17 48.1**	**-0.2**
	baz=45						
CHKK	**Chushkaly**	**20.33**	**44**	*e*P	**P**	**04 17 48.0**	**-0.2**
SATY	**Saty**	**20.80**	**48**	*e*P	**P**	**04 17 53.7**	**+0.1**
	baz=48						
SATY	**Saty**	**20.80**	**48**	*e*P	**P**	**04 17 53.6**	**+0.1**
ANN	**Anapa**	**21.00**	**317**	*e*P	**P**	**04 17 51.2**	**-4.2**
ANN				*e**PP	**pP**	**04 17 55.9**	**-2.0**
ANN				*e*S	**S**	**04 21 43.2**	**-6.3**
ANN				pmax	pmax		
	comp=Z,34nm,0.8s						
UZB	**Uzynbulak**	**21.24**	**48**	*e*P	**P**	**04 17 59.1**	**+0.8**
	baz=48						
UZB	**Uzynbulak**	**21.24**	**48**	*e*P	**P**	**04 17 59.0**	**+0.8**
BR131	**Keskin Array S**	**21.27**	**301**	P	**P**	**04 17 58.6**	**0.0**
BR131				IAmb	IAmb	04 18 03.0	
	comp=Z,18nm,0.9s						
BR131	**Keskin Array S**	**21.27**	**301**	P	**P**	**04 17 58.6**	**0.0**
BR131				pmax	pmax		
	comp=Z,19nm,0.9s						
BR131	**Keskin Array S**	**21.27**	**301**	P	**P**	**04 17 59.4**	**+0.7**
	SNR=17						
BRTR	**Keskin Array B**	**21.27**	**301**	P	**P**	**04 17 59.1**	**+0.4**
BRTR	**Keskin Array B**	**21.27**	**301**	P	**P**	**04 17 59.3**	**+0.7**
	comp=Z,11nm,0.8s,baz=122,slow=14,SNR=40						
BRTR				PcP	**PcP**	**04 22 02.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=142,slow=2.4,SNR=4.2						
	comp=Z,11nm,0.8s						
SHLS	**Shalkode**	**21.52**	**49**	*e*P	**P**	**04 18 05.2**	**+3.8**
	baz=49						
SHLS	**Shalkode**	**21.52**	**49**	*e*P	**P**	**04 18 05.1**	**+3.8**
TDK	**Taldyqorghan**	**21.81**	**43**	*e*P	**P**	**04 18 05.3**	**+1.0**
	baz=44						
TDK	**Taldyqorghan**	**21.81**	**43**	*e*P	**P**	**04 18 05.2**	**+1.0**
ANTO	**Ankara**	**21.94**	**301**	P	**P**	**04 18 07.7**	**+2.0**
BRZS	**Berezniki**	**22.42**	**27**	*e*P	**P**	**04 18 11.7**	**+1.0**
	baz=27						
BRZS	**Berezniki**	**22.42**	**27**	*e*P	**P**	**04 18 11.6**	**+1.0**
SIM	**Simferopol'**	**23.07**	**314**	*e*P	**P**	**04 18 19.1**	**+1.6**
SIM				pmax	pmax		
	comp=Z,53nm,1.1s						
ISP	**Isparta**	**23.19**	**295**	*ce*P	**P**	**04 18 20.1**	**+1.0**
ISP				pmax	pmax		
	comp=Z,60nm,1.7s						
ATD	**Arta Tunnel**	**23.36**	**218**	LR	LR	04 29 37.5	
	comp=Z,9.5nm,18.3s,baz=20,slow=42						
ATD	**Arta Tunnel**	**23.36**	**218**	P	**P**	**04 18 23.1**	**+2.4**
VRH	**Novokhopyorsk**	**23.50**	**335**	*e*P	**P**	**04 18 20.0**	**-1.8**
VRH				pmax	pmax		
	comp=Z,20nm,0.4s						
ELL	**Elmali**	**23.53**	**292**	P	**P**	**04 18 23.6**	**+1.2**
ELL	**Elmali**	**23.53**	**292**	P	**P**	**04 18 23.6**	**+1.2**
ELL				pmax	pmax		
	comp=Z,214nm,0.9s						
BRVK	**Borovoye**	**24.22**	**19**	P	**P**	**04 18 29.1**	**+0.4**
BRVK				IAmb	IAmb	04 18 34.4	
	comp=Z,20nm,1.1s						
BRVK	**Borovoye**	**24.22**	**19**	*ce*P	**P**	**04 18 29.8**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,21nm,1.0s						
BRVK	**Borovoye**	**24.22**	**19**	P	**P**	**04 18 29.8**	**+1.1**
BVAR	**Borovoye Array**	**24.22**	**19**	P	**P**	**04 18 29.5**	**+0.8**
	comp=Z,23nm,0.9s,baz=200,slow=7.4,SNR=84						
BVAR				PcP	**PcP**	**04 22 08.6**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=222,slow=1.1,SNR=8.0						
	comp=Z,23nm,0.9s						
VORD	**Divnogorie**	**24.25**	**332**	*e*P	**P**	**04 18 26.2**	**-2.8**
VORD				pmax	pmax		
	comp=Z,20nm,1.4s						
VSR	**Storozhevoye**	**24.50**	**332**	*e*P	**P**	**04 18 29.2**	**-2.1**
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
MAKZ	**Makanchi**	**24.89**	**43**	P	**P**	**04 18 35.9**	**+1.0**
MAKZ				IAmb	IAmb	04 18 36.6	
	comp=Z,14nm,0.8s						
MAKZ	**Makanchi**	**24.89**	**43**	P	**P**	**04 18 35.6**	**+0.7**
MK31	**Makanchi Array**	**25.06**	**43**	P	**P**	**04 18 37.1**	**+0.6**
MK31	**Makanchi Array**	**25.06**	**43**	*ce*P	**P**	**04 18 36.2**	**-0.3**
MKAR	**Makanchi Array**	**25.06**	**43**	P	**P**	**04 18 36.8**	**+0.3**
MKAR	**Makanchi Array**	**25.06**	**43**	P	**P**	**04 18 36.8**	**+0.3**
MKAR	**Makanchi Array**	**25.06**	**43**	P	**P**	**04 18 37.2**	**+0.7**
	comp=Z,5.0nm,0.7s,baz=225,slow=8.8,SNR=36						
MKAR				PcP	**PcP**	**04 22 09.7**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=249,slow=2.0,SNR=2.5						
MKAR				LR	LR	04 30 04.3	
	comp=Z,110nm,20.2s,baz=328,slow=40						
	comp=Z,5.0nm,0.7s						
KURBB	**Kurchatov Arra**	**25.39**	**33**	P	**P**	**04 18 40.4**	**+1.0**
	comp=Z,8.2nm,0.9s,baz=232,slow=9.2,SNR=74						
KURBB				PcP	**PcP**	**04 22 10.1**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=230,slow=3.4,SNR=4.7						
	comp=Z,8.2nm,0.9s						
KURK	**Kurchatov**	**25.50**	**32**	P	**P**	**04 18 40.9**	**+0.6**
KURK				IAmb	IAmb	04 18 44.6	
	comp=Z,9.7nm,0.9s						
KURK	**Kurchatov**	**25.50**	**32**	*ce*P	**P**	**04 18 40.9**	**+0.6**
KURK				pmax	pmax		
	comp=Z,17nm,1.3s						
KURK	**Kurchatov**	**25.50**	**32**	P	**P**	**04 18 41.2**	**+0.9**
LPSR	**Galich'ya Gora**	**25.66**	**334**	*e*P	**P**	**04 18 40.7**	**-1.1**
LPSR				pmax	pmax		
	comp=Z,20nm,0.7s						
ARU	**Arti**	**25.69**	**2**	P	**P**	**04 18 43.1**	**+1.0**
ARU				IAmb	IAmb	04 18 49.9	
	comp=Z,20nm,1.3s						
ARU	**Arti**	**25.69**	**2**	*c i*P	**P**	**04 18 44.7**	**+2.7**
ARU						04 19 18.6	
ARU				S	**S**	**04 23 17.2**	**+6.5**
ARU				SS	**SnSn**	**04 24 14.0**	**+9.0**
ARU				pmax	pmax		
	comp=Z,18nm,1.2s						
SEM	**Semipalatinsk**	**26.07**	**35**	*e*P	**P**	**04 18 45.5**	**-0.3**
	baz=35						
SEM	**Semipalatinsk**	**26.07**	**35**	*e*P	**P**	**04 18 45.5**	**-0.3**
SVE	**Sverdlovsk**	**26.18**	**4**	*e*P	**P**	**04 18 50.3**	**+3.9**
SVE				pmax	pmax		
	comp=Z,25nm,1.3s						
SORM	**Soroca**	**28.09**	**316**	⇓P	**P**	**04 19 03.5**	**-0.2**
SORM	**Soroca**	**28.09**	**316**	P	**P**	**04 19 03.5**	**-0.2**
VRI	**Vrincioaia**	**28.15**	**311**	⇑P	**P**	**04 19 02.2**	**-2.2**
VRI	**Vrincioaia**	**28.15**	**311**	P	**P**	**04 19 02.1**	**-2.2**
PLOR	**Plostina**	**28.19**	**311**	⇑P	**P**	**04 19 02.5**	**-2.2**
PLOR	**Plostina**	**28.19**	**311**	P	**P**	**04 19 02.5**	**-2.2**
KIRV	**Kirov**	**28.36**	**351**	*i* P	**P**	**04 19 05.9**	**-0.1**
COVR	**Voineasa-Covas**	**28.48**	**311**	⇑P	**P**	**04 19 05.9**	**-1.4**
OBN	**Obninsk**	**28.49**	**335**	⇑P	**P**	**04 19 07.8**	**+0.6**
OBN	**Obninsk**	**28.49**	**335**	P	**P**	**04 19 07.3**	**+0.1**
OBN	**Obninsk**	**28.49**	**335**	*e*P	**P**	**04 19 08.2**	**+1.0**
OBN				*e*		04 19 12.5	
OBN				*e*		04 19 57.0	
OBN				*e*PPP	PPP	04 20 05.3	
OBN				pmax	pmax		
	comp=Z,25nm,1.0s						
MLR	**Muntele Rosu**	**28.53**	**310**	⇓P	**P**	**04 19 05.5**	**-2.3**
MLR	**Muntele Rosu**	**28.53**	**310**	P	**P**	**04 19 05.5**	**-2.3**
MOS	**Moscow**	**28.61**	**337**	*e*P	**P**	**04 19 07.1**	**-1.1**
MOS				*e*		04 20 00.2	
MOS				pmax	pmax		
	comp=Z,34nm,1.1s						
TURR	**Turia**	**28.68**	**311**	⇓P	**P**	**04 19 07.6**	**-1.4**
AKASG	**Malin Array Be**	**28.89**	**322**	P	**P**	**04 19 11.6**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**28.89**	**322**	P	**P**	**04 19 11.7**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=124,slow=8.1,SNR=19						
AKASG				PcP	**PcP**	**04 22 17.9**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=96,slow=2.8,SNR=2.5						
	comp=Z,3.2nm,0.5s						
AKBB	**Malin Array Si**	**28.89**	**322**	P	**P**	**04 19 11.8**	**+1.0**
AKBB	**Malin Array Si**	**28.89**	**322**	⇑*i*P	**P**	**04 19 11.1**	**+0.3**
AKBB				pmax	pmax		
	comp=Z,11nm,0.6s						
KIEV	**Kiev**	**28.90**	**322**	⇓P	**P**	**04 19 10.2**	**-0.6**
KIEV	**Kiev**	**28.90**	**322**	P	**P**	**04 19 11.8**	**+1.0**

DOPR	Dopca	29.06	311	⇑P	P	04 19 10.8	-1.6
VOIR		29.10	309	⇓P	P	04 19 11.1	-1.9
VOIR		29.10	309	P	P	04 19 11.0	-1.9
DGZ	Jazzator, Alta	29.49	41	*i* P	P	04 19 16.6	+0.2
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BURAR	Bucovina Array	29.77	314	⇓P	P	04 19 18.1	-0.7
BURAR	Bucovina Array	29.77	314	P	P	04 19 18.1	-0.7
BUR08	Bucovina Ar. S	29.80	314	P	P	04 19 19.6	+0.5
ZAA0	Zalesovo Array	30.49	33	P	P	04 19 25.3	+0.3
ZAA0				IAmb	IAmb	04 19 26.0	
	comp=Z,11nm,0.8s						
ZALV	Zalesovo Beam	30.49	33	P	P	04 19 25.3	+0.4
ZALV	Zalesovo Beam	30.49	33	P	P	04 19 25.1	+0.1
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZALV	Zalesovo Beam	30.49	33	P	P	04 19 25.1	+0.1
	comp=Z,8.5nm,0.7s,baz=238,slow=9.4,SNR=47						
ZALV				PcP	PcP	04 22 22.2	-1.8
	comp=Z,1.0nm,0.6s,baz=240,slow=3.5,SNR=3.7						
	comp=Z,8.5nm,0.7s						
KBN	Korca	31.08	299	P	P	04 19 30.3	-0.1
KBN	Korca	31.08	299	P	P	04 19 30.3	-0.1
KBN				pmax	pmax		
	comp=Z,33nm,1.2s						
GOMU	GeErMu	31.61	70	P	P	04 19 36.2	+0.7
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SIRR	Siria	31.61	310	⇓P	P	04 19 32.9	-2.1
PALK	Pallekele	32.01	132	LR	LR	04 34 40.1	
	comp=Z,55nm,18.2s,baz=83,slow=40						
KOLS	Kolonicke sedl	32.09	315	P	P	04 19 41.0	+1.8
KOLS	Kolonicke sedl	32.09	315	*e*P	P	04 19 41.0	+1.8
KWP	Kalwaria Pacla	32.09	316	*e*P	P	04 19 40.2	+1.0
KWP	Kalwaria Pacla	32.09	316	P	P	04 19 39.8	+0.6
KWP	Kalwaria Pacla	32.09	316	P	P	04 19 39.8	+0.6
KWP				pmax	pmax		
	comp=Z,30nm,1.2s						
NACGM	Naroch	32.49	327	*e*P	P	04 19 42.7	+0.2
	comp=Z,12nm,1.2s,baz=126						
CRVS	Cervenica-Dubn	32.58	314	*e*P	P	04 19 45.2	+1.7
CRVS				pmax	pmax		
	comp=Z,14nm,1.3s						
CRVS	Cervenica-Dubn	32.58	314	*e*P	P	04 19 45.2	+1.7
MORH	Mrgy, Hungar	33.62	308	⇑P	P	04 19 49.8	-2.7
SUW	Suwalki	33.78	323	*e*P	P	04 19 52.8	-1.0
SUW	Suwalki	33.78	323	P	P	04 19 54.0	+0.2
SUW	Suwalki	33.78	323	P	P	04 19 54.0	+0.2
SUW				pmax	pmax		
	comp=Z,40nm,1.2s						
OJC	Ojcow	34.06	316	P	P	04 19 56.9	+0.6
OJC				IAmb	IAmb	04 19 58.4	
	comp=Z,14nm,1.1s						
OJC	Ojcow	34.06	316	P	P	04 19 56.9	+0.6
OJC				pmax	pmax		
	comp=Z,14nm,1.1s						
VYHS	Vyhne	34.10	312	P	P	04 19 57.5	+0.8
VYHS	Vyhne	34.10	312	*e*P	P	04 19 57.4	+0.8
PABE	Paberze	34.16	326	P	P	04 19 57.1	+0.1
LODK	Lodwar	34.18	222	P	P	04 19 58.6	+0.8
MODS	Modra-Piesok	35.06	312	*e*P	P	04 20 05.9	+0.9
MODS	Modra-Piesok	35.06	312	*e*P	P	04 20 05.9	+0.9
RONA	Rosalia, Austr	35.53	310	*i* P	P	04 20 08.8	-0.3
	comp=Z,3.2nm,0.7s						
GTA	Gaotai	35.56	64	P	P	04 20 10.7	+1.1
GTA				pP	sP	04 20 13.6	+0.1
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
KRLC	Kraliky	35.85	314	*e*P	P	04 20 11.9	+0.1
KRLC	Kraliky	35.85	314	P	P	04 20 11.9	+0.1
CONA	Conrad Observa	35.87	311	*i* P	P	04 20 13.3	+1.3
	comp=Z,8.1nm,1.4s						
SOKA	Soboth	36.16	308	*e*P	P	04 20 15.0	+0.5
	comp=Z,6.8nm,1.6s						
DPC	Dobruska-Polom	36.21	315	*e*P	P	04 20 15.5	+0.6
CHVC	Chvalec	36.45	315	*e*P	P	04 20 17.9	+1.0
CHVC	Chvalec	36.45	315	*e*P	P	04 20 17.9	+1.0
FINES	FINESS Array B	36.89	335	*i* P	P	04 20 20.8	+0.3
FINES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
FINES	FINESS Array B	36.89	335	P	P	04 20 20.9	+0.4
	comp=Z,6.6nm,0.7s,baz=129,slow=9.8,SNR=29						
	comp=Z,6.6nm,0.7s						
MOA	Molln	36.90	310	*e*P	P	04 20 20.7	-0.1
	comp=Z,3.5nm,0.6s						
KMBO	Kilima Mbogo	37.00	215	*i* P	P	04 20 24.7	+2.5
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	Kilima Mbogo	37.00	215	P	P	04 20 20.8	-1.5
	comp=Z,1.7nm,0.6s,baz=38,slow=8.0,SNR=4.7						
	comp=Z,1.7nm,0.6s						
CKRC	Cesky Krumlov	37.08	312	*e*P	P	04 20 22.5	+0.2
CKRC	Cesky Krumlov	37.08	312	*e*P	P	04 20 22.5	+0.2
MYKA	Terra Mystica	37.09	308	*e*P	P	04 20 20.4	-2.1
	comp=Z,7.9nm,1.5s						
PRED	Cave del Predi	37.11	308	P	P	04 20 22.6	-0.1
PRED				IAmb	IAmb	04 20 26.1	
	comp=Z,9.0nm,1.1s						
BIOA	Bad Ischl, Aus	37.28	310	*i* P	P	04 20 24.2	+0.1
	comp=Z,12nm,1.3s						
ZVC	Zvikov	37.30	313	*e*P	P	04 20 24.5	+0.4
KBA	Koelnbreinsper	37.37	309	*e*P	P	04 20 26.1	+1.1
	comp=Z,15nm,1.5s						
GEC2	GERESS Array S	37.48	311	P	P	04 20 25.9	+0.2
GEC2				IAmb	IAmb	04 20 27.2	
	comp=Z,7.1nm,0.8s						
GERES	GERESS Array B	37.48	311	P	P	04 20 25.9	+0.2
GERES	GERESS Array B	37.48	311	P	P	04 20 26.0	+0.2
	comp=Z,6.8nm,0.8s,baz=90,slow=8.0,SNR=13						
GERES				PcP	PcP	04 22 43.3	-0.9
	comp=Z,1.3nm,0.7s,baz=123,slow=3.6,SNR=3.6						
	comp=Z,6.8nm,0.8s						
KHC	Kasperske Hory	37.62	312	P	P	04 20 26.6	-0.3
KHC	Kasperske Hory	37.62	312	*e*P	P	04 20 26.6	-0.3
KHC	Kasperske Hory	37.62	312	*e*P	P	04 20 26.6	-0.3
STAL	STALIGIAL	37.67	307	P	P	04 20 26.7	-0.6
STAL				IAmb	IAmb	04 20 27.4	
	comp=Z,11nm,1.1s						
LESA	Schwarzleotal	37.88	309	*i* P	P	04 20 28.6	-0.6
	comp=Z,1.4nm,0.4s						
ABTA	Abfaltersbach	37.88	308	*i* P	P	04 20 28.5	-0.7
	comp=Z,1.5nm,0.7s,SNR=4.3						
CLL	Collm	38.50	315	P	P	04 20 34.9	+0.7
CLL				IAmb	IAmb	04 20 40.7	
	comp=Z,17nm,1.2s						
CLL	Collm	38.50	315	P	P	04 20 34.9	+0.7
CLL				pmax	pmax		
	comp=Z,17nm,1.2s						
CLL	Collm	38.50	315	*i* P	P	04 20 35.3	+1.1
	comp=Z,37nm,1.7s						
WTTA	Wattenberg	38.55	309	*e*P	P	04 20 34.2	-0.7
	comp=Z,7.6nm,0.6s						
WTTA				*i* PcP	PcP	04 22 46.3	-1.2
	comp=Z,3.1nm,0.7s						
WATA	Walderalm	38.60	309	*i* P	P	04 20 34.6	-0.7
	comp=Z,18nm,1.3s						
SQTA	Sankt Quirin	38.83	308	*i* P	P	04 20 36.3	-0.9
	comp=Z,6.7nm,0.5s						
SQTA				*i* PcP	PcP	04 22 47.9	-0.5
	comp=Z,5.7nm,0.6s						
LZH	Lanzhou	38.91	69	⇑P	P	04 20 41.4	+3.3
LZH				pP	sP	04 20 46.0	+4.0
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
MOTA	Moosalm	38.92	309	*e*P	P	04 20 36.0	-2.0
	comp=Z,8.9nm,0.9s						
MOTA				*e*PcP	PcP	04 22 47.8	-0.9
	comp=Z,3.5nm,0.6s						
PZH	PanZhiHua	39.03	85	P	P	04 20 41.7	+2.5
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
FETA	Feichten	39.13	308	*e*P	P	04 20 38.6	-1.2
	comp=Z,6.3nm,0.6s						
FETA				*i* PcP	PcP	04 22 48.5	-0.8
	comp=Z,5.0nm,1.1s						
RETA	Reutte	39.17	309	*i* P	P	04 20 38.8	-1.2
	comp=Z,5.6nm,0.8s						
RETA				*i* PcP	PcP	04 22 48.4	-1.0
	comp=Z,8.9nm,1.4s						
FUORN	Ofenpass-Fuorn	39.39	307	P	P	04 20 41.6	-0.5
CMAR	Chiang Mai Arr	39.56	98	P	P	04 20 43.1	-0.4
	comp=Z,1.0nm,0.6s,baz=300,slow=7.2,SNR=6.3						
CMAR				PcP	PcP	04 22 50.3	-0.7
	comp=Z,0.8nm,0.5s,baz=270,slow=3.6,SNR=4.3						
CMAR				LR	LR	04 41 07.6	
	comp=Z,37nm,18.4s,baz=330,slow=42						
	comp=Z,1.0nm,0.6s						
DAVA	Damuels	39.74	308	*i* P	P	04 20 43.9	-0.9
	comp=Z,23nm,1.3s						
TUE	Stuetta	40.01	307	P	P	04 20 46.0	-1.2
CRAI	Chiangrai	40.03	95	P	P	04 20 47.4	-0.1
MBAR	Mbarara	40.13	224	P	P	04 20 49.1	+0.7
MBAR	Mbarara	40.13	224	*ce*P	P	04 20 49.9	+1.5
MBAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KMI	Kunming	40.30	86	⇑P	P	04 20 49.9	0.0
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
SONM	Songino Array	40.90	51	P	P	04 20 55.4	+1.0
	comp=Z,2.0nm,0.9s,baz=274,slow=9.7,SNR=12						
SONM				LR	LR	04 38 31.3	
	comp=Z,101nm,18.3s,baz=225,slow=37						
	comp=Z,2.0nm,0.9s						
HFS	Hagfors	41.21	328	P	P	04 20 56.9	+0.3
	comp=Z,3.8nm,0.7s,baz=116,slow=10,SNR=8.4						
	comp=Z,3.8nm,0.7s						
ULN	Ulaanbaatar	41.34	51	*ce*P	P	04 20 58.3	+0.2
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NRIK	Noril'sk	42.31	15	P	P	04 21 06.0	+0.5
NRIK				IAmb	IAmb	04 21 07.5	
	comp=Z,8.9nm,1.1s						
NRIK	Noril'sk	42.31	15	*ce*P	P	04 21 06.2	+0.7
NRIK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NRIK	Noril'sk	42.31	15	P	P	04 21 06.2	+0.7
	comp=Z,6.4nm,0.9s,baz=223,slow=6.8,SNR=10						
NRIK				LR	LR	04 42 06.9	
	comp=Z,144nm,20.8s,baz=322,slow=41						
	comp=Z,6.4nm,0.9s						
NC602	NORSAR Array S	42.44	329	*e*P	P	04 21 07.5	+0.8
NB2	NORSAR Subarra	42.70	329	P	P	04 21 08.3	-0.6
	comp=Z,0.5nm,0.5s,baz=113,slow=7.9						
NB2	NORSAR Subarra	42.70	329	P	P	04 21 08.3	-0.6
	baz=113,slow=7.9						
NOA	NORSAR Array B	42.70	329	P	P	04 21 08.4	-0.6
	comp=Z,2.1nm,0.9s,baz=115,slow=8.0,SNR=4.8						
	comp=Z,2.1nm,0.9s						
ARA0	ARCESS Array S	42.82	344	*e*P	P	04 21 10.2	+0.5
ARCES	ARCESS Array B	42.82	344	P	P	04 21 09.9	+0.2
	comp=Z,3.3nm,0.7s,baz=134,slow=8.7,SNR=17						
	comp=Z,3.3nm,0.7s						
KTK1	Kautokeino	43.00	343	*e*P	P	04 21 11.6	+0.5
XAN	Xi'an	43.32	72	⇓P	P	04 21 14.0	-0.3
XAN				pP	sP	04 21 18.5	+0.2
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MOR8	Moi Rana	43.85	336	*e*P	P	04 21 18.0	-0.1
SKAR	Skarslia	43.89	328	*e*P	P	04 21 19.4	+0.9
NSS	Namsos	43.92	334	*e*P	P	04 21 19.4	+0.8
HAMF	Hammerfest	44.06	345	*e*P	P	04 21 20.8	+1.1
JETT	Jettan, Norway	44.10	342	*e*P	P	04 21 20.8	+0.7
FAUS	Fauske	44.24	338	*e*P	P	04 21 21.5	+0.3
STOK	Stokkvaagen	44.43	336	*e*P	P	04 21 23.5	+0.8
KONS	Konsvik	44.48	336	*e*P	P	04 21 24.0	+0.9
HHC	Hu-ho-hao-te	44.51	61	*e*P	P	04 21 24.5	+0.6
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,4.1s						
TRO	Tromso	44.55	342	*e*P	P	04 21 24.0	+0.4
STEI	Steigen	44.57	339	*e*P	P	04 21 24.2	+0.5
LYN	LuoYang	46.11	70	*e*P	P	04 21 37.0	+0.5
LYN				pmax	pmax		
	comp=Z,18nm,0.9s						
LYN				pmax	pmax		
	comp=Z,270nm,3.6s						
BOD	Bodaibo	46.94	38	*e*P	P	04 21 42.0	-0.6
BOD				pmax	pmax		
	comp=Z,14nm,1.5s						
HOPEN	Hopen	48.30	350	*e*P	P	04 21 53.8	+0.8
EKA	Eskdalemuir Ar	48.71	319	P	P	04 21 56.4	-0.1
	comp=Z,2.9nm,0.4s,baz=105,slow=6.7,SNR=22						
	comp=Z,2.9nm,0.4s						
ESDC	Sonseca Array	50.01	298	P	P	04 22 05.5	-1.2
	comp=Z,1.5nm,0.6s,baz=74,slow=7.4,SNR=19						
	comp=Z,1.5nm,0.6s						
SPA0	Spitsbergen Ar	50.82	350	*e*P	P	04 22 13.3	+1.1
SPITS	Spitsbergen Ar	50.82	350	P	P	04 22 11.7	-0.5
	comp=Z,29nm,1.1s,baz=168,slow=8.5,SNR=3.1						
	comp=Z,29nm,1.1s						
NJ2	Nanjing	51.89	72	*e*P	P	04 22 21.9	+1.0
NJ2				pP	sP	04 22 25.1	+0.3
NJ2				sP	pP	04 22 26.6	+3.0
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,340nm,5.9s						
TOA0	Torodi Ar. Sit	53.95	264	P	P	04 22 35.2	-1.1
TORD	Torodi Ar. Bea	53.95	264	P	P	04 22 35.2	-1.1
TORD				IAmb	IAmb	04 22 36.0	
	comp=Z,5.6nm,0.8s						
TORD	Torodi Ar. Bea	53.95	264	P	P	04 22 35.1	-1.2
	comp=Z,6.8nm,0.6s,baz=62,slow=7.3,SNR=82						
	comp=Z,6.8nm,0.6s						
ZEA	Zeya	54.22	43	*e*P	P	04 22 38.6	+0.9
HEH	HeiHe	54.67	48	*e*P	P	04 22 40.8	-0.3
HEH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MDJ	Mudanjiang	57.09	54	P	P	04 22 59.3	+0.8
MDJ				sP	sP	04 23 04.1	+1.4
MDJ				PP	PP	04 25 06.3	+1.2
MDJ				S	S	04 30 54.1	+0.4
MDJ				sS	sS	04 31 00.5	+2.3
MDJ				ScS	ScS	04 32 48.8	+0.5
MDJ	Mudanjiang	57.09	54	SS	SS	04 34 44.3	+2.2
MDJ				pmax	pmax		
	comp=Z,22nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,450nm,3.6s						
KLR	Kul'dur	57.61	48	P	P	04 23 00.7	-1.4
	comp=Z,2.5nm,0.7s,baz=293,slow=9.6,SNR=7.9						
KLR				LR	LR	04 49 58.5	
	comp=Z,67nm,18.1s,baz=340,slow=38						
	comp=Z,2.5nm,0.7s						
SUMG	Summit	62.68	340	P	P	04 23 37.6	+0.6
SUMG	Summit	62.68	340	P	P	04 23 37.6	+0.6
SUMG	Summit	62.68	340	*i* P	P	04 23 36.0	-1.0
DBIC	Dimbokro	62.75	261	P	P	04 23 36.9	-0.9
	comp=Z,1.8nm,0.4s,baz=42,slow=6.1,SNR=8.5						
DBIC				LR	LR	04 51 09.9	
	comp=Z,58nm,18.1s,baz=352,slow=36						
	comp=Z,1.8nm,0.4s						
SEY	Seymchan	65.32	30	LR	LR	04 52 48.8	
	comp=Z,51nm,19.4s,baz=332,slow=36						
BOSA	Boshof	66.47	211	P	P	04 24 01.2	-0.7
	comp=Z,2.5nm,0.7s,baz=53,slow=5.6,SNR=6.2						
	comp=Z,2.5nm,0.7s						
SUR	Sutherland	71.67	212	LR	LR	04 59 52.7	
	comp=Z,60nm,18.4s,baz=345,slow=39						
B20K	Meade River	76.49	12	P	P	04 25 01.4	-0.3
B20K				IAmb	IAmb	04 25 06.0	
	comp=Z,4.4nm,1.1s						
B22K	Teshekpuk Lake	76.81	10	P	P	04 25 04.0	+0.5
C18K	Utukok River	76.90	14	P	P	04 25 04.5	+0.3
C18K				IAmb	IAmb	04 25 10.5	
	comp=Z,5.7nm,1.0s						
B21K	Ikpikpuk River	77.26	11	P	P	04 25 06.4	+0.3
B21K				IAmb	IAmb	04 25 10.5	
	comp=Z,8.4nm,1.1s						
A36M	Sachs Harbour	77.54	1	P	P	04 25 07.1	-0.5
D19K	Kuna River	77.63	13	P	P	04 25 08.1	-0.2
D19K				IAmb	IAmb	04 25 12.0	
	comp=Z,12nm,1.2s						
C23K	Itkillik River	77.68	10	P	P	04 25 09.0	+0.6
E18K	Tukpahlearik C	78.06	14	P	P	04 25 10.2	-0.3
E18K				IAmb	IAmb	04 25 16.4	
	comp=Z,4.7nm,0.9s						
D22K	Ayikyak River	78.24	11	P	P	04 25 12.0	+0.5
E19K	Redstone River	78.70	13	P	P	04 25 14.0	-0.1
E19K				IAmb	IAmb	04 25 15.4	
	comp=Z,4.8nm,1.1s						
D25K	Kavik River	78.73	8	P	P	04 25 14.5	+0.2
D25K				IAmb	IAmb	04 25 19.9	
	comp=Z,11nm,1.4s						
TOLK	Toolik Lake Re	78.93	10	P	P	04 25 16.0	+0.6
TOLK				IAmb	IAmb	04 25 21.2	
	comp=Z,15nm,1.4s						
E22K	Anaktuvuk Pass	79.05	11	P	P	04 25 15.8	-0.3
E22K				IAmb	IAmb	04 25 22.1	
	comp=Z,10nm,1.5s						
G19K	Purcell Mounta	79.88	14	P	P	04 25 20.5	0.0
G19K				IAmb	IAmb	04 25 50.0	
	comp=Z,12nm,1.4s						
G24K	Hadweenzic Riv	81.04	10	P	P	04 25 27.4	+0.6
F31M	Tsiigehtchic	81.76	4	P	P	04 25 29.8	-0.8
F31M				IAmb	IAmb	04 25 35.9	
	comp=Z,9.6nm,1.1s						
G30M	tAoh Zraii Nji	82.04	5	P	P	04 25 31.5	-0.7
G30M				IAmb	IAmb	04 25 36.3	
	comp=Z,7.4nm,1.1s						
J19K	Poorman	82.07	14	P	P	04 25 32.4	+0.1
J19K				IAmb	IAmb	04 25 32.8	
	comp=Z,14nm,1.4s						
SCHQ	Schefferville	82.23	331	P	P	04 25 34.0	+0.7
	comp=Z,2.8nm,0.7s,baz=27,slow=9.0,SNR=4.4						
	comp=Z,2.8nm,0.7s						
ILAR	Eielson Array	82.93	10	P	P	04 25 36.0	-0.8
ILAR	Eielson Array	82.93	10	P	P	04 25 36.0	-0.8
	comp=Z,0.5nm,0.6s,baz=322,slow=4.4,SNR=11						
ILAR				PP	PP	04 28 46.8	+0.4
	comp=Z,0.6nm,1.0s,baz=330,slow=7.9,SNR=4.1						
	comp=Z,0.5nm,0.6s						
CAST	Castle Rocks	83.29	13	P	P	04 25 38.7	0.0
CAST				IAmb	IAmb	04 25 42.1	
	comp=Z,5.7nm,0.9s						
YKA	Yellowknife Ar	86.86	356	P	P	04 25 56.2	-0.3
	comp=Z,1.9nm,0.8s,baz=357,slow=5.1,SNR=36						
	comp=Z,1.9nm,0.8s						
KDAK	Kodiak Island	88.30	15	LR	LR	05 14 19.0	
	comp=Z,112nm,20.1s,baz=52,slow=41						
WRA	Warramunga Arr	89.45	114	P	P	04 26 08.1	-1.6
	comp=Z,1.0nm,0.5s,baz=313,slow=4.2,SNR=19						
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	91.14	117	P	P	04 26 16.1	-1.3
	comp=Z,2.1nm,0.7s,baz=304,slow=4.4,SNR=20						
	comp=Z,2.1nm,0.7s						
ULM	Lac du Bonnet	95.93	343	P	P	04 26 37.4	-1.7
	comp=Z,2.1nm,0.7s,baz=51,slow=6.4,SNR=4.1						
	comp=Z,2.1nm,0.7s						

JMA 03 04:17:07.2±0.2**, 38°.0N**±0°.9×**14°.5E**±°**, h52**km**, MV3.8**/29,
FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.62	279	P	Pn	04 17 48.1	+1.2
JIKH				S	Sn	04 18 18.5	+1.0
OFUJ	Ofunato	2.66	296	P	Pn	04 17 49.0	+1.4
OFUJ				*e*S	Sn	04 18 20.0	+1.3
JKMT	Kesennumamotoy	2.71	289	*e*P	Pn	04 17 49.6	+1.3
JKMT				*e*S	Sn	04 18 21.2	+1.4
JIO	Ouri	2.73	281	P	Pn	04 17 49.9	+1.4
JIO				S	Sn	04 18 21.4	+1.2
JMK	Ichinoseki	2.94	291	P	Pn	04 17 53.5	+2.0
JOM	Ohasama	3.10	300	P	Pn	04 17 55.5	+1.9
JOM				S	Sn	04 18 31.6	+2.3
JANG	Nango	3.48	315	*e*P	Pn	04 18 00.0	+1.2
JOTO	OTAMA OYAMA	3.53	265	S	Sn	04 18 42.5	+2.5
JOT	Ohata	4.45	321	*e*P	Pn	04 18 13.4	+1.3
JOT				*e*S	Sn	04 19 01.8	-0.8
JCH	Churui	4.76	348	P	Pn	04 18 15.8	-0.6
JCH				S	Sn	04 19 07.7	-2.5
JRY	Ryogami san	5.07	249	P	Pn	04 18 21.8	+1.1
JRY				*e*S	Sn	04 19 17.4	-0.7
JOD2	Odawara 2	5.30	241	*e*S	Sn	04 19 21.4	-2.2
NEM2	Nemuro 2	5.44	8	P	Pn	04 18 22.7	-3.0
NEM2				S	Sn	04 19 20.3	-6.7
JTKR	Abashiri--Toko	6.03	354	*e*P	Pn	04 18 31.9	-1.9
JTKR				*e*S	Sn	04 19 37.2	-4.2
JHR	Hokuryu	6.21	339	*e*P	Pn	04 18 38.0	+1.8
JHR				*e*S	Sn	04 19 47.8	+2.0

*BGR **03** 04:58:54.0±0.8, 47°.31N×6°.46E, h10km, ML2.4/11, Error ellipse: s-maj=5.6km s-min=4.4km az=52.0*
*ZUR **03** 04:58:53.9, 47°.33N×6°.51E, h1km±1km, MLh2.3/16, Error ellipse: s-maj=2977.7km s-min=1108.8km az=119.0*
*LDG **03** 04:58:54.3±0.1, 47°.32N×6°.53E, h2km, Md2.8/2, Ml2.9/12, Error ellipse: s-maj=1.9km s-min=1.5km az=118.0*
*STR **03** 04:58:54.9±0.4, 47°N±2°×°±°, h4km, MLv2.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=111.4, preliminary*
ISC 03 04:58:53.8±0.9**, 47°.33N**±0°.01×**6°.51E**±0°.02**, h10**km±6km**,**
n88, σ1°.15/122**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMF	Charmoille	0.13	129	Pg	Pg	04 58 56.5	-0.4
CHMF	Charmoille	0.13	129	Pg	Pg	04 58 56.5	-0.4
CHMF				Sg	Sg	04 58 58.3	-0.7
BRANT	Les Verrieres	0.39	184	Pg	Pg	04 59 01.8	+0.2
BRANT				Sg	Sg	04 59 07.6	+0.9
BRANT	Les Verrieres	0.39	184	Pg	Pg	04 59 01.8	+0.2
SAIRA	Les Sairains D	0.39	93	Sg	Sg	04 59 07.5	+0.7
SNES2	Neuenburg, Obs	0.45	137	Sg	Sg	04 59 08.9	+0.5
BOURR	Bourrignon	0.49	82	Pg	Pb	04 59 04.5	-0.1
HINF	Hinteralfeld	0.54	25	*e*Pg	Pg	04 59 04.8	+0.4
	SNR=1.0						
HINF				*e*Sg	Sg	04 59 11.1	-0.5
	57nm,0.4s,SNR=1.0						
ILLF	Illfurth	0.62	55	Pg	Pg	04 59 06.4	+0.6
MOF	Molkenrain	0.67	39	Pg	Pb	04 59 07.9	+0.2
HAU	Haudompre	0.69	351	*e*Pg	Pg	04 59 07.5	+0.4
	SNR=1.0						
HAU				*e*Sg	Sb	04 59 17.3	-0.1
	120nm,0.2s,SNR=1.0						
CABF	La Chapelle	0.77	202	*e*Pg	Pg	04 59 09.0	+0.3
	SNR=1.0						
CABF				*e*Sg	Sb	04 59 20.7	+0.8
BALST	Balsthal	0.81	89	Pn	Pn	04 59 11.1	-0.2
BALST	Balsthal	0.81	89	*e*Pg	Pn	04 59 11.0	-0.2
	SNR=8.0						
BALST				*e*Sg	Sb	04 59 21.2	+0.3
	SNR=1.8						
BALST				*e*Sn	Sn	04 59 23.3	0.0
	SNR=8.1						
GIMEL	St. Georges /	0.81	192	Pg	Pg	04 59 09.7	+0.3
GIMEL	St. Georges /	0.81	192	Pg	Pg	04 59 09.9	+0.4
ENDD	Endenburg	0.92	65	Pg	Pn	04 59 12.3	-0.5
ENDD				Sg	Sn	04 59 25.4	-0.7
ENDD	Endenburg	0.92	65	Pg	Pb	04 59 12.2	+0.4
ECH	Echery	0.99	26	Pg	Pg	04 59 13.3	+0.4
ECH				Sg	Sn	04 59 27.0	-0.8
ECH	Echery	0.99	26	Pg	Pg	04 59 13.3	+0.4
ECH				Sg	Sn	04 59 26.9	-0.8
ECH	Echery	0.99	26	*e*Pg	Pn	04 59 13.6	-0.2
	SNR=20						
ECH				*e*Sg	Sn	04 59 27.1	-0.8
	SNR=12						
AIGLE	Aigle	1.03	163	Pg	Pg	04 59 14.1	+0.5
SENIN	Lac Senin/Sane	1.11	150	Pg	Pn	04 59 15.6	+0.1
SULZ	Cheisacher	1.11	79	*e*Sg	Sn	04 59 31.2	+0.6
	SNR=2.6						
KIZ	Kirchzarten	1.14	56	Pg	Pb	04 59 14.9	-0.7
KIZ	Kirchzarten	1.14	56	Pg	Pb	04 59 15.1	-0.5
KIZ	Kirchzarten	1.14	56	Sg	Sn	04 59 31.2	-0.3
WLS	Welschbruch	1.23	27	Pg	Pn	04 59 16.7	-0.3
METMA	Mettma DE	1.24	71	*e*Pn	Pn	04 59 16.5	-0.8
	SNR=2.2						
METMA				*e*Pg	Pg	04 59 17.8	+0.1
	SNR=7.6						
METMA				*e*Sn	Sb	04 59 33.1	-0.3
	SNR=1.5						
METMA				*e*Sg	Sg	04 59 34.0	+0.2
	SNR=7.0						
BERGE	Lenzkirch (DE)	1.25	64	*e*Pg	Pg	04 59 18.5	+0.6
	SNR=6.3						
BERGE				*e*Sn	Sb	04 59 33.7	-0.1
	SNR=1.7						
BERGE				*e*Sg	Sg	04 59 35.0	+0.8
	SNR=8.6						
OGSI	Sixt	1.27	172	Pg	Pg	04 59 19.2	+1.0
SFTF	Sexfontaines	1.32	312	*e*Pg	Pg	04 59 19.7	+0.5
	baz=134						
SFTF				*e*Sg	Sg	04 59 37.1	+0.7
	54nm,0.3s						
DIX	Grande Dixence	1.39	153	Pg	Pb	04 59 20.3	+0.3
DIX	Grande Dixence	1.39	153	Sg	Sg	04 59 39.8	+1.2
SLE	Schleitheim	1.41	71	Pn	Pn	04 59 18.9	-0.7
SLE	Schleitheim	1.41	71	Sn	Sg	04 59 39.4	+0.1
SLE	Schleitheim	1.41	71	*e*Pn	Pn	04 59 18.9	-0.7
	SNR=2.2						

SLE				eSg	Sg	04 59 39.1	-0.1
	SNR=4.6						
FIESA	Fiescheralp	1.42	128	Pg	Pb	04 59 20.6	+0.2
EMBD	Embd, Matterta	1.44	140	Pn	Pb	04 59 21.0	+0.3
EMBD	Embd, Matterta	1.44	140	Sn	Sg	04 59 40.3	+0.3
OG35	Corcelles	1.44	207	Pn	Pn	04 59 19.7	-0.2
OG35				Sn	Sg	04 59 40.6	+0.7
MEZF	Maizieres J'vi	1.53	321	ePg	Pg	04 59 23.6	+0.4
	baz=140,SNR=1.0						
MEZF				eSg	Sg	04 59 43.2	+0.2
	50nm,0.3s,SNR=1.0						
BFO	Black Forest	1.58	50	eSn	Sn	04 59 41.6	-0.9
	SNR=1.0						
BFO				eSg	Sg	04 59 45.2	+0.5
	SNR=3.3						
WILA	Wila	1.63	86	eSg	Sg	04 59 46.6	+0.3
	SNR=3.1						
RSL	Roselend	1.64	177	Pn	Pn	04 59 23.3	+0.5
EMING	Emmingen-Lipti	1.68	69	eSg	Sg	04 59 47.8	+0.1
	SNR=4.1						
BABA	Baden-Baden-Ne	1.79	38	Sn	Sn	04 59 46.1	-1.4
BABA	Baden-Baden-Ne	1.79	38	Pn	Pn	04 59 23.7	-1.1
LOR	Lormes	1.80	269	ePg	Pb	04 59 27.9	+1.0
LOR				eSg	Sb	04 59 50.7	+1.2
	46nm,0.3s,SNR=1.0						
LOR	Lormes	1.80	269	Pn	Pb	04 59 27.7	+0.8
LOR	Lormes	1.80	269	Sn	Sb	04 59 51.5	+2.0
OGSM	Saint Maurice	1.81	198	Pn	Pn	04 59 25.4	+0.5
OGSM				Pg	Pg	04 59 28.5	+0.1
OGSM				Sn	Sg	04 59 51.9	+0.1
LPL	La Plagne	1.82	175	ePn	Pn	04 59 24.4	-0.9
	SNR=1.0						
LPL	La Plagne	1.82	175	ePg	Pn	04 59 25.9	+0.6
	SNR=1.0						
LPG	La Plagne	1.84	175	ePn	Pn	04 59 26.4	+0.8
	SNR=1.0						
LPG				eSg	Sb	04 59 51.4	+0.7
LEMB	Lembach	1.90	26	Pg	Pg	04 59 30.3	0.0
LSD	Lago del Serru	1.92	167	Pn	Pb	04 59 28.0	-1.0
SMF	Signal de Mont	1.95	250	ePg	Pb	04 59 30.2	+0.8
SMF				eSg	Sb	04 59 55.5	+1.8
	22nm,0.3s,SNR=1.0						
PLONS	Plons/SG	1.98	97	ePg	Pg	04 59 31.4	-0.3
	SNR=2.0						
PLONS				eSg	Sg	04 59 57.2	-0.2
	SNR=3.7						
TRAV	Traversella	2.01	154	Pn	Pb	04 59 29.6	-0.8
TRAV	Traversella	2.01	154	Sn	Sb	04 59 55.2	-0.3
SSF	Saint Saulge	2.06	264	ePg	Pb	04 59 33.0	+1.7
	SNR=1.0						
SSF				eSg	Sb	04 59 58.6	+1.6
AVF	Avril sur Loir	2.22	257	eSg	Sb	05 00 03.5	+2.0
	4.9nm,0.2s,SNR=1.0						
ORIF	Oris-en-Rattie	2.45	191	ePn	Pn	04 59 33.4	-0.4
	SNR=1.0						
ORIF	Oris-en-Rattie	2.45	191	ePg	Pb	04 59 38.4	+0.5
	SNR=1.0						
ORIF				eSg	Sg	05 00 11.5	-0.9
	10nm,0.3s,SNR=1.0						
UBR	Ueberruh	2.47	80	eSg	Sg	05 00 13.8	+0.8
	SNR=2.4						
MBDF	Montbardon	2.61	176	ePn	Pn	04 59 35.9	-0.2
	SNR=1.0						
MBDF	Montbardon	2.61	176	ePg	Pb	04 59 42.5	+1.8
MBDF				eSg	Sg	05 00 17.1	-0.4
	6.6nm,0.5s,SNR=1.0						
BGF	Bois d'Agland	2.62	254	eSg	Sg	05 00 16.5	-1.6
VIVF	Saint-Julien-l	2.78	208	ePn	Pn	04 59 36.2	-2.2
	SNR=1.0						
VIVF	Saint-Julien-l	2.78	208	ePg	Pb	04 59 45.7	+2.1
	SNR=1.0						
VIVF				eSg	Sb	05 00 20.0	+2.3
	6.6nm,0.2s,SNR=1.0						
PZZ	Stroppo	2.85	171	Pn	Pn	04 59 41.3	+1.8
FETA	Feichten	2.90	95	ePn	Pb	04 59 43.0	-2.6
	1.0nm,0.5s						
GIVF	Givet	2.99	339	eSg	Sg	05 00 28.0	-1.9
MOTA	Moosalm	3.12	88	i Pn	Pb	04 59 49.3	-0.2
	0.2nm,0.1s						
BAIF	Baives	3.13	332	ePg	Pg	04 59 53.8	+0.1
	SNR=1.0						
BAIF				eSg	Sg	05 00 33.0	-1.3
TNS	Taunus Mts	3.17	23	eSg	Sg	05 00 35.3	-0.2
	SNR=2.5						
SQTA	Sankt Quirin	3.20	90	i Pn	Pn	04 59 46.8	+2.6
	0.2nm,0.1s						
SMRF	Simiane la Rot	3.42	191	ePg	Pg	04 59 58.3	-0.9
	SNR=1.0						
WATA	Walderalm	3.45	88	ePn	Pn	04 59 50.5	+2.9
	0.2nm,0.1s						
WTTA	Wattenberg	3.49	89	ePn	Pn	04 59 50.6	+2.4
	0.3nm,0.1s						
SBF	Sospel	3.52	169	eSn	Sn	05 00 27.3	-3.0
LASF	Ste Croix	3.74	211	ePn	Pn	04 59 49.0	-2.6
	SNR=1.0						
LASF	Ste Croix	3.74	211	ePg	Pg	05 00 05.0	-0.5
	SNR=1.0						
LASF				eSn	Sn	05 00 33.6	-2.1
	SNR=1.0						
LASF				eSg	Sg	05 00 50.7	-3.3
	7.9nm,0.4s,SNR=1.0						
LMR	La Mourre	3.99	180	eSn	Sn	05 00 38.8	-3.0
	6.3nm,0.8s,SNR=1.0						
LESA	Schwarzleotal	4.19	86	i Pn	Pn	04 59 59.5	+1.7
	0.4nm,0.2s						
LDF	La Druitiere	4.63	288	eSg	Sg	05 01 21.3	-1.1
	14nm,0.6s,SNR=1.0						
KBA	Koelnbreinsper	4.67	91	i Pn	Pn	05 00 07.0	+2.6
	0.2nm,0.2s						

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*NEIC **03** 04:58:59.5±1.0,36°.15N±0°.01×98°.37W±0°.01,h14km±5km, Error ellipse: s-maj=2.5km s-min=0.7km az=147.0*

TUL 03 04:58:59.6±0.7**,36°.16N**±0°.01×**98°.38W**±0°.01**,h7**km±3km**, ML2.4,mb_Lg2.3**/12(NEIC)**,ML2.6**/30(NEIC)**,Error ellipse: s-maj=1.9km s-min=1.4km az=142.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK038	West end E0370	0.43	318	Pg	Pg	04 59 08.2	+0.2
OK038				Sg	Sg	04 59 14.3	+0.6
OK038				IAML		04 59 14.8	
	732nm,0.3s						
OK038				IAML		04 59 18.3	
	631nm,0.2s						
CROK	Carrier	0.47	43	Pg	Pg	04 59 08.9	+0.1
CROK				Sg	Sg	04 59 15.6	+0.7
U32A	Winter Ranch,	0.55	294		Pg	04 59 10.5	+0.2
U32A				Sg	Sg	04 59 18.0	+0.6
U32A				IAML		04 59 20.9	
	comp=N,397nm,0.3s						
OK035	E0210 Rd and N	0.61	334	Pg	Pg	04 59 11.3	-0.1
OK035				Sg	Sg	04 59 20.1	+0.8
OK032	Salt Plains WL	0.66	12	Pg	Pg	04 59 12.2	-0.1
OK032				Sg	Sg	04 59 21.4	+0.5
OK032				IAML		04 59 26.5	
	comp=N,424nm,0.2s						
GC02	Grant County #	0.81	31	Pg	Pg	04 59 14.9	-0.2
GC02				Sg	Sg	04 59 25.9	+0.2
ELIS	Ellis County	0.85	264		Pg	04 59 15.8	-0.1
ELIS				Sg	Sb	04 59 27.8	-0.4
ELIS				IAML		04 59 32.1	
	comp=N,129nm,0.2s						
KAN14	Manchester OK	0.86	23	Pg	Pg	04 59 15.9	-0.3
ADOK	Arcadia Dam	0.96	121	Pg	Pg	04 59 17.6	-0.5
KAN10	Anthony SW Sta	0.99	13	Pg	Pg	04 59 18.2	-0.4
KAN17	Caldwell West	1.01	29	Pg	Pg	04 59 18.5	-0.6
KAN05	Bluff City Nor	1.03	23	Pg	Pg	04 59 19.1	-0.4
BLOK	Blackwell	1.11	57		Pg	04 59 20.4	-0.6
BLOK				IAML		04 59 36.3	
	comp=N,186nm,0.2s						
BLOK				IAML		04 59 41.2	
	comp=E,169nm,0.2s						
KAN08	Anthony NE Sta	1.12	17	Pg	Pg	04 59 20.8	-0.3
KAN09	Caldwell North	1.15	32	Pg	Pg	04 59 21.0	-0.7
OK033	Mehan	1.17	95	Pg	Pg	04 59 21.4	-0.7
OK033				IAML		04 59 39.2	
	comp=E,157nm,0.1s						
OK048	Pawnee Station	1.19	77	Pg	Pg	04 59 21.6	-0.8
OK048				IAML		04 59 41.3	
	comp=E,91nm,0.4s						
FNO	Franklin	1.20	138		Pg	04 59 21.9	-0.7
FNO				IAML		04 59 41.4	
	comp=N,95nm,0.3s						
FNO				IAML		04 59 43.2	
	comp=E,110nm,0.4s						
OK052	Battle Ridge R	1.29	97	Pg	Pn	04 59 23.3	-0.7
OK052				IAML		04 59 44.9	
	comp=E,146nm,0.2s						
OK051	E0350 and S346	1.29	74	Pg	Pn	04 59 23.5	-0.5
QUOK	Quay	1.35	89	Pg	Pn	04 59 24.4	-0.5
WMOK	Wichita Mounta	1.45	193		Pn	04 59 25.7	-0.6
DEOK	Depew	1.56	101		Pn	04 59 27.6	-0.1
W35A	Tecumseh	1.58	129		Pn	04 59 27.9	-0.2
T35A	Sooner Cattle	1.68	63		Pn	04 59 29.6	+0.2
SMWD	Samnorwood	1.85	236		Pn	04 59 31.8	+0.1
SMWD				IAmb_Lg		05 00 01.7	
	comp=Z,17nm,0.8s						
TUL3	Leonard	2.11	96		Pn	04 59 35.4	+0.1
TUL3				IAmb_Lg		05 00 06.6	
	comp=Z,13nm,0.8s						
R32A	Long Quarter,	2.28	353	Pn	Pn	04 59 37.8	+0.2
R32A				IAmb_Lg		05 00 14.9	
	comp=Z,12nm,0.8s						
WTFS	Witchita Falls	2.39	182	Pn	Pn	04 59 39.2	+0.1
AMTX	Amarillo	2.98	246	Pn	Pn	04 59 47.2	-0.1
U38A	Gravette	3.24	84	Pn	Pn	04 59 50.6	-0.2
DKNS	Dickens	3.25	221	Pn	Pn	04 59 50.9	-0.1
PLPT	Palo Pinto	3.34	179	Pn	Pn	04 59 53.0	+0.8
HHAR	Hobbs	3.59	87	Pn	Pn	04 59 55.5	-0.2
S39A	Bolivar	4.33	68	Pn	Pn	05 00 05.5	-0.4
X40A	Basin Creek Fa	4.83	109	IAmb_Lg		05 01 34.1	
	comp=Z,5.3nm,0.9s						
T25A	Trinidad	4.95	283	IAmb_Lg		05 01 43.0	
	comp=Z,7.3nm,0.8s						
JCT	Junction City	5.79	192	IAmb_Lg		05 02 11.8	
	comp=Z,5.7nm,0.9s						

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*BGR **03** 05:05:45.0±0.7,47°.30N×6°.45E,h10km,ML2.3/10,Error ellipse: s-maj=4.4km s-min=3.3km az=47.0*
*LDG **03** 05:05:45.7±0.1,47°.32N×6°.52E,h2km,Md2.6/2,Ml2.6/13, Error ellipse: s-maj=1.5km s-min=1.4km az=115.0*
*ZUR **03** 05:05:45.2,47°.34N×6°.50E,h2km±2km,MLh2.1/11,Error ellipse: s-maj=4559.4km s-min=1774.3km az=100.0*
*STR **03** 05:05:46.8±0.5,47°N±3°×°±°,h6km±4km,MLv2.5/10,Error ellipse: s-maj=0.0km s-min=0.0km az=110.8,preliminary*

ISC 03 05:05:44.8±0.9**,47°.30N**±0°.02×**6°.48E**±0°.02**,h13**km±6km**, n63,**σ**0.70**/98**,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHMF	Charmoille	0.13	114	Pg	Pg	05 05 48.1	-0.1
CHMF	Charmoille	0.13	114	Pg	Pg	05 05 48.1	-0.1
CHMF				Sg	Sg	05 05 49.9	-0.6
BRANT	Les Verrieres	0.36	181	Pg	Pb	05 05 53.3	+0.2
BRANT				Sg	Sb	05 05 59.0	+0.3
BRANT	Les Verrieres	0.36	181	Pg	Pb	05 05 53.3	+0.2
BRANT	Les Verrieres	0.36	181	Sg	Sb	05 05 59.0	+0.3
SNES2	Neuenburg, Obs	0.44	133	Pg	Pb	05 05 54.1	-0.3
SNES2				Sg	Sb	05 06 00.4	-0.5
BOURR	Bourrignon	0.52	79	Pg	Pb	05 05 55.6	-0.1
HINF	Hinteralfeld	0.57	26	ePg	Pb	05 05 56.0	-0.7
HINF				eSg	Sb	05 06 03.7	-1.2
	34nm,0.3s						
SMOE	Moudon cole,	0.67	161	Pg	Pn	05 05 59.1	-0.9
WOLEN	Wohlen bei Ber	0.68	116	Pg	Pg	05 05 58.9	+1.0
WOLEN				Sg	Sn	05 06 08.8	-1.7
MOF	Molkenrain	0.71	38	Pg	Pg	05 05 59.4	+0.8
MOF				Sg	Sn	05 06 11.3	-0.1
HAU	Haudompre	0.71	353	ePg	Pb	05 05 58.9	-0.2
HAU				eSg	Sb	05 06 08.7	-0.1
	63nm,0.2s						
CABF	La Chapelle	0.74	202	ePg	Pn	05 06 00.4	-0.6
CABF				eSg	Sn	05 06 10.9	-1.3
	34nm,0.2s						
GIMEL	St. Georges /	0.78	191	Pg	Pn	05 06 01.2	-0.3
GIMEL	St. Georges /	0.78	191	Pg	Pn	05 06 01.3	-0.3
BALST	Balsthal	0.83	87	Pg	Pn	05 06 02.0	-0.2
BALST	Balsthal	0.83	87	ePg	Pn	05 06 02.5	+0.3
	SNR=6.1						
BALST				eSg	Sg	05 06 12.5	+0.9
	SNR=6.1						
BALST				eSn	Sn	05 06 14.8	+0.5
	SNR=14						
WALT	Westhalten	0.86	39	Pg	Pn	05 06 02.2	-0.4
WALT				Sg	Sn	05 06 15.2	+0.2
ENDD	Endenburg	0.95	64	Sg	Sn	05 06 17.1	-0.1
ENDD	Endenburg	0.95	64	Pg	Pg	05 06 03.6	+0.6
AIGLE	Aigle	1.01	161	Pn	Pg	05 06 06.0	+1.7
AIGLE	Aigle	1.01	161	Sn	Sn	05 06 21.2	+2.4
ECH	Echery	1.02	26	Pg	Pn	05 06 04.7	-0.2
ECH	Echery	1.02	26	Pg	Pn	05 06 04.7	-0.2
ECH				Sg	Sn	05 06 18.5	-0.6
ECH	Echery	1.02	26	ePg	Pn	05 06 04.9	0.0
	SNR=11						
ECH				eSg	Sb	05 06 18.1	+0.3
	SNR=2.2						
SENIN	Lac Senin/Sane	1.09	149	Pg	Pg	05 06 07.0	+1.2
KIZ	Kirchzarten	1.17	55	Pg	Pn	05 06 06.4	-0.5
KIZ	Kirchzarten	1.17	55	Sg	Sn	05 06 22.6	-0.1
OGSI	Sixt	1.25	171	Pn	Pg	05 06 09.5	+0.7
METMA	Mettma DE	1.27	70	ePn	Pn	05 06 08.0	-0.2
	SNR=1.3						
METMA				ePg	Pb	05 06 09.0	+0.4
	SNR=4.9						
METMA				eSn	Sn	05 06 24.7	-0.4
	SNR=1.4						
METMA				eSg	Sg	05 06 26.3	+0.6
	SNR=6.2						
BERGE	Lenzkirch (DE)	1.28	63	ePn	Pn	05 06 08.4	-0.1
	SNR=1.5						
BERGE				ePg	Pg	05 06 09.7	+0.3
	SNR=3.8						
BERGE				eSn	Sb	05 06 25.0	-0.2
	SNR=1.5						
BERGE				eSg	Sg	05 06 27.1	+0.9
	SNR=4.4						
SFTF	Sexfontaines	1.33	313	ePg	Pg	05 06 11.1	+0.8
SFTF				eSg	Sg	05 06 28.6	+1.0
	18nm,0.2s						
DIX	Grande Dixence	1.38	152	Pg	Pg	05 06 11.7	+0.4
OG35	Corcelles	1.40	207	Pn	Pb	05 06 11.2	+0.4
OG35				Sg	Sg	05 06 32.2	+2.2
EMBD	Embd, Matterta	1.43	139	Sg	Sg	05 06 31.7	+0.9
EMBD	Embd, Matterta	1.43	139	Pn	Pg	05 06 12.4	+0.2
SLE	Schleitheim	1.44	70	Pn	Pn	05 06 10.4	-0.2
SLE	Schleitheim	1.44	70	ePn	Pn	05 06 10.4	-0.2
	SNR=1.9						
SLE				ePg	Pg	05 06 12.6	+0.2
	SNR=4.8						
SLE				eSn	Sn	05 06 29.0	-0.4
	SNR=1.2						
SLE				eSg	Sg	05 06 31.4	+0.3
	SNR=7.0						
MEZF	Maizieres J'vi	1.54	322	ePg	Pg	05 06 14.3	0.0
	baz=140						
MEZF				eSg	Sg	05 06 34.7	+0.4
	20nm,0.3s						
RSL	Roselend	1.62	176	Pn	Pb	05 06 14.7	+0.2
BFO	Black Forest	1.62	50	ePn	Pn	05 06 12.7	-0.3
	SNR=1.0						
BFO				eSn	Sn	05 06 32.8	-0.9
	SNR=1.0						
BFO				eSg	Sg	05 06 36.6	-0.2
	SNR=2.3						
WILA	Wila	1.65	85	eSg	Sg	05 06 38.8	+0.8
	SNR=2.7						
EMING	Emmingen-Lipti	1.70	69	eSg	Sg	05 06 39.4	-0.2
	SNR=1.6						
OGSM	Saint Maurice	1.78	198	Pg	Pg	05 06 19.7	+0.8
OGSM				Sg	Sg	05 06 43.2	+1.3
LOR	Lormes	1.79	270	ePg	Pg	05 06 19.5	+0.5
	baz=89						
LOR				eSg	Sg	05 06 42.8	+0.6
	12nm,0.2s						
LOR	Lormes	1.79	270	Pn	Pg	05 06 19.6	+0.6
LOR	Lormes	1.79	270	Sn	Sg	05 06 43.0	+0.8
LPL	La Plagne	1.79	174	ePg	Pg	05 06 19.0	-0.2
LPL				eSg	Sg	05 06 42.8	+0.3
	4.0nm,0.3s						
LPG	La Plagne	1.81	174	ePg	Pg	05 06 18.8	-0.8
LPG				eSg	Sg	05 06 42.9	-0.2
	5.9nm,0.3s						
WALHA	Wallhausen, DE	1.85	75	eSg	Sg	05 06 44.0	-0.2
	SNR=1.9						
SMF	Signal de Mont	1.92	251	ePg	Pg	05 06 21.8	+0.1
SMF				eSg	Sg	05 06 47.1	+0.5
	8.0nm,0.3s						
LEMB	Lembach	1.93	26	Pn	Pb	05 06 21.1	+1.2
TRAV	Traversella	1.99	153	Pn	Pb	05 06 21.0	+0.1
PLONS	Plons/SG	1.99	96	eSg	Sg	05 06 48.5	-0.4
	SNR=2.6						
SSF	Saint Saulge	2.04	264	ePg	Pg	05 06 24.5	+0.5
SSF				eSg	Sg	05 06 50.5	+0.1
	5.2nm,0.3s						
AVF	Avril sur Loir	2.20	258	eSg	Sg	05 06 55.7	+0.3
	3.8nm,0.3s						
ORIF	Oris-en-Rattie	2.42	190	ePg	Pg	05 06 31.0	-0.1
ORIF				eSg	Sg	05 07 02.7	+0.2
	4.3nm,0.3s						
MBDF	Montbardon	2.58	175	ePg	Pg	05 06 34.0	-0.3
BGF	Bois d'Agland	2.60	255	ePg	Pg	05 06 33.7	-0.9
VIVF	Saint-Julien-l	2.75	208	ePg	Pg	05 06 36.6	-0.9
VIVF				eSg	Sg	05 07 12.2	-0.9
	3.6nm,0.2s						
NORI	Noerdlinger Ri	3.12	61	eSg	Sg	05 07 25.3	+0.2
	SNR=1.5						
TNS	Taunus Mts	3.20	23	eSg	Sg	05 07 27.3	-0.3
	SNR=1.6						
LASF	Ste Croix	3.71	211	eSg	Sg	05 07 42.5	-1.4
	1.5nm,0.3s						

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*IDC **03** 05:09:12.4±1.7,14°.95S×72°.14W,h84km±18km,mb3.5/7, mbtmp3.9/12,Error ellipse: s-maj=28.5km s-min=12.0km az=40.0*
*NEIC **03** 05:09:12.9±2.2,14°.99S±0°.09×72°.21W±0°.09,h100km±9km, mb4.2/15,Error ellipse: s-maj=14.6km s-min=9.7km az=225.0*
*VAO **03** 05:09:27.1±0.4,15°.30S×70°.63W,h42km,mb4.4*

ISC 03 05:09:14.5±0.5**,15°.01S**±0°.05×**72°.17W**±0°.07**,h124**km**,n62,** **σ**2.52**/66**,mb4.0**/13**,Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.09	109	Pn	Pn	05 10 17.7	+1.8
NNA	Nana	5.45	303	Pn	Pn	05 10 32.3	-1.3
NNA	Nana	5.45	303	P	Pn	05 10 32.0	-1.6
	195nm,0.3s,baz=126,slow=11,SNR=181						
NNA				S	Sn	05 11 32.0	-3.2
	51nm,0.3s,baz=28,slow=16,SNR=7.0						
CZSB	Cruzeiro do Su	7.25	356	Pn	Pn	05 10 54.1	-3.9
CZSB	Cruzeiro do Su	7.25	356	eP	Sn	05 12 12.7	-6.2
CZSB				eS	Sn	05 12 13.1	-5.7
ETMB	Extrema	7.77	49	Pn	Pn	05 11 04.1	-0.8
ETMB	Extrema	7.77	49	eP	Pn	05 11 03.5	-1.4
LVC	Limon Verde	8.16	158	Pn	Pn	05 11 09.3	-1.3
LVC					Sn	05 12 36.5	-4.9
LVC	Limon Verde	8.16	158	P	Pn	05 11 09.0	-1.5
	2.1nm,0.3s,baz=351,slow=9.2,SNR=6.6						
LVC				S	Sn	05 12 35.6	-5.8
	12nm,0.5s,baz=215,slow=23,SNR=13						
LVC	Limon Verde	8.16	158	eP	Pn	05 11 04.8	-5.7
LVC				eS	Sn	05 12 35.8	-5.6
ATAH	Atahualpa	9.93	321	P	Pn	05 11 33.3	-1.1
	4.4nm,0.8s,baz=111,slow=8.6,SNR=2.6						
ATAH				S	Sn	05 13 16.8	-7.5
	3.3nm,0.6s,baz=30,slow=20,SNR=2.2						
SAML	Samuel	10.65	57	Pn	Pn	05 11 40.9	-2.9
SAML	Samuel	10.65	57	eP	Pn	05 11 40.8	-2.9
SIV	San Ignacio	10.74	97	P	Pn	05 11 43.2	-1.7
	2.8nm,0.5s,baz=272,slow=10,SNR=25						
BBSD	Serra de San D	11.32	103	eP	Pn	05 11 50.4	-2.2
VILB	Vilhena	11.79	82	Pn	Pn	05 11 57.7	-1.2
BBRB	Robore, Bolivi	12.28	107	eP	Pn	05 12 03.5	-1.8
PTLB	Pontes e Lacer	12.58	94	Pn	Pn	05 12 06.5	-2.7
PTLB	Pontes e Lacer	12.58	94	eP	Pn	05 12 07.6	-1.6
MCRA	Macar, Loja	13.06	323	Pn	Pn	05 12 13.1	-2.4
TEFE	Tefe	13.62	34	eP	Pn	05 12 21.3	-1.4
LCO	Las Campanas	14.00	175	Pn	Pn	05 12 26.2	-1.5
SALV	Santo Antonio	15.90	95	eP	Pn	05 12 51.8	+0.3
MACA	Manacapuru-AM	16.33	45		Pn	05 12 56.3	-0.4
MACA				IAmb	IAmb	05 12 58.2	
	comp=Z,12nm,0.5s						
AQDB	Aquidauana	16.60	111		Pn	05 13 00.1	+0.2
AQDB				IAmb	IAmb	05 13 02.0	
	comp=Z,11nm,1.1s						
PP1B	Ponte de Pedra	16.79	101	eP	Pn	05 13 02.7	+0.3
FLOC	Florencia	16.84	348	eP	P	05 13 05.6	+2.6
CFA	Coronel Fontan	16.91	168	P	Pn	05 13 04.7	+1.0
	comp=Z,1.7nm,0.6s,baz=350,slow=13,SNR=4.9						
GCUF	Volcan Galeras	16.92	342	eP	Pn	05 13 09.6	+5.2
RVDE	Rio Verde (Bra	16.95	106	eP	P	05 13 04.9	+0.6
CPUP	Villa Florida	17.86	131		P	05 13 14.9	+0.8
CPUP	Villa Florida	17.86	131	P	P	05 13 15.3	+1.2
	comp=Z,5.4nm,0.9s,baz=313,slow=12,SNR=7.3						
GUY2C	Guyana, Caldas	20.35	351	eP	Pn	05 13 45.7	+0.7
ITQB	Itaqui	20.45	138	P	P	05 13 42.8	+0.6
ITQB	Itaqui	20.45	138	eP	P	05 13 43.4	+1.3
SNDB	Serra Nova Dou	20.52	84	eP	P	05 13 43.7	+0.6
BOAV	Boa Vista	20.78	35	P	P	05 13 45.7	-0.2
CRSM	Crissiumal (Br	20.93	129	eP	P	05 13 49.8	+2.4
CBOC	Ciudad Bolivar	21.08	349	eP	P	05 13 51.1	+1.8
PTGB	Pitanga	21.20	120	eP	P	05 13 50.8	+0.3
ITAB	Concordia	22.26	126	P	P	05 14 00.5	-0.9
ITAB				IAmb	IAmb	05 14 05.1	
	comp=Z,15nm,0.8s						
ALGR	Alto Alegre (B	22.39	131	eP	P	05 14 02.6	-0.2
FRTB	Fartura	22.88	115	eP	P	05 14 09.8	+2.2
APAC	Apartado, Choc	23.18	349	eP	P	05 14 12.3	+1.9
BDFB	Brasilia	23.30	95	P	P	05 14 11.3	-0.4
BDFB	Brasilia	23.30	95	P	P	05 14 11.7	0.0
	comp=Z,1.6nm,0.4s,baz=270,slow=11,SNR=8.3						
	comp=Z,1.6nm,0.4s						
PLTB	Pedras Altas	23.78	138	P	P	05 14 15.7	-0.1
PLTB				IAmb	IAmb	05 14 51.3	
	comp=Z,19nm,1.3s						
BAUV	El Baul	24.14	10	P	P	05 14 20.0	+0.8
TRQA	Tornquist	24.66	160	P	P	05 14 24.4	+0.6
TRQA				IAmb	IAmb	05 15 07.5	
	comp=Z,8.8nm,1.4s						
TXAR	Lajitas Array	53.56	325	P	P	05 18 24.9	+2.0
	comp=Z,0.3nm,0.5s,baz=149,slow=8.8,SNR=5.7						
	comp=Z,0.3nm,0.5s						
TX31	Lajitas Ar. Si	53.56	325	P	P	05 18 23.0	+0.1
TX31				IAmb	IAmb	05 18 46.4	
	comp=Z,3.5nm,1.5s						
ABTX	Abilene, Hawle	54.17	331	P	P	05 18 26.3	-0.9
ABTX				IAmb	IAmb	05 18 26.8	
	comp=Z,2.8nm,0.8s						
PDAR	Pinedale Array	66.97	331	P	P	05 19 56.0	+1.9
	comp=Z,0.3nm,0.6s,baz=131,slow=9.7,SNR=3.3						
	comp=Z,0.3nm,0.6s						
ULM	Lac du Bonnet	68.24	344	P	P	05 20 02.2	+0.6
SNAA	Sanae	69.39	162	P	P	05 20 11.2	+2.6
	comp=Z,2.0nm,0.8s,baz=270,slow=6.6,SNR=8.8						
	comp=Z,2.0nm,0.8s						
DBIC	Dimbokro	70.09	77	P	P	05 20 16.0	+2.2
	comp=Z,1.2nm,0.4s,baz=219,slow=5.0,SNR=4.6						
	comp=Z,1.2nm,0.4s						
TOA0	Torodi Ar. Sit	78.26	73	P	P	05 21 01.6	+0.4
TOA0				IAmb	IAmb	05 21 09.6	
	comp=Z,4.2nm,1.5s						
TORD	Torodi Ar. Bea	78.26	73	P	P	05 21 02.3	+1.1
TORD				IAmb	IAmb	05 21 06.6	
	comp=Z,3.1nm,1.4s						
TORD	Torodi Ar. Bea	78.26	73	P	P	05 21 04.1	+2.9
	comp=Z,0.4nm,0.5s,baz=263,slow=4.9,SNR=11						
	comp=Z,0.4nm,0.5s						
YKA	Yellowknife Ar	84.08	342	P	P	05 21 32.2	+1.3
YKA	Yellowknife Ar	84.08	342	P	P	05 21 32.8	+1.8
	comp=Z,1.1nm,0.7s,baz=138,slow=5.1,SNR=22						
	comp=Z,1.1nm,0.7s						
SONM	Songino Array	147.25	2	PKPbc	PKPab	05 28 45.6	+0.1
	comp=Z,0.8nm,0.9s,baz=1.2,slow=2.4,SNR=3.8						

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*NOU **03** 05:12:30.9,23°.19S×171°.10E,h0km,MLv4.7/11, Southeast of Loyalty Islands*
*IDC **03** 05:12:33.0±0.7,23°.23S×170°.83E,h0km,mb4.3/13, mbtmp4.4/15,ML4.3/2,MS3.5/10,Error ellipse: s-maj=21.0km s-min=19.3km az=92.0*
*NEIC **03** 05:12:35.3±1.2,23°.1S±0°.1×170°.9E±0°.1,h10km±1km, mb4.5/27,Error ellipse: s-maj=20.6km s-min=17.0km az=45.0*

ISC 03 05:12:37.8±0.5**,23°.19S**±0°.07×**170°.83E**±0°.08**,h31**km**,n83,** **σ**0.93**/81**,mb4.5**/24**,MS3.7**/8**,4D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.10	303		Pn	05 13 23.9	-0.7
MARNC	Mare, Loyalty	3.10	303	P	Pn	05 13 24.0	-0.6
PINNC	Pines Island,	3.17	280		Pn	05 13 25.2	-0.3
PINNC	Pines Island,	3.17	280	P	Pn	05 13 25.5	-0.1
OUENC	Ouen Island, N	3.75	281		Pn	05 13 33.3	-0.4
OUENC	Ouen Island, N	3.75	281	P	Pn	05 13 33.3	-0.4
YATNC	Mamie plateau,	3.81	286	P	Pn	05 13 33.2	-1.1
LIFNC	LIFOU	4.10	305		Pn	05 13 37.7	-0.8
LIFNC	LIFOU	4.10	305	P	Pn	05 13 37.6	-0.8
ONTNC	Ouen Toro	4.13	281		Pn	05 13 38.4	-0.4
ONTNC	Ouen Toro	4.13	281	P	Pn	05 13 38.8	0.0
DZM	Mont Dzumac	4.20	284	P	Pn	05 13 39.4	-0.4
DZM	Mont Dzumac	4.20	284	Pn	Pn	05 13 39.4	-0.4
	61nm,0.3s,baz=124,slow=14,SNR=696						
DZM				Sn	Sn	05 14 26.9	-1.0
	12nm,0.3s,baz=209,slow=6.6,SNR=6.8						
DZM				LR	LR	05 15 13.8	
	comp=Z,441nm,20.2s,baz=142,slow=38						
	159nm,0.3s						
NOUC	Port Laguerre	4.32	284	P	Pn	05 13 40.9	-0.5
NFK	Norfolk Island	6.38	203	P	Pn	05 14 07.5	-2.3
KOUNC	Koumac, New Ca	6.62	292		Pn	05 14 13.1	+0.1
KOUNC	Koumac, New Ca	6.62	292	P	Pn	05 14 13.5	+0.5
URZ	Urewera	15.96	162	Pn	Pn	05 16 20.5	+0.5
	0.3nm,0.3s,baz=90,slow=13,SNR=2.0						
URZ				LR	LR	05 21 04.9	
	comp=Z,278nm,19.7s,baz=64,slow=32						
	12nm,0.8s						
RTZ	Ruatahuna	16.25	163		P	05 16 26.5	-0.2
RTZ				IAmb	IAmb	05 16 35.0	
	comp=Z,25nm,1.0s						
MRZ	Mangatainoka R	17.88	168		P	05 16 45.0	+0.4
BFZ	Birch Farm	18.03	167		P	05 16 47.2	+0.9
BFZ				IAmb	IAmb	05 16 47.8	
	comp=Z,26nm,1.1s						
EIDS	Eidsvold	18.13	259		P	05 16 48.9	+1.4
EIDS				IAmb	IAmb	05 16 53.1	
	comp=Z,20nm,1.1s						
DSZ	Denniston Nort	18.52	178	P	Pn	05 16 54.9	+2.8
DSZ				IAmb	IAmb	05 16 57.3	
	comp=Z,23nm,0.7s						
ARMA	Armidale	18.57	243		Pn	05 16 53.0	+0.2
THZ	Tophouse	18.61	175	P	Pn	05 16 53.9	+0.8
RPZ	Rata Peaks	20.48	180	P	P	05 17 13.4	+0.4
	comp=Z,12nm,0.8s,baz=292,slow=5.4,SNR=4.4						
RPZ				LR	LR	05 23 52.0	
	comp=Z,124nm,18.1s,baz=3.0,slow=33						
	comp=Z,12nm,0.8s						
CTA	Charters Tower	23.04	273	LR	LR	05 25 38.6	
	comp=Z,63nm,18.1s,baz=91,slow=34						
CTAO	Charters Tower	23.04	273	P	P	05 17 40.6	0.0
CTAO				IAmb	IAmb	05 17 50.1	
	comp=Z,14nm,1.3s						
STKA	Stephens Creek	27.26	245	P	P	05 18 20.3	+0.9
STKA	Stephens Creek	27.26	245	P	P	05 18 18.4	-1.0
	comp=Z,1.9nm,0.7s,baz=45,slow=10,SNR=4.2						
	comp=Z,1.9nm,0.7s						
BBOO	Buckleboo	32.04	245	P	P	05 19 02.0	+0.2
BBOO				IAmb	IAmb	05 19 02.9	
	comp=Z,11nm,0.9s						
AS31	Alice Springs	33.82	262	P	P	05 19 17.8	+0.3
AS31				IAmb	IAmb	05 19 18.6	
	comp=Z,3.2nm,1.0s						
ASAR	Alice Springs	33.82	262	P	P	05 19 17.2	-0.3
ASAR	Alice Springs	33.82	262	P	P	05 19 17.4	-0.2
	comp=Z,5.9nm,0.7s,baz=94,slow=9.8,SNR=65						
ASAR				PcP	PcP	05 21 56.0	-0.2
	comp=Z,0.4nm,0.6s,baz=94,slow=4.1,SNR=2.2						
	comp=Z,5.9nm,0.7s						
WR0	Warramunga Arr	33.84	268	P	P	05 19 16.5	-1.2
WR0				IAmb	IAmb	05 19 57.7	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	34.02	269	P	P	05 19 18.6	-0.6
WB0				IAmb	IAmb	05 19 19.3	
	comp=Z,15nm,1.4s						
WB2	Warramunga Arr	34.02	268	P	P	05 19 17.9	-1.3
WB2				IAmb	IAmb	05 19 58.2	
	comp=Z,8.9nm,1.1s						
WRAB	Tennant Creek	34.02	268	P	P	05 19 18.6	-0.7
WRAB				IAmb	IAmb	05 20 00.8	
	comp=Z,8.1nm,1.4s						
WRA	Warramunga Arr	34.03	268	P	P	05 19 17.5	-1.9
WRA	Warramunga Arr	34.03	268	P	P	05 19 18.2	-1.2
	comp=Z,0.9nm,0.5s,baz=97,slow=8.4,SNR=36						
	comp=Z,0.9nm,0.5s						
FORT	Forrest	38.67	249	P	P	05 19 58.7	-0.1
FITZ	Fitzroy Crossi	42.46	268	P	P	05 20 30.8	+0.5
NWAO	Narrogin (SRO)	47.85	246	P	P	05 21 13.0	+0.1
MORW	Morawa	49.18	251	P	P	05 21 22.8	-0.4
MORW				IAmb	IAmb	05 21 32.8	
	comp=Z,14nm,1.2s						
KAPI	Kappang	52.41	282	LR	LR	05 43 36.3	
	comp=Z,44nm,20.5s,baz=72,slow=36						
VNDA	Vanda	54.56	182	P	P	05 22 03.5	+0.9
VNDA				IAmb	IAmb	05 22 11.7	
	comp=Z,4.6nm,1.4s						
VNDA	Vanda	54.56	182	LR	LR	05 41 20.4	
	comp=Z,69nm,19.7s,baz=322,slow=32						
QSPA	South Pole Qui	66.89	180	P	P	05 23 25.7	-1.1
	comp=Z,1.8nm,0.4s,baz=349,slow=4.2,SNR=1.4						
QSPA				LR	LR	05 49 58.5	
	comp=Z,48nm,19.0s,baz=358,slow=34						
	comp=Z,1.8nm,0.4s						
MJAR	Matsushiro Arr	66.92	332	P	P	05 23 27.1	0.0
	comp=Z,1.2nm,0.5s,baz=166,slow=6.6,SNR=8.6						
	comp=Z,1.2nm,0.5s						
MAJO	Matsushiro	66.92	332	P	P	05 23 28.0	+0.8
MJB9	Matsu-Tunnel	66.92	332	P	P	05 23 29.1	+1.8
JNU	Nakatsue	67.72	324	P	P	05 23 32.9	+0.5
KSRS	Korea Array	72.58	325	P	P	05 24 03.3	+1.3
	comp=Z,2.8nm,0.8s,baz=146,slow=5.6,SNR=5.8						
	comp=Z,2.8nm,0.8s						
PEA0B	Petropavlovsk-	76.83	352	P	P	05 24 26.7	+0.5
PETK	Petropavlovsk-	76.83	352	P	P	05 24 26.3	0.0
	comp=Z,11nm,0.7s,baz=132,slow=4.7,SNR=16						
PETK				LR	LR	05 55 30.5	
	comp=Z,29nm,18.6s,baz=348,slow=34						
	comp=Z,11nm,0.7s						
BELA	Belgrano 2	78.05	175	P	P	05 24 32.9	-0.2
BELA				IAmb	IAmb	05 24 41.0	
	comp=Z,2.6nm,0.7s						
CMAR	Chiang Mai Arr	81.47	294	P	P	05 24 54.0	+1.5
	comp=Z,2.2nm,0.3s,baz=144,slow=4.4,SNR=9.8						
	comp=Z,2.2nm,0.3s						
MA2	Magadan	84.09	350	LR	LR	05 59 16.6	
	comp=Z,35nm,18.6s,baz=351,slow=33						
TROLL	Troll, Antarti	84.72	184	⇓P	P	05 25 07.4	-1.1
	comp=Z,100nm,0.6s						
SNAA	Sanae	85.30	182	P	P	05 25 11.0	-0.4
SNAA				IAmb	IAmb	05 25 25.7	
	comp=Z,9.6nm,1.5s						
SNAA	Sanae	85.30	182	⇓P	P	05 25 08.7	-2.7
	comp=Z,44nm,0.8s						
SNAA	Sanae	85.30	182	P	P	05 25 10.5	-0.9
	comp=Z,3.0nm,1.0s,baz=206,slow=9.7,SNR=4.7						
SNAA				LR	LR	06 01 34.4	
	comp=Z,31nm,20.0s,baz=125,slow=34						
	comp=Z,3.0nm,1.0s						
VNA3	Neumayer Olymp	85.83	180	⇓P	P	05 25 11.3	-2.7
	comp=Z,3.5nm,0.6s						
VNA2	Neumayer--Watz	86.14	181	⇓P	P	05 25 14.4	-1.2
	comp=Z,4.2nm,0.7s,baz=173,slow=7.0						
NVAR	Mina Array Bea	90.31	48	P	P	05 25 36.8	+0.7
	comp=Z,0.6nm,0.8s,baz=223,slow=7.5,SNR=5.7						
	comp=Z,0.6nm,0.8s						
SONM	Songino Array	91.25	323	P	P	05 25 40.4	+0.3
	comp=Z,0.7nm,0.7s,baz=141,slow=6.9,SNR=4.5						
	comp=Z,0.7nm,0.7s						
ILAR	Eielson Array	93.55	17	P	P	05 25 49.5	-0.7
	comp=Z,1.3nm,0.8s,baz=230,slow=4.8,SNR=14						
	comp=Z,1.3nm,0.8s						
BVAR	Borovoye Array	114.37	319	PKP	PKiKP	05 31 14.1	-0.1
	comp=Z,0.7nm,0.6s,baz=86,slow=2.2,SNR=4.6						
ARCES	ARCESS Array B	129.24	345	PKP	PKPdf	05 31 42.0	-0.3
	comp=Z,0.7nm,0.7s,baz=0.0,slow=1.8,SNR=3.6						
EKA	Eskdalemuir Ar	147.58	354	PKPbc	PKPbc	05 32 17.6	-1.0
	comp=Z,3.7nm,1.0s,baz=337,slow=1.6,SNR=1.8						
RONA	Rosalia, Austr	148.19	327	i PKP	PKiKP	05 32 21.6	-0.8
	comp=Z,2.0nm,0.5s						
CONA	Conrad Observa	148.26	327	i PKP	PKiKP	05 32 22.0	-0.6
	comp=Z,0.9nm,0.4s						
GERES	GERESS Array B	148.65	330	PKPbc	PKPbc	05 32 22.2	+0.4
	comp=Z,1.7nm,0.8s,baz=28,slow=4.4,SNR=3.5						
OBKA	Obir	149.88	326	i PKP	PKPbc	05 32 25.3	+0.3
	comp=Z,0.8nm,0.4s						
KBA	Koelnbreinsper	150.08	328	i PKP	PKPbc	05 32 25.4	-0.1
	comp=Z,1.4nm,0.6s						
LESA	Schwarzleotal	150.15	329	i PKP	PKPbc	05 32 25.8	+0.2
	comp=Z,3.7nm,0.6s						
MYKA	Terra Mystica	150.25	327	i PKP	PKPbc	05 32 25.8	-0.1
	comp=Z,1.9nm,0.4s						
ABTA	Abfaltersbach	150.72	329	i PKP	PKPbc	05 32 26.8	-0.2
	comp=Z,2.9nm,0.6s						
WATA	Walderalm	150.72	330	i PKP	PKiKP	05 32 27.6	-0.1
	comp=Z,0.4nm,0.2s						
WTTA	Wattenberg	150.75	330	i PKP	PKiKP	05 32 27.9	+0.1
	comp=Z,3.4nm,0.6s						
MOTA	Moosalm	150.93	331	i PKP	PKiKP	05 32 27.8	-0.3
	comp=Z,6.8nm,0.9s						
SQTA	Sankt Quirin	150.97	331	i PKP	PKiKP	05 32 27.9	-0.3
	comp=Z,2.2nm,0.5s						
FETA	Feichten	151.34	331	i PKP	PKiKP	05 32 28.8	-0.2
	comp=Z,3.5nm,0.9s						

*SDD **03** 05:14:24.9±2.9, 18°.47N×69°.08W, h108km±10km, MD3.5, ML2.6, MW3.4*
*OSPL **03** 05:14:25.9±2.4, 18°.28N×69°.13W, h116km±19km, ML2.6*
ISC 03 05:14:23.1±1.4**, 18°.52N**±0°.07×**69°.09W**±0°.03**, h110**km±9km**, n33, σ1s.54**/52**, 21C-8D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HGY1	Higuey	0.36	79	eSg	Sn	05 14 51.4	+0.1
HGY1				IAML		05 15 31.9	
	comp=N,37nm,2.0s						
HIDR	Higuey Centro	0.36	79	⇓ePg	Pn	05 14 38.8	-0.4
HIDR				IAML		05 14 50.9	
	comp=N,1.6nm,1.3s						
HATOM	Hato Mayor del	0.38	314	⇓ePg	Pn	05 14 38.7	-0.6
HATOM				⇑eSg	Sn	05 14 50.7	-0.8
HATOM				IAML		05 14 51.9	
	comp=N,406nm,0.3s						
SADR	Isla Saona	0.44	138	⇓ePg	Pn	05 14 39.7	+0.1
SADR				⇑eSg	Sn	05 14 52.8	+0.8
SADR				IAML		05 14 55.0	
	comp=N,186nm,0.5s						
MIDR	Miches	0.46	5	⇑ePg	Pn	05 14 39.7	-0.1
MIDR				⇑eSg	Sn	05 14 52.1	-0.1
MIDR				IAML		05 14 53.3	
	comp=N,386nm,0.2s						
SMDR	Samana, DR	0.77	353	⇑ePg	Pn	05 14 41.6	-0.5
SMDR				eSg	Sn	05 14 57.6	+1.3
SMDR				IAML		05 15 02.3	
	comp=N,200nm,0.3s						
SDD	Santo Domingo	0.78	265	⇑eSg	Sn	05 14 57.7	+1.1
SDD				IAML		05 14 59.2	
	comp=N,27nm,0.8s						
SDD	Santo Domingo	0.78	265	eS	Sn	05 14 57.6	+1.1
LOSC1	San Cristbal	0.97	263	i P	Pn	05 14 45.0	+1.0
DR08	Loma La Naviza	0.98	296	⇑ePg	Pn	05 14 43.5	-0.8
DR08				⇓eSg	Sn	05 14 59.6	-0.5
ABDR	Alto Bandera	1.48	281	⇓eSg	Sn	05 15 12.0	+1.5
ABDR				IAML		05 15 16.8	
	comp=N,135nm,0.2s						
SODR	Sosua Marina B	1.86	311	⇑eSg	Sn	05 15 18.5	+0.3
SODR				IAML		05 15 34.5	
	comp=N,124nm,0.9s						
AGPR	Aguadilla, PR	1.88	91	⇑ePg	Pn	05 14 55.5	+0.9
AGPR				IAML		05 15 24.4	
	comp=N,112nm,0.2s						
AGPR	Aguadilla, PR	1.88	91	i P	Pn	05 14 56.7	+2.1
AGPR				eS	Sn	05 15 20.4	+1.8
AGPR				IAML		05 15 26.8	
	comp=Z,80nm,1.1s						
CRPR	Cabo Rojo, PR	1.95	105	⇑ePg	Pn	05 14 55.6	+0.1
CRPR				⇑eSg	Sn	05 15 17.8	-2.4
CRPR				IAML		05 15 31.8	
	comp=N,30nm,0.3s						
CRPR	Cabo Rojo, PR	1.95	105	i P	Pn	05 14 55.6	+0.1
CRPR				eS	Sn	05 15 21.4	+1.2
CRPR				IAML		05 15 26.6	
	comp=Z,42nm,0.6s						
LOBA2	Hotel Casa Bon	1.95	257	⇑ePg	Pn	05 14 55.4	-0.1
LOBA2				⇑eSg	Sn	05 15 18.3	-1.9
MLPR	Magueyes Islan	2.02	105	⇓ePg	Pn	05 14 55.0	-1.4
MLPR				eSg	Sn	05 15 19.8	-2.0
MLPR				IAML		05 15 30.1	
	comp=N,22nm,0.1s						
PODR	Polo	2.11	261	⇑ePg	Pn	05 14 58.6	+0.9
PODR				⇑eSg	Sn	05 15 21.4	-2.7
PODR				IAML		05 15 52.8	
	comp=N,22nm,1.6s						
PODR	Polo	2.11	261	i P	Pn	05 14 59.2	+1.5
PODR				eS	Sn	05 15 23.7	-0.5
SDDR	Presa de Saban	2.13	283	eP	Pn	05 14 59.2	+1.4
SDDR				eS	Sn	05 15 28.1	+3.7
SDDR	Presa de Saban	2.13	283	⇑ePg	Pn	05 14 59.5	+1.7
SDDR				IAML		05 15 33.1	
	comp=N,40nm,0.7s						
SDDR	Presa de Saban	2.13	283	i P	Pn	05 14 59.5	+1.7
SDDR				eS	Sn	05 15 26.6	+2.3
SDDR				IAML		05 15 32.5	
	comp=Z,30nm,0.7s						
MADR	Mao Valverde	2.17	299	⇓ePg	Pn	05 14 57.7	-0.5
MADR				⇑eSg	Sn	05 15 24.3	-0.8
MADR				IAML		05 15 30.5	
	comp=N,112nm,0.3s						
AOPR	Arecibo Observ	2.23	94	eP	Pn	05 15 00.0	+1.0
AOPR	Arecibo Observ	2.23	94	⇑ePg	Pn	05 14 59.4	+0.3
AOPR				⇑eSg	Sn	05 15 25.6	-1.0
AOPR				IAML		05 15 39.1	
	comp=N,157nm,0.2s						
LOPE2	Hotel El Peder	2.57	259	i P	Pn	05 15 04.9	+1.5
LOPE2				eS	Sn	05 15 33.1	-1.3
MCDR	Montecristi	2.78	300	⇑eSg	Sn	05 15 39.1	-0.3
MCDR				IAML		05 15 48.9	
	comp=N,46nm,0.5s						
SJG	San Juan	2.82	98	eP	Pn	05 15 07.6	+0.8
SJG				eS	Sn	05 15 43.5	+3.1
SJG	San Juan	2.82	98	⇑ePg	Pn	05 15 07.3	+0.5
SJG				⇓eSg	Sn	05 15 39.3	-1.2
MASC	Masc	5.12	290	eS	Sn	05 16 31.7	-3.9
MASC				IAML		05 16 46.6	
	comp=Z,17nm,2.8s						
ANBD	Bethesda, Anti	7.13	101	eP	Pn	05 16 03.7	-1.1
ANBD	Bethesda, Anti	7.13	101	eS	Sn	05 17 21.8	-2.6

IDC 03 05:16:02.0±48.0**, 18°.99S**×**176°.05W, h0**km**, mb4.1**/3**, mbtmp4.1**/3**, Error ellipse: s-maj=904.8km s-min=161.9km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.10	243	P	P	05 23 40.3	+0.7
	2.2nm,0.6s,baz=66,slow=7.3,SNR=5.0						
	2.2nm,0.6s						
WRA	Warramunga Arr	46.65	260	P	P	05 24 32.0	-0.6
	0.7nm,0.5s,baz=99,slow=8.4,SNR=16						
	0.7nm,0.5s						
ASAR	Alice Springs	46.67	255	P	P	05 24 32.5	-0.3
	3.5nm,0.6s,baz=93,slow=8.1,SNR=53						
	3.5nm,0.6s						

*IDC **03** 05:16:11.8±2.2, 8°.86S×116°.16E, h0km, mb3.3/3, mbtmp3.5/4, ML3.6/1, MS3.5/1, Error ellipse: s-maj=59.4km s-min=27.9km az=56.0*
*DJA **03** 05:16:19.8±0.4, 9°S±6°×11°7E±°, h10km, M3.6/8, MLv3.6/8*
ISC 03 05:16:19.6±1.2**, 8°.94S**±0°.08×**116°.87E**±0°.05**, h10**km**, n15, σ0s.48**/14**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.20	3	P	Pg	05 16 24.0	+0.2
PLAI	Plampang	0.90	83	P	Pg	05 16 36.4	-0.5
DBNI	Kabupaten Domp	1.49	73	P	Pn	05 16 46.8	+0.4
IGBI	Denpasar	1.71	274	P	Pn	05 16 49.2	-0.2
SRBI	Singaraja	1.85	297	P	Pn	05 16 51.4	+0.1
JAGI	Jajag, Banyuwa	2.73	280	P	Pn	05 17 03.9	+0.4
ABJI	Asem Bagus	2.85	293	P	Pn	05 17 04.9	-0.2
BLJI	Banyuglugur	3.45	290	P	Pn	05 17 13.5	+0.1
BASI	Baing, Sumba	3.87	110	P	Pn	05 17 19.8	+0.6
BKSI	Bulukumba	4.83	42	P	Pn	05 17 32.2	-0.1
KAPI	Kappang	4.83	36	Pn	Pn	05 17 31.9	-0.5
	2.3nm,0.3s,baz=194,slow=17,SNR=4.1						
KAPI				Sn	Sn	05 18 29.0	+0.5
	1.5nm,0.3s,baz=222,slow=23,SNR=6.7						
	5.2nm,0.3s						
WRA	Warramunga Arr	20.12	125	P	P	05 20 53.0	-0.9
	0.7nm,0.6s,baz=306,slow=12,SNR=5.0						
	0.7nm,0.6s						
ASAR	Alice Springs	21.91	134	P	P	05 21 13.6	+0.4
	1.2nm,0.5s,baz=311,slow=8.2,SNR=14						
	1.2nm,0.5s						
ASAJ	Asahikawa	57.72	22	LR	LR	05 49 31.0	
	comp=Z,42nm,22.0s,baz=208,slow=34						
MKAR	Makanchi Array	63.47	334	P	P	05 26 41.1	-8.6
	0.4nm,0.9s,baz=145,slow=5.3,SNR=2.6						
	0.4nm,0.9s						

IDC 03 05:41:33.9±1.9**, 5°.09S**×**151°.25E, h70**km±39km**, mb3.3**/2**, mbtmp3.7**/3**, ML4.0**/1**, Error ellipse: s-maj=109.3km s-min=26.7km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.10	45	P	Pn	05 41 53.1	-0.6
	17nm,0.4s,baz=58,slow=24,SNR=38						
KRVT				S	Sn	05 42 08.7	+0.2
	16nm,0.3s,baz=110,slow=24,SNR=15						
CTA	Charters Tower	15.68	198	P	P	05 45 12.1	-1.3
	0.4nm,0.3s,baz=356,slow=13,SNR=1.8						
	1.1nm,0.3s						
WRA	Warramunga Arr	22.11	227	P	P	05 46 23.6	-0.1
	1.3nm,0.8s,baz=51,slow=9.9,SNR=13						
	1.3nm,0.8s						
ASAR	Alice Springs	24.91	220	P	P	05 46 50.5	-0.1
	1.2nm,0.6s,baz=57,slow=9.0,SNR=17						
	1.2nm,0.6s						
TORD	Torodi Ar. Bea	148.92	287	PKPbc	PKPbc	06 01 14.4	-0.5
	0.5nm,0.8s,baz=68,slow=4.2,SNR=2.6						

*MEX **03** 05:57:05.4±0.9, 15°.40N×94°.97W, h16km±178km, MD4.2*
*CATAC **03** 05:57:07.0±1.6, 15°.92N×94°.85W, h15km±16km, mb4.2, ML4.3*
ISC 03 05:57:05.7±1.3**, 15°.53N**±0°.07×**95°.02W**±0°.04**, h37**km**, n13, σ2s.30**/23**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	1.08	283	eP	Pn	05 57 23.4	-0.8
HUIG				i S	Sn	05 57 36.5	-1.5
CMIG	Matias Romero	1.56	5	eP	Pn	05 57 30.6	-0.3
CMIG				eS	Sn	05 57 49.8	-0.1
NEUV	Arroyo Zacate	2.30	341	eP	Pn	05 57 42.2	+1.1
NEUV				i S	Sn	05 58 05.1	-3.0
PATR	El Naranjo	2.72	98	eP	Pn	05 57 44.6	-2.5
PAVE	Pavencul	2.76	97	i P	Pn	05 57 46.0	-1.7
CHUJ	Union Juarez	2.84	98	eP	Pn	05 57 46.8	-2.0
CCIG	Comitan	2.87	74	i P	Pn	05 57 49.6	+0.5
CCIG				i S	Sn	05 58 20.4	-2.2
CCIG				IAML		05 58 29.2	
	comp=Z,810nm,1.0s						
SMCA	Catarina	2.92	103	i P	Pn	05 57 51.2	+1.5
SMCA				i S	Sn	05 58 17.8	-5.7
SMCA				IAML		05 58 25.2	
	comp=Z,420nm,1.0s						
HUEH	Huehuetenango	3.40	93	i P	Pn	05 57 56.8	+0.4
HUEH				i S	Sn	05 58 35.1	-0.5
HUEH				IAML		05 58 57.1	
	comp=Z,1μm,1.0s						
QUIS	Sacapulas	3.79	93	i P	Pn	05 58 04.4	+2.6
QUIS				i S	Sn	05 58 48.4	+3.1
QUIS				IAML		05 59 06.3	
	comp=Z,450nm,1.0s						
TLIG	Tlapa	3.96	301	i P	Pn	05 58 06.6	+2.6
TLIG				i S	Sn	05 58 49.3	0.0
TLIG				IAML		05 59 25.9	
	comp=Z,120nm,1.0s						
PETF	Flores	5.14	74	i P	Pn	05 58 20.4	+0.3
PETF				IAML		05 58 23.4	
	comp=Z,160nm,1.0s						
PETF				i S	Sn	05 59 17.0	-1.2
NUBE	Las Nubes	5.32	107	i P	Pn	05 58 25.7	+2.9
NUBE				IAmb	IAmb	05 58 34.6	
	comp=Z,35nm,0.8s						
NUBE				i S	Sn	05 59 25.6	+2.6
NUBE				IAML		06 00 13.7	
	comp=Z,92nm,1.0s						

*IDC **03** 06:04:45.8±0.9, 22°.80S×174°.87W, h0km, mb4.2/11, mbtmp4.3/13, ML3.2/1, MS3.5/3, Error ellipse: s-maj=35.2km s-min=18.7km az=141.0*
*NEIC **03** 06:04:45.7±1.5, 22°.50S±0°.06×174°.5W±0°.1, h10km±2km, mb4.7/17, Error ellipse: s-maj=23.6km s-min=9.6km az=100.0*
ISC 03 06:04:48.0±0.5**, 22°.72S**±0°.08×**174°.59W**±0°.08**, h22**km**, n42, σ1s.86**/42**, mb4.4**/19**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	5.67	51		Pn	06 06 07.4	-3.6
RAO	Raoul Island	7.16	204	Pn	Pn	06 06 30.1	-1.4
	120nm,0.3s,baz=18,slow=19,SNR=2.0						
RAO				Sn	Sn	06 07 49.6	-2.6
	38nm,0.3s,baz=102,slow=22,SNR=1.5						
AFI	Afiamalu	9.16	17	Pn	Pn	06 06 54.9	-4.0
RAR	Rarotonga	13.83	87	Pn	Pn	06 08 00.7	-2.1
RAR	Rarotonga	13.83	87	Pn	Pn	06 08 01.1	-1.7
	2.1nm,0.3s,baz=202,slow=10,SNR=3.5						
RAR				LR	LR	06 12 58.5	
	comp=Z,128nm,18.6s,baz=324,slow=35						
URZ	Urewera	17.05	203	Sn	Sn	06 11 40.2	-14
	0.4nm,0.3s,baz=199,slow=9.6,SNR=1.3						
DZM	Mont Dzumac	17.55	268	P	Pn	06 08 49.7	-1.7
	0.1nm,0.3s,baz=19,slow=22,SNR=1.7						
	6.5nm,1.1s						
BFZ	Birch Farm	19.51	201	P	Pn	06 09 17.2	+2.1
BFZ				IAmb	IAmb	06 09 34.3	
	comp=Z,45nm,1.4s						
THZ	Tophouse	21.69	206	P	P	06 09 39.0	+1.5
THZ				IAmb	IAmb	06 09 47.3	
	comp=Z,20nm,1.3s						
PPT	Papeete	24.02	82	LR	LR	06 18 53.1	
	comp=Z,97nm,18.0s,baz=298,slow=35						
FOZ	Fox Glacier	24.45	208	P	P	06 10 08.4	+3.3
ARMA	Armidale	31.08	248	P	P	06 11 05.1	+0.2
ARMA				IAmb	IAmb	06 11 45.1	
	comp=Z,16nm,1.2s						
EIDS	Eidsvold	31.41	258	P	P	06 11 07.1	-0.5
EIDS				IAmb	IAmb	06 11 08.2	
	comp=Z,18nm,1.5s						
CTAO	Charters Tower	36.48	267	P	P	06 11 50.9	-0.9
CTAO				IAmb	IAmb	06 11 58.1	
	comp=Z,14nm,1.3s						
STKA	Stephens Creek	39.77	247	P	P	06 12 19.7	+0.4
STKA	Stephens Creek	39.77	247	P	P	06 12 17.5	-1.9
	comp=Z,1.7nm,0.7s,baz=58,slow=8.0,SNR=4.2						
	comp=Z,1.7nm,0.7s						
BBOO	Buckleboo	44.47	246	P	P	06 12 56.4	-1.3
BBOO				IAmb	IAmb	06 13 18.7	
	comp=Z,11nm,1.2s						
AS31	Alice Springs	47.13	258	P	P	06 13 17.9	-1.1
ASAR	Alice Springs	47.14	258	P	P	06 13 17.5	-1.5
ASAR	Alice Springs	47.14	258	P	P	06 13 18.1	-0.8
	comp=Z,4.6nm,0.7s,baz=94,slow=8.0,SNR=48						
ASAR				PcP	PcP	06 14 50.5	-0.1
	comp=Z,1.1nm,1.0s,baz=113,slow=3.8,SNR=2.2						
	comp=Z,4.6nm,0.7s						
WR0	Warramunga Arr	47.27	263	P	P	06 13 18.3	-1.7
WR0				IAmb	IAmb	06 14 00.6	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	47.45	263	P	P	06 13 19.7	-1.7
WB0	Warramunga Arr	47.45	264	P	P	06 13 19.9	-1.6
WB0				IAmb	IAmb	06 13 25.1	
	comp=Z,8.9nm,1.2s						
WRAB	Tennant Creek	47.46	263	P	P	06 13 20.1	-1.4
WRAB				IAmb	IAmb	06 13 44.9	
	comp=Z,8.5nm,1.2s						
WRA	Warramunga Arr	47.46	263	P	P	06 13 19.9	-1.6
WRA	Warramunga Arr	47.46	263	P	P	06 13 19.8	-1.7
	comp=Z,2.9nm,0.8s,baz=94,slow=8.4,SNR=45						
WRA				PcP	PcP	06 14 53.2	+1.5
	comp=Z,0.9nm,0.7s,baz=104,slow=2.9,SNR=3.1						
	comp=Z,2.9nm,0.8s						
FORT	Forrest	51.37	248	P	P	06 13 49.8	-1.4
MTN	Manton Dam	52.36	271	P	P	06 13 57.3	-1.5
FITZ	Fitzroy Crossi	55.89	263	P	P	06 14 23.8	-0.7
DAV	Davao City (W)	65.57	290	LR	LR	06 43 28.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,59nm,18.7s,baz=340,slow=36						
MJAR	Matsushiro Arr	73.88	322	P	P	06 16 21.5	+0.2
	comp=Z,1.8nm,0.7s,baz=106,slow=11,SNR=6.6						
	comp=Z,1.8nm,0.7s						
PETK	Petropavlovsk-	79.25	343	P	P	06 16 52.6	+1.3
	comp=Z,2.9nm,0.7s,baz=116,slow=10,SNR=4.8						
	comp=Z,2.9nm,0.7s						
NVAR	Mina Array Bea	80.51	41	P	P	06 17 01.2	+2.5
	comp=Z,1.3nm,1.0s,baz=220,slow=6.9,SNR=2.8						
	comp=Z,1.3nm,1.0s						
USRK	Ussuriysk Ar.	82.59	324	P	P	06 17 11.2	+2.0
	comp=Z,2.5nm,0.7s,baz=114,slow=3.6,SNR=5.3						
	comp=Z,2.5nm,0.7s						
TXAR	Lajitas Array	85.62	56	P	P	06 17 29.0	+3.8
	comp=Z,1.4nm,1.0s,baz=204,slow=5.5,SNR=6.7						
	comp=Z,1.4nm,1.0s						
PDAR	Pinedale Array	88.44	42	P	P	06 17 39.4	+0.6
	comp=Z,0.4nm,0.8s,baz=238,slow=5.0,SNR=1.8						
	comp=Z,0.4nm,0.8s						
ILAR	Eielson Array	89.80	11	P	P	06 17 45.4	+1.1
	comp=Z,1.3nm,1.1s,baz=225,slow=5.2,SNR=3.4						
	comp=Z,1.3nm,1.1s						
CMAR	Chiang Mai Arr	93.83	288	P	P	06 18 05.7	+1.6
	comp=Z,1.7nm,0.5s,baz=129,slow=2.8,SNR=14						
	comp=Z,1.7nm,0.5s						
MKAR	Makanchi Array	115.02	312	PKP	PKiKP	06 23 28.0	+0.7
	comp=Z,0.2nm,0.6s,baz=75,slow=1.6,SNR=1.7						
AKASG	Malin Array Be	146.46	332	PKPbc	PKiKP	06 24 28.4	-1.7
	comp=Z,3.7nm,0.8s,baz=41,slow=4.0,SNR=13						
BRTR	Keskin Array B	150.67	312	PKPbc	PKiKP	06 24 39.2	-0.2
	comp=Z,1.4nm,0.9s,baz=129,slow=1.8,SNR=5.6						
TORD	Torodi Ar. Bea	169.85	159	PKP	PKPdf	06 24 56.2	+1.4
	comp=Z,0.7nm,1.0s,baz=225,slow=0.6,SNR=3.3						

*STR **03** 06:07:42.9±0.4, 47°N±3°×°±°, h7km±4km, MLv2.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=131.2, preliminary*
*ZUR **03** 06:07:42.1, 47.°34N×6.°49E, h1km±1km, MLh1.6/7, Error ellipse: s-maj=3151.5km s-min=1489.8km az=160.0*
*LDG **03** 06:07:43.0±0.1, 47.°33N×6.°45E, h2km, Md2.2/1, Ml2.3/5, Error ellipse: s-maj=1.9km s-min=1.3km az=116.0*
ISC 03 06:07:42.2±1.0**, 47.°33N**±0.°02×**6.°49E**±0.°02**, h7km**±8km**, n36, σ0.66**/47**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMF	Charmoille	0.14	126	Pg	Pg	06 07 44.8	-0.3
CHMF				Sg	Sg	06 07 47.0	0.0
CHMF	Charmoille	0.14	126	Pg	Pg	06 07 44.8	-0.3
CHMF				Sg	Sg	06 07 46.6	-0.4
BRANT	Les Verrieres	0.39	182	Pg	Pg	06 07 50.0	+0.3
BRANT				Sg	Sg	06 07 55.8	+0.9
BRANT	Les Verrieres	0.39	182	Pg	Pg	06 07 50.0	+0.3
BRANT				Sg	Sg	06 07 55.7	+0.9
HINF	Hinteralfeld	0.55	27	ePg	Pg	06 07 53.2	+0.5
HAU	Haudompre	0.69	352	ePg	Pg	06 07 55.6	+0.2
HAU				eSg	Sg	06 08 04.6	+0.3
	16nm,0.3s						
CABF	La Chapelle	0.77	201	ePg	Pg	06 07 56.9	0.0
CABF				eSg	Sg	06 08 06.9	0.0
	4.1nm,0.2s						
GIMEL	St. Georges /	0.81	191	Pg	Pg	06 07 57.9	+0.2
GIMEL	St. Georges /	0.81	191	Pg	Pg	06 07 58.4	+0.7
BALST	Balsthal	0.82	89	Sg	Sn	06 08 11.5	-1.2
BALST	Balsthal	0.82	89	Pg	Pb	06 07 59.1	+0.3
ENDD	Endenburg	0.93	65	Pg	Pg	06 08 00.7	+0.7
ENDD	Endenburg	0.93	65	Sg	Sb	06 08 13.9	+0.6
ECH	Echery	1.00	27	Pg	Pg	06 08 01.7	+0.5
ECH	Echery	1.00	27	Pg	Pg	06 08 01.8	+0.5
ECH				Sg	Sb	06 08 15.7	+0.5
ECH	Echery	1.00	27	Pg	Pg	06 08 01.6	+0.3
ECH				Sg	Sb	06 08 15.1	-0.1
AIGLE	Aigle	1.04	162	Pg	Pg	06 08 02.5	+0.5
AIGLE	Aigle	1.04	162	Sg	Sn	06 08 17.9	-0.1
SULZ	Cheisacher	1.12	79	Pg	Pn	06 08 04.4	+0.1
SULZ	Cheisacher	1.12	79	Sg	Sn	06 08 19.5	-0.6
KIZ	Kirchzarten	1.15	56	Sg	Sb	06 08 19.4	-0.2
KIZ	Kirchzarten	1.15	56	Pg	Pb	06 08 02.8	-1.7
SFTF	Sexfontaines	1.31	312	ePg	Pb	06 08 07.3	+0.1
SFTF				eSg	Sg	06 08 24.7	+0.3
	7.3nm,0.2s						
SLE	Schleitheim	1.43	71	Pn	Pb	06 08 09.2	+0.1
SLE	Schleitheim	1.43	71	Sn	Sb	06 08 27.7	+0.2
OG35	Corcelles	1.43	207	Sg	Sg	06 08 28.8	+0.7
EMBD	Embd, Matterta	1.45	140	Pg	Pg	06 08 10.8	+1.0
EMBD	Embd, Matterta	1.45	140	Sn	Sg	06 08 29.1	+0.5
MEZF	Maizieres J'vi	1.52	321	eSg	Sg	06 08 31.1	+0.1
	7.6nm,0.3s						
LOR	Lormes	1.79	269	eSg	Sg	06 08 39.0	-0.7
	4.2nm,0.2s						
LOR	Lormes	1.79	269	Sg	Sg	06 08 39.6	-0.1
LOR	Lormes	1.79	269	Pg	Pg	06 08 16.9	+0.5
OGSM	Saint Maurice	1.80	198	Pg	Pg	06 08 16.7	-0.1
OGSM				Sg	Sg	06 08 40.1	0.0
LPL	La Plagne	1.82	175	ePg	Pb	06 08 16.7	+0.8
ORIF	Oris-en-Rattie	2.45	190	ePg	Pg	06 08 28.6	-0.4
ORIF				eSg	Sg	06 08 59.4	-1.3
	1.0nm,0.2s						
VIVF	Saint-Julien-l	2.78	208	eSg	Sg	06 09 09.3	-2.0
	1.7nm,0.4s						

*CRAAG **03** 06:08:30.1, 36.°41N×2.°56E, Ml3.2, Algerie 01km SE Oued-Djer*
*MDD **03** 06:08:32.4±0.8, 36.°41N×2.°61E, h11km±15km, Mb4.0/16, M_mb3.4/12, Error ellipse: s-maj=18.8km s-min=4.0km az=143.0*
ISC 03 06:08:31.6±0.9**, 36.°42N**±0.°04×**2.°57E**±0.°03**, h18km, n34, σ1.77**/47**, 12C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABKD	Sidi Amar	0.24	298	P	Pg	06 08 36.1	-1.0
ACHR	Chrea	0.25	90	P	Pg	06 08 36.5	-0.9
ADOR	Douera	0.36	49	P	Pb	06 08 39.6	-0.1
EHRZ	Djelida	0.44	239	P	Pg	06 08 38.9	-1.6
EARB	Arib	0.47	255	P	Pg	06 08 39.4	-1.8
ABA	Alger-Bouzarea	0.53	44	P	Pg	06 08 41.9	-0.3
ADJB	Djebel Djouab	0.75	110	P	Pg	06 08 46.3	+0.1
ABRIN	Birine	0.91	151	P	Pn	06 08 49.1	-0.5
OKGL	Djebel Kef Gue	1.61	257	P	Sg	06 09 28.0	+4.6
OJGS	Djebel Guires	1.74	239	P	Sg	06 09 33.0	+5.3
OJBR	Djebel Berber	1.99	246	P	Pb	06 09 07.0	-0.3
ODJA	Bouhanifia	2.46	245	P	Pg	06 09 26.0	+7.1
EIBI	Ibiza	2.78	340	Pn	Pn	06 09 15.7	+0.6
EIBI				Sn	Sn	06 09 45.7	-2.5
EIBI	Ibiza	2.78	340	Pn	Pn	06 09 15.8	+0.6
EIBI				⇑iVmb_V		06 09 17.1	
	541nm,SNR=0.8						
EIBI				Sn	Sn	06 09 45.7	-2.5
CART	Cartagena	3.09	293	Pn	Pn	06 09 19.2	-0.2
EBEN2	Beniarda presa	3.14	317	Pn	Pn	06 09 20.8	+0.6
EBEN2				⇑iVmb_V		06 09 21.6	
	545nm,SNR=1.5						
EBEN2				Sn	Sn	06 09 54.6	-2.7
ETOS	Mallorca	3.34	3	Pn	Pn	06 09 23.2	+0.3
ETOS				Sn	Sn	06 09 59.6	-2.6
ETOS	Mallorca	3.34	3	Pn	Pn	06 09 23.2	+0.3
ETOS				⇑iVmb_V		06 09 24.3	
	382nm,SNR=1.2						
ETOS				Sn	Sn	06 10 00.3	-2.0
EMUR	La Murta	3.36	296	Pn	Pn	06 09 24.5	+1.3
EMUR				Sn	Sn	06 09 59.5	-3.1
EMUR	La Murta	3.36	296	Pn	Pn	06 09 23.4	+0.2
EMUR				⇑iVmb_V		06 09 25.7	
	91nm,SNR=0.7						
EMUR				Sn	Sn	06 10 01.1	-1.6
EZAR	Zarzadilla de	3.70	294	Pn	Pn	06 09 28.7	+0.7
EZAR				⇑iVmb_V		06 09 30.6	
	203nm,SNR=1.3						
ECOL	Islas Columbre	3.77	337	Pn	Pn	06 09 29.6	+0.8
ETOB	Tobarra	3.96	305	Pn	Pn	06 09 31.9	+0.5
ETOB	Tobarra	3.96	305	Pn	Pn	06 09 32.5	+1.1
ETOB				⇑iVmb_V		06 09 35.5	
	252nm,SNR=1.9						
ETOB				Sn	Sn	06 10 16.7	-0.7
ECHE	Chera	4.22	320	Pn	Pn	06 09 36.7	+1.6
ECHE				⇑iVmb_V		06 09 39.3	
	153nm,SNR=1.0						
EBER	Berja	4.42	278	Pn	Pn	06 09 37.3	-0.5
EBER				Sn	Sn	06 10 27.1	-1.8
EBER	Berja	4.42	278	Pn	Pn	06 09 37.7	-0.2
EBER				⇑iVmb_V		06 09 39.6	
	92nm,SNR=0.8						
EBER				Sn	Sn	06 10 27.3	-1.7
EMOS	Mosqueruela	4.60	330	Pn	Pn	06 09 41.4	+0.9
EMOS				⇑iVmb_V		06 09 42.4	
	235nm,SNR=1.2						
EMOS				Sn	Sn	06 10 31.7	-1.9
EQES	Quesada	4.72	289	Pn	Pn	06 09 44.0	+2.1
EQES				⇑iVmb_V		06 09 45.3	
	64nm,SNR=0.6						
EQES				Sn	Sn	06 10 36.3	+0.1
ELGU	Los Guajares,	5.00	277	Pn	Pn	06 09 45.1	-0.7
ELGU	Los Guajares,	5.00	277	Pn	Pn	06 09 45.4	-0.4
ELGU				⇑iVmb_V		06 09 48.4	
	98nm,SNR=0.8						
ELGU				Sn	Sn	06 10 41.5	-1.8
ETOR	Torete	5.69	322	Pn	Pn	06 09 57.8	+2.6
ETOR				⇑iVmb_V		06 10 01.0	
	96nm,SNR=0.8						
ETOR				Sn	Sn	06 10 59.5	-0.6
EMIJ	Mijas	5.92	274	Pn	Pn	06 09 56.4	-2.0
EJON	La Jonquera	6.02	2	Pn	Pn	06 09 59.8	0.0

*IDC **03** 06:29:33.6±2.6, 10.°58N×62.°00W, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=94.0km s-min=31.0km az=8.0*
*TRN **03** 06:29:44.0, 10.°99N×62.°05W, h27km, MD4.3*
TRN Felt in Trinidad, MMI III.
*FUNV **03** 06:29:44.7, 10.°86N×61.°87W, h35km, MW4.1*
ISC 03 06:29:43.6±1.0**, 10.°91N**±0.°05×**61.°99W**±0.°05**, h70km**±10km**, n47, σ1.76**/69**, mb3.6**/5**, Trinidad**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.64	114	eP	Pn	06 29 57.7	0.0
CRUV	Carupano	1.24	259	eP	Pn	06 30 05.9	+0.8
CRUV				eS	Sn	06 30 21.9	+0.6
GRGR	Grenville	1.26	15	eP	Pn	06 30 05.4	+0.1
GRGR				eS	Sn	06 30 21.7	-0.1
GRHS	Sauteurs	1.35	15	eP	Pn	06 30 06.3	-0.2
GRHS				eS	Sn	06 30 23.1	-0.7
GCMP	Grenada, Carri	1.66	19	eP	Pn	06 30 11.0	+0.3
GCMP				eS	Sn	06 30 31.0	-0.2
CUMV	Cumana_UDO	2.22	258	eP	Pn	06 30 20.0	+1.9
CUMV				eS	Sn	06 30 45.6	+1.0
SVOC	Richmond Hill,	2.35	19	eP	Pn	06 30 20.4	+0.4
SVOC				eS	Sn	06 30 47.9	0.0
SVB	Belmont	2.46	17	eP	Pn	06 30 22.1	+0.7
SVB				eS	Sn	06 30 49.9	-0.5
SVV	Soufriere Volc	2.51	18	eS	Sn	06 30 50.6	-1.1
PCRV	Puerto La Cruz	2.70	255	eP	Pn	06 30 25.6	+0.8
PCRV				eS	Sn	06 30 56.4	0.0
SLB	Belfond	3.04	18	eP	Pn	06 30 31.1	+1.7
SLB				eS	Sn	06 31 04.8	0.0
SLCP	Castries, St.	3.23	18	eP	Pn	06 30 33.4	+1.4
SLCP				eS	Sn	06 31 09.0	-0.3
SLBI	Saint Lucia, B	3.25	18	eP	Pn	06 30 32.9	+0.7
SLBI				eS	Sn	06 31 08.4	-1.2
BBGH	Gun Hill	3.25	47	eP	Pn	06 30 34.7	+2.5
BBGH				eS	Sn	06 31 11.2	+1.3
MPOM	Morne Pois Mar	3.68	17	eP	Pn	06 30 39.0	+0.9
MPOM				eS	Sn	06 31 19.1	-1.2
BIM	Bigot	3.69	14	eP	Pn	06 30 39.2	+0.9
BIM				eS	Sn	06 31 18.9	-1.8
FDF	Fort de France	3.89	12	eP	Pn	06 30 41.8	+0.9
FDF				eS	Sn	06 31 24.1	-1.3
SVN	Savane Anatole	3.99	12	eP	Pn	06 30 42.7	+0.4
SVN				eS	Sn	06 31 26.2	-1.6
ILAM	Ilet Lapin Mar	3.99	16	eP	Pn	06 30 44.0	+1.6
ILAM				eS	Sn	06 31 25.8	-2.1
TACV	Tcata	5.01	262	eP	Pn	06 30 57.0	+0.7
TACV				eS	Sn	06 31 52.0	-0.9
LUEV	Luepa	5.06	174	eP	Pn	06 30 56.4	-0.8
LUEV				eS	Sn	06 31 48.3	-6.2
CBE	Ff, Capester	5.14	4	eP	Pn	06 30 59.9	+1.8
CBE	Ff, Capester	5.14	4	eS	Sn	06 31 53.9	-2.2
ABD	La Joyeuse, An	5.55	5	eP	Pn	06 31 05.0	+1.3
ABD	La Joyeuse, An	5.55	5	eS	Sn	06 32 03.9	-2.2
CACV	CAICARA DEL OR	5.59	234	eP	Pn	06 30 59.0	-5.1
CACV				eS	Sn	06 31 53.7	-13
BENV	Beln	5.59	261	eP	Pn	06 31 05.2	+0.9
BENV				eS	Sn	06 32 05.3	-2.0
TURV	Turiamo	5.76	266	eP	Pn	06 31 07.4	+0.9
TURV				eS	Sn	06 32 08.6	-2.8
MLYT	Lee's Yard	5.78	358	eP	Pn	06 31 10.4	+3.6
MLYT	Lee's Yard	5.78	358	eS	Sn	06 32 14.2	+2.5
MBFL	Flemmings, Mon	5.81	358	eP	Pn	06 31 08.6	+1.5
MBFL	Flemmings, Mon	5.81	358	eS	Sn	06 32 11.5	-0.9
ANBD	Bethesda, Anti	6.10	2	eP	Pn	06 31 13.4	+2.2
ANBD	Bethesda, Anti	6.10	2	eS	Sn	06 32 17.5	-2.1
BAUV	El Baul	6.27	252	eP	Pn	06 31 14.0	+0.5
BAUV				eS	Sn	06 32 19.6	-4.2
BAUV	El Baul	6.27	252	eP	Pn	06 31 14.1	+0.5
BAUV	El Baul	6.27	252	eS	Sn	06 32 21.3	-2.5
BAUV	El Baul	6.27	252	eS	Sn	06 32 23.4	-0.5
CURV	Curarigua	7.89	264	eP	Pn	06 31 36.3	+0.6
AOPR	Arecibo Observ	8.71	329	eP	Pn	06 31 47.5	+0.7
AOPR	Arecibo Observ	8.71	329	eS	Sn	06 33 18.9	-4.6
TXAR	Lajitas Array	42.92	302	P	P	06 37 36.7	+0.9
	0.2nm,0.5s,baz=125,slow=8.9,SNR=4.7						
TXAR				PcP	PcP	06 39 25.3	-0.2
	0.2nm,0.6s,baz=104,slow=5.5,SNR=3.9						
	0.2nm,0.5s						
PDAR	Pinedale Array	52.03	316	P	P	06 38 45.1	-1.4
	0.2nm,0.5s,baz=102,slow=8.4,SNR=2.3						
	0.2nm,0.5s						
TORD	Torodi Ar. Bea	62.19	81	P	P	06 39 56.5	-1.8
	0.3nm,0.6s,baz=285,slow=4.7,SNR=2.1						
	0.3nm,0.6s						
ARCES	ARCESS Array B	78.98	21	P	P	06 41 40.8	+1.3
	3.4nm,1.0s,baz=263,slow=5.4,SNR=6.1						
	3.4nm,1.0s						
FINES	FINESS Array B	79.58	29	P	P	06 41 44.4	+1.5
	1.5nm,0.8s,baz=258,slow=4.3,SNR=6.2						
	1.5nm,0.8s						
CMAR	Chiang Mai Arr	145.28	33	PKPbc	PKPdf	06 49 15.9	+1.6
	1.1nm,0.3s,baz=321,slow=5.2,SNR=7.4						

*IDC **03** 06:36:00.6±0.9, 38.°47S×46.°65E, h0km, mb4.0/5, mbtmp4.0/5, MS3.3/5, Error ellipse: s-maj=104.7km s-min=21.4km az=27.0*
ISC 03 06:36:02.3±1.0**, 38.°4S**±0.°7×**46.°7E**±0.°4**, h10km, n19, σ0.54**/9**, mb4.2**/4**, MS3.1**/5**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS	8.60	156	T	T	06 46 44.1	
	baz=330,slow=75,SNR=900						
H04N2	CROZET ISLANDS	8.61	156	T	T	06 46 42.9	
	baz=330,slow=75,SNR=822						
H04N3	CROZET ISLANDS	8.62	156	T	T	06 46 38.8	
	baz=330,slow=75,SNR=372						
BOSA	Boshof	20.33	292	P	P	06 40 39.3	+0.5
	1.9nm,0.7s,baz=146,slow=11,SNR=4.0						
BOSA				LR	LR	06 46 53.3	
	comp=Z,71nm,20.0s,baz=12,slow=32						
	1.9nm,0.7s						
LBTB	Lobatse	22.31	301	LR	LR	06 48 32.4	
	comp=Z,73nm,18.8s,baz=3.5,slow=34						
LSZ	Lusaka	28.24	320	LR	LR	06 52 22.0	
	comp=Z,138nm,18.2s,baz=326,slow=35						
TSUM	Tsumeb	31.69	299	LR	LR	06 53 21.7	
	comp=Z,47nm,21.7s,baz=155,slow=33						
KMBO	Kilima Mbogo	38.12	345	LR	LR	06 58 04.9	
	comp=Z,34nm,18.6s,baz=296,slow=35						
H01W2	Cape Leeuwin H	53.12	108	T	T	07 42 37.0	
	baz=244,slow=75,SNR=6.2						
H01W3	Cape Leeuwin H	53.13	108	T	T	07 42 37.1	
	baz=244,slow=75,SNR=5.7						
H01W1	Cape Leeuwin H	53.14	108	T	T	07 42 37.4	
	baz=244,slow=75,SNR=5.9						
TORD	Torodi Ar. Bea	66.35	311	P	P	06 46 51.5	+0.2
	1.7nm,0.9s,baz=123,slow=5.7,SNR=7.8						
	1.7nm,0.9s						
ASAR	Alice Springs	73.62	107	P	P	06 47 36.4	+0.3
	1.0nm,0.7s,baz=232,slow=5.6,SNR=14						
	1.0nm,0.7s						
STKA	Stephens Creek	74.45	118	P	P	06 47 41.1	+0.3
	2.5nm,0.5s,baz=218,slow=3.7,SNR=9.1						
	2.5nm,0.5s						
WRA	Warramunga Arr	76.11	104	P	P	06 47 50.5	0.0
	1.5nm,0.9s,baz=228,slow=5.0,SNR=9.6						
	1.5nm,0.9s						
ULM	Lac du Bonnet	151.03	306	PKPbc	PKPbc	06 55 53.9	-1.0
	1.2nm,0.8s,baz=80,slow=5.7,SNR=1.5						
ILAR	Eielson Array	152.43	13	PKPbc	PKPbc	06 55 57.5	-0.1
	1.0nm,0.8s,baz=318,slow=2.9,SNR=5.4						
YKA	Yellowknife Ar	153.33	341	PKPbc	PKPbc	06 55 59.5	-0.1
	0.3nm,0.9s,baz=73,slow=1.2,SNR=3.6						
TXAR	Lajitas Array	153.86	259	PKPbc	PKPbc	06 56 01.5	-0.5
	1.0nm,0.8s,baz=138,slow=3.5,SNR=6.3						

*BJI **03** 06:42:45.2±0.0, 19.°63S×177.°58W, h594km, mb5.0/45, mB5.1/20*
*NEIC **03** 06:42:47.5±1.9, 19.°9S±0.°1×178.°0W±0.°1, h596km±6km, mb4.7/275, Error ellipse: s-maj=15.4km s-min=14.1km az=148.0*
*NOU **03** 06:42:47.5, 19.°98S×177.°94W, h603km, ML4.9/126, Fiji Islands Region*
*MOS **03** 06:42:48.2±2.2, 19.°14S×178.°57W, h575km, mb4.8/15, Error ellipse: s-maj=14.0km s-min=12.4km az=134.2*
*IDC **03** 06:42:49.2±0.7, 19.°90S×178.°11W, h619km±7km, mb4.1/19, mbtmp5.0/20, Error ellipse: s-maj=11.2km s-min=8.9km az=149.0*
ISC 03 06:42:47.2±0.4**, 20.°01S**±0.°04×**177.°99W**±0.°05**, h602km**±3km**, h603km:pP-P, n1045, σ1.06**/965**, mb4.9**/249**, 88C-44D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	1.94	336	P	P	06 44 02.6	+1.1
TAVE	Taveuni	3.76	331	P	P	06 44 12.1	+0.8
DGTI	Dogotuki	4.28	329	P	P	06 44 15.2	+0.3
YSA	Yasawairara	5.35	307	P	P	06 44 23.4	+0.4
NIUE	Niue	7.66	84	P	P	06 44 39.7	-3.7
	baz=7.4,SNR=21						
NIUE	Niue	7.66	84	P	P	06 44 43.2	-0.2
NIUE	Niue	7.66	84	P	P	06 44 43.6	+0.2
AFI	Afiamalu	8.49	45	P	P	06 44 49.6	-1.9
AFI	Afiamalu	8.49	45	P	P	06 44 49.9	-1.6
AFI	Afiamalu	8.49	45	P	P	06 44 49.6	-1.9
RAO	Raoul Island	9.20	180	S	S	06 46 44.2	-1.1
	315nm,0.5s,baz=64,slow=20,SNR=4.3						
GLKZ	Green Lake	9.21	180	P	P	06 44 57.1	-0.9
GLKZ				S	S	06 46 43.7	-1.8
FUNA	Funafuti	11.74	346	P	P	06 45 21.3	-2.2
FUNA	Funafuti	11.74	346	P	P	06 45 23.5	0.0
	212nm,1.6s						
MARNC	Mare, Loyalty	13.16	261	P	P	06 45 36.9	-0.8
MARNC	Mare, Loyalty	13.16	261	P	P	06 45 37.0	-0.6
DVP	Devils Point	13.28	278	P	P	06 45 39.5	+0.6
PINNC	Pines Island,	13.82	257	P	P	06 45 44.4	+0.2
PINNC	Pines Island,	13.82	257	P	P	06 45 44.5	+0.2
LIFNC	LIFOU	13.87	264	P	P	06 45 43.0	-1.9
LIFNC	LIFOU	13.87	264	P	P	06 45 43.6	-1.2
YATNC	Mamie plateau,	14.26	259	P	P	06 45 48.5	-0.1
OUENC	Ouen Island, N	14.35	258	P	P	06 45 49.4	0.0
OUENC	Ouen Island, N	14.35	258	P	P	06 45 49.1	-0.2
DZM	Mont Dzumac	14.68	259	P	P	06 45 52.9	+0.4
DZM	Mont Dzumac	14.68	259	P	P	06 45 52.6	+0.1
DZM	Mont Dzumac	14.68	259	P	P	06 45 52.6	+0.1
	75nm,0.6s,baz=87,slow=18,SNR=121						
ONTNC	Ouen Toro	14.69	258	P	P	06 45 52.0	-0.5
ONTNC	Ouen Toro	14.69	258	P	P	06 45 55.1	+2.6
NOUC	Port Laguerre	14.81	259	P	P	06 45 54.4	+0.8
KOUNC	Koumac, New Ca	16.64	265	P	P	06 46 12.3	+1.9
KOUNC	Koumac, New Ca	16.64	265	P	P	06 46 12.6	+2.2
KUZ	Kuaotunu	17.56	197	P	P	06 46 20.7	+2.2
HAZ	Te Kaha	18.06	191	P	P	06 46 21.9	-1.2
HAZ				S	S	06 49 13.6	-4.7
RUGZ	Raukumara Rang	18.28	191	P	P	06 46 25.1	-0.1
PUZ	Puketiti	18.29	189	P	P	06 46 24.9	-0.3
TGRZ	Tauranga	18.35	195	P	P	06 46 28.1	+2.4
OPRZ	Ohinepanea	18.39	194	P	P	06 46 27.0	+0.9
TWGZ	Tauwhareparae	18.43	190	P	P	06 46 26.2	-0.4
TOZ	Tahuroa Road	18.54	196	P	P	06 46 29.5	+2.1
TOZ	Tahuroa Road	18.54	196	P	P	06 46 29.5	+2.1
KARZ	Kaharoa	18.63	194	P	P	06 46 28.6	+0.3
MWZ	Matawai	18.67	191	P	P	06 46 27.8	-0.9
MWZ				S	S	06 49 24.8	-3.4
URZ	Urewera	18.67	192	P	P	06 46 27.5	-1.1
URZ	Urewera	18.67	192	P	P	06 46 27.3	-1.3
	152nm,0.7s,baz=84,slow=2.7,SNR=55						
URZ				S	S	06 49 22.6	-5.6
	30nm,0.9s,baz=286,slow=22,SNR=7.1						
URZ	Urewera	18.67	192	P	P	06 46 26.6	-2.0
OMRZ	Omania	18.68	194	P	P	06 46 30.1	+1.3
CNGZ	Carnagh Statio	18.70	189	P	P	06 46 29.0	+0.1
TKGZ	Te Karaka	18.71	190	P	P	06 46 29.4	+0.4
TARZ	Mount Tarawera	18.78	194	P	P	06 46 28.6	-1.1
RAGZ	Rawiri	18.84	191	P	P	06 46 29.2	-1.1
RRRZ	Republican Roa	18.87	193	P	P	06 46 31.1	+0.6
RIGZ	Rimuhau	18.99	190	P	P	06 46 30.3	-1.3
RTZ	Ruatahuna	19.04	192	P	P	06 46 31.5	-0.6
SNGZ	Shannon Statio	19.14	191	P	P	06 46 31.8	-1.1
MTHZ	Maungataniwha	19.30	192	P	P	06 46 32.2	-2.2
KNZ	Kokohu	19.31	190	P	P	06 46 33.0	-1.4
RAHZ	Arahi	19.31	192	P	P	06 46 33.1	-1.4
MRHZ	Matea Rd	19.37	193	P	P	06 46 34.2	-0.9
MHGZ	Mahia Peninsul	19.40	190	P	P	06 46 35.2	0.0
HIZ	Hauiti	19.45	197	P	P	06 46 36.7	+1.0
NMHZ	Naumai	19.54	192	P	P	06 46 36.2	-0.4
RITZ	Rihia Road	19.63	194	P	P	06 46 37.7	+0.3
BKZ	Black Stump Fm	19.67	193	P	P	06 46 37.0	-0.7
BKZ				IAmb	IAmb	06 46 42.5	
	comp=Z,18nm,0.6s						
BKZ	Black Stump Fm	19.67	193	P	P	06 46 36.9	-0.9
BKZ	Black Stump Fm	19.67	193	P	P	06 46 36.6	-1.1
NTVZ	North Tongarir	19.79	195	P	P	06 46 38.3	-0.7
TMVZ	Te Maari	19.80	195	P	P	06 46 38.3	-0.8
ETVZ	East Tongariro	19.82	195	P	P	06 46 38.3	-0.8
OTVZ	Oturere	19.86	195	P	P	06 46 38.8	-0.8
NGZ	Ngauruhoe	19.88	195	P	P	06 46 39.3	-0.5
MCHZ	McNeill Hill	19.90	192	P	P	06 46 38.7	-1.1
COVZ	Chateau Observ	19.92	195	P	P	06 46 40.0	-0.1
KWHZ	Kaweka Forest	19.94	193	P	P	06 46 38.8	-1.4
TUVZ	Tukino	19.96	195	P	P	06 46 40.6	+0.1
TRVZ	Turoa	20.01	195	P	P	06 46 39.8	-1.2
BHHZ	Black Hill Sta	20.08	194	P	P	06 46 39.3	-2.1
KRHZ	Kereru	20.16	193	P	P	06 46 41.0	-1.1
KAHZ	Kahuranaki	20.20	192	P	P	06 46 42.4	-0.2
KHEZ	Kahui Hut	20.41	198	P	P	06 46 46.2	+1.7
BFZ	Birch Farm	21.18	192	P	P	06 46 51.1	-0.2
BFZ	Birch Farm	21.18	192	P	P	06 46 50.8	-0.5
MRZ	Mangatainoka R	21.30	194	P	P	06 46 51.1	-1.2
MRZ				IAmb	IAmb	06 46 53.0	
	comp=Z,32nm,0.9s						
SNZO	South Karori	22.12	195	P	P	06 46 59.3	-0.3
SNZO	South Karori	22.12	195	P	P	06 46 58.8	-0.8
TCW	Tory Channel	22.13	196	P	P	06 46 59.4	-0.3
BHW	Baring Head	22.18	194	P	P	06 46 59.8	-0.3
QRZ	Quartz Range	22.27	199	P	P	06 47 01.9	+0.9
QRZ	Quartz Range	22.27	199	P	P	06 47 01.7	+0.7
NNZ	Nelson	22.38	197	P	P	06 47 02.0	+0.1
NNZ				IAmb	IAmb	06 47 03.8	
	comp=Z,14nm,0.7s						
BSWZ	Blackbirch Sta	22.71	196	P	P	06 47 05.7	+0.8
THZ	Tophouse	23.02	198		P	06 47 08.0	+0.3
LHI	Lord Howe Isla	23.58	236	P	P	06 47 14.6	+1.9
LHI	Lord Howe Isla	23.58	236	P	P	06 47 14.2	+1.5
OXZ	Oxford	24.71	198	P	P	06 47 21.7	-0.8
RPZ	Rata Peaks	25.35	199	IAmb	IAmb	06 47 32.1	
	comp=Z,18nm,0.6s						
LBZ	Lake Benmore	26.23	199	IAmb	IAmb	06 47 40.0	
	comp=Z,15nm,0.6s						
JCZ	Jackson Bay	26.41	202	P	P	06 47 38.1	+0.5
PPT	Papeete	27.00	90	P	P	06 47 43.5	+0.5
	comp=Z,26nm,0.8s,baz=48,slow=7.2,SNR=5.1						
	comp=Z,26nm,0.8s						
MLZ	Mavora Lakes	27.77	201	P	P	06 47 49.9	+0.5
DCZ	Deep Cove	28.20	202	P	P	06 47 53.2	+0.3
EIDS	Eidsvold	28.99	254	P	P	06 48 00.3	+0.1
	baz=29,SNR=12						
EIDS	Eidsvold	28.99	254	P	P	06 48 00.4	+0.1
EIDS	Eidsvold	28.99	254	P	P	06 48 00.3	+0.1
ARMA	Armidale	29.29	243	P	P	06 48 03.4	+0.6
	baz=30,SNR=47						
ARMA	Armidale	29.29	243	P	P	06 48 04.4	+1.5
ARMA	Armidale	29.29	243	P	P	06 48 04.1	+1.2
RK1H	Rockhampton Ha	29.45	258	P	P	06 48 04.2	+0.1
AUPHS	Peel High Scho	30.07	242	P	P	06 48 10.8	+1.3

MGCD **Mangrove Creek** 30.47 238 P **P** 06 48 13.5 +0.7
baz=31,SNR=10
MGCD **Mangrove Creek** 30.47 238 P **P** 06 48 14.2 +1.4
SYDH **Sydney Hard Ro** 30.93 237 P **P** 06 48 18.1 +1.4
AULRC **Lightning Ridg** 32.20 246 P **P** 06 48 28.6 +1.0
AUDCS **Dubbo College** 32.21 241 P **P** 06 48 29.0 +1.3
comp=Z,47nm,0.8s
AUAYR **Ayr State High** 32.53 265 P **P** 06 48 31.2 +0.8
comp=Z,162nm,1.0s
CAN **Canberra** 32.79 235 P **P** 06 48 33.6 +1.0
YNG **Young** 32.95 237 P **P** 06 48 35.1 +1.2
TV1H **Townsville Har** 33.14 265 P **P** 06 48 35.8 +0.2
AUSMG **Snowy Mountain** 33.46 234 P **P** 06 48 39.5 +1.3
CTA **Charters Tower** 33.55 264 P **P** 06 48 39.6 +0.4
CTAO **Charters Tower** 33.55 264 P **P** 06 48 39.5 +0.4
CTAO **Charters Tower** 33.55 264 P **P** 06 48 39.8 +0.7
CTAO **Charters Tower** 33.55 264 P **P** 06 48 39.5 +0.4
CTAO pmax pmax
comp=Z,170nm,0.9s
CMSA **Cobar Meteorol** 34.51 243 P **P** 06 48 47.8 +0.9
baz=35,SNR=138
CMSA **Cobar Meteorol** 34.51 243 P **P** 06 48 47.8 +0.9
KAVG **Kavieng** 35.04 296 P **P** 06 48 52.9 +1.4
QLP **Quilpie** 35.21 252 P **P** 06 48 53.4 +0.6
baz=35,SNR=58
QLP **Quilpie** 35.21 252 P **P** 06 48 53.4 +0.6
PMG **Port Moresby** 35.25 282 P **P** 06 48 52.8 -0.4
PMG **Port Moresby** 35.25 282 P **P** 06 48 53.8 +0.6
PMG **Port Moresby** 35.25 282 P **P** 06 48 53.9 +0.7
PMG **Port Moresby** 35.25 282*d i* P **P** 06 48 53.5 +0.2
PMG pmax pmax
comp=Z,224nm,1.0s
PMG **Port Moresby** 35.25 282 P **P** 06 48 53.4 +0.2
comp=Z,217nm,0.9s,comp=Z,2µm
MTSU **Mount Surprise** 35.63 267 P **P** 06 48 56.7 +0.4
baz=36,SNR=117
MTSU **Mount Surprise** 35.63 267 P **P** 06 48 56.8 +0.4
TOO **Toolangi** 36.19 233 P **P** 06 49 01.9 +1.1
baz=36,SNR=35
TOO **Toolangi** 36.19 233 P **P** 06 49 02.0 +1.2
CORO **Coronation Par** 36.45 226 P **P** 06 49 04.3 +1.6
GEXS **Deakin Univers** 37.29 233 P **P** 06 49 10.4 +0.7
BRAT **Ballarat** 37.37 234 P **P** 06 49 12.1 +1.8
STKA **Stephens Creek** 38.01 244 P **P** 06 49 16.8 +1.1
baz=38,SNR=41
STKA **Stephens Creek** 38.01 244 IAmb IAmb 06 49 17.8
comp=Z,27nm,1.1s
STKA **Stephens Creek** 38.01 244 P **P** 06 49 16.7 +1.1
STKA **Stephens Creek** 38.01 244 P **P** 06 49 16.8 +1.1
comp=Z,73nm,0.8s,baz=91,slow=9.5,SNR=139
STKA ScP **ScP** 06 54 06.7 +0.4
comp=Z,4.8nm,0.9s,baz=28,slow=7.5,SNR=3.6
comp=Z,73nm,0.8s
MANU **Manus Island** 38.26 293 P **P** 06 49 18.7 +0.8
comp=Z,91nm,1.0s
INKA **Innaminka** 38.37 250 P **P** 06 49 20.2 +1.6
ARPS **Mount Arapiles** 38.77 236 P **P** 06 49 22.7 +1.1
baz=39,SNR=31
ARPS **Mount Arapiles** 38.77 236 P **P** 06 49 22.5 +0.9
QIS **Mount Isa** 39.70 262 P **P** 06 49 29.1 -0.2
baz=40,SNR=29
QIS **Mount Isa** 39.70 262 P **P** 06 49 29.3 -0.1
HTT **Hallett** 40.46 242 P **P** 06 49 36.1 +0.9
baz=41,SNR=66
HTT **Hallett** 40.46 242 P **P** 06 49 36.2 +0.9
LCRK **Leigh Creek** 40.74 246 P **P** 06 49 38.2 +0.8
WHYH **Whyalla** 41.53 243 P **P** 06 49 44.6 +1.0
TABU **Tabubil** 42.27 285 P **P** 06 49 50.8 +1.1
comp=Z,3µm,0.7s
BBOO **Buckleboo** 42.77 243 P **P** 06 49 53.9 +0.6
baz=43,SNR=244
BBOO **Buckleboo** 42.77 243 P **P** 06 49 54.0 +0.6
BBOO **Buckleboo** 42.77 243 P **P** 06 49 54.0 +0.6
OOD **Oodnadatta** 42.85 250 P **P** 06 49 55.1 +1.1
MULG **Mulgathing** 44.32 247 P **P** 06 50 05.6 +0.3
GENI **Genyem** 44.35 288 P **P** 06 50 07.2 +1.4
GENI **Genyem** 44.35 288 P **P** 06 50 06.5 +0.7
comp=Z,265nm,0.7s
WR0 **Warramunga Arr** 44.49 262 P **P** 06 50 06.6 -0.3
AS31 **Alice Springs** 44.64 256 P **P** 06 50 08.2 +0.3
ASAR **Alice Springs** 44.64 256 P **P** 06 50 08.4 +0.4
ASAR **Alice Springs** 44.64 256 P **P** 06 50 08.4 +0.4
ASAR **Alice Springs** 44.64 256 P **P** 06 50 08.2 +0.2
comp=Z,178nm,0.8s,baz=90,slow=8.2,SNR=1619
ASAR PcP **PcP** 06 51 37.5 +0.1
comp=Z,14nm,0.8s,baz=112,slow=3.4,SNR=7.1
ASAR ScP **ScP** 06 54 32.9 -0.2
comp=Z,3.8nm,0.9s,baz=114,slow=4.4,SNR=5.1
ASAR S **S** 06 55 60.0 -1.8
comp=Z,26nm,0.9s,baz=93,slow=16,SNR=52
comp=Z,178nm,0.8s
WB0 **Warramunga Arr** 44.66 262 P **P** 06 50 07.9 -0.2
WRAB **Tennant Creek** 44.67 262 P **P** 06 50 08.0 -0.2
WRAB **Tennant Creek** 44.67 262 P **P** 06 50 08.0 -0.2
WRAB pmax pmax
comp=Z,192nm,1.1s
WRA **Warramunga Arr** 44.68 262 IAmb IAmb 06 50 08.9
comp=Z,22nm,1.1s
WRA **Warramunga Arr** 44.68 262 P **P** 06 50 08.1 -0.2
comp=Z,71nm,0.5s,baz=98,slow=8.1,SNR=605
WRA PcP **PcP** 06 51 37.7 +0.2
comp=Z,10nm,0.9s,baz=98,slow=3.8,SNR=6.2
WRA ScP **ScP** 06 54 31.7 -1.5
comp=Z,2.4nm,1.0s,baz=88,slow=4.3,SNR=3.7
WRA S **S** 06 55 59.6 -2.8
comp=Z,4.4nm,0.8s,baz=96,slow=14,SNR=10
comp=Z,71nm,0.5s
KDU **Kakadu** 47.95 271 P **P** 06 50 32.6 -0.3
baz=48,SNR=59
KDU **Kakadu** 47.95 271 P **P** 06 50 32.7 -0.3
MTN **Manton Dam** 49.17 270 P **P** 06 50 41.3 -0.7
baz=49,SNR=79
MTN **Manton Dam** 49.17 270 P **P** 06 50 41.9 -0.1
MTN **Manton Dam** 49.17 270 P **P** 06 50 41.4 -0.6
FORT **Forrest** 49.50 246 P **P** 06 50 43.9 -0.3
baz=50,SNR=49
FORT **Forrest** 49.50 246 P **P** 06 50 44.2 +0.1
FORT **Forrest** 49.50 246 P **P** 06 50 44.0 -0.1
WRKA **Warakurna** 49.61 254 P **P** 06 50 45.2 0.0
baz=50,SNR=171
WRKA **Warakurna** 49.61 254 P **P** 06 50 45.1 0.0
KNRA **Kununurra** 50.70 266 P **P** 06 50 53.0 -0.1
baz=51,SNR=25
KNRA **Kununurra** 50.70 266 P **P** 06 50 53.3 +0.2
KNRA **Kununurra** 50.70 266 P **P** 06 50 53.0 -0.1
FAKI **Fak Fak** 51.40 283 P **P** 06 50 57.5 -0.7
FAKI **Fak Fak** 51.40 283 P **P** 06 50 58.2 0.0
FAKI **Fak Fak** 51.40 283 P **P** 06 50 57.8 -0.4
comp=Z,65nm,1.0s,comp=Z,2µm
BNDI **Bandanaira** 52.96 280 P **P** 06 51 09.3 0.0
comp=Z,226nm,0.8s,comp=Z,15µm
FITZ **Fitzroy Crossi** 53.10 262 P **P** 06 51 10.4 +0.2
baz=53,SNR=51
FITZ **Fitzroy Crossi** 53.10 262 P **P** 06 51 10.7 +0.4
FITZ IAmb IAmb 06 51 11.3
comp=Z,15nm,0.6s
FITZ **Fitzroy Crossi** 53.10 262 P **P** 06 51 10.3 0.0
SIJI **Sorong** 53.12 285 P **P** 06 51 10.3 -0.2
comp=Z,296nm,0.8s,comp=Z,3µm
SWI **Sorong** 53.13 285 P **P** 06 51 10.1 -0.4
comp=Z,449nm,0.8s,comp=Z,4µm
KMBL **Kambalda** 54.77 245 P **P** 06 51 21.6 -0.2
baz=55,SNR=6.5
KMBL **Kambalda** 54.77 245 P **P** 06 51 22.0 +0.2
KRAI **Karang Ratu** 54.80 280 P **P** 06 51 22.1 -0.1
comp=Z,586nm,2.2s,comp=Z,57µmcomp=Z,588µm
NLAI **Namlea** 56.03 280 P **P** 06 51 30.6 -0.1
comp=Z,69nm,0.7s
SOEI **Soe** 56.50 271 P **P** 06 51 35.5 +1.3
SOEI **Soe** 56.50 271 P **P** 06 51 35.4 +1.3
comp=Z,577nm,0.8s,comp=Z,4µm
LBMI **Labuha** 56.66 283 P **P** 06 51 35.4 +0.3
comp=Z,187nm,1.0s,comp=Z,1µm
TNTI **Ternate** 57.35 284 P **P** 06 51 39.6 -0.1
TNTI **Ternate** 57.35 284 P **P** 06 51 40.2 +0.5
comp=Z,187nm,1.0s
TNTI **Ternate** 57.35 284 P **P** 06 51 39.9 +0.2
comp=Z,183nm,0.9s
SANI **Sanana** 57.50 281 P **P** 06 51 40.6 -0.2
SANI **Sanana** 57.50 281 P **P** 06 51 40.2 -0.6
comp=Z,139nm,0.9s,comp=Z,1µm
PSA00 **Pilbara Seismi** 57.79 257 P **P** 06 51 42.2 -0.4
PSA00 **Pilbara Seismi** 57.79 257 P **P** 06 51 42.4 -0.2
MBWA **Marble Bar** 57.97 257 P **P** 06 51 43.6 -0.3
MBWA **Marble Bar** 57.97 257 P **P** 06 51 43.6 -0.3

MEEK **Meekatharra** 58.09 251 P **P** 06 51 44.1 -0.5
baz=58,SNR=25
MEEK **Meekatharra** 58.09 251 P **P** 06 51 44.2 -0.4
KLBR **Kellerberrin** 58.27 245 P **P** 06 51 45.6 -0.1
baz=58,SNR=8.1
KLBR **Kellerberrin** 58.27 245 P **P** 06 51 45.9 +0.1
SBA **Scott Base** 58.35 184 P **P** 06 51 48.7 +3.2
SBA IAmb IAmb 06 51 49.9
comp=Z,34nm,1.1s
SBA **Scott Base** 58.35 184 P **P** 06 51 48.7 +3.2
SBA pmax pmax
comp=Z,34nm,1.1s
VNDA **Vanda** 58.39 185 P **P** 06 51 48.0 +2.3
VNDA **Vanda** 58.39 185 P **P** 06 51 48.0 +2.3
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA **Vanda** 58.39 185 P **P** 06 51 48.1 +2.4
comp=Z,4.8nm,0.6s,baz=350,slow=6.9,SNR=64
VNDA ScP **ScP** 06 55 30.9 -0.5
comp=Z,2.4nm,0.9s,baz=338,slow=3.8,SNR=6.7
comp=Z,4.8nm,0.6s
NWAO **Narrogin (SRO)** 58.60 243 P **P** 06 51 48.4 +0.4
baz=59,SNR=7.8
NWAO P **P** 06 51 48.4 +0.4
baz=59,SNR=7.8
NWAO **Narrogin (SRO)** 58.60 243 P **P** 06 51 48.3 +0.4
NWAO IAmb IAmb 06 51 49.0
comp=Z,93nm,1.4s
NWAO **Narrogin (SRO)** 58.60 243 IAmb IAmb 06 51 49.0
comp=Z,334nm,1.4s
NWAO **Narrogin (SRO)** 58.60 243 P **P** 06 51 48.4 +0.4
NWAO **Narrogin (SRO)** 58.60 243 P **P** 06 51 48.3 +0.4
NWAO pmax pmax
comp=Z,93nm,1.4s
RKGY **Rocky Gully** 58.69 241 P **P** 06 51 49.3 +0.8
baz=59,SNR=7.3
RKGY **Rocky Gully** 58.69 241 P **P** 06 51 49.2 +0.8
MMRI **Maumere** 58.74 272 P **P** 06 51 49.5 +0.3
comp=Z,214nm,0.8s
MMRI **Maumere** 58.74 272 P **P** 06 51 48.9 -0.3
comp=Z,213nm,0.8s,comp=Z,4µm
EDFI **Ende, Flores** 59.23 272 P **P** 06 51 51.7 -0.8
comp=Z,144nm,1.0s,comp=Z,1µm
MUN **Mundaring** 59.55 244 P **P** 06 51 54.5 +0.3
baz=60,SNR=14
MUN **Mundaring** 59.55 244 P **P** 06 51 54.7 +0.5
BASI **Baing, Sumba** 59.83 270 P **P** 06 51 56.8 +0.4
comp=Z,244nm,1.0s,comp=Z,3µm
MORW **Morawa** 60.02 247 P **P** 06 51 57.3 -0.1
baz=60,SNR=9.5
MORW **Morawa** 60.02 247 P **P** 06 51 57.0 -0.5
MORW IAmb IAmb 06 51 58.3
comp=Z,62nm,1.1s
MORW **Morawa** 60.02 247 P **P** 06 51 57.6 +0.1
SGSI **Sangihe** 60.23 287 P **P** 06 51 58.9 -0.1
comp=Z,731nm,0.6s,comp=Z,10µm
KMSI **Cibinong** 60.37 283 P **P** 06 51 59.5 -0.4
comp=Z,316nm,0.7s,comp=Z,5µm
LUWI **Luwuk** 60.86 280 P **P** 06 52 03.8 +0.7
comp=Z,228nm,0.9s
LUWI **Luwuk** 60.86 280 P **P** 06 52 03.4 +0.3
comp=Z,229nm,0.9s,comp=Z,4µm
H01W1 **Cape Leeuwin H** 60.98 241 P **P** 06 52 05.2 +1.9
baz=112,slow=6.3,SNR=5.3
H01W3 **Cape Leeuwin H** 61.00 241 P **P** 06 52 04.9 +1.5
baz=112,slow=6.3,SNR=5.1
H01W2 **Cape Leeuwin H** 61.00 241 P **P** 06 52 05.4 +1.9
baz=112,slow=6.3,SNR=5.0
GTOI **Gorontalo** 61.28 282 P **P** 06 52 06.6 +0.7
comp=Z,43nm,0.7s,comp=Z,366nm
BKSI **Bulukumba** 61.80 275 P **P** 06 52 08.3 -1.0
comp=Z,28nm,0.8s,comp=Z,379nm
MRSI **Marisa** 62.20 282 P **P** 06 52 11.3 -0.6
comp=Z,78nm,0.7s,comp=Z,906nm
KAPI **Kappang** 62.25 275 P **P** 06 52 11.9 -0.3
KAPI IAmb IAmb 06 52 15.5
comp=Z,21nm,0.7s
KAPI **Kappang** 62.25 275 P **P** 06 52 11.9 -0.3
KAPI pmax pmax
comp=Z,21nm,0.7s
DBNI **Kabupaten Domp** 62.48 271 P **P** 06 52 13.1 -0.6
comp=Z,361nm,0.8s,comp=Z,3µm
SPSI **Sidrap Palu** 62.59 276 P **P** 06 52 13.2 -1.2
comp=Z,56nm,0.9s
GIRL **Giralia** 62.69 254 P **P** 06 52 15.9 +1.0
baz=63,SNR=13
GIRL **Giralia** 62.69 254 P **P** 06 52 16.0 +1.1
GIRL **Giralia** 62.69 254 P **P** 06 52 16.0 +1.1
TTSI **Tana Toraja** 62.87 277 P **P** 06 52 16.0 -0.2
comp=Z,24nm,0.7s,comp=Z,1µm
PLAI **Plampang** 62.88 270 P **P** 06 52 16.1 -0.1
PLAI **Plampang** 62.88 270 P **P** 06 52 15.6 -0.6
comp=Z,258nm,0.8s,comp=Z,2µm
TOLI2 **Tolitoli** 63.52 282 P **P** 06 52 19.7 -0.6
TOLI2 **Tolitoli** 63.52 282 P **P** 06 52 20.5 +0.2
PMSI **Majene** 63.55 276 P **P** 06 52 20.9 +0.3
comp=Z,146nm,1.0s,comp=Z,1µm
TWSI **Taliwang, Sumb** 63.75 270 P **P** 06 52 21.3 -0.5
comp=Z,212nm,0.9s,comp=Z,2µm
MPSI **Mapaga** 64.03 281 P **P** 06 52 23.2 -0.4
comp=Z,158nm,0.8s
IGBI **Denpasar** 65.36 269 P **P** 06 52 31.7 -0.2
comp=Z,130nm,1.0s
SRBI **Singaraja** 65.52 270 P **P** 06 52 32.5 -0.4
comp=Z,123nm,0.9s,comp=Z,1µm
JAGI **Jajag, Banyuwa** 66.40 269 P **P** 06 52 37.2 -1.2
JAGI **Jajag, Banyuwa** 66.40 269 P **P** 06 52 37.5 -0.9
JAGI **Jajag, Banyuwa** 66.40 269 P **P** 06 52 37.1 -1.2
comp=Z,134nm,1.0s
ABJI **Asem Bagus** 66.53 270 P **P** 06 52 39.2 0.0
comp=Z,109nm,1.0s
KMMI **Kalianget** 67.02 271 P **P** 06 52 42.6 +0.4
comp=Z,94nm,0.9s,comp=Z,2µm
BLJI **Banyuglugur** 67.15 270 P **P** 06 52 42.6 -0.3
comp=Z,141nm,0.9s,comp=Z,6µm
BBKI **Banjar Baru** 67.38 275 P **P** 06 52 45.1 +0.7
MTKI **Muara Teweh, K** 68.21 277 P **P** 06 52 49.6 +0.2
comp=Z,98nm,0.9s
SJI **Sawahan** 68.87 269 P **P** 06 52 53.5 0.0
comp=Z,123nm,0.9s,comp=Z,6µm
NGJI **Ngawi** 69.27 270 P **P** 06 52 57.4 +1.6
comp=Z,102nm,0.9s
KKM **Kota Kinabalu** 69.65 285 P **P** 06 52 57.6 -0.5
KKM **Kota Kinabalu** 69.65 285 P **P** 06 52 58.6 +0.5
KKM **Kota Kinabalu** 69.65 285 P **P** 06 52 58.2 +0.1
comp=Z,98nm,1.2s
MJAR **Matsushiro Arr** 69.83 324 P **P** 06 52 58.3 -0.3
comp=Z,21nm,0.7s,baz=154,slow=5.6,SNR=42
comp=Z,21nm,0.7s
MAJO **Matsushiro** 69.83 324 P **P** 06 52 57.3 -1.3
MAJO IAmb IAmb 06 52 59.1
comp=Z,25nm,0.7s
MAJO **Matsushiro** 69.83 324 P **P** 06 52 58.8 +0.2
MAJO **Matsushiro** 69.83 324*de*P **P** 06 52 58.1 -0.5
MAJO pmax pmax
comp=Z,161nm,4.0s
MJB9 **Matsu-Tunnel** 69.83 324 IAmb IAmb 06 53 00.1
comp=Z,24nm,0.7s
JOW **Kunigami** 69.86 310 IAmb IAmb 06 53 00.6
comp=Z,42nm,0.9s
JOW **Kunigami** 69.86 310 P **P** 06 53 00.2 +1.2
comp=Z,58nm,1.1s
UGM **Wanagama** 69.98 269 P **P** 06 53 00.2 +0.1
UGM **Wanagama** 69.98 269 P **P** 06 53 00.0 -0.1
comp=Z,161nm,1.0s
QSPA **South Pole Qui** 70.05 180 P **P** 06 53 01.3 +1.6
QSPA IAmb IAmb 06 53 02.2
comp=Z,34nm,0.8s
QSPA **South Pole Qui** 70.05 180 P **P** 06 53 01.3 +1.6
comp=Z,33nm,0.8s,baz=25,slow=1.3,SNR=79
comp=Z,33nm,0.8s
UWJI **Ujung Watu** 70.06 270 P **P** 06 53 00.6 +0.1
comp=Z,182nm,1.0s
YOGI **Yogyakarta** 70.23 269 P **P** 06 53 01.6 +0.1
comp=Z,100nm,0.8s
SMRI **Semarang** 70.33 270 P **P** 06 53 02.8 +0.7
SMRI **Semarang** 70.33 270 P **P** 06 53 02.5 +0.4
comp=Z,161nm,0.8s
KPJI **Karang Pucung** 71.66 269 P **P** 06 53 09.7 -0.1
comp=Z,86nm,1.1s
STKI **Sintang** 71.76 277 P **P** 06 53 11.5 +1.1
JNU **Nakatsue** 71.93 317 P **P** 06 53 10.2 -0.8
JNU IAmb IAmb 06 53 11.9
comp=Z,46nm,1.0s
JNU **Nakatsue** 71.93 317 P **P** 06 53 10.8 -0.2
SBUM **Sibu** 71.94 280 P **P** 06 53 12.0 +0.6
comp=Z,15nm,1.6s

CMJI **Cimerak** 71.97 268 P **P** 06 53 10.7 -0.9
comp=Z,95nm,1.0s
BBJI **Bungbulang** 72.83 268 P **P** 06 53 15.5 -1.1
BBJI **Bungbulang** 72.83 268 P **P** 06 53 15.6 -1.1
comp=Z,137nm,0.8s,comp=Z,1µm
LEM **Lembang** 73.06 269 P **P** 06 53 18.4 +0.3
comp=Z,201nm,1.0s,comp=Z,2µm
YULB **Yu-li** 73.24 303 IAmb IAmb 06 53 22.1
comp=Z,23nm,0.8s
YULB **Yu-li** 73.24 303 P **P** 06 53 17.9 -0.8
KSM **Kuching** 73.36 278 P **P** 06 53 20.2 +0.6
KSM **Kuching** 73.36 278 P **P** 06 53 19.9 +0.3
comp=Z,121nm,0.9s
CNJI **Cibinong** 73.36 268 P **P** 06 53 18.7 -0.9
comp=Z,49nm,1.0s,comp=Z,744nm
NACB **Ninganchiao** 73.41 304 P **P** 06 53 19.3 -0.3
SSLB **Suanglung** 73.72 303 IAmb IAmb 06 53 20.9
comp=Z,35nm,0.7s
SSLB **Suanglung** 73.72 303 P **P** 06 53 20.4 -1.0
TPUB **Ta-pu** 73.72 303 P **P** 06 53 20.3 -1.1
XMI **Christmas Isla** 73.74 265 P **P** 06 53 22.3 +0.5
XMIS **Christmas Isla** 73.76 265 P **P** 06 53 22.4 +0.5
YHNB **Yeheng** 73.84 304 IAmb IAmb 06 53 23.0
comp=Z,45nm,1.0s
YHNB **Yeheng** 73.84 304 P **P** 06 53 21.7 -0.5
CBJI **Citeko** 73.91 269 P **P** 06 53 21.8 -0.9
DBJI **Dramaga** 73.96 269 P **P** 06 53 22.6 -0.4
comp=Z,200nm,0.8s
SBJI **Serang** 74.69 269 P **P** 06 53 27.0 -0.1
comp=Z,149nm,1.1s
CGJI **Cibinong** 74.94 268 P **P** 06 53 27.5 -1.0
comp=Z,182nm,0.8s,comp=Z,2µm
YSS **Yuzh-Sakhalins** 75.47 333 P **P** 06 53 31.5 +0.9
YSS **Yuzh-Sakhalins** 75.47 333 P **P** 06 53 32.0 +1.4
YSS **Yuzh-Sakhalins** 75.47 333*d i* P **P** 06 53 31.1 +0.5
YSS pmax pmax
comp=Z,69nm,1.0s
PEA0B **Petropavlovsk-** 75.81 345*de*P **P** 06 53 31.7 -0.7
PETK **Petropavlovsk-** 75.81 345 P **P** 06 53 31.5 -0.9
PETK **Petropavlovsk-** 75.81 345 P **P** 06 53 31.5 -0.9
PETK **Petropavlovsk-** 75.81 345 P **P** 06 53 32.0 -0.3
comp=Z,21nm,0.8s,baz=132,slow=8.0,SNR=23
comp=Z,21nm,0.8s
PPBI **Pangkal Pinang** 75.99 273 P **P** 06 53 34.9 +0.6
KASI **Kota Agung** 76.41 269 P **P** 06 53 35.5 -1.1
comp=Z,160nm,1.0s,comp=Z,1µm
KSRS **Korea Array** 76.53 318 P **P** 06 53 37.0 +0.3
comp=Z,11nm,1.1s,baz=138,slow=6.1,SNR=15
comp=Z,11nm,1.1s
LWLI **Liwa** 76.99 269 P **P** 06 53 39.2 -0.7
SCZ2 **Santa Cruz Isl** 77.26 46 P **P** 06 53 41.4 +0.6
baz=235
S14K **Fog Glacier** 77.58 10 P **P** 06 53 42.5 +0.4
baz=198
CHGN **Chignik** 77.80 11 P **P** 06 53 44.5 +1.5
baz=199
DSRI **Dabo** 78.03 274 P **P** 06 53 45.9 +0.5
comp=Z,34nm,0.7s
KMPM **Mount Pierce** 78.25 39 IAmb IAmb 06 53 49.4
comp=Z,19nm,1.2s
KMRM **Mail Ridge** 78.37 39 IAmb IAmb 06 53 49.5
comp=Z,19nm,0.9s
109C **Camp Elliot, M** 78.40 49 P **P** 06 53 48.3 +1.4
baz=237
ARVC **Arvin** 78.45 46 P **P** 06 53 48.9 +1.8
baz=236
USA0B **Ussuriysk Arra** 78.57 326 IAmb IAmb 06 53 49.5
comp=Z,43nm,0.9s
USRK **Ussuriysk Ar.** 78.57 326 P **P** 06 53 48.8 +1.3
comp=Z,29nm,0.8s,baz=122,slow=3.5,SNR=40
comp=Z,29nm,0.8s
TYV **Tymovskoe** 78.60 336 *e*P **P** 06 53 47.9 +0.4
TYV *e*S **S** 07 02 48.5 -7.4
TYV pmax pmax
comp=Z,200nm,2.2s
TYV pmax pmax
comp=Z,30nm,1.3s
TYV smax smax
comp=N,200nm,6.5s
TYV smax smax
comp=E,300nm,6.5s
VES **Vestal, Richgr** 78.68 45 P **P** 06 53 49.7 +1.4
baz=235
MURC **Murrieta** 78.72 48 P **P** 06 53 50.1 +1.4
baz=237
BFSC **Mount Baldy Ra** 78.75 47 P **P** 06 53 49.8 +0.9
baz=236
EDW2 **Edwards Air Fo** 78.88 47 P **P** 06 53 51.0 +1.6
baz=236,SNR=6.5
MONP2 **Monument Peak** 78.88 49 P **P** 06 53 51.6 +1.9
baz=237,SNR=6.0
IKP **In-Ko-Pah, Jac** 78.97 49 P **P** 06 53 51.8 +1.7
baz=238
ISA **Isabella, Lake** 78.99 46 P **P** 06 53 51.8 +1.8
baz=236
R16K **Pilot Point** 79.14 11 P **P** 06 53 53.6 +3.4
baz=200
PFO **Pinyon Flats O** 79.24 48 P **P** 06 53 52.8 +1.3
baz=237
TPFO **Pinon Flats** 79.24 48 P **P** 06 53 52.8 +1.3
baz=237
BBRC **Big Bear Solar** 79.27 48 P **P** 06 53 53.1 +1.3
baz=237
SWSC **Sam W. Stewart** 79.35 49 P **P** 06 53 53.2 +1.3
baz=238
LRMC **Laurel Mtn Rad** 79.42 46 P **P** 06 53 53.7 +1.2
baz=236
R17K **Ugashik Creek** 79.43 12 P **P** 06 53 51.8 +0.1
baz=201
MYKOM **Kota Tinggi** 79.50 276 P **P** 06 53 53.1 0.0
comp=E,64nm,1.1s
NJ2 **Nanjing** 79.58 310 *e*P **P** 06 53 54.1 +1.0
NJ2 pP **pP** 06 55 56.8 -1.5
NJ2 sP **sP** 06 56 55.6 -3.2
NJ2 pmax pmax
comp=E,14nm,0.5s
NJ2 pmax pmax
comp=E,210nm,4.7s
CWC **Cottonwood Cre** 79.69 45 P **P** 06 53 54.9 +1.1
baz=236
R18K **Karluk** 79.75 13 P **P** 06 53 53.8 +0.4
baz=202
BELC **Belle Mtn. Jos** 79.78 48 P **P** 06 53 55.5 +1.2
baz=238
MPMC **Manual Prospec** 79.87 46 P **P** 06 53 56.3 +1.5
baz=236,SNR=6.2
YBH **Yreka Blue Hor** 79.91 39 P **P** 06 53 55.7 +1.0
YBH **Yreka Blue Hor** 79.91 39 P **P** 06 53 55.7 +1.0
YBH pmax pmax
comp=Z,7.0nm,0.8s
GSC **Goldstone, Bar** 79.92 47 P **P** 06 53 56.4 +1.4
baz=237
BC3 **Big Chuckawall** 79.97 49 P **P** 06 53 56.8 +1.4
baz=238
HEC **Hector,Ludlow** 79.99 47 P **P** 06 53 57.1 +1.7
baz=237
BELA **Belgrano 2** 80.04 173 P **P** 06 53 53.2 -1.6
Q17K **Contact Creek** 80.11 12 P **P** 06 53 55.2 -0.2
baz=201
MDJ **Mudanjiang** 80.13 325 P **P** 06 53 56.2 +0.5
MDJ pP pP 06 55 59.7 -1.5
MDJ PP **PP** 06 57 08.9 -0.8
MDJ S **S** 07 03 13.2 +1.3
MDJ ScS **ScS** 07 03 31.2 +4.5
MDJ pmax pmax
comp=Z,46nm,0.9s
MDJ pmax pmax
comp=Z,440nm,4.4s
MDJ **Mudanjiang** 80.13 325 IAmb IAmb 06 53 57.6
comp=Z,31nm,0.8s
MDJ **Mudanjiang** 80.13 325 P **P** 06 53 57.0 +1.3
PNTR **Pine Nut** 80.22 42 P **P** 06 53 56.5 -0.1
PNTR IAmb IAmb 06 53 58.9
comp=Z,18nm,0.9s
O15K **Ungalikthiuk R** 80.30 9 P **P** 06 53 56.8 +0.5
baz=197
Q16K **King Salmon** 80.36 11 P **P** 06 53 57.2 +0.7
baz=200
GMRC **Granite Mounta** 80.43 48 P **P** 06 53 58.6 +0.9
baz=238
L04D **Klamath Falls** 80.44 38 IAmb IAmb 06 53 59.8
comp=Z,16nm,1.0s
IRM **Iron Mountain** 80.46 48 P **P** 06 53 58.7 +1.0
baz=238
P16K **Nushagak River** 80.46 10 P **P** 06 53 57.7 +0.7
baz=199
GRAC **Grapevine Rang** 80.47 45 P **P** 06 53 59.6 +1.8

baz=236
FURC Furnace Creek, 80.52 46 P P 06 53 59.2 +1.4
baz=237
SHOC Shoshone, Teco 80.61 46 P P 06 53 59.5 +1.0
baz=237
Q18K Katmai Hardscr 80.64 12 P P 06 53 57.9 -0.3
baz=202,SNR=8.1
NVAR Mina Array Bea 80.67 43 P P 06 54 00.3 +1.4
comp=Z,5.1nm,0.9s,baz=226,slow=9.1,SNR=23
NVAR pP **pwP** 06 56 08.5 +0.4
comp=Z,1.1nm,0.8s,baz=225,slow=8.7,SNR=3.9
comp=Z,5.1nm,0.9s
M11K Mekoryuk 80.68 6 P P 06 53 58.0 -0.1
baz=191
N14K Kuskokwak Cree 80.75 8 P P 06 53 59.1 +0.6
baz=196
P17K Kvichak River 80.88 11 P P 06 53 59.0 -0.2
baz=200,SNR=6.1
O16K Kokwok River B 80.97 10 IAmb IAmb 06 53 59.6
comp=Z,20nm,1.1s
O16K Kokwok River B 80.97 10 P P 06 53 59.3 -0.4
baz=199,SNR=5.1
214A Organ Pipe Nat 81.00 51 P P 06 54 02.5 +1.9
baz=240
M13K Dall Lake 81.02 7 P P 06 54 01.5 +1.7
baz=194
TPH Tonopah 81.17 44 IAmb IAmb 06 54 03.6
comp=Z,34nm,0.9s
TPNV Topopah Spring 81.20 46 P P 06 54 03.2 +1.6
baz=237,SNR=6.6
N15K Kwethluk River 81.21 9 IAmb IAmb 06 54 03.3
comp=Z,23nm,0.9s
N15K Kwethluk River 81.21 9 P P 06 54 02.7 +1.7
baz=197
PDMCI Parker Dam,Lak 81.24 49 P P 06 54 02.9 +1.3
baz=239
P18K Big Mountain, 81.29 12 IAmb IAmb 06 54 01.2
comp=Z,17nm,0.8s
P18K Big Mountain, 81.29 12 P P 06 54 00.8 -0.6
baz=202
O17K Koliganek Bris 81.31 11 P P 06 54 01.3 -0.2
baz=200
M14K Bethel 81.52 8 IAmb IAmb 06 54 04.0
comp=Z,21nm,0.9s
M14K Bethel 81.52 8 P P 06 54 03.3 +0.9
baz=195,SNR=8.2
K05A Summer Lake 81.58 39 IAmb IAmb 06 54 06.0
comp=Z,23nm,1.0s
H04D Lebanon 81.62 36 IAmb IAmb 06 54 09.8
comp=Z,15nm,1.1s
M15K Kasigluk River 81.63 9 P P 06 54 03.6 +0.6
baz=196,SNR=11
N16K Nishlik Lake 81.70 9 P P 06 54 04.6 +1.1
baz=198
J05D Fort Rock, OR 81.72 38 IAmb IAmb 06 54 06.5
comp=Z,22nm,0.8s
O18K Koktuh Hills 81.73 11 P P 06 54 03.2 -0.3
O18K IAmb IAmb 06 54 04.3
comp=Z,38nm,0.9s
O18K Koktuh Hills 81.73 11 P P 06 54 03.7 +0.1
baz=202,SNR=6.2
PDSI Padang 81.75 272 P P 06 54 03.9 -0.9
comp=Z,39nm,1.1s,comp=Z,5um
CN2 Changchun 81.92 322 eP P 06 54 05.5 +0.6
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,330nm,6.0s
L14K Kuka Creek 82.00 7 IAmb IAmb 06 54 06.5
comp=Z,25nm,0.9s
L14K Kuka Creek 82.00 7 P P 06 54 06.0 +1.1
baz=195
N17K Nushagak Hills 82.01 10 P P 06 54 05.4 +0.5
baz=200
H04A Detroit Lake 82.03 37 IAmb IAmb 06 54 06.7
comp=Z,13nm,1.0s
BNX BinXian 82.03 325 ⇑P P 06 54 05.6 +0.2
BNX pP **pwP** 06 56 15.8 +1.4
BNX sP **sP** 06 57 08.9 -3.2
BNX PP **PP** 06 57 20.2 -5.0
BNX S **SKSac** 07 03 29.5 +0.6
BNX pmax pmax
comp=Z,43nm,0.9s
BNX pmax pmax
comp=Z,190nm,5.7s
KLR Kul'dur 82.12 329 deP P 06 54 06.2 +0.4
KLR pmax pmax
comp=Z,36nm,2.5s
WHN Wuhan 82.17 306 P P 06 54 07.3 +0.9
PINE Pine Mountain 82.20 38 IAmb IAmb 06 54 09.1
comp=Z,23nm,1.0s
M16K Timber Creek 82.20 9 P P 06 54 07.2 +1.3
baz=198
O19K Port Alsworth 82.21 12 P P 06 54 05.8 -0.2
baz=202,SNR=10
ILSW Iliamna Southw 82.25 12 IAmb IAmb 06 54 06.5
comp=Z,40nm,0.9s
R11B Troy Canyon, C 82.40 45 P P 06 54 08.8 +1.1
baz=237
O20K Slope Mountain 82.44 13 P P 06 54 06.7 -0.5
baz=204
L15K Ungalak Mounta 82.47 8 P P 06 54 07.4 +0.2
baz=196
BRSE Bradley Lake S 82.53 14 P P 06 54 07.6 0.0
baz=206
TUC Tucson 82.67 52 P P 06 54 10.3 +1.2
TUC Tucson 82.67 52 P P 06 54 11.0 +1.9
baz=241
TUC Tucson 82.67 52 P P 06 54 10.3 +1.2
TUC pmax pmax
comp=Z,7.0nm,1.1s
N19K Bonanza Creek 82.75 11 IAmb IAmb 06 54 08.9
comp=Z,16nm,0.8s
N19K Bonanza Creek 82.75 11 P P 06 54 08.4 -0.5
baz=202
L16K Owhat River 82.78 9 IAmb IAmb 06 54 10.5
comp=Z,18nm,1.1s
L16K Owhat River 82.78 9 P P 06 54 09.7 +0.9
baz=198,SNR=7.1
M17K Holitna River 82.80 10 IAmb IAmb 06 54 10.4
comp=Z,31nm,1.1s
M17K Holitna River 82.80 10 P P 06 54 10.0 +1.2
baz=200
NLWA Neilton Lookou 82.83 34 IAmb IAmb 06 54 11.8
comp=Z,12nm,1.0s
K15K Wolf Creek Mou 83.06 8 IAmb IAmb 06 54 12.1
comp=Z,61nm,1.3s
K15K Wolf Creek Mou 83.06 8 P P 06 54 11.3 +1.0
baz=196
SEW Seward 83.14 14 P P 06 54 10.9 +0.3
baz=207
M18K Stony River 83.15 11 P P 06 54 10.9 +0.3
baz=201
J14K Nanvaranak Lak 83.27 7 P P 06 54 11.7 +0.5
baz=194
MA2 Magadan 83.32 345 di P P 06 54 10.4 -1.1
MA2 pmax pmax
comp=Z,22nm,1.7s
L17K Donlin 83.36 9 P P 06 54 12.6 +0.9
baz=199
J08A Circle Bar Ran 83.38 39 IAmb IAmb 06 54 14.6
comp=Z,19nm,1.2s
N20K Mount Spurr 83.55 12 P P 06 54 12.0 -0.7
baz=204,SNR=6.3
SPR3 Spring Creek 3 83.57 45 P P 06 54 14.0 +0.3
L18K Granite Mounta 83.69 10 IAmb IAmb 06 54 14.9
comp=Z,17nm,0.9s
L18K Granite Mounta 83.69 10 P P 06 54 14.3 +1.0
baz=200
D05A Enumclaw 83.69 35 IAmb IAmb 06 54 16.3
comp=Z,27nm,1.2s
KULM Kulim 83.71 278 IAmb IAmb 06 54 16.3
comp=Z,37nm,0.8s
KULM Kulim 83.71 278 P P 06 54 15.2 +0.6
comp=Z,53nm,1.1s
WUAZ Wupatki 83.82 49 P P 06 54 15.3 +0.5
baz=240
K17K Iditarod 83.91 9 P P 06 54 15.1 +0.7
baz=199
L19K White Mountain 83.96 11 IAmb IAmb 06 54 15.9
comp=Z,20nm,1.0s
L19K White Mountain 83.96 11 P P 06 54 15.3 +0.6
baz=202
RC01 Rabbit Creek A 83.96 13 P P 06 54 14.9 +0.2
baz=207
M20K Styx River 84.00 12 P P 06 54 14.3 -0.7
baz=204
DUN6 Lazy B Ranch 84.05 52 IAmb IAmb 06 54 18.9
comp=Z,31nm,1.2s
SUA Susitna One 84.08 13 IAmb IAmb 06 54 16.2
comp=Z,30nm,0.9s
SUA Susitna One 84.08 13 P P 06 54 14.8 -0.7
baz=206,SNR=9.0
J16K Anvik River 84.14 8 IAmb IAmb 06 54 16.3
comp=Z,17nm,1.1s
J16K Anvik River 84.14 8 P P 06 54 16.5 +1.0
baz=196
G08A Pilot Rock 84.23 37 IAmb IAmb 06 54 18.6
comp=Z,12nm,1.2s
SKT Skwentna 84.39 12 P P 06 54 15.5 -1.3
baz=205
SKLT Songkhla 84.41 280 P P 06 54 19.0 +1.1
comp=Z,197nm,1.1s,comp=Z,3um
RPSI Rantau Prapat 84.42 275 IAmb IAmb 06 54 18.7
comp=Z,26nm,0.9s
PSI Prapat 84.46 275 P P 06 54 18.0 -0.4
PSI Prapat 84.46 275 P P 06 54 17.5 -0.9
comp=Z,30nm,1.1s
TTA Tatalina 84.47 10 IAmb IAmb 06 54 18.4
comp=Z,15nm,1.0s
TTA Tatalina 84.47 10 P P 06 54 17.4 +0.2
TTA Tatalina 84.47 10 P P 06 54 18.0 +0.8
baz=201,SNR=6.2
M22K Willow 84.48 13 P P 06 54 17.0 -0.2
baz=206,SNR=6.6
KNK Knik Glacier 84.53 14 P P 06 54 17.2 -0.3
baz=208
PMR Palmer 84.55 13 P P 06 54 17.2 -0.3
baz=207
HAWA Hanford 84.55 36 IAmb IAmb 06 54 20.1
comp=Z,13nm,1.2s
V35K Ketchikan 84.75 25 P P 06 54 19.3 +0.7
baz=223
GHO Glory Hole Cre 84.75 13 IAmb IAmb 06 54 19.3
comp=Z,35nm,0.9s
J18K Innoko River 84.86 9 IAmb IAmb 06 54 20.1
comp=Z,13nm,1.1s
J18K Innoko River 84.86 9 P P 06 54 19.0 0.0
baz=200
ANM Nome 84.87 5 P P 06 54 19.7 +0.7
baz=192
HEH HeiHe 84.90 328 eP P 06 54 19.5 0.0
HEH pmax pmax
comp=Z,19nm,0.6s
HEH pmax pmax
comp=Z,470nm,4.7s
SML Sawmill 84.91 14 P P 06 54 20.4 +1.0
baz=208
121A Cookes Peak, D 85.01 53 P P 06 54 22.5 +1.8
baz=243
M23K Glacier View 85.03 14 P P 06 54 20.1 +0.2
baz=208
S31K Pelican 85.06 21 P P 06 54 21.0 +1.0
baz=219
BMRM Bremner River 85.06 16 P P 06 54 19.8 -0.3
baz=211
SCM Sheep Creek Mo 85.16 14 IAmb IAmb 06 54 21.4
comp=Z,31nm,0.8s
SCM Sheep Creek Mo 85.16 14 P P 06 54 20.7 +0.1
baz=209
K20K Telida 85.19 11 IAmb IAmb 06 54 21.6
comp=Z,25nm,1.1s
K20K Telida 85.19 11 P P 06 54 20.8 +0.2
baz=203
KLU Klutina 85.19 15 P P 06 54 20.6 -0.1
baz=210
GSI Gunungsitoli 85.21 273 P P 06 54 22.8 +0.9
comp=Z,85nm,0.9s
HNS HongShan 85.23 312 ⇓P P 06 54 21.9 +0.5
HNS pmax pmax
comp=Z,20nm,1.0s
S32K Killisnoo 85.25 22 P P 06 54 21.3 +0.3
baz=220
H16K Elim 85.25 7 P P 06 54 21.1 +0.2
baz=195
CRQE Cirque 85.27 16 P P 06 54 21.7 +0.5
baz=213
G15K Niukluk 85.41 6 P P 06 54 22.1 +0.5
baz=193
LYN LuoYang 85.46 309 ⇓P P 06 54 23.4 +0.8
LYN pmax pmax
comp=Z,70nm,0.8s
LYN pmax pmax
comp=Z,240nm,4.3s
J19K Poorman 85.53 10 P P 06 54 22.7 +0.5
baz=201
BJT Baijiatuau 85.55 315 IAmb IAmb 06 54 23.8
comp=Z,12nm,0.8s
BJT Baijiatuau 85.55 315 P P 06 54 23.2 +0.3
BJI Beijing 85.55 315 P P 06 54 23.2 +0.3
BJI pmax pmax
comp=Z,8.0nm,0.8s
CAST Castle Rocks 85.60 11 IAmb IAmb 06 54 22.0
comp=Z,22nm,1.0s
CAST Castle Rocks 85.60 11 P P 06 54 21.1 -1.5
baz=204,SNR=10
F10A Beach Ranch, E 85.61 38 IAmb IAmb 06 54 24.7
comp=Z,23nm,0.9s
N25K Chitina, Valde 85.61 15 P P 06 54 22.5 -0.3
baz=211
TNA Tin City 85.65 4 P P 06 54 23.1 +0.4
baz=190
M24K Tolsona, Glenn 85.67 14 P P 06 54 23.2 +0.2
baz=210
F14K Arctic Creek 85.68 5 P P 06 54 23.2 +0.3
baz=191
WAT6 Susitna Watana 85.73 14 P P 06 54 23.5 +0.1
baz=208,SNR=5.7
WAT1 Susitna Watana 85.77 13 P P 06 54 23.6 +0.1
baz=208
ENH Enshi 85.78 304 P P 06 54 25.0 +0.8
H17K Granite Mounta 85.81 8 IAmb IAmb 06 54 26.1
comp=Z,12nm,1.4s
H17K Granite Mounta 85.81 8 P P 06 54 23.4 -0.1
baz=197
SRIT Nakonsritamara 85.85 281 P P 06 54 26.8 +1.9
SEY Seymchan 85.91 347 di P P 06 54 23.5 -0.5
SEY pmax pmax
comp=Z,46nm,1.3s
CTG Chitna Glacier 85.92 17 P P 06 54 24.9 +0.5
baz=214
J20K Nowinta River 85.94 10 IAmb IAmb 06 54 25.1
comp=Z,25nm,1.5s
J20K Nowinta River 85.94 10 P P 06 54 24.1 0.0
baz=202
KTH Kantishna Hill 85.94 12 IAmb IAmb 06 54 24.0
comp=Z,15nm,1.0s
HLID Hailey 85.95 41 P P 06 54 26.3 +1.3
baz=238,SNR=11
TRF Thorofare Moun 85.97 12 IAmb IAmb 06 54 25.1
comp=Z,26nm,0.8s
TRF Thorofare Moun 85.97 12 P P 06 54 23.3 -1.2
baz=206,SNR=12
G16K Koyuk River 85.97 6 P P 06 54 24.9 +0.7
baz=195
CHUM Lake Minchumin 85.98 11 P P 06 54 23.4 -0.9
baz=204
SURA Surathani 86.03 281 P P 06 54 27.7 +2.0
GCSA Galena City Sc 86.04 9 P P 06 54 24.4 -0.2
baz=200
F15K North Star Dit 86.06 5 P P 06 54 24.5 -0.1
baz=193
HARP HAARP 86.16 15 P P 06 54 25.3 0.0
baz=211
O29M Mount Kennedy 86.17 18 P P 06 54 24.5 -1.1
baz=217
H18K Honhosa River 86.22 8 P P 06 54 24.9 -0.6
baz=198
DHY Denali Highway 86.24 13 P P 06 54 25.6 -0.3
baz=209
G17K Kiwalik Mounta 86.27 7 P P 06 54 25.8 +0.1
baz=196
NAYO Nakonayok 86.34 287 P P 06 54 28.5 +1.4
GYA Guiyang 86.42 300 eP P 06 54 28.4 +0.9
GYA pmax pmax
comp=Z,18nm,0.9s
BPAW Bear Paw Mtn. 86.43 12 P P 06 54 25.3 -1.2
baz=205
I20K Naaghedeneel 86.46 10 P P 06 54 27.2 +0.7
baz=202
MNTX Cornudas Mount 86.46 55 P P 06 54 28.6 +1.1
baz=244
COYC Coyhaique 86.50 137 P P 06 54 29.4 +2.0
COYC IAmb IAmb 06 54 30.7
comp=Z,24nm,1.0s
MCK McKinley 86.50 13 P P 06 54 26.6 -0.3
baz=207,SNR=9.1
P30M Million Dollar 86.52 19 P P 06 54 28.3 +1.2
baz=218
SKAG Skagway 86.52 20 P P 06 54 28.3 +1.3
baz=220
PAX Paxson 86.58 14 P P 06 54 27.3 -0.1
baz=210
YUK8 Steele Glacier 86.62 17 P P 06 54 28.5 +0.7
baz=216
M26K Nabesna, AK 86.69 16 IAmb IAmb 06 54 29.0
comp=Z,14nm,1.1s
M26K Nabesna, AK 86.69 16 P P 06 54 28.6 +0.8
baz=213
YUK6 Outpost Mounta 86.75 18 P P 06 54 29.7 +1.3
baz=217
BWN Browne 86.78 12 IAmb IAmb 06 54 28.0
comp=Z,22nm,1.0s
TX31 Lajitas Ar. Si 86.78 57 IAmb IAmb 06 54 31.8
comp=Z,7.7nm,1.0s
TXAR Lajitas Array 86.79 57 P P 06 54 30.7 +1.6
comp=Z,2.4nm,0.8s,baz=218,slow=6.8,SNR=22
TXAR PKKPbc **PKKPbc** 07 12 18.9 -0.9
comp=Z,0.6nm,1.0s,baz=126,slow=6.4,SNR=3.5
comp=Z,2.4nm,0.8s
S34M Telegraph Cree 86.82 23 P P 06 54 30.0 +1.6
baz=224
YUK3 Moose Creek 86.83 17 P P 06 54 29.4 +0.7
baz=215,SNR=6.5
H19K Roundabout Mou 86.84 9 IAmb IAmb 06 54 29.5
comp=Z,16nm,1.1s
H19K Roundabout Mou 86.84 9 P P 06 54 28.8 +0.5
baz=200
G18K Tagagawik 86.89 8 P P 06 54 28.2 -0.4
baz=198
HYT Haines Aunctio 86.91 19 P P 06 54 30.1 +1.1
baz=218
M27K Edge Creek, AK 86.94 16 P P 06 54 30.0 +0.9
baz=214,SNR=6.3
YUK4 Talbot Arm 86.99 18 P P 06 54 30.6 +1.1
baz=217
H20K Anotleneega Mo 87.04 9 P P 06 54 30.2 +0.8
baz=202
ANMO Albuquerque 87.09 51 P P 06 54 30.9 +0.4
ANMO Albuquerque 87.09 51 P P 06 54 31.5 +1.0
baz=243
ANMO Albuquerque 87.09 51⇓ eP P 06 54 31.5 +1.0
ANMO pmax pmax
comp=Z,4.0nm,1.2s
F17K Baldwin Pennin 87.11 7 IAmb IAmb 06 54 29.9
comp=Z,14nm,1.1s
F17K Baldwin Pennin 87.11 7 P P 06 54 30.0 +0.5
baz=196
ELIB Princess Elisa 87.12 187 dP P 06 54 30.6 +0.7
L26K Log Cabin Wild 87.13 15 IAmb IAmb 06 54 31.5
comp=Z,13nm,1.3s
L26K Log Cabin Wild 87.13 15 P P 06 54 31.0 +1.1
baz=212
P32M Atlin 87.16 21 P P 06 54 31.3 +1.3
baz=221
Q32M Nakina River 87.18 22 P P 06 54 31.3 +1.0
baz=222
ZEA Zeya 87.21 331 eP P 06 54 30.9 +0.5
ZEA pmax pmax
comp=E,10.0nm,0.3s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
I21K Tanana 87.23 11 IAmb IAmb 06 54 30.8
comp=Z,21nm,0.8s
I21K Tanana 87.23 11 P P 06 54 30.4 +0.2
baz=204
K24K Donnelly Dome 87.23 14 P P 06 54 31.1 +0.8
baz=210
NEA2 Nenana 87.24 12 IAmb IAmb 06 54 30.7
comp=Z,8.2nm,0.8s
NEA2 Nenana 87.24 12 P P 06 54 29.4 -0.9
baz=207,SNR=8.7
BVCY Beaver Creek 87.25 16 P P 06 54 31.5 +1.1
baz=215
O30N Mendenhall 87.30 19 P P 06 54 31.8 +1.1
baz=219
MLY Manley 87.32 11 IAmb IAmb 06 54 30.5
comp=Z,11nm,0.9s
MLY Manley 87.32 11 P P 06 54 29.5 -1.2
baz=206,SNR=7.5
MLSI Meulaboh, Aceh 87.32 275 P P 06 54 32.4 +0.5
comp=Z,57nm,1.0s
G19K Purcell Mounta 87.33 8 IAmb IAmb 06 54 31.6
comp=Z,12nm,0.9s
G19K Purcell Mounta 87.33 8 P P 06 54 31.0 +0.3
baz=200
RIDG Independent Ri 87.39 14 P P 06 54 31.1 +0.1
baz=211
HDA Harding Lake 87.51 13 IAmb IAmb 06 54 31.8
comp=Z,17nm,0.7s
HDA Harding Lake 87.51 13 P P 06 54 31.2 -0.3
baz=209,SNR=14
H21K Melozitna Rive 87.53 10 IAmb IAmb 06 54 32.5
comp=Z,9.8nm,0.8s
H21K Melozitna Rive 87.53 10 P P 06 54 31.9 +0.3
baz=204
N30M Aishikik Lake 87.54 18 P P 06 54 32.5 +0.7
baz=218
CCB Clear Creek Bu 87.54 13 IAmb IAmb 06 54 31.7
comp=Z,26nm,0.9s
L27K Beaver Creek, 87.54 16 P P 06 54 32.6 +0.9
baz=214
XLT XiLinHaoTe 87.58 319 eP P 06 54 32.2 -0.3
XLT PP **PP** 06 58 11.5 +2.0
XLT pmax pmax
comp=Z,15nm,0.8s
XLT pmax pmax
comp=Z,180nm,5.9s
WHY Whitehorse 87.59 20 P P 06 54 32.8 +0.6
baz=220
DLBC Dease Lake 87.60 23 P P 06 54 33.0 +0.8
baz=224
E17K Hotham Inlet 87.67 6 P P 06 54 32.2 0.0
baz=195
I23K Minto, Yukon-K 87.68 12 IAmb IAmb 06 54 32.4
comp=Z,7.3nm,1.0s
I23K Minto, Yukon-K 87.68 12 P P 06 54 31.6 -0.7
baz=207
MDM Murphy Dome 87.73 12 IAmb IAmb 06 54 32.6
comp=Z,27nm,0.9s
COLA College 87.73 12 P P 06 54 31.0 -1.5
COLA College 87.73 12 P P 06 54 31.6 -0.9
COLA College 87.73 12 P P 06 54 32.3 -0.3
baz=208
COLA College 87.73 12 P P 06 54 31.0 -1.5
COLA pmax pmax
comp=Z,30nm,0.8s
SCRK Sand Creek 87.79 14 IAmb IAmb 06 54 35.7
comp=Z,7.4nm,1.1s
SCRK Sand Creek 87.79 14 P P 06 54 33.1 +0.1
baz=212
IL31 87.84 13 IAmb IAmb 06 54 33.2
comp=Z,18nm,1.1s
ILAR Eielson Array 87.84 13 P P 06 54 32.2 -0.9
comp=Z,11nm,1.0s,baz=214,slow=5.2,SNR=98
comp=Z,11nm,1.0s
XAN Xi'an 87.85 307 ⇓P P 06 54 34.6 +0.7
XAN pmax pmax
comp=Z,89nm,0.8s
F19K Shaleruckik Mo 87.90 8 P P 06 54 33.4 +0.1
baz=199
P33M Teslin, Yukon 87.92 21 P P 06 54 34.0 +0.3
baz=222
M29M Somme Creek 87.93 17 IAmb IAmb 06 54 35.1
comp=Z,15nm,0.8s
M29M Somme Creek 87.93 17 P P 06 54 34.9 +1.2
baz=217
N31M Braeburn, Yuko 87.95 19 P P 06 54 35.1 +1.4
baz=219
R33M Jennings River 87.95 22 P P 06 54 34.9 +1.0
baz=224
MSO Missoula 87.98 38 P P 06 54 34.0 -0.3
baz=238
H22K Ishtalitna Cre 87.99 11 P P 06 54 34.2 +0.5
baz=205
J25K Salcha River, 88.03 13 IAmb IAmb 06 54 34.6
comp=Z,9.0nm,0.7s
J25K Salcha River, 88.03 13 P P 06 54 34.2 +0.2
baz=211
POKR Poker Plat Res 88.03 12 IAmb IAmb 06 54 34.0
comp=Z,14nm,0.8s
POKR Poker Plat Res 88.03 12 P P 06 54 33.1 -0.9

baz=209,SNR=5.7
S22A 4UR Ranch, Cre 88.09 49 P P 06 54 35.6 +0.3
baz=243
E18K Tukpahlearik C 88.12 7 IAmb IAmb 06 54 35.2
comp=Z,11nm,1.0s
E18K Tukpahlearik C 88.12 7 P P 06 54 34.4 +0.1
baz=196
SNOW Snow King Moun 88.18 42 IAmb IAmb 06 54 37.7
comp=Z,8.4nm,0.9s
G21K Allakaket 88.21 10 IAmb IAmb 06 54 35.6
comp=Z,15nm,0.8s
G21K Allakaket 88.21 10 P P 06 54 34.8 0.0
baz=203
TROLL Troll, Antarti 88.22 180 ⇑P P 06 54 35.8 +0.7
comp=Z,123nm,0.5s
O20A White River Ci 88.22 46 P P 06 54 36.0 +0.3
baz=242
K27K Chicken 88.29 15 IAmb IAmb 06 54 36.8
comp=Z,15nm,0.9s
K27K Chicken 88.29 15 P P 06 54 36.3 +1.2
baz=214
J26L Joseph Creek 88.33 14 IAmb IAmb 06 54 37.0
comp=Z,20nm,0.9s
J26L Joseph Creek 88.33 14 P P 06 54 36.4 +0.9
baz=212
F20K Avaraart Lake 88.38 9 IAmb IAmb 06 54 36.4
comp=Z,13nm,0.9s
F20K Avaraart Lake 88.38 9 P P 06 54 36.0 +0.5
baz=201
SNAA Sanae 88.49 178 ⇑P P 06 54 35.9 -0.3
comp=Z,48nm,0.8s
SNAA Sanae 88.49 178 ⇓*i*P P 06 54 35.5 -0.8
SNAA pmax pmax
comp=Z,8.0nm,1.8s
SNAA Sanae 88.49 178 P P 06 54 36.0 -0.3
comp=Z,2.3nm,0.9s,baz=210,slow=7.4,SNR=6.9
comp=Z,2.3nm,0.9s
M30M Minto, Yukon 88.51 18 IAmb IAmb 06 54 37.4
comp=Z,19nm,0.8s
M30M Minto, Yukon 88.51 18 P P 06 54 36.6 +0.3
baz=218,SNR=15
RDOG Red Dog Mine 88.51 6 P P 06 54 36.8 +0.7
baz=194
C16K Lisburne Hills 88.52 5 IAmb IAmb 06 54 37.6
comp=Z,10nm,1.1s
C16K Lisburne Hills 88.52 5 P P 06 54 36.3 +0.2
baz=192
FLWY Flagg Ranch 88.52 42 IAmb IAmb 06 54 39.5
comp=Z,9.9nm,0.9s
N32M Quiet Lake 88.54 20 P P 06 54 37.2 +0.7
baz=222
BILL Bilibino 88.56 354 P P 06 54 35.9 -0.4
BILL IAmb IAmb 06 54 38.4
comp=Z,5.1nm,0.8s
BILL Bilibino 88.56 354 ⇓*e*P P 06 54 35.9 -0.4
BILL pmax pmax
comp=Z,7.0nm,1.0s
L29M L29M 88.56 17 P P 06 54 37.2 +0.7
baz=217
E19K Redstone River 88.56 8 IAmb IAmb 06 54 37.3
comp=Z,19nm,0.8s
E19K Redstone River 88.56 8 P P 06 54 36.9 +0.5
baz=200
H24K Noodor Dome 88.58 12 P P 06 54 35.4 -1.2
baz=208
BW06 Boulder Array 88.60 43 P P 06 54 38.0 +0.5
baz=241,SNR=7.2
PDAR Pinedale Array 88.60 43 P P 06 54 38.0 +0.6
comp=Z,2.8nm,0.7s,baz=219,slow=2.9,SNR=31
PDAR pP **pwP** 06 56 50.5 +1.1
comp=Z,0.6nm,0.9s,baz=251,slow=4.5,SNR=4.4
PDAR PKKPbc **PKKPbc** 07 12 15.4 -0.7
comp=Z,0.5nm,0.8s,baz=112,slow=4.0,SNR=4.7
comp=Z,2.8nm,0.7s
YHL Hebgen Lake 88.61 41 IAmb IAmb 06 54 40.3
comp=Z,17nm,1.1s
YFT Old Faithful 88.62 41 IAmb IAmb 06 54 41.4
comp=Z,5.8nm,1.0s
VNA3 Neumayer Olymp 88.62 176 ⇑P P 06 54 37.1 +0.3
comp=Z,16nm,0.6s
YMR Madison River 88.65 41 IAmb IAmb 06 54 40.3
comp=Z,8.2nm,1.0s
BOZ Bozeman (W) 88.71 40 IAmb IAmb 06 54 40.0
comp=Z,7.6nm,1.0s
BOZ Bozeman (W) 88.71 40 P P 06 54 39.2 +1.5
baz=240,SNR=9.2
H17A Grant Village 88.75 41 IAmb IAmb 06 54 41.3
comp=Z,6.7nm,0.9s
H17A Grant Village 88.75 41 P P 06 54 40.7 +2.6
baz=240,SNR=5.3
PRP Porcupine Dome 88.78 13 IAmb IAmb 06 54 38.7
comp=Z,8.6nm,0.9s
PRP Porcupine Dome 88.78 13 P P 06 54 37.5 0.0
baz=210
F21K Alatna River 88.86 9 IAmb IAmb 06 54 38.5
comp=Z,6.1nm,0.9s
F21K Alatna River 88.86 9 P P 06 54 38.1 +0.2
baz=203
C17K DeLong Mountai 88.89 5 P P 06 54 38.2 +0.2
baz=194
G22K Bettles 88.90 10 P P 06 54 38.3 +0.4
baz=205
M31M Drury Creek, Y 88.93 19 P P 06 54 38.5 +0.3
baz=220
G23K Bananza Creek 88.96 11 IAmb IAmb 06 54 39.3
comp=Z,8.6nm,1.1s
G23K Bananza Creek 88.96 11 P P 06 54 38.9 +0.5
baz=206
DAWY Dawson 88.99 16 IAmb IAmb 06 54 39.6
comp=Z,14nm,0.8s
DAWY Dawson 88.99 16 P P 06 54 38.8 +0.3
baz=216,SNR=10
HHC Hu-ho-hao-te 89.02 314 *e*P P 06 54 39.6 +0.3
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,470nm,5.1s
SDCO Great Sand Dun 89.03 49 P P 06 54 40.1 +0.4
baz=244
VNA2 Neumayer--Watz 89.07 177 ⇑P P 06 54 39.4 +0.5
comp=Z,12nm,0.6s,baz=182,slow=4.0
I26K Coal Creek Min 89.11 14 IAmb IAmb 06 54 40.1
comp=Z,20nm,1.1s
I26K Coal Creek Min 89.11 14 P P 06 54 39.2 +0.2
baz=213,SNR=6.4
EGAK Eagle 89.13 15 P P 06 54 39.2 +0.2
baz=214,SNR=11
KMI Kunming 89.14 297 ⇑P P 06 54 41.4 +1.1
KMI pmax pmax
comp=Z,21nm,1.1s
WTLY Watson Lake, Y 89.24 22 IAmb IAmb 06 54 41.8
comp=Z,12nm,1.2s
WTLY Watson Lake, Y 89.24 22 P P 06 54 40.6 +0.9
baz=225
C18K Utukok River 89.25 6 IAmb IAmb 06 54 40.2
comp=Z,6.9nm,1.1s
C18K Utukok River 89.25 6 P P 06 54 40.0 +0.4
baz=196
FARO Faro, Yukon 89.27 19 P P 06 54 39.8 0.0
baz=221
K29M Barlow Dome 89.31 17 IAmb IAmb 06 54 41.6
comp=Z,15nm,0.8s
K29M Barlow Dome 89.31 17 P P 06 54 41.0 +1.0
baz=218
F22K John River 89.33 10 P P 06 54 40.5 +0.6
baz=204
CRAI Chiangrai 89.34 292 IAmb IAmb 06 54 43.1
comp=Z,13nm,1.0s
COLD Coldfoot 89.40 10 P P 06 54 40.9 +0.6
baz=206
MSTX Muleshoe 89.42 53 P P 06 54 41.6 +0.3
baz=245
G24K Hadweenzic Riv 89.42 12 P P 06 54 40.3 -0.1
baz=209
D19K Kuna River 89.44 7 IAmb IAmb 06 54 41.2
comp=Z,14nm,0.9s
D19K Kuna River 89.44 7 P P 06 54 40.8 +0.3
baz=199
E20K Nigu River 89.45 8 P P 06 54 41.1 +0.5
baz=200
T25A Trinidad 89.55 50 P P 06 54 42.4 +0.5
baz=244
MAYO Mayo, Yukon 89.56 17 P P 06 54 42.2 +1.1
baz=219,SNR=6.8
PLCA Paso Flores 89.60 134 P P 06 54 43.5 +1.4
comp=Z,3.0nm,1.0s,baz=152,slow=5.0,SNR=3.6
comp=Z,3.0nm,1.0s
I27K Kandik River 89.71 14 P P 06 54 42.0 +0.2
baz=214
G25K Bearman Lake 89.74 12 P P 06 54 42.2 +0.4
baz=210
D20K Etivluk River 89.83 8 P P 06 54 42.5 +0.2
baz=200
C19K Lookout Ridge 89.85 7 IAmb IAmb 06 54 43.6
comp=Z,17nm,0.9s
C19K Lookout Ridge 89.85 7 P P 06 54 43.2 +0.8
baz=197
B18K Kokolik River 89.88 6 P P 06 54 42.5 0.0
baz=195
E21K Killik River 89.92 9 IAmb IAmb 06 54 43.3
comp=Z,12nm,1.1s
E21K Killik River 89.92 9 P P 06 54 42.8 +0.1
baz=203
BTO Baotou 89.95 314 *e*P P 06 54 45.0 +1.4
BTO pP **pP** 06 56 54.1 +1.4
BTO sP **sP** 06 57 54.3 +2.1
BTO S **S** 07 04 39.2 -7.0
BTO SS **SS** 07 11 11.3 +7.4
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,310nm,4.5s
E22K Anaktuvuk Pass 89.96 10 IAmb IAmb 06 54 43.9
comp=Z,16nm,1.0s
E22K Anaktuvuk Pass 89.96 10 P P 06 54 43.2 +0.3
baz=205
CMAR Chiang Mai Arr 89.96 290 *i* P P 06 54 45.5 +1.5
CMAR pmax pmax
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 89.96 290 P P 06 54 45.5 +1.5
comp=Z,18nm,0.9s,baz=121,slow=2.8,SNR=79
comp=Z,18nm,0.9s
I28M Miner Creek 89.98 15 IAmb IAmb 06 54 43.9
comp=Z,6.7nm,0.8s
I28M Miner Creek 89.98 15 P P 06 54 43.3 +0.2
baz=216
F24K Squaw Lake 90.07 11 IAmb IAmb 06 54 44.6
comp=Z,7.5nm,1.0s
F24K Squaw Lake 90.07 11 P P 06 54 43.6 +0.2
baz=208
CHTO Chiang Mai 90.09 290 P P 06 54 44.9 +0.3
CHTO Chiang Mai 90.09 290 P P 06 54 45.9 +1.3
CHTO Chiang Mai 90.09 290 P P 06 54 44.9 +0.3
CHTO pmax pmax
comp=Z,27nm,0.9s
CHTO Chiang Mai 90.09 290 P P 06 54 45.0 +0.4
N23A Red Feather La 90.12 46 IAmb IAmb 06 54 47.1
comp=Z,4.9nm,0.9s
N23A Red Feather La 90.12 46 P P 06 54 45.4 +0.8
baz=244
BRLDA Berland Lookou 90.16 31 IAmb IAmb 06 54 46.0
comp=Z,11nm,1.0s
J30M Hart River 90.21 17 P P 06 54 44.6 +0.4
baz=219
E23K Chandalar 90.25 10 P P 06 54 44.6 +0.3
baz=207
H27K Steamboat Moun 90.26 14 P P 06 54 44.9 +0.6
baz=214
I29M Ogilvie Camp, 90.31 16 IAmb IAmb 06 54 45.1
comp=Z,7.7nm,1.0s
I29M Ogilvie Camp, 90.31 16 P P 06 54 44.6 +0.1
baz=217,SNR=5.4
HNDO Hondo 90.36 59 IAmb IAmb 06 54 47.8
comp=Z,6.0nm,0.9s
G26K Porcupine Rive 90.37 13 P P 06 54 46.0 +1.3
baz=212
C21K Knifeblade Rid 90.48 8 P P 06 54 45.7 +0.5
baz=202
PZH PanZhiHua 90.49 298 P P
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
D22K Ayikyak River 90.51 9 IAmb IAmb 06 54 46.7
comp=Z,11nm,0.8s
D22K Ayikyak River 90.51 9 P P 06 54 46.0 +0.6
baz=204
K22A Casper 90.52 44 P P 06 54 47.0 +0.8
baz=243
F25K Christian Rive 90.55 12 P P 06 54 46.3 +0.6
baz=210
I30M Mount Dempster 90.70 16 IAmb IAmb 06 54 47.5
comp=Z,9.1nm,0.8s
I30M Mount Dempster 90.70 16 P P 06 54 47.0 +0.5
baz=219
G27K Doyon Strip 90.71 14 IAmb IAmb 06 54 47.0
comp=Z,6.2nm,1.3s
G27K Doyon Strip 90.71 14 P P 06 54 47.0 +0.6
baz=214
A19K Wainwright 90.77 6 P P 06 54 47.0 +0.5
baz=196
TOLK Toolik Lake Re 90.78 10 P P 06 54 47.2 +0.5
baz=207
D23K Nanushuk River 90.89 10 P P 06 54 47.6 +0.4
baz=206
B21K Ikpikpuk River 90.93 8 IAmb IAmb 06 54 48.2
comp=Z,5.7nm,1.0s
B21K Ikpikpuk River 90.93 8 P P 06 54 47.5 +0.3
baz=202
F26K Sheenjek River 90.93 12 P P 06 54 47.7 +0.3
baz=212
B20K Meade River 90.98 7 IAmb IAmb 06 54 48.5
comp=Z,10nm,0.9s
B20K Meade River 90.98 7 P P 06 54 47.8 +0.3
baz=200
H29M Whitestone 90.99 15 IAmb IAmb 06 54 48.6
comp=Z,15nm,0.8s
H29M Whitestone 90.99 15 P P 06 54 48.0 +0.4
baz=217,SNR=7.9
E25K Arctic Village 91.03 12 IAmb IAmb 06 54 50.0
comp=Z,5.2nm,1.2s
E25K Arctic Village 91.03 12 P P 06 54 48.9 +1.1
baz=210
EGMT Eagleton 91.04 39 P P 06 54 49.4 +1.0
baz=241
ABTX Abilene, Hawle 91.28 56 P P 06 54 49.7 -0.1
baz=247
D24K Happy Valley 91.36 10 P P 06 54 49.7 +0.5
baz=207
EPYK Eagle Plains 91.52 15 IAmb IAmb 06 54 50.6
comp=Z,9.0nm,0.8s
EPYK Eagle Plains 91.52 15 P P 06 54 50.3 +0.2
baz=218,SNR=5.1
KSCO Kaye Shedlock' 91.61 49 P P 06 54 52.5 +1.2
baz=246
G29M Pine Creek 91.63 15 P P 06 54 51.1 +0.5
baz=217
YAK Yakutsk 91.67 338 *e*P P 06 54 49.5 -1.3
YAK *e**PP **pP** 06 56 59.6 -1.2
YAK *e* 06 58 35.9
YAK *e*S **SKSac** 07 04 23.7 -2.2
YAK *e* 07 04 59.6
YAK *e*SS **SS** 07 11 26.0 -1.0
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,205nm,5.0s
YAK pmax pmax
comp=N,85nm,4.7s
YAK pmax pmax
comp=E,151nm,4.7s
YAK smax smax
comp=N,108nm,4.2s
YAK smax smax
comp=E,79nm,3.8s
H31M Peel River 91.69 17 P P 06 54 51.2 +0.2
baz=221
C23K Itkillik River 91.69 9 IAmb IAmb 06 54 52.0
comp=Z,13nm,1.1s
C23K Itkillik River 91.69 9 P P 06 54 51.3 +0.6
baz=206
B22K Teshekpuk Lake 91.76 8 IAmb IAmb 06 54 51.6
comp=Z,8.0nm,0.9s
B22K Teshekpuk Lake 91.76 8 P P 06 54 51.2 +0.1
baz=203
F28M Old Crow 91.77 14 P P 06 54 51.2 -0.1
baz=216
E27K Coleen River 91.87 13 P P 06 54 52.5 +0.8
baz=214
C24K Franklin Bluff 91.89 10 P P 06 54 52.5 +0.8
baz=208
D25K Kavik River 91.92 11 P P 06 54 52.2 +0.2
baz=210
G30M tAoh Zraii Nji 92.12 15 IAmb IAmb 06 54 53.6
comp=Z,14nm,0.9s
G30M tAoh Zraii Nji 92.12 15 P P 06 54 53.2 +0.3
baz=219
A22K Sinclair Lake 92.18 7 P P 06 54 54.0 +1.0
baz=202
A21K Barrow 92.29 7 P P 06 54 54.0 +0.6
baz=200
LZH Lanzhou 92.48 307 ⇓P P 06 54 56.1 +0.7
LZH pmax pmax
comp=Z,21nm,1.4s
LAO LASA Array 92.53 41 P P 06 54 55.8 +0.5
baz=243
G31M Satah River 92.56 16 IAmb IAmb 06 54 55.5
comp=Z,14nm,0.9s
G31M Satah River 92.56 16 P P 06 54 54.7 -0.1
baz=221,SNR=7.1
E28M Babbage River 92.65 13 IAmb IAmb 06 54 55.8
comp=Z,4.6nm,0.8s
E28M Babbage River 92.65 13 P P 06 54 55.5 +0.3
baz=216
TNCH TengChong 92.66 296 *e*P P 06 54 57.4 +0.9
TNCH pmax pmax
comp=Z,15nm,0.9s
C26K Camden Bay 92.70 11 P P 06 54 56.2 +0.8
baz=211
F30M Barrier River 92.72 15 P P 06 54 56.5 +0.9
baz=219
RSSD Black Hills 92.80 44 P P 06 54 55.9 -0.8
baz=245
E29M Blow River 92.84 14 P P 06 54 56.1 0.0
baz=217
D27M Malcolm River 92.88 12 P P 06 54 56.5 +0.2
baz=215
F31M Tsiigehtchic 93.09 16 P P 06 54 57.1 -0.1
baz=221,SNR=7.4
D28M Stokes Point 93.41 13 P P 06 54 58.3 -0.3
baz=217
INK Inuvik 93.80 15 IAmb IAmb 06 55 00.8
comp=Z,8.9nm,1.1s
INK Inuvik 93.80 15 P P 06 55 00.1 -0.3
baz=221,SNR=6.8
DGMT Dagmar 94.55 40 P P 06 55 05.3 +0.9
baz=245
ULN Ulaanbaatar 95.00 319 ⇓*e*P P 06 55 05.8 -0.8
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 95.39 319 P P 06 55 08.3 -0.1
comp=Z,0.8nm,0.7s,baz=141,slow=4.4,SNR=5.9
comp=Z,0.8nm,0.7s
TUL3 Leonard 95.45 54 P P 06 55 09.3 +0.5
baz=249
YKA Yellowknife Ar 96.07 25 P P 06 55 10.4 -0.4
comp=Z,0.7nm,0.8s,baz=245,slow=4.3,SNR=13
YKA pP **pwP** 06 57 24.1 +0.4
comp=Z,0.4nm,0.9s,baz=251,slow=3.8,SNR=2.8
comp=Z,0.7nm,0.8s
GTA Gaotai 96.67 309 *e*P P 06 55 14.6 +0.3
GTA pmax pmax
comp=Z,4.0nm,1.2s
C36M Paulatuk 96.98 17 P P 06 55 18.1 +3.4
baz=230
TIXI Tiksi 98.28 345 ⇑*e*P Pdif 06 55 18.9 -1.6
TIXI pmax pmax
comp=Z,3.0nm,1.1s
A36M Sachs Harbour 98.41 14 P P 06 55 22.3 +1.2
baz=229
CCM Cathedral Cave 99.59 53 P **Pdif** 06 55 28.5 +1.4
baz=252
OXF Oxford 99.94 57 P **Pdif** 06 55 30.5 +1.8
baz=253
ZALV Zalesovo Beam 110.12 321 PKiKP **PKiKP** 07 00 10.0 -1.2
comp=Z,2.7nm,0.7s,baz=171,slow=0.4,SNR=13
MKAR Makanchi Array 110.87 314 PKiKP **PKiKP** 07 00 11.8 -1.1
comp=Z,3.1nm,0.6s,baz=86,slow=0.6,SNR=31
KURK Kurchatov 113.64 318 ⇑*i*PKiKP **PKiKP** 07 00 16.9 -1.1
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 113.70 317 PKiKP **PKiKP** 07 00 16.3 -1.8
KURBB Kurchatov Arra 113.70 317 PKiKP **PKiKP** 07 00 16.8 -1.3
comp=Z,4.5nm,0.7s,baz=97,slow=1.9,SNR=58
TKM2 Tokmak 2 115.22 309 PKiKP **PKPdf** 07 00 19.6 -1.9
AAK Ala-Archa 116.00 308 ⇓*i*PKiKP **PKPdf** 07 00 22.8 -0.2
NEEM North Greenlan 117.10 11 *i* P **PKPdf** 07 00 22.9 -1.4
BVA0 Borovoye Array 118.71 320 *i* PKiKP **PKPdf** 07 00 26.5 -1.2
BVAR Borovoye Array 118.71 320 PKP **PKPdf** 07 00 26.8 -0.9
comp=Z,8.2nm,0.6s,baz=85,slow=1.3,SNR=48
BRVK Borovoye 118.78 320 PKPdf **PKPdf** 07 00 26.7 -1.1
BRVK Borovoye 118.78 320 PKiKP **PKPdf** 07 00 26.7 -1.1
KK31 Karatay Array 118.95 309 *i* PKiKP **PKPdf** 07 00 27.5 -1.0
KBL Kabul 119.67 299 **PKPdf** 07 00 30.4 0.0
KBL Kabul 119.67 299 PKiKP **PKPdf** 07 00 30.4 0.0
SIMJ Simiganj 119.96 304 **PKPdf** 07 00 29.4 -1.3
SPITS Spitsbergen Ar 121.38 357 PKP **PKPdf** 07 00 30.5 -1.7
comp=Z,4.0nm,0.7s,baz=94,slow=5.0,SNR=11
DAG Danmarks Havn 122.25 6 *i* P **PKPdf** 07 00 31.2 -2.6
SVE Sverdlovsk 123.59 326 *e*PKiKP **PKPdf** 07 00 36.7 -0.2
SVE pmax pmax
comp=Z,16nm,1.0s
DY2G Dye2 124.25 21 *e*P **PKPdf** 07 00 36.6 -1.6
ICESG Greenland Ices 124.73 17 *e*P **PKPdf** 07 00 36.8 -2.4
ARU Arti 124.81 326 PKPdf **PKPdf** 07 00 37.6 -1.6
ARU Arti 124.81 326 *i* PKiKP **PKPdf** 07 00 38.9 -0.3
ARU 07 02 37.0
ARU 07 06 53.6
ARU SS SS 07 18 37.7 -9.0
AB31 Akbulak array 125.74 317 *i* PKiKP **PKPdf** 07 00 40.2 -1.1
ABKAR Akbulak array 125.74 317 PKPdf **PKPdf** 07 00 39.5 -1.8
BOSA Boshof 126.70 206 PKP **PKPdf** 07 00 43.0 -1.0
comp=Z,1.5nm,0.8s,baz=176,slow=2.0,SNR=4.0
ARCES ARCESS Array B 128.45 350 PKP **PKPdf** 07 00 45.8 -0.1
comp=Z,6.1nm,0.7s,baz=30,slow=1.0,SNR=23
GEYT Alibeck 128.53 303 **PKPdf** 07 00 46.5 -0.5
GEYT Alibeck 128.53 303 PKiKP **PKPdf** 07 00 46.5 -0.5
GEYT Alibeck 128.53 303 PKP **PKPdf** 07 00 46.7 -0.3
comp=Z,5.0nm,0.7s,baz=0.0,slow=0.4,SNR=7.0
GEYT pPKP **pPKPdf** 07 03 10.5 +5.1
comp=Z,6.3nm,0.8s,baz=91,slow=6.2,SNR=4.9
KIRV Kirov 128.55 330 ⇑*i*PKiKP **PKiKP** 07 00 47.3 +0.3
KLMR Klimovskoe 131.44 337 *e*PKiKP **PKPdf** 07 00 49.4 -2.3
KLMR pmax pmax
comp=Z,29nm,1.7s
BELG Belogornoye 132.22 324 *de*PKiKP **PKPdf** 07 00 53.4 0.0
FINES FINESS Array B 135.31 344 PKiKP PKPpre 07 00 46.3
comp=Z,4.4nm,1.1s,baz=11,slow=1.9,SNR=4.6
FINES pP **PKPdf** 07 00 59.0 +0.1
comp=Z,4.5nm,0.6s,baz=56,slow=2.0,SNR=7.6
MAK Makhachkala 135.64 312 *i* PKiKP **PKPdf** 07 01 00.7 +0.6
MAK *e* 07 03 45.9
MAK *e*PPP PPP 07 06 45.3
MAK *e* 07 07 10.6
MAK pmax pmax
comp=Z,143nm,1.0s
OBN Obninsk 136.34 332 *de*PKiKP **PKPdf** 07 01 01.1 +0.1
OBN *e* 07 03 50.6
OBN *e*PPP PPP 07 06 57.3
OBN pmax pmax
comp=Z,12nm,1.0s
VSU Vasula 137.59 341 ⇑*e*PKiKP **PKiKP** 07 01 04.4 -1.0
NCK Nalchik 138.18 314 ⇑*i*PKiKP **PKiKP** 07 01 07.7 +0.6
NB2 NORSAR Subarra 138.50 353 PKP PKPpre 07 00 55.3
comp=Z,5.9nm,1.1s,baz=16,slow=3.2
NOA NORSAR Array B 138.50 353 PKhKP PKPpre 07 00 55.0
comp=Z,2.6nm,0.7s,baz=15,slow=2.3,SNR=7.9
NOA PKP **PKPdf** 07 01 06.1 +1.1
comp=Z,1.1nm,0.6s,baz=17,slow=4.1,SNR=4.6
KIV Kislovodsk 138.62 315 *i* PKHKP PKPpre 07 01 01.7
KIV *e* 07 04 01.6
KIV *e*PPP PPP 07 07 11.7
KIV pmax pmax
comp=Z,4.0nm,0.9s
HFS Hagfors 139.06 351 PKhKP PKPpre 07 00 57.3
comp=Z,3.4nm,0.3s,baz=40,slow=2.3,SNR=20
ANN Anapa 141.67 318 *i* PKHKP PKPpre 07 01 02.2
ANN pmax pmax
comp=Z,79nm,1.0s
SUW Suwalki 142.39 340 *e*PKPdf **PKPdf** 07 01 08.1 -4.0
AKASG Malin Array Be 142.59 331 PKhKP PKPpre 07 01 08.8
comp=Z,6.4nm,0.3s,baz=42,slow=4.5,SNR=181
AKASG SKP 07 03 48.7
comp=Z,1.1nm,0.5s,baz=40,slow=4.2,SNR=4.2
MUD Monsted U'grnd 143.22 353 *i* P PKPab 07 01 11.0 -0.6
LODK Lodwar 143.54 247 PKPdf PKPbc 07 01 14.6 +0.3
BSD Bornholm Skovb 143.62 348 *i* P PKPbc 07 01 12.0 -1.2
SIM Simferopol' 143.63 320 *e*PKHKP **PKPdf** 07 01 13.0 -1.5
SIM pmax pmax
comp=Z,152nm,0.9s

EKA	**Eskdalemuir Ar**	**144.52**	**5**	PKP	**PKPdf**	**07 01 15.2**	**-0.5**
	comp=Z,7.5nm,0.6s,baz=333,slow=3.2,SNR=17						
DIKM	**Dikmen**	**144.55**	**315**	⇑P	**PKPdf**	**07 01 15.4**	**-0.8**
GKP	**Gorka Klasztor**	**144.78**	**344**	*e*PKPbc	PKPbc	07 01 16.7	-0.1
SORM	**Soroca**	**144.80**	**329**	⇑P	PKPbc	07 01 16.8	-0.3
SORM	**Soroca**	**144.80**	**329**	⇑PKIKP	PKPbc	07 01 16.8	-0.3
BEL	**Belsk**	**145.01**	**340**	*e*PKPbc	**PKPbc**	**07 01 18.1**	**+0.5**
PURM	**Purcari**	**145.09**	**326**	⇑P	**PKPbc**	**07 01 18.2**	**+0.2**
MBAR	**Mbarara**	**145.19**	**237**	*c i*PKIKP	**PKPab**	**07 01 20.6**	**-0.1**
MBAR				pmax	pmax		
	comp=Z,53nm,1.3s						
MILM	**Milestii Mici**	**145.39**	**327**	⇓*i*PKP	**PKPbc**	**07 01 18.2**	**-0.7**
	comp=Z,110nm,0.8s						
MILM	**Milestii Mici**	**145.39**	**327**	⇑P	**PKPbc**	**07 01 18.7**	**-0.2**
MILM	**Milestii Mici**	**145.39**	**327**	*d i*PKIKP	**PKPbc**	**07 01 18.2**	**-0.7**
MILM				pmax	pmax		
	comp=Z,110nm,0.8s						
BSEG	**Bad Segeberg**	**145.54**	**351**	*e*PKPbc	**PKPbc**	**07 01 19.3**	**+0.3**
	baz=17,slow=2.5						
VASR	**Vaslui**	**146.10**	**328**	⇑P	**PKPbc**	**07 01 21.4**	**+0.5**
KWP	**Kalwaria Pacla**	**146.15**	**336**	*e*PKPbc	**PKPbc**	**07 01 20.8**	**-0.1**
KWP				*e*PKPab	**PKPab**	**07 01 23.5**	**+0.2**
VLDR	**Vladesti**	**146.48**	**326**	⇑P	**PKPbc**	**07 01 22.5**	**+0.6**
BR131	**Keskin Array S**	**146.52**	**313**		**PKPdf**	**07 01 21.0**	**+1.2**
BR131	**Keskin Array S**	**146.52**	**313**	PKIKP	**PKPdf**	**07 01 21.0**	**+1.2**
BRTR	**Keskin Array B**	**146.52**	**313**		**PKPdf**	**07 01 20.5**	**+0.7**
BRTR	**Keskin Array B**	**146.52**	**313**	PKHKP	**PKPdf**	**07 01 20.5**	**+0.7**
BRTR	**Keskin Array B**	**146.52**	**313**	PKPbc	**PKPdf**	**07 01 19.6**	**-0.2**
	comp=Z,14nm,0.7s,baz=63,slow=0.5,SNR=58						
BRTR				SKPbc	**SKPbc**	**07 04 03.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=106,slow=3.1,SNR=3.8						
TLCR		**146.52**	**325**	⇓P	**PKPbc**	**07 01 22.0**	**0.0**
TLCR		**146.52**	**325**	⇓PKIKP	**PKPbc**	**07 01 22.0**	**0.0**
SCTR	**Scanteiesti**	**146.64**	**326**	⇓P	**PKPbc**	**07 01 22.8**	**+0.4**
BURAR	**Bucovina Array**	**146.64**	**331**	⇓P	**PKPbc**	**07 01 23.0**	**+0.5**
BURAR	**Bucovina Array**	**146.64**	**331**	⇓PKIKP	**PKPbc**	**07 01 23.0**	**+0.5**
GHRR		**146.69**	**327**	⇑P	**PKiKP**	**07 01 23.8**	**-0.7**
OJC	**Ojcow**	**146.71**	**339**	*e*PKPbc	**PKPbc**	**07 01 22.4**	**-0.1**
TESR	**Tescani**	**146.76**	**328**	⇑P	**PKPbc**	**07 01 21.7**	**-1.0**
NEGRR	**Negrea**	**146.79**	**326**	⇑P	**PKPbc**	**07 01 22.9**	**+0.1**
RETH	**Rethem/Aller,**	**146.84**	**352**	*e*PKPbc	**PKPbc**	**07 01 22.9**	**+0.3**
	baz=17,slow=2.5						
IZVR	**Izvoarele**	**146.85**	**326**	⇑P	**PKiKP**	**07 01 24.4**	**-0.4**
STHS	**Stebnicka Huta**	**146.88**	**337**	*e*PKIKP	**PKPbc**	**07 01 22.5**	**-0.4**
STHS	**Stebnicka Huta**	**146.88**	**337**	*e*PKP	**PKPbc**	**07 01 22.5**	**-0.4**
KOLS	**Kolonicke sedl**	**146.88**	**335**	*e*PKIKP	**PKPbc**	**07 01 23.3**	**+0.4**
KOLS	**Kolonicke sedl**	**146.88**	**335**	*e*PKP	**PKPbc**	**07 01 23.3**	**+0.4**
CFR	**Carcaliu**	**146.89**	**325**	⇓P	**PKPbc**	**07 01 22.8**	**-0.2**
TPGR	**Topolog**	**146.95**	**325**	⇑P	**PKPbc**	**07 01 23.6**	**+0.3**
PANC	**Panciu**	**146.95**	**327**	⇑P	**PKPbc**	**07 01 23.8**	**+0.6**
FLTG	**Flechtingen**	**146.95**	**350**	*e*PKPbc	**PKPbc**	**07 01 22.9**	**-0.1**
	baz=17,slow=2.5						
NRDL	**Niedersach Rie**	**146.97**	**351**	*e*PKPbc	**PKPbc**	**07 01 23.2**	**+0.2**
	baz=17,slow=2.5						
ANTO	**Ankara**	**147.03**	**314**	⇑P	**PKPbc**	**07 01 24.2**	**+0.5**
ANTO	**Ankara**	**147.03**	**314**		**PKPbc**	**07 01 23.0**	**-0.7**
ANTO	**Ankara**	**147.03**	**314**	⇑PKIKP	**PKPbc**	**07 01 24.2**	**+0.5**
ODBI	**Odobesti**	**147.07**	**327**	⇑P	**PKPbc**	**07 01 24.1**	**+0.6**
VRI	**Vrincioaia**	**147.17**	**327**	⇑P	**PKPbc**	**07 01 23.9**	**+0.1**
VRI	**Vrincioaia**	**147.17**	**327**	⇑PKIKP	**PKPbc**	**07 01 23.9**	**+0.1**
TIRR	**Tirgusor**	**147.21**	**324**	⇑P	**PKPbc**	**07 01 22.9**	**-1.0**
TIRR	**Tirgusor**	**147.21**	**324**	⇑PKIKP	**PKPbc**	**07 01 22.9**	**-1.0**
CRVS	**Cervenica-Dubn**	**147.22**	**336**	*e*PKIKP	**PKPbc**	**07 01 24.2**	**+0.4**
CRVS				*e*		07 01 27.9	
CRVS	**Cervenica-Dubn**	**147.22**	**336**	*e*PKP	**PKPbc**	**07 01 24.2**	**+0.4**
CRVS				*e*		07 01 27.8	
PLOR	**Plostina**	**147.22**	**327**	⇓P	**PKPbc**	**07 01 23.8**	**-0.2**
PLOR	**Plostina**	**147.22**	**327**	⇓PKIKP	**PKPbc**	**07 01 23.8**	**-0.2**
NIE	**Niedzica**	**147.22**	**338**	*e*PKPbc	**PKPbc**	**07 01 24.4**	**+0.5**
KSP	**Ksiaz**	**147.23**	**343**	*e*PKPbc	**PKPbc**	**07 01 24.1**	**+0.3**
ASSE	**Asse, Remlinge**	**147.24**	**350**	*e*PKPbc	**PKPbc**	**07 01 23.7**	**+0.1**
	baz=17,slow=2.5						
HARR	**Harsova**	**147.32**	**325**	⇑P	**PKPbc**	**07 01 23.8**	**-0.4**
HARR	**Harsova**	**147.32**	**325**	⇑PKIKP	**PKPbc**	**07 01 23.8**	**-0.4**
BMR	**Baia Mare**	**147.36**	**333**	⇑P	**PKPbc**	**07 01 24.7**	**+0.5**
BMR	**Baia Mare**	**147.36**	**333**	⇑PKIKP	**PKPbc**	**07 01 24.7**	**+0.5**
MFTR	**Murfatlar**	**147.38**	**324**	⇑P	**PKPbc**	**07 01 24.7**	**+0.4**
TURR	**Turia**	**147.39**	**328**	⇑P	**PKPbc**	**07 01 25.1**	**+0.7**
ARCR	**ARCALIA**	**147.43**	**331**	⇑P	**PKPbc**	**07 01 25.0**	**+0.6**
COVR	**Voineasa-Covas**	**147.44**	**328**	⇑P	**PKPbc**	**07 01 23.6**	**-0.9**
OZUR		**147.47**	**329**	⇑P	**PKPbc**	**07 01 25.0**	**+0.3**
MANR	**Mangalia**	**147.51**	**323**	⇑P	**PKPbc**	**07 01 25.4**	**+0.7**
CHVC	**Chvalec**	**147.53**	**343**	⇑*e*PKP	**PKPbc**	**07 01 25.1**	**+0.5**
CHVC	**Chvalec**	**147.53**	**343**	*e*PKIKP	**PKPbc**	**07 01 25.1**	**+0.5**
BOSR	**Bodos**	**147.55**	**329**	⇑P	**PKiKP**	**07 01 25.7**	**-0.6**
CLZ	**Clausthal**	**147.57**	**350**	*e*PKPbc	**PKPbc**	**07 01 24.9**	**+0.3**
	baz=17,slow=2.5						
MMAI	**Mount Meron Ar**	**147.58**	**300**	PKPbc	**PKPbc**	**07 01 25.6**	**+0.3**
	comp=Z,38nm,0.7s,baz=54,slow=4.3,SNR=31						
CLL	**Collm**	**147.59**	**347**	⇓*i*PKPbc	**PKPbc**	**07 01 24.7**	**+0.1**
	comp=Z,73nm,0.9s						
CLL				⇑*i*PKPab	**PKPab**	**07 01 28.7**	**-0.3**
	comp=Z,27nm,0.8s						
CLL				*e*SKPdf	**SKPdf**	**07 04 01.0**	**+2.3**
CLL	**Collm**	**147.59**	**347**	*e*PKPbc	**PKPbc**	**07 01 24.8**	**+0.1**
	baz=17,slow=2.5						
UPC	**Upice**	**147.61**	**343**	⇑*e*PKP	**PKPbc**	**07 01 25.1**	**+0.3**
UPC				*e*PKPAB	**PKPab**	**07 01 30.0**	**+0.8**
UPC	**Upice**	**147.61**	**343**	*e*PKIKP	**PKPbc**	**07 01 25.1**	**+0.3**
UPC				*e*		07 01 30.0	
DPC	**Dobruska-Polom**	**147.67**	**343**	*e*PKPDF	**PKPdf**	**07 01 22.4**	**+1.1**
DPC				⇑*e*PKP	**PKPbc**	**07 01 25.5**	**+0.5**
DPC	**Dobruska-Polom**	**147.67**	**343**	*e*PKHKP	**PKPdf**	**07 01 22.4**	**+1.1**
DPC				*e*		07 01 25.5	
NEHR	**Nehoiu**	**147.69**	**327**	⇑P	**PKPbc**	**07 01 25.1**	**-0.1**
LANS	**Liptovska Anna**	**147.74**	**338**	*e*PKP2	**PKiKP**	**07 01 26.4**	**-0.2**
LANS	**Liptovska Anna**	**147.74**	**338**	*e*PKP	**PKiKP**	**07 01 26.4**	**-0.2**
DOPR	**Dopca**	**147.76**	**329**	⇑P	**PKPbc**	**07 01 25.5**	**+0.2**
ISR	**Istrita**	**147.77**	**327**	⇑P	**PKPbc**	**07 01 25.0**	**-0.4**
ISR	**Istrita**	**147.77**	**327**	⇑PKIKP	**PKPbc**	**07 01 25.0**	**-0.4**
KRLC	**Kraliky**	**147.78**	**342**	⇑*e*PKP	**PKPbc**	**07 01 25.5**	**+0.2**
KRLC				*e*PKPAB	**PKPab**	**07 01 30.3**	**+0.3**
KRLC	**Kraliky**	**147.78**	**342**	*e*PKIKP	**PKPbc**	**07 01 25.5**	**+0.2**
KRLC				*e*		07 01 30.3	
BRG	**Berggiesshubel**	**147.79**	**346**	*e*PKP	**PKPdf**	**07 01 21.7**	**+0.3**
BRG				Amp		07 01 23.2	
	comp=Z,5.0nm,1.0s						
BRG	**Berggiesshubel**	**147.79**	**346**	P	**PKPbc**	**07 01 25.5**	**+0.3**
BRG				Amp		07 01 26.5	
	comp=Z,32nm,0.9s						
BRG	**Berggiesshubel**	**147.79**	**346**	*e*PKHKP	**PKPdf**	**07 01 21.6**	**+0.3**
BRG				*e*		07 01 25.4	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,32nm,0.9s						
BRG	**Berggiesshubel**	**147.79**	**346**	*e*PKPbc	**PKPbc**	**07 01 25.5**	**+0.3**
	baz=17,slow=2.5						
MLR	**Muntele Rosu**	**147.82**	**328**	⇓P	**PKPbc**	**07 01 25.4**	**-0.2**
MLR	**Muntele Rosu**	**147.82**	**328**	⇓PKIKP	**PKPbc**	**07 01 25.4**	**-0.2**
MORC	**Moravsky Berou**	**147.82**	**341**	⇑P	**PKPdf**	**07 01 22.5**	**+1.0**
MORC	**Moravsky Berou**	**147.82**	**341**	*e*PKP	**PKPbc**	**07 01 25.5**	**+0.1**
MORC	**Moravsky Berou**	**147.82**	**341**	⇑PKHKP	**PKPdf**	**07 01 22.5**	**+1.0**
FBE	**Freiberg**	**147.88**	**346**	*e*PKPbc	**PKPbc**	**07 01 26.0**	**+0.6**
	baz=17,slow=2.5						
GTTG	**Gottingen**	**147.92**	**351**	*e*PKPbc	**PKPbc**	**07 01 25.9**	**+0.4**
	baz=17,slow=2.5						
KECS	**Kecovo**	**147.93**	**337**	*e*PKIKP	**PKPbc**	**07 01 26.2**	**+0.6**
KECS	**Kecovo**	**147.93**	**337**	*e*PKP	**PKPbc**	**07 01 26.2**	**+0.6**
PVCC	**Panska Ves**	**147.96**	**345**	⇑*e*PKP	**PKPbc**	**07 01 26.1**	**+0.4**
PVCC	**Panska Ves**	**147.96**	**345**	*e*PKIKP	**PKPbc**	**07 01 26.1**	**+0.4**
CBBR	**Cluj-Babes-Bol**	**148.03**	**332**	⇓P	**PKPdf**	**07 01 22.8**	**+0.9**
RICC	**Richard**	**148.06**	**345**	⇑*e*PKP	**PKPbc**	**07 01 26.3**	**+0.4**
MAUC	**Maruska**	**148.09**	**340**	⇑*e*PKP	**PKiKP**	**07 01 26.9**	**-0.4**
HSKC	**Hora Svate Kat**	**148.16**	**346**	⇑*e*PKP	**PKPbc**	**07 01 26.6**	**+0.4**
MARR	**Marisel-Cluj**	**148.29**	**332**	⇑P	**PKPbc**	**07 01 27.0**	**+0.2**
VOIR		**148.31**	**328**	⇑P	**PKPbc**	**07 01 27.0**	**+0.2**
VOIR		**148.31**	**328**	⇑PKIKP	**PKPbc**	**07 01 27.0**	**+0.2**
PRA	**Prague**	**148.42**	**345**	⇑*e*PKP	**PKiKP**	**07 01 27.4**	**-0.5**
PRA	**Prague**	**148.42**	**345**	*e*PKIKP	**PKiKP**	**07 01 27.4**	**-0.5**
KASTN	**Kahler Asten**	**148.47**	**352**	*e*PKPbc	**PKPbc**	**07 01 27.1**	**+0.1**
	baz=17,slow=2.5						
PRU	**Pruhonice**	**148.47**	**344**	⇑*e*PKP	**PKPbc**	**07 01 27.0**	**+0.1**
PRU	**Pruhonice**	**148.47**	**344**	*e*PKIKP	**PKPbc**	**07 01 27.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**148.47**	**344**	⇑*e*PKP	**PKPbc**	**07 01 27.3**	**+0.3**
GOPC				*e*PKPAB	**PKPab**	**07 01 33.1**	**+0.3**
GOPC	**GO Pecny, Ondr**	**148.47**	**344**	*e*PKIKP	**PKPbc**	**07 01 27.3**	**+0.3**
GOPC				*e*		07 01 33.1	
MOX	**Moxa**	**148.50**	**348**	*e*PKPbc	**PKPbc**	**07 01 27.3**	**+0.3**
	baz=17,slow=2.5						
VYHS	**Vyhne**	**148.51**	**338**	*e*PKIKP	**PKPbc**	**07 01 27.3**	**+0.2**
VYHS	**Vyhne**	**148.51**	**338**	*e*PKP	**PKPbc**	**07 01 27.3**	**+0.2**
VRAC	**Vranov**	**148.52**	**342**	⇑P	**PKiKP**	**07 01 27.8**	**-0.4**
VRAC	**Vranov**	**148.52**	**342**	*e*PKP	**PKPbc**	**07 01 27.1**	**0.0**
VRAC	**Vranov**	**148.52**	**342**	⇑PKIKP	**PKiKP**	**07 01 27.8**	**-0.4**
PLN	**Plauen**	**148.55**	**348**	*e*PKPbc	**PKPbc**	**07 01 27.3**	**+0.2**
	baz=17,slow=2.5						
TANN	**Tannenbergstha**	**148.55**	**347**	*e*PKPbc	**PKPbc**	**07 01 27.4**	**+0.2**
	baz=17,slow=2.5						
WERD	**Werda**	**148.55**	**347**	*e*PKPbc	**PKPbc**	**07 01 27.4**	**+0.3**
	baz=17,slow=2.5						
JAVC	**Velka Javorina**	**148.59**	**340**	*e*PKP	**PKiKP**	**07 01 28.5**	**+0.1**
UBBA	**Unterbreizbach**	**148.62**	**350**	*e*PKPbc	**PKPbc**	**07 01 27.3**	**+0.2**
	baz=17,slow=2.5						
PSZ	**Piszkesteto**	**148.62**	**337**	⇑P	**PKPbc**	**07 01 27.6**	**+0.1**
PSZ	**Piszkesteto**	**148.62**	**337**	⇑PKIKP	**PKPbc**	**07 01 27.6**	**+0.1**
GUNZ	**Gunzen**	**148.63**	**347**	*e*PKPbc	**PKPbc**	**07 01 27.7**	**+0.4**
	baz=17,slow=2.5						
WERN	**Wernitzgruen**	**148.69**	**347**	*e*PKPbc	**PKPbc**	**07 01 27.9**	**+0.4**
	baz=17,slow=2.5						
NKC	**Novy Kostel**	**148.72**	**347**	⇑*e*PKP	**PKPbc**	**07 01 27.8**	**+0.2**
NKC	**Novy Kostel**	**148.72**	**347**	*e*PKHKP	**PKPbc**	**07 01 27.8**	**+0.2**
KRUC	**Moravsky**	**148.80**	**342**	*e*PKP	**PKPbc**	**07 01 27.8**	**0.0**
SMOL	**Smolenice**	**148.97**	**340**	*e*PKHKP	**PKPbc**	**07 01 29.1**	**+0.9**
SMOL				*e*		07 01 35.4	
HUMR	**Humele**	**148.98**	**327**	⇑P	**PKPbc**	**07 01 27.9**	**-0.4**
DEV	**Deva**	**149.00**	**331**	⇑P	**PKPbc**	**07 01 28.6**	**+0.3**
DEV	**Deva**	**149.00**	**331**	⇑PKHKP	**PKPbc**	**07 01 28.6**	**+0.3**
MANZ	**Manzenberg**	**149.03**	**347**	*e*PKPbc	**PKPbc**	**07 01 28.6**	**+0.3**
	baz=17,slow=2.5						
MODS	**Modra-Piesok**	**149.14**	**340**	*e*PKHKP	**PKPbc**	**07 01 29.4**	**+0.8**
MODS	**Modra-Piesok**	**149.14**	**340**	*e*PKP	**PKPbc**	**07 01 29.4**	**+0.8**
ROTZ	**Rotzenmuhle**	**149.22**	**347**	*e*PKPbc	**PKPbc**	**07 01 29.0**	**+0.3**
	baz=17,slow=2.5						
SIRR	**Siria**	**149.25**	**333**	⇑P	**PKiKP**	**07 01 29.5**	**-0.3**
AHRW	**Bad Neuenahr-A**	**149.27**	**354**	*e*PKPbc	**PKiKP**	**07 01 30.7**	**+1.1**
	baz=17,slow=2.5						
MEM	**Membach**	**149.31**	**355**	*d*PKP	**PKPbc**	**07 01 28.6**	**-0.3**
BTNL	**Ternell**	**149.32**	**355**	*d*PKP	**PKPbc**	**07 01 29.0**	**0.0**
ZST	**Bratislava**	**149.35**	**340**	*e*PKHKP	**PKPbc**	**07 01 29.9**	**+0.8**
ZST	**Bratislava**	**149.35**	**340**	*e*PKP	**PKPbc**	**07 01 29.9**	**+0.8**
BSTI	**Sart Tilman**	**149.37**	**356**	*d*PKP	**PKPbc**	**07 01 28.9**	**-0.1**
GZR	**Gura Zlata**	**149.42**	**331**	⇑P	**PKPbc**	**07 01 28.4**	**-1.1**
GZR	**Gura Zlata**	**149.42**	**331**	⇑PKHKP	**PKPbc**	**07 01 28.4**	**-1.1**
TNS	**Taunus Mts**	**149.43**	**352**	*e*PKPbc	**PKPbc**	**07 01 29.5**	**+0.2**
	baz=17,slow=2.5						
SURR	**Surduc**	**149.44**	**332**	⇑P	**PKPbc**	**07 01 29.5**	**+0.1**
GRF	**Grafenberg Arr**	**149.49**	**348**	*e*PKPbc	**PKPbc**	**07 01 29.8**	**+0.4**
	baz=17,slow=2.5						
KHC	**Kasperske Hory**	**149.50**	**345**	*e*PKPDF	**PKPdf**	**07 01 24.5**	**+0.3**
KHC				⇑*e*PKP	**PKPbc**	**07 01 29.5**	**0.0**
KHC				*e*PKPAB	**PKPab**	**07 01 37.7**	**+0.6**
KHC	**Kasperske Hory**	**149.50**	**345**	*e*PKIKP	**PKPdf**	**07 01 24.5**	**+0.3**
KHC				*e*		07 01 29.5	
KHC				*e*		07 01 37.7	
ISP	**Isparta**	**149.55**	**312**	*c i*PKHKP	**PKPbc**	**07 01 29.7**	**-0.4**
ISP				pmax	pmax		
	comp=Z,46nm,1.7s						
BGES	**Gesves**	**149.60**	**356**	*d*PKP	**PKPbc**	**07 01 29.5**	**-0.1**
ELND	**Elena**	**149.60**	**324**	⇓P	**PKPbc**	**07 01 28.5**	**-1.4**
CKRC	**Cesky Krumlov**	**149.60**	**344**	⇑*e*PKP	**PKPbc**	**07 01 30.0**	**+0.3**
CKRC				*e*PKPAB	**PKPab**	**07 01 37.9**	**+0.4**
CKRC	**Cesky Krumlov**	**149.60**	**344**	*e*PKHKP	**PKPbc**	**07 01 30.0**	**+0.3**
CKRC				*e*		07 01 37.9	
BMRD	**Maredsous**	**149.70**	**356**	*d*PKP	**PKPbc**	**07 01 29.6**	**-0.2**
GEC2	**GERESS Array S**	**149.74**	**345**	*e*PKPbc	**PKPbc**	**07 01 30.1**	**-0.1**
	baz=17,slow=2.5						
GERES	**GERESS Array B**	**149.74**	**345**	PKPbc	**PKPbc**	**07 01 30.1**	**-0.1**
	comp=Z,24nm,0.9s,baz=29,slow=3.0,SNR=21						
SRE	**Strehaia**	**149.77**	**329**	⇑P	**PKiKP**	**07 01 30.9**	**0.0**
SRE	**Strehaia**	**149.77**	**329**	⇑PKHKP	**PKiKP**	**07 01 30.9**	**0.0**
BZS	**Buzias**	**149.78**	**332**	⇑P	**PKPdf**	**07 01 24.3**	**-0.4**
BZS	**Buzias**	**149.78**	**332**	⇑PKIKP	**PKPdf**	**07 01 24.3**	**-0.4**
RCHB	**Rochefort**	**149.81**	**356**	*d*PKP	**PKPbc**	**07 01 30.2**	**+0.1**
DOU	**Dourbes**	**149.91**	**357**	*d*PKP	**PKPbc**	**07 01 30.1**	**-0.3**
PLVB	**Pleven**	**149.97**	**326**	⇑P	**PKiKP**	**07 01 31.1**	**-0.2**
CONA	**Conrad Observa**	**149.97**	**341**	*e*PKP	**PKPbc**	**07 01 30.8**	**+0.1**
	comp=Z,17nm,0.7s,SNR=10						
HERR	**Herculane**	**149.98**	**330**	⇑P	**PKPbc**	**07 01 30.6**	**-0.1**
RONA	**Rosalia, Austr**	**150.04**	**340**	*i* PKP	**PKPbc**	**07 01 30.9**	**+0.1**
	comp=Z,23nm,0.6s,SNR=9.9						
WLF	**Walferdange**	**150.23**	**355**	*d*PKP	**PKPbc**	**07 01 30.7**	**-0.5**
WLF	**Walferdange**	**150.23**	**355**	*e*PKPbc	**PKiKP**	**07 01 32.0**	**+0.4**
	baz=17,slow=2.5						
MDVR	**Moldovita**	**150.38**	**331**	⇓P	**PKPbc**	**07 01 31.5**	**-0.2**
MOA	**Molln**	**150.51**	**343**	*i* PKP	**PKPbc**	**07 01 31.6**	**-0.2**
	comp=Z,4.3nm,0.4s						
MORH	**Mrgy, Hungar**	**150.51**	**336**	⇑P	**PKPbc**	**07 01 31.8**	**-0.1**
BLKB	**Belogradchik**	**150.79**	**328**	⇑P	**PKPbc**	**07 01 32.1**	**-0.6**
BIOA	**Bad Ischl, Aus**	**150.82**	**344**	*i* PKP	**PKPbc**	**07 01 32.1**	**-0.5**
	comp=Z,3.1nm,0.3s,SNR=5.7						
FRGS	**Fruska Gora**	**150.91**	**334**	⇑P	**PKPbc**	**07 01 32.2**	**-0.7**
RJOB	**Jochberg**	**150.99**	**345**	*e*PKPbc	**PKPbc**	**07 01 32.6**	**-0.4**
	baz=17,slow=2.5						
BOVS	**Bovan**	**151.25**	**329**	⇓P	**PKPbc**	**07 01 32.6**	**-1.1**
BFO	**Black Forest**	**151.29**	**351**		**PKPbc**	**07 01 33.3**	**-0.3**
BFO	**Black Forest**	**151.29**	**351**	PKIKP	**PKPbc**	**07 01 33.3**	**-0.3**
BFO	**Black Forest**	**151.29**	**351**	*e*PKPbc	**PKPbc**	**07 01 33.4**	**-0.3**
	baz=17,slow=2.5						
LESA	**Schwarzleotal**	**151.31**	**345**	*i* PKP	**PKPbc**	**07 01 33.1**	**-0.7**
	comp=Z,5.6nm,0.3s						
SOKA	**Soboth**	**151.35**	**341**	*i* PKP	**PKPbc**	**07 01 33.2**	**-0.7**
	comp=Z,3.5nm,0.3s						
PERS	**Pernice**	**151.36**	**341**	*i* PKPbc	**PKPbc**	**07 01 33.0**	**-0.8**
PERS				*i* PKPab	**PKPab**	**07 01 44.7**	**-0.3**
KBA	**Koelnbreinsper**	**151.46**	**344**	*i* PKP	**PKPbc**	**07 01 33.2**	**-1.0**
	comp=Z,4.8nm,0.4s						
UBR	**Ueberruh**	**151.63**	**348**	*e*PKPbc	**PKPbc**	**07 01 34.3**	**-0.1**
	baz=17,slow=2.5						
OBKA	**Obir**	**151.64**	**342**	*i* PKP	**PKPbc**	**07 01 34.0**	**-0.5**
	comp=Z,5.4nm,0.6s						
WATA	**Walderalm**	**151.65**	**346**	*i* PKP	**PKPbc**	**07 01 34.0**	**-0.6**
	comp=Z,3.0nm,0.3s						
WTTA	**Wattenberg**	**151.71**	**346**	*i* PKP	**PKPbc**	**07 01 34.4**	**-0.4**
	comp=Z,8.3nm,0.3s						
MOTA	**Moosalm**	**151.75**	**347**	*i* PKP	**PKPbc**	**07 01 34.3**	**-0.6**
	comp=Z,3.8nm,0.3s						
MYKA	**Terra Mystica**	**151.79**	**343**	*i* PKP	**PKPbc**	**07 01 33.8**	**-1.1**
	comp=Z,6.2nm,0.5s						
SQTA	**Sankt Quirin**	**151.84**	**347**	*i* PKP	**PKPbc**	**07 01 34.7**	**-0.3**
	comp=Z,3.0nm,0.4s						
ABTA	**Abfaltersbach**	**151.98**	**345**	*i* PKP	**PKPbc**	**07 01 34.4**	**-0.9**
	comp=Z,15nm,0.7s						
PRED	**Cave del Predi**	**151.99**	**343**	PKPdf	**PKPdf**	**07 01 26.8**	**-1.3**
PRED					**PKPbc**	**07 01 33.9**	**-1.4**
PRED				PKPab	**PKPab**	**07 01 46.2**	**-1.4**
DAVA	**Damuels**	**152.05**	**349**	*e*PKP	**PKiKP**	**07 01 36.0**	**+0.3**
	comp=Z,2.1nm,0.5s						
LJU	**Ljubljana**	**152.07**	**341**	*i* PKPbc	**PKPbc**	**07 01 35.3**	**-0.1**
LJU				*i* PKPab	**PKPab**	**07 01 47.2**	**-0.7**
CRNS	**Crni Vrh**	**152.12**	**342**	*i* PKPdf	**PKPdf**	**07 01 27.7**	**-0.6**
CRNS				*i* PKPbc	**PKPbc**	**07 01 34.8**	**-0.8**
FETA	**Feichten**	**152.13**	**347**	*i* PKP	**PKPbc**	**07 01 35.3**	**-0.4**
	comp=Z,3.3nm,0.5s						
ESDC	**Sonseca Array**	**159.74**	**13**	PKPab	**PKPab**	**07 02 20.9**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=341,slow=4.3,SNR=10.0						
DBIC	**Dimbokro**	**165.16**	**152**	PKP	**PKPdf**	**07 01 43.8**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=60,slow=2.5,SNR=4.1						
DBIC				PKPab	**PKPab**	**07 02 46.5**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=185,slow=7.1,SNR=4.4						
TOA0	**Torodi Ar. Sit**	**173.17**	**177**		**PKPdf**	**07 01 48.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**173.17**	**177**		**PKPdf**	**07 01 47.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**173.17**	**177**	PKP	**PKPdf**	**07 01 48.0**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=360,slow=1.7,SNR=15						
TORD				PKPab	**PKPab**	**07 03 21.9**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=202,slow=5.4,SNR=3.2						

NORS ***03*** *06:51:57.3, 41°.73N×43°.32E, h1km, MPVA3.3*
AFAD ***03*** *06:51:58.0±0.0, 41°.73N×43°.26E, h7km±1km, ML2.3*
ISC 03 06:51:57.5±1.1**, 41°.74N**±0°.03×**43°.24E**±0°.04**, h8**km±11km**,**
n16, σ**0**s**.56**/32**, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.45**	**239**	P	**Pb**	**06 52 07.5**	**-0.4**
EPOS				S	**Sb**	**06 52 14.6**	**-0.2**
AHAN	**Ardahan-Merkez**	**0.74**	**219**	P	**Pb**	**06 52 12.8**	**0.0**
AHAN				S	**Sb**	**06 52 23.9**	**+0.8**
ONI	**Oni**	**0.87**	**10**	*e*Pg	**Pg**	**06 52 13.7**	**-0.5**
ONI				*e*Sg	**Sg**	**06 52 25.6**	**+0.2**
GOLE	**Ardahan-G¶lle**	**1.02**	**208**	P	**Pn**	**06 52 17.9**	**-0.6**
GOLE				S	**Sn**	**06 52 32.5**	**-0.6**
GOLE				*i* AML	AML	06 52 34.0	
	comp=N,98nm,0.2s						
EAK	**Akyaka**	**1.09**	**165**	P	**Pg**	**06 52 17.9**	**-0.5**
EAK				S	**Sg**	**06 52 32.6**	**+0.1**
EAK				*i* AML	AML	06 52 33.0	
	comp=N,60nm,0.4s						
BOZK	**Kars-Merkez-Bo**	**1.16**	**190**	P	**Pn**	**06 52 20.7**	**+0.3**
BOZK				S	**Sn**	**06 52 37.3**	**+0.7**
BOZK				*i* AML	AML	06 52 38.0	
	comp=N,86nm,0.7s						
DIGR	**Digorskoe uzhe**	**1.19**	**12**	*e*Pg	**Pg**	**06 52 19.4**	**-0.9**
DIGR				*e*Sg	**Sg**	**06 52 36.1**	**+0.3**
DAGI	**Agillar**	**1.20**	**237**	P	**Pn**	**06 52 20.4**	**-0.4**
DAGI				S	**Sn**	**06 52 37.3**	**+0.1**
DIGO	**Kars**	**1.33**	**176**	P	**Pg**	**06 52 22.9**	**0.0**
DIGO				S	**Sn**	**06 52 40.4**	**-0.2**
DIGO				*i* AML	AML	06 52 43.0	
	comp=N,97nm,0.7s						
LACR	**Lac**	**1.34**	**35**	*e*Pg	**Pn**	**06 52 21.9**	**-0.8**
LACR				*e*Sg	**Sb**	**06 52 40.1**	**-0.3**
DBAD	**Bademkaya**	**1.37**	**239**	P	**Pg**	**06 52 23.6**	**-0.2**
DBAD				S	**Sg**	**06 52 41.6**	**+0.1**
DBAD				*i* AML	AML	06 52 50.0	
	comp=N,33nm,0.5s						
DDEM	**Demirkent**	**1.41**	**234**	P	**Pg**	**06 52 24.6**	**+0.2**
DDEM				S	**Sg**	**06 52 42.9**	**+0.2**
DDEM				*i* AML	AML	06 52 45.0	
	comp=N,78nm,0.4s						
KORR	**Kora**	**1.48**	**24**	*e*Pg	**Pb**	**06 52 25.6**	**+0.3**
KORR				*e*Sg	**Sg**	**06 52 46.2**	**+1.1**
LSNR	**Lesken**	**1.60**	**16**	*e*Pg	**Pb**	**06 52 27.7**	**+0.3**
LSNR				*e*Sg	**Sg**	**06 52 49.6**	**+0.7**
STDR	**Stavd-Durt**	**1.74**	**20**	*e*Pg	**Pg**	**06 52 31.1**	**+0.2**
STDR				*e*Sg	**Sg**	**06 52 53.4**	**0.0**
SHA1	**Shidzhatmaz**	**2.04**	**348**	*e*Pg	**Pb**	**06 52 34.7**	**-0.4**
SHA1				*e*Sg	**Sb**	**06 53 02.1**	**+1.3**

TRN ***03*** *06:54:16.1, 10°.72N×62°.57W, h29km, MD4.3*
FUNV ***03*** *06:54:16.7, 10°.61N×62°.48W, h84km, MW3.8*
ISC 03 06:54:14.3±1.3**, 10°.62N**±0°.05×**62°.57W**±0°.05**, h99**km±14km**,**
n41, σ**2**s**.19**/63**, 1C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.66**	**275**	*e*P	**Pn**	**06 54 32.4**	**+1.2**
CRUV				*e*S	**Sn**	**06 54 44.1**	**+0.1**
TRN	**Trinidad (W)**	**1.15**	**89**	⇑*i*P	**Pn**	**06 54 36.8**	**+0.5**
TRN				*e*S	**Sn**	**06 54 50.5**	**-2.4**
CUMV	**Cumana_UDO**	**1.61**	**263**	*e*P	**Pn**	**06 54 44.7**	**+2.8**
CUMV				*e*S	**Sn**	**06 55 04.8**	**+1.9**
GRGR	**Grenville**	**1.75**	**31**	*e*P	**Pn**	**06 54 44.0**	**+0.3**
GRGR				*e*S	**Sn**	**06 55 03.7**	**-2.3**
GRHS	**Sauteurs**	**1.83**	**30**	*e*P	**Pn**	**06 54 44.9**	**+0.1**
GRHS				*e*S	**Sn**	**06 55 05.8**	**-2.1**
PCRV	**Puerto La Cruz**	**2.08**	**258**	*e*P	**Pn**	**06 54 50.4**	**+2.4**
PCRV				*e*S	**Sn**	**06 55 14.2**	**+0.6**
GCMP	**Grenada, Carri**	**2.17**	**31**	*e*P	**Pn**	**06 54 49.2**	**+0.2**
GCMP				*e*S	**Sn**	**06 55 14.1**	**-1.4**
SVOC	**Richmond Hill,**	**2.84**	**28**	*e*P	**Pn**	**06 54 58.5**	**+0.6**
SVOC				*e*S	**Sn**	**06 55 32.0**	**+0.5**
SVB	**Belmont**	**2.93**	**26**	*e*P	**Pn**	**06 54 60.0**	**+0.8**
SVB				*e*S	**Sn**	**06 55 32.3**	**-1.4**
SLB	**Belfond**	**3.52**	**25**	*e*P	**Pn**	**06 55 07.8**	**+0.7**
SLB				*e*S	**Sn**	**06 55 47.2**	**-0.7**
SLBI	**Saint Lucia, B**	**3.72**	**25**	*e*P	**Pn**	**06 55 10.9**	**+1.2**
SLBI				*e*S	**Sn**	**06 55 50.9**	**-1.7**
BBGH	**Gun Hill**	**3.87**	**49**	*e*P	**Pn**	**06 55 14.1**	**+2.3**
BBGH				*e*S	**Sn**	**06 55 56.1**	**-0.1**
BIM	**Bigot**	**4.14**	**21**	*e*P	**Pn**	**06 55 16.6**	**+1.1**
BIM				*e*S	**Sn**	**06 56 01.2**	**-1.6**
MPOM	**Morne Pois Mar**	**4.15**	**24**	*e*P	**Pn**	**06 55 16.7**	**+1.2**
MPOM	**Morne Pois Mar**	**4.15**	**24**	*e*S	**Sn**	**06 56 02.5**	**-0.5**
FDF	**Fort de France**	**4.31**	**19**	*e*P	**Pn**	**06 55 19.2**	**+1.4**
FDF				*e*S	**Sn**	**06 56 03.7**	**-3.4**
SVN	**Savane Anatole**	**4.41**	**18**	*e*P	**Pn**	**06 55 20.6**	**+1.4**
TACV	**Tcata**	**4.41**	**264**	*e*P	**Pn**	**06 55 21.7**	**+2.5**
TACV				*e*S	**Sn**	**06 56 08.3**	**-1.2**
LUEV	**Luepa**	**4.87**	**167**	*e*P	**Pn**	**06 55 26.2**	**+0.7**
LUEV				*e*S	**Sn**	**06 56 16.9**	**-4.0**
CACV	**CAICARA DEL OR**	**4.96**	**233**	*e*P	**Pn**	**06 55 23.0**	**-3.6**
CACV				*e*S	Sn	06 56 11.9	-11
BENV	**Beln**	**4.99**	**263**	*e*P	**Pn**	**06 55 28.8**	**+1.7**
BENV				*e*S	**Sn**	**06 56 21.8**	**-1.9**
TURV	**Turiamo**	**5.19**	**269**	*e*P	**Pn**	**06 55 31.5**	**+2.0**
TURV				*e*S	**Sn**	**06 56 26.6**	**-1.7**
CBE	**Ff, Capester**	**5.50**	**10**	*e*P	**Pn**	**06 55 35.6**	**+1.8**
CBE	**Ff, Capester**	**5.50**	**10**	*e*S	**Sn**	**06 56 32.7**	**-3.1**
BAUV	**El Baul**	**5.65**	**253**	*e*P	**Pn**	**06 55 37.3**	**+1.4**
BAUV				*e*S	**Sn**	**06 56 37.5**	**-1.9**
BAUV	**El Baul**	**5.65**	**253**	*e*P	**Pn**	**06 55 38.2**	**+2.3**
BAUV	**El Baul**	**5.65**	**253**	*e*S	**Sn**	**06 56 41.5**	**+2.1**
ABD	**La Joyeuse, An**	**5.91**	**10**	*e*P	**Pn**	**06 55 42.9**	**+3.4**
ABD	**La Joyeuse, An**	**5.91**	**10**	*e*S	**Sn**	**06 56 43.3**	**-2.5**
MLYT	**Lee's Yard**	**6.07**	**3**	*e*	**Pn**	**06 55 45.4**	**+3.8**
MLYT	**Lee's Yard**	**6.07**	**3**	*e*		06 56 47.8	
MBFL	**Flemmings, Mon**	**6.10**	**3**	*e*P	**Pn**	**06 55 44.0**	**+1.9**
MBFL	**Flemmings, Mon**	**6.10**	**3**	*e*S	**Sn**	**06 56 48.8**	**-1.6**
ANBD	**Bethesda, Anti**	**6.43**	**7**	*e*P	**Pn**	**06 55 48.1**	**+1.5**
ANBD	**Bethesda, Anti**	**6.43**	**7**	*e*S	**Sn**	**06 57 00.4**	**+1.8**
TEPV	**Terepaima**	**6.55**	**265**	*e*P	**Pn**	**06 55 49.8**	**+1.6**
TEPV				*e*S	**Sn**	**06 56 58.1**	**-3.4**
SANV	**Sanarito**	**6.95**	**261**	*e*P	**Pn**	**06 55 54.6**	**+0.9**
SANV				*e*S	**Sn**	**06 57 08.0**	**-3.4**
SIQV	**Siquisique**	**7.12**	**271**	*e*P	**Pn**	**06 55 57.4**	**+1.5**
CURV	**Curarigua**	**7.30**	**266**	*e*P	**Pn**	**06 55 59.7**	**+1.3**
CURV				*e*S	**Sn**	**06 57 16.3**	**-3.6**
SOCV	**Socops**	**8.50**	**255**	*e*P	**Pn**	**06 56 15.0**	**+0.3**
SOCV				*e*S	**Sn**	**06 57 42.7**	**-6.3**
AOPR	**Arecibo Observ**	**8.68**	**333**	*e*P	**Pn**	**06 56 19.8**	**+2.6**

SOME ***03*** *06:56:33.2, 39°.70N×76°.00E, h5km*
KRNET ***03*** *06:56:38.5±0.1, 39°.78N×76°.14E, mb3.0*
NNC ***03*** *06:56:43.6±1.3, 40°.06N×75°.99E, h0km, mb3.3, mpv3.0,*
Error ellipse: s-maj=12.4km s-min=7.4km az=129.0
ISC 03 06:56:40.6±1.6**, 40°.01N**±0°.06×**75°.94E**±0°.04**, h10**km**, n44,**
σ**1**s**.25**/70**, 22C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.87**	**271**	⇑*i*P	**Pg**	**06 57 15.6**	**-0.8**
	baz=78						
SFK				⇑*i*S	**Sg**	**06 57 42.9**	**+2.3**
	baz=78						
KZA	**Kyzart**	**2.13**	**346**	P	**Pg**	**06 57 20.7**	**-0.7**
	SNR=12						
KZA	**Kyzart**	**2.13**	**346**	⇑*e*P	**Pg**	**06 57 20.5**	**-0.9**
	baz=44						
KZA				⇑*i*S	**Sg**	**06 57 51.2**	**+2.2**
	baz=44						
ARLS	**Aral**	**2.22**	**327**	⇑*i*P	**Pg**	**06 57 21.8**	**-1.2**
	baz=27						
ARLS				⇑*i*S	**Sg**	**06 57 53.4**	**+1.6**
	baz=27						
ULHL	**Ulahol**	**2.25**	**6**	P	**Pg**	**06 57 23.6**	**0.0**
	SNR=25						
ULHL	**Ulahol**	**2.25**	**6**	⇓*i*P	**Pb**	**06 57 21.5**	**+0.2**
	baz=2.0						
ULHL				⇓*i*S	**Sg**	**06 57 52.8**	**+0.1**
	baz=2.0						
UCH	**Uchtor**	**2.46**	**335**	P	**Pg**	**06 57 26.4**	**-1.4**
	SNR=7.6						
UCH	**Uchtor**	**2.46**	**335**	⇑*e*P	**Pb**	**06 57 25.3**	**+0.1**
	baz=34						
UCH				⇑*i*S	**Sg**	**06 57 59.7**	**0.0**
	baz=34						
OHH	**Osh**	**2.46**	**283**	⇑*e*P	**Pb**	**06 57 24.3**	**-0.7**
	baz=87						
OHH				⇑*e*S	**Sg**	**06 57 57.9**	**-1.8**
	baz=87						
BOOM	**Boomskoye usch**	**2.48**	**0**	⇓*i*P	**Pb**	**06 57 24.9**	**-0.4**
	baz=57						
BOOM				⇓*i*S	**Sg**	**06 57 58.8**	**-1.4**
	baz=57						
ARSB	**Arslanbob**	**2.60**	**301**	⇑*e*P	**Pb**	**06 57 27.1**	**-0.3**
	baz=4.0						
ARSB				⇑*e*S	**Sb**	**06 58 01.8**	**+2.3**
	baz=4.0						
AML	**Almayashu**	**2.71**	**322**	P	**Pb**	**06 57 29.3**	**-0.1**
	SNR=17						
AML	**Almayashu**	**2.71**	**322**	⇓Pn	**Pb**	**06 57 29.4**	**-0.1**
	0.1nm,0.2s						
AML				⇑Sn	**Sg**	**06 58 09.2**	**+1.5**
	1.2nm,0.7s						
AML	**Almayashu**	**2.71**	**322**	⇑*i*P	**Pb**	**06 57 28.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=23						
AML				⇑iS	Sg	06 58 05.8	-1.9
	baz=23						
KBK	Karagaybulak	2.75	345	⇑iP	Pb	06 57 28.9	-1.0
	baz=43						
KBK				⇑iS	Sb	06 58 05.9	+2.3
	baz=43						
AAK	Ala-Archa	2.84	338	P	Pb	06 57 31.4	0.0
	SNR=7.9						
AAK	Ala-Archa	2.84	338	⇑eP	Pb	06 57 30.3	-1.1
	baz=37						
AAK				⇑iS	Sb	06 58 08.4	+2.1
	baz=37						
TKM2	Tokmak 2	2.92	355	P	Pb	06 57 32.7	-0.1
	SNR=6.8						
TKM2	Tokmak 2	2.92	355	⇓Pn	Pb	06 57 31.5	-1.4
	3.4nm,0.6s						
TKM2				⇑Sn	Sg	06 58 15.2	+0.9
	3.5nm,0.3s						
TKM2	Tokmak 2	2.92	355	⇑iP	Pb	06 57 31.2	-1.6
	baz=53						
TKM2				⇑iS	Sb	06 58 09.7	+1.1
	baz=53						
KST	Kastek	3.03	0	Pg	Pg	06 57 36.9	-1.7
	4.0nm,0.7s						
KST				Lg	Lg	06 58 18.8	
	8.6nm,0.5s						
KST	Kastek	3.03	0	eP	Pb	06 57 34.6	-0.1
	7.3nm,4.0s						
KST				eS	Sg	06 58 18.8	+0.9
	8.6nm,0.5s						
CHMS	Chumysh	3.12	344	⇓Pn	Pb	06 57 35.9	-0.2
	2.0nm,0.7s						
CHMS				⇓Sn	Sg	06 58 22.0	+1.4
	3.3nm,0.4s						
TNSS	Tian-Shan	3.12	14	Pg	Pg	06 57 39.6	-0.7
	2.9nm,0.4s						
TNSS				Lg	Lg	06 58 23.2	
	4.3nm,0.3s						
TNSS	Tian-Shan	3.12	14	eP	Pb	06 57 35.6	-0.7
	5.4nm,0.2s						
TNSS				eS	Sg	06 58 20.5	-0.2
	4.3nm,0.3s						
MTBS	Maitube	3.14	7	Pg	Pg	06 57 38.6	-2.1
	4.1nm,0.5s						
MTBS				Lg	Lg	06 58 21.3	
	5.2nm,0.3s						
MTBS	Maitube	3.14	7	eP	Pb	06 57 36.1	-0.4
	4.8nm,0.3s						
MTBS				eS	Sg	06 58 21.3	-0.1
	5.2nm,0.3s						
DGS	Degeres	3.23	358	Pg	Pg	06 57 40.7	-1.7
	4.3nm,0.5s						
DGS				Lg	Lg	06 58 24.0	
	6.5nm,0.8s						
DGS	Degeres	3.23	358	eP	Pb	06 57 37.4	-0.7
	7.3nm,0.3s						
DGS				eS	Sg	06 58 23.6	-0.7
	6.5nm,0.8s						
MDOK	Medeo	3.26	14	Pg	Pg	06 57 41.6	-1.3
	2.5nm,0.2s						
MDOK				Lg	Lg	06 58 26.6	
	6.8nm,0.6s						
MDOK	Medeo	3.26	14	eP	Pb	06 57 39.2	+0.6
	3.7nm,0.4s						
MDOK				eS	Sg	06 58 26.6	+1.4
	6.8nm,0.6s						
KOTS	Kotyrbulak	3.34	15	Lg	Lg	06 58 27.5	
	7.3nm,0.6s						
KOTS	Kotyrbulak	3.34	15	eP	Pb	06 57 39.1	-0.8
	4.6nm,0.3s						
KOTS				eS	Sg	06 58 26.5	-1.3
	7.3nm,0.6s						
MRKS	Merke	3.41	324	eP	Pb	06 57 40.8	-0.3
	2.8nm,0.2s						
MRKS				eS	Sg	06 58 29.4	-0.6
	4.4nm,0.3s						
SATY	Saty	3.56	31	Pg	Pg	06 57 47.7	-1.2
	2.6nm,0.4s						
SATY				Lg	Lg	06 58 36.9	
	8.4nm,0.8s						
SATY	Saty	3.56	31	eP	Pb	06 57 45.2	+1.4
	2.6nm,0.4s						
SATY				eS	Sg	06 58 36.9	+1.8
	8.4nm,0.8s						
KRBS	Karabastau	3.69	357	Pg	Pg	06 57 48.8	-2.4
	2.4nm,0.5s						
KRBS				Lg	Lg	06 58 38.9	
	3.8nm,0.5s						
KRBS	Karabastau	3.69	357	eP	Pb	06 57 46.1	+0.2
	1.4nm,0.3s						
KRBS				eS	Sg	06 58 38.5	-0.5
	3.8nm,0.5s						
KTBS	Karatobe	3.74	8	Pg	Pg	06 57 50.3	-1.9
	4.1nm,0.4s						
KTBS				Lg	Lg	06 58 41.3	
	9.5nm,0.5s						
KTBS	Karatobe	3.74	8	eP	Pb	06 57 47.6	+0.9
	4.1nm,0.4s						
KTBS				eS	Sg	06 58 41.2	+0.6
	9.5nm,0.5s						
KUU	Kurty	3.89	4	Pg	Pg	06 57 52.8	-2.3
	3.5nm,1.0s						
KUU				Lg	Lg	06 58 45.5	
	10nm,1.1s						
KUU	Kurty	3.89	4	eP	Pb	06 57 50.0	+0.8
	3.5nm,1.0s						
KUU				eS	Sg	06 58 45.4	-0.1
	10nm,1.1s						
UZB	Uzynbulak	3.90	35	eP	Pb	06 57 50.0	+0.6
	1.3nm,0.1s						
UZB				eS	Sg	06 58 45.3	-0.3
	5.4nm,0.5s						
PDGK	Podgornoye	4.25	38	Pg	Pg	06 57 59.8	-2.2
	0.9nm,0.5s						
PDGK				Lg	Lg	06 58 57.8	
	3.0nm,0.9s						

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*IDC **03** 07:35:32.2±1.3, 49°.78N×81°.66E, h0km, mbtmp2.3/2, ML1.8/2, Error ellipse: s-maj=17.1km s-min=9.6km az=55.0*

*NNC **03** 07:35:35.6±3.7, 50°.02N×82°.10E, h44km±332km, mb3.5, mpv3.0, Error ellipse: s-maj=34.6km s-min=8.0km az=60.0, Suspected Mining explosion.*

ISC 03 07:35:25.1±1.3**, 49°.95N**±0°.05×**82°.21E**±0°.07**, h0km, n8, σ0.s84**/11**, 4C-1D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	2.42	290	⇑Pn	Pg	07 36 10.9	-0.6
	13nm,0.7s						
KURK				⇑Sn	Sb	07 36 39.8	-0.2
	19nm,0.9s						
KURBB	Kurchatov Arra	2.46	287	⇓Pn	Pb	07 36 11.1	+1.0
	16nm,0.7s						
KURBB				⇑Sn	Sb	07 36 39.9	-1.0
	42nm,0.9s						
KURBB	Kurchatov Arra	2.46	287	Pg	Pb	07 36 11.2	+1.0
	0.2nm,0.3s,baz=112,slow=19,SNR=67						
KURBB				Lg	Lg	07 36 42.2	
	0.3nm,0.3s,baz=108,slow=30,SNR=16						
MAKZ	Makanchi	3.15	183	Pn	Pg	07 36 24.9	-0.4
MAKZ				Sn	Sb	07 37 00.9	+0.2
MK31	Makanchi Array	3.16	179	Pn	Pg	07 36 24.7	-0.9
	0.6nm,0.5s,baz=358,slow=14,SNR=18						
MK31				⇑Sn	Sb	07 37 00.8	-0.3
	5.3nm,0.7s,baz=358,slow=23,SNR=13						
MKAR	Makanchi Array	3.16	179	Pn	Pb	07 36 22.9	+0.8
	0.5nm,0.3s,baz=353,slow=15,SNR=26						
MKAR				Lg	Lg	07 37 05.2	
	0.6nm,0.3s,baz=355,slow=29,SNR=20						
	0.7nm,0.3s						
ZALV	Zalesovo Beam	4.32	21	Pn	Pb	07 36 42.4	+0.6
	0.1nm,0.3s,baz=209,slow=15,SNR=2.2						
ZALV				Lg	Lg	07 38 00.6	
	0.2nm,0.3s,baz=205,slow=26,SNR=9.8						
	0.3nm,0.5s						
I46RU	ZALESOVO INFRA	4.32	21	I	I	08 05 50.0	
	baz=201,slow=334,SNR=4.0						

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*IDC **03** 07:58:17.0±0.9, 13°.92N×121°.00E, h112km±4km, mb3.4/8, mbtmp3.7/8, Error ellipse: s-maj=120.3km s-min=17.3km az=66.0*

ISC 03 07:58:17.3±1.3**, 14°.0N**±0°.4×**121°.1E**±0°.9**, h117**km±9km**, n9, σ0.s76**/10**, mb3.7**/8**, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.22	314	P	Pn	07 58 33.9	+0.1
	382nm,0.3s,baz=44,slow=3.2,SNR=5.2						
TGY				S	Sn	07 58 45.9	-0.2
	3µm,0.4s,baz=81,slow=19,SNR=64						
SONM	Songino Array	35.94	343	P	P	08 05 07.4	+0.9
	0.8nm,0.4s,baz=165,slow=10,SNR=8.4						
	0.8nm,0.4s						
WRA	Warramunga Arr	36.11	159	P	P	08 05 07.4	-0.7
	0.3nm,0.9s,baz=345,slow=8.7,SNR=1.4						
	0.3nm,0.9s						
ASAR	Alice Springs	39.42	161	P	P	08 05 37.0	+1.0
	0.2nm,0.8s,baz=336,slow=7.0,SNR=1.8						
	0.2nm,0.8s						
MKAR	Makanchi Array	46.07	323	P	P	08 06 29.7	+0.3
	0.4nm,0.3s,baz=126,slow=8.8,SNR=6.2						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	49.02	332	P	P	08 06 51.7	-0.4
	1.0nm,0.3s,baz=127,slow=6.4,SNR=7.7						
	1.0nm,0.3s						
KURBB	Kurchatov Arra	50.20	326	P	P	08 07 01.1	0.0
	1.1nm,0.4s,baz=126,slow=7.9,SNR=7.6						
	1.1nm,0.4s						
BVAR	Borovoye Array	55.79	326	P	P	08 07 41.5	-0.5
	0.6nm,0.5s,baz=96,slow=7.7,SNR=4.4						
	0.6nm,0.5s						
ARCES	ARCESS Array B	79.00	339	P	P	08 10 07.1	-0.8
	0.8nm,0.6s,baz=86,slow=4.6,SNR=4.5						
	0.8nm,0.6s						

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*RSNC **03** 08:04:57.0±0.9, 6°.82N×73°.16W, h148km±4km, ML3.4, Mw3.7*

*IDC **03** 08:04:57.5±4.0, 6°.75N×73°.18W, h178km±27km, mb2.9/3, mbtmp3.6/4, Error ellipse: s-maj=84.4km s-min=28.0km az=89.0*

ISC 03 08:04:55.3±0.8**, 6°.88N**±0°.03×**73°.16W**±0°.04**, h158**km±6km**, n33, σ1.s68**/61**, mb3.4**/3**, 2C-4D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.29	185	⇓iP	Pn	08 05 16.9	-0.2
BARC				eS	Sn	08 05 32.1	-1.7
BARC				i		08 05 34.8	
	comp=Z,909nm,0.4s						
PAMC	Pamplona, Colo	0.64	45	⇑iP	Pn	08 05 19.7	+0.8
PAMC				eS	Sn	08 05 37.0	0.0
PAMC				i		08 05 39.1	
	comp=Z,762nm,0.5s						
PTBC	PUERTO BERRIO,	1.33	255	⇓iP	Pn	08 05 23.3	-0.5
PTBC				eS	Sn	08 05 44.9	-0.9
PTBC				i		08 05 45.8	
	comp=Z,294nm,0.2s						
OCAC	Ocana	1.36	353	eP	Pn	08 05 25.1	+0.8
OCAC				eP		08 05 25.5	
OCAC				eS	Sn	08 05 47.1	+0.6
TAMC	Tame, Arauca	1.43	108	⇑iP	Pn	08 05 25.4	+0.5
TAMC				eS	Sn	08 05 47.3	-0.2
TAMC				i		08 05 47.8	
	comp=Z,201nm,0.3s						
SPBC	San Pablo de B	1.52	217	eP	Pn	08 05 25.6	-0.2
SPBC				eS	Sn	08 05 47.8	-1.5
SPBC				i		08 05 54.0	
	comp=Z,742nm,0.4s						
ZARC	Zaragoza, Cauc	1.79	290	eP	Pn	08 05 28.9	+0.3
ZARC				eS	Sn	08 05 54.6	+0.4
ZARC				i		08 06 00.5	
	comp=Z,344nm,0.4s						
ROSC	El Rosal	2.33	210	P	Pn	08 05 36.7	+1.4
	comp=Z,238nm,0.3s,baz=129,slow=16,SNR=382						
ROSC				S	Sn	08 06 08.4	+2.3
	comp=Z,341nm,0.3s,baz=190,slow=23,SNR=17						
ROSC	El Rosal	2.33	210	⇓iP	Pn	08 05 36.7	+1.4
ROSC				eS	Sn	08 06 08.3	+2.3
ROSC				i		08 06 15.3	
	comp=Z,415nm,0.3s						
GUY2C	Guyana, Caldas	2.74	233	eP	Pn	08 05 41.4	+1.1
GUY2C				eS	Sn	08 06 18.2	+3.2
GUY2C				i		08 06 27.2	
	comp=Z,288nm,0.5s						
PTGC	Puerto Gaitan,	2.85	159	⇓iP	Pn	08 05 40.2	-1.1
PTGC				eS	Sn	08 06 13.3	-3.5
PTGC				i		08 06 15.4	
	comp=Z,250nm,0.3s						
CBOC	Ciudad Bolivar	3.01	251	eP	Pn	08 05 44.5	+1.2
CBOC				eS	Sn	08 06 21.0	+0.6
CBOC				i		08 06 25.0	
	comp=Z,74nm,0.4s						
DBBC	Dabeiba	3.03	273	eP	Pn	08 05 44.2	+0.8
DBBC				eS	Sn	08 06 19.1	-1.7
DBBC				i		08 06 24.3	
	comp=Z,86nm,0.5s						
PRAC	Prado	3.59	209	eP	Pn	08 05 50.0	-0.5
PRAC				eS	Sn	08 06 32.8	-0.7
PRAC				i		08 06 39.3	
	comp=Z,169nm,0.4s						
SJCC	San Jacinto, C	3.60	326	eP	Pn	08 05 50.6	-0.1
SJCC				eS	Sn	08 06 31.8	-2.0
SJCC				i		08 06 39.8	
	comp=Z,77nm,0.3s						
ORTC	Ortega, Tolima	3.61	215	eP	Pn	08 05 51.0	+0.2
ORTC				eS	Sn	08 06 34.4	+0.4
ORTC				i		08 06 36.7	
	comp=Z,57nm,0.5s						
PLMC	San Jos del P	3.68	238	eP	Pn	08 05 52.2	+0.5
PLMC				eS	Sn	08 06 35.8	+0.3
PLMC				i		08 06 38.7	
	comp=Z,88nm,0.5s						
CRJC	Cerrejon, Guaj	4.12	4	eP	Pn	08 05 57.2	-0.2
CRJC				eS	Sn	08 06 44.4	-1.5
CRJC				i		08 06 55.5	
	comp=Z,69nm,0.4s						
YOTC	Yotoco, Valle	4.28	228	eP	Pn	08 05 59.8	+0.1
YOTC				eS	Sn	08 06 50.5	+0.8
YOTC				i		08 06 56.5	
	comp=Z,19nm,0.3s						
SMRC	Santa Marta, M	4.38	346	eP	Pn	08 06 02.2	+1.4
SMRC				eS	Sn	08 06 50.1	-1.8
SMRC				i		08 06 52.8	
	comp=Z,50nm,0.3s						
CAPC	Capurgana	4.50	293	eP	Pn	08 06 01.5	-0.9
CAPC				eS	Sn	08 06 52.5	-2.2
CAPC				i		08 07 02.5	
	comp=Z,23nm,0.2s						
PTAC	Punta Ardita,	4.62	274	eP	Pn	08 06 03.7	-0.2
PTAC				eS	Sn	08 06 52.6	-4.8
PTAC				i		08 06 60.0	
	comp=Z,11nm,0.3s						
JAMC	Jamundi, Valle	5.05	224	eP	Pn	08 06 11.0	+1.2
JAMC				eS	Sn	08 07 07.5	-0.4
JAMC				i		08 07 17.9	
	comp=Z,12nm,0.2s						
UPD2	Meteti	5.09	289	eP	Pn	08 06 09.7	-0.3
UPD2				eS	Sn	08 07 06.7	-1.8
UPD2				i		08 07 13.1	
	comp=Z,25nm,0.7s						
GARC	Garzon, Huila	5.21	207	eP	Pn	08 06 10.9	-1.0
GARC				eS	Sn	08 07 06.1	-5.7
GARC				i		08 07 15.7	
	comp=Z,43nm,0.2s						
POPC	Popayan, Colom	5.56	219	eP	Pn	08 06 16.9	+0.4
POPC				eS	Sn	08 07 18.7	-1.3
POPC				i		08 07 26.7	
	comp=Z,6.8nm,0.4s						
FLOC	Florencia	5.82	205	eP	Pn	08 06 19.4	-0.4
FLOC				eS	Sn	08 07 22.1	-4.0
FLOC				i		08 07 36.6	
	comp=Z,7.5nm,0.4s						
BBAC	Balboa, Cauca	6.32	220	eP	Pn	08 06 27.9	+1.4
BBAC				eS	Sn	08 07 36.6	-1.4
BBAC				i		08 07 44.5	
	comp=Z,6.0nm,0.4s						
TXAR	Lajitas Array	36.39	312	P	P	08 11 45.2	+0.5
	comp=Z,0.1nm,0.5s,baz=133,slow=9.0,SNR=1.4						
	comp=Z,0.1nm,0.5s						
ULM	Lac du Bonnet	47.22	340	P	P	08 13 13.0	+0.9
	comp=Z,1.0nm,0.5s,baz=153,slow=16,SNR=2.2						
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	63.19	340	P	P	08 15 07.3	+1.1
	comp=Z,0.3nm,0.5s,baz=132,slow=6.1,SNR=10.0						
	comp=Z,0.3nm,0.5s						
ASAR	Alice Springs	149.12	234	PKPbc	PKPbc	08 24 24.2	-1.6
	comp=Z,0.2nm,0.3s,baz=106,slow=3.3,SNR=2.2						
WRA	Warramunga Arr	150.33	241	PKPbc	PKPbc	08 24 28.4	-0.4
	comp=Z,0.1nm,0.3s,baz=108,slow=2.8,SNR=6.7						

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*NOU **03** 08:10:41.1, 20°.38S×169°.56E, h83km, MLv3.8/8, Vanuatu Islands*

IDC 03 08:10:43.9±7.5**, 20°.87S×169°.39E, h158**km±38km**, mb3.3**/3**, mbtmp3.7**/4**, Error ellipse: s-maj=115.4km s-min=69.4km az=156.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.41	244	P	Pn	08 11 10.6	-2.6
LIFNC	LIFOU	2.02	272	P	Pn	08 11 15.9	-3.8
PINNC	Pines Island,	2.51	226	P	Pn	08 11 25.9	+0.4
YATNC	Mamie plateau,	2.62	243	P	Pn	08 11 25.7	-1.1
OUENC	Ouen Island, N	2.83	237	P	Pn	08 11 30.2	+0.7
DZM	Mont Dzumac	3.00	246	P	Pn	08 11 31.4	-0.3
DZM	Mont Dzumac	3.00	246	P	Pn	08 11 31.7	0.0
	17nm,0.4s,baz=104,slow=13,SNR=147						
DZM				S	Sn	08 12 09.0	+0.3
	39nm,0.5s,baz=166,slow=23,SNR=16						
ONTNC	Ouen Toro	3.09	242	P	Pn	08 11 33.1	+0.4
NOUC	Port Laguerre	3.13	246	P	Pn	08 11 33.2	0.0
STKA	Stephens Creek	27.14	240	P	P	08 16 12.2	-0.2
	1.0nm,0.8s,baz=98,slow=18,SNR=3.1						
	1.0nm,0.8s						
WRA	Warramunga Arr	32.83	265	P	P	08 17 02.0	-0.7
	0.6nm,0.9s,baz=97,slow=8.5,SNR=6.3						
	0.6nm,0.9s						
ASAR	Alice Springs	32.91	258	P	P	08 17 03.9	+0.5
	1.7nm,0.8s,baz=88,slow=9.1,SNR=22						
	1.7nm,0.8s						

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*IDC **03** 08:22:16.3±7.0, 15°.05N×145°.09E, h134km±18km, mb3.1/3, mbtmp3.5/3, MS3.4/2, Error ellipse: s-maj=304.6km s-min=29.4km az=83.0*

*NEIC **03** 08:22:26.3±0.6, 13°.8N±0°.1×145°.1E±0°.2, h128km±8km, mb4.4/5, Error ellipse: s-maj=34.5km s-min=11.9km az=115.0*

ISC 03 08:22:25.9±2.5**, 13°.7N**±0°.4×**145°.2E**±0°.2**, h128km, n12, σ0.s41**/10**, mb4.0**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.33	242	P	Pn	08 22 44.1	+0.2
	430nm,0.3s,baz=331,slow=3.2,SNR=87						
GUMO				S	Sn	08 22 57.0	-0.4
	326nm,0.2s,baz=25,slow=23,SNR=21						
PATS	Pohnpei	14.64	117	Pn	Pn	08 25 46.8	-0.1
JHJ	Hachijo jima 2	19.90	347	LR	LR	08 32 39.6	
	comp=Z,176nm,20.5s,baz=104,slow=34						
CTA	Charters Tower	33.64	178	LR	LR	08 43 06.8	
	comp=Z,39nm,18.9s,baz=288,slow=36						
WB0	Warramunga Arr	34.95	198	P	P	08 29 05.4	-0.4
WB0				IAmb	IAmb	08 29 24.6	
	comp=Z,5.5nm,1.2s						
WR0	Warramunga Arr	35.09	198	P	P	08 29 06.5	-0.4
WRAB	Tennant Creek	35.12	198	P	P	08 29 07.8	+0.6
WB2	Warramunga Arr	35.12	198	P	P	08 29 07.0	-0.3
WB2				IAmb	IAmb	08 29 27.2	
	comp=Z,7.8nm,1.4s						
WRA	Warramunga Arr	35.13	198	P	P	08 29 07.4	+0.1
	comp=Z,0.8nm,0.8s,baz=20,slow=9.6,SNR=8.2						
	comp=Z,0.8nm,0.8s						
ASAR	Alice Springs	38.78	197	P	P	08 29 38.0	-0.2
	comp=Z,0.3nm,0.7s,baz=19,slow=13,SNR=4.6						
	comp=Z,0.3nm,0.7s						
BBOO	Buckleboo	47.10	190	P	P	08 30 45.4	+0.3
BBOO				IAmb	IAmb	08 31 10.4	
	comp=Z,16nm,1.4s						
ZALV	Zalesovo Beam	61.67	324	P	P	08 32 12.4	-18
	comp=Z,0.3nm,0.3s,baz=119,slow=8.4,SNR=2.1						
	comp=Z,0.3nm,0.3s						

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*IDC **03** 08:36:23.7±0.9, 46°.35N×121°.99W, h0km, mb2.9/2, mbtmp3.3/11, ML3.4/8, Error ellipse: s-maj=12.9km s-min=9.2km az=104.0*

*SEA **03** 08:36:25.9±1.5, 46°.26N±0°.04×122°.06W±0°.05, h10km±5km, ML3.9/25, ML3.7/114(NEIC), Mwr3.8/18(SLM), Error ellipse: s-maj=5.2km s-min=4.8km az=190.0*

*NEIC **03** 08:36:25.8±2.0, 46°.25N±0°.03×122°.07W±0°.05, h17km±3km, Error ellipse: s-maj=4.8km s-min=3.8km az=88.0*

*PNSN **03** 08:36:25.9, 46°.26N×122°.06W, h10km, MD3.8, Fault plane solution: NP1:ϕ_s75.00000°, δ90.00000°, λ-80.00000°.*

*NEIC **03** 08:36:25, 46°.26N×122°.05W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.90; $M_{\theta\theta}$1.89; $M_{\phi\phi}$3.02; $M_{r\theta}$-0.31; $M_{\theta\phi}$2.82; $M_{\phi r}$1.95; Fault plane solution: $M_0$5.50000×10^{14} NP1:ϕ_s55.00000°, δ40.00000°, λ-65.00000°. NP2:ϕ_s204.00000°, δ54.00000°, λ-110.00000°. Principal axes: T 5.4989, Plg7.0000°, Azm307.0000°; N -0.0062, Plg16.0000°, Azm215.0000°; P -5.4927, Plg72.0000°, Azm62.0000°;*

ISC 03 08:36:25.6±0.8**, 46°.26N**±0°.02×**122°.06W**±0°.02**, h18**km±3km**, n121, σ1.s19**/128**, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
B202	Windy Ridge, M	0.05	255		Pg	08 36 29.9	+1.0
SOSW	Source of Smit	0.05	254		Pg	08 36 28.3	-0.7
ESD	East Dome	0.09	225		Pg	08 36 28.8	-0.4
BOLM	Sugar Bowl	0.09	241		Pg	08 36 29.0	-0.4
VALT	Mount Saint He	0.10	243		Pg	08 36 29.0	-0.4
VALT					Sg	08 36 31.5	-0.4
JRO	Jston Ridge Ob	0.11	279		Pg	08 36 28.9	-0.5
JRO					Sg	08 36 31.3	-0.7
STD	Studebaker Rid	0.11	260		Pg	08 36 29.0	-0.4
STD					Sg	08 36 31.5	-0.6
HSR	South Ridge	0.12	224		Pg	08 36 29.2	-0.4
JLK	June Lake	0.13	209		Pg	08 36 29.1	-0.5
SHW	Mount Saint He	0.14	241		Pg	08 36 29.4	-0.4
TDL	Tradedollar La	0.14	311		Pg	08 36 29.4	-0.4
CDFW	Cedar Flats	0.14	176		Pg	08 36 29.3	-0.4
B201	Coldwater, Mou	0.15	288		Pg	08 36 29.4	-0.4
B201					Sg	08 36 32.1	-0.6
ERK	Elk Rock	0.20	284		Pg	08 36 30.2	-0.3
B203	Quarry, Mount	0.21	245		Pg	08 36 30.3	-0.3
B203					Sg	08 36 33.8	-0.3
FL2	Flat Top 2	0.21	253		Pg	08 36 30.5	-0.2
KOSW	Kosmos	0.22	336		Pg	08 36 30.6	-0.3
MTMW	Mount Mitchell	0.26	204		Pg	08 36 31.1	-0.3
LVP	Lakeview Peak	0.31	232		Pg	08 36 29.1	-3.1
F04A	Amboy	0.41	217		Pg	08 36 33.5	-0.5
F04A				IAML		08 36 40.0	
	comp=N,10µm,0.5s						
RVW	Rose Valley	0.48	257		Pg	08 36 34.9	-0.4
LON	Longmire	0.52	19		Pg	08 36 35.5	-0.5
LON				IAML		08 36 43.1	
	comp=E,6µm,0.7s						
LON				IAML		08 36 43.4	
	comp=N,4µm,0.4s						
LON	Longmire	0.52	19		Sg	08 36 42.8	-0.3
LON	Longmire	0.52	19		Pg	08 36 35.6	-0.5
REMR	Mount Rainier-	0.58	15		Pg	08 36 36.7	-0.5
APM	Augspurger Mou	0.59	153		Pg	08 36 36.6	-0.6
LCW	Lucas Creek	0.60	313		Pg	08 36 37.2	-0.4
RCM	Mount Rainier-	0.62	21		Pg	08 36 37.3	-0.7
RCS	Mount Rainier-	0.65	20		Pg	08 36 37.8	-0.8
F04D	Rainier, OR	0.68	255		Pg	08 36 38.6	-0.3
F04D	Rainier, OR	0.68	255		Sb	08 36 48.6	+0.7
RVC	Mount Rainier-	0.69	5		Pg	08 36 38.5	-0.6
ALST	Alston	0.69	258		Pg	08 36 39.0	-0.1
ALST					Sb	08 36 48.8	+0.6
B023	Clatskanie	0.72	259		Pg	08 36 39.1	-0.6
B023					Pn	08 36 49.2	+8.4
B023					Sn	08 36 52.6	+1.2
FMW	Mount Fremont	0.72	22		Pg	08 36 39.1	-0.8
ROSS	Ross	0.73	215		Pg	08 36 39.0	-0.8
SR41	SR410 Landslid	0.73	30		Pg	08 36 38.7	-1.2
SR41					Sg	08 36 48.2	-1.3
B941	Kapowsin	0.74	352		Pg	08 36 39.0	-1.0
B941					Sg	08 36 48.8	-1.0
HUBA	Hudson Bay Hig	0.75	213		Pg	08 36 39.6	-0.6
PCFR	Pierce County	0.78	341		Pg	08 36 40.0	-0.8
GHW	Garrison Hill	0.80	350		Pg	08 36 40.0	-1.1
GHW					Sg	08 36 51.0	-0.7
BULL	Bull Run Dam	0.81	185		Pg	08 36 40.6	-0.8
BMW	Boistfort Moun	0.83	285		Pg	08 36 41.1	-0.8
VLL	Laurance Lake	0.84	161		Pg	08 36 41.2	-0.8

WPO	**West Portland**	**0.85**	**217**		**Pg**	**08 36 41.4**	**-0.7**
RRHS	**Rochester High**	**0.86**	**309**		**Pg**	**08 36 41.8**	**-0.6**
PCEP	**Pierce County**	**0.87**	**350**		**Pg**	**08 36 41.8**	**-0.7**
PCEP					**Sg**	**08 36 53.9**	**-0.1**
SHRK	**Shell Rock**	**0.88**	**155**		**Pg**	**08 36 41.6**	**-1.0**
D05A	**Enumclaw**	**0.93**	**3**		**Pg**	**08 36 42.6**	**-1.1**
D05A				IAML		08 36 56.4	
	comp=E,2µm,0.7s						
D05A				IAML		08 37 02.1	
	comp=N,2µm,1.3s						
PALME	**Palmer Lift, M**	**0.93**	**164**		**Pg**	**08 36 42.6**	**-1.1**
PALME					**Sb**	**08 36 55.8**	**+0.2**
GSM	**Grass Mountain**	**0.96**	**11**		**Pg**	**08 36 43.1**	**-1.2**
NAC	**Naches**	**0.98**	**60**		**Pg**	**08 36 43.7**	**-0.8**
HOOD	**Mount Hood Mea**	**0.98**	**163**		**Pg**	**08 36 43.1**	**-1.5**
HOOD				IAML		08 36 57.4	
	comp=E,2µm,0.5s						
HOOD				IAML		08 37 01.0	
	comp=N,2µm,0.7s						
TDH	**Tom, Dick, Har**	**0.99**	**169**		**Pg**	**08 36 43.3**	**-1.4**
CPW	**Capitol Peak**	**1.03**	**314**		**Pb**	**08 36 44.3**	**-0.6**
CPW					**Sb**	**08 36 58.6**	**+0.5**
VFP	**Flag Point**	**1.03**	**156**		**Pg**	**08 36 44.0**	**-1.5**
TRW	**Toppenish Ridg**	**1.05**	**88**		**Pb**	**08 36 45.5**	**+0.2**
E03A	**Lebam**	**1.08**	**286**	Pn	**Pb**	**08 36 44.9**	**-0.7**
F03A	**Seaside**	**1.09**	**253**		**Pb**	**08 36 45.4**	**-0.5**
VGB	**Gordon Butte**	**1.17**	**129**		**Pb**	**08 36 45.8**	**-1.4**
RADR	**Rader Ridge**	**1.21**	**278**		**Pn**	**08 36 47.4**	**-0.3**
MXC	**Moxie City**	**1.27**	**75**		**Pn**	**08 36 49.0**	**+0.7**
MXC				IAML		08 37 07.2	
	comp=N,1µm,0.6s						
G03D	**McMinnville, O**	**1.34**	**219**		**Pn**	**08 36 49.1**	**-0.3**
LTY	**Liberty**	**1.38**	**43**		**Pn**	**08 36 50.4**	**+0.3**
LTY				IAML		08 37 09.1	
	comp=E,937nm,0.5s						
LTY				IAML		08 37 09.3	
	comp=N,865nm,0.4s						
GNW	**Green Mountain**	**1.41**	**338**		**Pn**	**08 36 50.0**	**-0.3**
GNW				IAML		08 37 09.1	
	comp=E,2µm,0.3s						
GNW				IAML		08 37 14.2	
	comp=N,1µm,0.5s						
G06A	**Carlson Farm,**	**1.43**	**135**		**Pn**	**08 36 50.9**	**+0.3**
WISH	**Wishkah**	**1.46**	**307**		**Pn**	**08 36 52.0**	**+1.0**
WISH				IAML		08 37 20.8	
	comp=N,2µm,0.5s						
WISH				IAML		08 37 24.3	
	comp=E,1µm,0.7s						
F07A	**Phinny Hill Vi**	**1.53**	**103**		**Pn**	**08 36 52.8**	**+0.9**
F07A				IAML		08 37 16.8	
	comp=E,1µm,0.6s						
E07A	**Sunnyside**	**1.56**	**78**		**Pn**	**08 36 53.1**	**+0.7**
E07A				IAML		08 37 20.2	
	comp=N,1µm,0.6s						
E07A				IAML		08 37 23.5	
	comp=E,1µm,0.8s						
H04A	**Detroit Lake**	**1.58**	**183**		**Pn**	**08 36 53.2**	**+0.5**
HEBO	**Mount Hebo**	**1.58**	**229**		**Pn**	**08 36 53.2**	**+0.4**
HEBO				IAML		08 37 16.5	
	comp=N,872nm,0.8s						
HEBO				IAML		08 37 24.4	
	comp=E,1µm,1.0s						
C04A	**Brinnon**	**1.59**	**337**		**Pn**	**08 36 52.8**	**+0.1**
B013	**Quilcene**	**1.66**	**340**		**Pn**	**08 36 54.1**	**+0.4**
NLWA	**Neilton Lookou**	**1.68**	**313**		**Pn**	**08 36 55.0**	**+0.9**
NLWA				IAML		08 37 21.5	
	comp=E,988nm,0.4s						
NLWA				IAML		08 37 27.0	
	comp=E,654nm,0.7s						
HAWA	**Hanford**	**1.76**	**85**		**Pn**	**08 36 55.7**	**+0.5**
H04D	**Lebanon**	**1.80**	**196**		**Pn**	**08 36 56.2**	**+0.5**
COR	**Corvallis**	**1.89**	**208**		**Pn**	**08 36 57.9**	**+1.0**
COR				IAML		08 37 25.1	
	comp=E,874nm,0.5s						
COR				IAML		08 37 25.8	
	comp=E,949nm,0.8s						
JCW	**Jim Creek**	**1.94**	**3**		**Pn**	**08 36 59.2**	**+1.5**
I05D	**Terrebonne, OR**	**1.99**	**165**		**Pn**	**08 36 59.2**	**+0.9**
I05D				IAML		08 37 33.0	
	comp=N,535nm,0.7s						
I05D				IAML		08 37 34.1	
	comp=E,415nm,1.0s						
WTV	**Waterville**	**2.04**	**44**		**Pn**	**08 37 00.1**	**+1.0**
B04A	**Port Angeles**	**2.05**	**332**		**Pn**	**08 37 01.1**	**+2.0**
B04A				IAML		08 37 33.4	
	comp=N,381nm,0.5s						
B04A				IAML		08 37 34.2	
	comp=E,411nm,0.6s						
E08A	**Dider Farm, El**	**2.09**	**83**		**Pn**	**08 37 00.7**	**+0.9**
E08A				IAML		08 37 36.1	
	comp=N,395nm,0.8s						
E08A				IAML		08 37 38.7	
	comp=E,365nm,0.4s						
BUCK	**Buck Mountain**	**2.16**	**198**	IAML		08 37 35.0	
	comp=N,360nm,0.6s						
NLW	**Nelson Butte**	**2.17**	**32**		**Pn**	**08 37 02.5**	**+1.6**
B06A	**Marblemount**	**2.29**	**10**		**Pn**	**08 37 04.7**	**+2.2**
P403	**Sandy Floe Qua**	**2.29**	**323**		**Pn**	**08 37 04.3**	**+1.8**
D08A	**Wollman Farm,**	**2.31**	**69**		**Pn**	**08 37 03.2**	**+0.6**
D08A				IAML		08 37 40.6	
	comp=N,285nm,0.8s						
G08A	**Pilot Rock**	**2.38**	**113**		**Pn**	**08 37 03.4**	**-0.4**
G08A				IAML		08 37 47.6	
	comp=N,307nm,0.7s						
C03A	**Quillayute Air**	**2.40**	**316**	Pn	**Pn**	**08 37 05.6**	**+1.6**
I04A	**Tendick Farm,**	**2.48**	**186**		**Pn**	**08 37 07.5**	**+2.4**
I02E	**Swisshome, OR**	**2.49**	**211**		**Pb**	**08 37 08.0**	**-1.8**
MBW	**Mount Baker**	**2.53**	**2**		**Pn**	**08 37 08.2**	**+2.3**
PGC	**Sidney**	**2.57**	**339**		**Pn**	**08 37 08.3**	**+2.0**
PGC				IAML		08 37 43.8	
	comp=E,201nm,0.5s						
PGC				IAML		08 37 48.5	
	comp=N,243nm,0.7s						
PINE	**Pine Mountain**	**2.59**	**162**		**Pn**	**08 37 07.9**	**+1.1**
PINE				IAML		08 38 00.8	
	comp=N,218nm,0.9s						
PINE				IAML		08 38 01.5	
	comp=E,284nm,1.0s						
I03D	**Drain, OR**	**2.72**	**200**		**Pn**	**08 37 10.9**	**+2.6**
I03D				IAML		08 37 50.8	
	comp=N,211nm,0.6s						
I03D				IAML		08 37 51.1	
	comp=E,206nm,0.9s						
E09A	**Wood Farm, Sta**	**2.72**	**83**		**Pn**	**08 37 09.4**	**+1.0**
E09A				IAML		08 37 57.4	
	comp=N,330nm,0.5s						
E09A				IAML		08 37 58.7	
	comp=E,208nm,0.9s						
B08A	**Colville Reser**	**2.80**	**40**		**Pn**	**08 37 10.4**	**+0.9**
I07A	**Izee**	**2.83**	**139**		**Pn**	**08 37 10.7**	**+0.7**
CLRS	**Cowichan Lake**	**2.92**	**332**		**Pn**	**08 37 12.5**	**+1.4**
C09A	**Chrisman Ranch**	**3.02**	**58**		**Pn**	**08 37 12.7**	**+0.3**
J05D	**Fort Rock, OR**	**3.03**	**168**		**Pn**	**08 37 14.2**	**+1.4**
J05D				IAML		08 38 07.5	
	comp=E,172nm,1.5s						
DBO	**Dodson Butte**	**3.25**	**195**	IAML		08 38 12.5	
	comp=E,167nm,0.8s						
DBO				IAML		08 38 16.3	
	comp=N,155nm,0.9s						
J01E	**Myrtle Point**	**3.37**	**204**		**Pn**	**08 37 19.4**	**+2.1**
J01E				IAML		08 38 26.5	
	comp=E,171nm,1.0s						
J01E				IAML		08 38 29.6	
	comp=N,200nm,1.0s						
F10A	**Beach Ranch, E**	**3.38**	**93**		**Pn**	**08 37 17.9**	**+0.4**
F10A				IAML		08 38 16.7	
	comp=E,176nm,0.8s						
F10A				IAML		08 38 19.6	
	comp=N,206nm,1.4s						
OZB	**Mount Ozzard**	**3.56**	**321**	Pn	**Pn**	**08 37 19.7**	**-0.3**
OZB				IAML		08 38 23.6	
	comp=E,85nm,0.9s						
OZB				IAML		08 38 29.4	
	comp=N,90nm,1.1s						
K05A	**Summer Lake**	**3.63**	**166**		**Pn**	**08 37 22.9**	**+1.9**
K02D	**Willamette Mer**	**3.74**	**198**	IAML		08 38 30.0	
	comp=N,83nm,1.1s						
J08A	**Circle Bar Ran**	**3.86**	**137**		**Pn**	**08 37 24.2**	**0.0**
J08A				IAML		08 38 37.8	
	comp=N,81nm,1.1s						
J08A				IAML		08 38 40.5	
	comp=E,75nm,1.0s						
NEW	**Newport**	**3.92**	**57**	Pn	**Pn**	**08 37 25.1**	**+0.2**
	comp=E,1.3nm,0.3s,baz=216,slow=11,SNR=21						
NEW				Lg	Lg	08 38 22.4	

	comp=E,3.8nm,0.3s,baz=147,slow=14,SNR=4.0						
	comp=E,2.9nm,0.2s						
L04D	**Klamath Falls**	**4.04**	**183**	IAML		08 38 29.5	
	comp=E,110nm,0.5s						
L04D				IAML		08 38 34.1	
	comp=N,96nm,0.4s						
YBH	**Yreka Blue Hor**	**4.55**	**186**	Pn	**Pn**	**08 37 36.7**	**+3.1**
	comp=N,1.3nm,0.3s,baz=21,slow=12,SNR=57						
YBH				Lg	Lg	08 38 41.9	
	comp=N,2.0nm,0.3s,baz=123,slow=14,SNR=5.4						
	comp=N,5.9nm,0.5s						
MFID	**Camas Ranch**	**5.27**	**120**	IAML		08 39 13.7	
	comp=N,62nm,1.0s						
MFID				IAML		08 39 14.8	
	comp=N,43nm,1.2s						
BBB	**Bella Bella**	**7.13**	**328**	Pn	**Pn**	**08 38 09.1**	**+0.3**
	comp=N,0.3nm,0.3s,baz=187,slow=8.4,SNR=2.3						
	comp=N,23nm,1.1s						
ELK	**Elko**	**7.41**	**136**	Pn	**Pn**	**08 38 17.3**	**+4.3**
	comp=N,0.1nm,0.3s,baz=316,slow=11,SNR=5.3						
ELK				Lg	Lg	08 40 13.8	
	comp=N,0.1nm,0.3s,baz=359,slow=23,SNR=1.3						
	comp=N,0.8nm,0.6s						
NVAR	**Mina Array Bea**	**8.30**	**159**	Pn	Pn	08 38 30.6	+5.3
	comp=N,0.1nm,0.3s,baz=340,slow=12,SNR=11						
	comp=N,1.5nm,0.6s						
PDAR	**Pinedale Array**	**9.59**	**107**	Pn	**Pn**	**08 38 45.6**	**+2.7**
	comp=N,0.1nm,0.3s,baz=309,slow=14,SNR=6.9						
	comp=N,1.0nm,0.9s						
ANMO	**Albuquerque**	**16.34**	**128**	Pn	**Pn**	**08 40 16.2**	**+2.0**
	comp=N,0.1nm,0.3s,baz=33,slow=12,SNR=3.9						
	comp=N,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**16.82**	**12**	Pn	**Pn**	**08 40 16.3**	**-3.5**
	comp=N,0.6nm,0.3s,baz=198,slow=11,SNR=44						
	comp=N,0.2nm,0.4s						
ULM	**Lac du Bonnet**	**17.85**	**68**	P	**Pn**	**08 40 32.9**	**+0.1**
	comp=N,1.6nm,0.9s,baz=241,slow=10,SNR=1.9						
TXAR	**Lajitas Array**	**22.20**	**133**	P	**P**	**08 41 23.1**	**+2.2**
	comp=N,0.4nm,0.7s,baz=327,slow=7.8,SNR=7.5						
	comp=N,0.4nm,0.7s						
ILAR	**Eielson Array**	**23.00**	**333**	P	**P**	**08 41 28.7**	**-0.3**
	comp=N,0.3nm,1.0s,baz=136,slow=9.8,SNR=1.9						
	comp=N,0.3nm,1.0s						

*NEIC **03** 08:39:15.7±1.2, 46.27N±0.02×122.05W±0.05, h17km±3km, Error ellipse: s-maj=4.8km s-min=3.6km az=89.0*
*PNSN **03** 08:39:16.4, 46.26N×122.05W, h10km, MD2.6, Fault plane solution: NP1:φs85.00000°, δ90.00000°, λ-80.00000°.*
SEA 03 08:39:16.5±1.4**, 46.26N**±0.01**×122.06W**±0.04**, h10**km±5km**,** **ML2.7**/12**, ML2.5**/36(NEIC)**, Error ellipse: s-maj=4.1km s-min=2.1km az=91.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOSW	**Source of Smit**	**0.06**	**257**		Pg	08 39 18.8	+0.1
ESD	**East Dome**	**0.09**	**227**		Pg	08 39 19.4	+0.3
BOLM	**Sugar Bowl**	**0.09**	**243**		Pg	08 39 19.5	+0.3
VALT	**Mount Saint He**	**0.10**	**245**		Pg	08 39 19.5	+0.3
JRO	**Jston Ridge Ob**	**0.11**	**279**		Pg	08 39 19.4	0.0
STD	**Studebaker Rid**	**0.12**	**261**		Pg	08 39 19.6	+0.1
STD					Sg	08 39 22.0	+0.5
HSR	**South Ridge**	**0.12**	**226**		Pg	08 39 19.8	+0.3
JLK	**June Lake**	**0.13**	**211**		Pg	08 39 19.7	+0.1
SHW	**Mount Saint He**	**0.14**	**243**		Pg	08 39 20.0	+0.2
CDFW	**Cedar Flats**	**0.14**	**177**		Pg	08 39 19.9	+0.1
TDL	**Tradedollar La**	**0.14**	**311**		Pg	08 39 19.9	0.0
ERK	**Elk Rock**	**0.20**	**284**		Pg	08 39 20.8	0.0
FL2	**Flat Top 2**	**0.21**	**253**		Pg	08 39 21.1	+0.1
MTMW	**Mount Mitchell**	**0.26**	**205**		Pg	08 39 21.7	0.0
F04A	**Amboy**	**0.41**	**218**		Sg	08 39 30.5	+0.5
F04A	**Amboy**	**0.41**	**218**	IAML		08 39 30.6	
	comp=N,531nm,0.8s						
F04A				IAML		08 39 31.4	
	comp=E,547nm,0.4s						
RVW	**Rose Valley**	**0.49**	**258**		Sg	08 39 32.3	-0.1
LON	**Longmire**	**0.52**	**19**		Pg	08 39 26.1	-0.6
LON					Sg	08 39 33.3	-0.3
LON	**Longmire**	**0.52**	**19**	IAML		08 39 33.5	
	comp=N,254nm,0.2s						
LON				IAML		08 39 33.5	
	comp=E,533nm,0.4s						
APM	**Augspurger Mou**	**0.58**	**153**		Pg	08 39 27.2	-0.7
RCS	**Mount Rainier-**	**0.66**	**20**		Sg	08 39 37.0	-0.9
F04D	**Rainier, OR**	**0.68**	**256**		Pg	08 39 29.2	-0.5
SR41	**SR410 Landslid**	**0.73**	**30**		Pg	08 39 29.2	-1.4
SHRK	**Shell Rock**	**0.88**	**155**		Pg	08 39 33.0	-0.4
PALME	**Palmer Lift, M**	**0.93**	**164**		Pg	08 39 33.4	-1.1
D05A	**Enumclaw**	**0.93**	**3**	Pg	Pg	08 39 33.4	-1.1
HOOD	**Mount Hood Mea**	**0.98**	**163**	Pg	Pg	08 39 34.3	-1.1
HOOD				IAML		08 39 47.7	
	comp=N,102nm,0.2s						
RATT	**Rattlesnake La**	**1.18**	**8**		Pb	08 39 37.2	-1.8
RADR	**Rader Ridge**	**1.22**	**278**	IAML		08 39 55.7	
	comp=N,124nm,0.2s						
RADR				IAML		08 40 00.5	
	comp=E,118nm,0.8s						
MXC	**Moxie City**	**1.26**	**75**	Pn	Pn	08 39 39.7	-0.6
G03D	**McMinnville, O**	**1.34**	**219**	Pn	Pn	08 39 39.5	-1.9
BLTW	**Bickleton**	**1.35**	**104**		Pn	08 39 41.0	-0.6
LTY	**Liberty**	**1.38**	**43**		Pn	08 39 41.1	-0.9
LTY	**Liberty**	**1.38**	**43**	IAML		08 39 59.5	
	comp=E,62nm,0.4s						
GNW	**Green Mountain**	**1.41**	**338**		Pn	08 39 40.5	-1.7
GNW	**Green Mountain**	**1.41**	**338**	IAML		08 39 59.6	
	comp=E,84nm,0.3s						
G06A	**Carlson Farm,**	**1.43**	**135**		Pn	08 39 41.8	-0.8
WISH	**Wishkah**	**1.46**	**307**		Pn	08 39 42.6	-0.3
WISH	**Wishkah**	**1.46**	**307**	IAML		08 40 08.3	
	comp=E,80nm,3.0s						
F07A	**Phinny Hill Vi**	**1.53**	**103**	Pn	Pn	08 39 43.3	-0.5
E07A	**Sunnyside**	**1.56**	**78**	Pn	Pn	08 39 43.7	-0.6
H04A	**Detroit Lake**	**1.58**	**183**		Pn	08 39 44.1	-0.5
HEBO	**Mount Hebo**	**1.58**	**229**	Pn	Pn	08 39 44.1	-0.6
HEBO				IAML		08 40 17.5	
	comp=E,58nm,1.7s						
HEBO				IAML		08 40 31.4	
	comp=N,47nm,1.1s						
C04A	**Brinnon**	**1.59**	**337**		Pn	08 39 43.5	-1.2
BVW	**Beverly**	**1.60**	**69**		Pn	08 39 45.0	+0.1
B013	**Quilcene**	**1.66**	**340**		Pn	08 39 44.8	-0.9
NLWA	**Neilton Lookou**	**1.68**	**313**	IAML		08 40 12.0	
	comp=N,43nm,0.4s						
HAWA	**Hanford**	**1.76**	**85**	Pn	Pn	08 39 47.4	+0.4
HAWA				IAML		08 40 11.4	
	comp=N,60nm,0.7s						
ETW	**Entiat**	**1.79**	**41**		Pn	08 39 47.6	-0.1
H04D	**Lebanon**	**1.80**	**196**	Pn	Pn	08 39 47.7	+0.1
COR	**Corvallis**	**1.89**	**208**	Pn	Pn	08 39 48.8	0.0
COR				IAML		08 40 13.8	
	comp=N,37nm,4.2s						
COR				IAML		08 40 15.3	
	comp=N,34nm,0.7s						
BROR	**Big Rock Looko**	**2.01**	**188**		Pb	08 39 52.1	-1.0
B04A	**Port Angeles**	**2.05**	**332**	Pn	Pn	08 39 51.2	+0.1
BUCK	**Buck Mountain**	**2.16**	**198**	Pn	Pn	08 39 53.7	+1.0
BUCK				IAML		08 40 35.5	
	comp=E,40nm,4.8s						
BUCK				IAML		08 40 40.2	
	comp=N,26nm,4.5s						
MCW	**Mount Constitu**	**2.48**	**348**		Pn	08 39 58.6	+1.6
MBW	**Mount Baker**	**2.53**	**2**		Pb	08 40 00.3	-1.8
PGC	**Sidney**	**2.57**	**339**	Pn	Pn	08 39 59.7	+1.5

IDC 03 08:42:56.8±3.1**, 28.50N×141.18E, h0**km**, mb3.7**/6**,** **mbtmp3.7**/6**, Error ellipse: s-maj=132.1km s-min=23.0km az=73.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**47.85**	**318**	P	P	08 51 37.6	+1.3
	0.3nm,0.4s,baz=90,slow=5.8,SNR=1.8						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**48.61**	**189**	P	P	08 51 41.9	-0.5
	0.2nm,0.3s,baz=6.0,slow=7.5,SNR=7.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**48.91**	**309**	P	P	08 51 44.4	-0.2
	0.3nm,0.5s,baz=86,slow=9.3,SNR=6.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**51.43**	**314**	P	P	08 52 02.9	-0.7
	1.0nm,0.3s,baz=93,slow=8.3,SNR=5.3						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**52.33**	**188**	P	P	08 52 10.8	+0.2
	0.4nm,0.9s,baz=0.6,slow=5.7,SNR=6.1						
	0.4nm,0.9s						

FINES	**FINESS Array B**	**76.30**	**333**	P	P	08 54 46.8	-0.4
	2.2nm,1.0s,baz=64,slow=3.2,SNR=1.5						
	2.2nm,1.0s						

IDC 03 08:59:45.8±2.0**, 1.38N×125.77E, h0**km**, mb3.6**/4**,** **mbtmp3.6**/4**, Error ellipse: s-maj=182.0km s-min=26.6km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.79**	**159**	P	P	09 04 50.3	+0.1
	1.3nm,0.4s,baz=337,slow=10,SNR=19						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**26.12**	**163**	P	P	09 05 21.9	+0.2
	0.3nm,0.4s,baz=346,slow=8.0,SNR=15						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**36.32**	**157**	P	P	09 06 50.7	-0.7
	0.4nm,0.3s,baz=0.0,slow=10,SNR=1.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**58.95**	**327**	P	P	09 09 47.2	+0.2
	0.6nm,1.1s,baz=124,slow=7.2,SNR=1.9						
	0.6nm,1.1s						

*DNK **03** 09:05:40.9±4.3, 81.01N×2.33W, h36km±212km, ML1.2*
*BER **03** 09:05:42.6±2.2, 80.71N×2.89W, h20km±81km, mb(Pn)2.8, Confirmed Earthquake*
ISC 03 09:05:35.7±1.7**, 80.9N**±0.2×**2.67W**±0.06**, h10**km**, n10,** σ**2.73**/15**, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.22**	**120**	*e*P	**Pn**	**09 06 28.8**	**+2.5**
KBS				*e*S	**Sn**	**09 07 03.6**	**-1.0**
KBS				IAML		09 07 23.3	
	comp=Z,2.5nm,0.8s						
KBS	**Kingsbay**	**3.22**	**120**	*e*	**Pn**	**09 06 28.7**	**+2.5**
	baz=337,slow=10						
KBS				*i* P	**Pb**	**09 06 29.3**	**-3.6**
KBS				*i*		09 06 31.1	
KBS				*e*S	**Sn**	**09 07 02.9**	**-1.7**
BRBB	**Barentsburg B**	**4.15**	**124**	*e*P	**Pn**	**09 06 42.6**	**+3.7**
SPA0	**Spitsbergen Ar**	**4.38**	**118**	*e*P	**Pn**	**09 06 45.6**	**+3.5**
SPA0				*e*S	**Sn**	**09 07 33.2**	**+0.1**
SPA0				IAML		09 07 49.7	
	comp=Z,3.5nm,0.8s						
DAG	**Danmarks Havn**	**5.13**	**225**	*e*P	**Pn**	**09 06 54.2**	**+1.7**
DAG	**Danmarks Havn**	**5.13**	**225**	*i* P	**Pn**	**09 06 54.3**	**+1.9**
DAG				*i*		09 06 58.6	
DAG				*e*S	**Sn**	**09 07 50.5**	**-1.1**
DAG				IAML		09 07 56.8	
	comp=Z,1.1nm,0.4s						
HSPB	**Hornsund (broa**	**5.20**	**129**	*e*P	**Pn**	**09 06 57.8**	**+4.4**
HOPEN	**Hopen**	**6.89**	**115**	*e*P	**Pn**	**09 07 19.1**	**+2.6**
NEEM	**North Greenlan**	**9.44**	**274**	*i* P	**Pn**	**09 07 51.3**	**-0.4**
SUMG	**Summit**	**11.38**	**243**	*i* P	**Pn**	**09 08 18.5**	**+0.1**

*CRAAG **03** 09:18:46.6, 36.35N×2.56E, Ml3.4, Algerie 07km SE Oued-Djer*
*MDD **03** 09:18:49.7±1.1, 36.31N×2.68E, h28km±27km, Mb4.3/11, M_mb3.7/9, Error ellipse: s-maj=25.5km s-min=5.6km az=144.0*
ISC 03 09:18:47.3±0.9**, 36.36N**±0.04×**2.55E**±0.04**, h18**km**, n25,** σ**1.65**/36**, 10C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABKD	**Sidi Amar**	**0.26**	**312**	P	**Pb**	**09 18 53.2**	**-0.1**
EMHD	**Djebel Mahouad**	**0.37**	**116**	P	**Pg**	**09 18 55.0**	**0.0**
EHRZ	**Djelida**	**0.39**	**245**	P	**Pb**	**09 18 55.8**	**+0.1**
EDDR	**Deurdeur**	**0.45**	**217**	P	**Pb**	**09 18 56.8**	**+0.1**
ADJB	**Djebel Djouab**	**0.75**	**106**	P	**Pb**	**09 19 02.3**	**+0.4**
EBNH	**Beni Haoua**	**0.81**	**282**	P	**Pn**	**09 19 03.6**	**-0.2**
EOFD	**Oued Fodda**	**0.82**	**248**	P	**Pg**	**09 19 03.4**	**+0.1**
EBNR	**Beni Rached**	**0.82**	**265**	P	**Pn**	**09 19 03.9**	**-0.1**
EBGR	**Bougara**	**0.94**	**212**	P	**Pn**	**09 19 06.3**	**+0.7**
EIBI	**Ibiza**	**2.83**	**341**	Pn	**Pn**	**09 19 32.5**	**+1.0**
EIBI				Sn	**Sn**	**09 20 03.7**	**-1.4**
EIBI	**Ibiza**	**2.83**	**341**	Pn	**Pn**	**09 19 32.5**	**+1.0**
EIBI				⇑*i*Vmb_V		09 19 33.5	
	660nm,SNR=1.2						
EIBI				Sn	**Sn**	**09 20 03.7**	**-1.4**
CART	**Cartagena**	**3.09**	**294**	Pn	**Pn**	**09 19 35.9**	**+0.7**
CART				Sn	**Sn**	**09 20 07.8**	**-3.8**
EBEN2	**Beniarda presa**	**3.17**	**318**	Pn	**Pn**	**09 19 37.3**	**+1.0**
EBEN2				⇑*i*Vmb_V		09 19 39.9	
	593nm,SNR=1.6						
EBEN2				Sn	**Sn**	**09 20 12.3**	**-1.5**
EMUR	**La Murta**	**3.37**	**297**	Pn	**Pn**	**09 19 40.1**	**+1.0**
EMUR				⇑*i*Vmb_V		09 19 46.7	
	208nm,SNR=1.5						
EMUR				Sn	**Sn**	**09 20 18.2**	**-0.4**
ETOS	**Mallorca**	**3.41**	**3**	Pn	**Pn**	**09 19 39.9**	**+0.4**
ETOS				Sn	**Sn**	**09 20 16.1**	**-3.4**
ETOS	**Mallorca**	**3.41**	**3**	Pn	**Pn**	**09 19 40.0**	**+0.4**
ETOS				⇑*i*Vmb_V		09 19 44.1	
	426nm,SNR=1.0						
ETOS				Sn	**Sn**	**09 20 16.7**	**-2.8**
ENIJ	**Nijar**	**3.87**	**280**	Sn	**Sn**	**09 20 28.8**	**-2.1**
ETOB	**Tobarra**	**3.97**	**306**	Pn	**Pn**	**09 19 49.4**	**+2.0**
ETOB	**Tobarra**	**3.97**	**306**	Pn	**Pn**	**09 19 50.1**	**+2.7**
ETOB				⇑*i*Vmb_V		09 19 52.9	
	154nm,SNR=1.0						
ETOB				Sn	**Sn**	**09 20 34.2**	**+0.7**
EVIV	**Cofrentes, Val**	**4.10**	**316**	Pn	**Pn**	**09 19 50.9**	**+1.8**
EVIV				⇑*i*Vmb_V		09 19 52.6	
	419nm,SNR=2.1						
EBER	**Berja**	**4.40**	**279**	Pn	**Pn**	**09 19 54.5**	**+1.0**
EBER	**Berja**	**4.40**	**279**	Pn	**Pn**	**09 19 54.6**	**+1.2**
EBER				⇑*i*Vmb_V		09 19 57.5	
	97nm,SNR=0.8						
EBER				Sn	**Sn**	**09 20 43.0**	**-1.3**
EMOS	**Mosqueruela**	**4.65**	**330**	Pn	**Pn**	**09 19 58.2**	**+1.5**
EMOS				⇑*i*Vmb_V		09 19 58.4	
	352nm,SNR=1.5						
EMOS				Sn	**Sn**	**09 20 48.2**	**-2.1**
ETOR	**Torete**	**5.73**	**322**	Pn	**Pn**	**09 20 13.9**	**+2.4**
ETOR				⇑*i*Vmb_V		09 20 16.3	
	173nm,SNR=1.3						
ETOR				Sn	**Sn**	**09 21 17.4**	**+0.7**
ELAN	**Lanestosa**	**8.26**	**328**	Pn	**Pn**	**09 20 48.9**	**+2.7**
ELAN				⇑*i*Vmb_V		09 20 50.5	
	330nm,SNR=0.8						

IDC 03 09:23:22.6±2.8**, 11.63S×115.38E, h0**km**, mb3.0**/3**,** **mbtmp3.1**/3**, Error ellipse: s-maj=129.4km s-min=30.4km az=46.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.01**	**117**	P	P	09 27 57.2	0.0
	0.5nm,0.7s,baz=291,slow=12,SNR=3.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**21.29**	**127**	P	P	09 28 11.0	0.0
	0.2nm,0.4s,baz=298,slow=9.9,SNR=6.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**65.27**	**336**	P	P	09 34 06.2	0.0
	0.1nm,0.4s,baz=144,slow=5.4,SNR=1.8						
	0.1nm,0.4s						

*IDC **03** 09:27:48.6±2.5, 49.33N×151.85E, h252km±24km, mb3.0/10, mbtmp3.6/13, Error ellipse: s-maj=22.5km s-min=13.4km az=161.0*
ISC 03 09:27:48.2±0.8**, 49.3N**±0.2×**151.9E**±0.1**, h250**km**, n13,** σ**0.62**/14**, mb3.2**/10**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.26**	**42**	P	**Pn**	**09 29 06.2**	**-0.9**
	5.1nm,0.9s,baz=224,slow=8.3,SNR=3.6						
KLR	**Kul'dur**	**13.15**	**277**	P	**P**	**09 30 47.9**	**+0.5**
	2.0nm,0.5s,baz=79,slow=12,SNR=8.1						
MJAR	**Matsushiro Arr**	**16.20**	**223**	P	**Pn**	**09 31 22.4**	**-0.2**
	1.0nm,0.5s,baz=18,slow=12,SNR=6.0						
ILAR	**Eielson Array**	**35.09**	**41**	P	**P**	**09 34 17.6**	**+0.2**
	0.2nm,0.7s,baz=263,slow=5.4,SNR=6.3						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**45.08**	**295**	P	**P**	**09 35 39.5**	**+0.2**
	0.2nm,0.5s,baz=74,slow=9.5,SNR=1.9						
MKAR				PcP	**PcP**	**09 37 14.7**	**-0.6**
	0.2nm,0.5s,baz=69,slow=4.1,SNR=2.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.2nm,0.5s						
KURBB	Kurchatov Arra	45.39	301	P	P	09 35 41.8	+0.1
	0.7nm,0.4s,baz=71,slow=8.5,SNR=4.1						
	0.7nm,0.4s						
BVAR	Borovoye Array	48.62	307	P	P	09 36 06.7	+0.2
	0.9nm,0.5s,baz=51,slow=7.9,SNR=5.6						
	0.9nm,0.5s						
YKA	Yellowknife Ar	49.37	38	P	P	09 36 12.5	+0.5
	0.4nm,0.5s,baz=314,slow=8.2,SNR=12						
	0.4nm,0.5s						
FINES	FINESS Array B	61.37	334	P	P	09 37 36.3	-0.9
	0.8nm,0.4s,baz=41,slow=8.5,SNR=8.7						
	0.8nm,0.4s						
NVAR	Mina Array Bea	61.98	63	P	P	09 37 42.8	+0.8
	0.2nm,0.5s,baz=291,slow=7.6,SNR=2.8						
	0.2nm,0.5s						
PDAR	Pinedale Array	63.90	54	P	P	09 37 55.1	+0.6
	0.4nm,0.5s,baz=344,slow=1.5,SNR=11						
	0.4nm,0.5s						
ASAR	Alice Springs	74.41	197	P	P	09 38 58.1	-0.5
	0.2nm,0.4s,baz=11,slow=6.2,SNR=5.7						
	0.2nm,0.4s						
TXAR	Lajitas Array	76.94	60	P	P	09 39 13.5	+0.3
	0.4nm,0.7s,baz=292,slow=5.8,SNR=5.8						
	0.4nm,0.7s						

TAP 03 09:29:17.5, 24°.15N×121°.61E, h3km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.02	31	eP	Pg	09 29 18.4	+0.2
	baz=33						
NACB	Ninganchiao	0.03	328	eP	Pg	09 29 18.8	+0.5
	baz=328						
NACB				eS	Sg	09 29 19.7	+0.7
	baz=328						
TWD	Chiawan	0.07	194	eP	Pg	09 29 19.6	+0.7
	baz=187						
TWD				eS	Sg	09 29 20.9	+1.1
	baz=187						
ETLH	Xiulin Townshi	0.14	297	eP	Pg	09 29 21.2	+1.0
	baz=296						
ETLH				eS	Sg	09 29 23.8	+1.8
	baz=296						

JMA 03 09:29:43.7±0.1, 24°.2N±0°.7×123°.2E±0°.5, h18km±2km, MV1.5/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.32	333	P	Pg	09 29 50.6	0.0
YOJ				eS	Sg	09 29 55.2	-0.2
JYNG	Yonagunijimaku	0.34	323	eP	Pg	09 29 50.8	-0.2
JYNG				eS	Sg	09 29 56.0	0.0
HATJ	Hateruma jima	0.59	101	eP	Pb	09 29 55.0	-0.4
HATJ				eS	Sb	09 30 03.2	-0.2
JKRS	Kuro-shima	0.77	85	P	Pb	09 29 58.4	-0.1
JKRS				eS	Sg	09 30 09.3	+0.3
JIJ	Ishigaki jima	0.91	78	P	Pb	09 30 00.4	-0.5
JIJ				eS	Sb	09 30 12.4	-0.2
JISG	Ishigakijimahi	1.12	68	eP	Pn	09 30 03.8	-0.6

*DJA **03** 09:39:19.8±0.6, 4°N±5°×12°7E±°, h10km, M4.6/12, mB5.2/7, mb4.5/12, MLv4.7/11, Mw(mB)4.6/7*
*NEIC **03** 09:39:30.4±1.7, 4°.07N±0°.06×126°.60E±0°.09, h56km±8km, mb4.3/25, Error ellipse: s-maj=13.7km s-min=8.9km az=74.0*
*IDC **03** 09:39:35.5±1.8, 4°.04N×126°.35E, h112km±16km, mb3.6/14, mbtmp4.0/15, MS3.3/7, Error ellipse: s-maj=33.2km s-min=10.9km az=70.0*
ISC 03 09:39:29.0±0.5, 4°.04N±0°.05×126°.63E±0°.07, h45km, n73, σ1s.52/69, mb4.2/26, MS3.2/6, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.15	252	P	Pn	09 39 48.6	-0.2
SGSI				S	Sn	09 40 03.6	+0.2
DAV	Davao City (W)	3.19	341	Pn	Pn	09 40 17.4	+0.7
DAV	Davao City (W)	3.19	341	P	Pn	09 40 23.7	+6.9
	133nm,0.4s,baz=225,slow=7.8,SNR=1.5						
DAV				S	Sn	09 41 00.1	+6.6
	180nm,0.4s,baz=258,slow=22,SNR=4.5						
DAV	Davao City (W)	3.19	341	P	Pn	09 40 06.4	-10
TNTI	Ternate	3.33	167		Pn	09 40 20.1	+1.5
TNTI	Ternate	3.33	167	P	Pn	09 40 16.8	-1.8
LBMI	Labuha	4.72	169	P	Pn	09 40 39.2	+1.4
	71nm,0.8s,2µm0.8nm						
GTOI	Gorontalo	4.95	227	P	Pn	09 40 41.5	+0.6
	25nm,0.7s,384nm0.1nm						
MRSI	Marisa	5.87	233	P	Pn	09 40 55.6	+2.1
	160nm,0.5s,2µm0.6nm						
SANI	Sanana	6.08	186	P	Pn	09 40 55.0	-1.4
	31nm,0.8s,0.2nm						
LUWI	Luwuk	6.35	217		Pn	09 41 01.3	+1.2
LUWI	Luwuk	6.35	217	P	Pn	09 41 00.9	+0.8
	285nm,1.3s,4µm1.2nm						
TOLI2	Tolitoli	6.53	244	Pn	Pn	09 41 03.2	+0.6
NLAI	Namlea	7.24	176	P	Pn	09 41 11.3	-1.1
	16nm,1.0s,5µm0.1nm						
MPSI	Mapaga	7.67	242	P	Pn	09 41 20.1	+1.9
	11nm,1.2s						
FAKI	Fak Fak	8.90	141	Pn	Pn	09 41 36.2	+1.1
TTSI	Tana Toraja	9.79	224	P	Pn	09 41 48.3	+1.0
	45nm,0.9s,3µm						
KAPI	Kappang	11.32	217	LR	LR	09 47 04.7	
	comp=Z,176nm,20.3s,baz=30,slow=40						
EDFI	Ende, Flores	13.62	201	P	Pn	09 42 42.5	+2.6
	14nm,0.8s						
SOEI	Soe	13.90	190	Pn	Pn	09 42 44.4	+0.8
SBUM	Sibu	14.47	264	Pn	Pn	09 42 51.5	+0.2
PLAI	Plampang	15.53	215	P	Pn	09 43 06.2	+1.1
	49nm,0.8s						
TWSI	Taliwang, Sumb	15.99	217	P	P	09 43 13.0	-0.8
	31nm,0.7s						
KSM	Kuching	16.50	262		Pn	09 43 18.2	+0.7
MTN	Manton Dam	17.36	165	Pn	Pn	09 43 26.4	-1.7
MTN				IAmb	IAmb	09 43 29.4	
	comp=Z,19nm,1.1s						
KNRA	Kununurra	19.70	174	P	P	09 43 55.9	+1.1
KNRA				IAmb	IAmb	09 44 12.0	
	comp=Z,18nm,0.8s						
FITZ	Fitzroy Crossi	22.02	183	P	P	09 44 21.0	+1.3
WB0	Warramunga Arr	24.86	162	P	P	09 44 48.1	+0.6
WB0				IAmb	IAmb	09 45 05.2	
	comp=Z,9.4nm,0.8s						
WRAB	Tennant Creek	25.00	163	P	P	09 44 48.8	0.0
WRAB				IAmb	IAmb	09 44 59.5	
	comp=Z,12nm,1.1s						
WRA	Warramunga Arr	25.00	163	P	P	09 44 49.7	+0.8
WRA	Warramunga Arr	25.00	163	P	P	09 44 48.8	-0.1
	comp=Z,1.9nm,0.6s,baz=336,slow=11,SNR=20						
	comp=Z,1.9nm,0.6s						
WB2	Warramunga Arr	25.01	163	P	P	09 44 49.4	+0.5
WB2				IAmb	IAmb	09 45 13.3	
	comp=Z,10nm,0.9s						
WR0	Warramunga Arr	25.08	162	P	P	09 44 50.1	+0.5
WR0				IAmb	IAmb	09 45 06.9	
	comp=Z,5.3nm,0.7s						
PSA00	Pilbara Seismi	26.30	194	P	P	09 45 01.6	+0.9
PSA00				IAmb	IAmb	09 45 04.1	
	comp=Z,7.6nm,1.1s						
PSA00	Pilbara Seismi	26.30	194	P	P	09 45 01.6	+0.9
PSA00				IAmb	IAmb	09 45 05.6	
	comp=Z,10.0nm,0.7s						
AS31	Alice Springs	28.43	166	P	P	09 45 20.2	+0.5
ASAR	Alice Springs	28.43	166	P	P	09 45 20.9	+1.2
ASAR	Alice Springs	28.43	166	P	P	09 45 21.1	+1.4
	comp=Z,0.5nm,0.5s,baz=341,slow=6.9,SNR=18						
ASAR				PcP	PcP	09 48 29.4	-2.0
	comp=Z,0.4nm,0.9s,baz=341,slow=2.2,SNR=2.1						
ASAR				LR	LR	09 58 03.0	
	comp=Z,48nm,20.4s,baz=342,slow=39						
	comp=Z,0.5nm,0.5s						
CMAR	Chiang Mai Arr	30.63	300	P	P	09 45 37.4	-1.9
	comp=Z,0.8nm,0.3s,baz=118,slow=7.2,SNR=7.8						
CMAR				LR	LR	09 58 34.6	
	comp=Z,24nm,20.2s,baz=340,slow=38						
	comp=Z,0.8nm,0.3s						
CTA	Charters Tower	30.76	142	LR	LR	09 58 33.7	
	comp=Z,53nm,18.2s,baz=310,slow=37						
PZH	PanZhiHua	32.66	316	P	P	09 45 59.3	+2.1
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
KSRS	Korea Array	33.28	2	P	P	09 46 01.0	-1.3
	comp=Z,0.7nm,0.6s,baz=180,slow=9.6,SNR=2.9						
	comp=Z,0.7nm,0.6s						
MJAR	Matsushiro Arr	34.06	17	LR	LR	10 01 50.0	
	comp=Z,41nm,18.8s,baz=338,slow=39						
XAN	Xi'an	34.10	333	⇑P	P	09 46 07.9	-1.6
TNCH	TengChong	34.15	310	P	P	09 46 11.2	+1.0
TNCH				pmax	pmax		
	comp=Z,12nm,0.6s						
FORT	Forrest	34.65	178	P	P	09 46 15.5	+1.3
BBOO	Buckleboo	37.72	167	P	P	09 46 41.2	+0.7
BBOO				IAmb	IAmb	09 46 57.4	
	comp=Z,3.4nm,1.1s						
NWAO	Narrogin (SRO)	37.83	193	P	P	09 46 40.6	-0.8
STKA	Stephens Creek	38.45	159	P	P	09 46 46.1	-0.5
STKA	Stephens Creek	38.45	159	P	P	09 46 47.2	+0.6
	comp=Z,1.9nm,0.4s,baz=339,slow=7.0,SNR=7.6						
	comp=Z,1.9nm,0.4s						
HHC	Hu-ho-hao-te	39.08	342	eP	P	09 46 55.0	+3.1
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,5.0s						
SHL	Shillong	39.62	306	P	P	09 46 55.8	-0.9
USRK	Ussuriysk Ar.	40.28	6	P	P	09 46 60.0	-1.7
ARMA	Armidale	41.77	147	P	P	09 47 14.4	+0.1
DZM	Mont Dzumac	46.79	125	LR	LR	10 07 42.4	
	comp=Z,47nm,18.0s,baz=10.0,slow=36						
SONM	Songino Array	46.98	341	P	P	09 47 54.2	-1.6
	comp=Z,0.7nm,0.9s,baz=169,slow=10,SNR=2.6						
	comp=Z,0.7nm,0.9s						
PETK	Petropavlovsk-	55.19	22	P	P	09 48 56.6	-0.5
PETK	Petropavlovsk-	55.19	22	P	P	09 48 56.8	-0.3
	comp=Z,1.9nm,0.8s,baz=177,slow=2.6,SNR=2.0						
	comp=Z,1.9nm,0.8s						
MK31	Makanchi Array	57.25	325	P	P	09 49 11.1	-0.9
MK31				IAmb	IAmb	09 49 11.6	
	comp=Z,1.7nm,0.8s						
MKAR	Makanchi Array	57.25	325	P	P	09 49 11.0	-1.0
MKAR	Makanchi Array	57.25	325	P	P	09 49 10.5	-1.5
	comp=Z,0.7nm,0.4s,baz=134,slow=6.9,SNR=17						
	comp=Z,0.7nm,0.4s						
ZALV	Zalesovo Beam	60.27	333	P	P	09 49 30.6	-2.2
	comp=Z,0.5nm,0.3s,baz=115,slow=8.7,SNR=3.5						
	comp=Z,0.5nm,0.3s						
FOZ	Fox Glacier	61.25	145	P	P	09 49 40.4	+0.8
KURBB	Kurchatov Arra	61.43	327	P	P	09 49 39.4	-1.4
	comp=Z,2.7nm,0.7s,baz=123,slow=6.1,SNR=28						
	comp=Z,2.7nm,0.7s						
KURK	Kurchatov	61.43	327	P	P	09 49 39.7	-1.1
BVAR	Borovoye Array	67.01	327	P	P	09 50 14.1	-3.2
	comp=Z,1.3nm,0.8s,baz=121,slow=11,SNR=7.9						
	comp=Z,1.3nm,0.8s						
BRVK	Borovoye	67.08	327	P	P	09 50 16.6	-1.2
BRVK				IAmb	IAmb	09 50 19.7	
	comp=Z,4.5nm,1.1s						
NRIK	Noril'sk	70.11	346	P	P	09 50 35.5	-0.8
	comp=Z,0.9nm,0.3s,baz=121,slow=3.4,SNR=2.2						
	comp=Z,0.9nm,0.3s						
CASY	Casey	71.11	187	P	P	09 50 43.4	+1.1
CASY				IAmb	IAmb	09 50 57.5	
	comp=Z,4.1nm,1.1s						
ABKAR	Akbulak array	71.85	321	P	P	09 50 46.6	-0.7
VNDA	Vanda	83.74	173	P	P	09 51 53.1	+0.4
	comp=Z,0.6nm,0.9s,baz=339,slow=12,SNR=2.0						
	comp=Z,0.6nm,0.9s						
ILAR	Eielson Array	84.87	25	P	P	09 51 59.6	+0.8
	comp=Z,0.4nm,0.8s,baz=256,slow=5.9,SNR=5.0						
	comp=Z,0.4nm,0.8s						
PPT	Papeete	85.30	108	LR	LR	10 27 09.9	
	comp=Z,28nm,18.2s,baz=9.5,slow=33						

IDC 03 09:50:53.3±2.0, 6°.16S×130°.13E, h0km, mb3.6/1, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=83.6km s-min=31.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.29	164	Pn	Pn	09 54 16.7	-0.5
	0.5nm,0.3s,baz=344,slow=15,SNR=30						
WRA				Sn	Sn	09 56 42.8	-14
	0.4nm,0.3s,baz=331,slow=23,SNR=6.2						
	0.6nm,0.4s						
ASAR	Alice Springs	17.78	169	P	Pn	09 55 02.7	+0.3
	0.2nm,0.3s,baz=340,slow=9.0,SNR=18						
ASAR				S	Sn	09 58 08.7	-13
	0.2nm,0.5s,baz=354,slow=28,SNR=2.3						
	0.4nm,0.5s						
MKAR	Makanchi Array	67.60	327	P	P	10 01 51.9	0.0
	0.3nm,0.4s,baz=125,slow=8.0,SNR=5.3						
	0.3nm,0.4s						

IDC 03 09:55:15.4±1.7, 4°.21N×126°.73E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=161.0km s-min=21.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.14	163	P	P	10 00 42.4	-0.1
	0.6nm,0.4s,baz=343,slow=11,SNR=6.0						
	0.6nm,0.4s						
ASAR	Alice Springs	28.58	166	P	P	10 01 13.3	-0.1
	0.2nm,0.4s,baz=343,slow=7.6,SNR=2.4						
	0.2nm,0.4s						
STKA	Stephens Creek	38.58	160	P	P	10 02 40.1	-0.1
	0.5nm,0.3s,baz=321,slow=6.5,SNR=1.8						
	0.5nm,0.3s						
MKAR	Makanchi Array	57.16	325	P	P	10 05 04.4	+0.2
	0.3nm,0.6s,baz=110,slow=8.3,SNR=3.7						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	61.33	327	P	P	10 05 32.7	-0.2
	0.5nm,0.6s,baz=122,slow=6.9,SNR=4.7						
	0.5nm,0.6s						

*SOME **03** 09:56:56.7, 39°.92N×75°.63E, h0km*
*NNC **03** 09:56:57.8±1.4, 39°.95N×75°.63E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=22.8km s-min=9.1km az=88.0*
*KRNET **03** 09:57:04.4±0.1, 39°.88N×75°.74E, mb2.8*
ISC 03 09:57:08.2±1.7, 40°.12N±0°.07×75°.50E±0°.05, h10km, n44, σ1s.49/71, 26C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.54	267	⇑iP	Pn	09 57 34.5	-1.4
	baz=75						
SFK				⇑iS	Sb	09 57 56.4	-0.2
	baz=75						
ARLS	Aral	1.96	333	⇑iP	Pn	09 57 41.6	-0.1
	baz=32						
ARLS				⇑iS	Sb	09 58 08.8	+0.2
	baz=32						
KZA	Kyzart	1.97	355	P	Pn	09 57 41.2	-0.9
	SNR=8.2						
KZA	Kyzart	1.97	355	⇓eP	Pn	09 57 41.5	-0.5
	baz=51						
KZA				⇓iS	Sb	09 58 08.6	-0.6
	baz=51						
OHH	Osh	2.12	282	⇑eP	Pn	09 57 43.0	-0.7
	baz=87						
OHH				⇑eS	Sb	09 58 11.2	-1.9
	baz=87						
ULHL	Ulahol	2.20	14	P	Pn	09 57 44.7	-0.4
	SNR=8.4						
ULHL	Ulahol	2.20	14	⇓eP	Pn	09 57 43.7	-1.3
	baz=9.0						
ULHL				⇓iS	Sn	09 58 12.4	0.0
	baz=9.0						
UCH	Uchtor	2.24	341	P	Pn	09 57 45.6	-0.2
	SNR=7.3						
UCH	Uchtor	2.24	341	⇑iP	Pn	09 57 45.7	-0.1
	baz=39						
UCH				⇑iS	Sb	09 58 15.8	-1.2
	baz=39						
ARSB	Arslanbob	2.26	303	⇑eP	Pn	09 57 45.9	+0.1
	baz=5.0						
ARSB				⇑eS	Sb	09 58 16.1	-1.3
	baz=5.0						
BOOM	Boomskoye usch	2.40	8	⇑iP	Pn	09 57 46.7	-1.0
	baz=3.0						
BOOM				⇑iS	Sn	09 58 17.6	+0.4
	baz=3.0						
AML	Almayashu	2.43	326	P	Pn	09 57 48.4	-0.1
	SNR=14						
AML	Almayashu	2.43	326	⇓Pn	Pn	09 57 48.3	-0.1
	0.5nm,0.5s						
AML				⇑Sn	Sg	09 58 24.2	-2.3
	6.0nm,0.8s						
AML	Almayashu	2.43	326	⇑iP	Pn	09 57 48.5	+0.1
	baz=26						
AML				⇑iS	Sb	09 58 20.9	-1.6
	baz=26						
KBK	Karagaybulak	2.57	351	P	Sg	09 58 28.8	-2.0
	SNR=7.1						
KBK	Karagaybulak	2.57	351	⇑iP	Pn	09 57 49.8	-0.3
	baz=48						
KBK				⇑iS	Sn	09 58 23.0	+1.4
	baz=48						
AAK	Ala-Archa	2.63	344	P	Pn	09 57 51.0	+0.1
	SNR=5.1						
TKM2	Tokmak 2	2.80	1	P	Sg	09 58 34.0	-4.3
	SNR=6.9						
TKM2	Tokmak 2	2.80	1	⇑Pn	Pn	09 57 54.3	+0.9
	1.5nm,0.5s						
TKM2				⇑Sn	Sg	09 58 34.0	-4.3
	7.0nm,0.3s						
TKM2	Tokmak 2	2.80	1	⇑iP	Pn	09 57 52.8	-0.5
	baz=58						
TKM2				⇑iS	Sn	09 58 27.9	+0.6
	baz=58						
EKS2	Erkin-Say	2.86	334	⇑iP	Pn	09 57 54.3	+0.3
	baz=33						
EKS2				⇑iS	Sn	09 58 30.6	+2.1
	baz=33						
CHMS	Chumysh	2.94	349	⇑eP	Pn	09 57 54.7	-0.3
	baz=47						
CHMS				⇑iS	Sn	09 58 31.6	+1.3
	baz=47						
KST	Kastek	2.95	7	Pg	Pn	09 57 54.9	-0.4
	3.6nm,0.4s						
KST				Lg	Lg	09 58 37.1	
	14nm,0.5s						
KST	Kastek	2.95	7	eP	Pn	09 57 54.8	-0.4
	3.8nm,0.3s						
KST				eS	Sb	09 58 37.1	+0.1
	14nm,0.5s						
MTBS	Maitube	3.09	13	Pg	Pn	09 57 56.8	-0.4
	3.2nm,0.5s						
MTBS				Lg	Lg	09 58 41.2	
	4.7nm,0.7s						
MTBS	Maitube	3.09	13	eP	Pn	09 57 56.8	-0.4
	1.8nm,0.1s						
MTBS				eS	Sb	09 58 40.5	-0.6
	4.3nm,0.1s						
TNSS	Tian-Shan	3.11	20	Pg	Pn	09 57 56.6	-1.2
	1.5nm,0.3s						
TNSS	Tian-Shan	3.11	20	eP	Pn	09 57 56.6	-1.2
	3.7nm,0.2s						
TNSS				eS	Sb	09 58 40.2	-1.9
	3.9nm,0.2s						
DGS	Degeres	3.13	4	Pg	Pn	09 57 57.5	-0.2
	3.7nm,0.5s						
DGS				Lg	Lg	09 58 42.0	
	7.8nm,0.5s						
DGS	Degeres	3.13	4	eP	Pn	09 57 57.5	-0.2
	3.7nm,0.5s						
DGS				eS	Sb	09 58 41.7	-0.6
	7.8nm,0.5s						
MRKS	Merke	3.13	328	eP	Pn	09 57 58.6	+0.8
	1.5nm,0.2s						
MRKS				eS	Sb	09 58 43.5	+1.1
	8.6nm,0.6s						
MDOK	Medeo	3.26	20	Pg	Pn	09 57 58.6	-0.9
	2.2nm,0.4s						
MDOK	Medeo	3.26	20	eP	Pn	09 57 58.9	-0.6
	2.5nm,0.2s						
MDOK				eS	Sb	09 58 44.1	-1.9
	8.0nm,0.7s						
MDOK	Medeo	3.26	20	eP	Pg	09 58 11.9	+1.3
	2.7nm,0.3s						
MDOK				eS	Sb	09 58 45.4	-0.7
	6.8nm,0.4s						
KOTS	Kotyrbulak	3.34	21	Pg	Pn	09 58 01.7	+1.1
	0.6nm,0.1s						
KOTS	Kotyrbulak	3.34	21	eP	Pn	09 58 01.7	+1.1
	1.8nm,0.2s						
KOTS				eS	Sb	09 58 49.0	+0.6
	16nm,0.5s						
KOTS	Kotyrbulak	3.34	21	eP	Pg	09 58 11.6	-0.6
	1.6nm,0.1s						
KOTS				eS	Sb	09 58 45.0	-3.4
	16nm,0.2s						
KRBS	Karabastau	3.58	2	Pg	Pn	09 58 05.9	+2.1
	1.2nm,0.2s						
KRBS				Lg	Lg	09 58 56.1	
	5.5nm,0.6s						
KRBS	Karabastau	3.58	2	eP	Pn	09 58 05.9	+2.1
	0.4nm,0.2s						
KRBS				eS	Sb	09 58 56.1	+0.9
	5.6nm,0.3s						
KTBS	Karatobe	3.70	13	Pg	Pn	09 58 08.5	+3.0
	2.6nm,0.7s						
KTBS				Lg	Lg	09 58 59.8	
	13nm,0.6s						
KTBS	Karatobe	3.70	13	eP	Pn	09 58 08.0	+2.5
	1.2nm,0.5s						
KTBS				eS	Sb	09 58 59.8	+1.2
	13nm,0.3s						
KUU	Kurty	3.83	9	Pg	Pn	09 58 10.1	+2.8
	1.0nm,0.3s						
KUU				Lg	Lg	09 59 03.1	
	7.5nm,0.5s						
KUU	Kurty	3.83	9	eP	Pn	09 58 10.0	+2.8
	1.0nm,0.3s						
KUU				eS	Sb	09 59 03.1	+0.9
	7.5nm,0.5s						
KK31	Karatay Array	4.79	310	Pg	Pb	09 58 34.6	+2.5
	0.1nm,0.2s,baz=132,slow=16,SNR=3.6						
KK31				⇑Lg	Lg	09 59 43.0	
	1.4nm,0.5s,baz=126,slow=29,SNR=7.7						

*NOU **03** 09:57:30.5, 29°.78S×177°.32W, h247km, mb4.5/20, Kermadec Islands, New Zealand*
*IDC **03** 09:57:33.1±0.3, 29°.17S×178°.49W, h217km±3km, mb4.0/15, mbtmp4.5/15, Error ellipse: s-maj=15.1km s-min=12.5km az=67.0*
*NEIC **03** 09:57:33.3±1.7, 29°.2S±0°.1×178°.4W±0°.1, h225km±6km, mb4.4/25, Error ellipse: s-maj=16.2km s-min=15.0km az=120.0*
ISC 03 09:57:32.2±0.6, 29°.83S±0°.06×177°.83W±0°.10, h250km, n165, σ2s.16/161, mb4.4/31, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.57	352	P	Pn	09 58 03.0	-2.4
RAO	Raoul Island	0.58	352	P	Pn	09 58 03.8	-1.6
RAO	Raoul Island	0.58	352	P	Pn	09 58 03.8	-1.6
	4µm,0.3s,baz=285,slow=19,SNR=98						
RAO				S	S	09 58 25.5	-6.0
	4µm,0.8s,baz=51,slow=22,SNR=10						
RIZ	Raoul Island	0.59	351	P	Pn	09 58 03.3	-2.1
RIZ				S	S	09 58 31.4	-0.1
MXZ	Matakaoa Point	8.36	202	P	Pn	09 59 27.7	-2.2
MXZ				S	S	10 01 01.9	-2.9
WCZ	Waipu Caves	8.97	225	P	Pn	09 59 42.5	+4.9
URZ	Urewera	9.40	205	P	Pn	09 59 42.6	-0.4
URZ	Urewera	9.40	205	P	Pn	09 59 42.6	-0.4
	4.8nm,0.4s,baz=359,slow=5.0,SNR=46						
URZ				S	S	10 01 27.3	-1.7
	110nm,0.6s,baz=22,slow=23,SNR=16						
URZ	Urewera	9.40	205	P	Pn	09 59 40.2	-2.8
URZ				S	S	10 01 26.7	-2.3
TOZ	Tahuroa Road	9.64	213	Pn	P	09 59 49.3	-3.1
RTZ	Ruatahuna	9.76	205	P	Pn	09 59 45.4	-2.3
RTZ				S	S	10 01 37.5	0.0
ALRZ	Allen Road	9.96	207	P	Pn	09 59 49.9	-0.3
ALRZ				S	S	10 01 44.0	+1.9
RAHZ	Arahi	9.99	204	P	Pn	09 59 49.5	-1.0
RAHZ				S	S	10 01 42.0	-0.9
MTHZ	Maungataniwha	10.02	205	P	Pn	09 59 50.2	-0.8
MTHZ				S	S	10 01 44.6	+1.1
WHHZ	Waihua	10.08	203	P	Pn	09 59 51.0	-0.7
WHHZ				S	S	10 01 43.2	-1.8
TLZ	Tolley Road	10.10	211	P	P	09 59 54.2	-3.4
MRHZ	Matea Rd	10.16	206	P	Pn	09 59 50.7	-2.0
MRHZ				S	S	10 01 43.5	-3.4
NMHZ	Naumai	10.25	204	P	Pn	09 59 52.3	-1.6
NMHZ				S	S	10 01 50.1	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARHZ	Aropaoanui	10.33	203	P	Pn	09 59 52.8	-2.0
ARHZ				S	S	10 01 50.6	-0.2
BKZ	Black Stump Fm	10.42	205	P	Pn	09 59 55.4	-0.6
BKZ				S	S	10 01 50.8	-2.1
HIZ	Hauiti	10.57	213	P	P	10 00 00.6	-2.2
MCHZ	McNeill Hill	10.60	204	P	Pn	09 59 58.2	0.0
MCHZ				S	S	10 01 55.0	-1.9
KWHZ	Kaweka Forest	10.68	205	P	Pn	09 59 57.1	-2.1
NTVZ	North Tongarir	10.69	208	P	Pn	09 59 59.7	+0.3
TMVZ	Te Maari	10.69	208	P	Pn	09 59 59.4	0.0
KRVZ	Karewarewa	10.70	208	P	P	10 00 01.3	-3.0
OTVZ	Oturere	10.74	208	P	Pn	09 59 57.9	-2.3
SNVZ	South Ngauruho	10.77	208	P	Pn	09 59 59.0	-1.6
KAHZ	Kahuranaki	10.85	202	P	Pn	09 59 59.4	-1.9
BHHZ	Black Hill Sta	10.87	206	P	Pn	09 59 59.7	-1.9
KRHZ	Kereru	10.89	204	P	Pn	09 59 59.0	-2.8
WNVZ	Wahianoa	10.91	208	P	Pn	10 00 01.5	-0.8
MOVZ	Moawhango	10.92	207	P	Pn	10 00 02.8	+0.6
PXZ	Pawanui	11.07	202	P	Pn	10 00 04.2	+0.1
PNHZ	Pukenui	11.19	204	P	Pn	10 00 02.8	-2.8
TSZ	Takapari Road	11.40	205	P	Pn	10 00 05.9	-2.4
WAZ	Wanganui	11.53	209	P	Pn	10 00 09.9	+0.1
NEZ	North Egmont	11.53	213	P	P	10 00 14.0	+0.5
DVHZ	Dannevirke	11.54	204	P	Pn	10 00 09.3	-0.7
ANWZ	Angora Road	11.58	202	P	Pn	10 00 09.2	-1.3
POWZ	Post Office Ro	11.77	205	P	Pn	10 00 12.6	-0.2
PRWZ	Pori Road	11.84	204	P	Pn	10 00 13.2	-0.5
MRZ	Mangatainoka R	12.07	205	P	Pn	10 00 12.9	-3.7
CPWZ	Castlepoint	12.08	202	P	P	10 00 17.8	-1.7
OGWZ	Otaki Gorge	12.36	206	P	Pn	10 00 16.5	-3.6
KIW	Kapiti Island	12.49	206	P	Pn	10 00 18.5	-3.3
MTW	Mount Morrison	12.54	204	P	Pn	10 00 18.9	-3.4
CAW	Cannon Point	12.65	205	P	Pn	10 00 20.0	-3.6
TRWZ	Traveller	12.69	203	P	Pn	10 00 23.2	-1.0
PAWZ	Paruwai Farm	12.76	204	P	Pn	10 00 23.8	-1.3
DUWZ	D'Urville Isla	12.85	209	P	Pn	10 00 25.7	-0.4
NIUE	Niue	12.89	36	Pn	Pn	10 00 25.0	-1.9
WEL	Wellington	12.91	206	P	Pn	10 00 23.6	-3.4
BHW	Baring Head	12.98	205	P	Pn	10 00 24.2	-3.6
PLWZ	Palliser	12.99	204	P	Pn	10 00 25.7	-2.1
TCW	Tory Channel	13.04	207	P	Pn	10 00 25.8	-2.8
TUWZ	Tuamarina	13.36	208		Pn	10 00 28.4	-4.0
TUWZ	Tuamarina	13.36	208	P	Pn	10 00 29.3	-3.1
NNZ	Nelson	13.42	210	P	Pn	10 00 31.0	-2.2
TKNZ	Takaka Hill	13.46	211		Pn	10 00 33.2	-0.5
TKNZ	Takaka Hill	13.46	211	P	Pn	10 00 31.4	-2.3
QRZ	Quartz Range	13.49	213	P	P	10 00 35.7	+0.5
QRZ	Quartz Range	13.49	213	P	Pn	10 00 33.2	-0.9
BSWZ	Blackbirch Sta	13.63	207	P	P	10 00 35.8	-1.0
MRNZ	Matariki Terra	13.84	211	P	Pn	10 00 37.4	-0.8
CTZ	Chatham Island	13.91	176	Pn	P	10 00 52.4	+13
THZ	Tophouse	14.07	210	P	Pn	10 00 39.2	-1.9
KHZ	Kahutara	14.36	207	P	Pn	10 00 41.5	-3.0
DSZ	Denniston Nort	14.55	212	P	Pn	10 00 45.5	-1.4
GVZ	Greta Valley S	15.02	207	P	P	10 00 50.4	-1.7
LTZ	Lake Taylor	15.18	209	P	P	10 00 52.2	-1.7
AMCZ	Amberley	15.35	207	P	Pn	10 00 57.4	+1.0
INZ	Inchbonnie	15.49	211	P	P	10 00 56.6	-0.7
OKCZ	Okains Bay	15.66	205	P	Pn	10 01 00.6	+0.5
OXZ	Oxford	15.72	208	P	Pn	10 00 59.6	-1.3
MQZ	McQueen's Vall	15.79	206	P	P	10 00 59.9	-0.7
DZM	Mont Dzumac	16.11	295		P	10 01 00.1	-4.3
DZM	Mont Dzumac	16.11	295		Pn	10 01 08.3	+2.5
DZM	Mont Dzumac	16.11	295	P	P	10 01 02.5	-1.9
	11nm,0.8s,baz=104,slow=12,SNR=4.5						
NOUC	Port Laguerre	16.20	295	P	Pn	10 01 09.2	+2.4
RPZ	Rata Peaks	16.45	210	P	Pn	10 01 11.1	+1.6
RPZ	Rata Peaks	16.45	210	P	Pn	10 01 08.6	-0.9
	5.8nm,0.7s,baz=15,slow=20,SNR=8.0						
RPZ				S	S	10 04 00.7	-6.3
	18nm,0.6s,baz=321,slow=13,SNR=12						
RPZ	Rata Peaks	16.45	210	P	Pn	10 01 09.1	-0.4
GCSZ	Gaunt Creek Bo	16.46	212	P	Pn	10 01 10.8	+1.3
AFI	Afiamalu	16.80	21	P	P	10 01 07.5	-4.5
AFI	Afiamalu	16.80	21	P	P	10 01 07.6	-4.4
FOZ	Fox Glacier	16.86	212	P	Pn	10 01 14.8	+0.5
TMZ	Timaru	17.02	208	P	Pn	10 01 15.0	-1.1
ODZ	Otahua Downs	17.70	208	P	Pn	10 01 23.6	-0.5
ODZ	Otahua Downs	17.70	208	P	Pn	10 01 25.3	+1.2
WKZ	Wanaka	18.23	211	P	Pn	10 01 31.0	+0.7
CAN	Canberra	28.41	250	P	P	10 03 04.0	+0.2
AULRC	Lightning Ridg	29.66	262	P	P	10 03 18.7	+3.8
TOO	Toolangi	31.33	246	P	P	10 03 30.7	+1.2
CTA	Charters Tower	33.86	278	P	P	10 03 50.5	-1.0
	1.8nm,0.4s,baz=100,slow=9.1,SNR=9.0						
	1.8nm,0.4s						
CTAO	Charters Tower	33.86	278	P	P	10 03 49.8	-1.8
CTAO				IAmb	IAmb	10 03 53.4	
	comp=Z,4.8nm,0.8s						
STKA	Stephens Creek	34.76	256	P	P	10 03 59.2	+0.1
STKA	Stephens Creek	34.76	256	P	P	10 04 00.6	+1.5
STKA	Stephens Creek	34.76	256	P	P	10 04 00.0	+0.9
	comp=Z,5.1nm,0.7s,baz=94,slow=8.8,SNR=8.3						
	comp=Z,5.1nm,0.7s						
MTSU	Mount Surprise	36.34	280	P	P	10 04 13.9	+1.2
HTT	Hallett	36.81	253	P	P	10 04 18.2	+1.7
PTPS	Port Pirie	37.61	253	P	P	10 04 26.3	+3.1
	comp=Z,135nm,0.6s						
LCRK	Leigh Creek	37.84	258	P	P	10 04 25.4	+0.3
RABL	Rabaul	38.15	306	P	P	10 04 25.4	-2.5
BBOO	Buckleboo	39.27	254	P	P	10 04 38.1	+1.2
BBOO				IAmb	IAmb	10 05 14.2	
	comp=Z,12nm,1.3s						
OOD	Oodnadatta	40.57	261	P	P	10 04 48.0	+0.3
AS31	Alice Springs	43.29	266	P	P	10 05 08.8	-1.0
ASAR	Alice Springs	43.29	266	P	P	10 05 08.3	-1.5
ASAR	Alice Springs	43.29	266	P	P	10 05 08.8	-0.9
	comp=Z,4.5nm,0.6s,baz=97,slow=6.4,SNR=83						
ASAR				PcP	PP	10 06 57.0	+1.1
	comp=Z,1.9nm,0.6s,baz=118,slow=3.8,SNR=9.1						
ASAR				ScP	ScP	10 10 25.1	+4.0
	comp=Z,0.2nm,0.6s,baz=101,slow=4.8,SNR=1.8						
	comp=Z,4.5nm,0.6s						
WB2	Warramunga Arr	44.22	271	P	P	10 05 15.7	-1.4
WB2				IAmb	IAmb	10 05 17.9	
	comp=Z,4.7nm,0.6s						
WRAB	Tennant Creek	44.23	271	P	P	10 05 15.4	-1.8
WRAB				IAmb	IAmb	10 05 18.0	
	comp=Z,4.5nm,0.7s						
WRA	Warramunga Arr	44.23	271	P	P	10 05 15.6	-1.6
WRA	Warramunga Arr	44.23	271	P	P	10 05 15.8	-1.4
	comp=Z,4.2nm,0.6s,baz=109,slow=7.9,SNR=59						
WRA				PcP	PcP	10 06 58.0	+0.9
	comp=Z,3.3nm,0.9s,baz=123,slow=3.2,SNR=8.1						
WRA				ScP	ScP	10 10 29.6	+4.6
	comp=Z,0.4nm,0.6s,baz=103,slow=3.8,SNR=5.3						
	comp=Z,4.2nm,0.6s						
FORT	Forrest	46.34	255	P	P	10 05 33.9	+0.3
FORT				IAmb	IAmb	10 05 35.3	
	comp=Z,22nm,0.6s						
WRKA	Warakurna	47.70	262	P	P	10 05 43.8	-0.4
SBA	Scott Base	48.62	184	P	P	10 06 01.5	+11
SBA				IAmb	IAmb	10 06 03.5	
	comp=Z,20nm,0.8s						
VNDA	Vanda	48.68	186	P	P	10 06 00.7	+10
VNDA	Vanda	48.68	186	P	P	10 06 00.3	+10
	comp=Z,2.9nm,0.8s,baz=6.1,slow=7.2,SNR=19						
	comp=Z,2.9nm,0.8s						
MTN	Manton Dam	50.05	278	P	P	10 05 59.5	-2.5
MTN				IAmb	IAmb	10 06 10.8	
	comp=Z,22nm,1.2s						
KNRA	Kununurra	50.82	274	P	P	10 06 06.4	-1.3
KNRA				IAmb	IAmb	10 06 47.5	
	comp=Z,28nm,1.4s						
FITZ	Fitzroy Crossi	52.51	269	P	P	10 06 19.8	-0.4
CASY	Casey	55.71	208	P	P	10 06 48.4	+5.9
CASY				IAmb	IAmb	10 06 48.8	
	comp=Z,14nm,0.7s						
PSA00	Pilbara Seismi	56.19	263	P	P	10 06 46.2	-0.4
QSPA	South Pole Qui	60.28	180	P	P	10 07 22.2	+8.0
QSPA				IAmb	IAmb	10 07 24.7	
	comp=Z,8.0nm,0.7s						
QSPA	South Pole Qui	60.28	180	P	P	10 07 23.0	+8.8
	comp=Z,6.0nm,0.5s,baz=42,slow=2.1,SNR=17						
	comp=Z,6.0nm,0.5s						
KAPI	Kappang	63.66	280	P	P	10 07 36.7	-0.6
	comp=Z,11nm,0.3s,baz=168,slow=16,SNR=4.2						
	comp=Z,11nm,0.3s						
BELA	Belgrano 2	70.33	172	P	P	10 08 26.9	+8.7
BELA				IAmb	IAmb	10 08 27.7	
	comp=Z,9.5nm,0.9s						
MAW	Mawson	72.89	200	P	P	10 08 40.0	+6.4
MAW				IAmb	IAmb	10 08 45.7	
	comp=Z,7.1nm,1.3s						
MAW	Mawson	72.89	200	P	P	10 08 40.3	+6.7
	comp=Z,9.8nm,0.7s,baz=145,slow=8.8,SNR=7.2						
	comp=Z,9.8nm,0.7s						
ESPZ	Base Esperanza	76.03	157	P	P	10 08 58.8	+7.2
MJAR	Matsushiro Arr	77.86	325	P	P	10 09 02.5	+0.3
	comp=Z,3.8nm,0.9s,baz=138,slow=4.4,SNR=5.2						
	comp=Z,3.8nm,0.9s						
TROLL	Troll, Antarti	78.44	180 ⇑	PKKPbc	P	10 09 13.3	+8.2
	comp=Z,438nm,0.8s						
SNAA	Sanae	78.72	178	P	P	10 09 14.6	+8.1
	comp=Z,2.1nm,0.3s,baz=220,slow=6.3,SNR=7.9						
	comp=Z,2.1nm,0.3s						
VNA3	Neumayer Olymp	78.86	176 ⇑	PKKPdf	P	10 09 15.4	+8.2
	comp=Z,23nm,0.7s						
VNA2	Neumayer--Watz	79.30	177 ⇑	PKKPdf	P	10 09 17.8	+8.3
	comp=Z,12nm,0.6s,baz=146,slow=1.0						
VNA1	Neumayer--Stat	79.53	176 ⇑	PKKPdf	P	10 09 19.3	+8.6
	comp=Z,17nm,0.7s						
H03S2	Juan Fernandez	80.65	124	T	T	11 39 27.6	
	baz=210,slow=74,SNR=25						
H03S1	Juan Fernandez	80.66	124	T	T	11 39 26.2	
	baz=210,slow=74,SNR=24						
H03S3	Juan Fernandez	80.67	124	T	T	11 39 28.4	
	baz=210,slow=74,SNR=26						
H03N3	Juan Fernandez	80.84	123	T	T	11 39 44.5	
	baz=287,slow=74,SNR=7.5						
H03N2	Juan Fernandez	80.84	123	T	T	11 39 45.6	
	baz=287,slow=74,SNR=11						
H03N1	Juan Fernandez	80.86	123	T	T	11 39 46.5	
	baz=287,slow=74,SNR=5.6						
KSRS	Korea Array	84.01	320	P	P	10 09 35.7	+1.2
	comp=Z,1.8nm,0.9s,baz=139,slow=5.8,SNR=3.7						
	comp=Z,1.8nm,0.9s						
KULM	Kulim	85.28	279	P	P	10 09 42.8	+1.3
KULM				IAmb	IAmb	10 09 43.5	
	comp=Z,14nm,1.0s						
PETK	Petropavlovsk-	85.30	345	P	P	10 09 43.0	+2.4
	comp=Z,2.0nm,0.5s,baz=109,slow=7.7,SNR=16						
	comp=Z,2.0nm,0.5s						
USRK	Ussuriysk Ar.	86.77	326	P	P	10 09 50.0	+2.0
	comp=Z,1.8nm,0.7s,baz=123,slow=10,SNR=3.3						
	comp=Z,1.8nm,0.7s						
NVAR	Mina Array Bea	87.72	43	P	P	10 09 58.2	+5.3
	comp=Z,0.5nm,0.7s,baz=220,slow=7.7,SNR=6.4						
NVAR				pP	pP	10 10 51.7	-0.6
	comp=Z,0.6nm,0.7s,baz=217,slow=7.0,SNR=4.8						
	comp=Z,0.5nm,0.7s						
CMAR	Chiang Mai Arr	93.36	289	P	P	10 10 21.0	+1.7
	comp=Z,1.5nm,0.5s,baz=137,slow=3.9,SNR=7.7						
	comp=Z,1.5nm,0.5s						
PZH	PanZhiHua	95.18	297	P	P	10 10 29.1	+1.5
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
HHC	Hu-ho-hao-te	95.95	314	eP	P	10 10 30.2	-0.5
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,280nm,4.7s						
MKAR	Makanchi Array	117.52	310	PKP	PKiKP	10 15 49.8	+1.8
	comp=Z,0.3nm,0.6s,baz=112,slow=3.2,SNR=2.6						
ZALV	Zalesovo Beam	117.71	319	PKP	PKiKP	10 15 49.4	+1.4
	comp=Z,0.4nm,0.5s,baz=150,slow=2.8,SNR=2.6						
KURBB	Kurchatov Arra	120.80	314	PKP	PKiKP	10 15 56.0	+1.7
	comp=Z,1.1nm,0.6s,baz=106,slow=1.7,SNR=10.0						
BVAR	Borovoye Array	126.10	316	PKP	PKiKP	10 16 06.7	+2.0
	comp=Z,1.9nm,0.6s,baz=101,slow=1.5,SNR=8.3						
ARCES	ARCESS Array B	138.07	348	PKhKP	PKPpre	10 16 22.8	
	comp=Z,3.6nm,1.1s,baz=110,slow=1.4,SNR=5.6						
ARCES				PKP	PKiKP	10 16 28.5	+0.1
	comp=Z,2.4nm,0.7s,baz=6.8,slow=2.3,SNR=2.2						
FINES	FINESS Array B	144.66	340	PKP	PKPdf	10 16 39.0	+0.8
	comp=Z,3.6nm,0.4s,baz=50,slow=3.7,SNR=41						
KBZ	Khabaz	144.92	305	PKP	PKiKP	10 16 41.2	-1.9
	comp=Z,1.4nm,0.7s,baz=67,slow=2.6,SNR=4.5						
NB2	NORSAR Subarra	148.21	352	PKP	PKPab	10 16 50.2	-1.5
	comp=Z,1.6nm,0.7s,baz=12,slow=2.9						
NOA	NORSAR Array B	148.21	352	PKPbc	PKiKP	10 16 49.7	+0.2
	comp=Z,3.5nm,0.8s,baz=16,slow=4.3,SNR=7.4						
HFS	Hagfors	148.72	349	PKPbc	PKiKP	10 16 51.1	+0.6
	comp=Z,2.2nm,0.4s,baz=60,slow=3.6,SNR=9.5						
AKASG	Malin Array Be	150.94	323	PKPbc	PKiKP	10 16 57.0	+1.6
	comp=Z,3.3nm,0.6s,baz=45,slow=2.8,SNR=21						
MMAI	Mount Meron Ar	151.53	285	PKPbc	PKiKP	10 17 00.6	+3.3
	comp=Z,3.5nm,0.3s,baz=74,slow=4.4,SNR=8.7						
BRTR	Keskin Array B	152.46	299	PKPbc	PKiKP	10 17 01.2	+2.1
	comp=Z,2.1nm,0.8s,baz=123,slow=4.6,SNR=6.9						
DBIC	Dimbokro	156.03	163	PKPab	PKPab	10 17 33.0	+7.3
	comp=Z,3.1nm,0.8s,baz=222,slow=8.1,SNR=4.2						
TORD	Torodi Ar. Bea	163.39	178	PKP	PKPdf	10 17 09.9	+4.4
	comp=Z,1.6nm,0.9s,baz=229,slow=5.5,SNR=6.5						
TORD				PKPab	pPKPdf	10 18 04.7	-3.8
	comp=Z,4.0nm,0.8s,baz=162,slow=2.2,SNR=18						

IDC 03 10:00:00.3±4.2, 36.05S×101.29W, h0km, mb3.8/4, mbtmp3.8/4, MS3.8/21, Error ellipse: s-maj=184.3km s-min=32.8km az=47.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	11.23	320	LR	LR	10 05 37.2	
	comp=Z,251nm,21.3s,baz=146,slow=30						
H03S2	Juan Fernandez	18.47	90	T	T	10 23 26.3	
	baz=261,slow=74,SNR=13						
H03S1	Juan Fernandez	18.48	90	T	T	10 23 26.9	
	baz=261,slow=74,SNR=7.9						
H03S3	Juan Fernandez	18.48	90	T	T	10 23 26.6	
	baz=261,slow=74,SNR=8.0						
H03N2	Juan Fernandez	18.55	88	T	T	10 23 26.1	
	baz=247,slow=72,SNR=11						
H03N3	Juan Fernandez	18.56	88	T	T	10 23 23.8	
	baz=247,slow=72,SNR=12						
H03N1	Juan Fernandez	18.57	88	T	T	10 23 25.6	
	baz=247,slow=72,SNR=10						
PLCA	Paso Flores	24.48	110	P	P	10 05 21.1	+0.1
	2.0nm,0.8s,baz=286,slow=11,SNR=4.0						
PLCA				LR	LR	10 12 03.8	
	comp=Z,128nm,20.4s,baz=268,slow=30						
	2.0nm,0.8s						
CFA	Coronel Fontan	27.74	90	LR	LR	10 14 03.3	
	comp=Z,110nm,19.0s,baz=284,slow=30						
LVC	Limon Verde	31.09	73	LR	LR	10 15 48.1	
	comp=Z,170nm,18.2s,baz=256,slow=30						
NNA	Nana	32.57	49	LR	LR	10 16 43.2	
	comp=Z,181nm,18.8s,baz=257,slow=31						
ATAH	Atahualpa	35.60	42	LR	LR	10 17 56.1	
	comp=Z,194nm,19.9s,baz=206,slow=30						
PMSA	Palmer Station	36.31	154	LR	LR	10 19 21.7	
	comp=Z,150nm,18.7s,baz=307,slow=32						
SIV	San Ignacio	40.93	71	LR	LR	10 22 22.0	
	comp=Z,108nm,20.2s,baz=274,slow=33						
TBI	Tubuai	43.31	273	eLR	LR	10 20 01.2	
	522nm,26.2s						
PPT2	Papeete2	46.34	280	eLR	LR	10 20 11.7	
	68nm,24.0s						
ROSC	El Rosal	47.89	38	LR	LR	10 25 30.3	
	comp=Z,134nm,19.8s,baz=219,slow=32						
JTS	Las Juntas de	48.60	22	LR	LR	10 24 32.6	
	comp=Z,106nm,18.2s,baz=24,slow=30						
SDV	Santo Domingo	53.21	39	LR	LR	10 28 21.1	
	comp=Z,58nm,19.2s,baz=123,slow=32						
VNDA	Vanda	56.57	195	LR	LR	10 30 27.6	
	comp=Z,60nm,18.5s,baz=114,slow=32						
MDP	Montagnes des	61.22	59	LR	LR	10 35 43.3	
	comp=Z,100nm,18.7s,baz=280,slow=35						
URZ	Urewera	62.96	241	LR	LR	10 33 12.2	
	comp=Z,52nm,18.5s,baz=84,slow=32						
SJG	San Juan	63.31	38	LR	LR	10 35 08.3	
	comp=Z,64nm,20.7s,baz=72,slow=33						
RPZ	Rata Peaks	64.69	233	LR	LR	10 31 28.5	
	comp=Z,101nm,19.5s,baz=108,slow=29						
TXAR	Lajitas Array	65.08	358	P	P	10 10 42.6	0.0
	0.2nm,0.8s,baz=178,slow=6.2,SNR=1.6						
	0.2nm,0.8s						
TKL	Tuckaleechee C	73.19	15	LR	LR	10 40 18.0	
	comp=Z,200nm,20.5s,baz=47,slow=33						
NVAR	Mina Array Bea	75.76	346	P	P	10 11 48.4	+0.5
	1.8nm,1.0s,baz=182,slow=6.4,SNR=7.6						
	1.8nm,1.0s						
PDAR	Pinedale Array	78.81	354	P	P	10 12 04.5	-0.4
	1.4nm,0.7s,baz=152,slow=6.3,SNR=12						
	1.4nm,0.7s						
DZM	Mont Dzumac	79.09	251	eLR	LR	10 36 16.8	
	118nm,22.9s						
DZM	Mont Dzumac	79.09	251	LR	LR	10 42 07.7	
	comp=Z,88nm,18.9s,baz=1.5,slow=32						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STKA	Stephens Creek	90.36	229	LR	LR	10 48 03.8	
	comp=Z,83nm,18.1s,baz=149,slow=32						
SUR	Sutherland	92.99	134	LR	LR	10 46 56.5	
	comp=Z,59nm,21.3s,baz=326,slow=30						
CTA	Charters Tower	95.21	241	LR	LR	10 50 35.8	
	comp=Z,64nm,19.4s,baz=84,slow=32						
BRTR	Keskin Array B	144.53	70	PKP	PKPab	10 19 37.0	-0.1
	1.1nm,0.7s,baz=281,slow=1.0,SNR=3.1						
KBZ	Khabaz	151.64	63	PKPbc	PKiKP	10 19 56.6	0.0
	2.9nm,0.9s,baz=219,slow=6.5,SNR=5.1						

*JMA **03** 10:13:57.9±1.0, 46°N±7°×15°3E±°, h30km, MV4.4/13, KURILE ISLANDS REGION*
*SKHL **03** 10:14:00.2±0.1, 45.70N×153.00E, h75km±5km, mb4.8/5*
*MOS **03** 10:14:01.1±1.2, 46.22N×152.51E, h47km, mb4.4/4, Error ellipse: s-maj=12.4km s-min=9.5km az=70.9*
*IDC **03** 10:14:05.1±3.1, 46.41N×152.38E, h54km±26km, mb3.5/12, mbtmp3.8/16, ML3.2/4, MS2.9/1, Error ellipse: s-maj=36.7km s-min=19.3km az=169.0*
ISC 03 10:14:01.0±0.9, 45.9N±0.1×152.69E±0.09, h41km, n63, σ1.73/68, mb4.1/16, 5C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.45	261	ePN	Pn	10 14 54.7	+2.5
KUR				i S	Sn	10 15 37.5	+5.7
KUR				pmax	pmax		
	comp=Z,98nm,0.4s						
KUR				pmax	pmax		
	comp=N,31nm,0.2s						
KUR				pmax	pmax		
	comp=E,51nm,0.3s						
KUR				smax	smax		
	comp=N,175nm,0.6s						
KUR				smax	smax		
	comp=E,94nm,0.6s						
KUR	Kuril'sk	3.45	261	eP	Pn	10 14 54.7	+2.5
KUR				AMB	AMB	10 15 01.3	
	comp=E,100nm,0.4s						
KUR				i S	Sn	10 15 35.5	+3.7
KUR				A	A	10 15 53.6	
	comp=E,180nm,0.6s						
KUR				A	A	10 15 53.6	
	comp=E,90nm,0.6s						
SHO	Shikotan	4.63	246	ePN	Pn	10 15 07.8	-0.5
SHO	Shikotan	4.63	246	eP	Pn	10 15 08.7	+0.4
SHO				AMB	AMB	10 15 10.5	
	comp=E,40nm,0.3s						
SHO				eS	Sn	10 16 00.2	-0.5
SHO				A	A	10 16 03.3	
	comp=E,70nm,0.4s						
SHO				A	A	10 16 03.3	
	comp=E,60nm,0.4s						
YUK	Yuzh-Kuril'sk	5.19	252	eP	Pn	10 15 17.1	+1.1
YUK				AMB	AMB	10 15 19.4	
	comp=E,200nm,0.6s						
YUK				eS	Sn	10 16 15.4	+0.9
YUK				A	A	10 16 16.8	
	comp=E,150nm,0.7s						
YUK				A	A	10 16 16.8	
	comp=E,230nm,0.7s						
SKR	Severo-Kuril's	5.32	24 ⇓	ePN	Pn	10 15 17.7	-0.1
SKR	Severo-Kuril's	5.32	24	eP	Pn	10 15 18.4	+0.6
SKR				AMB	AMB	10 15 20.2	
	comp=E,40nm,0.6s						
SKR				eS	Sn	10 16 17.7	-0.1
NEM2	Nemuro 2	5.56	246	eP	Pn	10 15 21.1	0.0
NEM2				eS	Sn	10 16 22.9	-0.8
JRA	Rausu	5.72	253	eP	Pn	10 15 25.5	+2.3
JNK	Nakash	6.13	251	eP	Pn	10 15 30.5	+1.6
PAU	Pauzhetka	6.22	24	eP	Pn	10 15 31.5	+1.3
PAU				eS	Sn	10 16 38.1	-1.8
AKK	Akkeshi	6.31	246	eP	Pn	10 15 32.7	+1.4
AKK				eS	Sn	10 16 40.9	-1.2
JAK	Akkeshi	6.41	246	eP	Pn	10 15 32.7	0.0
JAK				eS	Sn	10 16 44.4	-0.2
JTKR	Abashiri--Toko	6.52	256	eP	Pn	10 15 36.8	+2.5
JAR	Ashorobuto	6.87	251	eP	Pn	10 15 41.0	+1.8
JAR				eS	Sn	10 16 58.8	+2.7
JOB	Onbets	7.01	248	eP	Pn	10 15 41.8	+0.8
JOB				eS	Sn	10 16 58.5	-0.9
JKK2	Kamakawa 2	7.34	258	eP	Pn	10 15 48.5	+2.9
JKA	Kamikawa-asahi	7.37	260	eP	Pn	10 15 48.6	+2.6
ASAJ	Asahikawa	7.37	260	P	Pn	10 15 48.6	+2.6
	comp=E,0.9nm,0.3s,baz=71,slow=23,SNR=7.6						
	comp=E,6.7nm,0.6s						
JCH	Churui	7.45	247	eP	Pn	10 15 48.0	+0.9
JCH				eS	Sn	10 17 08.3	-2.0
ERM	Erimo	7.89	244 ⇑	ePN	Pn	10 15 55.2	+2.1
PEA0B	Petropavlovsk-	7.94	22 ⇑	ePN	Pn	10 15 51.9	-1.8
PETK	Petropavlovsk-	7.94	22	P	Pn	10 15 51.6	-2.1
	comp=E,0.4nm,0.3s,baz=177,slow=10,SNR=18						
	comp=E,2.3nm,0.6s						
JNBK	Urakawa-nobuka	8.01	247	eP	Pn	10 15 54.7	-0.1
JNBK				eS	Sn	10 17 21.0	-2.9
TYV	Tymovskoe	8.34	310	eP	Pn	10 16 01.7	+2.5
KBG	Krutoberegovo	12.13	27	eP	Pn	10 16 49.9	-1.1
MA2	Magadan	13.77	356	LR	LR	10 21 51.5	
	comp=E,50nm,19.1s,baz=66,slow=35						
KLR	Kul'dur	14.53	291	P	Pn	10 17 24.5	+0.8
	comp=E,0.1nm,0.3s,baz=108,slow=16,SNR=1.8						
	comp=E,0.3nm,0.3s						
USRK	Ussuriysk Ar.	14.73	271	P	Pn	10 17 26.9	+0.4
	comp=E,0.2nm,0.3s,baz=76,slow=14,SNR=7.1						
	comp=E,2.4nm,0.9s						
YAK	Yakutsk	20.91	329 ⇑	eP	Pn	10 18 41.8	-0.5
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
H11N2	WAKE ISLAND Hy	28.59	151	T	T	10 50 25.5	
	baz=339,slow=74,SNR=24						
H11N1	WAKE ISLAND Hy	28.60	151	T	T	10 50 33.5	
	baz=339,slow=74,SNR=15						
H11N3	WAKE ISLAND Hy	28.60	151	T	T	10 50 30.6	
	baz=339						
H11S1	WAKE ISLAND Hy	29.66	152	T	T	10 51 52.8	
	baz=339						
H11S3	WAKE ISLAND Hy	29.67	152	T	T	10 51 49.7	
	baz=339						
H11S2	WAKE ISLAND Hy	29.68	152	T	T	10 51 49.5	
	baz=339						
MKAR	Makanchi Array	47.09	298	eP	P	10 22 27.1	-1.5
MKAR	Makanchi Array	47.09	298	P	P	10 22 28.4	-0.2
	comp=Z,0.8nm,0.8s,baz=63,slow=6.1,SNR=4.8						
	comp=Z,0.8nm,0.8s						
MKAR	Makanchi Array	47.09	298	eP	P	10 22 27.1	-1.5
KURK	Kurchatov	47.61	304	P	P	10 22 32.4	-0.1
KURK	Kurchatov	47.61	304	eP	P	10 22 32.4	-0.1
KURBB	Kurchatov Arra	47.70	304	P	P	10 22 32.4	-0.8
	comp=Z,0.5nm,0.5s,baz=68,slow=9.2,SNR=4.1						
	comp=Z,0.5nm,0.5s						
BVAR	Borovoye Array	51.19	310	P	P	10 22 57.5	-2.3
	comp=Z,0.7nm,0.4s,baz=48,slow=7.6,SNR=6.4						
	comp=Z,0.7nm,0.4s						
YKA	Yellowknife Ar	51.80	36	P	P	10 23 04.4	+0.2
	comp=Z,0.1nm,0.7s,baz=300,slow=7.8,SNR=2.0						
	comp=Z,0.1nm,0.7s						
SPITS	Spitsbergen Ar	53.42	350	P	P	10 23 14.5	-1.5
	comp=Z,18nm,1.1s,baz=106,slow=4.7,SNR=2.7						
AAK	Ala-Archa	53.96	297 ⇑	eP	P	10 23 21.1	+0.4
AAK	Ala-Archa	53.96	297	eP	P	10 23 21.1	+0.4
ARU	Arti	55.46	318 ⇑	eP	P	10 23 30.1	-1.0
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	Arti	55.46	318	eP	P	10 23 30.1	-1.0
ARCES	ARCESS Array B	58.58	341	P	P	10 23 52.2	-0.7
	comp=Z,4.1nm,0.9s,baz=10,slow=7.4,SNR=3.9						
	comp=Z,4.1nm,0.9s						
NVAR	Mina Array Bea	63.10	62	P	P	10 24 27.7	+3.3
	comp=Z,0.1nm,0.3s,baz=286,slow=8.3,SNR=4.1						
	comp=Z,0.1nm,0.3s						
FINES	FINESS Array B	64.70	335	eP	P	10 24 33.2	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	64.70	335	P	P	10 24 33.4	-0.9
	comp=Z,1.7nm,0.7s,baz=27,slow=9.0,SNR=9.2						
	comp=Z,1.7nm,0.7s						
OBN	Obninsk	65.86	326	eP	P	10 24 42.0	+0.1
OBN				e		10 25 11.8	
OBN				e		10 27 08.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN	Obninsk	65.86	326	eP	P	10 24 42.0	+0.1
NOA	NORSAR Array B	68.96	341	P	P	10 25 00.4	-1.0
	comp=Z,0.5nm,0.5s,baz=28,slow=6.5,SNR=1.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**69.17**	**339**	P	**P**	**10 25 02.1**	**-0.6**
	comp=Z,6.6nm,1.1s,baz=48,slow=8.6,SNR=5.2						
	comp=Z,6.6nm,1.1s						
KIV	**Kislovodsk**	**71.20**	**314**	*e*P	**P**	**10 25 14.1**	**-1.4**
KIV				*e*		10 25 31.9	
KIV				*e*		10 27 52.6	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	**71.20**	**314**	*e*P	**P**	**10 25 14.1**	**-1.4**
KBZ	**Khabaz**	**71.26**	**314**	P	**P**	**10 25 14.8**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=89,slow=4.3,SNR=4.4						
	comp=Z,1.8nm,0.7s						
AKASG	**Malin Array Be**	**72.11**	**326**	P	**P**	**10 25 19.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=36,slow=6.0,SNR=4.1						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**78.18**	**60**	P	**P**	**10 25 57.6**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=295,slow=4.8,SNR=4.4						
	comp=Z,0.1nm,0.5s						
MAW	**Mawson**	**131.31**	**211**	PKP	**PKiKP**	**10 33 10.1**	**+1.9**
	comp=Z,3.4nm,0.5s,baz=90,slow=20,SNR=1.5						

*JMA **03** 10:15:27.1±0.2, 38°N±1°×14°5E±°, h50km, MV3.5/23, FAR E OFF NORTH HONSHU*
ISC 03 10:15:22.4±2.5**, 37.95N**±0.08×**145.0E**±0.1**, h26km, n12, σ2.48**/20**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.80**	**279**	P	**Pn**	**10 16 08.1**	**+2.6**
JIKH				S	**Sn**	**10 16 38.6**	**+0.2**
OFUJ	**Ofunato**	**2.84**	**295**	P	**Pb**	**10 16 09.0**	**-3.4**
JKMT	**Kesennumamotoy**	**2.89**	**288**	*e*P	**Pb**	**10 16 09.8**	**-3.4**
JKMT				*e*S	**Sn**	**10 16 41.4**	**+0.7**
JIO	**Ouri**	**2.91**	**281**	*e*P	**Pn**	**10 16 09.7**	**+2.7**
JIO				*e*S	**Sn**	**10 16 41.5**	**+0.4**
JMK	**Ichinoseki**	**3.12**	**290**	P	**Pb**	**10 16 13.4**	**-3.8**
JMK				*e*S	**Sn**	**10 16 47.5**	**+1.1**
JOM	**Ohasama**	**3.27**	**299**	P	**Pn**	**10 16 15.4**	**+3.5**
JOM				*e*S	**Sn**	**10 16 51.6**	**+1.7**
JANG	**Nango**	**3.63**	**313**	*e*S	**Sn**	**10 16 58.7**	**-0.1**
JOTO	**OTAMA OYAMA**	**3.71**	**265**	S	**Sn**	**10 17 02.0**	**+1.1**
JRY	**Ryogami san**	**5.24**	**250**	P	**Pn**	**10 16 41.9**	**+2.8**
JRY				*e*S	**Sn**	**10 17 37.1**	**-1.6**
JOD2	**Odawara 2**	**5.45**	**242**	*e*P	**Pn**	**10 16 45.0**	**+3.1**
JOD2				*e*S	**Sn**	**10 17 42.8**	**-1.0**
MJAR	**Matsushiro Arr**	**5.59**	**258**	P	**Pn**	**10 16 45.8**	**+1.9**
	1.2nm,0.5s,baz=65,slow=9.6,SNR=7.0						
JTKR	**Abashiri--Toko**	**6.07**	**353**	*e*P	**Pn**	**10 16 53.2**	**+2.8**
JTKR				*e*S	**Sn**	**10 17 57.8**	**-1.2**

IDC 03 10:17:25.7±1.9**, 6.75S**×**128.78E, h0km, mb3.4**/2**, mbtmp3.5**/4**, ML3.6**/2**, Error ellipse: s-maj=150.1km s-min=30.1km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.18**	**158**	Pn	Pn	10 20 47.3	-0.7
	0.3nm,0.3s,baz=340,slow=12,SNR=18						
WRA				Sn	Sn	10 23 11.2	-15
	0.5nm,0.3s,baz=330,slow=22,SNR=11						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.53**	**164**	P	Pn	10 21 32.2	+0.5
	0.3nm,0.3s,baz=341,slow=10,SNR=22						
ASAR				S	Sn	10 24 33.3	-14
	0.3nm,0.4s,baz=340,slow=22,SNR=5.8						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	10 28 23.3	+0.5
	0.1nm,0.6s,baz=123,slow=7.9,SNR=1.5						
	0.1nm,0.6s						
ZALV	**Zalesovo Beam**	**70.83**	**334**	P	P	10 28 43.7	-0.4
	0.4nm,0.4s,baz=116,slow=5.0,SNR=2.1						
	0.4nm,0.4s						

IDC 03 10:37:09.6±2.2**, 0.88N**×**126.98E, h0km, mb3.3**/3**, mbtmp3.3**/3**, Error ellipse: s-maj=177.7km s-min=27.7km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**161**	P	P	10 42 04.5	-0.3
	0.4nm,0.6s,baz=340,slow=11,SNR=5.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**25.31**	**165**	P	P	10 42 38.4	+0.2
	0.7nm,0.9s,baz=349,slow=9.4,SNR=6.1						
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**60.03**	**326**	P	P	10 47 18.3	-0.1
	0.4nm,0.7s,baz=117,slow=7.6,SNR=3.9						
	0.4nm,0.7s						

*DNK **03** 10:37:42.7±0.4, 65.41N×21.38E, h0km, ML2.7(UPP), Explosion*
*HEL **03** 10:37:42.3±0.1, 65.39N×21.21E, h0km, ML1.3, Explosion*
*UPP **03** 10:37:42.2±0.1, 65.41N×21.37E, h0km, ML2.7, Suspected explosion*
ISC 03 10:37:41.2±0.8**, 65.45N**±0.03×**21.20E**±0.04**, h0km, n34, σ0.46**/46**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJUU	**Sjulsmark**	**0.18**	**70**	P	**Pg**	**10 37 45.1**	**+0.5**
SJUU				S	**Sg**	**10 37 47.4**	**+0.4**
SJUU	**Sjulsmark**	**0.18**	**70**	P	**Pg**	**10 37 45.1**	**+0.5**
SJUU				S	**Sg**	**10 37 47.4**	**+0.4**
LILU	**Lilltraesk**	**0.59**	**255**	P	**Pb**	**10 37 54.5**	**+0.1**
LILU				S	**Sb**	**10 38 03.5**	**+0.2**
LILU	**Lilltraesk**	**0.59**	**255**	P	**Pb**	**10 37 54.5**	**+0.1**
LILU				S	**Sb**	**10 38 03.5**	**+0.2**
HARU	**Harads**	**0.73**	**353**	P	**Pb**	**10 37 56.9**	**+0.2**
HARU	**Harads**	**0.73**	**353**	P	**Pb**	**10 37 56.9**	**+0.2**
BURU	**Burvik**	**0.87**	**175**	P	**Pg**	**10 37 57.8**	**-0.1**
BURU	**Burvik**	**0.87**	**175**	*e*PB	**Pg**	**10 37 57.9**	**+0.1**
BURU				*e*SB	**Sg**	**10 38 08.5**	**-0.6**
BURU	**Burvik**	**0.87**	**175**	P	**Pg**	**10 37 57.8**	**-0.1**
KALU	**Kalix**	**0.98**	**64**	P	**Pg**	**10 37 59.9**	**-0.2**
KALU	**Kalix**	**0.98**	**64**	*e*S	**Sg**	**10 38 11.9**	**-0.9**
KALU	**Kalix**	**0.98**	**64**	P	**Pg**	**10 37 59.9**	**-0.2**
ODEU	**Stanfors**	**1.06**	**191**	P	**Pg**	**10 38 01.8**	**+0.2**
ODEU	**Stanfors**	**1.06**	**191**	P	**Pg**	**10 38 01.8**	**+0.2**
ERTU	**Ertsjaerv**	**1.18**	**20**	P	**Pb**	**10 38 04.2**	**-0.3**
ERTU	**Ertsjaerv**	**1.18**	**20**	*e*P	**Pb**	**10 38 04.5**	**0.0**
ERTU				*e*S	**Sb**	**10 38 20.4**	**0.0**
ERTU	**Ertsjaerv**	**1.18**	**20**	P	**Pb**	**10 38 04.2**	**-0.3**
SVAU	**Svanoeiden**	**1.19**	**217**	P	**Pb**	**10 38 04.5**	**0.0**
SVAU	**Svanoeiden**	**1.19**	**217**	P	**Pb**	**10 38 04.5**	**0.0**
TOF	**Tornio**	**1.44**	**62**	*e*PG	**Pn**	**10 38 08.7**	**+0.2**
TOF				MSG		10 38 26.0	
	comp=Z,1.0nm,0.2s						
TOF				*e*S	**Sg**	**10 38 26.7**	**-0.7**
UMAU	**Umeaa**	**1.59**	**188**	P	**Pn**	**10 38 10.7**	**+0.2**
UMAU	**Umeaa**	**1.59**	**188**	*e*PN	**Pn**	**10 38 10.7**	**+0.2**
UMAU				*e*SN	**Sn**	**10 38 30.7**	**-1.0**
UMAU	**Umeaa**	**1.59**	**188**	P	**Pn**	**10 38 10.7**	**+0.2**
OBF0	**Syolatti, Pyha**	**1.60**	**125**	MSG		10 38 29.1	
	comp=Z,5.4nm,0.2s						
OBF0				*e*SN	**Sg**	**10 38 33.7**	**+1.0**
PAJU	**Pajala**	**1.76**	**25**	P	**Pb**	**10 38 14.2**	**-0.2**
PAJU	**Pajala**	**1.76**	**25**	*e*P	**Pb**	**10 38 13.9**	**-0.5**
PAJU				*e*S	**Sn**	**10 38 35.5**	**-0.7**
PAJU	**Pajala**	**1.76**	**25**	P	**Pb**	**10 38 14.2**	**-0.2**
OBF4	**Vikkela, Lumij**	**1.77**	**109**	*e*P	**Pn**	**10 38 13.2**	**+0.1**
OBF4				MSG		10 38 34.0	
	comp=Z,2.6nm,0.2s						
OBF4				*e*SN	**Sn**	**10 38 36.9**	**+0.8**
OUF	**Merijarvi**	**1.85**	**124**	*e*PN	**Pn**	**10 38 14.7**	**+0.5**
OUF				MSG		10 38 36.1	
	comp=Z,2.3nm,0.2s						
OUF				*e*SN	**Sn**	**10 38 38.4**	**0.0**
KLF	**Kolari**	**2.11**	**31**	*e*PB	**Pb**	**10 38 19.9**	**-0.4**
KLF				MSG		10 38 46.2	
	comp=Z,1.1nm,0.2s						
KLF				*e*SG	**Sg**	**10 38 48.7**	**-0.4**
HUSU	**Husum**	**2.28**	**203**	*e*SG	**Sb**	**10 38 52.3**	**+0.4**
RNF	**Rovaniemi**	**2.29**	**57**	*e*SB	**Sb**	**10 38 52.1**	**0.0**
VAF	**Ylistaro**	**2.50**	**164**	MSG		10 38 54.5	
	comp=Z,0.9nm,0.2s						
VAF				*e*SG	**Sb**	**10 38 57.0**	**-1.2**
SGF	**Sodankyl**	**2.93**	**44**	*e*SB	**Sb**	**10 39 11.5**	**+0.9**

*IDC **03** 11:12:56.6±2.0, 7.90S×118.85E, h0km, mb3.2/2, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=55.6km s-min=23.9km az=71.0*
*DJA **03** 11:13:00.0±2.1, 8°S±4°×11°9E±°, h22km±22km, M3.4/10, MLv3.4/10*
ISC 03 11:13:00.5±0.9**, 7.83S**±0.05×**118.97E**±0.05**, h34km, n17, σ1.55**/20**, Flores Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBNI	**Kabupaten Domp**	**0.94**	**224**	P	**Pb**	**11 13 17.5**	**-0.8**
DBNI				S	**Sb**	**11 13 30.1**	**-0.4**
PLAI	**Plampang**	**1.54**	**230**	P	**Pb**	**11 13 26.4**	**-2.1**
PLAI				S	**Sb**	**11 13 44.9**	**-2.9**
TWSI	**Taliwang, Sumb**	**2.25**	**246**	P	**Pn**	**11 13 36.2**	**+0.8**
MKS	**Makassar**	**2.64**	**11**	P	**Pn**	**11 13 42.5**	**+1.8**
BKSI	**Bulukumba**	**2.74**	**25**	P	**Pn**	**11 13 41.9**	**-0.2**
EDFI	**Ende, Flores**	**2.84**	**109**	P	**Pn**	**11 13 44.6**	**+1.0**
BASI	**Baing, Sumba**	**2.86**	**146**	P	**Pn**	**11 13 44.6**	**+0.9**
KAPI	**Kappang**	**2.90**	**16**	Pn	**Pn**	**11 13 45.0**	**+0.7**
	8.9nm,0.2s,baz=230,slow=12,SNR=4.9						
KAPI				Sn	**Sb**	**11 14 24.0**	**-2.6**
	6.6nm,0.3s,baz=81,slow=22,SNR=6.5						
MMRI	**Maumere**	**3.33**	**104**	P	**Pn**	**11 13 50.0**	**-0.2**
SRBI	**Singaraja**	**3.73**	**266**	P	**Pn**	**11 13 55.8**	**+0.1**
IGBI	**Denpasar**	**3.91**	**255**	P	**Pn**	**11 14 01.1**	**+2.9**
SPSI	**Sidrap Palu**	**3.92**	**12**	P	**Pn**	**11 13 59.3**	**+1.0**
PMSI	**Majene**	**4.30**	**359**	P	**Pn**	**11 14 04.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**4.81**	**262**	P	**Pn**	**11 14 11.0**	**+0.4**
WRA	**Warramunga Arr**	**19.15**	**131**	P	**P**	**11 17 21.6**	**+0.5**
	0.1nm,0.3s,baz=302,slow=13,SNR=1.7						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**21.29**	**139**	P	**P**	**11 17 45.7**	**+1.4**
	0.7nm,0.7s,baz=315,slow=8.9,SNR=18						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**63.41**	**333**	P	**P**	**11 23 28.0**	**+1.4**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=1.6						
	0.2nm,0.5s						

*NOU **03** 11:15:24.4, 42.42S×173.87E, h8km, MLv3.5/9, South Island, New Zealand*
*WEL **03** 11:15:25.6±0.4, 42°S±3°×17°4E±°, h6km±4km, M3.1/16, ML3.4/16, MLv3.1/16, Error ellipse: s-maj=0.0km s-min=0.0km az=120.4, confirmed*
ISC 03 11:15:25.2±1.0**, 42.29S**±0.03×**173.77E**±0.04**, h15km**±7km**, n75, σ1.10**/85**, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**234**	P	**Pg**	**11 15 30.2**	**+0.3**
KHZ	**Kahutara**	**0.21**	**234**	P	**Pg**	**11 15 30.2**	**+0.3**
KHZ				S	**Sg**	**11 15 34.0**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.58**	**8**	P	**Pg**	**11 15 36.2**	**-0.5**
BSWZ				S	**Sg**	**11 15 44.1**	**-0.3**
CMWZ	**Cape Campbell**	**0.64**	**32**	P	**Pb**	**11 15 39.0**	**+1.0**
THZ	**Tophouse**	**0.83**	**309**	P	**Pg**	**11 15 39.9**	**-1.5**
THZ				S	**Sg**	**11 15 50.2**	**-2.1**
GVZ	**Greta Valley S**	**0.86**	**218**	P	**Pn**	**11 15 43.3**	**+0.4**
GVZ				S	**Sn**	**11 15 57.2**	**+1.9**
TUWZ	**Tuamarina**	**0.87**	**9**	P	**Pg**	**11 15 41.5**	**-0.6**
TUWZ				S	**Sg**	**11 15 53.3**	**-0.2**
NNZ	**Nelson**	**1.11**	**345**	P	**Pg**	**11 15 44.9**	**-1.7**
TCW	**Tory Channel**	**1.15**	**20**	P	**Pg**	**11 15 46.4**	**-0.9**
TCW				S	**Sg**	**11 16 02.6**	**+0.3**
MRNZ	**Matariki Terra**	**1.17**	**319**	P	**Pg**	**11 15 46.2**	**-1.5**
AMCZ	**Amberley**	**1.21**	**223**	P	**Pb**	**11 15 48.0**	**+0.2**
SNZO	**South Karori**	**1.21**	**36**	P	**Pb**	**11 15 48.0**	**+0.3**
BHW	**Baring Head**	**1.21**	**43**	P	**Pb**	**11 15 47.8**	**0.0**
BHW				S	**Sn**	**11 16 04.9**	**+1.2**
LTZ	**Lake Taylor**	**1.21**	**246**	P	**Pg**	**11 15 47.2**	**-1.3**
WEL	**Wellington**	**1.26**	**37**	P	**Pn**	**11 15 48.7**	**+0.4**
WEL				S	**Sg**	**11 16 06.2**	**+0.5**
PLWZ	**Palliser**	**1.32**	**57**	P	**Pn**	**11 15 49.2**	**-0.1**
TKNZ	**Takaka Hill**	**1.40**	**334**	P	**Pn**	**11 15 50.0**	**-0.2**
DUWZ	**D'Urville Isla**	**1.49**	**5**	P	**Pn**	**11 15 52.0**	**+0.4**
DUWZ				S	**Sn**	**11 16 12.1**	**+1.3**
OKCZ	**Okains Bay**	**1.52**	**200**	P	**Pn**	**11 15 52.1**	**+0.2**
CAW	**Cannon Point**	**1.53**	**40**	P	**Pn**	**11 15 52.2**	**+0.1**
CAW				S	**Sn**	**11 16 12.8**	**+1.1**
PAWZ	**Paruwai Farm**	**1.54**	**54**	P	**Pn**	**11 15 51.8**	**-0.3**
DSZ	**Denniston Nort**	**1.56**	**290**	P	**Pn**	**11 15 53.2**	**+0.7**
MQZ	**McQueen's Vall**	**1.63**	**210**	P	**Pn**	**11 15 52.7**	**-0.7**
OXZ	**Oxford**	**1.64**	**230**	P	**Pn**	**11 15 52.8**	**-0.7**
KIW	**Kapiti Island**	**1.67**	**31**	P	**Pn**	**11 15 54.4**	**+0.5**
TRWZ	**Traveller**	**1.69**	**59**	P	**Pn**	**11 15 53.7**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.70**	**201**	P	**Pn**	**11 15 54.2**	**-0.1**
MTW	**Mount Morrison**	**1.72**	**49**	P	**Pn**	**11 15 54.3**	**-0.4**
QRZ	**Quartz Range**	**1.73**	**327**	P	**Pn**	**11 15 56.1**	**+1.2**
QRZ	**Quartz Range**	**1.73**	**327**	P	**Pn**	**11 15 55.8**	**+0.9**
INZ	**Inchbonnie**	**1.77**	**255**	P	**Pn**	**11 15 55.7**	**+0.3**
OGWZ	**Otaki Gorge**	**1.81**	**36**	P	**Pn**	**11 15 56.0**	**+0.1**
RACZ	**Rakaia**	**1.86**	**219**	P	**Pn**	**11 15 56.4**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.91**	**44**	P	**Pn**	**11 15 57.5**	**+0.2**
TMWZ	**Te Maipa**	**1.98**	**54**	P	**Pn**	**11 15 57.6**	**-0.6**
MRZ	**Mangatainoka R**	**2.12**	**40**	P	**Pn**	**11 15 59.8**	**-0.4**
WACZ	**Wakanui South**	**2.17**	**220**	P	**Pn**	**11 16 00.3**	**-0.5**
TIWZ	**Tintock**	**2.20**	**47**	P	**Pn**	**11 16 00.8**	**-0.4**
WVZ	**Waitaha Valley**	**2.37**	**250**	P	**Pn**	**11 16 03.9**	**+0.4**
RPZ	**Rata Peaks**	**2.44**	**234**	P	**Pn**	**11 16 04.2**	**-0.5**
RPZ	**Rata Peaks**	**2.44**	**234**	P	**Pn**	**11 16 04.1**	**-0.5**
BFZ	**Birch Farm**	**2.46**	**50**	P	**Pn**	**11 16 04.3**	**-0.5**
BFZ	**Birch Farm**	**2.46**	**50**	P	**Pn**	**11 16 04.0**	**-0.9**
ARCZ	**Arundel**	**2.52**	**228**	P	**Pn**	**11 16 05.1**	**-0.5**
WAZ	**Wanganui**	**2.70**	**20**	P	**Pn**	**11 16 10.4**	**+2.3**
GCSZ	**Gaunt Creek Bo**	**2.73**	**247**	P	**Pn**	**11 16 09.6**	**+1.1**
TSZ	**Takapari Road**	**2.78**	**37**	P	**Pn**	**11 16 08.5**	**-0.7**
LREZ	**Lake Rotokare**	**2.87**	**10**	P	**Pb**	**11 16 15.0**	**-1.1**
TMZ	**Timaru**	**2.90**	**223**	P	**Pn**	**11 16 10.5**	**-0.5**
FOZ	**Fox Glacier**	**3.16**	**246**	P	**Pn**	**11 16 15.0**	**+0.7**
MOVZ	**Moawhango**	**3.25**	**28**	P	**Pb**	**11 16 21.1**	**-1.6**
VRZ	**Vera Road**	**3.25**	**14**	P	**Pn**	**11 16 18.0**	**+2.3**
WNVZ	**Wahianoa**	**3.27**	**26**	P	**Pn**	**11 16 17.6**	**+1.4**
BHHZ	**Black Hill Sta**	**3.30**	**33**	P	**Pn**	**11 16 17.1**	**+0.8**
TUVZ	**Tukino**	**3.34**	**26**	P	**Pn**	**11 16 19.2**	**+2.1**
LBZ	**Lake Benmore**	**3.35**	**230**	P	**Pn**	**11 16 16.7**	**-0.3**
NGZ	**Ngauruhoe**	**3.41**	**25**	P	**Pb**	**11 16 25.2**	**-0.3**
SNVZ	**South Ngauruho**	**3.41**	**25**	P	**Pn**	**11 16 19.4**	**+1.3**
OTVZ	**Oturere**	**3.44**	**25**	P	**Pn**	**11 16 19.3**	**+0.9**
NNVZ	**North Ngauruho**	**3.46**	**25**	P	**Pn**	**11 16 20.8**	**+2.1**
WTVZ	**West Tongariro**	**3.46**	**24**	P	**Pb**	**11 16 25.6**	**-0.7**
KRVZ	**Karewarewa**	**3.50**	**25**	P	**Pb**	**11 16 25.8**	**-1.1**
TMVZ	**Te Maari**	**3.50**	**26**	P	**Pn**	**11 16 21.9**	**+2.7**
NTVZ	**North Tongarir**	**3.50**	**25**	P	**Pn**	**11 16 22.1**	**+2.8**
ODZ	**Otahua Downs**	**3.56**	**218**	P	**Pn**	**11 16 19.0**	**-1.0**
ODZ	**Otahua Downs**	**3.56**	**218**	P	**Pn**	**11 16 19.2**	**-0.8**
HIZ	**Hauiti**	**3.87**	**13**	P	**Pn**	**11 16 26.7**	**+2.6**
HIZ	**Hauiti**	**3.87**	**13**	P	**Pn**	**11 16 27.1**	**+3.0**
JCZ	**Jackson Bay**	**4.05**	**242**	P	**Pn**	**11 16 27.1**	**+0.3**
JCZ	**Jackson Bay**	**4.05**	**242**	P	**Pn**	**11 16 27.0**	**+0.1**
EAZ	**Earnscleugh**	**4.37**	**226**	P	**Pn**	**11 16 30.2**	**-0.8**
TUZ	**Tuapeka**	**4.72**	**218**	P	**Pn**	**11 16 35.3**	**-0.5**
SYZ	**Scrubby Hill**	**5.38**	**216**	P	**Pn**	**11 16 44.8**	**-0.2**
SYZ	**Scrubby Hill**	**5.38**	**216**	P	**Pn**	**11 16 45.0**	**0.0**
APZ	**The Paps**	**6.13**	**220**	P	**Pn**	**11 16 54.9**	**-0.4**

*IDC **03** 11:24:03.0±1.8, 4.35N×123.13E, h581km±22km, mb3.0/9, mbtmp4.0/9, Error ellipse: s-maj=69.2km s-min=10.5km az=63.0*
ISC 03 11:24:03.0±0.9**, 4.4N**±0.3×**123.1E**±0.5**, h582km, n9, σ0.47**/13**, mb3.5**/9**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.55**	**156**	P	**P**	**11 28 55.1**	**-0.7**
	2.9nm,0.3s,baz=334,slow=9.7,SNR=131						
WRA				PcP	**PcP**	**11 32 00.4**	**-0.2**
	0.1nm,0.3s,baz=339,slow=2.4,SNR=1.0						
WRA				ScP	**ScP**	**11 34 45.7**	**-0.5**
	0.2nm,0.5s,baz=333,slow=2.8,SNR=1.5						
	2.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**27.48**	**303**	P	**P**	**11 29 03.9**	**-0.1**
	0.3nm,0.3s,baz=115,slow=6.1,SNR=1.9						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**29.78**	**160**	P	**P**	**11 29 23.9**	**0.0**
	1.9nm,0.3s,baz=338,slow=7.3,SNR=79						
ASAR				PcP	**PcP**	**11 32 08.7**	**-0.1**
	0.2nm,0.4s,baz=348,slow=2.4,SNR=2.0						
ASAR				ScP	**ScP**	**11 34 55.7**	**-0.6**
	0.2nm,0.4s,baz=346,slow=3.7,SNR=6.3						
	1.9nm,0.3s						
STKA	**Stephens Creek**	**40.10**	**155**	P	**P**	**11 30 50.1**	**+0.7**
	1.1nm,0.3s,baz=5.0,slow=8.2,SNR=3.8						
	1.1nm,0.3s						
SONM	**Songino Array**	**45.63**	**344**	P	**P**	**11 31 32.5**	**+0.2**
	0.6nm,0.7s,baz=156,slow=8.6,SNR=4.4						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**55.02**	**327**	P	**P**	**11 32 41.0**	**+0.5**
	1.4nm,0.3s,baz=125,slow=7.4,SNR=22						
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**58.43**	**335**	P	**P**	**11 33 03.3**	**-0.3**
	0.3nm,0.4s,baz=132,slow=2.1,SNR=2.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**59.30**	**329**	P	**P**	**11 33 09.6**	**+0.1**
	1.2nm,0.6s,baz=133,slow=6.6,SNR=19						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**64.85**	**328**	P	**P**	**11 33 45.2**	**-0.3**
	0.3nm,0.3s,baz=118,slow=5.2,SNR=2.1						
	0.3nm,0.3s						

*MOS **03** 11:46:17.8±0.8, 22.04S×179.57W, h558km, mb4.7/25, Error ellipse: s-maj=10.6km s-min=9.9km az=157.4*
*BJI **03** 11:46:17.0±0.0, 21.90S×178.94W, h566km, mb4.9/48, mB5.2/22*
*NEIC **03** 11:46:19.8±1.3, 22.10S±0.05×179.54W±0.09, h565km±6km, mb4.7/210, Error ellipse: s-maj=13.6km s-min=3.7km az=116.0*
*IDC **03** 11:46:20.5±0.4, 22.12S×179.55W, h581km±4km, mb4.1/24, mbtmp5.0/27, Error ellipse: s-maj=10.7km s-min=9.0km az=155.0*
*NOU **03** 11:46:20.5, 22.13S×179.48W, h581km, ML4.8/105, South of Fiji Islands*
ISC 03 11:46:20.0±0.3**, 22.21S**±0.04×**179.55W**±0.04**, h580km**±3km**, h581km:pP-P, n731, σ1.24**/722**, mb4.8**/206**, 34C-37D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**5.48**	**356**	P	**P**	**11 47 56.9**	**+1.1**
DGTI	**Dogotuki**	**5.91**	**353**	P	**P**	**11 48 00.1**	**+0.6**
YSA	**Yasawairara**	**6.11**	**333**	P	**P**	**11 48 02.0**	**+0.8**
RAO	**Raoul Island**	**7.17**	**168**	P	**P**	**11 48 10.5**	**-0.2**
RAO	**Raoul Island**	**7.17**	**168**	P	**P**	**11 48 10.5**	**-0.2**
RAO	**Raoul Island**	**7.17**	**168**	P	**P**	**11 48 10.5**	**-0.2**
RAO	**Raoul Island**	**7.17**	**168**	P	**P**	**11 48 10.2**	**-0.5**
	571nm,0.5s,baz=294,slow=22,SNR=8.4						
RAO				S	**S**	**11 49 38.5**	**-2.8**
	225nm,0.4s,baz=273,slow=23,SNR=1.2						
GLKZ	**Green Lake**	**7.18**	**169**	P	**P**	**11 48 10.5**	**-0.2**
GLKZ				S	**S**	**11 49 40.9**	**-0.6**
NIUE	**Niue**	**9.53**	**73**	P	**P**	**11 48 32.2**	**-1.6**
	baz=9.3,SNR=17						
NIUE				S	**S**	**11 50 26.1**	**+2.5**
	baz=9.3						
NIUE	**Niue**	**9.53**	**73**	P	**P**	**11 48 32.6**	**-1.2**
AFI	**Afiamalu**	**11.07**	**43**	P	**P**	**11 48 45.5**	**-4.0**
AFI	**Afiamalu**	**11.07**	**43**	P	**P**	**11 48 45.5**	**-4.0**
MARNC	**Mare, Loyalty**	**11.56**	**271**	P	**P**	**11 48 53.8**	**-0.4**
MARNC	**Mare, Loyalty**	**11.56**	**271**	P	**P**	**11 48 55.6**	**+1.4**
PINNC	**Pines Island,**	**12.04**	**266**	P	**P**	**11 48 59.0**	**0.0**
DVP	**Devils Point**	**12.36**	**289**	P	**P**	**11 49 03.7**	**+1.3**
LIFNC	**LIFOU**	**12.38**	**274**	P	**P**	**11 49 01.9**	**-0.7**
LIFNC	**LIFOU**	**12.38**	**274**	P	**P**	**11 49 02.7**	**+0.1**
OUENC	**Ouen Island, N**	**12.60**	**266**	P	**P**	**11 49 04.1**	**-0.8**
OUENC	**Ouen Island, N**	**12.60**	**266**	P	**P**	**11 49 06.0**	**+1.2**
ONTNC	**Ouen Toro**	**12.96**	**267**	P	**P**	**11 49 08.0**	**-0.5**
DZM	**Mont Dzumac**	**12.98**	**268**	P	**P**	**11 49 08.4**	**-0.4**
DZM	**Mont Dzumac**	**12.98**	**268**	P	**P**	**11 49 09.4**	**+0.5**
DZM	**Mont Dzumac**	**12.98**	**268**	P	**P**	**11 49 09.2**	**+0.3**
	64nm,0.7s,baz=106,slow=9.3,SNR=56						
NOUC	**Port Laguerre**	**13.11**	**268**	P	**P**	**11 49 10.6**	**+0.5**
FUNA	**Funafuti**	**13.65**	**355**	P	**P**	**11 49 13.9**	**-1.9**
FUNA	**Funafuti**	**13.65**	**355**	P	**P**	**11 49 14.8**	**-1.0**
OUZ	**Omahuta**	**14.29**	**203**	P	**P**	**11 49 23.9**	**+2.1**
WCZ	**Waipu Caves**	**14.68**	**200**	P	**P**	**11 49 27.2**	**+1.7**
KOUNC	**Koumac, New Ca**	**15.15**	**273**	P	**P**	**11 49 30.7**	**+0.5**
KOUNC	**Koumac, New Ca**	**15.15**	**273**	P	**P**	**11 49 31.4**	**+1.2**
ETAZ	**East Tamaki Re**	**15.46**	**197**	P	**P**	**11 49 35.5**	**+2.5**
MKAZ	**Moumakai**	**15.54**	**196**	P	**P**	**11 49 35.4**	**+1.6**
WMGZ	**Waiomatatini S**	**15.66**	**186**	P	**P**	**11 49 34.2**	**-0.6**
WMGZ				S	**S**	**11 52 10.4**	**-3.5**
HAZ	**Te Kaha**	**15.67**	**188**	P	**P**	**11 49 35.0**	**0.0**
HAZ				S	**S**	**11 52 09.3**	**-4.8**
PUZ	**Puketiti**	**15.93**	**186**	P	**P**	**11 49 33.0**	**-4.4**
PUZ				S	**S**	**11 52 15.0**	**-3.4**
TOZ	**Tahuroa Road**	**16.05**	**194**	P	**P**	**11 49 39.8**	**+1.3**
TOZ				IAmb	IAmb	11 49 42.1	
	comp=Z,14nm,0.7s						
TOZ	**Tahuroa Road**	**16.05**	**194**	P	**P**	**11 49 39.5**	**+1.0**
TWGZ	**Tauwhareparae**	**16.06**	**187**	P	**P**	**11 49 39.2**	**+0.6**
TWGZ				S	**S**	**11 52 17.2**	**-3.4**
LIRZ	**Lichensteins R**	**16.13**	**192**	P	**P**	**11 49 32.6**	**-6.7**
URZ	**Urewera**	**16.26**	**189**	P	**P**	**11 49 39.7**	**-0.7**
URZ	**Urewera**	**16.26**	**189**	P	**P**	**11 49 38.7**	**-1.7**
	comp=Z,16nm,0.5s,baz=18,slow=2.4,SNR=18						
URZ				S	**S**	**11 52 16.4**	**-7.3**
	comp=Z,6.9nm,0.7s,baz=334,slow=9.5,SNR=1.5						
URZ	**Urewera**	**16.26**	**189**	P	**P**	**11 49 38.0**	**-2.4**
URZ				S	**S**	**11 52 20.6**	**-3.1**
MWZ	**Matawai**	**16.27**	**188**	P	**P**	**11 49 39.3**	**-1.3**
MWZ				S	**S**	**11 52 18.8**	**-5.3**
MUGZ	**Murupara**	**16.52**	**190**	P	**P**	**11 49 41.7**	**-1.2**
RIGZ	**Rimuhau**	**16.61**	**187**	P	**P**	**11 49 42.9**	**-0.8**
RIGZ				S	**S**	**11 52 26.6**	**-2.9**
RAR	**Rarotonga**	**18.41**	**91**	P	**P**	**11 50 00.2**	**-0.1**
RAR	**Rarotonga**	**18.41**	**91**	P	**P**	**11 50 00.2**	**-0.1**
RAR				pmax	pmax		
	comp=Z,123nm,1.5s						
RAR	**Rarotonga**	**18.41**	**91**	P	**P**	**11 49 58.9**	**-1.3**
	comp=Z,22nm,0.8s,baz=335,slow=22,SNR=2.6						
BFZ	**Birch Farm**	**18.76**	**190**	P	**P**	**11 50 03.5**	**+0.3**
BFZ				IAmb	IAmb	11 50 35.9	
	comp=Z,43nm,1.3s						
SNZO	**South Karori**	**19.66**	**193**	P	**P**	**11 50 12.1**	**+0.8**
QRZ	**Quartz Range**	**19.74**	**198**	P	**P**	**11 50 12.9**	**+0.9**
THZ	**Tophouse**	**20.51**	**196**	P	**P**	**11 50 19.5**	**+0.5**
LTZ	**Lake Taylor**	**21.62**	**197**	P	**P**	**11 50 29.6**	**+0.5**
LTZ				IAmb	IAmb	11 50 41.6	
	comp=Z,10.0nm,0.5s						
GC1S	**Gold Coast 1 S**	**25.06**	**251**	P	**P**	**11 51 02.2**	**+2.5**
EIDS	**Eidsvold**	**27.03**	**257**	P	**P**	**11 51 18.2**	**+1.1**
	baz=27,SNR=24						
EIDS	**Eidsvold**	**27.03**	**257**	P	**P**	**11 51 17.6**	**+0.4**
EIDS	**Eidsvold**	**27.03**	**257**	P	**P**	**11 51 18.3**	**+1.2**
ARMA	**Armidale**	**27.04**	**246**	P	**P**	**11 51 19.6**	**+2.3**
	baz=27,SNR=46						
ARMA	**Armidale**	**27.04**	**246**	P	**P**	**11 51 19.2**	**+1.9**
ARMA	**Armidale**	**27.04**	**246**	P	**P**	**11 51 19.5**	**+2.3**
RK1H	**Rockhampton Ha**	**27.62**	**262**	P	**P**	**11 51 23.4**	**+1.1**
MGCD	**Mangrove Creek**	**28.10**	**241**	P	**P**	**11 51 28.8**	**+2.4**
	baz=28,SNR=33						
MGCD	**Mangrove Creek**	**28.10**	**241**	P	**P**	**11 51 28.8**	**+2.4**
RIV	**Riverview**	**28.23**	**239**	P	**P**	**11 51 29.0**	**+1.5**
	baz=28,SNR=3.3						
PPT	**Papeete**	**28.54**	**86**	P	**P**	**11 51 30.8**	**+0.4**
	comp=Z,71nm,0.9s,baz=168,slow=4.0,SNR=16						
	comp=Z,71nm,0.9s						
PPTF	**Pamatai, Papee**	**28.54**	**86**	P	**P**	**11 51 30.2**	**-0.2**
PPTF	**Pamatai, Papee**	**28.54**	**86**	P	**P**	**11 51 30.7**	**+0.3**
SYDH	**Sydney Hard Ro**	**28.55**	**240**	P	**P**	**11 51 32.3**	**+2.1**
AUDCS	**Dubbo College**	**29.91**	**244**	P	**P**	**11 51 43.7**	**+1.7**
	comp=Z,62nm,1.1s						
AULRC	**Lightning Ridg**	**30.03**	**249**	P	**P**	**11 51 44.9**	**+1.8**
CAN	**Canberra**	**30.37**	**238**	P	**P**	**11 51 47.4**	**+1.4**
CAN	**Canberra**	**30.37**	**238**	P	**P**	**11 51 47.8**	**+1.8**
CAN	**Canberra**	**30.37**	**238**	P	**P**	**11 51 47.4**	**+1.4**
CAN				pmax	pmax		
	comp=Z,79nm,0.8s						
YNG	**Young**	**30.57**	**240**	P	**P**	**11 51 49.5**	**+1.8**
MILA	**Mila**	**30.80**	**234**	P	**P**	**11 51 51.4**	**+1.7**
	baz=31,SNR=4.9						
AUAYR	**Ayr State High**	**30.94**	**269**	P	**P**	**11 51 52.7**	**+1.7**
	comp=Z,45nm,1.0s						
AUSMG	**Snowy Mountain**	**31.00**	**236**	P	**P**	**11 51 53.4**	**+2.0**
TV1H	**Townsville Har**	**31.57**	**269**	P	**P**	**11 51 57.0**	**+0.6**
CTA	**Charters Tower**	**31.92**	**267**	P	**P**	**11 52 00.2**	**+0.8**
CTAO	**Charters Tower**	**31.92**	**267**	P	**P**	**11 51 59.7**	**+0.3**
CTAO	**Charters Tower**	**31.92**	**267**	P	**P**	**11 52 00.2**	**+0.8**
CTAO	**Charters Tower**	**31.92**	**267**	P	**P**	**11 51 59.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,91nm,0.7s						
CMSA	**Cobar Meteorol**	**32.26**	**246**	P	**P**	**11 52 03.3**	**+1.3**

baz=32,SNR=99
CMSA Cobar Meteorol 32.26 246 P P 11 52 03.2 +1.2
RABL Rabaul 32.73 299 P P 11 52 06.9 +0.6
QLP Quilpie 33.20 255 P P 11 52 10.8 +0.8
baz=33,SNR=26
QLP Quilpie 33.20 255 P P 11 52 11.0 +0.9
TOO Toolangi 33.73 235 P P 11 52 15.8 +1.4
baz=34,SNR=53
TOO Toolangi 33.73 235 P P 11 52 15.3 +0.9
TOO Toolangi 33.73 235 P P 11 52 15.9 +1.4
TOO Toolangi 33.73 235 P P 11 52 15.3 +0.9
TOO pmax pmax
comp=Z,63nm,0.8s
CORO Coronation Par 33.90 228 P P 11 52 17.8 +2.1
AUMAG Moama Anglican 33.91 238 P P 11 52 18.0 +2.1
comp=Z,79nm,1.1s
MTSU Mount Surprise 34.11 270 P P 11 52 18.6 +0.9
baz=34,SNR=46
MTSU Mount Surprise 34.11 270 P P 11 52 18.7 +0.9
PMG Port Moresby 34.37 286 P P 11 52 20.1 0.0
PMG Port Moresby 34.37 286 P P 11 52 20.6 +0.6
PMG Port Moresby 34.37 286 d iP P 11 52 20.2 +0.2
PMG pmax pmax
comp=Z,210nm,0.8s
PMG Port Moresby 34.37 286 ScP ScP 11 57 30.8 +1.3
comp=Z,13nm,0.9s,baz=80,slow=16,SNR=4.7
PMG Port Moresby 34.37 286 P P 11 52 20.3 +0.2
comp=Z,246nm,1.0s,comp=Z,2µm
KAVG Kavieng 34.77 300 P P 11 52 22.9 -0.4
GEXS Deakin Univers 34.83 234 P P 11 52 25.3 +1.8
BRAT Ballarat 34.92 236 P P 11 52 26.4 +2.2
STKA Stephens Creek 35.76 246 P P 11 52 32.7 +1.4
baz=36,SNR=60
STKA Stephens Creek 35.76 246 P P 11 52 32.4 +1.1
STKA IAmb IAmb 11 52 33.6
comp=Z,13nm,0.8s
STKA Stephens Creek 35.76 246 P P 11 52 32.7 +1.4
STKA Stephens Creek 35.76 246 P P 11 52 32.4 +1.1
STKA pmax pmax
comp=Z,13nm,0.8s
STKA Stephens Creek 35.76 246 P P 11 52 32.7 +1.4
comp=Z,50nm,0.6s,baz=90,slow=9.8,SNR=111
STKA ScP ScP 11 57 35.4 +1.1
comp=Z,5.3nm,0.9s,baz=37,slow=1.2,SNR=5.1
comp=Z,50nm,0.6s
PATS Pohnpei 36.10 321 P P 11 52 34.2 -0.1
PATS Pohnpei 36.10 321 P P 11 52 35.0 +0.7
INKA Innaminka 36.30 253 P P 11 52 37.6 +1.8
ARPS Mount Arapiles 36.35 238 P P 11 52 37.1 +1.1
baz=37,SNR=12
ARPS Mount Arapiles 36.35 238 P P 11 52 37.2 +1.1
MANU Manus Island 37.88 297 P P 11 52 48.9 0.0
MANU Manus Island 37.88 297 P P 11 52 49.5 +0.6
QIS Mount Isa 37.99 265 P P 11 52 49.7 0.0
baz=38,SNR=21
QIS Mount Isa 37.99 265 P P 11 52 49.9 +0.2
HTT Hallett 38.17 244 P P 11 52 51.9 +0.8
baz=38,SNR=44
HTT Hallett 38.17 244 P P 11 52 51.6 +0.6
LCRK Leigh Creek 38.55 249 P P 11 52 55.0 +0.9
WHYH Whyalla 39.25 245 P P 11 53 00.6 +0.9
TAOE Nuku Hiva Isla 40.08 77 P P 11 53 06.5 -0.2
BBOO Buckleboo 40.51 245 P P 11 53 10.2 +0.4
baz=41,SNR=44
BBOO Buckleboo 40.51 245 P P 11 53 10.5 +0.7
BBOO Buckleboo 40.51 245 P P 11 53 10.2 +0.4
OOD Oodnadatta 40.78 253 P P 11 53 13.4 +1.4
MMPI Merauke 40.84 283 P P 11 53 12.1 -0.5
comp=Z,571nm,0.7s
TABU Tabubil 41.48 288 P P 11 53 18.6 +0.8
MULG Mulgathing 42.15 249 P P 11 53 23.3 +0.6
AS31 Alice Springs 42.74 259 P P 11 53 27.7 +0.2
AS31 IAmb IAmb 11 53 28.8
comp=Z,28nm,0.7s
ASAR Alice Springs 42.74 259 P P 11 53 28.1 +0.6
ASAR Alice Springs 42.74 259 P P 11 53 28.1 +0.6
ASAR Alice Springs 42.74 259 P P 11 53 27.9 +0.4
comp=Z,125nm,0.8s,baz=99,slow=7.8,SNR=1242
ASAR PcP PcP 11 55 05.2 -0.4
comp=Z,3.9nm,0.7s,baz=117,slow=2.5,SNR=4.2
ASAR ScP ScP 11 58 03.3 +1.5
comp=Z,3.3nm,0.9s,baz=105,slow=4.4,SNR=7.8
ASAR S S 11 59 08.4 -1.9
comp=Z,3.6nm,0.9s,baz=93,slow=16,SNR=11
comp=Z,125nm,0.8s
WRAB Tennant Creek 42.95 264 P P 11 53 28.7 -0.5
WRAB Tennant Creek 42.95 264 P P 11 53 28.7 -0.5
WRAB pmax pmax
comp=Z,97nm,0.9s
WRA Warramunga Arr 42.96 264 P P 11 53 29.1 -0.1
WRA Warramunga Arr 42.96 264 P P 11 53 29.1 -0.1
WRA pmax pmax
comp=Z,11nm,0.9s
WRA Warramunga Arr 42.96 264 P P 11 53 28.8 -0.4
comp=Z,79nm,0.8s,baz=98,slow=7.4,SNR=402
WRA PcP PcP 11 55 05.7 -0.7
comp=Z,3.8nm,0.9s,baz=111,slow=3.8,SNR=3.8
WRA ScP ScP 11 58 03.6 +0.9
comp=Z,12nm,1.0s,baz=99,slow=4.1,SNR=18
WRA S S 11 59 09.3 -4.1
comp=Z,1.2nm,0.9s,baz=92,slow=15,SNR=2.9
comp=Z,79nm,0.8s
WAKE Wake Island 43.38 341 P P 11 53 30.9 -1.4
GENI Genyem 43.69 291 P P 11 53 35.2 +0.3
comp=Z,197nm,0.9s
GENI Genyem 43.69 291 P P 11 53 34.4 -0.5
comp=Z,194nm,1.0s,comp=Z,11µm
KDU Kakadu 46.57 273 P P 11 53 56.7 -0.2
baz=47,SNR=52
KDU Kakadu 46.57 273 P P 11 53 56.7 -0.2
FORT Forrest 47.31 248 P P 11 54 02.4 +0.2
baz=48,SNR=59
FORT Forrest 47.31 248 P P 11 54 02.4 +0.2
KHLU Kahalu`u 47.54 31 P P 11 54 03.3 -0.9
WRKA Warakurna 47.63 256 P P 11 54 05.1 +0.3
baz=48,SNR=205
WRKA Warakurna 47.63 256 P P 11 54 04.9 +0.1
HMH Humu'ula Sheep 47.75 31 P P 11 54 05.9 0.0
MTN Manton Dam 47.76 273 P P 11 54 05.6 -0.2
baz=48,SNR=15
MTN Manton Dam 47.76 273 P P 11 54 05.1 -0.7
MTN Manton Dam 47.76 273 P P 11 54 05.6 -0.2
HPAH Hawaii Prepara 48.01 31 P P 11 54 07.2 -0.4
KMPI Kaimana, Papua 48.88 285 P P 11 54 14.3 +0.2
comp=Z,239nm,0.7s
KNRA Kununurra 49.13 268 P P 11 54 16.2 +0.3
baz=49,SNR=37
KNRA Kununurra 49.13 268 P P 11 54 15.8 -0.2
KNRA Kununurra 49.13 268 P P 11 54 16.2 +0.3
SAUI Saumlaki 49.29 279 P P 11 54 18.3 +1.1
comp=Z,282nm,1.0s
SAUI Saumlaki 49.29 279 P P 11 54 17.4 +0.2
comp=Z,284nm,1.0s,comp=Z,11µm
FAKI Fak Fak 50.51 285 P P 11 54 25.9 -0.2
FAKI Fak Fak 50.51 285 P P 11 54 27.3 +1.2
comp=Z,84nm,0.9s
FAKI Fak Fak 50.51 285 P P 11 54 24.7 -1.4
comp=Z,83nm,1.0s,comp=Z,3µm
FITZ Fitzroy Crossi 51.39 264 P P 11 54 32.9 +0.5
baz=52,SNR=34
FITZ Fitzroy Crossi 51.39 264 P P 11 54 32.4 0.0
FITZ IAmb IAmb 11 54 34.1
comp=Z,26nm,1.2s
FITZ Fitzroy Crossi 51.39 264 P P 11 54 32.9 +0.5
BNDI Bandanaira 51.94 282 P P 11 54 36.5 +0.1
BNDI Bandanaira 51.94 282 P P 11 54 35.3 -1.1
comp=Z,376nm,0.9s,comp=Z,4µm
SIJI Sorong 52.31 287 P P 11 54 39.3 +0.2
comp=Z,440nm,0.8s,comp=Z,3µm
SWI Sorong 52.32 287 P P 11 54 39.2 +0.1
comp=Z,657nm,0.8s,comp=Z,5µm
KMBL Kambalda 52.55 247 P P 11 54 40.7 +0.1
baz=53,SNR=6.6
KMBL Kambalda 52.55 247 P P 11 54 40.7 +0.1
NLAI Namlea 55.01 282 P P 11 54 58.0 -0.1
comp=Z,67nm,1.1s
SOEI Soe 55.13 274 P P 11 55 00.3 +1.2
SOEI Soe 55.13 274 P P 11 55 00.8 +1.7
SOEI Soe 55.13 274 P P 11 55 00.3 +1.2
comp=Z,361nm,1.1s,comp=Z,3µm
LBMI Labuha 55.77 285 P P 11 55 02.2 -1.2
comp=Z,218nm,0.8s
PSA00 Pilbara Seismi 55.89 258 P P 11 55 03.6 -0.5
PSA00 Pilbara Seismi 55.89 258 P P 11 55 04.3 +0.2

MEEK Meekatharra 56.01 252 P P 11 55 04.5 -0.4
baz=56,SNR=14
MEEK Meekatharra 56.01 252 P P 11 55 04.8 -0.1
KLBR Kellerberrin 56.04 246 P P 11 55 05.2 +0.2
baz=56,SNR=26
KLBR Kellerberrin 56.04 246 P P 11 55 05.2 +0.2
comp=Z,147nm,0.8s
SBA Scott Base 56.09 183 P P 11 55 08.0 +3.6
SBA IAmb IAmb 11 55 08.8
comp=Z,31nm,1.1s
SBA Scott Base 56.09 183 P P 11 55 08.0 +3.6
SBA pmax pmax
comp=Z,31nm,1.2s
MBWA Marble Bar 56.09 259 P P 11 55 05.4 0.0
MBWA Marble Bar 56.09 259 P P 11 55 05.3 -0.1
VNDA Vanda 56.09 185 P P 11 55 06.9 +2.4
VNDA Vanda 56.09 185 P P 11 55 06.9 +2.4
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 56.09 185 P P 11 55 06.7 +2.2
comp=Z,4.0nm,0.7s,baz=351,slow=7.1,SNR=25
comp=Z,4.0nm,0.7s
NWAO Narrogin (SRO) 56.32 244 P P 11 55 07.3 +0.3
baz=56,SNR=5.4
NWAO P P 11 55 07.3 +0.3
baz=56,SNR=5.4
NWAO Narrogin (SRO) 56.32 244 P P 11 55 07.2 +0.3
NWAO IAmb IAmb 11 55 08.3
comp=Z,42nm,1.1s
NWAO Narrogin (SRO) 56.32 244 P P 11 55 07.1 +0.2
NWAO IAmb IAmb 11 55 08.3
comp=Z,155nm,1.1s
NWAO Narrogin (SRO) 56.32 244 P P 11 55 07.5 +0.6
NWAO Narrogin (SRO) 56.32 244 P P 11 55 07.2 +0.3
NWAO pmax pmax
comp=Z,43nm,1.1s
SANI Sanana 56.52 283 P P 11 55 08.1 -0.4
SANI Sanana 56.52 283 P P 11 55 07.6 -0.9
comp=Z,91nm,1.0s,comp=Z,847nm
TNTI Ternate 56.52 287 P P 11 55 08.8 +0.3
comp=Z,124nm,1.1s
TNTI Ternate 56.52 287 P P 11 55 06.8 -1.7
comp=Z,123nm,1.0s,comp=Z,1µm
MUN Mundaring 57.30 245 P P 11 55 14.2 +0.7
baz=57,SNR=4.2
MUN Mundaring 57.30 245 P P 11 55 14.2 +0.7
MMRI Maumere 57.40 274 P P 11 55 14.2 -0.3
MMRI Maumere 57.40 274 P P 11 55 14.6 +0.1
MMRI Maumere 57.40 274 P P 11 55 13.3 -1.2
comp=Z,140nm,1.0s
MORW Morawa 57.86 249 P P 11 55 17.6 +0.1
baz=58,SNR=11
MORW Morawa 57.86 249 P P 11 55 17.2 -0.2
MORW IAmb IAmb 11 55 18.6
comp=Z,45nm,1.0s
MORW Morawa 57.86 249 P P 11 55 17.5 +0.1
EDFI Ende, Flores 57.87 274 P P 11 55 16.8 -1.0
comp=Z,130nm,0.8s,comp=Z,1µm
BBSI Bau Bau 58.25 277 P P 11 55 20.2 -0.1
comp=Z,30nm,0.8s
BASI Baing, Sumba 58.39 272 P P 11 55 19.7 -1.5
comp=Z,249nm,1.0s,comp=Z,3µm
KMSI Cibinong 59.46 285 P P 11 55 25.8 -2.5
comp=Z,155nm,0.9s,comp=Z,2µm
LUWI Luwuk 59.85 282 P P 11 55 31.3 +0.3
LUWI Luwuk 59.85 282 P P 11 55 31.5 +0.5
comp=Z,132nm,1.1s
LUWI Luwuk 59.85 282 P P 11 55 30.7 -0.3
comp=Z,131nm,1.1s,comp=Z,2µm
BKSI Bulukumba 60.56 277 P P 11 55 34.5 -1.1
comp=Z,75nm,0.8s
GIRL Gila 60.72 256 P P 11 55 38.1 +1.6
baz=61,SNR=5.7
KAPI Kappang 61.02 277 P P 11 55 39.2 +0.5
KAPI IAmb IAmb 11 55 39.2
comp=Z,15nm,0.7s
KAPI Kappang 61.02 277 P P 11 55 39.2 +0.5
KAPI pmax pmax
comp=Z,15nm,0.7s
KAPI Kappang 61.02 277 P P 11 55 38.4 -0.2
comp=Z,11nm,0.5s,baz=132,slow=7.6,SNR=12
comp=Z,11nm,0.5s
DBNI Kabupaten Domp 61.08 272 P P 11 55 38.5 -0.5
comp=Z,215nm,0.8s,comp=Z,2µm
MRSI Marisa 61.25 283 P P 11 55 38.6 -1.5
comp=Z,37nm,1.1s
SPSI Sidrap Palu 61.41 278 P P 11 55 39.7 -1.5
comp=Z,48nm,1.2s
PLAI Plampang 61.46 272 P P 11 55 41.5 0.0
PLAI Plampang 61.46 272 P P 11 55 40.9 -0.6
comp=Z,186nm,0.9s,comp=Z,1µm
TTSI Tana Toraja 61.73 279 P P 11 55 41.8 -1.4
comp=Z,22nm,1.4s
TWSI Taliwang, Sumb 62.32 272 P P 11 55 46.5 -0.6
comp=Z,132nm,1.0s,comp=Z,1µm
PMSI Majene 62.38 278 P P 11 55 46.0 -1.5
comp=Z,136nm,1.0s,comp=Z,1µm
TOLI2 Tolitoli 62.57 284 P P 11 55 48.1 -0.6
TOLI2 Tolitoli 62.57 284 P P 11 55 50.0 +1.3
MMSI Mamuju 62.70 279 P P 11 55 43.2 -6.4
MPSI Mapaga 63.04 282 P P 11 55 50.8 -0.9
comp=Z,96nm,0.8s,comp=Z,902nm
SRBI Singaraja 64.10 272 P P 11 55 57.6 -0.8
comp=Z,123nm,0.9s,comp=Z,1µm
JAGI Jajag, Banyuwa 64.94 271 P P 11 56 03.2 -0.6
JAGI Jajag, Banyuwa 64.94 271 P P 11 56 02.5 -1.3
comp=Z,109nm,1.0s
ABJI Asem Bagus 65.10 272 P P 11 56 04.1 -0.7
comp=Z,91nm,0.9s
KMMI Kalianget 65.62 272 P P 11 56 08.1 +0.1
comp=Z,107nm,1.4s,comp=Z,1µm
BLJI Banyuglugur 65.71 271 P P 11 56 07.9 -0.7
comp=Z,126nm,0.8s,comp=Z,2µm
BBKI Banjar Baru 66.14 276 P P 11 56 11.4 +0.1
comp=Z,62nm,1.0s,comp=Z,3µm
PKKI Palangkaraya 67.41 277 P P 11 56 18.4 -0.7
comp=Z,168nm,0.9s
SJI Sawahan 67.41 271 P P 11 56 18.8 -0.4
comp=Z,99nm,0.9s
NGJI Ngawi 67.82 271 P P 11 56 22.2 +0.6
comp=Z,84nm,0.9s
QSPA South Pole Qui 67.87 180 P P 11 56 22.8 +1.7
QSPA IAmb IAmb 11 56 23.6
comp=Z,40nm,0.9s
QSPA South Pole Qui 67.87 180 P P 11 56 22.6 +1.5
comp=Z,30nm,0.9s,baz=16,slow=1.4,SNR=72
comp=Z,30nm,0.9s
UGM Wanagama 68.50 270 P P 11 56 25.8 0.0
KKM Kota Kinabalu 68.82 286 P P 11 56 27.4 -0.3
KKM IAmb IAmb 11 56 28.9
comp=Z,30nm,0.6s
SMRI Semarang 68.88 271 P P 11 56 28.0 0.0
JOW Kunigami 70.18 311 P P 11 56 36.2 +0.8
JOW Kunigami 70.18 311 P P 11 56 36.6 +1.2
KPJI Karang Pucung 70.18 270 P P 11 56 35.3 -0.4
comp=Z,81nm,0.8s
JMM Marumori 70.43 328 P P 11 56 36.9 +0.3
JMM IAmb IAmb 11 56 37.5
comp=Z,27nm,0.9s
CMJI Cimerak 70.47 269 P P 11 56 35.2 -2.2
comp=Z,85nm,0.9s
STKI Sintang 70.60 278 P P 11 56 39.4 +1.2
MJAR Matsushiro Arr 70.75 325 P P 11 56 38.2 -0.3
comp=Z,15nm,0.7s,baz=149,slow=5.6,SNR=39
comp=Z,15nm,0.7s
MAJO Matsushiro 70.75 325 P P 11 56 38.2 -0.4
MAJO IAmb IAmb 11 56 39.4
comp=Z,27nm,0.8s
MAJO Matsushiro 70.75 325 P P 11 56 38.7 +0.1
MAJO Matsushiro 70.75 325 ⇓ eP P 11 56 38.6 0.0
MAJO pmax pmax
comp=Z,33nm,0.9s
MJB9 Matsu-Tunnel 70.75 325 P P 11 56 39.5 +0.9
MJB9 IAmb IAmb 11 56 40.4
comp=Z,28nm,0.9s
SBUM Sibu 70.89 281 P P 11 56 40.1 +0.3
SBUM Sibu 70.89 281 P P 11 56 39.9 0.0
comp=Z,12nm,1.1s
BBJI Bungbulang 71.32 269 P P 11 56 41.9 -0.6
BBJI Bungbulang 71.32 269 P P 11 56 41.2 -1.3
comp=Z,97nm,0.8s,comp=Z,716nm
LEM Lembang 71.58 270 P P 11 56 43.6 -0.5
comp=Z,167nm,0.9s
DBJI Dramaga 72.48 270 P P 11 56 48.1 -1.1
JNU Nakatsue 72.54 318 P P 11 56 48.6 -0.5
JNU IAmb IAmb 11 56 50.3
comp=Z,49nm,1.1s
JNU Nakatsue 72.54 318 P P 11 56 49.9 +0.8
TWGBT Beinan 73.10 304 P P 11 56 51.9 -0.5
CGJI Cibinong 73.44 270 P P 11 56 53.0 -1.6
comp=Z,88nm,0.9s,comp=Z,843nm
NACB Ninganchiao 73.46 305 P P 11 56 53.8 -0.6
NACB Ninganchiao 73.46 305 P P 11 56 54.5 +0.1
TPUB Ta-pu 73.71 304 P P 11 56 55.4 -0.5
TPUB Ta-pu 73.71 304 P P 11 56 55.2 -0.7
SSLB Suanglung 73.73 305 P P 11 56 55.6 -0.4
SSLB Suanglung 73.73 305 P P 11 56 55.6 -0.4
ADK Adak 73.81 2 P P 11 56 55.5 -0.3
ADK IAmb IAmb 11 57 24.6
comp=Z,41nm,1.1s
ADK Adak 73.81 2 P P 11 56 55.5 -0.3
ADK pmax pmax
comp=Z,41nm,1.1s
PPBI Pangkal Pinang 74.66 274 P P 11 57 00.0 -1.5
KASI Kota Agung 74.94 270 P P 11 57 01.0 -2.1
comp=Z,69nm,1.1s
UNV Unalaska Valle 76.57 8 P P 11 57 12.7 +1.6
baz=192
YSS Yuzh-Sakhalins 76.79 335 ⇑ eP P 11 57 13.7 +1.3
YSS pmax pmax
comp=Z,31nm,0.9s
TJN Taejon 76.86 319 ⇑ eP P 11 57 14.2 +1.1
KSRS Korea Array 77.22 320 P P 11 57 16.1 +1.0
comp=Z,6.1nm,0.9s,baz=138,slow=6.0,SNR=13
comp=Z,6.1nm,0.9s
PET Petropavlovsk 77.27 347 eP P 11 57 14.9 0.0
PET pmax pmax
comp=Z,24nm,0.7s
PEA0B Petropavlovsk- 77.56 346 P P 11 57 16.5 0.0
PEA0B IAmb IAmb 11 57 17.5
comp=Z,28nm,0.8s
PEA0B Petropavlovsk- 77.56 346 d iP P 11 57 16.1 -0.4
PETK Petropavlovsk- 77.56 346 P P 11 57 16.2 -0.3
PETK Petropavlovsk- 77.56 346 P P 11 57 16.2 -0.3
PETK Petropavlovsk- 77.56 346 P P 11 57 15.8 -0.7
comp=Z,24nm,0.8s,baz=128,slow=7.8,SNR=44
comp=Z,24nm,0.8s
BELA Belgrano 2 78.06 173 P P 11 57 19.6 +0.6
BELA IAmb IAmb 11 57 20.2
comp=Z,29nm,0.9s
MSHR Mys Shultsa 78.87 325 ⇑ eP P 11 57 24.9 +1.2
MSHR pmax pmax
comp=Z,51nm,1.3s
USRK Ussuriysk Ar. 79.58 327 P P 11 57 28.7 +1.3
comp=Z,16nm,0.9s,baz=128,slow=4.2,SNR=8.9
comp=Z,16nm,0.9s
SCZ2 Santa Cruz Isl 79.81 47 P P 11 57 29.5 +0.5
baz=235
NJ2 Nanjing 79.87 311 ⇑ P P 11 57 30.6 +1.3
NJ2 pP pP 11 59 30.8 +0.3
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 pmax pmax
comp=Z,170nm,4.3s
TYV Tymovskoe 80.01 337 eP P 11 57 30.4 +0.9
TYV eS S 12 06 39.4 -7.0
TYV pmax pmax
comp=Z,23nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.1s
TYV smax smax
comp=N,300nm,5.3s
TYV smax smax
comp=E,400nm,5.3s
PKM Mcpherson Peak 80.21 46 P P 11 57 32.0 +0.7
baz=234,SNR=5.7
CIS Catalina Islan 80.31 48 P P 11 57 32.7 +1.1
baz=235
CHIR Chirikof Islan 80.34 13 P P 11 57 32.9 +1.7
baz=202
SMMC Simmler 80.34 46 P P 11 57 32.2 +0.4
baz=234
PMPB Monarch Peak 80.34 45 P P 11 57 32.9 +1.1
HOPS Hopland Field 80.60 41 P P 11 57 33.4 +0.4
HOPS IAmb IAmb 11 57 35.2
comp=Z,21nm,1.1s
KMPM Mount Pierce 80.86 40 P P 11 57 35.8 +1.4
KMPM IAmb IAmb 11 57 37.1
comp=Z,54nm,1.1s
CBX Cerro Bola 80.92 50 P P 11 57 35.5 +0.6
CBX IAmb IAmb 11 57 36.9
comp=Z,21nm,1.1s
109C Camp Elliot, M 80.93 49 P P 11 57 35.3 +0.5
109C IAmb IAmb 11 57 36.6
comp=Z,24nm,1.3s
109C Camp Elliot, M 80.93 49 P P 11 57 35.0 +0.2
baz=236
KMRM Mail Ridge 80.98 40 P P 11 57 36.2 +1.3
KMRM IAmb IAmb 11 57 37.8
comp=Z,53nm,0.9s
ARVC Arvin 81.01 46 P P 11 57 35.6 +0.5
baz=235
MDJ Mudanjiang 81.10 326 P P 11 57 36.4 +1.1
MDJ pP pP 11 59 37.1 -0.1
MDJ S S 12 06 59.3 +1.6
MDJ sS sS 12 10 35.0 -0.7
MDJ pmax pmax
comp=Z,30nm,0.8s
MDJ pmax pmax
comp=Z,360nm,4.3s
MDJ Mudanjiang 81.10 326 P P 11 57 36.5 +1.2
MDJ IAmb IAmb 11 57 37.4
comp=Z,22nm,0.9s
MDJ Mudanjiang 81.10 326 P P 11 57 36.6 +1.2
ELS Elsinore Mount 81.13 48 P P 11 57 36.4 +0.5
VES Vestal, Richgr 81.25 46 P P 11 57 36.6 +0.3
baz=235
MURC Murrieta 81.26 48 P P 11 57 36.4 -0.1
baz=236
ESJX Sierra Juarez 81.27 50 P P 11 57 37.3 +0.5
BFSC Mount Baldy Ra 81.30 48 P P 11 57 37.1 +0.3
baz=236
KHMM Horse Mountain 81.38 39 P P 11 57 38.3 +1.2
KHMM IAmb IAmb 11 57 39.8
comp=Z,20nm,0.9s
MONP2 Monument Peak 81.41 49 P P 11 57 38.0 +0.5
baz=237,SNR=20
EDW2 Edwards Air Fo 81.43 47 P P 11 57 38.0 +0.6
baz=236,SNR=12
IKP In-Ko-Pah, Jac 81.50 50 P P 11 57 38.3 +0.5
baz=237,SNR=9.8
ISA Isabella, Lake 81.55 46 P P 11 57 37.9 -0.1
ISA IAmb IAmb 11 57 40.0
comp=Z,16nm,0.8s
ISA Isabella, Lake 81.55 46 P P 11 57 38.6 +0.6
baz=235,SNR=14
ISA Isabella, Lake 81.55 46 P P 11 57 37.9 -0.1
ISA pmax pmax
comp=Z,16nm,0.9s
R16K Pilot Point 81.57 12 P P 11 57 39.4 +2.0
baz=200
SLBS Sierra La Lagu 81.61 60 P P 11 57 39.3 +0.7
SLBS IAmb IAmb 11 57 40.9
comp=Z,26nm,1.1s
YUH Yuha Desert 81.63 50 P P 11 57 38.9 +0.5
CMB Columbia Colle 81.69 43 P P 11 57 38.7 +0.1
CMB IAmb IAmb 11 57 40.3
comp=Z,16nm,0.9s
CMB Columbia Colle 81.69 43 P P 11 57 38.7 +0.1
CMB pmax pmax
comp=Z,16nm,0.9s
PFO Pinyon Flats O 81.78 49 P P 11 57 39.1 -0.2
PFO Pinyon Flats O 81.78 49 P P 11 57 39.7 +0.5
baz=237,SNR=6.5
PFO Pinyon Flats O 81.78 49 P P 11 57 39.1 -0.2
PFO pmax pmax
comp=Z,6.0nm,0.9s
TPFO Pinon Flats 81.78 49 P P 11 57 40.1 +0.8
baz=237,SNR=6.3
PMD Palm Desert 81.86 49 P P 11 57 39.8 +0.2
SWSC Sam W. Stewart 81.88 50 P P 11 57 40.2 +0.6
baz=237,SNR=8.5
LRMC Laurel Mtn Rad 81.98 47 P P 11 57 41.1 +0.8
baz=236,SNR=5.8
CWC Cottonwood Cre 82.26 46 P P 11 57 42.5 +0.8
baz=235
L02F Cave Junction 82.26 38 P P 11 57 42.1 +0.8
WHN Wuhan 82.30 307 P P 11 57 43.2 +1.4
BELC Belle Mtn. Jos 82.31 49 P P 11 57 43.0 +1.0
baz=237,SNR=12
OMMB Old Mammoth Mi 82.33 44 P P 11 57 42.7 +0.5
GRNR Gornyy 82.37 334 ⇓ iP P 11 57 42.9 +1.2

GRNR pmax pmax
comp=E,4.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=E,140nm,18.0s
GRNR MLR MLR
comp=N,120nm,15.0s
GRNR MLR MLR
comp=Z,170nm,14.0s
MPMC Manual Prospec 82.44 46 P P 11 57 43.4 +0.8
baz=236,SNR=16
GSC Goldstone, Bar 82.47 47 P P 11 57 43.0 +0.3
GSC Goldstone, Bar 82.47 47 P P 11 57 43.5 +0.8
baz=236,SNR=11
GSC Goldstone, Bar 82.47 47 P P 11 57 43.0 +0.3
GSC pmax pmax
comp=Z,15nm,1.1s
BC3 Big Chuckawall 82.51 49 P P 11 57 43.8 +0.9
baz=237,SNR=9.0
TIN Tinemaha, Big 82.51 45 P P 11 57 43.3 +0.4
baz=235
YBH Yreka Blue Hor 82.52 39 P P 11 57 43.7 +0.9
YBH Yreka Blue Hor 82.52 39 P P 11 57 43.7 +0.9
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 82.52 39 P P 11 57 44.2 +1.4
comp=Z,8.6nm,0.8s,baz=203,slow=0.9,SNR=40
comp=Z,8.6nm,0.8s
HEC Hector,Ludlow 82.53 48 P P 11 57 43.9 +0.9
baz=237,SNR=8.7
O14K Tigyukauivet M 82.55 9 P P 11 57 43.8 +1.5
baz=197
O15K Ungalikthiuk R 82.70 10 P P 11 57 44.7 +1.6
baz=198
CN2 Changchun 82.78 323 *e*P P 11 57 44.0 +0.1
CN2 pmax pmax
comp=Z,30nm,1.3s
GMRC Granite Mounta 82.98 48 P P 11 57 45.7 +0.5
baz=237,SNR=8.6
IRM Iron Mountain 82.99 49 P P 11 57 45.7 +0.5
baz=237,SNR=19
LHV Little Huntoon 83.02 44 P P 11 57 46.2 +1.1
LHV IAmb IAmb 11 57 47.4
comp=Z,16nm,0.9s
GRAC Grapevine Rang 83.05 46 P P 11 57 46.0 +0.5
baz=236
FURC Furnace Creek, 83.08 46 P P 11 57 46.1 +0.5
baz=236,SNR=11
N14K Kuskokwak Cree 83.13 9 P P 11 57 46.0 +0.8
baz=197
TUQ Turquoise Moun 83.15 47 P P 11 57 46.4 +0.2
baz=237,SNR=7.4
SHOC Shoshone, Teco 83.17 47 P P 11 57 46.2 +0.2
baz=236,SNR=7.9
RPSI Rantau Prapat 83.17 276 P P 11 57 46.5 -0.1
RPSI IAmb IAmb 11 57 47.2
comp=Z,17nm,0.9s
PSI Prapat 83.21 276 P P 11 57 46.7 -0.2
comp=Z,22nm,1.4s
PSI Prapat 83.21 276 P P 11 57 46.5 -0.4
PSI pmax pmax
comp=Z,17nm,0.9s
PSI Prapat 83.21 276 P P 11 57 44.7 -2.2
comp=Z,21nm,1.4s
NVAR Mina Array Bea 83.25 44 P P 11 57 46.5 -0.2
comp=Z,9.7nm,0.9s,baz=225,slow=8.9,SNR=58
NVAR pP **pwP** 11 59 51.7 -1.5
comp=Z,1.4nm,0.8s,baz=224,slow=8.6,SNR=5.2
comp=Z,9.7nm,0.9s
KLR Kul'dur 83.27 330⇓*e*P P 11 57 46.2 0.0
KLR pmax pmax
comp=Z,6.0nm,0.6s
PAHR Pah Rah Range 83.31 42 P P 11 57 47.2 +0.4
214A Organ Pipe Nat 83.50 52 P P 11 57 48.2 +0.4
baz=239
N15K Kwethluk River 83.60 10 P P 11 57 48.8 +1.2
baz=198
K04D Chiloquin, OR 83.63 39 IAmb IAmb 11 57 50.4
comp=Z,19nm,0.9s
O17K Koliganek Bris 83.73 11 P P 11 57 49.7 +1.5
baz=201
TPNV Topopah Spring 83.76 46 P P 11 57 50.2 +1.0
baz=236
PDMCI Parker Dam,Lak 83.77 49 P P 11 57 50.0 +0.9
baz=238
BUCK Buck Mountain 83.90 37 IAmb IAmb 11 57 51.9
comp=Z,28nm,1.1s
I04A Tendick Farm, 83.97 38 IAmb IAmb 11 57 51.5
comp=Z,11nm,0.9s
O18K Koktuh Hills 84.16 12 P P 11 57 50.6 +0.2
baz=203
K05A Summer Lake 84.19 39 IAmb IAmb 11 57 53.5
comp=Z,24nm,1.1s
H04D Lebanon 84.25 37 IAmb IAmb 11 57 52.9
comp=Z,14nm,0.9s
J05D Fort Rock, OR 84.33 39 P P 11 57 52.5 +0.6
J05D IAmb IAmb 11 57 54.1
comp=Z,32nm,1.1s
H04A Detroit Lake 84.65 37 IAmb IAmb 11 57 54.8
comp=Z,16nm,1.2s
ELIB Princess Elisa 84.79 187 *d*P P 11 57 53.7 +0.1
comp=Z,12nm,0.9s
N18K Kilae Creek 84.80 11 P P 11 57 53.9 +0.5
baz=202
PINE Pine Mountain 84.81 38 IAmb IAmb 11 57 56.5
comp=Z,49nm,1.4s
SRIT Nakonsritamara 84.84 281 P P 11 57 56.7 +2.0
L15K Ungalak Mounta 84.84 9 P P 11 57 54.1 +0.5
baz=197
R11B Troy Canyon, C 84.97 45 P P 11 57 56.1 +1.0
baz=237
SURA Surathani 85.04 282 P P 11 57 57.6 +1.9
MA2 Magadan 85.05 345 P P 11 57 54.3 -0.3
MA2 IAmb IAmb 11 57 55.4
comp=Z,17nm,0.9s
MA2 Magadan 85.05 345 *d i*P P 11 57 54.0 -0.7
MA2 pmax pmax
comp=Z,23nm,1.0s
TUC Tucson 85.16 52 P P 11 57 56.3 +0.3
TUC IAmb IAmb 11 57 58.6
comp=Z,19nm,0.9s
TUC Tucson 85.16 52 P P 11 57 56.9 +0.8
baz=240
TUC Tucson 85.16 52 P P 11 57 56.3 +0.3
TUC pmax pmax
comp=Z,19nm,1.0s
K15K Wolf Creek Mou 85.43 8 P P 11 57 57.4 +0.9
baz=197
HNS HongShan 85.64 313 ⇓P P 11 57 59.3 +1.3
HNS pmax pmax
comp=Z,19nm,1.0s
LYN LuoYang 85.72 310 ⇓P P 11 58 00.0 +1.5
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,550nm,6.3s
ENH Enshi 85.81 305 P P 11 57 59.9 +0.8
I07A Izee 85.82 39 IAmb IAmb 11 58 01.0
comp=Z,15nm,1.1s
319A Douglas 85.82 54 IAmb IAmb 11 58 02.0
comp=Z,34nm,1.0s
CAPN Captain Cook N 85.83 14 P P 11 58 00.3 +1.9
baz=206
COYC Coyhaique 85.87 138 P P 11 58 00.6 +1.4
J08A Circle Bar Ran 86.00 40 IAmb IAmb 11 58 01.7
comp=Z,22nm,1.3s
HEH HeiHe 86.01 329 *e*P P 11 57 59.2 -0.3
HEH pmax pmax
comp=Z,20nm,0.6s
TROLL Troll, Antarti 86.02 181 ⇑P P 11 57 59.5 -0.1
comp=Z,341nm,0.5s
BJT Baijiatuau 86.09 316 P P 11 58 00.1 0.0
BJT IAmb IAmb 11 58 01.9
comp=Z,10nm,0.8s
BJT Baijiatuau 86.09 316 P P 11 58 01.1 +1.0
BJT Baijiatuau 86.09 316 P P 11 58 00.1 0.0
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJI Beijing 86.10 316 P P 11 58 01.0 +0.9
BJI pmax pmax
comp=Z,7.0nm,0.7s
GNW Green Mountain 86.11 35 P P 11 58 00.4 +0.4
KNB Kanab 86.11 47 IAmb IAmb 11 58 02.7
comp=Z,15nm,1.2s
U15A North Rim 86.17 48 IAmb IAmb 11 58 03.2
comp=Z,17nm,0.8s

D05A Enumclaw 86.32 35 IAmb IAmb 11 58 03.5
comp=Z,40nm,1.3s
WUAZ Wupatki 86.35 49 IAmb IAmb 11 58 03.8
comp=Z,13nm,1.1s
WUAZ Wupatki 86.35 49 P P 11 58 02.4 +0.7
baz=240
L19K White Mountain 86.38 11 P P 11 58 02.1 +1.1
baz=203
M20K Styx River 86.43 12 P P 11 58 02.6 +1.3
baz=204
J16K Anvik River 86.50 8 P P 11 58 03.0 +1.4
baz=198
ELK Elko 86.51 43 P P 11 58 02.9 +0.5
comp=Z,3.9nm,0.9s,baz=260,slow=4.4,SNR=18
comp=Z,3.9nm,0.9s
VNA3 Neumayer Olymp 86.54 177 ⇑P P 11 58 01.5 -0.3
comp=Z,12nm,0.8s
SUA Susitna One 86.54 13 P P 11 58 02.8 +1.0
baz=207
HPIG 86.54 59 IAmb IAmb 11 58 04.7
comp=Z,12nm,0.9s
BBB Bella Bella 86.58 29 P P 11 58 02.1 0.0
comp=Z,6.5nm,0.7s,baz=17,slow=15,SNR=1.4
comp=Z,6.5nm,0.7s
F07A Phinny Hill Vi 86.66 37 IAmb IAmb 11 58 04.6
comp=Z,11nm,0.9s
PKCU Pink Cliffs 86.68 47 IAmb IAmb 11 58 06.2
comp=Z,22nm,1.0s
G08A Pilot Rock 86.84 38 IAmb IAmb 11 58 05.7
comp=Z,25nm,1.2s
CRAG Craig 86.86 24 P P 11 58 04.1 +0.8
baz=222
MXC Moxie City 86.86 36 IAmb IAmb 11 58 05.5
comp=Z,12nm,0.9s
VNA2 Neumayer--Watz 86.96 177 ⇑P P 11 58 04.1 +0.3
comp=Z,9.6nm,0.7s,baz=184,slow=5.0
KNK Knik Glacier 87.00 14 P P 11 58 05.0 +1.1
baz=209
LTY Liberty 87.07 36 IAmb IAmb 11 58 06.2
comp=Z,10nm,0.9s
MTPU Mount Pierson 87.08 47 IAmb IAmb 11 58 08.0
comp=Z,12nm,1.0s
E07A Sunnyside 87.09 37 IAmb IAmb 11 58 06.8
comp=Z,21nm,0.9s
HAWA Hanford 87.17 37 IAmb IAmb 11 58 07.1
comp=Z,16nm,0.9s
VNA1 Neumayer--Stat 87.19 177 ⇑P P 11 58 05.5 +0.7
comp=Z,14nm,0.9s
ZAIG Zacatecas 87.25 64 IAmb IAmb 11 58 08.8
comp=Z,11nm,0.9s
J18K Innoko River 87.25 10 P P 11 58 06.2 +1.2
baz=201
W18A Petrified Fore 87.31 50 IAmb IAmb 11 58 08.2
comp=Z,14nm,1.2s
CUT Chulitna 87.48 13 P P 11 58 06.2 +0.1
baz=207
121A Cookes Peak, D 87.49 53 IAmb IAmb 11 58 09.7
comp=Z,12nm,1.1s
121A Cookes Peak, D 87.49 53 P P 11 58 07.2 +0.1
baz=242
E08A Dider Farm, El 87.49 37 IAmb IAmb 11 58 08.4
comp=Z,12nm,0.9s
K20K Telida 87.61 11 P P 11 58 07.4 +0.7
baz=204
MFID Camas Ranch 87.61 41 IAmb IAmb 11 58 09.2
comp=Z,17nm,1.0s
SEY Seymchan 87.71 348 *i*P P 11 58 07.2 0.0
SEY pmax pmax
comp=Z,13nm,1.3s
G15K Niukluk 87.74 7 P P 11 58 07.9 +0.6
baz=194
DUG Duguay, Tooele 87.78 45 P P 11 58 07.9 -0.3
baz=236
CRQE Cirque 87.78 17 P P 11 58 08.4 +0.7
baz=214
D08A Wollman Farm, 87.91 37 IAmb IAmb 11 58 10.4
comp=Z,15nm,0.9s
J19K Poorman 87.93 10 P P 11 58 08.7 +0.6
baz=202
F14K Arctic Creek 87.99 5 P P 11 58 09.6 +1.2
baz=192
E09A Wood Farm, Sta 88.02 37 IAmb IAmb 11 58 10.6
comp=Z,14nm,1.0s
XAN Xi'an 88.03 308 ⇓P P 11 58 10.5 +1.1
XAN pmax pmax
comp=Z,36nm,0.8s
M24K Tolsona, Glenn 88.15 15 P P 11 58 09.9 +0.5
baz=211
H17K Granite Mounta 88.18 8 P P 11 58 09.9 +0.6
baz=198
Q16A Cache Valley 88.21 47 IAmb IAmb 11 58 12.9
comp=Z,8.7nm,0.9s
F10A Beach Ranch, E 88.23 38 IAmb IAmb 11 58 11.4
comp=Z,17nm,0.9s
XLT XiLinHaoTe 88.27 319 *e*P P 11 58 10.4 0.0
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,170nm,6.0s
J20K Nowinta River 88.35 11 P P 11 58 10.8 +0.7
baz=204
TMUT Trail Mountain 88.37 46 IAmb IAmb 11 58 13.5
comp=Z,20nm,1.0s
CHUM Lake Minchumin 88.41 12 P P 11 58 10.4 0.0
baz=205
TRF Thorofare Moun 88.42 13 P P 11 58 10.9 +0.2
baz=207
ZEA Zeya 88.42 332 *e*P P 11 58 11.4 +0.7
ZEA pmax pmax
comp=Z,10.0nm,1.0s
GCSA Galena City Sc 88.43 10 P P 11 58 11.2 +0.7
baz=201
PLID Pearl Lake 88.44 39 IAmb IAmb 11 58 12.8
comp=Z,17nm,1.4s
MPU Maple Canyon 88.46 45 IAmb IAmb 11 58 13.4
comp=Z,9.2nm,1.1s
TLIG Tlapa 88.52 70 IAmb IAmb 11 58 14.6
comp=Z,11nm,0.8s
HLID Hailey 88.56 41 IAmb IAmb 11 58 13.8
comp=Z,9.1nm,0.9s
HLID Hailey 88.56 41 P P 11 58 12.5 +0.6
baz=237
SPUT South Promonto 88.59 44 IAmb IAmb 11 58 13.9
comp=Z,13nm,1.0s
C09A Chrisman Ranch 88.70 36 IAmb IAmb 11 58 13.7
comp=Z,8.4nm,0.9s
CTU Camp Tracy 88.73 45 IAmb IAmb 11 58 14.3
comp=Z,14nm,1.1s
SRU San Rafael Swe 88.74 47 IAmb IAmb 11 58 14.5
comp=Z,17nm,0.9s
P17A Butcher Ranch, 88.78 46 IAmb IAmb 11 58 15.6
comp=Z,16nm,1.2s
VHRN Van Horn 88.80 56 IAmb IAmb 11 58 15.4
comp=Z,13nm,0.8s
CRAI Chiangrai 88.81 292 IAmb IAmb 11 58 15.9
comp=Z,17nm,1.1s
KMI Kunming 88.84 298 ⇓P P 11 58 15.4 +1.7
KMI pmax pmax
comp=Z,11nm,1.3s
Y22D IRIS PASSCAL I 88.85 52 P P 11 58 14.1 +0.7
baz=242
Y22F Passcal Instru 88.85 52 P P 11 58 13.9 +0.5
baz=242
MNTX Cornudas Mount 88.91 55 P P 11 58 14.1 +0.5
baz=243
MCK McKinley 88.95 13 P P 11 58 15.0 +2.0
baz=208
PLCA Paso Flores 89.14 134 P P 11 58 15.6 +0.9
PLCA IAmb IAmb 11 58 17.0
comp=Z,14nm,1.1s
PLCA Paso Flores 89.14 134 P P 11 58 15.6 +0.9
PLCA pmax pmax
comp=Z,14nm,1.1s
PLCA Paso Flores 89.14 134 P P 11 58 15.8 +1.2
comp=Z,7.4nm,0.9s,baz=252,slow=6.2,SNR=11
comp=Z,7.4nm,0.9s
YUK8 Steele Glacier 89.15 18 P P 11 58 15.9 +1.7
baz=216
TXAR Lajitas Array 89.19 58 P P 11 58 16.1 +1.1
comp=Z,9.9nm,0.9s,baz=216,slow=5.5,SNR=72
TXAR pP **pP** 12 00 20.4 +0.2
comp=Z,1.3nm,1.1s,baz=221,slow=4.8,SNR=4.0
comp=Z,9.9nm,0.9s
M26K Nabesna, AK 89.19 16 P P 11 58 16.4 +2.2
baz=214
MVCO Mesa Verde 89.20 49 P P 11 58 16.0 +0.9
baz=241
H19K Roundabout Mou 89.23 9 P P 11 58 15.7 +1.5
baz=201
HWUT Hardware Ranch 89.32 44 IAmb IAmb 11 58 16.6
comp=Z,7.2nm,0.8s
CMAR Chiang Mai Arr 89.33 290 P P 11 58 17.8 +2.0
comp=Z,20nm,0.9s,baz=133,slow=3.2,SNR=108
CMAR pP **pP** 12 00 20.4 -0.1
comp=Z,0.6nm,0.3s,baz=128,slow=3.6,SNR=2.5
CMAR PP **PP** 12 01 57.6 -0.2
comp=Z,2.6nm,0.9s,baz=119,slow=5.4,SNR=8.3
comp=Z,20nm,0.9s
S34M Telegraph Cree 89.40 24 P P 11 58 15.2 0.0
S34M IAmb IAmb 11 58 21.2
comp=Z,8.3nm,1.2s
H20K Anotleneega Mo 89.44 10 P P 11 58 16.5 +1.3
baz=203
F17K Baldwin Pennin 89.45 7 P P 11 58 15.7 +0.5
CHTO Chiang Mai 89.47 290 P P 11 58 17.1 +0.7
CHTO Chiang Mai 89.47 290 P P 11 58 18.5 +2.1
CHTO Chiang Mai 89.47 290 P P 11 58 17.1 +0.7
CHTO pmax pmax
comp=Z,31nm,0.8s
CHTO Chiang Mai 89.47 290 P P 11 58 17.5 +1.1
HHC Hu-ho-hao-te 89.52 315 *e*P P 11 58 17.4 +1.1
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.0s
ANMO Albuquerque 89.59 52 P P 11 58 17.0 +0.2
ANMO IAmb IAmb 11 58 18.5
comp=Z,9.1nm,0.9s
ANMO Albuquerque 89.59 52 P P 11 58 17.1 +0.2
baz=242
ANMO Albuquerque 89.59 52 *c i*P P 11 58 17.3 +0.4
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 89.59 52 P P 11 58 17.4 +0.6
comp=Z,8.0nm,1.0s,baz=319,slow=4.1,SNR=28
comp=Z,8.0nm,1.0s
NEW Newport 89.60 36 P P 11 58 15.3 -1.1
comp=Z,1.1nm,0.5s,baz=301,slow=2.7,SNR=3.7
comp=Z,1.1nm,0.5s
I21K Tanana 89.65 11 P P 11 58 16.9 +0.8
baz=205
ALPN Alpine 89.66 57 IAmb IAmb 11 58 19.1
comp=Z,14nm,0.7s
H21K Melozitna Rive 89.94 11 P P 11 58 18.2 +0.7
baz=205
HDA Harding Lake 89.97 14 P P 11 58 18.4 +0.7
baz=210
E17K Hotham Inlet 90.00 7 P P 11 58 18.7 +0.9
baz=196
RDMU Red Mountain 90.10 46 IAmb IAmb 11 58 20.4
comp=Z,9.2nm,0.9s
AHID Auburn Hatcher 90.20 43 IAmb IAmb 11 58 21.9
comp=Z,9.5nm,0.8s
PZH PanZhiHua 90.24 299 P P 11 58 20.9 +0.9
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
ILAR Eielson Array 90.29 13 P P 11 58 17.9 -1.3
comp=Z,0.6nm,0.7s,baz=218,slow=4.8,SNR=7.7
ILAR pP **pP** 12 00 26.7 +1.7
comp=Z,0.9nm,1.0s,baz=207,slow=12,SNR=4.0
comp=Z,0.6nm,0.7s
H22K Ishtalitna Cre 90.41 11 P P 11 58 20.5 +0.8
baz=206
BTO Baotou 90.42 314 *e*P P 11 58 22.6 +2.2
BTO sP **sP** 12 01 15.3 -7.6
BTO S **S** 12 08 22.2 -4.3
BTO pmax pmax
comp=Z,29nm,0.9s
BTO pmax pmax
comp=Z,360nm,5.6s
D17K Noatak River 90.47 6 P P 11 58 20.6 +0.7
baz=195
E18K Tukpahlearik C 90.47 7 P P 11 58 20.6 +0.7
baz=198
J25K Salcha River, 90.49 14 P P 11 58 21.1 +1.0
baz=211
R33M Jennings River 90.53 23 P P 11 58 20.8 +0.3
baz=224
BILL Bilibino 90.58 355 P P 11 58 20.1 -0.3
BILL IAmb IAmb 11 58 21.4
comp=Z,6.2nm,0.9s
BILL Bilibino 90.58 355⇓*e*P P 11 58 20.5 +0.1
BILL pmax pmax
comp=Z,7.0nm,1.0s
MSO Missoula 90.60 39 P P 11 58 22.1 +0.9
baz=238
G21K Allakaket 90.61 10 P P 11 58 21.2 +0.6
baz=204
S22A 4UR Ranch, Cre 90.62 49 IAmb IAmb 11 58 23.5
comp=Z,7.3nm,1.0s
S22A 4UR Ranch, Cre 90.62 49 P P 11 58 21.9 +0.1
baz=242
TPAW Teton Pass 90.66 43 IAmb IAmb 11 58 23.6
comp=Z,6.3nm,0.9s
SAND Sanderson 90.67 58 IAmb IAmb 11 58 23.1
comp=Z,11nm,1.1s
F20K Avaraart Lake 90.75 9 P P 11 58 21.9 +0.7
baz=202
SNOW Snow King Moun 90.77 43 IAmb IAmb 11 58 24.5
comp=Z,9.4nm,0.8s
K27K Chicken 90.78 16 P P 11 58 22.8 +1.4
baz=214
O20A White River Ci 90.78 47 IAmb IAmb 11 58 23.6
comp=Z,8.0nm,0.8s
O20A White River Ci 90.78 47 P P 11 58 22.9 +0.6
baz=241
J26L Joseph Creek 90.81 15 P P 11 58 23.3 +1.6
baz=213
C16K Lisburne Hills 90.82 5 P P 11 58 22.4 +0.9
baz=193
IMW Indian Meadow 90.88 42 IAmb IAmb 11 58 24.6
comp=Z,8.7nm,1.1s
E19K Redstone River 90.92 8 P P 11 58 22.1 +0.1
baz=201
H24K Noodor Dome 91.02 12 P P 11 58 23.8 +1.2
baz=209
L29M L29M 91.07 18 P P 11 58 24.8 +1.9
baz=218
FLWY Flagg Ranch 91.12 42 IAmb IAmb 11 58 25.8
comp=Z,13nm,1.4s
BW06 Boulder Array 91.19 44 IAmb IAmb 11 58 25.2
comp=Z,6.8nm,1.1s
BW06 Boulder Array 91.19 44 P P 11 58 24.5 +0.4
baz=241
PD31 Pinedale Array 91.19 44 IAmb IAmb 11 58 25.8
comp=Z,5.2nm,1.0s
PDAR Pinedale Array 91.19 44 P P 11 58 23.9 -0.2
comp=Z,4.5nm,0.9s,baz=216,slow=3.8,SNR=28
PDAR pP **pwP** 12 00 31.4 -0.9
comp=Z,0.6nm,0.9s,baz=205,slow=4.0,SNR=2.1
comp=Z,4.5nm,0.9s
SMCO Snowmass 91.19 48 IAmb IAmb 11 58 25.8
comp=Z,6.8nm,1.0s
YHL Hebgen Lake 91.21 41 IAmb IAmb 11 58 25.9
comp=Z,4.9nm,1.0s
PRP Porcupine Dome 91.23 13 P P 11 58 24.4 +0.7
baz=211
F21K Alatna River 91.26 10 P P 11 58 23.9 +0.3
baz=204
BOZ Bozeman (W) 91.32 41 P P 11 58 25.4 +0.8
baz=239
H17A Grant Village 91.35 42 P P 11 58 26.0 +1.2
baz=240
G23K Bananza Creek 91.38 11 P P 11 58 25.5 +1.3
baz=207
M31M Drury Creek, Y 91.47 19 P P 11 58 25.2 +0.6
baz=221
DAWY Dawson 91.49 16 P P 11 58 25.7 +0.9
baz=217
SDCO Great Sand Dun 91.56 50 IAmb IAmb 11 58 27.3
comp=Z,4.8nm,0.8s
SDCO Great Sand Dun 91.56 50 P P 11 58 26.4 +0.4
baz=243
C18K Utukok River 91.58 7 P P 11 58 26.1 +1.0
baz=197
D19K Kuna River 91.79 8 P P 11 58 26.6 +0.6
baz=200
FARO Faro, Yukon 91.81 20 P P 11 58 26.7 +0.4
baz=222
COLD Coldfoot 91.81 11 P P 11 58 27.4 +1.3
baz=207
E20K Nigu River 91.82 9 P P 11 58 27.2 +1.0
baz=202
K29M Barlow Dome 91.82 17 P P 11 58 26.8 +0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=218						
OZNA	**Ozona**	**91.85**	**57**	IAmb	IAmb	11 58 27.9	
	comp=Z,5.2nm,0.8s						
G24K	**Hadweenzic Riv**	**91.86**	**12**	P	**P**	**11 58 27.6**	**+1.2**
	baz=210						
MSTX	**Muleshoe**	**91.88**	**54**	P	**P**	**11 58 28.1**	**+0.7**
	baz=245						
T25A	**Trinidad**	**92.06**	**51**	IAmb	IAmb	11 58 29.8	
	comp=Z,6.7nm,0.9s						
T25A	**Trinidad**	**92.06**	**51**	P	**P**	**11 58 28.7**	**+0.4**
	baz=244						
833A	**Chaparral WMA,**	**92.16**	**60**	IAmb	IAmb	11 58 30.6	
	comp=Z,12nm,0.9s						
833A	**Chaparral WMA,**	**92.16**	**60**	P	**P**	**11 58 29.1**	**+0.5**
	baz=246						
C19K	**Lookout Ridge**	**92.19**	**7**	P	**P**	**11 58 28.2**	**+0.3**
	baz=198						
B18K	**Kokolik River**	**92.20**	**6**	P	**P**	**11 58 28.4**	**+0.5**
	baz=196						
ISCO	**Idaho Springs**	**92.41**	**48**	P	**P**	**11 58 29.8**	**-0.1**
	baz=243						
LZH	**Lanzhou**	**92.66**	**308**	⇓P	**P**	**11 58 32.3**	**+1.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
N23A	**Red Feather La**	**92.68**	**47**	P	**P**	**11 58 31.5**	**+0.4**
	baz=243						
PEL	**Peldehue**	**92.69**	**127**	P	**P**	**11 58 31.6**	**+0.4**
PEL	**Peldehue**	**92.69**	**127**	P	**P**	**11 58 31.6**	**+0.4**
PEL				pmax	pmax		
	comp=Z,28nm,1.1s						
JCT	**Junction City**	**92.71**	**58**	P	**P**	**11 58 31.4**	**+0.2**
	baz=246						
G26K	**Porcupine Rive**	**92.83**	**13**	P	**P**	**11 58 31.8**	**+1.1**
	baz=213						
C21K	**Knifeblade Rid**	**92.85**	**9**	P	**P**	**11 58 31.9**	**+1.1**
	baz=203						
A19K	**Wainwright**	**93.09**	**6**	P	**P**	**11 58 32.5**	**+0.6**
	baz=197						
YAK	**Yakutsk**	**93.16**	**339**	*e*P	**P**	**11 58 31.5**	**-0.8**
YAK				*e*		12 02 24.3	
YAK				*e*S	**SKSac**	**12 08 09.7**	**-0.8**
YAK				*e*		12 08 51.1	
YAK				*e*SS	**SS**	**12 15 27.4**	**+4.0**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,179nm,4.6s						
YAK				pmax	pmax		
	comp=N,79nm,4.4s						
YAK				pmax	pmax		
	comp=E,58nm,4.9s						
YAK				smax	smax		
	comp=E,116nm,4.7s						
YAK				smax	smax		
	comp=N,98nm,4.7s						
G27K	**Doyon Strip**	**93.18**	**14**	P	**P**	**11 58 33.8**	**+1.4**
	baz=215						
I30M	**Mount Dempster**	**93.21**	**17**	P	**P**	**11 58 33.3**	**+0.6**
	baz=220						
EGMT	**Eagleton**	**93.65**	**39**	P	**P**	**11 58 35.5**	**+0.4**
	baz=241						
ABTX	**Abilene, Hawle**	**93.70**	**56**	P	**P**	**11 58 35.9**	**+0.3**
	baz=246						
KSCO	**Kaye Shedlock'**	**94.14**	**50**	IAmb	IAmb	11 58 39.0	
	comp=Z,12nm,1.0s						
KSCO	**Kaye Shedlock'**	**94.14**	**50**	P	**P**	**11 58 37.6**	**0.0**
	baz=245						
A21K	**Barrow**	**94.63**	**7**	P	**P**	**11 58 40.5**	**+1.7**
	baz=201						
PLPT	**Palo Pinto**	**94.80**	**57**	IAmb	IAmb	11 58 41.7	
	comp=Z,9.7nm,1.1s						
G31M	**Satah River**	**95.06**	**16**	P	**P**	**11 58 41.6**	**+0.7**
	baz=221						
C26K	**Camden Bay**	**95.12**	**11**	P	**P**	**11 58 41.9**	**+0.8**
	baz=212						
ULN	**Ulaanbaatar**	**95.71**	**320**	⇑*e*P	**P**	**11 58 44.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**96.09**	**319**	P	**P**	**11 58 46.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=143,slow=6.6,SNR=3.1						
SONM				PP	**PP**	**12 02 49.0**	**-0.4**
	comp=Z,1.7nm,1.1s,baz=118,slow=8.0,SNR=5.2						
	comp=Z,0.3nm,0.4s						
GTA	**Gaotai**	**96.94**	**310**	*e*P	**P**	**11 58 51.0**	**+0.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
DGMT	**Dagmar**	**97.15**	**40**	P	**P**	**11 58 51.2**	**+0.4**
	baz=245						
YKA	**Yellowknife Ar**	**98.66**	**25**	P	**P**	**11 58 57.2**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=230,slow=5.1,SNR=2.5						
YKA				pP	**pP**	**12 01 04.4**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=240,slow=4.8,SNR=4.0						
	comp=Z,0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**110.91**	**321**	PKiKP	**PKiKP**	**12 03 46.3**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=90,slow=4.3,SNR=2.3						
ZALV				PP	**PP**	**12 04 32.7**	**-4.8**
	comp=Z,0.6nm,0.6s,baz=68,slow=3.9,SNR=2.2						
MK31	**Makanchi Array**	**111.31**	**313**	⇑*i*PKIKP	**PKiKP**	**12 03 47.3**	**-1.3**
MKAR	**Makanchi Array**	**111.31**	**313**	Pdiff	**Pdif**	**11 59 54.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=98,slow=4.7,SNR=2.1						
MKAR				PKiKP	**PKiKP**	**12 03 47.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=205,slow=1.0,SNR=5.4						
MKAR				PKKPbc	**PKKPbc**	**12 14 46.0**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=285,slow=4.6,SNR=8.4						
KURK	**Kurchatov**	**114.26**	**317**	⇓*i*PKIKP	PKPdf	12 03 52.7	-1.3
KURK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
KURBB	**Kurchatov Arra**	**114.30**	**317**	PKP	PKPdf	12 03 53.0	-1.1
	comp=Z,0.6nm,0.5s,baz=108,slow=1.7,SNR=12						
KURBB				PP	PP	12 04 51.9	-9.5
	comp=Z,0.9nm,0.8s,baz=97,slow=5.9,SNR=5.4						
KURBB				SKP		12 06 34.5	
	comp=Z,0.7nm,0.8s,baz=100,slow=2.4,SNR=5.3						
KURBB				PKKPbc	**PKKPbc**	**12 14 35.4**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=276,slow=3.7,SNR=6.3						
KK31	**Karatay Array**	**119.16**	**308**	PKPdf	**PKPdf**	**12 04 03.2**	**-0.6**
KK31	**Karatay Array**	**119.16**	**308**	PKIKP	**PKPdf**	**12 04 03.2**	**-0.6**
KKAR	**Karatay Array**	**119.16**	**308**		**PKPdf**	**12 04 03.1**	**-0.7**
KKAR	**Karatay Array**	**119.16**	**308**	PKIKP	**PKPdf**	**12 04 03.1**	**-0.7**
BVAR	**Borovoye Array**	**119.44**	**319**	PKP	**PKPdf**	**12 04 03.2**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=111,slow=2.1,SNR=23						
BVAR				PP	**PP**	**12 05 35.4**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=90,slow=8.9,SNR=4.9						
BVAR				SKP		12 06 44.3	
	comp=Z,0.7nm,0.6s,baz=107,slow=1.5,SNR=4.3						
BRVK	**Borovoye**	**119.50**	**319**	⇓*i*PKIKP	**PKPdf**	**12 04 03.0**	**-1.1**
SPITS	**Spitsbergen Ar**	**123.47**	**356**	PKP	**PKPdf**	**12 04 10.1**	**-1.0**
	comp=Z,10nm,1.0s,baz=64,slow=3.4,SNR=1.6						
ARU	**Arti**	**125.76**	**324**	*i* PKIKP	**PKPdf**	**12 04 15.7**	**-0.2**
ARU						12 06 13.5	
ARU						12 10 32.9	
GEYT	**Alibeck**	**128.46**	**301**	pPKP	pPKPdf	12 06 34.4	-0.9
	comp=Z,4.6nm,1.0s,baz=90,slow=6.3,SNR=4.3						
ARCES	**ARCESS Array B**	**130.32**	**349**	PKP	**PKPdf**	**12 04 23.8**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=25,slow=0.9,SNR=10						
FINES	**FINESS Array B**	**136.97**	**342**	PKhKP	PKPpre	12 04 25.1	
	comp=Z,0.9nm,0.7s,baz=60,slow=5.3,SNR=4.2						
FINES				PKP	**PKPdf**	**12 04 36.3**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=7.4,slow=4.4,SNR=6.9						
FINES				SKPbc	**SKPbc**	**12 07 15.1**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=134,slow=8.2,SNR=5.2						
KMBO	**Kilima Mbogo**	**137.27**	**242**	SKPbc	**SKPbc**	**12 07 18.3**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=72,slow=20,SNR=5.7						
OBN	**Obninsk**	**137.53**	**330**	*e*PKIKP	**PKPdf**	**12 04 38.5**	**+0.4**
OBN				*e*		12 07 30.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**138.99**	**312**	PP	**PP**	**12 07 41.0**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=146,slow=7.3,SNR=4.6						
KIV	**Kislovodsk**	**139.06**	**312**	*i* PKIKP	**PKPdf**	**12 04 41.8**	**+0.3**
KIV				*i*		12 07 41.5	
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NOA	**NORSAR Array B**	**140.47**	**352**	SKPbc	**SKPbc**	**12 07 24.9**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=15,slow=4.3,SNR=4.5						
HFS	**Hagfors**	**140.97**	**350**	PKhKP	PKPpre	12 04 38.3	
	comp=Z,1.9nm,0.3s,baz=66,slow=4.0,SNR=20						
HFS				SKPbc	**SKPbc**	**12 07 26.3**	**-0.5**
	comp=Z,6.2nm,0.8s,baz=134,slow=4.3,SNR=5.6						
MBAR	**Mbarara**	**142.77**	**236**	PKPdf	**PKPdf**	**12 04 48.0**	**-1.1**
MBAR	**Mbarara**	**142.77**	**236**	PKIKP	**PKPdf**	**12 04 48.0**	**-1.1**
AKASG	**Malin Array Be**	**143.76**	**329**	PKP	PKPbc	12 04 47.6	-1.0
	comp=Z,6.8nm,0.4s,baz=39,slow=4.3,SNR=87						
AKASG				SKPbc	**SKPbc**	**12 07 34.1**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=42,slow=2.6,SNR=13						
KIEV	**Kiev**	**143.77**	**329**		PKPbc	12 04 47.8	-0.9
KIEV	**Kiev**	**143.77**	**329**	PKIKP	PKPbc	12 04 47.8	-0.9
SUW	**Suwalki**	**143.88**	**337**	*e*PKPdf	PKPbc	12 04 47.8	-1.1
SIM	**Simferopol'**	**144.32**	**318**	*e*PKIKP	PKPbc	12 04 50.0	-0.6
SIM				pmax	pmax		
	comp=Z,78nm,1.3s						
BNN	**Bunyan**	**145.55**	**307**		**PKPbc**	**12 04 55.3**	**+0.6**
SORM	**Soroca**	**145.85**	**326**	⇓P	**PKPbc**	**12 04 54.8**	**-0.2**
SORM	**Soroca**	**145.85**	**326**	⇓PKIKP	**PKPbc**	**12 04 54.8**	**-0.2**
MILM	**Milestii Mici**	**146.36**	**324**	*e*PKP	**PKPbc**	**12 04 56.0**	**-0.4**
	comp=Z,60nm,1.5s						
MILM	**Milestii Mici**	**146.36**	**324**	*e*PKIKP	**PKPbc**	**12 04 56.0**	**-0.4**
MILM				pmax	pmax		
	comp=Z,60nm,1.5s						
BEL	**Belsk**	**146.50**	**337**	*e*PKPbc	**PKPbc**	**12 04 57.3**	**+0.6**
EKA	**Eskdalemuir Ar**	**146.81**	**4**	PKPbc	**PKPdf**	**12 04 55.9**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=359,slow=3.0,SNR=4.4						
BR131	**Keskin Array S**	**146.86**	**309**		**PKPbc**	**12 04 58.0**	**-0.2**
BR131	**Keskin Array S**	**146.86**	**309**	PKP2	**PKPbc**	**12 04 58.0**	**-0.2**
BRTR	**Keskin Array B**	**146.86**	**309**		**PKPbc**	**12 04 58.1**	**-0.1**
BRTR				PKPab	**PKPab**	**12 05 02.2**	**+0.8**
BRTR	**Keskin Array B**	**146.86**	**309**	PKP2	**PKPbc**	**12 04 58.2**	**-0.1**
BRTR	**Keskin Array B**	**146.86**	**309**	PKPbc	**PKPbc**	**12 04 57.9**	**-0.3**
	comp=Z,6.2nm,0.8s,baz=137,slow=4.3,SNR=16						
BRTR				pPKPbc	pPKPab	12 07 10.5	+0.9
	comp=Z,1.0nm,0.8s,baz=64,slow=3.4,SNR=2.7						
MMAI	**Mount Meron Ar**	**147.34**	**297**	PKPbc	**PKPbc**	**12 04 59.7**	**+0.1**
	comp=Z,6.6nm,0.5s,baz=57,slow=5.1,SNR=12						
MMAI				pPKPbc	**pPKPab**	**12 07 12.3**	**+0.7**
	comp=Z,10nm,0.8s,baz=163,slow=5.4,SNR=3.4						
TLCR		**147.39**	**321**	⇓P	**PKPbc**	**12 04 58.5**	**-0.7**
TLCR		**147.39**	**321**	⇓PKIKP	**PKPbc**	**12 04 58.5**	**-0.7**
KWP	**Kalwaria Pacla**	**147.47**	**333**	*e*PKPbc	**PKPbc**	**12 04 59.6**	**+0.2**
KWP				*e*PKPab	**PKPab**	**12 05 03.8**	**+0.4**
KWP	**Kalwaria Pacla**	**147.47**	**333**		**PKPbc**	**12 04 59.9**	**+0.6**
KWP				PKPab	**PKPab**	**12 05 04.2**	**+0.8**
KWP	**Kalwaria Pacla**	**147.47**	**333**	PKP2	**PKPab**	**12 05 04.2**	**+0.8**
BURAR	**Bucovina Array**	**147.78**	**328**	⇓P	**PKiKP**	**12 05 01.5**	**-0.2**
BURAR	**Bucovina Array**	**147.78**	**328**	⇓PKP2	**PKiKP**	**12 05 01.5**	**-0.2**
TESR	**Tescani**	**147.78**	**325**	⇑P	**PKPbc**	**12 05 00.2**	**0.0**
TPGR	**Topolog**	**147.81**	**321**	⇓P	**PKPbc**	**12 05 00.2**	**-0.1**
VRI	**Vrincioaia**	**148.15**	**324**	⇓P	**PKPbc**	**12 04 59.6**	**-1.6**
VRI	**Vrincioaia**	**148.15**	**324**	⇓PKHKP	**PKPbc**	**12 04 59.6**	**-1.6**
OJC	**Ojcow**	**148.17**	**336**	*e*PKPbc	**PKPdf**	**12 04 58.4**	**+1.5**
HARR	**Harsova**	**148.19**	**321**	⇓P	**PKPdf**	**12 04 59.2**	**+2.1**
HARR	**Harsova**	**148.19**	**321**	⇓PKHKP	**PKPdf**	**12 04 59.2**	**+2.1**
KOLS	**Kolonicke sedl**	**148.19**	**332**	*e*PKP2	**PKiKP**	**12 05 02.0**	**-0.4**
KOLS	**Kolonicke sedl**	**148.19**	**332**	*e*PKP	**PKiKP**	**12 05 02.0**	**-0.4**
KOLS				*e*		12 05 07.1	
PLOR	**Plostina**	**148.20**	**324**	⇑P	**PKPbc**	**12 05 01.6**	**+0.3**
PLOR	**Plostina**	**148.20**	**324**	⇑PKP2	**PKPbc**	**12 05 01.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**148.56**	**333**	*e*PKP2	**PKiKP**	**12 05 02.7**	**-0.4**
CRVS	**Cervenica-Dubn**	**148.56**	**333**	*e*PKP	**PKiKP**	**12 05 02.7**	**-0.4**
CRVS				*e*		12 05 08.4	
ARCR	**ARCALIA**	**148.57**	**328**	⇑P	**PKPab**	**12 05 08.3**	**+0.3**
NIE	**Niedzica**	**148.63**	**335**	*e*PKPbc	**PKiKP**	**12 05 02.8**	**-0.5**
NIE				*e*PKPab	**PKPab**	**12 05 09.0**	**+0.8**
DOPR	**Dopca**	**148.80**	**325**	⇓P	**PKiKP**	**12 05 03.7**	**0.0**
MLR	**Muntele Rosu**	**148.81**	**324**	⇑P	**PKPbc**	**12 05 03.3**	**+0.3**
MLR	**Muntele Rosu**	**148.81**	**324**		**PKPbc**	**12 05 03.0**	**0.0**
MLR	**Muntele Rosu**	**148.81**	**324**	⇑PKHKP	**PKPbc**	**12 05 03.3**	**+0.3**
KSP	**Ksiaz**	**148.85**	**340**	*e*PKPbc	**PKiKP**	**12 05 03.2**	**-0.4**
KSP				*e*PKPab	**PKPab**	**12 05 09.8**	**+0.7**
OSTC	**Ostas**	**149.12**	**340**	⇑*e*PKP	**PKiKP**	**12 05 04.4**	**+0.1**
OSTC				*e*PKPAB	**PKPab**	**12 05 11.6**	**+1.4**
OSTC	**Ostas**	**149.12**	**340**	*e*PKP2	**PKiKP**	**12 05 04.4**	**+0.1**
LANS	**Liptovska Anna**	**149.17**	**335**	*e*PKP2	**PKiKP**	**12 05 04.9**	**+0.5**
LANS	**Liptovska Anna**	**149.17**	**335**	*e*PKP	**PKiKP**	**12 05 04.9**	**+0.5**
UPC	**Upice**	**149.23**	**340**	⇑*e*PKP	**PKiKP**	**12 05 04.2**	**-0.3**
UPC				*e*PKPAB	**PKPab**	**12 05 11.7**	**+1.1**
UPC	**Upice**	**149.23**	**340**	*e*PKHKP	**PKiKP**	**12 05 04.2**	**-0.3**
UPC				*e*		12 05 11.7	
DPC	**Dobruska-Polom**	**149.27**	**340**	⇑*e*PKP	**PKiKP**	**12 05 04.4**	**-0.2**
DPC				*e*PKPAB	**PKPab**	**12 05 11.9**	**+1.1**
DPC	**Dobruska-Polom**	**149.27**	**340**	*e*PKHKP	**PKiKP**	**12 05 04.4**	**-0.2**
DPC				*e*		12 05 11.9	
VOIR		**149.33**	**325**	⇓P	**PKPbc**	**12 05 04.5**	**+0.4**
VOIR		**149.33**	**325**	⇓PKHKP	**PKPbc**	**12 05 04.5**	**+0.4**
CLL	**Collm**	**149.35**	**344**		**PKPbc**	**12 05 04.2**	**+0.3**
CLL				PKPab	**PKPab**	**12 05 11.3**	**+0.2**
CLL	**Collm**	**149.35**	**344**	PKHKP	**PKPbc**	**12 05 04.2**	**+0.3**
CLL						12 05 11.3	
CLL	**Collm**	**149.35**	**344**	*e*PKPdf	**PKPdf**	**12 05 01.0**	**+2.3**
CLL				*i* PKPbc	**PKPbc**	**12 05 04.0**	**+0.1**
	comp=Z,18nm,1.0s						
CLL				*i* PKPab	**PKPab**	**12 05 10.7**	**-0.3**
	comp=Z,17nm,0.8s						
CLL				*e*pPKPab	**pPKPab**	**12 07 22.0**	**+3.2**
CLL				*e*PKSdf	**PP**	**12 08 38.0**	**-3.8**
MORC	**Moravsky Berou**	**149.35**	**338**	*e*PKP	**PKPbc**	**12 05 04.0**	**0.0**
KRLC	**Kraliky**	**149.36**	**339**	⇑*e*PKP	**PKiKP**	**12 05 04.6**	**-0.2**
KRLC	**Kraliky**	**149.36**	**339**	*e*PKHKP	**PKiKP**	**12 05 04.6**	**-0.2**
MARR	**Marisel-Cluj**	**149.46**	**329**	⇑P	**PKPbc**	**12 05 04.6**	**+0.2**
BRG	**Berggiesshubel**	**149.50**	**343**	*i* PKP	**PKiKP**	**12 05 04.8**	**-0.2**
BRG				Amp		12 05 05.4	
	comp=Z,7.8nm,0.8s						
BRG	**Berggiesshubel**	**149.50**	**343**	P	**PKPab**	**12 05 12.3**	**+0.6**
BRG				Amp		12 05 13.5	
	comp=Z,6.1nm,0.7s						
BRG	**Berggiesshubel**	**149.50**	**343**	*i* PKHKP	**PKiKP**	**12 05 04.8**	**-0.2**
BRG				*e*		12 05 12.3	
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PVCC	**Panska Ves**	**149.64**	**342**	⇑*e*PKP	**PKiKP**	**12 05 05.1**	**-0.2**
PVCC				*e*PKPAB	**PKPab**	**12 05 12.7**	**+0.4**
PVCC	**Panska Ves**	**149.64**	**342**	*e*PKHKP	**PKiKP**	**12 05 05.1**	**-0.2**
PVCC				*e*		12 05 12.7	
LOZB	**Loznitsa**	**149.74**	**320**	⇓P	**PKPdf**	**12 04 59.4**	**-0.3**
HSKC	**Hora Svate Kat**	**149.88**	**343**	⇑*e*PKP	**PKPbc**	**12 05 05.3**	**+0.1**
VYHS	**Vyhne**	**149.94**	**335**	*e*PKHKP	**PKPbc**	**12 05 05.8**	**+0.4**
VYHS				*e*		12 05 14.3	
VYHS	**Vyhne**	**149.94**	**335**	*e*PKP	**PKPbc**	**12 05 05.8**	**+0.4**
VYHS				*e*		12 05 14.3	
LOT	**Lotru**	**149.99**	**326**	⇑P	**PKPbc**	**12 05 04.4**	**-1.3**
VRAC	**Vranov**	**150.08**	**339**	*e*PKP	**PKPbc**	**12 05 04.9**	**-0.8**
JAVC	**Velka Javorina**	**150.08**	**337**	*e*PKP	**PKiKP**	**12 05 07.0**	**+0.7**
PRU	**Pruhonice**	**150.13**	**342**	⇑*e*PKP	**PKPbc**	**12 05 06.0**	**+0.2**
PRU				*e*PKPAB	**PKPab**	**12 05 15.1**	**+0.7**
PRU	**Pruhonice**	**150.13**	**342**	*e*PKHKP	**PKPbc**	**12 05 06.0**	**+0.2**
PRU				*e*		12 05 15.1	
KRUC	**Moravsky**	**150.36**	**339**	*e*PKP	**PKPbc**	**12 05 06.3**	**0.0**
ELND	**Elena**	**150.43**	**320**	⇓P	**PKPbc**	**12 05 06.6**	**-0.1**
GZR	**Gura Zlata**	**150.53**	**327**	⇓P	**PKPbc**	**12 05 06.8**	**-0.1**
GZR	**Gura Zlata**	**150.53**	**327**	⇓PKIKP	**PKPbc**	**12 05 06.8**	**-0.1**
SURR	**Surduc**	**150.60**	**328**	⇑P	**PKPbc**	**12 05 06.7**	**-0.3**
MODS	**Modra-Piesok**	**150.63**	**337**	*e*PKIKP	**PKiKP**	**12 05 07.7**	**+0.3**
MODS				*e*		12 05 17.5	
MODS	**Modra-Piesok**	**150.63**	**337**	*e*PKP	**PKiKP**	**12 05 07.7**	**+0.3**
MODS				*e*		12 05 17.5	
BZS	**Buzias**	**150.95**	**329**	⇑P	**PKPbc**	**12 05 07.9**	**+0.1**
BZS	**Buzias**	**150.95**	**329**	⇑PKIKP	**PKPbc**	**12 05 07.9**	**+0.1**
HERR	**Herculane**	**151.08**	**327**	⇑P	**PKPbc**	**12 05 08.1**	**0.0**
KHC	**Kasperske Hory**	**151.18**	**342**	⇑*e*PKP	**PKiKP**	**12 05 08.8**	**+0.2**
KHC				*e*PKPAB	**PKPab**	**12 05 19.1**	**+0.3**
KHC				*e*pPKP	**pPKPbc**	**12 07 22.0**	**+1.0**
KHC	**Kasperske Hory**	**151.18**	**342**	*e*PKIKP	**PKiKP**	**12 05 08.8**	**+0.2**
KHC				*e*		12 05 19.1	
CKRC	**Cesky Krumlov**	**151.24**	**341**	⇑*e*PKP	**PKiKP**	**12 05 08.7**	**0.0**
CKRC	**Cesky Krumlov**	**151.24**	**341**	*e*PKIKP	**PKiKP**	**12 05 08.7**	**0.0**
GERES	**GERESS Array B**	**151.40**	**342**	PKPbc	**PKPbc**	**12 05 07.7**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=145,slow=1.1,SNR=4.3						
GERES				PKPab	**PKPab**	**12 05 19.6**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=70,slow=4.4,SNR=5.7						
GERES				pPKPbc	**pPKPbc**	**12 07 22.5**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=82,slow=2.1,SNR=3.3						
CONA	**Conrad Observa**	**151.51**	**338**	*i* PKP	**PKPab**	**12 05 21.1**	**+0.8**
	comp=Z,14nm,1.4s						
RONA	**Rosalia, Austr**	**151.55**	**337**	*i* PKP	**PKPab**	**12 05 21.8**	**+1.4**
	comp=Z,11nm,1.1s						
BLKB	**Belogradchik**	**151.80**	**324**	⇓P	**PKPbc**	**12 05 09.4**	**-0.4**
MORH	**Mrgy, Hungar**	**151.85**	**333**	⇑P	**PKPbc**	**12 05 09.4**	**-0.3**
MOA	**Molln**	**152.11**	**340**	*i* PKP	**PKPab**	**12 05 23.5**	**+0.7**
	comp=Z,7.1nm,1.0s						
BIOA	**Bad Ischl, Aus**	**152.45**	**341**	*i* PKP	**PKPab**	**12 05 24.4**	**+0.2**
	comp=Z,9.2nm,0.7s						
SOKA	**Soboth**	**152.88**	**338**	*e*PKP	**PKPab**	**12 05 26.3**	**+0.1**
	comp=Z,4.6nm,0.9s						
LESA	**Schwarzleotal**	**152.98**	**342**	*i* PKP	**PKPab**	**12 05 26.9**	**+0.4**
	comp=Z,16nm,1.3s						
KBA	**Koelnbreinsper**	**153.09**	**340**	*e*PKP	**PKPab**	**12 05 26.4**	**-0.8**
	comp=Z,5.9nm,0.7s						
OBKA	**Obir**	**153.19**	**338**	*i* PKP	**PKPab**	**12 05 26.6**	**-1.0**
	comp=Z,7.1nm,1.2s						
WATA	**Walderalm**	**153.37**	**343**	*i* PKP	**PKPab**	**12 05 28.2**	**-0.2**
	comp=Z,15nm,1.3s						
MYKA	**Terra Mystica**	**153.39**	**339**	*i* PKP	**PKPab**	**12 05 27.9**	**-0.4**
	comp=Z,4.3nm,0.6s						
WTTA	**Wattenberg**	**153.42**	**343**	*e*PKP	**PKPab**	**12 05 29.0**	**+0.4**
	comp=Z,10nm,0.6s						
MOTA	**Moosalm**	**153.49**	**344**	*i* PKP	**PKPab**	**12 05 29.1**	**+0.2**
	comp=Z,15nm,1.2s						
SQTA	**Sankt Quirin**	**153.57**	**343**	*i* PKP	**PKPab**	**12 05 29.7**	**+0.5**
	comp=Z,10nm,1.0s						
ABTA	**Abfaltersbach**	**153.64**	**341**	*i* PKP	**PKPab**	**12 05 28.9**	**-0.5**
	comp=Z,7.3nm,0.6s						
CLUD	**Cludinico**	**153.78**	**340**		**PKPab**	**12 05 29.5**	**-0.5**
DAVA	**Damuels**	**153.84**	**345**	*i* PKP	**PKPab**	**12 05 30.6**	**+0.2**
	comp=Z,9.2nm,0.9s						
FETA	**Feichten**	**153.88**	**344**	*i* PKP	**PKPab**	**12 05 30.8**	**+0.2**
	comp=Z,6.8nm,1.0s						
LIC	**Lamto**	**163.25**	**161**	⇓*i*P	**PKPab**	**12 06 12.7**	**+0.8**
	comp=Z,28nm,0.8s						
KIC	**Kosan Boka**	**163.47**	**162**	⇓*i*PKP2	**PKPab**	**12 06 13.6**	**+0.7**
	comp=Z,27nm,0.8s						
TIC	**Toumodi**	**163.65**	**160**	⇑*e*PKP2	**PKPab**	**12 06 14.2**	**+0.5**
	comp=Z,16nm,0.8s						
DBIC	**Dimbokro**	**163.73**	**161**	PKP	**PKPdf**	**12 05 16.2**	**-1.8**
	comp=Z,3.2nm,0.9s,baz=245,slow=1.0,SNR=4.8						
DBIC				PKPab	**PKPab**	**12 06 13.9**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=169,slow=3.1,SNR=11						
TORD	**Torodi Ar. Bea**	**170.91**	**188**	PKP	**PKPdf**	**12 05 21.6**	**-1.5**
	comp=Z,1.4nm,1.0s,baz=220,slow=1.1,SNR=5.6						
TORD				PKPab	**PKPab**	**12 06 43.8**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=154,slow=2.4,SNR=13						
TORD				pPKPab	**pPKPab**	**12 08 56.4**	**+4.3**
	comp=Z,1.3nm,0.8s,baz=142,slow=2.1,SNR=5.5						
TORD				PP	**PP**	**12 10 35.4**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=214,slow=3.5,SNR=3.5						

GII 03 12:13:14.8±0.3**, 29.856N**±0.001×**36.201E**±0.002**, h0**km**,**
Md1.7/6**, confirmed, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.03**	**280**	S	Sb	12 13 50.4	+0.9
HRFI	**Mount Harif**	**1.03**	**280**	P	Pb	12 13 35.2	-0.3
EIL	**Elat**	**1.10**	**261**	S	Sn	12 13 53.1	-0.4
EIL	**Elat**	**1.10**	**261**	P	Pb	12 13 36.4	-0.4
MBRI	**Mt Berech**	**1.12**	**267**	S	Sn	12 13 54.2	+0.2
MBRI	**Mt Berech**	**1.12**	**267**	P	Pb	12 13 37.0	-0.1
ZFRI	**Zfri**	**1.13**	**308**	S	Sn	12 13 54.0	0.0
ZFRI	**Zfri**	**1.13**	**308**	P	Pb	12 13 36.9	-0.2
PRNI	**Paran**	**1.15**	**296**	S	Sn	12 13 54.6	0.0
PRNI	**Paran**	**1.15**	**296**	P	Pb	12 13 37.5	-0.1
KRMI	**Paran Flat**	**1.31**	**282**	S	Sn	12 13 58.6	+0.1
KRMI	**Paran Flat**	**1.31**	**282**	P	Pb	12 13 40.2	0.0
GHAJ	**Ghor Haditha**	**1.54**	**339**	P	Pn	12 13 40.4	-3.2
MDBI	**Mazsada**	**1.62**	**334**	P	Pn	12 13 43.7	-1.0
MSBI	**Mazada**	**1.62**	**334**	P	Pn	12 13 43.7	-0.9
YTIR	**Yattir**	**1.77**	**328**	P	Pb	12 13 47.7	-0.5
DSI	**Dead Sea**	**1.85**	**338**	P	Pn	12 13 45.2	-2.6
KZIT	**Kziot**	**1.88**	**304**	P	Pn	12 13 48.6	+0.4
KZIT	**Kziot**	**1.88**	**304**	S	Sb	12 14 14.0	0.0
SALP	**Salfit**	**2.37**	**339**	P	Pn	12 13 51.7	-3.3
SALP	**Salfit**	**2.37**	**339**	S	Sn	12 14 09.8	-15
HMDT	**Nahal Hemdat**	**2.46**	**347**	P	Pn	12 13 51.9	-4.3
MMLI	**Mount Malkishu**	**2.66**	**346**	P	Pn	12 13 55.6	-3.4
MMLI	**Mount Malkishu**	**2.66**	**346**	S	Sn	12 14 15.0	-17

*SKHL **03** 12:17:07.3±0.6, 45.30N×153.10E, h81km±8km, mb5.0/3, msha5.3/3*
*NEIC **03** 12:17:07.2±1.2, 46.19N±0.08×152.6E±0.2, h35km±2km, mb4.3/17, Error ellipse: s-maj=23.3km s-min=3.1km az=126.0*
*MOS **03** 12:17:09.8±3.4, 46.13N×152.64E, h78km, mb4.5/4, Error ellipse: s-maj=13.7km s-min=10.4km az=141.3*
*IDC **03** 12:17:11.5±3.4, 46.30N×152.64E, h45km±27km, mb3.5/10, mbtmp3.8/13, ML3.2/3, MS2.9/3, Error ellipse: s-maj=45.6km s-min=22.5km az=156.0*
ISC 03 12:17:07.0±0.8**, 46.0N**±0.1×**152.82E**±0.08**, h31**km**, n64,**
σ**1.88**/66**, mb4.2**/20**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.56**	**259**	⇑*i*PN	**Pn**	**12 18 02.9**	**+2.7**
KUR				*i* S	**Sn**	**12 18 45.4**	**+4.2**
KUR				pmax	pmax		
	comp=Z,90nm,0.3s						
KUR				smax	smax		
	comp=N,144nm,0.5s						
KUR				smax	smax		
	comp=E,94nm,0.6s						
KUR	**Kuril'sk**	**3.56**	**259**	*i* P	**Pn**	**12 18 02.9**	**+2.7**
KUR				AMB	AMB	12 18 05.0	
	comp=E,90nm,0.3s						
KUR				*i* S	**Sn**	**12 18 45.0**	**+3.8**
KUR				A	A	12 18 57.4	
	comp=E,140nm,0.6s						
KUR				A	A	12 18 57.4	
	comp=E,90nm,0.6s						
SHO	**Shikotan**	**4.77**	**245**	*e*PN	**Pn**	**12 18 16.1**	**-0.6**
SHO	**Shikotan**	**4.77**	**245**	*e*P	**Pn**	**12 18 16.4**	**-0.3**
SHO				AMB	AMB	12 18 18.6	
	comp=E,30nm,0.3s						
SHO				*e*S	**Sn**	**12 19 08.2**	**-2.6**
SHO				A	A	12 19 10.2	
	comp=E,50nm,0.6s						
SHO				A	A	12 19 10.2	
	comp=E,50nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.32**	**250**	*e*P	**Pn**	**12 18 25.5**	**+1.2**
YUK				AMB	AMB	12 18 27.0	
	comp=E,70nm,0.4s						
YUK				*e*S	**Sn**	**12 19 23.2**	**-1.2**
YUK				A	A	12 19 25.8	
	comp=E,160nm,0.7s						
YUK				A	A	12 19 25.8	
	comp=E,160nm,0.7s						
AKK	**Akkeshi**	**6.45**	**245**	*e*P	**Pn**	**12 18 39.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.01**	**281**	Pn	**Pn**	**12 18 44.4**	**-3.1**
JKA	**Kamikawa-asahi**	**7.48**	**259**	Pn	**Pn**	**12 18 51.9**	**-2.1**
ASAJ	**Asahikawa**	**7.49**	**259**	PN	**Pn**	**12 18 51.9**	**-2.1**
ASAJ	**Asahikawa**	**7.49**	**259**	P	**Pn**	**12 18 57.3**	**+3.3**
	comp=E,0.7nm,0.3s,baz=96,slow=13,SNR=6.7						
	comp=E,8.2nm,0.7s						
PEA0B	**Petropavlovsk-**	**7.76**	**22**	Pn	**Pn**	**12 18 56.2**	**-1.6**
PEA0B	**Petropavlovsk-**	**7.76**	**22**	PN	**Pn**	**12 18 56.2**	**-1.6**
PETK	**Petropavlovsk-**	**7.76**	**22**	Pn	**Pn**	**12 18 55.8**	**-2.0**
PETK	**Petropavlovsk-**	**7.76**	**22**	PN	**Pn**	**12 18 55.8**	**-2.0**
PETK	**Petropavlovsk-**	**7.76**	**22**	P	**Pn**	**12 18 59.1**	**+1.3**
	comp=E,0.3nm,0.3s,baz=183,slow=12,SNR=11						
PETK				LR	LR	12 22 03.8	
	comp=E,58nm,20.9s,baz=220,slow=39						
	comp=E,3.1nm,0.8s						
PET	**Petropavlovsk**	**7.96**	**26**	Pn	**Pn**	**12 18 58.9**	**-1.6**
ERM	**Erimo**	**8.03**	**244**	Pn	**Pn**	**12 18 59.8**	**-1.7**
ERM	**Erimo**	**8.03**	**244**	PN	**Pn**	**12 18 59.8**	**-1.7**
JTM	**Tenmabayashi**	**10.02**	**243**	Pn	**Pn**	**12 19 27.4**	**-1.4**
JMM	**Marumori**	**12.10**	**232**	Pn	**Pn**	**12 19 56.3**	**-0.9**
JSD	**Sado**	**13.43**	**239**	Pn	**Pn**	**12 20 11.3**	**-4.1**
MA2	**Magadan**	**13.63**	**356**	LR	LR	12 25 23.7	
	comp=E,49nm,18.7s,baz=6.5,slow=37						
KLR	**Kul'dur**	**14.56**	**290**	LR	LR	12 26 09.7	
	comp=E,70nm,18.3s,baz=12,slow=38						
USRK	**Ussuriysk Ar.**	**14.82**	**270**	P	**Pn**	**12 20 36.2**	**+1.9**
	comp=E,0.2nm,0.3s,baz=64,slow=14,SNR=2.5						
	comp=E,1.6nm,0.6s						
JWT	**Wachi**	**16.99**	**237**	Pn	**Pn**	**12 21 00.0**	**-2.2**
KSAR	**Wonju Array Be**	**20.43**	**254**	P	**P**	**12 21 40.4**	**-1.2**
KSAR	**Wonju Array Be**	**20.43**	**254**	P	**P**	**12 21 40.4**	**-1.2**
KSAR	**Wonju Array Be**	**20.43**	**254**	*e*P	**P**	**12 21 40.4**	**-1.2**
JCJ	**Chichijima**	**20.70**	**208**	P	**P**	**12 21 44.2**	**-0.3**
ADK	**Adak**	**20.77**	**63**	P	**P**	**12 21 44.6**	**-0.6**
ADK	**Adak**	**20.77**	**63**	P	**P**	**12 21 44.6**	**-0.6**
ADK				pmax	pmax		
	comp=Z,42nm,1.2s						
YAK	**Yakutsk**	**20.83**	**329**	P	**P**	**12 21 41.7**	**-4.0**
YAK				IAmb	IAmb	12 22 02.8	
	comp=Z,6.8nm,0.6s						

INCN	Inchon	21.25	256	P	P	12 21 49.6	-0.9
INCN	Inchon	21.25	256	P	P	12 21 49.6	-0.9
INCN				pmax	pmax		
	comp=Z,51nm,1.4s						
INCN	Inchon	21.25	256	eP	P	12 21 49.6	-0.9
HIA	Hailar	22.42	290	P	P	12 21 59.8	-3.2
HIA	Hailar	22.42	290	P	P	12 21 59.8	-3.2
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	Ulaanbaatar	30.95	290	P	P	12 23 20.4	-0.8
ULN	Ulaanbaatar	30.95	290	P	P	12 23 20.4	-0.8
ULN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ULN	Ulaanbaatar	30.95	290	eP	P	12 23 20.4	-0.8
J16K	Anvik River	31.09	39	P	P	12 23 20.9	-1.3
J16K				IAmb	IAmb	12 23 25.8	
	comp=Z,9.4nm,1.4s						
SONM	Songino Array	31.39	290	P	P	12 23 26.8	+1.7
	comp=Z,0.3nm,0.5s,baz=102,slow=7.6,SNR=2.0						
	comp=Z,0.3nm,0.5s						
O18K	Koktuh Hills	33.29	46	P	P	12 23 42.5	+1.1
O18K				IAmb	IAmb	12 24 04.7	
	comp=Z,8.4nm,1.1s						
E19K	Redstone River	33.41	32	P	P	12 23 43.1	+0.7
E19K				IAmb	IAmb	12 23 44.2	
	comp=Z,5.5nm,1.4s						
N19K	Bonanza Creek	33.67	45	P	P	12 23 45.8	+0.9
N19K				IAmb	IAmb	12 24 03.3	
	comp=Z,7.2nm,1.2s						
B20K	Meade River	34.15	28	P	P	12 23 48.0	-0.8
IMAR	Indian Mountai	34.47	36	P	P	12 23 51.9	+0.3
B21K	Ikpikpuk River	34.89	29	P	P	12 23 55.9	+0.8
B21K				IAmb	IAmb	12 24 00.3	
	comp=Z,3.6nm,1.2s						
B22K	Teshekpuk Lake	35.47	28	P	P	12 23 58.9	-1.3
B22K				IAmb	IAmb	12 24 04.3	
	comp=Z,3.9nm,1.4s						
E22K	Anaktuvuk Pass	35.57	32	P	P	12 23 59.7	-1.4
E22K				IAmb	IAmb	12 24 09.3	
	comp=Z,3.2nm,1.4s						
C23K	Itkillik River	36.30	29	P	P	12 24 07.2	-0.1
KNK	Knik Glacier	36.59	44	P	P	12 24 08.6	-1.4
MKAR	Makanchi Array	47.10	298	P	P	12 25 35.7	-0.2
	comp=Z,0.6nm,0.8s,baz=72,slow=7.3,SNR=4.8						
	comp=Z,0.6nm,0.8s						
KURK	Kurchatov	47.60	304	P	P	12 25 40.2	+0.5
KURK	Kurchatov	47.60	304	eP	P	12 25 40.2	+0.5
KURBB	Kurchatov Arra	47.69	304	P	P	12 25 40.2	-0.1
	comp=Z,0.7nm,0.7s,baz=70,slow=8.8,SNR=5.9						
	comp=Z,0.7nm,0.7s						
BVAR	Borovoye Array	51.16	310	P	P	12 26 07.3	+0.5
	comp=Z,0.6nm,0.5s,baz=44,slow=8.8,SNR=6.4						
	comp=Z,0.6nm,0.5s						
CMAR	Chiang Mai Arr	52.00	257	P	P	12 26 16.1	+2.5
	comp=Z,0.5nm,0.5s,baz=36,slow=6.7,SNR=2.5						
	comp=Z,0.5nm,0.5s						
ARCES	ARCESS Array B	58.47	341	P	P	12 27 00.5	+1.0
	comp=Z,1.7nm,0.8s,baz=46,slow=7.9,SNR=1.7						
	comp=Z,1.7nm,0.8s						
ABKAR	Akbulak array	58.73	310	P	P	12 27 02.7	+1.1
ABKAR				IAmb	IAmb	12 27 30.8	
	comp=Z,5.8nm,1.4s						
FINES	FINESS Array B	64.61	335	P	P	12 27 41.9	+1.0
	comp=Z,1.9nm,0.8s,baz=64,slow=6.7,SNR=2.0						
	comp=Z,1.9nm,0.8s						
KBZ	Khabaz	71.22	314	P	P	12 28 25.6	+2.8
	comp=Z,1.6nm,0.8s,baz=18,slow=12,SNR=2.9						
	comp=Z,1.6nm,0.8s						
AKASG	Malin Array Be	72.03	326	P	P	12 28 28.5	+0.9
	comp=Z,0.9nm,0.7s,baz=28,slow=5.1,SNR=4.4						
	comp=Z,0.9nm,0.7s						
TXAR	Lajitas Array	78.03	60	P	P	12 29 05.0	+2.3
	comp=Z,0.2nm,0.5s,baz=306,slow=5.4,SNR=4.9						
	comp=Z,0.2nm,0.5s						

*BJI **03** 12:21:27.3±0.0, 11°.89N×144°.28E, h25km, mb4.8/68, mB5.3/33, Ms4.7/27, Ms7 4.4/29*

*IDC **03** 12:21:27.2±0.5, 12°.01N×143°.98E, h0km, mb4.7/35, mbtmp4.7/35, MS4.1/20, Error ellipse: s-maj=17.5km s-min=10.9km az=95.0*

*MOS **03** 12:21:29.9±0.9, 12°.03N×144°.02E, h31km, mb5.2/37, MS4.4/4, Error ellipse: s-maj=11.4km s-min=5.2km az=117.4*

*NEIC **03** 12:21:29.1±1.1, 11°.99N±0°.07×144°.11E±0°.07, h10km±1km, mb5.1/271, Error ellipse: s-maj=15.3km s-min=6.1km az=132.0*

*DJA **03** 12:21:33.3±0.7, 12°N±3°×14°4E±°, h41km±8km, M4.8/26, mB5.5/10, mb4.9/26, MLv4.7/1, Mw(mB)5.0/10*

*GCMT **03** 12:21:33.1±0.3, 11°.82N±0°.02×143°.78E±0°.03, h14km±1km, MW4.8/79, Moment Tensor Solution. s18,c22; s79,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.73±.16; $M_{\theta\theta}$-1.47±.10; $M_{\phi\phi}$-0.26±.10; $M_{r\theta}$0.29±.19; $M_{\theta\phi}$-0.89±.06; $M_{\phi r}$-0.37±.23; Best double couple: $M_0$1.90300×10^{16} NP1:ϕ_s77.00000°,δ48.00000°,λ111.00000°. NP2: ϕ_s227.00000°,δ46.00000°,λ68.00000°. Principal axes: T 1.8620, Plg74.0000°, Azm57.0000°; N 0.0790, Plg16.0000°, Azm243.0000°; P -1.9450, Plg1.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 12:21:31.8±0.5**, 11°.98N**±0°.04×**144°.00E**±0°.05**, h30**km±2km**, h32**km**:pP-P, n663,** σ1s.**23**/572**, mb5.1**/223**, MS4.3**/39**, 12C-20D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.81	28		Pn	12 21 59.8	-1.3
GUMO	Guam	1.81	28	Pn	Pn	12 22 01.5	+0.4
	410nm,0.3s,baz=78,slow=2.8,SNR=79						
GUMO				Sn	Sn	12 22 24.0	+0.9
	257nm,0.3s,baz=208,slow=24,SNR=8.7						
MANU	Manus Island	14.32	166	Pn	Pn	12 24 51.7	-1.0
GENI	Genyem	14.97	195	P	Pn	12 25 02.7	+1.3
	86nm,0.9s,2μm						
PATS	Pohnpei	15.02	109	Pn	Pn	12 24 59.8	-2.2
SIJI	Sorong	17.96	226	P	Pn	12 25 39.4	-0.1
	18nm,1.0s,592nm						
RABL	Rabaul	18.00	153	P	Pn	12 25 39.0	-0.9
TNTI	Ternate	19.90	237	P	P	12 26 01.1	0.0
LBMI	Labuha	20.62	234	P	P	12 26 08.9	-0.1
	73nm,1.4s,1μm						
JOW	Kunigami	20.90	317		P	12 26 12.9	+1.0
JOW	Kunigami	20.90	317	P	P	12 26 12.6	+0.8
	34nm,0.6s,baz=145,slow=12,SNR=12						
	34nm,0.6s						
PMG	Port Moresby	21.47	171	P	P	12 26 16.7	-1.4
PMG	Port Moresby	21.47	171	d iP	P	12 26 17.4	-0.7
PMG				pmax	pmax		
	comp=Z,41nm,1.7s						
PMG	Port Moresby	21.47	171	P	P	12 26 17.8	-0.3
	comp=Z,8.8nm,0.9s,baz=334,slow=3.4,SNR=3.7						
PMG				LR	LR	12 33 54.6	
	comp=Z,596nm,18.5s,baz=338,slow=35						
	comp=Z,8.8nm,0.9s						
PMG	Port Moresby	21.47	171	P	P	12 26 17.3	-0.8
	comp=Z,36nm,1.3s,comp=Z,595nm						
H11S3	WAKE ISLAND Hy	22.82	71	T	T	12 50 30.2	
	baz=254,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	22.84	71	T	T	12 50 35.2	
	baz=254,slow=75,SNR=7.1						
H11S2	WAKE ISLAND Hy	22.84	71	T	T	12 50 31.4	
	baz=254,slow=75,SNR=15						
KMSI	Cibinong	22.86	242	P	P	12 26 33.4	+0.4
	comp=Z,308nm,1.2s,comp=Z,5μm						
H11N1	WAKE ISLAND Hy	23.31	68	T	T	12 51 19.5	
	baz=255,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy	23.32	68	T	T	12 51 21.8	
	baz=255,slow=75,SNR=7.9						
H11N3	WAKE ISLAND Hy	23.33	68	T	T	12 51 17.6	
	baz=255,slow=75,SNR=7.4						
SAUI	Saumlaki	23.51	213	P	P	12 26 39.5	+0.1
SAUI	Saumlaki	23.51	213	P	P	12 26 41.0	+1.6
	comp=Z,149nm,1.0s						
JMN	Monobe	23.54	339	P	P	12 26 39.8	+0.1
GTOI	Gorontalo	23.68	243	P	P	12 26 43.6	+2.5
	comp=Z,21nm,0.9s,comp=Z,249nm						
JNU	Nakatsue	24.24	332	P	P	12 26 46.0	-0.1
JNU				IAmb	IAmb	12 26 52.0	
	comp=Z,33nm,0.8s						
JNU	Nakatsue	24.24	332	P	P	12 26 44.9	-1.3
	comp=Z,26nm,0.9s,baz=73,slow=4.1,SNR=8.2						
JNU				LR	LR	12 35 01.4	
	comp=Z,297nm,19.5s,baz=126,slow=34						
	comp=Z,26nm,0.9s						
MRSI	Marisa	24.69	244	P	P	12 26 51.1	+0.7
	comp=Z,112nm,1.3s,comp=Z,1μm						
LUWI	Luwuk	24.73	240	P	P	12 26 50.3	-0.5
LUWI	Luwuk	24.73	240	P	P	12 26 49.3	-1.5
	comp=Z,166nm,1.1s,comp=Z,2μm						
SSLB	Suanglung	24.83	301	P	P	12 26 51.5	-0.2
MJAR	Matsushiro Arr	25.01	349	P	P	12 26 51.6	-1.5
	comp=Z,16nm,0.9s,baz=162,slow=10,SNR=6.7						
MJAR				LR	LR	12 35 38.4	
	comp=Z,487nm,18.0s,baz=171,slow=34						
	comp=Z,16nm,0.9s						
MAJO	Matsushiro	25.01	349	⇓eP	P	12 26 51.2	-1.9
MAJO				pmax	pmax		
	comp=Z,154nm,4.0s						
TOLI2	Tolitoli	25.43	247	P	P	12 26 56.4	-0.8
HNR	Honiara	26.53	143	LR	LR	12 37 27.8	
	comp=Z,3μm,18.5s,baz=340,slow=36						
MPSI	Mapaga	26.57	246	P	P	12 27 04.8	-2.6
	comp=Z,15nm,1.2s						
MTN	Manton Dam	27.77	208	P	P	12 27 18.1	-0.1
MTN				IAmb	IAmb	12 28 00.9	
	comp=Z,50nm,1.6s						
KKM	Kota Kinabalu	28.05	260	P	P	12 27 20.7	-0.2
KKM				IAmb	IAmb	12 27 25.5	
	comp=Z,32nm,1.1s						
TJN	Taejon	28.55	331	P	P	12 27 23.7	-1.3
TJN	Taejon	28.55	331	⇓iP	P	12 27 24.2	-0.8
JTM	Tenmabayashi	28.81	355		P	12 27 27.3	+0.1
SOEI	Soe	29.16	223	P	P	12 27 30.3	-0.5
SOEI				IAmb	IAmb	12 28 15.5	
	comp=Z,27nm,1.0s						
KSRS	Korea Array	29.18	333	P	P	12 27 29.6	-0.9
	comp=Z,3.5nm,0.7s,baz=122,slow=9.4,SNR=11						
	comp=Z,3.5nm,0.7s						
KSAR	Wonju Array Be	29.18	333	P	P	12 27 30.5	-0.1
KSAR	Wonju Array Be	29.18	333	P	P	12 27 30.5	-0.1
KAPI	Kappang	29.43	236	P	P	12 27 33.0	0.0
KAPI	Kappang	29.43	236	P	P	12 27 33.0	0.0
	comp=Z,9.0nm,0.3s,baz=73,slow=5.6,SNR=6.6						
	comp=Z,9.0nm,0.3s						
EDFI	Ende, Flores	30.26	228	P	P	12 27 37.9	-2.6
	comp=Z,9.0nm,1.3s						
NJ2	Nanjing	30.56	315	eP	P	12 27 43.4	+0.5
NJ2				pP	sP	12 27 52.6	+0.1
NJ2				sP	pwP	12 27 57.2	-0.9
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,280nm,5.0s						
KNRA	Kununurra	31.34	209	P	P	12 27 49.5	-0.4
KNRA				IAmb	IAmb	12 27 53.5	
	comp=Z,31nm,1.4s						
CTA	Charters Tower	31.94	176	LR	LR	12 41 12.2	
	comp=Z,283nm,18.7s,baz=349,slow=37						
ASAJ	Asahikawa	32.05	358	P	P	12 27 54.8	-1.0
	comp=Z,10nm,0.9s,baz=354,slow=25,SNR=1.8						
	comp=Z,10nm,0.9s						
SBUM	Sibu	32.88	256	P	P	12 28 03.4	-0.1
SBUM	Sibu	32.88	256	P	P	12 28 04.4	+1.0
	comp=Z,5.8nm,1.7s						
WB0	Warramunga Arr	32.93	197	P	P	12 28 03.4	-0.4
WB0				IAmb	IAmb	12 28 07.6	
	comp=Z,36nm,1.9s						
WRA	Warramunga Arr	33.11	197	P	P	12 28 04.8	-0.6
WRA	Warramunga Arr	33.11	197	P	P	12 28 04.3	-1.0
	comp=Z,3.1nm,0.8s,baz=20,slow=9.8,SNR=16						
WRA				ScP	ScP	12 34 33.1	+2.4
	comp=Z,1.0nm,0.7s,baz=2.6,slow=4.1,SNR=2.3						
	comp=Z,3.1nm,0.8s						
QIZ	Qiongzhong	33.60	286	P	P	12 28 10.1	+0.3
QIZ				S	S	12 33 30.3	-0.4
QIZ				LR	LR		
	comp=Z,320nm,9.6s						
QIZ				LR	LR		
	comp=Z,520nm,8.4s						
QIZ				LR	LR		
	comp=Z,390nm,13.3s						
USRK	Ussuriysk Ar.	33.73	344	P	P	12 28 09.3	-1.2
	comp=Z,3.1nm,0.7s,baz=154,slow=9.8,SNR=4.1						
USRK				LR	LR	12 40 46.2	
	comp=Z,274nm,19.1s,baz=173,slow=34						
	comp=Z,3.1nm,0.7s						
MDJ	Mudanjiang	34.80	342	P	P	12 28 21.4	+1.6
MDJ				pP	sP	12 28 30.6	+0.8
MDJ				sP	pwP	12 28 34.8	+0.5
MDJ				PP	PnPn	12 29 37.5	+1.0
MDJ				PcP	PcP	12 30 52.1	-0.6
MDJ				S	S	12 33 49.4	+0.9
MDJ				sS	sS	12 34 05.2	+4.4
MDJ				ScP	ScP	12 34 37.3	+1.1
MDJ				PcS	PcS	12 34 41.4	+2.1
MDJ				SS	SnSn	12 36 05.9	+2.3
MDJ				ScS	ScS	12 38 41.5	+2.1
MDJ				pmax	pmax		
	comp=Z,13nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,470nm,3.6s						
MDJ				LR	LR		
	comp=Z,530nm,15.8s						
MDJ				LR	LR		
	comp=Z,620nm,13.1s						
MDJ				LR	LR		
	comp=Z,640nm,19.9s						
YSS	Yuzh-Sakhalins	34.88	359	eP	P	12 28 18.4	-2.0
YSS				eS	S	12 33 43.4	-6.3
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YSS				MLR	MLR		
	comp=E,400nm,14.0s						
FITZ	Fitzroy Crossi	34.95	212	P	P	12 28 21.1	-0.2
CN2	Changchun	35.52	337	eP	P	12 28 25.2	-0.8
CN2				eS	S	12 33 54.7	-4.9
CN2				LR	LR		
	comp=E,490nm,11.0s						
CN2				LR	LR		
	comp=E,310nm,11.0s						
CN2				LR	LR		
	comp=E,440nm,13.0s						
LYN	LuoYang	36.41	313	⇓P	P	12 28 33.9	+0.2
LYN				S	S	12 34 10.9	-2.6
LYN				pmax	pmax		
	comp=E,43nm,0.8s						
LYN				pmax	pmax		
	comp=E,140nm,4.8s						
LYN				LR	LR		
	comp=E,410nm,5.5s						
LYN				LR	LR		
	comp=E,380nm,7.0s						
LYN				LR	LR		
	comp=E,460nm,10.0s						
HNS	HongShan	36.45	319	⇓P	P	12 28 34.3	+0.2
HNS				S	S	12 34 13.0	-1.1
HNS				pmax	pmax		
	comp=E,26nm,1.1s						
HNS				LR	LR		
	comp=E,600nm,16.7s						
HNS				LR	LR		
	comp=E,650nm,16.7s						
BNX	BinXian	36.49	340	⇓P	P	12 28 34.0	-0.3
BNX				pmax	pmax		
	comp=E,35nm,1.2s						
BNX				pmax	pmax		
	comp=E,300nm,7.5s						
AS31	Alice Springs	36.77	196	P	P	12 28 37.5	+0.6
ASAR	Alice Springs	36.77	196	P	P	12 28 37.0	0.0
ASAR	Alice Springs	36.77	196	P	P	12 28 37.2	+0.3
	comp=E,1.2nm,0.6s,baz=16,slow=16,SNR=16						
ASAR				ScP	ScP	12 34 47.6	+3.8
	comp=E,0.7nm,0.8s,baz=0.1,slow=4.7,SNR=2.5						
ASAR				LR	LR	12 43 48.4	
	comp=E,483nm,20.9s,baz=8.0,slow=36						
	comp=E,1.2nm,0.6s						
ENH	Enshi	36.77	305	P	P	12 28 36.5	-0.5
BJT	Baijiatuau	37.19	324	P	P	12 28 39.4	-1.0
BJT	Baijiatuau	37.19	324	P	P	12 28 39.4	-1.0
BJT				pmax	pmax		
	comp=Z,17nm,0.7s						
BJI	Beijing	37.20	324	P	P	12 28 40.0	-0.4
BJI				pmax	pmax		
	comp=Z,12nm,0.7s						
EIDS	Eidsvold	37.76	169	P	P	12 28 43.1	-2.1
GYA	Guiyang	37.92	298	P	P	12 28 48.7	+1.8
GYA				pmax	pmax		
	comp=Z,12nm,0.6s						
GYA				pmax	pmax		
	comp=Z,370nm,6.0s						
KLR	Kul'dur	38.51	347	deP	P	12 28 49.9	-1.4
KLR				pmax	pmax		
	comp=Z,12nm,0.9s						
KLR	Kul'dur	38.51	347	P	P	12 28 50.5	-0.8
	comp=Z,6.9nm,0.8s,baz=144,slow=9.0,SNR=10						
KLR				LR	LR	12 45 07.7	
	comp=Z,348nm,18.1s,baz=186,slow=37						
	comp=Z,6.9nm,0.8s						
XAN	Xi'an	38.75	310	⇑P	P	12 28 52.4	-1.3
XAN				sP	pwP	12 29 10.4	+1.4
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				LR	LR		
	comp=Z,500nm,16.5s						
XAN				LR	LR		
	comp=Z,850nm,22.0s						
XLT	XiLinHaoTe	39.87	328	⇓iP	P	12 29 02.9	0.0
XLT				sP	pP	12 29 10.1	-0.1
XLT				pmax	pmax		
	comp=Z,25nm,0.7s						
XLT				pmax	pmax		
	comp=Z,330nm,5.7s						
XLT				LR	LR		
	comp=Z,450nm,15.7s						
XLT				LR	LR		
	comp=Z,610nm,20.9s						
DZM	Mont Dzumac	40.37	147	LR	LR	12 42 24.2	
	comp=Z,188nm,21.6s,baz=244,slow=31						
HHC	Hu-ho-hao-te	40.46	321	eP	P	12 29 09.6	+1.7
HHC				pP	sP	12 29 19.1	+1.4
HHC				eS	S	12 35 19.4	+4.6
HHC				sS	sS	12 35 29.8	+2.3
HHC				pmax	pmax		
	comp=Z,27nm,0.5s						
HHC				pmax	pmax		
	comp=Z,410nm,6.0s						
HHC				LR	LR		
	comp=Z,1μm,15.7s						
HHC				LR	LR		
	comp=Z,780nm,18.6s						
HHC				LR	LR		
	comp=Z,1μm,18.4s						
HEH	HeiHe	40.53	344	eP	P	12 29 07.4	-0.7
HEH				sP	sP	12 29 19.8	+1.6
HEH				S	S	12 35 12.6	-2.7
HEH				sS	sS	12 35 26.1	-1.7
HEH				pmax	pmax		
	comp=Z,31nm,1.0s						
HEH				pmax	pmax		
	comp=Z,200nm,3.7s						
HEH				LR	LR		
	comp=Z,470nm,15.6s						
HEH				LR	LR		
	comp=Z,330nm,17.0s						
HEH				LR	LR		
	comp=Z,570nm,19.3s						
KMI	Kunming	41.07	295	⇓P	P	12 29 14.9	+1.6
KMI				pP	sP	12 29 23.3	+0.3
KMI				pmax	pmax		
	comp=Z,9.0nm,1.5s						
KMI				LR	LR		
	comp=Z,160nm,14.0s						
KMI				LR	LR		
	comp=Z,420nm,15.2s						
KMI				LR	LR		
	comp=Z,360nm,16.3s						
BTO	Baotou	41.28	320	eP	P	12 29 16.1	+1.5
BTO				pP	pP	12 29 20.7	-0.9
BTO				sP	sP	12 29 23.3	-1.2
BTO				PP	PnPn	12 30 56.3	+1.4
BTO				S	S	12 35 32.4	+5.4
BTO				SS	SS	12 38 28.2	-2.9
BTO				pmax	pmax		
	comp=Z,35nm,0.8s						
BTO				pmax	pmax		
	comp=Z,730nm,4.5s						
BTO				LR	LR		
	comp=Z,440nm,9.2s						
BTO				LR	LR		
	comp=Z,1μm,10.6s						
BTO				LR	LR		
	comp=Z,500nm,5.5s						
CD2	Chengdu	41.63	303	P	P	12 29 17.8	+0.2
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
PZH	PanZhiHua	42.22	296	P	P	12 29 23.7	+1.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
PETK	Petropavlovsk-	42.47	12	P	P	12 29 23.8	-0.2
	comp=Z,4.2nm,1.0s,baz=126,slow=8.7,SNR=2.8						
	comp=Z,4.2nm,1.0s						
PET	Petropavlovsk	42.59	13	eP	P	12 29 33.5	+8.5
PET				eS	S	12 35 51.3	+5.5
KULM	Kulim	43.32	265	P	P	12 29 32.1	+0.6
LZH	Lanzhou	43.39	311	⇓P	P	12 29 32.7	+0.7
LZH				sP	pwP	12 29 48.7	+1.4
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
STKA	Stephens Creek	43.66	183	P	P	12 29 33.7	-0.2
	comp=Z,1.0nm,0.5s,baz=345,slow=11,SNR=3.7						
STKA				LR	LR	12 49 04.7	
	comp=Z,198nm,18.7s,baz=17,slow=38						
	comp=Z,1.0nm,0.5s						
SRIT	Nakonsritamara	43.77	270	P	P	12 29 36.6	+1.5
CM31	Chiang Mai Arr	43.86	284	P	P	12 29 36.4	+0.6
CMAR	Chiang Mai Arr	43.86	284	P	P	12 29 36.7	+0.9
CMAR	Chiang Mai Arr	43.86	284	ceP	P	12 29 37.0	+1.2
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR	Chiang Mai Arr	43.86	284	P	P	12 29 35.9	+0.1
	comp=Z,4.8nm,0.8s,baz=86,slow=6.1,SNR=25						
	comp=Z,4.8nm,0.8s						
TNCH	TengChong	44.83	293	P	P	12 29 44.3	+0.6
TNCH				pP	pP	12 29 47.2	-3.5
TNCH				pmax	pmax		
	comp=Z,26nm,1.0s						
BBOO	Buckleboo	45.17	189	P	P	12 29 45.6	-0.3
PSI	Prapat	45.55	262	P	P	12 29 50.0	+0.5
PSI				pmax	pmax		
	comp=Z,15nm,1.3s						
RPSI	Rantau Prapat	45.58	262	P	P	12 29 50.0	+0.4
ULN	Ulaanbaatar	47.23	327	P	P	12 30 01.8	-0.5
ULN				IAmb	IAmb	12 30 03.5	
	comp=Z,14nm,1.0s						
ULN	Ulaanbaatar	47.23	327	d iP	P	12 30 02.6	+0.3
ULN				pmax	pmax		
	comp=Z,20nm,1.3s						
ULN	Ulaanbaatar	47.23	327	P	P	12 30 01.6	-0.7
	comp=Z,58nm,1.1s						
SONM	Songino Array	47.57	326	P	P	12 30 04.4	-0.5
SONM				IAmb	IAmb	12 30 07.1	
	comp=Z,22nm,1.3s						
SONM	Songino Array	47.57	326	P	P	12 30 04.9	+0.1
	comp=Z,3.6nm,0.5s,baz=145,slow=7.6,SNR=26						
SONM				PcP	PcP	12 31 35.3	+0.9
	comp=Z,3.4nm,0.8s,baz=134,slow=3.5,SNR=5.3						
	comp=Z,3.6nm,0.5s						
GTA	Gaotai	47.62	313	P	P	12 30 05.5	+0.1
GTA				sP	pwP	12 30 19.6	-1.1
GTA				PcP	PcP	12 31 36.1	+1.3
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				LR	LR		
	comp=Z,200nm,16.4s						
GTA				LR	LR		
	comp=Z,320nm,20.0s						
GTA				LR	LR		
	comp=Z,320nm,18.2s						
MORW	Morawa	48.93	213	P	P	12 30 15.4	+0.1
MORW				IAmb	IAmb	12 30 19.0	
	comp=Z,26nm,1.1s						
GOMU	GeErMu	50.31	307	P	P	12 30 27.4	+1.0
GOMU				pP	pwP	12 30 40.4	-1.3
GOMU				PcP	PcP	12 31 46.6	+1.6
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZAK	Zakamensk	50.71	327	eP	P	12 30 27.8	-1.0
ZAK				e		12 31 38.8	
ZAK				pmax	pmax		
	comp=Z,19nm,1.2s						

ZAK pmax pmax
comp=Z,6.0nm,1.0s
YAK Yakutsk 51.04 351 P **P** **12 30 29.9 -1.0**
YAK IAmb IAmb 12 30 38.6
comp=Z,21nm,0.7s
YAK Yakutsk 51.04 351 *eP* **P** **12 30 29.9 -1.0**
YAK *e**PP **pP** **12 30 37.8 -0.5**
YAK *e* 12 31 46.8
YAK *e* 12 32 23.8
YAK *eS* **S** **12 37 45.7 -0.4**
YAK *e**SS **sS** **12 38 01.2 +2.5**
YAK *e* 12 40 16.2
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,195nm,4.8s
YAK pmax pmax
comp=N,161nm,4.7s
YAK pmax pmax
comp=E,120nm,4.9s
YAK smax smax
comp=E,100nm,4.0s
YAK smax smax
comp=N,63nm,3.7s
YAK MLR MLR
comp=Z,440nm,20.0s
YAK MLR MLR
comp=E,104nm,18.0s
YAK MLR MLR
comp=N,205nm,18.0s
YAK Yakutsk 51.04 351 P **P** **12 30 29.6 -1.3**
comp=N,0.8nm,0.7s,baz=355,slow=2.7,SNR=6.2
BOD Bodaibo 51.12 340 *eP* **P** **12 30 30.9 -0.7**
BOD pmax pmax
comp=Z,7.0nm,1.6s
SEY Seymchan 51.23 5 *eP* **P** **12 30 32.4 0.0**
SEY pmax pmax
comp=Z,9.0nm,0.8s
NWAO Narrogin (SRO) 51.45 209 LR LR 12 53 35.6
comp=Z,288nm,19.7s,baz=180,slow=38
MOY Mondy 52.63 328 *eP* **P** **12 30 43.2 +0.1**
MOY pmax pmax
comp=Z,30nm,2.8s
RAO Raoul Island 55.05 139 LR LR 12 51 58.7
comp=Z,260nm,19.9s,baz=51,slow=33
P08K Saint George I 57.00 29 P **P** **12 31 14.1 -0.5**
baz=238
UNV Unalaska Valle 57.14 32 P **P** **12 31 14.6 -0.9**
baz=242
WMQ Urumqi 57.64 315 *eP* **P** **12 31 19.4 0.0**
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ LR LR
comp=Z,160nm,16.1s
BILL Bilibino 57.88 10 P **P** **12 31 19.6 -1.0**
BILL IAmb IAmb 12 31 22.1
comp=Z,15nm,0.9s
URZ Urewera 58.80 150 LR LR 12 55 27.7
comp=Z,68nm,18.1s,baz=234,slow=35
FALS False Pass 59.20 32 P **P** **12 31 29.6 -0.4**
baz=245
DGZ Jazzator, Alta 59.54 321 *c i*P **P** **12 31 33.3 +0.6**
DGZ pmax pmax
comp=Z,27nm,0.8s
GAMB Gambell 60.27 21 P **P** **12 31 37.2 0.0**
baz=232
TIXI Tiksi 60.35 355 *eP* **P** **12 31 38.8 +1.2**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
RPZ Rata Peaks 60.67 158 LR LR 12 55 06.9
comp=Z,176nm,20.3s,baz=310,slow=33
M13K Dall Lake 61.73 27 P **P** **12 31 47.8 +0.7**
baz=242
S14K Fog Glacier 61.79 32 P **P** **12 31 47.9 +0.1**
baz=248
MK31 Makanchi Array 62.06 317 P **P** **12 31 50.2 +0.5**
MK31 Makanchi Array 62.06 317 *c i*P **P** **12 31 49.9 +0.2**
MKAR Makanchi Array 62.06 317 P **P** **12 31 49.8 +0.1**
MKAR Makanchi Array 62.06 317 P **P** **12 31 49.8 +0.1**
MKAR Makanchi Array 62.06 317 P **P** **12 31 50.2 +0.5**
comp=Z,7.8nm,0.8s,baz=94,slow=8.4,SNR=72
comp=Z,7.8nm,0.8s
O14K Tigyukauivet M 62.15 28 P **P** **12 31 50.5 +0.5**
baz=245
N14K Kuskokwak Cree 62.25 28 P **P** **12 31 50.8 +0.2**
baz=244
MAKZ Makanchi 62.28 317 P **P** **12 31 51.5 +0.4**
MAKZ IAmb IAmb 12 31 53.8
comp=Z,16nm,0.8s
MAKZ Makanchi 62.28 317 P **P** **12 31 51.5 +0.4**
MAKZ pmax pmax
comp=Z,16nm,0.8s
ZAA0 Zalesovo Array 62.44 325 P **P** **12 31 51.8 -0.3**
ZAA0 IAmb IAmb 12 31 52.7
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 62.44 325 P **P** **12 31 51.4 -0.7**
ZALV Zalesovo Beam 62.44 325 P **P** **12 31 51.4 -0.7**
ZALV Zalesovo Beam 62.44 325 P **P** **12 31 52.0 -0.1**
comp=Z,7.0nm,0.6s,baz=106,slow=6.6,SNR=37
ZALV PcP **PcP** **12 32 31.0 -0.2**
comp=Z,5.5nm,0.6s,baz=131,slow=4.1,SNR=11
comp=Z,7.0nm,0.6s
L14K Kuka Creek 62.46 26 P **P** **12 31 52.8 +0.8**
baz=242
M14K Bethel 62.50 27 P **P** **12 31 52.6 +0.3**
M14K Bethel 62.50 27 P **P** **12 31 53.0 +0.8**
baz=243,SNR=6.0
TNA Tin City 62.65 20 P **P** **12 31 54.1 +0.9**
baz=235
J14K Nanvaranak Lak 62.77 24 P **P** **12 31 54.6 +0.6**
baz=241
O15K Ungalikthiuk R 62.79 29 P **P** **12 31 54.5 +0.2**
baz=246
ANM Nome 63.00 22 P **P** **12 31 55.4 -0.2**
ANM IAmb IAmb 12 31 56.7
comp=Z,9.4nm,0.8s
ANM Nome 63.00 22 P **P** **12 31 55.9 +0.4**
baz=238
ANM Nome 63.00 22 P **P** **12 31 55.4 -0.2**
ANM pmax pmax
comp=Z,9.0nm,0.8s
M15K Kasigluk River 63.03 27 P **P** **12 31 56.0 +0.1**
baz=244
N15K Kwethluk River 63.08 28 P **P** **12 31 57.0 +0.8**
baz=245
L15K Ungalak Mounta 63.12 26 P **P** **12 31 56.3 -0.2**
baz=243
F14K Arctic Creek 63.15 21 P **P** **12 31 57.6 +1.1**
baz=237
HYB Hyderabad 63.28 284 *eP* **P** **12 31 59.0 +0.7**
SHLS Shalkode 63.36 312 *eP* **P** **12 31 56.9 -1.7**
baz=312
SHLS Shalkode 63.36 312 *eP* **P** **12 31 56.8 -1.7**
K15K Wolf Creek Mou 63.38 25 IAmb IAmb 12 31 59.5
comp=Z,20nm,1.0s
K15K Wolf Creek Mou 63.38 25 P **P** **12 31 58.7 +0.5**
baz=243
P16K Nushagak River 63.61 29 P **P** **12 31 59.3 -0.4**
baz=248
UZB Uzynbulak 63.67 312 *eP* **P** **12 32 01.1 +0.4**
comp=Z,9.2nm,1.0s,baz=312
UZB Uzynbulak 63.67 312 *eP* **P** **12 32 01.0 +0.4**
UZB pmax pmax
comp=Z,9.0nm,1.0s
CHIR Chirikof Islan 63.70 33 P **P** **12 32 00.2 -0.1**
baz=252
G15K Niukluk 63.71 22 P **P** **12 32 00.6 +0.4**
baz=239
O16K Kokwok River B 63.77 29 P **P** **12 32 01.0 +0.2**
baz=248
N16K Nishlik Lake 63.81 28 P **P** **12 32 01.5 +0.5**
baz=246
F15K North Star Dit 63.86 21 IAmb IAmb 12 33 09.9
comp=Z,8.5nm,0.8s
F15K North Star Dit 63.86 21 P **P** **12 32 02.0 +0.7**
baz=238
M16K Timber Creek 63.94 27 IAmb IAmb 12 32 03.1
comp=Z,19nm,1.1s
M16K Timber Creek 63.94 27 P **P** **12 32 02.4 +0.6**
baz=246
L16K Owhat River 64.00 26 IAmb IAmb 12 32 03.1
comp=Z,10nm,0.9s
L16K Owhat River 64.00 26 P **P** **12 32 02.6 +0.4**
baz=245,SNR=5.3
SATY Saty 64.11 312 *eP* **P** **12 32 04.1 +0.5**
comp=Z,11nm,1.2s,baz=312
SATY Saty 64.11 312 *eP* **P** **12 32 04.0 +0.5**
SATY pmax pmax
comp=Z,11nm,1.2s
Q16K King Salmon 64.12 30 P **P** **12 32 02.7 -0.4**
baz=249
SEM Semipalatinsk 64.19 320 *eP* **P** **12 32 03.2 -0.8**
baz=320
SEM Semipalatinsk 64.19 320 *eP* **P** **12 32 03.1 -0.8**
H16K Elim 64.20 23 P **P** **12 32 04.0 +0.5**
baz=241
J16K Anvik River 64.21 24 IAmb IAmb 12 32 05.7
comp=Z,16nm,1.0s
J16K Anvik River 64.21 24 P **P** **12 32 04.2 +0.6**
baz=243
O17K Koliganek Bris 64.31 29 P **P** **12 32 05.0 +0.7**
baz=248,SNR=5.8
RAR Rarotonga 64.32 121 LR LR 12 55 16.5
comp=Z,52nm,21.2s,baz=337,slow=32
TDK Taldyqorghan 64.39 314 *eP* **P** **12 32 05.8 +0.6**
baz=314
TDK Taldyqorghan 64.39 314 *eP* **P** **12 32 05.8 +0.6**
P17K Kvichak River 64.41 29 P **P** **12 32 05.5 +0.5**
baz=249
I17K Unalakleet 64.45 24 P **P** **12 32 05.5 +0.4**
I17K Unalakleet 64.45 24 P **P** **12 32 06.2 +1.1**
baz=243,SNR=11
G16K Koyuk River 64.53 22 P **P** **12 32 06.4 +0.8**
baz=241
N17K Nushagak Hills 64.55 28 IAmb IAmb 12 32 07.6
comp=Z,18nm,1.0s
N17K Nushagak Hills 64.55 28 P **P** **12 32 06.6 +0.8**
baz=248
L17K Donlin 64.68 26 P **P** **12 32 07.9 +1.1**
baz=246
ARXS Arharly 64.69 313 *eP* **P** **12 32 07.2 0.0**
M17K Holitna River 64.77 27 IAmb IAmb 12 32 09.1
comp=Z,20nm,0.9s
M17K Holitna River 64.77 27 P **P** **12 32 08.5 +1.2**
baz=247
K17K Iditarod 64.92 25 P **P** **12 32 09.5 +1.3**
baz=246
C16K Lisburne Hills 65.02 19 IAmb IAmb 12 32 09.7
comp=Z,14nm,0.9s
C16K Lisburne Hills 65.02 19 P **P** **12 32 09.4 +0.7**
baz=237
MDOK Medeo 65.11 312 *eP* **P** **12 32 10.5 +0.4**
baz=312
MDOK Medeo 65.11 312 *eP* **P** **12 32 10.5 +0.4**
TNSS Tian-Shan 65.17 312 *eP* **P** **12 32 11.0 +0.2**
baz=312
TNSS Tian-Shan 65.17 312 *eP* **P** **12 32 10.9 +0.2**
N18K Kilae Creek 65.20 28 P **P** **12 32 11.0 +0.8**
baz=249
G17K Kiwalik Mounta 65.20 22 P **P** **12 32 10.9 +0.9**
baz=242
AAA Alma-Ata 65.21 312 *eP* **P** **12 32 11.3 +0.6**
baz=312
AAA Alma-Ata 65.21 312 *eP* **P** **12 32 11.2 +0.6**
H17K Granite Mounta 65.22 23 P **P** **12 32 11.3 +1.1**
baz=243
O18K Koktuh Hills 65.23 29 P **P** **12 32 11.3 +0.9**
baz=250
CHKK Chushkaly 65.24 313 *eP* **P** **12 32 09.9 -0.8**
baz=313
CHKK Chushkaly 65.24 313 *eP* **P** **12 32 09.9 -0.8**
KURK Kurchatov 65.27 320 P **P** **12 32 09.9 -0.9**
KURK Kurchatov 65.27 320 *c i*P **P** **12 32 10.3 -0.4**
KURK pmax pmax
comp=Z,80nm,1.3s
KURBB Kurchatov Arra 65.31 320 P **P** **12 32 11.2 +0.3**
comp=Z,27nm,0.9s,baz=103,slow=6.7,SNR=173
comp=Z,27nm,0.9s
OHAK Old Harbor 65.36 32 P **P** **12 32 11.9 +0.8**
baz=253
L18K Granite Mounta 65.41 26 IAmb IAmb 12 32 13.3
comp=Z,18nm,1.1s
L18K Granite Mounta 65.41 26 P **P** **12 32 12.2 +0.8**
baz=248
F17K Baldwin Pennin 65.43 21 IAmb IAmb 12 32 12.7
comp=Z,16nm,0.8s
F17K Baldwin Pennin 65.43 21 P **P** **12 32 12.4 +0.9**
baz=241
D17K Noatak River 65.43 20 P **P** **12 32 12.4 +1.0**
baz=239
SVW2 Sparrevohn 65.49 28 P **P** **12 32 11.3 -0.7**
SVW2 IAmb IAmb 12 32 13.6
comp=Z,17nm,1.0s
M18K Stony River 65.52 27 P **P** **12 32 12.5 +0.3**
baz=249
E17K Hotham Inlet 65.54 20 P **P** **12 32 12.8 +0.6**
baz=241,SNR=15
KSH Kashi 65.55 308 P **P** **12 32 16.2 +3.3**
KSH sP pwP 12 32 29.3 +1.0
KSH PcP **PcP** **12 32 48.5 +4.0**
KSH pmax pmax
comp=Z,11nm,0.9s
ULHL Ulahol 65.60 311 P **P** **12 32 14.3 +0.9**
SNR=5.7
RDOG Red Dog Mine 65.67 19 IAmb IAmb 12 32 14.4
comp=Z,16nm,0.8s
RDOG Red Dog Mine 65.67 19 P **P** **12 32 14.0 +0.9**
baz=239
KUU Kurty 65.71 313 *eP* **P** **12 32 13.8 0.0**
baz=313
KUU Kurty 65.71 313 *eP* **P** **12 32 13.8 0.0**
O19K Port Alsworth 65.77 29 P **P** **12 32 14.6 +0.9**
baz=251
C17K DeLong Mountai 65.81 19 P **P** **12 32 14.7 +0.8**
baz=239
J18K Innoko River 65.88 25 P **P** **12 32 15.2 +0.8**
baz=247
KDAK Kodiak Island 65.88 32 P **P** **12 32 14.9 +0.3**
baz=253
N19K Bonanza Creek 65.89 28 P **P** **12 32 15.3 +0.6**
baz=250
H18K Honhosa River 65.91 23 P **P** **12 32 15.0 +0.4**
baz=245
TTA Tatalina 65.97 26 P **P** **12 32 14.8 -0.3**
TTA Tatalina 65.97 26 P **P** **12 32 16.0 +0.9**
baz=248
TTA Tatalina 65.97 26 P **P** **12 32 14.8 -0.3**
TTA pmax pmax
comp=Z,8.0nm,1.0s
P19K Oil Pt 66.11 30 P **P** **12 32 16.1 +0.1**
baz=252
G18K Tagagawik 66.12 22 IAmb IAmb 12 32 17.0
comp=Z,13nm,0.9s
G18K Tagagawik 66.12 22 P **P** **12 32 16.9 +0.9**
baz=244
E18K Tukpahlearik C 66.12 20 IAmb IAmb 12 32 17.5
comp=Z,12nm,0.8s
E18K Tukpahlearik C 66.12 20 P **P** **12 32 16.7 +0.8**
baz=242
TKM2 Tokmak 2 66.14 312 P **P** **12 32 17.0 +0.2**
SNR=7.9
TKM2 Tokmak 2 66.14 312 P **P** **12 32 15.9 -0.9**
L19K White Mountain 66.20 27 IAmb IAmb 12 32 18.6
comp=Z,20nm,1.1s
L19K White Mountain 66.20 27 P **P** **12 32 17.4 +0.8**
baz=250
Q20K Shuyak Island 66.21 31 P **P** **12 32 16.8 +0.1**
baz=253
KZA Kyzart 66.31 311 P **P** **12 32 19.6 +1.4**
SNR=17
GCSA Galena City Sc 66.32 24 P **P** **12 32 17.8 +0.6**
baz=246
C18K Utukok River 66.52 19 IAmb IAmb 12 32 19.5
comp=Z,10nm,0.9s
C18K Utukok River 66.52 19 P **P** **12 32 19.2 +0.6**
baz=241
J19K Poorman 66.53 25 IAmb IAmb 12 32 20.0
comp=Z,16nm,1.1s
J19K Poorman 66.53 25 P **P** **12 32 19.0 +0.3**
baz=248
O20K Slope Mountain 66.53 29 P **P** **12 32 19.3 +0.5**
baz=252
KBK Karagaybulak 66.59 311 P **P** **12 32 20.5 +0.9**
SNR=5.5
RSO Redoubt South 66.59 29 P **P** **12 32 17.8 -1.5**
B18K Kokolik River 66.69 18 P **P** **12 32 20.5 +0.9**
baz=240
L20K Farewell, AK 66.73 27 P **P** **12 32 20.5 +0.6**
baz=250
CHMS Chumysh 66.76 312 P **P** **12 32 21.1 +0.5**
SNR=8.1
H19K Roundabout Mou 66.80 23 IAmb IAmb 12 32 21.8
comp=Z,12nm,0.9s
H19K Roundabout Mou 66.80 23 P **P** **12 32 20.9 +0.6**
baz=247
G19K Purcell Mounta 66.81 22 P **P** **12 32 20.9 +0.5**
baz=246,SNR=26
F19K Shaleruckik Mo 66.85 21 P **P** **12 32 20.8 +0.2**
baz=245
M20K Styx River 66.86 27 IAmb IAmb 12 32 22.8
comp=Z,18nm,1.1s
M20K Styx River 66.86 27 P **P** **12 32 22.0 +1.1**
baz=251
UCH Uchtor 66.87 311 P **P** **12 32 23.2 +1.4**
SNR=14
HOM Homer 66.89 30 P **P** **12 32 21.8 +0.9**
baz=254
SGDS Sogindy 66.89 312 *eP* **P** **12 32 20.9 -0.6**
comp=Z,17nm,1.8s,baz=312
SGDS Sogindy 66.89 312 *eP* **P** **12 32 20.8 -0.6**
SGDS pmax pmax
comp=Z,17nm,1.8s
AAK Ala-Archa 66.92 311 P **P** **12 32 22.4 +0.7**
SNR=6.9
AAK Ala-Archa 66.92 311 P **P** **12 32 22.4 +0.7**
AAK Ala-Archa 66.92 311 *d i*P **P** **12 32 22.3 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.3s
K20K Telida 66.95 26 IAmb IAmb 12 32 23.2
comp=Z,16nm,0.9s
K20K Telida 66.95 26 P **P** **12 32 22.5 +1.2**
baz=250
N20K Mount Spurr 67.07 28 P **P** **12 32 23.5 +1.3**
baz=252
J20K Nowinta River 67.20 25 IAmb IAmb 12 32 24.8
comp=Z,18nm,1.0s
J20K Nowinta River 67.20 25 P **P** **12 32 24.0 +1.1**
baz=249
C19K Lookout Ridge 67.25 19 P **P** **12 32 24.4 +1.2**
baz=242
I20K Naaghedeneel 67.29 24 P **P** **12 32 24.3 +1.0**
baz=249
E19K Redstone River 67.30 21 IAmb IAmb 12 32 25.0
comp=Z,13nm,0.9s
E19K Redstone River 67.30 21 P **P** **12 32 24.5 +1.0**
baz=245
A19K Wainwright 67.33 18 P **P** **12 32 25.1 +1.5**
baz=240
BRSE Bradley Lake S 67.35 30 P **P** **12 32 24.3 +0.4**
baz=254
NRIK Noril'sk 67.37 341 IAmb IAmb 12 32 24.6
comp=Z,23nm,1.1s
NRIK Noril'sk 67.37 341 *d i*P **P** **12 32 23.8 -0.1**
NRIK pmax pmax
comp=Z,26nm,1.1s
NRIK Noril'sk 67.37 341 P **P** **12 32 23.3 -0.6**
comp=Z,12nm,0.9s,baz=110,slow=7.8,SNR=16
comp=Z,12nm,0.9s
H20K Anotleneega Mo 67.39 23 P **P** **12 32 24.9 +0.8**
baz=248,SNR=7.6
EKS2 Erkin-Say 67.45 311 P **P** **12 32 25.9 +0.8**
SNR=6.2
D19K Kuna River 67.45 20 IAmb IAmb 12 32 25.7
comp=Z,13nm,0.8s
D19K Kuna River 67.45 20 P **P** **12 32 25.1 +0.6**
baz=244,SNR=18
BTLS Baital 67.47 314 *eP* **P** **12 32 24.9 0.0**
comp=Z,16nm,1.7s,baz=314
BTLS Baital 67.47 314 *eP* **P** **12 32 24.9 0.0**
BTLS pmax pmax
comp=Z,16nm,1.7s
AML Almayashu 67.47 311 P **P** **12 32 26.8 +1.3**
SNR=13
NIL Nilore 67.49 302 P **P** **12 32 25.6 +0.3**
NIL Nilore 67.49 302 P **P** **12 32 25.6 +0.3**
NIL pmax pmax
comp=Z,56nm,0.9s
PPLA Purkeypile 67.60 26 P **P** **12 32 25.8 +0.2**
baz=252
SKT Skwentna 67.61 27 IAmb IAmb 12 32 25.9
comp=Z,15nm,1.2s
SKT Skwentna 67.61 27 P **P** **12 32 25.7 +0.1**
baz=253
F20K Avaraart Lake 67.67 22 P **P** **12 32 26.6 +0.9**
baz=247
CAST Castle Rocks 67.81 26 P **P** **12 32 27.1 +0.3**
CAST IAmb IAmb 12 32 28.0
comp=Z,19nm,1.0s
CAST Castle Rocks 67.81 26 P **P** **12 32 27.2 +0.5**
baz=252,SNR=13
SUA Susitna One 67.82 28 P **P** **12 32 27.3 +0.3**
baz=254
CHUM Lake Minchumin 67.86 25 P **P** **12 32 27.8 +0.8**
baz=251
E20K Nigu River 68.00 20 P **P** **12 32 28.8 +0.9**
baz=246,SNR=19
O22K Cooper Landing 68.03 29 P **P** **12 32 28.4 +0.2**
baz=255
D20K Etivluk River 68.05 20 P **P** **12 32 29.0 +0.8**
baz=245
M22K Willow 68.19 28 P **P** **12 32 29.2 +0.1**
baz=254
RC01 Rabbit Creek A 68.19 29 IAmb IAmb 12 32 29.8
comp=Z,16nm,0.8s
RC01 Rabbit Creek A 68.19 29 P **P** **12 32 28.8 -0.4**
baz=255
H21K Melozitna Rive 68.25 23 IAmb IAmb 12 32 31.1
comp=Z,12nm,1.0s
H21K Melozitna Rive 68.25 23 P **P** **12 32 30.0 +0.5**
baz=250
G21K Allakaket 68.29 22 P **P** **12 32 30.4 +0.7**
baz=249
CUT Chulitna 68.30 27 P **P** **12 32 30.3 +0.5**
baz=254
I21K Tanana 68.42 24 IAmb IAmb 12 32 32.2
comp=Z,17nm,1.1s
I21K Tanana 68.42 24 P **P** **12 32 31.5 +1.0**
baz=251
B20K Meade River 68.42 18 P **P** **12 32 31.9 +1.5**
baz=244
BPAW Bear Paw Mtn. 68.49 25 P **P** **12 32 31.4 +0.3**
BPAW IAmb IAmb 12 32 32.1
comp=Z,17nm,1.0s
BPAW Bear Paw Mtn. 68.49 25 P **P** **12 32 31.5 +0.5**
baz=252,SNR=6.9
F21K Alatna River 68.55 22 P **P** **12 32 31.8 +0.4**
baz=249
TRF Thorofare Moun 68.59 26 IAmb IAmb 12 32 33.9
comp=Z,16nm,1.1s
TRF Thorofare Moun 68.59 26 P **P** **12 32 31.6 -0.3**
baz=253
PMR Palmer 68.60 28 P **P** **12 32 31.6 -0.1**
baz=255
C21K Knifeblade Rid 68.83 20 P **P** **12 32 33.5 +0.5**
baz=247,SNR=16
KNK Knik Glacier 68.87 28 P **P** **12 32 33.3 -0.2**
baz=256
MLY Manley 68.87 24 IAmb IAmb 12 32 34.8
comp=Z,15nm,0.9s
MLY Manley 68.87 24 P **P** **12 32 34.0 +0.6**
baz=252,SNR=14
H22K Ishtalitna Cre 68.89 23 P **P** **12 32 34.1 +0.6**
baz=251
BRZS Berezniki 68.91 319 *eP* **P** **12 32 33.8 -0.1**
baz=319
BRZS Berezniki 68.91 319 *eP* **P** **12 32 33.8 -0.1**
SML Sawmill 69.02 28 P **P** **12 32 34.6 +0.1**
baz=256
B21K Ikpikpuk River 69.07 19 P **P** **12 32 35.4 +0.9**
baz=247
A21K Barrow 69.16 17 P **P** **12 32 35.9 +0.9**
baz=244,SNR=31
G22K Bettles 69.17 22 P **P** **12 32 35.5 +0.4**
baz=251
WAT1 Susitna Watana 69.18 27 P **P** **12 32 35.6 +0.2**
baz=255
MCK McKinley 69.25 26 P **P** **12 32 36.0 +0.2**
baz=254
DZA Taraz 69.26 311 *eP* **P** **12 32 36.3 0.0**
baz=311
DZA Taraz 69.26 311 *eP* **P** **12 32 36.3 0.0**
M23K Glacier View 69.30 28 P **P** **12 32 36.6 +0.5**
baz=256
D22K Ayikyak River 69.43 20 P **P** **12 32 37.9 +1.1**
baz=249
NEA2 Nenana 69.43 25 P **P** **12 32 38.0 +1.2**
baz=254
I23K Minto, Yukon-K 69.46 24 IAmb IAmb 12 32 38.4
comp=Z,23nm,1.1s
I23K Minto, Yukon-K 69.46 24 P **P** **12 32 37.9 +0.9**

baz=254,SNR=8.4
E22K Anaktuvuk Pass 69.47 21 lAmb lAmb 12 32 38.8
comp=Z,17nm,0.9s
E22K Anaktuvuk Pass 69.47 21 P **P** **12 32 38.1 +1.1**
baz=250
WAT6 Susitna Watana 69.48 27 P **P** **12 32 37.7 +0.3**
baz=256
SCM Sheep Creek Mo 69.49 28 P **P** **12 32 38.5 +1.1**
baz=257,SNR=5.6
A22K Sinclair Lake 69.51 18 P **P** **12 32 38.9 +1.7**
baz=246
G23K Bananza Creek 69.66 23 lAmb lAmb 12 32 40.2
comp=Z,13nm,0.9s
G23K Bananza Creek 69.66 23 P **P** **12 32 39.2 +0.9**
baz=252
B22K Teshekpuk Lake 69.73 19 P **P** **12 32 39.4 +0.9**
baz=248,SNR=46
COLD Coldfoot 69.75 22 P **P** **12 32 39.9 +1.2**
baz=252,SNR=20
DHY Denali Highway 69.76 27 P **P** **12 32 39.4 +0.3**
baz=256
KK31 Karatay Array 69.87 312 P **P** **12 32 40.4 +0.4**
KK31 lAmb lAmb 12 32 41.4
comp=Z,18nm,0.9s
KK31 Karatay Array 69.87 312 P **P** **12 32 40.4 +0.4**
KK31 pmax pmax
comp=Z,18nm,1.0s
KKAR Karatay Array 69.87 312 P **P** **12 32 40.2 +0.2**
KKAR Karatay Array 69.87 312 P **P** **12 32 40.2 +0.2**
MDM Murphy Dome 69.87 25 P **P** **12 32 39.2 -0.4**
EYAK Cordova Ski Ar 69.96 30 P **P** **12 32 40.5 +0.3**
baz=259
CCB Clear Creek Bu 69.97 25 P **P** **12 32 39.7 -0.4**
CCB lAmb lAmb 12 32 40.3
comp=Z,23nm,1.3s
COLA College 70.01 25 P **P** **12 32 40.7 +0.4**
baz=255
KLU Klutina 70.07 29 P **P** **12 32 41.4 +0.4**
baz=258
M24K Tolsona, Glenn 70.08 28 P **P** **12 32 41.7 +0.7**
baz=258
D23K Nanushuk River 70.14 20 P **P** **12 32 42.3 +1.1**
baz=251
E23K Chandalar 70.22 21 P **P** **12 32 43.2 +1.5**
baz=252,SNR=41
POKR Poker Plat Res 70.24 25 lAmb lAmb 12 32 43.0
comp=Z,21nm,1.4s
POKR Poker Plat Res 70.24 25 P **P** **12 32 41.8 0.0**
baz=255
H24K Noodor Dome 70.25 24 lAmb lAmb 12 32 43.5
comp=Z,20nm,1.1s
H24K Noodor Dome 70.25 24 P **P** **12 32 42.8 +0.9**
baz=255
HDA Harding Lake 70.27 26 lAmb lAmb 12 32 43.6
comp=Z,13nm,1.0s
HDA Harding Lake 70.27 26 P **P** **12 32 42.1 +0.1**
baz=256,SNR=5.5
IL31 70.38 25 lAmb lAmb 12 32 42.4
comp=Z,17nm,1.1s
ILAR Eielson Array 70.38 25 P **P** **12 32 41.9 -0.8**
comp=Z,4.6nm,0.8s,baz=249,slow=5.6,SNR=48
comp=Z,4.6nm,0.8s
TOLK Toolik Lake Re 70.42 21 P **P** **12 32 43.8 +0.9**
baz=252,SNR=14
C23K Itkillik River 70.45 20 P **P** **12 32 44.0 +1.1**
baz=251
CHM Chimkent 70.52 311 *e*P **P** **12 32 44.6 +0.6**
baz=311
CHM Chimkent 70.52 311 *e*P **P** **12 32 44.5 +0.6**
PAX Paxson 70.59 27 P **P** **12 32 44.0 0.0**
baz=258
BMRM Bremner River 70.60 29 P **P** **12 32 44.2 +0.1**
baz=260
HARP HAARP 70.61 28 P **P** **12 32 45.0 +0.8**
baz=258
K24K Donnelly Dome 70.63 26 P **P** **12 32 44.3 +0.1**
baz=257
G24K Hadweenzic Riv 70.63 23 P **P** **12 32 44.6 +0.4**
baz=255,SNR=7.4
E24K Your Creek 70.63 22 P **P** **12 32 44.8 +0.6**
baz=253
BVA0 Borovoye Array 70.66 322 *i* P **P** **12 32 44.3 -0.3**
BVAR Borovoye Array 70.66 322 P **P** **12 32 45.1 +0.4**
comp=Z,32nm,0.6s,baz=103,slow=7.8,SNR=226
comp=Z,32nm,0.6s
F24K Squaw Lake 70.70 22 lAmb lAmb 12 32 46.8
comp=Z,20nm,1.1s
F24K Squaw Lake 70.70 22 P **P** **12 32 45.2 +0.6**
baz=254
N25K Chitina, Valde 70.72 29 P **P** **12 32 45.9 +1.0**
baz=259
BRVK Borovoye 70.73 322 P **P** **12 32 44.9 -0.1**
BRVK Borovoye 70.73 322 *d i* P **P** **12 32 44.4 -0.6**
BRVK pmax pmax
comp=Z,27nm,0.6s
D24K Happy Valley 70.83 20 P **P** **12 32 46.1 +0.8**
baz=253
SIMJ Simiganj 70.93 307 P **P** **12 32 47.1 +0.4**
KBL Kabul 70.97 303 P **P** **12 32 46.4 -0.7**
KBL Kabul 70.97 303 P **P** **12 32 46.4 -0.7**
KBL pmax pmax
comp=Z,30nm,1.2s
J25K Salcha River, 70.98 25 P **P** **12 32 46.2 -0.2**
baz=258
RIDG Independent Ri 71.02 26 lAmb lAmb 12 32 47.6
comp=Z,28nm,1.3s
RIDG Independent Ri 71.02 26 P **P** **12 32 46.8 +0.1**
baz=258,SNR=6.2
C24K Franklin Bluff 71.04 20 P **P** **12 32 47.8 +1.2**
baz=253
PRP Porcupine Dome 71.11 25 P **P** **12 32 47.6 +0.3**
baz=257
G25K Bearman Lake 71.18 23 P **P** **12 32 48.0 +0.5**
baz=256
CRQE Cirque 71.29 30 P **P** **12 32 48.8 +0.4**
baz=261
SCRK Sand Creek 71.44 26 lAmb lAmb 12 32 50.4
comp=Z,17nm,1.3s
SCRK Sand Creek 71.44 26 P **P** **12 32 49.5 +0.2**
baz=259,SNR=6.0
F25K Christian Rive 71.55 22 P **P** **12 32 51.1 +1.3**
baz=256,SNR=15
L26K Log Cabin Wild 71.55 27 P **P** **12 32 50.7 +0.8**
baz=260,SNR=5.7
M26K Nabesna, AK 71.60 28 P **P** **12 32 50.9 +0.6**
baz=260
E25K Arctic Village 71.70 22 lAmb lAmb 12 32 53.0
comp=Z,24nm,1.2s
E25K Arctic Village 71.70 22 P **P** **12 32 52.1 +1.4**
baz=256,SNR=17
D25K Kavik River 71.72 21 P **P** **12 32 51.7 +0.9**
baz=255
J26L Joseph Creek 71.72 26 lAmb lAmb 12 32 52.0
comp=Z,34nm,1.5s
J26L Joseph Creek 71.72 26 P **P** **12 32 51.1 +0.2**
baz=259,SNR=7.6
PPT Papeete 71.86 113 LR LR 12 59 08.4
comp=Z,68nm,18.4s,baz=286,slow=32
I26K Coal Creek Min 72.04 25 P **P** **12 32 52.8 +0.1**
baz=259
M27K Edge Creek, AK 72.11 28 P **P** **12 32 53.3 0.0**
baz=262
G26K Porcupine Rive 72.11 23 P **P** **12 32 54.5 +1.4**
baz=258
F26K Sheenjek River 72.13 22 P **P** **12 32 54.0 +0.8**
baz=258
CTG Chitna Glacier 72.17 30 P **P** **12 32 54.3 +0.6**
baz=262
L27K Beaver Creek, 72.24 27 P **P** **12 32 54.4 +0.4**
baz=261
K27K Chicken 72.28 26 lAmb lAmb 12 32 56.3
comp=Z,17nm,1.2s
K27K Chicken 72.28 26 P **P** **12 32 55.6 +1.4**
baz=261
C26K Camden Bay 72.36 20 P **P** **12 32 55.6 +1.1**
baz=256
BVCY Beaver Creek 72.59 28 P **P** **12 32 57.4 +1.3**
baz=262
PINM Pinnacle 72.60 31 P **P** **12 32 56.8 +0.6**
baz=264
YUK3 Moose Creek 72.69 29 P **P** **12 32 57.2 +0.3**
baz=263
I27K Kandik River 72.73 25 P **P** **12 32 57.9 +1.0**
baz=261
EGAK Eagle 72.79 26 lAmb lAmb 12 32 58.7
comp=Z,40nm,1.6s
EGAK Eagle 72.79 26 P **P** **12 32 58.3 +1.2**
baz=261,SNR=5.4

H27K Steamboat Moun 72.86 24 P **P** **12 32 59.0 +1.3**
baz=261,SNR=25
G27K Doyon Strip 72.91 24 P **P** **12 32 58.4 +0.5**
baz=260
YUK8 Steele Glacier 72.97 29 P **P** **12 32 59.5 +0.9**
baz=264
E27K Coleen River 73.17 22 lAmb lAmb 12 33 01.6
comp=Z,18nm,1.1s
E27K Coleen River 73.17 22 P **P** **12 33 00.9 +1.4**
baz=260
I28M Miner Creek 73.40 25 lAmb lAmb 12 33 02.6
comp=Z,17nm,1.2s
I28M Miner Creek 73.40 25 P **P** **12 33 02.2 +1.3**
baz=262
O29M Mount Kennedy 73.45 30 P **P** **12 33 02.4 +1.0**
baz=265
DAWY Dawson 73.45 27 P **P** **12 33 01.8 +0.6**
DAWY lAmb lAmb 12 33 03.3
comp=Z,20nm,1.2s
DAWY Dawson 73.45 27 P **P** **12 33 02.4 +1.2**
baz=263,SNR=8.0
YUK4 Talbot Arm 73.51 29 P **P** **12 33 02.7 +0.9**
baz=265
D27M Malcolm River 73.58 21 lAmb lAmb 12 33 04.2
comp=Z,27nm,1.0s
D27M Malcolm River 73.58 21 P **P** **12 33 03.5 +1.6**
baz=260
YUK6 Outpost Mounta 73.61 30 P **P** **12 33 03.5 +1.1**
baz=265
M29M Somme Creek 73.70 28 P **P** **12 33 04.1 +1.3**
baz=264
F28M Old Crow 73.72 23 lAmb lAmb 12 33 04.8
comp=Z,25nm,1.1s
F28M Old Crow 73.72 23 P **P** **12 33 04.0 +1.4**
baz=262,SNR=17
P29M Windy Craggy 73.82 31 P **P** **12 33 04.5 +1.1**
baz=266
L29M L29M 73.91 28 lAmb lAmb 12 33 07.1
comp=Z,32nm,1.4s
L29M L29M 73.91 28 P **P** **12 33 04.8 +0.8**
baz=265,SNR=6.2
E28M Babbage River 73.99 22 P **P** **12 33 05.9 +1.7**
baz=262,SNR=31
HYT Haines Junctio 74.02 30 P **P** **12 33 06.0 +1.4**
baz=266
I29M Ogilvie Camp, 74.06 25 lAmb lAmb 12 33 06.5
comp=Z,23nm,1.2s
I29M Ogilvie Camp, 74.06 25 P **P** **12 33 05.7 +1.0**
baz=264,SNR=8.3
H29M Whitestone 74.13 24 lAmb lAmb 12 33 27.3
comp=Z,33nm,1.2s
H29M Whitestone 74.13 24 P **P** **12 33 06.6 +1.5**
baz=264
P30M Million Dollar 74.24 31 P **P** **12 33 07.1 +1.2**
baz=266
K29M Barlow Dome 74.25 27 P **P** **12 33 07.5 +1.6**
baz=265
N30M Aishikik Lake 74.27 29 P **P** **12 33 06.5 +0.4**
baz=266
G29M Pine Creek 74.35 24 lAmb lAmb 12 33 08.7
comp=Z,30nm,1.1s
G29M Pine Creek 74.35 24 P **P** **12 33 07.7 +1.4**
baz=264
D28M Stokes Point 74.38 21 P **P** **12 33 07.8 +1.4**
baz=262
M30M Minto, Yukon 74.48 28 P **P** **12 33 08.2 +0.9**
baz=266
E29M Blow River 74.56 22 lAmb lAmb 12 33 11.2
comp=Z,22nm,1.1s
E29M Blow River 74.56 22 P **P** **12 33 08.7 +1.2**
baz=263,SNR=16
O30N Mendenhall 74.71 30 P **P** **12 33 09.1 +0.6**
baz=267
R31K City Hall, Gus 74.79 33 P **P** **12 33 09.9 +1.0**
baz=268
EPYK Eagle Plains 74.81 24 P **P** **12 33 10.1 +1.0**
baz=265,SNR=7.4
J30M Hart River 74.83 26 lAmb lAmb 12 33 11.5
comp=Z,34nm,1.5s
J30M Hart River 74.83 26 P **P** **12 33 10.2 +0.9**
baz=266
I30M Mount Dempster 74.86 25 P **P** **12 33 10.2 +0.8**
baz=266
N31M Braeburn, Yuko 74.89 29 P **P** **12 33 10.5 +0.9**
baz=267
MAYO Mayo, Yukon 74.96 27 P **P** **12 33 11.4 +1.5**
baz=266
SIT Sitka 74.97 34 P **P** **12 33 11.1 +1.0**
baz=269
SKAG Skagway 75.03 31 P **P** **12 33 11.9 +1.5**
baz=268
G30M tAoh Zraii Nji 75.06 24 P **P** **12 33 11.5 +1.0**
baz=265
F30M Barrier River 75.28 23 P **P** **12 33 13.3 +1.7**
baz=266
WHY Whitehorse 75.30 30 P **P** **12 33 13.2 +1.1**
baz=268
S32K Killisnoo 75.39 34 P **P** **12 33 13.6 +1.2**
baz=269
R32K Eaglecrest 75.43 33 P **P** **12 33 13.7 +1.0**
baz=269
M31M Drury Creek, Y 75.58 29 P **P** **12 33 14.0 +0.5**
baz=268
H31M Peel River 75.74 25 P **P** **12 33 15.4 +1.0**
baz=267
G31M Satah River 75.82 24 P **P** **12 33 15.7 +0.9**
baz=267,SNR=26
P32M Atlin 75.86 31 P **P** **12 33 16.1 +0.8**
baz=270
F31M Tsiigehtchic 76.05 23 P **P** **12 33 16.6 +0.5**
baz=268,SNR=15
FARO Faro, Yukon 76.07 29 P **P** **12 33 17.1 +0.8**
baz=269
INK Inuvik 76.17 22 P **P** **12 33 17.7 +1.0**
baz=268,SNR=37
N32M Quiet Lake 76.19 30 lAmb lAmb 12 33 20.9
comp=Z,19nm,1.0s
N32M Quiet Lake 76.19 30 P **P** **12 33 18.1 +1.1**
baz=270
P33M Teslin, Yukon 76.31 31 lAmb lAmb 12 33 55.7
comp=Z,47nm,1.9s
P33M Teslin, Yukon 76.31 31 P **P** **12 33 19.1 +1.3**
baz=270
SVE Sverdlovsk 76.44 326 *ce* P **P** **12 33 19.2 +0.7**
SVE pmax pmax
comp=Z,45nm,1.0s
Q32M Nakina River 76.61 32 P **P** **12 33 20.7 +1.1**
baz=271
AB31 Akbulak array 77.16 318 *i* P **P** **12 33 22.4 -0.3**
ABKAR Akbulak array 77.16 318 P **P** **12 33 22.4 -0.3**
ABKAR lAmb lAmb 12 33 23.6
comp=Z,19nm,0.8s
S34M Telegraph Cree 77.23 33 P **P** **12 33 24.6 +1.7**
baz=272
R33M Jennings River 77.26 32 lAmb lAmb 12 33 26.9
comp=Z,14nm,0.9s
R33M Jennings River 77.26 32 P **P** **12 33 24.9 +1.6**
baz=272
ARU Arti 77.60 325 P **P** **12 33 25.0 0.0**
ARU Arti 77.60 325 *d i* P **P** **12 33 25.0 0.0**
ARU S **S** **12 43 13.7 -0.9**
ARU pmax pmax
comp=Z,37nm,0.8s
T35M Bob Quinn 77.75 34 P **P** **12 33 27.6 +1.7**
baz=273
DLBC Dease Lake 77.79 32 P **P** **12 33 27.8 +1.7**
baz=273
AKTO Aktyubinsk 78.32 319 P **P** **12 33 28.2 -1.0**
WTLY Watson Lake, Y 78.33 31 lAmb lAmb 12 33 33.0
comp=Z,24nm,0.9s
WTLY Watson Lake, Y 78.33 31 P **P** **12 33 30.7 +1.6**
baz=274,SNR=13
A36M Sachs Harbour 78.94 18 P **P** **12 33 32.9 +0.8**
baz=274,SNR=26
GEYT Alibeck 79.52 307 P **P** **12 33 35.9 -0.2**
GEYT lAmb lAmb 12 33 38.0
comp=Z,26nm,0.9s
GEYT Alibeck 79.52 307 P **P** **12 33 37.1 +1.0**
comp=Z,17nm,0.9s,baz=90,slow=1.5,SNR=23
comp=Z,17nm,0.9s
GYA0B ALIBECK ARRAY 79.52 307 P **P** **12 33 35.6 -0.5**
GYA0B lAmb lAmb 12 33 38.0
comp=Z,20nm,0.9s
C36M Paulatuk 79.57 21 lAmb lAmb 12 33 37.4
comp=Z,23nm,0.8s
C36M Paulatuk 79.57 21 P **P** **12 33 36.1 +0.5**
baz=276,SNR=8.1
WRGLY Wrigley 80.55 27 lAmb lAmb 12 33 44.2
comp=Z,23nm,0.9s
WRGLY Wrigley 80.55 27 P **P** **12 33 43.0 +2.0**
baz=278,SNR=7.4
KOTAN Kotaneelee Air 80.69 30 P **P** **12 33 43.2 +1.3**
baz=278,SNR=6.3
FLDN Fort Liard 80.96 30 lAmb lAmb 12 33 46.8
comp=Z,16nm,0.9s
FLDN Fort Liard 80.96 30 P **P** **12 33 45.0 +1.7**
baz=278
KIRV Kirov 82.26 328 *c i* P **P** **12 33 50.2 +0.1**
E03A Lebam 83.08 44 lAmb lAmb 12 33 57.4
comp=Z,20nm,0.9s
GNW Green Mountain 83.40 43 P **P** **12 33 55.5 -0.9**
GNW lAmb lAmb 12 34 00.8
comp=Z,18nm,1.0s
K02D Willamette Mer 83.69 48 lAmb lAmb 12 34 17.8
comp=Z,17nm,1.3s
KSXB Camp Six Broad 83.69 49 lAmb lAmb 12 34 05.5
comp=Z,10nm,0.9s
L02F Cave Junction 83.87 48 lAmb lAmb 12 34 01.7
comp=Z,12nm,1.1s
B06A Marblemount 84.10 42 lAmb lAmb 12 34 04.1
comp=Z,12nm,0.9s
HUMO Hull Mountain 84.22 48 lAmb lAmb 12 34 03.6
comp=Z,12nm,1.1s
H04A Detroit Lake 84.38 46 lAmb lAmb 12 36 02.6
comp=Z,13nm,1.1s
I04A Tendick Farm, 84.39 47 lAmb lAmb 12 34 05.9
comp=Z,11nm,1.0s
BELG Belogornoye 84.47 322 *d i* P **P** **12 34 02.2 +0.5**
BELG pmax pmax
comp=Z,18nm,1.4s
YBH Yreka Blue Hor 84.57 49 lAmb lAmb 12 34 10.7
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 84.67 27 P **P** **12 34 03.0 +0.5**
comp=Z,14nm,0.9s,baz=288,slow=5.6,SNR=102
comp=Z,14nm,0.9s
L04D Klamath Falls 84.77 48 lAmb lAmb 12 34 11.2
comp=Z,13nm,1.0s
LTY Liberty 84.89 43 lAmb lAmb 12 34 07.7
comp=Z,15nm,1.3s
J05D Fort Rock, OR 85.33 47 P **P** **12 34 06.8 +0.3**
J05D lAmb lAmb 12 34 10.9
comp=Z,19nm,1.3s
SPITS Spitsbergen Ar 85.49 351 P **P** **12 34 06.8 +0.4**
comp=Z,8.1nm,0.8s,baz=92,slow=4.2,SNR=4.8
comp=Z,8.1nm,0.8s
E07A Sunnyside 85.59 43 lAmb lAmb 12 34 11.7
comp=Z,15nm,1.0s
F07A Phinny Hill Vi 85.69 44 lAmb lAmb 12 34 12.2
comp=Z,16nm,1.4s
K05A Summer Lake 85.69 47 lAmb lAmb 12 36 13.2
comp=Z,12nm,1.0s
HAWA Hanford 85.84 44 lAmb lAmb 12 34 12.8
comp=Z,11nm,1.0s
D08A Wollman Farm, 86.10 43 lAmb lAmb 12 34 14.6
comp=Z,12nm,0.9s
C09A Chrisman Ranch 86.36 42 lAmb lAmb 12 34 15.6
comp=Z,15nm,0.8s
KLMR Klimovskoe 86.56 332 *e* P **P** **12 34 09.7 -2.2**
KLMR pmax pmax
comp=Z,52nm,1.7s
APA Apatity 86.66 339 ⇓ *i* P **P** **12 34 09.2 -3.1**
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,900nm,21.0s
E09A Wood Farm, Sta 86.75 43 lAmb lAmb 12 34 17.9
comp=Z,16nm,0.8s
MPK Martis Peak 87.08 51 lAmb lAmb 12 34 18.1
comp=Z,14nm,1.2s
CMB Columbia Colle 87.08 52 lAmb lAmb 12 34 22.1
comp=Z,16nm,1.6s
J08A Circle Bar Ran 87.28 46 lAmb lAmb 12 34 18.4
comp=Z,13nm,1.2s
WVOR Wild Horse Val 87.38 47 lAmb lAmb 12 34 19.0
comp=Z,10nm,1.1s
WAKR Walker 87.71 51 lAmb lAmb 12 34 52.9
comp=Z,20nm,1.7s
YERR Yerington 87.74 51 lAmb lAmb 12 34 52.9
comp=Z,31nm,1.8s
SMMC Simmler 88.00 54 P **P** **12 34 20.6 +1.1**
baz=283
PKM Mcpherson Peak 88.24 55 P **P** **12 34 21.9 +1.0**
baz=283
VRH Novokhopyorsk 88.32 322 *e* P **P** **12 34 16.1 -4.5**
VRH pmax pmax
comp=Z,27nm,1.6s
ARCES ARCESS Array B 88.35 342 P **P** **12 34 20.6 +0.2**
comp=Z,2.0nm,0.4s,baz=68,slow=7.0,SNR=21
ARCES LR LR 13 16 19.7
comp=Z,93nm,19.4s,baz=260,slow=37
comp=Z,2.0nm,0.4s
RYN Ryan 88.37 51 lAmb lAmb 12 34 27.5
comp=Z,8.4nm,0.8s
LHV Little Huntoon 88.48 51 lAmb lAmb 12 34 24.9
comp=Z,13nm,1.2s
PLID Pearl Lake 88.56 44 lAmb lAmb 12 34 26.2
comp=Z,10.0nm,0.9s
NVAR Mina Array Bea 88.59 51 P **P** **12 34 23.9 +1.4**
comp=Z,10nm,0.7s,baz=262,slow=5.5,SNR=42
comp=Z,10nm,0.7s
KVN Kaiserville 88.59 50 lAmb lAmb 12 34 25.1
comp=Z,12nm,1.1s
VES Vestal, Richgr 88.60 54 P **P** **12 34 23.3 +1.0**
baz=284
NV11 Mina Array Sit 88.70 51 lAmb lAmb 12 34 29.0
comp=Z,7.1nm,0.8s
ARVC Arvin 88.97 54 P **P** **12 34 25.4 +1.4**
baz=284
TIN Tinemaha, Big 88.98 52 P **P** **12 34 25.8 +1.6**
baz=284
ISA Isabella, Lake 89.13 54 P **P** **12 34 25.7 +0.8**
baz=284
MFID Camas Ranch 89.13 46 lAmb lAmb 12 34 29.9
comp=Z,13nm,0.8s
MOS Moscow 89.19 327 *e* P **P** **12 34 22.9 -1.7**
CWC Cottonwood Cre 89.25 53 P **P** **12 34 26.6 +1.0**
baz=284
GMN Gold Mountain 89.67 52 lAmb lAmb 12 34 34.0
comp=Z,7.3nm,0.8s
KBZ Khabaz 89.69 315 ⇑ *e* P **P** **12 34 25.5 -1.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 89.69 315 P **P** **12 34 26.8 -0.3**
comp=Z,5.1nm,0.9s,baz=306,slow=2.1,SNR=8.8
comp=Z,5.1nm,0.9s
EDW2 Edwards Air Fo 89.70 55 P **P** **12 34 28.7 +1.1**
baz=284,SNR=7.1
SCI2 San Clemente I 89.72 56 P **P** **12 34 29.0 +1.4**
baz=284
CIS Catalina Islan 89.72 56 P **P** **12 34 29.6 +2.0**
baz=284
FMP Fort Macarthur 89.74 56 P **P** **12 34 29.6 +1.9**
baz=284
KIV Kislovodsk 89.77 315 *e* P **P** **12 34 28.0 +0.3**
KIV *e*S **SKSac** **12 44 55.4 -1.2**
KIV *e*SS **SS** **12 51 19.2 +4.6**
KIV *e*SSS SSS 12 54 52.7
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,84nm,13.0s
LRMC Laurel Mtn Rad 89.80 54 P **P** **12 34 30.2 +2.1**
baz=284,SNR=12
MPMC Manual Prospec 89.80 53 P **P** **12 34 29.5 +1.3**
baz=285,SNR=14
VSR Storozhevoye 89.84 323 *e* P P 12 34 22.4 -5.3
VSR pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 89.92 176 P **P** **12 34 28.0 +0.5**
comp=Z,1.5nm,1.0s,baz=271,slow=5.0,SNR=5.8
VNDA LR LR 13 15 40.3
comp=Z,33nm,18.4s,baz=310,slow=36
comp=Z,1.5nm,1.0s
OBN Obninsk 89.98 327 *d i* P **P** **12 34 27.5 -0.8**
OBN *e* 12 34 40.1
OBN *e*S **SKSac** **12 44 53.2 -3.8**
OBN *e*SS **SS** **12 51 17.7 +1.0**
OBN pmax pmax
comp=Z,42nm,1.3s
OBN MLR MLR
comp=Z,107nm,10.0s
HLID Hailey 90.08 45 P **P** **12 34 30.6 +1.3**
baz=287,SNR=13
BFSC Mount Baldy Ra 90.13 55 P **P** **12 34 31.2 +1.5**
baz=285
FURC Furnace Creek, 90.19 53 P **P** **12 34 31.4 +1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=285,SNR=15						
ELK	Elko	90.28	48	IAmb	IAmb	12 34 38.4	
	comp=Z,8.9nm,0.9s						
WCT	Wildcat Mounta	90.29	52	IAmb	IAmb	12 34 33.1	
	comp=Z,14nm,1.2s						
RRX	Edison Barstow	90.49	54	P	P	12 34 32.5	+1.3
	baz=285						
GSC	Goldstone, Bar	90.53	54	IAmb	IAmb	12 34 34.3	
	comp=Z,16nm,1.3s						
GSC	Goldstone, Bar	90.53	54	P	P	12 34 32.1	+0.6
	baz=285,SNR=9.2						
TPNV	Topopah Spring	90.54	52	IAmb	IAmb	12 34 36.2	
	comp=Z,9.0nm,0.8s						
TPNV	Topopah Spring	90.54	52	P	P	12 34 32.6	+1.0
	baz=285,SNR=18						
MURC	Murrieta	90.66	56	P	P	12 34 33.7	+1.7
	baz=285						
R11B	Troy Canyon, C	90.67	51	P	P	12 34 33.9	+1.7
	baz=286,SNR=7.3						
BBRC	Big Bear Solar	90.71	55	P	P	12 34 33.6	+1.1
	baz=285						
SHOC	Shoshone, Teco	90.80	53	P	P	12 34 33.4	+0.8
	baz=285,SNR=8.5						
109C	Camp Elliot, M	90.91	56	P	P	12 34 34.7	+1.5
	baz=285						
HEC	Hector,Ludlow	91.03	54	P	P	12 34 35.2	+1.4
	baz=285						
Q12A	Willow Creek R	91.05	50	IAmb	IAmb	12 34 40.0	
	comp=Z,7.4nm,0.8s						
TUQ	Turquoise Moun	91.19	54	P	P	12 34 36.0	+1.4
	baz=286						
PFO	Pinyon Flats O	91.25	55	P	P	12 34 32.6	-2.2
PFO				IAmb	IAmb	12 34 41.0	
	comp=Z,11nm,1.2s						
PFO	Pinyon Flats O	91.25	55	P	P	12 34 36.1	+1.2
	baz=285						
PFO	Pinyon Flats O	91.25	55	P	P	12 34 32.7	-2.2
PFO				pmax	pmax		
	comp=Z,11nm,1.2s						
TPFO	Pinon Flats	91.25	55	P	P	12 34 36.1	+1.1
	baz=285						
PMD	Palm Desert	91.31	55	IAmb	IAmb	12 34 41.1	
	comp=Z,19nm,1.5s						
BOZ	Bozeman (W)	91.36	43	P	P	12 34 36.3	+1.1
	baz=289						
SPR3	Spring Creek 3	91.44	50	IAmb	IAmb	12 34 44.9	
	comp=Z,29nm,1.9s						
MONP2	Monument Peak	91.47	56	P	P	12 34 37.4	+1.4
	baz=285,SNR=8.8						
BELC	Belle Mtn. Jos	91.52	55	P	P	12 34 37.6	+1.5
	baz=286,SNR=6.2						
GMRC	Granite Mounta	91.58	54	P	P	12 34 37.4	+1.0
	baz=286,SNR=9.0						
EGMT	Eagleton	91.78	40	P	P	12 34 38.3	+1.3
	baz=290						
IKP	In-Ko-Pah, Jac	91.78	56	P	P	12 34 38.8	+1.5
	baz=285						
SOC	Sochi	91.93	315	eP	P	12 34 36.0	-1.7
SOC				e		12 38 17.5	
SOC				ePPP	PPP	12 40 15.6	
SOC				eS	SKSac	12 45 05.8	-2.9
SOC				eSS	SS	12 51 45.1	-0.6
SOC				eSSS	SSS	12 55 19.6	
YUH	Yuha Desert	91.94	56	IAmb	IAmb	12 34 44.0	
	comp=Z,9.6nm,1.0s						
SWSC	Sam W. Stewart	91.96	56	P	P	12 34 39.4	+1.4
	baz=286						
BC3	Big Chuckawall	92.05	55	P	P	12 34 39.9	+1.4
	baz=286,SNR=6.7						
YMR	Madison River	92.11	44	IAmb	IAmb	12 34 44.4	
	comp=Z,11nm,0.8s						
IRM	Iron Mountain	92.16	55	P	P	12 34 40.2	+1.2
	baz=286						
DUG	Dugway, Tooele	92.21	48	P	P	12 34 40.1	+0.9
	baz=288						
FINES	FINESS Array B	92.25	335	P	P	12 34 37.7	-1.1
	comp=Z,4.2nm,0.5s,baz=71,slow=4.5,SNR=29						
	comp=Z,4.2nm,0.5s						
IMW	Indian Meadow	92.37	44	IAmb	IAmb	12 34 45.4	
	comp=Z,8.3nm,0.8s						
H17A	Grant Village	92.46	44	IAmb	IAmb	12 34 47.6	
	comp=Z,9.6nm,0.8s						
AHID	Auburn Hatcher	92.63	45	IAmb	IAmb	12 34 46.1	
	comp=Z,6.5nm,0.8s						
HWUT	Hardware Ranch	92.67	47	IAmb	IAmb	12 36 03.6	
	comp=Z,16nm,1.4s						
PDMCI	Parker Dam,Lak	92.92	54	P	P	12 34 43.9	+1.5
	baz=287						
ANN	Anapa	93.08	317	eP	P	12 34 27.9	-15
ANN				e*PP	PcP	12 34 39.2	-4.3
ANN				e		12 38 20.7	
ANN				pmax	pmax		
	comp=Z,85nm,1.0s						
RLMT	Red Lodge	93.09	43	P	P	12 34 44.4	+1.1
	baz=290,SNR=5.7						
KNB	Kanab	93.15	51	IAmb	IAmb	12 36 56.5	
	comp=Z,7.8nm,1.0s						
VSU	Vasula	93.45	332⇑	eP	P	12 34 43.8	-0.5
VSU				pmax	pmax		
	comp=Z,37nm,1.2s						
FFC	Flin Flon	93.62	32	P	P	12 34 45.3	+0.1
FFC				IAmb	IAmb	12 34 48.5	
	comp=Z,10nm,0.9s						
FFC	Flin Flon	93.62	32	P	P	12 34 45.3	+0.1
FFC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BW06	Boulder Array	93.70	45	P	P	12 34 47.2	+1.0
	baz=290						
PDAR	Pinedale Array	93.70	45	P	P	12 34 46.6	+0.5
	comp=Z,1.3nm,0.6s,baz=255,slow=1.3,SNR=16						
	comp=Z,1.3nm,0.6s						
RDMU	Red Mountain	94.43	47	IAmb	IAmb	12 36 56.7	
	comp=Z,8.0nm,1.1s						
LAO	LASA Array	94.50	41	P	P	12 34 51.0	+1.5
	baz=293,SNR=14						
214A	Organ Pipe Nat	94.66	56	P	P	12 34 52.1	+1.6
	baz=287						
WUAZ	Wupatki	94.73	52	P	P	12 34 52.5	+1.6
	baz=288						
MNK	Minsk	94.80	328	i P	P	12 34 48.0	-2.6
MNK				i		12 38 36.3	
MNK				i PPP	PPP	12 40 37.7	
MNK				i S	SKSac	12 45 20.5	-3.5
MNK				i SS	SS	12 52 23.2	-2.7
MNK				i SSS	SSS	12 56 07.1	
MNK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,29nm,1.3s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MNK				MLR	MLR		
	comp=E,209nm,11.0s						
MNK				MLR	MLR		
	comp=Z,455nm,10.0s						
MNK				MLR	MLR		
	comp=N,226nm,12.0s						
DGMT	Dagmar	95.05	38	IAmb	IAmb	12 34 55.3	
	comp=Z,7.3nm,0.8s						
DGMT	Dagmar	95.05	38	P	P	12 34 53.8	+1.9
	baz=294						
FCC	Fort Churchill	95.37	26	IAmb	IAmb	12 34 55.6	
	comp=Z,9.4nm,0.8s						
O20A	White River Ci	95.54	47	P	P	12 34 55.8	+1.2
	baz=291						
K22A	Casper	95.83	44	P	P	12 34 57.1	+1.3
	baz=292						
AKASG	Malin Array Be	95.83	325	P	P	12 34 53.9	-1.5
	comp=Z,0.5nm,0.5s,baz=55,slow=5.8,SNR=4.7						
AKASG				LR	LR	13 21 28.5	
	comp=Z,202nm,18.3s,baz=325,slow=38						
	comp=Z,0.5nm,0.5s						
W18A	Petrified Fore	96.12	52	P	P	12 34 58.7	+1.4
	baz=289						
TUC	Tucson	96.19	55	P	P	12 34 59.1	+1.5
	baz=288						
MVCO	Mesa Verde	96.36	50	P	P	12 34 59.5	+1.0
	baz=290						
RSSD	Black Hills	96.93	42	P	P	12 35 01.9	+1.0
	baz=294						
S22A	4UR Ranch, Cre	97.42	49	P	Pdif	12 35 04.5	+1.1
	baz=291						
ISCO	Idaho Springs	97.54	47	P	Pdif	12 35 04.4	+0.6
	baz=292						
BRTR	Keskin Array B	97.54	313	P	P	12 35 03.0	-0.6
	comp=Z,0.4nm,0.3s,baz=99,slow=4.5,SNR=2.4						
	comp=Z,0.4nm,0.3s						
MAW	Mawson	97.62	202	LR	LR	13 16 32.6	
	comp=Z,107nm,19.4s,baz=47,slow=34						
HFS	Hagfors	97.95	337	P	P	12 35 03.3	-1.5
	comp=Z,3.1nm,0.9s,baz=126,slow=2.6,SNR=4.1						
	comp=Z,3.1nm,0.9s						
NOA	NORSAR Array B	98.24	339	P	P	12 35 04.1	-2.0
	comp=Z,2.0nm,0.9s,baz=51,slow=4.9,SNR=3.9						
	comp=Z,2.0nm,0.9s						
SDCO	Great Sand Dun	98.40	49	P	Pdif	12 35 08.3	+0.6
	baz=292						
121A	Cookes Peak, D	98.52	54	P	Pdif	12 35 08.3	+0.1
	baz=290						
ULM	Lac du Bonnet	99.05	34	P	Pdif	12 35 10.1	+0.1
	comp=Z,3.5nm,0.8s,baz=310,slow=5.1,SNR=6.2						
	comp=Z,3.5nm,0.8s						
TXAR	Lajitas Array	102.96	56	P	Pdif	12 35 28.8	+0.9
	comp=Z,0.2nm,0.7s,baz=252,slow=4.6,SNR=3.7						
WMOK	Wichita Mounta	104.58	49	P	Pdif	12 35 35.9	+1.0
	baz=296,SNR=5.0						
DRK0	Durika	128.52	68		PKPdf	12 40 34.0	-3.1
PAPH	Port-au-Prince	133.09	50		PKPpre	12 40 36.0	
TORD	Torodi Ar. Bea	135.04	303	PKhKP	PKPpre	12 40 42.2	
	comp=Z,0.4nm,0.8s,baz=23,slow=4.3,SNR=2.2						
TORD				PKP	PKiKP	12 40 51.0	+0.3
	comp=Z,1.1nm,1.0s,baz=57,slow=3.5,SNR=4.6						
DBIC	Dimbokro	143.91	299	PKPdf	PKPbc	12 41 04.0	+0.9
DBIC	Dimbokro	143.91	299	PKP	PKPbc	12 41 03.4	+0.3
	comp=Z,6.0nm,0.8s,baz=68,slow=3.0,SNR=9.8						
KIC	Kosan Boka	143.97	299⇓	iPKP1	PKPbc	12 41 03.7	+0.4
	comp=Z,19nm,0.9s						
TIC	Toumodi	144.06	299⇑	ePKP1	PKPab	12 41 03.3	+0.2
	comp=Z,18nm,0.9s						
LIC	Lamto	144.28	299⇑	ePKP1	PKPbc	12 41 04.4	+0.1
	comp=Z,40nm,0.8s						
LPAZ	La Paz	148.57	102		PKPbc	12 41 18.1	+0.6
LPAZ	La Paz	148.57	102	PKP2	PKPbc	12 41 18.2	+0.6
ETMB	Extrema	150.26	89		PKPdf	12 41 18.4	+2.5

*IDC **03** 12:23:33.1±0.7, 29°.54N×140°.43E, h0km, mb4.1/12, mbtmp4.1/15, ML3.7/3, Error ellipse: s-maj=32.8km s-min=16.0km az=78.0*

*NEIC **03** 12:23:34.9±2.3, 29°.61N±0°.06×140°.4E±0°.1, h10km±1km, mb4.7/21, Error ellipse: s-maj=16.4km s-min=9.5km az=250.0*

ISC 03 12:23:34.4±0.5**, 29°.54N**±0°.07×**140°.5E**±0°.1**, h10km, n62, σ1s.28**/51**, mb4.5**/22**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.84	149	Pn	Pn	12 24 22.5	+2.6
JCJ				Sn	Sn	12 24 55.8	+1.6
JCJ	Chichijima	2.84	149	Pn	Pn	12 24 18.5	-1.4
	111nm,0.3s,baz=68,slow=17,SNR=24						
JCJ				Sn	Sn	12 24 51.8	-2.5
	190nm,0.3s,baz=82,slow=23,SNR=11						
	296nm,0.3s						
JHJ2	Mitsune	3.61	351	Pn	Pn	12 24 29.3	-1.1
JHJ	Hachijo jima 2	3.62	350	Pn	Pn	12 24 32.1	+1.5
	8.5nm,0.3s,baz=236,slow=22,SNR=2.3						
	282nm,1.1s						
MJAR	Matsushiro Arr	7.25	345	Pn	Pn	12 25 23.5	+3.0
	0.1nm,0.3s,baz=164,slow=13,SNR=7.4						
MAJO	Matsushiro	7.25	345	Pn	Pn	12 25 19.7	-0.8
MJB9	Matsu-Tunnel	7.25	345	Pn	Pn	12 25 20.2	-0.3
JMM	Marumori	8.30	1	Pn	Pn	12 25 33.5	-1.4
JSD	Sado	8.68	348	Pn	Pn	12 25 39.8	-0.3
JNU	Nakatsue	8.99	296	Pn	Pn	12 25 44.0	-0.4
JTM	Tenmabayashi	11.23	2	Pn	Pn	12 26 16.3	+1.3
KSRS	Korea Array	13.14	310	Pn	Pn	12 26 42.0	+0.9
	0.1nm,0.3s,baz=120,slow=11,SNR=2.5						
	1.8nm,1.0s						
ASAJ	Asahikawa	14.64	6	Pn	Pn	12 26 58.9	-2.7
	0.2nm,0.3s,baz=325,slow=21,SNR=2.2						
KLR	Kul'dur	20.77	344	P	P	12 28 15.7	+0.3
	1.9nm,0.6s,baz=282,slow=6.4,SNR=2.3						
	1.9nm,0.6s						
H11N2	WAKE ISLAND Hy	25.83	106	T	T	12 56 17.5	
	baz=298						
H11N1	WAKE ISLAND Hy	25.84	106	T	T	12 56 11.7	
	baz=298						
H11N3	WAKE ISLAND Hy	25.85	106	T	T	12 56 14.3	
	baz=298						
H11S3	WAKE ISLAND Hy	26.25	109	T	T	12 56 51.9	
	baz=305						
H11S1	WAKE ISLAND Hy	26.25	109	T	T	12 56 49.9	
	baz=305						
H11S2	WAKE ISLAND Hy	26.26	109	T	T	12 56 47.6	
	baz=305						
WB0	Warramunga Arr	49.38	188	P	P	12 32 25.0	+0.7
WB0				IAmb	IAmb	12 32 33.5	
	comp=Z,7.6nm,1.1s						
WR0	Warramunga Arr	49.55	187	P	P	12 32 26.3	+0.7
WR0				IAmb	IAmb	12 32 33.9	
	comp=Z,5.1nm,0.9s						
WB2	Warramunga Arr	49.56	188	P	P	12 32 26.6	+0.9
WRA	Warramunga Arr	49.56	188	P	P	12 32 27.2	+1.5
WRA	Warramunga Arr	49.56	188	P	P	12 32 26.2	+0.5
	comp=Z,1.4nm,0.6s,baz=6.1,slow=7.7,SNR=21						
	comp=Z,1.4nm,0.6s						
J16K	Anvik River	50.12	30	P	P	12 32 28.1	-1.4
J16K				IAmb	IAmb	12 32 42.6	
	comp=Z,9.0nm,0.9s						
H17K	Granite Mounta	50.81	28	P	P	12 32 34.2	-0.5
ASAR	Alice Springs	53.28	188	P	P	12 32 52.1	-1.5
ASAR	Alice Springs	53.28	188	P	P	12 32 54.6	+1.1
	comp=Z,0.5nm,0.8s,baz=1.9,slow=6.0,SNR=6.9						
	comp=Z,0.5nm,0.8s						
H21K	Melozitna Rive	53.88	28	P	P	12 32 58.7	+1.2
H21K				IAmb	IAmb	12 33 00.3	
	comp=Z,6.4nm,1.0s						
KTH	Kantishna Hill	54.46	31	P	P	12 33 01.9	0.0
KTH				IAmb	IAmb	12 33 07.2	
	comp=Z,9.2nm,1.1s						
NEA2	Nenana	55.34	30	IAmb	IAmb	12 33 10.7	
	comp=Z,8.4nm,0.9s						
MDM	Murphy Dome	55.73	29	P	P	12 33 12.5	+1.6
MDM				IAmb	IAmb	12 33 13.4	
	comp=Z,8.9nm,1.1s						
IL31		56.29	29	P	P	12 33 12.2	-2.7
IL31				IAmb	IAmb	12 33 16.3	
	comp=Z,6.3nm,1.1s						
ILAR	Eielson Array	56.29	29	P	P	12 33 15.5	+0.6
	comp=Z,2.4nm,0.9s,baz=247,slow=6.3,SNR=4.1						
	comp=Z,2.4nm,0.9s						
BCAR	Beaver Creek A	58.58	31	P	P	12 33 27.4	-3.8
E28M	Babbage River	59.19	25	P	P	12 33 36.6	+1.4
E28M				IAmb	IAmb	12 33 37.0	
	comp=Z,9.0nm,1.1s						
M30M	Minto, Yukon	60.91	32	P	P	12 33 46.1	-1.1
M30M				IAmb	IAmb	12 33 51.6	
	comp=Z,10.0nm,1.1s						
M31M	Drury Creek, Y	62.08	32	P	P	12 33 56.4	+1.3
A36M	Sachs Harbour	63.50	20	P	P	12 34 03.9	-0.5
NWAO	Narrogin (SRO)	65.94	201	P	P	12 34 19.7	-0.9
YKA	Yellowknife Ar	70.69	28	P	P	12 34 51.2	+1.1
	comp=Z,1.5nm,0.9s,baz=290,slow=5.8,SNR=1.0						
	comp=Z,1.5nm,0.9s						
ARCES	ARCESS Array B	70.75	340	P	P	12 34 50.5	+0.1
	comp=Z,4.4nm,1.1s,baz=51,slow=6.4,SNR=1.6						
	comp=Z,4.4nm,1.1s						
FIA1	FINESS Array S	75.11	333	P	P	12 35 15.6	-0.8
FINES	FINESS Array B	75.11	333	P	P	12 35 15.4	-0.9
FINES	FINESS Array B	75.11	333	P	P	12 35 15.3	-1.1
	comp=Z,4.9nm,0.9s,baz=88,slow=3.5,SNR=2.1						
	comp=Z,4.9nm,0.9s						
KBZ	Khabaz	75.28	312	P	P	12 35 17.6	-0.1
	comp=Z,3.2nm,0.8s,baz=45,slow=4.7,SNR=4.4						
	comp=Z,3.2nm,0.8s						
NNZ	Nelson	76.69	155	P	P	12 35 26.1	+0.6
NNZ				IAmb	IAmb	12 35 41.9	
	comp=Z,8.8nm,0.9s						
MRZ	Mangatainoka R	77.04	153	P	P	12 35 27.9	+0.4
AKASG	Malin Array Be	79.79	323	P	P	12 35 41.7	-1.1
	comp=Z,0.1nm,0.2s,baz=47,slow=7.2,SNR=4.2						
	comp=Z,0.1nm,0.2s						
FFC	Flin Flon	80.43	31	P	P	12 35 46.0	-0.2
HFS	Hagfors	80.60	336	P	P	12 35 47.9	+0.9
	comp=Z,7.5nm,1.1s,baz=186,slow=6.0,SNR=2.5						
	comp=Z,7.5nm,1.1s						
NOA	NORSAR Array B	80.80	338	P	P	12 35 47.8	-0.3
	comp=Z,1.4nm,0.8s,baz=48,slow=5.3,SNR=2.4						
	comp=Z,1.4nm,0.8s						
TCRU	Three Creeks R	83.98	49	P	P	12 36 05.3	-0.1
TXAR	Lajitas Array	95.29	52	P	P	12 37 00.3	+1.2
	comp=Z,0.8nm,0.9s,baz=302,slow=2.0,SNR=6.6						
	comp=Z,0.8nm,0.9s						
H06N1	SOCORRO T-PHAS	95.97	65	T	T	14 24 00.1	
	SNR=11						
H06S1	SOCORRO T	96.07	65	T	T	14 24 02.4	
	SNR=5.9						
QSPA	South Pole Qui	119.31	180	PKP	PKPdf	12 42 23.4	+0.2
	comp=Z,1.3nm,1.0s,baz=211,slow=0.5,SNR=8.0						
H03N2	Juan Fernandez	146.27	107	T	T	15 26 48.5	
	baz=275						
H03N3	Juan Fernandez	146.28	107	T	T	15 26 50.6	
	baz=275						
H03N1	Juan Fernandez	146.29	107	T	T	15 26 50.8	
	baz=275						
PLCA	Paso Flores	152.38	122	PKPbc	PKPbc	12 43 31.0	+0.2
	comp=Z,1.3nm,0.8s,baz=273,slow=4.7,SNR=3.5						

*IDC **03** 12:24:18.0±0.7, 29°.62N×140°.47E, h0km, mb4.2/12, mbtmp4.2/14, ML4.2/2, Error ellipse: s-maj=32.6km s-min=16.3km az=83.0*

*NEIC **03** 12:24:20.0±1.4, 29°.55N±0°.08×140°.3E±0°.2, h10km±1km, mb4.6/26, Error ellipse: s-maj=36.3km s-min=11.6km az=259.0*

ISC 03 12:24:19.4±0.6**, 29°.53N**±0°.07×**140°.6E**±0°.2**, h10km, n60, σ1s.39**/51**, mb4.5**/26**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.79	150	Pn	Pn	12 25 06.4	+2.3
JCJ	Chichijima	2.79	150	Pn	Pn	12 25 03.6	-0.5
	143nm,0.3s,baz=286,slow=20,SNR=6.3						
JCJ				Sn	Sn	12 25 36.2	-1.6
	87nm,0.3s,baz=293,slow=20,SNR=1.6						
	1µm,0.7s						
JHJ	Hachijo jima 2	3.65	349	Pn	Pn	12 25 14.6	-1.4
	11nm,0.3s,baz=49,slow=17,SNR=1.9						
JHJ				Sn	Sn	12 25 58.1	-1.0
	17nm,0.3s,baz=50,slow=20,SNR=2.0						
	108nm,0.6s						
MJAR	Matsushiro Arr	7.28	344	Pn	Pn	12 26 08.7	+2.8
	0.1nm,0.3s,baz=164,slow=10,SNR=4.5						
JMM	Marumori	8.31	1	Pn	Pn	12 26 19.6	-0.4
ASAJ	Asahikawa	14.64	6	Pn	Pn	12 27 43.1	-3.5
	0.3nm,0.3s,baz=142,slow=25,SNR=1.8						
H11N2	WAKE ISLAND Hy	25.74	106	T	T	12 56 57.5	
	baz=297						
H11N1	WAKE ISLAND Hy	25.74	106	T	T	12 57 00.9	
	baz=297,slow=74						
H11N3	WAKE ISLAND Hy	25.75	106	T	T	12 57 00.5	
	baz=297,slow=74						
H11S3	WAKE ISLAND Hy	26.15	109	T	T	12 57 40.8	
	baz=301,slow=75						
H11S1	WAKE ISLAND Hy	26.16	109	T	T	12 57 34.7	
	baz=301,slow=75						
H11S2	WAKE ISLAND Hy	26.17	109	T	T	12 57 38.8	
	baz=301,slow=75						
WB0	Warramunga Arr	49.38	188	P	P	12 33 09.2	-0.1
WB0				IAmb	IAmb	12 33 25.1	
	comp=Z,6.0nm,1.1s						
WR0	Warramunga Arr	49.55	188	P	P	12 33 10.9	+0.3
WR0				IAmb	IAmb	12 33 16.8	
	comp=Z,5.9nm,1.1s						
WB2	Warramunga Arr	49.56	188	P	P	12 33 10.9	+0.2
WRA	Warramunga Arr	49.56	188	P	P	12 33 10.8	+0.1
WRA	Warramunga Arr	49.56	188	P	P	12 33 11.6	+0.9
	comp=Z,1.5nm,0.5s,baz=5.3,slow=7.7,SNR=9.4						
	comp=Z,1.5nm,0.5s						
C19K	Lookout Ridge	52.04	23	P	P	12 33 30.1	+1.1
C19K				IAmb	IAmb	12 33 39.9	
	comp=Z,8.4nm,1.1s						
H19K	Roundabout Mou	52.33	28	P	P	12 33 33.1	+2.0
H19K				IAmb	IAmb	12 33 33.8	
	comp=Z,5.9nm,0.8s						
E19K	Redstone River	52.45	25	P	P	12 33 33.0	+1.1
E19K				IAmb	IAmb	12 33 34.4	
	comp=Z,5.2nm,0.7s						
J20K	Nowinta River	53.07	30	P	P	12 33 38.6	+2.1
J20K				IAmb	IAmb	12 33 39.7	
	comp=Z,6.1nm,0.8s						
B20K	Meade River	53.11	22	P	P	12 33 37.8	+1.1
B20K				IAmb	IAmb	12 33 39.5	
	comp=Z,7.8nm,0.8s						
ASAR	Alice Springs	53.29	188	P	P	12 33 38.1	-0.5
ASAR	Alice Springs	53.29	188	P	P	12 33 39.6	+1.0
	comp=Z,0.4nm,0.4s,baz=10,slow=7.8,SNR=7.6						
	comp=Z,0.4nm,0.4s						
H21K	Melozitna Rive	53.85	28	P	P	12 33 42.7	+0.4
B21K	Ikpikpuk River	53.88	23	P	P	12 33 43.3	+0.9
B21K				IAmb	IAmb	12 33 44.9	
	comp=Z,4.2nm,0.7s						
CAST	Castle Rocks	53.89	31	P	P	12 33 43.1	+0.5
CAST				IAmb	IAmb	12 33 50.6	
	comp=Z,5.3nm,1.2s						
E22K	Anaktuvuk Pass	54.60	25	P	P	12 33 48.8	+1.0
E22K				IAmb	IAmb	12 33 53.3	
	comp=Z,3.5nm,0.8s						
TOLK	Toolik Lake Re	55.49	25	P	P	12 33 56.0	+1.8
TOLK				IAmb	IAmb	12 33 57.5	
	comp=Z,4.3nm,0.9s						
MDM	Murphy Dome	55.69	29	P	P	12 33 58.0	+2.4
MDM				IAmb	IAmb	12 33 58.9	
	comp=Z,7.9nm,1.0s						
E24K	Your Creek	55.83	25	P	P	12 33 58.7	+2.1
IL31		56.25	29	P	P	12 34 00.1	+0.5
IL31				IAmb	IAmb	12 34 01.1	
	comp=Z,5.6nm,0.9s						
ILAR	Eielson Array	56.25	29	P	P	12 33 59.4	-0.2
	comp=Z,2.4nm,0.8s,baz=269,slow=6.3,SNR=5.9						
	comp=Z,2.4nm,0.8s						
E28M	Babbage River	59.16	25	P	P	12 34 21.6	+1.6
I28M	Miner Creek	59.18	29	P	P	12 34 21.6	+1.2
I28M				IAmb	IAmb	12 34 22.9	
	comp=Z,3.7nm,0.7s						
EPYK	Eagle Plains	60.41	27	P	P	12 34 29.4	+0.7
I30M	Mount Dempster	60.69	29	P	P	12 34 32.3	+1.5
G31M	Satah River	61.31	27	P	P	12 34 35.8	+1.1
M31M	Drury Creek, Y	62.03	32	P	P	12 34 41.3	+1.5
YKA	Yellowknife Ar	70.66	28	P	P	12 35 35.3	+0.4
	comp=Z,1.5nm,0.9s,baz=292,slow=6.0,SNR=2.4						
	comp=Z,1.5nm,0.9s						
ARCES	ARCESS Array B	70.80	340	P	P	12 35 36.4	+0.6
	comp=Z,4.2nm,1.0s,baz=62,slow=7.6,SNR=1.5						
	comp=Z,4.2nm,1.0s						
FIA1	FINESS Array S	75.16	333	P	P	12 35 59.9	-1.8
FINES	FINESS Array B	75.17	333	P	P	12 35 59.7	-1.9
FINES	FINESS Array B	75.17	333	P	P	12 36 00.6	-1.1
	comp=Z,3.1nm,0.5s,baz=53,slow=5.6,SNR=6.6						
	comp=Z,3.1nm,0.5s						
KBZ	Khabaz	75.36	312	P	P	12 36 02.2	-0.9
	comp=Z,2.5nm,0.8s,baz=77,slow=11,SNR=2.8						
	comp=Z,2.5nm,0.8s						
NNZ	Nelson	76.64	155	P	P	12 36 11.5	+1.3
MRZ	Mangatainoka R	76.99	153	P	P	12 36 11.6	-0.6
TUWZ	Tuamarina	77.03	155	P	P	12 36 13.3	+0.9
AKASG	Malin Array Be	79.85	323	P	P	12 36 26.7	-1.4
	comp=Z,0.3nm,0.3s,baz=48,slow=6.2,SNR=2.0						
	comp=Z,0.3nm,0.3s						
NVAR	Mina Array Bea	80.08	51	P	P	12 36 29.6	-0.4
	comp=Z,2.0nm,1.0s,baz=279,slow=5.9,SNR=2.8						
	comp=Z,2.0nm,1.0s						
HFS	Hagfors	80.65	336	P	P	12 36 31.5	-0.7
	comp=Z,2.3nm,0.8s,baz=142,slow=13,SNR=1.9						
	comp=Z,2.3nm,0.8s						
NOA	NORSAR Array B	80.85	338	P	P	12 36 32.6	-0.8
	comp=Z,2.6nm,0.9s,baz=42,slow=5.0,SNR=4.9						
	comp=Z,2.6nm,0.9s						
TXAR	Lajitas Array	95.22	52	P	P	12 37 45.8	+2.0
	comp=Z,0.6nm,0.7s,baz=316,slow=2.5,SNR=4.7						
	comp=Z,0.6nm,0.7s						
H06N1	SOCORRO T-PHAS	95.89	65	T	T	14 24 40.8	
H06S1	SOCORRO T	95.98	65	T	T	14 24 41.6	
QSPA	South Pole Qui	119.29	180	PKP	PKPdf	12 43 07.9	-0.3
	comp=Z,2.7nm,1.1s,baz=259,slow=1.9,SNR=5.8						
H03N2	Juan Fernandez	146.17	107	T	T	15 27 34.3	
	baz=274,slow=74						
H03N3	Juan Fernandez	146.18	107	T	T	15 27 35.2	
	baz=274,slow=74						
H03N1	Juan Fernandez	146.19	107	T	T	15 27 35.8	
	baz=274						
PLCA	Paso Flores	152.29	122	PKPbc	PKiKP	12 44 17.2	+1.3
	comp=Z,2.1nm,0.8s,baz=309,slow=7.5,SNR=2.3						

IDC 03 12:24:49.3±1.4**, 29°.64N**×**140°.35E, h0km, mb4.0**/4**, mbtmp4.0**/4**, MS3.6**/1**, Error ellipse: s-maj=76.1km s-min=33.7km az=102.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**33.82**	**37**	LR	LR	12 43 33.6	
	comp=Z,118nm,21.3s,baz=284,slow=33						
WRA	**Warramunga Arr**	**49.63**	**187**	P	P	12 33 42.5	-0.1
	2.1nm,0.9s,baz=7.5,slow=8.1,SNR=1.9						
	2.1nm,0.9s						
ILAR	**Eielson Array**	**56.28**	**29**	P	P	12 34 31.2	-0.1
	1.7nm,1.0s,baz=263,slow=7.0,SNR=2.2						
	1.7nm,1.0s						
YKA	**Yellowknife Ar**	**70.68**	**28**	P	P	12 36 06.8	+0.3
	0.4nm,0.7s,baz=292,slow=6.1,SNR=1.4						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**74.95**	**333**	P	P	12 36 31.8	-0.2
	1.7nm,0.5s,baz=72,slow=4.5,SNR=3.9						
	1.7nm,0.5s						

*IDC **03** 12:26:02.0±0.8, 29°.47N×140°.20E, h0km, mb3.8/10, mbtmp3.9/13, ML3.6/3, Error ellipse: s-maj=34.1km s-min=19.5km az=81.0*

ISC 03 12:26:03.2±0.7**, 29°.4N**±0°.1×**140°.2E**±0°.2**, h10km, n15, σ1ˢ.64**/15**, mb3.8**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.90**	**141**	Pn	**Pn**	**12 26 47.9**	**-1.6**
	34nm,0.3s,baz=160,slow=22,SNR=0.8						
	191nm,0.3s						
MJAR	**Matsushiro Arr**	**7.32**	**348**	Pn	**Pn**	**12 27 53.5**	**+3.3**
	0.1nm,0.3s,baz=248,slow=38,SNR=1.1						
KSRS	**Korea Array**	**12.99**	**311**	Pn	**Pn**	**12 29 07.3**	**-0.5**
	0.2nm,0.3s,baz=120,slow=14,SNR=1.8						
	1.5nm,0.8s						
ASAJ	**Asahikawa**	**14.83**	**7**	Pn	**Pn**	**12 29 31.6**	**-1.4**
	0.3nm,0.3s,baz=346,slow=22,SNR=1.6						
	18nm,1.2s						
KLR	**Kul'dur**	**20.83**	**344**	P	**P**	**12 30 45.3**	**+0.4**
	2.8nm,0.7s,baz=95,slow=8.6,SNR=1.6						
	2.8nm,0.7s						
WRA	**Warramunga Arr**	**49.36**	**187**	P	**P**	**12 34 54.9**	**+1.9**
	0.4nm,0.4s,baz=5.7,slow=7.8,SNR=1.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**53.09**	**187**	P	**P**	**12 35 21.9**	**+1.0**
	0.2nm,0.5s,baz=2.4,slow=6.7,SNR=1.2						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**56.59**	**29**	P	**P**	**12 35 45.0**	**-0.8**
	0.7nm,0.8s,baz=278,slow=6.4,SNR=2.4						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**70.98**	**28**	P	**P**	**12 37 19.3**	**-1.4**
	0.7nm,0.9s,baz=287,slow=7.4,SNR=4.0						
	0.7nm,0.9s						
FINES	**FINESS Array B**	**75.10**	**333**	P	**P**	**12 37 43.8**	**-1.3**
	0.7nm,0.5s,baz=66,slow=4.8,SNR=3.4						
	0.7nm,0.5s						
AKASG	**Malin Array Be**	**79.72**	**323**	P	**P**	**12 38 10.7**	**-0.4**
	0.2nm,0.3s,baz=51,slow=5.5,SNR=2.2						
	0.2nm,0.3s						
NVAR	**Mina Array Bea**	**80.50**	**51**	P	**P**	**12 38 17.4**	**+1.5**
	0.6nm,0.8s,baz=267,slow=7.8,SNR=2.9						
	0.6nm,0.8s						
NOA	**NORSAR Array B**	**80.82**	**337**	P	**P**	**12 38 18.7**	**+1.7**
	1.5nm,0.8s,baz=45,slow=4.4,SNR=3.2						
	1.5nm,0.8s						
TXAR	**Lajitas Array**	**95.64**	**52**	P	**P**	**12 39 30.8**	**+1.4**
	0.5nm,1.0s,baz=302,slow=4.1,SNR=2.0						
	0.5nm,1.0s						
QSPA	**South Pole Qui**	**119.15**	**180**	PKP	**PKiKP**	**12 44 51.6**	**-0.1**
	0.5nm,0.6s,baz=289,slow=13,SNR=1.5						

*IDC **03** 12:26:24.4±0.8, 29°.65N×140°.15E, h0km, mb3.9/9, mbtmp4.0/11, ML3.2/2, Error ellipse: s-maj=35.2km s-min=19.5km az=92.0*

ISC 03 12:26:25.3±0.7**, 29°.6N**±0°.1×**140°.2E**±0°.2**, h10km, n22, σ1ˢ.15**/14**, mb3.9**/8**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.01**	**145**	Pn	**Pn**	**12 27 10.7**	**-2.5**
	97nm,0.3s,baz=296,slow=16,SNR=2.6						
JCJ				Sn	Sn	12 27 42.7	-6.6
	120nm,0.3s,baz=320,slow=18,SNR=2.5						
KSRS	**Korea Array**	**12.92**	**311**	Pn	**Pn**	**12 29 27.7**	**-1.3**
	baz=111,slow=12,SNR=4.1						
	2.1nm,0.9s						
ASAJ	**Asahikawa**	**14.63**	**7**	Pn	**Pn**	**12 29 51.0**	**-1.3**
	0.4nm,0.3s,baz=322,slow=29,SNR=2.1						
	12nm,0.9s						
KLR	**Kul'dur**	**20.66**	**344**	P	**P**	**12 31 05.4**	**+0.2**
	5.5nm,0.8s,baz=295,slow=5.6,SNR=4.4						
	5.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**26.08**	**106**	T	T	12 59 03.0	
	baz=297,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**26.09**	**106**	T	T	12 59 03.5	
	baz=297,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**26.10**	**106**	T	T	12 59 03.8	
	baz=297,slow=75,SNR=33						
WRA	**Warramunga Arr**	**49.56**	**187**	P	**P**	**12 35 17.9**	**+1.3**
	1.7nm,0.5s,baz=5.8,slow=7.7,SNR=8.3						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**53.29**	**187**	P	**P**	**12 35 45.2**	**+0.6**
	1.1nm,1.0s,baz=359,slow=4.5,SNR=4.2						
	1.1nm,1.0s						
ILAR	**Eielson Array**	**56.38**	**29**	P	**P**	**12 36 06.7**	**+0.2**
	1.3nm,0.8s,baz=273,slow=6.5,SNR=6.2						
	1.3nm,0.8s						
YKA	**Yellowknife Ar**	**70.78**	**28**	P	**P**	**12 37 42.3**	**+0.7**
	0.4nm,0.6s,baz=299,slow=6.8,SNR=4.7						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**74.97**	**333**	P	**P**	**12 38 06.7**	**+0.3**
	3.5nm,0.8s,baz=71,slow=5.6,SNR=4.3						
	3.5nm,0.8s						
AKASG	**Malin Array Be**	**79.61**	**323**	P	**P**	**12 38 32.7**	**+0.1**
	0.4nm,0.4s,baz=47,slow=6.5,SNR=4.1						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**80.32**	**51**	P	**P**	**12 38 38.0**	**+0.9**
	0.5nm,0.6s,baz=265,slow=6.0,SNR=2.7						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**95.46**	**52**	P	**P**	**12 39 51.8**	**+0.9**
	0.3nm,0.6s,baz=236,slow=1.3,SNR=4.4						
	0.3nm,0.6s						
H06N1	**SOCORRO T-PHAS**	**96.18**	**64**	T	T	14 26 43.2	
H06S1	**SOCORRO T**	**96.28**	**64**	T	T	14 26 46.0	
QSPA	**South Pole Qui**	**119.34**	**180**	PKP	**PKPdf**	**12 45 14.6**	**+0.4**
	1.4nm,0.8s,baz=296,slow=2.4,SNR=7.2						
H03N2	**Juan Fernandez**	**146.52**	**107**	T	T	15 29 36.6	
	baz=279,slow=75,SNR=11						
H03N3	**Juan Fernandez**	**146.53**	**107**	T	T	15 29 37.7	
	baz=279,slow=75,SNR=9.9						
H03N1	**Juan Fernandez**	**146.53**	**107**	T	T	15 29 38.7	
	baz=279,slow=75,SNR=12						
PLCA	**Paso Flores**	**152.61**	**122**	PKPbc	**PKPbc**	**12 46 22.9**	**+0.6**
	1.9nm,0.7s,baz=209,slow=2.7,SNR=4.1						

HEL 03 12:28:29.9±0.2**, 67°.65N×33°.69E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.44**	**55**	PG	Pg	12 28 38.0	-0.4
LVZ				SG	Sg	12 28 43.4	-0.7
VRF	**Varrio**	**1.56**	**276**	MSG		12 29 16.6	
	comp=Z,1.5nm,0.2s						
VRF				SG	Sn	12 29 18.0	-1.8
OLKF	**Oulanka, Finla**	**2.15**	**234**	PG	Pb	12 29 08.6	-1.1
	baz=48						
OLKF				MSG		12 29 33.6	
	comp=Z,1.0nm,0.2s						
OLKF				SG	Sb	12 29 36.9	+0.1
KU6	**Riekki**	**2.22**	**224**	PG	Pn	12 29 09.1	+1.2
	baz=45						
KU6				MSG		12 29 35.5	
	comp=Z,0.6nm,0.2s						
KU6				SG	Sb	12 29 39.0	+0.2
MSF	**Maaselka**	**2.54**	**229**	PG	Pb	12 29 15.0	-1.2
MSF				SG	Sg	12 29 50.0	-1.3
RNF	**Rovaniemi**	**3.17**	**254**	SB	Sn	12 30 01.2	+1.7
KEV	**Kevo**	**3.23**	**314**	SN	Sn	12 30 01.4	+0.5
ARA0	**ARCESS Array S**	**3.55**	**306**	PN	Pn	12 29 25.4	-0.8
ARA0				SN	Sn	12 30 06.9	-1.9

*IDC **03** 12:29:09.8±1.1, 29°.46N×140°.92E, h0km, mb3.6/5, mbtmp3.7/7, ML2.1/1, MS4.2/3, Error ellipse: s-maj=48.7km s-min=19.2km az=83.0*

ISC 03 12:29:11.5±0.9**, 29°.4N**±0°.1×**141°.0E**±0°.3**, h10km, n11, σ0ˢ.93**/8**, mb3.6**/5**, MS4.0**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.52**	**156**	Pn	**Pn**	**12 29 54.0**	**+1.4**
	197nm,0.4s,baz=300,slow=18,SNR=2.0						
JCJ				Sn	**Sb**	**12 30 26.8**	**-1.2**
	32nm,0.3s,baz=110,slow=23,SNR=1.7						
MJAR	**Matsushiro Arr**	**7.49**	**342**	Pn	**Pn**	**12 31 01.1**	**+0.3**
	baz=150,slow=13,SNR=1.2						
	1.8nm,0.9s						
SEY	**Seymchan**	**34.32**	**9**	LR	LR	12 48 56.3	
	comp=Z,136nm,20.7s,baz=250,slow=35						
TIXI	**Tiksi**	**42.81**	**354**	LR	LR	12 54 36.6	
	comp=Z,6.9nm,18.2s,baz=194,slow=36						
WRA	**Warramunga Arr**	**49.50**	**188**	P	**P**	**12 38 01.9**	**-0.4**
	0.7nm,0.8s,baz=5.6,slow=7.7,SNR=2.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**53.22**	**188**	P	**P**	**12 38 30.3**	**+0.2**
	0.1nm,0.5s,baz=1.7,slow=5.4,SNR=1.5						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**56.18**	**29**	P	**P**	**12 38 51.3**	**+0.1**
	0.7nm,1.0s,baz=276,slow=8.7,SNR=3.6						
	0.7nm,1.0s						
AKTO	**Aktyubinsk**	**63.68**	**315**	LR	LR	13 07 58.4	
	comp=Z,212nm,19.2s,baz=12,slow=37						
YKA	**Yellowknife Ar**	**70.59**	**28**	P	**P**	**12 40 26.2**	**-0.4**
	0.5nm,1.0s,baz=296,slow=6.4,SNR=3.2						
	0.5nm,1.0s						
FINES	**FINESS Array B**	**75.43**	**333**	P	**P**	**12 40 54.6**	**-0.6**
	2.0nm,0.6s,baz=54,slow=7.1,SNR=7.9						
	2.0nm,0.6s						
DAVOX	**Davos/Dischmat**	**92.27**	**329**	LR	LR	13 27 02.2	
	comp=Z,206nm,19.3s,baz=260,slow=38						

IDC 03 12:36:26.6±8.9**, 3°.61S×101°.76E, h0km, mb3.1**/3**, mbtmp3.1**/3**, Error ellipse: s-maj=463.7km s-min=31.9km az=52.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.67**	**120**	P	P	12 43 26.9	0.0
	0.4nm,0.9s,baz=292,slow=8.7,SNR=2.0						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**36.89**	**126**	P	P	12 43 37.1	-0.2
	0.1nm,0.3s,baz=297,slow=7.7,SNR=5.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**53.06**	**343**	P	P	12 45 45.5	-0.1
	0.1nm,0.3s,baz=144,slow=6.9,SNR=1.8						
	0.1nm,0.3s						

VIE 03 13:00:18.9±0.1**, 47°.58N×12°.86E, h2km, ml0.7**/1**, Error ellipse: s-maj=1.2km s-min=1.0km az=115.0 12 km WSW of Berchtesgaden, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LESA	**Schwarzleotal**	**0.20**	**218**	ePg	Pg	13 00 22.8	+0.1
	1.4nm,0.1s						
LESA				eSg	Sg	13 00 25.6	+0.3
	3.8nm,0.1s						

LJU 03 13:01:16.7, 46°.05N×13°.62E, h0km, ML0.7, 2C, Explosion, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SABO	**M.te Sabotino**	**0.07**	**189**	⇑ePg	Pg	13 01 18.0	0.0
DRE	**Drenchia**	**0.13**	**9**	⇑ePg	Pg	13 01 18.8	-0.4
COLI	**Coloredo**	**0.19**	**297**	ePg	Pg	13 01 20.4	+0.2
CADS	**Cadrg**	**0.20**	**25**	i Pg	Pg	13 01 20.2	-0.4
CADS				i Sg	Sg	13 01 23.5	+0.4
CADS				IAML		13 01 24.8	
	comp=Z,11nm,0.2s						
ROBS	**Robic**	**0.21**	**340**	i Pg	Pg	13 01 20.6	-0.1
ROBS				i Sg	Sg	13 01 25.5	+2.0
ROBS				IAML		13 01 26.4	
	comp=Z,3.6nm,0.1s						
VINO	**Villanova**	**0.31**	**312**	ePg	Pg	13 01 23.2	+0.5
BAD	**Bernadia**	**0.32**	**306**	ePg	Pg	13 01 23.5	+0.6
JAVS	**Javornik**	**0.35**	**116**	i Pg	Pg	13 01 23.1	-0.3
JAVS				i Sg	Sg	13 01 29.5	+1.6
JAVS				IAML		13 01 30.5	
	comp=Z,3.5nm,0.1s						
GORS	**Gorjuse**	**0.38**	**44**	i Pg	Pg	13 01 23.4	-0.6
GORS				i Sg	Sg	13 01 29.7	+0.9
GORS				IAML		13 01 31.6	
	comp=Z,3.9nm,0.1s						
CRNS	**Crni Vrh**	**0.45**	**86**	i Pg	Pg	13 01 24.4	-0.9
CRNS				i Sg	Sg	13 01 32.1	+1.0
CRNS				IAML		13 01 34.4	
	comp=Z,3.2nm,0.1s						

*NEIC **03** 13:09:45.5±1.3, 47°.06N±0°.04×112°.84W±0°.04, h14km±4km, ML1.9/6, ML2.0/3(BUT), Error ellipse: s-maj=6.1km s-min=3.4km az=199.0*

BUT 03 13:09:47.7±0.4**, 46°.91N**±0°.01×**112°.75W**±0°.04**, h7km**±3km**, Error ellipse: s-maj=3.7km s-min=2.1km az=102.0, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.32**	**79**	Pg	Pg	13 09 54.1	0.0
BPMT	**Black Pine Rid**	**0.67**	**225**	Pg	Pg	13 10 00.5	-0.3
MSO	**Missoula**	**0.82**	**265**		Pg	13 10 03.2	-0.2
MSO	**Missoula**	**0.82**	**265**	IAML		13 10 19.9	
	24nm,0.2s						
BOZ	**Bozeman (W)**	**1.53**	**149**		Pn	13 10 15.7	+0.1
BOZ	**Bozeman (W)**	**1.53**	**149**	IAML		13 10 40.5	
	15nm,0.3s						
BOZ				IAML		13 10 47.6	
	9.3nm,4.6s						
YHL	**Hebgen Lake**	**2.33**	**151**		Pn	13 10 27.7	+0.9
YHL				IAML		13 11 04.7	
	comp=E,11nm,0.9s						

*IDC **03** 13:12:41.2±1.7, 4°.38N×126°.93E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=101.4km s-min=20.6km az=63.0*

*DJA **03** 13:12:48.3±0.3, 4°N±3°×12°7E±°, h10km, M4.0/9, mb4.3/6, mB4.8/1, MLv3.9/9, Mw(mB)4.0/1*

ISC 03 13:12:43.0±1.2**, 4°.2N**±0°.1×**126°.83E**±0°.10**, h10km, n13, σ1ˢ.59**/12**, mb3.6**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.41**	**247**	P	**Pn**	**13 13 09.3**	**+0.6**
SGSI				S	**Sn**	**13 13 24.3**	**-3.1**
TNTI	**Ternate**	**3.49**	**171**	P	**Pn**	**13 13 36.6**	**-0.7**
LBMI	**Labuha**	**4.89**	**172**	P	Pn	13 13 45.4	-11
GTOI	**Gorontalo**	**5.23**	**227**	P	**Pn**	**13 14 02.8**	**+1.5**
MRSI	**Marisa**	**6.15**	**233**	P	**Pn**	**13 14 15.9**	**+1.9**
	33nm,0.5s,0.1nm						
SANI	**Sanana**	**6.31**	**188**	P	**Pn**	**13 14 17.3**	**+1.2**
	10nm,0.8s,663nm0.1nm						
LUWI	**Luwuk**	**6.63**	**218**	P	**Pn**	**13 14 21.2**	**+0.6**
NLAI	**Namlea**	**7.44**	**178**	P	Pn	13 14 24.0	-7.6
WRA	**Warramunga Arr**	**25.14**	**163**	P	**P**	**13 18 09.1**	**+0.6**
	0.9nm,0.5s,baz=342,slow=11,SNR=14						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**28.59**	**166**	P	**P**	**13 18 40.3**	**+0.8**
	0.1nm,0.5s,baz=341,slow=6.8,SNR=8.3						
	0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	**P**	**13 18 58.9**	**+0.6**
	0.3nm,0.3s,baz=116,slow=8.1,SNR=1.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**13 22 28.5**	**-1.8**
	0.1nm,0.3s,baz=140,slow=5.4,SNR=1.8						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**61.36**	**327**	P	**P**	**13 22 59.0**	**0.0**
	0.2nm,0.3s,baz=124,slow=6.6,SNR=6.1						
	0.2nm,0.3s						

*IDC **03** 13:20:41.2±9.5, 35°.48N×70°.68E, h270km±128km, mb3.0/1, mbtmp3.4/5, Error ellipse: s-maj=128.5km s-min=62.4km az=162.0*

*NNC **03** 13:20:42.3±7.0, 37°.01N×70°.63E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=61.3km s-min=45.1km az=146.0*

ISC 03 13:20:43.0±2.4**, 36°.7N**±0°.2×**70°.7E**±0°.1**, h100km, n13, σ1ˢ.65**/16**, 2C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.90**	**22**	P	**Pn**	**13 22 07.8**	**-0.4**
	SNR=19						
AML	**Almayashu**	**5.90**	**22**	⇑P	**Pn**	**13 22 07.5**	**-0.8**
	1.1nm,0.7s						
AML				⇓S	**Sn**	**13 23 13.4**	**-1.2**
	0.6nm,0.5s						
KK31	**Karatay Array**	**6.40**	**359**	⇓P	**Pn**	**13 22 14.5**	**-0.1**
	0.8nm,0.3s,baz=174,slow=12,SNR=9.8						
KK31				⇑S	**Sn**	**13 23 26.6**	**+0.4**
	1.0nm,0.3s,baz=183,slow=22						
EKS2	**Erkin-Say**	**6.41**	**21**	P	**Pn**	**13 22 15.3**	**+0.4**
	SNR=12						
AAK	**Ala-Archa**	**6.61**	**25**	P	**Pn**	**13 22 17.2**	**-0.5**
	SNR=7.8						
CHMS	**Chumysh**	**7.02**	**25**	P	**Pn**	**13 22 22.3**	**-0.8**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.26**	**30**	P	**Pn**	**13 22 25.4**	**-1.3**
	SNR=6.6						
GEYT	**Alibeck**	**10.10**	**281**	P	**Pn**	**13 23 04.3**	**-0.8**
	1.3nm,0.3s,baz=101,slow=12,SNR=8.6						
GEYT				S	**Sn**	**13 24 56.7**	**+0.3**
	1.4nm,0.3s,baz=118,slow=18,SNR=6.0						
MKAR	**Makanchi Array**	**13.27**	**37**	P	**Pn**	**13 23 51.7**	**+4.4**
	0.1nm,0.4s,baz=211,slow=10,SNR=1.8						
AB31	**Akbulak array**	**14.79**	**331**	P	**Pn**	**13 24 08.4**	**+1.5**
	0.1nm,0.3s,baz=137,slow=13,SNR=15						
KURBB	**Kurchatov Arra**	**15.01**	**20**	P	**Pn**	**13 24 11.3**	**+1.7**
	0.2nm,0.5s,baz=212,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**16.32**	**359**	P	**Pn**	**13 24 27.6**	**+1.5**
	0.6nm,0.6s,baz=178,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	**P**	**13 25 03.8**	**-1.8**
	0.7nm,0.3s,baz=207,slow=10,SNR=6.5						
	0.7nm,0.3s						

*IDC **03** 13:34:23.2±0.7, 22°.53S×66°.26W, h231km±6km, mb4.0/14, mbtmp4.6/21, Error ellipse: s-maj=10.8km s-min=10.5km az=67.0*

*SJA **03** 13:34:23.2±0.8, 22°.57S×66°.35W, h253km±5km, ML4.7, MW4.3*

*NEIC **03** 13:34:23.8±1.8, 22°.61S±0°.07×66°.30W±0°.05, h238km±8km, mb4.7/23, Error ellipse: s-maj=11.6km s-min=3.3km az=143.0*

*VAO **03** 13:34:24.7±0.3, 22°.48S×66°.29W, h251km, mb4.8*

ISC 03 13:34:23.6±0.5**, 22°.50S**±0°.04×**66°.33W**±0°.04**, h239km**±4km**, n172, σ1ˢ.22**/188**, mb4.4**/26**, 7C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.82**	**67**	i P	**Pn**	**13 34 59.3**	**+2.3**
YJA				eS	**S**	**13 35 25.5**	**+2.3**
AZAP	**Zapla**	**2.07**	**146**	i P	**Pn**	**13 35 06.5**	**+0.4**
AZAP				eS	**S**	**13 35 39.2**	**-0.2**
ASTB	**Santa Barbara**	**2.25**	**130**	i P	**Pn**	**13 35 08.5**	**+0.8**
SLA	**San Lorenzo**	**2.33**	**161**	i P	**Pn**	**13 35 09.7**	**+1.1**
SLA				eS	**S**	**13 35 42.9**	**-1.1**
LVC	**Limon Verde**	**2.39**	**267**	Pn	**Pn**	**13 35 09.9**	**+0.5**
LVC	**Limon Verde**	**2.39**	**267**	i P	**Pn**	**13 35 10.6**	**+1.2**
LVC				eS	**S**	**13 35 45.2**	**0.0**
LVC	**Limon Verde**	**2.39**	**267**	P	**Pn**	**13 35 10.5**	**+1.2**
	905nm,0.3s,baz=90,slow=5.5,SNR=2573						
LVC				S	**S**	**13 35 44.9**	**-0.3**
	167nm,0.4s,baz=168,slow=24,SNR=12						
LVC	**Limon Verde**	**2.39**	**267**	eP	**Pn**	**13 35 10.4**	**+1.1**
ALOL	**LOMAS DE OLMED**	**2.52**	**122**	i P	**Pn**	**13 35 11.0**	**+0.6**
PB09	**IPOC Station P**	**2.79**	**284**	i P	**Pn**	**13 35 15.1**	**+1.8**
PB09				eS	**S**	**13 35 51.7**	**-0.8**
PB09				IAML		13 35 59.5	
	comp=Z,817nm,0.2s						
PB06	**IPOC Station P**	**3.00**	**265**	i P	**Pn**	**13 35 16.3**	**+0.6**
PB06				IAML		13 36 02.0	
	comp=Z,1μm,0.4s						
PB07	**IPOC Station P**	**3.39**	**282**	i P	**Pn**	**13 35 21.0**	**+1.0**
PB07				IAML		13 36 05.8	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**3.52**	**289**	i P	**Pn**	**13 35 22.2**	**+0.8**
PB02				eS	**S**	**13 36 05.6**	**-1.4**
PB08	**IPOC Station P**	**3.53**	**311**	i P	**Pn**	**13 35 24.2**	**+2.3**
PB08				IAML		13 36 12.4	
	comp=Z,850nm,0.2s						
PB04	**IPOC Station P**	**3.54**	**272**	i P	**Pn**	**13 35 22.4**	**+0.7**
PB04				IAML		13 36 10.2	
	comp=Z,1μm,0.3s						
PB05	**IPOC Station P**	**3.60**	**264**	i P	**Pn**	**13 35 22.7**	**+0.4**
PB05				IAML		13 36 12.3	
	comp=Z,861nm,0.8s						
GO01	**Chusmiza**	**3.89**	**316**	i P	**Pn**	**13 35 27.9**	**+1.7**
PATCX	**Punta Patache**	**3.93**	**294**	i P	**Pn**	**13 35 26.7**	**+0.5**
PATCX				IAML		13 36 15.6	
	comp=Z,1μm,0.4s						
HMBC	**Humberstone**	**3.99**	**303**	i P	**Pn**	**13 35 27.4**	**+0.5**
GO02	**Mina Guanaco**	**3.99**	**228**	i P	**Pn**	**13 35 27.1**	**0.0**
PB11	**IPOC Station P**	**4.13**	**311**	i P	**Pn**	**13 35 29.6**	**+0.8**
PB14	**IPOC Station P**	**4.30**	**240**	i P	**Pn**	**13 35 30.3**	**-0.5**
LPAZ	**La Paz**	**6.41**	**344**	Pn	**Pn**	**13 35 59.5**	**+2.1**
TICA	**Tres Isletas**	**6.66**	**127**	eP	**Pn**	**13 36 01.8**	**+2.0**
VACA	**Villa Angela C**	**7.22**	**136**	eP	**Pn**	**13 36 09.1**	**+2.2**
BBRB	**Robore, Bolivi**	**7.42**	**57**	eP	**Pn**	**13 36 08.6**	**-0.9**
BBSD	**Serra de San D**	**7.54**	**47**	eP	**Pn**	**13 36 11.2**	**+0.1**
LCO	**Las Campanas**	**7.59**	**210**	Pn	**Pn**	**13 36 08.4**	**-3.4**
ESFA	**Espinillo Form**	**7.59**	**110**	eP	**Pn**	**13 36 14.3**	**+2.7**
MURT	**Porto Murtinho**	**8.13**	**86**	eP	**Pn**	**13 36 18.5**	**0.0**
SIV	**San Ignacio**	**8.16**	**38**	P	**Pn**	**13 36 19.5**	**+0.5**
	comp=Z,17nm,0.5s,baz=228,slow=9.5,SNR=109						
SIV				S	**S**	**13 37 46.4**	**-5.5**
	comp=Z,5.7nm,0.7s,baz=235,slow=15,SNR=1.1						
CPUP	**Villa Florida**	**9.04**	**117**		**Pn**	**13 36 30.1**	**0.0**
CPUP	**Villa Florida**	**9.04**	**117**	P	**Pn**	**13 36 29.7**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=295,slow=13,SNR=4.5						
CPUP	**Villa Florida**	**9.04**	**117**	eP	**Pn**	**13 36 29.9**	**-0.2**
BDQN	**Bodoquena, MS**	**9.15**	**79**	eP	**Pn**	**13 36 31.2**	**-0.3**
PTLB	**Pontes e Lacer**	**9.77**	**45**	Pn	**Pn**	**13 36 39.4**	**0.0**
PTLB	**Pontes e Lacer**	**9.77**	**45**	eP	**Pn**	**13 36 39.9**	**+0.4**
AQDB	**Aquidauana**	**10.10**	**80**	Pn	**Pn**	**13 36 44.8**	**+1.2**
AQDB	**Aquidauana**	**10.10**	**80**	eP	**Pn**	**13 36 44.6**	**+1.0**
VILB	**Vilhena**	**11.14**	**33**		**Pn**	**13 36 58.1**	**+1.2**
ITQB	**Itaqui**	**11.27**	**131**		**Pn**	**13 36 57.2**	**-1.0**
ITQB	**Itaqui**	**11.27**	**131**	eP	**Pn**	**13 36 58.2**	**-0.1**
PEL	**Peldehue**	**11.28**	**199**	Pn	**Pn**	**13 36 56.6**	**-1.8**
MCR1	**Marechal Candi**	**11.45**	**102**	eP	**Pn**	**13 37 02.5**	**+1.9**
PP1B	**Ponte de Pedra**	**11.81**	**68**	eP	**Pn**	**13 37 04.7**	**-0.5**
RPRD	**Ribas do Rio P**	**11.93**	**83**	eP	**Pn**	**13 37 07.5**	**+0.9**
SALV	**Santo Antonio**	**12.00**	**59**	eP	**Pn**	**13 37 07.5**	**0.0**
UNIS	**Unistalda (Bra**	**12.06**	**125**	eP	**Pn**	**13 37 07.5**	**-0.7**
CRSM	**Crissiumal (Br**	**12.20**	**117**	eP	**Pn**	**13 37 10.6**	**+0.7**
FRBT	**Francisco Belt**	**12.59**	**109**	eP	**Pn**	**13 37 15.8**	**+0.9**
ETMB	**Extrema**	**12.61**	**1**	Pn	**Pn**	**13 37 15.4**	**+0.2**
ETMB	**Extrema**	**12.61**	**1**	eP	**Pn**	**13 37 16.4**	**+1.2**
RODS	**Rosario do Sul**	**12.66**	**130**	eP	**Pn**	**13 37 15.4**	**-0.3**
C2SB	**Chapadao do Su**	**13.16**	**76**	eP	**P**	**13 37 23.7**	**-0.2**
PTGB	**Pitanga**	**13.26**	**102**	eP	**Pn**	**13 37 23.8**	**+0.6**
ALGR	**Alto Alegre (B**	**13.53**	**120**	eP	**Pn**	**13 37 26.4**	**0.0**
ITAB	**Concordia**	**13.72**	**113**		**Pn**	**13 37 29.0**	**+0.3**
ITAB	**Concordia**	**13.72**	**113**	eP	**Pn**	**13 37 28.1**	**-0.5**
SAML	**Samuel**	**13.81**	**13**		**P**	**13 37 31.0**	**0.0**
SAML	**Samuel**	**13.81**	**13**	eP	**P**	**13 37 31.2**	**+0.1**
CPSB	**Cacapava Do Su**	**13.96**	**127**	eP	**Pn**	**13 37 30.8**	**-0.9**
PCMB	**Pacaembu**	**14.00**	**89**	eP	**Pn**	**13 37 32.2**	**0.0**
LDASE	**Londrina, Braz**	**14.04**	**97**	eP	**Pn**	**13 37 32.4**	**-0.4**
PDRB	**Porto dos Gac**	**14.19**	**42**	eP	**Pn**	**13 37 33.9**	**-0.6**
NNA	**Nana**	**14.49**	**314**	P	**P**	**13 37 39.0**	**+0.4**
NNA	**Nana**	**14.49**	**314**	P	**Pn**	**13 37 38.0**	**-0.2**
	comp=Z,27nm,0.8s,baz=152,slow=9.6,SNR=9.3						
NNA				S	**S**	**13 40 13.3**	**-5.4**
	comp=Z,6.2nm,0.3s,baz=239,slow=16,SNR=1.8						
PLTB	**Pedras Altas**	**14.60**	**132**		**Pn**	**13 37 37.8**	**-1.5**
PLTB	**Pedras Altas**	**14.60**	**132**	eP	**Pn**	**13 37 38.0**	**-1.4**
ITRB	**Iturama**	**15.16**	**82**	eP	**Pn**	**13 37 46.3**	**0.0**
CLDB	**Colider**	**15.33**	**43**	eP	**Pn**	**13 37 48.8**	**+0.4**
FRTB	**Fartura**	**15.47**	**96**	eP	**Pn**	**13 37 50.4**	**+0.4**
CNLB	**Canela**	**15.48**	**119**	eP	**P**	**13 37 49.2**	**-0.3**
CZSB	**Cruzeiro do Su**	**15.92**	**336**	P	**P**	**13 37 53.7**	**-0.6**
CZSB				IAmb	IAmb	13 38 05.1	
	comp=Z,24nm,0.5s						
CZSB	**Cruzeiro do Su**	**15.92**	**336**	eP	**P**	**13 37 54.7**	**+0.4**
TRQA	**Tornquist**	**15.95**	**167**	P	**P**	**13 37 52.4**	**-2.1**
TRQA				IAmb	IAmb	13 37 54.8	
	comp=Z,9.1nm,0.8s						
TRQA	**Tornquist**	**15.95**	**167**	eP	**Pn**	**13 37 57.4**	**+1.9**

BB19B	**Bebedouro**	**16.60**	**88**	*e*P	**Pn**	**13 38 02.9**	**-0.4**
RCLB	**Rio Claro- Sao**	**17.38**	**93**	*e*P	**P**	**13 38 10.1**	**-0.2**
SPB	**Sao Paulo**	**17.43**	**97**	P	**P**	**13 38 11.2**	**+0.4**
SPB	**Sao Paulo**	**17.43**	**97**	*e*P	**P**	**13 38 11.4**	**+0.6**
IPMB	**Ipameri, GO**	**17.58**	**78**	*e*P	**P**	**13 38 13.5**	**+0.9**
PET01	**Itanhaem-SP**	**17.58**	**100**	*e*P	**P**	**13 38 12.9**	**+0.5**
SNDB	**Serra Nova Dou**	**17.75**	**56**	*e*P	**P**	**13 38 14.3**	**-0.1**
VAO	**Valinhos**	**17.87**	**95**	*e*P	**P**	**13 38 15.6**	**0.0**
PLCA	**Paso Flores**	**18.52**	**190**	P	**P**	**13 38 21.3**	**-1.2**
PLCA	**Paso Flores**	**18.52**	**190**	P	**P**	**13 38 22.1**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=3.1,slow=12,SNR=14						
PLCA	**Paso Flores**	**18.52**	**190**	*e*P	**P**	**13 38 22.4**	**-0.2**
BDFB	**Brasilia**	**18.60**	**72**	P	**P**	**13 38 23.9**	**+0.3**
BDFB	**Brasilia**	**18.60**	**72**	P	**P**	**13 38 24.4**	**+0.8**
	comp=Z,86nm,0.7s,baz=244,slow=12,SNR=97						
NPGB	**Novo Progresso**	**18.65**	**36**	*e*P	**P**	**13 38 23.4**	**-0.7**
TEFE	**Tefe**	**18.95**	**5**	*e*P	**P**	**13 38 27.5**	**+0.2**
PMNB	**Patos De Minas**	**19.04**	**82**	*e*P	**P**	**13 38 28.5**	**+0.2**
PARB	**Paraibuna**	**19.09**	**97**	*e*P	**P**	**13 38 28.8**	**0.0**
ATAH	**Atahualpa**	**19.20**	**321**	P	**P**	**13 38 30.9**	**+0.6**
	comp=Z,7.8nm,0.8s,baz=161,slow=6.9,SNR=5.7						
MACA	**Manacapuru-AM**	**19.99**	**17**	*e*P	**P**	**13 38 38.7**	**+0.3**
BSCB	**Bom Sucesso**	**20.08**	**90**	*e*P	**P**	**13 38 39.5**	**+0.1**
ITTB	**Itaituba**	**20.74**	**31**	*e*P	**P**	**13 38 45.4**	**-1.0**
DIAM	**Diamantina, MG**	**21.64**	**83**	*e*P	**P**	**13 38 55.5**	**+0.1**
JANB	**Januaria**	**22.10**	**74**	*e*P	**P**	**13 38 58.9**	**-0.8**
DUB01	**Friburgo-RJ**	**22.16**	**94**	*e*P	**P**	**13 38 59.6**	**-0.6**
MCRA	**Macar, Loja**	**22.34**	**322**	P	**P**	**13 39 03.0**	**+1.2**
BOSC	**San Juan Bosco**	**22.57**	**327**	P	**P**	**13 39 04.7**	**+0.7**
BOSC				IAmb	IAmb	13 39 06.9	
	comp=Z,21nm,0.5s						
SDBA	**SAO DESIDERIO**	**22.74**	**67**	*e*P	**P**	**13 39 04.6**	**-0.9**
ARNL	**Arenillas**	**23.07**	**323**	P	**P**	**13 39 10.7**	**+2.2**
ARNL				IAmb	IAmb	13 39 15.5	
	comp=Z,43nm,0.7s						
COHC	**Cochancay**	**23.54**	**326**	P	**P**	**13 39 15.4**	**+2.7**
COHC				IAmb	IAmb	13 39 17.1	
	comp=Z,9.0nm,0.7s						
MALB	**Monte Alegre**	**23.64**	**31**	*e*P	**P**	**13 39 13.2**	**-0.4**
SJMB	**Sao Joao De Ma**	**23.83**	**85**	*e*P	**P**	**13 39 14.9**	**-0.4**
ALF01	**Guarapari-ES**	**23.88**	**90**	*e*P	**P**	**13 39 15.5**	**-0.2**
RIB01	**Linhares ES**	**24.42**	**87**	*e*P	**P**	**13 39 19.9**	**-0.8**
BOAV	**Boa Vista**	**25.39**	**14**	P	**P**	**13 39 29.3**	**-0.1**
BOAV				IAmb	IAmb	13 39 31.2	
	comp=Z,7.2nm,0.8s						
BOAV	**Boa Vista**	**25.39**	**14**	*e*P	**P**	**13 39 30.0**	**+0.6**
OTAV	**Otavalo**	**25.50**	**331**	P	**P**	**13 39 28.8**	**-2.1**
OTAV	**Otavalo**	**25.50**	**331**	*e*P	**P**	**13 39 30.4**	**-0.5**
FLOC	**Florencia**	**25.61**	**338**	*e*P	**P**	**13 39 32.1**	**+0.7**
GUA01	**Guaratinga, BA**	**25.66**	**81**	*e*P	**P**	**13 39 31.6**	**-0.3**
MCPB	**Macapa, AP**	**26.03**	**34**	*e*P	**P**	**13 39 35.2**	**+0.1**
GARC	**Garzon, Huila**	**26.12**	**339**	*e*P	**P**	**13 39 36.7**	**+0.4**
ABR01	**Abrolhos, BA**	**26.30**	**85**	*e*P	**P**	**13 39 36.8**	**-0.8**
BETC	**Betania**	**26.57**	**339**	*e*P	**P**	**13 39 40.7**	**+0.7**
BBAC	**Balboa, Cauca**	**26.60**	**335**	*e*P	**P**	**13 39 43.0**	**+2.5**
POPC	**Popayan, Colom**	**26.86**	**337**	*e*P	**P**	**13 39 45.2**	**+2.3**
JAMC	**Jamundi, Valle**	**27.48**	**337**	*e*P	**P**	**13 39 49.1**	**+0.7**
ORTC	**Ortega, Tolima**	**27.66**	**341**	*e*P	**P**	**13 39 50.3**	**+0.7**
YOTC	**Yotoco, Valle**	**28.09**	**338**	*e*P	**P**	**13 39 53.5**	**-0.1**
GUY2C	**Guyana, Caldas**	**28.94**	**341**	*e*P	**P**	**13 40 02.6**	**+1.1**
SDV	**Santo Domingo**	**31.48**	**352**	P	**P**	**13 40 22.7**	**-0.8**
SDV				IAmb	IAmb	13 40 30.6	
	comp=Z,10nm,0.5s						
SDV	**Santo Domingo**	**31.48**	**352**	P	**P**	**13 40 23.6**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=18,slow=14,SNR=6.6						
	comp=Z,2.8nm,0.4s						
SDV	**Santo Domingo**	**31.48**	**352**	*e*P	**P**	**13 40 24.1**	**+0.7**
RCBR	**Riachuelo**	**33.72**	**65**	*e*P	**P**	**13 40 43.2**	**+0.4**
VNA3	**Neumayer Olymp**	**58.37**	**161**	⇑P	**P**	**13 43 55.0**	**+1.5**
	comp=Z,5.8nm,0.6s						
VNA2	**Neumayer--Watz**	**58.92**	**161**	⇑P	**P**	**13 43 58.2**	**+0.9**
	comp=Z,8.7nm,0.7s,baz=283,slow=8.0						
SNAA	**Sanae**	**60.56**	**161**	P	**P**	**13 44 08.2**	**-0.3**
SNAA	**Sanae**	**60.56**	**161**	⇑P	**P**	**13 44 08.0**	**-0.5**
	comp=Z,79nm,0.6s						
SNAA	**Sanae**	**60.56**	**161**	P	**P**	**13 44 08.7**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=298,slow=8.2,SNR=14						
	comp=Z,4.5nm,0.8s						
TROLL	**Troll, Antarti**	**62.27**	**161**	⇑P	**P**	**13 44 21.0**	**+0.9**
	comp=Z,362nm,0.6s						
O49A	**Covington**	**64.59**	**345**	P	**P**	**13 44 36.4**	**+1.1**
LIC	**Lamto**	**66.39**	**72**	⇑*e*P	**P**	**13 44 47.9**	**+0.4**
	comp=Z,15nm,0.5s						
TIC	**Toumodi**	**66.59**	**72**	⇑*e*P	**P**	**13 44 49.9**	**+1.1**
	comp=Z,8.0nm,0.7s						
KIC	**Kosan Boka**	**66.70**	**72**	⇑*e*P	**P**	**13 44 48.6**	**-0.9**
	comp=Z,13nm,0.5s						
DBIC	**Dimbokro**	**66.75**	**72**	P	**P**	**13 44 48.4**	**-1.3**
DBIC				IAmb	IAmb	13 44 51.1	
	comp=Z,9.8nm,0.6s						
DBIC	**Dimbokro**	**66.75**	**72**	P	**P**	**13 44 49.1**	**-0.6**
	comp=Z,9.8nm,0.6s,baz=227,slow=6.3,SNR=15						
	comp=Z,9.8nm,0.6s						
WBO	**Williamsburg**	**67.67**	**353**	P	**P**	**13 44 55.9**	**+1.1**
WBO				IAmb	IAmb	13 45 14.5	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**67.70**	**180**		**P**	**13 44 55.9**	**+0.8**
QSPA	**South Pole Qui**	**67.70**	**180**	P	**P**	**13 44 55.6**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=352,slow=1.0,SNR=23						
	comp=Z,3.1nm,0.8s						
SADO	**Sadowa**	**67.96**	**350**	P	**P**	**13 44 57.0**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=190,slow=1.9,SNR=4.3						
	comp=Z,4.3nm,0.6s						
F64A	**Sherman**	**68.06**	**358**	P	**P**	**13 44 58.0**	**+0.8**
F64A				IAmb	IAmb	13 45 00.5	
	comp=Z,36nm,1.4s						
ANMO	**Albuquerque**	**68.66**	**325**	P	**P**	**13 45 02.6**	**+1.1**
	comp=Z,5.6nm,0.9s,baz=242,slow=7.0,SNR=5.0						
	comp=Z,5.6nm,0.9s						
E62A	**Clayton Lake**	**68.85**	**358**	P	**P**	**13 45 03.3**	**+1.2**
E62A				IAmb	IAmb	13 45 18.3	
	comp=Z,30nm,1.5s						
BGNE	**Belgrade**	**70.10**	**335**	P	**P**	**13 45 11.5**	**+1.6**
TOA0	**Torodi Ar. Sit**	**75.45**	**69**	P	**P**	**13 45 41.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.45**	**69**	P	**P**	**13 45 40.8**	**-1.1**
TORD				IAmb	IAmb	13 45 42.0	
	comp=Z,8.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.45**	**69**	P	**P**	**13 45 41.2**	**-0.6**
	comp=Z,12nm,0.4s,baz=261,slow=6.1,SNR=186						
TORD				pP	**pP**	**13 46 39.6**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=254,slow=5.2,SNR=3.4						
	comp=Z,12nm,0.4s						
PDAR	**Pinedale Array**	**76.19**	**329**	P	**P**	**13 45 46.8**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=128,slow=6.8,SNR=4.8						
	comp=Z,2.3nm,0.7s						
VNDA	**Vanda**	**76.28**	**190**	P	**P**	**13 45 47.0**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=134,slow=3.2,SNR=4.0						
	comp=Z,0.8nm,0.7s						
SCHQ	**Schefferville**	**77.02**	**360**	P	**P**	**13 45 50.6**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=225,slow=16,SNR=1.4						
	comp=Z,2.5nm,0.9s						
MDT	**Midelt**	**80.58**	**49**	P	**P**	**13 46 10.5**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=225,slow=8.5,SNR=3.6						
	comp=Z,2.1nm,0.7s						
BOSA	**Boshof**	**80.86**	**117**	P	**P**	**13 46 10.7**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=263,slow=4.9,SNR=10.0						
	comp=Z,1.8nm,0.4s						
ESDC	**Sonseca Array**	**84.89**	**43**	P	**P**	**13 46 32.6**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=241,slow=4.7,SNR=16						
	comp=Z,3.6nm,0.9s						
YKA	**Yellowknife Ar**	**92.94**	**340**	P	**P**	**13 47 10.2**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=131,slow=4.3,SNR=59						
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**130.07**	**204**	PKP	**PKPdf**	**13 53 05.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=128,slow=1.8,SNR=27						
ASAR				SKPbc	**SKPbc**	**13 56 05.5**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=146,slow=3.5,SNR=8.4						
WRA	**Warramunga Arr**	**133.24**	**207**	PKP	**PKPdf**	**13 53 12.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=153,slow=1.9,SNR=4.8						
WRA				SKPbc	**SKPbc**	**13 56 17.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=155,slow=3.1,SNR=11						
KURBB	**Kurchatov Arra**	**140.81**	**35**	PKP	**PKPdf**	**13 53 24.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=296,slow=3.0,SNR=2.1						
KURBB				SKPbc	**SKiKP**	**13 56 40.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=298,slow=3.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**141.78**	**27**	PKhKP	PKPpre	13 53 24.1	
	comp=Z,0.5nm,0.4s,baz=301,slow=6.5,SNR=3.1						
ZALV				SKPbc	**SKiKP**	**13 56 42.6**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=321,slow=4.3,SNR=5.8						
MKAR	**Makanchi Array**	**144.98**	**39**	PKP	**PKPab**	**13 53 33.0**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=309,slow=3.5,SNR=23						
MKAR				SKPbc	**SKiKP**	**13 56 50.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=301,slow=2.0,SNR=4.1						
HEH	**HeiHe**	**150.28**	**342**	*e*P	**PKPbc**	**13 53 46.6**	**+0.4**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SONM	**Songino Array**	**154.06**	**11**	PKP	**PKPdf**	**13 53 48.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=215,slow=1.8,SNR=2.8						
SONM				PKPbc	**PKiKP**	**13 53 55.7**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=274,slow=2.7,SNR=3.6						
MDJ	**Mudanjiang**	**154.35**	**333**	PKPbc	**PKPdf**	**13 53 47.1**	**+0.1**
MDJ				sPKP		13 55 12.8	
MDJ				PP	**PP**	**13 57 46.6**	**+0.4**
MJAR	**Matsushiro Arr**	**154.56**	**309**	PKPbc	**PKiKP**	**13 53 56.8**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=49,slow=1.8,SNR=6.1						
CN2	**Changchun**	**156.63**	**338**	*e*P	**PKPdf**	**13 53 47.0**	**-3.1**
CMAR	**Chiang Mai Arr**	**165.62**	**104**	PKPab	**PKPab**	**13 55 00.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=261,slow=6.0,SNR=6.7						
PZH	**PanZhiHua**	**168.43**	**67**	PKP	**PKPdf**	**13 53 57.3**	**-5.0**
NJ2	**Nanjing**	**169.43**	**335**	*e*P	**PKPdf**	**13 54 02.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						

GCMT ***03*** *13:38:37.4±0.2, 13°.11N±0°.01×89°.64W±0°.01, h69km±1km, MW5.2/111, Moment Tensor Solution. s100,c131; s111,c172; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.81±.13; Mθθ4.03±.12; Mφφ1.78±.14; Mrθ1.58±.10; Mθφ-3.48±.11; Mφr-1.99±.10; Best double couple: Mo6.69400×10^16 NP1:φs313.00000°, δ56.00000°, λ-82.00000°. NP2:φs119.00000°, δ35.00000°, λ-101.00000°. Principal axes: T 7.0310, Plg11.0000°, Azm37.0000°; N -0.6750, Plg6.0000°, Azm128.0000°; P -6.3560, Plg77.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***03*** *13:38:38.7±0.4, 13°.39N×88°.98W, h71km±2km, mb4.4/30, mbtmp4.7/32, MS4.2/54 Error ellipse: s-maj=13.2km s-min=7.5km az=49.0*

GCG ***03*** *13:38:39.2±0.5, 13°.24N×89°.31W, h79km, MD4.7*

SNET ***03*** *13:38:39.9±1.1, 13°.24N×89°.38W, h59km, ML5.8*

NEIC ***03*** *13:38:40.3±1.7, 13°.20N±0°.05×89°.28W±0°.06, h74km±5km, mb5.1/65, Mww5.2/26, Error ellipse: s-maj=9.6km s-min=7.2km az=58.0*

CATAC ***03*** *13:38:40.1±0.4, 13°.16N×89°.33W, h33km±4km, ML5.6*

NEIC ***03*** *13:38:40.7, 13°.23N×89°.37W, h60km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16Nm; Mrr-7.41; Mθθ3.73; Mφφ3.68; Mrθ1.09; Mθφ-4.73; Mφr-1.41; Fault plane solution: Mo8.12000×10^16 NP1: φs316.80000°, δ51.34000°, λ-87.49000°. NP2: φs132.79000°, δ38.73000°, λ-93.13000°. Principal axes: T 8.6299, Plg6.0000°, Azm45.0000°; N -1.0141, Plg2.0000°, Azm135.0000°; P -7.6158, Plg83.0000°, Azm242.0000°;*

NEIC ***03*** *13:38:40.7, 13°.23N×89°.27W, h60km*

UCR ***03*** *13:38:47.1±3.0, 13°.11N×88°.77W, h33km±196km, MB5.2(NEIC)*

ISC 03 13:38:38.2±0.3, **13°.19N**±0°.04×**89°.31W**±0°.04, **h70**km±2km, **h70**km**:pP-P, n912,** σ1s**42**/947, **mb5.0**/60, **8C-7D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.29**	**357**	*e*P	**Pn**	**13 38 49.5**	**+0.1**
LALI	**Alcalda de L**	**0.29**	**357**	*i* P	**Pn**	**13 38 49.5**	**+0.1**
LALI				*i* S	**Sn**	**13 38 57.1**	**-0.5**
LALI				IAML		13 38 57.9	
	comp=Z,190μm,1.0s						
PANCS	**Alcalda de**	**0.43**	**16**	*i* P	**Pn**	**13 38 51.3**	**+0.7**
PANCS				IAML		13 39 03.2	
	comp=Z,630μm,1.0s						
LOMA	**Loma Larga**	**0.47**	**16**	*i* P	**Pn**	**13 38 51.9**	**+0.9**
LOMA				IAML		13 39 04.1	
	comp=Z,400μm,1.0s						
ITCA	**Escuela Especi**	**0.48**	**3**	*e*P	**Pn**	**13 38 51.6**	**+0.5**
ITCA	**Escuela Especi**	**0.48**	**3**	*i* P	**Pn**	**13 38 51.5**	**+0.5**
ITCA				*i* S	**Sn**	**13 39 01.6**	**+1.2**
ITCA				IAML		13 39 05.0	
	comp=Z,880μm,1.0s						
JAYA	**Jayaque - finc**	**0.48**	**343**	*e*P	**Pn**	**13 38 51.1**	**0.0**
JAYA	**Jayaque - finc**	**0.48**	**343**	*i* P	**Pn**	**13 38 51.1**	**0.0**
JAYA				IAML		13 39 00.7	
	comp=Z,1100μm,1.0s						
MAGS	**Ministerio de**	**0.49**	**2**	*i* P	**Pn**	**13 38 51.8**	**+0.7**
MAGS				IAML		13 39 10.8	
	comp=Z,350μm,1.0s						
SNET	**Serv Nac Est T**	**0.50**	**8**		**Pn**	**13 38 51.7**	**+0.5**
SNET	**Serv Nac Est T**	**0.50**	**8**	*i* P	**Pn**	**13 38 51.9**	**+0.7**
SNET				*i* S	**Sn**	**13 39 02.2**	**+1.6**
SNET				IAML		13 39 03.4	
	comp=Z,810μm,1.0s						
SJTE	**Alcalda de S**	**0.51**	**35**	*i* PA		13 38 52.2	
SJTE				IAML		13 39 03.6	
	comp=Z,230μm,1.0s						
SEMO	**Seminario San**	**0.51**	**9**	*i* P	**Pn**	**13 38 52.0**	**+0.7**
SEMO				IAML		13 39 03.4	
	comp=Z,780μm,1.0s						
UTEC	**Universidad Te**	**0.52**	**11**	*i* P	**Pn**	**13 38 52.4**	**+1.1**
UTEC				IAML		13 39 07.2	
	comp=Z,250μm,1.0s						
PMON	**Piamonte**	**0.52**	**359**	*i* PA		13 38 52.1	
PMON				IAML		13 39 03.2	
	comp=Z,400μm,1.0s						
AEIL	**Aeropuerto Ilo**	**0.53**	**20**	*e*P	**Pn**	**13 38 52.9**	**+1.3**
IGN	**Direccin Gen**	**0.53**	**14**	*e*P	**Pn**	**13 38 52.5**	**+1.0**
IGN	**Direccin Gen**	**0.53**	**14**	*i* PA		13 38 52.9	
IGN				IAML		13 39 06.3	
	comp=Z,1100μm,1.0s						
BOQS	**Boqueron**	**0.54**	**3**	*e*P	**Pn**	**13 38 52.5**	**+0.7**
UDBS	**Universidad Do**	**0.54**	**16**	*i* P	**Pn**	**13 38 52.9**	**+1.3**
UDBS				IAML		13 39 04.4	
	comp=Z,370μm,1.0s						
COEG	**Centro de Oper**	**0.59**	**44**	*e*P	**Pn**	**13 38 53.0**	**+0.9**
COEG	**Centro de Oper**	**0.59**	**44**	*i* PA		13 38 53.1	
COEG				IAML		13 39 10.3	
	comp=Z,90μm,1.0s						
CEDA	**San Andres**	**0.61**	**352**	*e*P	**Pn**	**13 38 53.1**	**+0.7**
CEDA	**San Andres**	**0.61**	**352**	*i* P	**Pn**	**13 38 53.0**	**+0.7**
CEDA				IAML		13 39 08.6	
	comp=Z,1300μm,1.0s						
TECO	**Alcaldia de Te**	**0.61**	**56**	*i* PA		13 38 53.2	
TECO				IAML		13 39 05.9	
	comp=Z,70μm,1.0s						
PAVA	**Las Pavas**	**0.63**	**35**	*i* P	**Pn**	**13 38 54.3**	**+1.8**
PAVA				IAML		13 39 07.4	
	comp=Z,550μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.64**	**3**	*i* PA		13 38 53.5	
QUEZ				IAML		13 39 13.0	
	comp=Z,880μm,1.0s						
UESV	**Universidad de**	**0.67**	**49**	*i* P	**Pn**	**13 38 54.1**	**+1.2**
UESV				IAML		13 39 07.1	
	comp=Z,95μm,1.0s						
CEVE	**Cerro Verde**	**0.70**	**334**	*e*P	**Pn**	**13 38 53.9**	**+0.4**
CEVE	**Cerro Verde**	**0.70**	**334**	*i* PA		13 38 54.0	
CEVE				IAML		13 39 07.5	
	comp=Z,530μm,1.0s						
ALJI	**Alcalda de J**	**0.73**	**79**	*e*P	**Pn**	**13 38 54.1**	**+0.6**
ALJI	**Alcalda de J**	**0.73**	**79**	*i* P	**Pn**	**13 38 54.3**	**+0.8**
ALJI				IAML		13 39 07.4	
	comp=Z,57μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.76**	**48**	*i* PA		13 38 55.6	
SCLA				IAML		13 39 18.0	
	comp=Z,61μm,1.0s						
UNIC	**Universidad Ca**	**0.82**	**343**	*i* P	**Pn**	**13 38 55.5**	**+0.9**
UNIC				IAML		13 39 11.4	
	comp=Z,98μm,1.0s						
NUBE	**Las Nubes**	**0.84**	**327**	*i* PA		13 38 55.0	
NUBE				IAML		13 39 10.3	
	comp=Z,200μm,1.0s						
LOAL	**Lomas de Alarc**	**0.92**	**330**	*i* P	**Pn**	**13 38 56.7**	**+0.8**
LOAL				IAML		13 39 14.3	
	comp=Z,290μm,1.0s						
PACA	**Pacayal**	**0.99**	**74**	*i* P	**Pn**	**13 38 59.1**	**+2.3**
PACA				IAML		13 39 18.6	
	comp=Z,640μm,1.0s						
LLGN	**La Laguna**	**1.03**	**20**	*i* PA		13 38 58.6	
LLGN				IAML		13 39 22.5	
	comp=Z,33μm,1.0s						
CNRM	**Centro Naciona**	**1.14**	**76**	*e*P	**Pn**	**13 39 00.2**	**+1.7**
CNRM	**Centro Naciona**	**1.14**	**76**	*i* P	**Pn**	**13 39 01.1**	**+2.6**
CNRM				IAML		13 39 37.4	
	comp=Z,360μm,1.0s						
MTO3	**Montecristo**	**1.20**	**357**		**Pn**	**13 39 00.6**	**+1.1**
ESQI	**Esquipulas**	**1.36**	**359**	Pn	**Pn**	**13 39 03.2**	**+1.7**
LCND	**La Caada**	**1.38**	**85**	*i* PA		13 39 03.8	
LCND				IAML		13 39 05.8	
	comp=Z,38μm,1.0s						
AMPH	**Amapala**	**1.61**	**87**	*i* P	**Pn**	**13 39 06.4**	**+1.8**
INTHN	**La Esperanza I**	**1.61**	**46**	*i* PA		13 39 07.4	
SARH	**Santa Rosa de**	**1.66**	**19**	*i* P	**Pn**	**13 39 07.8**	**+2.4**
NBG	**Las Nubes**	**1.71**	**324**	*e*P	**Pn**	**13 39 08.3**	**+1.9**
PCG	**Pacaya**	**1.74**	**313**	*e*P	**Pn**	**13 39 08.2**	**+1.5**
GCG4	**OSOP**	**1.83**	**319**	*i* PA		13 39 10.5	
GCG4				IAML		13 39 43.3	
	comp=Z,19μm,1.0s						
GUMI	**Mixco**	**1.91**	**319**	*i* P	**Pn**	**13 39 09.8**	**+0.9**
GUMI				IAML		13 39 50.0	
	comp=Z,24μm,1.0s						
FUG	**Fuego 3**	**1.94**	**310**	*e*P	**Pn**	**13 39 10.6**	**+1.2**
COMHN	**El Horno**	**2.10**	**54**	*i* PA		13 39 13.0	
APG	**El Apazote**	**2.12**	**328**	LR	LR	13 40 09.9	
	comp=Z,272nm,21.1s,baz=46,slow=42						
TGUH	**Tegucigalpa,Un**	**2.15**	**66**	Pn	**Pn**	**13 39 13.8**	**+1.6**
TGUH	**Tegucigalpa,Un**	**2.15**	**66**	*i* P	**Pn**	**13 39 13.9**	**+1.8**
TGUH				IAML		13 39 55.9	
	comp=Z,16μm,1.0s						
CHNN	**El Viejo**	**2.20**	**105**	*i* P	**Pn**	**13 39 13.8**	**+1.2**
CHNN				IAML		13 39 33.1	
	comp=Z,19μm,1.0s						
CRIN	**San Cristobal**	**2.25**	**102**		**Pn**	**13 39 15.0**	**+1.6**
CHTG	**Tecpan**	**2.25**	**314**	*i* PA		13 39 16.9	
CHTG				IAML		13 39 54.2	
	comp=Z,41μm,1.0s						
SULM	**Suchitepequez,**	**2.46**	**297**	*e*P	**Pn**	**13 39 17.0**	**+0.9**
YUSH	**Yuscaran**	**2.51**	**72**	*i* P	**Pn**	**13 39 19.0**	**+2.1**
SOKI	**Kika Raxquin**	**2.60**	**309**	*i* PA		13 39 20.3	
SOKI				IAML		13 39 55.1	
	comp=Z,17μm,1.0s						
STG3	**Santiaguito 3,**	**2.67**	**305**	*e*P	**Pn**	**13 39 20.2**	**+1.1**
RTAL	**Retalhuleu**	**2.67**	**300**	Pn	**Pn**	**13 39 19.3**	**+0.3**
QUIS	**Sacapulas**	**2.71**	**321**	*i* P	**Pn**	**13 39 22.0**	**+2.3**
QUIS				IAML		13 39 42.2	
	comp=Z,6μm,1.0s						
LEVN	**Ruinas Leon Vi**	**2.74**	**106**	*i* P	**Pn**	**13 39 21.3**	**+1.4**
MOMN	**Momotombo**	**2.81**	**106**	*i* PA		13 39 22.0	
MOMN				IAML		13 39 59.1	
	comp=Z,420nm,1.0s						
BC84	**Volcan Momotom**	**2.81**	**106**	*i* P	Pn	13 39 28.0	+7.1
BC86	**Nagarote**	**2.83**	**109**	*i* P	**Pn**	**13 39 22.8**	**+1.6**
BC86				IAML		13 40 27.4	
	comp=Z,11μm,1.0s						
MOM2	**El Cardon**	**2.85**	**105**	*i* PA		13 39 23.3	
MOM2				IAML		13 40 02.4	
	comp=Z,4μm,1.0s						
NISHN	**Nisperales Com**	**2.91**	**28**	*i* PA		13 39 25.0	
HUEH	**Huehuetenango**	**3.00**	**315**	Pn	**Pn**	**13 39 25.8**	**+2.1**
SAPS	**Ciudad Sandino**	**3.01**	**109**	*i* P	**Pn**	**13 39 25.8**	**+2.2**
SAPS				IAML		13 40 03.8	
	comp=Z,12μm,1.0s						
APQ2	**Apoyeque**	**3.07**	**108**	*i* PA		13 39 26.8	
APQN	**BB Volcan Apoy**	**3.09**	**108**	*i* PA		13 39 27.2	
ABCN	**Banco Central**	**3.11**	**110**	*i* PA		13 39 30.3	
ABCN				IAML		13 40 03.9	
	comp=Z,15μm,1.0s						
ALLN	**Telcor Managua**	**3.13**	**109**	*i* P	Pn	13 39 30.9	+5.6
TISN	**Laguna Tiscapa**	**3.14**	**109**	*i* PA		13 39 27.1	
TISN				IAML		13 40 04.7	
	comp=Z,450nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.14**	**84**	*i* PA		13 39 26.5	
RCPN				IAML		13 40 19.2	
	comp=Z,11nm,1.0s						
UNAN	**Cigeo UNAN**	**3.15**	**110**	*i* P	**Pn**	**13 39 27.2**	**+1.6**
SMCA	**Catarina**	**3.15**	**302**	*i* P	**Pn**	**13 39 27.4**	**+1.8**
SMCA				IAML		13 40 09.8	
	comp=Z,8μm,1.0s						
ENAN	**Enatrel Managu**	**3.16**	**110**	*i* PA		13 39 29.7	
ENAN				IAML		13 40 05.3	
	comp=Z,13μm,1.0s						
MGA1	**Managua**	**3.16**	**109**	*i* P	Pn	13 39 32.2	+6.6
CRUN	**El Crucero**	**3.17**	**112**	*i* P	**Pn**	**13 39 28.2**	**+2.3**
CRUN				IAML		13 40 13.6	
	comp=Z,19nm,1.0s						
HUEN		**3.17**	**105**	*i* PA		13 39 27.3	
HUEN				IAML		13 41 02.4	
	comp=Z,3μm,1.0s						
WILN	**Americas 2**	**3.21**	**108**	*i* PA		13 39 28.8	
MAS3	**Al N del Volca**	**3.27**	**110**	*i* P	**Pn**	**13 39 28.2**	**+1.0**
MAS3				IAML		13 40 11.8	
	comp=Z,7μm,1.0s						
ADRN	**Diriamba**	**3.27**	**114**	*i* P	Pn	13 39 34.2	+6.9
MASN	**Masaya**	**3.31**	**111**	*i* PA		13 39 30.7	
MASN				IAML		13 40 09.7	
	comp=Z,2μm,1.0s						
MATN	**Matagalpa**	**3.31**	**94**		**Pn**	**13 39 28.7**	**+1.0**
PETF	**Flores**	**3.74**	**352**	Pn	**Pn**	**13 39 35.6**	**+2.1**
CCIG	**Comitan**	**4.11**	**319**		**Pn**	**13 39 40.8**	**+2.0**
ACON	**Acoyapa**	**4.21**	**106**		**Pn**	**13 39 40.3**	**+0.2**
ACON	**Acoyapa**	**4.21**	**106**	*e*P	**Pn**	**13 39 39.4**	**-0.7**
HZTE	**Horizontes, Gu**	**4.39**	**124**	Pn	**Pn**	**13 39 44.5**	**+2.1**
HZTE	**Horizontes, Gu**	**4.39**	**124**	⇓*e*P	**Pn**	**13 39 44.8**	**+2.3**
HZTE				*e*S	**Sn**	**13 40 30.4**	**-2.0**
ELI1	**Hacienda Flor**	**4.46**	**124**	*e*P	**Pn**	**13 39 46.4**	**+3.0**
ELI1				*e*S	**Sn**	**13 40 33.2**	**-0.9**
VRLE	**La Escondida,**	**4.54**	**121**	*e*P	**Pn**	**13 39 46.0**	**+1.4**
VRLE	**La Escondida,**	**4.54**	**121**	*i* PA		13 39 48.0	
VRLE				IAML		13 40 51.7	
	comp=Z,760nm,1.0s						
GPS3	**Bodega del ICE**	**4.55**	**122**	*e*P	**Pn**	**13 39 48.4**	**+3.6**
GPS3				*e*S	**Sn**	**13 40 35.8**	**-0.7**
DELF	**Filadelfia**	**4.58**	**126**	*e*P	**Pn**	**13 39 47.5**	**+2.5**
ORTG	**Ortega, Santa**	**4.70**	**126**		**Pn**	**13 39 48.5**	**+1.8**
ORTG	**Ortega, Santa**	**4.70**	**126**	⇓*i*P	**Pn**	**13 39 49.1**	**+2.3**
CAMAV	**Centro de Prod**	**4.73**	**121**	*e*P	**Pn**	**13 39 49.0**	**+1.9**
JUD3	**Juan Diaz 3**	**4.76**	**129**	*e*P	**Pn**	**13 39 49.4**	**+1.8**
JUD3				*e*S	**Sn**	**13 40 38.0**	**-3.6**
PLVR	**Palo Verde**	**4.79**	**126**	*e*P	**Pn**	**13 39 50.5**	**+2.3**
NICO	**Nicoya**	**4.85**	**128**	*e*P	**Pn**	**13 39 50.5**	**+1.7**
VERA	**Finca Concepci**	**4.92**	**118**	*e*P	**Pn**	**13 39 52.1**	**+2.3**
CMARA	**Lajas Hojancha**	**4.94**	**129**	*e*P	**Pn**	**13 39 49.7**	**-0.3**
CNAS	**Canas**	**4.96**	**123**	*e*P	**Pn**	**13 39 52.8**	**+2.7**
LCHIL	**Los Chiles**	**4.98**	**115**	*e*P	**Pn**	**13 39 51.4**	**+1.0**
INDI	**Punta indio, G**	**4.98**	**131**	⇓*i*P	**Pn**	**13 39 52.2**	**+1.6**
INDI	**Punta indio, G**	**4.98**	**131**	*i* P	**Pn**	**13 39 52.1**	**+1.6**
INDI				*i* S	**Sn**	**13 40 43.2**	**-3.7**
INDI				IAML		13 41 12.4	
	comp=Z,1μm,1.0s						
NYURE	**Nandayure**	**5.09**	**128**	*e*P	**Pn**	**13 39 53.7**	**+1.8**
NYURE				*e*S	**Sn**	**13 40 45.4**	**-4.0**
JTS	**Las Juntas de**	**5.15**	**124**	Pn	**Pn**	**13 39 54.2**	**+1.4**
JTS	**Las Juntas de**	**5.15**	**124**	P	**Pn**	**13 39 54.8**	**+2.0**
	comp=Z,86nm,0.3s,baz=307,slow=20,SNR=78						
JTS				S	**Sn**	**13 40 46.4**	**-4.6**
	comp=Z,110nm,0.7s,baz=317,slow=23,SNR=0.9						
JTS	**Las Juntas de**	**5.15**	**124**	*e*P	**Pn**	**13 39 55.2**	**+2.4**
JTS	**Las Juntas de**	**5.15**	**124**	*e*P	**Pn**	**13 39 54.6**	**+1.7**
JUNT	**Juntas**	**5.15**	**124**	*e*P	**Pn**	**13 39 54.9**	**+2.1**
ARE1	**Arenal 1**	**5.25**	**121**		**Pn**	**13 39 57.3**	**+3.0**
ARE1	**Arenal 1**	**5.25**	**121**	⇑*i*P	**Pn**	**13 39 56.9**	**+2.7**
ARE1				*e*S	**Sn**	**13 40 51.8**	**-1.7**
VACR	**Volcan Arenal**	**5.28**	**120**	*e*P	**Pn**	**13 39 54.9**	**+0.3**
SOCE	**Pocosol**	**5.37**	**121**		**Pn**	**13 39 58.0**	**+2.1**
SOCE	**Pocosol**	**5.37**	**121**	*e*P	**Pn**	**13 39 58.0**	**+2.1**
COVE	**Coope Vega, Sa**	**5.39**	**117**		**Pn**	**13 39 58.3**	**+2.1**
COVE	**Coope Vega, Sa**	**5.39**	**117**	*e*P	**Pn**	**13 39 56.3**	**+0.1**
CPMI	**Catarata Coope**	**5.62**	**120**	*e*P	**Pn**	**13 40 01.4**	**+1.9**
RAMO	**San Ramon**	**5.66**	**123**	*e*P	**Pn**	**13 40 04.2**	**+4.3**
JACO	**JACO, Garabito**	**5.75**	**127**		**Pn**	**13 40 03.2**	**+2.2**
JACO	**JACO, Garabito**	**5.75**	**127**	⇓*e*P	**Pn**	**13 40 03.3**	**+2.2**
POA5	**Crater Von Fra**	**5.79**	**120**	*e*P	**Pn**	**13 39 57.7**	**-4.2**
TCS1	**Tacares**	**5.82**	**122**	*e*P	**Pn**	**13 40 04.4**	**+2.3**
HDC	**Heredia**	**6.00**	**121**		**Pn**	**13 40 06.8**	**+2.3**
HDC	**Heredia**	**6.00**	**121**	*e*P	**Pn**	**13 40 05.7**	**+1.2**
RIFO	**Rio Frio, Sara**	**6.00**	**118**	*e*P	**Pn**	**13 40 08.5**	**+4.1**
HDC3	**Heredia 3**	**6.00**	**121**	*e*P	**Pn**	**13 40 01.5**	**-3.1**
ACOS	**Acosta**	**6.07**	**123**	*e*P	**Pn**	**13 40 06.6**	**+1.1**
ACOS				*e*S	**Sn**	**13 41 13.6**	**0.0**
LUJA	**Lujan**	**6.07**	**122**	*e*P	**Pn**	**13 40 09.7**	**+4.1**
SJS3	**Mercedes San J**	**6.08**	**122**	*e*P	Pn	13 40 11.0	+5.3
CVIMO	**Finca Echandi**	**6.13**	**120**	*e*P	**Pn**	**13 40 08.0**	**+1.6**
ABE2	**San Pablo**	**6.21**	**123**	*e*P	**Pn**	**13 40 10.1**	**+2.6**
LCR2	**La Lucha 2**	**6.23**	**123**		**Pn**	**13 40 09.7**	**+2.0**
LCR2	**La Lucha 2**	**6.23**	**123**	⇓*i*P	**Pn**	**13 40 10.2**	**+2.4**
LCR2				*e*S	**Sn**	**13 41 16.7**	**-1.0**
LCR2	**La Lucha 2**	**6.23**	**123**	*i* P	**Pn**	**13 40 10.6**	**+2.8**
VICA	**Volcano Irazu**	**6.23**	**120**	*e*P	**Pn**	**13 40 08.9**	**+0.9**
VTRT	**Volcan Turrial**	**6.26**	**120**	*e*P	**Pn**	**13 40 12.3**	**+3.9**
CVTQ	**Turrialba Volc**	**6.28**	**120**	*e*P	**Pn**	**13 40 10.9**	**+2.2**
PCAYA	**Pacayas**	**6.29**	**121**	*e*P	**Pn**	**13 40 12.6**	**+3.9**

VTLO **VTLO** 6.30 119 *e*P Pn 13 40 11.3 +2.5
CVTV **Tajo** 6.30 120 *e*P Pn 13 40 12.2 +3.4
LLNJ **Naranjito** 6.30 125 *e*P Pn 13 40 11.9 +3.3
RIMA **Rio Macho** 6.33 122 Pn Pn 13 40 12.0 +2.8
RIMA **Rio Macho** 6.33 122 *e*P Pn 13 40 11.4 +2.3
RIMA **Rio Macho** 6.33 122 *i* P Pn 13 40 11.7 +2.5
VTCV **VTCV, Calle Va** 6.33 120 *e*P Pn 13 40 09.5 +0.3
VERB **Verbena** 6.38 120 *e*P Pn 13 40 12.4 +2.6
TURIB **Turrialba** 6.40 120 *e*P Pn 13 40 13.9 +3.8
LCOCO **El Coco** 6.42 118 *e*P Pn 13 40 13.2 +2.9
IRES **Siquirres** 6.46 118 *e*P Pn 13 40 13.8 +3.0
CDM **Cerro de Muert** 6.53 123 *e*P Pn 13 40 15.2 +3.1
CDM **Cerro de Muert** 6.53 123 *i* P Pn 13 40 15.4 +3.3
CDM IAML 13 40 19.1
comp=Z,430nm,1.0s
CDM IAmb IAmb 13 40 22.9
comp=Z,180nm,0.5s
CDM IVmB_BB 13 40 28.0
comp=Z,5µm,1.0s
BUS1 **Rivas** 6.54 123⇑ *e*P Pn 13 40 15.0 +2.7
BUS1 ⇑*e*S Sn 13 41 24.0 -1.8
CMIG **Matias Romero** 6.63 306 P Pn 13 40 14.7 +1.5
comp=Z,53nm,0.4s,baz=137,slow=7.3,SNR=99
CMIG S Sn 13 41 25.4 -1.9
comp=Z,148nm,0.3s,baz=267,slow=18,SNR=11
ZELE **Perez Zeledon** 6.68 124 *e*P Pn 13 40 16.5 +2.7
ZELE *e*S Sn 13 41 26.3 -2.2
OCHAL **Ojochal** 6.89 126 *i* P Pn 13 40 20.0 +3.4
OCHAL IAML 13 40 25.2
comp=Z,7.2nm,1.0s
OCHAL IVmB_BB 13 40 25.2
comp=Z,180nm,1.0s
SRBA **San Rafael, Bu** 7.04 123 Pn 13 40 21.4 +2.6
SRBA **San Rafael, Bu** 7.04 123 *e*P Pn 13 40 21.3 +2.6
SRBA **San Rafael, Bu** 7.04 123 *i* P Pn 13 40 21.3 +2.5
SRBA IAML 13 40 23.4
comp=Z,440nm,1.0s
SRBA IVmB_BB 13 40 23.4
comp=Z,6µm,1.0s
SRBA IAmb IAmb 13 40 23.9
comp=Z,290nm,0.7s
SRBA *i* S Sn 13 41 34.4 -3.0
TEIG **Tepich** 7.06 8 Pn Pn 13 40 21.1 +2.1
TEIG **Tepich** 7.06 8 P Pn 13 40 21.8 +2.8
comp=Z,9µm,0.7s,baz=327,slow=8.4,SNR=427
TEIG S Sn 13 41 33.9 -3.9
comp=Z,565nm,0.4s,baz=169,slow=21.1,SNR=0.7
BURE **Buenos Aires** 7.09 124 *e*P Pn 13 40 22.8 +3.4
DRK0 **Durika** 7.11 123 Pn 13 40 21.9 +2.0
DRK0 **Durika** 7.11 123 *e*P Pn 13 40 22.2 +2.3
EDPN **Palmar Norte** 7.12 126 *e*P Pn 13 40 23.4 +3.6
EDBA **Buenos Aires** 7.14 123 *e*P Pn 13 40 22.1 +1.9
POTG **Potrero Grande** 7.33 123 *e*P Pn 13 40 25.6 +2.8
POTG **Potrero Grande** 7.33 123 *i* P Pn 13 40 26.2 +3.4
POTG IVmB_BB 13 40 27.5
comp=Z,12µm,1.0s
POTG IAML 13 40 27.6
comp=Z,2µm,1.0s
POTG IAmb IAmb 13 40 27.7
comp=Z,1µm,0.7s
POTG *i* S Sn 13 41 42.8 -1.9
JIME **Puerto Jimenez** 7.48 128 *e*P Pn 13 40 27.8 +3.1
EDAD **Golfito** 7.53 126 *e*P Pn 13 40 28.1 +2.6
PIRO **Carate, Puerto** 7.55 128 *e*P Pn 13 40 29.2 +3.5
PIRO **Carate, Puerto** 7.55 128 *i* P Pn 13 40 29.6 +3.9
PIRO IAML 13 40 35.6
comp=Z,1µm,1.0s
PIRO IVmB_BB 13 40 35.6
comp=Z,13µm,1.0s
PIRO IAmb IAmb 13 40 39.2
comp=Z,560nm,0.6s
CTCR **Cotoan** 7.71 123 *e*P Pn 13 40 29.6 +1.5
CDITO **Canoas** 7.81 125 Pn 13 40 31.9 +2.6
CDITO **Canoas** 7.81 125 *e*P Pn 13 40 31.8 +2.6
CDITO **Canoas** 7.81 125 *i* P Pn 13 40 32.0 +2.8
CDITO IAmb IAmb 13 40 49.2
comp=Z,220nm,0.5s
CDITO IAML 13 40 52.3
comp=Z,380nm,1.0s
BRU2 **Volcan** 7.83 123 Pn Pn 13 40 32.5 +2.9
BRU2 **Volcan** 7.83 123 *e*P Pn 13 40 32.8 +3.2
BRU2 *e*S Sn 13 41 54.6 -2.3
CCOL **Caracol de Cor** 7.83 127 *e*P Pn 13 40 34.1 +4.6
CCOL *e*S Sn 13 41 55.8 -0.9
CCOL **Caracol de Cor** 7.83 127 *i* P Pn 13 40 34.2 +4.6
CCOL IAmb IAmb 13 40 38.8
comp=Z,1µm,0.5s
CCOL IAML 13 40 40.1
comp=Z,2µm,1.0s
CCOL IVmB_BB 13 40 40.1
comp=Z,16µm,1.0s
TLIG **Tlapa** 9.93 297 Pn 13 41 00.3 +2.0
BCIP **Isla Barro Col** 10.11 112 Pn Pn 13 41 03.1 +2.3
BCIP **Isla Barro Col** 10.11 112 *e*P Pn 13 41 03.1 +2.3
CACAO **El Cacao, Vera** 10.14 124 *e*P Pn 13 41 04.8 +3.7
SOR **Soroa** 11.27 31 Pn Pn 13 41 30.1 +3.6
CAMR **Camarioca** 12.37 36 Pn Pn 13 41 33.8 +2.3
MTDJ **Mount Denham** 12.39 65 Pn Pn 13 41 34.4 +2.5
MOIG **Morelia** 13.09 301 Pn Pn 13 41 43.5 +2.0
PAYG **Puerto Ayora** 13.81 184 Pn P 13 41 54.7 -2.4
SJCC **San Jacinto, C** 14.22 102 *e*P Pn 13 41 55.9 -0.5
SJCC **San Jacinto, C** 14.22 102 *e*P ScP 13 50 40.2 +2.4
DBBC **Dabeiba** 14.28 114 *e*P Pn 13 41 59.0 +1.9
UREC **San Jos de Ur** 14.58 110 *e*P ScP 13 50 42.4 +4.0
CBOC **Ciudad Bolivar** 14.99 118 *e*P Pn 13 42 07.0 +0.6
CBOC **Ciudad Bolivar** 14.99 118 *e*P ScP 13 50 41.6 +2.3
GTBY **Guantanamo Bay** 15.16 62 Pn Pn 13 42 09.1 +0.7
PLMC **San Jos del P** 15.26 121 *e*P P 13 42 12.0 -1.3
PLMC **San Jos del P** 15.26 121 *e*P ScP 13 50 44.5 +4.8
ZARC **Zaragoza, Cauc** 15.30 110 *e*P P 13 42 12.9 -0.6
ZARC **Zaragoza, Cauc** 15.30 110 *e*P ScP 13 50 42.8 +3.1
YOTC **Yotoco, Valle** 15.74 124 *e*P P 13 42 18.1 -0.5
YOTC **Yotoco, Valle** 15.74 124 *e*P ScP 13 50 43.9 +3.2
ZAIG **Zacatecas** 15.79 309 Pn P 13 42 18.3 -1.0
GUY2C **Guyana, Caldas** 15.87 119 *e*P P 13 42 20.5 +0.1
GUY2C **Guyana, Caldas** 15.87 119 *e*P ScP 13 50 45.3 +3.9
JAMC **Jamundi, Valle** 15.95 127 *e*P P 13 42 21.5 +0.5
BBAC **Balboa, Cauca** 16.30 132 *e*P P 13 42 25.0 +0.1
HBVL **Hebbronville** 16.35 329 P P 13 42 26.0 +0.8
POPC **Popayan, Colom** 16.38 129 *e*P P 13 42 26.6 +0.8
KVTX **Kingsville** 16.38 332 P P 13 42 27.0 +1.6
baz=149
DWPF **Disney Wildern** 16.56 25 P P 13 42 27.6 +0.2
baz=208
ORTC **Ortega, Tolima** 16.67 122 *e*P P 13 42 30.1 +1.2
ORTC **Ortega, Tolima** 16.67 122 *e*P ScP 13 50 47.4 +4.9
OTAV **Otavalo** 16.78 139 P P 13 42 31.2 +0.8
OTAV **Otavalo** 16.78 139 *e*P P 13 42 34.6 +4.2
SPBC **San Pablo de B** 16.78 115 *e*P P 13 42 30.7 +0.6
TULM **Tulcn-Chalpat** 16.85 136 P P 13 42 33.5 +2.2
TULM **Tulcn-Chalpat** 16.85 136 *e*P P 13 42 34.4 +3.1
IMBA **Imbabura, San** 16.91 139 P P 13 42 33.5 +1.6
PULU **Pululahua** 16.91 140 P P 13 42 33.9 +2.0
ROSC **El Rosal** 16.96 118 P P 13 42 34.1 +1.7
ROSC **El Rosal** 16.96 118 P P 13 42 35.4 +3.0
comp=Z,30nm,0.9s,baz=30,slow=23,SNR=8.6
ROSC LR LR 13 49 36.1
comp=Z,274nm,20.0s,baz=291,slow=39
ROSC ScP ScP 13 50 43.8 +0.4
comp=Z,6.9nm,0.4s,baz=160,slow=2.0,SNR=7.7
URIC **Uribia, Colomb** 16.97 93 P Pn 13 42 31.2 -0.1
PRAC **Prado** 17.08 122 *e*P P 13 42 35.3 +1.9
BARC **Barichara** 17.18 111 *e*P P 13 42 36.6 +1.9
BARC **Barichara** 17.18 111 *e*P ScP 13 50 48.0 +4.4
PAPH **Port-au-Prince** 17.19 70 P P 13 42 35.3 +0.8
BONI **La Bonita** 17.22 136 *e*P P 13 42 37.8 +2.7
PAMC **Pamplona, Colo** 17.34 108 *e*P P 13 42 36.7 0.0
735A **Kenedy** 17.48 334 P P 13 42 39.0 +1.4
GARC **Garzon, Huila** 17.50 128 *e*P P 13 42 41.5 +3.2
HKT **Hockley** 17.74 341 P Pn 13 42 42.5 +2.1
HKT **Hockley** 17.74 341 P Pn 13 42 42.4 +2.0
baz=159
833A **Chaparral WMA,** 17.75 330 P Pn 13 42 41.5 +0.8
833A **Chaparral WMA,** 17.75 330 P Pn 13 42 41.7 +1.1
baz=146,SNR=18
833A **Chaparral WMA,** 17.75 330 P Pn 13 42 42.0 +1.3
baz=146,SNR=18
FLOC **Florencia** 17.77 129 *e*P Pn 13 42 44.0 +2.9
PIAT **Ana Tenorio** 17.85 141 *e*P Pn 13 42 45.4 +3.0
EF01 **Eagle Ford 01** 17.96 333 P Pn 13 42 43.6 +0.4
BRAL **Brewton** 18.01 6 P Pn 13 42 45.3 +1.4
baz=187
346A **Big Creek Wild** 18.11 360 P Pn 13 42 46.9 +1.9

SDDR **Presa de Saban** 18.24 69 P Pn 13 42 47.8 +1.1
352A **Blakely** 18.64 12 P Pn 13 42 52.3 +0.9
352A **Blakely** 18.64 12 P Pn 13 42 52.7 +1.3
baz=193,SNR=14
HNDO **Hondo** 18.70 332 P P 13 42 51.3 +0.2
SDV **Santo Domingo** 18.82 101 P P 13 42 52.2 -0.4
SDV **Santo Domingo** 18.82 101 P P 13 42 52.0 -0.7
comp=Z,73nm,0.8s,baz=270,slow=4.4,SNR=26
SDV S S 13 46 19.5 -3.6
comp=Z,4.9nm,0.8s,baz=38,slow=16,SNR=1.7
SDV PcP PcP 13 47 18.4 +1.0
comp=Z,11nm,0.9s,baz=291,slow=2.4,SNR=2.7
SDV LR LR 13 50 42.2
comp=Z,406nm,21.1s,baz=274,slow=39
SDV ScP ScP 13 50 46.8 -0.3
comp=Z,22nm,1.0s,baz=284,slow=3.2,SNR=10
SDV **Santo Domingo** 18.82 101 *e*P ScP 13 50 49.6 +2.5
250A **Grady** 18.90 8 P Pn 13 42 55.9 +1.3
TIGA **Tifton** 18.91 15 P Pn 13 42 55.3 +0.7
baz=197,SNR=9.2
TIGA **Tifton** 18.91 15 P Pn 13 42 55.9 +1.4
baz=197,SNR=9.2
VBMS **Vicksburg** 18.97 357 P Pn 13 42 55.7 +0.4
baz=176
VBMS **Vicksburg** 18.97 357 P Pn 13 42 57.1 +1.8
baz=176
435B **Jarrell** 19.10 338 P Pn 13 42 56.7 -0.3
435B **Jarrell** 19.10 338 P Pn 13 42 56.6 -0.3
baz=155
435B **Jarrell** 19.10 338 P Pn 13 42 57.4 +0.5
baz=155,SNR=10
NATX **Nacogdoches** 19.12 346 P Pn 13 42 57.1 0.0
NATX **Nacogdoches** 19.12 346 P Pn 13 42 57.7 +0.5
baz=164,SNR=9.9
NATX **Nacogdoches** 19.12 346 P Pn 13 42 57.4 +0.3
baz=164,SNR=9.9
DRIO **Del Rio** 19.26 329 P Pn 13 42 58.6 -0.2
146A **Union** 19.36 1 P Pn 13 43 00.6 +0.7
BOSC **San Juan Bosco** 19.46 146 Pn 13 43 03.4 +1.8
143A **Socs Landing,** 19.52 355 P Pn 13 43 02.6 +0.8
baz=174
255A **Hazlehurst** 19.67 17 P Pn 13 43 03.8 +0.1
baz=200,SNR=5.0
JCT **Junction City** 19.75 332 P P 13 43 03.4 +0.9
JCT **Junction City** 19.75 332 P P 13 43 03.5 +0.9
baz=148,SNR=26
JCT **Junction City** 19.75 332 P P 13 43 03.1 +0.5
baz=148,SNR=26
MCRA **Macar, Loja** 19.77 151 P Pn 13 43 04.1 -0.8
MCRA **Macar, Loja** 19.77 151 *e*P Pn 13 43 04.1 -0.8
152A **Waverly Hall** 19.84 11 P Pn 13 43 05.5 -0.1
152A **Waverly Hall** 19.84 11 P Pn 13 43 05.4 -0.1
baz=193,SNR=22
LRAL **Lakeview Retre** 19.86 6 P Pn 13 43 05.0 -0.9
LRAL **Lakeview Retre** 19.86 6 P Pn 13 43 05.6 -0.3
baz=186,SNR=18
LRAL **Lakeview Retre** 19.86 6 P Pn 13 43 06.1 +0.2
baz=186,SNR=18
Z47A **Carrollton** 19.95 3 P Pn 13 43 06.4 -0.4
Z47A **Carrollton** 19.95 3 P Pn 13 43 07.0 +0.2
baz=183,SNR=6.9
BRDY **Brady** 20.10 335 P P 13 43 06.7 +0.4
BRDY IAmb IAmb 13 43 08.0
comp=Z,139nm,0.8s
154A **Montrose** 20.15 15 P Pn 13 43 09.1 -0.1
154A **Montrose** 20.15 15 P Pn 13 43 08.4 -0.8
baz=198,SNR=9.7
WHTX **Lake Whitney,** 20.15 340 P P 13 43 07.6 +0.8
baz=156,SNR=51
WHTX **Lake Whitney,** 20.15 340 P P 13 43 07.8 +0.9
baz=156,SNR=51
Z41A **Richland Creek** 20.23 351 P Pn 13 43 09.2 -0.9
Z41A IAmb IAmb 13 43 18.7
comp=Z,174nm,0.9s
Z51A **Franklin** 20.38 10 P Pn 13 43 10.7 -1.3
Z51A IAmb IAmb 13 43 14.4
comp=Z,71nm,0.8s
Z51A **Franklin** 20.38 10 P Pn 13 43 11.2 -0.8
baz=192,SNR=16
TREL **Terrell** 20.41 343 P P 13 43 10.6 +1.0
TREL IAmb IAmb 13 43 27.5
comp=Z,110nm,0.8s
SAND **Sanderson** 20.47 327 P P 13 43 10.8 +0.5
HPIG 20.53 314 P Pn 13 43 12.8 -1.2
HPIG IAmb IAmb 13 43 13.9
comp=Z,73nm,1.0s
Z38A **Mt. Pleasant** 20.64 346 P P 13 43 13.0 +1.0
Z38A IAmb IAmb 13 43 31.4
comp=Z,188nm,1.2s
Z38A **Mt. Pleasant** 20.64 346 P P 13 43 13.5 +1.4
baz=164
OZNA **Ozona** 20.74 330 P P 13 43 13.8 +0.6
OZNA IAmb IAmb 13 43 16.2
comp=Z,65nm,0.9s
Y49A **Blount Mountai** 20.74 7 P P 13 43 14.6 +1.4
Y49A IAmb IAmb 13 43 15.9
comp=Z,71nm,0.8s
Y49A **Blount Mountai** 20.74 7 P P 13 43 14.6 +1.4
baz=188,SNR=20
CCAR **Cane Creek** 20.75 354 P Pn 13 43 16.0 -0.3
CCAR **Cane Creek** 20.75 354 P Pn 13 43 18.2 +1.9
baz=173,SNR=5.3
GOGA **Godfrey** 20.82 14 P P 13 43 15.1 +1.1
GOGA **Godfrey** 20.82 14 P P 13 43 15.2 +1.1
baz=196,SNR=9.0
GOGA **Godfrey** 20.82 14 P P 13 43 14.9 +0.9
baz=196,SNR=9.0
TXAR **Lajitas Array** 20.87 323 P P 13 43 15.5 +0.7
TXAR **Lajitas Array** 20.87 323 P Pn 13 43 16.8 -1.1
comp=Z,21nm,0.6s,baz=142,slow=9.2,SNR=264
TXAR pP pP 13 43 31.0 +1.5
comp=Z,7.6nm,0.5s,baz=141,slow=8.8,SNR=4.0
TXAR PcP PcP 13 47 22.0 +1.2
comp=Z,5.4nm,0.9s,baz=150,slow=2.7,SNR=6.8
TXAR ScP ScP 13 50 52.2 +0.7
comp=Z,3.1nm,0.8s,baz=154,slow=4.4,SNR=13
TXAR LR LR 13 53 10.1
comp=Z,111nm,19.1s,baz=126,slow=42
comp=Z,21nm,0.6s
TX31 **Lajitas Ar. Si** 20.87 323 P P 13 43 16.0 +1.3
TX31 **Lajitas Ar. Si** 20.87 323 P Pn 13 43 16.4 -1.6
baz=137,SNR=93
Y52A **Lilburn** 21.12 12 P P 13 43 18.9 +1.6
Y52A **Lilburn** 21.12 12 P P 13 43 18.8 +1.5
baz=194,SNR=9.8
Y52A P P 13 43 18.8 +1.5
baz=194,SNR=9.8
PLPT **Palo Pinto** 21.20 339 P P 13 43 17.9 -0.2
OXF **Oxford** 21.23 360 P P 13 43 19.4 +1.1
OXF **Oxford** 21.23 360 P P 13 43 20.3 +1.9
baz=180,SNR=26
OXF **Oxford** 21.23 360 P P 13 43 20.0 +1.6
baz=180,SNR=26
X48A **Hartselle** 21.26 5 P P 13 43 20.0 +1.2
baz=186,SNR=14
HAW **Hawthorne Fire** 21.27 18 P P 13 43 20.7 +1.9
baz=201,SNR=9.7
Z35A **Perchaven, San** 21.32 341 P P 13 43 19.7 +0.4
baz=158
NHSC **New Hope** 21.50 21 P P 13 43 22.4 +1.1
baz=205
FPAL **Fort Paine** 21.52 8 P P 13 43 22.3 +0.8
ABTX **Abilene, Hawle** 21.53 336 P P 13 43 21.7 +0.1
ABTX IAmb IAmb 13 43 44.9
comp=Z,78nm,0.9s
ABTX **Abilene, Hawle** 21.53 336 P P 13 43 21.8 +0.1
baz=152,SNR=21
ABTX **Abilene, Hawle** 21.53 336 P P 13 43 21.4 -0.3
baz=152,SNR=21
SGCY **Sterling City** 21.56 332 P P 13 43 21.4 -0.6
SGCY IAmb IAmb 13 43 45.5
comp=Z,114nm,1.2s
ALPN **Alpine** 21.63 325 P P 13 43 23.4 +0.6
X51A **Calhoun** 21.66 10 P P 13 43 23.9 +0.9
baz=192
X51A P P 13 43 23.9 +0.9
baz=192
UALR **University of** 21.66 353 P P 13 43 24.1 +1.1
UALR IAmb IAmb 13 43 27.3
comp=Z,111nm,1.0s
PLAL **Pickwick Lake** 21.72 3 P P 13 43 24.7 +1.1
MNHN **Monahans** 21.90 328 P P 13 43 25.7 +0.1
MNHN IAmb IAmb 13 43 29.7
comp=Z,66nm,0.7s
HODGE **Hodges** 21.90 16 P P 13 43 26.3 +0.7
HODGE IAmb IAmb 13 43 45.5
comp=Z,86nm,1.1s
HODGE **Hodges** 21.90 16 P P 13 43 27.0 +1.5
baz=198,SNR=14
LOOK **Love County** 21.91 342 P 13 43 26.4 +0.7
WTFS **Witchita Falls** 22.11 339 P 13 43 27.2 -0.7
WTFS IAmb IAmb 13 43 52.1
comp=Z,120nm,1.0s
SWET **Sewanee** 22.14 7 P P 13 43 28.4 +0.2
SWET IAmb IAmb 13 43 53.2
comp=Z,75nm,1.0s
W50A **Signal Mountai** 22.21 9 P P 13 43 29.2 +0.2
baz=190,SNR=6.5
JSC **Jenkinsville** 22.23 18 P P 13 43 30.4 +1.3
baz=201,SNR=10
W52A **Murphy** 22.34 12 P P 13 43 31.1 +0.8
baz=194
V48A **Smith Brothers** 22.56 5 P P 13 43 33.3 +0.6
baz=186,SNR=12
PAULI **Pauline** 22.58 16 P P 13 43 33.8 +0.9
baz=199,SNR=7.7
BIRD **Birdtown, Kers** 22.81 19 P P 13 43 36.1 +0.7
baz=203,SNR=6.9
LCAR **Lake Charles** 22.84 356 P P 13 43 36.0 +0.4
baz=175,SNR=27
WVT **Waverly** 22.88 3 P P 13 43 36.4 +0.5
baz=184
WVT **Waverly** 22.88 3 P P 13 43 35.9 0.0
baz=184,SNR=12
TKL **Tuckaleechee C** 22.92 12 P P 13 43 36.8 +0.4
baz=194,SNR=10
TKL **Tuckaleechee C** 22.92 12 P P 13 43 35.8 -0.6
comp=Z,22nm,0.7s,baz=176,slow=9.9,SNR=20
TKL LR LR 13 52 55.1
comp=Z,1µm,21.1s,baz=194,slow=38
comp=Z,22nm,0.7s
ATAH **Atahualpa** 22.92 151 P P 13 43 38.8 +1.8
comp=Z,38nm,0.9s,baz=327,slow=8.5,SNR=19
ATAH PcP PcP 13 47 27.2 +1.8
comp=Z,7.1nm,0.8s,baz=302,slow=2.5,SNR=4.0
ATAH LR LR 13 51 35.5
comp=Z,573nm,20.9s,baz=319,slow=34
comp=Z,38nm,0.9s
V51A **Loudon** 22.95 10 P P 13 43 37.6 +0.8
baz=192,SNR=10
KMSC **Kings Mountain** 23.01 17 P P 13 43 38.1 +0.8
baz=200,SNR=8.9
KMSC **Kings Mountain** 23.01 17 P P 13 43 37.9 +0.5
baz=200,SNR=8.9
V52A **Sevierville** 23.13 12 P P 13 43 38.7 +0.2
baz=194,SNR=6.0
V53A **Saluda** 23.13 14 P P 13 43 39.2 +0.6
baz=196,SNR=16
V53A P P 13 43 39.2 +0.6
baz=196,SNR=16
U40A **Yellville** 23.28 353 P P 13 43 40.4 +0.4
baz=171,SNR=20
U40A P P 13 43 40.4 +0.4
baz=171,SNR=20
TUL3 **Leonard** 23.36 347 P P 13 43 41.7 +1.0
baz=164,SNR=5.9
TUL3 **Leonard** 23.36 347 P P 13 43 40.7 0.0
baz=164,SNR=5.9
W57A **Gilead** 23.43 19 P P 13 43 41.5 +0.2
baz=203,SNR=5.4
W57A P P 13 43 41.5 +0.2
baz=203,SNR=5.4
U49A **Red Boiling Sp** 23.44 7 P P 13 43 41.3 -0.1
baz=189,SNR=18
PBMO **Poplar Bluff** 23.51 358 P P 13 43 42.2 +0.2
baz=177,SNR=38
U38A **Gravette** 23.59 350 P P 13 43 42.7 -0.1
baz=168,SNR=10
MNTX **Cornudas Mount** 23.61 324 P P 13 43 42.6 -0.3
baz=138,SNR=33
MNTX **Cornudas Mount** 23.61 324 P P 13 43 42.8 -0.2
baz=138,SNR=33
V55A **Taylorsville** 23.71 17 P P 13 43 44.3 +0.4
baz=200,SNR=13
V55A P P 13 43 44.3 +0.4
baz=200,SNR=13
T45B **Paducah** 23.73 1 P P 13 43 45.0 +1.0
baz=182
T47A **Sharon Grove** 23.78 4 P P 13 43 44.3 -0.1
baz=185,SNR=29
TZTN **Tazewell** 23.82 12 P P 13 43 45.9 +1.1
baz=194,SNR=6.3
TZTN **Tazewell** 23.82 12 P P 13 43 45.1 +0.2
baz=194,SNR=6.3
MSTX **Muleshoe** 24.04 332 P P 13 43 46.4 -0.5
baz=146,SNR=22
MSTX **Muleshoe** 24.04 332 P P 13 43 46.6 -0.3
baz=146,SNR=22
U54A **Nelsons Funny** 24.18 15 P P 13 43 48.7 +0.5
baz=198,SNR=18
U54A P P 13 43 48.7 +0.5
baz=198,SNR=18
V58A **Windy Hill, Pi** 24.31 20 P P 13 43 49.4 +0.2
baz=205,SNR=11
V58A P P 13 43 49.4 +0.2
baz=205,SNR=11
AMTX **Amarillo** 24.33 335 P P 13 43 49.9 +0.4
AMTX IAmb IAmb 13 43 51.8
comp=Z,209nm,1.6s
AMTX **Amarillo** 24.33 335 P P 13 43 49.7 +0.1
baz=150
AMTX **Amarillo** 24.33 335 P P 13 43 50.0 +0.4
baz=150,SNR=25
PCRV **Puerto La Cruz** 24.34 94 LR LR 13 55 40.2
comp=Z,290nm,19.6s,slow=42
S44A **Carbondale** 24.40 0 P P 13 43 50.3 +0.3
baz=180,SNR=17
T35B **Sooner Cattle** 24.49 346 P P 13 43 51.8 +0.9
baz=163,SNR=6.6
S39A **Bolivar** 24.66 352 P P 13 43 52.3 -0.1
baz=171,SNR=24
U32A **Winter Ranch,** 24.68 341 P 13 43 52.8 +0.2
U32A IAmb IAmb 13 44 27.7
comp=Z,60nm,0.8s
U32A **Winter Ranch,** 24.68 341 P P 13 43 53.7 +1.1
baz=157
FVM **French Village** 24.71 358 P P 13 43 52.4 -0.4
baz=177,SNR=11
CCM **Cathedral Cave** 24.82 356 P P 13 43 55.5 +1.6
baz=175
CCM **Cathedral Cave** 24.82 356 P P 13 43 54.1 +0.3
baz=175,SNR=44
S51A **Beattyville** 24.87 11 P P 13 43 54.3 -0.1
baz=193
S51A P P 13 43 54.3 -0.1
baz=193
WCI **Wyandotte Cave** 25.08 6 P P 13 43 57.0 +0.8
baz=187
WCI **Wyandotte Cave** 25.08 6 P P 13 43 55.9 -0.3
baz=187,SNR=9.9
R40A **Maddies Statio** 25.13 355 P P 13 43 56.7 0.0
baz=173,SNR=21
BLA **Blacksburg** 25.20 17 P P 13 43 58.0 +0.6
baz=201
BLA **Blacksburg** 25.20 17 P P 13 43 58.0 +0.6
baz=201
R49A **Shelbyville** 25.27 8 P P 13 43 57.6 -0.3
baz=189,SNR=5.5
R49A P P 13 43 57.6 -0.3
baz=189,SNR=5.5
U59A **Littleton** 25.27 22 P P 13 43 58.4 +0.4
baz=207
U59A P P 13 43 58.4 +0.4
baz=207
SLM **Saint Louis** 25.35 358 P P 13 44 01.0 +2.3
baz=178,SNR=9.6
T57A **Hurt** 25.36 19 P P 13 43 59.0 +0.2
baz=203,SNR=5.6
T57A P P 13 43 59.0 +0.2
baz=203,SNR=5.6
Q44A **Meyer Farm, Va** 25.61 1 P P 13 44 01.0 0.0
baz=181,SNR=9.5
121A **Cookes Peak, D** 25.62 322 P P 13 44 02.3 +0.9
baz=134,SNR=18
121A **Cookes Peak, D** 25.62 322 P P 13 44 03.3 +1.9
baz=134,SNR=18
T59A **Double "B" Far** 25.91 22 P P 13 44 04.1 +0.4
baz=207,SNR=8.1
T59A P P 13 44 04.1 +0.4
baz=207,SNR=8.1
Y22A **Socorro** 26.16 325 P P 13 44 08.0 +1.7
baz=138
Y22D **IRIS PASSCAL I** 26.23 325 P P 13 44 07.8 +0.8
baz=138

Y22F Passcal Instru 26.23 325 P P 13 44 08.6 +1.7
baz=138
Q51A Peebles 26.27 11 P P 13 44 06.7 -0.3
baz=193,SNR=7.4
Q51A P P 13 44 06.7 -0.3
baz=193,SNR=7.4
R55A Marlinton 26.29 16 P P 13 44 08.0 +0.7
baz=200,SNR=5.2
R55A P P 13 44 08.0 +0.7
baz=200,SNR=5.2
P40A Paris 26.34 355 P P 13 44 07.6 0.0
baz=174,SNR=13
P43A Skaggs, Pawnee 26.34 360 P P 13 44 08.2 +0.5
baz=180,SNR=5.7
T60A Surry 26.37 23 P P 13 44 08.5 +0.7
baz=208
T60A P P 13 44 08.5 +0.7
baz=208
P48A Milroy 26.39 7 P P 13 44 06.8 -1.2
baz=188
P48A P P 13 44 06.8 -1.2
baz=188
CZSB Cruzeiro do Su 26.53 141 P P 13 44 11.5 +1.9
CZSB IAmb IAmb 13 44 13.1
comp=Z,108nm,1.0s
P49A Miami Univ. Ec 26.55 8 P P 13 44 09.7 +0.2
baz=190
P49A Miami Univ. Ec 26.55 8 P P 13 44 08.6 -0.9
baz=190
P38A Dawn 26.59 353 P P 13 44 09.7 -0.2
baz=171,SNR=8.6
KSU1 Kansas State U 26.60 347 P P 13 44 10.1 +0.1
baz=164,SNR=8.1
KSU1 Kansas State U 26.60 347 P P 13 44 09.0 -1.0
baz=164,SNR=8.1
ANMO Albuquerque 26.64 327 P P 13 44 10.5 -0.1
baz=140
ANMO Albuquerque 26.64 327 P P 13 44 11.1 +0.5
baz=140
ANMO Albuquerque 26.64 327 P P 13 44 11.6 +0.9
comp=Z,2.0nm,0.7s,baz=235,slow=14,SNR=7.2
ANMO LR LR 13 57 10.0
comp=Z,254nm,19.6s,baz=224,slow=42
comp=Z,2.0nm,0.7s
R58B Mineral 26.69 20 P P 13 44 11.2 +0.5
baz=205
R58B P P 13 44 11.2 +0.5
baz=205
Q54A Coxs Mills 26.76 15 P P 13 44 11.9 +0.5
baz=198,SNR=6.9
Q54A P P 13 44 11.9 +0.5
baz=198,SNR=6.9
CBN Corbin Frederi 27.08 21 P P 13 44 14.6 +0.4
baz=206
P52A Corning 27.09 12 P P 13 44 14.9 +0.5
baz=195
P53A Whipple 27.11 14 P P 13 44 15.0 +0.5
baz=197
P53A P P 13 44 15.0 +0.5
baz=197
CBKS Cedar Bluff 27.14 342 P P 13 44 15.4 +0.5
baz=157,SNR=5.3
SFIN Lafayette 27.15 4 P P 13 44 14.6 -0.3
baz=185
SFIN Lafayette 27.15 4 P P 13 44 14.4 -0.5
baz=185
O48B Farmland 27.20 7 P P 13 44 14.8 -0.6
baz=189
O48B Farmland 27.20 7 P P 13 44 14.2 -1.2
baz=189
O49A Covington 27.24 8 P P 13 44 15.1 -0.6
baz=190
O49A P P 13 44 15.1 -0.6
baz=190
Q56A Snyder Ridge, 27.26 17 P P 13 44 16.4 +0.5
baz=202
Q56A P P 13 44 16.4 +0.5
baz=202
TUC Tucson 27.37 318 P P 13 44 17.6 +0.6
baz=129
T25A Trinidad 27.41 333 P P 13 44 18.3 +0.7
baz=147,SNR=22
N41A Harden Midland 27.44 357 P P 13 44 17.6 0.0
baz=177,SNR=7.7
ACSO Alum Creek Sta 27.50 11 P P 13 44 18.6 +0.5
baz=193
MCWV Mont Chateau 27.65 16 P P 13 44 19.4 0.0
baz=200
MCWV Mont Chateau 27.65 16 P P 13 44 19.5 +0.1
baz=200
N38A Joes South For 27.71 354 P P 13 44 20.6 +0.7
baz=172
O53A New Philadelph 27.88 13 P P 13 44 21.2 -0.2
baz=197
N49A Columbus Grove 27.99 8 P P 13 44 22.6 +0.3
baz=191
N49A P P 13 44 22.6 +0.3
baz=191
P57A Homestead Farm 28.02 19 P P 13 44 23.6 +0.9
baz=204,SNR=8.1
P57A P P 13 44 23.6 +0.9
baz=204,SNR=8.1
KSCO Kaye Shedlock' 28.29 338 P P 13 44 25.3 0.0
baz=152
KSCO Kaye Shedlock' 28.29 338 P P 13 44 26.0 +0.8
baz=152
SDMD Soldier's Deli 28.34 21 P P 13 44 26.1 +0.6
baz=206,SNR=5.6
N33B J Bar K, Exete 28.35 347 P P 13 44 26.6 +0.9
baz=163
SDCO Great Sand Dun 28.40 332 P P 13 44 27.3 +0.9
baz=145,SNR=19
SDCO Great Sand Dun 28.40 332 P P 13 44 27.8 +1.4
baz=145,SNR=19
214A Organ Pipe Nat 28.52 315 P P 13 44 28.4 +1.1
baz=126,SNR=27
W18A Petrified Fore 28.59 323 P P 13 44 29.2 +1.2
baz=135,SNR=6.7
M50A Fremont 28.63 10 P P 13 44 27.9 -0.2
baz=193,SNR=6.0
M50A P P 13 44 27.9 -0.2
baz=193,SNR=6.0
L42A Oliver, Polo 28.71 359 P P 13 44 28.1 -0.6
baz=179
SCIA State Center 28.81 354 P P 13 44 30.7 +1.0
baz=172
L40A Anamosa 28.81 357 P P 13 44 29.9 +0.2
baz=176,SNR=8.2
L44A Lake County Fo 28.90 2 P P 13 44 31.6 +1.1
baz=183
S22A 4UR Ranch, Cre 29.02 331 P P 13 44 32.8 +0.8
baz=143,SNR=16
M53A WI Miller and 29.13 13 P P 13 44 33.0 +0.5
baz=197
BGNE Belgrade 29.15 346 P P 13 44 33.4 +0.6
baz=162,SNR=6.5
Q24A Divide 29.25 334 P P 13 44 35.5 +1.4
baz=147,SNR=5.3
PSDB Penn State Uni 29.32 16 P P 13 44 35.2 +1.0
baz=201
AAM Ann Arbor 29.41 9 P P 13 44 35.4 +0.4
baz=191
MVCO Mesa Verde 29.43 328 P P 13 44 35.9 +0.3
baz=139
BBSR BB Station 29.52 46 P P 13 44 37.3 +1.2
baz=235
TUPA Temple Univers 29.60 22 P P 13 44 37.0 +0.3
baz=209
JFWS Jewell Farm 29.63 359 P P 13 44 36.9 0.0
baz=178,SNR=5.9
JFWS Jewell Farm 29.63 359 P P 13 44 36.9 0.0
baz=178,SNR=5.9
M55A Ridgway 29.63 16 IAmb IAmb 13 44 37.6
comp=Z,26nm,0.8s
M55A Ridgway 29.63 16 P P 13 44 37.0 -0.1
baz=201,SNR=5.8
M55A P P 13 44 37.0 -0.1
baz=201,SNR=5.8
M55A Ridgway 29.63 16 P P 13 44 36.5 -0.5
113A Mohawk Valley, 29.65 315 P P 13 44 38.3 +1.1
OGNE Ogallala 29.81 340 P P 13 44 39.4 +0.8
baz=154
WUAZ Wupatki 29.83 322 P P 13 44 40.2 +1.2
WUAZ Wupatki 29.83 322 P P 13 44 39.9 +0.9
baz=133
ERPA Erie 29.93 14 P P 13 44 40.6 +1.0
baz=198
PANJ Princeton 29.96 23 P P 13 44 40.6 +0.7
baz=209
ISCO Idaho Springs 30.15 334 P P 13 44 42.4 +0.4
ISCO Idaho Springs 30.15 334 P P 13 44 42.9 +0.9
baz=147,SNR=15
ISCO Idaho Springs 30.15 334 P P 13 44 42.7 +0.8
baz=147,SNR=15
BRIGG Briggsdale 30.30 337 P P 13 44 44.1 +1.1
BRIGG IAmb IAmb 13 44 45.1
comp=Z,42nm,1.0s
GLA Glamis 30.54 315 P P 13 44 46.5 +1.3
baz=124
I42A Draeger Farm, 30.59 1 P P 13 44 45.7 +0.2
baz=181
K30B Basset 30.70 345 P P 13 44 47.4 +0.9
K30B Basset 30.70 345 P P 13 44 47.0 +0.5
baz=160,SNR=15
ESJX Sierra Juarez 30.77 312 P P 13 44 49.1 +1.7
ESJX IAmb IAmb 13 44 50.5
comp=Z,30nm,0.9s
PDMCI Parker Dam,Lak 30.80 317 P P 13 44 48.9 +1.4
baz=127,SNR=28
PAL Palisades 30.81 23 P P 13 44 48.4 +1.1
baz=210
I37B Waseca 30.91 354 P P 13 44 48.0 -0.3
baz=172,SNR=7.1
ECSD EROS Data Cent 31.08 350 P P 13 44 49.9 +0.2
baz=166,SNR=11
ECSD EROS Data Cent 31.08 350 P P 13 44 49.0 -0.7
baz=166,SNR=11
BINY Binghamton 31.13 19 P P 13 44 50.6 +0.4
baz=206
SWSC Sam W. Stewart 31.16 314 P P 13 44 52.0 +1.4
baz=123,SNR=28
RMX La Rumorosa 31.18 313 P P 13 44 51.8 +0.9
RMX IAmb IAmb 13 44 53.5
comp=Z,54nm,0.9s
N23A Red Feather La 31.20 335 P P 13 44 51.6 +0.4
baz=148,SNR=10.0
IKP In-Ko-Pah, Jac 31.23 313 P P 13 44 53.0 +1.7
baz=122,SNR=36
BC3 Big Chuckawall 31.31 315 P P 13 44 53.9 +1.8
baz=124,SNR=69
NPNY Mohonk Preserv 31.37 22 P P 13 44 52.2 -0.1
baz=209
IRM Iron Mountain 31.39 316 P P 13 44 54.2 +1.6
baz=126,SNR=26
NEE2 Needles Airpor 31.40 317 P P 13 44 54.1 +1.4
baz=127
MONP2 Monument Peak 31.58 313 P P 13 44 55.8 +1.3
baz=122,SNR=50
O20A White River Ci 31.58 332 P P 13 44 55.5 +1.1
baz=143,SNR=17
GLMI Grayling 31.78 6 P P 13 44 56.7 +0.8
baz=189
BELC Belle Mtn. Jos 31.88 315 P P 13 44 58.8 +1.7
baz=124,SNR=37
PMD Palm Desert 31.95 314 P P 13 44 58.9 +1.3
PMD IAmb IAmb 13 45 00.4
comp=Z,40nm,0.9s
G40A Rib Lake 31.98 359 P P 13 44 57.1 -0.5
baz=178,SNR=7.7
TPFO Pinon Flats 31.98 314 P P 13 44 59.8 +1.8
baz=123,SNR=31
PFO Pinyon Flats O 31.99 314 P P 13 44 59.3 +1.3
PFO IAmb IAmb 13 45 00.9
comp=Z,32nm,0.9s
PFO Pinyon Flats O 31.99 314 P P 13 44 59.9 +1.9
baz=123,SNR=37
PFO Pinyon Flats O 31.99 314 P P 13 44 59.6 +1.5
comp=Z,24nm,0.9s,baz=116,slow=7.0,SNR=56
PFO PcP PcP 13 47 47.6 +0.9
comp=Z,6.8nm,0.9s,baz=148,slow=2.3,SNR=5.9
PFO ScP ScP 13 51 25.4 +1.3
comp=Z,9.3nm,1.0s,baz=119,slow=2.0,SNR=14
PFO LR LR 14 00 03.5
comp=Z,286nm,18.4s,baz=122,slow=40
comp=Z,24nm,0.9s
PFO Pinyon Flats O 31.99 314 P P 13 44 59.8 +1.7
PFO PcP PcP 13 47 47.9 +1.2
PFO ScP ScP 13 51 27.0 +2.8
109C Camp Elliot, M 32.06 312 P P 13 45 00.4 +1.9
baz=121,SNR=5.1
GMRC Granite Mounta 32.10 317 P P 13 45 00.6 +1.6
baz=126,SNR=38
SUSD Miller 32.22 347 P P 13 44 59.7 0.0
baz=162,SNR=5.6
SUSD Miller 32.22 347 P P 13 44 59.5 -0.3
baz=162,SNR=5.6
MURC Murrieta 32.50 313 P P 13 45 04.2 +1.8
baz=122,SNR=12
HEC Hector,Ludlow 32.58 316 P P 13 45 05.2 +2.0
baz=125,SNR=38
SADO Sadowa 32.64 13 P P 13 45 02.2 -1.3
comp=Z,10nm,0.3s,baz=219,slow=8.1,SNR=16
SADO LR LR 13 58 57.8
comp=Z,431nm,21.1s,baz=214,slow=38
comp=Z,10nm,0.3s
TUQ Turquoise Moun 32.66 317 P P 13 45 05.1 +1.2
baz=126,SNR=23
BBRC Big Bear Solar 32.66 315 P P 13 45 05.9 +1.9
baz=123,SNR=34
MACA Manacapuru-AM 32.73 118 P P 13 45 05.1 +0.5
K22A Casper 32.92 336 P P 13 45 06.7 +0.6
baz=148,SNR=17
K22A Casper 32.92 336 P P 13 45 07.0 +0.9
baz=148,SNR=17
F33A 5 Mile Ranch, 33.07 351 P P 13 45 06.3 -0.8
baz=167,SNR=7.6
SCI2 San Clemente I 33.16 311 P P 13 45 09.6 +1.5
baz=120
GSC Goldstone, Bar 33.16 316 P P 13 45 09.9 +1.7
baz=125,SNR=20
BFSC Mount Laidly Ra 33.17 314 P P 13 45 09.4 +1.0
baz=122,SNR=33
CIS Catalina Islan 33.27 312 P P 13 45 10.6 +1.5
baz=120,SNR=11
RSSD Black Hills 33.31 341 P P 13 45 11.0 +1.5
baz=153
RSSD Black Hills 33.31 341 P P 13 45 09.8 +0.3
baz=153,SNR=17
RSSD Black Hills 33.31 341 P P 13 45 10.5 +1.0
RSSD pP pP 13 45 28.3 +1.6
RSSD PcP PcP 13 47 50.0 -0.2
RSSD ScP ScP 13 51 29.8 +1.2
FMP Fort Macarthur 33.34 313 P P 13 45 11.2 +1.6
baz=121
E38A The Farm, Brul 33.36 357 P P 13 45 09.1 -0.5
baz=176
GWY Greenwater Val 33.59 318 P P 13 45 13.4 +1.4
GWY IAmb IAmb 13 45 14.7
comp=Z,50nm,1.6s
DECC Green Verdugo 33.65 314 P P 13 45 14.3 +1.9
baz=122,SNR=8.0
EDW2 Edwards Air Fo 33.74 315 P P 13 45 14.5 +1.2
baz=123,SNR=38
LONY Lake Ozonia 33.75 19 P P 13 45 14.1 +1.0
baz=206
TPNV Topopah Spring 33.77 319 P P 13 45 15.4 +1.8
baz=128,SNR=20
LRMC Laurel Mtn Rad 33.86 316 P P 13 45 15.7 +1.4
baz=124,SNR=28
FURC Furnace Creek, 33.88 318 P P 13 45 15.9 +1.6
baz=126,SNR=18
CCAC Calif City Air 33.91 315 P P 13 45 16.1 +1.4
DUG Dugway, Tooele 33.91 327 P P 13 45 16.6 +1.8
baz=136
SNCC San Nicolas Is 34.00 311 P P 13 45 16.9 +1.5
baz=119
SAML Samuel 34.01 129 P P 13 45 14.8 -0.9
SAML Samuel 34.01 129 P P 13 45 14.9 -0.8
SAML pP pP 13 45 32.4 -0.2
SAML sP sP 13 45 40.9 +0.1
SAML PcP PcP 13 47 52.8 +0.4
SAML ScP ScP 13 51 34.8 +3.5
MPMC Manual Prospec 34.05 317 P P 13 45 17.3 +1.2
baz=125,SNR=46
OSI Osito Audit: C 34.11 314 P P 13 45 17.9 +1.4
baz=122
R11B Troy Canyon, C 34.23 322 P P 13 45 18.8 +1.2
baz=130,SNR=8.4
BW06 Boulder Array 34.28 333 P P 13 45 18.5 +0.5
baz=143,SNR=13
PDAR Pinedale Array 34.28 333 P P 13 45 18.1 +0.2
comp=Z,5.3nm,0.8s,baz=132,slow=11,SNR=26
PDAR PcP PcP 13 47 52.8 -0.3
comp=Z,5.9nm,0.7s,baz=138,slow=4.7,SNR=14
PDAR ScP ScP 13 51 31.9 -0.1
comp=Z,6.4nm,1.0s,baz=141,slow=5.0,SNR=22
PDAR LR LR 14 02 25.8
comp=Z,227nm,20.3s,baz=148,slow=42
comp=Z,5.3nm,0.8s
SCZ2 Santa Cruz Isl 34.45 312 P P 13 45 20.5 +1.2
baz=120,SNR=8.0
ARVC Arvin 34.45 314 P P 13 45 21.4 +2.1
baz=122,SNR=30
ISA Isabella, Lake 34.50 316 P P 13 45 21.3 +1.5
baz=123,SNR=22
GRAC Grapevine Rang 34.51 318 P P 13 45 21.6 +1.7
baz=126,SNR=7.9
CWC Cottonwood Cre 34.66 317 P P 13 45 22.9 +1.6
baz=124
EYMN Ely 34.70 357 P P 13 45 20.3 -0.9
baz=176,SNR=11
SBC Santa Barbara 34.73 313 P P 13 45 23.4 +1.7
baz=120
VES Vestal, Richgr 35.01 315 P P 13 45 25.9 +1.8
baz=123,SNR=8.3
PKM Mcpherson Peak 35.02 313 P P 13 45 25.7 +1.2
baz=121,SNR=35
TPH Tonopah 35.07 320 P P 13 45 26.2 +1.4
TIN Tinemaha, Big 35.11 318 P P 13 45 26.9 +1.8
baz=125
B35A Bob, Littlefor 35.25 355 P P 13 45 24.8 -1.3
baz=172,SNR=6.4
SNOW Snow King Moun 35.36 333 P P 13 45 28.0 +0.7
SMMC Simmler 35.37 314 P P 13 45 28.9 +1.6
baz=121,SNR=8.5
AGMN Agassiz Nation 35.42 352 P P 13 45 27.0 -0.4
baz=169
AGMN Agassiz Nation 35.42 352 P P 13 45 26.5 -0.9
baz=169
TPAW Teton Pass 35.47 332 P P 13 45 28.9 +0.5
TPAW IAmb IAmb 13 45 35.3
comp=Z,19nm,0.8s
MDND Maddock 35.60 348 P P 13 45 29.3 +0.2
baz=163,SNR=14
MDND Maddock 35.60 348 P P 13 45 29.1 +0.1
baz=163,SNR=14
ELK Elko 35.62 325 P P 13 45 30.1 +0.6
comp=Z,3.0nm,0.7s,baz=140,slow=7.1,SNR=20
ELK PcP PcP 13 47 57.3 +0.3
comp=Z,10.0nm,0.9s,baz=167,slow=2.3,SNR=11
ELK LR LR 14 01 55.8
comp=Z,208nm,21.4s,baz=140,slow=39
comp=Z,3.0nm,0.7s
IMW Indian Meadow 35.79 333 P P 13 45 31.4 +0.3
MLAC Mammoth, Mammo 35.84 318 P P 13 45 32.4 +0.9
baz=125,SNR=7.5
NV11 Mina Array Sit 35.87 320 P P 13 45 33.1 +1.5
NV11 IAmb IAmb 13 45 35.6
comp=Z,26nm,0.9s
NVAR Mina Array Bea 35.96 320 P P 13 45 34.2 +1.7
comp=Z,23nm,0.8s,baz=136,slow=7.4,SNR=126
NVAR pP pP 13 45 50.3 +0.8
comp=Z,12nm,0.8s,baz=137,slow=9.3,SNR=11
NVAR PcP PcP 13 47 59.1 +1.1
comp=Z,18nm,0.8s,baz=137,slow=4.1,SNR=29
NVAR ScP ScP 13 51 38.7 +0.5
comp=Z,6.1nm,0.7s,baz=132,slow=4.4,SNR=30
NVAR LR LR 14 00 26.2
comp=Z,490nm,21.2s,baz=124,slow=36
comp=Z,23nm,0.8s
LPAZ La Paz 36.00 144 P P 13 45 33.8 +0.3
H17A Grant Village 36.03 334 P P 13 45 34.3 +1.3
baz=143
RLMT Red Lodge 36.07 336 P P 13 45 34.7 +1.4
baz=146
YFT Old Faithful 36.18 334 P P 13 45 35.7 +1.4
PKME Peaks-Kenny Pk 36.21 24 P P 13 45 34.6 +0.3
baz=214
RYN Ryan 36.22 320 P P 13 45 35.8 +1.2
LAO LASA Array 36.30 340 P P 13 45 35.9 +0.8
baz=151,SNR=17
LAO LASA Array 36.30 340 P P 13 45 35.7 +0.6
baz=151,SNR=17
YMR Madison River 36.41 334 P P 13 45 37.3 +1.0
YMR IAmb IAmb 13 45 43.2
comp=Z,18nm,0.8s
YERR Yerington 36.88 320 P P 13 45 41.1 +0.9
MDP Montagnes des 37.04 99 LR LR 14 04 06.5
comp=Z,168nm,19.6s,baz=283,slow=42
CMB Columbia Colle 37.08 317 P P 13 45 43.1 +1.3
CMB IAmb IAmb 13 45 44.8
comp=Z,20nm,1.1s
HLID Hailey 37.17 329 P P 13 45 43.5 +0.8
baz=137,SNR=11
DGMT Dagmar 37.28 344 P P 13 45 44.0 +0.7
baz=156,SNR=28
DGMT Dagmar 37.28 344 P P 13 45 43.9 +0.5
baz=156,SNR=28
ULM Lac du Bonnet 37.34 353 P P 13 45 42.3 -1.5
comp=Z,14nm,0.7s,baz=170,slow=9.2,SNR=29
ULM pP pP 13 46 00.8 -0.3
comp=Z,9.0nm,0.4s,baz=174,slow=8.3,SNR=5.4
ULM ScP ScP 13 51 42.8 0.0
comp=Z,8.2nm,0.7s,baz=158,slow=2.0,SNR=7.1
ULM LR LR 14 02 51.9
comp=Z,515nm,21.3s,baz=166,slow=39
comp=Z,14nm,0.7s
BOZ Bozeman (W) 37.44 334 P P 13 45 45.6 +0.8
baz=143,SNR=16
EGMT Eagleton 38.67 338 P P 13 45 55.9 +0.7
baz=147,SNR=18
VILB Vilhena 38.82 131 P P 13 45 56.7 0.0
BPMT Black Pine Rid 38.88 333 P P 13 45 57.3 +0.1
PLID Pearl Lake 39.06 330 P P 13 45 58.1 -0.5
GDXM Geysers 39.09 317 P P 13 46 00.3 +1.6
MSO Missoula 39.40 333 P P 13 46 01.5 +0.2
baz=140,SNR=16
SIV San Ignacio 40.25 135 LR LR 14 02 31.7
comp=Z,354nm,22.0s,baz=274,slow=36
KMRM Mail Ridge 40.43 318 P P 13 46 11.6 +1.7
KMRM IAmb IAmb 13 46 13.1
comp=Z,34nm,1.0s
YBH Yreka Blue Hor 40.63 321 P P 13 46 12.0 +0.5
comp=Z,2.7nm,0.8s,baz=75,slow=7.3,SNR=8.8
YBH PcP PcP 13 48 12.5 +0.3
comp=Z,6.3nm,0.8s,baz=104,slow=5.3,SNR=11
YBH LR LR 14 04 46.6
comp=Z,424nm,21.4s,baz=140,slow=38
comp=Z,2.7nm,0.8s
LVC Limon Verde 40.81 150 LR LR 14 00 46.6
comp=Z,160nm,20.9s,baz=308,slow=32
LVC Limon Verde 40.81 150 P P 13 46 15.4 +2.0
LVC PcP PcP 13 48 14.8 +1.3
NEW Newport 41.90 332 P P 13 46 22.7 +0.9
baz=137
NEW Newport 41.90 332 P P 13 46 21.1 -0.7
comp=Z,2.5nm,0.7s,baz=135,slow=9.4,SNR=6.4
NEW LR LR 14 08 38.5
comp=Z,213nm,18.9s,baz=126,slow=43
comp=Z,2.5nm,0.7s
FFC Flin Flon 42.61 349 P P 13 46 27.5 +0.2
FFC pP pP 13 46 45.3 +0.2
FFC PcP PcP 13 48 18.0 -0.4
FFC ScP ScP 13 52 04.6 +1.4
RPN Rapa Nui 44.55 206 LR LR 14 00 38.5
comp=Z,298nm,20.8s,baz=51,slow=29
SCHQ Schefferville 45.12 18 P P 13 46 45.2 -2.3
comp=Z,10nm,0.4s,baz=210,slow=7.3,SNR=13
SCHQ pP pP 13 47 03.5 -1.6
comp=Z,9.4nm,0.7s,baz=213,slow=6.1,SNR=2.5
SCHQ LR LR 14 07 48.7
comp=Z,219nm,19.0s,baz=238,slow=39
comp=Z,10nm,0.4s
LCO Las Campanas 45.65 157 P P 13 46 53.3 +1.1
LCO PcP PcP 13 48 30.4 +0.9
H03N2 Juan Fernandez 47.42 168 T T 14 37 51.2
baz=347,slow=76,SNR=51
H03N1 Juan Fernandez 47.42 168 T T 14 37 53.0
baz=347,slow=76,SNR=51
H03N3 Juan Fernandez 47.43 168 T T 14 37 51.9
baz=347,slow=76,SNR=65
BBB Bella Bella 49.76 330 LR LR 14 12 32.7
comp=Z,340nm,18.3s,baz=140,slow=41
BDFB Brasilia 49.89 124 P P 13 47 24.0 -1.2
comp=Z,8.3nm,0.9s,baz=279,slow=9.8,SNR=6.5
BDFB pP pP 13 47 41.8 -1.1
comp=Z,8.2nm,0.6s,baz=294,slow=8.8,SNR=6.0
BDFB LR LR 14 10 46.6
comp=Z,197nm,19.0s,baz=307,slow=39
comp=Z,8.3nm,0.9s
CPUP Villa Florida 50.11 142 P P 13 47 25.9 -0.6
comp=Z,21nm,1.1s,baz=336,slow=9.6,SNR=16
CPUP pP pP 13 47 44.8 +0.5

comp=Z,9.0nm,1.0s,baz=340,slow=10,SNR=3.7
CPUP PcP **PcP** 13 48 45.2 0.0
comp=Z,5.1nm,0.8s,baz=298,slow=6.5,SNR=3.4
CPUP LR LR 14 09 55.8
comp=Z,154nm,19.5s,baz=338,slow=38
comp=Z,21nm,1.1s
CPUP Villa Florida 50.11 142 P **P** 13 47 26.1 -0.3
CPUP PcP **PcP** 13 48 45.8 +0.6
CPUP x x 13 52 28.6
YKA Yellowknife Ar 52.43 346 P **P** 13 47 42.6 -0.8
comp=Z,32nm,0.8s,baz=144,slow=7.4,SNR=285
YKA pP **pP** 13 48 01.4 +0.1
comp=Z,2.2nm,0.4s,baz=143,slow=7.6,SNR=2.3
YKA ScP **ScP** 13 52 42.2 -2.1
comp=Z,1.2nm,0.9s,baz=150,slow=4.4,SNR=5.3
YKA LR LR 14 13 23.8
comp=Z,270nm,20.0s,baz=100,slow=40
comp=Z,32nm,0.8s
FRB Frobisher Bay 52.54 11 LR LR 14 09 54.7
comp=Z,678nm,21.5s,baz=181,slow=36
ITQB Itaqui 53.01 144 P **P** 13 47 48.6 +0.5
KOTAN Kotaneelee Air 53.35 339 P **P** 13 47 50.6 +0.4
baz=136
DLBC Dease Lake 54.47 335 P **P** 13 47 59.1 +0.6
baz=129,SNR=5.5
DLBC Dease Lake 54.47 335 P **P** 13 47 58.6 +0.1
comp=Z,13nm,0.8s,baz=150,slow=5.9,SNR=23
DLBC pP **pP** 13 48 17.5 +0.8
comp=Z,4.8nm,0.8s,baz=174,slow=8.8,SNR=2.9
DLBC LR LR 14 15 26.5
comp=Z,274nm,18.5s,baz=109,slow=41
comp=Z,13nm,0.8s
S34M Telegraph Cree 54.61 334 P **P** 13 47 60.0 +0.6
baz=127
WRGLY Wrigley 55.45 342 P **P** 13 48 05.5 +0.1
baz=138,SNR=6.9
R33M Jennings River 55.45 336 P **P** 13 48 06.2 +0.6
baz=128
Q32M Nakina River 55.72 335 P **P** 13 48 07.6 -0.1
baz=127
RCBR Riachuelo 56.30 106 LR LR 14 15 26.3
comp=Z,198nm,19.2s,baz=290,slow=39
IVI Ivigtut 56.39 22 *i* P **P** 13 48 08.8 -3.2
PLCA Paso Flores 56.40 163 P **P** 13 48 13.2 +0.6
comp=Z,30nm,1.1s,baz=336,slow=9.3,SNR=16
PLCA pP **pP** 13 48 32.4 +1.8
comp=Z,11nm,1.1s,baz=16,slow=11,SNR=3.8
PLCA LR LR 14 06 46.2
comp=Z,190nm,21.8s,baz=351,slow=30
comp=Z,30nm,1.1s
PLCA Paso Flores 56.40 163 P **P** 13 48 13.1 +0.6
PLCA pP **pP** 13 48 31.8 +1.2
PLCA PcP **PcP** 13 49 09.7 +0.8
PLCA ScP **ScP** 13 53 02.3 +0.1
P32M Atlin 56.69 335 P **P** 13 48 14.3 0.0
baz=125
P33M Teslin, Yukon 56.69 336 P **P** 13 48 14.8 +0.4
baz=127
S31K Pelican 56.88 332 P **P** 13 48 15.2 -0.4
baz=122
TRQA Tornquist 57.06 154 P **P** 13 48 16.9 -0.2
NUUK Nuuk 57.19 19 *i* P **P** 13 48 15.7 -1.9
NUUK IAmb IAmb 13 48 18.6
comp=Z,19nm,0.7s
N32M Quiet Lake 57.36 337 P **P** 13 48 19.3 +0.2
baz=127
NRS Narsarsuaq 57.41 24 *i* P **P** 13 48 17.0 -2.3
NRS IAmb IAmb 13 48 19.5
comp=Z,15nm,0.8s
WHY Whitehorse 57.78 335 P **P** 13 48 22.3 +0.1
baz=125
FARO Faro, Yukon 58.11 337 P **P** 13 48 24.5 +0.3
baz=127
O30N Mendenhall 58.34 335 P **P** 13 48 26.1 +0.2
baz=124
P29M Windy Craggy 58.42 333 P **P** 13 48 27.4 +0.9
baz=121
M31M Drury Creek, Y 58.49 337 P **P** 13 48 27.3 +0.4
baz=126
N31M Braeburn, Yuko 58.61 336 P **P** 13 48 28.3 +0.5
baz=124
HYT Haines Junctio 58.95 335 P **P** 13 48 31.5 +1.2
baz=122
N30M Aishikik Lake 59.12 336 P **P** 13 48 31.8 +0.4
baz=123
M30M Minto, Yukon 59.62 337 P **P** 13 48 34.5 -0.3
baz=124
YUK4 Talbot Arm 59.70 335 P **P** 13 48 36.0 +0.5
baz=121
MAYO Mayo, Yukon 59.86 338 P **P** 13 48 36.5 +0.2
baz=125,SNR=5.9
YUK8 Steele Glacier 60.13 335 P **P** 13 48 38.2 -0.3
baz=120
M29M Somme Creek 60.20 336 P **P** 13 48 38.2 -0.6
baz=122
C36M Paulatuk 60.27 347 P **P** 13 48 38.5 -0.5
baz=140
L29M L29M 60.42 337 P **P** 13 48 40.2 0.0
baz=122
DY2G Dye2 60.43 18 *i* P **P** 13 48 38.4 -2.1
DY2G IAmb IAmb 13 48 39.7
comp=Z,9.7nm,0.7s
J30M Hart River 60.58 339 P **P** 13 48 41.5 +0.1
baz=125
K29M Barlow Dome 60.60 338 P **P** 13 48 41.9 +0.3
baz=124
H31M Peel River 60.64 340 P **P** 13 48 41.7 0.0
baz=128
CTG Chitna Glacier 60.64 334 P **P** 13 48 42.1 +0.3
baz=118
YUK3 Moose Creek 60.66 335 P **P** 13 48 42.3 +0.2
baz=120
I30M Mount Dempster 60.97 339 P **P** 13 48 43.9 -0.1
baz=125
CRQE Cirque 61.31 333 P **P** 13 48 46.0 -0.3
baz=116
G31M Satah River 61.31 341 P **P** 13 48 45.5 -0.6
baz=128,SNR=20
DAWY Dawson 61.41 337 P **P** 13 48 46.4 -0.5
baz=122
F31M Tsiigehtchic 61.48 342 P **P** 13 48 46.4 -0.8
baz=129,SNR=15
M27K Edge Creek, AK 61.53 335 P **P** 13 48 47.7 -0.2
baz=118
MCARA McCarthy VSAT 61.56 334 P **P** 13 48 47.9 0.0
baz=117
RES Resolute Bay 61.56 358 LR LR 14 17 07.6
comp=Z,235nm,19.4s,baz=186,slow=38
I29M Ogilvie Camp, 61.72 339 P **P** 13 48 48.3 -0.7
baz=123
EPYK Eagle Plains 61.76 340 P **P** 13 48 48.5 -0.7
baz=126
L27K Beaver Creek, 61.85 336 P **P** 13 48 49.3 -0.5
baz=119
G30M tAoh Zraii Nji 61.96 341 P **P** 13 48 50.1 -0.5
baz=126
INK Inuvik 61.96 343 P **P** 13 48 49.8 -0.6
INK IAmb IAmb 13 48 50.7
comp=Z,20nm,0.8s
INK Inuvik 61.96 343 P **P** 13 48 49.9 -0.6
baz=130,SNR=24
INK Inuvik 61.96 343 LR LR 14 19 48.9
comp=Z,221nm,19.4s,baz=164,slow=40
M26K Nabesna, AK 62.01 335 P **P** 13 48 50.8 -0.2
baz=117
F30M Barrier River 62.20 342 P **P** 13 48 52.4 +0.3
baz=127
H29M Whitestone 62.22 340 P **P** 13 48 52.5 +0.2
baz=124
ISOG Isortoq, Green 62.29 21 *i* P **P** 13 48 50.2 -2.5
N25K Chitina, Valde 62.34 334 P **P** 13 48 53.8 +0.5
baz=115
I28M Miner Creek 62.34 339 P **P** 13 48 52.6 -0.6
baz=122
K27K Chicken 62.41 337 P **P** 13 48 53.1 -0.5
baz=119
EGAK Eagle 62.44 338 P **P** 13 48 52.8 -0.9
baz=120
L26K Log Cabin Wild 62.44 335 P **P** 13 48 53.5 -0.3
baz=117
G29M Pine Creek 62.49 340 P **P** 13 48 53.7 -0.5
baz=124
A36M Sachs Harbour 62.56 348 P **P** 13 48 53.3 -1.1
baz=140,SNR=7.5
ANGG Ammassalik, Gr 62.80 21 *i* P **P** 13 48 53.8 -2.3
ANGG IAmb IAmb 13 48 55.5
comp=Z,17nm,0.7s
KLU Klutina 62.87 333 P **P** 13 48 56.8 +0.1
baz=114
I27K Kandik River 63.02 338 P **P** 13 48 57.6 -0.1
baz=120
J26L Joseph Creek 63.21 337 P **P** 13 48 58.9 -0.2
baz=118
PAX Paxson 63.29 335 P **P** 13 48 59.1 -0.4
baz=115
E29M Blow River 63.30 342 P **P** 13 48 59.1 -0.3
baz=125,SNR=9.9
H27K Steamboat Moun 63.31 339 P **P** 13 48 59.3 -0.3
baz=120
RIDG Independent Ri 63.37 336 P **P** 13 49 00.0 0.0
baz=116,SNR=5.4
I26K Coal Creek Min 63.44 338 P **P** 13 49 00.3 0.0
baz=118
F28M Old Crow 63.48 341 P **P** 13 49 00.4 -0.3
baz=123,SNR=39
SCM Sheep Creek Mo 63.62 333 P **P** 13 49 01.6 -0.1
baz=113
G27K Doyon Strip 63.65 340 P **P** 13 49 01.0 -0.8
baz=121,SNR=7.9
K24K Donnelly Dome 63.77 336 P **P** 13 49 02.4 -0.2
baz=115,SNR=5.8
M23K Glacier View 63.77 333 P **P** 13 49 02.1 -0.6
baz=112
E28M Babbage River 63.92 342 P **P** 13 49 03.1 -0.5
baz=124
J25K Salcha River, 63.96 337 P **P** 13 49 03.1 -0.8
baz=116
KNK Knik Glacier 63.96 333 P **P** 13 49 03.3 -0.6
baz=112
ICESG Greenland Ices 64.02 18 *i* P **P** 13 49 02.3 -2.3
ICESG IAmb IAmb 13 49 05.9
comp=Z,12nm,0.6s
SML Sawmill 64.05 333 P **P** 13 49 04.3 -0.2
baz=112
WAT6 Susitna Watana 64.08 334 P **P** 13 49 04.3 -0.5
baz=113
D28M Stokes Point 64.09 343 P **P** 13 49 04.5 0.0
baz=125,SNR=7.5
PMR Palmer 64.32 333 P **P** 13 49 05.7 -0.5
baz=111
E27K Coleen River 64.34 341 P **P** 13 49 06.5 +0.2
baz=121
PRP Porcupine Dome 64.42 337 P **P** 13 49 06.5 -0.5
baz=116,SNR=8.2
RC01 Rabbit Creek A 64.42 332 P **P** 13 49 06.7 -0.2
baz=110
G26K Porcupine Rive 64.45 339 P **P** 13 49 06.7 -0.2
baz=118,SNR=5.1
HDA Harding Lake 64.49 336 P **P** 13 49 06.3 -1.0
baz=114,SNR=5.1
WAT1 Susitna Watana 64.53 334 P **P** 13 49 07.0 -0.6
baz=112
ILAR Eielson Array 64.62 336 P **P** 13 49 06.9 -1.2
comp=Z,6.6nm,0.8s,baz=120,slow=4.5,SNR=56
ILAR LR LR 14 20 59.9
comp=Z,194nm,19.3s,baz=96,slow=39
comp=Z,6.6nm,0.8s
D27M Malcolm River 64.70 342 P **P** 13 49 09.3 +0.6
baz=122
KDAK Kodiak Island 64.78 328 LR LR 14 19 20.5
comp=Z,160nm,18.7s,baz=110,slow=38
M22K Willow 64.82 333 P **P** 13 49 09.6 +0.2
baz=110
F26K Sheenjek River 64.93 340 P **P** 13 49 10.3 +0.2
baz=118
POKR Poker Plat Res 64.97 337 P **P** 13 49 09.9 -0.5
baz=114,SNR=6.4
OHAK Old Harbor 65.00 327 P **P** 13 49 10.0 -0.6
baz=105
SUA Susitna One 65.01 332 P **P** 13 49 10.3 -0.5
baz=109
MCK McKinley 65.03 335 P **P** 13 49 10.2 -0.6
baz=112
COLA College 65.03 336 P **P** 13 49 10.3 -0.5
baz=114
COLA College 65.03 336 P **P** 13 49 09.7 -1.1
COLA pP **pP** 13 49 29.3 0.0
COLA PcP **PcP** 13 49 43.3 +0.2
CUT Chulitna 65.11 333 P **P** 13 49 11.0 -0.3
baz=110
G25K Bearan Lake 65.18 339 P **P** 13 49 12.1 +0.5
baz=116
F25K Christian Rive 65.39 339 P **P** 13 49 13.7 +0.6
baz=117
NEA2 Nenana 65.41 336 P **P** 13 49 12.9 -0.4
baz=112,SNR=6.5
H24K Noodor Dome 65.44 337 P **P** 13 49 13.0 -0.5
baz=114
TRF Thorofare Moun 65.49 334 P **P** 13 49 13.8 -0.1
baz=111,SNR=6.0
SKT Skwentna 65.53 333 P **P** 13 49 13.2 -0.9
baz=109
N20K Mount Spurr 65.59 332 P **P** 13 49 13.5 -1.1
baz=108
E25K Arctic Village 65.61 340 P **P** 13 49 14.6 0.0
baz=117,SNR=15
P19K Oil Pt 65.62 330 P **P** 13 49 14.8 0.0
baz=106
Q19K Cape Douglas, 65.63 329 P **P** 13 49 14.6 -0.2
baz=106
G24K Hadweenzic Riv 65.64 338 P **P** 13 49 14.8 0.0
baz=115,SNR=7.7
I23K Minto, Yukon-K 65.73 336 P **P** 13 49 14.4 -0.9
baz=112,SNR=10
BPAW Bear Paw Mtn. 66.00 335 P **P** 13 49 16.5 -0.6
baz=110,SNR=12
PPLA Purkeypile 66.11 334 P **P** 13 49 16.7 -1.2
baz=108
F24K Squaw Lake 66.13 339 P **P** 13 49 18.3 +0.3
baz=115
M20K Styx River 66.22 332 P **P** 13 49 17.6 -1.0
baz=107
MLY Manley 66.23 336 P **P** 13 49 17.6 -1.0
baz=111,SNR=20
CAST Castle Rocks 66.24 334 P **P** 13 49 17.1 -1.6
baz=109,SNR=6.6
C26K Camden Bay 66.24 342 P **P** 13 49 18.7 +0.2
baz=119,SNR=8.9
O19K Port Alsworth 66.30 330 P **P** 13 49 18.2 -0.8
baz=105
SUMG Summit 66.33 15 P **P** 13 49 19.1 -0.4
SUMG IAmb IAmb 13 49 47.9
comp=Z,24nm,1.3s
SUMG Summit 66.33 15 *i* P **P** 13 49 18.6 -0.9
SUMG IAmb IAmb 13 49 22.2
comp=Z,7.1nm,1.0s
D25K Kavik River 66.42 341 P **P** 13 49 19.6 -0.1
baz=117
CHUM Lake Minchumin 66.48 335 P **P** 13 49 19.3 -0.8
baz=109
P18K Big Mountain, 66.54 329 P **P** 13 49 19.7 -0.9
baz=104
N19K Bonanza Creek 66.54 331 P **P** 13 49 19.7 -1.0
baz=106
E24K Your Creek 66.57 339 P **P** 13 49 20.7 0.0
baz=114
G23K Bananza Creek 66.58 338 P **P** 13 49 21.1 +0.3
baz=112
O18K Koktuh Hills 66.64 330 P **P** 13 49 20.8 -0.5
baz=104
R17K Ugashik Creek 66.72 327 P **P** 13 49 21.3 -0.5
baz=102
L20K Farewell, AK 66.73 333 P **P** 13 49 20.9 -0.9
baz=107
I21K Tanana 66.78 336 P **P** 13 49 21.2 -0.8
baz=110
H22K Ishtalitna Cre 66.79 337 P **P** 13 49 21.3 -0.8
baz=110
COLD Coldfoot 66.84 338 P **P** 13 49 22.9 +0.6
baz=112,SNR=11
PPT Papeete 66.88 244 LR LR 14 10 28.6
comp=Z,254nm,21.0s,baz=22,slow=28
E23K Chandalar 66.95 339 P **P** 13 49 23.2 0.0
baz=113
K20K Telida 67.07 334 P **P** 13 49 22.8 -1.1
baz=107,SNR=9.8
L19K White Mountain 67.08 332 P **P** 13 49 23.1 -0.9
baz=106
NEEM North Greenlan 67.13 8 *i* P **P** 13 49 22.7 -1.7
NEEM IAmb IAmb 13 49 27.0
comp=Z,6.7nm,0.7s
D24K Happy Valley 67.13 340 P **P** 13 49 23.9 -0.3
baz=114
TOLK Toolik Lake Re 67.17 340 P **P** 13 49 24.1 -0.4
baz=113,SNR=10
N18K Kilae Creek 67.17 331 P **P** 13 49 23.7 -0.9
baz=104
G22K Bettles 67.20 338 P **P** 13 49 24.8 +0.1
baz=111
H21K Melozitna Rive 67.26 336 P **P** 13 49 23.8 -1.3
baz=109,SNR=7.0
C24K Franklin Bluff 67.33 341 P **P** 13 49 25.2 -0.2
baz=115,SNR=19
J20K Nowinta River 67.34 335 P **P** 13 49 24.5 -1.1
baz=107
M18K Stony River 67.34 332 P **P** 13 49 25.0 -0.6
baz=104
O17K Koliganek Bris 67.55 330 P **P** 13 49 26.1 -0.9
baz=103
I20K Naaghedeneel 67.66 335 P **P** 13 49 26.8 -0.8
baz=107
D23K Nanushuk River 67.67 340 P **P** 13 49 27.3 -0.3
baz=112
E22K Anaktuvuk Pass 67.75 339 P **P** 13 49 27.8 -0.4
baz=111
N17K Nushagak Hills 67.76 330 P **P** 13 49 27.9 -0.4
baz=103
TTA Tatalina 67.80 333 P **P** 13 49 27.2 -1.4
baz=105
G21K Allakaket 67.81 337 P **P** 13 49 27.9 -0.6
baz=109
P16K Nushagak River 67.84 329 P **P** 13 49 27.9 -0.9
baz=102
J19K Poorman 67.91 334 P **P** 13 49 28.1 -1.1
baz=106
L18K Granite Mounta 67.92 332 P **P** 13 49 28.9 -0.4
baz=104
C23K Itkillik River 67.98 341 P **P** 13 49 29.5 -0.1
baz=113
O16K Kokwok River B 68.01 329 P **P** 13 49 29.6 -0.2
baz=102
H20K Anotleneega Mo 68.03 336 P **P** 13 49 28.7 -1.2
baz=107
F21K Alatna River 68.03 338 P **P** 13 49 30.0 +0.1
baz=109,SNR=32
M17K Holitna River 68.08 331 P **P** 13 49 29.8 -0.5
baz=103
J18K Innoko River 68.24 333 P **P** 13 49 30.3 -1.0
baz=104
D22K Ayikyak River 68.31 340 P **P** 13 49 31.7 +0.1
baz=110
N16K Nishlik Lake 68.52 330 P **P** 13 49 31.9 -1.2
baz=101
GCSA Galena City Sc 68.64 335 P **P** 13 49 33.5 -0.1
baz=105
L17K Donlin 68.64 332 P **P** 13 49 32.6 -1.1
baz=102
H19K Roundabout Mou 68.67 336 P **P** 13 49 33.1 -0.7
baz=106,SNR=10
K17K Iditarod 68.77 333 P **P** 13 49 33.9 -0.7
baz=103
BORG Borgarnes 68.81 25 LR LR 14 18 32.9
comp=Z,166nm,19.8s,baz=215,slow=35
F20K Avaraart Lake 68.81 337 P **P** 13 49 34.6 -0.1
baz=107
B22K Teshekpuk Lake 69.06 341 P **P** 13 49 36.2 -0.1
baz=110
G19K Purcell Mounta 69.08 336 P **P** 13 49 36.5 +0.1
baz=105
L16K Owhat River 69.10 331 P **P** 13 49 35.9 -0.7
baz=101
C21K Knifeblade Rid 69.12 340 P **P** 13 49 35.8 -0.8
baz=108
B21K Ikpikpuk River 69.21 340 P **P** 13 49 36.1 -1.0
baz=109
E20K Nigu River 69.33 339 P **P** 13 49 37.6 -0.5
baz=107
H18K Honhosa River 69.35 335 P **P** 13 49 37.7 -0.4
baz=104
E19K Redstone River 69.49 338 P **P** 13 49 38.3 -0.6
baz=106
F19K Shaleruckik Mo 69.53 337 P **P** 13 49 38.8 -0.4
baz=105
D20K Etivluk River 69.61 339 P **P** 13 49 40.0 +0.3
baz=106
G18K Tagagawik 69.64 336 P **P** 13 49 39.7 -0.2
baz=104
A22K Sinclair Lake 69.78 341 P **P** 13 49 41.0 +0.4
baz=109
J16K Anvik River 69.91 333 P **P** 13 49 42.1 +0.5
baz=101
H17K Granite Mounta 69.94 335 P **P** 13 49 42.5 +0.7
baz=102
L15K Ungalak Mounta 70.03 331 P **P** 13 49 42.9 +0.6
baz=99
I17K Unalakleet 70.07 334 P **P** 13 49 43.2 +0.7
baz=101
D19K Kuna River 70.08 339 P **P** 13 49 42.9 +0.2
baz=105
M14K Bethel 70.11 330 P **P** 13 49 42.7 -0.2
M14K IAmb IAmb 13 49 43.5
comp=Z,17nm,0.8s
M14K Bethel 70.11 330 P **P** 13 49 43.0 +0.1
baz=99,SNR=5.3
K15K Wolf Creek Mou 70.16 332 P **P** 13 49 43.1 0.0
baz=100
B20K Meade River 70.17 340 P **P** 13 49 42.9 -0.1
baz=106
FALS False Pass 70.17 324 P **P** 13 49 43.3 0.0
baz=95
G17K Kiwalik Mounta 70.36 335 P **P** 13 49 44.4 0.0
baz=102
A21K Barrow 70.38 342 P **P** 13 49 44.2 -0.1
baz=107
L14K Kuka Creek 70.55 331 P **P** 13 49 45.0 -0.5
baz=98
E18K Tukpahlearik C 70.74 337 P **P** 13 49 46.2 -0.4
baz=102
M13K Dall Lake 70.75 330 P **P** 13 49 47.4 +0.7
baz=97
C19K Lookout Ridge 70.76 339 P **P** 13 49 46.9 +0.2
baz=104
F17K Baldwin Pennin 70.79 336 P **P** 13 49 46.7 -0.2
baz=101
H16K Elim 70.86 334 P **P** 13 49 47.9 +0.5
baz=100
G16K Koyuk River 71.04 335 P **P** 13 49 48.7 +0.3
baz=100
E17K Hotham Inlet 71.14 337 P **P** 13 49 48.3 -0.7
baz=101,SNR=21
J14K Nanvaranak Lak 71.15 332 P **P** 13 49 48.9 -0.2
baz=98
C18K Utukok River 71.22 338 P **P** 13 49 48.8 -0.7
baz=102
A19K Wainwright 71.52 340 P **P** 13 49 51.3 +0.1
baz=103
B18K Kokolik River 71.58 339 P **P** 13 49 51.7 +0.1
baz=102
D17K Noatak River 71.73 337 P **P** 13 49 52.8 +0.2
baz=100
C17K DeLong Mountai 71.90 338 P **P** 13 49 52.9 -0.7
baz=100
UNV Unalaska Valle 71.91 323 P **P** 13 49 54.4 +0.5
baz=92
F15K North Star Dit 72.04 335 P **P** 13 49 54.2 -0.3
baz=98
ANM Nome 72.19 334 P **P** 13 49 55.2 -0.2
baz=97
C16K Lisburne Hills 72.66 338 P **P** 13 49 57.7 -0.4
baz=98
F14K Arctic Creek 72.70 335 P **P** 13 49 58.2 -0.2
baz=96
DAG Danmarks Havn 72.84 13 *i* P **P** 13 49 57.0 -2.0
DAG IAmb IAmb 13 49 60.0
comp=Z,3.1nm,0.4s
TNA Tin City 73.37 335 P **P** 13 50 02.5 +0.2
baz=95
JMIC Jan Mayen 74.62 20 LR LR 14 21 49.7
comp=Z,161nm,21.9s,baz=230,slow=35
EKA Eskdalemuir Ar 77.08 36 P **P** 13 50 22.1 -1.8
comp=Z,7.1nm,0.8s,baz=280,slow=5.0,SNR=8.2
EKA pP **pP** 13 50 40.7 -2.2
comp=Z,7.7nm,0.8s,baz=277,slow=6.6,SNR=4.1
comp=Z,7.1nm,0.8s
RAR Rarotonga 77.16 244 LR LR 14 15 32.7
comp=Z,154nm,21.5s,baz=32,slow=29
ESDC Sonseca Array 78.16 52 P **P** 13 50 27.9 -2.4
comp=Z,1.2nm,0.6s,baz=283,slow=4.8,SNR=11
comp=Z,1.2nm,0.6s
MDT Midelt 78.58 59 LR LR 14 19 28.8
comp=Z,174nm,19.5s,baz=320,slow=31
PMSA Palmer Station 80.06 169 LR LR 14 19 06.8
comp=Z,101nm,19.1s,baz=318,slow=30
SPITS Spitsbergen Ar 80.35 12 P **P** 13 50 40.8 -0.7
comp=Z,48nm,1.3s,baz=180,slow=2.5,SNR=14

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPITS				LR	LR	14 28 18.6	
	comp=Z,146nm,18.4s,baz=222,slow=37						
	comp=Z,48nm,1.3s						
TIC	Toumodi	82.97	85	⇑eP	P	13 50 57.9	+1.5
LIC	Lamto	83.05	85	⇑iP	P	13 50 58.4	+1.6
DBIC	Dimbokro	83.12	85	P	P	13 50 55.8	-1.4
	comp=Z,3.9nm,0.8s,baz=331,slow=4.8,SNR=5.4						
DBIC				LR	LR	14 23 59.1	
	comp=Z,155nm,18.6s,baz=324,slow=33						
	comp=Z,3.9nm,0.8s						
KIC	Kosan Boka	83.30	85	⇑eP	P	13 50 55.3	-2.8
SHEM	Shemya Is, Ala	83.57	323	LR	LR	14 27 29.8	
	comp=Z,41nm,20.6s,baz=356,slow=35						
NOA	NORSAR Array B	83.59	29	P	P	13 50 57.5	-1.3
	comp=Z,2.4nm,0.8s,baz=288,slow=4.9,SNR=5.6						
NOA				LR	LR	14 28 51.2	
	comp=Z,153nm,18.8s,baz=270,slow=36						
	comp=Z,2.4nm,0.8s						
HFS	Hagfors	85.03	29	P	P	13 51 04.3	-1.7
	comp=Z,1.7nm,0.6s,baz=308,slow=7.0,SNR=1.9						
HFS				LR	LR	14 28 13.1	
	comp=Z,206nm,19.5s,baz=278,slow=35						
	comp=Z,1.7nm,0.6s						
ARCES	ARCESS Array B	86.07	19	P	P	13 51 10.2	-0.8
	comp=Z,0.7nm,0.4s,baz=283,slow=5.1,SNR=13						
ARCES				LR	LR	14 28 12.6	
	comp=Z,77nm,18.2s,baz=266,slow=35						
	comp=Z,0.7nm,0.4s						
DAVOX	Davos/Dischmat	86.68	43	P	P	13 51 13.6	-1.1
	comp=Z,2.3nm,0.3s,baz=215,slow=3.8,SNR=9.7						
	comp=Z,2.3nm,0.3s						
TORD	Torodi Ar. Bea	88.01	77	P	P	13 51 18.4	-3.1
	comp=Z,0.5nm,0.4s,baz=293,slow=5.9,SNR=8.0						
TORD				LR	LR	14 30 36.1	
	comp=Z,116nm,18.1s,baz=320,slow=36						
	comp=Z,0.5nm,0.4s						
DPC	Dobruska-Polom	89.65	38	eP	P	13 51 27.5	-1.1
FINES	FINESS Array B	90.10	26	P	P	13 51 29.6	-0.7
	comp=Z,4.7nm,1.0s,baz=317,slow=6.0,SNR=3.8						
FINES				LR	LR	14 30 13.3	
	comp=Z,132nm,22.0s,baz=264,slow=34						
	comp=Z,4.7nm,1.0s						
VRAC	Vranov	90.18	39	LR	LR	14 27 50.3	
	comp=Z,163nm,21.2s,baz=318,slow=33						
SEY	Seymchan	90.55	336	LR	LR	14 36 10.6	
	comp=Z,104nm,21.6s,baz=24,slow=38						
TIXI	Tiksi	91.57	349	LR	LR	14 36 05.7	
	comp=Z,7.8nm,20.8s,baz=22,slow=38						
VAE	Valguarnera	92.66	51	LR	LR	14 25 50.7	
	comp=Z,278nm,20.9s,baz=304,slow=31						
PETK	Petropavlovsk-	92.78	326	P	P	13 51 43.2	+0.3
	comp=Z,4.8nm,0.8s,baz=93,slow=5.9,SNR=6.0						
PETK				LR	LR	14 33 41.4	
	comp=Z,43nm,21.4s,baz=59,slow=36						
	comp=Z,4.8nm,0.8s						
MA2	Magadan	92.98	334	LR	LR	14 38 59.0	
	comp=Z,34nm,19.4s,baz=46,slow=39						
RAO	Raoul Island	95.14	241	LR	LR	14 24 20.3	
	comp=Z,74nm,21.8s,baz=51,slow=29						
AKASG	Malin Array Be	96.94	34	PKKPbc	PKKPbc	14 08 43.2	-1.2
	comp=Z,1.5nm,0.7s,baz=85,slow=2.7,SNR=6.1						
AKASG				LR	LR	14 34 52.5	
	comp=Z,105nm,21.8s,baz=316,slow=35						
NRIK	Noril'sk	97.65	1	LR	LR	14 38 18.9	
	comp=Z,303nm,19.9s,baz=332,slow=37						
KBZ	Khabaz	108.55	35	PKKPbc	PKKPbc	14 08 10.1	0.0
	comp=Z,2.1nm,0.9s,baz=66,slow=4.5,SNR=4.6						
BVAR	Borovoye Array	111.78	13	PKiKP	PKiKP	13 57 04.9	-0.2
	comp=Z,0.9nm,0.5s,baz=325,slow=2.3,SNR=5.8						
BVAR				PKKPbc	PKKPbc	14 07 57.2	-2.9
	comp=Z,1.3nm,0.9s,baz=177,slow=2.8,SNR=5.3						
ZALV	Zalesovo Beam	112.94	4	PKiKP	PKiKP	13 57 06.0	-1.2
	comp=Z,1.5nm,0.6s,baz=308,slow=2.7,SNR=6.5						
ZALV				PP	PP	13 57 53.8	-1.7
	comp=Z,2.5nm,0.8s,baz=353,slow=6.2,SNR=5.1						
ZALV				PKKPbc	PKKPbc	14 07 58.0	+1.7
	comp=Z,0.3nm,0.3s,baz=132,slow=2.1,SNR=4.8						
KURBB	Kurchatov Arra	115.57	9	PKP	PKiKP	13 57 11.7	-0.7
	comp=Z,3.2nm,0.7s,baz=350,slow=2.0,SNR=12						
KURBB				PKKPbc	PKKPbc	14 07 44.4	-2.8
	comp=Z,0.8nm,0.2s,baz=188,slow=2.8,SNR=8.7						
BOSA	Boshof	117.64	115	PKP	PKPdf	13 57 17.0	-0.1
	comp=Z,6.7nm,0.8s,baz=244,slow=1.0,SNR=8.3						
BOSA				pPKP	pPKPdf	13 57 36.6	-0.6
	comp=Z,6.5nm,0.8s,baz=286,slow=1.5,SNR=5.0						
SONM	Songino Array	117.65	348	PKP	PKPdf	13 57 15.9	-0.7
	comp=Z,3.6nm,0.8s,baz=351,slow=1.0,SNR=13						
SONM				pPKP	pPKPdf	13 57 36.8	0.0
	comp=Z,1.7nm,0.8s,baz=50,slow=1.5,SNR=3.8						
SONM				PP	PP	13 58 30.7	+1.8
	comp=Z,0.8nm,1.0s,baz=12,slow=7.7,SNR=3.5						
SONM				SKP		14 00 46.2	
	comp=Z,1.8nm,0.8s,baz=119,slow=1.8,SNR=7.6						
SONM				PKKPbc	PKKPbc	14 07 37.4	-2.7
	comp=Z,2.2nm,0.8s,baz=186,slow=3.6,SNR=10.0						
KSRS	Korea Array	118.67	327	PKP	PKiKP	13 57 18.9	+0.1
	comp=Z,4.8nm,0.8s,baz=345,slow=1.1,SNR=12						
MKAR	Makanchi Array	119.81	7	PKP	PKPdf	13 57 19.6	-1.1
	comp=Z,2.7nm,0.8s,baz=20,slow=3.0,SNR=13						
MKAR				PKKPbc	PKKPbc	14 07 29.9	-2.2
	comp=Z,0.8nm,0.9s,baz=159,slow=4.3,SNR=4.7						
KUU	Kurty	121.70	12	ePKP	PKPdf	13 57 22.5	-2.0
	baz=12						
SGDS	Sogindy	121.75	14	ePKP	PKPdf	13 57 22.6	-2.0
	baz=14						
CHKK	Chushkaly	121.87	12	ePKP	PKPdf	13 57 23.2	-1.5
	baz=12						
AAA	Alma-Ata	122.47	12	ePKP	PKPdf	13 57 25.6	-0.4
	baz=12						
AAK	Ala-Archa	122.49	14	PKP	PKPdf	13 57 24.7	-1.5
	comp=Z,3.3nm,0.6s,baz=213,slow=1.5,SNR=6.8						
MDOK	Medeo	122.54	12	ePKP	PKPdf	13 57 25.1	-1.2
	baz=12						
TNSS	Tian-Shan	122.64	12	ePKP	PKPdf	13 57 25.4	-1.3
	baz=12						
HHC	Hu-ho-hao-te	122.86	341	eP	Pdif	13 53 57.8	0.0
HHC	Hu-ho-hao-te	122.86	341	ePKP	PKPdf	13 57 24.1	-2.7
SATY	Saty	122.90	11	ePKP	PKPdf	13 57 25.9	-1.0
	baz=11						
UZB	Uzynbulak	122.92	10	ePKP	PKPdf	13 57 25.5	-1.5
	baz=10						
SHLS	Shalkode	122.99	10	ePKP	PKPdf	13 57 26.1	-0.9
	baz=9.4						
WMQ	Urumqi	123.20	3	ePKP	PKiKP	13 57 28.6	+1.0
WMQ				LR	LR		
	comp=Z,310nm,24.2s						
BTO	Baotou	123.55	342	ePKP	PKPdf	13 57 27.3	-0.9
BTO				sPKP		13 58 05.5	
BTO				SKS	SKSac	14 04 24.7	+0.3
BTO				LR	LR		
	comp=Z,370nm,5.3s						
BTO				LR	LR		
	comp=Z,410nm,7.7s						
BTO				LR	LR		
	comp=Z,310nm,8.2s						
HNS	HongShan	124.84	337	⇑PKP	PKiKP	13 57 31.1	+0.2
KSH	Kashi	125.80	14	PKP	PKiKP	13 57 33.4	+0.5
CTA	Charters Tower	126.52	255	PKP	PKiKP	13 57 34.5	-0.2
	comp=Z,10.0nm,0.9s,baz=188,slow=3.3,SNR=7.5						
CTA				pPKP	pPKPdf	13 57 54.9	+0.5
	comp=Z,9.0nm,0.9s,baz=115,slow=1.5,SNR=4.1						
GTA	Gaotai	126.98	351	PKP	PKPdf	13 57 34.9	+0.1
NJ2	Nanjing	127.54	330	ePKP	PKiKP	13 57 36.8	+0.4
LYN	LuoYang	128.21	337	ePKP	PKiKP	13 57 37.6	-0.1
LZH	Lanzhou	129.44	346	⇓PKP	PKiKP	13 57 40.8	+0.4
LZH				sPKP		13 58 14.8	
STKA	Stephens Creek	129.92	239	PKP	PKPdf	13 57 40.4	0.0
	comp=Z,8.6nm,0.9s,baz=34,slow=2.3,SNR=14						
STKA				pPKP	pPKPdf	13 58 00.8	+0.3
	comp=Z,11nm,1.0s,baz=3.9,slow=1.8,SNR=8.0						
XAN	Xi'an	129.93	340	⇑PKP	PKPdf	13 57 40.6	+0.1
GOMU	GeErMu	130.72	356	PKP	PKiKP	13 57 43.3	+0.1
WSAR	Wadi Sarin	132.09	41	PKP	PKPdf	13 57 43.7	-1.1
	comp=Z,2.3nm,0.6s,baz=307,slow=2.1,SNR=5.8						
WSAR				SKPbc	SKPbc	14 01 02.8	-2.3
	comp=Z,20nm,1.1s,baz=343,slow=4.7,SNR=19						
CD2	Chengdu	134.39	344	PKP	PKPdf	13 57 47.8	-1.2
WRA	Warramunga Arr	137.72	255	PKhKP	PKPpre	13 57 44.7	
	comp=Z,2.9nm,0.8s,baz=83,slow=2.9,SNR=16						
WRA				PKP	PKPdf	13 57 56.1	+0.7
	comp=Z,19nm,0.9s,baz=91,slow=1.5,SNR=55						
WRA				pPKP	pPKPdf	13 58 15.6	+0.1
	comp=Z,17nm,0.9s,baz=90,slow=2.4,SNR=8.0						
WRA				PP	PP	14 00 41.3	-1.8
	comp=Z,2.3nm,1.1s,baz=92,slow=6.0,SNR=6.3						
WRA				SKPbc	SKPbc	14 01 24.9	+1.7
	comp=Z,8.7nm,1.0s,baz=87,slow=2.3,SNR=19						
WRA				SKKPbc	SKKPbc	14 10 10.4	+0.2
	comp=Z,1.1nm,0.8s,baz=285,slow=2.8,SNR=7.8						
ASAR	Alice Springs	137.85	249	PKhKP	PKPpre	13 57 43.9	
	comp=Z,2.0nm,0.9s,baz=104,slow=3.0,SNR=11						
ASAR				PKP	PKPdf	13 57 54.2	-1.3
	comp=Z,10nm,0.9s,baz=108,slow=1.8,SNR=27						
ASAR				pPKP	pPKPdf	13 58 16.1	+0.5
	comp=Z,11nm,1.0s,baz=102,slow=2.9,SNR=6.0						
ASAR				SKPbc	SKPbc	14 01 25.4	+1.9
	comp=Z,12nm,1.1s,baz=105,slow=3.0,SNR=24						
ASAR				SKKPbc	SKKPbc	14 10 09.2	-0.7
	comp=Z,1.7nm,0.8s,baz=281,slow=4.3,SNR=13						
PZH	PanZhiHua	139.10	345	PKP	PKPdf	13 57 48.3	-10
KMI	Kunming	140.15	343	⇓PKP	PKPdf	13 57 59.6	-0.4
KMI				LR	LR		
	comp=Z,200nm,20.6s						
KMI				LR	LR		
	comp=Z,270nm,25.1s						
KMI				LR	LR		
	comp=Z,240nm,24.0s						
SANI	Sanana	143.37	285	PKP	PKPab	13 58 02.2	+0.4
KMSI	Cibinong	144.28	290	PKP	PKPbc	13 58 05.6	-0.1
GTOI	Gorontalo	145.14	291	PKP	PKPdf	13 58 09.0	+0.2
MRSI	Marisa	146.18	291	PKP	PKPdf	13 58 11.0	+0.4
SOEI	Soe	146.94	272	PKP	PKPdf	13 58 12.5	+0.5
CHTO	Chiang Mai	147.17	345	PKP	PKPdf	13 58 12.4	+0.3
HYB	Hyderabad	147.31	22	ePKPdf	PKPdf	13 58 13.0	+0.6
CMAR	Chiang Mai Arr	147.51	345	PKPbc	PKPdf	13 58 13.1	+0.3
	comp=Z,31nm,0.8s,baz=339,slow=3.1,SNR=140						
CMAR				pPKPbc	pPKPbc	13 58 35.6	+0.3
	comp=Z,14nm,0.9s,baz=331,slow=4.0,SNR=4.6						
CMAR				SKPbc	SKPbc	14 01 44.6	-2.9
	comp=Z,1.0nm,0.6s,baz=328,slow=2.2,SNR=3.5						
BBSI	Bau Bau	147.66	281	PKP	PKPdf	13 58 13.4	+0.4
MPSI	Mapaga	148.08	293	PKP	PKPdf	13 58 14.3	+0.5
MMRI	Maumere	148.71	275	PKP	PKPbc	13 58 16.8	-1.8
EDFI	Ende, Flores	149.27	275	PKP	PKPdf	13 58 14.3	-1.5
SPSI	Sidrap Palu	149.86	285	PKP	PKPdf	13 58 16.9	+0.3
BKSI	Bulukumba	149.95	282	PKP	PKPdf	13 58 16.4	-0.3
MMSI	Mamuju	150.21	288	PKP	PKPdf	13 58 17.1	-0.1
PMSI	Majene	150.50	287	PKP	PKPdf	13 58 17.5	-0.2

*NNC **03** 13:53:30.2±4.1, 40°.41N×63°.07E, h12km±28km, mb3.2, mpv2.9, Error ellipse: s-maj=33.5km s-min=14.6km az=146.0*

*IDC **03** 13:53:30.8±1.3, 40°.45N×62°.89E, h0km, mbtmp3.7/7, ML3.3/7, Error ellipse: s-maj=20.0km s-min=11.6km az=157.0*

ISC 03 13:53:31.1±0.8, **40°.54N**±0°.08×**63°.00E**±0°.07, **h15km**, **n11**, σ**1s.52**/18, **7C-1D**, **Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	4.60	237	Pn	Pn	13 54 41.6	+1.4
	4.9nm,0.3s,baz=52,slow=12,SNR=31						
GEYT				Pg	Pb	13 54 50.8	-0.8
	14nm,0.3s,baz=63,slow=13,SNR=19						
GEYT				Sn	Sn	13 55 33.4	0.0
	2.3nm,0.3s,baz=60,slow=8.8,SNR=1.3						
GEYT				Lg	Lg	13 55 53.3	
	6.3nm,0.3s,baz=277,slow=39,SNR=1.7						
	12nm,0.3s						
GYA0B	ALIBECK ARRAY	4.60	237	⇑Pn	Pn	13 54 40.1	-0.1
GYA0B				⇑Pg	Pb	13 54 53.0	+1.4
GYA0B				⇑Sn	Sn	13 55 33.3	-0.1
GYA0B				⇑Lg	Lg	13 55 54.9	
KK31	Karatay Array	6.17	63	⇑P	Pn	13 55 01.8	+0.1
	1.2nm,0.3s,baz=238,slow=16,SNR=4.8						
AML	Almayashu	8.20	75	⇑P	Pn	13 55 29.9	0.0
	0.1nm,0.6s						
AML				⇓S	Sn	13 57 02.8	+0.2
	0.2nm,0.5s						
AAK	Ala-Archa	8.87	73	Pn	Pn	13 55 39.8	+1.0
	0.3nm,0.3s,baz=245,slow=13,SNR=5.0						
AAK				Lg	Lg	13 58 14.5	
	0.2nm,0.3s,baz=11,slow=20,SNR=1.5						
	0.9nm,0.4s						
AB31	Akbulak array	8.97	347	P	Pn	13 55 41.4	+1.2
	0.2nm,0.2s,baz=153,slow=15,SNR=31						
AB31				⇑S	Sn	13 57 23.6	+2.7
	0.3nm,0.3s,baz=153,slow=26,SNR=3.8						
AKTO	Aktyubinsk	10.49	342	Pn	Pn	13 56 01.7	+0.8
	0.5nm,0.3s,baz=157,slow=11,SNR=5.4						
AKTO				Sn	Sn	13 57 56.5	-1.5
	0.2nm,0.3s,baz=17,slow=17,SNR=1.6						
AKTO				Lg	Lg	13 59 06.8	
	0.3nm,0.3s,baz=265,slow=13,SNR=1.8						
	1.7nm,0.5s						
BVAR	Borovoye Array	13.46	19	Pn	Pn	13 56 42.5	+1.0
	baz=202,slow=7.0,SNR=3.5						
BVAR				Sn	Sn	13 58 58.8	-12
	baz=227,slow=38						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	14.80	42	Pn	Pn	13 56 57.4	-2.3
	0.1nm,0.3s,baz=226,slow=14,SNR=1.6						
KURBB				Lg	Lg	14 01 24.9	
	baz=235,slow=28						
	1.4nm,0.2s						
KBZ	Khabaz	15.24	289	Pn	Pn	13 57 02.6	-3.1
	0.1nm,0.3s,baz=24,slow=11,SNR=1.4						
	1.1nm,0.9s						
MKAR	Makanchi Array	15.28	59	Pn	Pn	13 57 04.9	-1.3
	0.2nm,0.3s,baz=252,slow=16,SNR=8.5						
	0.8nm,0.6s						

*IDC **03** 13:58:36.2±0.6, 4°.00S×98°.09W, h0km, mb4.2/11, mbtmp4.2/11, MS3.7/17, Error ellipse: s-maj=39.2km s-min=16.0km az=73.0*

*NEIC **03** 13:58:39.1±1.3, 4°.0S±0°.1×98°.1W±0°.1, h10km±1km, mb4.6/39, Error ellipse: s-maj=19.6km s-min=18.3km az=186.0*

ISC 03 13:58:37.8±0.5, **3°.98S**±0°.08×**98°.11W**±0°.09, **h10km**, **n79**, σ**0s.68**/64, **mb4.5**/27, **MS3.7**/16, **Southwest of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	8.48	67	Pn	Pn	14 00 40.8	0.0
SALI	Salinas	17.19	85	Pn	Pn	14 02 38.1	-0.2
SALI				IAmb	IAmb	14 02 43.7	
	comp=Z,56nm,0.9s						
ARNL	Arenillas	18.01	89		P	14 02 49.5	+0.6
COHC	Cochancay	18.89	86	P	P	14 02 57.4	-1.3
ORTG	Ortega, Santa	19.02	41	P	P	14 02 59.7	-0.4
ORTG				IAmb	IAmb	14 03 08.7	
	comp=Z,26nm,1.2s						
JTS	Las Juntas de	19.30	43	LR	LR	14 08 26.0	
	comp=Z,328nm,19.8s,baz=268,slow=31						
CHSH	Refugio Sur-Vo	19.38	83	P	Pn	14 03 05.7	0.0
SLOR	San Lorenzo -	19.86	81	P	P	14 03 10.6	+0.8
ATAH	Atahualpa	19.87	100	LR	LR	14 08 59.7	
	comp=Z,101nm,19.9s,baz=343,slow=31						
COVE	Coope Vega, Sa	19.98	43	P	Pn	14 03 12.0	-0.3
COVE				IAmb	IAmb	14 03 18.7	
	comp=Z,70nm,1.3s						
PULU	Pululahua	19.99	79	P	Pn	14 03 12.1	-0.8
OTAV	Otavalo	20.09	78	P	P	14 03 13.0	+0.8
IMBA	Imbabura, San	20.34	78	P	P	14 03 15.7	+0.7
TULM	Tulcn-Chalpat	20.84	78	P	P	14 03 21.2	+0.7
TULM				IAmb	IAmb	14 03 29.5	
	comp=Z,32nm,1.1s						
TGUH	Tegucigalpa,Un	20.89	31	P	Pn	14 03 22.0	-1.1
CMIG	Matias Romero	21.17	9	P	P	14 03 24.1	+0.6
	comp=Z,5.8nm,0.9s,baz=206,slow=4.0,SNR=3.7						
CMIG				LR	LR	14 09 36.9	
	comp=Z,332nm,20.1s,baz=182,slow=31						
	comp=Z,5.8nm,0.9s						
TLIG	Tlapa	21.41	359	P	P	14 03 25.9	-0.2
NNA	Nana	22.50	112	LR	LR	14 10 53.6	
	comp=Z,71nm,18.0s,baz=342,slow=33						
RPN	Rapa Nui	25.40	204	LR	LR	14 11 18.6	
	comp=Z,236nm,19.9s,baz=41,slow=30						
CZSB	Cruzeiro do Su	25.54	100	P	P	14 04 06.9	-0.2
TEIG	Tepich	25.92	22	LR	LR	14 12 40.5	
	comp=Z,2μm,20.7s,baz=358,slow=33						
ZAIG	Zacatecas	26.94	351	P	P	14 04 20.4	+0.5
ZAIG				IAmb	IAmb	14 04 24.7	
	comp=Z,11nm,1.4s						
SDV	Santo Domingo	30.23	65	P	P	14 04 49.9	+0.6
SDV				IAmb	IAmb	14 04 51.0	
	comp=Z,7.5nm,1.1s						
LPIG	La Paz	30.33	338	LR	LR	14 13 43.9	
	comp=Z,79nm,19.3s,baz=100,slow=30						
LPAZ	La Paz	31.89	115	P	P	14 05 04.6	+0.3
TXAR	Lajitas Array	33.55	351	P	P	14 05 19.1	+1.0
	comp=Z,0.9nm,1.0s,baz=181,slow=10.0,SNR=6.8						
TXAR				PcP	PcP	14 07 59.0	+0.1
	comp=Z,0.5nm,0.8s,baz=186,slow=3.8,SNR=5.7						
TXAR				LR	LR	14 17 31.8	
	comp=Z,120nm,18.1s,baz=80,slow=34						
	comp=Z,0.9nm,1.0s						
LVC	Limon Verde	33.79	126	P	P	14 05 20.3	-0.4
LVC				IAmb	IAmb	14 05 23.6	
	comp=Z,8.9nm,1.0s						
LVC	Limon Verde	33.79	126	LR	LR	14 15 20.4	
	comp=Z,88nm,20.9s,baz=346,slow=30						
H03N2	Juan Fernandez	34.34	151	T	T	14 41 39.9	
	baz=327						
H03N1	Juan Fernandez	34.36	151	T	T	14 41 39.2	
	baz=327						
H03N3	Juan Fernandez	34.36	151	T	T	14 41 40.8	
	baz=327						
ALPN	Alpine	34.56	352	P	P	14 05 28.0	+1.0
SAML	Samuel	35.04	100	P	P	14 05 30.7	-0.5
SAML				IAmb	IAmb	14 05 31.4	
	comp=Z,7.4nm,1.1s						
VHRN	Van Horn	35.19	350	P	P	14 05 33.0	+0.7
SGCY	Sterling City	35.81	356	P	P	14 05 38.2	+0.6
SGCY				IAmb	IAmb	14 05 38.9	
	comp=Z,9.9nm,0.8s						
LCO	Las Campanas	36.01	137	P	P	14 05 40.6	+1.0
LCO				IAmb	IAmb	14 05 41.7	
	comp=Z,20nm,1.1s						
121A	Cookes Peak, D	37.45	346	P	P	14 05 52.2	+0.5
121A				IAmb	IAmb	14 05 54.0	
	comp=Z,8.9nm,1.1s						
DUN6	Lazy B Ranch	37.80	345	P	P	14 05 55.4	+0.8
SJG	San Juan	38.40	54	LR	LR	14 19 21.7	
	comp=Z,89nm,20.0s,baz=190,slow=32						
ANMO	Albuquerque	39.50	349	P	P	14 06 09.7	+0.7
ANMO	Albuquerque	39.50	349	LR	LR	14 21 13.2	
	comp=Z,203nm,18.6s,baz=204,slow=34						
PTLB	Pontes e Lacer	39.99	109	P	P	14 06 12.9	-0.2
PTLB				IAmb	IAmb	14 06 13.9	
	comp=Z,8.8nm,1.0s						
T25A	Trinidad	41.32	352	P	P	14 06 24.7	+0.7
T25A				IAmb	IAmb	14 06 26.1	
	comp=Z,6.4nm,1.1s						
TKL	Tuckaleechee C	41.66	18	LR	LR	14 22 32.2	
	comp=Z,160nm,21.3s,baz=157,slow=34						
U15A	North Rim	42.32	343	P	P	14 06 33.7	+1.3
PLCA	Paso Flores	44.20	150	P	P	14 06 47.7	+0.4
	comp=Z,9.1nm,1.2s,baz=327,slow=8.7,SNR=4.5						
	comp=Z,9.1nm,1.2s						
MVU	Marysvale	44.24	344	P	P	14 06 48.5	+0.7
MVU				IAmb	IAmb	14 07 12.4	
	comp=Z,24nm,1.3s						
DUG	Dugway, Tooele	45.98	344	P	P	14 07 02.5	+1.0
DUG				IAmb	IAmb	14 07 04.5	
	comp=Z,10nm,1.4s						
NVAR	Mina Array Bea	46.15	338	P	P	14 07 04.1	+1.1
	comp=Z,1.0nm,1.0s,baz=161,slow=9.4,SNR=7.8						
NVAR				PcP	PcP	14 08 38.4	-0.5
	comp=Z,0.2nm,0.7s,baz=188,slow=3.4,SNR=3.8						
	comp=Z,1.0nm,1.0s						
MDP	Montagnes des	46.30	79	LR	LR	14 23 57.4	
	comp=Z,49nm,19.2s,baz=41,slow=33						
BGU	Big Grassy Mou	46.73	344	P	P	14 07 08.3	+0.9
BGU				IAmb	IAmb	14 07 09.4	
	comp=Z,6.0nm,1.3s						
ELK	Elko	47.19	342	P	P	14 07 11.6	+0.6
ELK				IAmb	IAmb	14 07 13.2	
	comp=Z,4.0nm,1.3s						
EMB	Emerald Bay	47.32	337	P	P	14 07 11.6	-0.5
EMB				IAmb	IAmb	14 07 15.5	
	comp=Z,7.6nm,1.2s						
AFDM	Forest Hills D	47.65	336	P	P	14 07 15.0	+0.6
AFDM				IAmb	IAmb	14 07 18.1	
	comp=Z,9.5nm,1.5s						
PD31	Pinedale Array	47.67	349	P	P	14 07 14.6	-0.2
PD31				IAmb	IAmb	14 07 15.7	
	comp=Z,4.5nm,1.1s						
PDAR	Pinedale Array	47.67	349	P	P	14 07 14.7	0.0
PDAR	Pinedale Array	47.67	349	P	P	14 07 14.8	+0.1
	comp=Z,1.7nm,0.8s,baz=153,slow=8.0,SNR=14						
PDAR				PcP	PcP	14 08 43.5	-0.7
	comp=Z,1.1nm,0.9s,baz=141,slow=5.8,SNR=2.6						
PDAR				LR	LR	14 25 19.4	
	comp=Z,118nm,18.4s,baz=54,slow=34						
	comp=Z,1.7nm,0.8s						
YHL	Hebgen Lake	50.00	348	P	P	14 07 33.2	+0.5
YHL				IAmb	IAmb	14 07 34.6	
	comp=Z,7.4nm,1.2s						
BDFB	Brasilia	50.58	107	P	P	14 07 36.8	-0.6
	comp=Z,8.1nm,1.0s,baz=223,slow=6.9,SNR=7.1						
	comp=Z,8.1nm,1.0s						
SADO	Sadowa	51.41	17	LR	LR	14 28 02.0	
	comp=Z,124nm,21.4s,baz=154,slow=34						
PPT	Papeete	52.15	251	LR	LR	14 23 36.6	
	comp=Z,64nm,19.5s,baz=9.0,slow=29						
PMSA	Palmer Station	65.39	165	P	P	14 09 20.8	+0.5
YKA	Yellowknife Ar	67.47	352	P	P	14 09 33.2	-0.4
	comp=Z,2.4nm,1.0s,baz=159,slow=5.9,SNR=20						
	comp=Z,2.4nm,1.0s						
FRB	Frobisher Bay	71.08	13	LR	LR	14 42 49.5	
	comp=Z,126nm,18.7s,baz=58,slow=37						
ILAR	Eielson Array	77.32	341	P	P	14 10 32.2	-0.1
	comp=Z,2.5nm,0.8s,baz=149,slow=4.8,SNR=25						
ILAR				LR	LR	14 42 31.2	
	comp=Z,44nm,18.7s,baz=84,slow=34						
	comp=Z,2.5nm,0.8s						
SUMG	Summit	85.06	15	iP	P	14 11 13.8	-0.1
NEEM	North Greenlan	85.32	9	iP	P	14 11 13.4	-1.6
QSPA	South Pole Qui	86.08	180	P	P	14 11 19.2	+0.4
QSPA	South Pole Qui	86.08	180	P	P	14 11 19.9	+1.1
	comp=Z,8.9nm,1.0s,baz=131,slow=2.7,SNR=15						
	comp=Z,8.9nm,1.0s						
SNAA	Sanae	87.92	162	P	P	14 11 27.1	-0.5
	comp=Z,2.5nm,0.9s,baz=109,slow=0.6,SNR=4.2						
	comp=Z,2.5nm,0.9s						
VNDA	Vanda	88.31	192	P	P	14 11 29.0	-0.3
	comp=Z,1.0nm,1.1s,baz=90,slow=2.0,SNR=3.4						
	comp=Z,1.0nm,1.1s						
ASAR	Alice Springs	122.38	239	PKP	PKPdf	14 17 33.3	-1.0
	comp=Z,0.5nm,0.9s,baz=98,slow=1.7,SNR=4.6						
WRA	Warramunga Arr	123.27	243	PKP	PKPdf	14 17 34.9	-1.2
	comp=Z,1.3nm,1.0s,baz=107,slow=0.9,SNR=6.8						
KBZ	Khabaz	127.56	35	PKP	PKPdf	14 17 43.3	-0.2
	comp=Z,1.7nm,0.9s,baz=222,slow=6.8,SNR=3.6						
ZALV	Zalesovo Beam	130.13	358	PKP	PKPdf	14 17 47.8	-0.3
	comp=Z,0.2nm,0.3s,baz=298,slow=3.2,SNR=3.8						
BVAR	Borovoye Array	130.20	9	PKP	PKPdf	14 17 48.3	0.0
	comp=Z,2.2nm,0.9s,baz=357,slow=3.0,SNR=8.5						
SONM	Songino Array	131.49	338	PKP	PKPdf	14 17 51.1	0.0
	comp=Z,1.2nm,1.1s,baz=355,slow=1.6,SNR=4.7						
MKAR	Makanchi Array	137.35	360	PKP	PKPdf	14 18 01.2	-0.8
	comp=Z,1.2nm,1.1s,baz=56,slow=3.2,SNR=4.1						
CMAR	Chiang Mai Arr	157.97	312	PKPab	PKPab	14 19 09.8	+0.7
	comp=Z,0.8nm,0.5s,baz=14,slow=4.1,SNR=6.3						

IDC 03 14:01:17.7±10.0, **18°.01S**×**178°.50W**, **h525km**±127km, **mb3.1**/5, **mbtmp4.0**/5, **Error ellipse: s-maj=68.2km s-min=31.4km az=10.0**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.54	190	P	P	14 05 19.3	-0.4
	7.8nm,1.0s,baz=301,slow=20,SNR=1.6						
	7.8nm,1.0s						
STKA	Stephens Creek	38.51	241	P	P	14 07 55.6	+0.7
	1.3nm,0.4s,baz=107,slow=9.4,SNR=3.6						
	1.3nm,0.4s						
WRA	Warramunga Arr	44.53	260	P	P	14 08 41.8	-1.0
	0.5nm,0.6s,baz=91,slow=6.7,SNR=5.6						
	0.5nm,0.6s						
ASAR	Alice Springs	44.68	254	P	P	14 08 44.0	+0.1
	5.4nm,0.5s,baz=89,slow=8.2,SNR=125						
ASAR				PcP	PcP	14 10 14.8	-0.5
	0.2nm,0.4s,baz=110,slow=3.8,SNR=1.6						
	5.4nm,0.5s						
TXAR	Lajitas Array	86.12	58	P	P	14 13 03.6	+0.2
	0.3nm,0.8s,baz=210,slow=6.3,SNR=3.6						
	0.3nm,0.8s						

*IDC **03** 14:10:28.9±0.9, 29°.97S×179°.18W, h220km±15km, mb3.0/3, mbtmp3.7/4, Error ellipse: s-maj=31.9km s-min=28.0km az=94.0*

ISC 03 14:10:31.2±0.8, **30°.25S**±0°.08×**179°.5W**±0°.1, **h200km**, **n25**, σ**2s.65**/36, **mb3.4**/3, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.68	55	P	Pn	14 11 09.1	+2.6
GLKZ				S	Sn	14 11 37.9	+4.0
RAO	Raoul Island	1.69	54	P	Pn	14 11 01.0	-5.6
	149nm,0.4s,baz=90,slow=23,SNR=1.7						
RAO				S	Sn	14 11 30.0	-4.0
	171nm,0.3s,baz=265,slow=23,SNR=2.2						
WMGZ	Waiomatatini S	7.75	192	P	Pn	14 12 22.3	+1.2
HAZ	Te Kaha	7.82	196	P	Pn	14 12 23.8	+1.8
HAZ				S	Sn	14 13 54.8	+4.4
PKGZ	Pakihiroa	7.88	194	P	Pn	14 12 22.9	0.0
PUZ	Puketiti	8.02	193	P	Pn	14 12 24.6	-0.1
PUZ				S	Sn	14 13 55.3	+0.1
RUGZ	Raukumara Rang	8.05	196	P	Pn	14 12 27.8	+2.8
RUGZ				S	Sn	14 13 53.7	-2.1
CNGZ	Carnagh Statio	8.43	192	P	Pn	14 12 29.6	-0.4
MWZ	Matawai	8.44	196	P	Pn	14 12 30.0	-0.1
MWZ				S	Sn	14 14 05.1	+0.2
TKGZ	Te Karaka	8.46	194	P	Pn	14 12 34.6	+4.2
TKGZ				S	Sn	14 14 06.8	+1.4
URZ	Urewera	8.47	198	P	Pn	14 12 31.0	+0.6
	8.0nm,0.6s,baz=330,slow=7.7,SNR=13						
URZ				S	Sn	14 14 04.9	-0.8
	3.9nm,0.3s,baz=223,slow=13,SNR=1.6						
URZ	Urewera	8.47	198	P	Pn	14 12 32.4	+1.9
URZ				S	Sn	14 14 09.1	+3.5
RAGZ	Rawiri	8.62	196	P	Pn	14 12 34.2	+1.7
RIGZ	Rimuhau	8.74	194	P	Pn	14 12 34.6	+0.6
RIGZ				S	Sn	14 14 08.1	-4.0
MUGZ	Murupara	8.77	200	P	Pn	14 12 36.6	+2.2
SNGZ	Shannon Statio	8.90	196	P	Pn	14 12 37.8	+1.7
MTHZ	Maungataniwha	9.10	198	P	Pn	14 12 41.8	+3.1
MTHZ				S	Sn	14 14 21.3	+0.7
NMHZ	Naumai	9.34	198	P	Pn	14 12 44.6	+2.8
NMHZ				S	Sn	14 14 25.2	-1.2
KAHZ	Kahuranaki	9.98	196	P	Pn	14 12 51.9	+1.8
KAHZ				S	Sn	14 14 32.1	-9.5
PXZ	Pawanui	10.21	196	S	Sn	14 14 43.8	-3.0
DZM	Mont Dzumac	15.02	300	P	P	14 13 58.5	+4.0
	3.9nm,0.7s,baz=192,slow=18,SNR=5.7						
ASAR	Alice Springs	41.83	267	P	P	14 18 00.3	-1.4
	0.1nm,0.3s,baz=105,slow=7.3,SNR=6.9						
	0.1nm,0.3s						
WRA	Warramunga Arr	42.81	273	P	P	14 18 07.1	-2.4
	0.3nm,0.3s,baz=110,slow=8.1,SNR=7.7						
	0.3nm,0.3s						
QSPA	South Pole Qui	59.86	180	P	P	14 20 14.1	-1.4
	1.7nm,1.0s,baz=218,slow=13,SNR=2.1						
	1.7nm,1.0s						
FINES	FINESS Array B	144.55	339	PKP	PKPab	14 29 36.0	-6.0
	2.4nm,0.5s,baz=50,slow=4.2,SNR=36						

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*NEIC **03** 14:46:14.6±2.6, 5.°88S±0.°04×103.°21E±0.°09, h40km±9km, mb4.5/23, Error ellipse: s-maj=13.4km s-min=5.3km az=75.0*

*DJA **03** 14:46:15.8±0.2, 6°S±2°×10°3E±°, h41km±3km, M4.8/40, mb4.7/40, mB5.3/12, MLv4.8/25, Mw4.3/12, Mw(mB)4.8/12*

*IDC **03** 14:46:18.6±2.4, 5.°34S×103.°70E, h59km±17km, mb4.0/19, mbtmp4.3/21, MS3.7/3, Error ellipse: s-maj=30.5km s-min=8.6km az=44.0*

ISC 03 14:46:16.0±0.5, **5.°62S**±0.°06×**103.°46E**±0.°05, **h47km, n137, σ1.s37**/132, **mb4.5**/33, **1C, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LWLI	Liwa	0.84	45	P	Pn	14 46 31.0	-0.7
LWLI				S	Sn	14 46 41.4	-1.7
KASI	Kota Agung	1.04	85	P	Pn	14 46 33.3	-0.9
KASI				S	Sn	14 46 44.9	-2.7
EGSI	Enggano, Bengk	1.21	283	P	Pn	14 46 38.1	+1.6
MNAI	Manna	1.35	338		Pn	14 46 38.6	+0.1
MNAI	Manna	1.35	338	P	Pn	14 46 38.9	+0.4
MNAI	Manna	1.35	338	P	Pn	14 46 38.6	+0.1
LHSI	Lahat	1.78	2	P	Pn	14 46 45.9	+1.5
UBSI	University, Be	2.19	327	P	Pn	14 46 50.9	+0.8
CGJI	Cibinong	2.43	114	P	Pn	14 46 52.5	-0.8
SBJI	Serang	2.70	101	P	Pn	14 46 56.6	-0.4
PMBI	Palembang	2.98	26	P	Pn	14 46 59.8	-1.0
SKJI	Sukabumi	3.37	114	P	Pn	14 47 05.7	-0.5
DBJI	Dramaga	3.40	106	P	Pn	14 47 07.6	+1.0
CBJI	Citeko	3.46	103	P	Pn	14 47 10.4	+2.9
CNJI	Cibinong	4.01	115	P	Pn	14 47 14.4	-0.6
KRJI	Kerinci	4.03	330	P	Pn	14 47 16.4	+1.0
LEM	Lembang	4.30	106	P	Pn	14 47 19.1	-0.1
	19nm,0.5s,baz=211,slow=11,SNR=10						
LEM				S	Sn	14 48 07.5	-0.7
	80nm,0.5s,baz=249,slow=6.7,SNR=3.9						
LEM	Lembang	4.30	106	P	Pn	14 47 18.3	-0.9
PPBI	Pangkal Pinang	4.35	38	P	Pn	14 47 20.0	+0.3
PPSI	Pulau Pagai	4.46	309	P	Pn	14 47 22.6	+1.4
BBJI	Bungbulang	4.55	114	P	Pn	14 47 23.4	+1.0
BBJI	Bungbulang	4.55	114	P	Pn	14 47 22.9	+0.5
DSRI	Dabo	5.23	12	P	Pn	14 47 32.4	+0.7
	72nm,0.6s,1μm0.4nm						
XMI	Christmas Isla	5.28	155	P	Pn	14 47 28.9	-3.6
XMIS	Christmas Isla	5.29	156	Pn	Pn	14 47 27.9	-4.7
XMIS	Christmas Isla	5.29	156	P	Pn	14 47 28.6	-4.0
CMJI	Cimerak	5.40	114	P	Pn	14 47 34.8	+0.7
	101nm,0.6s,2μm0.5nm						
PDSI	Padang	5.55	327	P	Pn	14 47 37.2	+1.0
	84nm,0.4s,2μm0.5nm						
KPJI	Karang Pucung	5.70	108	P	Pn	14 47 38.0	-0.1
	42nm,0.8s,0.3nm						
BKNI	Bangkinang	6.38	338	Pn	Pn	14 47 48.8	+1.2
BKNI	Bangkinang	6.38	338	P	Pn	14 47 47.8	+0.2
	103nm,0.7s,0.4nm						
SMRI	Semarang	7.08	102	Pn	Pn	14 47 59.9	+2.7
SMRI	Semarang	7.08	102	P	Pn	14 47 56.5	-0.7
	57nm,0.8s,0.5nm						
YOGI	Yogyakarta	7.13	108	P	Pn	14 47 55.0	-2.8
	63nm,1.7s,0.4nm						
MYKOM	Kota Tinggi	7.37	3		Pn	14 48 04.3	+3.2
MYKOM	Kota Tinggi	7.37	3	P	Pn	14 48 02.0	+0.9
	27nm,1.3s,0.1nm						
UGM	Wanagama	7.37	108	Pn	Pn	14 48 02.2	+1.0
UGM	Wanagama	7.37	108	P	Pn	14 48 03.2	+2.0
UGM	Wanagama	7.37	108	P	Pn	14 48 02.4	+1.2
	153nm,1.1s,0.7nm						
PBSI	Pulau Batu	7.57	317	P	Pn	14 48 04.3	+0.4
	269nm,1.1s,1.4nm						
SJI	Sawahan	8.51	105	P	Pn	14 48 16.3	-0.6
	22nm,0.4s						
TRSI	Tarutung	8.83	329	P	Pn	14 48 21.7	+0.5
GSI	Gunungsitoli	9.05	319	Pn	Pn	14 48 22.6	-1.6
GSI	Gunungsitoli	9.05	319	P	Pn	14 48 23.5	-0.6
GSI	Gunungsitoli	9.05	319	P	Pn	14 48 23.7	-0.4
	58nm,1.7s,8μm						
RPSI	Rantau Prapat	9.42	331	Pn	Pn	14 48 29.9	+0.7
BLJI	Banyuglugur	10.29	102	P	Pn	14 48 41.9	+0.8
KMMI	Kalianget	10.54	98	P	Pn	14 48 46.6	+2.0
	26nm,0.8s,2μm						
ABJI	Asem Bagus	10.92	102	P	Pn	14 48 49.4	-0.3
	158nm,0.8s						
JAGI	Jajag, Banyuwa	10.98	106	Pn	Pn	14 48 50.8	+0.2
JAGI	Jajag, Banyuwa	10.98	106	P	Pn	14 48 51.1	+0.5
JAGI	Jajag, Banyuwa	10.98	106	P	Pn	14 48 50.5	-0.1
	85nm,0.8s,1μm						
SBUM	Sibu	11.87	48		Pn	14 49 06.6	+3.9
SBUM	Sibu	11.87	48	P	Pn	14 49 05.9	+3.2
	6.1nm,1.8s						
SRBI	Singaraja	11.92	103	P	Pn	14 49 03.9	+0.4
	41nm,0.5s						
TWSI	Taliwang, Sumb	13.67	104	P	Pn	14 49 24.9	-2.5
	18nm,0.5s						
PLAI	Plampang	14.55	103	P	Pn	14 49 35.1	-4.2
DBNI	Kabupaten Domp	15.01	102	P	Pn	14 49 45.3	0.0
	15nm,0.7s						
PMSI	Majene	15.55	83	P	Pn	14 49 54.0	+1.7
	61nm,0.9s						
KAPI	Kappang	16.23	89	P	Pn	14 50 00.1	-0.9
	2.8nm,0.4s,baz=87,slow=5.2,SNR=2.2						
KAPI				LR	LR	14 57 09.3	
	comp=Z,87nm,19.3s,baz=323,slow=41						
SPSI	Sidrap Palu	16.34	85	P	P	14 50 05.0	+0.4
	9.0nm,0.9s						
TTSI	Tana Toraja	16.51	82	P	P	14 50 06.2	-0.3
	13nm,1.1s,1μm						
BKSI	Bulukumba	16.59	90	P	Pn	14 50 05.7	+0.2
	23nm,1.2s,248nm						
MPSI	Mapaga	17.45	71	P	P	14 50 18.0	+1.1
	13nm,1.0s						
EDFI	Ende, Flores	18.35	101	P	P	14 50 25.8	-1.2
	10nm,0.5s						
TOLI2	Tolitoli	18.55	69	P	Pn	14 50 30.4	+0.7
TOLI2				IAmb	IAmb	14 50 32.3	
	comp=Z,24nm,1.1s						
MMRI	Maumere	18.87	100	P	P	14 50 33.1	+0.5
MMRI				IAmb	IAmb	14 51 07.3	
	comp=Z,20nm,0.6s						
MMRI	Maumere	18.87	100	P	P	14 50 32.2	-0.4
	comp=Z,23nm,0.8s						
MRSI	Marisa	19.42	72	P	P	14 50 39.4	+0.8
	comp=Z,25nm,0.6s						
GTOI	Gorontalo	20.49	73	P	P	14 50 48.6	-1.6
	comp=Z,13nm,0.8s						
SOEI	Soe	21.02	103	P	P	14 50 56.5	+0.4
SOEI				IAmb	IAmb	14 51 38.8	
	comp=Z,36nm,0.8s						
SOEI	Soe	21.02	103	P	P	14 50 56.7	+0.6
	comp=Z,41nm,0.7s						
CMAR	Chiang Mai Arr	24.34	350	P	P	14 51 28.7	-0.9
	comp=Z,1.5nm,0.6s,baz=185,slow=8.9,SNR=14						
	comp=Z,1.5nm,0.6s						
LBMI	Labuha	24.50	79	P	P	14 51 31.2	0.0
	comp=Z,61nm,0.7s,comp=Z,1μm						
CHTO	Chiang Mai	24.68	350	P	P	14 51 32.3	-0.5
	comp=Z,4.0nm,0.7s						
TNTI	Ternate	24.70	76	P	P	14 51 33.7	+0.7
	comp=Z,15nm,0.7s						
FITZ	Fitzroy Crossi	24.96	122	P	P	14 51 35.8	+0.5
CRAI	Chiangrai	25.87	353	P	P	14 51 42.8	-0.7
H01W3	Cape Leeuwin H	30.75	163	T	T	15 25 45.9	
	baz=340,slow=76,SNR=32						
H01W2	Cape Leeuwin H	30.76	163	T	T	15 25 49.5	
	baz=340,slow=76,SNR=29						
H01W1	Cape Leeuwin H	30.76	163	T	T	15 25 46.2	
	baz=340,slow=76,SNR=34						
H08S2	Diego Garcia H	30.82	265	T	T	15 25 16.1	
	baz=87,slow=77,SNR=6.0						
H08S3	Diego Garcia H	30.83	265	T	T	15 25 17.9	
	baz=87,slow=77,SNR=13						
H08S1	Diego Carcia H	30.84	265	T	T	15 25 17.6	
	baz=87,slow=77,SNR=3.6						
PZH	PanZhiHua	31.98	357	P	P	14 52 41.7	+3.8
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
WB0	Warramunga Arr	33.20	118	P	P	14 52 49.2	+0.4
WB0				IAmb	IAmb	14 53 14.6	
	comp=Z,7.9nm,1.4s						
WRA	Warramunga Arr	33.22	118	P	P	14 52 49.1	+0.3
WRA	Warramunga Arr	33.22	118	P	P	14 52 49.8	+1.0
	comp=Z,0.8nm,0.7s,baz=306,slow=9.4,SNR=13						
WRA				PcP	PcP	14 55 32.1	+1.3
	comp=Z,1.0nm,0.4s,baz=303,slow=2.1,SNR=8.0						
WRA				S	S	14 58 06.2	+0.3
	comp=Z,0.5nm,0.9s,baz=284,slow=17,SNR=1.8						
	comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	34.35	125	P	P	14 52 58.6	-0.1
ASAR	Alice Springs	34.35	125	P	P	14 53 00.1	+1.4
	comp=Z,0.7nm,0.6s,baz=299,slow=8.0,SNR=16						
ASAR				PcP	PcP	14 55 35.7	+1.7
	comp=Z,1.5nm,0.7s,baz=299,slow=2.6,SNR=7.4						
ASAR				S	S	14 58 22.5	-0.9
	comp=Z,0.7nm,1.0s,baz=297,slow=16,SNR=5.0						
ASAR				LR	LR	15 08 22.8	
	comp=Z,45nm,19.2s,baz=338,slow=39						
	comp=Z,0.7nm,0.6s						
AS31	Alice Springs	34.36	125	P	P	14 52 59.2	+0.5
PMG	Port Moresby	43.46	98	P	P	14 54 15.1	0.0
PMG				IAmb	IAmb	14 54 32.7	
	comp=Z,17nm,1.0s						
PMG	Port Moresby	43.46	98	P	P	14 54 14.6	-0.5
	comp=Z,11nm,0.9s,baz=175,slow=13,SNR=3.4						
	comp=Z,11nm,0.9s						
PMG	Port Moresby	43.46	98	P	P	14 54 14.5	-0.5
	comp=Z,18nm,1.0s						
CTA	Charters Tower	43.97	113	P	P	14 54 20.1	+1.0
	comp=Z,4.0nm,0.7s,baz=337,slow=8.2,SNR=2.0						
	comp=Z,4.0nm,0.7s						
STKA	Stephens Creek	44.18	131	P	P	14 54 21.0	+0.5
STKA	Stephens Creek	44.18	131	P	P	14 54 21.9	+1.3
	comp=Z,2.3nm,0.7s,baz=311,slow=11,SNR=5.8						
	comp=Z,2.3nm,0.7s						
KSH	Kashi	51.59	333	P	P	14 55 19.5	+1.6
KSH				pP	pP	14 55 30.9	+0.7
KSH				sP	sP	14 55 36.7	+1.3
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TARG	Taragay, Kyrgy	52.63	336	P	P	14 55 26.6	+0.7
TARG				IAmb	IAmb	14 56 10.0	
	comp=Z,3.9nm,1.0s						
MJAR	Matsushiro Arr	53.07	35	P	P	14 55 26.5	-2.2
	comp=Z,4.1nm,0.9s,baz=213,slow=7.5,SNR=8.9						
	comp=Z,4.1nm,0.9s						
SONM	Songino Array	53.29	2	P	P	14 55 30.7	+0.4
SONM				IAmb	IAmb	14 55 31.3	
	comp=Z,4.1nm,0.7s						
SONM	Songino Array	53.29	2	P	P	14 55 30.5	+0.2
	comp=Z,4.2nm,0.5s,baz=180,slow=9.1,SNR=33						
SONM				PcP	PcP	14 56 36.4	-1.1
	comp=Z,0.5nm,0.5s,baz=165,slow=6.0,SNR=1.2						
	comp=Z,4.2nm,0.5s						
BNX	BinXian	55.42	20 ⇑	P	P	14 55 45.3	-0.3
BNX				pmax	pmax		
	comp=Z,15nm,0.8s						
BNX				pmax	pmax		
	comp=Z,270nm,5.9s						
MK31	Makanchi Array	55.46	342	P	P	14 55 45.4	-0.6
MK31				IAmb	IAmb	14 55 46.8	
	comp=Z,2.3nm,0.6s						
MKAR	Makanchi Array	55.46	342	P	P	14 55 45.5	-0.5
MKAR	Makanchi Array	55.46	342	P	P	14 55 45.7	-0.3
	comp=Z,2.6nm,0.5s,baz=154,slow=8.5,SNR=53						
	comp=Z,2.6nm,0.5s						
USA0B	Ussuriysk Arra	55.85	25	P	P	14 55 47.9	-0.9
USRK	Ussuriysk Ar.	55.85	25	P	P	14 55 48.2	-0.5
	comp=Z,9.5nm,0.7s,baz=203,slow=4.2,SNR=19						
	comp=Z,9.5nm,0.7s						
HNR	Honiara	56.08	98	LR	LR	15 21 28.7	
	comp=Z,570nm,19.6s,baz=294,slow=38						
KKAR	Karatay Array	56.95	332	P	P	14 55 56.3	-0.3
HEH	HeiHe	59.38	18	*e*P	P	14 56 12.7	-0.8
HEH				pmax	pmax		
	comp=Z,13nm,0.9s						
KURBB	Kurchatov Arra	60.01	342	P	P	14 56 17.3	-0.5
	comp=Z,0.5nm,0.3s,baz=188,slow=5.1,SNR=6.0						
	comp=Z,0.5nm,0.3s						
H04N2	CROZET ISLANDS	60.06	219	T	T	16 02 29.0	
	baz=65,slow=75,SNR=1718						
H04N1	CROZET ISLANDS	60.08	219	T	T	16 02 29.4	
	baz=65,slow=75,SNR=1181						
H04N3	CROZET ISLANDS	60.08	219	T	T	16 02 28.0	
	baz=65,slow=75,SNR=1058						
H04S1	CROZET ISLANDS	60.29	218	T	T	16 02 42.9	
	baz=62,slow=76,SNR=50						
H04S3	CROZET ISLANDS	60.30	218	T	T	16 02 43.4	
	baz=62,slow=76,SNR=99						
H04S2	CROZET ISLANDS	60.31	218	T	T	16 02 43.3	
	baz=62,slow=76,SNR=69						
GEYT	Alibeck	60.42	320	P	P	14 56 21.2	+0.2
GEYT				IAmb	IAmb	14 56 38.4	
	comp=Z,3.9nm,0.9s						
GEYT	Alibeck	60.42	320	P	P	14 56 21.1	+0.1
	comp=Z,1.0nm,0.3s,baz=119,slow=8.6,SNR=5.2						
	comp=Z,1.0nm,0.3s						
GYA0B	ALIBECK ARRAY	60.42	320	P	P	14 56 20.8	-0.2
GYA0B				IAmb	IAmb	14 56 48.0	
	comp=Z,3.8nm,0.8s						
JKA	Kamikawa-asahi	60.76	31	P	P	14 56 22.4	-0.6
ZAA0	Zalesovo Array	61.38	348	P	P	14 56 26.5	-0.6
ZALV	Zalesovo Beam	61.38	348	P	P	14 56 26.5	-0.6
ZALV	Zalesovo Beam	61.38	348	P	P	14 56 26.6	-0.4
	comp=Z,6.6nm,0.4s,baz=150,slow=4.8,SNR=39						
	comp=Z,6.6nm,0.4s						
BVAR	Borovoye Array	64.77	339	P	P	14 56 49.1	-0.5
	comp=Z,2.4nm,0.3s,baz=131,slow=8.0,SNR=28						
	comp=Z,2.4nm,0.3s						
BRVK	Borovoye	64.84	339	P	P	14 56 49.1	-0.9
BRVK				IAmb	IAmb	14 56 50.8	
	comp=Z,3.5nm,0.3s						
ABKAR	Akbulak array	66.46	331	P	P	14 57 00.3	-0.3
ARU	Arti	71.89	336	P	P	14 57 33.1	-0.9
ARU				IAmb	IAmb	14 57 35.5	
	comp=Z,4.2nm,0.7s						
PEA0B	Petropavlovsk-	74.16	31	P	P	14 57 47.2	-0.4
PETK	Petropavlovsk-	74.16	31	P	P	14 57 48.3	+0.8
PETK	Petropavlovsk-	74.16	31	P	P	14 57 46.7	-0.8
	comp=Z,1.2nm,0.6s,baz=132,slow=2.2,SNR=5.5						
	comp=Z,1.2nm,0.6s						
AKASG	Malin Array Be	84.44	322	P	P	14 58 44.3	+0.6
	comp=Z,0.1nm,0.3s,baz=90,slow=4.6,SNR=1.9						
	comp=Z,0.1nm,0.3s						
FINES	FINESS Array B	88.90	332	P	P	14 59 05.7	+0.6
	comp=Z,1.3nm,0.7s,baz=112,slow=5.1,SNR=6.2						
	comp=Z,1.3nm,0.7s						
ARCES	ARCESS Array B	91.03	340	P	P	14 59 15.2	+0.3
	comp=Z,3.9nm,1.0s,baz=48,slow=1.8,SNR=5.3						
	comp=Z,3.9nm,1.0s						
SPITS	Spitsbergen Ar	94.86	348	P	P	14 59 30.9	-1.6
	comp=Z,8.6nm,0.9s,baz=131,slow=6.3,SNR=2.9						
	comp=Z,8.6nm,0.9s						
TXAR	Lajitas Array	145.17	44	PKP	PKPdf	15 05 49.5	+0.2
	comp=Z,1.6nm,0.6s,baz=282,slow=1.2,SNR=28						

IDC 03 14:48:11.2±2.2, **9.°76S**×**127.°76E, h0km, mb3.4**/1, **mbtmp3.2**/3, **ML2.8**/2, **Error ellipse: s-maj=260.2km s-min=33.8km az=61.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	11.95	149	Pn	Pn	14 51 03.4	+0.4
	0.1nm,0.3s,baz=327,slow=12,SNR=3.0						
	0.5nm,0.9s						
ASAR	Alice Springs	15.03	158	Pn	Pn	14 51 44.5	-0.5
	baz=338,slow=10.0,SNR=7.4						
	0.2nm,0.6s						
MKAR	Makanchi Array	69.35	328	P	P	14 59 20.7	0.0
	0.2nm,0.5s,baz=116,slow=8.2,SNR=3.2						
	0.2nm,0.5s						

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*IDC **03** 14:56:35.2±9.3, 17.°67S×178.°33W, h480km±104km, mb3.2/6, mbtmp4.0/6, Error ellipse: s-maj=46.8km s-min=26.1km az=40.0*

ISC 03 14:56:37.0±1.4, **17.°7S**±0.°3×**178.°4W**±0.°2, **h500km, n6, σ0.s78**/6, **mb3.6**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.84	190	P	P	15 00 42.5	-0.5
	3.1nm,0.7s,baz=143,slow=22,SNR=1.0						
	3.1nm,0.7s						
STKA	Stephens Creek	38.76	241	P	P	15 03 18.7	+0.8
	1.1nm,0.5s,baz=72,slow=10,SNR=4.9						
	1.1nm,0.5s						
WRA	Warramunga Arr	44.71	259	P	P	15 04 04.3	-0.9
	1.0nm,0.6s,baz=92,slow=7.1,SNR=33						
	1.0nm,0.6s						
ASAR	Alice Springs	44.88	254	P	P	15 04 06.7	+0.1
	9.1nm,0.6s,baz=89,slow=7.8,SNR=257						
	9.1nm,0.6s						
QSPA	South Pole Qui	72.33	180	P	P	15 07 11.5	+0.2
	2.2nm,0.7s,baz=38,slow=0.9,SNR=18						
	2.2nm,0.7s						
TXAR	Lajitas Array	85.86	58	P	P	15 08 23.8	+0.1
	0.2nm,0.7s,baz=224,slow=6.2,SNR=2.0						
	0.2nm,0.7s						

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*IDC **03** 15:00:15.3±1.2, 23.°09S×171.°90E, h0km, mb4.0/9, mbtmp4.0/10, ML3.4/1, MS3.1/3, Error ellipse: s-maj=31.6km s-min=26.6km az=56.0*

*NEIC **03** 15:00:18.0±1.9, 23.°1S±0.°2×171.°80E±0.°10, h10km±2km, mb4.3/13, Error ellipse: s-maj=27.6km s-min=14.8km az=11.0*

ISC 03 15:00:22.9±0.9, **23.°0S**±0.°1×**171.°7E**±0.°1, **h49km, n32, σ0.s90**/30, **mb4.0**/15, **MS3.0**/3, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.68	294	Pn	Pn	15 01 16.2	-1.2
PINNC	Pines Island,	3.90	275	Pn	Pn	15 01 21.0	+0.6
OUENC	Ouen Island, N	4.48	277	Pn	Pn	15 01 28.4	+0.1
LIFNC	LIFOU	4.66	298	Pn	Pn	15 01 30.8	0.0
ONTNC	Ouen Toro	4.85	277	Pn	Pn	15 01 34.1	+0.6
DZM	Mont Dzumac	4.91	280	Pn	Pn	15 01 34.3	0.0
DZM	Mont Dzumac	4.91	280	Pn	Pn	15 01 35.0	+0.7
	1.3nm,0.3s,baz=120,slow=15,SNR=31						
DZM				Sn	Sn	15 02 28.4	-1.4
	1.6nm,0.3s,baz=91,slow=13,SNR=6.8						
DZM				LR	LR	15 03 31.5	
	comp=Z,162nm,18.8s,baz=60,slow=38						
	17nm,0.7s						
ARMA	Armidale	19.34	243	P	P	15 04 44.1	-0.3
ARMA				IAmb	IAmb	15 04 48.7	
	comp=Z,23nm,1.2s						
RPZ	Rata Peaks	20.66	181	LR	LR	15 11 24.5	
	comp=Z,67nm,19.8s,baz=48,slow=32						
RAR	Rarotonga	26.52	92	LR	LR	15 13 37.7	
	comp=Z,39nm,21.2s,baz=348,slow=30						
STKA	Stephens Creek	28.03	245	P	P	15 06 09.2	-0.4
STKA	Stephens Creek	28.03	245	P	P	15 06 08.7	-0.9
	comp=Z,1.3nm,0.5s,baz=100,slow=12,SNR=2.9						
	comp=Z,1.3nm,0.5s						
AS31	Alice Springs	34.60	261	P	P	15 07 08.8	+1.3
ASAR	Alice Springs	34.60	261	P	P	15 07 08.1	+0.5
	comp=Z,1.0nm,0.5s,baz=89,slow=8.7,SNR=15						
	comp=Z,1.0nm,0.5s						
WR0	Warramunga Arr	34.61	268	P	P	15 07 08.5	+0.9
WR0				IAmb	IAmb	15 07 37.7	
	comp=Z,8.4nm,1.4s						
WB0	Warramunga Arr	34.78	268	P	P	15 07 08.2	-0.9
WB0				IAmb	IAmb	15 07 24.3	
	comp=Z,4.6nm,1.2s						
WB2	Warramunga Arr	34.79	268	P	P	15 07 08.9	-0.3
WB2				IAmb	IAmb	15 07 12.7	
	comp=Z,6.8nm,1.2s						
WRAB	Tennant Creek	34.79	268	P	P	15 07 08.3	-0.9
WRAB				IAmb	IAmb	15 07 21.4	
	comp=Z,2.6nm,0.9s						
WRA	Warramunga Arr	34.80	268	P	P	15 07 07.8	-1.4
WRA	Warramunga Arr	34.80	268	P	P	15 07 09.4	+0.1
	comp=Z,0.9nm,0.7s,baz=96,slow=8.4,SNR=11						
	comp=Z,0.9nm,0.7s						
FORT	Forrest	39.45	249	P	P	15 07 48.5	0.0
FORT				IAmb	IAmb	15 08 12.2	
	comp=Z,18nm,0.9s						
KNRA	Kununurra	41.01	272	P	P	15 08 02.3	+0.7
FITZ	Fitzroy Crossi	43.23	268	P	P	15 08 19.5	-0.1
FITZ				IAmb	IAmb	15 08 22.5	
	comp=Z,2.4nm,0.9s						
MBWA	Marble Bar	47.94	262	P	P	15 08 57.9	+0.9
QSPA	South Pole Qui	67.07	180	P	P	15 11 10.4	-0.6
QSPA	South Pole Qui	67.07	180	P	P	15 11 10.1	-0.9
	comp=Z,1.6nm,0.6s,baz=344,slow=0.8,SNR=18						
	comp=Z,1.6nm,0.6s						
KSRS	Korea Array	72.87	325	P	P	15 11 47.3	+0.6
	comp=Z,1.5nm,0.8s,baz=149,slow=4.9,SNR=4.3						
	comp=Z,1.5nm,0.8s						
MAW	Mawson	75.81	202	P	P	15 12 02.9	-0.6
	comp=Z,6.3nm,0.8s,baz=141,slow=14,SNR=1.8						
	comp=Z,6.3nm,0.8s						
CMAR	Chiang Mai Arr	82.09	294	P	P	15 12 41.0	+2.3
	comp=Z,0.3nm,0.6s,baz=140,slow=4.0,SNR=2.3						
	comp=Z,0.3nm,0.6s						
USHA	Ushuaia	87.07	150	LR	LR	15 48 18.9	
	comp=Z,372nm,18.4s,baz=348,slow=33						
SONM	Songino Array	91.56	322	P	P	15 13 24.5	0.0
	comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=2.7						
	comp=Z,0.3nm,0.7s						
ILAR	Eielson Array	93.16	17	P	P	15 13 30.3	-1.0
	comp=Z,0.5nm,1.0s,baz=229,slow=6.7,SNR=2.5						
	comp=Z,0.5nm,1.0s						

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*IDC **03** 15:06:04.5±1.0, 29.°53N×140.°47E, h0km, mb3.5/6, mbtmp3.6/7, ML3.9/1, Error ellipse: s-maj=46.8km s-min=19.9km az=81.0*

*NEIC **03** 15:06:07.4±1.3, 29.°59N±0.°06×140.°3E±0.°1, h10km±1km, mb4.3/25, Error ellipse: s-maj=19.0km s-min=8.7km az=68.0*

ISC 03 15:06:06.0±0.6, **29.°49N**±0.°07×**140.°5E**±0.°1, **h10km, n54, σ1.s50**/46, **mb4.3**/18, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.81	148	Pn	Pn	15 06 53.6	+2.5
JCJ	Chichijima	2.81	148	Pn	Pn	15 06 49.7	-1.3
	16nm,0.3s,baz=283,slow=13,SNR=2.6						
JCJ				Sn	Sn	15 07 22.4	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	23nm,0.3s,baz=340,slow=20,SNR=1.5						
	115nm,0.6s						
JMN	**Monobe**	**7.05**	**308**	Pn	**Pn**	**15 07 46.5**	**-2.9**
MJAR	**Matsushiro Arr**	**7.29**	**345**	Pn	**Pn**	**15 07 55.4**	**+2.8**
	baz=254,slow=25,SNR=1.4						
MAJO	**Matsushiro**	**7.29**	**345**	Pn	**Pn**	**15 07 51.5**	**-1.2**
MJB9	**Matsu-Tunnel**	**7.29**	**345**	Pn	**Pn**	**15 07 50.9**	**-1.8**
JMM	**Marumori**	**8.36**	**2**	Pn	**Pn**	**15 08 05.2**	**-2.0**
JTM	**Tenmabayashi**	**11.28**	**2**	Pn	**Pn**	**15 08 45.9**	**-1.4**
YHNB	**Yeheng**	**17.69**	**259**		**Pn**	**15 10 13.7**	**+1.0**
KLR	**Kul'dur**	**20.81**	**344**	P	**P**	**15 10 48.9**	**+1.4**
	1.6nm,0.6s,baz=162,slow=12,SNR=6.2						
	1.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**25.84**	**106**	T	T	15 38 42.9	
	baz=298,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**25.84**	**106**	T	T	15 38 43.5	
	baz=298,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**25.86**	**106**	T	T	15 38 44.2	
	baz=298,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**26.25**	**109**	T	T	15 39 21.2	
	baz=300,slow=75,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**26.25**	**109**	T	T	15 39 17.4	
	baz=300,slow=75,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**26.27**	**109**	T	T	15 39 17.4	
	baz=300,slow=75,SNR=7.4						
SBUM	**Sibu**	**38.01**	**230**	P	**P**	**15 13 23.8**	**-0.7**
MTN	**Manton Dam**	**43.05**	**193**	P	**P**	**15 14 07.5**	**+1.4**
WB0	**Warramunga Arr**	**49.32**	**188**	P	**P**	**15 14 56.6**	**+1.2**
WR0	**Warramunga Arr**	**49.50**	**187**	P	**P**	**15 14 58.2**	**+1.4**
WR0				IAmb	IAmb	15 15 07.3	
	comp=Z,6.7nm,1.4s						
WB2	**Warramunga Arr**	**49.50**	**188**	P	**P**	**15 14 58.1**	**+1.2**
WB2				IAmb	IAmb	15 15 00.8	
	comp=Z,4.8nm,1.2s						
WRA	**Warramunga Arr**	**49.50**	**188**	P	**P**	**15 14 58.3**	**+1.4**
WRA	**Warramunga Arr**	**49.50**	**188**	P	**P**	**15 14 57.9**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=4.8,slow=7.6,SNR=12						
	comp=Z,0.3nm,0.4s						
F17K	**Baldwin Pennin**	**50.74**	**26**	P	**P**	**15 15 07.2**	**+1.5**
F17K				IAmb	IAmb	15 15 16.1	
	comp=Z,5.2nm,1.2s						
C18K	**Utukok River**	**51.43**	**23**	P	**P**	**15 15 11.8**	**+0.8**
C18K				IAmb	IAmb	15 15 39.8	
	comp=Z,6.1nm,1.4s						
H18K	**Honhosa River**	**51.56**	**28**	P	**P**	**15 15 13.4**	**+1.4**
C19K	**Lookout Ridge**	**52.12**	**23**	P	**P**	**15 15 17.8**	**+1.6**
C19K				IAmb	IAmb	15 15 36.9	
	comp=Z,5.0nm,1.5s						
H19K	**Roundabout Mou**	**52.42**	**28**	P	**P**	**15 15 19.7**	**+1.4**
D19K	**Kuna River**	**52.47**	**24**	P	**P**	**15 15 19.6**	**+0.9**
D19K				IAmb	IAmb	15 15 41.1	
	comp=Z,4.8nm,1.4s						
K20K	**Telida**	**53.09**	**31**	P	**P**	**15 15 25.4**	**+2.1**
K20K				IAmb	IAmb	15 15 26.1	
	comp=Z,3.7nm,1.0s						
B20K	**Meade River**	**53.20**	**22**	P	**P**	**15 15 25.2**	**+1.2**
B20K				IAmb	IAmb	15 15 54.4	
	comp=Z,5.3nm,1.5s						
ASAR	**Alice Springs**	**53.23**	**188**	P	**P**	**15 15 25.4**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=359,slow=5.3,SNR=1.7						
	comp=Z,0.1nm,0.5s						
IMAR	**Indian Mountai**	**53.60**	**28**	P	**P**	**15 15 28.1**	**+1.1**
B21K	**Ikpikpuk River**	**53.96**	**23**	P	**P**	**15 15 30.5**	**+1.0**
B21K				IAmb	IAmb	15 15 37.5	
	comp=Z,1.9nm,0.7s						
B22K	**Teshekpuk Lake**	**54.51**	**22**	P	**P**	**15 15 34.0**	**+0.4**
B22K				IAmb	IAmb	15 15 36.2	
	comp=Z,5.5nm,1.4s						
MLY	**Manley**	**54.72**	**29**	P	**P**	**15 15 36.8**	**+1.5**
BVAR	**Borovoye Array**	**55.29**	**316**	P	**P**	**15 15 38.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=99,slow=9.1,SNR=1.8						
	comp=Z,0.3nm,0.5s						
C23K	**Itkillik River**	**55.37**	**23**	P	**P**	**15 15 40.8**	**+1.0**
C23K				IAmb	IAmb	15 15 41.9	
	comp=Z,6.0nm,1.4s						
E24K	**Your Creek**	**55.91**	**25**	P	**P**	**15 15 45.7**	**+1.8**
ILAR	**Eielson Array**	**56.35**	**29**	P	**P**	**15 15 47.0**	**0.0**
	comp=Z,0.5nm,0.9s,baz=271,slow=8.4,SNR=5.2						
	comp=Z,0.5nm,0.9s						
E25K	**Arctic Village**	**57.01**	**25**	P	**P**	**15 15 53.6**	**+2.0**
BMAR	**Burnt Mountain**	**57.36**	**26**	P	**P**	**15 15 56.0**	**+1.9**
I28M	**Miner Creek**	**59.27**	**29**	P	**P**	**15 16 08.2**	**+0.6**
I28M				IAmb	IAmb	15 16 34.3	
	comp=Z,2.9nm,1.2s						
G29M	**Pine Creek**	**59.93**	**27**	P	**P**	**15 16 13.7**	**+1.6**
G30M	**tAoh Zraii Nji**	**60.63**	**27**	P	**P**	**15 16 17.5**	**+0.6**
I30M	**Mount Dempster**	**60.78**	**29**	P	**P**	**15 16 18.9**	**+1.0**
I30M				IAmb	IAmb	15 16 48.9	
	comp=Z,3.3nm,1.2s						
G31M	**Satah River**	**61.40**	**27**	P	**P**	**15 16 22.7**	**+0.8**
ABKAR	**Akbulak array**	**62.37**	**313**	P	**P**	**15 16 28.6**	**-0.2**
FINES	**FINESS Array B**	**75.15**	**333**	P	**P**	**15 17 47.6**	**-0.6**
FINES	**FINESS Array B**	**75.15**	**333**	P	**P**	**15 17 47.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=67,slow=5.0,SNR=1.9						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**119.25**	**180**	PKP	**PKPdf**	**15 24 53.9**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=351,slow=2.2,SNR=6.0						
H03N2	**Juan Fernandez**	**146.27**	**107**	T	T	18 09 21.2	
	baz=279						
H03N3	**Juan Fernandez**	**146.28**	**107**	T	T	18 09 21.7	
	baz=279						
H03N1	**Juan Fernandez**	**146.29**	**107**	T	T	18 09 21.5	
	baz=279						

TEH ***03*** *15:24:22.9, 34.°69N×45.°75E, h8km±34km, ML2.5*
ISN ***03*** *15:24:23.0±1.8, 34.°68N×45.°75E, h8km, ML2.4*
ISC 03 15:24:23.0±1.0**, 34.°70N**±0.°07×**45.°72E**±0.°05**, h18km, n10, σ0.s59**/11**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**210**	Pg	**Pg**	**15 24 27.7**	**-0.6**
IDHR	**Dehrash**	**0.55**	**90**	Pg	**Pg**	**15 24 33.4**	**-0.7**
IGHG	**Ghaleghazi**	**0.79**	**117**	Pg	**Pb**	**15 24 38.0**	**-0.4**
ILIN	**Lien**	**1.04**	**77**	Pg	**Pb**	**15 24 42.7**	**0.0**
ILBA	**Ilam Banvizeh**	**1.14**	**159**	Pg	**Pn**	**15 24 44.7**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.17**	**111**	Pg	**Pb**	**15 24 45.3**	**+0.5**
IKRK	**Kirkuk**	**1.33**	**302**	*e*Pg	**Pn**	**15 24 46.5**	**-0.3**
	baz=122						
IKRK				*e*Sg	**Sg**	**15 25 07.0**	**+0.8**
IKRK				AML	AML	15 25 10.5	
	comp=N,90nm,0.5s						
IKRK				AML	AML	15 25 11.1	
	comp=E,65nm,0.6s						
IKOM	**Komasi**	**1.57**	**109**	Pg	**Pb**	**15 24 52.1**	**+0.5**
IBZA	**Bozab**	**1.78**	**97**	Pg	**Pb**	**15 24 56.0**	**+0.7**
IKFM	**Kafar-mosalman**	**2.12**	**123**	Pn	**Pb**	**15 25 00.7**	**-0.2**

IDC ***03*** *16:04:55.7±2.9, 25.°76N×125.°53E, h89km±27km, mb3.2/10, mbtmp3.5/11, MS2.6/1, Error ellipse: s-maj=24.2km s-min=15.9km az=66.0*
JMA ***03*** *16:04:56.4±0.2, 26°N±2°×12°5E±°, h91km±4km, MV3.4/23, NEAR MIYAKOJIMA ISLAND*
ISC 03 16:04:56.5±0.8**, 25.°66N**±0.°08×**125.°53E**±0.°05**, h102km**±8km**, n42, σ1.s20**/63**, mb3.4**/10**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.78**	**199**	*i* P	**Pn**	**16 05 14.8**	**0.0**
JIKM				S	**Sn**	**16 05 28.1**	**-0.5**
JMJ	**Miyako jima 2**	**0.87**	**194**	P	**Pn**	**16 05 16.7**	**+1.0**
JIRB	**Irabujima**	**0.89**	**201**	*i* P	**Pn**	**16 05 15.6**	**-0.4**
JIRB				S	**Sn**	**16 05 29.6**	**-0.9**
JOGS	**Gusukube**	**0.90**	**187**	*i* P	**Pn**	**16 05 16.6**	**+0.4**
JOGS				S	**Sn**	**16 05 30.6**	**-0.2**
JMJ2	**Miyako jima3**	**0.93**	**191**	*i* P	**Pn**	**16 05 16.7**	**+0.3**
JMJ2				S	**Sn**	**16 05 31.4**	**0.0**
JTJ	**Tarama**	**1.26**	**217**	P	**Pn**	**16 05 19.9**	**-0.1**
JTJ				S	**Sn**	**16 05 36.6**	**-1.2**
JKE	**Kume jima 2**	**1.31**	**59**	*i* P	**Pn**	**16 05 20.8**	**+0.2**
JKE				S	**Sn**	**16 05 39.0**	**+0.1**
JISG	**Ishigakijimahi**	**1.54**	**226**	*i* P	**Pn**	**16 05 23.1**	**-0.2**
JISG				S	**Sn**	**16 05 42.2**	**-1.5**
JAGN	**Aguni-jima**	**1.80**	**59**	P	**Pn**	**16 05 27.1**	**+0.5**
JAGN				S	**Sn**	**16 05 49.0**	**-0.5**
JIJ	**Ishigaki jima**	**1.80**	**224**	*i* P	**Pn**	**16 05 26.0**	**-0.6**
JIJ				S	**Sn**	**16 05 47.0**	**-2.5**
JKRS	**Kuro-shima**	**1.98**	**224**	P	**Pn**	**16 05 28.5**	**-0.3**
JKRS				S	**Sn**	**16 05 52.0**	**-1.6**
JJT3	**Tamagusuku3**	**2.09**	**76**	P	**Pn**	**16 05 31.1**	**+0.8**
JJT3				S	**Sn**	**16 05 57.6**	**+1.4**
IRIF	**Iriomote-Funau**	**2.10**	**231**	P	**Pn**	**16 05 29.9**	**-0.5**
IRIF				S	**Sn**	**16 05 55.3**	**-1.1**
HATJ	**Hateruma jima**	**2.24**	**225**	P	**Pn**	**16 05 31.8**	**-0.4**
HATJ				*e*S	**Sn**	**16 05 58.6**	**-0.9**
JNTH	**Nagotoyohara**	**2.40**	**69**	P	**Pn**	**16 05 34.5**	**+0.2**
JNTH				S	**Sn**	**16 06 01.9**	**-1.4**
YOJ	**Yonaguni jima**	**2.58**	**243**	P	**Pn**	**16 05 36.8**	**+0.1**
YOJ	**Yonaguni jima**	**2.58**	**243**	P	**Pn**	**16 05 36.8**	**+0.1**
YOJ				*e*S	**Sn**	**16 06 06.2**	**-1.3**
JIH	**Iheya**	**2.58**	**57**	P	**Pn**	**16 05 36.8**	**+0.1**
JIH				S	**Sn**	**16 06 05.8**	**-1.9**
JYNG	**Yonagunijimaku**	**2.63**	**243**	P	**Pn**	**16 05 37.5**	**+0.1**
JYNG				S	**Sn**	**16 06 08.8**	**0.0**
JOW	**Kunigami**	**2.73**	**64**	P	**Pn**	**16 05 38.7**	**0.0**
JOW	**Kunigami**	**2.73**	**64**	P	**Pn**	**16 05 38.5**	**-0.2**
JOW				S	**Sn**	**16 06 09.3**	**-1.9**
JOW	**Kunigami**	**2.73**	**64**	P	**Pn**	**16 05 38.5**	**-0.2**
	13nm,0.3s,baz=262,slow=15,SNR=48						
JOW				S	**Sn**	**16 06 09.1**	**-2.0**
	37nm,0.2s,baz=330,slow=20,SNR=9.8						
JYRO	**Yoronjima**	**2.95**	**62**	P	**Pn**	**16 05 41.3**	**-0.3**
JYRO				S	**Sn**	**16 06 13.1**	**-3.3**
JOKE	**Okinoerabujima**	**3.21**	**58**	P	**Pn**	**16 05 44.3**	**-0.8**
JOKE				S	**Sn**	**16 06 19.5**	**-3.1**
TATO	**Taipei**	**3.72**	**260**	P	**Pn**	**16 05 54.4**	**+2.5**
NACB	**Ninganchiao**	**3.87**	**248**	P	**Pn**	**16 05 53.3**	**-0.6**
YHNB	**Yeheng**	**3.89**	**256**	P	**Pn**	**16 05 55.9**	**+1.6**
YULB	**Yu-li**	**4.46**	**240**	P	**Pn**	**16 05 59.9**	**-2.1**
SSLB	**Suanglung**	**4.56**	**247**	P	**Pn**	**16 06 02.6**	**-0.7**
TWGBT	**Beinan**	**4.95**	**236**	P	**Pn**	**16 06 06.7**	**-1.8**
TPUB	**Ta-pu**	**5.04**	**243**	P	**Pn**	**16 06 09.9**	**+0.1**
KSRS	**Korea Array**	**11.93**	**9**	LR	LR	16 12 06.5	
	comp=Z,24nm,18.5s,baz=340,slow=36						
SONM	**Songino Array**	**26.78**	**331**	P	**P**	**16 10 28.3**	**+1.4**
	0.4nm,0.5s,baz=135,slow=11,SNR=4.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**40.12**	**313**	P	**P**	**16 12 22.3**	**+0.2**
	0.2nm,0.4s,baz=95,slow=11,SNR=5.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**41.25**	**324**	P	**P**	**16 12 30.0**	**-1.3**
	0.7nm,0.4s,baz=111,slow=8.9,SNR=5.5						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**43.61**	**318**	P	**P**	**16 12 50.3**	**-0.1**
	0.1nm,0.3s,baz=111,slow=16,SNR=5.5						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**46.13**	**168**	P	**P**	**16 13 11.4**	**+0.6**
	0.5nm,0.7s,baz=348,slow=9.1,SNR=6.4						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**49.09**	**319**	P	**P**	**16 13 32.5**	**-0.8**
	0.3nm,0.5s,baz=98,slow=8.4,SNR=4.4						
BVAR				PcP	**PcP**	**16 14 55.8**	**+0.4**
	0.5nm,0.6s,baz=98,slow=4.2,SNR=2.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**49.70**	**170**	P	**P**	**16 13 39.8**	**+1.5**
	0.3nm,0.6s,baz=353,slow=8.1,SNR=15						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**66.08**	**28**	P	**P**	**16 15 32.3**	**+0.1**
	0.2nm,0.5s,baz=259,slow=4.5,SNR=12						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**72.15**	**330**	P	**P**	**16 16 08.9**	**-0.8**
	1.5nm,0.8s,baz=32,slow=8.2,SNR=1.8						
	1.5nm,0.8s						
YKA	**Yellowknife Ar**	**80.05**	**24**	P	**P**	**16 16 55.7**	**+1.2**
	0.4nm,0.7s,baz=301,slow=5.8,SNR=5.8						
	0.4nm,0.7s						

IDC 03 16:10:50.4±2.4**, 6.°07N**×**123.°77E, h0km, mb3.4**/3**, mbtmp3.4**/3**, Error ellipse: s-maj=245.4km s-min=28.7km az=63.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.86**	**158**	P	P	16 16 42.1	+0.1
	0.3nm,0.3s,baz=338,slow=9.7,SNR=15						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**31.17**	**162**	P	P	16 17 11.2	-0.1
	0.2nm,0.4s,baz=337,slow=7.5,SNR=8.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**53.97**	**326**	P	P	16 20 16.1	-0.1
	0.2nm,0.5s,baz=108,slow=9.3,SNR=2.5						
	0.2nm,0.5s						

AEIC ***03*** *16:17:42.5±1.4, 57.°77N±0.°03×155.°82W±0.°04, h12km±5km, ML3.4, ML3.6/90(NEIC), Error ellipse: s-maj=3.7km s-min=2.9km az=156.0*
NEIC ***03*** *16:17:42.5±1.6, 57.°77N±0.°02×155.°80W±0.°03, h10km±7km, Error ellipse: s-maj=3.6km s-min=1.9km az=143.0*
ISC 03 16:17:42.2±1.1**, 57.°77N**±0.°03×**155.°81W**±0.°03**, h12km**±9km**, n158, σ0.s94**/170**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.26**	**253**		**Pg**	**16 17 47.5**	**-0.1**
R17K	**Ugashik Creek**	**0.34**	**248**	Pg	**Pg**	**16 17 48.8**	**-0.3**
R17K				Sg	**Sg**	**16 17 53.8**	**+0.2**
R17K				IAML		16 17 56.5	
	comp=E,11μm,0.5s						
R17K				IAML		16 17 57.7	
	comp=N,11μm,0.5s						
PLK1	**Peulik 1**	**0.43**	**275**		**Pg**	**16 17 50.6**	**-0.1**
ANCK	**Angle Creek**	**0.47**	**21**		**Pg**	**16 17 51.8**	**+0.4**
ANCK					**Sb**	**16 17 58.8**	**-0.5**
Q17K	**Contact Creek**	**0.50**	**355**	P	**Pg**	**16 17 52.3**	**+0.2**
	baz=176						
Q17K				S	**Sb**	**16 17 60.0**	**-0.4**
	baz=176						
CNTC	**Contact Creek**	**0.50**	**355**		**Pg**	**16 17 52.5**	**+0.3**
CNTC					**Sb**	**16 18 00.0**	**-0.4**
ACHA	**Angle Creek He**	**0.52**	**30**		**Pg**	**16 17 52.5**	**+0.1**
PLBL	**Peulik Blue Cr**	**0.55**	**264**		**Pg**	**16 17 53.0**	**+0.1**
KCE	**Katmai Mt Cerb**	**0.58**	**34**		**Pg**	**16 17 54.1**	**+0.5**
PLK5	**Peulik 5**	**0.62**	**293**		**Pg**	**16 17 53.9**	**-0.3**
KVTA	**Katmai Vly 10**	**0.68**	**24**		**Pg**	**16 17 55.5**	**+0.1**
KELA	**Mount Kelaz**	**0.68**	**3**		**Pg**	**16 17 55.6**	**+0.1**
R18K	**Karluk**	**0.76**	**105**		**Pg**	**16 17 55.7**	**-1.1**
R18K				IAML		16 18 07.8	
	comp=E,4μm,0.5s						
R16K	**Pilot Point**	**0.97**	**259**		**Pg**	**16 17 59.7**	**-1.2**
R16K					**Sn**	**16 18 15.4**	**+0.1**
R16K				IAML		16 18 16.8	
	comp=N,2μm,0.7s						
KAHC	**Katmai Hardscr**	**0.98**	**25**		**Pg**	**16 18 01.0**	**-0.2**
KAHC	**Katmai Hardscr**	**0.98**	**25**		**Pg**	**16 18 00.9**	**-0.2**
KAHC					**Sb**	**16 18 14.4**	**+0.2**
KAHC	**Katmai Hardscr**	**0.98**	**25**	P	**Pg**	**16 18 01.1**	**-0.2**
	baz=206						
Q18K	**Katmai Hardscr**	**0.98**	**25**	P	**Pg**	**16 18 00.9**	**-0.2**
	baz=206						
KAHG	**Katmai Hook Gl**	**0.99**	**42**		**Pg**	**16 18 00.8**	**-0.5**
KAHG					**Sb**	**16 18 14.7**	**+0.3**
Q16K	**King Salmon**	**1.02**	**334**		**Pg**	**16 18 01.0**	**-0.8**
Q16K					**Sb**	**16 18 16.0**	**+0.9**
Q16K	**King Salmon**	**1.02**	**334**	P	**Pn**	**16 18 02.5**	**+0.2**
	baz=154						
Q16K				S	**Sb**	**16 18 16.0**	**+0.9**
	baz=154						
KAPH	**Katmai Pasha**	**1.14**	**42**		**Pb**	**16 18 03.7**	**-0.2**
OHAK	**Old Harbor**	**1.47**	**111**	Pn	**Pn**	**16 18 08.3**	**-0.1**
OHAK					**Sn**	**16 18 26.0**	**-1.4**
OHAK	**Old Harbor**	**1.47**	**111**	P	**Pn**	**16 18 08.7**	**+0.3**
P17K	**Kvichak River**	**1.47**	**347**		**Pn**	**16 18 08.2**	**-0.3**
SII	**Sitkinak Islan**	**1.50**	**143**	Pn	**Pn**	**16 18 09.2**	**+0.3**
SII				Sn	**Sb**	**16 18 29.4**	**+0.5**
SII				IAML		16 18 33.4	
	comp=N,1μm,0.9s						
SII	**Sitkinak Islan**	**1.50**	**143**	P	**Pb**	**16 18 10.0**	**0.0**
SII	**Sitkinak Islan**	**1.50**	**143**	P	**Pn**	**16 18 09.6**	**+0.7**
	baz=324						
SII				S	**Sb**	**16 18 29.8**	**+0.9**
	baz=324						
Q19K	**Cape Douglas,**	**1.63**	**43**	Pn	**Pn**	**16 18 10.4**	**-0.4**
Q19K				IAML		16 18 44.9	
	comp=N,585nm,1.1s						
Q19K				IAML		16 18 48.0	
	comp=E,830nm,1.3s						
P18K	**Big Mountain,**	**1.66**	**10**	Pn	**Pn**	**16 18 11.6**	**+0.4**
P18K				Sn	**Sn**	**16 18 32.7**	**+0.3**
P18K	**Big Mountain,**	**1.66**	**10**	S	**Sb**	**16 18 33.7**	**+0.1**
	baz=191						
P16K	**Nushagak River**	**1.71**	**319**		**Pn**	**16 18 11.8**	**0.0**
KDAK	**Kodiak Island**	**1.73**	**88**	Pn	**Pn**	**16 18 12.2**	**+0.2**
KDAK				IAML		16 18 39.1	
	comp=E,506nm,0.7s						
KDAK				IAML		16 18 41.7	
	comp=E,518nm,0.6s						
CHIR	**Chirikof Islan**	**1.95**	**177**	Pn	**Pn**	**16 18 15.5**	**+0.4**
CHIR				IAML		16 18 49.3	
	comp=N,376nm,0.8s						
SYI	**Shuyak Island**	**2.00**	**63**	Pn	**Pn**	**16 18 15.4**	**-0.3**
AUL	**Augustine Lava**	**2.04**	**36**		**Pn**	**16 18 17.4**	**+1.0**
CHGN	**Chignik**	**2.05**	**225**	Pn	**Pn**	**16 18 17.3**	**+0.9**
CHGN				IAML		16 18 49.6	
	comp=N,333nm,0.7s						
O18K	**Koktuh Hills**	**2.12**	**8**	Pn	**Pn**	**16 18 17.6**	**+0.2**
O18K				IAML		16 18 57.7	
	comp=N,366nm,0.7s						
O18K				IAML		16 18 59.0	
	comp=E,394nm,1.0s						
O17K	**Koliganek Bris**	**2.12**	**342**		**Pn**	**16 18 17.0**	**-0.4**
O16K	**Kokwok River B**	**2.19**	**328**	Pn	**Pn**	**16 18 18.2**	**-0.2**
P19K	**Oil Pt**	**2.32**	**34**	Pn	**Pn**	**16 18 18.7**	**-1.5**
P19K				IAML		16 19 09.7	
	comp=N,291nm,1.0s						
P19K				IAML		16 19 16.1	
	comp=E,394nm,0.7s						
VNFG	**Fog Glacier, M**	**2.53**	**236**		**Pn**	**16 18 23.5**	**+0.3**
VNFG				IAML		16 19 22.9	
	comp=N,360nm,0.8s						
VNFG				IAML		16 19 33.7	
	comp=E,337nm,0.7s						
O15K	**Ungalikthiuk R**	**2.54**	**306**		**Pn**	**16 18 23.1**	**-0.1**
O19K	**Port Alsworth**	**2.56**	**17**	Pn	**Pn**	**16 18 23.2**	**-0.2**
ILSW	**Iliamna Southw**	**2.62**	**31**	Pn	**Pn**	**16 18 23.9**	**-0.6**
IVE	**Iliamna Volcan**	**2.68**	**31**		**Pn**	**16 18 25.9**	**+0.6**
O20K	**Slope Mountain**	**2.85**	**34**		**Pn**	**16 18 28.8**	**+1.2**
N17K	**Nushagak Hills**	**2.86**	**346**	Pn	**Pn**	**16 18 27.5**	**-0.1**
N17K				IAML		16 19 17.6	
	comp=N,187nm,0.6s						
N17K				IAML		16 19 21.6	
	comp=E,260nm,0.8s						
HOM	**Homer**	**2.88**	**47**	Pn	**Pn**	**16 18 27.4**	**-0.5**
HOM				IAML		16 19 26.6	
	comp=N,203nm,1.0s						
HOM				IAML		16 19 36.5	
	comp=E,208nm,1.0s						
N18K	**Kilae Creek**	**2.92**	**359**	Pn	**Pn**	**16 18 28.5**	**0.0**
N18K				IAML		16 19 20.7	
	comp=E,333nm,1.2s						
N18K				IAML		16 19 23.1	
	comp=N,164nm,0.6s						
CNPM	**China Poot**	**2.97**	**52**	Pn	**Pn**	**16 18 30.2**	**+1.0**
RED	**Redoubt Volcan**	**3.09**	**29**		**Pn**	**16 18 31.6**	**+0.8**
N16K	**Nishlik Lake**	**3.12**	**332**		**Pn**	**16 18 31.6**	**+0.5**
RDSO	**Redoubt South**	**3.13**	**29**		**Pn**	**16 18 32.1**	**+0.7**
RDWB	**Redoubt West**	**3.13**	**28**		**Pn**	**16 18 32.5**	**+1.1**
RSO	**Redoubt South**	**3.13**	**29**	Pn	**Pn**	**16 18 32.1**	**+0.6**
N19K	**Bonanza Creek**	**3.13**	**12**	Pn	**Pn**	**16 18 31.6**	**+0.1**
N19K				IAML		16 19 25.1	
	comp=E,197nm,0.7s						
N19K				IAML		16 19 27.6	
	comp=N,151nm,0.7s						
NCT	**North Crescent**	**3.17**	**27**		**Pn**	**16 18 32.9**	**+0.9**
O14K	**Tigyukauivet M**	**3.23**	**300**	Pn	**Pn**	**16 18 33.2**	**+0.5**
O14K				IAML		16 19 48.8	
	comp=N,125nm,1.1s						
BRLK	**Bradley Lake**	**3.25**	**50**	Pn	**Pn**	**16 18 33.3**	**+0.3**
DFR	**Drift River**	**3.26**	**28**		**Pn**	**16 18 34.5**	**+1.4**
N15K	**Kwethluk River**	**3.28**	**319**	Pn	**Pn**	**16 18 33.7**	**+0.3**
N15K				IAML		16 19 36.2	
	comp=N,133nm,1.1s						
N15K				IAML		16 19 42.9	
	comp=E,133nm,1.0s						
BRSE	**Bradley Lake S**	**3.30**	**51**		**Pn**	**16 18 35.2**	**+1.5**
RDT	**Redoubt**	**3.32**	**30**		**Pn**	**16 18 34.8**	**+0.8**
SVW2	**Sparrevohn**	**3.34**	**2**	Pn	**Pn**	**16 18 34.3**	**0.0**
SVW2				IAML		16 19 36.2	
	comp=N,127nm,0.7s						
SVW2				IAML		16 19 40.7	
	comp=E,165nm,1.1s						
SVW2	**Sparrevohn**	**3.34**	**2**	P	**Pb**	**16 18 39.4**	**-2.0**
SDPT	**Sand Point**	**3.54**	**229**	Pn	**Pn**	**16 18 37.7**	**+0.7**
SDPT				IAML		16 19 42.4	
	comp=E,119nm,1.5s						
SDPT				IAML		16 19 49.9	
	comp=N,100nm,1.7s						
SDPT	**Sand Point**	**3.54**	**229**	P	**Pn**	**16 18 40.8**	**+3.9**
M16K	**Timber Creek**	**3.64**	**335**	Pn	**Pn**	**16 18 38.4**	**0.0**
M16K				IAML		16 19 46.9	
	comp=E,91nm,0.8s						
M16K				IAML		16 19 47.5	
	comp=N,98nm,1.0s						
M18K	**Stony River**	**3.74**	**360**		**Pn**	**16 18 39.7**	**0.0**
M17K	**Holitna River**	**3.74**	**348**	Pn	**Pn**	**16 18 39.6**	**-0.1**
N14K	**Kuskokwak Cree**	**3.74**	**308**		**Pn**	**16 18 40.1**	**+0.5**
CAPN	**Captain Cook N**	**3.84**	**36**	Pn	**Pn**	**16 18 40.5**	**-0.6**
M15K	**Kasigluk River**	**3.86**	**322**		**Pn**	**16 18 41.8**	**+0.5**
SPCR	**Spurr Chakacha**	**3.90**	**27**		**Pn**	**16 18 43.4**	**+1.4**
SPNN	**North Nagishla**	**3.94**	**22**		**Pn**	**16 18 44.2**	**+1.6**
SLKM	**Skilak Lake**	**3.98**	**44**		**Pn**	**16 18 44.8**	**+1.7**
M20K	**Styx River**	**4.34**	**17**	Pn	**Pn**	**16 18 48.9**	**+0.8**
M20K				IAML		16 20 12.1	
	comp=E,73nm,0.9s						
M20K				IAML		16 20 16.0	
	comp=N,60nm,1.2s						
M14K	**Bethel**	**4.35**	**316**	Pn	**Pn**	**16 18 48.0**	**-0.1**
L16K	**Owhat River**	**4.37**	**336**	Pn	**Pn**	**16 18 49.2**	**+0.9**
L16K				IAML		16 20 07.3	
	comp=E,70nm,1.2s						
L16K				IAML		16 20 15.6	
	comp=N,70nm,1.1s						
L19K	**White Mountain**	**4.46**	**6**	Pn	**Pn**	**16 18 49.9**	**+0.4**
L18K	**Granite Mounta**	**4.49**	**355**	Pn	**Pn**	**16 18 50.6**	**+0.6**
RC01	**Rabbit Creek A**	**4.55**	**40**	Pn	**Pn**	**16 18 51.2**	**+0.3**
L17K	**Donlin**	**4.56**	**345**		**Pn**	**16 18 50.5**	**-0.5**
M13K	**Dall Lake**	**4.71**	**307**	Pn	**Pn**	**16 18 53.8**	**+0.9**
SKT	**Skwentna**	**4.75**	**25**	Pn	**Pn**	**16 18 55.7**	**+2.2**
L20K	**Farewell, AK**	**4.83**	**11**		**Pn**	**16 18 55.7**	**+1.1**
L15K	**Ungalak Mounta**	**4.86**	**326**		**Pn**	**16 18 55.2**	**+0.1**
P23K	**Montague Islan**	**4.90**	**59**		**Pn**	**16 18 57.4**	**+1.8**
M22K	**Willow**	**4.92**	**33**	Pn	**Pn**	**16 18 56.0**	**+0.1**
M22K				IAML		16 20 16.7	
	comp=E,76nm,2.8s						
L14K	**Kuka Creek**	**5.01**	**319**	Pn	**Pn**	**16 18 57.6**	**+0.6**
K17K	**Iditarod**	**5.12**	**347**	Pn	**Pn**	**16 18 58.7**	**+0.1**
TTA	**Tatalina**	**5.18**	**359**	Pn	**Pn**	**16 19 00.6**	**+1.1**
TTA				IAML		16 20 40.6	
	comp=N,53nm,1.5s						
KNK	**Knik Glacier**	**5.23**	**42**	Pn	**Pn**	**16 19 01.7**	**+1.6**
KNK				IAML		16 19 51.9	
	comp=N,36nm,3.4s						
KNK				IAML		16 20 35.9	
	comp=E,36nm,2.7s						
GHO	**Glory Hole Cre**	**5.31**	**38**	Pn	**Pn**	**16 19 01.5**	**+0.1**
GHO				IAML		16 20 04.8	
	comp=N,28nm,2.7s						
GHO				IAML		16 21 07.1	
	comp=E,40nm,2.7s						
K15K	**Wolf Creek Mou**	**5.37**	**330**	Pn	**Pn**	**16 19 02.5**	**+0.4**
K15K				IAML		16 20 39.9	
	comp=E,34nm,1.0s						
K15K				IAML		16 20 51.4	
	comp=N,29nm,1.6s						
HIN	**Hinchinbrook I**	**5.48**	**57**	Pn	**Pn**	**16 19 03.2**	**-0.4**
SML	**Sawmill**	**5.54**	**40**	Pn	**Pn**	**16 19 05.1**	**+0.7**
FID	**Port Fidalgo**	**5.64**	**54**	Pn	**Pn**	**16 19 05.4**	**-0.4**
K20K	**Telida**	**5.68**	**8**	Pn	**Pn**	**16 19 06.4**	**+0.1**
J18K	**Innoko River**	**5.74**	**356**	Pn	**Pn**	**16 19 06.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.88**	**57**	P	**Pn**	**16 19 10.7**	**+1.7**
SCM	**Sheep Creek Mo**	**5.91**	**43**	Pn	**Pn**	**16 19 10.0**	**+0.4**
CAST	**Castle Rocks**	**5.96**	**16**	Pn	**Pn**	**16 19 11.8**	**+1.6**
J16K	**Anvik River**	**6.02**	**339**	Pn	**Pn**	**16 19 10.5**	**-0.5**
WAT7	**Susitna Watana**	**6.15**	**31**		**Pn**	**16 19 14.7**	**+1.9**
KLU	**Klutina**	**6.25**	**49**	Pn	**Pn**	**16 19 14.3**	**+0.1**
J19K	**Poorman**	**6.25**	**1**	Pn	**Pn**	**16 19 15.0**	**+0.9**
KTH	**Kantishna Hill**	**6.28**	**20**	Pn	**Pn**	**16 19 16.5**	**+1.9**
J14K	**Nanvaranak Lak**	**6.31**	**326**	Pn	**Pn**	**16 19 14.9**	**0.0**
TRF	**Thorofare Moun**	**6.32**	**23**	Pn	**Pn**	**16 19 17.2**	**+2.1**
M24K	**Tolsona, Glenn**	**6.51**	**44**	Pn	**Pn**	**16 19 19.2**	**+1.4**
RND	**Reindeer**	**6.61**	**28**	Pn	**Pn**	**16 19 19.9**	**+0.8**
DHY	**Denali Highway**	**6.76**	**35**	Pn	**Pn**	**16 19 22.3**	**+1.0**
BPAW	**Bear Paw Mtn.**	**6.77**	**18**	Pn	**Pn**	**16 19 22.2**	**+0.8**
N25K	**Chitina, Valde**	**6.86**	**51**	Pn	**Pn**	**16 19 24.0**	**+1.5**
GLB	**Gilahina Butte**	**7.11**	**54**	Pn	**Pn**	**16 19 25.5**	**-0.5**
UNV	**Unalaska Valle**	**7.19**	**241**	P	Pn	16 19 34.4	+7.3
TGL	**Tana Glacier**	**7.29**	**60**	Pn	**Pn**	**16 19 28.7**	**+0.2**
H17K	**Granite Mounta**	**7.46**	**346**	Pn	**Pn**	**16 19 31.0**	**+0.3**
H18K	**Honhosa River**	**7.51**	**352**	Pn	**Pn**	**16 19 30.5**	**-1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEA2	Nenana	7.58	23	Pn	Pn	16 19 31.2	-1.2
GRNC	Granite Creek	7.79	62	Pn	Pn	16 19 36.1	+0.6
CCB	Clear Creek Bu	7.91	26	Pn	Pn	16 19 36.9	+0.1
M26K	Nabesna, AK	7.91	49	Pn	Pn	16 19 37.6	+0.7
MENT	Mentasta	7.92	44	Pn	Pn	16 19 38.5	+1.5
HDA	Harding Lake	7.92	29	Pn	Pn	16 19 37.7	+0.6
BARN	Barnard Glacie	7.93	59	Pn	Pn	16 19 37.4	0.0
I23K	Minto, Yukon-K	8.02	20	Pn	Pn	16 19 40.1	+1.7
H21K	Melozitna Rive	8.05	9	Pn	Pn	16 19 40.2	+1.4
CTGM	Chitina Glacie	8.06	60	Pn	Pn	16 19 38.6	-0.4
MDM	Murphy Dome	8.08	24	Pn	Pn	16 19 39.9	+0.7
L26K	Log Cabin Wild	8.11	44	Pn	Pn	16 19 41.8	+2.2
LOGN	Logan Glacier	8.17	62	Pn	Pn	16 19 41.2	+0.6
IL31		8.23	28	Pn	Pn	16 19 40.8	-0.4
ILAR	Eielson Array	8.23	28	Pn	Pn	16 19 42.2	+0.9
ANM	Nome	8.23	330	Pn	Pn	16 19 41.6	+0.3
POKR	Poker Plat Res	8.39	25	Pn	Pn	16 19 44.7	+1.3
SCRK	Sand Creek	8.48	38	Pn	Pn	16 19 45.5	+0.7
J25K	Salcha River,	8.51	32	Pn	Pn	16 19 47.1	+1.9
L27K	Beaver Creek,	8.71	47	Pn	Pn	16 19 49.4	+1.5
BCAR	Beaver Creek A	8.73	47	Pn	Pn	16 19 47.7	-0.4
PNL	Peninsula	8.75	70	P	Pn	16 19 49.7	+1.3
H24K	Noodor Dome	8.92	21	Pn	Pn	16 19 52.7	+1.9
J26L	Joseph Creek	8.97	36	Pn	Pn	16 19 52.6	+1.1
O29M	Mount Kennedy	9.24	67	Pn	Pn	16 19 57.0	+1.8
F20K	Avaraart Lake	9.32	0	Pn	Pn	16 19 57.1	+1.0
P29M	Windy Craggy	9.59	71	Pn	Pn	16 20 00.6	+0.7
I26K	Coal Creek Min	9.66	33	Pn	Pn	16 20 01.8	+0.9
G24K	Hadweenzic Riv	9.76	20	Pn	Pn	16 20 03.3	+1.0
M29M	Somme Creek	9.83	54	Pn	Pn	16 20 03.8	+0.4
EGAK	Eagle	9.94	39	Pn	Pn	16 20 05.3	+0.7
F24K	Squaw Lake	10.43	17	Pn	Pn	16 20 11.8	+0.3
I28M	Miner Creek	10.76	38	Pn	Pn	16 20 16.9	+0.9
BMAR	Burnt Mountain	10.97	23	Pn	Pn	16 20 17.6	-1.2
E25K	Arctic Village	11.37	20	Pn	Pn	16 20 25.4	+1.2
B22K	Teshekpuk Lake	12.67	4	Pn	Pn	16 20 44.0	+2.1
YKA	Yellowknife Ar	20.78	60	P	P	16 22 22.1	-0.7

IDC 03 16:17:48.8±7.1,6°.95S×130°.51E,h226km±77km,mb2.7/1, mbtmp3.1/3,Error ellipse: s-maj=126.1km s-min=30.2km az=73.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.44	164	P	Pn	16 20 49.8	-1.2
	0.3nm,0.7s,baz=342,slow=12,SNR=2.7						
WRA				S	S	16 23 13.7	-6.0
	0.4nm,0.8s,baz=336,slow=22,SNR=1.3						
ASAR	Alice Springs	16.94	169	P	Pn	16 21 32.7	-0.4
	0.2nm,0.5s,baz=350,slow=9.5,SNR=8.6						
ASAR				S	S	16 24 36.5	0.0
	0.2nm,0.9s,baz=2.6,slow=26,SNR=1.0						
MKAR	Makanchi Array	68.46	327	P	P	16 28 26.5	-0.1
	0.1nm,0.3s,baz=116,slow=7.5,SNR=4.8						
	0.1nm,0.3s						

DJA 03 16:28:31.9±0.5,6°S±4°×12°8E±°,h255km±14km,M3.7/9, mb3.5/6,MLv3.8/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.55	45	P	Pn	16 29 19.9	-0.1
NLAI	Namlea	3.25	342	P	Pn	16 29 26.3	-1.2
SANI	Sanana	4.77	334	P	Pn	16 29 43.7	-1.4
SOEI	Soe	5.09	228	P	Pn	16 29 49.7	+0.6
	9.1nm,1.0s,0.1nm						
BBSI	Bau Bau	5.58	279	P	Pn	16 29 54.9	-0.1
	22nm,0.9s,0.1nm						

BUL 03 16:30:01.3±0.5,26°.56S×30°.37E,h15km±7km,MD3.4
IDC 03 16:30:01.2±3.0,25°.90S×29°.50E,h0km,mbtmp3.6/6, ML2.5/5,Error ellipse: s-maj=28.7km s-min=16.4km az=112.0
EAF 03 16:30:02.7±1.4,25°.48S×29°.50E,h18km±21km,MD3.6
ISC 03 16:29:59.8±1.0,25°.59S±0°.05×29°.54E±0°.05,h10km,n19, σ2s.62/27,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.67	40	i P	Pn	16 30 43.2	+0.3
MOPA				i S	Sn	16 31 14.3	-1.0
MOPA	Mopani	2.67	40	i P	Pb	16 30 47.1	-0.6
MOPA				i S	Sb	16 31 20.7	+0.2
MOPA	Mopani	2.67	40	i P	Pn	16 30 43.2	+0.3
MOPA				i S	Sn	16 31 14.3	-1.0
LBTB	Lobatse	3.61	278	i P	Pn	16 30 56.7	+0.8
LBTB				i S	Sn	16 31 36.8	-1.9
LBTB	Lobatse	3.61	278	i P	Pg	16 31 09.4	+0.3
LBTB				i S	Sg	16 31 59.5	+3.6
LBTB	Lobatse	3.61	278	Pn	Pb	16 31 01.0	-2.9
	0.6nm,0.3s,baz=102,slow=8.8,SNR=13						
LBTB				Pg	Pg	16 31 07.9	-1.2
	1.8nm,0.3s,baz=108,slow=16,SNR=6.3						
LBTB				Lg	Lg	16 31 58.1	
	3.4nm,0.3s,baz=20,slow=23,SNR=22						
	3.9nm,0.7s						
LBTB	Lobatse	3.61	278	i P	Pn	16 30 56.7	+0.8
LBTB				i S	Sn	16 31 36.8	-1.9
BOSA	Boshof	4.86	231	i P	Pn	16 31 16.4	+3.2
BOSA				i S	Sn	16 32 07.5	-2.0
BOSA	Boshof	4.86	231	i P	Pn	16 31 15.5	+2.3
BOSA				i S	Sn	16 32 08.9	-0.7
BOSA	Boshof	4.86	231	Pn	Pn	16 31 12.2	-0.9
	0.1nm,0.3s,baz=163,slow=21,SNR=1.9						
BOSA				Pg	Pb	16 31 24.6	-0.5
	0.3nm,0.3s,baz=67,slow=10,SNR=8.4						
BOSA				Lg	Lg	16 32 27.7	
	3.4nm,0.3s,baz=144,slow=22,SNR=30						
	0.5nm,0.2s						
BOSA	Boshof	4.86	231	i P	Pn	16 31 16.4	+3.2
BOSA				i S	Sn	16 32 07.5	-2.0
I47ZA	BOSHOF INFRASO	4.88	231	I	I	16 58 10.0	
	0.2nm,0.8s,baz=54,slow=305,SNR=8.3						
MATP	Matopo	5.23	349	i P	Pn	16 31 24.0	+5.7
MATP	Matopo	5.23	349	Pn	Pb	16 31 25.1	-6.3
	0.3nm,0.3s,baz=169,slow=12,SNR=14						
MATP				Sn	Sb	16 32 29.4	-4.9
	1.1nm,0.3s,baz=52,slow=14,SNR=6.1						
MATP				Lg	Lg	16 32 53.4	
	1.3nm,0.3s,baz=264,slow=16,SNR=6.8						
	0.9nm,0.3s						
SUR	Sutherland	10.20	226	Pn	Pn	16 32 25.3	-1.2
	0.2nm,0.3s,baz=80,slow=16,SNR=9.3						
SUR				Sn	Sn	16 34 14.3	-6.8
	0.3nm,0.3s,baz=177,slow=12,SNR=1.3						
SUR				Lg	Lg	16 35 13.6	
	0.3nm,0.3s,baz=320,slow=17,SNR=6.4						
	3.9nm,0.9s						
LSZ	Lusaka	10.34	353	i P	Pn	16 32 37.0	+8.6
LSZ	Lusaka	10.34	353	Pn	Pn	16 32 36.2	+7.9
	3.0nm,0.3s,baz=209,slow=7.4,SNR=1.6						
LSZ				Sn	Sn	16 34 27.6	+3.1
	0.5nm,0.3s,baz=59,slow=16,SNR=4.6						
LSZ				Lg	Lg	16 35 34.5	
	0.7nm,0.3s,baz=57,slow=9.4,SNR=4.3						
TSUM	Tsumeb	12.75	298	Pn	Pn	16 33 05.0	+3.6
	0.3nm,0.3s,baz=141,slow=13,SNR=5.0						
TSUM				Lg	Lg	16 36 48.6	
	0.1nm,0.3s,baz=45,slow=20,SNR=1.5						
	3.2nm,0.8s						
I35NA	TSUMEB INFRASO	12.76	298	I	I	17 42 35.0	
	baz=127,slow=305,SNR=8.3						

IDC 03 16:51:45.4±2.9,5°.87S×151°.36E,h75km±21km,mb3.2/3, mbtmp3.5/4,Error ellipse: s-maj=92.2km s-min=9.8km az=126.0
ISC 03 16:51:43.2±1.7,6°.1S±0°.2×151°.7E±0°.3,h50km,n6,σ1s.76/8, mb3.4/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.82	9	P	Pn	16 52 12.8	+0.6
	baz=197,slow=19						
KRVT				S	Sn	16 52 34.0	-0.1
	baz=107,slow=19						
PMG	Port Moresby	5.59	234	P	Pn	16 53 05.5	+1.7
	2.4nm,0.3s,baz=10,slow=12,SNR=6.0						
PMG				S	Sn	16 54 05.1	-1.7
	6.3nm,0.3s,baz=315,slow=20,SNR=7.9						
WRA	Warramunga Arr	21.79	229	P	P	16 56 30.1	-1.0
	0.9nm,0.5s,baz=53,slow=9.9,SNR=12						
	0.9nm,0.5s						
ASAR	Alice Springs	24.47	223	P	P	16 56 57.3	-0.5
	0.4nm,0.5s,baz=56,slow=9.4,SNR=9.5						
	0.4nm,0.5s						
ILAR	Eielson Array	83.77	22	P	P	17 04 05.1	-1.6
	0.4nm,0.7s,baz=251,slow=5.1,SNR=5.3						
	0.4nm,0.7s						
TORD	Torodi Ar. Bea	149.68	286	PKPbc	PKPdf	17 11 26.2	+2.4
	0.2nm,0.3s,baz=78,slow=4.5,SNR=2.6						

UCR 03 17:11:48.0±0.7,8°.09N×83°.23W,h12km±16km,MW3.6
CATAC 03 17:11:51.6±0.7,8°.41N×83°.20W,h3km±2km,ML3.0
ISC 03 17:11:50.3±1.8,8°.3N±0°.1×83°.20W±0°.04,h12km±9km,n23, σ0s.80/27,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	Carate, Puerto	0.18	313	eP	Pg	17 11 54.8	+0.5
PIRO	Carate, Puerto	0.18	313	i P	Pg	17 11 54.7	+0.4
PIRO				i S	Sg	17 11 56.5	-0.6
PIRO				IAML		17 12 00.2	
	comp=Z,3μm,1.0s						
CCOL	Caracol de Cor	0.26	61	eP	Pb	17 11 56.4	-0.5
CCOL				eS	Sb	17 12 03.5	+2.2
CCOL	Caracol de Cor	0.26	61	i P	Pb	17 11 56.6	-0.3
CCOL				IAML		17 12 05.4	
	comp=Z,7μm,1.0s						
FITO	Golfito	0.34	8	eP	Pg	17 11 57.9	+0.6
FITO				eS	Sb	17 12 05.4	+1.7
EDAD	Golfito	0.37	6	eP	Pg	17 11 58.4	+0.6
CDITO	Canoas	0.44	48	i P	Pg	17 11 59.4	+0.5
CDITO				i S	Sg	17 12 03.9	-0.9
CDITO				IAML		17 12 14.1	
	comp=Z,720nm,1.0s						
VITO	San Vito	0.58	23	eP	Pb	17 12 02.5	0.0
BRU2	Volcan	0.72	45	eP	Pg	17 12 04.2	-0.1
EDPN	Palmar Norte	0.72	340	eP	Pb	17 12 04.7	-0.1
CTCR	Cotoan	0.75	36	i P	Pg	17 12 03.8	-1.1
CTCR				IAML		17 12 19.9	
	comp=Z,2μm,1.0s						
OCHAL	Ojochal	0.92	332	i P	Pg	17 12 07.7	-0.4
OCHAL				IAML		17 12 24.1	
	comp=Z,8.8nm,1.0s						
SRBA	San Rafael, Bu	0.96	351	eP	Pg	17 12 08.3	-0.5
SRBA	San Rafael, Bu	0.96	351	i P	Pg	17 12 08.2	-0.6
SRBA				IAML		17 12 24.4	
	comp=Z,320nm,1.0s						
DRK0	Durika	0.98	358	eP	Pg	17 12 08.7	-0.5
BUS1	Rivas	1.37	337	eP	Pn	17 12 14.8	-0.9
CDM	Cerro de Muert	1.38	336	eP	Pn	17 12 15.0	-0.7
CDM	Cerro de Muert	1.38	336	i P	Pn	17 12 15.1	-0.7
CDM				IAML		17 12 37.1	
	comp=Z,250nm,1.0s						
LCR2	La Lucha 2	1.65	331	eP	Pn	17 12 19.1	-0.2
LCR2	La Lucha 2	1.65	331	i P	Pn	17 12 19.2	-0.1
LCR2				IAML		17 12 43.0	
	comp=Z,150nm,1.0s						
TBLN	Tablon, Guarco	1.72	333	i P	Pn	17 12 20.0	-0.2
TBLN				IAML		17 12 46.7	
	comp=Z,390nm,1.0s						
OCM	Ochomogo	1.77	335	i P	Pn	17 12 20.9	0.0
OCM				IAML		17 12 47.4	
	comp=Z,210nm,1.0s						
HAYA	Volcan Irazu	1.80	340	i P	Pn	17 12 21.6	+0.1
HAYA				IAML		17 12 54.1	
	comp=Z,190nm,1.0s						

MOS 03 17:28:34.4±1.2,30°.29N×96°.87E,h9km,mb4.7/21,Error ellipse: s-maj=10.7km s-min=5.9km az=117.8
IDC 03 17:28:34.8±0.7,30°.31N×96°.97E,h0km,mb4.1/20, mbtmp4.1/22,ML3.6/2,MS3.5/2,Error ellipse: s-maj=24.8km s-min=12.6km az=52.0
BJI 03 17:28:35.3±0.0,30°.25N×96°.95E,h6km,mb4.3/29, mB4.8/11,ML3.8/10,Ms3.9/12,Ms7 3.8/10
NEIC 03 17:28:36.7±2.6,30°.41N±0°.07×96°.91E±0°.08,h10km±1km, mb4.5/46,Error ellipse: s-maj=13.1km s-min=11.1km az=226.0
ISC 03 17:28:36.7±0.3,30°.30N±0°.04×96°.93E±0°.04,h10km,n145, σ1s.76/156,mb4.4/48,11C-5D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRO	ZIRO	3.86	225	eP	Pn	17 29 39.4	+3.0
ZIRO				i x	x	17 29 50.5	
ITAN	ITANAGAR	4.22	223	eP	Pn	17 29 44.5	+3.4
JORH	JORHAT	4.26	214	eS	Sn	17 30 35.9	+4.5
MOKO	MOKOCHONG	4.50	209	eP	Pn	17 29 47.9	+2.8
TEZP	TEZPUR	5.17	226	eP	Pn	17 29 55.0	+0.9
TAWA	Tawang	5.19	240	eP	Pn	17 29 57.6	+2.8
KOHI	KOHIMA	5.20	209	eP	Pn	17 29 57.4	+2.6
TNCH	TengChong	5.44	165	Pn	Pn	17 29 59.2	+1.2
TNCH				Pg	Pb	17 30 12.2	+0.3
TNCH				Sn	Sn	17 31 02.8	+2.0
TNCH				Sg	Sg	17 31 29.5	-1.9
TNCH				smax	smax		
	comp=N,150nm,0.7s						
TNCH				smax	smax		
	comp=E,110nm,1.1s						
PZH	PanZhiHua	5.68	131	Pn	Pn	17 30 03.3	+2.0
PZH				Sn	Sn	17 31 12.5	+5.8
PZH				Sg	Sg	17 31 37.7	-1.5
PZH				smax	smax		
	comp=N,50nm,1.3s						
PZH				smax	smax		
	comp=E,50nm,1.2s						
PZH				LR	LR		
	comp=N,600nm,11.0s						
PZH				LR	LR		
	comp=E,600nm,8.1s						
PZH				LR	LR		
	comp=Z,990nm,10.7s						
IMP	Imphal	6.06	207	eP	Pn	17 30 08.5	+2.1
GOMU	GeErMu	6.14	344	Pn	Pn	17 30 11.4	+3.5
GOMU				Sn	Sn	17 31 24.9	+6.5
GOMU				LR	LR		
	comp=N,430nm,5.9s						
GOMU				LR	LR		
	comp=E,280nm,5.9s						
GOMU				LR	LR		
	comp=Z,540nm,8.3s						
SHL	Shillong	6.49	225	eP	Pn	17 30 12.7	+0.2
SHL				eS	Sn	17 31 28.4	+1.6
KMI	Kunming	7.29	134	Pn	Pn	17 30 25.0	+1.5
KMI				LR	LR		
	comp=N,530nm,10.0s						
KMI				LR	LR		
	comp=E,680nm,10.7s						
KMI				LR	LR		
	comp=Z,560nm,10.8s						
LZH	Lanzhou	8.18	43	P	Pn	17 30 39.4	+3.8
LZH				smax	smax		
	comp=N,17nm,1.5s						
LZH				smax	smax		
	comp=E,15nm,1.6s						
LZH				LR	LR		
	comp=N,750nm,7.2s						
LZH				LR	LR		
	comp=E,680nm,8.3s						
LZH				LR	LR		
	comp=Z,320nm,6.9s						
MND	Mandalay	8.28	185	Pn	Pn	17 30 38.0	+1.0
SAIH	SAIHA	8.54	205	eP	Pn	17 30 42.7	+2.0
GYA	Guiyang	9.39	112	P	Pn	17 30 53.7	+1.5
GYA				pmax	pmax		
	comp=Z,32nm,0.8s						
GYA				pmax	pmax		
	comp=Z,160nm,6.0s						
CRAI	Chiangrai	10.50	162	Pn	Pn	17 31 09.6	+2.2
XAN	Xi'an	10.82	67	⇓P	Pn	17 31 15.4	+3.6
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ENH	Enshi	10.86	87	Pn	Pn	17 31 12.0	-0.3
SLVN	Son La	10.91	143	Pn	Pn	17 31 13.2	+0.1
BOK	Bokaro	11.78	239	eP	Pn	17 31 22.9	-2.0
CM31	Chiang Mai Arr	11.93	171	Pn	Pn	17 31 27.2	+0.2
CMAR	Chiang Mai Arr	11.93	171	Pn	Pn	17 31 28.7	+1.7
CMAR	Chiang Mai Arr	11.93	171	Pn	Pn	17 31 28.1	+1.1
	0.1nm,0.3s,baz=341,slow=12,SNR=18						
	1.6nm,0.8s						
LYN	LuoYang	13.79	68	eP	Pn	17 31 51.6	-0.7
LYN				pP	P	17 31 58.6	-2.3
LYN				PP	PnPn	17 32 03.3	+3.1
LYN				pmax	pmax		
	comp=Z,17nm,0.8s						
LYN				pmax	pmax		
	comp=Z,350nm,4.7s						
LYN				LR	LR		
	comp=N,310nm,6.5s						
LYN				LR	LR		
	comp=E,260nm,4.8s						
LYN				LR	LR		
	comp=Z,390nm,7.6s						
WMQ	Urumqi	15.36	334	eP	Pn	17 32 10.5	-3.1
WMQ				pP	P	17 32 18.9	+0.6
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC	Hu-ho-hao-te	15.87	45	eP	Pn	17 32 18.7	-1.6
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,260nm,5.6s						
QIZ	Qiongzhong	16.22	131	P	P	17 32 26.3	-1.6
QIZ				S	Sn	17 35 28.0	+3.1
QIZ				LR	LR		
	comp=N,320nm,5.5s						
QIZ				LR	LR		
	comp=E,280nm,5.1s						
HNS	HongShan	16.37	60	eP	P	17 32 29.6	+0.2
SMLA	Simla	17.02	278	eP	Pn	17 32 32.1	-2.7
SMLA				IAmb	IAmb	17 32 33.2	
	comp=Z,5.8nm,0.8s						
DHRM	DHARAMSHALA	17.74	282	eP	P	17 32 45.7	+0.8
DHRM				IAmb	IAmb	17 32 46.5	
	comp=Z,8.0nm,0.7s						
BJI	Beijing	18.46	53	P	P	17 32 55.8	+3.3
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NJ2	Nanjing	18.84	79	eP	Pn	17 32 57.3	0.0
NJ2				pP	pP	17 32 58.8	-2.1
NJ2				sP	sP	17 33 00.8	-2.0
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,160nm,4.5s						
SONM	Songino Array	18.96	20	P	Pn	17 32 58.4	-0.4
SONM	Songino Array	18.96	20	P	Pn	17 32 58.4	-0.4
	comp=Z,0.2nm,0.3s,baz=210,slow=10,SNR=32						
	comp=Z,12nm,1.2s						
TARG	Taragay, Kyrgy	19.17	312	P	P	17 32 59.3	-1.6
TARG	Taragay, Kyrgy	19.17	312	P	P	17 32 59.3	-1.6
TARG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	Ulaanbaatar	19.19	21	P	P	17 33 00.3	-0.4
ULN	Ulaanbaatar	19.19	21	⇑iP	Pn	17 33 02.7	+1.1
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSH	Kashi	19.45	304	P	Pn	17 33 06.0	+1.2
KSH				pP	pP	17 33 08.9	+0.9
KSH				PP	PnPn	17 33 24.1	+6.1
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	Makanchi Array	20.00	329	P	P	17 33 08.1	-1.4
MK31	Makanchi Array	20.00	329	⇑eP	P	17 33 09.2	-0.2
MKAR	Makanchi Array	20.00	329	P	P	17 33 08.7	-0.7
	comp=Z,1.6nm,0.5s,baz=135,slow=13,SNR=22						
	comp=Z,1.6nm,0.5s						
MAKZ	Makanchi	20.15	329	P	P	17 33 10.9	-0.1
MAKZ	Makanchi	20.15	329	P	P	17 33 11.0	-0.1
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
NIL	Nilore	20.35	286	P	P	17 33 12.5	-0.9
NIL	Nilore	20.35	286	P	P	17 33 12.5	-0.9
NIL				pmax	pmax		
	comp=Z,37nm,0.6s						
ZAK	Zakamensk	20.62	12	eP	P	17 33 15.6	-0.6
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DGZ	Jazzator, Alta	20.66	342	⇑eP	Pn	17 33 20.7	+1.6
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KZA	Kyzart	21.01	310	P	P	17 33 21.9	+1.0
	SNR=17						
TKM2	Tokmak 2	21.19	312	P	P	17 33 23.6	+1.1
	SNR=10						
KBK	Karagaybulak	21.48	311	P	P	17 33 27.2	+1.5
	SNR=15						
UCH	Uchtor	21.57	310	P	P	17 33 28.2	+1.3
	SNR=13						
AAK	Ala-Archa	21.77	311	P	P	17 33 29.7	+0.9
	SNR=14						
AAK	Ala-Archa	21.77	311	P	P	17 33 29.1	+0.4
AAK				IAmb	IAmb	17 33 37.7	
	comp=Z,16nm,0.9s						
AAK	Ala-Archa	21.77	311	c iP	P	17 33 29.6	+0.9
AAK				pmax	pmax		
	comp=Z,31nm,1.7s						
AAK	Ala-Archa	21.77	311	P	P	17 33 29.2	+0.4
	comp=Z,5.1nm,0.7s,baz=121,slow=7.0,SNR=24						
	comp=Z,5.1nm,0.7s						
CHMS	Chumysh	21.77	312	P	P	17 33 29.3	+0.7
	SNR=7.1						
EKS2	Erkin-Say	22.25	310	P	P	17 33 34.1	+0.2
	SNR=8.2						
SSLB	Suanglung	22.34	101	P	P	17 33 36.2	+1.4
KBL	Kabul	23.88	288	P	P	17 33 49.4	-1.4
KBL	Kabul	23.88	288	P	P	17 33 49.4	-1.4
KBL				pmax	pmax		
	comp=Z,30nm,1.1s						
KURBB	Kurchatov Arra	24.53	331	P	P	17 33 56.0	-0.4
	comp=Z,2.5nm,0.7s,baz=139,slow=11,SNR=48						
	comp=Z,2.5nm,0.7s						
KURK	Kurchatov	24.57	331	P	P	17 33 56.0	-0.6
KURK				IAmb	IAmb	17 33 57.1	
	comp=Z,4.9nm,0.8s						
KURK	Kurchatov	24.57	331	deP	P	17 33 56.4	-0.2
KURK				pmax	pmax		
	comp=Z,13nm,1.7s						
ZALV	Zalesovo Beam	25.21	343	P	P	17 34 01.7	-0.7
	comp=Z,1.4nm,0.4s,baz=154,slow=9.2,SNR=9.2						
	comp=Z,1.4nm,0.4s						
KSRS	Korea Array	26.62	66	P	P	17 34 14.0	-1.4
	comp=Z,1.8nm,0.7s,baz=254,slow=10,SNR=3.7						
KSRS				LR	LR	17 44 23.9	
	comp=Z,22nm,18.9s,baz=355,slow=36						
	comp=Z,1.8nm,0.7s						
MDJ	Mudanjiang	29.38	52	P	P	17 34 39.2	-0.8
MDJ				PP	PnPn	17 35 31.5	-2.0
MDJ				PcP	PcP	17 37 46.4	+0.4
MDJ				S	S	17 39 32.1	-1.5
MDJ				ScP	ScP	17 41 28.1	+0.3
MDJ				ScS	ScS	17 45 24.4	+2.2
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,330nm,4.5s						
BVAR	Borovoye Array	29.84	327	P	P	17 34 43.8	-0.1
	comp=Z,1.0nm,0.7s,baz=119,slow=9.2,SNR=6.6						
	comp=Z,1.0nm,0.7s						
BRVK	Borovoye	29.91	327	P	P	17 34 42.7	-1.9
BRVK				IAmb	IAmb	17 34 51.6	
	comp=Z,3.2nm,0.6s						
BRVK	Borovoye	29.91	327	⇑iP	P	17 34 45.1	+0.5
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.9s						
ZEA	Zeya	32.08	34	eP	P	17 35 07.8	+4.1
KLR	Kul'dur	32.38	44	⇓eP	P	17 35 07.6	+1.2
KLR				pmax	pmax		
	comp=Z,11nm,2.0s						
GEYT	Alibeck	32.84	294	IAmb	IAmb	17 35 12.6	
	comp=Z,5.1nm,0.8s						
GEYT	Alibeck	32.84	294	P	P	17 35 10.6	-0.1
	comp=Z,3.1nm,0.7s,baz=126,slow=7.5,SNR=8.0						
	comp=Z,3.1nm,0.7s						
ARU	Arti	37.43	325	c iP	P	17 35 49.7	-0.1
ARU				S	S	17 41 39.3	+1.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YAK	Yakutsk	38.22	24	⇑iP	P	17 35 57.6	+1.2
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NRIK	Noril'sk	39.45	355	⇑eP	P	17 36 04.8	-1.9
NRIK				pmax	pmax		
	comp=Z,8.0nm,1.6s						
NRIK	Noril'sk	39.45	355	P	P	17 36 05.6	-1.1
	comp=Z,1.2nm,0.5s,baz=153,slow=4.5,SNR=2.7						
	comp=Z,1.2nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKRN	Lenkeran, Azer	40.17	295	P	P	17 36 13.3	+0.2
SEKA	Sheki	41.30	299	P	P	17 36 22.2	-0.3
MNGR	Mingechevir, A	41.40	299	P	P	17 36 23.6	+0.4
GANJ	Ganja	41.98	298	P	P	17 36 27.8	-0.2
NAX	Nakhchivan	42.70	296	P	P	17 36 34.1	+0.1
GNI	Garni	43.21	298	P	P	17 36 36.1	-2.1
GNI				IAmb	IAmb	17 37 14.5	
	comp=Z,16nm,1.4s						
GNI	Garni	43.21	298	P	P	17 36 36.1	-2.1
GNI				pmax	pmax		
	comp=Z,16nm,1.4s						
ZEI	Tsey	43.72	302	eP	P	17 36 38.7	-3.7
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ONI	Oni	44.06	301	P	P	17 36 45.3	+0.4
ONI				IAmb	IAmb	17 36 48.6	
	comp=Z,3.8nm,0.9s						
ONI	Oni	44.06	301	P	P	17 36 45.3	+0.4
ONI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKH	Akhalkalaki	44.08	300	P	P	17 36 45.2	0.0
AKH	Akhalkalaki	44.08	300	P	P	17 36 45.2	0.0
AKH				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV	Kislovodsk	44.58	303	eP	P	17 36 48.7	-0.4
KIV				e		17 38 30.1	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	Tiksi	44.88	14	P	P	17 36 50.1	-0.7
TIXI	Tiksi	44.88	14	⇑eP	P	17 36 51.8	+0.9
TIXI				pmax	pmax		
	comp=Z,13nm,3.3s						
GURO	Guroymak-BITLI	45.45	296	P	P	17 36 54.0	-2.1
GURO				IAmb	IAmb	17 37 02.0	
	comp=Z,3.5nm,0.6s						
MMRI	Maumere	45.72	144	P	P	17 36 59.5	+1.3
SOEI	Soe	47.72	142	P	P	17 37 13.3	-0.7
SEY	Seymchan	47.87	31	⇑eP	P	17 37 15.9	+1.3
SEY				pmax	pmax		
	comp=Z,12nm,2.8s						
OBN	Obninsk	48.96	319	eP	P	17 37 22.2	-0.8
OBN				e		17 38 45.9	
OBN				e		17 39 16.4	
OBN				pmax	pmax		
	comp=Z,17nm,1.3s						
BR131	Keskin Array S	51.73	299	⇓eP	P	17 37 43.8	-0.7
AKASG	Malin Array Be	53.41	313	P	P	17 37 55.5	-1.1
	comp=Z,1.3nm,0.7s,baz=73,slow=6.8,SNR=6.0						
	comp=Z,1.3nm,0.7s						
BILL	Bilibino	54.56	26	P	P	17 38 04.2	-0.4
BILL				IAmb	IAmb	17 38 17.1	
	comp=Z,5.0nm,1.1s						
BILL	Bilibino	54.56	26	⇓P	P	17 38 05.0	+0.3
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	FINESS Array B	54.79	326	P	P	17 38 06.1	-0.3
	comp=Z,5.2nm,1.1s,baz=11,slow=1.9,SNR=5.2						
	comp=Z,5.2nm,1.1s						
ARCES	ARCESS Array B	55.47	336	P	P	17 38 11.0	-0.3
ARCES	ARCESS Array B	55.47	336	P	P	17 38 11.0	-0.3
	comp=Z,2.5nm,0.9s,baz=76,slow=6.4,SNR=7.0						
	comp=Z,2.5nm,0.9s						
MLR	Muntele Rosu	56.29	307	P	P	17 38 15.2	-2.4
MLR				IAmb	IAmb	17 38 18.9	
	comp=Z,11nm,1.3s						
MLR	Muntele Rosu	56.29	307	P	P	17 38 15.2	-2.4
MLR				pmax	pmax		
	comp=Z,11nm,1.3s						
SPITS	Spitsbergen Ar	58.64	346	P	P	17 38 33.1	-0.5
	comp=Z,3.1nm,0.7s,baz=117,slow=8.7,SNR=1.2						
	comp=Z,3.1nm,0.7s						
VYHS	Vyhne	60.43	312	eP	P	17 38 48.4	+2.0
VYHS	Vyhne	60.43	312	eP	P	17 38 48.4	+2.0
HFS	Hagfors	60.95	325	P	P	17 38 50.0	+0.3
HFS	Hagfors	60.95	325	P	P	17 38 50.0	+0.3
	comp=Z,2.7nm,0.9s,baz=125,slow=7.2,SNR=1.5						
	comp=Z,2.7nm,0.9s						
WB0	Warramunga Arr	61.46	139	P	P	17 38 52.4	-1.3
WRAB	Tennant Creek	61.57	139	P	P	17 38 53.4	-1.0
WRAB	Tennant Creek	61.57	139	P	P	17 38 53.4	-1.0
WRAB				pmax	pmax		
	comp=Z,13nm,1.2s						
WRA	Warramunga Arr	61.57	139	P	P	17 38 53.4	-1.0
WRA	Warramunga Arr	61.57	139	P	P	17 38 53.8	-0.6
	comp=Z,3.8nm,0.6s,baz=329,slow=7.0,SNR=39						
	comp=Z,3.8nm,0.6s						
WR0	Warramunga Arr	61.70	139	P	P	17 38 53.7	-1.6
WR0				IAmb	IAmb	17 38 57.2	
	comp=Z,4.2nm,0.9s						
NB2	NORSAR Subarra	61.97	327	P	P	17 38 55.0	-1.6
	comp=Z,7.3nm,1.1s,baz=78,slow=6.9						
NOA	NORSAR Array B	61.97	327	P	P	17 38 56.5	-0.2
	comp=Z,0.7nm,0.6s,baz=78,slow=8.3,SNR=5.1						
	comp=Z,0.7nm,0.6s						
PMG	Port Moresby	62.33	121	ceP	P	17 39 02.0	+2.4
PMG				pmax	pmax		
	comp=Z,12nm,1.7s						
PMG	Port Moresby	62.33	121	P	P	17 38 58.9	-0.7
	comp=Z,6.6nm,0.8s,baz=327,slow=5.2,SNR=4.1						
	comp=Z,6.6nm,0.8s						
RABL	Rabaul	62.91	113	P	P	17 39 01.1	-2.5
LODK	Lodwar	63.84	258	P	P	17 39 09.7	-0.2
LODK				IAmb	IAmb	17 39 10.6	
	comp=Z,4.3nm,1.5s						
AS31	Alice Springs	64.33	142	IAmb	IAmb	17 39 15.2	
	comp=Z,1.1nm,0.5s						
ASAR	Alice Springs	64.33	142	P	P	17 39 10.9	-1.9
ASAR	Alice Springs	64.33	142	P	P	17 39 12.3	-0.5
	comp=Z,2.7nm,0.6s,baz=327,slow=6.7,SNR=43						
	comp=Z,2.7nm,0.6s						
C18K	Utukok River	66.30	23	P	P	17 39 24.1	-0.9
C18K				IAmb	IAmb	17 39 30.5	
	comp=Z,8.9nm,1.5s						
B22K	Teshekpuk Lake	68.04	20	IAmb	IAmb	17 39 41.8	
	comp=Z,4.0nm,0.8s						
E19K	Redstone River	68.15	24	IAmb	IAmb	17 39 44.9	
	comp=Z,2.2nm,0.7s						
MLY	Manley	71.64	24	P	P	17 39 59.9	+1.7
MLY				IAmb	IAmb	17 40 06.2	
	comp=Z,8.2nm,1.3s						
BMAR	Burnt Mountain	72.31	21	P	P	17 40 02.9	+0.7
NEA2	Nenana	72.47	24	P	P	17 40 03.2	0.0
NEA2				IAmb	IAmb	17 40 09.7	
	comp=Z,3.9nm,0.8s						
BWN	Browne	72.57	25	P	P	17 40 03.4	-0.3
ILAR	Eielson Array	73.14	24	P	P	17 40 06.7	-0.5
ILAR	Eielson Array	73.14	24	P	P	17 40 06.9	-0.3
	comp=Z,1.4nm,0.9s,baz=306,slow=6.6,SNR=9.5						
ILAR				LR	LR	18 15 33.6	
	comp=Z,119nm,18.5s,baz=72,slow=39						
	comp=Z,1.4nm,0.9s						
RES	Resolute Bay	74.99	3	P	P	17 40 16.2	-1.5
RES				IAmb	IAmb	17 40 19.1	
	comp=Z,3.1nm,0.8s						
RES	Resolute Bay	74.99	3	P	P	17 40 16.2	-1.5
RES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
C36M	Paulatuk	76.24	14	P	P	17 40 23.2	-1.8
C36M				IAmb	IAmb	17 40 27.2	
	comp=Z,6.4nm,1.1s						
YKA	Yellowknife Ar	84.12	14	P	P	17 41 07.5	-0.1
	comp=Z,0.5nm,0.8s,baz=328,slow=4.6,SNR=3.1						
	comp=Z,0.5nm,0.8s						
TOA0	Torodi Ar. Sit	87.90	284	P	P	17 41 24.9	-2.2
TOA0				IAmb	IAmb	17 41 30.9	
	comp=Z,3.7nm,1.1s						
TORD	Torodi Ar. Bea	87.90	284	P	P	17 41 24.5	-2.7
TORD				IAmb	IAmb	17 41 30.9	
	comp=Z,2.8nm,1.2s						
TORD	Torodi Ar. Bea	87.90	284	P	P	17 41 26.1	-1.1
	comp=Z,0.7nm,0.7s,baz=47,slow=5.9,SNR=4.5						
	comp=Z,0.7nm,0.7s						

*IDC **03** 17:28:59.5±0.9, 11.°88N×143.°82E, h0km, mb3.8/12, mbtmp3.8/12, Error ellipse: s-maj=28.0km s-min=19.1km az=101.0*

ISC 03 17:29:03.4±0.9**, 11.°9N**±0.°1×**144.°0E**±0.°2**, h26**km**, n13,** σ**1.s46**/14**, mb3.9**/12**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.86	28	Pn	Pn	17 29 32.9	-0.7
	31nm,0.3s,baz=145,slow=7.3,SNR=16						
GUMO				Sn	Sn	17 29 54.7	-1.5
	37nm,0.3s,baz=112,slow=19,SNR=8.4						
WRA	Warramunga Arr	33.07	197	P	P	17 35 35.6	-1.6
	0.9nm,0.8s,baz=21,slow=9.9,SNR=8.7						
	0.9nm,0.8s						
ASAR	Alice Springs	36.73	196	P	P	17 36 07.6	-1.2
	0.2nm,0.6s,baz=19,slow=12,SNR=7.7						
	0.2nm,0.6s						
CMAR	Chiang Mai Arr	43.85	284	P	P	17 37 08.7	+0.8
	0.6nm,0.2s,baz=97,slow=7.4,SNR=1.3						
	0.6nm,0.2s						
SONM	Songino Array	47.59	326	P	P	17 37 38.1	+0.9
	0.5nm,0.6s,baz=150,slow=8.3,SNR=3.3						
	0.5nm,0.6s						
MKAR	Makanchi Array	62.08	317	P	P	17 39 22.4	+0.4
	0.3nm,0.6s,baz=92,slow=9.2,SNR=4.2						
	0.3nm,0.6s						
ZALV	Zalesovo Beam	62.46	325	P	P	17 39 23.7	-0.6
	0.6nm,0.6s,baz=99,slow=8.9,SNR=3.9						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	65.32	320	P	P	17 39 42.2	-1.1
	1.0nm,0.7s,baz=108,slow=6.0,SNR=4.2						
	1.0nm,0.7s						
BVAR	Borovoye Array	70.68	322	P	P	17 40 16.1	-0.8
	2.5nm,0.5s,baz=107,slow=7.9,SNR=20						
	2.5nm,0.5s						
YKA	Yellowknife Ar	84.72	27	P	P	17 41 35.9	+0.9
	0.4nm,0.6s,baz=287,slow=5.6,SNR=7.4						
	0.4nm,0.6s						
NVAR	Mina Array Bea	88.63	51	P	P	17 41 57.6	+2.7
	0.4nm,0.5s,baz=261,slow=4.5,SNR=5.5						
	0.4nm,0.5s						
FINES	FINESS Array B	92.28	335	P	P	17 42 09.7	-1.3
	1.4nm,0.8s,baz=139,slow=3.8,SNR=3.3						
	1.4nm,0.8s						
PDAR	Pinedale Array	93.74	45	P	P	17 42 20.3	+1.7
	0.2nm,0.7s,baz=261,slow=1.7,SNR=2.3						
	0.2nm,0.7s						

*IDC **03** 17:32:55.5±5.8, 10.°54S×166.°51E, h72km±46km, mb3.6/10, mbtmp3.9/10, ML5.3/1, MS3.5/10, Error ellipse: s-maj=50.2km s-min=24.6km az=127.0*

ISC 03 17:32:50.9±1.2**, 10.°6S**±0.°2×**166.°7E**±0.°2**, h36**km**, n24,** σ**1.s24**/11**, mb3.9**/10**, MS3.4**/9**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.79	279	P	Pn	17 34 29.1	+1.0
	60nm,0.3s,baz=161,slow=3.5,SNR=6.0						
PMG	Port Moresby	19.32	272	LR	LR	17 44 24.1	
	comp=Z,283nm,19.6s,baz=90,slow=36						
CTA	Charters Tower	21.87	242	P	P	17 37 42.2	+1.4
	5.5nm,0.9s,baz=66,slow=13,SNR=5.7						
CTA				LR	LR	17 44 52.9	
	comp=Z,140nm,19.3s,baz=81,slow=33						
	5.5nm,0.9s						
H11S2	WAKE ISLAND Hy	28.91	360	T	T	18 09 08.6	
	baz=181,slow=76,SNR=6.3						
H11S3	WAKE ISLAND Hy	28.91	360	T	T	18 09 18.3	
	baz=181,slow=76,SNR=5.0						
H11S1	WAKE ISLAND Hy	28.93	360	T	T	18 09 21.9	
	baz=181,slow=76,SNR=3.5						
H11N1	WAKE ISLAND Hy	30.13	0	T	T	18 10 40.2	
	baz=182						
H11N3	WAKE ISLAND Hy	30.13	0	T	T	18 10 40.5	
	baz=182						
H11N2	WAKE ISLAND Hy	30.14	0	T	T	18 10 44.8	
	baz=182						
STKA	Stephens Creek	31.44	224	P	P	17 39 08.8	-0.1
	1.0nm,0.7s,baz=58,slow=19,SNR=2.1						
STKA				LR	LR	17 50 46.7	
	comp=Z,82nm,19.8s,baz=23,slow=34						
	1.0nm,0.7s						
GUMO	Guam	32.39	317	LR	LR	17 50 48.0	
	comp=Z,55nm,21.3s,baz=161,slow=33						
WRA	Warramunga Arr	32.55	250	P	P	17 39 18.5	-0.4
	3.5nm,0.8s,baz=80,slow=9.3,SNR=14						
	3.5nm,0.8s						
RAR	Rarotonga	33.81	112	LR	LR	17 51 33.5	
	comp=Z,26nm,18.6s,baz=320,slow=33						
ASAR	Alice Springs	33.87	243	P	P	17 39 28.9	-1.5
	1.5nm,0.9s,baz=74,slow=9.5,SNR=9.1						
ASAR				LR	LR	17 52 21.5	
	comp=Z,71nm,20.1s,baz=60,slow=35						
	1.5nm,0.9s						
PPT	Papeete	42.85	104	LR	LR	17 53 52.4	
	comp=Z,50nm,21.5s,baz=288,slow=29						
NWAO	Narrogin (SRO)	50.52	236	LR	LR	18 03 10.8	
	comp=Z,101nm,19.2s,baz=229,slow=36						
VNDA	Vanda	66.95	181	LR	LR	18 07 19.8	
	comp=Z,52nm,20.2s,baz=196,slow=31						
CMAR	Chiang Mai Arr	72.84	293	P	P	17 44 15.9	-0.6
	0.8nm,0.7s,baz=117,slow=4.0,SNR=6.8						
	0.8nm,0.7s						
SONM	Songino Array	78.90	323	P	P	17 44 48.8	-1.8
	0.3nm,0.8s,baz=94,slow=2.0,SNR=1.4						
	0.3nm,0.8s						
ILAR	Eielson Array	82.79	18	P	P	17 45 11.6	+0.7
	0.7nm,0.8s,baz=251,slow=5.5,SNR=9.7						
	0.7nm,0.8s						
NVAR	Mina Array Bea	84.99	50	P	P	17 45 24.0	+1.0
	0.4nm,0.8s,baz=242,slow=5.0,SNR=2.3						
	0.4nm,0.8s						
PFO	Pinyon Flats O	85.03	55	LR	LR	18 18 02.1	
	comp=Z,40nm,18.1s,baz=1.0,slow=32						
ZALV	Zalesovo Beam	93.78	324	P	P	17 46 03.1	-0.9
	0.2nm,0.3s,baz=61,slow=7.1,SNR=1.9						
	0.2nm,0.3s						
MKAR	Makanchi Array	93.87	317	P	P	17 46 05.5	+0.9
	0.6nm,0.6s,baz=82,slow=7.0,SNR=7.9						
	0.6nm,0.6s						

*IDC **03** 17:40:59.1±0.8, 10.°39S×109.°63E, h0km, mb3.9/12, mbtmp3.9/14, ML3.7/2, MS2.9/2, Error ellipse: s-maj=34.2km s-min=14.5km az=57.0*

*NEIC **03** 17:41:01.9±2.6, 10.°25S±0.°08×109.°85E±0.°08, h10km±1km, mb4.1/12, Error ellipse: s-maj=14.7km s-min=12.5km az=154.0*

*DJA **03** 17:41:02.6±1.6, 10°S±3°×11°0E±°, h21km±15km, M4.5/20, mB5.4/3, mb4.4/16, MLv4.6/20, Mw(mB)4.8/3*

ISC 03 17:41:01.1±0.5**, 10.°27S**±0.°05×**109.°94E**±0.°06**, h10**km**, n92,** σ**1.s67**/85**, mb4.0**/17**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	Wanagama	2.41	14	Pn	Pn	17 41 41.2	+0.5
UGM	Wanagama	2.41	14	P	Pn	17 41 41.1	+0.5
UGM	Wanagama	2.41	14	P	Pn	17 41 41.3	+0.6
UGM				S	Sn	17 42 07.6	-2.7
YOGI	Yogyakarta	2.46	8	P	Pn	17 41 42.0	+0.7
YOGI				S	Sn	17 42 08.2	-3.3
CMJI	Cimerak	2.88	329	P	Pn	17 41 46.8	-0.2
KPJI	Karang Pucung	3.08	341	P	Pn	17 41 51.7	+1.8
SJI	Sawahan	3.10	36	P	Pn	17 41 51.5	+1.3
SJI				S	Sn	17 42 25.5	-1.8
SMRI	Semarang	3.24	9	Pn	Pn	17 41 51.4	-0.7
SMRI	Semarang	3.24	9	P	Pn	17 41 55.6	+3.6
SMRI	Semarang	3.24	9	P	Pn	17 41 54.7	+2.7
KRKI	Karangkates	3.25	50	P	Pn	17 41 53.9	+1.8
KRKI				S	Sn	17 42 28.6	-2.3
NGJI	Ngawi	3.25	28	P	Pn	17 41 56.0	+3.8
BBJI	Bungbulang	3.59	321	P	Pn	17 41 58.1	+1.1
BBJI	Bungbulang	3.59	321	P	Pn	17 41 57.5	+0.5
BBJI				S	Sn	17 42 35.6	-3.9
CNJI	Cibinong	4.05	316	P	Pn	17 42 03.7	+0.6
LEM	Lembang	4.12	326	Pn	Pn	17 42 04.9	+0.6
	3.2nm,0.3s,baz=246,slow=12,SNR=5.3						
LEM				Sn	Sn	17 42 55.2	+2.5
	11nm,0.3s,baz=157,slow=23,SNR=10.0						
LEM				LR	LR	17 44 16.9	
	comp=Z,100nm,18.7s,baz=44,slow=49						
	15nm,0.7s						
LEM	Lembang	4.12	326	P	Pn	17 42 05.7	+1.4
XMI	Christmas Isla	4.19	267	P	Pn	17 42 05.8	+0.7
XMIS	Christmas Isla	4.22	267	Pn	Pn	17 42 04.4	-1.2
XMIS				Sn	Sn	17 42 48.8	-6.2
XMIS	Christmas Isla	4.22	267	P	Pn	17 42 05.9	+0.3
BLJI	Banyuglugur	4.39	56	P	Pn	17 42 10.0	+2.1
JAGI	Jajag, Banyuwa	4.52	67	Pn	Pn	17 42 10.8	+1.1
JAGI				Sn	Sn	17 42 55.4	-7.0
JAGI	Jajag, Banyuwa	4.52	67	P	Pn	17 42 11.2	+1.5
JAGI	Jajag, Banyuwa	4.52	67	P	Pn	17 42 10.8	+1.1
ABJI	Asem Bagus	4.90	60	P	Pn	17 42 17.1	+2.2
KMMI	Kalianget	5.11	52	P	Pn	17 42 18.6	+0.9
	17nm,0.8s,0.1nm						
BWJI	Bawean	5.15	32	P	Pn	17 42 19.4	+1.1
	96nm,0.6s,0.7nm						
DNP	Denpasar	5.43	74	P	Pn	17 42 24.1	+1.9
	178nm,0.4s,19µm3.5nm						
CGJI	Cibinong	5.55	311	P	Pn	17 42 24.2	+0.3
	32nm,0.8s,1µm0.3nm						
SRBI	Singaraja	5.64	68	P	Pn	17 42 26.3	+1.2
	53nm,0.5s,2µm0.4nm						
TWSI	Taliwang, Sumb	7.01	78	P	Pn	17 42 45.3	+1.3
	28nm,0.5s,0.3nm						
KASI	Kota Agung	7.16	311	P	Pn	17 42 43.6	-2.4
	23nm,1.3s,0.2nm						
PLAI	Plampang	7.86	80	P	Pn	17 42 57.3	+1.7
PLAI	Plampang	7.86	80	P	Pn	17 42 56.7	+1.1
	36nm,0.7s,0.3nm						
DBNI	Kabupaten Domp	8.45	79	P	Pn	17 43 03.0	-0.6
	18nm,1.0s						
MNAI	Manna	9.08	310	Pn	Pn	17 43 08.0	-4.3
MNAI	Manna	9.08	310	P	Pn	17 43 14.7	+2.4
KAPI	Kappang	11.03	62	Pn	Pn	17 43 36.9	-2.2
KAPI	Kappang	11.03	62	Pn	Pn	17 43 42.2	+3.1
	0.8nm,0.3s,baz=195,slow=11,SNR=3.2						
	2.8nm,0.4s						
BKSI	Bulukumba	11.22	65	P	Pn	17 43 41.4	-0.3
MMSI	Mamuju	11.66	50	P	Pn	17 43 48.5	+0.7
	4.0nm,1.9s						
EDFI	Ende, Flores	11.69	84	P	Pn	17 43 46.4	-1.8
	6.1nm,0.6s						
MMRI	Maumere	12.24	83	Pn	Pn	17 43 53.7	-1.9
MMRI	Maumere	12.24	83	P	Pn	17 43 54.3	-1.3
	13nm,0.6s						
GIRL	Giralia	12.97	162	Pn	Pn	17 44 03.4	-2.2
GIRL	Giralia	12.97	162	P	Pn	17 44 04.9	-0.7
SOEI	Soe	14.12	89	Pn	Pn	17 44 19.4	-2.1
SOEI	Soe	14.12	89	P	Pn	17 44 21.7	+0.2
SOEI	Soe	14.12	89	P	Pn	17 44 22.0	+0.5
	14nm,1.0s						
MBWA	Marble Bar	14.35	140	Pn	Pn	17 44 21.2	-3.2
MBWA	Marble Bar	14.35	140	P	Pn	17 44 22.3	-2.1
MPSI	Mapaga	14.46	44	P	Pn	17 44 27.1	+1.1
	9.6nm,0.6s						
PSA00	Pilbara Seismi	14.72	141	Pn	Pn	17 44 28.8	-0.8
PSA00	Pilbara Seismi	14.72	141	Pn	Pn	17 44 28.2	-1.4
PSA00	Pilbara Seismi	14.72	141	P	Pn	17 44 29.4	-0.2
FITZ	Fitzroy Crossi	17.09	119	Pn	Pn	17 44 59.8	-0.5
FITZ	Fitzroy Crossi	17.09	119	P	Pn	17 45 01.9	+1.7
MEEK	Meekatharra	18.23	154	P	Pn	17 45 14.6	+0.2
MORW	Morawa	19.56	164	P	P	17 45 27.8	-1.4
WB0	Warramunga Arr	25.40	115	P	P	17 46 30.3	+1.3
WB0				IAmb	IAmb	17 46 32.2	
	comp=Z,3.0nm,0.8s						
WRA	Warramunga Arr	25.41	115	P	P	17 46 30.4	+1.3
WRA	Warramunga Arr	25.41	115	P	P	17 46 30.1	+1.0
	comp=Z,1.1nm,0.7s,baz=287,slow=12,SNR=17						
WRA				PcP	PcP	17 50 03.2	+1.6
	comp=Z,0.3nm,0.5s,baz=296,slow=1.8,SNR=2.3						
WRA				S	S	17 51 09.4	+13
	comp=Z,0.4nm,0.9s,baz=285,slow=24,SNR=2.4						
	comp=Z,1.1nm,0.7s						
WRAB	Tennant Creek	25.42	115	P	P	17 46 30.8	+1.6
WRAB				IAmb	IAmb	17 46 32.5	
	comp=Z,2.8nm,0.8s						
WB2	Warramunga Arr	25.42	115	P	P	17 46 30.6	+1.4
WB2				IAmb	IAmb	17 46 32.4	
	comp=Z,4.2nm,0.9s						
WR0	Warramunga Arr	25.59	115	P	P	17 46 32.7	+1.9
WR0				IAmb	IAmb	17 46 34.0	
	comp=Z,5.7nm,1.0s						
ASAR	Alice Springs	26.45	123	P	P	17 46 40.6	+2.0
ASAR	Alice Springs	26.45	123	P	P	17 46 40.9	+2.3
	comp=Z,3.4nm,0.6s,baz=299,slow=9.3,SNR=89						
ASAR				PcP	PcP	17 50 05.8	+1.9
	comp=Z,0.6nm,0.6s,baz=293,slow=1.7,SNR=8.1						
	comp=Z,3.4nm,0.6s						
AS31	Alice Springs	26.45	123	P	P	17 46 41.3	+2.7
AS31				IAmb	IAmb	17 46 43.5	
	comp=Z,1.6nm,0.5s						
CMAR	Chiang Mai Arr	30.54	339	P	P	17 47 15.8	+0.9
	comp=Z,1.2nm,0.8s,baz=174,slow=8.2,SNR=14						
CMAR				LR	LR	18 00 32.0	
	comp=Z,36nm,18.2s,baz=110,slow=38						
	comp=Z,1.2nm,0.8s						
STKA	Stephens Creek	36.31	131	P	P	17 48 07.1	+2.0
	comp=Z,1.8nm,0.5s,baz=297,slow=6.3,SNR=4.3						
	comp=Z,1.8nm,0.5s						
H08S2	Diego Garcia H	37.07	271	T	T	18 27 38.3	
	baz=97,slow=74						
H08S3	Diego Garcia H	37.08	271	T	T	18 27 44.1	
	baz=97,slow=74						
H08S1	Diego Carcia H	37.09	271	T	T	18 27 32.5	
	baz=97						
USRK	Ussuriysk Ar.	57.79	19	P	P	17 50 51.7	-0.8
	comp=Z,1.2nm,0.7s,baz=152,slow=6.5,SNR=1.1						
	comp=Z,1.2nm,0.7s						
SONM	Songino Array	57.93	357	P	P	17 50 51.2	-2.4
SONM				IAmb	IAmb	17 51 01.0	
	comp=Z,2.3nm,1.4s						
SONM	Songino Array	57.93	357	P	P	17 50 53.7	0.0
	comp=Z,0.4nm,0.5s,baz=183,slow=8.5,SNR=3.5						
	comp=Z,0.4nm,0.5s						
H04N2	CROZET ISLANDS	60.76	223	T	T	18 58 27.0	
	baz=67,slow=74,SNR=3.9						
H04N1	CROZET ISLANDS	60.78	223	T	T	18 58 29.1	
	baz=67,slow=74,SNR=3.8						
H04N3	CROZET ISLANDS	60.78	223	T	T	18 58 27.7	
	baz=67,slow=74,SNR=3.1						
MKAR	Makanchi Array	61.95	339	P	P	17 51 21.1	0.0
MKAR	Makanchi Array	61.95	339	P	P	17 51 21.5	+0.4
	comp=Z,0.5nm,0.4s,baz=144,slow=7.8,SNR=10						
	comp=Z,0.5nm,0.4s						
KURBB	Kurchatov Arra	66.52	339	P	P	17 51 50.0	-1.0
	comp=Z,0.4nm,0.6s,baz=154,slow=6.0,SNR=4.5						
	comp=Z,0.4nm,0.6s						
ZALV	Zalesovo Beam	67.43	344	P	P	17 51 55.3	-1.5
	comp=Z,0.3nm,0.4s,baz=132,slow=6.0,SNR=2.1						
	comp=Z,0.3nm,0.4s						
BVAR	Borovoye Array	71.50	336	P	P	17 52 21.7	-0.3
	comp=Z,0.4nm,0.6s,baz=134,slow=10,SNR=2.9						
	comp=Z,0.4nm,0.6s						
VNDA	Vanda	72.25	170	P	P	17 52 26.0	-0.1
ABKAR	Akbulak array	73.70	328	P	P	17 52 35.0	-0.1
QSPA	South Pole Qui	79.74	180	P	P	17 53 07.0	-2.2
QSPA	South Pole Qui	79.74	180	P	P	17 53 06.6	-2.6
	comp=Z,0.5nm,0.4s,baz=0.1,slow=0.7,SNR=14						
	comp=Z,0.5nm,0.4s						
SEY	Seymchan	79.94	18	P	P	17 53 09.8	-0.3
	comp=Z,0.8nm,0.4s,baz=311,slow=12,SNR=1.4						
	comp=Z,0.8nm,0.4s						
BELA	Belgrano 2	89.80	187	P	P	17 53 59.3	-0.3
PMSA	Palmer Station	105.03	183	Pdif	Pdif	17 55 07.0	-1.7
R40A	Maddies Statio	145.72	32	PKPdf	PKPdf	18 00 36.1	-4.2
R40A					PKPbc	18 00 41.2	+0.5

*IDC **03** 17:43:14.2±0.8, 29.°73S×178.°22W, h226km±6km, mb3.2/2, mbtmp3.8/3, Error ellipse: s-maj=31.3km s-min=20.6km az=122.0*

ISC 03 17:43:15.3±0.9**, 29.°81S**±0.°10×**178.°6W**±0.°2**, h200**km**, n24,** σ**2.s47**/26**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.80	46	P	Pn	17 43 46.2	+2.4
	2µm,0.3s,baz=294,slow=20,SNR=33						
RAO				S	Sn	17 44 07.8	+2.0
	484nm,0.3s,baz=218,slow=20,SNR=3.5						
URZ	Urewera	9.16	202	P	Pn	17 45 25.1	+1.6
	3.3nm,0.6s,baz=341,slow=6.5,SNR=8.1						
URZ				S	Sn	17 47 10.2	+4.2
	6.3nm,0.3s,baz=317,slow=23,SNR=8.6						
POWZ	Post Office Ro	11.53	202	P	Sn	17 48 06.0	+3.5
BFZ	Birch Farm	11.64	200	P	Sn	17 48 06.4	+1.1
MRZ	Mangatainoka R	11.83	202	P	Sn	17 48 06.9	-2.8
TIWZ	Tintock	11.84	201	P	Sn	17 48 10.2	+0.3
HOWZ	Holdsworth Sta	12.06	202	P	Sn	17 48 13.7	-1.6
TMWZ	Te Maipa	12.14	200	P	Sn	17 48 14.1	-3.0
KIW	Kapiti Island	12.24	204	P	Sn	17 48 19.4	0.0
CAW	Cannon Point	12.40	203	P	Sn	17 48 17.6	-5.8
PAWZ	Paruwai Farm	12.53	201	P	Sn	17 48 25.3	-1.2
DUWZ	D'Urville Isla	12.56	207	P	Sn	17 48 29.5	+2.4
BHW	Baring Head	12.74	203	P	Sn	17 48 30.7	-0.7
PLWZ	Palliser	12.76	201	P	Sn	17 48 31.5	-0.4
TCW	Tory Channel	12.77	205	P	Sn	17 48 30.7	-1.5
TUWZ	Tuamarina	13.09	206	P	Sn	17 48 37.7	-2.0
TKNZ	Takaka Hill	13.15	209	P	Sn	17 48 40.7	-0.5
QRZ	Quartz Range	13.16	211	P	Sn	17 48 43.9	+2.4
ASAR	Alice Springs	42.65	267	P	P	17 50 51.1	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.7nm,0.4s,baz=98,slow=6.3,SNR=23						
ASAR				PcP	PP	17 52 38.2	+2.7
	0.3nm,0.5s,baz=116,slow=4.2,SNR=2.5						
	0.7nm,0.4s						
WRA	Warramunga Arr	43.58	272	P	P	17 50 58.5	-1.4
	0.7nm,0.5s,baz=110,slow=8.0,SNR=12						
	0.7nm,0.5s						
FINES	FINESS Array B	144.42	340	PKP	PKPab	18 02 21.9	-3.8
	1.2nm,0.4s,baz=61,slow=4.2,SNR=18						
HFS	Hagfors	148.57	348	PKPbc	PKPdf	18 02 33.7	-0.2
	2.3nm,0.8s,baz=22,slow=1.6,SNR=1.3						
AKASG	Malin Array Be	150.53	323	PKPbc	PKPdf	18 02 38.6	+1.3
	0.9nm,0.6s,baz=48,slow=3.3,SNR=5.0						
TORD	Torodi Ar. Bea	163.42	181	PKPab	PKPab	18 03 40.9	-5.6
	0.4nm,0.9s,baz=160,slow=3.3,SNR=1.7						

IDC 03 17:52:38.4±1.9**,31°.11N×104°.89E,h0**^{km}**,mb3.3**/2**, mbtmp3.3**/3**,ML3.2**/1**,Error ellipse: s-maj=73.2km s-min=30.0km az=57.0,Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.70	205	Pn	Pn	17 55 55.3	+1.3
	baz=16,slow=17,SNR=6.4						
	0.4nm,0.6s						
MKAR	Makanchi Array	23.42	318	P	P	17 57 49.0	0.0
	0.5nm,0.6s,baz=131,slow=10,SNR=5.0						
	0.5nm,0.6s						
WRA	Warramunga Arr	58.10	147	P	P	18 02 33.5	-0.2
	0.4nm,1.0s,baz=329,slow=7.7,SNR=7.9						
	0.4nm,1.0s						

*SNET **03** 17:52:50.5±1.4,12°.98N×88°.88W,h50^{km},ML3.1*
*CATAC **03** 17:52:59.0±1.0,13°.97N×88°.76W,h10^{km},ML2.8*
ISC 03 17:52:49.7±2.1**,12°.9N**±0°.1×**88°.90W**±0°.05**,h29**^{km}±12^{km}**, n31,**σ**0**^{s}**.75**/35**,Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.53	37	IAML		17 53 12.0	
	comp=Z,900nm,1.0s						
ALJI				i P	Pn	17 53 13.3	+12
TECO	Alcaldia de Te	0.64	11	eP	Pb	17 53 03.0	+0.6
TECO				eS	Sb	17 53 11.2	0.0
TECO	Alcaldia de Te	0.64	11	i P	Pb	17 53 08.2	+5.8
TECO				IAML		17 53 14.0	
	comp=Z,570nm,1.0s						
TECA	Tecapa	0.70	33	eP	Pn	17 53 04.3	+0.4
TECA				eS	Sn	17 53 13.9	0.0
LALI	Alcalda de L	0.71	325	i P	Pn	17 53 13.2	+9.4
LALI				IAML		17 53 13.7	
	comp=Z,200nm,1.0s						
COEG	Centro de Oper	0.71	2	eP	Pn	17 53 04.0	+0.1
COEG				eS	Sn	17 53 13.3	-0.6
COEG	Centro de Oper	0.71	2	i P	Pn	17 53 05.7	+1.8
COEG				i S	Sn	17 53 14.1	+0.2
COEG				IAML		17 53 18.4	
	comp=Z,520nm,1.0s						
SJTE	Alcalda de S	0.71	352	eP	Pn	17 53 04.0	+0.1
SJTE				eS	Sn	17 53 13.2	-0.7
SJTE	Alcalda de S	0.71	352	i P	Pn	17 53 07.7	+3.8
SJTE				i S	Sn	17 53 14.4	+0.4
SJTE				IAML		17 53 15.5	
	comp=Z,520nm,1.0s						
JUCU	Jucuar¡n	0.72	61	eP	Pb	17 53 04.1	+0.2
JUCU				eS	Sb	17 53 13.8	+0.2
LFRS	El Faro	0.73	348	eP	Pn	17 53 04.5	+0.3
LFRS				eS	Sn	17 53 14.7	+0.2
UESV	Universidad de	0.74	9	eP	Pn	17 53 04.2	0.0
UESV				eS	Sn	17 53 13.4	-1.1
UESV	Universidad de	0.74	9	i PA		17 53 05.5	
UESV				IAML		17 53 16.5	
	comp=Z,710nm,1.0s						
LOMA	Loma Larga	0.78	340	eP	Pn	17 53 05.1	+0.2
LOMA				eS	Sn	17 53 14.9	-0.8
LOMA	Loma Larga	0.78	340	i P	Pn	17 53 09.4	+4.5
LOMA				IAML		17 53 20.7	
	comp=Z,490nm,1.0s						
LCY	Lacayo	0.79	49	eP	Pb	17 53 05.2	+0.3
PACA	Pacayal	0.80	45	eP	Pn	17 53 05.7	+0.6
PACA				eS	Sn	17 53 15.5	-0.5
RANC	El Ranchito	0.80	48	eP	Pb	17 53 05.2	0.0
PAVA	Las Pavas	0.81	358	eP	Pn	17 53 05.8	+0.5
PAVA	Las Pavas	0.81	358	i P	Pn	17 53 05.4	+0.2
SCLA	Alcaldia de Sa	0.81	12	eP	Pn	17 53 05.5	+0.3
LFU	La Fuente	0.86	346	eP	Pn	17 53 06.4	+0.4
PMON	Piamonte	0.90	333	i P	Pn	17 53 11.5	+5.0
PMON				IAML		17 53 24.3	
	comp=Z,450nm,1.0s						
JAYA	Jayaque - finc	0.92	325	i P	Pn	17 53 14.5	+7.7
JAYA				IAML		17 53 22.5	
	comp=Z,910nm,1.0s						
LCND	La Caada	1.06	68	eP	Pn	17 53 08.9	+0.3
LCND				eS	Sn	17 53 21.9	-0.6
LCND	La Caada	1.06	68	i P	Pb	17 53 22.9	+13
CNCH	Conchagua	1.10	70	eP	Pn	17 53 09.3	0.0
CNCH	Conchagua	1.10	70	i P	Pb	17 53 24.4	+14
CEVE	Cerro Verde	1.16	323	eP	Pn	17 53 11.1	+0.9
CEVE				eS	Sn	17 53 26.3	+1.1
AMPH	Amapala	1.27	72	eP	Pn	17 53 11.5	0.0
NUBE	Las Nubes	1.31	319	eP	Pn	17 53 12.5	+0.4
NUBE				eS	Sb	17 53 27.8	-2.5

*IDC **03** 17:54:54.4±1.5,30°.47N×57°.42E,h0^{km},mb3.7/6, mbtmp3.7/7,ML3.0/1,Error ellipse: s-maj=44.1km s-min=25.0km az=139.0*
*TEH **03** 17:54:55.5,30°.80N×57°.37E,h7^{km}±32^{km},ML3.9*
ISC 03 17:54:57.1±1.3**,30°.68N**±0°.04×**57°.37E**±0°.04**,h15**^{km}±9^{km}**, n34,**σ**1**^{s}**.14**/34**,mb3.8**/6**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRM1	Kerman Provinc	0.19	206	Pg	Pg	17 55 02.4	+0.6
ZRDN	Zarand Kerman	0.77	292	Pg	Pg	17 55 10.3	-1.9
CHMN	Cheshme madani	0.82	170	Pg	Pn	17 55 13.8	-0.6
KHGB	Koh Gabri	0.82	249	Pg	Pb	17 55 12.3	-0.9
TVBK	TV Kerman	0.86	218	Pg	Pn	17 55 14.8	-0.2
NGRK	Negar Kerman	1.17	208	Pg	Pn	17 55 20.5	+1.3
IBAF	Bafgh	1.79	301	Pg	Pn	17 55 28.4	+0.8
KBAM	BAM	1.80	148	Pn	Pg	17 55 30.4	-1.3
BSRN	Basiran	1.98	49	Pn	Pn	17 55 30.9	+0.8
IKOO	Kooshah	2.23	38	Pn	Pn	17 55 34.4	+0.6
NHDN	Nehbandan	2.41	72	Pn	Pn	17 55 36.7	+0.6
TPRV	Parvadeh(Tabas	2.42	346	Pn	Pn	17 55 36.2	0.0
IMEH	Mehriz	2.47	287	Pn	Pn	17 55 38.4	+1.3
ITEG	Tejag	2.51	28	Pn	Pn	17 55 38.0	+0.5
TKDS	Koohdasht(Taba	2.94	356	Pn	Pn	17 55 43.3	-0.1
ICHK	Chekchek	2.98	302	Pn	Pn	17 55 45.0	+1.1
AFRZ	Afriz	3.08	27	Pn	Pn	17 55 46.1	+0.8
ZHDN	Zahedan	3.24	112	Pn	Pn	17 55 50.5	+2.9
TNSJ	Nastanj	3.34	349	Pn	Pn	17 55 49.3	+0.4
ISAD	Sadrabad	3.39	292	Pn	Pn	17 55 51.2	+1.6
IRAM	Ramesheh	4.42	286	Pn	Pn	17 56 05.4	+1.6
IZEF	Zefreh	4.83	299	Pn	Pn	17 56 10.8	+1.4
TBJM	Torbat-e-JAM	5.21	28	Pn	Pn	17 56 15.2	+0.5
ISFB	Sefidab	5.67	312	Pn	Pn	17 56 21.4	+0.5
SBZV	Sabzevar	5.70	2	Pn	Pn	17 56 20.9	-0.5
IFIR	Firoozkooh	6.29	323	Pn	Pn	17 56 30.0	+0.5
IDMV	Damavand	6.63	319	Pn	Pn	17 56 34.7	+0.5
GEYT	Alibeck	7.26	5	Pn	Pn	17 56 44.5	+1.8
	0.2nm,0.3s,baz=183,slow=15,SNR=2.1						
GEYT				Lg	Lg	17 58 42.3	
	baz=223,slow=22						
	0.7nm,0.3s						
BVAR	Borovoye Array	24.27	19	P	P	18 00 14.2	+0.7
	2.3nm,0.8s,baz=213,slow=7.7,SNR=9.3						
	2.3nm,0.8s						
MKAR	Makanchi Array	25.09	43	P	P	18 00 21.9	+0.9
	0.6nm,0.7s,baz=228,slow=7.3,SNR=7.0						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	25.43	32	P	P	18 00 25.5	+1.5
	1.5nm,0.8s,baz=232,slow=9.3,SNR=11						
	1.5nm,0.8s						
ZALV	Zalesovo Beam	30.53	32	P	P	18 01 10.4	+0.8
	2.1nm,0.5s,baz=239,slow=9.5,SNR=14						
	2.1nm,0.5s						
TORD	Torodi Ar. Bea	53.98	264	P	P	18 04 20.5	-0.2
	0.9nm,0.9s,baz=51,slow=8.3,SNR=6.1						
	0.9nm,0.9s						
WRA	Warramunga Arr	89.39	114	P	P	18 07 52.8	-0.7
	0.2nm,0.8s,baz=312,slow=4.7,SNR=1.5						
	0.2nm,0.8s						

*STR **03** 18:02:33.0±0.5,46°N±2°×°±°,h5^{km},MLv2.5/10,Error ellipse: s-maj=0.0km s-min=0.0km az=100.0,preliminary*
*LDG **03** 18:02:32.9±0.0,46°.04N×6°.92E,h6^{km},Md1.6/2,Ml1.9/7, Error ellipse: s-maj=0.9km s-min=0.7km az=112.0*
*ZUR **03** 18:02:33.2,46°.05N×6°.92E,h6^{km}±2^{km},MLh1.6/4,Error ellipse: s-maj=5459.3km s-min=1390.7km az=255.0*
ISC 03 18:02:33.1±1.0**,46°.03N**±0°.02×**6°.89E**±0°.02**,h5**^{km}±11^{km}**, n38,**σ**0**^{s}**.64**/52**,2C,Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SALAN	Lac Salanfe	0.12	26	⇑Pg	Pg	18 02 35.7	0.0
SALAN				Sg	Sg	18 02 37.5	0.0
GRYON	Gryon	0.27	35	⇑Pg	Pg	18 02 38.2	-0.2
GRYON				Sg	Sg	18 02 41.7	-0.1
AIGLE	Aigle	0.31	8	Sg	Sg	18 02 43.0	-0.3
AIGLE	Aigle	0.31	8	Pg	Pg	18 02 39.0	-0.1
AIGLE	Aigle	0.31	8	Sg	Sg	18 02 43.1	-0.3
DIX	Grande Dixence	0.36	82	Pg	Pg	18 02 40.2	0.0
DIX				Sg	Sg	18 02 45.0	0.0
DIX	Grande Dixence	0.36	82	Pg	Pg	18 02 40.2	0.0
DIX	Grande Dixence	0.36	82	Sg	Sg	18 02 45.0	0.0
SHER	Hrmence, R	0.38	66	Pg	Pg	18 02 40.4	-0.1
SHER				Sg	Sg	18 02 45.5	0.0
LPL	La Plagne	0.53	192	ePg	Pg	18 02 43.2	-0.1
LPL				eSg	Sg	18 02 50.9	+0.7
	2.6nm,0.2s						
LPG	La Plagne	0.55	191	ePg	Pg	18 02 43.5	-0.1
LPG				eSg	Sg	18 02 51.4	+0.7
	7.8nm,0.3s						
LSD	Lago del Serru	0.60	164	Sg	Sg	18 02 52.1	-0.3
CIRO	Champorcher	0.64	132	Sg	Sg	18 02 53.1	-0.6
EMBD	Embd, Matterta	0.68	74	Pg	Pg	18 02 45.7	-0.5
EMBD	Embd, Matterta	0.68	74	Sg	Sg	18 02 54.2	-0.7
TRAV	Traversella	0.79	131	Pg	Pg	18 02 47.5	-0.8
TRAV	Traversella	0.79	131	Sg	Sg	18 02 58.1	-0.4
CABF	La Chapelle	0.80	316	ePg	Pg	18 02 48.4	-0.1
CABF				eSg	Sg	18 02 59.0	0.0
	1.7nm,0.3s						
RSP	Reno Superiore	0.92	163	Sg	Sg	18 03 01.9	-0.9
RSP	Reno Superiore	0.92	163	Pg	Pg	18 02 50.6	-0.1
RRL	Rocca Remolon	1.11	184	Pg	Pg	18 02 54.1	-0.4
RRL	Rocca Remolon	1.11	184	Sg	Sg	18 03 08.6	-0.3
BHB	Bricherasio	1.22	168	Pg	Pg	18 02 56.1	-0.3
CHMF	Charmoille	1.23	352	Pg	Pg	18 02 56.2	-0.4
MBDF	Montbardon	1.31	184	ePg	Pn	18 02 57.4	-0.8
ORIF	Oris-en-Rattie	1.32	213	ePg	Pn	18 02 58.3	0.0
ORIF				eSg	Sb	18 03 15.5	-0.2
	0.9nm,0.2s						
ORIF	Oris-en-Rattie	1.32	213	Pg	Pn	18 02 58.4	0.0
SULZ	Cheisacher	1.71	29	Pg	Pg	18 03 05.6	-0.3
SULZ	Cheisacher	1.71	29	Sg	Sg	18 03 29.1	+0.9
ENDD	Endenburg	1.78	19	Pg	Pg	18 03 06.6	-0.6
HINF	Hinteralfeld	1.79	359	ePg	Pb	18 03 06.1	-0.2
HINF				eSg	Sb	18 03 29.2	+0.2
	1.3nm,0.2s						
SSB	Saint Sauveur	1.81	246	Pg	Pb	18 03 07.4	+0.6
VIVF	Saint-Julien-l	1.96	234	ePg	Pb	18 03 09.8	+0.6
VIVF				eSg	Sb	18 03 34.7	+0.8
	4.5nm,0.3s						
HAU	Haudompre	2.01	349	ePg	Pb	18 03 10.1	0.0
HAU				eSg	Sb	18 03 36.2	+0.8
	2.1nm,0.3s						
SMF	Signal de Mont	2.20	287	ePg	Pb	18 03 14.2	+0.8
SMF				eSg	Sb	18 03 42.1	+1.2
	1.5nm,0.3s						
LOR	Lormes	2.43	302	ePg	Pb	18 03 18.3	+1.1
LOR				eSg	Sg	18 03 49.6	-1.5
	0.8nm,0.3s						
SSF	Saint Saulge	2.55	295	ePg	Pb	18 03 20.6	+1.2
AVF	Avril sur Loir	2.56	288	ePg	Pg	18 03 21.0	-1.2
AVF				eSg	Sg	18 03 53.8	-1.6
	0.4nm,0.1s						

*HEL **03** 18:02:56.8±0.5,67°.10N×20°.61E,h0^{km},ML2.0,Explosion*
*UPP **03** 18:02:59.4±0.1,67°.05N×20°.97E,h0^{km},ML2.2,Suspected explosion*
*IDC **03** 18:02:59.4±1.0,67°.07N×21°.03E,h0^{km},mbtmp2.9/4, ML1.8/4,Error ellipse: s-maj=17.1km s-min=8.3km az=108.0*
ISC 03 18:02:59.4±0.8**,67°.08N**±0°.02×**20°.96E**±0°.02**,h0**^{km}**,n38,** σ**1**^{s}**.58**/60**,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.16	285	P	Pg	18 03 03.0	+0.5
DUNU				S	Sg	18 03 05.1	+0.6
MASU	Masugnsbyn	0.55	46	P	Pg	18 03 10.5	+0.5
MASU				S	Sg	18 03 18.3	+1.1
ERTU	Ertsjaerv	0.72	137	PG	Pg	18 03 12.2	-0.9
ERTU				SG	Sg	18 03 22.7	+0.3
ERTU	Ertsjaerv	0.72	137	P	Pg	18 03 12.4	-0.8
PAJU	Pajala	0.85	93	PG	Pg	18 03 15.0	-0.6
	baz=273						
PAJU				SG	Sg	18 03 25.6	-0.9
PAJU	Pajala	0.85	93	P	Pg	18 03 15.1	-0.6
KUA	Kurravaara	0.91	345	P	Pg	18 03 16.7	-0.1
RATU	Laukkuluspa	0.92	325	P	Pg	18 03 16.8	-0.1
HARU	Harads	0.92	180	P	Pg	18 03 16.0	-1.0
SALU	Saltoluokta	1.00	289	P	Pg	18 03 18.3	-0.3
LANU	Lannavaara	1.05	22	PN	Pg	18 03 19.0	-0.4
LANU				SB	Sg	18 03 31.6	-1.5
LANU	Lannavaara	1.05	22	P	Pg	18 03 19.1	-0.4
KLF	Kolari	1.18	81	PG	Pg	18 03 21.4	-0.7
KLF				MSG		18 03 36.5	
	comp=Z,23nm,0.2s						
KLF				SG	Sb	18 03 39.3	+0.8
KALU	Kalix	1.56	141	PG	Pn	18 03 27.3	-1.1
KALU				SN	Sg	18 03 49.7	+0.2
KALU	Kalix	1.56	141	P	Pn	18 03 27.4	-0.9
SJUU	Sjulsmark	1.60	170	P	Pn	18 03 28.1	-0.8
TOF	Tornio	1.68	125	PG	Pn	18 03 29.8	-0.2
TOF				MSG		18 03 50.7	
	comp=Z,8.8nm,0.2s						
TOF				SB	Sn	18 03 51.9	-0.3
HEF	Hetta	1.68	36	eP	Pn	18 03 30.7	+0.6
HEF	Hetta	1.68	36	MSG		18 03 49.1	
	comp=Z,13nm,0.2s						
HEF				SN	Sb	18 03 53.7	+0.8
KIF	Kilpisjarvi	1.93	358	eP	Pn	18 03 34.8	+1.3
RNF	Rovaniemi	2.05	101	PG	Pn	18 03 36.0	+0.9
RNF				SG	Sb	18 04 03.9	+0.4
SGF	Sodankyl	2.19	78	PG	Pn	18 03 38.3	+1.3
SGF				SG	Sb	18 04 08.8	+1.2
BURU	Burvik	2.51	176	PG	Pn	18 03 42.2	+0.8
OBF4	Vikkela, Lumij	2.84	141	PB	Pn	18 03 47.8	+1.9
OBF4				MSG		18 04 23.3	
	comp=Z,3.2nm,0.2s						
ARA0	ARCESS Array S	2.99	32	PB	Pn	18 03 48.7	+0.7
ARA0				SN	Sn	18 04 20.0	-4.5
ARCES	ARCESS Array B	2.99	32	Pn	Pn	18 03 48.0	0.0
	comp=Z,0.2nm,0.3s,baz=211,slow=14,SNR=29						
ARCES				Sn	Sn	18 04 24.9	+0.4
	comp=Z,0.4nm,0.3s,baz=213,slow=24,SNR=11						
	comp=Z,0.9nm,0.2s						
OUF	Merijarvi	3.14	149	PB	Pn	18 03 51.0	+0.9
OUF				SB	Sn	18 04 30.3	+2.1
UMAU	Umeaa	3.21	182	PB	Pn	18 03 51.7	+0.6
	baz=4.0						
UMAU				SG	Sn	18 04 33.2	+3.2
VRF	Varrio	3.40	75	PB	Pn	18 03 55.5	+1.8
VRF				SG	Sb	18 04 44.8	+2.4
OLKF	Oulanka, Finla	3.44	99	PN	Pn	18 03 55.5	+1.3
OLKF				SG	Sb	18 04 46.2	+2.8
MSF	Maaselka	3.44	106	PN	Pn	18 03 55.3	+1.0
MSF				SG	Sg	18 04 48.3	-1.6
KEV	Kevo	3.49	37	PB	Pn	18 03 56.4	+1.5
KEV				SB	Sn	18 04 39.6	+2.8
KU6	Riekki	3.72	102	PN	Pn	18 03 58.8	+0.7
	baz=290						
KU6				SN	Sn	18 04 44.0	+1.5
HUSU	Husum	3.83	192	PB	Pn	18 04 00.5	+1.1
	baz=5.0						
HUSU				SB	Sn	18 04 46.4	+1.3
VAF	Ylistaro	4.12	169	PB	Pn	18 04 05.3	+1.8
FINES	FINESS Array B	6.08	156	Pn	Pn	18 04 31.0	+0.6
	comp=Z,0.1nm,0.3s,baz=343,slow=31,SNR=10						
FINES				Sn	Sn	18 05 39.2	-1.3
	comp=Z,0.1nm,0.3s,baz=343,slow=22,SNR=6.2						
FINES				Lg	Lg	18 06 10.0	
	comp=Z,0.1nm,0.3s,baz=339,slow=27,SNR=1.0						
	comp=Z,1.1nm,0.7s						
NOA	NORSAR Array B	7.41	220	Pn	Pn	18 04 47.2	-1.5
	baz=36,slow=14,SNR=3.7						
	comp=Z,0.2nm,0.5s						
HFS	Hagfors	7.68	208	Pn	Pn	18 04 51.0	-1.4
	comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=2.1						
HFS				Sn	Sn	18 06 14.2	-5.8
	comp=Z,0.1nm,0.3s,baz=347,slow=5.9,SNR=1.2						
	comp=Z,3.7nm,1.0s						

*TEH **03** 18:09:19.4,29°.33N×57°.19E,h6^{km}±52^{km},ML3.5*
*OMAN **03** 18:09:24.3±1.7,29°.08N×57°.54E,h10^{km},mb4.8/3,ml3.1/4, Error ellipse: s-maj=15.5km s-min=9.8km az=42.0*
ISC 03 18:09:21.4±0.8**,29°.30N**±0°.03×**57°.24E**±0°.04**,h10**^{km}**,n33,** σ**1**^{s}**.51**/48**,Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NGRK	Negar Kerman	0.56	308	Pg	Pg	18 09 31.0	-1.3
NGRK				Sg	Sg	18 09 38.6	-1.1
CHMN	Cheshme madani	0.61	25	Pg	Pg	18 09 33.3	-0.1
CHMN				Sg	Sg	18 09 41.8	+0.2
TVBK	TV Kerman	0.80	329	Pg	Pg	18 09 35.8	-1.0
TVBK				Sg	Sg	18 09 47.1	-0.2
KBAM	BAM	1.08	99	Pg	Pb	18 09 41.5	-0.7
KRM1	Kerman Provinc	1.20	1	Pg	Pb	18 09 43.4	-0.9
KHGB	Koh Gabri	1.26	328	Pg	Pb	18 09 43.7	-1.6
KHNJ	Kahnooj	1.41	163	Pg	Pn	18 09 46.0	-1.2
ZRDN	Zarand Kerman	1.77	340	Pg	Pb	18 09 53.8	-0.2
IBND	Bandar-abas	1.95	199	Pn	Pb	18 09 56.4	-0.6
GENO	Geno	2.12	207	Pn	Pn	18 09 58.2	+1.2
ZHDN	Zahedan	3.12	87	Pn	Pn	18 10 12.7	+1.8
SHME	Shamm	3.38	197	Pn	Pn	18 10 14.7	+0.5
SHME				Sn	Sn	18 10 56.2	+1.7
IKOO	Kooshah	3.46	26	Pn	Pn	18 10 17.6	+2.0
BANOM	Banah	3.47	194	Pn	Pn	18 10 16.3	+0.8
BANOM				Sn	Sn	18 10 58.4	+1.7
JASK	Jask - Hormozg	3.47	171	Pn	Pn	18 10 18.3	+2.8
TPRV	Parvadeh(Tabas	3.74	353	Pn	Pn	18 10 20.6	+1.3
ITEG	Tejag	3.81	20	Pn	Pn	18 10 21.9	+1.6
MASF	Masafi	4.03	194	Pn	Pn	18 10 25.3	+2.0
MASF				Sn	Sn	18 11 10.4	-0.1
UOSS	Minazif	4.44	192	Pn	Pn	18 10 31.2	+2.4
UOSS				Sn	Sn	18 11 21.0	+0.5
TNSJ	Nastanj	4.68	354	Pn	Pn	18 10 33.6	+1.4
FAQ	Al Faqa, Dubai	4.77	198	Pn	Pn	18 10 34.9	+1.6
	SNR=7.0						
FAQ				Sn	Sn	18 11 27.4	-1.3
ASUD	Al Ashush, Dub	4.96	201	Pn	Pn	18 10 37.7	+1.7
	SNR=13						
ASUD				Sn	Sn	18 11 36.3	+2.9
AJN	Ajban	5.13	204	Pn	Pn	18 10 40.2	+1.9
AJN				Sn	Sn	18 11 39.2	+1.6
SOHO	SOHO	5.19	187	Pn	Pn	18 10 39.5	+0.4
SOHO				Sn	Sn	18 11 38.8	-0.1
NGCH	Negor - Chabah	5.24	138	Pn	Pn	18 10 37.6	-2.2
ALNE	Al Ain	5.39	195	Pn	Pn	18 10 43.2	+1.3
ALNE				Sn	Sn	18 11 44.8	+0.7
ARQ	Araqi	5.98	186	P	Pn	18 10 52.0	+2.0
	SNR=16						
WSAR	Wadi Sarin	6.17	168	Pn	Pn	18 10 53.5	+0.9
	SNR=137						
WSAR				Sn	Sn	18 12 01.8	-1.4
WBK	Wadi Bani Khal	6.84	166	Pn	Pn	18 11 02.8	+0.9
	SNR=21						
WBK				Sn	Sn	18 12 18.8	-1.1
TRNA	Turayna	7.04	231	Pn	Pn	18 11 04.8	+0.3
	SNR=5.5						
JLN	Jalan Bani Buh	7.39	164	Pn	Pn	18 11 10.1	+0.7
	SNR=5.7						
JLN				Sn	Sn	18 12 30.0	-3.3
DMTO	DMTO	11.72	191	Pn	Pn	18 12 07.0	-1.8
ABTO	Aybut	12.43	198	Pn	Pn	18 12 18.9	+0.4

IDC 03 18:17:28.4±4.3**,10°.35S×166°.23E,h0**^{km}**,mb3.7**/4**, mbtmp3.6**/4**,MS3.2**/2**,Error ellipse: s-maj=187.7km s-min=33.5km az=136.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.55	241	LR	LR	18 29 34.2	
	comp=Z,66nm,18.2s,baz=81,slow=34						
WRA	Warramunga Arr	32.17	249	P	P	18 23 58.8	+0.5
	1.0nm,0.9s,baz=79,slow=9.2,SNR=4.6						
	1.0nm,0.9s						
ASAR	Alice Springs	33.53	243	P	P	18 24 09.2	-0.9
	0.5nm,0.9s,baz=62,slow=9.9,SNR=4.4						
	0.5nm,0.9s						
PPT	Papeete	43.40	105	LR	LR	18 41 17.1	
	comp=Z,28nm,18.2s,baz=45,slow=33						
ILAR	Eielson Array	82.71	18	P	P	18 29 53.3	-0.4
	0.5nm,0.8s,baz=231,slow=5.9,SNR=4.8						
	0.5nm,0.8s						
MKAR	Makanchi Array	93.35	317	P	P	18 30 46.5	+0.9
	0.2nm,0.6s,baz=107,slow=4.2,SNR=2.9						
	0.2nm,0.6s						

*UPA **03** 18:32:10.3±1.1,8°.90N×82°.79W,h10^{km}±3^{km},MD3.5, ML3.7,MW3.0*
*CATAC **03** 18:32:11.0±0.5,8°.92N×82°.83W,h3^{km}±4^{km},ML2.9*
ISC 03 18:32:10.7±1.0**,8°.92N**±0°.04×**82°.82W**±0°.03**,h9**^{km}±7^{km}**,n24,** σ**0**^{s}**.53**/34**,5C-3D,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTCR	Cotoan	0.07	114	i P	Pg	18 32 12.9	+0.1
MLIR3	Monte Lirio, C	0.13	182	⇑i P	Pg	18 32 13.1	-0.6
MLIR3				i S	Sg	18 32 15.3	-0.4
BRU2	Volcan	0.18	135	⇑i P	Pg	18 32 14.5	-0.1
BRU2				AMP		18 32 14.7	
	comp=Z,19μm,0.1s						
BRU2				i S	Sg	18 32 17.6	+0.4
BRU2	Volcan	0.18	135	i P	Pg	18 32 14.4	-0.1
BRU2				i S	Sg	18 32 17.7	+0.5
BRU2				IAML		18 32 18.4	
	comp=Z,6μm,1.0s						
BC3P	Paso Ancho	0.23	117	⇑i P	Pg	18 32 15.5	+0.1
BC3P				i S	Sg	18 32 19.1	+0.4
POTG	Potrero Grande	0.32	293	i P	Pg	18 32 17.1	0.0
POTG				IAML		18 32 24.3	
	comp=Z,3μm,1.0s						
CDITO	Canoas	0.35	188	⇓i P	Pg	18 32 17.5	-0.1
CDITO				i S	Sg	18 32 22.6	+0.3
CDITO	Canoas	0.35	188	i P	Pg	18 32 17.6	0.0
CDITO				i S	Sg	18 32 23.1	+0.8
CDITO				IAML		18 32 28.4	
	comp=Z,2μm,1.0s						
BCO2	Palmira	0.35	125	⇑i P	Pg	18 32 17.8	+0.1
BCO2				AMP		18 32 19.0	
	comp=Z,13μm,0.1s						
BCO2				i S	Sg	18 32 22.8	+0.4
PTAR3	Potrerillos Ar	0.39	126	⇑i P	Pg	18 32 18.5	+0.1
PTAR3				eS	Sg	18 32 24.3	+0.7
DVD	David	0.61	143	eP	Pg	18 32 22.3	-0.1
SRBA	San Rafael, Bu	0.61	300	i P	Pg	18 32 22.3	-0.3
SRBA				IAML		18 32 41.4	
	comp=Z,350nm,1.0s						
PEDE3	Pedregal, Chir	0.67	144	eP	Pb	18 32 23.9	-0.6
CHGR2	Aguacate	0.67	89	⇓i P	Pg	18 32 23.3	-0.3
CHGR2				i S	Sg	18 32 32.6	+0.2
PTPM	Petroterminale	0.72	185	⇓eP	Pn	18 32 26.5	-0.5
PTPM				eS	Sb	18 32 35.8	+0.5
OCHAL	Ojochal	0.83	282	i P	Pg	18 32 26.9	+0.2
OCHAL				IAML		18 32 28.0	
	comp=Z,12nm,1.0s						
CDM	Cerro de Muert	1.12	304	i P	Pg	18 32 31.7	-0.6
CDM				IAML		18 32 34.2	
	comp=Z,120nm,1.0s						
RIMA	Rio Macho	1.33	309	i P	Pn	18 32 35.2	-0.4
RIMA				IAML		18 32 36.8	
	comp=Z,150nm,1.0s						
LCR2	La Lucha 2	1.42	305	i P	Pn	18 32 37.2	+0.2
LCR2				IAML		18 32 38.3	
	comp=Z,110nm,1.0s						
HAYA	Volcan Irazu	1.46	316	i P	Pn	18 32 37.9	+0.3
HAYA				IAML		18 33 02.0	
	comp=Z,280nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TBLN	**Tablon, Guarco**	**1.47**	**308**	iP	**Pn**	**18 32 37.9**	**+0.4**
TBLN				IAML		18 33 00.9	
	comp=Z,250nm,1.0s						
OCM	**Ochomogo**	**1.48**	**311**	iP	**Pn**	**18 32 38.6**	**+0.8**
OCM				IAML		18 32 39.4	
	comp=Z,190nm,1.0s						
SAFE3	**Santa Fe, Vera**	**1.77**	**103**	eP	**Pn**	**18 32 40.2**	**-1.3**
CACAO	**El Cacao, Vera**	**2.50**	**129**	eP	**Pn**	**18 32 52.8**	**+1.3**

*JMA **03** 18:40:12.3±0.2, 24.°8N±0.°9×122.°0E±0.°5, h101km±2km, MV3.1/19, TAIWAN REGION*
*TAP **03** 18:40:12.3, 24.°86N×122.°02E, h102km, ML3.7, C*
ISC 03 18:40:12.8±1.3, 24.°84N±0.°03×122.°01E±0.°02, h100km±6km, n139, σ0.s60/218, 12C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		**0.07**	**272**	iP	**Pn**	**18 40 26.5**	**-0.2**
	baz=257						
TWB1	**Santiao Chiao**	**0.17**	**354**	⇑iP	**Pn**	**18 40 26.8**	**-0.1**
	baz=351						
TWB1				iS	**Sn**	**18 40 36.8**	**-0.6**
	baz=351						
TIPB	**Shuangxi**	**0.21**	**308**	iP	**Pn**	**18 40 26.8**	**-0.2**
	baz=302						
TIPB				iS	**Sn**	**18 40 36.9**	**-0.9**
	baz=302						
ILA	**Ilan**	**0.25**	**252**	iP	**Pn**	**18 40 27.3**	**+0.1**
	baz=248						
ILA				S	**Sn**	**18 40 37.5**	**-0.3**
	baz=248						
TWC	**Suao**	**0.27**	**212**	iP	**Pn**	**18 40 27.1**	**-0.2**
	baz=210						
TWC				iS	**Sn**	**18 40 37.4**	**-0.6**
	baz=210						
SXI1	**Grass Mountain**	**0.28**	**335**	⇑iP	**Pn**	**18 40 27.0**	**-0.4**
	baz=330						
SXI1				iS	**Sn**	**18 40 38.0**	**-0.3**
	baz=330						
ESAO	**Su ao**	**0.30**	**209**	P	**Pn**	**18 40 27.7**	**+0.3**
	baz=209						
ESAO				S	**Sn**	**18 40 38.4**	**+0.1**
	baz=209						
NWF	**Wu-fen Shan**	**0.31**	**318**	⇑iP	**Pn**	**18 40 27.3**	**-0.2**
	baz=314						
NWF				iS	**Sn**	**18 40 37.8**	**-0.8**
	baz=314						
WFSB	**Wu-fen Shan**	**0.31**	**318**	⇑iP	**Pn**	**18 40 27.3**	**-0.1**
	baz=314						
WFSB				iS	**Sn**	**18 40 38.0**	**-0.4**
	baz=314						
TWE	**Neicheng**	**0.33**	**249**	iP	**Pn**	**18 40 27.9**	**+0.3**
	baz=245						
TWE				iS	**Sn**	**18 40 40.1**	**+1.6**
	baz=245						
NDS	**Dongshan**	**0.34**	**232**	P	**Pn**	**18 40 28.4**	**+0.8**
	baz=231						
NDS				S	**Sn**	**18 40 39.9**	**+1.2**
	baz=231						
TNOU	**National Taiwa**	**0.37**	**325**	iP	**Pn**	**18 40 27.5**	**-0.3**
	baz=322						
TNOU				iS	**Sn**	**18 40 38.4**	**-0.5**
	baz=322						
FUSB	**Fushanzhiwuyua**	**0.39**	**258**	⇑iP	**Pn**	**18 40 27.9**	**-0.1**
	baz=256						
FUSB				iS	**Sn**	**18 40 39.6**	**+0.3**
	baz=256						
TWA	**Mucha**	**0.41**	**290**	⇑iP	**Pn**	**18 40 27.7**	**-0.3**
	baz=287						
TWA				iS	**Sn**	**18 40 38.7**	**-0.7**
	baz=287						
NHY	**Taipei**	**0.44**	**296**	iP	**Pn**	**18 40 28.0**	**-0.2**
	baz=293						
NHY				S	**Sn**	**18 40 40.5**	**+0.8**
	baz=293						
EWUT	**Wuta**	**0.45**	**208**	iP	**Pn**	**18 40 28.6**	**+0.3**
	baz=208						
EWUT				iS	**Sn**	**18 40 40.3**	**+0.6**
	baz=208						
ENTT	**Nioudou**	**0.45**	**243**	iP	**Pn**	**18 40 28.8**	**+0.5**
	baz=241						
ENTT				iS	**Sn**	**18 40 40.7**	**+0.9**
	baz=241						
NHDH	**Xindian Distri**	**0.45**	**285**	P	**Pn**	**18 40 27.9**	**-0.4**
	baz=283						
NHDH				S	**Sn**	**18 40 39.5**	**-0.3**
	baz=283						
NWLT	**Wulai**	**0.46**	**262**	iP	**Pn**	**18 40 28.3**	**-0.1**
	baz=260						
NWLT				iS	**Sn**	**18 40 39.9**	**-0.1**
	baz=260						
EOS2	**EOS2**	**0.47**	**154**	P	**Pn**	**18 40 28.8**	**+0.6**
	baz=156						
ENA	**Nanau**	**0.48**	**210**	iP	**Pn**	**18 40 28.8**	**+0.3**
	baz=210						
ENA				iS	**Sn**	**18 40 41.0**	**+0.8**
	baz=210						
TATO	**Taipei**	**0.49**	**286**	P	**Pn**	**18 40 28.3**	**-0.2**
YM01	**YM01**	**0.50**	**307**	⇑iP	**Pn**	**18 40 28.4**	**-0.2**
	baz=305						
YM01				S	**Sn**	**18 40 40.2**	**-0.3**
	baz=305						
NDT	**Datong Townshi**	**0.51**	**242**	P	**Pn**	**18 40 29.1**	**+0.4**
	baz=241						
NDT				S	**Sn**	**18 40 41.6**	**+1.0**
	baz=241						
YM08	**YM08**	**0.51**	**312**	iP	**Pn**	**18 40 28.3**	**-0.4**
	baz=309						
YM08				eS	**Sn**	**18 40 39.4**	**-1.2**
	baz=309						
LATG	**Datong**	**0.53**	**235**	⇑iP	**Pn**	**18 40 29.4**	**+0.4**
	baz=234						
LATG				S	**Sn**	**18 40 41.9**	**+0.9**
	baz=234						
ANP	**Anpu**	**0.56**	**308**	iP	**Pn**	**18 40 29.0**	**-0.1**
	baz=305						
EAHA	**Aohua**	**0.57**	**206**	P	**Pn**	**18 40 29.0**	**-0.1**
	baz=206						
EAHA				S	**Sn**	**18 40 42.1**	**+0.9**
	baz=206						
TWY	**Chenhua**	**0.57**	**319**	⇑iP	**Pn**	**18 40 29.0**	**-0.1**
	baz=317						
TWY				iS	**Sn**	**18 40 41.2**	**-0.1**
	baz=317						
TWS1	**Kuangyinshan**	**0.59**	**296**	⇓iP	**Pn**	**18 40 29.7**	**+0.4**
	baz=294						
TWS1				iS	**Sn**	**18 40 42.7**	**+1.1**
	baz=294						
NTST	**Danshui**	**0.60**	**302**	iP	**Pn**	**18 40 29.8**	**+0.4**
	baz=300						
NTST				S	**Sn**	**18 40 41.9**	**+0.2**
	baz=300						
YHNB	**Yeheng**	**0.60**	**253**	P	**Pn**	**18 40 29.3**	**-0.1**
YHNB	**Yeheng**	**0.60**	**253**	⇑iP	**Pn**	**18 40 29.4**	**-0.1**
	baz=252						
YHNB				S	**Sn**	**18 40 40.9**	**-1.0**
	baz=252						
NSK	**Sanguang**	**0.61**	**254**	⇑iP	**Pn**	**18 40 29.5**	**-0.1**
	baz=252						
NSK				iS	**Sn**	**18 40 41.5**	**-0.6**
	baz=252						
EOS3	**EOS3**	**0.62**	**153**	iP	**Pn**	**18 40 30.0**	**+0.6**
	baz=154						
NNSB	**Datong**	**0.70**	**234**	iP	**Pn**	**18 40 30.6**	**+0.2**
	baz=233						
NNSB				S	**Sn**	**18 40 43.7**	**+0.2**
	baz=233						
NNS	**Nan Shan**	**0.70**	**235**	iP	**Pn**	**18 40 30.6**	**+0.1**
	baz=234						
NNS				iS	**Sn**	**18 40 43.8**	**+0.2**
	baz=234						
NCU	**National Centr**	**0.76**	**280**	⇑iP	**Pn**	**18 40 31.1**	**+0.3**
	baz=278						
NCU				iS	**Sn**	**18 40 45.0**	**+0.8**
	baz=278						
NCUH	**Zhongli**	**0.76**	**280**	iP	**Pn**	**18 40 31.0**	**+0.3**
	baz=278						
NCUH				iS	**Sn**	**18 40 44.9**	**+0.7**
	baz=278						
NACB	**Ninganchiao**	**0.76**	**210**	P	**Pn**	**18 40 30.2**	**-0.7**
NACB	**Ninganchiao**	**0.76**	**210**	iP	**Pn**	**18 40 30.1**	**-0.7**
	baz=209						
NACB				iS	**Sn**	**18 40 43.3**	**-1.1**
	baz=209						
ETL	**Fush Village**	**0.77**	**207**	P	**Pn**	**18 40 30.3**	**-0.6**
	baz=207						
ETL				S	**Sn**	**18 40 44.4**	**0.0**
	baz=207						
EOS4	**EOS4**	**0.77**	**158**	P	**Pn**	**18 40 30.5**	**0.0**
	baz=159						
EOS4				eS	**Sn**	**18 40 43.8**	**0.0**
	baz=159						
PCYT	**Pengchaiyu**	**0.79**	**4**	P	**Pn**	**18 40 31.8**	**+0.8**
	baz=3.0						
PCYT				S	**Sn**	**18 40 44.8**	**+0.1**
	baz=3.0						
ETLH	**Xiulin Townshi**	**0.79**	**217**	P	**Pn**	**18 40 31.2**	**0.0**
	baz=217						
ETLH				S	**Sn**	**18 40 45.2**	**+0.2**
	baz=217						
NFF	**Wufeng Townshi**	**0.84**	**256**	P	**Pn**	**18 40 31.4**	**-0.2**
	baz=254						
NFF				S	**Sn**	**18 40 45.3**	**-0.4**
	baz=254						
TWD	**Chiawan**	**0.85**	**206**	iP	**Pn**	**18 40 31.0**	**-0.7**
	baz=206						
TWD				S	**Sn**	**18 40 44.6**	**-1.1**
	baz=206						
LIOB	**Emei**	**0.92**	**258**	iP	**Pn**	**18 40 32.6**	**+0.1**
	baz=257						
LIOB				iS	**Sn**	**18 40 47.4**	**+0.2**
	baz=257						
SBCB	**Hsinchu**	**0.93**	**267**	P	**Pn**	**18 40 32.6**	**+0.2**
	baz=266						
SBCB				S	**Sn**	**18 40 47.7**	**+0.4**
	baz=266						
HWA	**Hwalien**	**0.94**	**203**	P	**Pn**	**18 40 32.5**	**-0.1**
	baz=202						
HWA				eS	**Sn**	**18 40 47.6**	**+0.2**
	baz=202						
JYNG	**Yonagunijimaku**	**0.94**	**114**	iP	**Pn**	**18 40 32.4**	**-0.2**
JYNG				S	**Sn**	**18 40 47.6**	**+0.2**
NSTT	**Nanjuang**	**0.94**	**257**	iP	**Pn**	**18 40 32.6**	**0.0**
	baz=256						
NSTT				iS	**Sn**	**18 40 47.0**	**-0.4**
	baz=256						
HSN	**Hsinchu**	**0.94**	**268**	iP	**Pn**	**18 40 32.3**	**-0.3**
	baz=268						
HSN				iS	**Sn**	**18 40 46.6**	**-0.9**
	baz=268						
TWT	**Tachien**	**0.96**	**232**	iP	**Pn**	**18 40 33.6**	**+0.6**
	baz=232						
TWT				S	**Sn**	**18 40 49.1**	**+1.0**
	baz=232						
WHF	**Hehuan Shan**	**0.97**	**224**	iP	**Pn**	**18 40 33.7**	**+0.3**
	baz=223						
WHF				S	**Sn**	**18 40 48.5**	**-0.2**
	baz=223						
TDCB	**Techi**	**0.97**	**233**	P	**Pn**	**18 40 33.6**	**+0.6**
	baz=232						
TDCB				S	**Sn**	**18 40 48.9**	**+0.6**
	baz=232						
LXIB	**Xiulin Townshi**	**0.98**	**214**	P	**Pn**	**18 40 32.5**	**-0.7**
	baz=213						
LXIB				S	**Sn**	**18 40 46.9**	**-1.6**
	baz=213						
YOJ	**Yonaguni jima**	**0.99**	**112**	P	**Pn**	**18 40 32.9**	**-0.2**
YOJ				S	**Sn**	**18 40 48.3**	**-0.1**
ETM	**Tongmen**	**0.99**	**208**	P	**Pn**	**18 40 32.3**	**-0.9**
	baz=208						
ETM				S	**Sn**	**18 40 47.0**	**-1.4**
	baz=208						
CHGB	**Renai**	**1.09**	**224**	iP	**Pn**	**18 40 34.8**	**+0.4**
	baz=224						
CHGB				S	**Sn**	**18 40 51.0**	**+0.3**
	baz=224						
WHP	**Taichung City**	**1.12**	**240**	iP	**Pn**	**18 40 35.1**	**+0.5**
	baz=239						
WHP				iS	**Sn**	**18 40 51.1**	**0.0**
	baz=239						
SHUL	**Shoufeng**	**1.13**	**201**	iP	**Pn**	**18 40 34.4**	**-0.3**
	baz=201						
SHUL				S	**Sn**	**18 40 51.8**	**+0.7**
	baz=201						
ESL	**Shilin**	**1.15**	**207**	iP	**Pn**	**18 40 33.7**	**-1.2**
	baz=206						
OWD	**Renai**	**1.16**	**221**	P	**Pn**	**18 40 35.6**	**+0.4**
	baz=220						
OWD				S	**Sn**	**18 40 52.2**	**+0.1**
	baz=220						
WUSB	**Renai**	**1.17**	**224**	iP	**Pn**	**18 40 35.6**	**+0.3**
	baz=223						
WUSB				S	**Sn**	**18 40 52.3**	**0.0**
	baz=223						
TEGC	**Jichi Village**	**1.21**	**201**	P	**Pn**	**18 40 35.5**	**-0.1**
	baz=200						
TEGC				eS	**Sn**	**18 40 53.1**	**+0.4**
	baz=200						
NSY	**Sanyi**	**1.21**	**250**	iP	**Pn**	**18 40 35.9**	**+0.2**
	baz=248						
NSY				S	**Sn**	**18 40 53.0**	**+0.1**
	baz=248						
TWQ1	**Liyutan**	**1.23**	**247**	iP	**Pn**	**18 40 35.8**	**0.0**
	baz=245						
TWQ1				iS	**Sn**	**18 40 52.8**	**-0.4**
	baz=245						
WARBT	**Fenglin Townsh**	**1.25**	**207**	P	**Pn**	**18 40 34.6**	**-1.6**
	baz=207						
WCS	**Beigang Elemen**	**1.27**	**232**	P	**Pn**	**18 40 36.8**	**+0.5**
	baz=231						
WCS				S	**Sn**	**18 40 54.4**	**+0.3**
	baz=231						
EGFH	**Guangfu**	**1.28**	**204**	eP	**Pn**	**18 40 35.0**	**-1.5**
	baz=204						
WDJ	**Dajia District**	**1.34**	**249**	iP	**Pn**	**18 40 37.2**	**+0.1**
	baz=248						
WDJ				iS	**Sn**	**18 40 55.5**	**0.0**
	baz=248						
VWDT	**VWDT**	**1.34**	**216**	P	**Pn**	**18 40 37.4**	**+0.3**
	baz=216						
VWDT				eS	**Sn**	**18 40 55.9**	**+0.3**
	baz=216						
SMLT	**Sun Moon Lake**	**1.39**	**227**	P	**Pn**	**18 40 38.3**	**+0.5**
	baz=226						
SMLT				S	**Sn**	**18 40 58.1**	**+1.4**
	baz=226						
TCU	**Taichung**	**1.40**	**241**	P	**Pn**	**18 40 38.0**	**+0.2**
	baz=239						
TCU				eS	**Sn**	**18 40 56.9**	**+0.1**
	baz=239						
TYC	**Yuchr**	**1.41**	**229**	P	**Pn**	**18 40 38.3**	**+0.4**
	baz=227						
TYC				S	**Sn**	**18 40 57.6**	**+0.7**
	baz=227						
SSLB	**Suanglung**	**1.42**	**223**	P	**Pn**	**18 40 38.7**	**+0.5**
SSLB	**Suanglung**	**1.42**	**223**	P	**Pn**	**18 40 38.6**	**+0.4**
	baz=222						
SSLB				S	**Sn**	**18 40 57.9**	**+0.5**
	baz=222						
HGSD	**Ruisui**	**1.45**	**202**	P	**Pn**	**18 40 38.5**	**+0.1**
	baz=201						
HGSD				eS	**Sn**	**18 40 57.0**	**-0.8**
	baz=201						
EHY	**Hungye**	**1.47**	**205**	eP	**Pn**	**18 40 37.4**	**-1.4**
	baz=205						
WCHH	**Zhanghua**	**1.52**	**240**	P	**Pn**	**18 40 39.3**	**0.0**
	baz=239						
WCHH				eS	**Sn**	**18 40 59.6**	**+0.2**
	baz=239						
WNT	**Mingjian**	**1.54**	**232**	P	**Pn**	**18 40 39.6**	**0.0**
	baz=231						
WNT				eS	**Sn**	**18 40 59.9**	**0.0**
	baz=231						
WJS	**Zhushan**	**1.55**	**229**	eP	**Pn**	**18 40 40.0**	**+0.4**
	baz=228						
WHYT	**Xinyi Township**	**1.55**	**223**	eP	**Pn**	**18 40 40.2**	**+0.4**
	baz=222						
YULB	**Yu-li**	**1.58**	**204**	P	**Pn**	**18 40 39.0**	**-1.1**
YULB	**Yu-li**	**1.58**	**204**	eP	**Pn**	**18 40 38.6**	**-1.6**
	baz=204						
ECBN	**Changbin**	**1.60**	**199**	eP	**Pn**	**18 40 40.0**	**-0.3**
	baz=198						
EYUL	**Yuli**	**1.62**	**203**	eP	**Pn**	**18 40 39.7**	**-0.8**
	baz=203						
TWF1	**Yuli**	**1.62**	**204**	eP	**Pn**	**18 40 39.1**	**-1.5**
	baz=203						
IRIF	**Iriomote-Funau**	**1.65**	**108**	P	**Pn**	**18 40 40.4**	**-0.5**
IRIF				S	**Sn**	**18 41 01.9**	**-0.4**
ALS	**Alishan**	**1.72**	**220**	eP	**Pn**	**18 40 42.7**	**+0.6**
	baz=219						
ALS				eS	**Sn**	**18 41 05.3**	**+0.9**
	baz=219						
CHN5	**Tsauling**	**1.73**	**225**	eP	**Pn**	**18 40 42.2**	**+0.1**
	baz=224						
CHKH	**Chenggong**	**1.74**	**199**	eP	**Pn**	**18 40 41.1**	**-0.9**
	baz=199						
WGK	**Gukeng**	**1.75**	**229**	eP	**Pn**	**18 40 42.5**	**+0.3**
	baz=228						
WGK				eS	**Sn**	**18 41 05.8**	**+1.2**
	baz=228						
WRL	**Guolierlin Hig**	**1.76**	**238**	eP	**Pn**	**18 40 42.0**	**-0.3**
	baz=237						
FULB	**Fuli**	**1.76**	**202**	eP	**Pn**	**18 40 42.0**	**-0.4**
	baz=201						
WDLH	**Douliu**	**1.77**	**230**	eP	**Pn**	**18 40 42.6**	**+0.2**
	baz=229						
HATJ	**Hateruma jima**	**1.81**	**115**	P	**Pn**	**18 40 43.0**	**0.0**
HATJ				S	**Sn**	**18 41 05.6**	**-0.4**
CHKT	**Chengkung**	**1.83**	**199**	eP	**Pn**	**18 40 42.3**	**-1.0**
	baz=198						
EHD	**Haiduan**	**1.84**	**204**	eP	**Pn**	**18 40 42.7**	**-0.6**
	baz=203						
WTK	**Tuku**	**1.87**	**232**	eP	**Pn**	**18 40 43.6**	**-0.2**
	baz=231						
ELDTW	**Lidau**	**1.88**	**209**	eP	**Pn**	**18 40 43.4**	**-0.6**
	baz=208						
ECS	**Chishang**	**1.88**	**203**	eP	**Pn**	**18 40 43.6**	**-0.4**
	baz=202						
WCKO	**Fanlu**	**1.90**	**223**	eP	**Pn**	**18 40 44.6**	**+0.5**
	baz=222						
JKRS	**Kuro-shima**	**1.92**	**108**	P	**Pn**	**18 40 44.4**	**+0.1**
JKRS				S	**Sn**	**18 41 08.0**	**-0.5**
CHY	**Chiayi**	**1.97**	**228**	eP	**Pn**	**18 40 45.1**	**+0.1**
	baz=226						
TPUB	**Ta-pu**	**1.98**	**220**	P	**Pn**	**18 40 45.3**	**0.0**
TPUB	**Ta-pu**	**1.98**	**220**	eP	**Pn**	**18 40 45.5**	**+0.3**
	baz=219						
JIJ	**Ishigaki jima**	**2.00**	**103**	iP	**Pn**	**18 40 45.1**	**-0.3**
JIJ				S	**Sn**	**18 41 09.3**	**-0.9**
STYH	**Taoyuan**	**2.01**	**214**	eP	**Pn**	**18 40 46.2**	**+0.7**
	baz=214						
WSF	**Szhu**	**2.02**	**234**	eP	**Pn**	**18 40 45.7**	**0.0**
	baz=233						
WTP	**Ta-pu**	**2.04**	**219**	eP	**Pn**	**18 40 46.1**	**+0.2**
	baz=218						
WSL	**Shuilin Townsh**	**2.09**	**231**	eP	**Pn**	**18 40 46.5**	**0.0**
	baz=230						
TWK	**Hsinying**	**2.10**	**222**	eP	**Pn**	**18 40 47.0**	**+0.3**
	baz=221						
JISG	**Ishigakijimahi**	**2.11**	**96**	P	**Pn**	**18 40 46.9**	**+0.1**
JISG				eS	**Sn**	**18 41 12.5**	**-0.3**
SNST	**Tainan City**	**2.12**	**221**	eP	**Pn**	**18 40 47.5**	**+0.4**
	baz=220						
CHN1	**Nanshi**	**2.13**	**220**	eP	**Pn**	**18 40 47.2**	**0.0**
	baz=219						
ICHU	**Yijhu**	**2.16**	**227**	eP	**Pn**	**18 40 47.9**	**+0.5**
	baz=226						
SGST	**Jiashian**	**2.18**	**217**	eP	**Pn**	**18 40 47.6**	**-0.2**
	baz=216						
TWG	**Pinlang**	**2.19**	**203**	eP	**Pn**	**18 40 46.6**	**-1.3**
	baz=203						
TWGBT	**Beinan**	**2.19**	**203**	P	**Pn**	**18 40 47.1**	**-0.8**
TWGBT	**Beinan**	**2.19**	**203**	eP	**Pn**	**18 40 46.6**	**-1.2**
	baz=203						
CHN8	**Yiju**	**2.22**	**228**	eP	**Pn**	**18 40 48.3**	**+0.1**
	baz=227						
SLGT	**Liugui**	**2.22**	**214**	eP	**Pn**	**18 40 48.9**	**+0.6**
	baz=214						
MATB	**Ma-tsu**	**2.27**	**305**	eP	**Pn**	**18 40 48.4**	**-0.5**
	baz=304						
SCST	**Cishan**	**2.39**	**216**	eP	**Pn**	**18 40 51.5**	**+1.0**
	baz=215						
ECL	**Taimali**	**2.44**	**204**	eP	**Pn**	**18 40 50.8**	**-0.2**
	baz=203						
JTJ	**Tarama**	**2.46**	**94**	P	**Pn**	**18 40 51.9**	**+0.6**
JTJ				S	**Sn**	**18 41 21.6**	**+0.7**
MASBT	**Mashibuluo**	**2.55**	**210**	eP	**Pn**	**18 40 53.0**	**+0.4**
	baz=209						
PNG	**Penghu**	**2.57**	**241**	eP	**Pn**	**18 40 52.1**	**-0.8**
	baz=240						
PHUB	**P'eng-hu**	**2.59**	**240**	eP	**Pn**	**18 40 52.4**	**-0.7**
	baz=238						
LYJJ	**Jianjiangzhen**	**2.65**	**310**	eP	**Pn**	**18 40 53.4**	**-0.4**
	baz=309						
XPSS	**Dashiqiu**	**2.65**	**322**	eP	**Pn**	**18 40 53.1**	**-0.7**
	baz=321						
WDGT	**Dungji**	**2.66**	**234**	eP	**Pn**	**18 40 53.1**	**-0.9**
	baz=233						
EAST	**Anshuo**	**2.67**	**204**	eP	**Pn**	**18 40 54.8**	**+0.6**
	baz=203						
JIRB	**Irabujima**	**2.88**	**90**	P	**Pn**	**18 40 57.9**	**+1.0**
JIRB				S	**Sn**	**18 41 31.6**	**+0.7**
JIKM	**Ikemajima**	**2.94**	**88**	S	**Sn**	**18 41 32.8**	**+0.4**
JMJ2	**Miyako jima3**	**3.02**	**91**	S	**Sn**	**18 41 34.9**	**+0.6**
JOGS	**Gusukube**	**3.09**	**91**	S	**Sn**	**18 41 36.4**	**+0.5**

*IDC **03** 18:52:25.1±1.1, 45.°90N×152.°89E, h0km, mb3.8/11, mbtmp3.7/13, ML3.0/2, MS3.4/2, Error ellipse: s-maj=29.6km s-min=23.2km az=101.0*
*SKHL **03** 18:52:28.3±0.6, 46.°20N×152.°80E, h34km±4km, mb4.7/4*
*MOS **03** 18:52:28.2±1.2, 45.°96N×152.°94E, h34km, mb4.0/1, Error ellipse: s-maj=18.3km s-min=14.7km az=69.1*
ISC 03 18:52:29.3±1.0, 45.°8N±0.°1×153.°0E±0.°1, h31km, n31, σ1.s39/28, mb3.7/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.66**	**263**	ePN	**Pn**	**18 53 26.0**	**+2.3**
KUR				iS	**Sn**	**18 54 08.1**	**+2.3**
KUR				pmax	pmax		
	comp=Z,96nm,0.4s						
KUR				smax	smax		
	comp=N,127nm,0.6s						
KUR				smax	smax		
	comp=E,119nm,0.5s						
KUR	**Kuril'sk**	**3.66**	**263**	eP	**Pn**	**18 53 26.0**	**+2.3**
KUR				AMB	AMB	18 53 26.2	
	comp=E,100nm,0.4s						
KUR				iS	**Sn**	**18 54 08.1**	**+2.3**
KUR				A	A	18 54 09.7	
	comp=E,130nm,0.4s						
KUR				A	A	18 54 09.7	
	comp=E,120nm,0.4s						
SHO	**Shikotan**	**4.81**	**248**	ePN	**Pn**	**18 53 39.3**	**-0.2**
SHO	**Shikotan**	**4.81**	**248**	eP	**Pn**	**18 53 39.4**	**-0.1**
SHO				AMB	AMB	18 53 43.2	
	comp=E,40nm,0.6s						
SHO				eS	**Sn**	**18 54 33.0**	**-1.1**
SHO				A	A	18 54 34.7	
	comp=E,80nm,0.6s						
SHO				A	A	18 54 34.7	
	comp=E,80nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.38**	**253**	eP	**Pn**	**18 53 46.8**	**-0.5**
YUK				AMB	AMB	18 53 49.6	
	comp=E,120nm,0.6s						
YUK				eS	**Sn**	**18 54 44.4**	**-3.8**
YUK				A	A	18 54 47.9	
	comp=E,140nm,0.8s						
YUK				A	A	18 54 47.9	
	comp=E,170nm,0.8s						
NMR	**Nemuro--Hokkai**	**5.75**	**247**	eP	**Pn**	**18 53 52.5**	**+0.1**
NMR				eS	**Sn**	**18 54 55.9**	**-1.3**
AKK	**Akkeshi**	**6.48**	**247**	eP	**Pn**	**18 54 03.5**	**+1.0**
JKA	**Kamikawa-asahi**	**7.58**	**261**	eP	**Pn**	**18 54 17.3**	**-0.2**
ASAJ	**Asahikawa**	**7.58**	**261**	Pn	**Pn**	**18 54 17.3**	**-0.2**
	comp=E,0.6nm,0.3s,baz=91,slow=18,SNR=6.1						
	comp=E,7.8nm,0.7s						
PETK	**Petropavlovsk-**	**7.91**	**21**	Pn	**Pn**	**18 54 21.0**	**-1.1**
	comp=E,0.2nm,0.3s,baz=186,slow=14,SNR=7.2						
	comp=E,1.1nm,0.6s						
MA2	**Magadan**	**13.85**	**355**	LR	LR	19 01 25.4	
	comp=E,48nm,18.9s,baz=296,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.43**	**152**	T	T	19 28 57.4	
	baz=338						
H11N1	**WAKE ISLAND Hy**	**28.44**	**152**	T	T	19 29 14.5	
	baz=338						
H11N3	**WAKE ISLAND Hy**	**28.44**	**152**	T	T	19 29 07.4	
	baz=338						
H11S1	**WAKE ISLAND Hy**	**29.50**	**153**	T	T	19 30 21.1	
	baz=339						
H11S3	**WAKE ISLAND Hy**	**29.51**	**153**	T	T	19 30 29.7	
	baz=339						
H11S2	**WAKE ISLAND Hy**	**29.52**	**153**	T	T	19 30 21.7	
	baz=339						
MKAR	**Makanchi Array**	**47.31**	**298**	P	**P**	**19 00 59.8**	**-0.1**
	comp=E,0.3nm,0.6s,baz=76,slow=5.8,SNR=3.8						
	comp=E,0.3nm,0.6s						
KURK	**Kurchatov**	**47.83**	**304**	P	**P**	**19 01 03.5**	**-0.2**
KURK	**Kurchatov**	**47.83**	**304**	eP	**P**	**19 01 03.5**	**-0.2**
KURBB	**Kurchatov Arra**	**47.92**	**304**	P	**P**	**19 01 03.5**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,0.2nm,0.3s,baz=70,slow=8.8,SNR=2.1						
	comp=E,0.2nm,0.3s						
BVAR	Borovoye Array	51.40	310	P	P	19 01 30.4	-0.5
	comp=E,0.3nm,0.5s,baz=22,slow=8.0,SNR=2.3						
	comp=E,0.3nm,0.5s						
ARCES	ARCESS Array B	58.71	341	P	P	19 02 23.5	+0.1
	comp=E,7.0nm,1.2s,baz=14,slow=8.4,SNR=2.3						
	comp=E,7.0nm,1.2s						
FINES	FINESS Array B	64.86	335	P	P	19 03 05.3	+0.5
	comp=E,0.9nm,0.6s,baz=36,slow=3.5,SNR=6.3						
	comp=E,0.9nm,0.6s						
WRA	Warramunga Arr	67.61	199	P	P	19 03 23.4	+0.6
	comp=E,0.6nm,1.1s,baz=14,slow=6.4,SNR=2.7						
	comp=E,0.6nm,1.1s						
NOA	NORSAR Array B	69.09	341	P	P	19 03 32.4	+0.6
	comp=E,1.7nm,1.0s,baz=27,slow=6.6,SNR=2.1						
	comp=E,1.7nm,1.0s						
HFS	Hagfors	69.31	340	P	P	19 03 32.6	-0.5
	comp=E,1.4nm,0.6s,baz=47,slow=8.5,SNR=1.3						
	comp=E,1.4nm,0.6s						
ASAR	Alice Springs	71.30	198	P	P	19 03 46.9	+1.2
	comp=E,0.4nm,1.0s,baz=14,slow=9.1,SNR=2.5						
	comp=E,0.4nm,1.0s						
AKASG	Malin Array Be	72.28	326	P	P	19 03 49.9	-1.4
	comp=E,0.3nm,0.2s,baz=36,slow=6.6,SNR=4.3						
	comp=E,0.3nm,0.2s						
TXAR	Lajitas Array	78.02	60	P	P	19 04 26.3	+1.4
	comp=E,0.2nm,0.6s,baz=311,slow=5.5,SNR=3.8						
	comp=E,0.2nm,0.6s						
TKL	Tuckaleechee C	84.10	43	LR	LR	19 45 37.1	
	comp=E,56nm,19.3s,baz=32,slow=38						

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*IDC **03** 18:58:02.0±0.7, 6°74N×72°99W, h158km±7km, mb3.4/6, mbtmp4.0/9, MS3.4/1, Error ellipse: s-maj=19.6km s-min=7.5km az=131.0*

*RSNC **03** 18:58:03.2±1.0, 6°84N×73°15W, h152km±4km, ML3.5, Mw3.9*

ISC 03 18:58:02.0±0.7**, 6°84N**±0°03×**73°08W**±0°04**, h156**km±6km**, n54, σ1s54**/92**, mb3.6**/6**, 5C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	203	⇑iP	Pn	18 58 23.7	+0.2
BARC				eS	Sn	18 58 39.0	-0.9
BARC				i		18 58 40.3	
	comp=Z,1μm,0.5s						
PAMC	Pamplona, Colo	0.62	37	⇓iP	Pn	18 58 26.5	+1.3
PAMC				eS	Sn	18 58 43.7	+0.7
PAMC				i		18 58 48.4	
	comp=Z,446nm,0.5s						
TAMC	Tame, Arauca	1.34	108	eP	Pn	18 58 31.9	+1.5
TAMC				i		18 58 52.7	
	comp=Z,385nm,0.4s						
TAMC				eS	Sn	18 58 53.7	+1.4
PTBC	PUERTO BERRIO,	1.41	258	⇑eP	Pn	18 58 30.2	-0.8
PTBC				eS	Sn	18 58 51.4	-1.9
PTBC				i		18 58 57.6	
	comp=Z,522nm,0.4s						
OCAC	Ocana	1.41	350	eP	Pn	18 58 31.9	+0.6
OCAC				eS	Sn	18 58 53.8	0.0
OCAC				i		18 59 01.0	
	comp=Z,851nm,0.3s						
SPBC	San Pablo de B	1.54	220	⇑eP	Pn	18 58 32.5	-0.1
SPBC				eS	Sn	18 58 54.6	-1.5
SPBC				i		18 59 01.9	
	comp=Z,1μm,0.3s						
ZARC	Zaragoza, Cauc	1.88	290	eP	Pn	18 58 36.4	+0.2
ZARC				eS	Sn	18 59 02.3	-0.2
ZARC				i		18 59 08.0	
	comp=Z,787nm,0.4s						
ROSC	El Rosal	2.34	212	P	Pn	18 58 43.6	+1.6
	comp=Z,200nm,0.3s,baz=311,slow=20,SNR=168						
ROSC				S	Sn	18 59 12.2	-0.6
	comp=Z,517nm,0.5s,baz=126,slow=16,SNR=14						
ROSC	El Rosal	2.34	212	⇑iP	Pn	18 58 43.5	+1.6
ROSC				eS	Sn	18 59 14.0	+1.3
CVER	Cruz Verde, Cu	2.51	203	eP	Pn	18 58 45.0	+0.9
CVER				eS	Sn	18 59 17.8	+1.3
CVER				i		18 59 23.9	
	comp=Z,235nm,0.3s						
MEDEC	Medelln, Ant	2.56	257	eP	Pn	18 58 45.8	+1.5
MEDEC				eS	Sn	18 59 18.1	+1.0
UREC	San Jos de Ur	2.60	290	eP	Pn	18 58 43.6	-1.0
UREC				eS	Sn	18 59 15.2	-2.4
UREC				i		18 59 23.5	
	comp=Z,260nm,0.2s						
VILC	Villavicencio,	2.78	193	eP	Pn	18 58 46.7	-0.4
VILC				eS	Sn	18 59 21.8	-0.1
VILC				i		18 59 25.4	
	comp=Z,286nm,0.3s						
GUY2C	Guyana, Caldas	2.79	235	eP	Pn	18 58 47.8	+0.4
GUY2C				eS	Sn	18 59 25.6	+3.1
PTGC	Puerto Gaitan,	2.79	160	⇑iP	Pn	18 58 46.7	-0.3
PTGC				eS	Sn	18 59 19.8	-2.1
PTGC				i		18 59 22.0	
	comp=Z,145nm,0.2s						
LL6C	La Loma 6 Bece	2.88	356	eP	Pn	18 58 48.5	+0.3
NIZA	Niza - Manizal	2.97	233	eP	Pn	18 58 51.7	+2.2
NIZA				eS	Sn	18 59 28.8	+2.5
CBOC	Ciudad Bolivar	3.08	252	eP	Pn	18 58 51.1	+0.4
CBOC				eS	Sn	18 59 28.0	-0.5
CBOC				i		18 59 40.5	
	comp=Z,144nm,0.6s						
DBBC	Dabeiba	3.12	273	eP	Pn	18 58 51.5	+0.3
DBBC				eS	Sn	18 59 27.5	-1.7
DBBC				i		18 59 34.9	
	comp=Z,148nm,0.2s						
SDV	Santo Domingo	3.16	50	P	Pn	18 58 53.1	+1.3
	comp=Z,85nm,0.3s,baz=201,slow=4.1,SNR=132						
SDV				S	Sn	18 59 30.3	-0.1
	comp=Z,59nm,0.5s,baz=235,slow=23,SNR=11						
SDV	Santo Domingo	3.16	50	eP	Pn	18 58 53.0	+1.3
SDV				eS	Sn	18 59 30.0	-0.3
SDV				i		18 59 35.6	
	comp=Z,45nm,0.5s						
ARGC	Ariguani, Magd	3.21	339	eP	Pn	18 58 54.8	+2.5
ARGC				eS	Sn	18 59 32.2	+0.8
PRAC	Prado	3.59	210	eP	Pn	18 58 56.7	-0.5
PRAC				eS	Sn	18 59 39.3	-0.9
PRAC				i		18 59 46.2	
	comp=Z,294nm,0.2s						
ORTC	Ortega, Tolima	3.63	217	eP	Pn	18 58 57.7	0.0
ORTC				eS	Sn	18 59 40.6	-0.4
ORTC				i		18 59 47.6	
	comp=Z,205nm,0.5s						
APAC	Apartado, Choc	3.63	287	⇓iP	Pn	18 58 57.9	+0.2
APAC				eS	Sn	18 59 39.7	-1.2
APAC				i		18 59 51.5	
	comp=Z,79nm,0.4s						
SJCC	San Jacinto, C	3.68	326	eP	Pn	18 58 57.6	-0.7
SJCC				eS	Sn	18 59 39.2	-3.0
SJCC				i		18 59 43.8	
	comp=Z,54nm,0.5s						
PLMC	San Jos del P	3.73	239	eP	Pn	18 58 59.4	+0.5
PLMC				eS	Sn	18 59 43.4	+0.2
PLMC				i		18 59 48.2	
	comp=Z,131nm,0.3s						
LCBC	Los crdobas,	3.83	302	eS	Sn	18 59 46.9	+1.5
CRJC	Cerrejon, Guaj	4.15	3	eP	Pn	18 59 04.2	-0.3
CRJC				eS	Sn	18 59 50.7	-2.6
CRJC				i		19 00 00.8	
	comp=Z,39nm,0.2s						
YOTC	Yotoco, Valle	4.32	229	eP	Pn	18 59 06.3	-0.4
YOTC				eS	Sn	18 59 57.8	+0.7
SMRC	Santa Marta, M	4.44	345	eP	Pn	18 59 09.6	+1.4
SMRC				eS	Sn	18 59 57.4	-2.4
SMRC				i		19 00 03.4	
	comp=Z,26nm,0.3s						
CAPC	Capurgana	4.60	293	eP	Pn	18 59 13.6	+3.4
CAPC				eS	Sn	18 59 59.9	-3.5
CAPC				i		19 00 01.3	
	comp=Z,31nm,0.5s						
PIZC	Pizarro, Choco	4.65	247	eP	Pn	18 59 13.1	+2.1
PIZC				eS	Sn	19 00 04.9	+0.2
PTAC	Punta Ardita,	4.71	274	eP	Pn	18 59 11.5	-0.2
PTAC				i		19 00 15.7	
	comp=Z,20nm,0.2s						
BETC	Betania	4.76	210	eP	Pn	18 59 11.5	-1.0
BETC				eS	Sn	19 00 03.8	-3.6
BETC				i		19 00 10.0	
	comp=Z,33nm,0.4s						
URIC	Uribia, Colomb	4.94	12	eP	Pn	18 59 14.1	-0.7
URIC				eS	Sn	19 00 08.9	-2.8
URIC				i		19 00 17.1	
	comp=Z,10nm,0.6s						
JAMC	Jamundi, Valle	5.08	225	eP	Pn	18 59 16.4	-0.4
JAMC				eS	Sn	19 00 13.9	-1.4
JAMC				i		19 00 25.5	
	comp=Z,14nm,0.4s						
MALC	Bahia Malaga	5.09	237	eP	Pn	18 59 18.4	+1.7
MALC				eS	Sn	19 00 17.6	+2.5
GARC	Garzon, Huila	5.22	208	eP	Pn	18 59 17.8	-0.9
GARC				eS	Sn	19 00 15.1	-3.5
GARC				i		19 00 21.3	
	comp=Z,73nm,0.2s						
POPC	Popayan, Colom	5.58	220	eP	Pn	18 59 23.6	+0.1
POPC				eS	Sn	19 00 24.8	-2.4
POPC				i		19 00 32.6	
	comp=Z,8.1nm,0.4s						
FLOC	Florencia	5.82	206	eP	Pn	18 59 26.6	+0.1
FLOC				eS	Sn	19 00 30.3	-2.4
FLOC				i		19 00 35.9	
	comp=Z,12nm,0.4s						
BBAC	Balboa, Cauca	6.34	221	eP	Pn	18 59 34.6	+1.0
BBAC				eS	Sn	19 00 43.2	-2.1
BBAC				i		19 00 47.5	
	comp=Z,8.6nm,0.6s						
OTAV	Otavalo	8.47	219	eP	Pn	19 00 03.9	+1.7
PCRV	Puerto La Cruz	8.98	68	P	Pn	19 00 10.1	+1.6
	comp=Z,4.6nm,0.4s,baz=70,slow=1.9,SNR=7.4						
BDFB	Brasilia	33.40	132	P	P	19 04 24.0	-2.1
	comp=Z,3.5nm,0.7s,baz=258,slow=20,SNR=2.1						
	comp=Z,3.5nm,0.7s						
TXAR	Lajitas Array	36.48	312	P	P	19 04 53.7	+1.4
	comp=Z,0.4nm,0.5s,baz=130,slow=9.5,SNR=6.9						
	comp=Z,0.4nm,0.5s						
ANMO	Albuquerque	41.53	317	LR	LR	19 25 01.7	
	comp=Z,53nm,19.3s,baz=130,slow=39						
ULM	Lac du Bonnet	47.28	340	P	P	19 06 19.1	-0.4
	comp=Z,2.3nm,0.4s,baz=141,slow=7.1,SNR=8.7						
	comp=Z,2.3nm,0.4s						
PDAR	Pinedale Array	48.09	324	P	P	19 06 26.6	+0.4
	comp=Z,0.3nm,0.5s,baz=132,slow=11,SNR=3.6						
	comp=Z,0.3nm,0.5s						
YKA	Yellowknife Ar	63.26	340	P	P	19 08 14.3	+0.6
	comp=Z,1.0nm,0.6s,baz=131,slow=6.1,SNR=23						
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	76.96	335	P	P	19 09 37.7	+0.6
	comp=Z,0.3nm,0.7s,baz=125,slow=7.8,SNR=4.1						
	comp=Z,0.3nm,0.7s						
MKAR	Makanchi Array	122.28	20	PKP	PKPdf	19 16 38.1	-0.6
	comp=Z,0.1nm,0.4s,baz=306,slow=2.2,SNR=4.5						
ASAR	Alice Springs	149.16	234	PKPbc	PKPbc	19 17 32.2	-0.7
	comp=Z,0.6nm,0.6s,baz=116,slow=3.8,SNR=14						
WRA	Warramunga Arr	150.39	241	PKPbc	PKPbc	19 17 35.4	-0.5
	comp=Z,0.6nm,0.4s,baz=109,slow=2.4,SNR=34						

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*IDC **03** 19:02:28.2±5.1, 23°87N×124°37E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=339.4km s-min=23.5km az=62.0*

*JMA **03** 19:02:30.2±0.2, 24°2N±0°7×125°2E±0°5, h0km, MV3.2/11, NEAR MIYAKOJIMA ISLAND*

ISC 03 19:02:29.8±1.8**, 24°17N**±0°07×**125°20E**±0°05**, h17**km±10km**, n14, σ0s71**/23**, mb3.5**/4**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMJ2	Miyako jima3	0.58	12	P	Pb	19 02 41.7	+0.3
JMJ2				S	Sb	19 02 50.1	+0.7
JOGS	Gusukube	0.62	18	P	Pg	19 02 42.4	+0.4
JOGS				S	Sb	19 02 51.3	+0.8
JTJ	Tarama	0.65	316	P	Pb	19 02 42.6	0.0
JTJ				S	Sg	19 02 50.8	-0.5
JIRB	Irabujima	0.65	358	i P	Pg	19 02 42.5	-0.1
JIRB				S	Sb	19 02 51.7	+0.1
JIKM	Ikemajima	0.75	4	P	Pg	19 02 44.3	-0.2
JIKM				S	Sg	19 02 54.2	-0.2
JISG	Ishigakijimahi	0.91	297	i P	Pb	19 02 47.3	+0.3
JISG				S	Sb	19 02 58.9	+0.1
JIJ	Ishigaki jima	0.98	281	P	Pb	19 02 48.9	+0.6
JIJ				S	Sb	19 03 01.6	+0.6
JKRS	Kuro-shima	1.09	274	P	Pn	19 02 51.1	+0.9
JKRS				eS	Sn	19 03 05.9	+1.1
HATJ	Hateruma jima	1.28	265	P	Pg	19 02 54.2	-0.3
HATJ				eS	Sb	19 03 09.7	+0.2
IRIF	Iriomote-Funau	1.35	277	P	Pn	19 02 54.3	+0.5
IRIF				eS	Sg	19 03 23.6	+10
MKAR	Makanchi Array	40.93	314	P	P	19 10 10.0	-1.3
	0.3nm,0.5s,baz=100,slow=11,SNR=6.6						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	44.51	319	P	P	19 10 38.5	-1.7
	0.9nm,0.2s,baz=108,slow=9.4,SNR=1.4						
	0.9nm,0.2s						
WRA	Warramunga Arr	44.74	168	P	P	19 10 42.1	-0.3
	0.6nm,0.8s,baz=347,slow=8.6,SNR=6.4						
	0.6nm,0.8s						
ASAR	Alice Springs	48.30	169	P	P	19 11 10.5	+0.2
	0.2nm,0.5s,baz=357,slow=7.6,SNR=5.3						
	0.2nm,0.5s						

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*JMA **03** 19:03:50.0±0.2, 24°2N±0°9×125°2E±0°6, h23km, MD4.0/11, MV3.6/11, NEAR MIYAKOJIMA ISLAND*

*NIED **03** 19:03:50.0, 24°22N×125°17E, h23km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; M_{rr}-2.04; $M_{\theta\theta}$1.57; $M_{\phi\phi}$0.47; $M_{r\theta}$5.19; $M_{\theta\phi}$-1.34; $M_{\phi r}$3.43; Fault plane solution: $M_0$6.42000×10¹⁴ NP1: ϕ_s243.00000°, δ84.00000°, λ-102.00000°. NP2: ϕ_s128.00000°, δ13.00000°, λ-26.00000°.*

*IDC **03** 19:03:57.6±3.5, 24°61N×125°84E, h120km±40km, mb3.4/9, mbtmp3.7/11, MS2.9/1 Error ellipse: s-maj=36.5km s-min=14.4km az=66.0*

ISC 03 19:03:48.7±2.7**, 24°27N**±0°07×**125°27E**±0°05**, h25**km±19km**, n31, σ1s83**/32**, mb3.8**/9**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMJ2	Miyako jima3	0.47	7	P	Pn	19 04 00.7	+0.8
JMJ2				S	Sn	19 04 08.6	+1.2
JMJ2	Miyako jima3	0.47	7	A	A	19 04 00.7	
	comp=E,13nm,0.8s,comp=N,18nm,0.9s						
JOGS	Gusukube	0.51	15	P	Pn	19 04 01.3	+1.0
JOGS				S	Sn	19 04 10.3	+2.0
JOGS	Gusukube	0.51	15	A	A	19 04 01.3	
	comp=E,15nm,0.6s,comp=N,17nm,1.0s						
JIRB	Irabujima	0.56	351	P	Pn	19 04 01.3	+0.2
JIRB				S	Sn	19 04 10.0	+0.4
JIRB	Irabujima	0.56	351	A	A	19 04 01.3	
	comp=E,10.0nm,0.4s,comp=N,16nm,3.7s						
JTJ	Tarama	0.63	306	P	Pn	19 04 01.6	-0.5
JTJ				S	Sb	19 04 09.4	-0.2
JTJ	Tarama	0.63	306	A	A	19 04 01.6	
	comp=E,14nm,2.3s,comp=N,13nm,1.1s						
JIKM	Ikemajima	0.65	359	P	Pn	19 04 03.1	+0.7
JIKM				S	Sn	19 04 13.2	+1.3
JIKM	Ikemajima	0.65	359	A	A	19 04 03.1	
	comp=E,8.0nm,3.1s,comp=N,13nm,1.1s						
JISG	Ishigakijimahi	0.93	290	P	Pn	19 04 05.7	-0.4
JISG				S	Sn	19 04 17.7	-0.9
JISG	Ishigakijimahi	0.93	290	A	A	19 04 05.7	
	comp=E,20nm,0.6s,comp=N,10.0nm,0.7s						
JIJ	Ishigaki jima	1.03	275	P	Pn	19 04 07.6	0.0
JIJ				S	Sn	19 04 19.7	-1.5
JIJ	Ishigaki jima	1.03	275	A	A	19 04 07.6	
	comp=E,3.0nm,1.0s,comp=N,4.0nm,1.7s						
JKRS	Kuro-shima	1.15	269	P	Pn	19 04 09.8	+0.7
JKRS				eS	Sn	19 04 24.0	-0.1
JKRS	Kuro-shima	1.15	269	A	A	19 04 09.8	
	comp=E,6.0nm,0.8s,comp=N,8.0nm,1.7s						
HATJ	Hateruma jima	1.35	261	P	Pn	19 04 12.4	+0.5
HATJ				S	Sn	19 04 28.3	-0.8
HATJ	Hateruma jima	1.35	261	A	A	19 04 12.4	
	comp=E,5.0nm,2.0s,comp=N,5.0nm,1.3s						
IRIF	Iriomote-Funau	1.40	273	P	Pn	19 04 13.0	+0.4
IRIF				S	Sn	19 04 31.6	+1.2
JOW	Kunigami	3.73	46	P	Pn	19 04 46.4	+1.7
	comp=N,14nm,0.7s,baz=129,slow=26,SNR=8.2						
JOW				S	Sn	19 05 22.5	-5.3
	comp=N,23nm,0.5s,baz=213,slow=10,SNR=4.7						
KSRS	Korea Array	13.34	9	LR	LR	19 12 28.5	
	comp=N,50nm,19.5s,baz=345,slow=40						
MJAR	Matsushiro Arr	16.54	39	P	Pn	19 07 37.0	-2.0
	comp=N,0.6nm,0.7s,baz=226,slow=11,SNR=1.3						
CMAR	Chiang Mai Arr	25.16	262	P	P	19 09 18.1	+5.9
	comp=N,0.3nm,0.6s,baz=55,slow=7.8,SNR=2.7						
	comp=N,0.3nm,0.6s						
SONM	Songino Array	27.89	332	P	P	19 09 34.6	-2.0
	comp=N,0.2nm,0.7s,baz=150,slow=10,SNR=1.7						
	comp=N,0.2nm,0.7s						
MKAR	Makanchi Array	40.91	314	P	P	19 11 28.6	-0.3
	comp=N,1.0nm,0.5s,baz=99,slow=10,SNR=19						
	comp=N,1.0nm,0.5s						
ZALV	Zalesovo Beam	42.25	325	P	P	19 11 38.6	-1.2
	comp=N,0.8nm,0.6s,baz=99,slow=9.4,SNR=4.6						
	comp=N,0.8nm,0.6s						
KURBB	Kurchatov Arra	44.48	319	P	P	19 11 56.5	-1.3
	comp=N,0.4nm,0.2s,baz=109,slow=8.4,SNR=6.1						
	comp=N,0.4nm,0.2s						
WRA	Warramunga Arr	44.83	168	P	P	19 12 01.0	+0.1
	comp=N,1.9nm,0.6s,baz=348,slow=8.8,SNR=31						
	comp=N,1.9nm,0.6s						
ASAR	Alice Springs	48.38	169	P	P	19 12 29.3	+0.6
	comp=N,0.8nm,0.4s,baz=355,slow=7.8,SNR=22						
	comp=N,0.8nm,0.4s						
BVAR	Borovoye Array	49.99	320	P	P	19 12 40.4	-0.4
	comp=N,0.4nm,0.5s,baz=109,slow=7.8,SNR=2.8						
	comp=N,0.4nm,0.5s						
FINES	FINESS Array B	73.24	330	P	P	19 15 17.0	-0.4
	comp=N,2.1nm,1.0s,baz=50,slow=7.5,SNR=1.4						
	comp=N,2.1nm,1.0s						

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*NEIC **03** 19:08:53.6±3.0, 45°02N±0°02×106°86W±0°04, h0km±1km, ML2.8/58, Error ellipse: s-maj=5.9km s-min=3.3km az=61.0*

*IDC **03** 19:08:57.5±1.3, 44°70N×106°58W, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=55.1km s-min=9.5km az=139.0*

ISC 03 19:08:53.7±0.9**, 45°01N**±0°04×**106°81W**±0°04**, h0**km**, n37, σ1s65**/41**, Montana**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAO	LASA Array	1.73	14		Pb	19 09 25.7	-0.6
LAO				IAML		19 09 54.2	
	99nm,0.9s						
LAO				IAML		19 10 02.4	
	107nm,0.8s						
RLMT	Red Lodge	1.74	275		Pb	19 09 25.7	-1.1
RLMT					Sg	19 09 48.6	-1.1
GCMT	Greycliff	2.16	292	Pn	Pn	19 09 31.1	+0.1
RSSD	Black Hills	2.17	113	IAML		19 10 09.3	
	68nm,0.9s						
RSSD				IAML		19 10 12.3	
	48nm,1.0s						
RSSD	Black Hills	2.17	113	Pn	Pn	19 09 30.0	-1.4
RSSD					Sg	19 10 06.7	+3.1
K22A	Casper	2.37	175	Pn	Pn	19 09 33.0	-1.0
K22A				Pg	Pg	19 09 38.6	-0.5
YMP	Mirror Lake Pl	2.39	265	Pn	Pb	19 09 36.2	-1.7
H17A	Grant Village	2.75	258		Pn	19 09 40.5	+1.2
YNR	Norris Junctio	2.77	265		Pn	19 09 40.4	+0.9
YNR				IAML		19 10 32.5	
	comp=N,24nm,1.0s						
YNR				IAML		19 10 38.0	
	comp=E,27nm,1.4s						
YHH	Holmes Hill	2.88	267		Pn	19 09 41.7	+0.6
YFT	Old Faithful	2.92	260		Pn	19 09 43.0	+1.4
FLWY	Flagg Ranch	2.93	253		Pn	19 09 42.5	+0.7
FLWY				IAML		19 10 44.8	
	comp=E,31nm,1.9s						
FLWY				IAML		19 10 51.1	
	comp=E,48nm,2.7s						
YMR	Madison River	2.97	265		Pn	19 09 41.4	-1.0
BW06	Boulder Array	3.00	222	Pn	Pn	19 09 42.5	-0.2
BW06					Sb	19 10 26.3	+1.0
BW06				IAML		19 10 42.9	
	comp=E,17nm,1.2s						
BW06				IAML		19 10 53.8	
	comp=E,18nm,4.2s						
PD31	Pinedale Array	3.00	222	Pn	Pn	19 09 41.4	-1.3
PD31					Sb	19 10 25.8	+0.5
PDAR	Pinedale Array	3.00	222		Pb	19 09 49.1	+1.1
PDAR					Sb	19 10 26.7	+1.4
PDAR	Pinedale Array	3.00	222	Pn	Pb	19 09 48.0	0.0
	comp=E,1.0nm,0.3s,baz=53,slow=17,SNR=21						
PDAR				Lg	Lg	19 10 27.9	
	comp=E,1.2nm,0.3s,baz=51,slow=31,SNR=14						
	comp=E,1.6nm,0.4s						
LOHW	Long Hollow	3.06	244		Pn	19 09 43.9	+0.4
LOHW				IAML		19 10 46.9	
	comp=E,17nm,3.3s						
MOOW	Moose Ponds	3.09	247		Pn	19 09 44.6	+0.7
YHL	Hebgen Lake	3.11	269		Pn	19 09 45.0	+0.8
YHL				IAML		19 10 40.3	
	comp=E,38nm,1.1s						
YHL				IAML		19 10 51.8	
	comp=N,38nm,1.3s						
IMW	Indian Meadow	3.16	251		Pn	19 09 45.7	+0.7
IMW				IAML		19 10 42.3	
	comp=N,24nm,1.4s						
IMW				IAML		19 10 47.8	
	comp=N,17nm,0.6s						
FXWY	Fox Creek	3.32	247		Pn	19 09 49.6	+2.5
TPAW	Teton Pass	3.34	244		Pn	19 09 47.0	-0.5
TPAW				IAML		19 10 52.0	
	comp=N,19nm,3.6s						
TPAW				IAML		19 11 35.1	
	comp=N,16nm,4.8s						
REDW	Red Top Meadow	3.34	242	Pn	Pn	19 09 47.8	+0.4
BOZ	Bozeman (W)	3.45	281		Pn	19 09 51.5	+2.7
BOZ				IAML		19 10 47.1	
	comp=N,15nm,1.7s						
BOZ				IAML		19 11 04.8	
	comp=N,12nm,3.4s						
EGMT	Eagleton	3.63	327	Pn	Pn	19 09 49.7	-1.6
AHID	Auburn Hatcher	3.83	236	Pn	Pn	19 09 52.8	-1.3
AHID				IAML		19 11 01.7	
	comp=N,15nm,3.0s						
AHID				IAML		19 11 13.2	
	comp=N,15nm,1.6s						
DGMT	Dagmar	3.90	27		Pn	19 09 52.0	-3.0
LRM	Limekiln Ridge	4.05	284	Pn	Pn	19 09 56.2	-1.0
N23A	Red Feather La	4.16	171		Pn	19 09 56.0	-2.8
LYMT	Lyon Mountain	4.29	299	Pn	Pn	19 09 59.3	-1.1
MCMT	McKenzie Canyo	4.29	270	Pn	Pn	19 09 59.2	-1.3
HWUT	Hardware Ranch	4.86	227		Pn	19 10 07.0	-1.2
BPMT	Black Pine Rid	4.86	289	Pn	Pn	19 10 08.8	+0.5
RDMU	Red Mountain	4.88	206		Pn	19 10 04.1	-4.5
RDMU				IAML		19 11 37.1	
	comp=E,11nm,3.9s						
I10CA	LAC DU BONNET	8.94	51	I	I	20 04 50.0	
	baz=230,slow=324,SNR=2.2						
ULM	Lac du Bonnet	9.05	51	Pn	Pn	19 11 09.0	+3.4
	comp=E,0.2nm,0.3s,baz=232,slow=15,SNR=2.1						
ULM				Lg	Lg	19 13 36.3	
	comp=E,0.1nm,0.3s,baz=328,slow=13,SNR=2.6						
	comp=E,0.9nm,0.4s						

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*NEIC **03** 19:29:31.5±1.4, 36°23N±0°07×140°96E±0°08, h35km±11km, mb4.2/13, Error ellipse: s-maj=10.9km s-min=8.1km az=142.0*

*JMA **03** 19:29:33.9±0.1, 36°5N±0°2×140°6E±0°5, h59km, MV3.6/40, NORTHERN IBARAKI PREF*

JMA Felt II J1 at NORTHERN IBARAKI PREF .

*NIED **03** 19:29:33.9, 36°48N×140°60E, h59km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}2.45; $M_{\theta\theta}$-4.73; $M_{\phi\phi}$2.28; $M_{r\theta}$1.94; $M_{\theta\phi}$-1.30; $M_{\phi r}$-1.79; Fault plane solution: $M_0$5.01000×10¹⁴ NP1: ϕ_s114.00000°, δ69.00000°, λ135.00000°. NP2: ϕ_s224.00000°, δ49.00000°, λ28.00000°.*

*IDC **03** 19:29:36.6±3.5, 36°38N×140°56E, h93km±31km, mb3.4/4, mbtmp3.8/4 Error ellipse: s-maj=35.1km s-min=24.2km az=92.0*

ISC 03 19:29:33.4±0.9**, 36°45N**±0°05×**140°72E**±0°06**, h59**km±6km**, n45, σ1s25**/54**, mb4.1**/11**, 10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.15	225	i P	Pn	19 29 43.1	+0.7
JHYU				S	Sn	19 29 49.7	+0.8
JHO	Hitachi	0.20	324	⇓iP	Pn	19 29 43.0	+0.2
JHO				⇓S	Sn	19 29 49.2	-0.2
JYT	Yasato	0.47	243	i P	Pn	19 29 45.0	0.0
JYT				S	Sn	19 29 52.9	-0.5
ONAJ	Iwakimizuishiy	0.66	6	⇓iP	Pn	19 29 47.0	-0.2
ONAJ				⇓S	Sn	19 29 56.5	-0.6
JFK	Kawauchi	0.93	8	⇓iP	Pn	19 29 50.2	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK				⇓S	Sn	19 30 02.2	-0.9
JAG	Ashikaga	1.02	269	iP	Pn	19 29 51.2	-0.5
JAG				S	Sn	19 30 03.3	-1.8
JOTO	OTAMA OYAMA	1.15	345	iP	Pn	19 29 53.2	-0.2
JOTO				eS	Sn	19 30 07.7	-0.6
JKT	Katashina	1.22	286	iP	Pn	19 29 54.0	-0.4
JKT				S	Sn	19 30 08.8	-1.3
JFY	Yanaizu	1.26	320	⇓iP	Pn	19 29 54.5	-0.3
JFY				⇓eS	Sn	19 30 10.2	-0.6
JMM	Marumori	1.42	2		Pn	19 29 57.4	+0.4
JMM				Sn	Sn	19 30 14.4	-0.2
JMM	Marumori	1.42	2	⇓iP	Pn	19 29 57.1	+0.1
JMM				⇓S	Sn	19 30 14.5	-0.2
JRY	Ryogami san	1.53	254	iP	Pn	19 29 58.2	-0.3
JRY				eS	Sn	19 30 15.7	-1.6
JUON	Uonuma	1.53	300	P	Pn	19 29 58.3	-0.2
JUON				S	Sn	19 30 17.4	-0.1
MJAR	Matsushiro Arr	2.02	273	P	Pn	19 30 05.2	0.0
	40nm,0.5s,baz=102,slow=11,SNR=244						
MJAR				S	Sn	19 30 31.8	+2.4
	17nm,0.4s,baz=94,slow=16,SNR=3.0						
MAJO	Matsushiro	2.02	273		Pn	19 30 05.5	+0.3
MAJO				Sn	Sn	19 30 30.8	+1.4
MJB9	Matsu-Tunnel	2.03	274		Pn	19 30 06.5	+1.3
MJB9				Sn	Sn	19 30 31.3	+1.8
JSG	Sagara	2.72	230	Pn	Pn	19 30 11.8	-2.8
JTM	Tenmabayashi	4.34	4	Pn	Pn	19 30 38.1	+1.2
ERM	Erimo	5.88	18	Pn	Pn	19 30 57.4	-0.4
JMN	Monobe	6.23	246	Pn	Pn	19 31 02.0	-0.7
JKA	Kamikawa-asahi	7.79	10	Pn	Pn	19 31 22.3	-1.8
H11N2	WAKE ISLAND Hy	28.34	119	T	T	20 05 24.6	
	baz=312,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy	28.35	119	T	T	20 05 25.2	
	baz=312,slow=75,SNR=18						
H11N3	WAKE ISLAND Hy	28.36	119	T	T	20 05 26.8	
	baz=312,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	29.02	121	T	T	20 06 15.4	
	baz=314,slow=76,SNR=84						
H11S3	WAKE ISLAND Hy	29.02	121	T	T	20 06 11.8	
	baz=314,slow=76,SNR=78						
H11S2	WAKE ISLAND Hy	29.04	121	T	T	20 06 16.3	
	baz=314,slow=76,SNR=54						
ZALV	Zalesovo Beam	41.90	313	P	P	19 37 17.0	-0.8
	0.4nm,0.5s,baz=90,slow=8.6,SNR=2.3						
	0.4nm,0.5s						
MKAR	Makanchi Array	43.96	303	P	P	19 37 37.7	+3.1
C18K	Utukok River	45.05	26	P	P	19 37 44.1	+1.1
C18K				IAmb	IAmb	19 37 45.6	
	comp=Z,4.4nm,1.4s						
G18K	Tagagawik	45.44	30	P	P	19 37 47.5	+1.4
G18K				IAmb	IAmb	19 37 55.4	
	comp=Z,6.1nm,1.5s						
H18K	Honhosa River	45.44	31	P	P	19 37 47.3	+1.2
H18K				IAmb	IAmb	19 38 17.3	
	comp=Z,5.1nm,1.3s						
C19K	Lookout Ridge	45.73	26	P	P	19 37 49.9	+1.6
KURBB	Kurchatov Arra	45.92	308	P	P	19 37 48.1	-2.0
	comp=Z,1.3nm,0.2s,baz=83,slow=8.1,SNR=1.5						
	comp=Z,1.3nm,0.2s						
D19K	Kuna River	46.12	27	P	P	19 37 52.7	+1.2
E19K	Redstone River	46.26	28	P	P	19 37 53.9	+1.4
E19K				IAmb	IAmb	19 38 18.6	
	comp=Z,3.7nm,1.4s						
H19K	Roundabout Mou	46.28	31	P	P	19 37 53.1	+0.4
H19K				IAmb	IAmb	19 37 56.8	
	comp=Z,6.6nm,1.5s						
B20K	Meade River	46.76	25	P	P	19 37 57.2	+0.9
B21K	Ikpikpuk River	47.56	25	P	P	19 38 04.1	+1.5
B21K				IAmb	IAmb	19 38 05.0	
	comp=Z,1.9nm,0.8s						
ILAR	Eielson Array	50.29	32	P	P	19 38 24.4	+0.8
	comp=Z,0.6nm,0.7s,baz=267,slow=6.0,SNR=7.1						
	comp=Z,0.6nm,0.7s						
WB0	Warramunga Arr	56.23	187	P	P	19 39 08.1	+0.5
WB0				IAmb	IAmb	19 39 35.6	
	comp=Z,3.2nm,1.1s						
WR0	Warramunga Arr	56.40	187	P	P	19 39 05.9	-2.9
WB2	Warramunga Arr	56.40	187	P	P	19 39 05.6	-3.3
WRA	Warramunga Arr	56.41	187	P	P	19 39 07.7	-1.2
WRA	Warramunga Arr	56.41	187	P	P	19 39 08.0	-0.9
	comp=Z,0.5nm,0.7s,baz=2.6,slow=7.1,SNR=8.0						
	comp=Z,0.5nm,0.7s						

IDC 03 19:36:44.7±1.0, 54.°26N×168.°89E, h0km, mb3.4/9, mbtmp3.5/11, ML3.6/2, MS2.7/1, Error ellipse: s-maj=32.7km s-min=17.0km az=3.0
KRSC 03 19:36:49.4±1.9, 54.°18N×168.°06E, h19km±31km, Ml3.9
ISC 03 19:36:47.6±0.7, 54.°28N±0.°09×168.°78E±0.°06, h20km, n34, σ1.s55/34, mb3.3/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	Bering	1.87	301	eP	Pn	19 37 16.5	-1.9
BKI				eS	Sn	19 37 38.4	-3.0
SHEM	Shemya Is, Ala	3.54	114	Pn	Pn	19 37 39.9	-1.4
	15nm,0.3s,baz=30,slow=3.5,SNR=9.6						
SHEM				Sn	Sn	19 38 21.9	-0.6
	14nm,0.3s,baz=207,slow=16,SNR=1.8						
	62nm,0.5s						
KBTR	Krutoberegovo	3.92	302	eP	Pn	19 37 46.2	-0.3
KBTR				eS	Sn	19 38 30.2	-1.7
TUMD	Tumrok D	4.94	284	eP	Pn	19 38 01.6	+1.0
TUMD				eS	Sn	19 38 56.3	-0.8
TUMR	Tumrok	5.09	285	eP	Pn	19 38 05.0	+2.2
KMNR	Kamenistaya	5.13	290	eP	Pn	19 38 06.3	+3.0
KII	Karymskiy	5.49	271	eP	Pn	19 38 08.8	+0.7
SRDR	Sredinnyy	5.56	295	eP	Pn	19 38 11.1	+1.9
SMAR	Somma	6.00	264	eP	Pn	19 38 16.1	+0.7
UGLR	Uglovaya	6.00	264	eP	Pn	19 38 15.9	+0.7
AVH	Avacha	6.04	264	eP	Pn	19 38 16.8	+1.1
KRX	Arik	6.07	265	eP	Pn	19 38 16.3	+0.1
DALK	Dalny	6.09	262	eP	Pn	19 38 16.4	0.0
KOK	Koryaka	6.09	265	eP	Pn	19 38 16.7	+0.2
PET	Petropavlovsk	6.15	262	eP	Pn	19 38 17.5	+0.3
KRMR	Karymshinskiy	6.51	261	eP	Pn	19 38 22.4	+0.3
KRMR				eS	Sn	19 39 31.0	-4.6
GRL	Gorelyy	6.63	259	eP	Pn	19 38 24.7	+0.9
PETK	Petropavlovsk-	6.68	264	Pn	Pn	19 38 25.0	+0.5
	2.5nm,0.3s,baz=90,slow=19,SNR=38						
PETK				Sn	Sn	19 39 39.8	-0.2
	0.9nm,0.3s,baz=148,slow=28,SNR=6.6						
PETK				LR	LR	19 40 26.9	
	comp=Z,65nm,21.6s,slow=33						
	3.4nm,0.4s						
ASAK	Asacha	6.79	258	eP	Pn	19 38 26.7	+0.7
KDAK	Kodiak Island	21.67	65	P	P	19 41 34.4	-2.1
	9.9nm,1.1s,baz=297,slow=9.0,SNR=2.6						
	9.9nm,1.1s						
ILAR	Eielson Array	24.27	47	P	P	19 42 04.2	+1.1
	0.2nm,0.7s,baz=248,slow=6.6,SNR=2.9						
	0.2nm,0.7s						
H11N2	WAKE ISLAND Hy	34.52	183	T	T	20 20 13.4	
	baz=1.8,slow=76,SNR=280						
H11N3	WAKE ISLAND Hy	34.53	183	T	T	20 20 07.5	
	baz=1.8,slow=76,SNR=251						
H11N1	WAKE ISLAND Hy	34.53	183	T	T	20 20 12.5	
	baz=1.8,slow=76,SNR=304						
H11S1	WAKE ISLAND Hy	35.74	183	T	T	20 21 43.7	
	baz=2.0,slow=76,SNR=77						
H11S3	WAKE ISLAND Hy	35.75	183	T	T	20 21 45.2	
	baz=2.0,slow=76,SNR=42						
H11S2	WAKE ISLAND Hy	35.76	183	T	T	20 21 44.5	
	baz=2.0,slow=76,SNR=103						
SONM	Songino Array	38.58	287	P	P	19 44 10.4	+1.5
	0.4nm,0.6s,baz=70,slow=8.0,SNR=2.6						
	0.4nm,0.6s						
YKA	Yellowknife Ar	38.70	46	P	P	19 44 09.2	-0.3
	0.1nm,0.4s,baz=287,slow=9.4,SNR=1.6						
	0.1nm,0.4s						
MKAR	Makanchi Array	52.17	300	P	P	19 45 57.9	+1.5
	0.2nm,0.6s,baz=64,slow=6.6,SNR=2.1						
	0.2nm,0.6s						
BVAR	Borovoye Array	53.57	312	P	P	19 46 05.6	-1.0
	0.5nm,0.4s,baz=52,slow=8.7,SNR=4.8						
	0.5nm,0.4s						
TXAR	Lajitas Array	65.38	74	P	P	19 47 28.9	+0.4
	0.2nm,0.5s,baz=298,slow=5.0,SNR=5.9						
	0.2nm,0.5s						
GERES	GERESS Array B	75.12	343	P	P	19 48 28.6	+0.7
	0.7nm,0.6s,baz=38,slow=3.7,SNR=3.7						
	0.7nm,0.6s						
ASAR	Alice Springs	83.23	212	P	P	19 49 12.5	+0.3
	0.1nm,0.8s,baz=26,slow=4.4,SNR=2.6						
	0.1nm,0.8s						

AFAD 03 19:59:54.1±0.0, 36.°32N×30.°07E, h39km±1km, ML2.3
ISK 03 19:59:55.6, 36.°44N×29.°98E, h11km, ML2.5/11
ISC 03 19:59:55.6±1.1, 36.°38N±0.°05×30.°05E±0.°03, h27km±8km, n27, σ0.s97/42, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMR	Demre-Antalya	0.18	219	Pg	Pb	20 00 00.8	-0.6
AKUM	Antalya-Kumluc	0.24	103	P	Pb	20 00 02.0	0.0
AKUM				S	Sn	20 00 07.3	+0.9
AKUM				iAML	AML	20 00 08.0	
	comp=N,484nm,0.3s						
AKUM				iAML	AML	20 00 10.0	
	comp=E,256nm,0.3s						
ELL	Elmali	0.39	343	Pg	Pb	20 00 02.9	-1.3
KEMT	Kemer-ANTALYA	0.47	61	Pg	Pb	20 00 05.0	-0.4
KNIK	Mula-Seydike	0.60	321	P	Pn	20 00 07.7	-0.8
KNIK				S	Sn	20 00 18.1	+0.6
KNIK				iAML	AML	20 00 21.0	
	comp=E,75nm,0.2s						
KORT	Korkueli	0.67	21	Pg	Pn	20 00 08.5	-0.9
KORT				Sg	Sb	20 00 17.7	-0.1
KORT	Korkueli	0.67	21	P	Pn	20 00 08.6	-0.8
KORT				S	Sb	20 00 17.5	-0.3
KORT				iAML	AML	20 00 22.0	
	comp=E,81nm,0.4s						
IZZE	Mula-Seydike	0.67	275	P	Pn	20 00 08.2	-1.1
IZZE				S	Sn	20 00 19.1	+0.2
IZZE				iAML	AML	20 00 21.0	
	comp=N,641nm,0.4s						
ANTB	Antalya	0.71	43	Pg	Pn	20 00 09.9	0.0
FETY	Fethiye	0.82	288	Pg	Pn	20 00 10.7	-0.7
FETY	Fethiye	0.82	288	P	Pn	20 00 13.4	+2.0
CAME	Cameli-Denizli	0.82	313	Pg	Pb	20 00 10.5	-1.0
GOLH	Golhisar	0.94	335	P	Pn	20 00 13.1	-0.1
GOLH				S	Sn	20 00 27.3	+1.5
GOLH				iAML	AML	20 00 35.0	
	comp=E,36nm,0.7s						
CAEL	Denizli, Camel	0.95	322	P	Pn	20 00 13.6	+0.4
CAEL				S	Sn	20 00 28.8	+2.8
CAEL				iAML	AML	20 00 37.0	
	comp=E,95nm,0.5s						
SABU	Mula-Dalaman	0.98	297	P	Pb	20 00 13.0	-0.9
SABU				S	Sn	20 00 26.9	+0.3
SABU				iAML	AML	20 00 29.0	
	comp=N,50nm,0.2s						
SABU				iAML	AML	20 00 29.0	
	comp=E,82nm,0.3s						
DALY	Dalyan (Mula)	1.21	292	Pn	Pb	20 00 16.9	-0.9
DALY				Sn	Sb	20 00 33.7	+0.7
APMY	Acipayam-Deniz	1.25	331	Pn	Pb	20 00 18.3	-0.2
KEPZ	Antalya-Kepez	1.35	67	P	Pb	20 00 19.3	-1.0
INCE	Denizli-Bozkur	1.38	344	P	Pb	20 00 19.9	-0.9
TAVA	DENIZLI_Tavas	1.42	320	P	Pb	20 00 21.3	-0.2
TAVA				S	Sb	20 00 39.8	+0.7
TAVA				iAML	AML	20 00 43.0	
	comp=E,38nm,0.2s						
DNIZ	Denizli-Tavas-	1.48	327	P	Pb	20 00 22.5	-0.1
DNIZ				S	Sb	20 00 42.8	+1.7
DNIZ				iAML	AML	20 00 45.0	
	comp=E,215nm,0.2s						
DNIZ				iAML	AML	20 00 46.0	
	comp=N,158nm,0.3s						
TURN	Turunc	1.51	286	Pn	Pb	20 00 22.2	-0.7
TURN	Turunc	1.51	286	P	Pb	20 00 22.4	-0.5
TURN				S	Sb	20 00 41.3	-0.3
TURN				iAML	AML	20 00 44.0	
	comp=N,77nm,0.4s						
YER	Yerkesik	1.61	298	Pn	Pb	20 00 23.5	-1.2
MULA	Mugla, Merkez-	1.64	303	P	Pb	20 00 24.4	-0.8
MULA				iAML	AML	20 00 39.0	
	comp=N,19nm,0.8s						
MULA				S	Sn	20 00 43.1	+0.1
MULA				iAML	AML	20 00 49.0	
	comp=E,70nm,0.3s						
ESEN	Aydn-Nazilli	1.96	317	P	Pb	20 00 29.3	-1.4
ESEN				S	Sb	20 00 54.9	+0.1
ESEN				iAML	AML	20 00 57.0	
	comp=E,19nm,0.3s						
PASA	Karahalli, USA	2.02	347	P	Pn	20 00 27.7	-0.2
PASA				S	Sn	20 00 52.9	+0.7

IDC 03 20:02:02.8±1.3, 51.°40N×175.°82W, h0km, mb3.4/7, mbtmp3.5/8, ML3.5/1, Error ellipse: s-maj=39.7km s-min=21.2km az=165.0
NEIC 03 20:02:08.4±1.4, 51.°45N±0.°04×175.°75W±0.°04, h30km±7km, mb3.9/42, ML3.5(AEIC), Error ellipse: s-maj=6.8km s-min=2.8km az=206.0
AEIC 03 20:02:09.0±2.2, 51.°53N±0.°04×175.°80W±0.°05, h51km±8km, Error ellipse: s-maj=6.8km s-min=4.5km az=202.0
ISC 03 20:02:08.8±1.7, 51.°4N±0.°1×175.°80W±0.°04, h41km±15km, n97, σ1.s45/96, mb3.8/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSCK	Great Sitkin C	0.61	338		Pn	20 02 21.7	+0.5
GSCK					Sn	20 02 29.7	-0.2
GSMY	Great Sitkin M	0.62	345		Pn	20 02 21.7	+0.5
ADK	Adak	0.70	309		Sn	20 02 32.2	+0.1
ADK	Adak	0.70	309		Pn	20 02 22.1	-0.2
ADK					Sn	20 02 31.9	-0.2
ADK	Adak	0.70	309	P	Pn	20 02 22.0	-0.3
ADAG	Mount Adagdak	0.73	317		Pn	20 02 23.4	+0.7
KIRH	Kanaga Island	0.93	300		Pn	20 02 25.8	+0.4
KIRH					Sn	20 02 38.3	+0.8
KIWB	Kanaga Island	0.94	296		Pn	20 02 25.6	+0.1
KIWB	Kanaga Island	0.94	296		Sn	20 02 38.7	+1.0
KICM	Kanaga Island	0.99	299		Pn	20 02 26.6	+0.4
KICM					Sn	20 02 40.4	+1.4
ATKA	Atka Island	1.25	52		Sn	20 02 44.7	-0.7
ATKA	Atka Island	1.25	52	Pn	Pn	20 02 29.6	-0.2
ATKA	Atka Island	1.25	52	P	Pn	20 02 29.7	-0.1
KOKL	Mount Kliuchef	1.33	48		Pn	20 02 31.1	+0.2
KOFP	Korovin Flat P	1.34	51		Pn	20 02 31.1	-0.1
TAFP	Tanaga Falls P	1.44	289		Pn	20 02 33.0	+0.6
TAFP					Sn	20 02 51.3	+1.3
TASE	Tanaga Southea	1.45	287		Pn	20 02 33.1	+0.6
GANE	Gareloi Northe	1.89	283		Pn	20 02 39.9	+1.2
CEAP	Semis' Anvil P	2.93	283		Pn	20 02 53.2	+0.3
CLCO	Concord Point,	3.98	68		Pn	20 03 08.6	+1.4
NIKH	Nikolski High	4.54	68		Pn	20 03 16.2	+1.3
NIKH	Nikolski High	4.54	68	P	Pn	20 03 18.1	+3.2
UNV	Unalaska Valle	6.15	63	P	Pn	20 03 40.5	+3.5
SPIA	Saint Paul Isl	6.60	27	P	Pn	20 03 47.2	+4.1
SDPT	Sand Point	9.95	61	P	Pn	20 04 31.4	+2.4
CNBA	Chernabura Isl	10.31	65	Pn	Pn	20 04 34.0	0.0
M13K	Dall Lake	11.36	33	Pn	Pn	20 04 51.0	+2.7
O14K	Tigyukauivet M	11.37	41	Pn	Pn	20 04 51.8	+3.4
M14K	Bethel	12.08	34	Pn	Pn	20 05 01.9	+3.7
L14K	Kuka Creek	12.27	31	Pn	Pn	20 04 58.7	-2.0
N15K	Kwethluk River	12.40	39	Pn	Pn	20 05 06.5	+4.0
O16K	Kokwok River B	12.90	44	Pn	Pn	20 05 12.4	+3.1
J14K	Nanvaranak Lak	13.11	25	Pn	Pn	20 05 10.0	-2.2
M17K	Holitna River	14.18	38	Pn	Pn	20 05 25.4	-1.4
O18K	Koktuh Hills	14.30	46	Pn	Pn	20 05 28.3	-0.1
OHAK	Old Harbor	14.31	57	Pn	Pn	20 05 26.0	-2.6
KDAK	Kodiak Island	14.82	56	Pn	Pn	20 05 34.2	-1.2
KDAK	Kodiak Island	14.82	56	Pn	Pn	20 05 33.4	-2.0
	0.2nm,0.3s,baz=321,slow=1.7,SNR=12						
KDAK				Sn	Sn	20 08 19.1	+0.9
	0.2nm,0.3s,baz=223,slow=19,SNR=1.9						
	2.4nm,0.5s						
N19K	Bonanza Creek	15.07	43	Pn	Pn	20 05 38.5	-0.2
N19K				IAmb	IAmb	20 05 48.8	
	comp=Z,6.9nm,0.8s						
G16K	Koyuk River	15.60	21	Pn	Pn	20 05 45.3	-0.2
G16K				IAmb	IAmb	20 05 45.4	
	comp=Z,9.2nm,1.4s						
CNPM	China Poot	16.02	50	Pn	Pn	20 05 50.7	-0.3
BRLK	Bradley Lake	16.27	50	Pn	Pn	20 05 53.8	-0.3
KTH	Kantishna Hill	17.89	38	Pn	Pn	20 06 12.9	-1.4
KTH				IAmb	IAmb	20 06 18.9	
	comp=Z,14nm,1.3s						
TRF	Thorofare Moun	18.09	39	Pn	Pn	20 06 14.5	-2.4
TRF				IAmb	IAmb	20 06 40.0	
	comp=Z,14nm,1.5s						
SML	Sawmill	18.18	45		P	20 06 16.5	-1.3
SML				IAmb	IAmb	20 06 44.9	
	comp=Z,22nm,1.4s						
IMAR	Indian Mountai	18.37	29	P	Pn	20 06 20.4	+0.3
H21K	Melozitna Rive	18.45	31	Pn	Pn	20 06 22.7	+1.6
HIN	Hinchinbrook I	18.56	50	P	P	20 06 19.6	-2.3
SCM	Sheep Creek Mo	18.63	45	P	P	20 06 22.6	-0.2
RND	Reindeer	18.63	40	P	P	20 06 22.1	-0.7
RND				IAmb	IAmb	20 06 28.1	
	comp=Z,4.9nm,0.6s						
FID	Port Fidalgo	18.67	49	P	P	20 06 20.3	-2.8
MLY	Manley	18.77	34	P	P	20 06 24.4	+0.2
DHY	Denali Highway	19.09	41	P	P	20 06 27.6	-0.3
M24K	Tolsona, Glenn	19.24	45	P	P	20 06 29.9	+0.5
M24K				IAmb	IAmb	20 07 07.0	
	comp=Z,4.2nm,0.7s						
I23K	Minto, Yukon-K	19.32	35	P	P	20 06 30.5	+0.4
MDM	Murphy Dome	19.63	36	P	P	20 06 33.9	+0.3
CCB	Clear Creek Bu	19.63	37	P	P	20 06 34.2	+0.6
HDA	Harding Lake	19.84	38	P	P	20 06 36.5	+0.6
HDA				IAmb	IAmb	20 06 40.2	
	comp=Z,9.1nm,1.2s						
IL31		20.04	37	P	Pn	20 06 39.2	-0.8
ILAR	Eielson Array	20.04	37	P	P	20 06 38.9	+0.9
ILAR	Eielson Array	20.04	37	P	P	20 06 37.4	-0.7
	comp=Z,1.0nm,0.7s,baz=225,slow=9.3,SNR=24						
	comp=Z,1.0nm,0.7s						
H24K	Noodor Dome	20.21	34	P	P	20 06 40.2	+0.3
H24K				IAmb	IAmb	20 06 45.7	
	comp=Z,4.1nm,0.7s						
SNH	Sunshine Point	20.28	52	P	P	20 06 37.3	-3.5
E22K	Anaktuvuk Pass	20.39	26	P	P	20 06 42.4	+0.6
RIDG	Independent Ri	20.40	41	P	P	20 06 41.2	-0.8
RIDG				IAmb	IAmb	20 06 47.4	
	comp=Z,5.5nm,0.8s						
J25K	Salcha River,	20.55	38	P	P	20 06 43.3	-0.3
B20K	Meade River	20.56	18	P	P	20 06 43.3	-0.3
B20K				IAmb	IAmb	20 06 51.0	
	comp=Z,3.8nm,1.0s						
D22K	Ayikyak River	20.68	24	P	P	20 06 45.5	+0.5
D22K				IAmb	IAmb	20 06 53.7	
	comp=Z,7.9nm,1.4s						
B21K	Ikpikpuk River	20.78	21	P	P	20 06 47.4	+1.4
SCRK	Sand Creek	20.84	41	P	P	20 06 46.1	-0.8
J26L	Joseph Creek	21.21	40	P	P	20 06 50.8	0.0
J26L				IAmb	IAmb	20 06 56.5	
	comp=Z,6.1nm,0.9s						
L27K	Beaver Creek,	21.45	44	P	P	20 06 53.1	-0.2
L27K				IAmb	IAmb	20 06 57.1	
	comp=Z,7.4nm,1.4s						
BCAR	Beaver Creek A	21.47	44	P	P	20 06 52.9	-0.7
B22K	Teshekpuk Lake	21.60	20	P	P	20 06 55.0	+0.2
K27K	Chicken	21.65	42	P	P	20 06 55.8	+0.4
K27K				IAmb	IAmb	20 07 04.3	
	comp=Z,5.5nm,0.8s						
C23K	Itkillik River	21.88	23	P	P	20 06 58.1	+0.3
BMAR	Burnt Mountain	22.16	32	P	P	20 07 00.3	-0.7
EGAK	Eagle	22.28	40	P	P	20 07 00.4	-1.7
EGAK				IAmb	IAmb	20 07 31.7	
	comp=Z,4.7nm,1.0s						
DAWY	Dawson	22.78	42	P	P	20 07 07.3	-0.3
DAWY				IAmb	IAmb	20 07 32.5	
	comp=Z,4.7nm,1.5s						
I28M	Miner Creek	23.00	39	P	P	20 07 08.3	-1.5
I28M				IAmb	IAmb	20 07 14.7	
	comp=Z,6.5nm,1.2s						
K29M	Barlow Dome	23.52	43	P	P	20 07 14.4	-0.6
K29M				IAmb	IAmb	20 07 30.5	
	comp=Z,7.4nm,1.4s						
H29M	Whitestone	23.87	38		P	20 07 17.7	-0.4
J30M	Hart River	24.20	42	P	P	20 07 20.9	-0.4
J30M				IAmb	IAmb	20 07 26.7	
	comp=Z,2.5nm,0.9s						
I30M	Mount Dempster	24.35	40	P	P	20 07 22.0	-0.7
I30M				IAmb	IAmb	20 07 27.3	
	comp=Z,2.8nm,0.8s						
G30M	tAoh Zraii Nji	24.93	36	P	P	20 07 28.2	+0.4
G30M				IAmb	IAmb	20 08 04.7	
	comp=Z,5.1nm,1.4s						
YKA	Yellowknife Ar	33.82	47	P	P	20 08 46.8	+0.1
	comp=Z,0.2nm,0.7s,baz=286,slow=8.8,SNR=2.5						
	comp=Z,0.2nm,0.7s						
H11N2	WAKE ISLAND Hy	34.45	210	T	T	20 45 35.9	
	baz=18,slow=76,SNR=37						
H11N3	WAKE ISLAND Hy	34.46	210	T	T	20 45 36.5	
	baz=18,slow=76,SNR=38						
H11N1	WAKE ISLAND Hy	34.47	210	T	T	20 45 37.3	
	baz=18,slow=76,SNR=48						
H11S1	WAKE ISLAND Hy	35.66	209	T	T	20 47 03.5	
	baz=18,slow=76,SNR=28						
H11S2	WAKE ISLAND Hy	35.68	209	T	T	20 47 07.4	
	baz=18,slow=76,SNR=16						
H11S3	WAKE ISLAND Hy	35.68	209	T	T	20 47 07.3	
	baz=18,slow=76,SNR=13						
PDAR	Pinedale Array	44.49	74	P	P	20 10 16.0	-0.2
	comp=Z,0.6nm,0.6s,baz=308,slow=4.7,SNR=6.1						
	comp=Z,0.6nm,0.6s						
TXAR	Lajitas Array	56.78	83	P	P	20 11 48.9	+0.1
	comp=Z,0.3nm,0.4s,baz=303,slow=6.1,SNR=8.5						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	61.45	310	P	P	20 12 20.4	-0.4
	comp=Z,0.2nm,0.8s,baz=42,slow=6.8,SNR=2.0						
	comp=Z,0.2nm,0.8s						
BVAR	Borovoye Array	62.03	321	P	P	20 12 25.3	+0.6
	comp=Z,0.3nm,0.5s,baz=40,slow=5.6,SNR=2.6						
	comp=Z,0.3nm,0.5s						
ASAR	Alice Springs	86.83	225	P	P	20 14 48.8	0.0
	comp=Z,0.4nm,0.8s,baz=26,slow=5.1,SNR=3.0						
	comp=Z,0.4nm,0.8s						

SJA 03 20:24:52.3±0.7, 21.°93S×68.°50W, h120km±4km, ML3.4, MW3.6
GUC 03 20:24:54.8±0.7, 21.°91S×68.°73W, h115km±4km, ML3.3
ISC 03 20:24:55.2±1.5, 21.°93S±0.°03×68.°65W±0.°06, h114km±11km, n31, σ1.s05/61, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.56	284	eP	Pn	20 25 12.3	-0.8
PB09				eS	Sn	20 25 27.8	+1.3
PB09				IAML		20 25 28.9	
	comp=Z,855nm,0.6s						
PB09	IPOC Station P	0.56	284	⇑iP	Pn	20 25 12.9	-0.2
PB09				eS	Sn	20 25 26.4	-0.2
PB09				IAML		20 25 28.8	
	comp=E,943nm,0.6s						
LVC	Limon Verde	0.72	199	eP	Pn	20 25 13.3	-1.2
LVC				eS	Sn	20 25 29.0	-0.1
LVC				IAML		20 25 29.6	
	comp=Z,388nm,0.2s						
PB06	IPOC Station P	1.15	228	eP	Pn	20 25 17.6	-0.8
PB06				eS	Sn	20 25 37.0	+0.9
PB06				IAML		20 25 37.2	
	comp=Z,489nm,0.5s						
PB06	IPOC Station P	1.15	228	⇑iP	Pn	20 25 18.2	-0.3
PB06				eS	Sn	20 25 36.0	-0.1
PB06				IAML		20 25 36.9	
	comp=N,884nm,0.4s						
PB07	IPOC Station P	1.16	280	eP	Pn	20 25 18.5	-0.2
PB07				eS	Sn	20 25 38.0	+1.6
PB07				IAML		20 25 38.3	
	comp=Z,428nm,0.3s						
PB07	IPOC Station P	1.16	280	⇑iP	Pn	20 25 18.4	-0.2
PB07				eS	Sn	20 25 36.3	0.0
PB07				IAML		20 25 39.0	
	comp=N,682nm,0.3s						
PB01	IPOC Station P	1.18	318	eP	Pn	20 25 18.2	-0.5
PB01				eS	Sn	20 25 38.1	+1.7
PB01				IAML		20 25 39.0	
	comp=Z,289nm,0.2s						
PB01	IPOC Station P	1.18	318	⇑iP	Pn	20 25 18.2	-0.5
PB01				eS	Sn	20 25 35.4	-1.0
PB01				IAML		20 25 40.1	
	comp=E,720nm,0.2s						
PB02	IPOC Station P	1.31	297	eP	Pn	20 25 19.8	-0.3
PB02				eS	Sn	20 25 40.1	+1.1
PB02				IAML		20 25 42.2	
	comp=Z,633nm,0.2s						
PB02	IPOC Station P	1.31	297	⇑iP	Pn	20 25 19.5	-0.6
PB02				eS	Sn	20 25 38.1	-0.9
PB02				IAML		20 25 45.1	
	comp=E,647nm,0.2s						
PB04	IPOC Station P	1.45	254	eP	Pn	20 25 21.5	-0.2
PB04				eS	Sn	20 25 43.2	+1.3
PB04				IAML		20 25 49.3	
	comp=Z,323nm,0.3s						
PB04	IPOC Station P	1.45	254	⇑iP	Pn	20 25 21.2	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB04				eS	Sn	20 25 41.5	-0.4
PB04				IAML		20 25 50.5	
	comp=N,579nm,0.5s						
PB15	IPOC Station P	1.48	211	eP	Pn	20 25 21.6	-0.6
PB15				eS	Sn	20 25 43.8	+1.0
PB15				IAML		20 25 46.7	
	comp=Z,2μm,0.2s						
PB15	IPOC Station P	1.48	211	⇑iP	Pn	20 25 21.9	-0.3
PB15				eS	Sn	20 25 43.6	+0.9
PB05	IPOC Station P	1.70	237	eP	Pn	20 25 24.4	-0.5
PB05				eS	Sn	20 25 50.2	+2.9
PB05				IAML		20 25 54.2	
	comp=Z,183nm,0.5s						
PB05	IPOC Station P	1.70	237	i P	Pn	20 25 24.2	-0.6
PB05				eS	Sn	20 25 47.1	-0.2
PB05				IAML		20 25 53.6	
	comp=E,399nm,0.4s						
PATCX	Punta Patache	1.78	308	eP	Pn	20 25 25.4	-0.4
PATCX				eS	Sn	20 25 47.5	-1.6
PATCX				eS	Sn	20 25 52.6	+3.6
PATCX				IAML		20 25 59.4	
	comp=Z,205nm,0.4s						
PB08	IPOC Station P	1.84	345	eP	Pn	20 25 26.8	0.0
PB08				eS	Sn	20 25 52.6	+1.9
PB08	IPOC Station P	1.84	345	i P	Pn	20 25 27.1	+0.3
PB08				eS	Sn	20 25 51.4	+0.6
PB08				IAML		20 25 53.5	
	comp=E,220nm,0.3s						
TA01	Diego Aracena	1.97	313	eP	Pn	20 25 27.5	-0.5
TA01				eS	Sn	20 25 54.4	+1.4
TA01				IAML		20 26 00.3	
	comp=Z,152nm,0.5s						
TA01	Diego Aracena	1.97	313	i P	Pn	20 25 27.1	-0.9
TA01				eS	Sn	20 25 52.2	-0.8
TA01				IAML		20 25 55.6	
	comp=E,318nm,0.2s						
HMBC	Humberstone	2.01	325	eP	Pn	20 25 27.8	-0.8
HMBC				eP	Pn	20 25 27.9	-0.8
HMBC				eS	Sn	20 25 54.1	-0.1
HMBC				IAML		20 26 06.5	
	comp=Z,289nm,0.3s						
HMBC	Humberstone	2.01	325	⇑iP	Pn	20 25 27.8	-0.8
HMBC				eS	Sn	20 25 53.5	-0.6
HMBC				IAML		20 25 55.6	
	comp=E,498nm,0.4s						
GO01	Chusmiza	2.31	347	eP	Pn	20 25 25.3	-7.4
GO01				eP	Pn	20 25 32.7	0.0
GO01				eS	Sn	20 25 59.0	-2.5
GO01	Chusmiza	2.31	347	⇑iP	Pn	20 25 32.8	0.0
GO01				eS	Sn	20 26 02.2	+0.7
PB11	IPOC Station P	2.35	336	eP	Pn	20 25 32.4	-0.7
PB11				eS	Sn	20 26 02.4	+0.3
PB11				IAML		20 26 07.8	
	comp=Z,152nm,0.3s						
PB11	IPOC Station P	2.35	336	⇑iP	Pn	20 25 32.3	-0.7
PB11				IAML		20 26 08.1	
	comp=E,245nm,0.4s						
YJA	Yavi	2.92	95	eP	Pn	20 25 40.8	+0.1
GO02	Mina Guanaco	3.33	195	eP	Pn	20 25 45.0	-0.9
GO02				eS	Sn	20 26 25.3	+0.2
GO02				IAML		20 26 37.1	
	comp=Z,68nm,0.3s						
PB16	IPOC Station P	3.67	347	eP	Pn	20 25 51.0	+0.3

*TEH **03** 20:42:30.4, 31.°42N×56.°26E, h8km±24km, ML4.3*
*IDC **03** 20:42:31.2±0.9, 31.°39N×56.°23E, h0km, mb3.8/13, mbtmp3.9/21, ML3.6/8, MS3.7/16, Error ellipse: s-maj=18.1km s-min=15.1km az=163.0*
*NEIC **03** 20:42:32.5±2.8, 31.°64N±0.°08×56.°16E±0.°07, h10km±1km, mb4.0/23, Error ellipse: s-maj=14.2km s-min=9.1km az=331.0*
*OMAN **03** 20:42:43.5±2.4, 30.°65N×56.°35E, h10km, mb4.2/7, ml3.5/3, ms3.2/1, Error ellipse: s-maj=21.6km s-min=19.3km az=3.0*
ISC 03 20:42:31.8±0.4**, 31.°38N**±0.°04×**56.°28E**±0.°04**, h10km, n154, σ2.s08**/157**, mb4.0**/28**, MS3.6**/13**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.47	152	Pg	Pg	20 42 40.9	-0.1
IBAF	Bafgh	0.64	289	Pg	Pg	20 42 43.0	-1.3
KHGB	Koh Gabri	1.02	170	Pg	Pg	20 42 50.6	-0.8
KRM1	Kerman Provinc	1.23	136	Pg	Pb	20 42 55.2	0.0
IMEH	Mehriz	1.42	271	Pg	Pn	20 42 57.2	-0.8
TVBK	TV Kerman	1.45	163	Pg	Pn	20 42 59.1	+0.6
TPRV	Parvadeh(Tabas	1.68	12	Pg	Pn	20 43 02.0	+0.8
NGRK	Negar Kerman	1.78	167	Pn	Pb	20 43 05.0	+0.3
ICHK	Chekchek	1.81	299	Pg	Pn	20 43 03.7	+0.5
CHMN	Cheshme madani	1.87	144	Pn	Pb	20 43 06.4	+0.2
ISAD	Sadrabad	2.27	284	Pn	Pn	20 43 11.2	+1.5
TKDS	Koohdasht(Taba	2.33	18	Pn	Pn	20 43 11.2	+0.9
BSRN	Basiran	2.50	76	Pn	Pn	20 43 13.7	+1.1
IKOO	Kooshah	2.54	65	Pn	Pn	20 43 14.8	+1.4
ITEG	Tejag	2.58	54	Pn	Pn	20 43 14.3	+0.5
TNSJ	Nastanj	2.59	6	Pn	Pn	20 43 14.6	+0.7
KBAM	BAM	2.93	139	Pn	Pn	20 43 20.3	+1.9
AFRZ	Afriz	3.08	48	Pn	Pn	20 43 21.3	+0.6
NHDN	Nehbandan	3.23	89	Pn	Pn	20 43 23.9	+1.3
IDAH	Dahanechah	3.33	65	Pn	Pn	20 43 25.4	+1.1
IRAM	Ramesheh	3.35	278	Pn	Pn	20 43 26.0	+1.5
IZEF	Zefreh	3.67	295	Pn	Pn	20 43 30.9	+2.0
IGAR	Gharneh	3.74	287	Pn	Pn	20 43 31.8	+1.9
GENO	Geno	3.97	181	Pn	Pn	20 43 35.5	+2.6
KLNJ	Kolanjah	4.03	266	Pn	Pn	20 43 36.5	+2.6
SHRT	Shahrakht	4.07	55	Pn	Pn	20 43 35.8	+1.5
IBRJ	Brojen	4.31	278	Pn	Pn	20 43 40.3	+2.6
KRSH	Karshahi	4.34	308	Pn	Pn	20 43 40.1	+2.1
ZHDN	Zahedan	4.39	116	Pn	Pn	20 43 40.4	+1.8
IKLH	Kolahrood	4.42	297	Pn	Pn	20 43 41.3	+2.1
ISFB	Sefidab	4.50	312	Pn	Pn	20 43 41.6	+1.5
IANJ	Anjilo	4.53	335	Pn	Pn	20 43 42.0	+1.3
TBHD	Torbat heydari	4.72	31	Pn	Pn	20 43 44.4	+1.2
QAMS	Qamsar	4.74	301	Pn	Pn	20 43 45.4	+1.8
IPIR	Pirpir	4.75	287	Pn	Pn	20 43 46.7	+2.9
JHBN	Jahan bin	4.85	281	Pn	Pn	20 43 47.3	+2.2
ILAS	Lasjerd	4.86	326	Pn	Pn	20 43 47.0	+1.9
SBZV	Sabzevar	5.11	12	Pn	Pn	20 43 50.2	+1.6
TBJM	Torbat-e-JAM	5.15	40	Pn	Pn	20 43 50.7	+1.6
IFIR	Firoozkooh	5.17	326	Pn	Pn	20 43 50.9	+1.4
IVRN	Varamin	5.25	315	Pn	Pn	20 43 52.9	+2.5
DSBU	Dashti - Bushe	5.30	237	Pn	Pn	20 43 52.6	+1.6
SHME	Shamm	5.32	181	Pn	Pn	20 43 52.8	+1.5
SHME	Shamm	5.32	181	Pn	Pn	20 43 52.8	+1.5
SHME				Sn	Sn	20 44 48.8	-3.8
IMOG	Moghan	5.36	28	Pn	Pn	20 43 53.5	+1.4
BANOM	Banah	5.44	180	Pn	Pn	20 43 55.2	+2.2
BANOM	Banah	5.44	180	Pn	Pn	20 43 55.1	+2.2
BANOM				Sn	Sn	20 44 49.2	-6.5
IDMV	Damavand	5.48	321	Pn	Pn	20 43 55.4	+1.6
IGLO	Ghaloghah	5.50	339	Pn	Pn	20 43 56.1	+2.2
IQOM	Qom	5.57	310	Pn	Pn	20 43 56.9	+2.0
JRKH	Jarkhoshk	5.65	36	Pn	Pn	20 43 57.6	+1.7
JASK	Jask - Hormozg	5.67	165	Pn	Pn	20 43 58.5	+2.4
JASK	Jask - Hormozg	5.67	165	Pn	Pn	20 43 59.1	+2.9
	SNR=9.5						
JASK				Sn	Sn	20 44 55.4	-5.9
IHSB	Hasanabad	5.82	315	Pn	Pn	20 44 00.3	+2.1
HRA	Herat	5.84	58	Pn	Pn	20 44 00.1	+1.4
IPRN	Peran	5.85	327	Pn	Pn	20 44 00.9	+2.2
IMND	Minoodasht	5.90	353	Pn	Pn	20 44 01.0	+1.7
MASF	Masafi	5.99	181	Pn	Pn	20 44 05.7	+5.1
MASF				Sn	Sn	20 45 07.5	-1.8
MSFE	Esma-Masafi	6.00	181	Pn	Pn	20 44 04.0	+3.3
MRVT	Maraveh tapeh	6.26	359	Pn	Pn	20 44 05.8	+1.5
IEMG	Emamgholi	6.33	17	Pn	Pn	20 44 06.7	+1.3
IMHD	Mahdasht	6.35	314	Pn	Pn	20 44 08.3	+2.8
UOSS	Minazif	6.42	181	Pn	Pn	20 44 11.2	+4.8
HATD	Hatta, Dubai	6.54	181	Pn	Pn	20 44 10.8	+2.8
HATD				Sn	Sn	20 45 21.5	-1.1
FAQ	Al Faqa, Dubai	6.64	185	Pn	Pn	20 44 13.1	+3.6
FAQ				Sn	Sn	20 45 22.7	-2.5
SRVN	Saravan	6.65	125	Pn	Pn	20 44 12.1	+2.4
ASHO	Ashiyiah	6.68	182	Pn	Pn	20 44 12.4	+2.4
ASHO				Sn	Sn	20 45 26.4	+0.2
ASHO	Ashiyiah	6.68	182	Pn	Pn	20 44 13.6	+3.6
	SNR=10						
GEYT	Alibeck	6.70	13	Pn	Pn	20 44 11.0	+0.7
GEYT	Alibeck	6.70	13	Pn	Pn	20 44 11.0	+0.7
	2.3nm,0.3s,baz=191,slow=16,SNR=40						
GEYT				Lg	Lg	20 46 05.4	
	0.5nm,0.3s,baz=224,slow=48,SNR=1.7						
GEYT				LR	LR	20 47 18.3	
	comp=Z,621nm,19.1s,baz=196,slow=43						
	7.2nm,0.3s						
GYA0B	ALIBECK ARRAY	6.70	13	Pn	Pn	20 44 11.2	+0.9
ASUD	Al Ashush, Dub	6.78	187	Pn	Pn	20 44 15.6	+4.2
	SNR=6.7						
ASUD				Sn	Sn	20 45 26.3	-2.4
SHMA	Al-Shehemyia	7.22	222	Pn	Pn	20 44 20.5	+3.1
SHMA				Sn	Sn	20 45 38.3	-1.2
NGCH	Negor - Chabah	7.37	143	Pn	Pn	20 44 21.1	+1.7
NGCH				Sn	Sn	20 45 38.7	-4.5
SAKB	Bahrain	7.38	225	Pn	Pn	20 44 20.6	+1.1
SAKB				Sn	Sn	20 45 43.2	-0.1
QSDN	Sirdan	7.80	313	Pn	Pn	20 44 27.9	+2.3
ARQ	Araqi	8.02	178	Pn	Pn	20 44 30.7	+2.3
	SNR=11						
ARQ				Sn	Sn	20 45 53.9	-5.3
SMRA	Abu-Samra	8.18	217	Pn	Pn	20 44 31.1	+0.5
WSAR	Wadi Sarin	8.38	165	Pn	Pn	20 44 34.9	+1.5
	1.5nm,0.3s,baz=359,slow=10,SNR=25						
WSAR				Sn	Sn	20 46 05.8	-2.2
	0.2nm,0.3s,baz=131,slow=20,SNR=2.1						
	5.6nm,0.4s						
WSAR	Wadi Sarin	8.38	165	Pn	Pn	20 44 34.8	+1.5
	SNR=20						
ISRB	Sarab	9.57	315	Pn	Pn	20 44 52.4	+2.6
JLN	Jalan Bani Buh	9.61	162	Pn	Pn	20 44 51.1	+0.9
MHTO	MHTO	10.46	171	Pn	Pn	20 45 03.0	+1.1
MHTO				Pn	Pn	20 45 03.0	+1.1
SIMJ	Simiganj	12.70	52	Pn	Pn	20 45 33.5	+0.9
GNI	Garni	12.81	316	Pn	Pn	20 45 37.4	+3.4
	0.2nm,0.3s,baz=224,slow=23,SNR=1.6						
	1.4nm,0.5s						
WHFO	Wadi Hawf	13.60	190	Pn	Pn	20 45 44.1	-0.8
ABTO	Aybut	14.23	192	Pn	Pn	20 45 51.2	-2.3
NIL	Nilore	14.50	77	Pn	Pn	20 45 59.0	+1.9
ONI	Oni	15.15	321	Pn	Pn	20 46 01.3	-4.5
KK31	Karatay Array	16.26	40	Pn	Pn	20 46 18.9	-1.4
KKAR	Karatay Array	16.26	40	Pn	Pn	20 46 19.1	-1.2
KKAR	Karatay Array	16.26	40	Pn	Pn	20 46 19.3	-0.9
KKAR				IAmb	IAmb	20 46 35.9	
	comp=Z,4.4nm,1.2s						
ASF	Jabal al Asfar	16.50	278	Pn	Pn	20 46 22.2	-1.3
	comp=Z,0.2nm,0.3s,baz=95,slow=10,SNR=1.9						
ASF				LR	LR	20 54 19.7	
	comp=Z,205nm,18.5s,baz=304,slow=43						
	comp=Z,1.2nm,0.5s						
KIV	Kislovodsk	16.50	323	Pn	Pn	20 46 17.8	-5.6
KIV				IAmb	IAmb	20 46 32.1	
	comp=Z,11nm,1.3s						
MMAI	Mount Meron Ar	17.74	281	P	Pn	20 46 40.0	+1.0
	comp=Z,0.3nm,0.3s,baz=32,slow=12,SNR=1.6						
MMAI				LR	LR	20 54 50.6	
	comp=Z,175nm,18.2s,baz=48,slow=42						
	comp=Z,5.3nm,1.1s						
ABKAR	Akbulak array	18.07	8	P	Pn	20 46 40.4	-2.4
ABKAR	Akbulak array	18.07	8		Pn	20 46 39.9	-2.9
AAK	Ala-Archa	18.34	47	P	P	20 46 47.8	+1.4
AAK	Ala-Archa	18.34	47	P	P	20 46 47.6	+1.2
	comp=Z,0.1nm,0.3s,baz=224,slow=11,SNR=3.6						
	comp=Z,1.1nm,0.8s						
EIL	Elat	18.45	270	P	P	20 46 48.5	+0.9
	comp=Z,0.2nm,0.3s,baz=46,slow=5.5,SNR=4.1						
EIL				LR	LR	20 55 21.9	
	comp=Z,186nm,21.8s,baz=72,slow=42						
	comp=Z,3.1nm,0.7s						
AKTO	Aktyubinsk	19.08	3	P	P	20 46 54.9	+0.6
	comp=Z,0.3nm,0.3s,baz=180,slow=9.2,SNR=11						
	comp=Z,3.7nm,0.8s						
TARG	Taragay, Kyrgy	20.09	53	P	P	20 47 05.7	-0.3
BRTR	Keskin Array B	20.17	301	P	P	20 47 04.6	-1.9
BRTR	Keskin Array B	20.17	301	P	P	20 47 07.2	+0.6
	comp=Z,2.0nm,0.8s,baz=125,slow=12,SNR=7.8						
BRTR				LR	LR	20 55 42.8	
	comp=Z,271nm,18.3s,baz=20,slow=39						
	comp=Z,2.0nm,0.8s						
BR131	Keskin Array S	20.18	301	P	P	20 47 04.2	-2.3
BR131				IAmb	IAmb	20 47 12.9	
	comp=Z,5.2nm,0.8s						
ANTO	Ankara	20.84	300	P	P	20 47 11.5	-2.2
ANTO				IAmb	IAmb	20 47 23.8	
	comp=Z,10nm,0.6s						
BELG	Belogornoye	21.93	346	P	P	20 47 25.7	+0.5
	comp=Z,7.8nm,0.6s,baz=328,slow=5.2,SNR=6.5						
	comp=Z,7.8nm,0.6s						
ATD	Arta Tunnel	23.34	215	LR	LR	20 58 04.2	
	comp=Z,4.6nm,20.2s,baz=22,slow=40						
BRVK	Borovoye	23.93	21	P	P	20 47 43.7	-2.1
BRVK				IAmb	IAmb	20 48 13.2	
	comp=Z,4.7nm,1.2s						
BVAR	Borovoye Array	23.93	21	P	P	20 47 46.5	+0.7
	comp=Z,1.4nm,0.6s,baz=209,slow=7.2,SNR=10						
BVAR				LR	LR	20 58 15.9	
	comp=Z,234nm,19.8s,baz=290,slow=40						
	comp=Z,1.4nm,0.6s						
MAKZ	Makanchi	25.05	45	P	P	20 47 55.9	-0.2
MAKZ				IAmb	IAmb	20 47 59.2	
	comp=Z,3.1nm,0.8s						
ARU	Arti	25.09	3	LR	LR	20 58 10.8	
	comp=Z,172nm,21.3s,baz=276,slow=38						
MK31	Makanchi Array	25.23	45	P	P	20 47 58.5	+0.8
MK31				IAmb	IAmb	20 48 01.4	
	comp=Z,6.5nm,1.5s						
MKAR	Makanchi Array	25.23	45	P	P	20 47 58.5	+0.8
MKAR	Makanchi Array	25.23	45	P	P	20 47 59.0	+1.2
	comp=Z,1.4nm,0.7s,baz=224,slow=8.1,SNR=12						
	comp=Z,1.4nm,0.7s						
KURBB	Kurchatov Arra	25.35	34	P	P	20 47 59.9	+1.1
	comp=Z,0.7nm,0.7s,baz=232,slow=9.5,SNR=7.7						
KURBB				LR	LR	20 59 32.2	
	comp=Z,148nm,19.3s,baz=170,slow=40						
	comp=Z,0.7nm,0.7s						
AKASG	Malin Array Be	27.84	322	P	P	20 48 22.3	+1.1
	comp=Z,0.4nm,0.5s,baz=142,slow=9.4,SNR=1.6						
	comp=Z,0.4nm,0.5s						
ZAA0	Zalesovo Array	30.45	34	P	P	20 48 42.3	-2.1
ZAA0				IAmb	IAmb	20 48 45.9	
	comp=Z,1.3nm,0.7s						
ZALV	Zalesovo Beam	30.45	34	P	P	20 48 42.4	-1.9
ZALV	Zalesovo Beam	30.45	34	P	P	20 48 44.9	+0.5
	comp=Z,0.7nm,0.4s,baz=228,slow=10.0,SNR=5.7						
	comp=Z,0.7nm,0.4s						
PALK	Pallekele	33.10	131	LR	LR	21 04 47.0	
	comp=Z,84nm,18.7s,baz=84,slow=40						
FINES	FINESS Array B	35.94	336	P	P	20 49 33.1	+1.0
	comp=Z,1.5nm,0.8s,baz=157,slow=7.5,SNR=1.4						
	comp=Z,1.5nm,0.8s						
GTA	Gaotai	36.10	65	eP	P	20 49 37.9	+3.9
GTA				pP	sP	20 49 44.6	+5.4
GTA				sP	pP	20 49 48.4	+11
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	GERESS Array B	36.38	311	P	P	20 49 37.2	+0.9
	comp=Z,0.7nm,0.5s,baz=76,slow=8.4,SNR=2.5						
	comp=Z,0.7nm,0.5s						
LESA	Schwarzleotal	36.78	309	epP	P	20 49 39.0	-0.6
	comp=Z,14nm,1.5s						
ABTA	Abfaltersbach	36.78	307	epP	P	20 49 41.4	+1.7
KMBO	Kilima Mbogo	37.04	213	LR	LR	21 06 41.0	
	comp=Z,99nm,18.1s,baz=88,slow=39						
CLL	Collm	37.41	315	eP	P	20 49 45.0	+0.1
WTTA	Wattenberg	37.45	308	eP	P	20 49 44.1	-1.3
	comp=Z,1.0nm,0.3s						
WATA	Walderalm	37.50	308	eP	P	20 49 41.6	-4.3
	comp=Z,1.7nm,0.5s						
MOTA	Moosalm	37.82	308	eP	P	20 49 46.3	-2.3
	comp=Z,1.7nm,0.6s						
FETA	Feichten	38.03	308	epP	P	20 49 52.4	+2.0
	comp=Z,2.0nm,0.6s						
RETA	Reutte	38.07	308	i pP	P	20 49 52.6	+2.1
	comp=Z,1.3nm,0.4s						
DAVA	Damuels	38.64	308	i pP	P	20 49 57.7	+2.2
	comp=Z,5.0nm,0.6s						
TUE	Stuetta	38.91	306	P	P	20 49 58.0	+0.3
TUE				IAmb	IAmb	20 50 06.1	
	comp=Z,3.5nm,0.8s						
HFS	Hagfors	40.20	328	P	P	20 50 08.5	+0.5
	comp=Z,3.5nm,1.0s,baz=108,slow=8.5,SNR=2.0						
	comp=Z,3.5nm,1.0s						
CMAR	Chiang Mai Arr	40.53	98	P	P	20 50 13.9	+2.5
	comp=Z,0.5nm,0.7s,baz=284,slow=7.3,SNR=2.5						
CMAR				LR	LR	21 10 12.4	
	comp=Z,38nm,19.2s,baz=300,slow=41						
	comp=Z,0.5nm,0.7s						
BNI	Bardonecchia	40.67	304	P	P	20 50 10.4	-2.0
ARCES	ARCESS Array B	41.97	344	LR	LR	21 08 06.5	
	comp=Z,195nm,18.5s,baz=248,slow=37						
TOA0	Torodi Ar. Sit	53.13	263	P	P	20 51 49.4	-0.7
TOA0				IAmb	IAmb	20 52 04.4	
	comp=Z,3.9nm,1.3s						
TORD	Torodi Ar. Bea	53.13	263	P	P	20 51 48.8	-1.2
TORD				IAmb	IAmb	20 51 54.1	
	comp=Z,1.2nm,0.9s						
TORD	Torodi Ar. Bea	53.13	263	P	P	20 51 50.2	+0.1
	comp=Z,1.3nm,0.7s,baz=54,slow=8.5,SNR=9.6						
TORD				LR	LR	21 16 49.8	
	comp=Z,63nm,21.3s,baz=336,slow=39						
	comp=Z,1.3nm,0.7s						
XMIS	Christmas Isla	63.00	123	P	P	20 53 01.3	+2.1
LBTB	Lobatse	63.29	211	LR	LR	21 22 10.6	
	comp=Z,51nm,18.1s,baz=358,slow=38						
BOSA	Boshof	66.58	210	LR	LR	21 23 24.6	
	comp=Z,61nm,19.4s,baz=12,slow=37						
SUR	Sutherland	71.75	211	LR	LR	21 25 57.3	
	comp=Z,64nm,19.3s,baz=348,slow=36						
SHEL	Horse Pasture	75.86	241	P	P	20 54 18.8	+0.1
C19K	Lookout Ridge	76.40	12	P	P	20 54 19.5	-1.6
C19K				IAmb	IAmb	20 54 37.0	
	comp=Z,4.0nm,1.4s						
C18K	Utukok River	76.49	13	P	P	20 54 18.7	-2.8
C18K				IAmb	IAmb	20 54 57.6	
	comp=Z,2.7nm,1.2s						
RDOG	Red Dog Mine	76.64	14	P	P	20 54 20.2	-2.2
IMAR	Indian Mountai	80.23	12	P	P	20 54 40.2	-2.0
BMAR	Burnt Mountain	80.24	8	P	P	20 54 43.2	+0.9
J26L	Joseph Creek	83.17	9	P	P	20 54 57.4	-0.5
ASAR	Alice Springs	92.22	116	P	P	20 55 42.6	+0.4
	comp=Z,0.3nm,0.7s,baz=302,slow=5.1,SNR=2.1						
	comp=Z,0.3nm,0.7s						

IDC 03 20:43:50.1±6.5**, 3.°02S**×**132.°76E, h0km, mb3.7**/4**, mbtmp3.8**/4**, Error ellipse: s-maj=456.3km s-min=29.9km az=76.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.89	175	Pn	Pn	20 47 43.2	-4.9
	0.1nm,0.3s,baz=350,slow=11,SNR=2.1						
WRA				Sn	Sn	20 50 40.8	-16
	0.1nm,0.3s,baz=358,slow=23,SNR=2.5						
ASAR	Alice Springs	20.56	177	P	P	20 48 30.6	0.0
	1.5nm,0.5s,baz=355,slow=11,SNR=30						
ASAR				S	S	20 52 07.9	-14
	0.2nm,0.6s,baz=359,slow=27,SNR=2.3						
	1.5nm,0.5s						
MKAR	Makanchi Array	66.50	325	P	P	20 54 42.5	+0.7
	0.5nm,0.8s,baz=113,slow=8.2,SNR=6.0						
	0.5nm,0.8s						
ZALV	Zalesovo Beam	69.31	332	P	P	20 54 59.6	+0.4
	0.6nm,0.7s,baz=122,slow=5.4,SNR=4.2						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	70.64	327	P	P	20 55 06.4	-1.1
	1.0nm,0.7s,baz=133,slow=5.3,SNR=5.0						
	1.0nm,0.7s						

IDC 03 20:44:57.6±2.0**, 5.°65S**×**151.°63E, h0km, mb3.2**/3**, mbtmp3.3**/4**, ML1.5**/1**, MS3.4**/2**, Error ellipse: s-maj=83.4km s-min=13.2km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.39	17	Pg	Pg	20 45 22.0	-2.3
	baz=218,slow=20						
KRVT				Lg	Lg	20 45 42.6	
	baz=218,slow=20						
PMG	Port Moresby	5.80	230	Pn	Pn	20 46 25.2	+0.2
	0.9nm,0.3s,baz=295,slow=19,SNR=2.1						
PMG				Sn	Sn	20 47 35.0	+2.8
	1.4nm,0.3s,baz=258,slow=19,SNR=3.2						
	6.2nm,0.9s						
WRA	Warramunga Arr	22.02	228	P	P	20 49 53.9	+0.1
	0.2nm,0.4s,baz=54,slow=10,SNR=2.4						
	0.2nm,0.4s						
ASAR	Alice Springs	24.75	222	P	P	20 50 20.8	-0.4
	0.4nm,0.6s,baz=57,slow=10.0,SNR=4.4						
	0.4nm,0.6s						
STKA	Stephens Creek	27.74	199	LR	LR	21 00 42.0	
	comp=Z,44nm,20.6s,baz=11,slow=34						
JCJ	Chichijima	33.81	345	LR	LR	21 06 14.2	
	comp=Z,83nm,18.1s,baz=18,slow=38						
ILAR	Eielson Array	83.38	22	P	P	20 57 27.1	+0.7
	0.4nm,0.6s,baz=244,slow=4.9,SNR=5.4						
	0.4nm,0.6s						

*THE **03** 20:53:36.8, 36.°98N×22.°86E, h5km±19km, ML2.4/7, Error ellipse: s-maj=19.1km s-min=0.9km az=151.0*
*ATH **03** 20:53:37.2, 36.°97N×22.°85E, h7km±2km, ML2.5/8, Error ellipse: s-maj=2.6km s-min=1.1km az=129.0*
ISC 03 20:53:36.8±1.1**, 36.°98N**±0.°03×**22.°85E**±0.°03**, h7km**±13km**, n26, σ0.s52**/37**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLI	Veliai	0.27	165	P	Pg	20 53 41.6	-0.5
VLI				S	Sg	20 53 45.9	+0.1
	1μm,0.6s						
VLI	Veliai	0.27	165	P	Pg	20 53 41.6	-0.5
VLI				S	Sg	20 53 46.0	+0.2
VLI				AML	AML	20 53 48.3	
	comp=N,3461μm,0.5s						
VLI				AML	AML	20 53 48.8	
	comp=E,2344μm,0.7s						
MNVA	Monemvasia	0.33	153	P	Pg	20 53 43.7	+0.4
MNVA				S	Sg	20 53 47.8	+0.2
KRND	KRANIDI	0.47	31	P	Pg	20 53 45.9	0.0
KRND				S	Sg	20 53 51.7	-0.3
	comp=E,405nm,0.5s						
KRND	KRANIDI	0.47	31	P	Pg	20 53 45.9	0.0
KRND				S	Sg	20 53 53.0	+1.0
KRND				AML	AML	20 53 56.5	
	comp=E,855μm,0.5s						
KRND				AML	AML	20 53 56.7	
	comp=N,756μm,0.6s						
KLMT	Kalamata	0.64	277	P	Pg	20 53 48.3	-0.8
KLMT				S	Sg	20 53 57.8	+0.4
	comp=N,378nm,0.5s						
EPID	Epidavros	0.67	19	P	Pg	20 53 49.0	-0.7
EPID				S	Sg	20 53 59.0	+0.6
EPID	Epidavros	0.67	19	P	Pg	20 53 49.8	+0.1
PYL	PYLOS	0.89	265	P	Pg	20 53 54.1	+0.2
PYL	PYLOS	0.89	265	P	Pg	20 53 53.8	-0.1
LOUT	Loutraki	1.01	6	P	Pg	20 53 56.3	+0.1
LOUT				S	Sb	20 54 11.1	+0.9
	comp=N,198nm,0.5s						
LOUT	Loutraki	1.01	6	P	Pg	20 53 55.9	-0.4
GUR	Goura	1.03	337	P	Pg	20 53 56.2	-0.5
GUR				S	Sb	20 54 11.1	+0.1
	comp=N,520nm,0.4s						
GUR	Goura	1.03	337	P	Pg	20 53 56.3	-0.4
GUR				AML	AML	20 54 15.1	
	comp=N,1195μm,0.4s						
GUR				AML	AML	20 54 17.5	
	comp=E,805μm,0.3s						
THAL	Thalero	1.06	352	P	Pg	20 53 57.5	+0.2
THAL				S	Sg	20 54 11.3	+0.2
	comp=E,698nm,0.5s						
THAL	Thalero	1.06	352	P	Pg	20 53 57.3	0.0
THAL				AML	AML	20 54 16.8	
	comp=N,1309μm,0.5s						
THAL				AML	AML	20 54 20.5	
	comp=E,1187μm,0.6s						
VLY	Voula,Athens	1.15	41	P	Pg	20 53 58.5	-0.4
VLY				S	Sg	20 54 14.0	+0.1
	comp=E,152nm,0.6s						
VLY	Voula,Athens	1.15	41	P	Pg	20 53 58.3	-0.6
VLY				AML	AML	20 54 18.9	
	comp=N,276μm,0.6s						
VLY				AML	AML	20 54 21.7	
	comp=E,337μm,0.8s						
KLV	Kalavryta, Ach	1.20	333	P	Pg	20 53 58.9	-0.9
KLV				AML	AML	20 54 18.5	
	comp=N,202μm,0.5s						
KLV				AML	AML	20 54 19.2	
	comp=E,188μm,0.4s						
ATHU	Athens Univers	1.23	37	P	Pg	20 53 59.6	-0.9
VIL2	Platees	1.27	15	P	Pn	20 53 59.9	-1.2
VIL2				AML	AML	20 54 22.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,217µm,0.7s						
VIL2				AML	AML	20 54 27.7	
	comp=E,464µm,0.6s						
DION	Dionisos Attik	1.39	38	P	Pn	20 54 02.9	+0.2
EFP	Efpalio	1.63	333	P	Pn	20 54 06.0	+0.1
ANX	Ano Chora	1.77	336	P	Pn	20 54 08.1	+0.1
ANX				AML	AML	20 54 41.6	
	comp=N,226µm,0.7s						
ANX				AML	AML	20 54 44.2	
	comp=E,149µm,0.6s						
AXAR	Agios Charalam	1.79	355	P	Pn	20 54 08.3	+0.1
KYMI	Kymi, Euboea I	1.92	31	P	Pn	20 54 09.8	-0.2

*DJA **03** 21:15:12.9±0.9, 0˚S±2˚×12˚5E±˚, h23km±8km, M4.2/14, mb4.5/4, mB4.7/2, MLv4.1/14, Mw(mB)3.9/2*
*IDC **03** 21:15:13.7±4.2, 0˚08S×124˚32E, h68km±42km, mb3.6/11, mbtmp3.9/12, ML4.0/1, Error ellipse: s-maj=28.3km s-min=14.8km az=67.0*
ISC 03 21:15:13.8±0.7**, 0˚10S**±0˚05×**124˚59E**±0˚04**, h73km, n25,** σ**1.72**/30**, mb3.8**/11**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.90	318	P	Pn	21 15 28.8	-2.5
GTOI	Gorontalo	1.74	295	P	Pn	21 15 43.0	+1.0
GTOI				S	Sn	21 16 06.5	+3.1
LUWI	Luwuk	2.04	243	P	Pn	21 15 46.4	+0.4
LUWI				S	Sn	21 16 12.6	+2.0
SANI	Sanana	2.39	144	P	Pn	21 15 49.5	-1.3
SANI				S	Sn	21 16 15.9	-3.2
MRSI	Marisa	2.71	282	P	Pn	21 15 52.0	-3.0
TNTI	Ternate	2.91	73	P	Pn	21 15 58.6	+0.7
LBMI	Labuha	2.96	100	P	Pn	21 15 58.5	0.0
LBMI				S	Sn	21 16 33.2	+0.2
NLAI	Namlea	4.00	141	P	Pn	21 16 13.1	+0.4
MPSI	Mapaga	4.71	275	P	Pn	21 16 22.4	+0.1
KRAI	Karang Ratu	4.97	130	P	Pn	21 16 26.8	+0.9
TTSI	Tana Toraja	5.59	238	P	Pn	21 16 35.7	+1.3
	39nm,0.6s,573nm0.1nm						
SPSI	Sidrap Palu	6.16	231	P	Pn	21 16 42.9	+0.8
	22nm,0.4s,717nm0.1nm						
KAPI	Kappang	6.86	225	P	Pn	21 16 50.5	-1.3
	2.9nm,0.3s,baz=27,slow=8.4,SNR=8.7						
KAPI				S	Sn	21 18 05.3	-3.2
	3.6nm,0.3s,baz=52,slow=21,SNR=2.3						
	6.7nm,0.4s						
FAKI	Fak Fak	8.15	110	P	Pn	21 17 08.1	-1.4
WRA	Warramunga Arr	21.91	155	P	P	21 20 02.0	+0.8
	0.9nm,0.7s,baz=336,slow=11,SNR=15						
	0.9nm,0.7s						
ASAR	Alice Springs	25.11	160	P	P	21 20 33.3	+1.3
	0.8nm,0.7s,baz=334,slow=7.8,SNR=14						
ASAR				PcP	PcP	21 24 06.5	+1.7
	0.5nm,0.5s,baz=351,slow=2.2,SNR=11						
	0.8nm,0.7s						
CMAR	Chiang Mai Arr	31.22	308	P	P	21 21 23.7	-2.9
	0.6nm,0.3s,baz=134,slow=7.8,SNR=2.1						
	0.6nm,0.3s						
STKA	Stephens Creek	35.46	155	P	P	21 22 04.2	+0.9
	0.5nm,0.3s,baz=314,slow=10,SNR=2.9						
	0.5nm,0.3s						
MJAR	Matsushiro Arr	38.59	18	P	P	21 22 30.3	+0.5
	1.1nm,0.8s,baz=175,slow=10,SNR=1.9						
	1.1nm,0.8s						
USRK	Ussuriysk Ar.	44.60	8	P	P	21 23 19.4	+0.7
	1.2nm,0.5s,baz=195,slow=7.6,SNR=8.0						
	1.2nm,0.5s						
ASAJ	Asahikawa	46.86	18	P	P	21 23 38.0	+1.4
	10.0nm,0.9s,baz=211,slow=18,SNR=2.2						
	10.0nm,0.9s						
SONM	Songino Array	50.30	344	P	P	21 24 03.6	+0.5
	0.4nm,0.5s,baz=157,slow=8.3,SNR=5.7						
	0.4nm,0.5s						
MKAR	Makanchi Array	59.54	328	P	P	21 25 09.0	-0.7
	0.4nm,0.4s,baz=125,slow=7.9,SNR=18						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	63.07	335	P	P	21 25 31.7	-1.6
	0.4nm,0.5s,baz=104,slow=12,SNR=2.7						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	63.85	329	P	P	21 25 37.4	-1.2
	0.5nm,0.2s,baz=134,slow=5.9,SNR=4.8						
	0.5nm,0.2s						

*JSN **03** 21:22:14.6±0.4, 18˚47N×76˚44W, h0km±51km, MD3.0*
*SSNC **03** 21:22:15.7±1.5, 18˚60N×76˚41W, h18km±10km, MD3.1, ML2.3*
ISC 03 21:22:12.5±1.7**, 18˚58N**±0˚05×**76˚40W**±0˚05**, h19km**±4km**, n13,** σ**0.78**/23**, 2C-1D, Jamaica region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	0.59	211	i P	Pb	21 22 24.0	-0.3
STH	Stony Hill	0.63	218	⇓iP	Pb	21 22 24.8	-0.2
HOJ	Hope	0.66	210	i P	Pb	21 22 25.3	-0.1
MTDJ	Mount Denham	1.13	252	⇑iP	Pg	21 22 34.2	-0.4
MTDJ				⇑iS	Sn	21 22 48.9	+0.4
MTDJ	Mount Denham	1.13	252	eP	Pg	21 22 34.1	-0.4
MTDJ				eS	Sb	21 22 48.1	+0.2
MTDJ				IAML		21 22 51.4	
	comp=Z,198nm,0.3s						
MTDJ				IAML		21 22 51.5	
	151nm,0.2s						
MARVS	Santiago de Cu	1.49	19	eP	Pb	21 22 39.7	+0.1
MARVS				eS	Sn	21 22 57.3	+0.1
MARVS				IAML		21 22 59.8	
	comp=E,9.8nm,0.1s						
MARVS				IAML		21 22 59.9	
	comp=N,7.8nm,0.2s						
RCC	Rio Carpintero	1.56	25	eP	Pb	21 22 41.1	+0.4
RCC				eS	Sn	21 22 58.9	+0.1
LMGC	Las Mercedes	1.58	339	eP	Pn	21 22 40.3	+0.7
LMGC				eS	Sn	21 22 58.9	-0.6
LMGC				eSg	Sb	21 23 00.6	-0.1
LMGC				IAML		21 23 01.1	
	comp=E,31nm,0.0s						
LMGC				IAML		21 23 01.2	
	comp=N,35nm,0.1s						
PILO	Pilon	1.62	324	eP	Pn	21 22 40.8	+0.6
PILO				eS	Sn	21 22 59.2	-1.4
PILO				IAML		21 23 01.6	
	comp=E,44nm,0.1s						
PILO				IAML		21 23 02.4	
	comp=N,65nm,0.2s						
GTBY	Guantanamo Bay	1.81	42	eP	Pb	21 22 44.5	-0.6
GTBY				eS	Sn	21 23 04.1	-1.1
GTBY				IAML		21 23 08.9	
	comp=N,32nm,0.3s						
GTBY				IAML		21 23 09.4	
	comp=N,24nm,0.2s						
PINC	Pinares de May	1.98	17	eP	Pn	21 22 45.9	+0.9
PINC				eS	Sn	21 23 08.9	-0.4
GNEO	Boca de Quibij	2.44	44	eP	Pn	21 22 52.3	+0.9
GNEO				eS	Sn	21 23 18.9	-1.7
MASC	Masc	2.59	52	eP	Pn	21 22 54.5	+1.0

*AFAD **03** 21:22:47.8±0.0, 38˚86N×26˚41E, h7km±2km, MW3.8*
*ISK **03** 21:22:47.4, 38˚85N×26˚39E, h15km, ML3.7/37*
*ATH **03** 21:22:48.0, 38˚86N×26˚40E, h14km±1km, ML3.4/10, Manual Solution by M.Kolligri This location: 2020/04/28 23:31:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **03** 21:22:48.3, 38˚87N×26˚38E, h9km±1km, ML3.6/9, Error ellipse: s-maj=1.1km s-min=0.5km az=18.0*
ISC 03 21:22:48.1±0.8**, 38˚85N**±0˚01×**26˚40E**±0˚02**, h15km**±6km**, n121,** σ**0.61**/157**, 20C-11D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARB	zmir-Karabur	0.19	177	P	Pg	21 22 52.4	-0.2
KARB				S	Sg	21 22 55.5	0.0
KARB				i AML	AML	21 22 56.0	
	comp=E,2µm,0.2s						
EAG3	Mitilini, Lesv	0.27	30	P	Pg	21 22 53.7	-0.2
EAG3				S	Sg	21 22 57.3	-0.4
LESV	Lesvos island,	0.28	26	P	Pg	21 22 53.9	-0.2
LESV				S	Sg	21 22 58.0	-0.2
	58µm,0.3s						
FOCM	Foa	0.29	118	Pg	Pg	21 22 53.9	-0.3
FOCM				Sg	Sg	21 22 58.9	+0.5
CAND	Candarli	0.33	72	Pg	Pg	21 22 55.2	+0.3
CAND				Sg	Sb	21 23 00.3	-0.5
EAG2	Marmaro, Chios	0.38	217	P	Pg	21 22 56.0	+0.1
EAG2				S	Sg	21 23 01.3	+0.2
PRK	Paraskevi	0.41	346	P	Pg	21 22 56.2	-0.1
PRK				S	Sg	21 23 01.6	-0.2
	12µm,0.3s						
PRK	Paraskevi	0.41	346	P	Pg	21 22 56.2	-0.1
PRK				S	Sg	21 23 02.3	+0.5
RFT7	Candarli	0.42	75	Pg	Pg	21 22 56.6	+0.1
RFT7				Sg	Sb	21 23 02.9	-0.5
DKL	Dikili	0.45	61	Pg	Pg	21 22 57.1	0.0
DKL				Sg	Sb	21 23 04.3	0.0
AYVA	Ayvalik	0.51	26	P	Pg	21 22 57.8	-0.4
AYVA				i AML	AML	21 23 00.0	
	comp=N,1µm,0.2s						
AYVA				S	Sg	21 23 04.9	-0.1
AYVA				i AML	AML	21 23 08.0	
	comp=E,3µm,0.3s						
CESE	eme	0.53	189	Pg	Pg	21 22 58.3	-0.2
CESE				Sg	Sg	21 23 06.0	+0.5
CHOS	Chios island	0.54	210	Pg	Pg	21 22 58.3	-0.4
CHOS				Sg	Sg	21 23 06.4	+0.5
CHOS	Chios island	0.54	210	P	Pg	21 22 59.0	+0.3
CHOS				S	Sb	21 23 06.9	0.0
	7µm,0.2s						
CHOS	Chios island	0.54	210	P	Pg	21 22 58.7	0.0
CHOS				S	Sg	21 23 06.2	+0.3
SIGR	SIGRI	0.56	310	Pg	Pg	21 22 58.9	-0.1
SIGR				Sg	Sg	21 23 06.7	+0.2
SIGR	SIGRI	0.56	310	P	Pg	21 22 59.0	-0.1
SIGR				S	Sg	21 23 06.4	-0.1
	4µm,0.5s						
SIGR	SIGRI	0.56	310	P	Pg	21 22 59.0	-0.1
SIGR				S	Sg	21 23 06.2	-0.2
ZEYE	Izmir, Urla-Ze	0.62	172	P	Pg	21 23 00.1	-0.1
ZEYE				S	Sb	21 23 09.6	+0.6
ZEYE				i AML	AML	21 23 13.0	
	comp=N,6µm,0.4s						
ZEYE				i AML	AML	21 23 13.0	
	comp=E,5µm,0.3s						
KOCA	Canakkale, Ayv	0.68	343	P	Pg	21 23 01.2	-0.2
KOCA				S	Sb	21 23 11.6	+0.7
PSRA	Psara	0.72	245	P	Pg	21 23 02.0	-0.2
BUHA	Balikesir, Bur	0.83	39	P	Pg	21 23 03.4	-0.9
BUHA				S	Sg	21 23 15.1	-0.1
BUHA				i AML	AML	21 23 19.0	
	comp=N,2µm,0.4s						
GMLD	Gumuldur	0.87	152	Pg	Pb	21 23 04.6	-0.4
GMLD				Sg	Sb	21 23 16.3	-0.1
DGB	zmir	0.88	155	P	Pb	21 23 04.7	-0.4
DGB				S	Sb	21 23 16.6	-0.1
DGB				i AML	AML	21 23 20.0	
	comp=E,1µm,0.2s						
BAYC	CANAKKALE_Bayr	0.90	7	P	Pb	21 23 04.4	-0.9
EZN	Ezine	0.97	357	Pg	Pb	21 23 06.2	-0.5
EZN				Sg	Sn	21 23 20.9	+0.1
EZN	Ezine	0.97	357	P	Pb	21 23 06.1	-0.6
EZN				S	Sn	21 23 20.3	-0.5
	5µm,0.5s						
AKS	Akhisar	1.10	88	Pn	Pn	21 23 09.1	+0.1
AKHS	Akhisar	1.10	88	P	Pg	21 23 09.3	-0.1
AKHS				S	Sg	21 23 23.9	+0.1
STEP	BALIKESIR_Sava	1.15	63	P	Pn	21 23 09.7	0.0
STEP				S	Sg	21 23 25.5	+0.2
STEP				i AML	AML	21 23 27.0	
	comp=N,3µm,0.5s						
SMG	Samos	1.19	163	P	Pn	21 23 09.8	-0.5
SMG				S	Sg	21 23 27.3	+0.7
	3µm,0.2s						
SMG	Samos	1.19	163	P	Pn	21 23 09.7	-0.6
SMG				S	Sg	21 23 26.6	-0.1
GOMA	Golmarmara-Man	1.19	96	Pn	Pb	21 23 10.4	0.0
ECEA	Canakkale, Ece	1.20	352	P	Pb	21 23 10.7	+0.1
ECEA				S	Sg	21 23 27.3	+0.3
ECEA				i AML	AML	21 23 29.0	
	comp=N,6µm,0.5s						
ECEA				i AML	AML	21 23 29.0	
	comp=E,1µm,0.4s						
CNKL	anakkale-Mer	1.21	360	P	Pn	21 23 10.6	+0.1
CNKL				P	Pn	21 23 10.6	+0.1
COMU	Canakkale	1.25	3	Pn	Pn	21 23 11.0	0.0
CANM	Can-anakkale	1.26	23	Pn	Pn	21 23 10.7	-0.5
EFSA	Agios Efstrati	1.29	302	P	Pn	21 23 11.6	0.0
GCAM	G?zelcaml?	1.32	150	Pn	Pb	21 23 12.4	-0.2
GCAM	G?zelcaml?	1.32	150	P	Pb	21 23 12.8	+0.2
GCAM				S	Sg	21 23 30.8	0.0
GCAM				i AML	AML	21 23 34.0	
	comp=N,767nm,0.6s						
GCAM				i AML	AML	21 23 34.0	
	comp=E,497nm,0.4s						
GOAD	anakkale-G¶	1.36	344	P	Pn	21 23 12.6	+0.1
GOAD				S	Sn	21 23 29.3	-1.1
BALB	Balikesir	1.39	55	Pn	Pn	21 23 13.2	+0.2
GADA	Gvkgeada	1.39	344	Pn	Pn	21 23 12.9	-0.1
LIA	Limnos Island	1.41	318	P	Pn	21 23 13.3	+0.1
LIA				S	Sn	21 23 30.6	-0.9
	3µm,0.6s						
LIA	Limnos Island	1.41	318	P	Pn	21 23 13.0	-0.2
IZMR	zmir-demi	1.41	120	P	Pb	21 23 14.1	-0.1
IZMR				P	Pg	21 23 14.5	-0.8
BKES	Balkesir-Mer	1.48	53	P	Pn	21 23 14.4	+0.2
DDIM	Aydin, Didim	1.54	154	P	Pg	21 23 17.4	-0.3
LPK	Lapseki	1.54	10	Pn	Pn	21 23 15.3	+0.2
GELI	Tayfur-Gelibol	1.54	2	Pn	Pn	21 23 14.9	-0.2
GONE	Gonen-Balikesi	1.55	39	Pn	Pn	21 23 15.1	-0.1
TNSA	Tinos	1.63	217	P	Pn	21 23 15.5	-0.8
KRBG	Karabiga-Canak	1.69	24	Pn	Pn	21 23 17.1	0.0
SMTH	Samothraki Isl	1.75	338	P	Pn	21 23 17.9	-0.1
SMTH	Samothraki Isl	1.75	338	P	Pn	21 23 17.9	-0.1
ENZZ	Sultanice-Enez	1.76	354	Pn	Pn	21 23 18.9	+0.8
KULA	Kula-Manisa	1.80	100	Pn	Pn	21 23 19.1	+0.3
KULA	Kula-Manisa	1.80	100	P	Pn	21 23 19.0	+0.3
KYMI	Kymi, Euboea I	1.81	264	P	Pn	21 23 18.1	-0.7
KYMI	Kymi, Euboea I	1.81	264	P	Pn	21 23 18.3	-0.5
ERIK	Erikli-Kesan	1.82	3	Pn	Pn	21 23 19.2	+0.4
ESEN	Aydn-Nazilli	1.86	124	P	Pb	21 23 21.0	-0.8
EDC	Edincik	1.87	37	Pn	Pn	21 23 19.8	+0.2
DST	Dursunbey	1.88	66	Pn	Pn	21 23 20.6	+0.8
ENEZ	Enez	1.89	354	Pn	Pn	21 23 20.4	+0.5
ENEZ	Enez	1.89	354	P	Pn	21 23 20.4	+0.5
MLSB	Milas	1.90	145	Pn	Pn	21 23 19.8	-0.2
APE	Apeiranthos	1.91	201	⇑P	Pn	21 23 19.7	-0.4
APE	Apeiranthos	1.91	201	Pn	Pn	21 23 19.4	-0.8
APE	Apeiranthos	1.91	201	P	Pn	21 23 19.6	-0.6
APE	Apeiranthos	1.91	201	P	Pn	21 23 19.3	-0.9
BODT	Bodrum	1.93	158	Pn	Pn	21 23 20.3	-0.1
RKY	Sarkoy-Tekirda	1.93	18	Pn	Pn	21 23 20.6	+0.2
BDRM	Kayabasi	1.97	155	P	Pn	21 23 20.8	-0.1
SIMA	Simav-Kutahya	2.03	83	Pn	Pn	21 23 22.3	+0.5
ALN	Alexandroupoli	2.06	352	Pn	Pn	21 23 22.2	0.0
ALN	Alexandroupoli	2.06	352	P	Pn	21 23 22.5	+0.3
ALN				S	Sn	21 23 48.6	+1.0
	512nm,0.5s						
ALN	Alexandroupoli	2.06	352	P	Pn	21 23 22.2	0.0
KCTX	Karacabey (Bur	2.07	46	Pn	Pn	21 23 22.2	-0.1
DION	Dionisos Attik	2.09	249	P	Pn	21 23 22.8	+0.3
RFTAA	Mazikoy-Bodrum	2.13	150	Pn	Pn	21 23 23.3	+0.1
THAS	Thassos island	2.18	324	P	Pn	21 23 23.6	-0.2
THAS	Thassos island	2.18	324	P	Pn	21 23 23.8	0.0
YER	Yerkesik	2.27	138	Pn	Pn	21 23 26.3	+1.2
DAT	Datca	2.32	156	Pn	Pn	21 23 25.7	-0.1
RDO	Rodhopi	2.38	344	P	Pn	21 23 27.0	+0.3
TVSB	Tavsanli	2.45	75	Pn	Pn	21 23 28.2	+0.5
KOKK	Kokkinochori,	2.70	317	P	Pn	21 23 30.9	0.0
KOKK	Kokkinochori,	2.70	317	P	Pn	21 23 31.0	+0.1
ELND	Elena	4.09	355	⇓P	Pn	21 23 50.7	+0.6
STIP	Stip	4.29	313	i Pn	Pn	21 23 53.0	+0.1
LOZB	Loznitsa	4.52	2	⇑P	Pn	21 23 56.3	+0.4
RAZG	Razgrad	4.71	1	⇑P	Pn	21 23 59.4	+0.8
ICOR	Ion Corvin	5.36	11	⇑P	Pn	21 24 08.7	+1.1
BLKB	Belogradchik	5.53	331	⇑P	Pn	21 24 11.3	+1.3
HUMR	Humele	5.77	350	⇑P	Pn	21 24 13.3	+0.1
TIRR	Tirgusor	5.80	14	⇑P	Pn	21 24 14.2	+0.7
TLBR	Topalu	5.82	12	⇑P	Pn	21 24 14.7	+0.9
HARR	Harsova	5.94	11	⇑P	Pn	21 24 16.3	+0.8
BOVS	Bovan	5.95	325	⇑P	Pn	21 24 17.0	+1.5
CFR	Carcaliu	6.45	11	⇑P	Pn	21 24 22.6	+0.1
MLR	Muntele Rosu	6.64	357	⇓P	Pn	21 24 26.6	+1.3
VOIR		6.66	352	⇑P	Pn	21 24 26.1	+0.7
BISRR	Bisoca	6.70	2	⇓P	Pn	21 24 26.6	+0.7
HERR	Herculane	6.72	335	⇑P	Pn	21 24 26.4	+0.3
LOT	Lotru	6.87	344	⇑P	Pn	21 24 29.6	+1.2
MDVR	Moldovita	6.88	331	⇓P	Pn	21 24 29.5	+1.1
COVR	Voineasa-Covas	6.99	359	⇓P	Pn	21 24 30.0	0.0
PLOR	Plostina	7.00	1	⇑P	Pn	21 24 31.5	+1.5
VRI	Vrincioaia	7.01	2	⇓P	Pn	21 24 32.0	+1.8
GZR	Gura Zlata	7.07	339	⇓P	Pn	21 24 31.1	+0.1
VLDR	Vladesti	7.10	10	⇓P	Pn	21 24 33.0	+1.6
DOPR	Dopca	7.15	354	⇑P	Pn	21 24 33.5	+1.3
TURR	Turia	7.20	358	⇑P	Pn	21 24 34.2	+1.3
BOSR	Bodos	7.24	356	⇓P	Pn	21 24 34.1	+0.8
OZUR		7.25	357	⇓P	Pn	21 24 34.4	+0.9
SURR	Surduc	7.59	337	⇑P	Pn	21 24 38.6	+0.5
BZS	Buzias	7.63	334	⇓P	Pn	21 24 40.4	+1.7
TESR	Tescani	7.66	1	⇑P	Pn	21 24 40.4	+1.3
MILM	Milestii Mici	8.25	12	⇑iP	Pn	21 24 47.8	+0.6
	17nm,0.6s						
VYHS	Vyhne	11.08	333	ePN	Pn	21 25 28.0	+2.1

*IDC **03** 21:28:12.4±1.9, 18˚34N×145˚80E, h202km±19km, mb3.5/17, mbtmp4.1/19, Error ellipse: s-maj=17.5km s-min=10.6km az=82.0*
*NEIC **03** 21:28:12.5±1.8, 18˚36N±0˚08×145˚6E±0˚1, h186km±9km, mb4.3/25, Error ellipse: s-maj=18.5km s-min=9.7km az=112.0*
ISC 03 21:28:12.8±0.5**, 18˚35N**±0˚06×**145˚7E**±0˚1**, h200km, n51,** σ**1.04**/55**, mb4.0**/29**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.80	189	Pn	Pn	21 29 23.6	-1.1
GUMO	Guam	4.80	189	P	Pn	21 29 25.2	+0.5
	31nm,0.3s,baz=60,slow=20,SNR=1.3						
GUMO				S	Sn	21 30 20.2	-1.1
	46nm,0.4s,baz=270,slow=19,SNR=2.4						
PATS	Pohnpei	16.81	131	P	Pn	21 31 59.0	+2.1
JOW	Kunigami	18.13	301	P	Pn	21 32 11.2	-1.2
JOW	Kunigami	18.13	301	P	Pn	21 32 12.2	-0.2
	22nm,0.7s,baz=100,slow=8.0,SNR=5.6						
YHNB	Yeheng	23.44	290	P	P	21 33 05.6	+1.3
SSLB	Suanglung	23.68	287	P	P	21 33 07.4	+1.0
SSLB				IAmb	IAmb	21 33 09.5	
	comp=Z,13nm,0.6s						
ASAJ	Asahikawa	25.82	355	P	P	21 33 26.3	+0.8
	comp=Z,12nm,1.0s,baz=223,slow=10.0,SNR=4.9						
	comp=Z,12nm,1.0s						
KLR	Kul'dur	32.79	343	P	P	21 34 26.9	-0.1
	comp=Z,1.9nm,0.5s,baz=158,slow=8.8,SNR=9.9						
	comp=Z,1.9nm,0.5s						
WB0	Warramunga Arr	39.47	197	P	P	21 35 24.2	+0.4
WB0				IAmb	IAmb	21 35 24.6	
	comp=Z,3.6nm,0.8s						
WRA	Warramunga Arr	39.65	197	P	P	21 35 24.8	-0.6
WRA	Warramunga Arr	39.65	197	P	P	21 35 24.9	-0.4
	comp=Z,1.7nm,0.4s,baz=1.0,slow=8.6,SNR=28						
WRA				PcP	PcP	21 37 27.6	-0.7
	comp=Z,0.5nm,0.5s,baz=17,slow=3.3,SNR=4.5						
	comp=Z,1.7nm,0.4s						
FITZ	Fitzroy Crossi	41.23	210	P	P	21 35 38.8	+0.5
AS31	Alice Springs	43.31	196	P	P	21 35 55.4	+0.3
ASAR	Alice Springs	43.31	196	P	P	21 35 55.7	+0.5
ASAR	Alice Springs	43.31	196	P	P	21 35 54.9	-0.2
	comp=Z,0.7nm,0.6s,baz=21,slow=9.8,SNR=8.3						
ASAR				PcP	PP	21 37 40.1	-0.2
	comp=Z,0.3nm,0.7s,baz=23,slow=3.0,SNR=2.1						
	comp=Z,0.7nm,0.6s						
SONM	Songino Array	43.40	322	P	P	21 35 55.5	-0.2
SONM	Songino Array	43.40	322	P	P	21 35 55.6	-0.1
	comp=Z,0.4nm,0.6s,baz=133,slow=5.7,SNR=5.3						
	comp=Z,0.4nm,0.6s						
CMAR	Chiang Mai Arr	44.24	278	P	P	21 36 04.2	+1.5
	comp=Z,2.1nm,0.7s,baz=70,slow=6.8,SNR=21						
	comp=Z,2.1nm,0.7s						
YAK	Yakutsk	45.05	349	P	P	21 36 08.0	-0.4
YAK				IAmb	IAmb	21 36 08.6	
	comp=Z,7.4nm,0.6s						
KULM	Kulim	45.80	259	P	P	21 36 16.5	+1.6
KULM				IAmb	IAmb	21 36 33.7	
	comp=Z,28nm,1.5s						
PSA00	Pilbara Seismi	47.05	214	P	P	21 36 24.8	+0.3
PSA00				IAmb	IAmb	21 36 51.9	
	comp=Z,6.5nm,1.4s						
STKA	Stephens Creek	50.09	185	P	P	21 36 47.0	-0.5
	comp=Z,0.6nm,0.4s,baz=12,slow=10,SNR=4.2						
	comp=Z,0.6nm,0.4s						
GSI	Gunungsitoli	50.12	256	P	P	21 36 48.6	+0.6
MORW	Morawa	55.15	212	P	P	21 37 24.1	-0.5
MORW				IAmb	IAmb	21 37 52.6	
	comp=Z,20nm,1.3s						
J14K	Nanvaranak Lak	56.34	25	P	P	21 37 34.1	+1.6
J14K				IAmb	IAmb	21 37 37.9	
	comp=Z,9.4nm,1.3s						
N15K	Kwethluk River	56.73	29	P	P	21 37 37.2	+1.7
NWAO	Narrogin (SRO)	57.79	208	P	P	21 37 43.1	-0.1
ZALV	Zalesovo Beam	58.27	323	P	P	21 37 45.2	-1.1
	comp=Z,0.4nm,0.4s,baz=126,slow=8.8,SNR=2.8						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	58.68	314	P	P	21 37 49.8	+0.5
MKAR	Makanchi Array	58.68	314	P	P	21 37 49.2	-0.1
MKAR	Makanchi Array	58.68	314	P	P	21 37 48.9	-0.4
	comp=Z,0.5nm,0.5s,baz=95,slow=7.3,SNR=14						
MKAR				PcP	PcP	21 38 36.4	-0.7
	comp=Z,0.3nm,0.5s,baz=82,slow=6.5,SNR=2.3						
	comp=Z,0.5nm,0.5s						
F17K	Baldwin Pennin	58.94	22	P	P	21 37 52.0	+1.3
F17K				IAmb	IAmb	21 38 06.3	
	comp=Z,5.9nm,1.5s						
H18K	Honhosa River	59.45	24	P	P	21 37 55.4	+1.1
H18K				IAmb	IAmb	21 38 21.9	
	comp=Z,4.4nm,1.4s						
C19K	Lookout Ridge	60.74	20	P	P	21 38 04.5	+1.5
C19K				IAmb	IAmb	21 38 05.6	
	comp=Z,2.2nm,0.8s						
IMAR	Indian Mountai	61.54	24	P	P	21 38 09.5	+1.1
KURBB	Kurchatov Arra	61.56	318	P	P	21 38 08.4	-0.3
	comp=Z,0.9nm,0.3s,baz=97,slow=7.3,SNR=12						
	comp=Z,0.9nm,0.3s						
MLY	Manley	62.44	25	P	P	21 38 15.5	+1.1
MLY				IAmb	IAmb	21 38 34.8	
	comp=Z,3.5nm,1.3s						
ILAR	Eielson Array	63.97	26	P	P	21 38 23.9	-0.5
	comp=Z,0.5nm,0.5s,baz=246,slow=6.4,SNR=9.0						
	comp=Z,0.5nm,0.5s						
BMAR	Burnt Mountain	65.44	23	P	P	21 38 35.9	+1.9
BVAR	Borovoye Array	66.72	321	P	P	21 38 42.0	-0.3
	comp=Z,3.4nm,0.5s,baz=94,slow=7.8,SNR=40						
	comp=Z,3.4nm,0.5s						
BRVK	Borovoye	66.79	321	P	P	21 38 43.2	+0.5
BRVK				IAmb	IAmb	21 38 43.8	
	comp=Z,2.2nm,0.5s						
ABKAR	Akbulak array	73.58	317	P	P	21 39 23.2	-0.8
ABKAR	Akbulak array	73.58	317	P	P	21 39 23.3	-0.6
ABKAR				IAmb	IAmb	21 39 40.1	
	comp=Z,2.1nm,1.2s						
YKA	Yellowknife Ar	78.30	28	P	P	21 39 50.0	-0.4
	comp=Z,0.4nm,0.6s,baz=290,slow=5.6,SNR=5.6						
	comp=Z,0.4nm,0.6s						
ARCES	ARCESS Array B	82.81	342	P	P	21 40 13.2	-1.1
	comp=Z,1.5nm,0.7s,baz=78,slow=6.7,SNR=5.0						
	comp=Z,1.5nm,0.7s						
NVAR	Mina Array Bea	83.37	52	P	P	21 40 16.4	-1.7
	comp=Z,0.5nm,0.2s,baz=283,slow=5.5,SNR=10						
	comp=Z,0.5nm,0.2s						
FINES	FINESS Array B	87.19	335	P	P	21 40 33.4	-2.7
FINES	FINESS Array B	87.19	335	P	P	21 40 33.8	-2.3
	comp=Z,0.9nm,0.5s,baz=54,slow=5.7,SNR=12						
	comp=Z,0.9nm,0.5s						
PDAR	Pinedale Array	88.08	45	P	P	21 40 41.1	0.0
PDAR	Pinedale Array	88.08	45	P	P	21 40 41.4	+0.2
	comp=Z,0.2nm,0.3s,baz=256,slow=1.5,SNR=5.6						
	comp=Z,0.2nm,0.3s						

*IDC **03** 21:30:19.3±0.4, 29˚58N×140˚25E, h0km, mb4.7/30, mbtmp4.7/31, ML4.0/2, MS4.8/50, Error ellipse: s-maj=17.1km s-min=12.4km az=74.0*
*JMA **03** 21:30:20.6±0.5, 29˚5N±0˚9×14˚0E±˚, h8km±4km, MD5.3/30, MW5.6/30, NEAR TORISHIMA IS*
*NIED **03** 21:30:20.6, 29˚46N×140˚34E, h8km, MW5.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.43; $M_{\theta\theta}$0.64; $M_{\phi\phi}$0.79; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.38; $M_{\phi r}$-0.93; Fault plane solution: $M_0$1.57000×10^{17} NP1: ϕ_s336.00000°, δ63.00000°, λ-80.00000°. NP2: ϕ_s134.00000°, δ28.00000°, λ-109.00000°.*

*BJI **03** 21:30:21.0±0.0,29.˙70N×140.˙60E,h10km,mb4.7/76, mB5.3/61,Ms5.3/87,Ms7 5.0/84*

*NEIC **03** 21:30:21.9±2.1,29.˙64N±0.˙05×140.˙52E±0.˙08,h9km±3km, mb5.3/215,Ms_20 5.0/184,Mww5.5/36,Error ellipse: s-maj=10.1km s-min=7.5km az=72.0*

*GCMT **03** 21:30:22.9±0.1,29.˙66N±0.˙01×140.˙30E±0.˙01,h12km, MW5.4/152,Moment Tensor Solution. s110,c183; s152,c297; Duration: 1ś3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.50±.01; $M_{\theta\theta}$0.54±.01; $M_{\phi\phi}$0.96±.01; $M_{r\theta}$0.10±.04; $M_{\theta\phi}$-0.67±.01; $M_{\phi r}$0.99±.04; Best double couple: $M_0$1.76800×10^{17} NP1:ϕ_s164.00000°,δ61.00000°, λ-71.00000°. NP2:ϕ_s308.00000°,δ34.00000°, λ-121.00000°. Principal axes: T 1.6470, Plg14.0000°, Azm240.0000°; N 0.2460, Plg17.0000°, Azm334.0000°; P -1.8900, Plg68.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **03** 21:30:22.4,29.˙62N×140.˙60E,h12km*

*NEIC **03** 21:30:22.4,29.˙42N×140.˙60E,h12km,Moment Tensor Solution. Duration: 2ś6 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.37; $M_{\theta\theta}$0.26; $M_{\phi\phi}$ 1.11; $M_{r\theta}$-1.55; $M_{\theta\phi}$-0.53; $M_{\phi r}$1.08; Fault plane solution: $M_0$2.33000×10^{17} NP1: ϕ_s131.88000°,δ72.85000°,λ-103.12000°. NP2: ϕ_s350.21000°,δ21.47000°,λ-53.66000°. Principal axes: T 2.2156, Plg27.0000°, Azm232.0000°; N 0.2232, Plg13.0000°, Azm136.0000°; P -2.4388, Plg60.0000°, Azm23.0000°;*

*MOS **03** 21:30:23.3±1.0,29.˙58N×140.˙42E,h35km,mb5.4/80, MS5.0/26 Error ellipse: s-maj=7.4km s-min=3.9km az=111.7*

*BGR **03** 21:30:26.3,28.˙91N×139.˙40E,h33km,mb4.8,Ms5.1*

ISC 03 21:30:22.5±0.5,29.˙61N±0.˙03×140.˙59E±0.˙03,h17km±2km, h17km:pP-P,n1131,σ1ś55/1091,mb5.2/272,MS5.0/169, 55C-34D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.87**	**150**	*eP*	**Pn**	**21 31 07.6**	**+0.2**
CBIJ				*eS*	**Sn**	**21 31 42.4**	**+0.9**
CBIJ	**Chichi jima**	**2.87**	**150**	A	A	21 31 07.6	
	comp=Z,31nm,4.0s,comp=E,40nm,4.9s,comp=N,44nm,5.4s						
JCJ	**Chichijima**	**2.87**	**150**	Pn	**Pn**	**21 31 07.7**	**+0.3**
JCJ	**Chichijima**	**2.87**	**150**	Pn	**Pn**	**21 31 05.0**	**-2.4**
	comp=N,508nm,0.3s,baz=327,slow=4.7,SNR=43						
JCJ				Sn	**Sn**	**21 31 38.7**	**-2.8**
	comp=N,2μm,0.3s,baz=116,slow=24,SNR=15						
JAOM	**Aogashimamukai**	**2.94**	**346**	A	A	21 31 10.2	
	comp=E,104nm,6.6s,comp=N,69nm,10.1s						
JHH2	**Haha-jima-NKT2**	**3.28**	**154**	*eP*	**Pn**	**21 31 13.8**	**+0.8**
JHH2				*eS*	**Sn**	**21 31 52.6**	**+1.0**
JHH2	**Haha-jima-NKT2**	**3.28**	**154**	A	A	21 31 13.8	
	comp=Z,19nm,5.3s,comp=E,36nm,2.9s,comp=N,28nm,3.6s						
JHCJ	**Hachijojimakas**	**3.52**	**349**	*eP*	**Pn**	**21 31 18.8**	**+2.5**
JHCJ	**Hachijojimakas**	**3.52**	**349**	A	A	21 31 18.8	
	comp=E,29nm,8.5s,comp=N,29nm,7.5s						
JHJ2	**Mitsune**	**3.56**	**349**	Pn	**Pn**	**21 31 18.4**	**+1.6**
JHJ2	**Mitsune**	**3.56**	**349**	*eP*	**Pn**	**21 31 19.4**	**+2.6**
JHJ2	**Mitsune**	**3.56**	**349**	A	A	21 31 19.4	
	comp=E,22nm,5.1s,comp=N,17nm,4.2s						
JHJ	**Hachijo jima 2**	**3.57**	**349**	Pn	**Pn**	**21 31 19.4**	**+2.3**
	comp=N,87nm,0.3s,baz=89,slow=23,SNR=8.2						
JHJ				Sn	**Sn**	**21 31 56.9**	**-1.9**
	comp=N,100nm,0.3s,baz=70,slow=18,SNR=3.7						
JHJ				LR	LR	21 32 41.4	
	comp=N,18μm,20.2s,baz=141,slow=40						
JMKN	**Mikurajimanish**	**4.36**	**349**	A	A	21 31 30.4	
	comp=E,35nm,10.2s,comp=N,32nm,5.7s						
BSO1	**Boso 1**	**5.04**	**4**	*eP*	**Pn**	**21 31 37.6**	**+0.8**
TTO1	**TONANKAI O.B.S**	**5.15**	**322**	*eP*	**Pn**	**21 31 39.2**	**+0.7**
BSO3	**Boso 3**	**5.18**	**359**	P	**Pn**	**21 31 39.8**	**+0.9**
JSG	**Sagara**	**5.45**	**339**	Pn	**Pn**	**21 31 42.6**	**-0.2**
JOD2	**Odawara 2**	**5.78**	**348**	*eP*	**Pn**	**21 31 48.5**	**+1.1**
JIE	**Ise**	**5.80**	**326**	*eP*	**Pn**	**21 31 48.5**	**+0.8**
JRY	**Ryogami san**	**6.55**	**348**	*eP*	**Pn**	**21 31 59.2**	**+1.2**
JMN	**Monobe**	**7.04**	**307**	Pn	**Pn**	**21 32 04.6**	**-0.2**
MJAR	**Matsushiro Arr**	**7.20**	**345**	Pn	**Pn**	**21 32 08.6**	**+1.7**
	comp=N,0.9nm,0.3s,baz=163,slow=12,SNR=28						
MJAR				Sn	**Sn**	**21 33 31.1**	**+2.8**
	baz=186,slow=26						
MJAR				LR	LR	21 34 58.8	
	comp=N,14μm,18.2s,baz=152,slow=39						
MAJO	**Matsushiro**	**7.20**	**345**	Pn	**Pn**	**21 32 08.3**	**+1.3**
MAJO	**Matsushiro**	**7.20**	**345**	*c iP*	**Pn**	**21 32 10.8**	**+3.9**
MJB9	**Matsu-Tunnel**	**7.20**	**344**	Pn	**Pn**	**21 32 08.3**	**+1.3**
JTO	**Tosashimizu**	**7.42**	**298**	P	**Pn**	**21 32 10.0**	**+0.1**
JFK	**Kawauchi**	**7.74**	**2**	P	**Pn**	**21 32 12.8**	**-1.6**
JMM	**Marumori**	**8.24**	**1**	Pn	**Pn**	**21 32 18.9**	**-2.2**
JNU	**Nakatsue**	**9.01**	**295**	Pn	**Pn**	**21 32 31.9**	**+0.1**
JNU	**Nakatsue**	**9.01**	**295**	Pn	**Pn**	**21 32 30.1**	**-1.7**
	comp=N,0.9nm,0.3s,baz=9.1,slow=5.7,SNR=10						
JNU				Sn	**Sn**	**21 34 11.9**	**-1.0**
	comp=N,0.6nm,0.3s,baz=327,slow=16,SNR=1.3						
JNU				LR	LR	21 35 43.0	
	comp=N,9μm,18.6s,baz=114,slow=37						
JMZ	**Minamidaito 2**	**9.12**	**248**	Pn	**Pn**	**21 32 33.5**	**+0.2**
JMZ	**Minamidaito 2**	**9.12**	**248**	*eP*	**Pn**	**21 32 32.4**	**-0.9**
JMK	**Ichinoseki**	**9.34**	**3**	*eP*	**Pn**	**21 32 34.6**	**-1.6**
JMK				*eS*	**Sn**	**21 34 15.4**	**-5.4**
JAMN	**Amaminishikomi**	**10.09**	**265**	*eP*	**Pn**	**21 32 46.4**	**-0.3**
JTM	**Tenmabayashi**	**11.16**	**2**	Pn	**Pn**	**21 32 59.3**	**-1.9**
JOW	**Kunigami**	**11.21**	**259**	*eP*	**Pn**	**21 33 03.1**	**+1.2**
JOW	**Kunigami**	**11.21**	**259**	Pn	**Pn**	**21 33 00.9**	**-1.0**
	comp=N,1.3nm,0.3s,baz=110,slow=18,SNR=7.0						
JOW				Sn	**Sn**	**21 35 02.3**	**-4.5**
	comp=N,0.8nm,0.3s,baz=357,slow=22,SNR=1.5						
JOW				LR	LR	21 37 13.2	
	comp=N,9μm,18.2s,baz=136,slow=38						
ERM	**Erimo**	**12.56**	**9**	Pn	**Pn**	**21 33 18.5**	**-1.8**
ERM	**Erimo**	**12.56**	**9**	*eP*	**Pn**	**21 33 18.8**	**-1.4**
TJN	**Taejon**	**12.99**	**305**	*eP*	Pn	21 33 34.7	+8.5
KSRS	**Korea Array**	**13.14**	**310**	Pn	**Pn**	**21 33 25.3**	**-2.9**
	comp=N,0.2nm,0.3s,baz=117,slow=14,SNR=5.4						
KS19	**Wonju Array Si**	**13.20**	**310**	Pn	**Pn**	**21 33 29.4**	**+0.3**
INCN	**Inchon**	**14.03**	**308**		**Pn**	**21 33 41.5**	**+1.0**
INCN	**Inchon**	**14.03**	**308**	P	**Pn**	**21 33 41.5**	**+1.0**
ASAJ	**Asahikawa**	**14.57**	**6**	P	**Pn**	**21 33 45.1**	**-2.7**
ASAJ	**Asahikawa**	**14.57**	**6**	Pn	**Pn**	**21 33 45.4**	**-2.4**
	comp=N,2.2nm,0.3s,baz=225,slow=12,SNR=11						
ASAJ				LR	LR	21 40 32.1	
	comp=N,7μm,19.1s,baz=192,slow=42						
	comp=N,5.1nm,0.3s						
JKA	**Kamikawa-asahi**	**14.57**	**6**	Pn	**Pn**	**21 33 45.1**	**-2.7**
TEY	**Ternei**	**15.72**	**350**	*eP*	**Pn**	**21 34 04.9**	**+1.9**
TEY				*e*		21 36 49.6	
TEY				MLR	MLR		
	comp=E,200nm,13.0s						
TEY				MLR	MLR		
	comp=N,200nm,14.0s						
TEY				MLR	MLR		
	comp=Z,200nm,15.0s						
USA0B	**Ussuriysk Arra**	**16.09**	**337**	Pn	**Pn**	**21 34 07.4**	**-0.4**
USA0B	**Ussuriysk Arra**	**16.09**	**337**	P	**Pn**	**21 34 07.4**	**-0.4**
USA0B				pmax	pmax		
	comp=Z,22nm,0.9s						
USRK	**Ussuriysk Ar.**	**16.09**	**337**	Pn	**Pn**	**21 34 07.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**16.09**	**337**	P	**Pn**	**21 34 07.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**16.09**	**337**	Pn	**P**	**21 34 10.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=169,slow=12,SNR=20						
USRK				LR	LR	21 39 45.6	
	comp=Z,4μm,20.0s,baz=149,slow=35						
GUMO	**Guam**	**16.43**	**165**	Pn	**Pn**	**21 34 12.8**	**+0.6**
GUMO	**Guam**	**16.43**	**165**	P	**Pn**	**21 34 12.8**	**+0.6**
GUMO				pmax	pmax		
	comp=Z,725nm,1.5s						
GUMO	**Guam**	**16.43**	**165**	Pn	**P**	**21 34 17.8**	**+2.9**
	comp=Z,26nm,0.3s,baz=350,slow=1.0,SNR=6.6						
GUMO				LR	LR	21 39 35.0	
	comp=Z,4μm,19.1s,baz=336,slow=34						
SSE	**Sheshan**	**16.82**	**280**	P	**Pn**	**21 34 18.7**	**+1.6**
SSE				S	**Sn**	**21 37 24.3**	**+0.7**
SSE				pmax	pmax		
	comp=Z,28nm,1.3s						
SSE				pmax	pmax		
	comp=Z,500nm,4.7s						
SSE				LR	LR		
	comp=Z,2μm,13.6s						
SSE				LR	LR		
	comp=Z,1μm,13.6s						
MDJ	**Mudanjiang**	**17.34**	**333**	P	**Pn**	**21 34 25.1**	**+1.6**
MDJ				pP	pP	21 34 27.5	-1.4
MDJ				PP	**PnPn**	**21 34 35.3**	**+1.6**
MDJ				S	**Sn**	**21 37 36.8**	**+0.8**
MDJ				SS	**SnSn**	**21 37 52.1**	**+2.6**
MDJ				PcP	**PcP**	**21 39 08.7**	**+3.4**
MDJ				ScS	**ScS**	**21 46 23.3**	**+4.0**
MDJ				pmax	pmax		
	comp=Z,19nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,850nm,11.3s						
MDJ				LR	LR		
	comp=Z,3μm,12.5s						
MDJ				LR	LR		
	comp=Z,4μm,12.7s						
MDJ				LR	LR		
	comp=Z,5μm,13.1s						
MDJ	**Mudanjiang**	**17.34**	**333**		**Pn**	**21 34 21.6**	**-1.9**
YSS	**Yuzh-Sakhalins**	**17.40**	**5**	Pn	**Pn**	**21 34 23.0**	**-1.3**
YSS	**Yuzh-Sakhalins**	**17.40**	**5**	*eP*	**Pn**	**21 34 25.1**	**+0.8**
YSS				*eS*	**Sn**	**21 37 33.9**	**-3.6**
YSS				pmax	pmax		
	comp=Z,700nm,6.0s						
YSS				pmax	pmax		
	comp=E,500nm,4.1s						
YSS				pmax	pmax		
	comp=Z,60nm,1.3s						
YSS				MLR	MLR		
	comp=Z,7μm,16.0s						
YSS				MLR	MLR		
	comp=N,5μm,17.0s						
DL2	**Dalian**	**18.19**	**306**	P	**P**	**21 34 35.2**	**+0.9**
DL2				S	**S**	**21 38 02.3**	**+0.5**
DL2				pmax	pmax		
	comp=N,57nm,1.5s						
DL2				pmax	pmax		
	comp=N,1μm,6.5s						
DL2				LR	LR		
	comp=N,2μm,17.6s						
DL2				LR	LR		
	comp=N,4μm,16.4s						
DL2				LR	LR		
	comp=N,4μm,17.1s						
YULB	**Yu-li**	**18.33**	**255**	P	**Pn**	**21 34 35.4**	**-0.6**
SNY	**Shenyang**	**18.39**	**316**	P	**P**	**21 34 39.7**	**+3.3**
SNY				pmax	pmax		
	comp=N,24nm,1.1s						
SNY				LR	LR		
	comp=N,3μm,12.4s						
SNY				LR	LR		
	comp=N,2μm,13.3s						
SNY				LR	LR		
	comp=N,3μm,14.8s						
SSLB	**Suanglung**	**18.47**	**256**	P	**P**	**21 34 36.3**	**-1.2**
CN2	**Changchun**	**18.61**	**324**	*eP*	**Pn**	**21 34 40.4**	**+1.1**
CN2				pmax	pmax		
	comp=N,20nm,1.7s						
CN2				LR	LR		
	comp=N,3μm,11.0s						
CN2				LR	LR		
	comp=N,2μm,11.0s						
CN2				LR	LR		
	comp=N,4μm,13.0s						
NJ2	**Nanjing**	**18.82**	**283**	P	**Pn**	**21 34 44.2**	**+2.3**
NJ2				pP	**pwP**	**21 34 46.8**	**-1.9**
NJ2				sP	**sP**	**21 34 49.4**	**+2.0**
NJ2				S	**S**	**21 38 15.3**	**+0.5**
NJ2				pmax	pmax		
	comp=N,84nm,1.0s						
NJ2				pmax	pmax		
	comp=N,360nm,4.5s						
NJ2				LR	LR		
	comp=N,4μm,10.1s						
NJ2				LR	LR		
	comp=N,4μm,15.1s						
NJ2				LR	LR		
	comp=N,5μm,15.6s						
TPUB	**Ta-pu**	**18.93**	**255**	P	**P**	**21 34 40.3**	**-2.3**
TPUB				IAmb	IAmb	21 34 53.7	
	comp=Z,263nm,1.5s						
BNX	**BinXian**	**19.15**	**331**	P	**P**	**21 34 43.7**	**-1.1**
BNX				pP	**pP**	**21 34 47.6**	**-1.3**
BNX				sP	**pwP**	**21 34 50.6**	**-1.9**
BNX				PP	**PnPn**	**21 35 00.2**	**+1.7**
BNX				S	**S**	**21 38 25.2**	**+4.0**
BNX				sS	**sS**	**21 38 27.4**	**-0.4**
BNX				pmax	pmax		
	comp=Z,11nm,1.3s						
BNX				pmax	pmax		
	comp=Z,770nm,6.2s						
BNX				LR	LR		
	comp=Z,2μm,12.2s						
BNX				LR	LR		
	comp=Z,2μm,10.8s						
BNX				LR	LR		
	comp=Z,2μm,11.0s						
UGL	**Uglegorsk**	**19.48**	**3**	*eP*	**Pn**	**21 34 51.3**	**+1.7**
UGL				*eS*	Sn	21 38 13.5	-14
UGL				pmax	pmax		
	comp=Z,128nm,1.0s						
UGL				pmax	pmax		
	comp=Z,3μm,4.5s						
UGL				pmax	pmax		
	comp=N,2μm,5.9s						
UGL				smax	smax		
	comp=N,4μm,9.0s						
UGL				smax	smax		
	comp=E,2μm,6.0s						
UGL				MLR	MLR		
	comp=Z,5μm,13.0s						
UGL				MLR	MLR		
	comp=E,8μm,16.0s						
UGL				MLR	MLR		
	comp=N,5μm,14.0s						
QZH	**Quanzhou**	**20.09**	**262**	*iP*	**P**	**21 34 56.7**	**+1.5**
QZH				S	Sn	21 38 43.4	+0.6
QZH				pmax	pmax		
	comp=N,84nm,1.3s						
QZH				pmax	pmax		
	comp=N,3μm,4.3s						
QZH				LR	LR		
	comp=N,2μm,18.6s						
QZH				LR	LR		
	comp=N,6μm,21.3s						
QZH				LR	LR		
	comp=N,7μm,20.6s						
KLR	**Kul'dur**	**20.73**	**343**	*iP*	**P**	**21 35 03.2**	**+1.3**
KLR				pmax	pmax		
	comp=Z,32nm,0.8s						
KLR	**Kul'dur**	**20.73**	**343**	P	**P**	**21 35 01.1**	**-0.8**
	comp=Z,6.2nm,0.4s,baz=171,slow=7.0,SNR=21						
KLR				LR	LR	21 43 19.5	
	comp=Z,3μm,18.1s,baz=153,slow=38						
	comp=Z,6.2nm,0.4s						
TIA	**Tai'an**	**20.75**	**295**	P	**P**	**21 35 02.8**	**+0.5**
TIA				S	**S**	**21 38 55.7**	**+2.4**
TIA				pmax	pmax		
	comp=Z,29nm,1.0s						
TIA				pmax	pmax		
	comp=Z,720nm,6.7s						
TIA				LR	LR		
	comp=Z,3μm,13.5s						
TIA				LR	LR		
	comp=Z,2μm,16.5s						
TIA				LR	LR		
	comp=Z,2μm,18.7s						
TYV	**Tymovskoe**	**21.29**	**4**	*eP*	**P**	**21 35 12.1**	**+4.1**
TYV				*eS*	**S**	**21 39 08.8**	**+5.0**
TYV				pmax	pmax		
	comp=Z,48nm,0.7s						
TYV				pmax	pmax		
	comp=Z,200nm,3.5s						
TYV				smax	smax		
	comp=N,1μm,5.6s						
TYV				smax	smax		
	comp=E,1μm,5.6s						
GRNR	**Gornyy**	**21.37**	**353**	*iP*	**P**	**21 35 09.2**	**+0.3**
GRNR				*eS*	**S**	**21 39 07.4**	**+2.0**
GRNR				pmax	pmax		
	comp=N,8.0nm,0.8s						
GRNR				pmax	pmax		
	comp=E,3.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				smax	smax		
	comp=N,3.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,1μm,18.0s						
GRNR				MLR	MLR		
	comp=E,3μm,18.0s						
GRNR				MLR	MLR		
	comp=Z,2μm,23.0s						
BJT	**Baijiatuau**	**22.52**	**304**	P	**P**	**21 35 19.4**	**-1.9**
BJT	**Baijiatuau**	**22.52**	**304**	P	**P**	**21 35 19.4**	**-1.9**
BJT				pmax	pmax		
	comp=Z,75nm,1.3s						
BJT				MLR	MLR		
	comp=Z,3μm,18.0s						
BJI	**Beijing**	**22.52**	**304**	P	**P**	**21 35 21.4**	**+0.1**
BJI				S	**S**	**21 39 28.4**	**+0.8**
BJI				SS	**SnSn**	**21 40 01.4**	**+4.8**
BJI				pmax	pmax		
	comp=Z,22nm,1.4s						
BJI				pmax	pmax		
	comp=Z,640nm,6.4s						
BJI				LR	LR		
	comp=Z,1μm,14.5s						
BJI				LR	LR		
	comp=Z,2μm,16.3s						
BJI				LR	LR		
	comp=Z,2μm,16.0s						
WHN	**Wuhan**	**22.71**	**279**	*iP*	**P**	**21 35 27.2**	**+3.7**
WHN				pP	**pwP**	**21 35 29.5**	**-1.3**
WHN				sP	**sP**	**21 35 32.3**	**+2.7**
WHN				S	**S**	**21 39 34.6**	**+3.4**
WHN				pmax	pmax		
	comp=Z,190nm,1.0s						
WHN				LR	LR		
	comp=Z,18μm,10.1s						
WHN				LR	LR		
	comp=Z,5μm,6.2s						
WHN				LR	LR		
	comp=Z,10μm,12.1s						
HNS	**HongShan**	**22.89**	**297**	P	**P**	**21 35 22.9**	**-2.3**
HNS				S	**S**	**21 39 34.7**	**+0.4**
HNS				pmax	pmax		
	comp=Z,23nm,1.4s						
HNS				pmax	pmax		
	comp=Z,1μm,6.9s						
HNS				LR	LR		
	comp=Z,3μm,14.9s						
HNS				LR	LR		
	comp=Z,2μm,17.3s						
HNS				LR	LR		
	comp=Z,3μm,18.3s						
HEH	**HeiHe**	**22.90**	**338**	*eP*	**P**	**21 35 22.5**	**-2.7**
HEH				S	**S**	**21 39 31.1**	**-3.0**
HEH				sS	**pS**	**21 39 35.8**	**-3.0**
HEH				pmax	pmax		
	comp=Z,23nm,1.2s						
HEH				pmax	pmax		
	comp=Z,830nm,7.7s						
HEH				LR	LR		
	comp=Z,6μm,19.3s						
HEH				LR	LR		
	comp=Z,5μm,18.5s						
HEH				LR	LR		
	comp=Z,4μm,24.4s						
NKL	**Nikolayevsk**	**23.52**	**0**	*eP*	**P**	**21 35 30.0**	**-1.5**
NKL				*eS*	**S**	**21 39 44.1**	**-0.3**
NKL				pmax	pmax		
	comp=N,277nm,0.9s						
NKL				pmax	pmax		
	comp=E,141nm,0.9s						
NKL				pmax	pmax		
	comp=Z,672nm,1.1s						
NKL				smax	smax		
	comp=E,294nm,5.3s						
NKL				smax	smax		
	comp=N,968nm,7.3s						
NKL				MLR	MLR		
	comp=E,4μm,11.0s						
NKL				MLR	MLR		
	comp=N,14μm,20.0s						
NKL				MLR	MLR		
	comp=Z,11μm,16.0s						
TGY	**Tagaytay City**	**23.83**	**234**	LR	LR	21 43 56.6	
	comp=Z,4μm,19.3s,baz=104,slow=35						
XLT	**XiLinHaoTe**	**24.16**	**313**	*eP*	**P**	**21 35 37.8**	**+0.1**
XLT				PP	**PnPn**	**21 36 08.2**	**+1.1**
XLT				S	**S**	**21 39 53.7**	**-1.3**
XLT				SS	**SnSn**	**21 40 45.5**	**+8.7**
XLT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,850nm,7.2s						
XLT				LR	LR		
	comp=Z,340nm,13.2s						
XLT				LR	LR		
	comp=Z,2μm,13.6s						
XLT				LR	LR		
	comp=Z,2μm,13.7s						
CNSH	**ChangSha**	**24.24**	**273**	*iP*	**P**	**21 35 38.2**	**-0.3**
CNSH				S	**S**	**21 39 55.0**	**-1.4**
CNSH				pmax	pmax		
	comp=Z,2μm,5.7s						
CNSH				LR	LR		
	comp=Z,3μm,15.4s						
CNSH				LR	LR		
	comp=Z,2μm,16.1s						
CNSH				LR	LR		
	comp=Z,2μm,14.6s						
LYN	**LuoYang**	**24.29**	**289**	*iP*	**P**	**21 35 38.2**	**-0.8**
LYN				S	**S**	**21 39 51.8**	**-5.4**
LYN				sS	sS	21 40 10.1	+5.3
LYN				pmax	pmax		
	comp=Z,26nm,1.2s						
LYN				pmax	pmax		
	comp=Z,2μm,7.6s						
LYN				LR	LR		
	comp=Z,6μm,14.4s						
LYN				LR	LR		
	comp=Z,5μm,17.2s						
LYN				LR	LR		
	comp=Z,6μm,17.5s						
TIY	**Taiyuan**	**24.72**	**297**	P	**P**	**21 35 42.7**	**-0.3**
TIY				S	**S**	**21 40 05.5**	**+1.2**
TIY				SS	**SnSn**	**21 41 00.4**	**+10**
TIY				pmax	pmax		
	comp=Z,18nm,0.6s						
TIY				pmax	pmax		
	comp=Z,1μm,6.5s						
TIY				LR	LR		
	comp=Z,4μm,12.4s						
TIY				LR	LR		
	comp=Z,2μm,15.1s						
TIY				LR	LR		
	comp=Z,2μm,15.8s						
HKPS	**Hong Kong Po S**	**24.84**	**259**	IAMs_20	IAMs_20	21 45 54.1	
	comp=Z,4μm,19.0s						
HIA	**Hailar**	**25.24**	**327**	P	**P**	**21 35 44.7**	**-2.8**
HIA	**Hailar**	**25.24**	**327**	P	**P**	**21 35 44.7**	**-2.8**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA				MLR	MLR		
	comp=Z,1μm,19.0s						
H11N2	**WAKE ISLAND Hy**	**25.80**	**106**	T	T	22 03 00.1	
	baz=298,slow=75,SNR=383						
H11N1	**WAKE ISLAND Hy**	**25.80**	**106**	T	T	22 03 00.3	
	baz=298,slow=75,SNR=508						
H11N3	**WAKE ISLAND Hy**	**25.81**	**106**	T	T	22 03 00.8	
	baz=298,slow=75,SNR=367						
ZEA	**Zeya**	**26.00**	**342**	*eP*	**P**	**21 35 54.2**	**-0.1**
ZEA				*e*		21 36 47.1	
ZEA				pmax	pmax		
	comp=N,70nm,0.9s						
ZEA				pmax	pmax		
	comp=E,30nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,120nm,0.8s						
ZEA				pmax	pmax		
	comp=E,200nm,5.7s						
ZEA				pmax	pmax		
	comp=N,400nm,6.1s						
ZEA				pmax	pmax		
	comp=Z,600nm,6.2s						
ZEA				MLR	MLR		
	comp=E,1μm,15.0s						
ZEA				MLR	MLR		
	comp=N,2μm,18.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,19.0s						
HHC	**Hu-ho-hao-te**	**26.11**	**303**	*eP*	**P**	**21 35 56.1**	**+0.5**
HHC				sP	pwP	21 36 05.1	+1.7

HHC S **S** **21 40 26.4 0.0**
HHC sS sS 21 40 39.1 +5.0
HHC SS **SnSn** **21 41 35.0 +10**
HHC pmax pmax
comp=Z,29nm,1.1s
HHC pmax pmax
comp=Z,1µm,5.6s
HHC LR LR
comp=Z,7µm,14.3s
HHC LR LR
comp=Z,5µm,18.6s
HHC LR LR
comp=Z,6µm,17.5s
H11S3 WAKE ISLAND Hy 26.21 109 T T 22 03 36.0
baz=300,slow=75,SNR=268
H11S1 WAKE ISLAND Hy 26.22 109 T T 22 03 37.0
baz=300,slow=75,SNR=245
H11S2 WAKE ISLAND Hy 26.23 109 T T 22 03 41.7
baz=300,slow=75,SNR=186
DAV Davao City (W) 26.50 215 P P 21 35 45.0 -14
DAV Davao City (W) 26.50 215 P **P** **21 35 58.8 -0.3**
DAV Davao City (W) 26.50 215 IAms_20 IAms_20 21 45 16.0
comp=Z,4µm,20.0s
DAV Davao City (W) 26.50 215 LR LR 21 44 54.0
comp=Z,3µm,20.3s,baz=46,slow=33
PETK Petropavlovsk- 26.63 23 P **P** **21 35 59.0 -0.9**
PETK Petropavlovsk- 26.63 23 P **P** **21 35 59.0 -0.9**
PETK Petropavlovsk- 26.63 23 P **P** **21 36 01.2 +1.3**
comp=Z,2.4nm,0.8s,baz=188,slow=11,SNR=2.3
PETK LR LR 21 49 40.3
comp=Z,2µm,18.2s,baz=207,slow=43
comp=Z,2.4nm,0.8s
PET Petropavlovsk 26.89 24 *e*P **P** **21 36 08.1 +5.8**
PET *e*S **S** **21 40 34.8 -3.3**
PET pmax pmax
comp=Z,600nm,12.3s
PET MLR MLR
comp=Z,3µm,15.0s
PET MLR MLR
comp=Z,3µm,14.0s
ENH Enshi 26.92 279 P **P** **21 36 00.5 -2.3**
ENH IAmb IAmb 21 36 11.9
comp=Z,39nm,0.9s
BTO Baotou 27.18 302 *e*P **P** **21 36 07.5 +2.3**
BTO PP **PnPn** **21 36 53.6 +5.1**
BTO S **S** **21 40 45.6 +2.4**
BTO sS sS 21 40 58.6 +7.7
BTO SS **SnSn** **21 41 54.9 +4.0**
BTO pmax pmax
comp=Z,36nm,0.8s
BTO pmax pmax
comp=Z,2µm,5.0s
BTO LR LR
comp=Z,10µm,13.4s
BTO LR LR
comp=Z,9µm,12.4s
BTO LR LR
comp=Z,9µm,14.5s
XAN Xi'an 27.21 288 ⇓P **P** **21 36 04.7 -0.7**
XAN pP sP 21 36 09.5 -2.3
XAN S **S** **21 40 42.1 -1.6**
XAN SS **SnSn** **21 41 54.5 +3.0**
XAN pmax pmax
comp=Z,48nm,1.3s
XAN pmax pmax
comp=Z,1µm,7.1s
XAN LR LR
comp=Z,3µm,12.0s
XAN LR LR
comp=Z,7µm,13.9s
XAN LR LR
comp=Z,6µm,15.2s
PATS Pohnpei 28.14 140 P **P** **21 36 14.7 +1.0**
QIZ Qiongzhong 29.85 256 P **P** **21 36 30.0 +1.0**
QIZ S **S** **21 41 30.5 +5.2**
QIZ LR LR
comp=Z,1µm,12.7s
QIZ LR LR
comp=Z,1µm,13.2s
QIZ LR LR
comp=Z,2µm,16.2s
QIZ Qiongzhong 29.85 256 IAms_20 IAms_20 21 48 21.7
comp=Z,2µm,19.0s
GYA Guiyang 30.05 272 P **P** **21 36 33.0 +2.1**
GYA sP pwP 21 36 38.0 -0.5
GYA S **S** **21 41 29.8 +1.2**
GYA pmax pmax
comp=Z,37nm,1.0s
GYA pmax pmax
comp=Z,570nm,6.4s
GYA LR LR
comp=Z,2µm,12.3s
GYA LR LR
comp=Z,2µm,19.2s
GYA LR LR
comp=Z,3µm,20.3s
MA2 Magadan 30.76 10 P **P** **21 36 36.6 0.0**
MA2 IAmb IAmb 21 36 40.9
comp=Z,52nm,0.8s
MA2 Magadan 30.76 10 *de*P **P** **21 36 38.1 +1.5**
MA2 pmax pmax
comp=Z,53nm,0.8s
MA2 Magadan 30.76 10 LR LR 21 49 53.5
comp=Z,1µm,21.2s,baz=200,slow=38
TNTI Ternate 31.32 206 P **P** **21 36 41.6 -0.4**
TNTI IAmb IAmb 21 36 50.5
comp=Z,54nm,0.9s
LZH Lanzhou 31.41 292 ⇑P **P** **21 36 42.2 -0.6**
LZH sP pwP 21 36 48.7 -2.1
LZH S **S** **21 41 44.0 -5.8**
LZH sS sS 21 42 00.7 +3.2
LZH SS **SnSn** **21 43 40.0 +6.0**
LZH pmax pmax
comp=Z,13nm,1.6s
LZH pmax pmax
comp=Z,480nm,5.2s
LZH LR LR
comp=Z,2µm,12.0s
LZH LR LR
comp=Z,3µm,13.7s
LZH LR LR
comp=Z,4µm,13.1s
ULN Ulaanbaatar 31.55 315 P **P** **21 36 42.0 -2.0**
ULN Ulaanbaatar 31.55 315 ⇓*e*P **P** **21 36 44.1 +0.1**
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 31.55 315 P P 21 36 39.5 -4.5
comp=Z,37nm,1.6s
CD2 Chengdu 31.75 282 P **P** **21 36 45.6 -0.2**
CD2 S **S** **21 41 56.6 +1.5**
CD2 LR LR
comp=Z,5µm,14.7s
CD2 LR LR
comp=Z,4µm,13.7s
CD2 LR LR
comp=Z,3µm,12.7s
SONM Songino Array 31.95 314 P **P** **21 36 45.4 -2.0**
SONM Songino Array 31.95 314 P **P** **21 36 46.7 -0.7**
comp=Z,1.9nm,0.7s,baz=125,slow=8.6,SNR=12
SONM PcP **PcP** **21 39 36.8 -0.6**
comp=Z,2.4nm,0.9s,baz=128,slow=3.5,SNR=3.3
comp=Z,1.9nm,0.7s
LBMI Labuha 32.57 205 P **P** **21 36 54.1 +1.1**
comp=Z,135nm,1.1s,comp=Z,2µm
KKM Kota Kinabalu 32.83 229 IAms_20 IAms_20 21 49 25.4
comp=Z,4µm,22.0s
KMSI Cibinong 32.92 212 P **P** **21 36 58.2 +2.1**
comp=Z,195nm,1.1s
YAK Yakutsk 33.22 351 P **P** **21 36 57.4 -0.8**
YAK Yakutsk 33.22 351 IAms_20 IAms_20 21 50 39.6
comp=Z,3µm,18.0s
YAK Yakutsk 33.22 351 *d i*P **P** **21 36 57.3 -0.8**
YAK *e**PP **pwP** **21 37 07.0 +0.9**
YAK *e* 21 38 06.3
YAK *e* 21 39 40.5
YAK *e*S **S** **21 42 16.8 -0.2**
YAK *e**SS sS 21 42 34.4 +10
YAK *e* 21 47 21.1
YAK pmax pmax
comp=Z,100nm,0.9s
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,180nm,4.6s
YAK pmax pmax
comp=N,123nm,3.9s
YAK smax smax
comp=E,158nm,2.5s
YAK smax smax
comp=N,70nm,2.0s
YAK MLR MLR
comp=Z,3µm,17.0s
YAK MLR MLR
comp=N,1µm,15.0s
YAK MLR MLR
comp=E,1µm,15.0s
YAK Yakutsk 33.22 351 LR LR 21 50 57.0
comp=E,119nm,18.1s,baz=156,slow=37
FAKI Fak Fak 33.31 195 P **P** **21 36 59.0 -0.4**
FAKI IAmb IAmb 21 37 12.0
comp=Z,58nm,1.0s
FAKI IAMs_20 IAMs_20 21 47 07.3
comp=Z,2µm,19.0s
FAKI Fak Fak 33.31 195 P **P** **21 36 57.0 -2.5**
comp=Z,70nm,1.1s,comp=Z,1µm
GTOI Gorontalo 33.33 213 P **P** **21 37 00.3 +0.7**
comp=Z,23nm,1.0s,comp=Z,449nm
BOD Bodaibo 33.70 334 *e*P **P** **21 36 59.3 -3.1**
BOD pmax pmax
comp=Z,15nm,1.4s
SHEM Shemya Is, Ala 33.72 37 LR LR 21 48 14.4
comp=Z,1µm,21.6s,baz=284,slow=32
MRSI Marisa 33.99 215 P **P** **21 37 05.2 -0.1**
comp=Z,145nm,1.2s,comp=Z,2µmcomp=Z,1µm
SLVN Son La 34.02 265 IAMs_20 IAMs_20 21 50 25.0
comp=Z,4µm,21.0s
TOLI2 Tolitoli 34.04 217 P **P** **21 37 05.6 -0.2**
TOLI2 IAmb IAmb 21 37 14.6
comp=Z,46nm,1.3s
TOLI2 IAMs_20 IAMs_20 21 48 08.8
comp=Z,2µm,21.0s
SEY Seymchan 34.20 10 ⇓*e*P **P** **21 37 07.6 +0.9**
SEY pmax pmax
comp=Z,29nm,1.3s
SEY Seymchan 34.20 10 LR LR 21 53 16.3
comp=Z,1µm,18.1s,baz=210,slow=40
PZH PanZhiHua 34.32 274 P **P** **21 37 10.3 +2.0**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
SANI Sanana 34.44 206 P **P** **21 37 08.1 -1.1**
comp=Z,68nm,0.7s,comp=Z,1µm
GTA Gaotai 34.74 297 *e*P **P** **21 37 11.1 -0.8**
GTA pP sP 21 37 16.5 -1.8
GTA S **S** **21 42 42.8 +1.3**
GTA SS **SnSn** **21 44 56.2 +1.3**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,340nm,8.4s
GTA LR LR
comp=Z,2µm,13.8s
GTA LR LR
comp=Z,2µm,17.1s
GTA LR LR
comp=Z,2µm,18.2s
ZAK Zakamensk 34.81 317 *e*P **P** **21 37 10.9 -1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
LUWI Luwuk 34.91 212 P **P** **21 37 12.4 -0.9**
LUWI Luwuk 34.91 212 P **P** **21 37 13.9 +0.6**
comp=Z,84nm,1.3s,comp=Z,1µm
NLAI Namlea 35.12 204 P **P** **21 37 14.4 -0.8**
comp=Z,35nm,1.0s
MPSI Mapaga 35.16 218 P **P** **21 37 12.0 -3.5**
comp=Z,19nm,1.3s,comp=Z,787nm
RABL Rabaul 35.39 160 P **P** **21 37 16.4 -1.1**
TNCH TengChong 37.51 273 *e*P **P** **21 37 37.0 +1.2**
TNCH sP pwP 21 37 43.0 -0.8
TNCH S **S** **21 43 22.7 -1.5**
TNCH LR LR
comp=Z,780nm,13.4s
TNCH LR LR
comp=Z,880nm,15.6s
TNCH LR LR
comp=Z,2µm,23.6s
TTSI Tana Toraja 38.08 215 P **P** **21 37 43.4 +3.0**
comp=Z,18nm,1.2s
BKB Balikpapan 38.14 221 IAMs_20 IAMs_20 21 50 52.0
comp=Z,4µm,22.0s
SBUM Sibu 38.15 230 P **P** **21 37 40.8 -0.2**
SBUM IAMs_20 IAMs_20 21 53 09.7
comp=Z,2µm,20.0s
SBUM Sibu 38.15 230 P **P** **21 37 42.8 +1.8**
comp=Z,11nm,1.6s,comp=Z,420nm
SAUI Saumlaki 38.43 195 P **P** **21 37 42.5 -0.7**
ADK Adak 38.53 42 P **P** **21 37 42.7 -1.1**
ADK Adak 38.53 42 IAMs_20 IAMs_20 21 50 01.7
comp=Z,3µm,20.0s
ADK Adak 38.53 42 P **P** **21 37 42.7 -1.1**
ADK pmax pmax
comp=Z,259nm,1.6s
ADK MLR MLR
comp=Z,3µm,20.0s
GOMU GeErMu 38.71 292 P **P** **21 37 46.3 +0.3**
GOMU PP **PnPn** **21 39 18.8 +2.0**
GOMU PcP **PcP** **21 39 59.2 +1.5**
GOMU SS SS 21 46 20.1 -13
GOMU pmax pmax
comp=Z,26nm,1.1s
GOMU LR LR
comp=Z,750nm,13.5s
GOMU LR LR
comp=Z,960nm,16.9s
GOMU LR LR
comp=Z,1µm,18.0s
SPSI Sidrap Palu 38.89 214 P **P** **21 37 47.2 0.0**
comp=Z,33nm,0.9s,comp=Z,906nm
BBSI Bau Bau 38.95 209 P **P** **21 37 50.0 +2.3**
comp=Z,40nm,1.1s,comp=Z,834nm
MTKI Muara Teweh, K 39.05 223 P **P** **21 37 51.8 +3.2**
comp=Z,72nm,0.7s
CHTO Chiang Mai 39.29 264 IAMs_20 IAMs_20 21 54 05.6
comp=Z,3µm,20.0s
PMG Port Moresby 39.30 170 LR LR 21 53 07.3
comp=Z,957nm,19.8s,baz=352,slow=35
CMAR Chiang Mai Arr 39.43 263 *i*P **P** **21 37 50.9 -0.9**
CMAR pmax pmax
comp=Z,108nm,0.8s
CMAR Chiang Mai Arr 39.43 263 LR LR 21 54 10.5
comp=Z,3µm,20.9s,baz=65,slow=37
KAPI Kappang 39.81 214 P **P** **21 37 54.4 -0.5**
KAPI IAmb IAmb 21 38 07.9
comp=Z,54nm,1.1s
KAPI Kappang 39.81 214 P **P** **21 37 54.4 -0.5**
KAPI pmax pmax
comp=Z,54nm,1.1s
KAPI Kappang 39.81 214 LR LR 21 53 56.1
comp=Z,984nm,20.5s,baz=346,slow=36
BKSI Bulukumba 39.90 213 P **P** **21 37 58.0 +2.4**
comp=Z,22nm,1.4s,comp=Z,795nmcomp=Z,1µm
ATKA Atka Island 40.09 43 IAMs_20 IAMs_20 21 53 38.0
comp=Z,2µm,21.0s
MKS Makassar 40.12 214 P **P** **21 38 00.9 +3.4**
comp=Z,71nm,1.2s,comp=Z,986nm
KSM Kuching 40.15 231 P **P** **21 38 01.8 +4.0**
comp=Z,26nm,1.5s,comp=Z,1µm
STKI Sintang 40.41 229 P P 21 38 04.9 +5.0
comp=Z,38nm,2.3s,comp=Z,8µm
PKKI Palangkaraya 40.63 223 P **P** **21 37 59.3 -2.4**
comp=Z,71nm,0.9s,comp=Z,1µm
BILL Bilibino 41.35 14 P **P** **21 38 07.4 +0.3**
BILL Bilibino 41.35 14 ⇑*i*P **P** **21 38 08.2 +1.1**
BILL pmax pmax
comp=Z,23nm,0.8s
MMRI Maumere 41.93 208 P **P** **21 38 12.2 -0.1**
MMRI IAmb IAmb 21 38 21.0
comp=Z,78nm,0.9s
MMRI Maumere 41.93 208 P **P** **21 38 13.7 +1.4**
comp=Z,106nm,1.0s,comp=Z,2µmcomp=Z,1µm
SOEI Soe 42.17 204 P **P** **21 38 13.4 -1.0**
SOEI IAMs_20 IAMs_20 21 52 35.5
comp=Z,2µm,22.0s
SOEI Soe 42.17 204 P **P** **21 38 14.1 -0.4**
comp=Z,112nm,1.4s,comp=Z,2µm
EDFI Ende, Flores 42.25 208 P **P** **21 38 15.2 +0.1**
comp=Z,102nm,1.1s,comp=Z,1µm
TIXI Tiksi 42.58 355 P **P** **21 38 16.0 -1.0**
TIXI Tiksi 42.58 355 ⇓*i*P **P** **21 38 16.3 -0.7**
TIXI pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 42.58 355 LR LR 21 56 23.6
comp=Z,74nm,21.0s,baz=180,slow=37
HNR Honiara 43.06 151 LR LR 21 55 22.8
comp=Z,7µm,19.5s,baz=320,slow=35
MTN Manton Dam 43.18 194 P **P** **21 38 21.5 -0.9**
MTN IAmb IAmb 21 38 30.3
comp=Z,94nm,1.1s
NIKH Nikolski High 43.44 43 P **P** **21 38 23.4 -0.8**
baz=258
DBNI Kabupaten Domp 43.54 213 P **P** **21 38 25.6 +0.2**
comp=Z,50nm,1.1s,comp=Z,1µm
SRIT Nakonsritamara 43.69 250 P **P** **21 38 25.6 -1.2**
SRIT IAmb IAmb 21 38 32.0
comp=Z,40nm,0.8s
SPIA Saint Paul Isl 43.75 37 P **P** **21 38 26.4 -0.2**
baz=252
P08K Saint George I 43.95 38 P **P** **21 38 28.3 +0.1**
baz=254
WMQ Urumqi 43.99 304 *e*P **P** **21 38 31.3 +2.3**
WMQ LR LR
comp=Z,2µm,16.1s
WMQ LR LR
comp=Z,2µm,17.1s
WMQ LR LR
comp=Z,1µm,24.7s
PLAI Plampang 44.08 213 P P 21 38 26.2 -3.5
comp=Z,89nm,0.9s,comp=Z,839nm
TWSI Taliwang, Sumb 44.43 215 P **P** **21 38 33.8 +1.2**
comp=Z,48nm,0.8s,comp=Z,2µm
DGZ Jazzator, Alta 44.53 312 ⇑*i*P **P** **21 38 34.0 +0.7**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
KMMI Kalianget 44.54 219 P **P** **21 38 34.9 +1.5**
comp=Z,37nm,1.3s
SRBI Singaraja 44.73 217 P **P** **21 38 35.7 +0.7**
comp=Z,80nm,1.3s,comp=Z,2µmcomp=Z,3µm
KULM Kulim 44.77 245 P **P** **21 38 35.4 0.0**
KULM IAmb IAmb 21 38 45.1
comp=Z,55nm,1.1s
KULM IAMs_20 IAMs_20 21 55 39.5
comp=Z,1µm,21.0s
ABJI Asem Bagus 45.01 218 P **P** **21 38 40.1 +2.9**
comp=Z,47nm,0.9s,comp=Z,2µm
JAGI Jajag, Banyuwa 45.62 218 P **P** **21 38 41.6 -0.5**
JAGI Jajag, Banyuwa 45.62 218 P **P** **21 38 42.5 +0.5**
comp=Z,65nm,1.1s,comp=Z,1µm
PPBI Pangkal Pinang 45.64 232 P **P** **21 38 46.0 +3.7**
comp=Z,30nm,0.9s,comp=Z,6µm
NGJI Ngawi 46.22 222 P **P** **21 38 50.6 +3.8**
comp=Z,61nm,1.0s
SJI Sawahan 46.34 221 P **P** **21 38 49.2 +1.4**
comp=Z,34nm,1.6s
KNRA Kununurra 46.44 196 P **P** **21 38 48.1 -0.3**
KNRA IAmb IAmb 21 39 03.3
comp=Z,57nm,1.4s
SMRI Semarang 46.57 223 P **P** **21 38 49.0 -0.5**
SMRI Semarang 46.57 223 P **P** **21 38 52.9 +3.4**
comp=Z,60nm,0.5s
ZAA0 Zalesovo Array 46.68 318 P **P** **21 38 48.8 -1.3**
ZALV Zalesovo Beam 46.68 318 P **P** **21 38 48.0 -2.0**
ZALV Zalesovo Beam 46.68 318 *i*P **P** **21 38 49.9 -0.1**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 46.68 318 P **P** **21 38 48.1 -1.9**
comp=Z,2.2nm,0.6s,baz=105,slow=6.4,SNR=11
ZALV PcP **PcP** **21 40 22.0 -1.4**
comp=Z,5.0nm,0.7s,baz=102,slow=3.8,SNR=7.2
ZALV LR LR 21 59 15.5
comp=Z,985nm,18.8s,baz=99,slow=37
comp=Z,2.2nm,0.6s
M11K Mekoryuk 46.71 33 P **P** **21 38 50.1 0.0**
baz=253
FALS False Pass 46.95 41 P **P** **21 38 51.7 -0.4**
baz=261
PMBI Palembang 47.13 233 P **P** **21 38 52.6 -1.3**
PMBI IAMs_20 IAMs_20 21 56 37.6
comp=Z,2µm,22.0s
UGM Wanagama 47.20 223 IAMs_20 IAMs_20 21 57 14.8
comp=Z,2µm,22.0s
BKNI Bangkinang 47.60 240 P **P** **21 38 56.8 -0.8**
BKNI IAMs_20 IAMs_20 21 56 24.0
comp=Z,2µm,21.0s
PSI Prapat 47.65 244 P **P** **21 38 57.6 -0.6**
PSI pmax pmax
comp=Z,30nm,0.9s
PSI Prapat 47.65 244 P **P** **21 38 57.9 -0.3**
KPJI Karang Pucung 47.70 225 P **P** **21 38 59.2 +0.8**
comp=Z,63nm,0.9s,comp=Z,1µm
RPSI Rantau Prapat 47.72 244 P **P** **21 38 57.6 -1.0**
TNA Tin City 47.73 26 P **P** **21 38 59.2 +1.2**
baz=247,SNR=8.5
MK31 Makanchi Array 47.81 308 P **P** **21 38 56.9 -2.1**
MK31 Makanchi Array 47.81 308 P **P** **21 38 56.9 -2.1**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 47.81 308 P **P** **21 38 56.6 -2.4**
comp=Z,1.9nm,0.7s,baz=92,slow=9.6,SNR=15
MKAR PcP **PcP** **21 40 26.5 -1.2**
comp=Z,3.2nm,0.9s,baz=90,slow=7.3,SNR=4.1
MKAR LR LR 21 59 56.7
comp=Z,1µm,21.1s,baz=98,slow=37
comp=Z,1.9nm,0.7s
MAKZ Makanchi 48.03 308 P **P** **21 38 58.1 -2.6**
MAKZ IAMs_20 IAMs_20 21 59 40.8
comp=Z,1µm,20.0s
MAKZ Makanchi 48.03 308 P **P** **21 38 58.1 -2.6**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ MLR MLR
comp=Z,1µm,20.0s
M13K Dall Lake 48.09 34 P **P** **21 39 01.6 +0.8**
M13K Dall Lake 48.09 34 P **P** **21 39 01.7 +0.8**
baz=256
LEM Lembang 48.13 227 LR LR 22 01 47.1
comp=Z,789nm,18.4s,baz=24,slow=39
F14K Arctic Creek 48.32 27 P **P** **21 39 03.5 +1.0**
baz=249
ANM Nome 48.38 28 P **P** **21 39 03.5 +0.5**
ANM Nome 48.38 28 P **P** **21 39 03.9 +0.8**
baz=251,SNR=26
ANM Nome 48.38 28 P **P** **21 39 03.5 +0.5**
ANM pmax pmax
comp=Z,41nm,0.9s
DBJI Dramaga 48.48 228 P **P** **21 39 04.8 +0.4**
comp=Z,90nm,1.2s
J14K Nanvaranak Lak 48.60 31 P **P** **21 39 05.5 +0.8**
J14K IAmb IAmb 21 39 09.7
comp=Z,21nm,1.1s
J14K Nanvaranak Lak 48.60 31 P **P** **21 39 06.1 +1.4**
baz=254,SNR=6.8
BBJI Bungbulang 48.60 226 P **P** **21 39 06.2 +0.8**
comp=Z,35nm,0.8s
L14K Kuka Creek 48.63 32 P **P** **21 39 06.2 +1.2**
L14K IAmb IAmb 21 39 15.7
comp=Z,34nm,1.1s
L14K Kuka Creek 48.63 32 P **P** **21 39 05.5 +0.5**
baz=256
SDPT Sand Point 48.69 41 IAMs_20 IAMs_20 21 55 31.3
comp=Z,2µm,22.0s
SDPT Sand Point 48.69 41 P **P** **21 39 07.4 +1.9**
baz=263
N14K Kuskokwak Cree 48.79 34 P **P** **21 39 07.7 +1.5**
baz=258
CNJI Cibinong 48.81 227 P **P** **21 39 07.5 +0.6**
comp=Z,26nm,1.1s
M14K Bethel 48.83 33 P **P** **21 39 08.0 +1.4**
baz=257,SNR=6.7
O14K Tigyukauivet M 48.87 35 IAMs_20 IAMs_20 21 55 53.0
comp=Z,1µm,21.0s
O14K Tigyukauivet M 48.87 35 P **P** **21 39 07.9 +1.0**
baz=259
F15K North Star Dit 49.05 27 P **P** **21 39 10.1 +1.8**
baz=250
G15K Niukluk 49.06 28 P **P** **21 39 09.2 +0.9**
baz=252
LWLI Liwa 49.12 232 P **P** **21 39 11.7 +2.2**
comp=Z,154nm,0.9s
CHNA Chernabura Isl 49.14 41 P **P** **21 39 10.1 +1.0**
baz=265
CNBA Chernabura Isl 49.14 41 P **P** **21 39 09.4 +0.4**
KASI Kota Agung 49.20 231 P **P** **21 39 09.9 0.0**
comp=Z,73nm,1.0s
SEM Semipalatinsk 49.20 313 *e*P **P** **21 39 09.4 -0.4**
baz=313
SEM Semipalatinsk 49.20 313 *e*P **P** **21 39 09.4 -0.4**
L15K Ungalak Mounta 49.26 32 P **P** **21 39 11.3 +1.4**

baz=257
K15K **Wolf Creek Mou** 49.39 31 IAMs_20 IAMs_20 21 56 08.6
comp=Z,1µm,22.0s
K15K **Wolf Creek Mou** 49.39 31 P P 21 39 12.1 +1.3
baz=256
M15K **Kasigluk River** 49.43 34 P P 21 39 12.8 +1.6
baz=258
WB0 **Warramunga Arr** 49.45 188 P P 21 39 10.3 -1.4
WB0 IAmb IAmb 21 39 27.5
comp=Z,44nm,1.1s
FITZ **Fitzroy Crossi** 49.57 199 P P 21 39 12.5 -0.1
O15K **Ungalikthiuk R** 49.58 36 P P 21 39 14.2 +1.9
baz=261
WB4 **Warramunga Arr** 49.59 188 IAMs_20 IAMs_20 21 59 30.8
comp=Z,2µm,21.0s
N15K **Kwethluk River** 49.62 34 P P 21 39 14.0 +1.3
baz=260
WRA **Warramunga Arr** 49.63 188 P P 21 39 12.2 -0.9
WRA **Warramunga Arr** 49.63 188 P P 21 39 12.0 -1.1
comp=Z,7.3nm,0.6s,baz=3.7,slow=7.8,SNR=51
WRA PcP PcP 21 40 34.8 +0.3
comp=Z,7.0nm,0.8s,baz=354,slow=3.4,SNR=4.8
comp=Z,7.3nm,0.6s
GSI **Gunungsitoli** 49.63 244 P P 21 39 13.3 0.0
H16K **Elim** 49.69 28 P P 21 39 14.9 +1.8
baz=254,SNR=31
CTA **Charters Tower** 49.71 173 LR LR 22 00 44.2
comp=Z,398nm,19.1s,baz=342,slow=37
CTAO **Charters Tower** 49.71 173 P P 21 39 14.3 +0.6
CTAO IAmb IAmb 21 39 20.6
comp=Z,23nm,1.2s
CTAO **Charters Tower** 49.71 173 P P 21 39 14.3 +0.6
CTAO pmax pmax
comp=Z,23nm,1.3s
CTAO MLR MLR
comp=Z,700nm,20.0s
NRIK **Noril'sk** 49.80 338 P P 21 39 13.2 -0.7
NRIK **Noril'sk** 49.80 338 *de*P P 21 39 12.9 -1.0
NRIK pmax pmax
comp=Z,19nm,1.0s
NRIK **Noril'sk** 49.80 338 P P 21 39 13.0 -0.9
comp=Z,11nm,0.8s,baz=114,slow=11,SNR=14
NRIK PcP PcP 21 40 35.5 +1.1
comp=Z,16nm,1.0s,baz=123,slow=5.8,SNR=3.6
NRIK LR LR 22 01 13.7
comp=Z,3µm,19.8s,baz=115,slow=37
comp=Z,11nm,0.8s
G16K **Koyuk River** 49.86 27 P P 21 39 16.1 +1.7
baz=253
CHGN **Chignik** 49.95 40 IAMs_20 IAMs_20 21 58 51.6
comp=Z,1µm,22.0s
CHGN **Chignik** 49.95 40 P P 21 39 16.5 +1.3
baz=264
SHLS **Shalkode** 50.01 303 *e*P P 21 39 13.8 -2.3
baz=303
SHLS **Shalkode** 50.01 303 *e*P P 21 39 13.7 -2.3
J16K **Anvik River** 50.04 30 P P 21 39 17.4 +1.6
baz=256,SNR=6.8
I17K **Unalakleet** 50.14 30 P P 21 39 18.2 +1.7
baz=256,SNR=22
L16K **Owhat River** 50.21 32 P P 21 39 17.9 +0.8
L16K **Owhat River** 50.21 32 P P 21 39 18.7 +1.6
baz=259,SNR=7.8
KURK **Kurchatov** 50.24 313 P P 21 39 16.1 -1.3
KURK **Kurchatov** 50.24 313 *e*P P 21 39 15.7 -1.8
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURBB **Kurchatov Arra** 50.30 313 P P 21 39 15.8 -2.1
comp=Z,1.4nm,0.4s,baz=91,slow=7.3,SNR=9.2
KURBB LR LR 22 03 12.7
comp=Z,1µm,18.9s,baz=119,slow=39
comp=Z,1.4nm,0.4s
N16K **Nishlik Lake** 50.32 34 P P 21 39 19.5 +1.5
baz=260,SNR=17
M16K **Timber Creek** 50.32 33 P P 21 39 19.5 +1.6
baz=260,SNR=6.6
RDOG **Red Dog Mine** 50.49 24 P P 21 39 19.7 +0.5
RDOG IAmb IAmb 21 39 29.0
comp=Z,27nm,1.1s
RDOG **Red Dog Mine** 50.49 24 P P 21 39 20.9 +1.7
baz=250,SNR=18
O16K **Kokwok River B** 50.52 35 IAMs_20 IAMs_20 21 56 45.8
comp=Z,1µm,20.0s
O16K **Kokwok River B** 50.52 35 P P 21 39 20.4 +1.0
baz=262
KPKS **Kokpek** 50.54 304 *e*P P 21 39 19.7 -0.3
baz=304
KPKS **Kokpek** 50.54 304 *e*P P 21 39 19.7 -0.3
C17K **DeLong Mountai** 50.55 23 P P 21 39 20.5 +0.9
baz=250
E17K **Hotham Inlet** 50.57 25 P P 21 39 21.0 +1.3
baz=252,SNR=12
G17K **Kiwalik Mounta** 50.57 27 P P 21 39 20.8 +1.0
baz=255,SNR=22
F17K **Baldwin Pennin** 50.60 26 P P 21 39 21.8 +1.9
baz=253
TDK **Taldyqorghan** 50.60 306 *e*P P 21 39 20.3 -0.1
baz=306
TDK **Taldyqorghan** 50.60 306 *e*P P 21 39 20.3 -0.1
H17K **Granite Mounta** 50.73 28 P P 21 39 22.9 +1.9
baz=256,SNR=19
SATY **Saty** 50.78 303 *e*P P 21 39 21.7 -0.3
baz=303
SATY **Saty** 50.78 303 *e*P P 21 39 21.6 -0.3
L17K **Donlin** 50.84 32 P P 21 39 23.5 +1.7
baz=260,SNR=13
K17K **Iditarod** 50.94 31 P P 21 39 23.7 +1.1
K17K IAmb IAmb 21 39 27.9
comp=Z,50nm,1.1s
K17K IAMs_20 IAMs_20 21 56 56.7
comp=Z,1µm,22.0s
K17K **Iditarod** 50.94 31 P P 21 39 24.5 +1.9
baz=259
O17K **Koliganek Bris** 51.05 35 P P 21 39 25.1 +1.7
baz=263,SNR=10
N17K **Nushagak Hills** 51.10 34 P P 21 39 25.4 +1.5
baz=262
M17K **Holitna River** 51.11 33 IAMs_20 IAMs_20 21 56 39.3
comp=Z,2µm,22.0s
M17K **Holitna River** 51.11 33 P P 21 39 25.3 +1.3
baz=261,SNR=17
E18K **Tukpahlearik C** 51.13 25 P P 21 39 25.2 +1.3
baz=253
Q16K **King Salmon** 51.14 37 P P 21 39 25.1 +1.0
baz=264
R17K **Ugashik Creek** 51.18 38 P P 21 39 25.4 +0.9
baz=265
C18K **Utukok River** 51.29 24 IAMs_20 IAMs_20 22 04 31.5
comp=Z,1000nm,19.0s
C18K **Utukok River** 51.29 24 P P 21 39 26.4 +1.2
baz=252
P17K **Kvichak River** 51.31 36 P P 21 39 26.7 +1.3
baz=264,SNR=6.7
B18K **Kokolik River** 51.32 23 P P 21 39 27.0 +1.6
baz=250
TARG **Taragay, Kyrgy** 51.39 302 P P 21 39 26.3 -0.5
TARG **Taragay, Kyrgy** 51.39 302 P P 21 39 26.3 -0.5
TARG pmax pmax
comp=Z,13nm,0.9s
H18K **Honhosa River** 51.42 28 P P 21 39 27.8 +1.6
baz=257
G18K **Tagagawik** 51.47 27 P P 21 39 28.0 +1.4
baz=256,SNR=31
Q17K **Contact Creek** 51.50 37 P P 21 39 27.9 +0.9
baz=265
L18K **Granite Mounta** 51.59 32 P P 21 39 28.7 +1.2
L18K IAmb IAmb 21 39 32.9
comp=Z,29nm,1.1s
L18K IAMs_20 IAMs_20 21 57 30.0
comp=Z,1µm,20.0s
L18K **Granite Mounta** 51.59 32 P P 21 39 29.0 +1.5
baz=261
CHKK **Chushkaly** 51.72 304 *e*P P 21 39 28.0 -0.8
baz=304
CHKK **Chushkaly** 51.72 304 *e*P P 21 39 28.0 -0.8
N18K **Kilae Creek** 51.76 34 P P 21 39 30.3 +1.5
baz=263
MDOK **Medeo** 51.76 303 *e*P P 21 39 28.0 -1.3
baz=303
MDOK **Medeo** 51.76 303 *e*P P 21 39 27.9 -1.3
J18K **Innoko River** 51.79 31 IAMs_20 IAMs_20 21 58 22.0
comp=Z,1µm,22.0s
J18K **Innoko River** 51.79 31 P P 21 39 29.8 +0.9
baz=260,SNR=5.4
A19K **Wainwright** 51.84 22 P P 21 39 30.5 +1.3
baz=251
TNSS **Tian-Shan** 51.85 303 *e*P P 21 39 30.2 -0.1
baz=303
TNSS **Tian-Shan** 51.85 303 *e*P P 21 39 30.1 -0.1
M18K **Stony River** 51.89 33 P P 21 39 31.0 +1.2
baz=262
P18K **Big Mountain,** 51.95 36 P P 21 39 30.9 +0.6
P18K IAmb IAmb 21 39 34.8
comp=Z,43nm,0.9s
P18K IAMs_20 IAMs_20 21 58 13.5
comp=Z,1µm,22.0s
P18K **Big Mountain,** 51.95 36 P P 21 39 31.1 +0.9
baz=265,SNR=12
GCSA **Galena City Sc** 51.95 29 P P 21 39 31.8 +1.7
baz=259
SVW2 **Sparrevohn** 51.96 34 P P 21 39 31.5 +1.2
C19K **Lookout Ridge** 51.99 23 IAMs_20 IAMs_20 21 59 43.8
comp=Z,2µm,22.0s
C19K **Lookout Ridge** 51.99 23 P P 21 39 32.0 +1.6
baz=259
Q18K **Katmai Hardscr** 52.00 37 P P 21 39 31.1 +0.4
baz=265
O18K **Koktuh Hills** 52.00 35 IAMs_20 IAMs_20 21 57 42.0
comp=Z,1µm,22.0s
O18K **Koktuh Hills** 52.00 35 P P 21 39 32.1 +1.5
baz=264,SNR=5.3
TTA **Tatalina** 52.01 31 P P 21 39 31.6 +0.9
TTA **Tatalina** 52.01 31 P P 21 39 32.1 +1.4
baz=261,SNR=11
TTA **Tatalina** 52.01 31 P P 21 39 31.6 +0.9
TTA pmax pmax
comp=Z,17nm,1.0s
F19K **Shaleruckik Mo** 52.04 26 P P 21 39 31.3 +0.6
baz=256
G19K **Purcell Mounta** 52.15 27 P P 21 39 33.0 +1.4
baz=258
KUU **Kurty** 52.19 304 *e*P P 21 39 32.0 -0.2
comp=Z,7.5nm,0.8s,baz=304
KUU **Kurty** 52.19 304 *e*P P 21 39 32.0 -0.2
KUU pmax pmax
comp=Z,7.0nm,0.8s
R18K **Karluk** 52.22 38 P P 21 39 33.4 +1.3
baz=267
H19K **Roundabout Mou** 52.28 28 P P 21 39 33.6 +1.1
baz=259,SNR=21
D19K **Kuna River** 52.33 24 IAMs_20 IAMs_20 22 00 20.0
comp=Z,1µm,22.0s
D19K **Kuna River** 52.33 24 P P 21 39 34.2 +1.3
baz=255
J19K **Poorman** 52.36 30 IAMs_20 IAMs_20 21 57 54.0
comp=Z,1µm,22.0s
J19K **Poorman** 52.36 30 P P 21 39 34.4 +1.2
baz=261,SNR=19
E19K **Redstone River** 52.39 25 P P 21 39 35.2 +1.8
baz=256
L19K **White Mountain** 52.44 32 P P 21 39 36.0 +2.2
baz=263,SNR=9.2
N19K **Bonanza Creek** 52.46 34 IAMs_20 IAMs_20 21 57 10.0
comp=Z,1µm,20.0s
N19K **Bonanza Creek** 52.46 34 P P 21 39 35.6 +1.5
baz=264,SNR=11
O19K **Port Alsworth** 52.48 35 P P 21 39 36.3 +2.2
baz=265,SNR=7.6
Q19K **Cape Douglas,** 52.73 36 IAMs_20 IAMs_20 22 04 23.1
comp=Z,2µm,20.0s
Q19K **Cape Douglas,** 52.73 36 P P 21 39 37.0 +1.0
baz=266
OHAK **Old Harbor** 52.83 39 P P 21 39 38.2 +1.5
baz=268
F20K **Avaraart Lake** 52.88 26 P P 21 39 38.7 +1.8
baz=258
D20K **Etivluk River** 52.92 24 P P 21 39 38.5 +1.2
baz=256
H20K **Anotleneega Mo** 52.92 28 P P 21 39 39.1 +1.8
baz=260
L20K **Farewell, AK** 52.93 32 P P 21 39 39.4 +2.0
baz=264,SNR=8.1
K20K **Telida** 52.95 31 P P 21 39 39.6 +2.0
baz=263
E20K **Nigu River** 52.96 25 P P 21 39 39.3 +1.6
baz=257
I20K **Naaghedeneel** 52.97 29 P P 21 39 39.7 +2.0
baz=261
P19K **Oil Pt** 52.98 36 P P 21 39 39.4 +1.4
baz=266
J20K **Nowinta River** 53.02 30 IAMs_20 IAMs_20 21 58 25.7
comp=Z,1µm,21.0s
J20K **Nowinta River** 53.02 30 P P 21 39 39.3 +1.2
baz=262
B20K **Meade River** 53.06 22 IAMs_20 IAMs_20 22 01 53.1
comp=Z,1µm,22.0s
B20K **Meade River** 53.06 22 P P 21 39 39.5 +1.3
baz=255
KSH **Kashi** 53.11 299 P P 21 39 41.6 +2.3
KSH sP pwP 21 39 48.5 +1.1
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH LR LR
comp=Z,2µm,16.5s
KSH LR LR
comp=Z,1µm,14.0s
KSH LR LR
comp=Z,2µm,14.8s
M20K **Styx River** 53.21 33 IAMs_20 IAMs_20 21 58 55.8
comp=Z,1µm,22.0s
M20K **Styx River** 53.21 33 P P 21 39 40.7 +1.1
baz=265
KDAK **Kodiak Island** 53.23 38 P P 21 39 40.3 +0.7
KDAK **Kodiak Island** 53.23 38 P P 21 39 40.9 +1.3
baz=268
KDAK **Kodiak Island** 53.23 38 P P 21 39 40.3 +0.7
KDAK pmax pmax
comp=Z,64nm,1.0s
KDAK **Kodiak Island** 53.23 38 LR LR 22 02 10.2
comp=Z,1µm,20.5s,baz=266,slow=36
AS31 **Alice Springs** 53.35 188 P P 21 39 39.8 -1.2
ASAR **Alice Springs** 53.35 188 P P 21 39 39.9 -1.1
ASAR **Alice Springs** 53.35 188 P P 21 39 39.7 -1.3
comp=Z,2.1nm,0.5s,baz=1.9,slow=5.5,SNR=26
ASAR PcP PcP 21 40 48.4 +0.1
comp=Z,4.7nm,0.8s,baz=13,slow=4.4,SNR=7.5
ASAR LR LR 22 02 03.3
comp=Z,342nm,19.5s,baz=347,slow=36
comp=Z,2.1nm,0.5s
IMAR **Indian Mountai** 53.46 28 P P 21 39 41.9 +0.6
SGDS **Sogindy** 53.47 304 *e*P P 21 39 41.1 -0.7
baz=304
SGDS **Sogindy** 53.47 304 *e*P P 21 39 41.1 -0.7
A21K **Barrow** 53.59 21 P P 21 39 44.0 +1.9
baz=254,SNR=6.8
N20K **Mount Spurr** 53.60 34 P P 21 39 44.0 +1.5
baz=266,SNR=14
G21K **Allakaket** 53.64 27 P P 21 39 43.9 +1.3
baz=261
C21K **Knifeblade Rid** 53.66 24 P P 21 39 44.5 +1.7
baz=258,SNR=12
BTLS **Baital** 53.67 306 *e*P P 21 39 42.2 -1.0
baz=306
BTLS **Baital** 53.67 306 *e*P P 21 39 42.2 -1.0
AAK **Ala-Archa** 53.69 303 *e*P P 21 39 42.1 -1.5
AAK pmax pmax
comp=Z,6.0nm,1.3s
PPLA **Purkeypile** 53.74 32 P P 21 39 45.5 +1.9
baz=265,SNR=10.0
F21K **Alatna River** 53.77 26 P P 21 39 44.9 +1.4
CHUM **Lake Minchumin** 53.79 30 P P 21 39 45.0 +1.4
baz=264,SNR=17
HOM **Homer** 53.79 36 P P 21 39 45.0 +1.2
baz=268
H21K **Melozitna Rive** 53.80 28 P P 21 39 45.2 +1.5
baz=262,SNR=37
E21K **Killik River** 53.81 25 P P 21 39 45.0 +1.1
baz=259
B21K **Ikpuk River** 53.82 23 P P 21 39 45.3 +1.5
baz=258
CAST **Castle Rocks** 53.84 31 P P 21 39 45.1 +0.9
CAST IAmb IAmb 21 39 54.3
comp=Z,32nm,1.0s
CAST **Castle Rocks** 53.84 31 P P 21 39 45.7 +1.5
baz=264,SNR=19
SKT **Skwentna** 53.98 33 P P 21 39 46.0 +0.8
SKT IAmb IAmb 21 39 49.1
comp=Z,29nm,1.2s
SKT IAMs_20 IAMs_20 21 59 08.0
comp=Z,1µm,22.0s
SKT **Skwentna** 53.98 33 P P 21 39 46.5 +1.4
baz=266,SNR=8.7
A22K **Sinclair Lake** 54.02 21 P P 21 39 46.6 +1.3
baz=256
BRZS **Berezniki** 54.07 312 *e*P P 21 39 45.5 -0.6
baz=312
BRZS **Berezniki** 54.07 312 *e*P P 21 39 45.4 -0.6
I21K **Tanana** 54.08 29 P P 21 39 47.0 +1.3
baz=263
BRSE **Bradley Lake S** 54.25 36 P P 21 39 48.2 +1.0
baz=268
F22K **John River** 54.31 26 P P 21 39 49.0 +1.5
baz=261
SUA **Susitna One** 54.32 33 P P 21 39 49.0 +1.2
baz=267,SNR=7.0
MBWA **Marble Bar** 54.32 204 P P 21 39 47.3 -0.8
MBWA IAmb IAmb 21 39 57.4
comp=Z,17nm,0.8s
D22K **Ayikyak River** 54.35 24 IAMs_20 IAMs_20 22 01 10.4
comp=Z,1µm,22.0s
D22K **Ayikyak River** 54.35 24 P P 21 39 49.5 +1.7
baz=260
KTH **Kantishna Hill** 54.37 31 P P 21 39 49.3 +1.2
KTH IAmb IAmb 21 39 57.6
comp=Z,17nm,0.9s
B22K **Teshekpuk Lake** 54.38 22 IAMs_20 IAMs_20 22 03 08.0
comp=Z,1µm,22.0s
B22K **Teshekpuk Lake** 54.38 22 P P 21 39 49.4 +1.6
baz=258,SNR=10
BPAW **Bear Paw Mtn.** 54.39 30 P P 21 39 49.4 +1.3
baz=265,SNR=8.2
H22K **Ishtalitna Cre** 54.41 28 P P 21 39 49.8 +1.6
baz=263
G22K **Bettles** 54.49 27 P P 21 39 50.6 +1.9
baz=262
E22K **Anaktuvuk Pass** 54.55 25 P P 21 39 50.8 +1.6
baz=261
MLY **Manley** 54.59 29 P P 21 39 50.9 +1.4
MLY IAmb IAmb 21 39 54.3
comp=Z,38nm,1.0s
MLY IAMs_20 IAMs_20 21 59 25.8
comp=Z,857nm,19.0s
MLY **Manley** 54.59 29 P P 21 39 50.7 +1.1
baz=265,SNR=40
CUT **Chulitna** 54.59 32 IAMs_20 IAMs_20 22 03 08.4
comp=Z,989nm,18.0s
CUT **Chulitna** 54.59 32 P P 21 39 50.3 +0.8
baz=267
M22K **Willow** 54.63 33 P P 21 39 51.0 +1.2
baz=268
TRF **Thorofare Moun** 54.65 31 P P 21 39 50.9 +0.7
TRF IAmb IAmb 21 39 59.8
comp=Z,16nm,0.9s
TRF **Thorofare Moun** 54.65 31 P P 21 39 51.5 +1.3
baz=266,SNR=5.9
PSA00 **Pilbara Seismi** 54.66 204 P P 21 39 49.9 -0.6
O22K **Cooper Landing** 54.78 35 IAMs_20 IAMs_20 21 59 22.3
comp=Z,2µm,20.0s
O22K **Cooper Landing** 54.78 35 P P 21 39 52.3 +1.4
baz=269
RC01 **Rabbit Creek A** 54.79 34 IAMs_20 IAMs_20 21 58 46.5
comp=Z,2µm,22.0s
RC01 **Rabbit Creek A** 54.79 34 P P 21 39 52.7 +1.7
baz=268
SEW **Seward** 54.91 35 P P 21 39 53.0 +1.2
baz=269
COLD **Coldfoot** 55.03 26 P P 21 39 54.4 +1.7
baz=264,SNR=9.2
G23K **Bananza Creek** 55.05 27 P P 21 39 54.9 +2.0
baz=264,SNR=28
BWN **Browne** 55.06 30 P P 21 39 53.7 +0.7
D23K **Nanushuk River** 55.08 24 P P 21 39 54.7 +1.6
baz=262
PMR **Palmer** 55.10 33 P P 21 39 53.6 +0.4
PMR IAmb IAmb 21 39 56.9
comp=Z,28nm,1.0s
PMR **Palmer** 55.10 33 P P 21 39 55.2 +2.0
baz=268,SNR=5.6
PMR **Palmer** 55.10 33 P P 21 39 53.6 +0.4
PMR pmax pmax
comp=Z,28nm,1.0s
I23K **Minto, Yukon-K** 55.18 29 IAMs_20 IAMs_20 21 58 19.5
comp=Z,988nm,18.0s
I23K **Minto, Yukon-K** 55.18 29 P P 21 39 56.0 +2.2
baz=266,SNR=18
GHO **Glory Hole Cre** 55.20 33 P P 21 39 55.6 +1.5
GHO IAmb IAmb 21 40 09.6
comp=Z,28nm,1.0s
C23K **Itkillik River** 55.23 23 P P 21 39 55.5 +1.4
baz=261
BVAR **Borovoye Array** 55.26 316 P P 21 39 53.2 -1.3
comp=Z,4.5nm,0.5s,baz=94,slow=8.3,SNR=19
BVAR PcP PcP 21 40 55.1 -0.1
comp=Z,3.4nm,0.4s,baz=113,slow=2.8,SNR=7.7
BVAR LR LR 22 05 05.0
comp=Z,496nm,18.4s,baz=82,slow=38
comp=Z,4.5nm,0.5s
NEA2 **Nenana** 55.26 30 P P 21 39 55.6 +1.2
baz=266,SNR=52
MCK **McKinley** 55.27 31 P P 21 39 55.8 +1.2
baz=267,SNR=14
RND **Reindeer** 55.29 31 IAMs_20 IAMs_20 21 59 41.6
comp=Z,1µm,18.0s
BRVK **Borovoye** 55.32 316 P P 21 39 52.9 -2.0
BRVK **Borovoye** 55.32 316 *ce*P P 21 39 54.2 -0.8
BRVK pmax pmax
comp=Z,8.0nm,0.9s
E23K **Chandalar** 55.35 25 P P 21 39 56.7 +1.6
baz=264
WAT1 **Susitna Watana** 55.41 32 P P 21 39 56.9 +1.3
baz=268
KNK **Knik Glacier** 55.41 34 P P 21 39 56.1 +0.5
KNK IAmb IAmb 21 39 56.1
comp=Z,1µm,21.0s
KNK IAMs_20 IAMs_20 21 58 16.1
KNK **Knik Glacier** 55.41 34 P P 21 39 56.9 +1.3
baz=269,SNR=5.8
TOLK **Toolik Lake Re** 55.44 25 P P 21 39 56.0 +0.3
TOLK IAmb IAmb 21 40 00.1
comp=Z,19nm,0.7s
TOLK **Toolik Lake Re** 55.44 25 IAMs_20 IAMs_20 22 02 37.1
comp=Z,1µm,20.0s
TOLK **Toolik Lake Re** 55.44 25 P P 21 39 57.0 +1.3
baz=263,SNR=20
SML **Sawmill** 55.48 33 IAMs_20 IAMs_20 22 00 05.9
comp=Z,1µm,22.0s
SML **Sawmill** 55.48 33 P P 21 39 57.3 +1.2
baz=269
EIDS **Eidsvold** 55.58 168 P P 21 39 57.0 -0.1
EIDS IAmb IAmb 21 40 05.0
comp=Z,16nm,0.8s
MDM **Murphy Dome** 55.64 29 P P 21 39 58.7 +1.5
D24K **Happy Valley** 55.77 24 P P 21 39 59.4 +1.4
baz=264
M23K **Glacier View** 55.77 33 P P 21 39 59.0 +0.9
baz=270,SNR=5.6
WAT6 **Susitna Watana** 55.77 32 P P 21 39 59.2 +0.8
baz=269,SNR=12
E24K **Your Creek** 55.77 25 P P 21 39 59.3 +1.2
baz=265
COLA **College** 55.80 29 P P 21 39 59.2 +1.0
COLA IAmb IAmb 21 40 08.9
comp=Z,31nm,0.9s
COLA **College** 55.80 29 P P 21 39 59.3 +1.0
baz=267
COLA **College** 55.80 29 P P 21 39 59.2 +1.0
COLA pmax pmax
comp=Z,31nm,0.9s
CCB **Clear Creek Bu** 55.81 30 P P 21 39 59.0 +0.7
H24K **Noodor Dome** 55.84 28 P P 21 39 59.9 +1.3
baz=267
C24K **Franklin Bluff** 55.88 23 P P 21 39 59.7 +1.0
baz=263
DHY **Denali Highway** 55.95 32 P P 21 40 00.5 +0.9
DHY **Denali Highway** 55.95 32 P P 21 40 00.3 +0.7
baz=269
F24K **Squaw Lake** 55.95 26 P P 21 40 00.7 +1.3
baz=266,SNR=49
SCM **Sheep Creek Mo** 55.96 33 P P 21 40 00.3 +0.7
SCM IAMs_20 IAMs_20 21 58 01.8
comp=Z,1µm,20.0s
SCM **Sheep Creek Mo** 55.96 33 P P 21 40 00.6 +1.0
baz=270,SNR=9.3
SCM **Sheep Creek Mo** 55.96 33 P P 21 40 00.3 +0.7
SCM pmax pmax
comp=Z,59nm,1.0s
SCM MLR MLR
comp=Z,1µm,20.0s
POKR **Poker Plat Res** 55.99 29 P P 21 40 00.7 +1.1
POKR IAmb IAmb 21 40 15.3
comp=Z,26nm,0.8s
POKR **Poker Plat Res** 55.99 29 P P 21 40 00.9 +1.3

baz=268,SNR=8.8
G24K Hadweenzic Riv 56.06 27 P P 21 40 01.5 +1.4
baz=266,SNR=14
HDA Harding Lake 56.17 30 P P 21 40 01.6 +0.7
baz=268,SNR=18
IL31 56.21 29 P P 21 40 01.7 +0.5
IL31 IAmb IAmb 21 40 04.9
comp=Z,22nm,0.8s
ILAR Eielson Array 56.21 29 P P 21 40 01.4 +0.2
ILAR Eielson Array 56.21 29 P P 21 40 01.6 +0.4
comp=Z,20nm,0.9s,baz=274,slow=6.1,SNR=70
ILAR LR LR 22 01 45.0
comp=Z,289nm,21.8s,baz=245,slow=34
comp=Z,20nm,0.9s
FID Port Fidalgo 56.38 34 IAMs_20 IAMs_20 22 02 22.1
comp=Z,2µm,22.0s
KK31 Karatay Array 56.50 304 P P 21 40 01.6 -2.0
KK31 Karatay Array 56.50 304 P P 21 40 01.6 -2.0
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 56.50 304 P P 21 40 01.9 -1.7
KKAR Karatay Array 56.50 304 P P 21 40 02.0 -1.7
M24K Tolsona, Glenn 56.50 33 P P 21 40 04.8 +1.4
baz=271
NIL Nilore 56.56 293 P P 21 40 02.8 -1.5
NIL Nilore 56.56 293 P P 21 40 02.8 -1.5
NIL pmax pmax
comp=Z,36nm,0.8s
G25K Bearman Lake 56.60 27 P P 21 40 05.3 +1.4
baz=268,SNR=12
KLU Klutina 56.63 33 P P 21 40 05.1 +0.7
KLU IAmb IAmb 21 40 16.4
comp=Z,22nm,1.0s
KLU IAMs_20 IAMs_20 21 57 52.2
comp=Z,2µm,18.0s
KLU Klutina 56.63 33 P P 21 40 05.3 +0.9
baz=271
D25K Kavik River 56.65 24 P P 21 40 05.7 +1.3
baz=266,SNR=20
K24K Donnelly Dome 56.67 31 P P 21 40 06.0 +1.4
baz=270,SNR=5.9
EYAK Cordova Ski Ar 56.74 35 P P 21 40 06.1 +1.0
baz=272
PRP Porcupine Dome 56.80 29 P P 21 40 05.3 -0.3
PRP Porcupine Dome 56.80 29 P P 21 40 06.3 +0.7
baz=269,SNR=9.1
F25K Christian Rive 56.82 26 P P 21 40 07.2 +1.6
baz=268,SNR=42
PAX Paxson 56.82 32 P P 21 40 06.7 +1.0
baz=271
J25K Salcha River, 56.86 30 P P 21 40 07.2 +1.3
baz=270
E25K Arctic Village 56.87 25 IAMs_20 IAMs_20 22 03 34.1
comp=Z,1µm,22.0s
E25K Arctic Village 56.87 25 P P 21 40 07.8 +1.9
baz=267,SNR=32
FYU Fort Yukon 56.94 27 P P 21 40 08.0 +1.6
FYU IAmb IAmb 21 40 13.5
comp=Z,33nm,1.0s
HARP HAARP 56.97 32 P P 21 40 08.4 +1.7
baz=271
DZM Mont Dzumac 57.09 151 LR LR 22 02 21.4
comp=Z,515nm,21.4s,baz=351,slow=34
RIDG Independent Ri 57.09 31 P P 21 40 08.1 +0.6
RIDG IAMs_20 IAMs_20 22 01 37.2
comp=Z,1µm,21.0s
RIDG Independent Ri 57.09 31 P P 21 40 09.1 +1.5
baz=271
C26K Camden Bay 57.20 23 P P 21 40 09.7 +1.5
baz=267
BMAR Burnt Mountain 57.22 26 P P 21 40 10.1 +1.7
N25K Chitina, Valde 57.26 33 IAMs_20 IAMs_20 22 07 23.9
comp=Z,1µm,19.0s
N25K Chitina, Valde 57.26 33 P P 21 40 10.0 +1.1
baz=272
BMRM Bremner River 57.29 34 P P 21 40 10.1 +1.1
baz=273
F26K Sheenjek River 57.39 26 P P 21 40 11.5 +1.8
baz=269,SNR=46
SCRK Sand Creek 57.47 30 P P 21 40 11.2 +0.9
SCRK IAmb IAmb 21 40 14.0
comp=Z,21nm,0.9s
SCRK Sand Creek 57.47 30 P P 21 40 11.2 +0.9
baz=271,SNR=18
G26K Porcupine Rive 57.52 27 P P 21 40 11.8 +1.3
baz=270,SNR=14
OUENC Ouen Island, N 57.56 151 P P 21 40 11.7 +0.5
HYB Hyderabad 57.58 273 *e*P P 21 40 11.6 -0.1
HYB IVmB_BB 21 40 18.6
comp=Z,594nm,2.5s
HYB *e*PP PP 21 42 19.8 +0.3
HYB *e*S S 21 48 09.5 +0.3
J26L Joseph Creek 57.64 30 P P 21 40 12.4 +0.9
baz=272
GLB Gilahina Butte 57.65 33 P P 21 40 12.8 +1.3
GLB IAmb IAmb 21 40 16.9
comp=Z,36nm,1.1s
GLB IAMs_20 IAMs_20 22 04 30.1
comp=Z,1µm,21.0s
L26K Log Cabin Wild 57.78 32 P P 21 40 14.1 +1.7
baz=273,SNR=16
I26K Coal Creek Min 57.79 29 P P 21 40 13.8 +1.4
baz=271
M26K Nabesna, AK 57.98 32 IAMs_20 IAMs_20 22 07 05.8
comp=Z,1µm,21.0s
M26K Nabesna, AK 57.98 32 P P 21 40 15.1 +1.3
baz=273
MCARA McCarthy VSAT 58.03 33 P P 21 40 15.2 +1.0
MCARA IAmb IAmb 21 40 19.5
comp=Z,42nm,1.0s
MCARA IAMs_20 IAMs_20 22 03 52.2
comp=Z,2µm,22.0s
MCARA McCarthy VSAT 58.03 33 P P 21 40 15.4 +1.3
baz=274,SNR=5.9
CRQE Cirque 58.04 34 P P 21 40 16.2 +1.8
baz=274
TGL Tana Glacier 58.17 34 P P 21 40 16.1 +0.9
TGL IAmb IAmb 21 40 25.6
comp=Z,25nm,0.9s
K27K Chicken 58.30 30 P P 21 40 17.0 +1.0
baz=273
E27K Coleen River 58.36 25 P P 21 40 17.6 +1.3
baz=271,SNR=20
G27K Doyon Strip 58.37 27 P P 21 40 17.5 +1.0
baz=272
I27K Kandik River 58.43 28 P P 21 40 18.0 +1.1
baz=273
H27K Steamboat Moun 58.44 28 P P 21 40 18.2 +1.2
baz=272,SNR=12
L27K Beaver Creek, 58.48 31 P P 21 40 18.2 +0.9
baz=274
BCAR Beaver Creek A 58.49 31 P P 21 40 18.5 +1.1
M27K Edge Creek, AK 58.50 32 IAMs_20 IAMs_20 22 07 37.6
comp=Z,1µm,18.0s
M27K Edge Creek, AK 58.50 32 P P 21 40 19.0 +1.4
baz=274
D27M Malcolm River 58.57 24 IAMs_20 IAMs_20 22 05 38.0
comp=Z,1µm,21.0s
D27M Malcolm River 58.57 24 P P 21 40 19.6 +1.7
baz=271,SNR=30
SIMJ Simiganj 58.59 299 P P 21 40 16.7 -1.8
EGAK Eagle 58.66 29 P P 21 40 19.2 +0.7
EGAK IAmb IAmb 21 40 38.7
comp=Z,38nm,1.6s
EGAK Eagle 58.66 29 P P 21 40 19.4 +0.9
baz=274
GRNC Granite Creek 58.70 34 P P 21 40 20.6 +1.6
GRNC IAmb IAmb 21 40 23.9
comp=Z,34nm,1.2s
BARN Barnard Glacie 58.71 34 P P 21 40 20.3 +1.2
BARN IAmb IAmb 21 40 37.6
comp=Z,28nm,1.1s
BARN IAMs_20 IAMs_20 22 00 34.2
comp=Z,1µm,22.0s
CTG Chitna Glacier 58.88 34 P P 21 40 21.3 +1.1
baz=276
BVCY Beaver Creek 58.97 32 P P 21 40 21.8 +1.0
baz=275
F28M Old Crow 59.03 26 P P 21 40 23.4 +2.4
baz=273,SNR=16
E28M Babbage River 59.11 25 P P 21 40 23.1 +1.5
baz=273
I28M Miner Creek 59.13 29 P P 21 40 23.7 +1.8
baz=274
YUK3 Moose Creek 59.22 33 P P 21 40 23.9 +1.3
baz=276,SNR=7.6
D28M Stokes Point 59.36 24 P P 21 40 25.4 +2.2
baz=273
DAWY Dawson 59.48 30 P P 21 40 25.4 +1.1
DAWY IAmb IAmb 21 41 05.8
comp=Z,19nm,1.4s
DAWY Dawson 59.48 30 P P 21 40 25.5 +1.3
baz=275
PINM Pinnacle 59.51 35 P P 21 40 26.2 +1.6
baz=277
YUK8 Steele Glacier 59.60 33 P P 21 40 26.2 +0.9
baz=277
KBL Kabul 59.67 295 P P 21 40 24.7 -1.6
KBL IAmb IAmb 21 41 57.4
comp=Z,13nm,0.7s
KBL Kabul 59.67 295 P P 21 40 24.7 -1.6
KBL pmax pmax
comp=Z,13nm,0.7s
H29M Whitestone 59.72 28 P P 21 40 28.1 +2.3
baz=275
E29M Blow River 59.72 25 P P 21 40 27.6 +1.8
baz=274
G29M Pine Creek 59.79 27 P P 21 40 27.8 +1.5
baz=275
I29M Ogilvie Camp, 59.82 29 P P 21 40 28.4 +1.9
baz=276,SNR=8.0
M29M Somme Creek 60.08 32 P P 21 40 30.3 +1.9
baz=277,SNR=20
YUK4 Talbot Arm 60.13 33 P P 21 40 30.8 +1.8
baz=278,SNR=14
L29M L29M 60.15 31 P P 21 40 30.5 +1.7
baz=277
O29M Mount Kennedy 60.31 34 P P 21 40 31.4 +1.3
baz=278
PALK Pallekele 60.31 261 P P 21 40 29.7 -0.9
PALK IAmb IAmb 21 40 38.4
comp=Z,41nm,1.1s
PALK Pallekele 60.31 261 P P 21 40 29.7 -0.9
PALK pmax pmax
comp=Z,41nm,1.1s
PALK Pallekele 60.31 261 LR LR 22 05 59.1
comp=Z,592nm,21.4s,baz=158,slow=36
PALK Pallekele 60.31 261 P P 21 40 29.8 -0.9
comp=Z,34nm,1.5s
YUK6 Outpost Mounta 60.32 34 P P 21 40 31.5 +1.2
baz=278
K29M Barlow Dome 60.33 30 P P 21 40 31.7 +1.5
baz=277,SNR=14
EPYK Eagle Plains 60.36 27 P P 21 40 32.1 +1.9
baz=276,SNR=11
SVE Sverdlovsk 60.39 321 *e*P P 21 40 29.4 -1.1
SVE pmax pmax
comp=Z,22nm,0.9s
G30M tAoh Zraii Nji 60.49 27 P P 21 40 32.6 +1.4
baz=277
F30M Barrier River 60.59 26 P P 21 40 33.6 +1.8
baz=277
ARMA Armidale 60.61 169 P P 21 40 32.3 -0.1
ARMA IAmb IAmb 21 40 40.5
comp=Z,15nm,0.8s
I30M Mount Dempster 60.64 29 IAMs_20 IAMs_20 22 03 10.9
comp=Z,1µm,19.0s
I30M Mount Dempster 60.64 29 P P 21 40 33.6 +1.3
baz=277,SNR=18
J30M Hart River 60.75 29 P P 21 40 34.6 +1.6
baz=278,SNR=7.9
HYT Haines Junctio 60.75 34 P P 21 40 34.5 +1.4
HYT IAmb IAmb 21 40 39.1
comp=Z,32nm,1.0s
HYT Haines Junctio 60.75 34 P P 21 40 34.6 +1.4
baz=279,SNR=9.5
M30M Minto, Yukon 60.83 32 P P 21 40 34.3 +0.8
M30M IAmb IAmb 21 40 38.2
comp=Z,15nm,0.8s
M30M Minto, Yukon 60.83 32 P P 21 40 34.9 +1.5
baz=279,SNR=11
P29M Windy Craggy 60.83 35 P P 21 40 35.2 +1.7
baz=279
N30M Aishikik Lake 60.86 33 IAMs_20 IAMs_20 22 01 21.0
comp=Z,925nm,20.0s
N30M Aishikik Lake 60.86 33 P P 21 40 34.9 +1.2
baz=279
P30M Million Dollar 61.13 35 P P 21 40 36.8 +1.2
baz=280
STKA Stephens Creek 61.15 179 P P 21 40 35.3 -0.6
STKA Stephens Creek 61.15 179 P P 21 40 35.3 -0.6
STKA pmax pmax
comp=Z,3.0nm,1.3s
STKA Stephens Creek 61.15 179 P P 21 40 34.8 -1.1
comp=Z,2.2nm,0.7s,baz=348,slow=10.0,SNR=6.8
STKA LR LR 22 06 47.7
comp=Z,448nm,20.3s,baz=346,slow=36
comp=Z,2.2nm,0.7s
FORT Forrest 61.23 192 P P 21 40 35.5 -0.9
G31M Satah River 61.26 27 P P 21 40 36.7 +0.4
baz=278,SNR=9.0
INK Inuvik 61.34 25 P P 21 40 36.7 -0.1
INK Inuvik 61.34 25 P P 21 40 37.8 +0.9
baz=278,SNR=7.6
INK Inuvik 61.34 25 P P 21 40 36.7 -0.1
INK pmax pmax
comp=Z,7.0nm,0.7s
INK Inuvik 61.34 25 LR LR 22 10 27.4
comp=Z,232nm,20.9s,baz=354,slow=39
F31M Tsiigehtchic 61.39 26 P P 21 40 37.8 +0.6
baz=278,SNR=6.2
H31M Peel River 61.40 28 P P 21 40 37.4 +0.1
baz=279,SNR=20
O30N Mendenhall 61.45 34 P P 21 40 38.1 +0.4
baz=280
N31M Braeburn, Yuko 61.47 33 P P 21 40 38.8 +0.9
baz=280,SNR=10
ARU Arti 61.59 321 P P 21 40 37.1 -1.5
ARU IAmb IAmb 21 40 41.5
comp=Z,18nm,0.8s
ARU Arti 61.59 321 *d* *i*P P 21 40 36.7 -2.0
ARU 21 41 17.3
ARU S S 21 48 52.1 -7.6
ARU pmax pmax
comp=Z,13nm,0.6s
ARU MLR MLR
comp=Z,764nm,15.0s
M31M Drury Creek, Y 61.99 32 P P 21 40 42.5 +1.1
baz=281,SNR=15
WHY Whitehorse 62.05 34 P P 21 40 43.4 +1.6
WHY Whitehorse 62.05 34 P P 21 40 43.7 +1.8
baz=281,SNR=9.7
SKAG Skagway 62.06 35 P P 21 40 44.0 +2.2
baz=281
BBOO Buckleboo 62.23 184 P P 21 40 42.8 -0.3
BBOO IAmb IAmb 21 41 37.4
comp=Z,37nm,1.6s
ABKAR Akbulak array 62.35 313 P P 21 40 41.7 -2.2
ABKAR Akbulak array 62.35 313 P P 21 40 41.7 -2.2
FARO Faro, Yukon 62.47 32 P P 21 40 45.9 +1.3
baz=282,SNR=14
R32K Eaglecrest 62.72 36 P P 21 40 47.0 +0.8
baz=283
JIS Jennings Island 62.79 36 P P 21 40 47.4 +0.7
N32M Quiet Lake 62.81 33 P P 21 40 48.5 +1.7
baz=282
P32M Atlin 62.84 35 P P 21 40 47.4 +0.2
P32M Atlin 62.84 35 P P 21 40 48.9 +1.7
baz=283,SNR=6.4
P33M Teslin, Yukon 63.15 34 P P 21 40 50.9 +1.7
baz=283,SNR=12
A36M Sachs Harbour 63.42 20 P P 21 40 51.4 +0.8
A36M Sachs Harbour 63.42 20 P P 21 40 51.9 +1.3
baz=284,SNR=13
Q32M Nakina River 63.71 35 P P 21 40 54.2 +1.1
baz=284
R33M Jennings River 64.25 35 P P 21 40 56.7 +0.1
R33M IAmb IAmb 21 41 01.9
comp=Z,20nm,1.1s
R33M Jennings River 64.25 35 P P 21 40 57.7 +1.2
baz=285
WRAK Wrangell Islan 64.31 38 P P 21 40 57.7 +0.9
baz=285
C36M Paulatuk 64.48 23 P P 21 40 59.9 +2.2
baz=286
S34M Telegraph Cree 64.56 36 P P 21 41 00.0 +1.7
baz=286,SNR=6.2
DLBC Dease Lake 64.98 35 P P 21 41 01.9 +0.7
DLBC IAmb IAmb 21 41 09.2
comp=Z,27nm,1.1s
DLBC Dease Lake 64.98 35 P P 21 41 02.7 +1.5
baz=286,SNR=5.8
DLBC Dease Lake 64.98 35 LR LR 22 12 09.6
comp=Z,279nm,18.0s,baz=295,slow=38
V35K Ketchikan 65.01 39 P P 21 41 02.2 +0.9
baz=286
HRA Herat 65.05 297 P P 21 41 00.9 -1.4
WTLY Watson Lake, Y 65.12 34 P P 21 41 03.6 +1.5
baz=286,SNR=5.9
T35M Bob Quinn 65.27 37 P P 21 41 04.5 +1.4
baz=287
KIRV Kirov 65.83 325 *de*P P 21 41 05.7 -0.9
NWAO Narrogin (SRO) 66.02 201 P P 21 41 07.3 -0.7
NWAO Narrogin (SRO) 66.02 201 P P 21 41 07.4 -0.6
NWAO IAmb IAmb 21 41 16.5
comp=Z,33nm,0.8s
NWAO Narrogin (SRO) 66.02 201 P P 21 41 07.3 -0.7
NWAO pmax pmax
comp=Z,110nm,0.8s
NWAO Narrogin (SRO) 66.02 201 LR LR 22 09 09.0
comp=Z,278nm,21.0s,baz=43,slow=35
WRGLY Wrigley 66.59 29 P P 21 41 13.7 +2.3
baz=289
GEYT Alibeck 66.98 302 P P 21 41 13.4 -1.0
GEYT IAmb IAmb 21 42 56.7
comp=Z,23nm,1.1s
GEYT Alibeck 66.98 302 P P 21 41 13.4 -1.0
GEYT Alibeck 66.98 302 P P 21 41 11.8 -2.6
comp=Z,4.2nm,1.0s,baz=76,slow=6.3,SNR=8.1
comp=Z,4.2nm,1.0s
TOO Toolangi 66.98 176 P P 21 41 13.8 -0.3
TOO IAmb IAmb 21 41 21.9
comp=Z,18nm,1.0s
TOO Toolangi 66.98 176 P P 21 41 13.8 -0.3
TOO pmax pmax
comp=Z,18nm,1.0s
KOTAN Kotaneelee Air 67.37 33 P P 21 41 18.3 +1.9
baz=290
SPITS Spitsbergen Ar 67.67 349 P P 21 41 16.9 -1.2
comp=Z,22nm,0.9s,baz=85,slow=11,SNR=6.6
comp=Z,22nm,0.9s
KBS Kingsbay 67.85 351 IAMs_20 IAMs_20 22 15 07.2
comp=Z,698nm,19.0s
KBS Kingsbay 67.85 351 *i* P P 21 41 19.9 +0.8
BBB Bella Bella 67.97 42 LR LR 22 14 20.0
comp=Z,237nm,18.1s,baz=295,slow=39
BELG Belogornoye 68.85 319 *de*P P 21 41 23.4 -2.4
BELG pmax pmax
comp=Z,11nm,0.9s
APA Apatity 69.20 337 ||| *i*P P 21 41 27.2 -0.5
APA pmax pmax
comp=Z,27nm,1.0s
APA MLR MLR
comp=Z,800nm,22.0s
KLMR Klimovskoe 69.71 329 *e*P P 21 41 30.4 -0.6
KLMR pmax pmax
comp=Z,44nm,1.5s
RES Resolute Bay 69.96 13 P P 21 41 32.1 -0.2
RES IAmb IAmb 21 41 41.0
comp=Z,20nm,0.9s
RES Resolute Bay 69.96 13 P P 21 41 32.1 -0.2
RES pmax pmax
comp=Z,20nm,0.9s
RES Resolute Bay 69.96 13 LR LR 22 13 45.1
comp=Z,320nm,21.7s,baz=336,slow=37
YKA Yellowknife Ar 70.61 28 P P 21 41 36.6 +0.1
YKA Yellowknife Ar 70.61 28 P P 21 41 36.6 +0.1
YKA Yellowknife Ar 70.61 28 P P 21 41 36.9 +0.4
comp=Z,13nm,1.0s,baz=295,slow=5.8,SNR=56
comp=Z,13nm,1.0s
RAO Raoul Island 70.67 142 LR LR 22 07 46.3
comp=Z,200nm,20.3s,baz=21,slow=32
OZB Mount Ozzard 70.70 44 P P 21 41 36.5 -0.9
ARCES ARCESS Array B 70.72 340 P P 21 41 36.7 -0.4
ARCES ARCESS Array B 70.72 340 P P 21 41 36.7 -0.4
ARCES pmax pmax
comp=Z,43nm,1.1s
ARCES ARCESS Array B 70.72 340 P P 21 41 36.6 -0.4
comp=Z,27nm,1.0s,baz=227,slow=15,SNR=23
comp=Z,27nm,1.0s
HILA High Level 71.30 33 P P 21 41 41.5 +0.7
CLRS Cowichan Lake 71.58 44 P P 21 41 44.0 +1.3
CLRS IAmb IAmb 21 41 48.0
comp=Z,32nm,1.2s
PGC Sidney 72.06 44 P P 21 41 46.7 +1.2
NLWA Neilton Lookou 72.33 45 P P 21 41 47.9 +0.7
TULEG Thule 72.54 7 P P 21 41 48.3 +0.4
MAK Makhachkala 72.58 310 *e*P P 21 41 45.3 -3.4
MAK *e* 21 44 28.4
MAK *e*S S 21 51 06.1 -6.6
MAK *e*SS SS 21 55 43.5 -7.7
MAK pmax pmax
comp=Z,114nm,1.5s
MAK MLR MLR
comp=Z,1µm,14.0s
VRH Novokhopyorsk 72.69 319 *e*P P 21 41 48.2 -1.0
VRH pmax pmax
comp=Z,24nm,1.4s
MOS Moscow 72.85 325 *e*P P 21 41 49.9 -0.2
MOS *e* 21 42 07.2
MOS pmax pmax
comp=Z,63nm,1.1s
MOS MLR MLR
comp=N,1µm,18.0s
MOS MLR MLR
comp=Z,1µm,18.0s
E03A Lebam 72.88 46 P P 21 41 51.5 +1.1
NEEM North Greenlan 72.96 3 *i* P P 21 41 50.8 0.0
NEEM IAmb IAmb 21 41 55.0
comp=Z,29nm,0.9s
DAG Danmarks Havn 73.10 355 *i* P P 21 41 51.3 +0.1
DAG IAmb IAmb 21 41 54.8
comp=Z,14nm,0.9s
BRLDA Berland Lookou 73.11 37 P P 21 41 52.4 +0.5
BRLDA IAmb IAmb 21 41 57.8
comp=Z,50nm,1.4s
LKRN Lenkeran, Azer 73.47 305 P P 21 41 54.7 +0.7
SEKA Sheki 73.52 308 P P 21 41 55.5 +1.1
LPSR Galich'ya Gora 73.61 321 *e*P P 21 41 53.1 -1.5
LPSR pmax pmax
comp=Z,40nm,0.9s
OBN Obninsk 73.67 324 P P 21 41 53.9 -1.1
OBN Obninsk 73.67 324 *d* *i*P P 21 41 54.8 -0.1
OBN *e* 21 42 11.5
OBN pmax pmax
comp=Z,69nm,1.3s
ZKTA Zakatala 73.73 309 P P 21 41 56.3 +0.7
MNGR Mingechevir, A 73.78 308 P P 21 41 56.6 +0.7
KEBM Edson Butte 73.94 50 P P 21 41 56.6 -0.3
VSR Storozhevoye 74.12 320 *e*P P 21 41 56.2 -1.4
VSR pmax pmax
comp=Z,50nm,1.0s
VORD Divnogorie 74.16 320 *e*P P 21 41 56.4 -1.5
VORD pmax pmax
comp=Z,30nm,1.0s
I03D Drain, OR 74.24 49 P P 21 41 59.2 +0.7
I03D IAmb IAmb 21 42 04.1
comp=Z,46nm,1.0s
PUL Pulkovo 74.26 330 ⇑ *e*P P 21 41 59.7 +1.4
PUL pmax pmax
comp=Z,37nm,0.8s
GANJ Ganja 74.36 308 P P 21 41 59.9 +0.6
TOZ Tahuroa Road 74.53 152 P P 21 41 59.8 -0.2
TOZ IAmb IAmb 21 42 09.2
comp=Z,26nm,1.1s
GOF Gofitskoye 74.59 313 *ce*P P 21 42 00.6 0.0
KSXB Camp Six Broad 74.70 50 P P 21 42 02.0 +0.6
KSXB IAmb IAmb 21 42 06.9
comp=Z,26nm,1.1s
ZEI Tsey 75.05 311 *e*P P 21 42 00.6 -2.9
ZEI pmax pmax
comp=Z,8.0nm,0.8s
FIA1 FINESS Array S 75.08 333 P P 21 42 01.7 -1.3
FINES FINESS Array B 75.08 333 P P 21 42 01.2 -1.9
FINES FINESS Array B 75.08 333 P P 21 42 01.4 -1.7
comp=Z,32nm,0.9s,baz=73,slow=5.3,SNR=61
comp=Z,32nm,0.9s
E07A Sunnyside 75.17 45 P P 21 42 04.5 +0.6
E07A IAmb IAmb 21 42 09.0
comp=Z,33nm,1.0s
KBZ Khabaz 75.28 312 *de*P P 21 42 03.4 -1.1
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 75.28 312 P P 21 42 02.9 -1.6
comp=Z,16nm,0.9s,baz=72,slow=4.9,SNR=28
comp=Z,16nm,0.9s
KIV Kislovodsk 75.32 312 P P 21 42 03.7 -1.2
KIV IAmb IAmb 21 42 08.0
comp=Z,18nm,0.8s

KIV Kislovodsk 75.32 312 *c* iP **P** 21 42 04.6 -0.3
KIV *e**PP **sP** 21 42 10.5 -1.0
KIV *e* 21 42 16.8
KIV pmax pmax
comp=Z,26nm,1.3s
ONI Oni 75.43 311 P **P** 21 42 04.3 -1.2
ONI Oni 75.43 311 P **P** 21 42 04.3 -1.2
ONI pmax pmax
comp=Z,14nm,1.1s
HAWA Hanford 75.44 45 P **P** 21 42 06.3 +0.9
HAWA IAmb IAmb 21 42 10.5
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 75.53 50 P **P** 21 42 07.8 +1.6
YBH IAmb IAmb 21 42 11.5
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 75.53 50 P **P** 21 42 07.8 +1.6
YBH pmax pmax
comp=Z,19nm,1.0s
YBH MLR MLR
comp=Z,2μm,21.0s
YBH Yreka Blue Hor 75.53 50 LR LR 22 08 17.5
comp=Z,1μm,21.6s,baz=316,slow=30
NAX Nakhchivan 75.58 307 P **P** 21 42 07.1 +0.7
EDM Edmonton 75.65 37 P **P** 21 42 07.5 +1.0
EDM Edmonton 75.65 37 P **P** 21 42 07.5 +1.0
EDM pmax pmax
comp=Z,59nm,1.1s
GNI Garni 75.66 308 P **P** 21 42 05.5 -1.5
GNI IAmb IAmb 21 42 22.2
comp=Z,21nm,1.1s
GNI Garni 75.66 308 *de*P **P** 21 42 06.3 -0.7
GNI pmax pmax
comp=Z,24nm,1.2s
RTZ Ruatahuna 75.90 151 P **P** 21 42 07.5 -0.5
RTZ IAmb IAmb 21 42 10.3
comp=Z,30nm,0.9s
AKH Akhalkalaki 75.94 310 P **P** 21 42 07.6 -1.0
AKH IAmb IAmb 21 42 15.5
comp=Z,34nm,1.1s
AKH Akhalkalaki 75.94 310 P **P** 21 42 07.6 -1.0
AKH pmax pmax
comp=Z,34nm,1.1s
NEW Newport 76.00 42 P **P** 21 42 09.7 +1.0
NEW IAmb IAmb 21 42 13.8
comp=Z,33nm,1.1s
NEW Newport 76.00 42 P **P** 21 42 10.3 +1.7
baz=299,SNR=16
NEW Newport 76.00 42 P **P** 21 42 09.7 +1.0
NEW pmax pmax
comp=Z,33nm,1.1s
NEW Newport 76.00 42 LR LR 22 12 40.7
comp=Z,170nm,21.3s,baz=311,slow=33
MEF Metsahovi 76.47 333 *e*P **P** 21 42 10.5 -0.5
RAR Rarotonga 76.47 124 LR LR 22 08 30.2
comp=Z,326nm,20.4s,baz=336,slow=30
VSU Vasula 76.52 330↑ *e*P **P** 21 42 10.8 -0.5
VSU pmax pmax
comp=Z,230nm,3.6s
VSU Vasula 76.52 330 *e*P **P** 21 42 11.6 +0.2
RAF Rauma 77.01 334 *e*P **P** 21 42 13.9 -0.1
MOD Modoc Plateau 77.05 49 IAMs_20 IAMs_20 22 21 09.5
comp=Z,583nm,22.0s
MRZ Mangatainoka R 77.07 153 P **P** 21 42 13.9 -0.6
MRZ IAmb IAmb 21 42 26.1
comp=Z,22nm,0.8s
UPNV Upernavik 77.24 5 *i* P **P** 21 42 14.5 -0.6
UPNV IAmb IAmb 21 42 18.5
comp=Z,6.8nm,0.7s
ORV Oroville 77.34 52 P **P** 21 42 16.9 +0.5
ORV IAmb IAmb 21 42 20.8
comp=Z,29nm,1.2s
ORV Oroville 77.34 52 P **P** 21 42 16.9 +0.5
ORV pmax pmax
comp=Z,29nm,1.3s
ORV MLR MLR
comp=Z,1μm,20.0s
BMO Blue Mountains 77.55 45 P **P** 21 42 18.5 +1.0
BMO IAmb IAmb 21 42 22.4
comp=Z,28nm,1.1s
BMO IAMs_20 IAMs_20 22 07 32.5
comp=Z,1μm,22.0s
BMO Blue Mountains 77.55 45 P **P** 21 42 18.5 +1.0
BMO pmax pmax
comp=Z,28nm,1.2s
BMO MLR MLR
comp=Z,1μm,22.0s
MTSE Matsula 77.61 332 *e*P **P** 21 42 16.9 -0.5
LTZ Lake Taylor 77.70 157 IAMs_20 IAMs_20 22 11 51.2
comp=Z,638nm,21.0s
WVOR Wild Horse Val 77.88 48 P **P** 21 42 20.4 +0.9
WVOR IAmb IAmb 21 42 39.6
comp=Z,22nm,1.1s
WVOR Wild Horse Val 77.88 48 P **P** 21 42 20.4 +0.9
WVOR pmax pmax
comp=Z,22nm,1.2s
WVOR MLR MLR
comp=Z,2μm,20.0s
SUMG Summit 78.09 360 P **P** 21 42 20.1 -0.3
SUMG IAmb IAmb 21 42 24.5
comp=Z,27nm,0.9s
SUMG Summit 78.09 360 P **P** 21 42 20.1 -0.3
SUMG pmax pmax
comp=Z,27nm,0.9s
SUMG Summit 78.09 360 *i* P **P** 21 42 21.2 +0.8
SUMG IAmb IAmb 21 42 29.4
comp=Z,19nm,0.9s
ANN Anapa 78.23 315 *e*P P 21 42 17.1 -4.0
ANN *e**PP **PcP** 21 42 37.5 +6.9
ANN *e* 21 45 13.1
ANN *e*S S 21 52 01.8 -13
ANN pmax pmax
comp=Z,51nm,1.0s
PLID Pearl Lake 78.24 45 P **P** 21 42 22.2 +0.7
GURO Guroymak-BITLI 78.26 308 P **P** 21 42 20.6 -1.1
MNK Minsk 78.28 327 *i* P **P** 21 42 21.7 +0.5
MNK *i* 21 45 14.8
MNK *i* PPP PPP 21 47 02.3
MNK *i* S **S** 21 52 08.6 -6.8
MNK *i* SSS SSS 22 00 37.7
MNK pmax pmax
comp=Z,64nm,1.1s
MNK pmax pmax
comp=E,21nm,1.4s
MNK pmax pmax
comp=N,27nm,1.1s
MNK MLR MLR
comp=Z,1μm,14.0s
MNK MLR MLR
comp=N,945nm,14.0s
MNK MLR MLR
comp=E,440nm,15.0s
MPK Martis Peak 78.47 51 P **P** 21 42 24.1 +1.1
ISAL Salakas 78.48 328 *e*P **P** 21 42 23.7 +1.4
MSO Missoula 78.59 42 P **P** 21 42 24.4 +1.1
MSO Missoula 78.59 42 P **P** 21 42 25.3 +2.0
baz=301,SNR=7.4
MQZ McQueen's Vall 78.65 157 IAMs_20 IAMs_20 22 10 58.0
comp=Z,895nm,19.0s
CMB Columbia Colle 78.83 53 P **P** 21 42 25.4 +0.7
CMB IAmb IAmb 21 42 33.5
comp=Z,24nm,1.2s
CMB IAMs_20 IAMs_20 22 10 27.0
comp=Z,936nm,22.0s
CMB Columbia Colle 78.83 53 P **P** 21 42 25.4 +0.7
CMB pmax pmax
comp=Z,24nm,1.2s
CMB MLR MLR
comp=Z,900nm,22.0s
BPMT Black Pine Rid 79.08 43 P **P** 21 42 26.6 +0.4
YERR Yerington 79.16 51 P **P** 21 42 27.1 +0.5
YERR IAmb IAmb 21 42 32.2
comp=Z,26nm,1.2s
MFID Camas Ranch 79.19 46 P **P** 21 42 28.1 +1.5
MFID IAmb IAmb 21 42 32.3
comp=Z,36nm,1.1s
SCO Scoresbysund 79.41 354 P **P** 21 42 28.1 +0.9
SCO IAmb IAmb 21 42 30.4
comp=Z,50nm,1.3s
SCO Scoresbysund 79.41 354 P **P** 21 42 28.1 +0.9
SCO pmax pmax
comp=Z,50nm,1.3s
SCO Scoresbysund 79.41 354 *i* P **P** 21 42 28.0 +0.8
SCO IAmb IAmb 21 42 31.8
comp=Z,11nm,1.0s
LYMT Lyon Mountain 79.48 42 P **P** 21 42 29.0 +0.7

PABE Paberze 79.50 329 P **P** 21 42 27.3 -0.6
PABE Paberze 79.50 329 *e*P **P** 21 42 28.1 +0.1
AKASG Malin Array Be 79.77 323 P **P** 21 42 27.9 -1.6
AKASG Malin Array Be 79.77 323 P **P** 21 42 27.9 -1.6
AKASG pmax pmax
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 79.77 323 P **P** 21 42 28.2 -1.3
comp=Z,2.2nm,0.4s,baz=47,slow=5.6,SNR=30
comp=Z,2.2nm,0.4s
AKBB Malin Array Si 79.77 323 P **P** 21 42 27.9 -1.5
AKBB IAmb IAmb 21 42 31.4
comp=Z,22nm,0.9s
AKBB Malin Array Si 79.77 323↓ *e*P **P** 21 42 28.0 -1.5
AKBB pmax pmax
comp=Z,25nm,0.9s
KIEV Kiev 79.78 323 P **P** 21 42 27.6 -2.0
KIEV IAmb IAmb 21 42 31.5
comp=Z,20nm,0.9s
KIEV Kiev 79.78 323 P **P** 21 42 27.6 -2.0
KIEV pmax pmax
comp=Z,20nm,1.0s
BMN Battle Mountai 79.79 49 P **P** 21 42 30.8 +0.7
BMN Battle Mountai 79.79 49 P **P** 21 42 30.8 +0.7
BMN pmax pmax
comp=Z,14nm,1.1s
HLID Hailey 80.00 45 P **P** 21 42 32.4 +1.2
HLID Hailey 80.00 45 P **P** 21 42 32.8 +1.7
baz=302,SNR=14
NVAR Mina Array Bea 80.07 51 P **P** 21 42 32.8 +1.1
NVAR Mina Array Bea 80.07 51 P **P** 21 42 33.6 +1.9
comp=Z,7.0nm,0.8s,baz=286,slow=5.4,SNR=34
NVAR LR LR 22 10 50.5
comp=Z,858nm,21.1s,baz=280,slow=30
comp=Z,7.0nm,0.8s
SIM Simferopol' 80.17 316 *e*P **P** 21 42 30.9 -0.9
SIM pmax pmax
comp=Z,40nm,1.3s
SIM MLR MLR
comp=Z,375nm,18.0s
EGMT Eagleton 80.35 40 P **P** 21 42 33.2 +0.4
EGMT IAmb IAmb 21 42 37.1
comp=Z,31nm,1.1s
EGMT Eagleton 80.35 40 P **P** 21 42 33.7 +0.9
baz=304,SNR=11
FFC Flin Flon 80.35 31 P **P** 21 42 33.0 +0.4
FFC IAmb IAmb 21 42 41.8
comp=Z,34nm,0.8s
FFC Flin Flon 80.35 31 P **P** 21 42 33.0 +0.4
FFC pmax pmax
comp=Z,34nm,0.8s
SMMC Simmler 80.42 55 P **P** 21 42 35.1 +1.7
baz=305
ARPR Arapgir-MALATY 80.51 310 IAMs_20 IAMs_20 22 23 18.3
comp=Z,775nm,21.0s
NC405 NORSAR Array S 80.54 337 P **P** 21 42 32.9 -0.6
NC405 IAmb IAmb 21 42 43.2
comp=Z,52nm,1.1s
HFS Hagfors 80.57 336 P **P** 21 42 32.7 -0.9
comp=Z,13nm,0.8s,baz=93,slow=3.3,SNR=11
comp=Z,13nm,0.8s
BOZ Bozeman (W) 80.60 43 P **P** 21 42 34.9 +0.6
BOZ Bozeman (W) 80.60 43 P **P** 21 42 35.8 +1.5
baz=303,SNR=14
BOZ Bozeman (W) 80.60 43 P **P** 21 42 34.9 +0.6
BOZ pmax pmax
comp=Z,11nm,1.0s
PKM Mcpherson Peak 80.76 55 P **P** 21 42 36.7 +1.3
baz=300
NB2 NORSAR Subarra 80.76 338 P **P** 21 42 33.8 -0.9
comp=Z,46nm,1.2s,baz=42,slow=5.3
NB2 NORSAR Subarra 80.76 338 P **P** 21 42 33.8 -0.9
baz=42,slow=5.3
NOA NORSAR Array B 80.76 338 P **P** 21 42 34.1 -0.6
comp=Z,17nm,1.0s,baz=41,slow=5.1,SNR=22
comp=Z,17nm,1.0s
SUW Suwalki 80.78 328 P **P** 21 42 33.6 -1.3
SUW Suwalki 80.78 328 P **P** 21 42 33.6 -1.3
SUW pmax pmax
comp=Z,149nm,1.1s
SUW Suwalki 80.78 328 *e*P **P** 21 42 35.5 +0.6
VES Vestal, Richgr 80.81 54 P **P** 21 42 36.9 +1.5
baz=300
ELK Elko 80.93 48 P **P** 21 42 37.3 +1.0
ELK Elko 80.93 48 P **P** 21 42 37.3 +1.0
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK MLR MLR
comp=Z,2μm,22.0s
ELK Elko 80.93 48 LR LR 22 12 20.4
comp=Z,1μm,21.7s,baz=308,slow=31
FCC Fort Churchill 80.96 26 P **P** 21 42 35.4 -0.3
FCC Fort Churchill 80.96 26 P **P** 21 42 35.4 -0.3
FCC pmax pmax
comp=Z,14nm,1.2s
CWC Cottonwood Cre 81.22 53 P **P** 21 42 39.5 +1.7
baz=300
YHL Hebgen Lake 81.27 43 P **P** 21 42 38.6 +0.5
YHL IAmb IAmb 21 42 43.7
comp=Z,19nm,1.0s
ISA Isabella, Lake 81.33 54 P **P** 21 42 40.3 +2.0
baz=300
SCZ2 Santa Cruz Isl 81.33 56 P **P** 21 42 40.1 +1.9
baz=300
GRAC Grapevine Rang 81.43 52 P **P** 21 42 41.3 +2.5
baz=301
ICESG Greenland Ices 81.60 0 *i* P **P** 21 42 39.7 +0.3
ICESG IAmb IAmb 21 42 44.2
comp=Z,25nm,0.9s
SORM Soroca 81.71 321↑ P **P** 21 42 40.2 +0.3
SORM Soroca 81.71 321 P **P** 21 42 40.2 +0.3
MPMC Manual Prospec 81.82 53 P **P** 21 42 43.3 +2.2
baz=301,SNR=15
H17A Grant Village 81.89 43 P **P** 21 42 43.6 +2.3
baz=304,SNR=18
R11B Troy Canyon, C 81.95 50 P **P** 21 42 43.6 +2.0
baz=302,SNR=19
LRMC Laurel Mtn Rad 81.98 54 P **P** 21 42 42.7 +0.9
baz=301,SNR=13
PPT Papeete 82.01 115 LR LR 22 11 27.0
comp=Z,251nm,22.0s,baz=330,slow=30
FXWY Fox Creek 82.03 44 IAMs_20 IAMs_20 22 18 33.0
comp=Z,841nm,22.0s
FURC Furnace Creek, 82.05 53 P **P** 21 42 43.5 +1.6
baz=301
EDW2 Edwards Air Fo 82.06 54 P **P** 21 42 43.9 +1.7
baz=301,SNR=14
TPNV Topopah Spring 82.22 52 P **P** 21 42 43.8 +0.7
TPNV IAmb IAmb 21 42 55.5
comp=Z,18nm,0.8s
TPNV Topopah Spring 82.22 52 P **P** 21 42 44.2 +1.1
baz=301,SNR=20
TPNV Topopah Spring 82.22 52 P **P** 21 42 43.8 +0.7
TPNV pmax pmax
comp=Z,18nm,0.9s
TPNV MLR MLR
comp=Z,1μm,22.0s
RLMT Red Lodge 82.25 42 P **P** 21 42 45.1 +1.9
baz=305,SNR=5.4
SOEG Soedalen 82.30 357 *i* P **P** 21 42 42.5 -0.2
SOEG IAmb IAmb 21 42 43.8
comp=Z,6.8nm,0.7s
AHID Auburn Hatcher 82.47 45 IAMs_20 IAMs_20 22 12 28.6
comp=Z,962nm,21.0s
CIS Catalina Islan 82.51 56 P **P** 21 42 46.0 +1.5
baz=301
BFSC Mount Baldy Ra 82.63 55 P **P** 21 42 46.5 +1.3
baz=301
GSC Goldstone, Bar 82.69 54 P **P** 21 42 47.0 +1.5
baz=301,SNR=8.8
SHOC Shoshone, Teco 82.75 53 P **P** 21 42 47.2 +1.5
baz=301
DUG Dugway, Tooele 82.79 48 P **P** 21 42 46.0 0.0
DUG IAmb IAmb 21 42 51.4
comp=Z,26nm,1.1s
DUG Dugway, Tooele 82.79 48 P **P** 21 42 47.4 +1.5
baz=303,SNR=14
DUG Dugway, Tooele 82.79 48 P **P** 21 42 46.0 0.0
DUG pmax pmax
comp=Z,26nm,1.2s
DUG MLR MLR
comp=Z,1μm,20.0s
HWUT Hardware Ranch 82.82 46 P **P** 21 42 46.7 +0.6
HWUT IAmb IAmb 21 42 51.8
comp=Z,28nm,1.1s
LAO LASA Array 83.08 40 P **P** 21 42 48.1 +0.8
LAO LASA Array 83.08 40 P **P** 21 42 48.5 +1.2
baz=306

DGMT Dagmar 83.11 37 P **P** 21 42 48.9 +1.6
baz=308
DGMT Dagmar 83.11 37 P **P** 21 42 47.0 -0.3
baz=308
TLCR 83.16 319↑ P **P** 21 42 48.0 +0.4
TLCR 83.16 319 P **P** 21 42 47.9 +0.4
VLDR Vladesti 83.20 319↑ P **P** 21 42 48.2 +0.5
TUQ Turquoise Moun 83.23 53 P **P** 21 42 49.6 +1.3
baz=302,SNR=12
HEC Hector,Ludlow 83.26 54 P **P** 21 42 48.9 +0.5
baz=302
BR131 Keskin Array S 83.28 312 P **P** 21 42 47.5 -1.0
BR131 IAmb IAmb 21 42 50.6
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 83.28 312 *d* iP **P** 21 42 48.6 +0.1
BRTR Keskin Array B 83.28 312 *i* P **P** 21 42 47.7 -0.8
BRTR pmax pmax
comp=Z,13nm,1.1s
BRTR Keskin Array B 83.28 312 P **P** 21 42 46.9 -1.6
comp=Z,13nm,1.1s,baz=86,slow=3.8,SNR=17
comp=Z,13nm,1.1s
MURC Murrieta 83.28 55 P **P** 21 42 49.5 +1.1
baz=301
SFJD Kangerlussuaq 83.33 4 *i* P **P** 21 42 48.2 +0.2
SFJD IAmb IAmb 21 42 56.3
comp=Z,10nm,0.8s
JURR Jurilovca 83.37 318↑ P **P** 21 42 49.6 +0.9
BW06 Boulder Array 83.41 44 P **P** 21 42 50.3 +1.1
baz=305,SNR=7.3
PD31 Pinedale Array 83.41 44 P **P** 21 42 50.0 +0.8
PDAR Pinedale Array 83.41 44 P **P** 21 42 49.4 +0.2
PDAR Pinedale Array 83.41 44 P **P** 21 42 49.9 +0.6
comp=Z,5.6nm,1.0s,baz=286,slow=2.9,SNR=18
PDAR LR LR 22 12 52.4
comp=Z,336nm,21.2s,baz=320,slow=30
comp=Z,5.6nm,1.0s
IZVR Izvoarele 83.55 319↑ P **P** 21 42 49.5 0.0
CFR Carcaliu 83.56 319↑ P **P** 21 42 49.0 -0.6
CFR Carcaliu 83.56 319 P **P** 21 42 48.9 -0.6
TPGR Topolog 83.58 318↑ P **P** 21 42 50.4 +0.6
TESR Tescani 83.60 321↑ P **P** 21 42 49.4 -0.4
BUR08 Bucovina Ar. S 83.71 322 P **P** 21 42 49.8 -0.7
BUR08 IAmb IAmb 21 42 53.2
comp=Z,36nm,1.5s
PANC Panciu 83.71 320↑ P **P** 21 42 50.9 +0.6
109C Camp Elliot, M 83.71 56 IAMs_20 IAMs_20 22 21 48.6
comp=Z,877nm,20.0s
BURAR Bucovina Array 83.72 322↑ P **P** 21 42 50.3 -0.3
BURAR Bucovina Array 83.72 322 P **P** 21 42 49.5 -1.0
BURAR IAmb IAmb 21 42 57.7
comp=Z,12nm,0.8s
BURAR Bucovina Array 83.72 322 P **P** 21 42 50.2 -0.3
BURAR Bucovina Array 83.72 322↑ P **P** 21 42 50.5 0.0
ANTO Ankara 83.74 313 P **P** 21 42 50.0 -0.8
ANTO IAmb IAmb 21 42 52.7
comp=Z,14nm,0.8s
ANTO Ankara 83.74 313 P **P** 21 42 50.0 -0.8
ANTO pmax pmax
comp=Z,14nm,0.8s
GMRC Granite Mounta 83.76 54 P **P** 21 42 52.3 +1.3
baz=302,SNR=11
KWP Kalwaria Pacla 83.76 325 P **P** 21 42 49.7 -0.9
KWP Kalwaria Pacla 83.76 325 P **P** 21 42 49.7 -0.9
KWP pmax pmax
comp=Z,43nm,0.9s
PFO Pinyon Flats O 83.80 55 P **P** 21 42 52.1 +0.8
baz=302,SNR=9.3
PFO Pinyon Flats O 83.80 55 LR LR 22 20 49.7
comp=Z,1μm,18.2s,baz=287,slow=36
TPFO Pinon Flats 83.81 55 P **P** 21 42 51.6 +0.2
baz=302,SNR=10
TIRR Tirgusor 83.82 318 P **P** 21 42 50.0 -0.9
TIRR Tirgusor 83.82 318 P **P** 21 42 50.0 -0.9
TIRR pmax pmax
comp=Z,41nm,1.1s
ODBI Odobesti 83.82 320↑ P **P** 21 42 51.2 +0.2
BELC Belle Mtn. Jos 83.93 54 P **P** 21 42 52.7 +0.8
baz=302,SNR=12
VRI Vrincioaia 83.95 320↑ P **P** 21 42 51.9 +0.3
VRI Vrincioaia 83.95 320 P **P** 21 42 52.1 +0.5
VRI Vrincioaia 83.95 320↑ P **P** 21 42 52.2 +0.5
HARR Harsova 83.96 319↑ P **P** 21 42 51.4 -0.3
HARR Harsova 83.96 319 P **P** 21 42 51.3 -0.3
MFTR Murfatlar 83.98 318↓ P **P** 21 42 52.5 +0.8
TLBR Topalu 83.98 318↑ P **P** 21 42 51.3 -0.4
PLOR Plostina 84.00 320↑ P **P** 21 42 52.2 +0.3
PLOR Plostina 84.00 320 P **P** 21 42 52.2 +0.3
DY2G Dye2 84.08 3 *i* P **P** 21 42 51.4 -0.8
DY2G IAmb IAmb 21 42 55.4
comp=Z,7.0nm,0.7s
BISRR Bisoca 84.15 320↑ P **P** 21 42 53.4 +0.7
MONP2 Monument Peak 84.20 55 P **P** 21 42 53.7 +0.3
baz=302,SNR=8.5
TURR Turia 84.23 320↑ P **P** 21 42 53.7 +0.6
COVR Voineasa-Covas 84.25 320↑ P **P** 21 42 52.9 -0.3
OZUR 84.33 321↑ P **P** 21 42 53.8 +0.2
PGOR Pogoanele 84.37 319↑ P **P** 21 42 53.5 -0.3
ICOR Ion Corvin 84.38 318↓ P **P** 21 42 54.9 +1.1
BOSR Bodos 84.41 321↑ P **P** 21 42 54.4 +0.4
MDUB Mudurnu 84.42 314 P **P** 21 42 53.6 -0.6
KOLS Kolonicke sedl 84.43 324 *e*P **P** 21 42 53.4 -0.6
KOLS pmax pmax
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 84.43 324 *e*P **P** 21 42 53.3 -0.7
IRM Iron Mountain 84.45 54 P **P** 21 42 55.0 +0.6
baz=302,SNR=13
BC3 Big Chuckawall 84.50 54 P **P** 21 42 55.6 +0.8
baz=302,SNR=16
IKP In-Ko-Pah, Jac 84.56 56 P **P** 21 42 56.5 +1.4
baz=302,SNR=6.6
BMR Baia Mare 84.59 323↑ P **P** 21 42 54.9 0.0
BMR Baia Mare 84.59 323 P **P** 21 42 54.8 0.0
RMX La Rumorosa 84.60 56 P **P** 21 42 56.6 +1.2
RMX IAmb IAmb 21 43 00.7
comp=Z,14nm,1.2s
MLR Muntele Rosu 84.61 320↓ P **P** 21 42 55.7 +0.6
MLR Muntele Rosu 84.61 320 P **P** 21 42 54.6 -0.6
MLR IAmb IAmb 21 43 20.4
comp=Z,29nm,1.5s
MLR Muntele Rosu 84.61 320 P **P** 21 42 54.6 -0.6
MLR pmax pmax
comp=Z,29nm,1.5s
SWSC Sam W. Stewart 84.62 55 P **P** 21 42 56.7 +1.4
baz=302
DOPR Dopca 84.63 321↑ P **P** 21 42 55.3 +0.2
STHS Stebnicka Huta 84.64 325 *e*P **P** 21 42 55.2 +0.1
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 84.64 325 *e*P **P** 21 42 55.2 +0.1
YUH Yuha Desert 84.69 55 P **P** 21 42 56.5 +0.9
OJC Ojcow 84.82 326 P **P** 21 42 56.0 +0.1
OJC IAmb IAmb 21 42 59.2
comp=Z,28nm,1.1s
OJC Ojcow 84.82 326 P **P** 21 42 56.0 +0.1
OJC pmax pmax
comp=Z,28nm,1.1s
W13A Hualapai Mount 84.82 52 P **P** 21 42 56.9 +0.3
CRVS Cervenica-Dubn 84.86 325 *e*P **P** 21 42 55.9 -0.3
CRVS pmax pmax
comp=Z,34nm,1.5s
CRVS Cervenica-Dubn 84.86 325 *e*P **P** 21 42 55.8 -0.4
MUD Monsted U'grnd 84.89 335 *i* P **P** 21 42 56.0 -0.1
MUD IAmb IAmb 21 42 59.4
comp=Z,22nm,0.9s
BORG Borgarnes 84.90 352 LR LR 22 22 02.5
comp=Z,299nm,18.9s,baz=32,slow=37
ESJX Sierra Juarez 85.01 56 P **P** 21 42 58.7 +1.2
PDMCI Parker Dam,Lak 85.07 53 P **P** 21 42 58.5 +1.0
baz=303
ANGG Ammassalik, Gr 85.08 359 *i* P **P** 21 42 57.0 +0.1
ANGG IAmb IAmb 21 42 58.6
comp=Z,10nm,0.9s
CJR Cluj-Napoca 85.14 322↑ P **P** 21 42 58.4 +0.7
CJR Cluj-Napoca 85.14 322 P **P** 21 42 58.4 +0.7
VOIR 85.14 320↑ P **P** 21 42 58.0 +0.2
VOIR 85.14 320 P **P** 21 42 58.0 +0.2
K22A Casper 85.30 43 P **P** 21 42 59.3 +0.6
baz=307
ARR Arges 85.42 321↓ P **P** 21 42 59.6 +0.5
MARR Marisel-Cluj 85.42 322↑ P **P** 21 42 59.4 +0.3
SSRD Sdr. Stenderup 85.46 334 *i* P **P** 21 42 58.6 -0.4
SSRD IAmb IAmb 21 43 02.0
comp=Z,50nm,0.9s
LANS Liptovska Anna 85.69 326 *e*P **P** 21 43 01.2 +0.8

LANS pmax pmax
comp=Z,9.0nm,1.2s
LANS Liptovska Anna 85.69 326 *eP* **P 21 43 01.2 +0.8**
MMAI Mount Meron Ar 85.71 306 P **P 21 42 58.8 -2.0**
comp=Z,17nm,1.1s,baz=60,slow=5.1,SNR=4.9
comp=Z,17nm,1.1s
O20A White River Ci 85.73 46 P **P 21 43 01.9 +0.9**
baz=306,SNR=14
RSSD Black Hills 85.86 41 P **P 21 43 01.6 0.0**
RSSD IAmb IAmb 21 43 05.4
comp=Z,37nm,1.9s
RSSD Black Hills 85.86 41 IAMs_20 IAMs_20 22 12 50.8
comp=Z,775nm,19.0s
RSSD Black Hills 85.86 41 P **P 21 43 02.5 +1.0**
baz=308
RSSD Black Hills 85.86 41 P **P 21 43 01.6 0.0**
RSSD pmax pmax
comp=Z,37nm,1.9s
RSSD MLR MLR
comp=Z,800nm,19.0s
MDND Maddock 85.89 36 P **P 21 43 02.7 +1.4**
baz=311
NUUK Nuuk 86.03 5 *i* P **P 21 43 02.5 +0.9**
NUUK IAmb IAmb 21 43 05.6
comp=Z,20nm,0.9s
CSS Mathiatis 86.09 308 IAMs_20 IAMs_20 22 27 32.1
comp=Z,812nm,21.0s
ULM Lac du Bonnet 86.10 32 P **P 21 43 02.3 0.0**
comp=Z,4.8nm,0.9s,baz=329,slow=7.6,SNR=6.3
ULM LR LR 22 17 49.0
comp=Z,597nm,21.9s,baz=318,slow=33
comp=Z,4.8nm,0.9s
MORC Moravsky Berou 86.19 327 ⇑P **P 21 43 03.5 +0.6**
MORC Moravsky Berou 86.19 327 *eP* **P 21 43 02.0 -0.9**
MORC Moravsky Berou 86.19 327 P **P 21 43 03.4 +0.6**
ELND Elena 86.21 318 ⇑P **P 21 43 03.0 -0.1**
OSTC Ostas 86.28 328 *eP* **P 21 43 04.9 +1.7**
PSZ Piszkesteto 86.29 325 P **P 21 43 02.2 -1.2**
PSZ Piszkesteto 86.29 325 P **P 21 43 02.2 -1.2**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
WUAZ Wupatki 86.31 51 P **P 21 43 04.7 +0.8**
WUAZ IAmb IAmb 21 43 08.4
comp=Z,14nm,1.0s
WUAZ Wupatki 86.31 51 P **P 21 43 05.9 +2.0**
baz=304,SNR=8.3
MAUC Maruska 86.34 327 *eP* **P 21 43 06.2 +2.6**
DPC Dobruska-Polom 86.37 328 *eP* **P 21 43 04.8 +1.1**
DPC Dobruska-Polom 86.37 328 *eP* **P 21 43 04.8 +1.1**
UPC Upice 86.41 328 *eP* **P 21 43 04.8 +1.0**
UPC Upice 86.41 328 *eP* **P 21 43 04.8 +1.0**
VYHS Vyhne 86.44 325 *eP* **P 21 43 05.2 +1.1**
VYHS pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 86.44 325 *eP* **P 21 43 05.2 +1.1**
SURR Surduc 86.54 322 ⇓P **P 21 43 04.2 -0.4**
N23A Red Feather La 86.69 44 P **P 21 43 07.1 +1.3**
N23A IAmb IAmb 21 43 11.3
comp=Z,25nm,1.2s
N23A Red Feather La 86.69 44 P **P 21 43 07.7 +1.9**
baz=307,SNR=8.9
JAVC Velka Javorina 86.76 326 *eP* **P 21 43 06.0 +0.3**
VRAC Vranov 86.97 327 ⇑P **P 21 43 07.5 +0.8**
VRAC Vranov 86.97 327 *eP* **P 21 43 05.8 -0.8**
VRAC Vranov 86.97 327 P **P 21 43 07.4 +0.8**
PIX Pinacate 87.04 55 P **P 21 43 07.7 +0.4**
PIX IAmb IAmb 21 43 11.5
comp=Z,13nm,1.0s
BRG Berggiesshubel 87.08 329 *eP* **P 21 43 07.4 +0.3**
BRG Amp 21 43 08.8
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 87.08 329 *eP* **P 21 43 07.4 +0.3**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 87.08 329 *eP* **P 21 43 07.8 +0.7**
comp=Z,4.6nm,0.9s,baz=50,slow=4.2
SRO Srobarova 87.15 325 *eP* **P 21 43 07.9 +0.4**
SRO Srobarova 87.15 325 *eP* **P 21 43 07.9 +0.4**
CLL Collm 87.18 330 *i* P **P 21 43 07.5 -0.1**
comp=Z,15nm,1.1s
CLL *i* x x 21 43 13.6
comp=Z,12nm,1.0s
CLL Collm 87.18 330 *eP* **P 21 43 07.8 +0.2**
comp=Z,6.2nm,0.8s,baz=50,slow=4.2
KRUC Moravsky 87.23 327 *eP* **P 21 43 06.8 -1.1**
MVCO Mesa Verde 87.26 48 P **P 21 43 10.5 +1.9**
baz=306
214A Organ Pipe Nat 87.28 55 P **P 21 43 08.5 0.0**
214A IAmb IAmb 21 43 13.2
comp=Z,12nm,1.1s
214A Organ Pipe Nat 87.28 55 P **P 21 43 10.1 +1.6**
baz=304,SNR=6.2
MODS Modra-Piesok 87.28 326 *eP* **P 21 43 10.6 +2.4**
MODS Modra-Piesok 87.28 326 *eP* **P 21 43 10.6 +2.4**
FBE Freiberg 87.31 330 *eP* **P 21 43 09.4 -1.2**
comp=Z,9.2nm,0.9s,baz=50,slow=4.2
PRU Pruhonice 87.44 329 *eP* **P 21 43 09.5 +0.6**
PRU Pruhonice 87.44 329 *eP* **P 21 43 09.5 +0.6**
HSKC Hora Svate Kat 87.50 329 *eP* **P 21 43 10.4 +1.2**
ISCO Idaho Springs 87.55 45 IAMs_20 IAMs_20 22 20 03.2
comp=Z,840nm,20.0s
ISCO Idaho Springs 87.55 45 P **P 21 43 11.9 +1.9**
baz=307
BLKB Belogradchik 87.60 320 ⇑P **P 21 43 09.6 -0.2**
W18A Petrified Fore 87.64 51 P **P 21 43 12.5 +2.1**
baz=305
ZVC Zvikov 87.99 328 *eP* **P 21 43 12.8 +1.3**
S22A 4UR Ranch, Cre 88.02 47 P **P 21 43 13.9 +1.6**
baz=307
MORH Mrgy, Hungar 88.07 324 ⇑P **P 21 43 12.1 +0.2**
FRGS Fruska Gora 88.16 323 ⇑P **P 21 43 12.3 -0.2**
RONA Rosalia, Austr 88.22 326 *i* P **P 21 43 12.0 -0.7**
comp=Z,15nm,2.0s
MOX Moxa 88.26 330 *eL* L 22 28 50.5
comp=Z,484nm,20.2s
CONA Conrad Observa 88.28 326 *eP* **P 21 43 12.9 -0.1**
comp=Z,7.4nm,1.0s
Q24A Divide 88.35 45 P **P 21 43 15.6 +1.7**
baz=308
CKRC Cesky Krumlov 88.38 328 *eP* **P 21 43 14.3 +0.9**
CKRC Cesky Krumlov 88.38 328 *eP* **P 21 43 14.3 +0.9**
SUSD Miller 88.46 38 P **P 21 43 13.8 -0.1**
SUSD IAmb IAmb 21 43 23.3
comp=Z,17nm,0.8s
SUSD Miller 88.46 38 P **P 21 43 15.7 +1.8**
baz=312
KHC Kasperske Hory 88.49 328 *eP* **P 21 43 14.9 +0.9**
KHC Kasperske Hory 88.49 328 ⇓*eP* **P 21 43 13.4 -0.6**
KHC pmax pmax
comp=Z,85nm,4.3s
TUC Tucson 88.51 53 P **P 21 43 16.1 +1.6**
baz=305
GEC2 GERESS Array S 88.64 328 *eP* **P 21 43 15.4 +0.6**
comp=Z,4.4nm,0.9s,baz=50,slow=4.2
GERES GERESS Array B 88.64 328 P **P 21 43 14.6 -0.2**
GERES GERESS Array B 88.64 328 P **P 21 43 14.6 -0.2**
GERES GERESS Array B 88.64 328 P **P 21 43 12.5 -2.3**
comp=Z,4.7nm,0.9s,baz=72,slow=4.3,SNR=6.5
comp=Z,4.7nm,0.9s
ROTZ Rotzenmuhle 88.65 329 *eP* **P 21 43 16.1 +1.5**
comp=Z,2.8nm,1.2s,baz=50,slow=4.2
SDCO Great Sand Dun 88.86 46 IAMs_20 IAMs_20 22 19 06.0
comp=Z,879nm,21.0s
SDCO Great Sand Dun 88.86 46 P **P 21 43 16.9 +0.6**
baz=307
SDCO Great Sand Dun 88.86 46 P **P 21 43 17.7 +1.4**
baz=307
F33A 5 Mile Ranch, 88.92 36 P **P 21 43 17.0 +1.0**
baz=313
OGNE Ogallala 89.00 42 P **P 21 43 17.8 +1.2**
baz=310
GRF Grafenberg Arr 89.14 330 *eP* **P 21 43 17.9 +0.9**
comp=Z,7.9nm,0.8s,baz=50,slow=4.2
GRF *eL* L 22 31 57.9
comp=Z,1μm,18.1s
BIOA Bad Ischl, Aus 89.50 327 *i* P **P 21 43 18.1 -0.7**
comp=Z,19nm,1.7s
SOKA Soboth 89.56 326 *ePcP* **P 21 43 19.6 +0.5**
comp=Z,7.9nm,0.9s
EYMN Ely 89.77 32 P **P 21 43 19.7 -0.2**
EYMN IAmb IAmb 21 44 22.0
comp=Z,41nm,1.6s
EYMN Ely 89.77 32 P **P 21 43 20.9 +1.0**
baz=317
KSCO Kaye Shedlock' 89.86 44 P **P 21 43 21.4 +0.7**
baz=309
EKA Eskdalemuir Ar 89.88 340 P **P 21 43 19.0 -1.3**
EKA Eskdalemuir Ar 89.88 340 P **P 21 43 19.0 -1.3**
comp=Z,17nm,0.9s,baz=25,slow=4.6,SNR=10
comp=Z,17nm,0.9s
ESK Eskdalemuir 89.91 340 P **P 21 43 19.6 -0.8**
ESK Eskdalemuir 89.91 340 P **P 21 43 19.6 -0.8**
ESK pmax pmax
comp=Z,241nm,2.0s
T25A Trinidad 89.92 46 P **P 21 43 21.9 +0.7**
baz=308
ANMO Albuquerque 89.93 49 P **P 21 43 22.1 +0.9**
baz=307
ANMO Albuquerque 89.93 49 P **P 21 43 23.7 +2.5**
baz=307
ANMO Albuquerque 89.93 49 ⇑*eP* **P 21 43 22.6 +1.4**
ANMO pmax pmax
comp=Z,20nm,2.9s
Y22D IRIS PASSCAL I 90.14 50 P **P 21 43 23.2 +1.0**
baz=307
Y22F Passcal Instru 90.14 50 P **P 21 43 23.3 +1.2**
baz=307
LESA Schwarzleotal 90.14 328 *i* P **P 21 43 22.0 +0.2**
comp=Z,20nm,1.1s
ECSD EROS Data Cent 90.19 38 P **P 21 43 23.3 +1.3**
baz=313
FUR Furstenfeldbru 90.24 329 *eP* **P 21 43 22.9 +0.8**
comp=Z,9.9nm,0.8s,baz=50,slow=4.2
MYKA Terra Mystica 90.26 327 *eP* **P 21 43 22.2 -0.2**
comp=Z,20nm,1.7s
F36A Milaca 90.29 34 P **P 21 43 25.2 +2.8**
baz=315
121A Cookes Peak, D 90.46 52 P **P 21 43 24.7 +1.0**
baz=306
BTNL Ternell 90.58 333 *dP* **P 21 43 23.3 -0.4**
ABTA Abfaltersbach 90.71 327 *eP* **P 21 43 24.2 -0.3**
comp=Z,18nm,1.0s,SNR=6.5
WATA Walderalm 90.72 328 *i* PcP **P 21 43 25.0 +0.4**
comp=Z,6.7nm,0.9s
WTTA Wattenberg 90.74 328 *i* PcP **P 21 43 25.0 +0.2**
comp=Z,12nm,1.2s
BGNE Belgrade 90.92 40 P **P 21 43 26.0 +0.5**
baz=312
MOTA Moosalm 90.93 328 *i* PcP **P 21 43 25.9 +0.3**
comp=Z,15nm,1.1s
SQTA Sankt Quirin 90.97 328 *eP* **P 21 43 25.7 0.0**
comp=Z,11nm,1.2s
RETA Reutte 90.98 329 *i* PcP **P 21 43 26.4 +0.8**
comp=Z,17nm,1.0s
ATD Arta Tunnel 91.00 284 LR LR 22 28 22.8
comp=Z,11nm,18.3s,baz=50,slow=38
SPMN Marine on St. 91.10 35 P **P 21 43 27.7 +1.5**
baz=316
UBR Ueberruh 91.13 329 *eP* **P 21 43 26.2 -0.1**
comp=Z,7.9nm,1.0s,baz=50,slow=4.2
BMRD Maredsous 91.34 333 *dPcP* **P 21 43 27.7 +0.5**
FETA Feichten 91.34 328 *ePcP* **P 21 43 28.8 +1.3**
comp=Z,15nm,0.9s,SNR=5.4
BFO Black Forest 91.42 330 *eP* **P 21 43 27.4 -0.2**
comp=Z,12nm,0.9s,baz=50,slow=4.2
DAVA Damuels 91.53 329 *i* PcP **P 21 43 28.6 +0.3**
comp=Z,34nm,1.0s
CBKS Cedar Bluff 91.72 43 P **P 21 43 30.0 +0.8**
baz=311
TUE Stuetta 92.38 329 P **P 21 43 31.3 -1.1**
MNTX Cornudas Mount 92.59 51 P **P 21 43 33.5 +0.1**
MNTX Cornudas Mount 92.59 51 P **P 21 43 34.5 +1.1**
baz=307,SNR=9.6
MNTX Cornudas Mount 92.59 51 P **P 21 43 34.8 +1.4**
baz=307
SCHQ Schefferville 92.66 15 P **P 21 43 32.5 -0.8**
comp=Z,5.5nm,0.8s,baz=51,slow=8.7,SNR=4.0
SCHQ LR LR 22 27 28.8
comp=Z,120nm,20.2s,baz=346,slow=37
comp=Z,5.5nm,0.8s
MSTX Muleshoe 92.93 48 P **P 21 43 35.9 +0.9**
baz=309
AMTX Amarillo 93.06 47 P **P 21 43 36.0 +0.4**
AMTX Amarillo 93.06 47 P **P 21 43 35.9 +0.4**
baz=310
AMTX Amarillo 93.06 47 P **P 21 43 37.1 +1.6**
baz=310
KSU1 Kansas State U 93.34 41 P **P 21 43 37.2 +0.5**
baz=313
LPIG La Paz 93.49 60 LR LR 22 16 24.2
comp=Z,872nm,21.7s,baz=278,slow=30
PECS Pecos 93.82 51 P **P 21 43 39.7 +0.5**
PECS IAmb IAmb 21 43 45.0
comp=Z,32nm,1.6s
OK032 Salt Plains WL 93.95 43 IAMs_20 IAMs_20 22 23 11.3
comp=Z,791nm,21.0s
TX31 Lajitas Ar. Si 95.20 52 P **P 21 43 45.8 +0.2**
TX31 IAmb IAmb 21 43 50.0
comp=Z,16nm,1.0s
TX31 Lajitas Ar. Si 95.20 52 P **P 21 43 47.4 +1.9**
baz=308
TXAR Lajitas Array 95.20 52 P **P 21 43 45.5 0.0**
TXAR Lajitas Array 95.20 52 P **P 21 43 45.5 0.0**
TXAR Lajitas Array 95.20 52 P **P 21 43 46.9 +1.3**
comp=Z,6.7nm,1.0s,baz=296,slow=2.4,SNR=25
TXAR LR LR 22 28 54.9
comp=Z,743nm,18.1s,baz=304,slow=37
comp=Z,6.7nm,1.0s
CCM Cathedral Cave 97.07 39 P **P 21 43 53.9 +0.2**
baz=317
SFIN Lafayette 97.51 35 P **P 21 43 56.0 +0.3**
baz=320
O48B Farmland 98.55 34 P **P 21 44 01.0 +0.7**
baz=321
LBNH Lisbon 100.72 23 P **Pdif 21 44 09.3 -0.7**
baz=332
BINY Binghamton 101.00 27 P **Pdif 21 44 11.0 -0.2**
baz=328
MCWV Mont Chateau 101.49 31 P **Pdif 21 44 13.1 -0.3**
baz=325
KMBO Kilima Mbogo 102.15 276 IAMs_20 IAMs_20 22 31 17.2
comp=Z,346nm,20.0s
PAL Palisades 102.82 26 P **Pdif 21 44 18.6 -0.7**
baz=330
LRAL Lakeview Retre 103.10 40 P **Pdif 21 44 19.9 -0.9**
baz=319
KMSC Kings Mountain 104.44 34 P **Pdif 21 44 25.5 -1.2**
baz=323
DWPF Disney Wildern 109.94 39 P **PKiKP 21 48 53.5 +0.2**
baz=322
TEIG Tepich 111.66 50 IAMs_20 IAMs_20 22 36 18.0
comp=Z,572nm,20.0s
SNET Serv Nac Est T 115.50 55 IAMs_20 IAMs_20 22 39 29.6
comp=Z,368nm,20.0s
TGUH Tegucigalpa,Un 116.64 54 IAMs_20 IAMs_20 22 44 09.5
comp=Z,533nm,20.0s
QSPA South Pole Qui 119.37 180 **PKPdf 21 49 10.3 +0.2**
QSPA South Pole Qui 119.37 180 PKP **PKPdf 21 49 08.8 -1.3**
comp=Z,2.1nm,0.4s,baz=335,slow=4.1,SNR=2.8
TOA0 Torodi Ar. Sit 121.88 311 PKPdf **PKPdf 21 49 15.3 -1.1**
TORD Torodi Ar. Bea 121.88 311 PKP **PKPdf 21 49 15.3 -1.2**
comp=Z,1.0nm,0.5s,baz=26,slow=1.9,SNR=9.0
ELIB Princess Elisa 126.25 200 *d*PKP **PKPdf 21 49 23.8 +0.5**
HATO Hato, Curacao 129.62 39 IAMs_20 IAMs_20 22 41 48.5
comp=Z,467nm,22.0s
DBIC Dimbokro 130.97 312 PKPdf **PKPdf 21 49 34.1 +0.2**
DBIC Dimbokro 130.97 312 PKP **PKPdf 21 49 32.9 -1.0**
comp=Z,2.8nm,0.7s,baz=11,slow=2.4,SNR=4.5
SDV Santo Domingo 131.34 43 PKPdf **PKPdf 21 49 34.3 -0.5**
SDV IAMs_20 IAMs_20 22 40 40.6
comp=Z,303nm,20.0s
TROLL Troll, Antarti 131.95 196 ⇑PKPdf **PKPdf 21 49 32.6 -1.5**
comp=Z,344nm,0.8s
OTAV Otavalo 132.41 59 IAMs_20 IAMs_20 22 48 56.1
comp=Z,336nm,20.0s
BAUV El Baul 132.79 40 PKPdf **PKPdf 21 49 36.9 -0.4**
CHSH Refugio Sur-Vo 133.23 61 PKPdf **PKPdf 21 49 39.4 +0.5**
SNAA Sanae 133.44 195 PKPdf **PKPdf 21 49 37.3 +0.4**
SNAA IAMs_20 IAMs_20 22 41 11.4
comp=Z,325nm,20.0s
SNAA Sanae 133.44 195 ⇑PKPdf **PKPdf 21 49 37.4 +0.5**
comp=Z,90nm,1.0s
SNAA Sanae 133.44 195 PKP **PKPdf 21 49 35.9 -0.9**
comp=Z,3.5nm,0.9s,baz=218,slow=2.9,SNR=4.4
VNA2 Neumayer--Watz 134.99 194 ⇑PKPdf **PKPdf 21 49 39.7 +0.1**
comp=Z,5.4nm,0.6s,baz=141,slow=2.0
VNA3 Neumayer Olymp 135.21 193 ⇑PKPdf **PKiKP 21 49 42.4 +0.8**
comp=Z,6.0nm,0.7s
VNA1 Neumayer--Stat 135.38 194 ⇑PKPdf **PKPdf 21 49 41.3 +0.9**
comp=Z,5.6nm,1.0s
CZSB Cruzeiro do Su 141.91 62 PKPdf **PKPdf 21 49 53.8 -0.3**
H03N2 Juan Fernandez 146.23 107 T T 00 33 35.6
baz=279,slow=75,SNR=126
H03N3 Juan Fernandez 146.24 107 T T 00 33 40.8
baz=279,slow=75,SNR=134
H03N1 Juan Fernandez 146.25 107 T T 00 33 39.1
baz=279,slow=75,SNR=130
MACA Manacapuru-AM 146.85 41 PKPbc **PKPdf 21 50 03.9 +1.2**
GO10 Punta Arenas 147.03 145 PKPbc **PKPbc 21 50 04.4 +0.6**
ETMB Extrema 148.14 57 PKPdf **PKPdf 21 50 04.3 -0.5**
SAML Samuel 149.69 52 PKPdf **PKPdf 21 50 06.3 -1.0**
SAML Samuel 149.69 52 PKHKP **PKPdf 21 50 06.3 -1.0**
SAML MLR MLR
comp=Z,500nm,22.0s
PB12 IPOC Station P 149.82 76 PKPdf **PKPdf 21 50 07.0 -0.5**
COYC Coyhaique 149.86 131 **PKPbc 21 50 12.7 +1.3**
PB16 IPOC Station P 150.38 75 **PKPdf 21 50 11.3 +2.3**
LPAZ La Paz 150.51 70 **PKPdf 21 50 11.5 +2.2**
LPAZ La Paz 150.51 70 PKIKP **PKPdf 21 50 11.5 +2.2**
LL02 Futaleuf 150.78 127 **PKPbc 21 50 13.0 -0.7**
PB11 IPOC Station P 150.90 77 PKPbc **PKPdf 21 50 13.3 +4.1**
PB02 IPOC Station P 151.33 80 PKPbc **PKPbc 21 50 15.4 -0.4**
PB08 IPOC Station P 151.49 78 PKPbc **PKPbc 21 50 16.9 +0.4**
PB07 IPOC Station P 151.49 81 PKPbc **PKPbc 21 50 16.3 0.0**
PB01 IPOC Station P 151.57 80 **PKPdf 21 50 14.5 +4.3**
PB09 IPOC Station P 152.07 81 PKPbc **PKPbc 21 50 17.1 -0.5**
PLCA Paso Flores 152.37 122 PKPbc **PKPbc 21 50 17.4 -0.2**
comp=Z,8.1nm,0.8s,baz=237,slow=2.9,SNR=11
PB15 IPOC Station P 152.38 84 PKPbc **PKPbc 21 50 18.9 +0.6**
MT02 Curacav 152.74 106 PKPbc **PKPbc 21 50 19.0 +0.4**
CO02 Combarbal 152.75 101 PKPbc **PKPbc 21 50 19.1 +0.3**
ROC1 El Roble 152.84 105 PKPbc **PKPbc 21 50 18.3 -0.8**
AC05 El Transito 153.09 96 PKPdf **PKPdf 21 50 11.8 -0.4**
AC05 PKPbc **PKPbc 21 50 19.7 +0.1**
CPUP Villa Florida 163.84 83 PKP **PKPdf 21 50 25.9 +0.9**
comp=Z,2.2nm,0.8s,baz=22,slow=5.4,SNR=2.2
BDFB Brasilia 164.00 32 PKP **PKPdf 21 50 26.2 +0.6**
comp=Z,5.4nm,1.0s,baz=5.5,slow=2.3,SNR=5.2

BJI ***03*** *21:32:46.9±0.0,29.°42N×140.°90E,h20km,mb4.8/28, mB5.3/10,Ms5.3/15,Ms7 5.0/14*
IDC ***03*** *21:32:47.0±0.5,29.°72N×140.°22E,h0km,mb4.5/24, mbtmp4.5/25,ML4.0/1,Error ellipse: s-maj=22.7km s-min=15.2km az=76.0*
MOS ***03*** *21:32:48.4±0.9,29.°71N×140.°28E,h21km,mb5.1/37,Error ellipse: s-maj=13.6km s-min=6.8km az=97.0*
NEIC ***03*** *21:32:49.5±1.6,29.°61N±0.°05×140.°52E±0.°09,h10km±1km, mb5.1/74,Error ellipse: s-maj=14.4km s-min=7.8km az=250.0*
JMA ***03*** *21:32:51.3±0.3,30.°N±1.°×14.°2E±.°,h94km,MV4.4/25, NEAR TORISHIMA IS*
ISC 03 21:32:48.7±0.3,29.°62N±0.°03×140.°54E±0.°05,h10km,n384, σ1s70/397,mb5.0/92,MS5.2/8,7C-17D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.90**	**150**	*eP*	**Pn**	**21 33 35.9**	**+1.0**
CBIJ				*eS*	**Sn**	**21 34 09.5**	**-0.4**
JCJ	**Chichijima**	**2.90**	**150**	Pn	**Pn**	**21 33 35.6**	**+0.7**
JCJ				Sn	**Sn**	**21 34 08.6**	**-1.4**
JCJ	**Chichijima**	**2.90**	**150**	Pn	**Pn**	**21 33 33.2**	**-1.8**
	458nm,0.3s,baz=294,slow=17,SNR=3.1						
JCJ				Sn	**Sn**	**21 34 06.6**	**-3.3**
	1μm,0.3s,baz=287,slow=24,SNR=10						
JHH2	**Haha-jima-NKT2**	**3.31**	**154**	*eP*	**Pn**	**21 33 42.1**	**+1.5**
JHH2				*eS*	**Sn**	**21 34 20.7**	**+0.8**
JHCJ	**Hachijojimakas**	**3.50**	**350**	*eS*	**Sn**	**21 34 23.9**	**-0.7**
JHJ2	**Mitsune**	**3.54**	**350**	Pn	**Pn**	**21 33 45.1**	**+1.5**
JHJ2				Sn	**Sn**	**21 34 23.9**	**-1.6**
JHJ2	**Mitsune**	**3.54**	**350**	*eS*	**Sn**	**21 34 24.1**	**-1.4**
JHJ	**Hachijo jima 2**	**3.55**	**350**	Pn	**Pn**	**21 33 47.6**	**+3.8**
	42nm,0.3s,baz=275,slow=17,SNR=1.0						
JHJ				Sn	**Sn**	**21 34 23.6**	**-2.2**
	103nm,0.3s,baz=264,slow=24,SNR=2.4						
JMYK	**Miyake Tsubota**	**4.51**	**349**	S	**Sn**	**21 34 48.0**	**-1.5**
JOD2	**Odawara 2**	**5.76**	**348**	*eP*	**Pn**	**21 34 16.5**	**+2.3**
JOD2				*eS*	**Sn**	**21 35 18.3**	**-2.0**
JMN	**Monobe**	**7.00**	**308**	Pn	**Pn**	**21 34 33.0**	**+1.8**
MJAR	**Matsushiro Arr**	**7.17**	**345**	Pn	**Pn**	**21 34 38.1**	**+4.5**
	0.2nm,0.3s,baz=168,slow=11,SNR=1.8						
MJAR				Sn	**Sn**	**21 35 58.0**	**+2.8**
	baz=168,slow=12						
MAJO	**Matsushiro**	**7.17**	**345**	Pn	**Pn**	**21 34 34.6**	**+0.9**
MAJO	**Matsushiro**	**7.17**	**345**	⇓*eP*	**Pn**	**21 34 37.1**	**+3.4**
MJB9	**Matsu-Tunnel**	**7.18**	**345**	Pn	**Pn**	**21 34 35.5**	**+1.8**
JMM	**Marumori**	**8.23**	**1**	Pn	**Pn**	**21 34 48.0**	**-0.1**
JNU	**Nakatsue**	**8.96**	**295**	Pn	**Pn**	**21 34 58.7**	**+0.5**
JNU	**Nakatsue**	**8.96**	**295**	Pn	**Pn**	**21 34 59.2**	**+0.9**
	0.3nm,0.3s,baz=76,slow=8.3,SNR=1.5						
JNU				Sn	**Sn**	**21 36 37.1**	**-2.2**
	0.6nm,0.3s,baz=31,slow=20,SNR=1.3						
JOW	**Kunigami**	**11.16**	**259**	Pn	**Pn**	**21 35 29.8**	**+1.4**
	1.2nm,0.3s,baz=107,slow=16,SNR=1.8						
JOW				Sn	**Sn**	**21 37 29.1**	**-4.2**
	0.5nm,0.3s,baz=53,slow=20,SNR=1.2						
TJN	**Taejon**	**12.94**	**305**	⇓*eP*	Pn	21 35 59.7	+7.1
KSRS	**Korea Array**	**13.10**	**310**	Pn	**Pn**	**21 35 57.6**	**+2.9**
	0.3nm,0.3s,baz=93,slow=21,SNR=2.1						
ASAJ	**Asahikawa**	**14.56**	**6**	Pn	**Pn**	**21 36 12.2**	**-2.5**
	1.0nm,0.3s,baz=228,slow=15,SNR=1.9						
ASAJ				Sn	Sn	21 38 47.3	-8.9
	0.2nm,0.3s,baz=252,slow=19,SNR=2.3						
	6.4nm,0.5s						
USRK	**Ussuriysk Ar.**	**16.06**	**337**	Pn	**Pn**	**21 36 36.2**	**+1.7**
	0.1nm,0.3s,baz=138,slow=11,SNR=3.3						
GUMO	**Guam**	**16.45**	**165**	Pn	**P**	**21 36 45.4**	**+3.0**
	8.6nm,0.3s,baz=16,slow=18,SNR=2.8						
YSS	**Yuzh-Sakhalins**	**17.39**	**5**	⇓*eP*	**Pn**	**21 36 52.4**	**+1.1**
DL2	**Dalian**	**18.14**	**306**	P	**P**	**21 37 05.4**	**+4.4**
DL2				pmax	pmax		
	comp=Z,52nm,1.3s						
YULB	**Yu-li**	**18.29**	**255**	P	**Pn**	**21 37 02.6**	**-0.1**
NJ2	**Nanjing**	**18.78**	**283**	⇑P	**Pn**	**21 37 12.1**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,45nm,0.8s						
TPUB	**Ta-pu**	**18.89**	**255**	P	**P**	**21 37 09.8**	**+0.4**
TPUB				IAmb	IAmb	21 37 48.6	
	comp=Z,295nm,1.7s						
KLR	**Kul'dur**	**20.70**	**344**	⇓*eP*	Pn	21 37 31.0	-0.2
KLR				pmax	pmax		
	comp=Z,22nm,1.6s						
KLR	**Kul'dur**	**20.70**	**344**	P	**P**	**21 37 29.3**	**+0.4**
	comp=Z,5.0nm,0.5s,baz=205,slow=4.3,SNR=4.9						
TYV	**Tymovskoe**	**21.28**	**4**	*eP*	**P**	**21 37 34.1**	**-1.0**
TYV				*eS*	**S**	**21 41 28.1**	**-3.3**
TYV				pmax	pmax		
	comp=Z,400nm,3.0s						
TYV				pmax	pmax		
	comp=Z,25nm,1.1s						
TYV				smax	smax		
	comp=N,1μm,6.2s						
TYV				smax	smax		
	comp=E,600nm,6.2s						
BJT	**Baijiatuao**	**22.47**	**304**	P	**P**	**21 37 47.5**	**-0.5**
BJT	**Baijiatuao**	**22.47**	**304**	P	**P**	**21 37 47.5**	**-0.5**
BJT				pmax	pmax		
	comp=Z,38nm,1.4s						
BJI	**Beijing**	**22.47**	**304**	P	**P**	**21 37 46.7**	**-1.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BJI				LR	LR		
	comp=Z,1μm,15.1s						
BJI				LR	LR		
	comp=Z,1μm,15.6s						
BJI				LR	LR		
	comp=Z,2μm,16.9s						
WHN	**Wuhan**	**22.67**	**279**	⇓P	**P**	**21 37 53.7**	**+3.5**
WHN				sP	**pwP**	**21 37 57.4**	**+2.0**
WHN				pmax	pmax		
	comp=Z,210nm,1.3s						
HNS	**HongShan**	**22.84**	**297**	⇓P	**P**	**21 37 56.8**	**+4.8**
HNS				pmax	pmax		
	comp=Z,21nm,1.5s						
LYN	**LuoYang**	**24.25**	**289**	⇓P	**P**	**21 38 06.1**	**+0.2**
LYN				pmax	pmax		
	comp=Z,24nm,1.5s						
LYN				pmax	pmax		
	comp=Z,620nm,5.7s						
LYN				LR	LR		
	comp=Z,5μm,16.2s						
LYN				LR	LR		
	comp=Z,4μm,13.1s						
LYN				LR	LR		
	comp=Z,6μm,13.1s						

H11N2 WAKE ISLAND Hy 25.84 106 T T 22 05 25.9
baz=298,slow=75,SNR=30
H11N1 WAKE ISLAND Hy 25.85 106 T T 22 05 27.9
baz=298,slow=75,SNR=40
H11N3 WAKE ISLAND Hy 25.86 106 T T 22 05 26.3
baz=298,slow=75,SNR=27
ZEA Zeya 25.97 342 *e*P **P** **21 38 19.9 -1.4**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=Z,30nm,1.1s
HHC Hu-ho-hao-te 26.07 303 *e*P **P** **21 38 23.7 +1.2**
HHC pmax pmax
comp=Z,31nm,0.5s
HHC pmax pmax
comp=Z,560nm,3.8s
HHC LR LR
comp=Z,4µm,12.4s
HHC LR LR
comp=Z,5µm,16.8s
H11S3 WAKE ISLAND Hy 26.26 109 T T 22 06 01.6
baz=300,slow=75,SNR=28
H11S1 WAKE ISLAND Hy 26.26 109 T T 22 06 02.6
baz=300,slow=75,SNR=31
H11S2 WAKE ISLAND Hy 26.28 109 T T 22 06 02.6
baz=300,slow=75,SNR=39
BTO Baotou 27.14 302 *e*P **P** **21 38 34.4 +2.3**
BTO pP **pwP** **21 38 42.0 +4.7**
BTO sP sP 21 38 45.0 +10
BTO PP **PnPn** **21 39 21.0 +6.0**
BTO S **S** **21 43 12.6 +2.1**
BTO pmax pmax
comp=Z,32nm,0.7s
BTO pmax pmax
comp=Z,370nm,3.5s
BTO LR LR
comp=Z,3µm,14.5s
BTO LR LR
comp=Z,5µm,16.7s
BTO LR LR
comp=Z,8µm,13.7s
XAN Xi'an 27.16 288 ⇑P **P** **21 38 32.2 -0.1**
XAN sP pwP 21 38 43.2 +5.6
XAN pmax pmax
comp=Z,45nm,1.2s
XAN LR LR
comp=Z,3µm,11.9s
XAN LR LR
comp=Z,3µm,12.3s
XAN LR LR
comp=Z,3µm,12.4s
MA2 Magadan 30.75 10*d i*P **P** **21 39 03.7 -0.2**
MA2 pmax pmax
comp=Z,27nm,1.1s
TNTI Ternate 31.31 206 P **P** **21 39 09.0 -0.2**
TNTI IAmb IAmb 21 39 17.0
comp=Z,40nm,1.1s
LZH Lanzhou 31.36 292 ⇑P **P** **21 39 09.0 -0.7**
LZH sP pwP 21 39 25.9 +11
LZH pmax pmax
comp=Z,24nm,1.5s
SONM Songino Array 31.91 314 P **P** **21 39 14.7 +0.3**
comp=Z,1.6nm,0.9s,baz=128,slow=6.3,SNR=2.1
YAK Yakutsk 33.19 351 P **P** **21 39 23.5 -1.8**
YAK Yakutsk 33.19 351*d i*P **P** **21 39 23.7 -1.6**
YAK pmax pmax
comp=Z,42nm,0.9s
SEY Seymchan 34.20 10⇓*e*P **P** **21 39 34.3 +0.3**
SEY pmax pmax
comp=Z,26nm,1.4s
PZH PanZhiHua 34.27 274 P **P** **21 39 37.8 +2.6**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.6s
TNCH TengChong 37.46 273 *e*P **P** **21 39 59.3 -3.4**
TNCH sP pwP 21 40 15.3 +7.2
TNCH S S 21 45 38.7 -13
TNCH sS ScP 21 46 05.0 -3.6
TNCH pmax pmax
comp=Z,130nm,1.1s
TNCH pmax pmax
comp=Z,1µm,5.1s
TNCH LR LR
comp=N,970nm,14.9s
TNCH LR LR
comp=E,1µm,14.1s
TNCH LR LR
comp=Z,2µm,14.2s
KAPI Kappang 39.80 214 P **P** **21 40 22.4 +0.3**
KAPI IAmb IAmb 21 40 31.2
comp=Z,94nm,1.8s
KAPI Kappang 39.80 214 P **P** **21 40 22.4 +0.3**
KAPI pmax pmax
comp=Z,94nm,1.8s
BILL Bilibino 41.35 14 P **P** **21 40 34.3 -0.1**
BILL Bilibino 41.35 14⇑*e*P **P** **21 40 34.6 +0.2**
BILL pmax pmax
comp=Z,21nm,1.4s
MMRI Maumere 41.92 208 P **P** **21 40 39.2 -0.4**
TIXI Tiksi 42.56 355 P **P** **21 40 43.5 -0.7**
TIXI Tiksi 42.56 355⇑*e*P **P** **21 40 42.2 -2.0**
TIXI pmax pmax
comp=Z,12nm,1.1s
MTN Manton Dam 43.18 193 P **P** **21 40 48.8 -1.0**
MTN IAmb IAmb 21 40 57.0
comp=Z,40nm,1.1s
WMQ Urumqi 43.95 304 *e*P **P** **21 40 57.4 +1.5**
WMQ pP pwP 21 41 07.0 +5.8
WMQ pmax pmax
comp=Z,22nm,1.5s
WMQ LR LR
comp=Z,1µm,18.1s
WMQ LR LR
comp=Z,2µm,18.9s
WMQ LR LR
comp=Z,890nm,20.7s
KULM Kulim 44.74 245 P **P** **21 41 01.5 -1.0**
JAGI Jajag, Banyuwa 45.60 218 P **P** **21 41 08.5 -0.7**
KNRA Kununurra 46.44 196 P **P** **21 41 15.9 +0.1**
KNRA IAmb IAmb 21 41 43.7
comp=Z,23nm,1.1s
ZALV Zalesovo Beam 46.64 318 P **P** **21 41 16.5 -0.6**
comp=Z,1.1nm,0.4s,baz=91,slow=9.4,SNR=1.4
ZALV PcP **PcP** **21 42 50.2 -0.5**
comp=Z,2.0nm,0.5s,baz=89,slow=3.4,SNR=6.0
comp=Z,1.1nm,0.4s
TNA Tin City 47.74 26 P **P** **21 41 27.0 +1.6**
baz=247
MK31 Makanchi Array 47.77 308⇓*e*P **P** **21 41 24.5 -1.5**
M13K Dall Lake 48.10 34 P **P** **21 41 31.1 +2.8**
baz=256
F14K Arctic Creek 48.33 27 P **P** **21 41 32.2 +2.2**
baz=249
ANM Nome 48.39 28 P **P** **21 41 31.4 +0.9**
ANM IAmb IAmb 21 41 33.2
comp=Z,38nm,1.4s
ANM Nome 48.39 28 P **P** **21 41 32.6 +2.1**
baz=251
ANM Nome 48.39 28 P **P** **21 41 31.4 +0.9**
ANM pmax pmax
comp=Z,38nm,1.4s
J14K Nanvaranak Lak 48.61 31 P **P** **21 41 34.6 +2.4**
baz=254
L14K Kuka Creek 48.64 33 P **P** **21 41 35.2 +2.8**
baz=256
N14K Kuskokwak Cree 48.80 34 P **P** **21 41 36.6 +2.9**
baz=258
M14K Bethel 48.84 33 P **P** **21 41 36.3 +2.3**
baz=257
F15K North Star Dit 49.06 27 P **P** **21 41 37.8 +2.2**
baz=250
G15K Niukluk 49.07 28 P **P** **21 41 37.7 +2.0**
baz=252
K15K Wolf Creek Mou 49.40 31 P **P** **21 41 40.1 +1.8**
baz=256
WB0 Warramunga Arr 49.46 188 P **P** **21 41 39.0 -0.1**
FITZ Fitzroy Crossi 49.57 199 P **P** **21 41 39.7 -0.3**
GSI Gunungsitoli 49.60 243 P **P** **21 41 40.6 +0.2**
N15K Kwethluk River 49.63 34 P **P** **21 41 41.8 +1.7**
baz=260
WRA Warramunga Arr 49.63 188 P **P** **21 41 40.3 -0.2**
WRA Warramunga Arr 49.63 188 P **P** **21 41 40.4 -0.2**
comp=Z,3.8nm,0.6s,baz=4.9,slow=7.7,SNR=2.7
WRA PcP **PcP** **21 43 02.4 +0.5**
comp=Z,1.3nm,0.6s,baz=2.3,slow=4.3,SNR=1.3
comp=Z,3.8nm,0.6s
H16K Elim 49.70 28 P **P** **21 41 41.9 +1.4**
baz=254
NRIK Noril'sk 49.78 338 P **P** **21 41 39.2 -1.9**
NRIK IAmb IAmb 21 41 41.0
comp=Z,22nm,1.4s
NRIK Noril'sk 49.78 338*de*P **P** **21 41 39.4 -1.6**
NRIK pmax pmax
comp=Z,20nm,1.4s
NRIK Noril'sk 49.78 338 P **P** **21 41 39.1 -1.9**
comp=Z,4.9nm,0.7s,baz=125,slow=8.2,SNR=2.1
comp=Z,4.9nm,0.7s
I17K Unalakleet 50.15 30 P **P** **21 41 45.6 +1.7**
baz=256
KURK Kurchatov 50.20 313 P **P** **21 41 42.9 -1.6**
KURK 21 43 01.8
L16K Owhat River 50.22 32 P **P** **21 41 46.3 +1.8**
baz=259
KURBB Kurchatov Arra 50.25 313 P **P** **21 41 42.9 -2.0**
comp=Z,1.8nm,0.8s,baz=91,slow=9.7,SNR=1.6
KURBB PcP **PcP** **21 43 01.8 -2.1**
comp=Z,0.9nm,0.3s,baz=81,slow=3.7,SNR=1.2
comp=Z,1.8nm,0.8s
RDOG Red Dog Mine 50.50 24 P **P** **21 41 46.7 +0.1**
RDOG Red Dog Mine 50.50 24 P **P** **21 41 48.3 +1.7**
baz=250
E17K Hotham Inlet 50.58 25 P **P** **21 41 48.8 +1.7**
baz=252
G17K Kiwalik Mounta 50.58 28 P **P** **21 41 49.3 +2.1**
baz=255
F17K Baldwin Pennin 50.61 26 P **P** **21 41 49.5 +2.1**
baz=253
H17K Granite Mounta 50.74 28 P **P** **21 41 50.4 +2.0**
baz=256
L17K Donlin 50.85 32 P **P** **21 41 51.6 +2.4**
baz=260
K17K Iditarod 50.95 31 P **P** **21 41 50.6 +0.6**
K17K IAmb IAmb 21 41 53.2
comp=Z,52nm,1.4s
K17K Iditarod 50.95 31 P **P** **21 41 52.1 +2.1**
baz=259
O17K Koliganek Bris 51.06 35 P **P** **21 41 53.1 +2.2**
baz=263
N17K Nushagak Hills 51.12 34 P **P** **21 41 53.4 +2.0**
baz=262
M17K Holitna River 51.13 33 P **P** **21 41 53.7 +2.3**
baz=261
E18K Tukpahlearik C 51.14 25 P **P** **21 41 53.1 +1.8**
baz=253
Q16K King Salmon 51.16 37 P **P** **21 41 53.6 +2.0**
baz=264
C18K Utukok River 51.30 24 P **P** **21 41 53.8 +1.2**
baz=252
B18K Kokolik River 51.32 23 P **P** **21 41 54.8 +2.1**
baz=250
P17K Kvichak River 51.33 36 P **P** **21 41 54.8 +1.9**
baz=264
H18K Honhosa River 51.43 28 P **P** **21 41 55.0 +1.4**
baz=257
G18K Tagagawik 51.48 27 P **P** **21 41 55.4 +1.5**
baz=256
L18K Granite Mounta 51.61 32 P **P** **21 41 57.1 +2.2**
baz=261
N18K Kilae Creek 51.77 34 P **P** **21 41 58.7 +2.4**
baz=263
A19K Wainwright 51.84 22 P **P** **21 41 58.5 +1.9**
baz=251
M18K Stony River 51.91 33 P **P** **21 41 59.3 +2.1**
baz=262
P18K Big Mountain, 51.96 36 P **P** **21 41 59.1 +1.4**
baz=265
C19K Lookout Ridge 51.99 23 P **P** **21 41 59.6 +1.8**
baz=253
O18K Koktuh Hills 52.02 35 P **P** **21 42 00.1 +2.1**
baz=264
G19K Purcell Mounta 52.16 27 P **P** **21 42 00.3 +1.3**
baz=258
H19K Roundabout Mou 52.29 28 P **P** **21 42 01.7 +1.7**
baz=259
D19K Kuna River 52.34 24 P **P** **21 42 01.6 +1.2**
baz=255
J19K Poorman 52.37 30 P **P** **21 42 02.0 +1.4**
baz=261
E19K Redstone River 52.40 26 P **P** **21 42 02.2 +1.4**
baz=256
L19K White Mountain 52.45 32 P **P** **21 42 03.3 +2.0**
baz=263
O19K Port Alsworth 52.49 35 P **P** **21 42 03.3 +1.7**
baz=265
F20K Avaraqart Lake 52.88 26 P **P** **21 42 05.7 +1.4**
baz=258
D20K Etivluk River 52.92 24 P **P** **21 42 06.0 +1.3**
baz=256
H20K Anotleneega Mo 52.93 28 P **P** **21 42 06.4 +1.6**
baz=260
L20K Farewell, AK 52.94 32 P **P** **21 42 06.9 +2.0**
baz=264
K20K Telida 52.96 31 P **P** **21 42 07.3 +2.3**
baz=263
I20K Naaghedeneel 52.98 29 P **P** **21 42 07.3 +2.2**
baz=261
J20K Nowinta River 53.03 30 P **P** **21 42 07.3 +1.8**
baz=262
B20K Meade River 53.06 22 P **P** **21 42 06.9 +1.2**
baz=255
KDAK Kodiak Island 53.24 38 P **P** **21 42 07.8 +0.6**
KDAK Kodiak Island 53.24 38 P **P** **21 42 07.8 +0.6**
KDAK pmax pmax
comp=Z,66nm,1.5s
AS31 Alice Springs 53.36 188 P **P** **21 42 08.8 +0.4**
ASAR Alice Springs 53.36 188 P **P** **21 42 08.8 +0.4**
ASAR Alice Springs 53.36 188 P **P** **21 42 09.1 +0.7**
comp=Z,1.3nm,0.7s,baz=358,slow=5.0,SNR=4.7
ASAR PcP **PcP** **21 43 14.4 -1.4**
comp=Z,2.2nm,0.9s,baz=14,slow=4.5,SNR=2.1
comp=Z,1.3nm,0.7s
IMAR Indian Mountai 53.47 28 P **P** **21 42 09.8 +1.0**
N20K Mount Spurr 53.61 34 P **P** **21 42 11.7 +1.8**
baz=266
AAK Ala-Archa 53.65 303⇑*e*P **P** **21 42 08.3 -2.3**
AAK pmax pmax
comp=Z,8.0nm,1.0s
PPLA Purkeypile 53.76 32 P **P** **21 42 12.5 +1.5**
PPLA Purkeypile 53.76 32 P **P** **21 42 13.1 +2.1**
baz=265
F21K Alatna River 53.78 26 P **P** **21 42 12.0 +1.0**
baz=260
CHUM Lake Minchumin 53.80 30 P **P** **21 42 13.2 +2.0**
baz=264
H21K Melozitna Rive 53.81 28 P **P** **21 42 13.0 +1.8**
baz=262
E21K Killik River 53.81 25 P **P** **21 42 12.4 +1.1**
baz=259
B21K Ikpikpuk River 53.83 23 P **P** **21 42 13.2 +2.0**
baz=258
CAST Castle Rocks 53.85 31 P **P** **21 42 13.3 +1.7**
CAST IAmb IAmb 21 42 14.3
comp=Z,26nm,1.3s
CAST Castle Rocks 53.85 31 P **P** **21 42 13.5 +1.9**
baz=264
A22K Sinclair Lake 54.02 21 P **P** **21 42 14.1 +1.5**
baz=256
MBWA Marble Bar 54.32 204 P **P** **21 42 16.3 +0.9**
MBWA IAmb IAmb 21 42 32.0
comp=Z,23nm,1.3s
F22K John River 54.32 26 P **P** **21 42 16.6 +1.7**
baz=261
D22K Ayikyak River 54.36 24 P **P** **21 42 17.1 +1.9**
baz=260
B22K Teshekpuk Lake 54.38 22 P **P** **21 42 16.5 +1.2**
baz=258
BPAW Bear Paw Mtn. 54.40 30 P **P** **21 42 17.2 +1.6**
baz=265
H22K Ishtalitna Cre 54.42 28 P **P** **21 42 17.7 +2.1**
baz=263
G22K Bettles 54.50 27 P **P** **21 42 17.8 +1.6**
baz=262
E22K Anaktuvuk Pass 54.55 25 P **P** **21 42 17.9 +1.2**
E22K IAmb IAmb 21 42 19.1
comp=Z,34nm,1.4s
E22K Anaktuvuk Pass 54.55 25 P **P** **21 42 18.3 +1.7**
baz=261
MLY Manley 54.59 29 P **P** **21 42 18.7 +1.7**
MLY IAmb IAmb 21 42 19.5
comp=Z,31nm,1.3s
MLY Manley 54.59 29 P **P** **21 42 18.9 +1.9**
baz=265
PSA00 Pilbara Seismi 54.66 204 P **P** **21 42 17.8 -0.1**
PSA00 IAmb IAmb 21 42 52.3
comp=Z,22nm,1.2s
G23K Bananza Creek 55.05 27 P **P** **21 42 22.1 +1.8**
baz=264
D23K Nanushuk River 55.09 24 P **P** **21 42 22.2 +1.8**
baz=262
I23K Minto, Yukon-K 55.19 29 P **P** **21 42 23.2 +2.0**
baz=266
BVAR Borovoye Array 55.22 316 P **P** **21 42 19.7 -1.9**
comp=Z,3.1nm,0.6s,baz=105,slow=6.8,SNR=2.9
BVAR PcP **PcP** **21 43 21.4 -1.2**
comp=Z,2.0nm,0.5s,baz=84,slow=3.5,SNR=4.3
comp=Z,3.1nm,0.6s
C23K Itkillik River 55.24 23 P **P** **21 42 22.8 +1.4**
baz=261
NEA2 Nenana 55.27 30 P **P** **21 42 23.1 +1.2**
NEA2 Nenana 55.27 30 P **P** **21 42 23.4 +1.5**
baz=266
BRVK Borovoye 55.28 316⇑*e*P **P** **21 42 20.6 -1.4**
BRVK pmax pmax
comp=Z,6.0nm,1.1s
MCK McKinley 55.28 31 P **P** **21 42 23.0 +1.0**
baz=267
E23K Chandalar 55.36 25 P **P** **21 42 24.4 +1.9**
baz=264
TOLK Toolik Lake Re 55.44 25 P **P** **21 42 24.6 +1.5**
baz=263
SML Sawmill 55.49 33 P **P** **21 42 24.4 +0.9**
SML IAmb IAmb 21 42 35.4
comp=Z,31nm,1.2s
SML Sawmill 55.49 33 P **P** **21 42 24.5 +0.9**
baz=269
EIDS Eidsvold 55.60 168 P **P** **21 42 24.9 +0.3**
EIDS IAmb IAmb 21 42 30.5
comp=Z,36nm,1.6s
MDM Murphy Dome 55.65 29 P **P** **21 42 26.0 +1.4**
MDM IAmb IAmb 21 42 27.0
comp=Z,23nm,1.1s
D24K Happy Valley 55.77 24 P **P** **21 42 26.9 +1.6**
baz=264
E24K Your Creek 55.78 25 P **P** **21 42 27.5 +2.0**
baz=265
WAT6 Susitna Watana 55.79 32 P **P** **21 42 26.7 +0.9**
baz=269
CCB Clear Creek Bu 55.82 30 P **P** **21 42 26.4 +0.6**
H24K Noodor Dome 55.85 28 P **P** **21 42 27.3 +1.3**
H24K IAmb IAmb 21 42 28.7
comp=Z,33nm,1.4s
H24K Noodor Dome 55.85 28 P **P** **21 42 28.0 +1.9**
baz=267
C24K Franklin Bluff 55.88 23 P **P** **21 42 27.6 +1.5**
baz=263
F24K Squaw Lake 55.96 26 P **P** **21 42 28.5 +1.7**
baz=266
SCM Sheep Creek Mo 55.97 33 P **P** **21 42 28.4 +1.4**
baz=270
G24K Hadweenzic Riv 56.06 27 P **P** **21 42 29.9 +2.3**
baz=266
HDA Harding Lake 56.18 30 P **P** **21 42 28.8 +0.4**
baz=268
ILAR Eielson Array 56.22 29 P **P** **21 42 28.8 +0.2**
ILAR Eielson Array 56.22 29 P **P** **21 42 29.1 +0.4**
comp=Z,15nm,1.2s,baz=278,slow=5.2,SNR=8.9
ILAR PcP **PcP** **21 43 25.4 -0.8**
comp=Z,1.3nm,0.8s,baz=268,slow=4.1,SNR=1.2
comp=Z,15nm,1.2s
KKAR Karatay Array 56.45 304 P **P** **21 42 28.8 -1.9**
KKAR Karatay Array 56.45 304 P **P** **21 42 28.3 -2.4**
KKAR IAmb IAmb 21 42 33.3
comp=Z,10nm,1.2s
KKAR Karatay Array 56.45 304 P **P** **21 42 28.8 -1.9**
KKAR pmax pmax
comp=Z,10.0nm,1.3s
G25K Bearman Lake 56.61 27 P **P** **21 42 33.8 +2.4**
baz=268
D25K Kavik River 56.66 24 P **P** **21 42 33.6 +1.8**
baz=266
PRP Porcupine Dome 56.81 29 P **P** **21 42 34.3 +1.3**
baz=269
F25K Christian Rive 56.83 26 P **P** **21 42 35.2 +2.2**
baz=268
E25K Arctic Village 56.88 25 P **P** **21 42 35.5 +2.2**
baz=267
RIDG Independent Ri 57.10 31 P **P** **21 42 36.5 +1.5**
baz=271
C26K Camden Bay 57.21 23 P **P** **21 42 37.6 +2.1**
baz=267
BMAR Burnt Mountain 57.23 26 P **P** **21 42 37.9 +2.0**
F26K Sheenjek River 57.40 26 P **P** **21 42 39.4 +2.4**
baz=269
SCRK Sand Creek 57.48 30 P **P** **21 42 38.7 +0.9**
SCRK Sand Creek 57.48 30 P **P** **21 42 38.7 +0.9**
baz=271
HYB Hyderabad 57.54 273 *e*P **P** **21 42 39.9 +1.2**
J26L Joseph Creek 57.65 30 P **P** **21 42 39.7 +0.8**
baz=272
L26K Log Cabin Wild 57.80 32 P **P** **21 42 41.8 +1.9**
baz=273
CRQE Cirque 58.05 34 P **P** **21 42 43.8 +1.9**
baz=274
K27K Chicken 58.32 30 P **P** **21 42 45.0 +1.6**
baz=273
E27K Coleen River 58.37 25 P **P** **21 42 45.6 +1.8**
baz=271
H27K Steamboat Moun 58.45 28 P **P** **21 42 46.5 +2.1**
baz=272
L27K Beaver Creek, 58.49 31 P **P** **21 42 46.3 +1.6**
baz=274
BCAR Beaver Creek A 58.51 31 P **P** **21 42 45.4 +0.6**
D27M Malcolm River 58.58 24 P **P** **21 42 47.3 +2.0**
baz=271
E28M Babbage River 59.12 25 P **P** **21 42 51.1 +2.1**
baz=273
I28M Miner Creek 59.14 29 P **P** **21 42 50.9 +1.6**
baz=274
D28M Stokes Point 59.37 24 P **P** **21 42 52.5 +1.8**
baz=273
E29M Blow River 59.73 25 P **P** **21 42 55.3 +2.1**
baz=274
G29M Pine Creek 59.80 27 P **P** **21 42 55.8 +2.1**
baz=275
M29M Somme Creek 60.09 32 P **P** **21 42 57.1 +1.2**
baz=277
YUK4 Talbot Arm 60.14 33 P **P** **21 42 58.9 +2.5**
baz=278
O29M Mount Kennedy 60.32 34 P **P** **21 43 00.5 +2.9**
baz=278
YUK6 Outpost Mounta 60.34 34 P **P** **21 42 60.0 +2.2**
baz=278
K29M Barlow Dome 60.34 30 P **P** **21 42 59.6 +2.0**
baz=277
EPYK Eagle Plains 60.37 27 P **P** **21 42 59.1 +1.4**
EPYK Eagle Plains 60.37 27 P **P** **21 42 59.4 +1.7**
baz=276
G30M tAoh Zraii Nji 60.50 27 P **P** **21 43 00.0 +1.5**
baz=277
F30M Barrier River 60.60 26 P **P** **21 43 01.6 +2.5**
baz=277
I30M Mount Dempster 60.65 29 P **P** **21 43 01.3 +1.5**
baz=277
HYT Haines Junctio 60.77 34 P **P** **21 43 02.1 +1.5**
HYT IAmb IAmb 21 43 06.2
comp=Z,26nm,1.2s
HYT Haines Junctio 60.77 34 P **P** **21 43 03.1 +2.5**
baz=279
STKA Stephens Creek 61.17 179 P **P** **21 43 04.2 +0.8**
comp=Z,5.2nm,1.0s,baz=36,slow=7.7,SNR=3.2
comp=Z,5.2nm,1.0s
FORT Forrest 61.23 192 P **P** **21 43 03.6 -0.2**
G31M Satah River 61.27 27 P **P** **21 43 04.8 +1.1**
baz=278
INK Inuvik 61.35 25 P **P** **21 43 04.7 +0.5**
INK Inuvik 61.35 25 P **P** **21 43 04.7 +0.5**
INK pmax pmax
comp=Z,8.0nm,1.1s
ARU Arti 61.55 321 P **P** **21 43 04.0 -1.8**
ARU IAmb IAmb 21 43 05.0
comp=Z,29nm,1.5s
ARU Arti 61.55 321*d i*P **P** **21 43 04.8 -1.0**
ARU 21 43 42.9
ARU 21 45 15.4
ARU S **S** **21 51 27.9 +0.5**
ARU SS **SS** **21 55 23.4 -4.5**
ARU pmax pmax
comp=Z,13nm,1.0s

M31M Drury Creek, Y 62.00 32 P **P** 21 43 10.7 +1.9
baz=281
FARO Faro, Yukon 62.48 32 P **P** 21 43 13.7 +1.7
baz=282
P33M Teslin, Yukon 63.16 34 P **P** 21 43 18.8 +2.2
baz=283
Q32M Nakina River 63.73 35 P **P** 21 43 22.9 +2.3
baz=284
DLBC Dease Lake 64.99 35 P **P** 21 43 30.8 +2.1
baz=286
WTLY Watson Lake, Y 65.13 34 P **P** 21 43 31.8 +2.3
baz=286
KIRV Kirov 65.80 325⇓*e*P **P** 21 43 31.9 -1.8
NWAO Narrogin (SRO) 66.01 201 P **P** 21 43 35.5 +0.1
NWAO Narrogin (SRO) 66.01 201 P **P** 21 43 35.5 +0.1
NWAO pmax pmax
comp=Z,145nm,1.3s
WRGLY Wrigley 66.60 29 P **P** 21 43 40.7 +1.9
baz=289
HSPB Hornsund (broa 68.54 349 *e*P **P** 21 43 50.3 -0.6
BELG Belogornoye 68.81 319*d i*P **P** 21 43 51.0 -1.9
BELG pmax pmax
comp=Z,8.0nm,1.7s
APA Apatity 69.17 337⇓*i*P **P** 21 43 52.4 -2.5
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,2µm,24.0s
KLMR Klimovskoe 69.68 329 *e*P **P** 21 43 55.3 -2.9
KLMR pmax pmax
comp=Z,34nm,1.7s
RES Resolute Bay 69.95 13 P **P** 21 43 59.7 0.0
RES IAmb IAmb 21 44 01.0
comp=Z,21nm,1.2s
RES Resolute Bay 69.95 13 P **P** 21 43 59.7 0.0
RES pmax pmax
comp=Z,21nm,1.3s
YKA Yellowknife Ar 70.62 28 P **P** 21 44 04.0 +0.1
comp=Z,3.8nm,0.9s,baz=300,slow=6.6,SNR=7.3
comp=Z,3.8nm,0.9s
ARCES ARCESS Array B 70.69 340 P **P** 21 44 03.5 -0.8
ARCES ARCESS Array B 70.69 340 P **P** 21 44 03.5 -0.8
ARCES pmax pmax
comp=Z,72nm,1.8s
ARCES ARCESS Array B 70.69 340 P **P** 21 44 03.2 -1.1
comp=Z,5.0nm,0.7s,baz=70,slow=8.1,SNR=7.2
comp=Z,5.0nm,0.7s
MAK Makhachkala 72.54 310 *e*P **P** 21 44 16.0 +0.2
MAK *e*S **S** 21 53 39.9 -0.4
MAK pmax pmax
comp=Z,69nm,1.2s
GNW Green Mountain 72.92 45 P **P** 21 44 19.4 +1.3
GNW IAmb IAmb 21 44 22.2
comp=Z,26nm,1.3s
OBN Obninsk 73.64 324 *e*P **P** 21 44 19.7 -2.4
OBN *e**PP **sP** 21 44 26.3 +0.9
OBN *e* 21 44 33.7
OBN *e* 21 47 04.1
OBN pmax pmax
comp=Z,15nm,1.1s
FINES FINESS Array B 75.05 333 P **P** 21 44 29.2 -1.0
comp=Z,9.2nm,0.5s,baz=59,slow=5.6,SNR=24
comp=Z,9.2nm,0.5s
KBZ Khabaz 75.24 312 pmax pmax
comp=Z,15nm,1.3s
KBZ Khabaz 75.24 312 P **P** 21 44 30.4 -1.3
comp=Z,5.0nm,0.8s,baz=42,slow=4.6,SNR=4.8
comp=Z,5.0nm,0.8s
KBZ Khabaz 75.24 312*d i*P **P** 21 44 30.0 -1.7
KIV Kislovodsk 75.27 312 P **P** 21 44 30.8 -1.2
KIV IAmb IAmb 21 44 33.3
comp=Z,14nm,0.9s
KIV Kislovodsk 75.27 312 *e*P **P** 21 44 29.2 -2.8
KIV *e**PP **pP** 21 44 34.7 +0.2
KIV *e* 21 44 42.2
KIV pmax pmax
comp=Z,20nm,1.4s
HAWA Hanford 75.46 45 P **P** 21 44 34.1 +1.1
HAWA IAmb IAmb 21 44 35.8
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 75.55 50 P **P** 21 44 34.2 +0.5
YBH Yreka Blue Hor 75.55 50 P **P** 21 44 34.2 +0.5
YBH pmax pmax
comp=Z,16nm,1.3s
URZ Urewera 75.68 151 P **P** 21 44 35.5 +1.5
comp=Z,6.9nm,0.9s,baz=212,slow=16,SNR=1.6
comp=Z,6.9nm,0.9s
PINE Pine Mountain 75.78 48 P **P** 21 44 35.6 +0.5
NEW Newport 76.02 42 P **P** 21 44 36.5 +0.3
NEW IAmb IAmb 21 44 38.6
comp=Z,30nm,1.4s
NEW Newport 76.02 42 P **P** 21 44 37.9 +1.7
baz=299
NEW Newport 76.02 42 P **P** 21 44 36.5 +0.3
NEW pmax pmax
comp=Z,30nm,1.4s
TKNZ Takaka Hill 76.44 155 P **P** 21 44 38.1 -0.3
MRZ Mangatainoka R 77.10 153 P **P** 21 44 41.5 -0.5
ORV Oroville 77.37 52 P **P** 21 44 44.4 +0.5
ORV IAmb IAmb 21 44 46.2
comp=Z,20nm,1.3s
ORV Oroville 77.37 52 P **P** 21 44 44.4 +0.5
ORV pmax pmax
comp=Z,20nm,1.3s
BMO Blue Mountains 77.57 45 P **P** 21 44 45.8 +0.7
BMO Blue Mountains 77.57 45 P **P** 21 44 45.8 +0.7
BMO pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 78.08 360 P **P** 21 44 47.2 -0.5
SUMG IAmb IAmb 21 44 56.3
comp=Z,18nm,1.2s
SUMG Summit 78.08 360 P **P** 21 44 47.2 -0.5
SUMG pmax pmax
comp=Z,18nm,1.2s
MSO Missoula 78.61 42 P **P** 21 44 52.9 +2.1
baz=301
MFID Camas Ranch 79.21 46 P **P** 21 44 54.5 +0.4
MFID IAmb IAmb 21 44 57.0
comp=Z,32nm,1.3s
AKASG Malin Array Be 79.73 323 P **P** 21 44 54.8 -1.9
comp=Z,1.1nm,0.4s,baz=48,slow=5.8,SNR=7.3
comp=Z,1.1nm,0.4s
BMN Battle Mountai 79.82 49 P **P** 21 44 58.6 +1.1
BMN IAmb IAmb 21 45 00.5
comp=Z,30nm,1.6s
BMN Battle Mountai 79.82 49 P **P** 21 44 58.7 +1.1
BMN pmax pmax
comp=Z,29nm,1.6s
HLID Hailey 80.02 45 P **P** 21 45 00.6 +1.9
baz=302
NVAR Mina Array Bea 80.09 51 P **P** 21 45 00.0 +0.8
NVAR Mina Array Bea 80.09 51 P **P** 21 45 00.8 +1.5
comp=Z,4.4nm,1.0s,baz=279,slow=6.1,SNR=6.6
comp=Z,4.4nm,1.0s
FFC Flin Flon 80.36 31 P **P** 21 45 00.3 +0.3
FFC IAmb IAmb 21 45 01.5
comp=Z,34nm,1.4s
FFC Flin Flon 80.36 31 P **P** 21 45 00.3 +0.3
FFC pmax pmax
comp=Z,34nm,1.4s
HFS Hagfors 80.54 336 P **P** 21 44 59.8 -1.0
comp=Z,2.7nm,0.5s,baz=97,slow=6.1,SNR=8.8
comp=Z,2.7nm,0.5s
BOZ Bozeman (W) 80.62 43 P **P** 21 45 03.2 +1.4
baz=303
NB2 NORSAR Subarra 80.73 338 P **P** 21 45 00.6 -1.4
comp=Z,41nm,1.4s,baz=44,slow=5.3
NB2 NORSAR Subarra 80.73 338 P **P** 21 45 00.6 -1.4
baz=44,slow=5.3
NOA NORSAR Array B 80.73 338 P **P** 21 45 00.5 -1.5
comp=Z,4.1nm,0.8s,baz=56,slow=6.1,SNR=6.6
comp=Z,4.1nm,0.8s
SUW Suwalki 80.75 328 *e*P **P** 21 45 00.4 -1.7
SUW Suwalki 80.75 328 P **P** 21 45 00.1 -2.0
SUW Suwalki 80.75 328 P **P** 21 45 00.1 -2.0
SUW pmax pmax
comp=Z,50nm,1.0s
ELK Elko 80.96 48 P **P** 21 45 04.7 +0.9
ELK Elko 80.96 48 P **P** 21 45 04.7 +0.9
ELK pmax pmax
comp=Z,17nm,1.4s
YMR Madison River 81.52 43 P **P** 21 45 07.2 +0.4
YMR IAmb IAmb 21 45 09.8
comp=Z,29nm,1.4s
H17A Grant Village 81.91 43 P **P** 21 45 12.4 +3.6
baz=304

R11B Troy Canyon, C 81.97 50 P **P** 21 45 09.8 +0.6
R11B IAmb IAmb 21 45 11.9
comp=Z,22nm,1.6s
R11B Troy Canyon, C 81.97 50 P **P** 21 45 10.5 +1.3
baz=302
LRMC Laurel Mtn Rad 82.01 54 P **P** 21 45 10.5 +1.2
baz=301
FURC Furnace Creek, 82.07 53 P **P** 21 45 10.9 +1.5
baz=301
EDW2 Edwards Air Fo 82.09 54 P **P** 21 45 11.1 +1.4
baz=301
TPNV Topopah Spring 82.25 52 P **P** 21 45 11.7 +1.1
TPNV IAmb IAmb 21 45 13.0
comp=Z,24nm,1.4s
TPNV Topopah Spring 82.25 52 P **P** 21 45 11.9 +1.3
baz=301
TPNV Topopah Spring 82.25 52 P **P** 21 45 11.7 +1.1
TPNV pmax pmax
comp=Z,25nm,1.4s
GSC Goldstone, Bar 82.71 54 P **P** 21 45 14.5 +1.5
baz=301
DUG Dugway, Tooele 82.82 48 P **P** 21 45 14.1 +0.6
DUG IAmb IAmb 21 45 16.9
comp=Z,28nm,1.6s
DUG Dugway, Tooele 82.82 48 P **P** 21 45 15.2 +1.6
baz=303
DUG Dugway, Tooele 82.82 48 P **P** 21 45 14.1 +0.6
DUG pmax pmax
comp=Z,28nm,1.6s
HWUT Hardware Ranch 82.84 46 P **P** 21 45 14.2 +0.5
BRTR Keskin Array B 83.23 312 P **P** 21 45 14.6 -1.1
BRTR Keskin Array B 83.23 312 P **P** 21 45 14.7 -1.0
BRTR Keskin Array B 83.23 312 P **P** 21 45 14.7 -1.0
comp=Z,3.2nm,0.9s,baz=103,slow=2.7,SNR=4.0
comp=Z,3.2nm,0.9s
BEL Belsk 83.25 327 *e*P **P** 21 45 16.0 +0.7
TUQ Turquoise Moun 83.26 53 P **P** 21 45 17.2 +1.4
baz=302
PDAR Pinedale Array 83.43 44 P **P** 21 45 16.6 -0.2
PDAR Pinedale Array 83.43 44 P **P** 21 45 16.8 0.0
comp=Z,1.1nm,0.7s,baz=270,slow=3.0,SNR=4.3
comp=Z,1.1nm,0.7s
BURAR Bucovina Array 83.68 322 P **P** 21 45 16.6 -1.1
KWP Kalwaria Pacla 83.73 325 *e*P **P** 21 45 17.2 -0.6
GMRC Granite Mounta 83.78 54 P **P** 21 45 20.0 +1.4
baz=302
PFO Pinyon Flats O 83.83 55 P **P** 21 45 19.6 +0.7
baz=302
TPFO Pinon Flats 83.84 55 P **P** 21 45 20.0 +1.1
baz=302
BELC Belle Mtn. Jos 83.96 54 P **P** 21 45 20.3 +0.8
baz=302
MONP2 Monument Peak 84.23 55 P **P** 21 45 22.3 +1.3
baz=302
KOLS Kolonicke sedl 84.39 324 *e*P **P** 21 45 20.2 -1.0
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 84.39 324 *e*P **P** 21 45 20.2 -1.0
IRM Iron Mountain 84.48 54 P **P** 21 45 23.7 +1.7
baz=302
BC3 Big Chuckawall 84.52 54 P **P** 21 45 23.6 +1.2
baz=302
IKP In-Ko-Pah, Jac 84.58 56 P **P** 21 45 23.7 +1.1
baz=302
STHS Stebnicka Huta 84.60 325 *e*P **P** 21 45 21.6 -0.7
STHS pmax pmax
comp=Z,7.0nm,1.3s
STHS Stebnicka Huta 84.60 325 *e*P **P** 21 45 21.6 -0.7
RMX La Rumorosa 84.63 56 P **P** 21 45 23.7 +0.8
RMX IAmb IAmb 21 45 30.5
comp=Z,15nm,1.4s
OJC Ojcow 84.78 326 *e*P **P** 21 45 22.4 -0.8
CRVS Cervenica-Dubn 84.82 325 *e*P **P** 21 45 22.5 -0.9
CRVS pmax pmax
comp=Z,63nm,1.8s
CRVS Cervenica-Dubn 84.82 325 *e*P **P** 21 45 22.5 -0.9
NIE Niedzica 85.06 326 *e*P **P** 21 45 23.8 -0.8
MMAI Mount Meron Ar 85.66 306 P **P** 21 45 26.9 -1.1
comp=Z,2.4nm,0.7s,baz=89,slow=6.5,SNR=1.7
comp=Z,2.4nm,0.7s
O20A White River Ci 85.75 46 P **P** 21 45 29.8 +1.4
baz=306
MDND Maddock 85.90 36 P **P** 21 45 30.0 +1.2
baz=311
KSP Ksiaz 86.01 328 *e*P **P** 21 45 25.5 -3.8
WUAZ Wupatki 86.34 51 P **P** 21 45 33.1 +1.7
baz=304
VYHS Vyhne 86.40 325 *e*P **P** 21 45 30.4 -0.9
VYHS pmax pmax
comp=Z,26nm,1.7s
VYHS Vyhne 86.40 325 *e*P **P** 21 45 30.4 -0.9
N23A Red Feather La 86.72 44 P **P** 21 45 35.7 +2.3
baz=307
BRG Berggiesshubel 87.05 329 *e*P **P** 21 45 32.4 -2.0
BRG Amp 21 45 34.9
comp=Z,4.7nm,1.0s
BRG Berggiesshubel 87.05 329 P **P** 21 45 32.4 -2.0
BRG pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 87.14 330 *e*Px Px 21 45 39.0
MVCO Mesa Verde 87.28 48 P **P** 21 45 38.1 +2.0
baz=306
214A Organ Pipe Nat 87.31 55 P **P** 21 45 37.8 +1.7
baz=304
GERES GERESS Array B 88.61 328 P **P** 21 45 41.0 -1.0
GERES GERESS Array B 88.61 328 P **P** 21 45 41.0 -1.0
comp=Z,0.9nm,0.5s,baz=7.8,slow=7.9,SNR=2.5
comp=Z,0.9nm,0.5s
SDCO Great Sand Dun 88.89 46 P **P** 21 45 45.1 +1.3
baz=307
EKA Eskdalemuir Ar 89.85 340 P **P** 21 45 46.9 -0.6
comp=Z,6.7nm,1.0s,baz=92,slow=2.8,SNR=4.0
comp=Z,6.7nm,1.0s
ECSD EROS Data Cent 90.21 38 P **P** 21 45 50.5 +1.0
baz=313
121A Cookes Peak, D 90.49 52 P **P** 21 45 52.6 +1.4
baz=306
FUORN Ofenpass-Fuorn 91.82 328 P **P** 21 45 55.9 -1.4
MNTX Cornudas Mount 92.62 51 P **P** 21 46 02.4 +1.4
baz=307
SCHQ Scheiferville 92.65 15 P **P** 21 46 00.3 -0.3
comp=Z,8.3nm,1.2s,baz=328,slow=13,SNR=1.6
comp=Z,8.3nm,1.2s
VHRN Van Horn 93.44 52 P **P** 21 46 06.1 +1.2
VHRN IAmb IAmb 21 46 13.1
comp=Z,15nm,1.4s
TX31 Lajitas Ar. Si 95.23 52 P **P** 21 46 13.7 +0.6
TXAR Lajitas Array 95.23 52 P **P** 21 46 14.7 +1.6
comp=Z,1.4nm,0.6s,baz=309,slow=2.2,SNR=8.0
comp=Z,1.4nm,0.6s
TORD Torodi Ar. Bea 121.84 311 PKP **PKPdf** 21 51 42.5 -1.3
comp=Z,0.8nm,0.5s,baz=21,slow=1.9,SNR=8.0
H03N2 Juan Fernandez 146.28 107 T T 00 36 03.5
baz=279,slow=75,SNR=43
H03N3 Juan Fernandez 146.29 107 T T 00 36 04.6
baz=279,slow=75,SNR=50
H03N1 Juan Fernandez 146.30 107 T T 00 36 03.7
baz=279,slow=75,SNR=46
SAML Samuel 149.72 52 **PKPbc** 21 52 38.5 -1.0
SAML Samuel 149.72 52 PKP2 **PKPbc** 21 52 38.5 -1.0
PLCA Paso Flores 152.41 122 PKPbc **PKPbc** 21 52 46.0 +0.9
comp=Z,2.1nm,0.5s,baz=236,slow=4.1,SNR=6.7
BDFB Brasilia 164.01 31 PKP **PKPdf** 21 52 53.1 +0.1
comp=Z,2.2nm,0.7s,baz=304,slow=7.3,SNR=4.3

*BJI **03** 21:35:34.1±0.0, 23.90N×99.32E, h10km, mb4.4/30, mB5.2/11, ML4.5/7, Ms4.7/27, Ms7 4.4/25*
*IDC **03** 21:35:34.2±0.5, 23.93N×99.11E, h0km, mb4.2/24, mbtmp4.2/25, ML4.5/1, MS4.3/3, Error ellipse: s-maj=16.8km s-min=12.3km az=72.0*
*MOS **03** 21:35:34.6±1.1, 23.87N×99.19E, h14km, mb4.7/21, Error ellipse: s-maj=10.2km s-min=5.7km az=108.7*
*NEIC **03** 21:35:36.0±1.8, 23.95N±0.05×99.25E±0.07, h10km±1km, mb4.6/32, Error ellipse: s-maj=11.4km s-min=7.9km az=249.0*

ISC 03 21:35:36.5±0.6, 23.92N±0.03×99.21E±0.03, h13km±3km, h14km:pP-P, n149, σt²85/172, mb4.5/61, MS4.2/7, 4C-9D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNCH	**TengChong**	**1.27**	**331**	Pg	**Pn**	**21 35 58.2**	**-1.9**
TNCH				Sg	**Sb**	**21 36 16.1**	**-0.6**
TNCH				smax	smax		

comp=N,29µm,0.9s
TNCH smax smax
comp=E,41µm,0.9s
MND Mandalay 3.42 237 Pn **Pn** 21 36 28.7 -0.8
KMI Kunming 3.44 69 ⇑Pn **Pn** 21 36 27.6 -2.4
KMI Pg **Pb** 21 36 37.8 +0.4
KMI Sg **Sb** 21 37 18.2 -0.9
KMI smax smax
comp=N,2µm,1.4s
KMI smax smax
comp=E,1µm,0.9s
KMI LR LR
comp=E,8µm,7.9s
KMI LR LR
comp=Z,3µm,6.5s
PZH PanZhiHua 3.45 41 Pn **Pn** 21 36 27.7 -2.4
PZH Pg **Pb** 21 36 36.4 -1.2
PZH Sn **Sn** 21 37 06.0 -4.8
PZH Sg **Sb** 21 37 20.8 +1.4
PZH smax smax
comp=N,1µm,0.9s
PZH smax smax
comp=E,920nm,1.1s
PZH LR LR
comp=N,15µm,9.8s
PZH LR LR
comp=E,20µm,9.3s
PZH LR LR
comp=Z,4µm,8.7s
CRAI Chiangrai 3.83 163 Pn **Pn** 21 36 33.3 -1.9
IMP Imphal 4.88 282 *e*P **Pn** 21 36 52.3 +2.6
KOHI KOHIMA 4.97 292 *e*P **Pn** 21 36 50.9 0.0
KOHI *e*PG **Pg** 21 37 09.3 -2.4
SLVN Son La 5.05 120 Pn **Pn** 21 36 49.1 -2.8
CHTO Chiang Mai 5.09 183 Pn **Pn** 21 36 51.4 -1.1
CHTO Chiang Mai 5.09 183 P **Pn** 21 36 51.4 -1.1
CM31 Chiang Mai Arr 5.44 183 **Pn** 21 36 57.1 -0.3
CMAR Chiang Mai Arr 5.44 183 **Pn** 21 36 56.5 -0.8
CMAR Chiang Mai Arr 5.44 183 P **Pn** 21 36 56.5 -0.8
CMAR Chiang Mai Arr 5.44 183 Pn **Pn** 21 36 56.6 -0.7
3.9nm,0.3s,baz=0.4,slow=13,SNR=84
CMAR Pg **Pb** 21 37 13.9 +2.4
138nm,0.3s,baz=358,slow=17,SNR=73
CMAR Lg Lg 21 38 25.9
6.4nm,0.3s,baz=342,slow=16,SNR=1.1
41nm,0.6s
SAIH SAIHA 5.89 257 *e*P **Pn** 21 37 06.5 +2.8
ITAN ITANAGAR 5.90 304 *e*P **Pn** 21 37 03.8 +0.2
ZIRO ZIRO 6.02 308 *e*S Sn 21 38 00.4 -14
TEZP TEZPUR 6.39 296 *e*P **Pn** 21 37 14.2 +3.9
SHL Shillong 6.86 285 *e*P **Pn** 21 37 16.1 -0.8
GYA Guiyang 7.21 68 Pn **Pn** 21 37 23.1 +1.3
GYA Sn **Sn** 21 38 44.7 +1.0
GYA smax smax
comp=N,100nm,1.9s
GYA smax smax
comp=E,77nm,1.8s
GTK Tadong 10.15 292 *e*P **Pn** 21 38 03.3 +1.2
QIZ Qiongzhong 11.03 114 P **Pn** 21 38 13.0 -1.1
QIZ S **Sn** 21 40 17.8 +0.4
QIZ LR LR
comp=N,2µm,7.9s
QIZ LR LR
comp=E,2µm,14.2s
QIZ LR LR
comp=Z,1µm,9.8s
ENH Enshi 11.13 53 Pn **Pn** 21 38 14.2 -1.2
LZH Lanzhou 12.77 17 *e*P Pn 21 38 42.6 +4.6
LZH sP P 21 38 49.0 0.0
LZH pmax pmax
comp=Z,13nm,1.5s
GTA Gaotai 15.45 2 *e*P **P** 21 39 19.0 +0.2
GTA pP pP 21 39 23.6 +0.6
GTA pmax pmax
comp=Z,11nm,1.2s
GTA LR LR
comp=N,300nm,9.1s
GTA LR LR
comp=E,900nm,13.4s
GTA LR LR
comp=Z,860nm,9.8s
VIS Vishakhapatnam 16.07 250 *e*P **P** 21 39 26.1 +0.6
VIS IAmb IAmb 21 39 31.5
comp=Z,22nm,1.1s
TIY Taiyuan 17.81 36 P **Pn** 21 39 42.6 -1.5
TIY pmax pmax
comp=Z,12nm,1.3s
TIY LR LR
comp=Z,4µm,14.0s
TIY LR LR
comp=Z,2µm,19.1s
TIY LR LR
comp=Z,3µm,17.8s
KULM Kulim 18.57 175 P **P** 21 39 53.3 -0.1
KULM IAmb IAmb 21 39 58.4
comp=Z,41nm,1.2s
BTO Baotou 18.96 26 *e*P **P** 21 39 55.0 -2.5
BTO pP **pP** 21 40 02.2 +0.3
BTO sP **sP** 21 40 07.4 +3.5
BTO PP **PnPn** 21 40 16.7 +6.0
BTO S **Sn** 21 43 28.8 -1.5
BTO SS **SnSn** 21 43 54.3 +10
BTO pmax pmax
comp=Z,15nm,0.9s
BTO pmax pmax
comp=Z,690nm,5.0s
BTO LR LR
comp=Z,10µm,14.3s
BTO LR LR
comp=Z,9µm,14.1s
BTO LR LR
comp=Z,9µm,14.7s
NJ2 Nanjing 19.13 61 *e*P **P** 21 39 59.4 +0.1
NJ2 pP **pP** 21 40 02.9 -0.8
NJ2 sP **sP** 21 40 03.9 -1.7
NJ2 pmax pmax
comp=Z,19nm,0.7s
NJ2 pmax pmax
comp=Z,2µm,6.9s
HHC Hu-ho-hao-te 19.81 29 *e*P **Pn** 21 40 08.2 -0.2
HHC sP sP 21 40 13.9 +0.7
HHC *e*S **S** 21 43 49.6 -0.2
HHC sS sS 21 43 56.1 -0.6
HHC SS **SnSn** 21 44 08.5 +3.1
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,500nm,7.3s
HHC LR LR
comp=Z,3µm,10.0s
HHC LR LR
comp=Z,5µm,12.9s
HHC LR LR
comp=Z,6µm,14.5s
PSI Prapat 21.00 181 P **P** 21 40 19.6 -0.3
PSI pmax pmax
comp=Z,30nm,0.9s
RPSI Rantau Prapat 21.10 181 P **P** 21 40 19.6 -1.3
RPSI IAmb IAmb 21 40 27.7
comp=Z,30nm,0.9s
BJT Baijiatuao 21.50 38 P **P** 21 40 23.8 -1.2
BJT IAmb IAmb 21 40 31.8
comp=Z,34nm,1.3s
BJT Baijiatuao 21.50 38 P **P** 21 40 23.8 -1.2
BJT pmax pmax
comp=Z,34nm,1.3s
BJI Beijing 21.52 38 P **P** 21 40 30.6 +5.4
BJI pmax pmax
comp=Z,10.0nm,1.2s
WMQ Urumqi 21.99 337 *e*P **P** 21 40 29.5 -0.8
WMQ sP sP 21 40 38.3 +1.6
WMQ PP **PnPn** 21 40 58.7 +6.6
WMQ pmax pmax
comp=Z,30nm,1.5s
WMQ LR LR
comp=Z,1µm,15.7s
WMQ LR LR
comp=Z,1µm,22.3s
AJM Ajmer 22.36 282 *e*P **P** 21 40 39.2 +4.7
AJM IAmb IAmb 21 40 42.2
comp=Z,159nm,1.3s
GSI Gunungsitoli 22.54 184 P **P** 21 40 36.3 0.0
KKM Kota Kinabalu 24.15 135 **P** 21 40 51.6 -1.0
PALK Pallekele 24.27 230 P **P** 21 40 53.7 +0.1
PALK IAmb IAmb 21 41 09.9

comp=Z,16nm,0.9s
PALK Pallekele 24.27 230 P P 21 40 53.7 +0.1
PALK pmax pmax
comp=Z,16nm,1.0s
XLT XiLinHaoTe 24.27 31 *eP* **P 21 40 52.3 -1.2**
XLT S S 21 45 00.0 -12
XLT pmax pmax
comp=Z,14nm,1.6s
XLT pmax pmax
comp=Z,270nm,6.1s
KAD Karad 24.30 259 IAmb IAmb 21 40 40.3
comp=Z,22nm,1.1s
SONM Songino Array 24.54 12 P P 21 40 55.9 0.0
SONM Songino Array 24.54 12 P P 21 40 55.9 0.0
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 24.54 12 P P 21 40 55.1 -0.9
comp=Z,2.1nm,0.6s,baz=195,slow=9.8,SNR=12
comp=Z,2.1nm,0.6s
NIL Nilore 24.67 299 P P 21 40 56.4 -0.7
NIL Nilore 24.67 299 P P 21 40 56.4 -0.7
NIL pmax pmax
comp=Z,36nm,0.8s
ULN Ulaanbaatar 24.70 13 P P 21 40 56.0 -1.4
ULN Ulaanbaatar 24.70 13⇑ *iP* **P 21 40 56.6 -0.8**
ULN pmax pmax
comp=Z,15nm,1.5s
SBUM Sibu 24.78 148 P P 21 40 57.7 -0.5
KSH Kashi 25.04 314 P P 21 41 00.7 +0.1
KSH pP pP 21 41 05.0 -0.1
KSH PP **PnPn 21 41 37.9 +4.0**
KSH pmax pmax
comp=Z,25nm,1.0s
KSH LR LR
comp=Z,1μm,20.9s
KSH LR LR
comp=Z,970nm,17.2s
KSH LR LR
comp=Z,320nm,14.7s
TARG Taragay, Kyrgy 25.16 320 P P 21 41 01.0 -0.9
TARG IAmb IAmb 21 41 28.9
comp=Z,14nm,0.8s
TARG Taragay, Kyrgy 25.16 320 P P 21 41 01.0 -0.9
TARG pmax pmax
comp=Z,14nm,0.8s
SHLS Shalkode 25.16 324 *eP* **P 21 41 00.1 -1.6**
baz=325
SHLS Shalkode 25.16 324 *eP* **P 21 41 00.0 -1.6**
UZB Uzynbulak 25.39 324 *eP* **P 21 41 04.8 +1.1**
comp=Z,11nm,1.0s,baz=324
UZB Uzynbulak 25.39 324 *eP* **P 21 41 04.8 +1.1**
UZB pmax pmax
comp=Z,11nm,1.0s
SATY Saty 25.67 323 *eP* **P 21 41 06.7 +0.5**
comp=Z,11nm,1.1s,baz=323
SATY Saty 25.67 323 *eP* **P 21 41 06.7 +0.5**
SATY pmax pmax
comp=Z,11nm,1.1s
ZHN Zhinishke 25.73 323 *eP* **P 21 41 08.2 +1.4**
baz=323
ZHN Zhinishke 25.73 323 *eP* **P 21 41 08.1 +1.4**
KPKS Kokpek 25.79 324 *eP* **P 21 41 07.9 +0.6**
comp=Z,8.6nm,1.2s,baz=324
KPKS Kokpek 25.79 324 *eP* **P 21 41 07.8 +0.6**
KPKS pmax pmax
comp=Z,9.0nm,1.2s
JOW Kunigami 26.40 78 LR LR 21 52 14.0
comp=Z,869nm,21.2s,baz=275,slow=38
TNSS Tian-Shan 26.47 321 *eP* **P 21 41 14.6 +0.7**
baz=322
TNSS Tian-Shan 26.47 321 *eP* **P 21 41 14.5 +0.7**
MDOK Medeo 26.50 322 *eP* **P 21 41 14.4 +0.6**
baz=322
MDOK Medeo 26.50 322 *eP* **P 21 41 14.3 +0.6**
MK31 Makanchi Array 26.55 333 P **P 21 41 13.2 -0.9**
MK31 Makanchi Array 26.55 333 *de*P **P 21 41 14.0 -0.1**
MKAR Makanchi Array 26.55 333 P **P 21 41 13.2 -0.8**
MKAR Makanchi Array 26.55 333 P **P 21 41 14.0 -0.1**
MKAR Makanchi Array 26.55 333 P **P 21 41 13.9 -0.1**
comp=Z,5.3nm,0.7s,baz=134,slow=10,SNR=7.8
comp=Z,5.3nm,0.7s
ZAK Zakamensk 26.61 6 *eP* **P 21 41 14.5 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.5s
TJN Taejon 27.23 56⇓ *eP* **P 21 41 20.3 +0.1**
AAK Ala-Archa 27.68 318⇓ *eP* **P 21 41 24.0 -0.4**
AAK pmax pmax
comp=Z,8.0nm,1.2s
KBL Kabul 28.27 299 P **P 21 41 28.6 -1.3**
KBL Kabul 28.27 299 P **P 21 41 28.6 -1.3**
KBL pmax pmax
comp=Z,13nm,0.7s
JNU Nakatsue 29.21 65 LR LR 21 52 51.3
comp=Z,701nm,18.3s,baz=189,slow=35
BTLS Baital 29.36 322 *eP* **P 21 41 40.2 +1.0**
comp=Z,10nm,1.7s,baz=322
BTLS Baital 29.36 322 *eP* **P 21 41 40.1 +1.0**
BTLS pmax pmax
comp=Z,10.0nm,1.7s
KURBB Kurchatov Arra 31.11 334 P **P 21 41 54.0 -0.5**
comp=Z,0.9nm,0.4s,baz=139,slow=9.3,SNR=5.2
comp=Z,0.9nm,0.4s
KURK Kurchatov 31.15 334 P **P 21 41 54.0 -0.8**
ZALV Zalesovo Beam 31.88 344 P **P 21 42 00.0 -1.2**
comp=Z,1.2nm,0.7s,baz=145,slow=10,SNR=1.5
comp=Z,1.2nm,0.7s
MDJ Mudanjiang 32.22 43 P **P 21 42 04.8 +0.4**
MDJ S **S 21 47 17.7 +0.6**
MDJ SS **SnSn 21 49 08.3 0.0**
MDJ ScS **ScS 21 52 36.3 +1.3**
MDJ pmax pmax
comp=Z,7.0nm,1.6s
MDJ pmax pmax
comp=Z,2μm,10.4s
MDJ LR LR
comp=Z,470nm,12.0s
MDJ LR LR
comp=Z,1μm,14.1s
MDJ LR LR
comp=Z,1μm,13.1s
BRZS Berezniki 33.23 328 *eP* **P 21 42 12.8 -0.3**
baz=328
BRZS Berezniki 33.23 328 *eP* **P 21 42 12.8 -0.3**
USRK Ussuriysk Ar. 33.54 45 P **P 21 42 15.6 -0.3**
USRK Ussuriysk Ar. 33.54 45 P **P 21 42 16.2 +0.3**
comp=Z,2.6nm,0.7s,baz=254,slow=8.6,SNR=8.1
comp=Z,2.6nm,0.7s
HEH HeiHe 34.23 33 *eP* **P 21 42 25.3 +3.5**
HEH pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 35.73 60 P **P 21 42 35.6 +0.6**
comp=Z,4.6nm,1.0s,baz=263,slow=8.6,SNR=5.7
MJAR LR LR 21 56 58.1
comp=Z,353nm,20.5s,baz=232,slow=36
comp=Z,4.6nm,1.0s
BVAR Borovoye Array 36.33 331 P **P 21 42 38.0 -1.9**
comp=Z,4.5nm,0.9s,baz=106,slow=8.2,SNR=2.7
BVAR PcP **PcP 21 45 06.0 +1.6**
comp=Z,0.7nm,0.5s,baz=180,slow=1.6,SNR=1.7
comp=Z,4.5nm,0.9s
BRVK Borovoye 36.40 331 P **P 21 42 40.1 -0.3**
BRVK IAmb IAmb 21 42 47.6
comp=Z,9.9nm,1.0s
BRVK Borovoye 36.40 331⇓ *eP* **P 21 42 39.8 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
ZEA Zeya 36.47 28 *eP* **P 21 42 44.2 +3.1**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
GEYT Alibeck 37.61 302 P **P 21 42 50.1 -0.9**
GEYT Alibeck 37.61 302 P **P 21 42 51.7 +0.7**
comp=Z,23nm,1.1s,baz=128,slow=9.6,SNR=11
comp=Z,23nm,1.1s
GYA0B ALIBECK ARRAY 37.61 302 P **P 21 42 50.5 -0.6**
GYA0B IAmb IAmb 21 42 56.7
comp=Z,16nm,1.1s
ABKAR Akbulak array 39.75 320 P **P 21 43 08.1 -0.7**
ABKAR Akbulak array 39.75 320 P **P 21 43 07.9 -0.9**
ABKAR IAmb IAmb 21 43 13.3
comp=Z,6.7nm,0.8s
ASAJ Asahikawa 40.65 49 P **P 21 43 17.2 +0.9**
comp=Z,7.4nm,0.6s,baz=251,slow=8.6,SNR=5.5
comp=Z,7.4nm,0.6s
SOEI Soe 41.47 141 P **P 21 43 22.0 -1.5**
YAK Yakutsk 43.33 20 P **P 21 43 38.6 +0.7**
YAK IAmb IAmb 21 43 40.9
comp=Z,17nm,1.1s
YAK Yakutsk 43.33 20⇓ *eP* **P 21 43 39.7 +1.8**
YAK pmax pmax
comp=Z,14nm,1.0s
ZEI Tsey 48.98 307 *eP* **P 21 44 24.3 +1.3**
ZEI pmax pmax
comp=Z,12nm,1.4s
MBWA Marble Bar 49.06 154 P **P 21 44 23.4 -0.1**
FITZ Fitzroy Crossi 49.09 146 P **P 21 44 23.1 -0.7**
KIRV Kirov 49.24 328⇓ *eP* **P 21 44 23.1 -1.3**
KIV Kislovodsk 49.95 308 *de*P **P 21 44 29.8 -0.4**
KIV *e* 21 46 24.5
KIV pmax pmax
comp=Z,13nm,0.9s
TIXI Tiksi 50.63 12 P **P 21 44 35.1 +0.3**
TIXI IAmb IAmb 21 44 37.8
comp=Z,14nm,1.4s
TIXI Tiksi 50.63 12 P **P 21 44 35.1 +0.3**
TIXI pmax pmax
comp=Z,14nm,1.4s
SOC Sochi 52.08 307 *eP* P 21 44 41.1 -5.0
SOC *e* 21 46 44.4
SOC *e*PPP PPP 21 47 43.2
SOC *e*S **S 21 52 03.2 -6.5**
SOC *e*SS **SS 21 55 47.6 +0.9**
SOC MLR MLR
comp=Z,214nm,19.0s
SEY Seymchan 52.45 28⇑ *eP* **P 21 44 49.3 +0.7**
SEY pmax pmax
comp=Z,20nm,2.9s
ANN Anapa 53.75 309 *eP* **P 21 44 55.9 -2.5**
ANN *e**PP **pP 21 44 59.8 -3.4**
ANN *e*S **S 21 52 30.7 -1.8**
ANN pmax pmax
comp=Z,70nm,0.9s
WB0 Warramunga Arr 55.33 139 P **P 21 45 09.9 -0.4**
WB0 IAmb IAmb 21 45 12.8
comp=Z,7.5nm,1.0s
WRA Warramunga Arr 55.43 139 P **P 21 45 11.1 +0.1**
comp=Z,4.2nm,0.9s,baz=328,slow=7.6,SNR=6.1
comp=Z,4.2nm,0.9s
ASAR Alice Springs 58.07 142 P **P 21 45 29.9 +0.3**
comp=Z,2.0nm,0.9s,baz=317,slow=6.4,SNR=5.9
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 59.31 316 P **P 21 45 37.7 -0.2**
comp=Z,1.7nm,0.8s,baz=75,slow=6.2,SNR=2.5
comp=Z,1.7nm,0.8s
AKBB Malin Array Si 59.31 316⇑ *eP* **P 21 45 40.8 +2.9**
AKBB pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 62.11 338 P **P 21 45 57.3 +0.6**
comp=Z,4.3nm,0.8s,baz=74,slow=6.7,SNR=3.5
comp=Z,4.3nm,0.8s
KMBO Kilima Mbogo 65.02 257 P **P 21 46 16.5 -0.6**
comp=Z,2.9nm,0.9s,baz=57,slow=0.7,SNR=5.9
comp=Z,2.9nm,0.9s
HFS Hagfors 67.36 327 P **P 21 46 30.2 -1.0**
comp=Z,5.6nm,1.0s,baz=113,slow=3.7,SNR=2.1
comp=Z,5.6nm,1.0s
VOI Vohitsoka 68.36 232 P **P 21 46 38.6 +0.5**
NB2 NORSAR Subarra 68.42 328 P **P 21 46 36.1 -1.8**
comp=Z,3.8nm,0.8s,baz=80,slow=6.5
NOA NORSAR Array B 68.42 328 P **P 21 46 36.0 -1.8**
NOA NORSAR Array B 68.42 328 P **P 21 46 36.0 -1.9**
comp=Z,1.3nm,0.6s,baz=80,slow=6.3,SNR=5.6
comp=Z,1.3nm,0.6s
STKA Stephens Creek 68.71 142 P **P 21 46 40.0 +0.1**
STKA Stephens Creek 68.71 142 P **P 21 46 40.0 +0.1**
STKA pmax pmax
comp=Z,2.0nm,1.2s
STKA Stephens Creek 68.71 142 P **P 21 46 39.6 -0.3**
comp=Z,2.5nm,0.9s,baz=316,slow=10,SNR=4.4
comp=Z,2.5nm,0.9s
GERES GERESS Array B 69.51 315 P **P 21 46 43.2 -1.7**
comp=Z,0.7nm,0.6s,baz=62,slow=4.6,SNR=1.5
comp=Z,0.7nm,0.6s
FUORN Ofenpass-Fuorn 72.32 314 P **P 21 47 03.5 +1.2**
FUORN IAmb IAmb 21 47 18.3
comp=Z,7.0nm,1.2s
E19K Redstone River 73.19 23 P **P 21 47 06.8 +0.1**
WLF Walferdange 74.05 318 *d*P **P 21 47 12.0 -0.1**
BCLA Clavier 74.33 318 *d*P **P 21 47 13.4 -0.2**
K17K Iditarod 74.54 28 P **P 21 47 12.8 -1.9**
K17K IAmb IAmb 21 47 18.7
comp=Z,7.8nm,0.9s
F21K Alatna River 74.61 23 P **P 21 47 14.1 -1.0**
F21K IAmb IAmb 21 47 34.0
comp=Z,7.0nm,1.2s
IMAR Indian Mountai 75.04 24 P **P 21 47 18.4 +0.9**
H21K Melozitna Rive 75.54 24 P **P 21 47 21.7 +1.3**
H21K IAmb IAmb 21 47 34.8
comp=Z,4.3nm,1.0s
MLY Manley 76.59 24 P **P 21 47 27.1 +0.6**
MLY IAmb IAmb 21 47 41.3
comp=Z,3.9nm,0.8s
EKA Eskdalemuir Ar 77.35 325 P **P 21 47 30.2 -0.7**
comp=Z,3.0nm,0.8s,baz=64,slow=5.7,SNR=5.3
comp=Z,3.0nm,0.8s
ILAR Eielson Array 78.15 24 P **P 21 47 35.0 -0.2**
comp=Z,0.5nm,0.6s,baz=298,slow=3.7,SNR=5.6
comp=Z,0.5nm,0.6s
ESDC Sonseca Array 84.52 311 P **P 21 48 08.3 -1.2**
comp=Z,0.8nm,0.7s,baz=38,slow=4.4,SNR=4.4
comp=Z,0.8nm,0.7s
BOSA Boshof 88.26 238 P **P 21 48 27.1 -1.0**
comp=Z,2.2nm,0.9s,baz=63,slow=11,SNR=2.1
comp=Z,2.2nm,0.9s
YKA Yellowknife Ar 89.77 15 P **P 21 48 35.2 +0.9**
comp=Z,0.8nm,0.9s,baz=331,slow=5.1,SNR=5.8
comp=Z,0.8nm,0.9s
TORD Torodi Ar. Bea 91.45 285 P **P 21 48 42.4 -0.8**
comp=Z,1.5nm,0.9s,baz=50,slow=5.9,SNR=7.8
comp=Z,1.5nm,0.9s
TXAR Lajitas Array 122.67 24 PKP **PKPdf 21 54 32.2 -0.4**
comp=Z,0.3nm,0.8s,baz=116,slow=2.9,SNR=3.6
BDFB Brasilia 148.13 279 PKPbc **PKiKP 21 55 23.8 -0.9**
comp=Z,5.3nm,0.9s,baz=140,slow=1.8,SNR=4.6

IDC 03 22:04:43.6±2.4, 5°.63N×123°.62E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=336.9km s-min=22.3km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.51**	**158**	P	P	22 10 32.1	0.0
	0.2nm,0.3s,baz=336,slow=9.6,SNR=4.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**30.80**	**161**	P	P	22 11 01.3	0.0
	0.1nm,0.3s,baz=341,slow=7.1,SNR=6.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.25**	**326**	P	P	22 14 12.0	+0.5
	0.3nm,0.3s,baz=126,slow=8.4,SNR=8.8						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**58.49**	**328**	P	P	22 14 40.8	-0.8
	0.4nm,0.5s,baz=129,slow=6.2,SNR=4.8						
	0.4nm,0.5s						

*IDC **03** 22:15:09.1±0.6,34°.72N×25°.06E,h0km,mb4.1/23, mbtmp4.0/32,ML3.8/9, Error ellipse: s-maj=14.6km s-min=12.7km az=167.0*
*BGR **03** 22:15:11.9,34°.74N×25°.11E,h33km,mb4.2,Ms4.0*
*NEIC **03** 22:15:11.2±1.9,34°.66N±0°.07×25°.02E±0°.07,h10km±1km, mb4.2/31, Error ellipse: s-maj=12.0km s-min=8.9km az=205.0*
*ATH **03** 22:15:12.9,34°.73N×25°.02E,h6km±1km,ML4.1/19, Error ellipse: s-maj=2.1km s-min=1.0km az=5.0*
*THE **03** 22:15:12.9,34°.79N×25°.02E,h1km±2km,ML4.0/8, Error ellipse: s-maj=2.5km s-min=0.9km az=182.0*
*ISK **03** 22:15:12.7,34°.79N×25°.04E,h12km,ML4.0/28*
*AFAD **03** 22:15:15.0±0.0,35°.09N×25°.21E,h15km,MW4.1*
*NAO **03** 22:15:19.1,35°.08N×24°.47E,h33km,mb3.8*

ISC 03 22:15:10.8±1.2, 34°.65N±0°.04×25°.05E±0°.02, h13km±7km, n272,σ1°60/281, mb4.2/30, 17C-9D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMBK	**Timbaki Herakl**	**0.48**	**332**	P	**Pb**	**22 15 21.0**	**-0.2**
TMBK	**Timbaki Herakl**	**0.48**	**332**	P	**Pb**	**22 15 21.1**	**-0.2**
IDI	**Anoyia**	**0.65**	**349**	Pg	**Pg**	**22 15 23.1**	**-0.5**
IDI				Sg	**Sg**	**22 15 30.6**	**-1.7**
IDI	**Anoyia**	**0.65**	**349**	P	**Pg**	**22 15 23.1**	**-0.5**
IDI				S	**Sg**	**22 15 30.0**	**-2.3**
	20μm,0.4s						

IDI Anoyia 0.65 349 P Pg 22 15 23.1 -0.5
IDI S **Sg 22 15 31.5 -0.8**
IDI AML AML 22 15 35.0
comp=N,39550μm,0.4s
IDI AML AML 22 15 35.9
comp=E,49734μm,0.3s
IACM Heraklion 0.66 2 P **Pg 22 15 23.6 -0.1**
IACM S **Sg 22 15 31.2 -1.2**
IACM Heraklion 0.66 2 P **Pg 22 15 23.8 +0.1**
IACM S **Sg 22 15 32.3 -0.1**
FRMA Ierapetra Chan 0.68 57 P **Pn 22 15 26.4 +0.3**
FRMA S **Sn 22 15 38.1 +1.6**
comp=E,5μm,0.6s
FRMA Ierapetra Chan 0.68 57 P **Pn 22 15 26.4 +0.3**
FRMA S **Sn 22 15 37.9 +1.4**
FRMA AML AML 22 15 44.4
comp=N,36576μm,0.5s
FRMA AML AML 22 15 47.0
comp=E,26678μm,0.5s
GVD Gavdhos 0.81 284 Pg **Pn 22 15 28.7 +0.7**
GVD Sg **Sn 22 15 39.4 -0.5**
GVD Gavdhos 0.81 284 P **Pg 22 15 27.3 +0.7**
GVD S **Sn 22 15 40.0 +0.1**
comp=E,32μm,0.3s
GVD Gavdhos 0.81 284 P **Pn 22 15 28.2 +0.2**
GVD AML AML 22 15 43.0
comp=E,60926μm,0.4s
GVD AML AML 22 15 44.0
comp=N,64989μm,0.3s
PRNS Prines Rethymn 0.84 328 P **Pb 22 15 26.8 -0.6**
PRNS S **Sg 22 15 38.9 +0.6**
comp=N,5μm,0.5s
ZKR Zakros 1.07 64 Pg **Pg 22 15 32.4 +0.9**
ZKR Sg **Sn 22 15 47.3 +1.0**
ZKR Zakros 1.07 64 P **Pn 22 15 31.8 +0.3**
ZKR S **Sn 22 15 47.9 +1.6**
comp=N,6μm,0.4s
ZKR Zakros 1.07 64 P **Pg 22 15 32.2 +0.7**
ZKR AML AML 22 15 52.2
comp=N,9444μm,0.5s
ZKR AML AML 22 15 58.4
comp=E,11607μm,0.4s
IMMV Iera Moni Meta 1.19 313 Pn **Pg 22 15 34.8 +1.0**
IMMV Sn **Sg 22 15 49.9 +0.5**
IMMV Iera Moni Meta 1.19 313 P **Pn 22 15 32.6 -0.6**
IMMV S **Sn 22 15 49.1 -0.2**
comp=E,17μm,0.6s
IMMV Iera Moni Meta 1.19 313 P **Pn 22 15 32.9 -0.4**
IMMV AML AML 22 15 52.5
comp=N,25470μm,0.4s
IMMV AML AML 22 15 54.4
comp=E,36690μm,0.8s
CHAN Chania 1.20 317 P **Pn 22 15 33.0 -0.3**
CHAN AML AML 22 16 03.0
comp=N,24671μm,0.7s
CHAN AML AML 22 16 05.6
comp=E,18463μm,0.6s
RODP Rodopos 1.40 311 Pn **Pb 22 15 36.5 -0.3**
RODP Sn **Sg 22 15 55.3 -0.5**
RODP Rodopos 1.40 311 P **Pb 22 15 36.8 0.0**
RODP S **Sb 22 15 54.3 -0.2**
comp=E,2μm,0.5s
SNT5 Nea Kammeni, S 1.78 9 P **Pb 22 15 42.6 -0.6**
SNT5 AML AML 22 16 11.0
comp=N,7319μm,0.3s
SNT5 AML AML 22 16 13.5
comp=E,15362μm,0.4s
THT2 Imerovigli 1.81 10 P **Pb 22 15 43.0 -0.9**
CMBO Columbo, Santo 1.84 9 P **Pb 22 15 43.5 -0.9**
CMBO S **Sn 22 16 05.7 +0.3**
comp=E,7μm,0.5s
CMBO Columbo, Santo 1.84 9 P **Pb 22 15 43.7 -0.7**
CMBO AML AML 22 16 14.8
comp=N,18677μm,0.5s
CMBO AML AML 22 16 19.9
comp=E,15671μm,0.6s
ANKY Antikythira Is 1.88 311 P **Pb 22 15 44.5 -0.4**
ANKY AML AML 22 16 22.1
comp=N,5013μm,0.6s
ANKY AML AML 22 16 22.7
comp=E,10216μm,0.8s
KARP Karpathos 1.96 62 Pn **Pb 22 15 46.1 -0.2**
KARP Karpathos 1.96 62 Pn **Pb 22 15 45.9 -0.5**
KARP Sn **Sn 22 16 08.5 +0.4**
KARP Karpathos 1.96 62 P **Pb 22 15 46.2 -0.1**
MHLO Agia Marina, M 2.11 346 P **Pn 22 15 47.1 +1.3**
MHLO AML AML 22 16 20.4
comp=E,19869μm,0.4s
MHLO AML AML 22 16 26.5
comp=N,29396μm,0.4s
APE Apeiranthos 2.45 9⇑ P **Pb 22 15 52.7 -2.0**
APE Apeiranthos 2.45 9 Pn **Pn 22 15 51.9 +1.3**
APE Apeiranthos 2.45 9 P **Pn 22 15 51.9 +1.3**
APE AML AML 22 16 33.3
comp=E,1475μm,1.0s
APE AML AML 22 16 33.9
comp=N,1232μm,0.5s
KOSK Kos Island 2.63 36 Pn **Pn 22 15 54.2 +1.3**
VLI Veliai 2.69 321 P **Pn 22 15 55.1 +1.3**
VLI AML AML 22 16 44.3
comp=N,2002μm,0.8s
VLI AML AML 22 16 48.6
comp=E,1433μm,0.7s
YAZI Mula-Dat§a- 2.82 43 P **Pn 22 15 57.7 +2.1**
DAT Datca 2.93 44 Pn **Pn 22 15 59.3 +2.1**
ARG Arkhangelos 2.96 57 Pn **Pb 22 16 01.0 -2.5**
ARG Arkhangelos 2.96 57 **Pn 22 15 58.9 +1.3**
ARG Sn **Sn 22 16 34.4 +1.4**
ARG Arkhangelos 2.96 57 P **Pn 22 16 00.2 +2.6**
ARG AML AML 22 16 48.1
comp=N,1491μm,0.7s
ARG AML AML 22 16 48.5
comp=E,1391μm,0.5s
YDRA Hydra 2.99 335 P **Pn 22 15 59.4 +1.5**
BODT Bodrum 3.03 37 Pn **Pn 22 15 59.8 +1.3**
BODT Bodrum 3.03 37 P **Pb 22 16 02.7 -2.0**
BDRM Kayabasi 3.10 38 P **Pn 22 16 01.6 +2.1**
KRND KRANIDI 3.13 331 P **Pn 22 16 01.7 +1.8**
KRND AML AML 22 16 49.8
comp=N,1065μm,0.8s
KRND AML AML 22 16 50.3
comp=E,1395μm,0.7s
RFTAA Mazikoy-Bodrum 3.21 42 Pn **Pn 22 16 03.1 +2.1**
EPID Epidavros 3.35 333 P **Pn 22 16 04.3 +1.4**
VLY Voula,Athens 3.36 343 P **Pn 22 16 04.8 +1.8**
VLY AML AML 22 17 02.9
comp=E,942μm,0.6s
VLY AML AML 22 17 07.5
comp=N,851μm,0.6s
TURN Turunc 3.36 50 Pn **Pn 22 16 05.2 +2.2**
TURN Turunc 3.36 50 P **Pn 22 16 04.9 +1.9**
SMG Samos 3.38 25 P **Pn 22 16 05.5 +2.2**
MLSB Milas 3.45 39 Pn **Pn 22 16 06.8 +2.5**
MLSB Milas 3.45 39 P **Pn 22 16 05.6 +1.3**
ATHU Athens Univers 3.47 343 P **Pn 22 16 06.1 +1.6**
GCAM G?zelcaml? 3.53 30 Pn **Pn 22 16 06.6 +1.3**
YER Yerkesik 3.62 46 Pn **Pn 22 16 08.8 +2.2**
YER Yerkesik 3.62 46 P **Pn 22 16 09.5 +2.9**
DALY Dalyan (Mula) 3.65 53 Pn **Pn 22 16 09.6 +2.6**
MULA Mugla, Merkez- 3.72 45 P **Pn 22 16 10.2 +2.1**
CHOS Chios island 3.82 12 Pn **Pn 22 16 11.8 +2.4**
CHOS Chios island 3.82 12 P **Pn 22 16 11.2 +1.7**
VIL2 Platees 3.84 339 P **Pn 22 16 10.3 +0.7**
VIL2 AML AML 22 17 10.6
comp=N,656μm,0.8s
VIL2 AML AML 22 17 16.9
comp=E,1136μm,0.9s
FETY Fethiye 3.84 58 Pn **Pn 22 16 11.7 +2.0**
SABU Mula-Dalaman 3.86 55 P **Pn 22 16 11.3 +1.4**
THAL Thalero 3.89 331 P **Pn 22 16 12.2 +1.9**
THAL AML AML 22 17 20.8
comp=N,1928μm,0.6s
THAL AML AML 22 17 28.4
comp=E,1970μm,0.6s
GUR Goura 3.94 327 P **Pn 22 16 12.2 +1.1**
GUR AML AML 22 17 11.7
comp=E,983μm,0.9s
GUR AML AML 22 17 12.0
comp=N,1205μm,0.7s
KYMI Kymi, Euboea I 4.05 349 P **Pn 22 16 14.2 +1.7**
KLV Kalavryta, Ach 4.12 326 P **Pn 22 16 14.8 +1.3**
KLV AML AML 22 17 15.8
comp=E,518μm,0.7s
KLV AML AML 22 17 21.0

	comp=N,704µm,1.1s						
ESEN	Aydn-Nazilli	4.13	39	P	Pn	22 16 14.5	+1.0
CAME	Cameli-Denizli	4.15	55	Pn	Pn	22 16 17.3	+3.3
TAVA	DENIZLI_Tavas	4.21	47	P	Pn	22 16 16.7	+1.8
CAEL	Denizli, Camel	4.26	53	P	Pn	22 16 19.5	+4.0
KNIK	Mula-Seydike	4.29	58	P	Pn	22 16 19.2	+3.3
DNIZ	Denizli-Tavas-	4.39	46	P	Pn	22 16 18.8	+1.5
APMY	Acipayam-Deniz	4.46	49	Pn	Pn	22 16 20.5	+2.4
KIRA	zmir-Kiraz	4.46	36	P	Pn	22 16 20.2	+2.0
RLS	Riolos of Patr	4.46	321	P	Pn	22 16 20.3	+2.1
ELL	Elmali	4.48	61	Pn	Pn	22 16 20.8	+2.3
ELL	Elmali	4.48	61	Pn	Pn	22 16 19.2	+0.7
ELL				Sn	Sn	22 17 11.4	+0.8
ELL	Elmali	4.48	61	P	Pn	22 16 21.3	+2.8
AXAR	Agios Charalam	4.54	336	P	Pn	22 16 21.0	+1.8
EFP	Efpalio	4.54	327	P	Pn	22 16 20.8	+1.6
RFT7	Candarli	4.56	19	Pn	Pn	22 16 22.6	+3.1
SIGR	SIGRI	4.60	8	Pn	Pn	22 16 21.3	+1.2
SIGR	SIGRI	4.60	8	P	Pn	22 16 21.7	+1.6
DKL	Dikili	4.66	18	Pn	Pn	22 16 23.2	+2.3
ANX	Ano Chora	4.67	328	P	Pn	22 16 23.0	+1.9
PRK	Paraskevi	4.70	12	P	Pn	22 16 23.0	+1.7
MANT	Manisa	4.77	35	P	Pn	22 16 23.8	+1.3
INCE	Denizli-Bozkur	4.77	49	P	Pn	22 16 27.4	+4.9
KULA	Kula-Manisa	4.83	36	Pn	Pn	22 16 26.2	+2.8
KULA	Kula-Manisa	4.83	36	P	Pn	22 16 24.9	+1.5
PVO	Paravola	4.87	326	P	Pn	22 16 26.2	+2.4
NEO	Neokhori	4.88	343	P	Pn	22 16 25.6	+1.7
AGG	Agios Georgios	4.88	334		Pn	22 16 25.3	+1.3
AGG	Agios Georgios	4.88	334	P	Pn	22 16 26.1	+2.1
KORT	Korkueli	4.91	60	Pn	Pn	22 16 28.4	+4.0
MAKR	Makrakomi, Fth	4.95	333	P	Pn	22 16 26.9	+2.1
BRDR	BURDUR-Merkez	5.07	52	P	Pn	22 16 29.9	+3.3
ANTB	Antalya	5.08	62	Pn	Pn	22 16 30.8	+4.1
PASA	Karahalli, USA	5.14	43	P	Pn	22 16 29.5	+1.9
USAK	Uak-Merkez	5.17	37	P	Pn	22 16 29.5	+1.7
BASM	Basmaki-Afyon	5.20	50	Pn	Pn	22 16 31.0	+2.7
ISP	Isparta	5.45	53	Pn	Pn	22 16 33.5	+1.7
KZIL	AFYON_Kizioren	5.46	47	P	Pn	22 16 32.4	+0.4
BALB	Balikesir	5.48	24	Pn	Pn	22 16 32.8	+0.7
TYRN	Tyrnavos	5.53	337	P	Pn	22 16 34.6	+1.7
BNAZ	Uak-Banaz	5.59	43	P	Pn	22 16 35.6	+1.8
GDZ	Gediz	5.68	37	P	Pn	22 16 32.4	-2.7
ALN	Alexandroupoli	6.29	7	Pn	Pn	22 16 43.5	+0.3
RDO	Rodhopi	6.50	3		Pn	22 16 47.7	+1.6
KEK	Kerkira	6.57	322	Pn	Pn	22 16 46.2	-0.9
FNA	Florina	6.78	336	Pn	Pn	22 16 50.9	+0.8
CSS	Mathiatis	6.82	85	Pn	Pn	22 16 51.2	+0.6
KBN	Korca	6.86	332	Pn	Pn	22 16 52.0	+0.9
SCTE	Santa Cesarea	7.53	318	Pn	Pn	22 16 59.4	-0.9
MDUB	Mudurnu	7.59	38		Pn	22 17 03.1	+1.8
BR231	Keskin MP Arra	8.05	48		Pn	22 17 08.8	+1.2
ANTO	Ankara	8.08	48	⇑P	Pn	22 17 11.4	+3.4
ANTO	Ankara	8.08	48		Pn	22 17 09.2	+1.3
ELND	Elena	8.30	4	⇓P	Pn	22 17 17.6	+6.8
BR131	Keskin Array S	8.53	51		Pn	22 17 14.3	+0.2
BRTR	Keskin Array B	8.53	51	Pn	Pn	22 17 15.0	+0.9
BRTR	Keskin Array B	8.53	51	Pn	Pn	22 17 14.1	0.0
	comp=N,0.1nm,0.3s,baz=228,slow=11,SNR=3.7						
	comp=N,0.9nm,0.6s						
KZIT	Kziot	8.71	113	P	Pn	22 17 16.9	+0.4
KZIT				S	Sn	22 18 50.9	-3.7
PLVB	Pleven	8.74	358	⇓P	Pn	22 17 22.2	+5.4
MMAI	Mount Meron Ar	8.77	98	Pn	Pn	22 17 16.4	-1.0
	comp=N,2.3nm,0.3s,baz=299,slow=11,SNR=17						
MMAI				Sn	Sn	22 18 53.1	-3.0
	comp=N,4.4nm,0.3s,baz=276,slow=30,SNR=7.0						
	comp=N,1.7nm,0.4s						
AMAZ	Amatzia	8.84	108	P	Pn	22 17 20.1	+1.7
GEM	Giv'at Ha'Em	8.94	96	P	Pn	22 17 20.5	+0.8
RAZG	Razgrad	8.98	7	⇓P	Pn	22 17 27.1	+6.9
VAE	Valguarnera	9.06	291	Sn	Sn	22 19 01.0	-2.3
	comp=N,1.2nm,0.3s,baz=169,slow=16,SNR=1.8						
YTIR	Yattir	9.07	108	P	Pn	22 17 23.0	+1.5
HMDT	Nahal Hemdat	9.08	102	P	Pn	22 17 21.4	-0.1
CUC	Castrocucco	9.08	309	Pn	Pn	22 17 21.3	-0.3
QRNJ	Al-Qirein	9.09	102	P	Pn	22 17 22.4	+0.7
QRNJ				S	Sn	22 19 00.2	-3.7
UJAP	Al Uja	9.12	104	P	Pn	22 17 21.3	-0.8
SHMJ	Saham	9.13	99	P	Pn	22 17 21.6	-0.8
BLKB	Belogradchik	9.15	349	⇑P	Pn	22 17 26.8	+4.3
DSI	Dead Sea	9.20	107	P	Pn	22 17 23.7	+0.5
MSBI	Mazada	9.28	108	P	Pn	22 17 26.6	+2.4
BOVS	Bovan	9.34	345	⇑P	Pn	22 17 27.5	+2.4
PRNI	Paran	9.44	114	P	Pn	22 17 27.1	+0.6
GHAJ	Ghor Haditha	9.45	108		Pn	22 17 28.1	+1.6
ZFRI	Zfri	9.47	113	P	Pn	22 17 31.9	+5.0
KARJ	KARJ	9.59	109	P	Pn	22 17 23.6	-4.9
HRFI	Mount Harif	9.62	116	P	Pn	22 17 30.4	+1.4
BNN	Bunyan	9.63	61		Pn	22 17 31.3	+2.1
MBRI	Mt Berech	9.66	117	P	Pn	22 17 30.0	+0.4
EIL	Elat	9.75	118	Pn	Pn	22 17 31.1	+0.3
	comp=N,0.9nm,0.3s,baz=310,slow=3.7,SNR=9.3						
EIL				Sn	Sn	22 19 15.4	-4.7
	comp=N,0.6nm,0.3s,baz=304,slow=18,SNR=1.1						
	comp=N,3.3nm,0.5s						
EIL	Elat	9.75	118	P	Pn	22 17 31.6	+0.8
SGRT	San Giovanni R	10.19	317	Pn	Pn	22 17 36.6	-0.2
DJES	Djerdap	10.20	350	Pn	Pn	22 17 37.3	+0.5
ASF	Jabal al Asfar	10.21	101	Pn	Pn	22 17 37.2	+0.1
	comp=N,0.3nm,0.3s,baz=264,slow=9.2,SNR=2.5						
ASF				Sn	Sn	22 19 28.3	-3.2
	comp=N,0.1nm,0.3s,baz=286,slow=17,SNR=2.1						
	comp=N,2.3nm,0.5s						
HERR	Herculane	10.42	350	⇑P	Pn	22 17 43.5	+3.6
MDVR	Moldovita	10.44	347	⇑P	Pn	22 17 43.9	+3.7
ARR	Arges	10.71	358	⇓P	Pn	22 17 49.1	+5.1
VOIR		10.78	0	⇑P	Pn	22 17 51.0	+6.1
NEHR	Nehoiu	10.81	5	⇑P	Pn	22 17 52.2	+6.9
LOT	Lotru	10.83	355	P	Pn	22 17 50.8	+5.2
MLR	Muntele Rosu	10.86	3	⇑P	Pn	22 17 52.1	+6.1
MLR	Muntele Rosu	10.86	3		Pn	22 17 45.6	-0.4
MLR	Muntele Rosu	10.86	3	Pn	Pn	22 17 47.0	+1.0
	comp=N,0.1nm,0.3s,baz=271,slow=8.1,SNR=2.9						
	comp=N,2.0nm,0.9s						
GZR	Gura Zlata	10.88	352	⇑P	Pn	22 17 50.1	+3.9
BISRR	Bisoca	10.96	6	⇑P	Pn	22 17 53.9	+6.5
PLOR	Plostina	11.26	6	⇑P	Pn	22 17 58.3	+6.9
BZS	Buzias	11.27	348	⇑P	Pn	22 17 55.0	+3.5
VRI	Vrincioaia	11.28	6	⇑P	Pn	22 17 58.5	+6.8
DOPR	Dopca	11.31	1	⇑P	Pn	22 17 58.0	+5.9
INTR	Introdacqua	11.42	313	Pn	Pn	22 17 54.8	+1.1
TESR	Tescani	11.92	5	⇑P	Pn	22 18 07.1	+6.7
CAMP	Campotosto	12.03	314	Pn	Pn	22 18 02.8	+0.7
MORH	Mrgy, Hungar	12.54	339	⇓P	Pn	22 18 09.8	+1.0
BURAR	Bucovina Array	12.96	1	Pn	Pn	22 18 16.7	+2.0
BUR08	Bucovina Ar. S	12.99	0	Pn	Pn	22 18 15.2	+0.1
MURB	Monte Urbino	12.99	315	Pn	Pn	22 18 15.0	-0.1
SORM	Soroca	13.70	9	⇑P	P	22 18 31.3	-2.1
GURO	Guroymak-BITLI	14.19	69		Pn	22 18 33.3	+1.7
OBKA	Obir	14.27	329	*e*Pn	Pn	22 18 33.0	+0.4
	comp=N,3.8nm,0.7s						
SABO	M.te Sabotino	14.28	326	Pn	Pn	22 18 32.4	-0.3
VYHS	Vyhne	14.59	343	*e*PN	Pn	22 18 36.1	-0.8
RONA	Rosalia, Austr	14.60	336	*i* Pn	Pn	22 18 38.7	+1.7
	comp=N,2.9nm,0.6s						
STAL	STALIGIAL	14.90	325	Pn	Pn	22 18 42.3	+1.1
CLUD	Cludinico	14.97	326	Pn	Pn	22 18 42.9	+0.9
CTI	Castel Tesino	15.27	322		Pn	22 18 45.4	-0.8
CTI				IAmb	IAmb	22 18 59.9	
	comp=Z,10nm,0.8s						
ABTA	Abfaltersbach	15.35	326	*i* Pn	Pn	22 18 48.5	+1.3
	comp=Z,6.8nm,0.7s						
KARS	Kars	15.48	62		Pn	22 18 50.6	+1.8
BIOA	Bad Ischl, Aus	15.59	330	*i* Pn	P	22 18 55.1	+0.7
	comp=Z,1.8nm,0.3s						
LESA	Schwarzleotal	15.79	328	*i* Pn	P	22 18 57.6	+0.9
	comp=Z,4.7nm,0.7s						
VRAC	Vranov	15.93	339	Pn	P	22 18 57.5	-0.6
	comp=Z,0.1nm,0.3s,baz=225,slow=16,SNR=2.0						
AKH	Akhalkalaki	16.02	60		Pn	22 18 57.1	+1.2
AKH				IAmb	IAmb	22 19 09.2	
	comp=Z,26nm,1.0s						
WTTA	Wattenberg	16.14	325	*i* Pn	P	22 19 02.9	+2.2
	comp=Z,2.7nm,0.4s						
WATA	Walderalm	16.22	325	*i* Pn	P	22 19 01.3	-0.3
	comp=Z,7.0nm,0.8s						
CKRC	Cesky Krumlov	16.25	334	*e*P	P	22 19 05.8	+4.1
SQTA	Sankt Quirin	16.31	325	*i* Pn	P	22 19 03.8	+1.2
	comp=Z,1.8nm,0.5s						
KIEV	Kiev	16.32	9		Pn	22 19 00.1	+0.6
KIEV				IAmb	IAmb	22 19 12.7	

	comp=Z,16nm,0.8s						
AKASG	Malin Array Be	16.33	9	Pn	Pn	22 18 59.6	-0.1
	comp=Z,1.2nm,0.3s,baz=202,slow=11,SNR=15						
AKASG				Sn	Sn	22 22 00.1	-0.6
	baz=192,slow=23						
	comp=Z,0.7nm,0.5s						
AKBB	Malin Array Si	16.33	9		Pn	22 19 00.1	+0.4
AKBB				IAmb	IAmb	22 19 12.6	
	comp=Z,17nm,0.7s						
FUORN	Ofenpass-Fuorn	16.37	321		Pn	22 19 01.7	+1.3
FUORN				IAmb	IAmb	22 19 14.4	
	comp=Z,10nm,0.7s						
FETA	Feichten	16.41	323	*i* Pn	P	22 19 05.8	+2.2
	comp=Z,7.7nm,0.8s						
ONI	Oni	16.41	56		P	22 19 02.4	-1.2
MOTA	Moosalm	16.45	325	*i* Pn	P	22 19 04.1	-0.1
	comp=Z,1.5nm,0.5s						
KIV	Kislovodsk	16.49	50	P	P	22 19 03.8	-0.8
KIV				IAmb	IAmb	22 19 07.7	
	comp=Z,30nm,1.1s						
GEC2	GERESS Array S	16.49	333	Pn	Pn	22 19 02.5	+0.6
GERES	GERESS Array B	16.49	333	Pn	Pn	22 19 01.8	-0.1
GERES	GERESS Array B	16.49	333	Pn	Pn	22 19 02.2	+0.3
	comp=Z,0.5nm,0.3s,baz=114,slow=3.3,SNR=5.5						
	comp=Z,2.7nm,0.8s						
KVAR	Kislovodsk Arr	16.50	50	Pn	P	22 19 04.8	+0.1
	baz=254,slow=19						
	comp=Z,6.2nm,1.0s						
KBZ	Khabaz	16.52	51	Pn	P	22 19 06.4	+1.7
	comp=Z,0.3nm,0.3s,baz=247,slow=8.7,SNR=47						
GNI	Garni	16.58	65		P	22 19 04.6	-1.0
GNI	Garni	16.58	65	Pn	P	22 19 06.4	+0.8
	comp=Z,0.1nm,0.3s,baz=13,slow=21,SNR=2.2						
	comp=Z,2.6nm,0.6s						
DAVOX	Davos/Dischmat	16.67	321	Pn	P	22 19 08.3	+1.6
	comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=2.5						
TUE	Stuetta	16.75	320		Pn	22 19 06.1	+0.8
TUE				IAmb	IAmb	22 19 28.0	
	comp=Z,30nm,1.5s						
KHC	Kasperske Hory	16.77	333	*e*P	P	22 19 08.3	+0.7
DPC	Dobruska-Polom	16.94	341	*e*P	P	22 19 11.8	+2.4
DAVA	Damuels	17.01	322	*i* Pn	P	22 19 11.0	+0.7
	comp=Z,7.2nm,0.6s						
CHVC	Chvalec	17.23	340	*e*P	P	22 19 17.7	+5.1
GRF	Grafenberg Arr	18.15	330	*e*P	Pn	22 19 21.2	-1.2
	comp=Z,30nm,1.4s,baz=137,slow=11						
MOX	Moxa	18.75	333	*e*L	L	22 30 26.0	
	comp=Z,547nm,20.4s						
WLF	Walferdange	20.44	323	*d*P	P	22 19 48.6	+0.8
TAM	Tamanrasset	20.76	240	P	P	22 19 51.0	-0.6
BTNL	Ternell	21.06	325	*d*P	P	22 19 56.0	+1.5
MEM	Membach	21.13	325	*d*P	P	22 19 56.3	+1.0
BSTI	Sart Tilman	21.33	324	*d*P	P	22 19 58.6	+1.2
ESDC	Sonseca Array	23.60	291	P	P	22 20 22.1	+0.6
	comp=Z,1.4nm,1.0s,baz=80,slow=8.0,SNR=11						
	comp=Z,1.4nm,1.0s						
PAB	San Pablo	23.89	290	P	P	22 20 24.6	+0.4
PAB				IAmb	IAmb	22 20 48.6	
	comp=Z,19nm,1.4s						
BELG	Belogornoye	23.98	35	P	P	22 20 24.1	-0.7
	comp=Z,19nm,0.9s,baz=150,slow=0.7,SNR=7.1						
	comp=Z,19nm,0.9s						
HFS	Hagfors	26.55	347	P	P	22 20 46.9	-1.3
	comp=Z,1.2nm,0.5s,baz=149,slow=12,SNR=5.8						
	comp=Z,1.2nm,0.5s						
GEYT	Alibeck	26.78	73	P	P	22 20 50.3	-0.2
GEYT				IAmb	IAmb	22 21 06.1	
	comp=Z,3.9nm,0.9s						
GEYT	Alibeck	26.78	73	P	P	22 20 50.4	-0.2
	comp=Z,0.8nm,0.4s,baz=270,slow=4.4,SNR=3.1						
	comp=Z,0.8nm,0.4s						
FINES	FINESS Array B	26.82	1	P	P	22 20 49.8	-0.7
FINES	FINESS Array B	26.82	1	P	P	22 20 48.4	-2.1
	comp=Z,1.7nm,0.7s,baz=160,slow=8.1,SNR=7.6						
	comp=Z,1.7nm,0.7s						
NB2	NORSAR Subarra	27.87	346	P	P	22 21 00.3	+0.3
	comp=Z,1.3nm,0.8s,baz=156,slow=9.3						
NOA	NORSAR Array B	27.87	346	P	P	22 20 59.5	-0.6
	comp=Z,1.3nm,0.8s,baz=46,slow=9.1,SNR=2.8						
	comp=Z,1.3nm,0.8s						
NBO00	NORSAR Array S	27.95	345	P	P	22 21 01.0	+0.3
EKA	Eskdalemuir Ar	28.41	325	P	P	22 21 04.6	-0.2
	comp=Z,2.2nm,0.8s,baz=125,slow=12,SNR=2.1						
	comp=Z,2.2nm,0.8s						
ABKAR	Akbulak array	29.48	50	P	P	22 21 13.9	-0.4
ABKAR				IAmb	IAmb	22 21 30.8	
	comp=Z,6.0nm,1.4s						
TOA0	Torodi Ar. Sit	30.09	230	P	P	22 21 20.1	0.0
TORD	Torodi Ar. Bea	30.09	230	P	P	22 21 20.7	+0.6
TORD				IAmb	IAmb	22 21 33.9	
	comp=Z,2.8nm,0.8s						
TORD	Torodi Ar. Bea	30.09	230	P	P	22 21 21.0	+0.9
	comp=Z,3.0nm,0.5s,baz=36,slow=8.9,SNR=24						
	comp=Z,3.0nm,0.5s						
ARU	Arti	31.52	36	P	P	22 21 32.0	-0.4
ARU				IAmb	IAmb	22 21 43.7	
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	34.94	0	P	P	22 22 01.4	-0.7
	comp=Z,0.9nm,0.5s,baz=186,slow=7.3,SNR=7.1						
	comp=Z,0.9nm,0.5s						
KK31	Karatay Array	36.02	63	P	P	22 22 11.7	0.0
KKAR	Karatay Array	36.02	63	P	P	22 22 11.6	-0.1
BRVK	Borovoye	36.72	46	P	P	22 22 18.2	+0.8
BVAR	Borovoye Array	36.77	46	P	P	22 22 17.7	-0.2
	comp=Z,1.2nm,1.0s,baz=233,slow=7.2,SNR=3.6						
	comp=Z,1.2nm,1.0s						
AAK	Ala-Archa	38.97	63	P	P	22 22 37.2	+0.3
DBIC	Dimbokro	39.17	232	P	P	22 22 38.8	+0.3
DBIC				IAmb	IAmb	22 22 40.3	
	comp=Z,8.5nm,1.4s						
DBIC	Dimbokro	39.17	232	P	P	22 22 39.7	+1.2
	comp=Z,1.1nm,0.5s,baz=34,slow=7.8,SNR=4.2						
	comp=Z,1.1nm,0.5s						
KURBB	Kurchatov Arra	41.52	51	P	P	22 22 57.6	0.0
	comp=Z,2.5nm,0.7s,baz=277,slow=8.6,SNR=17						
	comp=Z,2.5nm,0.7s						
SPITS	Spitsbergen Ar	43.80	357	P	P	22 23 16.0	+0.2
	comp=Z,6.7nm,0.9s,baz=158,slow=12,SNR=1.4						
	comp=Z,6.7nm,0.9s						
MK31	Makanchi Array	44.14	56	P	P	22 23 19.1	+0.1
MK31				IAmb	IAmb	22 23 20.4	
	comp=Z,2.7nm,0.7s						
MKAR	Makanchi Array	44.14	56	P	P	22 23 19.3	+0.3
	comp=Z,3.0nm,0.6s,baz=281,slow=6.3,SNR=36						
	comp=Z,3.0nm,0.6s						
ZAA0	Zalesovo Array	45.43	46	P	P	22 23 29.6	+0.5
ZALV	Zalesovo Beam	45.43	46	P	P	22 23 29.2	+0.1
ZALV	Zalesovo Beam	45.43	46	P	P	22 23 28.9	-0.2
	comp=Z,1.5nm,0.6s,baz=264,slow=9.8,SNR=5.9						
	comp=Z,1.5nm,0.6s						
SONM	Songino Array	59.89	50	P	P	22 25 16.7	+0.3
SONM				IAmb	IAmb	22 25 17.7	
	comp=Z,1.2nm,0.8s						
SONM	Songino Array	59.89	50	P	P	22 25 16.6	+0.2
	comp=Z,1.6nm,0.7s,baz=290,slow=8.6,SNR=12						
	comp=Z,1.6nm,0.7s						
BOSA	Boshof	62.92	180	P	P	22 25 37.7	+0.8
	comp=Z,2.4nm,1.1s,baz=34,slow=3.6,SNR=1.8						
	comp=Z,2.4nm,1.1s						
SCHQ	Schefferville	63.52	320	P	P	22 25 40.2	-0.4
SCHQ	Schefferville	63.52	320	P	P	22 25 40.7	+0.1
	comp=Z,2.5nm,0.6s,baz=49,slow=7.5,SNR=6.6						
	comp=Z,2.5nm,0.6s						
PZH	PanZhiHua	65.09	74	P	P	22 25 54.3	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,150nm,5.6s						
HHC	Hu-ho-hao-te	66.00	56	*e*P	P	22 25 58.0	+0.8
HHC				pmax	pmax		
	comp=Z,31nm,0.5s						
HHC				pmax	pmax		
	comp=Z,340nm,4.3s						
CMAR	Chiang Mai Arr	66.73	83	P	P	22 26 02.2	+0.2
	comp=Z,0.6nm,0.3s,baz=304,slow=7.7,SNR=4.7						
	comp=Z,0.6nm,0.3s						
CRAI	Chiangrai	67.01	81	P	P	22 26 03.6	-0.2
USRK	Ussuriysk Ar.	77.27	45	P	P	22 27 04.0	-0.9
USRK	Ussuriysk Ar.	77.27	45	P	P	22 27 04.8	0.0
	comp=Z,1.8nm,0.7s,baz=267,slow=7.3,SNR=4.6						
	comp=Z,1.8nm,0.7s						
E25K	Arctic Village	77.31	356	P	P	22 27 05.1	+0.5
E25K				IAmb	IAmb	22 27 06.1	
	comp=Z,5.3nm,1.3s						
YKA	Yellowknife Ar	77.91	342	P	P	22 27 08.3	+0.3
	comp=Z,1.0nm,0.9s,baz=34,slow=5.3,SNR=8.9						
	comp=Z,1.0nm,0.9s						
KSRS	Korea Array	78.67	52	P	P	22 27 13.1	+0.4
	comp=Z,0.7nm,0.5s,baz=327,slow=6.4,SNR=2.1						
	comp=Z,0.7nm,0.5s						
ILAR	Eielson Array	80.71	357	P	P	22 27 23.8	+0.5
	comp=Z,0.3nm,0.7s,baz=26,slow=5.0,SNR=2.2						
	comp=Z,0.3nm,0.7s						
WRA	Warramunga Arr	116.63	97	PKP	PKPdf	22 33 54.6	-0.5
	comp=Z,0.4nm,1.1s,baz=290,slow=2.5,SNR=1.2						
ASAR	Alice Springs	118.05	101	PKP	PKPdf	22 33 57.7	0.0
	comp=Z,0.1nm,0.6s,baz=304,slow=1.7,SNR=1.7						

DJA ***03*** *22:41:43.3±0.5, 4°N±4°×12°7E±°, h29km±7km, M4.3/14, mb4.3/9, mB5.1/2, MLv4.3/14, Mw(mB)4.5/2*
NEIC ***03*** *22:41:44.5±1.8, 3°.53N±0°.03×126°.45E±0°.09, h50km±7km, mb4.5/33, Error ellipse: s-maj=12.9km s-min=3.7km az=75.0*
IDC ***03*** *22:41:50.1±1.8, 3°.59N×126°.64E, h99km±16km, mb3.9/22, mbtmp4.2/24, MS3.6/1, Error ellipse: s-maj=22.7km s-min=9.6km az=77.0*
ISC 03 22:41:44.6±0.4, **3°.54N**±0°.04×**126°.63E**±0°.06, **h53km, n87, σ1°.59**/92, **mb4.3**/37, **1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.10	278	P	Pn	22 42 03.8	0.0
SGSI				S	Sn	22 42 18.2	+0.2
TNTI	Ternate	2.85	165		Pn	22 42 29.4	+1.9
TNTI				Sn	Sn	22 42 59.8	-0.8
TNTI	Ternate	2.85	165	P	Pn	22 42 30.8	+3.2
DAV	Davao City (W)	3.66	344	Pn	Pn	22 42 38.0	-0.7
DAV	Davao City (W)	3.66	344	P	Pn	22 42 43.6	+4.9
	92nm,0.3s,baz=191,slow=4.1,SNR=4.3						
DAV				S	Sn	22 43 28.2	+7.6
	126nm,0.5s,baz=255,slow=20,SNR=3.5						
DAV	Davao City (W)	3.66	344	P	Pn	22 42 36.6	-2.1
KMSI	Cibinong	3.96	222	P	Pn	22 42 45.1	+2.3
LBMI	Labuha	4.24	168	P	Pn	22 42 48.7	+2.0
GTOI	Gorontalo	4.62	231	P	Pn	22 42 54.6	+2.7
MRSI	Marisa	5.58	237	P	Pn	22 43 07.2	+2.1
	79nm,0.8s,930nm0.2nm						
MRSI				S	Sn	22 44 10.8	+2.8
	79nm,0.8s,930nm0.2nm						
SANI	Sanana	5.59	187	P	Pn	22 43 08.1	+2.9
	8.0nm,0.6s,0.1nm						
LUWI	Luwuk	5.96	220	Pn	Pn	22 43 08.1	-2.2
LUWI	Luwuk	5.96	220	P	Pn	22 43 12.1	+1.8
	89nm,0.5s,3µm0.5nm						
TOLI2	Tolitoli	6.32	248	Pn	Pn	22 43 11.6	-3.6
SWI	Sorong	6.37	133	P	Pn	22 43 16.0	+0.1
	20nm,0.5s,0.1nm						
SIJI	Sorong	6.38	133	P	Pn	22 43 16.4	+0.4
	23nm,0.8s,0.1nm						
NLAI	Namlea	6.75	176	P	Pn	22 43 23.3	+2.2
	14nm,0.8s,0.1nm						
MPSI	Mapaga	7.44	245	P	Pn	22 43 32.8	+2.3
	11nm,0.7s,0.1nm						
FAKI	Fak Fak	8.53	139	Pn	Pn	22 43 46.8	+1.3
KAPI	Kappang	10.92	219	P	Pn	22 44 23.5	+5.3
	2.4nm,0.4s,baz=24,slow=20,SNR=1.1						
MTN	Manton Dam	16.88	165	Pn	Pn	22 45 35.5	-1.8
KNRA	Kununurra	19.21	174	P	Pn	22 46 04.6	-1.1
YULB	Yu-li	20.40	346	P	P	22 46 13.4	-3.8
YULB				IAmb	IAmb	22 46 30.4	
	comp=Z,14nm,0.9s						
SSLB	Suanglung	20.86	345	P	P	22 46 20.6	-1.6
SSLB				IAmb	IAmb	22 46 45.0	
	comp=Z,34nm,1.2s						
FITZ	Fitzroy Crossi	21.52	183	P	P	22 46 28.0	-1.3
WB0	Warramunga Arr	24.39	162	P	P	22 46 57.3	-0.8
WB0				IAmb	IAmb	22 47 09.5	
	comp=Z,10nm,0.8s						
WRA	Warramunga Arr	24.54	162	P	P	22 46 58.9	-0.5
WRA	Warramunga Arr	24.54	162	P	P	22 46 59.9	+0.5
	comp=Z,8.0nm,0.9s,baz=342,slow=10,SNR=41						
WRA				PcP	PcP	22 50 38.2	+1.5
	comp=Z,0.3nm,0.5s,baz=331,slow=2.1,SNR=2.1						
	comp=Z,8.0nm,0.9s						
AS31	Alice Springs	27.95	166	P	P	22 47 30.2	-0.1
ASAR	Alice Springs	27.96	166	P	P	22 47 31.2	+1.0
	comp=Z,0.7nm,0.6s,baz=348,slow=7.3,SNR=14						
ASAR				PcP	PcP	22 50 45.8	+1.1
	comp=Z,0.5nm,0.4s,baz=349,slow=2.1,SNR=5.4						
	comp=Z,0.7nm,0.6s						
CRAI	Chiangrai	30.49	305	P	P	22 47 51.7	-1.2
CMAR	Chiang Mai Arr	30.88	301	P	P	22 47 57.5	+1.2
	comp=Z,2.0nm,0.8s,baz=109,slow=6.5,SNR=18						
	comp=Z,2.0nm,0.8s						
ENH	Enshi	31.14	330	P	P	22 47 56.8	-1.7
ENH				IAmb	IAmb	22 48 00.7	
	comp=Z,18nm,1.4s						
PZH	PanZhiHua	33.01	316	P	P	22 48 16.4	+1.4
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
KSRS	Korea Array	33.77	2	P	P	22 48 21.4	+0.1
	comp=Z,2.4nm,0.6s,baz=173,slow=10,SNR=6.1						
	comp=Z,2.4nm,0.6s						
FORT	Forrest	34.15	178	P	P	22 48 24.7	0.0
MJAR	Matsushiro Arr	34.53	17	P	P	22 48 27.9	-0.1
	comp=Z,0.9nm,0.7s,baz=200,slow=9.8,SNR=1.8						
	comp=Z,0.9nm,0.7s						
XAN	Xi'an	34.54	334	⇑P	P	22 48 26.6	-1.5
BBOO	Buckleboo	37.24	167	P	P	22 48 49.7	-1.4
BJT	Baijiatuau	37.53	347	P	P	22 48 53.4	-0.1
STKA	Stephens Creek	37.99	159	P	P	22 48 56.8	-0.7
STKA	Stephens Creek	37.99	159	P	P	22 48 58.8	+1.3
	comp=Z,2.6nm,0.7s,baz=350,slow=8.5,SNR=7.4						
STKA				PcP	PcP	22 51 14.1	+1.7
	comp=Z,0.4nm,0.3s,baz=330,slow=8.1,SNR=2.9						
	comp=Z,2.6nm,0.7s						
HHC	Hu-ho-hao-te	39.55	342	*e*P	P	22 49 13.8	+3.2
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,240nm,4.3s						
USA0B	Ussuriysk Arra	40.77	6	P	P	22 49 18.2	-2.3
USA0B				IAmb	IAmb	22 49 23.8	
	comp=Z,24nm,1.5s						
USRK	Ussuriysk Ar.	40.77	6	P	P	22 49 19.2	-1.3
USRK	Ussuriysk Ar.	40.77	6	P	P	22 49 20.8	+0.3
	comp=Z,2.3nm,0.5s,baz=186,slow=7.4,SNR=11						
	comp=Z,2.3nm,0.5s						
XLT	XiLinHaoTe	41.26	348	*e*P	P	22 49 25.4	+0.7
XLT				pmax	pmax		
	comp=Z,16nm,0.7s						
XLT				pmax	pmax		
	comp=Z,270nm,6.3s						
ASAJ	Asahikawa	42.80	17	LR	LR	23 12 10.8	
	comp=Z,77nm,18.6s,baz=338,slow=43						
JKA	Kamikawa-asahi	42.80	17	P	P	22 49 36.2	-1.0
HEH	HeiHe	46.55	1	*e*P	P	22 50 06.3	-0.6
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SONM	Songino Array	47.45	342	P	P	22 50 13.9	-0.2
SONM	Songino Array	47.45	342	P	P	22 50 13.7	-0.3
	comp=Z,0.9nm,0.6s,baz=150,slow=8.6,SNR=8.1						
SONM				PcP	PcP	22 51 43.4	-0.4
	comp=Z,0.6nm,0.8s,baz=164,slow=3.9,SNR=2.5						
	comp=Z,0.9nm,0.6s						
PEA0B	Petropavlovsk-	55.65	22	P	P	22 51 15.8	+0.7
PETK	Petropavlovsk-	55.65	22	P	P	22 51 14.5	-0.6
PETK	Petropavlovsk-	55.65	22	P	P	22 51 15.1	0.0
	comp=Z,4.0nm,0.6s,baz=170,slow=3.4,SNR=9.7						
	comp=Z,4.0nm,0.6s						
MK31	Makanchi Array	57.65	325	P	P	22 51 28.4	-1.1
MK31				IAmb	IAmb	22 51 38.6	
	comp=Z,1.8nm,0.6s						
MKAR	Makanchi Array	57.65	325	P	P	22 51 28.6	-0.9
MKAR	Makanchi Array	57.65	325	P	P	22 51 29.0	-0.5
	comp=Z,2.4nm,0.5s,baz=118,slow=7.4,SNR=34						
MKAR				PcP	PcP	22 52 22.0	-0.2
	comp=Z,0.8nm,0.7s,baz=121,slow=4.2,SNR=1.9						
	comp=Z,2.4nm,0.5s						
YAK	Yakutsk	58.40	2	P	P	22 51 34.1	-0.3
AAK	Ala-Archa	60.43	318	P	P	22 51 50.1	+1.1
	comp=Z,1.1nm,0.9s,baz=171,slow=15,SNR=4.0						
	comp=Z,1.1nm,0.9s						
ZALV	Zalesovo Beam	60.71	333	P	P	22 51 49.8	-0.7
ZALV	Zalesovo Beam	60.71	333	P	P	22 51 50.2	-0.3
	comp=Z,0.9nm,0.5s,baz=128,slow=6.5,SNR=3.9						
	comp=Z,0.9nm,0.5s						
KURBB	Kurchatov Arra	61.84	327	P	P	22 51 57.9	-0.3
	comp=Z,3.7nm,0.6s,baz=130,slow=6.5,SNR=47						
	comp=Z,3.7nm,0.6s						
KURK	Kurchatov	61.84	328	P	P	22 51 58.4	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	63.30	317	P	P	22 52 07.5	-0.6
KK31				IAmb	IAmb	22 52 09.8	
	comp=Z,3.8nm,0.8s						
KKAR	Karatay Array	63.30	317	P	P	22 52 07.7	-0.4
BVAR	Borovoye Array	67.42	327	P	P	22 52 34.3	-0.3
	comp=Z,4.3nm,0.8s,baz=134,slow=8.4,SNR=16						
	comp=Z,4.3nm,0.8s						
BRVK	Borovoye	67.49	327	P	P	22 52 34.6	-0.4
BRVK				IAmb	IAmb	22 52 37.1	
	comp=Z,5.6nm,0.8s						
TIXI	Tiksi	68.03	1	P	P	22 52 38.3	+0.3
TIXI				IAmb	IAmb	22 52 55.4	
	comp=Z,3.8nm,1.1s						
NRIK	Noril'sk	70.59	346	P	P	22 52 53.9	0.0
	comp=Z,2.5nm,0.6s,baz=119,slow=5.9,SNR=7.3						
	comp=Z,2.5nm,0.6s						
ABKAR	Akbulak array	72.23	321	P	P	22 53 03.3	-0.9
ABKAR	Akbulak array	72.23	321	P	P	22 53 03.5	-0.6
ABKAR				IAmb	IAmb	22 53 05.9	
	comp=Z,3.3nm,0.8s						
ARU	Arti	75.04	328	P	P	22 53 18.9	-1.6
ARU				IAmb	IAmb	22 53 22.3	
	comp=Z,5.2nm,1.0s						
L16K	Owhat River	79.29	28	P	P	22 53 45.1	+0.9
L16K				IAmb	IAmb	22 53 46.1	
	comp=Z,8.5nm,1.4s						
IMAR	Indian Mountai	82.56	24	P	P	22 54 02.4	+0.8
CAST	Castle Rocks	82.95	27	P	P	22 54 04.2	+0.5
CAST				IAmb	IAmb	22 54 06.3	
	comp=Z,3.4nm,1.1s						
VNDA	Vanda	83.25	173	P	P	22 54 05.1	+0.2
VNDA				IAmb	IAmb	22 54 08.3	
	comp=Z,3.1nm,1.3s						
VNDA	Vanda	83.25	173	P	P	22 54 06.5	+1.6
	comp=Z,0.9nm,0.9s,baz=35,slow=4.3,SNR=4.2						
	comp=Z,0.9nm,0.9s						
SUA	Susitna One	83.38	29	P	P	22 54 05.7	-0.3
MAW	Mawson	83.54	200	P	P	22 54 07.2	+0.7
	comp=Z,5.2nm,0.9s,baz=104,slow=3.5,SNR=1.9						
	comp=Z,5.2nm,0.9s						
ILAR	Eielson Array	85.32	25	P	P	22 54 16.0	+0.3
	comp=Z,0.4nm,0.9s,baz=246,slow=6.2,SNR=4.6						
	comp=Z,0.4nm,0.9s						
BMAR	Burnt Mountain	86.29	23	P	P	22 54 21.8	+1.3
BRTR	Keskin Array B	90.06	310	P	P	22 54 39.4	+0.2
	comp=Z,1.1nm,0.7s,baz=95,slow=5.7,SNR=2.5						
	comp=Z,1.1nm,0.7s						
ARCES	ARCESS Array B	90.59	340	P	P	22 54 39.9	-1.0
	comp=Z,1.4nm,0.7s,baz=79,slow=4.7,SNR=7.7						
	comp=Z,1.4nm,0.7s						
SPITS	Spitsbergen Ar	90.64	349	P	P	22 54 42.4	+1.4
	comp=Z,15nm,1.1s,baz=157,slow=4.7,SNR=1.3						
	comp=Z,15nm,1.1s						
AKASG	Malin Array Be	91.97	321	P	P	22 54 47.2	-0.3
	comp=Z,0.5nm,0.6s,baz=69,slow=4.8,SNR=2.4						
	comp=Z,0.5nm,0.6s						
TORD	Torodi Ar. Bea	122.88	288	PKP	PKiKP	23 00 36.8	+0.7
	comp=Z,0.3nm,0.7s,baz=53,slow=4.5,SNR=2.0						

*IDC **03** 22:42:39.9±0.7, 0°.05S×18°.14W, h0km, mb4.2/18, mbtmp4.3/20, ML4.7/2, MS4.1/15, Error ellipse: s-maj=24.8km s-min=13.4km az=143.0*

*NEIC **03** 22:42:41.8±1.1, 0°.10S±0°.09×18°.01W±0°.10, h10km±1km, mb4.8/28, Error ellipse: s-maj=17.5km s-min=13.7km az=244.0*

*GCMT **03** 22:42:44.8±0.4, 0°.03S±0°.02×18°.02W±0°.02, h23km±1km, MW4.9/79, Moment Tensor Solution. s32,c34; s79,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.16; $M_{\theta\theta}$1.12±.15; $M_{\phi\phi}$-0.82±.14; $M_{r\theta}$0.41±.20; $M_{\theta\phi}$-2.66±.11; $M_{\phi r}$0.24±.19; Best double couple: $M_0$2.87800×10^{16} NP1:ϕ_s260.00000°,δ85.00000°,λ-170.00000°. NP2: ϕ_s170.00000°,δ80.00000°,λ-5.00000°. Principal axes: T 2.9910, Plg4.0000°, Azm35.0000°; N -0.2230, Plg79.0000°, Azm285.0000°; P -2.7640, Plg10.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 22:42:42.9±0.5**, 0°.09S**±0°.08×**18°.08W**±0°.07**, h23**km**, n90, σ1s28**/72**, mb4.5**/37**, MS4.0**/15**, 1C, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	8.48	155	T	T	22 53 13.1	
	baz=337,slow=74						
H10N3	ASCENSION HYDR	8.48	155	T	T	22 53 14.2	
	baz=337,slow=74						
H10N1	ASCENSION HYDR	8.49	155	T	T	22 53 34.6	
	baz=337						
ASCN	Ascension	8.62	155		Pn	22 44 45.1	-1.3
H10S3	ASCENSION HYDR	9.44	159	T	T	22 54 58.7	
	baz=338,slow=74,SNR=296						
H10S2	ASCENSION HYDR	9.45	159	T	T	22 54 59.4	
	baz=242,slow=74,SNR=47						
LIC	Lamto	14.46	64	eP	Pn	22 46 08.1	+1.8
	5.7nm,0.4s						
TIC	Toumodi	14.65	63	⇑ePKP1	Pn	22 46 08.7	-0.2
	8.1nm,0.5s						
BBTS	Babate	14.74	6	Pn	Pn	22 46 09.2	-0.8
	baz=143,slow=20						
BBTS				Sn	Sn	22 48 37.9	-15
	baz=143,slow=20						
KIC	Kosan Boka	14.77	64	ePKP1	Pn	22 46 09.2	-1.4
	9.3nm,0.4s						
DBIC	Dimbokro	14.80	63		Pn	22 46 08.8	-2.2
DBIC	Dimbokro	14.80	63	Pn	Pn	22 46 09.5	-1.4
	4.1nm,0.3s,baz=242,slow=14,SNR=56						
DBIC				Sn	Sn	22 48 43.1	-11
	1.8nm,0.3s,baz=260,slow=11,SNR=5.9						
	14nm,0.4s						
SACV	Santiago Islan	15.94	340	Pn	Pn	22 46 24.8	-1.0
SACV				IAmb	IAmb	22 47 06.7	
	comp=Z,68nm,1.1s						
RCBR	Riachuelo	18.68	252	P	P	22 46 58.4	-1.3
	comp=Z,1.6nm,0.3s,baz=82,slow=13,SNR=18						
RCBR				S	Sn	22 50 10.6	-18
	comp=Z,2.3nm,0.3s,baz=343,slow=19,SNR=7.3						
	comp=Z,4.5nm,0.4s						
TOA0	Torodi Ar. Sit	23.61	55	P	P	22 47 51.2	-1.2
TOA0				IAmb	IAmb	22 47 54.5	
	comp=Z,44nm,1.2s						
TORD	Torodi Ar. Bea	23.61	55	P	P	22 47 51.0	-1.4
TORD				IAmb	IAmb	22 47 54.5	
	comp=Z,29nm,1.1s						
TORD	Torodi Ar. Bea	23.61	55	P	P	22 47 52.0	-0.4
	comp=Z,22nm,1.0s,baz=238,slow=8.2,SNR=54						
TORD				S	S	22 52 11.3	+5.5
	comp=Z,2.2nm,0.8s,baz=232,slow=18,SNR=5.0						
TORD				LR	LR	22 56 08.3	
	comp=Z,436nm,19.8s,baz=358,slow=34						
	comp=Z,22nm,1.0s						
TAM	Tamanrasset	32.32	44	P	P	22 49 09.2	-1.5
BDFB	Brasilia	33.35	241	P	P	22 49 19.7	0.0
BDFB				IAmb	IAmb	22 49 50.9	
	comp=Z,19nm,1.4s						
BDFB	Brasilia	33.35	241	P	P	22 49 20.2	+0.5
	comp=Z,2.7nm,0.7s,baz=73,slow=11,SNR=4.6						
	comp=Z,2.7nm,0.7s						
MDT	Midelt	35.11	20	LR	LR	23 04 42.0	
	comp=Z,276nm,18.9s,baz=310,slow=38						
PAB	San Pablo	41.40	16	P	P	22 50 27.3	-0.4
PAB				IAmb	IAmb	22 50 47.5	
	comp=Z,45nm,1.8s						
MTE	Manteigas	41.43	12	P	P	22 50 28.1	+0.3
ESDC	Sonseca Array	41.63	16	P	P	22 50 29.9	+0.5
	comp=Z,3.3nm,1.1s,baz=210,slow=9.5,SNR=7.8						
	comp=Z,3.3nm,1.1s						
BOAV	Boa Vista	42.51	274	P	P	22 50 36.8	-0.2
KEST	Kesra	43.84	33	LR	LR	23 09 30.7	
	comp=Z,286nm,20.2s,baz=213,slow=37						
CPUP	Villa Florida	45.92	232	P	P	22 51 04.0	-0.1
	comp=Z,2.2nm,0.8s,baz=53,slow=8.0,SNR=3.5						
	comp=Z,2.2nm,0.8s						
BOSA	Boshof	50.19	128	P	P	22 51 37.2	-0.1
BOSA				IAmb	IAmb	22 51 39.2	
	comp=Z,12nm,1.3s						
BOSA	Boshof	50.19	128	P	P	22 51 39.1	+1.8
	comp=Z,2.1nm,0.9s,baz=310,slow=7.9,SNR=2.2						
	comp=Z,2.1nm,0.9s						
BAUV	El Baul	50.56	282	P	P	22 51 40.7	+0.5
BAUV				IAmb	IAmb	22 51 42.6	
	comp=Z,13nm,1.1s						
CLF	Chambon-Foret	51.08	17	P	P	22 51 44.3	+0.9
FDMO	Fiordimonte	51.22	29	P	P	22 51 44.7	0.0
SENIN	Lac Senin/Sane	51.35	22	P	P	22 51 45.9	0.0
TUE	Stuetta	52.24	24	P	P	22 51 53.0	+0.5
TUE				IAmb	IAmb	22 52 18.4	
	comp=Z,16nm,1.4s						
FUORN	Ofenpass-Fuorn	52.74	24	P	P	22 51 56.8	+0.6
CTI	Castel Tesino	52.87	26	P	P	22 51 57.2	+0.2
CTI				IAmb	IAmb	22 51 59.5	
	comp=Z,12nm,1.1s						
DAVA	Damuels	53.12	24	*i*P	P	22 51 59.5	+0.6
	comp=Z,6.1nm,0.7s						
FETA	Feichten	53.25	24	*i*P	P	22 51 59.0	-0.9
	comp=Z,2.1nm,0.7s						
IDI	Anoyia	53.30	44	LR	LR	23 16 48.0	
	comp=Z,69nm,18.7s,baz=290,slow=38						
SQTA	Sankt Quirin	53.61	24	*i*P	P	22 52 03.3	+0.8
	comp=Z,4.5nm,0.8s						
RETA	Reutte	53.64	24	*i*P	P	22 52 03.0	+0.4
	comp=Z,1.2nm,0.4s						
MOTA	Moosalm	53.66	24	*i*P	P	22 52 04.4	+1.5
	comp=Z,1.0nm,0.4s						
ABTA	Abfaltersbach	53.79	26	*i*P	P	22 52 05.6	+1.9
	comp=Z,2.1nm,0.6s						
WATA	Walderalm	53.85	25	*e*P	P	22 52 05.3	+1.0
	comp=Z,1.4nm,0.5s						
FNA	Florina	54.18	37	P	P	22 52 07.2	+0.5
LESA	Schwarzleotal	54.38	25	*i*P	P	22 52 09.0	+0.9
	comp=Z,5.7nm,0.7s						
KMBO	Kilima Mbogo	55.34	91	LR	LR	23 14 20.5	
	comp=Z,104nm,18.2s,baz=270,slow=34						
SDDR	Presa de Saban	55.52	293	P	P	22 52 17.1	+0.4
GERES	GERESS Array B	55.92	25	P	P	22 52 19.6	+0.4
	comp=Z,1.5nm,0.7s,baz=277,slow=12,SNR=3.5						
GERES				PP	PP	22 54 21.6	-2.5
	comp=Z,5.9nm,1.0s,baz=202,slow=10,SNR=5.1						
	comp=Z,1.5nm,0.7s						
RONA	Rosalia, Austr	56.20	27	*e*P	P	22 52 22.5	+1.4
	comp=Z,1.6nm,0.6s						
VRAC	Vranov	57.52	26	LR	LR	23 15 53.1	
	comp=Z,269nm,18.9s,baz=340,slow=35						
ELL	Elmali	57.55	45	P	P	22 52 31.1	+0.1
EIL	Elat	58.49	55	LR	LR	23 21 03.5	
	comp=Z,56nm,18.0s,baz=249,slow=39						
MLR	Muntele Rosu	59.69	34	P	P	22 52 45.8	0.0
MLR				IAmb	IAmb	22 52 48.8	
	comp=Z,11nm,1.2s						
MLR	Muntele Rosu	59.69	34	LR	LR	23 20 14.8	
	comp=Z,339nm,18.7s,baz=332,slow=38						
MMAI	Mount Meron Ar	60.06	51	LR	LR	23 19 13.9	
	comp=Z,90nm,19.4s,baz=278,slow=36						
BURAR	Bucovina Array	60.58	32	P	P	22 52 51.9	+0.2
BRTR	Keskin Array B	61.52	44	P	P	22 52 58.1	-0.3
BRTR	Keskin Array B	61.52	44	P	P	22 52 59.1	+0.7
	comp=Z,1.6nm,0.8s,baz=224,slow=5.2,SNR=4.8						
	comp=Z,1.6nm,0.8s						
KIEV	Kiev	64.52	31	P	P	22 53 17.8	-0.1
KIEV				IAmb	IAmb	22 53 19.9	
	comp=Z,12nm,1.1s						
AKASG	Malin Array Be	64.53	31	P	P	22 53 17.6	-0.4
AKASG	Malin Array Be	64.53	31	P	P	22 53 18.1	+0.2
	comp=Z,4.2nm,1.0s,baz=232,slow=7.2,SNR=10						
AKASG				LR	LR	23 25 19.5	
	comp=Z,134nm,18.1s,baz=341,slow=40						
	comp=Z,4.2nm,1.0s						
AKBB	Malin Array Si	64.53	31	P	P	22 53 17.5	-0.5
AKBB				IAmb	IAmb	22 53 19.9	
	comp=Z,12nm,1.1s						
HFS	Hagfors	64.91	17	P	P	22 53 20.0	-0.2
	comp=Z,3.9nm,0.9s,baz=270,slow=12,SNR=2.3						
	comp=Z,3.9nm,0.9s						
NOA	NORSAR Array B	64.97	15	P	P	22 53 21.3	+0.6
	comp=Z,1.7nm,0.9s,baz=210,slow=6.5,SNR=4.3						
	comp=Z,1.7nm,0.9s						
GURO	Guroymak-BITLI	67.06	48	P	P	22 53 34.9	+0.2
KBZ	Khabaz	69.47	43	P	P	22 53 51.0	+1.5
	comp=Z,4.3nm,0.9s,baz=232,slow=2.5,SNR=10						
	comp=Z,4.3nm,0.9s						
GNI	Garni	69.57	47	LR	LR	23 29 02.1	
	comp=Z,81nm,18.6s,baz=322,slow=40						
FINES	FINESS Array B	69.92	21	P	P	22 53 52.8	+0.8
FINES	FINESS Array B	69.92	21	P	P	22 53 52.3	+0.4
	comp=Z,9.9nm,1.2s,baz=264,slow=4.2,SNR=5.4						
	comp=Z,9.9nm,1.2s						
CCM	Cathedral Cave	76.84	309	P	P	22 54 32.4	-0.9
CCM				IAmb	IAmb	22 54 34.5	
	comp=Z,8.0nm,0.8s						
KIRV	Kirov	78.51	30	LR	LR	23 32 27.0	
	comp=Z,171nm,18.8s,baz=305,slow=38						
ABKAR	Akbulak array	82.25	40	P	P	22 55 02.8	+0.4
ULM	Lac du Bonnet	82.27	321	P	P	22 55 03.5	+1.0
	comp=Z,2.9nm,0.8s,baz=68,slow=6.9,SNR=4.3						
	comp=Z,2.9nm,0.8s						
TXAR	Lajitas Array	86.19	299	P	P	22 55 23.3	+0.2
TXAR	Lajitas Array	86.19	299	P	P	22 55 24.2	+1.1
	comp=Z,1.6nm,0.8s,baz=121,slow=7.1,SNR=12						
	comp=Z,1.6nm,0.8s						
VHRN	Van Horn	87.39	301	P	P	22 55 29.2	+0.3
VHRN				IAmb	IAmb	22 55 31.3	
	comp=Z,4.0nm,0.9s						
BVAR	Borovoye Array	89.15	37	P	P	22 55 37.9	+1.2
	comp=Z,0.7nm,0.9s,baz=261,slow=6.7,SNR=3.1						
BVAR				LR	LR	23 39 05.2	
	comp=Z,119nm,18.7s,baz=312,slow=38						
	comp=Z,0.7nm,0.9s						
QSPA	South Pole Qui	89.98	180	P	P	22 55 41.7	+1.3
	comp=Z,1.9nm,1.0s,baz=207,slow=4.5,SNR=3.4						
	comp=Z,1.9nm,1.0s						
PDAR	Pinedale Array	91.15	313	P	P	22 55 47.2	+0.7
	comp=Z,0.6nm,0.9s,baz=87,slow=7.6,SNR=3.8						
	comp=Z,0.6nm,0.9s						
YKA	Yellowknife Ar	93.11	332	P	P	22 55 55.4	+0.6
	comp=Z,0.4nm,0.8s,baz=88,slow=4.7,SNR=5.1						
	comp=Z,0.4nm,0.8s						
ELK	Elko	95.50	311	LR	LR	23 33 14.3	
	comp=Z,42nm,18.9s,baz=42,slow=32						
MKAR	Makanchi Array	97.17	43	LR	LR	23 45 28.1	
	comp=Z,62nm,18.8s,baz=322,slow=39						
PZH	PanZhiHua	116.51	60	PKP	PKPdf	23 01 25.3	-0.6
HHC	Hu-ho-hao-te	119.01	42	*e*P	PKPdf	23 01 25.8	-4.5
MDJ	Mudanjiang	127.20	29	PKP	PKPdf	23 01 45.6	-0.2
MDJ				pPKP	PKiKP	23 01 48.7	+2.4
MDJ				sPKP		23 01 50.2	
MDJ				PP	PP	23 04 04.1	+20
MDJ	Mudanjiang	127.20	29	SS	SS	23 20 53.4	+2.2
MDJ				AMB	AMB		
	comp=Z,400nm,6.4s						
ASAR	Alice Springs	143.98	133	PKPdf	PKPbc	23 02 16.9	+1.5
ASAR	Alice Springs	143.98	133	PKP	PKPbc	23 02 15.9	+0.5
	comp=Z,0.1nm,0.4s,baz=262,slow=1.9,SNR=2.5						
WRA	Warramunga Arr	146.44	128	PKPbc	PKPdf	23 02 23.1	+1.3
	comp=Z,0.8nm,0.9s,baz=242,slow=3.2,SNR=4.0						

*IDC **03** 23:04:43.0±2.7, 43°.31N×105°.19W, h0km, mbtmp3.3/3, ML3.5/3, Error ellipse: s-maj=56.5km s-min=8.9km az=155.0*

*NEIC **03** 23:04:45.2±1.7, 43°.71N±0°.05×105°.32W±0°.08, h0km±1km, ML3.3/54, Error ellipse: s-maj=10.2km s-min=9.0km az=79.0*

ISC 03 23:04:45.5±1.0**, 43°.72N**±0°.05×**105°.32W**±0°.06**, h0**km**, n38, σ1s32**/37**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.01	66		Pb	23 05 05.8	-0.3
K22A	Casper	1.38	220		Pg	23 05 11.0	-1.0
PHWY	Pilot Hill	2.42	182		Pn	23 05 27.0	+0.4
PHWY				IAML		23 06 02.2	
	110nm,0.3s						
RWWY	Rawlins	2.46	215		Pn	23 05 29.0	+1.8
N23A	Red Feather La	2.86	189		Pn	23 05 34.0	+1.3
N23A				IAML		23 06 16.4	
	comp=E,139nm,0.3s						
LAO	LASA Array	3.04	348		Pn	23 05 35.4	+0.5
LAO				IAML		23 06 29.1	
	comp=E,98nm,0.8s						
LAO				IAML		23 06 33.4	
	comp=E,107nm,0.3s						
RLMT	Red Lodge	3.15	298		Pn	23 05 38.0	+1.3
RLMT				IAML		23 06 32.9	
	comp=E,50nm,0.4s						
RLMT				IAML		23 06 33.0	
	comp=E,57nm,0.3s						
BRIGG	Briggsdale	3.22	166		Pn	23 05 39.1	+1.5
PD31	Pinedale Array	3.24	254		Pn	23 05 38.7	+0.9
PDAR	Pinedale Array	3.24	254		Pn	23 05 38.6	+0.7
PDAR	Pinedale Array	3.24	254	Pn	Pn	23 05 38.9	+1.0
	comp=E,4.5nm,0.3s,baz=74,slow=16,SNR=91						
PDAR				Lg	Lg	23 06 23.9	
	comp=E,56nm,0.3s,baz=71,slow=35,SNR=16						
	comp=E,7.6nm,0.3s						
YMP	Mirror Lake Pl	3.62	288		Pn	23 05 44.6	+1.5
OGNE	Ogallala	3.69	138		Pn	23 05 45.0	+1.1
LOHW	Long Hollow	3.83	270		Pn	23 05 47.8	+1.8
H17A	Grant Village	3.85	282		Pn	23 05 48.3	+2.0
H17A				IAML		23 06 50.9	
	comp=N,46nm,0.3s						
H17A				IAML		23 06 51.6	
	comp=E,49nm,0.4s						
FLWY	Flagg Ranch	3.90	277		Pn	23 05 48.8	+1.8
FLWY				IAML		23 06 56.6	
	comp=E,33nm,2.4s						
FLWY				IAML		23 07 41.9	
	comp=E,32nm,4.5s						
ISCO	Idaho Springs	3.92	183		Pn	23 05 48.3	+1.0
MOOW	Moose Ponds	3.93	272		Pn	23 05 49.5	+2.1
REDW	Red Top Meadow	4.04	267		Pn	23 05 50.1	+1.3
O20A	White River Ci	4.19	212		Pn	23 05 52.1	+1.2
K30B	Basset	4.30	102		Pn	23 05 55.7	+3.4
AHID	Auburn Hatcher	4.33	259		Pn	23 05 53.7	+0.9
AHID				IAML		23 07 07.2	
	comp=E,34nm,1.0s						
AHID				IAML		23 07 08.1	
	comp=E,40nm,0.9s						
E28A	Huff	4.34	47		Pn	23 05 54.4	+1.6
RDMU	Red Mountain	4.46	227		Pn	23 05 55.3	+0.8
RDMU				IAML		23 07 06.9	
	comp=N,33nm,0.6s						
RDMU				IAML		23 07 12.0	
	comp=E,28nm,0.9s						
Q24A	Divide	4.75	178		Pn	23 05 59.2	+0.5
BOZ	Bozeman (W)	4.87	295		Pn	23 06 01.2	+0.9
BOZ				IAML		23 07 23.0	
	comp=E,12nm,1.0s						
BOZ				IAML		23 07 24.7	
	comp=E,16nm,0.4s						
HWUT	Hardware Ranch	5.06	247		Pn	23 06 03.6	+0.7
HWUT				IAML		23 07 25.7	
	comp=E,20nm,1.3s						
HWUT				IAML		23 07 38.0	
	comp=E,22nm,1.2s						
KSCO	Kaye Shedlock'	5.12	156		Pn	23 06 04.0	+0.3
BSUT	Blindstream Ca	5.14	234		Pn	23 06 04.9	+0.7
BSUT				IAML		23 07 26.9	
	comp=E,13nm,3.9s						
BSUT				IAML		23 08 40.3	
	comp=N,15nm,4.9s						
MDND	Maddock	5.75	42		Pn	23 06 12.8	+0.7
LYMT	Lyon Mountain	5.89	306		Pn	23 06 14.8	+0.6
SDCO	Great Sand Dun	5.97	181	Pn	Pn	23 06 16.7	+1.3
SRU	San Rafael Swe	6.04	222		Pn	23 06 16.0	-0.3
S22A	4UR Ranch, Cre	6.08	191		Pn	23 06 17.7	+0.8
ECSD	EROS Data Cent	6.31	87	Pn	Pn	23 06 20.2	+0.3
I10CA	LAC DU BONNET	9.07	41	I	I	00 03 00.0	
	comp=N,0.1nm,1.9s,baz=218,slow=332,SNR=1.6						
ULM	Lac du Bonnet	9.18	41	Pn	Pn	23 06 57.6	-1.5
	comp=N,1.8nm,0.3s,baz=232,slow=12,SNR=16						
ULM				Lg	Lg	23 09 32.0	
	comp=N,0.2nm,0.3s,baz=161,slow=22,SNR=1.9						
	comp=N,2.9nm,0.3s						
YKA	Yellowknife Ar	19.58	347	P	Pn	23 09 16.3	+0.3
	comp=N,0.1nm,0.3s,baz=153,slow=14,SNR=2.6						
	comp=N,0.1nm,0.3s						

*IDC **03** 23:25:04.0±2.5, 21°.36S×178°.20W, h0km, mb4.6/4, mbtmp4.5/5, ML3.7/1, Error ellipse: s-maj=53.0km s-min=40.9km az=87.0*

*NEIC **03** 23:26:09.4±1.7, 23°.3S±0°.1×179°.7W±0°.2, h569km±10km, mb4.4/22, Error ellipse: s-maj=24.2km s-min=17.4km az=135.0*

ISC 03 23:26:07.4±0.7**, 23°.3S**±0°.1×**179°.6W**±0°.1**, h550**km**, n37, σ1s16**/37**, mb4.4**/15**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	9.99	67	P	P	23 28 27.4	+2.0
PINNC	Pines Island,	11.92	271	P	P	23 28 47.1	+1.9
DZM	Mont Dzumac	12.91	273	P	P	23 28 58.4	+2.9
FUNA	Funafuti	14.75	355	P	P	23 29 13.9	-0.6
URZ	Urewera	15.15	190	P	P	23 29 09.1	-9.2
	0.3nm,0.3s,baz=202,slow=4.9,SNR=3.2						
	2.5nm,0.4s						
MRZ	Mangatainoka R	17.75	192	P	P	23 29 41.6	-1.3
QRZ	Quartz Range	18.66	199	P	P	23 29 52.1	+0.9
QRZ				IAmb	IAmb	23 29 53.3	
	comp=Z,14nm,0.8s						
RPZ	Rata Peaks	21.74	198	P	P	23 30 19.7	+0.7
	comp=Z,5.8nm,0.6s,baz=106,slow=23,SNR=2.4						
	comp=Z,5.8nm,0.6s						
ARMA	Armidale	26.54	248	P	P	23 31 02.6	+0.7
ARMA				IAmb	IAmb	23 31 04.1	
	comp=Z,14nm,1.1s						
EIDS	Eidsvold	26.73	260	P	P	23 31 03.6	+0.1
EIDS				IAmb	IAmb	23 31 04.5	
	comp=Z,6.0nm,0.7s						
CAN	Canberra	29.72	239	P	P	23 31 30.2	+0.8
CTAO	Charters Tower	31.81	269	P	P	23 31 48.1	+0.5
TOO	Toolangi	33.04	236	P	P	23 31 58.5	+0.7
TOO				IAmb	IAmb	23 31 59.2	
	comp=Z,8.9nm,0.5s						
TAU	Tasmania Unive	33.57	226	P	P	23 32 02.6	+0.5
STKA	Stephens Creek	35.25	247	P	P	23 32 16.4	+0.1
STKA	Stephens Creek	35.25	247	P	P	23 32 16.7	+0.3
	comp=Z,6.1nm,0.6s,baz=90,slow=9.8,SNR=19						
	comp=Z,6.1nm,0.6s						
BBOO	Buckleboo	39.98	246	P	P	23 32 54.4	-0.5
BBOO				IAmb	IAmb	23 33 05.9	
	comp=Z,20nm,1.3s						
AS31	Alice Springs	42.46	260	P	P	23 33 14.4	-0.3
AS31				IAmb	IAmb	23 33 15.7	
	comp=Z,2.8nm,0.5s						
ASAR	Alice Springs	42.46	260	P	P	23 33 13.7	-1.0
ASAR	Alice Springs	42.46	260	P	P	23 33 14.7	-0.1
	comp=Z,9.0nm,0.8s,baz=101,slow=6.8,SNR=95						
	comp=Z,9.0nm,0.8s						
WB2	Warramunga Arr	42.77	265	P	P	23 33 16.3	-0.9
WB2				IAmb	IAmb	23 33 17.3	
	comp=Z,9.6nm,0.8s						
WRA	Warramunga Arr	42.78	265	P	P	23 33 16.2	-1.0
WRA	Warramunga Arr	42.78	265	P	P	23 33 16.6	-0.6
	comp=Z,6.8nm,0.6s,baz=92,slow=8.4,SNR=67						
	comp=Z,6.8nm,0.6s						
FORT	Forrest	46.82	249	P	P	23 33 47.6	-0.5
MTN	Manton Dam	47.74	274	P	P	23 33 54.3	-0.9
MTN				IAmb	IAmb	23 34 15.5	
	comp=Z,16nm,1.4s						
KNRA	Kununurra	49.02	269		P	23 34 04.3	-0.4
KNRA				IAmb	IAmb	23 34 05.5	
	comp=Z,9.4nm,0.8s						
FITZ	Fitzroy Crossi	51.20	265	P	P	23 34 20.6	0.0
PSA00	Pilbara Seismi	55.59	259	P	P	23 34 50.4	-1.4
PSA00	Pilbara Seismi	55.59	259	P	P	23 34 50.5	-1.2
PSA00				IAmb	IAmb	23 34 55.3	
	comp=Z,9.1nm,1.1s						
NWAO	Narrogin (SRO)	55.78	245	P	P	23 34 51.6	-1.2
NWAO				IAmb	IAmb	23 34 54.7	
	comp=Z,24nm,1.4s						
MORW	Morawa	57.38	249	P	P	23 35 03.2	-0.7
MORW				IAmb	IAmb	23 35 04.2	
	comp=Z,9.4nm,0.7s						
O18K	Koktuh Hills	85.26	12	P	P	23 37 45.7	-0.1
O18K				IAmb	IAmb	23 37 53.1	
	comp=Z,11nm,1.2s						
HFS	Hagfors	142.04	349	PKP	PKPdf	23 44 33.0	-3.6
	comp=Z,2.3nm,0.5s,baz=35,slow=6.0,SNR=17						
AKASG	Malin Array Be	144.66	328	PKP	PKPdf	23 44 41.1	-0.3
	comp=Z,0.7nm,0.4s,baz=44,slow=3.7,SNR=13						
MMAI	Mount Meron Ar	147.76	295	PKPbc	PKPbc	23 44 51.5	+0.4
	comp=Z,0.5nm,0.4s,baz=75,slow=6.1,SNR=1.4						
BURAR	Bucovina Array	148.67	327	PKPbc	PKPbc	23 44 52.9	0.0
FUORN	Ofenpass-Fuorn	155.42	343	PKPdf	PKPdf	23 44 57.7	-0.8
FUORN				PKPab	PKPab	23 45 28.1	+0.5

DJA 03 23:33:26.2±0.5**, 3°S**±6°×**13°5E**±°**, h83**km±7km**, M4.6**/7**, mb4.7**/5**, mB4.9**/1**, MLv4.5**/7**, Mw(mB)4.2**/1**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.77	263	P	Pn	23 33 55.9	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMPI				S	Sn	23 34 18.5	+1.5
FAKI	Fak Fak	3.25	279	P	Pn	23 34 15.5	+0.5
FAKI				S	Sn	23 34 50.4	-2.3
SIJI	Sorong	4.91	301	P	Pn	23 34 37.7	+0.1
SWI	Sorong	4.92	301	P	Pn	23 34 38.0	+0.3
BNDI	Bandanaira	5.64	259	P	Pn	23 34 48.0	+0.4
	125nm,1.0s,1.3nm						
SOEI	Soe	12.76	240	P	Pn	23 36 23.1	-1.5
	25nm,1.2s						

*NAO **04** 00:14:55.9, 35°.79N×22°.49E, h33km, mb3.6*
*IDC **04** 00:15:14.4±1.1, 38°.15N×20°.40E, h0km, mb3.7/8, mbtmp3.7/14, ML3.4/6, MS3.2/2, Error ellipse: s-maj=19.3km s-min=17.8km az=176.0*
*NEIC **04** 00:15:16.2±2.7, 38°.04N±0°.06×20°.30E±0°.04, h10km±1km, mb4.1/5, Error ellipse: s-maj=10.8km s-min=5.7km az=178.0*
*ATH **04** 00:15:17.2, 38°.06N×20°.34E, h7km±1km, ML3.5/10, Error ellipse: s-maj=2.6km s-min=1.0km az=56.0*
*THE **04** 00:15:17.4, 38°.09N×20°.35E, h12km, ML3.8/13, Error ellipse: s-maj=1.4km s-min=0.7km az=71.0*
ISC 04 00:15:16.4±0.8**, 38°.08N**±0°.02×**20°.29E**±0°.03**, h18**km±4km**, n159, σ1.s28**/189**, mb3.9**/11**, 7C-4D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEF3	Kipouria, Keph	0.13	21	P	Pg	00 15 20.8	+0.4
KEF3				S	Sg	00 15 23.4	+0.4
	209µm,0.3s						
KEF3	Kipouria, Keph	0.13	21	P	Pg	00 15 20.8	+0.4
KEF3				S	Sg	00 15 23.4	+0.4
LXRA	Lixouri, Kepha	0.17	44	P	Pb	00 15 20.7	-0.1
LXRA				S	Sb	00 15 23.4	-0.3
LXR1	Lixouri, Cepha	0.17	44	P	Pb	00 15 20.9	+0.1
LXR1				S	Sb	00 15 23.8	0.0
	314µm,0.3s						
DMLN	Damoulianata-K	0.17	23	P	Pb	00 15 21.1	+0.2
DMLN				S	Sb	00 15 24.0	0.0
	78µm,0.3s						
DMLN	Damoulianata-K	0.17	23	P	Pb	00 15 21.1	+0.2
DMLN				S	Sb	00 15 23.9	0.0
KEF4	Livadi, Kephal	0.21	31	P	Pg	00 15 21.5	+0.1
KEF4				S	Sg	00 15 24.9	+0.1
KEF4	Livadi, Kephal	0.21	31	P	Pg	00 15 21.4	+0.1
KEF4				S	Sg	00 15 24.7	-0.1
PSDA	Pessada-Kefalo	0.23	82	P	Pg	00 15 21.5	-0.3
PSDA				S	Sg	00 15 24.7	-0.8
	101µm,0.4s						
VLS	Valsamata	0.26	68	P	Pg	00 15 21.8	-0.4
VLS				S	Sg	00 15 25.2	-0.9
	51µm,0.3s						
VLS	Valsamata	0.26	68	P	Pg	00 15 21.7	-0.4
VLS				S	Sg	00 15 24.9	-1.2
VLS				AML	AML	00 15 25.5	
VLS				AML	AML	00 15 25.9	
	comp=E,53481µm,0.2s						
VSK1	VASILIKIADES	0.39	33	P	Pg	00 15 24.2	-0.3
VSK1				S	Sg	00 15 29.8	-0.2
	comp=E,47µm,0.4s						
FSK	Fiskardo	0.43	29	P	Pg	00 15 24.8	-0.5
FSK				S	Sg	00 15 30.9	-0.4
	comp=E,14µm,0.5s						
FSK	Fiskardo	0.43	29	P	Pg	00 15 24.8	-0.5
FSK				S	Sg	00 15 30.9	-0.4
FSK				AML	AML	00 15 32.3	
	comp=E,28405µm,0.4s						
FSK				AML	AML	00 15 34.6	
	comp=N,19323µm,0.6s						
LTHK	Lithakia	0.57	130	P	Pg	00 15 27.2	-0.5
LTHK				S	Sb	00 15 36.0	+0.4
	comp=N,8µm,0.6s						
LTHK	Lithakia	0.57	130	P	Pg	00 15 27.2	-0.5
LTHK				S	Sg	00 15 35.1	-0.3
LTHK				AML	AML	00 15 41.0	
	comp=N,16041µm,0.5s						
LTHK				AML	AML	00 15 42.3	
	comp=E,14960µm,0.7s						
KRI1	kERI	0.59	135	P	Pg	00 15 27.7	-0.4
KRI1				S	Sb	00 15 37.1	+0.9
	comp=E,15µm,0.6s						
EVGI	Lefkada island	0.61	28	P	Pg	00 15 27.9	-0.6
EVGI				S	Sg	00 15 36.8	+0.1
	comp=E,5µm,0.2s						
EVGI	Lefkada island	0.61	28	P	Pg	00 15 27.9	-0.6
EVGI				S	Sg	00 15 36.7	0.0
DRAG	Dragano-Lefkad	0.64	20	P	Pg	00 15 28.2	-0.9
DRAG	Dragano-Lefkad	0.64	20	P	Pg	00 15 28.4	-0.7
DRAG				S	Sg	00 15 37.9	+0.2
NYDR	Nydri-Lefkada	0.71	27	P	Pb	00 15 29.3	-0.9
NYDR				S	Sg	00 15 40.1	+0.3
	comp=E,3µm,0.5s						
LKD2	Lefkada island	0.76	22	P	Pb	00 15 30.6	-0.6
LKD2	Lefkada island	0.76	22	P	Pb	00 15 30.6	-0.6
LKD2				S	Sg	00 15 42.6	+1.1
LKD2				AML	AML	00 15 49.6	
	comp=N,4414µm,0.4s						
LKD2				AML	AML	00 15 50.8	
	comp=E,6151µm,0.5s						
AST1	Astakos	0.78	54	P	Pb	00 15 31.1	-0.3
TSLK	Tsoukalades, L	0.80	21	P	Pb	00 15 31.4	-0.3
RLS	Riolos of Patr	0.93	91	P	Pb	00 15 33.8	-0.2
RLS	Riolos of Patr	0.93	91	P	Pb	00 15 33.4	-0.6
RLS				S	Sb	00 15 46.0	0.0
RLS				AML	AML	00 15 55.3	
	comp=E,5151µm,0.6s						
RLS				AML	AML	00 15 57.9	
	comp=N,2968µm,0.5s						
PVO	Paravola	1.11	61	P	Pn	00 15 37.1	0.0
PVO				S	Sg	00 15 53.2	+0.8
	comp=N,10µm,0.5s						
PVO	Paravola	1.11	61	P	Pn	00 15 36.9	-0.2
EFP	Efpalio	1.32	74	P	Pn	00 15 40.3	+0.4
EFP	Efpalio	1.32	74	P	Pn	00 15 39.5	-0.4
LAKA	Lakka	1.34	83	P	Pn	00 15 40.9	+0.6
ANX	Ano Chora	1.38	68	P	Pb	00 15 41.9	+0.1
ANX	Ano Chora	1.38	68	P	Pb	00 15 41.7	0.0
TRIZ	Trizonia	1.43	78	P	Pn	00 15 41.3	-0.2
IGT	Igoumenitsa	1.45	1	P	Pb	00 15 43.2	+0.3
IGT				S	Sg	00 16 02.7	-0.6
	comp=N,1µm,0.6s						
IGT	Igoumenitsa	1.45	1	P	Pb	00 15 43.1	+0.2
IGT				AML	AML	00 16 09.6	
	comp=E,2505µm,0.6s						
IGT				AML	AML	00 16 11.6	
	comp=N,2273µm,0.5s						
EVR	Evrytania	1.46	55	P	Pb	00 15 43.7	+0.7
EVR				AML	AML	00 16 15.1	
	comp=N,1692µm,1.2s						
EVR				AML	AML	00 16 15.5	
	comp=E,1510µm,0.5s						
KLV	Kalavryta, Ach	1.47	91	P	Pn	00 15 42.7	+0.7
KLV				AML	AML	00 16 15.1	
	comp=E,1246µm,0.8s						
KLV				AML	AML	00 16 16.5	
	comp=N,1330µm,0.6s						
GUR	Goura	1.63	94	P	Pb	00 15 45.6	-0.4
JAN	Janina	1.63	15	P	Pg	00 15 47.4	-0.4
PYL	PYLOS	1.65	135	P	Pn	00 15 45.5	+0.9
PYL	PYLOS	1.65	135	P	Pn	00 15 45.4	+0.9
KEK	Kerkira	1.68	347	Pn	Pn	00 15 45.3	+0.4
KEK				Sn	Sb	00 16 07.0	-0.5
KEK	Kerkira	1.68	347	P	Pn	00 15 45.3	+0.4
KEK	Kerkira	1.68	347	P	Pn	00 15 45.3	+0.4
KASA	Kassiopi	1.69	351	P	Pb	00 15 47.0	+0.1
MAKR	Makrakomi, Fth	1.72	57	P	Pb	00 15 48.1	+0.6
MAKR				AML	AML	00 16 20.9	
	comp=E,3574µm,0.6s						
MAKR				AML	AML	00 16 24.7	
	comp=N,2380µm,0.5s						
SRN	Sarande	1.81	353	P	Pb	00 15 48.4	-0.6
AGG	Agios Georgios	1.86	59	Pn	Pn	00 15 48.5	+1.2
AGG	Agios Georgios	1.86	59	P	Pb	00 15 50.5	+0.6
AXAR	Agios Charalam	1.98	69	P	Pb	00 15 52.3	+0.4
AXAR				AML	AML	00 16 37.0	
	comp=E,3326µm,1.0s						
AXAR				AML	AML	00 16 39.2	
	comp=N,2573µm,0.7s						
THL	Klokotos Trika	2.00	42	P	Pb	00 15 52.0	-0.3
KPRO	Kipourio	2.05	24	P	Pb	00 15 53.1	-0.1
SCTE	Santa Cesarea	2.44	325		Pn	00 15 56.8	+1.4
VLO	Vlora	2.46	346		Pn	00 15 57.3	+1.7
KBN	Korca	2.57	8		Pn	00 15 58.5	+1.2
ATHU	Athens Univers	2.76	91	P	Pn	00 16 00.9	+1.1
VLY	Voula,Athens	2.78	94	P	Pn	00 16 01.4	+1.3
FNA	Florina	2.83	17	Pn	Pn	00 16 02.9	+2.2
DION	Dionisos Attik	2.88	89	P	Pn	00 16 03.8	+2.4
TIP	Timpagrande	2.98	293		Pn	00 16 04.9	+2.1
OHR	Ohrid	3.05	7	*i* Pn	Pn	00 16 07.2	+3.3
TIR	Tirane	3.28	354	Pn	Pn	00 16 08.6	+1.7
CEL	Celeste	3.47	274	Pn	Pn	00 16 10.3	+0.7
VAY	Valandovo	3.68	28	*i* Pn	Pg	00 16 26.8	-0.1
STIP	Stip	3.89	21	*i* Pn	Pn	00 16 19.4	+4.0
CUC	Castrocucco	3.97	300	Pn	Pn	00 16 18.0	+1.5
DRME	Dracevica, Mon	4.19	349	*e*Pn	Pn	00 16 20.5	+1.1
VAE	Valguarnera	4.70	264	Pn	Pn	00 16 29.1	+2.6
	comp=N,0.8nm,0.3s,baz=34,slow=23,SNR=1.2						
VAE				Sn	Sn	00 17 21.8	+1.3
	comp=N,3.4nm,0.3s,baz=160,slow=21,SNR=3.0						
	comp=N,18nm,0.9s						
RAFF	Raffo Rosso	4.78	261	Pn	Pn	00 16 27.2	-0.4
TREB	Trebinje	4.86	343	*e*Pn	Pn	00 16 28.1	-0.6
BRY	Bratogost	5.00	345	*e*Pn	Pn	00 16 30.1	-0.5
SGRT	San Giovanni R	5.07	318		Pn	00 16 32.5	+0.9
RDO	Rodhopi	5.08	51		Pn	00 16 32.9	+1.3
WDD	Wied Dalam	5.13	246	Pn	Pn	00 16 31.6	-0.8
STON	Ston	5.18	338	*e*Pn	Pn	00 16 31.2	-1.7
SJES	Sjenica	5.18	357	*e*Pn	Pn	00 16 34.1	+1.0
ALN	Alexandroupoli	5.27	56	Pn	Pn	00 16 35.6	+1.5
NEVS	Nevesinje	5.47	343	*e*Pn	Pn	00 16 37.5	+0.4
RUDO	Rudo	5.58	353	*e*Pn	Pn	00 16 38.1	-0.4
BOVS	Bovan	5.65	10	⇑P	Pn	00 16 39.4	0.0
BBLS	Lazići	5.82	354	*e*Pn	Pn	00 16 42.4	+0.5
BLKB	Belogradchik	5.83	17	⇓P	Pn	00 16 42.9	+1.0
HAPS	Han Pijesak,Bl	6.08	351	*e*Pn	Pn	00 16 43.9	-1.6
INTR	Introdacqua	6.28	311	Pn	Pn	00 16 51.0	+2.8
ELND	Elena	6.45	40	⇓P	Pn	00 16 52.0	+1.6
TEKS	Tekeris	6.49	355	*e*Pn	Pn	00 16 48.3	-2.7
MGRS	Mrkonjic Grad	6.78	340	*e*Pn	Pn	00 16 55.8	+0.9
A050A	Klekovaca	6.99	337	*e*Pn	Pn	00 16 58.3	+0.3
BLY	Banja Luka	7.06	342	*e*Pn	Pn	00 16 55.9	-2.9
FRGS	Fruska Gora	7.08	357	⇑P	Pn	00 16 55.0	-4.2
FRGS	Fruska Gora	7.08	357	*e*Pn	Pn	00 16 56.7	-2.4
NRCA	Norcia	7.24	313		Pn	00 17 04.0	+2.6
A051A	Mrakovica	7.38	341	*e*Pn	Pn	00 17 03.0	-0.2
FDMO	Fiordimonte	7.39	314		Pn	00 17 05.8	+2.4
BZS	Buzias	7.60	7	⇑P	Pn	00 17 03.2	-2.9
ARR	Arges	7.97	23	⇑P	Pn	00 17 11.1	-0.3
VOIR		8.16	24	⇑P	Pn	00 17 16.5	+2.4
MORH	Mrgy, Hungar	8.22	352	⇑P	Pn	00 17 14.2	-0.5
BOJS	Bojanci	8.31	335	*e*Pn	Pn	00 17 15.5	-0.5
MLR	Muntele Rosu	8.52	28	⇑P	Pn	00 17 23.1	+4.1
MLR	Muntele Rosu	8.52	28		Pn	00 17 20.0	+1.0
MLR	Muntele Rosu	8.52	28	Pn	Pn	00 17 22.8	+3.8
	comp=N,0.1nm,0.3s,baz=258,slow=7.7,SNR=5.1						
CRES	Cresnjev	8.53	337	*e*Pn	Pn	00 17 18.7	-0.4
NEHR	Nehoiu	8.60	30	⇓P	Pn	00 17 21.1	+1.1
SKDS	Skadanscina	8.81	330	*e*Pn	Pn	00 17 21.5	-1.3
CEY	Cerknica	8.81	332	*e*Pn	Pn	00 17 23.0	+0.1
KEST	Kesra	9.07	258	Pn	Pn	00 17 28.1	+1.5
KEST	Kesra	9.07	258	Pn	Pn	00 17 27.5	+1.0
	comp=N,0.1nm,0.3s,baz=96,slow=20,SNR=1.5						
KEST				Sn	Sn	00 19 07.5	-0.8
	comp=N,0.2nm,0.3s,baz=284,slow=22,SNR=8.1						
	comp=N,2.9nm,0.8s						
PLOR	Plostina	9.09	29	⇓P	Pn	00 17 30.7	+4.0
SABO	M.te Sabotino	9.33	330	Pn	Pn	00 17 30.3	+0.3
SOKA	Soboth	9.43	337	*e*Pn	Pn	00 17 31.7	+0.3
	comp=N,2.9nm,0.4s						
OBKA	Obir	9.43	335	*e*Pn	Pn	00 17 32.4	+1.0
	comp=N,2.6nm,0.3s						
OBKA				*e*Sn	Sn	00 19 14.4	-2.6
	comp=N,8.9nm,0.7s						
OBKA	Obir	9.43	335	*e*Pn	Pn	00 17 31.9	+0.5
TEOL	Teolo	9.71	321	Pn	Pn	00 17 35.0	-0.2
MYKA	Terra Mystica	9.86	332	*e*Pn	Pn	00 17 38.7	+1.5
	comp=N,2.0nm,0.4s						
CTI	Castel Tesino	10.22	324	Pn	Pn	00 17 41.9	-0.4
ABTA	Abfaltersbach	10.39	329	*e*Pn	Pn	00 17 45.7	+1.1
	comp=N,1.1nm,0.4s						
VYHS	Vyhne	10.46	355	*e*PN	Pn	00 17 45.8	+0.3
MODS	Modra-Piesok	10.52	349	*e*PN	Pn	00 17 49.0	+2.7
MOA	Molln	10.71	338	*e*Pn	Pn	00 17 49.8	+0.9
	comp=N,2.1nm,0.3s						
BIOA	Bad Ischl, Aus	10.77	335	*e*Pn	Pn	00 17 50.6	+0.9
	comp=N,2.3nm,0.3s						
CRVS	Cervenica-Dubn	10.85	4	*e*PN	Pn	00 17 54.1	+3.3
LESA	Schwarzleotal	10.88	332	*e*Pn	Pn	00 17 52.2	+0.9
	comp=N,8.4nm,0.9s						
KOLS	Kolonicke sedl	10.94	7	*e*PN	Pn	00 17 54.3	+2.3
WTTA	Wattenberg	11.16	328	*e*Pn	Pn	00 17 57.7	+2.5
	comp=N,1.5nm,0.4s						
WTTA				*i* Sn	Sn	00 19 59.4	-0.2
	comp=N,4.2nm,0.6s						
WATA	Walderalm	11.25	328	*e*Pn	Pn	00 17 59.6	+3.3
	comp=N,1.8nm,0.4s						
WATA				*i* Sn	Sn	00 19 59.1	-2.4
	comp=N,1.7nm,0.4s						
FUORN	Ofenpass-Fuorn	11.30	322	Pn	Pn	00 17 58.5	+1.4
SQTA	Sankt Quirin	11.31	327	Pn	Pn	00 18 00.6	+3.5
	comp=N,1.9nm,0.4s						
FETA	Feichten	11.37	325	*i* Pn	Pn	00 18 05.6	+7.5
	comp=N,0.8nm,0.5s						
MOTA	Moosalm	11.45	327	*e*Pn	Pn	00 18 01.1	+1.9
	comp=N,1.4nm,0.4s						
MOTA				*e*Sn	Sn	00 20 05.5	-1.1
	comp=N,3.8nm,0.8s						
DAVOX	Davos/Dischmat	11.60	322	Pn	Pn	00 18 01.3	+0.1
	comp=N,0.2nm,0.3s,baz=150,slow=18,SNR=1.9						
DAVOX				Sn	Sn	00 20 08.3	-2.0
	comp=N,0.2nm,0.3s,baz=176,slow=20,SNR=2.3						
	comp=N,1.1nm,0.5s						
GEC2	GERESS Array S	11.77	338	Pn	Pn	00 18 04.6	+1.2
GERES	GERESS Array B	11.77	338	Pn	Pn	00 18 03.8	+0.4
GERES	GERESS Array B	11.77	338	Pn	Pn	00 18 03.5	+0.1
	comp=N,0.3nm,0.3s,baz=158,slow=16,SNR=1.9						
GERES				Sn	Sn	00 20 10.6	-3.8
	comp=N,0.3nm,0.3s,baz=151,slow=22,SNR=2.4						
	comp=N,0.5nm,0.4s						
KHC	Kasperske Hory	12.06	338	*e*PN	Pn	00 18 07.4	0.0
KHC				*e*SN	Sn	00 20 20.9	-0.5
MMAI	Mount Meron Ar	13.30	108	Pn	Pn	00 18 23.4	-1.0
	comp=N,0.5nm,0.3s,baz=300,slow=15,SNR=2.4						
MMAI				LR	LR	00 24 11.2	
	comp=N,76nm,20.5s,baz=258,slow=40						
	comp=N,2.8nm,0.8s						
ECH	Echery	13.93	321	Pn	Pn	00 18 31.9	-0.9
ARPR	Arapgir-MALATY	14.16	80	Pn	Pn	00 18 37.7	+1.5
ESDC	Sonseca Array	18.94	282	P	Pn	00 19 37.7	+0.6
	baz=77,slow=11,SNR=2.0						
	comp=N,0.4nm,0.6s						
GNI	Garni	19.07	76	LR	LR	00 27 06.1	
	comp=N,112nm,21.6s,baz=321,slow=38						
HFS	Hagfors	22.47	351	P	P	00 20 16.0	+1.6
	comp=N,8.1nm,0.7s,baz=166,slow=14,SNR=8.3						
	comp=N,8.1nm,0.7s						
EKA	Eskdalemuir Ar	23.40	325	P	P	00 20 24.9	+0.8
	comp=N,4.5nm,0.9s,baz=124,slow=11,SNR=5.0						
	comp=N,4.5nm,0.9s						
FINES	FINESS Array B	23.67	7	P	P	00 20 25.9	-0.7
FINES	FINESS Array B	23.67	7	P	P	00 20 27.2	+0.6
	comp=N,3.9nm,1.0s,baz=186,slow=12,SNR=2.6						
	comp=N,3.9nm,1.0s						
NC405	NORSAR Array S	23.68	350	P	P	00 20 26.5	-0.2
NB2	NORSAR Subarra	23.68	349	P	P	00 20 27.7	+0.9
	comp=Z,1.0nm,0.7s,baz=159,slow=9.3						
NOA	NORSAR Array B	23.68	349	P	P	00 20 27.3	+0.5
	comp=Z,0.8nm,0.6s,baz=161,slow=9.7,SNR=5.1						
	comp=Z,0.8nm,0.6s						
TORD	Torodi Ar. Bea	29.84	219	P	P	00 21 24.1	+1.4
	comp=Z,0.8nm,0.8s,baz=34,slow=10,SNR=5.7						
	comp=Z,0.8nm,0.8s						
KK31	Karatay Array	38.00	66	P	P	00 22 33.6	+0.3
KKAR	Karatay Array	38.00	66	P	P	00 22 34.1	+0.8
DBIC	Dimbokro	38.70	222	P	P	00 22 38.9	-0.5
DBIC				IAmb	IAmb	00 22 48.1	
	comp=Z,8.6nm,1.4s						
KURBB	Kurchatov Arra	42.43	53	P	P	00 23 09.1	-0.9
	comp=Z,0.3nm,0.6s,baz=280,slow=8.7,SNR=2.3						
	comp=Z,0.3nm,0.6s						
MK31	Makanchi Array	45.51	58	P	P	00 23 33.5	-1.2
MK31				IAmb	IAmb	00 23 41.8	
	comp=Z,1.8nm,1.1s						
MKAR	Makanchi Array	45.51	58	P	P	00 23 34.4	-0.3
	comp=Z,0.4nm,0.5s,baz=273,slow=8.0,SNR=9.3						
	comp=Z,0.4nm,0.5s						
ZAA0	Zalesovo Array	45.89	48	P	P	00 23 37.0	-0.5
ZAA0				IAmb	IAmb	00 23 49.3	
	comp=Z,1.5nm,0.7s						
ZALV	Zalesovo Beam	45.89	48	P	P	00 23 37.2	-0.4
	comp=Z,0.7nm,0.4s,baz=266,slow=7.8,SNR=5.4						
	comp=Z,0.7nm,0.4s						

*DJA **04** 00:15:03.5±3.8, 5°N±33°×12°9E±1°5, h122km±26km, M4.7/6, mB5.2/2, mb4.2/5, MLv4.8/6, Mw(mB)4.6/2*
*NEIC **04** 00:15:36.0±1.5, 3°.64N±0°.08×126°.9E±0°.1, h35km±8km, mb4.2/18, Error ellipse: s-maj=18.3km s-min=10.4km az=71.0*
*IDC **04** 00:15:45.8±1.9, 3°.60N×126°.80E, h132km±17km, mb3.6/12, mbtmp4.0/13, MS3.2/1, Error ellipse: s-maj=41.7km s-min=11.2km az=72.0*
ISC 04 00:15:36.6±0.5**, 3°.61N**±0°.06×**126°.83E**±0°.10**, h48**km**, n46, σ1.s16**/42**, mb4.2**/18**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	1.30	273	P	Pn	00 15 56.6	-1.9
TNTI	Ternate	2.87	169	Pn	Pn	00 16 18.1	-1.8
TNTI				Sn	Sn	00 16 50.8	-2.5
DAV	Davao City (W)	3.66	340	P	Pn	00 16 39.8	+9.0
	71nm,0.3s,baz=61,slow=21,SNR=1.0						
DAV				S	Sn	00 17 27.3	+15
	182nm,0.3s,baz=156,slow=8.7,SNR=1.8						
LBMI	Labuha	4.28	171	P	Pn	00 16 32.5	-6.7
	47nm,0.7s,3µm0.3nm						
GTOI	Gorontalo	4.83	232	P	Pn	00 16 49.3	+2.4
LUWI	Luwuk	6.15	221	Pn	Pn	00 17 06.3	+1.3
TOLI2	Tolitoli	6.54	248	Pn	Pn	00 17 09.2	-1.1
MTN	Manton Dam	16.90	165		P	00 19 30.8	-0.5
MTN				IAmb	IAmb	00 19 53.1	
	comp=Z,12nm,1.2s						
KNRA	Kununurra	19.26	174	P	P	00 19 56.4	-1.0
KNRA				IAmb	IAmb	00 20 05.6	
	comp=Z,7.9nm,0.8s						
YULB	Yu-li	20.38	345	P	P	00 20 07.3	-2.2
YULB				IAmb	IAmb	00 20 08.6	
	comp=Z,30nm,1.4s						
FITZ	Fitzroy Crossi	21.61	183	P	P	00 20 22.6	-0.1
WB0	Warramunga Arr	24.39	163	P	P	00 20 51.0	+0.3
WB0				IAmb	IAmb	00 20 53.8	
	comp=Z,4.4nm,0.8s						
WRA	Warramunga Arr	24.54	163	P	P	00 20 52.0	0.0
WRA	Warramunga Arr	24.54	163	P	P	00 20 52.0	0.0
	comp=Z,2.9nm,0.7s,baz=343,slow=10,SNR=24						
WRA				S	S	00 25 09.5	-0.1
	comp=Z,0.5nm,0.9s,baz=344,slow=21,SNR=3.2						
	comp=Z,2.9nm,0.7s						
AS31	Alice Springs	27.98	166	P	P	00 21 24.1	+1.1
ASAR	Alice Springs	27.98	166	P	P	00 21 23.3	+0.3
ASAR	Alice Springs	27.98	166	P	P	00 21 23.0	0.0
	comp=Z,0.2nm,0.3s,baz=329,slow=6.7,SNR=2.2						
	comp=Z,0.2nm,0.3s						
JHJ	Hachijo jima 2	31.76	21	LR	LR	00 34 25.7	
	comp=Z,47nm,20.6s,baz=114,slow=35						
KSRS	Korea Array	33.70	2	P	P	00 22 12.8	-0.4
	comp=Z,2.4nm,0.7s,baz=180,slow=9.7,SNR=6.4						
	comp=Z,2.4nm,0.7s						
BBOO	Buckleboo	37.27	167	P	P	00 22 45.9	+1.9
BBOO				IAmb	IAmb	00 23 01.6	
	comp=Z,7.7nm,1.2s						
STKA	Stephens Creek	37.98	159	P	P	00 22 50.0	0.0
STKA	Stephens Creek	37.98	159	P	P	00 22 51.4	+1.3
	comp=Z,1.4nm,0.4s,baz=325,slow=9.5,SNR=6.5						
	comp=Z,1.4nm,0.4s						
USRK	Ussuriysk Ar.	40.67	6	P	P	00 23 12.9	+0.6
	comp=Z,3.6nm,0.8s,baz=189,slow=8.6,SNR=5.3						
	comp=Z,3.6nm,0.8s						
H11S3	WAKE ISLAND Hy	41.68	66	T	T	01 07 54.2	
	baz=253						
H11S1	WAKE ISLAND Hy	41.70	66	T	T	01 07 51.6	
	baz=253						
H11S2	WAKE ISLAND Hy	41.70	66	T	T	01 07 53.8	
	baz=253						
SONM	Songino Array	47.44	341	P	P	00 24 06.8	+0.1
SONM				IAmb	IAmb	00 24 12.9	
	comp=Z,0.9nm,0.9s						
SONM	Songino Array	47.44	341	P	P	00 24 06.8	+0.1
	comp=Z,0.5nm,0.6s,baz=162,slow=7.9,SNR=4.3						
	comp=Z,0.5nm,0.6s						
PETK	Petropavlovsk-	55.50	22	P	P	00 25 08.2	+1.5
	comp=Z,3.2nm,0.9s,baz=239,slow=10.0,SNR=2.8						
	comp=Z,3.2nm,0.9s						
MK31	Makanchi Array	57.71	325	P	P	00 25 22.4	-0.1
MK31				IAmb	IAmb	00 25 30.2	
	comp=Z,0.9nm,0.7s						
MKAR	Makanchi Array	57.71	325	P	P	00 25 21.6	-0.9
MKAR	Makanchi Array	57.71	325	P	P	00 25 23.3	+0.8
	comp=Z,0.9nm,0.6s,baz=120,slow=8.3,SNR=11						
	comp=Z,0.9nm,0.6s						
YAK	Yakutsk	58.32	2	P	P	00 25 26.4	0.0
ZALV	Zalesovo Beam	60.74	333	P	P	00 25 44.6	+1.3
	comp=Z,0.4nm,0.3s,baz=141,slow=5.5,SNR=2.6						
	comp=Z,0.4nm,0.3s						
KURBB	Kurchatov Arra	61.89	327	P	P	00 25 50.3	-0.9
	comp=Z,1.3nm,0.6s,baz=128,slow=6.5,SNR=17						
	comp=Z,1.3nm,0.6s						
KURK	Kurchatov	61.89	327	P	P	00 25 50.9	-0.3
KURK				IAmb	IAmb	00 26 02.5	
	comp=Z,2.2nm,0.7s						
KKAR	Karatay Array	63.39	317	P	P	00 26 01.2	-0.1
BVAR	Borovoye Array	67.47	327	P	P	00 26 26.4	-1.1
	comp=Z,0.6nm,0.5s,baz=129,slow=8.0,SNR=2.6						
	comp=Z,0.6nm,0.5s						
ABKAR	Akbulak array	72.31	321	P	P	00 26 56.2	-1.1
M14K	Bethel	77.73	28	P	P	00 27 29.2	+0.9
L16K	Owhat River	79.13	28	P	P	00 27 36.2	+0.2
C19K	Lookout Ridge	80.81	20	P	P	00 27 46.6	+1.6
B21K	Ikpikpuk River	82.65	20	P	P	00 27 55.3	+0.7
B21K				IAmb	IAmb	00 27 57.0	
	comp=Z,5.4nm,1.3s						
B22K	Teshekpuk Lake	83.16	20	P	P	00 27 58.1	+0.9
B22K				IAmb	IAmb	00 27 59.2	
	comp=Z,3.7nm,1.4s						
BMAR	Burnt Mountain	86.14	23	P	P	00 28 14.2	+1.8
ARCES	ARCESS Array B	90.59	340	P	P	00 28 32.7	-0.8
	comp=Z,2.3nm,0.9s,baz=72,slow=6.8,SNR=5.6						
	comp=Z,2.3nm,0.9s						

*IDC **04** 00:21:16.4±1.7, 1°.13N×125°.54E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=177.1km s-min=22.7km az=65.0*
*DJA **04** 00:21:24.0±1.1, 1°N±14°×12°5E±°, h40km±14km, M3.6/7, MLv3.6/7*
ISC 04 00:21:25.8±1.3**, 1°.0N**±0°.1×**125°.46E**±0°.09**, h79**km**, n9, σ0.s93**/9**, mb3.3**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	1.53	254	P	Pn	00 21 50.0	-1.4
GTOI	Gorontalo	2.47	262	P	Pn	00 22 03.8	-0.1
LBMI	Labuha	2.60	128	P	Pn	00 22 05.4	-0.4
SANI	Sanana	3.06	170	P	Pn	00 22 11.4	-0.6
LUWI	Luwuk	3.36	233	P	Pn	00 22 16.6	+0.6
WRA	Warramunga Arr	22.55	158	P	P	00 26 18.9	-0.6
	0.8nm,0.5s,baz=337,slow=11,SNR=12						
	0.8nm,0.5s						
ASAR	Alice Springs	25.85	162	P	P	00 26 51.2	+1.1
	0.7nm,0.5s,baz=336,slow=8.4,SNR=10						
	0.7nm,0.5s						
MKAR	Makanchi Array	59.10	327	P	P	00 31 17.8	-0.2
	0.2nm,0.8s,baz=117,slow=8.4,SNR=1.8						
	0.2nm,0.8s						
KURBB	Kurchatov Arra	63.38	329	P	P	00 31 47.5	+0.7
	0.1nm,0.3s,baz=126,slow=5.8,SNR=2.0						
	0.1nm,0.3s						

*DJA **04** 00:34:31.8±0.4, 2°N±4°×12°1E±°, h43km±27km, M4.9/13, mB5.5/4, mb5.1/6, MLv4.8/13, Mw(mB)4.9/4*
*NEIC **04** 00:34:32.6±1.4, 1°.96N±0°.05×121°.00E±0°.07, h49km±9km, mb4.4/19, Error ellipse: s-maj=10.8km s-min=7.5km az=74.0*
*IDC **04** 00:34:33.1±0.7, 1°.97N×121°.07E, h60km±6km, mb3.7/12, mbtmp4.0/13, MS3.2/7, Error ellipse: s-maj=34.1km s-min=10.9km az=72.0*
ISC 04 00:34:31.5±0.4**, 2°.01N**±0°.04×**121°.10E**±0°.07**, h41**km**, n59, σ1.s70**/70**, mb4.2**/24**, MS3.3**/6**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOLI2	Tolitoli	0.94	200	Pn	Pn	00 34 48.8	+0.4
TOLI2				Sn	Sn	00 35 01.3	+0.7
MPSI	Mapaga	2.05	216	P	Pn	00 35 03.3	-0.2
MPSI				S	Sn	00 35 29.0	+1.2
KMSI	Cibinong	3.21	116	P	Pn	00 35 19.8	+0.3
LUWI	Luwuk	3.46	151	Pn	Pn	00 35 25.5	+2.6
LUWI				Sn	Sn	00 36 04.8	+2.1
LUWI	Luwuk	3.46	151	P	Pn	00 35 25.5	+2.6
SGSI	Sangihe	4.73	69	P	Pn	00 35 41.9	+1.5
SPSI	Sidrap Palu	6.08	193	P	Pn	00 35 57.3	-1.6
	19nm,0.7s,2µm0.2nm						
KKM	Kota Kinabalu	6.31	310	Pn	Pn	00 36 03.1	+0.9
KKM				Sn	Sn	00 37 11.6	-1.5
KKM	Kota Kinabalu	6.31	310	P	Pn	00 36 03.3	+1.1
	201nm,0.7s,4µm1.0nm						
SANI	Sanana	6.34	129	P	Pn	00 36 01.8	-0.7
	88nm,0.5s,3µm0.5nm						
TNTI	Ternate	6.39	101	Pn	Pn	00 36 04.7	+1.5
LBMI	Labuha	6.92	112	P	Pn	00 36 07.7	-2.8
	40nm,0.5s,0.3nm						
KAPI	Kappang	7.10	191	Pn	Pn	00 36 12.1	-0.9
KAPI	Kappang	7.10	191	P	Pn	00 36 14.5	+1.5
	6.1nm,0.3s,baz=60,slow=23,SNR=5.4						
KAPI				S	Sn	00 37 32.5	0.0
	6.7nm,0.3s,baz=70,slow=19,SNR=1.3						
KAPI				LR	LR	00 39 28.3	
	comp=Z,122nm,21.8s,baz=14,slow=42						
NLAI	Namlea	7.95	131	P	Pn	00 36 25.6	+1.0
LEM	Lembang	16.06	237	LR	LR	00 44 57.2	
	comp=Z,123nm,19.9s,baz=56,slow=39						
MTN	Manton Dam	17.80	146	P	P	00 38 36.9	+0.2
MTN				IAmb	IAmb	00 38 46.4	
	comp=Z,18nm,0.5s						
KNRA	Kununurra	19.14	157	P	P	00 38 50.9	-0.5
KNRA				IAmb	IAmb	00 39 00.3	
	comp=Z,15nm,0.7s						
FITZ	Fitzroy Crossi	20.47	168	P	P	00 39 05.5	-0.5
MBWA	Marble Bar	23.06	183	P	P	00 39 32.2	-1.4
MBWA				IAmb	IAmb	00 39 57.9	
	comp=Z,14nm,1.1s						
PSA00	Pilbara Seismi	23.47	183	P	P	00 39 36.5	-1.0
PSA00				IAmb	IAmb	00 39 38.9	
	comp=Z,7.6nm,0.9s						
WB0	Warramunga Arr	25.27	150	P	P	00 39 52.7	-1.5
WB0				IAmb	IAmb	00 39 55.0	
	comp=Z,7.0nm,0.7s						
WRA	Warramunga Arr	25.39	150	P	P	00 39 54.3	-1.0
WRA	Warramunga Arr	25.39	150	P	P	00 39 54.5	-0.7
	comp=Z,4.3nm,0.9s,baz=324,slow=11,SNR=50						
	comp=Z,4.3nm,0.9s						
JOW	Kunigami	25.63	15	LR	LR	00 49 00.5	
	comp=Z,68nm,20.7s,baz=131,slow=34						
CMAR	Chiang Mai Arr	27.19	308	P	P	00 40 11.2	-0.3
	comp=Z,0.5nm,0.3s,baz=135,slow=9.0,SNR=4.3						
CMAR				LR	LR	00 51 48.1	
	comp=Z,37nm,20.3s,baz=95,slow=38						
	comp=Z,0.5nm,0.3s						
AS31	Alice Springs	28.40	155	P	P	00 40 21.8	-0.5
ASAR	Alice Springs	28.40	155	P	P	00 40 21.6	-0.7
ASAR	Alice Springs	28.40	155	P	P	00 40 22.1	-0.3
	comp=Z,1.7nm,0.5s,baz=344,slow=14,SNR=73						
ASAR				PcP	PcP	00 43 32.3	-1.9
	comp=Z,0.4nm,0.6s,baz=350,slow=3.2,SNR=3.4						
	comp=Z,1.7nm,0.5s						
PZH	PanZhiHua	30.64	324	P	P	00 40 44.6	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
MORW	Morawa	31.28	189	P	P	00 40 46.6	-1.1
MORW				IAmb	IAmb	00 40 53.1	
	comp=Z,16nm,1.1s						
FORT	Forrest	33.27	169	P	P	00 41 04.5	-0.7
NWAO	Narrogin (SRO)	34.94	186	P	P	00 41 19.4	-0.2
KSRS	Korea Array	35.83	9	LR	LR	00 56 37.2	
	comp=Z,15nm,20.7s,baz=335,slow=37						
BBOO	Buckleboo	37.41	159	P	P	00 41 39.8	-1.0
STKA	Stephens Creek	38.91	152	P	P	00 41 53.4	0.0
STKA	Stephens Creek	38.91	152	P	P	00 41 52.5	-0.9
	comp=Z,2.1nm,0.4s,baz=305,slow=6.1,SNR=8.4						
	comp=Z,2.1nm,0.4s						
HHC	Hu-ho-hao-te	39.62	349	*e*P	P	00 42 01.4	+2.1
HHC				pmax	pmax		
	comp=Z,22nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,6.5s						
MDJ	Mudanjiang	43.09	9	P	P	00 42 29.5	+1.9
MDJ				pP	sP	00 42 42.9	+0.9
MDJ				sP	pwP	00 42 48.8	+4.9
MDJ				PcP	PcP	00 44 15.5	-1.5
MDJ				ScP	ScP	00 48 02.0	-3.2
MDJ				PcS	PcS	00 48 07.4	-1.9
MDJ				S	S	00 48 58.5	+7.6
MDJ				sS	sS	00 49 16.4	+8.4
MDJ				SS	SnSn	00 52 16.3	-6.2
MDJ				ScS	ScS	00 52 24.7	0.0
MDJ				pmax	pmax		
	comp=Z,11nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,260nm,6.3s						
MDJ				LR	LR		
	comp=N,330nm,13.6s						
MDJ				LR	LR		
	comp=E,340nm,15.3s						
MDJ				LR	LR		
	comp=Z,240nm,18.9s						
CAN	Canberra	45.39	147	P	P	00 42 47.1	+0.8
CAN				IAmb	IAmb	00 42 48.5	
	comp=Z,7.1nm,0.6s						
SONM	Songino Array	47.39	347	P	P	00 43 00.3	-1.6
	comp=Z,0.3nm,0.7s,baz=173,slow=13,SNR=1.7						
SONM				pP	sP	00 43 17.1	+0.9
	comp=Z,0.7nm,0.7s,baz=162,slow=8.5,SNR=6.4						
	comp=Z,0.3nm,0.7s						
WMQ	Urumqi	51.10	329	*e*P	P	00 43 31.8	+1.5
WMQ				pP	pwP	00 43 46.3	+0.2
WMQ				sP	sP	00 43 51.9	+6.9
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
MK31	Makanchi Array	55.92	329	P	P	00 44 05.6	+0.1
MK31				IAmb	IAmb	00 44 22.5	
	comp=Z,3.2nm,1.4s						
MKAR	Makanchi Array	55.92	329	P	P	00 44 05.6	+0.1
MKAR	Makanchi Array	55.92	329	P	P	00 44 05.2	-0.3
	comp=Z,0.7nm,0.4s,baz=128,slow=8.5,SNR=27						
MKAR				pP	pwP	00 44 21.7	+0.2
	comp=Z,0.7nm,0.6s,baz=126,slow=7.9,SNR=6.0						
	comp=Z,0.7nm,0.4s						
KBL	Kabul	58.20	310	P	P	00 44 21.0	-1.1
KBL				IAmb	IAmb	00 44 23.2	
	comp=Z,2.3nm,0.6s						
PETK	Petropavlovsk-	59.24	25	LR	LR	01 11 31.9	
	comp=Z,32nm,19.0s,baz=340,slow=37						
ZALV	Zalesovo Beam	59.72	336	P	P	00 44 30.8	-1.2
ZALV	Zalesovo Beam	59.72	336	P	P	00 44 31.2	-0.7
	comp=Z,0.7nm,0.4s,baz=120,slow=9.6,SNR=7.3						
ZALV				pP	sP	00 44 46.6	-0.2
	comp=Z,1.0nm,0.5s,baz=110,slow=6.1,SNR=3.7						
	comp=Z,0.7nm,0.4s						
KURBB	Kurchatov Arra	60.29	330	P	P	00 44 35.4	-0.5
	comp=Z,1.1nm,0.8s,baz=120,slow=5.9,SNR=12						
KURBB				pP	pwP	00 44 51.6	-0.4
	comp=Z,0.7nm,0.5s,baz=111,slow=6.3,SNR=4.6						
	comp=Z,1.1nm,0.8s						
KKAR	Karatay Array	60.76	320	P	P	00 44 38.7	-0.6
MA2	Magadan	61.84	17	LR	LR	01 13 21.2	
	comp=Z,29nm,18.1s,baz=56,slow=38						
BVAR	Borovoye Array	65.80	329	P	P	00 45 12.4	0.0
	comp=Z,0.8nm,0.7s,baz=154,slow=7.9,SNR=4.9						
	comp=Z,0.8nm,0.7s						
ABKAR	Akbulak array	69.99	322	P	P	00 45 38.9	0.0
NRIK	Noril'sk	70.84	348	P	P	00 45 43.6	-0.1
	comp=Z,1.1nm,0.5s,baz=117,slow=4.5,SNR=3.6						
	comp=Z,1.1nm,0.5s						
VNDA	Vanda	82.49	172	P	P	00 46 49.5	+0.1
	comp=Z,1.6nm,0.9s,baz=307,slow=7.3,SNR=6.3						
	comp=Z,1.6nm,0.9s						
D19K	Kuna River	84.76	21	P	P	00 47 01.1	-0.1
H19K	Roundabout Mou	85.05	24	P	P	00 47 02.6	0.0
H19K				IAmb	IAmb	00 47 20.7	
	comp=Z,3.3nm,0.9s						
ILAR	Eielson Array	89.06	25	P	P	00 47 22.5	+0.4
	comp=Z,0.1nm,0.5s,baz=258,slow=4.2,SNR=1.3						
	comp=Z,0.1nm,0.5s						

IDC 04 00:43:45.1±9.7, 32°.31S×179°.47W, h94km±92km, mb3.0/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=78.7km s-min=58.2km az=170.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.56	204	P	Pn	00 45 19.1	+0.2
	2.1nm,0.3s,baz=341,slow=0.8,SNR=7.0						
URZ				S	Sn	00 46 32.6	+0.4
	8.8nm,0.7s,baz=58,slow=22,SNR=2.2						
	4.2nm,0.3s						
ASAR	Alice Springs	41.80	270	P	P	00 51 25.7	0.0
	0.3nm,0.9s,baz=97,slow=7.5,SNR=1.6						
	0.3nm,0.9s						
WRA	Warramunga Arr	42.96	275	P	P	00 51 35.0	-0.2
	0.3nm,0.5s,baz=116,slow=7.7,SNR=2.7						
	0.3nm,0.5s						
FINES	FINESS Array B	146.47	338	PKPbc	PKPdf	01 03 13.8	+0.7
	0.9nm,0.5s,baz=50,slow=4.6,SNR=12						

IDC 04 00:43:49.7±0.8, 29°.40N×142°.53E, h0km, mb3.7/12, mbtmp3.7/13, ML2.9/1, MS3.4/2, Error ellipse: s-maj=23.4km s-min=18.8km az=72.0

ISC 04 00:43:51.3±0.8, 29°.4N±0°.1×142°.5E±0°.2, h10km, n19, σ0s.91/16, mb3.8/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.33	187	Sn	Sn	00 44 48.6	-10
	27nm,0.3s,baz=280,slow=17,SNR=2.0						
MJAR	Matsushiro Arr	7.97	334	Pn	Pn	00 45 46.8	-0.4
	0.2nm,0.3s,baz=153,slow=11,SNR=13						
MJAR				Sn	Sn	00 47 17.2	-0.1
	baz=197,slow=23						
	4.4nm,0.7s						
GUMO	Guam	15.90	172	LR	LR	00 51 37.9	
	comp=Z,202nm,18.8s,baz=81,slow=30						
H11N2	WAKE ISLAND Hy	24.15	108	T	T	01 14 57.0	
	baz=297						
H11N1	WAKE ISLAND Hy	24.15	108	T	T	01 15 01.4	
	baz=297						
H11N3	WAKE ISLAND Hy	24.16	108	T	T	01 14 54.3	
	baz=297						
SONM	Songino Array	33.28	314	P	P	00 50 29.5	+0.5
	0.5nm,0.7s,baz=125,slow=8.3,SNR=4.3						
	0.5nm,0.7s						
CMAR	Chiang Mai Arr	41.07	265	LR	LR	01 10 43.3	
	comp=Z,24nm,18.6s,baz=40,slow=39						
ZALV	Zalesovo Beam	47.95	318	P	P	00 52 30.7	+0.9
	0.3nm,0.3s,baz=103,slow=6.4,SNR=2.3						
	0.3nm,0.3s						
MKAR	Makanchi Array	49.24	308	P	P	00 52 39.9	-0.1
	0.4nm,0.7s,baz=90,slow=9.7,SNR=4.3						
	0.4nm,0.7s						
WRA	Warramunga Arr	49.70	190	P	P	00 52 42.5	-1.1
	2.2nm,0.8s,baz=12,slow=8.5,SNR=8.6						
WRA				PcP	PcP	00 54 04.7	-0.1
	0.4nm,0.5s,baz=0.6,slow=3.9,SNR=2.1						
	2.2nm,0.8s						
KURBB	Kurchatov Arra	51.64	313	P	P	00 52 57.5	-0.5
	0.9nm,0.6s,baz=90,slow=6.7,SNR=9.1						
	0.9nm,0.6s						
ASAR	Alice Springs	53.42	190	P	P	00 53 11.7	+0.2
	0.1nm,0.3s,baz=10,slow=5.7,SNR=2.1						
	0.1nm,0.3s						
ILAR	Eielson Array	55.55	29	P	P	00 53 25.4	-1.2
	0.4nm,0.7s,baz=251,slow=6.1,SNR=6.3						
ILAR				PcP	PcP	00 54 28.3	+2.1
	0.1nm,0.6s,baz=302,slow=5.2,SNR=1.3						
	0.4nm,0.7s						
BVAR	Borovoye Array	56.55	316	P	P	00 53 34.1	+0.3
	1.3nm,0.6s,baz=99,slow=8.9,SNR=4.2						
	1.3nm,0.6s						
YKA	Yellowknife Ar	69.98	29	P	P	00 55 02.5	-0.2
	0.5nm,0.8s,baz=298,slow=6.3,SNR=7.0						
	0.5nm,0.8s						
NVAR	Mina Array Bea	78.87	52	P	P	00 55 55.5	+0.3
	0.8nm,0.7s,baz=298,slow=6.0,SNR=6.1						
	0.8nm,0.7s						
PDAR	Pinedale Array	82.37	45	P	P	00 56 12.8	-1.1
	0.4nm,0.8s,baz=311,slow=6.9,SNR=3.2						
	0.4nm,0.8s						
TXAR	Lajitas Array	93.99	53	P	P	00 57 11.0	+0.9
	1.1nm,0.9s,baz=302,slow=2.0,SNR=9.0						
	1.1nm,0.9s						

IDC 04 00:44:31.2±3.1, 9°.29S×113°.44E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=150.1km s-min=23.7km az=51.0

DJA 04 00:44:36.4±0.6, 10°S±8°×11°3E±°, h10km, M3.4/8, mb3.2/2, MLv3.5/8

ISC 04 00:44:35.9±1.0, 9°.45S±0°.10×113°.45E±0°.04, h26km, n16, σ1s.95/20, mb3.5/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.20	36	P	Pb	00 44 58.3	+0.4
KRKI	Karangkates	1.62	322	P	Pb	00 45 05.3	+0.2
KRKI				S	Sb	00 45 25.1	0.0
BLJI	Banyuglugur	1.70	5	P	Pb	00 45 07.2	+0.7
ABJI	Asem Bagus	1.82	25	P	Pb	00 45 09.3	+0.8
SRBI	Singaraja	2.21	52	P	Pb	00 45 13.5	-1.7
SRBI				S	Sb	00 45 40.2	-1.9
SJI	Sawahan	2.38	316	P	Pb	00 45 15.5	-2.7
SJI				S	Sb	00 45 44.9	-2.3
UGM	Wanagama	3.27	298	P	Pn	00 45 29.0	+3.4
UGM				S	Sn	00 46 05.6	+1.9
TWSI	Taliwang, Sumb	3.46	78	P	Pn	00 45 30.6	+2.4
PLAI	Plampang	4.32	82	P	Pn	00 45 41.8	+1.9
WBSI	Waikabubak, Su	5.86	92	P	Pn	00 46 03.3	+2.1
	0.1nm,0.7s,0.0nm						
LEM	Lembang	6.33	294	P	Pn	00 46 10.4	+2.6
WRA	Warramunga Arr	22.71	120	P	P	00 49 35.3	-0.6
	0.3nm,0.6s,baz=295,slow=11,SNR=3.4						
	0.3nm,0.6s						
ASAR	Alice Springs	24.12	128	P	P	00 49 50.3	+0.4
	0.2nm,0.5s,baz=305,slow=9.0,SNR=4.1						
	0.2nm,0.5s						
SONM	Songino Array	57.37	354	P	P	00 54 20.5	-1.6
	0.4nm,0.4s,baz=175,slow=8.4,SNR=6.2						
	0.4nm,0.4s						
MKAR	Makanchi Array	62.51	336	P	P	00 54 56.0	-1.3
	0.2nm,0.5s,baz=132,slow=8.2,SNR=2.2						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	67.65	342	P	P	00 55 28.3	-2.1
	0.3nm,0.4s,baz=134,slow=6.2,SNR=1.9						
	0.3nm,0.4s						

IDC 04 00:50:44.5±6.1, 49°.03S×118°.30E, h0km, mb3.5/2, mbtmp3.5/2, MS3.5/13, Error ellipse: s-maj=708.7km s-min=77.7km az=115.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.46	346	T	T	01 10 16.8	
	baz=163,slow=73,SNR=6.1						
H01W1	Cape Leeuwin H	14.46	346	T	T	01 10 11.0	
	baz=163,slow=73,SNR=9.3						
H01W3	Cape Leeuwin H	14.47	346	T	T	01 10 12.0	
	baz=163,slow=73,SNR=10						
NWAO	Narrogin (SRO)	16.11	357	LR	LR	00 59 33.5	
	comp=Z,237nm,21.3s,baz=112,slow=33						
STKA	Stephens Creek	24.50	54	LR	LR	01 03 37.7	
	comp=Z,69nm,20.9s,baz=208,slow=32						
ASAR	Alice Springs	28.15	32	P	P	00 56 38.1	-0.3
	1.0nm,0.9s,baz=200,slow=9.1,SNR=8.5						
ASAR				LR	LR	01 06 40.4	
	comp=Z,48nm,19.6s,baz=203,slow=34						
	1.0nm,0.9s						
WRA	Warramunga Arr	31.75	30	P	P	00 57 10.7	+0.4
	0.2nm,0.8s,baz=200,slow=8.8,SNR=1.6						
	0.2nm,0.8s						
VNDA	Vanda	33.01	164	LR	LR	01 08 57.2	
	comp=Z,145nm,21.0s,baz=318,slow=33						
MAW	Mawson	33.02	215	LR	LR	01 07 37.0	
	comp=Z,53nm,18.3s,baz=92,slow=31						
CTA	Charters Tower	36.53	48	LR	LR	01 12 23.6	
	comp=Z,70nm,18.4s,baz=241,slow=36						
QSPA	South Pole Qui	41.09	180	LR	LR	01 14 37.1	
	comp=Z,67nm,19.8s,baz=348,slow=35						
KAPI	Kappang	43.88	2	LR	LR	01 15 14.1	
	comp=Z,73nm,20.3s,baz=199,slow=34						
DZM	Mont Dzumac	46.48	72	LR	LR	01 17 49.6	
	comp=Z,67nm,19.0s,baz=315,slow=35						
PALK	Pallekele	65.00	318	LR	LR	01 24 14.7	
	comp=Z,56nm,19.4s,baz=105,slow=31						
PMSA	Palmer Station	66.52	179	LR	LR	01 29 55.5	
	comp=Z,57nm,18.6s,baz=210,slow=35						
CMAR	Chiang Mai Arr	69.36	340	LR	LR	01 32 38.8	
	comp=Z,28nm,18.2s,baz=135,slow=36						
LBTB	Lobatse	73.24	251	LR	LR	01 29 29.6	
	comp=Z,46nm,19.4s,baz=357,slow=32						
YKA	Yellowknife Ar	148.33	45	PKPbc	PKPbc	01 10 30.8	-0.6
	0.2nm,0.8s,baz=282,slow=2.5,SNR=2.5						

PGC 04 00:51:22.8±1.9, 50°.59N×130°.39W, h10km, MLSn2.8/16, Mw3.5/16, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	Holberg	1.44	87	Pn	Pn	00 51 46.8	-2.1
HOLB				Sn	Sn	00 52 03.8	-4.0
HG4B	Hotspring	1.78	344	Pn	Pn	00 51 51.4	-2.3
HG4B				Sn	Sn	00 52 12.7	-3.6
PHC	Port Hardy	1.88	85	Pn	Pn	00 51 53.2	-1.8
PHC				Sn	Sn	00 52 14.8	-4.0
MAYB	Maynard	2.06	94	Pn	Pn	00 51 55.7	-1.9
BBB	Bella Bella	2.14	41	Pn	Pn	00 51 57.0	-1.5
BBB				Sn	Sn	00 52 21.2	-4.0
BAIB	Barry Inlet	2.17	337	Pn	Pn	00 51 58.0	-1.0
BNB	Barry Inlet	2.17	337	Pn	Pn	00 51 58.0	-1.0
EDB	Eliza Dome	2.21	108	Pn	Pn	00 51 57.4	-2.2
WOSB	Woss	2.48	98	Pn	Pn	00 52 01.9	-1.5
WOSB				Sn	Sn	00 52 29.1	-4.5
BUTB	Butedale	2.75	25	Pn	Pn	00 52 05.8	-1.3
BUTB				Sn	Sn	00 52 36.4	-4.0
BNKB	Banks Island	2.77	6	Pn	Pn	00 52 05.5	-1.7
BNKB				Sn	Sn	00 52 36.8	-3.8
NCRB	Newcastle Ridg	2.77	92	Pn	Pn	00 52 05.7	-1.6
NCSB	Newcastle Ridg	2.77	92	Pn	Pn	00 52 05.8	-1.6
NCSB				Sn	Sn	00 52 37.6	-3.3
GRIB	Gribbell Islan	2.86	15	Pn	Pn	00 52 07.0	-1.5
GRIB				Sn	Sn	00 52 39.7	-3.3
BNAB	Bonilla	2.91	357	Pn	Pn	00 52 08.0	-1.1
BNAB				Sn	Sn	00 52 40.1	-4.1
DIB	Dawson Inlet,	2.92	334	Pn	Pn	00 52 08.0	-1.3
CBB	Campbell River	3.27	98	Pn	Pn	00 52 13.0	-1.0
GRNB	Grenville Isla	3.27	4	Pn	Pn	00 52 12.7	-1.5
GRNB				Sn	Sn	00 52 49.0	-4.2
KITB	Kitimat	3.66	16	Pn	Pn	00 52 18.4	-1.0
KITB				Sn	Sn	00 52 59.7	-2.8
RUBB	Prince Rupert	3.75	1	Pn	Pn	00 52 20.6	0.0
TXB	Texada	3.93	101	Pn	Pn	00 52 22.3	-0.9
SHB	Sechelt	4.31	101	Pn	Pn	00 52 28.1	-0.4
PFB	Port Renfrew	4.36	115	Pn	Pn	00 52 28.9	-0.2
MBW	Mount Baker	5.80	105	Pn	Pn	00 52 50.1	+1.1
FMW	Mount Fremont	6.82	119	Pn	Pn	00 53 04.7	+1.6
NBC5	NorthernBC 5	8.29	30	Pn	Pn	00 53 24.7	+1.6

NOU 04 01:17:41.5, 17°.62S×168°.35E, h30km, MLv4.1/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	0.19	236	P	Pn	01 17 49.2	+0.9
LIFNC	LIFOU	3.31	198	P	Pn	01 18 31.4	+0.1
MARNC	Mare, Loyalty	3.85	184	P	Pn	01 18 37.8	-0.9
YATNC	Mamie plateau,	4.62	197	P	Pn	01 18 49.4	0.0
DZM	Mont Dzumac	4.78	202	P	Pn	01 18 52.0	+0.4
KOUNC	Koumac, New Ca	4.82	232	P	Pn	01 18 51.6	-0.5
NOUC	Port Laguerre	4.86	203	P	Pn	01 18 52.3	-0.3
OUENC	Ouen Island, N	4.98	196	P	Pn	01 18 56.0	+1.7

TAP 04 01:30:31.0, 24°.26N×123°.00E, h64km, ML3.5, D

JMA 04 01:30:31.9±0.1, 24°N±2°×123°.0E±0°.6, h48km±1km, MV2.7/13, NW OFF ISHIGAKIJIMA IS

ISC 04 01:30:30.9±1.1, 24°.20N±0°.03×122°.98E±0°.02, h33km±3km, n88, σ1s.74/162, 6C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.26	353	P	Pn	01 30 39.3	+1.2
JYNG				S	Sb	01 30 44.8	+1.6
YOJ	Yonaguni jima	0.27	6	P	Pn	01 30 39.5	+1.2
YOJ				S	Sb	01 30 44.7	+1.4
EOS4	EOS4	0.61	263	P	Pn	01 30 44.9	+2.1
	baz=259						
EOS4				*i* S	Sn	01 30 54.8	+3.5
	baz=259						
EOS3	EOS3	0.61	279	*e*P	Pn	01 30 44.2	+1.2
	baz=267						
EOS3				*e*S	Sn	01 30 54.5	+2.8
	baz=267						
EOS2	EOS2	0.72	288	⇑*e*P	Pn	01 30 45.4	+0.8
	baz=281						
HATJ	Hateruma jima	0.77	100	P	Pn	01 30 47.1	+1.7
HATJ				S	Sn	01 30 57.6	+1.7
JKRS	Kuro-shima	0.94	87	P	Pb	01 30 49.2	+0.4
JKRS				S	Sn	01 31 01.8	+1.7
JIJ	Ishigaki jima	1.07	81	*i* P	Pb	01 30 50.1	-1.0
JIJ				S	Sn	01 31 03.4	-0.1
ESAO	Su ao	1.10	290	*e*P	Pn	01 30 49.4	-0.6
	baz=294						
ESAO				*e*S	Sn	01 31 02.5	-1.6
	baz=294						
TWC	Suao	1.11	292	P	Pn	01 30 50.0	-0.1
	baz=297						
TWC				*e*S	Sn	01 31 03.7	-0.5
	baz=297						
EWUT	Wuta	1.12	283	*e*S	Sn	01 31 04.5	-0.1
	baz=287						
ENA	Nanau	1.15	282	*i* P	Pb	01 30 51.7	-0.6
	baz=277						
ENA				S	Sb	01 31 06.8	-0.2
	baz=277						
NDS	Dongshan	1.23	291	P	Pb	01 30 52.7	-1.0
	baz=292						
NDS				*e*S	Sn	01 31 07.1	-0.2
	baz=292						
ETL	Fush Village	1.24	269	S	Sn	01 31 09.0	+1.5
	baz=254						
NACB	Ninganchiao	1.26	269	⇑P	Pn	01 30 53.1	+0.8
	baz=255						
NACB				*i* S	Sn	01 31 09.2	+1.1
	baz=255						
TWD	Chiawan	1.27	265	S	Sn	01 31 08.8	+0.5
	baz=251						
JISG	Ishigakijimahi	1.27	72	P	Pn	01 30 52.8	+0.4
JISG				S	Sn	01 31 08.1	-0.3
TIPB	Shuangxi	1.30	307	⇓P	Pn	01 30 52.9	0.0
	baz=295						
TIPB				*e*S	Sn	01 31 07.8	-1.3
	baz=295						
TWE	Neicheng	1.30	294	*i* P	Pb	01 30 53.6	-1.3
	baz=296						
TWE				S	Sb	01 31 10.0	-1.3
	baz=296						
SXI1	Grass Mountain	1.34	312	P	Pb	01 30 53.9	-1.8
	baz=314						
SXI1				*e*S	Sn	01 31 09.0	-1.2
	baz=314						
SHUL	Shoufeng	1.36	253	P	Pn	01 30 53.5	0.0
	baz=249						
SHUL				S	Sn	01 31 11.5	+1.1
	baz=249						
ENTT	Nioudou	1.36	289	P	Pb	01 30 55.1	-0.8
	baz=294						
ENTT				S	Sb	01 31 12.6	-0.4
	baz=294						
ETLH	Xiulin Townshi	1.37	271	P	Pn	01 30 54.5	+0.8
	baz=266						
ETLH				S	Sn	01 31 11.8	+1.0
	baz=266						
LATG	Datong	1.37	285	P	Pb	01 30 55.1	-0.9
	baz=269						
LATG				S	Sb	01 31 13.8	+0.5
	baz=269						
ETM	Tongmen	1.38	261	P	Pn	01 30 54.4	+0.5
	baz=251						
ETM				S	Sn	01 31 11.7	+0.8
	baz=251						
FUSB	Fushanzhiwuyua	1.39	294	P	Pn	01 30 54.5	+0.5
	baz=290						
FUSB				*e*S	Sn	01 31 10.8	-0.5

baz=290
NDT Datong Townshi 1.40 287 P **Pb 01 30 56.2 -0.2**
baz=291
NDT S **Sb 01 31 12.8 -1.2**
baz=291
TEGC Jichi Village 1.40 250 *e*S **Sn 01 31 11.7 +0.2**
baz=246
LXIB Xiulin Townshi 1.44 263 P **Pn 01 30 55.7 +0.9**
baz=253
LXIB S **Sn 01 31 13.7 +1.0**
baz=253
NWLT Wulai 1.47 294 P **Pb 01 30 56.2 -1.4**
baz=297
NWLT S **Sn 01 31 13.3 +0.1**
baz=297
NNSB Datong 1.48 279 *i* P **Pn 01 30 56.1 +0.8**
baz=266
NNSB S **Sn 01 31 14.6 +1.1**
baz=266
NNS Nan Shan 1.48 280 *e*P **Pb 01 30 58.4 +0.3**
baz=266
NNS S **Sb 01 31 15.7 -0.9**
baz=266
EGFH Guangfu 1.51 250 P **Pn 01 30 56.3 +0.6**
baz=247
WARBT Fenglin Townsh 1.53 252 P **Pn 01 30 56.2 +0.2**
baz=249
WARBT S **Sn 01 31 15.0 +0.2**
baz=249
YHNB Yeheng 1.54 288⇑*e*P **Pb 01 30 58.2 -0.7**
baz=273
YHNB S **Sb 01 31 17.2 -0.8**
baz=273
NSK Sanguang 1.55 288 P **Pb 01 30 58.2 -1.0**
baz=273
NSK S **Sb 01 31 17.0 -1.5**
baz=273
WHF Hehuan Shan 1.57 269 *i* P **Pn 01 30 57.6 +0.8**
baz=255
WHF S **Sn 01 31 16.5 +0.3**
baz=255
HGSD Ruisui 1.59 244 ⇑P **Pn 01 30 56.8 +0.1**
baz=241
HGSD *e*S **Sn 01 31 15.8 -0.3**
baz=241
YM01 YM01 1.59 307 *i* P **Pn 01 30 57.4 +0.6**
baz=303
YM01 S **Sn 01 31 15.3 -1.0**
baz=303
JTJ Tarama 1.63 74 S **Sn 01 31 17.7 +0.5**
ECBN Changbin 1.65 238 P **Pn 01 30 58.0 +0.5**
baz=226
ECBN S **Sn 01 31 17.1 -0.6**
baz=226
CHGB Renai 1.66 266 P **Pn 01 30 58.9 +1.0**
baz=252
CHGB S **Sn 01 31 19.4 +1.3**
baz=252
EHY Hungye 1.67 246 P **Pn 01 30 58.2 +0.4**
baz=253
EHY *i* S **Sn 01 31 18.9 +0.8**
baz=253
WUSB Renai 1.71 264 P **Pn 01 30 59.8 +1.3**
baz=259
WUSB S **Sn 01 31 20.2 +0.8**
baz=259
YULB Yu-li 1.73 243 ⇓P **Pn 01 30 59.2 +0.4**
baz=232
YULB S **Sn 01 31 20.1 +0.3**
baz=232
VWDT VWDT 1.74 256 ⇓P **Pn 01 31 00.0 +1.2**
baz=252
VWDT S **Sn 01 31 20.3 +0.5**
baz=252
EYUL Yuli 1.74 241 P **Pn 01 30 59.6 +0.8**
baz=231
EYUL *i* S **Sn 01 31 20.9 +1.1**
baz=231
TWF1 Yuli 1.75 242 ⇑P **Pn 01 30 59.7 +0.7**
baz=231
TWF1 *i* S **Sn 01 31 20.9 +0.7**
baz=231
CHKH Chenggong 1.76 236 *e*S **Sn 01 31 18.7 -1.7**
baz=225
FULB Fuli 1.84 238 P **Pn 01 30 59.8 -0.3**
baz=226
FULB *e*S **Sn 01 31 21.9 -0.4**
baz=226
CHKT Chengkung 1.84 234 S **Sn 01 31 20.9 -1.4**
baz=223
NSTT Nanjuang 1.85 284 *e*P **Pb 01 31 04.8 +0.5**
baz=279
NSTT S **Sb 01 31 25.4 -1.6**
baz=279
WHP Taichung City 1.86 273 *e*P **Pb 01 31 03.9 -0.4**
baz=269
WHP S **Sn 01 31 25.0 +2.1**
baz=269
DPDB Guoxing 1.88 266 P **Pn 01 31 02.7 +1.9**
baz=256
DPDB *e*S **Sn 01 31 25.4 +1.9**
baz=256
WCS Beigang Elemen 1.89 266 P **Pn 01 31 02.6 +1.7**
baz=257
WCS *e*S **Sn 01 31 25.5 +1.9**
baz=257
SSLB Suanglung 1.90 258 P **Pn 01 31 02.3 +1.3**
baz=254
SSLB S **Sn 01 31 23.9 +0.1**
baz=254
SMLT Sun Moon Lake 1.93 261 P **Pn 01 31 03.4 +1.9**
baz=257
SMLT *e*S **Sn 01 31 26.4 +1.8**
baz=257
ECS Chishang 1.95 236 P **Pn 01 31 02.6 +0.9**
baz=226
ECS S **Sn 01 31 25.5 +0.4**
baz=226
EDH Donghe 1.96 232 *e*P **Pn 01 31 00.4 -1.4**
baz=223
EDH *e*S **Sn 01 31 22.6 -2.8**
baz=223
TYC Yuchr 1.96 262 *e*P **Pb 01 31 04.6 -1.4**
baz=259
WHYT Xinyi Township 2.01 256⇑*e*P **Pn 01 31 05.1 +2.6**
baz=246
WHYT S **Sn 01 31 29.0 +2.5**
baz=246
LDUT Ludao 2.05 223 P **Pn 01 31 02.8 -0.3**
baz=221
LDUT *e*S **Sn 01 31 25.4 -2.2**
baz=221
ELDTW Lidau 2.06 241 *e*P **Pn 01 31 03.6 +0.3**
baz=239
WJS Zhushan 2.09 260 P **Pn 01 31 05.8 +2.1**
baz=256
WJS *i* S **Sn 01 31 31.8 +3.3**
baz=256
ALS Alishan 2.10 252 P **Pn 01 31 06.0 +1.9**
baz=248
ALS S **Sn 01 31 30.6 +1.3**
baz=248
WNT Mingjian 2.12 262 *i* S **Sn 01 31 32.7 +3.4**
baz=248
CHN5 Tsauling 2.19 255 P **Pn 01 31 07.7 +2.7**
baz=244
CHN5 S **Sn 01 31 33.8 +2.7**
baz=244
TWGBT Beinan 2.22 232 P **Pn 01 31 06.3 +0.9**
baz=224
TWGBT S **Sn 01 31 30.7 -1.0**
baz=224
TWG Pinlang 2.22 232 *e*P **Pn 01 31 06.7 +1.3**
baz=224
TWG S **Sn 01 31 31.2 -0.6**
baz=224
STYH Taoyuan 2.26 244 *i* P **Pn 01 31 07.4 +1.4**
baz=235
STYH S **Sn 01 31 33.2 +0.4**
baz=235
STYT Tauyuan 2.28 244 P **Pn 01 31 07.8 +1.5**
baz=235
STYT S **Sn 01 31 34.7 +1.4**
baz=235
WDLH Douliu 2.29 258 P **Pn 01 31 09.4 +3.0**
baz=253
WDLH S **Sn 01 31 36.7 +3.3**
baz=253

WCKO Fanlu 2.30 251 *e*P **Pn 01 31 09.9 +3.4**
baz=248
WCKO *e*S **Sn 01 31 36.7 +2.9**
baz=248
TPUB Ta-pu 2.33 248 *e*P **Pn 01 31 09.8 +2.8**
baz=245
TPUB *e*S **Sn 01 31 37.6 +3.1**
baz=245
CHN4 Tsaushan 2.34 249 *e*P **Pn 01 31 10.5 +3.3**
baz=246
CHN4 *e*S **Sn 01 31 38.5 +3.8**
baz=246
WTP Ta-pu 2.37 247 *e*P **Pn 01 31 10.0 +2.6**
baz=243
WTP *e*S **Sn 01 31 38.4 +3.0**
baz=243
RLNB Erlin 2.41 263 *e*P **Pn 01 31 09.3 +1.2**
baz=258
RLNB *e*S **Sn 01 31 40.0 +3.5**
baz=258
WTK Tuku 2.42 258 *e*P **Pn 01 31 09.4 +1.1**
baz=247
WTK *e*S **Sn 01 31 40.8 +4.0**
baz=247
CHY Chiayi 2.44 254 P **Pn 01 31 09.9 +1.5**
baz=250
CHY *e*S **Sn 01 31 40.9 +3.8**
baz=250
ECL Taimali 2.45 230 S **Sn 01 31 36.3 -1.0**
baz=236
SLGT Liugui 2.45 241 P **Pn 01 31 11.3 +2.7**
baz=233
SLGT *e*S **Sn 01 31 41.9 +4.4**
baz=233
SGST Jiashian 2.46 244 *i* P **Pn 01 31 11.0 +2.2**
baz=233
SGST S **Sn 01 31 40.3 +2.6**
baz=233
CHN1 Nanshi 2.46 246 P **Pn 01 31 12.2 +3.4**
baz=253
CHN1 *e*S **Sn 01 31 41.8 +4.0**
baz=253
TWK Hsinying 2.46 248 *e*P **Pn 01 31 11.7 +2.8**
baz=244
TWK *e*S **Sn 01 31 41.0 +3.2**
baz=244
LYUB Lan-yu 2.53 211 *e*P **Pn 01 31 09.2 -0.5**
baz=209
LYUB *e*S **Sn 01 31 36.6 -2.9**
baz=209
MASBT Mashibuluo 2.67 234 *e*P **Pn 01 31 13.8 +2.2**
baz=230
MASBT *e*S **Sn 01 31 45.8 +2.9**
baz=230
TSCK Chigu Township 2.85 249 *e*P **Pb 01 31 19.1 -2.0**
baz=245
TSCK *e*S **Sn 01 31 49.6 +2.3**
baz=245
PHUB P'eng-hu 3.19 258 S **Sn 01 31 56.1 +0.4**
baz=253

*MOS **04** 01:36:20.1±0.9, 41.˙84N×143.˙04E, h58km, mb4.3/13, Error ellipse: s-maj=9.1km s-min=6.3km az=86.5*
*NIED **04** 01:36:21.7, 41.˙89N×143.˙04E, h44km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.09; Mθθ0.43; Mϕϕ0.66; Mrθ1.12; Mθϕ-0.54; Mϕr-0.11; Fault plane solution: M₀1.55000×10¹⁵ NP1: ϕs293.00000°, δ68.00000°, λ-111.00000°. NP2: ϕs159.00000°, δ30.00000°, λ-48.00000°.*
*JMA **04** 01:36:21.7±0.2, 41.˙9N±0.˙8×143.˙0E±0.˙8, h44km±1km, MD4.1/36, MV3.9/36, S OFF URAKAWA*
JMA Felt II J1 at S OFF URAKAWA .
*NEIC **04** 01:36:21.7±1.5, 41.˙91N±0.˙06×143.˙0E±0.˙1, h51km±4km, mb4.3/51, Error ellipse: s-maj=13.5km s-min=7.4km az=118.0*
*IDC **04** 01:36:23.8±1.6, 41.˙87N×142.˙86E, h73km±13km, mb3.7/17, mbtmp4.0/23, MS3.0/8, Error ellipse: s-maj=16.0km s-min=10.8km az=108.0*
ISC 04 01:36:20.6±0.6, 41.˙85N±0.˙05×143.˙13E±0.˙04, h47km±5km, n182, σ1°46/165, mb4.2/55, 10C-16D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ERM	**Erimo**	**0.17**	**6**	Pn	**Pn**	**01 36 29.3**	**+0.9**
ERM				Sn	**Sn**	**01 36 35.3**	**+1.4**
ERM	**Erimo**	**0.17**	**6**	*i*P	**Pn**	**01 36 29.0**	**+0.6**
JEM	**Erimo**	**0.17**	**6**	⇓*e*P	**Pn**	**01 36 29.0**	**+0.6**
JEM				⇓*e*S	**Sn**	**01 36 34.6**	**+0.7**
JEM	**Erimo**	**0.17**	**6**	A	A	01 36 29.0	
comp=E,13nm,0.4s,comp=N,14nm,0.8s							
JTHR	**Tokachihiroo**	**0.46**	**16**	⇓*i*P	**Pn**	**01 36 31.9**	**+0.7**
JTHR				⇓*e*S	**Sn**	**01 36 39.8**	**+1.0**
JTHR	**Tokachihiroo**	**0.46**	**16**	A	A	01 36 31.9	
comp=E,23nm,0.5s,comp=N,17nm,0.6s							
JNBK	**Urakawa-nobuka**	**0.52**	**327**	⇓*e*P	**Pn**	**01 36 31.8**	**-0.1**
JNBK				⇓*e*S	**Sn**	**01 36 40.0**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.52**	**327**	A	A	01 36 31.8	
comp=E,26nm,0.7s,comp=N,23nm,0.7s							
JSHD	**Hidakashinhida**	**0.75**	**319**	⇓P	**Pn**	**01 36 35.1**	**+0.3**
JSHD	**Hidakashinhida**	**0.75**	**319**	A	A	01 36 35.1	
comp=E,12nm,3.1s,comp=N,15nm,1.0s							
JCH	**Churui**	**0.79**	**13**	*e*P	**Pn**	**01 36 36.1**	**+0.8**
JCH				*e*S	**Sn**	**01 36 47.1**	**+1.0**
JCH	**Churui**	**0.79**	**13**	A	A	01 36 36.1	
comp=E,13nm,1.4s,comp=N,8.0nm,2.0s							
JBT2	**Biratori 2**	**1.09**	**329**	⇓*e*P	**Pn**	**01 36 39.9**	**+0.4**
JBT2	**Biratori 2**	**1.09**	**329**	A	A	01 36 39.9	
comp=E,7.0nm,1.9s,comp=N,4.0nm,0.9s							
JOB	**Onbets**	**1.18**	**26**	*e*P	**Pn**	**01 36 42.2**	**+1.6**
JOB	**Onbets**	**1.18**	**26**	A	A	01 36 42.2	
comp=E,6.0nm,1.4s,comp=N,6.0nm,0.5s							
JIAM	**Iburiatsuma**	**1.19**	**311**	*e*P	**Pn**	**01 36 42.6**	**+1.8**
JIAM	**Iburiatsuma**	**1.19**	**311**	A	A	01 36 42.6	
comp=E,11nm,0.8s,comp=N,10.0nm,1.1s							
JFR	**Furan**	**1.37**	**343**	*e*P	**Pn**	**01 36 43.4**	**0.0**
JFR	**Furan**	**1.37**	**343**	A	A	01 36 43.4	
comp=E,4.0nm,1.8s,comp=N,3.0nm,1.0s							
JAHD	**Aomorihigashid**	**1.47**	**247**	A	A	01 36 45.7	
comp=E,26nm,0.6s,comp=N,18nm,0.5s							
JAR	**Ashorobuto**	**1.52**	**18**	A	A	01 36 46.9	
comp=E,6.0nm,0.7s,comp=N,4.0nm,0.6s							
JKB	**Kayabe**	**1.57**	**272**	A	A	01 36 46.9	
comp=E,3.0nm,1.1s,comp=N,3.0nm,0.7s							
JARK	**Aomorirokkasho**	**1.57**	**238**	A	A	01 36 47.4	
comp=E,6.0nm,1.2s,comp=N,5.0nm,0.5s							
JEW	**Eniwo**	**1.59**	**309**	A	A	01 36 47.1	
comp=E,6.0nm,0.9s,comp=N,5.0nm,2.5s							
JAK	**Akkeshi**	**1.63**	**45**	A	A	01 36 48.9	
comp=E,5.0nm,1.6s,comp=N,4.0nm,2.7s							
JOT	**Ohata**	**1.63**	**254**	A	A	01 36 48.0	
comp=E,2.0nm,0.9s,comp=N,3.0nm,0.5s							
JTM	**Tenmabayashi**	**1.88**	**236**		**Pn**	**01 36 51.5**	**+1.3**
JTM				Sn	**Sn**	**01 37 12.6**	**-0.1**
JTM	**Tenmabayashi**	**1.88**	**236**	A	A	01 36 51.9	
comp=E,4.0nm,2.8s,comp=N,5.0nm,2.0s							
JKEN	**Kujiedanarisaw**	**1.96**	**214**	A	A	01 36 53.5	
comp=E,4.0nm,0.9s,comp=N,5.0nm,0.8s							
JHR	**Hokuryu**	**2.16**	**332**	A	A	01 36 55.3	
comp=E,5.0nm,1.6s,comp=N,4.0nm,1.4s							
JMP	**Maruseppu**	**2.16**	**4**	A	A	01 36 55.8	
comp=E,2.0nm,1.5s,comp=N,3.0nm,2.0s							
JSI2	**Shiura 2**	**2.19**	**250**	A	A	01 36 56.1	
comp=E,8.0nm,2.3s,comp=N,4.0nm,1.0s							
JKA	**Kamikawa-asahi**	**2.30**	**350**		**Pn**	**01 36 57.2**	**+1.2**
ASAJ	**Asahikawa**	**2.30**	**350**	P	**Pn**	**01 36 58.0**	**+2.0**
comp=N,79nm,0.5s,baz=212,slow=11,SNR=79							
ASAJ				S	**Sn**	**01 37 26.6**	**+3.5**
comp=N,136nm,0.6s,baz=26,slow=21,SNR=7.0							
ASAJ				LR		01 37 52.2	
comp=N,166nm,21.9s,baz=188,slow=39							
JHHS	**Hirosakihyakuz**	**2.41**	**241**	A	A	01 36 59.3	
comp=E,6.0nm,0.8s,comp=N,6.0nm,0.7s							
NMR	**Nemuro--Hokkai**	**2.45**	**51**	*e*P	**Pn**	**01 36 58.5**	**+0.5**
NMR				*e*S	**Sn**	**01 37 25.7**	**-0.9**
RUSJ	**Misakicho**	**2.74**	**34**	*e*P	**Pn**	**01 37 03.5**	**+1.5**
RUSJ				*e*S	**Sn**	**01 37 36.1**	**+2.3**
JOM	**Ohasama**	**2.75**	**211**	A	A	01 37 04.8	
comp=E,2.0nm,0.6s,comp=N,2.0nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.96**	**42**	*d*iP	**Pn**	**01 37 06.7**	**+1.6**
YUK				*e*S	**Sn**	**01 37 39.7**	**+0.3**
YUK				pmax	pmax		
comp=Z,810nm,0.3s							
YUK				pmax	pmax		
comp=E,138nm,0.5s							
YUK				pmax	pmax		
comp=N,155nm,0.4s							
YUK				smax	smax		
comp=E,1μm,0.6s							
YUK				smax	smax		
comp=N,972nm,0.4s							
SHO	**Shikotan**	**3.39**	**52**	*e*P	**Pn**	**01 37 11.7**	**+0.8**
SHO				*e*S	**Sn**	**01 37 47.5**	**-2.3**
SHO				pmax	pmax		
comp=N,67nm,0.3s							
SHO				pmax	pmax		
comp=E,137nm,0.3s							
SHO				pmax	pmax		
comp=Z,201nm,0.3s							
SHO				smax	smax		
comp=N,436nm,0.4s							
SHO				smax	smax		
comp=E,255nm,0.2s							
JMM	**Marumori**	**4.37**	**205**	Pn	**Pn**	**01 37 24.8**	**+0.4**
KUR	**Kuril'sk**	**4.83**	**44**⇑	*i*P	**Pn**	**01 37 32.9**	**+2.3**
KUR				*i* S	**Sn**	**01 38 27.8**	**+2.6**
KUR				pmax	pmax		
comp=N,53nm,0.4s							
KUR				pmax	pmax		
comp=E,96nm,0.4s							
KUR				pmax	pmax		
comp=Z,147nm,0.4s							
KUR				smax	smax		
comp=E,171nm,0.4s							
YSS	**Yuzh-Sakhalins**	**5.11**	**357**	*e*P	**Pn**	**01 37 39.2**	**+4.7**
YSS				*e*S	**Sn**	**01 38 37.0**	**+4.8**
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
YSS				smax	smax		
comp=N,20nm,1.0s							
YSS				MLR	MLR		
comp=Z,400nm,15.0s							
MJB9	**Matsu-Tunnel**	**6.53**	**217**		**Pn**	**01 37 56.4**	**+2.3**
MAJO	**Matsushiro**	**6.53**	**217**	Pn	**Pn**	**01 37 55.8**	**+1.7**
MAJO	**Matsushiro**	**6.53**	**217**	*ce*P	**Pn**	**01 37 56.0**	**+1.9**
MJAR	**Matsushiro Arr**	**6.53**	**217**	P	**Pn**	**01 37 55.4**	**+1.2**
comp=Z,4.8nm,0.6s,baz=31,slow=12,SNR=15							
MJAR				LR	LR	01 41 00.5	
comp=Z,151nm,18.6s,baz=9.0,slow=43							
USRK	**Ussuriysk Ar.**	**8.50**	**290**	Pn	**Pn**	**01 38 20.9**	**0.0**
USRK	**Ussuriysk Ar.**	**8.50**	**290**	P	**Pn**	**01 38 21.2**	**+0.3**
comp=Z,5.8nm,0.8s,baz=99,slow=12,SNR=8.3							
TYV	**Tymovskoe**	**9.02**	**358**	*e*P	**Pn**	**01 38 30.5**	**+2.4**
TYV				*e*S	**Sn**	**01 40 07.5**	**-0.8**
TYV				pmax	pmax		
comp=Z,7.0nm,0.7s							
TYV				pmax	pmax		
comp=Z,200nm,3.8s							
TYV				smax	smax		
comp=N,8.0nm,1.3s							
TYV				smax	smax		
comp=E,7.0nm,1.3s							
TYV				smax	smax		
comp=E,400nm,5.7s							
JHJ	**Hachijo jima 2**	**9.11**	**198**	LR	LR	01 41 58.4	
comp=E,149nm,19.4s,baz=208,slow=37							
MDJ	**Mudanjiang**	**10.26**	**290**	P	Pn	01 38 40.1	-5.0
MDJ				sP		01 38 54.1	
MDJ				S	**Sn**	**01 40 34.4**	**-4.3**
MDJ				SS	**SnSn**	**01 40 48.8**	**-1.6**
MDJ				PcP	**PcP**	**01 44 45.0**	**-4.8**
MDJ				ScP	ScP	01 48 06.0	-12
MDJ				PcS	**PcS**	**01 48 16.7**	**-6.5**
MDJ	**Mudanjiang**	**10.26**	**290**	ScS	ScS	01 51 38.3	-15
MDJ				pmax	pmax		
comp=Z,4.0nm,0.6s							
MDJ				pmax	pmax		
comp=Z,130nm,5.5s							
MDJ				LR	LR		
comp=N,260nm,15.8s							
MDJ				LR	LR		
comp=E,290nm,15.8s							
MDJ				LR	LR		
comp=Z,320nm,16.9s							
KLR	**Kul'dur**	**10.86**	**317**	⇓*i*P	**Pn**	**01 38 55.7**	**+2.4**
KLR				pmax	pmax		
comp=Z,8.0nm,1.8s							
KLR	**Kul'dur**	**10.86**	**317**	P	**Pn**	**01 38 54.4**	**+1.0**
comp=Z,1.6nm,0.9s,baz=127,slow=16,SNR=3.9							
KSRS	**Korea Array**	**12.51**	**254**	P	**Pn**	**01 39 17.6**	**+1.8**
comp=Z,1.3nm,0.7s,baz=68,slow=15,SNR=2.3							
KSRS				LR	LR	01 43 23.2	
comp=Z,68nm,21.8s,baz=75,slow=34							
JNU	**Nakatsue**	**13.05**	**232**	Pn	**Pn**	**01 39 23.3**	**0.0**
JNU	**Nakatsue**	**13.05**	**232**	P	**Pn**	**01 39 24.4**	**+1.1**
comp=Z,10nm,1.0s,baz=29,slow=9.1,SNR=5.2							
JNU				LR	LR	01 43 54.7	
comp=Z,108nm,18.1s,baz=350,slow=35							
PEA0B	**Petropavlovsk-**	**14.93**	**36**	Pn	**Pn**	**01 39 45.2**	**-3.2**
PEA0B	**Petropavlovsk-**	**14.93**	**36**	P	**Pn**	**01 39 45.2**	**-3.2**
PETK	**Petropavlovsk-**	**14.93**	**36**	P	**Pn**	**01 39 46.0**	**-2.3**
comp=Z,1.6nm,0.5s,baz=212,slow=9.8,SNR=4.6							
PETK				LR	LR	01 45 25.8	
comp=Z,61nm,18.4s,baz=276,slow=36							
PET	**Petropavlovsk**	**15.30**	**38**⇑	*e*P	**Pn**	**01 39 51.5**	**-1.7**
ZEA	**Zeya**	**15.94**	**324**	*e*P	**P**	**01 40 04.9**	**+0.6**
MA2	**Magadan**	**18.37**	**12**	LR	LR	01 48 52.6	
comp=Z,21nm,20.1s,baz=188,slow=41							
XLT	**XiLinHaoTe**	**19.90**	**285**	*e*P	**Pn**	**01 40 50.9**	**+0.8**
XLT				pP	sP	01 41 03.3	-1.6
XLT				sP	pP	01 41 12.3	+13
XLT				pmax	pmax		
comp=Z,5.0nm,0.9s							
XLT				pmax	pmax		
comp=Z,120nm,5.0s							
SEY	**Seymchan**	**21.82**	**11**	P	**P**	**01 41 05.4**	**-3.1**
comp=Z,2.9nm,0.7s,baz=260,slow=17,SNR=8.0							
HHC	**Hu-ho-hao-te**	**23.66**	**278**	*e*P	**P**	**01 41 27.7**	**0.0**
HHC				pmax	pmax		
comp=Z,13nm,0.6s							
HHC				pmax	pmax		
comp=Z,210nm,5.2s							
ULN	**Ulaanbaatar**	**26.10**	**296**	⇓*i*P	**P**	**01 41 49.5**	**-0.5**
ULN				pmax	pmax		
comp=Z,3.0nm,1.1s							
SONM	**Songino Array**	**26.55**	**296**	P	**P**	**01 41 54.4**	**+0.5**
SONM	**Songino Array**	**26.55**	**296**	P	**P**	**01 41 54.4**	**+0.5**
SONM				pmax	pmax		
comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**26.55**	**296**	P	**P**	**01 41 53.1**	**-0.8**
comp=Z,0.9nm,0.7s,baz=70,slow=8.7,SNR=8.7							
comp=Z,0.9nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**29.87**	**130**	T	T	02 13 57.3	
baz=323,slow=75							
H11N1	**WAKE ISLAND Hy**	**29.88**	**130**	T	T	02 13 54.0	
baz=323,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.88**	**130**	T	T	02 13 58.3	
baz=323,slow=75							
H11S1	**WAKE ISLAND Hy**	**30.73**	**132**	T	T	02 14 58.8	
baz=324,slow=76							
H11S3	**WAKE ISLAND Hy**	**30.74**	**132**	T	T	02 14 56.5	
baz=324,slow=76							
H11S2	**WAKE ISLAND Hy**	**30.75**	**132**	T	T	02 14 50.9	
baz=324,slow=76							
PZH	**PanZhiHua**	**37.13**	**259**	P	**P**	**01 43 27.7**	**+0.9**
PZH				pmax	pmax		
comp=Z,9.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,110nm,6.1s							
J14K	**Nanvaranak Lak**	**37.29**	**38**	P	**P**	**01 43 25.3**	**-2.3**
C16K	**Lisburne Hills**	**37.82**	**28**	P	**P**	**01 43 31.8**	**-0.2**
C16K				lAmb	lAmb	01 43 43.9	
comp=Z,4.6nm,1.2s							
DGZ	**Jazzator, Alta**	**38.84**	**301**⇑	*e*P	**P**	**01 43 41.8**	**+0.7**
DGZ				pmax	pmax		
comp=Z,3.0nm,1.0s							
ZAA0	**Zalesovo Array**	**39.82**	**308**	P	**P**	**01 43 49.0**	**+0.1**
ZAA0				lAmb	lAmb	01 43 49.2	
comp=Z,3.7nm,0.9s							
ZALV	**Zalesovo Beam**	**39.82**	**308**	P	**P**	**01 43 49.0**	**+0.1**
ZALV	**Zalesovo Beam**	**39.82**	**308**	P	**P**	**01 43 49.0**	**+0.1**
ZALV	**Zalesovo Beam**	**39.82**	**308**	P	**P**	**01 43 48.1**	**-0.8**
comp=Z,2.7nm,0.7s,baz=88,slow=7.8,SNR=15							
comp=Z,2.7nm,0.7s							
M17K	**Holitna River**	**40.05**	**40**	P	**P**	**01 43 51.9**	**+1.1**
M17K				lAmb	lAmb	01 44 11.4	
comp=Z,9.3nm,1.1s							
WMQ	**Urumqi**	**40.06**	**292**	*e*P	**P**	**01 43 52.4**	**+1.2**
E19K	**Redstone River**	**40.63**	**31**	P	**P**	**01 43 56.1**	**+0.6**
E19K				lAmb	lAmb	01 44 14.3	

	comp=Z,5.8nm,1.4s						
J19K	**Poorman**	**40.97**	**36**	P	**P**	**01 43 59.0**	**+0.7**
J19K				IAmb	IAmb	01 44 12.0	
	comp=Z,5.3nm,1.1s						
B20K	**Meade River**	**41.09**	**27**	P	**P**	**01 43 59.0**	**-0.2**
B20K				IAmb	IAmb	01 44 01.2	
	comp=Z,3.0nm,0.6s						
IMAR	**Indian Mountai**	**41.87**	**33**	P	**P**	**01 44 05.9**	**+0.2**
Q19K	**Cape Douglas,**	**42.02**	**44**	P	**P**	**01 44 07.8**	**+0.8**
B22K	**Teshekpuk Lake**	**42.40**	**27**	P	**P**	**01 44 09.9**	**0.0**
E22K	**Anaktuvuk Pass**	**42.75**	**30**	P	**P**	**01 44 12.9**	**0.0**
E22K				IAmb	IAmb	01 44 25.4	
	comp=Z,9.0nm,1.4s						
MK31	**Makanchi Array**	**42.86**	**298**	P	**P**	**01 44 12.9**	**-1.1**
MK31	**Makanchi Array**	**42.86**	**298**	P	**P**	**01 44 12.9**	**-1.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**42.86**	**298**	P	**P**	**01 44 13.4**	**-0.5**
MKAR	**Makanchi Array**	**42.86**	**298**	P	**P**	**01 44 13.5**	**-0.5**
MKAR	**Makanchi Array**	**42.86**	**298**	P	**P**	**01 44 13.1**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=84,slow=9.5,SNR=19						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**43.06**	**298**	P	**P**	**01 44 15.1**	**-0.5**
MAKZ	**Makanchi**	**43.06**	**298**	P	**P**	**01 44 15.1**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
C23K	**Itkillik River**	**43.30**	**28**	P	**P**	**01 44 17.4**	**+0.1**
D24K	**Happy Valley**	**43.89**	**29**	P	**P**	**01 44 22.4**	**+0.4**
D24K				IAmb	IAmb	01 44 34.8	
	comp=Z,3.0nm,0.6s						
GHO	**Glory Hole Cre**	**44.10**	**39**	P	**P**	**01 44 24.8**	**+0.9**
GHO				IAmb	IAmb	01 44 44.8	
	comp=Z,12nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.14**	**252**	LR	LR	02 02 24.3	
	comp=Z,18nm,19.7s,baz=285,slow=36						
KURK	**Kurchatov**	**44.16**	**305**	P	**P**	**01 44 23.1**	**-1.3**
KURK				IAmb	IAmb	01 44 38.5	
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**44.16**	**305**	*ce*P	**P**	**01 44 23.7**	**-0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDM	**Murphy Dome**	**44.17**	**35**	P	**P**	**01 44 25.1**	**+0.7**
MDM				IAmb	IAmb	01 44 52.9	
	comp=Z,6.9nm,1.4s						
KURBB	**Kurchatov Arra**	**44.23**	**304**	P	**P**	**01 44 24.1**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=77,slow=8.8,SNR=19						
	comp=Z,2.8nm,0.7s						
SML	**Sawmill**	**44.38**	**39**	P	**P**	**01 44 27.1**	**+1.1**
ILAR	**Eielson Array**	**44.75**	**35**	P	**P**	**01 44 29.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=262,slow=5.6,SNR=8.3						
	comp=Z,0.5nm,0.6s						
PRP	**Porcupine Dome**	**45.27**	**34**	P	**P**	**01 44 33.7**	**+0.5**
PRP				IAmb	IAmb	01 44 52.3	
	comp=Z,2.9nm,1.0s						
SCRK	**Sand Creek**	**46.09**	**36**	P	**P**	**01 44 40.1**	**+0.4**
K27K	**Chicken**	**46.92**	**36**	P	**P**	**01 44 46.9**	**+0.9**
K27K				IAmb	IAmb	01 45 11.6	
	comp=Z,9.4nm,1.4s						
L27K	**Beaver Creek,**	**47.19**	**37**	P	**P**	**01 44 49.8**	**+1.6**
L27K				IAmb	IAmb	01 45 14.6	
	comp=Z,3.2nm,1.0s						
BCAR	**Beaver Creek A**	**47.21**	**37**	P	**P**	**01 44 50.0**	**+1.6**
BVAR	**Borovoye Array**	**48.43**	**310**	P	**P**	**01 44 57.7**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=72,slow=8.8,SNR=14						
	comp=Z,2.2nm,0.5s						
BRVK	**Borovoye**	**48.48**	**310**	⇓*i*P	**P**	**01 44 57.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
L29M	**L29M**	**48.83**	**36**	P	**P**	**01 45 03.0**	**+2.1**
L29M				IAmb	IAmb	01 45 17.4	
	comp=Z,6.7nm,1.4s						
M29M	**Somme Creek**	**48.83**	**37**	P	**P**	**01 45 02.2**	**+1.3**
M29M				IAmb	IAmb	01 45 40.8	
	comp=Z,3.2nm,1.1s						
K29M	**Barlow Dome**	**48.93**	**35**	P	**P**	**01 45 02.9**	**+1.2**
K29M				IAmb	IAmb	01 45 34.0	
	comp=Z,5.5nm,1.4s						
I30M	**Mount Dempster**	**49.10**	**33**	P	**P**	**01 45 03.5**	**+0.5**
I30M				IAmb	IAmb	01 45 45.2	
	comp=Z,8.9nm,1.5s						
INK	**Inuvik**	**49.52**	**29**	P	**P**	**01 45 06.8**	**+0.9**
INK	**Inuvik**	**49.52**	**29**	P	**P**	**01 45 06.8**	**+0.9**
INK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
G31M	**Satah River**	**49.55**	**31**	P	**P**	**01 45 07.3**	**+1.1**
G31M				IAmb	IAmb	01 45 09.2	
	comp=Z,7.0nm,1.4s						
H31M	**Peel River**	**49.78**	**32**	P	**P**	**01 45 09.6**	**+1.5**
ARSB	**Arslanbob**	**51.08**	**294**	P	**P**	**01 45 17.8**	**-0.6**
ARSB	**Arslanbob**	**51.08**	**294**	P	**P**	**01 45 17.8**	**-0.6**
ARSB				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KK31	**Karatay Array**	**51.98**	**297**	P	**P**	**01 45 24.3**	**-0.6**
KK31				IAmb	IAmb	01 45 42.0	
	comp=Z,1.8nm,1.0s						
KK31	**Karatay Array**	**51.98**	**297**	P	**P**	**01 45 24.3**	**-0.6**
KK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KKAR	**Karatay Array**	**51.98**	**297**	P	**P**	**01 45 24.4**	**-0.5**
KKAR	**Karatay Array**	**51.98**	**297**	P	**P**	**01 45 24.4**	**-0.5**
KKAR				IAmb	IAmb	01 45 42.0	
	comp=Z,1.8nm,1.0s						
KKAR	**Karatay Array**	**51.98**	**297**	P	**P**	**01 45 24.4**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARU	**Arti**	**53.71**	**317**	*c i*P	**P**	**01 45 36.9**	**-0.5**
ARU						01 47 33.8	
ARU				S	**S**	**01 53 08.4**	**+0.6**
ARU				SS	**SS**	**01 56 48.5**	**+0.2**
ARU				pmax	pmax		
	comp=Z,12nm,2.7s						
SIMJ	**Simiganj**	**55.00**	**293**	P	**P**	**01 45 46.8**	**-0.5**
SIMJ				IAmb	IAmb	01 45 48.7	
	comp=Z,5.8nm,1.4s						
ABKAR	**Akbulak array**	**55.93**	**308**	P	**P**	**01 45 53.3**	**-0.4**
ABKAR				IAmb	IAmb	01 45 53.7	
	comp=Z,1.9nm,0.7s						
ABKAR	**Akbulak array**	**55.93**	**308**	P	**P**	**01 45 53.2**	**-0.4**
KIRV	**Kirov**	**57.26**	**322**	*ce*P	**P**	**01 46 02.1**	**-0.7**
KNRA	**Kununurra**	**58.76**	**196**	P	**P**	**01 46 14.3**	**+0.6**
YKA	**Yellowknife Ar**	**59.00**	**32**	*ce*P	**P**	**01 46 17.1**	**+2.1**
YKA	**Yellowknife Ar**	**59.00**	**32**	P	**P**	**01 46 15.6**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=303,slow=7.0,SNR=4.2						
	comp=Z,0.3nm,0.8s						
BELG	**Belogornoye**	**61.23**	**316**	⇓*i*P	**P**	**01 46 30.7**	**+0.3**
BELG				pmax	pmax		
	comp=Z,9.0nm,4.2s						
WB0	**Warramunga Arr**	**61.83**	**189**	P	**P**	**01 46 35.0**	**+0.2**
WR0	**Warramunga Arr**	**62.01**	**189**	P	**P**	**01 46 36.1**	**+0.2**
WB2	**Warramunga Arr**	**62.01**	**189**	P	**P**	**01 46 36.0**	**0.0**
WRA	**Warramunga Arr**	**62.01**	**189**	P	**P**	**01 46 35.8**	**-0.1**
WRA	**Warramunga Arr**	**62.01**	**189**	P	**P**	**01 46 36.1**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=6.5,slow=6.8,SNR=61						
	comp=Z,3.3nm,0.5s						
OBN	**Obninsk**	**65.06**	**323**	⇑*e*P	**P**	**01 46 53.9**	**-1.8**
OBN				pmax	pmax		
	comp=Z,31nm,2.3s						
FIA1	**FINESS Array S**	**65.19**	**332**	P	**P**	**01 46 56.1**	**-0.3**
FINES	**FINESS Array B**	**65.19**	**332**	P	**P**	**01 46 56.0**	**-0.5**
FINES	**FINESS Array B**	**65.19**	**332**	*i* P	**P**	**01 46 56.0**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**65.19**	**332**	P	**P**	**01 46 55.6**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=38,slow=6.5,SNR=11						
	comp=Z,2.2nm,0.6s						
AS31	**Alice Springs**	**65.74**	**189**	P	**P**	**01 47 00.4**	**0.0**
ASAR	**Alice Springs**	**65.74**	**189**	P	**P**	**01 47 01.6**	**+1.1**
ASAR	**Alice Springs**	**65.74**	**189**	P	**P**	**01 47 01.6**	**+1.1**
ASAR	**Alice Springs**	**65.74**	**189**	P	**P**	**01 47 00.8**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=14,slow=7.1,SNR=31						
	comp=Z,2.3nm,0.7s						
KIV	**Kislovodsk**	**68.78**	**310**	⇓*i*P	**P**	**01 47 20.6**	**+0.9**
KIV				*i*		01 47 35.9	
KIV				*i*		01 47 45.6	
KIV				pmax	pmax		
	comp=Z,9.0nm,2.2s						
GNI	**Garni**	**69.92**	**306**	⇓*e*P	**P**	**01 47 26.4**	**-0.5**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
HFS	**Hagfors**	**70.25**	**336**	P	**P**	**01 47 28.0**	**-0.4**
HFS	**Hagfors**	**70.25**	**336**	P	**P**	**01 47 28.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=40,slow=11,SNR=1.7						
	comp=Z,2.4nm,0.8s						
NOA	**NORSAR Array B**	**70.26**	**337**	P	**P**	**01 47 28.0**	**-0.5**
NOA	**NORSAR Array B**	**70.26**	**337**	P	**P**	**01 47 27.9**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=37,slow=6.2,SNR=3.5						
	comp=Z,0.9nm,0.8s						
BOZ	**Bozeman (W)**	**70.40**	**46**	P	**P**	**01 47 31.1**	**+1.3**
BOZ				IAmb	IAmb	01 47 36.4	
	comp=Z,4.3nm,1.4s						
BOZ	**Bozeman (W)**	**70.40**	**46**	P	**P**	**01 47 31.1**	**+1.3**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
NVAR	**Mina Array Bea**	**71.09**	**55**	P	**P**	**01 47 36.0**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=289,slow=6.9,SNR=4.1						
	comp=Z,0.3nm,0.5s						
AKASG	**Malin Array Be**	**71.31**	**322**	*ce*P	**P**	**01 47 35.5**	**+0.6**
AKASG	**Malin Array Be**	**71.31**	**322**	P	**P**	**01 47 33.9**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=43,slow=5.8,SNR=8.3						
	comp=Z,0.9nm,0.5s						
GRAC	**Grapevine Rang**	**72.57**	**56**	P	**P**	**01 47 43.7**	**+0.9**
GRAC				IAmb	IAmb	01 47 50.3	
	comp=Z,4.9nm,1.2s						
PDAR	**Pinedale Array**	**73.38**	**47**	P	**P**	**01 47 48.4**	**+0.6**
PDAR	**Pinedale Array**	**73.38**	**47**	P	**P**	**01 47 49.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=344,slow=1.4,SNR=4.8						
	comp=Z,0.3nm,0.6s						
FORT	**Forrest**	**73.59**	**193**	P	**P**	**01 47 48.8**	**+0.3**
BBOO	**Buckleboo**	**74.58**	**186**	P	**P**	**01 47 55.3**	**+1.0**
MORW	**Morawa**	**74.87**	**204**	P	**P**	**01 47 56.5**	**+0.4**
BUR08	**Bucovina Ar. S**	**75.34**	**322**	P	**P**	**01 47 58.3**	**-0.7**
BUR08				IAmb	IAmb	01 48 32.4	
	comp=Z,3.0nm,1.2s						
BURAR	**Bucovina Array**	**75.36**	**322**	P	**P**	**01 47 58.1**	**-0.9**
GERES	**GERESS Array B**	**79.31**	**329**	P	**P**	**01 48 20.3**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=36,slow=12,SNR=5.0						
	comp=Z,2.4nm,0.8s						
ECSD	**EROS Data Cent**	**79.34**	**40**	P	**P**	**01 48 21.4**	**+0.2**
TXAR	**Lajitas Array**	**86.16**	**54**	P	**P**	**01 48 58.8**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=292,slow=3.0,SNR=8.4						
	comp=Z,0.4nm,0.6s						
H03N2	**Juan Fernandez**	**145.93**	**90**	T	T	04 39 02.9	
	baz=300,slow=77,SNR=47						
H03N3	**Juan Fernandez**	**145.94**	**90**	T	T	04 39 04.3	
	baz=300,slow=77,SNR=80						
H03N1	**Juan Fernandez**	**145.95**	**90**	T	T	04 39 05.3	
	baz=300,slow=77,SNR=42						

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*IDC **04** 01:51:15.9±16.0, 36°.26N×70°.61E, h136km±166km, mb3.1/2, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=252.5km s-min=78.2km az=137.0*

*NNC **04** 01:51:27.2±2.5, 37°.00N×70°.79E, h222km±29km, mb2.4, mpv3.5, Error ellipse: s-maj=23.2km s-min=19.0km az=46.0*

ISC 04 01:51:23.4±1.7**, 36°.8N**±0°.1×**70°.7E**±0°.1**, h200**km**, n16, σ1s38**/22**, 8C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.86**	**23**	P	**Pn**	**01 52 50.3**	**+1.3**
	SNR=50						
AML	**Almayashu**	**5.86**	**23**	⇓P	**Pn**	**01 52 50.1**	**+1.0**
	0.9nm,0.4s						
AML				⇑S	**Sn**	**01 53 57.1**	**+0.3**
	6.8nm,0.6s						
UCH	**Uchtor**	**6.22**	**27**	P	**Pn**	**01 52 54.9**	**+1.1**
	SNR=6.1						
KK31	**Karatay Array**	**6.34**	**359**	P	**Pn**	**01 52 56.6**	**+1.7**
	3.1nm,0.5s,baz=184,slow=12,SNR=146						
KK31				⇑S	**Sn**	**01 54 06.5**	**-1.0**
	7.6nm,0.5s,baz=189,slow=20,SNR=20						
EKS2	**Erkin-Say**	**6.37**	**21**	P	**Pn**	**01 52 57.6**	**+2.2**
	SNR=20						
AAK	**Ala-Archa**	**6.57**	**25**	P	**Pn**	**01 52 59.6**	**+1.5**
	SNR=7.0						
CHMS	**Chumysh**	**6.98**	**25**	⇑P	**Pn**	**01 53 02.5**	**-0.7**
	1.0nm,0.4s						
CHMS				⇑S	**Sn**	**01 54 21.4**	**-1.1**
	4.6nm,0.6s						
USP	**Ospenovka**	**7.13**	**23**	P	**Pn**	**01 53 06.4**	**+1.1**
	SNR=9.3						
TKM2	**Tokmak 2**	**7.23**	**30**	P	**Pn**	**01 53 07.8**	**+1.2**
	SNR=10						
TKM2	**Tokmak 2**	**7.23**	**30**	⇑P	**Pn**	**01 53 07.1**	**+0.4**
	2.3nm,0.3s						
TKM2				⇓S	**Sn**	**01 54 27.6**	**-1.1**
	4.4nm,1.0s						
MKAR	**Makanchi Array**	**13.24**	**37**	P	**Pn**	**01 54 24.5**	**+0.7**
	0.1nm,0.3s,baz=211,slow=12,SNR=4.9						
	0.5nm,0.7s						
AB31	**Akbulak array**	**14.73**	**331**	⇑P	**P**	**01 54 43.4**	**+0.3**
	0.5nm,0.4s,baz=146,slow=12,SNR=38						
AB31				⇓S	**S**	**01 57 25.9**	**+0.3**
	0.5nm,0.7s,baz=156,slow=23,SNR=4.4						
KURBB	**Kurchatov Arra**	**14.97**	**20**	P	**P**	**01 54 45.8**	**+0.2**
	0.1nm,0.3s,baz=206,slow=9.9,SNR=4.9						
	0.5nm,0.3s						
AKTO	**Aktyubinsk**	**16.43**	**330**	⇑P	**Pn**	**01 55 04.3**	**+1.7**
	0.3nm,0.5s						
AKTO				⇑S	**S**	**01 58 00.8**	**-2.6**
	0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**19.79**	**25**	P	**Pn**	**01 55 40.5**	**-1.8**
	1.2nm,0.4s,baz=220,slow=12,SNR=5.5						
	1.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**65.46**	**268**	P	**P**	**02 01 44.2**	**-1.0**
	0.2nm,0.5s,baz=51,slow=6.1,SNR=5.9						
	0.2nm,0.5s						

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*WEL **04** 02:01:08.9±0.3, 42°S±2°×17°3E±°, h7km±3km, M3.5/19, ML3.7/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=105.1, confirmed*

*NOU **04** 02:01:08.5, 42°.42S×173°.04E, h1km, MLv3.7/9, South Island, New Zealand*

*WEL **04** 02:01:08.9, 42°.33S×173°.10E, h15km, ML3.5, Mw3.6, Moment Tensor Solution. s4 Moment tensor: M_{rr}21.77; $M_{\theta\theta}$9.73; $M_{\phi\phi}$-31.50; $M_{r\theta}$-8.32; $M_{\theta\phi}$20.39; $M_{\phi r}$10.99; Fault plane solution: NP1:ϕ_s356.00000°, δ39.00000°, λ52.00000°. NP2:ϕ_s222.00000°, δ61.00000°, λ117.00000°. Principal axes: T -42.6500, Plg63.0000°, Azm178.0000°; N 16.6200, Plg23.0000°, Azm28.0000°; P 26.0300, Plg12.0000°, Azm293.0000°; SOUTH ISLAND*

ISC 04 02:01:07.8±1.2**, 42°.38S**±0°.02×**173°.14E**±0°.03**, h6**km±11km**, n88, σ1s38**/97**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**97**	P	**Pb**	**02 01 15.9**	**+0.3**
KHZ	**Kahutara**	**0.30**	**97**	P	**Pb**	**02 01 15.9**	**+0.3**
KHZ				S	**Sb**	**02 01 21.3**	**+0.5**
GVZ	**Greta Valley S**	**0.59**	**187**	P	**Pn**	**02 01 22.6**	**-0.2**
GVZ				S	**Sn**	**02 01 32.7**	**0.0**
THZ	**Tophouse**	**0.64**	**344**	P	**Pg**	**02 01 20.1**	**-0.1**
THZ				S	**Sg**	**02 01 27.8**	**-0.8**
LTZ	**Lake Taylor**	**0.75**	**238**	P	**Pb**	**02 01 23.6**	**+0.2**
LTZ				S	**Sb**	**02 01 33.7**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.86**	**40**	P	**Pg**	**02 01 24.9**	**+0.5**
AMCZ	**Amberley**	**0.87**	**204**	P	**Pn**	**02 01 27.5**	**+0.9**
MRNZ	**Matariki Terra**	**1.02**	**344**	P	**Pg**	**02 01 27.0**	**-0.4**
MRNZ				S	**Sg**	**02 01 41.0**	**+0.4**
CMWZ	**Cape Campbell**	**1.02**	**52**	P	**Pn**	**02 01 29.3**	**+0.7**
TUWZ	**Tuamarina**	**1.13**	**33**	P	**Pb**	**02 01 29.2**	**-0.4**
DSZ	**Denniston Nort**	**1.18**	**302**	P	**Pn**	**02 01 30.5**	**-0.3**
NNZ	**Nelson**	**1.18**	**9**	P	**Pn**	**02 01 29.2**	**-1.6**
OXZ	**Oxford**	**1.24**	**220**	P	**Pg**	**02 01 32.0**	**+0.3**
INZ	**Inchbonnie**	**1.30**	**254**	P	**Pb**	**02 01 32.7**	**+0.1**
INZ				S	**Sg**	**02 01 51.8**	**+2.3**
TKNZ	**Takaka Hill**	**1.35**	**354**	P	**Pn**	**02 01 32.8**	**-0.4**
TKNZ				S	**Sn**	**02 01 50.6**	**-0.9**
MQZ	**McQueen's Vall**	**1.37**	**195**	P	**Pg**	**02 01 33.3**	**-0.9**
MQZ				S	**Sg**	**02 01 51.9**	**0.0**
TCW	**Tory Channel**	**1.45**	**37**	P	**Pn**	**02 01 34.2**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.50**	**186**	P	**Pb**	**02 01 35.4**	**-0.6**
RACZ	**Rakaia**	**1.53**	**208**	P	**Pb**	**02 01 35.8**	**-0.7**
SNZO	**South Karori**	**1.59**	**48**	P	**Pb**	**02 01 37.5**	**0.0**
QRZ	**Quartz Range**	**1.62**	**344**	P	**Pn**	**02 01 37.6**	**+0.7**
QRZ	**Quartz Range**	**1.62**	**344**	P	**Pn**	**02 01 37.4**	**+0.5**
QRZ				S	**Sn**	**02 01 57.7**	**-0.4**
BHW	**Baring Head**	**1.62**	**54**	P	**Pn**	**02 01 37.0**	**+0.2**
MHCZ	**Mount Hutt**	**1.63**	**224**	P	**Pn**	**02 01 37.2**	**+0.2**
WEL	**Wellington**	**1.64**	**49**	P	**Pb**	**02 01 39.0**	**+0.6**
DUWZ	**D'Urville Isla**	**1.69**	**21**	P	**Pn**	**02 01 38.0**	**+0.2**
PLWZ	**Palliser**	**1.78**	**64**	P	**Pn**	**02 01 38.7**	**-0.4**
WACZ	**Wakanui South**	**1.83**	**211**	P	**Pn**	**02 01 39.8**	**+0.1**
WVZ	**Waitaha Valley**	**1.90**	**248**	P	**Pb**	**02 01 41.9**	**-0.9**
CAW	**Cannon Point**	**1.93**	**49**	P	**Pn**	**02 01 41.2**	**+0.1**
PAWZ	**Paruwai Farm**	**1.98**	**61**	P	**Pn**	**02 01 41.5**	**-0.4**
KIW	**Kapiti Island**	**2.02**	**42**	P	**Pn**	**02 01 43.1**	**+0.7**
RPZ	**Rata Peaks**	**2.03**	**228**	P	**Pn**	**02 01 42.8**	**+0.3**
RPZ	**Rata Peaks**	**2.03**	**228**	P	**Pn**	**02 01 42.7**	**+0.2**
ARCZ	**Arundel**	**2.12**	**222**	P	**Pn**	**02 01 43.8**	**0.0**
TRWZ	**Traveller**	**2.14**	**64**	P	**Pn**	**02 01 44.1**	**0.0**
MTW	**Mount Morrison**	**2.15**	**56**	P	**Pn**	**02 01 43.8**	**-0.4**
OGWZ	**Otaki Gorge**	**2.19**	**45**	P	**Pn**	**02 01 44.7**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**2.27**	**245**	P	**Pn**	**02 01 46.8**	**+1.0**
HOWZ	**Holdsworth Sta**	**2.32**	**51**	P	**Pn**	**02 01 46.8**	**+0.3**
MRZ	**Mangatainoka R**	**2.51**	**48**	P	**Pn**	**02 01 48.7**	**-0.5**
TMZ	**Timaru**	**2.53**	**217**	P	**Pn**	**02 01 49.6**	**+0.2**
TIWZ	**Tintock**	**2.61**	**53**	P	**Pn**	**02 01 52.1**	**+1.5**
FOZ	**Fox Glacier**	**2.69**	**244**	P	**Pn**	**02 01 52.9**	**+1.3**
POWZ	**Post Office Ro**	**2.81**	**46**	P	**Pb**	**02 01 59.8**	**+1.4**
BFZ	**Birch Farm**	**2.89**	**55**	P	**Pb**	**02 01 57.1**	**-2.6**
BFZ	**Birch Farm**	**2.89**	**55**	P	**Pn**	**02 01 54.4**	**0.0**
LBZ	**Lake Benmore**	**2.94**	**226**	P	**Pn**	**02 01 55.7**	**+0.6**
WAZ	**Wanganui**	**2.97**	**29**	P	**Pn**	**02 01 58.7**	**+3.2**
LREZ	**Lake Rotokare**	**3.07**	**19**	P	**Pb**	**02 02 02.9**	**+0.1**
DVHZ	**Dannevirke**	**3.09**	**49**	P	**Pb**	**02 02 04.2**	**+1.0**
PREZ	**Palmer Road**	**3.13**	**15**	P	**Pb**	**02 02 01.7**	**-2.3**
TSZ	**Takapari Road**	**3.15**	**44**	P	**Pb**	**02 02 04.2**	**0.0**
KHEZ	**Kahui Hut**	**3.15**	**13**	P	**Pn**	**02 02 01.0**	**+2.9**
KHEZ	**Kahui Hut**	**3.15**	**13**	P	**Pn**	**02 02 01.3**	**+3.2**
NBEZ	**Newall Road No**	**3.16**	**10**	P	**Pn**	**02 02 01.2**	**+3.1**
ANWZ	**Angora Road**	**3.16**	**54**	P	**Pb**	**02 02 02.6**	**-1.8**
NEZ	**North Egmont**	**3.19**	**14**	P	**Pb**	**02 02 02.4**	**-2.6**
ODZ	**Otahua Downs**	**3.22**	**213**	P	**Pn**	**02 01 58.6**	**-0.2**
ODZ	**Otahua Downs**	**3.22**	**213**	P	**Pn**	**02 01 58.6**	**-0.2**
PKE	**Pukeiti**	**3.25**	**12**	P	**Pn**	**02 02 01.8**	**+2.4**
PNHZ	**Pukenui**	**3.38**	**44**	P	**Pb**	**02 02 07.4**	**-0.7**
MTVZ	**Mangateitei**	**3.48**	**31**	P	**Pb**	**02 02 08.8**	**-1.0**
VRZ	**Vera Road**	**3.48**	**21**	P	**Pn**	**02 02 05.1**	**+2.6**
MOVZ	**Moawhango**	**3.57**	**35**	P	**Pn**	**02 02 06.5**	**+2.7**
WNVZ	**Wahianoa**	**3.58**	**32**	P	**Pn**	**02 02 05.1**	**+1.2**
TRVZ	**Turoa**	**3.58**	**32**	P	**Pb**	**02 02 09.6**	**-2.1**
JCZ	**Jackson Bay**	**3.60**	**241**	P	**Pn**	**02 02 04.2**	**0.0**
JCZ	**Jackson Bay**	**3.60**	**241**	P	**Pn**	**02 02 04.6**	**+0.4**
FWVZ	**Far West T-bar**	**3.62**	**31**	P	**Pb**	**02 02 10.2**	**-2.2**
BHHZ	**Black Hill Sta**	**3.64**	**38**	P	**Pn**	**02 02 05.9**	**+1.2**
TUVZ	**Tukino**	**3.65**	**32**	P	**Pn**	**02 02 08.0**	**+3.1**
NGZ	**Ngauruhoe**	**3.71**	**31**	P	**Pn**	**02 02 08.2**	**+2.5**
OTVZ	**Oturere**	**3.75**	**32**	P	**Pn**	**02 02 08.6**	**+2.3**
WTVZ	**West Tongariro**	**3.76**	**31**	P	**Pb**	**02 02 12.8**	**-1.8**
TMVZ	**Te Maari**	**3.80**	**32**	P	**Pb**	**02 02 13.8**	**-1.6**
WKZ	**Wanaka**	**3.86**	**229**	P	**Pn**	**02 02 07.1**	**-0.6**
KWHZ	**Kaweka Forest**	**3.86**	**41**	P	**Pb**	**02 02 14.8**	**-1.6**
HIZ	**Hauiti**	**4.08**	**19**	P	**Pn**	**02 02 12.2**	**+1.5**
HIZ	**Hauiti**	**4.08**	**19**	P	**Pn**	**02 02 12.3**	**+1.6**
MRHZ	**Matea Rd**	**4.33**	**36**	P	**Pb**	**02 02 21.3**	**-3.1**
TUZ	**Tuapeka**	**4.37**	**214**	P	**Pn**	**02 02 15.0**	**+0.3**
TLZ	**Tolley Road**	**4.44**	**25**	P	**Pn**	**02 02 18.5**	**+2.7**
MLZ	**Mavora Lakes**	**4.70**	**229**	P	**Pn**	**02 02 19.1**	**-0.1**
TOZ	**Tahuroa Road**	**4.99**	**22**	P	**Pn**	**02 02 24.2**	**+1.0**
SYZ	**Scrubby Hill**	**5.04**	**213**	P	**Pn**	**02 02 22.8**	**-1.1**
MKAZ	**Moumakai**	**5.50**	**17**	P	**Pn**	**02 02 31.7**	**+1.6**
APZ	**The Paps**	**5.77**	**218**	P	**Pn**	**02 02 33.4**	**-0.5**

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*IDC **04** 02:38:34.1±1.3, 54°.16N×159°.71E, h0km, mb3.5/6, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=38.0km s-min=18.5km az=141.0*

*KRSC **04** 02:38:35.6±1.1, 53°.40N×160°.46E, h49km±12km, Ml3.9*

ISC 04 02:38:35.4±1.6**, 53°.38N**±0°.05×**160°.50E**±0°.07**, h33**km±11km**, n40, σ1s70**/50**, mb3.5**/6**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**226**	*e*P	**Pn**	**02 38 46.4**	**+1.4**
SPN				*e*S	**Sn**	**02 38 53.0**	**+1.8**
KII	**Karymskiy**	**0.91**	**317**	*e*P	**Pb**	**02 38 53.0**	**+0.2**
KII				*e*S	**Sb**	**02 39 05.0**	**+0.3**
UGLR	**Uglovaya**	**1.02**	**261**	*e*P	**Pb**	**02 38 55.0**	**+0.3**
UGLR				*e*S	**Sb**	**02 39 08.4**	**+0.5**
SMAR	**Somma**	**1.03**	**264**	*e*P	**Pb**	**02 38 54.8**	**-0.1**
AVH	**Avacha**	**1.06**	**264**	*e*P	**Pb**	**02 38 55.6**	**+0.2**
AVH				*e*S	**Sb**	**02 39 09.3**	**+0.2**
DALK	**Dalny**	**1.11**	**252**	*e*P	**Pb**	**02 38 55.7**	**-0.4**
DALK				*e*S	**Sn**	**02 39 09.2**	**+0.5**
KRX	**Arik**	**1.11**	**270**	*e*P	**Pb**	**02 38 55.9**	**-0.3**
KRX				*e*S	**Sb**	**02 39 10.0**	**-0.5**
KOK	**Koryaka**	**1.12**	**266**	*e*P	**Pb**	**02 38 56.2**	**-0.2**
KOK				*e*S	**Sb**	**02 39 10.2**	**-0.5**
PET	**Petropavlovsk**	**1.17**	**253**	*e*P	**Pb**	**02 38 56.6**	**-0.5**
INSR	**Institute**	**1.18**	**255**	*e*P	**Pb**	**02 38 57.1**	**-0.3**
INSR				*e*S	**Sb**	**02 39 12.0**	**-0.4**
KRMR	**Karymshinskiy**	**1.53**	**250**	*e*P	**Pn**	**02 39 01.8**	**+1.4**
KRMR				*e*S	**Sb**	**02 39 21.3**	**-1.0**
GNL	**Ganaly**	**1.56**	**283**	*e*P	**Pb**	**02 39 02.8**	**-1.0**
GRL	**Gorelyy**	**1.69**	**242**	*e*P	**Pn**	**02 39 04.3**	**+1.7**
GRL				*e*S	**Sn**	**02 39 24.8**	**+1.6**
PETK	**Petropavlovsk-**	**1.71**	**262**	Pn	**Pb**	**02 39 04.7**	**-1.5**
	18nm,0.3s,baz=63,slow=16,SNR=100						
PETK				Sn	**Sn**	**02 39 24.8**	**+1.3**
	17nm,0.3s,baz=106,slow=8.9,SNR=11						
TUMD	**Tumrok D**	**1.83**	**358**	*e*P	**Pb**	**02 39 06.5**	**-1.7**
TUMD				*e*S	**Sn**	**02 39 28.3**	**+1.8**
ASAK	**Asacha**	**1.87**	**239**	*e*P	**Pb**	**02 39 07.2**	**-1.7**
ASAK				*e*S	**Sb**	**02 39 30.2**	**-1.7**
TUMR	**Tumrok**	**1.92**	**354**	*e*P	**Pb**	**02 39 08.7**	**-1.1**
APC	**Apacha**	**2.06**	**259**	*e*P	**Pn**	**02 39 07.8**	**+0.1**
KDTR	**Khodutka, Kamc**	**2.16**	**224**	*e*P	**Pb**	**02 39 12.0**	**-1.8**
KMNR	**Kamenistaya**	**2.39**	**356**	*e*P	**Pb**	**02 39 15.4**	**-2.4**
BZP	**Bezymyannyi-Pe**	**2.54**	**0**	*e*P	**Pn**	**02 39 16.5**	**+2.1**
BZMR	**Bezymyannaya**	**2.56**	**360**	*e*P	**Pn**	**02 39 17.2**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**2.57**	**2**	*e*P	**Pn**	**02 39 15.6**	**+0.9**
KIRR	**Kirishev**	**2.58**	**358**	*e*P	**Pb**	**02 39 19.0**	**-2.1**
BZWR	**Bezymyannyi-We**	**2.59**	**360**	*e*P	**Pn**	**02 39 17.7**	**+2.6**
KPT	**Kopyto**	**2.60**	**357**	*e*P	**Pb**	**02 39 19.7**	**-1.6**
ESO	**Esso**	**2.76**	**338**	*e*P	**Pn**	**02 39 19.8**	**+2.5**
KRSR	**Krestovskiy**	**2.84**	**1**	*e*P	**Pn**	**02 39 18.2**	**-0.4**
SRDR	**Sredinnyy**	**2.98**	**352**	*e*P	**Pn**	**02 39 23.1**	**+2.7**
ASAJ	**Asahikawa**	**14.98**	**239**	*e*P	**Pn**	**02 42 05.8**	**+1.3**
ASAJ	**Asahikawa**	**14.98**	**239**	Pn	**Pn**	**02 42 05.8**	**+1.3**
	0.7nm,0.3s,baz=44,slow=17,SNR=2.2						
	7.6nm,0.8s						
ILAR	**Eielson Array**	**28.44**	**46**	P	**P**	**02 44 28.4**	**+1.7**
	0.5nm,0.9s,baz=267,slow=8.0,SNR=2.9						
	0.5nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**33.95**	**169**	T	T	03 21 42.1	
	baz=354,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**33.96**	**169**	T	T	03 21 45.4	
	baz=354,slow=76,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**33.97**	**169**	T	T	03 21 45.6	
	baz=354,slow=76,SNR=7.3						
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**	**02 47 10.2**	**-2.6**
	0.2nm,0.5s,baz=58,slow=7.0,SNR=4.5						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**50.40**	**308**	P	**P**	**02 47 25.5**	**-3.6**
	0.2nm,0.4s,baz=48,slow=8.8,SNR=1.8						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**59.95**	**337**	P	**P**	**02 48 35.4**	**-2.3**
	0.8nm,0.5s,baz=38,slow=7.2,SNR=5.2						
	0.8nm,0.5s						
TXAR	**Lajitas Array**	**70.30**	**67**	P	**P**	**02 49 49.7**	**+4.2**
	0.1nm,0.4s,baz=295,slow=4.9,SNR=4.2						
	0.1nm,0.4s						
EKA	**Eskdalemuir Ar**	**70.81**	**350**	P	**P**	**02 49 47.3**	**-0.8**
	0.3nm,0.4s,baz=26,slow=6.6,SNR=4.1						
	0.3nm,0.4s						

JMA 04 02:41:55.9±0.1**, 44°.6N**±0°.2×**142°.3E**±0°.3**, h10**km±1km**, MV1.1**/23**, KAMIKAWA-SORACHI REGION, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.34**	**241**	*e*P	Pg	02 42 02.5	0.0
JSE	**Soyaes**	**0.46**	**30**	*e*S	Sg	02 42 11.4	+0.6

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*BJI **04** 02:44:52.7±0.0, 53°.32N×160°.19E, h65km, mb5.3/77, mB5.1/40, Ms4.6/52, Ms7 4.4/54*

*KRSC **04** 02:44:54.4±1.4, 53°.12N×160°.20E, h56km±15km, Ml5.7, Felt [IV] at HMS Semyachik, Ribachiy; [III-IV] at Petropavlovsk, Pionersky (Galileo street), river Karimshina (stationary KF GS),; kordon Kronoki; [III] at Elizovo, Termalniy; [II-III] at Nikolaevka; Felt at cape Shipunskiy.*

*NEIC **04** 02:44:57.4±1.4, 53°.29N±0°.08×159°.90E±0°.10, h58km±4km,*

mb5.3/778,Mww5.0/22,Error ellipse: s-maj=11.9km s-min=7.7km az=158.0

MOS ***04*** *02:44:57.3±0.9,53°.26N×159°.69E,h76km,mb5.6/87, MS4.3/12,Error ellipse: s-maj=5.5km s-min=2.9km az=90.6*

GCMT ***04*** *02:44:58.4±0.2,53°.18N±0°.01×160°.37E±0°.02,h58km±1km, MW5.1/113,Moment Tensor Solution. s87,c121; s113,c177; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.01±.14; Mθθ-1.15±.13; Mφφ-3.85±.12; Mrθ0.61±.09; Mθφ-2.59±.10; Mφr2.16±.09; Best double couple: Mo5.68100×10^16 NP1:φs25.00000°,δ57.00000°, λ82.00000°. NP2:φs218.00000°,δ34.00000°,λ101.00000°. Principal axes: T 5.5090, Plg77.0000°, Azm270.0000°; N 0.3540, Plg6.0000°, Azm29.0000°; P -5.8530, Plg11.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***04*** *02:44:58,53°.24N×159°.82E,h60km*

NEIC ***04*** *02:44:58,53°.14N×160°.49E,h60km,Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16Nm; Mrr4.28; Mθθ-0.47; Mφφ-3.82; Mrθ0.92; Mθφ-1.33; Mφr1.50; Fault plane solution: Mo4.63000×10^16 NP1:φs23.88000°, δ56.13000°,λ95.19000°. NP2:φs194.63000°,δ34.22000°, λ82.33000°. Principal axes: T 4.6474, Plg78.0000°, Azm312.0000°; N -0.0342, Plg4.0000°, Azm201.0000°; P -4.6132, Plg11.0000°, Azm110.0000°;*

IDC ***04*** *02:45:00.3±0.9,53°.35N×159°.70E,h87km±6km,mb5.0/39, mbtmp5.3/42,MS4.2/80 Error ellipse: s-maj=10.6km s-min=8.7km az=142.0*

BGR ***04*** *02:45:08.5,55°.02N×157°.86E,h33km,mb5.3,Ms4.5*

ISC 04 02:44:57.0±0.3**,53°.23N**±0°.03×**159°.92E**±0°.03**,h63**km±2km**, h62**km**:pP-P,n2157,**σ1s14/2039,**mb5.3**/616**,119C-65D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.15**	**155**	PN	**Pn**	**02 45 04.0**	**-2.5**
SPN	**Mys Shipunski**	**0.15**	**155**	*e*P	**Pn**	**02 45 04.0**	**-2.5**
UGLR	**Uglovaya**	**0.66**	**268**	PN	**Pn**	**02 45 11.9**	**+0.9**
UGLR	**Uglovaya**	**0.66**	**268**	*e*P	**Pn**	**02 45 11.9**	**+0.9**
SMAR	**Somma**	**0.67**	**273**	PN	**Pn**	**02 45 11.8**	**+0.6**
SMAR	**Somma**	**0.67**	**273**	*e*P	**Pn**	**02 45 11.8**	**+0.6**
KRER	**Koryakskii**	**0.70**	**276**	PN	**Pn**	**02 45 12.8**	**+1.2**
KRER	**Koryakskii**	**0.70**	**276**	*e*P	**Pn**	**02 45 12.8**	**+1.2**
AVH	**Avacha**	**0.71**	**273**	PN	**Pn**	**02 45 12.6**	**+1.0**
AVH	**Avacha**	**0.71**	**273**	*e*P	**Pn**	**02 45 12.6**	**+1.0**
DALK	**Dalny**	**0.73**	**254**	PN	**Pn**	**02 45 11.8**	**+0.1**
DALK				S	**Sn**	**02 45 23.2**	**+0.7**
DALK	**Dalny**	**0.73**	**254**	*e*P	**Pn**	**02 45 11.8**	**+0.1**
DALK				*e*S	**Sn**	**02 45 23.2**	**+0.7**
KOK	**Koryaka**	**0.77**	**275**	PN	**Pn**	**02 45 13.1**	**+0.8**
KOK	**Koryaka**	**0.77**	**275**	*e*P	**Pn**	**02 45 13.1**	**+0.8**
KRX	**Arik**	**0.77**	**280**	PN	**Pn**	**02 45 13.1**	**+0.7**
KRX	**Arik**	**0.77**	**280**	*e*P	**Pn**	**02 45 13.1**	**+0.7**
PET	**Petropavlovsk**	**0.79**	**255**		**Pn**	**02 45 12.7**	**+0.3**
PET				Sn	**Sn**	**02 45 24.0**	**+0.2**
PET	**Petropavlovsk**	**0.79**	**255**	*d i*PN	**Pn**	**02 45 12.3**	**-0.1**
PET	**Petropavlovsk**	**0.79**	**255**	*e*P	**Pn**	**02 45 12.7**	**+0.3**
INSR	**Institute**	**0.81**	**258**	*e*P	**Pn**	**02 45 13.0**	**+0.4**
INSR				*e*S	**Sn**	**02 45 25.9**	**+1.7**
KII	**Karymskiy**	**0.85**	**341**	PN	**Pn**	**02 45 14.2**	**+0.9**
KII	**Karymskiy**	**0.85**	**341**	*e*P	**Pn**	**02 45 14.2**	**+0.9**
KRMR	**Karymshinskiy**	**1.15**	**250**	PN	**Pn**	**02 45 17.7**	**+0.7**
KRMR				S	**Sn**	**02 45 33.9**	**+1.9**
KRMR	**Karymshinskiy**	**1.15**	**250**	*e*P	**Pn**	**02 45 17.7**	**+0.7**
KRMR				*e*S	**Sn**	**02 45 33.9**	**+1.9**
GNL	**Ganaly**	**1.27**	**292**	PN	**Pn**	**02 45 20.5**	**+1.8**
GNL	**Ganaly**	**1.27**	**292**	*e*P	**Pn**	**02 45 20.5**	**+1.8**
GRL	**Gorelyy**	**1.31**	**239**	PN	**Pn**	**02 45 20.1**	**+0.8**
GRL	**Gorelyy**	**1.31**	**239**	*e*P	**Pn**	**02 45 20.1**	**+0.8**
I44RU	**PETROPAVLOVSK-**	**1.33**	**265**	P	**Pn**	**02 45 21.1**	**+1.7**
	baz=73,slow=25,SNR=4.5						
PEA0B	**Petropavlovsk-**	**1.34**	**265**	Pn	**Pn**	**02 45 21.2**	**+1.6**
PEA0B				Sn	**Sn**	**02 45 38.4**	**+1.9**
PEA0B	**Petropavlovsk-**	**1.34**	**265**	*d i*PN	**Pn**	**02 45 21.2**	**+1.6**
PETK	**Petropavlovsk-**	**1.34**	**265**	Pn	**Pn**	**02 45 20.4**	**+0.8**
PETK	**Petropavlovsk-**	**1.34**	**265**	P	**Pn**	**02 45 20.2**	**+0.7**
	16µm,0.5s,baz=82,slow=20,SNR=9479						
PETK				S	**Sn**	**02 45 39.5**	**+3.0**
	14µm,0.6s,baz=294,slow=4.7,SNR=26						
PETK				LR	LR	02 45 45.8	
	comp=Z,4µm,19.9s,baz=104,slow=37						
ASAK	**Asacha**	**1.49**	**236**	PN	**Pn**	**02 45 22.7**	**+1.1**
ASAK	**Asacha**	**1.49**	**236**	*e*P	**Pn**	**02 45 22.7**	**+1.1**
APC	**Apacha**	**1.69**	**261**	PN	**Pn**	**02 45 24.2**	**0.0**
APC				S	**Sn**	**02 45 47.4**	**+2.5**
APC	**Apacha**	**1.69**	**261**	*e*P	**Pn**	**02 45 24.2**	**0.0**
APC				*e*S	**Sn**	**02 45 47.4**	**+2.5**
KDTR	**Khodutka, Kamc**	**1.82**	**219**	PN	**Pn**	**02 45 25.9**	**0.0**
KDTR				S	**Sn**	**02 45 48.3**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.82**	**219**	*e*P	**Pn**	**02 45 25.9**	**0.0**
KDTR				*e*S	**Sn**	**02 45 48.3**	**+0.4**
TUMD	**Tumrok D**	**1.99**	**8**	*e*P	**Pn**	**02 45 29.3**	**+1.0**
TUMD				*e*S	**Sn**	**02 45 53.6**	**+1.3**
TUMR	**Tumrok**	**2.06**	**4**	PN	**Pn**	**02 45 29.3**	**0.0**
TUMR				S	**Sn**	**02 45 53.6**	**-0.3**
TUMR	**Tumrok**	**2.06**	**4**	*e*P	**Pn**	**02 45 31.0**	**+1.7**
KMNR	**Kamenistaya**	**2.53**	**4**	PN	**Pn**	**02 45 38.2**	**+2.4**
KMNR	**Kamenistaya**	**2.53**	**4**	*e*P	**Pn**	**02 45 38.2**	**+2.4**
PAU	**Pauzhetka**	**2.60**	**228**	PN	**Pn**	**02 45 39.4**	**+2.8**
PAU	**Pauzhetka**	**2.60**	**228**	*e*P	**Pn**	**02 45 39.4**	**+2.8**
BZP	**Bezymyannyi-Pe**	**2.71**	**7**	*e*P	**Pn**	**02 45 40.0**	**+1.8**
BZMR	**Bezymyannaya**	**2.73**	**7**	PN	**Pn**	**02 45 40.8**	**+2.4**
BZMR	**Bezymyannaya**	**2.73**	**7**	*e*P	**Pn**	**02 45 40.8**	**+2.4**
KIRR	**Kirishev**	**2.74**	**5**	PN	**Pn**	**02 45 40.0**	**+1.4**
KIRR	**Kirishev**	**2.74**	**5**	*e*P	**Pn**	**02 45 40.0**	**+1.4**
KPT	**Kopyto**	**2.74**	**4**	PN	**Pn**	**02 45 40.0**	**+1.4**
KPT	**Kopyto**	**2.74**	**4**	*e*P	**Pn**	**02 45 40.0**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.75**	**9**	PN	**Pn**	**02 45 40.6**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**2.75**	**9**	*e*P	**Pn**	**02 45 40.6**	**+1.9**
BZWR	**Bezymyannyi-We**	**2.76**	**7**	PN	**Pn**	**02 45 41.0**	**+2.1**
BZWR	**Bezymyannyi-We**	**2.76**	**7**	*e*P	**Pn**	**02 45 41.0**	**+2.1**
ESO	**Esso**	**2.79**	**346**	PN	**Pn**	**02 45 40.4**	**+1.3**
ESO	**Esso**	**2.79**	**346**	*e*P	**Pn**	**02 45 40.4**	**+1.3**
KOZ	**Kozyrevsk**	**2.83**	**360**	PN	**Pn**	**02 45 41.6**	**+1.9**
KOZ	**Kozyrevsk**	**2.83**	**360**	*e*P	**Pn**	**02 45 41.6**	**+1.9**
ZLN	**Zelenaya**	**2.84**	**10**	PN	**Pn**	**02 45 42.5**	**+2.6**
ZLN	**Zelenaya**	**2.84**	**10**	*e*P	**Pn**	**02 45 42.5**	**+2.6**
CIRR	**Tsirk**	**2.93**	**9**	PN	**Pn**	**02 45 43.5**	**+2.3**
CIRR	**Tsirk**	**2.93**	**9**	*e*P	**Pn**	**02 45 43.5**	**+2.3**
KRSR	**Krestovskiy**	**3.01**	**7**	PN	**Pn**	**02 45 43.7**	**+1.4**
KRSR	**Krestovskiy**	**3.01**	**7**	*e*P	**Pn**	**02 45 43.7**	**+1.4**
SRDR	**Sredinnyy**	**3.09**	**358**	PN	**Pn**	**02 45 45.0**	**+1.6**
SRDR	**Sredinnyy**	**3.09**	**358**	*e*P	**Pn**	**02 45 45.0**	**+1.6**
KLY	**Klyuchi**	**3.12**	**8**	PN	**Pn**	**02 45 45.2**	**+1.6**
KLY				S	**Sn**	**02 46 22.1**	**+2.6**
KLY	**Klyuchi**	**3.12**	**8**	*e*P	**Pn**	**02 45 45.2**	**+1.6**
KLY				*e*S	**Sn**	**02 46 22.1**	**+2.6**
KBTR	**Krutoberegovo**	**3.42**	**28**	PN	**Pn**	**02 45 48.2**	**+0.4**
KBTR	**Krutoberegovo**	**3.42**	**28**	*e*P	**Pn**	**02 45 48.2**	**+0.4**
BDR	**Baidarnaya**	**3.42**	**12**	PN	**Pn**	**02 45 50.4**	**+2.5**
BDR	**Baidarnaya**	**3.42**	**12**	*e*P	**Pn**	**02 45 50.4**	**+2.5**
KBG	**Krutoberegovo**	**3.43**	**27**	PN	**Pn**	**02 45 49.2**	**+1.3**
KBG	**Krutoberegovo**	**3.43**	**27**	*e*P	**Pn**	**02 45 49.2**	**+1.3**
SKR	**Severo-Kuril's**	**3.47**	**224**	*d i*PN	**Pn**	**02 45 49.9**	**+1.4**
SKR	**Severo-Kuril's**	**3.47**	**224**	*e*P	**Pn**	**02 45 49.1**	**+0.6**
SMKR	**Semkarok**	**3.47**	**14**	PN	**Pn**	**02 45 50.8**	**+2.2**
SMKR	**Semkarok**	**3.47**	**14**	*e*P	**Pn**	**02 45 50.8**	**+2.2**
SRKR	**Sorokina**	**3.50**	**11**	PN	**Pn**	**02 45 51.9**	**+2.9**
SRKR	**Sorokina**	**3.50**	**11**	*e*P	**Pn**	**02 45 51.9**	**+2.9**
BKI	**Bering**	**4.07**	**59**	PN	**Pn**	**02 45 55.5**	**-1.0**
BKI	**Bering**	**4.07**	**59**	*e*P	**Pn**	**02 45 55.5**	**-1.0**
BKI				*e*S	**Sn**	**02 46 36.7**	**-6.1**
TIGL	**Tigil**	**4.59**	**352**	*e*P	**Pn**	**02 46 05.9**	**+2.1**
PALN	**Palana**	**5.87**	**0**	PN	**Pn**	**02 46 22.8**	**+1.6**
PALN	**Palana**	**5.87**	**0**	*e*P	**Pn**	**02 46 22.8**	**+1.6**
OSSR	**Ossora**	**6.28**	**15**	PN	Pn	02 46 31.5	+4.7
OSSR	**Ossora**	**6.28**	**15**	*e*P	Pn	02 46 31.5	+4.7
TILK	**Tilichiki**	**7.99**	**23**	PN	**Pn**	**02 46 53.7**	**+3.5**
TILK	**Tilichiki**	**7.99**	**23**	*e*P	**Pn**	**02 46 53.7**	**+3.5**
MA2	**Magadan**	**8.13**	**325**	Pn	**Pn**	**02 46 53.6**	**+1.5**
MA2	**Magadan**	**8.13**	**325**	P	**Pn**	**02 46 56.0**	**+3.9**
MA2	**Magadan**	**8.13**	**325**	*de*PN	**Pn**	**02 46 53.7**	**+1.6**
MA2	**Magadan**	**8.13**	**325**	P	**Pn**	**02 46 53.2**	**+1.1**
	129nm,0.8s,baz=133,slow=8.8,SNR=50						
MA2				LR	LR	02 50 24.9	
	comp=Z,2µm,21.9s,baz=116,slow=41						
SHEM	**Shemya Is, Ala**	**8.58**	**88**	P	**Pn**	**02 46 55.6**	**-2.6**
	114nm,0.3s,baz=305,slow=3.1,SNR=16						
SHEM				S	**Sn**	**02 48 24.8**	**-8.5**
	76nm,0.5s,baz=269,slow=22,SNR=6.6						
SHEM				LR	LR	02 50 10.8	
	comp=Z,2µm,21.7s,baz=305,slow=36						
SMY	**Shemya**	**8.58**	**88**	Pn	**Pn**	**02 46 56.9**	**-1.3**
SMY	**Shemya**	**8.58**	**88**	PN	**Pn**	**02 46 56.9**	**-1.3**
KMSK	**Kamenskaya**	**9.84**	**17**	PN	Pn	02 47 21.6	+6.2
KMSK	**Kamenskaya**	**9.84**	**17**	*e*P	Pn	02 47 21.6	+6.2
OKH	**Okha**	**10.15**	**279**	*de*PN	**Pn**	**02 47 19.5**	**-0.2**
OKH				*e*S	**Sn**	**02 49 12.3**	**+0.4**
OKH				MLR	MLR		
	comp=Z,1µm,16.0s						
OKH				MLR	MLR		
	comp=E,1µm,16.0s						
OKH				MLR	MLR		
	comp=N,700nm,16.0s						
SEY	**Seymchan**	**10.50**	**341**	P	**Pn**	**02 47 28.1**	**+3.6**
	comp=N,43nm,0.9s,baz=142,slow=12,SNR=30						
SEY				LR	LR	02 51 50.8	
	comp=N,2µm,18.9s,baz=162,slow=40						
TYV	**Tymovskoe**	**10.89**	**264**	*e*PN	**Pn**	**02 47 34.5**	**+4.6**
TYV				*e*S	**Sn**	**02 49 33.0**	**+3.0**
TYV				pmax	pmax		
	comp=Z,84nm,0.9s						
TYV				pmax	pmax		
	comp=Z,500nm,2.5s						
TYV				smax	smax		
	comp=N,12nm,1.1s						
TYV				smax	smax		
	comp=E,8.0nm,1.1s						
TYV				smax	smax		
	comp=E,400nm,6.1s						
KUR	**Kuril'sk**	**11.22**	**229**	*e*PN	**Pn**	**02 47 36.3**	**+1.9**
KUR				S	Sn	02 49 47.6	+10
KUR				pmax	pmax		
	comp=Z,120nm,0.6s						
NKL	**Nikolayevsk**	**11.54**	**277**	*e*PN	**Pn**	**02 47 41.7**	**+3.0**
NKL				pmax	pmax		
	comp=N,86nm,1.2s						
NKL				pmax	pmax		
	comp=E,264nm,1.3s						
NKL				pmax	pmax		
	comp=Z,305nm,1.3s						
NKL				MLR	MLR		
	comp=E,8µm,19.0s						
NKL				MLR	MLR		
	comp=N,2µm,15.0s						
NKL				MLR	MLR		
	comp=Z,7µm,18.0s						
YSS	**Yuzh-Sakhalins**	**12.67**	**247**		**Pn**	**02 47 53.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**12.67**	**247**	P	**Pn**	**02 47 58.0**	**+3.9**
YSS	**Yuzh-Sakhalins**	**12.67**	**247**	⇑*e*PN	**Pn**	**02 47 57.2**	**+3.1**
YSS				*e*S	**Sn**	**02 50 17.2**	**+3.8**
YSS				pmax	pmax		
	comp=Z,400nm,2.4s						
YSS				pmax	pmax		
	comp=Z,70nm,0.9s						
YSS				MLR	MLR		
	comp=Z,1µm,16.0s						
YSS				MLR	MLR		
	comp=E,600nm,17.0s						
SHO	**Shikotan**	**12.74**	**228**	*e*PN	**Pn**	**02 47 50.6**	**-4.6**
SHO				pmax	pmax		
	comp=Z,145nm,0.4s						
SHO				pmax	pmax		
	comp=N,29nm,0.2s						
SHO				pmax	pmax		
	comp=E,42nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**13.06**	**231**	*e*PN	**Pn**	**02 47 57.8**	**-1.6**
YUK				pmax	pmax		
	comp=Z,471nm,0.3s						
YUK				pmax	pmax		
	comp=E,340nm,0.4s						
RUSJ	**Misakicho**	**13.30**	**232**	*e*PN	**Pn**	**02 48 03.4**	**+0.8**
NMR	**Nemuro--Hokkai**	**13.63**	**229**	*e*P	Pn	02 48 02.3	-4.9
JKA	**Kamikawa-asahi**	**14.60**	**238**	Pn	**Pn**	**02 48 20.2**	**+0.3**
ASAJ	**Asahikawa**	**14.60**	**238**	P	**Pn**	**02 48 20.3**	**+0.4**
ASAJ	**Asahikawa**	**14.60**	**238**	P	**Pn**	**02 48 21.2**	**+1.3**
	comp=E,234nm,0.9s,baz=72,slow=12,SNR=67						
ASAJ				LR	LR	02 53 38.3	
	comp=E,844nm,20.1s,baz=45,slow=36						
GRNR	**Gornyy**	**14.66**	**270**	⇑*i*P	**P**	**02 48 27.7**	**+2.2**
GRNR				pmax	pmax		
	comp=E,100nm,0.7s						
GRNR				pmax	pmax		
	comp=N,40nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,150nm,0.7s						
GRNR				MLR	MLR		
	comp=N,490nm,18.0s						
BILL	**Bilibino**	**15.16**	**9**	Pn	**Pn**	**02 48 28.1**	**+1.0**
BILL	**Bilibino**	**15.16**	**9**	⇓*e*P	**Pn**	**02 48 28.2**	**+1.2**
ATKA	**Atka Island**	**15.70**	**83**	Pn	**Pn**	**02 48 34.6**	**+0.7**
ERM	**Erimo**	**15.88**	**232**	Pn	**Pn**	**02 48 31.6**	**-4.8**
ERM				IAmb	IAmb	02 48 41.4	
	comp=Z,159nm,0.4s						
ERM	**Erimo**	**15.88**	**232**	P	**P**	**02 48 40.6**	**+1.7**
ERM	**Erimo**	**15.88**	**232**	⇑*e*P	**Pn**	**02 48 35.1**	**-1.2**
JEM	**Erimo**	**15.88**	**232**	P	**P**	**02 48 39.7**	**+0.8**
TEY	**Ternei**	**17.26**	**251**	*e*P	**P**	**02 48 55.9**	**+1.7**
SPIA	**Saint Paul Isl**	**17.40**	**65**	P	**P**	**02 48 55.4**	**-0.2**
	baz=270						
JTM	**Tenmabayashi**	**17.82**	**233**	P	**P**	**02 48 54.6**	**-5.8**
JTM				IAmb	IAmb	02 48 59.5	
	comp=Z,69nm,0.5s						
GAMB	**Gambell**	**18.02**	**43**	P	**P**	**02 49 02.2**	**-0.3**
	baz=248						
KLR	**Kul'dur**	**18.03**	**269**	*c i*P	**Pn**	**02 49 04.3**	**+1.4**
KLR				pmax	pmax		
	comp=Z,72nm,1.3s						
KLR				MLR	MLR		
	comp=Z,345nm,11.0s						
KLR	**Kul'dur**	**18.03**	**269**	P	**Pn**	**02 49 04.1**	**+1.2**
	comp=Z,38nm,0.6s,baz=66,slow=10.0,SNR=88						
KLR				LR	LR	02 56 59.3	
	comp=Z,630nm,18.1s,baz=74,slow=40						
YAK	**Yakutsk**	**18.27**	**311**	P	**P**	**02 49 04.2**	**-0.9**
YAK	**Yakutsk**	**18.27**	**311**	*e*P	**P**	**02 49 05.2**	**+0.1**
YAK				*e*S	**Sn**	**02 52 26.4**	**-2.2**
YAK				pmax	pmax		
	comp=Z,216nm,0.8s						
YAK				pmax	pmax		
	comp=N,27nm,0.9s						
YAK				pmax	pmax		
	comp=E,40nm,0.9s						
YAK				pmax	pmax		
	comp=Z,370nm,1.4s						
YAK				pmax	pmax		
	comp=N,145nm,1.4s						
YAK				pmax	pmax		
	comp=E,264nm,1.4s						
YAK				smax	smax		
	comp=N,102nm,1.5s						
YAK				smax	smax		
	comp=E,92nm,1.8s						
YAK				MLR	MLR		
	comp=Z,1µm,19.0s						
YAK				MLR	MLR		
	comp=E,837nm,16.0s						
NIKH	**Nikolski High**	**18.68**	**78**	P	**Pn**	**02 49 10.4**	**-0.3**
	baz=284						
ZEA	**Zeya**	**19.36**	**285**	*e*P	**P**	**02 49 17.7**	**+0.6**
ZEA				*e*		02 52 53.5	
ZEA				pmax	pmax		
	comp=E,50nm,0.9s						
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,70nm,1.0s						
ZEA				MLR	MLR		
	comp=N,300nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,16.0s						
UNV	**Unalaska Valle**	**19.86**	**75**	P	**Pn**	**02 49 27.0**	**+2.3**
UNV	**Unalaska Valle**	**19.86**	**75**	P	**P**	**02 49 22.9**	**+0.3**
	baz=282						
TNA	**Tin City**	**20.21**	**40**	P	**P**	**02 49 26.9**	**+0.6**
	baz=248,SNR=27						
AKUT	**Akutan**	**20.23**	**74**	P	**P**	**02 49 27.5**	**+0.9**
AKUT				IAmb	IAmb	02 49 32.5	
	comp=Z,119nm,1.0s						
AKUT	**Akutan**	**20.23**	**74**	P	Pn	02 49 32.0	+3.0
JMM	**Marumori**	**20.29**	**228**	P	**P**	**02 49 26.2**	**-1.2**
JMM				IAmb	IAmb	02 49 29.9	
	comp=Z,174nm,1.1s						
JMM	**Marumori**	**20.29**	**228**	P	Pn	02 49 28.9	-0.9
USA0B	**Ussuriysk Arra**	**20.41**	**255**	P	**P**	**02 49 27.3**	**-1.3**
USA0B				IAmb	IAmb	02 49 35.6	
	comp=Z,66nm,0.7s						
USA0B	**Ussuriysk Arra**	**20.41**	**255**	P	**P**	**02 49 27.3**	**-1.3**
USA0B				pmax	pmax		
	comp=Z,66nm,0.7s						
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P	**P**	**02 49 27.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P	**P**	**02 49 27.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P	**P**	**02 49 28.3**	**-0.3**
	comp=Z,23nm,0.5s,baz=57,slow=8.8,SNR=72						
USRK				LR	LR	02 57 54.9	
	comp=Z,712nm,19.4s,baz=59,slow=38						
	comp=Z,23nm,0.5s						
F14K	**Arctic Creek**	**20.80**	**41**	P	**P**	**02 49 33.4**	**+0.7**
	baz=250						
ANM	**Nome**	**20.90**	**44**	P	**P**	**02 49 34.1**	**+0.3**
ANM	**Nome**	**20.90**	**44**	P	**P**	**02 49 35.2**	**+1.4**
	baz=254,SNR=13						
ANM	**Nome**	**20.90**	**44**	P	**P**	**02 49 34.1**	**+0.3**
ANM				pmax	pmax		
	comp=Z,45nm,1.1s						
M13K	**Dall Lake**	**21.11**	**55**	P	**P**	**02 49 37.6**	**+1.5**
M13K				IAmb	IAmb	02 49 54.9	
	comp=Z,227nm,1.6s						
M13K	**Dall Lake**	**21.11**	**55**	P	**P**	**02 49 36.8**	**+0.8**
	baz=267						
J14K	**Nanvaranak Lak**	**21.28**	**49**	P	**P**	**02 49 38.9**	**+1.1**
J14K	**Nanvaranak Lak**	**21.28**	**49**	P	**P**	**02 49 39.6**	**+1.8**
	baz=260						
FALS	**False Pass**	**21.44**	**71**	P	**P**	**02 49 40.8**	**+1.2**
	baz=281						
L14K	**Kuka Creek**	**21.51**	**53**	P	**P**	**02 49 42.0**	**+1.8**
L14K	**Kuka Creek**	**21.51**	**53**	P	**P**	**02 49 41.6**	**+1.4**
	baz=265						
F15K	**North Star Dit**	**21.54**	**41**	P	**P**	**02 49 41.9**	**+1.4**
F15K	**North Star Dit**	**21.54**	**41**	P	**P**	**02 49 41.9**	**+1.4**
	baz=252						
G15K	**Niukluk**	**21.57**	**43**	P	**P**	**02 49 42.3**	**+1.4**
	baz=254,SNR=13						
MDJ	**Mudanjiang**	**21.57**	**259**	P	**P**	**02 49 41.3**	**+0.2**
MDJ				pP	pP	02 49 51.8	-2.9
MDJ				sP	sP	02 49 59.0	-3.5
MDJ				PP	**PnPn**	**02 50 02.4**	**-1.5**
MDJ				S	**S**	**02 53 34.6**	**-2.0**
MDJ				pmax	pmax		
	comp=Z,30nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.9s						
MDJ				LR	LR		
	comp=Z,570nm,16.2s						
MDJ				LR	LR		
	comp=Z,650nm,18.0s						
MDJ				LR	LR		
	comp=Z,880nm,19.5s						
MDJ	**Mudanjiang**	**21.57**	**259**	P	**P**	**02 49 40.5**	**-0.6**
MDJ	**Mudanjiang**	**21.57**	**259**	P	**P**	**02 49 41.1**	**0.0**
M14K	**Bethel**	**21.82**	**55**	P	**P**	**02 49 44.7**	**+1.2**
M14K	**Bethel**	**21.82**	**55**	P	**P**	**02 49 44.8**	**+1.2**
	baz=267						
MSHR	**Mys Shultsa**	**21.88**	**252**	⇓*e*P	**P**	**02 49 45.2**	**+0.8**
MSHR				pmax	pmax		
	comp=Z,108nm,2.2s						
N14K	**Kuskokwak Cree**	**21.93**	**57**	P	**P**	**02 49 46.2**	**+1.5**
	baz=269						
L15K	**Ungalak Mounta**	**22.11**	**52**	P	**P**	**02 49 48.3**	**+1.6**
	baz=265,SNR=6.5						
O14K	**Tigyukauivet M**	**22.14**	**59**	P	**P**	**02 49 47.5**	**+0.5**
O14K	**Tigyukauivet M**	**22.14**	**59**	P	**P**	**02 49 47.3**	**+0.2**
	baz=272						
K15K	**Wolf Creek Mou**	**22.15**	**51**	P	**P**	**02 49 48.4**	**+1.2**
K15K	**Wolf Creek Mou**	**22.15**	**51**	P	**P**	**02 49 47.8**	**+0.7**
	baz=264,SNR=14						
H16K	**Elim**	**22.23**	**44**	P	**P**	**02 49 47.9**	**-0.1**
	baz=257,SNR=33						
C16K	**Lisburne Hills**	**22.24**	**34**	P	**P**	**02 49 48.2**	**+0.2**
C16K				IAmb	IAmb	02 50 02.3	
	comp=Z,79nm,0.8s						
C16K	**Lisburne Hills**	**22.24**	**34**	P	**P**	**02 49 48.9**	**+0.8**
	baz=245						
BNX	**BinXian**	**22.26**	**264**	⇑P	**P**	**02 49 46.8**	**-1.7**
BNX				pP	**pP**	**02 50 00.8**	**-1.3**
BNX				sP	**sP**	**02 50 08.2**	**-1.8**
BNX				S	**S**	**02 53 48.2**	**-1.2**
BNX				pmax	pmax		
	comp=Z,77nm,0.5s						
BNX				pmax	pmax		
	comp=Z,270nm,3.7s						
BNX				LR	LR		
	comp=Z,680nm,14.4s						
BNX				LR	LR		
	comp=Z,480nm,13.9s						
BNX				LR	LR		
	comp=Z,600nm,15.6s						
G16K	**Koyuk River**	**22.36**	**42**	P	**P**	**02 49 49.6**	**+0.2**
G16K	**Koyuk River**	**22.36**	**42**	P	**P**	**02 49 49.8**	**+0.4**
	baz=255						
M15K	**Kasigluk River**	**22.44**	**55**	P	**P**	**02 49 50.4**	**+0.2**
	baz=268,SNR=16						
MJB9	**Matsu-Tunnel**	**22.55**	**231**	P	**P**	**02 49 52.9**	**+1.2**
MAJO	**Matsushiro**	**22.55**	**231**	P	**P**	**02 49 52.6**	**+0.9**
MAJO	**Matsushiro**	**22.55**	**231**	P	**P**	**02 49 52.7**	**+0.9**
MAJO	**Matsushiro**	**22.55**	**231**	*c i*P	**P**	**02 49 52.4**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,543nm,0.7s						
MJAR	**Matsushiro Arr**	**22.55**	**231**	P	**P**	**02 49 52.2**	**+0.5**
	comp=Z,247nm,0.8s,baz=14,slow=12,SNR=551						
MJAR				PcP	**PcP**	**02 53 43.1**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=83,slow=1.9,SNR=4.3						
MJAR				LR	LR	03 00 11.4	
	comp=Z,381nm,21.0s,baz=40,slow=40						
	comp=Z,247nm,0.8s						
J16K	**Anvik River**	**22.70**	**48**	P	**P**	**02 49 53.9**	**+0.9**
J16K	**Anvik River**	**22.70**	**48**	P	**P**	**02 49 53.5**	**+0.6**
	baz=262,SNR=20						
N15K	**Kwethluk River**	**22.73**	**56**	P	**P**	**02 49 54.2**	**+0.9**
N15K				IAmb	IAmb	02 50 08.2	
	comp=Z,93nm,1.1s						
N15K	**Kwethluk River**	**22.73**	**56**	P	**P**	**02 49 54.5**	**+1.1**
	baz=270						
I17K	**Unalakleet**	**22.74**	**47**	P	**P**	**02 49 54.2**	**+0.8**
I17K	**Unalakleet**	**22.74**	**47**	P	**P**	**02 49 54.3**	**+0.8**
	baz=261,SNR=12						
O15K	**Ungalikthiuk R**	**22.89**	**59**	P	**P**	**02 49 55.3**	**+0.3**
	baz=273						
TIXI	**Tiksi**	**22.91**	**335**	P	**P**	**02 49 54.0**	**-1.1**
TIXI				IAmb	IAmb	02 50 21.4	
	comp=Z,96nm,1.3s						
TIXI	**Tiksi**	**22.91**	**335**	*de*P	**P**	**02 49 54.4**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,60nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,799nm,18.0s						
TIXI	**Tiksi**	**22.91**	**335**	P	**P**	**02 49 54.0**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=127,slow=11,SNR=68						
TIXI				LR	LR	02 59 47.7	
	comp=Z,44nm,18.7s,baz=148,slow=39						
RDOG	**Red Dog Mine**	**22.99**	**36**	P	**P**	**02 49 56.4**	**+0.5**
RDOG				IAmb	IAmb	02 50 10.6	
	comp=Z,84nm,1.0s						
RDOG	**Red Dog Mine**	**22.99**	**36**	P	**P**	**02 49 56.5**	**+0.5**
	baz=249,SNR=11						
SDPT	**Sand Point**	**23.00**	**69**	P	**P**	**02 49 56.7**	**+0.5**
	baz=281						
E17K	**Hotham Inlet**	**23.05**	**38**	P	**P**	**02 49 57.4**	**+0.9**
	baz=252,SNR=39						
C17K	**DeLong Mountai**	**23.05**	**34**	P	**P**	**02 49 57.2**	**+0.6**
	baz=247						
L16K	**Owhat River**	**23.07**	**52**	P	**P**	**02 49 57.4**	**+0.7**
L16K	**Owhat River**	**23.07**	**52**	P	**P**	**02 49 57.2**	**+0.5**
	baz=267,SNR=11						
F17K	**Baldwin Pennin**	**23.08**	**40**	P	**P**	**02 49 57.6**	**+0.8**
F17K	**Baldwin Pennin**	**23.08**	**40**	P	**P**	**02 49 57.0**	**+0.2**
	baz=254						
G17K	**Kiwalik Mounta**	**23.08**	**43**	P	**P**	**02 49 57.6**	**+0.8**
	baz=257						
H17K	**Granite Mounta**	**23.27**	**44**	P	**P**	**02 49 58.5**	**-0.2**
H17K	**Granite Mounta**	**23.27**	**44**	P	**P**	**02 49 59.3**	**+0.7**
	baz=259,SNR=41						
M16K	**Timber Creek**	**23.29**	**54**	P	**P**	**02 49 59.8**	**+0.9**
M16K	**Timber Creek**	**23.29**	**54**	P	**P**	**02 49 59.6**	**+0.7**
	baz=269,SNR=6.2						
S14K	**Fog Glacier**	**23.34**	**66**	P	**P**	**02 50 00.2**	**+0.6**
	baz=280						
N16K	**Nishlik Lake**	**23.38**	**55**	P	**P**	**02 50 00.4**	**+0.5**

	baz=271,SNR=12						
E18K	Tukpahlearik C	23.60	38	P	P	02 50 02.7	+0.9
E18K				PcP	PcP	02 53 45.5	+0.9
E18K	Tukpahlearik C	23.60	38	P	P	02 50 02.6	+0.8
	baz=253						
CHNA	Chernabura Isl	23.61	70	P	P	02 50 02.8	+0.9
	baz=283						
CNBA	Chernabura Isl	23.61	70	P	P	02 50 00.9	-1.0
CNBA				IAmb	IAmb	02 50 14.0	
	comp=Z,70nm,1.0s						
L17K	Donlin	23.64	51	P	P	02 50 03.2	+1.0
	baz=267						
K17K	Iditarod	23.68	50	P	P	02 50 03.8	+1.3
K17K	Iditarod	23.68	50	P	P	02 50 03.7	+1.2
	baz=266,SNR=22						
O16K	Kokwok River B	23.75	58	P	P	02 50 04.0	+0.9
O16K					PcP	02 53 46.1	+1.2
O16K	Kokwok River B	23.75	58	P	P	02 50 03.4	+0.2
	baz=273						
C18K	Utukok River	23.80	35	P	P	02 50 04.0	+0.4
C18K				IAmb	IAmb	02 50 18.1	
	comp=Z,88nm,1.0s						
C18K	Utukok River	23.80	35	P	P	02 50 04.5	+0.9
	baz=249						
P16K	Nushagak River	23.84	59	P	P	02 50 05.0	+1.0
	baz=275						
B18K	Kokolik River	23.86	33	P	P	02 50 05.0	+0.9
	baz=247						
H18K	Honhosa River	23.95	44	P	P	02 50 05.9	+0.9
H18K				IAmb	IAmb	02 50 19.3	
	comp=Z,190nm,1.6s						
H18K	Honhosa River	23.95	44	P	P	02 50 05.7	+0.7
	baz=260						
CHGN	Chignik	23.97	66	P	P	02 50 06.9	+1.8
	baz=280						
G18K	Tagagawik	23.97	42	P	P	02 50 06.2	+1.0
G18K	Tagagawik	23.97	42	P	P	02 50 06.0	+0.8
	baz=258,SNR=72						
M17K	Holitna River	24.03	53	P	P	02 50 07.1	+1.3
M17K				IAmb	IAmb	02 50 20.9	
	comp=Z,80nm,1.0s						
M17K	Holitna River	24.03	53	P	P	02 50 07.0	+1.3
	baz=270						
JSG	Sagara	24.10	228	P	P	02 50 07.8	+1.3
JSG	Sagara	24.10	228	P	P	02 50 08.2	+1.6
N17K	Nushagak Hills	24.16	55	P	P	02 50 08.0	+1.1
N17K	Nushagak Hills	24.16	55	P	P	02 50 07.6	+0.7
	baz=272,SNR=7.9						
R16K	Pilot Point	24.22	63	P	P	02 50 07.9	+0.5
	baz=278						
O17K	Koliganek Bris	24.25	57	P	P	02 50 08.4	+0.8
	baz=274,SNR=6.2						
L18K	Granite Mounta	24.40	51	P	P	02 50 10.3	+1.3
L18K	Granite Mounta	24.40	51	P	P	02 50 09.8	+0.8
	baz=268,SNR=8.8						
A19K	Wainwright	24.43	31	P	P	02 50 10.1	+1.0
	baz=246						
J18K	Innoko River	24.45	48	P	P	02 50 10.5	+1.0
J18K	Innoko River	24.45	48	P	P	02 50 10.3	+0.8
	baz=266,SNR=43						
CN2	Changchun	24.49	261	*e*P	P	02 50 07.4	-2.6
CN2				*e*sP	sP	02 50 31.3	-1.3
CN2				*e*S	S	02 54 18.2	-7.6
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=Z,700nm,19.0s						
CN2				LR	LR		
	comp=Z,700nm,19.0s						
CN2				LR	LR		
	comp=Z,800nm,19.0s						
C19K	Lookout Ridge	24.50	34	P	P	02 50 10.6	+0.6
C19K				IAmb	IAmb	02 50 23.6	
	comp=Z,183nm,1.1s						
C19K	Lookout Ridge	24.50	34	P	P	02 50 11.0	+1.1
	baz=250						
GCSA	Galena City Sc	24.52	45	P	P	02 50 10.5	+0.5
	baz=263,SNR=24						
F19K	Shaleruckik Mo	24.52	40	P	P	02 50 10.8	+0.7
F19K				IAmb	IAmb	02 50 12.0	
	comp=Z,60nm,0.9s						
F19K	Shaleruckik Mo	24.52	40	P	P	02 50 10.7	+0.7
	baz=257						
Q16K	King Salmon	24.56	60	P	P	02 50 11.5	+1.0
	baz=276						
P17K	Kvichak River	24.62	58	P	P	02 50 11.5	+0.5
	baz=275						
G19K	Purcell Mounta	24.65	42	P	P	02 50 11.7	+0.5
G19K				IAmb	IAmb	02 50 13.2	
	comp=Z,75nm,0.9s						
G19K	Purcell Mounta	24.65	42	P	P	02 50 11.8	+0.5
	baz=260,SNR=88						
TTA	Tatalina	24.74	49	P	P	02 50 13.1	+0.9
TTA	Tatalina	24.74	49	P	P	02 50 14.2	+2.0
TTA	Tatalina	24.74	49	P	P	02 50 13.1	+0.9
	baz=268,SNR=38						
TTA	Tatalina	24.74	49	P	P	02 50 13.1	+0.9
TTA				pmax	pmax		
	comp=Z,44nm,0.9s						
N18K	Kilae Creek	24.80	55	P	P	02 50 14.1	+1.4
N18K	Kilae Creek	24.80	55	P	P	02 50 13.2	+0.5
	baz=273						
H19K	Roundabout Mou	24.80	43	P	P	02 50 13.9	+1.3
H19K				IAmb	IAmb	02 50 15.0	
	comp=Z,152nm,0.9s						
H19K	Roundabout Mou	24.80	43	P	P	02 50 13.6	+0.9
	baz=262,SNR=112						
M18K	Stony River	24.81	53	P	P	02 50 13.7	+1.0
	baz=271						
D19K	Kuna River	24.82	36	P	P	02 50 13.1	+0.3
D19K				IAmb	IAmb	02 50 17.7	
	comp=Z,57nm,0.9s						
D19K	Kuna River	24.82	36	P	P	02 50 13.0	+0.2
	baz=253						
R17K	Ugashik Creek	24.84	62	P	P	02 50 14.4	+1.4
R17K	Ugashik Creek	24.84	62	P	P	02 50 13.5	+0.5
	baz=279						
E19K	Redstone River	24.87	39	P	P	02 50 14.2	+0.9
E19K	Redstone River	24.87	39	P	P	02 50 14.2	+0.9
	baz=257						
SVW2	Sparrevohn	24.93	54	P	P	02 50 15.1	+1.1
SVW2	Sparrevohn	24.93	54	P	P	02 50 17.9	+4.0
J19K	Poorman	24.98	47	P	P	02 50 14.6	+0.3
J19K	Poorman	24.98	47	P	P	02 50 14.7	+0.4
	baz=266,SNR=41						
Q17K	Contact Creek	25.02	61	P	P	02 50 15.9	+1.1
	baz=278						
O18K	Koktuh Hills	25.19	57	P	P	02 50 17.1	+0.9
O18K	Koktuh Hills	25.19	57	P	P	02 50 17.2	+0.9
	baz=275						
HIA	Hailar	25.22	277	P	P	02 50 16.0	-0.6
HIA				IAmb	IAmb	02 50 18.0	
	comp=Z,97nm,0.6s						
HIA	Hailar	25.22	277	P	P	02 50 16.0	-0.6
HIA				pmax	pmax		
	comp=Z,97nm,0.6s						
P18K	Big Mountain,	25.22	58	P	P	02 50 17.5	+0.9
P18K	Big Mountain,	25.22	58	P	P	02 50 17.4	+0.9
	baz=276						
L19K	White Mountain	25.26	51	P	P	02 50 18.1	+1.2
L19K	White Mountain	25.26	51	P	P	02 50 17.0	+0.1
	baz=270,SNR=9.5						
F20K	Avaraart Lake	25.35	40	P	P	02 50 18.4	+0.7
F20K	Avaraart Lake	25.35	40	P	P	02 50 17.7	+0.1
	baz=259,SNR=35						
D20K	Etivluk River	25.41	36	P	P	02 50 18.3	+0.2
	baz=255						
Q18K	Katmai Hardscr	25.42	60	P	P	02 50 18.6	+0.2
	baz=278						
E20K	Nigu River	25.44	37	P	P	02 50 18.3	-0.2
	baz=256						
H20K	Anotleneega Mo	25.45	44	P	P	02 50 18.7	+0.2
	baz=263,SNR=46						
N19K	Bonanza Creek	25.48	54	P	P	02 50 17.3	-1.7
N19K	Bonanza Creek	25.48	54	P	P	02 50 19.3	+0.3
	baz=274,SNR=7.9						
I20K	Naaghedeneel	25.54	45	P	P	02 50 20.2	+0.8
I20K				IAmb	IAmb	02 50 53.7	
	comp=Z,78nm,1.0s						
I20K	Naaghedeneel	25.54	45	P	P	02 50 19.7	+0.4
	baz=265						
B20K	Meade River	25.61	33	P	P	02 50 20.3	+0.5
B20K	Meade River	25.61	33	P	P	02 50 20.9	+1.0
	baz=251						
O19K	Port Alsworth	25.61	56	P	P	02 50 20.9	+1.0
O19K	Port Alsworth	25.61	56	P	P	02 50 21.1	+1.1
	baz=275						
K20K	Telida	25.64	49	P	P	02 50 20.0	-0.3
K20K	Telida	25.64	49	P	P	02 50 21.2	+0.9
	baz=268						
J20K	Nowinta River	25.64	47	P	P	02 50 20.6	+0.3
J20K					PcP	02 53 50.6	+1.5
J20K	Nowinta River	25.64	47	P	P	02 50 21.3	+1.0
	baz=267						
L20K	Farewell, AK	25.72	51	P	P	02 50 21.9	+0.9
	baz=270,SNR=9.0						
R18K	Karluk	25.88	62	P	P	02 50 23.6	+1.1
	baz=280						
IMAR	Indian Mountai	25.97	43	P	P	02 50 23.7	+0.5
BOD	Bodaibo	25.98	299	*e*P	P	02 50 22.2	-1.2
BOD				pmax	pmax		
	comp=Z,111nm,1.3s						
M20K	Styx River	26.08	52	P	P	02 50 24.9	+0.5
M20K	Styx River	26.08	52	P	P	02 50 25.2	+0.8
	baz=272,SNR=5.8						
Q19K	Cape Douglas,	26.09	59	P	P	02 50 25.6	+1.1
	baz=278						
G21K	Allakaket	26.13	41	P	P	02 50 24.6	-0.1
G21K	Allakaket	26.13	41	P	P	02 50 25.7	+1.0
	baz=262						
C21K	Knifeblade Rid	26.16	35	P	P	02 50 25.9	+0.9
	baz=256						
P19K	Oil Pt	26.21	57	P	P	02 50 26.6	+1.1
	baz=277						
A21K	Barrow	26.22	30	P	P	02 50 26.7	+1.3
	baz=250,SNR=28						
SII	Sitkinak Islan	26.22	64	P	P	02 50 26.8	+1.2
	baz=282						
F21K	Alatna River	26.25	40	P	P	02 50 26.1	+0.3
F21K	Alatna River	26.25	40	P	P	02 50 26.6	+0.9
	baz=261,SNR=21						
E21K	Killik River	26.29	37	P	P	02 50 25.9	-0.2
E21K	Killik River	26.29	37	P	P	02 50 26.2	+0.1
	baz=258						
H21K	Melozitna Rive	26.32	43	P	P	02 50 26.8	+0.3
H21K				IAmb	IAmb	02 50 41.2	
	comp=Z,79nm,1.4s						
H21K	Melozitna Rive	26.32	43	P	P	02 50 27.2	+0.7
	baz=265,SNR=25						
B21K	Ikpikpuk River	26.34	34	P	P	02 50 27.2	+0.7
B21K				IAmb	IAmb	02 50 40.8	
	comp=Z,101nm,0.8s						
B21K	Ikpikpuk River	26.34	34	P	P	02 50 26.9	+0.4
	baz=255						
RSO	Redoubt South	26.36	55	P	P	02 50 27.8	+0.7
CHUM	Lake Minchumin	26.43	47	P	P	02 50 28.3	+0.9
	baz=269,SNR=14						
O20K	Slope Mountain	26.46	56	P	P	02 50 28.7	+0.8
	baz=276						
PPLA	Purkeypile	26.49	50	P	P	02 50 28.7	+0.6
	baz=271,SNR=10						
CAST	Castle Rocks	26.53	48	P	P	02 50 29.2	+0.8
CAST	Castle Rocks	26.53	48	P	P	02 50 29.7	+1.3
	baz=270,SNR=15						
N20K	Mount Spurr	26.56	53	P	P	02 50 29.9	+1.1
	baz=274						
OHAK	Old Harbor	26.56	62	P	P	02 50 28.2	-0.4
OHAK	Old Harbor	26.56	62	P	P	02 50 32.0	+3.4
OHAK	Old Harbor	26.56	62	P	P	02 50 29.9	+1.2
	baz=282						
A22K	Sinclair Lake	26.62	31	P	P	02 50 29.7	+0.7
	baz=252						
Q20K	Shuyak Island	26.78	59	P	P	02 50 31.2	+0.6
	baz=280						
F22K	John River	26.79	39	P	P	02 50 31.1	+0.5
	baz=262						
KDAK	Kodiak Island	26.83	61	P	P	02 50 31.8	+0.7
	baz=281						
SKT	Skwentna	26.83	52	P	P	02 50 31.4	+0.4
SKT	Skwentna	26.83	52	P	P	02 50 31.5	+0.4
	baz=274						
D22K	Ayikyak River	26.84	36	P	P	02 50 31.7	+0.6
D22K	Ayikyak River	26.84	36	P	P	02 50 31.6	+0.6
	baz=259,SNR=13						
JMN	Monobe	26.90	234	P	P	02 50 32.5	+0.5
B22K	Teshekpuk Lake	26.92	33	P	P	02 50 32.0	+0.3
B22K				IAmb	IAmb	02 50 47.8	
	comp=Z,63nm,0.9s						
B22K	Teshekpuk Lake	26.92	33	P	P	02 50 32.1	+0.3
	baz=255,SNR=29						
G22K	Bettles	26.97	41	P	P	02 50 32.3	+0.1
	baz=264,SNR=77						
E22K	Anaktuvuk Pass	27.02	38	P	P	02 50 33.5	+0.8
E22K	Anaktuvuk Pass	27.02	38	P	P	02 50 33.2	+0.4
	baz=261						
BPAW	Bear Paw Mtn.	27.02	47	P	P	02 50 33.7	+0.9
BPAW	Bear Paw Mtn.	27.02	47	P	P	02 50 33.1	+0.4
	baz=270,SNR=17						
KTH	Kantishna Hill	27.05	48	P	P	02 50 34.0	+0.9
KTH				IAmb	IAmb	02 50 48.3	
	comp=Z,76nm,1.2s						
CAPN	Captain Cook N	27.11	54	P	P	02 50 34.1	+0.6
	baz=276						
MLY	Manley	27.15	45	P	P	02 50 34.9	+1.0
MLY	Manley	27.15	45	P	P	02 50 34.6	+0.6
	baz=268,SNR=27						
KS19	Wonju Array Si	27.17	248	P	P	02 50 35.3	+1.0
KSRS	Korea Array	27.17	247	P	P	02 50 34.4	+0.1
	comp=Z,25nm,0.8s,baz=43,slow=9.0,SNR=25						
KSRS				PcP	PcP	02 53 54.1	+1.1
	comp=Z,7.4nm,0.8s,baz=7.7,slow=2.7,SNR=12						
KSRS				LR	LR	03 00 18.4	
	comp=Z,467nm,22.0s,baz=50,slow=34						
	comp=Z,25nm,0.8s						
KSAR	Wonju Array Be	27.20	247	P	P	02 50 35.0	+0.4
KSAR				PcP	PcP	02 53 54.5	+1.4
KSAR	Wonju Array Be	27.20	247	P	P	02 50 35.0	+0.4
KSAR						02 53 54.6	
SUA	Susitna One	27.24	53	P	P	02 50 35.6	+0.7
	baz=275						
TRF	Thorofare Moun	27.34	48	P	P	02 50 36.6	+0.8
TRF	Thorofare Moun	27.34	48	P	P	02 50 35.4	-0.4
	baz=272,SNR=15						
CUT	Chulitna	27.40	51	P	P	02 50 35.8	-0.2
	baz=274						
BRSE	Bradley Lake S	27.45	56	P	P	02 50 36.8	+0.2
	baz=278						
COLD	Coldfoot	27.51	40	P	P	02 50 36.4	-0.7
	baz=264,SNR=29						
M22K	Willow	27.52	52	P	P	02 50 37.2	+0.1
	baz=275						
G23K	Bananza Creek	27.54	41	P	P	02 50 37.6	+0.2
G23K	Bananza Creek	27.54	41	P	P	02 50 36.8	-0.6
	baz=266,SNR=24						
D23K	Nanushuk River	27.57	36	P	P	02 50 37.4	-0.1
	baz=261,SNR=18						
BWN	Browne	27.69	47	P	P	02 50 40.9	+2.2
I23K	Minto, Yukon-K	27.73	45	P	P	02 50 40.0	+1.0
I23K	Minto, Yukon-K	27.73	45	P	P	02 50 39.2	+0.2
	baz=269,SNR=16						
C23K	Itkillik River	27.75	34	P	P	02 50 39.6	+0.5
C23K				IAmb	IAmb	02 50 53.3	
	comp=Z,88nm,1.4s						
C23K	Itkillik River	27.75	34	P	P	02 50 39.1	0.0
	baz=259						
RC01	Rabbit Creek A	27.77	53	P	P	02 50 39.2	-0.2
	baz=277						
E23K	Chandalar	27.83	38	P	P	02 50 40.1	+0.1
	baz=263						
O22K	Cooper Landing	27.85	55	P	P	02 50 40.2	+0.1
	baz=278						
NEA2	Nenana	27.86	46	P	P	02 50 40.8	+0.6
NEA2	Nenana	27.86	46	P	P	02 50 40.6	+0.4
	baz=271,SNR=20						
INCN	Inchon	27.87	249	P	P	02 50 42.6	+2.0
INCN				S	S	02 55 09.0	-10
TOLK	Toolik Lake Re	27.91	37	P	P	02 50 41.2	+0.5
TOLK	Toolik Lake Re	27.91	37	P	P	02 50 40.8	0.0
	baz=262,SNR=17						
MCK	McKinley	27.94	48	P	P	02 50 41.0	+0.1
	baz=272,SNR=9.8						
RND	Reindeer	27.99	48	P	P	02 50 41.8	+0.3
RND				IAmb	IAmb	02 50 55.5	
	comp=Z,69nm,1.2s						
RND	Reindeer	27.99	48	P	P	02 50 41.8	+0.3
RND				pmax	pmax		
	comp=Z,69nm,1.2s						
PMR	Palmer	28.00	52	P	P	02 50 41.3	-0.1
	baz=276						
SEW	Seward	28.04	55	P	P	02 50 42.3	+0.6
	baz=279						
GHO	Glory Hole Cre	28.08	52	P	P	02 50 43.0	+0.7
WAT1	Susitna Watana	28.16	50	P	P	02 50 42.7	-0.3
	baz=274						
E24K	Your Creek	28.25	38	IAmb	IAmb	02 50 58.1	
	comp=Z,61nm,1.3s						
E24K	Your Creek	28.25	38	P	P	02 50 43.6	-0.1
	baz=265						
D24K	Happy Valley	28.25	36	P	P	02 50 44.0	+0.3
	baz=262						
KNK	Knik Glacier	28.34	53	P	P	02 50 44.7	+0.1
	baz=277,SNR=6.3						
SML	Sawmill	28.36	52	IAmb	IAmb	02 50 59.1	
	comp=Z,68nm,1.2s						
SML	Sawmill	28.36	52	P	P	02 50 44.7	0.0
	baz=276						
H24K	Noodor Dome	28.36	43	P	P	02 50 44.7	-0.1
	baz=269						
COLA	College	28.38	45	P	P	02 50 45.5	+0.7
COLA	College	28.38	45	P	P	02 50 46.4	+1.6
COLA	College	28.38	45	P	P	02 50 44.9	+0.1
	baz=271						
COLA	College	28.38	45	P	P	02 50 45.5	+0.7
COLA				pmax	pmax		
	comp=Z,50nm,1.2s						
C24K	Franklin Bluff	28.38	35	P	P	02 50 44.9	+0.1
	baz=261						
CCB	Clear Creek Bu	28.40	46	IAmb	IAmb	02 50 59.8	
	comp=Z,80nm,1.3s						
F24K	Squaw Lake	28.43	40	P	P	02 50 45.7	+0.4
	baz=266,SNR=13						
G24K	Hadweenzic Riv	28.55	41	IAmb	IAmb	02 50 49.0	
	comp=Z,61nm,0.9s						
G24K	Hadweenzic Riv	28.55	41	P	P	02 50 46.8	+0.4
	baz=268						
POKR	Poker Plat Res	28.55	45	P	P	02 50 46.6	+0.2
	baz=271,SNR=11						
WAT6	Susitna Watana	28.55	50	P	P	02 50 47.2	+0.6
	baz=275						
M23K	Glacier View	28.64	52	P	P	02 50 47.9	+0.7
	baz=277						
DHY	Denali Highway	28.68	49	IAmb	IAmb	02 51 02.0	
	comp=Z,68nm,1.4s						
DHY	Denali Highway	28.68	49	P	P	02 50 47.7	0.0
	baz=275,SNR=7.1						
HDA	Harding Lake	28.78	46	P	P	02 50 48.3	-0.1
	baz=273,SNR=22						
ILAR	Eielson Array	28.79	45	P	P	02 50 48.5	-0.1
	comp=Z,16nm,0.8s,baz=265,slow=7.8,SNR=123						
ILAR				PcP	PcP	02 53 55.9	-0.7
	comp=Z,2.2nm,0.8s,baz=283,slow=3.2,SNR=4.6						
ILAR				LR	LR	03 03 34.8	
	comp=Z,244nm,18.7s,baz=246,slow=39						
	comp=Z,16nm,0.8s						
SCM	Sheep Creek Mo	28.83	52	P	P	02 50 49.0	0.0
	baz=277						
JNU	Nakatsue	28.88	238	IAmb	IAmb	02 50 57.7	
	comp=Z,48nm,0.9s						
JNU	Nakatsue	28.88	238	P	P	02 50 52.6	+3.0
P23K	Montague Islan	29.07	55	P	P	02 50 51.6	+0.6
	baz=280						
G25K	Bearman Lake	29.10	41	P	P	02 50 51.4	+0.2
	baz=269						
D25K	Kavik River	29.14	36	P	P	02 50 51.5	-0.1
	baz=264						
JCJ	Chichijima	29.25	214	LR	LR	03 01 00.0	
	comp=Z,88nm,21.1s,baz=304,slow=33						
F25K	Christian Rive	29.30	40	P	P	02 50 53.3	+0.3
	baz=268						
K24K	Donnelly Dome	29.33	47	P	P	02 50 53.5	+0.1
	baz=275,SNR=8.0						
M24K	Tolsona, Glenn	29.33	51	P	P	02 50 53.9	+0.5
	baz=278						
PRP	Porcupine Dome	29.34	44	IAmb	IAmb	02 50 56.0	
	comp=Z,52nm,1.0s						
PRP	Porcupine Dome	29.34	44	P	P	02 50 54.0	+0.5
	baz=272,SNR=42						
E25K	Arctic Village	29.34	39	P	P	02 50 53.8	+0.3
	baz=267,SNR=24						
FYU	Fort Yukon	29.44	42	IAmb	IAmb	02 51 09.0	
	comp=Z,77nm,1.2s						
J25K	Salcha River,	29.45	46	P	P	02 50 54.4	0.0
	baz=274						
KLU	Klutina	29.54	52	P	P	02 50 55.1	-0.1
	baz=279						
PAX	Paxson	29.55	49	P	P	02 50 55.4	+0.1
	baz=277						
BMAR	Burnt Mountain	29.70	40	P	P	02 50 57.6	+1.1
Q23K	Middleton Isla	29.70	56	P	P	02 50 56.8	+0.2
	baz=282						
C26K	Camden Bay	29.71	35	P	P	02 50 56.8	+0.3
	baz=265						
RIDG	Independent Ri	29.75	47	IAmb	IAmb	02 51 10.1	
	comp=Z,49nm,1.2s						
RIDG	Independent Ri	29.75	47	P	P	02 50 56.9	-0.2
	baz=276,SNR=6.7						
HARP	HAARP	29.77	50	P	P	02 50 57.1	-0.1
	baz=278						
DL2	Dalian	29.77	257	P	P	02 50 55.3	-2.1
DL2				*e*S	S	02 55 45.2	-4.0
DL2				pmax	pmax		
	comp=Z,43nm,0.8s						
DL2				LR	LR		
	comp=Z,410nm,19.2s						
DL2				LR	LR		
	comp=Z,890nm,20.3s						
DL2				LR	LR		
	comp=Z,850nm,20.8s						
EYAK	Cordova Ski Ar	29.78	54	P	P	02 50 57.6	+0.4
	baz=281						
F26K	Sheenjek River	29.87	39	P	P	02 50 58.6	+0.6
	baz=269,SNR=26						
G26K	Porcupine Rive	30.01	41	P	P	02 50 59.6	+0.4
	baz=271						
XLT	XiLinHaoTe	30.04	270	*e*P	P	02 50 58.9	-1.0
XLT				pP	pP	02 51 16.3	+1.1
XLT				sP	sP	02 51 24.0	+1.5
XLT				PP	PnPn	02 52 03.1	+4.2
XLT				PcP	PcP	02 54 02.6	+2.3
XLT				S	S	02 55 52.7	-0.9
XLT				sS	sS	02 56 23.8	+4.1
XLT				pmax	pmax		
	comp=Z,42nm,0.7s						
XLT				pmax	pmax		
	comp=Z,180nm,4.7s						
XLT				LR	LR		
	comp=Z,49nm,16.2s						
XLT				LR	LR		
	comp=Z,380nm,19.1s						
XLT				LR	LR		
	comp=Z,480nm,26.8s						
SCRK	Sand Creek	30.11	47	IAmb	IAmb	02 51 14.1	
	comp=Z,67nm,1.4s						
SCRK	Sand Creek	30.11	47	P	P	02 50 59.7	-0.5
	baz=276,SNR=22						
N25K	Chitina, Valde	30.14	52	P	P	02 51 00.9	+0.3
	baz=280						
J26L	Joseph Creek	30.24	46	P	P	02 51 01.3	-0.1
	baz=276						
BMRM	Bremner River	30.25	53	P	P	02 51 01.7	+0.1
	baz=281						
I26K	Coal Creek Min	30.34	44	P	P	02 51 02.4	+0.1
	baz=274						
MENT	Mentasta	30.35	49	P	P	02 51 05.9	+3.6
L26K	Log Cabin Wild	30.50	49	P	P	02 51 04.0	+0.3
	baz=278						
KAIM	Kayak Island	30.55	55	P	P	02 51 04.4	+0.3
	baz=283						
M26K	Nabesna, AK	30.76	50	P	P	02 51 06.6	+0.6
	baz=280,SNR=6.5						
E27K	Coleen River	30.83	38	P	P	02 51 06.9	+0.4
	baz=271						
G27K	Doyon Strip	30.86	41	P	P	02 51 07.3	+0.5
	baz=273,SNR=14						
MCARA	McCarthy VSAT	30.93	52	P	P	02 51 08.7	+1.3
	baz=281						
K27K	Chicken	30.93	47	P	P	02 51 08.2	+0.8
	baz=278						
H27K	Steamboat Moun	30.94	42	P	P	02 51 07.9	+0.4
	baz=274						
I27K	Kandik River	30.96	43	P	P	02 51 08.5	+0.8
	baz=275						
CRQM	Cirque	31.00	53	IAmb	IAmb	02 51 24.2	
	comp=Z,56nm,1.2s						
CRQE	Cirque	31.02	53	P	P	02 51 09.2	+0.8
	baz=282						
D27M	Malcolm River	31.06	36	P	P	02 51 09.2	+0.6
	baz=270,SNR=22						

L27K Beaver Creek, 31.18 48 IAmb IAmb 02 51 25.3
comp=Z,61nm,1.1s
L27K Beaver Creek, 31.18 48 P **P** **02 51 10.2 +0.5**
baz=279,SNR=22
EGAK Eagle 31.24 45 P **P** **02 51 09.8 -0.3**
baz=277,SNR=22
M27K Edge Creek, AK 31.28 50 IAmb IAmb 02 51 28.2
comp=Z,46nm,1.1s
M27K Edge Creek, AK 31.28 50 P **P** **02 51 10.9 +0.2**
baz=280,SNR=8.4
F28M Old Crow 31.50 40 IAmb IAmb 02 51 27.3
comp=Z,46nm,1.4s
F28M Old Crow 31.50 40 P **P** **02 51 12.8 +0.4**
baz=273,SNR=21
E28M Babbage River 31.59 38 P **P** **02 51 13.3 +0.1**
baz=272,SNR=12
I28M Miner Creek 31.67 44 P **P** **02 51 14.2 +0.2**
baz=277,SNR=10.0
BVCY Beaver Creek 31.74 49 P **P** **02 51 14.8 +0.3**
baz=281,SNR=8.4
CTG Chitna Glacier 31.81 52 P **P** **02 51 15.2 -0.2**
baz=283
D28M Stokes Point 31.85 36 P **P** **02 51 15.8 +0.4**
baz=272,SNR=13
YUK3 Moose Creek 32.05 51 P **P** **02 51 17.2 -0.3**
baz=282
DAWY Dawson 32.10 46 P **P** **02 51 17.3 -0.5**
baz=280,SNR=6.8
E29M Blow River 32.20 38 P **P** **02 51 18.6 +0.1**
baz=274
H29M Whitestone 32.22 42 IAmb IAmb 02 51 41.4
comp=Z,41nm,1.0s
H29M Whitestone 32.22 42 P **P** **02 51 19.0 +0.2**
baz=277
BJI Beijing 32.27 264 P **P** **02 51 20.0 +0.6**
BJI PcP **PcP** **02 54 07.3 +1.1**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI LR LR
comp=Z,240nm,20.3s
BJI LR LR
comp=Z,210nm,20.2s
BJI LR LR
comp=Z,290nm,18.0s
G29M Pine Creek 32.28 41 IAmb IAmb 02 51 35.1
comp=Z,58nm,1.0s
G29M Pine Creek 32.28 41 P **P** **02 51 19.9 +0.7**
baz=276,SNR=27
BJT Baijiatuau 32.29 264 P **P** **02 51 21.2 +1.6**
comp=Z,16nm,0.6s
I29M Ogilvie Camp, 32.36 44 IAmb IAmb 02 51 34.8
comp=Z,46nm,1.1s
I29M Ogilvie Camp, 32.36 44 P **P** **02 51 20.2 +0.2**
baz=278,SNR=14
YUK8 Steele Glacier 32.48 51 P **P** **02 51 21.4 0.0**
baz=284
PINM Pinnacle 32.55 54 P **P** **02 51 22.0 +0.3**
baz=285
M29M Somme Creek 32.82 49 P **P** **02 51 24.7 +0.6**
baz=283
L29M L29M 32.83 48 IAmb IAmb 02 51 40.1
comp=Z,79nm,1.1s
L29M L29M 32.83 48 P **P** **02 51 24.7 +0.5**
baz=282,SNR=27
EPYK Eagle Plains 32.86 42 IAmb IAmb 02 51 39.1
comp=Z,46nm,1.2s
EPYK Eagle Plains 32.86 42 P **P** **02 51 24.5 +0.2**
baz=278,SNR=11
K29M Barlow Dome 32.95 46 P **P** **02 51 26.0 +0.8**
baz=281
G30M tAoh Zraii Nji 32.98 40 P **P** **02 51 25.6 +0.3**
baz=278,SNR=11
YUK4 Talbot Arm 32.99 51 P **P** **02 51 26.7 +0.9**
baz=284
F30M Barrier River 33.06 39 P **P** **02 51 27.4 +1.3**
baz=277,SNR=29
PNL Peninsula 33.08 54 P **P** **02 51 27.4 +1.1**
baz=286
I30M Mount Dempster 33.18 44 IAmb IAmb 02 51 42.9
comp=Z,60nm,1.4s
I30M Mount Dempster 33.18 44 P **P** **02 51 27.4 +0.2**
baz=280,SNR=23
YUK6 Outpost Mounta 33.23 52 P **P** **02 51 28.2 +0.3**
baz=285
O29M Mount Kennedy 33.30 53 P **P** **02 51 28.4 +0.1**
baz=286
J30M Hart River 33.32 45 P **P** **02 51 29.1 +0.6**
baz=281
ULN Ulaanbaatar 33.36 283 P **P** **02 51 28.9 -0.1**
ULN Ulaanbaatar 33.36 283 *c i*P **P** **02 51 28.0 -1.1**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 33.36 283 P **P** **02 51 28.5 -0.5**
ULN S S 02 56 35.1 -10
ULN Ulaanbaatar 33.36 283 P **P** **02 51 28.6 -0.5**
ULN PcP **PcP** **02 54 10.0 +0.6**
ULN Ulaanbaatar 33.36 283 P **P** **02 51 28.4 -0.7**
comp=Z,69nm,1.1s
M30M Minto, Yukon 33.55 48 P **P** **02 51 31.0 +0.6**
baz=284,SNR=5.4
HYT Haines Junctio 33.66 52 P **P** **02 51 31.7 +0.2**
baz=286
N30M Aishikik Lake 33.69 50 P **P** **02 51 32.8 +1.2**
baz=285
MAYO Mayo, Yukon 33.71 46 P **P** **02 51 32.6 +0.9**
baz=283
G31M Satah River 33.74 40 IAmb IAmb 02 51 47.0
comp=Z,33nm,1.2s
G31M Satah River 33.74 40 P **P** **02 51 32.4 +0.4**
baz=279,SNR=11
SONM Songino Array 33.76 283 P **P** **02 51 32.3 -0.2**
SONM Songino Array 33.76 283 P **P** **02 51 31.8 -0.7**
comp=Z,7.7nm,0.5s,baz=67,slow=8.0,SNR=68
SONM PcP **PcP** **02 54 11.1 +0.7**
comp=Z,20nm,0.7s,baz=74,slow=1.5,SNR=22
SONM LR LR 03 06 32.6
comp=Z,822nm,19.6s,baz=58,slow=38
comp=Z,7.7nm,0.5s
INK Inuvik 33.82 38 IAmb IAmb 02 51 34.5
comp=Z,22nm,0.9s
INK Inuvik 33.82 38 P **P** **02 51 33.2 +0.7**
baz=278,SNR=35
INK Inuvik 33.82 38 LR LR 03 06 30.4
comp=Z,188nm,21.7s,baz=0.5,slow=38
F31M Tsiigehtchic 33.87 39 IAmb IAmb 02 51 47.4
comp=Z,45nm,1.2s
F31M Tsiigehtchic 33.87 39 P **P** **02 51 33.3 +0.3**
baz=279,SNR=13
H11N2 WAKE ISLAND Hy 33.87 168 T T 03 27 22.0
baz=352,slow=76,SNR=302
H11N3 WAKE ISLAND Hy 33.89 168 T T 03 27 34.7
baz=352,slow=76,SNR=450
H11N1 WAKE ISLAND Hy 33.89 168 T T 03 27 27.1
baz=352,slow=76,SNR=590
P29M Windy Craggy 33.89 54 P **P** **02 51 34.0 +0.6**
baz=287
H31M Peel River 33.91 42 IAmb IAmb 02 51 47.8
comp=Z,32nm,1.2s
H31M Peel River 33.91 42 P **P** **02 51 33.9 +0.5**
baz=281
P30M Million Dollar 34.12 53 P **P** **02 51 35.9 +0.5**
baz=287
TIA Tai'an 34.23 258 P **P** **02 51 35.2 -1.3**
TIA pmax pmax
comp=Z,11nm,0.6s
N31M Braeburn, Yuko 34.29 50 IAmb IAmb 02 51 40.5
comp=Z,16nm,0.7s
N31M Braeburn, Yuko 34.29 50 P **P** **02 51 37.4 +0.6**
baz=286,SNR=7.9
O30N Mendenhall 34.35 51 P **P** **02 51 38.2 +0.9**
baz=287,SNR=5.6
ZAK Zakamensk 34.35 289 *e*P **P** **02 51 36.5 -1.1**
ZAK pmax pmax
comp=Z,12nm,1.3s
HHC Hu-ho-hao-te 34.54 269 *e*P **P** **02 51 39.4 +0.1**
HHC sP sP 02 52 02.8 +0.8
HHC *e*S **S** **02 57 07.8 +4.2**
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,460nm,4.7s
HHC LR LR
comp=Z,560nm,15.2s
HHC LR LR
comp=Z,350nm,12.7s
HHC LR LR
comp=Z,750nm,14.2s
M31M Drury Creek, Y 34.73 49 IAmb IAmb 02 51 43.2
comp=Z,31nm,0.8s
M31M Drury Creek, Y 34.73 49 P **P** **02 51 41.3 +0.8**
baz=286,SNR=24
HNS HongShan 34.86 261 ⇑P **P** **02 51 41.7 -0.2**
HNS pP **pP** **02 51 56.1 -1.2**
HNS sP **sP** **02 52 02.3 -2.3**
HNS PcP **PcP** **02 54 14.3 +0.8**
HNS *e*S **S** **02 57 07.0 -1.2**
HNS pmax pmax
comp=Z,40nm,0.6s
HNS LR LR
comp=Z,290nm,16.7s
HNS LR LR
comp=Z,660nm,22.3s
HNS LR LR
comp=Z,530nm,19.9s
WHY Whitehorse 34.95 51 IAmb IAmb 02 51 45.4
comp=Z,30nm,0.9s
WHY Whitehorse 34.95 51 P **P** **02 51 43.6 +1.0**
baz=288,SNR=19
H11S1 WAKE ISLAND Hy 35.06 169 T T 03 28 56.0
baz=352,slow=76,SNR=79
MOY Mondy 35.07 292 *e*P **P** **02 51 43.6 -0.1**
MOY pmax pmax
comp=Z,49nm,1.9s
H11S3 WAKE ISLAND Hy 35.07 169 T T 03 28 56.9
baz=352,slow=76,SNR=159
H11S2 WAKE ISLAND Hy 35.08 169 T T 03 28 57.4
baz=352,slow=76,SNR=59
SKAG Skagway 35.11 53 IAmb IAmb 02 51 59.6
comp=Z,108nm,1.6s
SKAG Skagway 35.11 53 P **P** **02 51 45.9 +2.1**
SKAG Skagway 35.11 53 P **P** **02 51 44.5 +0.7**
baz=289,SNR=6.4
S31K Pelican 35.18 56 P **P** **02 51 45.9 +1.5**
baz=291
FARO Faro, Yukon 35.19 48 P **P** **02 51 45.8 +1.2**
baz=287,SNR=19
JOW Kunigami 35.31 234 P **P** **02 51 48.0 +2.1**
JOW Kunigami 35.31 234 LR LR 03 07 58.1
comp=Z,155nm,19.5s,baz=213,slow=39
BTO Baotou 35.62 270 *e*P **P** **02 51 48.6 +0.1**
BTO pP **pP** **02 52 06.7 +2.7**
BTO sP **sP** **02 52 15.2 +3.9**
BTO PP **PP** **02 53 14.7 +4.5**
BTO S **S** **02 57 20.0 -0.1**
BTO SS **SnSn** **02 59 39.3 -6.7**
BTO pmax pmax
comp=Z,150nm,0.7s
BTO pmax pmax
comp=Z,320nm,4.5s
BTO LR LR
comp=Z,300nm,8.3s
BTO LR LR
comp=Z,810nm,13.8s
BTO LR LR
comp=Z,1μm,18.6s
N32M Quiet Lake 35.63 50 IAmb IAmb 02 51 50.5
comp=Z,25nm,0.9s
N32M Quiet Lake 35.63 50 P **P** **02 51 48.8 +0.4**
baz=288
NRIK Noril'sk 35.73 325 P **P** **02 51 47.7 -1.3**
NRIK Noril'sk 35.73 325 *c e*P **P** **02 51 48.0 -1.0**
NRIK pmax pmax
comp=Z,5.0nm,0.7s
NRIK Noril'sk 35.73 325 P **P** **02 51 47.0 -2.0**
comp=Z,2.5nm,0.6s,baz=72,slow=7.1,SNR=3.9
NRIK PcP **PcP** **02 54 16.2 +0.7**
comp=Z,20nm,0.8s,baz=114,slow=3.6,SNR=9.7
NRIK LR LR 03 07 53.1
comp=Z,2μm,19.3s,baz=81,slow=39
P32M Atlin 35.84 53 P **P** **02 51 50.5 +0.3**
baz=290
R32K Eaglecrest 35.92 55 IAmb IAmb 02 52 24.8
comp=Z,25nm,1.1s
R32K Eaglecrest 35.92 55 P **P** **02 51 51.7 +0.9**
baz=291
SIT Sitka 35.97 57 P **P** **02 51 52.2 +1.0**
baz=292
JIS Juneau Island 35.98 55 IAmb IAmb 02 52 09.5
comp=Z,43nm,1.1s
JIS Juneau Island 35.98 55 P **P** **02 51 54.0 +2.7**
TIY Taiyuan 36.00 264 P **P** **02 51 51.4 -0.4**
TIY S **S** **02 57 22.1 -3.9**
TIY pmax pmax
comp=Z,18nm,0.5s
TIY LR LR
comp=Z,350nm,19.2s
TIY LR LR
comp=Z,340nm,18.5s
TIY LR LR
comp=Z,430nm,17.9s
A36M Sachs Harbour 36.06 31 P **P** **02 51 53.0 +1.2**
baz=280,SNR=51
P33M Teslin, Yukon 36.06 51 IAmb IAmb 02 51 54.8
comp=Z,31nm,1.1s
P33M Teslin, Yukon 36.06 51 P **P** **02 51 53.0 +0.9**
baz=290,SNR=19
S32K Killisnoo 36.19 56 P **P** **02 51 54.6 +1.6**
baz=292
NJ2 Nanjing 36.20 251 ⇑ *i*P **P** **02 51 54.4 +0.9**
NJ2 pP **pP** **02 52 09.4 +0.4**
NJ2 sP **sP** **02 52 17.2 +0.9**
NJ2 pmax pmax
comp=Z,33nm,0.7s
NJ2 pmax pmax
comp=Z,600nm,3.6s
Q32M Nakina River 36.76 53 IAmb IAmb 02 52 02.5
comp=Z,28nm,1.1s
Q32M Nakina River 36.76 53 P **P** **02 51 59.6 +1.3**
baz=292
C36M Paulatuk 36.99 35 P **P** **02 52 00.7 +0.9**
baz=284,SNR=14
R33M Jennings River 37.23 52 IAmb IAmb 02 52 05.8
comp=Z,35nm,0.8s
R33M Jennings River 37.23 52 P **P** **02 52 03.0 +0.9**
baz=292
U33K Whale Pass 37.46 58 P **P** **02 52 05.4 +1.5**
baz=295
S34M Telegraph Cree 37.72 55 P **P** **02 52 07.6 +1.6**
baz=294,SNR=5.8
WRAK Wrangell Islan 37.73 57 P **P** **02 52 07.3 +1.2**
baz=295
CRAG Craig 37.73 59 P **P** **02 52 07.1 +1.0**
baz=295
WTLY Watson Lake, Y 37.97 50 IAmb IAmb 02 52 10.8
comp=Z,36nm,0.8s
WTLY Watson Lake, Y 37.97 50 P **P** **02 52 09.6 +1.3**
baz=292,SNR=19
DLBC Dease Lake 38.05 53 IAmb IAmb 02 52 12.4
comp=Z,28nm,0.9s
DLBC Dease Lake 38.05 53 P **P** **02 52 10.2 +1.3**
baz=294,SNR=11
DLBC Dease Lake 38.05 53 LR LR 03 08 31.8
comp=Z,249nm,20.9s,baz=310,slow=37
LYN LuoYang 38.12 260 ⇑P **P** **02 52 09.2 -0.5**
LYN pP pP 02 52 28.0 +2.7
LYN PcP **PcP** **02 54 24.2 +0.8**
LYN pmax pmax
comp=Z,79nm,0.6s
LYN pmax pmax
comp=Z,320nm,4.6s
LYN LR LR
comp=Z,750nm,17.5s
LYN LR LR
comp=Z,810nm,15.1s
LYN LR LR
comp=Z,740nm,17.2s
T35M Bob Quinn 38.54 56 IAmb IAmb 02 52 31.7
comp=Z,48nm,1.1s
T35M Bob Quinn 38.54 56 P **P** **02 52 14.6 +1.6**
baz=295,SNR=7.8
WRGLY Wrigley 39.15 44 IAmb IAmb 02 52 33.7
comp=Z,38nm,0.9s
WRGLY Wrigley 39.15 44 P **P** **02 52 19.1 +1.1**
baz=292,SNR=15
WHN Wuhan 39.90 254 P **P** **02 52 25.3 +0.7**
WHN PcP **PcP** **02 54 29.9 +0.8**
WHN pmax pmax
comp=Z,52nm,0.6s
GRNB Grenville Isla 40.11 60 IAmb IAmb 02 52 28.2
comp=Z,84nm,1.6s
KOTAN Kotaneelee Air 40.14 49 P **P** **02 52 27.2 +1.0**
baz=295,SNR=6.3
FLDN Fort Liard 40.35 49 P **P** **02 52 29.0 +1.0**
baz=296
XAN Xi'an 40.59 263 ⇑P **P** **02 52 28.7 -1.6**
XAN pP pP 02 52 44.1 -1.9
XAN PcP **PcP** **02 54 32.0 +0.7**
XAN pmax pmax
comp=Z,11nm,1.2s
XAN LR LR
comp=Z,830nm,19.2s
XAN LR LR
comp=Z,590nm,18.6s
XAN LR LR
comp=Z,900nm,17.9s
GUMO Guam 41.32 202 LR LR 03 07 27.6
comp=Z,103nm,20.9s,baz=206,slow=33
SSLB Suanglung 41.52 240 P **P** **02 52 38.8 +0.7**
SSLB IAmb IAmb 02 52 42.1
comp=Z,177nm,1.9s
YULB Yu-li 41.67 240 P **P** **02 52 39.6 +0.3**
YULB IAmb IAmb 02 52 45.4
comp=Z,69nm,1.3s
YULB Yu-li 41.67 240 P **P** **02 52 42.3 +3.1**
BBB Bella Bella 41.90 61 LR LR 03 07 52.9
comp=Z,351nm,21.1s,baz=290,slow=33
LZH Lanzhou 42.23 269 ⇑P **P** **02 52 43.5 -0.4**
LZH pP pP 02 52 55.3 -4.4
LZH PcP **PcP** **02 54 37.5 +0.7**
LZH pmax pmax
comp=Z,45nm,1.5s
LZH LR LR
comp=Z,380nm,11.0s
LZH LR LR
comp=Z,340nm,11.7s
LZH LR LR
comp=Z,440nm,12.0s
TWGBT Beinan 42.25 239 P **P** **02 52 46.9 +2.9**
TWG Pinlang 42.26 239 P **P** **02 52 44.7 +0.7**
TWG IAmb IAmb 02 52 51.2
comp=Z,61nm,0.9s
GTA Gaotai 42.48 276 P **P** **02 52 45.7 -0.2**
GTA pP pP 02 52 58.4 -3.3
GTA sP sP 02 53 04.6 -4.4
GTA PcP **PcP** **02 54 38.8 +1.2**
GTA pmax pmax
comp=Z,47nm,1.0s
GTA LR LR
comp=Z,310nm,18.2s
GTA LR LR
comp=Z,380nm,18.5s
GTA LR LR
comp=Z,480nm,18.9s
ZALV Zalesovo Beam 42.61 302 P **P** **02 52 44.9 -1.6**
comp=Z,11nm,0.5s,baz=58,slow=6.7,SNR=42
ZALV PcP **PcP** **02 54 37.5 0.0**
comp=Z,10.0nm,0.5s,baz=71,slow=3.4,SNR=10.0
ZALV LR LR 03 11 47.1
comp=Z,643nm,19.6s,baz=62,slow=38
comp=Z,11nm,0.5s
ALE Alert 42.79 7 P **P** **02 52 48.4 +0.6**
ALE PcP **PcP** **02 54 38.1 +0.4**
ENH Enshi 42.94 258 P **P** **02 52 48.3 -1.2**
ENH PcP **PcP** **02 54 39.6 +0.6**
YKA Yellowknife Ar 43.13 43 P **P** **02 52 51.5 +0.8**
comp=Z,15nm,0.8s,baz=298,slow=8.3,SNR=133
YKA PcP **PcP** **02 54 39.5 +0.3**
comp=Z,4.9nm,0.9s,baz=302,slow=3.1,SNR=8.0
YKA PKiKP **PKiKP** **03 01 40.6 -1.1**
comp=Z,0.3nm,0.8s,baz=288,slow=0.6,SNR=3.8
YKA LR LR 03 13 39.7
comp=Z,240nm,18.3s,baz=296,slow=40
comp=Z,15nm,0.8s
RES Resolute Bay 43.23 22 LR LR 03 13 23.7
comp=Z,106nm,18.9s,baz=10,slow=40
DGZ Jazzator, Alta 43.51 296 *d i*P **P** **02 52 53.8 -0.3**
DGZ pmax pmax
comp=Z,38nm,1.0s
CD2 Chengdu 45.88 264 P **P** **02 53 12.1 -0.9**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,350nm,16.2s
CLRS Cowichan Lake 45.88 63 IAmb IAmb 02 53 28.6
comp=Z,26nm,1.0s
KBS Kingsbay 46.72 352 *e*P **P** **02 53 20.1 +1.2**
KBS Kingsbay 46.72 352 *i*P **P** **02 53 19.4 +0.5**
WMQ Urumqi 46.82 289 *e*P **P** **02 53 20.3 0.0**
WMQ pP pP 02 53 39.5 +3.2
WMQ PcP **PcP** **02 54 53.0 +0.6**
WMQ pmax pmax
comp=Z,45nm,0.9s
WMQ LR LR
comp=Z,400nm,10.7s
WMQ LR LR
comp=Z,800nm,19.3s
WMQ LR LR
comp=Z,420nm,22.3s
SEM Semipalatinsk 46.91 300 *e*P **P** **02 53 20.6 -0.5**
comp=Z,9.0nm,0.4s,baz=300
SEM Semipalatinsk 46.91 300 *e*P **P** **02 53 20.6 -0.5**
SEM pmax pmax
comp=Z,9.0nm,0.4s
SZP Santa 46.98 236 P **P** **02 53 23.5 +1.9**
SPA0 Spitsbergen Ar 46.98 350 *e*P **P** **02 53 20.8 -0.2**
SPITS Spitsbergen Ar 46.98 350 P **P** **02 53 21.0 0.0**
comp=Z,34nm,0.5s,baz=54,slow=8.4,SNR=236
SPITS PcP **PcP** **02 54 52.9 +0.7**
comp=Z,20nm,0.7s,baz=116,slow=8.5,SNR=3.8
SPITS LR LR 03 13 20.7
comp=Z,148nm,18.4s,baz=102,slow=36
comp=Z,34nm,0.5s
SPB2 Spitsbergen Ar 46.98 350 P **P** **02 53 20.8 -0.1**
HOPEN Hopen 47.38 347 *e*P **P** **02 53 24.4 +0.3**
GYA Guiyang 47.42 257 ⇑ *i*P **P** **02 53 24.3 -0.9**
GYA pP pP 02 53 39.9 -1.3
GYA PcP **PcP** **02 54 55.0 +0.2**
GYA PcS **PcS** **02 58 47.9 -2.6**
GYA S **S** **03 00 13.3 -1.6**
GYA pmax pmax
comp=Z,21nm,0.7s
GYA pmax pmax
comp=Z,330nm,3.6s
GYA LR LR
comp=Z,510nm,21.0s
B06A Marblemount 47.47 62 IAmb IAmb 02 53 40.0
comp=Z,33nm,0.9s
KURK Kurchatov 47.57 302 P **P** **02 53 25.0 -0.8**
KURK Kurchatov 47.57 302 *c i*P **P** **02 53 24.4 -1.5**
KURK pmax pmax
comp=Z,61nm,0.5s
KURK Kurchatov 47.57 302 P **P** **02 53 24.7 -1.2**
KURK S S 03 00 02.1 -14
KURK Kurchatov 47.57 302 P **P** **02 53 24.8 -1.0**
KURK sP **pP** **02 53 42.6 +0.6**
KURK PcP **PcP** **02 54 54.8 +0.1**
GOMU GeErMu 47.58 276 P **P** **02 53 25.3 -1.3**
GOMU PcP **PcP** **02 54 56.7 +1.2**
GOMU S **S** **03 00 10.4 -7.0**
GOMU SS **SS** **03 03 41.6 -4.0**
GOMU LR LR
comp=Z,280nm,17.3s
GOMU LR LR
comp=Z,210nm,17.2s
GOMU LR LR
comp=Z,300nm,17.7s
KURBB Kurchatov Arra 47.67 302 P **P** **02 53 25.2 -1.5**
KURBB Kurchatov Arra 47.67 302 P **P** **02 53 25.8 -0.9**
comp=Z,48nm,0.5s,baz=59,slow=7.5,SNR=119
KURBB PcP **PcP** **02 54 55.0 -0.2**
comp=Z,17nm,0.7s,baz=53,slow=3.4,SNR=6.3
KURBB LR LR 03 14 58.4
comp=Z,811nm,19.4s,baz=122,slow=38
comp=Z,48nm,0.5s
MK31 Makanchi Array 48.00 295 IAmb IAmb 02 53 29.8
comp=Z,19nm,0.7s
MK31 Makanchi Array 48.00 295 *c i*P **P** **02 53 27.7 -1.6**
MKAR Makanchi Array 48.00 295 P **P** **02 53 28.3 -1.0**
comp=Z,21nm,0.5s,baz=53,slow=6.5,SNR=220
MKAR PcP **PcP** **02 54 56.8 +0.3**
comp=Z,2.7nm,0.6s,baz=46,slow=6.2,SNR=1.9
MKAR LR LR 03 15 01.3
comp=Z,430nm,20.1s,baz=46,slow=38
comp=Z,21nm,0.5s
MAKZ Makanchi 48.16 296 P **P** **02 53 28.9 -1.6**
MAKZ Makanchi 48.16 296 P **P** **02 53 28.9 -1.6**
NEEM North Greenlan 48.16 9 *i*P **P** **02 53 29.8 -0.7**
NEEM IAmb IAmb 02 53 32.7
comp=Z,42nm,0.8s
B08A Colville Reser 48.71 61 IAmb IAmb 02 53 49.7
comp=Z,22nm,1.1s

H04D **Lebanon** **49.26 67** IAmb IAmb 02 54 18.2
comp=Z,21nm,1.0s
HOOD **Mount Hood Mea** **49.35 66** IAmb IAmb 02 53 55.6
comp=Z,50nm,0.9s
H04A **Detroit Lake** **49.46 67** IAmb IAmb 02 53 55.6
comp=Z,26nm,1.1s
E07A **Sunnyside** **49.55 63** IAmb IAmb 02 53 56.3
comp=Z,26nm,1.0s
C09A **Chrisman Ranch** **49.61 61** IAmb IAmb 02 53 56.4
comp=Z,24nm,1.0s
HAWA **Hanford** **49.83 63** IAmb IAmb 02 53 58.3
comp=Z,24nm,1.1s
I04A **Tendick Farm,** **49.90 68** IAmb IAmb 02 53 59.7
comp=Z,18nm,0.9s
NEW **Newport** **49.92 60** IAmb IAmb 02 53 58.9
comp=Z,21nm,1.1s
NEW **Newport** **49.92 60** P **P** **02 53 45.2 +1.1**
baz=309,SNR=7.7
NEW **Newport** **49.92 60** LR LR 03 12 23.2
comp=Z,309nm,21.9s,baz=299,slow=33
F07A **Phinny Hill Vi** **49.93 64** IAmb IAmb 02 53 59.3
comp=Z,40nm,0.9s
E08A **Dider Farm, El** **50.02 63** IAmb IAmb 02 53 59.5
comp=Z,23nm,1.1s
BVA0 **Borovoye Array** **50.22 308** *i* P **P** **02 53 44.5 -1.6**
BVAR **Borovoye Array** **50.22 308** P **P** **02 53 44.9 -1.2**
comp=Z,51nm,0.6s,baz=60,slow=7.6,SNR=172
BVAR PcP **PcP** **02 55 04.3 -0.1**
comp=Z,12nm,0.4s,baz=70,slow=3.5,SNR=9.2
BVAR LR LR 03 17 11.8
comp=Z,701nm,18.6s,baz=48,slow=39
comp=Z,51nm,0.6s
BRVK **Borovoye** **50.25 308** P **P** **02 53 45.2 -1.1**
BRVK **Borovoye** **50.25 308***c i* P **P** **02 53 44.9 -1.4**
BRVK pmax pmax
comp=Z,50nm,0.8s
BRVK **Borovoye** **50.25 308** P **P** **02 53 45.1 -1.2**
BRVK S S 03 00 41.3 -12
BRVK **Borovoye** **50.25 308** P **P** **02 53 45.1 -1.2**
BRVK PcP **PcP** **02 55 04.5 0.0**
DAG **Danmarks Havn** **50.26 360** *i* P **P** **02 53 45.0 -1.1**
DAG IAmb IAmb 02 53 47.5
comp=Z,49nm,0.7s
PZH **PanZhiHua** **50.30 262** P **P** **02 53 44.8 -2.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.7s
PZH **PanZhiHua** **50.30 262** P **P** **02 53 45.1 -2.1**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,170nm,5.6s
PZH LR LR
comp=Z,270nm,22.4s
PZH LR LR
comp=Z,250nm,22.7s
PZH LR LR
comp=Z,330nm,18.4s
E09A **Wood Farm, Sta** **50.49 62** IAmb IAmb 02 54 03.1
comp=Z,44nm,1.0s
PINE **Pine Mountain** **50.72 67** IAmb IAmb 02 55 09.3
comp=Z,21nm,0.8s
KMI **Kunming** **50.74 260** ⇑P **P** **02 53 51.1 +0.4**
KMI pmax pmax
comp=Z,23nm,0.8s
KMI LR LR
comp=Z,320nm,20.5s
KMI LR LR
comp=Z,350nm,24.6s
KMI LR LR
comp=Z,450nm,26.6s
J05D **Fort Rock, OR** **50.89 67** IAmb IAmb 02 54 07.9
comp=Z,26nm,0.9s
L04D **Klamath Falls** **50.98 69** IAmb IAmb 02 54 08.4
comp=Z,40nm,1.1s
YBH **Yreka Blue Hor** **51.07 70** LR LR 03 12 02.8
comp=Z,293nm,21.9s,baz=326,slow=32
TDK **Taldyqorghan** **51.23 296** *eP* **P** **02 53 53.2 -0.8**
comp=Z,15nm,0.4s,baz=296
TDK **Taldyqorghan** **51.23 296** *eP* **P** **02 53 53.1 -0.8**
TDK pmax pmax
comp=Z,15nm,0.4s
QIZ **Qiongzhong** **51.39 248** P **P** **02 53 55.6 +0.3**
QIZ S **S** **03 01 11.6 +1.3**
QIZ pmax pmax
comp=Z,28nm,1.1s
QIZ LR LR
comp=Z,320nm,4.9s
QIZ **Qiongzhong** **51.39 248** IAmb IAmb 02 53 58.7
comp=Z,35nm,0.9s
K05A **Summer Lake** **51.44 68** IAmb IAmb 02 55 11.9
comp=Z,23nm,0.9s
UPNV **Upernavik** **51.82 13** *i* P **P** **02 53 56.7 -1.1**
UPNV IAmb IAmb 02 54 00.2
comp=Z,35nm,0.9s
SHLS **Shalkode** **51.86 293** *eP* **P** **02 53 56.6 -2.2**
baz=293
SHLS **Shalkode** **51.86 293** *eP* **P** **02 53 56.5 -2.2**
VADS **Vadso** **51.88 341** *eP* **P** **02 53 58.8 +0.4**
BMO **Blue Mountains** **52.01 64** IAmb IAmb 02 54 15.1
comp=Z,21nm,1.0s
KPKS **Kokpek** **52.08 294** *eP* **P** **02 54 00.3 -0.1**
comp=Z,10nm,0.5s,baz=294
KPKS **Kokpek** **52.08 294** *eP* **P** **02 54 00.3 -0.1**
KPKS pmax pmax
comp=Z,10.0nm,0.5s
SVE **Sverdlovsk** **52.10 317** *eP* **P** **02 53 59.8 -0.4**
SVE pmax pmax
comp=Z,26nm,0.9s
UZB **Uzynbulak** **52.11 294** *eP* **P** **02 54 00.5 -0.2**
comp=Z,10nm,0.6s,baz=294
UZB **Uzynbulak** **52.11 294** *eP* **P** **02 54 00.4 -0.2**
UZB pmax pmax
comp=Z,11nm,0.6s
ZHN **Zhinishke** **52.42 294** *eP* **P** **02 54 02.1 -0.8**
baz=294
ZHN **Zhinishke** **52.42 294** *eP* **P** **02 54 02.0 -0.8**
MSO **Missoula** **52.50 60** IAmb IAmb 02 54 18.5
comp=Z,40nm,1.3s
MSO **Missoula** **52.50 60** P **P** **02 54 04.4 +0.9**
baz=311,SNR=10
SATY **Saty** **52.50 294** *eP* **P** **02 54 02.8 -0.8**
baz=294
SATY **Saty** **52.50 294** *eP* **P** **02 54 02.7 -0.8**
HAMF **Hammerfest** **52.51 343** *eP* **P** **02 54 03.8 +0.8**
LVZ **Lovozero** **52.53 337**⇓ *eP* **P** **02 54 00.6 -2.6**
LVZ pmax pmax
comp=Z,52nm,1.8s
PLID **Pearl Lake** **52.56 63** IAmb IAmb 02 54 19.6
comp=Z,21nm,0.9s
CHKK **Chushkaly** **52.75 296** *eP* **P** **02 54 04.3 -0.9**
baz=296
CHKK **Chushkaly** **52.75 296** *eP* **P** **02 54 04.3 -0.9**
SLVN **Son La** **52.96 256** IAmb IAmb 02 54 12.3
comp=Z,18nm,0.8s
FFC **Flin Flon** **53.00 46** P **P** **02 54 07.8 +0.9**
FFC IAmb IAmb 02 54 08.7
comp=Z,25nm,0.9s
FFC **Flin Flon** **53.00 46** P **P** **02 54 07.8 +0.9**
FFC pmax pmax
comp=Z,25nm,0.9s
FFC **Flin Flon** **53.00 46** P **P** **02 54 07.5 +0.7**
FFC pP **pP** **02 54 20.9 -2.0**
FFC PcP **PcP** **02 55 15.2 +0.5**
APA **Apatity** **53.08 337**⇓ *i* P P 02 54 01.4 -5.8
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,1µm,18.0s
ARA0 **ARCESS Array S** **53.12 342** *eP* **P** **02 54 07.1 -0.5**
ARCES **ARCESS Array B** **53.12 342** P **P** **02 54 06.7 -0.9**
ARCES IAmb IAmb 02 55 16.2
comp=Z,22nm,0.8s
ARCES **ARCESS Array B** **53.12 342** P **P** **02 54 06.5 -1.1**
comp=Z,4.7nm,0.6s,baz=39,slow=7.0,SNR=45
ARCES PcP **PcP** **02 55 15.3 +0.4**
comp=Z,19nm,0.6s,baz=34,slow=4.0,SNR=22
ARCES LR LR 03 22 23.8
comp=Z,259nm,19.2s,baz=264,slow=42
comp=Z,4.7nm,0.6s
MDOK **Medeo** **53.18 295** *eP* **P** **02 54 07.5 -1.1**
baz=295
MDOK **Medeo** **53.18 295** *eP* **P** **02 54 07.4 -1.1**
AAA **Alma-Ata** **53.22 295** *eP* **P** **02 54 07.8 -0.9**
baz=295
AAA **Alma-Ata** **53.22 295** *eP* **P** **02 54 07.8 -0.9**

ARU **Arti** **53.22 317** P **P** **02 54 07.5 -0.9**
ARU **Arti** **53.22 317***c i* P **P** **02 54 07.4 -1.0**
ARU *PP **pP** **02 54 25.8 +1.0**
ARU 02 55 14.9
ARU S **S** **03 01 33.0 -1.4**
ARU SS **SS** **03 05 09.6 -4.3**
ARU pmax pmax
comp=Z,73nm,0.7s
ARU MLR MLR
comp=Z,695nm,24.0s
ARU **Arti** **53.22 317** P **P** **02 54 07.5 -0.9**
comp=Z,61nm,0.5s,baz=34,slow=2.9,SNR=88
ARU PcP **PcP** **02 55 15.6 +0.1**
comp=Z,20nm,0.5s,baz=50,slow=1.7,SNR=4.3
ARU LR LR 03 19 53.3
comp=Z,548nm,18.4s,baz=26,slow=40
comp=Z,61nm,0.5s
ARU **Arti** **53.22 317** P **P** **02 54 07.5 -0.9**
ARU PcP **PcP** **02 55 15.4 0.0**
WUS **Wushi** **53.30 292** P **P** **02 54 08.7 -0.7**
WUS PcP **PcP** **02 55 16.2 -0.1**
TNSS **Tian-Shan** **53.32 295** *eP* **P** **02 54 09.2 -0.7**
baz=295
TNSS **Tian-Shan** **53.32 295** *eP* **P** **02 54 09.1 -0.7**
TNCH **TengChong** **53.32 263** P **P** **02 54 10.8 +1.0**
TNCH pmax pmax
comp=Z,40nm,0.5s
TNCH pmax pmax
comp=Z,130nm,3.9s
FCC **Fort Churchill** **53.44 39** P **P** **02 54 10.6 +0.6**
FCC IAmb IAmb 02 54 11.4
comp=Z,54nm,1.1s
FCC **Fort Churchill** **53.44 39** P **P** **02 54 10.6 +0.6**
FCC pmax pmax
comp=Z,54nm,1.1s
BTLS **Baital** **53.54 298** *eP* **P** **02 54 09.8 -1.1**
baz=298
BTLS **Baital** **53.54 298** *eP* **P** **02 54 09.8 -1.1**
PLTX **Planet X, Gerl** **53.58 69** IAmb IAmb 02 54 27.9
comp=Z,25nm,0.9s
TARG **Taragay, Kyrgy** **53.72 293** IAmb IAmb 02 54 15.6
comp=Z,17nm,0.6s
SUMG **Summit** **53.83 7** P **P** **02 54 13.8 +0.6**
SUMG **Summit** **53.83 7** P **P** **02 54 13.8 +0.6**
SUMG pmax pmax
comp=Z,110nm,0.9s
SUMG **Summit** **53.83 7** *i* P **P** **02 54 13.0 -0.2**
SUMG IAmb IAmb 02 54 17.0
comp=Z,71nm,0.8s
EGMT **Eagleton** **53.84 56** IAmb IAmb 02 54 28.1
comp=Z,38nm,1.1s
EGMT **Eagleton** **53.84 56** P **P** **02 54 14.6 +1.4**
baz=312
KTK1 **Kautokeino** **53.99 342** *eP* **P** **02 54 12.9 -1.0**
KTK1 IAmb IAmb 02 54 16.1
comp=Z,22nm,1.0s
JETT **Jettan, Norway** **54.02 344** *eP* **P** **02 54 13.3 -0.8**
TKM2 **Tokmak 2** **54.13 296** P **P** **02 54 14.7 -0.9**
SNR=38
TKM2 **Tokmak 2** **54.13 296** *i* P **P** **02 54 14.2 -1.4**
TKM2 pmax pmax
comp=Z,15nm,0.5s
TRO **Tromso** **54.19 344** *eP* **P** **02 54 14.4 -0.9**
TRO IAmb IAmb 02 54 16.3
comp=Z,17nm,0.9s
ULHL **Ulahol** **54.23 295** P **P** **02 54 16.1 -0.3**
SNR=16
SGDS **Sogindy** **54.29 297** *eP* **P** **02 54 16.1 -0.4**
comp=Z,9.3nm,0.6s,baz=296
SGDS **Sogindy** **54.29 297** *eP* **P** **02 54 16.1 -0.4**
SGDS pmax pmax
comp=Z,9.0nm,0.6s
PAHR **Pah Rah Range** **54.31 70** IAmb IAmb 02 54 32.5
comp=Z,23nm,1.1s
HLID **Hailey** **54.42 63** P **P** **02 54 19.0 +1.3**
baz=313,SNR=10
USP **Ospenovka** **54.49 297** P **P** **02 54 17.4 -0.5**
SNR=52
BOZ **Bozeman (W)** **54.52 60** IAmb IAmb 02 54 33.7
comp=Z,25nm,0.9s
BOZ **Bozeman (W)** **54.52 60** P **P** **02 54 19.1 +0.9**
baz=313,SNR=13
CHMS **Chumysh** **54.53 296** P **P** **02 54 18.1 -0.2**
SNR=19
PNTR **Pine Nut** **54.61 70** P **P** **02 54 20.8 +1.7**
KBK **Karagaybulak** **54.66 296** P **P** **02 54 18.8 -0.5**
SNR=33
YERR **Yerington** **54.88 70** IAmb IAmb 02 54 23.9
comp=Z,21nm,1.0s
KZA **Kyzart** **54.89 295** P **P** **02 54 21.5 +0.2**
SNR=16
AAK **Ala-Archa** **54.92 296** P **P** **02 54 21.0 -0.2**
SNR=16
AAK **Ala-Archa** **54.92 296** P **P** **02 54 20.7 -0.5**
AAK IAmb IAmb 02 54 24.0
comp=Z,26nm,0.7s
AAK **Ala-Archa** **54.92 296** *i* P **P** **02 54 20.1 -1.1**
SNR=58
AAK **Ala-Archa** **54.92 296** P **P** **02 54 20.7 -0.5**
AAK pmax pmax
comp=Z,26nm,0.7s
AAK **Ala-Archa** **54.92 296** P **P** **02 54 20.3 -0.9**
comp=Z,16nm,0.3s,baz=115,slow=3.7,SNR=97
AAK LR LR 03 19 13.3
comp=Z,316nm,18.2s,baz=13,slow=38
comp=Z,16nm,0.3s
AAK **Ala-Archa** **54.92 296** P **P** **02 54 20.6 -0.7**
AAK S **S** **03 01 51.0 -7.0**
AAK **Ala-Archa** **54.92 296** P **P** **02 54 20.4 -0.9**
AAK PcP **PcP** **02 55 22.6 +0.1**
BMN **Battle Mountai** **55.02 68** IAmb IAmb 02 54 38.0
comp=Z,31nm,0.9s
WAKR **Walker** **55.10 71** IAmb IAmb 02 54 25.7
comp=Z,14nm,0.8s
UCH **Uchtor** **55.19 296** P **P** **02 54 23.3 -0.2**
SNR=11
KIRV **Kirov** **55.22 323***ce* P **P** **02 54 22.2 -0.6**
KIRV **Kirov** **55.22 323** LR LR 03 20 02.6
comp=Z,464nm,21.1s,baz=24,slow=38
YHL **Hebgen Lake** **55.26 60** IAmb IAmb 02 54 39.5
comp=Z,22nm,1.0s
EKS2 **Erkin-Say** **55.29 296** P **P** **02 54 23.4 -0.5**
SNR=11
KVN **Kaiserville** **55.48 69** IAmb IAmb 02 54 41.9
comp=Z,22nm,0.9s
YMR **Madison River** **55.49 60** IAmb IAmb 02 54 41.2
comp=Z,30nm,0.9s
YNR **Norris Junctio** **55.61 60** IAmb IAmb 02 54 45.6
comp=Z,45nm,1.3s
AML **Almayashu** **55.70 296** P **P** **02 54 26.7 -0.4**
SNR=24
AML **Almayashu** **55.70 296** *i* P **P** **02 54 26.2 -0.9**
YFT **Old Faithful** **55.71 60** IAmb IAmb 02 54 43.9
comp=Z,28nm,0.9s
ILULI **Ilulissat** **55.77 13** *i* P **P** **02 54 25.9 -0.7**
ILULI IAmb IAmb 02 54 28.3
comp=Z,43nm,0.8s
NVAR **Mina Array Bea** **55.79 70** P **P** **02 54 29.4 +1.7**
comp=Z,9.3nm,0.8s,baz=298,slow=7.1,SNR=45
NVAR LR LR 03 16 07.2
comp=Z,146nm,20.9s,baz=302,slow=33
comp=Z,9.3nm,0.8s
LHV **Little Huntoon** **55.80 70** IAmb IAmb 02 54 44.0
comp=Z,33nm,1.2s
JMIC **Jan Mayen** **55.80 355** LR LR 03 17 05.7
comp=Z,163nm,19.3s,baz=64,slow=35
YMP **Mirror Lake Pl** **55.87 59** IAmb IAmb 02 54 44.2
comp=Z,53nm,1.1s
H17A **Grant Village** **55.88 60** IAmb IAmb 02 54 45.5
comp=Z,40nm,1.1s
H17A **Grant Village** **55.88 60** P **P** **02 54 29.3 +1.1**
baz=314,SNR=13
CRAI **Chiangrai** **55.89 258** P **P** **02 54 28.9 +0.7**
CRAI IAmb IAmb 02 54 30.7
comp=Z,23nm,1.1s
ELK **Elko** **55.90 66** IAmb IAmb 02 54 44.5
comp=Z,18nm,0.9s
ELK **Elko** **55.90 66** LR LR 03 15 26.8
comp=Z,333nm,21.8s,baz=338,slow=33
FLWY **Flagg Ranch** **56.03 60** IAmb IAmb 02 54 45.8
comp=Z,39nm,1.1s
IMW **Indian Meadow** **56.04 61** IAmb IAmb 02 54 45.6
comp=Z,29nm,1.0s
RLMT **Red Lodge** **56.06 59** IAmb IAmb 02 54 45.5
comp=Z,44nm,0.9s
RLMT **Red Lodge** **56.06 59** P **P** **02 54 30.4 +1.0**
baz=314,SNR=12

FXWY **Fox Creek** **56.17 61** IAmb IAmb 02 54 46.3
comp=Z,23nm,1.0s
KSH **Kashi** **56.25 292** P **P** **02 54 34.2 +3.4**
KSH pP sP 02 54 54.5 +0.1
KSH sP pP 02 55 01.4 +14
KSH pmax pmax
comp=Z,15nm,0.7s
KSH LR LR
comp=Z,350nm,13.6s
KSH LR LR
comp=Z,220nm,11.4s
KSH LR LR
comp=Z,470nm,18.8s
DGMT **Dagmar** **56.26 53** IAmb IAmb 02 54 45.9
comp=Z,49nm,1.1s
DGMT **Dagmar** **56.26 53** P **P** **02 54 30.9 +0.3**
baz=314,SNR=12
DGMT **Dagmar** **56.26 53** P **P** **02 54 31.3 +0.8**
baz=314,SNR=12
TPAW **Teton Pass** **56.31 61** IAmb IAmb 02 54 47.7
comp=Z,23nm,1.1s
STEI **Steigen** **56.32 345** *eP* **P** **02 54 30.7 +0.1**
STEI IAmb IAmb 02 54 34.2
comp=Z,18nm,1.0s
LOF **Lofoten** **56.40 346** *eP* **P** **02 54 30.7 -0.4**
LOHW **Long Hollow** **56.41 61** IAmb IAmb 02 54 48.3
comp=Z,29nm,1.1s
DZA **Taraz** **56.44 298** *eP* **P** **02 54 31.3 -0.6**
baz=298
DZA **Taraz** **56.44 298** *eP* **P** **02 54 31.3 -0.6**
LAO **LASA Array** **56.51 55** P **P** **02 54 33.2 +0.8**
baz=314,SNR=24
LAO **LASA Array** **56.51 55** P **P** **02 54 33.9 +1.5**
baz=314,SNR=24
SCO **Scoresbysund** **56.58 1** IAmb IAmb 02 54 34.2
comp=Z,18nm,0.8s
SCO **Scoresbysund** **56.58 1** *i* P **P** **02 54 32.5 +0.1**
SCO IAmb IAmb 02 54 34.2
comp=Z,12nm,0.6s
KK31 **Karatay Array** **56.72 299** IAmb IAmb 02 54 33.6
comp=Z,24nm,0.6s
KK31 **Karatay Array** **56.72 299** *eP* **P** **02 54 32.6 -1.3**
KKAR **Karatay Array** **56.72 299** IAmb IAmb 02 54 33.6
comp=Z,24nm,0.6s
AHID **Auburn Hatcher** **56.73 62** IAmb IAmb 02 54 50.2
comp=Z,36nm,1.0s
KLMR **Klimovskoe** **56.77 330** *eP* **P** **02 54 31.3 -2.7**
KLMR pmax pmax
comp=Z,54nm,1.1s
KLMR MLR MLR
comp=Z,989nm,21.0s
TIN **Tinemaha, Big** **56.80 71** P **P** **02 54 36.0 +1.4**
baz=315
FAUS **Fauske** **56.81 344** *eP* **P** **02 54 33.3 -0.8**
FAUS IAmb IAmb 02 54 37.4
comp=Z,98nm,1.8s
SPUT **South Promonto** **57.03 64** IAmb IAmb 02 54 52.5
comp=Z,39nm,1.1s
MND **Mandalay** **57.04 263** P **P** **02 54 39.0 +2.7**
comp=Z,13nm,1.1s
ICESG **Greenland Ices** **57.14 8** *i* P **P** **02 54 36.6 -0.3**
ICESG IAmb IAmb 02 54 39.9
comp=Z,27nm,0.6s
VES **Vestal, Richgr** **57.16 73** P **P** **02 54 38.4 +1.3**
baz=315,SNR=7.5
HWUT **Hardware Ranch** **57.30 63** IAmb IAmb 02 54 54.4
comp=Z,47nm,1.1s
CWC **Cottonwood Cre** **57.31 72** P **P** **02 54 39.3 +1.0**
baz=315
GRAC **Grapevine Rang** **57.33 71** P **P** **02 54 39.8 +1.4**
baz=315,SNR=7.0
R11B **Troy Canyon, C** **57.38 68** P **P** **02 54 40.3 +1.5**
baz=315,SNR=15
PKM **Mcpherson Peak** **57.41 74** P **P** **02 54 40.4 +1.2**
baz=316
BW06 **Boulder Array** **57.55 61** P **P** **02 54 40.9 +0.9**
baz=315,SNR=29
PD31 **Pinedale Array** **57.55 61** IAmb IAmb 02 54 55.8
comp=Z,43nm,1.1s
PDAR **Pinedale Array** **57.55 61** P **P** **02 54 41.4 +1.3**
comp=Z,18nm,0.9s,baz=322,slow=2.7,SNR=130
comp=Z,18nm,0.9s
DUG **Dugway, Tooele** **57.61 65** IAmb IAmb 02 54 57.2
comp=Z,26nm,1.1s
DUG **Dugway, Tooele** **57.61 65** P **P** **02 54 41.6 +1.2**
baz=315,SNR=16
SPR3 **Spring Creek 3** **57.62 67** IAmb IAmb 02 54 57.3
comp=Z,27nm,1.0s
ABKAR **Akbulak array** **57.62 310** IAmb IAmb 02 54 42.5
comp=Z,15nm,0.8s
ISA **Isabella, Lake** **57.64 73** P **P** **02 54 41.7 +1.2**
baz=315,SNR=5.3
AKTO **Aktyubinsk** **57.65 312** P **P** **02 54 39.2 -1.1**
comp=Z,17nm,0.4s,baz=59,slow=8.1,SNR=42
AKTO PcP **PcP** **02 55 32.8 0.0**
comp=Z,22nm,0.7s,baz=39,slow=3.0,SNR=4.7
AKTO LR LR 03 22 06.6
comp=Z,534nm,18.4s,baz=44,slow=39
comp=Z,17nm,0.4s
TCUT **Toone Canyon** **57.72 63** IAmb IAmb 02 54 57.5
comp=Z,30nm,1.1s
CHM **Chimkent** **57.75 299** *eP* **P** **02 54 40.7 -0.5**
comp=Z,11nm,0.6s,baz=299
CHM **Chimkent** **57.75 299** *eP* **P** **02 54 40.7 -0.5**
CHM pmax pmax
comp=Z,11nm,0.6s
S11A **Rachel** **57.78 69** IAmb IAmb 02 54 57.8
comp=Z,30nm,0.9s
SBC **Santa Barbara** **57.79 74** P **P** **02 54 43.1 +1.6**
baz=316
ARVC **Arvin** **57.81 73** P **P** **02 54 43.3 +1.6**
baz=316
CHTO **Chiang Mai** **57.83 258** P **P** **02 54 42.0 0.0**
CHTO **Chiang Mai** **57.83 258** P **P** **02 54 43.5 +1.5**
CHTO **Chiang Mai** **57.83 258** P **P** **02 54 42.0 0.0**
CHTO pmax pmax
comp=Z,41nm,0.9s
CHTO **Chiang Mai** **57.83 258** P **P** **02 54 42.3 +0.3**
CHTO S **S** **03 02 29.9 -6.8**
CHTO **Chiang Mai** **57.83 258** P **P** **02 54 41.9 0.0**
CHTO pP **pP** **02 54 55.1 -3.3**
CHTO PcP **PcP** **02 55 34.7 +0.7**
CHTO **Chiang Mai** **57.83 258** P **P** **02 54 42.0 0.0**
comp=Z,47nm,1.0s
CTU **Camp Tracy** **57.84 64** IAmb IAmb 02 54 57.9
comp=Z,29nm,1.2s
SFJD **Kangerlussuaq** **57.90 14** P **P** **02 54 41.6 -0.2**
SFJD **Kangerlussuaq** **57.90 14** P **P** **02 54 41.6 -0.2**
SFJD pmax pmax
comp=Z,61nm,1.2s
SFJD **Kangerlussuaq** **57.90 14** LR LR 03 22 56.0
comp=Z,196nm,18.2s,baz=17,slow=39
SFJD **Kangerlussuaq** **57.90 14** *i* P **P** **02 54 40.4 -1.4**
SFJD IAmb IAmb 02 54 45.1
comp=Z,20nm,0.7s
SFJD **Kangerlussuaq** **57.90 14** P **P** **02 54 41.4 -0.4**
SFJD sP **pP** **02 55 01.1 +2.9**
MPMC **Manual Prospec** **57.92 72** P **P** **02 54 43.4 +0.7**
baz=315,SNR=16
KONS **Konsvik** **57.97 345** *eP* **P** **02 54 42.8 +0.5**
FURC **Furnace Creek,** **57.99 71** P **P** **02 54 44.3 +1.4**
baz=315,SNR=19
TPNV **Topopah Spring** **57.99 70** IAmb IAmb 02 54 59.1
comp=Z,22nm,0.9s
TPNV **Topopah Spring** **57.99 70** P **P** **02 54 44.1 +0.9**
baz=315,SNR=16
MOR8 **Moi Rana** **58.06 344** IAmb IAmb 02 54 41.1
comp=Z,15nm,0.8s
MOR8 *eP* **P** **02 54 41.2 -1.8**
CM31 **Chiang Mai Arr** **58.11 258** IAmb IAmb 02 54 46.6
comp=Z,28nm,0.8s
CM31 **Chiang Mai Arr** **58.11 258** P **P** **02 54 44.9 +1.0**
SNR=9.0
CMAR **Chiang Mai Arr** **58.11 258** *i* P **P** **02 54 44.5 +0.6**
CMAR pmax pmax
comp=Z,27nm,0.9s
CMAR **Chiang Mai Arr** **58.11 258** P **P** **02 54 44.1 +0.2**
comp=Z,23nm,0.8s,baz=22,slow=7.1,SNR=86
CMAR PcP **PcP** **02 55 35.6 +0.6**
comp=Z,14nm,0.8s,baz=15,slow=3.5,SNR=13
CMAR LR LR 03 21 52.7
comp=Z,178nm,20.7s,baz=45,slow=38
comp=Z,23nm,0.8s
STOK **Stokkvaagen** **58.14 345** *eP* **P** **02 54 44.0 +0.6**
SCZ2 **Santa Cruz Isl** **58.15 75** P **P** **02 54 45.4 +1.2**
baz=316
NLU **North Lily Min** **58.18 65** IAmb IAmb 02 55 00.5

comp=Z,23nm,1.0s
LRMC Laurel Mtn Rad 58.22 72 P P 02 54 46.0 +1.3
baz=316
GWY Greenwater Val 58.30 71 IAmb IAmb 02 54 47.7
comp=Z,14nm,0.9s
PRN Pahroc Range 58.34 69 IAmb IAmb 02 55 01.7
comp=Z,23nm,0.9s
MPU Maple Canyon 58.38 64 IAmb IAmb 02 55 02.0
comp=Z,25nm,1.2s
EDW2 Edwards Air Fo 58.47 73 P P 02 54 47.7 +1.4
baz=316,SNR=16
BSUT Blindstream Ca 58.48 63 IAmb IAmb 02 55 03.1
comp=Z,26nm,1.1s
SOEG Soedalen 58.59 5 *i* P P 02 54 47.0 +0.4
SOEG IAmb IAmb 02 54 48.7
comp=Z,15nm,0.7s
DECC Green Verdugo 58.72 74 P P 02 54 49.3 +1.2
baz=316
SHOC Shoshone, Teco 58.72 71 P P 02 54 49.4 +1.4
baz=316
SNCC San Nicolas Is 58.75 75 P P 02 54 49.6 +1.3
baz=316
ULM Lac du Bonnet 58.80 47 P P 02 54 48.9 +0.6
comp=Z,22nm,0.5s,baz=315,slow=7.0,SNR=70
ULM PcP PcP 02 55 38.3 +1.0
comp=Z,5.0nm,0.7s,baz=348,slow=6.9,SNR=3.9
ULM LR LR 03 21 07.3
comp=Z,358nm,20.2s,baz=334,slow=37
comp=Z,22nm,0.5s
TNTI Ternate 58.84 219 P P 02 54 49.5 +0.5
TNTI IAmb IAmb 02 54 52.9
comp=Z,34nm,0.9s
TNTI Ternate 58.84 219 P P 02 54 49.9 +0.9
TNTI Ternate 58.84 219 P P 02 54 47.5 -1.5
GSC Goldstone, Bar 58.85 72 IAmb IAmb 02 54 51.4
comp=Z,15nm,0.9s
GSC Goldstone, Bar 58.85 72 P P 02 54 49.8 +0.7
baz=316,SNR=18
MDND Maddock 58.87 51 P P 02 54 50.0 +1.1
baz=316,SNR=20
MDND Maddock 58.87 51 P P 02 54 50.4 +1.5
baz=316,SNR=20
TCRU Three Creeks R 58.93 66 IAmb IAmb 02 55 42.0
comp=Z,19nm,0.9s
SWI Sorong 58.97 214 P P 02 54 50.6 +0.7
comp=Z,75nm,1.0s,comp=Z,1µm
SIJI Sorong 58.97 214 P P 02 54 50.7 +0.8
comp=Z,75nm,0.9s,comp=Z,860nm
DY2G Dye2 58.98 12 *i* P P 02 54 48.8 -0.8
DY2G IAmb IAmb 02 54 52.0
comp=Z,20nm,0.8s
TMUT Trail Mountain 59.12 65 IAmb IAmb 02 55 07.1
comp=Z,33nm,1.2s
BFSC Mount Baldy Ra 59.12 73 P P 02 54 51.7 +0.7
baz=316,SNR=7.0
FMP Fort Macarthur 59.13 74 P P 02 54 51.9 +1.1
baz=316
K22A Casper 59.21 59 IAmb IAmb 02 55 07.2
comp=Z,43nm,1.2s
K22A Casper 59.21 59 P P 02 54 52.3 +0.8
baz=316,SNR=8.4
K22A Casper 59.21 59 P P 02 54 52.8 +1.3
baz=316,SNR=8.4
P17A Butcher Ranch, 59.25 64 IAmb IAmb 02 55 09.3
comp=Z,15nm,1.0s
TUQ Turquoise Moun 59.25 71 P P 02 54 53.0 +1.1
baz=316,SNR=16
E28A Huff 59.28 52 P P 02 54 53.1 +1.4
baz=316,SNR=12
CIS Catalina Islan 59.29 74 P P 02 54 53.0 +1.0
baz=316
Q16A Castle Valley 59.41 65 IAmb IAmb 02 55 09.1
comp=Z,22nm,1.0s
RSSD Black Hills 59.41 56 P P 02 54 54.1 +1.1
RSSD Black Hills 59.41 56 P P 02 54 54.0 +1.1
baz=316
RSSD Black Hills 59.41 56 P P 02 54 54.1 +1.1
baz=316,SNR=62
RSSD Black Hills 59.41 56 P P 02 54 54.1 +1.1
RSSD pmax pmax
comp=Z,81nm,0.9s
RSSD Black Hills 59.41 56 P P 02 54 54.3 +1.3
RSSD pP pP 02 55 07.7 -1.6
RSSD sP sP 02 55 12.9 -3.3
HEC Hector,Ludlow 59.45 72 P P 02 54 54.4 +1.2
baz=316,SNR=8.4
SCI2 San Clemente I 59.51 75 P P 02 54 55.0 +1.5
baz=316
BBRC Big Bear Solar 59.53 73 P P 02 54 55.1 +1.2
baz=316
RWWY Rawlins 59.54 60 IAmb IAmb 02 55 09.5
comp=Z,30nm,1.0s
LCMT Little Creek M 59.63 68 IAmb IAmb 02 55 10.7
comp=Z,23nm,1.0s
MURC Murrieta 59.85 73 P P 02 54 57.4 +1.5
baz=317,SNR=6.3
KNB Kanab 59.86 68 IAmb IAmb 02 55 44.9
comp=Z,30nm,1.0s
GMRC Granite Mounta 59.87 71 P P 02 54 57.6 +1.4
baz=316,SNR=18
FINES FINESS Array B 59.95 336 P P 02 54 55.8 -0.3
FINES FINESS Array B 59.95 336 P P 02 54 55.5 -0.5
comp=Z,17nm,0.5s,baz=36,slow=7.7,SNR=177
FINES PcP PcP 02 55 41.4 -0.2
comp=Z,13nm,0.5s,baz=52,slow=3.4,SNR=7.7
FINES LR LR 03 25 49.6
comp=Z,212nm,18.7s,baz=2.0,slow=41
comp=Z,17nm,0.5s
NSS Namsos 59.98 345 *e*P P 02 54 55.8 -0.4
NSS IAmb IAmb 02 55 03.5
comp=Z,693nm,3.1s
NAYO Nakonayok 60.00 253 P P 02 54 58.7 +1.7
comp=Z,483nm,1.0s
LBMI Labuha 60.09 218 P P 02 54 58.4 +0.8
comp=Z,75nm,0.8s,comp=Z,2µm
O20A White River Ci 60.11 62 IAmb IAmb 02 55 13.5
comp=Z,31nm,1.1s
O20A White River Ci 60.11 62 P P 02 54 59.2 +1.4
baz=316,SNR=13
BELC Belle Mtn. Jos 60.24 72 P P 02 54 59.7 +1.0
baz=317,SNR=12
PFO Pinyon Flats O 60.26 73 P P 02 54 60.0 +1.2
PFO Pinyon Flats O 60.26 73 P P 02 54 59.7 +0.8
baz=317,SNR=7.3
PFO Pinyon Flats O 60.26 73 P P 02 55 00.0 +1.2
PFO pmax pmax
comp=Z,12nm,1.3s
PFO Pinyon Flats O 60.26 73 LR LR 03 16 43.9
comp=Z,114nm,21.1s,baz=308,slow=32
PFO Pinyon Flats O 60.26 73 P P 02 55 00.0 +1.2
PFO pP pP 02 55 13.6 -1.1
PFO sP sP 02 55 19.5 -2.0
TPFO Pinon Flats 60.27 73 P P 02 55 00.1 +1.3
baz=317,SNR=7.2
PUL Pulkovo 60.30 333‖ *eP* P 02 54 57.8 -0.7
KMSI Cibinong 60.35 222 P P 02 55 00.4 +1.0
comp=Z,178nm,0.7s,comp=Z,4µm
NUUK Nuuk 60.37 15 *i* P P 02 54 59.2 +0.3
NUUK IAmb IAmb 02 55 01.1
comp=Z,15nm,0.8s
TABU Tabubil 60.39 202 P P 02 55 01.2 +1.5
109C Camp Elliot, M 60.41 74 P P 02 55 01.4 +1.7
baz=317
NEE2 Needles Airpor 60.48 71 P P 02 55 01.0 +0.8
baz=317
BELG Belogornoye 60.54 319 *d* P P 02 54 58.8 -1.4
BELG pmax pmax
comp=Z,24nm,0.9s
BELG Belogornoye 60.54 319 P P 02 54 59.5 -0.7
comp=Z,108nm,0.8s,baz=251,slow=0.7,SNR=48
BELG LR LR 03 23 44.7
comp=Z,217nm,18.6s,baz=339,slow=38
comp=Z,108nm,0.8s
FAKI Fak Fak 60.58 212 P P 02 55 01.8 +0.9
FAKI Fak Fak 60.58 212 P P 02 55 01.5 +0.6
comp=Z,66nm,0.9s,comp=Z,4µm
U15A North Rim 60.58 68 IAmb IAmb 02 55 47.8
comp=Z,28nm,1.2s
D32B Dogwood Acres, 60.58 50 P P 02 55 01.6 +0.9
baz=318,SNR=6.2
IRM Iron Mountain 60.62 71 P P 02 55 02.2 +1.0
baz=317,SNR=16
ISOG Isortoq, Green 60.67 9 *i* P P 02 55 00.2 -0.7
ISOG IAmb IAmb 02 55 02.8
comp=Z,22nm,0.8s
SIMJ Simiganj 60.68 296 P P 02 55 00.4 -1.2
SIMJ Simiganj 60.68 296 P P 02 55 00.3 -1.3
SIMJ sP pP 02 55 18.3 +0.1
SIMJ PcP PcP 02 55 44.3 -0.9
GTOI Gorontalo 60.70 224 P P 02 55 01.4 -0.3
comp=Z,17nm,0.9s
N23A Red Feather La 60.77 60 P P 02 55 03.2 +0.8
baz=317,SNR=18
MONP2 Monument Peak 60.81 73 P P 02 55 04.0 +1.3
baz=317,SNR=8.1
BC3 Big Chuckawall 60.81 72 P P 02 55 03.6 +1.1
baz=317,SNR=11
PDMCI Parker Dam,Lak 61.08 71 P P 02 55 05.7 +1.5
baz=317,SNR=9.8
CBX Cerro Bola 61.09 74 IAmb IAmb 02 55 06.7
comp=Z,19nm,0.9s
SWSC Sam W. Stewart 61.12 73 P P 02 55 05.8 +1.3
baz=317
B35A Bob, Littlefor 61.15 47 P P 02 55 05.0 +0.5
baz=319,SNR=14
IKP In-Ko-Pah, Jac 61.16 73 P P 02 55 06.4 +1.6
baz=317,SNR=8.2
TOLI2 Tolitoli 61.21 226 P P 02 55 06.0 +0.8
SRDT SRDT 61.24 255 P P 02 55 06.8 +1.3
SRDT SRDT 61.24 255 P P 02 55 05.8 +0.3
comp=Z,65nm,1.2s
MRSI Marisa 61.29 225 P P 02 55 06.3 +0.6
comp=Z,124nm,0.9s,comp=Z,1µm
RAF Rauma 61.32 338 *e*P P 02 55 05.1 -0.3
MEF Metsahovi 61.42 337 *e*P P 02 55 06.0 0.0
TBLU Trondheim 61.45 345 *e*P P 02 55 05.8 -0.5
SMCO Snowmass 61.48 62 IAmb IAmb 02 55 09.7
comp=Z,17nm,0.9s
MOS Moscow 61.48 327 *e*P P 02 55 05.8 -0.7
MOS *e* 02 55 27.8
MOS *e* 02 55 46.3
GLA Glamis 61.60 72 P P 02 55 09.0 +1.2
baz=317
SUSD Miller 61.67 53 P P 02 55 08.4 +0.4
baz=318,SNR=6.8
SUSD Miller 61.67 53 P P 02 55 08.7 +0.6
baz=318,SNR=6.8
ISCO Idaho Springs 61.74 61 IAmb IAmb 02 55 25.4
comp=Z,22nm,0.9s
ISCO Idaho Springs 61.74 61 P P 02 55 09.9 +0.9
baz=317,SNR=23
ISCO Idaho Springs 61.74 61 P P 02 55 10.1 +1.1
baz=317,SNR=23
WUAZ Wupatki 61.76 68 IAmb IAmb 02 55 25.2
comp=Z,23nm,1.1s
WUAZ Wupatki 61.76 68 P P 02 55 10.1 +1.1
baz=317,SNR=13
F33A 5 Mile Ranch, 61.88 50 P P 02 55 10.1 +0.6
baz=319,SNR=34
SANI Sanana 61.96 219 P P 02 55 10.6 +0.3
SANI Sanana 61.96 219 P P 02 55 10.2 -0.1
comp=Z,89nm,0.9s,comp=Z,960nm
NIL Nilore 61.97 289 P P 02 55 10.2 -0.1
NIL Nilore 61.97 289 P P 02 55 10.2 -0.1
NIL pmax pmax
comp=Z,67nm,0.7s
NIL Nilore 61.97 289 P P 02 55 10.2 -0.1
NIL pP pP 02 55 23.1 -3.8
NIL PcP PcP 02 55 50.7 +0.4
MVCO Mesa Verde 62.10 65 IAmb IAmb 02 55 27.1
comp=Z,21nm,1.1s
MVCO Mesa Verde 62.10 65 P P 02 55 12.1 +0.7
baz=317,SNR=8.6
MPSI Mapaga 62.29 227 P P 02 55 13.1 +0.6
LUWI Luwuk 62.31 223 P P 02 55 13.3 +0.7
LUWI Luwuk 62.31 223 P P 02 55 11.7 -0.9
OBN Obninsk 62.34 327‖ *eP* P 02 55 11.3 -1.0
OBN *i* 02 55 51.5
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,312nm,17.0s
OBN Obninsk 62.34 327 P P 02 55 10.9 -1.4
comp=Z,9.3nm,0.4s,baz=18,slow=21,SNR=5.6
OBN PcP PcP 02 55 51.2 -0.1
comp=Z,24nm,0.5s,baz=46,slow=3.6,SNR=8.4
OBN LR LR 03 26 20.1
comp=Z,336nm,18.3s,baz=356,slow=40
comp=Z,9.3nm,0.4s
BORG Borgarnes 62.35 1 LR LR 03 23 31.8
comp=Z,156nm,18.9s,baz=59,slow=37
VSU Vasula 62.38 334 *c i*P P 02 55 12.1 -0.4
VSU pmax pmax
comp=Z,29nm,0.7s
VSU Vasula 62.38 334 *eP* P 02 55 12.7 +0.2
HNR Honiara 62.42 180 LR LR 03 17 52.2
comp=Z,1µm,21.1s,baz=334,slow=32
EYMN Ely 62.43 46 P P 02 55 13.7 +0.5
baz=320,SNR=12
EYMN Ely 62.43 46 P P 02 55 13.4 +0.3
baz=320,SNR=12
MOL Molde 62.51 346 *e*P P 02 55 13.6 +0.3
Q24A Divide 62.60 61 P P 02 55 15.6 +0.8
baz=318,SNR=5.4
S22A 4UR Ranch, Cre 62.61 63 IAmb IAmb 02 55 31.2
comp=Z,31nm,1.1s
S22A 4UR Ranch, Cre 62.61 63 P P 02 55 15.7 +0.9
baz=318,SNR=19
K30B Basset 62.67 55 P P 02 55 15.7 +0.9
baz=318,SNR=21
OGNE Ogallala 62.75 58 P P 02 55 16.2 +0.8
baz=318
DOMB Dombas 62.78 345 *eP* P 02 55 14.8 -0.4
DOMB IAmb IAmb 02 55 15.1
comp=Z,17nm,0.6s
MTSE Matsula 62.89 336 *eP* P 02 55 16.1 +0.2
W18A Petrified Fore 62.96 67 P P 02 55 18.0 +1.0
baz=318
AKN Aaknes 62.96 346 *eP* P 02 55 16.7 +0.3
F36A Milaca 63.13 49 IAmb IAmb 02 55 18.9
comp=Z,17nm,0.8s
F36A Milaca 63.13 49 P P 02 55 17.8 +0.1
baz=320,SNR=8.5
NC405 NORSAR Array S 63.22 343 IAmb IAmb 02 55 19.8
comp=Z,22nm,0.6s
X18A Snowflake 63.27 68 IAmb IAmb 02 55 35.4
comp=Z,23nm,1.0s
SDCO Great Sand Dun 63.31 62 P P 02 55 20.6 +1.1
baz=318,SNR=11
SDCO Great Sand Dun 63.31 62 P P 02 55 21.0 +1.5
baz=318,SNR=11
ECSD EROS Data Cent 63.32 52 P P 02 55 19.6 +0.5
baz=319,SNR=25
ECSD EROS Data Cent 63.32 52 P P 02 55 19.3 +0.2
baz=319,SNR=25
PMG Port Moresby 63.34 194 P P 02 55 20.2 +0.9
PMG IAmb IAmb 02 55 20.7
comp=Z,32nm,0.9s
PMG Port Moresby 63.34 194 P P 02 55 20.1 +0.8
PMG Port Moresby 63.34 194 P P 02 55 20.3 +0.9
PMG Port Moresby 63.34 194 *c i*P P 02 55 19.6 +0.3
PMG pmax pmax
comp=Z,28nm,0.8s
PMG Port Moresby 63.34 194 LR LR 03 20 21.4
comp=Z,103nm,20.3s,baz=304,slow=33
PMG Port Moresby 63.34 194 P P 02 55 20.0 +0.6
PMG Port Moresby 63.34 194 P P 02 55 19.6 +0.3
comp=Z,38nm,0.9s
NB201 NORSAR Array S 63.35 344 IAmb IAmb 02 55 20.2
comp=Z,29nm,1.8s
NB2 NORSAR Subarra 63.38 344 P P 02 55 18.5 -0.7
comp=Z,8.3nm,0.5s,baz=30,slow=6.5
NB2 PCP PcP 02 55 55.6 0.0
comp=Z,16nm,0.8s,baz=22,slow=4.3
NB2 NORSAR Subarra 63.38 344 P P 02 55 18.5 -0.7
baz=30,slow=6.5
NOA NORSAR Array B 63.38 344 P P 02 55 18.4 -0.8
comp=Z,12nm,0.7s,baz=31,slow=6.5,SNR=100
NOA PcP PcP 02 55 55.9 +0.3
comp=Z,11nm,0.8s,baz=23,slow=3.1,SNR=7.6
NOA LR LR 03 27 41.7
comp=Z,106nm,18.7s,baz=15,slow=40
comp=Z,12nm,0.7s
E38A The Farm, Brul 63.44 47 P P 02 55 19.7 0.0
baz=321,SNR=10
214A Organ Pipe Nat 63.56 71 P P 02 55 22.2 +1.3
baz=318,SNR=7.4
NC602 NORSAR Array S 63.61 343 *eP* P 02 55 20.3 -0.3
LPSR Galich'ya Gora 63.61 324 *eP* P 02 55 18.2 -2.6
LPSR pmax pmax
comp=Z,30nm,1.0s
NAO01 NORSAR Array S 63.62 344 IAmb IAmb 02 55 58.5
comp=Z,34nm,1.0s
KBL Kabul 63.67 293 P P 02 55 20.1 -1.7
KBL IAmb IAmb 02 55 21.2
comp=Z,23nm,0.8s
KBL Kabul 63.67 293 P P 02 55 20.1 -1.7
KBL pmax pmax
comp=Z,23nm,0.8s
KBL Kabul 63.67 293 P P 02 55 19.7 -2.1
SNR=14
VRH Novokhopyorsk 63.74 322 *eP* P 02 55 19.6 -2.0
VRH pmax pmax
comp=Z,50nm,0.6s
IVI Ivigtut 63.74 15 *i* P P 02 55 20.8 -0.7
IVI IAmb IAmb 02 55 22.9
comp=Z,28nm,0.9s
HFS Hagfors 63.78 342 P P 02 55 21.2 -0.6
comp=Z,26nm,0.5s,baz=46,slow=4.3,SNR=166
HFS PcP PcP 02 55 56.9 -0.3
comp=Z,8.8nm,0.4s,baz=43,slow=2.8,SNR=6.8
HFS LR LR 03 27 48.5
comp=Z,391nm,19.4s,baz=355,slow=40
comp=Z,26nm,0.5s
KSCO Kaye Shedlock' 63.88 59 IAmb IAmb 02 55 38.6
comp=Z,36nm,1.0s
KSCO Kaye Shedlock' 63.88 59 P P 02 55 23.9 +0.9
baz=319
KSCO Kaye Shedlock' 63.88 59 P P 02 55 24.1 +1.1
baz=319
SPMN Marine on St. 63.95 49 P P 02 55 24.1 +0.9
baz=320
SPMN Marine on St. 63.95 49 P P 02 55 24.0 +0.9
baz=320
HYA Hoyanger 64.04 346 *eP* P 02 55 23.8 +0.3
SKAR Skarslia 64.19 345 *eP* P 02 55 24.8 +0.3
SKAR IAmb IAmb 02 55 35.6
comp=Z,1µm,3.7s
SLIT Slitere, Latvi 64.23 336 *eP* P 02 55 25.8 +1.1
BGNE Belgrade 64.34 55 P P 02 55 26.8 +1.0
baz=319,SNR=11
BGNE Belgrade 64.34 55 P P 02 55 25.5 -0.3
baz=319,SNR=11
T25A Trinidad 64.34 62 IAmb IAmb 02 55 41.9
comp=Z,24nm,1.1s
T25A Trinidad 64.34 62 P P 02 55 27.4 +1.3
baz=319,SNR=7.3
SUE Sulen 64.35 347 *eP* P 02 55 26.5 +1.0
D41A Chassel 64.38 45 P P 02 55 25.5 -0.4
baz=322
TUC Tucson 64.45 70 P P 02 55 27.5 +0.7
TUC Tucson 64.45 70 P P 02 55 28.1 +1.3
baz=318
TUC Tucson 64.45 70 P P 02 55 27.5 +0.7
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC Tucson 64.45 70 P P 02 55 28.2 +1.5
TUC pP pP 02 55 41.5 -1.8
TUC PcP PcP 02 56 01.8 +1.2
OSL Oslo 64.50 343 *eP* P 02 55 27.2 +0.8
OSL IAmb IAmb 02 55 28.4
comp=Z,28nm,0.9s
I37B Waseca 64.61 50 P P 02 55 28.3 +0.9
baz=321,SNR=28
VSR Storozhevoye 64.66 323 *eP* P 02 55 26.7 -1.0
VSR pmax pmax
comp=Z,40nm,1.2s
L34A Svendsen Farm, 64.78 53 P P 02 55 28.4 -0.2
baz=320,SNR=13
ASK Askoy 64.84 346 *eP* P 02 55 30.0 +1.3
ANMO Albuquerque 64.88 65 P P 02 55 30.8 +1.1
ANMO Albuquerque 64.88 65 P P 02 55 31.1 +1.4
baz=319
ANMO Albuquerque 64.88 65 P P 02 55 30.9 +1.2
baz=319,SNR=17
ANMO Albuquerque 64.88 65 *c i*P P 02 55 31.3 +1.6
ANMO pmax pmax
comp=Z,14nm,1.1s
ANMO Albuquerque 64.88 65 LR LR 03 20 49.3
comp=Z,151nm,21.8s,baz=58,slow=33
ANMO Albuquerque 64.88 65 P P 02 55 30.9 +1.2
ANMO pP pP 02 55 44.8 -1.4
ANMO PcP PcP 02 56 03.8 +1.3
COWI Conover 64.89 46 P P 02 55 29.3 0.0
baz=322
BER Bergen 64.92 346 *eP* P 02 55 29.6 +0.4
KONO Kongsberg 64.96 344 *eP* P 02 55 29.9 +0.4
BKB Balikpapan 65.04 229 P P 02 55 32.5 +1.9
comp=Z,240nm,0.9s
G40A Rib Lake 65.07 47 IAmb IAmb 02 55 31.7
comp=Z,30nm,1.1s
G40A Rib Lake 65.07 47 P P 02 55 29.5 -1.0
baz=322,SNR=6.5
SURA Surathani 65.12 251 P P 02 55 33.2 +2.0
ODD1 Odda 65.18 346 *eP* P 02 55 31.4 +0.4
DUN6 Lazy B Ranch 65.22 68 IAmb IAmb 02 55 47.9
comp=Z,55nm,1.2s
Y22D IRIS PASSCAL I 65.28 66 P P 02 55 33.2 +0.9
baz=319
Y22F Passcal Instru 65.28 66 P P 02 55 33.3 +1.1
baz=319
VSVD Vaisvydziai 65.29 335 *eP* P 02 55 31.9 +0.2
Y22A Socorro 65.36 66 P P 02 55 34.2 +1.4
baz=319,SNR=14
MMSI Mamuju 65.42 226 P P 02 55 33.4 +0.3
comp=Z,47nm,0.9s,comp=Z,462nm
CBKS Cedar Bluff 65.51 58 IAmb IAmb 02 55 48.1
comp=Z,31nm,0.9s
CBKS Cedar Bluff 65.51 58 P P 02 55 33.7 +0.2
baz=320,SNR=6.7
CBKS Cedar Bluff 65.51 58 P P 02 55 31.9 -1.6
baz=320,SNR=6.7
MNK Minsk 65.52 332 *i* P P 02 55 31.6 -1.6
MNK *i* *PP pP 02 55 50.0 0.0
MNK *i* 02 56 02.8
MNK *i* 02 57 56.2
MNK *i* PPP PPP 02 59 30.0
MNK *i* S S 03 04 11.2 -1.8
MNK *i* *SS sS 03 04 43.1 +1.4
MNK *i* 03 05 20.4
MNK *i* SSS SSS 03 11 23.8
MNK pmax pmax
comp=N,36nm,1.0s
MNK pmax pmax
comp=E,12nm,1.0s
MNK pmax pmax
comp=Z,81nm,0.9s
MNK MLR MLR
comp=E,222nm,20.0s
MNK MLR MLR
comp=N,404nm,20.0s
MNK MLR MLR
comp=Z,235nm,16.0s
SCHQ Schefferville 65.57 28 IAmb IAmb 02 55 34.5
comp=Z,27nm,1.0s
SCHQ Schefferville 65.57 28 P P 02 55 33.5 -0.1
comp=Z,16nm,0.7s,baz=328,slow=4.5,SNR=35
SCHQ LR LR 03 28 21.7
comp=Z,118nm,18.7s,baz=34,slow=40
comp=Z,16nm,0.7s
F42A Maple Grove Fa 65.58 45 P P 02 55 34.3 +0.5
baz=322
SRIT Nakonsritamara 65.60 251 P P 02 55 36.7 +2.4
SAUI Saumlaki 65.64 211 P P 02 55 36.5 +2.1
comp=Z,317nm,0.8s,comp=Z,22µm
BLS5 Blasjo 65.68 345 *eP* P 02 55 34.3 +0.2
MTKI Muara Teweh, K 65.68 231 P P 02 55 36.0 +1.2
comp=Z,92nm,0.8s,comp=Z,33µm
PABE Paberze 65.70 334 *eP* P 02 55 34.6 +0.3
RTBA Rita Blanca 65.76 61 IAmb IAmb 02 55 50.3
comp=Z,31nm,0.9s
PBUR Paburge 65.76 336 *eP* P 02 55 35.3 +0.6
K38A Parkersburg 65.95 50 IAmb IAmb 02 55 37.4
comp=Z,51nm,1.1s
K38A Parkersburg 65.95 50 P P 02 55 36.7 +0.5
baz=321
121A Cookes Peak, D 65.96 68 P P 02 55 37.7 +1.1
baz=319,SNR=5.6
121A Cookes Peak, D 65.96 68 P P 02 55 38.4 +1.7
baz=319,SNR=5.6
I40A Norwalk 65.97 48 P P 02 55 36.7 +0.4
baz=322,SNR=8.2
N35A Tabor 65.98 54 P P 02 55 37.3 +0.9
baz=321,SNR=5.8
319A Douglas 65.99 69 IAmb IAmb 02 55 52.8
comp=Z,33nm,1.1s
PMSI Majene 66.15 226 P P 02 55 36.9 -0.9
SKLT Songkhla 66.19 249 P P 02 55 39.7 +1.6
SKLT Songkhla 66.19 249 P P 02 55 39.5 +1.4
comp=Z,184nm,1.1s,comp=Z,3µm

SPSI Sidrap Palu 66.20 225 P P 02 55 38.5 +0.5
comp=Z,93nm,1.1s,comp=Z,999nm
SCIA State Center 66.32 51 P P 02 55 38.9 +0.3
baz=321,SNR=10.0
SCIA State Center 66.32 51 P P 02 55 39.4 +0.8
baz=321,SNR=10.0
R32A Long Quarter, 66.33 57 P P 02 55 38.2 -0.6
baz=320
BBSI Bau Bau 66.43 221 P P 02 55 39.9 +0.4
comp=Z,35nm,0.9s,comp=Z,1µm
STKI Sintang 66.44 235 P P 02 55 39.4 -0.2
comp=Z,66nm,0.8s,comp=Z,19µm
HOMB Homborsund 66.45 344 eP P 02 55 39.2 +0.1
SNART Snartemo 66.60 345 eP P 02 55 40.4 +0.4
SNART Snartemo 66.60 345 i P P 02 55 38.0 -2.0
E46A Sault Ste Mari 66.70 43 P P 02 55 40.0 -0.9
baz=324,SNR=6.8
I42A Draeger Farm, 66.72 47 IAmb IAmb 02 55 42.2
comp=Z,28nm,0.8s
I42A Draeger Farm, 66.72 47 P P 02 55 40.9 -0.2
baz=323
KSU1 Kansas State U 66.86 55 IAmb IAmb 02 56 11.7
comp=Z,26nm,0.9s
KSU1 Kansas State U 66.86 55 P P 02 55 42.0 -0.1
baz=321
KSU1 Kansas State U 66.86 55 P P 02 55 41.9 -0.1
baz=321
JFWS Jewell Farm 66.90 49 IAmb IAmb 02 55 42.3
comp=Z,17nm,0.8s
JFWS Jewell Farm 66.90 49 P P 02 55 42.3 0.0
baz=322
GEYT Alibeck 66.92 303 IAmb IAmb 02 55 44.2
comp=Z,20nm,0.7s
GEYT Alibeck 66.92 303 P P 02 55 41.8 -0.7
comp=Z,19nm,0.7s,baz=52,slow=2.4,SNR=36
GEYT LR LR 03 27 27.9
comp=Z,600nm,19.7s,baz=36,slow=38
comp=Z,19nm,0.7s
GYA0B ALIBECK ARRAY 66.92 303 IAmb IAmb 02 55 47.8
comp=Z,20nm,0.8s
L40A Anamosa 67.13 50 P P 02 55 43.3 -0.4
baz=322,SNR=11
DEL Delary 67.16 340 i P P 02 55 43.0 -0.7
N38A Joes South For 67.18 52 P P 02 55 44.5 +0.4
baz=322,SNR=8.5
SUW Suwalki 67.25 334 eP P 02 55 42.6 -1.7
SUW Suwalki 67.25 334 eP P 02 55 42.9 -1.3
BKSI Bulukumba 67.28 224 P P 02 55 45.3 +0.4
comp=Z,59nm,0.8s
MKS Makassar 67.46 224 P P 02 55 47.3 +1.3
comp=Z,50nm,1.2s
AMTX Amarillo 67.50 62 IAmb IAmb 02 55 48.2
comp=Z,58nm,1.5s
AMTX Amarillo 67.50 62 P P 02 55 47.0 +0.7
baz=320
AMTX Amarillo 67.50 62 P P 02 55 47.2 +1.0
baz=320
MSTX Muleshoe 67.61 63 IAmb IAmb 02 56 02.9
comp=Z,39nm,1.0s
MSTX Muleshoe 67.61 63 P P 02 55 47.5 +0.5
baz=320,SNR=12
MSTX Muleshoe 67.61 63 P P 02 55 48.0 +1.0
baz=320,SNR=12
KAN08 Anthony NE Sta 67.62 58 IAmb IAmb 02 55 47.4
comp=Z,30nm,0.9s
KAN10 Anthony SW Sta 67.64 58 IAmb IAmb 02 55 47.6
comp=Z,36nm,1.2s
U32A Winter Ranch, 67.75 59 IAmb IAmb 02 56 02.4
comp=Z,38nm,1.1s
U32A Winter Ranch, 67.75 59 P P 02 55 48.0 +0.3
baz=321,SNR=6.4
KAN05 Bluff City Nor 67.76 58 IAmb IAmb 02 55 48.4
comp=Z,59nm,1.1s
ELIS Ellis County 67.77 59 IAmb IAmb 02 56 03.0
comp=Z,40nm,1.2s
KAN01 Argonia South 67.79 57 IAmb IAmb 02 55 48.6
comp=Z,36nm,0.8s
OK038 West end E0370 67.80 59 IAmb IAmb 02 55 49.2
comp=Z,35nm,0.8s
GLMI Grayling 67.82 44 P P 02 55 48.2 +0.1
baz=324
GLMI Grayling 67.82 44 P P 02 55 48.4 +0.3
baz=324
KAN14 Manchester OK 67.83 58 IAmb IAmb 02 55 48.9
comp=Z,26nm,1.1s
KAN17 Caldwell West 67.87 58 IAmb IAmb 02 56 02.6
comp=Z,30nm,0.9s
KAN09 Caldwell North 67.87 57 IAmb IAmb 02 55 49.1
comp=Z,25nm,0.9s
L42A Oliver, Polo 67.88 49 P P 02 55 48.1 -0.4
baz=323,SNR=7.9
MNTX Cornudas Mount 67.92 66 P P 02 55 50.4 +1.4
baz=320,SNR=19
MNTX Cornudas Mount 67.92 66 P P 02 55 50.2 +1.3
baz=320,SNR=19
K43A Burlington 67.92 48 P P 02 55 48.9 +0.2
baz=323
BBKI Banjar Baru 67.93 230 P P 02 55 49.8 +0.8
comp=Z,174nm,0.9s
P38A Dawn 67.95 53 P P 02 55 49.4 +0.4
baz=322,SNR=15
MAK Makhachkala 68.01 313 eP P 02 55 47.9 -1.3
MAK e*PP pP 02 56 06.5 +0.4
MAK e*SP sP 02 56 13.9 +0.8
MAK e 02 58 24.0
MAK ePPP PPP 03 00 01.8
MAK eS S 03 04 42.3 -1.1
MAK e*SS sS 03 05 13.5 +1.3
MAK eSS SS 03 09 10.0 +4.5
MAK pmax pmax
comp=Z,108nm,2.0s
MAK MLR MLR
comp=Z,259nm,17.0s
LUNU Lund 68.03 340 i P P 02 55 49.0 -0.2
KAN13 South Haven SW 68.04 57 IAmb IAmb 02 56 03.6
comp=Z,31nm,1.0s
MUD Monsted U'grnd 68.07 343 i P P 02 55 50.2 +0.9
MUD IAmb IAmb 02 55 51.7
comp=Z,9.3nm,0.8s
CROK Carrier 68.17 58 IAmb IAmb 02 55 51.3
comp=Z,31nm,1.0s
BSD Bornholm Skovb 68.21 339 eP P 02 55 50.7 +0.5
BSD Bornholm Skovb 68.21 339 i P P 02 55 50.7 +0.5
BSD IAmb IAmb 02 55 52.4
comp=Z,24nm,0.7s
GOF Gofitskoye 68.21 317 ceP P 02 55 50.1 -0.4
N41A Harden Midland 68.36 51 P P 02 55 51.6 +0.1
baz=322,SNR=21
AKASG Malin Array Be 68.44 329 IAmb IAmb 02 55 53.0
comp=Z,46nm,0.8s
AKASG Malin Array Be 68.44 329 P P 02 55 50.8 -1.0
comp=Z,11nm,0.4s,baz=29,slow=6.2,SNR=67
AKASG LR LR 03 28 28.8
comp=Z,489nm,21.9s,baz=20,slow=38
comp=Z,11nm,0.4s
AKBB Malin Array Si 68.44 329 IAmb IAmb 02 55 52.9
comp=Z,45nm,0.9s
AKBB Malin Array Si 68.44 329 c i P P 02 55 50.4 -1.4
AKBB pmax pmax
comp=Z,48nm,0.9s
KIEV Kiev 68.45 329 ⇓P P 02 55 52.4 +0.6
KIEV Kiev 68.45 329 P P 02 55 50.9 -0.9
KIEV IAmb IAmb 02 55 52.9
comp=Z,40nm,0.9s
KIEV Kiev 68.45 329 i P P 02 55 51.6 -0.2
SNR=28
KIEV Kiev 68.45 329 P P 02 55 50.9 -0.9
KIEV pmax pmax
comp=Z,40nm,0.9s
KIEV Kiev 68.45 329 P P 02 55 52.1 +0.3
KIEV PcP PcP 02 56 17.5 +0.7
L44A Lake County Fo 68.53 48 P P 02 55 52.4 -0.1
baz=323
L44A Lake County Fo 68.53 48 P P 02 55 52.6 +0.1
baz=323
T35B Sooner Cattle 68.60 57 P P 02 55 52.8 -0.2
baz=321,SNR=6.2
MCD Coleburn Disti 68.69 350 ⇑eP P 02 55 53.6 +0.3
MCD IAmb IAmb 02 55 54.3
comp=Z,91nm,0.7s
P40A Paris 68.73 52 P P 02 55 54.0 +0.2
baz=322,SNR=32
DKNS Dickens 68.83 62 IAmb IAmb 02 56 09.8
comp=Z,20nm,0.8s
POST Post 68.98 63 IAmb IAmb 02 56 10.9
comp=Z,26nm,0.9s
J47A Sunmer 69.02 45 P P 02 55 56.1 +0.5
baz=325,SNR=10
J47A P P 02 55 56.1 +0.5
baz=325,SNR=10
RGN Rugen 69.08 340 eP P 02 55 57.0 +1.3
M44A Midewin, Midew 69.11 48 IAmb IAmb 02 55 56.9
comp=Z,57nm,1.0s
WMOK Wichita Mounta 69.13 60 IAmb IAmb 02 56 12.1
comp=Z,38nm,0.9s
ODSA Odessa 69.15 64 IAmb IAmb 02 56 12.0
comp=Z,30nm,0.9s
OK052 Battle Ridge R 69.17 58 IAmb IAmb 02 55 57.8
comp=Z,36nm,1.1s
KVAR Kislovodsk Arr 69.26 317 LR LR 03 31 10.0
comp=Z,318nm,18.1s,baz=260,slow=40
KIV Kislovodsk 69.26 317 ⇑P P 02 55 57.6 +0.5
KIV Kislovodsk 69.26 317 P P 02 55 57.5 +0.3
KIV IAmb IAmb 02 56 01.6
comp=Z,36nm,0.7s
KIV Kislovodsk 69.26 317 i P P 02 55 56.8 -0.4
SNR=14
KIV Kislovodsk 69.26 317 c i P P 02 55 56.7 -0.4
KIV e*PP pP 02 56 16.2 +2.1
KIV pmax pmax
comp=Z,31nm,0.8s
KIV MLR MLR
comp=Z,302nm,19.0s
KIV Kislovodsk 69.26 317 P P 02 55 54.4 -2.8
KIV Kislovodsk 69.26 317 P P 02 55 56.9 -0.4
KIV PcP sP 02 56 21.0 -0.1
DRUM Mains of Drumt 69.27 350 ⇑eP P 02 55 56.9 +0.1
DRUM IAmb IAmb 02 55 58.5
comp=Z,59nm,0.6s
KBZ Khabaz 69.36 316 c i P P 02 55 57.4 -0.2
KBZ pmax pmax
comp=Z,48nm,0.9s
KBZ Khabaz 69.36 316 P P 02 55 57.7 +0.1
comp=Z,47nm,0.9s,baz=65,slow=2.3,SNR=79
KBZ LR LR 03 31 48.0
comp=Z,372nm,18.1s,baz=16,slow=41
comp=Z,47nm,0.9s
GKP Gorka Klasztor 69.40 337 eP P 02 55 58.4 +0.7
MMRI Maumere 69.44 220 P P 02 55 59.8 +1.4
DEOK Depew 69.44 58 IAmb IAmb 02 55 59.6
comp=Z,54nm,1.0s
ZKTA Zakatala 69.46 313 P P 02 55 57.8 -0.6
SEKA Sheki 69.55 312 P P 02 55 58.3 -0.7
S39A Bolivar 69.57 54 IAmb IAmb 02 55 59.3
comp=Z,28nm,1.1s
S39A Bolivar 69.57 54 P P 02 55 58.4 -0.6
baz=322,SNR=14
R40A Maddies Statio 69.61 53 IAmb IAmb 02 56 00.2
comp=Z,68nm,1.1s
R40A Maddies Statio 69.61 53 P P 02 55 58.5 -0.8
baz=322,SNR=23
MNHN Monahans 69.63 65 IAmb IAmb 02 56 01.4
comp=Z,36nm,0.7s
SOEI Soe 69.70 218 P P 02 56 01.6 +1.5
SOEI Soe 69.70 218 P P 02 56 00.1 0.0
comp=Z,69nm,0.9s
ZEI Tsey 69.71 315 eP P 02 55 58.3 -1.8
ZEI pmax pmax
comp=Z,25nm,1.0s
KDU Kakadu 69.74 209 P P 02 56 01.0 +0.8
TUL3 Leonard 69.75 57 IAmb IAmb 02 56 01.5
comp=Z,49nm,1.1s
TUL3 Leonard 69.75 57 P P 02 56 00.6 +0.5
baz=322,SNR=11
TUL3 Leonard 69.75 57 P P 02 56 00.6 +0.5
baz=322,SNR=11
EDFI Ende, Flores 69.75 221 P P 02 55 59.4 -1.0
comp=Z,46nm,1.2s
P43A Skaggs, Pawnee 69.83 50 IAmb IAmb 02 56 01.6
comp=Z,62nm,0.9s
P43A Skaggs, Pawnee 69.83 50 P P 02 56 01.1 +0.5
baz=323,SNR=6.8
BEL Belsk 69.84 334 eP P 02 56 01.0 +0.6
O44A Mansfield 69.91 49 IAmb IAmb 02 56 01.4
comp=Z,26nm,0.6s
O44A Mansfield 69.91 49 P P 02 56 01.2 +0.2
baz=324
INVG Invergeldie, C 69.91 351 ⇑eP P 02 56 00.4 -0.4
RLO Rose Lookout 69.93 56 IAmb IAmb 02 56 02.3
comp=Z,30nm,1.0s
MNGR Mingechevir, A 69.96 312 P P 02 56 01.0 -0.3
U38A Gravette 70.03 56 IAmb IAmb 02 56 02.8
comp=Z,34nm,0.9s
U38A Gravette 70.03 56 P P 02 56 01.6 -0.4
baz=322,SNR=18
WTFS Witchita Falls 70.05 60 IAmb IAmb 02 56 16.9
comp=Z,32nm,1.0s
ONI Oni 70.06 315 IAmb IAmb 02 56 04.4
comp=Z,29nm,0.8s
SGCY Sterling City 70.07 63 IAmb IAmb 02 56 04.0
comp=Z,25nm,0.9s
SADO Sadowa 70.08 41 LR LR 03 27 59.1
comp=Z,239nm,18.1s,baz=254,slow=37
LAWE Loch Awe, Argy 70.20 351 ⇑eP P 02 56 03.0 +0.4
LAWE IAmb IAmb 02 56 03.9
comp=Z,90nm,0.7s
LDAQ Lac Daran 70.22 34 P P 02 56 03.2 +0.2
LDAQ IAmb IAmb 02 56 04.5
comp=Z,34nm,0.8s
L48A N Adams 70.24 46 P P 02 56 02.9 -0.2
baz=325,SNR=13
L48A P P 02 56 02.9 -0.2
baz=325,SNR=13
BSEG Bad Segeberg 70.25 341 eP P 02 56 03.7 +0.8
comp=Z,23nm,0.8s,baz=19,slow=6.0
BSEG eL L 03 28 30.3
comp=Z,234nm,21.9s
AAM Ann Arbor 70.28 45 P P 02 56 03.7 +0.4
baz=325,SNR=5.7
AAM Ann Arbor 70.28 45 P P 02 56 03.7 +0.4
baz=325,SNR=5.7
CCM Cathedral Cave 70.28 53 P P 02 56 03.7 +0.3
CCM IAmb IAmb 02 56 04.5
comp=Z,43nm,1.0s
CCM Cathedral Cave 70.28 53 P P 02 56 03.6 +0.3
baz=323
CCM Cathedral Cave 70.28 53 P P 02 56 03.6 +0.2
baz=323,SNR=16
CCM Cathedral Cave 70.28 53 P P 02 56 03.7 +0.2
CCM pmax pmax
comp=Z,43nm,1.0s
CCM Cathedral Cave 70.28 53 P P 02 56 03.5 +0.1
CCM pP pP 02 56 17.7 -2.6
MTN Manton Dam 70.29 210 IAmb IAmb 02 56 05.2
comp=Z,66nm,1.1s
MTN Manton Dam 70.29 210 P P 02 56 04.3 +0.8
SLM Saint Louis 70.30 51 P P 02 56 03.9 +0.4
baz=323,SNR=6.2
ABTX Abilene, Hawle 70.31 62 P P 02 56 04.1 +0.4
baz=321,SNR=16
ABTX Abilene, Hawle 70.31 62 P P 02 56 03.8 +0.1
baz=321,SNR=16
EDI Edinburgh 70.32 350 eP P 02 56 03.3 0.0
K50A Casco 70.33 44 IAmb IAmb 02 56 06.1
comp=Z,50nm,0.9s
K50A Casco 70.33 44 P P 02 56 04.0 +0.4
baz=326
K50A P P 02 56 04.0 +0.4
baz=326
SFIN Lafayette 70.34 48 IAmb IAmb 02 56 20.0
comp=Z,34nm,1.3s
SFIN Lafayette 70.34 48 P P 02 56 03.9 +0.2
baz=324
SFIN Lafayette 70.34 48 P P 02 56 03.3 -0.4
baz=324
HHAR Hobs 70.38 55 IAmb IAmb 02 56 04.8
comp=Z,62nm,1.0s
GANJ Ganja 70.40 312 P P 02 56 03.3 -0.8
MGMO Mountain Grove 70.51 54 IAmb IAmb 02 56 05.4
comp=Z,34nm,1.1s
PGBU Glenifferbraes 70.56 351 ⇑eP P 02 56 05.2 +0.4
PGBU IAmb IAmb 02 56 06.0
comp=Z,231nm,1.1s
N47A Urbana 70.56 47 IAmb IAmb 02 56 05.5
comp=Z,55nm,1.1s
N47A Urbana 70.56 47 P P 02 56 04.8 -0.2
baz=325,SNR=6.2
N47A P P 02 56 04.8 -0.2
baz=325,SNR=6.2
TRQ Mont Tremblant 70.57 37 IAmb IAmb 02 56 05.7
comp=Z,60nm,1.0s
Q44A Meyer Farm, Va 70.66 51 IAmb IAmb 02 56 06.6
comp=Z,45nm,1.0s
Q44A Meyer Farm, Va 70.66 51 P P 02 56 05.4 -0.2
baz=324,SNR=6.9
TX31 Lajitas Ar. Si 70.68 67 IAmb IAmb 02 56 08.2
comp=Z,47nm,0.8s
TX31 Lajitas Ar. Si 70.68 67 P P 02 56 07.1 +1.0
baz=321,SNR=54
TXAR Lajitas Array 70.68 67 P P 02 56 07.2 +1.1
comp=Z,20nm,0.7s,baz=300,slow=4.6,SNR=242
comp=Z,20nm,0.7s
FVM French Village 70.73 52 P P 02 56 06.3 +0.2
baz=323,SNR=22
PSI Prapat 70.73 248 P P 02 56 07.1 +0.5
PSI Prapat 70.73 248 P P 02 56 07.1 +0.5
PSI pmax pmax
comp=Z,29nm,0.8s
PSI Prapat 70.73 248 P P 02 56 07.0 +0.5
comp=Z,38nm,0.8s,comp=Z,451nm
LVV L'vov 70.77 331 eP P 02 56 06.2 0.0
SOC Sochi 70.78 318 eP P 02 56 04.5 -1.8
SOC e 02 58 39.8
SOC ePPP PPP 03 00 24.5
SOC eS S 03 05 13.4 -2.5
SOC eSS SS 03 09 48.2 +0.2
SOC MLR MLR
comp=Z,258nm,17.0s
RPSI Rantau Prapat 70.82 248 P P 02 56 07.1 +0.2
RPSI IAmb IAmb 02 56 09.2
comp=Z,29nm,0.8s
LKRN Lenkeran, Azer 70.84 309 P P 02 56 06.5 -0.3
U40A Yellville 70.86 55 P P 02 56 06.4 -0.5
baz=323,SNR=34
U40A P P 02 56 06.4 -0.5
baz=323,SNR=34
PLPT Palo Pinto 70.87 61 IAmb IAmb 02 56 08.4
comp=Z,31nm,1.0s
LMQ La Malbaie 70.89 33 IAmb IAmb 02 56 08.1
comp=Z,39nm,0.9s
EKA Eskdalemuir Ar 70.90 350 P P 02 56 07.2 +0.3
comp=Z,42nm,0.5s,baz=17,slow=5.3,SNR=271
comp=Z,42nm,0.5s
DBNI Kabupaten Domp 70.90 224 P P 02 56 07.8 +0.5
comp=Z,27nm,0.9s
P46A Rosedale 70.91 49 P P 02 56 07.1 0.0
baz=324,SNR=16
RUE Ruedersdorf 70.92 339 eP P 02 56 07.9 +0.9
RUE Ruedersdorf 70.92 339 eP P 02 56 08.0 +1.1
comp=Z,71nm,0.9s,baz=19,slow=6.0
ESK Eskdalemuir 70.92 350 P P 02 56 07.5 +0.6
ESK Eskdalemuir 70.92 350 ⇑eP P 02 56 07.3 +0.3
ESK Eskdalemuir 70.92 350 P P 02 56 07.6 +0.6
ESK pmax pmax
comp=Z,79nm,1.1s
LPIG La Paz 70.93 75 LR LR 03 24 36.8
comp=Z,90nm,18.7s,baz=314,slow=34
SORM Soroca 70.96 328 P P 02 56 06.4 -0.9
Z35A Perchaven, San 71.02 60 IAmb IAmb 02 56 09.4
comp=Z,24nm,0.9s
Z35A Perchaven, San 71.02 60 P P 02 56 08.0 +0.1
baz=322,SNR=5.9
SAND Sanderson 71.05 65 IAmb IAmb 02 56 23.9
comp=Z,30nm,1.1s
HYB Hyderabad 71.10 274 eP P 02 56 07.6 -1.0
HYB IVmB_BB 02 56 08.2
comp=Z,183nm,0.4s
N49A Columbus Grove 71.19 46 IAmb IAmb 02 56 09.8
comp=Z,46nm,0.9s
N49A Columbus Grove 71.19 46 P P 02 56 08.8 0.0
baz=325,SNR=7.9
N49A P P 02 56 08.8 0.0
baz=325,SNR=7.9
OLIL Olney 71.22 50 IAmb IAmb 02 56 10.2
comp=Z,39nm,1.0s
OLIL Olney 71.22 50 P P 02 56 09.2 +0.1
baz=324
NEWG New Galloway 71.22 350 ⇑eP P 02 56 08.9 +0.1
NEWG IAmb IAmb 02 56 09.6
comp=Z,43nm,0.6s
M50A Fremont 71.28 45 IAmb IAmb 02 56 10.2
comp=Z,47nm,0.8s
M50A Fremont 71.28 45 P P 02 56 09.2 -0.2
baz=326,SNR=8.0
M50A P P 02 56 09.2 -0.2
baz=326,SNR=8.0
O48B Farmland 71.31 47 P P 02 56 09.2 -0.4
baz=325,SNR=16
O48B Farmland 71.31 47 P P 02 56 08.8 -0.8
baz=325,SNR=16
KWP Kalwaria Pacla 71.32 332 eP P 02 56 09.9 +0.4
WBO Williamsburg 71.35 38 IAmb IAmb 02 56 09.9
comp=Z,20nm,0.8s
PLAI Plampang 71.42 224 P P 02 56 10.2 -0.2
PLAI Plampang 71.42 224 P P 02 56 07.9 -2.5
CLGH Cloghs, Cushen 71.43 352 ⇑eP P 02 56 10.4 +0.3
CLGH IAmb IAmb 02 56 11.1
comp=Z,55nm,0.5s
KMMI Kalianget 71.49 229 P P 02 56 11.5 +0.6
GNI Garni 71.50 313 P P 02 56 11.4 +0.4
GNI IAmb IAmb 02 56 32.2
comp=Z,29nm,0.9s
GNI Garni 71.50 313 P P 02 56 11.5 +0.5
GNI Garni 71.50 313 c i P P 02 56 11.5 +0.5
GNI pmax pmax
comp=Z,19nm,0.8s
GNI Garni 71.50 313 LR LR 03 32 12.9
comp=Z,259nm,20.6s,baz=16,slow=40
GNI Garni 71.50 313 P P 02 56 11.5 +0.5
GNI Garni 71.50 313 P P 02 56 11.6 +0.5
GNI pP pP 02 56 25.2 -2.8
GNI sP PcP 02 56 30.9 +0.8
GAL1 Galloway 71.52 351 ⇑eP P 02 56 10.6 +0.1
GAL1 IAmb IAmb 02 56 11.4
comp=Z,39nm,0.7s
S44A Carbondale 71.52 51 P P 02 56 11.0 +0.1
baz=324,SNR=25
MNTQ Montreal, Queb 71.53 37 IAmb IAmb 02 56 11.8
comp=Z,42nm,0.9s
OJC Ojcow 71.57 334 eP P 02 56 11.3 +0.3
OJC Ojcow 71.57 334 IAmb IAmb 02 56 13.1
comp=Z,36nm,0.7s
BLO Bloomington 71.58 49 IAmb IAmb 02 56 12.1
comp=Z,54nm,1.1s
FCAR Ozark Folk Cen 71.58 55 IAmb IAmb 02 56 12.0
comp=Z,57nm,1.0s
FLTG Flechtingen 71.59 340 eP P 02 56 11.2 +0.1
comp=Z,19nm,0.8s,baz=19,slow=6.0
KESW Keswick, Cumbr 71.62 350 ⇑eP P 02 56 11.9 +0.6
KESW IAmb IAmb 02 56 12.5
comp=Z,132nm,0.9s
BKNI Bangkinang 71.63 244 P P 02 56 14.1 +2.3
CGM3 Cape Girardeau 71.64 52 IAmb IAmb 02 56 27.1
comp=Z,73nm,1.6s
NRDL Niedersach Rie 71.66 341 eP P 02 56 12.2 +0.8
comp=Z,15nm,0.8s,baz=19,slow=6.0
PBMO Poplar Bluff 71.69 53 IAmb IAmb 02 56 13.3
comp=Z,44nm,0.8s
PBMO Poplar Bluff 71.69 53 P P 02 56 11.7 -0.2
baz=324,SNR=17
TWSI Taliwang, Sumb 71.72 225 P P 02 56 11.3 -0.9
comp=Z,38nm,0.9s
D62A Allapoint, All 71.72 33 P P 02 56 12.2 +0.3
D62A IAmb IAmb 02 56 13.2
comp=Z,34nm,0.8s
D62A Allapoint, All 71.72 33 P P 02 56 12.1 +0.2
baz=332,SNR=7.7
D62A P P 02 56 12.1 +0.2
baz=332,SNR=7.7
O49A Covington 71.72 47 IAmb IAmb 02 56 13.0
comp=Z,45nm,1.0s
O49A Covington 71.72 47 P P 02 56 11.5 -0.6
baz=325,SNR=8.1
O49A P P 02 56 11.5 -0.6
baz=325,SNR=8.1
SIM Simferopol' 71.76 323 eP P 02 56 13.3 +1.1
SIM 02 56 28.0
SIM pmax pmax
comp=Z,22nm,0.8s
BMNY Brushton-Moira 71.77 38 P P 02 56 11.4 -0.9
baz=329,SNR=13
KIS Kishinev 71.81 327 eP P 02 56 12.0 -0.5
comp=Z,30nm,0.9s
KIS Kishinev 71.81 327 eP P 02 56 12.0 -0.5
KIS pmax pmax
comp=Z,30nm,0.7s
KARS Kars 71.83 314 IAmb IAmb 02 56 15.4
comp=Z,61nm,1.0s
P48A Milroy 71.84 48 P P 02 56 12.3 -0.5
baz=325,SNR=16

P48A P P 02 56 12.3 -0.5
baz=325,SNR=16
SRBI Singaraja 71.86 227 P P 02 56 13.2 +0.1
comp=Z,44nm,1.1s
J55A Hilton 71.86 41 IAmb IAmb 02 56 13.3
comp=Z,51nm,0.9s
KSP Ksiaz 71.87 337 *e*P P 02 56 13.2 +0.4
PURM Purcari 71.87 326 ⇓P P 02 56 12.4 -0.4
M52A Chesterland 71.88 44 P P 02 56 13.2 +0.2
baz=326,SNR=7.1
M52A P P 02 56 13.2 +0.2
baz=326,SNR=7.1
MILM Milestii Mici 71.88 327 *e*P P 02 56 12.5 -0.4
comp=Z,40nm,0.8s
MILM Milestii Mici 71.88 327 *e*P P 02 56 12.5 -0.4
MILM pmax pmax
comp=Z,40nm,0.8s
JCT Junction City 71.90 63 IAmb IAmb 02 56 28.6
comp=Z,43nm,1.1s
JCT Junction City 71.90 63 P P 02 56 13.4 +0.1
baz=322,SNR=6.7
JCT Junction City 71.90 63 P P 02 56 14.0 +0.7
baz=322,SNR=6.7
LCAR Lake Charles 71.91 54 P P 02 56 13.1 -0.1
baz=323
STHS Stebnicka Huta 71.92 333 *e*P P 02 56 13.4 +0.3
STHS pmax pmax
comp=Z,54nm,0.8s
STHS Stebnicka Huta 71.92 333 *e*P P 02 56 13.3 +0.2
LONY Lake Ozonia 71.93 38 P P 02 56 12.7 -0.6
baz=329
ERPA Erie 71.96 43 P P 02 56 13.3 -0.2
baz=327,SNR=5.2
ERPA Erie 71.96 43 P P 02 56 13.5 0.0
baz=327,SNR=5.2
WHTX Lake Whitney, 71.96 61 IAmb IAmb 02 56 28.7
comp=Z,23nm,0.9s
WHTX Lake Whitney, 71.96 61 P P 02 56 13.9 +0.3
baz=322
WHTX Lake Whitney, 71.96 61 P P 02 56 14.4 +0.8
baz=322
N51A Ashland 71.97 45 P P 02 56 13.3 -0.2
baz=326,SNR=20
N51A P P 02 56 13.3 -0.2
baz=326,SNR=20
NAX Nakhchivan 71.97 312 P P 02 56 13.3 -0.4
E62A Clayton Lake 71.97 33 P P 02 56 13.8 +0.3
baz=331,SNR=18
E62A P P 02 56 13.8 +0.3
baz=331,SNR=18
ABJI Asem Bagus 72.03 228 P P 02 56 14.5 +0.4
comp=Z,53nm,0.8s
IAS Iasi 72.05 328 ⇓P P 02 56 13.6 -0.4
IAS Iasi 72.05 328 P P 02 56 13.5 -0.4
KOLS Kolonicke sedl 72.07 332 *e*P P 02 56 14.5 +0.5
KOLS pmax pmax
comp=Z,66nm,0.6s
KOLS Kolonicke sedl 72.07 332 *e*P P 02 56 14.5 +0.5
HPK Haverah Park 72.08 349⇑*e*P P 02 56 14.1 +0.2
HPK IAmb IAmb 02 56 15.2
comp=Z,116nm,0.7s
P49A Miami Univ. Ec 72.09 47 IAmb IAmb 02 56 15.0
comp=Z,61nm,0.9s
P49A Miami Univ. Ec 72.09 47 P P 02 56 14.2 -0.1
baz=325,SNR=15
P49A Miami Univ. Ec 72.09 47 P P 02 56 13.4 -0.9
baz=325,SNR=15
TREL Terrell 72.09 59 IAmb IAmb 02 56 15.7
comp=Z,33nm,0.9s
OSTC Ostas 72.16 337 *e*P P 02 56 15.0 +0.5
OSTC Ostas 72.16 337 *e*P P 02 56 15.0 +0.5
CHVC Chvalec 72.16 337 *e*P P 02 56 14.7 +0.1
CHVC Chvalec 72.16 337 *e*P P 02 56 14.7 +0.1
NIE Niedzica 72.17 334 *e*P P 02 56 15.7 +1.0
CLL Collm 72.18 339⇑*i*P P 02 56 14.8 +0.2
comp=Z,54nm,0.8s
CLL *e*pP pP 02 56 32.0 +0.3
CLL Collm 72.18 339 *e*P P 02 56 15.0 +0.3
comp=Z,50nm,0.7s,baz=19,slow=6.0
CLL *e*L L 03 27 35.0
comp=Z,390nm,19.4s
WIM Isle of Man 72.22 351⇑*e*P P 02 56 15.1 +0.2
CLZ Clausthal 72.22 341 *e*P P 02 56 16.0 +1.0
comp=Z,32nm,0.9s,baz=19,slow=6.0
Z38A Mt. Pleasant 72.24 58 IAmb IAmb 02 56 30.2
comp=Z,41nm,1.1s
M53A WI Miller and 72.24 43 P P 02 56 15.4 +0.2
baz=327,SNR=11
UPC Upice 72.25 337 *e*P P 02 56 15.1 0.0
UPC Upice 72.25 337 *e*P P 02 56 15.1 0.0
ACSO Alum Creek Sta 72.27 46 P P 02 56 15.7 +0.3
baz=326,SNR=11
ACSO Alum Creek Sta 72.27 46 P P 02 56 15.4 0.0
baz=326,SNR=11
WVNY West Valley, N 72.27 42 IAmb IAmb 02 56 16.1
comp=Z,52nm,0.8s
WVNY West Valley, N 72.27 42 P P 02 56 15.0 -0.4
baz=328,SNR=8.2
ALLY Alegheny Colle 72.29 43 P P 02 56 14.9 -0.6
baz=327,SNR=5.0
DPC Dobruska-Polom 72.32 336 *e*P P 02 56 16.1 +0.5
DPC Dobruska-Polom 72.32 336 *e*P P 02 56 16.1 +0.5
CRVS Cervenica-Dubn 72.33 333 *e*P P 02 56 15.9 +0.3
CRVS pmax pmax
comp=Z,34nm,0.7s
CRVS Cervenica-Dubn 72.33 333 *e*P P 02 56 15.9 +0.3
MTSU Mount Surprise 72.34 196 P P 02 56 16.6 +0.7
comp=Z,12nm,0.9s
OKC Ostrava-Krasne 72.34 335 *e*P P 02 56 15.1 -0.5
OKC Ostrava-Krasne 72.34 335 *e*P P 02 56 15.1 -0.5
T45B Paducah 72.35 51 P P 02 56 16.4 +0.5
baz=324,SNR=8.7
BUR08 Bucovina Ar. S 72.38 330 IAmb IAmb 02 56 17.7
comp=Z,52nm,0.8s
BRG Berggiesshubel 72.38 338 *i*P P 02 56 16.2 +0.3
BRG Amp 02 56 17.9
comp=Z,15nm,0.9s
BRG Berggiesshubel 72.38 338 Amp 02 56 39.1
comp=Z,8.9nm,0.8s
BRG Berggiesshubel 72.38 338 *i*P P 02 56 16.2 +0.3
BRG *e* 02 56 32.7
BRG *e* 02 56 38.7
BRG pmax pmax
comp=Z,15nm,0.9s
BRG Berggiesshubel 72.38 338 *e*P P 02 56 16.1 +0.3
comp=Z,12nm,0.8s,baz=19,slow=6.0
BRG Berggiesshubel 72.38 338 P sP 02 56 38.7 -1.2
BURAR Bucovina Array 72.40 330⇑P P 02 56 16.1 -0.1
BURAR Bucovina Array 72.40 330 P P 02 56 16.0 -0.1
WCI Wyandotte Cave 72.45 49 P P 02 56 16.9 +0.4
WCI Wyandotte Cave 72.45 49 P P 02 56 16.8 +0.3
baz=325
WCI Wyandotte Cave 72.45 49 P P 02 56 16.8 +0.4
baz=325,SNR=20
WCI Wyandotte Cave 72.45 49 P P 02 56 16.9 +0.4
WCI pmax pmax
comp=Z,59nm,0.7s
LEOM Leova 72.46 327 ⇓P P 02 56 16.4 0.0
LEOM Leova 72.46 327 P P 02 56 16.5 +0.2
FBE Freiberg 72.47 339 *e*P P 02 56 17.0 +0.6
comp=Z,30nm,0.9s,baz=19,slow=6.0
BATG Bathurst New B 72.49 31 IAmb IAmb 02 56 18.1
comp=Z,41nm,1.1s
SNSI Sinabang, Aceh 72.51 250 P P 02 56 17.4 +0.3
comp=Z,176nm,0.9s
MORC Moravsky Berou 72.55 335⇑P P 02 56 17.6 +0.7
MORC Moravsky Berou 72.55 335 IAmb IAmb 02 56 19.3
comp=Z,40nm,0.8s
MORC Moravsky Berou 72.55 335 *e*P P 02 56 17.2 +0.3
MORC Moravsky Berou 72.55 335 P P 02 56 17.6 +0.7
PVCC Panska Ves 72.57 338 *e*P P 02 56 17.0 +0.1
PVCC Panska Ves 72.57 338 *e*P P 02 56 17.0 +0.1
PAOC Oil Creek Stat 72.59 43 P P 02 56 16.8 -0.5
baz=327
NCB Newcomb 72.62 38 IAmb IAmb 02 56 18.1
comp=Z,26nm,0.9s
NCB Newcomb 72.62 38 P P 02 56 17.2 -0.3
baz=329,SNR=7.4
LANS Liptovska Anna 72.64 334 *e*P P 02 56 18.9 +1.5
LANS pmax pmax
comp=Z,62nm,0.7s
LANS Liptovska Anna 72.64 334 *e*P P 02 56 18.8 +1.4
LBWR Ladybower, Pea 72.64 349⇑*e*P P 02 56 17.6 +0.3
LBWR IAmb IAmb 02 56 18.3
comp=Z,138nm,1.0s
RICC Richard 72.66 338 *e*P P 02 56 18.2 +0.7

N53A Lisbon 72.70 44 IAmb IAmb 02 56 18.6
comp=Z,36nm,0.7s
N53A Lisbon 72.70 44 P P 02 56 17.8 -0.1
baz=327,SNR=7.4
N53A P P 02 56 17.8 -0.1
baz=327,SNR=7.4
GSI Gunungsitoli 72.72 248 P P 02 56 19.3 +1.0
GSI IAmb IAmb 02 56 19.6
comp=Z,47nm,0.8s
GSI Gunungsitoli 72.72 248 P P 02 56 20.7 +2.4
HSKC Hora Svate Kat 72.75 338 *e*P P 02 56 18.1 0.0
J58A Remsen 72.75 39 IAmb IAmb 02 56 18.6
comp=Z,46nm,0.9s
J58A Remsen 72.75 39 P P 02 56 17.4 -0.7
baz=329,SNR=8.8
J58A P P 02 56 17.4 -0.7
baz=329,SNR=8.8
435B Jarrell 72.84 62 P P 02 56 19.9 +1.0
baz=322
BIR Birlad 72.84 328⇑P P 02 56 19.5 +0.9
BIR Birlad 72.84 328 P P 02 56 20.2 +1.6
WLAR White Oak Lake 72.85 57 IAmb IAmb 02 56 34.1
comp=Z,49nm,1.1s
G62A West of Eustis 72.85 35 IAmb IAmb 02 56 21.0
comp=Z,65nm,1.1s
G62A West of Eustis 72.85 35 P P 02 56 19.2 +0.5
baz=331,SNR=13
G62A P P 02 56 19.2 +0.5
baz=331,SNR=13
BMR Baia Mare 72.86 331 ⇓P P 02 56 19.5 +0.7
BMR Baia Mare 72.86 331 P P 02 56 19.4 +0.7
O52A Adamsville 72.86 45 P P 02 56 18.8 -0.1
baz=326,SNR=18
O52A P P 02 56 18.8 -0.1
baz=326,SNR=18
P51A Williamsport 72.86 46 IAmb IAmb 02 56 19.5
comp=Z,35nm,0.8s
P51A Williamsport 72.86 46 P P 02 56 18.3 -0.5
baz=326,SNR=8.3
P51A P P 02 56 18.3 -0.5
baz=326,SNR=8.3
MAUC Maruska 72.86 335 *e*P P 02 56 19.7 +0.9
PAMR Moraine State 72.90 43 P P 02 56 19.1 0.0
baz=327
R49A Shelbyville 72.91 48 IAmb IAmb 02 56 20.2
comp=Z,26nm,0.7s
R49A Shelbyville 72.91 48 P P 02 56 19.3 +0.1
baz=325,SNR=7.4
R49A P P 02 56 19.3 +0.1
baz=325,SNR=7.4
F63A Nahmakanta, Br 72.91 34 IAmb IAmb 02 56 20.4
comp=Z,28nm,1.0s
L56A Greenwood 72.92 41 P P 02 56 18.9 -0.3
baz=328,SNR=11
L56A P P 02 56 18.9 -0.3
baz=328,SNR=11
TESR Tescani 72.94 328⇑P P 02 56 19.0 -0.2
J59A Piesco 72.95 38 IAmb IAmb 02 56 19.7
comp=Z,27nm,1.0s
J59A Piesco 72.95 38 P P 02 56 18.8 -0.6
baz=329,SNR=5.9
J59A P P 02 56 18.8 -0.6
baz=329,SNR=5.9
KECS Kecovo 72.97 333 *e*P P 02 56 19.9 +0.5
KECS pmax pmax
comp=Z,38nm,0.7s
KECS Kecovo 72.97 333 *e*P P 02 56 19.9 +0.5
STNC Stoke 73.00 349 *e*P P 02 56 19.6 +0.2
M55A Ridgway 73.00 42 IAmb IAmb 02 56 20.7
comp=Z,54nm,0.9s
M55A Ridgway 73.00 42 P P 02 56 19.0 -0.7
baz=328,SNR=13
M55A P P 02 56 19.0 -0.7
baz=328,SNR=13
O53A New Philadelph 73.01 44 P P 02 56 19.8 +0.1
baz=327,SNR=13
F64A Sherman 73.02 33 IAmb IAmb 02 56 20.8
comp=Z,42nm,0.8s
F64A Sherman 73.02 33 P P 02 56 19.1 -0.6
baz=332,SNR=7.6
F64A P P 02 56 19.1 -0.6
baz=332,SNR=7.6
PRA Prague 73.03 338 *e*P P 02 56 21.1 +1.5
PRA Prague 73.03 338 *e*P P 02 56 21.1 +1.5
VLDR Vladesti 73.07 327⇑P P 02 56 19.8 -0.2
PRU Pruhonice 73.08 337 *e*P P 02 56 20.3 +0.3
PRU Pruhonice 73.08 337 *e*P P 02 56 20.3 +0.3
GOPC GO Pecny, Ondr 73.09 337 *e*P P 02 56 20.6 +0.5
GOPC GO Pecny, Ondr 73.09 337 *e*P P 02 56 20.6 +0.5
T47A Sharon Grove 73.09 50 P P 02 56 20.7 +0.4
baz=325,SNR=26
GHRR 73.10 328⇑P P 02 56 20.6 +0.5
VARL Varlezi 73.10 327⇑P P 02 56 21.0 +0.9
MOX Moxa 73.10 340 *e*P P 02 56 20.9 +0.7
comp=Z,11nm,0.7s,baz=19,slow=6.0
MOX *e*L L 03 27 09.6
comp=Z,257nm,22.0s
SJI Sawahan 73.11 230 P P 02 56 20.3 -0.3
comp=Z,61nm,0.8s
Q51A Peebles 73.11 47 IAmb IAmb 02 56 21.4
comp=Z,46nm,0.8s
Q51A Peebles 73.11 47 P P 02 56 20.5 +0.1
baz=326,SNR=10
Q51A P P 02 56 20.5 +0.1
baz=326,SNR=10
SMRI Semarang 73.13 232 P P 02 56 22.2 +1.5
comp=Z,110nm,1.0s
SMRI Semarang 73.13 232 P P 02 56 21.3 +0.6
comp=Z,108nm,1.0s
ARCR ARCALIA 73.13 330 ⇓P P 02 56 21.5 +1.1
P52A Corning 73.13 45 P P 02 56 20.4 -0.1
baz=326,SNR=11
PLN Plauen 73.14 339 *e*P P 02 56 21.1 +0.8
comp=Z,14nm,0.9s,baz=19,slow=6.0
TANN Tannenbergstha 73.14 339 *e*P P 02 56 21.1 +0.6
comp=Z,4.3nm,0.6s,baz=19,slow=6.0
WERD Werda 73.14 339 *e*P P 02 56 21.2 +0.8
comp=Z,13nm,0.7s,baz=19,slow=6.0
H62A Milan 73.20 36 P P 02 56 21.4 +0.6
baz=331,SNR=21
H62A P P 02 56 21.4 +0.6
baz=331,SNR=21
GUNZ Gunzen 73.22 339 *e*P P 02 56 21.6 +0.7
comp=Z,20nm,0.8s,baz=19,slow=6.0
LBNH Lisbon 73.22 36 IAmb IAmb 02 56 22.4
comp=Z,40nm,1.0s
LBNH Lisbon 73.22 36 P P 02 56 21.2 +0.3
baz=331,SNR=6.5
LBNH Lisbon 73.22 36 P P 02 56 20.5 -0.5
baz=331,SNR=6.5
VRAC Vranov 73.22 336 *e*P P 02 56 21.3 +0.4
VRAC Vranov 73.22 336 P P 02 56 21.6 +0.7
VRAC Vranov 73.22 336 LR LR 03 34 30.5
comp=Z,265nm,20.1s,baz=5.5,slow=41
PKME Peaks-Kenny Pk 73.23 34 P P 02 56 20.9 0.0
baz=332
CWF Charnwood Fore 73.24 348 *e*P P 02 56 21.4 +0.5
SCTR Scanteiesti 73.25 327 ⇓P P 02 56 21.4 +0.4
UBBA Unterbreizbach 73.27 341 *e*P P 02 56 21.7 +0.8
comp=Z,30nm,1.2s,baz=19,slow=6.0
DSB Dublin 73.28 351 IAmb IAmb 02 56 22.5
comp=Z,50nm,0.8s
WERN Wernitzgruen 73.28 339 *e*P P 02 56 22.0 +0.8
comp=Z,31nm,0.7s,baz=19,slow=6.0
PSDB Penn State Uni 73.29 42 P P 02 56 22.1 +0.7
baz=328
R50A Paris 73.29 48 IAmb IAmb 02 56 22.8
comp=Z,44nm,0.8s
R50A Paris 73.29 48 P P 02 56 21.7 +0.3
baz=326,SNR=12
R50A P P 02 56 21.7 +0.3
baz=326,SNR=12
TATR Tatarca 73.30 327⇑P P 02 56 20.7 -0.6
FOEL Foel Wylfa 73.31 349⇑*e*P P 02 56 21.4 +0.1
FOEL IAmb IAmb 02 56 22.9
comp=Z,65nm,0.8s
NKC Novy Kostel 73.31 339 *e*P P 02 56 21.8 +0.4
NKC Novy Kostel 73.31 339 *e*P P 02 56 21.8 +0.4
UPAO U. Pittsburgh 73.31 44 P P 02 56 22.1 +0.6
baz=327
ACCN Adirondack Com 73.33 38 IAmb IAmb 02 56 22.8
comp=Z,36nm,0.8s
ACCN Adirondack Com 73.33 38 P P 02 56 21.5 -0.1
baz=330,SNR=7.8
PANC Panciu 73.35 328⇑P P 02 56 22.4 +0.8
JAVC Velka Javorina 73.37 335 *e*P P 02 56 23.1 +1.3
SLCR Slobozia Conac 73.40 327 ⇓P P 02 56 22.9 +1.1

LLW Llanuwchllyn 73.40 350 *e*P P 02 56 22.0 +0.2
VYHS Vyhne 73.41 334 *e*P P 02 56 22.7 +0.7
VYHS pmax pmax
comp=Z,44nm,1.2s
VYHS Vyhne 73.41 334 *e*P P 02 56 22.7 +0.7
TLCR 73.41 326⇑P P 02 56 21.6 -0.3
TLCR 73.41 326 P P 02 56 21.9 -0.1
O54A Avella 73.42 44 P P 02 56 22.5 +0.3
baz=327,SNR=8.6
O54A P P 02 56 22.5 +0.3
baz=327,SNR=8.6
TUDR 73.42 327⇑P P 02 56 22.7 +0.7
WVT Waverly 73.45 51 P P 02 56 23.2 +0.8
WVT IAmb IAmb 02 56 24.0
comp=Z,45nm,0.8s
WVT Waverly 73.45 51 P P 02 56 22.9 +0.5
baz=325
WVT Waverly 73.45 51 P P 02 56 22.9 +0.5
baz=325,SNR=19
WVT Waverly 73.45 51 P P 02 56 23.2 +0.8
WVT pmax pmax
comp=Z,45nm,0.8s
ODBI Odobesti 73.47 328 ⇓P P 02 56 23.2 +0.8
BINY Binghamton 73.48 40 P P 02 56 22.8 +0.3
baz=329
SCHLR Schela 73.48 327 ⇓P P 02 56 22.8 +0.4
VRI Vrincioaia 73.49 328⇑P P 02 56 22.2 -0.3
VRI Vrincioaia 73.49 328 P P 02 56 22.6 +0.1
MESR Meseseni 73.49 331⇑P P 02 56 23.4 +0.9
KRUC Moravsky 73.50 336 *e*P P 02 56 23.0 +0.5
TREC Trest 73.50 337 *e*P P 02 56 22.9 +0.4
TREC Trest 73.50 337 *e*P P 02 56 22.9 +0.4
PLOR Plostina 73.53 328⇑P P 02 56 23.2 +0.4
PLOR Plostina 73.53 328 P P 02 56 23.1 +0.4
TURR Turia 73.55 328⇑P P 02 56 23.7 +0.8
HNH Hanover 73.56 37 IAmb IAmb 02 56 25.1
comp=Z,22nm,0.8s
P53A Whipple 73.57 45 P P 02 56 23.1 0.0
baz=327,SNR=8.2
P53A P P 02 56 23.1 0.0
baz=327,SNR=8.2
OZUR 73.58 329⇑P P 02 56 23.6 +0.6
TGMR Targu Mures 73.58 330⇑P P 02 56 23.7 +0.7
NATX Nacogdoches 73.59 59 P P 02 56 24.2 +0.8
baz=323
MANZ Manzenberg 73.62 339 *e*P P 02 56 23.6 +0.4
comp=Z,2.3nm,0.8s,baz=19,slow=6.0
Q52A Bidwell 73.63 46 P P 02 56 23.4 0.0
baz=326,SNR=9.2
Q52A P P 02 56 23.4 0.0
baz=326,SNR=9.2
BOSR Bodos 73.64 329 ⇓P P 02 56 24.2 +0.8
HLM1 Long Mynd 73.64 349⇑*e*P P 02 56 23.6 +0.3
HLM1 IAmb IAmb 02 56 24.4
comp=Z,103nm,1.2s
CFR Carcaliu 73.64 327 ⇓P P 02 56 23.3 0.0
CFR Carcaliu 73.64 327 P P 02 56 23.3 0.0
PSZ Piszkesteto 73.65 333⇑P P 02 56 24.5 +0.9
PSZ Piszkesteto 73.65 333 IAmb IAmb 02 56 26.0
comp=Z,36nm,0.8s
PSZ Piszkesteto 73.65 333 P P 02 56 24.4 +0.9
ZVC Zvikov 73.67 337 *e*P P 02 56 24.1 +0.6
COVR Voineasa-Covas 73.67 328 ⇓P P 02 56 24.4 +0.8
KNRA Kununurra 73.68 211 IAmb IAmb 02 56 26.2
comp=Z,76nm,1.4s
KNRA Kununurra 73.68 211 P P 02 56 25.2 +1.4
CJR Cluj-Napoca 73.69 330 ⇓P P 02 56 24.6 +0.8
CJR Cluj-Napoca 73.69 330 P P 02 56 24.5 +0.8
EF01 Eagle Ford 01 73.72 63 IAmb IAmb 02 56 25.6
comp=Z,36nm,0.9s
WVL Waterville 73.73 35 IAmb IAmb 02 56 26.0
comp=Z,33nm,0.8s
WVL Waterville 73.73 35 P P 02 56 24.5 +0.6
baz=332,SNR=5.0
SMOL Smolenice 73.75 335 *e*P P 02 56 26.0 +2.0
SMOL pmax pmax
comp=Z,19nm,0.7s
JURR Jurilovca 73.76 326 ⇓P P 02 56 24.5 +0.5
M57A Sunshine Farm, 73.76 41 P P 02 56 23.8 -0.4
baz=328,SNR=14
M57A P P 02 56 23.8 -0.4
baz=328,SNR=14
J61A Chester 73.77 37 IAmb IAmb 02 56 25.4
comp=Z,32nm,0.9s
J61A Chester 73.77 37 P P 02 56 24.6 +0.4
baz=330,SNR=7.8
J61A P P 02 56 24.6 +0.4
baz=330,SNR=7.8
833A Chaparral WMA, 73.81 64 IAmb IAmb 02 56 26.8
comp=Z,21nm,0.9s
833A Chaparral WMA, 73.81 64 P P 02 56 25.9 +1.3
baz=322,SNR=5.3
ROTZ Rotzenmuhle 73.81 339 *e*P P 02 56 25.0 +0.8
comp=Z,3.9nm,0.9s,baz=19,slow=6.0
DOPR Dopca 73.82 329 ⇓P P 02 56 25.1 +0.7
TPGR Topolog 73.83 326⇑P P 02 56 24.5 0.0
GRER 73.84 328 ⇓P P 02 56 24.9 +0.4
L59A Walton 73.84 39 IAmb IAmb 02 56 24.9
comp=Z,28nm,0.8s
L59A Walton 73.84 39 P P 02 56 24.0 -0.7
baz=329,SNR=6.8
L59A P P 02 56 24.0 -0.7
baz=329,SNR=6.8
I63A Otisfield 73.86 35 P P 02 56 24.3 -0.3
baz=331,SNR=11
I63A P P 02 56 24.3 -0.3
baz=331,SNR=11
MARR Marisel-Cluj 73.87 331 ⇓P P 02 56 25.2 +0.3
BORR Bors 73.88 332⇑P P 02 56 24.1 -0.7
MODS Modra-Piesok 73.92 335 *e*P P 02 56 26.9 +1.9
MODS pmax pmax
comp=Z,68nm,0.9s
MODS Modra-Piesok 73.92 335 *e*P P 02 56 26.9 +1.9
CTA Charters Tower 73.97 193 P P 02 56 26.2 +0.7
CTA Charters Tower 73.97 193 LR LR 03 24 11.0
comp=Z,58nm,21.2s,baz=82,slow=32
CTAO Charters Tower 73.97 193 P P 02 56 26.1 +0.7
CTAO IAmb IAmb 02 56 26.7
comp=Z,36nm,0.9s
CTAO Charters Tower 73.97 193 P P 02 56 26.2 +0.7
CTAO Charters Tower 73.97 193 P P 02 56 26.1 +0.7
CTAO pmax pmax
comp=Z,36nm,0.9s
OXF Oxford 74.01 53 P P 02 56 26.0 +0.3
baz=324,SNR=12
OXF Oxford 74.01 53 P P 02 56 26.3 +0.6
baz=324,SNR=12
NEHR Nehoiu 74.02 328⇑P P 02 56 26.6 +1.0
MLR Muntele Rosu 74.07 328 ⇓P P 02 56 26.9 +0.8
MLR Muntele Rosu 74.07 328 P P 02 56 26.8 +0.7
comp=Z,53nm,0.5s,baz=0.0,slow=5.1,SNR=153
MLR LR LR 03 32 17.9
comp=Z,370nm,19.2s,baz=18,slow=38
comp=Z,53nm,0.5s
MCWV Mont Chateau 74.08 44 P P 02 56 26.8 +0.8
MCWV Mont Chateau 74.08 44 P P 02 56 26.2 +0.2
baz=328,SNR=13
MCWV Mont Chateau 74.08 44 P P 02 56 26.5 +0.5
baz=328,SNR=13
GRA1 Grafenberg Arr 74.09 339 IAmb IAmb 02 56 27.9
comp=Z,29nm,0.7s
GRF Grafenberg Arr 74.09 339 *e*P P 02 56 27.2 +1.2
comp=Z,26nm,0.8s,baz=19,slow=6.0
GRF *e*L L 03 27 04.6
comp=Z,316nm,21.5s
U49A Red Boiling Sp 74.09 50 IAmb IAmb 02 56 27.4
comp=Z,31nm,0.8s
U49A Red Boiling Sp 74.09 50 P P 02 56 26.5 +0.3
baz=325,SNR=9.6
BEBN Eben Emael 74.10 343 *d*P P 02 56 25.8 -0.1
KHC Kasperske Hory 74.10 338 IAmb IAmb 02 56 29.2
comp=Z,23nm,0.9s
KHC Kasperske Hory 74.10 338 *e*P P 02 56 26.7 +0.6
KHC Kasperske Hory 74.10 338 *e*P P 02 56 26.7 +0.6
T50A Nancy 74.10 49 IAmb IAmb 02 56 27.6
comp=Z,38nm,0.9s
T50A Nancy 74.10 49 P P 02 56 26.6 +0.4
baz=326
T50A P P 02 56 26.6 +0.4
baz=326
KSPA Keystone Colle 74.11 40 P P 02 56 25.7 -0.5
baz=329
BSZH Besenyszg 74.12 333 ⇓P P 02 56 27.5 +1.5
HARR Harsova 74.14 327 ⇓P P 02 56 26.1 -0.2
HARR Harsova 74.14 327 P P 02 56 26.3 0.0

TNS Taunus Mts 74.14 341 *e*P **P 02 56 27.0 +0.8**
comp=Z,14nm,0.7s,baz=19,slow=6.0
TNS *e*L L 03 32 24.8
comp=Z,282nm,22.0s
S51A Beattyville 74.15 48 IAmb IAmb 02 56 31.8
comp=Z,26nm,1.1s
DIKM Dikmen 74.16 320 ⇓P **P 02 56 26.4 -0.1**
MCH1 Michaelchurch 74.17 349⇓ *e*P **P 02 56 26.5 +0.2**
MCH1 IAmb IAmb 02 56 27.7
comp=Z,68nm,0.9s
SRO Srobarova 74.17 334 *e*P **P 02 56 27.7 +1.3**
SRO pmax pmax
comp=Z,46nm,0.7s
SRO Srobarova 74.17 334 *e*P **P 02 56 27.7 +1.3**
TIRR Tirgusor 74.18 326 ⇓P **P 02 56 26.0 -0.6**
TIRR Tirgusor 74.18 326 P **P 02 56 27.1 +0.6**
ISR Istrita 74.21 328 ⇓P **P 02 56 27.8 +1.0**
ISR Istrita 74.21 328 P **P 02 56 27.8 +1.0**
BTNL Ternell 74.22 343 *d*P **P 02 56 27.0 +0.3**
comp=Z,42nm,0.6s
MEM Membach 74.22 343 *d*P **P 02 56 27.2 +0.6**
comp=Z,66nm,0.9s
CKRC Cesky Krumlov 74.22 337 *e*P **P 02 56 27.0 +0.2**
CKRC Cesky Krumlov 74.22 337 *e*P **P 02 56 27.0 +0.2**
Q54A Coxs Mills 74.23 45 P **P 02 56 27.1 +0.2**
baz=327,SNR=7.7
Q54A P **P 02 56 27.1 +0.2**
baz=327,SNR=7.7
TLBR Topalu 74.23 326 ⇑P **P 02 56 26.4 -0.4**
V48A Smith Brothers 74.24 51 IAmb IAmb 02 56 28.3
comp=Z,54nm,0.9s
V48A Smith Brothers 74.24 51 P **P 02 56 27.2 +0.2**
baz=325,SNR=13
WET Wettzell 74.25 338 *e*P **P 02 56 27.8 +0.9**
comp=Z,29nm,0.9s,baz=19,slow=6.0
WET *e*L L 03 28 50.3
comp=Z,323nm,21.9s
PGOR Pogoanele 74.26 327 ⇑P **P 02 56 26.9 0.0**
PLAL Pickwick Lake 74.27 52 IAmb IAmb 02 56 28.2
comp=Z,47nm,0.9s
R53A Hurricane 74.30 46 P **P 02 56 27.6 +0.3**
baz=327,SNR=11
R53A P **P 02 56 27.6 +0.3**
baz=327,SNR=11
BSTI Sart Tilman 74.32 343 *d*P **P 02 56 28.0 +0.8**
comp=Z,11nm,1.1s
GEC2 GERESS Array S 74.34 338 P **P 02 56 28.3 +0.7**
GEC2 IAmb IAmb 02 56 28.8
comp=Z,15nm,0.6s
GEC2 GERESS Array S 74.34 338 *e*P **P 02 56 28.1 +0.5**
comp=Z,14nm,0.6s,baz=19,slow=6.0
GEC2 *e*L L 03 27 55.8
comp=Z,381nm,19.4s
GERES GERESS Array B 74.34 338 P **P 02 56 28.0 +0.5**
comp=Z,13nm,0.5s,baz=34,slow=5.4,SNR=36
GERES LR LR 03 33 03.0
comp=Z,207nm,20.5s,baz=58,slow=39
comp=Z,13nm,0.5s
N58A Sunbury 74.35 41 IAmb IAmb 02 56 28.3
comp=Z,38nm,0.9s
N58A Sunbury 74.35 41 P **P 02 56 27.3 -0.3**
baz=329,SNR=6.8
N58A P **P 02 56 27.3 -0.3**
baz=329,SNR=6.8
AMRR Amara 74.41 327 ⇓P **P 02 56 27.6 -0.3**
AMRR Amara 74.41 327 P **P 02 56 27.5 -0.3**
HKT Hockley 74.42 61 P **P 02 56 28.7 +0.6**
HKT Hockley 74.42 61 P **P 02 56 28.7 +0.6**
HKT pmax pmax
comp=Z,18nm,1.3s
MFTR Murfatlar 74.43 326 ⇑P **P 02 56 28.1 +0.1**
BHOU Houvegnez 74.47 343 *d*P **P 02 56 29.1 +1.0**
comp=Z,24nm,0.0s
Y45A Yeager Farm, C 74.47 54 P **P 02 56 29.1 +0.7**
Y45A Yeager Farm, C 74.47 54 P **P 02 56 27.4 -0.9**
baz=324,SNR=11
143A Socs Landing, 74.49 56 IAmb IAmb 02 56 44.8
comp=Z,51nm,1.0s
SWN1 Swindon 74.50 348⇑ *e*P **P 02 56 28.8 +0.5**
SWN1 IAmb IAmb 02 56 30.1
comp=Z,172nm,0.8s
L61B Northampton 74.50 38 P **P 02 56 28.6 +0.1**
baz=330
BCLA Clavier 74.52 343 *d*P **P 02 56 29.0 +0.6**
comp=Z,24nm,1.0s
ARR Arges 74.59 329 ⇑P **P 02 56 29.7 +0.7**
BGES Gesves 74.59 344 *d*P **P 02 56 29.3 +0.5**
comp=Z,26nm,1.0s
UNH University of 74.60 36 P **P 02 56 27.9 -1.1**
baz=331,SNR=7.3
WOL Wolverton 74.62 348 *e*P **P 02 56 29.1 +0.1**
DEV Deva 74.65 330 ⇑P **P 02 56 29.5 +0.3**
DEV Deva 74.65 330 P **P 02 56 29.5 +0.3**
SIRR Siria 74.67 331 ⇑P **P 02 56 29.1 -0.2**
CONA Conrad Observa 74.69 336 *i* P **P 02 56 30.6 +1.1**
comp=Z,22nm,0.6s,SNR=7.5
ICOR Ion Corvin 74.69 326 ⇓P **P 02 56 30.2 +0.7**
MANR Mangalia 74.69 326 ⇑P **P 02 56 28.7 -0.8**
SULR 74.70 328 ⇑P **P 02 56 29.5 0.0**
BMRD Maredsous 74.73 344 *d*P **P 02 56 29.9 +0.3**
comp=Z,40nm,0.9s
LOT Lotru 74.78 330 ⇑P **P 02 56 30.2 +0.1**
RONA Rosalia, Austr 74.79 335 *i* P **P 02 56 31.4 +1.3**
comp=Z,17nm,0.7s,SNR=6.2
RCHB Rochefort 74.79 343 *d*P **P 02 56 30.1 +0.1**
comp=Z,19nm,1.0s
HRV Adam Dziewonsk 74.86 37 P **P 02 56 31.0 +0.5**
HRV IAmb IAmb 02 56 31.9
comp=Z,40nm,1.0s
HRV Adam Dziewonsk 74.86 37 P **P 02 56 30.7 +0.2**
baz=331
HRV Adam Dziewonsk 74.86 37 P **P 02 56 30.2 -0.3**
baz=331,SNR=5.7
HRV Adam Dziewonsk 74.86 37 P **P 02 56 31.0 +0.5**
Q56A Snyder Ridge, 74.87 44 P **P 02 56 31.0 +0.3**
Q56A IAmb IAmb 02 56 31.9
comp=Z,33nm,0.9s
BRNY Black Rk. Fore 74.91 39 P **P 02 56 30.3 -0.5**
baz=330,SNR=6.3
DOU Dourbes 74.96 344 *d*P **P 02 56 31.4 +0.5**
comp=Z,27nm,1.0s
ODNJ Ogdensburg 74.96 40 P **P 02 56 31.0 -0.1**
ODNJ Ogdensburg 74.96 40 P **P 02 56 29.3 -1.8**
baz=330,SNR=5.3
P57A Homestead Farm 74.98 43 P **P 02 56 31.3 0.0**
P57A IAmb IAmb 02 56 33.2
comp=Z,22nm,0.8s
P57A Homestead Farm 74.98 43 P **P 02 56 30.2 -1.1**
baz=328,SNR=5.1
P57A P **P 02 56 30.2 -1.1**
baz=328,SNR=5.1
SURR Surduc 75.00 331 ⇑P **P 02 56 31.1 -0.1**
PSN Preselentsi 75.00 326 P **P 02 56 31.8 +0.5**
S54A Dingess, Beckl 75.02 46 P **P 02 56 31.6 0.0**
S54A IAmb IAmb 02 57 38.4
comp=Z,54nm,1.4s
WES Weston 75.05 37 P **P 02 56 32.1 +0.5**
WES IAmb IAmb 02 56 33.4
comp=Z,32nm,0.8s
WES Weston 75.05 37 P **P 02 56 32.1 +0.5**
WES pmax pmax
comp=Z,32nm,0.8s
TRNY Table Rock, Ra 75.06 39 P **P 02 56 31.8 +0.1**
TRNY IAmb IAmb 02 56 32.3
comp=Z,22nm,0.9s
TZTN Tazewell 75.08 48 P **P 02 56 32.5 +0.6**
TZTN IAmb IAmb 02 56 47.0
comp=Z,87nm,1.6s
TZTN Tazewell 75.08 48 P **P 02 56 32.6 +0.7**
baz=326
LUPA Lehigh Univers 75.08 40 IAmb IAmb 02 56 32.6
comp=Z,42nm,1.0s
SWET Sewanee 75.08 51 P **P 02 56 32.2 +0.2**
WLF Walferdange 75.10 343 *d*P **P 02 56 32.2 +0.5**
WLF *d*PcP **PcP 02 56 43.5 -1.7**
ARPR Arapgir-MALATY 75.11 317 P **P 02 56 32.9 +0.6**
ARPR IAmb IAmb 02 56 35.1
comp=Z,29nm,1.0s
R55A Marlinton 75.12 45 P **P 02 56 32.4 +0.2**
R55A IAmb IAmb 02 56 33.5
comp=Z,63nm,0.9s
R55A Marlinton 75.12 45 P **P 02 56 32.5 +0.4**
baz=328,SNR=7.4
R55A P **P 02 56 32.5 +0.4**
baz=328,SNR=7.4
GZR Gura Zlata 75.13 330 ⇑P **P 02 56 32.2 +0.1**
GZR Gura Zlata 75.13 330 P **P 02 56 32.2 +0.1**
MOA Molln 75.14 337 *e*P **P 02 56 32.8 +0.7**
comp=Z,13nm,0.6s
BCX Boston College 75.15 37 P **P 02 56 32.7 +0.6**
BCX IAmb IAmb 02 56 33.4
comp=Z,38nm,1.0s
X48A Hartselle 75.19 52 P **P 02 56 32.1 -0.4**
X48A IAmb IAmb 02 56 46.5
comp=Z,58nm,1.4s
X48A Hartselle 75.19 52 P **P 02 56 32.4 -0.2**
baz=325,SNR=7.5
HBVL Hebbronville 75.19 65 P **P 02 56 34.7 +2.0**
HBVL IAmb IAmb 02 56 36.0
comp=Z,52nm,0.9s
SGRR Singureni 75.19 328 ⇑P **P 02 56 32.1 -0.3**
DZM Mont Dzumac 75.20 174 IAmb IAmb 02 56 36.5
comp=Z,48nm,1.1s
DZM Mont Dzumac 75.20 174 P **P 02 56 35.5 +2.9**
DZM Mont Dzumac 75.20 174 LR LR 03 24 50.1
comp=Z,149nm,18.9s,baz=356,slow=32
MVL Millersville 75.21 41 P **P 02 56 32.4 -0.1**
MVL IAmb IAmb 02 56 33.8
comp=Z,37nm,0.9s
NOUC Port Laguerre 75.22 174 P **P 02 56 35.1 +2.5**
HUMR Humele 75.24 328 ⇓P **P 02 56 32.3 -0.3**
UCCT U. Connecticut 75.24 38 P **P 02 56 33.4 +0.7**
UCCT IAmb IAmb 02 56 33.9
comp=Z,45nm,1.0s
BZS Buzias 75.27 331 ⇑P **P 02 56 32.7 -0.2**
BZS Buzias 75.27 331 P **P 02 56 32.6 -0.2**
PAL Palisades 75.30 39 P **P 02 56 33.2 +0.2**
PAL IAmb IAmb 02 56 33.8
comp=Z,53nm,0.8s
PAL Palisades 75.30 39 P **P 02 56 33.2 +0.2**
baz=330,SNR=9.3
PAL Palisades 75.30 39 P **P 02 56 33.0 0.0**
baz=330,SNR=9.3
PAL Palisades 75.30 39 P **P 02 56 33.2 +0.2**
PAL pmax pmax
comp=Z,53nm,0.9s
VBMS Vicksburg 75.32 56 P **P 02 56 33.7 +0.4**
baz=324
BRNJ Basking Ridge 75.32 40 P **P 02 56 32.8 -0.4**
BRNJ IAmb IAmb 02 56 33.9
comp=Z,40nm,0.8s
V51A Loudon 75.33 49 P **P 02 56 33.5 +0.2**
V51A IAmb IAmb 02 56 34.5
comp=Z,38nm,0.8s
V51A Loudon 75.33 49 P **P 02 56 33.4 0.0**
baz=326,SNR=8.5
WSPT Westport, CT 75.37 39 IAmb IAmb 02 56 33.9
comp=Z,37nm,1.0s
BRYW Bryant College 75.38 37 P **P 02 56 33.7 +0.1**
BRYW IAmb IAmb 02 56 34.7
comp=Z,39nm,0.9s
W50A Signal Mountai 75.39 50 P **P 02 56 34.1 +0.4**
W50A Signal Mountai 75.39 50 P **P 02 56 33.7 0.0**
baz=326,SNR=16
FOR Fordham 75.43 39 P **P 02 56 34.2 +0.4**
baz=330,SNR=5.6
BIOA Bad Ischl, Aus 75.44 337 *e*P **P 02 56 34.5 +0.8**
comp=Z,10nm,0.5s
CPNY Central Park 75.46 39 P **P 02 56 33.9 -0.1**
CPNY IAmb IAmb 02 56 34.8
comp=Z,55nm,0.8s
COPA Copaceanca 75.52 328 ⇓P **P 02 56 34.1 -0.1**
SDMD Soldier's Deli 75.52 42 P **P 02 56 34.7 +0.4**
SDMD IAmb IAmb 02 56 35.2
comp=Z,19nm,0.8s
SDMD Soldier's Deli 75.52 42 P **P 02 56 34.0 -0.4**
baz=329,SNR=8.3
FUR Furstenfeldbru 75.52 339 *e*L L 03 27 60.0
comp=Z,342nm,21.9s
TUPA Temple Univers 75.53 40 P **P 02 56 34.1 -0.3**
baz=330,SNR=10
PANJ Princeton 75.53 40 P **P 02 56 33.8 -0.6**
baz=330,SNR=10
GBN Guysborough 75.54 29 P **P 02 56 35.2 +0.9**
GBN IAmb IAmb 02 56 36.2
comp=Z,59nm,1.3s
CPCT Cooper Cave 75.54 50 P **P 02 56 35.0 +0.5**
CPCT IAmb IAmb 02 56 35.7
comp=Z,45nm,0.9s
MORH Mrgy, Hungar 75.56 333 ⇓P **P 02 56 34.1 -0.3**
QIS Mount Isa 75.56 200 P **P 02 56 36.0 +1.4**
RJOB Jochberg 75.59 338 *e*P **P 02 56 35.6 +0.9**
comp=Z,21nm,0.7s,baz=19,slow=6.0
RAZG Razgrad 75.61 327 ⇑P **P 02 56 35.3 +0.5**
L64A Middleborough 75.62 37 P **P 02 56 35.4 +0.5**
L64A IAmb IAmb 02 56 36.3
comp=Z,56nm,0.9s
L64A Middleborough 75.62 37 P **P 02 56 34.2 -0.6**
baz=331,SNR=6.5
L64A P **P 02 56 34.2 -0.6**
baz=331,SNR=6.5
V52A Sevierville 75.64 49 P **P 02 56 35.4 +0.3**
V52A IAmb IAmb 02 56 36.4
comp=Z,43nm,1.1s
V52A Sevierville 75.64 49 P **P 02 56 35.4 +0.3**
baz=326,SNR=5.9
M63A Gales Ferry 75.65 38 P **P 02 56 34.9 -0.1**
M63A IAmb IAmb 02 56 35.9
comp=Z,56nm,0.9s
M63A Gales Ferry 75.65 38 P **P 02 56 34.7 -0.3**
baz=331,SNR=6.4
M63A P **P 02 56 34.7 -0.3**
baz=331,SNR=6.4
146A Union 75.70 54 P **P 02 56 35.1 -0.4**
146A Union 75.70 54 P **P 02 56 36.6 +1.1**
baz=325,SNR=8.2
HERR Herculane 75.70 330 ⇑P **P 02 56 35.1 -0.2**
TKL Tuckaleechee C 75.71 49 P **P 02 56 35.8 +0.3**
TKL IAmb IAmb 02 56 50.5
comp=Z,80nm,1.4s
TKL Tuckaleechee C 75.71 49 P **P 02 56 35.6 +0.1**
baz=326
TKL Tuckaleechee C 75.71 49 P **P 02 56 35.8 +0.3**
TKL pmax pmax
comp=Z,80nm,1.5s
TKL Tuckaleechee C 75.71 49 LR LR 03 32 03.4
comp=Z,336nm,18.7s,baz=337,slow=37
Z47A Carrollton 75.72 53 P **P 02 56 36.2 +0.6**
Z47A Carrollton 75.72 53 P **P 02 56 35.4 -0.2**
baz=325,SNR=12
SBD Saint Breward 75.76 350 *e*P **P 02 56 35.3 -0.3**
FPAL Fort Paine 75.79 51 P **P 02 56 36.0 0.0**
DYA Yadsworthy 75.81 349 *e*P **P 02 56 36.1 +0.3**
U54A Nelsons Funny 75.86 47 P **P 02 56 37.0 +0.5**
U54A IAmb IAmb 02 56 38.2
comp=Z,54nm,1.0s
U54A Nelsons Funny 75.86 47 P **P 02 56 36.5 +0.1**
baz=327,SNR=6.9
U54A P **P 02 56 36.5 +0.1**
baz=327,SNR=6.9
DJES Djerdap 75.87 330 ⇑P **P 02 56 36.7 +0.4**
BLA Blacksburg 75.89 46 P **P 02 56 37.0 +0.4**
BLA IAmb IAmb 02 56 37.8
comp=Z,38nm,0.8s
BLA Blacksburg 75.89 46 P **P 02 56 36.5 0.0**
baz=328,SNR=5.2
BLA Blacksburg 75.89 46 P **P 02 56 35.8 -0.8**
baz=328,SNR=5.2
BLA Blacksburg 75.89 46 P **P 02 56 37.0 +0.4**
BLA pmax pmax
comp=Z,38nm,0.9s
VLAD Vladila 75.89 329 ⇓P **P 02 56 37.0 +0.6**
LESA Schwarzleotal 75.91 338 *e*P **P 02 56 37.8 +1.2**
comp=Z,31nm,0.8s
BFO Black Forest 75.97 341 P **P 02 56 37.5 +0.6**
BFO Black Forest 75.97 341 P **P 02 56 37.5 +0.6**
BFO pmax pmax
comp=Z,12nm,0.7s
BFO Black Forest 75.97 341 *e*L L 03 33 14.9
comp=Z,236nm,20.9s
Y49A Blount Mountai 75.98 52 P **P 02 56 37.0 0.0**
Y49A IAmb IAmb 02 56 51.7
comp=Z,47nm,1.1s
Y49A Blount Mountai 75.98 52 P **P 02 56 37.0 0.0**
baz=326,SNR=7.3
WB0 Warramunga Arr 75.98 205 P **P 02 56 37.2 +0.2**
WB0 IAmb IAmb 02 56 38.4
comp=Z,65nm,1.1s
MDVR Moldovita 76.00 331 ⇓P **P 02 56 36.5 -0.5**
SZH Strazhitsa 76.05 327 P **P 02 56 37.0 -0.3**
S57A Dark Hollow, R 76.05 44 P **P 02 56 37.8 +0.4**
S57A IAmb IAmb 02 56 39.0
comp=Z,44nm,1.0s
S57A Dark Hollow, R 76.05 44 P **P 02 56 37.6 +0.1**
baz=328,SNR=5.5
S57A P **P 02 56 37.6 +0.1**
baz=328,SNR=5.5
SOKA Soboth 76.06 336 *i* P **P 02 56 38.3 +0.9**
comp=Z,29nm,0.5s,SNR=6.2
PERS Pernice 76.07 336 *i* P **P 02 56 38.2 +0.7**
KBA Koelnbreinsper 76.08 337 *e*P **P 02 56 39.2 +1.5**
comp=Z,129nm,0.7s
PUNG Punghina 76.10 330 ⇑P **P 02 56 37.9 +0.4**
W52A Murphy 76.11 49 P **P 02 56 38.4 +0.6**
W52A IAmb IAmb 02 56 39.6
comp=Z,30nm,0.8s
W52A Murphy 76.11 49 P **P 02 56 37.2 -0.7**
baz=326,SNR=5.7
X51A Calhoun 76.12 50 P **P 02 56 38.5 +0.7**
X51A IAmb IAmb 02 56 39.0
comp=Z,42nm,0.9s
X51A Calhoun 76.12 50 P **P 02 56 38.2 +0.3**
baz=326,SNR=5.1
X51A P **P 02 56 38.2 +0.3**
baz=326,SNR=5.1
WR0 Warramunga Arr 76.13 205 P **P 02 56 38.1 +0.2**
WR0 IAmb IAmb 02 56 39.3
comp=Z,47nm,1.2s
V53A Saluda 76.13 48 P **P 02 56 38.3 +0.3**
V53A IAmb IAmb 02 56 53.2
comp=Z,36nm,1.1s
V53A Saluda 76.13 48 P **P 02 56 38.2 +0.3**
baz=327,SNR=5.3
V53A P **P 02 56 38.2 +0.3**
baz=327,SNR=5.3
WRAB Tennant Creek 76.15 205 P **P 02 56 38.4 +0.4**
WRAB IAmb IAmb 02 56 39.5
comp=Z,32nm,0.9s
WRAB Tennant Creek 76.15 205 P **P 02 56 38.4 +0.4**
WRAB pmax pmax
comp=Z,32nm,1.0s
WB2 Warramunga Arr 76.16 205 P **P 02 56 38.5 +0.5**
WB2 IAmb IAmb 02 56 39.5
comp=Z,46nm,1.1s
WRA Warramunga Arr 76.16 205 P **P 02 56 37.4 -0.7**
WRA Warramunga Arr 76.16 205 *i* P **P 02 56 38.4 +0.3**
WRA pmax pmax
comp=Z,29nm,1.0s
WRA Warramunga Arr 76.16 205 P **P 02 56 38.0 -0.1**
comp=Z,30nm,1.0s,baz=18,slow=5.9,SNR=101
comp=Z,30nm,1.0s
FRGS Fruska Gora 76.21 332 ⇓P **P 02 56 38.7 +0.5**
FRGS Fruska Gora 76.21 332 *e*P **P 02 56 37.6 -0.6**
WATA Walderalm 76.24 338 *i* P **P 02 56 39.6 +1.0**
comp=Z,12nm,0.5s,SNR=7.9
RETA Reutte 76.28 339 *e*P **P 02 56 39.3 +0.7**
comp=Z,9.1nm,0.6s
WTTA Wattenberg 76.30 338 *i* P **P 02 56 40.1 +1.3**
comp=Z,22nm,0.6s,SNR=11
ECH Echery 76.31 342 P **P 02 56 39.5 +0.8**
ECH IAmb IAmb 02 56 40.5
comp=Z,46nm,1.3s
ECH Echery 76.31 342 P **P 02 56 39.5 +0.8**
ECH pmax pmax
comp=Z,46nm,1.3s
BNN Bunyan 76.33 318 P **P 02 56 39.8 +0.6**
R58B Mineral 76.33 43 P **P 02 56 39.7 +0.7**
R58B IAmb IAmb 02 56 40.3
comp=Z,31nm,0.9s
R58B Mineral 76.33 43 P **P 02 56 39.7 +0.7**
baz=329
R58B P **P 02 56 39.7 +0.7**
baz=329
OBKA Obir 76.33 336⇑ *i*P **P 02 56 39.5 +0.5**
comp=Z,20nm,0.6s
OBKA Obir 76.33 336⇑ *i*P **P 02 56 39.5 +0.5**
CBN Corbin Frederi 76.33 43 P **P 02 56 39.5 +0.5**
CBN IAmb IAmb 02 56 40.2
comp=Z,56nm,1.1s
CBN Corbin Frederi 76.33 43 P **P 02 56 39.3 +0.3**
baz=329
CBN Corbin Frederi 76.33 43 P **P 02 56 39.5 +0.5**
baz=329
MOTA Moosalm 76.34 339 *i* P **P 02 56 40.0 +0.9**
comp=Z,16nm,0.6s,SNR=7.6
LRAL Lakeview Retre 76.37 53 P **P 02 56 39.5 +0.2**
LRAL IAmb IAmb 02 56 40.5
comp=Z,68nm,1.6s
LRAL Lakeview Retre 76.37 53 P **P 02 56 39.4 +0.1**
baz=326,SNR=6.1
LRAL Lakeview Retre 76.37 53 P **P 02 56 38.5 -0.7**
baz=326,SNR=6.1
PLVB Pleven 76.38 328 ⇑P **P 02 56 38.7 -0.4**
ELND Elena 76.39 327 ⇓P **P 02 56 38.9 -0.3**
SQTA Sankt Quirin 76.43 339 *i* P **P 02 56 40.7 +1.1**
comp=Z,39nm,0.8s,SNR=10.0
MYKA Terra Mystica 76.44 337 *e*P **P 02 56 40.3 +0.8**
comp=Z,6.7nm,0.6s
BR131 Keskin Array S 76.44 320 P **P 02 56 39.9 +0.2**
BR131 IAmb IAmb 02 56 44.6
comp=Z,15nm,0.6s
BR131 Keskin Array S 76.44 320 *ce*P **P 02 56 39.5 -0.3**
BR131 Keskin Array S 76.44 320 P **P 02 56 40.1 +0.3**
SNR=6.2
BRTR Keskin Array B 76.44 320 P **P 02 56 40.0 +0.1**
BRTR Keskin Array B 76.44 320 *i* P **P 02 56 40.2 +0.4**
BRTR pmax pmax
comp=Z,10.0nm,0.4s
BRTR Keskin Array B 76.44 320 P **P 02 56 39.4 -0.4**
comp=Z,9.5nm,0.5s,baz=30,slow=3.1,SNR=48
BRTR LR LR 03 36 21.6
comp=Z,244nm,18.8s,baz=18,slow=40
comp=Z,9.5nm,0.5s
VALD Valchedram 76.47 329 *e*P **P 02 56 42.2 +2.5**
JASK Jask - Hormozg 76.48 295 P **P 02 56 40.4 +0.3**
JASK S **S 03 06 16.3 -4.5**
JMB Yambol 76.56 326 P **P 02 56 40.7 +0.5**
T57A Hurt 76.57 45 P **P 02 56 40.5 +0.2**
T57A IAmb IAmb 02 56 41.5
comp=Z,25nm,0.8s
T57A Hurt 76.57 45 P **P 02 56 40.2 -0.1**
baz=328,SNR=5.1
T57A P **P 02 56 40.2 -0.1**
baz=328,SNR=5.1
ABTA Abfaltersbach 76.59 338 *i* P **P 02 56 41.1 +0.7**
comp=Z,40nm,0.8s,SNR=12
U56A King 76.64 46 P **P 02 56 41.6 +0.8**
U56A IAmb IAmb 02 56 42.0
comp=Z,66nm,1.3s
ANTO Ankara 76.64 321 P **P 02 56 41.1 +0.3**
ANTO IAmb IAmb 02 56 42.8
comp=Z,20nm,0.7s
ANTO Ankara 76.64 321 P **P 02 56 41.1 +0.3**
ANTO pmax pmax
comp=Z,20nm,0.7s
ANTO Ankara 76.64 321 P **P 02 56 42.2 +1.4**
BG3 Lake Jocassee 76.64 49 P **P 02 56 41.5 +0.7**
CASEE Lake Jocassee 76.64 49 P **P 02 56 41.4 +0.5**
baz=327,SNR=9.6
DAVA Damuels 76.65 340 *e*P **P 02 56 41.7 +0.8**
comp=Z,11nm,0.6s
BR231 Keskin MP Arra 76.67 321 P **P 02 56 42.2 +1.2**
BR231 IAmb IAmb 02 56 45.3
comp=Z,23nm,0.9s
MPEP Malo Peshtene 76.68 329 P **P 02 56 41.2 +0.3**
MDUB Mudurnu 76.71 322 P **P 02 56 42.1 +0.8**
FETA Feichten 76.72 339 *i* P **P 02 56 42.4 +1.2**
comp=Z,22nm,0.6s,SNR=7.4
RK1H Rockhampton Ha 76.74 189 P **P 02 56 42.8 +1.6**
comp=Z,18nm,0.9s
CRES Cresnjev 76.75 335 *e*P **P 02 56 41.5 +0.3**
BLKB Belogradchik 76.77 330 ⇑P **P 02 56 40.5 -0.9**
CLUD Cludinico 76.78 337 P **P 02 56 41.7 +0.3**
CADS Cadrg 76.79 337 *i* P **P 02 56 41.3 -0.2**
JDG Jersey Dam (Ga 76.81 348 *e*P **P 02 56 41.8 +0.4**
JDC Jersey Dam (Cr 76.82 348 *e*P **P 02 56 41.7 +0.2**
JSA Saint Aubin 76.83 348 *e*P **P 02 56 41.9 +0.3**
JSA IAmb IAmb 02 56 42.7
comp=Z,110nm,0.8s
TEKS Tekeris 76.84 332⇑ *i*P **P 02 56 41.2 -0.6**
FITZ Fitzroy Crossi 76.96 213 P **P 02 56 43.5 +1.0**
FITZ Fitzroy Crossi 76.96 213 P **P 02 56 44.2 +1.7**
STAL STALIGIAL 77.00 337 P **P 02 56 42.6 -0.1**
Z51A Franklin 77.00 51 P **P 02 56 42.3 -0.5**
Z51A IAmb IAmb 02 56 44.0
comp=Z,48nm,1.1s
Z51A Franklin 77.00 51 P **P 02 56 42.6 -0.3**
baz=326,SNR=7.4

BOVS **Bovan** 77.05 330 ⇓P P 02 56 42.2 -0.7
EDRB **Edirne** 77.06 326 P P 02 56 42.9 -0.1
Y52A **Lilburn** 77.07 50 P P 02 56 43.8 +0.6
Y52A IAmb IAmb 02 56 45.0
comp=Z,26nm,0.9s
Y52A **Lilburn** 77.07 50 P P 02 56 42.7 -0.5
baz=326,SNR=5.9
Y52A P P 02 56 42.7 -0.5
baz=326,SNR=5.9
CEY **Cerknica** 77.08 336 ⇑*i*P P 02 56 42.8 -0.3
BOJS **Bojanci** 77.10 335 ⇑*i*P P 02 56 43.2 0.0
A051A **Mrakovica** 77.13 334 *e*P P 02 56 42.5 -1.0
DAVOX **Davos/Dischmat** 77.14 339 LR LR 03 37 46.7
comp=Z,133nm,18.5s,baz=14,slow=41
FUORN **Ofenpass-Fuorn** 77.21 339 P P 02 56 45.5 +1.4
FUORN IAmb IAmb 02 56 52.0
comp=Z,22nm,0.8s
GAZ **Gaziantep** 77.21 316 P P 02 56 44.1 0.0
GAZ IAmb IAmb 02 56 49.7
comp=Z,56nm,1.3s
KMSC **Kings Mountain** 77.23 47 P P 02 56 44.4 +0.3
KMSC IAmb IAmb 02 56 44.7
comp=Z,30nm,0.7s
KMSC **Kings Mountain** 77.23 47 P P 02 56 44.4 +0.3
baz=328,SNR=5.8
KMSC **Kings Mountain** 77.23 47 P P 02 56 43.5 -0.6
baz=328,SNR=5.8
SHME **Shamm** 77.27 296 P P 02 56 43.6 -0.9
SHME **Shamm** 77.27 296 P P 02 56 44.0 -0.5
SHME S S 03 06 25.2 -4.1
PAULI **Pauline** 77.29 48 P P 02 56 44.9 +0.5
PAULI IAmb IAmb 02 58 37.7
comp=Z,42nm,1.4s
BLY **Banja Luka** 77.30 334 *e*P P 02 56 43.4 -0.9
T59A **Double "B" Far** 77.31 44 P P 02 56 45.0 +0.5
SKDS **Skadanscina** 77.36 336 *i*P P 02 56 44.6 -0.2
SKDS **Skadanscina** 77.36 336 ⇑*i*P P 02 56 44.5 -0.2
HAPS **Han Pijesak,BI** 77.43 332 ⇑*i*P P 02 56 45.2 0.0
CTI **Castel Tesino** 77.44 338 P P 02 56 45.5 +0.2
CTI **Castel Tesino** 77.44 338 P P 02 56 45.5 +0.2
CTI pmax pmax
comp=Z,33nm,0.5s
BBLS **Lazići** 77.51 332 ⇑*i*P P 02 56 44.7 -0.9
VTS **Vitosha** 77.51 329 P P 02 56 45.4 -0.3
TUE **Stuetta** 77.54 340 P P 02 56 47.3 +1.4
TUE IAmb IAmb 02 56 47.9
comp=Z,33nm,0.6s
HODGE **Hodges** 77.58 49 P P 02 56 46.3 +0.2
HODGE IAmb IAmb 02 56 47.4
comp=Z,28nm,0.9s
HODGE **Hodges** 77.58 49 P P 02 56 46.2 +0.2
baz=327,SNR=7.3
250A **Grady** 77.59 53 P P 02 56 46.4 +0.2
baz=326
MGRS **Mrkonjic Grad** 77.64 334 *e*P P 02 56 46.8 +0.5
V58A **Windy Hill, Pi** 77.65 46 P P 02 56 47.0 +0.5
GOGA **Godfrey** 77.72 50 P P 02 56 47.1 +0.3
baz=327
A050A **Klekovaca** 77.72 334 ⇑*i*P P 02 56 46.5 -0.3
U59A **Littleton** 77.74 44 P P 02 56 47.4 +0.5
U59A **Littleton** 77.74 44 P P 02 56 46.2 -0.7
baz=329
U59A P P 02 56 46.2 -0.7
baz=329
RUDO **Rudo** 77.75 332 ⇑*i*P P 02 56 46.6 -0.3
152A **Waverly Hall** 77.75 51 P P 02 56 46.7 -0.4
152A IAmb IAmb 02 56 47.7
comp=Z,28nm,1.1s
152A **Waverly Hall** 77.75 51 P P 02 56 47.1 +0.1
baz=326
PALK **Pallekele** 77.75 266 P P 02 56 47.6 +0.3
PALK **Pallekele** 77.75 266 P P 02 56 47.7 +0.3
PALK pmax pmax
comp=Z,102nm,0.8s
PALK **Pallekele** 77.75 266 LR LR 03 34 34.1
comp=Z,107nm,21.6s,baz=136,slow=38
PALK **Pallekele** 77.75 266 P P 02 56 47.5 +0.1
PALK P P 02 56 47.7 +0.3
PALK **Pallekele** 77.75 266 P P 02 56 47.2 -0.1
comp=Z,139nm,1.0s,comp=Z,1µm
MASF **Masafi** 77.81 296 P P 02 56 47.2 -0.3
W57A **Gilead** 77.81 46 P P 02 56 47.6 +0.3
W57A IAmb IAmb 02 56 48.8
comp=Z,47nm,1.1s
W57A **Gilead** 77.81 46 P P 02 56 47.4 +0.1
baz=328
W57A P P 02 56 47.4 +0.1
baz=328
BRAL **Brewton** 77.88 54 P P 02 56 48.1 +0.3
baz=326
SJES **Sjenica** 77.90 331 ⇑*i*P P 02 56 47.8 -0.1
UMQ **Umm Al-Quwin** 77.95 296 P P 02 56 48.8 +0.5
JSC **Jenkinsville** 77.99 48 P P 02 56 48.5 +0.1
JSC IAmb IAmb 02 56 49.3
comp=Z,47nm,1.0s
JSC **Jenkinsville** 77.99 48 P P 02 56 48.4 +0.1
baz=328,SNR=6.7
JSC **Jenkinsville** 77.99 48 P P 02 56 48.5 +0.1
JSC pmax pmax
comp=Z,47nm,1.0s
PLE **Pljevlja** 78.00 332 ⇑*i*P P 02 56 48.7 +0.3
BIRD **Birdtown, Kers** 78.04 47 P P 02 56 47.5 -1.0
BIRD IAmb IAmb 02 56 49.7
comp=Z,46nm,1.0s
BIRD **Birdtown, Kers** 78.04 47 P P 02 56 47.8 -0.8
baz=328,SNR=6.4
SENIN **Lac Senin/Sane** 78.06 341 P P 02 56 49.8 +1.0
TEOL **Teolo** 78.09 338 P P 02 56 49.4 +0.7
RDO **Rodhopi** 78.09 327 P P 02 56 49.2 +0.4
RDO **Rodhopi** 78.09 327 P P 02 56 48.9 +0.1
SALO **Salr** 78.10 339 P P 02 56 49.5 +0.6
ALN **Alexandroupoli** 78.15 326 P P 02 56 49.6 +0.5
ALN IAmb IAmb 02 56 50.5
comp=Z,46nm,0.9s
ALN **Alexandroupoli** 78.15 326 P P 02 56 49.6 +0.5
ALN **Alexandroupoli** 78.15 326 P P 02 56 49.6 +0.5
ALN pmax pmax
comp=Z,46nm,0.9s
WSAR **Wadi Sarin** 78.15 293 LR LR 03 35 15.8
comp=Z,206nm,21.9s,baz=63,slow=39
WSAR **Wadi Sarin** 78.15 293 P P 02 56 49.5 0.0
KKB **Krupnik** 78.24 328 P P 02 56 50.0 +0.3
HATD **Hatta, Dubai** 78.26 296 *i*P P 02 56 49.7 -0.3
SNR=10
HATD **Hatta, Dubai** 78.26 296 P P 02 56 49.5 -0.5
UPM **Unac-Piva** 78.26 332 ⇑*i*P P 02 56 49.6 -0.3
UPM **Unac-Piva** 78.26 332 ⇑*i*P P 02 56 49.6 -0.3
IVA **Berane** 78.28 331 ⇑*i*P P 02 56 50.1 +0.2
MMB **Musomishta** 78.31 328 P P 02 56 50.3 +0.2
PEHC **Pehcevo** 78.37 329 *i*P P 02 56 50.5 +0.1
NAZ **Nazwa, Dubai** 78.38 296 *i*P P 02 56 50.5 -0.1
SNR=6.5
NEVS **Nevesinje** 78.39 333 *e*P P 02 56 51.0 +0.5
ASHO **Ashiyiah** 78.41 296 *i*P P 02 56 50.6 -0.3
SNR=19
KOME **Kolasin** 78.41 331 ⇑*i*P P 02 56 50.8 +0.1
XMIS **Christmas Isla** 78.41 235 P P 02 56 51.3 +0.5
XMIS **Christmas Isla** 78.41 235 P P 02 56 52.6 +1.8
NVR **Nevrokopi** 78.46 328 P P 02 56 51.9 +1.0
PVY **Plav** 78.52 331 ⇑*i*P P 02 56 51.6 +0.3
154A **Montrose** 78.55 50 P P 02 56 52.1 +0.6
154A **Montrose** 78.55 50 P P 02 56 52.2 +0.7
baz=327
KAVA **Kavala** 78.56 327 P P 02 56 50.9 -0.5
JLN **Jalan Bani Buh** 78.58 292 P P 02 56 52.4 +0.6
SNR=5.8
SOHO **SOHO** 78.59 295 *i*P P 02 56 51.4 -0.4
SNR=8.6
SOHO **SOHO** 78.59 295 P P 02 56 51.4 -0.4
X58A **Rowland** 78.61 46 P P 02 56 52.5 +0.8
X58A **Rowland** 78.61 46 P P 02 56 52.1 +0.4
baz=328,SNR=6.5
X58A P P 02 56 52.1 +0.4
baz=328,SNR=6.5
FAQ **Al Faqa, Dubai** 78.61 296 P P 02 56 50.9 -1.0
BALB **Balikesir** 78.64 324 P P 02 56 51.9 +0.1
352A **Blakely** 78.64 52 P P 02 56 52.4 +0.5
352A **Blakely** 78.64 52 P P 02 56 52.3 +0.3
baz=326
BRY **Bratogost** 78.64 332 ⇑*i*P P 02 56 51.9 -0.1
BRY **Bratogost** 78.64 332 *e*P P 02 56 51.2 -0.8
CNNC **Cliffs of the** 78.64 45 P P 02 56 52.2 +0.3
baz=329
CNNC **Cliffs of the** 78.64 45 P P 02 56 52.7 +0.8
baz=329
EIDS **Eidsvold** 78.65 188 P P 02 56 53.0 +1.2
EIDS IAmb IAmb 02 56 53.9
comp=Z,19nm,0.8s
EIDS **Eidsvold** 78.65 188 P P 02 56 53.1 +1.3
comp=Z,32nm,0.9s
SKO **Skopje** 78.65 330 *i*P P 02 56 52.8 +0.9
NKME **Niksic** 78.65 332 ⇑*i*P P 02 56 51.9 0.0
STIP **Stip** 78.67 329 *i*P P 02 56 51.0 -1.0
SRS **Serrai** 78.75 328 P P 02 56 52.3 -0.2
THAS **Thassos island** 78.85 327 P P 02 56 53.4 +0.5
ASUD **Al Ashush, Dub** 78.85 296 *i*P P 02 56 52.9 -0.4
SNR=38
CEME **Cevo** 78.86 332 ⇑*i*P P 02 56 53.0 -0.1
TREB **Trebinje** 78.86 332 ⇑*i*P P 02 56 52.4 -0.6
VAY **Valandovo** 78.89 329 *i*P P 02 56 54.1 +1.0
KOKK **Kokkinochori,** 78.89 327 P P 02 56 53.4 +0.2
STON **Ston** 78.90 333 *e*P P 02 56 51.7 -1.5
KNT **Kendrikon** 78.93 328 P P 02 56 54.2 +0.8
PRMA **PARMA** 78.96 338 P P 02 56 55.0 +1.5
Y58A **Scranton** 79.01 47 P P 02 56 54.4 +0.5
Y58A **Scranton** 79.01 47 P P 02 56 54.1 +0.2
baz=328,SNR=5.8
Y58A P P 02 56 54.1 +0.2
baz=328,SNR=5.8
HCY **Herceg Novi** 79.07 332 ⇑*i*P P 02 56 54.5 +0.3
HCY **Herceg Novi** 79.07 332 ⇑*i*P P 02 56 53.0 -1.2
ALNE **Al Ain** 79.08 295 *i*P P 02 56 53.3 -1.2
SNR=7.1
AJN **Ajban** 79.09 296 *i*P P 02 56 53.1 -1.4
SNR=9.6
BUM **Brajici-Budva** 79.09 332 ⇑*i*P P 02 56 54.5 +0.1
DRME **Dracevica, Mon** 79.12 331 ⇑*i*P P 02 56 55.0 +0.6
DRME **Dracevica, Mon** 79.12 331 *e*P P 02 56 53.6 -0.8
JMDO **Jabal Madar** 79.14 293 P P 02 56 54.7 -0.2
SNR=9.0
ZCCA **Zocca** 79.20 338 P P 02 56 57.4 +2.5
ZCCA IAmb IAmb 02 56 59.3
comp=Z,42nm,0.8s
PHP **Peshkopia** 79.21 330 P P 02 56 55.0 0.0
GRG **Griva** 79.28 329 P P 02 56 56.0 +0.6
ULC **Ulcinj** 79.30 331 ⇑*i*P P 02 56 55.5 0.0
TIGA **Tifton** 79.31 51 P P 02 56 56.7 +1.1
TIGA **Tifton** 79.31 51 P P 02 56 56.0 +0.4
baz=327,SNR=5.1
TIGA **Tifton** 79.31 51 P P 02 56 56.5 +0.9
baz=327,SNR=5.1
LIA **Limnos Island** 79.33 326 P P 02 56 55.4 -0.2
BSY **Bisya** 79.34 294 P P 02 56 56.1 +0.2
SNR=5.6
KULA **Kula-Manisa** 79.36 323 P P 02 56 55.5 -0.4
BNI **Bardonecchia** 79.44 341 P P 02 56 57.6 +1.3
BNI IAmb IAmb 02 57 07.7
comp=Z,46nm,1.1s
BNI **Bardonecchia** 79.44 341 P P 02 56 57.6 +1.3
BNI pmax pmax
comp=Z,46nm,1.1s
NHSC **New Hope** 79.46 48 P P 02 56 56.8 +0.3
baz=326
PRK **Paraskevi** 79.55 325 P P 02 56 56.8 0.0
SSB **Saint Sauveur** 79.62 343 P P 02 56 58.5 +1.3
SSB IAmb IAmb 02 56 58.9
comp=Z,35nm,0.6s
SSB **Saint Sauveur** 79.62 343 P P 02 56 58.5 +1.3
SSB pmax pmax
comp=Z,35nm,0.6s
OHR **Ohrid** 79.63 330 *i*P P 02 56 57.4 +0.1
TIR **Tirane** 79.69 331 P P 02 56 57.8 +0.3
TIR **Tirane** 79.69 331 P P 02 56 57.8 +0.3
TIR pmax pmax
comp=Z,137nm,1.0s
SIGR **SIGRI** 79.72 325 P P 02 56 57.6 -0.1
FNA **Florina** 79.75 329 P P 02 56 57.8 -0.2
FNA **Florina** 79.75 329 P P 02 56 58.0 0.0
FNA **Florina** 79.75 329 P P 02 56 57.8 -0.2
FNA pmax pmax
comp=Z,15nm,0.8s
PAIG **Paliouri** 79.80 327 P P 02 56 58.1 -0.1
AS31 **Alice Springs** 79.84 204 P P 02 56 59.8 +1.3
ASAR **Alice Springs** 79.84 204 P P 02 56 59.7 +1.3
ASAR **Alice Springs** 79.84 204 P P 02 56 59.7 +1.3
ASAR **Alice Springs** 79.84 204 P P 02 56 59.4 +1.0
comp=Z,19nm,0.6s,baz=15,slow=5.1,SNR=232
ASAR PKKPbc **PKKPbc** 03 15 44.0 +0.7
comp=Z,0.4nm,0.5s,baz=198,slow=1.8,SNR=8.1
ASAR LR LR 03 28 28.5
comp=Z,59nm,21.8s,baz=48,slow=33
comp=Z,19nm,0.6s
GUMA **Gualdo di Mace** 79.86 336 P P 02 56 59.6 +1.1
GUMA IAmb IAmb 02 57 15.1
comp=Z,382nm,2.0s
MURB **Monte Urbino** 79.87 336 P P 02 56 60.0 +1.4
OSSC **Osservatorio P** 79.93 337 P P 02 56 59.4 +0.6
OSSC IAmb IAmb 02 57 02.4
comp=Z,67nm,1.3s
FDMO **Fiordimonte** 79.95 336 P P 02 57 00.0 +1.1
KBN **Korca** 80.08 330 P P 02 56 59.9 +0.1
KBN IAmb IAmb 02 57 06.9
comp=Z,54nm,1.0s
KBN **Korca** 80.08 330 P P 02 57 00.1 +0.3
KBN **Korca** 80.08 330 P P 02 56 59.9 +0.1
KBN pmax pmax
comp=Z,54nm,1.0s
NRCA **Norcia** 80.13 336 P P 02 57 01.5 +1.5
NEST **Nestorio** 80.19 329 P P 02 57 00.7 +0.3
MHTO **MHTO** 80.31 292 P P 02 57 01.4 +0.2
SNR=8.3
CAMP **Campotosto** 80.34 336 P P 02 57 01.8 +0.6
TYRN **Tyrnavos** 80.46 328 P P 02 57 00.5 -1.2
ELL **Elmali** 80.46 321 P P 02 57 01.8 -0.1
ELL **Elmali** 80.46 321 P P 02 57 01.8 -0.1
ELL pmax pmax
comp=Z,118nm,1.0s
SKY **Skiros Island** 80.46 326 P P 02 57 01.9 +0.1
XOR **Xorichti** 80.47 327 P P 02 57 01.3 -0.5
CESX **Cesi** 80.47 336 P P 02 57 02.0 +0.2
CESX IAmb IAmb 02 57 04.1
comp=Z,27nm,0.6s
KPRO **Kipourio** 80.51 329 P P 02 57 02.3 +0.2
LSK **Leskovik** 80.57 330 P P 02 57 03.3 +0.9
VLO **Vlora** 80.61 330 P P 02 57 03.1 +0.6
VLO **Vlora** 80.61 330 P P 02 57 03.1 +0.6
VLO pmax pmax
comp=Z,121nm,0.8s
QLP **Quilpie** 80.64 194 P P 02 57 04.0 +1.4
THL **Klokotos Trika** 80.67 328 P P 02 57 01.6 -1.2
CSS **Mathiatis** 80.70 318 P P 02 57 03.1 0.0
INTR **Introdacqua** 80.71 335 P P 02 57 03.3 +0.2
INTR IAmb IAmb 02 57 05.9
comp=Z,30nm,0.7s
YER **Yerkesik** 80.72 323 P P 02 57 03.9 +0.6
SMG **Samos** 80.73 324 P P 02 57 02.5 -0.7
KYMI **Kymi, Euboea I** 80.83 326 P P 02 57 03.0 -0.8
SRN **Sarande** 81.00 330 P P 02 57 04.0 -0.6
AGG **Agios Georgios** 81.06 328 P P 02 57 03.7 -1.3
AGG **Agios Georgios** 81.06 328 P P 02 57 03.7 -1.3
AGG pmax pmax
comp=Z,16nm,1.0s
MAKR **Makrakomi, Fth** 81.13 328 P P 02 57 04.6 -0.8
BODT **Bodrum** 81.14 323 P P 02 57 05.0 -0.4
MZR **Muzera** 81.15 297 P P 02 57 04.6 -1.1
AXAR **Agios Charalam** 81.19 328 P P 02 57 04.7 -0.9
KEK **Kerkira** 81.21 330 P P 02 57 04.6 -1.1
KEK **Kerkira** 81.21 330 P P 02 57 04.0 -1.7
IGT **Igoumenitsa** 81.22 330 P P 02 57 05.4 -0.4
SCTE **Santa Cesarea** 81.28 331 P P 02 57 06.5 +0.4
EVR **Evrytania** 81.32 328 P P 02 57 07.1 +0.6
DION **Dionisos Attik** 81.39 326 P P 02 57 06.5 -0.3
DQM **DQM** 81.40 292 P P 02 57 06.9 -0.1
PTL **Penteli** 81.44 326 P P 02 57 06.7 -0.3
VILL **Villia** 81.52 327 P P 02 57 06.5 -1.0
MMAI **Mount Meron Ar** 81.53 316 P P 02 57 08.1 +0.5
comp=Z,49nm,0.5s,baz=34,slow=6.1,SNR=164
MMAI LR LR 03 40 24.9
comp=Z,191nm,18.6s,baz=344,slow=41
comp=Z,49nm,0.5s
ATHU **Athens Univers** 81.54 326 P P 02 57 06.7 -0.8
ATH **Athens Observa** 81.56 326 P P 02 57 06.8 -0.8
ANX **Ano Chora** 81.58 328 P P 02 57 06.7 -1.1
ARG **Arkhangelos** 81.60 322 P P 02 57 07.7 -0.2
ARG **Arkhangelos** 81.60 322 P P 02 57 07.6 -0.2
ARG **Arkhangelos** 81.60 322 P P 02 57 07.7 -0.2
ARG pmax pmax
comp=Z,171nm,1.1s
VLY **Voula,Athens** 81.64 326 P P 02 57 06.9 -1.1
PVO **Paravola** 81.69 328 P P 02 57 08.4 +0.2
APE **Apeiranthos** 81.76 325 ⇑P P 02 57 08.0 -0.8
APE **Apeiranthos** 81.76 325 P P 02 57 07.9 -0.8
MBWA **Marble Bar** 81.84 217 P P 02 57 09.5 +0.5
MBWA IAmb IAmb 02 57 10.4
comp=Z,46nm,0.9s
MBWA **Marble Bar** 81.84 217 P P 02 57 09.6 +0.5
RAR **Rarotonga** 81.94 142 LR LR 03 26 41.5
comp=Z,53nm,20.5s,baz=348,slow=30
EVGI **Lefkada island** 81.95 329 P P 02 57 09.6 -0.1
KLV **Kalavryta, Ach** 82.01 328 P P 02 57 09.4 -0.6
GUR **Goura** 82.04 327 P P 02 57 09.2 -1.1
EPID **Epidavros** 82.08 327 P P 02 57 08.9 -1.5
CUC **Castrocucco** 82.10 333 P P 02 57 10.5 0.0
PSA00 **Pilbara Seismi** 82.18 217 P P 02 57 11.0 +0.1
PSA00 IAmb IAmb 02 57 12.1
comp=Z,24nm,0.9s
PSA00 **Pilbara Seismi** 82.18 217 P P 02 57 11.0 +0.1
PSA00 IAmb IAmb 02 57 12.1
comp=Z,41nm,1.0s
PSA00 **Pilbara Seismi** 82.18 217 P P 02 57 11.3 +0.5
comp=Z,53nm,1.3s
RLS **Riolos of Patr** 82.21 328 P P 02 57 11.2 +0.2
DRO **Drossia** 82.23 328 P P 02 57 11.5 +0.3
INKA **Innaminka** 82.34 197 P P 02 57 13.0 +1.5
VLS **Valsamata** 82.38 329 P P 02 57 11.8 -0.1
KARP **Karpathos** 82.54 323 P P 02 57 11.8 -1.1
TIP **Timpagrande** 82.59 332 P P 02 57 13.6 +0.5
WRKA **Warakurna** 82.65 209 P P 02 57 14.1 +0.8
TLIG **Tlapa** 82.81 70 P P 02 57 15.5 +0.9
TLIG IAmb IAmb 02 57 30.9
comp=Z,62nm,1.7s
PPT **Papeete** 82.82 132 LR LR 03 25 55.3
comp=Z,118nm,22.0s,baz=318,slow=30
GHAJ **Ghor Haditha** 82.94 315 P P 02 57 15.1 +0.2
VLI **Veliai** 82.96 326 P P 02 57 13.4 -1.5
DWPF **Disney Wildern** 83.11 51 P P 02 57 16.3 +0.4
baz=328
PYL **PYLOS** 83.19 327 P P 02 57 14.4 -1.7
ZKR **Zakros** 83.27 323 P P 02 57 15.7 -0.9
OOD **Oodnadatta** 83.40 201 P P 02 57 18.3 +1.3
IDI **Anoyia** 83.59 324 LR LR 03 39 32.6
comp=Z,126nm,18.7s,baz=6.5,slow=39
ARMA **Armidale** 83.61 187 P P 02 57 18.6 +0.4
ARMA **Armidale** 83.61 187 P P 02 57 20.5 +2.3
comp=Z,21nm,1.1s
IMMV **Iera Moni Meta** 83.75 325 P P 02 57 18.2 -0.8
SHAO **Shalim** 84.00 292 *i*P P 02 57 20.5 0.0
SNR=8.6
VSL **Villasalto** 84.19 338 P P 02 57 20.9 -0.3
AUPHS **Peel High Scho** 84.35 188 P P 02 57 24.4 +2.6
comp=Z,22nm,1.0s
EIL **Elat** 84.62 314 LR LR 03 39 49.2
comp=Z,220nm,21.9s,baz=47,slow=39
PGAV **Gavieira, Arco** 84.63 351 *e*P P 02 57 23.2 -0.3
PBRG **Braganca** 84.64 350 *e*P P 02 57 24.3 +0.8
comp=Z,88nm,1.5s
VAE **Valguarnera** 84.83 333 LR LR 03 38 58.8
comp=Z,300nm,18.2s,baz=305,slow=38
WHFO **Wadi Hawf** 85.11 293 P P 02 57 25.2 -1.0
SNR=6.1
POLO **Lamas de Olo** 85.17 351 *e*P P 02 57 27.3 +1.1
comp=Z,47nm,1.2s
PVRL **Vila Real** 85.26 351 *e*P P 02 57 27.8 +1.2
comp=Z,114nm,1.5s
MVO **Moncorvo** 85.30 350 *e*P P 02 57 27.3 +0.4
comp=Z,97nm,1.4s
CMSA **Cobar Meteorol** 85.32 192 P P 02 57 28.4 +1.8
LCRK **Leigh Creek** 85.45 199 P P 02 57 28.9 +1.6
AUDCS **Dubbo College** 85.67 190 P P 02 57 30.3 +1.9
comp=Z,32nm,1.1s
ABTO **Aybut** 85.83 293 P P 02 57 29.1 -0.7
SNR=5.1
PVIS **Viseu** 85.83 351 *e*P P 02 57 30.2 +0.7
MTE **Manteigas** 86.11 350 *e*P P 02 57 31.7 +0.8
comp=Z,43nm,0.8s
MTE **Manteigas** 86.11 350 P P 02 57 31.0 +0.1
MULG **Mulgathing** 86.16 202 P P 02 57 31.4 +0.6
STKA **Stephens Creek** 86.24 196 P P 02 57 31.9 +0.6
STKA **Stephens Creek** 86.24 196 P P 02 57 32.3 +1.1
STKA **Stephens Creek** 86.24 196 P P 02 57 32.0 +0.8
STKA **Stephens Creek** 86.24 196 P P 02 57 32.0 +0.8
comp=Z,20nm,0.9s,baz=346,slow=6.9,SNR=48
comp=Z,20nm,0.9s
TEIG **Tepich** 86.28 61 LR LR 03 36 41.9
comp=Z,322nm,21.8s,baz=158,slow=36
COI **Coimbra** 86.39 351 *e*P P 02 57 33.0 +0.9
comp=Z,70nm,2.1s
COI **Coimbra** 86.39 351 P P 02 57 32.4 +0.3
COI **Coimbra** 86.39 351 P P 02 57 32.4 +0.3
COI pmax pmax
comp=Z,67nm,1.0s
ESBB **Sonseca Array** 86.42 348 P P 02 57 32.0 -0.4
ESDC **Sonseca Array** 86.42 348 P P 02 57 32.1 -0.3
ESDC **Sonseca Array** 86.42 348 P P 02 57 33.0 +0.6
comp=Z,55nm,0.8s,baz=1.2,slow=4.9,SNR=193
ESDC LR LR 03 39 56.4
comp=Z,105nm,19.2s,baz=5.5,slow=38
comp=Z,55nm,0.8s
PCAS **Casmilo, Conde** 86.55 351 *e*P P 02 57 33.4 +0.5
comp=Z,71nm,1.0s
PAB **San Pablo** 86.59 348 P P 02 57 33.4 +0.1
PAB **San Pablo** 86.59 348 P P 02 57 33.4 +0.1
PAB pmax pmax
comp=Z,43nm,0.9s
PCBR **Castelo Branco** 86.66 350 *e*P P 02 57 33.7 +0.2
comp=Z,46nm,1.1s
PMRV **Marv??o** 87.06 350 *e*P P 02 57 35.6 +0.1
PSBE **So Bento** 87.11 351 *e*P P 02 57 36.4 +0.7
comp=Z,114nm,1.9s
MEEK **Meekatharra** 87.26 216 P P 02 57 36.5 +0.2
PMTG **Montargil** 87.50 351 *e*P P 02 57 37.6 +0.1
comp=Z,32nm,1.7s
PMTG *e*pP **pP** 02 57 54.4 -0.7
PESTR **Estremoz** 87.63 350 *e*P P 02 57 38.8 +0.6
comp=Z,46nm,1.2s
PESTR **Estremoz** 87.63 350 P P 02 57 38.7 +0.4
YNG **Young** 87.74 190 P P 02 57 39.9 +1.4
KEST **Kesra** 87.78 336 P P 02 57 39.4 +0.4
KEST **Kesra** 87.78 336 P P 02 57 39.3 +0.2
comp=Z,80nm,0.8s,baz=290,slow=3.3,SNR=88
KEST LR LR 03 41 48.7
comp=Z,187nm,18.5s,baz=332,slow=39
comp=Z,80nm,0.8s
KEST **Kesra** 87.78 336 P P 02 57 39.5 +0.4
PACT **Alcochete** 87.85 351 *e*P P 02 57 40.3 +1.1
EVO **Evora** 88.01 351 *e*P P 02 57 40.4 +0.4
FORT **Forrest** 88.14 207 P P 02 57 40.8 +0.4
FORT **Forrest** 88.14 207 P P 02 57 41.0 +0.6
comp=Z,68nm,1.0s
HTT **Hallett** 88.22 197 P P 02 57 42.0 +1.2
PBAR **Barrancos** 88.26 350 *e*P P 02 57 41.5 +0.3
comp=Z,52nm,1.2s
PBEJ **Beja** 88.49 350 *e*P P 02 57 43.0 +0.7
comp=Z,30nm,1.6s
CAN **Canberra** 88.70 189 P P 02 57 43.4 +0.4
CAN IAmb IAmb 02 57 45.5
comp=Z,26nm,1.0s
CAN **Canberra** 88.70 189 P P 02 57 44.2 +1.2
CAN **Canberra** 88.70 189 P P 02 57 43.4 +0.4
CAN pmax pmax
comp=Z,26nm,1.0s
MESJ **Messejana** 88.72 351 *e*P P 02 57 43.6 +0.3
comp=Z,36nm,1.5s
MESJ **Messejana** 88.72 351 *e*P P 02 57 43.4 +0.1
MESJ IAmb IAmb 02 57 43.7
comp=Z,23nm,1.3s
MESJ **Messejana** 88.72 351 *e*P P 02 57 43.4 +0.1
MESJ pmax pmax
comp=Z,23nm,1.3s
PCVE **Castro Verde** 88.90 350 *e*P P 02 57 44.8 +0.6
comp=Z,44nm,1.2s
PVAQ **Vaqueiros** 89.10 350 P P 02 57 46.3 +1.2
PBDV **Barranco-do-Ve** 89.28 350 *e*P P 02 57 46.8 +0.8
comp=Z,45nm,1.7s
PFVI **Vila Bisbo** 89.47 351 *e*P P 02 57 47.7 +0.8
comp=Z,11nm,0.6s
AUSMG **Snowy Mountain** 89.83 189 P P 02 57 49.5 +1.2
MORW **Morawa** 90.40 217 P P 02 57 50.7 -0.4
MORW IAmb IAmb 02 57 51.7
comp=Z,22nm,0.9s
MORW **Morawa** 90.40 217 P P 02 57 51.2 +0.2
ARPS **Mount Arapiles** 91.00 194 P P 02 57 55.7 +2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRAT	Ballarat	91.47	193	P	P	02 57 58.5	+2.7
	comp=Z,10nm,0.9s						
TOZ	Tahuroa Road	91.60	168	P	P	02 57 58.2	+1.8
MDT	Midelt	93.26	347	LR	LR	03 44 25.4	
	comp=Z,123nm,20.1s,baz=28,slow=38						
NWAO	Narrogin (SRO)	93.48	215	LR	LR	03 40 29.0	
	comp=Z,19nm,20.6s,baz=142,slow=36						
ATD	Arta Tunnel	96.28	299	LR	LR	03 46 52.3	
	comp=Z,14nm,19.9s,baz=27,slow=39						
RPZ	Rata Peaks	97.05	172	LR	LR	03 38 22.8	
	comp=Z,68nm,19.6s,baz=360,slow=33						
SJG	San Juan	98.61	44	LR	LR	03 47 38.1	
	comp=Z,44nm,19.1s,baz=342,slow=38						
TORD	Torodi Ar. Bea	111.29	337	Pdiff	Pdif	02 59 26.0	+0.5
	comp=Z,0.9nm,0.8s,baz=5.4,slow=5.2,SNR=8.1						
TORD				PKKPbc	PKKPbc	03 14 18.1	+1.1
	comp=Z,0.8nm,0.8s,baz=185,slow=2.3,SNR=5.4						
DBIC	Dimbokro	118.94	343	PKPdf	PKiKP	03 03 38.8	+0.3
DBIC	Dimbokro	118.94	343	PKIKP	PKiKP	03 03 38.8	+0.3
DBIC	Dimbokro	118.94	343	PKP	PKPdf	03 03 38.3	-0.1
	comp=Z,13nm,0.7s,baz=5.6,slow=1.4,SNR=25						
TIC	Toumodi	119.00	343	⇑iP	PKPdf	03 03 34.9	-3.7
	comp=Z,8.4nm,0.6s						
KIC	Kosan Boka	119.22	342	⇑iP	PKiKP	03 03 39.1	0.0
	comp=Z,18nm,0.6s						
LIC	Lamto	119.41	343	⇑iP	PKiKP	03 03 39.5	+0.1
	comp=Z,34nm,0.9s						
ETMB	Extrema	123.09	58	PKPdf	PKPdf	03 03 45.8	-0.6
SAML	Samuel	123.86	54	PKPdf	PKPdf	03 03 47.6	-0.3
SAML	Samuel	123.86	54	PKIKP	PKPdf	03 03 47.6	-0.3
SAML	Samuel	123.86	54	eP	PKPdf	03 03 46.5	-1.3
CASY	Casey	124.93	202	PKPdf	PKiKP	03 03 49.0	+0.5
NPGB	Novo Progresso	125.77	45	eP	PKPdf	03 03 51.7	+0.1
LSZ	Lusaka	126.54	296	PKPdf	PKiKP	03 03 53.9	+0.4
LSZ	Lusaka	126.54	296	PKIKP	PKiKP	03 03 53.9	+0.4
PB16	IPOC Station P	128.41	67	PKPdf	PKiKP	03 03 57.7	0.0
VILB	Vilhena	128.77	54	PKPdf	PKiKP	03 03 57.9	0.0
VILB	Vilhena	128.77	54	eP	PKPdf	03 03 57.1	-0.1
PB11	IPOC Station P	129.47	68		PKPdf	03 03 58.8	+0.2
NBPB	Pedra_Branca-C	129.84	26	eP	PKPdf	03 03 59.4	0.0
PB08	IPOC Station P	130.06	68		PKiKP	03 04 00.9	+0.2
SMTB	Santa Maria do	130.48	37	eP	PKPdf	03 04 00.5	-0.1
VNDA	Vanda	130.49	179	PKP	PKPdf	03 03 58.8	+0.2
	comp=Z,2.9nm,0.8s,baz=320,slow=4.6,SNR=14						
PB01	IPOC Station P	130.59	69		PKiKP	03 04 01.5	0.0
PTLB	Pontes e Lacer	131.43	54	PKPdf	PKiKP	03 04 02.9	-0.3
PTLB	Pontes e Lacer	131.43	54	eP	PKPdf	03 04 02.1	-0.1
SNDB	Serra Nova Dou	131.90	43	eP	PKPdf	03 04 03.5	+0.4
BBSD	Serra de San D	132.18	57	eP	PKPdf	03 04 03.5	-0.1
BBRB	Robore, Bolivi	133.50	57	eP	PKPdf	03 04 06.7	+0.6
NBAN	Anadia - AL	134.63	23	eP	PKPdf	03 04 08.5	+0.2
PP1B	Ponte de Pedra	135.32	51	eP	PKPdf	03 04 09.5	+0.1
LBTB	Lobatse	135.82	291	PKPdf	PKiKP	03 04 11.5	-0.5
LBTB	Lobatse	135.82	291	PKIKP	PKiKP	03 04 11.5	-0.5
AC05	El Transito	136.15	77		PKPdf	03 04 11.6	+0.7
BDQN	Bodoquena, MS	136.86	55	eP	PKPdf	03 04 12.6	+0.3
CO01	Juntas del Tor	137.09	78		PKPdf	03 04 13.7	+0.9
AQDB	Aquidauana	137.40	54	eP	PKPdf	03 04 13.7	+0.4
BOSA	Boshof	138.78	288	PKhKP	PKPpre	03 04 07.4	
	comp=Z,3.0nm,0.6s,baz=30,slow=2.6,SNR=8.0						
CPUP	Villa Florida	141.44	61	PKhKP	PKPpre	03 04 13.1	
	comp=Z,1.6nm,0.7s,baz=353,slow=4.2,SNR=2.7						
QSPA	South Pole Qui	142.98	180	PKhKP	PKPpre	03 04 17.4	
	comp=Z,25nm,0.6s,baz=342,slow=0.9,SNR=62						
PLCA	Paso Flores	144.12	90	PKPdf	PKPbc	03 04 23.7	+0.6
PLCA	Paso Flores	144.12	90	PKIKP	PKPbc	03 04 23.7	+0.6
PLCA	Paso Flores	144.12	90	PKP	PKPbc	03 04 23.6	+0.4
	comp=Z,22nm,1.0s,baz=321,slow=4.6,SNR=24						
SUR	Sutherland	144.13	289	PKPdf	PKPdf	03 04 25.8	+0.4
LL02	Futaleuf	144.80	95	PKPdf	PKPdf	03 04 25.9	0.0
ITAB	Concordia	144.83	55	PKPdf	PKPdf	03 04 26.1	-0.3
AY01	Puyuhuapi	145.01	97		PKPbc	03 04 25.5	-0.2
COYC	Coyhaique	145.97	98	PKPdf	PKPab	03 04 29.2	-0.1
TRQA	Tornquist	147.54	79	PKPdf	PKPdf	03 04 32.0	+1.3
TRQA	Tornquist	147.54	79	PKP2	PKPdf	03 04 32.0	+1.3
PLTB	Pedras Altas	147.73	62	PKPdf	PKPbc	03 04 32.7	-1.4
GO09	Cerro Castillo	148.53	108		PKiKP	03 04 36.6	-0.5
ELIB	Princess Elisa	153.56	209	dPKPdf	PKPdf	03 04 40.0	+0.8
ELIB				dPKP	PKPbc	03 04 46.7	-0.2
BELA	Belgrano 2	154.70	173		PKPbc	03 04 48.5	-0.5
TROLL	Troll, Antarti	158.75	199	⇓PKPab	PKPab	03 05 22.2	+0.1
	comp=Z,1µm,0.9s						
SNAA	Sanae	160.01	196		PKPab	03 05 27.1	-0.4
SNAA	Sanae	160.01	196	⇓PKPab	PKPab	03 05 26.8	-0.7
	comp=Z,180nm,0.8s						
SNAA	Sanae	160.01	196	PKPab	PKPab	03 05 26.6	-0.8
	comp=Z,8.5nm,0.9s,baz=101,slow=3.2,SNR=10						
VNA3	Neumayer Olymp	161.34	191	⇓PKPab	PKPab	03 05 32.3	-0.9
	comp=Z,12nm,0.8s						
VNA2	Neumayer--Watz	161.36	193	⇑PKPab	PKPab	03 05 32.7	-0.6
	comp=Z,13nm,0.7s,baz=176,slow=5.0						
VNA1	Neumayer--Stat	161.73	193	⇓PKPab	PKPab	03 05 34.6	-0.3
	comp=Z,14nm,0.8s						

DJA 04 02:52:56.5±1.2, 9°S±4°×11°4E±°, h30km±14km, M4.0/13, mb4.0/7, mB3.3/1, MLv3.9/13, Mw(mB)2.1/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.09	36	P	Pn	02 53 14.5	-1.2
JAGI				S	Sn	02 53 28.0	-1.7
KRKI	Karangkates	1.57	319	P	Pn	02 53 22.5	+0.1
KRKI				S	Sn	02 53 42.6	+0.9
BLJI	Banyuglugur	1.60	3	P	Pn	02 53 23.3	+0.6
BLJI				S	Sb	02 53 43.8	-1.4
ABJI	Asem Bagus	1.71	25	P	Pn	02 53 25.4	+1.2
DNP	Denpasar	1.82	69	S	Sn	02 53 48.4	+0.6
SRBI	Singaraja	2.11	54	P	Pn	02 53 29.5	-0.3
SRBI				S	Sn	02 53 55.2	+0.2
KMMI	Kalianget	2.33	11	P	Pn	02 53 33.1	+0.3
SJI	Sawahan	2.35	313	P	Pn	02 53 33.7	+0.6
SJI				S	Sn	02 54 02.2	+1.2
UGM	Wanagama	3.27	296	P	Pn	02 53 45.9	+0.1
TWSI	Taliwang, Sumb	3.40	80	P	Pn	02 53 46.7	-0.8
PLAI	Plampang	4.25	83	P	Pn	02 53 58.8	-0.5
DBNI	Kabupaten Domp	4.83	80	P	Pn	02 54 07.8	+0.6
KPJI	Karang Pucung	4.95	294	P	Pn	02 54 10.3	+1.5
CMJI	Cimerak	5.23	287	P	Pn	02 54 12.2	-0.5
	59nm,1.4s,0.2nm						
WBSI	Waikabubak, Su	5.82	93	P	Pn	02 54 21.6	+0.7
	0.1nm,0.7s,0.0nm						
BBJI	Bungbulang	6.08	288	P	Pn	02 54 23.9	-0.6
	13nm,1.1s,0.1nm						
CNJI	Cibinong	6.62	287	P	Pn	02 54 31.4	-0.4
	11nm,1.0s,0.1nm						
BASI	Baing, Sumba	7.03	98	P	Pn	02 54 37.7	+0.2
	55nm,0.7s,0.5nm						

ROM 04 02:54:48.6±0.1, 42°.930N±0°.004×13°.029E±0°.005, h10km, ML1.4/14, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.4km az=37.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.04	25	P	Pg	02 54 51.1	+0.4
FEMA				S	Sg	02 54 52.6	+0.4
FDMO	Fiordimonte	0.12	22	⇓P	Pg	02 54 51.9	+0.4
FDMO				S	Sg	02 54 54.0	+0.5
FDMO				AML	AML		
	comp=E,386µm,0.2s						
FDMO				AML	AML		
	comp=N,314µm,0.2s						
NRCA	Norcia	0.12	147	P	Pg	02 54 52.0	+0.5
NRCA				S	Sg	02 54 54.3	+0.7
NRCA				AML	AML		
	comp=E,286µm,1.2s						
NRCA				AML	AML		
	comp=N,278µm,0.9s						
NRCA				AML	AML		
	comp=N,367µm,0.9s						
NRCA				AML	AML		
	comp=E,207µm,0.5s						
NRCA				AML	AML		
	comp=E,286µm,0.8s						
CESI	CESI - Serrava	0.12	309	P	Pg	02 54 52.1	+0.6
CESI				S	Sg	02 54 54.5	+0.9
CESI				AML	AML		
	comp=E,486µm,0.2s						
CESI				AML	AML		
	comp=N,981µm,0.2s						
MC2	Monte Cornacci	0.12	98	P	Pg	02 54 52.1	+0.4
MC2				S	Sg	02 54 54.6	+0.8
CSP1	Cessapalombo	0.21	39	P	Pg	02 54 53.4	+0.4
CSP1				S	Sg	02 54 56.9	+0.8
CSP1				AML	AML		
	comp=E,122µm,0.5s						
CSP1				AML	AML		
	comp=N,59µm,0.3s						
CSP1				AML	AML		
	comp=E,122µm,0.5s						
CSP1				AML	AML		
	comp=N,59µm,0.3s						
T1214	Arquata del Tr	0.22	142	P	Pg	02 54 53.7	+0.5
T1214				S	Sg	02 54 57.4	+1.1
MMO1	Montemonaco	0.22	98	⇑P	Pg	02 54 53.7	+0.4
MMO1				S	Sg	02 54 57.4	+1.0
GAVE	Gavelli	0.26	203	P	Pg	02 54 54.6	+0.6
GAVE				S	Sb	02 54 59.0	-1.0
GUMA	Gualdo di Mace	0.26	59	P	Pg	02 54 54.6	+0.7
GUMA				S	Sb	02 54 59.2	-0.8
ASSB	Assisi San Ben	0.29	293	P	Pg	02 54 54.9	+0.3
ASSB				S	Sg	02 54 59.7	+1.1
ASSB				AML	AML		
	comp=E,83µm,0.1s						
ASSB				AML	AML		
	comp=N,159µm,0.1s						
MF5	Montefalcone A	0.32	79	P	Pb	02 54 55.8	-0.7
MF5				S	Sb	02 55 01.7	-0.1
MOMA	Monte Martano	0.36	250	P	Pg	02 54 56.4	+0.6
MOMA				AML	AML		
	comp=E,83µm,1.2s						
MOMA				AML	AML		
	comp=N,86µm,1.4s						
MOMA				AML	AML		
	comp=N,51µm,0.2s						
MOMA				AML	AML		
	comp=E,63µm,0.3s						

NNC 04 03:04:01.2±4.4, 41°.47N×73°.00E, h0km, mb2.5, mpv1.7, Error ellipse: s-maj=39.9km s-min=14.7km az=158.0
SOME 04 03:04:02.3, 41°.57N×72°.78E, h10km
ISC 04 03:04:04.8±2.7, 41°.6N±0°.2×73°.19E±0°.04, h18km±7km, n6, σ1s.57/11, 3C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.66	35	⇓P	Pg	03 04 16.2	-1.8
	0.1nm,0.4s						
AML				⇓S	Sn	03 04 29.7	-0.1
	0.3nm,0.5s						
MRKS	Merke	1.15	1	eP	Pg	03 04 25.5	-1.6
	1.1nm,0.2s						
MRKS				eS	Sn	03 04 41.7	+0.2
	3.3nm,0.3s						
DZA	Taraz	1.90	314	eP	Pg	03 04 41.4	+0.1
	57nm,0.1s						
DZA				eS	Sg	03 05 07.7	+1.8
	70nm,0.1s						
TKM2	Tokmak 2	2.23	53	⇑Pn	Pb	03 04 45.2	+0.6
	0.9nm,0.3s						
TKM2				⇑Lg	Lg	03 05 18.9	
	1.6nm,0.6s						
KK31	Karatay Array	2.49	308	⇓Pn	Pn	03 04 43.4	-1.1
	0.2nm,0.3s,baz=129,slow=15						
KK31				⇑Sn	Sn	03 05 14.5	0.0
	1.1nm,0.7s,baz=128,slow=27,SNR=8.6						
KST	Kastek	2.52	54	eP	Pg	03 04 52.8	-0.3
	1.0nm,0.2s						
KST				eS	Sg	03 05 28.4	+2.5
	2.4nm,0.2s						

MEX 04 03:06:27.7±0.7, 14°.73N×93°.11W, h59km±31km, MD4.2
GCG 04 03:06:31.3±0.5, 14°.90N×92°.63W, h0km±5km, MD3.6
CATAC 04 03:06:37.0±1.0, 14°.96N×92°.58W, h4km±4km, ML3.7
ISC 04 03:06:24.5±1.6, 14°.69N±0°.06×93°.15W±0°.05, h18km±6km, n26, σ1s.14/48, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.88	76	eP	Pb	03 06 42.1	+0.9
THIG				eS	Sg	03 06 52.9	-0.4
PATR	El Naranjo	0.98	64	eP	Pg	03 06 43.2	-0.4
PATR				eS	Sg	03 06 55.5	-1.0
PCIG		1.01	356	iP	Pn	03 06 44.0	+0.2
PCIG				eS	Sb	03 06 56.4	-0.1
SMCA	Catarina	1.05	81	iP	Pb	03 06 44.4	+0.2
SMCA				iS	Sb	03 06 57.6	0.0
SMCA				IAML		03 06 58.0	
	comp=Z,3µm,1.0s						
PAVE	Pavencul	1.06	62	iP	Pb	03 06 44.8	+0.3
PAVE				eS	Sb	03 06 58.5	+0.4
CHUJ	Union Juarez	1.08	68	eP	Pb	03 06 44.7	-0.1
CHUJ				eS	Sb	03 06 58.2	-0.5
SMSP	San Marcos	1.35	78	iP	Pb	03 06 49.8	+0.3
SMSP				iS	Sb	03 07 05.2	-1.3
SMSP				IAML		03 07 10.2	
	comp=Z,4µm,1.0s						
RTAL	Retalhuleu	1.41	97	iP	Pg	03 06 52.7	+0.9
RTAL				iS	Sn	03 07 07.0	-0.6
RTAL				IAML		03 07 12.5	
	comp=Z,1µm,1.0s						
STG3	Santiaguito 3,	1.52	89	iP	Pn	03 06 51.9	+0.9
STG3				iS	Sn	03 07 07.9	-2.7
SULM	Suchitepequez,	1.58	104	iP	Pb	03 06 53.6	+0.4
SULM				iS	Sn	03 07 11.2	-0.5
QUEO	Labor Ovalle	1.59	83	iP	Pn	03 06 53.0	+1.0
QUEO				iS	Sn	03 07 12.7	+0.4
QUEO				IAML		03 07 19.2	
	comp=Z,5µm,1.0s						
SOKI	Kika Raxquin	1.69	85	iP	Pg	03 06 56.9	-0.2
SOKI				iS	Sn	03 07 12.1	-2.9
SOKI				IAML		03 07 26.7	
	comp=Z,540nm,1.0s						
HUEH	Huehuetenango	1.71	68	iP	Pb	03 06 55.5	0.0
HUEH				IAML		03 06 56.0	
	comp=Z,4µm,1.0s						
HUEH				iS	Sb	03 07 17.4	+0.7
CARR	Arriaga	1.71	335	eP	Pn	03 06 54.4	+0.9
CARR				eS	Sn	03 07 14.5	-0.5
CARR	Arriaga	1.71	335	eS	Sn	03 07 14.2	-0.8
CARR	Arriaga	1.71	335	iP	Pb	03 06 54.6	-0.9
CCIG	Comitan	1.86	31	eP	Pb	03 06 57.6	-0.5
CCIG				eS	Sn	03 07 20.0	+1.3
CCIG	Comitan	1.86	31	iP	Pb	03 06 58.2	+0.1
CCIG				iS	Sb	03 07 21.9	+0.9
CCIG				IAML		03 07 29.4	
	comp=Z,990nm,1.0s						
QUIS	Sacapulas	2.07	73	iP	Pb	03 07 00.8	-0.9
QUIS				IAML		03 07 01.4	
	comp=Z,1µm,1.0s						
QUIS				iS	Sn	03 07 23.7	-0.3
TGIG		2.07	1	eP	Pn	03 06 59.6	+1.0
TGIG				eS	Sn	03 07 23.6	-0.4
FUG	Fuego 3	2.24	96	iP	Pb	03 07 03.8	-0.9
FUG				iS	Sn	03 07 28.2	-0.2
NILT	Santiago Nilte	2.34	323	eP	Pn	03 07 03.3	+1.2
NILT				eS	Sn	03 07 29.0	-1.4
PCG	Pacaya	2.48	97	iP	Pb	03 07 08.5	-0.2
PCG				iS	Sn	03 07 35.7	+1.5
UXUV	UXUV	2.78	340	eP	Pn	03 07 10.3	+2.1
CMIG	Matias Romero	2.91	325	eP	Pn	03 07 10.9	+0.9
NUBE	Las Nubes	3.36	103	iP	Pn	03 07 17.8	+1.6
NUBE				iS	Sn	03 07 52.3	-3.5
NUBE				IAML		03 08 18.2	
	comp=Z,150nm,1.0s						

MEX 04 03:06:53.5±1.0, 18°.12N×103°.43W, h7km±10km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.19	24	iP	Pg	03 06 57.1	-0.3
MMIG				iS	Sg	03 06 59.8	-0.1
CDAR	Ciudad de Arme	0.99	326	iP	Pg	03 07 10.0	-2.6
CDAR				iS	Sg	03 07 22.6	-2.9
COIG	Colima	1.09	347	iP	Pg	03 07 10.8	-3.7
COIG				iS	Sg	03 07 24.0	-4.6
CEGR	Campo Tres	1.33	342	iP	Pn	03 07 14.9	-3.8
CEGR				iS	Sb	03 07 31.0	-5.3
MNGA	Volcan de Coli	1.36	352	iP	Pn	03 07 15.3	-3.8
MNGA				iS	Sb	03 07 31.5	-5.6
EZ5V		1.37	353	iP	Pn	03 07 15.7	-3.6
EZ5V				iS	Sb	03 07 33.2	-4.2
JUBC	Volcan de Coli	1.40	354	iP	Pn	03 07 15.5	-4.3
JUBC				iS	Sb	03 07 34.8	-3.6
INCO	Volcan de Coli	1.41	353	iP	Pn	03 07 16.5	-3.5
INCO				iS	Sb	03 07 34.2	-4.6
SOMAC	Volcano de Col	1.42	352	iP	Pn	03 07 16.5	-3.5
SOMAC				iS	Sb	03 07 34.0	-4.9
CIHU	Emiliano Zapat	1.69	313	iP	Pn	03 07 20.6	-2.8
CIHU				iS	Sn	03 07 41.7	-3.7
CJM	Chamela	2.06	312	iP	Pn	03 07 25.8	-2.8
CJM				iS	Sn	03 07 50.7	-3.8
ARIG	Puente Sto Nin	2.93	86	iP	Pn	03 07 36.4	-4.2
ARIG				iS	Sn	03 08 11.5	-4.5

KRSC 04 03:25:52.6±1.3, 48°.20N×156°.30E, h6km±21km, Ml4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.49	357	eP	Pn	03 26 34.4	+0.8
SKR				eS	Sn	03 27 05.8	+1.6
KDTR	Khodutka, Kamc	3.79	17	eP	Pn	03 26 54.5	+3.1
KDTR				eS	Sb	03 27 41.5	-4.4
ASAK	Asacha	4.31	13	eP	Pn	03 27 02.5	+3.9
GRL	Gorelyy	4.50	14	eP	Pn	03 27 05.2	+3.9
GRL				eS	Sn	03 28 00.2	+6.2
KOK	Koryaka	5.31	15	eP	Pn	03 27 17.3	+4.9
SMAR	Somma	5.31	16	eP	Pn	03 27 17.6	+5.1

CATAC 04 03:44:48.5±0.9, 8°.99N×84°.13W, h4km±4km, ML3.4
UPA 04 03:44:52.9±0.7, 8°.87N×82°.79W, h7km±1km, MW3.2
ISC 04 03:44:44.0±1.3, 9°.02N±0°.05×83°.42W±0°.04, h1km±13km, n29, σ2s.06/32, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	Ojochal	0.24	288	iP		03 44 58.5	
OCHAL				IAML		03 45 35.2	
	comp=Z,15nm,1.0s						
POTG	Potrero Grande	0.29	84	iP	Pn	03 44 59.4	+3.9
MLIR3	Monte Lirio, C	0.63	111	eP	Pg	03 44 55.1	-0.9
MLIR3				eS	Sg	03 44 57.6	-6.6
CDM	Cerro de Muert	0.63	327	iP	Pn	03 45 01.3	+0.8
CDM				iS	Sn	03 45 11.3	-0.1
CDM				IAML		03 45 35.9	
	comp=Z,490nm,1.0s						
CDITO	Canoas	0.70	130	eP	Pg	03 44 59.5	+2.1
CDITO				eS	Sg	03 45 04.6	-1.9
CDITO	Canoas	0.70	130	iP	Pn	03 45 05.7	+4.7
BRU2	Volcan	0.75	107	eP	Pg	03 44 56.4	-2.0
BRU2				eS	Sg	03 44 59.7	-8.5
BC3P	Paso Ancho	0.82	104	eP	Pg	03 44 57.5	-2.3
BC3P				eS	Sg	03 45 01.1	-9.3
RIMA	Rio Macho	0.86	329	iP	Pn	03 45 03.4	-0.1
RIMA				IAML		03 45 40.7	
	comp=Z,580nm,1.0s						
LCR2	La Lucha 2	0.92	321	iP	Pg	03 45 02.6	+0.9
LCR2				iS	Sg	03 45 14.4	+0.7
LCR2				IAML		03 45 38.8	
	comp=Z,1µm,1.0s						
BCO2	Palmira	0.93	109	eP	Pg	03 44 59.7	-2.1
BCO2				eS	Sg	03 45 05.6	-8.2
PTAR3	Potrerillos Ar	0.97	110	eP	Pg	03 45 00.5	-2.0
PTAR3				eS	Sg	03 45 06.1	-8.9
PTPM	Petroterminale	0.97	147	eP	Pn	03 45 06.7	+1.9
PTPM				eS	Sg	03 45 17.6	+2.4
RAFA	San Farael, Vo	1.01	337	iP	Pn	03 45 07.3	+1.7
RAFA				IAML		03 45 31.4	
	comp=Z,6µm,1.0s						
CNI2	El Empalme, Bo	1.01	67	eP	Pb	03 45 04.9	+0.5
CNI2				eS	Sg	03 45 14.7	-1.9
DVD	David	1.12	121	eP	Pb	03 45 04.4	-1.8
DVD				eS	Sb	03 45 13.2	-8.0
HDC3	Heredia 3	1.19	325	iP	Pb	03 45 08.2	+0.7
HDC3				iS	Sb	03 45 21.7	-1.8
HDC3				IAML		03 45 48.5	
	comp=Z,750nm,1.0s						
CHGR2	Aguacate	1.26	94	eP	Pn	03 45 05.5	-3.3
CHGR2				eS	Sb	03 45 14.8	-10
TCS1	Tacares	1.34	319	iP	Pn	03 45 07.6	-2.3
TCS1				IAML		03 45 31.5	
	comp=Z,5µm,1.0s						
RIFO	Rio Frio, Sara	1.38	339	iP	Pg	03 45 12.5	+2.0
RIFO				IAML		03 45 57.7	
	comp=Z,740nm,1.0s						
JACO	JACO, Garabito	1.38	298	iP	Pn	03 45 03.3	-7.1
JACO				iS	Sn	03 45 15.5	-14
TRT2	Tortugero	1.56	348	iP	Pg	03 45 16.6	+2.7
TRT2				IAML		03 45 40.4	
	comp=Z,370nm,1.0s						
CPMI	Catarata Coope	1.57	323	iP	Pn	03 45 11.7	-1.6
CPMI				IAML		03 45 35.6	
	comp=Z,320nm,1.0s						
SOCE	Pocosol	1.80	319	iP	Pn	03 45 14.5	-1.7
SOCE				IAML		03 45 38.4	
	comp=Z,1µm,1.0s						
VACR	Volcan Arenal	1.90	319	iP	Pg	03 45 21.5	+1.0
COVE	Coope Vega, Sa	1.95	330	iP	Pn	03 45 18.2	0.0
COVE				IAML		03 46 14.5	
	comp=Z,320nm,1.0s						
ORTG	Ortega, Santa	2.42	304	iP	Pn	03 45 22.5	-2.2
ORTG				IAML		03 46 14.5	
	comp=Z,79nm,1.0s						
VMAR	Armenia, Volca	2.44	317	iP	Pn	03 45 26.0	+0.9
VMAR				IAML		03 46 25.7	
	comp=Z,220nm,1.0s						
HZTE	Horizontes, Gu	2.73	308	iP	Pn	03 45 27.5	-1.5
HZTE				IAML		03 46 24.2	
	comp=Z,130nm,1.0s						

NEIC 04 03:56:39.6±1.7, 29°.1S±0°.1×178°.4W±0°.2, h175km±7km, mb4.2/15, Error ellipse: s-maj=23.2km s-min=15.7km az=83.0
IDC 04 03:56:39.6±1.3, 29°.16S×178°.36W, h172km±16km, mb3.6/3, mbtmp4.1/3, MS3.4/1, Error ellipse: s-maj=75.1km s-min=23.7km az=34.0
ISC 04 03:56:39.5±0.8, 29°.2S±0°.1×178°.4W±0°.1, h170km, n25, σ0s.90/24, mb4.2/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.47	99	Pn	Pn	03 57 03.2	+0.3
RAO	Raoul Island	0.47	99	P	Pn	03 57 03.5	+0.5
	705nm,0.4s,baz=118,slow=8.2,SNR=8.2						
TOZ	Tahuroa Road	9.91	209	Pn	Pn	03 58 58.5	+0.5
PYZ	Puysegur Point	20.59	210	P	P	04 01 05.1	0.0
CTAO	Charters Tower	33.24	278	P	P	04 03 03.0	+2.3
CTAO				IAmb	IAmb	04 03 25.8	
	comp=Z,11nm,1.3s						
STKA	Stephens Creek	34.40	255	LR	LR	04 16 37.7	
	comp=Z,51nm,18.4s,baz=19,slow=35						
BBOO	Buckleboo	38.94	253	P	P	04 03 48.2	-0.9
BBOO				IAmb	IAmb	04 04 25.3	
	comp=Z,9.6nm,1.2s						
AS31	Alice Springs	42.80	266	P	P	04 04 20.5	-0.2
ASAR	Alice Springs	42.80	266	P	P	04 04 20.0	-0.8
ASAR	Alice Springs	42.80	266	P	P	04 04 21.4	+0.7
	comp=Z,0.7nm,0.3s,baz=101,slow=7.4,SNR=18						
	comp=Z,0.7nm,0.3s						
WR0	Warramunga Arr	43.49	271	P	P	04 04 26.3	0.0
WR0				IAmb	IAmb	04 04 27.1	
	comp=Z,6.6nm,1.4s						
WB2	Warramunga Arr	43.67	271	P	P	04 04 27.4	-0.3
WB2				IAmb	IAmb	04 04 31.3	
	comp=Z,2.8nm,0.8s						
WRA	Warramunga Arr	43.68	271	P	P	04 04 26.8	-1.0
WRA	Warramunga Arr	43.68	271	P	P	04 04 27.6	-0.2
	comp=Z,1.1nm,0.5s,baz=109,slow=7.6,SNR=12						
	comp=Z,1.1nm,0.5s						
WB0	Warramunga Arr	43.70	271	P	P	04 04 27.8	-0.1
WB0				IAmb	IAmb	04 04 52.2	
	comp=Z,6.4nm,1.3s						
SBA	Scott Base	49.22	184	P	P	04 05 11.8	+1.8
SBA				IAmb	IAmb	04 05 27.5	
	comp=Z,16nm,1.5s						
VNDA	Vanda	49.27	186	P	P	04 05 10.1	-0.3
NWAO	Narrogin (SRO)	54.47	249	P	P	04 05 49.5	-0.1
PSA00	Pilbara Seismi	55.73	263	P	P	04 05 56.8	-2.0
PSA00				IAmb	IAmb	04 05 58.9	
	comp=Z,8.3nm,1.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	60.93	180	P	P	04 06 34.2	0.0
QSPA				IAmb	IAmb	04 06 34.8	
	comp=Z,17nm,1.5s						
QSPA	South Pole Qui	60.93	180	P	P	04 06 33.9	-0.3
	comp=Z,2.7nm,0.5s,baz=90,slow=3.0,SNR=11						
	comp=Z,2.7nm,0.5s						
PLCA	Paso Flores	83.62	133	P	P	04 08 48.2	-0.8
PLCA				IAmb	IAmb	04 09 21.1	
	comp=Z,4.5nm,1.1s						
PET	Petropavlovsk	84.26	346	P	P	04 08 51.6	+0.1
FINES	FINESS Array B	143.87	340	PKP	PKPdf	04 15 54.4	+0.6
	comp=Z,1.6nm,0.4s,baz=61,slow=3.5,SNR=22						
TORD	Torodi Ar. Bea	164.05	180	PKPab	PKPab	04 17 16.5	-0.5
	comp=Z,0.3nm,0.7s,baz=174,slow=3.2,SNR=5.5						

*OSPL **04** 04:05:40.3±0.8, 19.°44N×77.°76W, h0km±999km, ML2.6*
*JSN **04** 04:05:43.2±1.3, 17.°18N×78.°01W, h14km±999km, MD3.7*
SSNC 04 04:05:40.2±1.1**, 19.°54N×77.°85W, h17**km±7km**, MD3.2, ML2.8, MW2.6, 1D, Cuba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PILO	Pilon	0.55	49	eP	Pg	04 05 50.1	-1.2
PILO				eS	Sg	04 05 57.7	-1.0
PILO				IAML		04 05 59.6	
	comp=E,626nm,0.2s						
PILO				IAML		04 05 59.6	
	comp=N,472nm,0.2s						
LMGC	Las Mercedes	0.95	57	eP	Pb	04 05 56.1	-2.1
LMGC				eS	Sb	04 06 08.1	-2.4
LMGC				IAML		04 06 09.6	
	comp=E,497nm,0.1s						
LMGC				IAML		04 06 09.6	
	comp=N,423nm,0.1s						
MTDJ	Mount Denham	1.34	167	i P	Pn	04 06 02.5	-1.8
MTDJ				i S	Sn	04 06 18.7	-3.1
MTDJ	Mount Denham	1.34	167	eP	Pn	04 06 02.4	-1.9
MTDJ				eS	Sn	04 06 17.6	-4.2
MTDJ				IAML		04 06 19.8	
	comp=N,205nm,0.2s						
MTDJ				IAML		04 06 20.0	
	comp=N,179nm,0.3s						
MTDJ	Mount Denham	1.34	167	i P	Pn	04 06 02.5	-1.8
MTDJ				eS	Sn	04 06 18.5	-3.3
MTDJ				IAML		04 06 29.7	
	comp=Z,110nm,1.8s						
CHIV	Chivirico	1.42	72	eP	Pn	04 06 02.4	-2.8
CHIV				eS	Sn	04 06 19.6	-3.9
CHIV				IAML		04 06 20.8	
	comp=E,90nm,0.2s						
CHIV				IAML		04 06 20.8	
	comp=N,74nm,0.1s						
STH	Stony Hill	1.76	146	i P	Pn	04 06 08.2	-1.7
STH				i S	Sn	04 06 25.6	-6.4
STH	Stony Hill	1.76	146	eP	Pn	04 06 07.6	-2.3
STH				eS	Sn	04 06 28.5	-3.5
STH				IAML		04 06 29.2	
	comp=E,6μm,0.1s						
STH				IAML		04 06 29.3	
	comp=N,6μm,0.1s						
GWJ	Greenwich	1.80	144	⇓iP	Pn	04 06 08.7	-2.0
MARVS	Santiago de Cu	1.89	76	eP	Pn	04 06 09.0	-2.7
MARVS				eS	Sn	04 06 30.9	-4.3
MARVS				IAML		04 06 33.0	
	comp=E,36nm,0.1s						
MARVS				IAML		04 06 33.0	
	comp=N,49nm,0.1s						
RCC	Rio Carpintero	2.08	77	eP	Pn	04 06 11.8	-2.5
RCC				eS	Sn	04 06 36.3	-3.5
RCC				IAML		04 06 38.2	
	comp=N,16nm,0.2s						
RCC				IAML		04 06 38.4	
	comp=E,24nm,0.1s						
PINC	Pinares de May	2.15	64	eP	Pn	04 06 13.8	-1.5
PINC				eS	Sn	04 06 38.1	-3.5
PINC				IAML		04 06 41.4	
	comp=N,30nm,0.1s						
PINC				IAML		04 06 41.5	
	comp=Z,22nm,0.3s						
GTBY	Guantanamo Bay	2.61	81	eP	Pn	04 06 19.4	-2.2
GTBY				eS	Sn	04 06 48.4	-4.5
GTBY				IAML		04 06 51.9	
	comp=Z,16nm,0.1s						
GTBY				IAML		04 06 53.1	
	comp=Z,20nm,0.2s						
GTBY	Guantanamo Bay	2.61	81	i P	Pn	04 06 20.4	-1.2
GTBY				eS	Sn	04 06 50.6	-2.2
GTBY				IAML		04 06 50.9	
	comp=Z,30nm,2.0s						
MOAC	Moa	2.93	67	eP	Pn	04 06 24.5	-1.6
GNEO	Boca de Quibij	3.16	75	eP	Pn	04 06 26.6	-2.7
GNEO				eS	Sn	04 07 01.6	-5.0
GNEO				IAML		04 07 04.7	
	comp=N,20nm,0.2s						
GNEO				IAML		04 07 04.9	
	comp=E,14nm,0.1s						
MASC	Masc	3.46	79	eP	Pn	04 06 31.5	-1.9
MASC				eS	Sn	04 07 09.9	-4.1
MASC	Masc	3.46	79	i P	Pn	04 06 33.2	-0.2
MASC				eS	Sn	04 07 12.1	-1.8
MASC				IAML		04 07 17.1	
	comp=Z,12nm,1.7s						
PODR	Polo	6.37	101	i P	Pn	04 07 06.3	-7.1

RSNC 04 04:39:09.9±1.3**, 8.°77N×73.°91W, h100**km±7km**, ML3.2, Mw3.5, 2C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCAC	Ocana	0.79	132	⇓iP	Pn	04 39 26.2	-2.2
OCAC				eS	Sn	04 39 38.3	-3.9
LL5C	La Loma 5 El P	0.99	11	eP	Pn	04 39 29.6	-0.7
LL5C				eS	Sn	04 39 45.5	0.0
LL5C				i		04 39 48.8	
	comp=Z,182nm,0.3s						
ARGC	Ariguani, Magd	1.13	343	⇑iP	Pn	04 39 31.8	-0.1
ARGC				eS	Sn	04 39 48.8	+0.5
LL6C	La Loma 6 Bece	1.15	33	⇑iP	Pn	04 39 31.8	-0.2
LL6C				i		04 39 49.8	
	comp=Z,121nm,0.4s						
ZARC	Zaragoza, Cauc	1.58	216	⇓iP	Pn	04 39 35.0	-2.2
ZARC				eS	Sn	04 39 54.9	-2.9
ZARC				i		04 39 58.7	
	comp=Z,218nm,0.6s						
SJCC	San Jacinto, C	1.68	312	eP	Pn	04 39 38.0	-0.4
SJCC				eS	Sn	04 39 59.8	-0.3
SJCC				i		04 40 01.8	
	comp=Z,241nm,0.3s						
PAMC	Pamplona, Colo	1.86	140	eP	Pn	04 39 40.8	-0.4
PAMC				eS	Sn	04 40 05.4	+0.5
PAMC				i		04 40 07.7	
	comp=Z,120nm,0.4s						
UREC	San Jos de Ur	1.90	238	eP	Pn	04 39 40.4	-0.8
UREC				eS	Sn	04 40 05.2	+0.2
UREC				i		04 40 08.0	
	comp=Z,148nm,0.3s						
PTBC	PUERTO BERRIO,	2.28	194	eP	Pn	04 39 45.2	-1.0
PTBC				eS	Sn	04 40 13.4	-0.5
PTBC				i		04 40 16.0	
	comp=Z,221nm,0.6s						
BARC	Barichara	2.28	161	eP	Pn	04 39 45.0	-1.4
BARC				eS	Sn	04 40 12.7	-1.5
BARC				i		04 40 18.9	
	comp=Z,156nm,0.3s						
SMRC	Santa Marta, M	2.40	353	eP	Pn	04 39 48.0	+0.2
SMRC				eS	Sn	04 40 16.6	-0.1
SMRC				i		04 40 24.1	
	comp=Z,57nm,0.5s						
LCBC	Los crdobas,	2.43	272	eP	Pn	04 39 46.7	-1.4
LCBC				eS	Sn	04 40 16.7	-0.7
LCBC				i		04 40 37.5	
	comp=Z,48nm,0.3s						
CRJC	Cerrejon, Guaj	2.46	24	eP	Pn	04 39 48.2	-0.4
CRJC				eS	Sn	04 40 18.0	-0.2
CRJC				i		04 40 23.2	
	comp=Z,161nm,0.2s						
APAC	Apartado, Choc	2.78	252	eP	Pn	04 39 51.6	-1.1
APAC				eS	Sn	04 40 23.7	-1.9
APAC				i		04 40 31.9	
	comp=Z,38nm,0.5s						
DBBC	Dabeiba	2.86	233	eP	Pn	04 39 56.6	+2.6
DBBC				eS	Sn	04 40 32.4	+4.6
DBBC				i		04 40 49.6	
	comp=Z,23nm,0.7s						
SPBC	San Pablo de B	3.10	183	eP	Pn	04 39 55.9	-1.3
SPBC				eS	Sn	04 40 33.4	-0.1
SPBC				i		04 40 36.1	
	comp=Z,92nm,0.4s						
TAMC	Tame, Arauca	3.13	138	eP	Pn	04 39 55.9	-1.6
TAMC				eS	Sn	04 40 34.1	-0.1
TAMC				i		04 40 37.7	
	comp=Z,31nm,0.4s						
CBOC	Ciudad Bolivar	3.56	216	eP	Pn	04 40 03.1	-0.2
CBOC				eS	Sn	04 40 49.1	+4.4
CBOC				i		04 41 11.0	
	comp=Z,21nm,0.5s						
GUY2C	Guyana, Caldas	3.81	202	eP	Pn	04 40 06.0	-0.9
GUY2C				eS	Sn	04 40 51.9	+0.9
GUY2C				i		04 41 02.5	
	comp=Z,58nm,0.4s						
ROSC	El Rosal	3.92	186	eP	Pn	04 40 09.1	+0.7
ROSC				eS	Sn	04 40 54.1	+0.3
ROSC				i		04 41 03.0	
	comp=Z,40nm,0.3s						
PLMC	San Jos del P	4.50	212	eP	Pn	04 40 14.2	-1.8
PLMC				i		04 41 25.5	
	comp=Z,11nm,0.5s						
VILC	Villavicencio,	4.63	177	eP	Pn	04 40 18.2	+0.4
VILC				eS	Sn	04 41 13.9	+3.4
VILC				i		04 41 25.1	
	comp=Z,72nm,0.4s						
PTGC	Puerto Gaitan,	4.87	159	eP	Pn	04 40 20.1	-0.9
PTGC				eS	Sn	04 41 14.1	-2.1
PTGC				i		04 41 24.9	
	comp=Z,29nm,0.3s						
ORTC	Ortega, Tolima	5.01	195	eP	Pn	04 40 24.2	+1.4
ORTC				eS	Sn	04 41 24.2	+4.7
ORTC				i		04 41 43.9	
	comp=Z,28nm,0.5s						
PRAC	Prado	5.11	191	eP	Pn	04 40 25.3	+1.0
PRAC				eS	Sn	04 41 28.8	+6.7
PRAC				i		04 41 44.7	
	comp=Z,27nm,0.4s						

IDC 04 04:40:21.9±2.1**, 4.°54S×144.°15E, h0**km**, mb3.6**/2**, mbtmp3.6**/4**, ML2.8**/2**, Error ellipse: s-maj=53.6km s-min=29.4km az=82.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.68	148	Pn	Pn	04 41 46.8	-0.8
	3.2nm,0.3s,baz=334,slow=4.9,SNR=5.0						
PMG				Sn	Sn	04 42 45.7	-8.0
	4.1nm,0.3s,baz=101,slow=22,SNR=2.1						
	9.3nm,0.3s						
WRA	Warramunga Arr	18.04	211	P	Pn	04 44 32.4	-1.9
	0.1nm,0.3s,baz=34,slow=12,SNR=2.0						
WRA				S	Sn	04 47 40.4	-16
	0.6nm,0.8s,baz=40,slow=24,SNR=4.6						
	0.5nm,0.6s						
ASAR	Alice Springs	21.43	207	P	P	04 45 12.9	+1.2
	2.4nm,0.8s,baz=30,slow=12,SNR=25						
ASAR				S	S	04 49 01.6	-8.9
	0.4nm,0.8s,baz=22,slow=26,SNR=4.9						
	2.4nm,0.8s						
MKAR	Makanchi Array	74.58	321	P	P	04 52 03.0	+0.1
	0.2nm,0.3s,baz=101,slow=7.4,SNR=4.5						
	0.2nm,0.3s						

*ISK **04** 04:53:54.8, 39.°35N×28.°00E, h9km, ML4.1/55*
*AFAD **04** 04:53:55.9±0.0, 39.°34N×27.°98E, h5km, MW4.0*
*IDC **04** 04:53:55.0±1.3, 39.°38N×28.°01E, h0km, mb3.4/3, mbtmp3.4/7, ML3.8/4, MS3.6/3, Error ellipse: s-maj=22.9km s-min=17.1km az=10.0*
*THE **04** 04:53:56.7, 39.°32N×28.°08E, h17km±3km, ML4.0/8, Error ellipse: s-maj=3.2km s-min=0.8km az=73.0*
*SOF **04** 04:53:59.2, 39.°58N±0.°07×27.°83E±0.°04, h20km±2km, MD4.0/3*
*CFUSG **04** 04:54:00.0, 39.°60N×28.°70E, h0km, mb3.8/5, Western Turkey Magtype MSH 3.3 from 3 stations*
ISC 04 04:53:54.4±1.1**, 39.°39N**±0.°02**×28.°05E**±0.°01**, h2**km±9km**, n166, σ1§15**/215**, mb3.3**/3**, 24C-14D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STEP	BALIKESIR_Sava	0.26	267	P	Pg	04 53 59.9	+0.6
STEP				S	Sg	04 54 03.7	+1.0
STEP				i AML	AML	04 54 04.0	
	comp=N,8μm,0.6s						
STEP				i AML	AML	04 54 04.0	
	comp=E,9μm,0.4s						
BALB	Balikesir	0.28	332	Pg	Pb	04 54 02.0	-0.2
BALB				Sg	Sb	04 54 06.6	-0.8
BKES	Balkesir-Mer	0.35	344	P	Pb	04 54 03.1	-0.3
BKES				S	Sb	04 54 08.9	-0.5
DURS	Dursunbey	0.39	57	P	Pb	04 54 04.0	-0.1
DURS				i AML	AML	04 54 11.0	
	comp=N,8μm,0.4s						
DURS				S	Sb	04 54 11.1	+0.6
BALY	Balya	0.48	316	P	Pb	04 54 04.9	-0.7
BALY				i AML	AML	04 54 12.0	
	comp=E,8μm,0.5s						
BALY				S	Sb	04 54 12.1	-1.1
DST	Dursunbey	0.49	64	Pg	Pb	04 54 05.6	-0.1
DST				Sg	Sb	04 54 13.8	+0.5
AKHS	Akhisar	0.55	200	P	Pg	04 54 04.6	-0.2
AKHS				S	Sg	04 54 12.6	+0.7
AKHS				i AML	AML	04 54 13.0	
	comp=E,2μm,0.3s						
AKS	Akhisar	0.55	200	Pg	Pg	04 54 04.8	0.0
AKS				Sg	Sg	04 54 12.2	+0.3
DEMI	Demirci	0.62	124	P	Pb	04 54 07.9	-0.1
DEMI				S	Sb	04 54 17.2	0.0
GOMA	Golmarmara-Man	0.69	189	Pg	Pg	04 54 07.7	+0.1
GOMA				Sg	Sg	04 54 16.8	+0.2
GONE	Gonen-Balikesi	0.71	337	Pg	Pb	04 54 09.4	-0.1
GONE				Sg	Sb	04 54 20.1	+0.3
BUHA	Balikesir, Bur	0.76	279	P	Pg	04 54 09.1	+0.1
BUHA				S	Sb	04 54 20.8	-0.4
SIMA	Simav-Kutahya	0.79	113	Pg	Pb	04 54 10.9	+0.1
ZEDA	zmir-Bergama	0.87	241	P	Pg	04 54 10.8	-0.2
ZEDA				S	Sg	04 54 22.2	-0.1
ZEDA				i AML	AML	04 54 25.0	
	comp=N,5μm,0.4s						
KCTX	Karacabey (Bur	0.90	15	Pg	Pn	04 54 13.5	-0.6
KCTX				Sg	Sn	04 54 27.1	-0.7
ORLT	Orhaneli	0.92	45	Pg	Pn	04 54 14.0	-0.4
DKL	Dikili	0.95	251	Pg	Pg	04 54 12.5	0.0
DKL				Sg	Sg	04 54 25.3	+0.5
BAND	Balkesir-Ban	0.96	2	P	Pn	04 54 14.2	-0.7
BAND				S	Sn	04 54 28.5	-0.8
BAND				i AML	AML	04 54 32.0	
	comp=N,3μm,0.3s						
EDC	Edincik	0.96	351	Pg	Pn	04 54 14.4	-0.6
RFT7	Candarli	0.98	244	Pg	Pg	04 54 13.2	0.0
EMET	Ktahya-Emet	0.98	91	P	Pn	04 54 15.2	-0.1
EMET				S	Sn	04 54 29.1	-0.8
EMET				i AML	AML	04 54 32.0	
	comp=N,6μm,0.7s						
EMET				i AML	AML	04 54 32.0	
	comp=E,6μm,0.3s						
MANT	Manisa	0.98	156	P	Pg	04 54 13.8	+0.6
MANT				S	Sg	04 54 25.6	-0.3
MANT				i AML	AML	04 54 29.0	
	comp=N,3μm,0.7s						
MANT				i AML	AML	04 54 29.0	
	comp=E,4μm,0.5s						
CANM	Can-anakkale	0.99	309	Pg	Pb	04 54 14.2	0.0
KULA	Kula-Manisa	1.00	151	Pg	Pg	04 54 14.1	+0.6
KULA	Kula-Manisa	1.00	151	P	Pb	04 54 14.2	-0.2
KULA				S	Sg	04 54 26.2	-0.2
USAK	Uak-Merkez	1.01	132	P	Pb	04 54 14.8	+0.1
USAK				S	Sb	04 54 28.3	-0.2
AYVA	Ayvalik	1.06	266	P	Pg	04 54 14.5	-0.1
AYVA				S	Sb	04 54 29.9	+0.2
AYVA				i AML	AML	04 54 31.0	
	comp=N,1μm,0.5s						
CAND	Candarli	1.06	246	Pg	Pg	04 54 14.6	-0.2
TVSB	Tavsanli	1.09	87	Pn	Pn	04 54 17.1	+0.3
GEDZ	Gediz	1.11	108	Pn	Pn	04 54 17.5	+0.5
ULDT	Uludag	1.12	48	P	Pn	04 54 17.4	0.0
ULDT				S	Sn	04 54 33.9	+0.5
ULDT				i AML	AML	04 54 36.0	
	comp=E,7μm,0.4s						
KRBG	Karabiga-Canak	1.16	330	Pn	Pn	04 54 17.6	0.0
MDNY	Mudanya-Bursa	1.17	33	Pn	Pn	04 54 18.5	+0.8
LESV	Lesvos island,	1.19	257	P	Pg	04 54 17.3	+0.1
LESV				S	Sg	04 54 33.7	+1.1
	40μm,0.6s						
BAYC	CANAKKALE_Bayr	1.21	287	P	Pg	04 54 17.4	-0.3
BAYC				S	Sg	04 54 33.5	+0.1
KIRA	zmir-Kiraz	1.23	167	P	Pg	04 54 17.8	0.0
KIRA				S	Sg	04 54 32.9	-0.8
FOCM	Foa	1.23	237	Pn	Pg	04 54 17.2	-0.8
IGD	Bursa	1.24	45	P	Pn	04 54 19.4	+0.6
IGD				S	Sn	04 54 37.4	+1.3
IZMR	zmir-demi	1.26	184	P	Pn	04 54 17.6	-1.3
IZMR				P	Pg	04 54 17.9	-0.6
IZMR				S	Sg	04 54 32.6	-2.1
IZMR				S	Sb	04 54 33.6	-1.8
IZMR				i AML	AML	04 54 36.0	
	comp=N,1μm,0.4s						
ARMT	Armutlu	1.33	28	Pn	Pb	04 54 20.6	+0.6
DOMA	Ktahya-Doman	1.33	72	P	Pb	04 54 20.8	+0.7
GEMT	Gemlik	1.36	40	Pn	Pg	04 54 21.3	+0.9
LPK	Lapseki	1.40	315	Pn	Pg	04 54 21.1	0.0
EZN	Ezine	1.40	289	Pn	Pn	04 54 20.6	-0.4
EZN	Ezine	1.40	289	P	Pn	04 54 20.4	-0.6
EZN				S	Sg	04 54 40.3	+0.9
	4μm,0.6s						
COMU	Canakkale	1.41	301	Pn	Pn	04 54 20.9	-0.2
CNKL	anakkale-Mer	1.45	298	P	Pn	04 54 21.4	-0.2
CNKL				P	Pb	04 54 22.1	0.0
CNKL				S	Sb	04 54 40.8	-0.1
RKY	Sarkoy-Tekirda	1.46	333	Pn	Pg	04 54 22.1	-0.2
SART	Tekirdag	1.46	333	P	Pb	04 54 22.0	-0.3
SART				S	Sg	04 54 41.1	-0.2
KARB	zmir-Karabur	1.47	241	P	Pn	04 54 20.6	-1.3
KARB				S	Sn	04 54 41.4	-0.3
KOCA	Canakkale, Ayv	1.49	275	P	Pn	04 54 21.5	-0.6
KOCA				S	Sg	04 54 42.7	+0.6
GPNR	Gulpinar-Canak	1.49	273	Pn	Pn	04 54 21.7	-0.4
KURT	Yalova, Merkez	1.49	36	P	Pg	04 54 22.8	-0.2
KHL	Karahalli	1.57	132	Pn	Pn	04 54 23.5	+0.2
GELI	Tayfur-Gelibol	1.58	310	Pn	Pb	04 54 23.7	-0.5
GMLD	Gumuldur	1.59	214	Pn	Pn	04 54 23.2	-0.3
ECEA	Canakkale, Ece	1.59	295	P	Pn	04 54 23.7	+0.2
ECEA				S	Sn	04 54 44.0	-0.6
CAVI	Cavuskoy	1.60	59	Pn	Pg	04 54 24.7	-0.3
ESEN	Aydn-Nazilli	1.61	172	P	Pn	04 54 22.7	-1.1
DGB	zmir	1.62	215	P	Pn	04 54 22.2	-1.7
DGB				S	Sn	04 54 45.2	-0.2
DGB				i AML	AML	04 54 46.0	
	comp=N,2μm,0.4s						
ADVT	Abdulvahap	1.66	51	Pn	Pg	04 54 25.5	-0.7
ZEYE	Izmir, Urla-Ze	1.67	227	P	Pn	04 54 23.0	-1.6
ZEYE				S	Sn	04 54 46.8	+0.1
AVCI	Avcilar-stanb	1.68	18	Pn	Pg	04 54 25.9	-0.7
SIGR	SIGRI	1.71	265	Pn	Pn	04 54 24.5	-0.8
SIGR	SIGRI	1.71	265	P	Pn	04 54 24.4	-0.8
SIGR				S	Sn	04 54 47.7	0.0
	4μm,0.6s						
CESE	eme	1.73	233	Pn	Pn	04 54 25.0	-0.5
ERIK	Erikli-Kesan	1.74	318	Pn	Pn	04 54 25.9	+0.3
OSMT	Osmaniye	1.75	46	Pn	Pg	04 54 27.0	-0.9
CRLT	Corlu	1.75	352	Pn	Pb	04 54 26.5	-0.7
GCAM	G?zelcaml?	1.81	201	Pn	Pn	04 54 25.9	-0.6
KAVV	Kandilli-Istan	1.84	24	Pn	Pb	04 54 27.4	-1.3
SLVT	Silivri	1.84	4	Pn	Pb	04 54 27.6	-1.1
GADA	Gvkgeada	1.84	296	Pn	Pn	04 54 26.9	-0.1
ISK	Istanbul-Kandi	1.84	24	Pn	Pb	04 54 27.3	-1.5
ISK	Istanbul-Kandi	1.84	24	P	Pb	04 54 27.2	-1.5
CHOS	Chios island	1.85	238	Pn	Pn	04 54 26.4	-0.8
CHOS	Chios island	1.85	238	P	Pn	04 54 25.9	-1.3
CHOS				S	Sn	04 54 48.9	-2.4
	3μm,0.4s						
BGKT	Bogazkoy	1.87	17	Pn	Pb	04 54 28.3	-0.9
CTKS	Kestanelik-??a	1.88	11	Pn	Pb	04 54 27.8	-1.5
HRT	Hereke	1.89	40	Pn	Pb	04 54 28.2	-1.4
ENZZ	Sultanice-Enez	1.91	310	Pn	Pn	04 54 28.3	+0.4
SMG	Samos	1.93	210	P	Pn	04 54 27.1	-1.2
SMG				S	Sn	04 54 51.0	-2.1
	2μm,0.6s						
GPA	Golpazari	1.96	62	Pn	Pb	04 54 29.9	-0.8
ENEZ	Enez	1.98	313	Pn	Pn	04 54 29.7	+0.8
ENEZ	Enez	1.98	313	P	Pb	04 54 29.9	-1.2
ENEZ				S	Sn	04 54 54.5	+0.2
	3μm,0.5s						
KLYT	Kilyos	2.01	22	Pn	Pb	04 54 29.9	-1.7
UKOP	Uzunkopru-Edir	2.05	328	Pn	Pn	04 54 30.4	+0.6
CTYL	Yalikoy Yolu	2.09	5	Pn	Pb	04 54 31.2	-1.8
SRCK	Saricakaya, Es	2.09	71	Pn	Pb	04 54 31.7	-1.3
KIYI	Yalıkoy-Catalc	2.10	5	Pn	Pb	04 54 31.7	-1.4
SILT	Sile	2.14	34	Pn	Pb	04 54 31.9	-1.9
ALN	Alexandroupoli	2.15	315	Pn	Pn	04 54 31.8	+0.6
ALN	Alexandroupoli	2.15	315	P	Pn	04 54 31.6	+0.4
ALN				S	Sn	04 54 57.8	-0.7
	1μm,0.5s						
GULT	Gulveren	2.16	60	Pn	Pb	04 54 32.7	-1.6
SAUV	Serdivan-Sakar	2.21	52	Pn	Pb	04 54 33.4	-1.6
SMTH	Samothraki Isl	2.22	300	P	Pn	04 54 32.2	0.0
SMTH				S	Sn	04 55 00.1	-0.1
	1μm,0.5s						
LIA	Limnos Island	2.27	284	P	Pn	04 54 33.0	+0.1
PHSR	Pinarhisar	2.27	350	Pn	Pb	04 54 34.1	-2.0
BODT	Bodrum	2.40	194	P	Pn	04 54 33.3	-1.4
RDO	Rodhopi	2.60	313	P	Pn	04 54 38.2	+0.7
EDRB	Edirne	2.65	338	P	Pn	04 54 38.5	+0.4
KDZ	Kurdzhali	3.04	318	S	Sn	04 55 17.7	-2.9
KDZ				i P	Pn	04 54 43.9	+0.3
DIM	Dimitrovgrad	3.25	325	P	Pn	04 54 47.6	+1.2
RZN	Rozhen	3.42	313	i P	Pn	04 54 49.8	+1.0
RZN				S	Sn	04 55 28.2	-1.8
KOKK	Kokkinochori,	3.42	296	P	Pn	04 54 48.4	-0.3
ANTO	Ankara	3.69	81	⇑P	Pg	04 55 04.3	-0.9
PLD	Plovdiv	3.72	319	i P	Pn	04 54 53.8	+0.9
PRD	Provadia	3.80	353	i P	Pn	04 54 55.6	+1.7
ELND	Elena	3.90	336	⇓P	Pn	04 54 56.1	+0.8
MMB	Musomishta	3.92	305	P	Pn	04 54 56.5	+0.8
LOZB	Loznitsa	4.12	345	⇑P	Pn	04 54 59.0	+0.6
PSN	Preselentsi	4.24	1	i P	Pn	04 55 00.9	+0.9
RAZG	Razgrad	4.33	345	⇓P	Pn	04 55 02.0	+0.8
BRTR	Keskin Array B	4.33	84	Pn	Pn	04 55 02.5	+1.1
	1.2nm,0.3s,baz=258,slow=12,SNR=23						
BRTR				Sn	Sn	04 55 52.2	-0.3
	2.2nm,0.3s,baz=145,slow=26,SNR=6.4						
BRTR				Lg	Lg	04 56 16.1	
	4.8nm,0.3s,baz=273,slow=22,SNR=14						
	4.5nm,0.5s						
KKB	Krupnik	4.47	305	P	Pn	04 55 04.2	+1.0
PEHC	Pehcevo	4.59	303	i Pn	Pn	04 55 06.8	+1.9
VAY	Valandovo	4.61	296	i Pn	Pg	04 55 21.7	-1.0
ICOR	Ion Corvin	4.72	358	⇓P	Pn	04 55 07.8	+1.2
PLVB	Pleven	4.75	328	⇑P	Pn	04 55 08.1	+1.1
MFTR	Murfatlar	4.79	3	⇑P	Pn	04 55 09.7	+2.1
STIP	Stip	5.03	299	i Pn	Pn	04 55 09.7	-1.1
TIRR	Tirgusor	5.07	3	⇑P	Pn	04 55 12.4	+1.0
TLBR	Topalu	5.15	360	⇑P	Pn	04 55 13.3	+0.9
HARR	Harsova	5.29	359	⇑P	Pn	04 55 15.7	+1.2
CFR	Carcaliu	5.78	1	⇓P	Pn	04 55 22.1	+1.0
TLCR		5.82	5	⇓P	Pn	04 55 23.0	+1.4
BLKB	Belogradchik	5.84	318	⇓P	Pn	04 55 24.2	+2.2
BISRR	Bisoca	6.23	351	⇓P	Pn	04 55 29.1	+1.7
SCTR	Scanteiesti	6.28	360	⇑P	Pn	04 55 29.8	+1.9
MLR	Muntele Rosu	6.29	346	⇑P	Pn	04 55 30.1	+1.8
BOVS	Bovan	6.38	314	⇑P	Pn	04 55 30.7	+1.4
ODBI	Odobesti	6.41	354	⇑P	Pn	04 55 31.6	+1.8
VOIR		6.44	341	⇓P	Pn	04 55 31.2	+1.0
VLDR	Vladesti	6.45	0	⇓P	Pn	04 55 31.2	+0.9
ARR	Arges	6.49	338	⇑P	Pn	04 55 32.3	+1.4
VARL	Varlezi	6.50	359	⇓P	Pn	04 55 32.7	+1.6
PLOR	Plostina	6.54	351	⇑P	Pn	04 55 33.2	+1.6
VRI	Vrincioaia	6.54	352	⇑P	Pn	04 55 32.2	+0.6
COVR	Voineasa-Covas	6.59	349	⇑P	Pn	04 55 33.8	+1.5
SEV	Sevastopol'	6.63	37	eP	Pn	04 55 32.9	+0.1
SEV				Pm		04 55 33.4	
	comp=Z,29nm,0.6s						
SEV				eS	Sn	04 56 44.7	-4.3
SEV				Sm		04 56 45.8	
	comp=N,13nm,0.3s						
SEV				Sm		04 56 45.8	
	comp=E,44nm,0.6s						
TURR	Turia	6.83	348	⇓P	Pn	04 55 37.3	+1.8
YAL	Yalta	6.83	40	eP	Pn	04 55 36.3	+0.8
YAL				Pm		04 55 37.0	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,20nm,0.7s						
YAL				eS	Sn	04 56 51.0	-2.7
YAL				Sm		04 56 51.6	
	comp=N,21nm,0.4s						
YAL				Sm		04 56 51.6	
	comp=E,55nm,0.6s						
LOT	Lotru	6.83	334	⇑P	Pn	04 55 36.4	+0.7
DOPR	Dopca	6.86	344	⇑P	Pn	04 55 37.2	+1.2
HERR	Herculane	6.90	324	⇑P	Pn	04 55 37.8	+1.3
OZUR		6.90	347	⇑P	Pn	04 55 37.5	+0.8
ALU	Alushta	7.09	40	eP	Pn	04 55 39.6	+0.5
ALU				Pm		04 55 40.0	
	comp=Z,7.0nm,0.3s						
ALU				eS	Sn	04 56 56.0	-4.2
ALU				Sm		04 57 01.3	
	comp=N,39nm,0.5s						
ALU				Sm		04 57 01.3	
	comp=E,41nm,0.6s						
SIM	Simferopol'	7.15	37	⇓eP	Pn	04 55 41.4	+1.5
SIM				Pm		04 55 41.8	
	comp=Z,101nm,0.5s						
SIM				eS	Sn	04 56 58.2	-3.5
SIM				Sm		04 57 03.1	
	comp=N,40nm,0.4s						
SIM				Sm		04 57 03.1	
	comp=E,47nm,0.6s						
GZR	Gura Zlata	7.15	329	⇑P	Pn	04 55 40.9	+0.8
MDVR	Moldovita	7.16	321	⇑P	Pn	04 55 41.0	+0.9
TESR	Tescani	7.19	352	⇓P	Pn	04 55 41.9	+1.4
SUDU	Sudak	7.54	41	eP	Pn	04 55 46.6	+1.4
SUDU				Pm		04 55 48.9	
	comp=Z,41nm,1.0s						
SUDU				eS	Sn	04 57 07.7	-3.5
SUDU				Sm		04 57 12.0	
	comp=N,95nm,0.7s						
SUDU				Sm		04 57 12.0	
	comp=E,45nm,0.6s						
MILM	Milestii Mici	7.54	4	eP	Pn	04 55 45.0	-0.3
	comp=E,13nm,0.3s						
MILM	Milestii Mici	7.54	4	⇑P	Pn	04 55 46.8	+1.5
BZS	Buzias	7.83	325	⇑P	Pn	04 55 50.2	+1.0
MARR	Marisel-Cluj	8.12	335	⇓P	Pn	04 55 54.2	+0.8
BURAR	Bucovina Array	8.47	347	⇑P	Pn	04 55 59.6	+1.4
MMAI	Mount Meron Ar	8.70	135	Pn	Pn	04 56 01.0	-0.3
	comp=E,2.9nm,0.3s,baz=318,slow=12,SNR=9.8						
	comp=E,2.9nm,0.4s						
AKASG	Malin Array Be	11.34	4	Pn	Pn	04 56 36.3	-1.0
	comp=E,0.6nm,0.3s,baz=190,slow=12,SNR=2.3						
	comp=E,0.1nm,0.2s						
GERES	GERESS Array B	13.96	317	Pn	Pn	04 57 15.1	+1.8
	comp=E,0.3nm,0.3s,baz=120,slow=15,SNR=4.6						
	comp=E,1.3nm,0.7s						
DAVOX	Davos/Dischmat	15.17	305	LR	LR	05 04 51.5	
	comp=E,150nm,18.7s,baz=12,slow=43						
ARU	Arti	26.30	40	LR	LR	05 12 05.5	
	comp=E,148nm,20.5s,baz=312,slow=41						
TORD	Torodi Ar. Bea	34.99	229	P	P	05 00 48.9	+0.6
	comp=E,0.3nm,0.6s,baz=42,slow=9.7,SNR=4.4						
	comp=E,0.3nm,0.6s						
KURBB	Kurchatov Arra	36.74	55	P	P	05 01 05.8	+2.9
	comp=E,0.3nm,0.3s,baz=296,slow=8.5,SNR=1.4						
	comp=E,0.3nm,0.3s						
MKAR	Makanchi Array	39.61	61	P	P	05 01 29.0	+1.8
	comp=E,0.2nm,0.6s,baz=311,slow=6.1,SNR=2.4						
	comp=E,0.2nm,0.6s						
TSUM	Tsumeb	59.10	192	LR	LR	05 32 18.4	
	comp=E,45nm,19.1s,baz=331,slow=39						

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*JMA **04** 05:06:54.0±0.2, 35°.6N±0°.6×140°.1E±0°.8, h67km±1km, MV2.8/40, CENTRAL CHIBA PREF*
*IDC **04** 05:06:56.5±3.5, 35°.43N×139°.84E, h80km±20km, mb3.1/3, mbtmp3.5/4, Error ellipse: s-maj=63.8km s-min=8.5km az=66.0*
ISC 04 05:06:54.4±1.0**, 35°.55N**±0°.04×**140°.11E**±0°.05**, h73**km±7km**, n18,** σ0s.**61**/28**, mb3.6**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCN	Nagara	0.16	151	eP	Pn	05 07 05.0	-0.2
JCN				eS	Sn	05 07 13.5	+0.5
JSMT	Sammumatsuo	0.29	72	i P	Pn	05 07 05.3	-0.5
JSMT				eS	Sn	05 07 14.1	0.0
TOK	Tokyo	0.31	295	eP	Pn	05 07 05.8	-0.1
TOK				eS	Sn	05 07 15.2	+0.9
BSO3	Boso 3	0.82	156	i P	Pn	05 07 10.4	-0.2
JOD2	Odawara 2	0.88	251	i P	Pn	05 07 11.2	-0.4
JOD2				S	Sn	05 07 23.6	-0.8
JIM2	Oshima 3	1.00	214	P	Pn	05 07 12.3	-0.8
JIM2				S	Sn	05 07 26.1	-0.9
JAG	Ashikaga	1.02	329	i P	Pn	05 07 12.1	-1.1
JAG				S	Sn	05 07 26.1	-1.2
JRY	Ryogami san	1.08	296	i P	Pn	05 07 14.0	-0.1
JRY				S	Sn	05 07 29.6	+0.8
BSO1	Boso 1	1.15	141	eP	Pn	05 07 14.1	-0.2
JFNN	Fujinakano	1.22	253	P	Pn	05 07 15.8	+0.1
JYN	Shimob	1.28	268	i P	Pn	05 07 16.4	-0.1
JIZS	Izushimoda	1.31	231	P	Pn	05 07 16.8	-0.2
JIZS				S	Sn	05 07 33.3	-0.5
JKT	Katashina	1.40	330	P	Pn	05 07 17.5	-0.7
MJAR	Matsushiro Arr	1.83	303	P	Pn	05 07 24.0	+0.2
	6.5nm,0.4s,baz=132,slow=14,SNR=23						
MJAR				S	Sn	05 07 45.8	-0.3
	6.3nm,0.3s,baz=331,slow=24,SNR=5.0						
JHJ	Hachijo jima 2	2.44	186	P	Pn	05 07 31.6	-0.5
	82nm,0.5s,baz=85,slow=17,SNR=1.5						
JHJ				S	Sn	05 08 01.0	0.0
	70nm,0.3s,baz=285,slow=22,SNR=1.9						
MKAR	Makanchi Array	44.03	303	P	P	05 14 55.5	+0.8
	0.3nm,0.5s,baz=98,slow=8.7,SNR=3.9						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	46.09	309	P	P	05 15 11.3	+0.3
	0.4nm,0.5s,baz=83,slow=7.7,SNR=2.5						
	0.4nm,0.5s						
WRA	Warramunga Arr	55.46	187	P	P	05 16 21.7	+0.1
	0.4nm,0.6s,baz=0.4,slow=7.5,SNR=7.0						
	0.4nm,0.6s						

IDC 04 05:11:36.6±2.4**, 48°.72S**×**124°.51E, h0**km**, mb3.5**/3**, mbtmp3.5**/3**, MS3.4**/2**, Error ellipse: s-maj=99.8km s-min=43.2km az=131.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.81	327	T	T	05 32 16.1	
	baz=152,slow=74,SNR=18						
H01W2	Cape Leeuwin H	15.81	327	T	T	05 32 19.4	
	baz=152,slow=74,SNR=20						
H01W3	Cape Leeuwin H	15.82	327	T	T	05 32 16.1	
	baz=152,slow=74,SNR=17						
STKA	Stephens Creek	21.20	44	P	P	05 16 24.2	+0.5
	1.8nm,0.8s,baz=207,slow=8.3,SNR=5.5						
	1.8nm,0.8s						
ASAR	Alice Springs	26.09	20	P	P	05 17 12.8	+0.9
	0.9nm,0.8s,baz=193,slow=8.7,SNR=12						
ASAR				LR	LR	05 27 21.1	
	comp=Z,54nm,18.1s,baz=276,slow=36						
	0.9nm,0.8s						
WRA	Warramunga Arr	29.79	19	P	P	05 17 43.2	-1.8
	0.4nm,0.9s,baz=187,slow=6.9,SNR=2.3						
	0.4nm,0.9s						
KAPI	Kappang	43.74	353	LR	LR	05 37 59.6	
	comp=Z,59nm,21.1s,baz=64,slow=36						
H04S1	CROZET ISLANDS	47.09	243	T	T	06 11 35.3	
	baz=132,slow=76,SNR=26						
H04S2	CROZET ISLANDS	47.09	243	T	T	06 11 36.0	
	baz=132,slow=76,SNR=31						
H04S3	CROZET ISLANDS	47.11	243	T	T	06 11 37.6	
	baz=132,slow=76,SNR=29						
YKA	Yellowknife Ar	145.24	44	PKPbc	PKPbc	05 31 13.2	-1.3
	1.0nm,0.9s,baz=269,slow=3.7,SNR=10						
EKA	Eskdalemuir Ar	147.80	302	PKPbc	PKPbc	05 31 22.1	-0.2
	0.4nm,0.5s,baz=123,slow=3.1,SNR=4.5						

IDC 04 05:27:31.3±5.5**, 4°.49S**×**132°.67E, h0**km**, mb4.1**/1**, mbtmp3.7**/3**, ML3.7**/2**, Error ellipse: s-maj=355.8km s-min=29.1km az=75.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.44	174	Pn	Pn	05 31 11.2	+0.6
	0.2nm,0.3s,baz=355,slow=13,SNR=12						
WRA				Sn	Sn	05 33 47.0	-16
	0.7nm,0.3s,baz=335,slow=22,SNR=12						
	0.3nm,0.3s						
ASAR	Alice Springs	19.10	177	P	P	05 31 55.5	-0.3
	0.6nm,0.3s,baz=351,slow=11,SNR=10						
ASAR				S	Sn	05 35 14.8	-16
	0.6nm,0.6s,baz=357,slow=26,SNR=4.1						
	1.5nm,0.7s						
MKAR	Makanchi Array	67.65	325	P	P	05 38 30.2	0.0
	0.8nm,0.4s,baz=112,slow=8.2,SNR=22						
	0.8nm,0.4s						

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*IDC **04** 05:33:07.4±5.7, 21°.07S×169°.52E, h0km, mb3.4/2, mbtmp3.5/3, ML3.6/1, MS3.2/3, Error ellipse: s-maj=265.5km s-min=29.7km az=151.0*
*NOU **04** 05:33:08.4, 21°.74S×169°.66E, h0km, MLv3.8/10, Southeast of Loyalty Islands*
ISC 04 05:33:07.6±1.2**, 21°.9S**±0°.1×**169°.8E**±0°.1**, h10**km**, n20,** σ0s.**80**/18**, mb4.2**/4**, 1C-2D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.66	283	P	Pn	05 33 36.0	-0.8
LIFNC	LIFOU	2.59	294	P	Pn	05 33 49.1	-0.5
YATNC	Mamie plateau,	2.68	265	P	Pn	05 33 50.3	-0.6
OUENC	Ouen Island, N	2.77	258	P	Pn	05 33 53.1	+1.0
DZM	Mont Dzumac	3.10	265	P	Pn	05 33 57.6	+1.0
DZM	Mont Dzumac	3.10	265	Pn	Pn	05 33 57.7	+1.0
	7.6nm,0.3s,baz=114,slow=6.5,SNR=420						
DZM				Sn	Sn	05 34 33.6	-0.2
	13nm,0.3s,baz=116,slow=23,SNR=7.3						
	22nm,0.4s						
ONTNC	Ouen Toro	3.11	261	P	Pn	05 33 57.8	+1.1
NOUC	Port Laguerre	3.23	265	P	Pn	05 33 59.1	+0.7
DVP	Devils Point	4.37	340	P	Pn	05 34 15.1	+1.0
KOUNC	Koumac, New Ca	5.28	283	P	Pn	05 34 28.0	+1.4
URZ	Urewera	17.53	160	LR	LR	05 42 09.3	
	comp=Z,81nm,19.8s,baz=128,slow=30						
CTA	Charters Tower	22.03	270	LR	LR	05 45 53.3	
	comp=Z,51nm,18.1s,baz=88,slow=35						
ASAR	Alice Springs	33.07	260	P	P	05 39 43.7	-0.1
	0.7nm,0.7s,baz=88,slow=9.4,SNR=6.9						
	0.7nm,0.7s						
WRA	Warramunga Arr	33.11	267	P	P	05 39 44.0	-0.1
	0.2nm,0.7s,baz=96,slow=8.1,SNR=1.6						
	0.2nm,0.7s						
CMAR	Chiang Mai Arr	80.03	294	LR	LR	06 18 26.0	
	comp=Z,21nm,21.6s,baz=230,slow=34						
TROLL	Troll, Antarti	85.97	184	⇑Pdiff	P	05 45 47.7	-0.2
	comp=Z,132nm,0.7s						
VNA3	Neumayer Olymp	87.15	180	⇓Pdiff	P	05 45 53.0	-0.5
	comp=Z,3.8nm,0.7s						
VNA2	Neumayer--Watz	87.45	181	⇓Pdiff	P	05 45 54.9	0.0
	comp=Z,4.3nm,0.7s,baz=166,slow=3.0						
EKA	Eskdalemuir Ar	146.15	353	PKPbc	PKPdf	05 52 46.1	-0.7
	comp=Z,2.5nm,0.6s,baz=359,slow=2.8,SNR=15						
GERES	GERESS Array B	147.01	331	PKPbc	PKPdf	05 52 48.7	+0.1
	comp=Z,0.8nm,0.6s,baz=70,slow=3.2,SNR=3.5						

IDC 04 05:38:33.7±2.1**, 30°.45S**×**178°.51W, h0**km**, mb3.7**/3**, Error ellipse: s-maj=55.6km s-min=38.6km az=54.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.66	267	P	P	05 46 32.1	-0.2
	0.3nm,0.4s,baz=106,slow=7.7,SNR=4.9						
	0.3nm,0.4s						
WRA	Warramunga Arr	43.66	272	P	P	05 46 40.3	-0.1
	0.7nm,0.3s,baz=111,slow=8.1,SNR=26						
	0.7nm,0.3s						
VNDA	Vanda	48.00	186	P	P	05 47 13.8	-0.1
	0.3nm,0.3s,baz=39,slow=3.2,SNR=7.0						
	0.3nm,0.3s						
FINES	FINESS Array B	145.04	340	PKPbc	PKPbc	05 58 10.8	-0.8
	0.9nm,0.4s,baz=29,slow=4.5,SNR=11						

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*AFAD **04** 05:47:23.4±0.0, 39°.54N×26°.01E, h5km±3km, ML2.1*
*ISK **04** 05:47:24.1, 39°.54N×26°.04E, h7km, ML2.5/21*
*THE **04** 05:47:24.8, 39°.53N×26°.07E, h7km±1km, ML2.2/7, Error ellipse: s-maj=1.7km s-min=0.5km az=178.0*
*ATH **04** 05:47:25.1, 39°.51N×26°.05E, h13km±1km, ML2.3/3, Error ellipse: s-maj=1.9km s-min=0.8km az=215.0*
ISC 04 05:47:24.7±0.8**, 39°.53N**±0°.02×**26°.06E**±0°.02**, h14**km±6km**, n50,** σ0s.**79**/76**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.09	141	Pg	Pg	05 47 27.2	-0.4
GPNR				Sg	Sg	05 47 29.3	-0.4
PRK	Paraskevi	0.33	150	P	Pg	05 47 31.4	0.0
PRK				S	Sg	05 47 35.4	-0.4
	868nm,0.3s						
PRK	Paraskevi	0.33	150	P	Pg	05 47 31.4	0.0
PRK				S	Sg	05 47 35.5	-0.4
PRK				AML	AML	05 47 36.3	
	comp=N,1622μm,0.4s						
PRK				AML	AML	05 47 36.6	
	comp=E,1819μm,0.2s						
SIGR	SIGRI	0.35	207	Pg	Pg	05 47 31.7	-0.2
SIGR				Sg	Sg	05 47 36.9	+0.2
SIGR	SIGRI	0.35	207	P	Pg	05 47 31.9	0.0
SIGR				S	Sg	05 47 37.1	+0.4
	comp=E,750nm,0.2s						
SIGR	SIGRI	0.35	207	P	Pg	05 47 32.0	+0.2
SIGR				S	Sg	05 47 36.7	0.0
SIGR				AML	AML	05 47 37.5	
	comp=N,1331μm,0.3s						
SIGR				AML	AML	05 47 37.8	
	comp=E,1619μm,0.2s						
EZN	Ezine	0.36	34	Pg	Pg	05 47 31.9	-0.1
EZN				Sg	Sg	05 47 36.9	-0.1
EZN	Ezine	0.36	34	P	Pg	05 47 31.8	-0.2
EZN				S	Sg	05 47 37.3	+0.3
	comp=E,475nm,0.1s						
BAYC	CANAKKALE_Bayr	0.43	60	P	Pg	05 47 32.5	-0.9
BAYC				S	Sg	05 47 39.0	-0.1
BAYC				i AML	AML	05 47 42.0	
	comp=E,121nm,0.2s						
EAG3	Mitilini, Lesv	0.59	138	P	Pg	05 47 36.5	+0.2
EAG3				S	Sg	05 47 44.0	-0.1
COMU	Canakkale	0.65	29	Pg	Pg	05 47 37.2	-0.3
COMU				Sg	Sb	05 47 46.9	-0.1
GADA	Gvkgeada	0.68	349	Pg	Pg	05 47 37.3	-0.6
GADA				Sg	Sg	05 47 46.9	+0.1
LIA	Limnos Island	0.77	299	P	Pb	05 47 40.1	+0.1
LIA				S	Sb	05 47 51.0	+0.7
LIA	Limnos Island	0.77	299	P	Pb	05 47 40.0	+0.1
LIA				S	Sb	05 47 50.3	0.0
LIA				AML	AML	05 47 52.4	
	comp=E,392μm,0.3s						
LIA				AML	AML	05 47 53.0	
	comp=N,354μm,0.3s						
BUHA	Balikesir, Bur	0.79	92	P	Pg	05 47 38.9	-1.1
BUHA				S	Sb	05 47 51.7	+0.9
BUHA				i AML	AML	05 47 52.0	
	comp=N,62nm,0.3s						
BUHA				i AML	AML	05 47 54.0	
	comp=N,65nm,0.5s						
DKL	Dikili	0.80	124	Pg	Pg	05 47 40.4	+0.2
EFSA	Agios Efstrati	0.83	271	P	Pg	05 47 40.1	-0.7
RFT7	Candarli	0.88	130	Pg	Pg	05 47 41.9	+0.2
CANM	Can-anakkale	0.91	57	Pg	Pg	05 47 42.3	+0.1
GELI	Tayfur-Gelibol	0.93	20	Pg	Pg	05 47 42.5	-0.1
FOCM	Foa	0.97	147	Pg	Pg	05 47 42.6	-0.7
ZEDA	zmir-Bergama	0.97	125	P	Pg	05 47 43.4	0.0
ZEDA				S	Sb	05 47 56.9	+0.9
ZEDA				i AML	AML	05 47 58.0	
	comp=N,82nm,0.3s						
ZEDA				i AML	AML	05 48 27.0	
	comp=N,47nm,1.4s						
LPK	Lapseki	1.00	32	Pg	Pg	05 47 43.6	-0.4
SMTH	Samothraki Isl	1.03	337	P	Pg	05 47 44.2	-0.3
SMTH				S	Sb	05 47 58.1	+0.4
	comp=N,75nm,0.2s						
SMTH	Samothraki Isl	1.03	337	P	Pg	05 47 44.2	-0.3
SMTH				S	Sb	05 47 57.9	+0.2
PSRA	Psara	1.06	202	P	Pg	05 47 44.0	-1.1
PSRA				S	Sg	05 47 58.5	-0.3
CHOS	Chios island	1.14	180	Pn	Pg	05 47 45.6	-1.0
CHOS	Chios island	1.14	180	P	Pg	05 47 45.4	-1.3
CHOS				S	Sb	05 48 02.4	+1.5
	comp=N,138nm,0.2s						
CHOS	Chios island	1.14	180	P	Pg	05 47 45.4	-1.3
CHOS				S	Sg	05 48 01.4	-0.1
ERIK	Erikli-Kesan	1.19	17	Pn	Pg	05 47 47.0	-0.7
ENEZ	Enez	1.21	3	Pn	Pg	05 47 47.5	-0.6
ENEZ	Enez	1.21	3	P	Pg	05 47 47.4	-0.6
ENEZ				S	Sn	05 48 04.3	+0.8
	comp=N,172nm,0.3s						
BALY	Balya	1.22	79	P	Pg	05 47 44.8	-3.5
BALY				S	Sg	05 48 02.8	-1.4
BALY				i AML	AML	05 48 05.0	
	comp=N,48nm,0.5s						
BALY				i AML	AML	05 48 06.0	
	comp=N,37nm,0.2s						
KRBG	Karabiga-Canak	1.29	47	Pn	Pn	05 47 48.4	+0.1
STEP	BALIKESIR_Sava	1.29	96	P	Pg	05 47 49.7	+0.1
STEP				S	Sb	05 48 06.1	+0.8
STEP				i AML	AML	05 48 11.0	
	comp=N,29nm,0.4s						
STEP				i AML	AML	05 48 13.0	
	comp=N,30nm,0.6s						
GONE	Gonen-Balikesi	1.36	67	Pn	Pn	05 47 50.3	+1.0
ALN	Alexandroupoli	1.37	360	Pn	Pn	05 47 50.0	+0.6
ALN	Alexandroupoli	1.37	360	P	Pn	05 47 49.7	+0.3
ALN				S	Sb	05 48 07.9	+0.4
	comp=N,48nm,0.6s						
ALN	Alexandroupoli	1.37	360	P	Pn	05 47 49.7	+0.3
RKY	Sarkoy-Tekirda	1.44	36	Pn	Pn	05 47 51.1	+0.6
BKES	Balkesir-Mer	1.46	81	P	Pn	05 47 51.3	+0.6
BKES				S	Sn	05 48 07.7	-1.9
BKES				i AML	AML	05 48 13.0	
	comp=N,21nm,0.7s						
THAS	Thassos island	1.49	317	P	Pn	05 47 50.3	-0.8
THAS	Thassos island	1.49	317	P	Pn	05 47 50.8	-0.3
UKOP	Uzunkopru-Edir	1.66	15	Pn	Pn	05 47 54.3	+0.9
RDO	Rodhopi	1.67	346	Pn	Pn	05 47 54.1	+0.6
RDO	Rodhopi	1.67	346	P	Pn	05 47 53.8	+0.3
RDO	Rodhopi	1.67	346	P	Pn	05 47 53.7	+0.2
SMG	Samos	1.92	161	P	Pn	05 47 56.4	-0.5
EDRB	Edirne	2.38	12	Pn	Pn	05 48 04.8	+1.5
ARMT	Armutlu	2.39	63	Pn	Pn	05 48 04.9	+1.4

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*SJA **04** 06:01:17.1±0.7, 32°.76S×72°.54W, h14km, ML4.5, MW4.2*
*IDC **04** 06:01:21.5±0.7, 32°.66S×71°.66W, h0km, mb4.2/9, mbtmp4.1/13, ML4.2/4, MS3.3/13, Error ellipse: s-maj=23.4km s-min=19.0km az=96.0*
*NEIC **04** 06:01:25.7, 32°.66S×71°.79W, h22km*
*NEIC **04** 06:01:26.3±1.4, 32°.64S±0°.03×71°.77W±0°.06, h31km±5km, mb4.4/17, Mwr4.2/74, Error ellipse: s-maj=7.4km s-min=4.7km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.94; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-2.24; $M_{r\theta}$0.68; $M_{\theta\phi}$0.08; $M_{\phi r}$-0.69; Fault plane solution: $M_0$2.32000×10^{15} NP1:ϕ_s160.78000°, δ57.05000°, λ68.69000°. NP2:ϕ_s16.42000°, δ38.58000°, λ119.28000°. Principal axes: T 2.2688, Plg70.0000°, Azm23.0000°; N 0.0948, Plg18.0000°, Azm173.0000°; P -2.3636, Plg10.0000°, Azm266.0000°;*
*GUC **04** 06:01:27.6±0.7, 32°.72S×71°.66W, h27km±6km, ML4.4*
ISC 04 06:01:23.9±0.9**, 32°.64S**±0°.02×**71°.87W**±0°.03**, h19**km±3km**, n139,** σ1s.**68**/164**, mb4.4**/18**, MS3.4**/8**, 2C-20D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA01	Torpederas	0.42	154		Pn	06 01 34.3	-0.7
VA01				Sg	Sn	06 01 40.4	-1.8
VA01	Torpederas	0.42	154	eP	Pg	06 01 32.4	-0.4
VA01				IAML		06 01 46.6	
	comp=Z,6μm,0.5s						
VA01	Torpederas	0.42	154	⇑iP	Pn	06 01 34.3	-0.7
VA01				i S	Sb	06 01 39.8	+0.9
VA06	Catapilco	0.49	81		Pb	06 01 34.9	+1.0
VA06				Sg	Sb	06 01 40.7	0.0
VA06	Catapilco	0.49	81	⇓iP	Pb	06 01 34.9	+1.0
VA06				i S	Sg	06 01 39.9	-0.7
VA06				IAML		06 01 42.0	
	comp=E,114μm,0.4s						
ROC1	El Roble	0.79	115		Pg	06 01 39.3	-0.2
ROCH	El Roble	0.80	115	⇓iP	Pg	06 01 39.4	-0.2
ROCH				i S	Sb	06 01 48.3	-1.4
ROCH				IAML		06 01 50.3	
	comp=N,26μm,0.4s						
MT02	Curacav	0.87	135		Pg	06 01 40.4	-0.6
MT02	Curacav	0.87	135	⇓iP	Pg	06 01 40.4	-0.6
MT02				i S	Sb	06 01 49.0	-2.7
VA05	Santo Domingo	1.03	168		Pg	06 01 43.9	-0.1
VA05	Santo Domingo	1.03	168	eP	Pg	06 01 43.7	-0.4
VA05				i S	Sg	06 01 56.8	-0.9
VA05				IAML		06 02 01.4	
	comp=N,21μm,0.3s						
PEL	Peldehue	1.12	117		Pn	06 01 44.5	-0.1
PEL	Peldehue	1.12	117	eP	Pb	06 01 43.7	-0.9
PEL				eS	Sb	06 01 57.3	-1.5
PEL				IAML		06 01 60.0	
	comp=E,16μm,0.2s						
MT05	Renca	1.21	128		Pb	06 01 46.1	-0.2
MT05	Renca	1.21	128	eP	Pb	06 01 46.1	-0.2
MT05				eS	Sn	06 02 01.8	0.0
MT05				IAML		06 02 09.2	
	comp=Z,5μm,0.4s						
MT05	Renca	1.21	128	⇓iP	Pb	06 01 46.0	-0.2
MT05				i S	Sb	06 01 59.5	-2.1
MT05				IAML		06 02 05.4	
	comp=E,18μm,0.3s						
MT10	Hacienda Santa	1.29	120	⇓iP	Pb	06 01 47.2	-0.4
MT10				i S	Sb	06 02 01.3	-2.5
MT10				IAML		06 02 07.0	
	comp=E,20μm,0.6s						
MT01	Popeta	1.32	157		Pb	06 01 48.0	-0.1
MT01	Popeta	1.32	157	⇓iP	Pb	06 01 48.0	-0.1
MT01				i S	Sn	06 02 03.9	-0.6
MT01				IAML		06 02 07.6	
	comp=N,11μm,0.3s						
MT14	Cerro Cal¡n	1.35	124	⇓iP	Pb	06 01 48.2	-0.4
MT14				i S	Sn	06 02 01.6	-3.6
MT14				IAML		06 02 09.8	
	comp=E,13μm,0.5s						
MT09	Talagante	1.35	147		Pb	06 01 48.5	-0.2
MT09	Talagante	1.35	147	⇓iP	Pb	06 01 48.5	-0.2
MT09				i S	Sn	06 02 04.6	-0.8
MT09				IAML		06 02 06.9	
	comp=N,12μm,0.3s						
MT16	CCHEN	1.38	125		Pb	06 01 48.7	-0.4
MT16	CCHEN	1.38	125	⇓iP	Pb	06 01 48.7	-0.4
MT16				i S	Sn	06 02 04.2	-1.7
MT03	Universidad Ad	1.42	127		Pb	06 01 49.4	-0.5
MT03	Universidad Ad	1.42	127	eP	Pb	06 01 49.5	-0.5
MT03				eS	Sb	06 02 07.8	+0.1
MT03				IAML		06 02 11.2	
	comp=Z,7μm,0.6s						
MT03	Universidad Ad	1.42	127	⇓iP	Pb	06 01 49.4	-0.5
MT03				i S	Sn	06 02 07.0	-0.1
MT03				IAML		06 02 10.4	
	comp=E,19μm,0.5s						
MT15	Las Vizcachas	1.49	130	⇓iP	Pb	06 01 50.2	-0.8
MT15				i S	Sn	06 02 08.7	0.0
MT15				IAML		06 02 13.5	
	comp=N,18μm,0.3s						
FCH	Farellones	1.49	118	⇓iP	Pn	06 01 50.3	+0.3
FCH				i S	Sn	06 02 08.5	-0.6
MT12	Pirque	1.55	135	⇓iP	Pb	06 01 51.5	-0.6
MT12				i S	Sn	06 02 09.6	-0.6
MT12				IAML		06 02 17.1	
	comp=N,17μm,0.5s						
CO02	Combarbal	1.61	28		Pb	06 01 53.4	+0.2
CO02	Combarbal	1.61	28	⇑iP	Pb	06 01 53.2	+0.1
CO02				i S	Sb	06 02 13.8	+0.6
CO02				IAML		06 02 18.1	
	comp=E,21μm,0.5s						
MT04	Ro Olivares	1.64	118	⇓iP	Pn	06 01 52.6	+0.6
MT04				i S	Sn	06 02 12.2	-0.5
MT04				IAML		06 02 14.1	
	comp=E,7μm,0.5s						
BO04	La Punta	1.71	142		Pb	06 01 54.3	-0.4
BO04	La Punta	1.71	142	eP	Pb	06 01 54.1	-0.6
BO04				eS	Sn	06 02 13.9	-0.2
BO04				IAML		06 02 19.7	
	comp=N,7μm,0.4s						
MT13	San Alfonso	1.73	130		Pb	06 01 54.1	-0.9

MT13	San Alfonso	1.73	130	⇓iP	Pb	06 01 54.2	-0.9
MT13				iS	Sb	06 02 15.8	-0.6
MT13				IAML		06 02 20.0	
	comp=N,9µm,0.3s						
LMEL	Las Melosas	1.84	131		Pb	06 01 56.0	-1.1
LMEL	Las Melosas	1.84	131	⇓iP	Pb	06 01 56.0	-1.1
LMEL				iS	Sb	06 02 19.6	-0.3
LMEL				IAML		06 02 21.8	
	comp=N,7µm,0.4s						
BO01	Tunca	1.86	160		Pn	06 01 55.8	+1.0
BO01	Tunca	1.86	160	eP	Pn	06 01 53.3	-1.5
BO01				eS	Sg	06 02 22.1	-2.0
BO01				IAML		06 02 23.9	
	comp=Z,2µm,0.3s						
CO06	Fray Jorge	1.97	6		Pn	06 01 57.5	+1.2
CO03	El Pedregal	2.06	30		Pb	06 01 59.5	-1.2
BO02	Sierra Bellavi	2.33	157		Pn	06 02 02.5	+1.2
BO02	Sierra Bellavi	2.33	157	eP	Pn	06 02 01.8	+0.6
BO02				eS	Sn	06 02 29.6	+0.2
BO02				eS	Sb	06 02 35.1	+1.4
BO02				IAML		06 02 41.8	
	comp=Z,2µm,0.2s						
GO05	Huala	2.36	181		Pn	06 02 02.1	+0.4
GO05	Huala	2.36	181	eP	Pn	06 01 56.6	-5.1
GO05				eS	Sn	06 02 29.6	-0.5
ARCO	CERRO ARCO	2.48	95	eP	Pb	06 02 07.6	-0.4
ARCO				IAML		06 02 58.3	
	comp=Z,545nm,0.8s						
ASAL	Salagasta	2.56	90	eP	Pb	06 02 08.9	-0.4
ASAL				eS	Sb	06 02 38.6	-1.9
ASAL				IAML		06 02 54.7	
	comp=Z,702nm,0.7s						
AAGR	Agrelo	2.60	101	eP	Pb	06 02 09.2	-0.8
AAGR				IAML		06 03 03.0	
	comp=Z,751nm,1.3s						
GO04	Tololo Observa	2.63	21	eP	Pn	06 02 03.1	-2.4
GO04				eP	Pb	06 02 06.8	-3.7
GO04				eP		06 02 07.6	
GO04				eS	Sn	06 02 38.6	+1.6
GO04				eS	Sb	06 02 44.6	+2.1
GO04				IAML		06 02 58.8	
	comp=Z,5µm,0.8s						
CO05	La Serena	2.77	11		Pn	06 02 08.5	+1.3
DOCA	Reserva Natura	2.91	55	eP	Pb	06 02 13.5	-2.0
DOCA				eS	Sb	06 02 53.6	+2.8
DOCA				IAML		06 03 01.1	
	comp=Z,841nm,0.9s						
RTCV	Cerro Valdivia	2.93	75	eP	Pb	06 02 13.5	-2.0
RTCV				eP	Pn	06 02 14.2	+4.7
RTCV				eS	Sb	06 02 53.4	+2.5
AVIZ	Vizcacheras	2.94	107	eP	Pb	06 02 14.1	-1.6
AVIZ				eP	Pn	06 02 14.2	+4.5
AVIZ				eS	Sg	06 03 14.8	+16
CO01	Juntas del Tor	3.06	30	eP	Pn	06 02 14.1	+2.6
CO01				eS	Sb	06 02 56.6	+1.6
CO01				IAML		06 03 08.0	
	comp=Z,647nm,0.9s						
ML02	Panimavida	3.13	173		Pn	06 02 13.3	+1.0
ACCO	Cerro Coronel	3.15	50	eP	Pb	06 02 16.8	-2.7
ACCO				eS	Sg	06 03 03.6	-1.6
RTLL	Cerro Villicun	3.17	67	eP	Pb	06 02 17.2	-2.4
AROD	Rodeo	3.21	40	eP	Pb	06 02 17.6	-2.9
AROD				eS	Sb	06 03 03.1	+3.8
CFA	Coronel Fontan	3.25	72	Pn	Pn	06 02 16.1	+2.2
	comp=Z,33nm,0.3s,baz=238,slow=10,SNR=343						
CFA				Lg	Lg	06 03 01.9	
	comp=Z,68nm,0.3s,baz=178,slow=10,SNR=4.7						
CFA				LR	LR	06 03 45.1	
	comp=Z,678nm,19.6s,baz=272,slow=46						
ACDV	Cuesta del Vie	3.41	44	eP	Pb	06 02 20.3	-3.5
ACDV				eS	Sb	06 03 07.6	+2.8
ACDV				IAML		06 03 19.8	
	comp=Z,561nm,1.1s						
RFA	San Rafael	3.54	128	eP	Pn	06 02 20.8	+2.9
RFA				eS	Sg	06 03 25.5	+7.7
LCO	Las Campanas	3.76	16		Pn	06 02 22.5	+1.4
LCO	Las Campanas	3.76	16	eP	Pn	06 02 22.3	+1.3
LCO				eS	Sn	06 03 09.6	+4.7
LCO				IAML		06 03 22.5	
	comp=Z,3µm,0.6s						
BI05	Punta Hualpn	4.24	194		Pn	06 02 27.5	+0.1
AVFE	Valle Fertil	4.25	63	eP	Pn	06 02 31.0	+3.3
AVFE				eS	Sb	06 03 25.6	-3.5
AVFE				IAML		06 03 30.9	
	comp=Z,281nm,0.6s						
AGUA	GUANDACOL	4.28	44	eP	Pn	06 02 31.9	+3.8
AGUA				eS	Sb	06 03 33.6	+3.7
AGUA				IAML		06 03 39.5	
	comp=Z,742nm,0.7s						
AC04	Llanos de Chal	4.48	9		Pn	06 02 31.7	+1.0
AC04	Llanos de Chal	4.48	9	eP	Pn	06 02 31.3	+0.6
AC04				eS	Sb	06 03 31.6	-3.9
AC04				IAML		06 03 47.6	
	comp=Z,502nm,0.7s						
ACHE	Chepes	4.67	73	eP	Pn	06 02 36.3	+2.8
GO03	Copiap	5.23	16		Pn	06 02 42.0	+0.9
GO03	Copiap	5.23	16	eP	Pn	06 02 42.4	+1.3
GO03				IAML		06 04 15.1	
	comp=Z,254nm,0.6s						
AC06	Mina Casimiro	5.43	14		Pn	06 02 44.3	+0.5
VA04	Juan Fernndez	5.92	258		Pn	06 02 52.4	+1.9
H03N1	Juan Fernandez	5.97	260	T	T	06 09 33.0	
	baz=89,slow=74,SNR=587						
H03N3	Juan Fernandez	5.98	260	T	T	06 09 16.5	
	baz=89,slow=74,SNR=745						
H03N2	Juan Fernandez	5.98	260	T	T	06 09 17.9	
	baz=89,slow=74,SNR=1085						
H03S1	Juan Fernandez	6.01	257	T	T	06 09 11.8	
	baz=82,slow=75,SNR=412						
H03S3	Juan Fernandez	6.01	257	T	T	06 09 16.5	
	baz=82,slow=75,SNR=414						
H03S2	Juan Fernandez	6.03	257	T	T	06 09 12.7	
	baz=82,slow=75,SNR=987						
PB14	IPOC Station P	8.09	10	Pn	Pn	06 03 19.4	-1.3
PLCA	Paso Flores	8.14	173	Pn	Pn	06 03 22.3	+1.2
PLCA	Paso Flores	8.14	173	Pn	Pn	06 03 21.7	+0.6
	comp=Z,1.8nm,0.3s,baz=334,slow=11,SNR=50						
PLCA				LR	LR	06 07 03.0	
	comp=Z,66nm,19.5s,baz=332,slow=42						
	comp=Z,4.3nm,0.3s						
PB15	IPOC Station P	9.63	13	Pn	Pn	06 03 41.1	-0.7
TRQA	Tornquist	9.72	127	Pn	Pn	06 03 43.4	+0.8
LVC	Limon Verde	10.33	15	Pn	Pn	06 03 49.9	-1.5
	comp=Z,0.2nm,0.3s,baz=148,slow=8.4,SNR=9.6						
LVC				Sn	Sn	06 05 42.3	-4.6
	comp=Z,0.9nm,0.3s,baz=182,slow=23,SNR=1.8						
LVC				LR	LR	06 08 13.4	
	comp=Z,238nm,18.9s,baz=211,slow=40						
	comp=Z,1.0nm,0.3s						
ITQB	Itaqui	13.39	81	Pn	Pn	06 04 31.2	-1.6
CPUP	Villa Florida	14.13	67	Pn	Pn	06 04 42.5	-0.6
	comp=Z,0.4nm,0.3s,baz=246,slow=9.5,SNR=7.2						
CPUP				Sn	Sn	06 07 18.4	-1.1
	comp=Z,0.3nm,0.3s,baz=179,slow=8.2,SNR=4.0						
CPUP				LR	LR	06 10 57.9	
	comp=Z,47nm,20.2s,baz=256,slow=41						
	comp=Z,1.2nm,0.4s						
PLTB	Pedras Altas	15.49	92	Pn	Pn	06 05 00.4	-1.0
LPAZ	La Paz	16.63	13		Pn	06 05 07.9	-8.7
ITAB	Concordia	17.93	78	Pn	Pn	06 05 30.2	-1.9
AQDB	Aquidauana	18.84	54		P	06 05 40.8	-1.9
SIV	San Ignacio	19.25	33	P	P	06 05 46.9	-0.5
	baz=196,slow=8.9,SNR=18						
SIV				LR	LR	06 14 29.9	
	comp=Z,137nm,19.1s,baz=273,slow=41						
	comp=Z,2.3nm,0.6s						
PTLB	Pontes e Lacer	20.66	37		P	06 06 03.0	+0.4
NNA	Nana	21.06	346	LR	LR	06 12 36.1	
	comp=Z,54nm,19.5s,baz=182,slow=32						
EFI	East Falkland	21.53	156	P	P	06 06 12.0	+0.3
VILB	Vilhena	22.32	31	P	P	06 06 20.4	-0.1
VILB				IAmb	IAmb	06 06 32.9	
	comp=Z,11nm,0.9s						
SAML	Samuel	24.91	21	P	P	06 06 45.6	-0.2
SAML				IAmb	IAmb	06 06 48.2	
	comp=Z,4.6nm,0.8s						
ATAH	Atahualpa	26.09	345	LR	LR	06 15 21.1	
	comp=Z,54nm,18.4s,baz=153,slow=32						
BDFB	Brasilia	27.47	58	P	P	06 07 08.0	-1.1
BDFB				IAmb	IAmb	06 07 09.2	
	comp=Z,7.9nm,1.1s						
BDFB	Brasilia	27.47	58	P	P	06 07 08.2	-0.9
	comp=Z,5.4nm,0.9s,baz=222,slow=9.3,SNR=6.4						
BDFB				LR	LR	06 18 47.6	
	comp=Z,92nm,20.4s,baz=111,slow=38						
	comp=Z,5.4nm,0.9s						
TBTG	Tabatinga, AM	28.37	4	P	P	06 07 17.0	+0.1
MACA	Manacapuru-AM	31.15	22	P	P	06 07 41.0	-0.5
MACA				IAmb	IAmb	06 07 55.5	
	comp=Z,6.4nm,0.9s						
RPN	Rapa Nui	32.83	270	LR	LR	06 17 48.3	
	comp=Z,72nm,19.0s,baz=79,slow=30						
TULM	Tulcn-Chalpat	33.65	349	P	P	06 08 01.8	-2.2
TULM				IAmb	IAmb	06 08 13.4	
	comp=Z,7.0nm,1.1s						
BOAV	Boa Vista	36.47	19	P	P	06 08 27.4	-0.4
BOAV				IAmb	IAmb	06 08 28.8	
	comp=Z,4.7nm,0.8s						
SDV	Santo Domingo	41.31	2	LR	LR	06 27 34.6	
	comp=Z,42nm,20.4s,baz=50,slow=38						
BAUV	El Baul	41.51	6	P	P	06 09 10.3	+0.3
BAUV				IAmb	IAmb	06 09 24.7	
	comp=Z,12nm,1.1s						
MDP	Montagnes des	41.75	30	LR	LR	06 28 19.9	
	comp=Z,64nm,18.4s,baz=82,slow=39						
PCRV	Puerto La Cruz	43.13	10	LR	LR	06 30 13.4	
	comp=Z,52nm,19.7s,slow=40						
BELA	Belgrano 2	48.19	170	P	P	06 10 03.9	+1.4
BELA				IAmb	IAmb	06 10 16.5	
	comp=Z,5.9nm,1.1s						
VNA3	Neumayer Olymp	50.56	158	⇓P	P	06 10 21.9	+1.1
	comp=Z,2.5nm,0.6s						
VNA2	Neumayer--Watz	51.21	158	⇓P	P	06 10 26.6	+1.0
	comp=Z,4.3nm,0.6s,baz=284,slow=9.0						
SNAA	Sanae	52.79	158	⇓P	P	06 10 38.4	+1.0
	comp=Z,40nm,0.6s						
TROLL	Troll, Antarti	54.50	158	⇓P	P	06 10 51.1	+1.1
	comp=Z,102nm,0.7s						
TEIG	Tepich	54.86	341	P	P	06 10 53.6	+0.6
QSPA	South Pole Qui	57.59	180	P	P	06 11 11.7	-0.5
QSPA	South Pole Qui	57.59	180	P	P	06 11 12.9	+0.7
	comp=Z,6.4nm,0.9s,baz=159,slow=2.5,SNR=14						
	comp=Z,6.4nm,0.9s						
TXAR	Lajitas Array	68.62	330	P	P	06 12 27.5	+1.7
	comp=Z,0.4nm,0.5s,baz=155,slow=8.6,SNR=9.2						
	comp=Z,0.4nm,0.5s						
DBIC	Dimbokro	74.61	72	P	P	06 13 02.0	-0.2
	comp=Z,3.0nm,0.7s,baz=203,slow=6.4,SNR=5.9						
	comp=Z,3.0nm,0.7s						
TSUM	Tsumeb	79.45	106	LR	LR	06 46 40.9	
	comp=Z,43nm,18.1s,baz=328,slow=34						
BOSA	Boshof	80.58	118	P	P	06 13 35.3	-0.2
	comp=Z,4.0nm,0.9s,baz=220,slow=3.0,SNR=5.8						
	comp=Z,4.0nm,0.9s						
PDAR	Pinedale Array	82.62	333	P	P	06 13 47.0	+1.1
	comp=Z,0.2nm,0.3s,baz=123,slow=3.3,SNR=2.2						
	comp=Z,0.2nm,0.3s						
NVAR	Mina Array Bea	82.85	325	P	P	06 13 49.2	+2.1
	comp=Z,0.7nm,0.6s,baz=153,slow=6.5,SNR=10						
	comp=Z,0.7nm,0.6s						
TORD	Torodi Ar. Bea	83.62	70	P	P	06 13 51.1	-0.2
	comp=Z,3.1nm,0.8s,baz=265,slow=4.6,SNR=23						
	comp=Z,3.1nm,0.8s						
ULM	Lac du Bonnet	85.23	345	P	P	06 13 59.4	+0.8
	comp=Z,1.8nm,0.8s,baz=175,slow=10,SNR=3.7						
	comp=Z,1.8nm,0.8s						
AKASG	Malin Array Be	121.17	47	PKP	PKPdf	06 20 14.5	-0.4
	comp=Z,0.5nm,0.5s,baz=282,slow=1.8,SNR=2.4						
WRA	Warramunga Arr	122.01	209	PKP	PKPdf	06 20 17.2	-0.5
	comp=Z,0.2nm,0.5s,baz=163,slow=1.6,SNR=6.4						
H11S2	WAKE ISLAND Hy	125.92	270	T	T	08 39 19.8	
	baz=118,slow=75,SNR=103						
H11S1	WAKE ISLAND Hy	125.93	270	T	T	08 39 23.8	
	baz=118,slow=75,SNR=124						
H11S3	WAKE ISLAND Hy	125.94	270	T	T	08 39 23.3	
	baz=118,slow=75,SNR=70						
H11N3	WAKE ISLAND Hy	126.30	271	T	T	08 39 48.7	
	baz=117,slow=71						
H11N1	WAKE ISLAND Hy	126.31	271	T	T	08 39 52.4	
	baz=117,slow=71						
H11N2	WAKE ISLAND Hy	126.32	271	T	T	08 39 53.4	
	baz=117,slow=71						
BVAR	Borovoye Array	146.19	42	PKPbc	PKPab	06 21 03.1	0.0
	comp=Z,2.7nm,0.5s,baz=304,slow=2.8,SNR=23						
KURBB	Kurchatov Arra	151.78	42	PKPbc	PKiKP	06 21 17.4	+0.3
	comp=Z,5.5nm,0.6s,baz=300,slow=3.0,SNR=38						
ZALV	Zalesovo Beam	153.00	31	PKPbc	PKiKP	06 21 20.0	+0.4
	comp=Z,5.9nm,0.6s,baz=302,slow=3.1,SNR=33						
MKAR	Makanchi Array	155.75	47	PKPab	PKPab	06 21 43.1	+0.3
	comp=Z,1.7nm,0.7s,baz=303,slow=2.8,SNR=14						

UPA 04 06:04:23.1±0.5**, 7°58N**×**80°78W, h8**km±5km**, ML3.6, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	0.25	198	eP	Pg	06 04 27.8	-0.3
CACAO				AMP		06 04 28.5	
	comp=Z,11µm,0.1s						
CACAO				eS	Sg	06 04 32.0	+0.6
GMAL	Guarumal, Vera	0.48	292	eP	Pg	06 04 33.1	+0.6
CHIT3	Chitre	0.52	44	eP	Pg	06 04 33.2	+0.1
CHIT3				eS	Sg	06 04 40.6	+0.6
ACHO3	Achotines, Los	0.63	105	eP	Pg	06 04 35.1	-0.2

*NEIC **04** 06:15:03.5±1.2, 19°6N±0°1×63°77W±0°07, h35km±2km, ML2.7/20, Md3.8/7(RSPR), Error ellipse: s-maj=20.8km s-min=4.8km az=27.0*
*RSPR **04** 06:15:05.4, 19°25N×63°90W, h144km±10km, MD3.8/7*
ISC 04 06:15:03.4±3.8**, 19°6N**±0°2×**63°8W**±0°1**, h35**km**, n28,** σ**0s69**/34**, 8C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	1.67	158	Pn	Pn	06 15 29.6	-0.6
SMRT				IAML		06 15 53.1	
	comp=E,87nm,0.2s						
SMRT				IAML		06 15 54.8	
	comp=N,84nm,0.2s						
SABA	Saba	2.03	166	Pn	Pn	06 15 36.1	+1.0
SABA				IAML		06 16 08.5	
	comp=N,90nm,1.2s						
GCPR	Guaynabo City	2.56	240	⇑eP	Pn	06 15 42.8	+0.4
GCPR	Guaynabo City	2.56	240	eS	Sn	06 16 13.2	+0.9
GCPR	Guaynabo City	2.56	240		Pn	06 15 42.2	-0.2
GCPR					Sn	06 16 11.6	-0.8
SJG	San Juan	2.72	237	⇑eP	Pn	06 15 45.5	+0.9
SJG	San Juan	2.72	237	eS	Sn	06 16 16.4	+0.2
SJG	San Juan	2.72	237		Pn	06 15 44.1	-0.5
IGPR	InterUniversit	2.77	234	⇑eP	Pn	06 15 46.2	+1.0
IGPR	InterUniversit	2.77	234	eS	Sn	06 16 17.0	-0.5
IGPR	InterUniversit	2.77	234		Pn	06 15 46.2	+1.0
IGPR					Sn	06 16 17.0	-0.5
CELP	Cerrillos	3.08	241	⇑eP	Pn	06 15 50.2	+0.5
CELP	Cerrillos	3.08	241	eS	Sn	06 16 24.7	-0.6
CELP	Cerrillos	3.08	241		Pn	06 15 49.4	-0.2
CELP					Sn	06 16 24.5	-0.8
CELP				IAML		06 17 46.2	
	comp=N,16nm,3.9s						
AOPR	Arecibo Observ	3.11	247	⇑eP	Pn	06 15 50.3	+0.3
AOPR	Arecibo Observ	3.11	247	eS	Sn	06 16 26.6	+0.7
AOPR	Arecibo Observ	3.11	247		Pn	06 15 50.4	+0.5
AOPR					Sn	06 16 26.6	+0.7
OBIP	Obispado Ponce	3.12	241	⇑eP	Pn	06 15 51.1	+1.0
OBIP	Obispado Ponce	3.12	241	eS	Sn	06 16 25.9	-0.3
OBIP	Obispado Ponce	3.12	241		Pn	06 15 50.3	+0.2
OBIP					Sn	06 16 25.4	-0.9
OBIP				IAML		06 17 30.8	
	comp=E,16nm,4.1s						
OBIP				IAML		06 17 57.0	
	comp=N,18nm,3.8s						
LSP	Las Mesas	3.47	246	eS	Sn	06 16 34.8	0.0
LSP	Las Mesas	3.47	246		Sn	06 16 34.8	0.0
PRSN	Puerto Rico Se	3.50	247	Pn	Pn	06 15 55.2	-0.1
MLPR	Magueyes Islan	3.52	243	⇑eP	Pn	06 15 55.5	-0.2
MLPR	Magueyes Islan	3.52	243	eS	Sn	06 16 35.1	-1.0
MLPR	Magueyes Islan	3.52	243		Pn	06 15 55.3	-0.3
MLPR					Sn	06 16 35.0	-1.0
MLPR				IAML		06 16 47.3	
	comp=E,18nm,3.6s						
MLPR				IAML		06 17 13.7	
	comp=N,19nm,2.8s						
CRPR	Cabo Rojo, PR	3.56	244	⇑eP	Pn	06 15 56.9	+0.8
CRPR	Cabo Rojo, PR	3.56	244		Pn	06 15 55.1	-1.1
CRPR				IAML		06 16 48.8	
	comp=N,20nm,2.2s						
CRPR				IAML		06 18 02.5	
	comp=E,15nm,3.0s						

DJA 04 06:15:04.6±0.3**, 3°S**±4°×**10°3E**±°**, h219**km±5km**, M4.3**/18**, mb4.2**/6**, mB5.2**/1**, MLv4.3**/18**, Mw(mB)4.6**/1**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	Lahat	0.96	146	P	Pn	06 15 37.1	+1.0
UBSI	University, Be	1.03	224	P	Pn	06 15 37.3	+0.8
UBSI				S	S	06 16 00.9	-0.5
JMBI	JAMBI	1.52	25	P	Pn	06 15 40.7	+0.5
LWLI	Liwa	2.25	152	P	Pn	06 15 47.5	+0.3
EGSI	Enggano, Bengk	2.42	197	P	Pn	06 15 49.4	+0.5
EGSI				S	S	06 16 21.9	-1.5
KASI	Kota Agung	2.91	149	P	Pn	06 15 54.8	+0.6
KASI				S	S	06 16 32.8	-0.1
DSRI	Dabo	2.98	32	P	Pn	06 15 54.9	-0.2
PPSI	Pulau Pagai	2.99	275	P	Pn	06 15 56.0	+0.9
PPBI	Pangkal Pinang	3.26	75	P	Pn	06 15 58.2	0.0
PDSI	Padang	3.28	310	P	Pn	06 15 58.6	0.0
PDSI				S	S	06 16 39.5	-1.2
BKNI	Bangkinang	3.85	330	P	Pn	06 16 05.3	-0.1
CGJI	Cibinong	4.47	143	P	Pn	06 16 12.4	-0.5
PBSI	Pulau Batu	5.55	302	P	Pn	06 16 26.1	-0.4
	165nm,1.2s,0.8nm						
CNJI	Cibinong	5.93	136	P	Pn	06 16 31.0	-0.3
	22nm,1.3s,0.1nm						
JCJI	Jatiwangi	6.29	123	P	Pn	06 16 37.4	+1.5
BBJI	Bungbulang	6.40	134	P	Pn	06 16 37.2	-0.2
	34nm,1.6s,0.2nm						
GSI	Gunungsitoli	6.91	308	P	Pn	06 16 43.1	-0.8
	63nm,0.5s,4µm0.4nm						
CMJI	Cimerak	7.21	131	P	Pn	06 16 47.1	-0.5
	32nm,0.9s,0.2nm						
KPJI	Karang Pucung	7.30	126	P	Pn	06 16 49.8	+0.9

*NIED **04** 06:20:06.8, 35°63N×140°12E, h72km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.00; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-0.84; $M_{r\theta}$-0.65; $M_{\theta\phi}$1.10; $M_{\phi r}$1.46; Fault plane solution: $M_0$2.09000×10^{15} NP1: ϕ_s337.00000°, δ71.00000°, λ103.00000°. NP2: ϕ_s121.00000°, δ23.00000°, λ56.00000°.*
*JMA **04** 06:20:06.8±0.2, 35°6N±0°6×140°1E±0°9, h72km±1km, MV3.8/37, CENTRAL CHIBA PREF*
JMA Felt II J1 at CENTRAL CHIBA PREF .
*NEIC **04** 06:20:08.0±1.8, 35°60N±0°06×140°17E±0°09, h73km±4km, mb4.4/28, Error ellipse: s-maj=10.7km s-min=8.2km az=109.0*
*IDC **04** 06:20:09.2±1.1, 35°45N×140°05E, h88km±10km, mb3.7/18, mbtmp4.0/21, MS2.8/3, Error ellipse: s-maj=17.1km s-min=6.4km az=68.0*
ISC 04 06:20:07.5±0.5**, 35°56N**±0°04×**140°16E**±0°04**, h66**km±4km**, n105,** σ**1s55**/119**, mb4.2**/34**, 15D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.15	166	⇓P	Pn	06 20 18.2	+0.9
JCN				⇓eS	Sn	06 20 26.9	+2.4
JSMT	Sammumatsuo	0.25	71	P	Pn	06 20 18.5	+0.7
JSMT				eS	Sn	06 20 27.6	+2.2
TOK	Tokyo	0.35	291	P	Pn	06 20 19.1	+0.6
TOK				eS	Sn	06 20 28.4	+1.8
BSO3	Boso 3	0.81	159	⇓P	Pn	06 20 23.6	+0.5
BSO3				⇓eX		06 20 35.8	
JOD2	Odawara 2	0.92	252	⇓P	Pn	06 20 24.5	-0.3
JOD2				⇓S	Sn	06 20 37.0	-0.6
JIM2	Oshima 3	1.03	216	⇓P	Pn	06 20 25.6	-0.6
JIM2				⇓eS	Sn	06 20 39.6	-0.4
JAG	Ashikaga	1.03	327	P	Pn	06 20 25.6	-0.7
JRY	Ryogami san	1.12	294	⇓P	Pn	06 20 27.4	+0.1
JRY				⇓eS	Sn	06 20 42.7	+0.6
BSO1	Boso 1	1.13	143	eP	Pn	06 20 27.1	+0.2
BSO1				S	Sn	06 20 43.4	+2.0
JFNN	Fujinakano	1.26	254	⇓P	Pn	06 20 29.1	0.0
JFNN				⇓S	Sn	06 20 45.1	-0.2
JYN	Shimob	1.32	268	⇓P	Pn	06 20 29.7	-0.2
JIZS	Izushimoda	1.34	232	⇓P	Pn	06 20 30.0	-0.2
JIZS				⇓eS	Sn	06 20 46.9	-0.4
JSG	Sagara	1.84	242		Pn	06 20 38.0	+1.1
JSG	Sagara	1.84	242	P	Pn	06 20 38.8	+1.9
MJAR	Matsushiro Arr	1.86	302	P	Pn	06 20 37.2	+0.1
	87nm,0.5s,baz=132,slow=14,SNR=275						
MJAR				S	Sn	06 21 02.4	+2.8
	194nm,0.7s,baz=164,slow=21,SNR=6.4						
MJAR				LR	LR	06 21 08.7	
	comp=Z,82nm,20.9s,baz=99,slow=32						
MAJO	Matsushiro	1.86	302		Pn	06 20 37.7	+0.5
MAJO	Matsushiro	1.86	302	P	Pn	06 20 37.8	+0.7
MJB9	Matsu-Tunnel	1.86	302		Pn	06 20 38.6	+1.4
JMM	Marumori	2.36	12		Pn	06 20 44.1	+0.3
JMM	Marumori	2.36	12	P	Pn	06 20 44.2	+0.3
JHJ	Hachijo jima 2	2.45	187	P	Pn	06 20 45.4	+0.2
	286nm,0.3s,baz=65,slow=2.9,SNR=22						
JHJ				S	Sn	06 21 14.2	+0.2
	754nm,0.3s,baz=340,slow=23,SNR=14						
JHJ2	Mitsune	2.46	187		Pn	06 20 45.6	+0.4
JHJ2	Mitsune	2.46	187	P	Pn	06 20 45.6	+0.4
JTM	Tenmabayashi	5.27	8	Pn	Pn	06 21 23.6	0.0
JTM	Tenmabayashi	5.27	8	P	Pn	06 21 23.5	0.0
JMN	Monobe	5.49	252		Pn	06 21 25.6	-1.1
JMN	Monobe	5.49	252	P	Pn	06 21 29.3	+2.6
ERM	Erimo	6.86	19	Pn	Pn	06 21 43.0	-2.3
ERM	Erimo	6.86	19	P	Pn	06 21 43.2	-2.1
JEM	Erimo	6.86	19	P	Pn	06 21 44.5	-0.8
JNU	Nakatsue	8.05	255	Pn	Pn	06 22 03.2	+1.5
JNU	Nakatsue	8.05	255	P	Pn	06 22 01.4	-0.3
	4.2nm,0.6s,baz=90,slow=8.1,SNR=2.8						
JNU				S	Sn	06 23 17.7	-14
	2.8nm,0.6s,baz=126,slow=15,SNR=1.0						
JNU				LR	LR	06 25 22.8	
	comp=Z,71nm,20.3s,baz=4.0,slow=40						
JCJ	Chichijima	8.61	168	Pn	Pn	06 22 07.1	-2.3
JCJ	Chichijima	8.61	168	P	Pn	06 22 07.4	-2.0
JCJ	Chichijima	8.61	168	P	Pn	06 22 03.5	-5.9
	93nm,0.4s,baz=253,slow=22,SNR=6.0						
JCJ				S	Sn	06 23 33.5	-12
	30nm,0.3s,baz=26,slow=22,SNR=1.5						
ASAJ	Asahikawa	8.75	12	P	Pn	06 22 08.9	-2.2
	5.1nm,0.5s,baz=201,slow=9.6,SNR=7.4						
ASAJ				S	Sn	06 23 43.5	-4.7
	9.8nm,0.8s,baz=326,slow=27,SNR=2.2						
JKA	Kamikawa-asahi	8.75	12	Pn	Pn	06 22 09.1	-2.1
KSRS	Korea Array	10.03	284	P	Pn	06 22 31.5	+2.8
	3.7nm,0.8s,baz=94,slow=14,SNR=5.0						
KSRS				LR	LR	06 26 15.5	
	comp=Z,48nm,20.8s,baz=330,slow=37						
USA0B	Ussuriysk Arra	10.66	326	Pn	Pn	06 22 35.5	-1.8
MDJ	Mudanjiang	12.12	321	P	Pn	06 22 58.8	+1.5
MDJ				PP	P	06 23 06.8	-0.8
MDJ				sP		06 23 14.5	
MDJ				S	Sn	06 25 13.8	+3.2
MDJ				SS	SnSn	06 25 27.5	+4.0
MDJ				PcP	PcP	06 28 39.2	+2.8
MDJ				ScP	ScP	06 32 04.2	+0.6
MDJ				PcS	PcS	06 32 13.5	+3.1
MDJ	Mudanjiang	12.12	321	ScS	ScS	06 35 41.8	+2.4
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,240nm,4.8s						
BJT	Baijiatuau	19.46	290	P	P	06 24 27.5	-1.2
XLT	XiLinHaoTe	20.25	302	eP	P	06 24 36.5	-0.9
XLT				pP	pP	06 24 48.6	-2.7
XLT				sP	sP	06 24 56.7	-2.9
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,160nm,6.0s						
HIA	Hailar	20.28	319	P	P	06 24 36.9	-0.7
SSLB	Suanglung	20.36	240	P	P	06 24 37.9	-0.8
SSLB				IAmb	IAmb	06 24 54.1	
	comp=Z,12nm,0.8s						
HHC	Hu-ho-hao-te	23.03	292	eP	P	06 25 06.7	-0.4
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,5.4s						
BTO	Baotou	24.18	291	eP	P	06 25 18.5	+0.8
BTO				pP	pP	06 25 32.7	-0.7

BTO				sP	sP	06 25 40.2	-1.1
BTO				PP	PnPn	06 25 52.7	+2.3
BTO				S	S	06 29 33.9	+2.5
BTO				SS	SnSn	06 30 25.8	+6.7
BTO				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO				pmax	pmax		
	comp=Z,180nm,3.7s						
BTO				LR	LR		
	comp=N,320nm,4.3s						
BTO				LR	LR		
	comp=E,250nm,4.3s						
BTO				LR	LR		
	comp=Z,350nm,4.9s						
MA2	Magadan	25.01	13	P	P	06 25 24.9	0.0
	comp=Z,3.4nm,0.4s,baz=178,slow=11,SNR=4.0						
	comp=Z,3.4nm,0.4s						
ENH	Enshi	26.22	267	P	P	06 25 34.4	-1.8
ENH				IAmb	IAmb	06 25 37.4	
	comp=Z,8.2nm,1.0s						
ULN	Ulaanbaatar	27.38	307	P	P	06 25 42.5	-4.2
SONM	Songino Array	27.81	307	P	P	06 25 49.1	-1.3
	comp=Z,0.8nm,0.6s,baz=108,slow=7.3,SNR=5.2						
	comp=Z,0.8nm,0.6s						
H11N2	WAKE ISLAND Hy	28.33	117	T	T	06 55 36.3	
	baz=308,slow=75,SNR=49						
H11N1	WAKE ISLAND Hy	28.34	117	T	T	06 55 36.8	
	baz=308,slow=75,SNR=51						
H11N3	WAKE ISLAND Hy	28.35	117	T	T	06 55 37.6	
	baz=308,slow=75,SNR=32						
SEY	Seymchan	28.43	12	LR	LR	06 39 08.4	
	comp=Z,28nm,20.1s,baz=350,slow=40						
H11S3	WAKE ISLAND Hy	28.97	119	T	T	06 56 09.5	
	baz=312,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	28.98	119	T	T	06 56 07.0	
	baz=312,slow=75,SNR=30						
H11S2	WAKE ISLAND Hy	28.99	119	T	T	06 56 09.6	
	baz=312,slow=75,SNR=15						
PZH	PanZhiHua	33.96	265	P	P	06 26 45.5	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
CMAR	Chiang Mai Arr	40.15	256	P	P	06 27 34.5	-2.7
	comp=Z,0.5nm,0.3s,baz=55,slow=7.8,SNR=1.4						
	comp=Z,0.5nm,0.3s						
WMQ	Urumqi	40.62	298	eP	P	06 27 42.7	+1.8
WMQ				pP	pP	06 27 56.7	-0.6
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
ZAA0	Zalesovo Array	42.17	314	P	P	06 27 51.2	-2.2
ZAA0				IAmb	IAmb	06 27 54.4	
	comp=Z,3.8nm,0.9s						
ZALV	Zalesovo Beam	42.17	314	P	P	06 27 51.6	-1.8
ZALV	Zalesovo Beam	42.17	314	P	P	06 27 53.3	-0.1
	comp=Z,2.3nm,0.7s,baz=91,slow=6.4,SNR=12						
ZALV				PcP	PcP	06 29 46.2	-0.3
	comp=Z,1.0nm,0.4s,baz=100,slow=2.8,SNR=4.0						
	comp=Z,2.3nm,0.7s						
MK31	Makanchi Array	44.06	303	P	P	06 28 08.4	-0.4
MK31				IAmb	IAmb	06 28 10.0	
	comp=Z,4.2nm,0.9s						
MKAR	Makanchi Array	44.06	303	P	P	06 28 08.0	-0.8
MKAR	Makanchi Array	44.06	303	P	P	06 28 08.3	-0.5
	comp=Z,4.3nm,0.9s,baz=90,slow=9.4,SNR=29						
	comp=Z,4.3nm,0.9s						
NRIK	Noril'sk	44.19	336	P	P	06 28 09.2	-0.2
	comp=Z,1.0nm,0.5s,baz=102,slow=11,SNR=3.6						
	comp=Z,1.0nm,0.5s						
MAKZ	Makanchi	44.27	303	P	P	06 28 09.9	-0.5
KURK	Kurchatov	46.06	309	P	P	06 28 24.0	-0.4
KURK				IAmb	IAmb	06 28 25.0	
	comp=Z,8.7nm,0.9s						
KURBB	Kurchatov Arra	46.12	309	P	P	06 28 24.4	-0.5
	comp=Z,3.9nm,0.7s,baz=86,slow=7.6,SNR=35						
	comp=Z,3.9nm,0.7s						
B20K	Meade River	47.75	24	P	P	06 28 38.4	+1.0
IMAR	Indian Mountai	48.43	30	P	P	06 28 43.8	+1.0
KDAK	Kodiak Island	48.87	41	P	P	06 28 46.8	+0.6
KDAK				IAmb	IAmb	06 28 49.7	
	comp=Z,8.0nm,0.9s						
KSH	Kashi	50.09	295	P	P	06 29 02.1	+6.2
KSH				pP	sP	06 29 21.3	+1.0
MDM	Murphy Dome	50.70	31	P	P	06 29 01.0	+1.0
BRVK	Borovoye	50.88	313	P	P	06 29 00.8	-0.7
BRVK				IAmb	IAmb	06 29 09.2	
	comp=Z,2.3nm,0.8s						
ILAR	Eielson Array	51.28	32	P	P	06 29 04.8	+0.5
	comp=Z,1.0nm,0.8s,baz=272,slow=6.2,SNR=9.3						
	comp=Z,1.0nm,0.8s						
KNRA	Kununurra	52.09	194	P	P	06 29 10.7	-0.1
KK31	Karatay Array	52.99	301	P	P	06 29 16.0	-1.4
KK31				IAmb	IAmb	06 29 21.8	
	comp=Z,3.5nm,1.1s						
FITZ	Fitzroy Crossi	55.11	197	P	P	06 29 33.2	+0.3
FITZ				IAmb	IAmb	06 29 33.8	
	comp=Z,1.7nm,0.7s						
WB0	Warramunga Arr	55.29	187	P	P	06 29 33.7	-0.6
WR0	Warramunga Arr	55.47	186	P	P	06 29 35.0	-0.6
WB2	Warramunga Arr	55.47	187	P	P	06 29 35.0	-0.6
WB2				IAmb	IAmb	06 29 36.3	
	comp=Z,5.2nm,0.7s						
WRA	Warramunga Arr	55.47	187	P	P	06 29 35.0	-0.6
WRA	Warramunga Arr	55.47	187	P	P	06 29 34.5	-1.0
	comp=Z,4.2nm,0.5s,baz=1.6,slow=7.5,SNR=91						
	comp=Z,4.2nm,0.5s						
ABKAR	Akbulak array	58.12	311	P	P	06 29 54.0	0.0
ASAR	Alice Springs	59.20	187	P	P	06 30 00.8	-0.9
	comp=Z,0.9nm,0.7s,baz=19,slow=11,SNR=17						
	comp=Z,0.9nm,0.7s						
MBWA	Marble Bar	59.64	202	P	P	06 30 04.6	-0.2
PSA00	Pilbara Seismi	59.99	202	P	P	06 30 06.6	-0.6
PSA00				IAmb	IAmb	06 30 07.5	
	comp=Z,5.0nm,0.8s						
YKA	Yellowknife Ar	65.59	29	P	P	06 30 43.9	0.0
	comp=Z,0.2nm,0.7s,baz=304,slow=6.8,SNR=4.8						
	comp=Z,0.2nm,0.7s						
FORT	Forrest	66.96	191	P	P	06 30 52.8	-0.2
MORW	Morawa	68.18	203	P	P	06 31 00.8	0.0
MORW				IAmb	IAmb	06 31 03.9	
	comp=Z,5.6nm,1.1s						
HEBO	Mount Hebo	69.61	49	P	P	06 31 09.4	-0.2
FIA1	FINESS Array S	69.64	332	P	P	06 31 09.3	-0.1
FIA1				IAmb	IAmb	06 31 10.6	
	comp=Z,16nm,1.1s						
FINES	FINESS Array B	69.64	332	P	P	06 31 09.5	0.0
FINES	FINESS Array B	69.64	332	P	P	06 31 08.9	-0.6
	comp=Z,2.2nm,0.8s,baz=64,slow=4.4,SNR=5.0						
	comp=Z,2.2nm,0.8s						
KBZ	Khabaz	71.09	311	P	P	06 31 18.1	-0.4
	comp=Z,2.0nm,0.8s,baz=108,slow=3.2,SNR=5.0						
	comp=Z,2.0nm,0.8s						
NWAO	Narrogin (SRO)	71.44	200	P	P	06 31 21.2	+0.6
AKASG	Malin Array Be	74.84	322	P	P	06 31 39.7	-0.9
	comp=Z,1.7nm,0.6s,baz=47,slow=6.2,SNR=13						
	comp=Z,1.7nm,0.6s						
NOA	NORSAR Array B	75.15	337	P	P	06 31 41.1	-1.2
	comp=Z,1.9nm,1.0s,baz=45,slow=6.9,SNR=3.3						
	comp=Z,1.9nm,1.0s						
NVAR	Mina Array Bea	76.69	52	P	P	06 31 52.5	+0.7
	comp=Z,0.3nm,0.7s,baz=294,slow=4.5,SNR=2.5						
	comp=Z,0.3nm,0.7s						
PDAR	Pinedale Array	79.42	45	P	P	06 32 07.5	+0.7
	comp=Z,0.4nm,0.7s,baz=349,slow=1.9,SNR=5.6						
	comp=Z,0.4nm,0.7s						
CLL	Collm	81.86	330	eP	P	06 32 19.0	-0.4
TXAR	Lajitas Array	91.83	52	P	P	06 33 09.4	+0.8
	comp=Z,0.2nm,0.7s,baz=292,slow=2.8,SNR=1.2						
	comp=Z,0.2nm,0.7s						

*IGIL **04** 06:28:04.1, 38°.99N×13°.14W, h14km, ML1.9*
*MDD **04** 06:28:07.0±1.0, 39°.03N×12°.68W, h0km, Mb4.0/6, M_mb3.4/6, Error ellipse: s-maj=8.2km s-min=6.7km az=76.0*
*INMG **04** 06:28:08.6±1.2, 39°.00N×13°.14W, h57km±26km, ML2.2, Error ellipse: s-maj=6.6km s-min=4.6km az=84.0*
*CNRM **04** 06:28:18.0, 38°.14N×11°.74W, h0km*
ISC 04 06:28:04.7±2.8**, 39°.02N**±0°.06×**12°.7W**±0°.1**, h10km, n45, σ2s.06**/69**, 6C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	2.65	90	eP	Pb	06 28 51.0	-1.3
PMAFR				eS	Sb	06 29 23.2	-1.7
PMAFR				A	A	06 29 36.0	
	22nm,0.5s						
PMAFR	Mafra	2.65	90	Pn	Pb	06 28 50.9	-1.4
PACT	Alcochete	3.02	94	eS	Sb	06 29 34.3	-1.1
PACT				A	A	06 29 42.4	
	16nm,0.7s						
PSBE	So Bento	3.06	79	eS	Sn	06 29 32.6	+2.8
PNCL	Nicolau / Gran	3.38	104	eP	Pn	06 29 00.6	+3.1
PNCL				eS	Sn	06 29 39.2	+1.5
PNCL				A	A	06 29 42.6	
	2.9nm,0.5s						
PNCL	Nicolau / Gran	3.38	104	Pn	Pn	06 28 59.6	+2.0
PCAS	Casmilo, Conde	3.40	71	eP	Pb	06 29 01.6	-3.4
PCAS				eS	Sn	06 29 39.5	+1.3
PCAS				A	A	06 29 42.0	
	2.5nm,0.3s						
PMTG	Montargil	3.47	88	eP	Pn	06 29 01.9	+3.1
PMTG				eS	Sn	06 29 41.7	+1.7
PMTG				A	A	06 29 43.4	
	2.2nm,0.7s						
PFVI	Vila Bisbo	3.58	121	Pn	Pn	06 29 00.9	+0.7
MORF	Marmelete	3.61	117	eP	Pn	06 29 02.1	+1.3
MORF				eS	Sn	06 29 44.0	+0.6
MORF				A	A	06 29 45.6	
	6.0nm,0.7s						
MORF	Marmelete	3.61	117	eP	Pn	06 29 02.0	+1.3
MORF				eS	Sn	06 29 44.8	+1.3
MORF				IAML		06 29 46.4	
	comp=E,3.2nm,0.1s						
EVO	Evora	3.68	96	eP	Pn	06 29 04.9	+3.2
EVO				eS	Sn	06 29 46.7	+1.5
EVO				A	A	06 29 52.8	
	comp=E,2.5nm,0.7s						
EVO	Evora	3.68	96	Pn	Pn	06 29 05.1	+3.4
EVO				Sn	Sn	06 29 46.6	+1.4
MESJ	Messejana	3.70	107	eP	Pn	06 29 04.7	+2.8
MESJ				eS	Sn	06 29 47.0	+1.4
MESJ				A	A	06 29 56.3	
	comp=E,2.3nm,0.5s						
MESJ	Messejana	3.70	107	eS	Sn	06 29 47.3	+1.7
MESJ				IAML		06 29 49.2	
	comp=E,2.0nm,0.2s						
PBEJ	Beja	3.91	103	eS	Sn	06 29 51.9	+1.2
PCVE	Castro Verde	3.91	109	eP	Pn	06 29 07.3	+2.5
PCVE				eS	Sn	06 29 51.0	+0.3
PCVE				A	A	06 29 53.0	
	comp=E,3.9nm,0.7s						
PCVE	Castro Verde	3.91	109	Pn	Pn	06 29 07.2	+2.4
PESTR	Estremoz	3.98	91	eP	Pn	06 29 09.1	+3.4
PESTR				eS	Sn	06 29 54.1	+1.7
PESTR				A	A	06 29 55.7	
	comp=E,5.6nm,0.6s						
PESTR	Estremoz	3.98	91	Pn	Pn	06 29 09.3	+3.6
PESTR				Sn	Sn	06 29 53.2	+0.7
PESTR	Estremoz	3.98	91	P	Pb	06 29 11.6	-3.3
PESTR	Estremoz	3.98	91	S	Sn	06 29 52.5	+0.1
PVIS	Viseu	4.06	64	eP	Pn	06 29 09.9	+3.0
PVIS				eS	Sn	06 29 54.8	+0.3
PVIS				A	A	06 29 59.1	
	comp=E,3.6nm,0.3s						
PCBR	Castelo Branco	4.12	77	eS	Sn	06 29 55.9	+0.1
PMRV	Marv??o	4.13	83	eP	Pn	06 29 10.3	+2.4
PMRV				eS	Sn	06 29 57.1	+0.8
PMRV				A	A	06 30 00.5	
	comp=E,2.7nm,0.8s						
PBDV	Barranco-do-Ve	4.15	114	eP	Pn	06 29 10.5	+2.4
PBDV				eS	Sn	06 29 56.9	+0.3
PBDV				A	A	06 29 58.9	
	comp=E,6.9nm,0.7s						
MTE	Manteigas	4.20	69	eS	Sn	06 29 59.0	+1.0
MTE				A	A	06 30 01.3	
	comp=E,8.0nm,0.8s						
PVAQ	Vaqueiros	4.23	111	eP	Pn	06 29 11.7	+2.5
PVAQ				eS	Sn	06 29 59.3	+0.6
EGRO	El Granado	4.35	108	Pn	Pn	06 29 13.1	+2.2
EGRO	El Granado	4.35	108	Pn	Pn	06 29 13.1	+2.2
EGRO				⇑iVmb_V		06 29 15.1	
	comp=E,190nm,SNR=2.2						
EGRO				Sn	Sn	06 30 01.8	+0.1
POLO	Lamas de Olo	4.42	56	eP	Pn	06 29 14.8	+2.8
POLO				eS	Sn	06 30 03.3	-0.3
EBAD	Badajoz	4.43	92	Pn	Pn	06 29 15.1	+3.1
EBAD				Sn	Sn	06 30 04.3	+0.6
EBAD	Badajoz	4.43	92	Pn	Pn	06 29 14.2	+2.2
EBAD				⇑iVmb_V		06 29 15.7	
	comp=E,84nm,SNR=0.8						
EBAD				Sn	Sn	06 30 04.4	+0.8
PGAV	Gavieira, Arco	4.47	47	eP	Pn	06 29 13.7	+1.1
PBAR	Barrancos	4.50	99	eP	Pn	06 29 15.8	+2.8
PBAR				eS	Sn	06 30 06.1	+0.7
PBAR				A	A	06 30 11.8	
	comp=E,1.4nm,0.3s						
PBAR	Barrancos	4.50	99	Pn	Pn	06 29 15.7	+2.7
ELOB	Lobios	4.53	50	Pn	Pn	06 29 15.0	+1.6
ELOB				⇑iVmb_V		06 29 16.9	
	comp=E,308nm,SNR=1.1						
ELOB				Sn	Sn	06 30 04.7	-1.6
MVO	Moncorvo	4.84	62	eP	Pn	06 29 21.1	+3.4
MVO				eS	Sn	06 30 13.6	-0.2
MVO				A	A	06 30 22.6	
	comp=E,2.8nm,0.6s						
EPLA	Plasencia	5.21	76	Pn	Pn	06 29 25.6	+2.9
EPLA				⇑iVmb_V		06 29 27.3	
	comp=E,84nm,SNR=0.6						
EPLA				Sn	Sn	06 30 21.3	-1.6
ECAB	El Cabril	5.77	97	Pn	Pn	06 29 33.2	+2.8
ECAB				⇑iVmb_V		06 29 37.0	
	comp=E,48nm,SNR=0.5						
ECAB				Sn	Sn	06 30 34.9	-1.9
EADA	Adamuz	6.41	95	Pn	Pn	06 29 41.0	+1.8
EADA				⇑iVmb_V		06 29 43.6	
	comp=E,134nm,SNR=1.3						
EADA				Sn	Sn	06 30 52.9	+0.5
MD31	MD31	8.88	131	P	Pn	06 30 11.6	-1.6
MD31	MD31	8.88	131	S	Sn	06 31 43.1	-10
MDT	Midelt	9.01	131	P	Pn	06 30 14.2	-0.8
MDT	Midelt	9.01	131	S	Sn	06 31 44.0	-13

*NEIC **04** 06:30:32.9±0.8, 49°.5N±0°.2×150°.9E±0°.2, h271km±14km, mb4.0/31, Error ellipse: s-maj=27.2km s-min=12.1km az=138.0*
*IDC **04** 06:30:38.3±2.2, 49°.43N×151°.04E, h340km±24km, mb3.0/11, mbtmp3.8/15, Error ellipse: s-maj=19.2km s-min=11.2km az=148.0*
ISC 04 06:30:34.3±0.6**, 49°.28N**±0°.10×**150°.98E**±0°.09**, h300km, n56, σ1s.67**/57**, mb3.8**/24**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	Petropavlovsk-	5.71	45	Pn	Pn	06 31 56.5	-3.4
PETK	Petropavlovsk-	5.71	45	Pn	Pn	06 31 56.0	-4.0
PETK	Petropavlovsk-	5.71	45	P	Pn	06 32 02.9	+2.9
	2.2nm,0.8s,baz=217,slow=8.6,SNR=2.5						
PETK				S	S	06 33 14.8	+5.9
	1.0nm,0.6s,baz=72,slow=11,SNR=1.2						
YSS	Yuzh-Sakhalins	5.98	250	Pn	Pn	06 32 00.8	-2.4
PET	Petropavlovsk	6.11	49	Pn	Pn	06 32 00.9	-3.9
ERM	Erimo	9.09	220	Pn	Pn	06 32 41.6	+0.4
JTM	Tenmabayashi	11.00	223	Pn	Pn	06 33 05.0	+0.3
KLR	Kul'dur	12.57	277	P	P	06 33 27.9	+3.6
	4.3nm,0.7s,baz=71,slow=11,SNR=16						
SEY	Seymchan	13.71	3	P	Pn	06 33 38.9	+1.8
	2.1nm,0.5s,baz=175,slow=13,SNR=5.1						
USA0B	Ussuriysk Arra	13.97	256	P	P	06 33 38.1	-1.7
USRK	Ussuriysk Ar.	13.97	256	P	P	06 33 37.9	-2.0
MDJ	Mudanjiang	15.32	260	P	P	06 33 54.6	-0.1
MDJ				IAmb	IAmb	06 34 00.6	
	comp=Z,5.9nm,1.0s						
MJB9	Matsu-Tunnel	15.77	221	P	Pn	06 34 01.4	-0.2
MJB9				IAmb	IAmb	06 34 06.1	
	comp=Z,12nm,0.9s						
MAJO	Matsushiro	15.77	221	P	P	06 34 00.7	+1.0
MAJO				IAmb	IAmb	06 34 05.1	
	comp=Z,12nm,0.9s						
MJAR	Matsushiro Arr	15.77	221	P	Pn	06 34 02.9	+1.3
	comp=Z,1.8nm,0.5s,baz=18,slow=11,SNR=9.7						
JGF	Kuroka	16.93	221	P	P	06 34 12.6	+0.2
YAK	Yakutsk	17.42	325	P	P	06 34 15.3	-2.1
KS19	Wonju Array Si	20.42	243	P	P	06 34 49.2	-0.1
KSRS	Korea Array	20.42	243	P	P	06 34 52.9	+3.6
	comp=Z,3.0nm,1.0s,baz=51,slow=12,SNR=3.0						
	comp=Z,3.0nm,1.0s						
KSAR	Wonju Array Be	20.45	243	P	P	06 34 48.3	-1.3
JNU	Nakatsue	22.01	230	P	P	06 35 05.8	+1.4
TIXI	Tiksi	24.64	343	P	P	06 35 27.5	-0.1
TIXI				IAmb	IAmb	06 35 29.4	
	comp=Z,2.1nm,0.5s						
BJT	Baijiatuau	26.24	263	P	P	06 35 43.0	+0.7
BJT				IAmb	IAmb	06 35 46.0	
	comp=Z,4.8nm,0.9s						
C16K	Lisburne Hills	28.63	32	P	P	06 36 02.2	-0.9
C16K				IAmb	IAmb	06 36 02.5	
	comp=Z,2.0nm,0.6s						
N15K	Kwethluk River	29.59	50	P	P	06 36 11.4	-0.3
N15K				IAmb	IAmb	06 36 18.6	
	comp=Z,7.8nm,1.1s						
F17K	Baldwin Pennin	29.67	37	P	P	06 36 12.1	-0.2
F17K				IAmb	IAmb	06 36 12.8	
	comp=Z,2.8nm,0.7s						
E18K	Tukpahlearik C	30.12	35	P	P	06 36 16.1	-0.2
M16K	Timber Creek	30.14	48	P	P	06 36 16.1	-0.4
M16K				IAmb	IAmb	06 36 21.5	
	comp=Z,4.4nm,1.1s						
C18K	Utukok River	30.21	33	P	P	06 36 16.3	-0.7
C18K				IAmb	IAmb	06 36 16.6	
	comp=Z,2.1nm,0.6s						
G18K	Tagagawik	30.62	38	P	P	06 36 20.3	-0.4
M17K	Holitna River	30.88	47	P	P	06 36 22.8	-0.1
M17K				IAmb	IAmb	06 36 29.2	
	comp=Z,3.6nm,1.1s						
C19K	Lookout Ridge	30.89	32	P	P	06 36 22.7	-0.3
C19K				IAmb	IAmb	06 36 23.3	
	comp=Z,2.2nm,0.7s						
D19K	Kuna River	31.27	33	P	P	06 36 25.9	-0.4
D19K				IAmb	IAmb	06 36 26.4	
	comp=Z,4.8nm,0.8s						
TTA	Tatalina	31.54	44	P	P	06 36 28.4	-0.4
B20K	Meade River	31.93	31	P	P	06 36 31.4	-0.6
B21K	Ikpikpuk River	32.72	32	P	P	06 36 38.8	0.0
B22K	Teshekpuk Lake	33.25	31	P	P	06 36 42.7	-0.6
C23K	Itkillik River	34.13	32	P	P	06 36 50.8	-0.2
C23K				IAmb	IAmb	06 36 51.1	
	comp=Z,4.0nm,0.6s						
TOLK	Toolik Lake Re	34.40	34	P	P	06 36 53.0	-0.3
TOLK				IAmb	IAmb	06 36 53.2	
	comp=Z,2.3nm,0.7s						
D24K	Happy Valley	34.70	33	P	P	06 36 55.8	0.0
E24K	Your Creek	34.78	35	P	P	06 36 56.5	0.0
E24K				IAmb	IAmb	06 36 59.6	
	comp=Z,3.9nm,0.5s						
ILAR	Eielson Array	35.51	41	P	P	06 37 01.7	-1.1
	comp=Z,0.9nm,0.9s,baz=264,slow=8.2,SNR=8.9						
	comp=Z,0.9nm,0.9s						
D25K	Kavik River	35.58	33	P	P	06 37 03.0	-0.3
SCRK	Sand Creek	36.86	42	P	P	06 37 12.9	-1.3
SCRK				IAmb	IAmb	06 37 17.7	
	comp=Z,5.0nm,1.2s						
D27M	Malcolm River	37.51	33	P	P	06 37 19.1	-0.4
A36M	Sachs Harbour	42.24	27	P	P	06 37 57.7	-0.3
MKAR	Makanchi Array	44.55	294	P	P	06 38 16.8	0.0
	comp=Z,0.5nm,0.6s,baz=65,slow=8.1,SNR=7.2						
	comp=Z,0.5nm,0.6s						
KURBB	Kurchatov Arra	44.90	301	P	P	06 38 19.9	+0.5
	comp=Z,1.1nm,0.7s,baz=68,slow=8.4,SNR=6.3						
	comp=Z,1.1nm,0.7s						
BVAR	Borovoye Array	48.17	307	P	P	06 38 42.9	-1.6
	comp=Z,0.7nm,0.6s,baz=54,slow=7.7,SNR=5.2						
	comp=Z,0.7nm,0.6s						
YKA	Yellowknife Ar	49.77	37	P	P	06 38 55.6	-0.8
	comp=Z,1.1nm,0.7s,baz=301,slow=7.3,SNR=14						
	comp=Z,1.1nm,0.7s						
NVAR	Mina Array Bea	62.53	62	P	P	06 40 26.8	0.0
	comp=Z,0.8nm,0.8s,baz=288,slow=4.6,SNR=5.8						
	comp=Z,0.8nm,0.8s						
PDAR	Pinedale Array	64.41	54	P	P	06 40 38.4	-0.6
	comp=Z,0.4nm,0.5s,baz=0.6,slow=1.1,SNR=9.0						
	comp=Z,0.4nm,0.5s						
WRA	Warramunga Arr	70.48	197	P	P	06 41 16.6	0.0
	comp=Z,0.5nm,0.7s,baz=12,slow=6.8,SNR=3.5						
	comp=Z,0.5nm,0.7s						
CLL	Collm	73.57	334	iP	P	06 41 34.3	-0.2
ASAR	Alice Springs	74.19	196	P	P	06 41 39.3	+1.0
	comp=Z,0.6nm,0.4s,baz=10.0,slow=6.0,SNR=11						
	comp=Z,0.6nm,0.4s						
TXAR	Lajitas Array	77.47	60	P	P	06 41 56.5	-0.5
	comp=Z,0.4nm,0.6s,baz=297,slow=3.2,SNR=7.1						
	comp=Z,0.4nm,0.6s						

IDC 04 06:32:43.6±2.2**, 8°.85S×129°.93E, h0km, mb3.4**/1**, mbtmp3.4**/3**, ML3.3**/2**, MS3.6**/1**, Error ellipse: s-maj=86.5km s-min=33.2km az=67.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	11.82	159	Pn	Pn	06 35 33.8	+0.2
	0.2nm,0.3s,baz=338,slow=13,SNR=13						
WRA				Sn	Sn	06 37 39.3	-7.1
	0.1nm,0.3s,baz=178,slow=20,SNR=2.4						
	0.7nm,0.6s						
ASAR	Alice Springs	15.21	166	Pn	Pn	06 36 19.7	-0.3
	0.1nm,0.3s,baz=353,slow=14,SNR=15						
ASAR				Sn	Sn	06 39 07.2	-2.1
	baz=235,slow=10,SNR=2.3						
	0.4nm,0.6s						
USRK	Ussuriysk Ar.	52.84	2	LR	LR	07 05 46.7	
	comp=Z,62nm,19.4s,baz=356,slow=38						
MKAR	Makanchi Array	69.73	327	P	P	06 43 55.5	0.0
	0.2nm,0.6s,baz=141,slow=7.4,SNR=2.3						
	0.2nm,0.6s						

IDC 04 06:36:16.9±3.4**, 30°.26N×137°.62E, h414km**±65km**, mb2.7**/2**, mbtmp3.6**/5**, Error ellipse: s-maj=196.2km s-min=24.1km az=82.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.28	4	P	P	06 37 52.5	-0.1
	1.4nm,0.5s,baz=175,slow=11,SNR=7.0						
USRK	Ussuriysk Ar.	14.61	344	P	P	06 39 25.9	+1.5
	1.4nm,0.5s,baz=150,slow=9.4,SNR=4.8						
KLR	Kul'dur	19.46	348	P	P	06 40 15.1	-0.1
	1.1nm,0.5s,baz=153,slow=11,SNR=5.7						
WRA	Warramunga Arr	50.02	184	P	P	06 44 31.4	-0.1
	0.4nm,0.3s,baz=0.8,slow=7.8,SNR=10.0						
	0.4nm,0.3s						
ASAR	Alice Springs	53.74	184	P	P	06 44 58.5	-0.1
	0.2nm,0.4s,baz=359,slow=6.2,SNR=5.8						
	0.2nm,0.4s						

*MDD **04** 06:46:44.8±1.1, 35°.76N×2°.09W, h0km, mb_Lg2.1/3, Error ellipse: s-maj=9.7km s-min=4.3km az=96.0*
*SFS **04** 06:46:44.1, 35°.73N×2°.04W, h3km, ML1.8/5, ML2.5/4, MLv1.5/5*
*CNRM **04** 06:46:50.1, 35°.57N×2°.37W, h35km, ML1.7*
ISC 04 06:46:45.9±1.5**, 35°.72N**±0°.03×**2°.18W**±0°.07**, h25km**±14km**, n15, σ0s.95**/20**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	Isla Isabel II	0.58	201	Pg	Pb	06 46 56.5	-0.8
CHAS				Sg	Sb	06 47 03.3	-1.9
EALB	Alboran	0.73	288	Pg	Pb	06 47 00.2	+0.2
EALB				Sg	Sn	06 47 10.7	-0.2
EALB	Alboran	0.73	288	Pg	Pb	06 47 00.5	+0.5
EALB				Sg	Sb	06 47 10.3	+0.8
EALB				i Vmb_Lg		06 47 10.8	
GOG	Mont Gurugu	0.83	234	P	Pn	06 47 01.7	-0.5
GOG	Mont Gurugu	0.83	234	S	Sb	06 47 12.1	-0.5
TAF	Taforalt	0.93	192	P	Pb	06 47 05.9	+2.6
ENIJ	Nijar	1.25	359	Pg	Pn	06 47 06.8	-0.9
ENIJ				Sg	Sn	06 47 23.5	-0.3
ENIJ				i Vmb_Lg		06 47 25.8	
EBER	Berja	1.31	334	Pn	Pn	06 47 08.8	+0.1
EBER	Berja	1.31	334	Pg	Pn	06 47 09.2	+0.5
EBER				Sg	Sn	06 47 25.5	0.0
EBER				i Vmb_Lg		06 47 28.7	
JBK	JBK	1.42	193	P	Pb	06 47 12.1	+0.3
JBK	JBK	1.42	193	S	Sn	06 47 28.4	+0.2
ELGU	Los Guajares,	1.64	315	Pn	Pn	06 47 12.8	-0.3
AKLM	AKL	1.84	229	P	Pn	06 47 16.1	+0.2
AKLM	AKL	1.84	229	S	Sn	06 47 37.7	-0.7
MD31	MD31	3.56	218	P	Pn	06 47 40.1	+0.5

DJA 04 06:55:26.9±0.8**, 9°S**±5°×**11°7E**±°**, h27km**±7km**, M3.6**/11,

mb4.2/3, mB5.9/2, MLv3.4/11, Mw(mB)5.5/2, Sumbawa region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.72	335	P	Pb	06 55 41.0	+0.2
TWSI				S	Sn	06 55 52.3	+0.9
PLAI	Plampang	0.81	46	P	Pb	06 55 41.7	-0.6
PLAI				S	Sn	06 55 53.3	-0.3
DBNI	Kabupaten Domp	1.42	52	P	Pn	06 55 50.9	0.0
DBNI				S	Sb	06 56 10.1	-0.3
IGBI	Denpasar	2.10	286	P	Pn	06 56 00.9	+0.6
IGBI				S	Sn	06 56 23.9	-1.6
SRBI	Singaraja	2.35	303	P	Pn	06 56 04.5	+0.8
JAGI	Jajag, Banyuwa	3.14	287	P	Pn	06 56 14.1	-0.5
BASI	Baing, Sumba	3.44	104	P	Pn	06 56 18.5	-0.2
EDFI	Ende, Flores	4.49	82	P	Pn	06 56 33.7	+0.4
MKS	Makassar	4.72	29	P	Pn	06 56 35.7	-0.7
BKSI	Bulukumba	4.98	36	P	Pn	06 56 40.5	+0.6
PWJI	Pagerwojo	5.50	284	P	Pn	06 56 48.2	+1.2
	20nm,0.9s,0.1nm						
SJI	Sawahan	5.61	287	P	Pn	06 56 49.5	+0.8
NGJI	Ngawi	6.01	289	P	Pn	06 56 55.1	+0.9

IDC 04 07:22:05.7±134.0**, 48°.53S×125°.43E, h0^{km}, mb3.4**/3**, mbtmp3.5**/3**, MS3.1**/2**, Error ellipse: s-maj=2198.0km s-min=125.1km az=7.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.99	324	T	T	07 43 15.4	
	baz=152,slow=74,SNR=25						
H01W2	Cape Leeuwin H	15.99	324	T	T	07 43 15.2	
	baz=152,slow=74,SNR=22						
H01W3	Cape Leeuwin H	16.00	324	T	T	07 43 16.6	
	baz=152,slow=74,SNR=22						
STKA	Stephens Creek	20.64	42	P	P	07 26 46.8	+0.1
	1.1nm,0.7s,baz=207,slow=11,SNR=3.5						
	1.1nm,0.7s						
ASAR	Alice Springs	25.70	18	P	P	07 27 37.2	-0.3
	0.9nm,0.8s,baz=189,slow=10,SNR=9.2						
ASAR				LR	LR	07 36 43.7	
	comp=Z,46nm,21.9s,baz=279,slow=34						
	0.9nm,0.8s						
WRA	Warramunga Arr	29.41	17	P	P	07 28 11.1	+0.4
	0.3nm,0.8s,baz=193,slow=7.9,SNR=2.9						
	0.3nm,0.8s						
VNDA	Vanda	32.27	166	LR	LR	07 39 41.4	
	comp=Z,32nm,19.1s,baz=342,slow=33						

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*SOME **04** 07:43:14.8, 42°.22N×79°.48E, h10^{km}*
*KRNET **04** 07:43:15.1±0.1, 42°.23N×79°.50E, h10^{km}, mb3.2*
*NNC **04** 07:43:15.2±0.9, 42°.23N×79°.48E, h0^{km}, mb3.8, mpv3.6, Error ellipse: s-maj=6.3km s-min=3.7km az=151.0*
ISC 04 07:43:16.5±1.9**, 42°.32N**±0°.06×**79°.44E**±0°.05**, h3^{km}**±10^{km}**, n55, σ1^{s}03**/92**, 11C-12D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.79	283	⇓iP	Pg	07 43 31.6	0.0
	baz=89						
PRZ				⇓iS	Sb	07 43 43.5	-0.5
	baz=89						
SHLS	Shalkode	0.84	1	P	Pn	07 43 34.1	-1.2
	79nm,0.1s						
SHLS				S	Sn	07 43 48.4	+0.1
	48nm,0.2s						
SHLS	Shalkode	0.84	1	eP	Pb	07 43 33.6	-0.2
	79nm,0.1s						
SHLS				eS	Sn	07 43 47.0	-1.3
	48nm,0.2s						
SHLS	Shalkode	0.84	1	eP	Pb	07 43 33.6	-0.2
	baz=17						
SHLS				eS	Sn	07 43 47.0	-1.3
	baz=17						
UZB	Uzynbulak	0.89	340	P	Pg	07 43 33.7	+0.2
	3.1nm,0.2s						
UZB				S	Sb	07 43 47.6	+0.7
	35nm,0.2s						
UZB	Uzynbulak	0.89	340	eP	Pg	07 43 33.7	+0.2
	3.1nm,0.2s						
UZB				eS	Sb	07 43 47.6	+0.7
	35nm,0.2s						
UZB	Uzynbulak	0.89	340	eP	Pg	07 43 33.7	+0.2
	baz=39						
UZB				eS	Sb	07 43 47.6	+0.7
	baz=39						
PDGK	Podgornoye	1.01	2	P	Pg	07 43 35.9	-0.1
	5µm,0.8s						
PDGK				S	Sb	07 43 50.8	+0.3
	15nm,0.3s						
SATY	Saty	1.06	315	P	Pb	07 43 37.1	-0.5
	11nm,0.1s						
SATY				S	Sn	07 43 53.0	-0.8
	72nm,0.1s						
SATY	Saty	1.06	315	eP	Pb	07 43 37.1	-0.5
	11nm,0.1s						
SATY				eS	Sn	07 43 53.0	-0.8
	72nm,0.1s						
SATY	Saty	1.06	315	eP	Pb	07 43 37.1	-0.5
	baz=16						
SATY				eS	Sn	07 43 53.0	-0.8
	baz=16						
ZHN	Zhinishke	1.13	319	P	Pn	07 43 38.0	-1.3
	9.6nm,0.1s						
ZHN				S	Sn	07 43 54.9	-0.4
	76nm,0.2s						
ZHN	Zhinishke	1.13	319	eP	Pn	07 43 38.0	-1.3
	9.6nm,0.1s						
ZHN				eS	Sn	07 43 54.9	-0.4
	76nm,0.2s						
ZHN	Zhinishke	1.13	319	eP	Pn	07 43 38.0	-1.3
	baz=20						
ZHN				eS	Sn	07 43 54.9	-0.4
	baz=20						
ANVS	Anan'yevo	1.39	290	⇓iP	Pb	07 43 42.7	-0.5
	baz=93						
ANVS				⇓iS	Sg	07 44 03.1	+2.0
	baz=93						
KOTS	Kotyrbulak	1.94	299	Pg	Pb	07 43 52.6	0.0
	19nm,0.2s						
KOTS				Lg	Lg	07 44 19.8	
	36nm,0.5s						
KOTS	Kotyrbulak	1.94	299	eP	Pb	07 43 52.6	0.0
	19nm,0.2s						
KOTS				eS	Sg	07 44 19.8	+0.9
	36nm,0.5s						
KOTS	Kotyrbulak	1.94	299	eP	Pb	07 43 52.6	0.0
	baz=0.0						
KOTS				eS	Sg	07 44 19.8	+0.9
	baz=0.0						
MDOK	Medeo	1.96	297	Pg	Pb	07 43 52.4	-0.4
	17nm,0.3s						
MDOK				Lg	Lg	07 44 19.3	
	13nm,0.3s						
MDOK	Medeo	1.96	297	eP	Pb	07 43 52.4	-0.4
	17nm,0.3s						
MDOK				eS	Sg	07 44 19.3	0.0
	13nm,0.3s						
MDOK	Medeo	1.96	297	eP	Pb	07 43 52.4	-0.4
	baz=98						
MDOK				eS	Sg	07 44 19.3	0.0
	baz=98						
TNSS	Tian-Shan	1.97	292	Pg	Pb	07 43 52.9	-0.3
	33nm,0.2s						
TNSS				Lg	Lg	07 44 20.5	
	15nm,0.2s						
TNSS	Tian-Shan	1.97	292	eP	Pb	07 43 52.9	-0.3
	33nm,0.2s						
TNSS				eS	Sg	07 44 20.5	+0.6
	15nm,0.2s						
TNSS	Tian-Shan	1.97	292	eP	Pb	07 43 52.9	-0.3
	baz=94						
TNSS				eS	Sg	07 44 20.5	+0.6
	baz=94						
DJR	Jarkent	2.03	7	Pg	Pb	07 43 53.8	-0.3
	19nm,0.3s						
DJR				Lg	Lg	07 44 22.2	
	78nm,0.4s						
DJR	Jarkent	2.03	7	eP	Pb	07 43 53.8	-0.3
	19nm,0.3s						
DJR				eS	Sg	07 44 22.2	+0.4
	78nm,0.4s						
KNOS	Konyrlen	2.05	355	Pg	Pb	07 43 54.9	+0.5
	24nm,0.2s						
KNOS				Lg	Lg	07 44 23.7	
	30nm,0.2s						
ARXS	Arharly	2.23	329	Pg	Pb	07 43 57.4	0.0
	4.4nm,0.4s						
ARXS				Lg	Lg	07 44 28.2	
	80nm,0.4s						
ARXS	Arharly	2.23	329	eP	Pb	07 43 57.4	0.0
	4.4nm,0.4s						
ARXS				eS	Sg	07 44 28.2	0.0
	80nm,0.4s						
MTBS	Maitube	2.36	291	Pg	Pb	07 43 59.9	+0.2
	8.0nm,0.2s						
MTBS				Lg	Lg	07 44 32.1	
	28nm,0.4s						
MTBS	Maitube	2.36	291	eP	Pb	07 43 59.9	+0.2
	8.0nm,0.2s						
MTBS				eS	Sg	07 44 32.1	-0.2
	28nm,0.4s						
CHKK	Chushkaly	2.36	311	Pg	Pb	07 44 00.2	+0.5
	18nm,0.3s						
CHKK				Lg	Lg	07 44 32.9	
	95nm,0.3s						
CHKK	Chushkaly	2.36	311	eP	Pb	07 44 00.2	+0.5
	18nm,0.3s						
CHKK				eS	Sg	07 44 32.9	+0.5
	95nm,0.3s						
ULHL	Ulahol	2.37	269	⇑iP	Pb	07 43 57.8	-2.1
	baz=71						
ULHL				⇑iS	Sb	07 44 28.7	-1.0
	baz=71						
KTBS	Karatobe	2.46	306	Pg	Pb	07 44 01.9	+0.6
	17nm,0.3s						
KTBS				Lg	Lg	07 44 35.7	
	74nm,0.3s						
KTBS	Karatobe	2.46	306	eP	Pb	07 44 01.9	+0.6
	17nm,0.3s						
KTBS				eS	Sg	07 44 35.7	+0.3
	74nm,0.3s						
BOOM	Boomskoye usch	2.60	275	⇑iP	Pb	07 44 00.9	-2.8
	baz=77						
BOOM				⇑iS	Sb	07 44 34.5	-1.6
	baz=77						
KST	Kastek	2.66	287	Pg	Pb	07 44 05.6	+0.8
	8.5nm,0.4s						
KST				Lg	Lg	07 44 42.1	
	15nm,0.6s						
KST	Kastek	2.66	287	eP	Pb	07 44 05.6	+0.8
	8.5nm,0.4s						
KST				eS	Sg	07 44 42.1	0.0
	15nm,0.6s						
KUU	Kurty	2.76	306	Pg	Pb	07 44 06.9	+0.4
	3.9nm,0.4s						
KUU				Lg	Lg	07 44 44.2	
	24nm,0.3s						
KUU	Kurty	2.76	306	eP	Pb	07 44 06.9	+0.4
	3.9nm,0.4s						
KUU				eS	Sg	07 44 44.1	-1.1
	24nm,0.3s						
DGS	Degeres	2.85	290	Pg	Pb	07 44 08.3	+0.3
	6.4nm,0.3s						
DGS				Lg	Lg	07 44 46.8	
	15nm,0.4s						
DGS	Degeres	2.85	290	eP	Pb	07 44 08.3	+0.3
	6.4nm,0.3s						
DGS				eS	Sg	07 44 46.8	-1.3
	15nm,0.4s						
TKM2	Tokmak 2	2.90	283	⇓Pg	Pb	07 44 07.2	-1.7
	1.0nm,0.3s						
TKM2				⇑Lg	Lg	07 44 48.9	
	5.4nm,0.6s						
TKM2	Tokmak 2	2.90	283	⇑iP	Pb	07 44 05.5	-3.4
	baz=85						
TKM2				⇑iS	Sb	07 44 42.2	-2.6
	baz=85						
KAPS	Kapalarasan	2.97	359	Pg	Pb	07 44 10.5	+0.4
	2.6nm,0.3s						
KAPS				Lg	Lg	07 44 50.5	
	30nm,0.4s						
KAPS	Kapalarasan	2.97	359	eP	Pb	07 44 10.5	+0.4
	2.6nm,0.3s						
KAPS				eS	Sg	07 44 50.5	-1.4
	30nm,0.4s						
KRBS	Karabastau	3.09	298	Pg	Pb	07 44 12.6	+0.6
	4.3nm,0.2s						
KRBS				Lg	Lg	07 44 54.0	
	12nm,0.4s						
KRBS	Karabastau	3.09	298	eP	Pb	07 44 12.6	+0.6
	4.3nm,0.2s						
KRBS				eS	Sg	07 44 54.0	-1.6
	12nm,0.4s						
KZA	Kyzart	3.12	267	⇓iP	Pn	07 44 08.1	+1.2
	baz=69						
KZA				⇓iS	Sn	07 44 46.8	+1.9
	baz=69						
USP	Ospenovka	3.76	286	⇓eP	Pn	07 44 17.3	+2.0
	baz=87						
USP				⇓iS	Sn	07 45 02.8	+2.8
	baz=87						
AML	Almayashu	4.27	269	Pg	Pb	07 44 32.8	+0.4
AML				⇑Lg	Lg	07 45 30.8	
	0.3nm,0.5s						
AML	Almayashu	4.27	269	⇑iP	Pn	07 44 24.1	+1.4
	baz=71						
AML				⇑iS	Sn	07 45 14.5	+1.3
	baz=71						
MAKZ	Makanchi	4.84	21	⇓Pn	Pn	07 44 30.9	+0.7
	0.8nm,0.5s						
MAKZ				⇑Lg	Lg	07 45 54.5	
	0.8nm,0.7s						
MK31	Makanchi Array	4.92	23	⇓Pn	Pn	07 44 31.8	+0.6
	0.2nm,0.3s,baz=206,slow=13,SNR=21						
MK31				⇓Lg	Lg	07 45 56.6	
	1.8nm,0.9s,baz=196,slow=26,SNR=3.5						

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*NNC **04** 07:46:06.7±0.8, 50°.89N×73°.66E, h0^{km}, mb3.0, mpv2.8, Error ellipse: s-maj=6.8km s-min=5.7km az=135.0, Suspected Mining explosion.*
*IDC **04** 07:46:10.2±1.3, 51°.08N×73°.86E, h0^{km}, mbtmp2.5/4, ML1.9/4, Error ellipse: s-maj=29.0km s-min=8.9km az=33.0*
ISC 04 07:46:06.3±0.9**, 50°.97N**±0°.05×**73°.54E**±0°.05**, h0^{km}, n14, σ1^{s}12**/15**, 5C-6D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRZS	Berezniki	1.13	209	P	Pg	07 46 28.2	+0.2
	2.7nm,0.3s						
BRZS				S	Sb	07 46 44.0	0.0
	16nm,0.4s						
BVA0	Borovoye Array	2.83	318	⇑Pg	Pg	07 47 00.6	0.0
	0.4nm,0.3s,baz=126,slow=16,SNR=11						
BVA0				⇑Lg	Lg	07 47 37.1	
	5.4nm,0.7s,baz=121,slow=36,SNR=11						
BVAR	Borovoye Array	2.83	318	Pn	Pb	07 46 57.5	-0.3
	0.1nm,0.3s,baz=135,slow=13,SNR=9.2						
BVAR				Lg	Lg	07 47 40.9	
	0.3nm,0.3s,baz=127,slow=33,SNR=7.1						
	1.3nm,0.5s						
OTUK	Ortayu	2.84	196	Pg	Pb	07 46 57.1	-0.8
	1.2nm,0.3s						
OTUK				Lg	Lg	07 47 34.1	
	5.2nm,0.5s						
OTUK	Ortayu	2.84	196	⇑Pg	Pn	07 46 55.1	+2.2
	1.9nm,0.5s						
OTUK				⇓Lg	Lg	07 47 35.2	
	6.7nm,0.6s						
BRVK	Borovoye	2.90	317	⇓Pg	Pg	07 47 02.3	+0.4
	0.6nm,0.4s						
BRVK				⇑Lg	Lg	07 47 42.9	
	7.4nm,0.7s						
KURBB	Kurchatov Arra	3.19	94	⇓Pg	Pb	07 47 04.3	+0.5
	2.6nm,0.4s						
KURBB				⇓Lg	Lg	07 47 47.2	
	47nm,0.7s						
KURBB	Kurchatov Arra	3.19	94	Pn	Pn	07 46 59.3	+1.6
	0.1nm,0.3s,baz=279,slow=14,SNR=22						
KURBB				Lg	Lg	07 47 44.4	
	0.4nm,0.3s,baz=283,slow=29,SNR=12						
	2.0nm,0.7s						
KURK	Kurchatov	3.23	93	⇓Pg	Pb	07 47 03.9	-0.6
	0.8nm,0.4s						
KURK				⇓Lg	Lg	07 47 45.2	
	7.6nm,0.6s						
SEM	Semipalatinsk	4.31	95	Pg	Pb	07 47 23.4	+0.4
	5.0nm,0.2s						
SEM				Lg	Lg	07 48 19.9	
	9.6nm,0.2s						
MK31	Makanchi Array	7.12	123	⇑Lg	Lg	07 49 53.7	
	2.7nm,0.6s,baz=321,slow=23,SNR=5.2						
MKAR	Makanchi Array	7.12	123	Pn	Pn	07 47 52.9	+1.1
	0.1nm,0.3s,baz=306,slow=13,SNR=1.9						
MKAR				Pg	Pb	07 48 10.4	-0.5
	0.1nm,0.3s,baz=305,slow=13,SNR=2.6						
MKAR				Sn	Sn	07 49 11.6	-1.8
	0.1nm,0.3s,baz=275,slow=14,SNR=1.4						
MKAR				Lg	Lg	07 49 51.7	
	0.3nm,0.3s,baz=310,slow=28,SNR=6.3						
	0.1nm,0.4s						
I46RU	ZALESOVO INFRA	7.51	62	I	I	08 31 50.0	
	0.1nm,0.7s,baz=246,slow=335,SNR=1.7						
ZALV	Zalesovo Beam	7.51	62	Pn	Pn	07 47 55.8	-1.2
	0.1nm,0.3s,baz=251,slow=9.0,SNR=1.6						
	0.2nm,0.3s						

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*NEIC **04** 08:06:28.1±0.7, 19°.22N±0°.02×155°.44W±0°.02, h40^{km}±2^{km}, Error ellipse: s-maj=3.6km s-min=2.4km az=148.0*
HVO 04 08:06:29.6±0.8**, 19°.20N**±0°.06×**155°.41W**±0°.06**, h33^{km}**±7^{km}**, ML2.5**/29**, ML2.7**/52(NEIC)**, Error ellipse: s-maj=10.7km s-min=3.3km az=137.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.04	17		Pb	08 06 34.9	-0.3
HLP	Hilina Pali	0.14	45		Pb	08 06 35.3	-0.4
HLP					Sb	08 06 39.6	-0.4
HLP	Hilina Pali	0.14	45	IAML		08 06 39.8	
	comp=N,1µm,0.3s						
HLP				IAML		08 06 41.6	
	comp=E,1µm,0.2s						
HPO	Honuapo	0.17	232		Pn	08 06 35.2	+0.3
AIN	Ainahou	0.18	346		Pn	08 06 35.7	+0.4
AIN					Sb	08 06 40.2	-0.5
AIN	Ainahou	0.18	346	IAML		08 06 40.5	
	comp=E,4µm,0.3s						
AIN				IAML		08 06 40.8	
	comp=N,7µm,0.4s						
KHU	Kahuku	0.20	284		Pn	08 06 35.5	-0.2
KHU					Sb	08 06 39.8	-1.3
KHU	Kahuku	0.20	284	IAML		08 06 40.1	
	comp=N,2µm,0.1s						
KHU				IAML		08 06 40.2	
	comp=E,3µm,0.4s						
SDHHI	Sand Hill	0.22	30		Pn	08 06 35.8	-0.4
SDHHI					Sb	08 06 40.4	-0.9
SDHHI	Sand Hill	0.22	30	IAML		08 06 40.8	
	comp=E,2µm,0.4s						
SDHHI				IAML		08 06 41.4	
	comp=N,2µm,0.3s						
WRMHI	West Rim	0.23	27		Pn	08 06 35.8	-0.6
WRMHI	West Rim	0.23	27	IAML		08 06 41.9	
	comp=E,2µm,0.4s						
WRMHI				IAML		08 06 44.1	
	comp=N,2µm,0.4s						
RIM	Rim	0.24	33		Pn	08 06 35.8	-0.6
RIM	Rim	0.24	33	IAML		08 06 44.1	
	comp=N,834nm,0.7s						
RIM				IAML		08 06 46.1	
	comp=E,592nm,1.3s						
KKO	Keanakako`i	0.24	34		Pn	08 06 35.9	-0.7
KKO					Sn	08 06 40.6	+0.4
KKO	Keanakako`i	0.24	34	IAML		08 06 40.8	
	comp=E,890nm,0.3s						
KKO				IAML		08 06 41.4	
	comp=N,1µm,1.1s						
NPH	North Pit	0.25	30		Pn	08 06 35.8	-0.9
NPH					Sn	08 06 40.9	+0.5
OBL	Observatory Le	0.25	29		Pn	08 06 35.9	-0.8
OBL					Sn	08 06 40.6	-0.2
OBL	Observatory Le	0.25	29	IAML		08 06 43.0	
	comp=E,1µm,0.4s						
OBL				IAML		08 06 45.9	
	comp=N,1µm,0.6s						
UWE	Uwekahuna	0.25	27		Pn	08 06 35.9	-0.8
UWE					Sn	08 06 40.8	+0.2
UWE	Uwekahuna	0.25	27	IAML		08 06 43.6	
	comp=E,1µm,0.3s						
UWE				IAML		08 06 49.5	
	comp=N,915nm,0.8s						
PUH	Pauahi	0.26	46		Pn	08 06 36.0	-0.8
PUH					Sn	08 06 40.7	-0.3
PUH	Pauahi	0.26	46	IAML		08 06 40.8	
	comp=E,658nm,0.9s						
PUH				IAML		08 06 42.1	
	comp=N,468nm,0.7s						
BYL	Byron's Ledge	0.26	34		Pn	08 06 35.9	-0.9
BYL	Byron's Ledge	0.26	34	IAML		08 06 41.7	
	comp=E,484nm,0.6s						
BYL				IAML		08 06 50.7	
	comp=N,565nm,0.7s						
UWB	Uwekahuna B	0.26	29		Pn	08 06 35.9	-1.0
UWB	Uwekahuna B	0.26	29	IAML		08 06 40.5	
	comp=N,232nm,0.6s						
UWB				IAML		08 06 40.6	
	comp=E,203nm,1.1s						
HATHI	Halema‘uma‘u T	0.27	32		Pn	08 06 36.0	-1.0
HATHI	Halema‘uma‘u T	0.27	32	IAML		08 06 42.7	
	comp=E,639nm,0.7s						
HATHI				IAML		08 06 42.7	
	comp=N,575nm,0.6s						
SBLHI	Steaming Bluff	0.27	30		Pn	08 06 36.0	-1.1
SBLHI					Sn	08 06 40.6	-0.8
SBLHI	Steaming Bluff	0.27	30	IAML		08 06 41.0	
	comp=E,854nm,0.3s						
SBLHI				IAML		08 06 41.0	
	comp=N,969nm,0.2s						
KNHH	Kane Nui o Ham	0.29	51		Pb	08 06 36.4	-0.9
MLH	Mauna Loa	0.30	5		Pb	08 06 36.7	-0.9
MLH				IAML		08 06 42.1	
	comp=N,730nm,0.3s						
MLH	Mauna Loa	0.30	5		Sn	08 06 41.9	-0.6
MLH	Mauna Loa	0.30	5	IAML		08 06 41.8	
	comp=E,422nm,0.4s						
STCH	Steam Cracks	0.33	55		Pb	08 06 36.8	-1.1
STCH					Sn	08 06 42.0	-1.4
STCH	Steam Cracks	0.33	55	IAML		08 06 42.1	
	comp=E,661nm,0.3s						
STCH				IAML		08 06 45.8	
	comp=N,374nm,0.5s						
MWH	Moku‘aweowe	0.34	329		Pb	08 06 37.0	-1.3
MWH					Sn	08 06 42.5	-1.3
MWH	Moku‘aweowe	0.34	329	IAML		08 06 42.8	
	comp=E,866nm,0.7s						
MWH				IAML		08 06 43.0	
	comp=N,585nm,0.2s						
NPOC	North of Pu‘u	0.34	56		Pb	08 06 36.9	-1.1
NPOC					Sb	08 06 42.4	-1.4
NPOC	North of Pu‘u	0.34	56	IAML		08 06 42.6	
	comp=E,404nm,0.2s						
NPOC				IAML		08 06 42.6	
	comp=N,593nm,0.2s						
JCUZ	Jacuzzi	0.35	57	IAML		08 06 42.8	
	comp=N,626nm,0.4s						
JCUZ	Jacuzzi	0.35	57		Pb	08 06 37.0	-1.0
JCUZ					Sb	08 06 42.5	-1.3
MLOA	Mauna Loa Obse	0.37	335		Pb	08 06 37.4	-1.3
MLOA					Sb	08 06 42.9	-2.0
MLOA	Mauna Loa Obse	0.37	335	IAML		08 06 43.0	
	comp=E,402nm,0.2s						
MLOA				IAML		08 06 43.2	
	comp=N,569nm,0.2s						
ALEP	Alea Permanent	0.41	327		Pb	08 06 37.5	-1.6
HMH	Humu‘ula Sheep	0.41	350		Pb	08 06 38.1	-1.0
HMH	Humu‘ula Sheep	0.41	350	IAML		08 06 45.3	
	comp=N,376nm,0.2s						
HMH				IAML		08 06 55.7	
	comp=E,270nm,0.4s						
JOKA	Jonika Flow	0.45	58		Pb	08 06 38.1	-1.4
JOKA					Pn	08 06 44.3	+4.5
CPH	Captain Cook	0.56	301		Pb	08 06 39.1	-2.0
POHA	Pohakuloa	0.57	348		Pb	08 06 39.5	-1.9
POHA	Pohakuloa	0.57	348	IAML		08 06 53.1	
	comp=E,388nm,0.3s						
POHA				IAML		08 06 53.5	
	comp=E,340nm,0.2s						
KHLU	Kahalu`u	0.60	311		Pn	08 06 39.9	-2.0
KHLU					Sb	08 06 47.3	-3.1
KHLU	Kahalu`u	0.60	311	IAML		08 06 47.4	
	comp=E,468nm,0.1s						
KHLU				IAML		08 06 48.1	
	comp=N,684nm,0.1s						
HUH	Hualalai	0.63	321		Pn	08 06 40.7	-1.7
HUH	Hualalai	0.63	321	IAML		08 06 53.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,460nm,0.1s						
HPAH	**Hawaii Prepara**	**0.87**	**342**		Pn	08 06 43.4	-2.2
HPAH					Sn	08 06 53.3	-3.9
HPAH	**Hawaii Prepara**	**0.87**	**342**	IAML		08 06 53.5	
	comp=E,214nm,0.1s						
HPAH				IAML		08 06 53.9	
	comp=N,313nm,0.1s						
HLK	**Haleakala**	**1.74**	**333**		Pn	08 06 55.2	-2.6

*ISN **04** 08:18:35.4±0.6, 33°.92N×46°.99E, h0km±21km, ML2.7*
*TEH **04** 08:18:37.2, 33°.94N×46°.99E, h11km±38km, ML2.6*
ISC 04 08:18:38.2±1.3**, 34°.00N**±0°.05×**47°.05E**±0°.05**, h13**km±11km**,**
n7, σ**0s77**/12**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCHF	**Cheshme Sefid,**	**0.28**	**359**	Pg	**Pg**	**08 18 44.3**	**+0.3**
KCHF				Sg	**Sb**	**08 18 49.6**	**-0.1**
IKOM	**Komasi**	**0.42**	**65**	Pg	**Pb**	**08 18 47.2**	**-0.4**
IKOM				Sg	**Sb**	**08 18 54.9**	**+0.9**
IKFM	**Kafar-mosalman**	**0.82**	**125**	Pg	**Pb**	**08 18 53.4**	**-0.8**
IDHR	**Dehrash**	**0.89**	**322**	Pg	**Pb**	**08 18 54.9**	**-0.7**
IBDR	**Badra**	**1.29**	**227**	*e*Pn	**Pn**	**08 19 01.0**	**-0.8**
IBDR				*e*Sn	**Sg**	**08 19 20.0**	**+0.4**
IBDR				AML	AML	08 19 24.1	
	comp=E,166nm,0.6s						
IBDR				AML	AML	08 19 24.3	
	comp=N,196nm,0.4s						
BHD	**Baghdad**	**2.34**	**253**	*e*Pn	**Pn**	**08 19 16.0**	**-0.3**
BHD				*e*Sn	**Sn**	**08 19 46.0**	**+1.1**
RAFI	**Al-Rafai**	**2.40**	**199**	*e*Pn	**Pn**	**08 19 17.0**	**-0.2**
RAFI				*e*Sn	**Sn**	**08 19 47.0**	**+0.6**

*TEH **04** 08:19:10.2, 33°.99N×47°.05E, h12km±143km, ML3.0*
*ISN **04** 08:19:10.2±0.8, 34°.01N×47°.08E, h24km±4km, ML3.1*
ISC 04 08:19:10.4±1.1**, 33°.99N**±0°.03×**47°.07E**±0°.03**, h20**km±4km**,**
n13, σ**1s04**/20**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCHF	**Cheshme Sefid,**	**0.28**	**355**	Pg	**Pb**	**08 19 16.7**	**-0.2**
KCHF				Sg	**Sg**	**08 19 20.7**	**-0.7**
IKOM	**Komasi**	**0.41**	**63**	Pg	**Pb**	**08 19 19.4**	**+0.2**
IGHG	**Ghaleghazi**	**0.54**	**309**	Sg	**Sb**	**08 19 29.2**	**+0.5**
IKFM	**Kafar-mosalman**	**0.80**	**126**	Pg	**Pg**	**08 19 25.9**	**-0.1**
IKFM				Sg	**Sn**	**08 19 37.6**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.81**	**243**	Pg	**Pb**	**08 19 25.0**	**-0.8**
IBZA	**Bozab**	**0.81**	**54**	Pg	**Pn**	**08 19 26.6**	**-0.4**
IDHR	**Dehrash**	**0.91**	**321**	Pg	**Pg**	**08 19 27.8**	**-0.4**
IDHR				Sg	**Sn**	**08 19 40.4**	**-0.5**
ILIN	**Lien**	**0.93**	**354**	Pg	**Pn**	**08 19 28.9**	**+0.2**
IALM	**Almabolaq**	**1.25**	**46**	Pg	**Pg**	**08 19 34.8**	**0.0**
HSAM	**Samen**	**1.29**	**80**	Pg	**Pg**	**08 19 35.3**	**-0.1**
HSAM				Sg	**Sg**	**08 19 53.4**	**+1.1**
IBDR	**Badra**	**1.30**	**228**	*e*Pg	**Pb**	**08 19 34.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**08 19 51.5**	**-1.0**
IBDR				AML	AML	08 19 55.9	
	comp=E,437nm,0.6s						
IBDR				AML	AML	08 19 56.5	
	comp=N,494nm,0.7s						
BHD	**Baghdad**	**2.36**	**253**	*e*Pn	**Pn**	**08 19 50.0**	**+2.0**
BHD				*e*Sn	**Sn**	**08 20 18.0**	**+1.6**
RAFI	**Al-Rafai**	**2.40**	**200**	*e*Pn	**Pn**	**08 19 50.0**	**+1.4**
RAFI				*e*Sn	**Sb**	**08 20 20.0**	**-2.2**
RAFI				AML	AML	08 20 22.5	
	comp=N,119nm,0.4s						
RAFI				AML	AML	08 20 25.6	
	comp=E,111nm,0.4s						

*DJA **04** 08:29:25.2±0.4, 1°N±4°×12°7E±°, h45km±12km, M4.2/11, mb4.2/6, mB5.4/2, MLv4.2/11, Mw(mB)4.8/2*
*IDC **04** 08:29:36.5±1.6, 0°.63N×125°.39E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=194.8km s-min=20.5km az=65.0*
ISC 04 08:29:25.9±2.0**, 0°.9N**±0°.1×**127°.1E**±0°.1**, h35**km**, n16,**
σ**1s43**/12**, mb3.6**/4**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.32**	**117**	P	**Pn**	**08 29 35.3**	**+1.2**
LBMI	**Labuha**	**1.60**	**165**	P	**Pn**	**08 29 51.9**	**+0.1**
KMSI	**Cibinong**	**3.12**	**264**	P	**Pn**	**08 30 13.3**	**+0.7**
KMSI				S	Sn	08 30 37.0	-12
SANI	**Sanana**	**3.14**	**200**	P	**Pn**	**08 30 13.2**	**+0.2**
SGSI	**Sangihe**	**3.15**	**331**	P	**Pn**	**08 30 11.6**	**-1.5**
GTOI	**Gorontalo**	**4.08**	**266**	P	**Pn**	**08 30 28.3**	**+2.5**
LUWI	**Luwuk**	**4.73**	**246**	P	**Pn**	**08 30 35.0**	**+0.3**
MRSI	**Marisa**	**5.16**	**265**	P	**Pn**	**08 30 38.9**	**-1.7**
	43nm,0.4s,0.3nm						
BNDI	**Bandanaira**	**6.10**	**152**	P	**Pn**	**08 30 52.7**	**-0.9**
	147nm,0.5s,15µm1.3nm						
MPSI	**Mapaga**	**7.20**	**265**	P	**Pn**	**08 31 07.4**	**-1.4**
	9.0nm,0.9s,0.1nm						
MMSI	**Mamuju**	**8.92**	**246**	P	**Pn**	**08 31 30.9**	**-1.5**
	10.0nm,0.5s						
BKSI	**Bulukumba**	**9.31**	**228**	P	**Pn**	**08 31 37.9**	**+0.2**
WRA	**Warramunga Arr**	**21.92**	**161**	P	P	08 34 34.9	+18
	0.4nm,0.3s,baz=336,slow=11,SNR=18						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**25.32**	**165**	P	P	08 35 07.4	+18
	0.7nm,0.7s,baz=343,slow=8.8,SNR=21						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**60.06**	**326**	P	P	08 39 40.7	+11
	0.8nm,0.4s,baz=123,slow=7.9,SNR=17						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**64.28**	**328**	P	P	08 40 09.2	+11
	0.5nm,0.6s,baz=134,slow=5.8,SNR=4.1						
	0.5nm,0.6s						

*ISN **04** 08:52:09.1±1.0, 33°.93N×46°.96E, h3km±36km, ML3.2*
*TEH **04** 08:52:10.0, 33°.95N×47°.02E, h12km±229km, ML3.0*
ISC 04 08:52:10.6±1.2**, 33°.97N**±0°.03×**47°.00E**±0°.03**, h13**km±12km**,**
n17, σ**1s37**/23**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCHF	**Cheshme Sefid,**	**0.30**	**6**	Pg	**Pg**	**08 52 16.8**	**-0.2**
IKOM	**Komasi**	**0.47**	**64**	Pg	**Pg**	**08 52 19.7**	**-0.3**
IGHG	**Ghaleghazi**	**0.51**	**315**	Pg	**Pg**	**08 52 20.3**	**-0.3**
IGHG				Sg	**Sb**	**08 52 29.3**	**+0.5**
ILBA	**Ilam Banvizeh**	**0.74**	**242**	Pg	**Pg**	**08 52 24.4**	**-0.7**
ILBA				Sg	**Sb**	**08 52 35.3**	**-0.3**
IKFM	**Kafar-mosalman**	**0.83**	**122**	Pg	**Pg**	**08 52 25.7**	**-1.1**
IDHR	**Dehrash**	**0.89**	**325**	Pg	**Pg**	**08 52 27.7**	**-0.1**
IDHR				Sg	**Sb**	**08 52 40.7**	**+0.9**
ILIN	**Lien**	**0.94**	**358**	Pg	**Pn**	**08 52 29.4**	**-0.4**
IBDR	**Badra**	**1.24**	**226**	*e*Pn	**Pg**	**08 52 35.0**	**+0.5**
IBDR				*e*Sn	**Sg**	**08 52 52.5**	**+1.9**
IBDR				AML	AML	08 52 56.0	
	comp=E,495nm,0.7s						
IBDR				AML	AML	08 52 56.9	
	comp=N,570nm,0.6s						
KGS1	**Ghasr-e-Shirin**	**1.28**	**295**	Pg	**Pg**	**08 52 35.3**	**0.0**
IALM	**Almabolaq**	**1.31**	**47**	Pg	**Pg**	**08 52 35.5**	**-0.3**
HSAM	**Samen**	**1.35**	**79**	Pg	**Pb**	**08 52 35.5**	**-0.5**
HAGD	**Aghdareh**	**1.96**	**64**	Pn	**Pb**	**08 52 46.0**	**-0.4**
BHD	**Baghdad**	**2.29**	**253**	*e*Pn	**Pn**	**08 52 48.5**	**+0.4**
BHD				*e*Sn	**Sb**	**08 53 18.5**	**-1.6**
RAFI	**Al-Rafai**	**2.36**	**199**	*e*Pn	**Pn**	**08 52 50.0**	**+0.9**
RAFI				*e*Sn	**Sb**	**08 53 20.0**	**-2.1**
IRAZ	**Razeghan**	**2.81**	**59**	Pn	**Pb**	**08 52 57.9**	**-2.8**
QAMS	**Qamsar**	**3.67**	**92**	Pn	**Pn**	**08 53 09.6**	**+2.4**
IKLH	**Kolahrood**	**3.88**	**98**	Pn	**Pn**	**08 53 12.7**	**+2.6**

IDC 04 09:03:23.9±8.3**, 19°.40S**×**176°.35W, h0**km**, mb3.4**/2**,**
mbtmp3.4/2**, MS3.0**/1**, Error ellipse: s-maj=308.1km**
s-min=51.2km az=17.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**26.45**	**201**	LR	LR	09 18 12.5	
	comp=Z,32nm,21.0s,baz=310,slow=34						
ASAR	**Alice Springs**	**46.29**	**255**	P	P	09 11 51.1	-0.6
	0.1nm,0.4s,baz=87,slow=8.2,SNR=7.2						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**46.30**	**261**	P	P	09 11 52.1	+0.3
	0.3nm,0.3s,baz=98,slow=8.2,SNR=9.0						
	0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**173.50**	**163**	PKPab	PKPab	09 25 04.4	-0.4
	0.2nm,0.4s,baz=198,slow=3.7,SNR=2.0						

*IDC **04** 09:04:58.2±1.3, 36°.21N×142°.61E, h0km, mb3.6/6, mbtmp3.6/8, ML3.2/2, MS2.8/2, Error ellipse: s-maj=28.8km s-min=23.7km az=69.0*
*JMA **04** 09:05:00.2±0.2, 36°.3N±0°.5×14°3E±°, h79km, MV3.0/30, FAR E OFF KANTO*
ISC 04 09:05:00.3±1.0**, 36°.35N**±0°.06×**142°.60E**±0°.08**, h15**km**, n26,**
σ**1s18**/25**, mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.62**	**270**	*e*P	**Pn**	**09 05 27.7**	**-0.7**
JHYU				*e*S	**Sn**	**09 05 47.7**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.63**	**298**	*e*P	**Pn**	**09 05 27.9**	**-0.6**
ONAJ				*e*S	**Sn**	**09 05 48.8**	**-0.4**
JHO	**Hitachi**	**1.66**	**280**	*e*P	**Pn**	**09 05 27.9**	**-0.9**
JHO				*e*S	**Sn**	**09 05 48.9**	**-0.9**
JFK	**Kawauchi**	**1.71**	**307**	*e*S	**Sn**	**09 05 50.5**	**-0.8**
JIHU	**Itakohorinouch**	**1.72**	**258**	*e*S	**Sn**	**09 05 50.6**	**-0.8**
BSO1	**Boso 1**	**2.15**	**218**	*e*S	**Sn**	**09 06 00.6**	**-0.6**
JOTO	**OTAMA OYAMA**	**2.18**	**304**	*e*P	**Pn**	**09 05 35.6**	**-0.4**
JAG	**Ashikaga**	**2.54**	**273**	*e*P	**Pn**	**09 05 40.5**	**-0.5**
JAG				*e*S	**Sn**	**09 06 10.1**	**-1.5**
JMK	**Ichinoseki**	**2.81**	**338**	S	**Sn**	**09 06 17.2**	**-1.2**
JRY	**Ryogami san**	**3.01**	**265**	*e*P	**Pn**	**09 05 46.6**	**-0.9**
JOD2	**Odawara 2**	**3.05**	**250**	P	**Pn**	**09 05 47.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.54**	**274**	Pn	**Pn**	**09 05 54.5**	**-0.3**
	0.5nm,0.3s,baz=103,slow=8.6,SNR=18						
MJAR				Sn	**Sn**	**09 06 38.0**	**+1.5**
	0.2nm,0.3s,baz=179,slow=32,SNR=1.9						
MJAR				LR	LR	09 07 40.1	
	comp=Z,65nm,21.4s,baz=346,slow=45						
	5.6nm,0.6s						
ASAJ	**Asahikawa**	**7.75**	**360**	Pn	**Pn**	**09 06 52.5**	**-0.1**
	0.6nm,0.3s,baz=210,slow=5.9,SNR=4.8						
ASAJ				Sn	**Sn**	**09 08 17.2**	**-2.9**
	0.2nm,0.3s,baz=320,slow=21,SNR=3.0						
	5.6nm,0.7s						
MA2	**Magadan**	**23.84**	**10**	LR	LR	09 20 50.1	
	comp=Z,51nm,18.1s,baz=320,slow=40						
H11N2	**WAKE ISLAND Hy**	**26.98**	**121**	T	T	09 38 50.2	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**26.99**	**121**	T	T	09 39 06.3	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**27.00**	**121**	T	T	09 38 57.5	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**27.69**	**124**	T	T	09 39 59.1	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**27.69**	**124**	T	T	09 39 51.2	
	baz=315						
H11S2	**WAKE ISLAND Hy**	**27.71**	**124**	T	T	09 39 53.6	
	baz=315						
SONM	**Songino Array**	**28.95**	**305**	P	**P**	**09 11 00.2**	**+1.0**
	0.6nm,0.5s,baz=105,slow=8.8,SNR=3.6						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**45.29**	**303**	P	**P**	**09 13 18.7**	**+1.4**
	1.1nm,0.7s,baz=88,slow=9.3,SNR=13						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**47.17**	**309**	P	**P**	**09 13 32.3**	**+0.3**
	0.3nm,0.3s,baz=83,slow=7.7,SNR=5.8						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**49.56**	**32**	P	**P**	**09 13 52.0**	**+1.7**
	0.5nm,0.9s,baz=262,slow=6.9,SNR=3.1						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**56.53**	**189**	P	**P**	**09 14 40.9**	**-1.2**
	0.8nm,1.1s,baz=7.2,slow=7.4,SNR=3.0						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**60.26**	**189**	P	**P**	**09 15 07.4**	**-0.7**
	0.3nm,0.9s,baz=2.0,slow=6.6,SNR=2.5						
	0.3nm,0.9s						

*UCR **04** 09:08:25.8±0.4, 7°.16N×82°.30W, h18km±7km, MW3.7*
*UPA **04** 09:08:26.6±1.3, 7°.09N×82°.38W, h23km±36km, MW3.6*
*CATAC **04** 09:08:33.8±1.2, 7°.37N×82°.64W, h30km, ML3.9*
ISC 04 09:08:24.4±2.3**, 7°.15N**±0°.10×**82°.33W**±0°.05**, h9**km±12km**,**
n40, σ**1s00**/48**, 1C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIMO3	**Limones**	**1.09**	**331**	*e*P	**Pn**	**09 08 45.7**	**-0.1**
LIMO3				*e*S	**Sn**	**09 09 01.1**	**+0.2**
PTPM	**Petroterminale**	**1.18**	**333**	*e*P	**Pn**	**09 08 47.2**	**0.0**
PTPM				*e*S	**Sb**	**09 09 02.9**	**+0.5**
PEDE3	**Pedregal, Chir**	**1.23**	**356**	*e*P	**Pg**	**09 08 48.1**	**0.0**
PEDE3				*e*S	**Sb**	**09 09 03.9**	**0.0**
GMAL	**Guarumal, Vera**	**1.25**	**61**	*e*P	**Pg**	**09 08 48.7**	**+0.3**
GMAL				*e*S	**Sg**	**09 09 04.8**	**+0.2**
DVD	**David**	**1.29**	**355**	*e*P	**Pb**	**09 08 49.0**	**+0.2**
DVD				*e*S	**Sb**	**09 09 05.1**	**-0.3**
CACAO	**El Cacao, Vera**	**1.47**	**82**	*e*P	**Pb**	**09 08 51.5**	**-0.4**
CACAO				*e*S	**Sn**	**09 09 10.3**	**-0.1**
CDITO	**Canoas**	**1.52**	**339**	⇑*i*P	**Pn**	**09 08 51.9**	**+0.1**
CDITO				*e*S	**Sn**	**09 09 10.9**	**-0.7**
CDITO	**Canoas**	**1.52**	**339**	*e*P	**Pn**	**09 08 51.7**	**0.0**
PTAR3	**Potrerillos Ar**	**1.54**	**354**	*e*P	**Pg**	**09 08 54.5**	**+0.4**
BCO2	**Palmira**	**1.57**	**353**	*e*P	**Pb**	**09 08 53.4**	**-0.4**
BCO2				*e*S	**Sb**	**09 09 14.1**	**+0.2**
PIRO	**Carate, Puerto**	**1.60**	**321**	*e*P	**Pn**	**09 08 52.2**	**-0.6**
STIA3	**Santiago, Vera**	**1.64**	**55**	*e*P	**Pg**	**09 08 55.7**	**-0.3**
STIA3				*e*S	**Sg**	**09 09 16.9**	**-0.4**
BRU2	**Volcan**	**1.68**	**348**	*e*P	**Pn**	**09 08 54.7**	**+0.6**
BRU2				*e*S	**Sb**	**09 09 17.3**	**+0.5**
BRU2	**Volcan**	**1.68**	**348**	*e*P	**Pn**	**09 08 54.4**	**+0.4**
BRU2	**Volcan**	**1.68**	**348**	*i* S	**Sn**	**09 09 15.3**	**-0.5**
BC3P	**Paso Ancho**	**1.68**	**350**	*e*P	**Pb**	**09 08 55.2**	**-0.4**
PTJ1	**Puerto Jimnez**	**1.68**	**325**	*e*P	**Pn**	**09 08 54.3**	**+0.2**
PTJ1				*e*S	**Sn**	**09 09 16.2**	**+0.5**
JIME	**Puerto Jimenez**	**1.70**	**325**	*e*P	**Pn**	**09 08 54.4**	**+0.2**
MLIR3	**Monte Lirio, C**	**1.71**	**343**	*e*P	**Pb**	**09 08 55.7**	**-0.4**
EDAD	**Golfito**	**1.71**	**331**	*e*P	**Pn**	**09 08 53.9**	**-0.6**
VITO	**San Vito**	**1.78**	**339**	*e*P	**Pb**	**09 08 56.5**	**-0.8**
CRIS3	**El Cristo, Coc**	**2.02**	**57**	*e*P	**Pb**	**09 09 00.6**	**-0.7**
CHIT3	**Chitre**	**2.06**	**67**	*e*P	**Pb**	**09 09 00.8**	**-1.2**
CHIT3				*e*S	**Sn**	**09 09 25.8**	**+0.9**
EDBA	**Buenos Aires**	**2.21**	**335**	*e*P	**Pn**	**09 09 02.8**	**+1.4**
BURE	**Buenos Aires**	**2.25**	**334**	*e*P	**Pn**	**09 09 03.1**	**+1.3**
BURE				*e*S	**Sn**	**09 09 29.8**	**+0.1**
CNI2	**El Empalme, Bo**	**2.27**	**356**	*e*P	**Pb**	**09 09 04.8**	**-0.7**
DRK0	**Durika**	**2.29**	**337**	*e*P	**Pn**	**09 09 03.4**	**+0.9**
OCHAL	**Ojochal**	**2.34**	**326**	*i* S	**Sn**	**09 09 27.3**	**-4.5**
ZELE	**Perez Zeledon**	**2.60**	**328**	*e*P	**Pn**	**09 09 08.2**	**+1.5**
BUS1	**Rivas**	**2.77**	**330**	*e*P	**Pn**	**09 09 10.6**	**+1.2**
CDM	**Cerro de Muert**	**2.78**	**329**	*e*P	**Pn**	**09 09 10.5**	**+0.9**
CDM	**Cerro de Muert**	**2.78**	**329**	*i* S	**Sn**	**09 09 44.3**	**+0.8**
LLNJ	**Naranjito**	**2.90**	**323**	*e*P	**Pn**	**09 09 11.4**	**+0.6**
RIMA	**Rio Macho**	**3.01**	**330**	*i* PA		09 09 14.4	
RIMA				IAML		09 09 16.2	
	comp=Z,150nm,1.0s						
LCR2	**La Lucha 2**	**3.07**	**327**	*e*P	**Pn**	**09 09 14.4**	**+1.1**
LCR2	**La Lucha 2**	**3.07**	**327**	*i* PA		09 09 14.8	
LCR2				IAML		09 09 14.8	
	comp=Z,210nm,1.0s						
HAYA	**Volcan Irazu**	**3.19**	**332**	*i* PA		09 09 18.4	
HAYA				IAML		09 09 19.4	
	comp=Z,350nm,1.0s						
HDC3	**Heredia 3**	**3.34**	**328**	*i* PA		09 09 19.3	
HDC3				IAML		09 09 19.3	
	comp=Z,580nm,1.0s						
TRT2	**Tortugero**	**3.66**	**338**	*i* PA		09 09 24.8	
TRT2				IAML		09 09 29.6	
	comp=Z,110nm,1.0s						
SOCE	**Pocosol**	**3.93**	**325**	*i* P	**Pn**	**09 09 27.1**	**+2.1**
SOCE				IAML		09 09 29.9	
	comp=Z,190nm,1.0s						

IDC 04 09:39:54.3±12.0**, 0°.63N**×**28°.15W, h0**km**, mb4.1**/4**,**
mbtmp4.1/4**, MS3.4**/14**, Error ellipse: s-maj=246.1km**
s-min=58.0km az=32.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.05**	**230**	LR	LR	09 45 23.2	
	comp=Z,148nm,21.8s,baz=56,slow=33						
H10N3	**ASCENSION HYDR**	**16.00**	**122**	T	T	10 00 22.2	
	baz=302						
H10N2	**ASCENSION HYDR**	**16.01**	**122**	T	T	10 00 20.5	
	baz=302						
H10N1	**ASCENSION HYDR**	**16.02**	**122**	T	T	10 00 19.0	
	baz=302						
DBIC	**Dimbokro**	**24.00**	**75**	P	P	09 45 11.2	+0.2
	8.2nm,0.9s,baz=249,slow=11,SNR=12						
	8.2nm,0.9s						
MDP	**Montagnes des**	**24.86**	**281**	LR	LR	09 52 35.8	
	comp=Z,48nm,20.4s,baz=197,slow=31						
BDFB	**Brasilia**	**25.43**	**230**	LR	LR	09 54 33.1	
	comp=Z,109nm,18.8s,baz=16,slow=35						
TORD	**Torodi Ar. Bea**	**32.07**	**66**	P	P	09 46 23.2	-0.1
	3.4nm,0.6s,baz=260,slow=8.9,SNR=22						
	3.4nm,0.6s						
SIV	**San Ignacio**	**36.46**	**242**	LR	LR	10 01 08.6	
	comp=Z,61nm,19.4s,baz=278,slow=35						
CPUP	**Villa Florida**	**38.86**	**224**	LR	LR	10 03 03.0	
	comp=Z,109nm,19.1s,baz=54,slow=36						
SJG	**San Juan**	**41.17**	**297**	LR	LR	10 01 34.6	
	comp=Z,24nm,20.2s,baz=199,slow=32						
ESDC	**Sonseca Array**	**44.69**	**27**	P	P	09 48 09.2	+0.1
	1.0nm,0.8s,baz=207,slow=8.3,SNR=5.8						
	1.0nm,0.8s						
LVC	**Limon Verde**	**45.92**	**237**	LR	LR	10 07 47.2	
	comp=Z,37nm,18.8s,baz=26,slow=36						
TSUM	**Tsumeb**	**49.00**	**116**	LR	LR	10 06 38.6	
	comp=Z,29nm,18.2s,baz=327,slow=33						
KEST	**Kesra**	**49.32**	**41**	LR	LR	10 09 03.3	
	comp=Z,79nm,19.0s,baz=235,slow=36						
CFA	**Coronel Fontan**	**49.68**	**226**	LR	LR	10 09 34.2	
	comp=Z,94nm,20.1s,baz=84,slow=36						
SUR	**Sutherland**	**56.66**	**130**	LR	LR	10 08 21.8	
	comp=Z,30nm,20.1s,baz=354,slow=30						
LBTB	**Lobatse**	**57.87**	**120**	LR	LR	10 12 48.5	
	comp=Z,22nm,18.1s,baz=318,slow=34						
IDI	**Anoyia**	**60.12**	**49**	LR	LR	10 17 09.1	
	comp=Z,36nm,18.5s,baz=306,slow=37						
TKL	**Tuckaleechee C**	**62.22**	**311**	LR	LR	10 14 22.3	
	comp=Z,47nm,19.2s,baz=8.5,slow=33						
AKASG	**Malin Array Be**	**69.43**	**35**	P	P	09 51 04.0	-0.3
	0.9nm,0.5s,baz=244,slow=6.1,SNR=5.2						
	0.9nm,0.5s						

*IDC **04** 10:16:36.8±11.0, 43°.77N×129°.93W, h0km, mb3.0/2, mbtmp3.1/3, MS3.0/2, Error ellipse: s-maj=225.8km s-min=33.5km az=66.0*
*NEIC **04** 10:16:43.0±1.8, 43°.84N±0°.04×128°.4W±0°.1, h10km±2km, mb4.1/13, ML3.1/34, Error ellipse: s-maj=18.7km s-min=3.8km az=250.0*
ISC 04 10:16:43.6±1.4**, 43°.87N**±0°.10×**128°.4W**±0°.1**, h10**km**, n52,**
σ**1s02**/44**, mb4.0**/8**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**3.34**	**101**	Pn	**Pn**	**10 17 34.5**	**-1.4**
J01E				IAML		10 19 28.9	
	comp=N,32nm,4.4s						
HEBO	**Mount Hebo**	**3.59**	**66**	Pn	**Pn**	**10 17 37.9**	**-1.5**
HEBO				IAML		10 19 03.8	
	comp=N,54nm,1.7s						
K02D	**Willamette Mer**	**3.66**	**107**	Pn	**Pn**	**10 17 39.2**	**-1.2**
I03D	**Drain, OR**	**3.67**	**91**		**Pn**	**10 17 40.0**	**-0.4**
DBO	**Dodson Butte**	**3.84**	**99**	Pn	**Pn**	**10 17 41.5**	**-1.3**
DBO				IAML		10 18 12.9	
	comp=E,19nm,4.8s						
G03D	**McMinnville, O**	**3.92**	**68**	Pn	**Pn**	**10 17 42.6**	**-1.3**
G03D				IAML		10 18 46.9	
	comp=N,28nm,2.4s						
G03D				IAML		10 20 09.0	
	comp=E,26nm,4.2s						
BUCK	**Buck Mountain**	**3.93**	**83**	Pn	**Pn**	**10 17 44.3**	**+0.3**
BUCK				IAML		10 19 10.4	
	comp=E,32nm,4.8s						
BUCK				IAML		10 20 10.2	
	comp=N,23nm,4.6s						
F03A	**Seaside**	**4.02**	**57**	Pn	**Pn**	**10 17 44.0**	**-1.2**
H04D	**Lebanon**	**4.13**	**79**	Pn	**Pn**	**10 17 46.1**	**-0.7**
H04D				IAML		10 19 17.5	
	comp=E,22nm,3.7s						
H04D				IAML		10 20 20.1	
	comp=N,23nm,4.8s						
HUMO	**Hull Mountain**	**4.18**	**106**	Pn	**Pn**	**10 17 46.7**	**-0.8**
HUMO					**Sn**	**10 18 36.6**	**+0.2**
I04A	**Tendick Farm,**	**4.34**	**89**		**Pn**	**10 17 47.7**	**-2.0**
I04A				IAML		10 18 34.7	
	comp=N,12nm,3.4s						
I04A				IAML		10 20 36.8	
	comp=E,16nm,2.2s						
H04A	**Detroit Lake**	**4.55**	**78**		**Pn**	**10 17 52.4**	**-0.1**
H04A				IAML		10 20 05.0	
	comp=E,9.9nm,4.7s						
H04A				IAML		10 20 28.4	
	comp=N,11nm,4.1s						
WISH	**Wishkah**	**4.61**	**44**	Pn	**Pn**	**10 17 52.5**	**-0.7**
YBH	**Yreka Blue Hor**	**4.71**	**115**	LR	LR	10 19 43.7	
	comp=N,130nm,19.9s,baz=348,slow=33						
NLWA	**Neilton Lookou**	**4.75**	**41**	Pn	**Pn**	**10 17 55.9**	**+0.6**
NLWA				IAML		10 20 43.3	
	comp=N,22nm,4.0s						
NLWA				IAML		10 21 05.8	
	comp=N,16nm,3.6s						
HOOD	**Mount Hood Mea**	**5.04**	**71**	Pn	**Pn**	**10 17 58.7**	**-0.7**
HOOD				IAML		10 18 50.7	
	comp=N,18nm,0.1s						
I05D	**Terrebonne, OR**	**5.12**	**82**	Pn	**Pn**	**10 18 00.7**	**+0.4**
I05D				IAML		10 19 36.4	
	comp=N,19nm,4.1s						
J05D	**Fort Rock, OR**	**5.25**	**94**		**Pn**	**10 18 02.4**	**+0.2**
J05D				IAML		10 20 32.7	
	comp=N,12nm,4.0s						
GNW	**Green Mountain**	**5.38**	**45**		**Pn**	**10 18 03.5**	**-0.4**
PINE	**Pine Mountain**	**5.41**	**88**	Pn	**Pn**	**10 18 04.0**	**-0.5**
LON	**Longmire**	**5.48**	**56**	Pn	**Pn**	**10 18 04.2**	**-1.1**
D05A	**Enumclaw**	**5.60**	**51**	Pn	**Pn**	**10 18 07.4**	**+0.5**
K05A	**Summer Lake**	**5.61**	**99**	Pn	**Pn**	**10 18 06.4**	**-0.9**
CLRS	**Cowichan Lake**	**5.77**	**29**	Pn	**Pn**	**10 18 08.5**	**-0.7**
MXC	**Moxie City**	**6.34**	**62**		**Pn**	**10 18 17.9**	**+0.8**
F07A	**Phinny Hill Vi**	**6.36**	**68**	Pn	**Pn**	**10 18 16.2**	**-1.1**
G08A	**Pilot Rock**	**6.90**	**75**	Pn	**Pn**	**10 18 23.4**	**-1.5**
C09A	**Chrisman Ranch**	**8.10**	**57**	Pn	**Pn**	**10 18 40.0**	**-1.2**
NVAR	**Mina Array Bea**	**9.36**	**122**	Pn	Pn	10 19 07.2	+8.4
	comp=N,0.5nm,0.7s,baz=300,slow=14,SNR=2.2						
PDAR	**Pinedale Array**	**13.78**	**88**	LR	LR	10 26 12.8	
	comp=N,50nm,18.1s,baz=30,slow=39						
FFC	**Flin Flon**	**20.25**	**48**	P	**P**	**10 21 19.0**	**+0.2**
YKAB2	**New Yellowknif**	**20.27**	**19**	P	**P**	**10 21 18.9**	**0.0**
YKA	**Yellowknife Ar**	**20.32**	**19**	P	**P**	**10 21 19.1**	**-0.4**
	comp=N,0.8nm,0.8s,baz=207,slow=11,SNR=14						
	comp=N,0.8nm,0.8s						
SUA	**Susitna One**	**22.03**	**331**	P	**P**	**10 21 36.9**	**-1.2**
M20K	**Styx River**	**23.16**	**330**	P	**P**	**10 21 50.4**	**+0.4**
M20K				IAmb	IAmb	10 22 03.1	
	comp=Z,7.2nm,1.5s						
KTH	**Kantishna Hill**	**23.56**	**335**	P	**P**	**10 21 54.9**	**+0.9**
KTH				IAmb	IAmb	10 22 09.5	
	comp=Z,8.6nm,1.3s						
G29M	**Pine Creek**	**23.67**	**351**	P	**P**	**10 21 54.6**	**-0.4**
G29M				IAmb	IAmb	10 22 00.7	
	comp=Z,6.2nm,1.4s						
N17K	**Nushagak Hills**	**23.97**	**324**	P	**P**	**10 21 57.9**	**0.0**
L19K	**White Mountain**	**23.98**	**329**	P	**P**	**10 21 57.3**	**-0.7**
L19K				IAmb	IAmb	10 22 29.1	
	comp=Z,6.5nm,1.4s						
I23K	**Minto, Yukon-K**	**24.31**	**338**	P	**P**	**10 22 01.4**	**+0.4**
TXAR	**Lajitas Array**	**24.48**	**118**	P	**P**	**10 22 05.9**	**+2.9**
	comp=Z,0.2nm,0.8s,baz=311,slow=7.1,SNR=1.8						
	comp=Z,0.2nm,0.8s						
L18K	**Granite Mounta**	**24.70**	**328**	P	**P**	**10 22 03.6**	**-0.9**
J20K	**Nowinta River**	**25.02**	**333**	P	**P**	**10 22 06.2**	**-1.2**
J20K				IAmb	IAmb	10 22 47.4	
	comp=Z,4.6nm,1.3s						
J19K	**Poorman**	**25.39**	**332**	P	**P**	**10 22 09.5**	**-1.2**
J19K				IAmb	IAmb	10 22 31.6	
	comp=Z,6.5nm,1.4s						
J18K	**Innoko River**	**25.44**	**330**	P	**P**	**10 22 10.4**	**-0.8**
L16K	**Owhat River**	**25.53**	**325**	P	**P**	**10 22 11.6**	**-0.5**
L16K				IAmb	IAmb	10 22 26.9	
	comp=Z,7.3nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**58.46**	**268**	T	T	11 29 50.5	
	baz=49,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**58.46**	**268**	T	T	11 29 46.8	
	baz=49,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**58.48**	**268**	T	T	11 29 44.2	
	baz=49,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**59.39**	**267**	T	T	11 30 50.5	
	baz=50,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**59.40**	**267**	T	T	11 30 51.4	
	baz=50,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**59.41**	**267**	T	T	11 30 53.3	
	baz=50,slow=75,SNR=14						

*SOME **04** 10:24:07.3, 39°.32N×76°.88E, h0km*
*NNC **04** 10:24:10.8±2.0, 39°.38N×77°.12E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=14.0km s-min=12.3km az=120.0*
*KRNET **04** 10:24:15.9±0.1, 39°.29N×77°.66E, mb3.0*
ISC 04 10:24:16.5±2.4**, 39°.4N**±0°.1×**77°.50E**±0°.08**, h10km, n34, σ2s.33**/52**, 20C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	3.05	342	⇑eP	Pn	10 25 05.6	+0.6
	baz=40						
ULHL				⇑eS	Sn	10 25 42.0	+0.4
	baz=40						
SFK	Sufi-Kurgan	3.15	283	⇑iP	Pn	10 25 07.8	+1.4
	baz=84						
SFK				⇑eS	Sn	10 25 45.7	+1.5
	baz=84						
PRZ	Przheval'sk	3.21	12	⇓eP	Pn	10 25 07.6	+0.5
	baz=10.0						
PRZ				⇓eS	Sn	10 25 44.8	-0.6
	baz=10.0						
KZA	Kyzart	3.22	329	⇑eP	Pn	10 25 08.4	+0.9
	baz=27						
KZA				⇑eS	Sn	10 25 47.1	+1.0
	baz=27						
BOOM	Boomskoye usch	3.35	340	⇑eP	Pn	10 25 09.9	+0.8
	baz=38						
BOOM				⇑eS	Sn	10 25 49.6	+0.5
	baz=38						
ANVS	Anan'yevo	3.43	2	⇑eP	Pn	10 25 11.0	+0.8
	baz=0.0						
ANVS				⇑eS	Sn	10 25 50.4	-0.7
	baz=0.0						
ARLS	Aral	3.48	317	⇑eP	Pn	10 25 12.0	+1.1
	baz=16						
ARLS				⇑eS	Sn	10 25 53.2	+0.9
	baz=16						
UCH	Uchtor	3.66	323	⇑eP	Pn	10 25 14.9	+1.3
	baz=22						
UCH				⇑eS	Sn	10 25 57.8	+0.7
	baz=22						
TNSS	Tian-Shan	3.71	354	Pg	Pn	10 25 18.5	+4.3
	1.9nm,0.5s						
TNSS				Lg	Lg	10 26 09.2	
	6.5nm,0.7s						
TNSS	Tian-Shan	3.71	354	eP	Pn	10 25 18.5	+4.3
	1.9nm,0.5s						
TNSS				eS	Sb	10 26 09.2	+1.7
	6.5nm,0.7s						
SATY	Saty	3.77	10	Pg	Pb	10 25 20.2	-3.0
	4.8nm,0.7s						
SATY				Lg	Lg	10 26 12.1	
	9.4nm,0.5s						
SATY	Saty	3.77	10	eP	Pb	10 25 20.2	-3.0
	4.8nm,0.7s						
SATY				eS	Sb	10 26 12.1	+3.2
	9.4nm,0.5s						
MDOK	Medeo	3.83	355	Pg	Pb	10 25 20.9	-3.2
	2.1nm,0.4s						
MDOK				Lg	Lg	10 26 13.0	
	7.7nm,0.8s						
MDOK	Medeo	3.83	355	eP	Pn	10 25 19.7	+4.1
	0.9nm,0.2s						
MDOK				eS	Sb	10 26 11.3	+0.7
	4.0nm,0.2s						
KBK	Karagaybulak	3.83	331	⇑eP	Pn	10 25 16.7	+1.1
	baz=29						
KBK				⇑eS	Sn	10 26 01.1	+0.3
	baz=29						
TKM2	Tokmak 2	3.85	339	⇓Pg	Pn	10 25 16.7	+0.8
	1.6nm,0.3s						
TKM2				⇑Lg	Lg	10 26 08.2	
	3.3nm,0.7s						
TKM2	Tokmak 2	3.85	339	⇓eP	Pn	10 25 16.8	+0.8
	baz=37						
TKM2				⇓eS	Sn	10 26 01.3	0.0
	baz=37						
MTBS	Maitube	3.86	348	Pg	Pn	10 25 19.2	+3.1
	1.6nm,0.3s						
MTBS				Lg	Lg	10 26 09.9	
	5.5nm,0.5s						
MTBS	Maitube	3.86	348	eP	Pn	10 25 19.2	+3.1
	1.6nm,0.3s						
MTBS				eS	Sb	10 26 09.9	-1.7
	5.5nm,0.5s						
ARSB	Arslanbob	3.98	301	⇑eP	Pn	10 25 19.1	+1.4
	baz=1.0						
ARSB				⇑eS	Sn	10 26 05.1	+0.7
	baz=1.0						
AML	Almayashu	4.01	315	⇓Pg	Pn	10 25 21.2	+2.9
	0.1nm,0.4s						
AML				⇑Lg	Lg	10 26 11.6	
	3.3nm,0.8s						
AML	Almayashu	4.01	315	⇓eP	Pn	10 25 19.7	+1.4
	baz=15						
AML				⇓eS	Sn	10 26 06.4	+0.8
	baz=15						
DGS	Degeres	4.10	342	Pg	Pn	10 25 23.2	+3.9
	2.8nm,0.5s						
DGS				Lg	Lg	10 26 17.7	
	6.1nm,0.8s						
DGS	Degeres	4.10	342	eP	Pn	10 25 23.2	+3.9
	2.8nm,0.5s						
DGS				eS	Sb	10 26 16.8	-1.7
	6.1nm,0.8s						
KURS	Kuram	4.17	7	Pg	Pb	10 25 26.8	-3.1
KURS				Lg	Lg	10 26 22.9	
KURS	Kuram	4.17	7	eP	Pb	10 25 26.8	-3.1
KURS				eS	Sb	10 26 22.9	+2.6
KTBS	Karatobe	4.40	352	Pg	Pb	10 25 29.7	-4.2
	2.3nm,0.6s						
KTBS				Lg	Lg	10 26 28.1	
	5.5nm,0.6s						
KTBS	Karatobe	4.40	352	eP	Pb	10 25 29.7	-4.2
	2.3nm,0.6s						
KTBS				eS	Sb	10 26 28.1	+1.0
	5.5nm,0.6s						
CHKK	Chushkaly	4.52	355	Pg	Pb	10 25 31.9	-3.9
CHKK				Lg	Lg	10 26 32.2	
CHKK	Chushkaly	4.52	355	eP	Pb	10 25 31.9	-3.9
CHKK				eS	Sb	10 26 32.2	+1.8
KRBS	Karabastau	4.55	343	Pg	Pn	10 25 31.1	+5.6
	1.2nm,0.5s						
KRBS				Lg	Lg	10 26 30.7	
	3.6nm,0.5s						
KRBS	Karabastau	4.55	343	eP	Pn	10 25 31.1	+5.6
	1.2nm,0.5s						
KRBS				eS	Sb	10 26 30.7	-0.8
	3.6nm,0.5s						
KUU	Kurty	4.62	350	Pg	Pb	10 25 35.5	-2.2
	4.9nm,0.8s						
KUU				Lg	Lg	10 26 38.2	
	8.7nm,0.7s						
KUU	Kurty	4.62	350	eP	Pb	10 25 33.9	-3.8
	0.7nm,0.2s						
KUU				eS	Sb	10 26 35.2	+1.8
	8.7nm,0.7s						

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*SOME **04** 10:24:55.5, 44°.62N×82°.22E, h20km*
*NNC **04** 10:24:56.9±1.6, 44°.69N×82°.11E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=18.4km s-min=5.1km az=122.0*
ISC 04 10:24:54.5±3.5**, 44°.61N**±0°.06×**82°.30E**±0°.09**, h6km**±28km**, n18, σ0s.98**/29**, 3C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJR	Jarkent	1.82	262	P	Pb	10 25 27.9	-0.4
	9.9nm,0.2s						
DJR				S	Sb	10 25 51.8	+0.5
	12nm,0.3s						
DJR	Jarkent	1.82	262	eP	Pn	10 25 26.9	+0.5
	0.9nm,0.3s						
DJR				eS	Sn	10 25 49.3	-0.5
	15nm,0.2s						
MK31	Makanchi Array	2.19	360	⇓Pn	Pb	10 25 34.2	-0.3
	9.5nm,0.4s,baz=186,slow=16,SNR=183						
MK31				⇑Sn	Sb	10 26 01.4	-0.5
	22nm,0.6s,baz=183,slow=27,SNR=23						
KAPS	Kapalarasan	2.20	289	Pg	Pb	10 25 34.0	-0.7
	5.3nm,0.3s						
KAPS				Lg	Lg	10 26 01.8	
	16nm,0.3s						
KAPS	Kapalarasan	2.20	289	eP	Pb	10 25 34.0	-0.7
	5.3nm,0.3s						
KAPS				eS	Sb	10 26 01.8	-0.4
	16nm,0.3s						
MAKZ	Makanchi	2.21	354	⇑Pn	Pn	10 25 33.4	+1.6
	3.4nm,0.5s						
MAKZ				⇑Sn	Sb	10 26 01.9	-0.7
	10nm,0.7s						
KNOS	Konyrlen	2.25	265	Pg	Pb	10 25 35.2	-0.5
	15nm,0.4s						
KNOS				Lg	Lg	10 26 03.5	
	24nm,0.3s						
PDGK	Podgornoye	2.40	239	Pg	Pb	10 25 36.8	-1.4
	3.0nm,0.3s						
PDGK				Lg	Lg	10 26 06.6	
	10nm,0.6s						
PDGK	Podgornoye	2.40	239	⇓Pn	Pb	10 25 36.7	-1.4
	2.5nm,0.4s						
PDGK				⇓Sn	Sb	10 26 09.1	+1.1
	19nm,0.7s						
SHLS	Shalkode	2.51	236	Pg	Pn	10 25 36.5	+0.4
	15nm,0.4s						
SHLS				Lg	Lg	10 26 05.9	
	20nm,0.3s						
SHLS	Shalkode	2.51	236	eP	Pn	10 25 36.5	+0.4
	15nm,0.4s						
SHLS				eS	Sn	10 26 05.9	-1.1
	20nm,0.3s						
UZB	Uzynbulak	2.78	240	Pg	Pb	10 25 43.9	-0.9
	6.7nm,0.3s						
UZB				Lg	Lg	10 26 18.5	
	12nm,0.7s						
UZB	Uzynbulak	2.78	240	eP	Pb	10 25 43.9	-0.9
	6.7nm,0.3s						
UZB				eS	Sb	10 26 18.5	-0.6
	12nm,0.7s						
ZHN	Zhinishke	3.14	244	eP	Pb	10 25 51.7	+0.9
	5.2nm,0.3s						
ZHN				eS	Sb	10 26 31.9	+2.5
	18nm,0.2s						
KURS	Kuram	3.18	251	Pg	Pb	10 25 50.4	-1.1
	1.9nm,0.4s						
KURS				Lg	Lg	10 26 30.1	
	9.4nm,1.0s						
KURS	Kuram	3.18	251	eP	Pb	10 25 51.2	-0.3
	1.9nm,0.3s						
KURS				eS	Sb	10 26 31.2	+0.7
	6.7nm,0.3s						
ARXS	Arharly	3.23	265	Pg	Pb	10 25 51.6	-0.7
	4.2nm,0.4s						
ARXS				Lg	Lg	10 26 32.2	
	10.0nm,0.5s						
ARXS	Arharly	3.23	265	eP	Pb	10 25 52.1	-0.2
	4.2nm,0.4s						
ARXS				eS	Sb	10 26 32.5	+0.6
	10nm,0.2s						

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*IDC **04** 10:39:19.3±0.7, 5°.53S×102°.72E, h0km, mb4.3/15, mbtmp4.3/16, ML3.8/1, MS3.2/3, Error ellipse: s-maj=28.8km s-min=12.8km az=60.0*
*DJA **04** 10:39:22.4±0.4, 6°S±4°×10°2E±°, h49km±13km, M4.8/18, mb4.9/12, mB5.3/7, MLv4.9/18, Mw(mB)4.7/7*
*NEIC **04** 10:39:24.9±1.6, 5°.64S±0°.07×102°.67E±0°.07, h33km±6km, mb4.4/22, Error ellipse: s-maj=11.1km s-min=9.0km az=63.0*
ISC 04 10:39:24.4±0.5**, 5°.65S**±0°.07×**102°.62E**±0°.06**, h34km, n89, σ1s.35**/79**, mb4.5**/26**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGSI	Enggano, Bengk	0.45	310	P	Pn	10 39 35.9	+1.4
LWLI	Liwa	1.56	66	P	Pn	10 39 49.5	-0.4
KASI	Kota Agung	1.87	86	P	Pn	10 39 55.3	+1.3
UBSI	University, Be	1.91	349	P	Pn	10 39 55.9	+1.4
CGJI	Cibinong	3.20	108	P	Pn	10 40 11.5	-0.8
PMBI	Palembang	3.45	39		Pn	10 40 17.3	+1.6
PMBI	Palembang	3.45	39	P	Pn	10 40 18.3	+2.5
KRJI	Kerinci	3.72	342	P	Pn	10 40 23.4	+3.9
PPSI	Pulau Pagai	3.87	318	P	Pn	10 40 22.1	+0.5
JMBI	JAMBI	4.12	14	P	Pn	10 40 28.3	+3.4
CNJI	Cibinong	4.77	110	P	Pn	10 40 32.1	-1.9
PPBI	Pangkal Pinang	4.93	45	P	Pn	10 40 38.4	+2.3
LEM	Lembang	5.10	104	Pn	Pn	10 40 36.5	-2.1
	3.7nm,0.3s,baz=279,slow=23,SNR=1.5						
LEM				Sn	Sn	10 41 35.3	-1.3
	9.1nm,0.3s,baz=348,slow=22,SNR=4.1						
LEM				LR	LR	10 43 08.6	
	comp=Z,191nm,19.9s,baz=240,slow=46						
	8.4nm,0.3s						
LEM	Lembang	5.10	104	P	Pn	10 40 38.3	-0.4
	107nm,0.9s,0.3nm						
PDSI	Padang	5.17	335	P	Pn	10 40 39.2	-0.3
	137nm,0.6s,2µm1.0nm						
BBJI	Bungbulang	5.31	110	P	Pn	10 40 40.3	-1.1
	78nm,0.6s,2µm0.6nm						
DSRI	Dabo	5.49	21	P	Pn	10 40 46.0	+2.1
	153nm,0.7s,2µm0.5nm						
XMIS	Christmas Isla	5.66	148	Pn	Pn	10 40 40.7	-5.5
BKNI	Bangkinang	6.14	345	Pn	Pn	10 40 54.2	+1.4
CMJI	Cimerak	6.16	110	P	Pn	10 40 51.4	-1.7
	97nm,0.5s,3µm0.6nm						
KPJI	Karang Pucung	6.49	105	P	Pn	10 40 57.9	+0.3
	43nm,0.8s,0.2nm						
PBSI	Pulau Batu	7.05	322	P	Pn	10 41 05.2	0.0
	203nm,1.3s,1.1nm						
UGM	Wanagama	8.16	106	Pn	Pn	10 41 20.8	+0.2
UGM	Wanagama	8.16	106	P	Pn	10 41 19.7	-0.9
	107nm,1.3s						
GSI	Gunungsitoli	8.55	324	Pn	Pn	10 41 25.3	-0.6
GSI	Gunungsitoli	8.55	324	P	Pn	10 41 24.1	-1.8
	37nm,1.2s,3µm						
COCO	West Island	8.66	221	Pn	Pn	10 41 27.8	+0.5
JAGI	Jajag, Banyuwa	11.78	104		Pn	10 42 09.5	-0.7
JAGI	Jajag, Banyuwa	11.78	104	P	Pn	10 42 09.6	-0.6
	35nm,0.5s						
PLAI	Plampang	15.36	103	P	Pn	10 42 56.2	-2.6
TOLI2	Tolitoli	19.34	70	P	Pn	10 43 47.5	-0.8
UBPT	Khong Chiam	20.98	8	P	P	10 44 02.5	-2.4
UBPT				IAmb	IAmb	10 44 11.3	
	comp=Z,28nm,1.4s						
MBWA	Marble Bar	22.65	135	P	P	10 44 22.7	-0.1
MBWA				IAmb	IAmb	10 44 48.0	
	comp=Z,14nm,1.1s						
CMAR	Chiang Mai Arr	24.23	351	P	P	10 44 38.3	0.0
CMAR	Chiang Mai Arr	24.23	351	P	P	10 44 36.9	-1.4
	comp=Z,3.6nm,0.6s,baz=181,slow=9.3,SNR=34						
CMAR				LR	LR	10 54 27.8	
	comp=Z,53nm,18.7s,baz=180,slow=38						
	comp=Z,3.6nm,0.6s						
CHTO	Chiang Mai	24.57	352	P	P	10 44 40.1	-1.3
FITZ	Fitzroy Crossi	25.66	121	P	P	10 44 50.5	-0.8
H08S2	Diego Garcia H	29.99	265	T	T	11 16 41.6	
	baz=89,slow=76,SNR=4.8						
H08S3	Diego Garcia H	30.00	265	T	T	11 16 56.3	
	baz=89,slow=76,SNR=49						
H08S1	Diego Carcia H	30.01	265	T	T	11 16 43.8	
	baz=89,slow=76,SNR=2.7						
NWAO	Narrogin (SRO)	30.37	155	P	P	10 45 34.0	+0.8
NWAO				IAmb	IAmb	10 46 10.8	
	comp=Z,9.6nm,1.2s						
H01W3	Cape Leeuwin H	30.98	161	T	T	11 18 18.8	
	baz=338,slow=76,SNR=22						
H01W2	Cape Leeuwin H	30.99	161	T	T	11 18 12.1	
	baz=338,slow=76,SNR=40						
H01W1	Cape Leeuwin H	30.99	161	T	T	11 18 09.8	
	baz=338,slow=76,SNR=32						
WB0	Warramunga Arr	33.93	117	P	P	10 46 04.0	-0.7
WB0				IAmb	IAmb	10 46 04.8	
	comp=Z,4.6nm,0.8s						
WRA	Warramunga Arr	33.95	118	P	P	10 46 04.3	-0.6
WRA	Warramunga Arr	33.95	118	P	P	10 46 04.2	-0.7
	comp=Z,3.9nm,0.7s,baz=299,slow=9.7,SNR=28						
WRA				PcP	PcP	10 48 42.7	-0.2
	comp=Z,0.8nm,0.5s,baz=301,slow=2.1,SNR=5.5						
	comp=Z,3.9nm,0.7s						
WRAB	Tennant Creek	33.95	118	P	P	10 46 04.5	-0.4
WB2	Warramunga Arr	33.96	118	P	P	10 46 04.2	-0.7
WR0	Warramunga Arr	34.13	118	P	P	10 46 06.1	-0.4
ASAR	Alice Springs	35.03	124	P	P	10 46 14.6	+0.4
ASAR	Alice Springs	35.03	124	P	P	10 46 13.8	-0.4
	comp=Z,5.3nm,0.6s,baz=299,slow=8.1,SNR=55						
ASAR				PcP	PcP	10 48 46.2	+0.3
	comp=Z,0.7nm,0.7s,baz=300,slow=3.4,SNR=4.3						
ASAR				LR	LR	11 01 12.5	
	comp=Z,56nm,21.4s,baz=314,slow=38						
	comp=Z,5.3nm,0.6s						
AS31	Alice Springs	35.03	124		P	10 46 14.0	-0.2
XAN	Xi'an	39.92	8	P	P	10 46 54.4	-1.0
LYN	LuoYang	41.05	12	eP	P	10 47 07.9	+3.2
LYN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BBOO	Buckleboo	41.23	135	P	P	10 47 06.1	-0.1
BBOO				IAmb	IAmb	10 47 07.0	
	comp=Z,16nm,1.4s						
CTAO	Charters Tower	44.73	113	P	P	10 47 35.2	+0.4
CTAO				IAmb	IAmb	10 47 48.7	
	comp=Z,5.3nm,0.8s						
STKA	Stephens Creek	44.80	131	P	P	10 47 35.6	+0.4
STKA				IAmb	IAmb	10 47 36.5	
	comp=Z,2.5nm,0.7s						
STKA	Stephens Creek	44.80	131	P	P	10 47 35.7	+0.5
	comp=Z,12nm,0.6s,baz=306,slow=8.7,SNR=34						
	comp=Z,12nm,0.6s						
KSRS	Korea Array	48.94	27	P	P	10 48 05.3	-2.1
	comp=Z,0.9nm,0.6s,baz=214,slow=7.9,SNR=2.1						
	comp=Z,0.9nm,0.6s						
XLT	XiLinHaoTe	50.79	13	eP	P	10 48 25.9	+4.4
XLT				pP	sP	10 48 39.6	+4.5
XLT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,130nm,5.4s						
KSH	Kashi	51.24	334	P	P	10 48 24.6	-0.4
KSH				sP	sP	10 48 40.6	+1.7
CAN	Canberra	51.85	131	P	P	10 48 30.6	+1.0
SONM	Songino Array	53.36	3	P	P	10 48 40.5	-0.1
SONM				IAmb	IAmb	10 48 45.8	
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	53.36	3	P	P	10 48 40.7	+0.1
	comp=Z,3.4nm,0.5s,baz=184,slow=8.6,SNR=18						
	comp=Z,3.4nm,0.5s						
MK31	Makanchi Array	55.24	343	P	P	10 48 53.9	-0.2
MK31				IAmb	IAmb	10 49 06.8	
	comp=Z,2.4nm,0.8s						
MKAR	Makanchi Array	55.24	343	P	P	10 48 53.9	-0.3
MKAR	Makanchi Array	55.24	343	P	P	10 48 54.0	-0.1
	comp=Z,1.9nm,0.4s,baz=150,slow=8.7,SNR=24						
	comp=Z,1.9nm,0.4s						
USRK	Ussuriysk Ar.	56.23	25	P	P	10 48 59.7	-1.5
	comp=Z,2.1nm,0.5s,baz=191,slow=4.6,SNR=7.2						
	comp=Z,2.1nm,0.5s						
H04N2	CROZET ISLANDS	59.52	219	T	T	11 53 56.1	
	baz=64,slow=75,SNR=876						
H04N1	CROZET ISLANDS	59.53	219	T	T	11 53 56.4	
	baz=64,slow=75,SNR=1111						
H04N3	CROZET ISLANDS	59.54	219	T	T	11 53 55.0	
	baz=64,slow=75,SNR=979						
H04S1	CROZET ISLANDS	59.75	218	T	T	11 54 10.1	
	baz=62,slow=75,SNR=100						
H04S3	CROZET ISLANDS	59.77	218	T	T	11 54 16.1	
	baz=62,slow=75,SNR=301						
H04S2	CROZET ISLANDS	59.77	218	T	T	11 54 13.5	
	baz=62,slow=75,SNR=155						
KURBB	Kurchatov Arra	59.78	342	P	P	10 49 25.3	-0.7
	comp=Z,0.6nm,0.4s,baz=162,slow=6.7,SNR=3.1						
	comp=Z,0.6nm,0.4s						
KURK	Kurchatov	59.83	343	P	P	10 49 26.2	-0.2
KURK				IAmb	IAmb	10 49 52.6	
	comp=Z,3.4nm,0.9s						
GEYT	Alibeck	59.91	320	P	P	10 49 27.1	-0.1
	comp=Z,1.3nm,0.3s,baz=196,slow=9.9,SNR=1.9						
	comp=Z,1.3nm,0.3s						
KLR	Kul'dur	60.26	22	P	P	10 49 27.9	-1.5
	comp=Z,0.7nm,0.5s,baz=246,slow=7.6,SNR=4.6						
	comp=Z,0.7nm,0.5s						
ZAA0	Zalesovo Array	61.23	348	P	P	10 49 34.9	-0.9
ZALV	Zalesovo Beam	61.23	348	P	P	10 49 35.4	-0.5
ZALV	Zalesovo Beam	61.23	348	P	P	10 49 35.2	-0.6
	comp=Z,3.6nm,0.4s,baz=163,slow=5.8,SNR=28						
	comp=Z,3.6nm,0.4s						
BVAR	Borovoye Array	64.49	339	P	P	10 49 56.6	-1.0
	comp=Z,1.6nm,0.4s,baz=138,slow=8.5,SNR=8.8						
	comp=Z,1.6nm,0.4s						
BRVK	Borovoye	64.56	339	P	P	10 49 58.1	+0.1
BRVK				IAmb	IAmb	10 50 05.0	
	comp=Z,4.2nm,1.1s						
ABKAR	Akbulak array	66.08	331	P	P	10 50 07.7	-0.3
ABKAR	Akbulak array	66.08	331	P	P	10 50 07.7	-0.3
ABKAR				IAmb	IAmb	10 50 19.9	
	comp=Z,3.6nm,0.8s						
VNDA	Vanda	78.10	169	P	P	10 51 20.2	+0.7
	comp=Z,1.3nm,0.8s,baz=310,slow=5.7,SNR=7.1						
	comp=Z,1.3nm,0.8s						
QSPA	South Pole Qui	84.34	180	P	P	10 51 53.5	+0.5
	comp=Z,1.5nm,0.7s,baz=342,slow=1.7,SNR=5.8						
	comp=Z,1.5nm,0.7s						
TXAR	Lajitas Array	145.77	43	PKPbc	PKPab	10 59 01.2	0.0
	comp=Z,3.1nm,0.8s,baz=294,slow=2.1,SNR=32						

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*IDC **04** 10:39:35.7±0.7, 37°.83N×122°.17W, h0km, mb4.1/10, mbtmp4.0/17, ML3.8/7, MS3.6/17, Error ellipse: s-maj=10.3km s-min=7.9km az=40.0*
*ANF **04** 10:39:36.4±0.1, 37°.78N×122°.20W, h0km, ML4.7/27, Error ellipse: s-maj=2.8km s-min=1.2km az=55.0*
*NEIC **04** 10:39:36.7±1.5, 37°.80N±0°.04×122°.28W±0°.07, h18km±3km, Error ellipse: s-maj=8.7km s-min=5.8km az=68.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.43; $M_{\theta\theta}$-4.18; $M_{\phi\phi}$3.75; $M_{r\theta}$-1.42; $M_{\theta\phi}$1.89; $M_{\phi r}$-0.85; Fault plane solution: $M_0$4.70000×10^{15} NP1: ϕ_s238.38000°, δ87.81000°, λ20.95000°. NP2: ϕ_s147.54000°, δ69.06000°, λ177.66000°. Principal axes: T 4.5061, Plg16.0000°, Azm105.0000°; N 0.3732, Plg69.0000°, Azm244.0000°; P -4.8792, Plg13.0000°, Azm11.0000°;*
*NEIC **04** 10:39:37.6, 38°.06N×122°.12W, h12km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.18; $M_{\theta\theta}$-3.32; $M_{\phi\phi}$4.50; $M_{r\theta}$-2.80; $M_{\theta\phi}$1.62; $M_{\phi r}$0.63; Fault plane solution: $M_0$5.18000×10^{15} NP1: ϕ_s151.35000°, δ67.72000°, λ-154.45000°. NP2: ϕ_s51.08000°, δ66.48000°, λ-24.43000°. Principal axes: T 4.8261, Plg1.0000°, Azm281.0000°; N 0.7103, Plg57.0000°, Azm190.0000°; P -5.5364, Plg33.0000°, Azm12.0000°;*
*NEIC **04** 10:39:37.6, 37°.86N×122°.24W, h12km*
*NEIC **04** 10:39:37.6, 37°.86N×122°.24W, h13km*
*NEIC **04** 10:39:37.6, 37°.86N×122°.24W, h13km*
*NCEDC **04** 10:39:37.7±2.2, 37°.86N±0°.04×122°.26W±0°.08, h12km±4km, Mwr4.4/7, mb4.4/35(NEIC), ML4.3/112(NEIC), Mwr4.4/77(NEIC), Mww4.4/9(NEIC), Error ellipse: s-maj=9.5km s-min=4.4km az=66.0*
*NEIC **04** 10:39:37.6, 37°.86N×122°.24W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.13; $M_{\theta\theta}$-3.96; $M_{\phi\phi}$3.83; $M_{r\theta}$-1.05; $M_{\theta\phi}$2.12; $M_{\phi r}$-0.29; Fault plane solution: $M_0$4.57000×10^{15} NP1: ϕ_s59.05000°, δ87.25000°, λ-13.14000°. NP2: ϕ_s149.69000°, δ76.87000°, λ-177.18000°. Principal axes: T 4.4374, Plg7.0000°, Azm105.0000°; N 0.2517, Plg77.0000°, Azm227.0000°; P -4.6891, Plg11.0000°, Azm14.0000°;*
ISC 04 10:39:37.9±0.6**, 37°.85N**±0°.02×**122°.28W**±0°.02**, h14km**±3km**, n576, σ1s.35**/578**, mb4.4**/24**, MS3.5**/9**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
C033	Glashaus Lp Em	0.01	272		Pg	10 39 41.7	+1.4
C028	Eucalyptus Rd	0.02	79		Pg	10 39 41.6	+1.3
BRK	Berkeley--Havi	0.03	23		Pg	10 39 39.9	-0.5
BL67	Building 67, L	0.03	31		Pg	10 39 42.0	+1.5
BL88	Building 88, L	0.04	29		Pg	10 39 40.0	-0.5
BL88					Sg	10 39 42.2	-0.1
VAK	Adit at Lawren	0.04	34		Pg	10 39 40.0	-0.4
VAK					Sg	10 39 42.3	+0.1
BKS	Berkeley--Byer	0.04	47		Pg	10 39 40.1	-0.4
C005	Mandana Bl Oak	0.05	139		Pg	10 39 42.0	+1.6
C008	Spokane Avenue	0.05	344		Pg	10 39 40.1	-0.4
CVPM	Vollmer Peak	0.06	48		Pg	10 39 40.2	-0.4
C011	Colusa Avenue,	0.06	347		Pg	10 39 40.2	-0.4
C049	Pacific Avenue	0.07	182		Pg	10 39 40.6	-0.1
C049					Sg	10 39 43.0	+0.5
C013	Ascot Lane Oak	0.07	108		Pg	10 39 40.2	-0.5
C013					Sg	10 39 42.4	-0.3
CYBM	Yerba Buena Is	0.08	243		Pg	10 39 40.8	+0.1
C064	Brunell Drive	0.08	120		Pg	10 39 40.3	-0.5
C064					Sg	10 39 42.5	-0.2
C012	Glenmawr Avenu	0.09	340		Pg	10 39 40.5	-0.3
RFSB	Richmond Field	0.09	325		Pg	10 39 40.5	-0.3
C058	Eastshore Driv	0.10	156		Pg	10 39 40.9	-0.1
CMCM	Mills College	0.10	129		Pg	10 39 40.6	-0.3

CMCM Sg 10 39 43.1 0.0
C024 33rd St Richmo 0.11 334 Pg 10 39 40.8 -0.3
CSPM San Pablo Ridg 0.11 346 Pg 10 39 41.1 -0.1
C044 Maitland Drive 0.12 163 Pg 10 39 41.2 0.0
C067 Fleetwood El S 0.13 355 Pg 10 39 41.5 +0.1
SMCB Saint Mary's C 0.13 93 Sg 10 39 43.6 -0.2
CPMM Point Molate 0.15 314 Pg 10 39 41.5 -0.1
CPIM Pinole Ridge 0.15 19 Pg 10 39 41.7 0.0
JPRM Presidio of Sa 0.17 252 Pg 10 39 42.3 +0.5
BGC Bolinger Road 0.17 100 Pg 10 39 41.8 -0.2
CSLM San Leandro Hi 0.17 135 Pg 10 39 41.7 -0.3
C026 Kell Court Ala 0.18 82 Pg 10 39 42.1 0.0
C018 Christie Drive 0.18 43 Pg 10 39 41.1 -1.0
C070 Dillo Street S 0.18 141 Pg 10 39 41.8 -0.3
C070 Sg 10 39 45.2 +0.2
JSBM San Bruno Moun 0.19 210 Pg 10 39 42.5 +0.3
C071 Via Corta San 0.20 145 Pg 10 39 42.3 -0.1
CLCB Lake Chabot 0.20 123 Pg 10 39 42.4 0.0
C047 Rutherford Dri 0.20 95 Pg 10 39 42.5 0.0
J061 Lakeshore Driv 0.21 237 Pg 10 39 43.0 +0.4
J061 Sb 10 39 46.7 -0.5
C021 Meadowview Dri 0.23 132 Pg 10 39 42.9 +0.1
C055 Cottonwood Ave 0.23 145 Pg 10 39 42.7 -0.1
C010 Sunflower Cour 0.23 65 Pg 10 39 42.9 0.0
C010 Sb 10 39 47.0 -0.8
C027 Lawnview Circl 0.24 103 Pg 10 39 43.2 +0.2
C056 Diablo Avenue 0.24 151 Pg 10 39 43.2 +0.2
C029 Evergreen Cour 0.25 103 Pg 10 39 43.4 +0.3
JMGM Milagra Ridge 0.26 217 Pg 10 39 43.8 +0.4
C045 Hawkins Drive 0.27 111 Pg 10 39 43.7 +0.2
CTAM Taylor 0.27 49 Pg 10 39 44.0 +0.4
SAC San Andreas 0.29 203 Pg 10 39 44.2 +0.4
SAC Sb 10 39 49.3 -0.2
CGPM Gavin Park 0.29 134 Sg 10 39 48.4 +0.3
CRPB Russellman Par 0.30 77 Pg 10 39 43.6 -0.5
C006 Lk Pillsbury D 0.31 146 Pg 10 39 44.1 -0.1
C006 Sg 10 39 49.1 +0.6
CNIC Niles Canyon 0.34 134 Pg 10 39 44.8 0.0
C002 Farnham Drive 0.34 146 Pg 10 39 44.8 -0.1
C062 Calle Reynoso 0.34 121 Pb 10 39 45.3 -0.4
C048 Posada Way Fre 0.35 140 Pg 10 39 44.9 -0.1
C069 Rotal Creek Pl 0.36 123 Pb 10 39 45.5 -0.5
C015 Bright Common 0.36 142 Pg 10 39 45.1 -0.1
CDOM Doolan Road 0.37 108 Pb 10 39 45.7 -0.5
CMOB Morgan Territo 0.38 95 Pg 10 39 45.6 +0.1
CVLM Vallecito 0.41 122 Pg 10 39 46.4 +0.3
C001 Firth Court Fr 0.42 140 Pg 10 39 46.6 +0.3
C050 Festivo Court 0.42 139 Pg 10 39 46.5 +0.1
C017 S Grimmer Bl F 0.44 141 Pg 10 39 46.9 +0.3
JRSC Jasper Ridge 0.44 176 Pg 10 39 46.9 +0.2
JSFB Stanford Teles 0.45 170 Pg 10 39 47.1 +0.3
NOLM Olema 0.45 295 Pg 10 39 46.9 +0.1
NBRB Beebe Ranch Br 0.47 332 Pg 10 39 47.0 -0.1
WENL Wente Vineyard 0.47 118 Pg 10 39 47.3 +0.2
C057 Hedge Avenue B 0.47 76 Pb 10 39 47.6 -0.3
CBZL Buffer Zone 0.47 109 Pb 10 39 47.5 -0.4
CBZL Buffer Zone 0.47 109 Pb 10 39 47.5 -0.4
C039 Semillon Drive 0.48 143 Pg 10 39 47.5 +0.2
CSAM Sandia 0.48 111 Pb 10 39 47.9 -0.3
HMR Hamilton Ranch 0.49 51 Pb 10 39 47.8 -0.4
JFP Foothills Park 0.49 172 Pg 10 39 47.8 +0.2
CBSNC Byron Hot Spri 0.50 93 Pg 10 39 47.9 +0.1
CVS Carmenet Viney 0.52 344 Pg 10 39 47.5 -0.6
JSJM St Joseph 0.53 164 Pb 10 39 48.7 -0.3
JBMM Black Mountain 0.54 170 Pg 10 39 48.6 +0.1
CALM Calaveras Res. 0.55 136 Pg 10 39 48.4 -0.3
C016 Longford Drive 0.55 144 Pb 10 39 49.1 -0.2
MCCM Marconi Confer 0.56 302 Pg Pg 10 39 48.7 -0.2
C046 N 16th Street 0.58 147 Pg 10 39 49.4 +0.1
C041 El Campo Drive 0.59 143 Pb 10 39 49.7 -0.2
FARB Farallon Islan 0.59 256 Pg 10 39 49.6 +0.2
NPRM Point Reyes 0.60 285 Pg 10 39 49.6 -0.1
CMLM Mount Lewis 0.62 126 Pg 10 39 49.7 -0.3
NTYM Taylor 0.62 331 Pg 10 39 49.9 -0.1
C059 Quail Canyon R 0.64 141 Pg 10 39 50.6 +0.2
SCCB Santa Clara Co 0.65 150 Pg 10 39 50.4 -0.1
JPSM 0.65 185 Pg 10 39 50.3 -0.2
CSTL Corral Hollow 0.65 108 Pg 10 39 50.4 -0.2
CSTL Corral Hollow 0.65 108 Pg 10 39 50.3 -0.2
C054 Valleyhaven Wa 0.68 148 Pg 10 39 51.0 -0.1
JJOM Saint Joseph's 0.68 160 Pg 10 39 51.0 -0.2
C072 Blauer Lane Sa 0.69 143 Pb 10 39 51.6 -0.1
MHC Mount Hamilton 0.71 135 Pg 10 39 51.3 -0.5
CMMM Mount Mocho 0.73 122 Pg 10 39 51.5 -0.7
CCOB Coe Ranch Numb 0.76 141 Pg 10 39 52.6 0.0
ARN Arnold Ranch 0.77 130 Pg 10 39 52.1 -0.8
NBPM Berryessa Peak 0.82 5 Pg 10 39 53.5 -0.3
MTOS Mt Oso, Westle 0.82 114 Pg 10 39 52.5 -1.4
NHSM Mount Saint He 0.85 342 Pg 10 39 53.1 -1.3
CADM Anderson Res. 0.85 143 Pg 10 39 53.7 -0.7
JTGM Trout Gulch Ro 0.88 159 Pg 10 39 54.4 -0.4
CMPM Mikes Peak 0.90 122 Pb 10 39 54.1 -1.2
HLPM Lions Peak 0.95 147 Pb 10 39 54.7 -1.5
NDHM Dunnigan Hills 0.96 17 Pb 10 39 55.4 -0.9
NMTM Middletown 0.97 352 Pb 10 39 54.9 -1.6
JELB Ellicott, Sant 0.98 159 Pb 10 39 55.1 -1.6
GCRM Castle Rock Sp 0.99 340 Pb 10 39 54.9 -1.9
GBGM Boggs Mountain 1.02 342 Pb 10 39 55.8 -1.5
GGPM Geyser Peak 1.02 334 Pb 10 39 55.8 -1.6
CDC Canada Road 1.03 142 Pb 10 39 56.4 -1.1
GSSM Skaggs Springs 1.03 326 Pb 10 39 55.3 -2.2
HCAM Canada Road 1.03 142 Pb 10 39 56.7 -0.9
HCBM Chamberlain 1.04 152 Pb 10 39 55.7 -1.9
MNRC McLaughlin Min 1.04 353 Pb 10 39 56.2 -1.5
GDXM Geysers 1.04 337 Pb 10 39 56.0 -1.8
GDXM IAML 10 40 13.5
comp=E,13µm,0.6s
GDXM IAML 10 40 18.4
comp=N,4µm,0.6s
GHCM House Creek 1.05 317 Pb 10 39 56.2 -1.7
HCOM Corn Cob Canyo 1.06 155 Pb 10 39 56.0 -2.0
GSGM Seigler Mounta 1.07 342 Pb 10 39 55.0 -3.3
ANZ Anzar Road 1.10 150 Pb 10 39 56.6 -2.1
HFEM San Felipe 1.11 141 Pb 10 39 57.2 -1.6
GPMM Pine Mountain 1.13 332 Pb 10 39 57.7 -1.6
GRTM Round Top Moun 1.13 344 Pb 10 39 57.3 -2.0
HTUM Tustin Road 1.14 153 Pb 10 39 56.9 -2.4
HERM Elkhorn Road 1.14 157 Pb 10 39 57.3 -2.1
SLD San Luis Dam 1.14 132 Pb 10 39 58.0 -1.3
PACP Pacheco Peak 1.15 136 Pb 10 39 58.0 -1.6
HBTM San Juan Bauti 1.15 150 Pb 10 39 57.2 -2.3
SCKWR San Luis Creek 1.17 124 Pn 10 39 58.7 -1.0
HSFM Saint Francis 1.20 149 Pn 10 39 57.9 -2.4
GWKM Walker Ridge 1.22 352 Pn 10 39 58.6 -1.9
HLTM Lone Tree Road 1.23 141 Pn 10 39 57.9 -2.8
FRP Fremont Peak 1.26 150 Pn 10 39 58.6 -2.5
SAO San Andreas Ge 1.27 148 Pn 10 39 59.1 -2.0
BSLM Silva Ranch 1.30 145 Pn 10 40 00.2 -1.4
GBMM Baldy Mountain 1.30 353 Pn 10 39 59.8 -2.0
HOPS Hopland Field 1.30 332 Pn 10 39 59.9 -1.8
HOPS IAML 10 40 39.0
comp=E,7µm,1.6s
HOPS IAML 10 40 40.2
comp=N,6µm,1.1s
BSRM Salinas Radio 1.32 153 Pn 10 39 59.5 -2.4
GHLM Highland Sprin 1.33 334 Pn 10 39 60.0 -2.1
BPCNC Pine Canyon 1.37 158 Pn 10 40 00.6 -2.0
SCZ Santa Cruz 1.43 151 Pn 10 40 00.9 -2.4
SUTB Sutter Butte 1.43 15 Pn 10 40 00.3 -3.2
BJOM Mount Johnson 1.44 147 Pn 10 40 01.6 -1.9
OSUM Sutter Buttes 1.46 13 Pn 10 40 00.9 -2.9
BJCM Johnson Can. 1.48 151 Pn 10 40 01.7 -2.3
GFC Funks Creek 1.48 360 Pn 10 40 02.6 -1.4
GTSM Trough Springs 1.49 350 Pn 10 40 02.5 -1.8
BPRM Ponciano Ridge 1.50 163 Pn 10 40 02.3 -2.2
AFDM Forest Hills D 1.50 43 Pn Pn 10 40 02.6 -1.8
AFDM IAML 10 40 21.8
comp=N,3µm,0.8s
AFDM IAML 10 40 21.8
comp=E,8µm,0.7s
CMB Columbia Colle 1.50 82 Pn 10 40 03.2 -1.3
CMB IAML 10 40 22.7
comp=N,7µm,0.6s
BVL Bear Valley 1.54 145 Pn 10 40 02.9 -2.0
BAVM Antelope Valle 1.56 140 Pn 10 40 03.3 -1.9
HAST Hastings Reser 1.57 158 Pn 10 40 03.0 -2.3
GWRM Wonder Ranch 1.58 330 Pn 10 40 03.7 -1.8
BBGB Big Mountain B 1.60 142 Pn 10 40 04.7 -1.2
BSMM Soledad Missio 1.61 155 Pn 10 40 03.7 -2.2
OSTM Stimpson Lane 1.61 19 Pn 10 40 03.2 -2.7

OHCM Honcut 1.61 22 Pn 10 40 02.9 -3.0
BPIM Pinnacles 1.62 147 Pn 10 40 03.7 -2.3
BSGM Shirttail Gulc 1.65 150 Pn 10 40 04.2 -2.2
BPOM Post Ranch 1.67 166 Pn 10 40 04.2 -2.5
PAM Palermo 1.71 20 Pn 10 40 04.5 -2.7
OWYM Wyandotte 1.72 21 Pn 10 40 04.6 -2.8
GHMM Hull Mountain 1.73 343 Pn 10 40 06.2 -1.5
LRV Little Rabbit 1.74 144 Pn 10 40 06.5 -1.2
ORV Oroville 1.81 19 Pn Pn 10 40 06.3 -2.3
OGOM Van Goodin Ran 1.88 16 Pn 10 40 06.8 -2.8
OBHM Bloomer Hill 1.91 19 Pn 10 40 08.2 -1.9
PCCM Crazy Canyon 1.97 153 Pn 10 40 08.7 -2.1
HULI Fort Hunter Li 2.00 155 Pn 10 40 09.3 -2.0
PMPB Monarch Peak 2.01 144 Pn Pn 10 40 10.5 -1.0
PMPB IAML 10 41 00.7
comp=E,5µm,1.0s
EMB Emerald Bay 2.04 56 Pn 10 40 12.3 +0.2
RUBR Rubicon Trail 2.05 53 Pn 10 40 11.9 -0.3
KCPM Cahto Peak 2.10 331 Pn 10 40 12.9 +0.1
KCPM IAML 10 40 58.5
comp=N,2µm,0.9s
KCPM IAML 10 41 03.4
comp=E,2µm,1.4s
PJUM Juniper Ridge 2.10 140 Pn 10 40 11.6 -1.1
PSAM San Ardo 2.13 148 Pn 10 40 11.4 -1.6
PPTM Peach Tree Val 2.13 144 Pn 10 40 11.8 -1.3
PDTM Domengine Ranc 2.14 134 Pn 10 40 12.1 -1.1
DONR Donner Summit 2.15 45 Pn 10 40 12.9 -0.5
PWMM Westland Maint 2.17 130 Pn 10 40 12.7 -0.9
FRI Friant 2.21 112 Pn 10 40 12.9 -1.3
PSMM Smith Mountain 2.23 142 Pn 10 40 13.5 -1.0
PHSB Hesperia Broad 2.24 154 Pn 10 40 12.8 -1.9
PHPM Hope Ranch 2.29 144 Pn 10 40 13.8 -1.5
WAKR Walker 2.33 73 Pn 10 40 16.9 +0.9
PANM San Antonio Re 2.34 152 Pn 10 40 14.2 -1.7
PHCM Hearst Castle 2.34 157 Pn 10 40 14.0 -2.0
PVCM Vineyard Canyo 2.37 143 Pn 10 40 14.8 -1.6
PSTM Stockdale Moun 2.38 143 Pn 10 40 15.0 -1.5
PPO Portuguese Can 2.38 146 Pn 10 40 15.4 -1.1
KCC Kaiser Creek 2.41 102 Pn 10 40 16.5 -0.4
LOY Loyalton 2.41 41 Pn 10 40 17.0 -0.1
BABR Babbit Peak 2.44 43 Pn 10 40 17.7 +0.1
PNTR Pine Nut 2.44 59 Pn 10 40 18.3 +0.8
PNTR IAML 10 41 00.4
comp=N,3µm,1.0s
CTM Castle Mountai 2.46 140 Pn 10 40 17.6 -0.1
PHFM Heflinger Ranc 2.47 142 Pn 10 40 16.6 -1.2
O03E Paynes Creek 2.47 8 Pn 10 40 15.8 -2.0
PWKM Work Ranch 2.47 145 Pn 10 40 16.5 -1.3
RAMR Ramage Ranch 2.48 152 Pn 10 40 16.1 -1.7
PKEM Kettleman Hill 2.49 135 Pn 10 40 17.6 -0.3
PHAM Harlan Ranch 2.51 143 Pn 10 40 16.7 -1.5
BEKR Beckworth 2.51 36 Pn 10 40 18.2 -0.2
PEAR Peavine Mounta 2.52 45 Pn 10 40 18.5 -0.2
GHC Gold Hill 2.54 142 Pn 10 40 17.6 -1.0
MDPB Devils Postpil 2.54 94 Pn 10 40 19.1 +0.2
MDPB IAML 10 40 54.2
comp=N,3µm,0.7s
MDPB IAML 10 41 02.4
comp=E,2µm,0.6s
MINS Minaret Summit 2.56 93 Pn 10 40 19.4 +0.2
MRDM Red Cones 2.56 95 Pn 10 40 19.5 +0.2
MDCM Deadman Creek 2.57 92 Pn 10 40 19.6 +0.3
MMPM Mammoth Pass 2.59 94 Pn 10 40 20.0 +0.4
PKLM Kerr Lake 2.59 143 Pn 10 40 18.4 -1.0
MLIM Lincoln Peak 2.59 94 Pn 10 40 20.6 +0.9
MDYM Dry Creek 2.59 93 Pn 10 40 20.4 +0.7
ARDC Alexander Ranc 2.60 156 Pn 10 40 17.2 -2.3
OMMB Old Mammoth Mi 2.61 94 Pn 10 40 19.9 +0.1
OMMB IAML 10 40 56.9
comp=E,707nm,0.8s
OMMB IAML 10 41 08.5
comp=N,930nm,0.7s
LDBM Digger Butte 2.61 8 Pn 10 40 18.4 -1.3
MMLB Mammoth Lakes 2.62 93 Pn 10 40 20.8 +0.8
KMRM Mail Ridge 2.62 335 Pn Pn 10 40 19.6 -0.3
KMRM IAML 10 41 25.3
comp=E,2µm,2.0s
KMRM IAML 10 41 31.4
comp=N,1µm,1.4s
YERR Yerington 2.64 64 Pn 10 40 19.6 -0.6
MEMM East Mammoth H 2.65 93 Pn 10 40 21.2 +0.7
MLCM Laurel Creek C 2.67 94 Pn 10 40 21.4 +0.6
MCSM Casa Diablo Ho 2.68 93 Pn 10 40 21.8 +1.0
MGPM Gravel Pit 2.68 94 Pn 10 40 21.7 +0.9
MCBM Casa Benchmark 2.69 93 Pn 10 40 21.9 +1.0
TRAM Private Proper 2.70 143 Pn 10 39.8 -1.1
MLAC Mammoth, Mammo 2.73 93 P Pn 10 40 22.3 +0.7
baz=276,SNR=269
VOG Valley Oaks Go 2.77 122 P Pn 10 40 20.6 -1.2
baz=305,SNR=19
VOG S Sn 10 40 54.5 -0.5
baz=305
PAHR Pah Rah Range 2.92 50 Pn 10 40 23.3 -0.8
PAHR IAML 10 41 07.2
comp=E,1µm,0.8s
PAHR IAML 10 41 12.1
comp=N,2µm,1.2s
KMPM Mount Pierce 2.94 331 Pn Pn 10 40 24.8 +0.5
KMPM IAML 10 41 37.8
comp=E,915nm,1.8s
KMPM IAML 10 41 50.0
comp=N,679nm,1.7s
LHV Little Huntoon 3.00 81 Pn 10 40 25.4 +0.3
RYN Ryan 3.06 74 Pn 10 40 25.9 0.0
RYN IAML 10 41 17.2
comp=N,2µm,1.2s
SMMC Simmler 3.12 143 P Pn 10 40 25.2 -1.5
baz=325,SNR=32
SMMC S Sn 10 41 02.2 -1.7
baz=325
NVAR Mina Array Bea 3.19 78 Pn 10 40 27.6 -0.1
NVAR Mina Array Bea 3.19 78 Pn Pn 10 40 27.8 0.0
comp=N,18nm,0.3s,baz=253,slow=16,SNR=263
NVAR Lg Lg 10 41 15.3
comp=N,108nm,0.3s,baz=257,slow=14,SNR=7.3
comp=N,13nm,0.3s
KHMM Mountain 3.23 340 Pn 10 40 28.9 +0.7
KHMM IAML 10 42 01.9
comp=E,515nm,2.3s
KHMM IAML 10 42 02.0
comp=N,492nm,2.8s
VES Vestal, Richgr 3.25 127 P Pn 10 40 27.0 -1.4
baz=309,SNR=175
VES S Sn 10 41 06.5 -0.4
baz=309
JCC Jacoby Creek, 3.26 336 Pn 10 40 29.6 +1.0
NV11 Mina Array Sit 3.30 79 Pn Pn 10 40 28.9 -0.4
NV11 IAML 10 41 26.8
comp=E,688nm,1.6s
NV11 IAML 10 41 31.1
comp=N,640nm,1.6s
TIN Tinemaha, Big 3.31 103 P Pn 10 40 30.1 +0.6
baz=285,SNR=13
TIN S Sn 10 41 10.0 +1.3
baz=285
KVN Kaiserville 3.49 69 Pn Pn 10 40 30.9 -1.0
KVN IAML 10 41 27.9
comp=E,853nm,1.1s
PKM Mcpherson Peak 3.56 145 P Pn 10 40 31.5 -1.3
baz=327,SNR=15
PKM S Sn 10 41 13.5 -1.4
baz=327
PLTX Planet X, Gerl 3.59 36 Pn 10 40 32.9 -0.3
CWC Cottonwood Cre 3.63 111 P Pn 10 40 34.2 +0.3
baz=294
CWC S Sn 10 41 17.0 +0.4
baz=294
BCW Bitter Crk WRg 3.71 141 Pn 10 40 33.8 -1.0
BCW IAML 10 41 56.4
comp=E,935nm,1.6s
BCW IAML 10 42 14.2
comp=N,687nm,1.4s
ISA Isabella, Lake 3.75 124 Pn Pn 10 40 34.4 -1.0
ISA IAML 10 41 26.8
comp=N,388nm,0.4s
ISA IAML 10 41 50.0
comp=E,378nm,1.6s
ISA Isabella, Lake 3.75 124 P Pn 10 40 34.8 -0.6
baz=307,SNR=126
ISA S Sn 10 41 19.6 +0.2
baz=307
MZP Montezuma Peak 3.88 91 Pn 10 40 37.6 +0.2
ARVC Arvin 3.88 133 P Pn 10 40 35.9 -1.2
baz=316,SNR=49
ARVC S Sn 10 41 23.0 +0.5
baz=316
KRMB Red Mountain 3.88 342 Pn Pn 10 40 38.6 +1.4
YBH Yreka Blue Hor 3.90 355 Pn Pn 10 40 38.2 +0.7
YBH Yreka Blue Hor 3.90 355 Pn Pn 10 40 38.1 +0.7
comp=E,4.5nm,0.3s,baz=161,slow=7.0,SNR=69
YBH Sn Sn 10 41 24.6 +1.6
comp=E,2.0nm,0.3s,baz=200,slow=9.4,SNR=3.8
YBH LR LR 10 42 15.6
comp=E,704nm,19.6s,baz=174,slow=41
comp=E,63nm,0.8s
SBC Santa Barbara 3.98 148 P Pn 10 40 37.0 -1.4
baz=330
SBC S Sn 10 41 24.1 -0.9
baz=330
GRAC Grapevine Rang 4.00 101 Pn 10 40 39.3 +0.6
GRAC IAML 10 41 58.3
comp=N,576nm,1.0s
GRAC IAML 10 42 00.3
comp=E,701nm,1.0s
GRAC Grapevine Rang 4.00 101 P Pn 10 40 39.2 +0.4
baz=284,SNR=32
TPH Tonopah 4.00 85 Pn 10 40 38.8 -0.2
GMN Gold Mountain 4.02 96 Pn 10 40 39.5 +0.3
GMN IAML 10 42 00.4
comp=N,302nm,0.8s
Q09A Carvers 4.12 75 Pn 10 40 40.7 0.0
KSXB Camp Six Broad 4.17 343 Pn Pn 10 40 42.1 +1.0
MPMC Manual Prospec 4.23 114 P Pn 10 40 41.7 -0.4
baz=297,SNR=80
OSI Osito Audit: C 4.32 137 P Pn 10 40 42.3 -0.9
baz=320
OSI S Sn 10 41 33.1 -0.3
baz=320
CCAC Calif City Air 4.36 127 Pn 10 40 43.5 -0.2
CCAC IAML 10 42 21.3
comp=E,580nm,1.3s
CCAC IAML 10 42 25.2
comp=N,612nm,1.1s
L04D Klamath Falls 4.37 360 Pn Pn 10 40 45.8 +1.8
LRMC Laurel Mtn Rad 4.38 121 P Pn 10 40 43.5 -0.7
baz=304,SNR=76
L02F Cave Junction 4.38 347 Pn 10 40 45.5 +1.5
SCZ2 Santa Cruz Isl 4.40 150 P Pn 10 40 42.1 -2.2
baz=332,SNR=19
SCZ2 S Sn 10 41 32.5 -2.8
baz=332
FURC Furnace Creek, 4.54 106 P Pn 10 40 46.0 -0.1
baz=290,SNR=27
EDW2 Edwards Air Fo 4.55 129 P Pn 10 40 45.5 -0.9
baz=312,SNR=82
WCT Wildcat Mounta 4.62 101 Pn Pn 10 40 47.7 +0.3
WCT IAML 10 42 09.9
comp=N,162nm,1.2s
WCT IAML 10 42 15.0
comp=E,174nm,0.8s
BMN Battle Mountai 4.70 55 Pn Pn 10 40 48.0 -0.6
BMN IAML 10 42 20.5
comp=E,134nm,1.4s
GWY Greenwater Val 4.78 109 Pn Pn 10 40 48.9 -0.7
GWY IAML 10 42 18.4
comp=E,248nm,0.9s
GWY IAML 10 42 27.6
comp=N,194nm,2.1s
DECC Green Verdugo 4.80 137 P Pn 10 40 49.7 -0.1
baz=320
DECC S Sn 10 41 45.3 0.0
baz=320
TPNV Topopah Spring 4.88 99 Pn Pn 10 40 51.2 +0.3
TPNV IAML 10 42 26.5
comp=N,340nm,1.2s
TPNV IAML 10 42 37.1
comp=N,300nm,1.6s
TPNV Topopah Spring 4.88 99 P Pn 10 40 51.3 +0.3
baz=283,SNR=54
PASC Pasadena Art C 4.94 137 IAML 10 41 49.4
comp=N,106nm,0.7s
K05A Summer Lake 4.99 12 IAML 10 43 17.6
comp=N,110nm,2.9s
GSC Goldstone, Bar 5.08 118 IAML 10 42 22.1
comp=N,154nm,1.4s
GSC IAML 10 42 38.5
comp=E,169nm,1.5s
GSC Goldstone, Bar 5.08 118 P Pn 10 40 52.9 -0.8
baz=302,SNR=94
SNCC San Nicolas Is 5.11 153 P Pn 10 40 52.6 -1.3
baz=335
SNCC S Sn 10 41 49.9 -2.9
baz=335
SHOC Shoshone, Teco 5.19 110 P Pn 10 40 54.5 -0.6
baz=294,SNR=21
RRX Edison Barstow 5.19 123 P Pn 10 40 54.9 -0.2
baz=307,SNR=28
BFSC Mount Baldy Ra 5.19 133 P Pn 10 40 54.3 -1.0
baz=316,SNR=50
FMP Fort Macarthur 5.24 141 P Pn 10 40 53.8 -2.0
baz=323
R11B Troy Canyon, C 5.30 83 IAML 10 42 24.1
comp=N,133nm,1.3s
R11B Troy Canyon, C 5.30 83 P Pn 10 40 57.1 +0.3
baz=267,SNR=13
WVOR Wild Horse Val 5.36 30 Pn 10 40 57.9 +0.3
CIS Catalina Islan 5.44 144 P Pn 10 40 56.5 -2.0
baz=326,SNR=16
BBRC Big Bear Solar 5.62 128 P Pn 10 40 59.7 -1.5
baz=311,SNR=53
TUQ Turquoise Moun 5.64 113 P Pn 10 41 01.0 -0.5
baz=297,SNR=39
HEC Hector,Ludlow 5.66 120 P Pn 10 41 00.8 -0.8
baz=304,SNR=68
SCI2 San Clemente I 5.73 147 P Pn 10 41 01.0 -1.6
baz=329,SNR=13
MURC Murrieta 5.92 134 P Pn 10 41 03.7 -1.4
baz=318,SNR=12
GMRC Granite Mounta 6.15 118 P Pn 10 41 07.0 -1.5
baz=302,SNR=27
ELK Elko 6.18 60 Pn Pn 10 41 08.9 0.0
comp=N,1.5nm,0.3s,baz=253,slow=11,SNR=39
ELK Sn Sn 10 42 17.7 -1.8
comp=N,1.0nm,0.3s,baz=219,slow=16,SNR=1.7
ELK Lg Lg 10 42 42.4
comp=N,1.6nm,0.3s,baz=37,slow=11,SNR=2.0
comp=N,7.5nm,0.5s
V12A Nelson 6.32 107 Pn 10 41 11.3 +0.6
PFO Pinyon Flats O 6.34 130 Pn 10 41 09.8 -1.2
PFO Pinyon Flats O 6.34 130 P Pn 10 41 09.8 -1.2
baz=314,SNR=37
PFO Pinyon Flats O 6.34 130 Pn Pn 10 41 10.1 -1.0
comp=N,4.0nm,0.3s,baz=307,slow=11,SNR=79
PFO Sn Sn 10 42 19.9 -3.5
comp=N,3.5nm,0.3s,baz=267,slow=14,SNR=1.9
PFO Lg Lg 10 42 53.1
baz=20,slow=23
PFO LR LR 10 43 53.1
comp=N,524nm,21.4s,baz=327,slow=41
comp=N,12nm,0.4s
TPFO Pinon Flats 6.35 130 P Pn 10 41 10.2 -0.9
baz=314,SNR=30
BELC Belle Mtn. Jos 6.38 125 P Pn 10 41 10.3 -1.2
baz=309,SNR=119
109C Camp Elliot, M 6.50 138 P Pn 10 41 11.9 -1.2
baz=321
IRM Iron Mountain 6.85 120 P Pn 10 41 16.6 -1.3
baz=305,SNR=22
MONP2 Monument Peak 6.88 134 P Pn 10 41 17.3 -1.2
baz=318,SNR=28
BC3 Big Chuckawall 6.95 125 P Pn 10 41 17.8 -1.6
baz=309,SNR=75
SWSC Sam W. Stewart 7.20 131 P Pn 10 41 21.7 -1.0
baz=315
IKP In-Ko-Pah, Jac 7.23 134 P Pn 10 41 22.3 -0.9
baz=318
PDMCI Parker Dam,Lak 7.47 116 P Pn 10 41 25.6 -0.9
baz=301
DUG Dugway, Tooele 7.73 69 P Pn 10 41 29.8 -0.3
baz=255,SNR=14
HLID Hailey 8.26 44 P Pn 10 41 37.2 -0.1
baz=229
WUAZ Wupatki 9.06 102 P Pn 10 41 47.8 -0.6
baz=288,SNR=8.5
214A Organ Pipe Nat 9.74 124 P Pn 10 41 56.4 -1.2
baz=310
BW06 Boulder Array 10.88 59 P Pn 10 42 12.6 -0.8
baz=247
PDAR Pinedale Array 10.88 59 Pn Pn 10 42 15.5 +2.1
comp=N,0.1nm,0.3s,baz=244,slow=9.7,SNR=13
PDAR Lg Lg 10 45 16.2

comp=N,0.1nm,0.3s,baz=229,slow=27,SNR=2.4
PDAR LR LR 10 45 56.3
comp=N,121nm,19.5s,baz=249,slow=35
comp=N,2.4nm,0.9s
MSO Missoula 10.88 32 P Pn 10 42 13.7 +0.4
baz=217
TUC Tucson 10.91 117 Pn 10 42 12.2 -1.4
TUC Tucson 10.91 117 P Pn 10 42 13.2 -0.5
baz=304
MVCO Mesa Verde 10.96 89 Pn Pn 10 42 12.3 -2.2
MVCO Mesa Verde 10.96 89 P Pn 10 42 13.8 -0.7
baz=278
H17A Grant Village 10.98 50 P Pn 10 42 14.9 +0.2
baz=237
NEW Newport 11.07 18 P Pn 10 42 15.7 -0.1
baz=202,SNR=5.8
NEW Newport 11.07 18 Pn Pn 10 42 18.4 +2.6
comp=N,0.2nm,0.3s,baz=200,slow=12,SNR=13
NEW Lg Lg 10 45 24.6
comp=N,0.1nm,0.3s,baz=71,slow=18,SNR=0.8
NEW LR LR 10 46 57.4
comp=N,267nm,19.4s,baz=208,slow=40
comp=N,5.0nm,0.8s
BOZ Bozeman (W) 11.09 42 P Pn 10 42 15.5 -0.7
baz=229
O20A White River Ci 11.16 74 P Pn 10 42 17.1 -0.1
baz=263
RLMT Red Lodge 12.16 49 P Pn 10 42 31.2 +0.4
baz=238
K22A Casper 12.95 63 P Pn 10 42 40.3 -1.3
baz=254
121A Cookes Peak, D 12.98 110 P Pn 10 42 39.6 -2.5
baz=298
ANMO Albuquerque 13.07 98 P Pn 10 42 40.0 -3.3
baz=288
ANMO Albuquerque 13.07 98 Pn Pn 10 42 40.3 -3.0
comp=N,0.1nm,0.3s,baz=256,slow=4.7,SNR=3.2
ANMO Lg Lg 10 46 28.2
comp=N,0.1nm,0.3s,baz=302,slow=22,SNR=1.5
ANMO LR LR 10 47 41.4
comp=N,228nm,20.2s,baz=20,slow=37
comp=N,0.3nm,0.4s
ISCO Idaho Springs 13.14 76 P Pn 10 42 41.4 -3.0
baz=267
SDCO Great Sand Dun 13.27 85 P Pn 10 42 45.3 -0.8
baz=276
EGMT Eagleton 13.68 38 P Pn 10 42 51.8 +0.4
baz=226
T25A Trinidad 14.21 87 P Pn 10 42 58.2 -0.6
baz=278
LAO LASA Array 14.79 48 P Pn 10 43 07.8 +1.2
baz=239
BBB Bella Bella 14.91 346 LR LR 10 48 01.6
comp=N,256nm,20.8s,baz=193,slow=34
RSSD Black Hills 15.12 60 P P 10 43 14.8 -1.6
RSSD IAmb IAmb 10 43 25.4
comp=Z,12nm,1.2s
RSSD Black Hills 15.12 60 P Pn 10 43 12.5 +1.3
baz=252
MNTX Cornudas Mount 15.17 109 P Pn 10 43 12.0 +0.3
baz=299
KSCO Kaye Shedlock' 15.45 80 IAmb IAmb 10 43 24.1
comp=Z,23nm,0.9s
KSCO Kaye Shedlock' 15.45 80 P Pn 10 43 16.1 +0.6
baz=272,SNR=6.0
VHRN Van Horn 15.91 111 P P 10 43 24.2 -1.0
MSTX Muleshoe 16.27 98 P Pn 10 43 26.4 +0.4
baz=290,SNR=7.2
EDM Edmonton 16.58 19 Pn Pn 10 43 28.8 -1.0
BRLDA Berland Lookou 16.59 10 Pn P 10 43 31.4 -1.1
BRLDA IAmb IAmb 10 43 34.9
comp=Z,30nm,1.0s
AMTX Amarillo 16.85 94 P Pn 10 43 32.0 -1.4
baz=286
DGMT Dagmar 16.89 45 Pn Pn 10 43 33.0 -0.8
DGMT Dagmar 16.89 45 P Pn 10 43 33.4 -0.4
baz=238
LPIG La Paz 17.09 140 LR LR 10 50 27.6
comp=Z,303nm,18.3s,baz=329,slow=38
TXAR Lajitas Array 17.65 113 P P 10 43 45.6 +1.2
comp=Z,15nm,1.0s,baz=294,slow=9.4,SNR=92
TXAR LR LR 10 50 15.8
comp=Z,64nm,20.8s,baz=290,slow=36
CBKS Cedar Bluff 17.71 80 P Pn 10 43 43.8 -0.2
baz=274
HPIG 17.72 123 P Pn 10 43 42.3 -2.2
E28A Huff 18.17 54 P Pn 10 43 49.0 -0.6
E28A IAmb IAmb 10 44 14.4
comp=Z,32nm,1.1s
WMOK Wichita Mounta 19.18 92 P P 10 44 01.2 +0.1
baz=286
ABTX Abilene, Hawle 19.19 99 P P 10 44 01.5 +0.2
baz=292
MDND Maddock 19.33 52 P Pn 10 44 03.5 -0.3
baz=247
U33K Whale Pass 19.67 342 P Pn 10 44 08.0 +0.4
baz=154
T35M Bob Quinn 19.86 347 P Pn 10 44 11.0 +1.0
baz=161
JCT Junction City 19.97 105 P P 10 44 10.3 +0.6
baz=298
KSU1 Kansas State U 20.12 78 P P 10 44 11.6 +0.3
KSU1 IAmb IAmb 10 44 15.9
comp=Z,15nm,1.1s
KSU1 Kansas State U 20.12 78 P Pn 10 44 12.6 -0.6
baz=275
PLPT Palo Pinto 20.16 97 P Pn 10 44 12.7 -1.0
BRDY Brady 20.23 102 P P 10 44 11.0 -1.5
BRDY IAmb IAmb 10 44 25.2
comp=Z,22nm,1.4s
ECSD EROS Data Cent 20.26 65 P P 10 44 12.9 +0.1
baz=262
W35A Tecumseh 20.58 90 IAmb IAmb 10 44 21.4
comp=Z,29nm,1.3s
HNDO Hondo 20.82 107 P P 10 44 18.9 -0.1
HILA High Level 21.00 8 P P 10 44 21.0 +0.3
WHTX Lake Whitney, 21.14 99 IAmb IAmb 10 44 24.6
comp=Z,18nm,0.8s
WHTX Lake Whitney, 21.14 99 P P 10 44 24.0 +1.6
baz=293,SNR=8.7
DLBC Dease Lake 21.22 349 P P 10 44 26.4 +3.4
baz=163
DLBC Dease Lake 21.22 349 P P 10 44 22.7 -0.4
comp=Z,2.8nm,1.1s,baz=108,slow=18,SNR=1.6
comp=Z,2.8nm,1.1s
TUL3 Leonard 21.25 87 P P 10 44 25.2 +1.6
baz=283
435B Jarrell 21.54 102 IAmb IAmb 10 44 32.3
comp=Z,24nm,0.9s
435B Jarrell 21.54 102 P P 10 44 27.0 +0.3
baz=296
FFC Flin Flon 21.82 33 P P 10 44 28.0 -1.5
FFC IAmb IAmb 10 44 29.9
comp=Z,16nm,1.2s
Q32M Nakina River 22.10 346 P P 10 44 34.0 +1.3
baz=159
R33M Jennings River 22.28 348 P P 10 44 35.8 +1.3
baz=162
KOTAN Kotaneelee Air 22.33 358 P P 10 44 36.5 +1.6
baz=176,SNR=11
FLDN Fort Liard 22.43 358 IAmb IAmb 10 44 48.4
comp=Z,22nm,1.3s
FLDN Fort Liard 22.43 358 P P 10 44 37.9 +2.0
baz=178
ULM Lac du Bonnet 22.53 48 P P 10 44 37.0 -0.2
comp=Z,1.4nm,0.7s,baz=231,slow=4.0,SNR=2.9
ULM LR LR 10 53 59.6
comp=Z,157nm,18.2s,baz=258,slow=38
comp=Z,1.4nm,0.7s
WTLY Watson Lake, Y 22.67 352 P P 10 44 40.8 +2.2
baz=166
P30M Million Dollar 24.18 342 P P 10 44 54.6 +1.0
baz=151
WHY Whitehorse 24.18 345 P P 10 44 54.4 +0.7
baz=155
N32M Quiet Lake 24.30 347 P P 10 44 57.2 +2.5
baz=159
CCM Cathedral Cave 24.42 80 P P 10 44 56.9 +1.0
baz=279
PNL Peninnsula 24.44 339 P P 10 44 57.6 +1.6
baz=146
JFWS Jewell Farm 24.83 68 P P 10 45 00.5 +0.9
baz=269
HYT Haines Junctio 24.92 342 P P 10 45 01.4 +1.0
baz=150
PINM Pinnacle 25.04 339 P P 10 45 03.4 +2.0
baz=145
N31M Braeburn, Yuko 25.12 345 P P 10 45 04.7 +2.6
baz=154
YKA Yellowknife Ar 25.12 8 P P 10 45 02.8 +0.7
comp=Z,2.4nm,1.1s,baz=192,slow=9.1,SNR=18
YKA LR LR 10 55 57.3
comp=Z,169nm,21.0s,baz=110,slow=39
comp=Z,2.4nm,1.1s
FARO Faro, Yukon 25.35 348 P P 10 45 07.1 +2.9
baz=159
WRGLY Wrigley 25.42 359 P P 10 45 06.8 +2.1
baz=178
M31M Drury Creek, Y 25.51 347 P P 10 45 07.9 +2.3
baz=157
YUK4 Talbot Arm 25.65 342 P P 10 45 09.5 +2.4
baz=149
YUK8 Steele Glacier 25.89 341 P P 10 45 10.6 +1.3
baz=147
M29M Somme Creek 26.56 343 P P 10 45 16.8 +1.6
baz=150
OXF Oxford 26.66 87 P P 10 45 16.2 -0.1
baz=287
L29M L29M 27.07 344 P P 10 45 20.7 +0.9
baz=152
M27K Edge Creek, AK 27.34 340 P P 10 45 21.7 -0.6
baz=145
K29M Barlow Dome 27.60 345 P P 10 45 24.8 +0.3
baz=153
L27K Beaver Creek, 27.91 341 P P 10 45 28.2 +1.0
baz=146
J30M Hart River 28.04 347 P P 10 45 29.2 +0.7
baz=156
KDAK Kodiak Island 28.11 325 LR LR 10 54 45.1
comp=Z,117nm,18.2s,baz=137,slow=32
DAWY Dawson 28.18 344 P P 10 45 30.8 +1.1
DAWY IAmb IAmb 10 45 33.0
comp=Z,6.3nm,1.1s
DAWY Dawson 28.18 344 P P 10 45 30.2 +0.5
baz=150
SCM Sheep Creek Mo 28.58 335 P P 10 45 33.3 0.0
baz=136
I30M Mount Dempster 28.64 348 P P 10 45 34.5 +0.7
baz=156
KNK Knik Glacier 28.68 334 P P 10 45 35.0 +1.0
baz=133
M23K Glacier View 28.69 335 P P 10 45 33.9 -0.2
baz=135
HOM Homer 28.76 329 P P 10 45 34.4 -0.4
baz=126
K27K Chicken 28.77 342 P P 10 45 34.6 -0.3
baz=146
O48B Farmland 28.79 74 P P 10 45 34.7 -0.6
baz=277
PAX Paxson 28.84 338 P P 10 45 36.3 +0.7
baz=140
R18K Karluk 28.86 324 P P 10 45 36.0 +0.3
baz=119
H31M Peel River 28.87 350 P P 10 45 36.9 +1.2
baz=160
RC01 Rabbit Creek A 28.91 332 P P 10 45 36.3 +0.2
baz=131
PMR Palmer 29.03 334 P P 10 45 38.0 +0.9
baz=132
EGAK Eagle 29.19 343 P P 10 45 38.5 0.0
baz=148
Q19K Cape Douglas, 29.20 326 P P 10 45 38.3 -0.4
baz=122
SCRK Sand Creek 29.22 340 P P 10 45 38.3 -0.6
baz=143
CAPN Captain Cook N 29.24 331 P P 10 45 39.1 +0.1
baz=128
RIDG Independent Ri 29.26 340 P P 10 45 40.2 +0.9
baz=142
P19K Oil Pt 29.42 328 P P 10 45 41.9 +1.2
baz=124
DHY Denali Highway 29.50 337 P P 10 45 43.5 +2.0
baz=137
I28M Miner Creek 29.51 345 P P 10 45 42.5 +1.0
baz=151
SUA Susitna One 29.53 332 P P 10 45 43.2 +1.4
baz=130
J26L Joseph Creek 29.54 341 P P 10 45 43.8 +2.1
baz=144
K24K Donnelly Dome 29.57 339 P P 10 45 43.9 +1.9
baz=140
Q18K Katmai Hardscr 29.66 325 P P 10 45 43.7 +0.8
baz=120
WAT1 Susitna Watana 29.70 336 P P 10 45 44.7 +1.5
baz=135
H29M Whitestone 29.90 347 P P 10 45 45.6 +0.8
baz=154
N20K Mount Spurr 29.91 331 P P 10 45 45.5 +0.4
baz=128
G31M Satah River 29.92 351 P P 10 45 44.8 -0.1
baz=161
CUT Chulitna 29.98 334 P P 10 45 45.3 -0.2
baz=132
I27K Kandik River 30.00 344 P P 10 45 46.7 +0.9
baz=148
J25K Salcha River, 30.09 340 P P 10 45 48.8 +2.2
baz=142,SNR=7.0
I26K Coal Creek Min 30.10 343 P P 10 45 47.6 +1.0
baz=146
F31M Tsiigehtchic 30.34 351 P P 10 45 49.7 +1.1
baz=162
HDA Harding Lake 30.37 339 P P 10 45 50.6 +1.6
baz=139
Q16K King Salmon 30.43 324 P P 10 45 51.6 +2.1
baz=118
MCK McKinley 30.46 337 P P 10 45 50.5 +0.6
baz=136
G29M Pine Creek 30.46 348 P P 10 45 50.8 +1.0
baz=155
ILAR Eielson Array 30.63 339 P P 10 45 51.8 +0.5
ILAR Eielson Array 30.63 339 P P 10 45 53.1 +1.9
comp=Z,2.3nm,0.8s,baz=156,slow=7.9,SNR=27
ILAR LR LR 10 57 01.6
comp=Z,92nm,19.4s,baz=90,slow=34
comp=Z,2.3nm,0.8s
M20K Styx River 30.68 332 P P 10 45 52.1 +0.2
baz=127
TRF Thorofare Moun 30.70 336 P P 10 45 52.5 +0.4
baz=133
F30M Barrier River 30.77 350 P P 10 45 52.6 +0.1
baz=159
TKL Tuckaleechee C 30.78 82 LR LR 10 59 34.3
comp=Z,107nm,18.6s,baz=292,slow=39
PRP Porcupine Dome 30.85 341 P P 10 45 54.2 +0.8
baz=142
S14K Fog Glacier 30.86 319 P P 10 45 56.2 +2.6
baz=111
PPLA Purkeypile 30.97 334 P P 10 45 56.2 +1.7
baz=130
G27K Doyon Strip 31.04 345 P P 10 45 55.9 +1.0
baz=149
POKR Poker Plat Res 31.05 340 P P 10 45 53.5 -1.5
baz=139
N18K Kilae Creek 31.09 328 P P 10 45 57.6 +2.2
baz=122
NEA2 Nenana 31.12 338 P P 10 45 57.6 +1.9
baz=136,SNR=5.8
INK Inuvik 31.15 352 IAmb IAmb 10 45 59.0
comp=Z,7.7nm,1.2s
INK Inuvik 31.15 352 P P 10 45 57.6 +1.9
baz=163,SNR=5.3
INK Inuvik 31.15 352 LR LR 10 59 04.2
comp=Z,154nm,20.7s,baz=188,slow=38
P52A Corning 31.18 74 P P 10 45 53.8 -2.7
baz=280
CAST Castle Rocks 31.28 334 P P 10 45 57.7 +0.7
baz=131
L20K Farewell, AK 31.32 332 P P 10 45 59.2 +1.8
baz=127
BPAW Bear Paw Mtn. 31.37 336 P P 10 45 57.9 +0.1
BPAW IAmb IAmb 10 46 00.6
comp=Z,5.2nm,0.8s
BPAW Bear Paw Mtn. 31.37 336 P P 10 45 59.0 +1.2
baz=133
M18K Stony River 31.50 330 P P 10 46 00.5 +1.5
baz=123
L19K White Mountain 31.51 331 P P 10 46 01.2 +2.1
baz=125
G26K Porcupine Rive 31.61 344 P P 10 46 01.8 +1.9
baz=146
I23K Minto, Yukon-K 31.61 338 P P 10 46 00.9 +0.9
baz=137
CHUM Lake Minchumin 31.66 335 P P 10 46 03.1 +2.7
baz=131
CMIG Matias Romero 31.71 123 LR LR 10 59 52.6
comp=Z,240nm,18.1s,baz=290,slow=38
H24K Noodor Dome 31.71 340 P P 10 46 01.8 +0.9
baz=139
E29M Blow River 31.80 349 P P 10 46 02.4 +0.9
baz=156
K20K Telida 31.93 333 P P 10 46 03.9 +1.2
baz=128
MLY Manley 31.94 338 P P 10 46 04.6 +1.8
baz=134
G25K Bearman Lake 31.99 342 P P 10 46 04.6 +1.4
baz=143
M53A WI Miller and 32.01 70 P P 10 46 05.2 +1.4
baz=278
M17K Holitna River 32.11 329 P P 10 46 06.7 +2.4
baz=121
O15K Ungalikthiuk R 32.12 324 P P 10 46 07.4 +2.9
baz=115
N16K Nishlik Lake 32.22 326 P P 10 46 08.0 +2.6
baz=118
E27K Coleen River 32.23 347 P P 10 46 06.6 +1.2
baz=151
E28M Babbage River 32.25 348 P P 10 46 06.1 +0.6
baz=154
L18K Granite Mounta 32.25 330 P P 10 46 06.1 +0.6
baz=123
G24K Hadweenzic Riv 32.27 342 P P 10 46 07.8 +2.0
baz=141,SNR=6.2
F26K Sheenjek River 32.31 345 P P 10 46 08.5 +2.4
baz=146
TTA Tatalina 32.38 332 P P 10 46 08.2 +1.4
baz=125
J20K Nowinta River 32.47 334 IAmb IAmb 10 46 10.6
comp=Z,7.3nm,0.8s
J20K Nowinta River 32.47 334 P P 10 46 09.5 +2.1
baz=129
FALS False Pass 32.52 315 P P 10 46 09.1 +1.1
baz=104
F25K Christian Rive 32.55 344 P P 10 46 10.6 +2.3
baz=144
M16K Timber Creek 32.56 327 P P 10 46 10.4 +2.0
baz=118
H22K Ishtalitna Cre 32.74 338 P P 10 46 11.5 +1.6
baz=135
D28M Stokes Point 32.78 349 P P 10 46 10.8 +0.7
baz=156
J19K Poorman 32.87 333 P P 10 46 13.7 +2.7
baz=127,SNR=7.7
G23K Bananza Creek 32.95 340 P P 10 46 13.4 +1.7
baz=137
J18K Innoko River 32.95 332 IAmb IAmb 10 46 14.9
comp=Z,5.4nm,1.0s
J18K Innoko River 32.95 332 P P 10 46 12.5 +0.8
baz=125
E25K Arctic Village 32.97 344 P P 10 46 13.7 +1.9
baz=145
I20K Naaghedeneel 32.97 335 P P 10 46 13.6 +1.8
baz=129
H21K Melozitna Rive 33.00 337 P P 10 46 14.9 +2.8
baz=132,SNR=6.9
F24K Squaw Lake 33.02 342 P P 10 46 12.5 +0.2
baz=141
L16K Owhat River 33.11 328 P P 10 46 14.2 +1.1
baz=119
K17K Iditarod 33.15 330 P P 10 46 14.8 +1.4
baz=122
M15K Kasigluk River 33.17 326 P P 10 46 15.3 +1.7
baz=116
COLD Coldfoot 33.38 341 P P 10 46 17.7 +2.4
baz=138
G22K Bettles 33.51 340 P P 10 46 17.9 +1.5
baz=136
H20K Anotleneega Mo 33.54 336 P P 10 46 19.2 +2.3
baz=130
GCSA Galena City Sc 33.75 334 P P 10 46 20.4 +1.8
baz=126,SNR=5.3
G21K Allakaket 33.79 338 P P 10 46 20.4 +1.4
baz=132
E23K Chandalar 33.85 342 P P 10 46 20.9 +1.3
baz=139
H19K Roundabout Mou 34.08 335 P P 10 46 23.8 +2.3
baz=128
D25K Kavik River 34.12 345 P P 10 46 24.5 +2.6
baz=145
A36M Sachs Harbour 34.25 358 P P 10 46 24.3 +1.5
baz=176
M13K Dall Lake 34.25 325 P P 10 46 24.6 +1.6
baz=112
F21K Alatna River 34.27 339 P P 10 46 25.1 +2.0
baz=133
TEIG Tepich 34.28 111 LR LR 11 02 52.6
comp=Z,729nm,19.7s,baz=216,slow=41
TOLK Toolik Lake Re 34.29 343 P P 10 46 26.3 +2.9
baz=140,SNR=6.9
L14K Kuka Creek 34.32 326 P P 10 46 25.9 +2.3
baz=114
C26K Camden Bay 34.34 346 P P 10 46 26.0 +2.4
baz=147
J16K Anvik River 34.34 330 P P 10 46 25.8 +2.0
baz=120
E22K Anaktuvuk Pass 34.46 341 P P 10 46 27.4 +2.6
baz=136
H18K Honhosa River 34.51 334 P P 10 46 26.9 +1.7
baz=125
D24K Happy Valley 34.51 344 P P 10 46 26.6 +1.4
baz=141
G19K Purcell Mounta 34.66 336 P P 10 46 28.2 +1.7
baz=127
I17K Unalakleet 34.68 331 P P 10 46 29.3 +2.6
baz=120
D23K Nanushuk River 34.80 342 P P 10 46 30.6 +2.9
baz=139
F20K Avaraart Lake 34.81 338 P P 10 46 29.5 +1.7
baz=130
C24K Franklin Bluff 34.93 344 P P 10 46 31.2 +2.3
baz=142
H17K Granite Mounta 34.93 333 P P 10 46 30.3 +1.3
baz=122
G18K Tagagawik 35.03 335 P P 10 46 31.7 +1.9
baz=125
D22K Ayikyak River 35.23 341 P P 10 46 32.8 +1.4
baz=136
F19K Shaleruckik Mo 35.30 337 P P 10 46 32.5 +0.5
baz=127
DWPF Disney Wildern 35.37 94 P P 10 46 32.6 -0.5
baz=297
C23K Itkillik River 35.44 344 P P 10 46 34.6 +1.4
baz=140
G17K Kiwalik Mounta 35.50 334 P P 10 46 34.9 +1.1
baz=122
E19K Redstone River 35.52 338 P P 10 46 37.1 +3.2
baz=129
H16K Elim 35.64 332 P P 10 46 35.7 +0.7
baz=119
E20K Nigu River 35.73 339 P P 10 46 38.2 +2.4
baz=131,SNR=6.1
C21K Knifeblade Rid 35.96 341 P P 10 46 39.6 +1.9
baz=134
LONY Lake Ozonia 36.08 64 P P 10 46 39.6 +0.6
baz=276
D20K Etivluk River 36.15 340 P P 10 46 40.9 +1.6
baz=131
F17K Baldwin Pennin 36.21 335 P P 10 46 41.5 +1.7
baz=123
B21K Ikpikpuk River 36.24 342 P P 10 46 41.1 +1.1
baz=134
D19K Kuna River 36.43 339 IAmb IAmb 10 46 44.8
comp=Z,8.6nm,0.9s
D19K Kuna River 36.43 339 P P 10 46 44.0 +2.2
baz=129
B22K Teshekpuk Lake 36.46 343 P P 10 46 42.7 +0.8
baz=136
G15K Niukluk 36.48 332 P P 10 46 44.4 +2.2
baz=118
E18K Tukpahlearik C 36.54 336 IAmb IAmb 10 46 49.7
comp=Z,12nm,1.5s
E18K Tukpahlearik C 36.54 336 P P 10 46 44.6 +1.9
baz=124
ANM Nome 36.80 330 P P 10 46 44.8 -0.2
baz=116
F15K North Star Dit 37.04 332 P P 10 46 48.6 +1.6
baz=118
B20K Meade River 37.15 341 P P 10 46 49.3 +1.5
baz=131
C19K Lookout Ridge 37.23 339 P P 10 46 49.6 +1.0
baz=128
A22K Sinclair Lake 37.30 343 P P 10 46 49.9 +0.8
baz=135
C18K Utukok River 37.43 338 IAmb IAmb 10 46 53.0
comp=Z,5.5nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
C18K	Utukok River	37.43	338	P	P	10 46 52.7	+2.4
	baz=125						
D17K	Noatak River	37.49	336	P	P	10 46 52.1	+1.4
	baz=122						
F14K	Arctic Creek	37.56	332	P	P	10 46 51.4	0.0
	baz=116						
RDOG	Red Dog Mine	37.63	336	P	P	10 46 52.8	+0.9
	baz=122						
A21K	Barrow	37.91	343	P	P	10 46 55.8	+1.6
	baz=133						
C17K	DeLong Mountai	37.94	337	P	P	10 46 56.1	+1.5
	baz=122						
B18K	Kokolik River	38.02	339	P	P	10 46 58.3	+3.1
	baz=125						
A19K	Wainwright	38.31	340	P	P	10 46 59.5	+1.9
	baz=127						
C16K	Lisburne Hills	38.52	336	P	P	10 47 00.6	+1.3
	baz=120						
GAMB	Gambell	39.09	328	P	P	10 47 05.6	+1.4
	baz=108						
SCHQ	Schefferville	40.70	47	P	P	10 47 17.7	-0.1
	comp=Z,2.2nm,0.7s,baz=235,slow=10,SNR=1.9						
	comp=Z,2.2nm,0.7s						
SHEM	Shemya Is, Ala	45.66	310	P	P	10 47 58.1	+0.3
	comp=Z,86nm,0.9s,baz=258,slow=17,SNR=1.9						
SUMG	Summit	52.54	22	*i* P	P	10 48 51.0	+0.3
PPT	Papeete	60.81	210	LR	LR	11 09 03.3	
	comp=Z,23nm,21.8s,baz=43,slow=29						
NRIK	Noril'sk	70.89	349	P	P	10 50 54.5	+0.7
	comp=Z,1.4nm,0.6s,baz=37,slow=4.8,SNR=5.2						
	comp=Z,1.4nm,0.6s						
ZALV	Zalesovo Beam	85.63	344	P	P	10 52 16.1	+0.4
	comp=Z,0.8nm,0.6s,baz=11,slow=2.9,SNR=3.5						
	comp=Z,0.8nm,0.6s						
HHC	Hu-ho-hao-te	87.49	322	*e*P	P	10 52 24.2	-1.1
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,380nm,5.1s						
BVAR	Borovoye Array	88.83	352	P	P	10 52 32.5	+1.2
	comp=Z,1.9nm,0.8s,baz=339,slow=3.8,SNR=5.3						
	comp=Z,1.9nm,0.8s						
DZM	Mont Dzumac	89.58	241	P	P	10 52 35.5	+0.3
	comp=Z,2.1nm,0.7s,baz=319,slow=20,SNR=1.1						
	comp=Z,2.1nm,0.7s						
KURBB	Kurchatov Arra	90.02	347	P	P	10 52 37.5	+0.6
	comp=Z,0.5nm,0.3s,baz=16,slow=4.4,SNR=7.3						
	comp=Z,0.5nm,0.3s						
WMQ	Urumqi	94.29	339	*e*P	P	10 52 58.5	+1.6
VNDA	Vanda	123.66	195	PKP	PKPdf	10 58 33.7	0.0
	comp=Z,1.3nm,0.9s,baz=73,slow=4.0,SNR=3.0						
QSPA	South Pole Qui	127.66	180	PKP	PKiKP	10 58 42.1	-0.2
	comp=Z,0.5nm,0.3s,baz=321,slow=9.5,SNR=2.0						

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*NOU **04** 10:42:59.7, 37°.33S×179°.61E, h0km, MLv4.3/9, Off E. Coast of N. Island, N.Z.*
*WEL **04** 10:43:08.0±0.9, 37°S±4°×17°9E±°, h12km, M3.6/13, ML3.9/18, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=101.0, confirmed*
ISC 04 10:43:05.4±2.6**, 37°.34S**±0°.06×**179°.1E**±0°.1**, h15**km±10km**, n64,** σ0s87/74**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.70	251	P	Pb	10 43 19.4	+0.2
MXZ	Matakaoa Point	0.70	251	P	Pb	10 43 19.5	+0.2
MXZ				S	Sg	10 43 26.5	-1.6
WMGZ	Waiomatatini S	0.74	230	P	Pn	10 43 22.3	+0.9
WMGZ				S	Sb	10 43 31.8	+1.7
PKGZ	Pakihiroa	1.00	237	P	Pb	10 43 25.4	+0.9
PKGZ				S	Sg	10 43 37.1	-0.8
PUZ	Puketiti	1.01	224	P	Pn	10 43 26.2	+1.2
PUZ				S	Sg	10 43 38.7	+0.7
HAZ	Te Kaha	1.15	249	P	Pg	10 43 26.7	-0.9
TWGZ	Tauwhareparae	1.24	227	P	Pg	10 43 29.3	+0.1
TWGZ				S	Sb	10 43 44.6	+0.3
RUGZ	Raukumara Rang	1.31	241	P	Pn	10 43 30.2	+0.9
RUGZ				S	Sb	10 43 45.8	-0.8
CNGZ	Carnagh Statio	1.36	213	P	Pg	10 43 31.9	+0.5
CNGZ				S	Sg	10 43 49.8	+0.7
TKGZ	Te Karaka	1.50	223	P	Pn	10 43 32.4	+0.7
TKGZ				S	Sn	10 43 50.6	-0.4
MWZ	Matawai	1.61	232	P	Pn	10 43 33.9	+0.5
RIGZ	Rimuhau	1.74	218	P	Pn	10 43 35.9	+0.7
RIGZ				S	Sn	10 43 56.2	-0.8
RAGZ	Rawiri	1.78	229	P	Pn	10 43 36.6	+0.8
URZ	Urewera	1.85	240	P	Pn	10 43 37.5	+0.9
URZ	Urewera	1.85	240	P	Pn	10 43 37.4	+0.9
URZ				S	Sn	10 43 58.5	-1.1
SNGZ	Shannon Statio	2.02	224	P	Pn	10 43 39.4	+0.5
SNGZ				S	Sn	10 44 02.5	-1.4
KNZ	Kokohu	2.03	214	P	Pn	10 43 39.2	+0.1
OPRZ	Ohinepanea	2.11	256	P	Pn	10 43 40.3	+0.1
RTZ	Ruatahuna	2.12	233	P	Pn	10 43 41.6	+1.1
MUGZ	Murupara	2.19	238	P	Pn	10 43 41.7	+0.5
RAHZ	Arahi	2.25	225	P	Pn	10 43 42.9	+0.8
WHHZ	Waihua	2.29	220	P	Pn	10 43 43.1	+0.5
RRRZ	Republican Roa	2.30	244	P	Pn	10 43 43.8	+1.0
MTHZ	Maungataniwha	2.36	230	P	Pn	10 43 44.5	+0.9
ALRZ	Allen Road	2.52	240	P	Pn	10 43 46.4	+0.5
NMHZ	Naumai	2.54	226	P	Pn	10 43 46.9	+0.8
ARHZ	Aropaoanui	2.55	221	P	Pn	10 43 47.0	+0.8
MRHZ	Matea Rd	2.61	234	P	Pn	10 43 47.7	+0.6
BKZ	Black Stump Fm	2.77	228	P	Pn	10 43 49.8	+0.5
BKZ	Black Stump Fm	2.77	228	P	Pn	10 43 49.7	+0.5
KUZ	Kuaotunu	2.80	281	P	Pn	10 43 49.8	+0.2
KUZ	Kuaotunu	2.80	281	P	Pn	10 43 48.5	-1.1
CKHZ	Cape Kidnapper	2.82	214	P	Pn	10 43 50.1	+0.2
MCHZ	McNeill Hill	2.84	222	P	Pn	10 43 50.5	+0.3
TOZ	Tahuroa Road	2.92	261	P	Pn	10 43 51.5	+0.3
KWHZ	Kaweka Forest	2.98	225	P	Pn	10 43 52.1	0.0
KAHZ	Kahuranaki	3.02	215	P	Pn	10 43 52.5	-0.2
RITZ	Rihia Road	3.06	237	P	Pn	10 43 53.8	+0.6
KRHZ	Kereru	3.16	223	P	Pn	10 43 54.1	-0.5
MKAZ	Moumakai	3.18	273	P	Pn	10 43 54.4	-0.4
BHHZ	Black Hill Sta	3.23	227	P	Pn	10 43 55.7	+0.1
TMVZ	Te Maari	3.23	236	P	Pn	10 43 56.0	+0.3
ETVZ	East Tongariro	3.24	235	P	Pn	10 43 56.1	+0.3
NTVZ	North Tongarir	3.24	236	P	Pn	10 43 56.3	+0.5
OTVZ	Oturere	3.28	235	P	Pn	10 43 56.7	+0.3
MOVZ	Moawhango	3.36	231	P	Pn	10 43 57.5	0.0
ETAZ	East Tamaki Re	3.38	275	P	Pn	10 43 58.0	+0.3
WNVZ	Wahianoa	3.42	233	P	Pn	10 43 58.2	-0.1
PNHZ	Pukenui	3.45	221	P	Pn	10 43 57.4	-1.2
HIZ	Hauiti	3.58	250	P	Pn	10 44 01.9	+1.5
HIZ	Hauiti	3.58	250	P	Pn	10 44 01.8	+1.4
RVAZ	Riverhead Bore	3.69	278	P	Pn	10 44 02.2	+0.3
VRZ	Vera Road	3.88	241	P	Pn	10 44 05.7	+1.2
BFZ	Birch Farm	4.02	213	P	Pn	10 44 04.7	-1.8
BFZ	Birch Farm	4.02	213	P	Pn	10 44 04.6	-1.9
PRWZ	Pori Road	4.05	217	P	Pn	10 44 06.1	-0.7
WAZ	Wanganui	4.05	232	P	Pn	10 44 07.7	+0.9
WCZ	Waipu Caves	4.10	289	P	Pn	10 44 08.0	+0.5
LREZ	Lake Rotokare	4.28	239	P	Pn	10 44 11.4	+1.5
OUZ	Omahuta	4.95	294	P	Pn	10 44 20.3	+1.1
OUZ	Omahuta	4.95	294	P	Pn	10 44 20.4	+1.1
SNZO	South Karori	5.24	220	P	Pn	10 44 23.5	+0.3
KHZ	Kahutara	6.65	219	P	Pn	10 44 41.1	-1.4
CTZ	Chatham Island	7.16	154	P	Pn	10 44 53.7	+4.2

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*AFAD **04** 10:45:50.7±0.0, 35°.73N×27°.56E, h10km±2km, MW3.7*
*ATH **04** 10:45:51.9, 35°.80N×27°.42E, h12km±2km, ML3.2/4, Error ellipse: s-maj=3.6km s-min=0.9km az=136.0*
*THE **04** 10:45:51.4, 35°.77N×27°.46E, h3km±3km, ML3.3/2, Error ellipse: s-maj=4.8km s-min=0.8km az=137.0*
*ISK **04** 10:45:51.2, 35°.81N×27°.43E, h7km, ML3.3/20*
*IDC **04** 10:45:58.0±3.8, 35°.34N×27°.82E, h78km±40km, mb3.3/3, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=36.1km s-min=22.2km az=146.0*
ISC 04 10:45:51.8±0.8**, 35°.71N**±0°.03×**27°.48E**±0°.03**, h22**km±4km**, n60,** σ1s47/89**, mb3.4**/3**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.30	238	Pg	Pb	10 45 58.4	-0.3
KARP	Karpathos	0.30	238	P	Pb	10 45 58.4	-0.3
KARP				S	Sb	10 46 03.3	-0.2
	8μm,0.2s						
KARP	Karpathos	0.30	238	P	Pb	10 45 58.4	-0.3
KARP				S	Sb	10 46 03.2	-0.2
KARP				AML	AML	10 46 03.7	
	comp=E,16472μm,0.1s						
KARP				AML	AML	10 46 04.1	
	comp=N,16147μm,0.2s						
ARG	Arkhangelos	0.73	46	Pg	Pb	10 46 05.0	-0.9
ARG				Sg	Sb	10 46 15.3	-0.1
ARG	Arkhangelos	0.73	46	P	Pb	10 46 04.9	-0.9
ARG				S	Sb	10 46 15.2	-0.1
	comp=N,3μm,0.3s						
ARG	Arkhangelos	0.73	46	P	Pb	10 46 04.9	-0.9
ARG				S	Sb	10 46 14.9	-0.5
ARG				AML	AML	10 46 16.3	
	comp=N,4616μm,0.4s						
ARG				AML	AML	10 46 18.6	
	comp=E,5834μm,0.2s						
YAZI	Mula-Dat§a-	0.97	359	P	Pb	10 46 08.4	-1.5
YAZI				S	Sn	10 46 22.4	-0.8
DAT	Datca	1.02	5	Pg	Pb	10 46 09.5	-1.4
DAT				Sg	Sb	10 46 22.8	-1.1
DAT	Datca	1.02	5	P	Pb	10 46 09.5	-1.4
DAT				S	Sb	10 46 23.2	-0.7
DATC	Datca-Mugla	1.06	8	Pg	Pb	10 46 10.6	-0.8
DATC	Datca-Mugla	1.06	8	P	Pn	10 46 10.9	-0.4
DATC				S	Sn	10 46 25.5	+0.2
ZKR	Zakros	1.19	240	P	Pb	10 46 13.6	0.0
ZKR				S	Sn	10 46 29.7	+1.1
ZKR	Zakros	1.19	240	P	Pb	10 46 13.7	0.0
ZKR				S	Sn	10 46 29.2	+0.6
ZKR				AML	AML	10 46 37.3	
	comp=N,994μm,0.4s						
ZKR				AML	AML	10 46 37.7	
	comp=E,2348μm,0.4s						
TURN	Turunc	1.23	30	Pn	Pn	10 46 13.4	-0.3
TURN	Turunc	1.23	30	P	Pn	10 46 13.2	-0.5
TURN				S	Sn	10 46 31.9	+2.3
RFTAA	Mazikoy-Bodrum	1.30	9	Pn	Pn	10 46 13.8	-0.9
BDRM	Kayabasi	1.35	359	P	Pb	10 46 15.5	-1.0
BDRM				S	Sb	10 46 33.4	+0.1
BODT	Bodrum	1.35	354	Pn	Pb	10 46 15.7	-0.8
BODT	Bodrum	1.35	354	P	Pb	10 46 15.5	-1.0
BODT	Bodrum	1.35	354	P	Pb	10 46 15.8	-0.8
BODT				S	Sb	10 46 34.0	+0.6
YKAV	Yalikavak-Bodr	1.42	354	Pn	Pb	10 46 16.7	-0.9
DALY	Dalyan (Mula)	1.46	40	Pn	Pb	10 46 17.6	-0.6
YER	Yerkesik	1.56	24	Pn	Pb	10 46 18.9	-1.2
YER	Yerkesik	1.56	24	P	Pn	10 46 18.1	-0.2
YER				S	Sb	10 46 38.9	-0.5
YER	Yerkesik	1.56	24	P	Pb	10 46 18.9	-1.2
YER				S	Sb	10 46 40.8	+1.3
IZZE	Mula-Seydike	1.59	62	P	Pb	10 46 19.6	-0.9
IZZE				S	Sb	10 46 39.9	-0.3
FETY	Fethiye	1.59	54	Pn	Pb	10 46 20.1	-0.5
MLSB	Milas	1.60	9	Pn	Pb	10 46 19.4	-1.3
MLSB	Milas	1.60	9	P	Pn	10 46 19.1	+0.3
MLSB				S	Sn	10 46 38.7	-0.1
SABU	Mula-Dalaman	1.64	47	P	Pb	10 46 21.1	-0.3
SABU				S	Sb	10 46 41.9	+0.3
MULA	Mugla, Merkez-	1.69	24	P	Pb	10 46 21.6	-0.5
MULA				S	Sb	10 46 45.5	+2.5
DDIM	Aydin, Didim	1.75	354	P	Pb	10 46 23.0	-0.2
DDIM				S	Sb	10 46 48.6	+3.7
KSL	Kastellorizon	1.76	75	P	Pb	10 46 22.4	-1.1
KSL				AML	AML	10 46 47.1	
	comp=E,658μm,0.8s						
KSL				AML	AML	10 46 47.7	
	comp=N,269μm,0.5s						
CMBO	Columbo, Santo	1.84	295	P	Pn	10 46 21.9	-0.2
CMBO				S	Sn	10 46 42.8	-1.9
CAME	Cameli-Denizli	1.92	50	Pn	Pb	10 46 24.7	-1.5
GCAM	G?zelcaml?	2.00	354	Pn	Pn	10 46 24.9	+0.7
IACM	Heraklion	2.00	259	P	Pn	10 46 25.0	+0.7
KNIK	Mula-Seydike	2.04	56	P	Pb	10 46 26.6	-1.6
CAEL	Denizli, Camel	2.05	46	P	Pb	10 46 27.6	-0.8
CAEL				S	Sb	10 46 58.5	+5.0
SMG	Samos	2.06	346	P	Pn	10 46 25.2	+0.1
APE	Apeiranthos	2.08	311	Pn	Pn	10 46 24.7	-0.7
APE	Apeiranthos	2.08	311	P	Pn	10 46 24.7	-0.7
TAVA	DENIZLI_Tavas	2.10	33	P	Pb	10 46 27.9	-1.3
TAVA				S	Sb	10 46 54.6	-0.2
IDI	Anoyia	2.15	259	P	Pn	10 46 26.9	+0.5
IDI	Anoyia	2.15	259	P	Pn	10 46 26.6	+0.2
IDI				S	Sn	10 46 52.0	-0.5
ELL	Elmali	2.22	62	Pn	Pb	10 46 29.4	-1.9
ELL	Elmali	2.22	62	P	Pn	10 46 29.3	+1.8
ELL				S	Sb	10 46 59.1	+0.6
GOLH	Golhisar	2.27	47	P	Pb	10 46 30.2	-1.9
GOLH				S	Sb	10 47 05.2	+5.5
DNIZ	Denizli-Tavas-	2.29	33	P	Pn	10 46 28.6	+0.3
DNIZ				S	Sb	10 47 02.7	+2.4
APMY	Acipayam-Deniz	2.29	39	Pn	Pn	10 46 29.9	+1.6
INCE	Denizli-Bozkur	2.61	40	P	Pn	10 46 34.9	+2.1
INCE				S	Sb	10 47 10.9	+1.3
KORT	Korkueli	2.65	60	Pn	Pn	10 46 35.5	+2.1
KULA	Kula-Manisa	2.95	18	Pn	Pn	10 46 38.8	+1.3
BASM	Basmaki-Afyon	3.02	42	Pn	Pn	10 46 40.1	+1.7
VLI	Veliai	3.81	287	P	Pn	10 46 49.7	+0.6
BRTR	Keskin Array B	6.32	49	P	Pn	10 47 30.3	+6.6
	comp=N,0.5nm,0.3s,baz=247,slow=16,SNR=6.7						
	comp=N,1.0nm,0.4s						
MMAI	Mount Meron Ar	7.08	110	P	Pn	10 47 33.2	-1.0
	comp=N,1.9nm,0.3s,baz=308,slow=14,SNR=2.4						
MMAI				S	Sn	10 48 49.0	-5.1
	comp=N,0.8nm,0.3s,baz=297,slow=19,SNR=1.4						
	comp=N,1.3nm,0.3s						
TORD	Torodi Ar. Bea	32.31	232	P	P	10 52 19.7	+0.4
	comp=N,1.4nm,0.5s,baz=38,slow=9.2,SNR=18						
	comp=N,1.4nm,0.5s						
KURBB	Kurchatov Arra	39.30	51	P	P	10 53 19.2	+0.3
	comp=N,0.2nm,0.2s,baz=276,slow=8.8,SNR=2.4						
	comp=N,0.2nm,0.2s						
MKAR	Makanchi Array	41.89	57	P	P	10 53 40.3	-0.1
	comp=N,0.2nm,0.6s,baz=291,slow=6.8,SNR=2.7						
	comp=N,0.2nm,0.6s						

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*BJI **04** 10:46:08.8±0.0, 42°.81N×19°.73E, h5km, mb4.7/62, mB5.3/36, Ms5.0/33, Ms7 4.7/32*
*TIR **04** 10:46:09.8, 42°.63N×19°.82E, h24km±1km, Ml5.3*
*BGR **04** 10:46:09.2±0.9, 42°.38N×20°.43E, h10km, ML5.1/3, Error ellipse: s-maj=14.5km s-min=12.2km az=108.0*
*IDC **04** 10:46:09.2±0.4, 42°.62N×19°.86E, h0km, mb4.7/25, mbtmp4.7/44, ML4.2/18, MS4.4/76, Error ellipse: s-maj=7.7km s-min=7.1km az=2.0*
*RHSSO **04** 10:46:09.3±0.4, 42°.59N×20°.00E, h4km±1km, ML5.2/18*
*MOS **04** 10:46:09.9±0.9, 42°.67N×19°.85E, h12km, mb5.1/46, MS4.7/29, Error ellipse: s-maj=3.8km s-min=2.5km az=84.0*
*PDG **04** 10:46:10.3±0.3, 42°.64N×19°.87E, h12km±1km, MD5.1/11, ML5.0/11, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*MED_RC **04** 10:46:10.0±0.1, 42°.66N×19°.78E, h18km, MW5.2/81, Moment Tensor Solution. Body waves: s3,c3;Mantle waves: s81,c152; Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.22±.17; $M_{\theta\theta}$0.32±.13; $M_{\phi\phi}$4.89±.11; $M_{r\theta}$0.63±.26; $M_{\theta\phi}$3.85±.07; $M_{\phi r}$-3.29±.18; Best double couple: $M_0$7.14000×10^{16} NP1:ϕ_s8.00000°, δ61.00000°, λ-117.00000°. NP2:ϕ_s234.00000°, δ39.00000°, λ-52.00000°. Principal axes: T 7.6100, Plg12.0000°, Azm117.0000°; N -0.9400, Plg23.0000°, Azm22.0000°; P -6.6800, Plg64.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*SKO **04** 10:46:11.0, 42°.65N×19°.88E, h1km, ML5.1*
*NEIC **04** 10:46:11.7, 42°.66N×19°.86E, h16km*
*BGS **04** 10:46:11.6±2.7, 42°.66N×19°.84E, h10km, mb5.0*
*NEIC **04** 10:46:11.7, 42°.66N×19°.86E, h16km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.33; $M_{\theta\theta}$1.00; $M_{\phi\phi}$3.33; $M_{r\theta}$2.35; $M_{\theta\phi}$2.42; $M_{\phi r}$-2.38; Fault plane solution: $M_0$5.59000×10^{16} NP1:ϕ_s4.31000°, δ57.32000°, λ-125.35000°. NP2:ϕ_s237.03000°, δ46.64000°, λ-47.96000°. Principal axes: T 4.9334, Plg6.0000°, Azm119.0000°; N 1.3077, Plg29.0000°, Azm25.0000°; P -6.2410, Plg60.0000°, Azm219.0000°;*
*NEIC **04** 10:46:11.7±2.0, 42°.66N±0°.04×19°.86E±0°.05, h10km±1km, mb5.1/344, Mww5.1/37, ML5.4/4(BUC) Error ellipse: s-maj=8.1km s-min=5.2km az=318.0*
*BEO **04** 10:46:11.4±0.2, 42°.67N×19°.88E, h8km±2km, ML5.0/11*
*NAO **04** 10:46:12.5, 42°.67N×19°.88E, h10km, mb4.9*
*GCMT **04** 10:46:12.7±0.2, 42°.60N±0°.01×19°.82E±0°.01, h15km, MW5.2/114, Moment Tensor Solution. s74,c97; s114,c191; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.09±.18; $M_{\theta\theta}$0.78±.14; $M_{\phi\phi}$5.31±.14; $M_{r\theta}$-0.41±.26; $M_{\theta\phi}$3.26±.10; $M_{\phi r}$-3.64±.28; Best double couple: $M_0$7.52700×10^{16} NP1:ϕ_s16.00000°, δ60.00000°, λ-102.00000°. NP2:ϕ_s220.00000°, δ32.00000°, λ-70.00000°. Principal axes: T 7.8630, Plg14.0000°, Azm115.0000°; N -0.6730, Plg11.0000°, Azm23.0000°; P -7.1900, Plg72.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*THE **04** 10:46:12.2, 42°.61N×19°.99E, h0km±2km, ML4.9/5 Error ellipse: s-maj=3.4km s-min=1.5km az=315.0*
*BNS **04** 10:46:12.0±0.3, 42°.40N×19°.61E, h10km, ML5.3*
*ROM **04** 10:46:12.5, 42°.62N×19°.89E, h10km, mb5.2/41, Mwp5.3/16, Error ellipse: s-maj=1.5km s-min=0.2km az=33.0*
*AFAD **04** 10:46:13.0±0.0, 42°.82N×19°.83E, h35km, MW5.1*
*LDG **04** 10:46:13.7±0.1, 42°.67N×19°.88E, h7km, Ml5.2/34, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*PRU **04** 10:46:15.5, 43°.03N×18°.96E, h0km, M5.0*
ISC 04 10:46:11.4±0.5**, 42°.64N**±0°.01×**19°.84E**±0°.01**, h13**km±2km**, n1498,** σ1s61/1511**, mb5.0**/242**, MS4.6**/83**, 165C-59D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.10	117	⇓*i*Pg	Pg	10 46 12.7	-1.7
PVY				*i* Sg	Sg	10 46 14.8	-1.8
BEY	Berane	0.24	9	⇓*i*Pg	Pg	10 46 15.7	-0.8
IVA	Berane	0.24	9	⇓*i*Pg	Pg	10 46 15.5	-1.0
IVA				*i* Sg	Sg	10 46 20.1	+0.1
BCI	Bajram Curri	0.32	148	P	Pg	10 46 16.4	-1.5
	baz=144						
BCI				S	Sg	10 46 21.8	-0.5
	baz=144						
BCI				AMP			
	comp=E,2μm,0.3s,baz=144						
KOME	Kolasin	0.32	311	⇑*i*Pg	Pg	10 46 17.2	-0.8
KOME				*i* Sg	Sg	10 46 22.6	+0.2
SJES	Sjenica	0.63	9	*e*Pg	Pg	10 46 22.5	-1.2
SJES				*e*Sg	Sg	10 46 31.5	-0.6
SJES	Sjenica	0.63	9	*e*Pg	Pg	10 46 21.5	-2.2
SJES				*e*Sg	Sg	10 46 31.1	-1.0
DRME	Dracevica, Mon	0.66	227	⇑*i*Pg	Pg	10 46 22.4	-1.9
DRME				*e*Sg	Sg	10 46 33.0	-0.1
NKME	Niksic	0.67	281	⇑*i*Pg	Pg	10 46 22.9	-1.5
NKME				*i* Sg	Sg	10 46 33.2	0.0
CEME	Cevo	0.69	263	⇓*i*Pg	Pg	10 46 23.2	-1.6
CEME				*i* Sg	Sb	10 46 34.4	-0.4
PLE	Pljevlja	0.77	334	⇑*i*Pg	Pg	10 46 25.0	-1.3
PLE				*i* Sg	Sg	10 46 35.7	-0.7
BUM	Brajici-Budva	0.78	245	⇑*i*Pg	Pg	10 46 24.8	-1.7
BUM				*i* Sg	Sb	10 46 37.9	+0.5
ULC	Ulcinj	0.81	214	⇓*i*Pg	Pg	10 46 26.2	-0.8
ULC				*i* Sg	Sb	10 46 38.3	+0.2
ULC	Ulcinj	0.81	214	⇓*i*Pg	Pg	10 46 26.2	-0.8
UPM	Unac-Piva	0.89	310	⇑*i*Pg	Pg	10 46 27.5	-1.1
UPM				*i* Sg	Sb	10 46 41.7	+1.0
UPM	Unac-Piva	0.89	310	⇑*i*Pg	Pg	10 46 27.5	-1.1
UPM				*e*Sg	Sn	10 46 41.9	-0.8
IVAS	Ivanjica	0.96	14	*e*Pg	Pg	10 46 28.2	-1.8
IVAS				*e*Sg	Sg	10 46 40.1	-2.5
BRY	Bratogost	0.99	286	⇑*i*Pg	Pb	10 46 28.6	-2.0
BRY				*i* Sg	Sn	10 46 45.2	0.0
BRY	Bratogost	0.99	286	⇑*i*Pg	Pb	10 46 28.6	-2.0
BRY				*e*Sg	Sn	10 46 45.1	-0.1
HCY	Herceg Novi	1.01	260	⇑*i*Pg	Pb	10 46 29.0	-1.8
HCY				*i* Sg	Sn	10 46 45.9	+0.4
HCY	Herceg Novi	1.01	260	⇑*i*Pg	Pb	10 46 29.0	-1.8
HCY				*e*Sg	Sn	10 46 45.5	0.0
RUDO	Rudo	1.04	341	*e*Pg	Pb	10 46 28.8	-2.5
RUDO				*e*Sg	Sb	10 46 42.6	-2.2
RUDO	Rudo	1.04	341	*e*Pg	Pb	10 46 28.8	-2.5
RUDO				*e*Sg	Sn	10 46 45.6	-0.5
PHP	Peshkopia	1.05	155	P	Pb	10 46 29.8	-1.7
	baz=153						
PHP				S	Sg	10 46 45.3	-0.1
	baz=153						
PHP				AMP			
	comp=N,238nm,0.6s,baz=153						
PHP	Peshkopia	1.05	155	P	Pb	10 46 29.1	-2.4
PHP				S	Sb	10 46 44.8	-0.4
KLINJ	Klinje	1.06	300	*e*Pg	Pb	10 46 30.0	-1.8
KLINJ				*e*Sg	Sn	10 46 47.5	+0.6
SELS	Selova	1.10	58	*e*Pg	Pb	10 46 30.4	-2.0
SELS				*e*Sg	Sb	10 46 44.6	-2.1
TREB	Trebinje	1.10	275	*e*Pg	Pb	10 46 30.8	-1.5
TREB				*e*Sg	Sn	10 46 47.4	-0.3
TREB	Trebinje	1.10	275	*e*Pg	Pb	10 46 30.4	-1.9
TREB				*e*Sg	Sn	10 46 48.0	+0.3
DBRK	Dubrovnik	1.25	272	*e*Pn	Pn	10 46 34.5	-0.1
DBRK				Sn	Sg	10 46 53.9	+2.2
BBLS	Lazići	1.27	346	*e*Pg	Pn	10 46 33.8	-1.1
BBLS				*e*Sg	Sg	10 46 52.7	+0.4
BBLS	Lazići	1.27	346	⇑*i*Pg	Pn	10 46 33.8	-1.1
BBLS				*e*Sg	Sg	10 46 52.3	0.0
TIR	Tirane	1.29	179	⇑P	Pn	10 46 35.0	-0.1
TIR				⇓S	Sg	10 46 54.4	+1.5
TIR	Tirane	1.29	179		Pn	10 46 34.6	-0.5
TIR	Tirane	1.29	179	P	Pn	10 46 34.7	-0.5
	baz=178						
TIR				S	Sn	10 46 52.5	+0.2
	baz=178						
TIR				AMP			
	comp=N,92nm,0.8s,baz=178						
TIR	Tirane	1.29	179	P	Pn	10 46 34.9	-0.2
TIR				S	Sg	10 46 54.5	+1.5
	comp=N,28μm,0.6s						
TIR	Tirane	1.29	179	*e*Pg	Pn	10 46 35.0	-0.1
TIR				*e*Sg	Sg	10 46 54.7	+1.7
TIR	Tirane	1.29	179	⇑P	Pn	10 46 34.1	-1.0
TIR	Tirane	1.29	179	P	Pn	10 46 34.2	-1.0
SKO	Skopje	1.36	119	*e*Pg	Pn	10 46 36.0	-0.1
SKO	Skopje	1.36	119	P	Pn	10 46 36.0	-0.1
SKO				S	Sg	10 46 55.5	+0.3
SKO	Skopje	1.36	119	⇓*i*Pg	Pn	10 46 35.1	-1.0
SKO				*i* Sg	Sg	10 46 55.5	+0.3
GRUS	Gruza	1.40	27	*e*Pg	Pn	10 46 36.7	0.0
GRUS				*e*Sg	Sb	10 46 55.8	+0.5
NEVS	Nevesinje	1.44	298	*e*Pn	Pn	10 46 37.3	+0.1
NEVS				*e*Sn	Sg	10 46 58.4	+0.7
BARS	Barje	1.47	82	*e*Pg	Pn	10 46 37.0	-0.6
BARS				*e*Sg	Sb	10 46 57.2	+0.1
BARS	Barje	1.47	82	⇑*i*Pg	Pn	10 46 37.6	0.0
BARS				*i* Sg	Sb	10 46 57.4	+0.3
HAPS	Han Pijesak,Bl	1.59	336	*e*Pg	Pn	10 46 40.0	+0.7
HAPS	Han Pijesak,Bl	1.59	336	⇑*i*Pn	Pn	10 46 39.7	+0.4
HAPS				*e*Sn	Sg	10 47 01.6	-0.9
STON	Ston	1.59	279	*e*Pn	Pn	10 46 40.0	+0.7
STON	Ston	1.59	279	*e*Pn	Pn	10 46 39.0	-0.3
STON				Sn	Sg	10 47 03.0	+0.3
STON	Ston	1.59	279	⇑*i*Pn	Pn	10 46 39.5	+0.2
STON				*e*Sn	Sg	10 47 02.8	+0.1
TRUS	Trudelj	1.64	14	*e*Pg	Pn	10 46 40.5	+0.6
TRUS				*e*Sg	Sg	10 47 03.2	-0.9
PRVS	Prvonek	1.66	94	*e*Pg	Pn	10 46 40.2	0.0
PRVS				*e*Sg	Sg	10 47 04.3	-0.3
OHR	Ohrid	1.69	155	*e*Pg	Pn	10 46 41.3	+0.6
OHR	Ohrid	1.69	155	⇓*i*Pn	Pn	10 46 41.2	+0.6
OHR				*i* Sg	Sg	10 47 06.4	+0.8
OHR				*e*Lg	Lg	10 47 08.5	
	comp=E,31μm,0.6s						
OHR				*e*Lg	Lg	10 47 10.7	
	comp=N,28μm,0.6s						
BOVS	Bovan	1.69	53	⇑P	Pn	10 46 39.8	-0.9
BOVS				⇑S	Sb	10 47 03.5	0.0
BOVS	Bovan	1.69	53		Pn	10 46 39.8	-0.9
BOVS					Sb	10 47 03.5	0.0
BOVS	Bovan	1.69	53	*e*Pg	Pn	10 46 39.7	-0.9
BOVS				*e*Sg	Sb	10 47 03.6	+0.1
SVIS	Svilajnac	1.91	31	*e*Pn	Pn	10 46 44.2	+0.6
SVIS				*e*Sg	Sg	10 47 11.4	-1.4
TEKS	Tekeris	1.92	353	*e*Pn	Pn	10 46 44.0	+0.1
TEKS				*e*Lg	Lg	10 47 12.7	
TEKS	Tekeris	1.92	353	⇑*i*Pn	Pn	10 46 43.6	-0.3
TEKS				*e*Sn	Sb	10 47 09.2	-1.1

BOSS Bosilegrad 1.95 93 *e*Pn Pn 10 46 44.0 -0.3
BOSS *e*Sg Sb 10 47 11.9 +0.8
STIP Stip 1.98 118 *i* Pn Pn 10 46 45.5 +0.9
STIP *e*Sg Sg 10 47 15.7 +0.7
ZAGS Zajecar 2.10 55 *e*Pn Pn 10 46 45.8 -0.5
ZAGS *e*Sg Sb 10 47 16.9 +1.4
KBN Korca 2.13 160 Pb 10 46 48.4 -1.6
KBN Korca 2.13 160 P Pb 10 46 48.4 -1.6
baz=159
KBN S Sb 10 47 16.2 -0.2
baz=159
KBN AMP
comp=E,61nm,0.7s,baz=159
KBN Korca 2.13 160 P Pb 10 46 48.4 -1.6
KBN S Sb 10 47 15.5 -0.9
comp=E,22µm,0.9s
KBN Korca 2.13 160 P Pb 10 46 48.4 -1.6
ZAPS Zavoj 2.15 72 *e*Pn Pn 10 46 47.0 +0.1
ZAPS *e*Sg Sg 10 47 19.8 -0.5
RICI Ricice 2.16 294 *e*Pn Pb 10 46 49.2 -1.2
RICI Sn Sb 10 47 17.0 -0.1
LSTV Lastovo 2.18 274 *i* Pn Pn 10 46 49.0 +1.6
LSTV Sn Sb 10 47 17.4 -0.2
FNA Florina 2.18 148 Pn 10 46 48.6 +1.2
FNA Florina 2.18 148 P Pn 10 46 47.6 +0.2
baz=147
FNA S Sn 10 47 15.6 +1.3
baz=147
FNA AMP
comp=E,41nm,0.5s,baz=147
FNA Florina 2.18 148 P Pn 10 46 48.5 +1.1
FNA S Sb 10 47 16.5 -1.2
comp=E,26µm,0.8s
FNA Florina 2.18 148 P Pn 10 46 48.5 +1.1
FNA S Sb 10 47 16.8 -0.9
FNA Florina 2.18 148 *e*Pn Pn 10 46 48.6 +1.2
FNA Florina 2.18 148 ⇑P Pn 10 46 48.4 +0.9
FNA Florina 2.18 148 P Pn 10 46 47.6 +0.2
FNA S Sn 10 47 15.6 +1.3
FNA Florina 2.18 148 ⇑*i*Pn Pn 10 46 48.6 +1.2
FNA *i* Sg Sb 10 47 18.7 +1.0
BLJ Bijeljina 2.18 349 *e*Pn Pn 10 46 47.2 -0.2
BLJ *e*Sn Sn 10 47 14.8 +0.5
VLO Vlora 2.18 187 Pb 10 46 49.2 -1.6
VLO Vlora 2.18 187 P Pb 10 46 49.9 -0.8
baz=187
VLO S Sb 10 47 18.8 +1.1
baz=187
VLO AMP
comp=E,111nm,0.8s,baz=187
VLO Vlora 2.18 187 P Pb 10 46 49.3 -1.5
VLO S Sb 10 47 17.6 -0.1
comp=E,29µm,0.8s
VLO Vlora 2.18 187 P Pb 10 46 49.2 -1.6
BEO Beograd 2.22 12 *e*Pn Pn 10 46 47.3 -0.6
BEO *e*Sg Sb 10 47 20.2 +1.5
KUBS Kucevo 2.22 36 *e*Pn Pn 10 46 46.7 -1.2
KUBS *e*Sg Sb 10 47 20.2 +1.5
BLKB Belogradchik 2.29 64 ⇑P Pn 10 46 49.4 +0.3
BLKB Belogradchik 2.29 64 Pn 10 46 49.4 +0.3
NEST Nestorio 2.40 157 P Pn 10 46 52.3 +1.8
NEST S Sn 10 47 21.3 +1.5
comp=E,11µm,1.0s
VAY Valandovo 2.42 122 *e*Pn Pn 10 46 50.6 -0.1
VAY Valandovo 2.42 122 ⇑*i*Pn Pn 10 46 50.7 -0.1
VAY *i* Sg Sg 10 47 27.1 -2.1
VAY *e*Lg Lg 10 47 32.8
comp=N,9µm,1.1s
VAY *e*Lg Lg 10 47 33.3
comp=E,2µm,0.5s
PEHC Pehcevo 2.43 110 ⇑*i*Pn Pn 10 46 51.1 +0.2
DOB Doboj 2.44 329 *e*Pn Pn 10 46 51.9 +0.9
DOB *e*Sn Sn 10 47 22.8 +2.0
FRGS Fruska Gora 2.52 359 ⇑P Pn 10 46 53.1 +1.1
FRGS Fruska Gora 2.52 359 *e*Pn Pn 10 46 52.1 0.0
FRGS *e*Sg Sb 10 47 29.0 +1.6
FRGS Fruska Gora 2.52 359 ⇑*i*Pn Pn 10 46 51.7 -0.4
FRGS *e*Sn Sn 10 47 23.5 +0.9
MDVR Moldovita 2.54 32 ⇑P Pn 10 46 52.4 +0.1
GRG Griva 2.55 130 P Pn 10 46 52.9 +0.4
GRG Griva 2.55 130 P Pn 10 46 52.9 +0.4
GRG S Sn 10 47 24.4 +1.1
GRG Griva 2.55 130 ⇑*i*Pn Pn 10 46 52.9 +0.4
GRG *e*Sn Sn 10 47 24.5 +1.1
HVAR Hvar 2.55 283 *e*Pn Pn 10 46 54.6 +2.2
HVAR Sn Sb 10 47 26.1 -2.2
LSK Leskovik 2.55 167 P Pn 10 46 54.5 +1.9
baz=166
LSK S Sb 10 47 26.2 -2.2
baz=166
LSK AMP
comp=E,104nm,1.0s,baz=166
KKB Krupnik 2.57 107 ⇑*i*Pn Pn 10 46 52.9 +0.2
MGRS Mrkonjic Grad 2.68 312 *e*Pn Pn 10 46 54.4 +0.1
MGRS *e*Sn Sn 10 47 28.7 +2.1
KNT Kendrikon 2.72 122 P Pn 10 46 54.7 -0.1
KNT Kendrikon 2.72 122 ⇑*i*Pn Pn 10 46 54.9 +0.1
SRN Sarande 2.76 177 P Pn 10 46 57.2 +1.9
baz=177
SRN S Sb 10 47 31.7 -2.6
baz=177
SRN Sarande 2.76 177 P Pn 10 46 56.9 +1.6
SCTE Santa Cesarea 2.77 202 Pn 10 46 55.9 +0.5
SCTE Santa Cesarea 2.77 202 P Pn 10 46 55.7 +0.3
baz=203
SCTE S Sn 10 47 30.8 +2.2
baz=203
NOCI Noci 2.78 229 P Pn 10 46 56.5 +0.8
baz=230
NOCI S Sn 10 47 30.5 +1.4
baz=230
PUNG Punghina 2.78 53 ⇓P Pn 10 46 56.2 +0.5
DJES Djerdap 2.81 43 ⇑P Pn 10 46 56.5 +0.4
DJES Djerdap 2.81 43 Pn 10 46 55.9 -0.1
DJES Djerdap 2.81 43 *e*Pn Pn 10 46 56.4 +0.4
DJES *e*Sg Sg 10 47 39.0 -2.6
BLY Banja Luka 2.86 318 *e*Pn Pn 10 46 58.6 +1.9
BLY Banja Luka 2.86 318 ⇑*i*Pn Pn 10 46 57.7 +1.0
BLY *e*Sn Sn 10 47 33.8 +2.8
RMGR Halanga-Turnu 2.89 45 ⇑P Pn 10 46 58.0 +0.8
RMGR Halanga-Turnu 2.89 45 Pn 10 46 58.0 +0.8
BANR Banloc 2.90 18 ⇓P Pn 10 46 57.8 +0.6
HERR Herculane 2.92 39 ⇓P Pn 10 46 57.3 -0.2
KPRO Kipourio 2.92 156 P Pn 10 46 59.2 +1.6
KEK Kerkira 2.92 181 Pn 10 46 57.9 +0.3
KEK Kerkira 2.92 181 ⇓P Pn 10 46 57.4 -0.2
A052A Srbac 2.98 326 *e*Pn Pn 10 46 58.7 +0.3
A050A Klekovaca 3.03 309 ⇑*i*Pn Pn 10 47 00.2 +1.1
A050A *e*Sn Sn 10 47 37.8 +2.4
MATE Matera 3.08 231 ⇑P Pn 10 47 00.7 +1.0
MATE Matera 3.08 231 Pn 10 47 00.7 +1.0
MATE Matera 3.08 231 ⇑P Pn 10 47 00.1 +0.3
THE Thessaloniki 3.08 130 P Pn 10 46 59.8 +0.1
baz=129
THE Thessaloniki 3.08 130 P Pn 10 46 59.5 -0.3
THE Thessaloniki 3.08 130 ⇑*i*Pn Pn 10 46 59.8 +0.1
MMB Musomishta 3.11 109 ⇑*i*Pn Pn 10 47 00.3 +0.1
MMB *i* Sg Sb 10 47 46.9 +2.6
IGT Igoumenitsa 3.13 173 P Pn 10 47 02.1 +1.8
baz=172
IGT S Sb 10 47 41.8 -3.1
baz=172
IGT Igoumenitsa 3.13 173 *e*Pn Pn 10 47 02.2 +1.8
MRVN Minervino Murg 3.15 241 ⇓P Pn 10 47 01.2 +0.5
SRE Strehaia 3.17 49 ⇑P Pn 10 47 01.7 +0.7
SRE Strehaia 3.17 49 P Pn 10 47 01.4 +0.4
SGRT San Giovanni R 3.17 255 Pn Pn 10 47 02.1 +1.1
SGRT San Giovanni R 3.17 255 P Pn 10 47 02.1 +1.1
baz=256
SGRT S Sn 10 47 42.4 +3.5
baz=256
HORT Hortiatis 3.18 129 P Pn 10 47 01.3 +0.1
A051A Mrakovica 3.18 319 ⇑*i*Pn Pn 10 47 01.8 +0.5
A051A *e*Sn Sn 10 47 40.7 +1.6
SRS Serrai 3.19 117 P Pn 10 47 01.5 +0.2
SRS Serrai 3.19 117 *e*Pn Pn 10 47 01.4 +0.2
SRS Serrai 3.19 117 P Pn 10 47 01.5 +0.2
SRS Serrai 3.19 117 ⇑*i*Pn Pn 10 47 01.5 +0.2
SOH Sokhos 3.19 123 P Pn 10 47 01.6 +0.2
SOH Sokhos 3.19 123 P Pn 10 47 01.6 +0.2
SOH S Sb 10 47 43.4 -3.5
SOH Sokhos 3.19 123 ⇑*i*Pn Pn 10 47 01.5 +0.2
SOH *i* Sn Sb 10 47 43.4 -3.5
BZS Buzias 3.24 23 ⇓P Pn 10 47 02.4 +0.5
BZS Buzias 3.24 23 ⇑P Pn 10 47 01.2 -0.7
BZS Buzias 3.24 23 P Pn 10 47 01.3 -0.7
PRIJ Prijedor 3.25 317 *e*Pn Pn 10 47 03.2 +1.1
PRIJ *e*Sn Sn 10 47 42.5 +1.8
NVR Nevrokopi 3.26 112 P Pn 10 47 03.5 +1.2
TYRN Tyrnavos 3.44 148 P Pn 10 47 05.7 +1.1
GZR Gura Zlata 3.47 37 ⇑P Pn 10 47 05.2 0.0
THL Klokotos Trika 3.48 151 P Pn 10 47 06.1 +0.8
SURR Surduc 3.52 27 ⇑P Pn 10 47 05.4 -0.4
SURR Surduc 3.52 27 Pn 10 47 05.3 -0.4
PLVB Pleven 3.58 76 ⇑P Pn 10 47 08.1 +1.5
PLVB Pleven 3.58 76 Pn 10 47 08.1 +1.5
VLAD Vladila 3.59 66 ⇑P Pn 10 47 07.6 +0.8
KOKK Kokkinochori, 3.60 119 P Pn 10 47 07.2 +0.2
KOVH Kovagotottos 3.67 341 ⇑P Pn 10 47 07.6 -0.2
MORH Mrgy, Hungar 3.68 347 ⇓P Pn 10 47 08.2 +0.2
MORH Mrgy, Hungar 3.68 347 *e*Pn Pn 10 47 07.5 -0.4
MORH *e*Sn Sn 10 47 51.0 -0.1
AMBH Ambrzfalva 3.76 9 ⇑P Pn 10 47 09.3 +0.2
SIRR Siria 3.85 19 ⇑P Pn 10 47 10.5 +0.1
KAVA Kavala 3.86 114 P Pn 10 47 10.8 +0.4
OUR Ouranopolis 3.87 125 P Pn 10 47 11.0 +0.4
LKD2 Lefkada island 3.90 171 P Pn 10 47 12.2 +1.3
baz=170
LKD2 Lefkada island 3.90 171 P Pn 10 47 11.8 +0.8
DEV Deva 3.92 33 ⇑P Pn 10 47 11.5 +0.2
DEV Deva 3.92 33 P Pn 10 47 11.5 +0.2
PAIG Paliouri 3.96 132 P Pn 10 47 12.3 +0.4
LOT Lotru 3.99 44 ⇓P Pn 10 47 12.4 +0.1
RMVG GOVORA 4.01 52 ⇑P Pn 10 47 14.0 +1.5
RMVG GOVORA 4.01 52 Pn 10 47 14.0 +1.5
CUC Castrocucco 4.02 230 Pn 10 47 14.4 +1.6
CUC Castrocucco 4.02 230 ⇑P Pn 10 47 14.4 +1.6
AGG Agios Georgios 4.08 152 Pn Pn 10 47 14.7 +1.2
AGG Agios Georgios 4.08 152 P Pn 10 47 14.6 +1.2
AGG Agios Georgios 4.08 152 P Pn 10 47 14.7 +1.2
AGG Agios Georgios 4.08 152 ⇑P Pn 10 47 12.7 -0.8
AGG Agios Georgios 4.08 152 P Pn 10 47 14.7 +1.2
THAS Thassos island 4.18 117 P Pn 10 47 14.8 -0.1
HUMR Humele 4.18 61 ⇑P Pn 10 47 15.2 +0.3
COPA Copaceanca 4.19 67 ⇑P Pn 10 47 15.6 +0.6
STFAR Stefanesti-Arg 4.32 57 ⇑P Pn 10 47 18.2 +1.3
STFAR Stefanesti-Arg 4.32 57 Pn 10 47 18.2 +1.3
BOJS Bojanci 4.38 312 *i* Pn Pn 10 47 19.1 +1.6
BOJS *e* 10 47 28.5
BOJS *e*Sn Sn 10 48 09.6 +1.3
BOJS *e* 10 48 38.0
BOJS IAML 10 48 55.0
comp=Z,12µm,1.5s
BOJS Bojanci 4.38 312 *e*Pn Pn 10 47 18.1 +0.6
BOJS *e*Sn Sn 10 48 09.0 +0.6
ARR Arges 4.40 50 ⇑P Pn 10 47 18.4 +0.4
BEHE Becsehely 4.41 331 ⇑*i*Pn Pn 10 47 18.6 +0.5
BEHE *e*Sn Sn 10 48 10.2 +0.9
INTR Introdacqua 4.45 264 Pn 10 47 20.8 +2.2
ELND Elena 4.45 84 ⇓P Pn 10 47 19.2 +0.7
ELND Elena 4.45 84 Pn 10 47 19.2 +0.7
CRES Cresnjev 4.48 317 ⇑*i*Pn Pn 10 47 19.4 +0.4
CRES *e*Sn Sn 10 48 11.6 +0.6
RDO Rodhopi 4.50 107 Pn Pn 10 47 19.3 0.0
RDO Rodhopi 4.50 107 ⇑P Pn 10 47 19.6 +0.3
MTUR Matau 4.57 54 ⇓P Pn 10 47 21.2 +0.9
MTUR Matau 4.57 54 Pn 10 47 21.2 +0.9
MTUR Matau 4.57 54 P Pn 10 47 21.2 +0.9
BORR Bors 4.66 17 ⇑P Pn 10 47 22.1 +0.7
BORR Bors 4.66 17 Pn 10 47 22.1 +0.7
MARR Marisel-Cluj 4.66 29 ⇑P Pn 10 47 21.4 -0.2
MARR Marisel-Cluj 4.66 29 Pn 10 47 21.4 -0.2
BSZH Besenyszg 4.67 4 ⇑P Pn 10 47 22.8 +1.3
VOIR 4.68 52 ⇑P Pn 10 47 21.7 -0.1
VOIR 4.68 52 P Pn 10 47 21.7 -0.1
SGRR Singureni 4.74 68 ⇑P Pn 10 47 23.0 +0.5
CIOR Ciorogarla 4.75 66 ⇑P Pn 10 47 23.6 +1.0
CIOR Ciorogarla 4.75 66 Pn 10 47 23.6 +1.0
CAMP Campotosto 4.75 271 Pn 10 47 24.9 +2.1
MDB Medias 4.78 41 ⇑P Pn 10 47 25.4 +2.3
MDB Medias 4.78 41 Pn 10 47 25.4 +2.3
MDB Medias 4.78 41 P Pn 10 47 25.3 +2.3
GUMA Gualdo di Mace 4.80 277 Pn 10 47 24.9 +1.4
BUC1 Bucharest 4.81 67 ⇑P Pn 10 47 24.1 +0.5
BUC1 Bucharest 4.81 67 Pn 10 47 24.1 +0.5
BUC1 Bucharest 4.81 67 P Pn 10 47 24.0 +0.5
CJR Cluj-Napoca 4.88 32 ⇑P Pn 10 47 25.6 +1.2
CJR Cluj-Napoca 4.88 32 P Pn 10 47 25.6 +1.2
INCR INCERC-Sediu C 4.93 66 ⇓P Pn 10 47 26.1 +0.9
INCR INCERC-Sediu C 4.93 66 Pn 10 47 26.1 +0.9
ALN Alexandroupoli 4.96 108 Pn Pn 10 47 25.8 +0.3
ALN Alexandroupoli 4.96 108 P Pn 10 47 25.9 +0.4
ALN Alexandroupoli 4.96 108 ⇑P Pn 10 47 25.8 +0.3
ALN Alexandroupoli 4.96 108 P Pn 10 47 25.8 +0.3
NRCA Norcia 4.96 275 Pn 10 47 27.6 +2.0
LTVH Ltavrtes, Hu 4.96 16 ⇑P Pn 10 47 27.0 +1.4
LTVH Ltavrtes, Hu 4.96 16 ⇑P Pn 10 47 26.9 +1.3
RAZG Razgrad 4.97 77 ⇑P Pn 10 47 25.6 -0.1
RAZG Razgrad 4.97 77 Pn 10 47 25.6 -0.1
CEY Cerknica 4.98 310 ⇑*i*Pn Pn 10 47 26.4 +0.6
CEY *e*Sn Sn 10 48 24.0 +0.8
FDMO Fiordimonte 4.98 277 Pn 10 47 27.5 +1.6
LOZB Loznitsa 5.00 79 ⇑P Pn 10 47 26.7 +0.5
LOZB Loznitsa 5.00 79 Pn 10 47 26.7 +0.5
MESR Meseseni 5.02 25 ⇑P Pn 10 47 27.7 +1.3
MESR Meseseni 5.02 25 Pn 10 47 27.7 +1.3
SULR 5.08 64 ⇑P Pn 10 47 28.5 +1.3
SKDS Skadanscina 5.11 307 ⇑*i*Pn Pn 10 47 28.2 +0.6
SKDS *e*Sn Sn 10 48 26.0 -0.4
CAVK Edirne/Enez-Ca 5.12 110 P Pn 10 47 27.0 -0.8
TGMR Targu Mures 5.13 39 ⇑P Pn 10 47 29.5 +1.6
TGMR Targu Mures 5.13 39 Pn 10 47 29.5 +1.6
EDRB Edirne 5.18 96 P Pn 10 47 28.4 -0.3
DOPR Dopca 5.19 48 ⇑P Pn 10 47 29.3 +0.6
GOAD anakkale-G¶ 5.19 116 P Pn 10 47 28.7 -0.1
MLR Muntele Rosu 5.24 55 ⇑P Pn 10 47 30.6 +1.0
MLR Muntele Rosu 5.24 55 Pn Pn 10 47 30.4 +0.9
comp=Z,13nm,0.3s,baz=232,slow=2.3,SNR=39
MLR Sn Sn 10 48 32.8 +2.9
comp=Z,16nm,0.3s,baz=346,slow=14,SNR=3.7
MLR Lg Lg 10 48 57.6
comp=Z,11nm,0.3s,baz=116,slow=23,SNR=3.2
comp=Z,30nm,0.4s
PSZ Piszkesteto 5.28 0 ⇑P Pn 10 47 31.1 +1.0
PSZ Piszkesteto 5.28 0 Pn 10 47 30.0 0.0
PSZ Piszkesteto 5.28 0 Pn 10 47 31.1 +1.0
PSZ Piszkesteto 5.28 0 ⇑P Pn 10 47 30.1 +0.1
PSZ Piszkesteto 5.28 0 P Pn 10 47 31.1 +1.0
SRO Srobarova 5.29 349 *e*P Pn 10 47 30.8 +0.8
SRO *e* 10 48 31.1
SRO Srobarova 5.29 349 *e*PN Pn 10 47 30.8 +0.8
SRO *e*SN Sn 10 48 31.1 +0.3
UKOP Uzunkopru-Edir 5.29 104 P Pn 10 47 31.2 +1.1
SOKA Soboth 5.30 321 *i* Pn Pn 10 47 31.2 +0.9
comp=Z,20nm,0.5s,SNR=69
CEL Celeste 5.31 216 Pn 10 47 30.5 0.0
CEL Celeste 5.31 216 ⇑P Pn 10 47 30.7 +0.3
CESX Cesi 5.36 272 Pn 10 47 33.4 +2.4
ERIK Erikli-Kesan 5.37 109 P Pn 10 47 31.7 +0.5
BOSR Bodos 5.40 49 ⇑P Pn 10 47 32.3 +0.6
OBKA Obir 5.41 317 *i* Pn Pn 10 47 33.0 +1.2
comp=Z,93nm,0.4s
OBKA Obir 5.41 317 *e*Pn Pn 10 47 33.2 +1.4
SNR=88
OBKA Obir 5.41 317 ⇑*i*Pn Pn 10 47 32.1 +0.3
OBKA *e*Sn Sn 10 48 33.5 -0.5
NEHR Nehoiu 5.42 57 ⇑P Pn 10 47 33.1 +1.1
NEHR Nehoiu 5.42 57 Pn 10 47 33.1 +1.1
ECEA Canakkale, Ece 5.42 116 P Pn 10 47 32.3 +0.3
ISR Istrita 5.44 61 ⇑P Pn 10 47 33.1 +0.8
ISR Istrita 5.44 61 P Pn 10 47 33.0 +0.8
KIRK Kırklareli 5.46 97 P Pn 10 47 31.2 -1.2
ARCR ARCALIA 5.48 34 ⇑P Pn 10 47 33.8 +1.0
ARCR ARCALIA 5.48 34 Pn 10 47 33.8 +1.0
OZUR 5.49 49 ⇑P Pn 10 47 33.4 +0.5
SOP Sopron 5.55 336 P Pn 10 47 34.1 +0.4
COVR Voineasa-Covas 5.58 53 ⇑P Pn 10 47 35.1 +1.0
COVR Voineasa-Covas 5.58 53 Pn 10 47 35.1 +1.0
TURR Turia 5.59 50 ⇑P Pn 10 47 34.4 +0.1
EZN Ezine 5.64 118 P Pn 10 47 34.5 -0.4
PGOR Pogoanele 5.65 64 ⇑P Pn 10 47 36.4 +1.4
PGOR Pogoanele 5.65 64 Pn 10 47 36.4 +1.4
RONA Rosalia, Austr 5.65 335 *i* Pn Pn 10 47 35.7 +0.6
comp=Z,61nm,0.3s,SNR=44
RONA *i* Sn Sn 10 48 38.3 -1.5
comp=Z,175nm,0.5s
BMR Baia Mare 5.66 26 ⇑P Pn 10 47 36.2 +1.0
BMR Baia Mare 5.66 26 P Pn 10 47 36.1 +1.0
MGAB Montegabbione 5.70 275 ⇑P Pn 10 47 37.7 +2.0
KOCA Canakkale, Ayv 5.70 121 P Pn 10 47 37.2 +1.5
BISRR Bisoca 5.74 57 ⇑P Pn 10 47 37.6 +1.2
AMRR Amara 5.79 68 ⇑P Pn 10 47 37.3 +0.4
AMRR Amara 5.79 68 P Pn 10 47 37.3 +0.4
BAYC CANAKKALE_Bayr 5.83 118 P Pn 10 47 38.3 +0.8
GRER 5.83 60 ⇓P Pn 10 47 38.8 +1.3
GRER 5.83 60 Pn 10 47 38.8 +1.3
RKY Sarkoy-Tekirda 5.83 107 P Pn 10 47 39.2 +1.6
SART Tekirdag 5.83 107 P Pn 10 47 38.3 +0.7
PLOR Plostina 5.85 54 ⇓P Pn 10 47 38.0 +0.1
PLOR Plostina 5.85 54 P Pn 10 47 38.2 +0.4
KECS Kecovo 5.86 4 *e*P Pn 10 47 39.0 +1.0
KECS *e* 10 48 43.3
KECS Kecovo 5.86 4 *e*PN Pn 10 47 39.0 +1.0
KECS *e*SN Sn 10 48 43.3 -1.7
ZST Bratislava 5.88 342 *e*P Pn 10 47 38.8 +0.6
ZST *e* 10 48 43.1
ZST Bratislava 5.88 342 *e*PN Pn 10 47 38.8 +0.6
ZST *e*SN Sn 10 48 43.1 -2.4
VYHS Vyhne 5.90 353 *e*P Pn 10 47 38.7 +0.2
VYHS *e* 10 48 46.6
VYHS Vyhne 5.90 353 *e*PN Pn 10 47 38.7 +0.2
VYHS *e*SN Sn 10 48 46.6 +0.7
VRI Vrincioaia 5.90 55 ⇑P Pn 10 47 39.0 +0.4
VRI Vrincioaia 5.90 55 P Pn 10 47 39.1 +0.5
MYKA Terra Mystica 5.96 314 *i* Pn Pn 10 47 41.7 +2.4
comp=Z,25nm,0.4s,SNR=26
PTCC Patocco-Chiusa 5.97 311 ⇑P Pn 10 47 41.6 +2.1
ICOR Ion Corvin 5.99 73 ⇑P Pn 10 47 40.1 +0.5
CONA Conrad Observa 5.99 333 *i* Pn Pn 10 47 40.3 +0.6
comp=Z,19nm,0.3s,SNR=22
CONA *e*Sn Sn 10 48 46.9 -1.3
comp=Z,232nm,0.6s
MODS Modra-Piesok 6.01 343 *e*P Pn 10 47 40.2 +0.2
MODS *e* 10 48 47.2
MODS Modra-Piesok 6.01 343 *e*PN Pn 10 47 40.1 +0.1
MODS *e*SN Sn 10 48 47.2 -1.5
KRBG Karabiga-Canak 6.03 109 P Pn 10 47 41.4 +1.1
VIZE Kirklareli, Vi 6.04 97 P Pn 10 47 40.3 -0.2
CRLT Corlu 6.08 102 P Pg 10 48 02.7 -5.1
AYVA Ayvalik 6.16 120 P Pn 10 47 43.9 +1.8
PANC Panciu 6.16 56 ⇓P Pn 10 47 43.3 +1.2
PANC Panciu 6.16 56 Pn 10 47 43.3 +1.2
CVDA Cernavoda 6.20 71 ⇑P Pn 10 47 42.9 +0.3
CVDA Cernavoda 6.20 71 Pn 10 47 42.9 +0.3
TESR Tescani 6.21 49 ⇑P Pn 10 47 42.9 +0.1
HARR Harsova 6.21 68 ⇑P Pn 10 47 43.6 +0.8
HARR Harsova 6.21 68 Pn 10 47 43.6 +0.8
HARR Harsova 6.21 68 P Pn 10 47 43.6 +0.8
TLBR Topalu 6.25 69 ⇑P Pn 10 47 43.5 +0.2
TLBR Topalu 6.25 69 Pn 10 47 43.5 +0.2
STAL STALIGIAL 6.26 308 Pn 10 47 45.4 +1.9
BURAR Bucovina Array 6.26 36 ⇑P Pn 10 47 44.8 +1.3
BURAR Bucovina Array 6.26 36 Pn 10 47 44.5 +1.0
BURAR Bucovina Array 6.26 36 P Pn 10 47 44.8 +1.3
BUR08 Bucovina Ar. S 6.28 35 Pn Pn 10 47 44.7 +1.0
BUHA Balikesir, Bur 6.30 117 P Pn 10 47 45.5 +1.5
OSSC Osservatorio P 6.36 281 Pn 10 47 46.4 +1.6
TUDR 6.36 60 ⇑P Pn 10 47 45.0 +0.2
TUDR 6.36 60 Pn 10 47 45.0 +0.2
CRVS Cervenica-Dubn 6.37 10 *e*P Pn 10 47 45.9 +1.0
CRVS Cervenica-Dubn 6.37 10 *e*PN Pn 10 47 45.9 +1.0
KARB zmir-Karabur 6.38 126 P Pn 10 47 43.9 -1.2
CTYL Yalikoy Yolu 6.39 98 P Pn 10 47 44.7 -0.6
SLVT Silivri 6.40 100 P Pn 10 47 45.2 -0.1
KIYI Yalıkoy-Catalc 6.40 98 P Pn 10 47 44.4 -0.9
JAVC Velka Javorina 6.40 347 *e*PN Pn 10 47 46.1 +0.6
JAVC Velka Javorina 6.40 347 *e*Pn Pn 10 47 47.2 +1.7
SNR=24
KBA Koelnbreinsper 6.40 316 *i* Pn Pn 10 47 47.6 +2.0
comp=Z,54nm,0.5s
KBA Koelnbreinsper 6.40 316 ⇑P Pn 10 47 47.2 +1.6
KBA Koelnbreinsper 6.40 316 P Pn 10 47 47.5 +2.0
KBA Koelnbreinsper 6.40 316 *e*Pn Pn 10 47 47.4 +1.8
SNR=132
GIRR Girov 6.41 45 ⇑P Pn 10 47 47.0 +1.6
GIRR Girov 6.41 45 Pn 10 47 47.0 +1.6
DKL Dikili 6.43 121 P Pn 10 47 47.2 +1.4
DKL Dikili 6.43 121 ⇑P Pn 10 47 47.3 +1.5
MFTR Murfatlar 6.44 73 ⇑P Pn 10 47 45.9 +0.1
MFTR Murfatlar 6.44 73 Pn 10 47 45.9 +0.1
EDC Edincik 6.44 108 P Pn 10 47 45.8 -0.2
NEGRR Negrea 6.47 61 ⇑P Pn 10 47 46.2 -0.1
TIRR Tirgusor 6.49 71 Pn Pn 10 47 46.2 -0.3
TIRR Tirgusor 6.49 71 ⇑P Pn 10 47 46.1 -0.4
TIRR Tirgusor 6.49 71 P Pn 10 47 46.2 -0.4
TEOL Teolo 6.49 298 Pn Pn 10 47 48.0 +1.3
MANR Mangalia 6.50 77 ⇓P Pn 10 47 47.6 +0.9
CFR Carcaliu 6.51 64 ⇑P Pn 10 47 46.1 -0.7
CFR Carcaliu 6.51 64 P Pn 10 47 46.1 -0.7
LANS Liptovska Anna 6.52 358 *e*P Pn 10 47 50.0 +3.0
LANS *e* 10 49 01.3
LANS Liptovska Anna 6.52 358 *e*PN Pn 10 47 50.0 +3.0
LANS *e*SN Sn 10 49 01.3 +0.1
KOLS Kolonicke sedl 6.52 14 *e*P Pn 10 47 48.3 +1.2
KOLS Kolonicke sedl 6.52 14 *e*PN Pn 10 47 48.2 +1.2
MOA Molln 6.53 325 *i* Pn Pn 10 47 49.2 +2.0
comp=Z,54nm,0.4s,SNR=36
MOA *e*Sn Sn 10 49 01.0 -0.5
comp=Z,187nm,0.5s
MOA Molln 6.53 325 *e*Pn Pn 10 47 49.0 +1.8
SNR=80
MOA *e*Sn Sn 10 49 01.1 -0.5
SNR=2.9
BALY Balya 6.54 114 P Pn 10 47 48.6 +1.2
ELBA Catalca 6.58 100 P Pn 10 47 47.7 -0.1
TSCT Constanta Port 6.60 74 ⇑P Pn 10 47 47.7 -0.4
TSCT Constanta Port 6.60 74 Pn 10 47 47.7 -0.4
ZEDA zmir-Bergama 6.60 121 P Pn 10 47 49.1 +1.0
SCTR Scanteiesti 6.60 60 ⇑P Pn 10 47 48.0 -0.1
SCTR Scanteiesti 6.60 60 Pn 10 47 48.0 -0.1
BAND Balkesir-Ban 6.61 107 P Pn 10 47 48.8 +0.7
VARL Varlezi 6.61 58 ⇑P Pn 10 47 48.3 +0.1
VARL Varlezi 6.61 58 Pn 10 47 48.3 +0.1
CTKS Kestanelik-??a 6.61 99 P Pn 10 47 46.9 -1.3
VAE Valguarnera 6.62 221 Pn Pn 10 47 50.1 +1.6
comp=Z,4.1nm,0.3s,baz=342,slow=8.6,SNR=7.8
VAE Sn Sn 10 49 04.0 0.0
comp=Z,4.8nm,0.3s,baz=246,slow=22,SNR=1.1
VAE LR LR 10 50 58.7
comp=Z,4µm,18.8s,baz=39,slow=44
comp=Z,61nm,0.7s
ABTA Abfaltersbach 6.64 311 *e*Pn Pn 10 47 50.6 +1.8
comp=Z,99nm,0.6s,SNR=40
BIOA Bad Ischl, Aus 6.69 321 *i* Pn Pn 10 47 51.5 +2.1
comp=Z,36nm,0.3s,SNR=48
BIOA *e*Sn Sn 10 49 06.9 +1.5
comp=Z,230nm,0.5s
ZEYE Izmir, Urla-Ze 6.72 129 P Pn 10 47 50.5 +0.8
VLDR Vladesti 6.73 59 ⇑P Pn 10 47 50.2 +0.3
VLDR Vladesti 6.73 59 Pn 10 47 50.2 +0.3
BKES Balkesir-Mer 6.75 113 P Pn 10 47 51.3 +1.1
BALB Balikesir 6.77 114 Pn 10 47 51.5 +1.1
NIE Niedzica 6.79 3 *e*P Pn 10 47 52.7 +2.0
NIE *e*S Sn 10 49 10.6 +2.7
STEP BALIKESIR_Sava 6.79 116 P Pn 10 47 51.1 +0.3
BGKT Bogazkoy 6.82 99 P Pn 10 47 50.5 -0.6
KCTX Karacabey (Bur 6.82 107 P Pn 10 47 50.5 -0.7
KRUC Moravsky 6.86 341 *e*PN Pn 10 47 50.7 -0.9
KRUC *e*SN Sn 10 49 09.1 -0.4
KRUC Moravsky 6.86 341 *e*Pn Pn 10 47 51.9 +0.3
SNR=9.0
KRUC *e*Sn Sn 10 49 09.1 -0.4
SNR=2.9
MAUC Maruska 6.87 349 AMS AMS 10 50 40.0
comp=Z,10µm,11.7s
JURR Jurilovca 6.88 69 ⇑P Pn 10 47 52.3 +0.4
VASR Vaslui 6.94 52 ⇑P Pn 10 47 53.5 +0.8
VASR Vaslui 6.94 52 Pn 10 47 53.5 +0.8
TLCR 6.96 65 ⇑P Pn 10 47 53.7 +0.6
TLCR 6.96 65 Pn 10 47 53.7 +0.6
TLCR 6.96 65 P Pn 10 47 53.1 +0.1
LESA Schwarzleotal 6.97 316 *i* Pn Pn 10 47 55.5 +2.2
comp=Z,100nm,0.7s
LESA *e*Sn Sn 10 49 15.5 +3.0

comp=Z,256nm,0.6s
KLYT Kilyos 7.00 98 P **Pn** **10 47 54.6 +1.1**
VRAC Vranov 7.04 342 ⇑P **Pn** **10 47 53.9 -0.3**
VRAC Vranov 7.04 342 *e*PN **Pn** **10 47 53.5 -0.7**
VRAC Vranov 7.04 342 Pn **Pn** **10 47 54.5 +0.4**
comp=Z,2.3nm,0.3s,baz=175,slow=12,SNR=14
VRAC Sn **Sn** **10 49 13.7 -0.4**
comp=Z,1.7nm,0.3s,baz=220,slow=3.9,SNR=4.2
VRAC Lg Lg 10 49 54.7
comp=Z,4.0nm,0.3s,baz=158,slow=6.9,SNR=3.3
VRAC LR LR 10 50 41.5
comp=Z,1µm,20.1s,baz=174,slow=38
comp=Z,41nm,0.9s
VRAC Vranov 7.04 342 *e*Pn **Pn** **10 47 54.6 +0.4**
SNR=11
VLC Villacollemand 7.05 286 P **Pn** **10 47 56.1 +1.7**
VLC S **Sn** **10 49 15.7 +1.3**
VLC Villacollemand 7.05 286 ⇑P **Pn** **10 47 56.7 +2.3**
ISK Istanbul-Kandi 7.06 100 P **Pn** **10 47 53.5 -0.9**
APE Apeiranthos 7.08 140 ⇑P **Pn** **10 47 55.7 +1.0**
APE Apeiranthos 7.08 140 **Pn** **10 47 55.7 +1.0**
APE Apeiranthos 7.08 140 ⇑P **Pn** **10 47 56.4 +1.6**
APE Apeiranthos 7.08 140 *i* P **Pn** **10 47 55.8 +1.1**
RJOB Jochberg 7.12 318 *e*Pn **Pn** **10 47 58.4 +3.0**
SNR=94
RJOB *e*Sn **Sn** **10 49 17.2 +1.1**
SNR=3.2
MDNY Mudanya-Bursa 7.16 105 P **Pn** **10 47 53.5 -2.2**
CLTB Caltabellotta 7.16 227 ⇓P **Pn** **10 47 59.6 +3.7**
DURS Dursunbey 7.19 112 P **Pn** **10 47 56.9 +0.6**
KWP Kalwaria Pacla 7.27 15 *e*P **Pn** **10 47 59.7 +2.4**
KWP Kalwaria Pacla 7.27 15 Pn **Pn** **10 47 59.1 +1.8**
KWP Kalwaria Pacla 7.27 15 P **Pn** **10 47 59.1 +1.8**
CKRC Cesky Krumlov 7.29 330 *e*PN **Pn** **10 48 00.9 +3.3**
CKRC *e*SN **Sn** **10 49 22.5 +2.3**
CKRC Cesky Krumlov 7.29 330 *e*P **Pn** **10 48 00.9 +3.3**
CKRC *e* 10 49 22.5
CKRC Cesky Krumlov 7.29 330 *e*Pn **Pn** **10 48 01.1 +3.5**
SNR=17
OKC Ostrava-Krasne 7.29 351 *e*PN **Pn** **10 47 58.2 +0.6**
OKC *e*SN **Sn** **10 49 18.6 -1.7**
OKC AMS AMS 10 51 00.0
comp=Z,5µm,11.0s
OKC Ostrava-Krasne 7.29 351 *e*P **Pn** **10 47 58.2 +0.6**
OKC *e* 10 49 18.6
OKC MLR MLR
comp=Z,5µm,11.0s
TREC Trest 7.31 337 *e*PN **Pn** **10 47 59.8 +1.9**
TREC *e*SN **Sn** **10 49 20.0 -0.8**
TREC AMS AMS 10 50 40.0
comp=Z,8µm,8.9s
TREC Trest 7.31 337 *e*P **Pn** **10 47 59.8 +1.9**
TREC *e* 10 49 20.0
TREC MLR MLR
comp=Z,8µm,8.9s
MORC Moravsky Berou 7.32 348 ⇑P **Pn** **10 47 57.7 -0.2**
MORC Moravsky Berou 7.32 348 Pn **Pn** **10 47 58.1 +0.2**
MORC Moravsky Berou 7.32 348 *e*PN **Pn** **10 47 57.7 -0.2**
MORC Moravsky Berou 7.32 348 ⇑P **Pn** **10 47 58.1 +0.2**
MORC Moravsky Berou 7.32 348 P **Pn** **10 47 58.2 +0.2**
MORC Moravsky Berou 7.32 348 *e*Pn **Pn** **10 47 58.0 0.0**
SNR=11
SALO Salr 7.33 297 ⇓P **Pn** **10 47 59.7 +1.5**
ULDT Uludag 7.42 107 P Pn 10 47 54.1 -5.5
WTTA Wattenberg 7.43 311 *i* Pn **Pn** **10 48 01.9 +2.2**
comp=Z,41nm,0.3s,SNR=80
WTTA *e*Sn **Sn** **10 49 28.4 +4.5**
comp=Z,554nm,0.7s
WTTA Wattenberg 7.43 311 *e*Pn **Pn** **10 48 02.2 +2.5**
SNR=109
WATA Walderalm 7.51 312 *i* Pn **Pn** **10 48 03.4 +2.7**
comp=Z,301nm,0.8s,SNR=147
WATA *e*Sn **Sn** **10 49 29.5 +3.8**
comp=Z,318nm,0.7s
GEC2 GERESS Array S 7.55 327 *e*Pn **Pn** **10 48 03.1 +2.0**
SNR=26
GERES GERESS Array B 7.55 327 Pn **Pn** **10 48 02.8 +1.6**
comp=Z,6.0nm,0.3s,baz=150,slow=14,SNR=76
GERES Sn **Sn** **10 49 23.9 -2.7**
comp=Z,6.8nm,0.3s,baz=142,slow=24,SNR=4.9
GERES Lg Lg 10 50 06.4
comp=Z,1.9nm,0.3s,baz=158,slow=21,SNR=1.1
comp=Z,18nm,0.5s
OJC Ojcow 7.58 360 *e*P **Pn** **10 48 02.8 +1.2**
OJC *e*S **Sn** **10 49 29.4 +2.0**
OJC Ojcow 7.58 360 ⇓P **Pn** **10 48 04.3 +2.7**
SQTA Sankt Quirin 7.65 310 *i* Pn **Pn** **10 48 05.9 +3.3**
comp=Z,112nm,0.6s,SNR=52
SQTA *e*Sn **Sn** **10 49 34.7 +5.6**
comp=Z,526nm,0.9s
MILM Milestii Mici 7.68 53 *e*P **Pn** **10 47 59.0 -3.9**
comp=Z,26nm,0.3s
MILM *e*L L 10 50 30.0
MILM LqM 10 51 44.0
comp=Z,6µm,15.0s
MILM LRM MLR 10 51 51.0
comp=Z,7µm,14.5s
MILM Milestii Mici 7.68 53 *e*P **Pn** **10 47 59.0 -3.9**
MILM pmax pmax
comp=Z,26nm,0.3s
MILM MLR MLR
comp=Z,7µm,14.5s
KIS Kishinev 7.73 53 *e*P **Pn** **10 48 00.0 -3.5**
KIS *e*Lq LQ 10 50 35.0
KIS LRM MLR 10 51 49.0
comp=Z,2µm,14.0s
KIS Kishinev 7.73 53 *e*P **Pn** **10 48 00.0 -3.5**
KIS MLR MLR
comp=Z,3µm,16.0s
KIS MLR MLR
comp=N,2µm,14.0s
KIS MLR MLR
comp=E,2µm,17.0s
KRLC Kraliky 7.73 345 *e*PN **Pn** **10 48 04.8 +1.1**
KRLC *e*SG **Sn** **10 49 32.9 +1.8**
KRLC AMS AMS 10 51 20.0
comp=E,5µm,9.4s
KRLC Kraliky 7.73 345 *e*P **Pn** **10 48 04.8 +1.1**
KRLC *e* 10 49 32.9
KRLC MLR MLR
comp=Z,5µm,9.4s
LVV L'vov 7.75 21 *e*P **Pn** **10 48 05.8 +2.0**
LVV *e*S **Sn** **10 49 31.7 +0.4**
LVV smax smax
comp=E,200nm,1.6s
LVV smax smax
comp=N,130nm,1.3s
LVV MLR MLR
comp=E,4µm,6.5s
LVV MLR MLR
comp=N,5µm,7.3s
LVV MLR MLR
comp=Z,4µm,7.9s
MOTA Moosalm 7.78 310 *i* Pn **Pn** **10 48 06.9 +2.5**
comp=Z,116nm,0.7s,SNR=60
MOTA *e*Sn **Sn** **10 49 37.0 +4.7**
comp=Z,754nm,1.0s
FETA Feichten 7.82 307 *e*Pn **Pn** **10 48 07.0 +2.0**
comp=Z,31nm,0.5s,SNR=18
FETA *e*Sn **Sn** **10 49 39.7 +6.3**
comp=Z,141nm,0.6s
MANT Manisa 7.82 119 P **Pn** **10 48 06.0 +0.9**
KHC Kasperske Hory 7.82 328 Pn **Pn** **10 48 06.3 +1.4**
KHC Kasperske Hory 7.82 328 ⇓P **Pn** **10 48 06.5 +1.5**
KHC Kasperske Hory 7.82 328 *e*PN **Pn** **10 48 07.1 +2.2**
KHC *e*SG **Sn** **10 49 40.2 +6.9**
KHC AMS AMS 10 51 20.0
comp=Z,10µm,7.8s
KHC Kasperske Hory 7.82 328 *e*P **Pn** **10 48 07.1 +2.2**
KHC *e* 10 49 40.2
KHC MLR MLR
comp=Z,10µm,7.8s
KHC Kasperske Hory 7.82 328 *e*Pn **Pn** **10 48 06.6 +1.7**
SNR=27
ZVC Zvikov 7.85 332 *e*PN **Pn** **10 48 08.5 +3.2**
ZVC *e*SG **Sn** **10 49 38.5 +4.5**
ZVC AMS AMS 10 51 10.0
comp=Z,9µm,9.1s
KULA Kula-Manisa 7.87 119 P **Pn** **10 48 07.1 +1.4**
DOMA Ktahya-Doman 7.96 108 P **Pn** **10 48 06.8 0.0**
USAK Uak-Merkez 8.00 116 P **Pn** **10 48 08.2 +0.8**
PGF Pioggiola 8.00 273 *e*Pn **Pn** **10 48 09.1 +1.7**
PGF *e*Sn **Sn** **10 49 34.6 -3.2**
comp=Z,66nm,0.6s
PGF Pioggiola 8.00 273 ⇓P **Pn** **10 48 09.6 +2.2**

RETA Reutte 8.05 310 *i* Pn **Pn** **10 48 10.7 +2.7**
comp=Z,24nm,0.5s,SNR=13
RETA *e*Sn **Sn** **10 49 40.8 +1.8**
comp=Z,106nm,0.7s
GOPC GO Pecny, Ondr 8.07 336 *e*PN **Pn** **10 48 10.0 +1.7**
GOPC *e*SN **Sn** **10 49 45.6 +6.2**
GOPC AMS AMS 10 51 20.0
comp=Z,7µm,9.2s
GOPC GO Pecny, Ondr 8.07 336 *e*P **Pn** **10 48 10.0 +1.7**
GOPC *e* 10 49 45.6
GOPC MLR MLR
comp=Z,7µm,9.2s
DPC Dobruska-Polom 8.09 344 *e*PN **Pn** **10 48 09.2 +0.7**
DPC AMS AMS 10 51 30.0
comp=Z,6µm,9.1s
DPC Dobruska-Polom 8.09 344 *e*P **Pn** **10 48 09.2 +0.7**
DPC MLR MLR
comp=Z,6µm,9.1s
DPC Dobruska-Polom 8.09 344 *e*Pn **Pn** **10 48 08.7 +0.2**
SNR=15
ESEN Aydn-Nazilli 8.11 124 P **Pn** **10 48 10.7 +1.9**
WET Wettzell 8.12 326 *e*Pn **Pn** **10 48 11.2 +2.3**
SNR=7.3
GDZ Gediz 8.12 113 P **Pn** **10 48 09.6 +0.5**
SORM Soroca 8.12 45 ⇑P **Pn** **10 48 09.1 +0.1**
SORM Soroca 8.12 45 **Pn** **10 48 09.1 +0.1**
SORM Soroca 8.12 45 P **Pn** **10 48 12.6 +3.6**
PURM Purcari 8.15 58 ⇓P **Pn** **10 48 09.2 0.0**
PURM Purcari 8.15 58 **Pn** **10 48 09.2 0.0**
FUR Furstenfeldbru 8.17 315 *e*Pn **Pn** **10 48 11.7 +2.0**
SNR=5.0
PRU Pruhonice 8.21 335 *e*PN **Pn** **10 48 12.3 +2.1**
PRU *e*SG **Sn** **10 49 49.7 +6.9**
PRU AMS AMS 10 51 30.0
comp=Z,11µm,8.0s
PRU Pruhonice 8.21 335 *e*P **Pn** **10 48 12.3 +2.1**
PRU *e* 10 49 49.7
PRU MLR MLR
comp=Z,11µm,8.0s
PRU Pruhonice 8.21 335 *e*Pn **Pn** **10 48 13.1 +2.9**
SNR=3.4
DAVOX Davos/Dischmat 8.21 304 Pn **Pn** **10 48 12.0 +1.6**
comp=Z,14nm,0.3s,baz=128,slow=13,SNR=84
DAVOX Sn **Sn** **10 49 42.5 -0.6**
comp=Z,4.7nm,0.3s,baz=153,slow=16,SNR=2.6
comp=Z,46nm,0.4s
UPC Upice 8.30 343 *e*PN **Pn** **10 48 11.6 +0.2**
UPC *e*SG **Sn** **10 49 51.7 +6.7**
UPC AMS AMS 10 51 50.0
comp=Z,8µm,8.0s
UPC Upice 8.30 343 *e*P **Pn** **10 48 11.6 +0.2**
UPC *e* 10 49 51.7
UPC MLR MLR
comp=Z,8µm,8.0s
OSTC Ostas 8.30 344 *e*PN **Pn** **10 48 12.8 +1.3**
OSTC AMS AMS 10 52 00.0
comp=Z,6µm,9.0s
OSTC Ostas 8.30 344 *e*P **Pn** **10 48 12.8 +1.3**
OSTC MLR MLR
comp=Z,6µm,9.0s
PRA Prague 8.32 335 *e*PN **Pn** **10 48 14.4 +2.8**
PRA *e*SG **Sn** **10 49 53.4 +8.0**
PRA AMS AMS 10 51 30.0
comp=Z,10µm,8.5s
PRA Prague 8.32 335 *e*P **Pn** **10 48 14.4 +2.8**
PRA *e* 10 49 53.4
PRA MLR MLR
comp=Z,10µm,8.5s
IDI Anoyia 8.32 150 S **Sn** **10 49 39.1 -6.6**
IDI P **Pn** **10 48 10.7 -1.1**
IDI Anoyia 8.32 150 LR LR 10 52 36.2
comp=Z,961nm,21.2s,baz=332,slow=47
CHVC Chvalec 8.37 343 *e*PN **Pn** **10 48 13.7 +1.4**
CHVC AMS AMS 10 52 00.0
comp=Z,7µm,8.3s
CHVC Chvalec 8.37 343 *e*P **Pn** **10 48 13.7 +1.4**
CHVC MLR MLR
comp=Z,7µm,8.3s
TUE Stuetta 8.42 301 ⇑P **Pn** **10 48 15.4 +2.2**
DAVA Damuels 8.45 307 *e*Pn **Pn** **10 48 18.0 +4.3**
comp=Z,34nm,0.4s
DAVA *e*Sn **Sn** **10 49 51.3 +2.3**
comp=Z,373nm,1.0s
DAVA Damuels 8.45 307 ⇑P **Pn** **10 48 18.0 +4.3**
DAVA Damuels 8.45 307 *e*Pn **Pn** **10 48 17.9 +4.3**
SNR=19
VSL Villasalto 8.51 252 ⇑P **Pn** **10 48 16.0 +1.8**
UBR Ueberruh 8.53 310 *e*Pn **Pn** **10 48 16.5 +1.9**
SNR=9.8
KSP Ksiaz 8.56 345 *e*P **Pn** **10 48 17.1 +2.1**
KSP *e*S Sn 10 50 09.3 +18
KSP Ksiaz 8.56 345 ⇑P **Pn** **10 48 17.8 +2.9**
PLONS Plons/SG 8.64 304 *e*Pn **Pn** **10 48 19.1 +2.9**
SNR=34
PVCC Panska Ves 8.68 337 *e*PN **Pn** **10 48 18.6 +1.9**
PVCC AMS AMS 10 51 30.0
comp=Z,7µm,9.5s
PVCC Panska Ves 8.68 337 *e*P **Pn** **10 48 18.6 +1.9**
PVCC MLR MLR
comp=Z,7µm,9.5s
MDUB Mudurnu 8.79 100 ⇓P **Pn** **10 48 19.3 +1.1**
RICC Richard 8.84 335 AMS AMS 10 51 50.0
comp=Z,8µm,7.6s
ROTZ Rotzenmuhle 8.88 326 *e*Pn **Pn** **10 48 19.3 0.0**
SNR=4.0
MONC Moncucco Torin 8.95 290 ⇓P **Pn** **10 48 22.1 +1.8**
KARP Karpathos 9.08 139 **Pn** **10 48 24.2 +2.0**
MANZ Manzenberg 9.09 327 *e*Pn **Pn** **10 48 23.8 +1.6**
SNR=6.4
WILA Wila 9.09 305 *e*Pn **Pn** **10 48 24.9 +2.6**
SNR=5.5
HSKC Hora Svate Kat 9.11 333 *e*PN **Pn** **10 48 24.9 +2.4**
HSKC AMS AMS 10 52 00.0
comp=Z,8µm,9.5s
SBF Sospel 9.14 282 *e*Pn **Pn** **10 48 24.7 +1.7**
SBF *e*Sn **Sn** **10 50 01.7 -4.0**
comp=Z,294nm,0.8s
NKC Novy Kostel 9.15 329 *e*PN **Pn** **10 48 24.9 +1.9**
NKC AMS AMS 10 52 10.0
comp=Z,10µm,7.9s
NKC Novy Kostel 9.15 329 *e*P **Pn** **10 48 24.9 +1.9**
NKC MLR MLR
comp=Z,10µm,7.9s
NKC Novy Kostel 9.15 329 *e*Pn **Pn** **10 48 24.2 +1.2**
SNR=5.4
BRG Berggiesshubel 9.18 336 *e*P **Pn** **10 48 23.1 -0.3**
BRG Amp 10 48 26.2
comp=Z,7.6nm,0.9s
BRG r 10 48 29.0
BRG Amp 10 48 37.1
comp=Z,18nm,0.9s
BRG r 10 49 02.3
BRG Amp 10 49 03.0
comp=Z,27nm,0.9s
BRG r 10 50 09.5
BRG Amp 10 50 10.2
comp=Z,48nm,0.8s
BRG r 10 50 20.5
BRG Amp 10 50 25.9
comp=Z,76nm,0.8s
BRG r 10 51 12.0
BRG Amp 10 51 18.9
comp=Z,145nm,1.2s
BRG Amp 10 52 11.0
comp=Z,7.6nm,8.9s
BRG Amp 10 52 13.0
comp=E,4.3nm,6.8s
BRG Amp 10 52 16.0
comp=N,4.9nm,7.3s
BRG Berggiesshubel 9.18 336 *e*P **Pn** **10 48 23.0 -0.3**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=Z,8µm,8.9s
BRG MLR MLR
comp=E,4µm,6.8s
BRG MLR MLR
comp=N,5µm,7.3s
WERN Wernitzgruen 9.22 329 *e*Pn **Pn** **10 48 25.4 +1.3**
SNR=6.7
BEL Belsk 9.22 4 *e*P **Pn** **10 48 25.2 +1.2**
GRF Grafenberg Arr 9.24 323 *e*Pn **Pn** **10 48 24.7 +0.4**
SNR=5.1
GRFO Grafenberg 9.24 323 **Pn** **10 48 25.1 +0.8**
GRFO Grafenberg 9.24 323 P **Pn** **10 48 25.1 +0.8**

GUNZ Gunzen 9.30 329 *e*Pn **Pn** **10 48 26.6 +1.5**
SNR=13
WERD Werda 9.37 329 *e*Pn **Pn** **10 48 27.8 +1.7**
SNR=10
ISP Isparta 9.48 117 *i* P **Pn** **10 48 28.1 +0.4**
SLE Schleitheim 9.51 307 P **Pn** **10 48 29.0 +1.0**
SLE Schleitheim 9.51 307 *e*Pn **Pn** **10 48 28.6 +0.6**
SNR=20
SULZ Cheisacher 9.63 305 *e*Pn **Pn** **10 48 32.3 +2.6**
SNR=8.0
STU Stuttgart 9.64 313 ⇑P **Pn** **10 48 32.1 +2.3**
MBDF Montbardon 9.70 287 *e*Pn **Pn** **10 48 30.2 -0.5**
MBDF *e*Sn **Sn** **10 50 14.6 -5.0**
comp=N,438nm,0.9s
LMR La Mourre 9.80 279 *e*Pn **Pn** **10 48 33.1 +1.2**
LMR *e*Sn **Sn** **10 50 17.3 -4.5**
comp=N,54nm,0.6s
MOX Moxa 9.80 328 P **Pn** **10 48 33.2 +1.3**
BALST Balsthal 9.80 303 *e*Pn **Pn** **10 48 33.5 +1.5**
SNR=8.9
BNI Bardonecchia 9.81 289 ⇑P **Pn** **10 48 32.4 +0.1**
CLL Collm 9.85 334 *e*Pn **Pn** **10 48 35.0 +2.4**
CLL *ex* x 10 49 45.0
CLL *e*Sn Sn 10 50 12.0 -11
CLL *e*Sb 10 50 48.0
CLL *e*(Sg) 10 51 38.0
comp=Z,487nm,1.4s
CLL AMS AMS 10 52 00.0
LPG La Plagne 9.85 291 *e*Pn **Pn** **10 48 33.1 +0.2**
LPG *e*Sn **Sn** **10 50 18.3 -5.1**
comp=Z,576nm,1.0s
LPL La Plagne 9.86 291 *e*Pn **Pn** **10 48 34.3 +1.2**
LPL *e*Sn **Sn** **10 50 19.0 -4.7**
comp=Z,552nm,0.8s
BFO Black Forest 9.88 309 Pn **Pn** **10 48 34.9 +1.8**
BFO Black Forest 9.88 309 ⇓P **Pn** **10 48 34.9 +1.8**
BFO Black Forest 9.88 309 P **Pn** **10 48 34.9 +1.8**
BFO Black Forest 9.88 309 *e*Pn **Pn** **10 48 35.0 +1.9**
SNR=16
KIEV Kiev 10.30 35 Pn **Pn** **10 48 40.3 +1.5**
KIEV Kiev 10.30 35 P **Pn** **10 48 40.3 +1.5**
AKASG Malin Array Be 10.32 35 Pn **Pn** **10 48 38.6 -0.4**
comp=Z,0.8nm,0.3s,baz=224,slow=13,SNR=32
AKASG Lg Lg 10 51 29.6
baz=229,slow=28
comp=Z,20nm,1.0s
AKBB Malin Array Si 10.32 35 *ce*P **Pn** **10 48 39.9 +0.9**
ORIF Oris-en-Rattie 10.35 287 *e*Pn **Pn** **10 48 40.0 +0.4**
ORIF *e*Sn **Sn** **10 50 30.6 -5.0**
comp=Z,493nm,1.0s
SMRF Simiane la Rot 10.49 282 *e*Pn **Pn** **10 48 43.2 +1.8**
SMRF *e*Sn **Sn** **10 50 33.7 -5.1**
comp=Z,151nm,1.1s
ECH Echery 10.51 306 Pn **Pn** **10 48 42.9 +1.2**
ECH Echery 10.51 306 ⇑P **Pn** **10 48 43.2 +1.5**
ECH Echery 10.51 306 P **Pn** **10 48 42.9 +1.2**
HINF Hinteralfeld 10.52 304 *e*Pn **Pn** **10 48 42.6 +0.7**
HINF *e*Sn **Sn** **10 50 34.3 -5.2**
comp=Z,502nm,1.0s
SIM Simferopol' 10.58 73 *e*P **Pn** **10 48 42.8 +0.2**
SIM *e*S **Sn** **10 50 34.8 -6.1**
SIM pmax pmax
comp=Z,15nm,0.7s
SIM smax smax
comp=N,154nm,1.2s
SIM smax smax
comp=E,290nm,1.2s
CABF La Chapelle 10.58 297 *e*Pn **Pn** **10 48 43.5 +0.8**
CABF *e*Sn **Sn** **10 50 36.1 -4.9**
comp=E,2µm,1.7s
KEST Kesra 10.67 233 Pn **Pn** **10 48 47.5 +3.6**
KEST Kesra 10.67 233 Pn **Pn** **10 48 45.0 +1.1**
comp=E,1.1nm,0.3s,baz=22,slow=9.6,SNR=19
KEST LR LR 10 53 40.0
comp=E,2µm,19.6s,baz=3.5,slow=42
comp=E,72nm,1.2s
BR131 Keskin Array S 10.80 101 *i* P **Pn** **10 48 44.6 -1.2**
BRTR Keskin Array B 10.80 101 Pn **Pn** **10 48 46.8 +1.0**
BRTR Keskin Array B 10.80 101 Pn **Pn** **10 48 45.8 0.0**
comp=E,0.2nm,0.3s,baz=290,slow=11,SNR=11
BRTR Sn **Sn** **10 50 43.8 -2.8**
comp=E,0.3nm,0.3s,baz=196,slow=31,SNR=1.4
BRTR Lg Lg 10 51 48.7
comp=E,0.1nm,0.3s,baz=284,slow=24,SNR=1.8
BRTR LR LR 10 53 40.7
comp=E,4µm,18.5s,baz=293,slow=42
comp=E,3.7nm,0.7s
HAU Haudompre 10.91 304 *e*Pn **Pn** **10 48 48.0 +0.9**
HAU *e*Sn **Sn** **10 50 43.5 -5.5**
comp=E,420nm,1.0s
TNS Taunus Mts 10.92 318 *e*Pn **Pn** **10 48 48.1 +0.8**
SNR=15
VIVF Saint-Julien-l 11.20 287 *e*Pn **Pn** **10 48 50.8 -0.3**
VIVF *e*Sn **Sn** **10 50 50.8 -5.4**
comp=E,123nm,1.0s
SSB Saint Sauveur 11.34 289 Pn **Pn** **10 48 51.8 -1.3**
SSB Saint Sauveur 11.34 289 ⇑P **Pn** **10 48 53.0 -0.1**
SSB Saint Sauveur 11.34 289 P **Pn** **10 48 51.8 -1.3**
KOE Koeppel 11.40 317 *e*Pn **Pn** **10 48 55.3 +1.4**
BGG Burgeitz 11.47 316 *e*Pn **Pn** **10 48 55.5 +0.8**
LASF Ste Croix 11.73 282 *e*Pn **Pn** **10 48 58.8 +0.4**
LASF *e*Sn **Sn** **10 51 03.6 -5.6**
comp=E,107nm,1.2s
SFTF Sexfontaines 11.79 303 *e*Pn **Pn** **10 48 59.6 +0.4**
SFTF *e*Sn **Sn** **10 51 04.3 -6.3**
comp=E,440nm,1.3s
WLF Walferdange 11.80 311 Pn **Pn** **10 48 59.0 -0.3**
WLF Walferdange 11.80 311 *d*P **Pn** **10 49 03.2 +3.9**
WLF Walferdange 11.80 311 P **Pn** **10 49 02.1 +2.8**
WLF Walferdange 11.80 311 P **Pn** **10 48 59.0 -0.3**
MEZF Maizieres J'vi 11.90 305 *e*Pn **Pn** **10 49 01.1 +0.4**
MEZF *e*Sn **Sn** **10 51 07.5 -5.8**
comp=E,299nm,1.1s
SAVF Savonnieres en 11.90 305 *e*Sn **Sn** **10 51 06.9 -6.4**
comp=E,325nm,1.1s
HOBG Hohbusch 11.95 319 *e*Pn **Pn** **10 49 02.7 +1.4**
STB Steinbach 11.96 316 *e*Pn **Pn** **10 49 02.8 +1.4**
STB *e*Sn **Sn** **10 51 12.1 -2.5**
SMF Signal de Mont 12.08 295 *e*Pn **Pn** **10 49 03.5 +0.3**
SMF *e*Sn **Sn** **10 51 11.9 -5.8**
comp=E,291nm,0.8s
LOR Lormes 12.23 298 *e*Pn **Pn** **10 49 05.4 +0.2**
baz=106
LOR *e*Sn **Sn** **10 51 15.0 -6.3**
comp=E,190nm,0.8s
BHOU Houvegnez 12.25 314 *d*P **Pn** **10 49 06.2 +0.7**
BHOU *d*PP **PnPn** **10 49 13.9 +0.7**
KLL Kalltalsperre 12.26 315 *e*Pn **Pn** **10 49 06.6 +1.0**
DREG Dreilaegerbach 12.31 315 *e*Pn **Pn** **10 49 07.3 +1.0**
BTNL Ternell 12.32 315 *d*P **Pn** **10 49 09.1 +2.7**
MEM Membach 12.39 315 *d*P **Pn** **10 49 08.6 +1.2**
SSF Saint Saulge 12.40 296 *e*Pn **Pn** **10 49 07.8 +0.2**
SSF *e*Sn **Sn** **10 51 20.0 -5.6**
comp=E,79nm,0.7s
AVF Avril sur Loir 12.44 295 *e*Pn **Pn** **10 49 08.3 +0.2**
AVF *e*Sn **Sn** **10 51 20.3 -6.2**
comp=E,112nm,0.8s
RCHB Rochefort 12.57 312 *d*P **Pn** **10 49 11.1 +1.3**
BSTI Sart Tilman 12.61 314 *d*P **Pn** **10 49 13.4 +3.0**
BCLA Clavier 12.66 313 *d*P **Pn** **10 49 15.1 +3.9**
BGF Bois d'Agland 12.73 294 *e*Pn **Pn** **10 49 12.5 +0.5**
BGF *e*Sn **Sn** **10 51 26.9 -6.7**
comp=E,320nm,0.9s
BGES Gesves 12.76 312 *d*P **Pn** **10 49 15.1 +2.6**
comp=Z,35nm,0.9s
GIVF Givet 12.76 311 *e*Pn **Pn** **10 49 12.8 +0.3**
GIVF *e*Sn **Sn** **10 51 27.5 -6.8**
comp=Z,831nm,1.7s
DOU Dourbes 12.89 311 *d*P **Pn** **10 49 13.7 -0.4**
comp=Z,30nm,0.9s
BMRD Maredsous 12.89 312 *d*P **Pn** **10 49 16.9 +2.6**
ANN Anapa 12.91 74 *e*P **Pn** **10 49 12.5 -2.0**
ANN *e*S **Sn** **10 51 36.2 -1.7**
ANN pmax pmax
comp=Z,107nm,1.3s
MTLF Montolieu 12.93 279 *e*Pn **Pn** **10 49 14.3 -0.5**
MTLF *e*Sn **Sn** **10 51 32.1 -6.3**
comp=Z,32nm,0.9s
MTLF Montolieu 12.93 279 ⇓P **Pn** **10 49 17.5 +2.7**
MNK Minsk 13.00 21 *i* P **Pn** **10 49 13.8 -1.8**
comp=E,41nm,1.1s
MNK *i* P **Pn** **10 49 13.8 -1.8**
comp=N,194nm,1.1s
MNK *i* P **Pn** **10 49 13.8 -1.8**
comp=Z,162nm,1.0s,baz=206

MNK *i* PP **PnPn** 10 49 21.7 -1.8
MNK *i* PPP PPP 10 49 29.4
MNK *i* S **Sn** 10 51 39.3 -0.7
MNK *i* SS **SnSn** 10 51 52.6 +0.5
MNK *i* SSS SSS 10 52 05.2
MNK *i* LQ LQ 10 53 01.5
MNK *i* LR LR 10 54 00.8
MNK *i* LRM MLR 10 54 40.9
comp=E,321nm,12.7s
MNK *i* LRM MLR 10 54 40.9
comp=N,2µm,16.1s
MNK *i* LRM MLR 10 54 40.9
comp=Z,2µm,14.4s
MNK Minsk 13.00 21 *i* P **Pn** **10 49 13.8 -1.8**
MNK *i* S **Sn** **10 51 39.3 -0.7**
MNK pmax pmax
comp=N,194nm,1.0s
MNK pmax pmax
comp=Z,162nm,1.0s
MNK pmax pmax
comp=E,41nm,1.0s
MNK MLR MLR
comp=Z,2µm,14.0s
MNK MLR MLR
comp=N,2µm,16.0s
MNK MLR MLR
comp=E,321nm,13.0s
HYF Humbligny 13.03 297 *e*Pn **Pn** **10 49 16.3 +0.2**
HYF *e*Sn **Sn** **10 51 34.2 -6.7**
BAIF Baives 13.09 310 *e*Pn **Pn** **10 49 17.4 +0.5**
BAIF *e*Sn **Sn** **10 51 35.4 -6.9**
comp=E,219nm,1.3s
NACGM Naroch 13.09 18⇓ *i*P **Pn** **10 49 20.2 +3.3**
comp=Z,61nm,0.9s,baz=203
TCF Toulx Ste Croi 13.11 292 *e*Pn **Pn** **10 49 17.5 +0.2**
TCF *e*Sn **Sn** **10 51 36.2 -6.7**
comp=Z,107nm,0.8s
PABE Paberze 13.15 10 Pn **Pn** **10 49 18.6 +0.8**
PABE Paberze 13.15 10 *e*P **Pn** **10 49 21.4 +3.6**
RJF Les Rejaudoux 13.47 288 *e*Pn **Pn** **10 49 21.4 -0.7**
LFF La Frestale 13.99 286 *e*Pn **Pn** **10 49 29.9 +0.7**
EPF Esparros 14.32 278 *e*Pn **Pn** **10 49 34.3 +0.5**
DEL Delary 14.37 347 *i*P **Pn** **10 49 36.0 +1.7**
GAZ Gaziantep 14.40 106 P **Pn** **10 49 37.6 +2.7**
SOC Sochi 14.55 80 *e*P **Pn** **10 49 34.3 -2.6**
SOC *e* 10 52 16.0
SOC pmax pmax
comp=Z,20nm,0.7s
SOC MLR MLR
comp=Z,828nm,17.0s
MFF Saint Martin d 14.77 292 *e*Pn **Pn** **10 49 40.8 +0.9**
ETSF Etsaut 14.99 278 *e*Pn **Pn** **10 49 43.4 +0.5**
ERBR Yeremizino-Bor 15.12 71 *e*P **Pn** **10 49 44.9 +0.3**
ERBR *e*S **Sn** **10 52 36.4 +4.5**
ERBR pmax pmax
comp=Z,116nm,1.1s
LDF La Druitiere 15.17 300 *e*Pn **Pn** **10 49 45.9 +0.7**
LDF *e*Sn **Sn** **10 52 25.3 -7.7**
comp=Z,210nm,1.3s
LABN Labinsk 15.25 75 *e*P **P** **10 49 48.9 -2.3**
LABN *e*S **Sn** **10 52 38.4 +3.4**
LABN pmax pmax
comp=Z,119nm,1.2s
MUD Monsted U'grnd 15.44 337 *i*P **P** **10 49 53.0 -0.2**
FLN La Foliniere 15.44 300 *e*Pn **Pn** **10 49 49.1 +0.3**
FLN *e*Sn **Sn** **10 52 31.7 -8.0**
comp=Z,344nm,1.6s
SJPF Ste Jean 15.45 279 *e*Pn **Pn** **10 49 49.7 +0.7**
MMAI Mount Meron Ar 15.58 123 Pn **Pn** **10 49 50.6 -0.2**
comp=Z,0.7nm,0.3s,baz=321,slow=10,0,SNR=4.2
MMAI LR LR 10 56 25.1
comp=Z,611nm,18.4s,baz=291,slow=40
comp=Z,30nm,1.1s
GRR Gorron 15.59 299 *e*Pn **Pn** **10 49 51.6 +0.9**
GEM Giv'at Ha'Em 15.61 122 P **Pn** **10 49 50.9 -0.2**
VORD Divnogorie 15.67 51 *e*P **Pn** **10 49 50.5 -1.3**
VORD pmax pmax
comp=Z,60nm,1.0s
VORD MLR MLR
comp=Z,560nm,8.0s
VSR Storozhevoye 15.71 50 *e*P **Pn** **10 49 53.2 +1.0**
VSR pmax pmax
comp=Z,70nm,0.9s
VSR MLR MLR
comp=Z,3µm,11.0s
SLTI Sal'it 15.89 126 P **Pn** **10 49 49.8 -5.0**
ECHE Chera 15.97 266 P **P** **10 50 00.0 +0.7**
LPSR Galich'ya Gora 16.23 46 *e*P **Pn** **10 49 59.3 +0.4**
LPSR pmax pmax
comp=Z,270nm,0.9s
LPSR MLR MLR
comp=Z,2µm,10.0s
MTSE Matsula 16.29 7 *e*P **P** **10 50 02.8 +0.2**
VSU Vasula 16.42 13⇓ P **P** **10 50 04.9 +0.8**
VSU Vasula 16.42 13*ce*P **Pn** **10 50 01.6 +0.3**
VSU pmax pmax
comp=Z,88nm,0.7s
VSU Vasula 16.42 13 *e*P **P** **10 50 04.3 +0.2**
KZIT Kziot 16.50 130⇑ P **P** **10 50 05.0 -0.2**
DSI Dead Sea 16.57 127 P **Pn** **10 50 04.1 +0.6**
OBN Obninsk 16.58 35 **Pn** **10 50 02.6 -0.8**
OBN IAmb IAmb 10 50 12.1
comp=Z,103nm,1.0s
OBN Obninsk 16.58 35⇓ *e*P **Pn** **10 50 02.2 -1.2**
OBN pmax pmax
comp=Z,71nm,0.9s
OBN MLR MLR
comp=Z,1µm,14.0s
OBN Obninsk 16.58 35 Pn **Pn** **10 49 56.8 -6.6**
comp=Z,0.8nm,0.3s,baz=165,slow=22,SNR=1.2
OBN Lg Lg 10 54 52.4
comp=Z,8.6nm,0.3s,baz=246,slow=10,SNR=3.1
OBN LR LR 10 56 56.8
comp=Z,1µm,20.3s,baz=212,slow=39
comp=Z,8.2nm,0.4s
SGMF Saint Gilles 16.67 297 *e*Pn **P** **10 50 06.1 -0.8**
SGMF *e*Sn **Sn** **10 53 00.9 -8.5**
comp=Z,312nm,1.5s
KIV Kislovodsk 16.68 78 Pn **Pn** **10 50 05.4 +0.6**
KIV Kislovodsk 16.68 78*ce*P **Pn** **10 50 05.9 +1.1**
KIV *e*S **Sn** **10 53 15.3 +5.4**
KIV pmax pmax
comp=Z,30nm,1.3s
KIV MLR MLR
comp=Z,680nm,19.0s
KVAR Kislovodsk Arr 16.68 78 Pn **Pn** **10 50 05.2 +0.3**
baz=257,slow=23
comp=Z,1.5nm,0.3s
ETOB Tobarra 16.71 263 P **P** **10 50 09.5 +2.0**
CART Cartagena 16.71 259 P **P** **10 50 07.6 +0.1**
CART Cartagena 16.71 259 P **P** **10 50 09.4 +1.9**
EMUR La Murta 16.78 260 P **P** **10 50 09.4 +1.1**
KBZ Khabaz 16.84 78 *i*P **Pn** **10 50 07.4 +0.6**
KBZ pmax pmax
comp=Z,36nm,1.4s
KBZ Khabaz 16.84 78 Pn **Pn** **10 50 07.0 +0.2**
comp=Z,3.6nm,1.0s,baz=269,slow=11,SNR=4.7
KBZ LR LR 10 58 03.2
comp=Z,541nm,21.6s,baz=279,slow=42
GOF Gofitskoye 16.90 74*ce*P **Pn** **10 50 06.9 -0.6**
QUIF Quistinic 17.01 296 *e*Pn **P** **10 50 10.5 -0.2**
QUIF *e*Sn **Sn** **10 53 09.2 -8.4**
comp=Z,543nm,1.7s
KARJ KARJ 17.06 127 P Pn 10 50 00.3 -9.3
ASF Jabal al Asfar 17.08 122 P **Pn** **10 50 09.0 -1.0**
ASF Jabal al Asfar 17.08 122 P **Pn** **10 50 09.0 -1.0**
comp=Z,0.3nm,0.3s,baz=290,slow=11,SNR=1.8
comp=Z,1.0nm,0.3s
ROSF Rostrenen 17.15 297 *e*Pn **P** **10 50 12.2 -0.1**
VRH Novokhopyorsk 17.18 53 *e*P **Pn** **10 50 09.0 -1.9**
VRH pmax pmax
comp=Z,48nm,0.8s
PRNI Paran 17.26 130 P **Pn** **10 50 11.3 -0.8**
MOS Moscow 17.45 35 *e*P **Pn** **10 50 11.9 -2.4**
MOS *e*S **Sn** **10 53 30.6 +2.4**
MOS pmax pmax
comp=Z,253nm,1.4s
MOS MLR MLR
comp=Z,2µm,11.0s
MOS MLR MLR
comp=N,2µm,12.0s
HRFI Mount Harif 17.52 131 P **Pn** **10 50 14.7 -0.6**
AKH Akhalkalaki 17.61 86 IAmb IAmb 10 50 24.6
comp=Z,222nm,1.3s
MBRI Mt Berech 17.63 132 P **Pn** **10 50 12.0 -4.9**

ZEI Tsey 17.67 81 *e*P **Pn** **10 50 17.2 -0.2**
ZEI pmax pmax
comp=Z,25nm,1.3s
EIL Elat 17.75 132⇑ P **P** **10 50 20.1 +1.0**
EIL Elat 17.75 132 P **Pn** **10 50 18.6 +0.4**
comp=Z,1.3nm,0.3s,baz=136,slow=10,SNR=5.8
comp=Z,5.2nm,0.6s
EIL Elat 17.75 132 P **Pn** **10 50 14.5 -3.7**
MEF Metsahovi 17.82 7 *e*P **P** **10 50 20.9 +1.4**
HFS Hagfors 17.92 350 P **Pn** **10 50 19.5 -0.6**
comp=Z,1.2nm,0.3s,baz=169,slow=12,SNR=47
HFS LR LR 10 57 23.7
comp=Z,843nm,21.2s,baz=170,slow=38
comp=Z,67nm,0.9s
LBWR Ladybower, Pea 17.93 314 *e*P **P** **10 50 21.2 +0.4**
ESBB Sonseca Array 18.15 269 P **P** **10 50 24.5 +1.0**
ESDC Sonseca Array 18.16 269 P **Pn** **10 50 22.4 -0.8**
comp=Z,0.1nm,0.3s,baz=68,slow=11,SNR=18
ESDC LR LR 10 57 25.2
comp=Z,1µm,18.5s,baz=78,slow=37
comp=Z,6.7nm,1.0s
KONO Kongsberg 18.17 343 *e*P **P** **10 50 24.2 +0.8**
KONO Kongsberg 18.17 343 *i*P **P** **10 50 24.0 +0.6**
KONO pmax pmax
comp=Z,31nm,1.3s
PUL Pulkovo 18.33 17*ce*P **P** **10 50 27.1 +1.9**
PUL pmax pmax
comp=Z,113nm,0.7s
EBER Berja 18.37 259 P **P** **10 50 27.6 +1.6**
RAF Rauma 18.45 3 *e*P **P** **10 50 26.4 0.0**
PAB San Pablo 18.48 269 **Pn** **10 50 28.4 +1.2**
PAB San Pablo 18.48 269 P **Pn** **10 50 28.4 +1.2**
PAB pmax pmax
comp=Z,64nm,1.4s
FOEL Foel Wylfa 18.50 312 *e*P **Pn** **10 50 27.7 +0.4**
EQTA Presa de Quent 18.64 261 P **Pn** **10 50 30.3 +1.0**
BLS5 Blasjo 18.73 338 *e*P **Pn** **10 50 31.1 +1.1**
EDMD Edmundbyers 18.76 318 *e*P **P** **10 50 29.8 -0.2**
NC602 NORSAR Array S 18.81 347 IAmb IAmb 10 50 33.3
comp=Z,171nm,1.6s
NC602 NORSAR Array S 18.81 347 *e*P **Pn** **10 50 30.8 -0.2**
NC602 IAmb IAmb 10 50 31.4
comp=Z,71nm,1.1s
GNI Garni 18.83 89 **Pn** **10 50 31.8 +0.2**
GNI Garni 18.83 89 *i*P **Pn** **10 50 32.2 +0.7**
GNI pmax pmax
comp=Z,87nm,1.1s
GNI Garni 18.83 89 P **Pn** **10 50 33.6 +2.0**
comp=Z,45nm,0.9s,baz=322,slow=2.7,SNR=23
CHAS Isla Isabel II 18.83 254 P **Pn** **10 50 32.2 +0.8**
EALB Alboran 18.90 257 P **P** **10 50 31.8 +0.2**
ELGU Los Guajares, 18.92 260 P **Pn** **10 50 32.9 +0.4**
ODD1 Odda 19.10 339 *e*P **Pn** **10 50 35.3 +0.8**
NC405 NORSAR Array S 19.14 348 P **P** **10 50 34.3 +0.2**
NC405 IAmb IAmb 10 50 35.8
comp=Z,111nm,0.9s
NB2 NORSAR Subarra 19.15 347 P **P** **10 50 34.2 -0.1**
comp=Z,102nm,1.7s,baz=160,slow=11
NB2 NORSAR Subarra 19.15 347 P **P** **10 50 34.2 -0.1**
baz=160,slow=11
NOA NORSAR Array B 19.15 347 P **P** **10 50 34.4 +0.1**
comp=Z,0.1nm,0.3s,baz=165,slow=10,SNR=52
NOA LR LR 10 57 59.5
comp=Z,722nm,19.7s,baz=170,slow=37
comp=Z,38nm,1.1s
FINES FINESS Array B 19.20 9 P **P** **10 50 35.1 +0.3**
comp=Z,1.4nm,0.3s,baz=177,slow=9.1,SNR=44
FINES PcP **PcP** **10 54 56.8 -0.8**
comp=Z,3.3nm,0.7s,baz=136,slow=2.4,SNR=5.8
FINES LR LR 10 58 23.7
comp=Z,1µm,20.7s,baz=196,slow=38
comp=Z,36nm,0.9s
FIA1 FINESS Array S 19.20 9 IAmb IAmb 10 50 37.5
comp=Z,136nm,1.1s
NBO00 NORSAR Array S 19.22 347 P **P** **10 50 34.2 -0.8**
SKAR Skarslia 19.38 343 *e*P **Pn** **10 50 37.7 -0.2**
SKAR IAmb IAmb 10 50 38.1
comp=Z,29nm,1.0s
NC204 NORSAR Array S 19.45 347 P **Pn** **10 50 38.3 -0.4**
EMAL Malaga-Limoner 19.55 261 P **P** **10 50 38.5 -0.1**
EKA Eskdalemuir Ar 19.61 318 P **Pn** **10 50 40.3 -0.3**
baz=114,slow=9.5
comp=Z,6.2nm,0.4s
ESK Eskdalemuir 19.62 318 P **Pn** **10 50 40.2 -0.5**
ESK IAmb IAmb 10 50 44.4
comp=Z,189nm,1.8s
ESK Eskdalemuir 19.62 318 *e*P **P** **10 50 40.0 +0.5**
ESK Eskdalemuir 19.62 318⇓ P **Pn** **10 50 40.7 -0.1**
ESK Eskdalemuir 19.62 318 P **Pn** **10 50 40.3 -0.5**
ESK pmax pmax
comp=Z,189nm,1.8s
NAX Nakhchivan 19.67 91 P **Pn** **10 50 44.0 +2.4**
PBRG Braganca 19.68 277 *e*P **Pn** **10 50 41.7 0.0**
comp=Z,120nm,1.4s
BER Bergen 19.85 339 *e*P **Pn** **10 50 43.1 -0.3**
ZKTA Zakatala 19.86 84 P **Pn** **10 50 45.6 +1.8**
GANJ Ganja 19.87 87 P **Pn** **10 50 44.1 +0.3**
ASK Askoy 19.97 338 *e*P **Pn** **10 50 44.2 -0.6**
MVO Moncorvo 20.03 275 *e*P Pn 10 50 45.9 +0.1
comp=Z,136nm,1.3s
MVO A A 10 59 56.1
comp=Z,946nm,16.0s
NEWG New Galloway 20.04 317 *e*P Pn 10 50 45.8 +0.2
DRUM Mains of Drumt 20.16 323 *e*P Pn 10 50 47.9 +0.7
DRUM IAmb IAmb 10 50 50.6
comp=Z,39nm,0.9s
GAL1 Galloway 20.16 316 *e*P **P** **10 50 45.1 -0.2**
GAL1 IAmb IAmb 10 50 49.8
comp=Z,83nm,1.0s
MAK Makhachkala 20.27 80 *e*P **P** **10 50 45.8 -0.7**
MAK *e*S **S** **10 54 33.6 +0.1**
MAK pmax pmax
comp=Z,150nm,1.1s
MAK MLR MLR
comp=Z,3µm,15.0s
HYA Hoyanger 20.30 341 *e*P Pn 10 50 48.3 -0.4
HYA *e* 10 50 53.2
HYA IAmb IAmb 10 50 53.4
comp=Z,146nm,1.1s
SEKA Sheki 20.38 85 P Pn 10 50 50.9 +1.0
DOMB Dombas 20.47 345 *e*P **P** **10 50 49.0 +0.4**
DOMB IAmb IAmb 10 50 53.5
comp=Z,78nm,1.1s
PVRL Vila Real 20.51 276 *e*P **P** **10 50 50.2 +1.0**
comp=Z,172nm,1.7s
POLO Lamas de Olo 20.55 276 *e*P Pn 10 50 50.9 -1.0
comp=Z,91nm,1.8s
MTE Manteigas 20.60 273 *e*P **P** **10 50 51.2 +1.0**
comp=Z,182nm,1.5s
MTE A A 10 58 56.9
comp=Z,936nm,20.0s
MTE Manteigas 20.60 273 P **P** **10 50 50.9 +0.7**
MTE Manteigas 20.60 273⇓ P **P** **10 50 51.2 +1.0**
INVG Invergeldie, C 20.61 320 *e*P **P** **10 50 49.9 -0.3**
PCBR Castelo Branco 20.70 271 *e*P **P** **10 50 51.7 +0.5**
comp=Z,78nm,1.5s
PMRV Marv??o 20.76 270 *e*P **P** **10 50 52.9 +1.0**
comp=Z,85nm,1.4s
PGAV Gavieira, Arco 20.77 278 *e*P **P** **10 50 52.2 +0.1**
comp=Z,224nm,1.5s
PGAV A A 11 00 22.0
comp=Z,1µm,18.0s
PVIS Viseu 20.77 274 *e*P **P** **10 50 52.8 +0.7**
MCD Coleburn Disti 20.89 324 *e*P **P** **10 50 53.0 -0.2**
PBAR Barrancos 20.91 267 *e*P **P** **10 50 53.9 +0.4**
comp=Z,302nm,1.5s
PBAR Barrancos 20.91 267 P **P** **10 50 52.8 -0.7**
CLGH Cloghs, Cushen 20.98 315 *e*P **P** **10 50 54.3 +0.1**
CLGH IAmb IAmb 10 51 00.1
comp=Z,84nm,0.8s
AKN Aaknes 21.00 343 *e*P **P** **10 50 55.7 +1.4**
AKN IAmb IAmb 10 51 00.7
comp=Z,110nm,1.1s
BELG Belogornoye 21.03 53 P **P** **10 50 53.2 -1.4**
comp=Z,96nm,0.8s,baz=77,slow=1.2,SNR=28
BELG LR LR 11 00 11.3
comp=Z,3µm,18.2s,baz=251,slow=40
comp=Z,96nm,0.8s
PESTR Estremoz 21.08 269 *e*P **P** **10 50 55.9 +0.5**
comp=Z,273nm,1.5s
PESTR Estremoz 21.08 269 P **P** **10 50 56.8 +1.4**
PESTR Estremoz 21.08 269⇓ P **P** **10 50 56.3 +0.9**
PTO Porto 21.19 276 *e*P **P** **10 50 58.1 +1.6**
comp=Z,143nm,1.3s
MOL Molde 21.24 344 *e*P **P** **10 50 58.3 +1.4**

COI Coimbra 21.29 273 *e*P **P** **10 50 59.5 +1.9**
comp=Z,275nm,1.4s
COI Coimbra 21.29 273 P **P** **10 50 57.5 -0.1**
COI Coimbra 21.29 273 P **P** **10 50 57.5 -0.1**
COI pmax pmax
comp=Z,378nm,1.5s
PCAS Casmilo, Conde 21.39 273 *e*P **P** **10 51 00.2 +1.5**
comp=Z,97nm,1.5s
TBLU Trondheim 21.39 348 *e*P **P** **10 51 01.0 +2.5**
PMTG Montargil 21.49 270 *e*P **P** **10 51 00.7 +1.0**
comp=Z,218nm,1.4s
EVO Evora 21.51 268 *e*P **P** **10 51 01.1 +1.2**
comp=Z,126nm,1.5s
EVO Evora 21.51 268 P **P** **10 50 59.1 -0.8**
PBEJ Beja 21.57 267 *e*P **P** **10 51 01.5 +0.8**
comp=Z,116nm,1.6s
IFR Ifrane 21.60 253 P **P** **10 51 00.5 -0.7**
MDT Midelt 21.62 251 P **P** **10 51 01.7 +0.4**
comp=Z,34nm,0.9s,baz=82,slow=17,SNR=55
comp=Z,34nm,0.9s
PVAQ Vaqueiros 21.70 265 *e*P **P** **10 51 03.2 +1.2**
PVAQ Vaqueiros 21.70 265 P **P** **10 51 01.7 -0.3**
PSBE So Bento 21.77 271 *e*P **P** **10 51 06.4 +3.6**
comp=Z,126nm,1.5s
KLMR Klimovskoe 21.77 26 *e*P **P** **10 51 01.7 -0.9**
KLMR pmax pmax
comp=Z,179nm,1.1s
KLMR MLR MLR
comp=Z,4µm,12.0s
PCVE Castro Verde 21.85 266 *e*P **P** **10 51 03.7 +0.1**
comp=Z,274nm,1.5s
PCVE Castro Verde 21.85 266 P **P** **10 51 02.1 -1.5**
MESJ Messejana 21.90 267 *e*P **P** **10 51 04.9 +0.7**
comp=Z,190nm,1.4s
MESJ Messejana 21.90 267 IAmb IAmb 10 51 10.5
comp=Z,142nm,1.2s
MESJ Messejana 21.90 267⇑ P **P** **10 51 05.0 +0.7**
PBDV Barranco-do-Ve 21.91 265 *e*P **P** **10 51 06.9 +2.5**
comp=Z,190nm,1.5s
PNCL Nicolau / Gran 22.03 268 *e*P **P** **10 51 05.4 -0.2**
comp=Z,258nm,1.5s
PNCL Nicolau / Gran 22.03 268 P **P** **10 51 04.1 -1.5**
PTEO Sao Teotonio 22.38 266 *e*P **P** **10 51 10.8 +1.5**
comp=Z,106nm,1.6s
NSS Namsos 22.39 351 *e*P **P** **10 51 09.7 +0.5**
NSS IAmb IAmb 10 51 14.7
comp=Z,104nm,0.9s
MORF Marmelete 22.42 266 *e*P **P** **10 51 12.5 +2.7**
comp=Z,125nm,1.9s
MORF Marmelete 22.42 266 IAmb IAmb 10 51 16.2
comp=Z,115nm,1.5s
PFVI Vila Bisbo 22.62 266 *e*P **P** **10 51 13.0 +1.2**
comp=Z,181nm,1.3s
PFVI Vila Bisbo 22.62 266 P **P** **10 51 13.0 +1.2**
TAM Tamanrasset 23.11 216 P **P** **10 51 18.3 +1.0**
TAM IAmb IAmb 10 51 20.9
comp=Z,149nm,1.7s
TAM Tamanrasset 23.11 216 P **P** **10 51 18.3 +1.0**
TAM pmax pmax
comp=Z,149nm,1.7s
MOR8 Moi Rana 23.77 355 *e*P **P** **10 51 25.0 +1.7**
STOK Stokkvaagen 24.04 353 *e*P **P** **10 51 26.6 +0.8**
KONS Konsvik 24.20 353 *e*P **P** **10 51 27.3 0.0**
KIRV Kirov 24.35 39*ce*P **P** **10 51 28.3 -0.4**
KIRV Kirov 24.35 39 LR LR 11 01 20.0
comp=Z,1µm,18.2s,baz=240,slow=37
TIO Tiouine 24.55 250 P **P** **10 51 30.8 -0.2**
FAUS Fauske 24.92 356 *e*P **P** **10 51 32.8 -1.0**
STEI Steigen 25.47 356 *e*P **P** **10 51 37.7 -1.0**
APA Apatity 26.04 12⇓ *i*P **P** **10 51 42.3 -1.6**
APA *i* 10 52 29.0
APA *i* S **S** **10 56 06.0 -8.3**
APA pmax pmax
comp=Z,28nm,0.9s
APA MLR MLR
comp=Z,2µm,10.0s
KTK1 Kautokeino 26.50 3 *e*P **P** **10 51 47.6 -0.5**
KTK1 IAmb IAmb 10 51 53.4
comp=Z,58nm,1.1s
JETT Jettan, Norway 26.98 0 *e*P **P** **10 51 52.7 +0.1**
TRO Tromso 27.06 359 *e*P **P** **10 51 54.4 +1.2**
ARA0 ARCESS Array B 27.12 4 *e*P **P** **10 51 54.7 +1.0**
ARCES ARCESS Array B 27.12 4 P **P** **10 51 52.9 -0.8**
ARCES ARCESS Array B 27.12 4 P **P** **10 51 52.5 -1.2**
comp=Z,16nm,0.9s,baz=184,slow=7.9,SNR=15
ARCES LR LR 11 03 10.8
comp=Z,922nm,20.8s,baz=186,slow=38
comp=Z,16nm,0.9s
AKTO Aktyubinsk 27.15 60 LR LR 11 04 32.1
comp=Z,925nm,18.8s,baz=240,slow=41
VADS Vadso 27.98 7 *e*P **P** **10 52 01.4 +0.1**
VADS IAmb IAmb 10 52 02.1
comp=Z,46nm,0.9s
ARU Arti 28.23 47 P **P** **10 52 02.7 -1.1**
ARU IAmb IAmb 10 52 04.4
comp=Z,28nm,0.9s
ARU Arti 28.23 47⇓ P **P** **10 52 03.4 -0.4**
ARU Arti 28.23 47*c* *i*P **P** **10 52 03.7 -0.1**
ARU 10 52 53.4
ARU S **S** **10 56 54.6 +5.4**
ARU SS **SnSn** **10 58 13.9 +8.4**
ARU pmax pmax
comp=Z,28nm,0.8s
ARU MLR MLR
comp=Z,1µm,14.0s
ARU Arti 28.23 47 LR LR 11 04 26.9
comp=Z,1µm,20.4s,baz=251,slow=39
ABKAR Akbulak array 28.40 63 P **P** **10 52 08.2 +2.9**
GEYT Alibeck 29.40 86 IAmb IAmb 10 52 20.4
comp=Z,68nm,1.8s
GEYT Alibeck 29.40 86 P **P** **10 52 15.0 +0.6**
comp=Z,4.7nm,0.6s,baz=327,slow=2.5,SNR=9.2
comp=Z,4.7nm,0.6s
GYA0B ALIBECK ARRAY 29.40 86 IAmb IAmb 10 52 20.2
comp=Z,55nm,1.7s
SVE Sverdlovsk 29.44 47*d* *i*P **P** **10 52 15.1 +0.6**
SVE pmax pmax
comp=Z,35nm,0.9s
SVE MLR MLR
comp=Z,1µm,10.0s
BORG Borgarnes 32.01 328 LR LR 11 07 34.4
comp=Z,471nm,19.0s,baz=120,slow=40
TOA0 Torodi Ar. Sit 33.32 214 P **P** **10 52 50.3 +1.2**
TORD Torodi Ar. Bea 33.32 214 P **P** **10 52 50.6 +1.5**
TORD IAmb IAmb 10 52 51.4
comp=Z,49nm,1.1s
TORD Torodi Ar. Bea 33.32 214 P **P** **10 52 50.0 +1.0**
comp=Z,32nm,0.9s,baz=15,slow=10,SNR=137
TORD PcP **PcP** **10 55 30.6 -0.4**
comp=Z,3.7nm,1.0s,baz=12,slow=4.4,SNR=4.6
TORD LR LR 11 08 18.9
comp=Z,406nm,18.7s,baz=30,slow=40
comp=Z,32nm,0.9s
BRVK Borovoye 34.74 55 P **P** **10 53 01.8 +0.7**
BRVK IAmb IAmb 10 53 09.0
comp=Z,28nm,0.7s
BRVK Borovoye 34.74 55⇓ P **P** **10 53 01.9 +0.9**
BRVK Borovoye 34.74 55*ce*P **P** **10 53 02.2 +1.2**
BRVK pmax pmax
comp=Z,34nm,1.0s
BVAR Borovoye Array 34.80 55 P **P** **10 53 02.4 +0.8**
comp=Z,20nm,0.9s,baz=276,slow=5.8,SNR=42
comp=Z,20nm,0.9s
SPITS Spitsbergen Ar 35.68 359 P **P** **10 53 08.6 -0.3**
comp=Z,13nm,0.9s,baz=157,slow=7.8,SNR=2.7
SPITS PcP **PcP** **10 55 36.5 -0.3**
comp=Z,8.2nm,0.8s,baz=146,slow=3.7,SNR=6.1
SPITS LR LR 11 09 02.6
comp=Z,515nm,20.2s,baz=142,slow=38
comp=Z,13nm,0.9s
CHM Chimkent 36.27 73 *e*P **P** **10 53 14.9 +0.6**
baz=73
CHM Chimkent 36.27 73 *e*P **P** **10 53 14.9 +0.6**
BRZS Berezniki 36.56 60 *e*P **P** **10 53 16.1 -0.7**
baz=60
BRZS Berezniki 36.56 60 *e*P **P** **10 53 16.0 -0.7**
KKAR Karatay Array 36.67 72⇑ P **P** **10 53 20.2 +2.5**
SIMJ Simiganj 37.10 79 P **P** **10 53 22.8 +1.2**
DZA Taraz 37.31 72 *e*P **P** **10 53 23.9 +0.7**
baz=72
DZA Taraz 37.31 72 *e*P **P** **10 53 23.8 +0.6**
WSAR Wadi Sarin 37.45 109 LR LR 11 12 19.3
comp=Z,361nm,18.8s,baz=345,slow=42
DAG Danmarks Havn 37.84 346⇑ P **P** **10 53 27.2 0.0**
DAG Danmarks Havn 37.84 346 *i*P **P** **10 53 26.0 -1.2**
BTK Batken 37.89 76 P **P** **10 53 28.6 +0.4**

BTK IAmb IAmb 10 53 36.2
comp=Z,27nm,0.8s
BTK Batken 37.89 76 P **P 10 53 28.6 +0.4**
BTK pmax pmax
comp=Z,27nm,0.9s
BTLS Baital 38.56 67 *e*P **P 10 53 34.2 +0.5**
comp=Z,16nm,1.6s,baz=67
BTLS Baital 38.56 67 *e*P **P 10 53 34.2 +0.5**
BTLS pmax pmax
comp=Z,16nm,1.6s
EKS2 Erkin-Say 39.09 71 P **P 10 53 39.9 +1.5**
SNR=42
AML Almayashu 39.21 72 P P 10 53 45.0 +5.3
SNR=8.8
USP Ospenovka 39.40 70 P **P 10 53 43.2 +2.3**
SNR=11
SGDS Sogindy 39.43 70 *e*P **P 10 53 41.6 +0.5**
comp=Z,17nm,1.6s,baz=70
SGDS Sogindy 39.43 70 *e*P **P 10 53 41.6 +0.5**
SGDS pmax pmax
comp=Z,17nm,1.6s
AAK Ala-Archa 39.60 71 P **P 10 53 44.3 +1.6**
SNR=14
AAK Ala-Archa 39.60 71 P **P 10 53 43.2 +0.6**
AAK IAmb IAmb 10 53 48.6
comp=Z,56nm,1.4s
AAK Ala-Archa 39.60 71 ⇑P **P 10 53 44.5 +1.9**
AAK Ala-Archa 39.60 71 *ce*P **P 10 53 43.6 +1.0**
AAK pmax pmax
comp=Z,45nm,1.3s
UCH Uchtor 39.75 71 P **P 10 53 44.6 +0.4**
SNR=8.3
KURBB Kurchatov Arra 40.13 58 P **P 10 53 46.7 0.0**
comp=Z,6.4nm,0.8s,baz=289,slow=9.7,SNR=38
comp=Z,6.4nm,0.8s
ICESG Greenland Ices 40.15 331 ⇓P **P 10 53 47.4 +0.3**
KURK Kurchatov 40.17 57 P **P 10 53 46.8 -0.2**
KURK Kurchatov 40.17 57 ⇑P **P 10 53 47.1 +0.1**
KURK Kurchatov 40.17 57 *ce*P **P 10 53 47.4 +0.4**
KURK pmax pmax
comp=Z,28nm,1.3s
TKM2 Tokmak 2 40.27 70 P **P 10 53 51.2 +2.9**
SNR=5.4
KZA Kyzart 40.32 71 P P 10 53 54.0 +5.1
SNR=9.2
KUU Kurty 40.47 68 *e*P **P 10 53 50.5 +0.9**
comp=Z,13nm,0.9s,baz=68
KUU *e*S **S 11 00 00.2 +2.2**
baz=68
KUU Kurty 40.47 68 *e*P **P 10 53 50.5 +0.9**
KUU *e*S **S 11 00 00.2 +2.2**
KUU pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 40.50 337 *i* P **P 10 53 49.0 -1.0**
CHKK Chushkaly 40.93 68 *e*P **P 10 53 53.4 0.0**
baz=68
CHKK Chushkaly 40.93 68 *e*P **P 10 53 53.4 0.0**
TNSS Tian-Shan 41.17 69 *e*P **P 10 53 57.0 +1.0**
baz=69
TNSS Tian-Shan 41.17 69 *e*P **P 10 53 56.9 +1.0**
MDOK Medeo 41.20 69 *e*P **P 10 53 56.0 +0.2**
baz=69
MDOK Medeo 41.20 69 *e*P **P 10 53 56.0 +0.2**
SEM Semipalatinsk 41.25 58 *e*P **P 10 53 56.4 +0.1**
baz=58
SEM Semipalatinsk 41.25 58 *e*P **P 10 53 56.3 +0.1**
ARXS Arharly 41.38 67 *e*P **P 10 53 58.2 +0.9**
TDK Taldyqorghan 41.52 66 *e*P **P 10 53 58.7 +0.4**
comp=Z,13nm,1.0s,baz=66
TDK Taldyqorghan 41.52 66 *e*P **P 10 53 58.7 +0.4**
TDK pmax pmax
comp=Z,13nm,1.0s
KSH Kashi 41.77 75 P **P 10 54 01.7 +1.2**
KSH sP sP 10 54 07.9 +1.3
KSH PP **PP 10 55 38.7 +1.7**
KSH PcP **PcP 10 55 59.5 +2.8**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,980nm,15.7s
KSH LR LR
comp=Z,730nm,13.9s
KSH LR LR
comp=Z,1μm,14.4s
DBIC Dimbokro 41.94 218 P **P 10 54 02.3 +0.3**
DBIC Dimbokro 41.94 218 P **P 10 54 02.4 +0.5**
comp=Z,57nm,0.7s,baz=17,slow=8.8,SNR=94
DBIC LR LR 11 11 35.1
comp=Z,425nm,21.4s,baz=14,slow=36
comp=Z,57nm,0.7s
ZHN Zhinishke 42.15 69 *e*P **P 10 54 03.7 +0.1**
baz=69
ZHN Zhinishke 42.15 69 *e*P **P 10 54 03.6 +0.1**
SATY Saty 42.16 69 *e*P **P 10 54 04.8 +1.0**
comp=Z,24nm,1.2s,baz=69
SATY *e*S **S 11 00 25.4 +2.0**
baz=69
SATY Saty 42.16 69 *e*P **P 10 54 04.7 +1.0**
SATY *e*S **S 11 00 25.3 +2.0**
SATY pmax pmax
comp=Z,23nm,1.2s
KPKS Kokpek 42.22 68 *e*P **P 10 54 04.5 +0.4**
comp=Z,21nm,1.5s,baz=68
KPKS Kokpek 42.22 68 *e*P **P 10 54 04.5 +0.4**
KPKS pmax pmax
comp=Z,21nm,1.5s
TARG Taragay, Kyrgy 42.22 71 P **P 10 54 05.1 +0.6**
TARG IAmb IAmb 10 54 13.5
comp=Z,24nm,0.9s
TARG Taragay, Kyrgy 42.22 71 P **P 10 54 05.1 +0.6**
TARG pmax pmax
comp=Z,24nm,0.9s
NIL Nilore 42.34 84 P **P 10 54 07.3 +2.1**
NIL IAmb IAmb 10 54 24.8
comp=Z,37nm,1.2s
NIL Nilore 42.34 84 P **P 10 54 07.3 +2.1**
NIL pmax pmax
comp=Z,37nm,1.3s
UZB Uzynbulak 42.56 68 *e*P **P 10 54 07.1 +0.1**
comp=Z,26nm,1.8s,baz=68
UZB Uzynbulak 42.56 68 *e*P **P 10 54 07.0 +0.1**
UZB pmax pmax
comp=Z,26nm,1.8s
SHLS Shalkode 42.86 68 *e*P **P 10 54 11.9 +2.5**
comp=Z,26nm,1.1s,baz=68
SHLS Shalkode 42.86 68 *e*P **P 10 54 11.8 +2.5**
SHLS pmax pmax
comp=Z,26nm,1.1s
NRIK Noril'sk 43.09 29 P **P 10 54 11.0 +0.3**
NRIK IAmb IAmb 10 54 12.6
comp=Z,30nm,0.9s
NRIK Noril'sk 43.09 29 P **P 10 54 11.6 +0.9**
comp=Z,23nm,0.8s,baz=254,slow=3.8,SNR=51
NRIK LR LR 11 14 38.4
comp=Z,1μm,18.5s,baz=271,slow=40
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 43.21 51 P **P 10 54 10.9 -1.0**
ZAA0 IAmb IAmb 10 54 15.9
comp=Z,39nm,1.3s
ZALV Zalesovo Beam 43.21 51 *i* P **P 10 54 12.0 +0.1**
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 43.21 51 P **P 10 54 11.9 +0.1**
comp=Z,12nm,0.7s,baz=281,slow=8.8,SNR=43
ZALV LR LR 11 14 16.9
comp=Z,1μm,18.9s,baz=280,slow=39
comp=Z,12nm,0.7s
MAKZ Makanchi 43.33 62 P **P 10 54 13.2 +0.2**
MAKZ Makanchi 43.33 62 P **P 10 54 13.2 +0.2**
MAKZ pmax pmax
comp=Z,30nm,1.4s
MK31 Makanchi Array 43.54 62 *ce*P **P 10 54 15.1 +0.4**
MKAR Makanchi Array 43.54 62 P **P 10 54 14.6 -0.1**
MKAR Makanchi Array 43.54 62 P **P 10 54 15.2 +0.5**
comp=Z,17nm,0.8s,baz=286,slow=5.9,SNR=77
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 44.15 328 LR LR 11 13 10.1
comp=Z,642nm,18.4s,baz=88,slow=37
NEEM North Greenlan 44.65 343 ⇑P **P 10 54 23.4 -0.2**
DGZ Jazzator, Alta 45.90 57 *i* P **P 10 54 34.2 +0.6**
DGZ pmax pmax
comp=Z,24nm,0.7s
KMBO Kilima Mbogo 46.31 156 *i* P **P 10 54 39.0 +1.8**
KMBO Kilima Mbogo 46.31 156 P **P 10 54 37.1 -0.1**
comp=Z,0.7nm,0.3s,baz=277,slow=23,SNR=1.4
comp=Z,0.7nm,0.3s

WMQ Urumqi 48.16 64 *e*P **P 10 54 53.0 +1.7**
WMQ sP sP 10 55 02.3 +4.9
WMQ pmax pmax
comp=Z,26nm,1.1s
WMQ LR LR
comp=Z,990nm,14.1s
WMQ LR LR
comp=Z,570nm,16.5s
WMQ LR LR
comp=Z,360nm,19.7s
FRB Frobisher Bay 52.14 326 ⇑P **P 10 55 20.8 -0.2**
FRB Frobisher Bay 52.14 326 LR LR 11 17 53.5
comp=Z,503nm,19.1s,baz=75,slow=36
MOY Mondy 53.22 50 *e*P **P 10 55 30.1 +0.7**
MOY pmax pmax
comp=Z,32nm,2.7s
SCHQ Schefferville 54.88 315 LR LR 11 18 51.7
comp=Z,182nm,18.3s,baz=56,slow=36
ZAK Zakamensk 55.08 51 *e*P **P 10 55 42.7 -0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
RES Resolute Bay 55.35 343 P **P 10 55 42.9 -1.5**
RES Resolute Bay 55.35 343 P **P 10 55 42.9 -1.5**
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 55.35 343 LR LR 11 20 13.3
comp=Z,279nm,18.6s,baz=6.0,slow=37
TIXI Tiksi 55.67 21 P **P 10 55 46.6 -0.1**
TIXI IAmb IAmb 10 55 51.0
comp=Z,20nm,1.1s
TIXI Tiksi 55.67 21 *ce*P **P 10 55 47.0 +0.3**
TIXI pmax pmax
comp=Z,24nm,1.3s
TIXI Tiksi 55.67 21 LR LR 11 22 51.1
comp=Z,41nm,18.3s,baz=342,slow=40
GBN Guysborough 56.14 303 P **P 10 55 50.8 +0.3**
GOMU GeErMu 56.52 69 P **P 10 55 54.9 +1.1**
GOMU pmax pmax
comp=Z,4.0nm,1.0s
GOMU LR LR
comp=Z,310nm,15.7s
GOMU LR LR
comp=Z,280nm,17.1s
GOMU LR LR
comp=Z,340nm,18.2s
BOD Bodaibo 57.22 39 *e*P **P 10 55 56.1 -1.8**
BOD pmax pmax
comp=Z,25nm,1.6s
LMN Caledonia Moun 57.94 305 P **P 10 56 03.1 -0.2**
SONM Songino Array 58.09 52 P **P 10 56 04.1 -0.3**
SONM Songino Array 58.09 52 P **P 10 56 04.7 +0.3**
comp=Z,12nm,0.8s,baz=293,slow=8.9,SNR=45
SONM LR LR 11 22 59.9
comp=Z,989nm,19.2s,baz=300,slow=38
comp=Z,12nm,0.8s
LSZ Lusaka 58.14 171 P **P 10 56 06.0 +1.1**
LSZ IAmb IAmb 10 56 07.6
comp=Z,22nm,1.0s
LSZ Lusaka 58.14 171 P **P 10 56 06.0 +1.1**
LSZ pmax pmax
comp=Z,22nm,1.0s
LSZ Lusaka 58.14 171 LR LR 11 22 11.6
comp=Z,260nm,18.6s,baz=345,slow=37
GTA Gaotai 58.24 64 *e*P **P 10 56 06.2 +0.6**
GTA pP pP 10 56 09.8 -0.3
GTA sP sP 10 56 12.5 +0.7
GTA pmax pmax
comp=Z,11nm,1.1s
GTA LR LR
comp=Z,320nm,20.4s
GTA LR LR
comp=Z,220nm,21.4s
GTA LR LR
comp=Z,290nm,20.7s
ULN Ulaanbaatar 58.46 52 P **P 10 56 06.4 -0.6**
ULN Ulaanbaatar 58.46 52 *ce*P **P 10 56 07.6 +0.6**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 58.46 52 P **P 10 56 07.4 +0.4**
comp=Z,29nm,0.9s
D62A Allapoint, All 59.84 308 P **P 10 56 16.5 +0.1**
E62A Clayton Lake 60.36 308 P **P 10 56 20.3 +0.3**
LDAQ Lac Daran 60.64 310 IAmb IAmb 10 56 23.1
comp=Z,16nm,0.9s
PKME Peaks-Kenny Pk 60.94 306 P **P 10 56 23.7 -0.2**
baz=58
YAK Yakutsk 61.50 30 P **P 10 56 26.5 -0.9**
YAK Yakutsk 61.50 30 *e*P **P 10 56 26.8 -0.6**
YAK *e**PP **sP 10 56 37.0 +3.4**
YAK *e* 10 58 46.5
YAK *e*S **S 11 04 48.7 +0.5**
YAK *e**SS sS 11 05 20.8 +25
YAK *e*SS **SS 11 08 45.7 -2.6**
YAK *e*SSS SSS 11 11 36.2
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,89nm,3.3s
YAK pmax pmax
comp=N,78nm,3.4s
YAK pmax pmax
comp=E,71nm,3.5s
YAK smax smax
comp=E,42nm,2.5s
YAK smax smax
comp=N,55nm,2.5s
YAK MLR MLR
comp=Z,724nm,17.0s
YAK MLR MLR
comp=N,371nm,16.0s
YAK MLR MLR
comp=E,289nm,18.0s
TSUM Tsumeb 61.56 182 P **P 10 56 27.7 -0.8**
TSUM IAmb IAmb 10 56 33.7
comp=Z,10.0nm,0.9s
LZH Lanzhou 62.73 65 ⇑P **P 10 56 37.4 +1.1**
LZH pP pP 10 56 41.0 +0.1
LZH S **S 11 05 07.1 +2.2**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,130nm,5.8s
LZH LR LR
comp=Z,300nm,13.1s
LZH LR LR
comp=Z,400nm,14.4s
LZH LR LR
comp=Z,250nm,13.1s
A36M Sachs Harbour 63.05 348 IAmb IAmb 10 56 45.1
comp=Z,12nm,0.9s
A36M Sachs Harbour 63.05 348 P **P 10 56 38.0 +0.3**
baz=28
LBNH Lisbon 63.07 306 P **P 10 56 38.3 0.0**
baz=56
TRQ Mont Tremblant 63.48 309 P **P 10 56 40.9 -0.2**
TRQ IAmb IAmb 10 56 42.3
comp=Z,24nm,1.0s
PALK Pallekele 63.81 105 LR LR 11 26 02.3
comp=Z,106nm,20.4s,baz=78,slow=38
HRV Adam Dziewonsk 63.83 305 P **P 10 56 43.7 +0.3**
baz=55
BTO Baotou 64.16 58 *e*P **P 10 56 45.1 -0.6**
BTO pP **pP 10 56 49.9 -0.3**
BTO sP **sP 10 56 52.0 +0.1**
BTO S **S 11 05 22.1 -0.5**
BTO SS **SS 11 09 29.7 -1.4**
BTO pmax pmax
comp=Z,24nm,0.5s
BTO pmax pmax
comp=Z,71nm,3.5s
BTO LR LR
comp=Z,660nm,16.2s
BTO LR LR
comp=Z,530nm,13.1s
BTO LR LR
comp=Z,600nm,19.6s
LONY Lake Ozonia 64.42 308 P **P 10 56 47.4 +0.2**
baz=54
L61B Northampton 64.54 305 P **P 10 56 48.5 +0.4**
baz=55
WIN Windhoek 64.93 183 P **P 10 56 51.1 +0.3**
WIN IAmb IAmb 10 56 57.4
comp=Z,12nm,0.8s
WIN Windhoek 64.93 183 P **P 10 56 51.1 +0.3**
WIN pmax pmax
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 64.98 57 ⇓P **P 10 56 51.3 +0.3**
HHC sP sP 10 56 59.1 +1.8
HHC *e*S **S 11 05 31.0 -1.6**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,320nm,4.0s
HHC LR LR
comp=Z,800nm,16.7s
HHC LR LR
comp=Z,770nm,17.3s
HHC LR LR
comp=Z,1μm,19.1s
FCC Fort Churchill 65.16 328 IAmb IAmb 10 56 58.2
comp=Z,7.2nm,0.7s
C36M Paulatuk 65.20 347 P **P 10 56 51.6 -0.2**
baz=29
ZEA Zeya 65.68 38 *e*P **P 10 56 55.8 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=E,300nm,15.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
XLT XiLinHaoTe 65.90 52 *e*P **P 10 56 57.6 +0.7**
XLT pP pP 10 57 00.9 -0.5
XLT sP sP 10 57 05.2 +2.1
XLT PcP **PcP 10 57 26.7 -1.0**
XLT pmax pmax
comp=Z,11nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.6s
PAL Palisades 66.13 304 P **P 10 56 58.5 +0.1**
baz=54
A21K Barrow 66.32 359 P **P 10 56 59.2 +0.2**
baz=2.8
A22K Sinclair Lake 66.61 358 P **P 10 57 01.1 +0.2**
baz=4.1
BINY Binghamton 66.67 306 P **P 10 57 01.6 -0.2**
baz=53
BILL Bilibino 66.79 13 *i* P **P 10 57 02.9 +0.8**
BILL pmax pmax
comp=Z,4.0nm,0.7s
PZH PanZhiHua 66.88 75 P **P 10 57 05.6 +2.1**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
SADO Sadowa 66.94 310 LR LR 11 24 51.5
comp=Z,280nm,20.4s,baz=77,slow=35
C26K Camden Bay 67.20 354 P **P 10 57 04.7 0.0**
baz=12
B22K Teshekpuk Lake 67.23 358 P **P 10 57 04.9 +0.1**
baz=5.3
D28M Stokes Point 67.23 352 P **P 10 57 05.3 +0.5**
baz=17
XAN Xi'an 67.30 64 ⇓P **P 10 57 06.0 0.0**
XAN pP pP 10 57 10.1 -0.4
XAN sP sP 10 57 12.9 +0.7
XAN pmax pmax
comp=Z,19nm,0.9s
XAN LR LR
comp=Z,340nm,13.1s
XAN LR LR
comp=Z,640nm,15.1s
A19K Wainwright 67.47 0 P **P 10 57 06.3 0.0**
baz=359
LBTB Lobatse 67.52 174 P **P 10 57 07.8 +0.5**
LBTB IAmb IAmb 10 57 16.0
comp=Z,17nm,0.9s
LBTB Lobatse 67.52 174 P **P 10 57 07.8 +0.5**
LBTB pmax pmax
comp=Z,17nm,0.9s
LBTB Lobatse 67.52 174 LR LR 11 29 05.8
comp=Z,344nm,19.9s,baz=354,slow=38
MEDO Medina 67.53 308 pP 10 57 11.2 -0.6
D27M Malcolm River 67.53 353 P **P 10 57 07.2 +0.3**
baz=15
INK Inuvik 67.59 350 P **P 10 57 07.1 0.0**
baz=21
INK Inuvik 67.59 350 LR LR 11 28 03.9
comp=Z,119nm,19.2s,baz=6.0,slow=37
C23K Itkillik River 67.62 356 P **P 10 57 07.6 +0.3**
baz=7.6
C24K Franklin Bluff 67.64 356 P **P 10 57 07.9 +0.4**
baz=9.1
B20K Meade River 67.65 359 IAmb IAmb 10 57 42.5
comp=Z,20nm,1.6s
B20K Meade River 67.65 359 P **P 10 57 07.8 +0.3**
baz=2.4
D25K Kavik River 67.89 355 P **P 10 57 09.1 0.0**
baz=11
B21K Ikpikpuk River 67.98 358 P **P 10 57 09.9 +0.3**
baz=4.4
HEH HeiHe 68.01 41 *e*P **P 10 57 09.8 -0.3**
HEH pmax pmax
comp=Z,20nm,0.8s
E28M Babbage River 68.01 352 IAmb IAmb 10 57 26.4
comp=Z,17nm,1.8s
E28M Babbage River 68.01 352 P **P 10 57 10.2 +0.4**
baz=16
E29M Blow River 68.04 351 IAmb IAmb 10 57 28.1
comp=Z,13nm,0.8s
E29M Blow River 68.04 351 P **P 10 57 10.3 +0.3**
baz=18
SEY Seymchan 68.17 21 *i* P **P 10 57 11.1 +0.2**
SEY pmax pmax
comp=Z,2.0nm,0.8s
SEY Seymchan 68.17 21 LR LR 11 30 26.5
comp=Z,382nm,19.1s,baz=316,slow=39
D24K Happy Valley 68.21 356 P **P 10 57 11.3 +0.3**
baz=8.9
BJI Beijing 68.28 55 P **P 10 57 12.2 +0.2**
BJI pmax pmax
comp=Z,6.0nm,1.6s
BJI LR LR
comp=Z,300nm,16.9s
BJI LR LR
comp=Z,190nm,19.5s
BJI LR LR
comp=Z,420nm,15.8s
B18K Kokolik River 68.31 1 P **P 10 57 12.1 +0.4**
baz=359
F31M Tsiigehtchic 68.43 349 IAmb IAmb 10 57 32.0
comp=Z,13nm,0.8s
F31M Tsiigehtchic 68.43 349 P **P 10 57 12.6 +0.2**
baz=21
C21K Knifeblade Rid 68.45 358 P **P 10 57 13.0 +0.4**
baz=4.2
D23K Nanushuk River 68.49 356 P **P 10 57 13.1 +0.3**
baz=7.5
F30M Barrier River 68.53 350 P **P 10 57 13.3 +0.2**
baz=19
C19K Lookout Ridge 68.58 360 P **P 10 57 13.2 -0.3**
baz=0.4
E27K Coleen River 68.62 353 P **P 10 57 13.9 +0.2**
baz=15
D22K Ayikyak River 68.66 357 P **P 10 57 14.2 +0.2**
baz=5.9
TOLK Tooilk Lake Re 68.76 356 P **P 10 57 14.7 +0.1**
baz=8.3
D20K Etivluk River 68.94 359 P **P 10 57 15.0 -0.7**
baz=2.8
G31M Satah River 68.99 349 IAmb IAmb 10 57 35.1
comp=Z,7.8nm,0.8s
G31M Satah River 68.99 349 P **P 10 57 15.0 -0.9**
baz=20
HNS HongShan 69.00 58 ⇑P **P 10 57 19.6 +3.1**
HNS *e*S **S 11 06 20.8 -0.2**
HNS pmax pmax
comp=Z,9.0nm,1.4s
HNS LR LR
comp=Z,450nm,19.1s
HNS LR LR
comp=Z,640nm,19.9s
HNS LR LR
comp=Z,280nm,14.3s
F28M Old Crow 69.00 352 P **P 10 57 15.6 -0.4**
baz=16
E25K Arctic Village 69.02 354 IAmb IAmb 10 58 15.8
comp=Z,20nm,1.9s

E25K Arctic Village 69.02 354 P **P** **10 57 16.2 0.0**
baz=11
YKA Yellowknife Ar 69.03 339 P **P** **10 57 15.7 -0.6**
comp=Z,3.3nm,0.9s,baz=30,slow=5.5,SNR=45
YKA LR LR 11 27 58.1
comp=Z,406nm,18.6s,baz=48,slow=36
comp=Z,3.3nm,0.9s
C18K Utukok River 69.03 0 IAmb IAmb 10 57 46.0
comp=Z,11nm,1.1s
C18K Utukok River 69.03 0 P **P** **10 57 16.1 -0.2**
baz=359
ERPA Erie 69.07 308 P **P** **10 57 16.7 -0.2**
baz=51
D19K Kuna River 69.18 359 IAmb IAmb 10 58 02.7
comp=Z,13nm,1.1s
D19K Kuna River 69.18 359 P **P** **10 57 16.6 -0.6**
baz=1.6
C17K DeLong Mountai 69.19 1 P **P** **10 57 16.5 -0.7**
baz=358
G30M tAoh Zraii Nji 69.19 350 IAmb IAmb 10 57 33.1
comp=Z,23nm,1.4s
G30M tAoh Zraii Nji 69.19 350 P **P** **10 57 17.5 +0.2**
baz=19
LYN LuoYang 69.32 62 ⇑P **P** **10 57 21.9 +3.3**
LYN sP sP 10 57 29.6 +4.8
LYN pmax pmax
comp=Z,11nm,1.6s
LYN pmax pmax
comp=Z,260nm,4.7s
F26K Sheenjek River 69.33 354 P **P** **10 57 18.4 +0.3**
baz=12
C16K Lisburne Hills 69.34 2 P **P** **10 57 17.8 -0.3**
C16K IAmb IAmb 10 57 48.1
comp=Z,12nm,1.1s
C16K Lisburne Hills 69.34 2 P **P** **10 57 18.6 +0.5**
baz=356
E23K Chandalar 69.34 356 P **P** **10 57 18.6 +0.4**
baz=8.2
E22K Anaktuvuk Pass 69.37 357 P **P** **10 57 19.1 +0.7**
E22K Anaktuvuk Pass 69.37 357 P **P** **10 57 18.7 +0.3**
baz=6.5
E20K Nigu River 69.39 358 P **P** **10 57 18.8 +0.3**
baz=3.1
G29M Pine Creek 69.47 351 IAmb IAmb 10 57 36.2
comp=Z,13nm,1.0s
G29M Pine Creek 69.47 351 P **P** **10 57 19.0 0.0**
baz=17
F25K Christian Rive 69.54 354 P **P** **10 57 19.5 +0.1**
baz=11
CHTO Chiang Mai 69.61 83 P **P** **10 57 19.8 -0.7**
CHTO IAmb IAmb 10 57 39.3
comp=Z,8.8nm,0.9s
CHTO Chiang Mai 69.61 83 P **P** **10 57 19.8 -0.7**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 69.61 83 P **P** **10 57 22.8 +2.3**
comp=Z,11nm,0.9s
RDOG Red Dog Mine 69.61 1 P **P** **10 57 20.2 +0.4**
baz=358
BMAR Burnt Mountain 69.62 354 P **P** **10 57 20.3 +0.4**
F24K Squaw Lake 69.78 355 IAmb IAmb 10 57 33.8
comp=Z,42nm,2.0s
F24K Squaw Lake 69.78 355 P **P** **10 57 21.4 +0.5**
baz=9.6
CMAR Chiang Mai Arr 69.83 83 *i*P **P** **10 57 21.1 -0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 69.83 83 P **P** **10 57 20.7 -1.2**
comp=Z,1.9nm,0.7s,baz=307,slow=7.2,SNR=14
CMAR LR LR 11 34 10.6
comp=Z,108nm,19.0s,baz=295,slow=41
comp=Z,1.9nm,0.7s
EPYK Eagle Plains 69.83 350 P **P** **10 57 21.2 0.0**
baz=18
M53A WI Miller and 69.90 308 P **P** **10 57 22.4 +0.4**
baz=50
GLMI Grayling 69.94 313 P **P** **10 57 22.6 +0.4**
baz=49
CBN Corbin Frederi 69.96 304 P **P** **10 57 23.3 +0.9**
baz=51
G27K Doyon Strip 69.97 352 P **P** **10 57 22.3 +0.2**
baz=14
D17K Noatak River 69.97 1 P **P** **10 57 22.0 +0.1**
baz=358
ENH Enshi 69.97 67 P **P** **10 57 22.9 +0.2**
G26K Porcupine Rive 70.03 353 P **P** **10 57 22.5 +0.2**
baz=13
H31M Peel River 70.05 349 P **P** **10 57 22.2 -0.4**
H31M IAmb IAmb 10 57 28.9
comp=Z,20nm,1.4s
H31M Peel River 70.05 349 P **P** **10 57 22.8 +0.2**
baz=20
H29M Whitestone 70.18 351 IAmb IAmb 10 57 40.9
comp=Z,9.3nm,0.8s
H29M Whitestone 70.18 351 P **P** **10 57 23.0 -0.3**
baz=17
COLD Coldfoot 70.20 356 P **P** **10 57 23.3 -0.1**
baz=7.8
E19K Redstone River 70.21 359 IAmb IAmb 10 57 39.4
comp=Z,9.9nm,0.8s
E19K Redstone River 70.21 359 P **P** **10 57 23.4 -0.1**
baz=2.3
E18K Tukpahlearik C 70.27 0 P **P** **10 57 23.9 0.0**
baz=360
F21K Alatna River 70.35 357 IAmb IAmb 10 57 50.2
comp=Z,8.8nm,0.8s
F21K Alatna River 70.35 357 P **P** **10 57 24.7 +0.3**
baz=5.2
G25K Bearman Lake 70.39 354 P **P** **10 57 24.8 +0.2**
baz=11
MA2 Magadan 70.43 24 LR LR 11 32 03.6
comp=Z,1μm,18.3s,baz=320,slow=39
WRGLY Wrigley 70.50 343 IAmb IAmb 10 57 45.5
comp=Z,14nm,1.1s
WRGLY Wrigley 70.50 343 P **P** **10 57 25.6 +0.3**
baz=28
H27K Steamboat Moun 70.52 352 P **P** **10 57 25.6 +0.2**
baz=14
MCWV Mont Chateau 70.54 306 P **P** **10 57 26.9 +0.9**
baz=50
G24K Hadweenzic Riv 70.56 355 IAmb IAmb 10 58 11.5
comp=Z,27nm,1.8s
G24K Hadweenzic Riv 70.56 355 P **P** **10 57 25.9 +0.2**
baz=9.8
G22K Bettles 70.57 356 P **P** **10 57 25.9 +0.3**
baz=6.7
F20K Avaraart Lake 70.59 358 P **P** **10 57 25.9 +0.2**
baz=3.4
E17K Hotham Inlet 70.60 1 P **P** **10 57 26.1 +0.3**
baz=359
G23K Bananza Creek 70.70 356 IAmb IAmb 10 58 18.7
comp=Z,26nm,2.0s
G23K Bananza Creek 70.70 356 P **P** **10 57 27.0 +0.4**
baz=7.9
KLR Kul'dur 70.78 40 *ce*P **P** **10 57 27.3 0.0**
KLR pmax pmax
comp=Z,13nm,1.3s
KLR Kul'dur 70.78 40 LR LR 11 31 39.6
comp=Z,308nm,18.1s,baz=314,slow=39
F19K Shaleruckik Mo 70.84 359 P **P** **10 57 27.1 -0.2**
baz=1.8
I30M Mount Dempster 70.88 350 IAmb IAmb 10 57 35.7
comp=Z,16nm,1.2s
I30M Mount Dempster 70.88 350 P **P** **10 57 27.4 -0.3**
baz=18
O53A New Philadelph 70.97 307 P **P** **10 57 28.7 +0.1**
baz=50
BNX BinXian 70.98 45 ⇑P **P** **10 57 28.4 -0.2**
BNX pmax pmax
comp=Z,9.0nm,0.7s
BNX pmax pmax
comp=Z,210nm,3.3s
I29M Ogilvie Camp, 71.00 351 IAmb IAmb 10 57 39.9
comp=Z,13nm,1.1s
I29M Ogilvie Camp, 71.00 351 P **P** **10 57 28.0 -0.3**
baz=17
AAM Ann Arbor 71.05 310 P **P** **10 57 29.4 +0.4**
baz=49
G21K Allakaket 71.06 357 P **P** **10 57 28.5 -0.2**
baz=5.2
BOSA Boshof 71.08 175 P **P** **10 57 29.9 +0.7**
BOSA IAmb IAmb 10 57 37.5
comp=Z,15nm,0.9s
BOSA Boshof 71.08 175 P **P** **10 57 30.0 +0.7**
BOSA pmax pmax
comp=Z,15nm,0.9s
BOSA Boshof 71.08 175 P **P** **10 57 29.9 +0.6**
comp=Z,14nm,1.0s,baz=353,slow=6.7,SNR=9.5

BOSA LR LR 11 31 12.7
comp=Z,484nm,19.5s,baz=4.0,slow=38
comp=Z,14nm,1.0s
I28M Miner Creek 71.10 351 IAmb IAmb 10 58 16.0
comp=Z,22nm,1.6s
I28M Miner Creek 71.10 351 P **P** **10 57 29.1 0.0**
baz=16
I27K Kandik River 71.13 352 P **P** **10 57 29.3 +0.1**
baz=14
CN2 Changchun 71.23 47 *e*P **P** **10 57 28.5 -1.6**
CN2 *es*P pP 10 57 35.0 +0.3
CN2 *e*S **S** **11 06 41.6 -5.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,900nm,16.0s
F17K Baldwin Pennin 71.25 0 IAmb IAmb 10 57 36.7
comp=Z,24nm,1.6s
F17K Baldwin Pennin 71.25 0 P **P** **10 57 29.7 -0.1**
baz=359
EYMN Ely 71.39 319 P **P** **10 57 31.1 +0.1**
EYMN IAmb IAmb 10 57 37.8
comp=Z,10nm,0.8s
EYMN Ely 71.39 319 P **P** **10 57 31.0 -0.1**
baz=46
H24K Noodor Dome 71.44 355 P **P** **10 57 31.4 +0.4**
H24K Noodor Dome 71.44 355 P **P** **10 57 31.1 +0.1**
baz=9.5
J30M Hart River 71.49 349 IAmb IAmb 10 57 52.4
comp=Z,19nm,1.1s
J30M Hart River 71.49 349 P **P** **10 57 31.5 0.0**
baz=18
G19K Purcell Mounta 71.53 359 IAmb IAmb 10 58 08.1
comp=Z,16nm,1.3s
G19K Purcell Mounta 71.53 359 P **P** **10 57 31.6 +0.1**
baz=2.4
I26K Coal Creek Min 71.58 353 P **P** **10 57 32.1 +0.3**
baz=13
PRP Porcupine Dome 71.58 354 P **P** **10 57 32.9 +0.9**
PRP Porcupine Dome 71.58 354 P **P** **10 57 31.7 -0.3**
baz=11
H22K Ishtalitna Cre 71.59 356 P **P** **10 57 31.9 0.0**
baz=6.8
IMAR Indian Mountai 71.60 357 P **P** **10 57 32.4 +0.4**
G18K Tagagawik 71.80 359 P **P** **10 57 33.4 +0.2**
baz=1.1
ULM Lac du Bonnet 71.83 322 IAmb IAmb 10 57 34.2
comp=Z,14nm,0.9s
ULM Lac du Bonnet 71.83 322 P **P** **10 57 33.0 -0.6**
ULM Lac du Bonnet 71.83 322 P **P** **10 57 33.0 -0.6**
comp=Z,8.1nm,0.8s,baz=33,slow=7.4,SNR=12
ULM LR LR 11 30 14.0
comp=Z,320nm,18.0s,baz=38,slow=37
comp=Z,8.1nm,0.8s
GRNR Gornyy 71.84 37 ‖ *i*P **P** **10 57 33.3 -0.3**
GRNR pmax pmax
comp=Z,8.0nm,1.0s
GRNR MLR MLR
comp=N,330nm,17.0s
GRNR MLR MLR
comp=E,370nm,17.0s
GRNR MLR MLR
comp=Z,410nm,14.0s
EGAK Eagle 71.89 352 P **P** **10 57 33.5 -0.2**
baz=15
H21K Melozitna Rive 71.89 357 IAmb IAmb 10 58 00.1
comp=Z,14nm,1.0s
H21K Melozitna Rive 71.89 357 P **P** **10 57 33.9 +0.2**
baz=5.7
P52A Corning 71.91 307 P **P** **10 57 34.7 +0.4**
baz=49
F15K North Star Dit 71.93 2 P **P** **10 57 34.1 +0.1**
baz=356
TNA Tin City 71.97 3 P **P** **10 57 34.5 +0.4**
baz=354
ACSO Alum Creek Sta 72.01 308 P **P** **10 57 35.1 +0.2**
baz=49
F14K Arctic Creek 72.12 3 P **P** **10 57 35.1 0.0**
baz=355
POKR Poker Plat Res 72.12 354 P **P** **10 57 35.1 0.0**
baz=9.8
H20K Anotleneega Mo 72.13 358 P **P** **10 57 35.5 +0.3**
baz=4.0
H19K Roundabout Mou 72.13 358 P **P** **10 57 35.6 +0.5**
baz=2.8
CNNC Cliffs of the 72.16 302 P **P** **10 57 36.2 +0.4**
baz=50
B35A B.B. Jittlefor 72.17 320 IAmb IAmb 10 57 36.7
comp=Z,11nm,1.0s
G17K Kiwalik Mounta 72.20 0 P **P** **10 57 35.2 -0.3**
baz=360
I23K Minto, Yukon-K 72.22 355 P **P** **10 57 35.7 +0.1**
baz=8.3
G16K Koyuk River 72.29 1 IAmb IAmb 10 58 09.6
comp=Z,14nm,1.3s
G16K Koyuk River 72.29 1 P **P** **10 57 36.4 +0.4**
baz=358
MDM Murphy Dome 72.33 355 P **P** **10 57 36.7 +0.3**
K29M Barlow Dome 72.35 350 P **P** **10 57 36.6 0.0**
baz=17
MAYO Mayo, Yukon 72.37 349 P **P** **10 57 36.7 +0.1**
baz=18
DAWY Dawson 72.38 351 P **P** **10 57 37.3 +0.6**
DAWY Dawson 72.38 351 P **P** **10 57 37.0 +0.3**
baz=16
COLA College 72.39 355 P **P** **10 57 36.9 +0.2**
baz=9.4
J26L Joseph Creek 72.40 353 P **P** **10 57 36.9 0.0**
baz=13
MLY Manley 72.42 356 IAmb IAmb 10 57 51.4
comp=Z,18nm,1.5s
MLY Manley 72.42 356 P **P** **10 57 36.9 -0.1**
baz=7.2
ILAR Eielson Array 72.42 354 P **P** **10 57 36.6 -0.3**
comp=Z,1.8nm,0.8s,baz=359,slow=6.2,SNR=18
ILAR LR LR 11 28 59.9
comp=Z,137nm,22.0s,baz=346,slow=36
comp=Z,1.8nm,0.8s
BLA Blacksburg 72.45 305 P **P** **10 57 37.5 -0.2**
baz=49
J25K Salcha River, 72.46 353 P **P** **10 57 37.2 0.0**
baz=11
H18K Honhosa River 72.54 359 P **P** **10 57 37.4 -0.2**
baz=1.4
P51A Williamsport 72.55 308 IAmb IAmb 10 57 38.8
comp=Z,25nm,1.1s
G15K Niukluk 72.66 2 P **P** **10 57 37.9 -0.4**
baz=357
K27K Chicken 72.72 352 IAmb IAmb 10 57 56.5
comp=Z,14nm,1.1s
K27K Chicken 72.72 352 P **P** **10 57 38.9 +0.2**
baz=14
NEA2 Nenana 72.75 355 P **P** **10 57 38.4 -0.5**
baz=8.5
H17K Granite Mounta 72.76 360 P **P** **10 57 38.2 -0.7**
baz=0.2
HDA Harding Lake 72.79 354 IAmb IAmb 10 57 41.5
comp=Z,9.0nm,0.8s
HDA Harding Lake 72.79 354 P **P** **10 57 38.5 -0.6**
baz=10
I20K Naaghedeneel 72.81 357 IAmb IAmb 10 58 34.0
comp=Z,22nm,1.1s
I20K Naaghedeneel 72.81 357 P **P** **10 57 39.1 -0.1**
baz=4.3
MDJ Mudanjiang 72.88 45 P **P** **10 57 40.3 +0.3**
MDJ pP pP 10 57 43.7 -0.9
MDJ sP sP 10 57 45.7 -0.5
MDJ PcP **PcP** **10 57 58.0 +1.0**
MDJ PP **PP** **11 00 22.8 +1.2**
MDJ S **S** **11 07 09.2 +3.3**
MDJ sS sS 11 07 18.6 +5.2
MDJ ScS **ScS** **11 07 49.2 +1.8**
MDJ SS **SS** **11 11 51.0 +5.9**
MDJ pmax pmax
comp=Z,6.0nm,1.1s
MDJ pmax pmax
comp=Z,310nm,3.8s
MDJ LR LR
comp=Z,810nm,13.3s
MDJ LR LR
comp=Z,740nm,15.3s

MDJ LR LR
comp=Z,1μm,17.7s
GCSA Galena City Sc 72.92 359 P **P** **10 57 39.8 -0.1**
baz=2.5
SCRK Sand Creek 72.96 353 P **P** **10 57 40.2 0.0**
baz=12
H16K Elim 73.05 1 P **P** **10 57 40.6 0.0**
baz=358
ANM Nome 73.06 2 P **P** **10 57 40.3 -0.3**
baz=356
FLDN Fort Liard 73.16 342 P **P** **10 57 41.9 +0.5**
baz=27
O48B Farmland 73.24 309 IAmb IAmb 10 57 42.8
comp=Z,20nm,0.8s
O48B Farmland 73.24 309 P **P** **10 57 42.4 +0.2**
baz=48
RIDG Independent Ri 73.27 353 IAmb IAmb 10 58 28.6
comp=Z,20nm,1.2s
RIDG Independent Ri 73.27 353 P **P** **10 57 42.5 +0.5**
baz=12
FARO Faro, Yukon 73.27 347 P **P** **10 57 42.6 +0.5**
baz=20
K24K Donnelly Dome 73.29 353 P **P** **10 57 42.1 0.0**
baz=11
BPAW Bear Paw Mtn. 73.36 356 P **P** **10 57 41.6 -0.9**
BPAW Bear Paw Mtn. 73.36 356 P **P** **10 57 42.2 -0.3**
baz=7.0
KOTAN Kotaneelee Air 73.39 342 P **P** **10 57 43.0 +0.3**
baz=27
J20K Nowinta River 73.42 357 P **P** **10 57 43.5 +0.7**
J20K Nowinta River 73.42 357 P **P** **10 57 43.0 +0.2**
baz=4.6
M31M Drury Creek, Y 73.46 348 IAmb IAmb 10 57 45.2
comp=Z,21nm,1.6s
M31M Drury Creek, Y 73.46 348 P **P** **10 57 43.3 +0.1**
baz=20
M30M Minto, Yukon 73.47 349 P **P** **10 57 43.0 -0.2**
baz=18
P49A Miami Univ. Ec 73.47 309 P **P** **10 57 43.6 +0.1**
baz=48
L44A Lake County Fo 73.49 312 P **P** **10 57 43.9 +0.3**
baz=47
GAMB Gambell 73.53 5 P **P** **10 57 43.9 +0.5**
baz=351
MCK McKinley 73.60 355 P **P** **10 57 44.0 +0.1**
baz=8.6
BCAR Beaver Creek A 73.62 351 P **P** **10 57 44.8 +0.7**
L27K Beaver Creek, 73.63 351 IAmb IAmb 10 58 28.7
comp=Z,22nm,1.6s
L27K Beaver Creek, 73.63 351 P **P** **10 57 44.2 +0.1**
baz=14
CHUM Lake Minchumin 73.64 356 P **P** **10 57 44.1 0.0**
baz=6.0
J19K Poorman 73.65 358 P **P** **10 57 44.3 +0.1**
baz=3.5
MDP Montagnes des 73.69 262 LR LR 11 26 29.5
comp=Z,151nm,20.9s,baz=76,slow=33
I17K Unalakleet 73.82 0 P **P** **10 57 45.3 +0.1**
baz=360
M29M Somme Creek 73.82 350 P **P** **10 57 45.5 +0.1**
baz=16
L26K Log Cabin Wild 73.83 352 P **P** **10 57 45.2 0.0**
baz=13
SPMN Marine on St. 73.94 317 P **P** **10 57 46.2 0.0**
baz=45
TRF Thorofare Moun 73.97 355 P **P** **10 57 45.7 -0.6**
baz=7.5
PAX Paxson 74.08 353 P **P** **10 57 46.5 -0.3**
baz=11
CAST Castle Rocks 74.09 356 P **P** **10 57 47.2 +0.4**
CAST Castle Rocks 74.09 356 P **P** **10 57 46.5 -0.3**
baz=6.2
DHY Denali Highway 74.14 354 IAmb IAmb 10 57 57.1
comp=Z,14nm,0.9s
DHY Denali Highway 74.14 354 P **P** **10 57 46.8 -0.4**
baz=9.7
BVCY Beaver Creek 74.15 351 P **P** **10 57 47.6 +0.4**
baz=15
J18K Innoko River 74.21 358 P **P** **10 57 47.5 +0.1**
baz=2.6
JFWS Jewell Farm 74.24 314 P **P** **10 57 47.8 -0.2**
baz=46
K20K Telida 74.24 357 P **P** **10 57 47.5 -0.1**
baz=4.6
N32M Quiet Lake 74.24 347 IAmb IAmb 10 58 15.4
comp=Z,14nm,0.9s
N32M Quiet Lake 74.24 347 P **P** **10 57 47.7 0.0**
baz=20
SFIN Lafayette 74.26 311 P **P** **10 57 48.5 +0.4**
baz=47
M27K Edge Creek, AK 74.32 351 P **P** **10 57 48.4 +0.1**
baz=14
N31M Braeburn, Yuko 74.36 348 P **P** **10 57 48.3 -0.1**
baz=18
KMSC Kings Mountain 74.36 303 P **P** **10 57 49.1 +0.3**
baz=49
M26K Nabesna, AK 74.40 352 IAmb IAmb 10 57 49.6
comp=Z,43nm,1.9s
M26K Nabesna, AK 74.40 352 P **P** **10 57 48.6 -0.1**
baz=13
USRK Ussuriysk Ar. 74.41 44 LR LR 11 33 39.5
comp=Z,565nm,18.7s,baz=318,slow=38
WTLY Watson Lake, Y 74.42 344 IAmb IAmb 10 58 05.9
comp=Z,14nm,1.1s
WTLY Watson Lake, Y 74.42 344 P **P** **10 57 49.2 +0.4**
baz=23
J16K Anvik River 74.42 0 P **P** **10 57 48.7 0.0**
baz=360
WAT1 Susitna Watana 74.47 354 P **P** **10 57 48.9 -0.2**
baz=8.8
N30M Aishikik Lake 74.58 349 P **P** **10 57 49.9 +0.2**
baz=17
HARP HAARP 74.62 353 P **P** **10 57 49.6 -0.3**
baz=11
PPLA Purkeypile 74.62 356 P **P** **10 57 49.6 -0.4**
baz=6.0
WAT6 Susitna Watana 74.66 354 P **P** **10 57 49.7 -0.6**
baz=9.4
SUR Sutherland 74.66 179 LR LR 11 33 38.7
comp=Z,385nm,19.6s,baz=359,slow=38
YUK3 Moose Creek 74.72 350 P **P** **10 57 50.2 -0.5**
baz=15
TTA Tatalina 74.73 358 P **P** **10 57 50.0 -0.6**
baz=3.1
BLO Bloomington 74.75 309 IAmb IAmb 10 57 51.8
comp=Z,29nm,0.9s
TZTN Tazewell 74.78 306 P **P** **10 57 52.1 +0.8**
baz=48
YUK4 Talbot Arm 74.91 349 P **P** **10 57 50.5 -1.3**
baz=16
J14K Nanvaranak Lak 74.92 2 P **P** **10 57 51.3 -0.3**
baz=357
NHSC New Hope 74.98 301 P **P** **10 57 52.2 -0.2**
baz=49
K17K Iditarod 74.98 359 pP 10 57 56.1 -0.4
K17K Iditarod 74.98 359 P **P** **10 57 52.1 +0.1**
baz=1.4
M24K Tolsona, Glenn 75.00 353 P **P** **10 57 51.8 -0.3**
baz=11
WHY Whitehorse 75.00 347 P **P** **10 57 51.9 -0.4**
baz=19
CUT Chulitna 75.00 355 P **P** **10 57 51.7 -0.3**
baz=7.5
NJ2 Nanjing 75.03 60 *e*P **P** **10 57 53.9 +1.2**
NJ2 pP **pP** **10 57 56.6 -0.7**
NJ2 pmax pmax
comp=Z,13nm,0.7s
SJG San Juan 75.07 281 LR LR 11 26 23.0
comp=Z,84nm,21.7s,baz=52,slow=32
P33M Teslin, Yukon 75.08 346 P **P** **10 57 53.0 +0.4**
baz=20
O30N Mendenhall 75.09 348 P **P** **10 57 53.1 +0.4**
baz=18
L20K Farewell, AK 75.11 357 P **P** **10 57 52.5 -0.3**
baz=4.8
YUK8 Steele Glacier 75.11 350 P **P** **10 57 51.9 -1.1**
baz=15
F33A 5 Mile Ranch, 75.20 320 IAmb IAmb 10 57 54.3
comp=Z,20nm,1.2s
HYT Haines Junctio 75.25 349 P **P** **10 57 53.9 +0.2**
baz=17
YUK6 Outpost Mounta 75.25 349 P **P** **10 57 53.2 -0.6**
baz=16
MDND Maddock 75.26 323 P **P** **10 57 53.5 -0.3**
baz=42
WCI Wyandotte Cave 75.26 309 P **P** **10 57 52.8 -1.2**
WCI IAmb IAmb 10 57 55.1
comp=Z,27nm,0.9s

WCI **Wyandotte Cave** **75.26 309** P **P** **10 57 54.4 +0.4**
baz=47
WCI **Wyandotte Cave** **75.26 309** P **P** **10 57 52.8 -1.2**
WCI pmax pmax
comp=Z,27nm,0.9s
N25K **Chitina, Valde** **75.34 352** P **P** **10 57 53.7 -0.5**
baz=12
L40A **Anamosa** **75.34 314** IAmb IAmb 10 57 55.4
comp=Z,26nm,1.0s
SCM **Sheep Creek Mo** **75.36 354** P **P** **10 57 54.1 -0.2**
baz=9.7
MCARA **McCarthy VSAT** **75.40 352** P **P** **10 57 54.0 -0.3**
baz=13
K15K **Wolf Creek Mou** **75.41 1** P **P** **10 57 54.2 -0.2**
baz=359
M23K **Glacier View** **75.43 354** P **P** **10 57 54.2 -0.4**
baz=9.4
L19K **White Mountain** **75.44 357** IAmb IAmb 10 58 17.9
comp=Z,28nm,1.6s
L19K **White Mountain** **75.44 357** P **P** **10 57 54.9 +0.3**
baz=4.0
L18K **Granite Mounta** **75.45 358** IAmb IAmb 10 58 06.5
comp=Z,42nm,2.0s
L18K **Granite Mounta** **75.45 358** P **P** **10 57 55.2 +0.6**
baz=2.6
SML **Sawmill** **75.47 354** P **P** **10 57 55.1 +0.3**
baz=8.8
SKT **Skwentna** **75.50 356** P **P** **10 57 55.4 +0.4**
baz=6.5
R33M **Jennings River** **75.51 345** IAmb IAmb 10 58 12.9
comp=Z,14nm,1.1s
R33M **Jennings River** **75.51 345** P **P** **10 57 55.3 +0.1**
baz=22
TKL **Tuckaleechee C** **75.51 305** LR LR 11 31 19.6
comp=Z,273nm,18.4s,baz=54,slow=36
L17K **Donlin** **75.57 359** P **P** **10 57 55.5 +0.2**
baz=1.4
KLU **Klutina** **75.58 353** P **P** **10 57 55.1 -0.4**
baz=11
CTG **Chitna Glacier** **75.62 351** P **P** **10 57 55.3 -0.5**
baz=14
M20K **Styx River** **75.68 357** P **P** **10 57 55.7 -0.4**
baz=5.3
PMR **Palmer** **75.74 355** P **P** **10 57 56.4 +0.2**
baz=8.3
P32M **Atlin** **75.82 346** P **P** **10 57 56.2 -0.7**
baz=20
P30M **Million Dollar** **75.84 348** P **P** **10 57 56.9 -0.1**
baz=17
KNK **Knik Glacier** **75.87 354** P **P** **10 57 56.9 -0.2**
baz=8.8
O29M **Mount Kennedy** **75.90 349** P **P** **10 57 57.4 0.0**
baz=16
SUA **Susitna One** **75.97 355** P **P** **10 57 58.0 +0.2**
baz=7.1
BMRM **Bremner River** **75.97 352** P **P** **10 57 57.9 +0.2**
baz=12
L16K **Owhat River** **76.00 360** P **P** **10 57 57.5 -0.3**
baz=0.5
CRQE **Cirque** **76.03 351** P **P** **10 57 58.2 +0.1**
baz=13
L15K **Ungalak Mounta** **76.03 1** P **P** **10 57 57.7 -0.2**
baz=359
Q32M **Nakina River** **76.16 346** P **P** **10 57 58.3 -0.7**
baz=21
M18K **Stony River** **76.16 358** P **P** **10 57 58.4 -0.3**
baz=3.3
DLBC **Dease Lake** **76.21 344** P **P** **10 57 59.3 +0.2**
baz=22
DLBC **Dease Lake** **76.21 344** LR LR 11 32 43.9
comp=Z,223nm,20.1s,baz=18,slow=37
SKAG **Skagway** **76.22 347** P **P** **10 57 59.3 +0.3**
baz=18
RC01 **Rabbit Creek A** **76.28 355** P **P** **10 57 59.6 +0.2**
baz=7.8
M17K **Holitna River** **76.29 359** IAmb IAmb 10 58 00.7
comp=Z,28nm,1.4s
M17K **Holitna River** **76.29 359** P **P** **10 57 59.4 0.0**
baz=2.0
N20K **Mount Spurr** **76.31 356** P **P** **10 57 59.1 -0.6**
baz=6.0
PINM **Pinnacle** **76.32 350** P **P** **10 57 59.2 -0.5**
baz=15
L14K **Kuka Creek** **76.35 1** P **P** **10 57 59.6 -0.2**
baz=358
P29M **Windy Craggy** **76.43 349** P **P** **10 58 00.6 +0.3**
baz=17
EYAK **Cordova Ski Ar** **76.49 353** P **P** **10 58 01.0 +0.4**
baz=11
SCIA **State Center** **76.50 315** P **P** **10 58 01.7 +0.7**
baz=44
PNL **Peninsula** **76.62 349** P **P** **10 58 02.0 +0.6**
baz=16
CAPN **Captain Cook N** **76.69 355** P **P** **10 58 02.4 +0.7**
baz=6.8
M16K **Timber Creek** **76.69 359** P **P** **10 58 02.2 +0.4**
baz=0.9
CLTN **Cedars of Leba** **76.74 307** IAmb IAmb 10 58 03.2
comp=Z,19nm,0.8s
DGMT **Dagmar** **76.77 325** P **P** **10 58 03.0 +0.5**
baz=39
N19K **Bonanza Creek** **76.80 357** P **P** **10 58 02.8 +0.3**
baz=4.3
GOGA **Godfrey** **76.83 303** P **P** **10 58 03.2 +0.2**
baz=47
O22K **Cooper Landing** **76.88 355** P **P** **10 58 02.8 0.0**
baz=7.8
Y52A **Lilburn** **76.89 304** IAmb IAmb 10 58 05.0
comp=Z,26nm,1.1s
KSAR **Wonju Array Be** **76.90 51** P **P** **10 58 02.8 -0.5**
KSAR **Wonju Array Be** **76.90 51** P **P** **10 58 02.8 -0.5**
ECSD **EROS Data Cent** **76.90 318** IAmb IAmb 10 58 04.2
comp=Z,14nm,0.9s
ECSD **EROS Data Cent** **76.90 318** P **P** **10 58 03.7 +0.4**
baz=43
KSRS **Korea Array** **76.91 51** P **P** **10 58 03.4 0.0**
comp=Z,4.0nm,0.9s,baz=316,slow=5.4,SNR=8.8
KSRS LR LR 11 35 28.7
comp=Z,615nm,18.1s,baz=310,slow=38
comp=Z,4.0nm,0.9s
S34M **Telegraph Cree** **76.92 345** P **P** **10 58 03.2 +0.2**
baz=22
M14K **Bethel** **76.95 1** P **P** **10 58 03.5 +0.4**
baz=359
KAIM **Kayak Island** **76.97 352** P **P** **10 58 03.5 +0.1**
baz=12
N18K **Kilae Creek** **76.98 358** P **P** **10 58 03.7 +0.3**
baz=3.2
M15K **Kasigluk River** **77.02 0** P **P** **10 58 03.5 -0.1**
baz=360
N17K **Nushagak Hills** **77.16 358** P **P** **10 58 04.0 -0.4**
baz=2.2
P23K **Montague Islan** **77.19 353** P **P** **10 58 04.1 -0.4**
baz=9.6
R32K **Eaglecrest** **77.20 346** P **P** **10 58 05.0 +0.4**
baz=19
M11K **Mekoryuk** **77.21 3** P **P** **10 58 05.0 +0.4**
baz=355
N16K **Nishlik Lake** **77.24 359** P **P** **10 58 05.4 +0.5**
baz=1.0
M13K **Dall Lake** **77.27 2** P **P** **10 58 04.9 -0.1**
baz=358
V48A **Smith Brothers** **77.27 307** IAmb IAmb 10 58 06.5
comp=Z,24nm,0.9s
YSS **Yuzh-Sakhalins** **77.47 36** P **P** **10 58 06.1 -0.3**
YSS **Yuzh-Sakhalins** **77.47 36** *ce* P **P** **10 58 06.5 +0.2**
YSS pmax pmax
comp=Z,53nm,1.3s
SUSD **Miller** **77.51 320** P **P** **10 58 06.3 -0.4**
SUSD **Miller** **77.51 320** P **P** **10 58 06.4 -0.2**
baz=41
N15K **Kwethluk River** **77.55 360** P **P** **10 58 06.8 +0.2**
baz=0.0
P40A **Paris** **77.58 313** IAmb IAmb 10 58 10.7
comp=Z,30nm,1.4s
WVT **Waverly** **77.59 308** P **P** **10 58 07.0 -0.2**
baz=46
BRSE **Bradley Lake S** **77.68 355** P **P** **10 58 06.7 -0.6**
baz=7.0
FVM **French Village** **77.78 311** IAmb IAmb 10 58 08.7
comp=Z,18nm,1.1s
O18K **Koktuh Hills** **77.78 357** P **P** **10 58 07.0 -1.0**
baz=3.7
S31K **Pelican** **77.79 347** P **P** **10 58 08.0 +0.1**
baz=18
CGM3 **Cape Girardeau** **77.83 310** IAmb IAmb 10 58 09.3
comp=Z,14nm,0.9s
O17K **Koliganek Bris** **77.92 358** P **P** **10 58 08.0 -0.6**
baz=2.3
PETK **Petropavlovsk-** **77.96 24** P **P** **10 58 09.2 +0.2**
comp=Z,1.9nm,0.7s,baz=269,slow=5.8,SNR=2.3
PETK LR LR 11 37 07.8
comp=Z,587nm,19.1s,baz=323,slow=39
comp=Z,1.9nm,0.7s
S32K **Killisnoo** **77.98 346** P **P** **10 58 08.3 -0.6**
baz=19
O16K **Kokwok River B** **78.11 359** P **P** **10 58 09.8 +0.1**
baz=1.5
CCM **Cathedral Cave** **78.19 311** P **P** **10 58 09.5 -1.0**
CCM IAmb IAmb 10 58 11.1
comp=Z,14nm,0.8s
CCM **Cathedral Cave** **78.19 311** P **P** **10 58 10.4 -0.1**
baz=44
CCM **Cathedral Cave** **78.19 311** P **P** **10 58 09.5 -1.0**
CCM pmax pmax
comp=Z,14nm,0.9s
P38A **Dawn** **78.31 314** IAmb IAmb 10 58 11.9
comp=Z,22nm,0.9s
O14K **Tigyukauivet M** **78.47 1** P **P** **10 58 11.6 0.0**
baz=359
PLAL **Pickwick Lake** **78.53 307** IAmb IAmb 10 58 12.9
comp=Z,17nm,1.0s
R40A **Maddies Statio** **78.58 312** IAmb IAmb 10 58 13.7
comp=Z,23nm,1.1s
PBMO **Polar Bluff** **78.63 310** IAmb IAmb 10 58 19.5
comp=Z,17nm,1.2s
Q18K **Katmai Hardscr** **78.98 357** P **P** **10 58 14.9 +0.2**
baz=3.8
U33K **Whale Pass** **78.99 345** P **P** **10 58 15.0 +0.4**
baz=20
Q16K **King Salmon** **79.00 358** P **P** **10 58 14.5 -0.1**
baz=2.6
LAO **LASA Array** **79.02 325** IAmb IAmb 10 58 17.6
comp=Z,35nm,1.1s
LAO **LASA Array** **79.02 325** P **P** **10 58 15.9 +0.8**
baz=37
PCRV **Puerto La Cruz** **79.14 274** LR LR 11 29 52.1
comp=Z,83nm,19.9s,slow=33
K30B **Basset** **79.15 319** IAmb IAmb 10 58 17.1
comp=Z,35nm,1.0s
LRAL **Lakeview Retre** **79.24 305** P **P** **10 58 17.0 +0.6**
baz=46,SNR=6.9
EGMT **Eagleton** **79.37 328** IAmb IAmb 10 58 18.5
comp=Z,33nm,1.1s
EGMT **Eagleton** **79.37 328** P **P** **10 58 17.6 +0.7**
baz=35,SNR=15
BGNE **Belgrade** **79.39 317** P **P** **10 58 16.6 -0.5**
baz=41
MGMO **Mountain Grove** **79.40 311** IAmb IAmb 10 58 19.3
comp=Z,16nm,1.1s
V35K **Ketchikan** **79.43 344** P **P** **10 58 16.9 -0.1**
baz=21
ASAJ **Asahikawa** **79.59 38** LR LR 11 38 21.1
comp=Z,278nm,18.2s,baz=345,slow=39
S39A **Bolivar** **79.59 312** IAmb IAmb 10 58 19.3
comp=Z,25nm,0.9s
CRAG **Craig** **79.60 345** P **P** **10 58 16.7 -1.2**
baz=20
OXF **Oxford** **79.65 308** P **P** **10 58 18.8 +0.3**
baz=45
KDAK **Kodiak Island** **79.74 356** P **P** **10 58 17.3 -1.4**
baz=5.6
KDAK **Kodiak Island** **79.74 356** LR LR 11 32 58.2
comp=Z,87nm,21.8s,baz=31,slow=35
R17K **Ugashik Creek** **80.04 358** P **P** **10 58 20.4 +0.1**
baz=2.8
R18K **Karluk** **80.05 357** P **P** **10 58 21.4 +1.2**
baz=4.2
RSSD **Black Hills** **80.10 323** P **P** **10 58 20.6 -0.6**
RSSD **Black Hills** **80.10 323** P **P** **10 58 21.1 0.0**
baz=38
RSSD **Black Hills** **80.10 323** P **P** **10 58 20.6 -0.6**
RSSD pmax pmax
comp=Z,7.0nm,1.1s
R16K **Pilot Point** **80.14 359** P **P** **10 58 21.0 +0.2**
baz=1.9
Y45A **Yeager Farm, C** **80.18 307** IAmb IAmb 10 58 22.2
comp=Z,38nm,1.0s
FCAR **Ozark Folk Cen** **80.22 310** IAmb IAmb 10 58 22.9
comp=Z,22nm,1.1s
KSU1 **Kansas State U** **80.32 315** IAmb IAmb 10 58 23.1
comp=Z,32nm,0.9s
KSU1 **Kansas State U** **80.32 315** P **P** **10 58 22.5 +0.4**
baz=42,SNR=6.1
OHAK **Old Harbor** **80.34 356** P **P** **10 58 22.4 +0.6**
baz=5.1
WHAR **Wooly Hollow** **80.75 310** IAmb IAmb 10 58 26.0
comp=Z,32nm,1.1s
HHAR **Hobbs** **80.95 312** IAmb IAmb 10 58 26.4
comp=Z,14nm,0.9s
SII **Sitkinak Islan** **81.04 357** P **P** **10 58 25.8 0.0**
baz=4.4
U38A **Gravette** **81.09 312** IAmb IAmb 10 58 27.3
comp=Z,21nm,1.0s
BOAV **Boa Vista** **81.29 265** P **P** **10 58 27.9 +0.2**
BOAV IAmb IAmb 10 58 29.7
comp=Z,14nm,1.0s
CHGN **Chignik** **81.42 359** P **P** **10 58 28.0 +0.3**
baz=1.3
S14K **Fog Glacier** **81.44 360** P **P** **10 58 27.9 -0.1**
baz=0.4
BBB **Bella Bella** **81.56 341** LR LR 11 37 03.4
comp=Z,251nm,19.3s,baz=36,slow=37
RLO **Rose Lookout** **81.64 312** IAmb IAmb 10 58 30.2
comp=Z,28nm,1.0s
OGNE **Ogallala** **81.64 319** P **P** **10 58 29.3 +0.1**
baz=39
JNU **Nakatsue** **81.68 52** LR LR 11 38 21.3
comp=Z,346nm,20.7s,baz=321,slow=38
CHIR **Chirikof Islan** **81.83 357** P **P** **10 58 30.1 +0.2**
baz=3.3
NEW **Newport** **81.85 333** P **P** **10 58 30.8 +0.6**
baz=30
NEW **Newport** **81.85 333** LR LR 11 35 15.0
comp=Z,264nm,20.8s,baz=36,slow=36
R32A **Long Quarter,** **81.91 316** IAmb IAmb 10 58 31.7
comp=Z,23nm,0.9s
MSO **Missoula** **81.95 330** IAmb IAmb 10 59 51.3
comp=Z,30nm,2.0s
MSO **Missoula** **81.95 330** P **P** **10 58 31.1 +0.3**
baz=32
BOZ **Bozeman (W)** **82.10 328** P **P** **10 58 31.9 +0.2**
baz=34,SNR=5.2
CBKS **Cedar Bluff** **82.14 317** P **P** **10 58 32.4 +0.5**
baz=40
YMP **Mirror Lake PI** **82.22 327** IAmb IAmb 10 58 37.8
comp=Z,16nm,1.4s
TUL3 **Leonard** **82.24 312** IAmb IAmb 10 58 33.7
comp=Z,27nm,0.9s
TUL3 **Leonard** **82.24 312** P **P** **10 58 32.9 +0.5**
baz=42,SNR=8.9
KAN09 **Caldwell North** **82.31 314** IAmb IAmb 10 58 34.4
comp=Z,27nm,1.0s
OK051 **E0350 and S346** **82.37 313** IAmb IAmb 10 58 34.9
comp=Z,29nm,1.0s
K22A **Casper** **82.37 323** IAmb IAmb 10 58 33.8
comp=Z,19nm,1.1s
K22A **Casper** **82.37 323** P **P** **10 58 33.1 0.0**
baz=37,SNR=6.0
BLOK **Blackwell** **82.38 314** IAmb IAmb 10 58 34.9
comp=Z,26nm,1.1s
SHEM **Shemya Is, Ala** **82.44 15** LR LR 11 41 45.0
comp=Z,186nm,18.1s,baz=312,slow=40
KAN17 **Caldwell West** **82.46 314** IAmb IAmb 10 58 35.0
comp=Z,16nm,0.8s
KAN05 **Bluff City Nor** **82.47 314** IAmb IAmb 10 58 35.0
comp=Z,30nm,1.2s
YMR **Madison River** **82.60 327** IAmb IAmb 10 59 04.0
comp=Z,35nm,1.9s
C09A **Chrisman Ranch** **82.64 333** IAmb IAmb 10 58 46.3
comp=Z,11nm,1.1s
H17A **Grant Village** **82.67 327** P **P** **10 58 36.3 +1.5**
baz=34
YFT **Old Faithful** **82.73 327** IAmb IAmb 10 58 43.8
comp=Z,13nm,1.2s
PHWY **Pilot Hill** **82.96 322** IAmb IAmb 10 58 38.0
comp=Z,18nm,1.0s
FLWY **Flagg Ranch** **82.98 327** IAmb IAmb 10 59 01.0
comp=Z,28nm,1.3s
IMW **Indian Meadow** **83.23 327** IAmb IAmb 10 58 40.4
comp=Z,10nm,0.9s
OK029 **Liberty Lake** **83.23 313** IAmb IAmb 10 58 39.2
comp=Z,17nm,0.9s
MJAR **Matsushiro Arr** **83.24 46** P **P** **10 58 37.0 -0.6**
MJAR **Matsushiro Arr** **83.24 46** P **P** **10 58 37.0 -0.6**
comp=Z,5.6nm,1.1s,baz=315,slow=6.0,SNR=6.7
MJAR LR LR 11 38 55.6
comp=Z,400nm,18.2s,baz=326,slow=38
comp=Z,5.6nm,1.1s
W35A **Tecumseh** **83.40 313** IAmb IAmb 10 58 40.1
comp=Z,23nm,1.1s
KSCO **Kaye Shedlock'** **83.43 319** P **P** **10 58 39.6 +0.9**
baz=39,SNR=12
RWWY **Rawlins** **83.44 323** IAmb IAmb 10 58 40.8
comp=Z,16nm,1.1s
FXWY **Fox Creek** **83.48 326** IAmb IAmb 10 58 40.7
comp=Z,12nm,1.1s
N23A **Red Feather La** **83.51 322** IAmb IAmb 10 58 40.9
comp=Z,18nm,0.9s
N23A **Red Feather La** **83.51 322** P **P** **10 58 40.0 +0.7**
baz=37,SNR=11
TPAW **Teton Pass** **83.57 326** IAmb IAmb 10 58 41.6
comp=Z,10nm,0.8s
BW06 **Boulder Array** **83.59 325** IAmb IAmb 10 58 40.3
comp=Z,11nm,1.0s
BW06 **Boulder Array** **83.59 325** P **P** **10 58 39.6 0.0**
baz=35,SNR=11
PD31 **Pinedale Array** **83.59 325** IAmb IAmb 10 58 40.3
comp=Z,9.9nm,1.0s
PDAR **Pinedale Array** **83.59 325** P **P** **10 58 39.0 -0.6**
comp=Z,5.0nm,0.8s,baz=63,slow=4.3,SNR=44
PDAR LR LR 11 35 24.4
comp=Z,122nm,20.6s,baz=37,slow=35
comp=Z,5.0nm,0.8s
E09A **Wood Farm, Sta** **83.72 332** IAmb IAmb 10 58 40.8
comp=Z,8.2nm,1.0s
ISCO **Idaho Springs** **84.23 321** P **P** **10 58 43.7 +0.7**
baz=37,SNR=6.0
AHID **Auburn Hatcher** **84.23 326** IAmb IAmb 10 58 43.9
comp=Z,7.3nm,0.8s
HAWA **Hanford** **84.29 333** IAmb IAmb 10 58 44.5
comp=Z,10.0nm,1.0s
GNW **Green Mountain** **84.31 336** IAmb IAmb 10 58 55.8
comp=Z,14nm,1.0s
SDV **Santo Domingo** **84.40 277** LR LR 11 31 58.3
comp=Z,61nm,18.3s,baz=80,slow=33
JOW **Kunigami** **84.58 58** LR LR 11 42 09.7
comp=Z,302nm,18.1s,baz=68,slow=40
NATX **Nacogdoches** **84.67 309** P **P** **10 58 46.0 +1.0**
baz=42
Q24A **Divide** **84.68 320** P **P** **10 58 45.2 -0.1**
baz=37
WMOK **Wichita Mounta** **84.74 313** IAmb IAmb 10 58 47.1
comp=Z,20nm,1.0s
BMO **Blue Mountains** **84.86 331** IAmb IAmb 10 59 07.4
comp=Z,9.5nm,1.1s
F07A **Phinny Hill Vi** **84.86 333** IAmb IAmb 10 58 47.7
comp=Z,12nm,1.0s
HLID **Hailey** **84.89 328** P **P** **10 58 46.1 0.0**
baz=32
BDFB **Brasilia** **85.00 244** P **P** **10 58 47.2 +0.4**
comp=Z,27nm,0.9s,baz=58,slow=6.2,SNR=25
comp=Z,27nm,0.9s
O20A **White River Ci** **85.16 323** P **P** **10 58 47.1 -0.5**
baz=36
SMWD **Samnorwood** **85.23 315** IAmb IAmb 10 58 49.0
comp=Z,17nm,1.3s
MFID **Camas Ranch** **85.55 329** IAmb IAmb 10 58 50.7
comp=Z,11nm,0.9s
T25A **Trinidad** **85.77 319** P **P** **10 58 50.9 +0.3**
baz=38
SDCO **Great Sand Dun** **85.81 320** P **P** **10 58 51.1 +0.2**
baz=37
PLPT **Palo Pinto** **85.94 312** IAmb IAmb 10 58 52.9
comp=Z,25nm,1.0s
WHTX **Lake Whitney,** **86.08 311** IAmb IAmb 10 58 53.7
comp=Z,11nm,0.9s
WHTX **Lake Whitney,** **86.08 311** P **P** **10 58 52.5 +0.4**
baz=41
AMTX **Amarillo** **86.15 315** P **P** **10 58 52.7 +0.2**
baz=39
S22A **4UR Ranch, Cre** **86.44 320** IAmb IAmb 10 59 12.2
comp=Z,25nm,2.0s
S22A **4UR Ranch, Cre** **86.44 320** P **P** **10 58 54.2 +0.1**
baz=36
JHJ **Hachijo jima 2** **86.68 47** LR LR 11 40 03.6
comp=Z,123nm,18.1s,baz=112,slow=37
HKT **Hockley** **86.69 308** P **P** **10 58 54.4 -0.5**
HKT IAmb IAmb 10 58 57.5
comp=Z,14nm,1.1s
HKT **Hockley** **86.69 308** P **P** **10 58 54.4 -0.5**
HKT pmax pmax
comp=Z,14nm,1.1s
ABTX **Abilene, Hawle** **86.81 313** P **P** **10 58 56.7 +1.0**
baz=40
435B **Jarrell** **87.07 310** P **P** **10 58 57.6 +0.7**
baz=41
DUG **Dugway, Tooele** **87.08 326** IAmb IAmb 10 59 08.8
comp=Z,21nm,1.6s
DUG **Dugway, Tooele** **87.08 326** P **P** **10 58 57.2 +0.2**
baz=33,SNR=6.2
MSTX **Muleshoe** **87.43 316** P **P** **10 58 58.8 +0.1**
baz=38
WVOR **Wild Horse Val** **87.44 331** IAmb IAmb 11 00 19.0
comp=Z,28nm,2.0s
BRDY **Brady** **87.48 311** IAmb IAmb 10 59 00.7
comp=Z,18nm,1.2s
ELK **Elko** **87.60 328** LR LR 11 37 55.8
comp=Z,281nm,21.1s,baz=35,slow=36
MVCO **Mesa Verde** **87.65 321** IAmb IAmb 10 59 00.1
comp=Z,22nm,1.7s
MVCO **Mesa Verde** **87.65 321** P **P** **10 59 00.7 +0.8**
baz=35
HMU **Henry Mountain** **88.07 323** IAmb IAmb 10 59 02.0
comp=Z,12nm,0.9s
TCRU **Three Creeks R** **88.26 325** IAmb IAmb 10 59 04.0
comp=Z,8.0nm,0.9s
ANMO **Albuquerque** **88.51 319** P **P** **10 59 04.3 +0.3**
baz=36
ANMO **Albuquerque** **88.51 319** LR LR 11 39 10.9
comp=Z,312nm,18.5s,baz=138,slow=36
MTPU **Mount Pierson** **88.62 324** IAmb IAmb 10 59 05.9
comp=Z,11nm,1.1s
SPR3 **Spring Creek 3** **88.72 326** IAmb IAmb 10 59 07.0
comp=Z,6.4nm,0.9s
Q12A **Willow Creek R** **88.89 326** IAmb IAmb 10 59 07.6
comp=Z,11nm,1.0s
OZNA **Ozona** **88.92 313** IAmb IAmb 10 59 07.4
comp=Z,9.7nm,0.9s
PKCU **Pink Cliffs** **89.17 324** IAmb IAmb 10 59 08.1
comp=Z,12nm,0.9s
YBH **Yreka Blue Hor** **89.48 333** LR LR 11 42 34.7
comp=Z,217nm,19.5s,baz=25,slow=38
R11B **Troy Canyon, C** **89.79 327** IAmb IAmb 11 00 11.2
comp=Z,16nm,1.9s
R11B **Troy Canyon, C** **89.79 327** P **P** **10 59 10.4 +0.5**
baz=31
DRIO **Del Rio** **89.80 311** IAmb IAmb 10 59 11.2
comp=Z,16nm,0.9s
ROSC **El Rosal** **89.82 276** LR LR 11 36 14.6
comp=Z,238nm,21.0s,baz=14,slow=34
833A **Chaparral WMA,** **89.95 310** P **P** **10 59 11.3 +0.7**
baz=40
PECS **Pecos** **90.04 315** IAmb IAmb 10 59 13.0
comp=Z,18nm,1.3s
WUAZ **Wupatki** **90.36 322** IAmb IAmb 10 59 14.4
comp=Z,12nm,1.1s
WUAZ **Wupatki** **90.36 322** P **P** **10 59 12.6 0.0**
baz=34
PRN **Pahroc Range** **90.37 326** IAmb IAmb 10 59 29.2
comp=Z,8.4nm,1.1s
MNTX **Cornudas Mount** **90.57 316** P **P** **10 59 13.0 -0.5**
baz=37
ALPN **Alpine** **90.70 314** IAmb IAmb 10 59 15.4
comp=Z,11nm,1.1s
NVAR **Mina Array Bea** **90.80 328** P **P** **10 59 14.9 +0.3**
comp=Z,1.1nm,0.8s,baz=48,slow=4.1,SNR=6.0
NVAR LR LR 11 40 08.0
comp=Z,279nm,20.8s,baz=30,slow=36
comp=Z,1.1nm,0.8s
SAML **Samuel** **90.90 259** P **P** **10 59 15.1 0.0**
SAML IAmb IAmb 10 59 16.6
comp=Z,8.9nm,1.1s
SAML **Samuel** **90.90 259** P **P** **10 59 15.1 0.0**
SAML pmax pmax
comp=Z,9.0nm,1.2s
LHV **Little Huntoon** **91.03 328** IAmb IAmb 10 59 32.1
comp=Z,15nm,1.5s
121A **Cookes Peak, D** **91.11 318** P **P** **10 59 16.8 +0.6**
baz=36
STKI **Sintang** **91.16 89** P P 10 59 23.8 +7.4
TPNV **Topopah Spring** **91.26 326** P **P** **10 59 16.7 0.0**
baz=31
X16A **Lo Mia Camp, P** **91.30 322** IAmb IAmb 10 59 18.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,6.6nm,1.0s						
TXAR	Lajitas Array	91.53	313	LR	LR	11 40 13.3	
	comp=Z,103nm,18.7s,baz=43,slow=35						
GRAC	Grapevine Rang	91.67	327	P	P	10 59 19.3	+0.8
	baz=30						
V12A	Nelson	91.72	325	IAmb	IAmb	10 59 20.4	
	comp=Z,20nm,1.6s						
FURC	Furnace Creek,	91.92	326	P	P	10 59 20.1	+0.6
	baz=30						
SHOC	Shoshone, Teco	92.17	326	P	P	10 59 22.1	+1.3
	baz=31						
CWC	Cottonwood Cre	92.44	327	P	P	10 59 22.7	+0.5
	baz=30						
PTLB	Pontes e Lacer	92.44	251	P	P	10 59 22.6	+0.4
MPMC	Manual Prospec	92.53	327	P	P	10 59 23.1	+0.4
	baz=30						
PDMCI	Parker Dam,Lak	92.61	323	P	P	10 59 23.5	+0.7
	baz=32						
JCJ	Chichijima	92.64	49	LR	LR	11 44 27.4	
	comp=Z,212nm,19.2s,baz=274,slow=38						
TUC	Tucson	92.74	320	P	P	10 59 23.7	+0.1
TUC				IAmb	IAmb	10 59 25.0	
	comp=Z,7.9nm,1.4s						
TUC	Tucson	92.74	320	P	P	10 59 23.8	+0.2
	baz=34						
TUC	Tucson	92.74	320	P	P	10 59 23.7	+0.1
TUC				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GMRC	Granite Mounta	92.86	325	P	P	10 59 24.4	+0.3
	baz=31						
LEM	Lembang	92.94	97	LR	LR	11 46 37.7	
	comp=Z,80nm,18.1s,baz=306,slow=39						
LRMC	Laurel Mtn Rad	93.11	326	P	P	10 59 25.3	0.0
	baz=30						
IRM	Iron Mountain	93.17	324	P	P	10 59 25.3	-0.2
	baz=31						
ISA	Isabella, Lake	93.27	327	P	P	10 59 26.4	+0.5
	baz=29						
BELC	Belle Mtn. Jos	93.68	325	P	P	10 59 28.2	+0.2
	baz=31						
ETMB	Extrema	93.69	260	IAmb	IAmb	10 59 28.9	
	comp=Z,9.7nm,1.0s						
BC3	Big Chuckawall	93.74	324	P	P	10 59 28.5	+0.3
	baz=31						
EDW2	Edwards Air Fo	93.75	326	P	P	10 59 27.5	-0.6
	baz=30						
JTS	Las Juntas de	93.76	288	LR	LR	11 37 26.4	
	comp=Z,89nm,19.5s,baz=112,slow=33						
BBRC	Big Bear Solar	93.84	325	P	P	10 59 28.3	-0.5
	baz=30						
214A	Organ Pipe Nat	93.99	321	P	P	10 59 28.0	-1.2
	baz=33						
SIV	San Ignacio	94.17	252	LR	LR	11 40 43.5	
	comp=Z,90nm,19.7s,baz=66,slow=35						
PFO	Pinyon Flats O	94.21	325	P	P	10 59 30.5	+0.1
PFO	Pinyon Flats O	94.21	325	P	P	10 59 30.4	+0.1
	baz=31						
PFO	Pinyon Flats O	94.21	325	P	P	10 59 30.5	+0.1
PFO	Pinyon Flats O	94.21	325	LR	LR	11 43 40.5	
	comp=Z,220nm,18.8s,baz=26,slow=37						
TPFO	Pinon Flats	94.21	325	P	P	10 59 30.9	+0.5
	baz=31						
SWSC	Sam W. Stewart	94.49	324	P	P	10 59 31.7	+0.2
	baz=31						
MONP2	Monument Peak	94.81	324	P	P	10 59 33.1	-0.1
	baz=31						
IKP	In-Ko-Pah, Jac	94.88	324	P	P	10 59 33.3	-0.1
	baz=31						
CIS	Catalina Islan	95.21	326	P	P	10 59 34.5	-0.3
	baz=29						
CPUP	Villa Florida	98.67	242	LR	LR	11 44 57.6	
	comp=Z,126nm,20.5s,baz=52,slow=36						
LPIG	La Paz	99.25	315	LR	LR	11 44 50.1	
	comp=Z,138nm,18.2s,baz=32,slow=36						
WRA	Warramunga Arr	121.11	89	PKIKP	PKPdf	11 05 02.0	-2.1
WRA	Warramunga Arr	121.11	89	PKP	PKPdf	11 05 02.0	-2.1
	comp=Z,1.3nm,0.8s,baz=308,slow=2.0,SNR=7.9						
GO09	Cerro Castillo	122.87	228	PKPdf	PKPdf	11 05 06.3	-0.1
ASAR	Alice Springs	123.04	93	PKPdf	PKPdf	11 05 05.7	-2.0
ASAR	Alice Springs	123.04	93	PKP	PKPdf	11 05 06.2	-1.5
	comp=Z,3.0nm,0.8s,baz=335,slow=1.8,SNR=28						
AS31	Alice Springs	123.04	93	PKPdf	PKPdf	11 05 05.7	-2.1
QSPA	South Pole Qui	132.49	180	PKP	PKPdf	11 05 22.3	-2.2
	comp=Z,2.1nm,0.6s,baz=251,slow=1.3,SNR=8.1						
STKA	Stephens Creek	133.24	97	PKP	PKPdf	11 05 25.2	-1.7
	comp=Z,2.8nm,0.8s,baz=252,slow=3.2,SNR=2.0						
VNDA	Vanda	141.74	168	PKP	PKPdf	11 05 40.1	-1.1
	comp=Z,0.9nm,0.9s,baz=243,slow=2.3,SNR=2.4						
TAOE	Nuku Hiva Isla	142.04	327	eLR	LR	11 52 00.6	
	comp=Z,211nm,35.3s						
DZM	Mont Dzumac	145.44	64	eLR	LR	11 53 37.1	
	comp=Z,190nm,23.6s						
DZM	Mont Dzumac	145.44	64	PKPbc	PKPbc	11 05 48.7	-0.7
	comp=Z,9.9nm,0.8s,baz=113,slow=10,SNR=6.3						
PPT2	Papeete2	153.45	337	eLR	LR	11 57 09.9	
	comp=Z,76nm,20.8s						
TBI	Tubuai	158.81	332	eLR	LR	11 59 53.8	
	comp=Z,782nm,25.8s						

*RHSSO **04** 10:58:22.4±0.5, 42°.58N×20°.04E, h4km±1km, ML3.1/12*
*TIR **04** 10:58:22.4, 42°.63N×19°.93E, h0km±4km, Ml3.2*
*PDG **04** 10:58:23.7±0.2, 42°.60N×19°.87E, h11km, MD3.1/5, ML3.0/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*SKO **04** 10:58:24.9, 42°.65N×19°.87E, h8km, ML2.9*
*BEO **04** 10:58:25.4±0.2, 42°.65N×19°.91E, h10km±3km, ML2.8/14*
*VIE **04** 10:58:25.4±2.3, 42°.96N×20°.38E, h9km±29km, mb3.0/6, ml2.6/2, ms4.0/3, Error ellipse: s-maj=35.8km s-min=18.1km az=64.0 130 km WSW of Nisch*
ISC 04 10:58:24.1±0.8**, 42°.64N**±0°.01×**19°.88E**±0°.01**, h8**km±6km**,**
n95, σ1s.**22**/160**, 25C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVY	Plav	0.07	128	⇑iPg	Pg	10 58 26.1	-0.1
PVY				i Sg	Sg	10 58 27.8	+0.1
BEY	Berane	0.23	2	⇑iPg	Pg	10 58 29.6	+0.8
IVA	Berane	0.23	2	⇑iPg	Pg	10 58 29.4	+0.6
IVA				i Sg	Sg	10 58 33.6	+1.6
BCI	Bajram Curri	0.31	153	P	Pg	10 58 29.4	-0.8
	baz=184						
BCI				S	Sg	10 58 34.0	-0.2
	baz=184						
BCI				AMP			
	comp=E,23nm,0.3s,baz=184						
BCI	Bajram Curri	0.31	153	P	Pg	10 58 29.3	-0.8
	baz=159						
BCI				S	Sg	10 58 33.4	-0.8
	baz=159						
BCI				AMP			
	comp=N,16nm,0.2s,baz=159						
KOME	Kolasin	0.34	308	⇑iPg	Pg	10 58 30.9	0.0
KOME				i Sg	Sg	10 58 36.3	+0.9
SJES	Sjenica	0.62	6	ePg	Pb	10 58 36.5	-0.9
SJES				eSg	Sb	10 58 45.5	-0.9
SJES	Sjenica	0.62	6	eSg	Sg	10 58 44.5	+0.1
DRME	Dracevica, Mon	0.69	229	⇑iPg	Pg	10 58 35.8	-1.5
DRME				i Sg	Sg	10 58 47.1	+0.9
DRME	Dracevica, Mon	0.69	229	ePg	Pg	10 58 35.8	-1.5
DRME				eSg	Sg	10 58 46.5	+0.3
NKME	Niksic	0.69	281	⇓iPg	Pg	10 58 36.4	-1.1
NKME				i Sg	Sb	10 58 48.1	-0.2
CEME	Cevo	0.72	263	⇑iPg	Pg	10 58 36.4	-1.5
CEME				i Sg	Sg	10 58 47.1	-0.1
PLE	Pljevlja	0.78	333	⇑iPg	Pg	10 58 38.8	-0.3
PLE				i Sg	Sn	10 58 51.6	-1.9
BUM	Brajici-Budva	0.80	245	⇑iPg	Pg	10 58 38.1	-1.5
BUM				i Sg	Sb	10 58 51.2	-0.2
ULC	Ulcinj	0.82	215	⇑iPg	Pg	10 58 39.1	-0.8
ULC				i Sg	Sb	10 58 51.6	-0.3
ULC	Ulcinj	0.82	215	i Pg	Pg	10 58 39.3	-0.7
UPM	Unac-Piva	0.91	309	⇑iPg	Pg	10 58 41.1	-0.5
UPM				i Sg	Sn	10 58 55.7	-1.1
UPM	Unac-Piva	0.91	309	⇑iPg	Pg	10 58 41.2	-0.4
UPM				eSg	Sn	10 58 55.7	-1.1
IVAS	Ivanjica	0.96	12	ePg	Pg	10 58 41.9	-0.6
IVAS				eSg	Sb	10 58 55.6	-0.3
BRY	Bratogost	1.02	285	⇑iPg	Pg	10 58 42.5	-1.2
BRY				eSg	Sn	10 58 58.8	-0.7
BRY	Bratogost	1.02	285	⇑iPg	Pg	10 58 42.9	-0.8
BRY				eSg	Sn	10 58 58.7	-0.7
HCY	Herceg Novi	1.04	260	⇓iPg	Pg	10 58 43.2	-0.9
HCY				i Sg	Sn	10 58 59.3	-0.5
HCY	Herceg Novi	1.04	260	ePg	Pg	10 58 42.5	-1.6
HCY				eSg	Sn	10 58 58.8	-1.0
PHP	Peshkopia	1.04	156	P	Pg	10 58 42.7	-1.4
	baz=158						
PHP				S	Sn	10 58 59.1	-0.7
	baz=158						
RUDO	Rudo	1.05	339	ePg	Pg	10 58 42.6	-1.6
RUDO				eSg	Sb	10 58 58.4	0.0
SELS	Selova	1.08	57	ePg	Pg	10 58 44.2	-0.6
SELS				eSg	Sn	10 59 00.2	-0.6
KLINJ	Klinje	1.09	300	ePg	Pg	10 58 44.2	-0.8
KLINJ				eSg	Sn	10 59 01.6	+0.5
TREB	Trebinje	1.13	274	ePg	Pb	10 58 44.1	-1.8
TREB				eSg	Sn	10 59 03.0	+1.0
TREB	Trebinje	1.13	274	ePg	Pb	10 58 44.6	-1.3
TREB				eSg	Sn	10 59 02.7	+0.7
BBLS	Lazići	1.27	344	ePg	Pn	10 58 47.7	-0.6
BBLS				eSg	Sn	10 59 06.7	+1.1
BBLS	Lazići	1.27	344	⇑iPg	Pn	10 58 47.1	-1.2
BBLS				eSg	Sn	10 59 06.0	+0.4
DBRK	Dubrovnik	1.28	272	ePn	Pn	10 58 47.9	-0.4
DBRK				Sn	Sg	10 59 07.8	+2.6
TIR	Tirane	1.29	180	P	Pg	10 58 50.5	+1.6
	baz=188						
TIR				S	Sg	10 59 08.5	+2.9
	baz=188						
TIR	Tirane	1.29	180	P	Pn	10 58 48.3	-0.2
	baz=183						
TIR				S	Sg	10 59 07.2	+1.6
	baz=183						
TIR	Tirane	1.29	180	ePg	Pg	10 58 50.6	+1.7
TIR				eSg	Sg	10 59 07.7	+2.1
SKO	Skopje	1.34	119	ePg	Pn	10 58 48.7	-0.4
SKO				eSg	Sg	10 59 08.4	+1.3
SKO	Skopje	1.34	119	i Pg	Pb	10 58 49.0	-0.4
SKO				i Sg	Sg	10 59 08.5	+1.5
GRUS	Gruza	1.39	26	ePg	Pg	10 58 51.0	+0.2
GRUS				eSg	Sg	10 59 09.0	+0.2
BARS	Barje	1.44	82	ePg	Pg	10 58 51.0	-0.7
BARS				eSg	Sg	10 59 10.6	+0.3
BARS	Barje	1.44	82	i Pg	Pg	10 58 51.0	-0.7
BARS				i Sg	Sg	10 59 10.1	-0.2
NEVS	Nevesinje	1.46	297	ePn	Pb	10 58 51.5	-0.1
NEVS				eSn	Sg	10 59 12.6	+1.5
HAPS	Han Pijesak,Bl	1.60	335	ePg	Pb	10 58 53.4	-0.5
HAPS				eSg	Sg	10 59 16.2	+0.7
HAPS	Han Pijesak,Bl	1.60	335	⇑iPn	Pb	10 58 53.0	-0.9
HAPS				eSn	Sg	10 59 15.1	-0.4
STON	Ston	1.62	279	ePg	Pb	10 58 53.5	-0.8
STON				eSg	Sg	10 59 18.4	+2.2
STON	Ston	1.62	279	ePn	Pn	10 58 53.3	+0.3
STON				eSn	Sg	10 59 16.5	+0.3
PRVS	Prvonek	1.63	94	ePg	Pb	10 58 53.5	-0.9
PRVS				eSg	Sg	10 59 16.4	0.0
TRUS	Trudelj	1.63	13	ePn	Pb	10 58 54.0	-0.4
BOVS	Bovan	1.67	53	⇑P	Pn	10 58 53.6	0.0
BOVS	Bovan	1.67	53	ePg	Pg	10 58 55.7	-0.4
BOVS				eSg	Sg	10 59 17.3	-0.4
OHR	Ohrid	1.67	155	ePg	Pb	10 58 55.4	+0.2
OHR				eSg	Sg	10 59 17.5	-0.4
OHR	Ohrid	1.67	155	ePn	Pb	10 58 55.4	+0.2
OHR				i Sg	Sg	10 59 17.8	-0.1
OHR				eLg	Lg	10 59 22.6	
	comp=E,183nm,0.7s						
OHR				eLg	Lg	10 59 23.1	
	comp=N,215nm,0.6s						
TEKS	Tekeris	1.93	353	ePn	Pn	10 58 57.5	+0.3
TEKS	Tekeris	1.93	353	ePn	Pn	10 58 57.5	+0.3
TEKS				eSn	Sb	10 59 22.4	-1.3
STIP	Stip	1.96	118	ePn	Pb	10 58 59.5	-0.6
ZAGS	Zajecar	2.08	55	ePn	Pn	10 58 59.2	-0.1
ZAPS	Zavoj	2.12	72	ePg	Pn	10 59 00.6	+0.7
ZAPS				eSg	Sg	10 59 31.5	-0.7
KBN	Korca	2.13	161	P	Pb	10 59 03.7	+0.8
	baz=165						
FNA	Florina	2.17	148	P	Pb	10 59 02.3	-1.3
	baz=151						
FNA				S	Sg	10 59 34.1	+0.4
	baz=151						
FNA	Florina	2.17	148	P	Pb	10 59 02.3	-1.3
	baz=149						
FNA	Florina	2.17	148	ePn	Pb	10 59 01.8	-1.8
FNA	Florina	2.17	148	ePn	Pn	10 59 01.6	+1.1
FNA				i Sg	Sb	10 59 30.8	+0.2
RICI	Ricice	2.19	294	ePn	Pb	10 59 02.8	-1.1
RICI				Sn	Sb	10 59 30.4	-0.8
LSTV	Lastovo	2.21	274	ePn	Pb	10 59 02.7	-1.5
LSTV				Sn	Sb	10 59 30.9	-0.8
BLKB	Belogradchik	2.27	63	⇑P	Pb	10 59 03.2	-2.2
VAY	Valandovo	2.40	122	i Pn	Pn	10 59 04.8	+1.1
VAY				i Sg	Sg	10 59 42.0	+0.8
VAY				eLg	Lg	10 59 44.8	
	comp=E,24nm,0.5s						
VAY				eLg	Lg	10 59 46.5	
	comp=N,31nm,0.6s						
VTS	Vitosha	2.48	89	ePn	Pn	10 59 05.3	+0.4
FRGS	Fruska Gora	2.52	359	⇑P	Pn	10 59 06.7	+1.4
FRGS	Fruska Gora	2.52	359	ePn	Pn	10 59 05.1	-0.2
FRGS				eSn	Sn	10 59 36.3	+0.1
MDVR	Moldovita	2.52	31	⇑P	Pn	10 59 06.1	+0.7
GRG	Griva	2.53	131	i Pn	Pn	10 59 06.3	+0.8
LSK	Leskovik	2.55	167	P	Pb	10 59 10.2	+0.1
	baz=170						
LSK	Leskovik	2.55	167	P	Pb	10 59 09.7	-0.4
	baz=168						
KNT	Kendrikon	2.69	122	i Pn	Pb	10 59 13.5	+0.9
MGRS	Mrkonjic Grad	2.70	312	ePn	Pn	10 59 08.5	+0.6
MGRS				eSn	Sn	10 59 42.8	+2.1
BLY	Banja Luka	2.88	318	ePn	Pn	10 59 10.4	+0.2
BLY				eSn	Sn	10 59 47.2	+2.2
KIJV	Kijevo	2.88	299	ePn	Pn	10 59 12.4	+2.1
KIJV				Sn	Sb	10 59 48.4	-2.7
HERR	Herculane	2.90	38	⇑P	Pn	10 59 11.2	+0.7
A050A	Klekovaca	3.05	308	ePn	Pn	10 59 13.2	+0.5
A050A				eSn	Sn	10 59 50.9	+1.4
A051A	Mrakovica	3.20	319	ePn	Pn	10 59 15.2	+0.4
A051A				eSn	Sn	10 59 54.8	+1.6
BZS	Buzias	3.23	22	⇑P	Pn	10 59 15.9	+0.9
GZR	Gura Zlata	3.46	36	⇑P	Pn	10 59 17.3	-1.0
SIRR	Siria	3.84	19	⇑P	Pn	10 59 24.8	+1.2
BOJS	Bojanci	4.39	312	⇑iPn	Pn	10 59 31.1	0.0
BOJS				eSn	Sn	11 00 23.1	+0.6
CRES	Cresnjev	4.50	317	ePn	Pn	10 59 32.8	+0.2
VOIR		4.66	51	⇓P	Pn	10 59 36.0	+1.2
CEY	Cerknica	5.00	310	ePn	Pn	10 59 39.1	-0.3
CEY				eSn	Sn	11 00 36.9	-0.5
SKDS	Skadanscina	5.13	307	⇑iPn	Pn	10 59 40.4	-0.8
SKDS				eSn	Sn	11 00 39.8	-0.8
SOKA	Soboth	5.32	321	ePn	Pn	10 59 44.8	+0.9
	comp=N,1.1nm,0.3s						
SOKA				eSn	Sn	11 00 45.5	+0.3
	comp=N,1.4nm,0.3s						
OBKA	Obir	5.43	317	ePn	Pn	10 59 47.3	+1.9
	comp=N,2.7nm,0.4s						
OBKA				eSn	Sn	11 00 53.6	+5.5
	comp=N,5.6nm,0.5s						
OBKA	Obir	5.43	317	ePn	Pn	10 59 45.2	-0.2
OBKA				eSn	Sn	11 00 47.4	-0.7
RONA	Rosalia, Austr	5.66	335	ePn	Pn	10 59 51.2	+2.7
	comp=N,0.6nm,0.2s						
KBA	Koelnbreinsper	6.42	316	eSn	Sn	11 01 14.0	+1.4
	comp=N,1.7nm,0.5s						
ABTA	Abfaltersbach	6.66	311	ePn	Pn	11 00 05.9	+3.5
	comp=N,1.7nm,0.4s						
WTTA	Wattenberg	7.45	311	ePn	Pn	11 00 14.5	+1.3
	comp=N,1.5nm,0.5s						
MOTA	Moosalm	7.80	310	eSn	Sn	11 01 50.3	+3.8
	comp=N,2.3nm,0.5s						

IDC 04 11:00:07.7±21.0**, 18°.40S**×**174°.57W, h120**km±179km**,**
mb3.6/5**, mbtmp4.0**/5**, Error ellipse: s-maj=86.7km s-min=34.9km az=134.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.13	259	P	P	11 08 35.4	-0.5
	2.3nm,0.5s,baz=98,slow=6.8,SNR=56						
WRA				PcP	PcP	11 10 01.6	-0.1
	0.3nm,0.8s,baz=112,slow=5.5,SNR=2.0						
	2.3nm,0.5s						
ASAR	Alice Springs	48.17	254	P	P	11 08 36.5	+0.3
	6.9nm,0.5s,baz=89,slow=8.8,SNR=114						
ASAR				PcP	PcP	11 10 01.3	-0.5
	0.4nm,0.6s,baz=110,slow=4.0,SNR=2.4						
	6.9nm,0.5s						
MJAR	Matsushiro Arr	70.53	321	P	P	11 11 09.1	-0.4
	0.6nm,0.5s,baz=147,slow=5.8,SNR=2.3						
	0.6nm,0.5s						
H03S2	Juan Fernandez	84.48	124	T	T	12 45 41.0	
	baz=251						
H03S1	Juan Fernandez	84.50	124	T	T	12 45 46.3	
	baz=251						
H03S3	Juan Fernandez	84.50	124	T	T	12 45 44.7	
	baz=251						
PDAR	Pinedale Array	85.23	42	P	P	11 12 31.1	0.0
	0.1nm,0.5s,baz=234,slow=5.5,SNR=2.0						
	0.1nm,0.5s						
ILAR	Eielson Array	85.59	12	P	P	11 12 32.1	+0.1
	0.2nm,0.5s,baz=223,slow=4.9,SNR=8.3						
	0.2nm,0.5s						

*TIR **04** 11:03:00.6, 42°.66N×20°.13E, h0km±2km, Ml2.7*
*RHSSO **04** 11:03:01.6±0.6, 42°.61N×19°.98E, h3km±2km, ML2.1/9*
*BEO **04** 11:03:04.0±0.3, 42°.64N×19°.97E, h0km, ML2.0/7*
ISC 04 11:03:01.8±1.0**, 42°.63N**±0°.02×**19°.93E**±0°.02**, h9**km±9km**,**
n29, σ0s.**98**/56**, 2C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.29	158	P	Pg	11 03 07.5	-0.1
	baz=190						
BCI				S	Sg	11 03 11.7	+0.3
	baz=190						
BCI				AMP			
	comp=E,4.7nm,0.2s,baz=190						
SJES	Sjenica	0.63	3	ePg	Pb	11 03 14.6	-0.5
SJES				eSg	Sb	11 03 23.1	-0.9
SJES	Sjenica	0.63	3	⇑iPg	Pg	11 03 14.2	+0.2
SJES				eSg	Sg	11 03 22.6	+0.3
DRME	Dracevica, Mon	0.71	231	⇑iPg	Pg	11 03 14.3	-1.2
DRME				eSg	Sg	11 03 25.0	+0.3
UPM	Unac-Piva	0.94	308	ePg	Pg	11 03 19.3	-0.7
UPM				eSg	Sb	11 03 33.1	0.0
IVAS	Ivanjica	0.96	10	ePg	Pg	11 03 19.9	-0.4
IVAS				eSg	Sn	11 03 34.8	-0.5
PHP	Peshkopia	1.02	158	P	Pg	11 03 20.9	-0.6
	baz=166						
PHP				S	Sn	11 03 36.3	-0.6
	baz=166						
BRY	Bratogost	1.05	285	ePg	Pg	11 03 21.1	-1.0
BRY				eSg	Sb	11 03 37.0	+0.7
SELS	Selova	1.05	56	ePg	Pn	11 03 23.4	+0.6
SELS				eSg	Sn	11 03 37.8	+0.2
RUDO	Rudo	1.06	338	ePg	Pg	11 03 20.7	-1.6
RUDO				eSg	Sg	11 03 36.1	-0.1
HCY	Herceg Novi	1.07	261	ePg	Pg	11 03 21.6	-0.9
HCY				eSg	Sg	11 03 36.7	+0.3
KLINJ	Klinje	1.12	299	ePg	Pb	11 03 22.6	-0.8
KLINJ				eSg	Sn	11 03 38.8	-0.6
TREB	Trebinje	1.17	275	ePg	Pg	11 03 27.0	+2.8
TREB				eSg	Sn	11 03 41.8	+1.5
TREB	Trebinje	1.17	275	ePg	Pb	11 03 22.7	-1.4
TREB				eSg	Sn	11 03 40.1	-0.2
BBLS	Lazići	1.29	343	ePg	Pb	11 03 26.1	-0.2
BBLS				eSg	Sn	11 03 45.5	+2.0
BBLS				eSg	Sg	11 03 46.0	+2.7
BBLS	Lazići	1.29	343	ePg	Pn	11 03 25.0	-1.1
BBLS				eSg	Sn	11 03 43.4	-0.1
DBRK	Dubrovnik	1.31	272	ePn	Pn	11 03 26.2	-0.1
DBRK				Sg	Sg	11 03 46.7	+2.7
BARS	Barje	1.41	82	ePg	Pg	11 03 29.1	+0.3
NEVS	Nevesinje	1.49	297	ePn	Pb	11 03 29.4	-0.4
NEVS				eSn	Sg	11 03 50.3	+0.4
PRVS	Prvonek	1.59	94	ePg	Pb	11 03 31.7	+0.3
PRVS				eSg	Sg	11 03 52.3	-0.8
HAPS	Han Pijesak,Bl	1.62	334	ePg	Pg	11 03 33.4	+0.5
HAPS				eSg	Sg	11 03 54.9	+1.1
HAPS	Han Pijesak,Bl	1.62	334	ePn	Pb	11 03 31.6	-0.3
HAPS				eSn	Sg	11 03 53.3	-0.5
OHR	Ohrid	1.66	156	ePg	Pg	11 03 33.9	+0.3
OHR				eSg	Sg	11 03 55.9	+0.9
STON	Ston	1.66	279	ePn	Pg	11 03 33.3	-0.3
STON				Sn	Sg	11 03 54.4	-0.7
STON	Ston	1.66	279	ePn	Pb	11 03 32.2	-0.3
STON				eSn	Sb	11 03 54.2	+0.8
TEKS	Tekeris	1.94	352	eSn	Sb	11 04 01.1	-0.5
FNA	Florina	2.14	149	P	Pb	11 03 40.7	-0.1
	baz=153						
FNA				S	Sg	11 04 10.9	+0.2
	baz=153						
RICI	Ricice	2.22	294	ePn	Pb	11 03 42.7	+0.6
RICI				Sn	Sb	11 04 10.4	+0.7
MAKA	Makarska	2.23	288	Sn	Sb	11 04 08.7	-1.2

*NOU **04** 11:11:10.5, 41°.79S×174°.25E, h14km, MLv4.1/12, Cook Strait, New Zealand*
*WEL **04** 11:11:11.2±0.6, 42°S±3°×17°4E±°, h10km±4km, M3.6/12, ML3.9/12, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=147.9, confirmed*
ISC 04 11:11:11.0±0.9**, 41°.77S**±0°.03×**174°.29E**±0°.02**, h18**km±5km**,**
n98, σ1s.**40**/108**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	288	P	Pg	11 11 14.2	-0.1
CMWZ				S	Sg	11 11 17.0	+0.6
WDFS	Ward Fire Stat	0.13	241	P	Pb	11 11 15.0	+0.1
SDNS	Seddon	0.15	313	P	Pb	11 11 15.2	-0.1
SEDS	Seddon Fire St	0.18	301	P	Pb	11 11 15.6	-0.2
SEDS				S	Sg	11 11 19.1	+0.3
KEKS	Kekerengu Vall	0.30	230	P	Pb	11 11 18.1	+0.2
KEKS				S	Sb	11 11 23.9	+1.5
BSWZ	Blackbirch Sta	0.31	279	P	Pg	11 11 17.5	-0.3
TUWZ	Tuamarina	0.42	322	P	Pg	11 11 19.4	-0.3
BWRS	Waikakaho Road	0.43	319	P	Pg	11 11 19.7	-0.2
BWRS				S	Sb	11 11 26.0	-0.4
SNZO	South Karori	0.55	35	P	Pg	11 11 22.1	0.0
TCW	Tory Channel	0.56	359	P	Pg	11 11 21.8	-0.4
TCW				S	Sg	11 11 29.6	0.0
BHW	Baring Head	0.57	51	P	Pg	11 11 22.3	0.0
WEL	Wellington	0.60	37	P	Pg	11 11 23.0	0.0
WEL				S	Sb	11 11 31.8	+0.5
PLWZ	Palliser	0.75	75	P	Pb	11 11 26.2	+0.6
KHZ	Kahutara	0.85	220	P	Pb	11 11 28.0	+0.6
NNZ	Nelson	0.88	309	P	Pg	11 11 27.5	-0.6
NNZ				S	Sn	11 11 41.7	+0.9
CAW	Cannon Point	0.88	42	P	Pg	11 11 27.5	-0.7
CAW				S	Sn	11 11 41.0	+0.1
PAWZ	Paruwai Farm	0.94	66	P	Pg	11 11 28.6	-0.6
DUWZ	D'Urville Isla	1.00	344	P	Pg	11 11 29.9	-0.6
DUWZ				S	Sb	11 11 43.5	+0.7
KIW	Kapiti Island	1.02	28	P	Pb	11 11 29.1	-1.1
KIW				S	Sb	11 11 44.3	+1.0
THZ	Tophouse	1.03	270	P	Pn	11 11 30.8	+0.1
MTW	Mount Morrison	1.10	57	P	Pb	11 11 30.3	-1.2
TRWZ	Traveller	1.11	71	P	Pb	11 11 30.8	-1.0
OGWZ	Otaki Gorge	1.16	35	P	Pb	11 11 31.0	-1.6
MRNZ	Matariki Terra	1.21	287	P	Pg	11 11 33.7	-0.6
TKNZ	Takaka Hill	1.24	306	P	Pn	11 11 29.2	-4.3
HOWZ	Holdsworth Sta	1.27	47	P	Pn	11 11 32.4	-1.6
TMWZ	Te Maipa	1.38	62	P	Pn	11 11 34.6	-0.7
MRZ	Mangatainoka R	1.47	42	P	Pn	11 11 35.0	-1.7
GVZ	Greta Valley S	1.52	217	P	Pn	11 11 36.8	-0.5
TIWZ	Tintock	1.56	51	P	Pn	11 11 37.9	-0.1
QRZ	Quartz Range	1.62	305	P	Pn	11 11 36.1	-2.7
QRZ	Quartz Range	1.62	305	P	Pn	11 11 35.5	-3.3
CPWZ	Castlepoint	1.68	60	P	Pg	11 11 45.4	+2.1
OHWZ	Ohakea	1.74	27	P	Pn	11 11 41.7	+1.3
PRWZ	Pori Road	1.76	47	P	Pn	11 11 39.9	-0.8
POWZ	Post Office Ro	1.77	40	P	Pn	11 11 40.5	-0.3
LTZ	Lake Taylor	1.81	235	P	Pn	11 11 41.2	-0.2
BFZ	Birch Farm	1.83	54	P	Pn	11 11 41.2	-0.5
BFZ	Birch Farm	1.83	54	P	Pn	11 11 40.7	-1.0
AMCZ	Amberley	1.86	220	P	Pn	11 11 41.1	-0.8
DSZ	Denniston Nort	1.86	270	P	Pn	11 11 43.3	+1.2
DVHZ	Dannevirke	2.04	45	P	Pn	11 11 43.2	-1.3
WAZ	Wanganui	2.08	15	P	Pn	11 11 46.9	+1.9
TSZ	Takapari Road	2.13	37	P	Pb	11 11 49.7	+0.6
OKCZ	Okains Bay	2.15	204	P	Pn	11 11 44.8	-1.4
OXZ	Oxford	2.28	226	P	Pn	11 11 46.2	-1.6
MQZ	McQueen's Vall	2.28	211	P	Pn	11 11 45.8	-2.0
LREZ	Lake Rotokare	2.31	2	P	Pn	11 11 49.8	+1.6

INZ	Inchbonnie	2.32	245	P	Pn	11 11 48.3	0.0
AKCZ	Akaroa Harbour	2.33	205	P	Pn	11 11 47.1	-1.4
PNHZ	Pukenui	2.35	39	P	Pn	11 11 47.9	-0.9
WPHZ	Waipukurau	2.36	45	P	Pn	11 11 48.2	-0.7
NMEZ	Namu Road	2.37	352	P	Pb	11 11 52.2	-1.0
KHEZ	Kahui Hut	2.48	355	P	Pn	11 11 53.1	+2.5
NEZ	North Egmont	2.50	357	P	Pb	11 11 54.0	-1.5
NBEZ	Newall Road No	2.52	353	P	Pb	11 11 53.7	-2.0
RACZ	Rakaia	2.52	218	P	Pn	11 11 49.2	-1.9
DREZ	Durham Road	2.58	359	P	Pb	11 11 54.8	-2.0
MOVZ	Moawhango	2.61	26	P	Pn	11 11 52.6	+0.2
WNVZ	Wahianoa	2.63	23	P	Pn	11 11 53.7	+0.9
BHHZ	Black Hill Sta	2.65	31	P	Pn	11 11 52.7	-0.2
KRHZ	Kereru	2.65	37	P	Pn	11 11 51.6	-1.3
VRZ	Vera Road	2.66	8	P	Pn	11 11 55.1	+2.0
MAVZ	Matarangi	2.68	22	P	Pb	11 11 58.8	+0.1
TUVZ	Tukino	2.71	23	P	Pb	11 11 57.6	-1.5
COVZ	Chateau Observ	2.74	21	P	Pb	11 11 59.2	-0.4
OTVZ	Oturere	2.81	22	P	Pn	11 11 52.6	-2.6
WACZ	Wakanui South	2.82	219	P	Pn	11 11 53.8	-1.4
ETVZ	East Tongariro	2.84	23	P	Pb	11 12 00.2	-1.2
TMVZ	Te Maari	2.86	23	P	Pn	11 11 56.6	+0.7
NTVZ	North Tongarir	2.87	22	P	Pb	11 12 01.5	-0.3
WVZ	Waitaha Valley	2.94	242	P	Pn	11 11 57.1	+0.3
RPZ	Rata Peaks	3.08	230	P	Pn	11 11 57.6	-1.2
RPZ	Rata Peaks	3.08	230	P	Pn	11 11 57.6	-1.2
BKZ	Black Stump Fm	3.10	34	P	Pn	11 11 59.5	+0.4
ARCZ	Arundel	3.16	225	P	Pn	11 11 58.6	-1.3
HIZ	Hauiti	3.28	8	P	Pn	11 12 03.5	+1.9
HIZ	Hauiti	3.28	8	P	Pn	11 12 03.1	+1.6
NMHZ	Naumai	3.29	37	P	Pn	11 12 00.8	-0.9
GCSZ	Gaunt Creek Bo	3.31	241	P	Pn	11 12 02.7	+0.7
TMZ	Timaru	3.55	221	P	Pn	11 12 03.8	-1.5
TLZ	Tolley Road	3.56	16	P	Pn	11 12 09.2	+3.7
FOZ	Fox Glacier	3.74	240	P	Pn	11 12 08.2	+0.4
URZ	Urewera	4.12	33	P	Pn	11 12 12.7	-0.4
URZ	Urewera	4.12	33	P	Pn	11 12 13.4	+0.3
TOZ	Tahuroa Road	4.14	13	P	Pn	11 12 14.5	+1.1
ODZ	Otahua Downs	4.21	218	P	Pn	11 12 13.5	-0.9
ODZ	Otahua Downs	4.21	218	P	Pn	11 12 12.4	-2.0
MWZ	Matawai	4.24	37	P	Pn	11 12 12.0	-2.7
JCZ	Jackson Bay	4.65	238	P	Pn	11 12 19.2	-1.3
JCZ	Jackson Bay	4.65	238	P	Pn	11 12 23.6	+3.1
AWAZ	Awhitu Peninsu	4.71	3	P	Pn	11 12 23.3	+2.2
MKAZ	Moumakai	4.71	9	P	Pn	11 12 23.6	+2.5
ETAZ	East Tamaki Re	4.83	6	P	Pn	11 12 24.5	+1.6
RVAZ	Riverhead Bore	5.00	3	P	Pn	11 12 27.1	+1.9
EAZ	Earnscleugh	5.01	225	P	Pn	11 12 24.0	-1.3
TUZ	Tuapeka	5.37	217	P	Pn	11 12 28.5	-1.7
SYZ	Scrubby Hill	6.04	216	P	Pn	11 12 38.9	-0.5

TIR 04 11:12:22.5, 42.°66N×19.°91E, h8km±3km, Ml2.6
RHSSO 04 11:12:23.5±0.6, 42.°60N×19.°99E, h3km±2km, ML2.0/9
PDG 04 11:12:24.5±0.1, 42.°61N×19.°86E, h10km, ML2.1/12, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0
BEO 04 11:12:25.7±0.3, 42.°64N×19.°95E, h0km, ML1.9/7
ISC 04 11:12:24.3±0.8, 42.°63N±0.°02×19.°91E±0.°02, h12km±5km, n40, σ0s86/79, 13C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.05	135	⇓iPg	Pg	11 12 26.7	-0.1
PVY				iSg	Sg	11 12 28.4	-0.1
IVA	Berane	0.24	357	⇑iPg	Pg	11 12 29.6	+0.2
IVA				iSg	Sg	11 12 33.9	+1.0
BCI	Bajram Curri	0.29	156	P	Pg	11 12 30.2	0.0
	baz=158						
BCI				S	Sg	11 12 33.8	-0.3
	baz=158						
BCI				AMP			
	comp=E,3.5nm,0.3s,baz=158						
KOME	Kolasin	0.36	307	⇑iPg	Pg	11 12 31.3	-0.3
KOME				iSg	Sg	11 12 36.8	+0.3
SJES	Sjenica	0.63	4	ePg	Pb	11 12 36.9	-0.5
SJES				eSg	Sg	11 12 45.0	0.0
SJES	Sjenica	0.63	4	⇑iPg	Pg	11 12 36.0	-0.6
SJES				eSg	Sg	11 12 45.3	+0.3
DRME	Dracevica, Mon	0.70	231	⇑iPg	Pg	11 12 36.6	-1.2
DRME				iSg	Sg	11 12 46.9	-0.1
DRME	Dracevica, Mon	0.70	231	⇑iPg	Pg	11 12 36.4	-1.4
DRME				eSg	Sg	11 12 46.8	-0.1
NKME	Niksic	0.72	281	⇑iPg	Pg	11 12 37.3	-0.9
NKME				iSg	Sg	11 12 48.4	+0.7
CEME	Cevo	0.74	264	⇓iPg	Pg	11 12 37.2	-1.4
CEME				iSg	Sg	11 12 48.4	+0.1
PLE	Pljevlja	0.80	331	⇑iPg	Pg	11 12 39.3	-0.4
PLE				iSg	Sb	11 12 51.9	+0.9
BUM	Brajici-Budva	0.82	247	⇑iPg	Pg	11 12 38.9	-1.3
BUM				iSg	Sg	11 12 51.2	+0.3
ULC	Ulcinj	0.83	217	⇓iPg	Pg	11 12 39.6	-0.7
ULC				iSg	Sg	11 12 51.4	+0.2
UPM	Unac-Piva	0.93	308	⇓iPg	Pg	11 12 41.9	-0.4
UPM				iSg	Sn	11 12 56.2	-0.7
UPM	Unac-Piva	0.93	308	⇑iPg	Pg	11 12 41.4	-0.9
UPM				eSg	Sb	11 12 55.5	+0.5
IVAS	Ivanjica	0.96	11	ePg	Pg	11 12 42.3	-0.6
IVAS				eSg	Sg	11 12 54.7	-0.7
PHP	Peshkopia	1.02	157	P	Pb	11 12 43.4	-0.6
	baz=157						
PHP				S	Sn	11 12 59.0	+0.1
	baz=157						
BRY	Bratogost	1.04	285	⇑iPg	Pb	11 12 43.4	-1.0
BRY				iSg	Sn	11 12 59.3	-0.2
BRY	Bratogost	1.04	285	⇑iPg	Pb	11 12 43.3	-1.1
BRY				eSg	Sb	11 12 58.9	+0.8
HCY	Herceg Novi	1.06	261	⇓iPg	Pb	11 12 43.6	-1.0
HCY				iSg	Sg	11 12 59.5	+0.9
RUDO	Rudo	1.06	338	⇑iPg	Pb	11 12 42.7	-2.0
RUDO				eSg	Sb	11 12 58.4	-0.1
SELS	Selova	1.06	56	ePg	Pn	11 12 45.9	+0.8
SELS				eSg	Sn	11 12 59.2	-0.7
KLINJ	Klinje	1.11	299	ePg	Pb	11 12 44.7	-0.8
KLINJ				eSg	Sg	11 13 00.4	+0.2
TREB	Trebinje	1.15	275	ePg	Pg	11 12 46.7	+0.2
TREB				eSg	Sn	11 13 03.5	+1.5
TREB	Trebinje	1.15	275	⇑iPg	Pb	11 12 45.3	-0.9
TREB				eSg	Sn	11 13 02.4	+0.4
BBLS	Lazići	1.29	344	ePg	Pn	11 12 48.2	0.0
BBLS				eSg	Sg	11 13 07.5	+1.7
BBLS	Lazići	1.29	344	ePg	Pn	11 12 47.1	-1.1
BBLS				eSg	Sg	11 13 05.7	-0.1
DBRK	Dubrovnik	1.30	272	ePn	Pn	11 12 48.6	+0.3
DBRK				Sg	Sg	11 13 09.0	+2.8
BARS	Barje	1.42	82	ePg	Pg	11 12 51.3	-0.2
BARS				eSg	Sg	11 13 10.5	+0.6
NEVS	Nevesinje	1.48	297	ePn	Pn	11 12 51.4	+0.5
NEVS				eSn	Sg	11 13 12.6	+0.5
PRVS	Prvonek	1.60	94	ePg	Pb	11 12 54.0	+0.1
PRVS				eSg	Sb	11 13 14.1	0.0
HAPS	Han Pijesak,Bl	1.61	335	ePn	Pb	11 12 53.7	-0.4
HAPS				eSn	Sg	11 13 16.1	-0.2
STON	Ston	1.65	279	ePg	Pg	11 12 55.5	-0.4
STON				eSg	Sg	11 13 19.0	+1.8
STON	Ston	1.65	279	ePn	Pn	11 12 53.8	+0.8
STON				Sn	Sg	11 13 18.9	+1.7
STON	Ston	1.65	279	ePn	Pb	11 12 54.0	-0.5
STON				eSn	Sg	11 13 16.7	-0.5
OHR	Ohrid	1.66	156	ePg	Pg	11 12 56.7	+0.6
OHR				eSg	Sg	11 13 17.2	-0.4
TEKS	Tekeris	1.94	352	ePn	Pn	11 12 57.9	+0.8
TEKS				eSn	Sb	11 13 23.1	-0.6
FNA	Florina	2.15	149	P	Pb	11 13 02.5	-0.7
	baz=149						
FNA				S	Sg	11 13 32.7	-0.6
	baz=149						
RICI	Ricice	2.21	294	ePn	Pn	11 13 02.3	+1.4
RICI				Sn	Sg	11 13 35.3	0.0
LSTV	Lastovo	2.23	275	Sn	Sb	11 13 33.2	+1.2

IDC 04 11:38:47.2±2.3, 36.°96N×142.°17E, h0km, mb3.5/4, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=45.1km s-min=29.3km az=66.0
JMA 04 11:38:51.7±0.4, 36.°4N±0.°8×14°2E±°, h67km, MV2.9/31, FAR E OFF IBARAKI PREF
ISC 04 11:38:51.0±1.5, 36.°56N±0.°09×141.°9E±0.°1, h19km, n20, σ0s97/16, mb3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.00	303	P	Pg	11 39 11.4	+0.9
JHO	Hitachi	1.03	273	P	Pb	11 39 09.8	-0.5
JHYU	Hitachinakayam	1.04	258	P	Pb	11 39 09.5	-0.9
JHYU				S	Sb	11 39 24.0	+0.3
JFK	Kawauchi	1.12	316	P	Pg	11 39 13.5	+0.7
JIHU	Itakohorinouch	1.23	241	P	Pn	11 39 12.0	-1.0
JMM	Marumori	1.55	327	P	Pg	11 39 20.3	-0.5
JOTO	OTAMA OYAMA	1.57	310	P	Pg	11 39 20.6	-0.7
JFY	Yanaizu	1.92	297	P	Pb	11 39 25.1	-0.2
JAG	Ashikaga	1.94	267	iP	Pn	11 39 22.5	-0.4
MJAR	Matsushiro Arr	2.93	271	Pn	Pn	11 39 37.3	+0.7
	0.5nm,0.3s,baz=76,slow=32,SNR=22						
MJAR				Sn	Sb	11 40 18.8	+0.6
	0.2nm,0.3s,baz=79,slow=19,SNR=5.4						
	1.9nm,0.3s						
H11N2	WAKE ISLAND Hy	27.60	121	T	T	12 13 22.0	
	baz=313						
H11N1	WAKE ISLAND Hy	27.61	121	T	T	12 13 19.8	
	baz=313						
H11N3	WAKE ISLAND Hy	27.62	121	T	T	12 13 20.5	
	baz=313						
H11S1	WAKE ISLAND Hy	28.31	123	T	T	12 14 16.9	
	baz=314						
H11S3	WAKE ISLAND Hy	28.31	123	T	T	12 14 18.8	
	baz=314						
H11S2	WAKE ISLAND Hy	28.32	123	T	T	12 14 13.0	
	baz=314						
SONM	Songino Array	28.34	305	P	P	11 44 44.6	+0.9
	0.2nm,0.4s,baz=94,slow=11,SNR=2.1						
	0.2nm,0.4s						
MKAR	Makanchi Array	44.67	303	P	P	11 47 00.8	-1.6
	0.1nm,0.4s,baz=77,slow=8.7,SNR=1.4						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	46.57	308	P	P	11 47 16.3	-1.1
	0.4nm,0.2s,baz=84,slow=7.8,SNR=1.5						
	0.4nm,0.2s						
WRA	Warramunga Arr	56.65	188	P	P	11 48 34.4	+1.5
	0.4nm,0.9s,baz=3.7,slow=7.7,SNR=2.0						
	0.4nm,0.9s						

IDC 04 11:42:57.3±0.9, 15.°17N×90.°40W, h0km, mb4.4/19, mbtmp4.4/21, ML4.5/2, MS3.6/4, Error ellipse: s-maj=23.4km s-min=18.7km az=27.0
GCG 04 11:42:59.4±0.5, 15.°41N×90.°40W, h2km±999km, MD4.3
SNET 04 11:43:02.6±1.2, 15.°27N×90.°97W, h33km±614km, ML4.4
CATAC 04 11:43:04.2±0.3, 15.°28N×90.°57W, h10km, ML4.6
NEIC 04 11:43:06.6±3.0, 15.°50N±0.°08×90.°57W±0.°07, h40km±6km, mb4.6/192, Error ellipse: s-maj=12.6km s-min=8.7km az=217.0
ISC 04 11:43:02.4±1.3, 15.°41N±0.°04×90.°55W±0.°04, h16km±9km, n525, σ1s15/444, mb4.6/82, MS3.5/4, 12C-7D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	0.41	169	LR	LR	11 43 24.0	
	comp=Z,13µm,21.8s,baz=338,slow=150						
NBG	Las Nubes	0.84	167	eP	Pg	11 43 16.3	-2.5
FUG	Fuego 3	1.00	197	iP	Pg	11 43 19.6	-2.2
PCG	Pacaya	1.01	183	iP	Pg	11 43 20.0	-2.1
STG3	Santiaguito 3,	1.21	235	iP	Pg	11 43 24.5	-1.3
SULM	Suchitepequez,	1.48	222	eP	Pb	11 43 29.7	+0.2
MTO3	Montecristo	1.52	131	IAML		11 43 48.2	
	comp=Z,2µm,0.7s						
MTO3	Montecristo	1.52	131	⇓iP	Pn	11 43 27.1	-2.1
MTO3				iS	Sn	11 43 47.0	-1.9
MTO3				IAML		11 43 47.6	
	comp=Z,8µm,1.0s						
LOAL	Lomas de Alarc	1.59	152	⇓iP	Pn	11 43 28.5	-1.5
LOAL				IAML		11 43 56.7	
	comp=Z,16µm,1.0s						
NUBE	Las Nubes	1.67	154	eP	Pn	11 43 30.2	-1.0
NUBE				eS	Sn	11 43 52.7	+0.3
NUBE	Las Nubes	1.67	154	⇓iP	Pn	11 43 29.5	-1.7
NUBE				iS	Sn	11 43 51.5	-1.0
NUBE				IAML		11 43 54.5	
	comp=Z,6µm,1.0s						
UNIC	Universidad Ca	1.72	146	⇓iP	Pn	11 43 30.6	-1.2
UNIC				IAML		11 43 30.9	
	comp=Z,2µm,1.0s						
UNIC				iS	Sn	11 43 52.6	-0.8
CCIG	Comitan	1.76	300		Pn	11 43 33.1	+0.6
CCIG	Comitan	1.76	300	⇑iP	Pn	11 43 33.4	+0.9
CCIG				iS	Sb	11 44 01.1	+4.7
CCIG				IAML		11 44 08.2	
	comp=Z,7µm,1.0s						
CEVE	Cerro Verde	1.81	150	eS	Sg	11 43 58.5	-2.2
CEVE				IAML		11 44 03.4	
	comp=Z,5µm,0.6s						
CEVE	Cerro Verde	1.81	150	⇑iP	Pn	11 43 32.8	-0.4
CEVE				iS	Sb	11 43 57.1	-0.8
CEVE				IAML		11 44 05.5	
	comp=Z,5µm,1.0s						
SARH	Santa Rosa de	1.84	110	⇑iP	Pn	11 43 31.7	-1.7
SARH				iS	Sn	11 43 58.1	+1.7
CEDA	San Andres	1.95	145	eP	Pn	11 43 35.9	+0.9
CEDA				eS	Sb	11 44 01.9	+0.3
CEDA				IAML		11 44 06.2	
	comp=Z,6µm,0.7s						
CEDA	San Andres	1.95	145	iP	Pn	11 43 35.1	+0.2
CEDA				iS	Sn	11 44 00.1	+1.0
CEDA				IAML		11 44 07.7	
	comp=Z,16µm,1.0s						
LLGN	La Laguna	1.98	128	⇓iP	Pn	11 43 33.9	-1.6
LLGN				iS	Sn	11 44 01.3	+1.2
LLGN				IAML		11 44 01.7	
	comp=Z,5µm,1.0s						
QUEZ	Alcaldia de Qu	1.99	142	iP	Pn	11 43 35.0	-0.5
QUEZ				iS	Sn	11 44 00.9	+0.7
QUEZ				IAML		11 44 07.4	
	comp=Z,31µm,1.0s						
JAYA	Jayaque - finc	2.04	149	eS	Sb	11 44 03.8	-0.8
JAYA	Jayaque - finc	2.04	149	iP	Pn	11 43 37.3	+1.0
JAYA				iS	Sn	11 44 02.8	+1.2
JAYA				IAML		11 44 07.9	
	comp=Z,4µm,1.0s						
PMON	Piamonte	2.07	145	⇑iP	Pn	11 43 36.7	+0.1
PMON				iS	Sb	11 44 04.7	-0.5
PMON				IAML		11 44 10.4	
	comp=Z,5µm,1.0s						
MAGS	Ministerio de	2.10	144	iS	Sb	11 44 05.0	-1.3
UEES	Universidad Ev	2.11	143	iP	Pn	11 43 38.4	+1.3
UEES				iS	Sb	11 44 05.4	-0.9
UEES				IAML		11 44 08.0	
	comp=Z,2µm,1.0s						
SEMO	Seminario San	2.12	143	iP	Pn	11 43 37.7	+0.3
SEMO				IAML		11 44 22.4	
	comp=Z,7µm,1.0s						
SNET	Serv Nac Est T	2.13	143		Pn	11 43 38.4	+0.8
SNET	Serv Nac Est T	2.13	143	iP	Pn	11 43 38.8	+1.3
SNET				iS	Sn	11 44 05.1	+1.3
SNET				IAML		11 44 10.5	
	comp=Z,5µm,1.0s						
UTEC	Universidad Te	2.14	142	iP	Pn	11 43 39.0	+1.4
UTEC				IAML		11 44 08.4	
	comp=Z,3µm,1.0s						
IGN	Direccin Gen	2.15	142	⇑iP	Pn	11 43 38.9	+1.2
IGN				iS	Sn	11 44 05.5	+1.4
IGN				IAML		11 44 08.8	
	comp=Z,18µm,1.0s						
UDBS	Universidad Do	2.16	141	iP	Pn	11 43 38.4	+0.6
UDBS				iS	Sb	11 44 06.5	-1.2
UDBS				IAML		11 44 13.7	
	comp=Z,4µm,1.0s						
LOMA	Loma Larga	2.20	143	eP	Pn	11 43 39.8	+1.3
LOMA	Loma Larga	2.20	143	⇑iP	Pn	11 43 39.4	+0.9
LOMA				iS	Sb	11 44 08.1	-1.0
LOMA				IAML		11 44 16.6	
	comp=Z,2µm,1.0s						
LBRS	Las Brisas	2.21	139	eP	Pn	11 43 40.4	+1.8
PANCS	Alcalda de	2.22	143	iP	Pn	11 43 39.1	+0.4
PANCS				IAML		11 43 41.2	
	comp=Z,4µm,1.0s						
LALI	Alcalda de L	2.25	148	eP	Pn	11 43 39.9	+0.9
LALI				eS	Sn	11 44 08.4	+1.9
LALI	Alcalda de L	2.25	148	⇓iP	Pn	11 43 40.0	+1.0
LALI				iS	Sb	11 44 09.8	-0.5
LALI				IAML		11 44 14.4	
	comp=Z,1µm,1.0s						
LFRS	El Faro	2.29	141	eP	Pn	11 43 42.0	+2.3
PAVA	Las Pavas	2.30	137	eP	Pn	11 43 41.6	+1.8
PAVA	Las Pavas	2.30	137	⇑iP	Pn	11 43 40.2	+0.4
PAVA				iS	Sn	11 44 10.3	+2.5
PAVA				IAML		11 44 15.3	
	comp=Z,7µm,1.0s						
SJTE	Alcalda de S	2.33	140	iP	Pn	11 43 41.4	+1.2
SJTE				iS	Sb	11 44 12.1	-0.5
SJTE				IAML		11 44 17.8	
	comp=Z,2µm,1.0s						
COEG	Centro de Oper	2.40	138	eP	Pn	11 43 42.7	+1.5
COEG				eS	Sb	11 44 14.2	-0.6
COEG	Centro de Oper	2.40	138	⇓iP	Pn	11 43 42.2	+1.0
COEG				IAML		11 43 44.5	
	comp=Z,2µm,1.0s						
COEG				iS	Sn	11 44 13.2	+2.8
SCLA	Alcaldia de Sa	2.44	134	⇑iP	Pn	11 43 40.5	-1.3
SCLA				iS	Sn	11 44 12.6	+1.2
SCLA				IAML		11 44 24.2	
	comp=Z,2µm,1.0s						
UESV	Universidad de	2.45	136	iP	Pn	11 43 42.5	+0.7
UESV				IAML		11 44 31.4	
	comp=Z,1µm,1.0s						
TECO	Alcaldia de Te	2.53	137	iP	Pn	11 43 43.8	+0.9
TECO				iS	Sb	11 44 16.6	-1.8
TECO				IAML		11 44 30.5	
	comp=Z,720nm,1.0s						
INTHN	La Esperanza I	2.60	114	iP	Pn	11 43 47.9	+3.8
PQSS	Presa 15 de Se	2.62	132	⇑iP	Pn	11 43 45.4	+1.3
PQSS				iS	Sb	11 44 20.2	-0.7
PQSS				IAML		11 44 25.1	
	comp=Z,1µm,1.0s						
CAHU	Cacacuatique	2.79	126	eP	Pn	11 43 48.8	+2.2
ALJI	Alcalda de J	2.82	137	eP	Pn	11 43 48.7	+1.8
ALJI				IAML		11 43 43.8	
	comp=Z,678nm,0.8s						
ALJI	Alcalda de J	2.82	137	iP	Pn	11 43 48.7	+1.8
ALJI				IAML		11 44 55.5	
	comp=Z,690nm,1.0s						
PACA	Pacayal	2.89	132	iP	Pb	11 43 52.8	-0.9
PACA				IAML		11 44 45.2	
	comp=Z,10µm,1.0s						
COMHN	El Horno	3.04	108	⇑iP	Pn	11 43 48.0	-2.2
LCND	La Caada	3.31	129	iP	Pn	11 43 57.0	+3.3
LCND				IAML		11 44 51.3	
	comp=Z,590nm,1.0s						
CNCH	Conchagua	3.38	129	iP	Pn	11 43 59.2	+4.5
CNCH				IAML		11 44 57.5	
	comp=Z,1µm,1.0s						
TGUH	Tegucigalpa,Un	3.44	113	Pn	Pn	11 44 00.1	+4.5
TGUH	Tegucigalpa,Un	3.44	113	iP	Pn	11 44 00.3	+4.8
TGUH				IAML		11 44 54.4	
	comp=Z,2µm,1.0s						
AMPH	Amapala	3.50	127	⇑iP	Pn	11 44 00.8	+4.5
CSGN	Cosiguina Volc	3.77	130	iP	Pn	11 44 04.5	+4.4
CSGN				IAML		11 44 23.0	
	comp=Z,960nm,1.0s						
YUSH	Yuscaran	3.86	112	⇑iP	Pn	11 43 59.4	-2.0
CRIN	San Cristobal	4.33	128		Pn	11 44 12.3	+4.6
CRIN	San Cristobal	4.33	128	iP	Pb	11 44 14.6	-3.7
CRIN				IAML		11 45 27.6	
	comp=Z,750nm,1.0s						
CMIG	Matias Romero	4.49	292	Pn	Pn	11 44 08.7	-1.2
	comp=Z,6.6nm,0.3s,baz=112,slow=9.3,SNR=21						
CMIG				Sn	Sn	11 45 01.9	0.0
	comp=Z,17nm,0.3s,baz=263,slow=21,SNR=6.0						
CMIG				Lg	Lg	11 45 18.2	
	comp=Z,34nm,0.3s,baz=76,slow=9.6,SNR=6.5						
	comp=Z,19nm,0.3s						
MOMN	Momotombo	4.90	127	iP	Pb	11 44 24.3	-3.7
MOMN				IAML		11 44 41.4	
	comp=Z,7.1nm,1.0s						
MOM2	El Cardon	4.93	126	iP	Pn	11 44 22.2	+6.3
MOM2				IAML		11 46 29.1	
	comp=Z,180nm,1.0s						
TEIG	Tepich	5.25	24	Pn	Pn	11 44 20.6	+0.2
	comp=Z,1µm,0.3s,baz=165,slow=1.7,SNR=636						
TEIG				Sn	Sn	11 45 18.1	-2.6
	comp=Z,591nm,0.3s,baz=182,slow=6.6,SNR=1.4						
TEIG				Lg	Lg	11 45 52.3	
	comp=Z,523nm,0.3s,baz=225,slow=24,SNR=7.5						
TEIG				LR	LR	11 46 45.4	
	comp=Z,6µm,18.6s,baz=10.0,slow=42						
ACON	Acoyapa	6.24	123	Pn	Pn	11 44 38.2	+4.2
ORTG	Ortega, Santa	7.05	135	Pn	Pn	11 44 47.8	+2.6
TLIG	Tlapa	7.99	287	Pn	Pn	11 44 59.6	+1.6
LCR2	La Lucha 2	8.51	131	Pn	Pn	11 45 08.7	+3.3
RIMA	Rio Macho	8.60	130	Pn	Pn	11 45 09.4	+2.8
SOR	Soroa	10.23	43	Pn	Pn	11 45 28.4	-0.2
833A	Chaparral WMA,	15.24	329	Pn	Pn	11 46 37.0	-0.1
833A				IAmb	IAmb	11 46 44.8	
	comp=Z,50nm,1.1s						
833A	Chaparral WMA,	15.24	329	P	Pn	11 46 38.2	+1.1
	baz=146,SNR=6.8						
BRAL	Brewton	16.01	11	P	Pn	11 46 48.1	+1.1
	baz=192						
HNDO	Hondo	16.19	332	P	Pn	11 46 48.5	-1.0
435B	Jarrell	16.61	338	P	Pn	11 46 56.0	+1.3
	baz=156						
NATX	Nacogdoches	16.70	348	P	Pn	11 46 57.9	+2.0
NATX				IAmb	IAmb	11 47 00.4	
	comp=Z,34nm,0.8s						
NATX	Nacogdoches	16.70	348	P	Pn	11 46 57.6	+1.8
	baz=166						
VBMS	Vicksburg	16.73	0	P	Pn	11 46 58.5	+2.2
	baz=180						
DRIO	Del Rio	16.75	328		Pn	11 46 55.8	-0.8
352A	Blakely	16.80	17	P	Pn	11 46 59.9	+2.8
352A				IAmb	IAmb	11 47 05.7	
	comp=Z,34nm,0.5s						
TIGA	Tifton	17.18	21	P	Pn	11 47 03.5	+1.7
	baz=203						
237A	Washetta, Mont	17.20	345	IAmb	IAmb	11 47 06.0	
	comp=Z,28nm,0.7s						
143A	Socs Landing,	17.23	358	IAmb	IAmb	11 47 07.3	
	comp=Z,27nm,0.8s						
JCT	Junction City	17.24	332	P	Pn	11 47 02.8	+0.1
JCT	Junction City	17.24	332	P	Pn	11 47 04.5	+1.8
	baz=148						
BRDY	Brady	17.59	335	P	Pn	11 47 08.0	+0.9
WHTX	Lake Whitney,	17.67	340	P	Pn	11 47 07.3	-0.6
WHTX				IAmb	IAmb	11 47 14.4	
	comp=Z,33nm,1.0s						
WHTX	Lake Whitney,	17.67	340	P	Pn	11 47 10.3	+2.3
	baz=158,SNR=17						
LRAL	Lakeview Retre	17.84	10	P	Pn	11 47 11.8	+1.8
	baz=191						
Z41A	Richland Creek	17.89	354		Pn	11 47 13.3	+2.7
Z41A				IAmb	IAmb	11 47 15.8	
	comp=Z,39nm,0.9s						
SAND	Sanderson	17.97	326	P	Pn	11 47 11.3	-0.5
152A	Waverly Hall	17.98	16	IAmb	IAmb	11 47 27.6	
	comp=Z,47nm,1.5s						
255A	Hazlehurst	18.01	23	Pn	Pn	11 47 15.6	+3.4
255A				IAmb	IAmb	11 47 37.8	
	comp=Z,41nm,0.9s						
HPIG		18.15	312	P	Pn	11 47 14.6	+0.4
OZNA	Ozona	18.23	330	P	Pn	11 47 16.7	+1.7
WLAR	White Oak Lake	18.35	353	IAmb	IAmb	11 47 40.5	
	comp=Z,34nm,0.9s						
TXAR	Lajitas Array	18.39	321	P	P	11 47 18.8	+1.8
	comp=Z,0.8nm,0.3s,baz=145,slow=12,SNR=43						
	comp=Z,6.3nm,0.7s						
TX31	Lajitas Ar. Si	18.40	321	Pn	P	11 47 18.5	+1.5
PLPT	Palo Pinto	18.71	339		P	11 47 21.5	+1.2
PLPT				IAmb	IAmb	11 47 29.0	
	comp=Z,56nm,1.4s						
ABTX	Abilene, Hawle	19.03	336	P	P	11 47 24.8	+1.0
	baz=152,SNR=5.5						
GOGA	Godfrey	19.03	18	P	P	11 47 25.2	+1.3
	baz=202						
OXF	Oxford	19.05	3	P	P	11 47 25.1	+1.1
OXF				IAmb	IAmb	11 47 51.6	
	comp=Z,36nm,1.0s						
OXF	Oxford	19.05	3	P	P	11 47 26.0	+2.0
	baz=184						
SGCY	Sterling City	19.05	331	P	P	11 47 25.1	+0.9
UALR	University of	19.35	356		P	11 47 29.8	+2.5
UALR				IAmb	IAmb	11 47 34.8	
	comp=Z,26nm,0.9s						
MNHN	Monahans	19.39	327	IAmb	IAmb	11 47 31.8	
	comp=Z,28nm,0.6s						
LOOK	Love County	19.45	343		P	11 47 29.2	+0.8
LOOK				IAmb	IAmb	11 47 30.5	
	comp=Z,26nm,0.9s						
PLAL	Pickwick Lake	19.62	6	P	P	11 47 31.1	+0.9
SN01	Snyder 1	19.75	333	IAmb	IAmb	11 47 33.8	

comp=Z,31nm,0.7s
ODSA Odessa 19.91 329 IAmb IAmb 11 47 35.6
comp=Z,32nm,1.3s
SWET Sewanee 20.15 11 IAmb IAmb 11 47 38.9
comp=Z,16nm,0.8s
VHRN Van Horn 20.23 322 P **P** **11 47 38.3 +1.2**
VHRN IAmb IAmb 11 47 41.1
comp=Z,23nm,1.0s
DKNS Dickens 20.46 335 IAmb IAmb 11 47 44.9
comp=Z,12nm,0.6s
W35A Tecumseh 20.46 345 **P** **11 47 39.9 +0.4**
W52A Murphy 20.48 16 IAmb IAmb 11 48 03.8
comp=Z,30nm,0.8s
SDV Santo Domingo 20.51 106 P **P** **11 47 37.1 -3.2**
comp=Z,8.5nm,0.4s,baz=194,slow=17,SNR=1.9
comp=Z,8.5nm,0.4s
V48A Smith Brothers 20.52 9 IAmb IAmb 11 47 44.6
comp=Z,13nm,0.7s
LCAR Lake Charles 20.58 359 IAmb IAmb 11 47 55.5
comp=Z,17nm,0.5s
WMOK Wichita Mounta 20.62 340 P **P** **11 47 42.3 +1.0**
baz=157
FNO Franklin 20.70 344 IAmb IAmb 11 47 49.4
comp=Z,38nm,1.0s
WVT Waverly 20.78 6 P **P** **11 47 44.3 +1.4**
baz=188
CLTN Cedars of Leba 20.94 10 IAmb IAmb 11 47 49.0
comp=Z,18nm,0.7s
TUL3 Leonard 20.95 348 IAmb IAmb 11 48 27.8
comp=Z,16nm,0.8s
TUL3 Leonard 20.95 348 P **P** **11 47 45.8 +1.1**
baz=166
DEOK Depew 21.03 346 **P** **11 47 45.4 -0.2**
DEOK IAmb IAmb 11 47 50.9
comp=Z,19nm,0.8s
RLO Rose Lookout 21.05 350 IAmb IAmb 11 47 51.5
comp=Z,12nm,0.8s
TKL Tuckaleechee C 21.06 16 IAmb IAmb 11 47 50.2
comp=Z,33nm,0.8s
TKL Tuckaleechee C 21.06 16 P **P** **11 47 46.3 +0.4**
comp=Z,31nm,0.8s,baz=185,slow=11,SNR=28
TKL LR LR 11 56 36.6
comp=Z,133nm,18.1s,baz=200,slow=39
comp=Z,31nm,0.8s
MNTX Cornudas Mount 21.12 323 P **P** **11 47 47.5 +0.9**
baz=137,SNR=18
OK029 Liberty Lake 21.22 344 IAmb IAmb 11 47 49.3
comp=Z,23nm,0.7s
OK052 Battle Ridge R 21.25 346 IAmb IAmb 11 47 52.8
comp=Z,25nm,1.1s
PBMO Poplar Bluff 21.28 0 IAmb IAmb 11 47 50.1
comp=Z,35nm,1.1s
KMSC Kings Mountain 21.32 21 P **P** **11 47 50.6 +1.9**
baz=205
OK033 Mehan 21.33 346 IAmb IAmb 11 47 53.2
comp=Z,24nm,1.1s
V53A Saluda 21.33 18 IAmb IAmb 11 48 17.8
comp=Z,17nm,0.7s
QUOK Quay 21.40 346 IAmb IAmb 11 47 53.7
comp=Z,36nm,1.2s
U49A Red Boiling Sp 21.44 11 IAmb IAmb 11 47 51.7
comp=Z,24nm,0.9s
MSTX Muleshoe 21.53 331 IAmb IAmb 11 47 56.9
comp=Z,28nm,1.0s
MSTX Muleshoe 21.53 331 P **P** **11 47 52.1 +1.1**
baz=146,SNR=9.2
OK048 Pawnee Station 21.68 346 IAmb IAmb 11 47 57.2
comp=Z,21nm,0.7s
T47A Sharon Grove 21.71 7 P **P** **11 47 53.4 +0.5**
MGMO Mountain Grove 21.71 356 IAmb IAmb 11 47 58.6
comp=Z,19nm,0.8s
OK051 E0350 and S346 21.75 346 IAmb IAmb 11 47 58.4
comp=Z,43nm,1.3s
AMTX Amarillo 21.82 335 IAmb IAmb 11 47 56.9
comp=Z,19nm,0.6s
AMTX Amarillo 21.82 335 P **P** **11 47 55.0 +0.8**
baz=150
TZTN Tazewell 21.95 15 P **P** **11 47 56.9 +1.4**
baz=198
ELIS Ellis County 22.05 341 IAmb IAmb 11 47 59.6
comp=Z,19nm,0.7s
T35A Sooner Cattle 22.07 347 IAmb IAmb 11 47 58.8
comp=Z,33nm,1.5s
BLOK Blackwell 22.08 346 **P** **11 47 57.1 +0.2**
BLOK IAmb IAmb 11 47 59.3
comp=Z,12nm,0.7s
T50A Nancy 22.11 12 IAmb IAmb 11 48 00.6
comp=Z,13nm,0.7s
S44A Carbondale 22.23 3 IAmb IAmb 11 48 06.3
comp=Z,35nm,0.9s
S39A Bolivar 22.33 354 IAmb IAmb 11 48 02.3
comp=Z,22nm,0.8s
OK032 Salt Plains WL 22.37 344 IAmb IAmb 11 48 03.2
comp=Z,20nm,1.2s
KAN13 South Haven SW 22.38 345 IAmb IAmb 11 48 05.8
comp=Z,14nm,0.8s
KAN17 Caldwell West 22.48 345 IAmb IAmb 11 48 02.8
comp=Z,12nm,0.7s
KAN09 Caldwell North 22.53 345 IAmb IAmb 11 48 03.3
comp=Z,15nm,0.8s
CCM Cathedral Cave 22.57 359 P **P** **11 48 00.7 -1.4**
CCM Cathedral Cave 22.57 359 P **P** **11 48 03.2 +1.2**
baz=178
KAN01 Argonia South 22.59 345 IAmb IAmb 11 48 03.9
comp=Z,18nm,0.7s
CNNC Cliffs of the 22.78 28 P **P** **11 48 05.4 +1.1**
baz=213
KAN12 Harper NE Stat 22.78 345 IAmb IAmb 11 48 05.8
comp=Z,23nm,0.9s
BAUV El Baul 22.90 104 P **P** **11 48 04.8 -1.0**
BAUV IAmb IAmb 11 48 06.4
comp=Z,12nm,0.7s
WCI Wyandotte Cave 23.04 9 P **P** **11 48 07.1 +0.1**
WCI Wyandotte Cave 23.04 9 P **P** **11 48 07.9 +0.9**
baz=191
121A Cookes Peak, D 23.15 320 IAmb IAmb 11 48 12.1
comp=Z,30nm,1.3s
121A Cookes Peak, D 23.15 320 P **P** **11 48 09.2 +0.7**
baz=133,SNR=7.9
319A Douglas 23.36 316 P **P** **11 48 12.3 +1.9**
R50A Paris 23.43 12 IAmb IAmb 11 48 12.5
comp=Z,25nm,0.8s
Q44A Meyer Farm, Va 23.44 3 IAmb IAmb 11 48 12.2
comp=Z,30nm,0.9s
BLA Blacksburg 23.50 21 P **P** **11 48 13.2 +1.5**
baz=205
Y22D IRIS PASSCAL I 23.74 324 P **P** **11 48 14.4 +0.2**
baz=138
Y22F Passcal Instru 23.74 324 P **P** **11 48 14.5 +0.3**
baz=138
BLO Bloomington 23.93 8 IAmb IAmb 11 48 17.0
comp=Z,23nm,0.8s
ANMO Albuquerque 24.14 327 P **P** **11 48 18.2 +0.2**
ANMO Albuquerque 24.14 327 P **P** **11 48 19.0 +1.0**
baz=140
P43A Skaggs, Pawnee 24.16 2 IAmb IAmb 11 48 19.4
comp=Z,21nm,0.8s
KSU1 Kansas State U 24.20 348 IAmb IAmb 11 48 53.8
comp=Z,13nm,0.9s
KSU1 Kansas State U 24.20 348 P **P** **11 48 19.0 +0.7**
baz=166
P38A Dawn 24.27 354 IAmb IAmb 11 48 19.7
comp=Z,20nm,0.8s
P48A Milroy 24.38 10 IAmb IAmb 11 48 21.1
comp=Z,22nm,0.9s
P49A Miami Univ. Ec 24.57 11 P **P** **11 48 22.1 +0.4**
baz=194
R55A Marlinton 24.57 20 IAmb IAmb 11 48 37.8
comp=Z,36nm,1.2s
CBKS Cedar Bluff 24.68 343 P **P** **11 48 23.2 +0.5**
baz=158
T25A Trinidad 24.90 333 IAmb IAmb 11 48 28.9
comp=Z,23nm,1.2s
T25A Trinidad 24.90 333 P **P** **11 48 25.7 +0.7**
baz=147,SNR=10
TUC Tucson 24.94 316 P **P** **11 48 26.6 +1.4**
TUC IAmb IAmb 11 48 29.3
comp=Z,16nm,1.0s
TUC Tucson 24.94 316 P **P** **11 48 26.3 +1.1**
baz=128
SFIN Lafayette 25.06 6 IAmb IAmb 11 48 28.8
comp=Z,33nm,1.2s
SFIN Lafayette 25.06 6 P **P** **11 48 25.9 -0.1**
baz=188
O48B Farmland 25.20 10 P **P** **11 48 26.7 -0.6**
O48B IAmb IAmb 11 48 27.4
comp=Z,24nm,1.0s
O48B Farmland 25.20 10 P **P** **11 48 27.2 -0.1**
baz=192
P52A Corning 25.23 15 P **P** **11 48 28.1 +0.4**
baz=199
ACSO Alum Creek Sta 25.60 13 IAmb IAmb 11 48 32.1
comp=Z,16nm,0.8s
ACSO Alum Creek Sta 25.60 13 P **P** **11 48 31.7 +0.8**
baz=197
KSCO Kaye Shedlock' 25.80 338 IAmb IAmb 11 48 33.9
comp=Z,19nm,0.8s
KSCO Kaye Shedlock' 25.80 338 P **P** **11 48 33.0 0.0**
baz=152
SDCO Great Sand Dun 25.89 332 P **P** **11 48 34.5 +0.5**
baz=145
MCWV Mont Chateau 25.91 19 P **P** **11 48 34.6 +0.8**
baz=204
O53A New Philadelph 26.05 16 P **P** **11 48 35.9 +0.8**
baz=201
214A Organ Pipe Nat 26.13 313 P **P** **11 48 36.6 +0.6**
baz=124
SCIA State Center 26.50 356 P **P** **11 48 39.3 +0.1**
baz=174
S22A 4UR Ranch, Cre 26.51 330 P **P** **11 48 40.2 +0.6**
baz=143
Q24A Divide 26.75 334 P **P** **11 48 42.5 +0.7**
baz=147
L44A Lake County Fo 26.77 4 P **P** **11 48 42.2 +0.7**
baz=186
MVCO Mesa Verde 26.93 327 P **P** **11 48 43.7 +0.3**
baz=139
L34A Svendsen Farm, 26.94 350 IAmb IAmb 11 49 04.8
comp=Z,16nm,0.9s
L48A N Adams 26.96 10 P **P** **11 48 42.5 -0.8**
OGNE Ogallala 27.33 341 P **P** **11 48 47.5 +0.8**
baz=155
JFWS Jewell Farm 27.41 0 P **P** **11 48 47.3 0.0**
baz=181
ISCO Idaho Springs 27.64 334 P **P** **11 48 49.9 +0.1**
baz=147
ERPA Erie 28.13 17 P **P** **11 48 55.2 +1.4**
baz=202
PDMCI Parker Dam,Lak 28.38 316 P **P** **11 48 56.5 +0.4**
baz=126
N23A Red Feather La 28.70 335 P **P** **11 48 59.8 +0.6**
baz=149
ECSD ECOS Data Cent 28.70 351 P **P** **11 48 59.1 +0.2**
baz=168
SWSC Sam W. Stewart 28.79 312 P **P** **11 49 00.9 +1.2**
baz=121
IKP In-Ko-Pah, Jac 28.86 311 P **P** **11 49 01.7 +1.2**
baz=120
BC3 Big Chuckawall 28.92 313 P **P** **11 49 02.5 +1.5**
baz=123,SNR=13
IRM Iron Mountain 28.98 315 P **P** **11 49 02.8 +1.3**
baz=124
O20A White River Ci 29.07 331 IAmb IAmb 11 49 04.7
comp=Z,11nm,1.0s
O20A White River Ci 29.07 331 P **P** **11 49 03.3 +0.8**
baz=143,SNR=5.2
MONP2 Monument Peak 29.21 311 P **P** **11 49 05.1 +1.4**
baz=120,SNR=5.2
BELC Belle Mtn. Jos 29.48 313 P **P** **11 49 07.5 +1.4**
baz=123,SNR=5.6
BINY Binghamton 29.50 22 P **P** **11 49 07.2 +1.3**
baz=132
PMD Palm Desert 29.57 313 IAmb IAmb 11 49 09.1
comp=Z,6.7nm,0.8s
TPFO Pinon Flats 29.60 312 P **P** **11 49 09.0 +1.9**
baz=122,SNR=6.5
PFO Pinyon Flats O 29.60 312 P **P** **11 49 07.7 +0.5**
PFO Pinyon Flats O 29.60 312 P **P** **11 49 09.0 +1.8**
baz=122,SNR=6.0
GMRC Granite Mounta 29.68 315 P **P** **11 49 09.8 +2.0**
baz=124,SNR=7.0
V12A Nelson 29.69 317 P **P** **11 49 07.6 -0.2**
SPMN Marine on St. 29.78 357 P **P** **11 49 07.9 -0.5**
baz=176,SNR=5.8
SUSD Miller 29.81 348 P **P** **11 49 08.5 -0.2**
baz=164
RWWY Rawlins 29.89 334 IAmb IAmb 11 49 11.2
comp=Z,15nm,1.1s
MURC Murrieta 30.12 312 P **P** **11 49 13.1 +1.5**
baz=120
HEC Hector,Ludlow 30.17 315 P **P** **11 49 13.8 +1.7**
baz=123
TUQ Turquoise Moun 30.23 316 P **P** **11 49 13.3 +0.6**
baz=125
BBRC Big Bear Solar 30.27 313 P **P** **11 49 14.5 +1.4**
baz=122
K22A Casper 30.42 336 IAmb IAmb 11 49 15.0
comp=Z,6.4nm,0.7s
K22A Casper 30.42 336 P **P** **11 49 14.8 +0.5**
baz=118
SHOC Shoshone, Teco 30.73 316 P **P** **11 49 18.3 +1.3**
baz=125
GSC Goldstone, Bar 30.75 315 P **P** **11 49 18.7 +1.4**
baz=124
BFSC Mount Baldy Ra 30.78 312 P **P** **11 49 18.8 +1.2**
baz=121
SADO Sadowa 30.82 16 LR LR 12 02 20.6
comp=Z,102nm,18.9s,baz=88,slow=38
RSSD Black Hills 30.83 341 P **P** **11 49 18.7 +0.7**
baz=154
TPNV Topopah Spring 31.32 318 P **P** **11 49 24.0 +1.6**
baz=126
EDW2 Edwards Air Fo 31.35 313 P **P** **11 49 23.2 +0.8**
baz=121
FURC Furnace Creek, 31.44 317 P **P** **11 49 24.7 +1.5**
baz=125
LRMC Laurel Mtn Rad 31.45 314 P **P** **11 49 24.7 +1.3**
baz=122
MPMC Manual Prospec 31.63 316 P **P** **11 49 26.0 +0.9**
baz=124,SNR=5.7
R11B Troy Canyon, C 31.76 321 P **P** **11 49 26.6 +0.4**
baz=129
BW06 Boulder Array 31.77 333 P **P** **11 49 25.5 -0.8**
baz=143
PD31 Pinedale Array 31.77 333 P **P** **11 49 25.9 -0.4**
PDAR Pinedale Array 31.77 333 P **P** **11 49 25.3 -1.0**
comp=Z,1.0nm,0.7s,baz=128,slow=11,SNR=12
comp=Z,1.0nm,0.7s
ARVC Arvin 32.06 313 P **P** **11 49 29.9 +1.2**
baz=121
GRAC Grapevine Rang 32.08 317 P **P** **11 49 30.7 +1.9**
baz=125
SCZ2 Santa Cruz Isl 32.09 311 P **P** **11 49 30.9 +1.9**
baz=118
ISA Isabella, Lake 32.09 314 P **P** **11 49 30.4 +1.4**
baz=122
LONY Lake Ozonia 32.10 22 P **P** **11 49 28.4 -0.5**
baz=210
CWC Cottonwood Cre 32.24 316 P **P** **11 49 29.1 -1.3**
baz=123
SBC Santa Barbara 32.36 311 P **P** **11 49 30.8 -0.4**
baz=119
EYMN Ely 32.45 359 P **P** **11 49 31.4 -0.5**
baz=178
VES Vestal, Richgr 32.61 314 P **P** **11 49 35.5 +2.1**
baz=121,SNR=7.0
PKM Mcpherson Peak 32.65 312 P **P** **11 49 35.6 +1.6**
baz=119
LOHW Long Hollow 32.91 333 IAmb IAmb 11 49 37.0
comp=Z,6.6nm,0.7s
TPAW Teton Pass 32.96 332 P **P** **11 49 36.3 -0.5**
TPAW IAmb IAmb 11 49 42.0
comp=Z,6.1nm,0.8s
MDND Maddock 33.20 349 P **P** **11 49 37.9 -0.6**
baz=164,SNR=6.9
FLWY Flagg Ranch 33.32 333 IAmb IAmb 11 49 40.7
comp=Z,5.8nm,0.8s
NV11 Mina Array Sit 33.42 319 IAmb IAmb 11 50 02.9
comp=Z,9.9nm,1.4s
NVAR Mina Array Bea 33.51 319 P **P** **11 49 42.0 +0.4**
comp=Z,3.4nm,0.9s,baz=137,slow=8.8,SNR=20
NVAR PcP **PcP** **11 52 21.2 -1.2**
comp=Z,0.4nm,0.7s,baz=146,slow=4.0,SNR=2.8
comp=Z,3.4nm,0.9s
H17A Grant Village 33.52 334 P **P** **11 49 42.0 +0.4**
baz=143
LAO LASA Array 33.82 340 IAmb IAmb 11 49 45.2
comp=Z,9.0nm,1.0s
LAO LASA Array 33.82 340 P **P** **11 49 44.3 +0.3**
baz=152
YMR Madison River 33.90 333 IAmb IAmb 11 49 46.2
comp=Z,8.8nm,0.9s
YHL Hebgen Lake 34.14 333 IAmb IAmb 11 49 49.0
comp=Z,3.1nm,0.6s
HLID Hailey 34.66 329 P **P** **11 49 51.6 +0.1**
baz=137
DGMT Dagmar 34.83 344 P **P** **11 49 52.7 0.0**
baz=157
BOZ Bozeman (W) 34.93 334 IAmb IAmb 11 49 55.8
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 34.93 334 P **P** **11 49 53.7 0.0**
baz=143,SNR=5.9
ULM Lac du Bonnet 35.02 354 P P 11 49 52.5 -1.7
comp=Z,2.5nm,0.6s,baz=191,slow=10,SNR=5.9
ULM PcP **PcP** **11 52 23.8 -2.3**
comp=Z,4.6nm,0.8s,baz=151,slow=2.4,SNR=5.6
ULM LR LR 12 04 57.6
comp=Z,68nm,19.5s,baz=6.0,slow=37
comp=Z,2.5nm,0.6s
EGMT Eagleton 36.18 338 P P 11 50 02.6 -1.7
EGMT Eagleton 36.18 338 P **P** **11 50 04.5 +0.2**
baz=148,SNR=11
J08A Circle Bar Ran 36.66 325 IAmb IAmb 11 50 09.8
comp=Z,8.0nm,0.6s
MSO Missoula 36.89 333 P **P** **11 50 10.0 -0.4**
baz=140
F10A Beach Ranch, E 37.79 329 P P 11 50 16.7 -1.4
F10A IAmb IAmb 11 50 17.9
comp=Z,5.0nm,0.8s
PINE Pine Mountain 38.32 324 IAmb IAmb 11 50 22.9
comp=Z,5.9nm,1.1s
NEW Newport 39.39 332 P **P** **11 50 31.3 -0.2**
baz=137
C09A Chrisman Ranch 39.59 331 IAmb IAmb 11 50 33.2
comp=Z,5.5nm,0.8s
HOOD Mount Hood Mea 39.67 325 IAmb IAmb 11 50 36.1
comp=Z,13nm,0.8s
EDM Edmonton 41.79 340 P **P** **11 50 50.3 -0.9**
SCHQ Schefferville 43.42 20 P P 11 51 02.2 -2.2
comp=Z,5.3nm,1.0s,baz=250,slow=7.9,SNR=3.4
SCHQ PcP **PP** **11 52 51.0 +5.6**
comp=Z,3.3nm,0.5s,baz=11,slow=18,SNR=3.3
SCHQ LR LR 12 09 18.1
comp=Z,76nm,18.1s,baz=195,slow=36
comp=Z,5.3nm,1.0s
BRLDA Berland Lookou 43.92 337 IAmb IAmb 11 51 08.5
comp=Z,13nm,0.8s
YKA Yellowknife Ar 50.00 346 P **P** **11 51 54.8 -1.0**
YKA Yellowknife Ar 50.00 346 P **P** **11 51 55.3 -0.4**
comp=Z,9.8nm,0.7s,baz=146,slow=7.5,SNR=193
YKA PcP **PcP** **11 53 14.5 -1.0**
comp=Z,1.8nm,0.8s,baz=146,slow=4.1,SNR=7.7
comp=Z,9.8nm,0.7s
FLDN Fort Liard 50.75 339 P **P** **11 52 01.4 0.0**
baz=137
KOTAN Kotaneelee Air 50.86 339 P **P** **11 52 02.4 +0.1**
baz=137
T35M Bob Quinn 51.15 333 P **P** **11 52 05.0 +0.4**
baz=128
CRAG Craig 51.57 331 P **P** **11 52 08.0 +0.3**
baz=124
DLBC Dease Lake 51.96 335 P **P** **11 52 12.0 +1.3**
DLBC Dease Lake 51.96 335 P **P** **11 52 12.1 +1.4**
baz=129,SNR=6.2
S34M Telegraph Cree 52.10 334 P **P** **11 52 12.2 +0.5**
baz=127
T33K Petersburg 52.25 332 P **P** **11 52 13.3 +0.5**
baz=125
WTLY Watson Lake, Y 52.56 337 P **P** **11 52 15.3 +0.2**
baz=131
R33M Jennings River 52.95 335 P **P** **11 52 18.2 +0.1**
baz=128
WRGLY Wrigley 52.98 342 P **P** **11 52 18.4 +0.3**
baz=139
Q32M Nakina River 53.21 334 P **P** **11 52 20.9 +0.8**
baz=127
S32K Killisnoo 53.35 332 P **P** **11 52 21.8 +1.0**
baz=123
SIT Sitka 53.47 331 P **P** **11 52 22.5 +0.7**
baz=122
R32K Eaglecrest 53.77 333 P **P** **11 52 24.3 +0.3**
baz=124
P32M Atlin 54.18 335 P **P** **11 52 27.3 +0.3**
baz=126
P33M Teslin, Yukon 54.19 336 P **P** **11 52 27.2 +0.2**
baz=127
N32M Quiet Lake 54.86 336 P **P** **11 52 32.3 +0.4**
baz=127
FARO Faro, Yukon 55.61 337 P **P** **11 52 37.6 +0.2**
baz=128
O30N Mendenhall 55.83 335 P **P** **11 52 39.6 +0.6**
baz=124
P30M Million Dollar 55.84 334 P **P** **11 52 39.1 +0.1**
baz=122
P29M Windy Craggy 55.91 333 P **P** **11 52 39.7 +0.2**
baz=121
M31M Drury Creek, Y 55.99 337 P **P** **11 52 40.4 +0.4**
baz=126
N30M Aishikik Lake 56.62 335 P **P** **11 52 44.3 -0.2**
baz=123
O29M Mount Kennedy 56.62 334 P **P** **11 52 45.2 +0.5**
baz=121
PNL Peninsula 56.66 333 P **P** **11 52 46.0 +1.2**
baz=120
YUK6 Outpost Mounta 56.86 334 P **P** **11 52 46.9 +0.4**
baz=121
YUK4 Talbot Arm 57.19 335 P **P** **11 52 49.0 +0.2**
baz=122
PINM Pinnacle 57.24 333 P P 11 52 47.3 -1.7
baz=119
MAYO Mayo, Yukon 57.37 338 P **P** **11 52 49.1 -0.7**
baz=126
YUK8 Steele Glacier 57.62 334 P **P** **11 52 51.4 -0.5**
baz=120
M29M Somme Creek 57.70 336 P **P** **11 52 52.0 -0.3**
baz=122
L29M L29M 57.93 337 P **P** **11 52 53.8 +0.1**
baz=123
J30M Hart River 58.09 339 P **P** **11 52 54.7 -0.3**
baz=126
K29M Barlow Dome 58.10 338 P **P** **11 52 54.8 -0.2**
baz=124
YUK3 Moose Creek 58.16 335 P **P** **11 52 55.2 -0.4**
baz=120
H31M Peel River 58.16 340 P **P** **11 52 54.7 -0.7**
baz=128
I30M Mount Dempster 58.49 339 P **P** **11 52 57.5 -0.3**
baz=126
G31M Satah River 58.84 341 P **P** **11 52 59.9 0.0**
baz=129
DAWY Dawson 58.92 337 P **P** **11 53 00.2 -0.5**
baz=122
F31M Tsiigehtchic 59.01 342 P **P** **11 53 01.1 0.0**
baz=130
M27K Edge Creek, AK 59.03 335 P **P** **11 53 00.6 -0.9**
baz=119
MCARA McCarthy VSAT 59.05 334 P **P** **11 53 01.4 -0.2**
baz=117
I29M Ogilvie Camp, 59.23 339 P **P** **11 53 02.1 -0.7**
baz=124
EPYK Eagle Plains 59.28 340 P **P** **11 53 02.1 -1.0**
baz=126
L27K Beaver Creek, 59.35 336 P **P** **11 53 03.0 -0.7**
baz=119
G30M tAoh Zraii Nji 59.48 341 P **P** **11 53 04.2 -0.3**
baz=127
INK Inuvik 59.50 343 P **P** **11 53 04.5 0.0**
baz=130
M26K Nabesna, AK 59.51 335 P **P** **11 53 04.5 -0.2**
baz=118
BMRM Bremner River 59.56 333 P **P** **11 53 05.0 -0.2**
baz=115
F30M Barrier River 59.73 342 P **P** **11 53 05.5 -0.6**
baz=128
Q23K Middleton Isla 59.73 331 P **P** **11 53 06.4 +0.1**
baz=113
H29M Whitestone 59.74 340 P **P** **11 53 05.9 -0.3**
baz=124
N25K Chitina, Valde 59.83 333 P **P** **11 53 07.2 +0.2**
baz=115
I28M Miner Creek 59.85 338 P **P** **11 53 07.4 +0.2**
baz=122
EYAK Cordova Ski Ar 59.90 332 P **P** **11 53 07.1 -0.3**
baz=114
K27K Chicken 59.91 337 P **P** **11 53 07.0 -0.4**
baz=119
L26K Log Cabin Wild 59.94 335 P **P** **11 53 07.5 -0.2**
baz=117
EGAK Eagle 59.94 338 P **P** **11 53 07.5 -0.1**
baz=121
G29M Pine Creek 60.02 340 P **P** **11 53 08.0 -0.1**
baz=125
A36M Sachs Harbour 60.15 348 P **P** **11 53 08.7 -0.2**
baz=141

KLU	Klutina baz=114	60.36	333	P	P	11 53 10.3	-0.3
HARP	HAARP baz=115	60.41	334	P	P	11 53 10.7	-0.3
P23K	Montague Islan baz=112	60.44	331	P	P	11 53 10.1	-1.1
I27K	Kandik River baz=120	60.53	338	P	P	11 53 10.4	-1.3
SCRK	Sand Creek baz=117	60.63	336	P	P	11 53 11.7	-0.9
J26L	Joseph Creek baz=118	60.71	337	P	P	11 53 12.2	-0.9
M24K	Tolsona, Glenn baz=114	60.72	334	P	P	11 53 12.2	-0.9
PAX	Paxson baz=115	60.78	335	P	P	11 53 12.7	-0.9
H27K	Steamboat Moun baz=121	60.82	339	P	P	11 53 12.8	-0.9
E29M	Blow River baz=126	60.83	342	P	P	11 53 13.0	-0.6
RIDG	Independent Ri baz=116	60.87	336	P	P	11 53 12.7	-1.4
I26K	Coal Creek Min baz=119	60.94	338	P	P	11 53 14.6	+0.1
F28M	Old Crow comp=Z,5.3nm,0.7s	61.01	341	IAmb	IAmb	11 53 16.7	
F28M	Old Crow baz=123,SNR=12	61.01	341	P	P	11 53 15.5	+0.6
SCM	Sheep Creek Mo baz=113	61.11	333	P	P	11 53 15.4	-0.4
G27K	Doyon Strip baz=121	61.16	339	P	P	11 53 15.2	-0.8
K24K	Donnelly Dome baz=115	61.27	335	P	P	11 53 16.2	-0.6
M23K	Glacier View baz=112	61.27	333	P	P	11 53 15.9	-0.8
KNK	Knik Glacier baz=112	61.45	332	P	P	11 53 17.2	-0.9
E28M	Babbage River baz=124	61.45	342	P	P	11 53 17.8	-0.1
J25K	Salcha River, baz=116	61.46	336	P	P	11 53 17.8	-0.3
SML	Sawmill baz=112	61.54	333	P	P	11 53 19.0	+0.4
WAT6	Susitna Watana baz=113	61.58	334	P	P	11 53 19.2	+0.1
D28M	Stokes Point baz=125	61.63	342	P	P	11 53 19.1	+0.1
PMR	Palmer baz=111	61.81	332	P	P	11 53 20.2	-0.2
E27K	Coleen River baz=122	61.87	341	P	P	11 53 20.4	-0.4
RC01	Rabbit Creek A baz=110	61.91	332	P	P	11 53 19.6	-1.5
PRP	Porcupine Dome baz=116	61.92	337	P	P	11 53 20.5	-0.8
BRSE	Bradley Lake S baz=108	61.94	330	P	P	11 53 20.7	-0.7
G26K	Porcupine Rive baz=119	61.96	339	P	P	11 53 20.9	-0.4
HDA	Harding Lake baz=114	61.99	336	P	P	11 53 20.7	-0.9
WAT1	Susitna Watana baz=112	62.02	334	P	P	11 53 21.0	-0.9
ILAR	Eielson Array comp=Z,1.5nm,0.9s,baz=125,slow=5.2,SNR=28 comp=Z,1.5nm,0.9s	62.12	336	P	P	11 53 21.4	-1.0
D27M	Malcolm River baz=123	62.24	342	P	P	11 53 22.6	-0.6
Q20K	Shuyak Island baz=106	62.41	329	P	P	11 53 23.6	-0.9
F26K	Sheenjek River baz=119	62.45	340	P	P	11 53 23.6	-1.0
CAPN	Captain Cook N baz=109	62.46	331	P	P	11 53 23.6	-1.1
SUA	Susitna One baz=109	62.50	332	P	P	11 53 24.2	-1.0
MCK	McKinley baz=112	62.52	335	P	P	11 53 24.6	-0.6
CUT	Chulitna baz=110	62.60	333	P	P	11 53 25.0	-0.7
G25K	Bearman Lake baz=116	62.69	338	P	P	11 53 25.4	-0.8
SII	Sitkinak Islan baz=104	62.80	326	P	P	11 53 26.5	-0.7
NEA2	Nenana baz=112	62.90	336	P	P	11 53 27.2	-0.5
F25K	Christian Rive baz=117	62.91	339	P	P	11 53 27.2	-0.5
H24K	Noodor Dome baz=114	62.94	337	P	P	11 53 27.3	-0.7
O20K	Slope Mountain baz=107	62.94	330	P	P	11 53 27.5	-0.6
TRF	Thorofare Moun baz=111	62.98	334	P	P	11 53 28.2	-0.2
SKT	Skwentna baz=109	63.02	332	P	P	11 53 27.7	-0.9
N20K	Mount Spurr baz=108	63.08	331	P	P	11 53 28.1	-1.0
E25K	Arctic Village baz=118	63.12	340	P	P	11 53 28.5	-0.6
G24K	Hadweenzic Riv baz=115	63.15	338	P	P	11 53 28.8	-0.5
I23K	Minto, Yukon-K baz=112	63.23	336	P	P	11 53 29.6	-0.2
BPAW	Bear Paw Mtn. baz=110	63.50	335	P	P	11 53 31.1	-0.6
PPLA	Purkeypile baz=109	63.60	333	P	P	11 53 31.5	-1.0
F24K	Squaw Lake baz=115	63.65	339	P	P	11 53 32.1	-0.5
M20K	Styx River baz=107	63.71	332	P	P	11 53 31.6	-1.5
CAST	Castle Rocks baz=109	63.73	334	P	P	11 53 31.8	-1.4
MLY	Manley comp=Z,4.6nm,0.6s	63.73	336	P	P	11 53 31.9	-1.3
MLY				IAmb	IAmb	11 53 32.9	
MLY	Manley baz=111,SNR=7.9	63.73	336	P	P	11 53 32.4	-0.8
C26K	Camden Bay baz=119	63.77	342	P	P	11 53 33.5	+0.2
D25K	Kavik River baz=117	63.94	341	P	P	11 53 34.2	-0.3
CHUM	Lake Minchumin baz=109	63.98	334	P	P	11 53 34.8	0.0
P18K	Big Mountain, baz=104	64.03	329	P	P	11 53 35.1	-0.1
N19K	Bonanza Creek baz=106	64.03	331	P	P	11 53 34.3	-1.0
G23K	Bananza Creek baz=112	64.08	338	P	P	11 53 35.2	-0.3
Q17K	Contact Creek baz=103	64.10	328	P	P	11 53 35.3	-0.5
O18K	Koktuh Hills baz=104	64.13	330	P	P	11 53 34.7	-1.2
L20K	Farewell, AK baz=107	64.22	333	P	P	11 53 35.6	-0.9
R17K	Ugashik Creek baz=102	64.22	327	P	P	11 53 35.5	-0.9
H22K	Ishtalitna Cre baz=111	64.29	337	P	P	11 53 35.8	-1.0
COLD	Coldfoot baz=113	64.35	338	P	P	11 53 37.0	-0.2
E23K	Chandalar baz=114	64.47	339	P	P	11 53 37.2	-0.9
K20K	Telida baz=107	64.56	333	P	P	11 53 38.1	-0.6
L19K	White Mountain baz=106	64.57	332	P	P	11 53 37.5	-1.2
D24K	Happy Valley baz=115	64.65	340	P	P	11 53 38.2	-0.9
N18K	Kilae Creek baz=104	64.67	330	P	P	11 53 37.8	-1.6
TOLK	Toolik Lake Re baz=114	64.69	340	P	P	11 53 38.6	-0.8
G22K	Bettles baz=111	64.71	338	P	P	11 53 38.7	-0.8
H21K	Melozitna Rive baz=109	64.76	336	P	P	11 53 38.5	-1.4
J20K	Nowinta River baz=107	64.84	334	P	P	11 53 38.9	-1.5
M18K	Stony River baz=104	64.84	331	P	P	11 53 39.0	-1.4
C24K	Franklin Bluff baz=115	64.85	341	P	P	11 53 40.3	-0.1
O17K	Koliganek Bris baz=103	65.04	329	P	P	11 53 41.4	-0.4
CHGN	Chignik baz=100	65.05	325	P	P	11 53 41.2	-0.7
I20K	Naaghedeneel baz=107	65.16	335	P	P	11 53 41.5	-1.0
D23K	Nanushuk River baz=113	65.19	340	P	P	11 53 42.4	-0.2
N17K	Nushagak Hills baz=103	65.25	330	P	P	11 53 42.8	-0.4
E22K	Anaktuvuk Pass baz=111	65.26	339	P	P	11 53 42.2	-0.9
TTA	Tatalina baz=105	65.29	333	P	P	11 53 41.8	-1.6
G21K	Allakaket baz=109	65.31	337	P	P	11 53 42.6	-0.9
P16K	Nushagak River baz=101	65.33	328	P	P	11 53 42.2	-1.5
J19K	Poorman baz=106	65.40	334	P	P	11 53 43.0	-1.1
L18K	Granite Mounta baz=104	65.41	332	P	P	11 53 43.7	-0.5
O16K	Kokwok River B baz=102	65.50	329	P	P	11 53 43.9	-0.9
C23K	Itkillik River baz=113	65.51	341	P	P	11 53 44.2	-0.4
H20K	Anotleneega Mo baz=107	65.53	336	P	P	11 53 44.6	-0.3
F21K	Alatna River	65.54	338	P	P	11 53 43.5	-1.4
F21K	Alatna River baz=109	65.54	338	P	P	11 53 45.5	+0.5
J18K	Innoko River baz=105	65.73	333	P	P	11 53 45.6	-0.7
D22K	Ayikyak River baz=111	65.83	339	P	P	11 53 46.6	-0.2
N16K	Nishlik Lake baz=101	66.01	330	P	P	11 53 47.4	-0.7
L17K	Donlin baz=102	66.13	332	P	P	11 53 47.0	-1.8
GCSA	Galena City Sc baz=105	66.13	335	P	P	11 53 47.7	-1.1
H19K	Roundabout Mou baz=106	66.17	335	P	P	11 53 47.9	-1.1
M16K	Timber Creek baz=101	66.21	330	P	P	11 53 48.4	-0.9
K17K	Iditarod baz=103	66.26	332	P	P	11 53 49.0	-0.6
F20K	Avaraart Lake baz=107,SNR=5.4	66.32	337	P	P	11 53 49.8	-0.1
G19K	Purcell Mounta baz=105	66.58	336	P	P	11 53 50.7	-0.9
L16K	Owhat River baz=101	66.59	331	P	P	11 53 50.5	-1.2
B22K	Teshekpuk Lake baz=111	66.59	341	P	P	11 53 51.2	-0.4
N15K	Kwethluk River baz=100	66.60	329	P	P	11 53 51.2	-0.6
C21K	Knifeblade Rid baz=109	66.63	339	P	P	11 53 51.7	-0.2
B21K	Ikpikpuk River baz=109	66.73	340	P	P	11 53 52.0	-0.5
E20K	Nigu River baz=107	66.84	338	P	P	11 53 53.0	-0.3
H18K	Honhosa River baz=104	66.85	335	P	P	11 53 53.0	-0.3
M15K	Kagluk River baz=100	66.98	330	P	P	11 53 52.5	-1.8
E19K	Redstone River baz=106	66.99	337	P	P	11 53 53.4	-0.8
F19K	Shaleruckik Mo baz=105	67.03	337	P	P	11 53 53.0	-1.5
O14K	Tigyukauivet M baz=99	67.03	328	P	P	11 53 54.0	-0.6
D20K	Etivluk River baz=107	67.13	339	P	P	11 53 54.7	-0.4
G18K	Tagagawik baz=104	67.14	336	P	P	11 53 54.5	-0.8
A22K	Sinclair Lake baz=109	67.30	341	P	P	11 53 55.3	-0.8
N14K	Kuskokwak Cree baz=98	67.35	329	P	P	11 53 56.1	-0.5
J16K	Anvik River baz=101	67.40	333	P	P	11 53 56.5	-0.4
H17K	Granite Mounta baz=102	67.44	334	P	P	11 53 56.5	-0.6
L15K	Ungalak Mounta baz=99	67.52	331	P	P	11 53 57.6	-0.1
I17K	Unalakleet baz=101	67.56	333	P	P	11 53 57.5	-0.4
D19K	Kuna River baz=105	67.59	338	P	P	11 53 58.0	0.0
M14K	Bethel	67.60	330	P	P	11 53 55.4	-2.8
M14K	Bethel baz=99	67.60	330	P	P	11 53 57.8	-0.4
K15K	Wolf Creek Mou baz=100	67.65	331	P	P	11 53 58.1	-0.4
FALS	False Pass baz=95	67.69	323	P	P	11 53 58.3	-0.5
B20K	Meade River comp=Z,4.3nm,0.9s	67.69	340	IAmb	IAmb	11 54 10.6	
B20K	Meade River baz=107	67.69	340	P	P	11 53 58.6	+0.1
G17K	Kiwalik Mounta baz=102	67.86	335	P	P	11 53 59.4	-0.4
M13K	Dall Lake baz=97	68.24	329	P	P	11 54 01.5	-0.7
E18K	Tukpahlearik C baz=102	68.25	337	P	P	11 54 01.5	-0.6
H16K	Elim baz=100	68.36	334	P	P	11 54 02.5	-0.4
G16K	Koyuk River baz=100	68.54	335	P	P	11 54 03.8	-0.2
E17K	Hotham Inlet baz=101	68.64	337	P	P	11 54 04.3	-0.3
J14K	Nanvaranak Lak baz=98	68.64	332	P	P	11 54 04.2	-0.4
C18K	Utukok River baz=102	68.73	338	P	P	11 54 05.1	-0.1
A19K	Wainwright baz=103	69.03	340	P	P	11 54 06.8	-0.2
B18K	Kokolik River baz=102	69.10	339	P	P	11 54 07.5	+0.1
D17K	Noatak River baz=100	69.23	337	P	P	11 54 07.2	-1.1
C17K	DeLong Mountai baz=100	69.41	338	P	P	11 54 08.8	-0.6
UNV	Unalaska Valle baz=92	69.43	322	P	P	11 54 09.3	-0.4
F15K	North Star Dit baz=98	69.53	335	P	P	11 54 09.8	-0.3
M11K	Mekoryuk baz=95	69.64	329	P	P	11 54 10.8	-0.1
ANM	Nome baz=97	69.68	334	P	P	11 54 11.6	+0.4
C16K	Lisburne Hills baz=98	70.17	338	P	P	11 54 14.3	+0.3
TNA	Tin City baz=95	70.86	335	P	P	11 54 18.6	+0.3
P08K	Saint George I baz=90	71.23	325	P	P	11 54 20.8	+0.1
SPIA	Saint Paul Isl baz=90	71.62	326	P	P	11 54 22.5	-0.5
EKA	Eskdalemuir Ar comp=Z,2.0nm,0.6s,baz=271,slow=6.7,SNR=9.5 comp=Z,2.0nm,0.6s	76.00	36	P	P	11 54 45.8	-3.1
ESDC	Sonseca Array comp=Z,0.9nm,0.6s,baz=285,slow=5.1,SNR=2.8 comp=Z,0.9nm,0.6s	77.74	52	P	P	11 54 56.1	-2.9
SPITS	Spitsbergen Ar comp=Z,13nm,1.0s,baz=235,slow=5.1,SNR=2.2 comp=Z,13nm,1.0s	78.43	12	P	P	11 55 01.0	-1.1
NOA	NORSAR Array B comp=Z,1.1nm,0.7s,baz=290,slow=5.3,SNR=3.3 comp=Z,1.1nm,0.7s	82.24	29	P	P	11 55 20.4	-2.5
HFS	Hagfors comp=Z,2.1nm,0.7s,baz=301,slow=11,SNR=4.9 comp=Z,2.1nm,0.7s	83.69	29	P	P	11 55 29.2	-1.2
DBIC	Dimbokro comp=Z,1.9nm,0.8s,baz=239,slow=6.8,SNR=3.8 comp=Z,1.9nm,0.8s	84.12	85	P	P	11 55 30.8	-2.7
ARCES	ARCESS Array B comp=Z,2.9nm,0.6s,baz=279,slow=4.8,SNR=18 comp=Z,2.9nm,0.6s	84.36	19	P	P	11 55 31.3	-2.4
GERES	GERESS Array B comp=Z,0.8nm,0.4s,baz=331,slow=11,SNR=4.6 comp=Z,0.8nm,0.4s	87.62	40	P	P	11 55 48.9	-1.4
FINES	FINESS Array B comp=Z,4.5nm,0.9s,baz=319,slow=5.5,SNR=4.8 comp=Z,4.5nm,0.9s	88.63	25	P	P	11 55 52.0	-2.6
TORD	Torodi Ar. Bea comp=Z,0.2nm,0.4s,baz=308,slow=3.5,SNR=1.2	88.68	77	P	P	11 55 50.2	-5.7
AKASG	Malin Array Be comp=Z,0.3nm,0.4s,baz=280,slow=3.9,SNR=2.4 comp=Z,0.3nm,0.4s	95.78	34	P	P	11 56 25.1	-2.9
MLR	Muntele Rosu comp=Z,1.7nm,0.6s,baz=130,slow=6.7,SNR=3.8 comp=Z,1.7nm,0.6s	96.60	39	P	P	11 56 29.8	-2.2
WRA	Warramunga Arr comp=Z,0.5nm,0.9s,baz=89,slow=2.6,SNR=5.7	137.09	257	PKP	PKPdf	12 02 24.1	-1.6
ASAR	Alice Springs comp=Z,0.2nm,0.2s,baz=102,slow=1.9,SNR=1.9	137.45	252	PKP	PKPdf	12 02 24.2	-2.1
CMAR	Chiang Mai Arr comp=Z,12nm,0.7s,baz=335,slow=3.5,SNR=74	145.07	344	PKPbc	PKPbc	12 02 37.7	-1.8

*TEH **04** 11:46:19.1,34.49N×45.99E,h12km±314km,ML2.7*
*ISN **04** 11:46:20.4±1.8,34.48N×46.08E,h25km,ML2.6*
ISC 04 11:46:19.2±1.9,34.49N±0.07×46.00E±0.10,h17km±10km, n9,s0.54/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	Dehrash	0.38	57	Pg	Pg	11 46 26.6	-0.5
IDHR				Sg	Sg	11 46 32.8	+0.2
IGHG	Ghaleghazi	0.50	109	Pg	Pg	11 46 29.2	-0.1
IGHG				Sg	Sb	11 46 37.1	+0.3
ILBA	Ilam Banvizeh	0.88	169	Pg	Pb	11 46 36.0	-0.2
ILBA				Sg	Sn	11 46 49.0	-0.5
KCHF	Cheshme Sefid,	0.89	104	Pg	Pb	11 46 36.0	-0.3
KCHF				Sg	Sn	11 46 49.1	-0.6
ILIN	Lien	0.90	62	Pg	Pn	11 46 37.7	+0.4
IKOM	Komasi	1.29	104	Pg	Pg	11 46 44.2	+0.1
IBDR	Badra baz=5.0	1.38	182	*e*Pg	Pn	11 46 44.0	+0.3
IBDR				*e*Sg	Sg	11 47 04.5	+0.7
IBDR	comp=E,135nm,0.9s			AML	AML	11 47 09.9	
IBDR	comp=N,82nm,0.4s			AML	AML	11 47 11.5	
IKFM	Kafar-mosalman	1.81	122	Pn	Pg	11 46 53.2	-0.9
HSAM	Samen	2.17	97	Pn	Pb	11 46 58.7	+0.5

ROM 04 11:51:26.1±0.1,41.741N±0.004×14.244E±0.007, h17km,ML1.4/12,3C,Error ellipse: s-maj=0.5km s-min=0.4km az=70.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RNI2	Rionero Sannit	0.08	241	↑P	Pg	11 51 29.8	+0.2
RNI2				S	Sg	11 51 32.5	+0.7
RNI2				AML	AML		
	comp=N,468μm,0.1s						
RNI2				AML	AML		
	comp=E,290μm,0.2s						
RNI2				AML	AML		
	comp=N,489μm,0.1s						
RNI2				AML	AML		
	comp=E,267μm,0.2s						
MIDA	Miranda	0.10	175	↑P	Pg	11 51 29.6	-0.1
MIDA				S	Sg	11 51 31.8	-0.3
MIDA				AML	AML		
	comp=E,270μm,1.0s						
MIDA				AML	AML		
	comp=E,290μm,1.0s						
MIDA				AML	AML		
	comp=N,244μm,1.6s						
MIDA				AML	AML		
	comp=E,290μm,1.0s						
MIDA				AML	AML		
	comp=E,270μm,1.0s						
MIDA				AML	AML		
	comp=N,692μm,1.3s						
MIDA				AML	AML		
	comp=N,244μm,0.4s						
MIDA				AML	AML		
	comp=N,128μm,0.1s						
MIDA				AML	AML		
	comp=E,143μm,0.0s						
CERA	Filignano	0.22	230	P	Pg	11 51 31.4	+0.1
CERA				S	Sb	11 51 35.8	+0.3
TRIV	Trivento	0.23	83	P	Pg	11 51 31.6	+0.1
TRIV				S	Sb	11 51 35.9	+0.1
LPEL	Lama dei Pelig	0.31	352	P	Pg	11 51 32.8	0.0
LPEL				S	Sg	11 51 37.7	+0.4
LPEL				AML	AML		
	comp=N,72μm,0.1s						
LPEL				AML	AML		
	comp=E,86μm,0.8s						
VAGA	Valle Agricola	0.33	181	↑P	Pg	11 51 33.1	+0.1
VAGA				S	Sb	11 51 38.7	+0.2
BSSO	Busso	0.33	126	P	Pb	11 51 33.5	-0.1
INTR	Introdacqua	0.37	317	P	Pg	11 51 33.9	+0.1
INTR				S	Sb	11 51 39.8	-0.1
INTR				AML	AML		
	comp=N,117μm,2.3s						
INTR				AML	AML		
	comp=E,61μm,0.7s						
INTR				AML	AML		
	comp=N,117μm,0.3s						
INTR				AML	AML		
	comp=N,43μm,0.2s						
INTR				AML	AML		
	comp=N,39nm,0.2s						
INTR				AML	AML		
	comp=E,35nm,0.1s						
POFI	Posta Fibreno	0.40	267	P	Pg	11 51 34.5	+0.1
POFI				S	Sb	11 51 40.3	-0.4
VVLD	Villa Vallelon	0.48	286	P	Pg	11 51 35.5	-0.3
VVLD				S	Sb	11 51 43.0	-0.1
T0110	Collepietro	0.60	325	P	Pb	11 51 38.1	-0.1
T0110				S	Sb	11 51 46.7	+0.3

ROM 04 11:51:43.3±0.1,41.744N±0.004×14.257E±0.006, h16km,ML1.6/22,3C,Error ellipse: s-maj=0.5km s-min=0.1km az=75.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RNI2	Rionero Sannit	0.09	242	↑P	Pg	11 51 46.9	+0.2
RNI2				S	Sg	11 51 49.7	+0.7
RNI2				AML	AML		
	comp=E,922μm,1.2s						
RNI2				AML	AML		
	comp=N,1595μm,0.3s						
RNI2				AML	AML		
	comp=N,1505μm,0.8s						
RNI2				AML	AML		
	comp=E,922μm,0.8s						
RNI2				AML	AML		
	comp=E,872μm,1.0s						
MIDA	Miranda	0.10	181	↑P	Pg	11 51 46.8	-0.1
MIDA				S	Sg	11 51 49.1	-0.1
MIDA				AML	AML		
	comp=E,898μm,0.2s						
MIDA				AML	AML		
	comp=N,714μm,0.5s						
MIDA				AML	AML		
	comp=E,819μm,0.2s						
MIDA				AML	AML		
	comp=N,617μm,0.0s						
TRIV	Trivento	0.22	84	P	Pb	11 51 48.8	-0.1
TRIV				S	Sb	11 51 52.9	+0.2
TRIV				AML	AML		
	comp=E,79μm,0.4s						
CERA	Filignano	0.23	231	P	Pg	11 51 48.6	0.0
CERA				S	Sb	11 51 53.2	+0.2
CERA				AML	AML		
	comp=N,64μm,0.3s						
CERA				AML	AML		
	comp=E,66μm,0.2s						
CERA				AML	AML		
	comp=N,58μm,0.0s						
LPEL	Lama dei Pelig	0.31	350	P	Pg	11 51 50.0	+0.2
LPEL				S	Sg	11 51 54.7	+0.4
LPEL				AML	AML		
	comp=N,181μm,0.2s						
LPEL				AML	AML		
	comp=E,184μm,1.1s						
LPEL				AML	AML		
	comp=N,181μm,1.8s						
LPEL				AML	AML		
	comp=E,184μm,0.9s						
BSSO	Busso	0.32	128	P	Pb	11 51 50.6	0.0
VAGA	Valle Agricola	0.33	183	↑P	Pg	11 51 50.2	0.0
VAGA				S	Sb	11 51 55.8	0.0

VAGA				AML	AML		
	comp=E,68μm,0.0s						
VAGA				AML	AML		
	comp=N,101μm,0.0s						
VAGA				AML	AML		
	comp=E,63μm,0.0s						
VAGA				AML	AML		
	comp=N,96μm,0.3s						
SGG	**Gregorio Mates**	**0.37 166**		P	Pg	11 51 51.0	+0.1
SGG				S	Sb	11 51 57.0	0.0
INTR	**Introdacqua**	**0.38 316**		P	Pg	11 51 51.1	0.0
INTR				S	Sb	11 51 57.1	-0.1
INTR				AML	AML		
	comp=N,89nm,0.1s						
INTR				AML	AML		
	comp=N,88μm,0.0s						
INTR				AML	AML		
	comp=E,78μm,0.1s						
INTR				AML	AML		
	comp=E,78nm,0.0s						
POFI	**Posta Fibreno**	**0.41 266**		P	Pg	11 51 51.5	-0.1
POFI				S	Sb	11 51 58.1	-0.1
VVLD	**Villa Vallelon**	**0.49 285**		P	Pg	11 51 53.1	0.0
VVLD				S	Sg	11 51 59.9	+0.1
LRP	**Arpino**	**0.51 259**		P	Pg	11 51 53.3	-0.2
LRP				S	Sb	11 52 01.1	+0.1
T0110	**Collepietro**	**0.60 324**		P	Pb	11 51 55.4	0.0
T0110				S	Sb	11 52 04.2	+0.5
T0110				AML	AML		
	comp=E,42μm,0.0s						
T0110				AML	AML		
	comp=N,44μm,0.3s						

IDC 04 11:52:31.6±3.5, 6°91S×149°69E, h70km±18km, mb2.8/1, mbtmp3.5/3, Error ellipse: s-maj=90.4km s-min=22.0km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.52**	**225**	P		Pn	11 53 25.1	+1.1
	32nm,0.3s,baz=60,slow=6.5,SNR=37						
PMG				S		Sn	11 54 04.9	+0.5
	68nm,0.7s,baz=177,slow=18,SNR=10						
WRA	**Warramunga Arr**	**19.74**	**228**	P		P	11 56 54.9	-1.0
	0.9nm,0.4s,baz=52,slow=11,SNR=15						
WRA				S		S	12 00 36.8	+1.9
	0.6nm,1.0s,baz=43,slow=17,SNR=2.6						
ASAR	**Alice Springs**	**22.52**	**221**	P		P	11 57 25.9	-0.1
	0.3nm,0.4s,baz=60,slow=9.7,SNR=10						
ASAR				S		S	12 01 28.2	-0.1
	0.2nm,0.7s,baz=40,slow=20,SNR=1.5						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**147.90**	**284**	PKPbc		PKPbc	12 12 09.8	-0.2
	0.1nm,0.4s,baz=82,slow=3.5,SNR=1.8						

*IDC **04** 12:21:07.0±0.6, 45°.32N×124°.80E, h0km, mb3.9/16, mbtmp3.9/20, ML3.2/4, MS3.4/23, Error ellipse: s-maj=14.1km s-min=11.6km az=49.0*
*BJI **04** 12:21:08.0±0.0, 45°.29N×124°.65E, h10km, mb4.2/22, mB4.6/9, ML4.6/21, Ms4.2/19, Ms7 4.0/20*
*MOS **04** 12:21:10.4±1.7, 45°.25N×124°.81E, h29km, mb4.3/13, Error ellipse: s-maj=9.1km s-min=6.3km az=106.5*
*NEIC **04** 12:21:10.1±1.8, 45°.44N±0°.08×124°.6E±0°.1, h10km±1km, mb4.3/7, Error ellipse: s-maj=13.5km s-min=12.0km az=201.0*
*KEA **04** 12:21:16.4, 44°.59N×125°.06E, h2km, ML4.2/6*

ISC 04 12:21:11.0±0.4, 45°.38N±0°.03×124°.79E±0°.03, h10km, n112, σ2s 62/109, mb4.2/36, MS3.6/20, 12C-2D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**1.65**	**163**	Pn	Pn	12 21 35.7	-4.3
CN2				Pg	**Pb**	**12 21 37.6**	**-3.8**
CN2				smax	smax		
	comp=N,4μm,0.5s						
CN2				smax	smax		
	comp=E,5μm,0.5s						
BNX	**BinXian**	**1.87**	**78**	⇑Pg	**Pn**	**12 21 40.7**	**-2.4**
BNX				Sg	**Sb**	**12 22 10.7**	**+2.0**
BNX				smax	smax		
	comp=N,4μm,0.9s						
BNX				smax	smax		
	comp=E,1μm,0.7s						
MDJ	**Mudanjiang**	**3.49**	**101**	Pg	**Pb**	**12 22 13.0**	**+0.1**
MDJ				Sg	**Sb**	**12 22 59.7**	**+4.4**
MDJ				smax	smax		
	comp=N,1μm,0.8s						
MDJ				smax	smax		
	comp=E,840nm,0.8s						
MDJ	**Mudanjiang**	**3.49**	**101**	Pn	**Pn**	**12 22 06.1**	**+0.8**
SNY	**Shenyang**	**3.66**	**194**	Pn	Pn	12 22 02.4	-5.2
SNY				⇑Pg	Pb	12 22 09.8	-5.9
SNY				Sg	**Sb**	**12 22 59.3**	**-0.8**
SNY				smax	smax		
	comp=N,840nm,0.5s						
SNY				smax	smax		
	comp=E,1μm,0.7s						
CHJN	**Chongjin**	**5.10**	**133**	Sg	**Sb**	**12 23 45.6**	**+4.1**
CHJN				AML	AML		
	comp=N,977nm,0.4s						
CHJN				AML	AML		
	comp=E,673nm,0.2s						
CHJN				AML	AML		
	comp=Z,325nm,0.3s						
HEH	**HeiHe**	**5.19**	**19**	Pn	**Pn**	**12 22 27.3**	**-1.3**
HEH				Sg	**Sg**	**12 23 57.9**	**+0.4**
HEH				smax	smax		
	comp=Z,550nm,1.1s						
HEH				smax	smax		
	comp=Z,1μm,0.8s						
HIA	**Hailar**	**5.19**	**320**		**Pn**	**12 22 27.1**	**-1.6**
HIA	**Hailar**	**5.19**	**320**	P	**Pn**	**12 22 27.1**	**-1.6**
USA0B	**Ussuriysk Arra**	**5.26**	**100**		**Pn**	**12 22 29.3**	**-0.3**
USA0B	**Ussuriysk Arra**	**5.26**	**100**	P	**Pn**	**12 22 29.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**5.26**	**100**		**Pn**	**12 22 30.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**5.26**	**100**	Pn	**Pn**	**12 22 27.7**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=280,slow=13,SNR=25						
USRK				Pg	**Pb**	**12 22 42.8**	**-0.2**
	comp=Z,5.7nm,0.3s,baz=288,slow=17,SNR=12						
USRK				LR	LR	12 23 50.3	
	comp=Z,64nm,20.4s,baz=345,slow=31						
USRK				Lg	Lg	12 23 52.7	
	comp=Z,6.7nm,0.3s,baz=308,slow=21,SNR=4.4						
	comp=Z,5.1nm,0.4s						
SUJ	**Sinuiju**	**5.28**	**182**	Pn	Pn	12 22 24.5	-5.4
SUJ				Pg	**Pb**	**12 22 42.8**	**-0.5**
SUJ				Sg	**Sb**	**12 23 47.9**	**+1.2**
SUJ				AML	AML		
	comp=N,485nm,0.5s						
SUJ				AML	AML		
	comp=E,600nm,0.5s						
SUJ				AML	AML		
	comp=Z,425nm,0.7s						
MSHR	**Mys Shultsa**	**5.38**	**119**	*i* P	**Pn**	**12 22 28.6**	**-2.7**
MSHR				pmax	pmax		
	comp=Z,2.0nm,0.1s						
HHU	**Hamhung**	**5.81**	**159**	Pn	Pn	12 22 32.0	-5.2
HHU				Pg	**Pb**	**12 22 52.8**	**+0.4**
HHU				Sg	**Sb**	**12 24 04.3**	**+2.4**
HHU				AML	AML		
	comp=N,279nm,0.2s						
HHU				AML	AML		
	comp=E,288nm,0.2s						
HHU				AML	AML		
	comp=Z,258nm,1.1s						
KLR	**Kul'dur**	**6.10**	**48**	*ce*P	**Pn**	**12 22 43.1**	**+1.9**
KLR				pmax	pmax		
	comp=Z,23nm,2.5s						
KLR	**Kul'dur**	**6.10**	**48**	Pn	**Pn**	**12 22 40.4**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=223,slow=12,SNR=18						
KLR				Lg	Lg	12 24 23.3	
	comp=Z,20nm,0.3s,baz=336,slow=16,SNR=11						
KLR				LR	LR	12 25 31.6	
	comp=Z,103nm,20.7s,baz=196,slow=43						
	comp=Z,3.1nm,0.3s						
PYS	**Pyongsong**	**6.17**	**172**	Pn	Pn	12 22 37.0	-5.2
PYS				Pg	**Pb**	**12 22 59.3**	**+0.7**
PYS				Sg	**Sb**	**12 24 16.3**	**+3.8**
PYS				AML	AML		
	comp=N,658nm,0.5s						
PYS				AML	AML		
	comp=E,1μm,0.5s						
PYS				AML	AML		
	comp=Z,390nm,0.4s						
PYAG	**Pyongyang**	**6.36**	**173**	Pn	Pn	12 22 38.9	-5.9
PYAG				Pg	**Pb**	**12 23 02.7**	**+0.9**
PYAG				Sg	**Sb**	**12 24 22.5**	**+4.6**
PYAG				AML	AML		
	comp=N,247nm,0.6s						
PYAG				AML	AML		
	comp=E,351nm,0.6s						
PYAG				AML	AML		
	comp=Z,188nm,0.7s						
XLT	**XiLinHaoTe**	**6.39**	**260**	*e*Pn	**Pn**	**12 22 47.1**	**+1.9**
XLT				Pg	Pb	12 23 07.4	+5.1
XLT				Sn	**Sn**	**12 24 00.8**	**+2.6**
XLT				Sg	**Sb**	**12 24 25.5**	**+6.8**
XLT				smax	smax		
	comp=N,48nm,0.8s						
XLT				smax	smax		
	comp=E,400nm,1.0s						
XLT				LR	LR		
	comp=N,94nm,6.4s						
XLT				LR	LR		
	comp=E,810nm,4.5s						
XLT				LR	LR		
	comp=Z,610nm,5.3s						
DL2	**Dalian**	**6.88**	**201**	Pn	Pn	12 22 56.8	+4.9
DL2				Pg	**Pb**	**12 23 14.7**	**+4.1**
DL2				Sg	**Sb**	**12 24 40.8**	**+8.0**
DL2				smax	smax		
	comp=N,190nm,0.8s						
DL2				smax	smax		
	comp=E,240nm,0.8s						
DL2				LR	LR		
	comp=N,460nm,6.1s						
DL2				LR	LR		
	comp=E,710nm,5.2s						
DL2				LR	LR		
	comp=Z,470nm,10.0s						
HJU	**Haeju**	**7.36**	**174**	Pn	Pn	12 22 53.5	-5.0
HJU				Pg	**Pb**	**12 23 22.4**	**+3.6**
HJU				Sg	Sb	12 24 56.0	+9.3
HJU				AML	AML		
	comp=N,185nm,0.5s						
HJU				AML	AML		
	comp=E,274nm,0.2s						
HJU				AML	AML		
	comp=Z,163nm,0.6s						
INCN	**Inchon**	**8.01**	**169**	Pn	**Pn**	**12 23 08.1**	**+0.7**
INCN	**Inchon**	**8.01**	**169**	P	**Pn**	**12 23 08.1**	**+0.7**
KS19	**Wonju Array Si**	**8.20**	**163**	Pn	**Pn**	**12 23 10.2**	**+0.1**
KSRS	**Korea Array**	**8.26**	**162**	Pn	**Pn**	**12 23 08.6**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=13,SNR=4.3						
KSRS				Pg	**Pb**	**12 23 38.2**	**+4.1**
	comp=Z,2.8nm,0.3s,baz=346,slow=18,SNR=21						
KSRS				Lg	Lg	12 25 26.1	
	comp=Z,7.9nm,0.3s,baz=344,slow=28,SNR=6.5						
KSRS				LR	LR	12 26 04.2	
	comp=Z,157nm,19.2s,baz=350,slow=36						
	comp=Z,0.9nm,0.5s						
BJT	**Baijiatuan**	**8.30**	**233**	Pn	**Pn**	**12 23 10.2**	**-1.2**
BJT	**Baijiatuan**	**8.30**	**233**	P	**Pn**	**12 23 10.2**	**-1.2**
ZEA	**Zeya**	**8.52**	**10**	*e*P	**Pn**	**12 23 13.6**	**-0.7**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZEA				MLR	MLR		
	comp=E,500nm,7.0s						
ZEA				MLR	MLR		
	comp=N,900nm,10.0s						
ZEA				MLR	MLR		
	comp=Z,800nm,8.0s						
GRNR	**Gornyy**	**9.47**	**51**	⇓*i*P	**Pn**	**12 23 30.0**	**+2.6**
GRNR				*e*S	**Sn**	**12 25 22.0**	**+8.2**
GRNR				pmax	pmax		
	comp=E,2.0nm,0.5s						
GRNR				pmax	pmax		
	comp=N,2.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GRNR				smax	smax		
	comp=E,3.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,730nm,10.0s						
GRNR				MLR	MLR		
	comp=N,860nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,410nm,19.0s						
HHC	**Hu-ho-hao-te**	**10.67**	**250**	*e*P	**Pn**	**12 23 42.4**	**-1.6**
HHC				PP	**PnPn**	**12 23 55.3**	**+3.8**
HHC				*e*S	**Sn**	**12 25 44.8**	**+1.2**
HHC				sS		12 25 50.0	
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,4.8s						
HHC				LR	LR		
	comp=Z,720nm,7.9s						
HHC				LR	LR		
	comp=Z,1μm,8.2s						
HHC				LR	LR		
	comp=Z,610nm,8.8s						
HNS	**HongShan**	**10.99**	**227**	*e*P	**Pn**	**12 23 49.9**	**+1.7**
HNS				S	**Sn**	**12 25 53.4**	**+2.3**
HNS				LR	LR		
	comp=Z,820nm,11.1s						
HNS				LR	LR		
	comp=Z,2μm,12.4s						
HNS				LR	LR		
	comp=Z,550nm,12.2s						
BTO	**Baotou**	**11.82**	**251**	*e*P	Pn	12 23 55.2	-4.5
BTO				pP		12 23 58.4	
BTO				sP		12 24 01.3	
BTO				PP	**PnPn**	**12 24 04.5**	**-2.7**
BTO				S	**Sn**	**12 26 07.0**	**-4.6**
BTO				SS	**SnSn**	**12 26 20.9**	**-2.3**
BTO				pmax	pmax		
	comp=Z,17nm,0.5s						
BTO				pmax	pmax		
	comp=Z,380nm,4.9s						
BTO				LR	LR		
	comp=Z,1μm,4.1s						
BTO				LR	LR		
	comp=Z,710nm,4.3s						
BTO				LR	LR		
	comp=Z,1μm,9.2s						
ULN	**Ulaanbaatar**	**12.45**	**288**	*i* P	**Pn**	**12 24 10.3**	**+2.0**
YSS	**Yuzh-Sakhalins**	**12.56**	**76**	*i* P	**Pn**	**12 24 09.7**	**+0.1**
YSS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**12.72**	**89**	LR	LR	12 29 19.1	
	comp=Z,194nm,19.8s,baz=345,slow=39						
SONM	**Songino Array**	**12.89**	**288**	Pn	Pn	12 24 09.0	-5.3
SONM	**Songino Array**	**12.89**	**288**	P	Pn	12 24 09.0	-5.3
SONM	**Songino Array**	**12.89**	**288**	Pn	Pn	12 24 08.8	-5.5
	comp=Z,0.1nm,0.3s,baz=95,slow=13,SNR=4.2						
SONM				Sn	Sn	12 26 28.5	-9.2
	comp=Z,0.3nm,0.3s,baz=94,slow=19,SNR=3.8						
SONM				Lg	Lg	12 27 53.4	
	comp=Z,1.3nm,0.3s,baz=94,slow=28,SNR=6.7						
SONM				LR	LR	12 29 43.7	
	comp=Z,189nm,18.2s,baz=115,slow=40						
JNU	**Nakatsue**	**13.11**	**157**	Pn	**Pn**	**12 24 14.7**	**-2.6**
	baz=245,slow=14,SNR=2.1						
JNU				Lg	Lg	12 28 03.2	
	comp=Z,0.1nm,0.3s,baz=127,slow=24,SNR=1.3						
JNU				LR	LR	12 29 39.4	
	comp=Z,160nm,19.9s,baz=344,slow=39						
	comp=Z,7.3nm,1.1s						
TYV	**Tymovskoe**	**13.12**	**59**	*e*P	Pn	12 24 12.7	-4.6
TYV				*e*S	**Sn**	**12 26 37.7**	**-5.6**
TYV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV				smax	smax		
	comp=N,6.0nm,1.5s						
TYV				smax	smax		
	comp=E,9.0nm,1.5s						
TYV				smax	smax		
	comp=N,400nm,6.9s						
TYV				smax	smax		
	comp=E,500nm,6.9s						
MJAR	**Matsushiro Arr**	**13.43**	**126**	LR	LR	12 28 41.1	
	comp=E,98nm,18.9s,baz=304,slow=34						
BOD	**Bodaibo**	**14.12**	**336**	*e*P	**Pn**	**12 24 35.3**	**+4.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.9s						
OKH	**Okha**	**14.32**	**49**	*de*P	Pn	12 24 25.7	-8.0
OKH				MLR	MLR		
	comp=E,400nm,13.0s						
OKH				MLR	MLR		
	comp=Z,100nm,9.0s						
XAN	**Xi'an**	**16.62**	**233**	⇑P	**Pn**	**12 25 02.0**	**-2.1**
XAN				pP	P	12 25 06.3	-0.2
XAN				pmax	pmax		
	comp=Z,6.0nm,1.6s						
XAN				LR	LR		
	comp=Z,960nm,13.3s						
XAN				LR	LR		
	comp=Z,1μm,12.4s						
XAN				LR	LR		
	comp=Z,390nm,8.8s						
YAK	**Yakutsk**	**16.93**	**8**	*e*P	**Pn**	**12 25 10.6**	**+2.9**
YAK				*e*S	**Sn**	**12 28 21.7**	**+6.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				smax	smax		
	comp=E,35nm,2.4s						
YAK				smax	smax		
	comp=N,37nm,2.5s						
YAK				MLR	MLR		
	comp=Z,182nm,15.0s						
YAK				MLR	MLR		
	comp=N,164nm,16.0s						
YAK	**Yakutsk**	**16.93**	**8**	Pn	**Pn**	**12 25 05.0**	**-2.7**
	comp=N,0.1nm,0.3s,baz=314,slow=2.6,SNR=4.7						
YAK				Lg	Lg	12 30 01.2	
	comp=N,0.1nm,0.3s,baz=132,slow=23,SNR=1.7						
YAK				LR	LR	12 32 03.8	
	comp=N,11nm,18.3s,baz=140,slow=39						
GTA	**Gaotai**	**19.35**	**261**	*e*P	**P**	**12 25 38.6**	**+1.9**
GTA				pP	sP	12 25 43.2	+2.3
GTA				pmax	pmax		
	comp=N,2.0nm,0.9s						
GTA				LR	LR		
	comp=N,110nm,11.6s						
GTA				LR	LR		
	comp=N,260nm,11.6s						
GTA				LR	LR		
	comp=N,340nm,14.2s						
MA2	**Magadan**	**21.07**	**38**	LR	LR	12 33 58.8	
	comp=N,56nm,19.1s,baz=282,slow=36						
CD2	**Chengdu**	**21.87**	**236**	P	P	12 25 58.1	-5.9
CD2				pmax	pmax		
	comp=N,20nm,0.6s						
CD2				LR	LR		
	comp=N,290nm,8.8s						
CD2				LR	LR		
	comp=N,370nm,11.9s						
CD2				LR	LR		
	comp=N,230nm,10.0s						
PETK	**Petropavlovsk-**	**22.67**	**58**	LR	LR	12 35 44.4	
	comp=N,77nm,18.9s,baz=219,slow=39						
SEY	**Seymchan**	**23.57**	**32**	*i* P	**P**	**12 26 21.0**	**-0.4**
SEY				pmax	pmax		
	comp=Z,11nm,2.0s						
GOMU	**GeErMu**	**24.36**	**258**	P	**P**	**12 26 26.6**	**-3.0**
DGZ	**Jazzator, Alta**	**25.41**	**293**	*i* P	**P**	**12 26 38.7**	**0.0**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ	**Urumqi**	**26.31**	**280**	*e*P	P	12 26 37.8	-9.0
WMQ				PP	**PnPn**	**12 27 23.4**	**-2.4**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ				LR	LR		
	comp=Z,150nm,13.7s						
PZH	**PanZhiHua**	**26.36**	**232**	P	**P**	**12 26 44.6**	**-2.8**
PZH				S	**S**	**12 31 15.9**	**-4.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,110nm,4.3s						
PZH				LR	LR		
	comp=Z,200nm,17.8s						
PZH				LR	LR		
	comp=Z,250nm,17.3s						
PZH				LR	LR		
	comp=Z,190nm,14.2s						
TIXI	**Tiksi**	**26.42**	**3**	*ce*P	**P**	**12 26 48.6**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TIXI	**Tiksi**	**26.42**	**3**	P	**P**	**12 26 45.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=113,slow=2.9,SNR=6.4						
TIXI				LR	LR	12 38 29.2	
	comp=Z,10.0nm,21.0s,baz=194,slow=39						
ZALV	**Zalesovo Beam**	**26.94**	**303**	*i* P	**P**	**12 26 53.5**	**+1.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**26.94**	**303**	P	**P**	**12 26 49.7**	**-2.6**
	comp=Z,0.6nm,0.5s,baz=84,slow=7.2,SNR=4.0						
	comp=Z,0.6nm,0.5s						
QIZ	**Qiongzhong**	**29.06**	**210**	P	**P**	**12 27 08.4**	**-3.1**
QIZ				S	**S**	**12 32 01.0**	**-1.9**
QIZ				LR	LR		
	comp=Z,180nm,6.3s						
QIZ				LR	LR		
	comp=Z,380nm,3.5s						
QIZ				LR	LR		
	comp=Z,210nm,4.3s						
MK31	**Makanchi Array**	**29.25**	**288**	*ce*P	**P**	**12 27 14.4**	**+1.3**
MKAR	**Makanchi Array**	**29.25**	**288**	P	**P**	**12 27 11.5**	**-1.6**
MKAR	**Makanchi Array**	**29.25**	**288**	P	**P**	**12 27 11.1**	**-1.9**
	comp=Z,1.3nm,0.9s,baz=77,slow=7.7,SNR=8.7						
MKAR				LR	LR	12 39 51.5	
	comp=Z,90nm,19.6s,baz=6.5,slow=38						
	comp=Z,1.3nm,0.9s						
KURK	**Kurchatov**	**30.92**	**297**	P	**P**	**12 27 25.6**	**-2.1**
KURK				IAmb	IAmb	12 27 28.9	
	comp=Z,5.4nm,0.8s						
KURK	**Kurchatov**	**30.92**	**297**	*i* P	**P**	**12 27 25.9**	**-1.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**30.99**	**297**	P	**P**	**12 27 26.1**	**-2.2**
	comp=Z,5.0nm,0.7s,baz=83,slow=9.5,SNR=11						
KURBB				LR	LR	12 40 33.1	
	comp=Z,110nm,18.1s,baz=169,slow=38						
	comp=Z,5.0nm,0.7s						
BILL	**Bilibino**	**31.14**	**29**	*i* P	**P**	**12 27 29.3**	**-0.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**34.38**	**227**	P	**P**	**12 27 55.4**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=23,slow=7.1,SNR=1.5						
CMAR				LR	LR	12 41 39.0	
	comp=Z,43nm,19.1s,baz=315,slow=36						
	comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**35.59**	**302**	P	**P**	**12 28 06.9**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=90,slow=7.4,SNR=6.4						
BVAR				LR	LR	12 42 48.2	
	comp=Z,135nm,18.4s,baz=355,slow=36						
	comp=Z,0.9nm,0.7s						
BRVK	**Borovoye**	**35.65**	**303**	*i* P	**P**	**12 28 08.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AAK	**Ala-Archa**	**35.80**	**284**	*i* P	**P**	**12 28 09.5**	**-1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**35.80**	**284**	LR	LR	12 44 36.8	
	comp=Z,98nm,19.0s,baz=18,slow=39						
KK31	**Karatay Array**	**38.34**	**287**	P	P	12 28 28.6	-3.2
KK31	**Karatay Array**	**38.34**	**287**	P	P	12 28 28.7	-3.2
KK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KKAR	**Karatay Array**	**38.34**	**287**	P	P	12 28 28.8	-3.1
KKAR	**Karatay Array**	**38.34**	**287**	P	P	12 28 28.8	-3.1
ABKAR	**Akbulak array**	**42.93**	**299**	P	**P**	**12 29 08.2**	**-1.5**
ABKAR				IAmb	IAmb	12 29 11.0	
	comp=Z,2.1nm,0.7s						
C18K	**Utukok River**	**43.01**	**31**	P	**P**	**12 29 09.3**	**-1.0**
C18K				IAmb	IAmb	12 29 19.9	
	comp=Z,7.6nm,1.5s						
D19K	**Kuna River**	**44.16**	**31**	P	**P**	**12 29 18.4**	**-1.1**
D19K				IAmb	IAmb	12 29 42.9	
	comp=Z,5.7nm,1.4s						
B21K	**Ikpikpuk River**	**45.19**	**29**	P	**P**	**12 29 27.1**	**-0.5**
B21K				IAmb	IAmb	12 29 32.4	
	comp=Z,5.8nm,1.1s						
B22K	**Teshekpuk Lake**	**45.45**	**28**	P	**P**	**12 29 28.8**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IMAR	Indian Mountai	46.36	34	P	P	12 29 36.0	-0.8
GEYT	Alibeck	49.09	286	LR	LR	12 53 32.4	
	comp=Z,82nm,18.6s,baz=340,slow=40						
BMAR	Burnt Mountain	49.35	31	P	P	12 30 00.1	0.0
ILAR	Eielson Array	49.48	34	P	P	12 29 58.2	-2.8
	comp=Z,0.3nm,0.7s,baz=288,slow=7.3,SNR=6.0						
	comp=Z,0.3nm,0.7s						
SPITS	Spitsbergen Ar	49.59	345	P	P	12 29 58.9	-2.9
	comp=Z,9.0nm,0.9s,baz=61,slow=12,SNR=1.6						
	comp=Z,9.0nm,0.9s						
KDAK	Kodiak Island	49.65	44	LR	LR	12 54 04.7	
	comp=Z,39nm,18.5s,baz=53,slow=40						
ARCES	ARCESS Array B	51.39	334	P	P	12 30 12.9	-2.4
	comp=Z,2.6nm,0.8s,baz=67,slow=9.9,SNR=1.7						
ARCES				LR	LR	12 55 32.5	
	comp=Z,154nm,19.1s,baz=284,slow=40						
	comp=Z,2.6nm,0.8s						
INK	Inuvik	52.74	27	LR	LR	12 56 56.5	
	comp=Z,46nm,18.0s,baz=356,slow=41						
LEM	Lembang	54.20	201	LR	LR	12 54 10.2	
	comp=Z,78nm,18.4s,baz=324,slow=37						
FINES	FINESS Array B	55.19	325	P	P	12 30 42.0	-1.5
FINES	FINESS Array B	55.19	325	P	P	12 30 42.0	-1.5
	comp=Z,1.9nm,0.6s,baz=66,slow=6.9,SNR=8.2						
	comp=Z,1.9nm,0.6s						
KBZ	Khabaz	55.90	300	i P	P	12 30 50.1	+1.3
KBZ				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KIV	Kislovodsk	55.90	300	ceP	P	12 30 49.7	+0.7
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MNK	Minsk	58.21	317	i P	P	12 31 03.2	-1.8
MNK				i		12 31 53.7	
MNK				i		12 33 12.5	
MNK				i S	S	12 39 06.9	+0.5
MNK				i		12 40 53.0	
MNK				i SS	SS	12 43 00.6	+3.3
MNK				pmax	pmax		
	comp=Z,24nm,0.7s						
MNK				pmax	pmax		
	comp=N,20nm,0.7s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.6s						
MNK				MLR	MLR		
	comp=N,378nm,19.0s						
MNK				MLR	MLR		
	comp=Z,140nm,18.0s						
MNK				MLR	MLR		
	comp=E,100nm,20.0s						
AKASG	Malin Array Be	59.73	313	P	P	12 31 13.6	-2.0
	comp=E,3.0nm,0.6s,baz=49,slow=7.5,SNR=14						
	comp=E,3.0nm,0.6s						
AKBB	Malin Array Si	59.73	313	ceP	P	12 31 16.7	+1.1
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HFS	Hagfors	60.84	328	P	P	12 31 20.5	-2.6
	comp=Z,1.7nm,0.6s,baz=54,slow=6.2,SNR=1.9						
	comp=Z,1.7nm,0.6s						
NOA	NORSAR Array B	61.15	329	P	P	12 31 23.3	-1.9
	comp=Z,1.0nm,0.7s,baz=38,slow=7.4,SNR=1.2						
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	62.50	27	ceP	P	12 31 34.5	+0.3
YKA	Yellowknife Ar	62.50	27	P	P	12 31 30.8	-3.4
	comp=Z,0.4nm,0.9s,baz=319,slow=6.6,SNR=4.3						
	comp=Z,0.4nm,0.9s						
BRTR	Keskin Array B	63.85	301	ceP	P	12 31 45.0	+1.2
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	Keskin Array B	63.85	301	P	P	12 31 41.9	-1.9
	comp=Z,2.3nm,0.8s,baz=64,slow=8.4,SNR=7.2						
	comp=Z,2.3nm,0.8s						
WRA	Warramunga Arr	65.58	170	ceP	P	12 31 53.2	-1.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	65.58	170	P	P	12 31 51.4	-3.5
	comp=Z,0.9nm,0.9s,baz=349,slow=6.9,SNR=5.1						
	comp=Z,0.9nm,0.9s						
KHC	Kasperske Hory	68.44	319	ceP	P	12 32 14.6	+1.6
KHC				pmax	pmax		
	comp=Z,26nm,2.5s						
ASAR	Alice Springs	69.21	171	P	P	12 32 15.1	-2.8
	comp=Z,0.4nm,0.9s,baz=355,slow=6.1,SNR=2.6						
	comp=Z,0.4nm,0.9s						
FRB	Frobisher Bay	70.71	6	LR	LR	13 03 53.2	
	comp=Z,38nm,19.9s,baz=9.5,slow=36						
DAVOX	Davos/Dischmat	71.86	319	LR	LR	13 07 29.9	
	comp=Z,165nm,19.6s,baz=44,slow=39						
YBH	Yreka Blue Hor	74.42	46	LR	LR	13 04 07.9	
	comp=Z,35nm,19.8s,baz=360,slow=35						

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*IDC **04** 12:21:56.7±1.0, 55.°76N×162.°57E, h0km, mb3.7/9, mbtmp3.6/10, ML2.7/1, Error ellipse: s-maj=27.8km s-min=17.1km az=146.0*

*KRSC **04** 12:21:59.5±0.7, 55.°55N×162.°98E, h71km±15km, Ml4.1*

*MOS **04** 12:22:01.2±0.7, 55.°53N×162.°91E, h55km, mb3.7/1, Error ellipse: s-maj=8.1km s-min=5.6km az=79.3*

ISC 04 12:22:02.7±1.0**, 55.°57N**±0.°03×**162.°91E**±0.°04**, h48**km±10km**, n90,** σ1.s06/126**, mb3.7**/10**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.64	355	PN	Pn	12 22 15.0	-0.5
KBTR				S	Sn	12 22 25.3	+0.5
KBTR	Krutoberegovo	0.64	355	eP	Pn	12 22 15.0	-0.5
KBTR				eS	Sn	12 22 25.3	+0.5
KBG	Krutoberegovo	0.69	351	PN	Pn	12 22 15.7	-0.5
KBG				S	Sn	12 22 26.8	+0.8
KBG	Krutoberegovo	0.69	351	eP	Pn	12 22 15.7	-0.5
KBG				eS	Sn	12 22 26.8	+0.8
ZLN	Zelenaya	1.27	291	eS	Sn	12 22 40.9	+0.8
SMKR	Semkarok	1.29	322	PN	Pn	12 22 24.0	-0.4
SMKR				S	Sn	12 22 41.2	+0.6
SMKR	Semkarok	1.29	322	eP	Pn	12 22 24.0	-0.4
SMKR				eS	Sn	12 22 41.2	+0.6
BZGR	Bezymyannyi-Gr	1.30	287	PN	Pn	12 22 24.1	-0.5
BZGR				S	Sn	12 22 40.9	0.0
BZGR	Bezymyannyi-Gr	1.30	287	eP	Pn	12 22 24.1	-0.5
BZGR				eS	Sn	12 22 40.9	0.0
CIRR	Tsirk	1.33	295	PN	Pn	12 22 24.5	-0.5
CIRR				S	Sn	12 22 41.6	-0.1
CIRR	Tsirk	1.33	295	eP	Pn	12 22 24.5	-0.5
CIRR				eS	Sn	12 22 41.6	-0.1
BDR	Baidarnaya	1.38	317	PN	Pn	12 22 25.5	-0.1
BDR				S	Sn	12 22 43.7	+1.0
BDR	Baidarnaya	1.38	317	eP	Pn	12 22 25.5	-0.1
BDR				eS	Sn	12 22 43.7	+1.0
BZP	Bezymyannyi-Pe	1.38	285	eP	Pn	12 22 25.1	-0.6
BZP				eS	Sn	12 22 42.9	0.0
BZMR	Bezymyannaya	1.42	286	PN	Pn	12 22 26.7	+0.6
BZMR				S	Sn	12 22 45.1	+1.5
BZMR	Bezymyannaya	1.42	286	eP	Pn	12 22 26.7	+0.6
BZMR				eS	Sn	12 22 45.1	+1.5
BZWR	Bezymyannyi-We	1.42	287	PN	Pn	12 22 26.5	+0.3
BZWR				S	Sn	12 22 44.5	+0.7
BZWR	Bezymyannyi-We	1.42	287	eP	Pn	12 22 26.5	+0.3
BZWR				eS	Sn	12 22 44.5	+0.7
SRKR	Sorokina	1.46	319	PN	Pn	12 22 27.0	+0.4
SRKR				S	Sn	12 22 45.7	+1.1
SRKR	Sorokina	1.46	319	eP	Pn	12 22 27.0	+0.4
SRKR				eS	Sn	12 22 45.7	+1.1
KRSR	Krestovskiy	1.47	297	PN	Pn	12 22 26.0	-0.8
KRSR				S	Sn	12 22 43.8	-1.1
KRSR	Krestovskiy	1.47	297	eP	Pn	12 22 26.0	-0.8
KRSR				eS	Sn	12 22 43.8	-1.1
KLY	Klyuchi	1.47	301	PN	Pn	12 22 25.0	-1.7
KLY				S	Sn	12 22 42.5	-2.3
KLY	Klyuchi	1.47	301	eP	Pn	12 22 25.0	-1.7
KLY				eS	Sn	12 22 42.5	-2.3
TUMD	Tumrok D	1.48	257	eP	Pn	12 22 26.3	-0.5
TUMD				eS	Sn	12 22 45.1	+0.1
KIRR	Kirishev	1.50	286	PN	Pn	12 22 27.2	-0.1
KIRR				S	Sn	12 22 46.9	+1.2
KIRR	Kirishev	1.50	286	eP	Pn	12 22 27.2	-0.1
KIRR				eS	Sn	12 22 46.9	+1.2
KMNR	Kamenistaya	1.53	278	PN	Pn	12 22 28.1	+0.5
KMNR				S	Sn	12 22 47.9	+1.6
KMNR	Kamenistaya	1.53	278	eP	Pn	12 22 28.1	+0.5
KMNR				eS	Sn	12 22 47.9	+1.6
KPT	Kopyto	1.57	286	PN	Pn	12 22 28.2	0.0
KPT				S	Sn	12 22 48.8	+1.5
KPT	Kopyto	1.57	286	eP	Pn	12 22 28.2	0.0
KPT				eS	Sn	12 22 48.8	+1.5
TUMR	Tumrok	1.60	261	PN	Pn	12 22 26.3	-2.3
TUMR				S	Sn	12 22 45.1	-3.1
TUMR	Tumrok	1.60	261	eP	Pn	12 22 28.7	0.0
TUMR				eS	Sn	12 22 49.2	+1.0
KOZ	Kozyrevsk	1.78	287	PN	Pn	12 22 31.8	+0.8
KOZ				S	Sn	12 22 54.5	+2.1
KOZ	Kozyrevsk	1.78	287	eP	Pn	12 22 31.8	+0.8
KOZ				eS	Sn	12 22 54.5	+2.1
BKI	Bering	1.79	101	eS	Sn	12 22 52.6	+0.2
SRDR	Sredinnyy	1.94	294	PN	Pn	12 22 33.8	+0.5
SRDR				S	Sn	12 22 57.5	+1.0
SRDR	Sredinnyy	1.94	294	eP	Pn	12 22 33.8	+0.5
SRDR				eS	Sn	12 22 57.5	+1.0
ESO	Esso	2.41	280	PN	Pn	12 22 39.7	+0.2
ESO	Esso	2.41	280	eP	Pn	12 22 39.7	+0.2
KII	Karymskiy	2.53	234	PN	Pn	12 22 40.6	-0.6
KII	Karymskiy	2.53	234	eP	Pn	12 22 40.6	-0.6
KRX	Arik	3.33	230	PN	Pn	12 22 51.7	-0.6
KRX	Arik	3.33	230	eP	Pn	12 22 51.7	-0.6
SMAR	Somma	3.33	228	PN	Pn	12 22 52.2	-0.2
SMAR				S	Sn	12 23 32.6	+1.7
SMAR	Somma	3.33	228	eP	Pn	12 22 52.2	-0.2
SMAR				eS	Sn	12 23 32.6	+1.7
AVH	Avacha	3.36	228	PN	Pn	12 22 52.6	0.0
AVH	Avacha	3.36	228	eP	Pn	12 22 52.6	0.0
UGLR	Uglovaya	3.36	227	PN	Pn	12 22 52.6	-0.1
UGLR	Uglovaya	3.36	227	eP	Pn	12 22 52.6	-0.1
KOK	Koryaka	3.38	229	PN	Pn	12 22 52.9	-0.1
KOK	Koryaka	3.38	229	eP	Pn	12 22 52.9	-0.1
DALK	Dalny	3.52	225	PN	Pn	12 22 54.2	-0.6
DALK	Dalny	3.52	225	eP	Pn	12 22 54.2	-0.6
PET	Petropavlovsk	3.57	226	ePN	Pn	12 22 55.2	-0.2
PET				eS	Sn	12 23 34.4	-1.9
PET				pmax	pmax		
	comp=Z,51nm,0.4s						
PET				smax	smax		
	comp=E,114nm,0.6s						
PET				smax	smax		
	comp=N,98nm,0.6s						
PET	Petropavlovsk	3.57	226	eP	Pn	12 22 55.4	-0.1
OSSR	Ossora	3.69	1	PN	Pn	12 22 57.3	+0.3
OSSR				S	Sn	12 23 37.8	-1.4
OSSR	Ossora	3.69	1	eP	Pn	12 22 57.3	+0.3
OSSR				eS	Sn	12 23 37.8	-1.4
PETK	Petropavlovsk-	3.92	233	Pn	Pn	12 22 58.9	-1.4
	comp=N,2.9nm,0.3s,baz=298,slow=12,SNR=54						
PETK				Sn	Sn	12 23 46.1	+1.0
	comp=N,0.8nm,0.3s,baz=89,slow=19,SNR=1.8						
	comp=N,3.6nm,0.3s						
KRMR	Karymshinskiy	3.93	228	PN	Pn	12 23 00.8	+0.5
KRMR	Karymshinskiy	3.93	228	eP	Pn	12 23 00.8	+0.5
GRL	Gorelyy	4.16	225	PN	Pn	12 23 03.6	0.0
GRL	Gorelyy	4.16	225	eP	Pn	12 23 03.6	0.0
APC	Apacha	4.29	234	PN	Pn	12 23 03.8	-1.5
APC	Apacha	4.29	234	eP	Pn	12 23 03.8	-1.5
ASAK	Asacha	4.35	225	PN	Pn	12 23 06.5	+0.2
ASAK	Asacha	4.35	225	eP	Pn	12 23 06.5	+0.2
KDTR	Khodutka, Kamc	4.74	219	PN	Pn	12 23 10.2	-1.3
KDTR	Khodutka, Kamc	4.74	219	eP	Pn	12 23 10.2	-1.3
TILK	Tilichiki	5.18	18	PN	Pn	12 23 19.2	+1.7
TILK	Tilichiki	5.18	18	eP	Pn	12 23 19.2	+1.7
MJAR	Matsushiro Arr	25.38	232	P	P	12 27 25.4	+0.1
	comp=N,1.4nm,0.9s,baz=42,slow=11,SNR=2.5						
	comp=N,1.4nm,0.9s						
ILAR	Eielson Array	25.91	49	P	P	12 27 30.0	+0.2
ILAR	Eielson Array	25.91	49	P	P	12 27 29.9	+0.2
	comp=N,0.6nm,0.7s,baz=276,slow=10,SNR=9.6						
	comp=N,0.6nm,0.7s						
H11N2	WAKE ISLAND Hy	35.91	174	T	T	13 07 56.6	
	baz=357,slow=76,SNR=28						
H11N3	WAKE ISLAND Hy	35.92	174	T	T	13 07 53.0	
	baz=357,slow=76,SNR=9.2						
H11N1	WAKE ISLAND Hy	35.93	174	T	T	13 08 03.9	
	baz=357,slow=76,SNR=9.3						
H11S1	WAKE ISLAND Hy	37.11	174	T	T	13 09 22.0	
	baz=359						
H11S3	WAKE ISLAND Hy	37.12	174	T	T	13 09 35.5	
	baz=359						
H11S2	WAKE ISLAND Hy	37.13	174	T	T	13 09 09.1	
	baz=359						
YKA	Yellowknife Ar	40.23	45	P	P	12 29 34.8	+0.7
	comp=N,0.3nm,0.6s,baz=298,slow=8.4,SNR=5.1						
	comp=N,0.3nm,0.6s						
SPITS	Spitsbergen Ar	44.95	351	P	P	12 30 11.9	-0.3
	comp=N,20nm,1.1s,baz=330,slow=10,SNR=36						
KURK	Kurchatov	47.84	301	P	P	12 30 33.9	-1.2
KURBB	Kurchatov Arra	47.94	301	P	P	12 30 33.9	-2.0
	comp=N,2.1nm,0.2s,baz=55,slow=9.2,SNR=3.2						
	comp=N,2.1nm,0.2s						
MKAR	Makanchi Array	48.58	295	P	P	12 30 38.1	-2.8
	comp=N,0.3nm,0.4s,baz=38,slow=5.5,SNR=6.6						
	comp=N,0.3nm,0.4s						
BVAR	Borovoye Array	50.15	308	P	P	12 30 50.2	-2.6
	comp=N,0.4nm,0.4s,baz=60,slow=8.9,SNR=3.2						
	comp=N,0.4nm,0.4s						
FINES	FINESS Array B	58.48	337	P	P	12 31 53.0	-0.1
FINES	FINESS Array B	58.48	337	P	P	12 31 53.0	-0.1
	comp=N,0.7nm,0.5s,baz=60,slow=9.2,SNR=4.9						
	comp=N,0.7nm,0.5s						
TXAR	Lajitas Array	68.19	70	P	P	12 32 59.0	+1.1
	comp=N,0.5nm,0.6s,baz=295,slow=5.8,SNR=7.3						
	comp=N,0.5nm,0.6s						
ASAR	Alice Springs	82.71	207	P	P	12 34 22.5	+1.5
	comp=N,0.3nm,0.8s,baz=0.0,slow=6.6,SNR=2.5						
	comp=N,0.3nm,0.8s						

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*EST **04** 12:32:15.9±0.1, 59.°28N×27.°65E, h0km, ML1.6(HEL), Explosion*

*LVSN **04** 12:32:21.8±3.3, 58.°55N×25.°37E, h0km±49km, ML1.6*

HEL 04 12:32:16.4±0.2**, 59.°28N×27.°58E, h0**km**, ML1.7, Suspected explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EE03	Tooma soojaam,	0.79	239	eP	Pg	12 32 30.5	-1.0
EE03				eS	Sg	12 32 40.4	-1.4
ARBE	Arbavere	0.83	281	eP	Pg	12 32 31.4	-1.0
ARBE				eS	Sg	12 32 42.5	-0.6
VSU	Vasula	0.94	208	eP	Pg	12 32 33.1	-1.2
VSU	Vasula	0.94	208	eP	Pg	12 32 33.1	-1.1
VSU				eSB	Sg	12 32 45.5	-0.8
VSU	Vasula	0.94	208	eS	Sg	12 32 44.5	-1.9
VSU				AML	AML	12 32 54.8	
	comp=E,26nm,0.5s						
VSU				AML	AML	12 32 58.4	
	comp=N,29nm,0.4s						
VSU				AML	AML	12 33 28.0	
	comp=Z,15nm,0.6s						
VJF	Virojoki	1.26	359	eP	Pg	12 32 38.4	-2.1
VJF				eSB	Sg	12 32 55.4	-1.4
EE08	Sarghaua, Vand	1.37	244	eP	Pg	12 32 40.8	-1.7
EE08				eS	Sg	12 32 58.6	-1.6
PVF	Pernaja	1.53	326	ePG	Pn	12 32 43.9	-1.1
PVF				MSG		12 33 02.3	
	comp=Z,3.7nm,0.2s						
PVF				eS	Sn	12 33 03.7	-1.9
HEL1	Helsinki	1.64	304	eSG	Sn	12 33 07.1	-0.9
HEL1				MSG		12 33 09.9	
	comp=Z,6.1nm,0.1s						
MEF	Metsahovi	1.86	301	eP	Pn	12 32 50.0	+0.5
MEF	Metsahovi	1.86	301	ePG	Pn	12 32 50.0	+0.5
MEF				eSG	Sn	12 33 14.1	+0.4
MEF				MSG		12 33 16.2	
	comp=Z,3.4nm,0.1s						
MEF	Metsahovi	1.86	301	eP	Pn	12 32 50.1	+0.6
MEF				AML	AML	12 32 50.4	
	comp=Z,7.3nm,0.3s						
MEF				AML	AML	12 32 50.6	
	comp=E,11nm,0.3s						
MEF				eS	Sn	12 33 13.9	+0.2
MEF				AML	AML	12 33 15.7	
	comp=N,20nm,0.3s						
NUR	Nurmijrvi	1.92	311	ePG	Pn	12 32 50.8	+0.5
NUR				MSG		12 33 13.7	
	comp=Z,5.0nm,0.2s						
NUR				eSB	Sn	12 33 15.5	+0.3
MTSE	Matsula	2.03	255	eP	Pn	12 32 51.9	+0.1
MTSE	Matsula	2.03	255	ePG	Pn	12 32 52.6	+0.8
MTSE				eSG	Sb	12 33 19.5	-0.4
EE01	Perakula, Nova	2.04	270	ePB	Pn	12 32 52.4	+0.6
EE01				eSB	Sn	12 33 18.8	+0.8
EE01				eSG	Sb	12 33 20.3	+0.3
RUF	Ruokolahti	2.25	17	eP	Pn	12 32 54.0	-0.9
RUF				MSG		12 33 23.0	
	comp=Z,2.4nm,0.2s						
RUF				eSB	Sn	12 33 24.0	+0.6
FIA0	FINESS Array S	2.29	342	ePB	Pn	12 32 56.1	+0.7
FIA0				MSG		12 33 24.3	
	comp=Z,2.7nm,0.2s						
FIA0				eSB	Sb	12 33 26.1	-1.3
FIA1	FINESS Array S	2.29	342	eP	Pn	12 32 54.9	-0.6
FIA1				ePB	Pb	12 32 56.1	-2.4
KAF	Kangasniemi	2.91	348	ePB	Pn	12 33 06.1	+2.3
KAF				MSG		12 33 41.9	
	comp=Z,1.4nm,0.2s						
RAF	Rauma	3.39	303	eP	Pn	12 33 11.3	+0.8
RAF	Rauma	3.39	303	eP	Pn	12 33 11.4	+0.9
RAF	Rauma	3.39	303	eP	Pn	12 33 11.2	+0.7
RAF				eS	Sn	12 33 46.7	-4.7
RAF				AML	AML	12 34 03.8	
	comp=Z,6.7nm,0.7s						
RAF				AML	AML	12 34 07.5	
	comp=E,4.3nm,0.8s						
RAF				AML	AML	12 34 07.9	
	comp=N,4.0nm,0.5s						
JOF	Joensuu	4.07	25	eP	Pn	12 33 19.4	-0.4

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*IDC **04** 12:44:05.4±7.0, 33.°64S×179.°73E, h389km±87km, mb2.7/2, mbtmp3.8/3, Error ellipse: s-maj=122.0km s-min=48.9km az=0.0*

*WEL **04** 12:45:24.9, 39°S±23°×17°6E±1°7, h92km±26km, M2.7/13, ML2.7/12, MLv2.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=164.4*

ISC 04 12:44:06.2±2.2**, 33.°7S**±0.°1×**179.°8E**±0.°3**, h400**km**, n34,** σ**1.s08**/35**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.06	204	P	Pn	12 45 28.3	-0.4
	28nm,0.3s,baz=356,slow=3.6,SNR=87						
URZ				S	S	12 46 34.1	-1.8
	15nm,0.5s,baz=179,slow=22,SNR=11						
TLZ	Tolley Road	5.77	215	P	Pn	12 45 38.6	+2.4
ARHZ	Aropaoanui	6.01	201	P	Pn	12 45 39.7	+0.9
HIZ	Hauiti	6.25	218	P	Pn	12 45 44.5	+3.1
MCHZ	McNeill Hill	6.27	202	P	Pn	12 45 42.7	+1.0
KWHZ	Kaweka Forest	6.34	204	P	Pn	12 45 43.2	+0.7
CKHZ	Cape Kidnapper	6.36	199	P	Pn	12 45 44.3	+1.7
OTVZ	Oturere	6.40	210	P	Pn	12 45 42.0	-1.2
BHHZ	Black Hill Sta	6.53	206	P	P	12 45 44.5	-0.7
KAHZ	Kahuranaki	6.54	200	P	P	12 45 46.5	+1.2
KRHZ	Kereru	6.56	204	P	P	12 45 44.6	-0.8
PXZ	Pawanui	6.76	199	P	P	12 45 48.1	+0.4
PNHZ	Pukenui	6.86	204	P	P	12 45 48.0	-0.7
WPHZ	Waipukurau	6.92	202	P	P	12 45 49.8	+0.5
PRHZ	Porangahau	7.04	200	P	P	12 45 51.5	+0.6
MRZ	Mangatainoka R	7.74	204	P	P	12 45 58.3	-0.1
TIWZ	Tintock	7.74	202	P	P	12 45 58.9	+0.3
HOWZ	Holdsworth Sta	7.97	204	P	P	12 46 00.8	-0.3
OGWZ	Otaki Gorge	8.02	206	P	P	12 46 01.1	-0.5
KIW	Kapiti Island	8.15	207	P	P	12 46 02.7	-0.4
CAW	Cannon Point	8.31	205	P	P	12 46 04.3	-0.6
WEL	Wellington	8.57	206	P	P	12 46 07.6	-0.2
BHW	Baring Head	8.64	205	P	P	12 46 08.1	-0.5
TCW	Tory Channel	8.70	208	P	P	12 46 08.9	-0.3
TUWZ	Tuamarina	9.02	209	P	P	12 46 12.6	-0.1
NNZ	Nelson	9.08	212	P	Pn	12 46 13.4	0.0
BSWZ	Blackbirch Sta	9.28	208	P	Pn	12 46 17.0	+1.3
MRNZ	Matariki Terra	9.51	214	P	Pn	12 46 19.1	+0.7
THZ	Tophouse	9.73	212	P	Pn	12 46 21.9	+0.9
KHZ	Kahutara	10.01	207	P	Pn	12 46 25.0	+0.8
GVZ	Greta Valley S	10.68	208	P	Pn	12 46 33.6	+1.7
ASAR	Alice Springs	41.16	272	P	P	12 51 13.9	+0.2
	0.3nm,0.6s,baz=112,slow=8.7,SNR=9.0						
	0.3nm,0.6s						
WRA	Warramunga Arr	42.45	277	P	P	12 51 23.5	-0.6
	0.5nm,0.4s,baz=118,slow=7.9,SNR=12						
	0.5nm,0.4s						
FINES	FINESS Array B	147.47	337	PKPbc	PKPbc	13 03 02.3	-0.7
	2.4nm,0.9s,baz=107,slow=1.5,SNR=1.7						

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*IDC **04** 12:45:54.3±1.8, 22.°45N×93.°74E, h0km, mb3.8/5, mbtmp3.7/6, MS3.5/1, Error ellipse: s-maj=102.3km s-min=16.7km az=55.0*

ISC 04 12:46:02.4±1.4**, 24.°2N**±0.°3×**97.°2E**±0.°7**, h10**km**, n7,** σ**0.s75**/5**, mb3.7**/5**, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.90	164	Pn	Pn	12 47 30.3	+0.3
	0.8nm,0.3s,baz=307,slow=12,SNR=1.7						
CMAR				Lg	Lg	12 49 13.8	
	1.0nm,0.3s,baz=306,slow=32,SNR=4.1						
MKAR	Makanchi Array	25.55	336	P	P	12 51 30.8	-0.6
	0.9nm,0.5s,baz=145,slow=9.6,SNR=11						
	0.9nm,0.5s						
ZALV	Zalesovo Beam	31.17	346	P	P	12 52 21.9	+0.5
	0.5nm,0.3s,baz=145,slow=8.8,SNR=4.8						
	0.5nm,0.3s						
KAPI	Kappang	36.38	140	LR	LR	13 10 54.2	
	comp=Z,58nm,18.7s,baz=59,slow=40						
WRA	Warramunga Arr	56.84	137	P	P	12 55 47.4	-0.1
	0.2nm,0.5s,baz=322,slow=7.4,SNR=8.0						
	0.2nm,0.5s						
ASAR	Alice Springs	59.40	140	P	P	12 56 04.8	-0.6
	0.3nm,0.5s,baz=320,slow=6.6,SNR=9.1						
	0.3nm,0.5s						
ARCES	ARCESS Array B	61.19	338	P	P	12 56 12.5	-4.5
	5.6nm,1.1s,baz=92,slow=3.6,SNR=3.6						
	5.6nm,1.1s						

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*IPEC **04** 13:04:27.2±0.2, 51.°55N×16.°19E, h1km, ML2.8/5, Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*

*PRU **04** 13:04:28.4, 51.°49N×16.°11E, h0km*

*IDC **04** 13:04:29.4±0.8, 51.°46N×16.°05E, h0km, mbtmp3.3/6, ML2.7/6, Error ellipse: s-maj=12.7km s-min=7.3km az=118.0*

*VIE **04** 13:04:37.8, 50.°90N×15.°86E, h0km, ML2.4/1 56 km ENE of Liberec Suspected Mining induced.*

ISC 04 13:04:26.4±0.7**, 51.°57N**±0.°03×**16.°10E**±0.°02**, h0**km**, n55,** σ**1.s43**/106**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	170	ePg	Pg	13 04 41.0	+0.5
KSP				eSg	Sg	13 04 50.1	0.0
CHVC	Chvalec	0.98	182	ePG	Pg	13 04 45.7	+0.5
CHVC				eSG	Sg	13 04 57.5	-0.4
	comp=Z,106nm,0.3s						
OSTC	Ostas	1.02	176	ePG	Pg	13 04 45.9	0.0
OSTC				eSG	Sg	13 04 58.6	-0.4
	comp=Z,155nm,0.3s						
UPC	Upice	1.06	183	ePG	Pg	13 04 47.0	+0.2
UPC				eSG	Sg	13 05 00.3	-0.3
	comp=Z,238nm,0.4s						
DPC	Dobruska-Polom	1.23	173	ePG	Pg	13 04 49.8	-0.2
DPC				eSG	Sg	13 05 05.2	-0.6
	comp=Z,81nm,0.7s						
PVCC	Panska Ves	1.42	223	ePG	Pg	13 04 53.8	+0.2
PVCC				eSG	Sb	13 05 12.5	+0.1
	comp=Z,285nm,0.2s						
BRG	Berggiesshubel	1.52	244	Pn	Pn	13 04 54.9	0.0
BRG				Pg	Pg	13 04 56.8	+1.2
BRG				Sg	Sn	13 05 16.9	+1.5
BRG				Amp		13 05 17.7	
	comp=Z,103nm,0.3s						
KRLC	Kraliky	1.56	164	ePG	Pn	13 04 55.2	-0.2
KRLC				eSG	Sn	13 05 15.4	-0.9
	comp=Z,86nm,0.5s						
RICC	Richard	1.63	232	ePG	Pn	13 04 57.0	+0.7
RICC				eSG	Sg	13 05 19.8	+1.2
	comp=Z,175nm,0.8s						
PRA	Prague	1.83	216	ePG	Pn	13 04 59.8	+0.6
PRA				eSG	Sb	13 05 24.6	+0.3
	comp=Z,44nm,0.7s						
GOPC	GO Pecny, Ondr	1.85	207	ePG	Pb	13 05 01.7	+0.5
GOPC				eSG	Sb	13 05 24.6	-0.3
	comp=Z,30nm,0.5s						
PRU	Pruhonice	1.86	213	ePG	Pn	13 05 00.3	+0.7
PRU				eSG	Sb	13 05 25.9	+0.7
	comp=Z,50nm,0.6s						
HSKC	Hora Svate Kat	1.94	241	ePG	Pb	13 05 02.4	-0.2

HSKC				eSG	Sg	13 05 28.4	-0.2
	comp=Z,94nm,0.4s						
CLL	Collm	1.95	264	ePn	Pn	13 05 01.0	+0.2
CLL				ePg	Pb	13 05 03.0	+0.1
CLL				ex	x	13 05 07.0	
CLL				eSg	Sg	13 05 30.0	+0.8
	comp=Z,48nm,0.5s						
MORC	Moravsky Berou	2.02	152	ePn	Pn	13 05 01.6	-0.1
	baz=335						
MORC				eSg	Sb	13 05 29.1	-0.5
	comp=Z,64nm,0.5s,baz=335						
OKC	Ostrava-Krasne	2.17	142	ePG	Pb	13 05 06.1	-0.4
OKC				eSG	Sb	13 05 34.7	+0.8
	comp=Z,46nm,0.7s						
VRAC	Vranov	2.29	172	ePn	Pn	13 05 05.9	+0.5
	baz=354						
VRAC				eSg	Sb	13 05 38.3	+1.0
	comp=Z,46nm,0.6s,baz=354						
VRAC	Vranov	2.29	172	Pn	Pn	13 05 06.5	+1.1
	comp=Z,2.5nm,0.3s,baz=352,slow=15,SNR=9.3						
VRAC				Lg	Lg	13 05 38.4	
	comp=Z,6.7nm,0.3s,baz=69,slow=23,SNR=9.1						
	comp=Z,4.4nm,0.3s						
TREC	Trest	2.31	190	ePG	Pn	13 05 07.3	+1.5
TREC				eSG	Sb	13 05 39.0	+1.0
	comp=Z,46nm,0.3s						
ZVC	Zvikov	2.45	210	ePN	Pn	13 05 08.3	+0.6
ZVC				ePG	Pb	13 05 11.5	+0.1
ZVC				eSG	Sg	13 05 44.9	-0.3
	comp=Z,56nm,0.5s						
MAUC	Maruska	2.47	153	ePN	Pn	13 05 08.3	+0.4
MAUC				ePG	Pb	13 05 11.6	-0.1
MAUC				eSG	Sb	13 05 43.8	+1.2
	comp=Z,79nm,0.8s						
KRUC	Moravsky	2.52	176	ePn	Pn	13 05 09.0	+0.4
	baz=357						
KRUC				eSg	Sb	13 05 45.5	+1.5
	comp=Z,48nm,0.8s,baz=357						
NKC	Novy Kostel	2.67	241	ePN	Pn	13 05 11.8	+1.1
NKC				ePG	Pb	13 05 15.8	+0.7
NKC				eSG	Sg	13 05 52.3	+0.2
	comp=Z,131nm,0.3s						
OJC	Ojcow	2.71	119	ePg	Pg	13 05 19.0	+0.7
OJC				Sn	Sn	13 05 42.5	-2.1
OJC				eSg	Sg	13 05 54.7	+1.4
JAVC	Velka Javorina	2.89	159	ePn	Pn	13 05 14.1	+0.3
	baz=341						
JAVC				eSg	Sb	13 05 56.4	+1.5
	comp=Z,45nm,0.7s,baz=341						
KHC	Kasperske Hory	2.92	214	ePN	Pn	13 05 14.6	+0.4
KHC				ePG	Pb	13 05 20.1	+0.6
KHC				eSN	Sn	13 05 49.9	-0.2
KHC				eSG	Sg	13 05 58.6	-1.8
	comp=Z,28nm,0.4s						
CKRC	Cesky Krumlov	2.98	203	ePN	Pn	13 05 15.9	+0.9
CKRC				ePG	Pb	13 05 21.8	+1.4
CKRC				eSG	Sg	13 06 01.0	-1.2
GERES	GERESS Array B	3.13	210	Pn	Pn	13 05 18.5	+1.4
	comp=Z,1.2nm,0.3s,baz=32,slow=12,SNR=15						
GERES				Pg	Pb	13 05 24.8	+1.8
	comp=Z,2.5nm,0.3s,baz=30,slow=15,SNR=27						
GERES				Lg	Lg	13 06 04.8	
	comp=Z,7.0nm,0.3s,baz=27,slow=31,SNR=10						
	comp=Z,3.1nm,0.5s						
LANS	Liptovska Anna	3.24	137	ePN	Pn	13 05 19.5	+0.9
LANS				ePG	Pg	13 05 28.5	-0.1
LANS				eSG	Sg	13 06 12.4	+1.8
MODS	Modra-Piesok	3.29	166	ePG	Pg	13 05 29.1	-0.3
MODS				eSG	Sg	13 06 12.1	+0.1
ZST	Bratislava	3.44	169	eSG	Sg	13 06 14.8	-2.0
VYHS	Vyhne	3.55	149	ePN	Pn	13 05 23.8	+1.0
VYHS				ePG	Pg	13 05 36.8	+2.4
BSD	Bornholm Skovb	3.62	349	iP	Pn	13 05 24.0	+0.3
CONA	Conrad Observa	3.65	182	ePn	Pn	13 05 25.2	+1.0
	comp=Z,1.7nm,0.3s						
CONA				eSg	Sg	13 06 21.7	-1.8
	comp=Z,28nm,0.7s						
RONA	Rosalia, Austr	3.88	178	eSg	Sg	13 06 28.9	-2.0
	comp=Z,14nm,0.5s						
MOA	Molln	3.91	198	ePn	Pn	13 05 28.5	+0.8
	comp=Z,2.5nm,0.3s						
MOA				eSg	Sg	13 06 31.0	-0.9
	comp=Z,6.3nm,0.2s						
STHS	Stebnicka Huta	3.93	121	ePN	Pn	13 05 28.2	+0.2
STHS				ePG	Pg	13 05 41.2	-0.5
STHS				eSG	Sg	13 06 37.0	+4.4
BIOA	Bad Ischl, Aus	4.20	203	ePn	Pn	13 05 32.9	+1.2
	comp=Z,3.3nm,0.3s						
BIOA				eSg	Sg	13 06 38.0	-3.2
	comp=Z,28nm,0.5s						
CRVS	Cervenica-Dubn	4.36	126	ePG	Pg	13 05 51.0	+1.1
LESA	Schwarzleotal	4.71	210	eSg	Sg	13 06 55.2	-2.5
	comp=Z,2.8nm,0.2s						
KOLS	Kolonicke sedl	4.76	121	ePN	Pn	13 05 41.5	+2.1
KOLS				eSG	Sg	13 07 02.6	+3.3
KBA	Koelnbreinsper	4.84	203	ePn	Pn	13 05 41.7	+1.0
	comp=Z,2.3nm,0.4s						
KBA				eSg	Sg	13 07 03.3	+1.4
	comp=Z,12nm,0.5s						
SOKA	Soboth	4.94	189	eSg	Sg	13 07 02.0	-3.2
	comp=Z,4.2nm,0.6s						
WATA	Walderalm	5.16	217	ePn	Pn	13 05 46.9	+1.9
	comp=Z,1.1nm,0.2s						
OBKA	Obir	5.17	192	eSg	Sg	13 07 13.2	+0.9
	comp=Z,7.9nm,0.9s						
WTTA	Wattenberg	5.20	216	iPn	Pn	13 05 46.7	+1.1
	comp=Z,0.9nm,0.2s						
WTTA				eSg	Sg	13 07 13.1	-0.2
	comp=Z,7.1nm,0.6s						
MOTA	Moosalm	5.33	220	ePn	Pn	13 05 48.8	+1.4
	comp=Z,1.5nm,0.3s						
MOTA				eSg	Sg	13 07 16.2	-1.5
	comp=Z,5.1nm,0.5s						
RETA	Reutte	5.36	222	ePn	Pn	13 05 48.9	+1.1
	comp=Z,0.6nm,0.2s						
RETA				eSg	Sg	13 07 19.6	+1.1
	comp=Z,6.4nm,0.5s						
ABTA	Abfaltersbach	5.37	207	eSg	Sg	13 07 20.3	+1.5
	comp=Z,6.1nm,0.5s						
FETA	Feichten	5.75	220	eSg	Sg	13 07 35.7	+4.7
	comp=Z,3.1nm,0.5s						
DAVOX	Davos/Dischmat	6.29	223	Lg	Lg	13 07 47.1	
	comp=Z,0.5nm,0.3s,baz=321,slow=22,SNR=1.7						
AKASG	Malin Array Be	8.30	91	Pn	Pn	13 06 28.8	+0.7
	comp=Z,0.6nm,0.3s,baz=281,slow=12,SNR=3.9						
AKASG				Sn	Sn	13 07 58.1	-4.3
	comp=Z,0.7nm,0.3s,baz=278,slow=22,SNR=2.0						
AKASG				Lg	Lg	13 08 53.1	
	comp=Z,0.3nm,0.3s,baz=282,slow=31,SNR=2.0						
	comp=Z,0.2nm,0.2s						
HFS	Hagfors	8.69	352	Pn	Pn	13 06 35.3	+2.0
	comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=1.2						
	comp=Z,1.8nm,0.9s						
FINES	FINESS Array B	11.31	25	Pn	Pn	13 07 08.0	-1.2
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=1.0						
FINES				Sn	Sn	13 09 13.5	-2.7
	comp=Z,0.3nm,0.3s,baz=207,slow=21,SNR=6.2						
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	18.57	10	Pn	P	13 08 42.4	-2.1
	baz=198,slow=11,SNR=1.8						
	comp=Z,3.2nm,1.0s						

ISK ***04*** *13:08:06.2, 37°.28N×38°.67E, h5km, ML2.5/13*
AFAD ***04*** *13:08:07.0±0.0, 37°.29N×38°.63E, h8km±2km, ML2.3*
ISC 04 13:08:07.1±0.9**, 37°.28N**±0°.03×**38°.63E**±0°.02**, h9**km±8km**,**
n34, σ**0ˢ.74**/57**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.22	42	Pg	Pg	13 08 11.4	-0.3
URFA				Sg	Sg	13 08 14.8	+0.1
SANL	SANLIURFA_Merk	0.30	110	P	Pb	13 08 13.6	-1.1
SANL				iAML	AML	13 08 18.0	
	comp=E,1µm,0.2s						
SANL				S	S	13 08 18.0	+0.9
SANL				iAML	AML	13 08 19.0	
	comp=N,771nm,0.5s						
ATAB	Bozova	0.33	306	P	Pg	13 08 13.7	0.0
ATAB				S	Sg	13 08 18.6	+0.5
ATAB				iAML	AML	13 08 20.0	
	comp=N,589nm,0.2s						
ATAB				iAML	AML	13 08 21.0	
	comp=E,942nm,0.2s						
HANM	anlurfa/Hi	0.36	33	P	Pg	13 08 14.1	-0.1
HANM				S	Sg	13 08 19.2	+0.2
HANM				iAML	AML	13 08 21.0	
	comp=N,934nm,0.4s						
HANM				iAML	AML	13 08 21.0	
	comp=E,326nm,0.7s						
SURC	SANLIURFA_SURC	0.40	182	P	Pb	13 08 15.6	-0.8
SURC				S	Sb	13 08 21.7	-0.8
SURC				iAML	AML	13 08 23.0	
	comp=N,315nm,0.2s						
SURC				iAML	AML	13 08 28.0	
	comp=E,753nm,0.5s						
AZEY	Adyaman-Merk	0.61	330	P	Pg	13 08 18.9	-0.1
AZEY				S	Sn	13 08 30.9	-1.3
AZEY				iAML	AML	13 08 33.0	
	comp=E,62nm,0.2s						
AZEY				iAML	AML	13 08 34.0	
	comp=N,85nm,0.3s						
NARI	Adyaman-Kaht	0.61	9	P	Pg	13 08 18.9	-0.1
NARI				S	Sg	13 08 27.2	+0.1
NARI				iAML	AML	13 08 32.0	
	comp=E,72nm,0.5s						
NARI				iAML	AML	13 08 33.0	
	comp=N,72nm,0.3s						
NZIP	Nizip/Gaziante	0.80	253	P	Pb	13 08 22.9	-0.4
NZIP				S	Sb	13 08 34.1	-0.2
NZIP				iAML	AML	13 08 37.0	
	comp=N,82nm,0.4s						
NZIP				iAML	AML	13 08 38.0	
	comp=E,135nm,0.7s						
GZT	Gaziantep	0.86	276	P	Pb	13 08 23.8	-0.5
GZT				S	Sb	13 08 36.7	+0.8
GZT				iAML	AML	13 08 39.0	
	comp=N,142nm,0.4s						
GZT				iAML	AML	13 08 39.0	
	comp=E,129nm,0.1s						
AKCA	Adyaman/G¶l	0.91	305	P	Pg	13 08 24.3	-0.4
AKCA				S	Sg	13 08 36.5	0.0
AKCA				iAML	AML	13 08 40.0	
	comp=E,133nm,0.2s						
AKCA				iAML	AML	13 08 41.0	
	comp=N,178nm,0.5s						
MAYA	Malatya/Merkez	1.06	351	P	Pb	13 08 27.6	-0.1
MAYA				S	Sn	13 08 42.7	-0.6
MAYA				iAML	AML	13 08 44.0	
	comp=N,68nm,0.4s						
MAYA				iAML	AML	13 08 44.0	
	comp=E,71nm,0.4s						
GAZ	Gaziantep	1.14	265	Pn	Pn	13 08 29.3	0.0
AKCD	Akcadag	1.16	331	P	Pg	13 08 29.0	-0.4
AKCD				S	Sb	13 08 44.3	-0.5
AKCD				iAML	AML	13 08 49.0	
	comp=N,207nm,0.3s						
AKCD				iAML	AML	13 08 49.0	
	comp=E,97nm,0.4s						
KAHM	Kahramanmaras,	1.33	281	P	Pn	13 08 30.9	-1.1
KAHM				S	Sn	13 08 50.2	+0.4
KAHM				iAML	AML	13 08 51.0	
	comp=N,56nm,0.2s						
KAHM				iAML	AML	13 08 51.0	
	comp=E,41nm,0.3s						
DIYA	Diyarbakir	1.35	61	P	Pg	13 08 33.5	+0.6
DIYA				S	Sn	13 08 50.7	+0.5
DIYA				iAML	AML	13 08 53.0	
	comp=N,89nm,0.3s						
DIYA				iAML	AML	13 08 53.0	
	comp=E,101nm,0.2s						
DYBB	Diyarbakir	1.37	60	Pn	Pg	13 08 33.1	-0.3
DYBB				Sn	Sn	13 08 52.7	+1.8
HCB	Kahramanmara	1.38	273	P	Pg	13 08 33.5	0.0
HCB				S	Sb	13 08 50.3	-0.5
HCB				iAML	AML	13 08 54.0	
	comp=N,30nm,0.3s						
HCB				iAML	AML	13 08 54.0	
	comp=E,46nm,0.4s						
KMRS	Kahramanmaras	1.40	280	Pn	Pg	13 08 34.1	+0.2
MAZI	Mazidag	1.46	82	Pn	Pb	13 08 34.1	-0.4
KAMA	Osmaniye	1.57	267	P	Pb	13 08 36.5	+0.1
KAMA				S	Sb	13 08 56.8	+0.3
KAMA				iAML	AML	13 09 01.0	
	comp=N,22nm,0.2s						
KAMA				iAML	AML	13 09 04.0	
	comp=E,17nm,0.1s						
DARE	Darende-Malaty	1.58	325	Pn	Pg	13 08 36.9	-0.5
MARD	Mardin	1.71	88	P	Pb	13 08 38.1	-0.7
MARD				S	Sg	13 09 01.2	-0.9
MARD				iAML	AML	13 09 04.0	
	comp=N,94nm,0.5s						
MARD				iAML	AML	13 09 06.0	
	comp=E,92nm,0.5s						
PTK	Pertek	1.72	20	Pn	Pb	13 08 38.4	-0.6
HASA	Hatay-Hassa-Ha	1.80	254	P	Pb	13 08 40.2	0.0
HASA				S	Sb	13 09 03.1	+0.3
HANI	Diyarbakir_Han	1.80	50	P	Pb	13 08 39.6	-0.7
HANI				S	Sg	13 09 04.0	-1.0
HANI				iAML	AML	13 09 08.0	
	comp=N,20nm,0.8s						
HANI				iAML	AML	13 09 08.0	
	comp=E,18nm,0.3s						
ARPR	Arapgir-MALATY	1.83	353	Pn	Pb	13 08 40.2	-0.6
ANDN	Andirin	1.85	280	P	Pn	13 08 39.9	+0.8
ANDN				S	Sg	13 09 06.5	+0.1
ANDN				iAML	AML	13 09 10.0	
	comp=E,51nm,0.6s						
ANDN				iAML	AML	13 09 12.0	
	comp=N,38nm,0.3s						
KEMA	Kemaliye	1.99	357	P	Pn	13 08 41.9	+0.8
KEMA				S	Sg	13 09 10.6	-0.5
KEMA				iAML	AML	13 09 14.0	
	comp=E,20nm,0.6s						
KEMA				iAML	AML	13 09 17.0	
	comp=N,19nm,0.5s						
SARI	SarD1z-Kayseri	2.09	303	Pn	Pb	13 08 44.1	-1.1
TAHT	Tahtakopru-Hat	2.16	246	Pn	Pb	13 08 45.4	-1.0
MIDY	Mardin/Midyat-	2.21	86	P	Pn	13 08 44.3	+0.3
MIDY				S	Sb	13 09 14.7	-0.1
MIDY				iAML	AML	13 09 22.0	
	comp=E,35nm,0.3s						
MIDY				iAML	AML	13 09 24.0	
	comp=N,65nm,0.7s						
SVAN	Silvan-Diyarba	2.21	66	Pn	Pn	13 08 45.2	+1.1
KOZT	Kozan	2.25	276	Pn	Pb	13 08 46.4	-1.4
CMRD	Camardi-Nigde	2.92	279	Pn	Pn	13 08 56.1	+2.2

MOS ***04*** *13:15:22.2±0.8, 42°.36N×139°.27E, h212km, mb4.2/21, Error ellipse: s-maj=7.2km s-min=5.7km az=97.3*
IDC ***04*** *13:15:22.9±0.8, 42°.38N×139°.22E, h203km±7km, mb3.8/24, mbtmp4.3/31, Error ellipse: s-maj=9.8km s-min=8.0km az=146.0*
NEIC ***04*** *13:15:23.2±1.2, 42°.34N±0°.07×139°.2E±0°.1, h203km±7km, mb4.2/158, Error ellipse: s-maj=11.6km s-min=10.6km az=115.0*
SKHL ***04*** *13:15:23.1±0.1, 42°.40N×139°.30E, h190km±5km, mb5.1/6, msha6.1/3*
NIED ***04*** *13:15:23.6, 42°.34N×139°.28E, h203km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale* 10^{15}*Nm;* M_{rr}*0.98;* $M_{\theta\theta}$*0.54;* $M_{\phi\phi}$*-1.53;* $M_{r\theta}$*0.50;* $M_{\theta\phi}$*0.20;* $M_{\phi r}$*-1.85; Fault plane solution:* M_0*2.30000×*10^{15} *NP1:* ϕ_s*165.00000°,* δ*74.00000°,* λ*81.00000°. NP2:* ϕ_s*13.00000°,* δ*18.00000°,* λ*117.00000°.*
JMA ***04*** *13:15:23.6±0.1, 42°.3N±0°.5×139°.3E±1°.0, h203km±1km, MV3.9/40, SW OFF HOKKAIDO*
ISC 04 13:15:23.2±0.5**, 42°.34N**±0°.04×**139°.30E**±0°.04**, h208**km±4km**,**
n583, σ**0ˢ.94**/597**, mb4.2**/116**, 17C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.28	153	P	Pn	13 15 50.3	-0.4
JOSM				eS	S	13 16 11.0	-1.0
JHST	Hiyamasetana	0.43	78	P	Pn	13 15 51.0	0.0
JHST				eS	S	13 16 11.6	-1.0
JSH	Shimam	0.63	61	P	Pn	13 15 51.8	+0.1
JSH				eS	S	13 16 13.4	-0.5
JYM2	Yakumo 2	0.82	105	P	Pn	13 15 53.0	+0.3
JYM2				eS	S	13 16 15.6	+0.1
JYM2	Yakumo 2	0.82	105	A	A	13 15 53.0	
	comp=E,5.0nm,3.1s,comp=N,2.0nm,3.4s						
JOMM	Oshimamatsumae	0.97	147	P	Pn	13 15 53.5	-0.1
JOMM				eS	S	13 16 16.2	-0.8
JSR	Shiriuchi	1.16	134	eP	Pn	13 15 55.1	+0.2
JSR				eS	S	13 16 19.2	-0.1
JNB	Noboribetsu	1.29	84	P	Pn	13 15 55.6	-0.2
JKB	Kayabe	1.36	109	P	Pn	13 15 56.4	0.0
JKB				eS	S	13 16 22.0	0.0
JOT	Ohata	1.62	126	P	Pn	13 15 58.5	-0.2
JOT				eS	S	13 16 25.2	-0.6
JEW	Eniwo	1.66	72	P	Pn	13 15 59.7	+0.7
JEW				eS	S	13 16 28.0	+1.4
JISS	Ishikarishitsu	1.82	58	eP	Pn	13 16 01.1	+0.7
JIW	Iwasaki	1.82	163	P	Pn	13 16 00.9	+0.3
JIW				eS	S	13 16 29.9	+0.6
JIAM	Iburiatsuma	1.96	81	P	Pn	13 16 02.4	+0.6
JIAM				eS	S	13 16 33.1	+1.6
JTM	Tenmabayashi	2.04	139		Pn	13 16 02.6	-0.1
JHR	Hokuryu	2.27	51	P	Pn	13 16 05.9	+0.9
JNBK	Urakawa-nobuka	2.56	90	P	Pn	13 16 08.0	-0.2
JNBK				eS	S	13 16 43.1	+0.3
JANG	Nango	2.57	139	P	Pn	13 16 07.5	-1.0
JANG				eS	S	13 16 41.4	-1.9
JSS	Shosan	2.78	41	eP	Pn	13 16 11.7	+1.1
ERM	Erimo	2.88	95	Pn	Pn	13 16 12.1	+0.3
ERM	Erimo	2.88	95	cePN	Pn	13 16 12.1	+0.3
ERM				pmax	pmax		
	comp=Z,208nm,0.4s						
JKK2	Kamakawa 2	2.95	58	P	Pn	13 16 13.2	+0.5
JKK2				eS	S	13 16 51.0	0.0
ASAJ	Asahikawa	2.99	52	P	Pn	13 16 13.6	+0.5
	comp=Z,127nm,0.4s,baz=235,slow=11,SNR=460						
ASAJ				S	S	13 16 51.6	-0.1
	comp=Z,44nm,0.7s,baz=89,slow=33,SNR=6.8						
JKA	Kamikawa-asahi	3.00	52	Pn	Pn	13 16 13.5	+0.3
JKA	Kamikawa-asahi	3.00	52	eP	Pn	13 16 13.6	+0.5
JCH	Churui	3.02	83	P	Pn	13 16 13.2	-0.2
JCH				eS	S	13 16 50.6	-1.6
TEY	Ternei	3.33	325	⇑ePN	Pn	13 16 16.5	-0.6
TEY				pmax	pmax		
	comp=Z,230nm,0.6s						
TEY				pmax	pmax		
	comp=N,150nm,0.7s						
TEY				pmax	pmax		
	comp=E,110nm,0.7s						
TEY	Ternei	3.33	325	eP	Pn	13 16 16.5	-0.6
TEY				AMB	AMB	13 16 17.2	
	comp=E,230nm,0.6s						
AKK	Akkeshi	4.14	79	eP	Pn	13 16 25.7	-1.2
JMM	Marumori	4.61	165	Pn	Pn	13 16 31.8	-1.1
RUSJ	Misakicho	4.69	66	ePN	Pn	13 16 34.4	+0.6
RUSJ				eS	S	13 17 33.7	+4.6
NMR	Nemuro--Hokkai	4.84	76	ePN	Pn	13 16 33.5	-2.1
NMR				eS	S	13 17 27.0	-5.4
NMR	Nemuro--Hokkai	4.84	76	eP	Pn	13 16 33.5	-2.1
YUK	Yuzh-Kuril'sk	5.09	68	ePN	Pn	13 16 38.3	-0.5
YUK				iS	S	13 17 37.2	-1.0
YUK				pmax	pmax		
	comp=Z,362nm,0.3s						
YUK				smax	smax		
	comp=N,457nm,0.3s						
YUK				smax	smax		
	comp=E,305nm,0.3s						
YUK	Yuzh-Kuril'sk	5.09	68	eP	Pn	13 16 38.7	-0.1
YUK				AMB	AMB	13 16 39.1	
	comp=E,360nm,0.3s						
YUK				iS	S	13 17 37.4	-0.8
YUK				A	A	13 17 40.8	
	comp=E,460nm,0.3s						
YUK				A	A	13 17 40.8	
	comp=E,310nm,0.3s						
YSS	Yuzh-Sakhalins	5.23	27	Pn	Pn	13 16 41.1	+0.4
YSS	Yuzh-Sakhalins	5.23	27	ePN	Pn	13 16 41.0	+0.4
YSS				eS	S	13 17 40.6	-1.0
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=N,60nm,0.8s						
YSS				smax	smax		
	comp=E,40nm,0.8s						
YSS	Yuzh-Sakhalins	5.23	27	eP	Pn	13 16 41.0	+0.4
YSS				AMB	AMB	13 16 42.6	
	comp=E,80nm,0.2s						
YSS				eS	S	13 17 40.6	-1.0
YSS				A	A	13 17 42.1	
	comp=E,70nm,0.5s						
YSS				A	A	13 17 42.1	
	comp=E,100nm,0.5s						
USA0B	Ussuriysk Arra	5.66	292	Pn	Pn	13 16 45.4	-0.6
USA0B	Ussuriysk Arra	5.66	292	PN	Pn	13 16 45.4	-0.6
USRK	Ussuriysk Ar.	5.66	292	Pn	Pn	13 16 45.4	-0.7
USRK	Ussuriysk Ar.	5.66	292	PN	Pn	13 16 45.4	-0.7
USRK	Ussuriysk Ar.	5.66	292	P	Pn	13 16 45.8	-0.2
	comp=E,83nm,0.7s,baz=103,slow=12,SNR=117						
SHO	Shikotan	5.72	72	⇑iPN	Pn	13 16 45.1	-1.8
SHO				pmax	pmax		
	comp=E,50nm,0.2s						
SHO				pmax	pmax		
	comp=Z,110nm,0.2s						
SHO	Shikotan	5.72	72	eP	Pn	13 16 45.4	-1.5
SHO				AMB	AMB	13 16 46.3	
	comp=Z,10.0nm,0.2s						
SHO				iS	S	13 17 47.0	-5.9
SHO				A	A	13 17 48.7	
	comp=Z,220nm,0.2s						
SHO				A	A	13 17 48.7	
	comp=Z,290nm,0.2s						
MJB9	Matsu-Tunnel	5.84	189		Pn	13 16 50.0	+1.4
MAJO	Matsushiro	5.85	189	Pn	Pn	13 16 49.1	+0.4
MAJO	Matsushiro	5.85	189	PN	Pn	13 16 49.1	+0.4
MJAR	Matsushiro Arr	5.85	189	P	Pn	13 16 49.4	+0.7
	comp=Z,5.3nm,0.8s,baz=6.0,slow=14,SNR=14						
MSHR	Mys Shultsa	6.03	275	iPN	Pn	13 16 50.9	0.0
MSHR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KUR	Kuril'sk	6.84	62	ePN	Pn	13 17 02.4	+1.1
KUR				eS	S	13 18 19.7	+0.6
KUR				pmax	pmax		
	comp=Z,115nm,0.4s						
KUR	Kuril'sk	6.84	62	eP	Pn	13 17 02.4	+1.1
KUR				AMB	AMB	13 17 02.8	
	comp=Z,120nm,0.4s						
KUR				eS	S	13 18 19.7	+0.6
MDJ	Mudanjiang	7.42	291	P	Pn	13 17 08.4	-0.4
MDJ				pmax	pmax		
	comp=Z,57nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,180nm,3.5s						
MDJ	Mudanjiang	7.42	291	Pn	Pn	13 17 07.9	-1.0
KLR	Kul'dur	8.68	325	cePN	Pn	13 17 24.3	-0.8
KLR				pmax	pmax		
	comp=Z,13nm,2.5s						
KLR	Kul'dur	8.68	325	P	Pn	13 17 23.9	-1.2
	comp=Z,3.6nm,0.8s,baz=130,slow=14,SNR=13						
KLR	Kul'dur	8.68	325	eP	Pn	13 17 24.3	-0.8
TYV	Tymovskoe	8.84	14	ePN	Pn	13 17 28.8	+1.7
TYV				pmax	pmax		
	comp=Z,12nm,1.3s						
TYV				pmax	pmax		
	comp=Z,500nm,4.3s						
TYV	Tymovskoe	8.84	14	eP	Pn	13 17 28.2	+1.1
TYV				AMB	AMB	13 17 29.0	
	comp=Z,10.0nm,0.6s						
BNX	BinXian	9.22	296	⇓P	Pn	13 17 31.0	-1.1
BNX				pmax	pmax		
	comp=Z,18nm,0.8s						
BNX				pmax	pmax		
	comp=Z,160nm,3.4s						
KSRS	Korea Array	10.01	245	P	Pn	13 17 43.1	+0.7
	comp=Z,8.4nm,0.8s,baz=58,slow=13,SNR=22						
JNU	Nakatsue	11.36	219	P	Pn	13 18 00.3	+0.6
	comp=Z,4.1nm,0.8s,baz=184,slow=15,SNR=2.5						
HEH	HeiHe	11.40	318	eP	Pn	13 17 58.6	-1.5
HEH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,130nm,5.7s						
ZEA	Zeya	13.94	329	eP	Pn	13 18 31.7	-0.2
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA	Zeya	13.94	329	eP	Pn	13 18 31.7	-0.2
HIA	Hailar	15.28	304	iP	Pn	13 18 47.1	-1.2
XLT	XiLinHaoTe	17.02	283	eP	P	13 19 08.3	+0.6
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,93nm,3.6s						
MA2	Magadan	18.66	18	ceP	P	13 19 24.1	-1.2
MA2				pmax	pmax		
	comp=Z,29nm,2.5s						
MA2	Magadan	18.66	18	P	P	13 19 23.7	-1.6

comp=Z,9.9nm,0.7s,baz=175,slow=9.8,SNR=7.3
MA2 Magadan 18.66 18 *e*P **P 13 19 24.1 -1.2**
HNS HongShan 19.48 264 ⇑P **Pn 13 19 38.5 +0.3**
HNS pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 20.55 347 *ce*P **P 13 19 44.4 -1.0**
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 20.55 347 P **P 13 19 43.2 -2.2**
comp=Z,0.3nm,0.3s,baz=101,slow=1.6,SNR=2.4
YAK Yakutsk 20.55 347 *e*P **P 13 19 44.4 -1.0**
SEY Seymchan 22.02 16 *ce*P **P 13 20 00.2 -0.3**
SEY pmax pmax
comp=Z,9.0nm,1.0s
SEY Seymchan 22.02 16 *e*P **P 13 20 00.2 -0.3**
ULN Ulaanbaatar 23.32 295 P **P 13 20 11.0 -1.7**
ULN lAmb lAmb 13 20 13.0
comp=Z,5.1nm,0.6s
ULN Ulaanbaatar 23.32 295 *ce*P **P 13 20 12.4 -0.3**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 23.32 295 *e*P **P 13 20 12.4 -0.3**
SONM Songino Array 23.76 295 P **P 13 20 15.4 -1.3**
comp=Z,2.1nm,0.5s,baz=84,slow=7.6,SNR=12
comp=Z,2.1nm,0.5s
XAN Xi'an 25.17 261 ⇑P **P 13 20 29.1 -0.4**
BILL Bilibino 29.51 20 P **P 13 21 06.6 -1.0**
BILL Bilibino 29.51 20 ⇑*e*P **P 13 21 08.3 +0.7**
BILL pmax pmax
comp=Z,4.0nm,1.3s
BILL Bilibino 29.51 20 *e*P **P 13 21 08.3 +0.7**
GTA Gaotai 29.82 278 *e*P **P 13 21 11.2 +0.3**
GTA pmax pmax
comp=Z,4.0nm,0.6s
GOMU GeErMu 34.67 275 P **P 13 21 53.4 0.0**
SPIA Saint Paul Isl 34.93 47 P **P 13 21 54.7 -0.2**
baz=267
GAMB Gambell 35.19 36 P **P 13 21 56.6 -0.3**
baz=256
P08K Saint George I 35.29 48 P **P 13 21 57.6 -0.3**
baz=268
NIKH Nikolski High 35.77 54 P **P 13 22 02.0 0.0**
baz=274
DGZ Jazzator, Alta 36.14 300 *i*P **P 13 22 05.4 -0.1**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
UNV Unalaska Valle 37.10 53 P **P 13 22 13.1 -0.2**
baz=275
TNA Tin City 37.17 33 P **P 13 22 13.4 -0.3**
baz=258
M11K Mekoryuk 37.23 42 P **P 13 22 14.1 -0.1**
baz=266
ZAA0 Zalesovo Array 37.27 307 P **P 13 22 14.0 -0.7**
ZALV Zalesovo Beam 37.27 307 P **P 13 22 14.3 -0.4**
ZALV **PcP 13 24 29.9 +0.5**
ZALV Zalesovo Beam 37.27 307 *i*P **P 13 22 14.8 +0.1**
ZALV pmax pmax
comp=Z,10.0nm,0.5s
ZALV Zalesovo Beam 37.27 307 P **P 13 22 14.4 -0.2**
comp=Z,9.8nm,0.5s,baz=87,slow=8.2,SNR=50
ZALV PcP **PcP 13 24 29.7 +0.3**
comp=Z,4.3nm,0.4s,baz=97,slow=3.2,SNR=16
ZALV ScP **ScP 13 27 56.2 -0.3**
comp=Z,2.0nm,0.7s,baz=101,slow=3.3,SNR=9.2
comp=Z,9.8nm,0.5s
NRIK Noril'sk 37.79 333 P **P 13 22 18.8 -0.1**
comp=Z,0.7nm,0.3s,baz=130,slow=14,SNR=2.2
comp=Z,0.7nm,0.3s
F14K Arctic Creek 37.81 34 P **P 13 22 19.2 +0.1**
baz=260
ANM Nome 38.06 35 P **P 13 22 21.3 +0.1**
baz=262
F15K North Star Dit 38.54 33 P **P 13 22 25.5 +0.3**
baz=261
M13K Dall Lake 38.64 42 P **P 13 22 26.1 +0.1**
baz=269
J14K Nanvaranak Lak 38.66 38 P **P 13 22 25.8 -0.4**
baz=266
G15K Niukluk 38.69 35 P **P 13 22 26.9 +0.5**
baz=262
C16K Lisburne Hills 38.77 29 P **P 13 22 26.8 -0.2**
C16K Lisburne Hills 38.77 29 P **P 13 22 27.4 +0.4**
baz=257
FALS False Pass 38.81 51 P **P 13 22 28.5 +1.0**
baz=276
L14K Kuka Creek 38.99 41 P **P 13 22 29.0 +0.1**
baz=268
M14K Bethel 39.33 41 P **P 13 22 31.9 +0.2**
baz=270
H16K Elim 39.41 35 P **P 13 22 32.5 +0.2**
baz=264
G16K Koyuk River 39.44 34 P **P 13 22 33.5 +0.9**
G16K Koyuk River 39.44 34 P **P 13 22 33.0 +0.4**
baz=264
N14K Kuskokwak Cree 39.47 43 P **P 13 22 34.4 +1.5**
baz=271
D17K Noatak River 39.49 30 P **P 13 22 33.1 +0.2**
baz=260
K15K Wolf Creek Mou 39.57 39 P **P 13 22 34.5 +0.7**
baz=268
L15K Ungalak Mounta 39.58 40 P **P 13 22 32.9 -0.9**
baz=269
C17K DeLong Mountai 39.59 29 P **P 13 22 34.0 +0.1**
baz=259
RDOG Red Dog Mine 39.61 30 P **P 13 22 34.3 +0.2**
baz=260
E17K Hotham Inlet 39.87 32 P **P 13 22 36.4 +0.3**
baz=262,SNR=7.7
M15K Kasigluk River 39.96 42 P **P 13 22 37.5 +0.6**
baz=271
F17K Baldwin Pennin 40.01 33 P **P 13 22 37.9 +0.6**
baz=263
I17K Unalakleet 40.02 37 P **P 13 22 37.7 +0.3**
baz=267
J16K Anvik River 40.04 38 P **P 13 22 38.7 +1.1**
baz=268
MK31 Makanchi Array 40.10 297 P **P 13 22 38.1 -0.3**
MK31 lAmb lAmb 13 22 38.7
comp=Z,6.7nm,0.6s
MK31 Makanchi Array 40.10 297 *ce*P **P 13 22 38.1 -0.3**
MKAR Makanchi Array 40.10 297 P **P 13 22 38.1 -0.3**
comp=Z,5.5nm,0.5s,baz=84,slow=11,SNR=118
MKAR PcP **PcP 13 24 38.6 0.0**
comp=Z,0.6nm,0.8s,baz=47,slow=3.1,SNR=2.7
MKAR ScP **ScP 13 28 06.8 -0.8**
comp=Z,0.2nm,0.6s,baz=62,slow=4.1,SNR=2.5
comp=Z,5.5nm,0.5s
G17K Kiwalik Mounta 40.16 34 P **P 13 22 38.7 +0.1**
baz=265
B18K Kokolik River 40.25 28 P **P 13 22 38.7 -0.6**
baz=259
N15K Kwethluk River 40.27 42 P **P 13 22 41.5 +2.0**
N15K Kwethluk River 40.27 42 P **P 13 22 39.9 +0.4**
baz=272
MAKZ Makanchi 40.30 297 P **P 13 22 39.9 -0.1**
MAKZ lAmb lAmb 13 22 40.5
comp=Z,6.6nm,0.7s
MAKZ Makanchi 40.30 297 P **P 13 22 39.9 -0.1**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
C18K Utukok River 40.34 29 P **P 13 22 40.0 -0.1**
C18K lAmb lAmb 13 22 42.9
comp=Z,8.9nm,1.1s
C18K Utukok River 40.34 29 P **P 13 22 39.9 -0.1**
baz=261
E18K Tukpahlearik C 40.38 31 P **P 13 22 40.9 +0.6**
E18K Tukpahlearik C 40.38 31 P **P 13 22 40.5 +0.1**
baz=263
H17K Granite Mounta 40.43 35 P **P 13 22 40.8 +0.1**
baz=266
SDPT Sand Point 40.44 50 P **P 13 22 39.7 -1.2**
baz=277
O15K Ungalikthiuk R 40.44 44 P **P 13 22 41.3 +0.3**
baz=273
L16K Owhat River 40.53 40 P **P 13 22 42.9 +1.2**
baz=271
A19K Wainwright 40.66 27 P **P 13 22 42.8 +0.3**
baz=259
M16K Timber Creek 40.80 41 P **P 13 22 44.9 +1.0**
M16K lAmb lAmb 13 22 46.5
comp=Z,13nm,1.1s
M16K Timber Creek 40.80 41 P **P 13 22 44.3 +0.4**
baz=272
S14K Fog Glacier 40.84 48 P **P 13 22 44.8 +0.4**
baz=277
N16K Nishlik Lake 40.91 42 P **P 13 22 45.7 +0.9**
baz=273
C19K Lookout Ridge 40.99 29 P **P 13 22 45.5 +0.1**
C19K lAmb lAmb 13 22 48.3
comp=Z,5.1nm,0.9s
C19K Lookout Ridge 40.99 29 P **P 13 22 45.1 -0.3**
baz=262
CHNA Chernabura Isl 41.01 51 P **P 13 22 45.1 -0.6**
baz=278
G18K Tagagawik 41.01 34 P **P 13 22 45.9 +0.4**
G18K lAmb lAmb 13 22 49.4
comp=Z,7.4nm,0.8s
G18K Tagagawik 41.01 34 P **P 13 22 45.7 +0.1**
baz=266
CNBA Chernabura Isl 41.02 51 P **P 13 22 45.0 -0.7**
K17K Iditarod 41.08 38 P **P 13 22 46.2 +0.1**
baz=270
L17K Donlin 41.09 39 P **P 13 22 46.1 0.0**
baz=271
H18K Honhosa River 41.09 35 P **P 13 22 46.3 +0.1**
baz=268
O16K Kokwok River B 41.30 43 P **P 13 22 48.0 +0.1**
O16K lAmb lAmb 13 22 56.7
comp=Z,18nm,1.5s
O16K PcP **PcP 13 24 43.3 +1.1**
O16K Kokwok River B 41.30 43 P **P 13 22 47.8 -0.1**
baz=274
P16K Nushagak River 41.40 44 P **P 13 22 48.5 -0.2**
baz=275
F19K Shaleruckik Mo 41.43 32 P **P 13 22 49.1 +0.3**
F19K lAmb lAmb 13 22 52.6
comp=Z,7.2nm,0.9s
F19K Shaleruckik Mo 41.43 32 P **P 13 22 48.9 0.0**
baz=266
D19K Kuna River 41.44 30 P **P 13 22 49.1 0.0**
D19K lAmb lAmb 13 22 52.3
comp=Z,9.3nm,1.0s
D19K Kuna River 41.44 30 P **P 13 22 48.7 -0.3**
baz=264,SNR=6.7
CHGN Chignik 41.47 48 P **P 13 22 49.8 +0.4**
baz=278
KURK Kurchatov 41.52 303 *ce*P **P 13 22 50.0 +0.2**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 41.52 303 *e*P **P 13 22 50.0 +0.2**
M17K Holitna River 41.52 40 P **P 13 22 51.8 +2.1**
M17K Holitna River 41.52 40 P **P 13 22 51.1 +1.4**
baz=273
KURBB Kurchatov Arra 41.59 303 P **P 13 22 50.2 -0.3**
comp=Z,4.6nm,0.4s,baz=79,slow=8.9,SNR=26
KURBB PcP **PcP 13 24 43.2 -0.1**
comp=Z,0.6nm,0.3s,baz=89,slow=3.1,SNR=5.9
comp=Z,4.6nm,0.4s
CMAR Chiang Mai Arr 41.63 248 *ce*P **P 13 22 53.2 +2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 41.63 248 P **P 13 22 50.3 -0.8**
comp=Z,0.6nm,0.5s,baz=34,slow=7.2,SNR=6.3
CMAR ScP **ScP 13 28 13.7 -0.3**
comp=Z,0.5nm,0.4s,baz=20,slow=3.4,SNR=4.2
comp=Z,0.6nm,0.5s
G19K Purcell Mounta 41.67 33 P **P 13 22 51.0 +0.2**
G19K PcP **PcP 13 24 45.2 +2.0**
G19K Purcell Mounta 41.67 33 P **P 13 22 50.8 -0.1**
baz=268
E19K Redstone River 41.68 31 P **P 13 22 51.5 +0.5**
E19K Redstone River 41.68 31 P **P 13 22 51.0 +0.1**
baz=266,SNR=8.2
N17K Nushagak Hills 41.69 42 P **P 13 22 51.6 +0.5**
baz=274
GCSA Galena City Sc 41.72 35 P **P 13 22 51.5 +0.4**
baz=269
R16K Pilot Point 41.77 46 P **P 13 22 51.9 +0.2**
baz=277
J18K Innoko River 41.79 37 P **P 13 22 50.7 -1.2**
J18K lAmb lAmb 13 23 12.4
comp=Z,7.8nm,1.4s
J18K Innoko River 41.79 37 P **P 13 22 52.4 +0.5**
baz=271
O17K Koliganek Bris 41.79 43 P **P 13 22 53.4 +1.5**
baz=275
L18K Granite Mounta 41.84 39 P **P 13 22 53.2 +0.9**
L18K Granite Mounta 41.84 39 P **P 13 22 53.2 +0.9**
baz=272
H19K Roundabout Mou 41.91 34 P **P 13 22 53.4 +0.6**
H19K lAmb lAmb 13 22 57.3
comp=Z,10nm,0.8s
H19K Roundabout Mou 41.91 34 P **P 13 22 52.7 0.0**
baz=269
B20K Meade River 41.95 27 P **P 13 22 53.5 +0.5**
B20K Meade River 41.95 27 P **P 13 22 53.3 +0.2**
baz=263
D20K Etivluk River 42.01 29 P **P 13 22 53.0 -0.6**
baz=265
Q16K King Salmon 42.12 44 P **P 13 22 54.3 -0.3**
baz=276
TTA Tatalina 42.12 38 P **P 13 22 54.7 +0.1**
baz=272
E20K Nigu River 42.13 30 P **P 13 22 54.5 -0.1**
baz=266
F20K Avaraart Lake 42.25 32 P **P 13 22 55.8 +0.3**
F20K Avaraart Lake 42.25 32 P **P 13 22 56.0 +0.5**
baz=268
J19K Poorman 42.27 36 P **P 13 22 56.1 +0.4**
baz=271
M18K Stony River 42.29 40 P **P 13 22 55.9 0.0**
baz=274
A21K Barrow 42.30 26 P **P 13 22 55.1 -0.7**
baz=262
N18K Kilae Creek 42.32 41 P **P 13 22 57.8 +1.6**
N18K Kilae Creek 42.32 41 P **P 13 22 56.3 +0.1**
baz=275
R17K Ugashik Creek 42.39 46 P **P 13 22 56.3 -0.5**
baz=278
SVW2 Sparrevohn 42.43 41 P **P 13 22 56.3 -0.8**
SVW2 lAmb lAmb 13 23 00.0
comp=Z,9.7nm,1.1s
H20K Anotleneega Mo 42.56 34 P **P 13 22 58.2 +0.1**
baz=270
Q17K Contact Creek 42.57 45 P **P 13 22 58.2 -0.2**
baz=277
L19K White Mountain 42.70 39 P **P 13 22 59.8 +0.5**
baz=274
C21K Knifeblade Rid 42.70 29 P **P 13 22 59.3 +0.1**
baz=266,SNR=7.0
O18K Koktuh Hills 42.73 43 P **P 13 22 59.0 -0.6**
baz=276
I20K Naaghedeneel 42.74 35 P **P 13 22 59.9 +0.4**
baz=272
P18K Big Mountain, 42.77 43 P **P 13 23 00.9 +1.0**
P18K lAmb lAmb 13 23 30.2
comp=Z,17nm,1.4s
P18K Big Mountain, 42.77 43 P **P 13 22 59.5 -0.4**
baz=277
A22K Sinclair Lake 42.79 26 P **P 13 22 59.2 -0.6**
baz=264
B21K Ikpikpuk River 42.80 28 P **P 13 23 00.4 +0.5**
B21K Ikpikpuk River 42.80 28 P **P 13 22 59.7 -0.2**
baz=266,SNR=8.5
J20K Nowinta River 42.91 36 P **P 13 23 02.0 +1.1**
J20K lAmb lAmb 13 23 06.2
comp=Z,5.0nm,0.8s
J20K Nowinta River 42.91 36 P **P 13 23 01.4 +0.6**
baz=272
Q18K Katmai Hardscr 42.98 44 P **P 13 23 01.8 +0.1**
baz=278
K20K Telida 42.98 37 P **P 13 23 02.5 +1.0**
K20K lAmb lAmb 13 23 21.7
comp=Z,8.5nm,1.4s
K20K Telida 42.98 37 P **P 13 23 00.9 -0.6**
baz=273
N19K Bonanza Creek 42.99 41 P **P 13 23 01.0 -0.7**
baz=276
IMAR Indian Mountai 43.02 34 P **P 13 23 02.1 +0.3**
CHIR Chirikof Islan 43.09 49 P **P 13 23 02.3 -0.1**
baz=280
G21K Allakaket 43.12 33 P **P 13 23 03.2 +0.7**
G21K lAmb lAmb 13 23 07.0
comp=Z,9.0nm,0.8s
G21K Allakaket 43.12 33 P **P 13 23 02.8 +0.2**
baz=270
F21K Alatna River 43.13 32 P **P 13 23 02.8 +0.2**
F21K Alatna River 43.13 32 P **P 13 23 03.0 +0.4**
baz=270
L20K Farewell, AK 43.13 39 P **P 13 23 03.0 +0.3**
baz=274
B22K Teshekpuk Lake 43.25 27 P **P 13 23 03.8 +0.3**
B22K lAmb lAmb 13 23 07.1
comp=Z,12nm,1.2s
B22K Teshekpuk Lake 43.25 27 P P **13 23 03.2 -0.3**
baz=266
H21K Melozitna Rive 43.42 34 P **P 13 23 05.1 +0.1**
H21K Melozitna Rive 43.42 34 P **P 13 23 05.1 +0.1**
baz=272
R18K Karluk 43.43 46 P **P 13 23 04.9 -0.2**
baz=279
D22K Ayikyak River 43.45 29 P **P 13 23 05.8 +0.6**
D22K lAmb lAmb 13 23 12.2
comp=Z,16nm,1.5s
D22K Ayikyak River 43.45 29 P **P 13 23 05.0 -0.2**
baz=269
M20K Styx River 43.53 39 P **P 13 23 07.9 +1.9**
M20K lAmb lAmb 13 23 09.0
comp=Z,6.3nm,0.8s
M20K Styx River 43.53 39 P **P 13 23 06.2 +0.2**
baz=276
Q19K Cape Douglas, 43.65 44 P **P 13 23 07.7 +0.9**
Q19K Cape Douglas, 43.65 44 P **P 13 23 06.4 -0.5**
baz=278
CHUM Lake Minchumin 43.73 37 P **P 13 23 06.4 -1.0**
baz=274
SII Sitkinak Islan 43.75 47 P **P 13 23 08.1 +0.4**
baz=280
E22K Anaktuvuk Pass 43.76 30 P **P 13 23 08.3 +0.7**
baz=270,SNR=12
CAST Castle Rocks 43.87 37 lAmb lAmb 13 23 11.0
comp=Z,5.4nm,0.7s
CAST Castle Rocks 43.87 37 P **P 13 23 09.2 +0.6**
baz=275,SNR=7.1
PPLA Purkeypile 43.87 38 P **P 13 23 08.6 -0.2**
baz=276
RSO Redoubt South 43.88 41 P **P 13 23 10.7 +1.7**
G22K Bettles 43.90 32 P **P 13 23 09.3 +0.6**
baz=272
H22K Ishtalitna Cre 44.00 34 P **P 13 23 09.9 +0.3**
baz=273
N20K Mount Spurr 44.05 40 P **P 13 23 11.3 +1.2**
baz=277,SNR=5.2
OHAK Old Harbor 44.11 46 P **P 13 23 10.9 +0.4**
OHAK lAmb lAmb 13 23 25.1
comp=Z,11nm,1.2s
OHAK Old Harbor 44.11 46 P **P 13 23 10.4 -0.1**
baz=280
D23K Nanushuk River 44.17 29 P **P 13 23 11.3 +0.4**
baz=271
C23K Itkillik River 44.20 28 lAmb lAmb 13 23 13.9
comp=Z,3.9nm,0.7s
C23K Itkillik River 44.20 28 P **P 13 23 10.6 -0.4**
baz=270
SKT Skwentna 44.27 39 P **P 13 23 12.2 +0.4**
SKT Skwentna 44.27 39 P **P 13 23 12.5 +0.7**
baz=277
BPAW Bear Paw Mtn. 44.30 36 P **P 13 23 11.9 -0.1**
baz=275
MLY Manley 44.32 35 P **P 13 23 12.5 +0.4**
baz=275
KTH Kantishna Hill 44.38 37 P **P 13 23 14.3 +1.6**
KDAK Kodiak Island 44.38 45 P **P 13 23 13.1 +0.4**
KDAK Kodiak Island 44.38 45 P **P 13 23 12.8 +0.1**
baz=280
KDAK Kodiak Island 44.38 45 P **P 13 23 13.1 +0.4**
KDAK pmax pmax
comp=Z,40nm,1.4s
COLD Coldfoot 44.40 32 P **P 13 23 13.1 +0.4**
baz=273
G23K Bananza Creek 44.50 32 P **P 13 23 13.7 +0.1**
G23K Bananza Creek 44.50 32 P **P 13 23 14.0 +0.4**
baz=274
TOLK Toolik Lake Re 44.58 30 P **P 13 23 14.5 +0.3**
TOLK Toolik Lake Re 44.58 30 P **P 13 23 14.3 +0.1**
baz=272
E23K Chandalar 44.59 30 P **P 13 23 14.9 +0.6**
baz=272
TRF Thorofare Moun 44.67 37 P **P 13 23 16.4 +1.3**
TRF lAmb lAmb 13 23 59.4
comp=Z,8.3nm,1.3s
TRF Thorofare Moun 44.67 37 P **P 13 23 15.9 +0.8**
baz=277
SUA Susitna One 44.71 40 P **P 13 23 16.1 +0.7**
SUA lAmb lAmb 13 23 16.9
comp=Z,5.9nm,0.5s
SUA Susitna One 44.71 40 P **P 13 23 16.1 +0.7**
baz=278
CNPM China Poot 44.77 43 P **P 13 23 15.8 0.0**
TARG Taragay, Kyrgy 44.78 291 P **P 13 23 15.7 -0.9**
TARG lAmb lAmb 13 23 18.2
comp=Z,7.1nm,0.8s
TARG Taragay, Kyrgy 44.78 291 P **P 13 23 15.7 -0.9**
TARG pmax pmax
comp=Z,7.0nm,0.8s
CUT Chulitna 44.81 39 P **P 13 23 16.7 +0.7**
CUT Chulitna 44.81 39 P **P 13 23 17.5 +1.5**
baz=278
D24K Happy Valley 44.84 29 P **P 13 23 16.2 +0.1**
D24K lAmb lAmb 13 23 19.9
comp=Z,6.5nm,0.5s
D24K Happy Valley 44.84 29 P **P 13 23 16.5 +0.4**
baz=272
C24K Franklin Bluff 44.86 28 P **P 13 23 16.2 -0.1**
baz=272,SNR=7.4
I23K Minto, Yukon-K 44.90 35 P **P 13 23 17.8 +1.2**
I23K lAmb lAmb 13 23 21.9
comp=Z,3.8nm,0.6s
I23K Minto, Yukon-K 44.90 35 P **P 13 23 17.9 +1.3**
baz=276
M22K Willow 44.97 39 P **P 13 23 16.8 -0.4**
baz=278
BRSE Bradley Lake S 44.98 42 P **P 13 23 17.1 -0.3**
baz=280
NEA2 Nenana 45.08 35 lAmb lAmb 13 23 20.4
comp=Z,9.2nm,1.0s
NEA2 Nenana 45.08 35 P **P 13 23 18.6 +0.6**
baz=276,SNR=9.1
MCK McKinley 45.24 37 P **P 13 23 19.3 -0.1**
baz=277,SNR=5.7
RC01 Rabbit Creek A 45.25 40 P **P 13 23 19.2 -0.3**
RC01 lAmb lAmb 13 23 21.3
comp=Z,5.9nm,0.8s
RC01 Rabbit Creek A 45.25 40 P **P 13 23 19.1 -0.4**
baz=279
F24K Squaw Lake 45.28 31 P **P 13 23 19.8 +0.2**
baz=275,SNR=5.7
O22K Cooper Landing 45.36 41 P **P 13 23 20.7 +0.4**
baz=280
MDM Murphy Dome 45.39 35 P **P 13 23 21.3 +0.7**
MDM lAmb lAmb 13 23 22.7
comp=Z,6.5nm,0.8s
H24K Noodor Dome 45.44 34 P **P 13 23 20.8 -0.1**
H24K Noodor Dome 45.44 34 P **P 13 23 20.8 -0.1**
baz=276
PMR Palmer 45.46 40 P **P 13 23 20.9 -0.1**
baz=279
G24K Hadweenzic Riv 45.51 32 P **P 13 23 22.5 +1.1**
G24K Hadweenzic Riv 45.51 32 P **P 13 23 21.9 +0.5**
baz=276
WAT1 Susitna Watana 45.53 38 P **P 13 23 22.0 +0.3**
baz=279
SEW Seward 45.56 42 P **P 13 23 22.6 +0.7**
baz=281
COLA College 45.56 35 P **P 13 23 23.3 +1.5**
COLA College 45.56 35 P **P 13 23 23.1 +1.3**
baz=277
COLA College 45.56 35 P **P 13 23 23.3 +1.5**
COLA pmax pmax
comp=Z,16nm,0.8s
D25K Kavik River 45.70 29 P **P 13 23 23.0 +0.1**
baz=274
POKR Poker Plat Res 45.71 34 P **P 13 23 23.2 +0.2**
baz=277
SML Sawmill 45.80 39 P **P 13 23 23.8 0.0**
SML lAmb lAmb 13 23 26.9
comp=Z,14nm,1.1s
SML Sawmill 45.80 39 P **P 13 23 24.2 +0.3**
baz=280
KNK Knik Glacier 45.81 40 P **P 13 23 24.0 +0.1**
baz=280
BVAR Borovoye Array 45.90 308 P **P 13 23 25.1 +0.4**
comp=Z,5.8nm,0.3s,baz=78,slow=9.5,SNR=43
BVAR PcP **PcP 13 24 57.8 -0.2**
comp=Z,1.5nm,0.5s,baz=87,slow=2.6,SNR=5.8
comp=Z,5.8nm,0.3s
WAT6 Susitna Watana 45.94 38 P **P 13 23 25.4 +0.3**
baz=280
BRVK Borovoye 45.95 308 P **P 13 23 24.6 -0.5**
BRVK lAmb lAmb 13 23 28.6
comp=Z,4.1nm,0.6s

BRVK Borovoye 45.95 308 *i* P **P** 13 23 25.2 +0.1
BRVK pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 45.95 308 *e*P **P** 13 23 25.2 +0.1
IL31 45.98 35 IAmb IAmb 13 23 26.6
comp=Z,8.0nm,0.8s
ILAR Eielson Array 45.98 35 P **P** 13 23 25.9 +0.7
comp=Z,5.7nm,0.8s,baz=283,slow=6.7,SNR=50
comp=Z,5.7nm,0.8s
HDA Harding Lake 46.01 35 P **P** 13 23 25.8 +0.4
HDA Harding Lake 46.01 35 P **P** 13 23 26.0 +0.7
baz=278,SNR=5.4
DHY Denali Highway 46.03 37 P **P** 13 23 26.3 +0.6
DHY Denali Highway 46.03 37 P **P** 13 23 25.7 0.0
baz=279,SNR=6.9
G25K Bearman Lake 46.05 32 P **P** 13 23 25.9 +0.3
baz=277
M23K Glacier View 46.09 39 P **P** 13 23 26.1 +0.1
baz=280
E25K Arctic Village 46.10 30 P **P** 13 23 26.2 +0.1
baz=276
F25K Christian Rive 46.13 31 P **P** 13 23 26.4 +0.1
baz=276
C26K Camden Bay 46.16 28 P **P** 13 23 26.6 +0.2
baz=275
SCM Sheep Creek Mo 46.26 39 P **P** 13 23 28.7 +1.2
SCM Sheep Creek Mo 46.26 39 P **P** 13 23 29.0 +1.5
baz=281
SCM Sheep Creek Mo 46.26 39 P **P** 13 23 28.7 +1.2
SCM pmax pmax
comp=Z,23nm,1.4s
FYU Fort Yukon 46.42 32 IAmb IAmb 13 23 30.7
comp=Z,6.6nm,0.7s
PRP Porcupine Dome 46.45 34 P **P** 13 23 30.2 +1.3
baz=279,SNR=19
BMAR Burnt Mountain 46.55 31 P **P** 13 23 30.3 +0.7
P23K Montague Islan 46.59 41 P **P** 13 23 31.4 +1.5
baz=282
K24K Donnelly Dome 46.61 36 P **P** 13 23 30.9 +0.8
baz=280,SNR=5.1
J25K Salcha River, 46.65 35 P **P** 13 23 30.0 -0.4
baz=280
F26K Sheenjek River 46.69 31 P **P** 13 23 31.2 +0.6
baz=278
AAK Ala-Archa 46.70 293 *i* P **P** 13 23 31.2 -0.1
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 46.70 293 *e*P **P** 13 23 31.2 -0.1
M24K Tolsona, Glenn 46.75 38 P **P** 13 23 32.2 +1.0
M24K Tolsona, Glenn 46.75 38 P **P** 13 23 32.8 +1.6
baz=281
G26K Porcupine Rive 46.93 32 P **P** 13 23 33.5 +1.0
baz=279
KLU Klutina 46.99 39 P **P** 13 23 33.7 +0.6
KLU IAmb IAmb 13 23 35.5
comp=Z,16nm,1.2s
KLU Klutina 46.99 39 P **P** 13 23 34.3 +1.2
baz=282
RIDG Independent Ri 47.03 36 P **P** 13 23 33.3 -0.1
RIDG IAmb IAmb 13 23 34.5
comp=Z,5.0nm,0.6s
RIDG Independent Ri 47.03 36 P **P** 13 23 33.8 +0.4
baz=281
HARP HAARP 47.16 38 P **P** 13 23 35.8 +1.5
baz=282,SNR=8.5
EYAK Cordova Ski Ar 47.27 41 P **P** 13 23 36.8 +1.6
baz=283
SCRK Sand Creek 47.36 36 P **P** 13 23 36.4 +0.4
SCRK Sand Creek 47.36 36 P **P** 13 23 36.6 +0.7
baz=281,SNR=30
J26L Joseph Creek 47.44 35 P **P** 13 23 36.9 +0.3
baz=281
I26K Coal Creek Min 47.46 34 P **P** 13 23 36.8 +0.3
baz=281
E27K Coleen River 47.56 30 P **P** 13 23 38.1 +0.7
baz=280
N25K Chitina, Valde 47.58 39 P **P** 13 23 37.8 +0.1
baz=283
D27M Malcolm River 47.62 28 P **P** 13 23 38.0 +0.2
baz=279
MENT Mentasta 47.69 37 P **P** 13 23 39.2 +0.8
BMRM Bremner River 47.73 40 P **P** 13 23 40.1 +1.4
baz=284
G27K Doyon Strip 47.78 32 P **P** 13 23 40.2 +1.1
baz=281
RAGM Ragged Mountai 47.83 41 P **P** 13 23 41.3 +1.8
L26K Log Cabin Wild 47.84 37 P **P** 13 23 41.0 +1.4
baz=283
H27K Steamboat Moun 47.94 32 P **P** 13 23 41.8 +1.5
baz=281
I27K Kandik River 48.03 33 P **P** 13 23 42.4 +1.4
baz=282
M26K Nabesna, AK 48.14 38 IAmb IAmb 13 23 45.3
comp=Z,8.7nm,1.2s
M26K Nabesna, AK 48.14 38 P **P** 13 23 42.7 +0.8
baz=284
K27K Chicken 48.17 35 IAmb IAmb 13 23 44.4
comp=Z,8.9nm,0.7s
K27K Chicken 48.17 35 P **P** 13 23 42.6 +0.6
baz=283
VRDI Verde Repeater 48.21 39 P **P** 13 23 43.5 +0.9
VRDI IAmb IAmb 13 23 45.0
comp=Z,10nm,1.2s
E28M Babbage River 48.24 29 IAmb IAmb 13 23 44.6
comp=Z,6.2nm,0.7s
E28M Babbage River 48.24 29 P **P** 13 23 44.0 +1.4
baz=281
ARSB Arslanbob 48.27 292 P **P** 13 23 43.7 +0.4
ARSB Arslanbob 48.27 292 P **P** 13 23 43.7 +0.4
ARSB pmax pmax
comp=Z,3.0nm,1.2s
F28M Old Crow 48.31 30 PcP **PcP** 13 25 06.8 +0.4
F28M Old Crow 48.31 30 P **P** 13 23 44.2 +1.1
baz=282
MCARA McCarthy VSAT 48.37 39 P **P** 13 23 44.5 +0.9
MCARA IAmb IAmb 13 23 46.3
comp=Z,12nm,1.0s
MCARA McCarthy VSAT 48.37 39 P **P** 13 23 44.0 +0.4
baz=284
D28M Stokes Point 48.39 28 P **P** 13 23 44.4 +0.8
baz=281
EGAK Eagle 48.40 34 IAmb IAmb 13 23 46.1
comp=Z,11nm,1.1s
EGAK Eagle 48.40 34 P **P** 13 23 44.6 +0.9
baz=283,SNR=9.4
CRQE Cirque 48.50 40 P **P** 13 23 46.6 +1.8
baz=285
L27K Beaver Creek, 48.51 37 IAmb IAmb 13 23 47.5
comp=Z,6.9nm,0.9s
L27K Beaver Creek, 48.51 37 P **P** 13 23 45.6 +1.0
baz=284
BCAR Beaver Creek A 48.52 37 PcP **PcP** 13 25 09.0 +1.7
M27K Edge Creek, AK 48.65 38 IAmb IAmb 13 23 48.6
comp=Z,7.4nm,0.9s
M27K Edge Creek, AK 48.65 38 P **P** 13 23 47.0 +1.1
baz=284
I28M Miner Creek 48.75 33 P **P** 13 23 47.9 +1.3
baz=283,SNR=17
E29M Blow River 48.88 29 IAmb IAmb 13 23 49.9
comp=Z,5.9nm,0.7s
E29M Blow River 48.88 29 P **P** 13 23 48.4 +1.0
baz=282,SNR=9.9
BVCY Beaver Creek 49.10 37 P **P** 13 23 50.1 +1.0
baz=285
G29M Pine Creek 49.16 31 P **P** 13 23 51.2 +1.6
G29M Pine Creek 49.16 31 P **P** 13 23 51.4 +1.8
baz=284
H29M Whitestone 49.20 32 IAmb IAmb 13 23 52.5
comp=Z,5.1nm,0.7s
H29M Whitestone 49.20 32 P **P** 13 23 51.0 +1.2
baz=284
KKAR Karatay Array 49.21 296 P **P** 13 23 50.6 +0.3
KKAR Karatay Array 49.21 296 P **P** 13 23 50.6 +0.3
CTG Chitna Glacier 49.27 39 P **P** 13 23 52.0 +1.4
baz=286,SNR=5.2
CTGM Chitina Glacie 49.27 39 IAmb IAmb 13 24 11.4
comp=Z,19nm,1.5s
DAWY Dawson 49.31 35 P **P** 13 23 51.7 +0.9
DAWY Dawson 49.31 35 P **P** 13 23 51.9 +1.1
baz=285
I29M Ogilvie Camp, 49.43 33 P **P** 13 23 51.7 +0.1
baz=285
YUK3 Moose Creek 49.45 38 P **P** 13 23 53.6 +1.5
baz=286
EPYK Eagle Plains 49.80 32 P **P** 13 23 56.1 +1.7
baz=285,SNR=9.0
F30M Barrier River 49.83 30 P **P** 13 23 56.5 +1.9
baz=285
G30M tAoh Zraii Nji 49.83 31 IAmb IAmb 13 23 58.9
comp=Z,6.1nm,0.8s
G30M tAoh Zraii Nji 49.83 31 P **P** 13 23 56.3 +1.6
baz=285
L29M L29M 50.12 36 IAmb IAmb 13 24 00.4
comp=Z,9.2nm,1.0s
L29M L29M 50.12 36 P **P** 13 23 59.6 +2.8
baz=287,SNR=6.0
M29M Somme Creek 50.16 37 P **P** 13 23 59.5 +2.3
baz=287
K29M Barlow Dome 50.17 35 IAmb IAmb 13 23 60.0
comp=Z,7.8nm,0.9s
K29M Barlow Dome 50.17 35 P **P** 13 23 58.8 +1.5
baz=287
I30M Mount Dempster 50.25 33 IAmb IAmb 13 24 00.4
comp=Z,7.1nm,0.9s
I30M Mount Dempster 50.25 33 P **P** 13 23 59.6 +1.7
baz=286,SNR=11
YUK4 Talbot Arm 50.41 38 P **P** 13 24 00.6 +1.4
baz=288
J30M Hart River 50.45 34 P **P** 13 24 00.8 +1.3
J30M IAmb IAmb 13 24 33.1
comp=Z,7.9nm,1.4s
J30M Hart River 50.45 34 P **P** 13 24 01.0 +1.5
baz=287
INK Inuvik 50.47 29 IAmb IAmb 13 24 01.1
comp=Z,11nm,1.1s
INK Inuvik 50.47 29 P **P** 13 24 00.5 +1.2
baz=286,SNR=10
G31M Satah River 50.59 31 IAmb IAmb 13 24 01.9
comp=Z,5.4nm,0.7s
G31M Satah River 50.59 31 P **P** 13 24 01.2 +1.0
baz=287,SNR=5.0
F31M Tsiigehtchic 50.64 30 IAmb IAmb 13 24 02.3
comp=Z,4.9nm,0.8s
F31M Tsiigehtchic 50.64 30 P **P** 13 24 01.6 +1.0
baz=287
YUK6 Outpost Mounta 50.66 39 P **P** 13 24 02.9 +1.7
baz=288
O29M Mount Kennedy 50.77 40 P **P** 13 24 03.5 +1.7
baz=289
M30M Minto, Yukon 50.86 36 P **P** 13 24 02.7 +0.3
M30M IAmb IAmb 13 24 07.0
comp=Z,8.0nm,1.4s
M30M Minto, Yukon 50.86 36 P **P** 13 24 04.4 +2.0
baz=288
H31M Peel River 50.89 32 IAmb IAmb 13 24 04.8
comp=Z,14nm,1.2s
H31M Peel River 50.89 32 P **P** 13 24 03.8 +1.3
baz=288
MAYO Mayo, Yukon 50.93 35 P **P** 13 24 04.3 +1.4
baz=288
N30M Aishikik Lake 51.08 38 P **P** 13 24 05.3 +1.2
baz=289
HYT Haines Junctio 51.10 39 IAmb IAmb 13 24 07.6
comp=Z,8.8nm,1.0s
HYT Haines Junctio 51.10 39 P **P** 13 24 06.4 +2.1
baz=289
ARU Arti 51.38 315 *c i* P **P** 13 24 05.9 -0.3
ARU 13 26 02.9
ARU S **S** 13 31 09.0 -0.1
ARU SS **SS** 13 34 47.6 +0.6
ARU pmax pmax
comp=Z,22nm,4.5s
ARU Arti 51.38 315 *e*P **P** 13 24 05.9 -0.3
P29M Windy Craggy 51.38 40 P **P** 13 24 08.6 +2.3
baz=290
P30M Million Dollar 51.59 39 P **P** 13 24 09.6 +1.7
baz=290
N31M Braeburn, Yuko 51.67 38 P **P** 13 24 10.1 +1.7
N31M IAmb IAmb 13 24 11.5
comp=Z,5.9nm,0.8s
N31M Braeburn, Yuko 51.67 38 P **P** 13 24 10.2 +1.8
baz=290
O30N Mendenhall 51.77 38 P **P** 13 24 10.4 +1.3
baz=290
A36M Sachs Harbour 51.99 23 P **P** 13 24 11.4 +0.8
baz=291,SNR=12
M31M Drury Creek, Y 52.04 36 P **P** 13 24 11.5 +0.4
M31M Drury Creek, Y 52.04 36 P **P** 13 24 12.5 +1.4
baz=290
WHY Whitehorse 52.37 38 P **P** 13 24 14.8 +1.1
WHY Whitehorse 52.37 38 P **P** 13 24 15.5 +1.8
baz=291
FARO Faro, Yukon 52.49 36 P **P** 13 24 15.6 +1.1
FARO Faro, Yukon 52.49 36 P **P** 13 24 16.4 +1.9
baz=291
N32M Quiet Lake 53.00 37 P **P** 13 24 17.3 -0.9
N32M IAmb IAmb 13 24 27.7
comp=Z,5.7nm,1.1s
N32M Quiet Lake 53.00 37 P **P** 13 24 19.5 +1.3
baz=292
C36M Paulatuk 53.34 26 P **P** 13 24 20.9 +0.4
baz=293
AB31 Akulak array 53.37 307 P **P** 13 24 21.2 +0.2
R32K Eaglecrest 53.43 41 P **P** 13 24 21.4 +0.1
P33M Teslin, Yukon 53.48 38 P **P** 13 24 22.9 +1.1
P33M IAmb IAmb 13 24 24.3
comp=Z,3.5nm,0.8s
P33M Teslin, Yukon 53.48 38 P **P** 13 24 22.6 +0.8
baz=293
SIT Sitka 53.51 43 P **P** 13 24 23.5 +1.7
baz=293
S32K Killisnoo 53.72 42 P **P** 13 24 24.8 +1.4
baz=294
AKTO Aktyubinsk 54.01 309 P **P** 13 24 25.9 +0.3
Q32M Nakina River 54.24 40 P **P** 13 24 29.4 +2.0
baz=294
R33M Jennings River 54.67 39 P **P** 13 24 32.5 +2.1
baz=295
KIRV Kirov 55.08 320 *c e*P **P** 13 24 34.1 +1.0
S34M Telegraph Cree 55.22 41 P **P** 13 24 35.8 +1.6
S34M IAmb IAmb 13 24 45.2
comp=Z,7.1nm,1.2s
S34M Telegraph Cree 55.22 41 P **P** 13 24 35.6 +1.4
baz=296
WRAK Wrangell Islan 55.27 43 P **P** 13 24 36.4 +1.9
baz=296
CRAG Craig 55.29 44 P **P** 13 24 35.5 +0.8
baz=296
WTLY Watson Lake, Y 55.36 37 P **P** 13 24 36.4 +1.2
baz=296
DLBC Dease Lake 55.52 40 P **P** 13 24 38.0 +1.6
baz=296
T35M Bob Quinn 56.06 41 P **P** 13 24 41.9 +1.7
baz=297
V35K Ketchikan 56.12 43 P **P** 13 24 43.1 +2.5
baz=297
WRGLY Wrigley 56.22 33 P **P** 13 24 42.3 +1.1
baz=298
KOTAN Kotaneelee Air 57.46 36 P **P** 13 24 50.8 +0.9
baz=299
ARCES ARCESS Array B 58.47 338 P **P** 13 24 56.6 -0.2
comp=Z,1.3nm,0.6s,baz=53,slow=7.4,SNR=10.0
comp=Z,1.3nm,0.6s
YKA Yellowknife Ar 60.08 31 P **P** 13 25 08.4 +0.5
comp=Z,1.0nm,0.6s,baz=303,slow=6.6,SNR=24
YKA PcP **PcP** 13 25 52.4 +0.9
comp=Z,0.7nm,0.8s,baz=307,slow=4.5,SNR=8.5
comp=Z,1.0nm,0.6s
WB0 Warramunga Arr 61.96 185 P **P** 13 25 20.8 -0.2
WB0 IAmb IAmb 13 25 22.2
comp=Z,5.1nm,1.1s
WRAB Tennant Creek 62.12 185 P **P** 13 25 21.4 -0.7
WRAB IAmb IAmb 13 25 22.6
comp=Z,2.8nm,0.8s
WRAB Tennant Creek 62.12 185 P **P** 13 25 21.4 -0.7
WRAB pmax pmax
comp=Z,3.0nm,0.8s
WB2 Warramunga Arr 62.13 185 P **P** 13 25 22.1 -0.1
WB2 IAmb IAmb 13 25 22.7
comp=Z,2.7nm,0.7s
WRA Warramunga Ar 62.13 185 P **P** 13 25 21.3 -0.9
WRA Warramunga Ar 62.13 185 P **P** 13 25 21.9 -0.3
comp=Z,2.0nm,0.6s,baz=1.4,slow=7.0,SNR=30
comp=Z,2.0nm,0.6s
WR0 Warramunga Arr 62.14 185 P **P** 13 25 22.1 -0.1
WR0 IAmb IAmb 13 25 23.1
comp=Z,7.3nm,1.4s
FIA1 FINESS Array S 63.38 330 P **P** 13 25 29.3 -0.7
FINES FINESS Array B 63.39 330 P **P** 13 25 29.7 -0.2
comp=Z,2.2nm,0.3s,baz=33,slow=8.6,SNR=37
comp=Z,2.2nm,0.3s
VSU Vasula 65.08 328 *i* P **P** 13 25 39.3 -1.7
VSU pmax pmax
comp=Z,96nm,3.4s
SUMG Summit 65.38 359 P **P** 13 25 43.4 +0.2
SUMG Summit 65.38 359 P **P** 13 25 43.4 +0.2
SUMG pmax pmax
comp=Z,11nm,0.6s
SUMG Summit 65.38 359 *i* P **P** 13 25 43.0 -0.2
AS31 Alice Springs 65.86 185 P **P** 13 25 46.6 +0.2
ASAR Alice Springs 65.86 185 P **P** 13 25 46.2 -0.2
ASAR Alice Springs 65.86 185 P **P** 13 25 46.8 +0.4
comp=Z,1.7nm,0.7s,baz=359,slow=4.4,SNR=34
comp=Z,1.7nm,0.7s
LON Longmire 65.89 48 P **P** 13 25 46.4 -0.1
LON Longmire 65.89 48 P **P** 13 25 46.4 -0.1
LON pmax pmax
comp=Z,12nm,1.5s
KIV Kislovodsk 66.27 308 *c e*P **P** 13 25 50.4 +1.4
KIV pmax pmax
comp=Z,19nm,2.5s
DBO Dodson Butte 67.26 52 P **P** 13 25 55.8 +0.6
L04D Klamath Falls 68.36 52 P **P** 13 26 02.8 +0.6
NC405 NORSAR Array S 68.47 336 P **P** 13 26 01.9 -0.4
HFS Hagfors 68.60 334 P **P** 13 26 02.6 -0.6
comp=Z,1.3nm,0.4s,baz=32,slow=5.8,SNR=12
comp=Z,1.3nm,0.4s
NC204 NORSAR Array S 68.63 336 P **P** 13 26 03.0 -0.5
NB2 NORSAR Subarra 68.68 336 P **P** 13 26 03.6 -0.1
comp=Z,1.1nm,0.5s,baz=37,slow=6.5
NOA NORSAR Array B 68.68 336 P **P** 13 26 03.0 -0.7
NOA NORSAR Array B 68.68 336 P **P** 13 26 03.0 -0.7
comp=Z,1.2nm,0.6s,baz=51,slow=7.2,SNR=6.8
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 69.14 320 P **P** 13 26 05.8 -0.9
comp=Z,0.9nm,0.4s,baz=44,slow=6.0,SNR=8.1
comp=Z,0.9nm,0.4s
BMO Blue Mountains 69.54 48 P **P** 13 26 09.6 +0.2
BMO Blue Mountains 69.54 48 P **P** 13 26 09.6 +0.2
BMO pmax pmax
comp=Z,3.0nm,1.5s
MSO Missoula 70.06 44 P **P** 13 26 13.2 +0.7
baz=311
PLID Pearl Lake 70.10 47 P **P** 13 26 12.7 -0.3
FFC Flin Flon 70.13 33 P **P** 13 26 13.2 +0.6
FFC IAmb IAmb 13 26 14.1
comp=Z,6.0nm,0.8s
FFC Flin Flon 70.13 33 P **P** 13 26 13.2 +0.6
FFC pmax pmax
comp=Z,6.0nm,0.9s
EGMT Eagleton 71.37 41 P **P** 13 26 21.0 +0.6
baz=313
HLID Hailey 71.96 47 P **P** 13 26 24.9 +0.8
baz=312
BOZ Bozeman (W) 72.08 44 P **P** 13 26 26.0 +1.3
BOZ IAmb IAmb 13 26 26.3
comp=Z,3.1nm,0.7s
BOZ Bozeman (W) 72.08 44 P **P** 13 26 25.9 +1.2
baz=313
BOZ Bozeman (W) 72.08 44 P **P** 13 26 26.0 +1.3
BOZ pmax pmax
comp=Z,3.0nm,0.7s
YERR Yerington 72.20 53 P **P** 13 26 26.5 +0.9
YERR IAmb IAmb 13 26 27.4
comp=Z,2.9nm,0.5s
YHL Hebgen Lake 72.81 45 P **P** 13 26 29.4 +0.1
YHL IAmb IAmb 13 26 31.9
comp=Z,2.9nm,0.8s
KVN Kaiserville 72.84 53 P **P** 13 26 29.8 +0.5
KVN IAmb IAmb 13 26 31.5
comp=Z,3.2nm,0.6s
KVN Kaiserville 72.84 53 P **P** 13 26 29.8 +0.5
KVN pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 73.12 53 P **P** 13 26 31.5 +0.5
comp=Z,1.0nm,0.6s,baz=302,slow=5.5,SNR=10
comp=Z,1.0nm,0.6s
NV11 Mina Array Sit 73.21 53 P **P** 13 26 31.1 -0.4
H17A Grant Village 73.44 45 P **P** 13 26 35.1 +2.2
baz=314
PAGB Antelope Grade 73.70 56 P **P** 13 26 34.3 +0.1
PAGB IAmb IAmb 13 27 05.9
comp=Z,2.9nm,0.8s
DGMT Dagmar 73.70 38 P **P** 13 26 33.9 -0.1
baz=316
MOOW Moose Ponds 73.80 45 P **P** 13 26 35.4 +0.5
TPH Tonopah 74.00 53 P **P** 13 26 36.7 +0.6
TPH Tonopah 74.00 53 P **P** 13 26 36.7 +0.6
TPH pmax pmax
comp=Z,7.0nm,0.7s
LAO LASA Array 74.02 41 P **P** 13 26 36.2 +0.3
baz=316
TIN Tinemaha, Big 74.07 54 P **P** 13 26 38.0 +1.6
baz=311
CWC Cottonwood Cre 74.56 55 P **P** 13 26 40.2 +0.8
baz=312
GRAC Grapevine Rang 74.62 54 P **P** 13 26 41.0 +1.4
baz=312
Q12A Willow Creek R 74.75 51 P **P** 13 26 41.1 +0.7
Q12A IAmb IAmb 13 26 42.6
comp=Z,4.6nm,0.6s
R11B Troy Canyon, C 74.78 52 P **P** 13 26 41.8 +1.2
baz=312
ARVC Arvin 74.97 56 P **P** 13 26 42.0 +0.5
baz=312
BW06 Boulder Array 75.11 45 P **P** 13 26 43.0 +0.5
BW06 IAmb IAmb 13 26 43.9
comp=Z,3.4nm,0.7s
BW06 Boulder Array 75.11 45 P **P** 13 26 42.7 +0.3
baz=314
PD31 Pinedale Array 75.11 45 P **P** 13 26 43.3 +0.8
PD31 IAmb IAmb 13 26 43.9
comp=Z,3.0nm,0.7s
PDAR Pinedale Array 75.11 45 P **P** 13 26 43.2 +0.8
comp=Z,3.6nm,0.6s,baz=250,slow=0.4,SNR=52
comp=Z,3.6nm,0.6s
DUG Dugway, Tooele 75.11 49 P **P** 13 26 42.6 +0.2
baz=313
MPMC Manual Prospec 75.17 55 P **P** 13 26 43.6 +0.7
baz=312
FURC Furnace Creek, 75.28 54 P **P** 13 26 44.4 +1.2
baz=312
TPNV Topopah Spring 75.32 53 P **P** 13 26 44.6 +0.9
TPNV IAmb IAmb 13 26 45.9
comp=Z,3.1nm,0.8s
TPNV Topopah Spring 75.32 53 P **P** 13 26 44.5 +0.9
baz=312
TPNV Topopah Spring 75.32 53 P **P** 13 26 44.6 +0.9
TPNV pmax pmax
comp=Z,3.0nm,0.8s
GWY Greenwater Val 75.58 54 P **P** 13 26 45.5 +0.3
GWY IAmb IAmb 13 27 07.6
comp=Z,7.3nm,1.4s
EDW2 Edwards Air Fo 75.64 56 P **P** 13 26 45.9 +0.5
baz=312
ULM Lac du Bonnet 75.96 33 P **P** 13 26 47.0 +0.2
ULM Lac du Bonnet 75.96 33 P **P** 13 26 47.0 +0.2
ULM pmax pmax
comp=Z,6.0nm,0.8s
ULM Lac du Bonnet 75.96 33 P **P** 13 26 47.1 +0.2
comp=Z,3.3nm,0.4s,baz=326,slow=6.4,SNR=11
comp=Z,3.3nm,0.4s
GSC Goldstone, Bar 76.09 55 P **P** 13 26 48.6 +0.6
baz=312
BFSC Mount Baldy Ra 76.28 56 P **P** 13 26 50.5 +1.4
baz=312
TUQ Turquoise Moun 76.53 54 P **P** 13 26 51.2 +0.7
baz=313
SCI2 San Clemente I 76.56 58 P **P** 13 26 51.3 +0.7
baz=312
RDMU Red Mountain 76.64 47 P **P** 13 26 50.8 -0.3
RDMU IAmb IAmb 13 26 53.2
comp=Z,4.9nm,0.7s
HEC Hector,Ludlow 76.69 55 P **P** 13 26 51.7 +0.4
baz=313
BBRC Big Bear Solar 76.72 56 P **P** 13 26 52.2 +0.5
baz=312
K22A Casper 76.76 44 P **P** 13 26 51.8 0.0
baz=316
RSSD Black Hills 76.94 41 P **P** 13 26 52.3 -0.5
baz=317
GMRC Granite Mounta 77.13 55 P **P** 13 26 54.9 +1.0
baz=313
GERES GERESS Array B 77.37 327 P **P** 13 26 54.9 0.0
comp=Z,0.3nm,0.4s,baz=30,slow=8.0,SNR=2.2
comp=Z,0.3nm,0.4s
PFO Pinyon Flats O 77.44 56 P **P** 13 26 56.2 +0.6
baz=313
TPFO Pinon Flats 77.44 56 P **P** 13 26 56.0 +0.4
baz=313
BELC Belle Mtn. Jos 77.46 55 P **P** 13 26 56.6 +0.9

	baz=313						
EKA	Eskdalemuir Ar	77.60	339	P	P	13 26 55.5	-0.4
	comp=Z,0.8nm,0.7s,baz=34,slow=5.4,SNR=1.2						
	comp=Z,0.8nm,0.7s						
O20A	White River Ci	77.66	46	P	P	13 26 55.8	-1.0
	baz=316						
IRM	Iron Mountain	77.87	55	P	P	13 26 58.3	+0.4
	baz=313						
MONP2	Monument Peak	77.95	56	P	P	13 26 57.2	-1.3
	baz=313						
BC3	Big Chuckawall	78.02	55	P	P	13 26 58.6	-0.2
	baz=313						
IKP	In-Ko-Pah, Jac	78.30	56	P	P	13 27 00.9	+0.6
	baz=313						
N23A	Red Feather La	78.33	45	P	P	13 26 59.2	-1.4
	baz=317						
PDMCI	Parker Dam,Lak	78.37	54	P	P	13 27 01.1	+0.5
	baz=314						
SUSD	Miller	79.12	38	P	P	13 27 03.7	-0.8
	baz=320						
WUAZ	Wupatki	79.17	52	P	P	13 27 05.8	+0.7
	baz=315						
ISCO	Idaho Springs	79.30	45	P	P	13 27 05.9	0.0
	baz=317						
EYMN	Ely	79.53	32	P	P	13 27 05.5	-1.1
	baz=324						
MVCO	Mesa Verde	79.61	49	P	P	13 27 07.6	+0.1
	baz=316						
S22A	4UR Ranch, Cre	80.14	47	P	P	13 27 11.3	+0.8
	baz=317						
Q24A	Divide	80.16	46	P	P	13 27 11.1	+0.5
	baz=317						
OGNE	Ogallala	80.29	42	P	P	13 27 11.8	+0.8
	baz=319						
SCHQ	Schefferville	80.67	15	P	P	13 27 12.8	+0.2
	comp=Z,1.7nm,0.3s,baz=4.8,slow=12,SNR=2.0						
	comp=Z,1.7nm,0.3s						
ECSD	EROS Data Cent	80.73	37	P	P	13 27 13.6	+0.5
	baz=322						
214A	Organ Pipe Nat	80.80	55	P	P	13 27 14.0	+0.2
	baz=315						
SDCO	Great Sand Dun	80.86	47	P	P	13 27 14.5	+0.2
	baz=317						
TUC	Tucson	81.77	54	P	P	13 27 19.3	+0.4
	baz=315						
T25A	Trinidad	81.89	46	P	P	13 27 20.3	+0.7
	baz=318						
ANMO	Albuquerque	82.38	49	P	P	13 27 22.8	+0.7
	baz=317						
121A	Cookes Peak, D	83.38	52	P	P	13 27 27.9	+0.6
	baz=317						
JFWS	Jewell Farm	84.16	34	P	P	13 27 29.8	-1.0
	baz=326						
KSU1	Kansas State U	84.37	40	P	P	13 27 31.5	-0.5
	baz=322						
AMTX	Amarillo	85.05	46	P	P	13 27 35.8	+0.3
	baz=320						
MSTX	Muleshoe	85.15	47	P	P	13 27 36.4	+0.3
	baz=319						
MNTX	Cornudas Mount	85.38	51	P	P	13 27 37.1	-0.1
	baz=318						
SFIN	Lafayette	87.57	34	P	P	13 27 46.7	-0.9
	baz=328						
CCM	Cathedral Cave	87.71	38	P	P	13 27 47.7	-0.5
	baz=325						
TXAR	Lajitas Array	88.12	51	P	P	13 27 51.2	+0.8
	comp=Z,0.7nm,0.7s,baz=295,slow=3.4,SNR=7.6						
	comp=Z,0.7nm,0.7s						
PKME	Peaks-Kenny Pk	89.12	20	P	P	13 27 53.5	-1.2
	baz=339						
WVT	Waverly	90.83	36	P	P	13 28 02.8	-0.1
	baz=327						
ESDC	Sonseca Array	91.83	332	P	P	13 28 06.8	-0.8
	comp=Z,0.4nm,0.6s,baz=25,slow=3.3,SNR=1.8						
	comp=Z,0.4nm,0.6s						
QSPA	South Pole Qui	132.07	180	PKP	PKPdf	13 34 11.2	+0.4
	comp=Z,0.6nm,0.5s,baz=171,slow=0.4,SNR=11						

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*NEIC **04** 13:26:33.0±2.9, 8°.77S±0°.08×122°.98E±0°.07, h119km±6km, mb4.3/26, Error ellipse: s-maj=12.6km s-min=8.2km az=211.0*
*DJA **04** 13:26:33.3±0.2, 9°S±3°×12°3E±°, h120km±5km, M4.6/16, mb4.5/14, mB5.3/7, MLv4.5/16, Mw(mB)4.7/7*
*IDC **04** 13:26:34.9±2.2, 8°.56S×123°.12E, h128km±19km, mb3.8/17, mbtmp4.2/19, MS2.8/2, Error ellipse: s-maj=22.8km s-min=10.8km az=62.0*
ISC 04 13:26:31.9±0.4, **8°.74S**±0°.05×**122°.95E**±0°.06, **h100**km, **n119**, σ1§**80**/116, **mb4.3**/25, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.71	279		Pn	13 26 53.2	+3.8
MMRI	Maumere	0.71	279	P	Pn	13 26 53.3	+3.8
MMRI	Maumere	0.71	279	P	Pn	13 26 53.1	+3.6
EDFI	Ende, Flores	1.24	270	P	Pn	13 26 58.4	+3.2
SOEI	Soe	1.65	128		Pn	13 27 02.6	+2.5
SOEI	Soe	1.65	128	P	Pn	13 27 03.7	+3.6
BASI	Baing, Sumba	2.76	238	P	Pn	13 27 16.7	+2.2
BBSI	Bau Bau	3.26	353	P	Pn	13 27 24.8	+3.6
BKSI	Bulukumba	4.41	320	P	Pn	13 27 38.4	+1.7
DBNI	Kabupaten Domp	4.59	273	P	Pn	13 27 42.8	+3.7
KAPI	Kappang	4.88	319	P	Pn	13 27 46.0	+2.9
	18nm,0.3s,baz=162,slow=6.4,SNR=11						
KAPI				S	Sn	13 28 37.1	-1.3
	15nm,0.6s,baz=89,slow=15,SNR=0.7						
KAPI				LR	LR	13 29 40.9	
	comp=Z,71nm,19.3s,baz=157,slow=38						
MKS	Makassar	4.92	315	P	Pn	13 27 47.6	+4.0
	61nm,1.0s,578nm0.2nm						
PLAI	Plampang	5.11	269	P	Pn	13 27 49.8	+3.6
PLAI	Plampang	5.11	269	P	Pn	13 27 49.3	+3.1
	145nm,0.8s,3μm1.1nm						
SPSI	Sidrap Palu	5.70	326	P	Pn	13 28 08.8	+15
TWSI	Taliwang, Sumb	6.00	270	P	Pn	13 28 00.6	+2.4
	39nm,0.5s,2μm0.9nm						
TTSI	Tana Toraja	6.46	331	P	Pn	13 28 07.8	+3.3
	23nm,0.8s,0.1nm						
SANI	Sanana	7.31	25	P	Pn	13 28 19.3	+3.2
	21nm,1.1s,0.1nm						
LUWI	Luwuk	7.65	359	P	Pn	13 28 24.0	+3.2
	76nm,0.6s,4μm0.8nm						
SRBI	Singaraja	7.68	274	P	Pn	13 28 22.6	+1.5
	31nm,0.6s,0.1nm						
IGBI	Denpasar	7.71	269	P	Pn	13 28 21.6	0.0
SAUI	Saumlaki	8.30	85	Pn	Pn	13 28 29.1	-0.4
SAUI	Saumlaki	8.30	85	P	Pn	13 28 28.6	-1.0
	77nm,0.7s						
JAGI	Jajag, Banyuwa	8.70	271	Pn	Pn	13 28 34.3	-0.8
JAGI	Jajag, Banyuwa	8.70	271	P	Pn	13 28 38.2	+3.1
KNRA	Kununurra	8.93	141	Pn	Pn	13 28 37.1	-1.0
KNRA	Kununurra	8.93	141	P	Pn	13 28 37.6	-0.5
MTN	Manton Dam	9.01	118	Pn	Pn	13 28 39.5	+0.2
MTN	Manton Dam	9.01	118	P	Pn	13 28 39.7	+0.4
KMMI	Kalianget	9.05	280	P	Pn	13 28 42.9	+3.1
	13nm,0.7s,2μm						
FITZ	Fitzroy Crossi	9.66	165	Pn	Pn	13 28 47.3	-0.8
FITZ	Fitzroy Crossi	9.66	165	P	Pn	13 28 47.6	-0.4
TOLI2	Tolitoli	10.03	347	Pn	Pn	13 28 52.9	-0.2
TOLI2	Tolitoli	10.03	347	P	Pn	13 28 58.5	+5.4
KDU	Kakadu	10.15	114	P	Pn	13 28 54.2	-0.5
FAKI	Fak Fak	10.91	59	Pn	Pn	13 29 06.8	+1.7
FAKI	Fak Fak	10.91	59	P	Pn	13 29 08.5	+3.4
FAKI	Fak Fak	10.91	59	P	Pn	13 29 06.7	+1.6
	29nm,0.7s						
SJI	Sawahan	11.11	274	P	Pn	13 29 09.7	+1.8
	15nm,0.5s						
SWI	Sorong	11.39	47	P	Pn	13 29 12.3	+0.7
	34nm,1.3s,2μm						
MBWA	Marble Bar	12.73	194	Pn	Pn	13 29 28.7	-0.6
MBWA	Marble Bar	12.73	194	P	Pn	13 29 28.8	-0.5
PSA00	Pilbara Seismi	13.10	193	Pn	Pn	13 29 34.3	+0.1
PSA00	Pilbara Seismi	13.10	193	P	Pn	13 29 34.8	+0.6
BBJI	Bungbulang	15.20	274	P	Pn	13 30 04.2	+2.8
WB0	Warramunga Arr	15.58	136	Pn	Pn	13 30 03.6	-2.5
WB0				IAmb	IAmb	13 30 08.7	
	comp=Z,12nm,0.7s						
WRA	Warramunga Arr	15.66	137	Pn	Pn	13 30 05.8	-1.4
WRA	Warramunga Arr	15.66	137	P	Pn	13 30 04.6	-2.5
	comp=Z,7.4nm,0.5s,baz=323,slow=13,SNR=46						
WRA				S	Sn	13 32 47.8	-13
	comp=Z,9.9nm,0.7s,baz=310,slow=24,SNR=12						
WRAB	Tennant Creek	15.66	136		Pn	13 30 04.8	-2.4
WRAB				IAmb	IAmb	13 30 10.8	
	comp=Z,17nm,0.9s						
WB2	Warramunga Arr	15.67	136	Pn	Pn	13 30 05.4	-1.8
WB2				IAmb	IAmb	13 30 10.8	
	comp=Z,17nm,0.9s						
WR0	Warramunga Arr	15.81	136	Pn	Pn	13 30 07.0	-2.0
WR0				IAmb	IAmb	13 30 12.5	
	comp=Z,21nm,1.1s						
GIRL	Giralia	16.16	210	P	Pn	13 30 13.4	+0.2
WRKA	Warakurna	16.99	163	P	Pn	13 30 23.5	0.0
AS31	Alice Springs	18.17	146	Pn	P	13 30 37.9	+1.0
ASAR	Alice Springs	18.17	146	Pn	P	13 30 38.2	+1.4
ASAR	Alice Springs	18.17	146	P	P	13 30 37.8	+1.0
	comp=Z,21nm,0.8s,baz=328,slow=13,SNR=219						
ASAR				S	S	13 33 47.5	-12
	comp=Z,5.8nm,0.7s,baz=311,slow=20,SNR=9.9						
ASAR				LR	LR	13 37 36.8	
	comp=Z,44nm,19.1s,baz=348,slow=36						
ASAR				ScP	ScP	13 38 28.9	-3.5
	comp=Z,2.0nm,0.8s,baz=332,slow=2.0,SNR=7.5						
MEEK	Meekatharra	18.27	192	P	P	13 30 38.6	+0.8
QIS	Mount Isa	19.92	128	P	P	13 30 56.2	+0.3
MORW	Morawa	21.23	197	P	P	13 31 10.0	0.0
MORW	Morawa	21.23	197	P	P	13 31 10.3	+0.3
FORT	Forrest	22.44	168	P	P	13 31 19.5	-3.2
FORT	Forrest	22.44	168	P	P	13 31 22.3	-0.3
OOD	Oodnadatta	22.45	149	P	P	13 31 22.8	+0.1
KMBL	Kambalda	22.53	182	P	P	13 31 24.0	+0.4
	comp=Z,38nm,0.8s						
MTSU	Mount Surprise	22.76	116	P	P	13 31 26.8	+0.7
KLBR	Kellerberrin	23.24	191	P	P	13 31 30.9	+0.3
MULG	Mulgathing	23.82	156	P	P	13 31 36.4	+0.6
PMG	Port Moresby	23.92	93	P	P	13 31 35.1	-1.8
PMG				IAmb	IAmb	13 31 38.4	
	comp=Z,7.9nm,0.5s						
PMG	Port Moresby	23.92	93	P	P	13 31 38.3	+1.4
PMG	Port Moresby	23.92	93	P	P	13 31 38.2	+1.4
PMG	Port Moresby	23.92	93	P	P	13 31 36.7	-0.2
	comp=Z,6.4nm,0.4s,baz=176,slow=1.2,SNR=9.2						
	comp=Z,6.4nm,0.4s						
MUN	Mundaring	23.95	194	P	P	13 31 37.4	+0.4
NWAO	Narrogin (SRO)	24.64	192	P	P	13 31 41.7	-1.5
NWAO				IAmb	IAmb	13 31 45.4	
	comp=Z,14nm,0.9s						
NWAO	Narrogin (SRO)	24.64	192	P	P	13 31 43.4	+0.2
NWAO	Narrogin (SRO)	24.64	192	P	P	13 31 42.9	-0.3
MANU	Manus Island	25.19	76	P	P	13 31 50.5	+2.0
CTA	Charters Tower	25.19	119	P	P	13 31 49.4	+0.9
	comp=Z,4.3nm,0.9s,baz=320,slow=6.6,SNR=3.7						
	comp=Z,4.3nm,0.9s						
CTAO	Charters Tower	25.19	119	P	P	13 31 49.0	+0.6
CTAO				IAmb	IAmb	13 31 50.6	
	comp=Z,15nm,1.2s						
LCRK	Leigh Creek	25.88	149	P	P	13 31 55.8	+1.3
BBOO	Buckleboo	26.85	155	P	P	13 32 02.0	-1.2
BBOO	Buckleboo	26.85	155	P	P	13 32 03.2	0.0
HTT	Hallett	28.65	151	P	P	13 32 19.8	+0.5
STKA	Stephens Creek	28.81	146	P	P	13 32 20.2	-0.4
STKA	Stephens Creek	28.81	146	P	P	13 32 21.7	+1.0
STKA	Stephens Creek	28.81	146	P	P	13 32 21.2	+0.5
	comp=Z,6.6nm,0.5s,baz=317,slow=9.3,SNR=22						
	comp=Z,6.6nm,0.5s						
CMSA	Cobar Meteorol	31.01	140	P	P	13 32 41.8	+1.6
TPUB	Ta-pu	31.93	356	P	P	13 32 44.5	-3.7
ARPS	Mount Arapiles	32.75	151	P	P	13 32 56.9	+1.6
CMAR	Chiang Mai Arr	35.94	319	P	P	13 33 24.3	+1.2
	comp=Z,0.3nm,0.3s,baz=145,slow=6.6,SNR=2.2						
	comp=Z,0.3nm,0.3s						
KSRS	Korea Array	46.19	5	P	P	13 34 43.6	-3.1
	comp=Z,1.0nm,0.7s,baz=184,slow=8.1,SNR=2.1						
	comp=Z,1.0nm,0.7s						
MJAR	Matsushiro Arr	47.27	17	P	P	13 34 52.2	-3.1
	comp=Z,0.9nm,0.6s,baz=198,slow=8.7,SNR=1.6						
	comp=Z,0.9nm,0.6s						
USRK	Ussuriysk Ar.	53.33	8	P	P	13 35 39.2	-1.5
	comp=Z,3.0nm,0.7s,baz=190,slow=6.8,SNR=7.1						
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	58.21	347	P	P	13 36 15.1	-0.6
	comp=Z,0.4nm,0.6s,baz=165,slow=6.0,SNR=3.3						
SONM				PcP	PcP	13 37 04.7	-1.4
	comp=Z,0.3nm,0.4s,baz=154,slow=4.1,SNR=1.9						
	comp=Z,0.4nm,0.6s						
KSH	Kashi	64.78	321	P	P	13 37 01.8	+1.6
KSH				pP	pP	13 37 29.4	+4.2
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	Makanchi Array	66.08	331	P	P	13 37 06.4	-1.9
MK31				IAmb	IAmb	13 37 11.6	
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	66.08	331	P	P	13 37 08.4	+0.2
MKAR	Makanchi Array	66.08	331	P	P	13 37 08.2	0.0
	comp=Z,3.2nm,0.6s,baz=134,slow=5.0,SNR=29						
	comp=Z,3.2nm,0.6s						
MAKZ	Makanchi	66.24	331	P	P	13 37 08.2	-1.1
MAKZ				IAmb	IAmb	13 37 11.9	
	comp=Z,5.6nm,1.2s						
BOOM	Boomskoye usch	66.61	324	P	P	13 37 11.4	-0.5
MSEY	Mahe Island	67.06	269	P	P	13 37 14.5	-0.8
ARSB	Arslanbob	67.69	321	P	P	13 37 18.9	+0.1
PETK	Petropavlovsk-	68.34	22	P	P	13 37 21.9	-0.5
PETK	Petropavlovsk-	68.34	22	P	P	13 37 20.9	-1.5
	comp=Z,2.2nm,0.8s,baz=177,slow=1.5,SNR=6.1						
	comp=Z,2.2nm,0.8s						
ZAA0	Zalesovo Array	70.26	337	P	P	13 37 32.2	-1.9
ZAA0				IAmb	IAmb	13 37 36.5	
	comp=Z,3.4nm,0.6s						
ZALV	Zalesovo Beam	70.26	337	P	P	13 37 32.4	-1.8
ZALV	Zalesovo Beam	70.26	337	P	P	13 37 32.8	-1.4
	comp=Z,3.5nm,0.6s,baz=140,slow=4.9,SNR=14						
	comp=Z,3.5nm,0.6s						
KURBB	Kurchatov Arra	70.53	332	P	P	13 37 35.0	-0.9
	comp=Z,2.2nm,0.7s,baz=144,slow=5.5,SNR=20						
	comp=Z,2.2nm,0.7s						
KURK	Kurchatov	70.55	332	P	P	13 37 34.5	-1.5
KURK				IAmb	IAmb	13 37 39.6	
	comp=Z,10nm,1.4s						
VNDA	Vanda	71.65	172	P	P	13 37 42.3	-0.1
VNDA	Vanda	71.65	172	P	P	13 37 43.0	+0.6
	comp=Z,0.7nm,0.6s,baz=323,slow=8.2,SNR=5.4						
	comp=Z,0.7nm,0.6s						
BVAR	Borovoye Array	75.96	330	P	P	13 38 07.7	-0.1
	comp=Z,1.7nm,0.8s,baz=123,slow=5.5,SNR=9.3						
	comp=Z,1.7nm,0.8s						
ABKAR	Akbulak array	79.64	324	P	P	13 38 25.0	-3.3
TIXI	Tiksi	80.32	2	P	P	13 38 30.0	-1.4
TIXI				IAmb	IAmb	13 38 40.3	
	comp=Z,2.3nm,0.6s						
QSPA	South Pole Qui	81.25	180	P	P	13 38 35.5	-1.4
QSPA				IAmb	IAmb	13 38 38.6	
	comp=Z,4.6nm,0.8s						
QSPA	South Pole Qui	81.25	180	P	P	13 38 37.3	+0.4
	comp=Z,4.1nm,0.7s,baz=289,slow=0.7,SNR=31						
	comp=Z,4.1nm,0.7s						
NRIK	Noril'sk	81.67	348	P	P	13 38 37.9	-0.8
	comp=Z,0.7nm,0.3s,baz=117,slow=6.8,SNR=2.5						
	comp=Z,0.7nm,0.3s						
KBZ	Khabaz	88.87	314	P	P	13 39 15.7	+0.7
	comp=Z,1.9nm,0.9s,baz=150,slow=3.2,SNR=3.9						
	comp=Z,1.9nm,0.9s						
TORD	Torodi Ar. Bea	122.26	280	PKP	PKPdf	13 45 14.7	-1.5
	comp=Z,0.3nm,0.7s,baz=78,slow=2.4,SNR=1.9						
CPUP	Villa Florida	145.13	180	PKPbc	PKPbc	13 45 57.5	-0.7
	comp=Z,3.5nm,0.8s,baz=145,slow=3.0,SNR=5.9						

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*TIR **04** 13:27:53.4, 42°.72N×20°.01E, h7km±1km, Ml2.8*
*RHSSO **04** 13:27:54.5±0.5, 42°.61N×19°.98E, h6km±2km, ML2.5/12*
*PDG **04** 13:27:55.2±0.1, 42°.60N×19°.86E, h10km, MD2.7/1, ML2.6/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **04** 13:27:57.1±0.3, 42°.64N×19°.91E, h0km, ML2.3/10*
ISC 04 13:27:55.6±0.8, **42°.64N**±0°.02×**19°.91E**±0°.02, **h8**km±6km, **n51**, σ1§**30**/101, **7C-4D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.06	138⇑	*i*Pg	Pg	13 27 57.5	0.0
PVY				*i* Sg	Sg	13 27 59.1	+0.2
IVA	Berane	0.24	357⇑	*i*Pg	Pg	13 28 00.6	+0.2
IVA				*i* Sg	Sg	13 28 04.9	+1.3
BCI	Bajram Curri	0.29	156	P	Pg	13 28 01.0	-0.4
	baz=172						
BCI				S	Sg	13 28 05.8	+0.5
	baz=172						
BCI				AMP			
	comp=E,8.5nm,0.2s,baz=172						
KOME	Kolasin	0.36	307⇓	*i*Pg	Pg	13 28 02.2	-0.5
KOME				*i* Sg	Sg	13 28 07.5	+0.1
SJES	Sjenica	0.63	4	*e*Pg	Pg	13 28 07.1	-0.6
SJES				*e*Sg	Sb	13 28 16.3	-1.6
SJES	Sjenica	0.63	4	*e*Pg	Pg	13 28 06.4	-1.3
SJES				*e*Sg	Sg	13 28 16.1	+0.2
DRME	Dracevica, Mon	0.70	230⇓	*i*Pg	Pg	13 28 07.3	-1.7
DRME				*i* Sg	Sg	13 28 17.8	-0.3
DRME	Dracevica, Mon	0.70	230	*e*Pg	Pg	13 28 07.1	-1.9
DRME				*e*Sg	Sg	13 28 17.9	-0.2
NKME	Niksic	0.72	281⇓	*i*Pg	Pg	13 28 07.9	-1.5
NKME				*i* Sg	Sg	13 28 18.9	+0.2
CEME	Cevo	0.74	263⇑	*i*Pg	Pg	13 28 07.8	-2.0
CEME				*i* Sg	Sg	13 28 18.8	-0.6
PLE	Pljevlja	0.79	331⇓	*i*Pg	Pg	13 28 09.9	-0.9
PLE				*i* Sg	Sb	13 28 22.9	+0.3
BUM	Brajici-Budva	0.82	246⇑	*i*Pg	Pg	13 28 09.6	-1.8
BUM				*i* Sg	Sg	13 28 21.8	-0.3
UPM	Unac-Piva	0.93	308⇑	*i*Pg	Pg	13 28 12.3	-1.2
UPM				*e*Sg	Sg	13 28 26.2	+0.6
IVAS	Ivanjica	0.96	11	*e*Pg	Pg	13 28 13.2	-0.8
IVAS				*e*Sg	Sb	13 28 26.8	-0.5
PHP	Peshkopia	1.03	157	P	Pg	13 28 13.1	-2.3
	baz=162						
PHP				S	Sn	13 28 30.8	-0.2
	baz=162						
PHP				AMP			
	comp=N,0.4nm,0.4s,baz=162						
BRY	Bratogost	1.04	285⇑	*i*Pg	Pg	13 28 14.2	-1.4
BRY				*i* Sg	Sg	13 28 29.9	+0.8
BRY	Bratogost	1.04	285	*e*Pg	Pg	13 28 14.0	-1.6
BRY				*e*Sg	Sg	13 28 29.3	+0.2
RUDO	Rudo	1.06	338	*e*Pg	Pg	13 28 13.7	-2.2
RUDO				*e*Sg	Sg	13 28 29.4	-0.2
HCY	Herceg Novi	1.06	260⇑	*i*Pg	Pg	13 28 14.0	-1.9
HCY				*i* Sg	Sg	13 28 30.3	+0.6
HCY	Herceg Novi	1.06	260	*e*Pg	Pg	13 28 14.1	-1.9
HCY				*e*Sg	Sg	13 28 29.8	+0.1
SELS	Selova	1.06	56	*e*Pg	Pn	13 28 16.4	-0.4
SELS				*e*Sg	Sn	13 28 29.9	-1.9
KLINJ	Klinje	1.11	299	*e*Pg	Pg	13 28 15.3	-1.6
KLINJ				*e*Sg	Sg	13 28 31.7	+0.4
TREB	Trebinje	1.15	275	*e*Pg	Pg	13 28 16.2	-1.5
TREB				*e*Sg	Sn	13 28 35.6	+1.7
TREB	Trebinje	1.15	275	*e*Pg	Pg	13 28 16.1	-1.6
TREB				*e*Sg	Sg	13 28 33.8	+1.2
BBLS	Lazići	1.28	344	*e*Pg	Pn	13 28 18.9	-1.0
BBLS				*e*Sg	Sn	13 28 39.2	+1.9
BBLS	Lazići	1.28	344	*e*Pg	Pn	13 28 18.6	-1.3
BBLS				*e*Sg	Sb	13 28 36.4	-0.3
TIR	Tirane	1.29	181	P	Pg	13 28 21.8	+1.6
	baz=185						
TIR				S	Sn	13 28 40.1	+2.8
	baz=185						
TIR				AMP			
	comp=N,0.5nm,0.2s,baz=185						
DBRK	Dubrovnik	1.30	272	*e*Pg	Pn	13 28 19.1	-0.9
DBRK				Sg	Sn	13 28 38.8	+1.2
SKO	Skopje	1.32	120	*i* Pn	Pn	13 28 17.9	-2.3
SKO				*i* Sn	Sn	13 28 41.2	+3.2
GRUS	Gruza	1.38	25	*e*Pg	Pg	13 28 22.4	+0.3
GRUS				*e*Sg	Sn	13 28 41.0	+1.3
BARS	Barje	1.42	82	*e*Pg	Pg	13 28 22.3	-0.5
BARS				*e*Sg	Sg	13 28 42.7	+1.6
NEVS	Nevesinje	1.48	297	*e*Pn	Pn	13 28 22.3	-0.3
NEVS				*e*Sn	Sn	13 28 42.8	+0.6
PRVS	Prvonek	1.61	94	*e*Pg	Pg	13 28 24.9	-1.5
PRVS				*e*Sg	Sg	13 28 48.6	+1.4
HAPS	Han Pijesak,Bl	1.61	335	*e*Pn	Pn	13 28 24.4	0.0
HAPS				*e*Sn	Sn	13 28 45.4	0.0
STON	Ston	1.64	279	*e*Pg	Pb	13 28 26.4	+0.3
STON				*e*Sg	Sg	13 28 49.6	+1.2
STON	Ston	1.64	279	*e*Pn	Pn	13 28 24.9	+0.2
STON				Sn	Sg	13 28 50.1	+1.7
STON	Ston	1.64	279	*e*Pn	Pn	13 28 24.9	+0.2
STON				*e*Sn	Sn	13 28 47.1	+1.1
BOVS	Bovan	1.65	52	*e*Pg	Pg	13 28 26.8	-0.5
BOVS				*e*Sg	Sg	13 28 49.0	+0.3
OHR	Ohrid	1.66	156	*i* Pn	Pg	13 28 27.6	+0.2
OHR				*i* Sn	Sg	13 28 50.9	+1.9
TEKS	Tekeris	1.93	352	*e*Pn	Pn	13 28 27.8	-1.0
TEKS				*e*Sn	Sn	13 28 53.7	+0.5
STIP	Stip	1.94	118	*i* Pn	Pg	13 28 31.2	-1.5
ZAGS	Zajecar	2.07	55	*e*Pg	Pg	13 28 34.9	-0.3
ZAGS				*e*Sg	Sg	13 29 02.6	+0.6
ZAPS	Zavoj	2.10	71	*e*Pg	Pb	13 28 33.1	-0.8
ZAPS				*e*Sg	Sg	13 29 04.7	+1.6
FNA	Florina	2.15	149	P	Pb	13 28 33.5	-1.3
	baz=151						
FNA				S	Sg	13 29 04.2	-0.5
	baz=151						
MAKA	Makarska	2.22	288	*e*Pn	Pn	13 28 34.2	+1.6
MAKA				Sn	Sb	13 29 05.6	+2.2
LSTV	Lastovo	2.23	274	*e*Pn	Pn	13 28 32.1	-0.7
LSTV				Sn	Sn	13 29 02.9	+2.5
BLY	Banja Luka	2.89	318	*e*Pn	Pn	13 28 42.4	+0.5
BLY				*e*Sn	Sn	13 29 17.1	+0.3
KIJV	Kijevo	2.90	299	*e*Pn	Pn	13 28 44.1	+2.1
KIJV				Sn	Sb	13 29 23.1	0.0
A050A	Klekovaca	3.07	308	*e*Pn	Pn	13 28 44.6	+0.2
A050A				*e*Sn	Sn	13 29 21.6	+0.2
A051A	Mrakovica	3.22	319	*e*Pn	Pn	13 28 46.8	+0.3
A051A				*e*Sn	Sn	13 29 24.9	-0.1
ZIRJ	Zirje	3.28	290	*e*Pn	Pn	13 28 47.8	+0.5
ZIRJ				Sn	Sn	13 29 30.6	+4.1

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*NEIC **04** 13:54:25.9±1.8, 21°.53S±0°.05×68°.53W±0°.08, h141km±5km, mb4.3/14, Error ellipse: s-maj=10.6km s-min=6.8km az=71.0*
*VAO **04** 13:54:25.9±0.5, 21°.47S×68°.32W, h123km, mb4.5*
*IDC **04** 13:54:25.4±0.6, 21°.48S×68°.27W, h121km±6km, mb3.7/10, mbtmp4.1/13, Error ellipse: s-maj=16.4km s-min=9.8km az=111.0*
*SJA **04** 13:54:26.1±1.6, 21°.49S×68°.34W, h100km, ML4.2, MW4.0*
*GUC **04** 13:54:26.6±0.7, 21°.50S×68°.44W, h131km±4km, ML4.3*
ISC 04 13:54:25.3±0.5, **21°.47S**±0°.03×**68°.40W**±0°.04, **h130**km±5km, **n133**, σ1§**33**/174, **mb4.1**/10, **13C-3D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.84	248		Pn	13 54 48.0	+0.9
PB09				Sn	Sn	13 55 04.8	+1.2
PB09	IPOC Station P	0.84	248	*e*P	Pn	13 54 48.0	+0.9
PB09				*e*S	Sn	13 55 05.1	+1.5
PB09				IAML		13 55 08.2	
	comp=Z,2μm,0.4s						
PB09	IPOC Station P	0.84	248⇑	*i*P	Pn	13 54 48.1	+1.0
PB09				*e*S	Sn	13 55 04.2	+0.6
PB01	IPOC Station P	1.10	293		Pn	13 54 49.1	-0.3
PB01	IPOC Station P	1.10	293	*e*P	Pn	13 54 49.9	+0.5
PB01				*e*S	Sn	13 55 09.5	+2.0
PB01				IAML		13 55 09.6	
	comp=Z,2μm,0.3s						
PB01	IPOC Station P	1.10	293⇑	*i*P	Pn	13 54 49.8	+0.5
PB01				*e*S	Sn	13 55 07.7	+0.2
PB01				IAML		13 55 10.0	
	comp=E,6μm,0.3s						
LVC	Limon Verde	1.23	203	Pn	Pn	13 54 50.9	0.0
LVC				Sn	Sn	13 55 11.2	+0.8
LVC	Limon Verde	1.23	203	*e*P	Pn	13 54 51.6	+0.7
LVC				*e*S	Sn	13 55 12.0	+1.6
LVC	Limon Verde	1.23	203	P	Pn	13 54 51.5	+0.7
	comp=E,410nm,0.3s,baz=41,slow=12,SNR=1223						
LVC				S	Sn	13 55 09.7	-0.6
	comp=E,714nm,0.4s,baz=215,slow=18,SNR=59						
LVC	Limon Verde	1.23	203	*i* P	Pn	13 54 51.6	+0.7
LVC				*e*S	Sn	13 55 10.1	-0.2
LVC	Limon Verde	1.23	203	*e*P	Pn	13 54 51.6	+0.7
PB02	IPOC Station P	1.40	276		Pn	13 54 52.9	+0.5
PB02	IPOC Station P	1.40	276	*e*P	Pn	13 54 53.0	+0.5
PB02				*e*S	Sn	13 55 13.8	+0.7
PB02				IAML		13 55 18.7	
	comp=Z,5μm,0.3s						
PB02	IPOC Station P	1.40	276⇑	*i*P	Pn	13 54 53.0	+0.5
PB02				*e*S	Sn	13 55 12.6	-0.5
PB02				IAML		13 55 14.2	
	comp=N,9μm,0.4s						
PB07	IPOC Station P	1.40	259		Pn	13 54 52.5	-0.1
PB07				Sn	Sn	13 55 13.4	+0.1
PB07	IPOC Station P	1.40	259	*e*P	Pn	13 54 52.9	+0.4

PB07				eS	Sn	13 55 14.2	+0.9
PB07				IAML		13 55 16.8	
	comp=Z,3µm,0.4s						
PB07	IPOC Station P	1.40	259	⇑iP	Pn	13 54 53.1	+0.6
PB07				eS	Sn	13 55 13.2	-0.1
PB07				IAML		13 55 14.6	
	comp=N,6µm,0.8s						
AF01	San Pedro de A	1.49	172		Pn	13 54 55.2	+1.6
PB08	IPOC Station P	1.50	332		Pn	13 54 54.8	+0.9
PB08	IPOC Station P	1.50	332	eP	Pn	13 54 55.4	+1.5
PB08				eS	Sn	13 55 16.5	+0.9
PB08				IAML		13 55 21.2	
	comp=Z,1µm,0.7s						
PB08	IPOC Station P	1.50	332	⇑iP	Pn	13 54 55.2	+1.3
PB08				eS	Sn	13 55 16.9	+1.3
PB08				IAML		13 55 19.4	
	comp=E,2µm,0.2s						
PB06	IPOC Station P	1.64	221	Pn	Pn	13 54 55.7	+0.5
PB06	IPOC Station P	1.64	221	eP	Pn	13 54 55.2	0.0
PB06				eS	Sn	13 55 18.8	+0.8
PB06				IAML		13 55 20.5	
	comp=Z,1µm,0.2s						
PB06	IPOC Station P	1.64	221	⇓iP	Pn	13 54 55.8	+0.6
PB06				⇑eS	Sn	13 55 17.9	-0.1
PB06				IAML		13 55 19.7	
	comp=E,3µm,0.4s						
PATCX	Punta Patache	1.76	291		Pn	13 54 56.5	0.0
PATCX	Punta Patache	1.76	291	eP	Pn	13 54 57.4	+0.8
PATCX				eS	Sn	13 55 21.7	+1.4
PATCX				IAML		13 55 22.5	
	comp=Z,3µm,1.0s						
PATCX	Punta Patache	1.76	291	⇑iP	Pn	13 54 57.0	+0.4
PATCX				eS	Sn	13 55 20.4	0.0
PATCX				IAML		13 55 22.7	
	comp=E,6µm,0.6s						
HMBC	Humberstone	1.83	310	eP	Pn	13 54 57.6	+0.2
HMBC				eS	Sn	13 55 22.8	+0.9
HMBC				IAML		13 55 24.8	
	comp=Z,4µm,0.5s						
HMBC	Humberstone	1.83	310	⇑iP	Pn	13 54 57.7	+0.2
HMBC				eS	Sn	13 55 21.5	-0.4
HMBC				IAML		13 55 23.2	
	comp=N,6µm,0.5s						
PB04	IPOC Station P	1.83	242		Pn	13 54 57.0	-0.5
PB04	IPOC Station P	1.83	242	eP	Pn	13 54 57.9	+0.4
PB04				eS	Sn	13 55 22.0	-0.1
PB04				IAML		13 55 27.1	
	comp=Z,2µm,0.3s						
PB04	IPOC Station P	1.83	242	⇑iP	Pn	13 54 57.7	+0.1
PB04				eS	Sn	13 55 21.4	-0.7
PB04				IAML		13 55 24.5	
	comp=E,2µm,0.2s						
TA01	Diego Aracena	1.89	298	Pn	Pn	13 54 57.9	-0.1
TA01	Diego Aracena	1.89	298	eP	Pn	13 54 58.2	+0.2
TA01				eS	Sn	13 55 23.1	+0.1
TA01				IAML		13 55 23.8	
	comp=Z,1µm,0.4s						
TA01	Diego Aracena	1.89	298	⇑iP	Pn	13 54 58.1	+0.2
TA01				eS	Sn	13 55 22.4	-0.6
TA01				IAML		13 55 24.1	
	comp=E,5µm,0.3s						
GO01	Chusmiza	1.94	337		Pn	13 55 00.3	+1.1
GO01	Chusmiza	1.94	337	eP	Pn	13 54 59.6	+0.5
GO01				eS	Sn	13 55 26.4	+1.4
GO01				IAML		13 55 28.6	
	comp=Z,832nm,0.6s						
GO01	Chusmiza	1.94	337	⇑iP	Pn	13 55 00.2	+1.1
GO01				iS	Sn	13 55 25.4	+0.4
GO01				IAML		13 55 29.5	
	comp=N,4µm,0.5s						
PB15	IPOC Station P	1.99	210		Pn	13 55 00.0	+0.6
PB15	IPOC Station P	1.99	210	eP	Pn	13 54 59.6	+0.1
PB15				eS	Sn	13 55 27.0	+1.5
PB15				IAML		13 55 30.9	
	comp=Z,4µm,0.3s						
PB15	IPOC Station P	1.99	210	⇓iP	Pn	13 55 00.1	+0.6
PB15				eS	Sn	13 55 26.0	+0.4
TA02	Huaiquique	2.01	306		Pn	13 54 59.4	-0.1
TA02	Huaiquique	2.01	306	eP	Pn	13 54 59.6	+0.1
TA02				eP		13 55 00.6	
TA02				eS	Sn	13 55 25.5	-0.1
TA02				IAML		13 55 27.0	
	comp=Z,1µm,0.2s						
TA02	Huaiquique	2.01	306	⇑iP	Pn	13 54 59.4	-0.1
TA02				eS	Sn	13 55 24.6	-1.0
PB11	IPOC Station P	2.07	325		Pn	13 55 00.6	+0.2
PB11	IPOC Station P	2.07	325	eP	Pn	13 55 00.6	+0.2
PB11				eS	Sn	13 55 27.9	+0.7
PB11				IAML		13 55 30.8	
	comp=Z,1µm,0.3s						
PB11	IPOC Station P	2.07	325	⇑iP	Pn	13 55 00.6	+0.2
PB11				eS	Sn	13 55 27.2	+0.1
PB05	IPOC Station P	2.16	230		Pn	13 55 01.8	+0.4
PB05	IPOC Station P	2.16	230	eP	Pn	13 55 02.1	+0.6
PB05				eS	Sn	13 55 28.2	-0.9
PB05				IAML		13 55 30.6	
	comp=Z,594nm,0.3s						
PB05	IPOC Station P	2.16	230	iP	Pn	13 55 01.6	+0.1
PB05				eS	Sn	13 55 28.0	-1.1
PB05				IAML		13 55 36.1	
	comp=E,881nm,0.3s						
YJA	Yavi	2.77	105	iP	Pn	13 55 11.2	+1.7
YJA				eP	Pn	13 55 11.2	+1.7
YJA				eS	Sn	13 55 46.2	+2.9
PB16	IPOC Station P	3.29	341	Pn	Pn	13 55 15.2	-1.2
PB16	IPOC Station P	3.29	341	eP	Pn	13 55 17.2	+0.8
PB16				eS	Sn	13 55 57.5	+1.8
PB16				IAML		13 55 58.2	
	comp=Z,288nm,0.5s						
PB16	IPOC Station P	3.29	341	⇓iP	Pn	13 55 17.7	+1.3
PB12	IPOC Station P	3.37	327	Pn	Pn	13 55 16.6	-0.4
PB12	IPOC Station P	3.37	327	eP	Pn	13 55 16.3	-0.7
PB12				eS	Sn	13 55 52.2	-4.6
PB12				IAML		13 56 00.4	
	comp=Z,560nm,0.4s						
AP01	Chacalluta	3.59	329	eS	Sn	13 56 02.2	+0.5
AP01				IAML		13 56 07.9	
	comp=Z,633nm,0.5s						
PB14	IPOC Station P	3.64	210	Pn	Pn	13 55 19.5	-1.2
PB14	IPOC Station P	3.64	210	eP	Pn	13 55 20.6	-0.1
PB14				eS	Sn	13 55 53.6	-10
PB14				IAML		13 56 26.3	
	comp=Z,229nm,0.4s						
GO02	Mina Guanaco	3.83	196	Pn	Pn	13 55 20.4	-2.7
GO02	Mina Guanaco	3.83	196	eS	Sn	13 56 07.6	-0.3
GO02				IAML		13 56 44.7	
	comp=Z,240nm,0.6s						
GO02	Mina Guanaco	3.83	196	iP	Pn	13 55 22.9	-0.3
PB18	Visviri	4.00	345	Pn	Pn	13 55 27.0	+1.4
ALOL	LOMAS DE OLMED	4.70	121	eP	Pn	13 55 35.0	+0.5
AC01	Pan de Azucar	5.07	203	Pn	Pn	13 55 36.8	-2.6
LPAZ	La Paz	5.17	3	Pn	Pn	13 55 42.1	+0.8
LPAZ	La Paz	5.17	3	eP	Pn	13 55 43.2	+2.0
AC06	Mina Casimiro	6.12	197	Pn	Pn	13 55 50.5	-3.0
GO03	Copiap	6.32	195		Pn	13 55 53.4	-2.8
AC04	Llanos de Chal	7.13	199	Pn	Pn	13 56 00.9	-6.1
AC05	El Transito	7.52	193		Pn	13 56 09.6	-2.9
LCO	Las Campanas	7.79	195	Pn	Pn	13 56 11.9	-4.3
CO01	Juntas del Tor	8.60	190	Pn	Pn	13 56 24.9	-2.2
TICA	Tres Isletas	8.82	125	eP	Pn	13 56 29.7	-0.1
SIV	San Ignacio	8.83	53	P	Pn	13 56 27.5	-2.6
	comp=Z,3.3nm,0.4s,baz=247,slow=9.1,SNR=24						
SIV				S	Sn	13 58 00.1	-7.9
	comp=Z,2.4nm,0.4s,baz=122,slow=21,SNR=9.0						
VACA	Villa Angela C	9.31	133	eP	Pn	13 56 36.5	0.0
CPUP	Villa Florida	11.22	118	P	Pn	13 57 00.2	-1.8
	comp=Z,2.0nm,0.7s,baz=308,slow=11,SNR=3.2						
ETMB	Extrema	11.78	11		Pn	13 57 05.7	-3.8
AQDB	Aquidauana	11.91	88	eP	Pn	13 57 11.3	+0.2
SALV	Santo Antonio	13.25	67	eP	Pn	13 57 29.4	+0.8
SAML	Samuel	13.43	23	Pn	Pn	13 57 31.2	+0.4
SAML	Samuel	13.43	23	eP	Pn	13 57 31.3	+0.4
RPRD	Ribas do Rio P	13.77	89	eP	Pn	13 57 36.5	+1.3
UNIS	Unistalda (Bra	14.23	125	eP	Pn	13 57 39.9	-1.0
CZSB	Cruzeiro do Su	14.28	342		Pn	13 57 44.0	+2.2
RODS	Rosario do Sul	14.80	129	eP	Pn	13 57 49.0	+0.9
PTGB	Pitanga	15.38	105	eP	P	13 57 57.4	+0.1
ALGR	Alto Alegre (B	15.71	121	eP	Pn	13 57 58.9	-0.7
ITAB	Concordia	15.89	114	P	Pn	13 58 02.3	+0.5
ITAB				IAmb	IAmb	13 58 04.0	
	comp=Z,22nm,0.8s						
ITAB	Concordia	15.89	114	eP	Pn	13 58 02.3	+0.5
PCMB	Pacaembu	15.95	94	eP	P	13 58 03.8	+0.3
LDASE	Londrina, Braz	16.10	100	eP	Pn	13 58 04.5	+0.1
CPSB	Cacapava Do Su	16.12	127	eP	Pn	13 58 03.6	-1.0
PLTB	Pedras Altas	16.72	131		Pn	13 58 09.9	-1.9
PLTB				IAmb	IAmb	13 58 12.5	
	comp=Z,11nm,0.7s						
PLTB	Pedras Altas	16.72	131	eP	Pn	13 58 10.7	-1.2
ITRB	Iturama	16.99	87	eP	P	13 58 14.9	-0.1
TRQA	Tornquist	17.43	163		P	13 58 18.5	-1.3
TRQA				IAmb	IAmb	13 58 22.0	
	comp=Z,9.4nm,0.6s						
FRTB	Fartura	17.52	100	eP	P	13 58 21.4	+0.6
CNLB	Canela	17.66	120	eP	P	13 58 22.9	+0.5
BB19B	Bebedouro	18.53	92	eP	P	13 58 32.5	+0.6
SNDB	Serra Nova Dou	18.90	63	eP	P	13 58 35.4	-0.6
PLCA	Paso Flores	19.29	185	P	P	13 58 36.6	-3.4
PLCA				IAmb	IAmb	13 58 44.9	
	comp=Z,17nm,1.5s						
PLCA	Paso Flores	19.29	185	P	P	13 58 41.1	+1.0
	comp=Z,2.6nm,0.7s,baz=358,slow=11,SNR=5.9						
IPMB	Ipameri, GO	19.32	83	eP	P	13 58 40.1	-0.5
RCLB	Rio Claro- Sao	19.39	97	eP	P	13 58 40.6	-0.7
MACA	Manacapuru-AM	19.69	23	P	P	13 58 44.0	-0.6
BDFB	Brasilia	20.17	77	P	P	13 58 49.0	-0.9
BDFB				IAmb	IAmb	13 58 50.0	
	comp=Z,12nm,1.1s						
BDFB	Brasilia	20.17	77	P	P	13 58 48.9	-0.9
	comp=Z,4.6nm,0.5s,baz=240,slow=10,SNR=6.1						
	comp=Z,4.6nm,0.5s						
MCRA	Macar, Loja	20.37	325	P	P	13 58 50.3	-1.6
BOSC	San Juan Bosco	20.69	330	P	P	13 58 57.1	+1.6
BOSC				IAmb	IAmb	13 59 06.5	
	comp=Z,9.3nm,0.7s						
PMNB	Patos De Minas	20.84	86	eP	P	13 58 56.0	-1.0
BSCB	Bom Sucesso	22.03	93	eP	P	13 59 09.0	-0.6
MALB	Monte Alegre	23.88	37	eP	P	13 59 27.1	+0.1
SDBA	SAO DESIDERIO	24.19	72	eP	P	13 59 29.8	-0.1
BOAV	Boa Vista	24.95	19	P	P	13 59 37.3	+0.6
BOAV				IAmb	IAmb	13 59 40.9	
	comp=Z,7.0nm,1.0s						
BOAV	Boa Vista	24.95	19	eP	P	13 59 37.7	+1.0
SJMB	Sao Joao De Ma	25.70	89	eP	P	13 59 44.4	+0.9
MCPB	Macapa, AP	26.36	39	eP	P	13 59 50.1	+0.5
BAUV	El Baul	30.23	1	P	P	14 00 23.6	-0.3
HOPE	Hope Point	40.68	152	P	P	14 01 51.9	-0.7
TXAR	Lajitas Array	60.88	325	P	P	14 04 25.2	+0.8
	comp=Z,0.4nm,0.7s,baz=157,slow=7.0,SNR=5.3						
TXAR				pP	pP	14 04 55.4	-1.6
	comp=Z,0.2nm,0.7s,baz=137,slow=4.5,SNR=1.6						
	comp=Z,0.4nm,0.7s						
DBIC	Dimbokro	68.28	73	P	P	14 05 12.9	+0.2
	comp=Z,3.7nm,0.8s,baz=226,slow=6.4,SNR=8.1						
	comp=Z,3.7nm,0.8s						
QSPA	South Pole Qui	68.72	180	P	P	14 05 15.8	+1.0
QSPA				IAmb	IAmb	14 05 56.1	
	comp=Z,7.4nm,1.4s						
QSPA	South Pole Qui	68.72	180	P	P	14 05 16.7	+1.9
	comp=Z,1.4nm,0.5s,baz=129,slow=6.5,SNR=23						
	comp=Z,1.4nm,0.5s						
PDAR	Pinedale Array	74.32	330	P	P	14 05 50.4	+1.6
	comp=Z,0.2nm,0.5s,baz=131,slow=4.9,SNR=1.9						
	comp=Z,0.2nm,0.5s						
ULM	Lac du Bonnet	75.44	342	P	P	14 05 55.3	+0.7
	comp=Z,1.5nm,0.5s,baz=137,slow=6.0,SNR=5.5						
	comp=Z,1.5nm,0.5s						
NVAR	Mina Array Bea	75.77	322	P	P	14 05 59.3	+2.2
	comp=Z,0.6nm,0.6s,baz=157,slow=6.6,SNR=4.8						
	comp=Z,0.6nm,0.6s						
TOA0	Torodi Ar. Sit	76.90	70	P	P	14 06 03.1	-0.6
TORD	Torodi Ar. Bea	76.90	70	P	P	14 06 03.4	-0.3
TORD	Torodi Ar. Bea	76.90	70	P	P	14 06 03.9	+0.1
	comp=Z,2.0nm,0.5s,baz=260,slow=4.6,SNR=15						
	comp=Z,2.0nm,0.5s						
BOSA	Boshof	83.04	118	P	P	14 06 36.8	0.0
	comp=Z,1.4nm,0.4s,baz=241,slow=3.8,SNR=5.3						
	comp=Z,1.4nm,0.4s						
YKA	Yellowknife Ar	91.32	340	P	P	14 07 16.5	+0.8
	comp=Z,1.4nm,0.6s,baz=133,slow=4.4,SNR=39						
YKA				pP	pP	14 07 48.0	-2.8
	comp=Z,0.6nm,0.8s,baz=134,slow=4.5,SNR=4.4						
	comp=Z,1.4nm,0.6s						
MKAR	Makanchi Array	145.33	36	PKPbc	PKPab	14 13 49.8	+1.7
	comp=Z,0.5nm,0.7s,baz=338,slow=3.5,SNR=6.2						
MKAR				pPKPbc	pPKPab	14 14 21.5	-1.9
	comp=Z,0.6nm,0.8s,baz=336,slow=3.2,SNR=1.5						

*IDC **04** 13:57:07.4±0.8, 29°.25N×139°.54E, h406km±10km, mb2.9/9, mbtmp3.7/13, Error ellipse: s-maj=20.7km s-min=11.9km az=64.0*

*JMA **04** 13:57:09.0±0.1, 29°.4N±1°.0×14°0E±°, h454km, MV3.4/34, NEAR TORISHIMA IS*

ISC 04 13:57:08.5±0.7**, 29°.27N**±0°.06**×139°.56E**±0°.10**, h414**km**, n26, σ1s.88**/30**, mb3.2**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.17	132	eP	P	13 58 16.9	+2.8
CBIJ				eS	S	13 59 09.8	+2.4
JCJ	Chichijima	3.17	132	P	P	13 58 12.1	-2.1
	128nm,0.7s,baz=322,slow=21,SNR=2.3						
JCJ				S	S	13 59 05.3	-2.1
	182nm,0.3s,baz=117,slow=23,SNR=16						
JHH2	Haha-jima-NKT2	3.50	138	eS	S	13 59 15.3	+2.9
BSO1	Boso 1	5.50	12	S	S	13 59 48.6	+2.0
BSO3	Boso 3	5.57	8	S	S	13 59 49.7	+1.2
JIE	Ise	5.65	335	eP	P	13 58 42.0	+4.4
JKN2	Miekihoku	5.69	331	eP	P	13 58 42.3	+4.4
JNY	Yasuok	6.24	347	eP	P	13 58 47.1	+3.3
JHU	Hanno	6.57	358	eP	P	13 58 48.7	+0.7
JHU				S	S	14 00 08.5	0.0
JTO	Tosashimizu	6.81	303	eP	P	13 58 54.0	+3.3
JYT	Yasato	6.96	4	eP	P	13 58 53.3	+1.2
JAG	Ashikaga	7.13	359	P	P	13 58 54.7	+0.5
MJAR	Matsushiro Arr	7.34	351	P	P	13 58 55.7	-0.7
	1.8nm,0.5s,baz=166,slow=10,SNR=11						
JHO	Hitachi	7.37	6	P	P	13 58 58.1	+1.4
JFK	Kawauchi	8.15	7	eP	P	13 59 05.6	+0.4
JFK				eS	S	14 00 38.2	-2.7
JNU	Nakatsue	8.37	299	P	P	13 59 07.4	-0.3
	4.1nm,0.8s,baz=210,slow=18,SNR=2.2						
KSRS	Korea Array	12.69	313	P	P	13 59 55.3	+0.1
	0.5nm,0.4s,baz=132,slow=9.6,SNR=4.2						
CMAR	Chiang Mai Arr	38.50	263	P	P	14 03 53.0	-0.4
	0.4nm,0.4s,baz=84,slow=4.2,SNR=4.2						
	0.4nm,0.4s						
MKAR	Makanchi Array	47.31	308	P	P	14 05 01.8	-0.8
	0.3nm,0.3s,baz=90,slow=9.4,SNR=6.2						
	0.3nm,0.3s						
WRA	Warramunga Arr	49.19	186	P	P	14 05 16.5	-0.5
	0.4nm,0.5s,baz=2.6,slow=7.7,SNR=7.6						
WRA				PcP	PcP	14 06 32.1	-0.8
	0.2nm,0.4s,baz=360,slow=4.2,SNR=1.8						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	49.87	313	P	P	14 05 21.0	-0.7
	1.2nm,0.5s,baz=91,slow=7.7,SNR=15						
	1.2nm,0.5s						
ASAR	Alice Springs	52.91	187	P	P	14 05 43.8	-0.5
	0.2nm,0.7s,baz=2.9,slow=6.2,SNR=6.3						
	0.2nm,0.7s						
BVAR	Borovoye Array	54.88	316	P	P	14 05 57.6	-0.3
	1.0nm,0.4s,baz=84,slow=7.2,SNR=11						
	1.0nm,0.4s						
ILAR	Eielson Array	56.94	29	P	P	14 06 12.0	-0.2
	0.2nm,0.5s,baz=268,slow=4.5,SNR=1.5						
	0.2nm,0.5s						
FINES	FINESS Array B	74.97	333	P	P	14 08 03.6	-1.8
	0.8nm,0.8s,baz=57,slow=5.7,SNR=0.9						
	0.8nm,0.8s						
NVAR	Mina Array Bea	80.98	51	P	P	14 08 39.8	+0.9
	0.3nm,0.5s,baz=238,slow=6.0,SNR=3.9						
	0.3nm,0.5s						

*IDC **04** 14:16:25.1±1.5, 34°.58N×139°.61E, h112km±7km, mb3.3/7, mbtmp3.6/9, Error ellipse: s-maj=50.7km s-min=7.1km az=71.0*

*JMA **04** 14:16:25.2±0.2, 34°.6N±0°.6×139°.7E±0°.8, h108km±1km, MV3.0/40, FAR S OFF BOSO PENINSULA*

ISC 04 14:16:25.0±0.8**, 34°.59N**±0°.04**×139°.66E**±0°.06**, h114**km±6km**, n25, σ0s.41**/37**, mb3.6**/7**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.23	304	P	Pn	14 16 40.6	-0.4
JIM2				S	Sn	14 16 52.1	-1.1
JTHY	Toshimahigashi	0.32	258	iP	Pn	14 16 41.5	+0.2
JTHY				S	Sn	14 16 53.8	+0.2
TATJ	Tateyama 2	0.48	23	P	Pn	14 16 42.5	+0.3
TATJ				S	Sn	14 16 55.6	+0.5
JMYK	Miyake Tsubota	0.54	190	P	Pn	14 16 42.6	0.0
JMYK				S	Sn	14 16 55.7	0.0
JIZS	Izushimoda	0.66	282	iP	Pn	14 16 43.6	+0.2
JIZS				S	Sn	14 16 57.4	0.0
JMKN	Mikurajimanish	0.70	185	iP	Pn	14 16 43.8	0.0
JMKN				S	Sn	14 16 57.8	-0.1
BSO3	Boso 3	0.73	73	iP	Pn	14 16 44.1	+0.4
JOD2	Odawara 2	0.82	325	iP	Pn	14 16 44.8	-0.1
JOD2				S	Sn	14 16 59.4	-0.5
JFNN	Fujinakano	1.01	307	P	Pn	14 16 47.0	+0.4
JFNN				S	Sn	14 17 03.6	+0.7
BSO1	Boso 1	1.09	86	P	Pn	14 16 46.9	+0.1
SHZ3	Shizuoka 3	1.29	292	P	Pn	14 16 50.3	+0.6
JYN	Shimob	1.29	315	iP	Pn	14 16 50.2	+0.5
JHJ	Hachijo jima 2	1.47	176	P	Pn	14 16 51.9	+0.2
	96nm,0.4s,baz=147,slow=23,SNR=13						
JHJ				S	Sn	14 17 11.7	-0.3
	100nm,0.2s,baz=66,slow=23,SNR=12						
JHJ2	Mitsune	1.48	175	P	Pn	14 16 52.4	+0.6
JHJ2				S	Sn	14 17 12.3	+0.1
JRY	Ryogami san	1.56	337	iP	Pn	14 16 53.3	+0.5
JRY				eS	Sn	14 17 13.8	-0.1
JAG	Ashikaga	1.84	355	iP	Pn	14 16 56.0	-0.2
MJAR	Matsushiro Arr	2.28	329	P	Pn	14 17 02.1	+0.4
	3.1nm,0.4s,baz=163,slow=11,SNR=55						
MJAR				S	Sn	14 17 29.1	-0.9
	5.1nm,0.4s,baz=149,slow=14,SNR=4.1						
JNU	Nakatsue	7.45	261	P	Pn	14 18 11.0	-0.1
	3.1nm,0.6s,baz=128,slow=22,SNR=1.5						
JNU				S	Sn	14 19 22.0	-12
	3.4nm,0.9s,baz=259,slow=9.5,SNR=2.1						
ZALV	Zalesovo Beam	42.56	314	P	P	14 24 09.2	0.0
	0.5nm,0.5s,baz=106,slow=7.9,SNR=2.5						
	0.5nm,0.5s						
MKAR	Makanchi Array	44.26	304	P	P	14 24 22.9	-0.1
	0.3nm,0.6s,baz=99,slow=8.3,SNR=3.1						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	46.42	310	P	P	14 24 39.9	-0.1
	0.5nm,0.5s,baz=87,slow=7.3,SNR=5.6						
	0.5nm,0.5s						
BVAR	Borovoye Array	51.19	314	P	P	14 25 16.9	+0.5
	0.3nm,0.3s,baz=95,slow=8.8,SNR=4.1						
	0.3nm,0.3s						
WRA	Warramunga Arr	54.46	186	P	P	14 25 40.5	-0.3
	0.2nm,0.4s,baz=1.0,slow=7.6,SNR=6.0						
	0.2nm,0.4s						
ASAR	Alice Springs	58.19	186	P	P	14 26 06.8	-0.4
	0.4nm,0.8s,baz=22,slow=11,SNR=3.0						
	0.4nm,0.8s						
FINES	FINESS Array B	70.31	332	P	P	14 27 26.0	+0.2
	3.7nm,1.1s,baz=69,slow=6.2,SNR=4.2						
	3.7nm,1.1s						

IDC 04 14:18:39.7±1.6**, 29°.75N×139°.94E, h0**km**, mb3.6**/3**, mbtmp3.6**/3**, MS3.8**/2**, Error ellipse: s-maj=86.9km s-min=35.8km az=98.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	3.30	143	Pn	Pn	14 19 24.8	-7.9
	23nm,0.3s,baz=266,slow=14,SNR=6.5						
MJAR	Matsushiro Arr	6.93	348	Pn	Pn	14 20 31.4	+8.9
	baz=132,slow=36,SNR=1.7						
WRA	Warramunga Arr	49.70	187	P	P	14 27 33.4	-0.2
	0.2nm,0.5s,baz=4.5,slow=7.7,SNR=2.3						
	0.2nm,0.5s						
BVAR	Borovoye Array	54.76	316	LR	LR	14 50 25.1	
	comp=Z,88nm,18.8s,baz=328,slow=35						
ILAR	Eielson Array	56.37	30	P	P	14 28 22.2	-0.2
	0.5nm,1.0s,baz=272,slow=6.9,SNR=2.8						
	0.5nm,1.0s						
FINES	FINESS Array B	74.70	333	P	P	14 30 21.1	+0.2
	3.2nm,1.0s,baz=104,slow=5.9,SNR=2.0						
	3.2nm,1.0s						
URZ	Urewera	76.05	151	LR	LR	14 56 41.4	
	comp=Z,47nm,21.8s,baz=70,slow=30						

*IDC **04** 14:18:48.1±1.0, 29°.63N×140°.42E, h0km, mb3.4/7, mbtmp3.5/7, Error ellipse: s-maj=44.2km s-min=22.0km az=92.0*

ISC 04 14:18:55.7±1.1**, 29°.6N**±0°.2**×140°.4E**±0°.3**, h57**km**, n7, σ0s.40**/7**, mb3.5**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLR	Kul'dur	20.65	344	P	P	14 23 30.3	-0.2
	0.9nm,0.5s,baz=150,slow=7.9,SNR=3.0						
	0.9nm,0.5s						
MKAR	Makanchi Array	47.65	308	P	P	14 27 26.2	0.0
	0.3nm,0.8s,baz=106,slow=7.7,SNR=2.4						
	0.3nm,0.8s						
WRA	Warramunga Arr	49.63	187	P	P	14 27 41.5	-0.1
	0.2nm,0.3s,baz=6.1,slow=7.7,SNR=5.7						
	0.2nm,0.3s						
ASAR	Alice Springs	53.35	187	P	P	14 28 09.3	-0.1
	0.3nm,0.8s,baz=0.9,slow=5.5,SNR=4.5						
	0.3nm,0.8s						
ILAR	Eielson Array	56.28	29	P	P	14 28 29.6	-0.5
	0.5nm,0.8s,baz=270,slow=6.4,SNR=5.0						
	0.5nm,0.8s						
YKA	Yellowknife Ar	70.68	28	P	P	14 30 05.7	+0.5
	0.2nm,0.7s,baz=292,slow=6.4,SNR=4.5						
	0.2nm,0.7s						
FINES	FINESS Array B	74.97	333	P	P	14 30 30.8	+0.2
	1.0nm,0.6s,baz=64,slow=4.4,SNR=7.9						
	1.0nm,0.6s						

*IDC **04** 14:19:07.0±0.5, 29°.65N×140°.35E, h0km, mb4.0/22, mbtmp4.0/22, MS4.2/2, Error ellipse: s-maj=19.8km s-min=14.3km az=82.0*

*NEIC **04** 14:19:10.5±2.0, 29°.57N±0°.07×140°.52E±0°.10, h17km±5km, mb4.6/42, Error ellipse: s-maj=12.3km s-min=9.2km az=70.0*

*NIED **04** 14:19:12.4, 29°.79N×141°.34E, h129km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.22; $M_{\theta\theta}$0.71; $M_{\phi\phi}$-1.93; $M_{r\theta}$0.01; $M_{\theta\phi}$0.75; $M_{\phi r}$0.88; Fault plane solution: $M_0$1.92000×10^{16} NP1:ϕ_s3.00000°, δ61.00000°, λ113.00000°. NP2:ϕ_s141.00000°, δ36.00000°, λ54.00000°.*

*JMA **04** 14:19:12.4±0.1, 30°N±1°×14°1E±°, h129km, MD4.7/20, MV3.7/20, NEAR TORISHIMA IS*

ISC 04 14:19:12.2±0.4**, 29°.61N**±0°.05**×140°.54E**±0°.08**, h35**km**, n104, σ1s.64**/96**, mb4.5**/43**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.90	150	P	Pn	14 19 57.0	+1.1
CBIJ				eS	Sn	14 20 30.9	+1.4
CBIJ	Chichi jima	2.90	150	A	A	14 19 57.0	
	comp=E,9.0nm,1.1s,comp=N,8.0nm,2.3s						
JCJ	Chichijima	2.90	150	Pn	Pn	14 19 56.0	+0.2
JCJ	Chichijima	2.90	150	Pn	Pn	14 19 52.6	-3.2
	comp=N,158nm,0.3s,baz=317,slow=15,SNR=21						
JCJ				Sn	Sn	14 20 26.8	-2.6
	comp=N,243nm,0.3s,baz=290,slow=23,SNR=5.8						
JHH2	Haha-jima-NKT2	3.30	154	P	Pn	14 20 02.5	+1.1
JHH2				eS	Sn	14 20 41.5	+2.1
JHH2	Haha-jima-NKT2	3.30	154	A	A	14 20 02.5	
	comp=E,7.0nm,3.1s,comp=N,8.0nm,6.0s						
JHJ	Hachijo jima 2	3.56	350	Pn	Pn	14 20 06.9	+1.9
	comp=N,15nm,0.3s,baz=43,slow=20,SNR=3.2						
JHJ				Sn	Sn	14 20 42.5	-3.2
	comp=N,16nm,0.3s,baz=51,slow=18,SNR=1.8						
BSO1	Boso 1	5.04	4	P	Pn	14 20 24.9	+0.1
JSG	Sagara	5.43	339	Pn	Pn	14 20 29.7	-1.0
JOD2	Odawara 2	5.77	348	P	Pn	14 20 37.2	+1.9
JNY	Yasuok	6.16	339	eP	Pn	14 20 44.1	+3.4
JRY	Ryogami san	6.54	348	eP	Pn	14 20 47.2	+1.4
MJAR	Matsushiro Arr	7.18	345	Pn	Pn	14 20 56.9	+2.1
	comp=N,0.2nm,0.3s,baz=170,slow=13,SNR=5.9						
MAJO	Matsushiro	7.18	345	Pn	Pn	14 20 57.8	+3.0
MJB9	Matsu-Tunnel	7.19	345		Pn	14 20 58.9	+4.1
JMM	Marumori	8.24	1	Pn	Pn	14 21 06.9	-2.3
JNU	Nakatsue	8.97	295	Pn	Pn	14 21 19.2	-0.1
JNU	Nakatsue	8.97	295	Pn	Pn	14 21 19.1	-0.2
	comp=N,0.2nm,0.3s,baz=347,slow=19,SNR=1.8						

JMZ	Minamidaito 2	9.07	248	Pn	Pn	14 21 19.8	-0.9
JMK	Ichinoseki	9.34	3	eP	Pn	14 21 22.6	-1.6
JTM	Tenmabayashi	11.16	2	Pn	Pn	14 21 46.4	-2.9
KSRS	Korea Array	13.10	310	Pn	Pn	14 22 15.9	+0.1
	comp=N,0.1nm,0.3s,baz=228,slow=47,SNR=2.5						
ASAJ	Asahikawa	14.57	6	LR	LR	14 29 08.7	
	comp=N,263nm,20.1s,baz=189,slow=41						
USA0B	Ussuriysk Arra	16.07	337	P	P	14 23 01.0	+2.5
USRK	Ussuriysk Ar.	16.07	337		P	14 23 00.8	+2.4
YOJ	Yonaguni jima	16.43	256	Pn	Pn	14 22 58.8	-1.3
GUMO	Guam	16.44	165	Pn	Pn	14 22 57.1	-3.2
YSS	Yuzh-Sakhalins	17.40	5	Pn	Pn	14 23 09.4	-2.7
KLR	Kul'dur	20.71	344	P	P	14 23 49.7	+0.3
	comp=N,3.5nm,0.7s,baz=192,slow=4.4,SNR=8.4						
	comp=N,3.5nm,0.7s						
WHN	Wuhan	22.67	279	P	P	14 24 15.7	+5.2
HNS	HongShan	22.85	297	eP	P	14 24 19.4	+7.0
H11N2	WAKE ISLAND Hy	25.84	106	T	T	14 51 49.3	
	baz=298,slow=75,SNR=249						
H11N1	WAKE ISLAND Hy	25.84	106	T	T	14 51 49.6	
	baz=298,slow=75,SNR=301						
H11N3	WAKE ISLAND Hy	25.86	106	T	T	14 51 50.0	
	baz=298,slow=75,SNR=272						
H11S3	WAKE ISLAND Hy	26.26	109	T	T	14 52 21.6	
	baz=302						
H11S1	WAKE ISLAND Hy	26.26	109	T	T	14 52 26.0	
	baz=302						
H11S2	WAKE ISLAND Hy	26.27	109	T	T	14 52 23.1	
	baz=302						
ENH	Enshi	26.88	279	P	P	14 24 49.1	-0.7
CMAR	Chiang Mai Arr	39.39	263	P	P	14 26 38.5	-0.3
	comp=N,1.0nm,0.8s,baz=78,slow=8.4,SNR=7.2						
	comp=N,1.0nm,0.8s						
HNR	Honiara	43.09	151	LR	LR	14 44 47.9	
	comp=N,817nm,18.1s,baz=226,slow=36						
MTN	Manton Dam	43.17	193	P	P	14 27 08.9	-0.8
ZALV	Zalesovo Beam	46.65	318	P	P	14 27 36.1	-1.0
	comp=N,0.2nm,0.3s,baz=72,slow=4.8,SNR=1.7						
ZALV				PcP	PcP	14 29 09.9	-0.5
	comp=N,0.8nm,0.6s,baz=112,slow=3.6,SNR=4.4						
	comp=N,0.2nm,0.3s						
MKAR	Makanchi Array	47.77	308	P	P	14 27 45.3	-0.7
	comp=N,0.5nm,0.7s,baz=95,slow=9.2,SNR=6.4						
MKAR				PcP	PcP	14 29 14.3	-0.3
	comp=N,0.6nm,0.7s,baz=83,slow=3.8,SNR=3.9						
	comp=N,0.5nm,0.7s						
F15K	North Star Dit	49.07	27	P	P	14 27 56.0	+0.4
F15K				IAmb	IAmb	14 28 05.5	
	comp=Z,6.8nm,1.1s						
WB0	Warramunga Arr	49.45	188	P	P	14 27 59.4	+0.4
WB0				IAmb	IAmb	14 28 07.1	
	comp=Z,8.4nm,1.1s						
WRAB	Tennant Creek	49.62	188	P	P	14 28 00.2	0.0
WRAB				IAmb	IAmb	14 28 08.6	
	comp=Z,9.9nm,1.2s						
WR0	Warramunga Arr	49.62	187	P	P	14 28 00.6	+0.3
WB2	Warramunga Arr	49.62	188	P	P	14 28 00.8	+0.4
WB2				IAmb	IAmb	14 28 09.3	
	comp=Z,9.8nm,1.3s						
WRA	Warramunga Arr	49.63	188	P	P	14 28 00.2	-0.1
WRA	Warramunga Arr	49.63	188	P	P	14 28 00.7	+0.3
	comp=Z,0.8nm,0.4s,baz=5.3,slow=7.6,SNR=14						
WRA				PcP	PcP	14 29 22.3	+0.8
	comp=Z,1.5nm,0.8s,baz=4.1,slow=4.1,SNR=2.7						
	comp=Z,0.8nm,0.4s						
NRIK	Noril'sk	49.78	338	P	P	14 28 00.3	-0.7
	comp=Z,1.8nm,0.9s,baz=82,slow=7.1,SNR=2.0						
NRIK				PcP	PcP	14 29 22.4	+1.0
	comp=Z,1.0nm,0.5s,baz=253,slow=3.9,SNR=3.8						
	comp=Z,1.8nm,0.9s						
KURBB	Kurchatov Arra	50.26	313	P	P	14 28 03.6	-1.3
	comp=Z,0.8nm,0.2s,baz=82,slow=6.1,SNR=2.0						
	comp=Z,0.8nm,0.2s						
G18K	Tagagawik	51.49	27	P	P	14 28 14.0	0.0
L18K	Granite Mounta	51.61	32	P	P	14 28 15.7	+0.8
H19K	Roundabout Mou	52.30	28	P	P	14 28 20.6	+0.6
H19K				IAmb	IAmb	14 28 24.4	
	comp=Z,7.6nm,1.1s						
J19K	Poorman	52.38	30	P	P	14 28 21.1	+0.6
E19K	Redstone River	52.41	26	P	P	14 28 21.0	+0.3
E19K				IAmb	IAmb	14 28 32.0	
	comp=Z,8.4nm,1.4s						
K20K	Telida	52.97	31	P	P	14 28 26.2	+1.2
K20K				IAmb	IAmb	14 28 27.7	
	comp=Z,8.7nm,1.2s						
J20K	Nowinta River	53.04	30	P	P	14 28 26.9	+1.4
J20K				IAmb	IAmb	14 28 30.7	
	comp=Z,7.7nm,1.1s						
AS31	Alice Springs	53.35	188	P	P	14 28 29.0	+0.8
ASAR	Alice Springs	53.35	188	P	P	14 28 28.4	+0.2
	comp=Z,0.5nm,0.5s,baz=4.6,slow=5.6,SNR=14						
ASAR				PcP	PcP	14 29 36.4	+1.0
	comp=Z,1.0nm,0.8s,baz=5.7,slow=3.9,SNR=5.5						
	comp=Z,0.5nm,0.5s						
H21K	Melozitna Rive	53.82	28	P	P	14 28 31.5	+0.3
B21K	Ikpikpuk River	53.84	23	P	P	14 28 32.5	+1.3
B21K				IAmb	IAmb	14 28 33.6	
	comp=Z,11nm,1.4s						
MLY	Manley	54.60	29	P	P	14 28 38.7	+1.7
MLY				IAmb	IAmb	14 28 39.8	
	comp=Z,11nm,1.3s						
BVAR	Borovoye Array	55.22	316	P	P	14 28 40.3	-1.2
	comp=Z,0.9nm,0.6s,baz=89,slow=8.8,SNR=6.8						
	comp=Z,0.9nm,0.6s						
NEA2	Nenana	55.28	30	P	P	14 28 43.6	+1.8
NEA2				IAmb	IAmb	14 28 44.4	
	comp=Z,7.1nm,0.9s						
MDM	Murphy Dome	55.66	29	P	P	14 28 46.6	+2.0
MDM				IAmb	IAmb	14 28 47.2	
	comp=Z,10nm,1.2s						
D24K	Happy Valley	55.78	24	P	P	14 28 46.9	+1.6
F24K	Squaw Lake	55.97	26	P	P	14 28 48.4	+1.6
F24K				IAmb	IAmb	14 28 51.2	
	comp=Z,4.1nm,0.8s						
HDA	Harding Lake	56.19	30	P	P	14 28 47.9	-0.4
HDA				IAmb	IAmb	14 28 49.5	
	comp=Z,9.0nm,1.3s						
IL31		56.23	29	P	P	14 28 48.8	+0.3
ILAR	Eielson Array	56.23	29	P	P	14 28 48.7	+0.1
	comp=Z,1.9nm,0.8s,baz=258,slow=5.0,SNR=16						
	comp=Z,1.9nm,0.8s						
E25K	Arctic Village	56.89	25	P	P	14 28 55.1	+1.9
E25K				IAmb	IAmb	14 29 28.0	
	comp=Z,8.0nm,1.2s						
SCRK	Sand Creek	57.49	30	P	P	14 28 57.9	+0.2
SCRK				IAmb	IAmb	14 29 15.1	
	comp=Z,6.3nm,1.2s						
J26L	Joseph Creek	57.66	30	P	P	14 28 59.2	+0.4
E28M	Babbage River	59.12	25	P	P	14 29 09.6	+0.7
E28M				IAmb	IAmb	14 29 25.8	
	comp=Z,5.5nm,1.4s						
I28M	Miner Creek	59.15	29	P	P	14 29 10.2	+1.0
I28M				IAmb	IAmb	14 29 47.9	
	comp=Z,6.2nm,1.4s						
EPYK	Eagle Plains	60.38	27	P	P	14 29 18.5	+0.9
EPYK				IAmb	IAmb	14 29 19.8	
	comp=Z,5.1nm,0.8s						
I30M	Mount Dempster	60.66	29	P	P	14 29 19.6	0.0
I30M				IAmb	IAmb	14 29 27.9	
	comp=Z,9.1nm,1.5s						
STKA	Stephens Creek	61.16	179	P	P	14 29 22.8	-0.4
	comp=Z,1.1nm,0.7s,baz=16,slow=14,SNR=2.8						
	comp=Z,1.1nm,0.7s						
YKA	Yellowknife Ar	70.63	28	P	P	14 30 24.5	+0.7
	comp=Z,1.8nm,1.1s,baz=297,slow=5.8,SNR=12						
	comp=Z,1.8nm,1.1s						
ARCES	ARCESS Array B	70.69	340	P	P	14 30 23.7	-0.4
	comp=Z,3.2nm,0.9s,baz=70,slow=7.9,SNR=5.1						
	comp=Z,3.2nm,0.9s						
FINES	FINESS Array B	75.06	333	P	P	14 30 49.0	-1.0
	comp=Z,3.2nm,0.7s,baz=62,slow=5.9,SNR=25						
	comp=Z,3.2nm,0.7s						
KBZ	Khabaz	75.25	312	P	P	14 30 50.1	-1.3
	comp=Z,3.4nm,0.8s,baz=76,slow=3.7,SNR=10						
	comp=Z,3.4nm,0.8s						
PINE	Pine Mountain	75.79	48	P	P	14 30 54.4	-0.5
K05A	Summer Lake	76.31	49	P	P	14 30 59.2	+1.3
BMO	Blue Mountains	77.58	45	P	P	14 31 05.5	+0.6
BMO				IAmb	IAmb	14 31 08.0	
	comp=Z,7.0nm,1.2s						
AKASG	Malin Array Be	79.74	323	P	P	14 31 16.3	-0.1
	comp=Z,0.7nm,0.5s,baz=49,slow=4.7,SNR=7.0						
	comp=Z,0.7nm,0.5s						
NVAR	Mina Array Bea	80.10	51	P	P	14 31 20.7	+1.7
	comp=Z,2.5nm,1.1s,baz=273,slow=6.6,SNR=11						
	comp=Z,2.5nm,1.1s						
FFC	Flin Flon	80.37	31	P	P	14 31 19.7	-0.1
FFC				IAmb	IAmb	14 31 26.7	
	comp=Z,6.9nm,0.9s						
HFS	Hagfors	80.55	336	P	P	14 31 19.4	-1.3
	comp=Z,1.3nm,0.6s,baz=51,slow=4.6,SNR=1.5						
	comp=Z,1.3nm,0.6s						
BOZ	Bozeman (W)	80.63	43	P	P	14 31 22.0	+0.4
NOA	NORSAR Array B	80.74	338	P	P	14 31 20.9	-0.8
	comp=Z,0.9nm,0.7s,baz=49,slow=4.8,SNR=3.1						
	comp=Z,0.9nm,0.7s						
BRTR	Keskin Array B	83.24	312	P	P	14 31 35.2	-0.2
	comp=Z,1.6nm,0.9s,baz=36,slow=11,SNR=4.6						
	comp=Z,1.6nm,0.9s						
PDAR	Pinedale Array	83.44	44	P	P	14 31 36.7	+0.2
	comp=Z,0.8nm,0.9s,baz=309,slow=4.7,SNR=4.9						
	comp=Z,0.8nm,0.9s						
TXAR	Lajitas Array	95.24	52	P	P	14 32 34.6	+1.8
	comp=Z,0.8nm,0.9s,baz=327,slow=4.4,SNR=4.7						
	comp=Z,0.8nm,0.9s						
H06N1	SOCORRO T-PHAS	95.93	65	T	T	16 19 32.0	
	SNR=11						
H06S1	SOCORRO T	96.03	65	T	T	16 19 37.2	
QSPA	South Pole Qui	119.37	180	PKP	PKPdf	14 37 56.4	-0.8
	comp=Z,1.5nm,0.9s,baz=283,slow=1.5,SNR=7.7						
TORD	Torodi Ar. Bea	121.84	311	PKP	PKPdf	14 38 02.6	-0.8
	comp=Z,0.4nm,0.8s,baz=18,slow=1.7,SNR=2.2						
H03N2	Juan Fernandez	146.28	107	T	T	17 22 24.7	
	baz=279,slow=75,SNR=18						
H03N3	Juan Fernandez	146.29	107	T	T	17 22 24.8	
	baz=279,slow=75,SNR=19						
H03N1	Juan Fernandez	146.29	107	T	T	17 22 27.8	
	baz=279,slow=75,SNR=32						
PLCA	Paso Flores	152.41	122	PKPbc	PKPbc	14 39 05.0	+0.3
	comp=Z,3.7nm,0.9s,baz=280,slow=2.3,SNR=3.0						

*IDC **04** 14:21:05.3±0.6,29.63°N×140.27°E,h0km,mb4.1/19, mbtmp4.1/21,ML2.9/2,Error ellipse: s-maj=20.6km s-min=15.6km az=84.0*
*NEIC **04** 14:21:07.5±1.9,29.66°N±0.07°×140.3°E±0.1°,h10km±1km, mb4.6/39,Error ellipse: s-maj=19.6km s-min=11.1km az=255.0*
*JMA **04** 14:21:09.9±0.2,30°N±1°×14°2E±°,h133km,MV3.7/13, NEAR TORISHIMA IS*
ISC 04 14:21:10.7±0.4,**29.65°N**±0.05°×**140.55°E**±0.08°,**h35km,n92,** σ**1.s79**/90,**mb4.6**/40,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.92	150	P	Pn	14 21 54.8	+0.1
CBIJ				eS	Sn	14 22 29.0	+0.4
JCJ	Chichijima	2.92	150	Pn	Pn	14 21 54.7	0.0
JCJ	Chichijima	2.92	150	Pn	Pn	14 21 50.8	-3.9
	252nm,0.3s,baz=313,slow=12,SNR=7.6						
JCJ				Sn	Sn	14 22 24.5	-4.1
	82nm,0.3s,baz=149,slow=21,SNR=1.6						
JHH2	Haha-jima-NKT2	3.33	154	eP	Pn	14 22 01.1	+0.8
JHH2				eS	Sn	14 22 40.6	+1.9
JHJ	Hachijo jima 2	3.52	349	Pn	Pn	14 22 02.7	-0.2
	6.3nm,0.3s,baz=245,slow=13,SNR=1.6						
JHJ				Sn	Sn	14 22 41.4	-1.9
	19nm,0.3s,baz=74,slow=22,SNR=1.8						
	280nm,1.1s						
JSG	Sagara	5.39	339	Pn	Pn	14 22 25.2	-3.4
JAO	Obara	6.25	334	eP	Pn	14 22 45.1	+4.7
JRY	Ryogami san	6.50	348	eP	Pn	14 22 45.9	+2.1
JGF	Kuroka	6.51	336	Pn	Pn	14 22 40.8	-3.2
MJAR	Matsushiro Arr	7.15	345	Pn	Pn	14 22 56.9	+4.2
	0.1nm,0.3s,baz=159,slow=12,SNR=4.1						
MJAR				Sn	Sn	14 24 09.0	-3.7
	baz=152,slow=12						
JMM	Marumori	8.20	1	Pn	Pn	14 23 06.5	-0.5
JTM	Tenmabayashi	11.12	2	Pn	Pn	14 23 45.4	-1.7
ERM	Erimo	12.52	9	Pn	Pn	14 24 04.5	-1.7
KSRS	Korea Array	13.08	310	Pn	Pn	14 24 18.4	+4.4
	0.1nm,0.3s,baz=12,slow=39,SNR=3.0						
USRK	Ussuriysk Ar.	16.04	337	Pn	Pn	14 24 52.9	-0.6
	baz=150,slow=42,SNR=2.3						
	1.7nm,0.7s						
KLR	Kul'dur	20.67	344	P	P	14 25 46.5	-0.9
	1.6nm,0.6s,baz=162,slow=10,SNR=4.0						
	1.6nm,0.6s						
WHN	Wuhan	22.67	279	P	P	14 26 15.8	+6.8
H11N2	WAKE ISLAND Hy	25.84	106	T	T	14 53 47.2	
	baz=298,slow=75,SNR=73						
H11N1	WAKE ISLAND Hy	25.85	106	T	T	14 53 47.9	
	baz=298,slow=75,SNR=99						
H11N3	WAKE ISLAND Hy	25.86	106	T	T	14 53 48.1	
	baz=298,slow=75,SNR=63						
H11S3	WAKE ISLAND Hy	26.26	109	T	T	14 54 18.4	
	baz=300,slow=75,SNR=64						
H11S1	WAKE ISLAND Hy	26.27	109	T	T	14 54 21.2	
	baz=300,slow=75,SNR=74						
H11S2	WAKE ISLAND Hy	26.28	109	T	T	14 54 20.6	
	baz=300,slow=75,SNR=67						
TOLI2	Tolitoli	34.05	217	P	P	14 27 49.5	-2.2
TOLI2				IAmb	IAmb	14 27 57.3	
	comp=Z,9.5nm,1.1s						
GOMU	GeErMu	38.66	292	P	P	14 28 31.6	+0.2
GOMU	GeErMu	38.66	292	P	P	14 28 31.8	+0.4
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	Chiang Mai	39.26	264	P	P	14 28 35.1	-1.0
CMAR	Chiang Mai Arr	39.40	263	P	P	14 28 35.6	-1.7
	comp=Z,0.7nm,0.4s,baz=74,slow=4.9,SNR=5.5						
	comp=Z,0.7nm,0.4s						
ATKA	Atka Island	40.09	43	P	P	14 28 42.6	+0.1
MTN	Manton Dam	43.21	193	P	P	14 29 08.7	+0.2
ZALV	Zalesovo Beam	46.63	318	PcP	PcP	14 31 08.0	-0.8
	comp=Z,1.4nm,0.6s,baz=132,slow=3.4,SNR=5.9						
MKAR	Makanchi Array	47.76	308	P	P	14 29 42.4	-1.9
	comp=Z,0.7nm,0.7s,baz=88,slow=8.8,SNR=4.6						
MKAR				PcP	PcP	14 31 12.2	-0.7
	comp=Z,0.7nm,0.8s,baz=64,slow=2.8,SNR=4.2						
	comp=Z,0.7nm,0.7s						
WB0	Warramunga Arr	49.49	188	P	P	14 29 57.0	-0.7
WB0				IAmb	IAmb	14 30 37.0	
	comp=Z,7.4nm,1.1s						
FITZ	Fitzroy Crossi	49.60	199	P	P	14 29 59.0	+0.4
WRAB	Tennant Creek	49.66	188	P	P	14 29 58.0	-1.0
WRAB				IAmb	IAmb	14 30 37.2	
	comp=Z,9.9nm,1.3s						
WR0	Warramunga Arr	49.66	187	P	P	14 29 58.3	-0.7
WR0				IAmb	IAmb	14 30 05.9	
	comp=Z,6.0nm,1.1s						
WB2	Warramunga Arr	49.67	188	P	P	14 29 58.7	-0.3
WB2				IAmb	IAmb	14 30 37.4	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	49.67	188	P	P	14 29 58.5	-0.6
WRA	Warramunga Arr	49.67	188	P	P	14 29 58.6	-0.5
	comp=Z,2.0nm,0.6s,baz=5.3,slow=7.6,SNR=8.2						
WRA				PcP	PcP	14 31 19.9	-0.2
	comp=Z,1.7nm,0.8s,baz=360,slow=4.0,SNR=3.4						
	comp=Z,2.0nm,0.6s						
NRIK	Noril'sk	49.75	338	PcP	PcP	14 31 19.2	-0.5
	comp=Z,2.2nm,0.8s,baz=153,slow=1.2,SNR=1.9						
KURBB	Kurchatov Arra	50.24	313	P	P	14 30 01.2	-1.9
	comp=Z,0.7nm,0.2s,baz=90,slow=9.5,SNR=1.9						
KURBB				PcP	PcP	14 31 20.7	-1.2
	comp=Z,0.3nm,0.3s,baz=90,slow=3.9,SNR=1.8						
	comp=Z,0.7nm,0.2s						
G18K	Tagagawik	51.45	27	P	P	14 30 12.9	+0.9
G18K				IAmb	IAmb	14 30 20.0	
	comp=Z,12nm,1.2s						
H19K	Roundabout Mou	52.26	28	P	P	14 30 18.6	+0.5
H19K				IAmb	IAmb	14 30 21.0	
	comp=Z,5.8nm,0.9s						
E19K	Redstone River	52.37	26	P	P	14 30 20.7	+1.8
E19K				IAmb	IAmb	14 30 21.9	
	comp=Z,5.5nm,0.8s						
K20K	Telida	52.93	31	P	P	14 30 24.6	+1.5
K20K				IAmb	IAmb	14 30 26.9	
	comp=Z,9.0nm,0.8s						
B20K	Meade River	53.03	22	P	P	14 30 24.3	+0.6
AS31	Alice Springs	53.39	188	P	P	14 30 27.2	+0.3
ASAR	Alice Springs	53.39	188	P	P	14 30 27.1	+0.1
ASAR	Alice Springs	53.39	188	P	P	14 30 26.8	-0.1
	comp=Z,0.9nm,0.8s,baz=360,slow=4.9,SNR=7.1						
ASAR				PcP	PcP	14 31 34.5	+0.6
	comp=Z,1.4nm,0.8s,baz=19,slow=4.0,SNR=6.5						
	comp=Z,0.9nm,0.8s						
H21K	Melozitna Rive	53.77	28	P	P	14 30 30.6	+1.4
H21K				IAmb	IAmb	14 30 33.0	
	comp=Z,11nm,1.4s						
CAST	Castle Rocks	53.82	31	P	P	14 30 32.6	+2.9
MLY	Manley	54.56	29	P	P	14 30 36.2	+1.1
MLY				IAmb	IAmb	14 30 38.1	
	comp=Z,4.4nm,0.8s						
BVAR	Borovoye Array	55.20	316	P	P	14 30 38.5	-1.3
	comp=Z,1.5nm,0.6s,baz=93,slow=8.3,SNR=6.2						
BVAR				PcP	PcP	14 31 40.5	0.0
	comp=Z,1.2nm,0.6s,baz=81,slow=4.6,SNR=5.2						
	comp=Z,1.5nm,0.6s						
MDM	Murphy Dome	55.62	29	P	P	14 30 43.7	+1.1
MDM				IAmb	IAmb	14 30 45.4	
	comp=Z,5.0nm,0.9s						
D24K	Happy Valley	55.74	24	P	P	14 30 45.4	+2.0
D24K				IAmb	IAmb	14 30 46.5	
	comp=Z,7.0nm,0.8s						
F24K	Squaw Lake	55.93	26	P	P	14 30 47.1	+2.2
F24K				IAmb	IAmb	14 30 48.3	
	comp=Z,4.1nm,0.7s						
ILAR	Eielson Array	56.19	29	P	P	14 30 47.5	+0.7
	comp=Z,2.2nm,0.8s,baz=274,slow=6.0,SNR=11						
	comp=Z,2.2nm,0.8s						
J26L	Joseph Creek	57.62	30	P	P	14 30 57.4	+0.5
J26L				IAmb	IAmb	14 30 59.1	
	comp=Z,5.6nm,0.8s						
L29M	L29M	60.13	31	P	P	14 31 15.9	+1.5
L29M				IAmb	IAmb	14 31 18.3	
	comp=Z,6.2nm,0.9s						
O29M	Mount Kennedy	60.29	34	P	P	14 31 17.8	+2.2
FORT	Forrest	61.26	192	P	P	14 31 22.2	-0.1
ABKAR	Akbulak array	62.29	313	P	P	14 31 26.6	-2.6
A36M	Sachs Harbour	63.39	20	P	P	14 31 36.6	+0.6
A36M				IAmb	IAmb	14 31 38.3	
	comp=Z,4.3nm,0.8s						
NWAO	Narrogin (SRO)	66.04	201	P	P	14 31 54.6	+0.8
YKA	Yellowknife Ar	70.59	28	P	P	14 32 23.0	+1.1
	comp=Z,1.9nm,0.9s,baz=297,slow=6.1,SNR=8.7						
	comp=Z,1.9nm,0.9s						
ARCES	ARCESS Array B	70.66	340	P	P	14 32 22.6	+0.3
	comp=Z,6.0nm,1.0s,baz=67,slow=6.9,SNR=3.9						
	comp=Z,6.0nm,1.0s						
FINES	FINESS Array B	75.03	333	P	P	14 32 47.8	-0.5
	comp=Z,4.8nm,0.6s,baz=64,slow=6.5,SNR=14						
	comp=Z,4.8nm,0.6s						
KBZ	Khabaz	75.22	312	P	P	14 32 49.4	-0.3
	comp=Z,4.2nm,0.8s,baz=131,slow=3.0,SNR=9.7						
	comp=Z,4.2nm,0.8s						
D08A	Wollman Farm,	75.50	44	P	P	14 32 52.7	+1.4
D08A				IAmb	IAmb	14 32 54.4	
	comp=Z,6.6nm,1.0s						
PINE	Pine Mountain	75.75	48	P	P	14 32 54.3	+1.2
J05D	Fort Rock, OR	75.79	48	P	P	14 32 53.5	+0.2
J05D				IAmb	IAmb	14 32 57.0	
	comp=Z,7.5nm,0.9s						
K05A	Summer Lake	76.27	49	P	P	14 32 56.0	-0.1
AKASG	Malin Array Be	79.71	323	P	P	14 33 13.5	-1.2
	comp=Z,1.3nm,0.6s,baz=50,slow=5.2,SNR=5.4						
	comp=Z,1.3nm,0.6s						
NVAR	Mina Array Bea	80.07	51	P	P	14 33 18.5	+1.3
	comp=Z,2.3nm,0.9s,baz=277,slow=5.8,SNR=6.8						
	comp=Z,2.3nm,0.9s						
FFC	Flin Flon	80.33	31	P	P	14 33 19.4	+1.4
FFC				IAmb	IAmb	14 33 19.9	
	comp=Z,6.8nm,0.8s						
HFS	Hagfors	80.51	336	P	P	14 33 18.1	-0.8
	comp=Z,2.0nm,0.7s,baz=83,slow=12,SNR=2.3						
	comp=Z,2.0nm,0.7s						
BOZ	Bozeman (W)	80.59	43	P	P	14 33 21.2	+1.4
NOA	NORSAR Array B	80.71	338	P	P	14 33 19.1	-0.9
	comp=Z,2.4nm,0.9s,baz=46,slow=5.1,SNR=3.3						
	comp=Z,2.4nm,0.9s						
YHL	Hebgen Lake	81.27	43	P	P	14 33 25.5	+1.9
TPNV	Topopah Spring	82.22	52	P	P	14 33 30.3	+1.7
TPNV				IAmb	IAmb	14 33 31.4	
	comp=Z,5.0nm,1.0s						
BRTR	Keskin Array B	83.22	312	P	P	14 33 33.2	-0.5
	comp=Z,2.0nm,0.9s,baz=146,slow=2.4,SNR=5.5						
	comp=Z,2.0nm,0.9s						
PDAR	Pinedale Array	83.40	44	P	P	14 33 36.1	+1.4
	comp=Z,0.6nm,0.7s,baz=304,slow=1.6,SNR=4.9						
	comp=Z,0.6nm,0.7s						
RDMU	Red Mountain	84.64	46	P	P	14 33 43.6	+2.5
TXAR	Lajitas Array	95.21	52	P	P	14 34 32.5	+1.5
	comp=Z,0.8nm,0.6s,baz=313,slow=2.6,SNR=7.6						
	comp=Z,0.8nm,0.6s						
H06N1	SOCORRO T-PHAS	95.91	65	T	T	16 21 28.0	
	SNR=5.7						
H06S1	SOCORRO T	96.00	65	T	T	16 21 30.9	
QSPA	South Pole Qui	119.41	180	PKP	PKPdf	14 39 55.3	-0.3
	comp=Z,1.2nm,0.6s,baz=303,slow=1.1,SNR=10						
TORD	Torodi Ar. Bea	121.82	311	PKP	PKPdf	14 40 00.5	-1.3
	comp=Z,0.3nm,0.7s,baz=14,slow=0.6,SNR=1.7						
H03N2	Juan Fernandez	146.28	107	T	T	17 24 22.0	
	baz=279,slow=75,SNR=38						
H03N3	Juan Fernandez	146.29	107	T	T	17 24 23.3	
	baz=279,slow=75,SNR=47						
H03N1	Juan Fernandez	146.30	107	T	T	17 24 22.0	
	baz=279,slow=75,SNR=54						
PLCA	Paso Flores	152.42	122	PKPbc	PKPbc	14 41 03.1	0.0
	comp=Z,1.7nm,0.6s,baz=320,slow=1.6,SNR=3.8						

*SOME **04** 14:38:10.5,41.98°N×82.50°E,h5km*
*NNC **04** 14:38:18.3±4.6,42.93°N×82.75°E,h0km,mb2.6,mpv2.2, Error ellipse: s-maj=38.6km s-min=15.9km az=133.0*
ISC 04 14:38:09.8±2.9,**42.4°N**±0.1°×**82.9°E**±0.1°,**h10km,n6,** σ**1.s87**/11,**4C-4D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	2.66	288	eP	Pn	14 38 52.3	-0.6
	1.6nm,0.1s						
SHLS				eS	Sn	14 39 22.4	-3.0
	8.8nm,0.2s						
PDGK	Podgornoye	2.70	292	⇓Pg	Pg	14 39 03.9	+2.4
	0.8nm,0.4s						
PDGK				⇑Lg	Lg	14 39 33.8	
	9.5nm,0.7s						
UZB	Uzynbulak	2.97	286	eP	Pb	14 39 02.3	-0.7
	3.2nm,0.5s						
UZB				eS	Sb	14 39 39.9	+0.6
	4.0nm,0.5s						
DJR	Jarkent	3.00	312	eP	Pg	14 39 07.1	-0.2
	2.8nm,0.5s						
DJR				eS	Sg	14 39 47.9	+1.6
	4.1nm,0.6s						
MK31	Makanchi Array	4.43	354	⇓Pn	Pn	14 39 18.2	+1.1
	0.1nm,0.3s,baz=185,slow=11,SNR=14						
MK31				⇑Sn	Sn	14 40 07.6	-1.2
	0.6nm,0.4s,baz=181,slow=27,SNR=4.4						
MK31				⇓Lg	Lg	14 40 21.2	
	2.7nm,0.7s,baz=173,slow=29,SNR=7.0						
MAKZ	Makanchi	4.48	352	⇑Pn	Pn	14 39 18.2	+0.5
	0.4nm,0.3s						
MAKZ				⇓Sn	Sn	14 40 07.3	-2.6
	0.7nm,0.5s						
MAKZ				⇑Lg	Lg	14 40 22.2	
	1.3nm,0.7s						

*IDC **04** 14:44:32.0±8.1,26.14°S×28.85°E,h0km,mbtmp2.8/1, ML2.1/1,Error ellipse: s-maj=78.6km s-min=54.1km az=141.0*
*BUL **04** 14:44:37.7±0.3,25.72°S×29.29°E,h4km±3km,MD3.1*
ISC 04 14:44:25.2±1.2,**25.99°S**±0.08°×**29.34°E**±0.07°,**h10km,n6,** σ**1.s93**/9,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	3.09	38	i P	Pg	14 45 23.5	-0.9
MOPA				i S	Sb	14 45 56.8	-1.3
LBTB	Lobatse	3.52	285	i P	Pg	14 45 31.3	-1.4
LBTB				i S	Sb	14 46 10.5	-0.1
BOSA	Boshof	4.48	233	i P	Pg	14 45 47.6	-3.3
BOSA				i S	Sb	14 46 38.6	+0.6
BOSA	Boshof	4.48	233	Pn	Pn	14 45 35.3	+2.1
	0.1nm,0.3s,baz=27,slow=11,SNR=2.2						
BOSA				Pg	Pb	14 45 45.3	+1.3
	0.3nm,0.3s,baz=60,slow=15,SNR=6.5						
BOSA				Sn	Sn	14 46 25.0	-0.5
	0.3nm,0.3s,baz=113,slow=15,SNR=3.5						
BOSA				Lg	Lg	14 46 40.0	
	2.3nm,0.3s,baz=146,slow=18,SNR=15						
	2.5nm,1.0s						
I47ZA	BOSHOF INFRASO	4.50	233	I	I	15 09 10.0	
	0.1nm,0.5s,baz=51,slow=312,SNR=1.5						
I35NA	TSUMEB INFRASO	12.80	300	I	I	16 00 00.0	
	baz=124,slow=355,SNR=1.0						

*NEIC **04** 14:57:31.7±1.3, 36°.15N±0°.02×98°.360W±0°.009, h12km±5km, Error ellipse: s-maj=2.3km s-min=1.0km az=166.0*

TUL 04 14:57:32.3±0.9**, 36°.16N**±0°.01×**98°.38W**±0°.01**, h6**km±3km**, ML2.4, ML2.6**/30(NEIC)**, Error ellipse: s-maj=2.1km s-min=1.7km az=171.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK038	West end E0370	0.43	318	Pg	Pg	14 57 40.7	0.0
OK038				IAML		14 57 51.0	
	591nm,0.2s						
CROK	Carrier	0.47	43	Pg	Pg	14 57 41.6	+0.2
CROK				Sg	Sg	14 57 47.8	+0.2
CROK				IAML		14 57 48.6	
	comp=E,516nm,0.3s						
CROK				IAML		14 57 48.6	
	comp=N,593nm,0.3s						
U32A	Winter Ranch,	0.55	294	Pg	Pg	14 57 43.2	+0.4
U32A				Sg	Sg	14 57 50.7	+0.7
U32A				IAML		14 57 51.5	
	comp=N,395nm,0.1s						
OK035	E0210 Rd and N	0.61	334	Pg	Pg	14 57 43.8	-0.2
OK035				IAML		14 57 57.6	
	comp=N,182nm,0.3s						
OK032	Salt Plains WL	0.66	12	Pg	Pg	14 57 44.4	-0.6
OK032				IAML		14 57 59.1	
	comp=N,333nm,0.2s						
GC02	Grant County #	0.81	31	Pg	Pg	14 57 46.4	-1.5
OK029	Liberty Lake	0.83	115	Pg	Pg	14 57 46.6	-1.7
OK029				IAML		14 57 59.9	
	comp=N,214nm,0.3s						
ELIS	Ellis County	0.84	264	Pg	Pg	14 57 48.5	0.0
ELIS				IAML		14 58 07.1	
	comp=E,129nm,0.2s						
ELIS				IAML		14 58 07.7	
	comp=N,151nm,0.3s						
BLOK	Blackwell	1.12	57		Pg	14 57 53.1	-0.6
BLOK				IAML		14 58 09.2	
	comp=N,141nm,0.2s						
BLOK				IAML		14 58 12.7	
	comp=E,134nm,0.2s						
KAN13	South Haven SW	1.12	40		Pg	14 57 52.0	-1.8
FNO	Franklin	1.20	138	Pg	Pg	14 57 54.4	-1.0
FNO				IAML		14 58 15.4	
	comp=E,77nm,1.3s						
FNO				IAML		14 58 30.5	
	comp=N,83nm,4.3s						
OK052	Battle Ridge R	1.29	97		Pn	14 57 56.2	-0.6
OK052				IAML		14 58 16.8	
	comp=N,97nm,0.2s						
OK051	E0350 and S346	1.29	74		Pn	14 57 56.4	-0.5
QUOK	Quay	1.35	89		Pn	14 57 57.1	-0.6
WMOK	Wichita Mounta	1.46	193		Pn	14 57 58.7	-0.5
DEOK	Depew	1.56	101		Pn	14 58 00.7	+0.1
W35A	Tecumseh	1.58	129		Pn	14 58 01.3	+0.4
T35A	Sooner Cattle	1.68	63		Pn	14 58 00.7	-1.6
SMWD	Samnorwood	1.84	236	Pn	Pn	14 58 02.3	-2.2
R32A	Long Quarter,	2.27	353	Pn	Pn	14 58 08.3	-2.1

DJA 04 14:59:43.9±0.4**, 9°S**±9°×**11°7E**±°**, h145**km±4km**, M3.7**/11**, mb4.0**/4**, mB5.0**/1**, MLv3.6**/11**, Mw(mB)4.3**/1**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.06	332	P	Pn	15 00 03.9	+0.5
TWSI				S	Sn	15 00 18.7	+0.5
PLAI	Plampang	0.86	93	P	Pn	15 00 08.2	+1.2
PLAI				S	Sn	15 00 25.9	+1.3
DBNI	Kabupaten Domp	1.42	78	P	Pn	15 00 12.9	+0.7
DBNI				S	Sn	15 00 34.1	+0.3
SRBI	Singaraja	1.82	293	P	Pn	15 00 16.2	-0.4
JAGI	Jajag, Banyuwa	2.75	276	P	Pn	15 00 27.1	-0.8
JAGI				S	Sn	15 00 59.6	-2.2
ABJI	Asem Bagus	2.83	290	P	Pn	15 00 29.6	+0.7
BLJI	Banyuglugur	3.44	287	P	Pn	15 00 37.6	+0.9
BKSI	Bulukumba	4.69	43	P	Pn	15 00 53.2	0.0
EDFI	Ende, Flores	4.72	90	P	Pn	15 00 53.3	-0.4
SJI	Sawahan	5.20	281	P	Pn	15 01 00.4	+0.4
	13nm,0.6s,2µm0.9nm						
UGM	Wanagama	6.38	277	P	Pn	15 01 14.8	-0.9
	123nm,1.6s,0.5nm						
SOEI	Soe	7.33	98	P	Pn	15 01 27.8	-0.7

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*IDC **04** 15:00:32.7±0.7, 25°.07N×96°.51E, h0km, mb4.2/24, mbtmp4.2/25, ML4.5/1, MS3.6/38, Error ellipse: s-maj=23.1km s-min=12.4km az=51.0*

*BJI **04** 15:00:34.3±0.0, 24°.99N×96°.53E, h9km, mb4.4/37, mB4.8/16, ML4.1/7, Ms4.3/24, Ms7 4.0/25*

*NDI **04** 15:00:34.9±3.4, 25°.06N×96°.69E, h9km±61km, ML3.6, MW4.4, mb4.4(NEIC)*

*NEIC **04** 15:00:40.4±1.9, 24°.98N±0°.08×96°.42E±0°.07, h61km±7km, mb4.4/67, Error ellipse: s-maj=12.8km s-min=8.1km az=205.0*

ISC 04 15:00:36.4±0.4**, 25°.01N**±0°.05×**96°.46E**±0°.03**, h21**km**, n170,** σ**1.74**/159**, mb4.5**/60**, MS3.5**/39**, 3C-2D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNCH	TengChong	1.87	89	Pn	Pn	15 01 06.8	-0.6
TNCH				Pg	Pb	15 01 10.0	0.0
TNCH				Sn	Sb	15 01 30.7	-2.3
TNCH				Sg	Sn	15 01 35.2	+4.7
TNCH				smax	smax		
	comp=N,6µm,1.2s						
TNCH				smax	smax		
	comp=E,4µm,1.2s						
MOKO	MOKOCHONG	2.19	307	eP	Pb	15 01 14.9	-0.4
KOHI	KOHIMA	2.24	289	eP	Pb	15 01 15.0	-1.2
IMP	Imphal	2.29	266	eP	Pb	15 01 16.0	-1.0
IMP				eS	Sb	15 01 47.1	+2.2
IMP				IAML		15 01 54.7	
	comp=N,611nm,1.0s						
IMP				IAML		15 02 05.0	
	comp=E,263nm,0.8s						
MND	Mandalay	3.00	186		Pn	15 01 23.0	+0.3
ITAN	ITANAGAR	3.25	311	eP	Pn	15 01 27.5	+1.3
ITAN				eS	Sn	15 02 07.6	+3.3
ZIRO	ZIRO	3.43	318	eP	Pn	15 01 29.6	+0.8
ZIRO				ex	x	15 01 57.0	
TEZP	TEZPUR	3.67	297	eP	Pn	15 01 33.9	+2.1
TEZP				eS	Sn	15 02 15.2	+0.7
SAIH	SAIHA	4.05	232	eP	Pn	15 01 39.8	+2.5
SHL	Shillong	4.18	279	eP	Pn	15 01 40.9	+1.8
SHL				eS	Sn	15 02 31.1	+3.7
TAWA	Tawang	4.86	303	eP	Pn	15 01 50.2	+1.6
TAWA				eS	Sn	15 02 46.1	+1.7
PZH	PanZhiHua	4.99	72	Pn	Pn	15 01 53.1	+2.9
PZH				Pg	Pb	15 02 04.2	+1.0
PZH				Sn	Sn	15 02 51.9	+4.5
PZH				Sg	Sb	15 03 09.9	+7.1
PZH				smax	smax		
	comp=E,170nm,1.3s						
PZH				smax	smax		
	comp=E,110nm,1.0s						
PZH				LR	LR		
	comp=E,3µm,6.7s						
PZH				LR	LR		
	comp=E,2µm,6.0s						
PZH				LR	LR		
	comp=E,2µm,8.7s						
KMI	Kunming	5.70	88	⇓Pn	Pn	15 02 02.8	+2.8
KMI				Sg	Sb	15 03 33.3	+10
KMI				smax	smax		
	comp=E,260nm,1.2s						
KMI				smax	smax		
	comp=E,160nm,1.0s						
KMI				LR	LR		
	comp=E,3µm,7.7s						
CRAI	Chiangrai	5.98	142		Pn	15 02 03.6	0.0
CHTO	Chiang Mai	6.58	159		Pn	15 02 12.9	+0.9
CM31	Chiang Mai Arr	6.92	160		Pn	15 02 16.5	-0.1
CMAR	Chiang Mai Arr	6.92	160		Pn	15 02 17.7	+1.1
CMAR	Chiang Mai Arr	6.92	160	Pn	Pn	15 02 17.3	+0.6
	comp=E,2.0nm,0.3s,baz=335,slow=13,SNR=26						
CMAR				Pg	Pb	15 02 44.9	+9.0
	comp=E,1.2nm,0.3s,baz=343,slow=17,SNR=11						
CMAR				Lg	Lg	15 04 11.0	
	comp=E,0.3nm,0.3s,baz=313,slow=52,SNR=1.1						
	comp=E,4.3nm,0.3s						
SLVN	Son La	7.77	117	Pn	Pn	15 02 34.8	+6.5
CD2	Chengdu	8.73	46	P	Pn	15 02 47.6	+6.1
CD2				pmax	pmax		
	comp=E,10.0nm,0.6s						
CD2				LR	LR		
	comp=E,600nm,6.1s						
CD2				LR	LR		
	comp=E,1µm,12.0s						
CD2				LR	LR		
	comp=E,1µm,11.6s						
GOMU	GeErMu	11.24	353	P	Pn	15 03 19.9	+3.7
GULI	GuiLin	12.60	86	P	P	15 03 51.4	+5.5
GULI				S	Sn	15 06 44.3	+50
GULI				pmax	pmax		
	comp=Z,20nm,2.0s						
GULI				LR	LR		
	comp=N,710nm,6.8s						
GULI				LR	LR		
	comp=E,780nm,8.1s						
GULI				LR	LR		
	comp=Z,770nm,8.9s						
ENH	Enshi	12.68	63	Pn	Pn	15 03 35.7	+0.1
LZH	Lanzhou	12.74	28	eP	P	15 03 44.3	-3.2
LZH				pP	Pn	15 03 48.6	+12
LZH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
LZH				LR	LR		
	comp=N,760nm,8.9s						
LZH				LR	LR		
	comp=E,740nm,8.9s						
LZH				LR	LR		
	comp=Z,630nm,9.3s						
UBPT	Khong Chiam	12.85	137	Pn	Pn	15 03 36.8	-1.2
QIZ	Qiongzhong	13.76	113	P	Pn	15 03 52.4	+2.0
QIZ				S	Sn	15 06 27.6	+4.9
QIZ				pmax	pmax		
	comp=Z,24nm,1.9s						
QIZ				LR	LR		
	comp=Z,720nm,9.8s						
QIZ				LR	LR		
	comp=Z,560nm,10.4s						
QIZ				LR	LR		
	comp=Z,490nm,6.9s						
XAN	Xi'an	14.09	47	⇑P	P	15 03 58.7	-3.6
XAN				pP	Pn	15 04 03.3	+8.5
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				LR	LR		
	comp=Z,2µm,14.9s						
XAN				LR	LR		
	comp=Z,940nm,14.7s						
XAN				LR	LR		
	comp=Z,900nm,13.8s						
GTA	Gaotai	14.64	10	eP	P	15 04 10.4	+1.9
GTA				pP	Pn	15 04 14.2	+12
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				LR	LR		
	comp=N,410nm,9.1s						
GTA				LR	LR		
	comp=E,200nm,8.0s						
GTA				LR	LR		
	comp=Z,400nm,8.4s						
LGTI	Lohaghat	15.08	291	eP	P	15 04 15.2	+1.8
WHN	Wuhan	16.76	67	P	P	15 04 31.2	-0.8
LYN	LuoYang	16.82	52	⇑P	Pn	15 04 30.3	-0.3
LYN				pP	pP	15 04 34.6	-4.1
LYN				sP	sP	15 04 45.0	+3.6
LYN				pmax	pmax		
	comp=Z,13nm,1.1s						
LYN				pmax	pmax		
	comp=Z,260nm,4.9s						
LYN				LR	LR		
	comp=Z,830nm,13.7s						
LYN				LR	LR		
	comp=Z,400nm,13.4s						
LYN				LR	LR		
	comp=Z,880nm,12.0s						
HYB	Hyderabad	18.31	249	eP	Pn	15 04 51.0	+1.8
BTO	Baotou	19.25	33	eP	Pn	15 04 59.2	-1.3
BTO				pP	pP	15 05 04.6	-0.9
BTO				sP	sP	15 05 08.0	-0.2
BTO				PP	PnPn	15 05 15.7	+2.1
BTO				S	Sn	15 08 33.6	-2.1
BTO				pmax	pmax		
	comp=Z,32nm,0.9s						
BTO				pmax	pmax		
	comp=Z,290nm,4.2s						
BTO				LR	LR		
	comp=Z,460nm,11.6s						
BTO				LR	LR		
	comp=Z,380nm,8.2s						
BTO				LR	LR		
	comp=Z,370nm,7.3s						
THN	Thein Dam	19.62	297	eP	Pn	15 05 04.8	-0.1
AJM	Ajmer	19.70	279	eP	Pn	15 05 06.9	+0.8
HNS	HongShan	19.86	47	⇓P	Pn	15 05 10.6	+2.8
HNS				eS	Sn	15 08 49.7	-0.7
HNS				pmax	pmax		
	comp=Z,13nm,0.7s						
HNS				LR	LR		
	comp=Z,360nm,16.1s						
HNS				LR	LR		
	comp=Z,480nm,14.9s						
HNS				LR	LR		
	comp=Z,340nm,12.3s						
WMQ	Urumqi	20.09	341	eP	Pn	15 05 10.4	-0.1
WMQ				sP	sP	15 05 18.2	+0.7
WMQ				pmax	pmax		
	comp=Z,18nm,1.3s						
NIL	Nilore	21.95	298	P	P	15 05 28.3	-0.5
BJT	Baijiatuau	22.29	43	P	P	15 05 33.1	+0.7
BJT				IAmb	IAmb	15 05 40.9	
	comp=Z,12nm,1.0s						
KSH	Kashi	22.49	315	P	P	15 05 35.1	+0.5
KSH				pP	sP	15 05 46.5	+3.0
KSH				PP	PnPn	15 06 05.3	+7.2
KSH				S	S	15 09 44.5	+4.0
KSH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TWG	Pinlang	22.60	90	P	P	15 05 33.3	-2.5
TARG	Taragay, Kyrgy	22.74	322	P	P	15 05 36.5	-1.1
TARG				IAmb	IAmb	15 06 06.1	
	comp=Z,14nm,1.0s						
PALK	Pallekele	23.19	223	LR	LR	15 16 15.2	
	comp=Z,98nm,20.1s,baz=159,slow=40						
SONM	Songino Array	24.10	17	P	P	15 05 49.9	-0.8
SONM	Songino Array	24.10	17	P	P	15 05 49.7	-0.9
	comp=Z,2.8nm,0.8s,baz=198,slow=10.0,SNR=11						
SONM				LR	LR	15 16 38.6	
	comp=Z,89nm,19.1s,baz=232,slow=40						
	comp=Z,2.8nm,0.8s						
ULN	Ulaanbaatar	24.30	18	P	P	15 05 50.8	-1.7
MK31	Makanchi Array	24.51	336	P	P	15 05 51.3	-2.9
MK31				IAmb	IAmb	15 05 58.4	
	comp=Z,7.8nm,0.7s						
MKAR	Makanchi Array	24.51	336	P	P	15 05 50.7	-3.5
MKAR	Makanchi Array	24.51	336	P	P	15 05 53.6	-0.6
	comp=Z,7.3nm,0.6s,baz=265,slow=19,SNR=14						
MKAR				LR	LR	15 15 31.8	
	comp=Z,74nm,18.1s,baz=132,slow=37						
	comp=Z,7.3nm,0.6s						
MAKZ	Makanchi	24.63	336	P	P	15 05 54.2	-1.2
XLT	XiLinHaoTe	24.73	35	eP	P	15 05 57.8	+1.5
XLT				pP	pP	15 06 01.7	-1.2
XLT				sP	sP	15 06 05.2	-0.3
XLT				PP	PnPn	15 06 33.2	+4.7
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT				pmax	pmax		
	comp=Z,82nm,5.5s						
AAK	Ala-Archa	25.22	320	P	P	15 05 59.9	-1.0
AAK	Ala-Archa	25.22	320	P	P	15 06 01.8	+0.9
	comp=Z,6.9nm,0.8s,baz=148,slow=6.6,SNR=19						
	comp=Z,6.9nm,0.8s						
ARSB	Arslanbob	25.39	316	P	P	15 06 01.1	-1.4
KBL	Kabul	25.55	298	P	P	15 06 03.0	-1.1
KBL				IAmb	IAmb	15 06 10.7	
	comp=Z,16nm,0.8s						
BTK	Batken	26.19	311	P	P	15 06 06.8	-2.9
SIMJ	Simiganj	26.88	307	P	P	15 06 14.7	-1.3
KK31	Karatay Array	27.89	317	P	P	15 06 24.2	-0.6
KKAR	Karatay Array	27.89	317	P	P	15 06 24.3	-0.6
KKAR	Karatay Array	27.89	317	P	P	15 06 24.2	-0.6
KKAR				IAmb	IAmb	15 06 56.2	
	comp=Z,2.6nm,0.9s						
JOW	Kunigami	28.64	79	LR	LR	15 18 47.0	
	comp=Z,132nm,20.5s,baz=96,slow=38						
KURBB	Kurchatov Arra	29.07	336	P	P	15 06 35.0	-0.2
	comp=Z,1.8nm,0.5s,baz=147,slow=8.9,SNR=12						
	comp=Z,1.8nm,0.5s						
KURK	Kurchatov	29.12	336	P	P	15 06 34.7	-0.9
KSRS	Korea Array	29.49	58	P	P	15 06 37.5	-1.5
	comp=Z,0.6nm,0.6s,baz=255,slow=8.2,SNR=1.5						
KSRS				LR	LR	15 19 14.9	
	comp=Z,85nm,19.8s,baz=225,slow=38						
	comp=Z,0.6nm,0.6s						
ZAA0	Zalesovo Array	30.18	346	P	P	15 06 44.0	-1.0
ZALV	Zalesovo Beam	30.18	346	P	P	15 06 43.8	-1.2
ZALV	Zalesovo Beam	30.18	346	P	P	15 06 44.6	-0.4
	comp=Z,3.0nm,0.5s,baz=168,slow=9.0,SNR=15						
	comp=Z,3.0nm,0.5s						
JNU	Nakatsue	31.05	67	P	P	15 06 51.5	-1.4
JNU	Nakatsue	31.05	67	LR	LR	15 20 04.8	
	comp=Z,128nm,21.6s,baz=326,slow=38						
BNX	BinXian	32.32	42	⇑P	P	15 07 04.8	+0.9
BNX				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,88nm,4.5s						
LEM	Lembang	33.46	160	LR	LR	15 22 08.0	
	comp=Z,85nm,19.5s,baz=243,slow=39						
BVAR	Borovoye Array	34.17	332	P	P	15 07 19.8	-0.2
	comp=Z,2.1nm,0.5s,baz=144,slow=10,SNR=11						
BVAR				LR	LR	15 22 22.6	
	comp=Z,98nm,21.6s,baz=201,slow=38						
	comp=Z,2.1nm,0.5s						
BRVK	Borovoye	34.24	332	P	P	15 07 19.4	-1.2
BRVK				IAmb	IAmb	15 07 30.7	
	comp=Z,4.9nm,0.9s						
USRK	Ussuriysk Ar.	34.60	47	LR	LR	15 22 08.8	
	comp=Z,89nm,19.9s,baz=291,slow=38						
HEH	HeiHe	34.73	35	eP	P	15 07 25.3	+0.4
HEH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,290nm,4.8s						
GEYT	Alibeck	34.90	301	P	P	15 07 25.4	-1.2
GEYT				IAmb	IAmb	15 07 31.7	
	comp=Z,4.8nm,0.8s						
GEYT	Alibeck	34.90	301	P	P	15 07 27.4	+0.8
	comp=Z,4.0nm,0.8s,baz=98,slow=9.1,SNR=9.3						
	comp=Z,4.0nm,0.8s						
GYA0B	ALIBECK ARRAY	34.90	301	P	P	15 07 25.5	-1.1
GYA0B				IAmb	IAmb	15 07 31.7	
	comp=Z,5.5nm,0.8s						
KLR	Kul'dur	36.59	39	LR	LR	15 22 54.8	
	comp=Z,68nm,20.2s,baz=240,slow=37						
ABKAR	Akbulak array	37.31	320	P	P	15 07 46.1	-0.8
ABKAR	Akbulak array	37.31	320	P	P	15 07 45.8	-1.2
ABKAR				IAmb	IAmb	15 07 57.1	
	comp=Z,5.8nm,0.8s						
MJB9	Matsu-Tunnel	37.40	62	P	P	15 07 48.8	+0.9
MAJO	Matsushiro	37.40	62	P	P	15 07 48.3	+0.4
MJAR	Matsushiro Arr	37.40	62	P	P	15 07 47.5	-0.5
	comp=Z,2.5nm,0.9s,baz=267,slow=7.9,SNR=6.0						
MJAR				LR	LR	15 23 32.6	
	comp=Z,79nm,20.9s,baz=252,slow=37						
	comp=Z,2.5nm,0.9s						
KAPI	Kappang	37.47	140	LR	LR	15 26 06.9	
	comp=Z,71nm,18.2s,baz=330,slow=41						
JHJ	Hachijo jima 2	38.51	68	LR	LR	15 24 21.5	
	comp=Z,70nm,18.5s,baz=136,slow=37						
AKTO	Aktyubinsk	38.95	321	P	P	15 07 59.7	-1.1
	comp=Z,0.9nm,0.4s,baz=89,slow=9.6,SNR=2.8						
AKTO				LR	LR	15 26 54.8	
	comp=Z,101nm,21.4s,baz=156,slow=41						
	comp=Z,0.9nm,0.4s						
JMM	Marumori	39.59	60	P	P	15 08 06.7	+0.3
JTM	Tenmabayashi	40.18	56	P	P	15 08 11.3	+0.2
ARU	Arti	41.64	329	P	P	15 08 23.4	+0.5
ARU				IAmb	IAmb	15 08 30.1	
	comp=Z,5.0nm,1.0s						
ARU	Arti	41.64	329	P	P	15 08 21.5	-1.4
	comp=Z,2.8nm,0.5s,baz=126,slow=5.2,SNR=6.0						
	comp=Z,2.8nm,0.5s						
ASAJ	Asahikawa	41.89	51	LR	LR	15 28 04.8	
	comp=Z,61nm,18.6s,baz=303,slow=40						
JKA	Kamikawa-asahi	41.89	51	P	P	15 08 25.1	-0.1
NRIK	Noril'sk	44.67	356	P	P	15 08 45.6	-1.7
	comp=Z,0.4nm,0.4s,baz=27,slow=9.8,SNR=1.7						
	comp=Z,0.4nm,0.4s						
GNI	Garni	45.50	302	LR	LR	15 29 52.8	
	comp=Z,52nm,20.1s,baz=350,slow=39						
KIRV	Kirov	47.00	328	LR	LR	15 32 26.2	
	comp=Z,91nm,18.7s,baz=321,slow=41						
KBZ	Khabaz	47.13	307	P	P	15 09 08.1	+1.1
	comp=Z,0.9nm,0.6s,baz=135,slow=10.0,SNR=1.8						
KBZ				LR	LR	15 30 36.8	
	comp=Z,104nm,19.3s,baz=14,slow=38						
	comp=Z,0.9nm,0.6s						
TIXI	Tiksi	50.10	13	P	P	15 09 28.7	-0.8
TIXI				IAmb	IAmb	15 09 31.9	
	comp=Z,7.3nm,1.4s						
MA2	Magadan	50.85	32	LR	LR	15 33 40.8	
	comp=Z,76nm,19.9s,baz=294,slow=39						
PSA00	Pilbara Seismi	51.58	152	P	P	15 09 38.7	-2.5
PSA00	Pilbara Seismi	51.58	152	P	P	15 09 37.7	-3.5
PSA00				IAmb	IAmb	15 09 57.7	
	comp=Z,8.1nm,1.4s						
AKASG	Malin Array Be	56.79	316	P	P	15 10 17.9	-1.0
	comp=Z,1.7nm,0.7s,baz=79,slow=6.4,SNR=9.7						
AKASG				LR	LR	15 37 56.8	
	comp=Z,93nm,18.1s,baz=348,slow=40						
	comp=Z,1.7nm,0.7s						
AKBB	Malin Array Si	56.79	316	P	P	15 10 17.4	-1.5
AKBB				IAmb	IAmb	15 10 25.0	
	comp=Z,5.0nm,1.0s						
WB0	Warramunga Arr	57.82	137	P	P	15 10 26.2	-0.4
WB0				IAmb	IAmb	15 10 30.9	
	comp=Z,6.1nm,1.1s						
WRA	Warramunga Arr	57.92	137	P	P	15 10 26.8	-0.4
	comp=Z,2.0nm,0.9s,baz=325,slow=7.6,SNR=6.5						
	comp=Z,2.0nm,0.9s						
WB2	Warramunga Arr	57.92	137	P	P	15 10 27.4	+0.1
WB2				IAmb	IAmb	15 10 30.9	
	comp=Z,3.8nm,0.9s						
WR0	Warramunga Arr	58.05	137	P	P	15 10 27.9	-0.3
WR0				IAmb	IAmb	15 10 41.2	
	comp=Z,6.3nm,1.1s						
FINES	FINESS Array B	58.99	328	P	P	15 10 33.4	-0.8
FINES	FINESS Array B	58.99	328	P	P	15 10 33.6	-0.6
	comp=Z,2.7nm,0.7s,baz=92,slow=9.5,SNR=7.3						
FINES				LR	LR	15 36 46.9	
	comp=Z,217nm,18.4s,baz=280,slow=37						
	comp=Z,2.7nm,0.7s						
MLR	Muntele Rosu	59.22	309	P	P	15 10 36.0	-0.3
MLR	Muntele Rosu	59.22	309	P	P	15 10 35.5	-0.7
	comp=Z,3.7nm,0.7s,baz=84,slow=2.4,SNR=3.8						
	comp=Z,3.7nm,0.7s						
BURAR	Bucovina Array	59.53	312	P	P	15 10 38.2	-0.2
ARCES	ARCESS Array B	60.15	337	P	P	15 10 41.8	-0.3
ARCES	ARCESS Array B	60.15	337	P	P	15 10 40.5	-1.7
	comp=Z,3.8nm,0.8s,baz=72,slow=5.6,SNR=5.9						
ARCES				LR	LR	15 41 04.9	
	comp=Z,122nm,20.3s,baz=296,slow=40						
	comp=Z,3.8nm,0.8s						
ASAR	Alice Springs	60.48	140	P	P	15 10 45.4	+0.4
ASAR	Alice Springs	60.48	140	P	P	15 10 45.1	+0.1
	comp=Z,0.9nm,0.8s,baz=322,slow=6.8,SNR=13						
ASAR				LR	LR	15 40 23.5	
	comp=Z,35nm,18.1s,baz=272,slow=40						
	comp=Z,0.9nm,0.8s						
NWAO	Narrogin (SRO)	60.92	160	P	P	15 10 46.1	-1.6
NWAO	Narrogin (SRO)	60.92	160	LR	LR	15 40 05.7	
	comp=Z,31nm,18.6s,baz=204,slow=39						
IDI	Anoyia	61.54	298	LR	LR	15 39 26.0	
	comp=Z,47nm,19.3s,baz=73,slow=38						
CRVS	Cervenica-Dubn	61.91	314	eP	P	15 10 57.9	+3.5
KMBO	Kilima Mbogo	62.86	255	LR	LR	15 38 30.7	
	comp=Z,19nm,20.1s,baz=102,slow=36						
SHEM	Shemya Is, Ala	63.14	42	LR	LR	15 38 58.3	
	comp=Z,13nm,20.7s,baz=92,slow=37						
VRAC	Vranov	65.02	315	P	P	15 11 14.8	-0.1
	comp=Z,5.8nm,0.9s,baz=96,slow=7.6,SNR=5.8						
	comp=Z,5.8nm,0.9s						
HFS	Hagfors	65.09	327	P	P	15 11 15.1	-0.1
	comp=Z,6.1nm,0.9s,baz=81,slow=18,SNR=4.7						
	comp=Z,6.1nm,0.9s						
NC405	NORSAR Array S	65.93	328	P	P	15 11 19.1	-1.6
NC405				IAmb	IAmb	15 11 53.2	
	comp=Z,3.9nm,0.9s						

CTA	Charters Tower	65.99	128	LR	LR	15 42 14.1	
	comp=Z,30nm,19.2s,baz=272,slow=38						
NB2	NORSAR Subarra	66.18	328	P	P	15 11 23.7	+1.4
	comp=Z,3.1nm,0.8s,baz=82,slow=6.5						
NOA	NORSAR Array B	66.18	328	P	P	15 11 21.0	-1.3
	comp=Z,1.5nm,0.8s,baz=82,slow=6.5,SNR=4.7						
NOA				LR	LR	15 40 46.3	
	comp=Z,50nm,21.1s,baz=345,slow=36						
	comp=Z,1.5nm,0.8s						
NC204	NORSAR Array S	66.36	328	P	P	15 11 22.3	-1.1
NC204				IAmb	IAmb	15 11 34.5	
	comp=Z,2.8nm,0.7s						
GERES	GERESS Array B	66.97	315	P	P	15 11 26.1	-1.5
GERES	GERESS Array B	66.97	315	P	P	15 11 26.5	-1.1
	comp=Z,3.2nm,0.8s,baz=64,slow=6.1,SNR=9.8						
GERES				LR	LR	15 45 05.7	
	comp=Z,110nm,19.0s,baz=358,slow=40						
	comp=Z,3.2nm,0.8s						
TIP	Timpagrande	67.00	304	P	P	15 11 26.9	-1.1
DAVOX	Davos/Dischmat	69.96	313	P	P	15 11 45.4	-1.1
	comp=Z,4.6nm,0.8s,baz=91,slow=6.7,SNR=6.7						
	comp=Z,4.6nm,0.8s						
C16K	Lisburne Hills	70.00	23	P	P	15 11 47.7	+1.6
C16K				IAmb	IAmb	15 12 15.0	
	comp=Z,9.1nm,1.5s						
HNR	Honiara	70.66	111	LR	LR	15 44 31.3	
	comp=Z,447nm,18.1s,baz=294,slow=37						
STKA	Stephens Creek	71.12	140	LR	LR	15 46 44.6	
	comp=Z,45nm,18.2s,baz=215,slow=39						
C18K	Utukok River	71.33	22	P	P	15 11 53.7	-0.5
C18K				IAmb	IAmb	15 12 02.5	
	comp=Z,5.3nm,1.2s						
C19K	Lookout Ridge	71.70	22	P	P	15 11 54.0	-2.5
C19K				IAmb	IAmb	15 12 28.6	
	comp=Z,6.9nm,1.5s						
E18K	Tukpahlearik C	71.98	23	P	P	15 11 56.2	-1.9
E18K				IAmb	IAmb	15 12 00.7	
	comp=Z,4.2nm,1.1s						
F17K	Baldwin Pennin	72.10	24	P	P	15 11 58.5	-0.3
F17K				IAmb	IAmb	15 12 02.8	
	comp=Z,4.7nm,1.0s						
B20K	Meade River	72.14	20	P	P	15 11 58.2	-0.8
B20K				IAmb	IAmb	15 12 04.0	
	comp=Z,5.6nm,1.3s						
D19K	Kuna River	72.43	22	P	P	15 12 00.1	-0.8
D19K				IAmb	IAmb	15 12 03.4	
	comp=Z,9.0nm,1.4s						
B21K	Ikpikpuk River	73.10	20	P	P	15 12 03.7	-1.0
B22K	Teshekpuk Lake	73.14	19	P	P	15 12 04.3	-0.7
E19K	Redstone River	73.16	23	P	P	15 12 04.5	-0.7
E19K				IAmb	IAmb	15 12 09.8	
	comp=Z,3.7nm,1.1s						
F19K	Shaleruckik Mo	73.23	23	P	P	15 12 04.5	-1.0
F19K				IAmb	IAmb	15 12 12.3	
	comp=Z,7.5nm,1.4s						
J16K	Anvik River	73.55	27	P	P	15 12 06.8	-0.7
J16K				IAmb	IAmb	15 12 32.6	
	comp=Z,7.2nm,1.4s						
F20K	Avaraart Lake	73.87	23	P	P	15 12 07.4	-1.8
F20K				IAmb	IAmb	15 12 13.1	
	comp=Z,4.0nm,1.2s						
C23K	Itkillik River	74.23	19	P	P	15 12 10.2	-1.2
C23K				IAmb	IAmb	15 12 15.4	
	comp=Z,4.8nm,0.9s						
F21K	Alatna River	74.57	22	P	P	15 12 13.2	-0.2
F21K				IAmb	IAmb	15 12 17.0	
	comp=Z,3.5nm,0.9s						
K17K	Iditarod	74.74	27	P	P	15 12 13.7	-0.7
IMAR	Indian Mountai	75.06	23	P	P	15 12 16.3	+0.1
H21K	Melozitna Rive	75.56	24	P	P	15 12 19.2	0.0
H21K				IAmb	IAmb	15 12 23.2	
	comp=Z,4.7nm,1.0s						
BPAW	Bear Paw Mtn.	77.00	25	P	P	15 12 27.1	-0.3
BPAW				IAmb	IAmb	15 12 30.7	
	comp=Z,3.9nm,1.1s						
BMAR	Burnt Mountain	77.39	20	P	P	15 12 29.3	-0.3
LSZ	Lusaka	77.64	247	LR	LR	15 46 35.3	
	comp=Z,29nm,18.1s,baz=18,slow=36						
E27K	Coleen River	77.85	19	P	P	15 12 32.2	+0.1
ILAR	Eielson Array	78.15	23	LR	LR	15 50 36.1	
	comp=Z,85nm,18.8s,baz=28,slow=38						
E28M	Babbage River	78.18	18	P	P	15 12 34.0	+0.1
F28M	Old Crow	78.72	19	P	P	15 12 37.6	+0.7
BRLK	Bradley Lake	79.30	28	P	P	15 12 38.4	-1.7
G30M	tAoh Zraii Nji	80.20	19	P	P	15 12 43.5	-1.5
G30M				IAmb	IAmb	15 12 47.7	
	comp=Z,3.9nm,0.9s						
BCAR	Beaver Creek A	80.98	23	P	P	15 12 48.7	-0.5
ESDC	Sonseca Array	81.91	310	LR	LR	15 57 33.1	
	comp=Z,95nm,21.2s,baz=21,slow=42						
K29M	Barlow Dome	81.93	21	P	P	15 12 53.5	-0.8
K29M				IAmb	IAmb	15 12 57.5	
	comp=Z,3.5nm,0.9s						
N31M	Braeburn, Yuko	84.13	22	P	P	15 13 05.5	-0.2
LBTB	Lobatse	84.66	239	LR	LR	15 47 51.6	
	comp=Z,29nm,21.9s,baz=27,slow=34						
TSUM	Tsumeb	88.39	248	LR	LR	15 52 12.5	
	comp=Z,31nm,20.4s,baz=78,slow=35						
SUR	Sutherland	91.93	235	LR	LR	15 56 00.0	
	comp=Z,43nm,18.7s,baz=3.5,slow=36						
RPZ	Rata Peaks	96.59	135	LR	LR	15 58 33.8	
	comp=Z,29nm,21.0s,baz=286,slow=36						

*HVO **04** 15:10:28.8±0.9, 19°.70N±0°.03×156°.53W±0°.04, h35km±8km, Error ellipse: s-maj=6.6km s-min=3.8km az=53.0*

NEIC 04 15:10:25.5±1.1**, 19°.69N**±0°.03×**156°.52W**±0°.03**, h22**km±9km**, ML3.0**/56**, ML2.9**/17(HVO)**, Error ellipse: s-maj=5.0km s-min=2.4km az=220.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLU	Kahalu`u	0.60	100		Pn	15 10 39.2	+0.3
KHLU					Sn	15 10 47.1	-0.9
CPH	Captain Cook	0.61	110		Pn	15 10 39.4	+0.5
HUH	Hualalai	0.65	91		Pn	15 10 40.0	+0.3
HUH					Sn	15 10 48.5	-0.8
HUH	Hualalai	0.65	91	IAML		15 10 52.0	
	comp=E,584nm,0.3s						
HUH				IAML		15 10 53.3	
	comp=N,674nm,0.2s						
MHA	Mahukona	0.76	50	Pn	Pn	15 10 41.6	+0.7
MHA	Mahukona	0.76	50		Sn	15 10 51.2	-0.6
ALEP	Alea Permanent	0.84	100		Pn	15 10 42.9	+0.5
ALEP					Sn	15 10 53.6	-0.7
HPAH	Hawaii Prepara	0.85	67	IAML		15 10 52.4	
	comp=E,398nm,0.2s						
HPAH	Hawaii Prepara	0.85	67		Pn	15 10 42.1	-0.1
HPAH					Sb	15 10 51.6	-0.9
MWH	Moku‘aweowe	0.90	103		Pn	15 10 43.2	-0.1
MWH					Sb	15 10 54.4	-0.1
MWH	Moku‘aweowe	0.90	103	IAML		15 11 03.9	
	comp=E,388nm,0.5s						
MWH				IAML		15 11 08.2	
	comp=N,480nm,0.7s						
MLOA	Mauna Loa Obse	0.91	100		Pn	15 10 43.5	+0.2
MLOA					Sb	15 10 54.6	0.0
POHA	Pohakuloa	0.94	86		Pn	15 10 43.7	+0.1
POHA					Sb	15 10 54.6	-0.7
KHU	Kahuku	0.97	117		Sb	15 10 55.7	-0.5
KHU	Kahuku	0.97	117		Pn	15 10 44.0	0.0
KHU	Kahuku	0.97	117	IAML		15 10 55.2	
	comp=E,238nm,1.3s						
HMH	Humu‘ula Sheep	0.98	95		Pn	15 10 44.9	+0.6
HMH					Sb	15 10 56.8	+0.1
AIN	Ainahou	1.05	108	IAML		15 11 05.4	
	comp=N,312nm,0.5s						
AIN				IAML		15 11 15.9	
	comp=E,270nm,1.2s						
AIN	Ainahou	1.05	108		Pn	15 10 45.1	-0.1
AIN					Sb	15 10 57.6	-1.0
HLK	Haleakala	1.09	14		Sb	15 10 58.6	-1.1
HLK	Haleakala	1.09	14		Pn	15 10 45.8	0.0
HLK	Haleakala	1.09	14	IAML		15 10 50.5	
	comp=E,194nm,3.5s						
MLH	Mauna Loa	1.09	100	IAML		15 10 59.1	
	comp=E,493nm,0.2s						
MLH				IAML		15 10 59.8	
	comp=N,543nm,0.1s						
MLH	Mauna Loa	1.09	100		Pb	15 10 45.8	0.0
MLH					Sb	15 10 58.7	-1.0
HTC	Hot Caves	1.16	113		Pn	15 10 46.5	+0.1
WRMHI	West Rim	1.19	104		Sb	15 11 01.5	-1.0
WRMHI	West Rim	1.19	104	Pn	Pb	15 10 48.0	+0.5
UWE	Uwekahuna	1.19	103	Pn	Pn	15 10 46.9	-0.1
UWE					Sb	15 11 01.2	-1.4
RSD	Rainshed	1.20	101		Pn	15 10 47.1	+0.1
RSD					Sb	15 11 00.9	-1.8
RSD	Rainshed	1.20	101	IAML		15 11 01.3	
	comp=N,431nm,0.3s						
RSD				IAML		15 11 01.8	
	comp=E,408nm,0.6s						
SDHHI	Sand Hill	1.20	104		Sn	15 11 00.8	-1.9
SDHHI	Sand Hill	1.20	104	Pn	Pn	15 10 46.8	-0.3
SDHHI	Sand Hill	1.20	104	IAML		15 11 01.8	
	comp=E,629nm,0.3s						
SDHHI				IAML		15 11 05.5	
	comp=N,582nm,1.1s						
KHLH	Kahului Airpor	1.20	4		Pb	15 10 47.6	0.0
KHLH				IAML		15 11 02.2	
	comp=N,237nm,0.4s						
OBL	Observatory Le	1.20	103	Pn	Pn	15 10 47.0	-0.1
UWB	Uwekahuna B	1.21	103		Pn	15 10 47.0	-0.2
UWB	Uwekahuna B	1.21	103	IAML		15 11 23.6	
	comp=N,273nm,1.9s						
HLP	Hilina Pali	1.21	109		Pn	15 10 47.4	+0.1
HLP	Hilina Pali	1.21	109	IAML		15 11 09.4	
	comp=N,479nm,2.5s						
HLP				IAML		15 11 20.1	
	comp=E,436nm,2.9s						
SBLHI	Steaming Bluff	1.21	102	Pn	Pn	15 10 47.1	-0.2
SBLHI				IAML		15 11 09.6	
	comp=N,260nm,1.4s						
SBLHI				IAML		15 11 23.7	
	comp=E,276nm,1.5s						
HATHI	Halema‘uma‘u T	1.22	103	Pn	Pn	15 10 47.1	-0.3
HATHI				IAML		15 11 01.9	
	comp=E,474nm,1.0s						
HATHI				IAML		15 11 23.4	
	comp=N,326nm,1.2s						
PUH	Pauahi	1.27	104	Pn	Pn	15 10 47.6	-0.5
PUH				IAML		15 11 33.2	
	comp=N,267nm,2.0s						
STCH	Steam Cracks	1.35	103		Pn	15 10 48.8	-0.4
STCH					Sn	15 11 04.5	-2.1
STCH	Steam Cracks	1.35	103	IAML		15 11 05.1	
	comp=E,218nm,0.1s						
STCH				IAML		15 11 17.2	
	comp=N,220nm,3.5s						
NPOC	North of Pu‘u	1.37	102	Pn	Pn	15 10 49.0	-0.3
NPOC				IAML		15 11 06.3	
	comp=E,310nm,0.8s						
NPOC				IAML		15 11 37.5	
	comp=N,341nm,0.9s						
JCUZ	Jacuzzi	1.38	103	Pn	Pn	15 10 49.1	-0.4
JCUZ				IAML		15 11 14.4	
	comp=E,244nm,0.8s						
JCUZ				IAML		15 11 16.6	
	comp=N,239nm,1.7s						
JOKA	Jonika Flow	1.46	100		Pn	15 10 50.2	-0.4
JOKA					Sn	15 11 06.6	-2.4
WMR	Waimanalo Ridg	1.95	326		Sn	15 11 18.8	-2.4
HON	Honolulu	2.13	320		Sn	15 11 23.2	-2.4
HON	Honolulu	2.13	320	Pn	Pn	15 11 00.3	+0.5
HON	Honolulu	2.13	320	IAML		15 11 26.3	
	comp=E,273nm,3.6s						
HON				IAML		15 12 07.5	
	comp=N,223nm,2.9s						
KIP	Kipapa	2.22	321		Sn	15 11 25.9	-1.7
KIP	Kipapa	2.22	321	Pn	Pn	15 11 01.5	+0.6
KIP				IAML		15 11 23.8	
	comp=N,122nm,3.5s						
KIP				IAML		15 11 34.5	
	comp=N,134nm,3.9s						
OPA	Opana	2.42	325	Pn	Pn	15 11 04.5	+0.7
KEKH	Kekaha	3.75	308		Pn	15 11 21.4	-0.7

*NEIC **04** 15:12:02.0±1.6, 30°.86S±0°.10×179°.4W±0°.1, h331km±6km, mb4.2/17, Error ellipse: s-maj=17.3km s-min=13.8km az=107.0*

*IDC **04** 15:12:03.0±1.2, 30°.53S×179°.59W, h339km±11km, mb3.5/9, mbtmp4.2/9, Error ellipse: s-maj=20.7km s-min=17.6km az=137.0*

ISC 04 15:12:00.8±0.4**, 30°.73S**±0°.06×**179°.65W**±0°.08**, h321**km**, n116, σ1§49**/132**, mb4.1**/15**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.10	46	P	Pn	15 12 52.4	+2.1
GLKZ				S	S	15 13 28.3	-1.4
RIZ	Raoul Island	2.10	46	S	S	15 13 32.8	+2.9
RAO	Raoul Island	2.10	46	Pn	Pn	15 12 52.4	+2.1
RAO				Sn	S	15 13 29.2	-0.7
RAO	Raoul Island	2.10	46	P	Pn	15 12 52.9	+2.6
	344nm,0.2s,baz=102,slow=10,SNR=10.0						
RAO				S	S	15 13 28.9	-1.0
	465nm,0.4s,baz=309,slow=23,SNR=8.9						
WCZ	Waipu Caves	7.23	222	P	Pn	15 13 53.6	+8.4
WMGZ	Waiomatatini S	7.25	192	P	Pn	15 13 49.1	+3.6
WMGZ				S	S	15 15 10.9	+0.5
HAZ	Te Kaha	7.33	196	P	Pn	15 13 50.0	+3.6
HAZ				S	S	15 15 13.8	+1.9
PUZ	Puketiti	7.53	193	P	Pn	15 13 51.3	+2.5
PUZ				S	S	15 15 16.1	-0.4
RUGZ	Raukumara Rang	7.55	196	P	Pn	15 13 51.4	+2.2
RUGZ				S	S	15 15 17.6	+0.4
CNGZ	Carnagh Statio	7.94	192	P	Pn	15 13 55.9	+2.2
MWZ	Matawai	7.94	196	P	Pn	15 13 54.8	+1.1
MWZ				S	S	15 15 25.4	-0.2
TKGZ	Te Karaka	7.96	194	P	Pn	15 13 55.2	+1.1
TKGZ				S	S	15 15 24.5	-1.6
URZ	Urewera	7.97	199	P	Pn	15 13 56.0	+1.8
	92nm,0.3s,baz=344,slow=4.0,SNR=44						
URZ				S	S	15 15 25.5	-0.8
	216nm,0.5s,baz=314,slow=21,SNR=18						
URZ	Urewera	7.97	199	P	Pn	15 13 56.0	+1.8
URZ				S	S	15 15 27.3	+0.9
TOZ	Tahuroa Road	8.05	209		Pn	15 13 56.6	+1.5
RAGZ	Rawiri	8.12	197	P	P	15 13 58.3	-2.1
RAGZ				S	S	15 15 29.6	-0.1
RRRZ	Republican Roa	8.22	202	P	P	15 14 03.3	+1.8
RIGZ	Rimuhau	8.24	194	P	Pn	15 13 58.6	+1.2
RIGZ				S	S	15 15 30.8	-1.5
MUGZ	Murupara	8.27	200	P	P	15 14 01.0	-1.0
HSRZ	Hossack Road	8.29	203	P	P	15 14 05.7	+3.5
RTZ	Ruatahuna	8.34	198		Pn	15 13 59.0	+0.3
RTZ	Ruatahuna	8.34	198	P	P	15 14 02.6	-0.3
HRRZ	Handcock Road	8.35	203	P	P	15 14 02.7	-0.2
GRRZ	Galatos Road	8.37	204	P	P	15 14 04.9	+1.7
SNGZ	Shannon Statio	8.41	196	P	Pn	15 14 01.2	+1.7
PRRZ	Plateau Road	8.41	202	P	P	15 14 05.0	+1.5
ALRZ	Allen Road	8.48	202	P	P	15 14 05.0	+0.6
KNZ	Kokohu	8.56	194	P	Pn	15 14 02.2	+0.9
KUTZ	Kaahu Road	8.59	204	P	P	15 14 08.0	+2.2
RAHZ	Arahi	8.60	197	P	Pn	15 14 03.2	+1.4
MTHZ	Maungataniwha	8.60	199	P	Pn	15 14 03.4	+1.6
MRHZ	Matea Rd	8.71	201	P	P	15 14 06.2	-1.0
WHHZ	Waihua	8.71	196	P	Pn	15 14 04.6	+1.5
NMHZ	Naumai	8.84	198	P	Pn	15 14 04.9	+0.1
ARHZ	Aropaoanui	8.95	197	P	Pn	15 14 07.1	+1.2
HIZ	Hauiti	8.99	209	Pn	Pn	15 14 07.2	+0.7
BKZ	Black Stump Fm	8.99	200		Pn	15 14 06.3	-0.2
BKZ	Black Stump Fm	8.99	200	P	Pn	15 14 07.7	+1.2
TMVZ	Te Maari	9.19	203	P	P	15 14 13.2	+0.6
MCHZ	McNeill Hill	9.20	198	P	P	15 14 13.0	+0.5
OTVZ	Oturere	9.25	203	P	P	15 14 12.4	-0.9
KWHZ	Kaweka Forest	9.25	199	P	Pn	15 14 10.9	+1.2
CKHZ	Cape Kidnapper	9.30	196	P	P	15 14 13.5	-0.2
MAVZ	Matarangi	9.38	203	P	P	15 14 13.9	-1.0
BHHZ	Black Hill Sta	9.42	201	P	P	15 14 14.4	-0.6
WNVZ	Wahianoa	9.42	203	P	P	15 14 13.7	-1.5
MOVZ	Moawhango	9.44	202	P	P	15 14 13.9	-1.4
KRHZ	Kereru	9.47	199	P	Pn	15 14 12.3	0.0
KAHZ	Kahuranaki	9.48	196	P	P	15 14 15.8	+0.2
MTVZ	Mangateitei	9.52	203	P	P	15 14 15.7	-0.4
PXZ	Pawanui	9.71	196	P	Pn	15 14 15.4	+0.3
PNHZ	Pukenui	9.77	199	P	Pn	15 14 15.4	-0.6
BFZ	Birch Farm	10.48	197	P	Pn	15 14 23.9	-0.6
MRZ	Mangatainoka R	10.64	200	P	Pn	15 14 24.2	-2.3
SNZO	South Karori	11.50	202	Pn	Pn	15 14 35.8	-1.1
TCW	Tory Channel	11.55	203	P	Pn	15 14 34.6	-2.9
TUWZ	Tuamarina	11.87	204	P	Pn	15 14 38.5	-2.7
KHZ	Kahutara	12.88	203	P	P	15 14 50.5	-2.8
PINNC	Pines Island,	14.07	302	P	Pn	15 15 10.3	+2.5
OUENC	Ouen Island, N	14.63	301	P	Pn	15 15 18.8	+4.4
RPZ	Rata Peaks	14.91	207	P	P	15 15 15.3	-0.5
	2.1nm,0.4s,baz=57,slow=23,SNR=1.4						
RPZ				S	S	15 17 52.3	-5.2
	12nm,0.5s,baz=314,slow=23,SNR=15						
ONTNC	Ouen Toro	14.99	301	P	Pn	15 15 19.7	+1.1
DZM	Mont Dzumac	15.14	301	P	Pn	15 15 21.6	+1.3
DZM				IAmb	IAmb	15 15 31.1	
	comp=Z,37nm,1.4s						
DZM	Mont Dzumac	15.14	301	P	Pn	15 15 21.9	+1.5
	comp=Z,7.9nm,0.6s,baz=146,slow=22,SNR=12						
LIFNC	LIFOU	15.40	307	P	Pn	15 15 23.2	-0.2
CTAO	Charters Tower	32.45	281	P	P	15 18 02.2	+0.1
CTAO				IAmb	IAmb	15 18 07.0	
	comp=Z,6.6nm,0.9s						
STKA	Stephens Creek	33.01	258	P	P	15 18 07.5	+0.6
	comp=Z,1.1nm,0.5s,baz=176,slow=23,SNR=2.4						
	comp=Z,1.1nm,0.5s						
RABL	Rabaul	37.45	309	P	P	15 18 43.0	-1.6
ASAR	Alice Springs	41.67	268	P	P	15 19 18.2	-0.8
ASAR	Alice Springs	41.67	268	P	P	15 19 19.9	+0.9
	comp=Z,1.0nm,0.6s,baz=103,slow=6.8,SNR=23						
ASAR				PcP	PcP	15 21 09.2	0.0
	comp=Z,0.3nm,0.3s,baz=124,slow=4.8,SNR=4.7						
ASAR				ScP	ScP	15 24 26.1	-2.1
	comp=Z,0.7nm,0.8s,baz=117,slow=4.8,SNR=4.8						
	comp=Z,1.0nm,0.6s						
WB2	Warramunga Arr	42.68	273	P	P	15 19 27.1	-0.1
WB2				IAmb	IAmb	15 19 29.5	
	comp=Z,6.4nm,0.5s						
WRA	Warramunga Arr	42.69	273	P	P	15 19 27.0	-0.2
WRA	Warramunga Arr	42.69	273	P	P	15 19 28.1	+0.9
	comp=Z,4.6nm,0.4s,baz=112,slow=7.9,SNR=67						
WRA				PcP	PcP	15 21 12.9	+0.3
	comp=Z,1.1nm,0.8s,baz=124,slow=3.0,SNR=3.2						
WRA				ScP	ScP	15 24 30.6	-1.6
	comp=Z,1.2nm,0.9s,baz=108,slow=3.6,SNR=4.9						
	comp=Z,4.6nm,0.4s						
WB0	Warramunga Arr	42.71	274	P	P	15 19 27.9	+0.5
WB0				IAmb	IAmb	15 19 30.0	
	comp=Z,6.9nm,0.5s						
PTCN	Pitcairn Islan	43.88	95	P	P	15 19 35.0	-1.6
KNRA	Kununurra	49.31	276	P	P	15 20 20.4	+1.9
KNRA				IAmb	IAmb	15 20 26.8	
	comp=Z,35nm,1.4s						
FITZ	Fitzroy Crossi	50.94	271	P	P	15 20 31.6	+1.0
FAKI	Fak Fak	53.12	292	P	P	15 20 47.0	+0.4
FAKI				IAmb	IAmb	15 21 31.1	
	comp=Z,20nm,1.2s						
MORW	Morawa	55.07	254	P	P	15 21 00.5	0.0
MORW				IAmb	IAmb	15 21 27.7	
	comp=Z,9.6nm,1.1s						
QSPA	South Pole Qui	59.38	180	P	P	15 21 32.9	+3.0
QSPA				IAmb	IAmb	15 21 45.1	
	comp=Z,3.8nm,1.1s						
QSPA	South Pole Qui	59.38	180	P	P	15 21 31.7	+1.8
	comp=Z,0.5nm,0.4s,baz=172,slow=0.1,SNR=6.8						
	comp=Z,0.5nm,0.4s						
ESPZ	Base Esperanza	75.83	157	P	P	15 23 11.0	-0.7
MJAR	Matsushiro Arr	77.71	326	P	P	15 23 21.2	-1.4
	comp=Z,1.9nm,0.9s,baz=142,slow=6.2,SNR=4.5						
	comp=Z,1.9nm,0.9s						
KSRS	Korea Array	83.68	321	P	P	15 23 54.3	+0.4
	comp=Z,1.3nm,0.9s,baz=113,slow=6.6,SNR=4.4						
	comp=Z,1.3nm,0.9s						
GSI	Gunungsitoli	84.44	275	P	P	15 23 58.8	+0.4
PEA0B	Petropavlovsk-	85.78	347	P	P	15 24 04.2	+0.3
PETK	Petropavlovsk-	85.78	347	P	P	15 24 03.6	-0.4
PETK	Petropavlovsk-	85.78	347	P	P	15 24 03.1	-0.8
	comp=Z,3.4nm,0.6s,baz=122,slow=6.5,SNR=15						
	comp=Z,3.4nm,0.6s						
USRK	Ussuriysk Ar.	86.66	327	P	P	15 24 07.9	-0.5
	comp=Z,1.6nm,0.5s,baz=142,slow=3.8,SNR=6.2						
	comp=Z,1.6nm,0.5s						
CMAR	Chiang Mai Arr	92.17	290	P	P	15 24 36.2	+1.4
	comp=Z,0.3nm,0.4s,baz=146,slow=4.3,SNR=2.8						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	116.89	310	PKP	PKPdf	15 30 06.3	-0.9
	comp=Z,0.5nm,0.6s,baz=177,slow=2.9,SNR=7.0						
NRIK	Noril'sk	119.35	336	PKP	PKPdf	15 30 10.3	-0.9
	comp=Z,0.7nm,0.4s,baz=95,slow=3.9,SNR=3.7						
KURBB	Kurchatov Arra	120.28	314	PKP	PKPdf	15 30 12.2	-1.3
	comp=Z,1.4nm,0.7s,baz=118,slow=1.8,SNR=12						
KKAR	Karatay Array	124.07	304	PKPdf	PKPdf	15 30 20.0	-1.1
BVAR	Borovoye Array	125.64	316	PKP	PKPdf	15 30 23.0	-0.8
	comp=Z,1.0nm,0.4s,baz=128,slow=1.8,SNR=8.2						
ARCES	ARCESS Array B	138.59	347	PKhKP	PKPpre	15 30 38.4	
	comp=Z,5.2nm,1.0s,baz=40,slow=1.9,SNR=8.1						
ONI	Oni	143.81	301	PKPdf	PKPbc	15 30 56.9	+0.3
AKH	Akhalkalaki	143.86	299		PKPbc	15 30 56.8	-0.1
KBZ	Khabaz	144.10	303	PKP	PKPbc	15 30 57.6	+0.3
	comp=Z,2.3nm,0.8s,baz=250,slow=1.9,SNR=6.9						
FIA1	FINESS Array S	144.94	339		PKPdf	15 30 58.4	-0.8
FINES	FINESS Array B	144.95	339	PKP	PKPdf	15 30 58.6	-0.6
	comp=Z,13nm,0.4s,baz=54,slow=4.0,SNR=105						
MEF	Metsahovi	146.42	338	*e*P	PKPbc	15 31 03.2	-0.4
RAF	Rauma	146.56	341	*e*P	PKPbc	15 31 03.2	-0.8
VSU	Vasula	146.93	335	*e*P	PKPbc	15 31 05.1	0.0
MTSE	Matsula	147.77	337	*e*P	PKPbc	15 31 07.3	0.0
NB2	NORSAR Subarra	148.84	350	PKP	PKPbc	15 31 09.3	-0.8
	comp=Z,3.5nm,0.8s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.84	350	PKPbc	PKPbc	15 31 09.2	-0.8
	comp=Z,0.5nm,0.5s,baz=40,slow=1.8,SNR=4.0						
NOA				PKPab	PKPab	15 31 14.5	-0.6
	comp=Z,2.3nm,0.6s,baz=22,slow=2.6,SNR=11						
SLIT	Slitere, Latvi	149.12	337	*e*P	PKPbc	15 31 09.9	-0.9
HFS	Hagfors	149.26	347	PKPbc	PKPbc	15 31 10.1	-1.0
	comp=Z,4.1nm,0.5s,baz=64,slow=3.4,SNR=18						
HFS				PKPab	PKPab	15 31 16.1	-0.7
	comp=Z,2.7nm,0.6s,baz=81,slow=4.9,SNR=10						
PABE	Paberze	150.11	333	*e*P	PKPbc	15 31 13.5	+0.3
MMAI	Mount Meron Ar	150.22	284	PKPbc	PKiKP	15 31 15.6	+0.6
	comp=Z,2.9nm,0.3s,baz=77,slow=7.2,SNR=14						
AKASG	Malin Array Be	150.68	321		PKPbc	15 31 13.9	-0.8
AKASG	Malin Array Be	150.68	321	PKPbc	PKPbc	15 31 14.3	-0.4
	comp=Z,1.9nm,0.4s,baz=53,slow=2.3,SNR=18						
AKASG				PKPab	PKPab	15 31 22.4	-0.6
	comp=Z,2.4nm,0.7s,baz=48,slow=4.7,SNR=10.0						
BRTR	Keskin Array B	151.49	298	PKPbc	PKPbc	15 31 16.9	-0.3
	comp=Z,1.4nm,0.4s,baz=133,slow=5.3,SNR=9.1						
BSD	Bornholm Skovb	153.50	341	*e*P	PKPbc	15 31 20.6	-0.3
TORD	Torodi Ar. Bea	162.46	184	PKPab	PKPab	15 32 15.2	+0.7
	comp=Z,0.9nm,0.6s,baz=165,slow=3.0,SNR=6.1						

*IDC **04** 15:32:32.7±1.3, 12°.43N×142°.06E, h0km, mb3.6/6, mbtmp3.6/6, MS2.8/1, Error ellipse: s-maj=53.7km s-min=23.3km az=89.0*

ISC 04 15:32:37.6±1.3**, 12°.4N**±0°.2×**142°.1E**±0°.4**, h33**km**, n7, σ0§96**/6**, mb3.6**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	27.99	335	LR	LR	15 49 18.9	
	comp=Z,17nm,18.1s,baz=310,slow=36						
WRA	Warramunga Arr	33.03	193	P	P	15 39 09.9	-0.1
	0.5nm,0.6s,baz=14,slow=9.7,SNR=3.1						
	0.5nm,0.6s						
ASAR	Alice Springs	36.72	193	P	P	15 39 42.1	+0.1
	0.5nm,1.1s,baz=22,slow=11,SNR=6.0						
	0.5nm,1.1s						
MKAR	Makanchi Array	60.48	317	P	P	15 42 45.3	+0.8
	0.1nm,0.3s,baz=96,slow=7.1,SNR=1.8						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	63.79	321	P	P	15 43 05.1	-1.4
	0.5nm,0.6s,baz=106,slow=6.6,SNR=4.4						
	0.5nm,0.6s						
BVAR	Borovoye Array	69.19	322	P	P	15 43 41.2	+0.3
	1.0nm,0.6s,baz=106,slow=8.5,SNR=7.4						
	1.0nm,0.6s						
ILAR	Eielson Array	70.80	25	P	P	15 43 50.8	+0.1
	0.4nm,0.7s,baz=260,slow=5.8,SNR=5.8						
	0.4nm,0.7s						

*DJA **04** 15:54:06.8±0.2, 1°S±2°×10°1E±°, h153km±3km, M4.8/16, mb4.9/9, mB5.2/3, MLv4.7/16, Mw(mB)4.6/3*

*NEIC **04** 15:54:06.4±2.1, 1°.21S±0°.08×101°.07E±0°.09, h150km±7km, mb4.3/29, Error ellipse: s-maj=13.8km s-min=9.1km az=52.0*

*IDC **04** 15:54:07.7±2.3, 1°.05S×101°.25E, h158km±19km, mb3.8/20, mbtmp4.2/23, MS2.9/1, Error ellipse: s-maj=20.3km s-min=10.3km az=64.0*

ISC 04 15:54:05.8±0.4**, 1°.20S**±0°.05×**101°.09E**±0°.06**, h150**km**, n113, σ1§46**/115**, mb4.2**/35**, 1C-2D, Southern Sumatera**

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

PDSI Padang 0.69 294 P **Pn** 15 54 29.6 +1.3
PDSI S **Sn** 15 54 45.2 -0.2
KRJI Kerinci 0.96 157 P **Pn** 15 54 33.3 +2.8
KRJI S **Sn** 15 54 53.3 +4.1
BKNI Bangkinang 1.51 358 P **Pn** 15 54 36.8 +1.2
BKNI Bangkinang 1.51 358 P **Pn** 15 54 37.5 +1.9
BKNI Bangkinang 1.51 358 P **Pn** 15 54 37.3 +1.7
BKNI S **Sn** 15 54 58.8 +0.4
PPSI Pulau Pagai 1.89 215 P **Pn** 15 54 41.3 +1.5
PPSI S **Sn** 15 55 06.5 +0.7
JMBI JAMBI 2.59 100 P **Pn** 15 54 51.2 +3.1
UBSI University, Be 2.81 155 P **Pn** 15 54 52.6 +1.8
PBSI Pulau Batu 3.03 292 P **Pn** 15 54 55.1 +1.5
DSRI Dabo 3.56 78 P **Pn** 15 55 03.4 +3.0
TPRI Tanjung Pinang 4.03 59 P **Pn** 15 55 08.6 +2.1
PMBI Palembang 4.06 115 Pn **Pn** 15 55 07.7 +0.8
EGSI Enggano, Bengk 4.29 164 P **Pn** 15 55 10.0 0.0
GSI Gunungsitoli 4.30 305 **Pn** 15 55 10.8 +0.7
GSI Gunungsitoli 4.30 305 P **Pn** 15 55 11.2 +1.1
GSI Gunungsitoli 4.30 305 P **Pn** 15 55 11.1 +1.0
RPSI Rantau Prapat 4.43 331 **Pn** 15 55 13.5 +1.8
PSI Prapat 4.52 331 P **Pn** 15 55 13.7 +0.6
PSI Prapat 4.52 331 P **Pn** 15 55 13.0 -0.1
LWLI Liwa 4.82 142 P **Pn** 15 55 19.8 +2.8
KASI Kota Agung 5.48 142 P **Pn** 15 55 27.0 +1.3
73nm,0.5s,0.4nm
KCSI Kotacane, Aceh 5.74 325 P **Pn** 15 55 29.0 -0.2
111nm,0.5s,0.6nm
SNSI Sinabang, Aceh 5.96 307 P **Pn** 15 55 32.4 +0.4
346nm,0.8s,4µm1.1nm
MLSI Meulaboh, Aceh 7.17 319 P **Pn** 15 55 48.1 -0.1
256nm,0.4s,6µm1.4nm
LHMI Lhok Sumawe 7.61 327 **Pn** 15 55 53.8 -0.2
LHMI Lhok Sumawe 7.61 327 P **Pn** 15 55 54.2 +0.2
SKLT Songkhla 8.32 357 P **Pn** 15 56 05.0 +1.4
LEM Lembang 8.58 131 P **Pn** 15 56 08.2 +0.9
11nm,0.3s,baz=324,slow=24,SNR=2.0
BBJI Bungbulang 9.03 134 P **Pn** 15 56 12.0 -1.1
BBJI Bungbulang 9.03 134 P **Pn** 15 56 12.2 -0.9
46nm,0.6s
CMJI Cimerak 9.83 132 P **Pn** 15 56 22.2 -1.4
58nm,1.6s
KPJI Karang Pucung 9.91 128 P **Pn** 15 56 25.9 +1.1
35nm,0.5s
XMI Christmas Isla 10.27 154 P **Pn** 15 56 27.1 -2.4
84nm,1.2s
XMIS Christmas Isla 10.28 154 Pn Pn 15 56 21.2 -8.4
XMIS Christmas Isla 10.28 154 P **Pn** 15 56 26.7 -2.9
50nm,0.8s
UGM Wanagama 11.53 126 Pn **Pn** 15 56 46.3 +0.2
UGM Wanagama 11.53 126 P **Pn** 15 56 46.2 +0.2
UGM Wanagama 11.53 126 P **Pn** 15 56 46.5 +0.4
65nm,1.8s
COCO West Island 11.71 201 Pn **Pn** 15 56 46.6 -1.8
JAGI Jajag, Banyuwa 14.88 119 Pn **Pn** 15 57 29.0 +0.1
UBPT Khong Chiam 16.93 15 P **P** 15 57 51.2 -2.3
KAPI Kappang 19.01 102 P **P** 15 58 16.8 +0.5
4.1nm,0.3s,baz=342,slow=8.5,SNR=3.5
CMAR Chiang Mai Arr 19.64 354 P **P** 15 58 22.0 -1.1
0.9nm,0.7s,baz=181,slow=9.2,SNR=9.3
CMAR ScP **ScP** 16 05 56.3 -2.3
1.0nm,0.8s,baz=217,slow=4.2,SNR=7.0
TOLI2 Tolitoli 19.82 83 P **Pn** 15 58 27.1 -1.1
CRAI Chiangrai 21.30 358 P **P** 15 58 42.3 +1.4
GTOI Gorontalo 22.00 85 P **P** 15 58 49.7 +1.5
KMI Kunming 26.21 3 ⇓P **P** 15 59 25.4 -1.7
KMI pmax pmax
comp=Z,10.0nm,0.5s
YULB Yu-li 31.37 38 P **P** 16 00 10.7 -1.9
ENH Enshi 32.30 14 P **P** 16 00 19.2 -1.5
ENH IAmb IAmb 16 00 20.1
comp=Z,8.0nm,1.4s
XAN Xi'an 35.81 11 ⇓P **P** 16 00 50.5 -0.5
XAN pmax pmax
comp=Z,8.0nm,0.6s
LYN LuoYang 37.13 16 ⇑*i*P **P** 16 01 03.5 +1.5
LYN pmax pmax
comp=Z,16nm,0.7s
LYN pmax pmax
comp=Z,130nm,5.6s
WB0 Warramunga Arr 37.45 122 P **P** 16 01 03.8 -1.2
WB0 IAmb IAmb 16 01 09.3
comp=Z,11nm,1.4s
WRA Warramunga Arr 37.48 122 P **P** 16 01 04.9 -0.3
comp=Z,1.3nm,0.6s,baz=303,slow=9.0,SNR=16
WRA PcP **PcP** 16 03 20.4 -0.3
comp=Z,0.5nm,0.5s,baz=315,slow=2.5,SNR=5.2
comp=Z,1.3nm,0.6s
WB2 Warramunga Arr 37.49 122 P **P** 16 01 04.4 -0.9
WB2 IAmb IAmb 16 01 09.6
comp=Z,8.9nm,1.3s
WR0 Warramunga Arr 37.65 122 P **P** 16 01 05.5 -1.3
WR0 IAmb IAmb 16 01 07.6
comp=Z,3.6nm,0.7s
AS31 Alice Springs 38.86 128 P **P** 16 01 16.8 0.0
ASAR Alice Springs 38.86 128 P **P** 16 01 16.7 -0.1
ASAR Alice Springs 38.86 128 P **P** 16 01 16.9 0.0
comp=Z,1.6nm,0.6s,baz=301,slow=8.0,SNR=54
ASAR PcP **PcP** 16 03 26.0 +1.1
comp=Z,1.3nm,0.7s,baz=311,slow=2.5,SNR=12
ASAR S **S** 16 06 57.5 -6.3
comp=Z,0.3nm,0.6s,baz=290,slow=15,SNR=5.6
comp=Z,1.6nm,0.6s
FORT Forrest 38.97 142 P **P** 16 01 18.6 +1.0
JNU Nakatsue 44.20 37 P **P** 16 02 00.6 +0.4
BBOO Buckleboo 45.48 137 P **P** 16 02 10.8 +0.5
BBOO IAmb IAmb 16 02 16.4
comp=Z,17nm,1.4s
KSRS Korea Array 45.78 30 P **P** 16 02 12.7 +0.2
comp=Z,1.5nm,0.7s,baz=224,slow=7.6,SNR=6.4
comp=Z,1.5nm,0.7s
GUMO Guam 45.81 70 LR LR 16 23 20.9
comp=Z,12nm,19.0s,baz=65,slow=38
JMN Monobe 46.45 39 P **P** 16 02 17.9 0.0
JMN IAmb IAmb 16 02 33.4
comp=Z,24nm,1.3s
XLT XiLinHaoTe 46.86 15 *e*P **P** 16 02 25.2 +4.3
XLT pP pP 16 03 01.1 +6.3
XLT sP sP 16 03 20.5 +9.0
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,150nm,5.5s
STKA Stephens Creek 48.88 133 P **P** 16 02 35.7 -0.9
STKA Stephens Creek 48.88 133 P **P** 16 02 37.4 +0.8
comp=Z,0.8nm,0.3s,baz=337,slow=9.8,SNR=4.1
comp=Z,0.8nm,0.3s
SONM Songino Array 49.05 5 P **P** 16 02 38.0 +0.3
SONM Songino Array 49.05 5 P **P** 16 02 37.9 +0.1
comp=Z,0.6nm,0.5s,baz=191,slow=9.5,SNR=5.8
SONM ScP **ScP** 16 07 38.5 -2.0
comp=Z,0.2nm,0.5s,baz=157,slow=4.1,SNR=3.2
comp=Z,0.6nm,0.5s
MAJO Matsushiro 50.97 39 P **P** 16 02 52.5 +0.2
MAJO IAmb IAmb 16 03 12.2
comp=Z,22nm,1.4s
MJAR Matsushiro Arr 50.97 39 P **P** 16 02 52.1 -0.2
comp=Z,2.0nm,0.9s,baz=218,slow=7.7,SNR=7.3
comp=Z,2.0nm,0.9s
USA0B Ussuriysk Arra 52.94 28 P **P** 16 03 06.3 -0.4
USRK Ussuriysk Ar. 52.94 28 P **P** 16 03 06.2 -0.5
USRK Ussuriysk Ar. 52.94 28 P **P** 16 03 05.8 -0.9
comp=Z,6.9nm,0.6s,baz=225,slow=4.5,SNR=25
comp=Z,6.9nm,0.6s
KURBB Kurchatov Arra 55.10 343 P **P** 16 03 22.3 +0.1
comp=Z,1.0nm,0.6s,baz=162,slow=7.7,SNR=12
KURBB PcP **PcP** 16 04 22.8 +1.0
comp=Z,0.9nm,0.4s,baz=154,slow=3.4,SNR=9.6
comp=Z,1.0nm,0.6s
CAN Canberra 55.95 133 P **P** 16 03 27.6 -1.1
CAN IAmb IAmb 16 03 40.8
comp=Z,10.0nm,1.4s
ZAA0 Zalesovo Array 56.59 349 P **P** 16 03 32.4 -0.4
ZAA0 IAmb IAmb 16 03 33.7
comp=Z,5.7nm,1.3s
ZALV Zalesovo Beam 56.59 349 P **P** 16 03 32.1 -0.7
ZALV Zalesovo Beam 56.59 349 P **P** 16 03 32.7 -0.1
comp=Z,1.0nm,0.3s,baz=181,slow=7.0,SNR=12
comp=Z,1.0nm,0.3s
JKA Kamikawa-asahi 58.34 34 P **P** 16 03 45.7 +0.5
ABKAR Akbulak array 61.47 331 P **P** 16 04 06.5 0.0
ABKAR IAmb IAmb 16 04 07.5
comp=Z,2.1nm,0.7s
ABKAR Akbulak array 61.47 331 P **P** 16 04 06.6 +0.1
H04N2 CROZET ISLANDS 62.09 217 T T 17 10 17.6
baz=59,slow=75,SNR=73
H04N1 CROZET ISLANDS 62.10 217 T T 17 10 18.1
baz=59,slow=75,SNR=85
H04N3 CROZET ISLANDS 62.10 217 T T 17 10 16.7
baz=59,slow=75,SNR=85
H04S1 CROZET ISLANDS 62.37 216 T T 17 10 26.0
baz=58,slow=75,SNR=5.2
H04S3 CROZET ISLANDS 62.38 216 T T 17 10 24.8
baz=58,slow=75,SNR=8.4
H04S2 CROZET ISLANDS 62.39 216 T T 17 10 26.3
baz=58,slow=75,SNR=4.8
KBZ Khabaz 68.42 319 P **P** 16 04 52.1 +0.6
comp=Z,1.6nm,0.7s,baz=114,slow=4.9,SNR=5.8
comp=Z,1.6nm,0.7s
NRIK Noril'sk 71.00 355 P **P** 16 05 06.5 -0.3
PEA0B Petropavlovsk- 71.63 32 P **P** 16 05 11.2 +0.3
PETK Petropavlovsk- 71.63 32 P **P** 16 05 10.6 -0.3
PETK Petropavlovsk- 71.63 32 P **P** 16 05 10.8 -0.2
comp=Z,3.2nm,0.9s,baz=266,slow=0.7,SNR=4.2
comp=Z,3.2nm,0.9s
MA2 Magadan 71.86 24 P **P** 16 05 11.6 -0.5
comp=Z,6.1nm,0.6s,baz=153,slow=7.4,SNR=4.5
comp=Z,6.1nm,0.6s
BRTR Keskin Array B 73.59 312 P **P** 16 05 23.0 0.0
comp=Z,1.0nm,0.7s,baz=119,slow=7.2,SNR=2.5
comp=Z,1.0nm,0.7s
SEY Seymchan 74.48 22 P **P** 16 05 28.2 +0.8
comp=Z,3.1nm,0.7s,baz=226,slow=11,SNR=12
comp=Z,3.1nm,0.7s
TIXI Tiksi 74.90 9 P **P** 16 05 28.9 -0.8
TIXI IAmb IAmb 16 05 30.2
comp=Z,12nm,1.5s
BURAR Bucovina Array 81.38 318 P **P** 16 06 07.7 +1.6
VNDA Vanda 82.73 169 P **P** 16 06 13.5 +1.1
VNDA IAmb IAmb 16 06 14.6
comp=Z,4.3nm,1.3s
VNDA Vanda 82.73 169 P **P** 16 06 14.5 +2.1
comp=Z,0.5nm,0.5s,baz=328,slow=6.4,SNR=7.1
comp=Z,0.5nm,0.5s
FIA1 FINESS Array S 83.91 332 P **P** 16 06 18.9 +0.3
FINES FINESS Array B 83.91 332 P **P** 16 06 19.1 +0.4
FINES FINESS Array B 83.91 332 P **P** 16 06 19.4 +0.8
comp=Z,2.2nm,0.6s,baz=118,slow=6.6,SNR=14
comp=Z,2.2nm,0.6s
ARCES ARCESS Array B 86.09 340 P **P** 16 06 30.1 +0.6
comp=Z,0.7nm,0.5s,baz=77,slow=5.4,SNR=5.0
comp=Z,0.7nm,0.5s
QSPA South Pole Qui 88.76 180 P **P** 16 06 45.0 +2.5
QSPA IAmb IAmb 16 07 17.5
comp=Z,3.9nm,1.4s
QSPA South Pole Qui 88.76 180 P **P** 16 06 44.6 +2.2
comp=Z,0.6nm,0.6s,baz=317,slow=1.2,SNR=6.6
comp=Z,0.6nm,0.6s
HFS Hagfors 89.73 330 P **P** 16 06 48.1 +1.2
comp=Z,3.1nm,1.0s,baz=141,slow=2.8,SNR=6.1
comp=Z,3.1nm,1.0s
SPITS Spitsbergen Ar 90.08 348 P **P** 16 06 47.5 -0.7
comp=Z,6.4nm,0.8s,baz=110,slow=9.0,SNR=5.1
comp=Z,6.4nm,0.8s
PDAR Pinedale Array 130.35 30 PKP **PKiKP** 16 12 59.6 -0.3
comp=Z,0.3nm,0.5s,baz=86,slow=2.7,SNR=3.9
LPIG La Paz 142.03 51 PKP **PKPdf** 16 13 21.3 +0.4
comp=Z,28nm,0.4s,baz=162,slow=3.2,SNR=2.0
TXAR Lajitas Array 143.41 38 PKP **PKPdf** 16 13 22.4 -1.0
comp=Z,0.5nm,0.5s,baz=350,slow=0.8,SNR=10.0
TKL Tuckaleechee C 145.42 7 PKPbc **PKPdf** 16 13 26.5 -0.1
comp=Z,1.7nm,0.5s,baz=125,slow=5.7,SNR=4.7
CPUP Villa Florida 145.61 216 PKPbc **PKiKP** 16 13 29.8 -1.5
comp=Z,0.5nm,0.4s,baz=73,slow=4.4,SNR=3.4

*IDC **04** 16:00:05.7±1.0,38.°68N×72.°50E,h0km,mb3.7/15, mbtmp3.8/21,ML3.5/6,MS3.8/1,Error ellipse: s-maj=17.1km s-min=15.1km az=170.0*
*SOME **04** 16:00:05.6,39.°17N×72.°08E,h0km*
*NEIC **04** 16:00:08.5±2.3,38.°90N±0.°04×72.°46E±0.°06,h10km±1km, mb4.3/33,Error ellipse: s-maj=8.2km s-min=6.5km az=118.0*
*NNC **04** 16:00:12.9±7.4,38.°94N×72.°73E,h216km±79km,mb2.8, mpv3.8,Error ellipse: s-maj=77.3km s-min=45.9km az=6.0*
ISC 04 16:00:08.0±0.4,**38.°74N**±0.°03×**72.°34E**±0.°04,**h10km,n111,**
σ2s23/128,mb4.1/26,5C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.77**	**319**	Pn	**Pn**	**16 00 38.6**	**-0.2**
BTK				Sn	**Sn**	**16 01 04.5**	**+3.0**
SIMJ	**Simiganj**	**2.61**	**269**		**Pn**	**16 00 54.9**	**+4.5**
SIMJ					**Sn**	**16 01 24.6**	**+2.5**
ARSB	**Arslanbob**	**2.63**	**11**	Pn	**Pn**	**16 00 51.1**	**+0.4**
ARSB				Sn	**Sn**	**16 01 19.3**	**-3.5**
KSH	**Kashi**	**2.93**	**73**	P	Pn	16 00 50.0	-4.8
KSH				PP	**Pb**	**16 00 58.1**	**-2.4**
KSH				S	Sn	16 01 18.8	-11
KSH				pmax	pmax		
	comp=Z,79nm,0.6s						
KSH				smax	smax		
	comp=N,460nm,0.7s						
KSH				smax	smax		
	comp=E,390nm,0.7s						
AML	**Almayashu**	**3.55**	**17**	P	**Pn**	**16 01 05.2**	**+1.7**
	SNR=139						
AML	**Almayashu**	**3.55**	**17**	⇓P	**Pn**	**16 01 05.0**	**+1.5**
AML	comp=E,6.9nm,0.5s			⇓S	**Sn**	**16 01 48.9**	**+3.2**
	comp=E,96nm,0.8s						
UCH	**Uchtor**	**3.86**	**25**	P	**Pn**	**16 01 09.5**	**+1.6**
	SNR=11						
KZA	**Kyzart**	**4.01**	**33**	P	**Pn**	**16 01 11.9**	**+2.0**
	SNR=7.5						
MRKS	**Merke**	**4.06**	**9**	*e*P	**Pn**	**16 01 12.6**	**+2.3**
	comp=E,71nm,0.3s						
MRKS				*e*S	**Sn**	**16 02 00.7**	**+2.7**
	comp=E,91nm,0.6s						
EKS2	**Erkin-Say**	**4.07**	**15**	P	**Pn**	**16 01 12.4**	**+1.9**
	SNR=12						
DZA	**Taraz**	**4.22**	**350**	*e*P	**Pn**	**16 01 15.3**	**+2.8**
	comp=E,481nm,0.3s						
DZA				*e*S	**Sn**	**16 02 05.4**	**+3.5**
	comp=E,228nm,0.5s						
AAK	**Ala-Archa**	**4.23**	**22**	P	**Pn**	**16 01 14.7**	**+2.1**
	SNR=9.8						
AAK	**Ala-Archa**	**4.23**	**22**	Pn	**Pn**	**16 01 14.3**	**+1.6**
AAK					**Sn**	**16 01 58.7**	**-3.5**
AAK	**Ala-Archa**	**4.23**	**22**	Pn	**Pn**	**16 01 14.8**	**+2.1**
	comp=E,6.0nm,0.3s,baz=191,slow=7.8,SNR=57						
AAK				Sn	**Sn**	**16 02 04.3**	**+2.1**
	comp=E,4.7nm,0.3s,baz=78,slow=15,SNR=12						
	comp=E,39nm,0.9s						
KBK	**Karagaybulak**	**4.39**	**26**	P	**Pn**	**16 01 17.5**	**+2.6**
	SNR=12						
FRU1	**Bishkek**	**4.43**	**22**	Pn	**Pn**	**16 01 15.0**	**-0.3**
KK31	**Karatay Array**	**4.58**	**343**	P	**Pn**	**16 01 19.4**	**+2.1**
	comp=E,25nm,0.3s,baz=146,slow=12,SNR=627						
KK31				⇑S	**Sn**	**16 02 14.3**	**+3.7**
	comp=E,86nm,0.8s,baz=144,slow=25						
KK31	**Karatay Array**	**4.58**	**343**	Pn	**Pn**	**16 01 18.8**	**+1.4**
KKAR	**Karatay Array**	**4.58**	**343**		**Pn**	**16 01 19.2**	**+1.9**
KKAR	**Karatay Array**	**4.58**	**343**	Pn	**Pn**	**16 01 19.0**	**+1.6**
CHMS	**Chumysh**	**4.63**	**22**	P	**Pn**	**16 01 20.9**	**+2.8**
	SNR=7.9						
CHMS	**Chumysh**	**4.63**	**22**	P	**Pn**	**16 01 19.7**	**+1.5**
	comp=E,18nm,0.5s						
CHMS				S	**Sn**	**16 02 15.1**	**+3.1**
	comp=E,106nm,1.0s						
USP	**Ospenovka**	**4.81**	**19**	P	**Pn**	**16 01 22.7**	**+2.1**
	SNR=7.4						
TKM2	**Tokmak 2**	**4.86**	**30**	⇑P	**Pn**	**16 01 22.4**	**+1.0**
	comp=E,2.9nm,0.5s						
TKM2				⇑S	**Sn**	**16 02 19.4**	**+1.6**
	comp=E,39nm,0.9s						
KBL	**Kabul**	**4.95**	**213**	Pn	Pn	16 01 29.8	+7.1
KST	**Kastek**	**5.11**	**31**	*e*P	**Pb**	**16 01 36.2**	**-1.3**
	comp=E,11nm,0.4s						
KST				*e*S	**Sb**	**16 02 41.3**	**+2.4**
	comp=E,60nm,0.9s						
NIL	**Nilore**	**5.13**	**171**	Pn	Pn	16 01 30.7	+5.8
TARG	**Taragay, Kyrgy**	**5.14**	**53**	Pn	**Pn**	**16 01 25.9**	**+0.5**
DGS	**Degeres**	**5.20**	**29**	*e*P	**Pb**	**16 01 38.2**	**-0.9**
	comp=E,7.2nm,0.1s						
DGS				*e*S	**Sb**	**16 02 45.1**	**+3.5**
	comp=E,36nm,0.7s						
MTBS	**Maitube**	**5.37**	**34**	*e*P	**Pb**	**16 01 41.9**	**-0.2**
	comp=E,8.6nm,0.3s						
MTBS				*e*S	**Sb**	**16 02 51.3**	**+4.7**
	comp=E,22nm,0.4s						

TNSS Tian-Shan 5.54 38 *e*P **Pb** 16 01 45.9 +0.9
comp=E,15nm,0.3s
TNSS *e*S **Sb** 16 02 57.9 +6.3
comp=E,17nm,0.4s
KRBS Karabastau 5.56 26 *e*P **Pb** 16 01 44.0 -1.2
comp=E,8.4nm,0.7s
KRBS *e*S **Sb** 16 02 54.9 +3.1
comp=E,32nm,0.4s
KOTS Kotyrbulak 5.76 37 *e*P **Pb** 16 01 48.5 -0.2
comp=E,11nm,0.4s
KOTS *e*S **Sb** 16 03 02.4 +4.5
comp=E,59nm,0.4s
PRZ Przheval'sk 5.94 49 Pn **Pn** 16 01 37.5 +1.3
KTBS Karatobe 5.95 32 *e*P **Pb** 16 01 51.6 -0.3
comp=E,5.0nm,0.3s
KTBS *e*S **Sb** 16 03 07.8 +4.6
comp=E,51nm,0.4s
KUU Kurty 5.97 29 *e*P **Pb** 16 01 51.3 -0.8
comp=E,8.0nm,0.3s
KUU *e*S **Sb** 16 03 07.6 +4.0
comp=E,54nm,0.6s
CHKK Chushkaly 6.20 33 *e*P **Pb** 16 01 55.9 -0.1
comp=E,3.2nm,0.5s
CHKK *e*S **Sb** 16 03 15.3 +5.1
comp=E,18nm,0.5s
JMU Jammu 6.36 160 *e*P **Pn** 16 01 42.2 +0.4
BTLS Baital 6.43 11 *e*P **Pb** 16 02 00.1 +0.1
comp=E,2.7nm,0.5s
BTLS *e*S **Sb** 16 03 22.1 +5.3
comp=E,14nm,0.5s
THN Thein Dam 6.86 155 *e*P Pn 16 01 53.6 +5.0
THN *e*S **Sn** 16 03 09.5 +2.7
DHRM DHARAMSHALA 7.23 152 *e*P **Pn** 16 01 57.2 +3.2
DHRM IAML 16 03 23.3
comp=E,40nm,1.1s
DHRM *e*S Sn 16 03 25.5 +9.2
DHRM IAML 16 03 28.4
comp=E,28nm,0.2s
SMLA Simla 8.56 151 *e*P **Pn** 16 02 14.3 +2.3
SMLA *e*S **Sn** 16 03 44.7 -3.8
SMLA IAML 16 03 55.9
comp=E,25nm,0.2s
SMLA IAML 16 03 57.1
comp=N,14nm,0.8s
HRA Herat 9.21 245 Pn **Pn** 16 02 23.6 +2.6
MAKZ Makanchi 10.73 38 Pn **Pn** 16 02 43.2 +1.5
MK31 Makanchi Array 10.87 39 Pn **Pn** 16 02 41.9 -1.7
MKAR Makanchi Array 10.87 39 Pn **Pn** 16 02 44.9 +1.2
comp=N,8.9nm,0.3s,baz=222,slow=15,SNR=1.8
MKAR Lg Lg 16 05 41.8
comp=N,5.3nm,0.3s,baz=49,slow=46,SNR=1.9
KUDL Kundal 11.11 161 *e*P **Pn** 16 02 48.3 +1.4
GEYT Alibeck 11.20 270 Pn **Pn** 16 02 48.8 +0.5
GEYT Alibeck 11.20 270 Pn **Pn** 16 02 48.9 +0.7
comp=N,0.8nm,0.3s,baz=106,slow=11,SNR=9.2
GEYT Sn **Sn** 16 04 49.6 -3.9
comp=N,0.3nm,0.3s,baz=326,slow=24,SNR=1.6
comp=N,1.8nm,0.4s
GYA0B ALIBECK ARRAY 11.20 270 Pn **Pn** 16 02 48.4 +0.2
LGTI Lohaghat 11.34 142 *e*P **Pn** 16 02 49.2 -0.9
LGTI *e*S Sn 16 04 47.0 -10
KURBB Kurchatov Arra 12.67 18 Pn **Pn** 16 03 06.7 -1.5
comp=N,0.1nm,0.3s,baz=213,slow=13,SNR=7.8
KURBB Lg Lg 16 06 30.1
baz=281,slow=39,SNR=1.6
comp=N,0.3nm,0.6s
KURK Kurchatov 12.78 18 Pn Pn 16 03 05.9 -3.7
AB31 Akbulak array 13.77 324 ⇑P Pn 16 03 21.2 -2.0
comp=N,3.7nm,0.5s,baz=129,slow=13,SNR=182
AB31 ⇑S **Sn** **16 05 53.9 -2.3**
comp=N,2.9nm,0.8s,baz=123,slow=24,SNR=7.8
ABKAR Akbulak array 13.77 324 Pn Pn 16 03 21.2 -2.0
BVAR Borovoye Array 14.36 355 Pn Pn 16 03 27.8 -3.4
comp=N,0.1nm,0.3s,baz=164,slow=11,SNR=15
BVAR Lg Lg 16 07 32.1
baz=157,slow=24,SNR=2.1
comp=N,1.6nm,0.5s
BRVK Borovoye 14.40 355 Pn **Pn** **16 03 30.1 -1.7**
AKTO Aktyubinsk 15.49 324 P Pn 16 03 39.9 -6.6
comp=N,1.7nm,0.5s
AKTO ⇓S **Sn** **16 06 31.4 -6.6**
comp=N,3.1nm,1.1s
AKTO Aktyubinsk 15.49 324 Pn **Pn** **16 03 45.6 -0.8**
comp=N,1.4nm,0.3s,baz=116,slow=9.9,SNR=16
AKTO Sn **Sn** **16 06 32.9 -5.1**
comp=N,0.1nm,0.3s,baz=172,slow=17,SNR=3.5
comp=N,2.1nm,0.5s
ZAA0 Zalesovo Array 17.44 25 P **Pn** **16 04 10.6 -0.6**
ZALV Zalesovo Beam 17.44 25 P **Pn** **16 04 09.9 -1.4**
ZALV Zalesovo Beam 17.44 25 P **Pn** **16 04 10.5 -0.7**
comp=N,0.6nm,0.3s,baz=217,slow=12,SNR=10
comp=N,3.4nm,0.6s
ARU Arti 19.93 337 P **P** **16 04 37.5 -2.2**
ARU Arti 19.93 337 P **P** **16 04 38.0 -1.7**
comp=N,1.9nm,0.4s,baz=158,slow=7.0,SNR=7.3
comp=N,1.9nm,0.4s
GTA Gaotai 21.32 80 *e*P **P** **16 04 55.2 +0.1**
GTA sP sP 16 05 26.5 +25
GTA pmax pmax
comp=Z,5.0nm,0.9s
GNI Garni 21.33 283 P **P** **16 04 56.5 +1.2**
GNI IAmb IAmb 16 05 08.8
comp=Z,20nm,1.1s
GNI Garni 21.33 283 P **P** **16 04 54.6 -0.7**
comp=Z,1.3nm,0.3s,baz=66,slow=12,SNR=1.4
comp=Z,1.3nm,0.3s
BELG Belogornoye 21.90 317 P **P** **16 04 59.8 -1.3**
comp=Z,7.4nm,0.8s,baz=244,slow=10.0,SNR=3.4
comp=Z,7.4nm,0.8s
AKH Akhalkalaki 22.19 286 P **P** **16 05 05.5 +0.9**
ONI Oni 22.20 289 P **P** **16 05 04.6 +0.1**
ONI IAmb IAmb 16 05 13.7
comp=Z,8.2nm,1.1s
SONM Songino Array 26.23 59 P **P** **16 05 42.5 -0.7**
SONM Songino Array 26.23 59 P **P** **16 05 42.1 -1.0**
comp=Z,0.3nm,0.4s,baz=270,slow=8.6,SNR=2.3
comp=Z,0.3nm,0.4s
GHAJ Ghor Haditha 30.86 267 P **P** **16 06 24.8 +0.4**
SLVN Son La 32.15 113 P **P** **16 06 36.3 +0.4**
SLVN IAmb IAmb 16 06 58.9
comp=Z,7.8nm,1.3s
AKASG Malin Array Be 32.44 306 P **P** **16 06 40.3 +2.3**
comp=Z,0.1nm,0.2s,baz=76,slow=7.0,SNR=2.9
comp=Z,0.1nm,0.2s
FIA1 FINESS Array S 36.26 324 P **P** **16 07 09.4 -1.6**
FINES FINESS Array B 36.26 324 P **P** **16 07 10.0 -1.1**
FINES FINESS Array B 36.26 324 P **P** **16 07 11.1 +0.1**
comp=Z,1.4nm,0.6s,baz=97,slow=8.1,SNR=5.0
FINES LR LR 16 23 48.1
comp=Z,160nm,21.6s,baz=348,slow=39
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 39.51 336 P **P** **16 07 38.0 -0.4**
ARCES ARCESS Array B 39.51 336 P **P** **16 07 38.3 -0.1**
comp=Z,1.2nm,0.6s,baz=111,slow=8.3,SNR=6.5
comp=Z,1.2nm,0.6s
HFS Hagfors 42.00 320 P **P** **16 07 59.5 +0.5**
comp=Z,2.5nm,0.5s,baz=98,slow=11,SNR=9.2
comp=Z,2.5nm,0.5s
GERES GERESS Array B 42.55 303 P **P** **16 08 03.5 -0.3**
comp=Z,0.5nm,0.6s,baz=50,slow=11,SNR=2.1
comp=Z,0.5nm,0.6s
NB2 NORSAR Subarra 43.27 322 P **P** **16 08 10.7 +1.3**
comp=Z,0.7nm,0.4s,baz=90,slow=8.6
NOA NORSAR Array B 43.27 322 P **P** **16 08 09.9 +0.5**
comp=Z,0.5nm,0.5s,baz=94,slow=7.7,SNR=3.3
comp=Z,0.5nm,0.5s
TIXI Tiksi 43.31 23 P **P** **16 08 08.1 -1.4**
TIXI IAmb IAmb 16 08 11.8
comp=Z,2.7nm,0.8s
NC204 NORSAR Array S 43.49 322 P **P** **16 08 10.9 -0.4**
NC204 IAmb IAmb 16 08 47.3
comp=Z,7.9nm,1.1s
TPUB Ta-pu 43.65 96 P **P** **16 08 12.0 -0.9**
SPA2 Spitsbergen Ar 45.57 346 P **P** **16 08 26.6 -0.9**
SPITS Spitsbergen Ar 45.57 346 P **P** **16 08 26.4 -1.2**
comp=Z,5.8nm,0.8s,baz=94,slow=10,SNR=1.4
comp=Z,5.8nm,0.8s
C16K Lisburne Hills 65.00 20 P **P** **16 10 46.5 -1.1**
C16K IAmb IAmb 16 11 04.9
comp=Z,2.8nm,1.2s
B20K Meade River 65.77 17 P **P** **16 10 51.9 -0.7**
B20K PcP PcP 16 11 17.8 -5.9
B20K IAmb IAmb 16 11 24.4
comp=Z,4.1nm,1.4s
C18K Utukok River 65.82 19 P **P** **16 10 52.5 -0.6**
C18K IAmb IAmb 16 11 29.4
comp=Z,4.0nm,1.4s

D19K Kuna River 66.69 18 P P 16 10 57.9 -0.8
TORD Torodi Ar. Bea 66.84 268 P P 16 11 00.5 +0.2
comp=Z,0.3nm,0.3s,baz=45,slow=5.2,SNR=5.5
comp=Z,0.3nm,0.3s
E18K Tukpahlearik C 66.87 20 P P 16 10 58.5 -1.2
F19K Shaleruckik Mo 68.05 19 P P 16 11 06.0 -1.2
TOLK Toolik Lake Re 68.49 15 P P 16 11 09.5 -0.6
TOLK IAmb IAmb 16 11 47.7
comp=Z,3.6nm,1.4s
G19K Purcell Mounta 68.75 19 P P 16 11 10.7 -1.0
G19K IAmb IAmb 16 11 44.2
comp=Z,3.9nm,1.4s
G21K Allakaket 69.35 18 P P 16 11 12.9 -2.5
IMAR Indian Mountai 69.72 18 P P 16 11 16.0 -1.6
BMAR Burnt Mountain 70.52 14 P P 16 11 20.7 -1.9
INK Inuvik 71.53 10 P P 16 11 27.1 -1.4
INK IAmb IAmb 16 11 38.6
comp=Z,5.0nm,1.4s
CAST Castle Rocks 72.23 19 P P 16 11 32.7 -0.2
H29M Whitestone 72.73 13 P P 16 11 34.6 -1.3
H29M IAmb IAmb 16 11 58.0
comp=Z,3.0nm,1.2s
BCAR Beaver Creek A 74.93 15 P P 16 11 47.8 -1.1
YKA Yellowknife Ar 78.96 3 P P 16 12 11.7 +0.2
comp=Z,0.2nm,0.7s,baz=349,slow=5.6,SNR=3.9
comp=Z,0.2nm,0.7s
DRLN Deer Lake 81.81 329 P P 16 12 25.2 -1.8
WRA Warramunga Arr 82.29 123 P P 16 12 29.0 -0.9
comp=Z,0.7nm,0.8s,baz=323,slow=5.1,SNR=2.5
comp=Z,0.7nm,0.8s
WB2 Warramunga Arr 82.30 123 P P 16 12 28.6 -1.3
PATS Pohnpei 82.63 87 P P 16 12 29.5 -2.4
ASAR Alice Springs 84.68 126 P P 16 12 40.3 -1.9
comp=Z,0.2nm,0.6s,baz=342,slow=7.8,SNR=1.6
comp=Z,0.2nm,0.6s

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*NEIC **04** 16:05:59.6$\pm$1.2, 48°.3N$\pm$0°.1$\times$152°.9E$\pm$0°.1, h124$^{km}\pm$7^{km}, mb4.3/69, Error ellipse: s-maj=15.0km s-min=9.2km az=163.0*
*SKHL **04** 16:06:01.6$\pm$0.3, 48°.10N$\times$153°.30E, h146$^{km}\pm$3^{km}, mb4.9/5, msha5.7/4*
*MOS **04** 16:06:01.3$\pm$0.9, 48°.34N$\times$153°.00E, h155^{km}, mb4.2/6, Error ellipse: s-maj=17.4km s-min=7.5km az=68.5*
*IDC **04** 16:06:02.7$\pm$2.4, 48°.34N$\times$153°.00E, h151$^{km}\pm$22^{km}, mb3.4/16, mbtmp3.9/19, Error ellipse: s-maj=19.7km s-min=14.9km az=146.0*
ISC 04 16:06:01.9$\pm$0.6, **48°.26N**$\pm$0°.08$\times$**153°.06E**$\pm$0°.08, **h150**^{km}, **n128**, σ**1ˢ64**/132, **mb4.2**/53, **Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 3.14 38 *e*PN Pn 16 06 50.4 -0.5
SKR *e*S Sn 16 07 26.5 -2.4
SKR pmax pmax
comp=Z,33nm,0.4s
SKR smax smax
comp=N,76nm,0.2s
SKR smax smax
comp=E,150nm,0.2s
SKR MLR MLR
comp=Z,700nm,16.0s
SKR Severo-Kuril's 3.14 38 *e*P Pn 16 06 50.3 -0.6
SKR AMB AMB 16 06 50.6
comp=Z,30nm,0.4s
SKR *e*S Sn 16 07 26.6 -2.4
SKR A A 16 07 30.2
comp=Z,70nm,0.2s
SKR A A 16 07 30.2
comp=Z,150nm,0.2s
PAU Pauzhetka 4.03 36 *e*P Pn 16 07 03.0 +0.6
PAU AMB AMB 16 07 03.8
comp=Z,40nm,0.3s
PAU *e*S Sn 16 07 48.5 -0.9
PAU A A 16 07 49.7
comp=Z,180nm,0.3s
PAU A A 16 07 49.7
comp=Z,190nm,0.3s
KUR Kuril'sk 4.68 232 *e*PN Pn 16 07 13.8 +2.8
KUR *e*S Sn 16 08 10.9 +6.1
KUR Kuril'sk 4.68 232 *e*P Pn 16 07 13.8 +2.8
KUR *e*S Sn 16 08 10.9 +6.1
PEA0B Petropavlovsk- 5.68 29 Pn 16 07 23.1 -1.1
PEA0B Petropavlovsk- 5.68 29 PN Pn 16 07 23.1 -1.1
PETK Petropavlovsk- 5.68 29 Pn 16 07 23.3 -0.9
PETK Petropavlovsk- 5.68 29 P Pn 16 07 23.9 -0.4
comp=Z,6.9nm,0.6s,baz=198,slow=10.0,SNR=38
PETK S Sn 16 08 33.7 +5.1
comp=Z,1.8nm,0.8s,baz=168,slow=15,SNR=1.1
PET Petropavlovsk 5.95 35 Pn Pn 16 07 26.3 -1.5
PET Sn Sn 16 08 29.6 -5.5
SHO Shikotan 6.17 227 *e*PN Pn 16 07 29.7 -1.0
SHO *e*S Sn 16 08 36.1 -4.1
SHO pmax pmax
comp=Z,25nm,0.3s
SHO pmax pmax
comp=E,7.0nm,0.2s
SHO smax smax
comp=E,21nm,0.2s
SHO smax smax
comp=N,42nm,0.3s
SHO Shikotan 6.17 227 *e*P Pn 16 07 29.8 -1.0
SHO AMB AMB 16 07 32.2
comp=N,30nm,0.3s
SHO *e*S Sn 16 08 36.3 -3.9
SHO A A 16 08 37.6
comp=N,50nm,0.4s
SHO A A 16 08 37.6
comp=N,30nm,0.4s
YUK Yuzh-Kuril'sk 6.54 232 *e*PN Pn 16 07 37.1 +1.3
YUK S Sn 16 08 51.5 +2.2
YUK pmax pmax
comp=N,38nm,0.3s
YUK pmax pmax
comp=Z,90nm,0.3s
YUK Yuzh-Kuril'sk 6.54 232 *e*P Pn 16 07 36.9 +1.1
YUK AMB AMB 16 07 39.6
comp=Z,40nm,0.3s
YUK AMB AMB 16 07 39.6
comp=Z,90nm,0.3s
YUK *e*S Sn 16 08 47.7 -1.6
RUSJ Misakicho 6.83 235 PN Pn 16 07 45.1 +5.5
NMR Nemuro--Hokkai 7.08 229 *e*PN Pn 16 07 41.3 -1.6
NMR Nemuro--Hokkai 7.08 229 *e*P Pn 16 07 41.7 -1.2
TYV Tymovskoe 7.25 295 *e*P Pn 16 07 47.9 +2.7
AKK Akkeshi 7.78 231 *e*P Pn 16 07 51.4 -0.9
JKA Kamikawa-asahi 8.35 244 *e*P Pn 16 08 01.7 +1.8
ASAJ Asahikawa 8.36 244 P Pn 16 08 01.7 +1.8
comp=Z,14nm,1.1s,baz=310,slow=18,SNR=2.6
ERM Erimo 9.37 232 Pn Pn 16 08 10.7 -2.7
ERM Sn Sn 16 09 50.4 -6.9
KBG Krutoberegovo 9.95 33 *e*P Pn 16 08 19.1 -1.9
JTM Tenmabayashi 11.35 233 Pn Pn 16 08 34.0 -5.6
JTM Sn Sn 16 10 32.4 -13
SEY Seymchan 14.72 359 P Pn 16 09 22.5 +0.1
comp=Z,1.3nm,0.5s,baz=176,slow=14,SNR=6.3
YAK Yakutsk 19.05 325 P P 16 10 09.2 -3.0
YAK IAmb IAmb 16 10 18.4
comp=Z,7.4nm,0.6s
J14K Nanvaranak Lak 27.88 43 P P 16 11 37.8 +0.7
L14K Kuka Creek 28.06 46 P P 16 11 39.5 +0.8
L14K IAmb IAmb 16 12 01.1
comp=Z,9.5nm,1.4s
M14K Bethel 28.34 47 P P 16 11 42.1 +0.9
N15K Kwethluk River 29.22 48 P P 16 11 49.4 +0.3
L16K Owhat River 29.62 45 P P 16 11 52.7 +0.1
F17K Baldwin Pennin 29.68 36 P P 16 11 53.9 +0.8
F17K IAmb IAmb 16 11 55.2
comp=Z,5.3nm,0.9s
M16K Timber Creek 29.82 47 P P 16 11 55.0 +0.6
M16K IAmb IAmb 16 12 17.3
comp=Z,7.4nm,1.2s
C18K Utukok River 30.34 31 P P 16 11 58.9 -0.1
M17K Holitna River 30.58 46 P P 16 12 02.0 +1.0
M17K IAmb IAmb 16 12 03.8
comp=Z,9.7nm,1.3s
H11N2 WAKE ISLAND Hy 30.58 154 T T 16 43 58.9
baz=341,slow=76,SNR=17
G18K Tagagawik 30.58 37 P P 16 12 01.6 +0.5
G18K IAmb IAmb 16 12 02.1
comp=Z,2.8nm,0.6s
H11N1 WAKE ISLAND Hy 30.59 154 T T 16 44 01.4
baz=341,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 30.59 154 T T 16 44 02.4
baz=341,slow=76,SNR=13
N17K Nushagak Hills 30.67 48 P 16 12 02.3 +0.4
L18K Granite Mounta 30.97 44 P P 16 12 05.6 +1.1
L18K IAmb IAmb 16 12 15.7
comp=Z,10.0nm,1.5s
C19K Lookout Ridge 31.04 31 P P 16 12 06.3 +1.2
F19K Shaleruckik Mo 31.12 35 P P 16 12 05.3 -0.5
G19K Purcell Mounta 31.26 37 P P 16 12 06.9 -0.1
TTA Tatalina 31.33 43 P P 16 12 07.8 +0.1
TTA IAmb IAmb 16 12 09.1
comp=Z,4.9nm,1.2s
TTA Tatalina 31.33 43 P P 16 12 07.8 +0.1
TTA pmax pmax
comp=Z,5.0nm,1.2s
D19K Kuna River 31.38 32 P P 16 12 08.2 +0.1
H19K Roundabout Mou 31.42 38 P P 16 12 08.6 +0.3
H19K IAmb IAmb 16 12 09.8
comp=Z,5.4nm,0.8s
E19K Redstone River 31.46 34 P P 16 12 09.6 +0.8
SVW2 Sparrevohn 31.47 47 P P 16 12 09.8 +1.0
SVW2 IAmb IAmb 16 12 34.5
comp=Z,8.4nm,1.4s
J19K Poorman 31.59 41 P P 16 12 09.4 -0.5
J19K IAmb IAmb 16 12 45.0
comp=Z,7.6nm,1.5s
H11S1 WAKE ISLAND Hy 31.68 155 T T 16 45 24.9
baz=343,slow=76,SNR=48
H11S3 WAKE ISLAND Hy 31.69 155 T T 16 45 29.7
baz=343,slow=76,SNR=61
H11S2 WAKE ISLAND Hy 31.70 155 T T 16 45 25.4
baz=343,slow=76,SNR=26
L19K White Mountain 31.83 45 P P 16 12 12.3 +0.3
L19K IAmb IAmb 16 12 23.6
comp=Z,5.1nm,1.2s
N19K Bonanza Creek 32.00 47 P P 16 12 13.9 +0.2
N19K IAmb IAmb 16 12 38.5
comp=Z,8.0nm,1.2s
B20K Meade River 32.12 30 P P 16 12 14.5 +0.1
B20K IAmb IAmb 16 12 16.9
comp=Z,4.4nm,1.1s
K20K Telida 32.23 42 P P 16 12 16.5 +1.0
K20K IAmb IAmb 16 12 43.9
comp=Z,7.8nm,1.4s
J20K Nowinta River 32.25 41 P P 16 12 15.8 +0.2
IMAR Indian Mountai 32.58 37 P P 16 12 18.5 0.0
M20K Styx River 32.64 45 P P 16 12 20.1 +0.9
M20K IAmb IAmb 16 12 20.3
comp=Z,7.0nm,1.4s
G21K Allakaket 32.74 37 P P 16 12 20.6 +0.7
G21K IAmb IAmb 16 12 21.9
comp=Z,4.9nm,1.0s
B21K Ikpikpuk River 32.88 31 P P 16 12 21.7 +0.6
B21K IAmb IAmb 16 12 22.8
comp=Z,5.7nm,0.7s
H21K Melozitna Rive 32.94 38 P P 16 12 21.8 +0.1
CAST Castle Rocks 33.13 42 P P 16 12 24.1 +0.8
B22K Teshekpuk Lake 33.44 30 P P 16 12 26.3 +0.4
B22K IAmb IAmb 16 13 06.1
comp=Z,6.8nm,1.4s
KTH Kantishna Hill 33.65 42 P P 16 12 29.0 +1.0
KTH IAmb IAmb 16 12 29.7
comp=Z,3.5nm,0.8s
CNPM China Poot 33.70 49 P P 16 12 28.2 -0.1
BRLK Bradley Lake 33.85 49 P P 16 12 29.1 -0.6
C23K Itkillik River 34.29 31 P P 16 12 34.1 +0.8
C23K IAmb IAmb 16 12 40.3
comp=Z,6.5nm,1.5s
TOLK Toolik Lake Re 34.49 33 P P 16 12 35.7 +0.7
TOLK IAmb IAmb 16 12 36.1
comp=Z,2.9nm,0.7s
MDM Murphy Dome 34.83 40 P P 16 12 39.0 +1.0
MDM IAmb IAmb 16 12 39.9
comp=Z,3.5nm,0.7s
SML Sawmill 34.92 45 P P 16 12 39.3 +0.5
COLA College 34.99 40 P P 16 12 40.5 +1.2
COLA College 34.99 40 P P 16 12 40.5 +1.2
COLA pmax pmax
comp=Z,13nm,0.7s
CCB Clear Creek Bu 35.01 40 P P 16 12 40.1 +0.6
CCB IAmb IAmb 16 12 41.9
comp=Z,2.6nm,0.8s
F24K Squaw Lake 35.03 35 P P 16 12 40.5 +0.8
G24K Hadweenzic Riv 35.16 37 P P 16 12 41.6 +0.9
G24K IAmb IAmb 16 12 42.9
comp=Z,5.1nm,0.8s
POKR Poker Plat Res 35.16 39 P P 16 12 42.2 +1.3
POKR IAmb IAmb 16 12 42.6
comp=Z,5.6nm,0.9s
HDA Harding Lake 35.39 40 P P 16 12 42.9 +0.1
SCM Sheep Creek Mo 35.39 45 P P 16 12 43.3 +0.4
SCM Sheep Creek Mo 35.39 45 P P 16 12 43.3 +0.4
SCM pmax pmax
comp=Z,19nm,1.4s
IL31 35.40 40 P P 16 12 43.1 +0.3
ILAR Eielson Array 35.40 40 P P 16 12 43.3 +0.4
ILAR Eielson Array 35.40 40 P P 16 12 43.0 +0.2
comp=Z,1.0nm,0.6s,baz=261,slow=5.8,SNR=25
comp=Z,1.0nm,0.6s
D25K Kavik River 35.70 32 P P 16 12 46.0 +0.6
D25K IAmb IAmb 16 12 46.9
comp=Z,4.6nm,0.7s
E25K Arctic Village 35.94 34 P P 16 12 48.6 +1.2
J25K Salcha River, 36.06 40 P P 16 12 47.9 -0.7
J25K IAmb IAmb 16 12 49.5
comp=Z,5.5nm,1.1s
BMAR Burnt Mountain 36.30 35 P P 16 12 51.5 +1.0
SCRK Sand Creek 36.71 41 P P 16 12 53.7 -0.5
SCRK IAmb IAmb 16 12 54.8
comp=Z,7.8nm,1.4s
K27K Chicken 37.54 41 P P 16 13 01.7 +0.7
K27K IAmb IAmb 16 13 02.7
comp=Z,6.0nm,0.9s
D27M Malcolm River 37.63 32 P P 16 13 02.7 +1.0
EGAK Eagle 37.85 40 P P 16 13 03.8 +0.2
EGAK IAmb IAmb 16 13 04.3
comp=Z,6.0nm,0.9s
BARN Barnard Glacie 38.20 46 P P 16 13 08.0 +1.3
I28M Miner Creek 38.28 38 P P 16 13 08.5 +1.1
I28M IAmb IAmb 16 13 08.9
comp=Z,3.4nm,0.8s
H29M Whitestone 38.83 37 P P 16 13 12.4 +0.7
H29M IAmb IAmb 16 13 55.9
comp=Z,8.1nm,1.4s
I30M Mount Dempster 39.80 38 P P 16 13 20.7 +0.8
I30M IAmb IAmb 16 13 21.6
comp=Z,4.7nm,0.7s
G31M Satah River 40.35 36 P P 16 13 24.9 +0.6
INK Inuvik 40.40 33 P P 16 13 25.7 +1.0
INK Inuvik 40.40 33 P P 16 13 25.7 +1.0
INK pmax pmax
comp=Z,3.0nm,1.1s
ZALV Zalesovo Beam 41.72 304 P P 16 13 34.9 -0.7
comp=Z,0.7nm,0.4s,baz=60,slow=6.4,SNR=4.2
comp=Z,0.7nm,0.4s
MKAR Makanchi Array 46.23 296 P P 16 14 11.5 -0.2
comp=Z,0.4nm,0.7s,baz=67,slow=7.6,SNR=3.3
comp=Z,0.4nm,0.7s
KURK Kurchatov 46.51 302 P P 16 14 14.3 +0.5
KURK Kurchatov 46.51 302 P P 16 14 14.3 +0.5
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 46.51 302 *e*P P 16 14 14.3 +0.5
KURBB Kurchatov Arra 46.61 302 P P 16 14 14.0 -0.5
comp=Z,0.7nm,0.6s,baz=68,slow=9.0,SNR=6.8
comp=Z,0.7nm,0.6s
HOLB Holberg 48.99 56 P P 16 14 35.0 +2.1
YKA Yellowknife Ar 49.74 37 P P 16 14 39.1 +0.7
comp=Z,1.7nm,0.8s,baz=298,slow=7.5,SNR=15
comp=Z,1.7nm,0.8s
BVAR Borovoye Array 49.88 308 P P 16 14 40.2 +0.6
comp=Z,1.9nm,0.5s,baz=57,slow=8.2,SNR=19
comp=Z,1.9nm,0.5s
RADR Rader Ridge 53.67 58 P P 16 15 07.9 +0.1
KBO Bosley Butte 55.88 63 P P 16 15 25.6 +1.8
ARCES ARCESS Array B 56.42 340 P P 16 15 26.8 -0.4
comp=Z,4.1nm,1.0s,baz=46,slow=8.1,SNR=1.7
comp=Z,4.1nm,1.0s
ABKAR Akbulak array 57.44 309 P P 16 15 33.9 -0.7
ABKAR Akbulak array 57.44 309 P P 16 15 35.1 +0.5
ABKAR IAmb IAmb 16 15 56.6
comp=Z,3.8nm,1.4s
FCC Fort Churchill 60.02 34 P P 16 15 52.3 +0.1
FCC Fort Churchill 60.02 34 P P 16 15 52.3 +0.1
FIA1 FINESS Array S 62.66 334 P P 16 16 09.7 -0.2
FINES FINESS Array B 62.66 334 P P 16 16 09.6 -0.4
FINES FINESS Array B 62.66 334 P P 16 16 09.8 -0.1
comp=Z,1.2nm,0.3s,baz=35,slow=7.4,SNR=25
comp=Z,1.2nm,0.3s
NB201 NORSAR Array S 66.77 341 P P 16 16 36.9 +0.3
NOA NORSAR Array B 66.79 341 P P 16 16 37.0 +0.3
comp=Z,0.6nm,0.6s,baz=29,slow=6.7,SNR=5.4
comp=Z,0.6nm,0.6s
HFS Hagfors 67.03 339 P P 16 16 38.7 +0.5
comp=Z,1.2nm,0.3s,baz=31,slow=3.5,SNR=15
comp=Z,1.2nm,0.3s
WRA Warramunga Arr 69.93 199 P P 16 16 57.9 +1.3
comp=Z,0.5nm,0.8s,baz=18,slow=6.8,SNR=1.7
comp=Z,0.5nm,0.8s
AKASG Malin Array Be 70.28 326 P P 16 16 58.3 -0.2
comp=Z,0.2nm,0.3s,baz=34,slow=5.6,SNR=3.2
comp=Z,0.2nm,0.3s
ASAR Alice Springs 73.63 198 P P 16 17 19.6 +0.9
comp=Z,0.2nm,0.7s,baz=19,slow=6.1,SNR=4.1
comp=Z,0.2nm,0.7s
EKA Eskdalemuir Ar 74.87 346 P P 16 17 26.0 +0.5
comp=Z,0.2nm,0.3s,baz=19,slow=5.3,SNR=5.0
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 76.78 61 P P 16 17 37.5 +0.5
comp=Z,0.3nm,0.5s,baz=297,slow=6.0,SNR=3.1
comp=Z,0.3nm,0.5s
GERES GERESS Array B 77.09 334 P P 16 17 38.6 +0.3
comp=Z,0.6nm,0.5s,baz=10,slow=6.0,SNR=3.5
comp=Z,0.6nm,0.5s

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*NEIC **04** 16:09:46.2$\pm$2.6, 15°.48N$\pm$0°.07$\times$94°.74W$\pm$0°.04, h28$^{km}\pm$8^{km}, mb4.4/54, Md4.4/87(MEX), Error ellipse: s-maj=10.1km s-min=5.2km az=197.0*
*MEX **04** 16:09:47.1$\pm$1.0, 15°.37N$\times$94°.80W, h25$^{km}\pm$18^{km}, MD4.5*
*IDC **04** 16:09:49.6$\pm$5.0, 15°.66N$\times$94°.52W, h51$^{km}\pm$33^{km}, mb3.8/8, mbtmp4.0/9, ML4.8/2, MS3.5/13, Error ellipse: s-maj=39.9km s-min=18.5km az=23.0*
ISC 04 16:09:46.0$\pm$3.2, **15°.35N**$\pm$0°.04$\times$**94°.81W**$\pm$0°.02, **h36**$^{km}\pm$25^{km}, **n154**, σ**2ˢ33**/211, **mb4.3**/21, **MS3.4**/10, **Near coast of Oaxaca**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NILT Santiago Nilte 1.22 9 *e*P Pn 16 10 04.6 -2.0
NILT *e*S Sn 16 10 17.5 -4.3
CARR Arriaga 1.24 44 *i* P Pn 16 10 05.0 -1.8
CARR *e*S Sn 16 10 17.3 -5.0
HUIG Huatulco 1.32 289 Pn 16 10 07.5 -0.4
HUIG Sn 16 10 22.0 -2.2
HUIG Huatulco 1.32 289 *e*P Pn 16 10 07.5 -0.4
HUIG *i* S Sn 16 10 22.0 -2.2
PCIG 1.57 77 Pn 16 10 10.6 -0.7
PCIG Sn 16 10 28.4 -2.1
PCIG 1.57 77 *e*P Pn 16 10 10.6 -0.7
PCIG *e*S Sn 16 10 28.4 -2.1
CMIG Matias Romero 1.73 358 Pn 16 10 12.8 -0.8
CMIG Sn 16 10 32.5 -1.9
CMIG Matias Romero 1.73 358 P Pn 16 10 12.8 -0.8
1µm,0.4s,baz=167,slow=11,SNR=1293
CMIG S Sn 16 10 31.7 -2.8
5µm,0.6s,baz=90,slow=14,SNR=42
CMIG LR LR 16 11 03.0
comp=Z,753nm,19.7s,baz=202,slow=50
CMIG Matias Romero 1.73 358 *i* P Pn 16 10 12.8 -0.8
CMIG *e*S Sn 16 10 32.5 -1.9
UXUV UXUV 2.06 18 *i* P Pn 16 10 18.1 +0.1
UXUV *e*S Sn 16 10 41.4 -1.1
TGIG 2.16 49 Pn 16 10 19.6 +0.2
TGIG Sn 16 10 44.0 -1.0
TGIG 2.16 49 *e*P Pn 16 10 19.6 +0.2
TGIG *e*S Sn 16 10 44.0 -1.0
TGBT Tuxtla Gutierr 2.18 49 Pn 16 10 19.9 +0.2
TGBT Sn 16 10 45.8 +0.4
TGBT Tuxtla Gutierr 2.18 49 *e*P Pn 16 10 19.9 +0.2
TGBT *e*S Sn 16 10 45.8 +0.4
PEIG Puerto Escondi 2.34 286 Pn 16 10 21.8 -0.1
PEIG Sn 16 10 45.6 -3.9
PEIG Puerto Escondi 2.34 286 *e*P Pn 16 10 21.8 -0.1
PEIG *e*S Sn 16 10 45.6 -3.9
THIG 2.50 100 Pn 16 10 21.7 -2.3
THIG Sn 16 10 52.9 -0.3
THIG 2.50 100 *e*P Pn 16 10 21.7 -2.3
THIG *e*S Sn 16 10 52.9 -0.3
PATR El Naranjo 2.50 95 *e*P Pn 16 10 24.0 -0.2
PATR *e*S Sn 16 10 51.2 -2.4
OXIG Oaxaca 2.52 313 Pn 16 10 26.1 +1.6
OXIG Sn 16 10 53.3 -0.9
VHO Vista Hermosa 2.52 313 *e*P Pn 16 10 26.1 +1.6
VHO *e*S Sn 16 10 53.3 -0.9
NEUV Arroyo Zacate 2.54 338 *e*P Pn 16 10 24.1 -0.5
NEUV *e*S Sn 16 10 53.5 -0.7
PAVE Pavencul 2.55 93 *e*P Pn 16 10 25.2 +0.3
PAVE *i* S Sn 16 10 54.0 -0.8
CHUJ Union Juarez 2.62 95 *e*P Pn 16 10 25.9 -0.1
CHUJ *e*S Sn 16 10 55.6 -1.1
TUIG Tuzandepetl 2.70 8 *i* P Pn 16 10 27.1 +0.3
TUIG *i* S Sn 16 10 58.7 +0.5
CCIG Comitan 2.73 70 Pn 16 10 28.2 +0.7
CCIG Comitan 2.73 70 *e*P Pn 16 10 28.8 +1.3
CCIG *i* S Sn 16 11 01.4 +2.0
YOIG Yosondua 3.03 300 Pn 16 10 33.1 +1.5
YOIG Sn 16 11 00.9 -5.9
YOIG Yosondua 3.03 300 *e*P Pn 16 10 33.1 +1.5
YOIG *i* S Sn 16 11 00.9 -5.9
RTAL Retalhuleu 3.12 105 Pn Pn 16 10 33.2 +0.6
RTAL Retalhuleu 3.12 105 *e*P Pn 16 10 31.0 -1.7
RTAL *e*S Sn 16 11 05.4 -3.3
HUEH Huehuetenango 3.19 90 Pn 16 10 34.8 +1.0
HUEH Huehuetenango 3.19 90 *e*P Pn 16 10 31.6 -2.2
HUEH *e*S Sn 16 11 09.8 -1.0
PMUV Sontecomapan 3.19 355 *e*P Pn 16 10 31.9 -1.8
PMUV *i* S Sn 16 11 07.0 -3.6
PNIG Pinotepa 3.36 288 Pn 16 10 36.6 +0.7
PNIG Sn 16 11 10.8 -3.8
PNIG Pinotepa 3.36 288 *i* P Pn 16 10 36.6 +0.7
PNIG *i* S Sn 16 11 10.8 -3.8
TXIG Tlaxiaco 3.41 304 Pn 16 10 39.0 +2.1
TXIG Sn 16 11 15.4 -0.9
TXIG Tlaxiaco 3.41 304 *e*P Pn 16 10 39.0 +2.1
TXIG *e*S Sn 16 11 15.4 -0.9
TOIG Toxpalan 3.48 322 Pn 16 10 40.2 +2.4
TOIG Sn 16 11 16.9 -0.9
TOIG Toxpalan 3.48 322 *e*P Pn 16 10 40.2 +2.4
TOIG *e*S Sn 16 11 16.9 -0.9
HLIG Huajuapan de L 3.79 311 Pn 16 10 44.4 +2.4
HLIG Sn 16 11 24.2 -1.2
HLIG Huajuapan de L 3.79 311 *e*P Pn 16 10 44.4 +2.4
HLIG *e*S Sn 16 11 24.2 -1.2
TPIG Tehuac#an 3.91 322 Pn 16 10 47.0 +3.4
TPIG Sn 16 11 31.6 +3.2
TPIG Tehuac#an 3.91 322 *e*P Pn 16 10 47.0 +3.4
TPIG *e*S Sn 16 11 31.6 +3.2
FTIG Fresnillo de T 4.08 309 Pn 16 10 48.6 +2.7
FTIG Sn 16 11 31.8 -0.7
FTIG Fresnillo de T 4.08 309 *e*P Pn 16 10 48.6 +2.7
FTIG *e*S Sn 16 11 31.8 -0.7
MGIG Malinaltepec 4.12 298 Pn 16 10 48.9 +2.3
MGIG Sn 16 11 32.0 -1.6
MGIG Malinaltepec 4.12 298 *e*P Pn 16 10 48.9 +2.3
MGIG *e*S Sn 16 11 32.0 -1.6
TLIG Tlapa 4.22 302 Pn Pn 16 10 50.2 +2.3
TLIG Tlapa 4.22 302 *e*P Pn 16 10 50.5 +2.6
TLIG *i* S Sn 16 11 32.6 -3.4
CRIG Cruz Grande 4.38 289 Pn 16 10 50.9 +0.9
CRIG Sn 16 11 34.1 -5.6
CRIG Cruz Grande 4.38 289 *e*P Pn 16 10 50.9 +0.9
CRIG *e*S Sn 16 11 34.1 -5.6
JAUV Jalcomulco 4.43 335 *e*P Pn 16 10 48.8 -1.8
JAUV *e*S Sn 16 11 36.1 -4.9
LVIG Laguna Verde 4.61 341 *e*P Pn 16 10 49.2 -3.9
LVIG *e*S Sn 16 11 40.7 -4.8
DAIG Los Arroyos 4.94 290 Pn 16 10 58.6 +1.0
DAIG Sn 16 11 48.0 -5.6
DAIG Los Arroyos 4.94 290 *e*P Pn 16 10 58.6 +1.0
DAIG *e*S Sn 16 11 48.0 -5.6
SCIG Sabancuy 5.00 43 *e*P Pn 16 10 57.4 -1.0
SCIG *i* S Sn 16 11 50.5 -4.4
PETF Flores 5.00 71 Pn 16 10 59.0 +0.5
PETF Flores 5.00 71 *e*P Pn 16 10 58.6 +0.2
PETF *e*S Sn 16 11 54.6 -0.4
PPM Popocatepetl 5.19 316 *e*P Pn 16 11 05.7 +4.1

PPM eS Sn 16 11 58.9 -1.6
PPIG Popocatepetl 5.20 316 Pn 16 11 05.7 +4.1
PPIG Sn 16 11 58.9 -1.7
MEIG Mezcala 5.28 300 Pn 16 11 04.6 +2.3
MEIG Sn 16 11 59.3 -2.7
MEIG Mezcala 5.28 300 eP **Pn 16 11 04.6 +2.3**
MEIG i S **Sn 16 11 59.3 -2.7**
MTO3 Montecristo 5.35 99 Pn **Pn 16 11 04.9 +1.4**
YAIG Yautepec 5.36 311 Pn 16 11 06.5 +2.8
YAIG Sn 16 12 01.6 -2.7
YAIG Yautepec 5.36 311 eP **Pn 16 11 06.5 +2.8**
YAIG eS **Sn 16 12 01.6 -2.7**
PLIG Platanillo 5.42 305 Pn 16 11 07.8 +3.5
PLIG Sn 16 12 02.5 -3.0
PLIG Platanillo 5.42 305 eP **Pn 16 11 07.8 +3.5**
PLIG eS **Sn 16 12 02.5 -3.0**
CAIG El Cayaco 5.51 289 Pn 16 11 07.0 +1.6
CAIG Sn 16 12 01.2 -6.4
CAIG El Cayaco 5.51 289 i P **Pn 16 11 07.0 +1.6**
CAIG eS **Sn 16 12 01.2 -6.4**
MPVM San Francisco 5.55 314 eP **Pn 16 11 08.3 +2.1**
MPVM i S **Sn 16 12 13.3 +4.4**
AOVM Tlapan 5.81 313 eP **Pn 16 11 14.3 +4.2**
AOVM i S **Sn 16 12 10.4 -5.3**
ARIG Puente Sto Nin 6.05 300 Pn 16 11 16.4 +3.4
ARIG Sn 16 12 18.0 -3.0
ARIG Puente Sto Nin 6.05 300 eP **Pn 16 11 16.4 +3.4**
ARIG eS **Sn 16 12 18.0 -3.0**
ZIIG Zihuatanejo 6.77 290 Pn 16 11 25.2 +2.5
ZIIG Zihuatanejo 6.77 290 eP **Pn 16 11 25.2 +2.5**
MOIG Morelia 7.45 306 Pn **Pn 16 11 34.8 +2.4**
TEIG Tepich 7.89 51 P **Pn 16 11 36.7 -1.5**
113nm,0.3s,baz=252,slow=20,SNR=35
TEIG S **Sn 16 13 00.8 -5.4**
327nm,0.3s,baz=207,slow=22,SNR=1.3
TEIG LR LR 16 15 10.1
comp=Z,2μm,18.0s,baz=222,slow=43
CRIN San Cristobal 7.98 108 Pn **Pn 16 11 40.9 +1.5**
ORTG Ortega, Santa 10.38 117 Pn **Pn 16 12 13.3 +0.9**
SOR Soroa 13.38 55 Pn Pn 16 12 48.1 -5.3
833A Chaparral WMA, 13.59 343 Pn **Pn 16 12 53.8 -2.4**
HNDO Hondo 14.70 344 Pn 16 13 09.5 -1.9
DRIO Del Rio 15.00 340 Pn 16 13 13.4 -1.9
435B Jarrell 15.57 351 Pn 16 13 19.7 -3.1
JCT Junction City 15.74 344 Pn 16 13 23.1 -2.0
JCT IAmb IAmb 16 13 59.0
comp=Z,14nm,0.6s
TXAR Lajitas Array 16.14 331 P **P 16 13 31.7 -1.4**
comp=Z,0.2nm,0.3s,baz=158,slow=15,SNR=14
TXAR LR LR 16 20 36.9
comp=Z,56nm,18.0s,baz=47,slow=40
comp=Z,1.7nm,0.7s
BRDY Brady 16.32 347 P **Pn 16 13 32.3 -0.1**
OZNA Ozona 16.55 341 P **Pn 16 13 35.5 +0.2**
WHTX Lake Whitney, 16.74 352 Pn 16 13 37.0 -0.7
WHTX IAmb IAmb 16 13 51.3
comp=Z,44nm,1.1s
LPIG La Paz 16.98 303 LR LR 16 19 13.6
comp=Z,91nm,19.4s,baz=102,slow=33
ALPN Alpine 17.01 333 P **P 16 13 42.1 -0.7**
SGCY Sterling City 17.47 342 P **Pn 16 13 45.4 -1.4**
SGCY IAmb IAmb 16 14 01.3
comp=Z,18nm,0.8s
MNHN Monahans 17.50 337 P **Pn 16 13 46.6 -0.6**
PLPT Palo Pinto 17.68 350 Pn **Pn 16 13 47.0 -2.4**
PLPT IAmb IAmb 16 14 12.7
comp=Z,17nm,0.7s
ABTX Abilene, Hawle 17.75 347 Pn 16 13 47.9 -2.4
ABTX IAmb IAmb 16 14 14.4
comp=Z,22nm,0.9s
PECS Pecos 17.97 334 P 16 13 53.5 +0.2
VHRN Van Horn 17.98 330 P **Pn 16 13 53.3 +0.1**
WTFS Witchita Falls 18.63 350 P 16 13 58.8 -1.7
WTFS IAmb IAmb 16 14 10.7
comp=Z,22nm,0.7s
LOOK Love County 18.69 354 P 16 13 59.1 -2.0
DKNS Dickens 19.06 344 P **P 16 14 04.0 -1.3**
WMOK Wichita Mounta 19.64 350 P **P 16 14 10.0 -1.5**
W35A Tecumseh 19.81 355 P 16 14 12.3 -1.1
W35A IAmb IAmb 16 14 36.4
comp=Z,16nm,0.9s
MSTX Muleshoe 19.89 340 P 16 14 13.7 -0.7
SMWD Samnorwood 20.27 347 P **P 16 14 17.7 -0.7**
AMTX Amarillo 20.41 344 P 16 14 19.4 -0.6
AMTX IAmb IAmb 16 14 33.9
comp=Z,20nm,1.1s
DEOK Depew 20.46 356 P **P 16 14 19.6 -0.9**
DEOK IAmb IAmb 16 14 34.8
comp=Z,36nm,1.3s
319A Douglas 20.72 323 P **P 16 14 23.3 -0.1**
319A IAmb IAmb 16 14 49.4
comp=Z,10nm,0.4s
121A Cookes Peak, D 20.78 328 P **P 16 14 24.2 +0.1**
121A IAmb IAmb 16 14 28.4
comp=Z,20nm,1.2s
QUOK Quay 20.81 356 P 16 14 22.4 -1.7
QUOK IAmb IAmb 16 14 47.5
comp=Z,18nm,0.9s
ELIS Ellis County 21.04 350 P **P 16 14 25.0 -1.8**
ELIS IAmb IAmb 16 14 42.8
comp=Z,17nm,0.7s
OK048 Pawnee Station 21.07 355 P 16 14 25.1 -2.0
OK048 IAmb IAmb 16 14 40.9
comp=Z,14nm,0.8s
OK051 E0350 and S346 21.15 355 P **P 16 14 25.4 -2.4**
OK051 IAmb IAmb 16 14 41.2
comp=Z,15nm,0.8s
DUN6 Lazy B Ranch 21.49 325 P **P 16 14 32.7 +0.9**
DUN6 IAmb IAmb 16 14 50.2
comp=Z,20nm,0.9s
KAN17 Caldwell West 21.77 354 P **P 16 14 32.3 -2.2**
KAN17 IAmb IAmb 16 14 37.0
comp=Z,16nm,0.8s
KAN08 Anthony NE Sta 21.97 353 P **P 16 14 36.0 -0.7**
KAN06 Argonia West S 21.98 353 P **P 16 14 35.7 -1.1**
RTBA Rita Blanca 22.16 343 P **P 16 14 38.4 -0.5**
TUC Tucson 22.28 322 P **P 16 14 40.8 +0.6**
TKL Tuckaleechee C 22.51 24 LR LR 16 23 17.0
comp=Z,59nm,19.4s,baz=44,slow=36
214A Organ Pipe Nat 23.29 318 P **P 16 14 50.4 -0.2**
T25A Trinidad 23.32 340 P **P 16 14 51.0 -0.1**
T25A IAmb IAmb 16 14 54.6
comp=Z,17nm,1.1s
X18A Snowflake 23.46 327 P **P 16 14 53.0 +0.5**
X18A IAmb IAmb 16 14 56.9
comp=Z,7.8nm,1.0s
X16A Lo Mia Camp, P 24.19 325 P **P 16 14 59.7 +0.5**
SDCO Great Sand Dun 24.23 339 P **P 16 14 59.5 -0.3**
R49A Shelbyville 24.39 19 P **P 16 14 58.8 -2.0**
R49A IAmb IAmb 16 15 28.9
comp=Z,17nm,1.2s
WUAZ Wupatki 24.97 327 P **P 16 15 06.3 -0.1**
WUAZ IAmb IAmb 16 15 11.7
comp=Z,9.8nm,0.9s
N38A Joes South For 25.39 3 P **P 16 15 09.1 -0.7**
PFO Pinyon Flats O 26.71 317 LR LR 16 26 55.5
comp=Z,86nm,19.3s,baz=117,slow=38
ATAH Atahualpa 27.63 143 LR LR 16 24 46.1
comp=Z,24nm,18.0s,baz=344,slow=32
PDAR Pinedale Array 30.12 338 P **P 16 15 52.6 +0.1**
comp=Z,0.6nm,0.9s,baz=156,slow=11,SNR=4.7
comp=Z,0.6nm,0.9s
ELK Elko 30.91 329 LR LR 16 30 30.2
comp=Z,135nm,18.1s,baz=123,slow=40
NVAR Mina Array Bea 30.94 322 P **P 16 16 02.2 +2.4**
comp=Z,1.3nm,0.7s,baz=134,slow=8.9,SNR=8.3
NVAR LR LR 16 30 00.7
comp=Z,168nm,18.9s,baz=111,slow=39
comp=Z,1.3nm,0.7s
TPAW Teton Pass 31.25 337 P **P 16 16 03.7 +1.1**
TPAW IAmb IAmb 16 16 05.5
comp=Z,4.9nm,1.1s
MOOW Moose Ponds 31.40 338 P **P 16 16 04.0 +0.2**
NNA Nana 32.47 146 LR LR 16 27 03.1
comp=Z,46nm,19.6s,baz=4.0,slow=32
HLID Hailey 32.72 333 P **P 16 16 15.4 0.0**
HLID IAmb IAmb 16 16 18.3
comp=Z,3.6nm,1.0s
J08A Circle Bar Ran 34.47 329 P **P 16 16 31.4 +0.9**
J08A IAmb IAmb 16 16 51.7
comp=Z,3.6nm,0.9s
PLID Pearl Lake 34.62 333 P **P 16 16 33.2 +1.3**
PLID IAmb IAmb 16 16 34.6
comp=Z,4.9nm,0.8s
ULM Lac du Bonnet 34.82 359 P **P 16 16 32.1 -1.1**
ULM Lac du Bonnet 34.82 359 P **P 16 16 32.1 -1.1**
comp=Z,2.0nm,0.7s,baz=173,slow=9.7,SNR=2.9
comp=Z,2.0nm,0.7s
YBH Yreka Blue Hor 35.65 323 LR LR 16 31 59.0
comp=Z,138nm,21.1s,baz=146,slow=37
F10A Beach Ranch, E 35.85 333 P **P 16 16 43.0 +0.7**
SCHQ Schefferville 44.97 23 LR LR 16 37 58.7
comp=Z,50nm,18.9s,baz=88,slow=38
LVC Limon Verde 45.46 146 LR LR 16 33 26.1
comp=Z,37nm,20.6s,baz=290,slow=31
YKA Yellowknife Ar 49.12 348 P **P 16 18 30.1 +0.3**
comp=Z,1.4nm,0.8s,baz=154,slow=7.1,SNR=22
comp=Z,1.4nm,0.8s
DLBC Dease Lake 50.34 337 LR LR 16 41 08.5
comp=Z,180nm,20.1s,baz=137,slow=38
ILAR Eielson Array 60.54 337 P **P 16 19 53.4 +1.0**
comp=Z,1.8nm,1.0s,baz=140,slow=4.1,SNR=14
comp=Z,1.8nm,1.0s
F21K Alatna River 64.05 338 P **P 16 20 16.7 +0.9**
C23K Itkillik River 64.23 341 P **P 16 20 17.6 +0.7**
B20K Meade River 66.36 341 P **P 16 20 31.6 +0.9**
EKA Eskdalemuir Ar 78.46 36 P **P 16 21 42.8 -0.4**
comp=Z,0.7nm,0.6s,baz=280,slow=6.4,SNR=4.0
comp=Z,0.7nm,0.6s
ESDC Sonseca Array 81.01 51 P **P 16 21 57.3 -0.1**
comp=Z,1.9nm,0.9s,baz=300,slow=5.4,SNR=6.3
comp=Z,1.9nm,0.9s
ARCES ARCESS Array B 85.70 18 P **P 16 22 19.9 -1.0**
comp=Z,5.4nm,1.1s,baz=306,slow=5.2,SNR=1.9
comp=Z,5.4nm,1.1s

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*TIR **04** 16:25:30.7, 42°.73N×20°.29E, h1km±1km, Ml2.6*
*RHSSO **04** 16:25:32.8±0.6, 42°.62N×19°.98E, h5km±2km, ML1.9/8*
*PDG **04** 16:25:33.8±0.1, 42°.60N×19°.86E, h5km, MD2.1/1, ML2.0/11, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **04** 16:25:35.4±0.4, 42°.65N×19°.92E, h0km, ML1.7/8*
ISC 04 16:25:33.1±0.9**, 42°.64N**±0°.02×**19°.83E**±0°.02**, h8**km±7km**, n44,** σ**1s.60**/86**, 8C-7D, Northwestern Balkan Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PVY Plav 0.10 113⇑iPg **Pg 16 25 35.3 -0.4**
PVY i Sg **Sg 16 25 36.7 -0.7**
IVA Berane 0.24 11⇑iPg **Pg 16 25 39.0 +1.0**
IVA i Sg **Sg 16 25 43.2 +1.9**
KOME Kolasin 0.32 313⇑iPg **Pb 16 25 40.1 -1.0**
KOME i Sg **Sb 16 25 46.0 -0.4**
BCI Bajram Curri 0.32 147 P **Pg 16 25 39.4 -0.1**
baz=205
BCI S **Sg 16 25 44.0 +0.3**
baz=205
BCI AMP
comp=E,3.0nm,0.2s,baz=205
SJES Sjenica 0.64 10 ePg **Pg 16 25 46.1 +0.7**
SJES eSg **Sg 16 25 54.5 +0.8**
SJES Sjenica 0.64 10⇓iPg **Pg 16 25 44.5 -0.9**
SJES eSg **Sg 16 25 54.5 +0.8**
DRME Dracevica, Mon 0.66 227⇑iPg **Pb 16 25 45.7 -1.0**
DRME i Sg **Sn 16 25 56.2 -3.0**
DRME Dracevica, Mon 0.66 227⇑iPg **Pb 16 25 45.8 -1.0**
DRME eSg **Sb 16 25 55.7 -0.3**
NKME Niksic 0.66 282 ePg **Pb 16 25 46.4 -0.5**
NKME i Sg **Sn 16 25 57.0 -2.4**
CEME Cevo 0.68 263⇓iPg **Pb 16 25 46.3 -0.9**
CEME i Sg **Sn 16 25 57.2 -2.7**
PLE Pljevlja 0.77 335⇑iPg **Pb 16 25 48.9 +0.1**
PLE i Sg **Sn 16 26 01.3 -0.8**
BUM Brajici-Budva 0.77 245⇓iPg **Pb 16 25 48.0 -0.8**
BUM i Sg **Sn 16 26 00.3 -1.8**
ULC Ulcinj 0.80 213⇓iPg **Pb 16 25 48.5 -0.8**
ULC i Sg **Sn 16 26 00.4 -2.4**
UPM Unac-Piva 0.89 310⇓iPg **Pn 16 25 51.0 -1.0**
UPM i Sg **Sn 16 26 05.3 +0.1**
UPM Unac-Piva 0.89 310⇑iPg **Pn 16 25 50.8 -1.2**
UPM eSg **Sn 16 26 04.4 -0.8**
IVAS Ivanjica 0.97 14 ePg **Pg 16 25 51.3 -0.5**
IVAS eSg **Sb 16 26 06.1 +0.9**
BRY Bratogost 0.99 286⇓iPg **Pn 16 25 52.5 -0.9**
BRY i Sg **Sn 16 26 08.4 +0.8**
BRY Bratogost 0.99 286⇑iPg **Pn 16 25 52.7 -0.7**
BRY eSg **Sn 16 26 07.9 +0.3**
HCY Herceg Novi 1.00 260⇓iPg **Pn 16 25 52.9 -0.6**
HCY i Sg **Sn 16 26 08.9 +1.1**
HCY Herceg Novi 1.00 260 ePg **Pn 16 25 53.0 -0.6**
HCY eSg **Sn 16 26 08.6 +0.8**
RUDO Rudo 1.04 341 ePg **Pb 16 25 52.2 -1.1**
RUDO eSg **Sg 16 26 07.0 +0.4**
PHP Peshkopia 1.05 154 P **Pb 16 25 51.7 -1.9**
baz=173
PHP S **Sg 16 26 07.7 +0.7**
baz=173
KLINJ Klinje 1.06 301 ePg **Pn 16 25 53.7 -0.6**
KLINJ eSg **Sn 16 26 09.5 +0.2**
TREB Trebinje 1.09 275 ePg **Pn 16 25 55.5 +0.8**
TREB eSg **Sn 16 26 13.1 +3.1**
TREB Trebinje 1.09 275 ePg **Pn 16 25 54.6 -0.1**
TREB eSg **Sn 16 26 10.7 +0.7**
DBRK Dubrovnik 1.24 272 ePg **Pg 16 25 57.6 +0.7**
DBRK Sg **Sn 16 26 17.4 +3.8**
BBLS Lazići 1.27 346 ePg **Pg 16 25 57.5 0.0**
BBLS eSg **Sg 16 26 16.7 +2.8**
BBLS Lazići 1.27 346 ePg **Pn 16 25 56.2 -1.0**
BBLS eSg **Sg 16 26 15.1 +1.2**
TIR Tirane 1.29 179 S **Sg 16 26 19.8 +5.3**
baz=194
NEVS Nevesinje 1.43 298 ePn **Pg 16 26 00.8 +0.2**
NEVS eSn **Sg 16 26 21.0 +1.9**
BARS Barje 1.48 82 ePg **Pn 16 26 00.4 +0.4**
BARS eSg **Sn 16 26 19.8 +0.3**
HAPS Han Pijesak,Bl 1.59 336 ePn **Pb 16 26 02.0 -0.7**
HAPS eSn **Sg 16 26 23.8 -0.3**
STON Ston 1.59 279 ePg **Pg 16 26 04.9 +1.4**
STON eSg **Sg 16 26 27.9 +3.8**
STON Ston 1.59 279 ePn **Pg 16 26 04.2 +0.7**
STON Sn **Sg 16 26 29.6 +5.5**
STON Ston 1.59 279 ePn **Pg 16 26 03.3 -0.2**
STON eSn **Sg 16 26 25.7 +1.6**
PRVS Prvonek 1.66 94 ePg **Pn 16 26 03.3 +0.7**
PRVS eSg **Sg 16 26 27.2 +0.6**
BOVS Bovan 1.70 53 ePg **Pg 16 26 06.3 +0.6**
BOVS eSg **Sb 16 26 26.9 +0.8**
RICI Ricice 2.15 294 ePn **Pg 16 26 14.1 -0.3**
RICI Sn **Sg 16 26 45.0 +2.6**
MAKA Makarska 2.16 288 ePn **Pg 16 26 14.1 -0.5**
MAKA Sn **Sg 16 26 44.1 +1.5**
LSTV Lastovo 2.17 275 ePn **Pb 16 26 11.7 -0.9**
LSTV Sn **Sg 16 26 43.2 +0.4**
FNA Florina 2.18 147 P **Pn 16 26 10.9 +1.1**
baz=156
FNA S **Sb 16 26 40.7 +0.6**
baz=156
HVAR Hvar 2.54 283 ePn **Pb 16 26 18.7 -0.2**
HVAR Sn **Sg 16 26 52.2 -2.5**
KIJV Kijevo 2.85 300 Sn **Sg 16 27 02.5 -2.1**
ZIRJ Zirje 3.23 290 ePn **Pb 16 26 28.2 -2.4**
ZIRJ Sn **Sb 16 27 09.1 -1.0**

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*NEIC **04** 16:32:41.1±1.7, 7°.33S±0°.10×120°.1E±0°.1, h543km±6km, mb4.1/25, Error ellipse: s-maj=22.0km s-min=13.3km az=72.0*
*DJA **04** 16:32:42.6±0.4, 7°S±3°×12°0E±°, h561km±6km, M4.0/13, mb4.0/6, mB4.4/2, MLv4.0/13, Mw(mB)3.5/2*
*IDC **04** 16:32:43.2±0.8, 7°.24S×120°.33E, h568km±6km, mb3.2/9, mbtmp4.1/11, Error ellipse: s-maj=43.9km s-min=10.5km az=61.0*
ISC 04 16:32:42.2±0.5**, 7°.34S**±0°.06×**120°.31E**±0°.07**, h556**km**, n82,** σ**1s.16**/89**, mb3.8**/20**, Flores Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EDFI Ende, Flores 1.96 136 P **P 16 33 51.7 -0.7**
DBNI Kabupaten Domp 2.29 240 P **P 16 33 54.9 +1.1**
MMRI Maumere 2.30 124 P **P 16 33 54.1 +0.2**
MMRI S **S 16 34 48.9 -3.2**
MMRI Maumere 2.30 124 P **P 16 33 54.1 +0.2**
MMRI Maumere 2.30 124 P **P 16 33 53.9 0.0**
KAPI Kappang 2.38 346 P **P 16 33 56.8 +2.5**
8.9nm,0.4s,baz=199,slow=6.8,SNR=5.3
KAPI S **S 16 34 55.3 +2.5**
7.1nm,0.3s,baz=101,slow=22,SNR=11
BASI Baing, Sumba 2.87 175 P **P 16 33 58.6 +1.6**
PLAI Plampang 2.91 239 P **P 16 33 58.5 +1.3**
PLAI Plampang 2.91 239 P **P 16 33 58.4 +1.2**
PLAI S **S 16 34 57.2 -1.1**
SPSI Sidrap Palu 3.40 351 P **P 16 34 02.3 +2.0**
TWSI Taliwang, Sumb 3.67 248 P **P 16 34 03.3 +1.2**
TWSI S **S 16 35 06.2 -1.0**
SOEI Soe 4.59 122 P **P 16 34 09.9 +0.7**
SOEI S **S 16 35 18.3 -1.9**
SOEI Soe 4.59 122 P **P 16 34 10.0 +0.8**
SOEI Soe 4.59 122 P **P 16 34 09.8 +0.6**
SOEI S **S 16 35 20.3 +0.2**
MMSI Mamuju 4.83 343 P **P 16 34 12.8 +1.8**
JAGI Jajag, Banyuwa 6.21 259 P P 16 34 16.5 -6.5
JAGI Jajag, Banyuwa 6.21 259 P **P 16 34 24.8 +1.8**
17nm,1.1s
JAGI Jajag, Banyuwa 6.21 259 P **P 16 34 22.9 -0.1**
17nm,1.1s,0.1nm
MPSI Mapaga 7.64 357 P **P 16 34 37.7 +1.1**
40nm,0.9s,0.2nm
MRSI Marisa 7.93 12 P **P 16 34 39.8 +0.3**
36nm,0.9s,546nm0.1nm
GTOI Gorontalo 8.37 19 P **P 16 34 45.3 +1.5**
12nm,0.6s
TOLI2 Tolitoli 8.41 3 P **P 16 34 44.2 0.0**
KNRA Kununurra 11.71 136 P **P 16 35 17.4 -0.3**
KNRA Kununurra 11.71 136 P **P 16 35 19.7 +1.9**
FITZ Fitzroy Crossi 11.89 155 P **P 16 35 19.5 -0.1**
MTN Manton Dam 11.97 118 P **P 16 35 20.7 +0.1**
MTN Manton Dam 11.97 118 P **P 16 35 20.9 +0.4**
KDU Kakadu 13.10 115 P **P 16 35 34.7 +2.6**
MBWA Marble Bar 13.75 182 P **P 16 35 38.2 -0.6**
MBWA Marble Bar 13.75 182 P **P 16 35 39.7 +0.9**
PSA00 Pilbara Seismi 14.16 182 P **P 16 35 42.6 -0.4**
PSA00 Pilbara Seismi 14.16 182 P **P 16 35 42.3 -0.6**
PSA00 Pilbara Seismi 14.16 182 P **P 16 35 43.9 +0.9**
GIRL Giralia 16.30 200 P **P 16 36 01.1 -3.2**
WB0 Warramunga Arr 18.42 134 P **P 16 36 24.0 +0.3**
WB0 IAmb IAmb 16 36 26.3
comp=Z,8.7nm,0.8s
WRA Warramunga Arr 18.49 134 P **P 16 36 24.5 +0.2**
WRA Warramunga Arr 18.49 134 P **P 16 36 24.9 +0.6**
comp=Z,3.4nm,0.5s,baz=310,slow=10,SNR=51
WRAB Tennant Creek 18.50 134 P **P 16 36 24.9 +0.6**
WB2 Warramunga Arr 18.50 134 P **P 16 36 24.9 +0.5**
WR0 Warramunga Arr 18.65 134 P **P 16 36 26.4 +0.6**
WR0 IAmb IAmb 16 36 27.2
comp=Z,8.9nm,0.7s
WRKA Warakurna 19.18 157 P **P 16 36 31.7 +1.1**
MEEK Meekatharra 19.26 185 P **P 16 36 32.0 +0.7**
AS31 Alice Springs 20.83 143 P **P 16 36 46.2 +0.7**
ASAR Alice Springs 20.83 143 P **P 16 36 45.9 +0.4**
ASAR Alice Springs 20.83 143 P **P 16 36 46.2 +0.7**
comp=Z,1.8nm,0.5s,baz=325,slow=8.8,SNR=104
ASAR PcP **PcP 16 40 29.7 -0.2**
comp=Z,0.2nm,0.5s,baz=331,slow=1.2,SNR=1.7
ASAR ScP **ScP 16 43 12.8 -1.6**
comp=Z,0.4nm,0.4s,baz=323,slow=2.4,SNR=7.6
comp=Z,1.8nm,0.5s
MORW Morawa 21.99 190 P **P 16 36 55.0 -0.9**
MORW IAmb IAmb 16 37 07.1
comp=Z,19nm,1.4s
QIS Mount Isa 22.84 127 P **P 16 37 04.2 +0.6**
KMBL Kambalda 23.95 177 P **P 16 37 14.1 +0.8**
comp=Z,16nm,1.6s
FORT Forrest 24.42 164 P **P 16 37 18.0 +0.5**
FORT Forrest 24.42 164 P **P 16 37 18.7 +1.2**
OOD Oodnadatta 25.02 146 P **P 16 37 23.7 +0.9**
NWAO Narrogin (SRO) 25.62 186 P **P 16 37 27.2 -0.8**
NWAO Narrogin (SRO) 25.62 186 P **P 16 37 27.3 -0.7**
NWAO IAmb IAmb 16 37 28.8
comp=Z,18nm,1.2s
MTSU Mount Surprise 25.72 117 P **P 16 37 30.0 +0.8**
MULG Mulgathing 26.22 152 P **P 16 37 34.2 +0.9**
RKGY Rocky Gully 27.31 186 P **P 16 37 45.4 +2.5**
BBOO Buckleboo 29.26 152 P **P 16 37 59.8 -0.1**
BBOO IAmb IAmb 16 38 14.0
comp=Z,20nm,1.4s
STKA Stephens Creek 31.46 144 P **P 16 38 19.0 +0.2**
STKA Stephens Creek 31.46 144 P **P 16 38 19.9 +1.1**
comp=Z,3.4nm,0.3s,baz=319,slow=7.7,SNR=11
comp=Z,3.4nm,0.3s
TOO Toolangi 37.78 147 P **P 16 39 12.8 +1.2**
TOO IAmb IAmb 16 39 20.2
comp=Z,11nm,1.2s
USA0B Ussuriysk Arra 52.37 11 P **P 16 41 01.9 -1.0**
USA0B IAmb IAmb 16 41 18.0
comp=Z,9.3nm,1.2s
USRK Ussuriysk Ar. 52.37 11 P **P 16 41 02.0 -0.9**
comp=Z,0.7nm,0.4s,baz=186,slow=8.9,SNR=6.9
comp=Z,0.7nm,0.4s
SONM Songino Array 56.30 349 P **P 16 41 30.9 +0.3**
SONM Songino Array 56.30 349 P **P 16 41 30.1 -0.4**
comp=Z,1.0nm,0.5s,baz=170,slow=9.2,SNR=7.0
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 63.60 332 P **P 16 42 18.5 -0.4**
MK31 IAmb IAmb 16 42 19.6
comp=Z,1.5nm,0.7s
MKAR Makanchi Array 63.60 332 P **P 16 42 18.9 0.0**
comp=Z,2.4nm,0.7s,baz=141,slow=7.5,SNR=24
comp=Z,2.4nm,0.7s
SIMJ Simiganj 66.01 318 P **P 16 42 33.5 -0.8**
SIMJ IAmb IAmb 16 42 34.1
comp=Z,2.6nm,1.1s
KK31 Karatay Array 67.51 323 P **P 16 42 41.7 -1.7**
KK31 IAmb IAmb 16 43 11.3
comp=Z,3.8nm,1.5s
KKAR Karatay Array 67.51 323 P **P 16 42 42.0 -1.4**
ZAA0 Zalesovo Array 67.97 338 P **P 16 42 44.6 -1.3**
ZAA0 IAmb IAmb 16 42 45.4
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 67.97 338 P **P 16 42 44.5 -1.4**
ZALV Zalesovo Beam 67.97 338 P **P 16 42 44.7 -1.2**
comp=Z,2.6nm,0.5s,baz=143,slow=4.7,SNR=13
comp=Z,2.6nm,0.5s
PEA0B Petropavlovsk- 68.04 23 P **P 16 42 46.8 +0.4**
PETK Petropavlovsk- 68.04 23 P **P 16 42 46.6 +0.2**
PETK Petropavlovsk- 68.04 23 P **P 16 42 46.4 0.0**
comp=Z,3.3nm,0.9s,baz=180,slow=5.0,SNR=2.4
comp=Z,3.3nm,0.9s
KURBB Kurchatov Arra 68.08 333 P **P 16 42 46.4 -0.3**
comp=Z,0.8nm,0.5s,baz=138,slow=5.4,SNR=14
comp=Z,0.8nm,0.5s
KURK Kurchatov 68.11 333 P **P 16 42 46.3 -0.5**
KURK IAmb IAmb 16 42 48.2
comp=Z,4.0nm,1.2s
VNDA Vanda 73.42 171 P **P 16 43 18.4 +0.8**
VNDA IAmb IAmb 16 43 39.6
comp=Z,5.4nm,1.5s
BVAR Borovoye Array 73.47 331 P **P 16 43 17.3 -1.0**
comp=Z,0.6nm,0.6s,baz=134,slow=4.3,SNR=3.6
comp=Z,0.6nm,0.6s
ABKAR Akbulak array 76.97 324 P **P 16 43 37.1 -0.8**
ABKAR Akbulak array 76.97 324 P **P 16 43 37.4 -0.5**
ABKAR IAmb IAmb 16 44 12.1
comp=Z,1.2nm,1.1s
BELA Belgrano 2 93.78 185 P **P 16 44 59.9 +0.3**

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*IDC **04** 16:45:25.1±0.7, 3°.63N×126°.68E, h0km, mb3.9/12, mbtmp3.9/12, Error ellipse: s-maj=43.5km s-min=14.6km az=70.0*
*DJA **04** 16:45:30.0±0.7, 4°N±14°×12°7E±°, h15km±16km, M4.0/13, mb4.1/6, MLv4.0/13*
*NEIC **04** 16:45:32.1±2.3, 3°.67N±0°.08×126°.64E±0°.08, h46km±8km, mb4.4/36, Error ellipse: s-maj=13.4km s-min=10.0km az=217.0*
ISC 04 16:45:31.9±0.5**, 3°.66N**±0°.06×**126°.64E**±0°.07**, h53**km**, n64,** σ**1s.37**/66**, mb4.2**/26**, Talaud Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SGSI Sangihe 1.11 272 P **Pn 16 45 51.4 +0.1**
TNTI Ternate 2.95 166 Pn **Pn 16 46 16.3 -0.1**
TNTI Sn **Sn 16 46 50.9 +0.3**
TNTI Ternate 2.95 166 P **Pn 16 46 16.3 -0.1**
DAV Davao City (W) 3.56 343 Lg Lg 16 47 18.8
baz=79,slow=16
KMSI Cibinong 4.05 221 P **Pn 16 46 33.1 +1.6**
LBMI Labuha 4.35 169 P **Pn 16 46 36.3 +0.8**
GTOI Gorontalo 4.71 231 P **Pn 16 46 41.0 +0.5**
MRSI Marisa 5.66 236 P **Pn 16 46 54.5 +1.0**
27nm,0.8s,0.1nm

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SANI	Sanana	5.70	187	P	Pn	16 46 54.3	+0.2
	5.4nm,0.9s,0.1nm						
TOLI2	Tolitoli	6.38	247	Pn	Pn	16 47 03.8	+0.4
TOLI2				Sn	Sn	16 48 12.2	-2.8
SWI	Sorong	6.44	134	P	Pn	16 47 04.5	+0.3
	17nm,1.0s,0.1nm						
SIJI	Sorong	6.44	134	P	Pn	16 47 04.0	-0.3
	11nm,1.1s,0.1nm						
FAKI	Fak Fak	8.60	139	Pn	Pn	16 47 34.2	+0.3
MTN	Manton Dam	16.99	165	P	Pn	16 49 24.6	-1.4
MTN				IAmb	IAmb	16 49 51.3	
	comp=Z,54nm,1.5s						
YULB	Yu-li	20.29	346	P	P	16 50 01.4	-2.0
YULB				IAmb	IAmb	16 50 44.4	
	comp=Z,35nm,1.4s						
TPUB	Ta-pu	20.38	344	P	P	16 50 02.4	-2.0
TPUB				IAmb	IAmb	16 50 34.2	
	comp=Z,61nm,1.4s						
YHNB	Yeheng	21.50	347	P	P	16 50 15.9	-0.6
FITZ	Fitzroy Crossi	21.64	183	P	P	16 50 19.6	+1.7
UBPT	Khong Chiam	23.84	300	P	P	16 50 40.8	+0.4
UBPT				IAmb	IAmb	16 51 15.4	
	comp=Z,27nm,1.5s						
WB0	Warramunga Arr	24.49	162	P	P	16 50 45.9	-0.5
WB0				IAmb	IAmb	16 50 50.7	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	24.64	162	P	P	16 50 46.7	-1.0
	comp=Z,0.7nm,0.3s,baz=343,slow=9.8,SNR=16						
	comp=Z,0.7nm,0.3s						
WB2	Warramunga Arr	24.64	162	P	P	16 50 47.3	-0.5
WR0	Warramunga Arr	24.72	162	P	P	16 50 48.5	+0.1
AS31	Alice Springs	28.06	166	P	P	16 51 18.8	+0.2
ASAR	Alice Springs	28.06	166	P	P	16 51 19.5	+0.9
	comp=Z,0.1nm,0.3s,baz=344,slow=7.5,SNR=17						
ASAR				PcP	PcP	16 54 32.1	-0.2
	comp=Z,0.2nm,0.8s,baz=357,slow=2.0,SNR=1.9						
	comp=Z,0.1nm,0.3s						
JNU	Nakatsue	29.58	7	P	P	16 51 30.6	-1.4
JNU				IAmb	IAmb	16 51 42.0	
	comp=Z,13nm,1.2s						
CMAR	Chiang Mai Arr	30.84	301	P	P	16 51 44.0	+0.8
	comp=Z,1.0nm,0.8s,baz=115,slow=6.8,SNR=11						
	comp=Z,1.0nm,0.8s						
KSRS	Korea Array	33.66	2	P	P	16 52 08.3	+0.6
	comp=Z,1.8nm,0.8s,baz=172,slow=9.9,SNR=5.7						
	comp=Z,1.8nm,0.8s						
INCN	Inchon	33.67	360	P	P	16 52 06.5	-1.4
NWAO	Narrogin (SRO)	37.46	193	P	P	16 52 39.0	-1.4
STKA	Stephens Creek	38.09	159	P	P	16 52 43.9	-1.8
STKA	Stephens Creek	38.09	159	P	P	16 52 44.8	-0.9
	comp=Z,1.3nm,0.7s,baz=0.0,slow=7.1,SNR=2.6						
	comp=Z,1.3nm,0.7s						
USRK	Ussuriysk Ar.	40.65	6	P	P	16 53 05.1	-1.8
USRK	Ussuriysk Ar.	40.65	6	P	P	16 53 07.2	+0.4
	comp=Z,1.5nm,0.6s,baz=190,slow=6.8,SNR=7.8						
	comp=Z,1.5nm,0.6s						
USA0B	Ussuriysk Arra	40.65	6	P	P	16 53 05.2	-1.7
USA0B				IAmb	IAmb	16 53 46.3	
	comp=Z,10nm,1.2s						
WAKE	Wake Island	42.03	65	P	P	16 53 16.9	-1.7
SONM	Songino Array	47.34	342	P	P	16 54 00.8	+0.2
	comp=Z,0.5nm,0.8s,baz=163,slow=6.0,SNR=2.6						
	comp=Z,0.5nm,0.8s						
PEA0B	Petropavlovsk-	55.53	22	P	P	16 55 00.8	-0.8
PETK	Petropavlovsk-	55.53	22	P	P	16 55 02.7	+1.0
MK31	Makanchi Array	57.57	325	P	P	16 55 16.8	+0.5
MKAR	Makanchi Array	57.57	325	P	P	16 55 17.2	+0.9
	comp=Z,1.4nm,0.6s,baz=119,slow=6.8,SNR=18						
	comp=Z,1.4nm,0.6s						
MAKZ	Makanchi	57.75	325	P	P	16 55 15.7	-1.9
MAKZ				IAmb	IAmb	16 55 32.3	
	comp=Z,1.9nm,0.7s						
ZALV	Zalesovo Beam	60.62	333	P	P	16 55 36.0	-1.2
	comp=Z,0.3nm,0.3s,baz=110,slow=8.3,SNR=2.1						
	comp=Z,0.3nm,0.3s						
PYZ	Puysegur Point	60.95	149	P	P	16 55 40.1	+0.5
MLZ	Mavora Lakes	61.17	148	P	P	16 55 43.4	+2.2
KURBB	Kurchatov Arra	61.76	327	P	P	16 55 45.2	+0.2
	comp=Z,1.6nm,0.8s,baz=131,slow=6.4,SNR=20						
	comp=Z,1.6nm,0.8s						
KURK	Kurchatov	61.76	328	P	P	16 55 45.4	+0.5
KURK				IAmb	IAmb	16 55 47.7	
	comp=Z,2.9nm,0.7s						
MRZ	Mangatainoka R	62.76	140	P	P	16 55 52.6	+0.7
KK31	Karatay Array	63.23	317	P	P	16 55 55.2	+0.2
KK31				IAmb	IAmb	16 55 57.4	
	comp=Z,2.6nm,0.8s						
KKAR	Karatay Array	63.23	317	P	P	16 55 55.2	+0.2
KKAR				IAmb	IAmb	16 55 57.4	
	comp=Z,2.5nm,0.8s						
BVAR	Borovoye Array	67.34	327	P	P	16 56 22.5	+1.1
	comp=Z,1.6nm,0.7s,baz=119,slow=9.0,SNR=6.3						
	comp=Z,1.6nm,0.7s						
CTZ	Chatham Island	69.32	140	P	P	16 56 33.6	-0.3
NRIK	Noril'sk	70.48	346	P	P	16 56 41.8	+1.2
	comp=Z,1.6nm,0.7s,baz=122,slow=3.7,SNR=5.7						
	comp=Z,1.6nm,0.7s						
ABKAR	Akbulak array	72.15	321	P	P	16 56 51.1	0.0
F17K	Baldwin Pennin	79.56	23	P	P	16 57 35.6	+2.7
E18K	Tukpahlearik C	80.06	22	P	P	16 57 38.0	+2.4
E18K				IAmb	IAmb	16 57 49.6	
	comp=Z,3.6nm,1.2s						
C19K	Lookout Ridge	80.84	20	P	P	16 57 41.9	+2.0
C19K				IAmb	IAmb	16 58 10.0	
	comp=Z,6.4nm,1.5s						
G19K	Purcell Mounta	81.13	24	P	P	16 57 42.4	+1.0
B20K	Meade River	81.87	20	P	P	16 57 47.6	+2.4
B20K				IAmb	IAmb	16 57 58.8	
	comp=Z,4.1nm,1.2s						
IMAR	Indian Mountai	82.45	24	P	P	16 57 51.1	+2.7
E21K	Killik River	82.72	21	P	P	16 57 52.1	+2.4
E21K				IAmb	IAmb	16 58 00.2	
	comp=Z,5.1nm,1.5s						
B22K	Teshekpuk Lake	83.19	20	P	P	16 57 54.0	+2.0
B22K				IAmb	IAmb	16 57 55.8	
	comp=Z,1.9nm,0.7s						
C23K	Itkillik River	84.08	20	P	P	16 57 59.1	+2.4
C23K				IAmb	IAmb	16 58 06.6	
	comp=Z,6.4nm,1.4s						
BMAR	Burnt Mountain	86.18	23	P	P	16 58 10.0	+2.7

IDC 04 17:02:34.1±2.9**,3°.45S**×**136°.38E,h0^{km},mb3.1**/2**, mbtmp3.3**/3**,ML3.5**/1**,MS3.0**/1**,Error ellipse: s-maj=108.0km s-min=32.6km az=80.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.52	187	Pn	Pn	17 06 28.3	+1.0
	0.2nm,0.3s,baz=8.4,slow=12,SNR=9.9						
	0.8nm,0.5s						
ASAR	Alice Springs	20.24	187	P	P	17 07 10.7	-0.4
	0.4nm,0.5s,baz=13,slow=11,SNR=15						
	0.4nm,0.5s						
JCJ	Chichijima	30.88	10	LR	LR	17 18 42.4	
	comp=Z,27nm,20.6s,baz=40,slow=31						
MKAR	Makanchi Array	68.97	323	P	P	17 13 41.4	+0.1
	0.2nm,0.6s,baz=107,slow=7.7,SNR=2.5						
	0.2nm,0.6s						

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*IDC **04** 17:13:23.9±1.4,54°.26N×169°.06E,h0^{km},mb3.5/6, mbtmp3.6/8,ML3.5/2,MS2.6/1,Error ellipse: s-maj=50.6km s-min=17.6km az=0.0*
*MOS **04** 17:13:26.8±0.9,53°.97N×169°.12E,h43^{km},mb3.6/1,Error ellipse: s-maj=15.1km s-min=8.1km az=11.4*
*KRSC **04** 17:13:28.1±1.5,53°.92N×168°.58E,h31^{km}±28^{km},Ml4.0*
ISC 04 17:13:26.5±0.9**,53°.90N**±0°.09×**169°.10E**±0°.06**,h25^{km},n54,** σ**1^{s}87**/62**,mb3.5**/6**,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.24	307	PN	Pn	17 14 00.9	-1.0
BKI				S	Sn	17 14 26.6	-2.1
BKI	Bering	2.24	307	eP	Pn	17 14 00.9	-1.0
BKI				eS	Sn	17 14 26.6	-2.1
SHEM	Shemya Is, Ala	3.22	109	Pn	Pn	17 14 16.7	+1.2
	9.1nm,0.3s,baz=292,slow=16,SNR=1.5						
SHEM				Sn	Sn	17 14 54.1	+1.1
	6.1nm,0.3s,baz=283,slow=19,SNR=1.4						
	42nm,0.5s						
KBTR	Krutoberegovo	4.29	305	PN	Pn	17 14 31.8	+1.7
KBTR				S	Sn	17 15 19.7	+0.5
KBTR	Krutoberegovo	4.29	305	eP	Pn	17 14 31.8	+1.7
KBTR				eS	Sn	17 15 19.7	+0.5
SMKR	Semkarok	5.12	305	PN	Pn	17 14 43.7	+2.0
SMKR	Semkarok	5.12	305	eP	Pn	17 14 43.7	+2.0
TUMD	Tumrok D	5.23	288	eP	Pn	17 14 45.2	+2.2
TUMD				eS	Sn	17 15 42.0	-0.4
BDR	Baidarnaya	5.24	304	PN	Pn	17 14 45.4	+2.1
BDR	Baidarnaya	5.24	304	eP	Pn	17 14 45.4	+2.1
TUMR	Tumrok	5.38	288	PN	Pn	17 14 45.2	-0.1
KMNR	Kamenistaya	5.45	293	PN	Pn	17 14 47.8	+1.7
KMNR	Kamenistaya	5.45	293	eP	Pn	17 14 47.8	+1.7
KMNR				eS	Sn	17 15 47.1	-0.9
SPN	Mys Shipunski	5.48	265	PN	Pn	17 14 46.8	+0.4
SPN	Mys Shipunski	5.48	265	eP	Pn	17 14 46.8	+0.4
SPN				eS	Sn	17 15 45.5	-3.0
KII	Karymskiy	5.70	275	PN	Pn	17 14 51.4	+1.9
KII	Karymskiy	5.70	275	eP	Pn	17 14 51.4	+1.9
UGLR	Uglovaya	6.16	268	PN	Pn	17 14 58.2	+2.2
UGLR	Uglovaya	6.16	268	eP	Pn	17 14 58.2	+2.2
SMAR	Somma	6.17	268	PN	Pn	17 14 57.9	+1.8
SMAR	Somma	6.17	268	eP	Pn	17 14 57.9	+1.8
AVH	Avacha	6.20	268	PN	Pn	17 14 58.4	+1.9
AVH	Avacha	6.20	268	eP	Pn	17 14 58.4	+1.9
DALK	Dalny	6.24	266	PN	Pn	17 14 58.5	+1.6
DALK	Dalny	6.24	266	eP	Pn	17 14 58.5	+1.6
DALK				eS	Sn	17 16 05.8	-1.5
KRX	Arik	6.24	269	PN	Pn	17 14 59.1	+2.0
KRX	Arik	6.24	269	eP	Pn	17 14 59.1	+2.0
KOK	Koryaka	6.26	269	PN	Pn	17 14 59.4	+2.1
KOK	Koryaka	6.26	269	eP	Pn	17 14 59.4	+2.1
PET	Petropavlovsk	6.30	266	ePN	Pn	17 15 00.6	+2.9
PET				pmax	pmax		
	comp=Z,11nm,0.4s						
PET	Petropavlovsk	6.30	266	eP	Pn	17 15 00.5	+2.8
PET				eS	Sn	17 16 09.3	+0.5
ESO	Esso	6.33	293	PN	Pn	17 15 00.0	+1.8
ESO	Esso	6.33	293	eP	Pn	17 14 60.0	+1.8
KRMR	Karymshinskiy	6.65	265	PN	Pn	17 15 04.7	+2.1
KRMR	Karymshinskiy	6.65	265	eP	Pn	17 15 04.7	+2.1
KRMR				eS	Sn	17 16 15.4	-2.1
GRL	Gorelyy	6.76	263	PN	Pn	17 15 07.2	+3.1
GRL	Gorelyy	6.76	263	eP	Pn	17 15 07.2	+3.1
PETK	Petropavlovsk-	6.85	268	Pn	Pn	17 15 07.3	+2.1
	comp=Z,2.3nm,0.3s,baz=84,slow=21,SNR=79						
PETK				Sn	Sn	17 16 22.9	+0.6
	comp=Z,1.4nm,0.3s,baz=87,slow=16,SNR=8.5						
PETK				LR	LR	17 17 37.7	
	comp=Z,42nm,18.6s,baz=46,slow=37						
	comp=Z,2.6nm,0.3s						
ASAK	Asacha	6.91	262	PN	Pn	17 15 08.7	+2.6
ASAK	Asacha	6.91	262	eP	Pn	17 15 08.7	+2.6
ASAK				eS	Sn	17 16 23.0	-0.9
KDTR	Khodutka, Kamc	7.00	257	PN	Pn	17 15 09.4	+2.1
KDTR	Khodutka, Kamc	7.00	257	eP	Pn	17 15 09.4	+2.1
KDTR				eS	Sn	17 16 23.7	-2.2
KDAK	Kodiak Island	21.66	64	P	P	17 18 14.2	-0.6
	comp=Z,4.9nm,1.0s,baz=2.0,slow=6.3,SNR=2.5						
	comp=Z,4.9nm,1.0s						
ILAR	Eielson Array	24.39	46	P	P	17 18 41.1	-1.3
	comp=Z,0.1nm,0.5s,baz=260,slow=8.9,SNR=4.6						
	comp=Z,0.1nm,0.5s						
H11N2	WAKE ISLAND Hy	34.15	184	T	T	17 56 40.7	
	baz=2.1,slow=76,SNR=167						
H11N3	WAKE ISLAND Hy	34.16	184	T	T	17 56 41.8	
	baz=2.1,slow=76,SNR=109						
H11N1	WAKE ISLAND Hy	34.17	184	T	T	17 56 42.1	
	baz=2.1,slow=76,SNR=147						
H11S1	WAKE ISLAND Hy	35.38	184	T	T	17 58 12.4	
	baz=2.4,slow=76,SNR=57						
H11S3	WAKE ISLAND Hy	35.39	184	T	T	17 58 14.0	
	baz=2.4,slow=76,SNR=23						
H11S2	WAKE ISLAND Hy	35.39	184	T	T	17 58 14.5	
	baz=2.4,slow=76,SNR=70						
SONM	Songino Array	38.87	287	P	P	17 20 49.5	-0.2
	comp=Z,0.3nm,0.5s,baz=67,slow=9.3,SNR=2.7						
	comp=Z,0.3nm,0.5s						
MKAR	Makanchi Array	52.53	300	P	P	17 22 36.6	-0.7
	comp=Z,0.3nm,0.7s,baz=57,slow=8.8,SNR=4.1						
	comp=Z,0.3nm,0.7s						
BVAR	Borovoye Array	53.96	312	P	P	17 22 47.0	-0.8
	comp=Z,1.0nm,0.6s,baz=61,slow=7.0,SNR=5.7						
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	65.30	74	P	P	17 24 07.8	+1.4
	comp=Z,0.3nm,0.5s,baz=320,slow=5.3,SNR=6.8						
	comp=Z,0.3nm,0.5s						

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*IDC **04** 17:13:18.6±1.0,23°.94S×69°.52W,h0^{km},mb3.8/4, mbtmp3.7/4,Error ellipse: s-maj=50.1km s-min=33.2km az=88.0*
*GUC **04** 17:13:29.8±0.6,24°.14S×69°.46W,h87^{km}±4^{km},ML4.2*
ISC 04 17:13:30.2±0.9**,24°.11S**±0°.04×**69°.51W**±0°.08**,h89^{km}**±8^{km}**, n22,**σ**0^{s}51**/26**,mb3.7**/4**,7C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	IPOC Station P	0.90	2	⇑iP	Pn	17 13 48.6	-0.3
PB15				eS	Sn	17 14 02.7	-0.2
PB14	IPOC Station P	0.96	238	⇓iP	Pn	17 13 49.9	+0.1
PB14				eS	Sn	17 14 04.5	+0.2
PB14				IAML		17 14 09.0	
	comp=N,8µm,0.1s						
GO02	Mina Guanaco	1.05	184	⇑iP	Pn	17 13 50.4	-0.4
GO02				eS	Sn	17 14 05.6	-0.6
GO02				IAML		17 14 07.0	
	comp=E,6µm,0.5s						
PB06	IPOC Station P	1.40	358	⇑iP	Pn	17 13 55.0	+0.2
PB06				eS	Sn	17 14 13.6	+0.3
PB06				IAML		17 14 14.8	
	comp=E,3µm,0.4s						
PB05	IPOC Station P	1.40	333	⇑iP	Pn	17 13 55.1	+0.3
PB05				eS	Sn	17 14 14.1	+0.7
LVC	Limon Verde	1.59	20	⇑iP	Pn	17 13 57.4	0.0
LVC				eS	Sn	17 14 17.9	-0.1
LVC				IAML		17 14 19.2	
	comp=E,6µm,0.3s						
AF01	San Pedro de A	1.68	47	⇑iP	Pn	17 13 58.9	+0.4
PB04	IPOC Station P	1.86	341	⇑iP	Pn	17 14 00.5	-0.3
AC01	Pan de Azucar	2.26	206	i P	Pn	17 14 05.6	-0.1
AC01				eS	Sn	17 14 33.5	+0.5
AC01				IAML		17 14 41.3	
	comp=E,2µm,0.1s						
PB09	IPOC Station P	2.32	6	i P	Pn	17 14 07.3	+0.6
GO03	Copiap	3.53	191	i P	Pn	17 14 23.3	+0.4
GO01	Chusmiza	4.43	4	i P	Pn	17 14 36.1	+0.6
VCA	Vinchina	4.75	166	i P	Pn	17 14 40.6	+1.1
H03N1	Juan Fernandez	12.42	219	T	T	17 28 20.2	
	baz=44,slow=72,SNR=14						
H03N2	Juan Fernandez	12.43	219	T	T	17 28 17.1	
	baz=44,slow=72,SNR=8.6						
H03N3	Juan Fernandez	12.44	219	T	T	17 28 18.3	
	baz=44,slow=72,SNR=14						
QSPA	South Pole Qui	66.09	180	P	P	17 24 08.5	+1.0
	comp=E,0.8nm,0.5s,baz=197,slow=1.1,SNR=14						
	comp=E,0.8nm,0.5s						
NVAR	Mina Array Bea	77.21	323	P	P	17 25 14.1	-0.6
	comp=E,0.1nm,0.3s,baz=139,slow=5.4,SNR=1.6						
	comp=E,0.1nm,0.3s						
TORD	Torodi Ar. Bea	78.76	70	P	P	17 25 23.5	+0.1
	comp=E,1.3nm,0.6s,baz=249,slow=4.6,SNR=7.8						
	comp=E,1.3nm,0.6s						
YKA	Yellowknife Ar	93.45	341	P	P	17 26 34.8	-0.3
	comp=E,0.1nm,0.6s,baz=134,slow=4.4,SNR=2.1						
	comp=E,0.1nm,0.6s						
ZALV	Zalesovo Beam	144.53	26	PKP	PKPdf	17 32 55.3	-0.6
	comp=E,0.8nm,0.6s,baz=309,slow=3.7,SNR=5.7						
MKAR	Makanchi Array	148.04	38	PKPbc	PKPbc	17 33 04.8	-0.5
	comp=E,0.6nm,0.7s,baz=316,slow=2.4,SNR=6.7						

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*IDC **04** 17:14:21.3±3.6,21°.49S×169°.74E,h0^{km},mb3.6/3, mbtmp3.6/4,ML3.4/1,Error ellipse: s-maj=179.1km s-min=31.1km az=157.0*
*NOU **04** 17:14:26.3,21°.80S×169°.49E,h0^{km},MLv3.8/9,Southeast of Loyalty Islands*
ISC 04 17:14:22.7±1.3**,21°.8S**±0°.2×**169°.8E**±0°.1**,h10^{km},n17,** σ**1^{s}16**/18**,mb3.6**/3**,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.65	280	P	Pn	17 14 51.4	-0.4
PINNC	Pines Island,	2.32	249	P	Pn	17 15 01.7	+0.8
LIFNC	LIFOU	2.57	292	P	Pn	17 15 04.9	+0.5
YATNC	Mamie plateau,	2.70	263	P	Pn	17 15 06.9	+0.7
OUENC	Ouen Island, N	2.80	256	P	Pn	17 15 08.6	+1.0
DZM	Mont Dzumac	3.11	264	P	Pn	17 15 13.0	+1.1
DZM	Mont Dzumac	3.11	264	Pn	Pn	17 15 12.7	+0.8
	4.5nm,0.3s,baz=116,slow=22,SNR=145						
DZM				Sn	Sn	17 15 47.7	-1.5
	26nm,0.3s,baz=45,slow=20,SNR=15						
	17nm,0.4s						
ONTNC	Ouen Toro	3.13	260	P	Pn	17 15 13.3	+1.2
NOUC	Port Laguerre	3.24	264	P	Pn	17 15 14.7	+1.0
KOUNC	Koumac, New Ca	5.27	282	P	Pn	17 15 44.4	+2.8
ASAR	Alice Springs	33.09	260	P	P	17 20 58.8	-0.2
	0.6nm,0.7s,baz=95,slow=9.7,SNR=11						
	0.6nm,0.7s						
WRA	Warramunga Arr	33.13	267	P	P	17 20 59.5	+0.2
	0.5nm,0.8s,baz=96,slow=8.3,SNR=2.6						
	0.5nm,0.8s						
CMAR	Chiang Mai Arr	80.01	294	P	P	17 26 31.9	-0.9
	0.7nm,0.9s,baz=119,slow=4.2,SNR=5.4						
	0.7nm,0.9s						
ARCES	ARCESS Array B	127.64	345	PKP	PKPdf	17 33 27.0	-0.5
	4.3nm,1.1s,baz=64,slow=2.8,SNR=5.3						
FINES	FINESS Array B	133.11	337	PKP	PKPdf	17 33 37.6	-0.5
	2.5nm,0.9s,baz=112,slow=1.5,SNR=2.2						
EKA	Eskdalemuir Ar	146.07	353	PKPbc	PKPdf	17 34 01.3	-0.5
	5.9nm,0.8s,baz=4.9,slow=2.6,SNR=8.7						
GERES	GERESS Array B	146.95	331	PKPbc	PKPdf	17 34 04.8	+1.1
	2.2nm,0.8s,baz=42,slow=2.2,SNR=8.6						

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*IDC **04** 17:19:51.1±0.7,21°.68S×169°.85E,h0^{km},mb4.1/12, mbtmp4.1/13,ML3.6/1,MS3.8/26,Error ellipse: s-maj=24.7km s-min=20.3km az=117.0*
*NOU **04** 17:19:51.8,21°.73S×169°.83E,h0^{km},MLv4.3/11, Southeast of Loyalty Islands*
*NEIC **04** 17:19:53.1±1.4,21°.67S±0°.08×169°.74E±0°.08,h10^{km}±1^{km}, mb4.6/12,Error ellipse: s-maj=14.4km s-min=12.1km az=159.0*
ISC 04 17:19:53.4±0.5**,21°.72S**±0°.07×**169°.70E**±0°.07**,h10^{km},n132,** σ**1^{s}63**/115**,mb4.4**/18**,MS3.9**/22**,3C-4D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.57	278	Pn	Pn	17 20 20.9	-0.5
MARNC				Sn	Sn	17 20 41.8	0.0
MARNC	Mare, Loyalty	1.57	278	P	Pn	17 20 21.6	+0.2
PINNC	Pines Island,	2.27	246	Pn	Pn	17 20 31.2	+0.2
PINNC	Pines Island,	2.27	246	P	Pn	17 20 31.8	+0.8
PINNC	Pines Island,	2.27	246	P	Pn	17 20 31.6	+0.6
LIFNC	LIFOU	2.48	292	Pn	Pn	17 20 32.8	-1.1
LIFNC	LIFOU	2.48	292	P	Pn	17 20 33.9	+0.1
LIFNC	LIFOU	2.48	292	P	Pn	17 20 33.5	-0.3
YATNC	Mamie plateau,	2.63	262	P	Pn	17 20 36.4	+0.4
OUENC	Ouen Island, N	2.74	255	Pn	Pn	17 20 38.1	+0.6
OUENC	Ouen Island, N	2.74	255	P	Pn	17 20 38.5	+1.0
OUENC	Ouen Island, N	2.74	255	P	Pn	17 20 38.7	+1.2
DZM	Mont Dzumac	3.04	263	Pn	Pn	17 20 42.3	+0.6
DZM				Sn	Sn	17 21 17.4	-1.0
DZM	Mont Dzumac	3.04	263	P	Pn	17 20 42.8	+1.1
DZM	Mont Dzumac	3.04	263	P	Pn	17 20 42.9	+1.1
DZM	Mont Dzumac	3.04	263	ePn	Pn	17 20 42.9	+1.1
	268nm,1.2s						
DZM				eSn	Sn	17 21 18.1	-0.2
	503nm,1.1s						
DZM	Mont Dzumac	3.04	263	Pn	Pn	17 20 42.9	+1.1
	7.5nm,0.3s,baz=167,slow=3.3,SNR=117						
DZM				Sn	Sn	17 21 15.8	-2.5
	13nm,0.3s,baz=115,slow=22,SNR=4.1						
DZM				LR	LR	17 21 24.4	
	comp=Z,538nm,21.4s,baz=82,slow=29						
	23nm,0.3s						
ONTNC	Ouen Toro	3.07	258	Pn	Pn	17 20 42.7	+0.7
ONTNC	Ouen Toro	3.07	258	P	Pn	17 20 43.1	+1.1
ONTNC	Ouen Toro	3.07	258	P	Pn	17 20 43.0	+1.1
NOUC	Port Laguerre	3.18	262	P	Pn	17 20 44.4	+0.9
NOUC	Port Laguerre	3.18	262	P	Pn	17 20 44.6	+1.1
DVP	Devils Point	4.22	340	P	Pn	17 20 59.2	+1.4
DVP	Devils Point	4.22	340	P	Pn	17 20 59.1	+1.3
KOUNC	Koumac, New Ca	5.19	282	Pn	Pn	17 21 13.1	+2.0
KOUNC	Koumac, New Ca	5.19	282	P	Pn	17 21 13.7	+2.6
RAO	Raoul Island	13.46	126	LR	LR	17 27 19.1	
	comp=Z,346nm,18.4s,baz=347,slow=34						
HNR	Honiara	15.40	321	LR	LR	17 27 53.2	
	comp=Z,2µm,18.4s,baz=106,slow=31						
URZ	Urewera	17.68	160	LR	LR	17 29 27.7	
	comp=Z,263nm,19.6s,baz=49,slow=33						
AFI	Afiamalu	19.25	69	P	P	17 24 18.5	+0.2
AFI				IAmb	IAmb	17 24 26.4	
	comp=Z,23nm,0.8s						
CTA	Charters Tower	21.96	270	LR	LR	17 33 18.4	
	comp=Z,411nm,18.2s,baz=92,slow=36						
RPZ	Rata Peaks	21.97	177	LR	LR	17 32 19.0	
	comp=Z,299nm,20.3s,baz=1.5,slow=34						
CAN	Canberra	22.62	229	P	P	17 24 57.0	+2.4
CAN				IAmb	IAmb	17 25 11.0	
	comp=Z,30nm,1.4s						
STKA	Stephens Creek	26.98	242	P	P	17 25 35.0	-0.5
	comp=Z,1.2nm,0.6s,baz=95,slow=11,SNR=3.6						
STKA				LR	LR	17 35 36.9	
	comp=Z,252nm,19.9s,baz=36,slow=35						
	comp=Z,1.2nm,0.6s						
RAR	Rarotonga	28.39	95	LR	LR	17 36 58.4	
	comp=Z,57nm,18.4s,baz=312,slow=36						
AS31	Alice Springs	33.03	260	P	P	17 26 29.5	+0.3
ASAR	Alice Springs	33.03	260	P	P	17 26 30.1	+0.9
ASAR	Alice Springs	33.03	260	P	P	17 26 29.0	-0.2
	comp=Z,0.9nm,0.7s,baz=85,slow=8.7,SNR=7.5						
ASAR				PcP	PcP	17 29 12.5	-0.5
	comp=Z,0.9nm,1.0s,baz=91,slow=4.6,SNR=4.1						
ASAR				LR	LR	17 39 47.8	
	comp=Z,106nm,18.4s,baz=94,slow=36						
	comp=Z,0.9nm,0.7s						
WB2	Warramunga Arr	33.05	267	P	P	17 26 30.9	+1.6
WB2				IAmb	IAmb	17 27 14.1	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	33.06	267	P	P	17 26 29.7	+0.2
	comp=Z,0.7nm,0.8s,baz=97,slow=8.6,SNR=3.5						
WRA				LR	LR	17 40 07.5	
	comp=Z,345nm,19.2s,baz=133,slow=37						
	comp=Z,0.7nm,0.8s						
TBI	Tubuai	37.67	100	eLR	LR	17 37 33.6	
	comp=Z,805nm,25.8s						
TBI				eLR	LR	17 37 43.5	
	comp=Z,642nm,27.0s						
PPT2	Papeete2	38.49	91	eLQ	LQ	17 36 06.6	
	comp=Z,263nm,31.2s						
PPT2				eLR	LR	17 38 07.3	
	comp=Z,95nm,25.5s						
FITZ	Fitzroy Crossi	41.48	267	P	P	17 27 39.5	-1.4
GUMO	Guam	42.72	323	LR	LR	17 41 23.5	
	comp=Z,73nm,21.8s,baz=106,slow=30						
NWAO	Narrogin (SRO)	47.51	245	P	P	17 28 27.3	-1.7
NWAO	Narrogin (SRO)	47.51	245	LR	LR	17 48 34.3	
	comp=Z,256nm,18.6s,baz=94,slow=36						
VNDA	Vanda	55.98	182	P	P	17 29 31.4	-0.1
	comp=Z,3.6nm,1.2s,baz=341,slow=4.0,SNR=3.3						
VNDA				LR	LR	17 49 44.7	
	comp=Z,51nm,19.3s,baz=1.5,slow=32						
	comp=Z,3.6nm,1.2s						
SBA	Scott Base	56.21	181	P	P	17 29 33.1	-0.1
MJAR	Matsushiro Arr	65.13	332	P	P	17 30 33.4	-1.1
	comp=Z,5.7nm,1.1s,baz=167,slow=5.4,SNR=8.6						
MJAR				LR	LR	17 57 14.5	
	comp=Z,12nm,20.8s,baz=242,slow=34						
	comp=Z,5.7nm,1.1s						
QSPA	South Pole Qui	68.35	180	P	P	17 30 54.2	-0.7
QSPA				IAmb	IAmb	17 30 57.0	
	comp=Z,13nm,1.4s						
QSPA	South Pole Qui	68.35	180	P	P	17 30 54.5	-0.4
	comp=Z,5.1nm,1.0s,baz=12,slow=3.2,SNR=9.8						
QSPA				LR	LR	17 57 28.2	
	comp=Z,62nm,18.2s,baz=356,slow=33						
	comp=Z,5.1nm,1.0s						
ASAJ	Asahikawa	70.06	340	LR	LR	17 57 08.0	
	comp=Z,76nm,21.7s,baz=167,slow=32						
KSRS	Korea Array	70.79	326	P	P	17 31 10.1	0.0
	comp=Z,1.6nm,0.8s,baz=138,slow=5.9,SNR=5.3						
	comp=Z,1.6nm,0.8s						
PETK	Petropavlovsk-	75.23	353	P	P	17 31 35.4	-0.7
PETK	Petropavlovsk-	75.23	353	P	P	17 31 35.6	-0.4
	comp=Z,2.2nm,0.8s,baz=157,slow=7.8,SNR=2.4						
PETK				LR	LR	18 01 44.5	
	comp=Z,43nm,19.4s,baz=123,slow=33						
	comp=Z,2.2nm,0.8s						
MAW	Mawson	76.31	202	LR	LR	18 01 23.1	
	comp=Z,46nm,19.9s,baz=120,slow=33						
CMAR	Chiang Mai Arr	79.91	294	P	P	17 32 01.1	-2.0
CMAR	Chiang Mai Arr	79.91	294	P	P	17 32 04.5	+1.4
	comp=Z,1.6nm,0.9s,baz=134,slow=4.4,SNR=11						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.6nm,0.9s						
HEH	HeiHe	80.82	334	eP	P	17 32 06.5	-0.7
HEH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HEH				pmax	pmax		
	comp=Z,210nm,5.7s						
MA2	Magadan	82.47	350	LR	LR	18 03 26.2	
	comp=Z,46nm,19.2s,baz=148,slow=32						
SEY	Seymchan	85.47	352	LR	LR	18 09 16.0	
	comp=Z,44nm,18.6s,baz=18,slow=35						
TROLL	Troll, Antarti	86.11	184	⇑P	P	17 32 33.9	-0.5
	comp=Z,370nm,0.8s						
VNA3	Neumayer Olymp	87.29	180	⇑P	P	17 32 38.7	-1.4
	comp=Z,9.8nm,0.8s						
VNA2	Neumayer--Watz	87.59	181	⇑P	P	17 32 41.0	-0.4
	comp=Z,6.7nm,0.8s,baz=186,slow=8.0						
YBH	Yreka Blue Hor	88.77	44	LR	LR	18 06 21.9	
	comp=Z,20nm,18.7s,baz=342,slow=32						
ULN	Ulaanbaatar	89.10	323	P	P	17 32 48.3	-0.7
ULN				IAmb	IAmb	17 32 50.0	
	comp=Z,5.2nm,1.2s						
PFO	Pinyon Flats O	89.24	53	LR	LR	18 09 31.2	
	comp=Z,40nm,18.1s,baz=331,slow=33						
SONM	Songino Array	89.45	323	P	P	17 32 49.7	-0.9
SONM				IAmb	IAmb	17 32 51.5	
	comp=Z,3.7nm,1.1s						
SONM	Songino Array	89.45	323	P	P	17 32 50.1	-0.6
	comp=Z,2.4nm,0.9s,baz=136,slow=5.5,SNR=9.6						
	comp=Z,2.4nm,0.9s						
LPIG	La Paz	90.10	64	LR	LR	18 05 03.9	
	comp=Z,52nm,18.4s,baz=227,slow=30						
NVAR	Mina Array Bea	90.11	48	P	P	17 32 53.3	-0.8
NVAR	Mina Array Bea	90.11	48	P	P	17 32 53.5	-0.6
	comp=Z,1.0nm,0.8s,baz=222,slow=8.3,SNR=6.2						
	comp=Z,1.0nm,0.8s						
E19K	Redstone River	92.23	12	P	P	17 33 02.6	-0.4
ILAR	Eielson Array	92.46	17	P	P	17 33 01.2	-2.9
	comp=Z,0.4nm,0.6s,baz=226,slow=4.9,SNR=5.8						
ILAR				LR	LR	18 13 23.7	
	comp=Z,52nm,18.9s,baz=228,slow=35						
	comp=Z,0.4nm,0.6s						
ANMO	Albuquerque	97.34	55	LR	LR	18 11 11.2	
	comp=Z,37nm,18.3s,baz=114,slow=32						
TXAR	Lajitas Array	97.56	62	LR	LR	18 09 59.1	
	comp=Z,40nm,18.9s,baz=285,slow=31						
ARCES	ARCESS Array B	127.56	345	PKP	PKPdf	17 38 56.9	-1.3
	comp=Z,4.6nm,0.9s,baz=77,slow=1.8,SNR=12						
FINES	FINESS Array B	133.03	337	PKP	PKPdf	17 39 07.6	-1.0
	comp=Z,2.6nm,0.8s,baz=88,slow=3.2,SNR=6.9						
AKASG	Malin Array Be	137.73	323	PKP	PKPdf	17 39 17.1	-0.6
	comp=Z,0.3nm,0.3s,baz=64,slow=1.8,SNR=4.3						
OSTC	Ostas	144.49	331	ePKP	PKPab	17 39 30.5	+2.2
DPC	Dobruska-Polom	144.59	330	ePKP	PKPab	17 39 30.3	+1.6
FLTG	Flechtingen	145.21	337	ePKPbc	PKPbc	17 39 29.8	-0.9
	baz=38,slow=2.5						
PVCC	Panska Ves	145.25	332	ePKP	PKPbc	17 39 30.9	0.0
BRG	Berggiesshubel	145.27	333	ePKPbc	PKPbc	17 39 30.4	-0.5
	baz=38,slow=2.5						
CLL	Collm	145.33	334	ePKPbc	PKPbc	17 39 30.3	-0.8
	baz=38,slow=2.5						
FBE	Freiberg	145.48	333	ePKPbc	PKPbc	17 39 31.5	-0.1
	baz=38,slow=2.5						
NRDL	Niedersach Rie	145.48	338	ePKPbc	PKPbc	17 39 30.9	-0.6
	baz=38,slow=2.5						
RETH	Rethem/Aller,	145.54	339	ePKPbc	PKPdf	17 39 30.5	-1.1
	baz=38,slow=2.5						
PRU	Pruhonice	145.65	331	ePKP	PKPdf	17 39 31.7	-0.3
HSKC	Hora Svate Kat	145.68	333	ePKP	PKPdf	17 39 32.1	+0.1
NEUB	Neuenburg	145.90	335	ePKPbc	PKPdf	17 39 32.3	0.0
	baz=38,slow=2.5						
CLZ	Clausthal	145.92	337	ePKPbc	PKPdf	17 39 32.3	-0.1
	baz=38,slow=2.5						
EKA	Eskdalemuir Ar	146.01	353	PKPbc	PKPdf	17 39 31.6	-0.7
	comp=Z,8.1nm,0.6s,baz=357,slow=2.8,SNR=26						
ZVC	Zvikov	146.21	331	ePKP	PKPdf	17 39 33.3	+0.4
TANN	Tannenbergstha	146.23	334	ePKPbc	PKPdf	17 39 33.4	+0.4
	baz=38,slow=2.5						
WERD	Werda	146.27	334	ePKPbc	PKPdf	17 39 33.7	+0.7
	baz=38,slow=2.5						
PLN	Plauen	146.30	334	ePKPbc	PKPdf	17 39 33.8	+0.7
	baz=38,slow=2.5						
GTTG	Gottingen	146.31	337	ePKPbc	PKPdf	17 39 33.7	+0.7
	baz=38,slow=2.5						
GUNZ	Gunzen	146.33	334	ePKPbc	PKPdf	17 39 34.2	+1.1
	baz=38,slow=2.5						
NKC	Novy Kostel	146.38	333	ePKP	PKPdf	17 39 34.5	+1.3
RONA	Rosalia, Austr	146.40	327	ePKP	PKPdf	17 39 34.6	+1.2
	comp=Z,5.7nm,0.9s						
MOX	Moxa	146.40	335	ePKPbc	PKPdf	17 39 34.0	+0.7
	baz=38,slow=2.5						
MOX				eL	L	18 51 08.5	
	comp=Z,96nm,18.7s						
IBBN	Ibbenburen	146.43	340	ePKPbc	PKPdf	17 39 33.7	+0.6
	baz=38,slow=2.5						
CONA	Conrad Observa	146.47	328	ePKP	PKPdf	17 39 35.1	+1.5
	comp=Z,7.8nm,1.0s						
CKRC	Cesky Krumlov	146.60	330	ePKP	PKPdf	17 39 34.6	+1.0
MANZ	Manzenberg	146.71	333	ePKPbc	PKPdf	17 39 35.2	+1.4
	baz=38,slow=2.5						
KHC	Kasperske Hory	146.71	331	ePKP	PKPdf	17 39 34.4	+0.6
ROTZ	Rotzenmuhle	146.83	333	ePKPbc	PKPdf	17 39 35.7	+1.7
	baz=38,slow=2.5						
GEC2	GERESS Array S	146.86	331	ePKPbc	PKPdf	17 39 35.4	+1.3
	baz=38,slow=2.5						
GERES	GERESS Array B	146.86	331	PKPbc	PKPdf	17 39 35.5	+1.3
	comp=Z,6.8nm,0.8s,baz=20,slow=4.3,SNR=23						
WET	Wettzell	147.01	332	ePKPbc	PKPdf	17 39 36.1	+1.7
	baz=38,slow=2.5						
GRF	Grafenberg Arr	147.30	334	ePKPbc	PKPdf	17 39 36.5	+1.7
	baz=38,slow=2.5						
GRF				eL	L	18 46 55.7	
	comp=Z,154nm,18.2s						
MOA	Molln	147.30	329	i PKP	PKPdf	17 39 38.0	+3.2
	comp=Z,14nm,1.5s						
SOKA	Soboth	147.72	327	i PKP	PKPdf	17 39 37.6	+1.9
	comp=Z,4.7nm,0.9s						
RJOB	Jochberg	148.08	330	ePKPbc	PKPdf	17 39 38.4	+2.2
	baz=38,slow=2.5						
KBA	Koelnbreinsper	148.29	329	i PKP	PKPdf	17 39 38.5	+1.8
	comp=Z,7.9nm,0.9s						
LESA	Schwarzleotal	148.36	330	i PKP	PKPdf	17 39 39.2	+2.5
	comp=Z,5.9nm,0.8s						
BTNL	Ternell	148.43	340	dPKP	PKPdf	17 39 39.6	+2.9
MEM	Membach	148.45	340	dPKP	PKPdf	17 39 39.3	+2.7
MYKA	Terra Mystica	148.46	328	i PKP	PKPdf	17 39 39.4	+2.6
	comp=Z,6.9nm,1.0s						
ABTA	Abfaltersbach	148.93	329	i PKP	PKPdf	17 39 39.9	+2.3
	comp=Z,7.8nm,0.9s						
WATA	Walderalm	148.94	331	i PKP	PKPdf	17 39 40.7	+3.0
	comp=Z,7.3nm,1.0s						
WTTA	Wattenberg	148.96	330	i PKP	PKPdf	17 39 41.0	+3.1
	comp=Z,15nm,1.1s						
MOTA	Moosalm	149.14	331	i PKP	PKPdf	17 39 38.3	+0.3
	comp=Z,12nm,1.0s						
RETA	Reutte	149.19	332	i PKP	PKPdf	17 39 41.2	+3.2
	comp=Z,9.5nm,1.1s						
SQTA	Sankt Quirin	149.19	331	ePKP	PKPdf	17 39 41.7	+3.6
	comp=Z,9.6nm,0.8s,SNR=4.2						
WLF	Walferdange	149.22	339	dPKP	PKPdf	17 39 42.4	+4.5
WLF	Walferdange	149.22	339	ePKPbc	PKPdf	17 39 42.3	+4.5
	baz=38,slow=2.5						
UBR	Ueberruh	149.32	332	ePKPbc	PKPdf	17 39 41.6	+3.3
	baz=38,slow=2.5						
DOU	Dourbes	149.34	341	dPKP	PKPdf	17 39 42.1	+4.1
FETA	Feichten	149.56	331	i PKP	PKPdf	17 39 42.7	+4.0
	comp=Z,15nm,1.0s,SNR=8.6						
DAVA	Damuels	149.73	332	ePKP	PKPdf	17 39 43.3	+4.3
	comp=Z,12nm,1.0s						

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*SSNC **04** 17:23:20.9±1.2, 19.°83N×71.°17W, h26km±40km, ML2.7, MW2.9*
*SDD **04** 17:23:22.5±0.9, 19.°78N×71.°52W, h20km±9km, MD2.8, ML2.6, MW3.1*
*OSPL **04** 17:23:24.3±1.8, 19.°69N×71.°60W, h0km±24km, ML2.2*
ISC 04 17:23:22.3±1.1**, 19.°71N**±0.°06×**71.°57W**±0.°05**, h10**km±11km**, n15,** σ1.ˢ14/25**, 3C-1D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	Montecristi	0.20	337	⇑eP	Pg	17 23 26.7	+0.1
MCDR				eS	Sg	17 23 30.2	+0.7
MCDR				IAML		17 23 31.0	
	comp=E,2μm,0.1s						
MCDR				IAML		17 23 32.1	
	comp=N,3μm,0.1s						
SDDR	Presa de Saban	0.77	159	⇓ePg	Pb	17 23 37.1	-0.6
SDDR				⇑eSg	Sb	17 23 48.6	+0.3
SDDR				IAML		17 23 50.2	
	comp=E,126nm,0.2s						
SDDR				IAML		17 23 50.6	
	comp=N,116nm,0.7s						
SDDR	Presa de Saban	0.77	159	i P	Pb	17 23 37.2	-0.6
SDDR				eS	Sb	17 23 48.3	0.0
SDDR				IAML		17 23 49.8	
	comp=Z,90nm,0.5s						
ABDR	Alto Bandera	1.26	135	ePg	Pn	17 23 45.2	-1.1
ABDR				IAML		17 24 06.1	
	comp=E,70nm,0.6s						
ABDR				IAML		17 24 08.3	
	comp=N,65nm,1.2s						
PAPH	Port-au-Prince	1.36	210	⇑ePg	Pn	17 23 47.4	+0.1
PAPH				eSg	Sn	17 24 06.5	+1.0
PAPH				IAML		17 24 06.9	
	comp=E,210nm,0.2s						
PAPH				IAML		17 24 07.1	
	comp=N,164nm,0.6s						
PAPH	Port-au-Prince	1.36	210	eP	Pn	17 23 46.8	-0.6
PAPH				eS	Sn	17 24 06.2	+0.8
PAPH				IAML		17 24 07.0	
	comp=E,86nm,0.3s						
PAPH				IAML		17 24 07.7	
	comp=N,62nm,0.2s						
PAPH	Port-au-Prince	1.36	210	i P	Pn	17 23 47.1	-0.3
PAPH				eS	Sn	17 24 06.4	+0.9
PAPH				IAML		17 24 08.8	
	comp=Z,30nm,0.7s						
PODR	Polo	1.56	170	ePg	Pn	17 23 51.0	+0.8
PODR				IAML		17 24 17.8	
	comp=E,51nm,0.2s						
PODR				IAML		17 24 21.1	
	comp=N,36nm,1.1s						
PODR	Polo	1.56	170	i P	Pn	17 23 50.8	+0.6
HATOM	Hato Mayor del	2.26	113	ePg	Pn	17 24 00.4	+0.7
HATOM				eSg	Sb	17 24 30.1	-1.3
HATOM				IAML		17 24 33.7	
	comp=E,24nm,2.2s						
HATOM				IAML		17 24 40.0	
	comp=N,21nm,1.0s						
MASC	Masc	2.54	281	eP	Pn	17 24 03.4	-0.2
MASC				eS	Sn	17 24 35.5	+0.9
MASC				eSg	Sb	17 24 38.4	-1.0
MASC				IAML		17 24 40.8	
	comp=E,25nm,0.4s						
MASC				IAML		17 24 41.8	
	comp=N,11nm,0.3s						
MASC	Masc	2.54	281	i P	Pn	17 24 05.0	+1.3
MASC				IAML		17 24 49.0	
	comp=Z,37nm,2.6s						
GNEO	Boca de Quibij	2.91	283	eP	Pn	17 24 09.5	+0.9
GNEO				eS	Sn	17 24 45.7	+2.0
GNEO				IAML		17 24 49.9	
	comp=E,18nm,0.2s						
GNEO				IAML		17 24 54.0	
	comp=N,25nm,0.2s						
NMDO	Nuevo Mundo	3.31	285	eS	Sb	17 24 58.3	-3.3
RCC	Rio Carpintero	3.89	275	eS	Sn	17 25 08.1	+0.2

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*IDC **04** 17:30:49.8±2.3, 6.°27S×129.°35E, h0km, mb3.4/1, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=114.4km s-min=32.7km az=68.0*
*DJA **04** 17:31:04.0±0.3, 7°S±3°×13°0E±°, h129km±14km, M4.2/11, mb3.8/6, mB5.2/1, MLv4.4/11, Mw(mB)4.6/1*
ISC 04 17:31:05.3±1.2**, 6.°81S**±0.°09×**130.°1E**±0.°1**, h100**km**, n24,** σ**1.ˢ55**/17**, mb4.0**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.64	135	P	Pn	17 31 35.0	+1.6
BNDI	Bandanaira	2.28	354	P	Pn	17 31 38.8	-2.8
FAKI	Fak Fak	4.40	29	P	Pn	17 32 05.7	-4.2
KMPI	Kaimana, Papua	4.73	49	P	Pn	17 32 14.2	-0.2
SIJI	Sorong	6.00	11	P	Pn	17 32 25.7	-6.1
	12nm,0.9s,3μm0.5nm						
SWI	Sorong	6.01	11	P	Pn	17 32 26.1	-5.7
MTN	Manton Dam	6.08	171	P	Pn	17 32 37.6	+4.9
KDU	Kakadu	6.28	159	P	Pn	17 32 40.5	+5.0
SOEI	Soe	6.51	243	P	Pn	17 32 38.4	-0.2
	9.0nm,2.3s,0.2nm						
LBMI	Labuha	6.67	337	P	Pn	17 32 35.1	-5.7
	26nm,0.9s,0.1nm						
EDFI	Ende, Flores	8.59	256	P	Pn	17 33 05.8	-1.2
	3.2nm,0.7s						
KNRA	Kununurra	8.92	189	P	Pn	17 33 13.7	+2.4
FITZ	Fitzroy Crossi	12.05	201	P	Pn	17 33 54.6	+0.9
WRA	Warramunga Arr	13.68	163	Pn	Pn	17 34 14.1	-1.1
	0.5nm,0.3s,baz=340,slow=13,SNR=15						
WRA				Sn	Sn	17 36 43.5	-2.3
	1.0nm,0.3s,baz=333,slow=23,SNR=11						
	1.5nm,0.5s						
QIS	Mount Isa	16.46	147	P	P	17 34 53.2	+1.8
ASAR	Alice Springs	17.15	168	P	P	17 35 00.7	+1.7
	0.7nm,0.3s,baz=340,slow=9.0,SNR=36						
ASAR				S	S	17 38 10.2	-2.4
	0.6nm,0.4s,baz=344,slow=26,SNR=6.3						
	1.9nm,0.5s						
WRKA	Warakurna	18.21	185	P	Pn	17 35 11.5	-0.2
OOD	Oodnadatta	21.53	166	P	P	17 35 46.7	+0.3
INKA	Innaminka	23.12	155	P	P	17 36 05.1	+2.2
MULG	Mulgathing	23.64	172	P	P	17 36 06.7	-0.9
FORT	Forrest	23.93	184	P	P	17 36 10.6	+0.5
	27nm,0.9s						
LCRK	Leigh Creek	24.71	163	P	P	17 36 17.5	+0.2
BBOO	Buckleboo	26.45	169	P	P	17 36 35.0	+2.0
	9.8nm,2.2s						
MKAR	Makanchi Array	68.14	327	P	P	17 41 46.3	-8.4
	0.2nm,0.4s,baz=120,slow=7.5,SNR=2.0						
	0.2nm,0.4s						

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*IDC **04** 17:59:50.8±0.8, 21.°57S×169.°88E, h0km, mb4.0/12, mbtmp4.0/13, ML3.9/1, MS3.6/13, Error ellipse: s-maj=27.9km s-min=19.5km az=142.0*
*NEIC **04** 17:59:52.4±2.0, 21.°60S±0.°09×169.°76E±0.°09, h8km±4km, mb4.8/38, Error ellipse: s-maj=13.2km s-min=11.9km az=185.0*
*NOU **04** 17:59:52.3, 21.°70S×169.°78E, h0km, MLv4.3/11, Southeast of Loyalty Islands*
ISC 04 17:59:55.9±0.5**, 21.°72S**±0.°07×**169.°76E**±0.°07**, h36**km**, n141,** σ**0.ˢ97**/132**, mb4.5**/22**, MS3.7**/11**, 3D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.62	278	Pn	Pn	18 00 21.2	-0.7
MARNC				Sn	Sn	18 00 41.4	-0.3
MARNC	Mare, Loyalty	1.62	278	P	Pn	18 00 21.4	-0.6
PINNC	Pines Island,	2.32	247	Pn	Pn	18 00 31.3	-0.2
PINNC	Pines Island,	2.32	247	P	Pn	18 00 31.8	+0.2
LIFNC	LIFOU	2.53	291	Pn	Pn	18 00 32.1	-2.3
LIFNC	LIFOU	2.53	291	P	Pn	18 00 33.8	-0.6
YATNC	Mamie plateau,	2.68	262	P	Pn	18 00 36.1	-0.5
OUENC	Ouen Island, N	2.79	255	Pn	Pn	18 00 38.1	0.0
OUENC	Ouen Island, N	2.79	255	P	Pn	18 00 38.3	+0.2
DZM	Mont Dzumac	3.10	263	Pn	Pn	18 00 42.5	+0.1
DZM	Mont Dzumac	3.10	263	P	Pn	18 00 43.3	+0.9
DZM	Mont Dzumac	3.10	263	ePn	Pn	18 00 43.0	+0.6
	248nm,1.2s						
DZM				eSn	Sn	18 01 17.8	-0.4
	448nm,0.8s						
DZM	Mont Dzumac	3.10	263	Pn	Pn	18 00 42.8	+0.4
	14nm,0.3s,baz=138,slow=7.7,SNR=300						
DZM				Sn	Sn	18 01 18.0	-0.2
	66nm,0.3s,baz=47,slow=21,SNR=15						
DZM				LR	LR	18 01 53.1	
	comp=Z,391nm,18.0s,baz=97,slow=38						
	61nm,0.5s						
ONTNC	Ouen Toro	3.12	259	Pn	Pn	18 00 42.2	-0.4
ONTNC	Ouen Toro	3.12	259	P	Pn	18 00 43.2	+0.6
NOUC	Port Laguerre	3.23	263	P	Pn	18 00 44.5	+0.4
DVP	Devils Point	4.24	339	P	Pn	18 00 59.3	+1.4
KOUNC	Koumac, New Ca	5.24	282	Pn	Pn	18 01 12.9	+1.2
KOUNC	Koumac, New Ca	5.24	282	P	Pn	18 01 13.4	+1.7
URZ	Urewera	17.66	161	LR	LR	18 09 36.2	
	comp=Z,199nm,18.3s,baz=100,slow=33						
MRZ	Mangatainoka R	19.52	167	P	P	18 04 16.1	-4.1
MRZ				IAmb	IAmb	18 04 20.4	
	comp=Z,107nm,1.7s						
BHW	Baring Head	20.10	169	P	P	18 04 26.1	-0.4
BHW				IAmb	IAmb	18 04 33.7	
	comp=Z,28nm,1.1s						
CTA	Charters Tower	22.01	270	P	P	18 04 46.7	-0.6
	comp=Z,1.9nm,0.7s,baz=96,slow=15,SNR=1.5						
CTA				LR	LR	18 13 27.6	
	comp=Z,261nm,18.0s,baz=90,slow=37						
	comp=Z,1.9nm,0.7s						
CTAO	Charters Tower	22.01	270	P	P	18 04 46.0	-1.3
CTAO				IAmb	IAmb	18 04 55.2	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	27.03	242	P	P	18 05 35.1	+0.3
STKA	Stephens Creek	27.03	242	P	P	18 05 36.8	+2.0
	comp=Z,1.4nm,0.7s,baz=58,slow=11,SNR=3.8						
STKA				LR	LR	18 15 05.7	
	comp=Z,132nm,21.4s,baz=33,slow=34						
	comp=Z,1.4nm,0.7s						
AS31	Alice Springs	33.08	260	P	P	18 06 29.7	+1.2
ASAR	Alice Springs	33.08	260	P	P	18 06 27.2	-1.3
ASAR	Alice Springs	33.08	260	P	P	18 06 29.6	+1.1
	comp=Z,0.6nm,0.7s,baz=98,slow=10,SNR=19						
ASAR				PcP	PcP	18 09 11.8	+0.3
	comp=Z,0.9nm,1.0s,baz=90,slow=4.6,SNR=3.3						
ASAR				LR	LR	18 20 42.4	
	comp=Z,125nm,18.7s,baz=85,slow=38						
	comp=Z,0.6nm,0.7s						
WB0	Warramunga Arr	33.09	267	P	P	18 06 28.7	+0.1
WB0				IAmb	IAmb	18 07 37.0	
	comp=Z,29nm,2.0s						
WB2	Warramunga Arr	33.10	267	P	P	18 06 26.5	-2.1
WB2				IAmb	IAmb	18 06 39.3	
	comp=Z,18nm,1.7s						
WRA	Warramunga Arr	33.11	267	P	P	18 06 28.7	0.0
WRA	Warramunga Arr	33.11	267	P	P	18 06 29.2	+0.4
	comp=Z,0.3nm,0.7s,baz=96,slow=8.3,SNR=6.6						
	comp=Z,0.3nm,0.7s						
MTN	Manton Dam	37.84	277	P	P	18 07 09.3	-0.1
PPT2	Papeete2	38.44	91	eLR	LR	18 17 38.7	
	comp=Z,48nm,24.2s						
KNRA	Kununurra	39.21	272	P	P	18 07 21.0	+0.1
KNRA				IAmb	IAmb	18 08 42.3	
	comp=Z,38nm,1.3s						
FITZ	Fitzroy Crossi	41.53	267	P	P	18 07 39.4	-0.8
NWAO	Narrogin (SRO)	47.56	245	LR	LR	18 28 15.0	
	comp=Z,133nm,18.5s,baz=78,slow=36						
KAPI	Kappang	51.15	281	LR	LR	18 32 53.5	
	comp=Z,43nm,18.1s,baz=87,slow=39						
SBA	Scott Base	56.20	181	P	P	18 09 33.0	+1.2
LEM	Lembang	61.64	274	LR	LR	18 38 35.5	
	comp=Z,36nm,18.5s,baz=246,slow=38						
MJAR	Matsushiro Arr	65.16	332	P	P	18 10 33.0	-0.3
	comp=Z,2.3nm,0.7s,baz=170,slow=6.9,SNR=9.9						
	comp=Z,2.3nm,0.7s						
MAJO	Matsushiro	65.16	332		P	18 10 33.7	+0.3
MAJO				IAmb	IAmb	18 10 34.3	
	comp=Z,14nm,1.1s						
MJB9	Matsu-Tunnel	65.17	332	P	P	18 10 34.5	+1.1
MJB9				IAmb	IAmb	18 10 35.3	
	comp=Z,14nm,1.1s						
JNU	Nakatsue	65.96	325	LR	LR	18 37 51.1	
	comp=Z,27nm,20.0s,baz=263,slow=35						
QSPA	South Pole Qui	68.35	180	P	P	18 10 54.9	+1.4
QSPA				IAmb	IAmb	18 10 56.7	
	comp=Z,9.5nm,1.3s						
QSPA	South Pole Qui	68.35	180	P	P	18 10 54.7	+1.2
	comp=Z,4.1nm,1.0s,baz=8.3,slow=2.5,SNR=7.4						
	comp=Z,4.1nm,1.0s						
KSRS	Korea Array	70.82	326	P	P	18 11 09.9	+1.1
	comp=Z,1.0nm,0.8s,baz=146,slow=7.5,SNR=3.4						
	comp=Z,1.0nm,0.8s						
PEA0B	Petropavlovsk-	75.24	353	P	P	18 11 34.9	+0.2
PETK	Petropavlovsk-	75.24	353	P	P	18 11 35.9	+1.2
PETK	Petropavlovsk-	75.24	353	P	P	18 11 33.7	-1.0
	comp=Z,1.8nm,0.6s,baz=135,slow=8.2,SNR=9.6						
	comp=Z,1.8nm,0.6s						
CMAR	Chiang Mai Arr	79.96	294	P	P	18 12 03.8	+2.0
	comp=Z,0.5nm,0.3s,baz=139,slow=4.8,SNR=8.9						
	comp=Z,0.5nm,0.3s						
HEH	HeiHe	80.84	334	eP	P	18 12 06.2	+0.4
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,250nm,4.7s						
MA2	Magadan	82.48	350	LR	LR	18 44 42.9	
	comp=Z,35nm,18.7s,baz=220,slow=33						
OHAK	Old Harbor	84.52	19	P	P	18 12 24.8	0.0
N15K	Kwethluk River	85.22	15	P	P	18 12 28.6	+0.4
P18K	Big Mountain,	85.78	17	P	P	18 12 30.1	-1.0
P18K				IAmb	IAmb	18 12 33.6	
	comp=Z,7.6nm,1.0s						
Q19K	Cape Douglas,	85.83	18	P	P	18 12 31.5	+0.1
TROLL	Troll, Antarti	86.11	184	⇓P	P	18 12 34.2	+1.3
	comp=Z,350nm,0.7s						
M16K	Timber Creek	86.23	15	P	P	18 12 32.6	-0.7
K15K	Wolf Creek Mou	86.79	13	P	P	18 12 36.1	+0.2
VNA3	Neumayer Olymp	87.29	180	⇓P	P	18 12 39.4	+0.9
	comp=Z,10.0nm,0.7s						
VNA2	Neumayer--Watz	87.59	181	⇓P	P	18 12 41.1	+1.2
	comp=Z,9.2nm,0.7s,baz=179,slow=5.0						
J16K	Anvik River	87.87	13	P	P	18 12 41.5	+0.4
L19K	White Mountain	88.24	16	P	P	18 12 44.0	+1.0
SUA	Susitna One	88.75	18	P	P	18 12 43.4	-2.0
J18K	Innoko River	88.88	14	P	P	18 12 44.2	-1.7
SONM	Songino Array	89.48	323	P	P	18 12 49.6	+0.3
	comp=Z,1.9nm,0.9s,baz=144,slow=7.8,SNR=6.5						
	comp=Z,1.9nm,0.9s						
LPIG	La Paz	90.05	64	LR	LR	18 46 16.8	
	comp=Z,37nm,18.1s,baz=17,slow=31						
NVAR	Mina Array Bea	90.07	48	P	P	18 12 52.7	+0.3
	comp=Z,0.3nm,0.3s,baz=217,slow=7.2,SNR=3.6						
	comp=Z,0.3nm,0.3s						
KVN	Kaiserville	90.50	48	P	P	18 12 54.5	+0.1
KVN				IAmb	IAmb	18 12 59.9	
	comp=Z,14nm,1.9s						
F17K	Baldwin Pennin	90.57	11	P	P	18 12 54.5	+0.8
G19K	Purcell Mounta	91.11	13	P	P	18 12 56.2	-0.1
F19K	Shaleruckik Mo	91.57	12	P	P	18 12 57.1	-1.3
IMAR	Indian Mountai	91.70	14	P	P	18 12 57.1	-2.0
E19K	Redstone River	92.22	12	P	P	18 13 01.5	0.0
ILAR	Eielson Array	92.44	17	P	P	18 13 00.8	-1.7
	comp=Z,0.4nm,0.6s,baz=237,slow=4.4,SNR=9.5						
ILAR				LR	LR	18 51 51.7	
	comp=Z,39nm,18.8s,baz=128,slow=34						
	comp=Z,0.4nm,0.6s						
E21K	Killik River	93.71	13	P	P	18 13 07.1	-1.2
B21K	Ikpikpuk River	94.58	12	P	P	18 13 11.5	-0.7
BMAR	Burnt Mountain	95.08	16	P	P	18 13 14.3	-0.3
B22K	Teshekpuk Lake	95.41	12	P	P	18 13 16.0	0.0
C23K	Itkillik River	95.55	13	P	P	18 13 17.1	+0.4
I30M	Mount Dempster	95.89	20	P	P	18 13 17.7	-0.7
G30M	tAoh Zraii Nji	97.09	19	P	P	18 13 22.6	-1.1
E28M	Babbage River	97.25	17	P	P	18 13 23.8	-0.6
TXAR	Lajitas Array	97.52	62	LR	LR	18 48 06.1	
	comp=Z,25nm,19.4s,baz=344,slow=30						
ARCES	ARCESS Array B	127.57	345	PKP	PKPdf	18 18 56.3	-0.2
	comp=Z,1.9nm,0.5s,baz=36,slow=1.1,SNR=20						
FINES	FINESS Array B	133.05	337	PKP	PKPdf	18 19 06.5	-0.6
	comp=Z,1.2nm,0.6s,baz=72,slow=6.2,SNR=12						
AKASG	Malin Array Be	137.76	323	PKP	PKPdf	18 19 16.4	+0.2
	comp=Z,0.8nm,0.5s,baz=60,slow=1.2,SNR=3.1						
NOA	NORSAR Array B	137.95	345	PKP	PKiKP	18 19 17.2	-1.1
	comp=Z,0.5nm,0.5s,baz=30,slow=2.1,SNR=2.3						
HFS	Hagfors	138.06	342	PKP	PKPdf	18 19 17.1	+0.7
	comp=Z,2.4nm,0.8s,baz=68,slow=2.2,SNR=4.0						
OSTC	Ostas	144.52	331	ePKP	PKPdf	18 19 28.1	-0.3
CHVC	Chvalec	144.57	331	ePKP	PKPab	18 19 17.3	-10
KRLC	Kraliky	144.59	330	ePKP	PKPdf	18 19 29.4	+0.8
DPC	Dobruska-Polom	144.62	330	ePKP	PKPdf	18 19 28.0	-0.6
UPC	Upice	144.65	331	ePKP	PKPbc	18 19 27.8	+0.4
PVCC	Panska Ves	145.28	332	ePKP	PKPdf	18 19 30.0	+0.3
BRG	Berggiesshubel	145.29	333	ePKPbc	PKPdf	18 19 30.3	+0.6
	baz=38,slow=3.3						
CLL	Collm	145.35	334		PKPbc	18 19 28.7	-0.9
CLL	Collm	145.35	334	ePKPbc	PKPdf	18 19 30.1	+0.3
	baz=38,slow=3.3						
PRU	Pruhonice	145.68	331	eP	PKPab	18 19 31.8	+0.7
CLZ	Clausthal	145.94	337	ePKPbc	PKPab	18 19 32.3	+0.3
	baz=38,slow=3.3						
EKA	Eskdalemuir Ar	146.01	353	PKPbc	PKPbc	18 19 31.2	-0.3
	comp=Z,8.8nm,0.5s,baz=357,slow=2.7,SNR=40						
EKB	Eskdalemuir	146.02	353	PKPdf	PKPdf	18 19 30.5	-0.2
ESK	Eskdalemuir	146.03	353	PKPdf	PKPdf	18 19 27.5	-3.3
ZVC	Zvikov	146.23	331	ePKP	PKPab	18 19 33.1	-0.1
TANN	Tannenbergstha	146.26	334	ePKPbc	PKPab	18 19 33.2	-0.1
	baz=38,slow=3.3						
WERD	Werda	146.29	334	ePKPbc	PKPab	18 19 33.5	0.0
	baz=38,slow=3.3						

PLN	Plauen	146.33	334	*e*PKPbc	PKPab	18 19 33.6	+0.1
	baz=38,slow=3.3						
GTTG	Gottingen	146.33	337	*e*PKPbc	PKPab	18 19 33.7	+0.3
	baz=38,slow=3.3						
WERN	Wernitzgruen	146.39	334	*e*PKPbc	PKPab	18 19 34.1	+0.2
	baz=38,slow=3.3						
NKC	Novy Kostel	146.40	333	*e*PKP	PKPab	18 19 33.4	-0.4
MOX	Moxa	146.42	335	*e*L	L	19 26 56.5	
	comp=Z,85nm,18.2s						
RONA	Rosalia, Austr	146.43	327	*i* PKP	PKiKP	18 19 35.1	-1.0
	comp=Z,4.8nm,0.7s						
CONA	Conrad Observa	146.49	328	*i* PKP	PKPab	18 19 34.7	+0.4
	comp=Z,11nm,1.5s						
CKRC	Cesky Krumlov	146.62	330	*e*PKP	PKPab	18 19 34.1	-0.6
CKRC				*e*x	x	18 19 45.9	
KHC	Kasperske Hory	146.73	331		PKPdf	18 19 31.1	-1.2
KHC	Kasperske Hory	146.73	331	*e*PKP	PKPab	18 19 34.8	-0.4
KHC				*e*x	x	18 19 48.0	
GEC2	GERESS Array S	146.89	331		PKPdf	18 19 30.2	-2.4
GERES	GERESS Array B	146.89	331	PKPdf	PKPdf	18 19 31.8	-0.8
GERES	GERESS Array B	146.89	331	PKPbc	PKPab	18 19 35.3	-0.6
	comp=Z,6.4nm,0.8s,baz=28,slow=3.5,SNR=24						
UBBA	Unterbreizbach	146.91	336	*e*PKPbc	PKPab	18 19 35.1	-0.5
	baz=38,slow=3.3						
AGG	Agios Georgios	147.25	309	PKPdf	PKPdf	18 19 32.6	-0.9
GRF	Grafenberg Arr	147.32	334	*e*L	L	19 27 25.9	
	comp=Z,81nm,20.0s						
MOA	Molln	147.33	329	*i* PKP	PKPab	18 19 37.2	-0.3
	comp=Z,7.7nm,1.5s						
BIOA	Bad Ischl, Aus	147.74	329	*e*PKP	PKPdf	18 19 33.6	-0.4
	comp=Z,3.0nm,0.9s						
SOKA	Soboth	147.75	327	*i* PKP	PKiKP	18 19 38.1	-0.8
	comp=Z,8.0nm,1.4s						
KBA	Koelnbreinsper	148.32	329	*i* PKP	PKPbc	18 19 38.5	-0.1
	comp=Z,9.2nm,1.1s						
LESA	Schwarzleotal	148.39	330	*i* PKP	PKPbc	18 19 39.0	+0.4
	comp=Z,3.1nm,0.5s						
MYKA	Terra Mystica	148.49	328	*i* PKP	PKPbc	18 19 38.8	-0.1
	comp=Z,2.9nm,0.6s						
ABTA	Abfaltersbach	148.95	329	*i* PKP	PKPbc	18 19 39.8	-0.3
	comp=Z,5.9nm,0.7s						
WATA	Walderalm	148.96	331	*e*PKiKP	PKiKP	18 19 41.0	-0.4
	comp=Z,5.5nm,0.7s						
CLUD	Cludinico	148.98	328		PKPbc	18 19 40.3	+0.2
WTTA	Wattenberg	148.99	330	*i* PKiKP	PKiKP	18 19 41.1	-0.5
	comp=Z,15nm,1.6s						
MOTA	Moosalm	149.17	331	*i* PKP	PKPbc	18 19 40.8	+0.2
	comp=Z,10nm,0.9s,SNR=5.7						
RETA	Reutte	149.21	332	*e*PKiKP	PKiKP	18 19 41.8	-0.1
	comp=Z,5.6nm,0.9s						
SQTA	Sankt Quirin	149.22	331	*i* PKP	PKPbc	18 19 41.3	+0.5
	comp=Z,13nm,1.0s,SNR=5.5						
FETA	Feichten	149.58	331	*i* PKiKP	PKiKP	18 19 42.2	-0.6
	comp=Z,15nm,1.2s						
DAVA	Damuels	149.75	332	*e*PKP	PKPbc	18 19 42.5	+0.3
	comp=Z,12nm,1.1s						
TUE	Stuetta	150.61	332		PKPbc	18 19 43.9	-0.4
NRCA	Norcia	151.30	323		PKPbc	18 19 45.6	-0.3

IDC 04 18:02:06.2±9.0**, 31°.97S**×**179°.87W, h338**^{km}±103^{km}**, mb2.7**/2**, mbtmp3.6**/3**, Error ellipse: s-maj=115.4km s-min=52.0km az=180.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.75	201	P	Pn	18 03 45.9	+0.7
	18nm,0.9s,baz=0.9,slow=5.2,SNR=13						
URZ				S	S	18 05 05.0	-0.6
	27nm,1.0s,baz=18,slow=20,SNR=1.7						
ASAR	Alice Springs	41.46	270	P	P	18 09 21.2	-0.2
	0.3nm,0.8s,baz=99,slow=7.5,SNR=1.7						
	0.3nm,0.8s						
WRA	Warramunga Arr	42.60	275	P	P	18 09 30.4	-0.1
	0.2nm,0.3s,baz=111,slow=8.1,SNR=7.7						
	0.2nm,0.3s						
FINES	FINESS Array B	146.03	338	PKPbc	PKPdf	18 21 05.0	+0.5
	1.7nm,0.9s,baz=49,slow=4.2,SNR=1.4						

IDC 04 18:03:40.5±2.4**, 31°.34S**×**178°.47W, h0**^{km}**, mb3.5**/3**, mbtmp3.5**/3**, Error ellipse: s-maj=68.4km s-min=42.7km az=43.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.67	268	P	P	18 11 38.7	-0.5
	0.3nm,0.7s,baz=107,slow=6.9,SNR=2.1						
	0.3nm,0.7s						
WRA	Warramunga Arr	43.74	273	P	P	18 11 47.9	+0.1
	0.3nm,0.3s,baz=115,slow=8.1,SNR=5.9						
	0.3nm,0.3s						
QSPA	South Pole Qui	58.77	180	P	P	18 13 40.2	0.0
	0.5nm,0.5s,baz=60,slow=3.0,SNR=2.0						
	0.5nm,0.5s						
FINES	FINESS Array B	145.88	339	PKPbc	PKPdf	18 23 20.2	-0.3
	1.7nm,0.7s,baz=64,slow=4.0,SNR=1.2						

NEIC ***04*** *18:07:20.5±2.3, 10°.34S±0°.09×161°.03E±0°.08, h66^{km}±9^{km}, mb4.3/11, Error ellipse: s-maj=12.7km s-min=11.4km az=187.0*
IDC ***04*** *18:07:20.7±2.6, 10°.36S×161°.08E, h57^{km}±22^{km}, mb3.4/7, mbtmp3.8/8, ML4.3/1, MS3.2/2, Error ellipse: s-maj=29.0km s-min=17.6km az=63.0*
ISC 04 18:07:20.0±0.6**, 10°.45S**±0°.08×**161°.1E**±0°.1**, h62**^{km}**, n32, σ1s.74**/34**, mb4.1**/13**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.48	313		Pn	18 07 43.8	-0.8
HNR				Sn	Sn	18 08 06.5	+3.5
HNR	Honiara	1.48	313	P	Pn	18 07 44.0	-0.6
	5µm,0.3s,baz=175,slow=8.7,SNR=111						
HNR				S	Sn	18 08 02.7	-0.3
	31µm,0.3s,baz=110,slow=18,SNR=14						
KOUNC	Koumac, New Ca	10.51	163	Pn	Pn	18 09 50.8	+2.8
RABL	Rabaul	10.78	305	Pn	Pn	18 09 49.4	-2.3
LIFNC	LIFOU	11.87	151	Pn	Pn	18 10 07.8	+1.3
DZM	Mont Dzumac	12.66	157	Pn	Pn	18 10 20.3	+3.0
DZM	Mont Dzumac	12.66	157	P	Pn	18 10 20.1	+2.7
	1.7nm,0.3s,baz=2.3,slow=9.8,SNR=111						
DZM				S	Sn	18 12 34.8	-1.9
	2.1nm,0.6s,baz=268,slow=20,SNR=1.4						
DZM				LR	LR	18 14 20.6	
	comp=Z,52nm,21.0s,baz=293,slow=33						
	3.8nm,0.3s						
MARNC	Mare, Loyalty	12.85	149	Pn	Pn	18 10 20.5	+0.6
ONTNC	Ouen Toro	12.88	157	Pn	Pn	18 10 20.8	+0.6
OUENC	Ouen Island, N	13.13	156	Pn	Pn	18 10 24.8	+1.1
PINNC	Pines Island,	13.55	154	Pn	Pn	18 10 30.2	+0.8
CTAO	Charters Tower	17.18	234		Pn	18 11 16.6	+0.6
PATS	Pohnpei	17.39	351		Pn	18 11 18.0	-0.5
WR0	Warramunga Arr	27.23	247	P	P	18 12 59.1	+0.7
WB0	Warramunga Arr	27.31	247	P	P	18 12 58.6	-0.6
WB0				IAmb	IAmb	18 13 08.6	
	comp=Z,9.8nm,1.4s						
WRAB	Tennant Creek	27.40	247	P	P	18 13 00.9	+1.0
WRAB				IAmb	IAmb	18 13 06.5	
	comp=Z,6.1nm,1.2s						
WB2	Warramunga Arr	27.40	247	P	P	18 12 59.4	-0.6
WB2				IAmb	IAmb	18 13 33.0	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	27.41	247	P	P	18 13 02.1	+2.1
	comp=Z,0.5nm,0.8s,baz=75,slow=9.9,SNR=1.7						
	comp=Z,0.5nm,0.8s						
ASAR	Alice Springs	29.02	240	P	P	18 13 13.9	-0.4
ASAR	Alice Springs	29.02	240	P	P	18 13 15.6	+1.2
	comp=Z,0.3nm,0.9s,baz=65,slow=10,SNR=5.3						
	comp=Z,0.3nm,0.9s						
TUWZ	Tuamarina	32.88	162	P	P	18 13 48.0	-0.1
ASAJ	Asahikawa	56.84	344	LR	LR	18 41 35.5	
	comp=Z,37nm,19.3s,baz=163,slow=36						
CASY	Casey	65.30	200	P	P	18 17 51.8	-3.4
VNDA	Vanda	67.05	180	P	P	18 18 04.8	-1.4
VNDA				IAmb	IAmb	18 18 40.1	
	comp=Z,4.0nm,1.3s						
SONM	Songino Array	75.51	325	P	P	18 19 00.3	+2.4
	comp=Z,1.3nm,0.6s,baz=120,slow=8.5,SNR=3.7						
	comp=Z,1.3nm,0.6s						
QSPA	South Pole Qui	79.55	180	P	P	18 19 21.5	+1.3
QSPA				IAmb	IAmb	18 19 35.8	
	comp=Z,6.5nm,1.5s						
QSPA	South Pole Qui	79.55	180	P	P	18 19 21.7	+1.6
	comp=Z,1.6nm,0.7s,baz=344,slow=0.9,SNR=10						
	comp=Z,1.6nm,0.7s						
CAST	Castle Rocks	81.86	19	P	P	18 19 29.3	-3.0
CAST				IAmb	IAmb	18 19 42.6	
	comp=Z,4.5nm,1.3s						
MCARA	McCarthy VSAT	83.84	24	P	P	18 19 42.7	+0.1
MCARA				IAmb	IAmb	18 20 00.9	
	comp=Z,5.9nm,1.0s						
ILAR	Eielson Array	84.47	20	P	P	18 19 45.0	-0.7
	comp=Z,0.2nm,0.9s,baz=250,slow=4.9,SNR=1.7						
	comp=Z,0.2nm,0.9s						
NVAR	Mina Array Bea	89.20	51	P	P	18 20 10.9	+1.3
	comp=Z,0.3nm,0.3s,baz=266,slow=7.2,SNR=2.0						
	comp=Z,0.3nm,0.3s						
MKAR	Makanchi Array	89.95	318	P	P	18 20 13.3	+0.6
	comp=Z,0.2nm,0.7s,baz=90,slow=5.8,SNR=2.0						
	comp=Z,0.2nm,0.7s						

PAS ***04*** *18:30:23.9±2.1, 33°.12N±0°.01×118°.15W±0°.02, h6^{km}±3^{km}, ML3.0/228, ML2.8/42(NEIC), Error ellipse: s-maj=2.3km s-min=1.8km az=136.0*
ANF ***04*** *18:30:23.3±0.2, 33°.23N×118°.10W, h15^{km}, ML2.7/25, Error ellipse: s-maj=2.0km s-min=1.6km az=5.0*
NEIC ***04*** *18:30:24.6±3.1, 33°.17N±0°.02×118°.09W±0°.02, h10^{km}±1^{km}, Error ellipse: s-maj=3.0km s-min=2.6km az=335.0*
ISC 04 18:30:24.2±0.9**, 33°.17N**±0°.02×**118°.12W**±0°.02**, h16**^{km}±8^{km}**, n62, σ1s.29**/81**, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIS	Catalina Islan	0.34	312	P	Pg	18 30 31.0	-0.3
	baz=142,SNR=266						
CIS				S	Sg	18 30 35.0	-1.2
	baz=142						
SCI2	San Clemente I	0.41	242		Pg	18 30 33.6	+1.1
SCI2					Sg	18 30 39.8	+1.6
SCI2	San Clemente I	0.41	242	P	Pg	18 30 33.6	+1.1
	baz=67,SNR=56						
SCI2				S	Sg	18 30 38.9	+0.8
	baz=67						
FMP	Fort Macarthur	0.56	345		Pg	18 30 35.1	-0.2
FMP	Fort Macarthur	0.56	345	P	Pg	18 30 35.0	-0.2
	baz=169,SNR=9.2						
FMP				S	Sg	18 30 40.5	-2.3
	baz=169						
SANC	Santa Ana	0.56	20		Pg	18 30 35.7	+0.3
SANC					Sb	18 30 44.8	+1.3
RPV	Rancho Palos V	0.62	337		Pg	18 30 36.5	+0.1
GORC	Green Oak Ranc	0.74	91		Pg	18 30 38.4	-0.4
GORC					Sb	18 30 49.0	+0.4
SBI	Santa Barbara	0.82	292		Pg	18 30 39.1	-1.1
SBI					Sg	18 30 50.8	-0.3
BHPC	Baldwin Hills	0.84	346		Pg	18 30 40.8	+0.2
BHPC					Sb	18 30 52.6	+1.1
LCGC	La Cienega, Cu	0.85	345		Pg	18 30 41.2	+0.4
LCGC					Sb	18 30 53.0	+1.1
GVRC	Garvey Reservo	0.88	360		Pb	18 30 42.0	+0.9
MURC	Murrieta	0.88	61	P	Pg	18 30 40.4	-0.9
	baz=239,SNR=30						
MURC				S	Sg	18 30 51.3	-1.6
	baz=239						
109C	Camp Elliot, M	0.90	108		Pg	18 30 40.6	-0.9
109C	Camp Elliot, M	0.90	108	P	Pg	18 30 40.7	-0.9
	baz=285,SNR=10						
109C				S	Sg	18 30 52.6	-0.7
	baz=285						
CPE	Camp Elliot	0.90	108		Pg	18 30 40.9	-0.7
PASC	Pasadena Art C	1.00	357	Pg	Pg	18 30 42.0	-1.6
RVR	Riverside	1.02	37		Pg	18 30 43.8	-0.3
DECC	Green Verdugo	1.09	350	P	Pb	18 30 43.0	-1.8
	baz=172						
DECC				S	Sg	18 30 56.9	-2.8
	baz=172						
TJX	Tijuana	1.11	126	Pg	Pb	18 30 44.5	-0.6
BFSC	Mount Baldy Ra	1.13	20	P	Pb	18 30 43.4	-2.0
	baz=200,SNR=48						
BFSC				S	Sg	18 30 58.6	-2.3
	baz=200						
OLP	Otay Lakes Par	1.15	119		Pb	18 30 44.5	-1.1
SNCC	San Nicolas Is	1.18	274	Pg	Pb	18 30 44.0	-2.3
SNCC				IAML		18 31 05.9	
	comp=E,128nm,0.7s						
SNCC				IAML		18 31 06.7	
	comp=N,122nm,0.4s						
SNCC	San Nicolas Is	1.18	274	P	Pb	18 30 44.5	-1.8
	baz=96						
SNCC				S	Sb	18 31 01.8	+0.4
	baz=96						
CRY	Cary Ranch	1.22	71		Pb	18 30 45.6	-1.3
BAR	Barrett	1.31	112	Pn	Pn	18 30 46.7	-1.2
MONP2	Monument Peak	1.45	101	P	Pn	18 30 49.1	-0.8
	baz=279,SNR=20						
MONP2				S	Sn	18 31 07.7	-1.0
	baz=279						
PFO	Pinyon Flats O	1.45	72	P	Pn	18 30 49.3	-0.6
	baz=251,SNR=25						
PFO				S	Sn	18 31 07.8	-0.9
	baz=251						
BBRC	Big Bear Solar	1.47	42	Sg	Sb	18 31 10.8	+0.9
	baz=222						
CBX	Cerro Bola	1.49	125		Pn	18 30 49.6	-0.8
SCZ2	Santa Cruz Isl	1.51	303	P	Pn	18 30 49.2	-1.4
	baz=125						
SCZ2				Sg	Sb	18 31 13.1	+2.3
	baz=125						
OSI	Osito Audit: C	1.52	341	P	Pn	18 30 49.4	-1.4
	baz=162						
OSI				Sg	Sb	18 31 12.5	+1.3
	baz=162						
PMD	Palm Desert	1.53	71	Pn	Pn	18 30 50.4	-0.4
PMD				IAML		18 31 15.3	
	comp=N,68nm,0.5s						
PMD				IAML		18 31 15.4	
	comp=E,68nm,0.2s						
EDW2	Edwards Air Fo	1.71	3	P	Pn	18 30 52.2	-1.2
	baz=184						
EDW2				Sg	Sb	18 31 18.3	+1.8
	baz=184						
IKP	In-Ko-Pah, Jac	1.77	107	P	Pn	18 30 54.2	0.0
	baz=286						
IKP				S	Sn	18 31 16.5	+0.2
	baz=286						
THC	Tehachapi Micr	1.79	345		Pn	18 30 54.1	-0.6
RMX	La Rumorosa	1.81	108		Pn	18 30 55.7	+0.9
RMX	La Rumorosa	1.81	108	IAML		18 31 24.6	
	comp=N,136nm,0.2s						
RMX				IAML		18 31 24.8	
	comp=E,131nm,0.3s						
YUH	Yuha Desert	1.92	105	Pn	Pn	18 30 56.2	0.0
YUH				IAML		18 31 25.3	
	comp=N,57nm,0.5s						
YUH				IAML		18 31 26.4	
	comp=E,56nm,0.3s						
RRX	Edison Barstow	1.94	28	Sg	Sb	18 31 25.3	+2.2
	baz=209						
BELC	Belle Mtn. Jos	1.95	64	Pg	Pb	18 31 00.2	+0.8
	baz=244,SNR=43						
SWSC	Sam W. Stewart	1.96	96	Pb	Pn	18 30 58.8	+2.0
	baz=276						
TPC	Twentynine Pal	1.96	61		Pb	18 31 00.3	+0.7
CCAC	Calif City Air	1.98	2		Pn	18 30 58.0	+0.9
CCAC				IAML		18 31 39.7	
	comp=N,56nm,1.1s						
ARVC	Arvin	2.04	343	Pg	Pb	18 31 01.7	+0.9
	baz=164						
BCW	Bitter Crk WRg	2.07	329	Pn	Pn	18 30 58.4	+0.1
ESJX	Sierra Juarez	2.17	122		Pn	18 30 59.9	+0.1
ESJX				IAML		18 32 06.6	
	comp=E,58nm,0.1s						
ESJX				IAML		18 32 08.3	
	comp=N,62nm,0.1s						
HEC	Hector,Ludlow	2.22	41	Pg	Pb	18 31 05.0	+1.1
	baz=222,SNR=5.8						
BC3	Big Chuckawall	2.28	77	Pg	Pb	18 31 06.2	+1.2
	baz=257,SNR=13						
GSC	Goldstone, Bar	2.38	27	Pn	Pn	18 31 04.2	+1.5
GSC				IAML		18 31 41.8	
	comp=N,42nm,0.6s						
GSC				IAML		18 31 42.6	
	comp=E,40nm,0.8s						
GSC	Goldstone, Bar	2.38	27	Pg	Pb	18 31 08.1	+1.3
	baz=207						
ISA	Isabella, Lake	2.50	353	Pn	Pn	18 31 04.0	-0.3
ISA	Isabella, Lake	2.50	353	Pg	Pb	18 31 10.1	+1.3
	baz=174						
GMRC	Granite Mounta	2.60	51		Pn	18 31 08.8	+3.2
GMRC	Granite Mounta	2.60	51	Pg	Pb	18 31 11.6	+1.1
	baz=232						
VTX	Valle De La Tr	2.66	131		Pb	18 31 12.2	+0.8
IRM	Iron Mountain	2.67	68	P	Pn	18 31 05.8	-0.7
	baz=248,SNR=13						
MPMC	Manual Prospec	2.92	10	Pg	Pb	18 31 18.6	+2.5
	baz=191						
GWY	Greenwater Val	3.23	21		Pb	18 31 23.8	+2.5
GWY				IAML		18 32 08.6	
	comp=N,17nm,1.6s						
GWY				IAML		18 32 09.8	
	comp=E,29nm,0.5s						
GRAC	Grapevine Rang	3.86	9		Pn	18 31 23.5	+0.5
GRAC				IAML		18 31 55.9	
	comp=E,19nm,0.6s						
GRAC				IAML		18 32 40.8	
	comp=N,18nm,2.5s						
W13A	Hualapai Mount	4.00	60	Pn	Pn	18 31 25.6	+0.5
W13A				IAML		18 32 34.1	
	comp=N,11nm,2.5s						
W13A				IAML		18 33 09.4	
	comp=E,18nm,0.1s						
TPNV	Topopah Spring	4.07	22	Pn	Pn	18 31 25.8	-0.1
TPNV				IAML		18 32 29.3	
	comp=E,14nm,5.0s						
TPNV				IAML		18 32 36.7	
	comp=E,16nm,4.2s						

IDC ***04*** *18:31:38.9±14.0, 4°.16S×125°.99E, h250^{km}±156^{km}, mb3.0/3, mbtmp3.7/4, Error ellipse: s-maj=141.2km s-min=44.4km az=62.0*
DJA ***04*** *18:31:44.2±0.4, 4°S±5°×12°6E±°, h322^{km}±8^{km}, M3.8/11, mb3.7/7, mB4.4/1, MLv3.8/11, Mw(mB)3.5/1*
ISC 04 18:31:44.6±1.1**, 4°.3S**±0°.1×**126°.2E**±0°.1**, h300**^{km}**, n12, σ1s.46**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.43	41	P	Pn	18 32 29.7	+2.4
SANI	Sanana	2.27	356	P	Pn	18 32 35.1	+1.5
BNDI	Bandanaira	3.73	93	P	Pn	18 32 49.1	+1.1
LBMI	Labuha	3.90	20	P	Pn	18 32 51.2	+1.4
TNTI	Ternate	5.20	13	P	Pn	18 33 05.0	+0.4
	15nm,0.7s,599nm0.1nm						
SWI	Sorong	6.14	56	P	Pn	18 33 16.6	+0.9
	14nm,0.9s,0.1nm						
SIJI	Sorong	6.14	56	P	Pn	18 33 17.0	+1.3
	7.4nm,1.1s,0.1nm						
FAKI	Fak Fak	6.23	77	P	Pn	18 33 16.1	-0.6
	46nm,0.7s,0.2nm						
WRA	Warramunga Arr	17.45	154	P	P	18 35 28.4	-0.1
	2.1nm,0.5s,baz=331,slow=12,SNR=34						
ASAR	Alice Springs	20.63	159	P	P	18 36 02.0	0.0
	0.8nm,0.6s,baz=344,slow=13,SNR=19						
	0.8nm,0.6s						
STKA	Stephens Creek	31.00	154	P	P	18 37 35.3	+0.4
	1.0nm,0.5s,baz=356,slow=8.9,SNR=3.0						
	1.0nm,0.5s						
MKAR	Makanchi Array	63.93	328	P	P	18 41 44.0	-2.2
	0.2nm,0.4s,baz=128,slow=7.9,SNR=8.7						
	0.2nm,0.4s						

OMAN 04 18:56:25.1±0.3**, 25°.32N**×**64°.72E, h10**^{km}**, mb4.4**/10**, Error ellipse: s-maj=7.1km s-min=3.9km az=351.0, Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	Negor - Chabah	3.24	271	P	Pn	18 57 16.3	+0.2
	SNR=32						
JLN	Jalan Bani Buh	5.80	238	P	Pn	18 57 50.9	-0.4
JLN				S	Sn	18 58 59.6	+1.7
WBK	Wadi Bani Khal	5.91	244	P	Pn	18 57 52.8	0.0
WBK				S	Sn	18 59 01.9	+1.2
WSAR	Wadi Sarin	5.93	251	P	Pn	18 57 53.1	0.0
WSAR				S	Sn	18 59 01.4	+0.3
JASK	Jask - Hormozg	6.21	276	P	Pn	18 57 57.0	+0.1
	SNR=7.9						
BIDO	Bidbid	6.27	255	P	Pn	18 57 58.2	+0.5
BIDO				S	Sn	18 59 10.6	+1.1
SMDO	Samad	6.49	251	P	Pn	18 58 00.9	0.0
SMDO				S	Sn	18 59 15.7	+0.5
JMDO	Jabal Madar	6.73	246	P	Pn	18 58 04.8	+0.7
JMDO				S	Sn	18 59 24.4	+3.6
BSY	Bisya	7.34	251	P	Pn	18 58 13.8	+1.4
BSY				S	Sn	18 59 38.3	+2.5
SOHO	SOHO	7.54	263	P	Pn	18 58 13.6	-1.5
SOHO				S	Sn	18 59 40.1	-0.6
MHTO	MHTO	7.56	237	P	Pn	18 58 15.8	+0.3
MHTO				S	Sn	18 59 41.6	+0.3
BANOM	Banah	7.62	276	P	Pn	18 58 16.2	-0.2
BANOM				S	Sn	18 59 41.9	-1.0
ARQ	Araqi	7.73	257	P	Pn	18 58 19.9	+2.1
ARQ				S	Sn	18 59 50.1	+4.6
MASF	Masafi	7.75	272	P	Pn	18 58 17.1	-1.0
SHME	Shamm	7.77	277	P	Pn	18 58 17.8	-0.6
HATD	Hatta, Dubai	7.80	268	P	Pn	18 58 17.9	-0.9
HATD				S	Sn	18 59 46.7	-0.5
ASHO	Ashiyiah	7.88	267	P	Pn	18 58 19.4	-0.6
	SNR=7.4						
ASHO				S	Sn	18 59 48.9	-0.4
FAQ	Al Faqa, Dubai	8.30	268	P	Pn	18 58 25.4	-0.2
	SNR=7.5						
FAQ				S	Sn	19 00 01.7	+2.2
ASUD	Al Ashush, Dub	8.55	267	P	Pn	18 58 30.3	+1.3
	SNR=5.1						

CATAC ***04*** *19:11:27.9±0.8, 7°.23N×82°.34W, h10^{km}, ML3.7*
UPA ***04*** *19:11:27.7±1.1, 7°.05N×82°.44W, h40^{km}±12^{km}, ML4.1*
ISC 04 19:11:27.2±3.5**, 7°.1N**±0°.1×**82°.39W**±0°.05**, h23**^{km}±26^{km}**, n24, σ0s.91**/41**, 1C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	1.23	337	*e*P	Pn	19 11 48.4	-0.7
PTPM				*e*S	Sn	19 12 03.3	-1.6
DVD	David	1.36	357	*e*P	Pn	19 11 50.3	-0.5
CCOL	Caracol de Cor	1.45	336	*i* P	Pn	19 11 51.8	-0.3
CCOL				IAML		19 11 52.5	
	comp=Z,970nm,1.0s						
CACAO	El Cacao, Vera	1.54	80	*e*P	Pn	19 11 53.0	-0.3
CACAO				*e*S	Sn	19 12 11.0	-1.6
CDITO	Canoas	1.57	342	*i* P	Pn	19 11 53.2	-0.5
CDITO				AMP		19 11 54.9	
	comp=Z,2µm,0.2s						
CDITO				*e*S	Sn	19 12 12.3	-1.1
PIRO	Carate, Puerto	1.63	325	*i* P	Pn	19 11 53.6	-0.9
PIRO				IAML		19 11 55.7	
	comp=Z,640nm,1.0s						
BCO2	Palmira	1.65	355⇑	*e*P	Pn	19 11 54.6	-0.3
BCO2				*e*S	Sn	19 12 15.1	-0.4
BRU2	Volcan	1.74	350	*e*P	Pn	19 11 56.0	-0.2
BRU2				*e*S	Sb	19 12 20.1	-0.2
BRU2	Volcan	1.74	350	*i* P	Pn	19 11 55.7	-0.5
BRU2				*i* S	Sn	19 12 17.1	-0.7
BRU2				IAML		19 12 30.5	
	comp=Z,530nm,1.0s						
SFRA3	San Francisco,	1.83	50	*e*P	Pn	19 11 57.5	+0.2
SFRA3				*e*S	Sn	19 12 19.7	-0.1
CTCR	Cotoan	1.86	349	*i* P	Pn	19 11 57.3	-0.5
CTCR				*i* S	Sn	19 12 19.0	-1.7
CTCR				IAML		19 12 23.4	
	comp=Z,3µm,1.0s						
CHGR2	Aguacate	1.88	7	*e*P	Pn	19 11 58.3	+0.4
CHGR2				*e*S	Sn	19 12 20.5	-0.4
SAFE3	Santa Fe, Vera	1.94	42	*e*P	Pn	19 11 59.5	+0.7
SAFE3				*e*S	Sn	19 12 23.1	+0.7
PESE3	Pese, Herrera	1.95	64	*e*P	Pn	19 11 58.9	0.0
PESE3				*e*S	Sn	19 12 23.4	+0.7
POTG	Potrero Grande	2.10	340	*i* P	Pn	19 12 01.5	+0.4
POTG				IAML		19 12 02.3	
	comp=Z,2µm,1.0s						
POTG				*i* S	Sn	19 12 28.1	+1.5
CHIT3	Chitre	2.14	65	*e*P	Pn	19 12 02.0	+0.4
CHIT3				*e*S	Sn	19 12 27.2	-0.2
SRBA	San Rafael, Bu	2.36	336	*i* P	Pn	19 12 04.7	0.0
SRBA				IAML		19 12 05.6	
	comp=Z,260nm,1.0s						
SRBA				*i* S	Sn	19 12 31.7	-1.3
OCHAL	Ojochal	2.37	328	*i* P	Pn	19 12 04.9	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OCHAL				IAML		19 12 06.7	
	comp=Z,9.0nm,1.0s						
CDM	Cerro de Muert	2.82	331	*i* P	Pn	19 12 11.9	+0.6
CDM				IAML		19 12 13.5	
	comp=Z,200nm,1.0s						
LCR2	La Lucha 2	3.10	329	*i* P	Pn	19 12 15.8	+0.8
LCR2				IAML		19 12 16.1	
	comp=Z,130nm,1.0s						
LCR2				*i* S	Sn	19 12 52.9	+1.4
TBLN	Tablon, Guarco	3.17	330	*i* P	Pn	19 12 17.0	+1.1
TBLN				*i* S	Sn	19 12 54.3	+1.2
TBLN				IAML		19 12 59.7	
	comp=Z,130nm,1.0s						
OCM	Ochomogo	3.21	331	*i* P	Pn	19 12 17.2	+0.7
OCM				IAML		19 12 19.3	
	comp=Z,150nm,1.0s						
OCM				*i* S	Sn	19 12 55.4	+1.2
HAYA	Volcan Irazu	3.23	334	*i* P	Pn	19 12 19.1	+2.1
HAYA				IAML		19 12 20.7	
	comp=Z,210nm,1.0s						
JACO	JACO, Garabito	3.42	319	*i* P	Pn	19 12 18.8	-0.4
JACO				IAML		19 14 12.6	
	comp=Z,140nm,1.0s						

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*IDC **04** 19:29:45.9±1.0, 18°.86N×147°.12E, h0km, mb3.8/12, mbtmp3.8/14, ML3.9/1, Error ellipse: s-maj=34.4km s-min=16.4km az=92.0*
*NEIC **04** 19:29:53.1±1.1, 18°.93N±0°.08×146°.9E±0°.2, h35km±1km, mb4.4/44, Error ellipse: s-maj=34.6km s-min=6.4km az=290.0*
ISC 04 19:29:52.3±0.8**, 18°.90N**±0°.07×**146°.9E**±0°.2**, h37km, n66, σ0s.89**/64**, mb4.4**/34**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	5.64	201	Pn	Pn	19 31 15.8	+2.1
GUMO	Guam	5.64	201	Pn	Pn	19 31 13.2	-0.5
	3.5nm,0.3s,baz=51,slow=12,SNR=1.5						
GUMO				Sn	Sn	19 32 17.0	-0.2
	0.9nm,0.3s,baz=203,slow=21,SNR=1.3						
	118nm,1.0s						
H11S3	WAKE ISLAND Hy	18.72	88	T	T	19 53 15.3	
	baz=275,slow=74,SNR=10						
H11S1	WAKE ISLAND Hy	18.73	88	T	T	19 53 17.6	
	baz=275,slow=74,SNR=11						
H11S2	WAKE ISLAND Hy	18.74	88	T	T	19 53 18.2	
	baz=275,slow=74,SNR=7.6						
MJAR	Matsushiro Arr	19.17	338	P	P	19 34 12.8	+0.1
	1.3nm,0.9s,baz=159,slow=11,SNR=3.4						
KSRS	Korea Array	24.86	322	P	P	19 35 10.7	-0.6
	0.9nm,0.7s,baz=153,slow=9.1,SNR=3.8						
	0.9nm,0.7s						
KLR	Kul'dur	32.63	341	P	P	19 36 21.0	+0.5
	1.0nm,0.5s,baz=181,slow=3.2,SNR=6.0						
	1.0nm,0.5s						
WB0	Warramunga Arr	40.35	198	P	P	19 37 26.0	-0.6
WB0				IAmb	IAmb	19 37 32.2	
	comp=Z,7.7nm,1.3s						
WRAB	Tennant Creek	40.52	198	P	P	19 37 27.5	-0.5
WB2	Warramunga Arr	40.53	198	P	P	19 37 27.7	-0.4
WB2				IAmb	IAmb	19 37 39.1	
	comp=Z,6.4nm,1.1s						
WRA	Warramunga Arr	40.53	198	P	P	19 37 28.4	+0.3
WRA	Warramunga Arr	40.53	198	P	P	19 37 27.4	-0.7
	comp=Z,0.7nm,0.7s,baz=18,slow=8.4,SNR=6.0						
	comp=Z,0.7nm,0.7s						
SONM	Songino Array	43.72	321	P	P	19 37 54.4	+0.4
	comp=Z,0.3nm,0.3s,baz=128,slow=7.7,SNR=5.2						
	comp=Z,0.3nm,0.3s						
ASAR	Alice Springs	44.18	197	P	P	19 37 56.3	-1.5
	comp=Z,0.4nm,0.8s,baz=17,slow=9.1,SNR=7.1						
	comp=Z,0.4nm,0.8s						
BBOO	Buckleboo	52.46	192	P	P	19 39 01.9	+0.5
F15K	North Star Dit	56.42	22	P	P	19 39 31.5	+1.7
F15K				IAmb	IAmb	19 40 04.1	
	comp=Z,6.8nm,1.2s						
K17K	Iditarod	57.49	27	P	P	19 39 38.0	+0.6
C16K	Lisburne Hills	57.59	19	P	P	19 39 38.4	+0.3
H17K	Granite Mounta	57.78	24	P	P	19 39 40.7	+1.2
H17K				IAmb	IAmb	19 40 09.1	
	comp=Z,6.7nm,1.3s						
F17K	Baldwin Pennin	57.99	22	P	P	19 39 41.3	+0.4
SVW2	Sparrevohn	58.09	29	P	P	19 39 43.1	+1.4
H18K	Honhosa River	58.47	24	P	P	19 39 44.7	+0.4
H18K				IAmb	IAmb	19 39 45.7	
	comp=Z,3.2nm,1.1s						
ZALV	Zalesovo Beam	58.57	322	P	P	19 39 44.9	-0.2
	comp=Z,0.7nm,0.5s,baz=106,slow=9.3,SNR=5.1						
	comp=Z,0.7nm,0.5s						
G18K	Tagagawik	58.68	23	P	P	19 39 46.5	+0.8
E18K	Tukpahlearik C	58.68	21	P	P	19 39 46.9	+1.1
E18K				IAmb	IAmb	19 40 12.0	
	comp=Z,5.5nm,1.5s						
C18K	Utukok River	59.09	20	P	P	19 39 49.4	+0.7
C18K				IAmb	IAmb	19 40 13.7	
	comp=Z,5.7nm,1.4s						
MK31	Makanchi Array	59.16	314	P	P	19 39 49.8	+0.3
MKAR	Makanchi Array	59.16	314	P	P	19 39 49.7	+0.2
MKAR	Makanchi Array	59.16	314	P	P	19 39 50.0	+0.6
	comp=Z,0.9nm,0.6s,baz=86,slow=7.8,SNR=13						
	comp=Z,0.9nm,0.6s						
H19K	Roundabout Mou	59.35	24	P	P	19 39 52.0	+1.6
H19K				IAmb	IAmb	19 40 04.7	
	comp=Z,4.3nm,1.2s						
G19K	Purcell Mounta	59.36	23	P	P	19 39 51.2	+0.7
G19K				IAmb	IAmb	19 39 52.4	
	comp=Z,3.0nm,1.0s						
MAKZ	Makanchi	59.38	314	P	P	19 39 51.3	+0.3
MAKZ				IAmb	IAmb	19 39 53.4	
	comp=Z,2.1nm,0.6s						
K20K	Telida	59.52	27	P	P	19 39 52.6	+1.0
CNPM	China Poot	59.68	31	P	P	19 39 53.0	+0.2
J20K	Nowinta River	59.77	26	P	P	19 39 54.9	+1.6
C19K	Lookout Ridge	59.82	19	P	P	19 39 54.5	+0.8
C19K				IAmb	IAmb	19 39 56.2	
	comp=Z,4.2nm,1.1s						
BRLK	Bradley Lake	59.91	31	P	P	19 39 53.5	-0.9
CAST	Castle Rocks	60.39	27	P	P	19 39 58.3	+0.7
CAST				IAmb	IAmb	19 39 59.5	
	comp=Z,5.5nm,1.3s						
H21K	Melozitna Rive	60.81	24	P	P	19 40 01.5	+1.0
H21K				IAmb	IAmb	19 40 35.8	
	comp=Z,3.0nm,1.3s						
KTH	Kantishna Hill	60.92	27	P	P	19 40 01.9	+0.6
B20K	Meade River	61.00	19	P	P	19 40 01.9	+0.3
B20K				IAmb	IAmb	19 40 03.9	
	comp=Z,3.5nm,1.0s						
BPAW	Bear Paw Mtn.	61.06	26	P	P	19 40 02.4	+0.3
BPAW				IAmb	IAmb	19 40 04.3	
	comp=Z,1.8nm,0.8s						
MLY	Manley	61.43	25	P	P	19 40 05.9	+1.2
B21K	Ikpikpuk River	61.63	20	P	P	19 40 06.7	+0.8
B21K				IAmb	IAmb	19 40 22.7	
	comp=Z,6.7nm,1.4s						
KURBB	Kurchatov Arra	61.95	318	P	P	19 40 08.5	+0.1
	comp=Z,1.2nm,0.5s,baz=96,slow=7.2,SNR=9.9						
	comp=Z,1.2nm,0.5s						
D22K	Ayikyak River	61.99	21	P	P	19 40 09.4	+1.1
D22K				IAmb	IAmb	19 40 27.6	
	comp=Z,3.6nm,1.2s						
B22K	Teshekpuk Lake	62.30	19	P	P	19 40 10.9	+0.6
MDM	Murphy Dome	62.44	26	P	P	19 40 12.5	+1.1
H24K	Noodor Dome	62.81	25	P	P	19 40 14.5	+0.6
H24K				IAmb	IAmb	19 40 14.8	
	comp=Z,3.5nm,1.2s						
ILAR	Eielson Array	62.95	26	P	P	19 40 13.8	-1.0
	comp=Z,0.3nm,0.5s,baz=255,slow=6.1,SNR=5.7						
	comp=Z,0.3nm,0.5s						
TOLK	Toolik Lake Re	62.97	22	P	P	19 40 15.8	+0.8
C23K	Itkillik River	63.01	20	P	P	19 40 16.0	+0.9
C23K				IAmb	IAmb	19 40 24.7	
	comp=Z,5.5nm,1.5s						
SCRK	Sand Creek	64.02	27	P	P	19 40 22.6	+0.6
SCRK				IAmb	IAmb	19 40 43.2	
	comp=Z,4.3nm,1.3s						
BMAR	Burnt Mountain	64.47	23	P	P	19 40 26.1	+1.3
I28M	Miner Creek	65.96	26	P	P	19 40 34.9	+0.3
K29M	Barlow Dome	66.84	28	P	P	19 40 41.6	+1.3
K29M				IAmb	IAmb	19 40 54.2	
	comp=Z,4.1nm,1.3s						
BVAR	Borovoye Array	67.06	320	P	P	19 40 42.0	+0.3
	comp=Z,1.4nm,0.4s,baz=91,slow=7.7,SNR=22						
	comp=Z,1.4nm,0.4s						
BRVK	Borovoye	67.12	320	P	P	19 40 42.4	+0.3
KKAR	Karatay Array	67.54	310	P	P	19 40 45.7	+0.7
KKAR	Karatay Array	67.54	310	P	P	19 40 45.2	+0.3
G31M	Satah River	68.38	25	P	P	19 40 50.0	+0.2
G31M				IAmb	IAmb	19 41 22.0	
	comp=Z,6.3nm,1.5s						
ABKAR	Akbulak array	73.98	317	P	P	19 41 23.0	-1.0
YKA	Yellowknife Ar	77.26	28	P	P	19 41 41.7	-0.8
	comp=Z,0.3nm,0.7s,baz=290,slow=5.2,SNR=3.8						
	comp=Z,0.3nm,0.7s						
FINES	FINESS Array B	87.18	336	P	P	19 42 32.5	-1.9
FINES	FINESS Array B	87.18	336	P	P	19 42 33.3	-1.1
	comp=Z,1.0nm,0.5s,baz=130,slow=6.0,SNR=4.5						
	comp=Z,1.0nm,0.5s						

IDC 04 19:30:10.7±2.9**, 30°.86N**×**139°.70E, h0km, mb3.2**/2**, mbtmp3.2**/3**, ML2.5**/1**, Error ellipse: s-maj=114.7km s-min=29.5km az=77.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	5.80	348	Pn	Pn	19 31 37.4	-0.6
	0.1nm,0.3s,baz=172,slow=14,SNR=14						
	1.6nm,0.5s						
MKAR	Makanchi Array	46.44	307	P	P	19 38 39.2	+0.1
	0.2nm,0.7s,baz=92,slow=11,SNR=1.7						
	0.2nm,0.7s						
WRA	Warramunga Arr	50.77	187	P	P	19 39 12.6	-0.2
	0.1nm,0.2s,baz=5.8,slow=7.7,SNR=7.8						
	0.1nm,0.2s						

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*SNET **04** 19:50:04.9±1.0, 12°.70N×88°.41W, h13km±8km, ML2.7*
*CATAC **04** 19:50:04.2±0.9, 12°.72N×88°.41W, h26km±7km, ML3.0*
ISC 04 19:50:03.2±2.3**, 12°.6N**±0°.1×**88°.44W**±0°.05**, h23km**±15km**, n16, σ0s.42**/28**, 1C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.70	349	*i* P	Pb	19 50 17.1	+0.4
ALJI				*i* S	Sb	19 50 26.7	+0.8
ALJI				IAML		19 50 34.5	
	comp=Z,560nm,1.0s						
PACA	Pacayal	0.83	8	*e*P	Pn	19 50 19.8	+0.2
PACA				*e*S	Sb	19 50 30.4	+0.5
PACA	Pacayal	0.83	8	*i* P	Pn	19 50 19.6	0.0
PACA				*i* S	Sb	19 50 30.3	+0.4
PACA				IAML		19 50 31.4	
	comp=Z,3μm,1.0s						
LCND	La Caada	0.85	39	*e*P	Pn	19 50 20.0	+0.3
LCND				*e*S	Sn	19 50 31.4	-0.2
LCND				IAML		19 50 33.7	
	comp=Z,197nm,0.3s						
LCND	La Caada	0.85	39	*i* P	Pb	19 50 19.1	-0.2
LCND				IAML		19 50 20.4	
	comp=Z,220nm,1.0s						
LCND				*i* S	Sb	19 50 30.0	-0.4
CNCH	Conchagua	0.86	43	*e*P	Pb	19 50 20.0	+0.3
CNCH				*e*S	Sn	19 50 32.1	+0.1
CNCH				IAML		19 50 33.0	
	comp=Z,460nm,0.2s						
CNCH	Conchagua	0.86	43	*i* P	Pb	19 50 19.9	+0.3
CNCH				*i* S	Sn	19 50 31.6	-0.4
CNCH				IAML		19 50 32.8	
	comp=Z,570nm,1.0s						
CSGN	Cosiguina Volc	0.92	69	⇑*i*P	Pb	19 50 20.2	-0.3
CSGN				IAML		19 50 39.0	
	comp=Z,880nm,1.0s						
TECO	Alcaldia de Te	0.95	339	*i* P	Pb	19 50 20.8	-0.3
TECO				*i* S	Sb	19 50 32.5	-0.8
TECO				IAML		19 50 34.6	
	comp=Z,100nm,1.0s						
AMPH	Amapala	0.99	50	*e*P	Pb	19 50 21.6	-0.2
AMPH				*e*S	Sb	19 50 34.5	+0.1
AMPH	Amapala	0.99	50	*i* P	Pb	19 50 21.5	-0.2
AMPH				*i* S	Sb	19 50 34.2	-0.2
UESV	Universidad de	1.05	341	*i* P	Pb	19 50 22.5	-0.2
UESV				*i* S	Sb	19 50 36.1	+0.1
UESV				IAML		19 50 43.4	
	comp=Z,210nm,1.0s						
PAVA	Las Pavas	1.17	336	*i* S	Sb	19 50 38.9	-0.8
CRIN	San Cristobal	1.35	87	*e*P	Pn	19 50 27.1	+0.4
CRIN				*e*S	Sn	19 50 44.4	+0.3
JAYA	Jayaque - finc	1.41	316	*e*S	Sn	19 50 45.8	+0.2
YUSH	Yuscaran	2.03	50	*i* P	Pn	19 50 35.6	-0.4

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*SOME **04** 19:53:51.4, 39°.40N×74°.30E, h0km*
*IDC **04** 19:53:53.1±2.9, 38°.63N×73°.68E, h96km±26km, mb3.7/8, mbtmp4.1/14, MS2.3/1, Error ellipse: s-maj=27.9km s-min=21.0km az=116.0*
*NEIC **04** 19:53:54.5±0.9, 38°.67N±0°.06×73°.65E±0°.10, h110km±10km, mb4.3/14, Error ellipse: s-maj=11.7km s-min=7.5km az=112.0*
*NNC **04** 19:53:56.0±7.0, 38°.84N×73°.58E, h155km±112km, mb3.3, mpv4.2, Error ellipse: s-maj=71.7km s-min=44.0km az=1.0*
ISC 04 19:53:52.5±0.5**, 38°.56N**±0°.04×**73°.65E**±0°.04**, h107km, n95, σ2s.03**/123**, mb4.2**/13**, 6C-4D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	2.05	61	P	Pn	19 54 21.9	-4.1
KSH				S	Sn	19 54 41.6	-10
KSH				pmax	pmax		
	comp=Z,93nm,0.6s						
KSH				smax	smax		
	comp=N,6μm,0.5s						
KSH				smax	smax		
	comp=E,3μm,0.5s						
BTK	Batken	2.66	305	Pn	Pn	19 54 35.7	+1.8
ARSB	Arslanbob	2.81	350	Pn	Pn	19 54 36.4	+0.3
AML	Almayashu	3.57	1	P	Pn	19 54 47.1	+0.8
	SNR=841						
AML	Almayashu	3.57	1	⇑P	Pn	19 54 46.9	+0.6
	comp=E,8.4nm,0.5s						
AML				⇑S	Sn	19 55 27.0	-0.9
	comp=E,22nm,0.7s						
SIMJ	Simiganj	3.64	273	Pn	Pn	19 54 47.4	+0.4
SIMJ				Sn	Sn	19 55 28.1	-1.0
KZA	Kyzart	3.73	19	P	Pn	19 54 49.1	+0.7
	SNR=154						
UCH	Uchtor	3.73	10	P	Pn	19 54 49.7	+1.2
	SNR=201						
EKS2	Erkin-Say	4.10	1	P	Pn	19 54 54.5	+1.3
	SNR=328						
AAK	Ala-Archa	4.13	9	P	Pn	19 54 55.0	+1.4
	SNR=91						
AAK	Ala-Archa	4.13	9		Pn	19 54 54.8	+1.2
AAK	Ala-Archa	4.13	9	P	Pn	19 54 55.0	+1.4
	comp=E,64nm,0.5s,baz=174,slow=6.8,SNR=219						
AAK				S	Sn	19 55 39.4	-1.5
	comp=E,60nm,0.7s,baz=144,slow=17,SNR=7.7						
AAK				LR	LR	19 56 04.4	
	comp=E,44nm,20.9s,baz=312,slow=32						
ULHL	Ulahol	4.18	27	P	Pn	19 54 55.2	+0.9
	SNR=183						
MRKS	Merke	4.20	356	*e*P	Pn	19 54 56.0	+1.6
	comp=E,140nm,0.4s						
MRKS				*e*S	Sn	19 55 42.6	0.0
	comp=E,108nm,0.3s						
KBK	Karagaybulak	4.21	13	P	Pn	19 54 56.2	+1.5
	SNR=42						
FRU1	Bishkek	4.32	10	Pn	Pn	19 54 57.2	+1.2
TARG	Taragay, Kyrgy	4.49	44	Pn	Pn	19 54 59.8	+1.0
CHMS	Chumysh	4.52	10	P	Pn	19 55 00.0	+1.3
	SNR=31						
CHMS	Chumysh	4.52	10	⇓P	Pn	19 54 59.2	+0.5
	comp=E,37nm,0.4s						
CHMS				⇓S	Sn	19 55 54.6	+4.5
	comp=E,17nm,0.7s						
TKM2	Tokmak 2	4.61	18	P	Pn	19 55 01.3	+1.2
	SNR=75						
TKM2	Tokmak 2	4.61	18	⇓P	Pn	19 55 01.1	+1.1
	comp=E,27nm,0.5s						
TKM2				⇑S	Sn	19 55 51.7	-0.8
	comp=E,65nm,0.8s						
DZA	Taraz	4.68	339	*e*P	Pn	19 55 01.0	+0.1
	baz=338						
DZA				*e*S	Sn	19 55 53.3	-0.7
	baz=338						
USP	Ospenovka	4.75	8	P	Pn	19 55 02.7	+0.9
	SNR=25						
KST	Kastek	4.81	21	*e*P	Pn	19 55 04.2	+1.4
	comp=E,138nm,0.4s						
KST				*e*S	Sn	19 55 56.4	-1.1
	comp=E,149nm,0.4s						
CHM	Chimkent	4.86	322	*e*P	Pn	19 55 03.8	+0.4
	baz=321						
NIL	Nilore	4.91	184	Pn	Pn	19 55 07.2	+3.1
SGDS	Sogindy	4.95	8	*e*P	Pn	19 55 04.6	+0.1
	baz=8.5						
DGS	Degeres	4.95	18	*e*P	Pn	19 55 05.9	+1.3
	comp=E,94nm,0.5s						
DGS				*e*S	Sn	19 55 59.5	-1.2
	comp=E,48nm,0.7s						
MTBS	Maitube	5.03	24	*e*P	Pn	19 55 07.1	+1.4
	comp=E,54nm,0.4s						
MTBS				*e*S	Sn	19 56 01.4	-1.3
	comp=E,38nm,0.4s						
KK31	Karatay Array	5.13	333	⇑P	Pn	19 55 07.6	+0.6
	comp=E,27nm,0.3s,baz=135,slow=12,SNR=1754						
KK31				⇓S	Sn	19 56 02.8	-2.1
	comp=E,119nm,0.9s,baz=143,slow=21						
KK31	Karatay Array	5.13	333	Pn	Pn	19 55 07.5	+0.6
KK31				Sn	Sn	19 56 02.5	-2.4
KKAR	Karatay Array	5.13	333	Pn	Pn	19 55 07.4	+0.5
KKAR				Sn	Sn	19 56 02.2	-2.7
KKAR	Karatay Array	5.13	333		Pn	19 55 07.4	+0.5
KKAR				Sn	Sn	19 56 02.5	-2.4
TNSS	Tian-Shan	5.13	28	*e*P	Pn	19 55 07.8	+0.5
	baz=29						
TNSS	Tian-Shan	5.13	28	*e*P	Pn	19 55 08.3	+1.0
	comp=E,28nm,0.4s						
TNSS				*e*S	Sn	19 56 03.5	-1.9
	comp=E,14nm,0.6s						
MDOK	Medeo	5.28	28	*e*P	Pn	19 55 09.7	+0.7
	baz=29						
PRZ	Przheval'sk	5.34	41	Pn	Pn	19 55 11.5	+1.6
KBL	Kabul	5.46	224	Pn	Pn	19 55 14.6	+3.0
KUU	Kurty	5.71	20	*e*P	Pn	19 55 14.4	-0.3
	baz=20						
KUU				*e*S	Sn	19 56 18.0	-0.9
	baz=20						
SATY	Saty	5.77	37	*e*P	Pn	19 55 16.2	+0.5
	baz=38						
CHKK	Chushkaly	5.86	24	*e*P	Pn	19 55 17.3	+0.4
	baz=25						
ZHN	Zhinishke	5.86	37	*e*P	Pn	19 55 16.5	-0.5
	baz=38						
UZB	Uzynbulak	6.13	40	*e*P	Pn	19 55 19.5	-1.1
	baz=41						
SHLS	Shalkode	6.37	42	*e*P	Pn	19 55 27.7	+3.9
	baz=45						
BTLS	Baital	6.49	2	*e*P	Pn	19 55 25.5	+0.2
	baz=2.5						
DHRM	DHARAMSHALA	6.65	160	*e*P	Pn	19 55 28.2	+0.3
DHRM				*e*S	Sn	19 56 38.7	-3.7
DHRM				IAML		19 56 46.4	
	comp=E,269nm,0.2s						
DHRM				IAML		19 56 46.5	
	comp=N,268nm,0.1s						
TDK	Taldyqorghan	7.36	27	*e*P	Pn	19 55 36.9	-0.2
	baz=28						
BHK	Bhakra	7.47	161	*e*P	Pn	19 55 38.7	-0.1
BHK				*e*S	Sn	19 56 56.6	-5.5
SMLA	Simla	7.95	158	*e*P	Pn	19 55 44.2	-1.1
SMLA				*e*S	Sn	19 57 05.5	-8.1
SMLA				IAML		19 57 11.0	
	comp=N,95nm,0.2s						
SMLA				IAML		19 57 13.6	
	comp=N,109nm,0.3s						
SMLA				IAML		19 57 15.9	
	comp=E,165nm,0.4s						
SMLA				IAML		19 57 17.5	
	comp=N,152nm,0.4s						
HRA	Herat	10.08	249	Pn	Pn	19 56 15.1	+0.7
MAKZ	Makanchi	10.27	34	Pn	Pn	19 56 17.6	+0.9
NDI	New Delhi	10.28	162	*e*P	Pn	19 56 16.7	-0.2
MK31	Makanchi Array	10.40	35	Pn	Pn	19 56 18.6	+0.3
MKAR	Makanchi Array	10.40	35	Pn	Pn	19 56 18.6	+0.2
MKAR	Makanchi Array	10.40	35	P	Pn	19 56 18.8	+0.4
	comp=N,1.0nm,0.7s,baz=215,slow=15,SNR=14						
KUDL	Kundal	10.65	166	*e*P	Pn	19 56 19.9	-2.0
KUDL				*e*S	Sn	19 58 09.0	-10
SONA	Sohna	10.67	163	*e*P	Pn	19 56 20.8	-1.3
SONA				*e*S	Sn	19 58 09.7	-10
WMQ	Urumqi	11.81	59	*e*P	Pn	19 56 37.1	-0.4
ZSN	Zaisan	12.09	39	*e*P	Pn	19 56 42.2	+1.2
	baz=39						
GEYT	Alibeck	12.23	272	P	Pn	19 56 40.6	-2.3
	comp=N,3.3nm,0.3s,baz=112,slow=12,SNR=21						
GEYT				S	Sn	19 58 48.6	-8.8
	comp=N,2.0nm,0.4s,baz=90,slow=19,SNR=3.3						
GYA0B	ALIBECK ARRAY	12.23	272	Pn	Pn	19 56 40.6	-2.4
KURBB	Kurchatov Arra	12.55	14	P	Pn	19 56 45.2	-1.8
	comp=N,0.6nm,0.3s,baz=207,slow=12,SNR=5.8						
SEM	Semipalatinsk	12.74	19	*e*P	Pn	19 56 48.9	-0.9
	baz=20						
AB31	Akbulak array	14.54	322	⇑P	Pn	19 57 10.7	-2.1
	comp=N,2.9nm,0.5s,baz=129,slow=14,SNR=98						
AB31				S	Sn	19 59 46.9	-6.0
	comp=N,2.8nm,0.7s,baz=128,slow=24,SNR=8.0						
ABKAR	Akbulak array	14.54	322		Pn	19 57 11.1	-1.6
ABKAR	Akbulak array	14.54	322		Pn	19 57 11.1	-1.6
BVAR	Borovoye Array	14.65	352	P	Pn	19 57 13.2	-0.9
	comp=N,3.6nm,0.6s,baz=159,slow=13,SNR=30						
BRVK	Borovoye	14.69	352	Pn	Pn	19 57 13.5	-1.3
AKTO	Aktyubinsk	16.25	322	⇑P	Pn	19 57 34.1	-0.1
	comp=N,3.9nm,0.5s						
AKTO	Aktyubinsk	16.25	322	P	Pn	19 57 33.1	-1.2
	comp=N,3.9nm,0.4s,baz=128,slow=6.1,SNR=16						
AKTO				S	Sn	20 00 25.9	-8.4
	comp=N,3.9nm,0.5s,baz=161,slow=23,SNR=6.0						
ZAA0	Zalesovo Array	17.19	23		Pn	19 57 45.5	-0.2
ZAA0				IAmb	IAmb	19 57 45.9	
	comp=Z,8.1nm,0.5s						
ZALV	Zalesovo Beam	17.19	23		P	19 57 45.3	-0.3
ZALV	Zalesovo Beam	17.19	23	P	Pn	19 57 45.5	-0.3
	comp=Z,8.4nm,0.4s,baz=210,slow=11,SNR=73						
WSAR	Wadi Sarin	19.94	224	P	Pn	19 58 18.5	-0.1
	comp=Z,5.6nm,0.8s,baz=75,slow=6.9,SNR=7.4						
	comp=Z,5.6nm,0.8s						
ARU	Arti	20.50	336	P	P	19 58 22.1	+0.4
ARU				IAmb	IAmb	19 58 27.2	
	comp=Z,7.1nm,0.7s						
ONI	Oni	23.23	290	P	P	19 58 51.5	+1.3
KIV	Kislovodsk	23.81	293	P	P	19 58 56.0	+0.6
KIV				IAmb	IAmb	19 59 12.3	
	comp=Z,11nm,1.4s						
SONM	Songino Array	25.45	58	P	P	19 59 11.1	+0.7
	comp=Z,0.3nm,0.5s,baz=263,slow=11,SNR=1.4						
SONM				pP	pP	19 59 37.8	+2.9
	comp=Z,2.4nm,0.8s,baz=255,slow=10.0,SNR=12						
	comp=Z,0.3nm,0.5s						
PZH	PanZhiHua	26.45	109	P	P	19 59 22.3	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
HHC	Hu-ho-hao-te	29.11	73	*e*P	P	19 59 45.1	+1.9
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,4.5s						
FIA1	FINESS Array S	37.01	324	P	P	20 00 53.6	+2.3
FINES	FINESS Array B	37.01	324	P	P	20 00 53.5	+2.2
FINES	FINESS Array B	37.01	324	P	P	20 00 53.1	+1.8
	comp=Z,1.5nm,0.4s,baz=117,slow=9.4,SNR=26						
	comp=Z,1.5nm,0.4s						
ARCES	ARCESS Array B	40.09	336	P	P	20 01 17.3	+0.3
ARCES				IAmb	IAmb	20 01 57.0	
	comp=Z,9.8nm,1.2s						
ARCES	ARCESS Array B	40.09	336	P	P	20 01 18.9	+1.9
	comp=Z,4.8nm,1.0s,baz=90,slow=4.1,SNR=6.5						
	comp=Z,4.8nm,1.0s						
MDJ	Mudanjiang	41.58	63	P	P	20 01 29.9	+0.4
MDJ				pP	pP	20 01 55.6	+0.2
MDJ				sP	sP	20 02 08.6	+0.5
MDJ				PP	PP	20 03 05.9	-1.6
MDJ				PcP	PcP	20 03 26.3	+1.6
MDJ				ScP	ScP	20 07 05.9	+1.0
MDJ				PcS	PcS	20 07 18.6	+2.5
MDJ				S	S	20 07 34.8	-2.7
MDJ				sS	sS	20 08 19.5	-2.9
MDJ				SS	SS	20 10 43.0	-3.2
MDJ				ScS	ScS	20 11 22.4	+0.8
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,170nm,6.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**42.79**	**320**	P	**P**	**20 01 40.2**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=104,slow=12,SNR=11						
	comp=Z,1.1nm,0.4s						
TIXI	**Tiksi**	**43.08**	**22**	P	**P**	**20 01 42.0**	**+0.7**
NC303	**NORSAR Array S**	**43.97**	**322**	P	**P**	**20 01 49.3**	**+0.7**
NC303				IAmb	IAmb	20 02 26.9	
	comp=Z,9.8nm,1.1s						
NB2	**NORSAR Subarra**	**44.04**	**322**	P	**P**	**20 01 51.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**44.04**	**322**	P	**P**	**20 01 50.3**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=92,slow=7.8,SNR=2.4						
	comp=Z,0.4nm,0.4s						
NC204	**NORSAR Array S**	**44.27**	**322**	P	**P**	**20 01 53.3**	**+2.3**
LODK	**Lodwar**	**49.37**	**235**	P	**P**	**20 02 32.7**	**+1.3**
LODK				IAmb	IAmb	20 02 36.0	
	comp=Z,3.0nm,1.4s						
EKA	**Eskdalemuir Ar**	**52.29**	**315**	P	**P**	**20 02 54.6**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=96,slow=9.4,SNR=3.8						
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**67.86**	**269**	P	**P**	**20 04 40.9**	**+1.4**
	comp=Z,2.4nm,0.5s,baz=46,slow=5.8,SNR=36						
	comp=Z,2.4nm,0.5s						

*BJI **04** 19:57:26.1±0.0, 6°14N×95°14E, h200km, mb4.3/41, mB4.8/18*

*IDC **04** 19:57:32.5±0.7, 6°71N×95°32E, h209km±5km, mb3.7/27, mbtmp4.3/30, Error ellipse: s-maj=13.0km s-min=8.1km az=52.0*

*NDI **04** 19:57:32.6±4.5, 7°15N×95°81E, h257km±30km, mb4.8, mb4.7(NEIC)*

*NEIC **04** 19:57:33.3±2.2, 6°78N±0°09×95°26E±0°07, h215km±7km, mb4.7/50, Error ellipse: s-maj=13.9km s-min=9.1km az=195.0*

*DJA **04** 19:57:34.2±0.3, 7°N±2°×9°5E±°, h208km±3km, M5.0/55, mB5.5/29, mb5.2/55, MLv5.6/12, Mw(mB)4.9/29*

ISC 04 19:57:32.1±0.4, **6°68N**±0°04×**95°21E**±0°04, **h205**km±3km, **h206**km**:pP-P, n220,** σ1°77/234, **mb4.7**/75, **4C-2D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.25**	**130**	Pn	**Pn**	**19 58 15.5**	**+1.8**
LHMI	**Lhok Sumawe**	**2.25**	**130**	P	**Pn**	**19 58 15.8**	**+2.2**
LHMI	**Lhok Sumawe**	**2.25**	**130**	P	**Pn**	**19 58 15.6**	**+2.0**
MLSI	**Meulaboh, Aceh**	**2.68**	**154**	P	**Pn**	**19 58 18.4**	**+0.1**
KCSI	**Kotacane, Aceh**	**4.04**	**141**	P	**Pn**	**19 58 34.5**	**-0.2**
SNSI	**Sinabang, Aceh**	**4.39**	**165**	P	**Pn**	**19 58 37.1**	**-1.8**
SRIT	**Nakonsritamara**	**4.75**	**66**	Pn	**Pn**	**19 58 43.7**	**+0.3**
SRIT	**Nakonsritamara**	**4.75**	**66**	P	**Pn**	**19 58 43.8**	**+0.3**
SURA	**Surathani**	**5.03**	**60**	P	**Pn**	**19 58 47.3**	**+0.3**
PSI	**Prapat**	**5.34**	**136**	P	**Pn**	**19 58 51.4**	**+0.2**
PSI	**Prapat**	**5.34**	**136**	P	**Pn**	**19 58 51.4**	**+0.2**
	308nm,0.6s,4μm1.3nm						
SKLT	**Songkhla**	**5.39**	**85**	P	**Pn**	**19 58 51.4**	**-0.3**
SKLT	**Songkhla**	**5.39**	**85**	P	**Pn**	**19 58 51.4**	**-0.3**
	524nm,0.9s,4μm1.7nm						
RPSI	**Rantau Prapat**	**5.42**	**137**	Pn	**Pn**	**19 58 51.2**	**-0.8**
PBA	**Port Blair**	**5.51**	**334**	*e*P	**Pn**	**19 58 52.0**	**-1.2**
PBA				*e*S	**S**	**19 59 54.8**	**-2.3**
GSI	**Gunungsitoli**	**5.84**	**156**	Pn	**Pn**	**19 58 55.6**	**-1.9**
GSI	**Gunungsitoli**	**5.84**	**156**	P	**Pn**	**19 58 56.6**	**-0.8**
GSI	**Gunungsitoli**	**5.84**	**156**	P	**Pn**	**19 58 55.3**	**-2.1**
	188nm,0.5s,8μm8.1nm						
TRSI	**Tarutung**	**5.95**	**141**	P	**Pn**	**19 58 57.7**	**-1.2**
	1μm,0.8s,29μm9.8nm						
DGPR	**DIGLIPUR**	**6.83**	**341**	*e*P	**Pn**	**19 59 08.4**	**-1.8**
DGPR				*e*S	**S**	**20 00 23.3**	**-4.8**
PBSI	**Pulau Batu**	**7.36**	**155**	P	**Pn**	**19 59 16.2**	**-0.9**
	431nm,0.5s,12μm5.5nm						
BKNI	**Bangkinang**	**8.58**	**137**		**Pn**	**19 59 31.7**	**-1.2**
BKNI	**Bangkinang**	**8.58**	**137**	P	**Pn**	**19 59 32.0**	**-1.0**
BKNI	**Bangkinang**	**8.58**	**137**	P	**Pn**	**19 59 31.8**	**-1.2**
	665nm,0.9s,7μm						
PDSI	**Padang**	**9.18**	**145**	P	**Pn**	**19 59 39.1**	**-1.7**
	429nm,0.6s,14μm						
KRJI	**Kerinci**	**10.72**	**144**	P	**Pn**	**19 59 59.1**	**-1.6**
	674nm,0.6s,8μm						
TPRI	**Tanjung Pinang**	**10.91**	**121**	P	**Pn**	**20 00 03.4**	**+0.3**
	189nm,0.6s,2μm						
DSRI	**Dabo**	**11.75**	**127**	P	**Pn**	**20 00 13.8**	**+0.1**
	535nm,0.7s,5μm						
JMBI	**JAMBI**	**11.79**	**134**	P	**Pn**	**20 00 13.2**	**-1.1**
	334nm,1.1s,3μm						
CM31	**Chiang Mai Arr**	**12.26**	**17**	P	**P**	**20 00 22.4**	**-1.9**
CMAR	**Chiang Mai Arr**	**12.26**	**17**	Pn	**Pn**	**20 00 21.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**12.26**	**17**	P	**Pn**	**20 00 21.4**	**+1.3**
	21nm,0.7s,baz=205,slow=12,SNR=129						
CMAR				ScP	**ScP**	**20 08 56.9**	**-1.6**
	0.8nm,0.7s,baz=235,slow=2.3,SNR=6.0						
CHTO	**Chiang Mai**	**12.60**	**16**		**Pn**	**20 00 25.7**	**+1.2**
CHTO	**Chiang Mai**	**12.60**	**16**	P	**P**	**20 00 26.3**	**-1.7**
CHTO	**Chiang Mai**	**12.60**	**16**	P	**Pn**	**20 00 25.5**	**+1.1**
	38nm,0.8s						
UBPT	**Khong Chiam**	**13.20**	**49**		**P**	**20 00 33.5**	**-1.3**
UBPT	**Khong Chiam**	**13.20**	**49**	P	**P**	**20 00 33.7**	**-1.1**
PMBI	**Palembang**	**13.50**	**135**		**Pn**	**20 00 34.2**	**-1.5**
PMBI	**Palembang**	**13.50**	**135**	P	**Pn**	**20 00 36.9**	**+1.2**
	372nm,1.0s						
EGSI	**Enggano, Bengk**	**13.88**	**149**	P	**Pn**	**20 00 39.4**	**-1.0**
	649nm,0.4s,12μm						
PPBI	**Pangkal Pinang**	**14.00**	**128**	P	**Pn**	**20 00 42.4**	**+0.4**
	174nm,1.0s,3μm						
CRAI	**Chiangrai**	**14.37**	**20**		**P**	**20 00 48.0**	**+0.2**
PALK	**Pallekele**	**14.41**	**273**		**P**	**20 00 49.9**	**+1.6**
PALK	**Pallekele**	**14.41**	**273**	P	**P**	**20 00 50.1**	**+1.8**
	44nm,0.9s,baz=183,slow=10,SNR=19						
PALK				S	**S**	**20 03 23.3**	**-3.8**
	11nm,0.5s,baz=0.0,slow=20,SNR=2.2						
PALK	**Pallekele**	**14.41**	**273**	P	**P**	**20 00 52.7**	**+4.4**
	59nm,0.9s						
LWLI	**Liwa**	**14.60**	**143**	P	**Pn**	**20 00 49.4**	**0.0**
	636nm,0.7s,8μm						
KASI	**Kota Agung**	**15.26**	**142**	P	**Pn**	**20 00 56.8**	**-0.6**
	219nm,0.7s,4μm						
MND	**Mandalay**	**15.27**	**3**	P	**P**	**20 00 58.2**	**+0.5**
VIS	**Vishakhapatnam**	**15.96**	**314**	*e*P	**P**	**20 01 02.9**	**-2.4**
VIS				*e*S	**S**	**20 03 58.6**	**-3.9**
SLVN	**Son La**	**16.82**	**29**	P	**P**	**20 01 14.8**	**-0.1**
SLVN				IAmb	IAmb	20 01 20.4	
	comp=Z,42nm,1.0s						
CGJI	**Cibinong**	**16.85**	**141**	P	**P**	**20 01 13.2**	**-1.9**
VJD	**Vijayawada**	**17.28**	**306**	*e*P	**P**	**20 01 20.1**	**+0.3**
VJD				IAmb	IAmb	20 01 24.2	
	comp=Z,30nm,0.8s						
DBJI	**Dramaga**	**17.48**	**139**	P	**P**	**20 01 22.1**	**+0.1**
	comp=Z,209nm,1.1s						
SALM	**Salem**	**17.50**	**288**	*e*P	**Pn**	**20 01 25.6**	**+1.5**
SALM				IAmb	IAmb	20 01 28.9	
	comp=Z,14nm,0.6s						
STKI	**Sintang**	**17.51**	**111**	P	**Pn**	**20 01 23.4**	**-0.8**
	comp=Z,116nm,0.7s						
SKJI	**Sukabumi**	**17.69**	**140**	P	**P**	**20 01 19.0**	**-5.3**
	comp=Z,162nm,0.7s						
KOD	**Kodaikanal**	**17.90**	**283**	*e*P	**Pn**	**20 01 31.1**	**+2.0**
KOD				IAmb	IAmb	20 01 32.2	
	comp=Z,16nm,0.5s						
LEM	**Lembang**	**18.25**	**137**	P	**P**	**20 01 31.8**	**+1.2**
	comp=Z,22nm,0.5s,baz=182,slow=22,SNR=7.8						
LEM	**Lembang**	**18.25**	**137**	P	**P**	**20 01 30.7**	**+0.1**
	comp=Z,48nm,0.8s						
CNJI	**Cibinong**	**18.29**	**139**	P	**P**	**20 01 28.7**	**-2.1**
	comp=Z,41nm,0.7s,comp=Z,615nm						
TNCH	**TengChong**	**18.52**	**9**	⇑P	**Pn**	**20 01 36.3**	**+0.2**
TNCH				S	**S**	**20 04 53.6**	**-0.4**
TNCH				pmax	pmax		
	comp=Z,14nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,110nm,4.1s						
JHSG	**JHARSUGUGA**	**18.63**	**325**	*e*P	**P**	**20 01 31.1**	**-3.4**
BBJI	**Bungbulang**	**18.74**	**138**	P	**P**	**20 01 33.1**	**-2.7**
BBJI	**Bungbulang**	**18.74**	**138**	P	**P**	**20 01 32.2**	**-3.6**
	comp=Z,56nm,0.7s						
QIZ	**Qiongzhong**	**18.80**	**48**	P	**P**	**20 01 36.8**	**+0.5**
QIZ				IAmb	IAmb	20 01 39.3	
	comp=Z,53nm,0.9s						
QIZ	**Qiongzhong**	**18.80**	**48**	P	**Pn**	**20 01 38.2**	**-1.1**
SHL	**Shillong**	**19.05**	**351**	*e*P	**P**	**20 01 34.0**	**-5.2**
HYB	**Hyderabad**	**19.45**	**305**	*e*P	**Pn**	**20 01 45.9**	**-1.3**
HYB				*e*		20 02 00.9	
HYB				*e*pP	**pP**	**20 02 19.9**	**+2.7**
HYB				*e*S	**S**	**20 05 14.3**	**+2.1**
HYB				*e*sS	**sS**	**20 06 14.1**	**+5.3**
CMJI	**Cimerak**	**19.51**	**137**	P	**P**	**20 01 45.2**	**+1.2**
	comp=Z,66nm,0.5s						
KPJI	**Karang Pucung**	**19.52**	**135**	P	**P**	**20 01 42.1**	**-2.0**
	comp=Z,54nm,0.5s						
KMI	**Kunming**	**19.70**	**21**	⇑P	**Pn**	**20 01 49.2**	**-1.1**
KMI				sP	sP	20 02 50.2	+4.1
KMI				S	**S**	**20 05 25.7**	**+8.3**
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
XMI	**Christmas Isla**	**19.96**	**148**	P	**P**	**20 01 50.9**	**+2.0**
XMIS	**Christmas Isla**	**19.97**	**149**	P	**P**	**20 01 50.5**	**+1.5**
XMIS	**Christmas Isla**	**19.97**	**149**	P	**P**	**20 01 50.8**	**+1.9**
SMRI	**Semarang**	**20.42**	**132**	P	**P**	**20 01 54.3**	**+0.5**
SMRI	**Semarang**	**20.42**	**132**	P	**P**	**20 01 55.1**	**+1.4**
	comp=Z,200nm,0.8s						
PZH	**PanZhiHua**	**20.67**	**17**	P	**P**	**20 01 57.6**	**+1.1**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
PKKI	**Palangkaraya**	**20.72**	**115**	P	**P**	**20 01 57.0**	**0.0**
	comp=Z,328nm,0.8s,comp=Z,3μm						
MTKI	**Muara Teweh, K**	**21.05**	**110**	P	**P**	**20 02 00.6**	**+0.1**
	comp=Z,154nm,0.7s,comp=Z,3μm						
UGM	**Wanagama**	**21.06**	**133**	P	**P**	**20 02 01.1**	**+0.6**
UGM	**Wanagama**	**21.06**	**133**	P	**P**	**20 01 58.8**	**-1.7**
NGJI	**Ngawi**	**21.39**	**130**	P	**P**	**20 02 05.5**	**+1.6**
	comp=Z,272nm,0.8s						
SJI	**Sawahan**	**21.86**	**131**	P	**P**	**20 02 07.8**	**-0.9**
	comp=Z,95nm,0.7s,comp=Z,2μm						
GYA	**Guiyang**	**22.49**	**28**	⇑*i*P	**P**	**20 02 16.4**	**+1.8**
GYA				pmax	pmax		
	comp=Z,82nm,0.9s						
KMMI	**Kalianget**	**23.16**	**126**	P	**P**	**20 02 21.3**	**+0.8**
	comp=Z,155nm,0.9s,comp=Z,1μm						
BLJI	**Banyuglugur**	**23.27**	**128**	P	**P**	**20 02 22.7**	**+1.1**
	comp=Z,167nm,0.5s,comp=Z,2μm						
ABJI	**Asem Bagus**	**23.81**	**127**	P	**P**	**20 02 27.5**	**+1.0**
	comp=Z,145nm,0.8s						
JAGI	**Jajag, Banyuwa**	**24.15**	**128**		**P**	**20 02 28.5**	**-1.1**
JAGI	**Jajag, Banyuwa**	**24.15**	**128**	P	**P**	**20 02 30.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**24.15**	**128**	P	**P**	**20 02 29.8**	**+0.2**
	comp=Z,70nm,0.7s						
SRBI	**Singaraja**	**24.76**	**126**	P	**P**	**20 02 35.4**	**+0.3**
	comp=Z,82nm,0.8s						
MPSI	**Mapaga**	**25.42**	**103**	P	**P**	**20 02 41.8**	**+0.7**
	comp=Z,48nm,0.9s,comp=Z,467nm						
TOLI2	**Tolitoli**	**26.09**	**101**	P	**P**	**20 02 46.0**	**-1.2**
TOLI2				IAmb	IAmb	20 02 51.9	
	comp=Z,10nm,0.6s						
H08S3	**Diego Garcia H**	**26.75**	**238**	T	T	20 30 12.0	
	baz=60						
H08S2	**Diego Garcia H**	**26.76**	**238**	T	T	20 30 19.4	
	baz=60,slow=74,SNR=291						
H08S1	**Diego Carcia H**	**26.77**	**238**	T	T	20 30 17.6	
	baz=60,slow=74,SNR=317						
ENH	**Enshi**	**27.03**	**28**	P	**P**	**20 02 54.0**	**-1.4**
ENH				IAmb	IAmb	20 02 56.3	
	comp=Z,10nm,0.9s						
ENH	**Enshi**	**27.03**	**28**	P	**P**	**20 02 55.4**	**0.0**
	comp=Z,13nm,1.9s						
KAPI	**Kappang**	**27.11**	**115**	P	**P**	**20 02 55.3**	**-1.0**
KAPI				IAmb	IAmb	20 02 57.4	
	comp=Z,17nm,1.1s						
PLAI	**Plampang**	**27.26**	**124**	P	**P**	**20 02 55.8**	**-1.8**
MRSI	**Marisa**	**27.37**	**102**	P	**P**	**20 02 58.5**	**-0.1**
	comp=Z,29nm,0.8s						
BKSI	**Bulukumba**	**27.58**	**115**	P	**P**	**20 03 00.3**	**-0.1**
	comp=Z,65nm,1.0s,comp=Z,509nm						
GTOI	**Gorontalo**	**28.37**	**101**	P	**P**	**20 03 06.8**	**-0.7**
	comp=Z,11nm,0.7s						
LUWI	**Luwuk**	**28.56**	**105**	P	**P**	**20 03 09.3**	**+0.2**
LUWI	**Luwuk**	**28.56**	**105**	P	**P**	**20 03 10.5**	**+1.4**
LUWI	**Luwuk**	**28.56**	**105**	P	**P**	**20 03 09.4**	**+0.3**
	comp=Z,136nm,0.7s,comp=Z,1μm						
XAN	**Xi'an**	**30.04**	**23**	⇓P	**P**	**20 03 22.1**	**+0.1**
XAN				pmax	pmax		
	comp=Z,25nm,0.7s						
LZH	**Lanzhou**	**30.32**	**14**	*e*P	**P**	**20 03 25.6**	**+1.0**
LZH				pmax	pmax		
	comp=Z,7.0nm,1.6s						
EDFI	**Ende, Flores**	**30.52**	**120**	P	**P**	**20 03 24.1**	**-2.5**
	comp=Z,22nm,1.1s						
SANI	**Sanana**	**31.92**	**105**	P	**P**	**20 03 38.2**	**-0.5**
SANI	**Sanana**	**31.92**	**105**	P	**P**	**20 03 37.4**	**-1.3**
	comp=Z,17nm,0.8s						
LYN	**LuoYang**	**31.98**	**28**	⇓P	**P**	**20 03 40.4**	**+1.4**
LYN				pmax	pmax		
	comp=Z,25nm,0.6s						
LYN				pmax	pmax		
	comp=Z,260nm,5.2s						
GTA	**Gaotai**	**32.85**	**7**	*e*P	**P**	**20 03 47.6**	**+1.0**
GTA				pP	pwP	20 04 30.2	-1.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SOEI	**Soe**	**33.23**	**119**	P	**P**	**20 03 47.5**	**-2.8**
SOEI	**Soe**	**33.23**	**119**	P	**P**	**20 03 47.5**	**-2.8**
SOEI	**Soe**	**33.23**	**119**	P	**P**	**20 03 45.8**	**-4.5**
	comp=Z,47nm,0.8s						
NLAI	**Namlea**	**33.33**	**106**	P	**P**	**20 03 51.3**	**+0.4**
	comp=Z,26nm,0.6s,comp=Z,2μm						
NJ2	**Nanjing**	**33.52**	**38**	*e*P	**P**	**20 03 53.9**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,13nm,1.0s						
NIL	**Nilore**	**33.68**	**326**	P	**P**	**20 03 52.5**	**-1.3**
NIL				IAmb	IAmb	20 03 54.2	
	comp=Z,15nm,0.8s						
GIRL	**Giralia**	**34.58**	**148**	P	**P**	**20 04 03.0**	**+1.4**
GIRL	**Giralia**	**34.58**	**148**	P	**P**	**20 04 03.2**	**+1.6**
HNS	**HongShan**	**35.35**	**27**	⇑P	**P**	**20 04 09.8**	**+1.8**
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
BTO	**Baotou**	**36.29**	**19**	*e*P	**P**	**20 04 17.5**	**+1.5**
BTO				pP	**pP**	**20 04 57.9**	**-0.4**
BTO				sP	**sP**	**20 05 18.5**	**-3.3**
BTO				PP	**PnPn**	**20 05 48.9**	**+3.3**
BTO				S	**S**	**20 09 47.4**	**+6.1**
BTO				SS	**SS**	**20 12 22.0**	**-7.2**
BTO				pmax	pmax		
	comp=Z,11nm,0.6s						
BTO				pmax	pmax		
	comp=Z,290nm,5.4s						
BTO				LR	LR		
	comp=Z,240nm,4.4s						
BTO				LR	LR		
	comp=Z,250nm,5.4s						
BTO				LR	LR		
	comp=Z,150nm,4.6s						
MBWA	**Marble Bar**	**36.67**	**140**	P	**P**	**20 04 19.6**	**+0.2**
MBWA				IAmb	IAmb	20 04 30.6	
	comp=Z,13nm,0.9s						
MBWA	**Marble Bar**	**36.67**	**140**	P	**P**	**20 04 19.2**	**-0.2**
SWI	**Sorong**	**36.75**	**100**	P	**P**	**20 04 19.3**	**-0.9**
	comp=Z,48nm,1.0s						
SIJI	**Sorong**	**36.76**	**100**	P	**P**	**20 04 19.5**	**-0.8**
	comp=Z,41nm,0.9s						
KSH	**Kashi**	**36.99**	**335**	P	**P**	**20 04 21.1**	**-1.0**
KSH				S	**S**	**20 09 52.1**	**0.0**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**37.03**	**21**	*e*P	**P**	**20 04 24.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,230nm,4.5s						
PSA00	**Pilbara Seismi**	**37.05**	**140**	P	**P**	**20 04 21.6**	**-1.0**
PSA00				IAmb	IAmb	20 04 23.1	
	comp=Z,21nm,0.9s						
PSA00	**Pilbara Seismi**	**37.05**	**140**	P	**P**	**20 04 22.0**	**-0.5**
PSA00				IAmb	IAmb	20 04 23.2	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**37.05**	**140**	P	**P**	**20 04 22.5**	**-0.1**
WMQ	**Urumqi**	**37.58**	**351**	*e*P	**P**	**20 04 27.2**	**+0.4**
FAKI	**Fak Fak**	**38.19**	**103**	P	**P**	**20 04 31.6**	**-0.6**
FAKI				IAmb	IAmb	20 04 32.8	
	comp=Z,29nm,0.9s						
FAKI	**Fak Fak**	**38.19**	**103**	P	**P**	**20 04 31.9**	**-0.3**
FAKI	**Fak Fak**	**38.19**	**103**	P	**P**	**20 04 32.0**	**-0.3**
	comp=Z,34nm,0.8s						
SAUI	**Saumlaki**	**38.83**	**111**	P	**P**	**20 04 35.5**	**-2.1**
WSAR	**Wadi Sarin**	**38.83**	**299**	P	**P**	**20 04 40.0**	**+2.4**
	comp=Z,5.7nm,0.5s,baz=135,slow=7.4,SNR=22						
	comp=Z,5.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**38.84**	**130**	P	**P**	**20 04 36.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**38.84**	**130**	P	**P**	**20 04 36.5**	**-1.1**
SIMJ	**Simiganj**	**39.68**	**327**	P	**P**	**20 04 43.4**	**-1.0**
SIMJ				IAmb	IAmb	20 04 44.8	
	comp=Z,11nm,0.6s						
KNRA	**Kununurra**	**39.97**	**124**	P	**P**	**20 04 45.0**	**-2.0**
KNRA				IAmb	IAmb	20 04 49.4	
	comp=Z,54nm,1.4s						
KNRA	**Kununurra**	**39.97**	**124**	P	**P**	**20 04 45.6**	**-1.4**
MEEK	**Meekatharra**	**40.15**	**147**	P	**P**	**20 04 49.0**	**+0.7**
AAK	**Ala-Archa**	**40.22**	**336**	P	**P**	**20 04 50.0**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=53,slow=21,SNR=7.1						
	comp=Z,1.7nm,0.7s						
MTN	**Manton Dam**	**40.62**	**118**	P	**P**	**20 04 50.7**	**-1.7**
MTN				IAmb	IAmb	20 04 51.5	
	comp=Z,24nm,0.5s						
MTN	**Manton Dam**	**40.62**	**118**	P	**P**	**20 04 50.7**	**-1.7**
MORW	**Morawa**	**40.81**	**152**	P	**P**	**20 04 54.4**	**+0.7**
MORW				IAmb	IAmb	20 04 55.9	
	comp=Z,31nm,1.2s						
MORW	**Morawa**	**40.81**	**152**	P	**P**	**20 04 54.9**	**+1.2**
MK31	**Makanchi Array**	**41.48**	**347**	P	**P**	**20 04 56.7**	**-2.3**
MKAR	**Makanchi Array**	**41.48**	**347**	P	**P**	**20 04 58.5**	**-0.5**
MKAR	**Makanchi Array**	**41.48**	**347**	P	**P**	**20 04 59.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=161,slow=9.6,SNR=15						
	comp=Z,0.8nm,0.5s						
MAKZ	**Makanchi**	**41.57**	**346**	P	**P**	**20 04 58.1**	**-1.6**
SONM	**Songino Array**	**42.10**	**11**	P	**P**	**20 05 04.6**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=188,slow=8.3,SNR=16						
	comp=Z,2.7nm,0.8s						
KSRS	**Korea Array**	**42.69**	**39**	P	**P**	**20 05 08.6**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=225,slow=9.2,SNR=6.0						
	comp=Z,1.3nm,0.7s						
MUN	**Mundaring**	**43.35**	**154**	P	**P**	**20 05 15.4**	**+1.3**
KLBR	**Kellerberrin**	**43.73**	**152**	P	**P**	**20 05 18.3**	**+1.1**
NWAO	**Narrogin (SRO)**	**44.61**	**153**	P	**P**	**20 05 25.0**	**+0.9**
NWAO	**Narrogin (SRO)**	**44.61**	**153**	IAmb	IAmb	20 05 26.1	
	comp=Z,330nm,1.2s						
NWAO	**Narrogin (SRO)**	**44.61**	**153**	P	**P**	**20 05 25.2**	**+1.1**
WRKA	**Warakurna**	**45.06**	**136**	P	**P**	**20 05 27.7**	**-0.2**
KMBL	**Kambalda**	**45.62**	**148**	P	**P**	**20 05 33.3**	**+1.2**
GEYT	**Alibeck**	**45.79**	**318**	P	**P**	**20 05 34.0**	**+0.6**
GEYT	**Alibeck**	**45.79**	**318**	P	**P**	**20 05 34.3**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=143,slow=10,SNR=12						
GEYT				pP	**pP**	**20 06 18.2**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=178,slow=7.2,SNR=3.3						
	comp=Z,3.5nm,0.6s						
RKGY	**Rocky Gully**	**45.93**	**155**	P	**P**	**20 05 36.0**	**+1.5**
KURBB	**Kurchatov Arra**	**45.96**	**345**	P	**P**	**20 05 34.7**	**+0.3**
	comp=Z,1.8nm,0.2s,baz=161,slow=6.7,SNR=2.1						
KURBB				pP	**pP**	**20 06 18.8**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=164,slow=7.5,SNR=2.5						
	comp=Z,1.8nm,0.2s						
WB0	**Warramunga Arr**	**46.66**	**125**	IAmb	IAmb	20 05 40.6	
	comp=Z,24nm,0.6s						
WRA	**Warramunga Arr**	**46.71**	**125**	P	**P**	**20 05 40.0**	**-0.8**
	comp=Z,10nm,0.6s,baz=305,slow=8.9,SNR=204						
WRA				PcP	**PcP**	**20 07 10.7**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=302,slow=9.1,SNR=1.1						
WRA				ScP	**ScP**	**20 10 41.3**	**-3.8**
	comp=Z,0.6nm,0.8s,baz=312,slow=3.7,SNR=4.9						
	comp=Z,10nm,0.6s						
WRAB	**Tennant Creek**	**46.71**	**125**	P	**P**	**20 05 39.9**	**-1.0**
WRAB				IAmb	IAmb	20 05 42.0	
	comp=Z,26nm,0.8s						
WB2	**Warramunga Arr**	**46.72**	**125**	IAmb	IAmb	20 05 42.0	
	comp=Z,26nm,0.8s						
WR0	**Warramunga Arr**	**46.88**	**125**	IAmb	IAmb	20 05 42.4	
	comp=Z,18nm,0.7s						
ZALV	**Zalesovo Beam**	**47.88**	**352**	P	**P**	**20 05 49.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=172,slow=8.1,SNR=9.4						
ZALV				pP	**pP**	**20 06 34.5**	**+1.3**
	comp=Z,7.4nm,0.8s,baz=169,slow=8.8,SNR=6.1						
ZALV				ScP	**ScP**	**20 10 46.0**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=135,slow=0.4,SNR=3.7						
	comp=Z,0.9nm,0.3s						
MDJ	**Mudanjiang**	**48.21**	**33**	P	**P**	**20 05 53.8**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.6s						
ASAR	**Alice Springs**	**48.34**	**130**	P	**P**	**20 05 52.6**	**-0.7**
	comp=Z,14nm,0.5s,baz=302,slow=7.3,SNR=329						
ASAR				PcP	**PcP**	**20 07 15.4**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=305,slow=6.5,SNR=2.5						
ASAR				ScP	**ScP**	**20 10 48.1**	**-3.8**
	comp=Z,1.2nm,0.7s,baz=302,slow=4.1,SNR=5.1						
	comp=Z,14nm,0.5s						
FORT	**Forrest**	**48.75**	**142**	P	**P**	**20 05 57.2**	**+0.9**
MJAR	**Matsushiro Arr**	**49.19**	**47**	P	**P**	**20 05 59.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=254,slow=8.6,SNR=1.9						
MJAR				pP	**pP**	**20 06 44.2**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=264,slow=7.7,SNR=3.1						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**50.46**	**341**	P	**P**	**20 06 09.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=148,slow=11,SNR=7.8						
BVAR				pP	**pP**	**20 06 51.9**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=142,slow=7.5,SNR=3.3						
	comp=Z,1.1nm,0.7s						
QIS	**Mount Isa**	**51.34**	**123**	P	**P**	**20 06 15.8**	**-0.1**
OOD	**Oodnadatta**	**51.99**	**133**	P	**P**	**20 06 20.1**	**-0.5**
MULG	**Mulgathing**	**52.32**	**137**	P	**P**	**20 06 22.6**	**-0.4**
AKTO	**Aktyubinsk**	**53.50**	**331**	P	**P**	**20 06 30.6**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=107,slow=11,SNR=2.1						
	comp=Z,1.5nm,0.6s						
PMG	**Port Moresby**	**54.17**	**107**	P	**P**	**20 06 36.0**	**-0.7**
PMG				IAmb	IAmb	20 06 37.9	
	comp=Z,20nm,0.7s						
PMG	**Port Moresby**	**54.17**	**107**	P	**P**	**20 06 37.0**	**+0.3**
PMG	**Port Moresby**	**54.17**	**107**	P	**P**	**20 06 37.1**	**+0.3**
MTSU	**Mount Surprise**	**54.37**	**118**	P	**P**	**20 06 37.8**	**-0.3**
BBOO	**Buckleboo**	**55.22**	**138**	P	**P**	**20 06 43.6**	**-0.4**
LCRK	**Leigh Creek**	**55.32**	**134**	P	**P**	**20 06 44.6**	**-0.1**
INKA	**Innaminka**	**55.72**	**130**	P	**P**	**20 06 47.7**	**+0.1**
HTT	**Hallett**	**57.52**	**137**	P	**P**	**20 07 00.6**	**+0.3**
QLP	**Quilpie**	**57.87**	**127**	P	**P**	**20 07 03.4**	**+0.6**
KMBO	**Kilima Mbogo**	**58.36**	**265**	P	**P**	**20 07 06.4**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=40,slow=9.9,SNR=5.0						
	comp=Z,1.1nm,0.5s						
STKA	**Stephens Creek**	**58.52**	**134**	P	**P**	**20 07 07.0**	**-0.2**
STKA	**Stephens Creek**	**58.52**	**134**	P	**P**	**20 07 06.7**	**-0.5**
	comp=Z,4.0nm,0.3s,baz=328,slow=6.0,SNR=43						
	comp=Z,4.0nm,0.3s						
KBZ	**Khabaz**	**58.68**	**318**	P	**P**	**20 07 07.3**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=83,slow=8.1,SNR=4.1						
	comp=Z,1.4nm,0.7s						
CMSA	**Cobar Meteorol**	**61.34**	**131**	P	**P**	**20 07 26.3**	**-0.1**
ARPS	**Mount Arapiles**	**61.39**	**138**	P	**P**	**20 07 28.4**	**+1.8**
NRIK	**Noril'sk**	**62.78**	**357**	P	**P**	**20 07 34.9**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=154,slow=5.8,SNR=3.8						
	comp=Z,0.7nm,0.4s						
BRTR	**Keskin Array B**	**64.01**	**311**	P	**P**	**20 07 43.4**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=119,slow=7.4,SNR=2.4						
	comp=Z,1.0nm,0.6s						
TOO	**Toolangi**	**64.27**	**137**	P	**P**	**20 07 46.8**	**+1.2**
TOO				IAmb	IAmb	20 07 48.4	
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**64.27**	**137**	P	**P**	**20 07 47.3**	**+1.7**
H04N2	**CROZET ISLANDS**	**65.26**	**212**	T	T	21 17 04.4	
	baz=51,slow=75,SNR=704						
H04N1	**CROZET ISLANDS**	**65.27**	**212**	T	T	21 17 05.0	
	baz=51,slow=75,SNR=436						
H04N3	**CROZET ISLANDS**	**65.28**	**212**	T	T	21 17 04.6	
	baz=51,slow=75,SNR=867						
CAN	**Canberra**	**65.58**	**134**	P	**P**	**20 07 54.1**	**0.0**
CAN				IAmb	IAmb	20 07 56.5	
	comp=Z,8.2nm,0.6s						
CAN	**Canberra**	**65.58**	**134**	P	**P**	**20 07 55.1**	**+0.9**
H04S1	**CROZET ISLANDS**	**65.66**	**211**	T	T	21 17 30.8	
	baz=49,slow=75,SNR=13						
H04S3	**CROZET ISLANDS**	**65.67**	**211**	T	T	21 17 29.6	
	baz=49,slow=75,SNR=27						
H04S2	**CROZET ISLANDS**	**65.67**	**211**	T	T	21 17 34.5	
	baz=49,slow=75,SNR=22						
GLAD	**Gladstone**	**67.72**	**139**	P	**P**	**20 08 09.1**	**+1.7**
AKASG	**Malin Array Be**	**69.74**	**322**	P	**P**	**20 08 18.8**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=93,slow=5.1,SNR=2.9						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**74.25**	**332**	P	**P**	**20 08 46.6**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=106,slow=5.6,SNR=10.0						
FINES				pP	**pP**	**20 09 35.2**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=61,slow=9.0,SNR=2.4						
	comp=Z,2.4nm,0.7s						
BOSA	**Boshof**	**75.86**	**238**	P	**P**	**20 08 58.1**	**+1.7**
	comp=Z,4.4nm,0.5s,baz=75,slow=4.3,SNR=21						
	comp=Z,4.4nm,0.5s						
ARCES	**ARCESS Array B**	**76.74**	**340**	P	**P**	**20 09 00.7**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=88,slow=6.4,SNR=1.5						
	comp=Z,2.6nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	79.42	318	P	P	20 09 15.2	-0.4
	comp=Z,0.8nm,0.7s,baz=89,slow=5.1,SNR=2.9						
GERES				pP	pwP	20 10 05.9	-1.7
	comp=Z,1.7nm,0.8s,baz=102,slow=6.2,SNR=4.6						
	comp=Z,0.8nm,0.7s						
HFS	Hagfors	80.02	330	P	P	20 09 17.6	-0.9
	comp=Z,2.4nm,0.9s,baz=90,slow=9.1,SNR=1.2						
	comp=Z,2.4nm,0.9s						
SPITS	Spitsbergen Ar	81.22	348	P	P	20 09 24.5	-0.1
	comp=Z,18nm,1.1s,baz=142,slow=4.9,SNR=2.5						
	comp=Z,18nm,1.1s						
VNDA	Vanda	91.55	168	P	P	20 10 16.1	+1.2
	comp=Z,1.4nm,0.4s,baz=314,slow=5.7,SNR=18						
	comp=Z,1.4nm,0.4s						
TORD	Torodi Ar. Bea	91.90	283	P	P	20 10 18.7	+0.9
	comp=Z,0.8nm,0.6s,baz=85,slow=6.1,SNR=10						
	comp=Z,0.8nm,0.6s						
GHO	Glory Hole Cre	95.99	25	P	P	20 10 34.2	-1.5
PLCA	Paso Flores	143.78	198	PKP	PKPbc	20 16 41.9	+0.6
	comp=Z,3.0nm,0.7s,baz=200,slow=3.5,SNR=6.2						

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*IDC **04** 20:14:32.0±2.1, 21°.46S×169°.74E, h0^{km}, mb4.0/6, mbtmp4.0/7, ML3.6/1, MS3.7/14, Error ellipse: s-maj=70.8km s-min=25.3km az=146.0*

*NEIC **04** 20:14:32.3±2.5, 21°.5S±0°.1×169°.68E±0°.03, h10^{km}±1^{km}, mb4.5/7, Error ellipse: s-maj=17.0km s-min=4.7km az=359.0*

ISC 04 20:14:33.5±0.7**, 21°.5S**±0°.1×**169°.71E**±0°.09**, h21^{km}, n48,** σ**1^{s}33**/40**, mb4.3**/10**, MS3.8**/12**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.56	269	Pn	Pn	20 14 59.7	-0.3
MARNC				Sn	Sn	20 15 19.8	+0.2
PINNC	Pines Island,	2.39	241	Pn	Pn	20 15 11.2	-0.2
LIFNC	LIFOU	2.40	286	Pn	Pn	20 15 11.3	-0.3
OUENC	Ouen Island, N	2.82	250	Pn	Pn	20 15 17.9	+0.5
DZM	Mont Dzumac	3.09	258		Pn	20 15 22.3	+1.1
DZM	Mont Dzumac	3.09	258	Pn	Pn	20 15 23.0	+1.8
	7.8nm,0.3s,baz=108,slow=20,SNR=131						
DZM				LR	LR	20 15 53.5	
	comp=Z,316nm,20.8s,baz=112,slow=26						
DZM				Sn	Sn	20 15 57.1	-0.5
	23nm,0.3s,baz=96,slow=21,SNR=11						
	49nm,0.5s						
ONTNC	Ouen Toro	3.13	254	Pn	Pn	20 15 22.3	+0.6
KOUNC	Koumac, New Ca	5.15	279	Pn	Pn	20 15 48.8	-0.6
HNR	Honiara	15.21	320	LR	LR	20 23 10.3	
	comp=Z,1μm,18.3s,baz=114,slow=34						
CTA	Charters Tower	21.97	269	P	P	20 19 28.7	+2.5
	3.1nm,0.9s,baz=96,slow=9.2,SNR=1.0						
CTA				LR	LR	20 28 06.6	
	comp=Z,344nm,18.3s,baz=86,slow=37						
	3.1nm,0.9s						
RPZ	Rata Peaks	22.21	177	LR	LR	20 26 49.0	
	comp=Z,177nm,21.2s,baz=10.0,slow=33						
CAN	Canberra	22.79	228	P	P	20 19 33.0	-1.9
CAN				IAmb	IAmb	20 19 40.3	
	comp=Z,12nm,1.0s						
STKA	Stephens Creek	27.10	242	P	P	20 20 16.7	+1.7
	comp=Z,3.0nm,1.0s,baz=97,slow=16,SNR=4.8						
STKA				LR	LR	20 30 16.6	
	comp=Z,199nm,20.1s,baz=32,slow=35						
	comp=Z,3.0nm,1.0s						
RAR	Rarotonga	28.41	95	LR	LR	20 30 57.0	
	comp=Z,30nm,19.6s,baz=326,slow=35						
WRA	Warramunga Arr	33.08	266	P	P	20 21 09.8	+1.8
	comp=Z,1.0nm,0.9s,baz=95,slow=10,SNR=4.1						
WRA				LR	LR	20 34 47.6	
	comp=Z,283nm,18.5s,baz=323,slow=37						
	comp=Z,1.0nm,0.9s						
AS31	Alice Springs	33.08	259	P	P	20 21 06.0	-2.1
ASAR	Alice Springs	33.08	259	P	P	20 21 09.4	+1.3
	comp=Z,1.4nm,0.8s,baz=86,slow=8.7,SNR=14						
ASAR				LR	LR	20 35 13.3	
	comp=Z,143nm,18.5s,baz=91,slow=38						
	comp=Z,1.4nm,0.8s						
PPT	Papeete	38.50	92	LR	LR	20 33 14.2	
	comp=Z,49nm,21.8s,baz=284,slow=29						
NWAO	Narrogin (SRO)	47.62	245	LR	LR	20 43 23.9	
	comp=Z,183nm,18.3s,baz=142,slow=36						
TOLI2	Tolitoli	52.78	289	P	P	20 23 44.1	-3.4
TOLI2				IAmb	IAmb	20 24 02.0	
	comp=Z,6.9nm,1.1s						
VNDA	Vanda	56.23	182	LR	LR	20 45 54.5	
	comp=Z,50nm,18.2s,baz=353,slow=34						
SBA	Scott Base	56.45	181	P	P	20 24 13.0	-0.2
MJAR	Matsushiro Arr	64.92	332	P	P	20 25 12.2	+0.8
	comp=Z,2.5nm,1.0s,baz=168,slow=7.1,SNR=4.3						
	comp=Z,2.5nm,1.0s						
QSPA	South Pole Qui	68.60	180	P	P	20 25 34.4	-0.3
QSPA				IAmb	IAmb	20 25 38.2	
	comp=Z,6.9nm,1.1s						
MAW	Mawson	76.55	202	LR	LR	20 56 13.7	
	comp=Z,47nm,19.8s,baz=82,slow=33						
CMAR	Chiang Mai Arr	79.82	294	P	P	20 26 38.9	-1.9
CHTO	Chiang Mai	79.98	295	P	P	20 26 39.4	-2.2
CHTO				IAmb	IAmb	20 26 47.4	
	comp=Z,3.6nm,1.1s						
PFO	Pinyon Flats O	89.08	53	LR	LR	21 00 30.0	
	comp=Z,35nm,19.0s,baz=102,slow=31						
SONM	Songino Array	89.25	323		P	20 27 29.4	+1.4
SONM				IAmb	IAmb	20 27 32.5	
	comp=Z,5.0nm,1.3s						
SONM	Songino Array	89.25	323	P	P	20 27 30.8	+2.8
	comp=Z,1.5nm,1.0s,baz=115,slow=2.2,SNR=6.4						
	comp=Z,1.5nm,1.0s						
LPIG	La Paz	89.98	64	LR	LR	20 59 06.8	
	comp=Z,48nm,20.6s,baz=242,slow=30						
ARCES	ARCESS Array B	127.32	345	PKP	PKiKP	20 33 36.9	+0.5
	comp=Z,6.4nm,1.1s,baz=20,slow=2.9,SNR=5.1						
OSTC	Ostas	144.28	331	*e*PKP	PKiKP	20 34 21.2	+10
EKA	Eskdalemuir Ar	145.76	353	PKPbc	PKPab	20 34 11.7	+0.8
	comp=Z,1.2nm,0.4s,baz=358,slow=2.7,SNR=9.7						
RONA	Rosalia, Austr	146.19	327	*e*PKP	PKiKP	20 34 15.8	+0.3
	comp=Z,0.3nm,0.3s						
CONA	Conrad Observa	146.26	328	*e*PKP	PKiKP	20 34 15.8	+0.2
	comp=Z,0.5nm,0.4s						
CKRC	Cesky Krumlov	146.39	330	*e*PKP	PKiKP	20 34 15.4	-0.4
KHC	Kasperske Hory	146.49	331		PKPdf	20 34 10.1	-1.6
KHC	Kasperske Hory	146.49	331	*e*PKP	PKiKP	20 34 16.0	0.0
GEC2	GERESS Array S	146.65	331		PKiKP	20 34 16.3	-0.1
GERES	GERESS Array B	146.65	331		PKPbc	20 34 14.2	+0.6
GERES	GERESS Array B	146.65	331	PKPbc	PKiKP	20 34 16.0	-0.5
	comp=Z,3.8nm,0.9s,baz=28,slow=4.4,SNR=12						
SOKA	Soboth	147.52	327	*e*PKP	PKPab	20 34 18.4	+0.2
	comp=Z,4.0nm,1.1s						
KBA	Koelnbreinsper	148.08	329	*e*PKP	PKPab	20 34 20.7	+0.2
	comp=Z,1.9nm,0.6s						
LESA	Schwarzleotal	148.15	330	*e*PKP	PKiKP	20 34 19.4	-0.1
	comp=Z,1.0nm,0.4s						
ABTA	Abfaltersbach	148.72	329	*e*PKP	PKiKP	20 34 20.9	+0.2
	comp=Z,3.0nm,1.0s						
MOTA	Moosalm	148.93	331	*e*PKP	PKiKP	20 34 22.1	+0.8
	comp=Z,3.9nm,0.8s						
FETA	Feichten	149.34	331	*e*PKP	PKiKP	20 34 23.5	+1.4
	comp=Z,3.6nm,0.9s						

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*IDC **04** 20:14:32.2±3.0, 42°.81N×105°.00W, h0^{km}, mb2.8/1, mbtmp3.1/3, ML3.1/2, MS2.8/3, Error ellipse: s-maj=51.1km s-min=10.8km az=158.0*

*NEIC **04** 20:14:35.2±1.3, 43°.59N±0°.05×105°.23W±0°.06, h0^{km}±1^{km}, ML3.4/86, Error ellipse: s-maj=10.9km s-min=3.3km az=321.0*

ISC 04 20:14:36.5±0.8**, 43°.54N**±0°.05×**105°.23W**±0°.05**, h0^{km}, n61,** σ**1^{s}23**/58**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.04	56	Pn	Pb	20 14 57.8	+0.2
K22A	Casper	1.30	227		Pg	20 15 00.1	-1.4
PHWY	Pilot Hill	2.25	184	Pn	Pn	20 15 15.3	0.0
RWWY	Rawlins	2.36	219		Pn	20 15 17.2	+0.4
RWWY				IAML		20 15 55.9	
	239nm,1.0s						
RWWY				IAML		20 15 56.7	
	194nm,1.4s						
N23A	Red Feather La	2.70	192	Pn	Pn	20 15 22.4	+1.0
N23A				IAML		20 16 04.2	
	comp=E,130nm,0.9s						
N23A				IAML		20 16 06.2	
	comp=N,132nm,0.7s						
BRIGG	Briggsdale	3.04	167	Pn	Pn	20 15 26.8	+0.8
LAO	LASA Array	3.22	348		Pn	20 15 28.5	0.0
BW06	Boulder Array	3.26	258	Pn	Pn	20 15 28.4	-0.7
BW06				IAML		20 16 25.2	
	comp=N,70nm,1.5s						
PD31	Pinedale Array	3.26	258	Pn	Pn	20 15 29.4	+0.3
PDAR	Pinedale Array	3.26	258	Pn	Pn	20 15 29.7	+0.5
PDAR	Pinedale Array	3.26	258	Pn	Pn	20 15 29.1	-0.1
	comp=N,2.1nm,0.3s,baz=84,slow=20,SNR=28						
PDAR				Lg	Lg	20 16 16.9	
	comp=N,12nm,0.3s,baz=81,slow=34,SNR=11						
PDAR				LR	LR	20 16 36.7	
	comp=N,52nm,19.0s,baz=94,slow=37						
	comp=N,0.3nm,0.3s						
RLMT	Red Lodge	3.30	300	Pn	Pn	20 15 29.9	+0.3
RLMT				IAML		20 16 33.6	
	comp=N,57nm,1.6s						
OGNE	Ogallala	3.52	137	Pn	Pn	20 15 30.3	-2.2
YMP	Mirror Lake Pl	3.74	290	Pn	Pn	20 15 34.6	-1.2
YMP				IAML		20 16 40.7	
	comp=E,90nm,0.9s						
ISCO	Idaho Springs	3.75	185	Pn	Pn	20 15 37.0	+1.1
LOHW	Long Hollow	3.91	273	Pn	Pn	20 15 37.6	-0.4
LOHW				IAML		20 17 08.2	
	comp=E,39nm,2.6s						
LOHW				IAML		20 17 08.7	
	comp=E,38nm,1.1s						
H17A	Grant Village	3.95	284	Pn	Pn	20 15 41.2	+2.5
H17A				IAML		20 16 47.4	
	comp=E,53nm,2.0s						
H17A				IAML		20 16 49.1	
	comp=N,68nm,2.1s						
FLWY	Flagg Ranch	4.00	280	Pn	Pn	20 15 39.9	+0.7
FLWY				IAML		20 16 59.4	
	comp=N,73nm,2.7s						
MOOW	Moose Ponds	4.01	275		Pn	20 15 39.6	+0.2
O20A	White River Ci	4.08	214	Pn	Pn	20 15 41.0	+0.6
YNR	Norris Junctio	4.10	288		Pn	20 15 40.3	-0.4
YNR				IAML		20 17 12.6	
	comp=N,29nm,4.4s						
YNR				IAML		20 17 14.6	
	comp=E,29nm,2.9s						
REDW	Red Top Meadow	4.10	269		Pb	20 15 50.8	+1.1
YFT	Old Faithful	4.15	285	Pn	Pn	20 15 42.5	+1.1
YFT				IAML		20 16 53.1	
	comp=E,34nm,2.5s						
YFT				IAML		20 16 59.4	
	comp=N,54nm,2.0s						
IMW	Indian Meadow	4.16	277	Pn	Pn	20 15 42.2	+0.8
IMW				IAML		20 16 60.0	
	comp=N,35nm,2.5s						
IMW				IAML		20 17 01.4	
	comp=N,40nm,1.7s						
TPAW	Teton Pass	4.16	271		Pn	20 15 41.2	-0.3
TPAW				IAML		20 17 06.7	
	comp=N,54nm,1.4s						
TPAW				IAML		20 17 07.5	
	comp=N,45nm,4.2s						
FXWY	Fox Creek	4.21	273	Pn	Pn	20 15 42.2	0.0
YHH	Holmes Hill	4.23	289	Pn	Pn	20 15 44.5	+1.9
AHID	Auburn Hatcher	4.37	262		Pn	20 15 42.3	-2.0
AHID				IAML		20 17 21.7	
	comp=N,39nm,1.9s						
YHL	Hebgen Lake	4.48	289	Pn	Pn	20 15 45.9	0.0
YHL				IAML		20 17 19.4	
	comp=E,46nm,1.2s						
SMCO	Snowmass	4.56	197		Pg	20 16 01.5	-2.3
SMCO				IAML		20 17 14.7	
	comp=E,35nm,1.8s						
SMCO				IAML		20 17 51.9	
	comp=E,43nm,4.3s						
Q24A	Divide	4.58	179		Pb	20 15 57.7	-0.2
Q24A				IAML		20 17 32.7	
	comp=N,38nm,4.7s						
Q24A				IAML		20 18 38.9	
	comp=E,30nm,4.8s						
SUSD	Miller	4.61	77		Pb	20 15 58.1	-0.2
KSCO	Kaye Shedlock'	4.93	156	Pn	Pn	20 15 52.3	+0.3
DGMT	Dagmar	4.98	8		Pb	20 16 02.3	-2.3
BOZ	Bozeman (W)	5.01	296	Pn	Pn	20 15 51.9	-1.2
BOZ				IAML		20 17 21.5	
	comp=E,24nm,1.6s						
BOZ				IAML		20 17 38.0	
	comp=E,30nm,4.7s						
HWUT	Hardware Ranch	5.06	250		Pn	20 15 54.1	+0.2
BSUT	Blindstream Ca	5.10	236	Pn	Pn	20 15 56.4	+1.9
BSUT				IAML		20 17 43.7	
	comp=E,31nm,4.9s						
BSUT				IAML		20 17 49.3	
	comp=N,24nm,4.9s						
TCUT	Toone Canyon	5.18	244		Pn	20 15 56.7	+1.2
EGMT	Eagleton	5.49	326	Pn	Pn	20 15 59.2	-0.4
CTU	Camp Tracy	5.62	242	Pn	Pn	20 16 02.9	+1.3
BGNE	Belgrade	5.65	110	Pn	Pn	20 16 01.5	-0.3
SPUT	South Promonto	5.79	250		Pn	20 16 04.0	+0.2
P17A	Butcher Ranch,	5.80	227		Pb	20 16 20.5	+1.8
SRU	San Rafael Swe	5.96	224	Pg	Pb	20 16 23.3	+1.9
LYMT	Lyon Mountain	6.05	307	Pn	Pn	20 16 07.0	-0.4
TMUT	Trail Mountain	6.18	229	Pn	Pn	20 16 09.4	0.0
ECSD	EROS Data Cent	6.25	85		Pb	20 16 28.7	+2.5
BGU	Big Grassy Mou	6.35	248	Pn	Pn	20 16 11.8	+0.2
Q16A	Castle Valley	6.43	226		Pn	20 16 12.9	+0.2
BPMT	Black Pine Rid	6.51	299	Pn	Pn	20 16 11.8	-2.0
DUG	Dugway, Tooele	6.58	242		Pn	20 16 15.9	+1.3
HMU	Henry Mountain	6.99	219		Pn	20 16 22.7	+2.3
MSU	Marysvale	7.27	229	Pn	Pn	20 16 22.8	-1.4
RTBA	Rita Blanca	7.35	164		Pn	20 16 23.7	-1.5
TCRU	Three Creeks R	7.35	230	Pn	Pn	20 16 24.1	-1.2
MFID	Camas Ranch	7.71	273	Pn	Pn	20 16 28.9	-1.3
I10CA	LAC DU BONNET	9.16	40	I	I	21 15 45.0	
	comp=N,0.1nm,1.5s,baz=216,slow=342,SNR=18						
ULM	Lac du Bonnet	9.27	40	Pn	Pn	20 16 51.5	+0.1
	comp=N,0.3nm,0.3s,baz=224,slow=13,SNR=3.6						
ULM				Lg	Lg	20 19 30.0	
	comp=N,0.1nm,0.3s,baz=225,slow=10,SNR=3.8						
	comp=N,1.5nm,0.5s						
NEW	Newport	9.54	304	LR	LR	20 20 35.5	
	comp=N,31nm,18.3s,baz=72,slow=36						
BBB	Bella Bella	17.56	307	LR	LR	20 25 36.7	
	comp=N,99nm,18.3s,baz=242,slow=37						
YKA	Yellowknife Ar	19.76	347	P	Pn	20 19 10.4	+1.1
	comp=N,0.6nm,1.1s,baz=153,slow=12,SNR=4.6						
	comp=N,0.6nm,1.1s						

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*IDC **04** 20:15:35.6±0.9, 39°.26N×71°.63E, h0^{km}, mb3.8/13, mbtmp3.8/20, ML3.1/8, Error ellipse: s-maj=17.7km s-min=11.3km az=146.0*

*KRNET **04** 20:15:37.8±0.1, 39°.60N×71°.54E, h11^{km}, mb3.7*

*ISU **04** 20:15:39.9, 39°.60N×71°.42E, h5^{km}*

*NNC **04** 20:15:42.9±2.5, 39°.68N×71°.41E, h0^{km}, mb3.8, mpv3.4, Error ellipse: s-maj=22.6km s-min=17.1km az=4.0*

*SOME **04** 20:15:46.3, 39°.97N×72°.15E, h20^{km}*

ISC 04 20:15:37.0±1.1**, 39°.42N**±0°.04×**71°.47E**±0°.03**, h7^{km}**±7^{km}**, n69,** σ**1^{s}78**/100**, mb3.7**/11**, 17C-29D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.26	77	⇓*e*P	Pg	20 15 42.5	+0.3
	baz=19						
DRK				⇓*e*S	Sg	20 15 45.9	+0.1
	baz=19						
BTK	Batken	0.81	322	⇓*i*P	Pg	20 15 51.9	-0.6
	baz=10.0						
BTK				⇓*i*S	Sg	20 16 01.6	-1.4
	baz=10.0						
TSTA	Tashata	1.39	34	P	Pn	20 16 04.7	+1.8
TSTA				S	Sg	20 16 23.0	+1.3
OHH	Osh	1.50	42	⇓*i*P	Pn	20 16 03.3	-1.0
	baz=46						
OHH				⇓*i*S	Sn	20 16 21.2	-3.0
	baz=46						
NAM	Namangan	1.57	5	P	Pb	20 16 07.1	+0.7
NAM				S	Sg	20 16 27.2	-0.3
SFK	Sufi-Kurgan	1.68	69	⇑*i*P	Pn	20 16 07.5	+0.5
	baz=74						
SFK				⇑*i*S	Sn	20 16 28.8	-0.1
	baz=74						
KSNS	Kasansay	1.73	1	P	Pb	20 16 09.8	+0.6
KSNS				S	Sg	20 16 32.1	-0.6
TRKS	Terek-Say	2.12	353	⇓*i*P	Pn	20 16 13.1	+0.1
	baz=52						
TRKS				⇓*i*S	Sn	20 16 38.4	-1.3
	baz=52						
ARSB	Arslanbob	2.22	31	⇑*i*P	Pn	20 16 15.8	+1.4
	baz=32						
ARSB				⇑*i*S	Sn	20 16 42.7	+0.5
	baz=32						
YBZ	Yangibazar	2.37	323	P	Pb	20 16 20.7	+0.8
YBZ				S	Sg	20 16 51.9	-1.0
CHMG	Chimgan	2.40	333	P	Pb	20 16 21.1	+0.5
CHMG				S	Sg	20 16 52.7	-1.3
ARK	Arkit	2.40	9	⇓*i*P	Pn	20 16 18.2	+1.3
	baz=8.0						
ARK				⇓*i*S	Sn	20 16 46.7	+0.1
	baz=8.0						
TGS	TashGRES	2.49	324	P	Pb	20 16 23.3	+1.2
TGS				S	Sg	20 16 57.5	+0.5
CHRV	Charvak	2.50	333	P	Pb	20 16 22.6	+0.4
CHRV				S	Sg	20 16 55.8	-1.5
YNGY	Yangiyul	2.51	313	P	Pb	20 16 23.0	+0.6
YNGY				S	Sg	20 16 56.9	-0.7
DZI	Dzhizak	2.89	285	P	Pb	20 16 29.3	+0.4
DZI				S	Sg	20 17 10.3	+0.4
AML	Almayashu	3.19	31	P	Pb	20 16 33.4	-0.8
	SNR=41						
AML	Almayashu	3.19	31	⇑Pn	Pb	20 16 32.9	-1.3
	0.3nm,0.3s						
AML				⇓Lg	Lg	20 17 20.9	
	17nm,0.6s						
AML	Almayashu	3.19	31	⇑*i*P	Pn	20 16 28.9	+1.0
	baz=32						
AML				⇑*i*S	Sn	20 17 06.2	-0.2
	baz=32						
CHM	Chimkent	3.22	335	*e*P	Pg	20 16 40.2	+1.6
	214nm,0.3s						
CHM				*e*S	Sg	20 17 23.4	+3.0
	680nm,0.3s						
ARLS	Aral	3.26	41	⇓*e*P	Pn	20 16 30.3	+1.6
	baz=42						
ARLS				⇓*e*S	Sn	20 17 07.9	0.0
	baz=42						
DZA	Taraz	3.47	358	*e*P	Pb	20 16 40.9	+2.2
	100nm,0.5s						
DZA				*e*S	Sg	20 17 24.5	-3.8
	296nm,0.3s						
SAM	Samarkand	3.50	275	P	Pb	20 16 38.3	-1.0
SAM				S	Sg	20 17 28.4	-1.0
AGL	Agalyk	3.55	273	P	Pb	20 16 39.1	-1.1
AGL				S	Sg	20 17 29.9	-1.1
MRKS	Merke	3.58	21	*e*P	Pb	20 16 38.2	-2.4
	12nm,0.4s						
MRKS				*e*S	Sb	20 17 19.8	-4.5
	27nm,0.3s						
UCH	Uchtor	3.63	39	P	Pb	20 16 39.8	-1.9
	SNR=19						
UCH	Uchtor	3.63	39	⇓*i*P	Pn	20 16 35.3	+1.2
	baz=40						
UCH				⇓*i*S	Sn	20 17 17.0	-0.4
	baz=40						
EKS2	Erkin-Say	3.68	28	P	Pn	20 16 39.3	+5.0
	SNR=9.6						
EKS2	Erkin-Say	3.68	28	⇑*i*P	Pn	20 16 35.6	+1.2
	baz=28						
EKS2				⇑*i*S	Sn	20 17 17.4	-0.7
	baz=28						
KK31	Karatay Array	3.75	349	⇓Pn	Pn	20 16 37.9	+2.7
	7.5nm,0.5s,baz=167,slow=13,SNR=423						
KK31				⇓Pg	Pb	20 16 46.4	+2.9
	31nm,0.5s,baz=174,slow=12,SNR=54						
KK31				Lg	Lg	20 17 34.4	
	124nm,0.7s,baz=163,slow=28,SNR=13						
KZA	Kyzart	3.91	46	P	Pn	20 16 43.6	+5.8
	SNR=18						
KZA	Kyzart	3.91	46	⇓*i*P	Pn	20 16 39.4	+1.6
	baz=47						
KZA				⇓*i*S	Sn	20 17 23.8	-0.4
	baz=47						
AAK	Ala-Archa	3.94	34	P	Pn	20 16 43.2	+5.1
	SNR=20						
AAK	Ala-Archa	3.94	34	Pn	Pn	20 16 41.7	+3.7
	6.3nm,0.3s,baz=211,slow=6.5,SNR=68						
AAK				Sn	Sb	20 17 30.6	-4.3
	5.3nm,0.3s,baz=182,slow=19,SNR=1.7						
AAK				Lg	Lg	20 17 39.3	
	8.1nm,0.3s,baz=345,slow=23,SNR=10						
	12nm,0.3s						
AAK	Ala-Archa	3.94	34	⇓*i*P	Pn	20 16 39.5	+1.4
	baz=35						
AAK				⇓*i*S	Sn	20 17 24.2	-0.5
	baz=35						
PKMR	Pachkamar	4.05	259	P	Pb	20 16 47.0	-1.7
PKMR				S	Sg	20 17 44.3	-2.8
FRU1	Bishkek	4.14	34	⇑*i*P	Pn	20 16 42.1	+1.4
	baz=35						
FRU1				⇑*i*S	Sn	20 17 28.3	-1.1
	baz=35						
KBK	Karagaybulak	4.17	38	P	Pn	20 16 43.9	+2.7
	SNR=11						
KBK	Karagaybulak	4.17	38	⇓*i*P	Pn	20 16 42.6	+1.4
	baz=39						
KBK				⇓*i*S	Sn	20 17 29.2	-1.0
	baz=39						
ZRB	Zarabog	4.26	253	P	Pn	20 16 47.8	+5.5
ZRB				S	Sb	20 17 46.0	+2.1
CHMS	Chumysh	4.35	34	P	Pn	20 16 49.2	+5.7
	SNR=6.2						
CHMS	Chumysh	4.35	34	⇓Pn	Pn	20 16 47.9	+4.4
	4.0nm,0.3s						
CHMS				⇑Lg	Lg	20 17 52.6	
	53nm,0.7s						
CHMS	Chumysh	4.35	34	⇓*i*P	Pn	20 16 44.9	+1.4
	baz=34						
CHMS				⇓*i*S	Sn	20 17 33.1	-1.3
	baz=34						
USP	Ospenovka	4.47	30	P	Pn	20 16 49.9	+4.7
	SNR=15						
USP	Ospenovka	4.47	30	⇑*i*P	Pn	20 16 46.5	+1.3
	baz=30						
USP				⇑*i*S	Sn	20 17 35.9	-1.5
	baz=30						
ULHL	Ulahol	4.59	51	⇓*i*P	Pn	20 16 48.7	+1.7
	baz=52						
ULHL				⇓*i*S	Sn	20 17 40.0	-0.7
	baz=52						
TKM2	Tokmak 2	4.68	40	P	Pb	20 16 58.4	-1.1
	SNR=9.5						
TKM2	Tokmak 2	4.68	40	⇑Pn	Pn	20 16 52.1	+3.9
	3.5nm,0.3s						
TKM2				⇓Lg	Lg	20 18 03.0	
	14nm,0.7s						
TKM2	Tokmak 2	4.68	40	⇑*i*P	Pn	20 16 49.8	+1.5
	baz=41						
TKM2				⇑*i*S	Sn	20 17 41.7	-1.2
	baz=41						
GEYT	Alibeck	10.55	266	Pn	Pn	20 18 08.6	0.0
	0.6nm,0.3s,baz=84,slow=14,SNR=9.2						
GEYT				Sn	Sn	20 20 05.3	-1.7
	0.2nm,0.3s,baz=92,slow=14,SNR=1.5						
	1.5nm,0.4s						
MKAR	Makanchi Array	10.80	43	Pn	Pn	20 18 12.3	+0.2
	0.1nm,0.3s,baz=222,slow=15,SNR=7.5						
KURBB	Kurchatov Arra	12.26	22	Pn	Pn	20 18 33.1	+1.3
	0.1nm,0.3s,baz=215,slow=13,SNR=5.8						
KURBB				Lg	Lg	20 22 04.9	
	baz=209,slow=31,SNR=4.8						
	0.4nm,0.5s						
BVAR	Borovoye Array	13.63	357	Pn	Pn	20 18 49.8	-0.7
	baz=152,slow=12,SNR=4.1						
BVAR				Lg	Lg	20 22 53.5	
	baz=167,slow=26,SNR=1.4						
	0.3nm,0.3s						
AKTO	Aktyubinsk	14.53	324	Pn	Pn	20 19 04.2	+1.3
	0.3nm,0.3s,baz=117,slow=13,SNR=2.4						
AKTO				Sn	Sn	20 21 37.6	-6.7
	0.4nm,0.3s,baz=170,slow=21,SNR=5.6						
	1.0nm,0.4s						
ZALV	Zalesovo Beam	17.13	28	P	P	20 19 39.2	+0.8
	1.1nm,0.3s,baz=212,slow=9.6,SNR=23						
	2.5nm,0.4s						
ARU	Arti	19.03	338	P	Pn	20 20 00.4	+0.3
	baz=31,slow=6.8,SNR=3.9						
	0.8nm,0.3s						
GNI	Garni	20.53	281	P	P	20 20 17.5	+1.4
	1.3nm,0.4s,baz=133,slow=5.6,SNR=2.4						
	1.3nm,0.4s						
BELG	Belogornoye	20.94	316	P	Pn	20 20 22.1	-0.6
	3.8nm,0.6s,baz=200,slow=17,SNR=1.8						
	3.8nm,0.6s						
KBZ	Khabaz	21.75	291	P	P	20 20 30.1	+1.2
	1.2nm,1.0s,baz=269,slow=20,SNR=2.3						
	1.2nm,1.0s						
KVAR	Kislovodsk Arr	21.90	291	P	P	20 20 31.7	+0.9

	1.9nm,0.8s,baz=114,slow=20,SNR=1.8						
	1.9nm,0.8s						
FINES	FINESS Array B	35.31	324	P	P	20 22 34.0	+1.7
	2.8nm,0.8s,baz=113,slow=11,SNR=9.2						
	2.8nm,0.8s						
ARCES	ARCESS Array B	38.61	336	P	P	20 23 01.8	+1.5
	3.3nm,0.8s,baz=104,slow=7.7,SNR=6.7						
	3.3nm,0.8s						
HFS	Hagfors	41.04	320	P	P	20 23 21.5	+0.9
	1.4nm,0.4s,baz=104,slow=11,SNR=9.5						
	1.4nm,0.4s						
NOA	NORSAR Array B	42.31	321	P	P	20 23 31.6	+0.5
	0.4nm,0.6s,baz=106,slow=8.3,SNR=1.8						
	0.4nm,0.6s						
TORD	Torodi Ar. Bea	66.18	268	P	P	20 26 25.6	0.0
	1.3nm,0.6s,baz=47,slow=6.9,SNR=12						
	1.3nm,0.6s						
ILAR	Eielson Array	71.87	16	P	P	20 27 01.4	+1.2
	0.6nm,1.0s,baz=290,slow=3.7,SNR=3.6						
	0.6nm,1.0s						
YKA	Yellowknife Ar	78.31	3	P	P	20 27 37.8	+0.4
	0.4nm,0.7s,baz=350,slow=5.8,SNR=6.5						
	0.4nm,0.7s						
WRA	Warramunga Arr	83.23	123	P	P	20 28 03.7	-0.6
	0.4nm,0.6s,baz=321,slow=5.3,SNR=2.6						
	0.4nm,0.6s						
ASAR	Alice Springs	85.63	125	P	P	20 28 15.8	-0.6
	0.4nm,0.7s,baz=316,slow=5.2,SNR=5.1						
	0.4nm,0.7s						

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*INMG **04** 20:23:41.8±1.2, 36°.27N×11°.53W, h25^{km}±23^{km}, ML1.9, Error ellipse: s-maj=16.7km s-min=6.6km az=80.0*
*IGIL **04** 20:23:42.0, 36°.26N×11°.56W, h36^{km}, ML1.5*
*CNRM **04** 20:23:43.5, 36°.17N×11°.16W, h75^{km}, ML3.2*
ISC 04 20:23:40.7±2.3**, 36°.24N**±0°.04×**11°.4W**±0°.1**, h35**^{km}**, n27, σ1^{s}31**/33**, 1C, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	2.28	66⇑	eP	Pn	20 24 16.3	+0.4
PFVI				eS	Sn	20 24 42.9	+0.2
PFVI				A	A	20 24 44.9	
	9.6nm,0.7s						
PFVI	Vila Bisbo	2.28	66	P	Pn	20 24 16.3	+0.4
MORF	Marmelete	2.47	64	eP	Pn	20 24 19.9	+1.3
MORF				eS	Sn	20 24 47.8	+0.2
MORF				A	A	20 24 50.2	
	2.6nm,0.2s						
MORF	Marmelete	2.47	64	eP	Pn	20 24 20.1	+1.5
MORF				eS	Sn	20 24 47.8	+0.2
MORF				IAML		20 24 50.0	
	comp=E,5.2nm,0.3s						
PTEO	Sao Teotonio	2.53	58	eS	Sn	20 24 49.3	+0.3
PNCL	Nicolau / Gran	2.98	50	eP	Pn	20 24 26.5	+1.0
PNCL				eS	Sn	20 24 59.7	-0.3
PNCL				A	A	20 25 01.8	
	comp=E,2.3nm,0.5s						
PBDV	Barranco-do-Ve	2.99	69	eP	Pn	20 24 26.6	+1.0
PBDV				eS	Sn	20 25 00.5	+0.3
PBDV				A	A	20 25 10.7	
	comp=E,1.9nm,0.9s						
MESJ	Messejana	3.03	57	eS	Sn	20 25 01.2	0.0
MESJ	Messejana	3.03	57	eS	Sn	20 25 01.1	-0.1
MESJ				IAML		20 25 02.6	
	comp=E,0.8nm,0.1s						
PCVE	Castro Verde	3.06	62	eS	Sn	20 25 02.2	+0.3
PCVE				A	A	20 25 02.5	
	comp=E,2.1nm,0.6s						
PVAQ	Vaqueiros	3.20	68	eP	Pn	20 24 29.4	+0.9
PVAQ				eS	Sn	20 25 05.1	-0.3
PMAFR	Mafra	3.21	32	eS	Sn	20 25 04.0	-1.6
EVO	Evora	3.56	49	eS	Sn	20 25 13.3	-1.0
EVO				A	A	20 25 15.3	
	comp=E,1.6nm,0.1s						
PMTG	Montargil	3.80	41	eS	Sn	20 25 19.2	-1.1
PMTG				A	A	20 25 49.6	
	comp=E,2.2nm,0.7s						
PSBE	So Bento	3.88	32	eS	Sn	20 25 20.7	-1.5
PBAR	Barrancos	4.00	60	eS	Sn	20 25 24.3	-1.0
PBAR				A	A	20 25 25.4	
	comp=E,1.0nm,0.5s						
PMRV	Marv??o	4.51	44	eS	Sn	20 25 35.4	-2.5
SRHM	Skhour des Reh	4.76	141	P	Pn	20 24 50.7	+0.6
SRHM	Skhour des Reh	4.76	141	S	Sn	20 25 46.8	+2.7
OUK	Oukaimeden	5.83	148	P	Pn	20 25 05.2	+0.2
OUK	Oukaimeden	5.83	148	S	Sn	20 26 10.3	-0.5
MD31	MD31	6.45	119	P	Pn	20 25 13.8	+0.5
MD31	MD31	6.45	119	S	Sn	20 26 22.5	-3.3
MDT	Midelt	6.59	119	P	Pn	20 25 15.9	+0.7
MDT	Midelt	6.59	119	S	Sn	20 26 25.9	-3.2
OUZM	OUZ	6.59	142	P	Pn	20 25 15.6	+0.3
OUZM	OUZ	6.59	142	S	Sn	20 26 28.7	-0.6

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*IDC **04** 20:25:00.1±3.5, 6°.17S×147°.18E, h39^{km}±31^{km}, mb3.2/4, mbtmp3.6/7, ML3.5/2, MS3.2/3, Error ellipse: s-maj=41.3km s-min=15.5km az=122.0*
ISC 04 20:24:59.3±1.3**, 6°.1S**±0°.1×**147°.2E**±0°.2**, h35**^{km}**, n10, σ0^{s}72**/10**, mb3.4**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.26	181	Pn	Pn	20 25 47.2	-0.7
	46nm,0.6s,baz=346,slow=4.2,SNR=20						
PMG				Sn	Sn	20 26 25.7	+0.3
	14nm,0.3s,baz=177,slow=19,SNR=2.2						
CTA	Charters Tower	13.91	184	Pn	Pn	20 28 14.3	+0.3
	0.1nm,0.3s,baz=354,slow=11,SNR=2.2						
	4.3nm,0.9s						
WRA	Warramunga Arr	18.59	221	P	P	20 29 14.9	+1.3
	0.2nm,0.3s,baz=51,slow=11,SNR=8.2						
WRA				S	Sn	20 32 40.4	-0.6
	1.8nm,1.3s,baz=55,slow=24,SNR=1.8						
	1.3nm,0.7s						
GUMO	Guam	19.73	353	LR	LR	20 35 27.0	
	comp=Z,60nm,21.4s,baz=110,slow=32						
ASAR	Alice Springs	21.64	215	P	P	20 29 47.2	+0.4
	0.6nm,0.6s,baz=47,slow=9.1,SNR=24						
ASAR				S	S	20 33 44.4	-0.5
	0.7nm,0.9s,baz=39,slow=24,SNR=4.5						
	0.6nm,0.6s						
DZM	Mont Dzumac	24.41	132	LR	LR	20 38 49.0	
	comp=Z,69nm,21.4s,baz=250,slow=34						
STKA	Stephens Creek	26.15	191	P	P	20 30 30.8	+0.4
	0.7nm,0.5s,baz=356,slow=10,SNR=2.2						
STKA				LR	LR	20 41 21.9	
	comp=Z,59nm,18.0s,baz=27,slow=38						
	0.7nm,0.5s						
MKAR	Makanchi Array	77.75	320	P	P	20 36 53.1	+0.3
	0.2nm,0.7s,baz=104,slow=9.1,SNR=2.0						
	0.2nm,0.7s						
ILAR	Eielson Array	85.51	23	P	P	20 37 33.3	0.0
	0.2nm,0.6s,baz=240,slow=6.7,SNR=1.8						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	145.35	284	PKPbc	PKPdf	20 44 33.9	-0.7
	2.3nm,0.8s,baz=68,slow=4.7,SNR=15						

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*IDC **04** 20:29:35.9±1.7, 36°.25N×142°.25E, h0^{km}, mb3.6/7, mbtmp3.7/11, ML3.3/3, MS2.6/2, Error ellipse: s-maj=40.4km s-min=20.9km az=75.0*
*JMA **04** 20:29:41.9±0.3, 36°.4N±0°.5×14°2E±°, h68^{km}±4^{km}, MV3.3/34, FAR E OFF IBARAKI PREF*
ISC 04 20:29:39.3±1.2**, 36°.29N**±0°.05×**142°.02E**±0°.10**, h19**^{km}**, n29, σ1^{s}34**/27**, mb3.6**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	1.16	273	P	Pn	20 29 59.8	-0.7
JHYU				S	Sb	20 30 12.8	-2.6
JHO	Hitachi	1.22	286	P	Pn	20 30 00.0	-1.2
JIHU	Itakohorinouch	1.25	255	eP	Pn	20 30 01.6	-0.1
ONAJ	Iwakimizuishiy	1.27	310	P	Pn	20 30 01.4	-0.8
JFK	Kawauchi	1.42	320	P	Pn	20 30 03.6	-0.5
BSO1	Boso 1	1.84	208	P	Pn	20 30 10.7	+1.4
JMM	Marumori	1.85	328	P	Pn	20 30 09.6	-0.4
JMM				S	Sn	20 30 30.6	-2.3
JOTO	OTAMA OYAMA	1.85	314	P	Pn	20 30 10.8	+0.7
BSO3	Boso 3	1.93	220	P	Pn	20 30 12.0	+1.1
BSO3				eS	Sn	20 30 34.5	0.0
JAG	Ashikaga	2.08	274	P	Pn	20 30 12.8	-0.3
JFY	Yanaizu	2.17	302	P	Pn	20 30 15.0	+0.6
MJAR	Matsushiro Arr	3.09	276	Pn	Pn	20 30 27.3	+0.3
	1.6nm,0.3s,baz=111,slow=8.8,SNR=116						
MJAR				Sn	Sn	20 31 04.9	+1.4
	0.7nm,0.3s,baz=94,slow=15,SNR=4.6						
MJAR				LR	LR	20 31 44.3	
	comp=Z,88nm,20.9s,baz=142,slow=39						
	7.0nm,0.4s						
JHJ	Hachijo jima 2	3.66	211	Pn	Pn	20 30 35.2	+0.3
	20nm,0.3s,baz=59,slow=22,SNR=2.2						
JHJ				Sn	Sn	20 31 14.9	-2.7
	15nm,0.3s,baz=84,slow=23,SNR=1.3						
	81nm,0.4s						
ASAJ	Asahikawa	7.83	3	Pn	Pn	20 31 32.2	+0.1
	0.4nm,0.3s,baz=207,slow=11,SNR=7.6						
	4.3nm,0.9s						
USRK	Ussuriysk Ar.	11.00	319	Pn	Pn	20 32 24.2	+8.6
	0.2nm,0.3s,baz=127,slow=12,SNR=5.7						
KSRS	Korea Array	11.36	280	Pn	Pn	20 32 22.8	+2.4
	1.0nm,0.8s,baz=88,slow=14,SNR=2.1						
KSRS				LR	LR	20 36 23.7	
	comp=Z,25nm,18.6s,baz=90,slow=35						
H11N2	WAKE ISLAND Hy	27.35	120	T	T	21 04 11.2	
	baz=312,slow=75,SNR=8.3						
H11N1	WAKE ISLAND Hy	27.36	120	T	T	21 04 04.1	
	baz=312,slow=75,SNR=8.2						
H11N3	WAKE ISLAND Hy	27.37	120	T	T	21 04 12.4	
	baz=312,slow=75,SNR=6.5						
H11S1	WAKE ISLAND Hy	28.05	123	T	T	21 05 02.4	
	baz=315,slow=76,SNR=5.7						
H11S3	WAKE ISLAND Hy	28.05	123	T	T	21 04 58.4	
	baz=315,slow=76,SNR=6.8						
H11S2	WAKE ISLAND Hy	28.06	123	T	T	21 04 55.9	
	baz=315,slow=76,SNR=4.9						
SONM	Songino Array	28.61	305	P	P	20 35 36.1	+1.7
	1.1nm,0.5s,baz=102,slow=9.1,SNR=10						
	1.1nm,0.5s						
ZALV	Zalesovo Beam	42.78	313	P	P	20 37 36.4	+1.0
	0.6nm,0.5s,baz=91,slow=7.2,SNR=3.9						
	0.6nm,0.5s						
MKAR	Makanchi Array	44.93	303	P	P	20 37 53.8	+1.0
	0.5nm,0.6s,baz=88,slow=10,SNR=6.2						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	46.85	309	P	P	20 38 08.3	+0.5
	0.8nm,0.5s,baz=83,slow=7.8,SNR=9.9						
	0.8nm,0.5s						
BVAR	Borovoye Array	51.44	313	P	P	20 38 42.0	-1.0
	0.3nm,0.6s,baz=82,slow=6.6,SNR=2.1						
	0.3nm,0.6s						
WRA	Warramunga Arr	56.40	189	P	P	20 39 17.9	-1.6
	0.5nm,0.8s,baz=4.4,slow=7.5,SNR=2.2						
	0.5nm,0.8s						
ASAR	Alice Springs	60.12	189	P	P	20 39 45.9	+0.4
	0.3nm,0.7s,baz=8.2,slow=8.4,SNR=2.1						
	0.3nm,0.7s						

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*IDC **04** 20:48:54.4±1.0, 19°.82S×71°.83W, h0^{km}, mb3.8/4, mbtmp3.7/6, ML3.5/2, MS3.1/3, Error ellipse: s-maj=37.5km s-min=23.4km az=51.0*
*GUC **04** 20:48:58.0±0.7, 19°.70S×71°.66W, h15^{km}, ML3.5*
*NEIC **04** 20:48:58.2±1.8, 19°.80S±0°.05×71°.59W±0°.06, h12^{km}±6^{km}, mb4.5/4, Error ellipse: s-maj=9.4km s-min=5.4km az=130.0*
ISC 04 20:48:58.2±3.8**, 19°.79S**±0°.05×**71°.71W**±0°.06**, h23**^{km}±28^{km}**, n58, σ1^{s}00**/79**, mb4.0**/4**, 5C-2D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	Huaiquique	1.56	108		Pn	20 49 22.7	-1.8
TA02					Sn	20 49 42.7	-1.4
TA02	Huaiquique	1.56	108⇑	iP	Pn	20 49 23.8	-0.7
TA02				iS	Sn	20 49 43.4	-0.7
TA01	Diego Aracena	1.63	118	Pn	Pn	20 49 25.3	-0.3
TA01	Diego Aracena	1.63	118⇓	iP	Pn	20 49 25.4	-0.1
TA01				iS	Sn	20 49 45.3	-0.5
TA01				IAML		20 49 45.8	
	comp=N,501nm,0.2s						
PATCX	Punta Patache	1.79	125	Pn	Pn	20 49 27.5	-0.3
PATCX	Punta Patache	1.79	125⇓	iP	Pn	20 49 27.7	0.0
PATCX				eS	Sn	20 49 49.2	-0.5
PATCX				IAML		20 49 51.6	
	comp=E,364nm,0.3s						
PB11	IPOC Station P	1.94	89		Pn	20 49 29.4	-0.5
PB11				Sn	Sn	20 49 51.8	-1.8
PB11	IPOC Station P	1.94	89⇑	iP	Pn	20 49 29.2	-0.7
PB11				eS	Sn	20 49 52.7	-0.9
PB11				IAML		20 49 54.0	
	comp=E,1μm,0.3s						
PB02	IPOC Station P	2.28	132	Pn	Pn	20 49 34.4	-0.2
PB02	IPOC Station P	2.28	132	iP	Pn	20 49 34.9	+0.3
PB02				eS	Sn	20 50 01.9	-0.2
PB02				IAML		20 50 03.1	
	comp=E,674nm,0.3s						
GO01	Chusmiza	2.38	87	Pn	Pn	20 49 35.5	-0.7
GO01				Sn	Sn	20 50 04.0	-0.9
GO01	Chusmiza	2.38	87⇑	iP	Pn	20 49 35.8	-0.4
GO01				eS	Sn	20 50 04.3	-0.5
PB01	IPOC Station P	2.43	121	Pn	Pn	20 49 37.0	+0.4
PB01	IPOC Station P	2.43	121⇑	iP	Pn	20 49 37.0	+0.4
PB01				eS	Sn	20 50 05.3	-0.4
PB01				IAML		20 50 08.5	
	comp=E,339nm,0.3s						
PB08	IPOC Station P	2.43	99	Pn	Pn	20 49 37.0	0.0
PB08				Sn	Sn	20 50 06.1	-0.1
PB08	IPOC Station P	2.43	99	iP	Pn	20 49 36.9	0.0
PB08				eS	Sn	20 50 05.9	-0.3
PB08				IAML		20 50 08.0	
	comp=N,296nm,0.3s						
PB07	IPOC Station P	2.57	139	Pn	Pn	20 49 39.0	+0.4
PB07	IPOC Station P	2.57	139	iP	Pn	20 49 39.0	+0.4
PB04	IPOC Station P	2.92	150	Pn	Pn	20 49 44.1	+0.7
PB04				Sn	Sn	20 50 18.6	+0.7
PB04	IPOC Station P	2.92	150	iP	Pn	20 49 43.9	+0.5
PB18	Visviri	3.05	44	Pn	Pn	20 49 45.4	-0.1
PB18	Visviri	3.05	44	iP	Pn	20 49 45.5	-0.1
PB18				eS	Sn	20 50 20.9	-0.6
PB09	IPOC Station P	3.05	131	Pn	Pn	20 49 46.7	+1.4
PB09	IPOC Station P	3.05	131	iP	Pn	20 49 46.7	+1.4
PB09				IAML		20 50 28.7	
	comp=E,152nm,0.6s						
PB05	IPOC Station P	3.35	155	Pn	Pn	20 49 49.5	+0.2
PB05	IPOC Station P	3.35	155⇑	iP	Pn	20 49 49.6	+0.2
PB06	IPOC Station P	3.52	146	Pn	Pn	20 49 52.2	+0.5
PB06	IPOC Station P	3.52	146	eP	Pn	20 49 52.2	+0.5
PB06				iS	Sn	20 50 33.5	+0.8
LVC	Limon Verde	3.83	137	Pn	Pn	20 49 57.2	+1.0
LVC				Sn	Sn	20 50 41.2	+0.4
LVC	Limon Verde	3.83	137	Pn	Pn	20 49 57.9	+1.7
	comp=E,3.3nm,0.3s,baz=313,slow=12,SNR=72						
LVC				Sn	Sn	20 50 42.8	+2.1
	comp=E,28nm,0.3s,baz=97,slow=17,SNR=18						
	comp=E,12nm,0.5s						
PB15	IPOC Station P	3.99	149	Pn	Pn	20 49 58.1	0.0
PB15				Sn	Sn	20 50 43.0	-1.3
AF01	San Pedro de A	4.55	134	Pn	Pn	20 50 04.7	-1.3
LPAZ	La Paz	4.87	45	Pn	Pn	20 50 09.0	-1.7
PB14	IPOC Station P	4.96	166	Pn	Pn	20 50 11.3	-0.3
PB14				Sn	Sn	20 51 04.4	-4.0
GO02	Mina Guanaco	5.69	160	Pn	Pn	20 50 22.2	+0.6
AC01	Pan de Azucar	6.41	171	Pn	Pn	20 50 30.2	-1.1
AC01				Sn	Sn	20 51 41.6	-2.2
AC06	Mina Casimiro	7.63	171	Pn	Pn	20 50 47.8	-0.3
AC06					Sn	20 52 13.0	-0.9
GO03	Copiap	7.88	170	Pn	Pn	20 50 51.1	-0.5
GO03					Sn	20 52 19.8	-0.3
LCO	Las Campanas	9.22	174	Pn	Pn	20 51 10.5	+0.4
SIV	San Ignacio	10.81	71	Pn	Pn	20 51 32.5	+0.8
	baz=235,slow=14,SNR=2.4						
SIV				LR	LR	20 55 39.1	
	comp=E,65nm,21.9s,baz=266,slow=37						
	comp=E,0.6nm,0.4s						
H03N1	Juan Fernandez	15.03	204	Pn	Pn	20 52 29.5	+0.5
	baz=112,slow=74						
H03N1				T	T	21 08 02.5	
	baz=27,slow=72,SNR=40						
H03N2	Juan Fernandez	15.04	204	Pn	Pn	20 52 29.1	+0.1
H03N2				T	T	21 08 07.5	
	baz=27,slow=72,SNR=30						
H03N3	Juan Fernandez	15.05	204	Pn	Pn	20 52 29.2	-0.1
	baz=278,slow=74						
H03N3				T	T	21 07 51.4	
	baz=27,slow=72,SNR=34						
MCRA	Macar, Loja	17.31	331	Pn	P	20 52 59.8	-0.1
TRQA	Tornquist	20.07	157	P	P	20 53 31.0	+1.0
TRQA				IAmb	IAmb	20 54 00.2	
	comp=Z,7.8nm,1.1s						
PLCA	Paso Flores	20.89	178	P	P	20 53 37.4	-1.6
	comp=Z,2.9nm,1.0s,baz=349,slow=10,SNR=3.6						
PLCA				LR	LR	21 01 37.3	
	comp=Z,31nm,19.1s,baz=168,slow=36						
	comp=Z,2.9nm,1.0s						
KMSC	Kings Mountain	55.39	350	P	P	20 58 32.4	+1.8
KMSC				IAmb	IAmb	20 58 40.0	
	comp=Z,29nm,1.4s						
BG3	Lake Jocassee	55.52	349	P	P	20 58 33.5	+2.0
TXAR	Lajitas Array	57.75	327	LR	LR	21 25 00.2	
	comp=Z,42nm,18.0s,baz=14,slow=38						
NVAR	Mina Array Bea	72.55	323	P	P	21 00 24.0	+0.2
	comp=Z,0.2nm,0.4s,baz=123,slow=6.6,SNR=2.1						
	comp=Z,0.2nm,0.4s						
TORD	Torodi Ar. Bea	79.29	72	P	P	21 01 01.9	-0.5
	comp=Z,0.8nm,0.5s,baz=255,slow=5.3,SNR=11						
	comp=Z,0.8nm,0.5s						
YKA	Yellowknife Ar	88.73	342	P	P	21 01 48.9	-0.6
	comp=Z,0.6nm,0.7s,baz=139,slow=4.3,SNR=11						
	comp=Z,0.6nm,0.7s						
ZALV	Zalesovo Beam	141.45	22	PKP	PKPdf	21 08 27.3	+0.2
	comp=Z,0.6nm,0.5s,baz=306,slow=5.2,SNR=2.9						
MK31	Makanchi Array	145.70	32		PKPbc	21 08 35.8	+0.6
MKAR	Makanchi Array	145.70	32	PKPdf	PKPdf	21 08 35.0	+0.1
MKAR	Makanchi Array	145.70	32	PKPbc	PKPbc	21 08 35.8	+0.6
	comp=Z,1.9nm,0.8s,baz=330,slow=2.9,SNR=20						
MJAR	Matsushiro Arr	148.96	309	PKPbc	PKPbc	21 08 43.3	-1.4
	comp=Z,1.5nm,0.8s,baz=91,slow=1.5,SNR=5.0						
SONM	Songino Array	151.99	3	PKPbc	PKPbc	21 08 52.0	+0.3
	comp=Z,0.6nm,0.6s,baz=335,slow=2.4,SNR=5.6						

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*IDC **04** 21:00:39.8±0.9, 81°.12N×114°.73W, h0^{km}, mb3.5/6, mbtmp3.6/11, ML3.8/5, Error ellipse: s-maj=30.4km s-min=17.7km az=87.0*
*NEIC **04** 21:00:41.6±2.5, 81°.0N±0°.1×113°.9W±0°.7, h10^{km}±2^{km}, mb3.7/75, ML4.1(OTT), Error ellipse: s-maj=21.0km s-min=13.6km az=311.0*
*OTT **04** 21:00:46.5±0.4, 80°.78N×113°.55W, h18^{km}, ML4.1/3, 299km northwest from Isachsen, Nu*
ISC 04 21:00:40.6±0.6**, 80°.95N**±0°.06×**113°.76W**±0°.06**, h10**^{km}**, n115, σ1^{s}80**/118**, mb3.7**/7**, Arctic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	Resolute Bay	7.38	138	Pn	Pn	21 02 30.2	+2.0
RES	Resolute Bay	7.38	138	Pn	Pn	21 02 30.4	+2.3
	1.6nm,0.3s,baz=336,slow=12,SNR=33						
RES				Sn	Sn	21 03 49.0	-2.8
	0.3nm,0.3s,baz=312,slow=15,SNR=1.2						
	3.8nm,0.3s						
RES	Resolute Bay	7.38	138	PN	Pn	21 02 30.9	+2.7
RES				SN	Sn	21 03 48.1	-3.7
RES				Trac		21 04 00.3	
	comp=Z,12nm,0.3s						
RES	Resolute Bay	7.38	138	iP	Pn	21 02 30.4	+2.3
RES				iS	Sn	21 03 48.1	-3.7
A36M	Sachs Harbour	9.37	202	Pn	Pn	21 02 52.4	-2.9
A36M	Sachs Harbour	9.37	202	PN	Pn	21 02 57.1	+1.8
A36M				SN	Sn	21 04 34.4	-6.0
A36M				Trac		21 04 43.2	
	comp=Z,8.0nm,0.2s						
NEEM	North Greenlan	11.66	74	iP	Pn	21 03 24.0	-3.0
NEEM				iS	Sn	21 05 23.2	-14
NEEM				IAML		21 05 30.7	
	comp=Z,9.2nm,0.9s						
D27M	Malcolm River	13.41	225	Pn	Pn	21 03 49.4	-1.3
INK	Inuvik	13.59	212	Pn	Pn	21 03 54.6	+1.7
INK	Inuvik	13.59	212	Pn	Pn	21 03 53.0	+0.1
INK	Inuvik	13.59	212	Pn	Pn	21 03 51.4	-1.5
	comp=Z,0.2nm,0.3s,baz=360,slow=16,SNR=8.9						
INK				Sn	Sn	21 06 16.4	-7.3
	comp=Z,0.7nm,0.3s,baz=101,slow=26,SNR=8.1						
	comp=Z,0.4nm,0.3s						
INK	Inuvik	13.59	212	PN	Pn	21 03 54.6	+1.7
INK				SN	Sn	21 06 14.8	-8.8
INK				Trac		21 06 21.7	
	comp=Z,4.9nm,0.3s						
ILON	Igloolik, Nuna	13.85	128	Pn	Pn	21 03 56.9	+0.4
ILON	Igloolik, Nuna	13.85	128	PN	Pn	21 03 56.9	+0.4
ILON				SN	Sn	21 06 20.6	-9.4
ILON				Trac		21 06 25.8	
	comp=Z,200nm,2.1s						
E28M	Babbage River	13.87	222	Pn	Pn	21 03 56.4	-0.5
E29M	Blow River	13.91	219	Pn	Pn	21 03 56.5	-0.8
D25K	Kavik River	13.98	232	Pn	Pn	21 03 56.3	-2.1
B22K	Teshekpuk Lake	13.98	243	Pn	Pn	21 03 55.7	-2.6
C23K	Itkillik River	14.05	239		Pn	21 03 56.9	-2.4
D24K	Happy Valley	14.45	235		Pn	21 04 02.3	-2.5
E27K	Coleen River	14.49	224		Pn	21 04 05.9	+0.5
UPNV	Upernavik	14.57	91	iP	Pn	21 04 04.6	-1.7
B21K	Ikpikpuk River	14.81	244	Pn	Pn	21 04 08.0	-1.6
B20K	Meade River	14.82	247	Pn	Pn	21 04 08.9	-0.9
F28M	Old Crow	14.86	221	Pn	Pn	21 04 08.3	-2.1
G31M	Satah River	15.00	212	Pn	Pn	21 04 12.0	-0.2
E25K	Arctic Village	15.02	230	Pn	Pn	21 04 09.8	-2.7
TOLK	Toolik Lake Re	15.03	236	Pn	Pn	21 04 10.6	-2.1
G30M	tAoh Zraii Nji	15.12	215	Pn	Pn	21 04 14.1	+0.2
D22K	Ayikyak River	15.22	240	Pn	Pn	21 04 13.2	-2.0
G29M	Pine Creek	15.36	218	Pn	Pn	21 04 18.0	+1.0
G29M				IAmb	IAmb	21 04 31.3	
	comp=Z,3.8nm,0.8s						
BMAR	Burnt Mountain	15.56	228	Pn	Pn	21 04 16.8	-2.9
EPYK	Eagle Plains	15.76	215	Pn	Pn	21 04 22.4	+0.1
E22K	Anaktuvuk Pass	15.80	238		Pn	21 04 20.8	-2.0
E21K	Killik River	15.81	241		Pn	21 04 22.4	-0.5
G27K	Doyon Strip	15.83	223		Pn	21 04 21.2	-1.9
F24K	Squaw Lake	15.87	232	Pn	Pn	21 04 21.9	-1.8
F24K				IAmb	IAmb	21 05 01.0	
	comp=Z,8.8nm,1.5s						
C19K	Lookout Ridge	16.00	249	P	Pn	21 04 26.1	+0.8
C19K				IAmb	IAmb	21 04 47.5	
	comp=Z,5.4nm,0.8s						
H29M	Whitestone	16.07	218	P	Pn	21 04 27.8	+1.7
H29M				IAmb	IAmb	21 04 38.7	
	comp=Z,8.3nm,1.1s						
H31M	Peel River	16.11	211	P	Pn	21 04 28.1	+1.4
H31M				IAmb	IAmb	21 04 45.2	
	comp=Z,6.7nm,0.9s						
D19K	Kuna River	16.35	246	Pn	Pn	21 04 28.5	-1.3
FYU	Fort Yukon	16.46	227	Pn	Pn	21 04 29.7	-1.5
G24K	Hadweenzic Riv	16.60	231	Pn	Pn	21 04 31.6	-1.4
C18K	Utukok River	16.66	250		Pn	21 04 31.7	-2.0
C18K				IAmb	IAmb	21 04 53.0	
	comp=Z,4.3nm,0.7s						
I30M	Mount Dempster	16.86	214		Pn	21 04 35.3	-1.0
F21K	Alatna River	16.89	239	Pn	Pn	21 04 34.1	-2.5
F21K				IAmb	IAmb	21 04 52.2	
	comp=Z,14nm,1.5s						
I29M	Ogilvie Camp,	16.90	217	Pn	Pn	21 04 36.2	-0.6
I29M				IAmb	IAmb	21 05 19.0	
	comp=Z,8.5nm,1.4s						
G23K	Bananza Creek	16.91	234	Pn	Pn	21 04 35.4	-1.6
G23K				IAmb	IAmb	21 05 05.6	
	comp=Z,9.8nm,1.5s						
I28M	Miner Creek	16.97	219	Pn	Pn	21 04 38.6	+0.8
I28M				IAmb	IAmb	21 04 57.3	
	comp=Z,9.0nm,1.2s						
E19K	Redstone River	17.19	244	Pn	Pn	21 04 39.1	-1.2
E19K				IAmb	IAmb	21 05 13.5	
	comp=Z,4.7nm,0.7s						
F20K	Avaraart Lake	17.36	242	Pn	Pn	21 04 40.8	-1.6
I26K	Coal Creek Min	17.45	223		Pn	21 04 44.9	+1.4
I26K				IAmb	IAmb	21 05 18.7	
	comp=Z,13nm,1.5s						
RDOG	Red Dog Mine	17.46	251	Pn	Pn	21 04 43.6	-0.2
RDOG				IAmb	IAmb	21 04 49.4	
	comp=Z,11nm,1.5s						
H24K	Noodor Dome	17.48	230	Pn	Pn	21 04 43.9	-0.1
J30M	Hart River	17.49	213		P	21 04 46.4	+1.0
PRP	Porcupine Dome	17.51	227	Pn	Pn	21 04 43.0	-1.4
SUMG	Summit	17.52	75		Pn	21 04 44.3	-0.6
SUMG				IAmb	IAmb	21 05 04.7	
	comp=Z,3.9nm,0.6s						
SUMG	Summit	17.52	75	iP	P	21 04 46.6	+0.6
G21K	Allakaket	17.55	238	P	Pn	21 04 45.3	+0.3
G21K				IAmb	IAmb	21 05 01.9	
	comp=Z,8.4nm,1.2s						
C16K	Lisburne Hills	17.63	254	Pn	Pn	21 04 44.4	-1.4
C16K				IAmb	IAmb	21 04 50.8	
	comp=Z,7.6nm,0.9s						
E18K	Tukpahlearik C	17.71	248		Pn	21 04 45.8	-1.0
E18K				IAmb	IAmb	21 05 01.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,5.8nm,1.1s						
EGAK	Eagle	17.75	220		P	21 04 50.7	+2.5
EGAK				IAmb	IAmb	21 05 01.1	
	comp=Z,9.4nm,1.4s						
F19K	Shaleruckik Mo	17.85	244		P	21 04 50.3	+1.1
KBS	Kingsbay	18.03	30	Pn	Pn	21 04 49.9	-0.8
IMAR	Indian Mountai	18.09	238		Pn	21 04 52.4	+0.9
DAWY	Dawson	18.27	217		P	21 04 57.1	+3.1
DAWY				IAmb	IAmb	21 05 18.7	
	comp=Z,6.5nm,1.3s						
J26L	Joseph Creek	18.27	223		P	21 04 56.1	+2.1
J26L				IAmb	IAmb	21 05 16.6	
	comp=Z,4.6nm,1.0s						
H21K	Melozitna Rive	18.28	236		P	21 04 55.5	+1.6
K29M	Barlow Dome	18.31	215		P	21 04 57.1	+2.6
J25K	Salcha River,	18.36	226		Pn	21 04 55.3	+0.4
J25K				IAmb	IAmb	21 05 20.2	
	comp=Z,7.6nm,1.5s						
MDM	Murphy Dome	18.37	230		Pn	21 04 55.7	+0.8
IL31		18.39	228		P	21 04 53.7	-1.4
ILAR	Eielson Array	18.39	228		P	21 04 54.1	-1.1
ILAR	Eielson Array	18.39	228	P	P	21 04 54.2	-1.0
	baz=4.0,slow=16,SNR=3.4						
ILAR				S	Sn	21 08 08.1	-12
	comp=Z,0.1nm,0.4s,baz=321,slow=32,SNR=1.5						
	comp=Z,0.1nm,0.6s						
G19K	Purcell Mounta	18.40	242		P	21 04 55.4	+0.1
G19K				IAmb	IAmb	21 05 07.5	
	comp=Z,11nm,1.5s						
YKAW3	Yellowknife Wh	18.48	181		P	21 04 57.9	+1.6
YKAW3	Yellowknife Wh	18.48	181	IAmb	IAmb	21 05 00.1	
	comp=Z,4.9nm,1.1s						
YKAW3	Yellowknife Wh	18.48	181	PN	P	21 04 57.9	+1.6
YKAW3				SN	Sn	21 08 09.8	-13
YKA	Yellowknife Ar	18.55	181	P	P	21 04 58.4	+1.4
	comp=Z,0.7nm,0.3s,baz=0.2,slow=13,SNR=16						
YKA				S	Sn	21 08 14.9	-9.2
	comp=Z,0.5nm,0.4s,baz=359,slow=21,SNR=9.0						
	comp=Z,2.7nm,0.7s						
K27K	Chicken	18.57	221	P	Pn	21 04 59.0	+1.6
K27K				IAmb	IAmb	21 05 17.9	
	comp=Z,7.8nm,1.4s						
MLY	Manley	18.61	233		P	21 04 58.3	+0.7
CCB	Clear Creek Bu	18.61	229		P	21 04 57.1	-0.5
F17K	Baldwin Pennin	18.71	247	P	P	21 04 59.4	+0.7
NEA2	Nenana	18.82	231	P	Pn	21 05 01.9	+1.5
SCRK	Sand Creek	18.83	223	P	Pn	21 05 02.2	+1.6
G18K	Tagagawik	18.85	244	P	P	21 05 00.3	+0.1
G18K				IAmb	IAmb	21 05 24.4	
	comp=Z,9.2nm,1.4s						
H19K	Roundabout Mou	18.89	241	P	P	21 05 01.5	+0.8
H19K				IAmb	IAmb	21 05 20.7	
	comp=Z,5.2nm,1.1s						
SPITS	Spitsbergen Ar	19.07	29	P	P	21 05 02.2	-0.4
	baz=351,slow=15						
	comp=Z,16nm,1.0s						
L29M	L29M	19.09	215	P	Pn	21 05 04.8	+1.1
BCAR	Beaver Creek A	19.48	220	P	P	21 05 08.9	+1.7
L27K	Beaver Creek,	19.49	220	P	P	21 05 09.2	+1.8
L27K				IAmb	IAmb	21 05 40.5	
	comp=Z,7.3nm,1.4s						
M30M	Minto, Yukon	19.50	213	Pn	Pn	21 05 10.7	+2.0
M30M				IAmb	IAmb	21 05 32.4	
	comp=Z,8.9nm,1.5s						
H18K	Honhosa River	19.51	243		Pn	21 05 11.2	+2.4
H18K				IAmb	IAmb	21 05 41.0	
	comp=Z,8.2nm,1.3s						
BPAW	Bear Paw Mtn.	19.53	233	P	P	21 05 09.2	+1.4
BPAW				IAmb	IAmb	21 05 31.3	
	comp=Z,6.7nm,1.4s						
L26K	Log Cabin Wild	19.69	222		Pn	21 05 13.1	+2.2
L26K				IAmb	IAmb	21 05 34.8	
	comp=Z,4.2nm,1.2s						
M29M	Somme Creek	19.77	215		Pn	21 05 14.3	+2.3
M29M				IAmb	IAmb	21 05 25.9	
	comp=Z,7.5nm,1.4s						
G16K	Koyuk River	19.86	248		Pn	21 05 14.6	+1.8
J20K	Nowinta River	19.87	237		Pn	21 05 15.0	+2.0
F15K	North Star Dit	19.91	251	P	P	21 05 13.1	+1.3
H17K	Granite Mounta	19.94	244		Pn	21 05 15.6	+1.8
H17K				IAmb	IAmb	21 05 45.6	
	comp=Z,5.8nm,1.3s						
J19K	Poorman	20.24	238		P	21 05 16.4	+1.0
J19K				IAmb	IAmb	21 05 41.0	
	comp=Z,6.0nm,1.3s						
M26K	Nabesna, AK	20.26	221	P	P	21 05 17.0	+1.3
M26K				IAmb	IAmb	21 05 51.6	
	comp=Z,6.0nm,1.2s						
CAST	Castle Rocks	20.33	233		P	21 05 18.4	+2.0
CAST				IAmb	IAmb	21 05 34.1	
	comp=Z,8.0nm,1.3s						
K20K	Telida	20.64	236	P	P	21 05 18.9	-0.9
K20K				IAmb	IAmb	21 05 42.1	
	comp=Z,5.9nm,1.2s						
J18K	Innoko River	20.89	239	P	P	21 05 23.8	+1.2
J18K				IAmb	IAmb	21 05 47.2	
	comp=Z,7.1nm,1.4s						
P33M	Teslin, Yukon	21.53	206	P	P	21 05 31.8	+2.4
P33M				IAmb	IAmb	21 06 03.5	
	comp=Z,7.1nm,1.4s						
J16K	Anvik River	21.61	244	P	P	21 05 31.4	+1.3
L18K	Granite Mounta	22.08	238	P	P	21 05 36.8	+1.5
NC602	NORSAR Array S	35.41	44	P	P	21 07 36.9	+0.9
ZALV	Zalesovo Beam	44.96	345	P	P	21 08 54.5	-0.6
	comp=Z,0.5nm,0.5s,baz=347,slow=6.3,SNR=2.4						
	comp=Z,0.5nm,0.5s						
KURBB	Kurchatov Arra	48.51	350	P	P	21 09 22.3	-0.5
	comp=Z,0.4nm,0.8s,baz=7.6,slow=8.4,SNR=2.5						
	comp=Z,0.4nm,0.8s						
SONM	Songino Array	49.60	325	P	P	21 09 31.2	-0.3
	comp=Z,0.7nm,0.8s,baz=3.5,slow=4.8,SNR=3.6						
	comp=Z,0.7nm,0.8s						
TXAR	Lajitas Array	51.87	169	P	P	21 09 52.6	+3.9
	comp=Z,0.3nm,0.6s,baz=348,slow=4.0,SNR=5.4						
	comp=Z,0.3nm,0.6s						
MKAR	Makanchi Array	52.21	346	P	P	21 09 48.6	-2.4
	comp=Z,0.6nm,0.9s,baz=0.0,slow=3.6,SNR=2.1						
	comp=Z,0.6nm,0.9s						
ESDC	Sonseca Array	54.09	64	P	P	21 10 05.7	+0.7
	comp=Z,1.0nm,1.1s,baz=343,slow=11,SNR=2.4						
	comp=Z,1.0nm,1.1s						

IDC 04 21:16:53.9±2.4**, 5°.86S**×**151°.15E, h75**km±19km**, mb3.2**/2**, mbtmp3.8**/3**, Error ellipse: s-maj=105.6km s-min=10.2km az=128.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.77	29	P	Pn	21 17 21.6	-1.0
	baz=232,slow=19						
KRVT				S	Sn	21 17 44.8	+0.4
	baz=180,slow=20						
PMG	Port Moresby	5.30	228	P	Pn	21 18 10.4	-0.2
	30nm,0.3s,baz=53,slow=9.9,SNR=23						
PMG				S	Sn	21 19 11.7	+1.4
	31nm,0.3s,baz=123,slow=19,SNR=11						
WRA	Warramunga Arr	21.52	228	P	P	21 21 36.4	-0.6
	0.9nm,0.5s,baz=53,slow=10,SNR=8.3						
	0.9nm,0.5s						
ASAR	Alice Springs	24.27	221	P	P	21 22 04.2	-0.1
	0.8nm,0.6s,baz=55,slow=9.0,SNR=14						
	0.8nm,0.6s						
TORD	Torodi Ar. Bea	149.05	286	PKPbc	PKPbc	21 36 34.4	-0.2
	0.7nm,0.6s,baz=55,slow=3.4,SNR=7.0						

*NEIC **04** 21:20:45.5±1.4, 40°.61N±0°.03×115°.99W±0°.04, h5km±1km, Error ellipse: s-maj=6.0km s-min=4.9km az=290.0*

REN 04 21:20:46.0±2.8**, 40°.65N**±0°.03×**115°.93W**±0°.04**, h0**km±3km**, ML2.2**/5**, ML2.4**/92(NEIC)**, Error ellipse: s-maj=5.3km s-min=4.7km az=225.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELK	Elko	0.54	79		Pg	21 20 57.0	+0.7
BMN	Battle Mountai	1.00	258		Pg	21 21 05.5	+0.2
BMN					Sb	21 21 19.9	-0.3
BMN				IAML		21 21 21.9	
	comp=N,94nm,0.5s						
BMN				IAML		21 21 22.5	
	comp=E,104nm,0.6s						
Q12A	Willow Creek R	1.81	152		Pn	21 21 18.6	-0.1
Q12A				IAML		21 21 46.1	
	comp=E,38nm,0.6s						
Q09A	Carvers	2.05	208	Pn	Pn	21 21 20.4	-1.5
SPR3	Spring Creek 3	2.06	143	Pg	Pg	21 21 26.3	+0.9
SPR3				IAML		21 22 04.6	
	comp=N,14nm,0.7s						
BGU	Big Grassy Mou	2.22	82		Pn	21 21 25.7	+1.4
BGU				IAML		21 22 03.2	
	comp=E,32nm,0.9s						
BGU				IAML		21 22 03.6	
	comp=N,20nm,1.3s						
KVN	Kaiserville	2.31	227		Pn	21 21 24.6	-0.9
KVN	Kaiserville	2.31	227	IAML		21 22 11.8	
	comp=E,12nm,0.9s						
R11B	Troy Canyon, C	2.31	173		Pn	21 21 25.1	-0.4
R11B	Troy Canyon, C	2.31	173	Pg	Pb	21 21 28.4	-0.3
R11B				IAML		21 22 01.6	
	comp=E,9.1nm,0.6s						
R11B				IAML		21 22 08.4	
	comp=N,8.3nm,0.9s						
DUG	Dugway, Tooele	2.42	100		Pn	21 21 27.6	+0.6
DUG				IAML		21 22 15.0	
	comp=N,19nm,0.8s						
DUG				IAML		21 22 16.9	
	comp=N,19nm,0.9s						
WVOR	Wild Horse Val	2.70	312		Pn	21 21 31.0	+0.1
WVOR				IAML		21 22 14.6	
	comp=N,10nm,1.5s						
WVOR				IAML		21 22 18.4	
	comp=N,9.1nm,1.4s						
SPUT	South Promonto	2.72	75		Pg	21 21 37.8	-0.3
SPUT				IAML		21 22 22.4	
	comp=N,9.4nm,1.0s						
SPUT				IAML		21 22 28.6	
	comp=E,9.4nm,1.3s						
TPH	Tonopah	2.75	202		Pn	21 21 30.8	-0.8
MFID	Camas Ranch	2.77	2		Pb	21 21 36.1	-0.3
MFID				IAML		21 22 18.4	
	comp=E,18nm,0.6s						
MFID				IAML		21 22 18.0	
	comp=E,21nm,0.6s						
NV11	Mina Array Sit	2.80	219		Pn	21 21 31.5	-0.7
PAHR	Pah Rah Range	2.81	252		Pg	21 21 39.6	-0.2
PAHR				IAML		21 22 22.9	
	comp=E,8.0nm,1.5s						
RYN	Ryan	2.84	226		Pn	21 21 31.7	-1.0
RYN				IAML		21 22 19.6	
	comp=N,16nm,0.4s						
RYN				IAML		21 22 22.9	
	comp=E,16nm,0.4s						
NVAR	Mina Array Bea	2.87	220		Pn	21 21 32.4	-0.9
NV09	Mina Array Sit	2.88	221		Pn	21 21 32.6	-0.8
NV08	Mina Array Sit	2.90	220		Pn	21 21 32.8	-0.8
S11A	Rachel	3.00	177		Pn	21 21 34.4	-0.6
NLU	North Lily Min	3.03	102		Pn	21 21 35.4	0.0
YERR	Yerington	3.04	238		Pn	21 21 34.3	-1.2
YERR				IAML		21 22 28.7	
	comp=N,9.3nm,0.6s						
YERR				IAML		21 22 28.8	
	comp=E,16nm,0.5s						
LHV	Little Huntoon	3.11	221		Pn	21 21 36.0	-0.3
LHV	Little Huntoon	3.11	221	IAML		21 22 29.1	
	comp=E,15nm,1.3s						
HLID	Hailey	3.13	21	Pn	Pn	21 21 37.7	+1.0
HLID				IAML		21 22 34.0	
	comp=E,8.5nm,0.5s						
HLID				IAML		21 22 36.6	
	comp=E,7.7nm,1.1s						
MZP	Montezuma Peak	3.15	201		Pn	21 21 37.1	0.0
MZP				IAML		21 22 32.3	
	comp=E,7.0nm,0.5s						
MZP				IAML		21 22 33.0	
	comp=N,6.5nm,0.6s						
PNTR	Pine Nut	3.22	242	Pn	Pn	21 21 37.5	-0.5
PNTR				IAML		21 22 37.6	
	comp=E,11nm,0.7s						
J08A	Circle Bar Ran	3.31	326		Pb	21 21 44.3	-1.3
PRN	Pahroc Range	3.31	168		Pn	21 21 39.5	+0.4
HWUT	Hardware Ranch	3.44	72	Pg	Pg	21 21 51.5	-0.4
GMN	Gold Mountain	3.50	198		Pn	21 21 41.4	-0.5
GMN				IAML		21 22 44.8	
	comp=E,6.8nm,0.4s						
MVU	Marysvale	3.58	125		Pg	21 21 54.7	0.0
MSU	Marysvale	3.60	125	Pg	Pg	21 21 54.3	-0.8
TPNV	Topopah Spring	3.70	184		Pn	21 21 45.1	+0.6
TPNV				IAML		21 22 52.9	
	comp=E,9.2nm,1.1s						
SZCU	Shurtz Canyon	3.77	143	Pn	Pn	21 21 43.1	-2.4
SZCU				IAML		21 22 52.3	
	comp=N,5.6nm,0.6s						
SZCU				IAML		21 22 52.4	
	comp=E,9.4nm,0.4s						
GRAC	Grapevine Rang	3.81	198	Pn	Pn	21 21 46.1	+0.1
WCT	Wildcat Mounta	3.89	188	IAML		21 22 53.9	
	comp=N,3.9nm,0.9s						
WCT				IAML		21 23 10.4	
	comp=E,3.3nm,1.3s						
BMO	Blue Mountains	4.32	347	IAML		21 23 16.5	
	comp=E,2.3nm,1.4s						
I07A	Izee	4.33	324	IAML		21 22 41.5	
	comp=E,5.4nm,0.0s						
KNB	Kanab	4.36	145	IAML		21 23 09.5	
	comp=N,3.4nm,1.3s						
KNB				IAML		21 23 12.4	
	comp=E,3.5nm,1.5s						
IMW	Indian Meadow	4.93	47		Pg	21 22 20.2	-0.3
IMW				IAML		21 23 34.3	
	comp=E,3.9nm,0.6s						
IMW				IAML		21 23 44.8	
	comp=E,3.0nm,1.5s						
LOHW	Long Hollow	4.95	51	Pn	Pn	21 22 00.2	-1.5
LOHW				IAML		21 24 31.2	
	comp=E,1.8nm,1.1s						
V12A	Nelson	4.99	170	Pg	Pg	21 22 20.5	-1.0
V12A				IAML		21 23 39.6	
	comp=N,2.3nm,1.4s						
U15A	North Rim	5.09	145	IAML		21 23 58.2	
	comp=E,3.1nm,1.4s						

*CATAC **04** 21:59:05.9±1.0, 9°.38N×84°.48W, h4km±5km, ML2.8*
*UCR **04** 21:59:06.0±1.1, 9°.34N×84°.47W, h29km±7km, MW3.6*

ISC 04 21:59:05.5±1.7**, 9°.35N**±0°.10×**84°.47W**±0°.04**, h18**km**, n18, σ0ˢ.50**/20**, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACO	JACO, Garabito	0.37	329	eP	Pg	21 59 13.3	+0.1
JACO	JACO, Garabito	0.37	329	i P	Pg	21 59 11.8	-1.4
JACO				IAML		21 59 13.8	
	comp=Z,380nm,1.0s						
ABE2	San Pablo	0.54	49	eP	Pg	21 59 16.9	+0.4
LCR2	La Lucha 2	0.60	49	eP	Pg	21 59 17.7	+0.1
LCR2	La Lucha 2	0.60	49	i P	Pg	21 59 17.3	-0.2
LCR2				IAML		21 59 18.0	
	comp=Z,490nm,1.0s						
LCR2				i S	Sb	21 59 26.8	+1.0
CBL1	Cabuya	0.66	292	eP	Pb	21 59 18.7	+0.3
CDM	Cerro de Muert	0.72	73	eP	Pb	21 59 19.9	+0.1
CDM	Cerro de Muert	0.72	73	i P	Pb	21 59 19.5	-0.3
CDM				IAML		21 59 34.8	
	comp=Z,350nm,1.0s						
BUS1	Rivas	0.74	74	eP	Pb	21 59 19.9	-0.2
OCM	Ochomogo	0.74	42	eP	Pb	21 59 19.8	-0.2
OCM	Ochomogo	0.74	42	i P	Pb	21 59 19.7	-0.3
OCM				i S	Sb	21 59 29.2	-0.6
OCM				IAML		21 59 33.9	
	comp=Z,270nm,1.0s						
HAYA	Volcan Irazu	0.88	44	i P	Pb	21 59 22.4	-0.1
HAYA				IAML		21 59 39.4	
	comp=Z,870nm,1.0s						
VICA	Volcano Irazu	0.88	44	eP	Pb	21 59 22.4	-0.2
ICR3	Volcano Irazu	0.89	45	eP	Pb	21 59 22.6	0.0
CPMI	Catarata Coope	0.94	5	i P	Pb	21 59 23.6	+0.3
CPMI				IAML		21 59 38.9	
	comp=Z,190nm,1.0s						
SOCE	Pocosol	1.04	352	eP	Pb	21 59 25.3	+0.3
SOCE	Pocosol	1.04	352	i P	Pb	21 59 25.3	+0.3
SOCE				IAML		21 59 45.1	
	comp=Z,370nm,1.0s						
INDI	Punta indio, G	1.15	297	i P	Pg	21 59 27.7	+0.1
INDI				IAML		21 59 30.6	
	comp=Z,76nm,1.0s						

*NSSP **04** 22:03:31.1, 38°.55N×43°.23E, h5km, Ms3.5*
*ISK **04** 22:03:31.6, 38°.65N×43°.18E, h1km, ML3.6/18*
*AFAD **04** 22:03:32.3±0.0, 38°.65N×43°.16E, h7km±2km, MW3.6*
*AZER **04** 22:03:51.1, 39°.08N×44°.54E, h12km, ml2.9*

ISC 04 22:03:32.3±0.9**, 38°.64N**±0°.02×**43°.29E**±0°.02**, h20**km±5km**, n79, σ2ˢ.96**/123**, 1C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.09	120	Pg	Pg	22 03 37.2	+0.9
VANB				Sg	Sg	22 03 41.4	+2.4
TVAN	Van	0.15	140	P	Pg	22 03 37.2	+0.2
TVAN				S	Sg	22 03 40.7	+0.6
TVAN				i AML	AML	22 03 41.0	
	comp=E,4µm,0.4s						
TVAN				i AML	AML	22 03 42.0	
	comp=N,1µm,0.3s						
GEVA	Gevas	0.38	209	P	Pg	22 03 39.9	-0.4
GEVA				S	Sg	22 03 45.5	-0.3
GEVA				i AML	AML	22 03 47.0	
	comp=N,6µm,0.5s						
GEVA				i AML	AML	22 03 54.0	
	comp=E,4µm,0.5s						
ERCV	ERCIS-VAN	0.38	6	Pg	Pg	22 03 40.2	-0.2
ERCV				Sg	Sb	22 03 46.7	+0.6
AKDM	Akdamar-Van	0.40	218	Pg	Pg	22 03 39.9	-0.8
AKDM				Sg	Sg	22 03 45.9	-0.5
VMUR	Van-Muradiye	0.41	33	P	Pb	22 03 41.7	+0.6
VMUR				S	Sn	22 03 48.8	-1.7
VMUR				i AML	AML	22 03 50.0	
	comp=E,6µm,0.3s						
VMUR				i AML	AML	22 03 51.0	
	comp=N,5µm,0.3s						
ADCV	BITLIS_Adilcev	0.47	291	P	Pg	22 03 40.7	-1.3
ADCV				S	Sg	22 03 47.9	-0.7
ADCV				i AML	AML	22 03 49.0	
	comp=E,2µm,0.6s						
ADCV				i AML	AML	22 03 56.0	
	comp=N,4µm,0.8s						
OZAP	Van, Ozalp-Mer	0.55	88	P	Pn	22 03 44.9	-0.4
OZAP				i AML	AML	22 04 03.0	
	comp=E,1µm,1.0s						
OZAP				i AML	AML	22 04 09.0	
	comp=N,735nm,0.8s						
CLDR	Caldiran	0.70	44	Pg	Pn	22 03 47.1	-0.3
CLDR				Sg	Sn	22 03 58.7	+0.9
CLDR	Caldiran	0.70	44	P	Pn	22 03 46.9	-0.4
CLDR				S	Sn	22 03 58.2	+0.5
CLDR				i AML	AML	22 04 06.0	
	comp=N,2µm,0.9s						
CLDR				i AML	AML	22 04 07.0	
	comp=E,2µm,0.8s						
MLAZ	Malazgirt-MUS	0.76	311	Pg	Pb	22 03 46.2	-0.8
DORK	Agr/Tutak/Do	0.84	332	P	Pb	22 03 47.5	-0.9
DORK				i AML	AML	22 04 06.0	
	comp=N,1µm,0.6s						
DORK				i AML	AML	22 04 06.0	
	comp=E,919nm,0.6s						
PERV	Siirt/Pervari-	0.91	220	P	Pb	22 03 49.5	0.0
PERV				i AML	AML	22 04 08.0	
	comp=N,1µm,1.0s						
PERV				i AML	AML	22 04 08.0	
	comp=E,1µm,0.5s						
BLIS	Bitlis-Merkez	0.95	256	P	Pb	22 03 49.3	-0.9
BLIS				S	Sb	22 04 01.2	-1.1
BLIS				i AML	AML	22 04 06.0	
	comp=N,2µm,0.7s						
BLIS				i AML	AML	22 04 07.0	
	comp=E,1µm,0.9s						
DYDN	Diyadin	0.95	19	P	Pb	22 03 50.5	+0.2
DYDN				S	Sb	22 04 02.8	+0.2
DYDN				i AML	AML	22 04 11.0	
	comp=E,410nm,0.7s						
DYDN				i AML	AML	22 04 22.0	
	comp=N,402nm,1.4s						
AGRB	Hanur-Agry	0.96	346	Pg	Pb	22 03 50.0	-0.4
GURO	Guroymak-BITLI	0.99	265	Pg	Pb	22 03 50.1	-0.7
HAKT	HAKKARI	1.13	163	P	Pb	22 03 53.5	+0.2
HAKT				S	Sg	22 04 12.6	+3.4
KOTA	Agri, Merkez-K	1.16	357	P	Pb	22 03 54.0	+0.1
KOTA				S	Sg	22 04 10.1	-0.1
YOVA	Hakkari_Yksek	1.32	143	P	Pg	22 03 58.1	+0.3
YOVA				S	Sg	22 04 16.4	+1.3
YOVA				i AML	AML	22 04 22.0	
	comp=E,336nm,0.6s						
YOVA				i AML	AML	22 04 25.0	
	comp=N,243nm,0.9s						
SIRN	Sırnak	1.34	211	P	Pg	22 03 57.9	-0.3
SIRN				S	Sg	22 04 17.2	+1.6
SIRN				i AML	AML	22 04 21.0	
	comp=N,431nm,1.2s						
SIRN				i AML	AML	22 04 25.0	
	comp=E,514nm,0.8s						
EATA	Eleskirt	1.37	333	P	Pb	22 03 57.2	-0.2
EATA				i AML	AML	22 04 21.0	
	comp=N,452nm,0.8s						
EATA				i AML	AML	22 04 28.0	
	comp=E,336nm,0.6s						
IGDI	IGDIR	1.37	26	P	Pg	22 03 58.6	-0.2
IGDI				i AML	AML	22 04 21.0	
	comp=N,171nm,1.2s						
IGDI				i AML	AML	22 04 23.0	
	comp=E,236nm,0.8s						
MUSM	Mu-Merkez	1.39	274	P	Pn	22 03 56.5	-0.3
MUSM				i AML	AML	22 04 18.0	
	comp=N,191nm,0.5s						
MUSM				i AML	AML	22 04 23.0	
	comp=E,127nm,0.5s						
CUKT	Cukurca	1.42	170	Pn	Pg	22 03 59.5	-0.2
CUKT	Cukurca	1.42	170	P	Pg	22 03 59.4	-0.2
CUKT				S	Sg	22 04 22.9	+4.7
CUKT				i AML	AML	22 04 26.0	
	comp=N,2µm,0.8s						
CUKT				i AML	AML	22 04 31.0	
	comp=E,1µm,0.8s						
VNNZ	Vanand	1.52	16	eP	Pg	22 04 01.1	-0.5
VNNZ				eS	Sg	22 04 24.0	+2.6
VRTB	Varto-Mus	1.52	290	Pn	Pb	22 03 59.4	-0.5
VRTB	Varto-Mus	1.52	290	P	Pn	22 03 59.2	+0.6
VRTB				i AML	AML	22 04 24.0	
	comp=E,459nm,0.7s						
VRTB				i AML	AML	22 04 33.0	
	comp=N,696nm,0.8s						
TASB	TASBURUN-IGDIR	1.53	29	Pn	Pg	22 04 01.6	-0.2
HYR	Heyderabad	1.62	48	P	Pg	22 04 03.9	+0.3
HYR				S	Sn	22 04 14.4	-5.9
METS	Metsamor	1.63	22	eP	Pg	22 04 04.0	+0.3
METS				eS	Sg	22 04 28.7	+3.8
SVAN	Silvan-Diyarba	1.71	254	Pn	Pb	22 04 02.5	-0.6
SVAN	Silvan-Diyarba	1.71	254	P	Pg	22 04 04.2	-1.1
NRKZ	NAREK	1.72	38	eP	Pg	22 04 04.7	-0.8
NRKZ				eS	Sg	22 04 29.7	+1.7
KOPR	Koprukoy-ERZUR	1.75	321	Pn	Pb	22 04 03.6	-0.2
ARUZ	Aruch	1.75	21	eP	Pg	22 04 05.5	-0.6
ARUZ				eS	Sg	22 04 31.3	+2.4
BTMN	Batman	1.76	245	P	Pg	22 04 05.2	-1.0
NAX	Nakhchivan	1.80	72	P	Pg	22 04 05.8	-1.2
NAX				S	Sn	22 04 16.7	-8.0
KARO	Karliova-Bingo	1.87	292	Pn	Pb	22 04 04.8	-1.1
GNI	Garni	1.88	36	⇑iP	Pb	22 04 07.0	+0.9
GNI				⇓iS	Sg	22 04 34.0	+1.0
AMBZ	Amberd	1.90	23	eP	Pg	22 04 07.9	-0.9
AMBZ				eS	Sg	22 04 35.6	+2.0
SBZ	Shahbuz	1.92	66	P	Pb	22 04 07.6	+0.9
SBZ				S	Sn	22 04 19.5	-8.1
KARS	Kars	1.99	355	Pn	Pb	22 04 07.9	0.0
KAPZ	Kaputan	2.00	33	eP	Pb	22 04 09.2	+1.0
KAPZ				eS	Sg	22 04 37.9	+1.0
SENK	Senkaya-Erzuru	2.05	340	Pn	Pb	22 04 07.9	-1.1
ORD	Ordubad	2.13	81	P	Pg	22 04 12.7	-0.7
ORD				S	Sn	22 04 28.8	-4.1
YEDI	Yedisu-Bingol	2.28	291	Pn	Pn	22 04 10.4	+1.4
MAZI	Mazidag	2.53	243	Pn	Pn	22 04 14.6	+2.2
DYBB	Diyarbakir	2.57	255	Pn	Pn	22 04 14.9	+2.0
GDB	GEDABAY	2.82	42	P	Pb	22 04 23.4	+1.3
GDB				S	Sn	22 04 47.9	-2.0
QZX	Qazax, Azerbai	2.90	33	P	Pg	22 04 25.8	-2.1
QZX				S	Sn	22 04 52.1	+0.5
GANJ	Ganja	3.08	49	P	Pb	22 04 26.0	-0.4
GANJ				S	Sn	22 04 52.7	-3.5
QRD	Qoradiz	3.25	74	P	Pb	22 04 27.1	-2.2
QRD				S	Sn	22 04 55.1	-5.1
AGDM	Agdam	3.30	62	P	Pb	22 04 28.0	-2.3
AGDM				S	Sn	22 04 56.4	-5.3
BRDA	Brd	3.42	61	P	Pb	22 04 29.7	-2.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRDA				S	Sn	22 04 59.4	-5.1
BLQ	Beylaqan	3.49	71	P	Pb	22 04 30.6	-2.8
BLQ				S	Sn	22 05 00.9	-5.3
MNGR	Mingechevir, A	3.62	53	P	Pb	22 04 32.8	-2.8
MNGR				S	Sn	22 05 05.0	-4.4
ZRD	Zardab	3.78	63	P	Pb	22 04 34.3	-4.0
ZRD				S	Sn	22 05 07.8	-5.4
YRD	Yardimli	3.88	84	P	Pb	22 04 36.6	-3.6
YRD				S	Sn	22 05 12.4	-3.7
ZKTA	Zakatala	3.94	39	P	Pb	22 04 38.9	-2.1
ZKTA				S	Sn	22 05 15.7	-1.5
SEKA	Sheki	3.95	48	P	Pb	22 04 38.6	-2.7
SEKA				S	Sn	22 05 15.0	-2.7
LRK	Lerik	3.96	88	P	Pb	22 04 38.3	-3.1
LRK				S	Sn	22 05 15.1	-2.8
GLBA	Clilabad	4.03	80	P	Pb	22 04 38.4	-4.2
GLBA				S	Sn	22 05 15.4	-4.0
KDMR	Kurdemir	4.17	64	P	Pn	22 04 39.3	+4.6
KDMR				S	Sn	22 05 17.4	-5.4
SAAT	Saatly	4.17	71	S	Sn	22 05 17.6	-5.3
QBL	Gabala	4.19	55	P	Pb	22 04 40.4	-5.0
QBL				S	Sn	22 05 18.6	-5.0
LKRN	Lenkeran, Azer	4.30	87	P	Pb	22 04 43.0	-4.1
LKRN				S	Sn	22 05 23.5	-2.6
ASTR	Astara	4.31	89	P	Pb	22 04 43.4	-4.0
ASTR				S	Sn	22 05 24.2	-2.3
IML	Ismayilli	4.34	59	P	Pn	22 04 42.4	+5.2
IML				S	Sn	22 05 22.2	-5.1
XNQ	Khinaliq	4.51	54	P	Pn	22 04 45.1	+5.5
XNQ				S	Sn	22 05 26.9	-4.7
PQL	Pirkuli	4.62	61	P	Pn	22 04 46.3	+5.2
PQL				S	Sn	22 05 28.9	-5.3
GBS	Qobustan	4.76	65	S	Sn	22 05 31.9	-5.7
QSAR	Qusar	4.78	51	P	Pn	22 04 48.8	+5.6
QSAR				S	Sn	22 05 33.8	-4.1
QUBA	Quba, Azerbaij	4.83	54	P	Pn	22 04 49.2	+5.3
QUBA				S	Sn	22 05 34.4	-4.9
ATGJ	Altiaghaj	4.89	61	P	Pn	22 04 49.9	+5.1
ATGJ				S	Sn	22 05 35.4	-5.4
SIZA	Siyzn	4.96	59	S	Sn	22 05 36.6	-5.9
GOBA	Gobu	5.29	69	S	Sn	22 05 45.8	-4.7
NDR	Nardaran	5.52	67	S	Sn	22 05 50.9	-5.4

*IDC **04** 22:45:45.7±0.8, 0°.56N×25°.42W, h0km, mb4.2/14, mbtmp4.2/15, ML4.4/1, MS3.8/56, Error ellipse: s-maj=25.3km s-min=19.2km az=169.0*

*NEIC **04** 22:45:47.9±1.6, 0°.7N±0°.1×25°.4W±0°.1, h10km±1km, mb4.9/60, Error ellipse: s-maj=27.0km s-min=18.0km az=145.0*

*GCMT **04** 22:45:50.9±0.3, 0°.83N±0°.03×25°.29W±0°.02, h19km±1km, MW4.8/76, Moment Tensor Solution. s21,c21; s76,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.31±.10; $M_{\theta\theta}$0.41±.09; $M_{\phi\phi}$-0.09±.08; $M_{r\theta}$0.23±.17; $M_{\theta\phi}$-1.73±.09; $M_{\phi r}$-0.41±.19; Best double couple: $M_0$1.80100×10^{16} NP1:ϕ_s176.00000°, δ87.00000°, λ13.00000°. NP2: ϕ_s85.00000°, δ77.00000°, λ177.00000°. Principal axes: T 1.9900, Plg11.0000°, Azm41.0000°; N -0.3780, Plg77.0000°, Azm187.0000°; P -1.6120, Plg7.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 22:45:47.4±0.5**, 0°.6N**±0°.1×**25°.47W**±0°.09**, h12**km**, n136, σ1s.03**/85**, mb4.8**/45**, MS3.8**/55**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	12.21	238	Pn	Pn	22 48 40.7	-0.7
	2.1nm,0.3s,baz=65,slow=15,SNR=15						
RCBR				Sn	Sn	22 50 48.5	-9.1
	0.3nm,0.3s,baz=139,slow=20,SNR=2.2						
RCBR				LR	LR	22 52 10.3	
	comp=Z,623nm,21.6s,baz=63,slow=31						
	22nm,0.8s						
H10N3	ASCENSION HYDR	13.77	128	T	T	23 02 56.6	
	baz=306,slow=74,SNR=650						
H10N2	ASCENSION HYDR	13.78	128	T	T	23 02 56.9	
	baz=306,slow=74,SNR=469						
H10N1	ASCENSION HYDR	13.79	128	T	T	23 03 02.4	
	baz=306,slow=74,SNR=723						
H10S3	ASCENSION HYDR	14.34	132	T	T	23 03 34.0	
	baz=306,slow=74,SNR=263						
H10S2	ASCENSION HYDR	14.36	132	T	T	23 03 38.1	
	baz=274,slow=74,SNR=90						
SACV	Santiago Islan	14.41	7	Pn	Pn	22 49 09.8	-1.5
DBIC	Dimbokro	21.43	73	P	P	22 50 34.6	-1.0
DBIC	Dimbokro	21.43	73	P	P	22 50 34.6	-1.0
	16nm,0.9s,baz=248,slow=12,SNR=29						
DBIC				LR	LR	22 57 00.6	
	comp=Z,200nm,21.5s,baz=221,slow=32						
	16nm,0.9s						
BDFB	Brasilia	27.50	233	LR	LR	23 01 20.6	
	comp=Z,528nm,20.4s,baz=64,slow=34						
MDP	Montagnes des	27.50	280	LR	LR	23 00 18.6	
	comp=Z,103nm,20.6s,baz=117,slow=32						
TOA0	Torodi Ar. Sit	29.66	64	P	P	22 51 51.6	-1.6
TORD	Torodi Ar. Bea	29.66	64	P	P	22 51 51.9	-1.4
TORD	Torodi Ar. Bea	29.66	64	P	P	22 51 52.4	-0.9
	4.4nm,0.9s,baz=262,slow=8.3,SNR=21						
TORD				LR	LR	23 02 02.9	
	comp=Z,251nm,20.9s,baz=288,slow=33						
	4.4nm,0.9s						
TAM	Tamanrasset	37.34	52	P	P	22 52 58.7	-1.6
MDT	Midelt	37.59	29	LR	LR	23 08 09.2	
	comp=Z,196nm,18.1s,baz=250,slow=36						
SIV	San Ignacio	38.82	243	LR	LR	23 08 37.1	
	comp=Z,341nm,18.3s,baz=106,slow=35						
PCRV	Puerto La Cruz	40.09	285	LR	LR	23 08 18.9	
	comp=Z,77nm,21.8s,slow=34						
CPUP	Villa Florida	40.74	227	LR	LR	23 09 20.1	
	comp=Z,118nm,20.8s,baz=53,slow=35						
PLTB	Pedras Altas	41.77	217	P	P	22 53 37.5	+0.5
BAUV	El Baul	43.19	282	P	P	22 53 49.3	+0.6
BAUV				IAmb	IAmb	22 53 52.3	
	comp=Z,14nm,1.0s						
ESDC	Sonseca Array	43.57	24	P	P	22 53 51.7	+0.3
	comp=Z,1.0nm,0.7s,baz=213,slow=9.2,SNR=5.9						
ESDC				LR	LR	23 09 34.1	
	comp=Z,93nm,18.9s,baz=280,slow=33						
	comp=Z,1.0nm,0.7s						
SJG	San Juan	43.59	296	LR	LR	23 09 02.3	
	comp=Z,54nm,18.3s,baz=112,slow=32						
LPAZ	La Paz	45.30	246	P	P	22 54 05.5	-0.8
SDV	Santo Domingo	45.71	282	LR	LR	23 10 54.2	
	comp=Z,53nm,21.4s,baz=93,slow=33						
TSUM	Tsumeb	46.59	117	LR	LR	23 09 34.8	
	comp=Z,202nm,20.0s,baz=301,slow=31						
KEST	Kesra	47.63	39	LR	LR	23 14 41.6	
	comp=Z,358nm,21.6s,baz=196,slow=36						
LVC	Limon Verde	48.16	239	LR	LR	23 15 28.9	
	comp=Z,92nm,20.0s,baz=46,slow=37						
ROSC	El Rosal	48.97	276	LR	LR	23 14 11.6	
	comp=Z,144nm,19.3s,baz=358,slow=35						
GO02	Mina Guanaco	49.75	236	P	P	22 54 41.2	+0.8
GO02				IAmb	IAmb	22 54 50.7	
	comp=Z,10nm,0.9s						
ORTC	Ortega, Tolima	49.84	275	*e*P	P	22 54 37.4	-3.6
GUY2C	Guyana, Caldas	50.03	276	*e*P	P	22 54 43.0	+0.1
PLMC	San Jos del P	50.92	276	*e*P	P	22 54 49.1	-0.1
CFA	Coronel Fontan	51.61	228	LR	LR	23 16 28.7	
	comp=Z,62nm,18.4s,baz=78,slow=36						
VAE	Valguarnera	51.93	40	LR	LR	23 19 16.4	
	comp=Z,352nm,19.1s,baz=185,slow=39						
NNA	Nana	52.51	254	LR	LR	23 18 30.9	
	comp=Z,32nm,18.5s,baz=64,slow=37						
BOSC	San Juan Bosco	53.13	266	P	P	22 55 05.3	-0.5
BOSC				IAmb	IAmb	22 57 03.6	
	comp=Z,7.4nm,0.5s						
ATAH	Atahualpa	53.35	261	LR	LR	23 19 07.7	
	comp=Z,91nm,18.2s,baz=70,slow=38						
COHC	Cochancay	53.86	267	P	P	22 55 10.6	-0.3
SUR	Sutherland	54.60	131	LR	LR	23 13 16.2	
	comp=Z,100nm,21.5s,baz=304,slow=30						
LSZ	Lusaka	55.30	109	LR	LR	23 14 43.3	
	comp=Z,51nm,20.6s,baz=289,slow=32						
LBTB	Lobatse	55.54	121	LR	LR	23 15 09.7	
	comp=Z,75nm,19.8s,baz=289,slow=32						
BOSA	Boshof	56.52	125	P	P	22 55 30.0	0.0
	comp=Z,2.8nm,0.9s,baz=297,slow=7.1,SNR=1.8						
BOSA				LR	LR	23 16 12.6	
	comp=Z,65nm,18.2s,baz=344,slow=32						
	comp=Z,2.8nm,0.9s						
PLCA	Paso Flores	58.00	219	LR	LR	23 19 25.8	
	comp=Z,68nm,19.2s,baz=19,slow=35						
IDI	Anoyia	58.15	48	LR	LR	23 22 36.9	
	comp=Z,52nm,18.5s,baz=276,slow=38						
KHC	Kasperske Hory	58.81	29	*e*P	P	22 55 46.3	+0.5
ZST	Bratislava	59.98	32	*e*P	P	22 55 56.3	+2.5
VRAC	Vranov	60.42	30	LR	LR	23 20 45.0	
	comp=Z,45nm,18.5s,baz=263,slow=35						
PSZ	Piszkesteto	61.30	33	P	P	22 56 03.0	+0.1
PSZ				IAmb	IAmb	22 56 13.8	
	comp=Z,6.4nm,1.0s						
LANS	Liptovska Anna	61.80	32	*e*P	P	22 56 07.9	+1.7
KMBO	Kilima Mbogo	62.74	92	LR	LR	23 21 35.5	
	comp=Z,36nm,18.2s,baz=82,slow=34						
MLR	Muntele Rosu	63.52	38	P	P	22 56 17.5	-0.4
MLR				IAmb	IAmb	22 56 31.2	
	comp=Z,15nm,1.3s						
MLR	Muntele Rosu	63.52	38	LR	LR	23 26 36.8	
	comp=Z,152nm,18.4s,baz=259,slow=39						
SCHQ	Schefferville	63.73	335	P	P	22 56 19.6	+0.7
	comp=Z,5.8nm,0.8s,baz=145,slow=5.6,SNR=8.5						
SCHQ				LR	LR	23 20 36.5	
	comp=Z,73nm,19.8s,baz=105,slow=33						
	comp=Z,5.8nm,0.8s						
BORG	Borgarnes	64.08	2	LR	LR	23 16 02.9	
	comp=Z,131nm,21.0s,baz=183,slow=28						
EIL	Elat	64.24	57	LR	LR	23 23 26.6	
	comp=Z,69nm,21.5s,baz=252,slow=35						
TKL	Tuckaleechee C	64.29	310	LR	LR	23 22 35.7	
	comp=Z,44nm,18.5s,baz=100,slow=34						
MMAI	Mount Meron Ar	65.51	54	LR	LR	23 27 43.0	
	comp=Z,46nm,19.1s,baz=244,slow=38						
BRTR	Keskin Array B	66.27	46	P	P	22 56 35.5	-0.4
BRTR	Keskin Array B	66.27	46	P	P	22 56 36.0	+0.1
	comp=Z,1.5nm,0.8s,baz=248,slow=6.5,SNR=4.1						
BRTR				LR	LR	23 26 56.3	
	comp=Z,100nm,20.0s,baz=261,slow=37						
	comp=Z,1.5nm,0.8s						
NB2	NORSAR Subarra	66.47	18	P	P	22 56 40.2	+3.6
	comp=Z,4.1nm,1.2s,baz=221,slow=6.5						
NOA	NORSAR Array B	66.47	18	LR	LR	23 23 25.4	
	comp=Z,34nm,18.1s,baz=215,slow=34						
AKASG	Malin Array Be	67.95	34	P	P	22 56 46.0	-0.2
	comp=Z,1.7nm,0.6s,baz=241,slow=6.1,SNR=5.1						
AKASG				LR	LR	23 25 54.1	
	comp=Z,59nm,20.7s,baz=289,slow=35						
	comp=Z,1.7nm,0.6s						
CMIG	Matias Romero	70.17	288	LR	LR	23 27 07.5	
	comp=Z,18nm,21.9s,baz=66,slow=35						
FINES	FINESS Array B	72.08	23	P	P	22 57 12.0	+0.7
	comp=Z,2.9nm,0.8s,baz=199,slow=5.2,SNR=5.9						
	comp=Z,2.9nm,0.8s						
SUMG	Summit	72.34	356	*i* P	P	22 57 08.0	-5.2
RLO	Rose Lookout	73.22	308	P	P	22 57 17.7	-1.0
RLO				IAmb	IAmb	22 57 19.7	
	comp=Z,11nm,1.0s						
KBZ	Khabaz	74.08	44	P	P	22 57 24.9	+1.4
	comp=Z,0.7nm,0.8s,baz=250,slow=12,SNR=1.8						
KBZ				LR	LR	23 31 35.5	
	comp=Z,49nm,19.2s,baz=279,slow=37						
	comp=Z,0.7nm,0.8s						
Z35A	Perchaven, San	74.50	304	P	P	22 57 26.3	+0.1
W35A	Tecumseh	74.51	306	P	P	22 57 26.2	0.0
T35A	Sooner Cattle	74.55	308	P	P	22 57 26.6	+0.1
T35A				IAmb	IAmb	22 57 27.5	
	comp=Z,12nm,0.8s						
LOOK	Love County	74.55	305	P	P	22 57 25.8	-0.7
GNI	Garni	74.57	48	LR	LR	23 32 24.5	
	comp=Z,41nm,18.8s,baz=288,slow=38						
N35A	Tabor	74.70	312	P	P	22 57 27.0	-0.2
WTFS	Witchita Falls	75.57	305	P	P	22 57 31.7	-0.7
833A	Chaparral WMA,	75.59	299	P	P	22 57 33.3	+0.7
BRDY	Brady	75.64	302	P	P	22 57 32.7	-0.2
BRDY				IAmb	IAmb	22 57 34.1	
	comp=Z,7.3nm,0.8s						
ECSD	EROS Data Cent	76.04	315	P	P	22 57 35.1	+0.2
ECSD				IAmb	IAmb	22 57 44.6	
	comp=Z,14nm,1.3s						
DAG	Danmarks Havn	76.20	2	*i* P	P	22 57 35.0	-0.1
ABTX	Abilene, Hawle	76.37	303	P	P	22 57 37.5	+0.4
ABTX				IAmb	IAmb	22 57 38.1	
	comp=Z,15nm,1.1s						
DRIO	Del Rio	76.79	300	P	P	22 57 39.6	+0.1
ULM	Lac du Bonnet	77.11	322	LR	LR	23 28 55.2	
	comp=Z,34nm,18.1s,baz=38,slow=34						
SMWD	Samnorwood	77.22	306	P	P	22 57 42.0	+0.2
OZNA	Ozona	77.40	301	P	P	22 57 41.8	-1.1
OZNA				IAmb	IAmb	22 57 44.6	
	comp=Z,8.9nm,0.8s						
POST	Post	77.98	304	P	P	22 57 46.6	+0.4
SAND	Sanderson	78.15	300	P	P	22 57 47.7	+0.6
FCC	Fort Churchill	78.54	330	P	P	22 57 48.2	-0.3
FCC				IAmb	IAmb	22 57 50.3	
	comp=Z,13nm,1.2s						
MSTX	Muleshoe	79.15	304	P	P	22 57 52.7	+0.1
MSTX				IAmb	IAmb	22 57 54.7	
	comp=Z,10nm,0.8s						
BELG	Belogornoye	79.26	37	LR	LR	23 35 10.1	
	comp=Z,53nm,18.0s,baz=142,slow=37						
TX31	Lajitas Ar. Si	79.42	300	P	P	22 57 53.7	-0.5
TX31				IAmb	IAmb	23 00 08.7	
	comp=Z,27nm,1.9s						
TXAR	Lajitas Array	79.42	300	P	P	22 57 53.9	-0.3
TXAR	Lajitas Array	79.42	300	P	P	22 57 54.6	+0.4
	comp=Z,2.2nm,0.8s,baz=121,slow=7.0,SNR=19						
TXAR				LR	LR	23 32 11.1	
	comp=Z,18nm,19.1s,baz=82,slow=35						
	comp=Z,2.2nm,0.8s						
ALPN	Alpine	79.50	301	P	P	22 57 54.7	+0.1
PECS	Pecos	79.79	302	P	P	22 57 56.1	0.0
PECS				IAmb	IAmb	22 57 58.4	
	comp=Z,13nm,0.8s						
VHRN	Van Horn	80.69	301	P	P	22 58 01.0	-0.1
VHRN				IAmb	IAmb	22 58 03.5	
	comp=Z,13nm,1.0s						
KIRV	Kirov	81.65	31	LR	LR	23 34 48.9	
	comp=Z,78nm,19.3s,baz=304,slow=36						
SDCO	Great Sand Dun	81.75	308	P	P	22 58 07.5	+0.7
DGMT	Dagmar	82.08	319	P	P	22 58 07.0	-0.9
ANMO	Albuquerque	82.27	305	LR	LR	23 30 56.5	
	comp=Z,34nm,18.8s,baz=165,slow=33						
N23A	Red Feather La	82.41	311	P	P	22 58 09.1	-1.0
SMCO	Snowmass	83.04	309	P	P	22 58 12.5	-1.1
SMCO				IAmb	IAmb	22 58 16.1	
	comp=Z,5.7nm,1.1s						
LAO	LASA Array	83.22	317	P	P	22 58 13.4	-0.6
RES	Resolute Bay	84.08	346	P	P	22 58 18.1	+0.4
RES				IAmb	IAmb	22 58 19.7	
	comp=Z,6.7nm,1.1s						
GEYT	Alibeck	84.57	52	P	P	22 58 21.9	+0.9
	comp=Z,0.2nm,0.3s,baz=289,slow=4.4,SNR=1.6						
	comp=Z,0.2nm,0.3s						
LPIG	La Paz	85.05	294	LR	LR	23 32 48.4	
	comp=Z,27nm,20.7s,baz=11,slow=33						
PDAR	Pinedale Array	85.25	313	P	P	22 58 24.9	+0.3
	comp=Z,2.0nm,1.0s,baz=86,slow=6.4,SNR=8.5						
PDAR				LR	LR	23 30 27.2	
	comp=Z,52nm,21.5s,baz=72,slow=31						
	comp=Z,2.0nm,1.0s						
AKTO	Aktyubinsk	85.39	40	LR	LR	23 39 00.8	
	comp=Z,49nm,21.0s,baz=206,slow=37						
BSUT	Blindstream Ca	86.03	310	P	P	22 58 27.9	-0.8
LOHW	Long Hollow	86.07	313	P	P	22 58 29.3	+0.7
LOHW				IAmb	IAmb	22 58 30.5	
	comp=Z,5.7nm,0.8s						
FLWY	Flagg Ranch	86.16	314	P	P	22 58 30.4	+1.4
FLWY				IAmb	IAmb	22 58 31.4	
	comp=Z,6.5nm,0.8s						
MOOW	Moose Ponds	86.17	314	P	P	22 58 29.7	+0.6
ARU	Arti	86.20	34	LR	LR	23 40 19.2	
	comp=Z,28nm,18.5s,baz=317,slow=38						
REDW	Red Top Meadow	86.23	313	P	P	22 58 29.9	+0.5
YHH	Holmes Hill	86.30	315	P	P	22 58 32.2	+2.4
TPAW	Teton Pass	86.31	313	P	P	22 58 31.1	+1.3
TPAW				IAmb	IAmb	22 58 31.9	
	comp=Z,9.1nm,0.8s						
IMW	Indian Meadow	86.32	314	P	P	22 58 31.2	+1.3
IMW				IAmb	IAmb	22 58 31.9	
	comp=Z,4.4nm,0.8s						
FXWY	Fox Creek	86.37	314	P	P	22 58 30.6	+0.4
FXWY				IAmb	IAmb	22 58 32.0	
	comp=Z,5.8nm,0.9s						
AHID	Auburn Hatcher	86.39	313	P	P	22 58 31.1	+0.9
AHID				IAmb	IAmb	22 58 31.9	
	comp=Z,8.4nm,0.9s						
YHL	Hebgen Lake	86.54	315	P	P	22 58 31.7	+0.7
YHL				IAmb	IAmb	22 58 34.1	
	comp=Z,8.1nm,1.0s						
TCUT	Toone Canyon	86.55	311	P	P	22 58 30.0	-1.1
HWUT	Hardware Ranch	86.69	311	P	P	22 58 31.9	+0.2
HWUT				IAmb	IAmb	22 58 33.5	
	comp=Z,5.6nm,0.8s						
NLU	North Lily Min	87.02	310	P	P	22 58 32.8	-0.6
MTPU	Mount Pierson	87.05	308	P	P	22 58 33.2	-0.6
MTPU				IAmb	IAmb	22 58 36.2	
	comp=Z,9.2nm,0.9s						
MVU	Marysvale	87.08	308	P	P	22 58 31.9	-1.9
W13A	Hualapai Mount	88.37	305	IAmb	IAmb	23 02 06.1	
	comp=Z,5.2nm,0.8s						
YKA	Yellowknife Ar	89.08	332	P	P	22 58 42.9	+0.6
	comp=Z,0.5nm,0.6s,baz=92,slow=5.2,SNR=7.9						
YKA				LR	LR	23 34 20.5	
	comp=Z,72nm,18.7s,baz=308,slow=33						
	comp=Z,0.5nm,0.6s						
PFO	Pinyon Flats O	90.50	303	LR	LR	23 40 29.5	
	comp=Z,29nm,19.0s,baz=66,slow=36						
GWY	Greenwater Val	90.63	306	P	P	22 58 50.1	-0.3
GWY				IAmb	IAmb	23 01 47.7	
	comp=Z,3.2nm,0.5s						
QSPA	South Pole Qui	90.66	180	P	P	22 58 50.3	+0.5
	comp=Z,2.6nm,1.0s,baz=209,slow=2.4,SNR=5.4						
	comp=Z,2.6nm,1.0s						
NEW	Newport	90.67	318	LR	LR	23 33 57.8	
	comp=Z,54nm,20.6s,baz=72,slow=32						
BMO	Blue Mountains	90.90	315	P	P	22 58 49.6	-1.8
BMO				IAmb	IAmb	22 58 53.3	
	comp=Z,4.1nm,0.9s						
YBH	Yreka Blue Hor	95.03	312	LR	LR	23 43 07.4	
	comp=Z,12nm,18.2s,baz=55,slow=36						
AAK	Ala-Archa	96.94	47	LR	LR	23 48 40.1	
	comp=Z,28nm,18.1s,baz=315,slow=39						
DLBC	Dease Lake	97.10	329	LR	LR	23 40 01.5	
	comp=Z,46nm,19.7s,baz=269,slow=34						
BBB	Bella Bella	97.28	323	LR	LR	23 39 49.5	
	comp=Z,49nm,19.7s,baz=106,slow=33						
ASAR	Alice Springs	149.56	140	PKPbc	PKPbc	23 05 37.5	-0.2
	comp=Z,1.3nm,0.8s,baz=216,slow=2.7,SNR=3.8						

*TAP **04** 23:08:40.3, 24°.86N×121°.97E, h86km, ML3.6, C*

*JMA **04** 23:08:40.1±0.1, 24°.8N±0°.5×122°.0E±0°.3, h88km±1km, MV2.6/15, TAIWAN REGION*

ISC 04 23:08:39.7±1.2**, 24°.87N**±0°.02×**121°.98E**±0°.02**, h92**km±4km**, n169, σ1s.00**/322**, 19C-35D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		0.05	241	*e*P	Pn	23 08 52.8	+0.2
	baz=232						
TWB1	Santiao Chiao	0.14	2	P	Pn	23 08 52.7	0.0
	baz=10.0						
TWB1				*e*S	Sn	23 09 01.0	-1.4
	baz=10.0						
TIPB	Shuangxi	0.17	305	*i* P	Pn	23 08 52.7	-0.2
	baz=300						
TIPB				*i* S	Sn	23 09 01.2	-1.5
	baz=300						
ILA	Ilan	0.24	244	*e*S	Sn	23 09 02.7	-0.3
	baz=248						
SXI1	Grass Mountain	0.24	336	⇑P	Pn	23 08 52.9	-0.3
	baz=332						
SXI1				S	Sn	23 09 02.3	-0.9
	baz=332						
NWF	Wu-fen Shan	0.27	317	⇑P	Pn	23 08 53.2	-0.2
	baz=316						
NWF				S	Sn	23 09 02.3	-1.1
	baz=316						
WFSB	Wu-fen Shan	0.27	317	P	Pn	23 08 53.3	+0.1
	baz=316						
WFSB				*i* S	Sn	23 09 02.3	-0.9
	baz=316						
TWC	Suao	0.29	205	P	Pn	23 08 53.2	-0.1
	baz=201						
TWC				*e*S	Sn	23 09 03.5	+0.2
	baz=201						
ESAO	Su ao	0.32	203	⇓P	Pn	23 08 54.0	+0.5
	baz=201						
ESAO				*e*S	Sn	23 09 04.0	+0.3
	baz=201						
TWE	Neicheng	0.32	243	*e*P	Pn	23 08 54.1	+0.7
	baz=241						
TWE				*e*S	Sn	23 09 04.7	+1.0
	baz=241						
TNOU	National Taiwa	0.34	326	P	Pn	23 08 53.0	-0.5
	baz=324						
TNOU				S	Sn	23 09 02.8	-1.1
	baz=324						
NDS	Dongshan	0.34	226	⇓P	Pn	23 08 54.5	+0.9
	baz=224						
NDS				*e*S	Sn	23 09 04.9	+1.1
	baz=224						
FUSB	Fushanzhiwuyua	0.38	253	⇓P	Pn	23 08 53.9	0.0
	baz=256						
FUSB				*i* S	Sn	23 09 04.3	-0.1
	baz=256						
TWA	Mucha	0.38	287	P	Pn	23 08 53.7	-0.2
	baz=293						
TWA				S	Sn	23 09 03.1	-1.2
	baz=293						
NHDH	Xindian Distri	0.43	283	⇓P	Pn	23 08 54.2	+0.1
	baz=287						
NHDH				*e*S	Sn	23 09 05.6	+0.8
	baz=287						
ENTT	Nioudou	0.44	239	*i* P	Pn	23 08 55.0	+0.7
	baz=237						
ENTT				S	Sn	23 09 05.7	+0.6
	baz=237						
NWLT	Wulai	0.45	258	⇑P	Pn	23 08 54.5	+0.2
	baz=264						
NWLT				S	Sn	23 09 04.6	-0.5
	baz=264						
TATO	Taipei	0.46	283	P	Pn	23 08 54.4	+0.1
EWUT	Wuta	0.46	204	P	Pn	23 08 54.7	+0.4
	baz=202						
EWUT				S	Sn	23 09 05.0	-0.2
	baz=202						
TAP	Taipei	0.47	291	*e*P	Pn	23 08 56.3	+1.9
	baz=296						
TAP				*e*S	Sn	23 09 06.0	+0.8
	baz=296						
YM01	YM01	0.47	306	⇑*i*P	Pn	23 08 54.4	-0.1
	baz=305						
YM01				*i* S	Sn	23 09 04.3	-1.1
	baz=305						
YM08	YM08	0.48	312	P	Pn	23 08 54.2	-0.3
	baz=310						
YM08				S	Sn	23 09 04.1	-1.4
	baz=310						
ENA	Nanau	0.49	207	P	Pn	23 08 54.8	+0.2
	baz=204						
ENA				S	Sn	23 09 05.5	-0.2
	baz=204						
EOS2	EOS2	0.50	153	⇑*e*P	Pn	23 08 55.2	+0.7
	baz=152						
EOS2				*e*S	Sn	23 09 06.2	+0.7
	baz=152						
NDT	Datong Townshi	0.51	238	⇓P	Pn	23 08 55.2	+0.5
	baz=247						
NDT				S	Sn	23 09 05.8	-0.1
	baz=247						
ANP	Anpu	0.53	307	⇑P	Pn	23 08 55.0	0.0
	baz=303						
ANP				S	Sn	23 09 05.4	-0.9
	baz=303						
LATG	Datong	0.53	231	⇑P	Pn	23 08 55.7	+0.7
	baz=235						
LATG				S	Sn	23 09 06.7	+0.3
	baz=235						
TWY	Chenhua	0.53	319	⇑P	Pn	23 08 55.1	+0.2
	baz=321						
TWY				S	Sn	23 09 05.9	-0.3
	baz=321						
NSM	Shimen	0.55	319	*i* P	Pn	23 08 55.1	+0.1
	baz=321						
NSM				*e*S	Sn	23 09 06.5	+0.1
	baz=321						
TWS1	Kuangyinshan	0.56	294	P	Pn	23 08 55.9	+0.7
	baz=298						
TWS1				*e*S	Sn	23 09 06.0	-0.6
	baz=298						
NTST	Danshui	0.57	301	⇓P	Pn	23 08 55.5	+0.3
	baz=305						
NTST				S	Sn	23 09 05.6	-1.0

	baz=305							
EAHA	Aohua	0.58	202	⇑P	Pn	23 08 55.6	+0.3
	baz=195						
EAHA				S	Sn	23 09 07.7	+0.7
	baz=195						
YHNB	Yeheng	0.59	250	P	Pn	23 08 55.5	0.0
YHNB	Yeheng	0.59	250	⇑P	Pn	23 08 55.7	+0.2
	baz=250						
YHNB				S	Sn	23 09 06.8	-0.3
	baz=250						
EHP	Heping Village	0.60	202	P	Pn	23 08 56.0	+0.5
	baz=192						
EHP				*e*S	Sn	23 09 07.9	+0.7
	baz=192						
NSK	Sanguang	0.60	251	P	Pn	23 08 55.3	-0.3
	baz=251						
NSK				*e*S	Sn	23 09 06.5	-0.9
	baz=251						
NTY	Taoyuan	0.64	282	⇑P	Pn	23 08 56.5	+0.7
	baz=282						
NTY				*e*S	Sn	23 09 08.9	+1.1
	baz=282						
EOS3	EOS3	0.66	152	⇓*e*P	Pn	23 08 56.8	+1.0
	baz=164						
EOS3				*e*S	Sn	23 09 08.8	+1.0
	baz=164						
NNS	Nan Shan	0.70	232	P	Pn	23 08 57.2	+0.7
	baz=237						
NNS				*i* S	Sn	23 09 09.2	+0.1
	baz=237						
NNSB	Datong	0.70	231	⇓P	Pn	23 08 57.0	+0.5
	baz=236						
NNSB				S	Sn	23 09 09.0	-0.1
	baz=236						
NNSH	Datong	0.70	231	⇑P	Pn	23 08 57.1	+0.6
	baz=235						
NNSH				S	Sn	23 09 09.0	-0.1
	baz=235						
NCU	National Centr	0.73	278	*e*P	Pn	23 08 57.3	+0.6
	baz=285						
NCU				*e*S	Sn	23 09 10.1	+0.8
	baz=285						
NCUH	Zhongli	0.73	278	⇓*i*P	Pn	23 08 57.2	+0.5
	baz=285						
NCUH				*i* S	Sn	23 09 09.9	+0.5
	baz=285						
PCYT	Pengchaiyu	0.76	6	⇓P	Pn	23 08 57.9	+0.9
	baz=14						
PCYT				S	Sn	23 09 10.1	+0.2
	baz=14						
NACB	Ninganchiao	0.78	207	P	Pn	23 08 56.6	-0.6
NACB	Ninganchiao	0.78	207	⇓P	Pn	23 08 56.6	-0.6
	baz=215						
NACB				*e*S	Sn	23 09 09.0	-1.2
	baz=215						
ETL	Fush Village	0.78	205	*e*P	Pn	23 08 56.8	-0.4
	baz=215						
ETL				*e*S	Sn	23 09 09.2	-1.1
	baz=215						
ETLH	Xiulin Townshi	0.80	215	⇓P	Pn	23 08 57.4	-0.1
	baz=213						
ETLH				*e*S	Sn	23 09 09.4	-1.4
	baz=213						
EOS4	EOS4	0.81	158	⇓*i*P	Pn	23 08 57.1	+0.1
	baz=165						
EOS4				S	Sn	23 09 10.1	+0.1
	baz=165						
NFF	Wufeng Townshi	0.82	253	⇓P	Pn	23 08 57.9	+0.2
	baz=252						
NFF				S	Sn	23 09 10.5	-0.6
	baz=252						
NJD	Zhudong	0.82	261	⇑*i*P	Pn	23 08 58.2	+0.5
	baz=260						
NJD				*i* S	Sn	23 09 11.4	+0.4
	baz=260						
NHW	Xinwu Township	0.86	279	P	Pn	23 08 58.8	+0.8
	baz=283						
NHW				*e*S	Sn	23 09 11.8	+0.1
	baz=283						
TWD	Chiawan	0.86	204	*i* P	Pn	23 08 58.3	+0.3
	baz=211						
TWD				*e*S	Sn	23 09 10.1	-1.7
	baz=211						
HSN1	Hsinchu	0.88	264	⇓P	Pn	23 08 58.9	+0.7
	baz=264						
HSN1				S	Sn	23 09 12.6	+0.5
	baz=264						
LIOB	Emei	0.91	256	*i* P	Pn	23 08 58.9	+0.3
	baz=247						
LIOB				S	Sn	23 09 12.6	0.0
	baz=247						
SBCB	Hsinchu	0.91	265	P	Pn	23 08 59.0	+0.5
	baz=265						
SBCB				S	Sn	23 09 13.0	+0.3
	baz=265						
FUSS	Fushou	0.92	228	⇑*e*P	Pn	23 08 59.7	+0.8
	baz=218						
FUSS				*e*S	Sn	23 09 13.1	-0.1
	baz=218						
HSN	Hsinchu	0.92	266	*i* P	Pn	23 08 58.6	0.0
	baz=267						
HSN				S	Sn	23 09 12.8	-0.1
	baz=267						
NSTT	Nanjuang	0.93	255	P	Pn	23 08 58.9	+0.2
	baz=246						
NSTT				*e*S	Sn	23 09 12.6	-0.3
	baz=246						
HWA	Hwalien	0.95	201	*e*P	Pn	23 08 59.8	+0.8
	baz=190						
HWA				*e*S	Sn	23 09 14.8	+1.3
	baz=190						
TWT	Tachien	0.96	230	P	Pn	23 09 00.4	+1.1
	baz=229						
TWT				S	Sn	23 09 14.7	+0.8
	baz=229						
JYNG	Yonagunijimaku	0.97	115	P	Pn	23 08 59.4	+0.2
JYNG				*e*S	Sn	23 09 13.6	-0.2
TDCB	Techi	0.97	231	⇓P	Pn	23 09 00.4	+1.0
	baz=229						
TDCB				S	Sn	23 09 14.4	+0.3
	baz=229						
WHF	Hehuan Shan	0.97	222	P	Pn	23 09 00.3	+0.6
	baz=213						
WHF				*e*S	Sn	23 09 14.0	-0.7
	baz=213						
LXIB	Xiulin Townshi	0.99	212	⇓*e*P	Pn	23 08 59.0	-0.6
	baz=200						
LXIB				*e*S	Sn	23 09 13.3	-1.2
	baz=200						
ETM	Tongmen	1.01	207	⇓P	Pn	23 08 58.8	-0.9
	baz=205						
ETM				S	Sn	23 09 13.5	-1.0
	baz=205						
YOJ	Yonaguni jima	1.02	113	P	Pn	23 09 00.1	+0.3
YOJ				*e*S	Sn	23 09 14.7	-0.1
NJN	Zhunan	1.03	260	*i* P	Pn	23 09 00.6	+0.7
	baz=253						
NJN				S	Sn	23 09 15.3	+0.3
	baz=253						
CHGB	Renai	1.09	223	⇓P	Pn	23 09 01.6	+0.7
	baz=213						
CHGB				S	Sn	23 09 16.6	-0.1
	baz=213						
WHP	Taichung City	1.11	238	⇑P	Pn	23 09 01.9	+1.0
	baz=237						
WHP				*i* S	Sn	23 09 17.7	+0.8
	baz=237						
SHUL	Shoufeng	1.15	200	⇓P	Pn	23 09 01.3	+0.1
	baz=191						
SHUL				S	Sn	23 09 17.1	-0.2
	baz=191						
ESL	Shilin	1.17	206	*e*P	Pn	23 09 02.2	+0.7
	baz=203						
ESL				*e*S	Sn	23 09 18.6	+0.8
	baz=203						
OWD	Renai	1.17	219	P	Pn	23 09 01.9	+0.2
	baz=211						
OWD				S	Sn	23 09 18.1	-0.1
	baz=211						
WUSB	Renai	1.18	222	⇓P	Pn	23 09 02.5	+0.7
	baz=214						
WUSB				*e*S	Sn	23 09 18.0	-0.3
	baz=214						
NSY	Sanyi	1.20	248	P	Pn	23 09 02.2	+0.3
	baz=246						
NSY				*e*S	Sn	23 09 19.0	+0.4
	baz=246						
TWQ1	Liyutan	1.22	245	*i* P	Pn	23 09 02.7	+0.6
	baz=243						
TWQ1				*e*S	Sn	23 09 19.5	+0.5
	baz=243						
TEGC	Jichi Village	1.23	199	*e*P	Pn	23 09 03.4	+1.2
	baz=192						
TEGC				*e*S	Sn	23 09 20.0	+0.9
	baz=192						
WPL	Puli Township	1.27	228	*e*P	Pn	23 09 04.1	+1.4
	baz=234						
WPL				*e*S	Sn	23 09 20.8	+0.8
	baz=234						
WCS	Beigang Elemen	1.27	231	⇑P	Pn	23 09 03.8	+1.1
	baz=237						
WCS				*e*S	Sn	23 09 20.6	+0.6
	baz=237						
WARBT	Fenglin Townsh	1.27	206	*e*P	Pn	23 09 01.5	-1.3
	baz=203						
WARBT				*e*S	Sn	23 09 19.8	-0.3
	baz=203						
DPDB	Guoxing	1.27	229	⇓P	Pn	23 09 04.0	+1.2
	baz=236						
DPDB				S	Sn	23 09 21.1	+0.9
	baz=236						
EGFH	Guangfu	1.30	203	⇓*i*P	Pn	23 09 02.9	-0.2
	baz=207						
EGFH				*e*S	Sn	23 09 22.0	+1.3
	baz=207						
WDJ	Dajia District	1.33	247	*e*P	Pn	23 09 04.2	+0.7
	baz=245						
WDJ				S	Sn	23 09 21.2	-0.1
	baz=245						
VWDT	VWDT	1.35	215	⇓P	Pn	23 09 04.3	+0.6
	baz=207						
VWDT				S	Sn	23 09 22.0	+0.2
	baz=207						
TCU	Taichung	1.39	239	*e*P	Pn	23 09 05.1	+0.9
	baz=237						
TCU				S	Sn	23 09 23.2	+0.5
	baz=237						
SMLT	Sun Moon Lake	1.39	225	P	Pn	23 09 06.2	+1.8
	baz=231						
SMLT				*e*S	Sn	23 09 23.4	+0.4
	baz=231						
TYC	Yuchr	1.41	227	P	Pn	23 09 05.7	+1.3
	baz=225						
TYC				*e*S	Sn	23 09 23.6	+0.5
	baz=225						
SSLB	Suanglung	1.43	221	P	Pn	23 09 06.0	+1.3
SSLB	Suanglung	1.43	221	⇓P	Pn	23 09 05.9	+1.1
	baz=229						
SSLB				S	Sn	23 09 24.8	+1.1
	baz=229						
WWF	Wufeng	1.43	235	*i* P	Pn	23 09 05.5	+0.8
	baz=233						
WWF				S	Sn	23 09 24.2	+0.6
	baz=233						
HGSD	Ruisui	1.46	201	⇓P	Pn	23 09 05.4	+0.2
	baz=207						
HGSD				S	Sn	23 09 24.8	+0.4
	baz=207						
EHY	Hungye	1.49	204	P	Pn	23 09 04.9	-0.5
	baz=195						
EHY				S	Sn	23 09 23.7	-1.2
	baz=195						
WCHH	Zhanghua	1.52	239	*i* P	Pn	23 09 06.3	+0.5
	baz=237						
WCHH				*e*S	Sn	23 09 26.6	+1.1
	baz=237						
WNT1	Nantou City	1.53	231	P	Pn	23 09 06.6	+0.7
	baz=238						
WNT1				S	Sn	23 09 26.7	+1.0
	baz=238						
WNT	Mingjian	1.54	230	⇓*i*P	Pn	23 09 07.1	+1.0
	baz=237						
WNT				S	Sn	23 09 26.5	+0.4
	baz=237						
WJS	Zhushan	1.55	228	⇓*i*P	Pn	23 09 07.3	+1.1
	baz=236						
WJS				S	Sn	23 09 27.4	+1.2
	baz=236						
WHYT	Xinyi Township	1.56	222	⇓P	Pn	23 09 07.9	+1.5
	baz=228						
WHYT				S	Sn	23 09 28.2	+1.7
	baz=228						
WYL	Yuanlin Townsh	1.57	235	P	Pn	23 09 07.4	+1.0
	baz=241						
WYL				S	Sn	23 09 27.4	+0.8
	baz=241						
YULB	Yu-li	1.60	203	P	Pn	23 09 06.3	-0.6
YULB	Yu-li	1.60	203	*e*P	Pn	23 09 05.6	-1.3
	baz=195						
YULB				*i* S	Sn	23 09 25.8	-1.6
	baz=195						
ECBN	Changbin	1.62	198	⇓P	Pn	23 09 06.8	-0.3
	baz=203						
ECBN				S	Sn	23 09 26.9	-1.0
	baz=203						
EYUL	Yuli	1.63	202	*e*P	Pn	23 09 08.1	+0.8
	baz=200						
EYUL				*e*S	Sn	23 09 29.9	+1.7
	baz=200						
TWF1	Yuli	1.64	203	P	Pn	23 09 07.2	-0.1
	baz=200						
TWF1				*e*S	Sn	23 09 29.7	+1.5
	baz=200						
IRIF	Iriomote-Funau	1.68	108	P	Pn	23 09 08.1	+0.3
IRIF				*e*S	Sn	23 09 29.7	+0.5
ALS	Alishan	1.73	219	P	Pn	23 09 10.3	+1.5
	baz=225						
ALS				*e*S	Sn	23 09 31.2	+0.4
	baz=225						
CHN5	Tsauling	1.74	223	P	Pn	23 09 10.3	+1.6
	baz=229						
CHN5				*e*S	Sn	23 09 31.5	+0.8
	baz=229						
WGK	Gukeng	1.75	228	*e*P	Pn	23 09 07.8	-1.1
	baz=235						
WGK				*e*S	Sn	23 09 31.5	+0.6
	baz=235						
WRL	Guolierlin Hig	1.75	237	⇓P	Pn	23 09 09.3	+0.5
	baz=234						
WRL				*e*S	Sn	23 09 29.8	-1.1
	baz=234						
CHKH	Chenggong	1.76	198	P	Pn	23 09 08.4	-0.5
	baz=191						
CHKH				S	Sn	23 09 30.0	-1.0
	baz=191						
WDLH	Douliu	1.77	229	P	Pn	23 09 10.1	+1.1
	baz=235						
WDLH				S	Sn	23 09 31.6	+0.4
	baz=235						
RLNB	Erlin	1.77	237	P	Pn	23 09 09.7	+0.6
	baz=234						
RLNB				S	Sn	23 09 31.1	-0.2
	baz=234						
FULB	Fuli	1.78	201	⇓*i*P	Pn	23 09 09.6	+0.4
	baz=206						
FULB				S	Sn	23 09 31.6	0.0
	baz=206						
HATJ	Hateruma jima	1.85	116	*e*S	Sn	23 09 32.6	-0.4
WTCT	Ta-ch'eng	1.85	238	*e*P	Pn	23 09 09.3	-0.7
	baz=235						
CHKT	Chengkung	1.85	198	*e*P	Pn	23 09 09.6	-0.5
	baz=197						
CHKT				*e*S	Sn	23 09 30.7	-2.4
	baz=197						
EHD	Haiduan	1.86	203	*e*P	Pn	23 09 10.8	+0.6
	baz=201						
EHD				*e*S	Sn	23 09 33.4	+0.1
	baz=201						
WTK	Tuku	1.87	231	P	Pn	23 09 11.3	+1.0
	baz=229						
WTK				S	Sn	23 09 33.5	-0.2
	baz=229						
ELDTW	Lidau	1.89	208	⇑P	Pn	23 09 11.0	+0.3
	baz=198						
ELDTW				S	Sn	23 09 34.7	+0.4
	baz=198						
ECS	Chishang	1.90	202	*e*P	Pn	23 09 11.6	+0.9
	baz=193						
ECS				*e*S	Sn	23 09 34.2	-0.1
	baz=193						
WCKO	Fanlu	1.90	222	P	Pn	23 09 11.4	+0.7
	baz=226						
WCKO				S	Sn	23 09 34.9	+0.6
	baz=226						
JKRS	Kuro-shima	1.95	108	P	Pn	23 09 12.5	+1.2
JKRS				*e*S	Sn	23 09 36.5	+1.1
CHY	Chiayi	1.97	227	*e*P	Pn	23 09 12.1	+0.4
	baz=232						
CHY				*e*S	Sn	23 09 36.1	+0.2
	baz=232						
CHN4	Tsaushan	1.98	220	*e*P	Pn	23 09 13.5	+1.8
	baz=217						
CHN4				*e*S	Sn	23 09 37.7	+1.7
	baz=217						
EDH	Donghe	1.99	198	P	Pn	23 09 11.4	-0.4
	baz=197						
EDH				S	Sn	23 09 34.9	-1.5
	baz=197						
TPUB	Ta-pu	1.99	219	*e*P	Pn	23 09 13.7	+1.8
	baz=216						
TPUB				*e*S	Sn	23 09 38.0	+1.5
	baz=216						
STYH	Taoyuan	2.02	213	⇑P	Pn	23 09 13.9	+1.6
	baz=221						
STYH				*e*S	Sn	23 09 38.5	+1.4
	baz=221						
WSF	Szhu	2.02	233	*e*P	Pn	23 09 11.7	-0.6
	baz=230						
WSF				S	Sn	23 09 37.3	+0.2
	baz=230						
JIJ	Ishigaki jima	2.03	104	P	Pn	23 09 13.4	+1.1
JIJ				S	Sn	23 09 36.9	-0.4
STYT	Tauyuan	2.04	214	⇑P	Pn	23 09 14.5	+2.0
	baz=221						
STYT				*i* S	Sn	23 09 39.4	+1.8
	baz=221						
WTP	Ta-pu	2.04	218	⇓P	Pn	23 09 13.7	+1.0
	baz=215						
WTP				S	Sn	23 09 39.3	+1.5
	baz=215						
TWK	Hsinying	2.10	221	P	Pn	23 09 14.5	+1.1
	baz=218						
TWK				*i* S	Sn	23 09 40.1	+1.0
	baz=218						
LONT	Longtian	2.11	202	P	Pn	23 09 13.0	-0.4
	baz=195						
LONT				S	Sn	23 09 37.1	-2.1
	baz=195						
SNST	Tainan City	2.13	220	P	Pn	23 09 15.2	+1.4
	baz=217						
SNST				S	Sn	23 09 41.3	+1.6
	baz=217						
JISG	Ishigakijimahi	2.13	97	P	Pn	23 09 14.4	+0.6
JISG				*e*S	Sn	23 09 39.9	+0.1
CHN1	Nanshi	2.14	219	*i* P	Pn	23 09 14.8	+0.8
	baz=216						
CHN1				S	Sn	23 09 40.4	+0.4
	baz=216						
ICHU	Yijhu	2.16	226	P	Pn	23 09 15.9	+1.7
	baz=234						
ICHU				S	Sn	23 09 41.4	+0.9
	baz=234						
SGST	Jiashian	2.19	216	P	Pn	23 09 15.7	+1.1
	baz=222						
SGST				*e*S	Sn	23 09 41.1	-0.1
	baz=222						
TWG	Pinlang	2.21	202	⇓P	Pn	23 09 14.1	-0.7
	baz=195						
TWG				S	Sn	23 09 39.3	-2.2
	baz=195						
TWGBT	Beinan	2.21	202	P	Pn	23 09 14.5	-0.2
TWGBT	Beinan	2.21	202	P	Pn	23 09 14.4	-0.4
	baz=195						
TWGBT				S	Sn	23 09 39.6	-1.8
	baz=195						
SLGT	Liugui	2.23	213	P	Pn	23 09 16.9	+1.8
	baz=220						
SLGT				*i* S	Sn	23 09 43.8	+1.7
	baz=220						
LDUT	Ludao	2.24	192	*e*P	Pn	23 09 13.9	-1.2
	baz=189						
LDUT				*e*S	Sn	23 09 39.0	-3.2
	baz=189						
MATB	Ma-tsu	2.24	305	⇓*e*P	Pn	23 09 15.4	+0.3
	baz=304						
MATB				*e*S	Sn	23 09 41.7	-0.5
	baz=304						
MSUT	Lienchiang	2.27	305	P	Pn	23 09 15.9	+0.4
	baz=305						
MSUT				*e*S	Sn	23 09 42.2	-0.6
	baz=305						
SCST	Cishan	2.40	215	*i* P	Pn	23 09 19.3	+2.0
	baz=221						
SCST				S	Sn	23 09 47.9	+1.8
	baz=221						
TSCK	Chigu Township	2.44	226	*e*P	Pn	23 09 18.6	+0.8
	baz=232						
TSCK				*e*S	Sn	23 09 46.8	-0.2
	baz=232						
SSD	Sandimen	2.45	211	*e*P	Pn	23 09 19.2	+1.2
	baz=207						
SSD				*e*S	Sn	23 09 47.8	+0.5
	baz=207						
ECL	Taimali	2.45	203	*e*P	Pn	23 09 17.1	-0.8
	baz=196						
ECL				*e*S	Sn	23 09 45.4	-1.9
	baz=196						
JTJ	Tarama	2.48	95	S	Sn	23 09 50.0	+2.1
TWM1	Shoushan	2.49	215	*e*P	Pn	23 09 20.6	+2.1
	baz=212						
MASBT	Mashibuluo	2.57	209	*e*P	Pn	23 09 21.1	+1.6
	baz=205						
MASBT				*e*S	Sn	23 09 51.8	+1.8
	baz=205						
PNG	Penghu	2.57	240	*e*P	Pn	23 09 19.0	-0.5
	baz=236						
PNG				*e*S	Sn	23 09 48.0	-2.0
	baz=236						
PHUB	P'eng-hu	2.58	239	*e*P	Pn	23 09 19.2	-0.5
	baz=235						
PHUB				*e*S	Sn	23 09 48.9	-1.5
	baz=235						
XPSS	Dashiqiu	2.61	322	*e*P	Pn	23 09 20.3	+0.2
	baz=324						
XPSS				*e*S	Sn	23 09 50.0	-1.1
	baz=324						
LYJJ	Jianjiangzhen	2.61	310	*e*P	Pn	23 09 20.2	+0.1
	baz=311						
LYJJ				*e*S	Sn	23 09 51.1	0.0
	baz=311						
EAST	Anshuo	2.69	203	*e*P	Pn	23 09 20.8	-0.3
	baz=196						
EAST				*e*S	Sn	23 09 52.9	0.0
	baz=196						
TAWH	Dawu Township	2.71	202	*e*P	Pn	23 09 22.4	+0.9
	baz=196						
TAWH				*e*S	Sn	23 09 51.2	-2.3
	baz=196						
LAY	Lan-yu	2.85	188	*e*P	Pn	23 09 22.0	-1.3
	baz=187						
LAY				*e*S	Sn	23 09 52.4	-4.4
	baz=187						
SLIU	Shizi	2.86	203	*e*P	Pn	23 09 24.9	+1.5
	baz=199						
SLIU				*e*S	Sn	23 09 57.9	+0.9
	baz=199						
VCHM	Qimei	2.86	235	*e*P	Pn	23 09 22.6	-0.9
	baz=231						
VCHM				*e*S	Sn	23 09 55.7	-1.4
	baz=231						
LYUB	Lan-yu	2.88	187	*e*P	Pn	23 09 22.0	-1.7
	baz=185						
LYUB				*e*S	Sn	23 09 53.7	-3.9
	baz=185						
MHZQ	Yeshan	2.94	295	*e*P	Pn	23 09 25.1	+0.7
	baz=295						
TWKBT	Hengchun	3.11	200	*e*P	Pn	23 09 27.4	+0.6
	baz=197						
TWKBT				*e*S	Sn	23 10 03.2	+0.2
	baz=197						
KNM	Kinmen	3.26	263	*e*P	Pn	23 09 30.2	+1.4
	baz=258						
KNM				*e*S	Sn	23 10 08.4	+1.7
	baz=258						
KNMB	Chin-men Tao	3.30	264	*e*P	Pn	23 09 28.7	-0.6
	baz=259						
KNMB				*e*S	Sn	23 10 05.5	-2.1
	baz=259						
AXDP	Jialang	3.65	271	*e*P	Pn	23 09 34.3	+0.3
	baz=267						
AXDP				*e*S	Sn	23 10 13.7	-2.3
	baz=267						
ZPLA	Ao Xicun	3.97	257	*e*P	Pn	23 09 38.2	-0.2
	baz=255						

SXFK	Yanhouchang	4.20	292	eP	Pn	23 09 42.1	+0.6
	baz=290						
DSXP	Dongshan	4.32	255	eP	Pn	23 09 43.0	-0.1
	baz=253						

IDC ***04*** *23:14:42.4±2.9, 0.°15N×98.°20E, h0km, mb4.0/5, mbtmp4.0/6, ML4.5/1, MS2.8/1, Error ellipse: s-maj=132.0km s-min=19.2km az=58.0*
DJA ***04*** *23:14:44.8±0.5, 0°N±4°×9°8E±°, h47km±5km, M4.3/8, mb4.8/1, MLv4.1/8*
ISC 04 23:14:47.8±0.9**, 0.°16N**±0.°06×**98.°3E**±0.°1**, h35km, n27, σ2.s26**/15**, mb4.0**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.21	175	P	Pn	23 14 54.8	+0.1
PBSI				S	Sn	23 15 02.6	+3.2
GSI	Gunungsitoli	1.33	329	P	Pn	23 15 04.6	-5.3
GSI				S	Sn	23 15 29.4	+2.9
TRSI	Tarutung	1.98	21	P	Pn	23 15 17.6	-1.4
PDSI	Padang	2.44	116	P	Pn	23 15 27.0	+1.8
PSI	Prapat	2.71	14	P	Pn	23 15 30.0	+1.0
SNSI	Sinabang, Aceh	2.96	319	P	Pn	23 15 28.4	-3.9
PPSI	Pulau Pagai	3.38	149	P	Pn	23 15 36.4	-1.8
EGSI	Enggano, Bengk	6.78	144	P	Pn	23 16 20.9	-4.0
CMAR	Chiang Mai Arr	18.20	2	P	P	23 18 56.7	-1.1
	0.6nm,0.3s,baz=195,slow=11,SNR=5.5						
CMAR				LR	LR	23 26 59.5	
	comp=Z,31nm,20.6s,baz=190,slow=40						
	1.3nm,0.3s						
H08S2	Diego Garcia H	26.84	253	T	T	23 47 37.2	
	baz=74,slow=76,SNR=1507						
H08S3	Diego Garcia H	26.84	253	T	T	23 47 35.0	
	baz=74,slow=76,SNR=3077						
H08S1	Diego Carcia H	26.86	253	T	T	23 47 41.2	
	baz=74,slow=76,SNR=1148						
H01W3	Cape Leeuwin H	37.89	159	T	T	00 01 55.5	
	baz=333,slow=76,SNR=86						
H01W2	Cape Leeuwin H	37.90	159	T	T	00 02 02.3	
	baz=333,slow=76,SNR=81						
H01W1	Cape Leeuwin H	37.90	159	T	T	00 02 01.9	
	baz=333,slow=76,SNR=79						
WRA	Warramunga Arr	40.59	122	P	P	23 22 24.2	-0.2
	1.1nm,0.5s,baz=301,slow=9.1,SNR=18						
	1.1nm,0.5s						
ASAR	Alice Springs	41.92	127	P	P	23 22 35.5	+0.1
	0.6nm,0.5s,baz=299,slow=8.1,SNR=16						
	0.6nm,0.5s						
MKAR	Makanchi Array	48.51	345	P	P	23 23 27.2	-0.1
	1.4nm,0.5s,baz=159,slow=8.6,SNR=37						
	1.4nm,0.5s						
STKA	Stephens Creek	51.87	132	P	P	23 23 53.6	+0.6
	1.1nm,0.6s,baz=279,slow=8.9,SNR=2.9						
	1.1nm,0.6s						
ZALV	Zalesovo Beam	54.76	350	P	P	23 24 13.4	-0.3
	1.3nm,0.6s,baz=182,slow=6.1,SNR=7.0						
	1.3nm,0.6s						
H04N2	CROZET ISLANDS	61.52	215	T	T	00 31 08.6	
	baz=56,slow=75,SNR=722						
H04N1	CROZET ISLANDS	61.53	215	T	T	00 31 09.2	
	baz=56,slow=75,SNR=595						
H04N3	CROZET ISLANDS	61.54	215	T	T	00 31 06.6	
	baz=56,slow=75,SNR=621						
H04S1	CROZET ISLANDS	61.84	214	T	T	00 31 31.7	
	baz=54,slow=75,SNR=109						
H04S3	CROZET ISLANDS	61.85	214	T	T	00 31 31.0	
	baz=54,slow=75,SNR=112						
H04S2	CROZET ISLANDS	61.86	214	T	T	00 31 32.2	
	baz=54,slow=75,SNR=65						
TXAR	Lajitas Array	143.97	34	PKP	PKPbc	23 34 18.7	+0.3
	0.3nm,0.4s,baz=174,slow=0.5,SNR=9.6						

DJA ***04*** *23:26:59.8±1.5, 0°S±8°×9°8E±°, h18km±8km, M3.8/6, MLv3.8/6*
IDC ***04*** *23:27:02.9±6.6, 0.°68N×98.°97E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=344.5km s-min=27.8km az=54.0*
ISC 04 23:27:00.0±1.5**, 0.°1S**±0.°1×**97.°72E**±0.°09**, h10km, n20, σ1.s19**/8**, mb3.3**/3**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.56	83	P	Pb	23 27 12.7	+0.7
PBSI				S	Sb	23 27 20.4	+0.2
GSI	Gunungsitoli	1.43	354	P	Pn	23 27 24.1	-2.0
TRSI	Tarutung	2.47	30	P	Pn	23 27 40.0	-0.5
PDSI	Padang	2.85	106	P	Pn	23 27 44.3	-1.3
SNSI	Sinabang, Aceh	2.88	331	P	Pn	23 27 45.8	-0.2
H08S2	Diego Garcia H	26.23	253	T	T	23 59 54.1	
	baz=74,slow=75,SNR=234						
H08S3	Diego Garcia H	26.24	253	T	T	23 59 54.4	
	baz=74,slow=75,SNR=725						
H08S1	Diego Carcia H	26.25	253	T	T	23 59 54.6	
	baz=74,slow=75,SNR=208						
H01W3	Cape Leeuwin H	37.83	158	T	T	00 14 18.2	
	baz=333,slow=76,SNR=10						
H01W2	Cape Leeuwin H	37.84	158	T	T	00 14 19.2	
	baz=333,slow=76,SNR=11						
H01W1	Cape Leeuwin H	37.84	158	T	T	00 14 22.0	
	baz=333,slow=76,SNR=12						
WRA	Warramunga Arr	40.90	121	P	P	23 34 41.9	-0.9
	0.4nm,0.6s,baz=301,slow=9.1,SNR=5.0						
	0.4nm,0.6s						
ASAR	Alice Springs	42.19	126	P	P	23 34 53.5	+0.1
	0.2nm,0.5s,baz=296,slow=8.0,SNR=5.4						
	0.2nm,0.5s						
MKAR	Makanchi Array	48.65	346	P	P	23 35 45.0	+0.7
	0.4nm,0.5s,baz=145,slow=9.4,SNR=9.0						
	0.4nm,0.5s						
H04N2	CROZET ISLANDS	60.98	215	T	T	00 43 26.4	
	baz=56,slow=75,SNR=86						
H04N1	CROZET ISLANDS	60.99	215	T	T	00 43 26.9	
	baz=56,slow=75,SNR=85						
H04N3	CROZET ISLANDS	61.00	215	T	T	00 43 25.6	
	baz=56,slow=75,SNR=75						
H04S1	CROZET ISLANDS	61.30	214	T	T	00 43 49.9	
	baz=54,slow=75,SNR=14						
H04S3	CROZET ISLANDS	61.32	214	T	T	00 43 52.4	
	baz=54,slow=75,SNR=14						
H04S2	CROZET ISLANDS	61.32	214	T	T	00 43 51.5	
	baz=54,slow=75,SNR=8.6						

IDC ***04*** *23:41:42.3±0.9, 29.°39N×140.°43E, h0km, mb3.7/7, mbtmp3.7/9, ML3.4/2, MS3.0/5, Error ellipse: s-maj=34.4km s-min=16.3km az=77.0*
ISC 04 23:41:49.0±0.8**, 29.°4N**±0.°1×**140.°5E**±0.°2**, h57km, n22, σ1.s61**/10**, mb3.7**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.70	147	Pn	Pn	23 42 28.2	-1.8
	35nm,0.3s,baz=330,slow=11,SNR=9.2						
JCJ				Sn	Sn	23 43 01.5	0.0
	83nm,0.3s,baz=281,slow=22,SNR=8.7						
	92nm,0.3s						
MJAR	Matsushiro Arr	7.41	345	Pn	Pn	23 43 32.6	-1.9
	0.1nm,0.3s,baz=160,slow=12,SNR=7.0						
MJAR				LR	LR	23 46 31.8	
	comp=Z,84nm,18.1s,baz=200,slow=39						
	1.1nm,0.5s						
JOW	Kunigami	11.11	260	LR	LR	23 48 05.3	
	comp=Z,102nm,21.1s,baz=337,slow=35						
ASAJ	Asahikawa	14.81	6	LR	LR	23 51 05.4	
	comp=Z,52nm,18.6s,baz=169,slow=38						
KLR	Kul'dur	20.93	344	P	P	23 46 26.9	+0.1
	2.5nm,0.6s,baz=166,slow=6.8,SNR=13						
	2.5nm,0.6s						
H11N2	WAKE ISLAND Hy	25.78	106	T	T	00 14 21.0	
	baz=298,slow=75,SNR=108						
H11N1	WAKE ISLAND Hy	25.79	106	T	T	00 14 23.3	
	baz=298,slow=75,SNR=99						
H11N3	WAKE ISLAND Hy	25.80	106	T	T	00 14 24.4	
	baz=298,slow=75,SNR=89						
H11S3	WAKE ISLAND Hy	26.19	109	T	T	00 14 57.0	
	baz=300,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	26.19	109	T	T	00 14 58.6	
	baz=300,slow=75,SNR=10						
H11S2	WAKE ISLAND Hy	26.21	109	T	T	00 14 55.9	
	baz=300,slow=75,SNR=11						
DAV	Davao City (W)	26.28	215	LR	LR	23 57 35.9	
	comp=Z,28nm,20.7s,baz=22,slow=36						
MKAR	Makanchi Array	47.91	308	P	P	23 50 21.5	-0.1
	0.4nm,0.8s,baz=87,slow=9.2,SNR=4.9						
	0.4nm,0.8s						
WRA	Warramunga Arr	49.39	188	P	P	23 50 35.7	+2.7
	1.0nm,0.6s,baz=5.0,slow=7.9,SNR=12						
	1.0nm,0.6s						
ASAR	Alice Springs	53.12	188	P	P	23 51 00.0	-1.0
	0.3nm,0.5s,baz=3.4,slow=8.9,SNR=5.0						
	0.3nm,0.5s						
KDAK	Kodiak Island	53.44	38	LR	LR	00 15 16.8	
	comp=Z,24nm,19.1s,baz=306,slow=38						
ILAR	Eielson Array	56.44	29	P	P	23 51 25.5	+1.0
	0.6nm,0.7s,baz=270,slow=6.1,SNR=6.5						
	0.6nm,0.7s						
YKA	Yellowknife Ar	70.84	28	P	P	23 53 00.8	+1.4
	0.3nm,0.6s,baz=299,slow=6.0,SNR=4.9						
	0.3nm,0.6s						
FINES	FINESS Array B	75.26	333	P	P	23 53 25.7	+0.2
	1.9nm,0.6s,baz=72,slow=6.2,SNR=10.0						
	1.9nm,0.6s						
H03N2	Juan Fernandez	146.22	107	T	T	02 44 56.6	
	baz=279,slow=75,SNR=18						
H03N3	Juan Fernandez	146.22	107	T	T	02 44 56.7	
	baz=279,slow=75,SNR=16						
H03N1	Juan Fernandez	146.23	107	T	T	02 44 56.5	
	baz=279,slow=75,SNR=22						

DSN ***04*** *23:47:19.5±2.2, 26.°19N×59.°17E, h10km, ML3.5/9, Error ellipse: s-maj=50.9km s-min=16.5km az=169.0*
IDC ***04*** *23:47:21.8±1.2, 26.°26N×58.°76E, h0km, mb3.8/10, mbtmp3.9/12, ML3.9/2, MS3.1/4, Error ellipse: s-maj=24.5km s-min=18.7km az=132.0*
TEH ***04*** *23:47:22.3, 26.°37N×58.°88E, h28km±64km, ML3.9*
OMAN ***04*** *23:47:24.0±0.1, 26.°30N×58.°86E, h20km±1km, mb3.4/4, ml3.8/20, Error ellipse: s-maj=2.2km s-min=1.4km az=25.0*
ISC 04 23:47:22.4±2.3**, 26.°31N**±0.°05×**58.°89E**±0.°04**, h8km**±15km**, n78, σ1.s28**/97**, mb3.8**/9**, MS2.9**/3**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JASK	Jask - Hormozg	1.02	245	Pg	Pb	23 47 42.6	+0.3
JASK				Sg	Sn	23 47 59.8	+2.1
JASK	Jask - Hormozg	1.02	245	P	Pb	23 47 42.9	+0.5
	SNR=220						
JASK				S	Sg	23 47 56.0	+0.6
CHBR	Chabahar	1.60	116	Pg	Pn	23 47 51.4	+0.4
KHNJ	Kahnooj	1.94	327	Pn	Pn	23 47 54.3	-1.5
NGCH	Negor - Chabah	2.23	115	Pn	Pn	23 48 00.7	+1.0
NGCH	Negor - Chabah	2.23	115	P	Pn	23 48 00.8	+1.0
BANOM	Banah	2.36	261	P	Pn	23 48 00.8	-0.7
IBND	Bandar-abas	2.39	299	Pn	Pn	23 48 01.5	-0.3
SHME	Shamm	2.49	265	P	Pn	23 48 02.4	-0.8
	SNR=8.9						
MASF	Masafi	2.63	250	P	Pn	23 48 04.2	-1.1
MASF				S	Sn	23 48 35.9	-1.6
MSFE	Esma-Masafi	2.64	250	eP	Pn	23 48 03.2	-2.1
	SNR=11						
KBAM	BAM	2.84	352	Pn	Pn	23 48 07.4	-0.8
BIDO	Bidbid	2.87	194	P	Pn	23 48 07.5	-0.9
BIDO				S	Sn	23 48 42.0	-1.1
HATD	Hatta, Dubai	2.90	240	iP	Pn	23 48 06.1	-2.8
	SNR=15						
HATD	Hatta, Dubai	2.90	240	P	Pn	23 48 06.8	-2.1
HATD				S	Sn	23 48 40.7	-3.3
ASHO	Ashiyiah	3.03	238	iP	Pn	23 48 08.9	-1.9
	SNR=36						
ASHO	Ashiyiah	3.03	238	P	Pn	23 48 09.2	-1.5
	SNR=36						
ASHO				S	Sn	23 48 46.5	-0.8
	SNR=6.8						
SOHO	SOHO	3.04	225	iP	Pn	23 48 08.4	-2.5
	SNR=72						
SOHO	SOHO	3.04	225	P	Pn	23 48 08.9	-1.9
SOHO				S	Sn	23 48 45.7	-1.8
WSAR	Wadi Sarin	3.07	184	Pn	Pn	23 48 11.6	+0.4
	19nm,0.3s,baz=9.5,slow=15,SNR=137						
WSAR				Sn	Sn	23 48 47.8	-0.4
	12nm,0.3s,baz=94,slow=8.9,SNR=22						
	41nm,0.3s						
WSAR	Wadi Sarin	3.07	184	P	Pn	23 48 11.6	+0.4
	SNR=35						
WSAR				S	Sn	23 48 48.5	+0.3
NAZ	Nazwa, Dubai	3.20	246	iP	Pn	23 48 13.1	+0.1
	SNR=15						
NAZ				S	Sn	23 48 53.4	+2.0
NAZ	Nazwa, Dubai	3.20	246	P	Pn	23 48 12.9	-0.2
NAZ				S	Sn	23 48 53.6	+2.2
SRVN	Saravan	3.31	70	Pn	Pn	23 48 15.2	+0.5
SMDO	Samad	3.33	193	P	Pn	23 48 14.6	-0.3
	SNR=25						
SMDO				S	Sn	23 48 54.1	-0.6
FAQ	Al Faqa, Dubai	3.37	243	iP	Pn	23 48 15.3	0.0
	SNR=24						
FAQ	Al Faqa, Dubai	3.37	243	P	Pn	23 48 15.9	+0.6
	SNR=24						
FAQ				S	Sn	23 48 57.2	+1.7
ZHDN	Zahedan	3.51	28	Pn	Pn	23 48 16.9	-0.5
ALNE	Al Ain	3.63	232	iP	Pn	23 48 18.6	-0.3
	SNR=22						
ALNE	Al Ain	3.63	232	P	Pn	23 48 19.5	+0.6
	SNR=22						
ALNE				S	Sn	23 49 03.1	+1.2
ASUD	Al Ashush, Dub	3.63	243	iP	Pn	23 48 19.3	+0.4
	SNR=52						
ASUD	Al Ashush, Dub	3.63	243	P	Pn	23 48 20.1	+1.1
	SNR=52						
ASUD				S	Sn	23 49 01.4	-0.6
ARQ	Araqi	3.66	217	P	Pn	23 48 20.7	+1.3
	SNR=112						
ARQ				S	Sn	23 49 06.7	+3.9
WBK	Wadi Bani Khal	3.69	179	Pn	Pn	23 48 19.9	+0.2
WBK	Wadi Bani Khal	3.69	179	P	Pn	23 48 19.9	+0.2
	SNR=127						
WBK				S	Sn	23 49 03.5	0.0
CHMN	Cheshme madani	3.73	342	Pn	Pn	23 48 20.4	-0.3
NGRK	Negar Kerman	3.83	331	Pn	Pn	23 48 21.6	-0.5
BSY	Bisya	3.87	204	P	Pn	23 48 23.5	+1.2
	SNR=45						
BSY				S	Sn	23 49 10.6	+2.5
AJN	Ajban	3.94	245	iP	Pn	23 48 23.4	+0.3
	SNR=6.8						
AJN	Ajban	3.94	245	P	Pn	23 48 23.8	+0.6
	SNR=6.9						
AJN				S	Sn	23 49 08.6	-0.9
JMDO	Jabal Madar	3.99	191	P	Pn	23 48 24.5	+0.6
	SNR=35						
JMDO				S	Sn	23 49 11.3	+0.3
TVBK	TV Kerman	4.12	333	Pn	Pn	23 48 25.4	-0.5
JLN	Jalan Bani Buh	4.17	173	P	Pn	23 48 26.0	-0.4
	SNR=23						
JLN				S	Sn	23 49 15.1	-0.3
KHGB	Koh Gabri	4.57	333	Pn	Pn	23 48 31.9	-0.2
JHRM	Jahrom	5.21	296	Pn	Pn	23 48 40.7	0.0
MHTO	MHTO	5.37	189	P	Pn	23 48 43.6	+0.7
	SNR=18						
BSRN	Basiran	5.64	2	Pn	Pn	23 48 46.0	-0.6
IKOO	Kooshah	6.09	1	Pn	Pn	23 48 52.0	-1.0
DQM	DQM	6.47	191	P	Pn	23 48 58.8	+0.7
ITEG	Tejag	6.56	359	Pn	Pn	23 48 58.9	-0.5
TPRV	Parvadeh(Tabas	6.96	345	Pn	Pn	23 49 04.1	-0.7
ICHK	Chekchek	7.09	328	Pn	Pn	23 49 05.9	-0.8
TRNA	Turayna	7.11	259	P	Pn	23 49 06.0	-0.8
	SNR=8.9						
SHMA	Al-Shehemyia	7.14	268	P	Pn	23 49 06.5	-0.7
	SNR=5.3						
SMRA	Abu-Samra	7.45	260	P	Pn	23 49 11.1	-0.4
SAKB	Bahrain	7.52	269	P	Pn	23 49 10.8	-1.6
IBRJ	Brojen	8.70	312	Pn	Pn	23 49 27.3	-1.5
SHAO	Shalim	8.79	201	P	Pn	23 49 28.6	-1.2
	SNR=8.1						
DMTO	DMTO	9.30	204	P	Pn	23 49 35.1	-1.8
	SNR=11						
IKLH	Kolahrood	9.44	319	Pn	Pn	23 49 38.9	0.0
WHFO	Wadi Hawf	9.61	211	P	Pn	23 49 39.0	-2.1
	SNR=17						
RBK	Rabkut	9.79	207	P	Pn	23 49 42.0	-1.6
ABTO	Aybut	10.32	211	P	Pn	23 49 49.0	-1.9
	SNR=15						
GEYT	Alibeck	11.60	357	LR	LR	23 54 50.4	
	comp=Z,78nm,20.7s,baz=105,slow=38						
KSH	Kashi	19.42	43	P	P	23 51 47.9	-1.4
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASF	Jabal al Asfar	20.05	292	P	P	23 51 55.1	-1.0
	comp=Z,0.3nm,0.3s,baz=115,slow=14,SNR=2.3						
	comp=Z,3.1nm,0.6s						
AAK	Ala-Archa	20.70	34	P	P	23 52 03.4	+0.2
	comp=Z,0.7nm,0.4s,baz=220,slow=7.4,SNR=5.5						
	comp=Z,0.7nm,0.4s						
AAK	Ala-Archa	20.70	34	P	P	23 52 02.3	-0.8
EIL	Elat	21.39	285	P	P	23 52 09.9	-0.8
	comp=Z,11nm,0.7s,baz=79,slow=5.8,SNR=9.5						
EIL				LR	LR	00 02 07.0	
	comp=Z,35nm,18.9s,baz=67,slow=42						
	comp=Z,11nm,0.7s						
MMAI	Mount Meron Ar	21.45	294	P	P	23 52 12.5	+1.2
	comp=Z,2.1nm,0.6s,baz=83,slow=12,SNR=1.7						
MMAI				LR	LR	00 02 03.4	
	comp=Z,43nm,18.4s,baz=73,slow=41						
	comp=Z,2.1nm,0.6s						
AKTO	Aktyubinsk	24.09	359	P	P	23 52 39.3	+1.0
	comp=Z,1.0nm,0.4s,baz=168,slow=8.0,SNR=5.6						
	comp=Z,1.0nm,0.4s						
BRTR	Keskin Array B	24.94	309	P	P	23 52 46.5	+0.1
	comp=Z,2.6nm,0.8s,baz=119,slow=12,SNR=9.9						
	comp=Z,2.6nm,0.8s						
MKAR	Makanchi Array	27.59	36	P	P	23 53 12.9	+2.9
	comp=Z,0.9nm,0.6s,baz=223,slow=8.2,SNR=4.4						
	comp=Z,0.9nm,0.6s						
ZALV	Zalesovo Beam	33.62	28	P	P	23 54 04.4	+1.3
	comp=Z,1.1nm,0.5s,baz=223,slow=9.9,SNR=7.6						
	comp=Z,1.1nm,0.5s						
FINES	FINESS Array B	41.49	337	P	P	23 55 10.5	+0.8
	comp=Z,1.6nm,0.9s,baz=123,slow=10,SNR=3.4						
	comp=Z,1.6nm,0.9s						
HFS	Hagfors	45.71	330	P	P	23 55 43.8	+0.1
	comp=Z,2.8nm,1.0s,baz=99,slow=8.9,SNR=1.7						
	comp=Z,2.8nm,1.0s						
NOA	NORSAR Array B	47.21	331	LR	LR	00 17 42.0	
	comp=Z,37nm,18.5s,baz=0.0,slow=39						
TORD	Torodi Ar. Bea	55.02	268	P	P	23 56 53.9	-1.0
	comp=Z,0.2nm,0.3s,baz=65,slow=7.6,SNR=4.9						
	comp=Z,0.2nm,0.3s						

IDC ***04*** *23:53:22.1±3.2, 52.°31N×174.°71E, h0km, mb3.3/4, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=66.9km s-min=14.3km az=26.0*
NEIC ***04*** *23:53:28.1±2.7, 52.°5N±0.°2×174.°1E±0.°3, h79km±8km, mb3.6/24, Error ellipse: s-maj=32.6km s-min=14.4km az=132.0*
ISC 04 23:53:25.6±1.0**, 52.°7N**±0.°3×**173.°9E**±0.°1**, h37km, n41, σ1.s50**/33**, mb3.7**/12**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	0.13	66	Pn	Pn	23 53 36.7	-0.9
	157nm,0.3s,baz=183,slow=3.6,SNR=60						
SHEM				Sn	Sn	23 53 50.2	+0.9
	168nm,0.3s,baz=281,slow=18,SNR=28						
SMY	Shemya	0.13	66		Pn	23 53 36.5	-1.1
SMY				Sn	Sn	23 53 50.6	+1.2
PETK	Petropavlovsk-	9.81	279	Pn	Pn	23 55 48.5	+4.6
G18K	Tagagawik	19.06	35	P	Pn	23 57 45.5	+0.1
G18K				IAmb	IAmb	23 57 47.2	
	comp=Z,3.6nm,1.1s						
KDAK	Kodiak Island	19.65	62	P	P	23 57 49.4	-1.4
	comp=Z,0.3nm,0.3s,baz=287,slow=6.6,SNR=4.8						
	comp=Z,2.9nm,0.6s						
H19K	Roundabout Mou	19.68	38	P	Pn	23 57 52.6	-0.2
K20K	Telida	19.82	45	Pn	Pn	23 57 54.4	-0.1
K20K				IAmb	IAmb	23 58 27.3	
	comp=Z,4.8nm,1.2s						
C18K	Utukok River	19.88	27	P	P	23 57 53.4	+0.1
E19K	Redstone River	20.36	32	P	P	23 57 59.0	+0.4
E19K				IAmb	IAmb	23 58 21.4	
	comp=Z,4.6nm,1.4s						
C19K	Lookout Ridge	20.62	27	P	Pn	23 58 03.5	-0.3
D19K	Kuna River	20.67	29	P	Pn	23 58 03.6	-0.7
D19K				IAmb	IAmb	23 58 16.5	
	comp=Z,4.0nm,1.2s						
IMAR	Indian Mountai	20.88	38	P	Pn	23 58 06.3	-0.6
H21K	Melozitna Rive	21.11	39		P	23 58 09.4	+2.7
H21K				IAmb	IAmb	23 58 22.2	
	comp=Z,4.8nm,1.4s						
G21K	Allakaket	21.19	37	P	P	23 58 07.5	0.0
G21K				IAmb	IAmb	23 58 21.4	
	comp=Z,6.2nm,1.5s						
KTH	Kantishna Hill	21.23	45	P	P	23 58 13.7	+5.7
B20K	Meade River	21.85	27	P	P	23 58 14.4	-0.1
B20K				IAmb	IAmb	23 58 47.4	
	comp=Z,3.2nm,1.4s						
B21K	Ikpikpuk River	22.35	29	P	P	23 58 19.7	-0.1
E22K	Anaktuvuk Pass	22.49	33	P	P	23 58 21.6	+0.1
E22K				IAmb	IAmb	23 58 59.6	
	comp=Z,4.3nm,1.5s						
G23K	Bananza Creek	22.55	38	P	P	23 58 23.1	+1.0
G23K				IAmb	IAmb	23 59 00.9	
	comp=Z,3.0nm,1.4s						
D22K	Ayikyak River	22.55	31	P	P	23 58 22.4	+0.4
D22K				IAmb	IAmb	23 58 26.6	
	comp=Z,4.4nm,1.5s						
B22K	Teshekpuk Lake	23.09	28	P	P	23 58 26.3	-1.2
ILAR	Eielson Array	23.23	43	P	P	23 58 28.6	-0.5
	comp=Z,0.4nm,0.6s,baz=250,slow=8.6,SNR=7.0						
	comp=Z,0.4nm,0.6s						
G24K	Hadweenzic Riv	23.50	39	P	P	23 58 32.5	+0.8
G24K				IAmb	IAmb	23 58 41.7	
	comp=Z,6.0nm,1.5s						
C23K	Itkillik River	23.66	30	P	P	23 58 31.9	-1.2
C23K				IAmb	IAmb	23 58 46.1	
	comp=Z,5.7nm,1.4s						
GLB	Gilahina Butte	24.20	52	P	P	23 58 39.9	+1.5
D25K	Kavik River	24.79	33	P	P	23 58 42.0	-1.6
BMAR	Burnt Mountain	24.80	38	P	P	23 58 42.4	-1.3
EGAK	Eagle	25.65	44	P	P	23 58 48.8	-2.6
G27K	Doyon Strip	25.77	40	P	P	23 58 51.8	-0.7
G29M	Pine Creek	27.20	40	P	P	23 59 05.4	0.0
G31M	Satah River	28.67	40	P	P	23 59 17.5	-0.9
INK	Inuvik	29.08	37	P	P	23 59 21.2	-0.8
H11N2	WAKE ISLAND Hy	33.33	192	T	T	00 35 15.6	
	baz=6.5,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	33.34	192	T	T	00 35 16.5	
	baz=6.5,slow=76,SNR=7.3						
H11N1	WAKE ISLAND Hy	33.35	192	T	T	00 35 17.0	
	baz=6.5,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	34.56	192	T	T	00 36 28.4	
	baz=6.4,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	34.58	192	T	T	00 36 49.5	
	baz=6.4,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	34.58	192	T	T	00 36 48.9	
	baz=6.4,slow=76,SNR=11						
YKA	Yellowknife Ar	37.60	46	P	P	00 00 36.1	0.0
	comp=Z,0.2nm,0.6s,baz=288,slow=7.9,SNR=3.9						
	comp=Z,0.2nm,0.6s						
PDAR	Pinedale Array	50.13	69	P	P	00 02 17.6	+0.3
	comp=Z,0.4nm,0.5s,baz=2.8,slow=2.2,SNR=7.5						
	comp=Z,0.4nm,0.5s						
TXAR	Lajitas Array	62.83	77	P	P	00 03 47.7	+0.1
	comp=Z,0.2nm,0.5s,baz=299,slow=4.3,SNR=3.6						
	comp=Z,0.2nm,0.5s						

IDC ***04*** *23:59:54.8±1.9, 14.°96N×147.°04E, h0km, mb3.8/7, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=47.4km s-min=21.9km az=96.0*
NEIC ***04*** *23:59:54.7±0.7, 14.°7N±0.°1×147.°25E±0.°04, h10km±2km, mb4.1/3, Error ellipse: s-maj=19.5km s-min=4.8km az=194.0*
ISC 04 23:59:60.0±1.3**, 14.°9N**±0.°1×**146.°9E**±0.°2**, h32km, n14, σ1.s05**/15**, mb4.0**/10**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.35	237	Pn	Pn	00 00 36.1	-0.3
GUMO				Sn	Sn	00 01 06.0	+1.7
GUMO	Guam	2.35	237	Pn	Pn	00 00 36.7	+0.3
	24nm,0.3s,baz=87,slow=11,SNR=2.3						
GUMO				Sn	Sb	00 01 08.9	-1.6
	32nm,0.3s,baz=169,slow=23,SNR=2.4						
	54nm,0.3s						
PATS	Pohnpei	13.77	124	Pn	Pn	00 03 04.0	-9.1
KSRS	Korea Array	28.09	327	P	P	00 05 48.5	-0.2
	1.2nm,0.7s,baz=147,slow=9.4,SNR=5.2						
	1.2nm,0.7s						
WRA	Warramunga Arr	36.75	200	P	P	00 07 05.5	+0.8
	0.7nm,0.8s,baz=14,slow=8.3,SNR=2.7						
	0.7nm,0.8s						
FITZ	Fitzroy Crossi	38.91	213	P	P	00 07 21.1	-1.8
FITZ				IAmb	IAmb	00 08 02.0	
	comp=Z,4.0nm,1.5s						
ASAR	Alice Springs	40.37	199	P	P	00 07 35.2	+0.1
	comp=Z,0.2nm,0.6s,baz=18,slow=9.8,SNR=2.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.2nm,0.6s						
CMAR	Chiang Mai Arr	45.98	281	P	P	00 08 21.3	+0.8
	comp=Z,0.7nm,0.3s,baz=72,slow=5.8,SNR=6.1						
	comp=Z,0.7nm,0.3s						
MK31	Makanchi Array	61.94	315	P	P	00 10 16.6	-0.1
MK31				IAmb	IAmb	00 10 21.2	
	comp=Z,1.1nm,0.9s						
MKAR	Makanchi Array	61.94	315	P	P	00 10 17.0	+0.2
	comp=Z,1.3nm,0.7s,baz=92,slow=8.4,SNR=15						
	comp=Z,1.3nm,0.7s						
KURK	Kurchatov	64.88	319	P	P	00 10 34.4	-1.7
KURK				IAmb	IAmb	00 10 38.0	
	comp=Z,2.8nm,0.9s						
KURBB	Kurchatov Arra	64.92	319	P	P	00 10 36.1	-0.3
	comp=Z,1.7nm,0.5s,baz=98,slow=6.9,SNR=16						
	comp=Z,1.7nm,0.5s						
KKAR	Karatay Array	70.09	311	P	P	00 11 09.3	+0.1
GEYT	Alibeck	80.06	307	P	P	00 12 07.2	+0.3
	comp=Z,0.8nm,0.7s,baz=48,slow=2.1,SNR=3.7						
	comp=Z,0.8nm,0.7s						

*SJA **05** 00:06:17.5±1.3, 24°.22S×67°.10W, h178km±12km, ML3.4, MW3.5*
*GUC **05** 00:06:19.1±0.6, 24°.20S×67°.42W, h216km±9km, ML4.0*
ISC 05 00:06:16.4±2.0**, 24°.25S**±0°.05×**67°.11W**±0°.04**, h196**km±19km**, n35,** σ1s.**26**/49**, 3C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.54	108	*i* P	Pn	00 06 51.4	+1.1
SLA				*i* S	Sn	00 07 14.4	-2.1
AZAP	Zapla	1.87	90	*i* P	Pn	00 06 54.2	+0.7
AZAP				*i* S	Sn	00 07 20.6	-1.7
LVC	Limon Verde	2.32	314	*i* P	Pn	00 06 59.6	+1.1
LVC				IAML		00 07 35.0	
	comp=Z,74nm,0.3s						
LVC	Limon Verde	2.32	314	*e*P	Pn	00 06 59.9	+1.5
LVC				*i* S	Sn	00 07 30.5	-0.6
LVC				IAML		00 07 33.5	
	comp=Z,621nm,0.2s						
PB15	IPOC Station P	2.40	295	*i* P	Pn	00 07 00.7	+1.5
PB15	IPOC Station P	2.40	295⇑	*i*P	Pn	00 07 00.7	+1.5
PB15				*i* S	Sn	00 07 31.9	-0.5
GO02	Mina Guanaco	2.43	247	*i* P	Pn	00 07 01.0	+1.4
GO02	Mina Guanaco	2.43	247⇑	*i*P	Pn	00 07 01.1	+1.4
GO02				*i* S	Sn	00 07 33.7	+0.4
GO02				IAML		00 07 35.8	
	comp=N,272nm,0.1s						
YJA	Yavi	2.53	36	*i* P	Pn	00 07 01.9	+1.0
YJA				*i* S	Sn	00 07 35.4	-0.1
PB06	IPOC Station P	2.73	304	*i* P	Pn	00 07 04.2	+1.3
PB06				*i* S	Sn	00 07 37.1	-2.0
PB06				IAML		00 07 39.6	
	comp=Z,217nm,0.4s						
PB06	IPOC Station P	2.73	304⇑	*i*P	Pn	00 07 04.2	+1.3
PB06				*e*S	Sn	00 07 38.0	-1.1
PB06				IAML		00 07 40.6	
	comp=N,628nm,0.1s						
AHML	Horco Molle	2.99	148	*i* P	Pn	00 07 06.9	+1.1
AHML				*i* S	Sn	00 07 43.9	-0.6
PB14	IPOC Station P	3.02	262	*i* P	Pn	00 07 07.2	+0.8
PB14				IAML		00 07 47.9	
	comp=Z,49nm,0.2s						
PB14	IPOC Station P	3.02	262	*e*P	Pn	00 07 07.5	+1.0
PB14				*e*S	Sn	00 07 44.2	-1.2
PB09	IPOC Station P	3.13	321	*i* P	Pn	00 07 09.4	+1.8
PB09				IAML		00 07 54.0	
	comp=Z,94nm,0.7s						
PB09	IPOC Station P	3.13	321	*e*P	Pn	00 07 09.4	+1.8
PB09				*e*S	Sn	00 07 47.7	+0.1
PB09				IAML		00 07 49.7	
	comp=N,188nm,0.4s						
PB05	IPOC Station P	3.16	295	*i* P	Pn	00 07 08.8	+1.0
PB05	IPOC Station P	3.16	295	*e*P	Pn	00 07 08.8	+1.0
PB05				*i* S	Sn	00 07 45.9	-2.1
PB05				IAML		00 07 48.8	
	comp=N,100nm,0.2s						
PB04	IPOC Station P	3.38	304	*i* P	Pn	00 07 11.6	+0.9
PB04	IPOC Station P	3.38	304	*e*P	Pn	00 07 11.8	+1.2
PB04				*e*S	Sn	00 07 50.7	-2.3
PB04				IAML		00 07 57.8	
	comp=N,213nm,0.4s						
PB07	IPOC Station P	3.58	314	*i* P	Pn	00 07 14.0	+0.9
PB07				*i* S	Sn	00 07 55.4	-2.0
PB07	IPOC Station P	3.58	314	*e*P	Pn	00 07 14.0	+0.9
AC01	Pan de Azucar	3.68	238	*i* P	Pn	00 07 14.3	+0.2
AC01				IAML		00 07 59.5	
	comp=Z,35nm,0.5s						
PB01	IPOC Station P	3.87	325	*i* P	Pn	00 07 17.1	+0.5
PB01	IPOC Station P	3.87	325	*e*P	Pn	00 07 17.6	+1.0
PB02	IPOC Station P	3.88	318	*i* P	Pn	00 07 17.3	+0.6
PB02	IPOC Station P	3.88	318	*e*P	Pn	00 07 17.7	+1.0
CYA	Choya	4.34	165	*i* P	Pn	00 07 23.8	+1.5
GO03	Copiap	4.36	219	*i* P	Pn	00 07 22.9	+0.3
PATCX	Punta Patache	4.42	320	*i* P	Pn	00 07 24.0	+0.6
PATCX				IAML		00 08 25.5	
	comp=Z,35nm,0.5s						
PATCX	Punta Patache	4.42	320	*e*P	Pn	00 07 24.1	+0.7
PB08	IPOC Station P	4.50	335	*i* P	Pn	00 07 26.1	+1.3
PB08				IAML		00 08 21.7	
	comp=Z,27nm,0.8s						
GO01	Chusmiza	4.95	337	*i* P	Pn	00 07 31.5	+0.9
PB11	IPOC Station P	5.05	332	*i* P	Pn	00 07 31.0	-0.5
ACLC	CERRO LA CRUZ	5.16	178	*i* P	Pn	00 07 34.0	+1.0

*SFS **05** 00:33:15.9, 36°.09N×2°.95W, h0km, ML2.0/4, ML2.5/4, MLv1.7/4*
*MDD **05** 00:33:16.6±1.4, 36°.15N×2°.89W, h0km, mb_Lg2.3/3, Error ellipse: s-maj=10.2km s-min=5.5km az=155.0*
*CNRM **05** 00:33:29.8, 35°.09N×3°.02W, h24km, ML1.3*
ISC 05 00:33:14.9±1.2**, 36°.09N**±0°.03×**2°.89W**±0°.05**, h5**km±12km**, n16,** σ1s.**40**/21**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EBER	Berja	0.80	0	Pg	Pg	00 33 30.8	+0.4
EBER	Berja	0.80	0	Pg	Pg	00 33 31.0	+0.6
EBER				Sg	Sg	00 33 41.2	+0.3
EBER				*i* Vmb_Lg		00 33 45.7	
GOG	Mont Gurugu	0.87	186	P	Pg	00 33 33.7	+2.1
GOG	Mont Gurugu	0.87	186	S	Sg	00 33 38.8	-4.2
ELGU	Los Guajares,	0.97	323	Pg	Pg	00 33 34.1	+0.5
ELGU				Sg	Sg	00 33 45.6	-0.7
ELGU	Los Guajares,	0.97	323	Pg	Pg	00 33 34.3	+0.7
ELGU				Sg	Sg	00 33 45.1	-1.2
ELGU				*i* Vmb_Lg		00 33 49.4	
ENIJ	Nijar	1.04	32	Pg	Pg	00 33 35.0	+0.1
ENIJ	Nijar	1.04	32	Pg	Pg	00 33 35.1	+0.3
ENIJ				Sg	Sg	00 33 46.4	-1.8
ENIJ				*i* Vmb_Lg		00 33 47.8	
TAF	Taforalt	1.33	163	P	Pn	00 33 40.7	+0.5
TAF	Taforalt	1.33	163	S	Sb	00 33 49.8	-8.0
EGOR	Sierra Gorda,	1.41	316	Pn	Pb	00 33 42.4	+0.6
EGOR				Sn	Sg	00 34 01.2	+0.9
EMIJ	Mijas	1.59	288	Pn	Pn	00 33 42.7	-1.0
EMIJ	Mijas	1.59	288	Pn	Pn	00 33 43.0	-0.8
EMIJ				Sn	Sn	00 34 04.1	-0.6
EQES	Quesada	1.71	355	Pn	Pn	00 33 46.0	+0.5
EQES				Sn	Sn	00 34 07.6	-0.3
JBK	JBK	1.77	171	P	Pn	00 33 47.2	+0.8
JBK	JBK	1.77	171	S	Sn	00 33 57.4	-12

*IDC **05** 00:37:32.5±0.8, 4°.27N×127°.56E, h0km, mb4.2/16, mbtmp4.2/16, MS2.9/3, Error ellipse: s-maj=34.8km s-min=15.6km az=71.0*
*NEIC **05** 00:37:33.2±2.3, 4°.15N±0°.06×127°.4E±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=18.9km s-min=9.4km az=70.0*
*DJA **05** 00:37:37.9±1.7, 4°N±18°×12°7E±°, h39km±8km, M4.3/9, mb4.3/6, mB4.4/2, MLv4.3/9, Mw(mB)3.5/2*
ISC 05 00:37:37.7±0.5**, 4°.13N**±0°.06×**126°.92E**±0°.08**, h35**km**, n51,** σ1s.**84**/43**, mb4.2**/20**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.46	252	P	Pn	00 38 00.0	-1.5
DAV	Davao City (W)	3.21	336	Pn	Pn	00 38 26.1	+0.6
TNTI	Ternate	3.37	172	Pn	Pn	00 38 25.6	-2.2
LBMI	Labuha	4.78	173	P	Pn	00 38 48.0	+0.8
GTOI	Gorontalo	5.22	228	P	Pn	00 38 52.4	-1.0
	15nm,0.7s,286nm0.1nm						
LUWI	Luwuk	6.60	219		Pn	00 39 11.7	-0.6
LUWI	Luwuk	6.60	219	P	Pn	00 39 11.7	-0.6
	104nm,0.8s,0.4nm						
SIJI	Sorong	6.60	139	P	Pn	00 39 15.4	+3.1
	16nm,0.5s,0.1nm						
TOLI2	Tolitoli	6.82	244	Pn	Pn	00 39 13.2	-2.1
MPSI	Mapaga	7.96	242	P	Pn	00 39 29.4	-1.6
	10nm,0.7s,304nm0.0nm						
KAPI	Kappang	11.57	218	LR	LR	00 45 28.6	
	comp=Z,74nm,18.3s,baz=20,slow=39						
MTN	Manton Dam	17.38	166	Pn	Pn	00 41 32.5	-5.1
MTN				IAmb	IAmb	00 41 55.9	
	comp=Z,32nm,1.5s						
KNRA	Kununurra	19.77	175	P	P	00 41 58.2	-6.7
KNRA				IAmb	IAmb	00 42 24.7	
	comp=Z,14nm,1.0s						
SMRI	Semarang	19.85	236	P	Pn	00 42 07.5	0.0
SMRI				IAmb	IAmb	00 42 51.4	
	comp=Z,33nm,1.0s						
YULB	Yu-li	19.90	345	P	P	00 42 04.5	-1.8
YULB				IAmb	IAmb	00 42 28.5	
	comp=Z,49nm,1.4s						
LEM	Lembang	22.13	241	P	P	00 42 37.1	+6.5
	comp=Z,25nm,0.6s,baz=324,slow=22,SNR=2.6						
LEM				LR	LR	00 52 05.2	
	comp=Z,74nm,18.6s,baz=78,slow=38						
	comp=Z,25nm,0.6s						
UBPT	Khong Chiam	23.83	299	P	P	00 42 50.1	+2.3
UBPT				IAmb	IAmb	00 42 55.2	
	comp=Z,10nm,0.8s						
WB0	Warramunga Arr	24.86	163	P	P	00 42 54.5	-2.7
WB0				IAmb	IAmb	00 43 08.8	
	comp=Z,7.7nm,0.9s						
WRAB	Tennant Creek	25.01	163	P	P	00 42 57.4	-1.1
WRA	Warramunga Arr	25.01	163	P	P	00 42 57.8	-0.8
	comp=Z,2.3nm,0.6s,baz=335,slow=11,SNR=16						
	comp=Z,2.3nm,0.6s						
WR0	Warramunga Arr	25.09	163	P	P	00 42 57.6	-1.6
AS31	Alice Springs	28.46	166	P	P	00 43 28.0	-1.6
ASAR	Alice Springs	28.46	166	P	P	00 43 28.7	-0.8
	comp=Z,0.3nm,0.7s,baz=351,slow=15,SNR=4.3						
	comp=Z,0.3nm,0.7s						
CMAR	Chiang Mai Arr	30.83	300	P	P	00 43 55.4	+4.7
	comp=Z,1.0nm,0.3s,baz=116,slow=6.7,SNR=4.5						
	comp=Z,1.0nm,0.3s						
CHTO	Chiang Mai	30.98	300	P	P	00 43 55.7	+3.7
MJAR	Matsushiro Arr	33.88	16	LR	LR	01 00 55.0	
	comp=Z,5.7nm,18.4s,baz=244,slow=42						
STKA	Stephens Creek	38.44	160	P	P	00 44 56.3	+0.1
	comp=Z,0.9nm,0.3s,baz=342,slow=9.3,SNR=4.7						
	comp=Z,0.9nm,0.3s						
MDJ	Mudanjiang	40.39	3	P	P	00 45 10.0	-2.2
MDJ				IAmb	IAmb	00 45 54.0	
	comp=Z,11nm,1.2s						
ERM	Erimo	40.41	19	P	P	00 45 09.0	-3.5
SONM	Songino Array	46.98	341	P	P	00 46 06.2	+0.8
	comp=Z,0.5nm,0.5s,baz=126,slow=7.5,SNR=2.1						
	comp=Z,0.5nm,0.5s						
PETK	Petropavlovsk-	54.99	22	P	P	00 47 01.5	-3.9
PETK	Petropavlovsk-	54.99	22	P	P	00 47 03.0	-2.4
	comp=Z,2.4nm,0.5s,baz=229,slow=11,SNR=2.4						
	comp=Z,2.4nm,0.5s						
MK31	Makanchi Array	57.33	325	P	P	00 47 22.6	+0.3
MKAR	Makanchi Array	57.33	325	P	P	00 47 23.0	+0.7
MKAR	Makanchi Array	57.33	325	P	P	00 47 23.7	+1.4
	comp=Z,0.8nm,0.4s,baz=118,slow=7.3,SNR=34						
MKAR				ScP	ScP	00 52 18.1	+4.6
	comp=Z,0.3nm,0.7s,baz=155,slow=6.0,SNR=2.8						
	comp=Z,0.8nm,0.4s						
MAKZ	Makanchi	57.52	325	P	P	00 47 24.8	+1.2
MAKZ				IAmb	IAmb	00 47 48.2	
	comp=Z,4.0nm,1.4s						
ZALV	Zalesovo Beam	60.31	333	P	P	00 47 44.0	+1.2
	comp=Z,0.5nm,0.6s,baz=126,slow=7.5,SNR=4.0						
	comp=Z,0.5nm,0.6s						
KURBB	Kurchatov Arra	61.50	327	P	P	00 47 52.4	+1.5
	comp=Z,0.6nm,0.3s,baz=127,slow=6.6,SNR=5.0						
	comp=Z,0.6nm,0.3s						
KK31	Karatay Array	63.07	317	P	P	00 48 01.7	+0.1
KK31				IAmb	IAmb	00 48 09.7	
	comp=Z,3.4nm,1.2s						
KKAR	Karatay Array	63.07	317	P	P	00 48 01.4	-0.2
PLWZ	Palliser	63.24	141	P	P	00 47 58.4	-4.4
BVAR	Borovoye Array	67.08	327	P	P	00 48 29.9	+2.4
	comp=Z,1.0nm,0.6s,baz=145,slow=10,SNR=6.1						
	comp=Z,1.0nm,0.6s						
CASY	Casey	71.24	187	P	P	00 48 54.6	+1.7
ABKAR	Akbulak array	71.96	321	P	P	00 48 58.1	+0.5
ABKAR	Akbulak array	71.96	321	P	P	00 48 58.3	+0.6
SPITS	Spitsbergen Ar	90.12	349	P	P	00 50 34.2	+0.5
	comp=Z,4.6nm,0.9s,baz=68,slow=4.7,SNR=1.1						
	comp=Z,4.6nm,0.9s						
ARCES	ARCESS Array B	90.14	340	P	P	00 50 35.0	+1.1
	comp=Z,2.2nm,0.9s,baz=75,slow=7.0,SNR=1.4						
	comp=Z,2.2nm,0.9s						
FINES	FINESS Array B	91.57	332	P	P	00 50 42.4	+1.7
	comp=Z,2.7nm,1.0s,baz=134,slow=14,SNR=1.6						
	comp=Z,2.7nm,1.0s						
AKASG	Malin Array Be	91.70	321	P	P	00 50 43.6	+2.1
	comp=Z,0.8nm,0.8s,baz=74,slow=3.3,SNR=1.8						
	comp=Z,0.8nm,0.8s						
HFS	Hagfors	97.75	332	P	Pdif	00 51 09.5	+0.5
	comp=Z,1.9nm,0.9s,baz=67,slow=11,SNR=1.8						
	comp=Z,1.9nm,0.9s						
TORD	Torodi Ar. Bea	122.97	288	PKP	PKiKP	00 56 31.9	+0.3
	comp=Z,0.2nm,0.5s,baz=54,slow=4.0,SNR=2.2						

*NEIC **05** 00:40:33.1±1.0, 6°.0N±0°.2×117°.7E±0°.3, h10km±2km, mb4.3/11, Error ellipse: s-maj=67.0km s-min=15.5km az=60.0*
*IDC **05** 00:40:34.2±0.8, 6°.57N×119°.72E, h0km, mb3.9/10, mbtmp3.9/10, MS3.1/2, Error ellipse: s-maj=64.7km s-min=15.7km az=65.0*
ISC 05 00:40:37.6±0.6**, 6°.06N**±0°.09×**119°.1E**±0°.2**, h35**km**, n28,** σ2s.**37**/21**, mb4.0**/17**, Sulu Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOLI2	Tolitoli	5.18	161	Pn	Pn	00 41 57.8	+5.2
MPSI	Mapaga	5.73	172	P	Pn	00 42 00.9	+0.6
GTOI	Gorontalo	6.63	144	P	Pn	00 42 21.5	+8.9
LUWI	Luwuk	7.93	153	P	Pn	00 42 27.7	-2.8
PMSI	Majene	9.50	181	P	Pn	00 42 49.9	-2.1
MTN	Manton Dam	22.24	148	P	P	00 45 34.5	+3.0
MTN				IAmb	IAmb	00 45 41.6	
	comp=Z,12nm,1.1s						
CMAR	Chiang Mai Arr	23.23	304	LR	LR	00 54 45.7	
	comp=Z,32nm,19.0s,baz=110,slow=36						
KNRA	Kununurra	23.61	156	P	P	00 45 48.6	+3.1
KNRA				IAmb	IAmb	00 45 49.0	
	comp=Z,14nm,1.1s						
MBWA	Marble Bar	27.05	179	P	P	00 46 14.2	-2.6
MBWA				IAmb	IAmb	00 46 15.2	
	comp=Z,17nm,1.1s						
PSA00	Pilbara Seismi	27.47	179	P	P	00 46 18.4	-2.1
PSA00				IAmb	IAmb	00 46 33.0	
	comp=Z,3.5nm,1.1s						
WB0	Warramunga Arr	29.73	150	P	P	00 46 44.5	+3.7
WB0				IAmb	IAmb	00 46 45.5	
	comp=Z,2.3nm,0.8s						
WRA	Warramunga Arr	29.86	150	P	P	00 46 45.0	+3.1
WRA	Warramunga Arr	29.86	150	P	P	00 46 45.6	+3.7
	comp=Z,2.1nm,0.7s,baz=331,slow=9.7,SNR=11						
	comp=Z,2.1nm,0.7s						
WB2	Warramunga Arr	29.86	150	P	P	00 46 45.8	+3.8
WB2				IAmb	IAmb	00 46 50.5	
	comp=Z,4.5nm,1.1s						
WR0	Warramunga Arr	29.97	150	P	P	00 46 46.6	+3.7
WR0				IAmb	IAmb	00 46 47.8	
	comp=Z,5.0nm,0.9s						
ASAR	Alice Springs	32.88	154	P	P	00 47 12.5	+4.0
	comp=Z,0.7nm,0.6s,baz=344,slow=13,SNR=12						
ASAR				PcP	PcP	00 49 54.4	+1.6
	comp=Z,0.3nm,0.5s,baz=341,slow=3.0,SNR=4.3						
	comp=Z,0.7nm,0.6s						
FORT	Forrest	37.61	167	P	P	00 47 49.9	+0.8
PALK	Pallekele	38.18	274	LR	LR	01 04 22.8	
	comp=Z,40nm,19.6s,baz=183,slow=37						
NWAO	Narrogin (SRO)	38.81	183	P	P	00 47 55.5	-3.7
SONM	Songino Array	43.03	347	P	P	00 48 32.3	-1.7
	comp=Z,0.3nm,0.5s,baz=125,slow=7.6,SNR=1.2						
SONM				PcP	PcP	00 50 22.3	-1.4
	comp=Z,0.3nm,0.4s,baz=45,slow=2.7,SNR=1.8						
	comp=Z,0.3nm,0.5s						
STKA	Stephens Creek	43.38	152	P	P	00 48 40.7	+3.9
STKA	Stephens Creek	43.38	152	P	P	00 48 39.8	+2.9
	comp=Z,2.4nm,0.6s,baz=310,slow=7.6,SNR=7.6						
	comp=Z,2.4nm,0.6s						
MKAR	Makanchi Array	51.47	328	P	P	00 49 40.0	+0.5
	comp=Z,0.3nm,0.4s,baz=124,slow=8.3,SNR=4.2						
MKAR				PcP	PcP	00 50 54.9	+1.3
	comp=Z,0.1nm,0.3s,baz=123,slow=5.3,SNR=1.4						
	comp=Z,0.3nm,0.4s						
ZALV	Zalesovo Beam	55.24	336	P	P	00 50 08.6	+1.5
	comp=Z,0.4nm,0.5s,baz=132,slow=6.3,SNR=2.4						
	comp=Z,0.4nm,0.5s						
KURBB	Kurchatov Arra	55.82	330	P	P	00 50 12.8	+1.5
	comp=Z,0.4nm,0.3s,baz=121,slow=6.1,SNR=1.5						
	comp=Z,0.4nm,0.3s						
PETK	Petropavlovsk-	56.47	27	P	P	00 50 13.0	-3.0
	comp=Z,1.9nm,0.4s,baz=191,slow=6.8,SNR=2.5						
	comp=Z,1.9nm,0.4s						
BVAR	Borovoye Array	61.34	329	P	P	00 50 51.0	+1.3
	comp=Z,0.5nm,0.6s,baz=129,slow=8.0,SNR=3.5						
	comp=Z,0.5nm,0.6s						
FINES	FINESS Array B	86.19	331	P	P	00 53 16.8	+1.6
	comp=Z,3.3nm,1.0s,baz=70,slow=2.2,SNR=6.2						
	comp=Z,3.3nm,1.0s						

*NEIC **05** 01:07:50.3±1.9, 7°.24S±0°.08×13°.9W±0°.1, h15km±4km, mb4.8/28, Error ellipse: s-maj=17.7km s-min=6.0km az=123.0*
*IDC **05** 01:07:53.0±1.3, 6°.43S×13°.66W, h0km, mb4.2/18, mbtmp4.2/19, ML3.3/1, MS3.7/22, Error ellipse: s-maj=46.6km s-min=20.1km az=146.0*
ISC 05 01:07:48.9±0.5**, 7°.28S**±0°.09×**13°.92W**±0°.09**, h10**km**, n78,** σ1s.**34**/59**, mb4.6**/36**, MS3.7**/21**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASCN	Ascension	0.78	214		Pn	01 08 05.8	-0.2
ASCN				Sg	Sn	01 08 16.6	-1.0
DBIC	Dimbokro	16.55	33	Pn	Pn	01 11 39.1	-2.1
DBIC	Dimbokro	16.55	33	Pn	Pn	01 11 37.5	-3.8
	0.1nm,0.3s,baz=198,slow=11,SNR=5.3						
DBIC				LR	LR	01 16 35.2	
	comp=Z,168nm,18.5s,baz=183,slow=33						
	3.5nm,0.9s						
RCBR	Riachuelo	21.88	272	P	P	01 12 49.9	+7.6
	3.3nm,0.7s,baz=65,slow=21,SNR=2.2						
RCBR				LR	LR	01 19 08.8	
	comp=Z,94nm,21.0s,baz=100,slow=30						
	3.3nm,0.7s						
TOA0	Torodi Ar. Sit	25.55	37	P	P	01 13 17.0	-1.1
TORD	Torodi Ar. Bea	25.55	37	P	P	01 13 15.6	-2.4
TORD	Torodi Ar. Bea	25.55	37	P	P	01 13 15.0	-3.1
	3.7nm,0.7s,baz=221,slow=8.8,SNR=26						
TORD				LR	LR	01 21 55.9	
	comp=Z,135nm,18.5s,baz=160,slow=34						
	3.7nm,0.7s						
TSUM	Tsumeb	32.81	114	P	P	01 14 21.3	-1.6
TSUM				IAmb	IAmb	01 14 24.8	
	comp=Z,38nm,1.9s						
TSUM	Tsumeb	32.81	114	LR	LR	01 25 08.2	
	comp=Z,156nm,19.4s,baz=332,slow=31						
MDP	Montagnes des	40.55	287	LR	LR	01 30 33.1	
	comp=Z,65nm,19.6s,baz=98,slow=34						
SUR	Sutherland	40.80	132	LR	LR	01 28 39.3	
	comp=Z,123nm,18.7s,baz=314,slow=30						
LBTB	Lobatse	41.64	120	LR	LR	01 30 18.4	
	comp=Z,133nm,19.1s,baz=288,slow=32						
MBAR	Mbarara	45.02	84	P	P	01 16 05.7	+0.4
MBAR				IAmb	IAmb	01 16 13.9	
	comp=Z,8.7nm,1.1s						
CPUP	Villa Florida	45.38	240	LR	LR	01 32 01.1	
	comp=Z,36nm,20.8s,baz=74,slow=32						
BOAV	Boa Vista	47.48	280	P	P	01 16 22.9	-1.7
BOAV				IAmb	IAmb	01 16 31.2	
	comp=Z,8.6nm,0.9s						
ESDC	Sonseca Array	47.62	10	P	P	01 16 24.2	-1.0
	comp=Z,1.0nm,1.1s,baz=340,slow=43,SNR=3.2						
	comp=Z,1.0nm,1.1s						
KEST	Kesra	48.07	26	P	P	01 16 28.1	-0.7
	comp=Z,6.7nm,0.9s,baz=49,slow=6.2,SNR=3.9						
	comp=Z,6.7nm,0.9s						
SAML	Samuel	48.77	264	P	P	01 16 33.2	-1.3
KMBO	Kilima Mbogo	51.37	86	LR	LR	01 36 36.9	
	comp=Z,75nm,18.6s,baz=251,slow=34						
ETMB	Extrema	51.73	263	P	P	01 16 55.7	-1.3
ETMB				IAmb	IAmb	01 17 02.5	
	comp=Z,15nm,1.6s						
LVC	Limon Verde	54.96	248	P	P	01 17 20.1	-1.0
CFA	Coronel Fontan	55.98	237	LR	LR	01 39 47.0	
	comp=Z,43nm,18.2s,baz=248,slow=34						
SJG	San Juan	57.38	297	P	P	01 17 36.4	-1.5
SJG	San Juan	57.38	297	LR	LR	01 38 14.8	
	comp=Z,51nm,18.4s,baz=74,slow=32						
FETA	Feichten	58.33	20	*e*P	P	01 17 43.1	-1.2
	comp=Z,2.2nm,0.7s						
SQTA	Sankt Quirin	58.66	20	*e*P	P	01 17 46.6	+0.1
	comp=Z,6.3nm,0.7s						
ABTA	Abfaltersbach	58.71	21	*i* P	P	01 17 47.8	+1.0
	comp=Z,4.6nm,0.7s						
MOTA	Moosalm	58.74	20	*e*P	P	01 17 47.0	-0.1
	comp=Z,3.5nm,0.8s						
SDV	Santo Domingo	58.76	285	LR	LR	01 40 39.3	
	comp=Z,44nm,20.9s,baz=100,slow=33						
WTTA	Wattenberg	58.85	20	*e*P	P	01 17 48.1	+0.2
	comp=Z,4.0nm,0.5s						
LESA	Schwarzleotal	59.34	21	*e*P	P	01 17 51.4	+0.2
	comp=Z,1.4nm,0.3s						
PLCA	Paso Flores	60.23	227	P	P	01 18 09.4	+12
	comp=Z,3.5nm,1.0s,baz=57,slow=3.0,SNR=3.3						
	comp=Z,3.5nm,1.0s						
RONA	Rosalia, Austr	60.91	23	*e*P	P	01 18 03.8	+1.9
	comp=Z,2.6nm,0.6s						
GEC2	GERESS Array S	60.92	21	P	P	01 18 02.5	+0.5
GEC2				IAmb	IAmb	01 18 11.9	
	comp=Z,5.6nm,0.9s						
GERES	GERESS Array B	60.92	21	P	P	01 18 01.9	-0.1
GERES	GERESS Array B	60.92	21	P	P	01 18 02.2	+0.2
	comp=Z,4.7nm,0.9s,baz=201,slow=10,SNR=4.6						
	comp=Z,4.7nm,0.9s						
CONA	Conrad Observa	60.93	22	*e*P	P	01 18 03.1	+0.9
	comp=Z,0.4nm,0.2s						
CKRC	Cesky Krumlov	61.11	21	*e*P	P	01 18 03.7	+0.5
CKRC				*e*x	x	01 18 12.1	
ROSC	El Rosal	61.46	280	LR	LR	01 43 32.6	
	comp=Z,129nm,18.7s,baz=83,slow=35						
MMAI	Mount Meron Ar	61.64	46	P	P	01 18 07.6	+0.4
	comp=Z,11nm,1.1s,baz=248,slow=29,SNR=2.1						
	comp=Z,11nm,1.1s						
NNA	Nana	62.10	260	LR	LR	01 43 04.5	
	comp=Z,32nm,21.8s,baz=17,slow=34						
VRAC	Vranov	62.35	22	LR	LR	01 44 00.7	
	comp=Z,80nm,19.1s,baz=239,slow=35						
PVCC	Panska Ves	62.64	20	*e*P	P	01 18 14.4	+0.9
EKA	Eskdalemuir Ar	63.03	7	P	P	01 18 16.1	+0.2
	comp=Z,3.4nm,0.9s,baz=176,slow=12,SNR=4.6						
	comp=Z,3.4nm,0.9s						
MORC	Moravsky Berou	63.09	22	P	P	01 18 17.3	+0.8
MLR	Muntele Rosu	63.51	30	P	P	01 18 19.5	0.0
BR231	Keskin MP Arra	63.67	39	P	P	01 18 20.1	-0.6
ATAH	Atahualpa	63.91	266	LR	LR	01 46 44.4	
	comp=Z,71nm,18.3s,baz=89,slow=36						
BR131	Keskin Array S	64.14	39	P	P	01 18 22.4	-1.4
BR131				IAmb	IAmb	01 18 34.1	
	comp=Z,18nm,1.4s						
BRTR	Keskin Array B	64.14	39	P	P	01 18 24.3	+0.5
	comp=Z,1.3nm,0.8s,baz=258,slow=6.2,SNR=3.8						
	comp=Z,1.3nm,0.8s						
COHC	Cochancay	65.23	271	P	P	01 18 30.7	-0.5
KIEV	Kiev	68.70	28	P	P	01 18 51.8	-0.8
KIEV				IAmb	IAmb	01 19 01.7	
	comp=Z,13nm,1.2s						
AKASG	Malin Array Be	68.71	28	P	P	01 18 52.3	-0.3
AKASG				IAmb	IAmb	01 19 02.2	
	comp=Z,12nm,1.6s						
AKASG	Malin Array Be	68.71	28	P	P	01 18 52.5	-0.1
	comp=Z,2.8nm,0.8s,baz=230,slow=6.9,SNR=11						
	comp=Z,2.8nm,0.8s						
AKBB	Malin Array Si	68.71	28	P	P	01 18 52.6	-0.1
AKBB				IAmb	IAmb	01 19 01.6	
	comp=Z,15nm,1.2s						
HFS	Hagfors	70.68	14	P	P	01 19 05.3	+0.7
	comp=Z,2.2nm,0.6s,baz=153,slow=4.3,SNR=7.4						
	comp=Z,2.2nm,0.6s						
NB2	NORSAR Subarra	70.91	13	P	P	01 19 07.2	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.5nm,1.0s,baz=207,slow=6.2						
NOA	NORSAR Array B	70.91	13	P	P	01 19 06.4	+0.4
	comp=Z,1.0nm,0.8s,baz=222,slow=7.3,SNR=3.7						
NOA				LR	LR	01 52 15.4	
	comp=Z,41nm,18.2s,baz=355,slow=38						
	comp=Z,1.0nm,0.8s						
LCR2	La Lucha 2	71.82	283	P	P	01 19 11.9	-0.8
KBZ	Khabaz	72.13	40	P	P	01 19 14.9	+1.2
	comp=Z,1.9nm,0.9s,baz=195,slow=4.4,SNR=5.2						
	comp=Z,1.9nm,0.9s						
FINES	FINESS Array B	75.24	19	P	P	01 19 32.6	+1.0
	comp=Z,4.0nm,0.6s,baz=222,slow=5.0,SNR=21						
	comp=Z,4.0nm,0.6s						
SCHQ	Schefferville	75.91	332	P	P	01 19 38.5	+2.9
	comp=Z,2.1nm,0.6s,baz=114,slow=5.6,SNR=5.1						
	comp=Z,2.1nm,0.6s						
TKL	Tuckaleechee C	78.16	309	LR	LR	01 46 45.2	
	comp=Z,116nm,19.3s,baz=91,slow=30						
MAW	Mawson	78.28	158	P	P	01 19 49.9	+1.2
MAW				IAmb	IAmb	01 19 53.4	
	comp=Z,16nm,1.6s						
MAW	Mawson	78.28	158	LR	LR	01 49 10.0	
	comp=Z,31nm,18.4s,baz=143,slow=31						
VLDQ	Val d'Or	78.30	322	P	P	01 19 51.9	+2.7
GEYT	Alibeck	80.51	50	P	P	01 20 02.1	+0.6
GEYT				IAmb	IAmb	01 20 24.1	
	comp=Z,17nm,1.9s						
GEYT	Alibeck	80.51	50	P	P	01 20 03.1	+1.6
	comp=Z,1.2nm,0.7s,baz=293,slow=7.5,SNR=2.7						
	comp=Z,1.2nm,0.7s						
GYA0B	ALIBECK ARRAY	80.51	50	P	P	01 20 01.9	+0.3
ARCES	ARCESS Array B	81.28	13	P	P	01 20 05.7	+0.7
	comp=Z,2.3nm,0.6s,baz=220,slow=4.3,SNR=14						
	comp=Z,2.3nm,0.6s						
HRA	Herat	82.80	54	P	P	01 20 14.5	+0.6
HRA				IAmb	IAmb	01 20 23.4	
	comp=Z,7.3nm,1.4s						
QSPA	South Pole Qui	82.83	180	P	P	01 20 14.2	+0.9
QSPA				IAmb	IAmb	01 20 15.7	
	comp=Z,14nm,1.2s						
ABKAR	Akbulak array	85.10	39	P	P	01 20 25.5	+0.5
SIMJ	Simiganj	89.01	51	P	P	01 20 45.4	+0.9
SIMJ				IAmb	IAmb	01 20 54.3	
	comp=Z,6.7nm,1.1s						
TXAR	Lajitas Array	93.30	299	P	P	01 21 07.8	+3.2
	comp=Z,0.7nm,0.9s,baz=98,slow=3.8,SNR=5.1						
	comp=Z,0.7nm,0.9s						
VNDA	Vanda	95.30	179	LR	LR	02 00 07.2	
	comp=Z,35nm,18.8s,baz=192,slow=33						
ANMO	Albuquerque	96.19	304	LR	LR	02 02 18.4	
	comp=Z,67nm,18.2s,baz=158,slow=34						
PDAR	Pinedale Array	99.03	312	LR	LR	02 02 58.9	
	comp=Z,94nm,18.4s,baz=82,slow=34						

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*IDC **05** 01:19:60.0±3.8, 8°55S×117°60E, h168km±31km, mb3.4/6, mbtmp3.8/8, Error ellipse: s-maj=56.3km s-min=11.1km az=49.0*

*DJA **05** 01:20:13.2±0.5, 8°S±5°×11°9E±°, h271km±8km, M3.9/11, mb4.0/4, mB4.8/1, MLv3.8/11, Mw(mB)4.1/1*

ISC 05 01:20:12.0±0.9, 7°63S±0°07×119°32E±0°07, h250km, n19, σ2.76/20, mb3.6/6, Flores Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBNI	Kabupaten Domp	1.32	229	P	Pn	01 20 52.7	+3.6
PLAI	Plampang	1.94	232	P	Pn	01 20 57.5	+3.5
MKS	Makassar	2.40	3	P	Pn	01 21 01.0	+2.6
BKSI	Bulukumba	2.43	19	P	Pn	01 21 01.7	+3.1
EDFI	Ende, Flores	2.59	116	P	Pn	01 21 03.3	+2.9
KAPI	Kappang	2.63	9	P	Pn	01 21 03.3	+2.6
	7.4nm,0.3s,baz=141,slow=6.4,SNR=5.3						
KAPI				S	S	01 21 42.6	+3.4
	2.4nm,0.2s,baz=147,slow=18,SNR=1.5						
TWSI	Taliwang, Sumb	2.66	245	P	Pn	01 21 03.9	+3.0
BASI	Baing, Sumba	2.85	154	P	Pn	01 21 05.1	+2.1
MMRI	Maumere	3.05	109	P	Pn	01 21 07.7	+2.6
IGBI	Denpasar	4.30	254	P	Pn	01 21 20.3	+0.9
JAGI	Jajag, Banyuwa	5.19	260	P	Pn	01 21 32.4	+2.2
SOEI	Soe	5.32	114	P	Pn	01 21 33.6	+1.7
	36nm,0.6s,0.3nm						
WRA	Warramunga Arr	19.02	132	P	P	01 24 15.5	-0.2
	1.9nm,0.9s,baz=305,slow=13,SNR=20						
WRA				S	S	01 27 52.5	+14
	0.4nm,0.4s,baz=302,slow=23,SNR=6.3						
ASAR	Alice Springs	21.21	140	P	P	01 24 37.7	-1.1
	0.8nm,0.3s,baz=315,slow=8.8,SNR=33						
	0.8nm,0.3s						
SONM	Songino Array	56.40	350	P	P	01 29 26.4	-1.3
	0.7nm,0.8s,baz=162,slow=7.4,SNR=3.5						
	0.7nm,0.8s						
MKAR	Makanchi Array	63.40	332	P	P	01 30 12.7	-2.4
	1.4nm,0.6s,baz=142,slow=7.7,SNR=16						
	1.4nm,0.6s						
ZALV	Zalesovo Beam	67.89	339	P	P	01 30 40.6	-2.9
	0.5nm,0.4s,baz=126,slow=7.3,SNR=4.1						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	67.89	333	P	P	01 30 41.0	-2.6
	0.6nm,0.6s,baz=141,slow=5.8,SNR=11						
	0.6nm,0.6s						
BVAR	Borovoye Array	73.25	332	P	P	01 31 12.9	-2.9
	0.6nm,0.7s,baz=122,slow=5.4,SNR=4.7						
	0.6nm,0.7s						

IDC 05 01:21:41.8±2.2, 4°92S×146°26E, h0km, mb3.4/2, mbtmp3.3/3, ML3.3/1, MS3.2/1, Error ellipse: s-maj=327.6km s-min=30.0km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.91	217	P	P	01 26 03.9	-0.3
	0.1nm,0.3s,baz=41,slow=9.9,SNR=2.3						
	0.2nm,0.3s						
ASAR	Alice Springs	22.11	211	P	P	01 26 39.1	0.0
	0.2nm,0.4s,baz=43,slow=7.6,SNR=5.3						
	0.2nm,0.4s						
NWAO	Narrogin (SRO)	38.84	221	LR	LR	01 45 59.2	
	comp=Z,34nm,20.7s,baz=58,slow=38						
ILAR	Eielson Array	84.79	23	P	P	01 34 17.9	+0.1
	0.4nm,0.6s,baz=248,slow=5.2,SNR=7.9						
	0.4nm,0.6s						

IDC 05 01:36:07.2±5.0, 17°37S×174°05W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=389.6km s-min=34.5km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.81	258	P	P	01 44 54.4	-0.2
	0.3nm,0.6s,baz=95,slow=6.6,SNR=1.9						
	0.3nm,0.6s						
ASAR	Alice Springs	48.93	254	P	P	01 44 55.5	-0.1
	1.7nm,0.7s,baz=89,slow=8.1,SNR=24						
	1.7nm,0.7s						
PDAR	Pinedale Array	84.14	42	P	P	01 48 40.6	+0.1
	0.4nm,0.7s,baz=226,slow=3.9,SNR=5.1						
	0.4nm,0.7s						

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*IDC **05** 02:02:19.8±0.5, 35°80N×140°79E, h0km, mb4.4/27, mbtmp4.4/32, ML4.1/5, MS3.8/40, Error ellipse: s-maj=15.3km s-min=12.5km az=91.0*

*BJI **05** 02:02:21.4±0.0, 35°85N×140°70E, h22km, mb4.6/54, mB5.0/25, Ms4.1/23, Ms7 3.9/26*

*NIED **05** 02:02:25.6, 35°90N×140°89E, h41km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.59; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.58; $M_{r\theta}$0.25; $M_{\theta\phi}$-0.20; $M_{\phi r}$0.84; Fault plane solution: $M_0$1.07000×10^{16} NP1:ϕ_s17.00000°, δ72.00000°, λ89.00000°. NP2:ϕ_s199.00000°, δ18.00000°, λ92.00000°.*

*NEIC **05** 02:02:25.4±1.4, 35°84N±0°05×140°78E±0°09, h35km±5km, mb4.7/92, Mwr4.4/21 Error ellipse: s-maj=11.0km s-min=6.8km az=103.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.73; $M_{\theta\theta}$-1.74; $M_{\phi\phi}$4.47; $M_{r\theta}$1.44; $M_{\theta\phi}$-0.20; $M_{\phi r}$3.15; Fault plane solution: $M_0$5.22000×10^{15} NP1:ϕ_s327.60000°, δ31.89000°, λ-139.41000°. NP2:ϕ_s201.57000°, δ69.90000°, λ-64.71000°. Principal axes: T 5.6634, Plg21.0000°, Azm273.0000°; N -1.0518, Plg24.0000°, Azm12.0000°; P -4.6116, Plg58.0000°, Azm146.0000°;*

*JMA **05** 02:02:25.6±0.2, 35°9N±0°5×140°9E±0°9, h41km±1km, MD4.5/36, MW4.6/36, NEAR CHOSHI CITY*

JMA Felt III J1 at NEAR CHOSHI CITY .

*NEIC **05** 02:02:25.3, 35°84N×140°77E, h34km*

ISC 05 02:02:25.5±0.5, 35°86N±0°04×140°79E±0°05, h40km±4km, n270, σ1.55/207, mb4.6/87, MS3.9/42, 10C-19D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIHU	Itakohorinouch	0.24	297	⇓iP	Pn	02 02 34.4	+1.1
JIHU				⇓S	Sn	02 02 40.7	+1.7
JIHU	Itakohorinouch	0.24	297	A	A	02 02 34.4	
	comp=E,255nm,0.9s,comp=N,120nm,1.0s						
JSMT	Sammumatsuo	0.35	232	⇓iP	Pn	02 02 36.1	+1.8
JSMT				⇓S	Sn	02 02 42.8	+2.4
JSMT	Sammumatsuo	0.35	232	A	A	02 02 36.1	
	comp=E,133nm,1.1s,comp=N,101nm,1.5s						
JHYU	Hitachinakayam	0.51	342	⇓iP	Pn	02 02 36.6	+0.3
JHYU				⇓S	Sn	02 02 44.7	+0.8
JHYU	Hitachinakayam	0.51	342	A	A	02 02 36.6	
	comp=E,59nm,0.6s,comp=N,31nm,0.6s						
JYT	Yasato	0.60	308	⇓iP	Pn	02 02 38.1	+0.5
JYT				⇓S	Sn	02 02 47.4	+1.1
JYT	Yasato	0.60	308	A	A	02 02 38.1	
	comp=E,38nm,0.4s,comp=N,39nm,0.4s						
JCN	Nagara	0.65	227	A	A	02 02 39.6	
	comp=E,81nm,1.0s,comp=N,79nm,2.1s						
JHO	Hitachi	0.77	347	⇓iP	Pn	02 02 39.9	-0.1
JHO	Hitachi	0.77	347	A	A	02 02 39.9	
	comp=E,12nm,2.3s,comp=N,13nm,0.9s						
JKUC	kamogawauchiur	0.85	215	A	A	02 02 42.4	
	comp=E,19nm,2.4s,comp=N,21nm,2.5s						
TOK	Tokyo	0.85	259	A	A	02 02 42.6	
	comp=E,30nm,2.9s,comp=N,41nm,2.4s						
BSO4	Boso 4	0.94	203	P	Pn	02 02 44.6	+2.4
BSO3	Boso 3	1.08	192	P	Pn	02 02 45.5	+1.6
TATJ	Tateyama 2	1.10	222	A	A	02 02 46.2	
	comp=E,30nm,4.0s,comp=N,31nm,2.3s						
JYO	Yokosk	1.11	236	A	A	02 02 46.4	
	comp=E,36nm,2.3s,comp=N,32nm,4.5s						
JAG	Ashikaga	1.22	298	i P	Pn	02 02 46.9	+0.9
JAG	Ashikaga	1.22	298	A	A	02 02 46.9	
	comp=E,6.0nm,1.9s,comp=N,5.0nm,0.6s						
JHU	Hanno	1.22	270	A	A	02 02 48.0	
	comp=E,7.0nm,1.1s,comp=N,6.0nm,2.5s						
ONAJ	Iwakimizuishiy	1.24	0	A	A	02 02 46.5	
	comp=E,26nm,0.3s,comp=N,13nm,0.4s						
JFFD	Fukushimafurud	1.24	352	A	A	02 02 46.7	
	comp=E,13nm,1.2s,comp=N,14nm,0.7s						
JSB	Shiboa	1.31	328	A	A	02 02 48.3	
	comp=E,26nm,1.5s,comp=N,19nm,3.0s						
JSGW	Sagamiharawaka	1.31	259	A	A	02 02 49.3	
	comp=E,8.0nm,5.8s,comp=N,8.0nm,5.2s						
JFK	Kawauchi	1.51	3	A	A	02 02 50.3	
	comp=E,6.0nm,3.7s,comp=N,4.0nm,1.2s						
JOD2	Odawara 2	1.51	247	A	A	02 02 52.2	
	comp=E,10.0nm,1.4s,comp=N,8.0nm,3.0s						
JKT	Katashina	1.54	307	A	A	02 02 52.0	
	comp=E,15nm,0.4s,comp=N,17nm,0.4s						
JRY	Ryogami san	1.54	276	A	A	02 02 52.5	
	comp=E,5.0nm,7.4s,comp=N,4.0nm,2.1s						
JIM2	Oshima 3	1.59	225	A	A	02 02 53.3	
	comp=E,14nm,1.9s,comp=N,14nm,1.7s						
JHTM	Izuhatsuma	1.71	239	A	A	02 02 55.1	
	comp=E,15nm,1.3s,comp=N,15nm,2.5s						
JOTO	OTAMA OYAMA	1.73	348	A	A	02 02 53.9	
	comp=E,23nm,1.1s,comp=N,19nm,0.9s						
JFY	Yanaizu	1.77	331	A	A	02 02 54.9	
	comp=E,6.0nm,1.8s,comp=N,3.0nm,1.0s						
JTHY	Toshimahigashi	1.81	223	A	A	02 02 56.5	
	comp=E,12nm,5.4s,comp=N,11nm,2.2s						
JFNN	Fujinakano	1.84	249	A	A	02 02 57.0	
	comp=E,10.0nm,5.3s,comp=N,9.0nm,3.8s						
JGK	Kuni	1.87	293	A	A	02 02 57.1	
	comp=E,5.0nm,1.0s,comp=N,5.0nm,3.1s						
JIZS	Izushimoda	1.93	234	A	A	02 02 58.3	
	comp=E,4.0nm,2.1s,comp=N,4.0nm,2.9s						
JMM	Marumori	2.00	0	Pn	Pn	02 02 57.5	+0.7
JMM				Sn	Sn	02 03 20.7	+0.1
JMM	Marumori	2.00	0	A	A	02 02 57.6	
	comp=E,6.0nm,2.5s,comp=N,7.0nm,0.7s						
JYAR	Yonezawaarcadi	2.11	346	A	A	02 02 59.4	
	comp=E,8.0nm,1.4s,comp=N,11nm,1.3s						
MJAR	Matsushiro Arr	2.19	289	Pn	Pn	02 02 57.5	-1.9
	comp=N,22nm,0.3s,baz=104,slow=8.9,SNR=11						
MJAR				Sn	Sn	02 03 21.6	-3.7
	comp=N,8.1nm,0.3s,baz=268,slow=21,SNR=4.7						
MJAR				LR	LR	02 04 04.5	
	comp=N,2µm,20.8s,baz=166,slow=47						
	comp=N,66nm,0.3s						
JYS	Shirataka	2.43	346	A	A	02 03 03.9	
	comp=E,10.0nm,0.9s,comp=N,8.0nm,1.2s						
JSG	Sagara	2.43	242		Pn	02 03 03.6	+0.9
JOU	Okura	2.50	358	A	A	02 03 04.8	
	comp=E,7.0nm,0.8s,comp=N,7.0nm,1.8s						
JOFO	Osakifurukawao	2.74	2	A	A	02 03 08.0	
	comp=E,20nm,1.8s,comp=N,21nm,1.9s						
JHJ	Hachijo jima 2	2.86	197	Pn	Pn	02 03 06.7	-1.9
	comp=N,98nm,0.3s,baz=316,slow=19,SNR=18						
JHJ				Sn	Sn	02 03 42.8	+1.1
	comp=N,344nm,0.3s,baz=286,slow=22,SNR=14						
	comp=N,134nm,0.3s						
JHJ2	Mitsune	2.86	197	Pn	Pn	02 03 07.1	-1.4
JYK	Kaneyama	3.07	354	A	A	02 03 12.9	
	comp=E,3.0nm,1.3s,comp=N,3.0nm,0.9s						
JYYZ	Yamagatayuza	3.22	348	A	A	02 03 15.2	
	comp=E,12nm,2.4s,comp=N,11nm,3.6s						
JRG	Rokugo	3.53	358	A	A	02 03 19.4	
	comp=E,3.0nm,7.8s,comp=N,4.0nm,3.6s						
JSZI	Iwateshizukuis	3.88	2	A	A	02 03 24.1	
	comp=E,8.0nm,6.9s,comp=N,5.0nm,3.4s						
JTM	Tenmabayashi	4.92	3	Pn	Pn	02 03 36.8	-0.1
ERM	Erimo	6.42	16	Pn	Pn	02 03 56.2	-1.2
ASAJ	Asahikawa	8.36	9	Pn	Pn	02 04 22.0	-2.1
	comp=N,12nm,0.3s,baz=232,slow=8.9,SNR=27						
ASAJ				Sn	Sn	02 05 54.3	-2.9
	comp=N,3.5nm,0.3s,baz=176,slow=33,SNR=1.7						
	comp=N,23nm,0.4s						
JKA	Kamikawa-asahi	8.36	9	Pn	Pn	02 04 23.3	-0.8
JNU	Nakatsue	8.62	254	Pn	Pn	02 04 25.6	-2.2
	comp=N,0.7nm,0.3s,baz=63,slow=7.9,SNR=1.6						
JNU				LR	LR	02 08 10.8	
	comp=N,1µm,18.4s,baz=66,slow=41						
	comp=N,5.0nm,0.8s						
JCJ	Chichijima	8.82	172	Pn	Pn	02 04 28.6	-1.8
JCJ	Chichijima	8.82	172	Pn	Pn	02 04 24.2	-6.2
	comp=N,47nm,0.3s,baz=294,slow=16,SNR=16						
JCJ				Sn	Sn	02 05 55.4	-13
	comp=N,55nm,0.3s,baz=298,slow=20,SNR=9.6						
JCJ				LR	LR	02 06 42.5	
	comp=N,49nm,21.9s,baz=9.0,slow=30						
KSRS	Korea Array	10.46	283	Pn	Pn	02 04 58.3	+5.5
	comp=N,0.9nm,0.3s,baz=98,slow=14,SNR=7.4						
KSRS				LR	LR	02 09 10.5	
	comp=N,273nm,18.1s,baz=95,slow=39						
KSAR	Wonju Array Be	10.49	282	Pn	Pn	02 04 51.0	-2.2
USA0B	Ussuriysk Arra	10.71	324	Pn	Pn	02 04 57.0	+0.8
USRK	Ussuriysk Ar.	10.71	324	Pn	Pn	02 04 55.4	-0.8
USRK	Ussuriysk Ar.	10.71	324	Pn	Pn	02 04 58.3	+2.1
	comp=N,0.5nm,0.3s,baz=135,slow=12,SNR=18						
USRK				LR	LR	02 08 49.3	
	comp=N,520nm,20.1s,baz=143,slow=36						
YSS	Yuzh-Sakhalins	11.18	7	Pn	Pn	02 05 01.6	-1.1
MDJ	Mudanjiang	12.22	319	P	Pn	02 05 15.1	-1.8
MDJ				pP	P	02 05 23.5	-5.1
MDJ				sP		02 05 27.6	
MDJ				S	Sn	02 07 31.4	-0.4
MDJ				sS	S	02 07 42.6	-16
MDJ				SS	SnSn	02 07 44.8	+0.8
MDJ				PcP	PcP	02 10 55.2	-2.6
MDJ				ScP	ScP	02 14 24.9	-2.7
MDJ				PcS	PcS	02 14 30.3	-1.6
MDJ				ScS	ScS	02 18 02.2	-1.2
MDJ				pmax	pmax		
	comp=N,8.0nm,1.6s						
MDJ				pmax	pmax		
	comp=N,180nm,4.5s						
MDJ				LR	LR		
	comp=N,420nm,14.7s						
MDJ				LR	LR		
	comp=N,310nm,11.1s						
MDJ				LR	LR		
	comp=N,600nm,16.6s						
JOW	Kunigami	13.96	233	LR	LR	02 10 51.4	
	comp=N,288nm,21.6s,baz=6.0,slow=37						
BNX	BinXian	14.13	318	⇑P	Pn	02 05 41.2	-1.7
BNX				pmax	pmax		
	comp=N,6.0nm,0.8s						
BNX				pmax	pmax		
	comp=N,120nm,5.2s						
CN2	Changchun	14.19	309	P	Pn	02 05 46.1	+2.3
CN2				pmax	pmax		
	comp=N,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s						
CN2				LR	LR		
	comp=N,400nm,18.0s						
SNY	Shenyang	14.66	299	⇓P	Pn	02 05 48.3	-1.9
SNY				pmax	pmax		
	comp=N,12nm,1.7s						
KLR	Kul'dur	14.91	336	Pn	Pn	02 05 54.1	+0.7
	comp=N,0.6nm,0.3s,baz=164,slow=9.3,SNR=9.5						
KLR				LR	LR	02 11 31.1	
	comp=N,261nm,18.6s,baz=150,slow=37						
	comp=N,1.2nm,0.4s						
NJ2	Nanjing	18.58	265	eP	P	02 06 39.4	+0.3
NJ2				pP	pP	02 06 47.1	-1.9
NJ2				sP	sP	02 06 51.7	-2.3
NJ2				pmax	pmax		
	comp=N,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=N,330nm,3.8s						
TIA	Tai'an	19.13	278	P	P	02 06 44.5	-0.7
TIA				pmax	pmax		
	comp=N,12nm,0.9s						
BJI	Beijing	19.83	290	P	P	02 06 52.6	-0.2
BJI				pmax	pmax		
	comp=N,8.0nm,1.0s						
BJT	Baijiatuau	19.83	289	P	P	02 06 51.4	-1.5
HIA	Hailar	20.40	318	P	P	02 06 57.2	-1.7
XLT	XiLinHaoTe	20.54	301	eP	P	02 06 59.1	-1.4
XLT				pmax	pmax		
	comp=N,25nm,0.8s						
XLT				pmax	pmax		
	comp=N,130nm,4.5s						
XLT				LR	LR		
	comp=N,350nm,16.9s						
XLT				LR	LR		
	comp=N,420nm,17.9s						
PEA0B	Petropavlovsk-	20.96	29	P	P	02 07 06.5	+1.6
PEA0B				IAmb	IAmb	02 07 08.1	
	comp=Z,32nm,1.1s						
PETK	Petropavlovsk-	20.96	29	P	P	02 07 04.3	-0.6
PETK	Petropavlovsk-	20.96	29	P	P	02 07 06.2	+1.3
	comp=Z,6.2nm,0.9s,baz=226,slow=8.2,SNR=6.2						
	comp=Z,6.2nm,0.9s						
HNS	HongShan	20.97	282	⇓P	P	02 07 03.3	-1.8
HNS				eS	S	02 10 47.0	-10
HNS				pmax	pmax		
	comp=Z,22nm,0.8s						
HNS				LR	LR		
	comp=Z,210nm,19.1s						
HNS				LR	LR		
	comp=Z,280nm,17.5s						
WHN	Wuhan	22.71	264	P	P	02 07 24.6	+0.7
HHC	Hu-ho-hao-te	23.39	291	eP	P	02 07 31.4	+0.6
HHC				pmax	pmax		
	comp=Z,38nm,0.6s						
HHC				pmax	pmax		
	comp=Z,310nm,4.6s						
HHC				LR	LR		
	comp=Z,230nm,14.9s						
HHC				LR	LR		
	comp=Z,260nm,15.6s						
HHC				LR	LR		
	comp=Z,330nm,15.6s						
BTO	Baotou	24.56	290	eP	P	02 07 42.8	+1.2
BTO				pP	pP	02 07 53.0	+0.5
BTO				sP	sP	02 07 56.1	-1.2
BTO				PP	PnPn	02 08 20.3	+6.5
BTO				S	S	02 12 03.2	+3.4
BTO				SS	SnSn	02 12 54.9	+8.0
BTO				pmax	pmax		
	comp=Z,16nm,0.6s						
BTO				pmax	pmax		
	comp=Z,530nm,5.2s						
BTO				LR	LR		
	comp=Z,230nm,5.7s						
BTO				LR	LR		
	comp=Z,300nm,6.1s						
BTO				LR	LR		
	comp=Z,160nm,5.3s						
MA2	Magadan	24.61	12	P	P	02 07 41.5	-0.3
MA2				IAmb	IAmb	02 07 54.9	
	comp=Z,17nm,1.0s						
XAN	Xi'an	26.12	275	⇓P	P	02 07 55.2	-0.6
XAN				pP	pP	02 08 00.2	-6.5
XAN				sP	sP	02 08 02.4	-9.1
XAN				pmax	pmax		
	comp=Z,15nm,0.6s						
XAN				LR	LR		
	comp=Z,320nm,16.5s						
XAN				LR	LR		
	comp=Z,490nm,21.6s						
ENH	Enshi	26.75	267	P	P	02 07 59.6	-1.9
ENH				IAmb	IAmb	02 08 07.3	
	comp=Z,18nm,0.8s						
YAK	Yakutsk	27.11	349	P	P	02 08 03.0	-1.3
YAK				IAmb	IAmb	02 08 05.6	
	comp=Z,26nm,1.1s						
YAK	Yakutsk	27.11	349	P	P	02 08 04.1	-0.2
	comp=Z,0.5nm,0.3s,baz=163,slow=6.2,SNR=6.8						
YAK				LR	LR	02 18 30.6	
	comp=Z,7.8nm,20.6s,baz=149,slow=36						
ULN	Ulaanbaatar	27.62	306	P	P	02 08 08.7	-0.6
H11N2	WAKE ISLAND Hy	28.01	118	T	T	02 37 12.4	
	baz=311,slow=75						
H11N1	WAKE ISLAND Hy	28.02	118	T	T	02 37 15.3	
	baz=311,slow=75						
H11N3	WAKE ISLAND Hy	28.03	118	T	T	02 37 13.8	
	baz=311,slow=75						
SONM	Songino Array	28.04	306	P	P	02 08 11.5	-1.5
SONM	Songino Array	28.04	306	P	P	02 08 13.4	+0.3
	comp=Z,4.4nm,0.6s,baz=105,slow=9.1,SNR=18						
SONM				PcP	PcP	02 11 27.7	+0.8
	comp=Z,0.4nm,0.6s,baz=106,slow=3.1,SNR=2.5						
SONM				LR	LR	02 19 52.1	
	comp=Z,201nm,18.8s,baz=113,slow=38						
	comp=Z,4.4nm,0.6s						
H11S1	WAKE ISLAND Hy	28.68	120	T	T	02 38 03.2	
	baz=312,slow=75						
H11S3	WAKE ISLAND Hy	28.68	120	T	T	02 38 16.1	
	baz=312,slow=75						
H11S2	WAKE ISLAND Hy	28.69	120	T	T	02 38 10.8	
	baz=312,slow=75						
SHEM	Shemya Is, Ala	28.86	44	LR	LR	02 18 49.0	
	comp=Z,62nm,19.1s,baz=306,slow=34						
LZH	Lanzhou	29.78	281	eP	P	02 08 24.7	-4.0
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
LZH				LR	LR		
	comp=Z,200nm,12.0s						
LZH				LR	LR		
	comp=Z,270nm,13.7s						
LZH				LR	LR		
	comp=Z,310nm,12.7s						
GYA	Guiyang	30.54	262	⇑iP	P	02 08 34.9	-0.4
GYA				pmax	pmax		
	comp=Z,18nm,1.1s						
QIZ	Qiongzhong	31.99	247	P	P	02 08 48.7	+0.6
QIZ				S	S	02 13 58.8	+1.8
QIZ				pmax	pmax		
	comp=Z,16nm,1.4s						
QIZ				LR	LR		
	comp=Z,230nm,4.0s						
GTA	Gaotai	32.44	289	P	P	02 08 52.8	+0.8
GTA				pP	pP	02 08 59.2	-3.8
GTA				PcP	PcP	02 11 39.9	+1.4
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				LR	LR		
	comp=Z,65nm,12.4s						
GTA				LR	LR		
	comp=Z,130nm,13.8s						
GTA				LR	LR		
	comp=Z,180nm,19.3s						
PZH	PanZhiHua	34.49	265	P	P	02 09 09.5	-0.5
PZH				S	S	02 14 36.6	+0.6
PZH				pmax	pmax		

comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.1s
PZH LR LR
comp=Z,210nm,18.6s
PZH LR LR
comp=Z,250nm,17.8s
PZH LR LR
comp=Z,240nm,21.1s
BILL Bilibino 35.29 16 P P 02 09 16.9 +0.7
TIXI Tiksi 36.40 354 P P 02 09 25.5 -0.1
CMAR Chiang Mai Arr 40.72 256 P P 02 10 03.1 +0.5
comp=Z,0.8nm,0.3s,baz=43,slow=6.8,SNR=1.2
comp=Z,0.8nm,0.3s
WMQ Urumqi 40.93 298 *eP* **P 02 10 05.7 +1.6**
WMQ pP pP 02 10 15.7 +0.4
WMQ pmax pmax
comp=Z,27nm,0.9s
ZAA0 Zalesovo Array 42.34 313 P P 02 10 14.7 -0.7
ZAA0 IAmb IAmb 02 10 32.9
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 42.34 313 P P 02 10 15.2 -0.2
ZALV Zalesovo Beam 42.34 313 P P 02 10 16.2 +0.8
comp=Z,3.9nm,0.4s,baz=100,slow=8.5,SNR=30
ZALV PcP **PcP 02 12 08.4 +0.1**
comp=Z,2.3nm,0.5s,baz=99,slow=3.5,SNR=5.2
ZALV LR LR 02 28 34.3
comp=Z,74nm,18.3s,baz=68,slow=37
comp=Z,3.9nm,0.4s
ZSN Zaisan 42.50 304 *eP* **P 02 10 18.1 +1.2**
comp=Z,8.6nm,0.8s,baz=304
C16K Lisburne Hills 43.98 26 IAmb IAmb 02 10 42.2
comp=Z,11nm,0.9s
NRIK Noril'sk 44.12 336 P P 02 10 29.3 -0.3
NRIK Noril'sk 44.12 336 P P 02 10 30.1 +0.6
comp=Z,5.2nm,0.7s,baz=110,slow=11,SNR=12
comp=Z,5.2nm,0.7s
MK31 Makanchi Array 44.32 303 P P 02 10 31.7 +0.1
MKAR Makanchi Array 44.32 303 P P 02 10 31.8 +0.2
MKAR Makanchi Array 44.32 303 P P 02 10 32.4 +0.8
comp=Z,17nm,0.6s,baz=89,slow=9.7,SNR=163
MKAR LR LR 02 29 56.5
comp=Z,147nm,18.4s,baz=77,slow=37
comp=Z,17nm,0.6s
MAKZ Makanchi 44.53 303 P P 02 10 33.4 +0.1
SEM Semipalatinsk 45.26 308 *eP* **P 02 10 40.2 +1.0**
baz=308
G18K Tagagawik 45.91 30 IAmb IAmb 02 10 58.0
comp=Z,6.4nm,0.8s
C19K Lookout Ridge 46.23 25 IAmb IAmb 02 11 01.5
comp=Z,11nm,0.9s
KURK Kurchatov 46.27 309 P P 02 10 46.8 0.0
KURBB Kurchatov Arra 46.33 309 P P 02 10 47.8 +0.5
comp=Z,16nm,0.4s,baz=82,slow=7.6,SNR=49
KURBB PcP **PcP 02 12 21.2 -0.8**
comp=Z,1.5nm,0.6s,baz=89,slow=4.1,SNR=4.2
KURBB LR LR 02 30 55.3
comp=Z,116nm,19.2s,baz=173,slow=37
comp=Z,16nm,0.4s
E19K Redstone River 46.74 28 IAmb IAmb 02 11 06.0
comp=Z,7.8nm,0.7s
H19K Roundabout Mou 46.76 31 IAmb IAmb 02 11 10.0
comp=Z,12nm,1.3s
SHLS Shalkode 46.94 299 *eP* **P 02 10 50.6 -1.8**
baz=298
UZB Uzynbulak 47.26 299 *eP* **P 02 10 55.5 +0.6**
comp=Z,4.7nm,0.6s,baz=299
B20K Meade River 47.27 24 P P 02 10 55.3 +0.9
TDK Taldyqorghan 47.30 301 *eP* **P 02 10 56.0 +1.0**
comp=Z,5.6nm,0.5s,baz=301
K20K Telida 47.58 34 IAmb IAmb 02 11 12.6
comp=Z,5.5nm,0.8s
SATY Saty 47.72 299 *eP* **P 02 10 59.3 +0.8**
comp=Z,5.3nm,1.1s,baz=299
E21K Killik River 48.11 27 IAmb IAmb 02 11 16.0
comp=Z,4.7nm,0.8s
KDAK Kodiak Island 48.31 41 LR LR 02 31 10.7
comp=Z,70nm,20.7s,baz=241,slow=36
TARG Taragay, Kyrgy 48.47 297 P P 02 11 04.7 0.0
CHKK Chushkaly 48.54 300 *eP* **P 02 11 05.2 +0.6**
baz=300
B22K Teshekpuk Lake 48.58 24 IAmb IAmb 02 11 20.0
comp=Z,8.5nm,0.8s
D22K Ayikyak River 48.64 26 IAmb IAmb 02 11 20.2
comp=Z,8.3nm,0.8s
MDOK Medeo 48.66 299 *eP* **P 02 11 06.9 +1.2**
baz=299
MDOK *eS* **S 02 18 07.9 +2.6**
baz=299
TNSS Tian-Shan 48.76 299 *eP* **P 02 11 08.2 +1.4**
baz=299
E22K Anaktuvuk Pass 48.88 27 IAmb IAmb 02 11 22.0
comp=Z,5.9nm,0.8s
KUU Kurty 48.98 300 *eP* **P 02 11 08.4 +0.3**
comp=Z,8.4nm,0.9s,baz=300
MLY Manley 49.11 31 P P **02 11 09.9 +1.1**
C23K Itkillik River 49.47 25 IAmb IAmb 02 11 26.4
comp=Z,7.9nm,0.8s
D24K Happy Valley 50.05 26 IAmb IAmb 02 11 33.2
comp=Z,6.5nm,0.8s
BRZS Berezniki 50.14 309⇑ *iP* **P 02 11 17.0 +0.3**
baz=309
MDM Murphy Dome 50.18 32 P P **02 11 17.3 +0.4**
MDM IAmb IAmb 02 11 31.3
comp=Z,9.2nm,0.9s
SGDS Sogindy 50.30 300 *eP* **P 02 11 18.9 +0.7**
baz=300
BTLS Baital 50.30 302⇑ *iP* **P 02 11 18.8 +0.7**
comp=Z,4.4nm,0.8s,baz=302
KSH Kashi 50.43 295 P P 02 11 23.3 +4.1
KSH pP sP 02 11 33.3 -2.0
KSH pmax pmax
comp=Z,4.0nm,0.5s
POKR Poker Flat Res 50.51 31 P P 02 11 20.8 +1.5
POKR IAmb IAmb 02 11 34.1
comp=Z,11nm,1.0s
AAK Ala-Archa 50.61 299 P P 02 11 20.8 +0.2
AAK IAmb IAmb 02 11 29.3
comp=Z,7.7nm,1.1s
AAK Ala-Archa 50.61 299 LR LR 02 34 06.4
comp=Z,169nm,19.5s,baz=70,slow=38
IL31 50.76 32 IAmb IAmb 02 11 37.4
comp=Z,4.5nm,0.7s
ILAR Eielson Array 50.76 32 P P 02 11 21.4 +0.2
ILAR Eielson Array 50.76 32 P P 02 11 21.8 +0.6
comp=Z,2.0nm,0.7s,baz=267,slow=5.7,SNR=26
comp=Z,2.0nm,0.7s
D25K Kavik River 50.93 26 IAmb IAmb 02 11 37.5
comp=Z,4.1nm,0.6s
BVAR Borovoye Array 50.99 313 P P 02 11 23.6 +0.5
comp=Z,5.4nm,0.5s,baz=82,slow=6.9,SNR=38
BVAR PcP **PcP 02 12 39.2 +0.4**
comp=Z,3.4nm,0.6s,baz=89,slow=3.2,SNR=4.5
BVAR LR LR 02 34 13.0
comp=Z,139nm,18.9s,baz=37,slow=38
comp=Z,5.4nm,0.5s
BRVK Borovoye 51.05 313 P P 02 11 24.0 +0.4
BRVK IAmb IAmb 02 11 25.2
comp=Z,6.8nm,0.7s
PRP Porcupine Dome 51.30 31 P P 02 11 26.6 +1.2
SCRK Sand Creek 52.06 33 P P 02 11 31.8 +0.6
KNRA Kununurra 52.50 195 P P 02 11 34.7 +0.1
GSI Gunungsitoli 52.77 239 P P 02 11 35.1 -1.7
DZA Taraz 52.77 300 *eP* **P 02 11 37.3 +0.7**
baz=300
L27K Beaver Creek, 53.13 34 IAmb IAmb 02 11 51.8
comp=Z,10nm,1.3s
BCAR Beaver Creek A 53.15 34 P P 02 11 40.1 +1.0
KK31 Karatay Array 53.28 301 P P 02 11 40.4 +0.1
KK31 IAmb IAmb 02 11 42.2
comp=Z,9.2nm,0.9s
KKAR Karatay Array 53.28 301 P P 02 11 39.8 -0.5
KKAR IAmb IAmb 02 11 42.1
comp=Z,9.1nm,0.9s
E28M Babbage River 53.42 27 IAmb IAmb 02 11 56.0
comp=Z,17nm,1.5s
BTK Batken 54.02 297 IAmb IAmb 02 11 54.2
comp=Z,4.1nm,0.7s
E29M Blow River 54.05 27 P P 02 11 46.4 +0.9
E29M IAmb IAmb 02 12 02.9
comp=Z,6.4nm,1.1s
NIL Nilore 54.51 289 P P 02 11 49.0 -0.5
M29M Somme Creek 54.76 34 IAmb IAmb 02 11 58.6
comp=Z,12nm,1.4s
L29M L29M 54.78 33 IAmb IAmb 02 11 56.1
comp=Z,7.7nm,1.1s
G30M tAoh Zraii Nji 54.89 29 IAmb IAmb 02 12 06.4
comp=Z,16nm,1.4s
I30M Mount Dempster 55.14 31 P P 02 11 54.1 +0.5
I30M IAmb IAmb 02 12 08.2
comp=Z,7.6nm,0.8s
HYT Haines Junctio 55.54 36 P P 02 11 57.8 +1.2
HYT IAmb IAmb 02 11 59.7
comp=Z,9.4nm,1.2s
FITZ Fitzroy Crossi 55.55 198 P P 02 11 56.6 -0.3
INK Inuvik 55.66 27 P P 02 11 58.1 +1.0
SIMJ Simiganj 55.83 296 P P 02 11 59.3 +0.3
WR0 Warramunga Arr 55.83 187 P P 02 11 58.6 -0.2
WRA Warramunga Arr 55.83 187 P P 02 11 58.6 -0.3
WRA Warramunga Arr 55.83 187 P P 02 11 58.6 -0.3
comp=Z,8.0nm,0.8s,baz=2.1,slow=7.6,SNR=76
comp=Z,8.0nm,0.8s
H31M Peel River 55.85 30 IAmb IAmb 02 12 02.8
comp=Z,11nm,1.0s
CTA Charters Tower 55.88 174 LR LR 02 34 49.2
comp=Z,36nm,21.4s,baz=266,slow=35
CTAO Charters Tower 55.88 174 P P 02 11 59.1 -0.1
ARU Arti 56.91 319 P P 02 12 06.5 +0.3
ARU Arti 56.91 319 LR LR 02 39 18.4
comp=Z,69nm,18.6s,baz=2.0,slow=39
KBL Kabul 57.37 291 P P 02 12 09.3 -0.8
KBL IAmb IAmb 02 12 14.2
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 58.31 311 P P 02 12 16.1 -0.1
AKTO Aktyubinsk 59.09 312 LR LR 02 38 50.9
comp=Z,85nm,19.9s,baz=31,slow=37
AS31 Alice Springs 59.56 187 P P 02 12 24.5 -0.6
AS31 IAmb IAmb 02 12 30.8
comp=Z,2.2nm,0.5s
ASAR Alice Springs 59.56 187 P P 02 12 24.9 -0.2
ASAR Alice Springs 59.56 187 P P 02 12 25.1 +0.1
comp=Z,3.6nm,0.8s,baz=4.5,slow=5.5,SNR=4.1
ASAR LR LR 02 37 21.1
comp=Z,71nm,20.2s,baz=62,slow=35
comp=Z,3.6nm,0.8s
KIRV Kirov 60.88 323 LR LR 02 39 25.1
comp=Z,102nm,18.3s,baz=60,slow=36
SPITS Spitsbergen Ar 61.57 349 P P 02 12 39.8 +1.6
comp=Z,17nm,1.1s,baz=87,slow=6.8,SNR=5.6
comp=Z,17nm,1.1s
PALK Pallekele 61.62 258 LR LR 02 41 12.7
comp=Z,44nm,18.4s,baz=152,slow=38
HRA Herat 62.53 294 P P 02 12 46.0 +0.5
HRA IAmb IAmb 02 12 47.0
comp=Z,3.6nm,0.8s
DZM Mont Dzumac 62.53 153 LR LR 02 36 58.2
comp=Z,27nm,21.1s,baz=175,slow=33
RES Resolute Bay 63.86 14 LR LR 02 42 37.6
comp=Z,41nm,18.1s,baz=2.0,slow=38
GEYT Alibeck 63.96 299 IAmb IAmb 02 12 57.2
comp=Z,7.7nm,1.1s
GEYT Alibeck 63.96 299 P P 02 12 55.5 +0.7
comp=Z,4.3nm,1.0s,baz=32,slow=3.7,SNR=7.6
comp=Z,4.3nm,1.0s
GYA0B ALIBECK ARRAY 63.96 299 P P 02 12 55.3 +0.5
GYA0B IAmb IAmb 02 13 00.3
comp=Z,5.9nm,0.9s
ARCES ARCESS Array B 64.92 339 P P 02 13 01.4 +1.0
comp=Z,3.6nm,0.8s,baz=52,slow=8.3,SNR=14
comp=Z,3.6nm,0.8s
STKA Stephens Creek 67.39 179 P P 02 13 16.2 -0.4
comp=Z,1.6nm,0.7s,baz=355,slow=5.9,SNR=2.9
comp=Z,1.6nm,0.7s
FINES FINESS Array B 69.61 332 P P 02 13 30.9 +0.6
FINES FINESS Array B 69.61 332 P P 02 13 30.6 +0.4
comp=Z,7.1nm,0.8s,baz=60,slow=9.1,SNR=11
comp=Z,7.1nm,0.8s
WSAR Wadi Sarin 70.68 285 LR LR 02 47 03.1
comp=Z,33nm,21.5s,baz=52,slow=38
KBZ Khabaz 71.28 311 P P 02 13 41.5 +0.8
comp=Z,4.4nm,0.8s,baz=21,slow=3.9,SNR=11
KBZ LR LR 02 47 08.1
comp=Z,66nm,19.1s,baz=14,slow=38
comp=Z,4.4nm,0.8s
KIV Kislovodsk 71.29 311 P P 02 13 41.0 +0.1
NEW Newport 71.32 44 LR LR 02 44 04.2
comp=Z,70nm,18.6s,baz=76,slow=35
ONI Oni 71.54 309 P P 02 13 42.9 +0.5
SUMG Summit 71.86 360 *i* P **P 02 13 45.0 +0.8**
GNI Garni 72.00 307 P P 02 13 45.7 +0.4
GNI IAmb IAmb 02 14 09.8
comp=Z,9.2nm,0.8s
GNI Garni 72.00 307 LR LR 02 48 09.4
comp=Z,57nm,18.4s,baz=48,slow=38
GURO Guroymak-BITLI 74.63 307 P P 02 14 01.4 +0.6
GURO IAmb IAmb 02 14 03.2
comp=Z,6.9nm,0.8s
AKASG Malin Array Be 74.91 322 P P 02 14 02.2 +0.2
comp=Z,4.1nm,0.6s,baz=47,slow=6.1,SNR=4.1
AKASG LR LR 02 49 38.8
comp=Z,141nm,19.4s,baz=16,slow=38
comp=Z,4.1nm,0.6s
AKBB Malin Array Si 74.91 322 IAmb IAmb 02 14 03.1
comp=Z,7.8nm,0.7s
KIEV Kiev 74.93 322 P P 02 14 01.9 -0.3
KIEV IAmb IAmb 02 14 03.1
comp=Z,7.0nm,0.7s
HFS Hagfors 74.95 336 P P 02 14 02.0 -0.1
comp=Z,5.7nm,0.9s,baz=23,slow=4.8,SNR=9.4
HFS LR LR 02 48 20.2
comp=Z,113nm,19.3s,baz=12,slow=37
comp=Z,5.7nm,0.9s
NC204 NORSAR Array S 75.03 337 P P 02 14 02.3 -0.4
NB2 NORSAR Subarra 75.07 337 P P 02 14 03.1 +0.2
comp=Z,6.1nm,0.8s,baz=40,slow=5.9
NOA NORSAR Array B 75.07 337 P P 02 14 03.2 +0.4
comp=Z,6.4nm,1.0s,baz=39,slow=5.7,SNR=9.8
NOA LR LR 02 49 53.8
comp=Z,105nm,19.4s,baz=0.0,slow=38
comp=Z,6.4nm,1.0s
HRY Holter Researc 75.16 43 P P 02 14 03.9 +0.2
LRM Limekiln Ridge 75.34 44 P P 02 14 04.4 -0.6
NVAR Mina Array Bea 76.10 53 P P 02 14 09.8 +0.4
NVAR Mina Array Bea 76.10 53 P P 02 14 10.8 +1.4
comp=Z,0.5nm,0.5s,baz=291,slow=5.5,SNR=8.1
comp=Z,0.5nm,0.5s
ARPR Arapgir-MALATY 76.70 309 P P 02 14 13.9 +1.1
SORM Soroca 76.97 321⇑ *P* **P 02 14 13.5 -0.4**
R11B Troy Canyon, C 77.89 51 P P 02 14 18.5 -0.9
VLDR Vladesti 78.59 319⇑ *P* **P 02 14 23.3 +0.5**
GIRR Girov 78.69 320⇓ *P* **P 02 14 24.0 +0.5**
PDAR Pinedale Array 78.85 45 P P 02 14 25.1 +0.3
PDAR Pinedale Array 78.85 45 P P 02 14 25.4 +0.6
comp=Z,0.5nm,0.6s,baz=54,slow=1.6,SNR=9.6
comp=Z,0.5nm,0.6s
BUR08 Bucovina Ar. S 78.90 322 P P 02 14 24.9 +0.2
TESR Tescani 78.91 320⇓ *P* **P 02 14 25.1 +0.4**
BURAR Bucovina Array 78.92 322⇑ *P* **P 02 14 25.1 +0.3**
CFR Carcaliu 78.99 318⇓ *P* **P 02 14 25.5 +0.4**
TPGR Topolog 79.04 318⇓ *P* **P 02 14 26.2 +0.8**
BRTR Keskin Array B 79.25 311 P P 02 14 26.7 -0.1
BRTR Keskin Array B 79.25 311 P P 02 14 27.5 +0.7
comp=Z,2.8nm,0.8s,baz=106,slow=1.8,SNR=6.7
BRTR LR LR 02 53 44.3
comp=Z,52nm,18.7s,baz=348,slow=39
comp=Z,2.8nm,0.8s
VRI Vrincioaia 79.29 320⇓ *P* **P 02 14 28.2 +1.4**
PLOR Plostina 79.34 320⇑ *P* **P 02 14 29.2 +2.1**
BISRR Bisoca 79.51 319⇓ *P* **P 02 14 28.9 +0.9**
ICOR Ion Corvin 79.86 318⇑ *P* **P 02 14 31.5 +1.7**
RAR Rarotonga 79.89 125 LR LR 02 43 06.0
comp=Z,45nm,19.8s,baz=282,slow=31
MLR Muntele Rosu 79.95 320 LR LR 02 52 29.4
comp=Z,124nm,19.2s,baz=45,slow=38
PFO Pinyon Flats O 80.11 56 LR LR 02 43 03.4
comp=Z,68nm,20.0s,baz=66,slow=30
ARR Arges 80.72 320⇓ *P* **P 02 14 36.2 +1.6**
VYHS Vyhne 81.40 325 *eP* **P 02 14 39.2 +1.1**
VRAC Vranov 81.83 327 LR LR 02 53 09.1
comp=Z,100nm,18.1s,baz=16,slow=37
PV14 Lion Creek, Pa 81.94 48 P P 02 14 41.9 +0.4
PV14 IAmb IAmb 02 14 55.8
comp=Z,6.2nm,1.0s
MMAI Mount Meron Ar 82.23 305 P P 02 14 41.6 -1.2
comp=Z,2.4nm,0.7s,baz=22,slow=8.0,SNR=2.0
MMAI LR LR 02 54 39.7
comp=Z,74nm,19.0s,baz=88,slow=38
comp=Z,2.4nm,0.7s
RONA Rosalia, Austr 83.15 326 *i* P **P 02 14 48.7 +1.5**
comp=Z,1.3nm,0.5s
CONA Conrad Observa 83.17 326 *eP* **P 02 14 48.7 +1.3**
comp=Z,0.8nm,0.4s
BOVS Bovan 83.43 320⇑ *P* **P 02 14 49.1 +0.3**
GERES GERESS Array B 83.44 328 P P 02 14 48.8 0.0
comp=Z,3.8nm,1.0s,baz=108,slow=11,SNR=3.4
GERES LR LR 02 53 06.9
comp=Z,96nm,19.0s,baz=308,slow=36
comp=Z,3.8nm,1.0s
EKA Eskdalemuir Ar 84.06 340 P P 02 14 51.3 -0.4
comp=Z,1.1nm,0.7s,baz=53,slow=5.5,SNR=4.0
comp=Z,1.1nm,0.7s
PPT Papeete 84.57 116 LR LR 02 42 57.2
comp=Z,63nm,21.9s,baz=215,slow=29
DAVOX Davos/Dischmat 86.67 329 LR LR 02 56 18.5
comp=Z,74nm,18.4s,baz=258,slow=37
LPIG La Paz 90.21 60 LR LR 02 56 38.6
comp=Z,25nm,18.8s,baz=21,slow=36
TXAR Lajitas Array 91.24 52 P P 02 15 27.6 +0.6
comp=Z,0.3nm,0.4s,baz=290,slow=3.0,SNR=16
comp=Z,0.3nm,0.4s
KEST Kesra 95.64 322 LR LR 03 02 02.6
comp=Z,68nm,18.5s,baz=268,slow=37
TORD Torodi Ar. Bea 117.79 314 PKP **PKPdf 02 21 07.0 -1.2**
comp=Z,0.6nm,0.5s,baz=28,slow=2.6,SNR=11
QSPA South Pole Qui 125.61 180 PKP **PKPdf 02 21 21.0 -0.6**
comp=Z,1.3nm,0.5s,baz=297,slow=2.3,SNR=6.8
SAML Samuel 145.44 45 PKPbc **PKPbc 02 22 00.1 +0.4**
H03N2 Juan Fernandez 147.39 98 T T 05 06 43.1
baz=290,slow=76,SNR=107
H03N3 Juan Fernandez 147.40 98 T T 05 06 44.2
baz=290,slow=76,SNR=134
H03N1 Juan Fernandez 147.41 98 T T 05 06 41.4
baz=290,slow=76,SNR=114
PMSA Palmer Station 147.44 160 PKPbc **PKPdf 02 22 02.6 +1.1**
LPAZ La Paz 147.72 60 PKPbc **PKPdf 02 22 04.2 -0.1**
PB11 IPOC Station P 148.83 67 PKPbc **PKPdf 02 22 07.3 +1.9**

IDC 05 02:24:14.7±2.6, 42.07N×129.67E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=50.7km s-min=15.2km az=118.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**2.72**	**38**	I	I	02 40 20.0	
	baz=221,slow=329,SNR=3.4						
USRK	**Ussuriysk Ar.**	**2.73**	**38**	Pn	Pn	02 24 59.3	-0.4
	0.2nm,0.3s,baz=221,slow=11,SNR=1.9						
USRK				Pg	Pb	02 25 04.4	+0.2
	0.7nm,0.3s,baz=226,slow=14,SNR=10						
USRK				Lg	Lg	02 25 41.6	
	1.2nm,0.3s,baz=232,slow=27,SNR=7.4						
	0.7nm,0.3s						
KSRS	**Korea Array**	**4.80**	**197**	Pn	Pn	02 25 28.5	+0.2
	0.5nm,0.3s,baz=6.3,slow=12,SNR=4.2						
KSRS				Lg	Lg	02 26 47.9	
	0.3nm,0.3s,baz=20,slow=29,SNR=2.4						
	0.8nm,0.2s						
KLR	**Kul'dur**	**7.31**	**11**	Lg	Lg	02 28 00.1	
	0.1nm,0.3s,baz=148,slow=13,SNR=2.4						

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*IDC **05** 02:47:35.1±0.7, 1.13S×120.66E, h0km, mb3.9/9, mbtmp4.0/10, ML3.7/1, MS3.2/5, Error ellipse: s-maj=55.5km s-min=14.2km az=61.0*
*DJA **05** 02:47:37.4±0.2, 1.1S±2.2×12.0E±, h10km, M4.3/13, mb4.4/2, mB5.2/1, MLv4.2/13, Mw(mB)4.5/1*
ISC 05 02:47:37.3±0.7, 1.19S±0.04×120.43E±0.06, h10km, n28, σ18.32/28, mb4.1/11, MS3.1/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.61**	**341**	P	**Pn**	**02 48 04.1**	**-1.7**
MPSI				S	**Sn**	**02 48 24.8**	**-1.8**
TTSI	**Tana Toraja**	**1.94**	**198**	P	**Pn**	**02 48 10.1**	**-0.2**
MMSI	**Mamuju**	**2.12**	**226**	P	**Pn**	**02 48 12.9**	**0.0**
MRSI	**Marisa**	**2.25**	**42**	P	**Pn**	**02 48 15.8**	**+1.3**
LUWI	**Luwuk**	**2.35**	**86**	P	**Pn**	**02 48 16.3**	**+0.4**
PMSI	**Majene**	**2.75**	**213**	P	**Pn**	**02 48 22.8**	**+1.3**
SPSI	**Sidrap Palu**	**2.83**	**193**	P	**Pn**	**02 48 23.3**	**+0.7**
GTOI	**Gorontalo**	**3.16**	**55**	P	**Pn**	**02 48 28.5**	**+1.4**
KAPI	**Kappang**	**3.85**	**190**	Pn	**Pn**	**02 48 36.8**	**+0.1**
	4.8nm,0.3s,baz=342,slow=7.6,SNR=24						
KAPI				Sn	**Sn**	**02 49 22.0**	**-0.1**
	7.4nm,0.3s,baz=206,slow=22,SNR=8.1						
KAPI				LR	LR	02 50 24.6	
	comp=Z,341nm,19.7s,baz=334,slow=43						
	20nm,0.3s						
MKS	**Makassar**	**4.11**	**193**	P	**Pn**	**02 48 41.3**	**+1.1**
BKSI	**Bulukumba**	**4.11**	**184**	P	**Pn**	**02 48 40.2**	**0.0**
SANI	**Sanana**	**5.62**	**99**	P	**Pn**	**02 48 59.8**	**-1.2**
	13nm,0.8s,0.1nm						
LBMI	**Labuha**	**7.09**	**86**	P	**Pn**	**02 49 21.4**	**+0.2**
DAV	**Davao City (W)**	**9.68**	**32**	LR	LR	02 53 42.1	
	comp=Z,95nm,19.1s,baz=168,slow=39						
WRA	**Warramunga Arr**	**23.07**	**145**	P	**P**	**02 52 41.1**	**-2.1**
	2.6nm,0.9s,baz=322,slow=11,SNR=11						
	2.6nm,0.9s						
ASAR	**Alice Springs**	**25.88**	**151**	P	**P**	**02 53 08.3**	**-1.2**
	1.2nm,0.8s,baz=322,slow=7.8,SNR=16						
ASAR				PcP	**PcP**	**02 56 37.8**	**-0.9**
	0.3nm,0.7s,baz=329,slow=1.8,SNR=5.6						
ASAR				LR	LR	03 05 39.0	
	comp=Z,35nm,19.5s,baz=350,slow=42						
	1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.77**	**314**	P	**P**	**02 53 35.6**	**0.0**
	0.6nm,0.4s,baz=137,slow=8.2,SNR=4.6						
	0.6nm,0.4s						
PZH	**PanZhiHua**	**32.91**	**328**	P	**P**	**02 54 14.4**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.3s						
STKA	**Stephens Creek**	**36.48**	**149**	P	**P**	**02 54 41.9**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=334,slow=11,SNR=8.5						
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**41.02**	**22**	LR	LR	03 13 55.0	
	comp=Z,25nm,18.2s,baz=321,slow=39						
KSH	**Kashi**	**57.39**	**320**	P	**P**	**02 57 29.6**	**+3.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**58.31**	**330**	P	**P**	**02 57 33.2**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=137,slow=7.5,SNR=14						
	comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**62.37**	**337**	P	**P**	**02 57 58.7**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=140,slow=6.6,SNR=6.3						
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**62.74**	**331**	P	**P**	**02 58 02.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=143,slow=6.2,SNR=14						
	comp=Z,1.3nm,0.7s						
BVAR	**Borovoye Array**	**68.20**	**330**	P	**P**	**02 58 37.2**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=120,slow=8.8,SNR=7.6						
	comp=Z,1.1nm,0.7s						
GEYT	**Alibeck**	**69.22**	**312**	P	**P**	**02 58 45.6**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=97,slow=7.3,SNR=2.1						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**92.22**	**25**	LR	LR	03 45 13.7	
	comp=Z,19nm,19.4s,baz=62,slow=38						
TXAR	**Lajitas Array**	**129.57**	**52**	PKP	**PKPdf**	**03 06 46.6**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=225,slow=0.6,SNR=1.9						

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*IDC **05** 03:04:59.5±48.0, 23.41S×174.34W, h0km, mb4.3/3, mbtmp4.3/3, MS2.8/1, Error ellipse: s-maj=913.9km s-min=170.3km az=88.0*
*NEIC **05** 03:05:06.3±1.6, 23.9S±0.2×174.85W±0.06, h10km±1km, mb4.7/21, Error ellipse: s-maj=28.3km s-min=7.6km az=170.0*
ISC 05 03:05:09.3±0.8, 23.9S±0.2×174.9W±0.1, h35km, n25, σ0.870/24, mb4.6/14, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.21**	**82**	Pn	**Pn**	**03 08 28.0**	**-0.1**
URZ	**Urewera**	**15.86**	**204**	LR	LR	03 15 35.6	
	comp=Z,32nm,20.3s,baz=125,slow=38						
DZM	**Mont Dzumac**	**17.29**	**272**	Pn	**Pn**	**03 09 07.9**	**-0.3**
EIDS	**Eidsvold**	**30.93**	**260**	P	**P**	**03 11 21.8**	**-1.2**
EIDS				IAmb	IAmb	03 11 27.4	
	comp=Z,8.7nm,1.3s						
CTAO	**Charters Tower**	**36.16**	**268**	P	**P**	**03 12 09.0**	**+0.4**
CTAO				IAmb	IAmb	03 12 09.8	
	comp=Z,8.3nm,0.7s						
STKA	**Stephens Creek**	**39.07**	**248**	P	**P**	**03 12 33.0**	**-0.1**
STKA	**Stephens Creek**	**39.07**	**248**	P	**P**	**03 12 33.3**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=102,slow=11,SNR=5.0						
	comp=Z,1.2nm,0.5s						
BBOO	**Buckleboo**	**43.75**	**247**	P	**P**	**03 13 10.5**	**-1.0**
BBOO				IAmb	IAmb	03 13 14.9	
	comp=Z,17nm,1.5s						

AS31	Alice Springs	46.65	259	P	P	03 13 34.4	-0.2
AS31				IAmb	IAmb	03 13 35.2	
	comp=Z,1.9nm,0.3s						
ASAR	Alice Springs	46.65	259	P	P	03 13 34.5	-0.1
	comp=Z,1.4nm,0.3s,baz=95,slow=7.6,SNR=60						
	comp=Z,1.4nm,0.3s						
WR0	Warramunga Arr	46.89	265	P	P	03 13 36.2	-0.3
WR0				IAmb	IAmb	03 13 38.6	
	comp=Z,9.6nm,1.3s						
WB2	Warramunga Arr	47.06	264	P	P	03 13 37.7	-0.2
WB2				IAmb	IAmb	03 13 38.2	
	comp=Z,4.4nm,0.8s						
WB0	Warramunga Arr	47.07	265	P	P	03 13 37.5	-0.5
WB0				IAmb	IAmb	03 13 38.3	
	comp=Z,4.1nm,0.6s						
WRA	Warramunga Arr	47.07	264	P	P	03 13 37.8	-0.2
WRA	Warramunga Arr	47.07	264	P	P	03 13 37.8	-0.2
	comp=Z,3.9nm,0.5s,baz=102,slow=8.0,SNR=76						
	comp=Z,3.9nm,0.5s						
FORT	Forrest	50.69	249	P	P	03 14 04.4	-1.2
KNRA	Kununurra	53.37	268	P	P	03 14 26.9	+1.2
KNRA				IAmb	IAmb	03 14 35.8	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	55.49	264	P	P	03 14 41.8	+0.7
MBWA	Marble Bar	59.97	259	P	P	03 15 11.6	-1.0
MBWA				IAmb	IAmb	03 15 17.8	
	comp=Z,7.7nm,1.1s						
MORW	Morawa	61.26	249	P	P	03 15 22.4	+1.2
MORW				IAmb	IAmb	03 15 28.0	
	comp=Z,11nm,1.2s						
CASY	Casey	62.16	206	P	P	03 15 27.0	+0.3
CASY				IAmb	IAmb	03 15 35.9	
	comp=Z,14nm,1.3s						
LUWI	Luwuk	64.41	281	P	P	03 15 42.5	+0.1
GIRL	Giralia	64.46	255	P	P	03 15 43.6	+0.9
JWT	Wachi	75.38	320	P	P	03 16 49.8	+0.4
ATKA	Atka Island	75.78	0	P	P	03 16 50.7	-0.5

*AFAD **05** 03:05:58.8±0.0, 41.°17N×21.°65E, h7km±4km, MW4.2*
*IDC **05** 03:06:11.5±1.3, 41.°29N×22.°57E, h0km, mb3.6/6, mbtmp3.5/8, ML3.3/2, Error ellipse: s-maj=25.0km s-min=19.7km az=152.0*
*ISK **05** 03:06:12.9, 41.°20N×22.°83E, h14km, ML3.7/27*
*SKO **05** 03:06:12.6, 41.°23N×22.°82E, h15km, ML3.3*
*PDG **05** 03:06:12.9±0.4, 41.°25N×22.°82E, h14km, ML3.4/11, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*ATH **05** 03:06:13.9, 41.°22N×22.°84E, h8km, ML3.5/14, Error ellipse: s-maj=1.4km s-min=0.7km az=163.0*
*BEO **05** 03:06:13.8±0.3, 41.°26N×22.°79E, h9km±2km, ML3.4/12*
*THE **05** 03:06:13.9, 41.°18N×22.°84E, h10km, ML3.5/12, Error ellipse: s-maj=1.3km s-min=0.7km az=166.0*
*SOF **05** 03:06:13.2, 41.°29N±0.°02×22.°86E±0.°02, h7km±3km, MD3.9/10*
*TIR **05** 03:06:14.5, 41.°10N×22.°73E, h26km±1km, Ml3.5*
ISC 05 03:06:13.4±0.7, **41.°23N**±0.°01×**22.°82E**±0.°01, **h12**km±4km, **n266**, σ1^{s}**55**/405, **mb3.6**/4, **81C-58D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	Kendrikon	0.09	140	Pg	Pg	03 06 15.8	-0.4
KNT	Kendrikon	0.09	140	P	Pg	03 06 15.8	-0.4
KNT				S	Sg	03 06 17.5	-0.7
	174µm,0.3s						
KNT	Kendrikon	0.09	140	P	Pg	03 06 15.8	-0.4
KNT				S	Sg	03 06 17.5	-0.7
KNT	Kendrikon	0.09	140	⇓*i*Pg	Pg	03 06 15.9	-0.4
KNT				*i* Sg	Sg	03 06 17.5	-0.7
VAY	Valandovo	0.21	296	*e*Pg	Pg	03 06 17.8	-0.2
VAY				*e*Sg	Sg	03 06 21.3	+0.2
VAY	Valandovo	0.21	296	*i* Pg	Pg	03 06 17.8	-0.2
VAY				*i* Sg	Sg	03 06 21.2	+0.2
VAY				*e*Lg	Lg	03 06 21.4	
	comp=E,5µm,0.2s						
VAY				*e*Lg	Lg	03 06 21.5	
	comp=N,6µm,0.3s						
GRG	Griva	0.42	229	Pg	Pg	03 06 21.6	-0.1
GRG				Sg	Sg	03 06 27.9	+0.6
GRG	Griva	0.42	229	P	Pg	03 06 21.5	-0.1
GRG				S	Sg	03 06 28.0	+0.6
	comp=N,34µm,0.3s						
GRG	Griva	0.42	229	P	Pg	03 06 21.6	-0.1
GRG				S	Sg	03 06 27.6	+0.3
GRG				AML	AML	03 06 28.7	
	comp=N,49767µm,0.2s						
GRG				AML	AML	03 06 29.0	
	comp=E,72382µm,0.2s						
GRG	Griva	0.42	229	⇑*i*Pg	Pg	03 06 21.6	-0.1
GRG				*i* Sg	Sg	03 06 27.9	+0.6
PEHC	Pehcevo	0.55	6	*i* Pg	Pg	03 06 23.9	-0.4
PEHC				*i* Sg	Sg	03 06 31.8	+0.2
SOH	Sokhos	0.57	135	P	Pg	03 06 23.9	-0.8
SOH				S	Sg	03 06 31.4	-0.8
	comp=E,13µm,0.5s						
SOH	Sokhos	0.57	135	P	Pg	03 06 24.3	-0.3
SOH				S	Sg	03 06 32.3	+0.1
SOH				AML	AML	03 06 33.8	
	comp=E,33757µm,0.6s						
SOH				AML	AML	03 06 34.0	
	comp=N,30078µm,0.4s						
SOH	Sokhos	0.57	135	*i* Pg	Pg	03 06 23.8	-0.8
SOH				*i* Sg	Sg	03 06 31.4	-0.8
SRS	Serrai	0.59	101	P	Pg	03 06 24.1	-0.9
SRS				S	Sg	03 06 32.3	-0.5
	comp=N,2µm,0.3s						
SRS	Serrai	0.59	101	*e*Pg	Pg	03 06 24.4	-0.6
SRS				*e*Sg	Sg	03 06 33.2	+0.4
SRS	Serrai	0.59	101	P	Pg	03 06 24.5	-0.4
SRS				S	Sg	03 06 32.3	-0.5
SRS				AML	AML	03 06 33.9	
	comp=E,4366µm,0.2s						
SRS				AML	AML	03 06 35.7	
	comp=N,4738µm,0.2s						
SRS	Serrai	0.59	101	⇑*i*Pg	Pg	03 06 24.3	-0.7
SRS				*i* Sg	Sg	03 06 32.3	-0.5
THE	Thessaloniki	0.61	170	P	Pg	03 06 24.7	-0.5
	baz=158						
THE				S	Sg	03 06 33.5	+0.2
	baz=158						
THE	Thessaloniki	0.61	170	P	Pg	03 06 24.6	-0.5
THE				S	Sg	03 06 31.7	-1.6
	comp=N,5µm,0.5s						
THE	Thessaloniki	0.61	170	P	Pg	03 06 24.7	-0.5
THE				S	Sg	03 06 33.3	0.0
THE				AML	AML	03 06 34.3	
	comp=E,12128µm,0.3s						
THE				AML	AML	03 06 34.7	
	comp=N,7540µm,0.4s						
THE	Thessaloniki	0.61	170	⇑*i*Pg	Pg	03 06 24.8	-0.5
THE				*i* Sg	Sg	03 06 33.4	+0.2
KKB	Krupnik	0.65	21	⇑*i*Pg	Pg	03 06 25.6	-0.5
KKB				*i* Sg	Sg	03 06 34.4	-0.4
KKB	Krupnik	0.65	21	⇑*i*Pg	Pg	03 06 25.6	-0.5
KKB				Sg	Sg	03 06 33.3	-1.5
HORT	Hortiatis	0.67	161	Pg	Pg	03 06 25.7	-0.7
HORT				Sg	Sg	03 06 35.1	-0.1
HORT	Hortiatis	0.67	161	P	Pg	03 06 25.9	-0.5
HORT				S	Sg	03 06 35.4	+0.2
	comp=N,3µm,0.3s						
HORT	Hortiatis	0.67	161	P	Pg	03 06 26.0	-0.3
HORT				S	Sg	03 06 35.2	+0.1
HORT				AML	AML	03 06 37.5	
	comp=N,5694µm,0.2s						
HORT				AML	AML	03 06 39.4	
	comp=E,6876µm,0.4s						
MMB	Musomishta	0.77	65	⇑*i*Pg	Pg	03 06 27.6	-0.7
MMB				Sg	Sg	03 06 37.6	-0.7
MMB	Musomishta	0.77	65	⇑*i*Pg	Pg	03 06 27.5	-0.7
MMB				*i* Sg	Sg	03 06 38.0	-0.3
NVR	Nevrokopi	0.79	81	P	Pg	03 06 28.9	+0.1
NVR				S	Sn	03 06 41.2	-0.9
	comp=E,3µm,0.2s						
NVR	Nevrokopi	0.79	81	P	Pb	03 06 29.0	-0.1
NVR				S	Sg	03 06 39.3	+0.1
NVR				AML	AML	03 06 40.5	
	comp=N,5832µm,0.3s						
NVR				AML	AML	03 06 41.4	
	comp=E,7067µm,0.3s						
KOKK	Kokkinochori,	0.98	114	P	Pb	03 06 31.2	-1.1
KOKK				S	Sb	03 06 45.3	+0.1
	comp=E,1µm,0.5s						
KOKK	Kokkinochori,	0.98	114	P	Pb	03 06 31.7	-0.6
FNA	Florina	1.18	248	Pn	Pn	03 06 35.2	-0.6
FNA	Florina	1.18	248	P	Pn	03 06 35.2	-0.6
	baz=254						
FNA				S	Sb	03 06 50.1	-0.9
	baz=254						
FNA				AMP			
	comp=E,3.4nm,0.6s,baz=254						
FNA	Florina	1.18	248	P	Pn	03 06 34.2	-1.5
	baz=242						
FNA				S	Sb	03 06 49.9	-1.1
	baz=242						
FNA	Florina	1.18	248	P	Pn	03 06 35.1	-0.6
FNA				S	Sb	03 06 51.2	+0.2
	comp=E,2µm,0.6s						
FNA	Florina	1.18	248	*e*Pg	Pn	03 06 35.2	-0.6
FNA				*e*Sg	Sb	03 06 50.5	-0.5
FNA	Florina	1.18	248	P	Pn	03 06 35.3	-0.4
FNA				S	Sn	03 06 51.8	0.0
FNA				AML	AML	03 06 57.2	
	comp=N,3908µm,0.6s						
FNA				AML	AML	03 07 00.1	
	comp=E,4670µm,0.7s						
FNA	Florina	1.18	248	*i* Pg	Pn	03 06 35.1	-0.6
FNA				*i* Sg	Sb	03 06 51.2	+0.2
KVLA	Kavala	1.22	103	P	Pb	03 06 36.4	+0.1
KVLA				S	Sb	03 06 52.2	+0.2
KVLA				AML	AML	03 06 53.1	
	comp=E,4983µm,0.3s						
KVLA				AML	AML	03 06 54.6	
	comp=N,3670µm,0.2s						
OUR	Ouranopolis	1.26	135	Pn	Pn	03 06 36.5	-0.2
OUR	Ouranopolis	1.26	135	P	Pn	03 06 36.3	-0.4
OUR				S	Sb	03 06 52.8	-0.2
OUR				AML	AML	03 06 57.7	
	comp=N,5391µm,0.8s						
OUR				AML	AML	03 06 59.1	
	comp=E,4738µm,0.3s						
SKO	Skopje	1.27	306	*e*Pg	Pb	03 06 37.1	-0.2
SKO				*e*Sg	Sb	03 06 53.7	+0.1
SKO	Skopje	1.27	306	*i* Pg	Pb	03 06 37.1	-0.2
SKO				*i* Sg	Sg	03 06 55.2	+0.7
BOSS	Bosilegrad	1.29	349	*e*Pg	Pb	03 06 37.4	-0.2
BOSS				*e*Sg	Sb	03 06 52.6	-1.5
KAVA	Kavala	1.30	100	P	Pn	03 06 36.9	-0.4
KAVA				S	Sg	03 06 55.0	-0.3
	comp=E,4µm,0.7s						
KAVA	Kavala	1.30	100	P	Pn	03 06 37.5	+0.2
PRVS	Prvonek	1.39	337	*e*Pg	Pn	03 06 38.6	0.0
PRVS				*e*Sg	Sn	03 06 56.8	-0.2
VTS	Vitosha	1.42	12	*i* Pg	Pn	03 06 39.2	+0.1
VTS				Sg	Sn	03 06 56.6	-1.2
VTS	Vitosha	1.42	12	*e*Pg	Pn	03 06 39.4	+0.3
VTS				*e*Sg	Sg	03 06 58.8	-0.4
PAIG	Paliouri	1.46	153	Pn	Pn	03 06 39.0	-0.5
PAIG	Paliouri	1.46	153	P	Pn	03 06 38.8	-0.7
PAIG				S	Sn	03 06 58.3	-0.1
	comp=E,2µm,0.5s						
RZN	Rozhen	1.51	72	*i* P	Pb	03 06 41.2	-0.3
RZN				S	Sb	03 07 00.8	+0.1
OHR	Ohrid	1.53	266	*e*Pg	Pb	03 06 41.2	-0.5
OHR				*e*Sg	Sb	03 07 01.7	+0.6
OHR	Ohrid	1.53	266	*i* Pn	Pn	03 06 41.1	+0.5
OHR				*i* Sg	Sg	03 07 02.2	-0.5
OHR				*e*Lg	Lg	03 07 02.6	
	comp=E,345nm,0.6s						
OHR				*e*Lg	Lg	03 07 03.3	
	comp=N,565nm,0.6s						
THAS	Thassos island	1.57	113	P	Pn	03 06 40.8	-0.1
THAS				S	Sn	03 07 00.6	-0.6
THAS				AML	AML	03 07 03.5	
	comp=E,2939µm,0.4s						
THAS				AML	AML	03 07 06.4	
	comp=N,3756µm,0.2s						
NEST	Nestorio	1.57	239	P	Pn	03 06 41.4	+0.2
NEST				S	Sn	03 07 01.5	0.0
	comp=N,682nm,0.6s						
NEST	Nestorio	1.57	239	P	Pn	03 06 41.6	+0.4
TYRN	Tyrnavos	1.58	197	P	Pn	03 06 41.6	+0.4
TYRN				S	Sn	03 07 01.5	-0.1
LRSO	Larissa Observ	1.59	192	P	Pn	03 06 41.9	+0.6
PGB	Panagyurishte	1.63	38	*i* Pg	Pb	03 06 43.0	-0.4
PGB				Sg	Sb	03 07 03.9	-0.1
PENT	Pentalofos	1.65	232	P	Pn	03 06 42.5	+0.3
PENT	Pentalofos	1.65	232	P	Pn	03 06 42.7	+0.5
KBN	Korca	1.66	249	P	Pn	03 06 42.8	+0.5
	baz=253						
KBN				S	Sb	03 07 05.1	+0.4
	baz=253						
KBN				AMP			
	comp=E,2.1nm,0.9s,baz=253						
KBN	Korca	1.66	249	P	Pn	03 06 42.8	+0.5
	baz=245						
KBN				S	Sg	03 07 08.9	+2.3
	baz=245						
KBN				AMP			
	comp=N,4.2nm,0.8s,baz=245						
KPRO	Kipourio	1.69	222	P	Pn	03 06 43.2	+0.5
KPRO	Kipourio	1.69	222	P	Pn	03 06 43.3	+0.5
KPRO				S	Sn	03 07 04.0	-0.3
KPRO				AML	AML	03 07 13.2	
	comp=N,956µm,0.6s						
KPRO				AML	AML	03 07 16.8	
	comp=E,1328µm,0.8s						
PLD	Plovdiv	1.71	57	Pn	Pn	03 06 42.7	-0.2
PLD	Plovdiv	1.71	57	*i* P	Pb	03 06 43.9	-0.8
PLD				S	Sb	03 07 06.0	-0.1
PLD	Plovdiv	1.71	57	*e*Pg	Pn	03 06 43.4	+0.5
PLD				*e*Sg	Sg	03 07 08.2	-0.2
PLD	Plovdiv	1.71	57	*i* Pn	Pn	03 06 43.6	+0.7
BARS	Barje	1.75	335	*e*Pg	Pn	03 06 43.9	+0.3
BARS				*e*Sg	Sb	03 07 07.5	+0.1
BARS	Barje	1.75	335	*i* Pn	Pn	03 06 43.7	+0.1
THL	Klokotos Trika	1.77	201	P	Pn	03 06 44.6	+0.7
PHP	Peshkopia	1.85	285	P	Pn	03 06 44.5	-0.4
	baz=285						
PHP				S	Sn	03 07 07.3	-0.9
	baz=285						
PHP	Peshkopia	1.85	285	P	Pn	03 06 45.2	+0.3
XOR	Xorichti	1.88	171	P	Pn	03 06 45.5	+0.2
XOR				S	Sn	03 07 09.0	-0.1
XOR				AML	AML	03 07 14.4	
	comp=N,1278µm,1.1s						
XOR				AML	AML	03 07 14.4	
	comp=E,1469µm,0.5s						
KDZ	Kurdzhali	1.94	77	Pn	Pn	03 06 46.4	+0.3
KDZ	Kurdzhali	1.94	77	*i* P	Pb	03 06 48.0	-0.6
KDZ				S	Sg	03 07 14.9	-0.7
NEO	Neokhori	1.95	171	P	Pn	03 06 46.2	0.0
LSK	Leskovik	2.00	238	P	Pn	03 06 47.8	+0.7
	baz=241						
LSK				S	Sb	03 07 14.0	-0.7
	baz=241						
LSK				AMP			
	comp=E,3.5nm,0.8s,baz=241						
LSK	Leskovik	2.00	238	P	Pn	03 06 47.5	+0.4
	baz=234						
LSK				S	Sb	03 07 14.7	0.0
	baz=234						
LSK				AMP			
	comp=N,3.3nm,0.8s,baz=234						
ZAPS	Zavoj	2.05	356	*e*Pg	Pb	03 06 50.1	-0.4
ZAPS				*e*Sg	Sg	03 07 17.5	-1.7
RDO	Rodhopi	2.05	91	Pn	Pn	03 06 48.2	+0.6
RDO	Rodhopi	2.05	91	P	Pn	03 06 47.9	+0.3
RDO				S	Sn	03 07 13.0	-0.1
RDO				AML	AML	03 07 21.8	
	comp=E,2426µm,0.3s						
RDO				AML	AML	03 07 22.0	
	comp=N,2096µm,0.3s						
JAN	Janina	2.17	224	P	Pn	03 06 50.5	+1.2
SMTH	Samothraki Isl	2.19	109	P	Pn	03 06 49.7	+0.1
SMTH				S	Sn	03 07 16.0	-0.6
SMTH				AML	AML	03 07 33.3	
	comp=N,418µm,0.7s						
SMTH				AML	AML	03 07 36.3	
	comp=E,254µm,0.5s						
DIM	Dimitrovgrad	2.22	68	*e*P	Pn	03 06 51.2	+1.2
DIM				*e*S	Sg	03 07 23.9	-0.9
ALNA	Alonissos	2.23	159	P	Pn	03 06 50.2	+0.1
MPEP	Malo Peshtene	2.23	17	*i* P	Pn	03 06 50.9	+0.8
TIR	Tirane	2.23	274	⇓P	Pb	03 06 53.1	-0.5
TIR				⇓S	Sb	03 07 20.3	-0.9
TIR	Tirane	2.23	274	P	Pb	03 06 54.0	+0.4
	baz=273						
TIR				S	Sb	03 07 21.5	+0.4
	baz=273						
TIR	Tirane	2.23	274	*e*Pg	Pb	03 06 54.8	+1.2
TIR				*e*Sg	Sg	03 07 23.3	-1.8
AGG	Agios Georgios	2.24	190	Pn	Pn	03 06 50.3	+0.1
LIA	Limnos Island	2.24	126	P	Pn	03 06 50.3	+0.1
BCI	Bajram Curri	2.35	300	P	Pn	03 06 51.8	0.0
	baz=301						
SELS	Selova	2.36	328	*e*Pn	Pn	03 06 51.4	-0.5
BLKB	Belogradchik	2.39	357	⇑P	Pn	03 06 53.5	+1.1
BLKB				⇑S	Sn	03 07 22.5	+0.9
ALN	Alexandroupoli	2.46	97	Pn	Pn	03 06 53.8	+0.5
ALN	Alexandroupoli	2.46	97	P	Pn	03 06 54.1	+0.9
PVY	Plav	2.53	303	⇑*i*Pn	Pn	03 06 54.9	+0.5
PVY				*i* Sn	Sn	03 07 27.3	+2.1
PLVB	Pleven	2.54	31	⇑P	Pn	03 06 55.7	+1.4
PLVB				⇑S	Sg	03 07 35.2	+0.4
SRN	Sarande	2.54	239	P	Pb	03 06 56.6	-2.2
	baz=241						
SRN				S	Sn	03 07 26.9	+1.8
	baz=241						
SRN	Sarande	2.54	239	P	Pb	03 06 57.6	-1.2
	baz=236						
SRN				S	Sn	03 07 27.5	+2.4
	baz=236						
BOVS	Bovan	2.54	341	⇑P	Pn	03 06 54.0	-0.4
BOVS				⇑S	Sg	03 07 32.5	-2.5
BOVS	Bovan	2.54	341	*e*Pn	Pn	03 06 54.2	-0.2
IGT	Igoumenitsa	2.55	229	P	Pb	03 06 56.8	-2.3
	baz=231						
IGT				S	Sn	03 07 27.6	+2.2
	baz=231						
IGT				AMP			
	comp=E,0.7nm,0.5s,baz=231						
GADA	Gvkgeada	2.56	113	Pn	Pn	03 06 54.9	+0.3
ENEZ	Enez	2.57	100	Pn	Pn	03 06 55.3	+0.5
GOAD	anakkale-G¶	2.58	113	P	Pn	03 06 54.6	-0.3
GOAD				S	Sb	03 07 32.5	+1.3
CAVK	Edirne/Enez-Ca	2.59	101	P	Pb	03 06 59.2	-0.5
CAVK				S	Sg	03 07 35.3	-1.3
ZAGS	Zajecar	2.62	351	*e*Pn	Pn	03 06 55.7	+0.3
IVA	Berane	2.73	308	⇑*i*Pn	Pn	03 06 57.4	+0.4
IVA				*i* Sn	Sn	03 07 31.0	+1.0
KEK	Kerkira	2.76	238	Pn	Pn	03 06 57.9	+0.5
KEK	Kerkira	2.76	238	P	Pn	03 06 58.0	+0.6
KYMI	Kymi, Euboea I	2.77	159	P	Pn	03 06 57.7	+0.1
ULC	Ulcinj	2.78	286	*e*Pn	Pn	03 06 58.1	+0.4
ULC				*i* Sn	Sn	03 07 33.3	+2.1
BAIL	Bailesti	2.81	8	⇑P	Pn	03 07 00.6	+2.5
BAIL				⇓S	Sg	03 07 41.8	-2.0
ELND	Elena	2.84	52	⇑P	Pn	03 07 00.1	+1.6
ELND				⇓S	Sg	03 07 43.2	-1.3
ERIK	Erikli-Kesan	2.85	100	Pn	Pn	03 06 59.7	+1.1
UKOP	Uzunkopru-Edir	2.88	91	Pn	Pn	03 06 59.7	+0.7
DRME	Dracevica, Mon	2.89	291	⇓*i*Pn	Pn	03 06 59.7	+0.6
DRME				*i* Sn	Sn	03 07 35.9	+2.2
DRME	Dracevica, Mon	2.89	291	*e*Pn	Pn	03 07 01.1	+2.0
GELI	Tayfur-Gelibol	2.89	106	Pn	Pn	03 06 59.6	+0.4
SJES	Sjenica	2.93	315	*e*Pn	Pn	03 07 00.4	+0.6
SJES	Sjenica	2.93	315	*e*Pn	Pn	03 07 00.1	+0.3
KOME	Kolasin	2.95	304	⇓*i*Pn	Pn	03 07 00.5	+0.4
KOME				*i* Sn	Sn	03 07 37.2	+1.8
LKD2	Lefkada island	2.95	215	P	Pn	03 07 02.0	+2.0
	baz=216						
LKD2				S	Sn	03 07 37.0	+1.7
	baz=216						
LKD2				AMP			
	comp=N,0.5nm,1.2s,baz=216						
COMU	Canakkale	3.00	111	Pn	Pn	03 07 01.3	+0.6
VLAD	Vladila	3.00	22	⇓P	Pn	03 07 02.8	+2.1
VLAD				⇑S	Sg	03 07 49.0	-0.8
EDRB	Edirne	3.01	77	Pn	Pn	03 07 01.4	+0.6
EZN	Ezine	3.02	117	Pn	Pn	03 07 02.2	+1.3
PUNG	Punghina	3.05	2	⇓P	Pn	03 07 03.4	+2.0
PUNG				⇓S	Sg	03 07 48.3	-2.9
IVAS	Ivanjica	3.07	321	*e*Pn	Pn	03 07 01.3	-0.4
ZIMR		3.07	37	⇑P	Pn	03 07 03.0	+1.3
ZIMR				⇓S	Sg	03 07 52.1	+0.1
SIGR	SIGRI	3.08	130	Pn	Pn	03 07 01.7	0.0
GRUS	Gruza	3.08	330	*e*Pn	Pn	03 07 01.7	-0.1
LPK	Lapseki	3.11	105	Pn	Pn	03 07 02.9	+0.7
BUM	Brajici-Budva	3.13	291	⇓*i*Pn	Pn	03 07 03.0	+0.5
BUM				*i* Sn	Sn	03 07 41.6	+1.8
CEME	Cevo	3.20	296	*e*Pn	Pn	03 07 04.0	+0.5
CEME				*i* Sn	Sn	03 07 43.3	+1.8
BAYC	CANAKKALE_Bayr	3.21	116	P	Pn	03 07 04.2	+0.6
KIRK	Kırklareli	3.26	79	P	Pn	03 07 04.1	-0.1
KIRK				S	Sg	03 07 54.7	-3.3
KIRK				*i* AML	AML	03 08 02.0	
	comp=N,120nm,0.4s						
KIRK				*i* AML	AML	03 08 02.0	
	comp=N,62nm,0.5s						
NKME	Niksic	3.27	299	*e*Pn	Pn	03 07 05.0	+0.6
NKME				*i* Sn	Sn	03 07 44.9	+1.7
KUBS	Kucevo	3.29	346	*e*Pn	Pn	03 07 03.8	-0.9
PLE	Pljevlja	3.30	311	⇑*i*Pn	Pn	03 07 05.3	+0.4
PLE				*i* Sn	Sn	03 07 45.5	+1.4
RKY	Sarkoy-Tekirda	3.34	98	Pn	Pn	03 07 06.2	+0.7
SART	Tekirdag	3.34	98	P	Pb	03 07 12.7	0.0
SART				S	Sg	03 07 57.4	-3.4
COPA	Copaceanca	3.40	31	⇑P	Pg	03 07 17.6	-0.9
COPA				⇓S	Sg	03 08 03.5	+1.0
RMGR	Halanga-Turnu	3.43	358	⇑P	Pn	03 07 07.4	+0.8
RMGR				⇓S	Sg	03 08 02.4	-1.2
DJES	Djerdap	3.44	356	⇑P	Pn	03 07 09.2	+2.5
DJES				⇑S	Sg	03 08 00.2	-3.7
SRE	Strehaia	3.44	5	⇑S	Sg	03 08 07.3	+3.4
CANM	Can-anakkale	3.44	109	Pn	Pn	03 07 07.7	+0.9
HCY	Herceg Novi	3.45	292	⇑*i*Pn	Pn	03 07 07.5	+0.6
HCY				*i* Sn	Sn	03 07 49.5	+1.7
HCY	Herceg Novi	3.45	292	*e*Pn	Pn	03 07 08.8	+1.9
TRUS	Trudelj	3.48	330	*e*Pn	Pn	03 07 07.0	-0.3
RUDO	Rudo	3.50	314	*e*Pn	Pn	03 07 07.2	-0.3
SCTE	Santa Cesarea	3.51	252	P	Pn	03 07 08.3	+0.6
	baz=254						
SCTE				S	Sb	03 07 53.6	-4.3
	baz=254						
LOZB	Loznitsa	3.52	51	⇑P	Pn	03 07 08.5	+0.7
LOZB				⇓S	Sg	03 08 08.0	+1.5
RAZG	Razgrad	3.59	48	⇓P	Pn	03 07 09.9	+1.1
RAZG				⇑S	Sg	03 08 06.9	-1.9
BRY	Bratogost	3.60	299	⇓*i*Pn	Pn	03 07 09.6	+0.5
BRY				*i* Sn	Sn	03 07 53.2	+1.7
BRY	Bratogost	3.60	299	*e*Pn	Pn	03 07 10.6	+1.5
MDVR	Moldovita	3.64	347	⇑P	Pn	03 07 09.2	-0.4
MDVR				⇑S	Sb	03 08 05.8	+4.0
BBLS	Lazići	3.65	317	*e*Pn	Pn	03 07 08.1	-1.6
TREB	Trebinje	3.65	295	*e*Pn	Pn	03 07 11.5	+1.9
TREB	Trebinje	3.65	295	*e*Pn	Pn	03 07 10.6	+1.0
HUMR	Humele	3.66	25	⇑P	Pn	03 07 11.0	+1.3
HUMR				⇑S	Sg	03 08 09.6	-1.3
HERR	Herculane	3.66	355	⇑P	Pn	03 07 11.0	+1.2
HERR				⇑S	Sg	03 08 09.0	-1.9
SGRR	Singureni	3.79	37	⇑P	Pn	03 07 13.1	+1.6
SGRR				⇓S	Sg	03 08 12.9	-2.1
VIZE	Kirklareli, Vi	3.79	83	P	Pn	03 07 10.9	-0.7
VIZE				S	Sg	03 08 11.4	-3.7
VIZE				*i* AML	AML	03 08 15.0	
	comp=N,79nm,0.8s						
VIZE				*i* AML	AML	03 08 21.0	
	comp=N,82nm,0.8s						
DKL	Dikili	3.80	123	Pn	Pn	03 07 12.8	+1.1
CIOR	Ciorogarla	3.92	34	⇑S	Sg	03 08 16.2	-3.2
BALY	Balya	3.95	111	P	Pn	03 07 15.5	+1.7
HAPS	Han Pijesak,Bl	4.04	316	*e*Pn	Pn	03 07 14.4	-0.6
INCR	INCERC-Sediu C	4.04	36	⇑S	Sg	03 08 22.6	-0.5
NEVS	Nevesinje	4.07	302	*e*Pn	Pn	03 07 18.0	+2.6
TEKS	Tekeris	4.11	325	*e*Pn	Pn	03 07 15.2	-0.7
TEKS	Tekeris	4.11	325	*e*Pn	Pn	03 07 13.0	-2.9
STON	Ston	4.15	295	*e*Pn	Pn	03 07 17.9	+1.4
STON	Ston	4.15	295	*e*Pn	Pn	03 07 16.9	+0.4
GZR	Gura Zlata	4.16	360	⇓P	Pn	03 07 17.6	+0.9
GZR				⇑S	Sg	03 08 23.0	-4.0
BKES	Balkesir-Mer	4.17	109	P	Pn	03 07 18.6	+1.8
BKES				S	Sb	03 08 20.9	+3.9
BKES				*i* AML	AML	03 08 25.0	
	comp=N,46nm,0.9s						
BKES				*i* AML	AML	03 08 36.0	
	comp=N,34nm,1.3s						
SULR		4.27	35	⇓P	Pn	03 07 20.0	+1.9

SULR				⇑S	Sg	03 08 29.0	-1.4
LOT	**Lotru**	**4.27**	**9**	⇑P	**Pn**	**03 07 19.5**	**+1.2**
LOT	**Lotru**	**4.27**	**9**	Pn	**Pn**	**03 07 18.4**	**+0.1**
MTUR	**Matau**	**4.32**	**22**	⇑P	**Pn**	**03 07 19.8**	**+0.9**
BANR	**Banloc**	**4.33**	**344**	⇓S	**Sb**	**03 08 24.2**	**+2.7**
ARR	**Arges**	**4.34**	**17**	⇓P	**Pn**	**03 07 19.8**	**+0.6**
ARR				⇑S	**Sb**	**03 08 21.6**	**-0.3**
BZS	**Buzias**	**4.47**	**349**	⇑P	**Pn**	**03 07 20.8**	**-0.2**
BZS				⇑S	**Sb**	**03 08 29.9**	**+4.3**
BZS	**Buzias**	**4.47**	**349**	Pn	**Pn**	**03 07 20.7**	**-0.2**
FRGS	**Fruska Gora**	**4.50**	**332**	⇓P	**Pn**	**03 07 21.3**	**-0.1**
FRGS				⇓S	**Sg**	**03 08 36.4**	**-1.4**
FRGS	**Fruska Gora**	**4.50**	**332**	*e*Pn	**Pn**	**03 07 21.2**	**-0.1**
FRGS	**Fruska Gora**	**4.50**	**332**	*e*Pn	**Pn**	**03 07 20.6**	**-0.7**
VOIR		**4.51**	**20**	⇓P	**Pn**	**03 07 22.9**	**+1.5**
VOIR				⇑S	**Sg**	**03 08 37.8**	**-0.3**
SURR	**Surduc**	**4.55**	**354**	⇑P	**Pn**	**03 07 26.0**	**+4.0**
SURR				⇑S	**Sg**	**03 08 35.0**	**-4.4**
DEV	**Deva**	**4.65**	**1**	⇓P	**Pn**	**03 07 27.3**	**+3.9**
DEV				⇑S	**Sg**	**03 08 39.6**	**-3.1**
ICOR	**Ion Corvin**	**4.67**	**50**	⇓P	**Pn**	**03 07 25.3**	**+1.7**
ICOR				⇓S	**Sg**	**03 08 40.2**	**-3.0**
MATE	**Matera**	**4.67**	**265**	⇓P	**Pn**	**03 07 23.5**	**-0.1**
MATE				⇓S	**Sn**	**03 08 13.7**	**-4.0**
AMRR	**Amara**	**4.73**	**43**	⇓P	**Pn**	**03 07 26.3**	**+1.8**
AMRR				⇑S	**Sg**	**03 08 42.5**	**-2.7**
ISR	**Istrita**	**4.74**	**34**	⇓P	**Pn**	**03 07 26.7**	**+2.0**
ISR				⇓S	**Sg**	**03 08 44.8**	**-0.9**
PGOR	**Pogoanele**	**4.78**	**38**	⇑P	**Pn**	**03 07 25.9**	**+0.9**
PGOR				⇑S	**Sg**	**03 08 47.3**	**+0.6**
MLR	**Muntele Rosu**	**4.83**	**27**	⇑P	**Pn**	**03 07 27.6**	**+1.6**
MLR				⇓S	**Sg**	**03 08 43.8**	**-4.5**
NEHR	**Nehoiu**	**4.90**	**30**	⇓P	**Pn**	**03 07 28.6**	**+1.8**
NEHR				⇓S	**Sg**	**03 08 52.1**	**+1.5**
MANR	**Mangalia**	**4.98**	**57**	⇑P	**Pn**	**03 07 29.4**	**+1.5**
MANR				⇓S	**Sg**	**03 08 50.6**	**-2.7**
MDB	**Medias**	**5.04**	**12**	⇑P	**Pn**	**03 07 31.0**	**+2.3**
MFTR	**Murfatlar**	**5.07**	**53**	⇑P	**Pn**	**03 07 31.7**	**+2.6**
MFTR				⇓S	**Sb**	**03 08 45.2**	**+2.4**
DOPR	**Dopca**	**5.09**	**21**	⇑P	**Pn**	**03 07 30.9**	**+1.5**
DOPR				⇑S	**Sg**	**03 08 52.4**	**-4.3**
HARR	**Harsova**	**5.10**	**46**	⇓P	**Pn**	**03 07 31.2**	**+1.7**
SIRR	**Siria**	**5.11**	**351**	⇑P	**Pb**	**03 07 39.7**	**-2.9**
SIRR				⇑S	**Sg**	**03 08 52.7**	**-4.5**
GRER		**5.14**	**35**	⇓P	**Pn**	**03 07 33.4**	**+3.4**
GRER				⇑S	**Sg**	**03 09 01.3**	**+3.1**
BISRR	**Bisoca**	**5.16**	**32**	⇑P	**Pn**	**03 07 33.0**	**+2.5**
BISRR				⇓S	**Sg**	**03 08 59.7**	**+0.7**
TIRR	**Tirgusor**	**5.22**	**50**	⇓P	**Pn**	**03 07 31.9**	**+0.6**
TIRR				⇑S	**Sg**	**03 08 58.0**	**-3.0**
COVR	**Voineasa-Covas**	**5.23**	**27**	⇑P	**Pn**	**03 07 33.6**	**+2.3**
COVR				⇓S	**Sg**	**03 08 57.7**	**-3.5**
MGRS	**Mrkonjic Grad**	**5.29**	**309**	*e*Pn	**Pn**	**03 07 32.8**	**+0.7**
OZUR		**5.32**	**23**	⇑P	**Pn**	**03 07 33.8**	**+1.3**
TURR	**Turia**	**5.35**	**25**	⇑P	**Pn**	**03 07 34.5**	**+1.5**
PLOR	**Plostina**	**5.39**	**30**	⇑P	**Pn**	**03 07 35.9**	**+2.3**
BLY	**Banja Luka**	**5.43**	**312**	*e*Pn	**Pn**	**03 07 32.5**	**-1.5**
VRI	**Vrincioaia**	**5.43**	**30**	⇓P	**Pn**	**03 07 36.4**	**+2.2**
MARR	**Marisel-Cluj**	**5.45**	**2**	⇓P	**Pn**	**03 07 36.4**	**+1.9**
MARR				⇑S	**Sb**	**03 08 52.2**	**-1.6**
TPGR	**Topolog**	**5.47**	**47**	⇑P	**Pn**	**03 07 36.3**	**+1.6**
TPGR				⇑S	**Sg**	**03 09 06.7**	**-2.3**
ODBI	**Odobesti**	**5.48**	**33**	⇑P	**Pn**	**03 07 36.6**	**+1.9**
ODBI				⇓S	**Sg**	**03 09 10.0**	**+0.8**
CJR	**Cluj-Napoca**	**5.51**	**6**	⇑S	**Sg**	**03 09 07.3**	**-2.9**
CFR	**Carcaliu**	**5.54**	**43**	⇑P	**Pn**	**03 07 36.5**	**+1.0**
CFR				⇑S	**Sg**	**03 09 06.0**	**-5.0**
PANC	**Panciu**	**5.60**	**33**	⇓P	**Pn**	**03 07 38.5**	**+2.0**
TUDR		**5.61**	**37**	⇓S	**Sg**	**03 09 11.1**	**-2.3**
A050A	**Klekovaca**	**5.65**	**307**	*e*Pn	**Pn**	**03 07 35.3**	**-1.9**
NEGRR	**Negrea**	**5.67**	**39**	⇓P	**Pn**	**03 07 38.5**	**+1.3**
NEGRR				⇑S	**Sb**	**03 09 06.8**	**+6.9**
A051A	**Mrakovica**	**5.75**	**313**	*e*Pn	Pn	03 07 33.5	-5.0
TATR	**Tatarca**	**5.79**	**39**	⇓P	**Pn**	**03 07 40.2**	**+1.2**
SCTR	**Scanteiesti**	**5.82**	**39**	⇑P	**Pn**	**03 07 41.2**	**+1.7**
SCTR				⇑S	**Sg**	**03 09 16.6**	**-3.6**
MORH	**Mrgy, Hungar**	**5.83**	**330**	⇓P	**Pn**	**03 07 39.5**	**0.0**
GHRR		**5.86**	**33**	⇑P	**Pn**	**03 07 41.8**	**+1.8**
TLCR		**5.90**	**46**	⇑P	**Pn**	**03 07 41.9**	**+1.4**
VARL	**Varlezi**	**5.92**	**36**	⇑P	**Pn**	**03 07 42.2**	**+1.3**
ARCR	**ARCALIA**	**5.96**	**10**	⇓P	**Pn**	**03 07 42.9**	**+1.6**
ARCR				⇓S	**Sb**	**03 09 06.9**	**-1.4**
TESR	**Tescani**	**5.96**	**26**	⇓P	**Pn**	**03 07 42.6**	**+1.3**
VLDR	**Vladesti**	**5.99**	**38**	⇓P	**Pn**	**03 07 43.7**	**+2.0**
LEOM	**Leova**	**6.54**	**35**	⇓P	**Pn**	**03 07 51.1**	**+1.8**
BURAR	**Bucovina Array**	**6.61**	**14**	⇑P	**Pn**	**03 07 52.1**	**+1.8**
BOJS	**Bojanci**	**6.97**	**310**	*e*Pn	**Pn**	**03 07 56.8**	**+1.5**
CRES	**Cresnjev**	**7.05**	**313**	*e*Pn	**Pn**	**03 07 55.5**	**-0.8**
MILM	**Milestii Mici**	**7.14**	**35**	*e*P	**Pn**	**03 07 58.0**	**+0.5**
	comp=N,5.0nm,0.6s						
MILM	**Milestii Mici**	**7.14**	**35**	*e*PP	Pb	03 08 08.0	-9.1
MILM	**Milestii Mici**	**7.14**	**35**	⇑P	**Pn**	**03 07 58.6**	**+1.2**
PURM	**Purcari**	**7.35**	**42**	⇓P	**Pn**	**03 08 01.3**	**+1.0**
CEY	**Cerknica**	**7.59**	**309**	*e*Pn	**Pn**	**03 08 02.4**	**-1.3**
KOLS	**Kolonicke sedl**	**7.71**	**357**	*e*PN	**Pn**	**03 08 07.6**	**+2.2**
VYHS	**Vyhne**	**7.79**	**340**	*e*PN	**Pn**	**03 08 11.2**	**+4.7**
SORM	**Soroca**	**7.95**	**28**	⇓P	**Pn**	**03 08 09.6**	**+1.0**
OBKA	**Obir**	**7.97**	**314**	*e*Pn	**Pn**	**03 08 11.3**	**+2.3**
	comp=N,1.7nm,0.5s						
OBKA	**Obir**	**7.97**	**314**	*e*Pn	**Pn**	**03 08 07.3**	**-1.7**
RONA	**Rosalia, Austr**	**7.97**	**326**	*e*Pn	**Pn**	**03 08 10.9**	**+1.8**
	comp=N,0.5nm,0.2s						
MODS	**Modra-Piesok**	**8.15**	**333**	*e*PN	**Pn**	**03 08 12.6**	**+1.1**
CONA	**Conrad Observa**	**8.33**	**326**	*e*Pn	**Pn**	**03 08 15.6**	**+1.6**
	comp=N,0.9nm,0.4s						
ABTA	**Abfaltersbach**	**9.25**	**310**	*i* Pn	**Pn**	**03 08 27.6**	**+1.1**
	comp=N,3.3nm,0.6s						
LESA	**Schwarzleotal**	**9.54**	**314**	*i* Pn	**Pn**	**03 08 33.7**	**+3.1**
	comp=N,3.0nm,0.5s						
GERES	**GERESS Array B**	**9.97**	**323**	Pn	**Pn**	**03 08 34.2**	**-2.3**
	comp=N,0.1nm,0.3s,baz=140,slow=16,SNR=2.0						
	comp=N,0.4nm,0.5s						
WTTA	**Wattenberg**	**10.03**	**311**	*i* Pn	**Pn**	**03 08 38.8**	**+1.4**
	comp=N,2.1nm,0.3s						
AKASG	**Malin Array Be**	**10.46**	**23**	Pn	**Pn**	**03 08 42.5**	**-0.5**
	comp=N,0.2nm,0.3s,baz=209,slow=11,SNR=1.2						
	comp=N,0.2nm,0.4s						
FINES	**FINESS Array B**	**20.34**	**5**	P	**P**	**03 10 49.1**	**-0.1**
	comp=N,3.2nm,0.9s,baz=186,slow=12,SNR=2.2						
	comp=N,3.2nm,0.9s						
ESDC	**Sonseca Array**	**20.42**	**274**	P	**P**	**03 10 49.8**	**-0.5**
	comp=N,0.6nm,0.9s,baz=78,slow=9.6,SNR=1.8						
	comp=N,0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.51**	**219**	P	**P**	**03 12 51.7**	**-1.1**
	comp=N,0.5nm,0.6s,baz=29,slow=9.6,SNR=4.5						
	comp=N,0.5nm,0.6s						
MKAR	**Makanchi Array**	**42.24**	**62**	P	**P**	**03 14 07.2**	**+1.0**
	comp=N,1.0nm,0.7s,baz=277,slow=6.8,SNR=12						
	comp=N,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**42.36**	**51**	P	**P**	**03 14 07.7**	**+0.6**
	comp=N,2.0nm,0.7s,baz=279,slow=9.7,SNR=8.0						
	comp=N,2.0nm,0.7s						
SONM	**Songino Array**	**57.17**	**53**	P	**P**	**03 16 01.2**	**+1.1**
	comp=N,0.2nm,0.4s,baz=308,slow=5.3,SNR=1.4						
	comp=N,0.2nm,0.4s						

IDC ***05*** *03:17:14.3±2.2, 36.°08N×28.°20E, h52km±23km, mb3.2/6, mbtmp3.6/11, ML3.4/4, MS3.8/1, Error ellipse: s-maj=17.2km s-min=16.3km az=172.0*
ISK ***05*** *03:17:15.9, 36.°17N×28.°19E, h69km, ML3.5/14*
NIC ***05*** *03:17:16.9, 35.°81N×28.°38E, h27km±1km, Ml3.8/8*
ATH ***05*** *03:17:16.6, 36.°19N×28.°20E, h70km±2km, ML3.3/7, Error ellipse: s-maj=2.4km s-min=1.1km az=142.0*
AFAD ***05*** *03:17:16.4±0.0, 36.°16N×28.°26E, h56km±3km, MW3.6*
THE ***05*** *03:17:17.7, 36.°15N×28.°19E, h61km±1km, ML3.6/3, Error ellipse: s-maj=1.8km s-min=0.9km az=176.0*
GII ***05*** *03:17:18.6±0.4, 35.°657N±0.°003×28.°706E±0.°001, h3km, Md3.4/1, confirmed*
ISC 05 03:17:15.5±0.8**, 36.°06N**±0.°03×**28.°26E**±0.°03**, h68**km±6km**, n102,** σ1§**40**/145**, mb3.5**/6**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.19**	**326**	Pg	**Pn**	**03 17 26.6**	**+0.8**
ARG				Sg	**Sn**	**03 17 34.1**	**+0.7**
ARG	**Arkhangelos**	**0.19**	**326**	P	**Pn**	**03 17 26.7**	**+0.8**
ARG				S	**Sn**	**03 17 33.3**	**-0.2**
	4µm,0.2s						
ARG	**Arkhangelos**	**0.19**	**326**	P	**Pn**	**03 17 26.7**	**+0.8**
ARG				S	**Sn**	**03 17 34.2**	**+0.7**
ARG				AML	AML	03 17 34.7	
	9.9nm,0.2s						
ARG				AML	AML	03 17 35.0	
	4.2nm,0.2s						
ARG	**Arkhangelos**	**0.19**	**326**	P	**Pn**	**03 17 26.7**	**+0.8**
ARG				S	**Sn**	**03 17 33.8**	**+0.3**
ARG				AML	AML	03 17 35.0	
	comp=E,9850µm,0.2s						
ARG				AML	AML	03 17 35.3	
	comp=N,4149µm,0.2s						
TURN	**Turunc**	**0.72**	**359**	Pg	**Pn**	**03 17 30.5**	**0.0**
TURN				Sg	**Sn**	**03 17 40.9**	**-0.6**
TURN	**Turunc**	**0.72**	**359**	P	**Pn**	**03 17 30.8**	**+0.3**
TURN				S	**Sn**	**03 17 40.6**	**-0.9**
TURN				*i* AML	AML	03 17 43.0	
	comp=N,1µm,0.3s						
TURN				*i* AML	AML	03 17 43.0	
	comp=N,1µm,0.6s						
DALY	**Dalyan (Mula)**	**0.82**	**23**	Pg	**Pn**	**03 17 32.1**	**+0.4**
DALY				Sg	**Sn**	**03 17 43.4**	**-0.3**
DAT	**Datca**	**0.87**	**321**	Pg	**Pn**	**03 17 32.1**	**-0.3**
DAT				Sg	**Sn**	**03 17 43.5**	**-1.4**
DAT	**Datca**	**0.87**	**321**	P	**Pn**	**03 17 32.2**	**-0.3**
DAT				S	**Sn**	**03 17 43.0**	**-1.8**
DAT	**Datca**	**0.87**	**321**	P	**Pn**	**03 17 32.1**	**-0.3**
DAT				S	**Sn**	**03 17 43.0**	**-1.8**
DAT				*i* AML	AML	03 17 44.0	
	comp=N,777nm,0.3s						
DAT				*i* AML	AML	03 17 45.0	
	comp=N,1µm,0.6s						
IZZE	**Mula-Seydike**	**0.87**	**64**	P	**Pn**	**03 17 33.0**	**+0.7**
IZZE				S	**Sn**	**03 17 44.8**	**+0.1**
IZZE				*i* AML	AML	03 17 46.0	
	comp=N,2µm,0.2s						
IZZE				*i* AML	AML	03 17 47.0	
	comp=N,3µm,0.3s						
FETY	**Fethiye**	**0.88**	**49**	Pg	**Pn**	**03 17 33.2**	**+0.7**
FETY	**Fethiye**	**0.88**	**49**	P	**Pn**	**03 17 33.2**	**+0.7**
FETY				S	**Sn**	**03 17 45.2**	**+0.1**
YAZI	**Mula-Dat§a-**	**0.90**	**314**	P	**Pn**	**03 17 32.5**	**-0.2**
YAZI				S	**Sn**	**03 17 43.2**	**-2.2**
YAZI				*i* AML	AML	03 17 44.0	
	comp=N,760nm,0.3s						
YAZI				*i* AML	AML	03 17 44.0	
	comp=N,521nm,0.6s						
SABU	**Mula-Dalaman**	**0.96**	**37**	P	**Pn**	**03 17 34.0**	**+0.5**
SABU				S	**Sn**	**03 17 45.1**	**-1.6**
SABU				*i* AML	AML	03 17 47.0	
	comp=N,788nm,0.4s						
SABU				*i* AML	AML	03 17 48.0	
	comp=N,786nm,0.3s						
KARP	**Karpathos**	**1.03**	**241**	P	**Pn**	**03 17 35.7**	**+1.4**
KARP				S	**Sn**	**03 17 49.6**	**+1.3**
	comp=N,5µm,0.2s						
KARP	**Karpathos**	**1.03**	**241**	P	**Pn**	**03 17 35.7**	**+1.4**
KARP				S	**Sn**	**03 17 49.4**	**+1.2**
KARP				AML	AML	03 17 49.7	
	comp=N,8.3nm,0.2s						
KARP				AML	AML	03 17 50.0	
	comp=N,11nm,0.2s						
KARP	**Karpathos**	**1.03**	**241**	P	**Pn**	**03 17 33.0**	**-1.3**
KARP	**Karpathos**	**1.03**	**241**	P	**Pn**	**03 17 35.7**	**+1.4**
KARP				S	**Sn**	**03 17 49.3**	**+1.0**
KARP				AML	AML	03 17 50.1	
	comp=N,8380µm,0.2s						
KARP				AML	AML	03 17 50.3	
	comp=E,11101µm,0.2s						
RFTAA	**Mazikoy-Bodrum**	**1.03**	**336**	Pg	**Pn**	**03 17 33.8**	**-0.4**
YER	**Yerkesik**	**1.07**	**1**	Pg	**Pn**	**03 17 34.7**	**-0.3**
YER				Sg	**Sn**	**03 17 48.6**	**-0.8**
YER	**Yerkesik**	**1.07**	**1**	P	**Pn**	**03 17 35.6**	**+0.6**
YER				S	**Sn**	**03 17 48.8**	**-0.6**
KSL	**Kastellorizon**	**1.08**	**85**	P	**Pn**	**03 17 36.5**	**+1.6**
KSL				S	**Sn**	**03 17 51.6**	**+2.2**
KSL	**Kastellorizon**	**1.08**	**85**	P	**Pn**	**03 17 36.6**	**+1.6**
KSL				S	**Sn**	**03 17 51.5**	**+2.2**
KSL				AML	AML	03 17 51.7	
	comp=E,0.9nm,0.3s						
KSL				AML	AML	03 17 57.4	
	comp=E,1.2nm,0.6s						
KSL	**Kastellorizon**	**1.08**	**85**	P	**Pn**	**03 17 36.5**	**+1.6**
KSL				S	**Sn**	**03 17 50.8**	**+1.4**
KSL				AML	AML	03 17 52.0	
	comp=N,938µm,0.3s						
KSL				AML	AML	03 17 52.5	
	comp=E,1964µm,0.4s						
MULA	**Mugla, Merkez-**	**1.20**	**2**	P	**Pn**	**03 17 37.4**	**+0.9**
MULA				S	**Sn**	**03 17 52.0**	**-0.2**
MULA				*i* AML	AML	03 17 53.0	
	comp=E,211nm,0.3s						
MULA				*i* AML	AML	03 17 55.0	
	comp=E,519nm,0.3s						
CAME	**Cameli-Denizli**	**1.22**	**43**	Pn	**Pn**	**03 17 37.7**	**+0.8**
KOSK	**Kos Island**	**1.24**	**304**	Pn	**Pn**	**03 17 36.9**	**-0.1**
BODT	**Bodrum**	**1.26**	**323**	Pn	**Pn**	**03 17 36.9**	**-0.4**
BODT	**Bodrum**	**1.26**	**323**	P	**Pn**	**03 17 36.9**	**-0.4**
BODT				S	**Sn**	**03 17 51.7**	**-1.9**
MLSB	**Milas**	**1.29**	**343**	Pn	**Pn**	**03 17 37.6**	**-0.2**
KNIK	**Mula-Seydike**	**1.32**	**53**	P	**Pn**	**03 17 39.6**	**+1.5**
KNIK				S	**Sn**	**03 17 56.0**	**+0.8**
KNIK				*i* AML	AML	03 17 57.0	
	comp=E,437nm,0.4s						
KNIK				*i* AML	AML	03 17 57.0	
	comp=E,981nm,0.6s						
CAEL	**Denizli, Camel**	**1.36**	**38**	P	**Pn**	**03 17 39.9**	**+1.1**
CAEL				S	**Sn**	**03 17 55.4**	**-0.8**
CAEL				*i* AML	AML	03 18 02.0	
	comp=E,602nm,0.4s						
CAEL				*i* AML	AML	03 18 03.0	
	comp=E,789nm,0.6s						
KLNA	**Kalymnos**	**1.37**	**311**	P	**Pn**	**03 17 38.0**	**-0.7**
KLNA				S	**Sn**	**03 17 53.6**	**-2.5**
KLNA				AML	AML	03 17 56.5	
	comp=E,1205µm,0.2s						
KLNA				AML	AML	03 17 58.3	
	comp=N,1227µm,0.2s						
ELL	**Elmali**	**1.50**	**62**	Pn	**Pn**	**03 17 41.8**	**+1.2**
ELL	**Elmali**	**1.50**	**62**	P	**Pn**	**03 17 42.5**	**+1.9**
ELL				AML	AML	03 18 01.3	
	comp=N,5.8nm,0.6s						
ELL				S	**Sn**	**03 18 02.7**	**+3.3**
TAVA	**DENIZLI_Tavas**	**1.50**	**20**	P	**Pn**	**03 17 41.0**	**+0.4**
TAVA				S	**Sn**	**03 17 58.5**	**-0.9**
TAVA				*i* AML	AML	03 17 59.0	
	comp=N,246nm,0.3s						
TAVA				*i* AML	AML	03 18 00.0	
	comp=N,224nm,0.2s						
GOLH	**Golhisar**	**1.58**	**41**	P	**Pn**	**03 17 43.1**	**+1.6**
GOLH				S	**Sn**	**03 18 01.9**	**+0.7**
GOLH				*i* AML	AML	03 18 03.0	
	comp=N,346nm,0.4s						
GOLH				*i* AML	AML	03 18 03.0	
	comp=N,764nm,0.4s						
APMY	**Acipayam-Deniz**	**1.64**	**30**	Pn	**Pn**	**03 17 42.7**	**+0.3**
DNIZ	**Denizli-Tavas-**	**1.69**	**22**	P	**Pn**	**03 17 43.1**	**+0.1**
DNIZ				S	**Sn**	**03 18 02.5**	**-1.3**
DNIZ				*i* AML	AML	03 18 08.0	
	comp=N,606nm,0.3s						
DNIZ				*i* AML	AML	03 18 12.0	
	comp=N,798nm,0.3s						
AKUM	**Antalya-Kumluc**	**1.71**	**80**	P	**Pn**	**03 17 45.0**	**+1.9**
AKUM				S	**Sn**	**03 18 04.3**	**+0.2**
AKUM				*i* AML	AML	03 18 06.0	
	comp=N,165nm,0.7s						
AKUM				*i* AML	AML	03 18 07.0	
	comp=N,218nm,0.3s						
ESEN	**Aydn-Nazilli**	**1.74**	**2**	P	**Pn**	**03 17 43.4**	**-0.3**
ESEN				S	**Sn**	**03 18 03.7**	**-1.2**
ESEN				*i* AML	AML	03 18 05.0	
	comp=N,215nm,0.4s						
ESEN				*i* AML	AML	03 18 07.0	
	comp=N,196nm,0.2s						
GCAM	**G?zelcaml?**	**1.83**	**334**	Pn	**Pn**	**03 17 44.3**	**-0.6**
ZKR	**Zakros**	**1.91**	**241**	P	**Pn**	**03 17 47.6**	**+1.6**
ZKR				S	**Sn**	**03 18 11.0**	**+2.0**
ZKR				AML	AML	03 18 12.0	
	comp=N,0.5nm,0.6s						
ZKR				AML	AML	03 18 14.6	
	comp=N,0.6nm,0.7s						
ZKR	**Zakros**	**1.91**	**241**	P	**Pn**	**03 17 47.8**	**+1.9**
ZKR				S	**Sn**	**03 18 10.2**	**+1.1**
ZKR				AML	AML	03 18 12.5	
	comp=E,2057µm,0.5s						
ZKR				AML	AML	03 18 13.2	
	comp=N,588µm,0.6s						
KORT	**Korkueli**	**1.93**	**60**	P	**Pn**	**03 17 48.4**	**+2.1**
INCE	**Denizli-Bozkur**	**1.96**	**32**	P	**Pn**	**03 17 47.0**	**+0.4**
INCE				S	**Sn**	**03 18 09.2**	**-1.1**
INCE				*i* AML	AML	03 18 11.0	
	comp=N,203nm,0.4s						
INCE				*i* AML	AML	03 18 11.0	
	comp=N,276nm,0.3s						
SMG	**Samos**	**2.00**	**326**	P	**Pn**	**03 17 46.4**	**-0.8**
SMG				S	**Sn**	**03 18 07.9**	**-3.4**
SMG				AML	AML	03 18 10.2	
	comp=N,1388µm,0.3s						
SMG				AML	AML	03 18 10.7	
	comp=E,1355µm,0.6s						
BRDR	**BURDUR-Merkez**	**2.18**	**41**	P	**Pn**	**03 17 50.3**	**+0.6**
BRDR				S	**Sn**	**03 18 15.7**	**-0.1**
BRDR				*i* AML	AML	03 18 17.0	
	comp=E,81nm,0.4s						
BRDR				*i* AML	AML	03 18 19.0	
	comp=E,102nm,0.4s						
SNT5	**Nea Kammeni, S**	**2.34**	**279**	P	**Pn**	**03 17 52.3**	**+0.6**
APE	**Apeiranthos**	**2.42**	**296**	P	**Pn**	**03 17 53.1**	**+0.3**
KULA	**Kula-Manisa**	**2.47**	**7**	P	**Pn**	**03 17 53.1**	**-0.5**
ISP	**Isparta**	**2.53**	**45**	P	**Pn**	**03 17 55.0**	**+0.6**
IDI	**Anoyia**	**2.85**	**255**	P	**Pn**	**03 17 59.3**	**+0.6**
IDI				S	**Sn**	**03 18 31.1**	**-0.8**
IDI				AML	AML	03 18 34.4	
	comp=E,439µm,0.3s						
IDI				AML	AML	03 18 36.6	
	comp=N,461µm,0.5s						
AKMS	**Akamas**	**3.48**	**106**	P	**Pn**	**03 18 08.3**	**+1.0**
AKMS				S	**Sn**	**03 18 46.0**	**-1.3**
AKMS				AML	AML	03 18 49.0	
	comp=N,0.5nm,0.3s						
AKMS				AML	AML	03 18 51.9	
	comp=N,0.7nm,0.3s						
IMMV	**Iera Moni Meta**	**3.53**	**262**	P	**Pn**	**03 18 09.8**	**+1.8**
ALFC	**Alefka**	**3.65**	**103**	P	**Pn**	**03 18 10.2**	**+0.5**
ALFC				AML	AML	03 18 53.1	
	comp=N,0.6nm,0.1s						
ALFC				AML	AML	03 18 53.6	
	comp=N,0.8nm,0.2s						
NATA	**Nata**	**3.75**	**109**	P	**Pn**	**03 18 11.5**	**+0.6**
NATA				S	**Sn**	**03 18 53.3**	**-0.5**
NATA				AML	AML	03 18 56.2	
	comp=N,0.7nm,0.5s						
NATA				AML	AML	03 18 57.6	
	comp=N,1.0nm,0.3s						
TROD	**Troodos**	**3.92**	**105**	P	**Pn**	**03 18 13.5**	**+0.1**
VLY	**Voula,Athens**	**4.00**	**298**	P	**Pn**	**03 18 15.3**	**+1.0**
ASGA	**Asgata**	**4.27**	**106**	P	**Pn**	**03 18 18.5**	**+0.5**
CSS	**Mathiatis**	**4.28**	**103**	P	**Pn**	**03 18 18.7**	**+0.5**
CSS	**Mathiatis**	**4.28**	**103**	P	**Pn**	**03 18 18.6**	**+0.4**
KRND	**KRANIDI**	**4.31**	**289**	P	**Pn**	**03 18 19.8**	**+1.2**
VLI	**Veliai**	**4.34**	**280**	P	**Pn**	**03 18 20.3**	**+1.2**
OSC2	**CSNet OBS 4**	**4.45**	**131**	P	**Pn**	**03 18 19.5**	**-1.0**
OSC2				S	**Sn**	**03 19 08.9**	**-2.1**
MVOU	**Mavrovouni**	**4.50**	**102**	P	**Pn**	**03 18 21.4**	**+0.2**
BRTR	**Keskin Array B**	**5.61**	**48**	P	**Pn**	**03 18 37.2**	**+0.7**
	comp=N,0.8nm,0.3s,baz=216,slow=12,SNR=12						
BRTR				S	**Sn**	**03 19 39.0**	**-0.7**
	comp=N,2.3nm,0.5s,baz=226,slow=25,SNR=5.5						
	comp=N,1.9nm,0.4s						
MMA0	**Mount Meron ar**	**6.63**	**115**	P	**Pn**	**03 18 50.3**	**-0.1**
MMA0B	**Mount Meron ar**	**6.63**	**115**	P	**Pn**	**03 18 50.8**	**+0.4**
MMAI	**Mount Meron Ar**	**6.63**	**115**	P	**Pn**	**03 18 50.6**	**+0.2**
	comp=N,6.0nm,0.2s,baz=312,slow=12,SNR=51						
MMAI				S	**Sn**	**03 20 04.2**	**-0.4**
	comp=N,3.3nm,0.2s,baz=292,slow=27,SNR=12						
GEM	**Giv'at Ha'Em**	**6.73**	**113**	P	**Pn**	**03 18 51.6**	**-0.1**
GEM	**Giv'at Ha'Em**	**6.73**	**113**	S	**Sn**	**03 20 03.4**	**-3.6**
MMLI	**Mount Malkishu**	**6.94**	**119**	P	**Pn**	**03 18 55.2**	**+0.5**
KSHT	**Keshet**	**6.95**	**114**	P	**Pn**	**03 18 55.1**	**+0.4**
KSHT	**Keshet**	**6.95**	**114**	S	**Sn**	**03 20 10.4**	**-1.9**
SALP	**Salfit**	**6.99**	**123**	P	**Pn**	**03 18 54.4**	**-0.9**
SALP	**Salfit**	**6.99**	**123**	S	**Sn**	**03 20 10.2**	**-3.3**
AMAZ	**Amatzia**	**7.15**	**127**	P	**Pn**	**03 18 56.8**	**-0.6**
KZIT	**Kziot**	**7.26**	**133**	P	**Pn**	**03 18 56.0**	**-2.9**
YTIR	**Yattir**	**7.39**	**127**	P	**Pn**	**03 18 57.4**	**-3.4**
DSI	**Dead Sea**	**7.43**	**125**	P	**Pn**	**03 19 00.9**	**-0.4**
ZFRI	**Zfri**	**7.98**	**132**	P	**Pn**	**03 19 06.1**	**-2.6**
ZFRI	**Zfri**	**7.98**	**132**	P	**Pn**	**03 19 08.3**	**-0.5**
PRNI	**Paran**	**8.02**	**133**	P	**Pn**	**03 19 06.1**	**-3.3**
PRNI	**Paran**	**8.02**	**133**	P	**Pn**	**03 19 08.9**	**-0.5**
PRNI	**Paran**	**8.02**	**133**	S	**Sn**	**03 20 34.2**	**-4.4**
ASF	**Jabal al Asfar**	**8.14**	**116**	P	**Pn**	**03 19 11.4**	**+0.2**
	comp=N,1.0nm,0.3s,baz=335,slow=4.2,SNR=15						
ASF				S	**Sn**	**03 20 41.3**	**-0.4**
	comp=N,1.8nm,0.3s,baz=106,slow=19,SNR=2.2						
	comp=N,2.1nm,0.3s						
HRFI	**Mount Harif**	**8.27**	**135**	P	Pn	03 19 08.4	-4.4
HRFI	**Mount Harif**	**8.27**	**135**	S	**Sn**	**03 20 41.2**	**-3.5**
HRFI	**Mount Harif**	**8.27**	**135**	P	**Pn**	**03 19 12.4**	**-0.4**
MBRI	**Mt Berech**	**8.38**	**136**	P	Pn	03 19 10.4	-4.0
MBRI	**Mt Berech**	**8.38**	**136**	P	**Pn**	**03 19 14.3**	**-0.1**
EIL	**Elat**	**8.50**	**137**	P	**Pn**	**03 19 16.1**	**+0.2**
	comp=N,0.5nm,0.3s,baz=297,slow=6.0,SNR=11						
EIL				S	**Sn**	**03 20 45.9**	**-4.4**
	comp=N,10nm,0.3s,baz=135,slow=20,SNR=11						
	comp=N,3.7nm,0.5s						
MLR	**Muntele Rosu**	**9.59**	**350**	P	**Pn**	**03 19 28.9**	**-1.9**
	comp=N,0.1nm,0.3s,baz=153,slow=16,SNR=2.7						
	comp=N,1.5nm,0.9s						
ESDC	**Sonseca Array**	**25.62**	**288**	P	**P**	**03 22 37.2**	**-1.4**
	comp=N,0.8nm,0.6s,baz=82,slow=10,SNR=8.5						
	comp=N,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.02**	**233**	P	**P**	**03 23 45.1**	**+0.7**
	comp=N,0.3nm,0.4s,baz=37,slow=9.2,SNR=2.9						
	comp=N,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**38.59**	**52**	P	**P**	**03 24 31.8**	**+0.1**
	comp=N,0.3nm,0.5s,baz=276,slow=8.8,SNR=3.6						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**41.17**	**58**	P	**P**	**03 24 53.6**	**+0.4**
	comp=N,0.4nm,0.6s,baz=276,slow=8.3,SNR=4.8						
	comp=N,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**42.56**	**47**	P	**P**	**03 25 05.2**	**+0.9**
	comp=N,0.4nm,0.4s,baz=267,slow=8.1,SNR=2.2						
	comp=N,0.4nm,0.4s						
SFJD	**Kangerlussuaq**	**53.11**	**331**	LR	LR	03 50 29.3	
	comp=N,83nm,18.9s,baz=190,slow=38						
SONM	**Songino Array**	**56.96**	**52**	P	**P**	**03 26 55.2**	**+1.3**
	comp=N,0.4nm,0.6s,baz=312,slow=9.5,SNR=2.0						
	comp=N,0.4nm,0.6s						

IDC ***05*** *03:21:34.5±0.8, 56.°05S×27.°13W, h88km±7km, mb4.0/7, mbtmp4.3/7, MS3.3/3, Error ellipse: s-maj=31.4km s-min=15.8km az=84.0*
NEIC ***05*** *03:21:37.2±1.8, 56.°4S±0.°1×27.°9W±0.°2, h122km±7km, mb4.5/13, Error ellipse: s-maj=23.5km s-min=14.0km az=46.0*
ISC 05 03:21:36.2±0.5**, 56.°16S**±0.°08×**27.°74W**±0.°10**, h112**km**, n51,** σ1§**45**/49**, mb4.5**/11**, 3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.35**	**287**	Pn	**Pn**	**03 22 54.9**	**+1.3**
HOPE					**Sn**	**03 23 52.5**	**-1.4**
ORCD	**Orcadas**	**10.01**	**236**	Pn	**Pn**	**03 23 56.1**	**-0.5**
VNA1	**Neumayer--Stat**	**16.81**	**157**	⇓P	**P**	**03 25 26.3**	**+1.7**
	comp=Z,4.4nm,0.3s						
VNA3	**Neumayer Olymp**	**16.99**	**160**	⇓P	**P**	**03 25 28.6**	**+1.9**
	comp=Z,3.9nm,0.4s						
VNA2	**Neumayer--Watz**	**17.21**	**157**	⇓P	**Pn**	**03 25 31.7**	**+2.5**
	comp=Z,4.0nm,0.3s,baz=318,slow=12						
BELA	**Belgrano 2**	**21.94**	**184**	P	**P**	**03 26 18.1**	**-2.1**
PLTB	**Pedras Altas**	**30.34**	**313**	P	**P**	**03 27 37.1**	**0.0**
PLTB				IAmb	IAmb	03 27 40.7	
	comp=Z,8.0nm,0.6s						
QSPA	**South Pole Qui**	**34.09**	**180**	P	**P**	**03 28 08.1**	**-1.6**
QSPA	**South Pole Qui**	**34.09**	**180**	P	**P**	**03 28 11.3**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=206,slow=2.6,SNR=8.9						
QSPA				pP	**pP**	**03 28 32.0**	**-1.6**
	comp=Z,1.6nm,0.5s,baz=270,slow=1.1,SNR=2.1						
	comp=Z,2.3nm,0.5s						
CPUP	**Villa Florida**	**36.65**	**312**	P	**P**	**03 28 31.8**	**0.0**
CPUP				IAmb	IAmb	03 28 34.4	
	comp=Z,5.1nm,0.8s						
CPUP	**Villa Florida**	**36.65**	**312**	P	**P**	**03 28 33.8**	**+2.0**
	comp=Z,5.4nm,0.8s,baz=143,slow=7.3,SNR=9.1						
	comp=Z,5.4nm,0.8s						
GO02	**Mina Guanaco**	**43.27**	**298**	P	**P**	**03 29 25.4**	**-1.4**
GO02				IAmb	IAmb	03 29 30.5	
	comp=Z,25nm,1.2s						
BDFB	**Brasilia**	**43.31**	**331**	P	**P**	**03 29 27.8**	**+0.8**

comp=Z,1.6nm,0.5s,baz=153,slow=4.5,SNR=4.2
comp=Z,1.6nm,0.5s
LVC Limon Verde 45.09 301 P **P 03 29 41.6 +0.1**
BOSA Boshof 46.30 76 LR LR 03 47 11.1
comp=Z,11nm,18.1s,baz=357,slow=34
PB07 IPOC Station P 46.31 300 P **P 03 29 50.4 -0.4**
VNDA Vanda 46.45 183 P **P 03 29 50.7 -0.3**
VNDA IAmb IAmb 03 29 55.4
comp=Z,3.6nm,0.7s
VNDA Vanda 46.45 183 P **P 03 29 52.9 +1.8**
comp=Z,3.4nm,0.6s,baz=187,slow=6.8,SNR=25
comp=Z,3.4nm,0.6s
PTLB Pontes e Lacer 47.16 317 P **P 03 29 58.0 +0.8**
PTLB IAmb IAmb 03 30 00.3
comp=Z,7.9nm,0.9s
GO01 Chusmiza 47.74 303 P **P 03 30 03.7 +1.4**
H10N1 ASCENSION HYDR49.32 17 T T 04 23 49.2
baz=189,slow=74,SNR=7.0
H10N3 ASCENSION HYDR49.32 17 T T 04 23 54.8
baz=189,slow=74,SNR=19
H10N2 ASCENSION HYDR49.33 17 T T 04 23 40.1
baz=189,slow=74,SNR=11
LPAZ La Paz 50.19 306 P **P 03 30 22.4 +1.2**
SAML Samuel 54.66 315 P **P 03 30 53.5 0.0**
SAML IAmb IAmb 03 30 56.3
comp=Z,7.0nm,1.0s
ROSC El Rosal 71.72 310 LR LR 04 05 43.1
comp=Z,22nm,19.2s,baz=43,slow=37
TORD Torodi Ar. Bea 73.31 30 P **P 03 32 55.1 -0.2**
comp=Z,0.7nm,0.4s,baz=201,slow=6.4,SNR=17
TORD pP **pP 03 33 18.9 -4.1**
comp=Z,1.2nm,0.6s,baz=201,slow=6.0,SNR=5.0
TORD LR LR 04 01 40.5
comp=Z,46nm,19.3s,baz=318,slow=33
comp=Z,0.7nm,0.4s
TOO Toolangi 86.45 175 P **P 03 34 02.9 -3.1**
TOO IAmb IAmb 03 34 06.0
comp=Z,10.0nm,1.3s
STKA Stephens Creek 91.84 171 P **P 03 34 32.9 +1.4**
comp=Z,0.8nm,0.5s,baz=151,slow=10,SNR=2.8
comp=Z,0.8nm,0.5s
ASAR Alice Springs 98.97 163 P Pdif 03 35 04.1 0.0
comp=Z,0.8nm,0.7s,baz=186,slow=4.3,SNR=9.8
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 121.16 293 PKP **PKiKP 03 40 16.9 +1.5**
comp=Z,0.2nm,0.3s,baz=158,slow=2.6,SNR=1.9
FINES FINESS Array B 124.63 28 PKP **PKPdf 03 40 20.6 -0.2**
comp=Z,2.5nm,1.0s,baz=212,slow=4.9,SNR=5.1
ARCES ARCESS Array B 131.16 22 PKP **PKPdf 03 40 32.5 -0.7**
comp=Z,2.6nm,0.8s,baz=187,slow=3.6,SNR=3.9
YKA Yellowknife Ar 136.05 318 PKP **PKPdf 03 40 43.7 +1.2**
comp=Z,0.5nm,0.7s,baz=128,slow=2.3,SNR=8.1
MKAR Makanchi Array 137.22 72 PKP **PKPdf 03 40 45.0 -0.2**
comp=Z,0.1nm,0.5s,baz=215,slow=6.3,SNR=1.9
ZALV Zalesovo Beam 142.70 64 PKP **PKiKP 03 40 56.6 -1.4**
comp=Z,1.1nm,0.6s,baz=244,slow=4.9,SNR=5.1
A36M Sachs Harbour 144.14 328 PKPdf **PKPdf 03 40 57.0 +0.1**
N30M Aishikik Lake 144.69 308 PKPdf **PKPdf 03 40 59.1 +0.8**
H31M Peel River 145.19 316 PKPdf 03 40 59.2 +0.3
J30M Hart River 145.55 314 PKPdf 03 40 59.3 -0.4
INK Inuvik 145.69 321 PKPbc **PKPdf 03 41 00.1 +0.5**
G30M tAoh Zraii Nji 146.29 318 PKPbc **PKPdf 03 41 01.9 +1.1**
DAWY Dawson 146.64 312 PKPbc **PKPdf 03 41 02.4 +1.0**
E29M Blow River 147.28 320 PKPbc **PKPdf 03 41 03.8 +1.5**
BCAR Beaver Creek A 147.32 310 PKPbc **PKPdf 03 41 03.8 +1.2**
L26K Log Cabin Wild 147.99 309 PKPbc **PKPdf 03 41 05.7 +2.0**
KLU Klutina 148.65 306 PKPbc **PKPdf 03 41 06.8 +1.9**
RIDG Independent Ri 148.84 310 PKPbc **PKPbc 03 41 08.2 -1.0**
BMAR Burnt Mountain 149.56 317 PKPbc **PKPbc 03 41 09.4 -1.5**
ILAR Eielson Array 149.96 312 PKPbc **PKiKP 03 41 13.1 +0.4**
comp=Z,3.2nm,0.7s,baz=140,slow=3.1,SNR=31
SONM Songino Array 151.04 87 PKPbc **PKPbc 03 41 14.8 -0.3**
comp=Z,1.1nm,0.5s,baz=219,slow=3.6,SNR=10
SONM pPKPbc **pPKPdf 03 41 38.0 -1.3**
comp=Z,1.0nm,0.7s,baz=196,slow=3.3,SNR=4.1

IDC 05 03:32:25.7±5.0**,16°.40S×179°.65W,h0km,mb3.8**/2**,**
mbtmp3.8/2**,Error ellipse: s-maj=291.7km**
s-min=69.0km az=152.0,Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
WRA Warramunga Arr 43.76 258 P P 03 40 34.0 +0.6
0.5nm,0.6s,baz=91,slow=7.9,SNR=6.0
0.5nm,0.6s
ASAR Alice Springs 44.08 253 P P 03 40 35.3 -0.7
1.8nm,0.6s,baz=89,slow=8.9,SNR=31
1.8nm,0.6s
NOA NORSAR Array B 134.74 353 PKP PKPdf 03 51 45.6 -0.5
0.7nm,0.7s,baz=17,slow=3.1,SNR=3.3

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*IDC **05** 03:53:27.8±0.5, 29°.54N×140°.30E, h0km, mb4.1/25, mbtmp4.1/28, ML3.1/2, MS3.6/33, Error ellipse: s-maj=18.1km s-min=13.7km az=75.0*
*NEIC **05** 03:53:31.4±1.4, 29°.61N±0°.02×140°.6E±0°.1, h10km±1km, mb4.6/88, Error ellipse: s-maj=17.6km s-min=3.3km az=81.0*
*NIED **05** 03:53:33.1, 29°.72N×141°.34E, h130km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.84; Mθθ0.12; Mφφ-0.96; Mrθ0.18; Mθφ0.42; Mφr-0.42; Fault plane solution: M0 1.07000×10^16 NP1: φs158.00000°, δ58.00000°, λ86.00000°. NP2: φs345.00000°, δ33.00000°, λ96.00000°.*
*JMA **05** 03:53:33.1±0.1, 30°N±1°×14°1E±°, h130km, MV3.5/20, NEAR TORISHIMA IS*
ISC 05 03:53:29.9±0.4**,29°.58N**±0°.05×**140°.58E**±0°.07**,h10km,n185,**
σ**1.58**/165**,mb4.6**/75**,MS3.7**/27**,1C,Southeast of Honshu**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
CBIJ Chichi jima 2.85 150 P **Pn 03 54 16.5 +1.0**
CBIJ *e*S **Sn 03 54 50.2 +0.4**
JCJ Chichijima 2.85 150 Pn **Pn 03 54 16.1 +0.7**
JCJ Chichijima 2.85 150 Pn **Pn 03 54 13.7 -1.7**
797nm,0.7s,baz=98,slow=22,SNR=28
JCJ Sn **Sn 03 54 45.8 -4.0**
251nm,0.3s,baz=288,slow=21,SNR=14
JCJ LR LR 03 55 27.9
comp=Z,286nm,21.8s,baz=340,slow=41
JHH2 Haha-jima-NKT2 3.26 154 *e*P **Pn 03 54 22.4 +1.4**
JHH2 *e*S **Sn 03 55 01.3 +1.5**
JHJ2 Mitsune 3.58 350 Pn **Pn 03 54 25.6 +0.2**
JHJ Hachijo jima 2 3.59 349 Pn Pn 03 54 20.4 -5.2
8.9nm,0.3s,baz=51,slow=20,SNR=1.9
JHJ Sn **Sn 03 55 07.3 -0.8**
13nm,0.3s,baz=257,slow=23,SNR=1.6
JHJ LR LR 03 55 50.0
comp=Z,530nm,21.6s,baz=140,slow=40
BSO1 Boso 1 5.07 4 *e*P **Pn 03 54 46.9 +1.5**
BSO3 Boso 3 5.20 359 *e*P **Pn 03 54 49.1 +1.6**
HMMJ Hamamatsu 2 5.79 336 *e*P **Pn 03 54 60.0 +4.1**
JKN2 Miekihoku 5.91 323 *e*P Pn 03 55 04.5 +7.0
JNY Yasuok 6.20 339 P **Pn 03 55 05.9 +4.3**
JRY Ryogami san 6.57 348 *e*P **Pn 03 55 08.7 +2.1**
MJAR Matsushiro Arr 7.22 345 Pn **Pn 03 55 17.6 +2.1**
0.2nm,0.3s,baz=166,slow=12,SNR=11
MJAR LR LR 03 57 58.0
comp=Z,421nm,19.7s,baz=156,slow=38
MAJO Matsushiro 7.22 345 Pn **Pn 03 55 15.7 +0.1**
MJB9 Matsu-Tunnel 7.23 345 Pn 03 55 16.5 +0.9
JMM Marumori 8.26 1 Pn **Pn 03 55 28.8 -1.0**
JNU Nakatsue 9.02 295 Pn **Pn 03 55 37.5 -2.7**
0.2nm,0.3s,baz=144,slow=8.7,SNR=1.9
JNU LR LR 03 58 50.7
comp=Z,396nm,18.9s,baz=116,slow=37
8.0nm,1.1s
JOW Kunigami 11.20 259 LR LR 03 59 52.1
comp=Z,463nm,21.2s,baz=309,slow=35
KSRS Korea Array 13.15 310 Pn **Pn 03 56 37.4 +0.7**
0.1nm,0.3s,baz=121,slow=13,SNR=2.3
KSRS LR LR 04 01 21.6
comp=Z,108nm,19.0s,baz=120,slow=36
INCN Inchon 14.04 308 Pn **Pn 03 56 50.6 +1.7**
ASAJ Asahikawa 14.60 6 LR LR 04 03 39.8
comp=Z,219nm,20.1s,baz=30,slow=42
USRK Ussuriysk Ar. 16.11 337 Pn **Pn 03 57 18.4 +2.0**
USRK Ussuriysk Ar. 16.11 337 Pn **Pn 03 57 12.9 -3.5**
0.1nm,0.3s,baz=165,slow=13,SNR=1.8
USRK LR LR 04 02 53.3
comp=Z,95nm,19.8s,baz=176,slow=35
1.4nm,0.8s
MDJ Mudanjiang 17.35 333 P **Pn 03 57 32.6 +0.5**
MDJ pmax pmax
comp=Z,7.0nm,2.3s
MDJ pmax pmax
comp=Z,140nm,4.5s
YSS Yuzh-Sakhalins 17.43 5 Pn **Pn 03 57 33.5 +0.5**
CN2 Changchun 18.63 324 P **Pn 03 57 50.0 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 18.82 283 *e*P **Pn 03 57 52.4 +2.1**
NJ2 pP **pwP 03 58 02.8 +7.4**
NJ2 pmax pmax
comp=Z,32nm,0.8s
NJ2 pmax pmax
comp=Z,390nm,5.0s
KLR Kul'dur 20.75 343 P **P 03 58 10.5 -0.1**
comp=Z,6.3nm,0.7s,baz=140,slow=11,SNR=4.9
KLR LR LR 04 04 40.9
comp=Z,69nm,19.6s,baz=156,slow=32
comp=Z,6.3nm,0.7s
TIA Tai'an 20.75 295 P **P 03 58 12.5 +1.7**
TIA pmax pmax
comp=Z,13nm,1.1s
BJT Baijiatuau 22.52 304 P **P 03 58 27.8 -2.1**
WHN Wuhan 22.71 279 P **P 03 58 34.2 +2.3**
WHN pP **sP 03 58 36.1 +1.2**
WHN sP **pwP 03 58 39.5 +2.0**
WHN pmax pmax
comp=Z,160nm,1.5s
HNS HongShan 22.90 297 ⇑P **P 03 58 37.2 +3.4**
XLT XiLinHaoTe 24.17 313 *e*P P 03 58 33.9 -12
XLT pP pP 03 58 47.6 -1.0
XLT pmax pmax
comp=Z,9.0nm,0.7s
XLT pmax pmax
comp=Z,120nm,4.2s
HIA Hailar 25.26 327 P **P 03 58 55.9 -0.2**
H11N2 WAKE ISLAND Hy 25.79 106 T T 04 26 06.7
baz=298,slow=75
H11N1 WAKE ISLAND Hy 25.80 106 T T 04 26 05.4
baz=298,slow=75
H11N3 WAKE ISLAND Hy 25.81 106 T T 04 26 07.1
baz=298,slow=75
HHC Hu-ho-hao-te 26.12 303 *e*P **P 03 59 06.8 +2.6**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,79nm,4.4s
HHC LR LR
comp=N,280nm,13.0s
HHC LR LR
comp=E,380nm,13.0s
HHC LR LR
comp=Z,410nm,13.9s
H11S3 WAKE ISLAND Hy 26.21 109 T T 04 26 37.5
baz=301,slow=75
H11S1 WAKE ISLAND Hy 26.21 109 T T 04 26 43.8
baz=301,slow=75
H11S2 WAKE ISLAND Hy 26.23 109 T T 04 26 39.3
baz=301,slow=75
DAV Davao City (W) 26.48 215 LR LR 04 07 40.1
comp=Z,114nm,20.5s,baz=70,slow=32
PETK Petropavlovsk- 26.65 23 LR LR 04 12 47.8
comp=Z,79nm,18.3s,baz=220,slow=43
ENH Enshi 26.92 279 P **P 03 59 10.4 -0.9**
ENH IAmb IAmb 03 59 21.1
comp=Z,11nm,1.0s
MA2 Magadan 30.78 10 P **P 03 59 44.3 -1.1**
MA2 IAmb IAmb 03 59 46.7
comp=Z,10nm,0.9s
MA2 Magadan 30.78 10 P **P 03 59 45.9 +0.5**
comp=Z,8.6nm,0.8s,baz=192,slow=8.3,SNR=6.6
MA2 LR LR 04 13 54.5
comp=Z,44nm,18.7s,baz=184,slow=40
comp=Z,8.6nm,0.8s
SONM Songino Array 31.96 314 P **P 03 59 54.4 -1.7**
comp=Z,0.5nm,0.9s,baz=118,slow=7.1,SNR=2.5
comp=Z,0.5nm,0.9s
YAK Yakutsk 33.24 351 LR LR 04 13 11.7
comp=Z,6.0nm,19.0s,baz=143,slow=36
SHEM Shemya Is, Ala 33.74 37 LR LR 04 10 47.0
comp=Z,91nm,21.4s,baz=267,slow=31
TOLI2 Tolitoli 34.02 217 P **P 04 00 14.3 +0.1**
TOLI2 IAmb IAmb 04 00 26.7
comp=Z,9.3nm,1.2s
SEY Seymchan 34.23 10 P **P 04 00 16.3 +0.8**
comp=Z,2.2nm,0.3s,baz=186,slow=8.5,SNR=6.1
comp=Z,2.2nm,0.3s
PZH PanZhiHua 34.31 274 P **P 04 00 17.3 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.3s
GTA Gaotai 34.75 297 *e*P **P 04 00 19.6 -0.9**
GTA pP sP 04 00 24.8 +1.1
GTA pmax pmax
comp=Z,2.0nm,1.2s
CRAI Chiangrai 37.49 265 P **P 04 00 43.0 -0.9**
TNCH TengChong 37.51 273 P **P 04 00 43.2 -1.1**
TNCH pP pP 04 00 46.6 0.0
TNCH pmax pmax
comp=Z,35nm,0.3s
TNCH pmax pmax
comp=Z,140nm,3.8s
GOMU GeErMu 38.71 292 P **P 04 00 55.2 +0.6**
GOMU pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 39.28 264 P **P 04 00 57.8 -1.2**
CMAR Chiang Mai Arr 39.42 263 P **P 04 00 58.9 -1.4**
CMAR Chiang Mai Arr 39.42 263 P **P 04 00 57.9 -2.4**
comp=Z,1.1nm,0.3s,baz=72,slow=5.8,SNR=2.2
CMAR LR LR 04 17 57.0
comp=Z,101nm,19.0s,baz=80,slow=38
comp=Z,1.1nm,0.3s
KAPI Kappang 39.79 214 P **P 04 01 04.3 +1.1**
KAPI IAmb IAmb 04 01 11.8
comp=Z,20nm,1.2s
KAPI Kappang 39.79 214 LR LR 04 17 01.8
comp=Z,47nm,19.4s,baz=42,slow=36
BILL Bilibino 41.38 14 P **P 04 01 15.9 +0.1**
TIXI Tiksi 42.60 355 P **P 04 01 25.0 -0.8**
TIXI Tiksi 42.60 355 P **P 04 01 24.7 -1.0**
comp=Z,0.1nm,0.4s,baz=164,slow=3.8,SNR=6.1
MTN Manton Dam 43.15 194 P **P 04 01 29.9 -0.9**
WMQ Urumqi 44.00 304 *e*P **P 04 01 37.1 -0.5**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
ZALV Zalesovo Beam 46.70 318 P **P 04 01 56.9 -1.8**
comp=Z,0.2nm,0.3s,baz=123,slow=5.3,SNR=1.9
ZALV PcP **PcP 04 03 30.8 -1.4**
comp=Z,0.6nm,0.6s,baz=186,slow=3.0,SNR=4.5
ZALV LR LR 04 21 38.2
comp=Z,57nm,19.2s,baz=35,slow=36
comp=Z,0.2nm,0.3s
MK31 Makanchi Array 47.82 308 P **P 04 02 07.7 0.0**
MKAR Makanchi Array 47.82 308 P **P 04 02 06.0 -1.7**
comp=Z,0.7nm,0.8s,baz=93,slow=10.0,SNR=7.1
MKAR PcP **PcP 04 03 35.3 -1.1**
comp=Z,0.6nm,0.9s,baz=100,slow=4.4,SNR=2.7
MKAR LR LR 04 23 04.3
comp=Z,78nm,20.4s,baz=53,slow=37
comp=Z,0.7nm,0.8s
FITZ Fitzroy Crossi 49.55 199 P **P 04 02 21.4 +0.3**
WRAB Tennant Creek 49.59 188 P **P 04 02 20.3 -1.1**
WRA Warramunga Arr 49.60 188 P **P 04 02 20.2 -1.2**
WRA Warramunga Arr 49.60 188 P **P 04 02 21.1 -0.4**
comp=Z,1.6nm,0.9s,baz=4.2,slow=7.6,SNR=11
WRA PcP **PcP 04 03 42.9 -0.1**
comp=Z,2.5nm,1.0s,baz=357,slow=3.5,SNR=3.7
comp=Z,1.6nm,0.9s
CTA Charters Tower 49.68 173 LR LR 04 20 58.2
comp=Z,32nm,22.0s,baz=78,slow=33
NRIK Noril'sk 49.83 338 P **P 04 02 22.2 -0.5**
NRIK Noril'sk 49.83 338 P **P 04 02 21.4 -1.2**
comp=Z,1.3nm,0.3s,baz=99,slow=6.2,SNR=2.1
NRIK PcP **PcP 04 03 42.8 -0.4**
comp=Z,2.2nm,0.5s,baz=117,slow=2.3,SNR=2.3
NRIK LR LR 04 23 01.2
comp=Z,116nm,19.7s,baz=322,slow=36
comp=Z,1.3nm,0.3s
KURBB Kurchatov Arra 50.31 313 P **P 04 02 24.7 -1.8**
comp=Z,0.3nm,0.2s,baz=90,slow=7.7,SNR=2.4
comp=Z,0.3nm,0.2s
RDOG Red Dog Mine 50.52 24 P **P 04 02 27.4 -0.6**
RDOG IAmb IAmb 04 02 30.3
comp=Z,6.9nm,1.1s
F17K Baldwin Pennin 50.62 26 P **P 04 02 28.7 0.0**
G18K Tagagawik 51.50 27 P **P 04 02 34.3 -1.0**
G18K IAmb IAmb 04 02 37.5
comp=Z,10nm,1.0s
H19K Roundabout Mou 52.31 28 P **P 04 02 43.1 +1.8**
H19K IAmb IAmb 04 02 43.8
comp=Z,6.3nm,0.8s
E19K Redstone River 52.42 25 P **P 04 02 43.7 +1.6**
E19K IAmb IAmb 04 02 44.7
comp=Z,6.6nm,0.8s
K20K Telida 52.97 31 P **P 04 02 48.0 +1.7**
K20K IAmb IAmb 04 02 49.2
comp=Z,9.4nm,0.9s
J20K Nowinta River 53.05 30 P **P 04 02 48.2 +1.4**
J20K IAmb IAmb 04 02 50.1
comp=Z,10nm,1.0s
B20K Meade River 53.08 22 P **P 04 02 48.0 +1.0**
B20K IAmb IAmb 04 02 54.7
comp=Z,5.2nm,0.8s
KDAK Kodiak Island 53.25 38 LR LR 04 22 15.5
comp=Z,55nm,21.9s,baz=275,slow=32
ASAR Alice Springs 53.33 188 P **P 04 02 47.4 -2.0**
comp=Z,0.3nm,0.4s,baz=0.9,slow=5.8,SNR=2.5
ASAR PcP **PcP 04 03 56.8 0.0**
comp=Z,1.1nm,0.8s,baz=5.8,slow=4.4,SNR=5.8
comp=Z,0.3nm,0.4s
AAK Ala-Archa 53.70 303 LR LR 04 26 16.5
comp=Z,66nm,18.1s,baz=39,slow=37
H21K Melozitna Rive 53.82 28 P **P 04 02 53.9 +1.3**
H21K IAmb IAmb 04 02 55.2
comp=Z,8.6nm,1.1s
E21K Killik River 53.83 25 P **P 04 02 53.5 +1.0**
B21K Ikpikpuk River 53.85 23 P **P 04 02 53.8 +1.2**
B21K IAmb IAmb 04 03 00.2
comp=Z,5.4nm,0.8s
CAST Castle Rocks 53.87 31 P **P 04 02 54.5 +1.6**
CAST IAmb IAmb 04 02 55.5
comp=Z,6.7nm,0.9s
E22K Anaktuvuk Pass 54.57 25 P **P 04 02 59.5 +1.5**
E22K IAmb IAmb 04 03 00.2
comp=Z,5.0nm,0.8s
MLY Manley 54.61 29 P **P 04 03 00.2 +1.9**
MLY IAmb IAmb 04 03 00.9
comp=Z,6.7nm,0.9s
G23K Bananza Creek 55.07 27 P **P 04 03 03.3 +1.6**
G23K IAmb IAmb 04 03 04.2
comp=Z,4.7nm,0.9s
BVAR Borovoye Array 55.27 316 P **P 04 03 01.2 -2.0**
comp=Z,0.8nm,0.6s,baz=91,slow=10,SNR=4.3
BVAR LR LR 04 25 25.1
comp=Z,60nm,18.1s,baz=359,slow=35
comp=Z,0.8nm,0.6s
NEA2 Nenana 55.28 30 P **P 04 03 05.0 +1.8**
MDM Murphy Dome 55.66 29 P **P 04 03 07.4 +1.5**
D24K Happy Valley 55.79 24 P **P 04 03 08.3 +1.6**
H24K Noodor Dome 55.86 28 P **P 04 03 08.8 +1.5**
H24K IAmb IAmb 04 03 09.9
comp=Z,5.0nm,0.9s
F24K Squaw Lake 55.98 26 P **P 04 03 09.2 +1.0**
F24K IAmb IAmb 04 03 16.7
comp=Z,4.9nm,0.7s
POKR Poker Plat Res 56.01 29 P **P 04 03 09.8 +1.4**
POKR IAmb IAmb 04 03 11.0
comp=Z,4.8nm,0.8s
HDA Harding Lake 56.19 30 P **P 04 03 10.0 +0.3**
HDA IAmb IAmb 04 03 10.7
comp=Z,4.4nm,0.8s
IL31 56.23 29 P **P 04 03 10.4 +0.6**
ILAR Eielson Array 56.23 29 P **P 04 03 10.6 +0.6**
ILAR Eielson Array 56.23 29 P **P 04 03 10.2 +0.2**
comp=Z,2.9nm,0.9s,baz=271,slow=6.0,SNR=27
ILAR LR LR 04 31 15.1
comp=Z,20nm,18.9s,baz=88,slow=40
comp=Z,2.9nm,0.9s
D25K Kavik River 56.67 24 P **P 04 03 14.5 +1.4**
D25K IAmb IAmb 04 03 20.8
comp=Z,4.1nm,0.8s
E25K Arctic Village 56.89 25 P **P 04 03 16.3 +1.6**
E25K IAmb IAmb 04 03 17.5
comp=Z,4.8nm,0.8s
DZM Mont Dzumac 57.07 151 LR LR 04 28 20.8
comp=Z,24nm,18.2s,baz=44,slow=37
BMAR Burnt Mountain 57.24 26 P **P 04 03 19.6 +2.5**
SCRK Sand Creek 57.49 30 P **P 04 03 20.2 +1.2**
SCRK IAmb IAmb 04 03 20.7
comp=Z,4.4nm,0.8s
J26L Joseph Creek 57.66 30 P **P 04 03 20.8 +0.6**
J26L IAmb IAmb 04 03 21.5
comp=Z,6.3nm,0.9s
L26K Log Cabin Wild 57.81 32 P **P 04 03 22.7 +1.5**
L26K IAmb IAmb 04 03 23.8
comp=Z,5.9nm,0.9s
E27K Coleen River 58.38 25 P **P 04 03 26.9 +1.8**
D27M Malcolm River 58.60 24 P **P 04 03 28.3 +1.6**
E28M Babbage River 59.13 25 P **P 04 03 31.9 +1.6**
E28M IAmb IAmb 04 03 32.9
comp=Z,3.2nm,0.8s
M29M Somme Creek 60.10 32 P **P 04 03 38.8 +1.6**
L29M L29M 60.17 31 P **P 04 03 39.2 +1.6**
PALK Pallekele 60.30 261 LR LR 04 29 27.2
comp=Z,34nm,19.9s,baz=151,slow=36
O29M Mount Kennedy 60.33 34 P **P 04 03 39.7 +0.8**
I30M Mount Dempster 60.66 29 P **P 04 03 42.6 +1.6**
H31M Peel River 61.42 28 P **P 04 03 47.7 +1.7**
H31M IAmb IAmb 04 03 53.2
comp=Z,6.4nm,1.0s
M31M Drury Creek, Y 62.01 32 P **P 04 03 51.8 +1.7**
ABKAR Akbulak array 62.36 313 P **P 04 03 51.8 -0.8**
FARO Faro, Yukon 62.49 32 P **P 04 03 54.8 +1.5**
N32M Quiet Lake 62.84 33 P **P 04 03 57.1 +1.4**
P33M Teslin, Yukon 63.17 34 P **P 04 03 59.5 +1.6**
A36M Sachs Harbour 63.44 20 P **P 04 04 00.6 +1.2**
YKA Yellowknife Ar 70.63 28 P **P 04 04 45.8 +0.5**
comp=Z,2.0nm,0.9s,baz=296,slow=5.7,SNR=22
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 70.73 340 P **P 04 04 44.6 -1.2**
comp=Z,12nm,1.1s,baz=23,slow=7.1,SNR=4.3
comp=Z,12nm,1.1s
NEEM North Greenlan 72.98 3 *i* P **P 04 05 00.3 +0.8**
DAG Danmarks Havn 73.12 355 *i* P **P 04 04 58.3 -1.6**
MXC Moxie City 74.91 45 P **P 04 05 12.0 +1.0**
MXC IAmb IAmb 04 05 13.8
comp=Z,7.9nm,1.0s
FINES FINESS Array B 75.10 333 P **P 04 05 10.7 -1.0**
comp=Z,4.7nm,0.7s,baz=65,slow=6.0,SNR=10.0
comp=Z,4.7nm,0.7s
E07A Sunnyside 75.19 45 P **P 04 05 13.6 +1.0**
E07A IAmb IAmb 04 05 15.4
comp=Z,10nm,1.1s
KBZ Khabaz 75.29 312 P **P 04 05 12.2 -1.0**
comp=Z,3.6nm,0.9s,baz=190,slow=1.1,SNR=7.7
comp=Z,3.6nm,0.9s
D08A Wollman Farm, 75.53 44 P **P 04 05 16.0 +1.5**
D08A IAmb IAmb 04 05 17.1
comp=Z,5.8nm,1.1s
YBH Yreka Blue Hor 75.55 50 LR LR 04 30 51.1
comp=Z,84nm,20.8s,baz=304,slow=30
PINE Pine Mountain 75.77 48 P **P 04 05 16.8 +0.5**
NEW Newport 76.03 42 P **P 04 05 18.5 +1.1**
NEW IAmb IAmb 04 05 20.5
comp=Z,9.2nm,1.1s
E09A Wood Farm, Sta 76.25 44 P **P 04 05 20.2 +1.5**
E09A IAmb IAmb 04 05 21.5
comp=Z,8.0nm,1.0s
RAR Rarotonga 76.46 124 LR LR 04 31 13.6
comp=Z,37nm,20.0s,baz=164,slow=30
ORV Oroville 77.36 52 P **P 04 05 27.8 +2.8**
ORV IAmb IAmb 04 05 32.6
comp=Z,5.8nm,1.4s
J08A Circle Bar Ran 77.56 47 P **P 04 05 27.6 +1.4**
J08A IAmb IAmb 04 05 29.7
comp=Z,7.8nm,1.1s
BMO Blue Mountains 77.57 45 P **P 04 05 27.6 +1.4**
BMO IAmb IAmb 04 05 28.9
comp=Z,7.9nm,1.2s
YERR Yerington 79.17 51 P **P 04 05 36.5 +1.1**
YERR IAmb IAmb 04 05 39.3
comp=Z,7.5nm,1.4s
MFID Camas Ranch 79.21 46 P **P 04 05 36.5 +1.1**
MFID IAmb IAmb 04 05 38.7
comp=Z,7.1nm,1.1s
AKASG Malin Array Be 79.79 323 P **P 04 05 37.0 -1.2**
comp=Z,0.8nm,0.6s,baz=46,slow=6.4,SNR=8.9
comp=Z,0.8nm,0.6s
RYN Ryan 79.84 51 P **P 04 05 39.4 +0.4**
KVN Kaiserville 79.92 51 P **P 04 05 40.5 +1.1**
HLID Hailey 80.02 45 P **P 04 05 41.4 +1.6**
LHV Little Huntoon 80.04 52 P **P 04 05 40.7 +0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LHV				IAmb	IAmb	04 05 43.6	
	comp=Z,10nm,1.4s						
NVAR	**Mina Array Bea**	**80.09**	**51**	P	**P**	**04 05 40.9**	**+0.6**
NVAR	**Mina Array Bea**	**80.09**	**51**	P	**P**	**04 05 41.6**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=293,slow=6.3,SNR=8.1						
NVAR				LR	LR	04 38 37.5	
	comp=Z,73nm,19.7s,baz=338,slow=34						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**80.59**	**336**	P	**P**	**04 05 41.2**	**-1.1**
	comp=Z,4.4nm,1.0s,baz=36,slow=11,SNR=2.5						
	comp=Z,4.4nm,1.0s						
NB2	**NORSAR Subarra**	**80.78**	**338**	P	**P**	**04 05 42.1**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**80.78**	**338**	P	**P**	**04 05 42.4**	**-1.1**
	comp=Z,3.0nm,0.9s,baz=42,slow=5.2,SNR=7.4						
	comp=Z,3.0nm,0.9s						
ELK	**Elko**	**80.95**	**48**	LR	LR	04 37 11.3	
	comp=Z,83nm,20.3s,baz=344,slow=32						
TPH	**Tonopah**	**81.00**	**51**	P	**P**	**04 05 46.3**	**+1.0**
TPNV	**Topopah Spring**	**82.24**	**52**	P	**P**	**04 05 53.1**	**+1.3**
QSM	**Queen of Sheba**	**82.32**	**53**	P	**P**	**04 05 52.8**	**+0.8**
QSM				IAmb	IAmb	04 06 03.8	
	comp=Z,4.4nm,0.7s						
GWY	**Greenwater Val**	**82.34**	**53**	P	**P**	**04 05 52.8**	**+0.5**
GWY				IAmb	IAmb	04 05 54.5	
	comp=Z,5.0nm,1.1s						
DUG	**Dugway, Tooele**	**82.81**	**48**	P	**P**	**04 05 55.0**	**+0.3**
BRTR	**Keskin Array B**	**83.29**	**312**	P	**P**	**04 05 56.3**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=90,slow=4.0,SNR=5.0						
	comp=Z,1.5nm,0.9s						
PDAR	**Pinedale Array**	**83.43**	**44**	P	**P**	**04 05 58.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=282,slow=2.9,SNR=4.2						
	comp=Z,0.6nm,0.8s						
BUR08	**Bucovina Ar. S**	**83.72**	**322**	P	**P**	**04 06 00.4**	**+1.2**
BURAR	**Bucovina Array**	**83.73**	**322**	P	**P**	**04 05 58.7**	**-0.6**
PFO	**Pinyon Flats O**	**83.82**	**55**	LR	LR	04 46 53.2	
	comp=Z,58nm,18.6s,baz=50,slow=38						
KNB	**Kanab**	**84.53**	**50**	P	**P**	**04 06 05.1**	**+1.5**
Q16A	**Castle Valley**	**84.57**	**48**	P	**P**	**04 06 04.6**	**+0.8**
STHS	**Stebnicka Huta**	**84.65**	**325**	*e*PP	PP	04 09 22.1	+3.2
RDMU	**Red Mountain**	**84.67**	**46**	P	**P**	**04 06 05.2**	**+0.9**
RDMU				IAmb	IAmb	04 06 12.0	
	comp=Z,3.2nm,0.8s						
SRU	**San Rafael Swe**	**84.88**	**48**	P	**P**	**04 06 06.3**	**+0.9**
SRU				IAmb	IAmb	04 06 18.1	
	comp=Z,3.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**89.90**	**340**	P	**P**	**04 06 28.3**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=8.9,slow=5.0,SNR=2.7						
	comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**89.94**	**49**	LR	LR	04 39 24.8	
	comp=Z,92nm,20.9s,baz=60,slow=31						
FUORN	**Ofenpass-Fuorn**	**91.87**	**328**	P	**P**	**04 06 37.8**	**-0.9**
SCHQ	**Schefferville**	**92.68**	**15**	LR	LR	04 54 50.2	
	comp=Z,64nm,18.5s,baz=158,slow=40						
LPIG	**La Paz**	**93.50**	**60**	LR	LR	04 40 05.3	
	comp=Z,28nm,20.6s,baz=346,slow=30						
TXAR	**Lajitas Array**	**95.22**	**52**	P	**P**	**04 06 56.2**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=303,slow=2.4,SNR=5.6						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**119.34**	**180**	PKP	**PKPdf**	**04 12 17.2**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=282,slow=2.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**121.89**	**311**	PKP	**PKPdf**	**04 12 23.5**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=354,slow=2.9,SNR=2.5						
H03N2	**Juan Fernandez**	**146.23**	**107**	T	T	06 56 40.5	
	baz=279,slow=75,SNR=6.4						
H03N3	**Juan Fernandez**	**146.24**	**107**	T	T	06 56 43.5	
	baz=279,slow=75,SNR=8.3						
H03N1	**Juan Fernandez**	**146.25**	**107**	T	T	06 56 39.7	
	baz=279,slow=75,SNR=9.9						
PLCA	**Paso Flores**	**152.36**	**122**	PKPbc	**PKPbc**	**04 13 26.1**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=180,slow=3.0,SNR=3.7						

IDC 05 04:12:06.2±5.0**, 29°.64N**×**140°.34E, h77**km±45km**, mb3.4**/3**, mbtmp3.5**/4**, ML2.0**/1**, MS3.2**/1**, Error ellipse: s-maj=64.6km s-min=26.6km az=94.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.11**	**346**	P	Pn	04 13 47.2	-0.3
	baz=157,slow=12,SNR=1.3						
	0.4nm,0.4s						
JOW	**Kunigami**	**11.00**	**258**	LR	LR	04 18 03.2	
	comp=Z,120nm,20.4s,baz=96,slow=32						
WRA	**Warramunga Arr**	**49.64**	**187**	P	P	04 20 49.8	-0.2
	0.2nm,0.4s,baz=4.7,slow=7.7,SNR=6.9						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**56.28**	**29**	P	P	04 21 38.3	-0.1
	0.4nm,0.8s,baz=281,slow=8.0,SNR=4.6						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**74.95**	**333**	P	P	04 23 38.7	+0.1
	1.8nm,0.9s,baz=64,slow=6.6,SNR=7.9						
	1.8nm,0.9s						

IDC 05 04:20:09.8±2.8**, 6°.17S**×**127°.92E, h0**km**, mb3.4**/1**, mbtmp3.5**/3**, ML3.5**/2**, MS3.4**/1**, Error ellipse: s-maj=310.7km s-min=32.3km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.05**	**156**	Pn	Pn	04 23 44.7	+0.8
	0.1nm,0.3s,baz=334,slow=13,SNR=8.6						
WRA				Sn	Sn	04 26 21.4	-10
	0.1nm,0.3s,baz=315,slow=31,SNR=1.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.33**	**162**	P	Pn	04 24 25.1	-0.6
	0.4nm,0.3s,baz=343,slow=12,SNR=25						
	1.1nm,0.3s						
JHJ	**Hachijo jima 2**	**40.66**	**15**	LR	LR	04 43 12.9	
	comp=Z,47nm,19.1s,baz=74,slow=34						
MKAR	**Makanchi Array**	**66.41**	**328**	P	P	04 31 00.8	0.0
	0.3nm,0.7s,baz=120,slow=7.3,SNR=2.9						
	0.3nm,0.7s						

*MOS **05** 04:33:17.8±0.9, 37°.12N×28°.65E, h11km, mb4.5/14, Error ellipse: s-maj=6.2km s-min=4.0km az=85.9*
*GII **05** 04:33:17.9±0.5, 36°.89N±0°.06×28°.38E±0°.02, h10km, Mws4.0, confirmed*
*ISK **05** 04:33:17.3, 37°.11N×28°.64E, h8km, ML4.0/23*
*IDC **05** 04:33:17.1±0.5, 37°.07N×28°.70E, h0km, mb4.1/22, mbtmp4.1/31, ML4.1/9, MS3.5/34, Error ellipse: s-maj=12.3km s-min=10.9km az=165.0*
*AFAD **05** 04:33:17.7±0.0, 37°.11N×28°.61E, h13km±3km, MW4.2*
*THE **05** 04:33:18.5, 37°.11N×28°.58E, h0km±1km, ML4.1/3, Error ellipse: s-maj=2.6km s-min=1.3km az=35.0*
*NEIC **05** 04:33:19.0±1.8, 37°.07N±0°.04×28°.65E±0°.07, h7km±4km, mb4.2/14, Error ellipse: s-maj=7.6km s-min=5.2km az=78.0*
ISC 05 04:33:18.3±0.9**, 37°.09N**±0°.02×**28°.62E**±0°.01**, h5**km±6km**, n286, σ1§24**/329**, mb4.2**/39**, MS3.5**/24**, 31C-15D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.27**	**174**	Pg	**Pg**	**04 33 23.1**	**-0.5**
DALY				Sg	**Sg**	**04 33 27.9**	**+0.7**
YER	**Yerkesik**	**0.27**	**280**	Pg	**Pg**	**04 33 23.3**	**-0.4**
YER				Sg	**Sg**	**04 33 28.1**	**+0.8**
YER	**Yerkesik**	**0.27**	**280**	P	**Pg**	**04 33 23.3**	**-0.4**
YER				S	**Sg**	**04 33 28.3**	**+1.0**
MULA	**Mugla, Merkez-**	**0.29**	**305**	P	**Pg**	**04 33 23.4**	**-0.7**
MULA				S	**Sg**	**04 33 28.0**	**0.0**
MULA				*i* AML	AML	04 33 30.0	
	comp=N,1µm,0.8s						
MULA				*i* AML	AML	04 33 34.0	
	comp=E,3µm,0.8s						
SABU	**Mula-Dalaman**	**0.38**	**133**	P	**Pg**	**04 33 25.4**	**-0.4**
SABU				S	**Sb**	**04 33 32.5**	**-1.3**
SABU				*i* AML	AML	04 33 34.0	
	comp=N,2µm,0.8s						
SABU				*i* AML	AML	04 33 35.0	
	comp=E,1µm,0.7s						
TURN	**Turunc**	**0.43**	**224**	Pg	**Pg**	**04 33 26.0**	**-0.7**
TURN				Sg	**Sb**	**04 33 33.9**	**-1.3**
TURN	**Turunc**	**0.43**	**224**	P	**Pg**	**04 33 26.0**	**-0.7**
TURN				S	**Sb**	**04 33 34.6**	**-0.6**
TURN				*i* AML	AML	04 33 35.0	
	comp=E,7µm,0.6s						
TURN				*i* AML	AML	04 33 41.0	
	comp=N,7µm,0.8s						
TAVA	**DENIZLI_Tavas**	**0.44**	**32**	P	**Pg**	**04 33 25.6**	**-1.3**
TAVA				S	**Sg**	**04 33 33.1**	**+0.3**
TAVA				*i* AML	AML	04 33 35.0	
	comp=E,1µm,0.5s						
TAVA				*i* AML	AML	04 33 38.0	
	comp=N,1µm,0.7s						
CAEL	**Denizli, Camel**	**0.56**	**86**	P	**Pg**	**04 33 28.5**	**-0.6**
CAEL				S	**Sb**	**04 33 39.0**	**0.0**
CAEL				*i* AML	AML	04 33 45.0	
	comp=N,2µm,0.8s						
CAEL				*i* AML	AML	04 33 46.0	
	comp=E,2µm,0.6s						
CAME	**Cameli-Denizli**	**0.56**	**105**	Pg	**Pg**	**04 33 28.7**	**-0.5**
CAME				Sg	**Sg**	**04 33 37.0**	**+0.4**
FETY	**Fethiye**	**0.58**	**140**	Pg	**Pg**	**04 33 29.3**	**-0.3**
FETY				Sg	**Sb**	**04 33 37.9**	**-1.7**
DNIZ	**Denizli-Tavas-**	**0.63**	**32**	P	**Pg**	**04 33 29.0**	**-1.5**
DNIZ				S	**Sg**	**04 33 39.5**	**+0.8**
DNIZ				*i* AML	AML	04 33 40.0	
	comp=N,3µm,0.4s						
DNIZ				*i* AML	AML	04 33 42.0	
	comp=E,4µm,0.3s						
APMY	**Acipayam-Deniz**	**0.67**	**55**	Pg	**Pg**	**04 33 30.4**	**-0.7**
MLSB	**Milas**	**0.71**	**287**	Pg	**Pg**	**04 33 31.5**	**-0.4**
RFTAA	**Mazikoy-Bodrum**	**0.71**	**263**	Pg	**Pg**	**04 33 31.5**	**-0.4**
ESEN	**Aydn-Nazilli**	**0.74**	**343**	P	**Pg**	**04 33 31.4**	**-1.2**
ESEN				S	**Sg**	**04 33 41.1**	**-1.2**
ESEN				*i* AML	AML	04 33 42.0	
	comp=E,7µm,0.7s						
ESEN				*i* AML	AML	04 33 48.0	
	comp=N,6µm,0.6s						
GOLH	**Golhisar**	**0.77**	**78**	P	**Pg**	**04 33 32.2**	**-0.8**
GOLH				S	**Sb**	**04 33 45.6**	**+0.7**
GOLH				*i* AML	AML	04 33 55.0	
	comp=N,7µm,0.8s						
GOLH				*i* AML	AML	04 33 57.0	
	comp=E,7µm,1.3s						
KNIK	**Mula-Seydike**	**0.80**	**107**	P	**Pg**	**04 33 33.1**	**-0.6**
KNIK				S	**Sb**	**04 33 44.8**	**-1.1**
KNIK				*i* AML	AML	04 33 58.0	
	comp=E,2µm,0.7s						
KNIK				*i* AML	AML	04 34 03.0	
	comp=N,2µm,1.3s						
IZZE	**Mula-Seydike**	**0.81**	**143**	P	**Pg**	**04 33 33.4**	**-0.5**
IZZE				S	**Sn**	**04 33 48.4**	**-0.4**
IZZE				*i* AML	AML	04 33 50.0	
	comp=E,5µm,0.6s						
IZZE				*i* AML	AML	04 33 52.0	
	comp=N,8µm,0.4s						
DATC	**Datca-Mugla**	**0.84**	**247**	Pg	**Pg**	**04 33 34.3**	**-0.1**
DAT	**Datca**	**0.91**	**247**	Pg	**Pg**	**04 33 35.9**	**+0.1**
DAT	**Datca**	**0.91**	**247**	P	**Pg**	**04 33 34.5**	**-1.3**
DAT				S	**Sn**	**04 33 50.4**	**-1.0**
DAT	**Datca**	**0.91**	**247**	P	**Pg**	**04 33 35.3**	**-0.5**
DAT				S	**Sb**	**04 33 50.0**	**+1.0**
DAT				*i* AML	AML	04 33 56.0	
	comp=N,4µm,1.2s						
DAT				*i* AML	AML	04 33 57.0	
	comp=E,4µm,1.0s						
BDRM	**Kayabasi**	**0.94**	**269**	P	**Pg**	**04 33 35.1**	**-1.3**
BDRM				*i* AML	AML	04 33 49.0	
	comp=N,0.6nm,0.7s						
BDRM				S	**Sb**	**04 33 51.0**	**+1.2**
BDRM				*i* AML	AML	04 33 54.0	
	comp=E,3µm,0.6s						
ARG	**Arkhangelos**	**0.96**	**205**	Pg	**Pg**	**04 33 36.3**	**-0.4**
ARG	**Arkhangelos**	**0.96**	**205**		**Pg**	**04 33 36.7**	**0.0**
ARG	**Arkhangelos**	**0.96**	**205**	P	**Pg**	**04 33 36.1**	**-0.6**
ARG				S	**Sn**	**04 33 52.0**	**-0.3**
ARG	**Arkhangelos**	**0.96**	**205**	P	**Pg**	**04 33 36.7**	**0.0**
INCE	**Denizli-Bozkur**	**0.98**	**50**	P	**Pg**	**04 33 36.1**	**-1.0**
INCE				S	**Sn**	**04 33 52.3**	**-0.8**
INCE				*i* AML	AML	04 33 53.0	
	comp=N,8µm,0.7s						
INCE				*i* AML	AML	04 33 56.0	
	comp=E,8µm,0.8s						
YAZI	**Mula-Dat§a-**	**1.02**	**247**	P	**Pg**	**04 33 37.8**	**-0.1**
YAZI				S	**Sn**	**04 33 53.6**	**-0.3**
YAZI				*i* AML	AML	04 34 00.0	
	comp=N,3µm,1.4s						
YAZI				*i* AML	AML	04 34 03.0	
	comp=E,3µm,0.8s						
BODT	**Bodrum**	**1.05**	**269**	Pg	**Pg**	**04 33 38.2**	**-0.2**
BODT	**Bodrum**	**1.05**	**269**	P	**Pg**	**04 33 37.5**	**-0.9**
BODT				S	**Sb**	**04 33 53.8**	**+0.8**
YKAV	**Yalikavak-Bodr**	**1.07**	**272**	Pn	**Pg**	**04 33 38.5**	**-0.4**
ELL	**Elmali**	**1.09**	**108**	Pn	**Pg**	**04 33 38.5**	**-0.7**
ELL	**Elmali**	**1.09**	**108**	Pg	**Pb**	**04 33 39.1**	**-0.5**
ELL	**Elmali**	**1.09**	**108**	P	**Pb**	**04 33 39.1**	**-0.5**
KIRA	**zmir-Kiraz**	**1.12**	**351**	P	**Pg**	**04 33 38.4**	**-1.4**
KIRA				S	**Sn**	**04 33 57.0**	**+0.4**
KIRA				*i* AML	AML	04 34 01.0	
	comp=N,6µm,0.6s						
KIRA				*i* AML	AML	04 34 01.0	
	comp=E,6µm,0.9s						
DDIM	**Aydin, Didim**	**1.16**	**289**	P	**Pg**	**04 33 39.6**	**-1.0**
DDIM				S	**Sn**	**04 33 58.8**	**+1.4**
DDIM				*i* AML	AML	04 34 01.0	
	comp=N,7µm,1.2s						
DDIM				*i* AML	AML	04 34 04.0	
	comp=E,8µm,0.9s						
KSL	**Kastellorizon**	**1.22**	**140**	P	**Pn**	**04 33 41.8**	**-0.1**
KSL				S	**Sn**	**04 34 00.9**	**+2.2**
GCAM	**G?zelcaml?**	**1.26**	**299**	Pn	**Pn**	**04 33 41.6**	**-1.0**
GCAM	**G?zelcaml?**	**1.26**	**299**	P	**Pn**	**04 33 41.4**	**-1.2**
GCAM				S	**Sn**	**04 34 00.1**	**+0.2**
GCAM				*i* AML	AML	04 34 03.0	
	comp=N,3µm,0.5s						
GCAM				*i* AML	AML	04 34 03.0	
	comp=E,2µm,0.4s						
BRDR	**BURDUR-Merkez**	**1.30**	**62**	P	**Pg**	**04 33 43.1**	**-0.2**
BRDR				S	**Sn**	**04 34 00.3**	**-0.7**
BRDR				*i* AML	AML	04 34 04.0	
	comp=N,1µm,0.6s						
BRDR				*i* AML	AML	04 34 04.0	
	comp=E,1µm,0.6s						
DEMR	**Demre-Antalya**	**1.34**	**129**	Pn	**Pg**	**04 33 43.4**	**-0.6**
MANT	**Manisa**	**1.40**	**358**	P	**Pn**	**04 33 43.5**	**-1.2**
MANT				S	**Sb**	**04 34 02.7**	**-0.7**
BASM	**Basmaki-Afyon**	**1.41**	**53**	Pn	**Pn**	**04 33 43.2**	**-1.5**
KULA	**Kula-Manisa**	**1.43**	**1**	Pn	**Pn**	**04 33 42.9**	**-2.0**
KULA	**Kula-Manisa**	**1.43**	**1**	P	**Pn**	**04 33 43.6**	**-1.3**
KHL	**Karahalli**	**1.43**	**30**	Pn	**Pn**	**04 33 43.8**	**-1.1**
PASA	**Karahalli, USA**	**1.43**	**28**	P	**Pn**	**04 33 43.4**	**-1.7**
PASA				S	**Sb**	**04 34 03.9**	**-0.3**
PASA				*i* AML	AML	04 34 04.0	
	comp=N,229nm,0.5s						
PASA				*i* AML	AML	04 34 04.0	
	comp=E,382nm,0.6s						
SMG	**Samos**	**1.55**	**294**	P	**Pn**	**04 33 45.7**	**-0.9**
SMG				S	**Sn**	**04 34 06.4**	**-0.6**
	3µm,0.7s						
USAK	**Uak-Merkez**	**1.65**	**11**	P	**Pn**	**04 33 47.4**	**-0.7**
USAK				S	**Sn**	**04 34 08.8**	**-0.9**
GMLD	**Gumuldur**	**1.68**	**307**	Pn	**Pn**	**04 33 48.4**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.68**	**45**	P	**Pn**	**04 33 48.7**	**+0.3**
KZIL				S	**Sb**	**04 34 10.8**	**-0.4**
ISP	**Isparta**	**1.68**	**64**	Pn	**Pb**	**04 33 49.0**	**-0.8**
ISP	**Isparta**	**1.68**	**64**	*ce*P	**Pb**	**04 33 49.1**	**-0.7**
ISP				pmax	pmax		
	comp=Z,495nm,0.6s						
DGB	**zmir**	**1.68**	**305**	P	**Pn**	**04 33 47.9**	**-0.5**
DGB				S	**Sn**	**04 34 08.1**	**-2.2**
GOMA	**Golmarmara-Man**	**1.71**	**341**	Pn	**Pn**	**04 33 48.2**	**-0.5**
BNAZ	**Uak-Banaz**	**1.88**	**32**	P	**Pn**	**04 33 51.3**	**+0.1**
BNAZ				S	**Sg**	**04 34 18.8**	**+0.2**
AKHS	**Akhisar**	**1.90**	**341**	P	**Pn**	**04 33 50.7**	**-0.6**
AKHS				S	**Sn**	**04 34 13.6**	**-2.0**
AKS	**Akhisar**	**1.90**	**341**	Pn	**Pn**	**04 33 50.2**	**-1.2**
KARP	**Karpathos**	**1.94**	**218**		**Pb**	**04 33 52.9**	**-1.2**
KARP	**Karpathos**	**1.94**	**218**	P	**Pn**	**04 33 51.8**	**-0.1**
DEMI	**Demirci**	**1.95**	**2**	P	**Pn**	**04 33 52.2**	**0.0**
DEMI				S	**Sn**	**04 34 16.4**	**-0.7**
ZEYE	**Izmir, Urla-Ze**	**2.04**	**305**	P	**Pn**	**04 33 52.3**	**-0.9**
ZEYE				S	**Sg**	**04 34 24.6**	**+0.9**
GDZ	**Gediz**	**2.11**	**18**	P	**Pn**	**04 33 55.4**	**+1.0**
GDZ				S	**Sg**	**04 34 29.0**	**+2.8**
ZEDA	**zmir-Bergama**	**2.24**	**327**	P	**Pn**	**04 33 55.7**	**-0.3**
ZEDA				S	**Sn**	**04 34 20.0**	**-3.9**
EMET	**Ktahya-Emet**	**2.35**	**13**	P	**Pn**	**04 33 57.2**	**-0.5**
EMET				S	**Sg**	**04 34 33.3**	**-0.5**
KARB	**zmir-Karabur**	**2.35**	**313**	P	**Pn**	**04 33 57.9**	**+0.3**
KARB				S	**Sg**	**04 34 32.9**	**-1.0**
STEP	**BALIKESIR_Sava**	**2.39**	**343**	P	**Pn**	**04 33 58.0**	**-0.2**
STEP				S	**Sn**	**04 34 28.1**	**+0.2**
CHOS	**Chios island**	**2.41**	**303**	P	**Pn**	**04 33 58.3**	**-0.2**
CHOS				S	**Sn**	**04 34 26.0**	**-2.4**
	comp=Z,2µm,0.8s						
APE	**Apeiranthos**	**2.47**	**270**	*i* P	**Pn**	**04 33 59.7**	**+0.4**
BALB	**Balikesir**	**2.61**	**347**		**Pn**	**04 34 02.0**	**+0.8**
IDI	**Anoyia**	**3.51**	**240**	LR	LR	04 35 54.9	
	comp=Z,452nm,20.4s,baz=80,slow=44						
MDUB	**Mudurnu**	**3.93**	**30**	Pn	**Pn**	**04 34 20.7**	**+1.3**
BR231	**Keskin MP Arra**	**4.26**	**49**		**Pn**	**04 34 26.2**	**+2.2**
ANTO	**Ankara**	**4.29**	**48**	⇓P	**Pn**	**04 34 26.8**	**+2.5**
ANTO	**Ankara**	**4.29**	**48**		**Pn**	**04 34 25.5**	**+1.2**
ANTO	**Ankara**	**4.29**	**48**	P	**Pn**	**04 34 25.5**	**+1.2**
ALN	**Alexandroupoli**	**4.30**	**333**		**Pn**	**04 34 25.1**	**+0.8**
ALN	**Alexandroupoli**	**4.30**	**333**	P	**Pn**	**04 34 25.1**	**+0.8**
CSS	**Mathiatis**	**4.37**	**118**		**Pn**	**04 34 26.1**	**+0.8**
RDO	**Rodhopi**	**4.71**	**330**	Pn	**Pn**	**04 34 30.4**	**+0.4**
BR131	**Keskin Array S**	**4.74**	**55**	Pn	**Pn**	**04 34 31.5**	**+1.0**
BR131	**Keskin Array S**	**4.74**	**55**	*i* P	**Pn**	**04 34 31.6**	**+1.0**
BRTR	**Keskin Array B**	**4.74**	**55**	Pn	**Pn**	**04 34 31.8**	**+1.3**
BRTR	**Keskin Array B**	**4.74**	**55**	Pn	**Pn**	**04 34 31.9**	**+1.4**
	comp=Z,12nm,0.3s,baz=236,slow=16,SNR=162						
BRTR				Sn	**Sn**	**04 35 24.4**	**-1.6**
	baz=230,slow=22						
BRTR				LR	LR	04 37 01.9	
	comp=Z,718nm,19.6s,baz=244,slow=48						
	comp=Z,66nm,0.6s						
AGG	**Agios Georgios**	**5.33**	**293**	Pn	**Pn**	**04 34 40.3**	**+1.8**
AGG	**Agios Georgios**	**5.33**	**293**	P	**Pn**	**04 34 40.3**	**+1.8**
BNN	**Bunyan**	**5.97**	**71**		**Pn**	**04 34 46.8**	**-0.7**
ELND	**Elena**	**6.20**	**341**	⇓P	**Pn**	**04 34 50.7**	**+0.2**
FNA	**Florina**	**6.75**	**305**		**Pn**	**04 34 57.9**	**-0.1**
FNA	**Florina**	**6.75**	**305**	P	**Pn**	**04 34 57.9**	**-0.1**
STIP	**Stip**	**6.78**	**315**	*i* Pn	**Pn**	**04 34 58.4**	**0.0**
MMA0B	**Mount Meron ar**	**6.89**	**124**	P	**Pn**	**04 34 59.8**	**-0.2**
MMA0B	**Mount Meron ar**	**6.89**	**124**	S	**Sn**	**04 36 18.1**	**-0.6**
MMAI	**Mount Meron Ar**	**6.89**	**124**	Pn	**Pn**	**04 34 59.0**	**-0.9**
	comp=Z,17nm,0.3s,baz=309,slow=12,SNR=58						
MMAI				Sn	**Sn**	**04 36 16.2**	**-2.6**
	comp=Z,9.3nm,0.3s,baz=308,slow=28,SNR=6.2						
MMAI				LR	LR	04 38 23.0	
	comp=Z,200nm,20.8s,baz=289,slow=45						
	comp=Z,31nm,0.5s						
GEM	**Giv'at Ha'Em**	**6.94**	**122**	P	**Pn**	**04 35 01.3**	**+0.6**
ICOR	**Ion Corvin**	**7.05**	**355**	⇓P	**Pn**	**04 35 04.0**	**+1.9**
KBN	**Korca**	**7.06**	**302**		**Pn**	**04 35 04.9**	**+2.6**
KBN	**Korca**	**7.06**	**302**	P	**Pn**	**04 35 04.9**	**+2.6**
MFTR	**Murfatlar**	**7.08**	**359**	⇑P	**Pn**	**04 35 04.0**	**+1.4**
KSHT	**Keshet**	**7.18**	**123**	P	**Pn**	**04 35 04.1**	**+0.1**
MMLI	**Mount Malkishu**	**7.27**	**128**	P	**Pn**	**04 35 04.8**	**-0.3**
TIRR	**Tirgusor**	**7.37**	**359**	⇑P	**Pn**	**04 35 07.3**	**+0.9**
TIRR	**Tirgusor**	**7.37**	**359**	Pn	**Pn**	**04 35 07.2**	**+0.8**
TIRR	**Tirgusor**	**7.37**	**359**	⇑P	**Pn**	**04 35 07.3**	**+0.9**
HMDT	**Nahal Hemdat**	**7.46**	**128**	S	**Sn**	**04 36 33.2**	**+0.5**
HMDT	**Nahal Hemdat**	**7.46**	**128**	P	**Pn**	**04 35 06.8**	**-0.9**
TLBR	**Topalu**	**7.46**	**357**	⇓P	**Pn**	**04 35 08.7**	**+0.9**
HARR	**Harsova**	**7.61**	**356**	⇑P	**Pn**	**04 35 10.4**	**+0.6**
HARR	**Harsova**	**7.61**	**356**	⇑P	**Pn**	**04 35 10.4**	**+0.6**
UJAP	**Al Uja**	**7.62**	**130**	P	**Pn**	**04 35 10.6**	**+0.6**
UJAP	**Al Uja**	**7.62**	**130**	S	**Sn**	**04 36 35.7**	**-1.0**
TPGR	**Topolog**	**7.76**	**359**	⇑P	**Pn**	**04 35 13.3**	**+1.4**
KZIT	**Kziot**	**7.81**	**140**	P	**Pn**	**04 35 11.3**	**-1.2**
YTIR	**Yattir**	**7.84**	**135**	P	**Pn**	**04 35 12.8**	**-0.3**
DSI	**Dead Sea**	**7.84**	**133**	P	**Pn**	**04 35 12.6**	**-0.4**
DSI	**Dead Sea**	**7.84**	**133**	S	**Sn**	**04 36 41.7**	**-0.5**
ARPR	**Arapgir-MALATY**	**7.92**	**72**		**Pn**	**04 35 15.2**	**+1.0**
BLKB	**Belogradchik**	**7.95**	**327**	⇓P	**Pn**	**04 35 15.3**	**+0.8**
MSBI	**Mazada**	**8.02**	**134**	P	**Pn**	**04 35 14.8**	**-0.5**
CFR	**Carcaliu**	**8.09**	**358**	⇓P	**Pn**	**04 35 16.5**	**+0.1**
CFR	**Carcaliu**	**8.09**	**358**	⇓P	**Pn**	**04 35 16.5**	**+0.1**
SEV	**Sevastopol'**	**8.37**	**26**	*e*P	**Pn**	**04 35 22.4**	**+2.2**
SEV				Pm		04 35 25.1	
	comp=Z,4.0nm,0.3s						
SEV				*e*S	**Sn**	**04 36 52.9**	**-2.2**
SEV				Sm		04 36 53.1	
	comp=E,4.0nm,0.5s						
SEV				Sm		04 36 53.1	
	comp=N,3.0nm,0.5s						
ASF	**Jabal al Asfar**	**8.40**	**123**	Pn	**Pn**	**04 35 21.1**	**+0.4**
	comp=N,2.0nm,0.3s,baz=336,slow=5.0,SNR=18						
ASF				Sn	**Sn**	**04 36 57.7**	**+1.7**
	comp=N,0.9nm,0.3s,baz=339,slow=23,SNR=1.3						
	comp=N,7.9nm,0.5s						
BOVS	**Bovan**	**8.40**	**323**	⇑P	**Pn**	**04 35 21.4**	**+0.7**
NEGRR	**Negrea**	**8.46**	**356**	⇓P	**Pn**	**04 35 23.4**	**+1.9**
IZVR	**Izvoarele**	**8.47**	**356**	⇓P	**Pn**	**04 35 22.7**	**+1.1**
YAL	**Yalta**	**8.50**	**28**	*e*P	**Pn**	**04 35 23.6**	**+1.6**
YAL				Pm		04 35 25.6	
	comp=Z,3.0nm,0.2s						
YAL				*e*S	**Sn**	**04 37 00.0**	**+1.8**
YAL				Sm		04 37 00.5	
	comp=N,2.0nm,0.2s						
YAL				Sm		04 37 00.5	
	comp=E,3.0nm,0.2s						
YAL	**Yalta**	**8.50**	**28**	*e*P	**Pn**	**04 35 23.6**	**+1.6**
YAL				*e*S	**Sn**	**04 37 00.0**	**+1.8**
PRNI	**Paran**	**8.56**	**140**	P	**Pn**	**04 35 22.6**	**-0.4**
BISRR	**Bisoca**	**8.57**	**351**	⇓P	**Pn**	**04 35 25.5**	**+2.4**
SCTR	**Scanteiesti**	**8.59**	**357**	⇑P	**Pn**	**04 35 25.4**	**+2.2**
KRMI	**Paran Flat**	**8.61**	**142**	P	**Pn**	**04 35 22.4**	**-1.3**
MLR	**Muntele Rosu**	**8.63**	**347**	⇑P	**Pn**	**04 35 25.1**	**+1.1**
MLR	**Muntele Rosu**	**8.63**	**347**	Pn	**Pn**	**04 35 24.5**	**+0.5**
MLR	**Muntele Rosu**	**8.63**	**347**	Pn	**Pn**	**04 35 25.0**	**+1.1**
	comp=E,1.3nm,0.3s,baz=216,slow=4.4,SNR=17						
MLR				LR	LR	04 39 22.9	
	comp=E,387nm,20.1s,baz=174,slow=42						
	comp=E,10nm,0.7s						
VOIR		**8.76**	**343**	⇑P	**Pn**	**04 35 25.9**	**+0.2**
VOIR		**8.76**	**343**	P	**Pn**	**04 35 25.9**	**+0.2**
HRFI	**Mount Harif**	**8.84**	**141**	S	**Sn**	**04 37 05.7**	**-1.0**
HRFI	**Mount Harif**	**8.84**	**141**	P	**Pn**	**04 35 25.1**	**-1.6**
DJES	**Djerdap**	**8.87**	**331**	Pn	**Pn**	**04 35 28.1**	**+1.0**
PLOR	**Plostina**	**8.88**	**351**	⇑P	**Pn**	**04 35 29.1**	**+1.8**
PLOR	**Plostina**	**8.88**	**351**	⇑P	**Pn**	**04 35 29.1**	**+1.8**
SIM	**Simferopol'**	**8.88**	**26**	*e*P	**Pn**	**04 35 29.7**	**+2.5**
SIM				Pm		04 35 31.1	
	comp=Z,48nm,1.1s						
SIM				*e*S	**Sn**	**04 37 06.3**	**-1.3**
SIM				Sm		04 37 11.7	
	comp=N,35nm,0.9s						
SIM				Sm		04 37 11.7	
	comp=E,61nm,0.9s						
SIM	**Simferopol'**	**8.88**	**26**	*e*P	**Pn**	**04 35 27.8**	**+0.6**
SIM				*e*S	**Sn**	**04 37 06.0**	**-1.6**
SIM				pmax	pmax		
	comp=Z,27nm,0.7s						
SIM				smax	smax		
	comp=E,63nm,0.9s						
VRI	**Vrincioaia**	**8.88**	**351**	⇑P	**Pn**	**04 35 28.9**	**+1.6**
VRI	**Vrincioaia**	**8.88**	**351**	⇑P	**Pn**	**04 35 28.9**	**+1.6**
MBRI	**Mt Berech**	**8.97**	**142**	P	**Pn**	**04 35 26.9**	**-1.8**
HERR	**Herculane**	**9.09**	**331**	⇑P	**Pn**	**04 35 31.1**	**+1.0**
EIL	**Elat**	**9.09**	**143**	Pn	**Pn**	**04 35 30.2**	**0.0**
	comp=E,7.8nm,0.3s,baz=341,slow=6.0,SNR=48						
EIL				Sn	**Sn**	**04 37 08.0**	**-4.9**
	comp=E,2.5nm,0.3s,baz=9.7,slow=15,SNR=5.2						
	comp=E,33nm,0.5s						
EIL	**Elat**	**9.09**	**143**	P	**Pn**	**04 35 29.4**	**-0.8**
TURR	**Turia**	**9.17**	**349**	⇑P	**Pn**	**04 35 32.6**	**+1.4**
DOPR	**Dopca**	**9.20**	**346**	⇑P	**Pn**	**04 35 32.3**	**+0.8**
MDVR	**Moldovita**	**9.29**	**328**	⇓P	**Pn**	**04 35 34.3**	**+1.4**
GZR	**Gura Zlata**	**9.39**	**334**	⇑P	**Pn**	**04 35 35.4**	**+1.2**
TESR	**Tescani**	**9.53**	**352**	⇓P	**Pn**	**04 35 36.8**	**+0.7**
MILM	**Milestii Mici**	**9.82**	**1**	*e*P	**Pn**	**04 35 40.0**	**-0.1**
	comp=E,4.0nm,0.7s						
MILM	**Milestii Mici**	**9.82**	**1**	⇓P	**Pn**	**04 35 40.4**	**+0.3**
MILM	**Milestii Mici**	**9.82**	**1**	*e*P	**Pn**	**04 35 40.0**	**-0.1**
MILM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BZS	**Buzias**	**10.01**	**331**	⇑P	**Pn**	**04 35 44.0**	**+1.3**
BZS	**Buzias**	**10.01**	**331**	⇑P	**Pn**	**04 35 44.0**	**+1.3**
SOC	**Sochi**	**10.66**	**49**	*e*P	**Pn**	**04 35 51.2**	**-0.4**
SOC				*e*		04 37 51.9	
SOC				MLR	MLR		
	comp=Z,212nm,19.0s						
BURAR	**Bucovina Array**	**10.82**	**348**	⇑P	**Pn**	**04 35 55.5**	**+1.7**
BURAR	**Bucovina Array**	**10.82**	**348**		**Pn**	**04 35 54.5**	**+0.7**
BURAR	**Bucovina Array**	**10.82**	**348**	⇑P	**Pn**	**04 35 55.5**	**+1.7**
BUR08	**Bucovina Ar. S**	**10.85**	**348**		**Pn**	**04 35 55.2**	**+0.9**
PSZ	**Piszkesteto**	**12.58**	**332**	Pn	**Pn**	**04 36 15.9**	**-2.1**
PSZ	**Piszkesteto**	**12.58**	**332**	P	**Pn**	**04 36 15.9**	**-2.1**
ONI	**Oni**	**12.65**	**60**		**Pn**	**04 36 17.9**	**-1.0**
ONI	**Oni**	**12.65**	**60**	P	**Pn**	**04 36 17.9**	**-1.0**
KIV	**Kislovodsk**	**12.70**	**53**	⇑*e*P	**Pn**	**04 36 19.9**	**+0.3**
KIV				*e*S	**Sn**	**04 38 42.0**	**+0.6**

KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,92nm,17.0s
KBZ Khabaz 12.73 54 *i* P **Pn 04 36 20.3 +0.4**
KBZ Khabaz 12.73 54 Pn **Pn 04 36 22.0 +2.1**
comp=Z,3.2nm,1.1s,baz=352,slow=7.1,SNR=3.4
KBZ LR LR 04 42 54.4
comp=Z,138nm,18.8s,baz=234,slow=46
GNI Garni 12.97 71 Pn **Pn 04 36 24.9 +1.5**
comp=Z,0.2nm,0.3s,baz=186,slow=9.2,SNR=1.8
GNI LR LR 04 42 26.8
comp=Z,238nm,20.6s,baz=280,slow=42
comp=Z,1.3nm,0.3s
ZEI Tsey 13.03 59 *eP* P 04 36 29.6 -5.2
ZEI pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 13.46 331 *eP* **Pn 04 36 32.2 +2.3**
VYHS Vyhne 13.46 331 *eP*N **Pn 04 36 32.2 +2.3**
VYHS *e* 04 36 41.5
AKASG Malin Array Be 13.62 2 Pn **Pn 04 36 33.0 +1.1**
comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=4.2
AKASG LR LR 04 42 13.3
comp=Z,204nm,19.2s,baz=194,slow=39
AKBB Malin Array Si 13.62 2 *i* P **Pn 04 36 33.3 +1.4**
AKBB pmax pmax
comp=Z,4.0nm,1.1s
JAVC Velka Javorina 14.22 329 *eP* **P 04 36 48.7 +0.9**
KRUC Moravsky 14.91 327 *eP* **P 04 36 56.9 +1.5**
MORC Moravsky Berou 15.00 331 *eP* **P 04 36 59.0 +2.5**
VRAC Vranov 15.01 328 *eP* **P 04 36 58.2 +1.6**
VRAC Vranov 15.01 328 LR LR 04 43 52.8
comp=Z,118nm,19.1s,baz=100,slow=42
KBA Koelnbreinsper 15.08 316 Pn **Pn 04 36 50.4 -1.8**
comp=Z,3.0nm,0.6s
CTI Castel Tesino 15.52 311 Pn **Pn 04 36 59.1 +1.3**
CTI IAmb IAmb 04 37 10.3
comp=Z,16nm,1.3s
CTI Castel Tesino 15.52 311 P **Pn 04 36 59.1 +1.3**
CTI pmax pmax
comp=Z,16nm,1.3s
KRLC Kraliky 15.53 330 *eP* **P 04 37 04.6 +2.2**
KRLC Kraliky 15.53 330 *eP* **P 04 37 04.6 +2.2**
KEST Kesra 15.58 271 Pn **P 04 37 01.1 -2.0**
comp=Z,0.2nm,0.3s,baz=114,slow=2.0,SNR=4.7
comp=Z,4.0nm,0.8s
LESA Schwarzleotal 15.65 316 Pn **P 04 37 07.2 +3.3**
comp=Z,9.1nm,1.4s
CKRC Cesky Krumlov 15.69 323 *eP* **P 04 37 04.7 +0.5**
CKRC Cesky Krumlov 15.69 323 *eP* **P 04 37 04.7 +0.5**
DPC Dobruska-Polom 15.93 330 *eP* **Pn 04 37 04.4 +1.3**
DPC Dobruska-Polom 15.93 330 *eP* **Pn 04 37 04.4 +1.3**
GEC2 GERESS Array S 16.01 322 Pn **Pn 04 37 03.4 -0.7**
GEC2 IAmb IAmb 04 37 18.0
comp=Z,22nm,1.4s
GERES GERESS Array B 16.01 322 Pn **P 04 37 07.3 -0.5**
comp=Z,0.2nm,0.3s,baz=133,slow=11,SNR=5.7
GERES LR LR 04 43 20.1
comp=Z,147nm,20.4s,baz=86,slow=38
comp=Z,2.2nm,0.7s
ZVC Zvikov 16.18 324 *eP* **P 04 37 11.1 +1.6**
KHC Kasperske Hory 16.26 322 Pn **Pn 04 37 06.5 -0.8**
KHC Kasperske Hory 16.26 322 *eP* **P 04 37 12.2 +1.8**
KHC Kasperske Hory 16.26 322 *i* P **Pn 04 37 08.8 +1.5**
KHC pmax pmax
comp=Z,38nm,1.7s
FETA Feichten 16.55 312 Pn **P 04 37 16.9 +3.1**
comp=Z,11nm,1.7s
DAVOX Davos/Dischmat 16.94 311 LR LR 04 44 30.2
comp=Z,220nm,18.7s,baz=87,slow=40
SENIN Lac Senin/Sane 18.37 307 P **P 04 37 34.1 +0.1**
SENIN IAmb IAmb 04 37 37.1
comp=Z,11nm,0.6s
BFO Black Forest 18.61 314 P **Pn 04 37 37.3 +0.7**
BFO IAmb IAmb 04 37 45.0
comp=Z,19nm,1.3s
BFO Black Forest 18.61 314 P **Pn 04 37 37.3 +0.7**
BFO pmax pmax
comp=Z,19nm,1.3s
OBN Obninsk 18.83 14*ce*P **Pn 04 37 39.9 +0.7**
OBN *eS* **S 04 41 12.9 -0.2**
OBN pmax pmax
comp=Z,24nm,1.6s
OBN MLR MLR
comp=Z,159nm,18.0s
MOS Moscow 19.63 15 *eP* **P 04 37 45.2 -2.3**
BELG Belogornoye 20.31 35 *i* P Pn 04 37 56.0 -0.9
BELG pmax pmax
comp=Z,6.0nm,1.1s
BELG Belogornoye 20.31 35 LR LR 04 47 26.4
comp=Z,73nm,19.6s,baz=303,slow=42
BCLA Clavier 21.36 316 *dP* **P 04 38 07.3 +1.0**
VSU Vasula 21.42 357 *i* P **P 04 38 08.2 +1.3**
VSU pmax pmax
comp=Z,37nm,1.4s
GEYT Alibeck 23.37 79 P **P 04 38 25.5 -2.3**
comp=Z,1.0nm,0.3s,baz=307,slow=9.9,SNR=2.0
comp=Z,1.0nm,0.3s
FINES FINESS Array B 24.43 357 P **P 04 38 37.4 -0.2**
FINES FINESS Array B 24.43 357 *i* P **P 04 38 37.7 +0.1**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 24.43 357 P **P 04 38 37.1 -0.5**
comp=Z,8.7nm,0.7s,baz=156,slow=9.0,SNR=14
FINES PcP **PcP 04 42 13.9 -2.3**
comp=Z,3.6nm,0.9s,baz=166,slow=2.9,SNR=4.2
FINES LR LR 04 48 57.2
comp=Z,85nm,20.6s,baz=62,slow=38
comp=Z,8.7nm,0.7s
TAM Tamanrasset 24.48 241 P **P 04 38 37.9 -0.7**
TAM IAmb IAmb 04 38 42.4
comp=Z,4.4nm,0.9s
TAM Tamanrasset 24.48 241 P **P 04 38 37.9 -0.7**
TAM pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 24.77 13 *eP* **P 04 38 39.0 -1.6**
KLMR pmax pmax
comp=Z,29nm,1.7s
AKTO Aktyubinsk 24.88 48 LR LR 04 52 01.4
comp=Z,81nm,20.0s,baz=198,slow=45
HFS Hagfors 24.97 342 P **P 04 38 42.1 -0.3**
comp=Z,3.0nm,0.7s,baz=166,slow=14,SNR=4.5
HFS LR LR 04 50 12.1
comp=Z,174nm,18.1s,baz=160,slow=41
comp=Z,3.0nm,0.7s
KIRV Kirov 25.44 26 LR LR 04 49 59.0
comp=Z,80nm,21.9s,baz=216,slow=39
ESDC Sonseca Array 25.60 286 P **P 04 38 48.6 +0.1**
comp=Z,2.3nm,0.9s,baz=80,slow=9.8,SNR=9.8
comp=Z,2.3nm,0.9s
ABKAR Akbulak array 25.68 52 P **P 04 38 48.5 -0.6**
NOA NORSAR Array B 26.37 341 P **P 04 38 53.8 -1.4**
comp=Z,0.7nm,0.8s,baz=145,slow=8.7,SNR=2.6
NOA LR LR 04 49 48.1
comp=Z,60nm,20.2s,baz=10.0,slow=38
comp=Z,0.7nm,0.8s
MDT Midelt 27.48 271 LR LR 04 50 39.3
comp=Z,34nm,19.6s,baz=52,slow=38
ARU Arti 27.84 36*d* *i*P **P 04 39 09.1 +0.7**
ARU 04 39 54.3
ARU S **S 04 43 53.4 +1.5**
ARU SS **SnSn 04 45 04.9 +0.5**
ARU pmax pmax
comp=Z,14nm,2.8s
ARU Arti 27.84 36 LR LR 04 53 12.2
comp=Z,60nm,18.6s,baz=286,slow=43
EKA Eskdalemuir Ar 28.21 320 P **P 04 39 11.8 +0.1**
comp=Z,1.0nm,0.7s,baz=111,slow=11,SNR=4.2
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 32.55 358 P **P 04 39 49.7 -0.2**
comp=Z,8.7nm,1.0s,baz=34,slow=4.5,SNR=5.6
comp=Z,8.7nm,1.0s
BRVK Borovoye 32.93 48 *i* P **P 04 39 53.4 0.0**
BRVK pmax pmax
comp=Z,1.0nm,1.1s
BVAR Borovoye Array 32.99 48 P **P 04 39 51.7 -2.2**
comp=Z,0.6nm,0.6s,baz=265,slow=5.4,SNR=2.0
BVAR LR LR 04 56 38.5
comp=Z,89nm,19.1s,baz=286,slow=42
comp=Z,0.6nm,0.6s
TORD Torodi Ar. Bea 33.88 232 P **P 04 40 01.4 -0.7**
TORD IAmb IAmb 04 40 02.8
comp=Z,3.4nm,0.7s
TORD Torodi Ar. Bea 33.88 232 P **P 04 40 01.4 -0.7**
comp=Z,6.0nm,0.5s,baz=35,slow=9.1,SNR=79
TORD PcP **PcP 04 42 40.5 -0.3**
comp=Z,0.4nm,0.8s,baz=40,slow=4.5,SNR=2.1
comp=Z,6.0nm,0.5s
MBAR Mbarara 37.55 177*ce*P **P 04 40 35.5 +1.8**
MBAR pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 37.73 53 P **P 04 40 34.5 -0.3**
comp=Z,1.3nm,0.5s,baz=277,slow=8.9,SNR=14
KURBB PP **PnPn 04 42 05.1 +3.4**
comp=Z,0.2nm,0.3s,baz=282,slow=11,SNR=5.5
KURBB PcP **PcP 04 42 49.6 -2.0**
comp=Z,0.6nm,0.6s,baz=269,slow=3.7,SNR=4.5
KURBB LR LR 04 59 33.5
comp=Z,72nm,20.8s,baz=175,slow=42
comp=Z,1.3nm,0.5s
KURK Kurchatov 37.79 53 P **P 04 40 33.9 -1.4**
KURK Kurchatov 37.79 53*ce*P **P 04 40 34.6 -0.6**
KURK pmax pmax
comp=Z,9.0nm,2.5s
KMBO Kilima Mbogo 38.86 166 LR LR 04 57 42.4
comp=Z,36nm,18.5s,baz=86,slow=38
BORG Borgarnes 40.26 329 LR LR 04 59 41.7
comp=Z,70nm,20.7s,baz=90,slow=39
MK31 Makanchi Array 40.38 59 P **P 04 40 56.2 -0.8**
MK31 Makanchi Array 40.38 59*ce*P **P 04 40 58.2 +1.2**
MKAR Makanchi Array 40.38 59 P **P 04 40 55.5 -1.5**
MKAR Makanchi Array 40.38 59 P **P 04 40 56.2 -0.8**
comp=Z,0.9nm,0.6s,baz=276,slow=7.4,SNR=13
MKAR PP **PnPn 04 42 34.7 +1.2**
comp=Z,1.2nm,1.1s,baz=271,slow=5.5,SNR=3.7
MKAR PcP **PcP 04 42 59.8 -0.4**
comp=Z,0.6nm,0.7s,baz=287,slow=3.2,SNR=3.8
MKAR LR LR 05 00 16.3
comp=Z,49nm,18.7s,baz=312,slow=40
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 41.64 48 P **P 04 41 07.6 +0.3**
ZALV Zalesovo Beam 41.64 48 P **P 04 41 07.6 +0.3**
ZALV Zalesovo Beam 41.64 48 P **P 04 41 06.3 -1.0**
comp=Z,1.1nm,0.7s,baz=275,slow=8.9,SNR=4.1
ZALV LR LR 05 02 02.1
comp=Z,62nm,18.2s,baz=273,slow=42
comp=Z,1.1nm,0.7s
DBIC Dimbokro 42.96 234 P **P 04 41 17.2 -1.2**
comp=Z,2.3nm,0.5s,baz=29,slow=9.3,SNR=9.5
comp=Z,2.3nm,0.5s
DGZ Jazzator, Alta 43.48 54 *i* P **P 04 41 22.0 -0.5**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
WMQ Urumqi 44.62 62 *eP* **P 04 41 31.3 -0.3**
WMQ pmax pmax
comp=Z,13nm,0.7s
NRIK Noril'sk 44.94 25 P **P 04 41 34.4 +0.7**
NRIK Noril'sk 44.94 25*ce*P **P 04 41 34.4 +0.7**
NRIK pmax pmax
comp=Z,12nm,1.8s
NRIK Noril'sk 44.94 25 P **P 04 41 33.8 0.0**
comp=Z,3.1nm,0.6s,baz=233,slow=5.5,SNR=6.7
comp=Z,3.1nm,0.6s
LSZ Lusaka 52.08 181 LR LR 05 07 34.7
comp=Z,45nm,18.2s,baz=172,slow=40
SFJD Kangerlussuaq 52.35 331 LR LR 05 09 15.2
comp=Z,168nm,18.4s,baz=165,slow=41
SONM Songino Array 56.10 53 P **P 04 42 58.0 -0.5**
SONM Songino Array 56.10 53 P **P 04 42 58.0 -0.5**
comp=Z,0.4nm,0.5s,baz=286,slow=7.4,SNR=4.6
SONM LR LR 05 11 26.1
comp=Z,44nm,19.0s,baz=4.5,slow=41
comp=Z,0.4nm,0.5s
TSUM Tsumeb 56.95 192 LR LR 05 09 26.7
comp=Z,49nm,19.2s,baz=344,slow=38
TIXI Tiksi 58.37 21 LR LR 05 10 19.6
comp=Z,4.6nm,18.2s,baz=18,slow=38
PZH PanZhiHua 61.67 77 P **P 04 43 39.0 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.0s
HHC Hu-ho-hao-te 62.24 58 *eP* **P 04 43 41.0 -0.2**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.4s
RES Resolute Bay 62.52 346 LR LR 05 12 48.1
comp=Z,63nm,19.2s,baz=348,slow=38
YAK Yakutsk 62.79 31*ce*P **P 04 43 47.6 +3.3**
YAK pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 63.41 86 P **P 04 43 48.9 -0.3**
CHTO Chiang Mai 63.41 86 P **P 04 43 48.9 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,1.4s
CMAR Chiang Mai Arr 63.60 86 P **P 04 43 49.9 -0.5**
CMAR Chiang Mai Arr 63.60 86*ce*P **P 04 43 52.2 +1.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 63.60 86 P **P 04 43 49.6 -0.8**
comp=Z,1.0nm,0.3s,baz=303,slow=8.4,SNR=4.3
comp=Z,1.0nm,0.3s
BOSA Bosof 65.43 183 P **P 04 44 03.1 +1.0**
comp=Z,2.3nm,0.8s,baz=24,slow=10.0,SNR=1.8
comp=Z,2.3nm,0.8s
BILL Bilibino 70.48 16 *i* P **P 04 44 34.9 +1.5**
BILL pmax pmax
comp=Z,3.0nm,1.3s
MA2 Magadan 72.52 27 LR LR 05 18 18.7
comp=Z,56nm,20.2s,baz=3.5,slow=37
USRK Ussuriysk Ar. 73.49 47 P **P 04 44 52.7 +0.9**
comp=Z,1.9nm,0.8s,baz=257,slow=20,SNR=2.4
comp=Z,1.9nm,0.8s
KSRS Korea Array 74.89 54 P **P 04 44 59.8 -0.3**
comp=Z,1.5nm,0.6s,baz=305,slow=4.5,SNR=4.0
KSRS LR LR 05 20 19.5
comp=Z,31nm,20.7s,baz=355,slow=38
E25K Arctic Village 75.02 358 P **P 04 45 01.5 +1.1**
E25K IAmb IAmb 04 45 11.0
comp=Z,5.0nm,1.2s
YKA Yellowknife Ar 76.44 343 P **P 04 45 07.9 -0.6**
comp=Z,0.1nm,0.6s,baz=33,slow=5.9,SNR=3.0
comp=Z,0.1nm,0.6s
I29M Ogilvie Camp, 77.37 354 P **P 04 45 14.4 +0.6**
I29M IAmb IAmb 04 45 20.8
comp=Z,3.1nm,0.8s
MDM Murphy Dome 78.26 359 P **P 04 45 18.5 -0.2**
ILAR Eielson Array 78.41 358 P **P 04 45 19.1 -0.5**
ILAR Eielson Array 78.41 358 P **P 04 45 20.1 +0.5**
comp=Z,0.4nm,0.7s,baz=323,slow=2.6,SNR=6.5
comp=Z,0.4nm,0.7s
ASAJ Asahikawa 79.48 42 LR LR 05 28 14.2
comp=Z,59nm,18.8s,baz=40,slow=42
MJAR Matsushiro Arr 81.95 50 P **P 04 45 39.1 0.0**
comp=Z,3.7nm,0.8s,baz=317,slow=3.8,SNR=7.5
comp=Z,3.7nm,0.8s
SHEM Shemya Is, Ala 85.64 20 LR LR 05 29 04.2
comp=Z,32nm,19.1s,baz=70,slow=39
BDFB Brasilia 89.02 250 P **P 04 46 15.2 +0.6**
comp=Z,2.2nm,0.6s,baz=58,slow=7.3,SNR=7.3
comp=Z,2.2nm,0.6s
ASAR Alice Springs 115.65 101 PKP **PKPdf 04 52 00.7 -1.3**
comp=Z,0.2nm,0.7s,baz=329,slow=1.6,SNR=1.6
QSPA South Pole Qui 126.94 180 PKP **PKPdf 04 52 20.5 -1.7**
comp=Z,0.7nm,0.6s,baz=209,slow=3.6,SNR=5.7

*SOME **05** 05:01:15.3, 39.°37N×73.°68E, h0km*
*IDC **05** 05:01:19.3±4.2, 39.°17N×74.°08E, h0km, mb3.9/4, mbtmp3.7/7, ML2.9/3, MS3.8/2, Error ellipse: s-maj=90.5km s-min=21.5km az=116.0*
*KRNET **05** 05:01:22.9±0.1, 39.°55N×74.°03E, h13km, mb3.5*
*NNC **05** 05:01:23.6±2.7, 39.°49N×74.°03E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=19.6km s-min=13.0km az=173.0*
ISC 05 05:01:23.3±1.5, 39.°57N±0.°05×73.°99E±0.°03, h7km±10km, n59, σ2s42/87, mb3.9/4, 23C-12D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.58**	**320**	⇑*e*P		**Pg**	**05 01 34.5**	**0.0**
baz=19								
SFK				⇑*e*S		**Sb**	**05 01 44.1**	**-0.4**
baz=19								
OHH	**Osh**	**1.33**	**316**	⇓*e*P		**Pb**	**05 01 48.7**	**+0.1**
baz=16								
OHH				⇓*e*S		**Sg**	**05 02 07.2**	**+1.2**
baz=16								
DRK	**Karamyk**	**1.70**	**268**	⇑*e*P		**Pb**	**05 01 55.1**	**+0.1**
baz=68								
DRK				⇑*e*S		**Sg**	**05 02 18.9**	**+1.0**
baz=68								
ARSB	**Arslanbob**	**1.91**	**337**	⇑*e*P		**Pb**	**05 01 59.0**	**+0.4**
baz=36								
ARSB				⇑*e*S		**Sg**	**05 02 25.6**	**+0.8**
baz=36								
ARLS	**Aral**	**2.30**	**6**	⇓*e*P		**Pb**	**05 02 04.0**	**-1.2**
baz=6.0								
ARLS				⇓*e*S		**Sb**	**05 02 34.5**	**+0.5**
baz=6.0								
NRN	**Naryn**	**2.41**	**39**	⇑*e*P		**Pb**	**05 02 05.4**	**-1.8**
baz=38								
NRN				⇑*e*S		**Sb**	**05 02 36.6**	**-0.6**
baz=38								
BTK	**Batken**	**2.49**	**282**	⇑*e*P		**Pb**	**05 02 07.2**	**-1.2**
baz=83								
BTK				⇑*e*S		**Sb**	**05 02 39.5**	**+0.1**
baz=83								
AML	**Almayashu**	**2.57**	**355**	P		**Pg**	**05 02 11.5**	**-1.1**
SNR=27								
AML	**Almayashu**	**2.57**	**355**	⇓Pg		**Pg**	**05 02 11.4**	**-1.1**
2.6nm,0.6s								
AML				⇑Lg		Lg	05 02 49.2	
9.4nm,0.7s								
AML	**Almayashu**	**2.57**	**355**	⇓*e*P		**Pb**	**05 02 08.2**	**-1.7**
baz=54								
AML				⇓*e*S		**Sb**	**05 02 41.3**	**-0.5**
baz=54								
KZA	**Kyzart**	**2.68**	**20**	P		**Pb**	**05 02 12.5**	**+0.7**
SNR=28								
KZA	**Kyzart**	**2.68**	**20**	⇑*e*P		**Pb**	**05 02 09.5**	**-2.3**
baz=20								
KZA				⇑*e*S		**Sb**	**05 02 43.4**	**-1.7**
baz=20								
UCH	**Uchtor**	**2.68**	**8**	P		**Pg**	**05 02 13.1**	**-1.6**
SNR=8.4								
UCH	**Uchtor**	**2.68**	**8**	⇑*e*P		**Pb**	**05 02 09.7**	**-2.2**
baz=8.0								
UCH				⇑*e*S		**Sb**	**05 02 43.7**	**-1.5**
baz=8.0								
TRKS	**Terek-Say**	**2.92**	**313**	⇑*e*P		**Pn**	**05 02 12.5**	**+2.1**
baz=12								
TRKS				⇑*e*S		**Sn**	**05 02 48.5**	**+2.7**
baz=12								
AAK	**Ala-Archa**	**3.09**	**7**	P		**Pb**	**05 02 18.4**	**-0.3**
SNR=7.1								
AAK	**Ala-Archa**	**3.09**	**7**	Pn		**Pb**	**05 02 18.3**	**-0.3**
3.1nm,0.3s,baz=207,slow=11,SNR=23								
AAK					Sn	**Sg**	**05 03 01.0**	**-1.5**
1.6nm,0.3s,baz=103,slow=13,SNR=1.6								
7.5nm,0.4s								
AAK	**Ala-Archa**	**3.09**	**7**	⇓*e*P		**Pb**	**05 02 15.4**	**-3.2**
baz=6.0								
AAK				⇓*e*S		**Sb**	**05 02 53.2**	**-3.4**
baz=6.0								
EKS2	**Erkin-Say**	**3.09**	**357**	P		**Pb**	**05 02 18.5**	**-0.2**
SNR=12								
KBK	**Karagaybulak**	**3.17**	**13**	P		**Pb**	**05 02 19.8**	**-0.2**
SNR=7.0								
ULHL	**Ulahol**	**3.17**	**32**	⇑*e*P		**Pb**	**05 02 16.4**	**-3.7**
baz=31								
ULHL				⇑*e*S		**Sb**	**05 02 54.6**	**-4.4**
baz=31								
MRKS	**Merke**	**3.22**	**350**	Pg		**Pb**	**05 02 18.6**	**-2.3**
20nm,0.3s								
MRKS				Lg		Lg	05 03 04.1	
25nm,0.5s								
MRKS	**Merke**	**3.22**	**350**	*e*P		**Pb**	**05 02 18.6**	**-2.3**
5.5nm,0.1s								
MRKS				*e*S		**Sg**	**05 03 04.1**	**-2.7**
25nm,0.2s								
CHMS	**Chumysh**	**3.47**	**9**	⇓Pg		**Pg**	**05 02 27.8**	**-2.0**
4.4nm,0.5s								
CHMS				⇑Lg		Lg	05 03 16.8	
11nm,0.7s								
TKM2	**Tokmak 2**	**3.56**	**19**	⇓Pn		**Pb**	**05 02 24.9**	**-1.8**
8.9nm,0.9s								
TKM2				⇓Lg		Lg	05 03 20.1	
19nm,0.7s								
KST	**Kastek**	**3.77**	**23**	Pg		**Pb**	**05 02 32.3**	**+2.0**
5.0nm,0.4s								
KST				Lg		Lg	05 03 27.5	
14nm,0.6s								
KST	**Kastek**	**3.77**	**23**	*e*P		**Pb**	**05 02 32.3**	**+2.0**
3.1nm,0.2s								
KST				*e*S		**Sg**	**05 03 27.5**	**+3.1**
22nm,0.4s								
DGS	**Degeres**	**3.91**	**19**	Pg		**Pg**	**05 02 35.3**	**-2.8**
7.4nm,0.6s								
DGS				Lg		Lg	05 03 33.3	
18nm,0.6s								
DGS	**Degeres**	**3.91**	**19**	*e*P		**Pg**	**05 02 35.6**	**-2.5**
7.4nm,0.6s								
DGS				*e*S		**Sg**	**05 03 33.3**	**+4.6**
18nm,0.3s								
IZV	**Izvestkoviy**	**3.98**	**29**	Pg		**Pg**	**05 02 37.3**	**-2.3**
3.9nm,0.7s								
IZV				Lg		Lg	05 03 36.3	
14nm,0.9s								
IZV	**Izvestkoviy**	**3.98**	**29**	*e*P		**Pg**	**05 02 37.3**	**-2.3**
4.0nm,0.3s								
IZV				*e*S		**Sg**	**05 03 36.3**	**+5.0**
14nm,0.3s								
MTBS	**Maitube**	**4.00**	**26**	Pg		**Pb**	**05 02 35.7**	**+1.6**
6.0nm,0.7s								
MTBS				Lg		Lg	05 03 34.2	
8.6nm,0.4s								
MTBS	**Maitube**	**4.00**	**26**	*e*P		**Pb**	**05 02 36.1**	**+2.0**
4.2nm,0.2s								
MTBS				*e*S		**Sg**	**05 03 34.2**	**+2.4**
8.6nm,0.4s								
TNSS	**Tian-Shan**	**4.12**	**32**	Pg		**Pb**	**05 02 36.7**	**+0.4**
8.2nm,0.7s								
TNSS				Lg		Lg	05 03 35.3	
15nm,0.9s								
TNSS	**Tian-Shan**	**4.12**	**32**	*e*P		**Pb**	**05 02 36.7**	**+0.4**
5.9nm,0.3s								
TNSS				*e*S		**Sg**	**05 03 35.3**	**-0.2**
15nm,0.4s								
MDOK	**Medeo**	**4.26**	**32**	Pg		**Pg**	**05 02 41.8**	**-3.1**
10nm,0.7s								
MDOK				Pg		**Pb**	**05 02 42.4**	**+3.8**
10nm,0.7s								
MDOK				Lg		Lg	05 03 43.6	
26nm,0.9s								
MDOK				Lg		Lg	05 03 44.4	
39nm,1.4s								
MDOK	**Medeo**	**4.26**	**32**	*e*P		**Pg**	**05 02 41.8**	**-3.1**
6.6nm,0.4s								
MDOK				*e*S		**Sg**	**05 03 43.6**	**+3.4**
26nm,0.9s								
KRBS	**Karabastau**	**4.31**	**16**	Pg		**Pg**	**05 02 42.4**	**-3.4**
4.3nm,0.5s								
KRBS				Lg		Lg	05 03 44.8	
8.4nm,0.7s								
KRBS	**Karabastau**	**4.31**	**16**	*e*P		**Pg**	**05 02 42.4**	**-3.4**
4.3nm,0.5s								
KRBS				*e*S		**Sg**	**05 03 44.8**	**+3.1**
8.4nm,0.7s								
KOTS	**Kotyrbulak**	**4.35**	**32**	Pg		**Pg**	**05 02 43.8**	**-2.8**
9.0nm,0.7s								
KOTS				Lg		Lg	05 03 47.1	
42nm,1.0s								
KOTS	**Kotyrbulak**	**4.35**	**32**	*e*P		**Pg**	**05 02 43.8**	**-2.8**
9.0nm,0.7s								
KOTS				*e*S		**Sg**	**05 03 47.1**	**+4.2**
42nm,1.0s								
KK31	**Karatay Array**	**4.39**	**325**	Pn		**Pb**	**05 02 33.8**	**+3.4**
2.6nm,0.5s,baz=138,slow=14,SNR=34								
KK31				⇑Sn		**Sb**	**05 03 28.9**	**-5.1**
6.0nm,0.6s								
KK31				⇑Lg		Lg	05 03 42.7	
6.8nm,0.5s,baz=145,slow=30,SNR=4.5								
KTBS	**Karatobe**	**4.60**	**25**	Pg		**Pb**	**05 02 47.0**	**+2.6**
4.7nm,0.4s								
KTBS				Lg		Lg	05 03 52.5	
14nm,0.7s								
KTBS	**Karatobe**	**4.60**	**25**	*e*P		**Pb**	**05 02 47.0**	**+2.6**
4.7nm,0.4s								
KTBS				*e*S		**Sg**	**05 03 52.5**	**+1.4**
14nm,0.7s								
KUU	**Kurty**	**4.66**	**21**	Pg		**Pb**	**05 02 47.2**	**+1.9**
5.0nm,0.7s								
KUU				Lg		Lg	05 03 52.8	
9.4nm,0.6s								
KUU	**Kurty**	**4.66**	**21**	*e*P		**Pb**	**05 02 47.2**	**+1.9**
5.0nm,0.7s								
KUU				*e*S		**Sg**	**05 03 52.8**	**-0.1**
9.4nm,0.6s								
SATY	**Saty**	**4.81**	**42**	Pg		**Pg**	**05 02 51.8**	**-3.8**
8.3nm,1.1s								
SATY				Lg		Lg	05 04 00.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	20nm,0.9s						
SATY	Saty	4.81	42	eP	Pg	05 02 51.6	-3.9
	6.9nm,0.5s						
SATY				eS	Sg	05 04 00.5	+2.6
	21nm,0.4s						
BTLS	Baital	5.47	0	Pg	Pb	05 03 02.2	+3.1
	2.3nm,0.6s						
BTLS				Lg	Lg	05 04 19.3	
	5.1nm,0.7s						
BTLS	Baital	5.47	0	eP	Pb	05 03 02.6	+3.5
	0.9nm,0.1s						
BTLS				eS	Sg	05 04 19.3	+0.5
	5.1nm,0.7s						
PDGK	Podgornoye	5.58	46	Pg	Pb	05 03 04.6	+3.5
	2.3nm,0.8s						
PDGK				Lg	Lg	05 04 22.5	
	6.0nm,1.0s						
PDGK	Podgornoye	5.58	46	Pg	Pg	05 03 07.8	-2.4
	13nm,1.2s						
PDGK				⇑Lg	Lg	05 04 22.6	
	24nm,1.1s						
BVAR	Borovoye Array	13.68	351	Pn	Pn	05 04 38.9	+1.3
	baz=170,slow=12,SNR=2.3						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	16.15	24	Pn	P	05 05 13.3	-0.6
	0.1nm,0.3s,baz=210,slow=10,SNR=2.2						
	0.4nm,0.4s						
FINES	FINESS Array B	36.35	323	P	P	05 08 27.3	-0.3
	1.8nm,0.9s,baz=122,slow=10,SNR=7.1						
FINES				LR	LR	05 23 59.1	
	comp=Z,106nm,18.6s,baz=352,slow=37						
	1.8nm,0.9s						
ARCES	ARCESS Array B	39.27	335	P	P	05 08 52.5	+0.3
	3.0nm,0.9s,baz=96,slow=8.3,SNR=1.7						
	3.0nm,0.9s						
HFS	Hagfors	42.19	320	P	P	05 09 16.1	-0.2
	2.3nm,0.9s,baz=111,slow=8.2,SNR=1.9						
	2.3nm,0.9s						
TORD	Torodi Ar. Bea	68.14	269	P	P	05 12 21.8	-2.5
	0.3nm,0.5s,baz=51,slow=5.3,SNR=5.2						
	0.3nm,0.5s						
DLBC	Dease Lake	80.31	13	LR	LR	05 55 14.6	
	comp=Z,58nm,18.0s,baz=48,slow=40						

*IDC **05** 05:06:46.5±2.7, 21°.35N×144°.31E, h135^{km}±24^{km}, mb3.6/11, mbtmp4.1/12, Error ellipse: s-maj=25.0km s-min=12.5km az=93.0*

ISC 05 05:06:44.1±0.8**, 21°.26N**±0°.10×**144°.4E**±0°.2**, h114**^{km}**, n13,** σ**0^{s}89**/14**, mb4.0**/11**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	6.15	341	P	Pn	05 08 13.7	+1.1
	29nm,0.3s,baz=110,slow=21,SNR=5.3						
JCJ				S	Sn	05 09 22.3	+0.7
	100nm,0.5s,baz=301,slow=22,SNR=11						
WRA	Warramunga Arr	42.12	194	P	P	05 14 26.0	+0.8
	2.7nm,0.5s,baz=12,slow=9.4,SNR=49						
	2.7nm,0.5s						
ASAR	Alice Springs	45.81	193	P	P	05 14 55.2	+0.5
	1.0nm,0.6s,baz=16,slow=8.9,SNR=19						
	1.0nm,0.6s						
STKA	Stephens Creek	52.90	183	P	P	05 15 48.6	+0.2
	0.5nm,0.3s,baz=342,slow=9.1,SNR=3.2						
	0.5nm,0.3s						
MKAR	Makanchi Array	55.83	313	P	P	05 16 08.4	-1.2
	0.3nm,0.7s,baz=94,slow=8.9,SNR=4.8						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	58.62	317	P	P	05 16 28.3	-0.8
	0.7nm,0.6s,baz=94,slow=7.6,SNR=7.5						
	0.7nm,0.6s						
ILAR	Eielson Array	61.91	27	P	P	05 16 50.6	-0.7
	1.3nm,0.8s,baz=262,slow=5.3,SNR=13						
	1.3nm,0.8s						
BVAR	Borovoye Array	63.74	320	P	P	05 17 03.7	+0.1
	0.9nm,0.4s,baz=97,slow=7.6,SNR=6.3						
	0.9nm,0.4s						
YKA	Yellowknife Ar	76.31	28	P	P	05 18 19.9	-0.4
	0.7nm,0.6s,baz=293,slow=5.7,SNR=16						
	0.7nm,0.6s						
ARCES	ARCESS Array B	79.69	342	P	P	05 18 38.3	-0.5
	1.9nm,0.5s,baz=72,slow=7.8,SNR=12						
	1.9nm,0.5s						
NVAR	Mina Array Bea	82.52	52	P	P	05 18 55.7	+1.0
	1.3nm,0.7s,baz=276,slow=5.8,SNR=11						
	1.3nm,0.7s						
FINES	FINESS Array B	84.06	335	P	P	05 19 00.3	-1.5
	1.8nm,0.5s,baz=62,slow=4.8,SNR=12						
	1.8nm,0.5s						
PLCA	Paso Flores	144.62	131	PKP	PKPab	05 26 06.3	-0.1
	4.3nm,1.0s,baz=272,slow=2.4,SNR=4.7						

*JMA **05** 05:14:16.2±0.2, 34°N±3°×13°7E±°, h377^{km}, MV3.5/36, SE OFF KII PENINSULA*

*IDC **05** 05:14:18.9±2.7, 34°.48N×137°.20E, h362^{km}±119^{km}, mb2.9/5, mbtmp3.5/7, Error ellipse: s-maj=301.0km s-min=16.6km az=62.0*

ISC 05 05:14:18.8±0.9**, 34°.4N**±0°.1×**137°.01E**±0°.08**, h350**^{km}**, n17,** σ**1^{s}60**/23**, mb3.0**/5**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JWT	Wachi	1.58	304	P	Pn	05 15 07.6	+0.3
JOD2	Odawara 2	1.91	63	P	Pn	05 15 11.3	+1.9
JRY	Ryogami san	2.22	44	P	Pn	05 15 13.8	+2.2
JRY				eS	S	05 15 57.7	+3.6
MJAR	Matsushiro Arr	2.33	25	P	Pn	05 15 13.8	+1.4
	6.0nm,0.6s,baz=199,slow=8.4,SNR=21						
MJAR				S	S	05 15 56.1	+0.4
	3.1nm,1.0s,baz=189,slow=14,SNR=4.3						
MAT	Matsushiro	2.33	24	eP	Pn	05 15 14.1	+1.6
BSO4	Boso 4	2.80	77	P	Pn	05 15 17.1	+1.0
BSO4				S	S	05 16 04.3	+1.9
JAG	Ashikaga	2.83	44	P	Pn	05 15 16.9	+0.4
BSO3	Boso 3	2.91	82	P	Pn	05 15 17.4	+0.4
BSO3				eS	S	05 16 04.1	+0.2
BSO1	Boso 1	3.29	85	P	Pn	05 15 19.9	-0.2
JHO	Hitachi	3.64	52	P	Pn	05 15 24.7	+0.6
JHO				S	S	05 16 14.3	-2.3
JFK	Kawauchi	4.30	46	P	Pn	05 15 31.4	+0.6
JFK				S	S	05 16 26.4	-2.7
USRK	Ussuriysk Ar.	10.51	340	P	P	05 16 43.2	-0.4
	1.2nm,0.6s,baz=157,slow=11,SNR=2.2						
SONM	Songino Array	26.47	310	P	P	05 19 25.8	+0.7
	0.3nm,0.5s,baz=131,slow=6.8,SNR=3.6						
	0.3nm,0.5s						
MKAR	Makanchi Array	42.53	304	P	P	05 21 41.2	+0.2
	0.5nm,0.8s,baz=95,slow=10.0,SNR=4.2						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	44.84	310	P	P	05 21 57.2	-1.9
	0.4nm,0.2s,baz=84,slow=9.4,SNR=1.9						
	0.4nm,0.2s						
WRA	Warramunga Arr	54.12	183	P	P	05 23 07.2	-1.6
	0.4nm,0.3s,baz=0.2,slow=7.6,SNR=10						
	0.4nm,0.3s						
ASAR	Alice Springs	57.84	183	P	P	05 23 35.5	+0.7
	0.3nm,0.5s,baz=10,slow=14,SNR=9.9						
	0.3nm,0.5s						

ROM 05 05:15:31.0±0.3**, 42°.814N**±0°.004×**13°.070E**±0°.006**, h8**^{km}±2^{km}**, ML0.8**/12**, 10C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=259.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1214	Arquata del Tr	0.12	118	⇑P	Pg	05 15 34.1	+0.3
T1214	Arquata del Tr	0.12	118	⇑P	Pg	05 15 34.1	+0.3
T1214				S	Sg	05 15 36.2	+0.5
T1214				AML	AML		
	comp=E,65µm,5.2s						
T1214				AML	AML		
	comp=E,86µm,2.3s						
T1214				AML	AML		
	comp=N,66µm,4.6s						
T1214				AML	AML		
	comp=N,100µm,3.3s						
MC2	Monte Cornacci	0.13	42	⇑P	Pg	05 15 34.6	+0.6
GAVE	Gavelli	0.18	227	P	Pg	05 15 35.1	+0.4
GAVE				S	Sg	05 15 38.5	+1.1
GAVE				AML	AML		
	comp=N,245µm,4.9s						
GAVE				AML	AML		
	comp=N,30µm,0.2s						
GAVE				AML	AML		
	comp=E,153µm,3.1s						
GAVE				AML	AML		
	comp=E,38µm,0.2s						
GAVE	Gavelli	0.18	227	P	Pg	05 15 35.1	+0.4
FDMO	Fiordimonte	0.22	3	⇑P	Pg	05 15 36.1	+0.6
FDMO				S	Sg	05 15 39.9	+1.3
FDMO				AML	AML		
	comp=N,15µm,0.1s						
FDMO				AML	AML		
	comp=E,19µm,1.4s						
FDMO	Fiordimonte	0.22	3	⇑P	Pg	05 15 36.1	+0.6
CESI	CESI - Serrava	0.23	327	⇑P	Pg	05 15 36.3	+0.7
CESI				S	Sg	05 15 40.3	+1.6
CESI				AML	AML		
	comp=N,43µm,3.4s						
CESI				AML	AML		
	comp=E,34µm,2.2s						
CESI	CESI - Serrava	0.23	327	⇑P	Pg	05 15 36.3	+0.7
RMP	Rome, Mte Porz	1.04	195	⇑P	Pg	05 15 47.9	-3.0
RMP	Rome, Mte Porz	1.04	195	⇑P	Pg	05 15 47.9	-3.0
SBPO	S.Benedetto Po	2.72	326	⇓P	Pg	05 16 24.8	+1.6
MNTV	Mantova	2.86	326	S	Sb	05 16 55.0	-2.2
MRVN	Minervino Murg	2.92	126	P	Pn	05 16 11.0	-6.7
MRVN	Minervino Murg	2.92	126	P	Pn	05 16 11.0	-6.7
EUCT	Pavia	3.71	311	S	Sn	05 17 10.9	-1.5
PLAC	Placanica	5.06	148	⇑P	Pn	05 16 52.2	+5.1

ROM 05 05:15:39.3±0.1**, 41°.738N**±0°.004×**14°.246E**±0°.005**, h17**^{km}**, ML1.6**/30**, 7C-1D, Error ellipse: s-maj=0.5km s-min=0.1km az=35.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RNI2	Rionero Sannit	0.08	243	⇓P	Pg	05 15 43.0	+0.2
RNI2				S	Sg	05 15 45.7	+0.6
RNI2				AML	AML		
	comp=E,1185µm,1.5s						
RNI2				AML	AML		
	comp=E,1220µm,1.5s						
RNI2				AML	AML		
	comp=N,2445µm,0.3s						
RNI2				AML	AML		
	comp=N,2620µm,0.3s						
RNI2				AML	AML		
	comp=E,1185µm,0.5s						
RNI2				AML	AML		
	comp=E,1220µm,0.5s						
MIDA	Miranda	0.10	177	⇑P	Pg	05 15 42.9	0.0
MIDA				S	Sg	05 15 45.0	-0.3
MIDA				AML	AML		
	comp=E,1225µm,0.2s						
MIDA				AML	AML		
	comp=N,1045µm,0.3s						
MIDA				AML	AML		
	comp=N,1012µm,0.0s						
MIDA				AML	AML		
	comp=E,1108µm,0.2s						
CERA	Filignano	0.22	231	⇑P	Pg	05 15 44.7	+0.2
CERA				S	Sb	05 15 48.6	-0.1
CERA				AML	AML		
	comp=E,111µm,0.2s						
CERA				AML	AML		
	comp=N,104µm,0.3s						
CERA				AML	AML		
	comp=E,124µm,0.2s						
CERA				AML	AML		
	comp=N,114µm,0.3s						
TRIV	Trivento	0.23	83	⇑P	Pb	05 15 44.9	-0.1
TRIV				S	Sb	05 15 49.0	+0.1
TRIV				AML	AML		
	comp=E,75µm,0.5s						
TRIV				AML	AML		
	comp=E,52µm,0.3s						
TRIV				AML	AML		
	comp=N,61µm,0.3s						
TRIV				AML	AML		
	comp=N,58µm,0.5s						
LPEL	Lama dei Pelig	0.31	351	⇑P	Pg	05 15 46.0	0.0
LPEL				S	Sg	05 15 50.8	+0.1
LPEL				AML	AML		
	comp=N,346µm,0.2s						
LPEL				AML	AML		
	comp=E,280µm,1.4s						
VAGA	Valle Agricola	0.32	182	⇑P	Pg	05 15 46.3	+0.1
VAGA				AML	AML		
	comp=N,166µm,1.0s						
VAGA				AML	AML		
	comp=E,122µm,0.7s						
VAGA				AML	AML		
	comp=E,116µm,0.7s						
VAGA				AML	AML		
	comp=N,176µm,0.4s						
BSSO	Busso	0.32	126	⇑P	Pb	05 15 46.7	0.0
BSSO				S	Sb	05 15 51.6	0.0
BSSO				AML	AML		
	comp=N,90µm,0.5s						
BSSO				AML	AML		
	comp=N,34µm,0.4s						
BSSO				AML	AML		
	comp=E,35µm,0.5s						
BSSO				AML	AML		
	comp=E,90µm,0.5s						
SGG	Gregorio Mates	0.36	164	P	Pg	05 15 47.0	+0.1
INTR	Introdacqua	0.37	317	⇑P	Pg	05 15 47.1	0.0
INTR				S	Sb	05 15 53.0	-0.1
INTR				AML	AML		
	comp=E,180µm,0.1s						
INTR				AML	AML		
	comp=N,312µm,0.9s						
INTR				AML	AML		
	comp=N,190nm,0.1s						
INTR				AML	AML		
	comp=E,173nm,0.1s						
POFI	Posta Fibreno	0.40	267	P	Pg	05 15 47.7	+0.2
POFI				S	Sb	05 15 54.1	+0.2
MCI	Monte Cassino	0.41	232	P	Pb	05 15 48.0	-0.1
MCI				S	Sb	05 15 54.0	-0.1
VVLD	Villa Vallelon	0.48	286	P	Pg	05 15 48.9	-0.2
VVLD				S	Sg	05 15 56.0	+0.3
VVLD				AML	AML		
	comp=N,55µm,0.2s						
VVLD				AML	AML		
	comp=E,37µm,0.0s						
CIGN	Sant'Elia a Pi	0.50	99	P	Pg	05 15 49.4	+0.1
LRP	Arpino	0.50	260	P	Pg	05 15 49.1	-0.3
LRP				S	Sb	05 15 57.0	+0.3
T0110	Collepietro	0.60	325	P	Pg	05 15 50.8	-0.4
T0110				S	Sb	05 16 00.0	+0.4
FAGN	Fagnano	0.72	317	P	Pg	05 15 53.7	+0.2
FAGN				S	Sb	05 16 03.6	+0.5

*NEIC **05** 05:18:54.8±0.5, 19°.22N±0°.02×155°.47W±0°.02, h45^{km}±2^{km}, Error ellipse: s-maj=3.6km s-min=2.8km az=145.0*

HVO 05 05:18:56.7±0.7**, 19°.21N**±0°.05×**155°.46W**±0°.02**, h35**^{km}±7^{km}**, ML2.3**/21**, ML2.5**/54(NEIC)**, Error ellipse: s-maj=6.8km s-min=2.1km az=173.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.07	64		Pn	05 19 02.2	-0.4
HPO	Honuapo	0.15	217		Pn	05 19 02.5	-0.4
HPO					Sn	05 19 06.7	-0.1
KHU	Kahuku	0.15	284		Pn	05 19 02.5	-0.6
AIN	Ainahou	0.16	0		Pn	05 19 02.9	-0.4
HLP	Hilina Pali	0.17	59		Pn	05 19 02.7	-0.4
HLP				IAML		05 19 07.5	
	comp=N,439nm,0.1s						
HLP				IAML		05 19 07.6	
	comp=E,513nm,0.5s						
SDHHI	Sand Hill	0.24	41		Pn	05 19 03.0	-1.1
WRMHI	West Rim	0.25	37		Pn	05 19 03.2	-1.0
RIM	Rim	0.26	43		Pn	05 19 03.3	-1.0
RIM	Rim	0.26	43	IAML		05 19 11.9	
	comp=E,412nm,0.9s						
RIM				IAML		05 19 18.4	
	comp=N,639nm,1.4s						
KKO	Keanakako`i	0.26	44		Pn	05 19 03.4	-1.0
KKO	Keanakako`i	0.26	44	IAML		05 19 12.0	
	comp=E,353nm,0.7s						
KKO				IAML		05 19 18.6	
	comp=N,597nm,1.3s						
NPH	North Pit	0.26	40		Pn	05 19 03.2	-1.1
NPH					Sn	05 19 07.9	-1.5
NPH	North Pit	0.26	40	IAML		05 19 12.1	
	comp=E,171nm,1.2s						
NPH				IAML		05 19 14.7	
	comp=N,238nm,0.2s						
UWE	Uwekahuna	0.26	37		Pn	05 19 03.2	-1.1
UWE				IAML		05 19 08.7	
	comp=N,708nm,0.4s						
OBL	Observatory Le	0.27	39	IAML		05 19 12.6	
	comp=N,663nm,0.7s						
OBL	Observatory Le	0.27	39		Pn	05 19 03.3	-1.1
OBL					Sn	05 19 08.2	-1.2
UWB	Uwekahuna B	0.28	38		Pn	05 19 03.3	-1.2
UWB	Uwekahuna B	0.28	38	IAML		05 19 07.1	
	comp=E,172nm,1.0s						
UWB				IAML		05 19 11.9	
	comp=N,208nm,1.3s						
BYL	Byron's Ledge	0.28	43		Pn	05 19 03.4	-1.1
BYL	Byron's Ledge	0.28	43	IAML		05 19 08.7	
	comp=E,346nm,0.7s						
BYL				IAML		05 19 15.5	
	comp=N,394nm,1.3s						
PUH	Pauahi	0.28	54		Pn	05 19 03.3	-1.2
PUH				IAML		05 19 08.6	
	comp=E,372nm,0.3s						
PUH				IAML		05 19 09.9	
	comp=N,348nm,0.3s						
SBLHI	Steaming Bluff	0.28	40		Pn	05 19 03.4	-1.2
SBLHI					Sn	05 19 08.3	-1.5
SBLHI	Steaming Bluff	0.28	40	IAML		05 19 08.6	
	comp=N,574nm,0.2s						
SBLHI				IAML		05 19 08.6	
	comp=E,725nm,0.2s						
HATHI	Halema'uma'u T	0.28	41		Pn	05 19 03.4	-1.2
HATHI					Sn	05 19 08.5	-1.4
HATHI	Halema'uma'u T	0.28	41	IAML		05 19 08.8	
	comp=E,452nm,1.0s						
HATHI				IAML		05 19 09.7	
	comp=N,405nm,0.8s						
MLH	Mauna Loa	0.29	14		Pn	05 19 03.4	-1.5
MLH	Mauna Loa	0.29	14		Sn	05 19 09.2	-1.0
MLH	Mauna Loa	0.29	14	IAML		05 19 09.3	
	comp=E,224nm,0.3s						
MLH				IAML		05 19 09.5	
	comp=N,388nm,0.3s						
MWH	Moku'aweowe	0.30	335		Sn	05 19 09.2	-1.7
MWH	Moku'aweowe	0.30	335		Pn	05 19 03.9	-1.4
MWH	Moku'aweowe	0.30	335	IAML		05 19 09.5	
	comp=E,430nm,1.3s						
MWH				IAML		05 19 10.7	
	comp=N,373nm,1.0s						
RSD	Rainshed	0.31	34		Pn	05 19 03.6	-1.3
RSD				IAML		05 19 11.7	
	comp=E,346nm,0.3s						
KNHH	Kane Nui o Ham	0.32	58		Pn	05 19 04.0	-1.1
MLOA	Mauna Loa Obse	0.34	341	IAML		05 19 09.8	
	comp=E,431nm,0.2s						
MLOA	Mauna Loa Obse	0.34	341		Pn	05 19 04.3	-1.4
MLOA					Sn	05 19 09.7	-2.0
STCH	Steam Cracks	0.36	61		Pn	05 19 04.3	-1.3
STCH					Sn	05 19 10.1	-1.5
STCH	Steam Cracks	0.36	61	IAML		05 19 10.2	
	comp=E,735nm,0.1s						
STCH				IAML		05 19 11.9	
	comp=N,442nm,0.1s						
ALEP	Alea Permanent	0.37	332		Pn	05 19 04.4	-1.6
ALEP					Sn	05 19 10.0	-2.3
NPOC	North of Pu'u	0.38	61	IAML		05 19 10.5	
	comp=E,526nm,0.2s						
NPOC				IAML		05 19 10.5	
	comp=N,550nm,0.5s						
NPOC	North of Pu'u	0.38	61		Pn	05 19 04.5	-1.3
NPOC					Sn	05 19 10.3	-1.6
JCUZ	Jacuzzi	0.38	63	IAML		05 19 12.4	
	comp=N,292nm,0.9s						
JCUZ				IAML		05 19 14.6	
	comp=E,307nm,1.0s						
JCUZ	Jacuzzi	0.38	63		Pn	05 19 04.6	-1.2
JCUZ					Sn	05 19 10.4	-1.6
HMH	Humu'ula Sheep	0.39	357		Sn	05 19 11.4	-1.2
HMH	Humu'ula Sheep	0.39	357		Pn	05 19 05.0	-1.2
HMH	Humu'ula Sheep	0.39	357	IAML		05 19 12.1	
	comp=E,235nm,0.1s						
HMH				IAML		05 19 23.4	
	comp=N,237nm,0.1s						
JOKA	Jonika Flow	0.48	62		Pn	05 19 05.7	-1.5
JOKA					Sn	05 19 12.3	-2.2
CPH	Captain Cook	0.52	303		Pn	05 19 05.7	-2.0
POHA	Pohakuloa	0.55	353	Pn	Pn	05 19 06.5	-1.9
KHLU	Kahalu`u	0.56	313		Pn	05 19 06.5	-1.9
KHLU	Kahalu`u	0.56	313	IAML		05 19 13.9	
	comp=E,365nm,0.3s						
KHLU				IAML		05 19 13.9	
	comp=N,418nm,0.1s						
HUH	Hualalai	0.59	323		Pn	05 19 07.3	-1.6
HUH	Hualalai	0.59	323	IAML		05 19 20.0	
	comp=N,361nm,0.2s						
HUH				IAML		05 19 20.7	
	comp=E,306nm,0.2s						
HPAH	Hawaii Prepara	0.85	345		Pn	05 19 10.2	-2.1
HPAH					Sn	05 19 20.1	-3.4
HPAH	Hawaii Prepara	0.85	345	IAML		05 19 20.7	
	comp=E,162nm,0.3s						
HPAH				IAML		05 19 20.7	
	comp=N,155nm,0.1s						

*NNC **05** 05:31:56.8±2.2, 42°.84N×73°.03E, h0^{km}, mb2.7, mpv2.5, Error ellipse: s-maj=14.6km s-min=6.4km az=99.0*

*KRNET **05** 05:31:59.0±0.1, 42°.80N×73°.15E, h21^{km}, mb2.3*

*SOME **05** 05:31:58.7, 42°.82N×73°.13E, h15^{km}*

ISC 05 05:31:59.9±1.1**, 42°.79N**±0°.04×**73°.19E**±0°.06**, h17**^{km}±5^{km}**, n23,** σ**0^{s}66**/42**, 16C-8D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRKS	Merke	0.05	149	P	Pg	05 32 02.7	-0.5
	62nm,0.1s						
MRKS				S	Sg	05 32 05.7	+0.3
	182nm,0.1s						
MRKS	Merke	0.05	149	eP	Pg	05 32 02.7	-0.5
	62nm,0.1s						
MRKS				eS	Sg	05 32 05.7	+0.3
	182nm,0.1s						
MRKS	Merke	0.05	149	eP	Pg	05 32 02.7	-0.5
	baz=36						
MRKS				eS	Sg	05 32 05.7	+0.3
	baz=36						
EKS2	Erkin-Say	0.45	106	⇑eP	Pg	05 32 08.5	-0.5
	baz=7.0						
EKS2				⇑eS	Sg	05 32 15.6	+0.4
	baz=7.0						
AML	Almayashu	0.75	150	⇑P	Pg	05 32 14.0	-0.7
	0.3nm,0.7s						
AML				⇓S	Sg	05 32 24.8	+0.1
	0.9nm,0.8s						
AML	Almayashu	0.75	150	⇓eP	Pg	05 32 13.6	-1.1
	baz=49						
AML				⇓eS	Sg	05 32 24.4	-0.3
	baz=49						
AAK	Ala-Archa	0.97	98	⇑eP	Pb	05 32 17.6	-0.7
	baz=99						
AAK				⇑eS	Sb	05 32 31.4	+0.5
	baz=99						
USP	Ospenovka	1.07	63	⇑eP	Pb	05 32 19.5	-0.5
	baz=64						
USP				⇑eS	Sb	05 32 34.0	+0.3
	baz=64						
UCH	Uchtor	1.12	119	⇓eP	Pb	05 32 20.6	-0.5
	baz=19						
UCH				⇓eS	Sb	05 32 36.3	+0.7
	baz=19						
CHMS	Chumysh	1.17	79	⇑P	Pn	05 32 21.0	-0.4
	3.6nm,0.9s						
CHMS				⇓S	Sg	05 32 38.1	+0.5
	2.5nm,0.5s						
CHMS	Chumysh	1.17	79	⇑eP	Pn	05 32 21.0	-0.4
	baz=80						
CHMS				⇑eS	Sb	05 32 37.1	+0.8
	baz=80						
SGDS	Sogindy	1.25	57	P	Pn	05 32 22.3	-0.2
	1.1nm,0.2s						
SGDS				S	Sb	05 32 39.1	+0.4
	8.3nm,0.4s						
ARLS	Aral	1.25	137	⇓eP	Pn	05 32 22.9	+0.3
	baz=37						
ARLS				⇓eS	Sg	05 32 40.3	0.0
	baz=37						

ARSB	Arslanbob	1.47	186	⇑eP	Pn	05 32 26.0	+0.3
	baz=85						
ARSB				⇑eS	Sb	05 32 45.9	+0.7
	baz=85						
KZA	Kyzart	1.68	114	⇑eP	Pb	05 32 30.0	-0.5
	baz=14						
KZA				⇑eS	Sb	05 32 52.7	+1.2
	baz=14						
TKM2	Tokmak 2	1.77	85	⇑eP	Pn	05 32 31.2	+1.3
	baz=85						
TKM2				⇑eS	Sb	05 32 54.8	+0.8
	baz=85						
DGS	Degeres	1.95	76	Pg	Pb	05 32 34.6	-0.3
	1.2nm,0.3s						
DGS				Lg	Lg	05 33 00.4	
	5.6nm,0.6s						
DGS	Degeres	1.95	76	eP	Pb	05 32 34.6	-0.3
	0.9nm,0.2s						
DGS				eS	Sb	05 33 00.3	+1.5
	5.6nm,0.2s						
KRBS	Karabastau	2.03	63	Pg	Pb	05 32 35.6	-0.7
	1.3nm,0.3s						
KRBS				Lg	Lg	05 33 02.0	
	1.8nm,0.2s						
KRBS	Karabastau	2.03	63	eP	Pb	05 32 35.6	-0.7
	0.5nm,0.2s						
KRBS				eS	Sb	05 33 02.0	+0.7
	1.8nm,0.2s						
KST	Kastek	2.05	82	Pg	Pb	05 32 37.1	+0.4
	1.3nm,0.4s						
KST				Lg	Lg	05 33 04.8	
	3.2nm,0.5s						
KST	Kastek	2.05	82	eP	Pb	05 32 37.2	+0.4
	2.1nm,0.2s						
KST				eS	Sg	05 33 04.8	-1.1
	3.5nm,0.2s						
BTLS	Baital	2.34	15	Pg	Pn	05 32 37.9	+0.4
	2.3nm,0.7s						
BTLS				Lg	Lg	05 33 06.0	
	3.7nm,0.5s						

DJA 05 05:33:25.7±1.3, 10°S±5°×11°4E±°, h13km±12km, M4.1/8, mb4.2/4, MLv4.0/8, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.53	2	P	Pn	05 33 52.9	+0.1
JAGI				S	Sn	05 34 11.7	-0.9
IGBI	Denpasar	1.57	41	P	Pn	05 33 53.1	-0.2
DNP	Denpasar	1.72	40	S	Sb	05 34 18.1	-0.6
SRBI	Singaraja	2.21	30	P	Pn	05 34 02.7	+0.7
SRBI				S	Sn	05 34 30.1	+0.9
TWSI	Taliwang, Sumb	3.02	66	P	Pn	05 34 12.4	-0.9
UGM	Wanagama	4.10	300	P	Pn	05 34 28.3	+0.1
DBNI	Kabupaten Domp	4.42	71	P	Pn	05 34 32.4	-0.1
CMJI	Cimerak	6.01	291	P	Pn	05 34 54.8	+0.5
	77nm,2.1s,0.4nm						
BBJI	Bungbulang	6.86	291	P	Pn	05 35 06.1	0.0
	24nm,1.1s,0.2nm						
CNJI	Cibinong	7.39	291	P	Pn	05 35 13.1	-0.3
	19nm,1.3s,0.1nm						
EDFI	Ende, Flores	7.59	81	P	Pn	05 35 15.8	-0.5

IDC 05 05:37:54.4±2.0, 3°.09S×126°.78E, h0km, mb3.1/2, mbtmp3.2/3, ML3.6/1, Error ellipse: s-maj=169.2km s-min=27.8km az=65.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.30	157	P	P	05 42 10.6	+0.5
	0.2nm,0.3s,baz=335,slow=11,SNR=12						
	0.3nm,0.5s						
ASAR	Alice Springs	21.58	162	P	P	05 42 44.2	-1.7
	0.3nm,0.5s,baz=348,slow=9.7,SNR=4.1						
	0.3nm,0.5s						
MKAR	Makanchi Array	63.22	327	P	P	05 48 25.2	+0.6
	0.2nm,0.4s,baz=126,slow=8.0,SNR=4.2						
	0.2nm,0.4s						

IDC 05 05:47:42.4±7.8, 18°.44S×179°.13W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=337.3km s-min=41.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.87	260	P	P	05 55 50.9	0.0
	0.2nm,0.3s,baz=96,slow=7.6,SNR=6.0						
	0.2nm,0.3s						
ASAR	Alice Springs	43.99	255	P	P	05 55 51.7	-0.2
	0.3nm,0.5s,baz=88,slow=7.8,SNR=5.4						
	0.3nm,0.5s						
ILAR	Eielson Array	86.56	13	P	P	06 00 27.0	0.0
	0.7nm,1.0s,baz=206,slow=6.0,SNR=3.0						
	0.7nm,1.0s						

NOU 05 05:48:23.5, 45°.01S×167°.17E, h19km, MLv3.8/6, South Island, New Zealand
WEL 05 05:48:24.1±0.6, 45°S±3°×16°7E±°, h5km, M3.5/7, ML3.6/12, MLv3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0, confirmed
ISC 05 05:48:22.2±1.7, 44°.98S±0°.03×167°.33E±0°.06, h2km±12km, n40, σ1.06/49, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.50	195	P	Pb	05 48 33.9	+0.2
DCZ				S	Sb	05 48 40.8	-0.7
MSZ	Milford Sound	0.52	54	P	Pb	05 48 33.5	-0.6
MSZ				S	Sg	05 48 39.5	+0.5
MLZ	Mavora Lakes	0.68	125	P	Pb	05 48 36.2	-0.6
MLZ				S	Sg	05 48 43.8	-0.2
GLNY	Glenorchy	0.77	82	P	Pg	05 48 36.1	-1.0
GLNY				S	Sg	05 48 44.9	-2.1
MOSS	Mossburn Schoo	0.94	137	P	Pb	05 48 41.2	0.0
MOSS				S	Sg	05 48 53.4	+1.1
QTPS	Queenstown Pol	0.94	93	S	Sg	05 48 52.1	-0.5
WHZ	Wether Hill Ro	1.01	155	P	Pg	05 48 42.0	+0.5
WHZ				S	Sg	05 48 54.9	+0.3
RRKS	Rarakau	1.17	175	P	Pn	05 48 45.7	+0.1
RRKS				S	Sn	05 49 01.5	-0.5
WKZ	Wanaka	1.21	83	P	Pb	05 48 45.4	-0.4
WKZ				S	Sg	05 49 00.7	-0.4
PYZ	Puysegur Point	1.27	201	P	Pn	05 48 44.8	-2.2
PYZ	Puysegur Point	1.27	201	P	Pn	05 48 44.9	-2.0
ORPS	Orepuki	1.34	167	P	Pb	05 48 47.7	-0.3
JCZ	Jackson Bay	1.38	49	P	Pg	05 48 49.5	+0.8
JCZ	Jackson Bay	1.38	49	P	Pb	05 48 48.4	-0.4
EAZ	Earnscleugh	1.42	101	P	Pn	05 48 48.6	-0.4
TUZ	Tuapeka	1.89	122	P	Pn	05 48 56.0	+0.5
TUZ				S	Sn	05 49 19.3	-0.5
APZ	The Paps	1.91	166	P	Pn	05 48 56.4	+0.6
SYZ	Scrubby Hill	2.00	142	P	Pn	05 48 57.7	+0.7
SYZ	Scrubby Hill	2.00	142	P	Pn	05 48 57.5	+0.5
LBZ	Lake Benmore	2.12	75	P	Pn	05 48 59.5	+0.8
FOZ	Fox Glacier	2.30	52	P	Pn	05 49 02.3	+1.2
ODZ	Otahua Downs	2.35	93	P	Pn	05 49 01.9	+0.1
ODZ	Otahua Downs	2.35	93	P	Pn	05 49 02.0	+0.1
HHSZ	Highcliff Hill	2.47	113	P	Pn	05 49 04.7	+1.2
TMZ	Timaru	2.69	78	P	Pn	05 49 06.8	+0.3
GCSZ	Gaunt Creek Bo	2.72	53	P	Pn	05 49 07.6	+0.6
ARCZ	Arundel	2.94	71	P	Pn	05 49 10.4	+0.5
RPZ	Rata Peaks	2.96	66	P	Pn	05 49 10.8	+0.6
RPZ	Rata Peaks	2.96	66	P	Pn	05 49 10.8	+0.6
WVZ	Waitaha Valley	3.11	53	P	Pn	05 49 13.2	+0.9
DSZ	Denniston Nort	4.59	47	P	Pn	05 49 32.9	+0.2
THZ	Tophouse	5.18	54	P	Pn	05 49 42.7	+1.9
MRNZ	Matariki Terra	5.34	50	P	Pn	05 49 44.3	+1.4
QRZ	Quartz Range	5.64	44	P	Pn	05 49 47.8	+0.7
QRZ	Quartz Range	5.64	44	P	Pn	05 49 47.6	+0.5
TKNZ	Takaka Hill	5.71	48	P	Pn	05 49 49.2	+1.2
NNZ	Nelson	5.81	52	P	Pn	05 49 50.3	+1.0
TUWZ	Tuamarina	6.00	56	P	Pn	05 49 55.3	+3.4
TWVZ	Taurewa	8.44	48	P	Pn	05 50 27.5	+1.9
RIGZ	Rimuhau	9.99	55	P	Pn	05 50 46.5	-0.2

IDC 05 05:48:47.0±3.6, 36°.64N×71°.13E, h53km±31km, mb3.4/7, mbtmp3.8/14, ML3.5/7, MS2.4/1, Error ellipse: s-maj=25.9km s-min=20.2km az=170.0
NNC 05 05:48:53.4±3.3, 37°.38N×71°.05E, h0km, mb4.3, mpv3.9,
Error ellipse: s-maj=26.5km s-min=21.2km az=154.0
ISC 05 05:48:51.3±0.9, 36°.96N±0°.08×70°.89E±0°.07, h88km, n26, σ2.03/34, mb3.4/7, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.60	22	P	Pn	05 50 13.2	+0.8
	SNR=20						
AML	Almayashu	5.60	22	⇓P	Pn	05 50 13.1	+0.7
	0.6nm,0.3s						
AML				⇑S	Sn	05 51 15.2	-0.3
	7.8nm,0.7s						
UCH	Uchtor	5.96	27	P	Pn	05 50 18.4	+1.1
	SNR=8.6						
EKS2	Erkin-Say	6.12	20	P	Pn	05 50 20.6	+1.5
	SNR=10						
KZA	Kyzart	6.12	32	P	Pn	05 50 20.1	+0.6
	SNR=15						
KK31	Karatay Array	6.15	357	⇑P	Pn	05 50 20.1	+0.7
	17nm,0.6s,baz=175,slow=11,SNR=187						
KK31				⇑S	Sn	05 51 28.0	-0.3
	18nm,0.6s,baz=187,slow=23,SNR=5.6						
AAK	Ala-Archa	6.32	25	P	Pn	05 50 23.1	+1.3
	SNR=9.3						
AAK	Ala-Archa	6.32	25	P	Pn	05 50 22.2	+0.4
	1.8nm,0.3s,baz=207,slow=10,SNR=18						
AAK				S	Sn	05 51 33.4	+0.8
	10.0nm,0.5s,baz=154,slow=23,SNR=6.8						
AAK				LR	LR	05 53 06.5	
	comp=Z,30nm,18.9s,baz=346,slow=40						
	4.9nm,0.3s						
CHMS	Chumysh	6.72	25	P	Pn	05 50 27.8	+0.5
	SNR=11						
CHMS	Chumysh	6.72	25	⇓P	Pn	05 50 27.6	+0.3
	22nm,0.6s						
CHMS				⇑S	Sn	05 51 39.1	-3.2
	8.3nm,0.7s						
USP	Ospenovka	6.88	23	P	Pn	05 50 30.0	+0.5
	SNR=11						
TKM2	Tokmak 2	6.97	30	⇑P	Pn	05 50 30.6	-0.2
	9.7nm,0.8s						
TKM2				⇑S	Sn	05 51 46.3	-2.3
	8.0nm,0.7s						
GEYT	Alibeck	10.20	279	P	Pn	05 51 14.2	-0.6
	1.2nm,0.3s,baz=80,slow=17,SNR=2.3						
GEYT				S	Sn	05 53 04.0	-3.4
	4.6nm,0.3s,baz=71,slow=23,SNR=5.9						
	1.4nm,0.3s						
MKAR	Makanchi Array	12.98	37	P	Pn	05 51 51.3	-0.8
	0.1nm,0.3s,baz=223,slow=14,SNR=13						
	0.9nm,0.7s						
AB31	Akbulak array	14.64	331	P	Pn	05 52 15.1	+1.3
	2.0nm,0.5s,baz=139,slow=14,SNR=99						
AB31				⇓S	Sn	05 54 56.2	+1.4
	3.2nm,0.8s,baz=146,slow=23,SNR=7.0						
KURBB	Kurchatov Arra	14.72	19	P	Pn	05 52 14.5	-0.2
	baz=214,slow=12,SNR=2.1						
	0.2nm,0.2s						
BVAR	Borovoye Array	16.07	359	P	Pn	05 52 31.3	-0.5
	0.1nm,0.3s,baz=163,slow=10,SNR=8.6						
	1.2nm,0.5s						
AKTO	Aktyubinsk	16.34	330	P	Pn	05 52 35.5	+0.3
	1.2nm,0.3s,baz=139,slow=12,SNR=16						
AKTO				S	Sn	05 55 28.4	-7.5
	1.2nm,0.5s,baz=73,slow=17,SNR=1.5						
	3.0nm,0.3s						
ZALV	Zalesovo Beam	19.54	25	P	P	05 53 10.9	-0.6
	0.4nm,0.3s,baz=216,slow=13,SNR=12						
	2.4nm,0.5s						
SONM	Songino Array	28.15	56	P	P	05 54 35.1	-0.1
	0.9nm,0.9s,baz=243,slow=9.7,SNR=5.6						
	0.9nm,0.9s						
ARCES	ARCESS Array B	40.69	337	P	P	05 56 25.9	+3.3
	3.7nm,1.0s,baz=115,slow=8.3,SNR=1.5						
	3.7nm,1.0s						
NOA	NORSAR Array B	43.96	323	P	P	05 56 51.8	+2.5
	0.4nm,0.7s,baz=98,slow=8.5,SNR=2.0						
	0.4nm,0.7s						
TORD	Torodi Ar. Bea	65.64	268	P	P	05 59 26.9	+0.5
	0.1nm,0.3s,baz=33,slow=7.3,SNR=1.7						
	0.1nm,0.3s						
YKA	Yellowknife Ar	80.79	3	P	P	06 00 56.0	+1.2
	0.4nm,0.7s,baz=346,slow=5.5,SNR=8.6						
	0.4nm,0.7s						
WRA	Warramunga Arr	82.31	122	P	P	06 01 01.1	-2.2
	0.5nm,0.5s,baz=324,slow=4.9,SNR=6.2						
	0.5nm,0.5s						
ASAR	Alice Springs	84.59	125	P	P	06 01 12.7	-2.4
	0.6nm,0.7s,baz=311,slow=5.1,SNR=10						
	0.6nm,0.7s						

IDC 05 06:02:55.8±5.1, 49°.72S×121°.36E, h0km, mb3.5/3, mbtmp3.5/3, MS3.2/2, Error ellipse: s-maj=276.0km s-min=29.2km az=95.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.73	338	T	T	06 21 54.9	
	baz=168,slow=73,SNR=40						
H01W2	Cape Leeuwin H	15.73	338	T	T	06 21 56.7	
	baz=168,slow=73,SNR=40						
H01W3	Cape Leeuwin H	15.74	338	T	T	06 21 59.4	
	baz=168,slow=73,SNR=32						
NWAO	Narrogin (SRO)	17.05	348	LR	LR	06 11 37.3	
	comp=Z,60nm,20.9s,baz=2.5,slow=31						
ASAR	Alice Springs	27.80	25	P	P	06 08 46.6	+0.1
	0.2nm,0.7s,baz=207,slow=8.1,SNR=2.2						
	0.2nm,0.7s						
WRA	Warramunga Arr	31.47	24	P	P	06 09 18.2	-0.8
	0.5nm,0.9s,baz=199,slow=11,SNR=2.2						
	0.5nm,0.9s						
VNDA	Vanda	31.80	164	P	P	06 09 21.1	-0.3
	1.4nm,0.9s,baz=315,slow=11,SNR=4.9						
VNDA				LR	LR	06 20 42.3	
	comp=Z,68nm,19.3s,baz=350,slow=34						
	1.4nm,0.9s						
PDAR	Pinedale Array	144.69	81	PKP	PKPab	06 22 32.8	0.0
	0.7nm,0.9s,baz=191,slow=2.8,SNR=3.9						
YKA	Yellowknife Ar	147.40	46	PKPbc	PKPbc	06 22 40.6	+0.5
	0.4nm,0.9s,baz=271,slow=2.8,SNR=3.9						

IDC 05 06:05:30.6±6.5, 21°.59N×122°.42E, h0km, mb3.8/6, mbtmp3.8/6, MS3.0/2, Error ellipse: s-maj=172.5km s-min=51.7km az=13.0
TAP 05 06:05:33.0, 21°.18N×122°.08E, h65km±1km, ML3.5, D
ISC 05 06:05:30.7±2.4, 21°.2N±0°.1×122°.14E±0°.07, h10km±11km, n37, σ0.85/46, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	0.92	326	eP	Pn	06 05 51.7	+2.0
	baz=331						
LYUB				eS	Sn	06 06 03.7	+0.7
	baz=331						
LAY	Lan-yu	0.97	326	i P	Pn	06 05 51.4	+1.0
	baz=330						
LAY				eS	Sn	06 06 04.8	+0.5
	baz=330						
TSEB	Hengchuen, Pin	1.33	300	eP	Pg	06 05 56.7	+0.4
	baz=302						
TSEB				eS	Sg	06 06 14.0	+0.4
	baz=302						
TWKBT	Hengchun	1.42	300	eP	Pn	06 05 57.5	+1.0
	baz=303						
TWKBT				S	Sb	06 06 15.1	-0.4
	baz=303						
SMST	Manzhou Townsh	1.44	303	P	Pn	06 05 57.6	+0.7
	baz=314						
SMST				eS	Sb	06 06 15.1	-1.0
	baz=314						
HEN	Hengchun	1.51	301	eP	Pn	06 05 58.8	+1.0
	baz=304						
HEN				i S	Sn	06 06 17.5	-0.1
	baz=304						
LDUT	Ludao	1.56	337	eP	Pn	06 05 59.3	+0.8
	baz=339						
TAWH	Dawu Township	1.60	314	eP	Pn	06 05 58.4	-0.7
	baz=316						
TAWH				S	Sn	06 06 19.5	-0.3
	baz=316						
TAW	Tawu	1.61	314	eS	Sn	06 06 20.0	0.0
	baz=317						
EAST	Anshuo	1.66	314	eP	Pn	06 05 59.3	-0.5
	baz=317						
EAST				eS	Sn	06 06 21.3	+0.1
	baz=317						
ECL	Taimali	1.75	321	eP	Pn	06 06 01.7	+0.7
	baz=324						
ECL				eS	Sn	06 06 23.4	0.0
	baz=324						
SCZT	Fangliau	1.81	309	eP	Pn	06 06 01.9	-0.1
	baz=317						
SCZT				eS	Sn	06 06 25.6	+0.6
	baz=317						
TWGBT	Beinan	1.86	328	P	Pg	06 06 05.9	-0.4
TWGBT	Beinan	1.86	328	eP	Pn	06 06 04.1	+1.5
	baz=321						
TWG	Pinlang	1.86	328	eP	Pb	06 06 04.4	-0.5
	baz=321						
EDH	Donghe	1.90	336	eP	Pn	06 06 02.9	-0.2
	baz=345						
LONT	Longtian	1.91	331	P	Pn	06 06 04.6	+1.3
	baz=326						
MASBT	Mashibuluo	1.96	315	eP	Pn	06 06 04.9	+0.9
	baz=324						
CHKT	Chengkung	1.99	339	i P	Pn	06 06 05.2	+0.8
	baz=347						
CHKH	Chenggong	2.07	341	P	Pn	06 06 06.3	+0.8
	baz=351						
FULB	Fuli	2.11	338	eP	Pn	06 06 06.9	+0.8
	baz=349						
ELDTW	Lidau	2.21	332	eP	Pn	06 06 08.7	+1.2
	baz=327						
SLGT	Liugui	2.23	322	eP	Pn	06 06 08.4	+0.6
	baz=326						
EYUL	Yuli	2.24	340	eP	Pn	06 06 08.8	+1.1
	baz=349						
TWF1	Yuli	2.25	340	eP	Pn	06 06 09.1	+1.2
	baz=349						
YULB	Yu-li	2.29	340	P	Pb	06 06 10.7	-1.3
TPUB	Ta-pu	2.49	326	P	Pb	06 06 15.4	-0.1
SSLB	Suanglung	2.77	337	P	Pb	06 06 19.9	-0.4
NACB	Ninganchiao	2.97	350	P	Pb	06 06 24.4	+0.7
YHNB	Yeheng	3.49	348	P	Pb	06 06 30.9	-1.7
CMAR	Chiang Mai Arr	21.99	267	LR	LR	06 18 11.5	
	comp=Z,13nm,21.8s,baz=205,slow=34						
SONM	Songino Array	29.42	338	P	P	06 11 34.0	-0.4
	0.6nm,0.7s,baz=156,slow=8.1,SNR=3.7						
	0.6nm,0.7s						
MKAR	Makanchi Array	41.09	318	P	P	06 13 15.4	+0.8
	1.6nm,0.7s,baz=113,slow=9.6,SNR=18						
	1.6nm,0.7s						
ZALV	Zalesovo Beam	43.20	328	P	P	06 13 31.7	0.0
	0.6nm,0.5s,baz=127,slow=6.9,SNR=3.8						
ZALV				LR	LR	06 30 46.4	
	comp=Z,54nm,18.2s,baz=35,slow=35						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	44.94	322	P	P	06 13 46.0	+0.3
	1.8nm,0.6s,baz=114,slow=7.9,SNR=17						
	1.8nm,0.6s						
BVAR	Borovoye Array	50.52	322	P	P	06 14 29.4	+0.4
	0.7nm,0.5s,baz=107,slow=9.6,SNR=4.4						
	0.7nm,0.5s						
YKA	Yellowknife Ar	85.33	23	P	P	06 18 07.2	-0.5
	0.3nm,0.7s,baz=309,slow=5.3,SNR=6.6						
	0.3nm,0.7s						

IDC 05 06:18:00.1±3.3, 54°.26N×86°.54E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=24.8km s-min=15.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.06	253	I	I	06 25 10.0	
	0.1nm,1.0s,baz=73,slow=348,SNR=10.0						
ZALV	Zalesovo Beam	1.06	253	Pg	Pg	06 18 19.6	-0.8
	2.9nm,0.3s,baz=72,slow=17,SNR=26						
ZALV				Lg	Lg	06 18 35.4	
	2.6nm,0.3s,baz=70,slow=29,SNR=5.6						
KURBB	Kurchatov Arra	6.10	237	Pn	Pn	06 19 32.1	+0.6
	baz=51,slow=13,SNR=2.0						
KURBB				Lg	Lg	06 21 14.4	
	baz=57,slow=34,SNR=1.1						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.95	202	Pn	Pn	06 19 58.2	+1.3
	0.1nm,0.3s,baz=28,slow=15,SNR=2.8						
	0.1nm,0.3s						

IDC 05 06:32:54.8±0.6, 34°.53N×45°.63E, h0km, mb4.0/19, mbtmp4.0/27, ML3.9/7, MS2.9/4, Error ellipse: s-maj=14.9km s-min=10.6km az=151.0
NEIC 05 06:32:56.8±1.3, 34°.57N±0°.01×45°.58E±0°.08, h10km±1km, mb4.3/36, Error ellipse: s-maj=11.3km s-min=2.9km az=86.0
TEH 05 06:32:57.7, 34°.53N×45°.70E, h8km±28km, ML4.0
ISN 05 06:32:58.5±1.4, 34°.53N×45°.63E, h18km±10km, ML3.8
AFAD 05 06:33:00.0±0.0, 34°.65N×45°.20E, h15km, MW4.0
ISC 05 06:32:57.2±0.9, 34°.52N±0°.03×45°.64E±0°.03, h14km±6km, n153, σ1.52/168, mb4.3/40, 10C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.05	254	Pg	Pg	06 32 59.8	-0.1
IDHR	Dehrash	0.64	73	Pg	Pg	06 33 09.0	-0.8
IDHR				Sg	Sg	06 33 18.5	+0.2
IGHG	Ghaleghazi	0.79	104	Pg	Pg	06 33 11.9	-0.7
IGHG				Sg	Sb	06 33 24.9	+1.4
ILBA	Ilam Banvizeh	1.01	152	Pg	Pb	06 33 16.3	-0.2
ILIN	Lien	1.16	69	Pg	Pb	06 33 18.5	-0.7
KCHF	Cheshme Sefid,	1.18	102	Pg	Pn	06 33 19.4	-0.1
KCHF				Sg	Sb	06 33 35.6	+0.9
IBDR	Badra	1.43	170	ePg	Pn	06 33 24.0	+1.3
	baz=350						
IBDR				eSg	Sg	06 33 44.0	+0.8
IBDR				AML	AML	06 33 48.4	
	comp=E,2μm,0.6s						
IBDR				AML	AML	06 34 01.6	
	comp=N,1μm,0.6s						
IKOM	Komasi	1.58	102	Pg	Pb	06 33 27.0	+0.7
SDS1	Sardasht. Az.	1.63	356	Pg	Pb	06 33 27.7	+0.4
IBZA	Bozab	1.83	91	Pg	Pn	06 33 30.1	+1.5
IKFM	Kafar-mosalman	2.08	118	Pn	Pn	06 33 33.8	+2.1
IALM	Almabolaq	2.11	80	Pn	Pn	06 33 34.5	+2.2
MAHB	Mahabad	2.24	1	Pn	Pn	06 33 36.2	+2.1
HSAM	Samen	2.47	96	Pn	Pn	06 33 38.5	+1.3
RAFI	Al-Rafai	2.82	172	ePn	Pn	06 33 44.0	+2.2
RAFI				eSn	Sn	06 34 19.0	+3.4
HAGD	Aghdareh	2.90	83	Pn	Pn	06 33 45.6	+2.5
IHSH	Hashtrud	3.08	25	Pn	Pn	06 33 47.5	+1.8
IAZR	Azarshahr	3.16	5	Pn	Pn	06 33 49.3	+2.5
CUKT	Cukurca	3.19	329	P	Pn	06 33 49.7	+2.7
CUKT				S	Sn	06 34 26.8	+1.9
YOVA	Hakkari_Yksek	3.25	341	P	Pn	06 33 50.5	+2.5
YOVA				S	Sb	06 34 31.2	-3.2
HAKT	HAKKARI	3.41	333	P	Pn	06 33 52.3	+2.0
HAKT				S	Sn	06 34 33.4	+2.7
QSDN	Sirdan	3.50	54	Pn	Pn	06 33 53.4	+2.0
IRAZ	Razeghan	3.63	75	Pn	Pn	06 33 54.9	+1.7
ISRB	Sarab	3.68	26	Pn	Pn	06 33 55.7	+1.8
ITBZ	Tabriz	3.73	6	Pn	Pn	06 33 55.9	+1.3
ISHB	Shabestar	3.76	360	Pn	Pn	06 33 55.5	+0.5
IHRS	Heris	3.96	16	Pn	Pn	06 34 00.1	+2.4
SIRN	Sırnak	3.96	320	P	Pn	06 33 59.4	+1.7
SIRN				S	Sn	06 34 45.1	+1.1
AMIS	Naft Sefid	4.18	132	Pn	Pn	06 34 01.3	+0.7
IMRD	Marand	4.19	1	Pn	Pn	06 34 02.7	+1.8
IMHD	Mahdasht	4.28	73	Pn	Pn	06 34 02.7	+0.7
GEVA	Gevas	4.32	332	P	Pn	06 34 05.5	+2.8
GEVA				S	Sn	06 34 57.2	+4.2
OZAP	Van, Ozalp-Mer	4.34	343	P	Pn	06 34 05.9	+2.8
MIDY	Mardin/Midyat-	4.49	311	P	Pn	06 34 07.1	+2.1
MIDY				S	Sn	06 34 57.5	+0.5
GAS1	Astara - Iran	4.64	33	Pn	Pn	06 34 09.9	+3.0
GRMI	Germi	4.65	22	Pn	Pn	06 34 09.3	+2.1
IPIR	Pirpir	4.75	111	Pn	Pn	06 34 09.0	+0.3
QAMS	Qamsar	4.83	98	Pn	Pn	06 34 11.4	+1.6
KLST	Kelardasht - M	4.85	64	Pn	Pn	06 34 12.6	+2.6
MAKU	Maku	4.89	351	Pn	Pn	06 34 12.8	+2.3
GURO	Guroymak-BITLI	4.96	325	Pn	Pn	06 34 12.4	+0.9
IVRN	Varamin	5.03	83	Pn	Pn	06 34 13.8	+1.4
IKLH	Kolahrood	5.08	102	Pn	Pn	06 34 14.3	+1.1
IDMV	Damavand	5.35	77	Pn	Pn	06 34 18.4	+1.5
KRSH	Karshahi	5.41	94	Pn	Pn	06 34 18.5	+0.9
ISFB	Sefidab	5.45	90	Pn	Pn	06 34 18.8	+0.6
GNI	Garni	5.67	353		Pn	06 34 19.6	-1.5
GNI	Garni	5.67	353	Pn	Pn	06 34 21.8	+0.7
	comp=N,0.4nm,0.3s,baz=150,slow=21,SNR=1.7						
GNI				Pg	Pb	06 34 37.2	+1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=N,0.9nm,0.3s,baz=65,slow=14,SNR=5.5						
GNI				LR	LR	06 36 19.8	
	comp=N,34nm,22.0s,baz=176,slow=36						
	comp=N,2.0nm,0.3s						
IGAR	**Gharneh**	**5.75**	**110**	Pn	**Pn**	**06 34 23.2**	**+0.9**
IZEF	**Zefreh**	**5.80**	**104**	Pn	**Pn**	**06 34 24.4**	**+1.3**
IFIR	**Firoozkooh**	**5.94**	**77**	Pn	**Pn**	**06 34 26.4**	**+1.4**
ILAS	**Lasjerd**	**6.07**	**80**	Pn	**Pn**	**06 34 27.7**	**+0.9**
IRAM	**Ramesheh**	**6.26**	**114**	Pn	**Pn**	**06 34 30.4**	**+1.0**
ANAR	**Anarak**	**6.86**	**99**	Pn	**Pn**	**06 34 37.9**	**+0.4**
ARPR	**Arapgir-MALATY**	**7.43**	**310**	Pn	**Pn**	**06 34 45.6**	**+0.3**
ASF	**Jabal al Asfar**	**7.68**	**255**	Pn	**Pn**	**06 34 48.3**	**-0.5**
	comp=N,2.4nm,0.3s,baz=106,slow=4.4,SNR=22						
ASF				Sn	**Sn**	**06 36 14.6**	**-1.1**
	comp=N,1.2nm,0.3s,baz=336,slow=11,SNR=1.2						
ASF				Lg	Lg	06 36 59.5	
	comp=N,2.2nm,0.3s,baz=222,slow=6.7,SNR=3.0						
	comp=N,5.7nm,0.3s						
DSBU	**Dashti - Bushe**	**7.79**	**140**	Pn	**Pn**	**06 34 50.3**	**+0.1**
MMAI	**Mount Meron Ar**	**8.66**	**263**	Pn	**Pn**	**06 35 02.1**	**-0.1**
	comp=N,1.8nm,0.3s,baz=61,slow=17,SNR=4.6						
MMAI				Sn	**Sn**	**06 36 42.4**	**+2.7**
	comp=N,0.8nm,0.3s,baz=118,slow=32,SNR=1.0						
MMAI				Lg	Lg	06 37 29.9	
	comp=N,3.0nm,0.3s,baz=350,slow=39,SNR=2.5						
MMAI				LR	LR	06 39 10.4	
	comp=N,117nm,18.3s,baz=89,slow=43						
	comp=N,0.7nm,0.3s						
KBZ	**Khabaz**	**9.44**	**348**	Pn	**Pn**	**06 35 15.7**	**+2.9**
	comp=N,2.8nm,1.0s,baz=202,slow=7.6,SNR=3.6						
EIL	**Elat**	**10.28**	**245**	Pn	**Pn**	**06 35 23.8**	**-0.5**
	comp=N,3.0nm,0.3s,baz=98,slow=6.1,SNR=13						
EIL				Lg	Lg	06 38 20.0	
	comp=N,0.3nm,0.3s,baz=186,slow=22,SNR=2.7						
EIL				LR	LR	06 39 58.9	
	comp=N,46nm,20.9s,baz=61,slow=41						
	comp=N,7.9nm,0.4s						
GEYT	**Alibeck**	**10.63**	**68**	Pn	**Pn**	**06 35 28.6**	**-0.6**
	comp=N,1.6nm,0.3s,baz=77,slow=6.8,SNR=2.1						
	comp=N,2.3nm,0.3s						
SHME	**Shamm**	**12.38**	**130**	Pn	**Pn**	**06 35 50.4**	**-2.7**
MSFE	**Esma-Masafi**	**12.89**	**132**	Pn	Pn	06 35 55.3	-4.8
ASUD	**Al Ashush, Dub**	**12.96**	**137**	Pn	**Pn**	**06 35 57.6**	**-3.5**
UOSS	**Minazif**	**13.23**	**133**		**Pn**	**06 36 07.5**	**+2.8**
HATD	**Hatta, Dubai**	**13.27**	**134**	Pn	**Pn**	**06 36 02.9**	**-2.4**
HATD				Pn	**Pn**	**06 36 02.9**	**-2.4**
ASHO	**Ashiyiah**	**13.34**	**135**	Pn	**Pn**	**06 36 02.7**	**-3.5**
ASHO				Sn	Sn	06 38 23.5	-11
ALNE	**Al Ain**	**13.65**	**137**	Pn	**Pn**	**06 36 06.9**	**-3.5**
SOHO	**SOHO**	**14.04**	**135**	Pn	**Pn**	**06 36 12.2**	**-3.5**
ARG	**Arkhangelos**	**14.40**	**282**	Pn	**Pn**	**06 36 19.5**	**-1.1**
KARP	**Karpathos**	**15.18**	**279**		**Pn**	**06 36 34.2**	**+2.9**
WSAR	**Wadi Sarin**	**15.97**	**131**	Pn	**Pn**	**06 36 38.6**	**-3.0**
	comp=N,0.4nm,0.3s,baz=312,slow=10,SNR=7.1						
WSAR				Sn	Sn	06 39 25.8	-13
	comp=N,0.2nm,0.3s,baz=203,slow=18,SNR=3.1						
MILM	**Milestii Mici**	**17.73**	**319**	*e*P	**Pn**	**06 37 03.0**	**-0.6**
	comp=N,9.0nm,0.3s						
BELG	**Belogornoye**	**17.92**	**4**	P	**Pn**	**06 37 05.3**	**-0.6**
	comp=N,0.9nm,0.3s,baz=211,slow=1.7,SNR=5.0						
	comp=N,8.9nm,0.6s						
ABKAR	**Akbulak array**	**18.12**	**31**	P	**Pn**	**06 37 08.7**	**+0.3**
AKTO	**Aktyubinsk**	**18.30**	**26**	P	**Pn**	**06 37 09.8**	**-0.7**
	comp=N,0.1nm,0.3s,baz=221,slow=9.2,SNR=12						
	comp=N,4.8nm,0.8s						
MLR	**Muntele Rosu**	**18.60**	**312**	⇓P	**Pn**	**06 37 17.4**	**+3.0**
TESR	**Tescani**	**18.71**	**316**	⇓P	**Pn**	**06 37 16.1**	**+0.6**
SORM	**Soroca**	**18.75**	**322**	⇑P	**P**	**06 37 15.8**	**+0.2**
VOIR		**19.13**	**311**	⇑P	**Pn**	**06 37 21.6**	**+0.8**
DOPR	**Dopca**	**19.17**	**313**	⇑P	**Pn**	**06 37 22.1**	**+0.9**
KBL	**Kabul**	**19.27**	**83**	P	**P**	**06 37 20.8**	**-1.0**
ARR	**Arges**	**19.36**	**310**	⇑P	**Pn**	**06 37 24.3**	**+0.8**
AKASG	**Malin Array Be**	**20.11**	**328**	P	**P**	**06 37 29.3**	**-1.2**
AKASG	**Malin Array Be**	**20.11**	**328**	P	**P**	**06 37 30.0**	**-0.5**
	comp=N,1.2nm,0.5s,baz=136,slow=10.0,SNR=17						
	comp=N,1.2nm,0.5s						
AKBB	**Malin Array Si**	**20.11**	**328**	P	**P**	**06 37 29.2**	**-1.3**
AKBB				IAmb	IAmb	06 37 30.7	
	comp=Z,8.1nm,1.0s						
KIEV	**Kiev**	**20.11**	**328**	⇑P	**P**	**06 37 31.3**	**+0.8**
KIEV	**Kiev**	**20.11**	**328**	P	**P**	**06 37 29.6**	**-0.9**
KIEV				IAmb	IAmb	06 37 30.7	
	comp=Z,7.3nm,1.0s						
BURAR	**Bucovina Array**	**20.13**	**317**	⇑P	**P**	**06 37 32.3**	**+1.4**
BURAR	**Bucovina Array**	**20.13**	**317**	P	**P**	**06 37 29.7**	**-1.2**
BUR08	**Bucovina Ar. S**	**20.16**	**317**	P	**P**	**06 37 30.6**	**-0.5**
FNA	**Florina**	**20.18**	**295**	P	**P**	**06 37 31.0**	**-0.3**
GZR	**Gura Zlata**	**20.55**	**309**	⇑P	**P**	**06 37 36.8**	**+1.4**
BOVS	**Bovan**	**20.64**	**303**	⇑P	**P**	**06 37 36.2**	**0.0**
MARR	**Marisel-Cluj**	**20.89**	**312**	⇑P	**P**	**06 37 40.0**	**+0.9**
MDVR	**Moldovita**	**21.01**	**306**	⇑P	**P**	**06 37 42.1**	**+1.7**
KK31	**Karatay Array**	**21.13**	**59**		**P**	**06 37 42.9**	**+1.2**
KKAR	**Karatay Array**	**21.13**	**59**	P	**P**	**06 37 42.7**	**+1.0**
KOLS	**Kolonicke sedl**	**22.50**	**317**	*e*P	**P**	**06 37 57.4**	**+1.2**
STHS	**Stebnicka Huta**	**23.32**	**317**	*e*P	**P**	**06 38 06.1**	**+1.3**
KSH	**Kashi**	**24.66**	**69**	P	**P**	**06 38 17.0**	**-0.7**
KSH				pP	pP	06 38 21.1	-1.0
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SUW	**Suwalki**	**25.08**	**328**	P	**P**	**06 38 20.4**	**-0.7**
BVAR	**Borovoye Array**	**25.51**	**36**	LR	LR	06 50 37.8	
	comp=Z,66nm,19.1s,baz=316,slow=42						
KURBB	**Kurchatov Arra**	**28.77**	**46**	P	**P**	**06 38 55.2**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=253,slow=8.9,SNR=11						
KURBB				PcP	**PcP**	**06 42 04.1**	**0.0**
	comp=Z,0.9nm,0.5s,baz=243,slow=2.9,SNR=8.9						
	comp=Z,1.6nm,0.7s						
FINES	**FINESS Array B**	**29.71**	**341**	P	**P**	**06 39 01.9**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=157,slow=12,SNR=9.6						
	comp=Z,1.1nm,0.4s						
MK31	**Makanchi Array**	**30.11**	**55**	P	**P**	**06 39 07.0**	**+0.7**
MKAR	**Makanchi Array**	**30.11**	**55**	P	**P**	**06 39 07.3**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=253,slow=8.1,SNR=8.2						
	comp=Z,1.0nm,0.7s						
BNI	**Bardonecchia**	**31.46**	**301**	P	**P**	**06 39 17.5**	**-1.0**
HFS	**Hagfors**	**32.96**	**331**	P	**P**	**06 39 30.7**	**-0.6**
	comp=Z,4.3nm,0.4s,baz=130,slow=8.3,SNR=15						
	comp=Z,4.3nm,0.4s						
ZALV	**Zalesovo Beam**	**33.55**	**42**	P	**P**	**06 39 36.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=233,slow=7.2,SNR=4.5						
	comp=Z,0.5nm,0.4s						
WMQ	**Urumqi**	**33.59**	**61**	*e*P	**P**	**06 39 38.9**	**+1.9**
WMQ				sP	sP	06 39 47.5	+4.2
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
NOA	**NORSAR Array B**	**34.49**	**331**	P	**P**	**06 39 43.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=125,slow=8.6,SNR=3.8						
	comp=Z,0.6nm,0.6s						
ARCES	**ARCESS Array B**	**36.80**	**348**	P	**P**	**06 40 03.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=160,slow=7.6,SNR=5.9						
	comp=Z,1.1nm,0.6s						
EKA	**Eskdalemuir Ar**	**39.31**	**317**	P	**P**	**06 40 24.9**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=103,slow=8.9,SNR=14						
	comp=Z,1.9nm,0.6s						
NRIK	**Noril'sk**	**41.80**	**21**	P	**P**	**06 40 46.0**	**0.0**
	comp=Z,0.8nm,0.3s,baz=296,slow=7.2,SNR=3.7						
	comp=Z,0.8nm,0.3s						
GTA	**Gaotai**	**43.02**	**67**	*e*P	**P**	**06 40 55.1**	**-1.4**
GTA				sP	pP	06 41 01.4	+0.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TOA0	**Torodi Ar. Sit**	**45.04**	**253**	P	**P**	**06 41 13.0**	**+0.2**
TOA0				IAmb	IAmb	06 41 42.5	
	comp=Z,4.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**45.04**	**253**	P	**P**	**06 41 13.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**45.04**	**253**	P	**P**	**06 41 12.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=73,slow=3.1,SNR=6.1						
TORD				PcP	**PcP**	**06 42 54.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=53,slow=4.8,SNR=2.6						
	comp=Z,0.5nm,0.5s						
SPB2	**Spitsbergen Ar**	**45.53**	**352**	P	**P**	**06 41 15.0**	**-0.9**
SPITS	**Spitsbergen Ar**	**45.53**	**352**	P	**P**	**06 41 15.7**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=139,slow=11,SNR=14						
	comp=Z,5.4nm,0.9s						
SONM	**Songino Array**	**46.48**	**54**	PcP	**PcP**	**06 42 58.2**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=270,slow=2.9,SNR=2.9						
LZH	**Lanzhou**	**46.90**	**71**	*e*P	**P**	**06 41 28.6**	**+1.1**
LZH				pP	pP	06 41 33.6	+1.6
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
PZH	**PanZhiHua**	**48.47**	**84**	P	**P**	**06 41 42.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
CMAR	**Chiang Mai Arr**	**49.77**	**95**	P	**P**	**06 41 48.4**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=297,slow=8.5,SNR=12						
	comp=Z,2.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**51.46**	**62**	*e*P	**P**	**06 42 03.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,270nm,6.1s						
XAN	**Xi'an**	**51.49**	**71**	⇓P	**P**	**06 42 02.3**	**-0.2**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
DBIC	**Dimbokro**	**54.07**	**251**	P	**P**	**06 42 21.6**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=19,slow=5.9,SNR=4.8						
	comp=Z,1.7nm,0.4s						
TIXI	**Tiksi**	**55.53**	**22**	P	**P**	**06 42 31.0**	**-0.5**
TIXI				IAmb	IAmb	06 42 38.8	
	comp=Z,7.0nm,1.4s						
KSRS	**Korea Array**	**64.54**	**61**	P	**P**	**06 43 33.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=282,slow=7.9,SNR=2.5						
	comp=Z,0.9nm,0.5s						
USRK	**Ussuriysk Ar.**	**64.55**	**53**	P	**P**	**06 43 32.7**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=266,slow=8.3,SNR=4.6						
	comp=Z,1.9nm,0.6s						
BOSA	**Boshof**	**65.69**	**200**	P	**P**	**06 43 41.5**	**+0.2**
BOSA	**Boshof**	**65.69**	**200**	P	**P**	**06 43 41.5**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=44,slow=4.8,SNR=5.0						
	comp=Z,1.7nm,0.6s						
A36M	**Sachs Harbour**	**73.59**	**357**	P	**P**	**06 44 29.1**	**-0.3**
B20K	**Meade River**	**74.46**	**8**	P	**P**	**06 44 34.0**	**-0.6**
B20K				IAmb	IAmb	06 44 40.1	
	comp=Z,7.3nm,1.4s						
C18K	**Utukok River**	**75.22**	**10**	P	**P**	**06 44 38.7**	**-0.4**
C18K				IAmb	IAmb	06 44 44.3	
	comp=Z,5.3nm,1.4s						
D19K	**Kuna River**	**75.78**	**9**	P	**P**	**06 44 41.7**	**-0.5**
D19K				IAmb	IAmb	06 44 43.2	
	comp=Z,2.3nm,0.9s						
D22K	**Ayikyak River**	**76.02**	**7**	P	**P**	**06 44 43.4**	**-0.2**
D22K				IAmb	IAmb	06 45 06.2	
	comp=Z,7.0nm,1.4s						
TOLK	**Toolik Lake Re**	**76.53**	**6**	P	**P**	**06 44 46.4**	**-0.1**
TOLK				IAmb	IAmb	06 44 55.5	
	comp=Z,4.6nm,1.2s						
E22K	**Anaktuvuk Pass**	**76.82**	**7**	P	**P**	**06 44 48.0**	**-0.3**
E22K				IAmb	IAmb	06 44 58.0	
	comp=Z,3.0nm,1.1s						
E28M	**Babbage River**	**77.11**	**2**	P	**P**	**06 44 49.6**	**-0.2**
E28M				IAmb	IAmb	06 45 33.1	
	comp=Z,3.5nm,1.4s						
F20K	**Avaraart Lake**	**77.45**	**8**	P	**P**	**06 44 51.5**	**-0.1**
F20K				IAmb	IAmb	06 45 15.0	
	comp=Z,5.0nm,1.5s						
F24K	**Squaw Lake**	**77.76**	**5**	P	**P**	**06 44 53.8**	**+0.3**
F24K				IAmb	IAmb	06 44 59.4	
	comp=Z,5.3nm,1.5s						
F28M	**Old Crow**	**78.10**	**2**	P	**P**	**06 44 55.2**	**-0.1**
F28M				IAmb	IAmb	06 45 17.5	
	comp=Z,2.7nm,1.4s						
G19K	**Purcell Mounta**	**78.14**	**9**	P	**P**	**06 44 55.1**	**-0.4**
G19K				IAmb	IAmb	06 44 56.2	
	comp=Z,2.6nm,0.8s						
F31M	**Tsiigehtchic**	**78.36**	**360**	P	**P**	**06 44 56.2**	**-0.4**
IMAR	**Indian Mountai**	**78.70**	**8**	P	**P**	**06 44 57.9**	**-0.7**
G30M	**tAoh Zraii Nji**	**78.81**	**1**	P	**P**	**06 44 58.3**	**-0.9**
H29M	**Whitestone**	**79.54**	**2**	P	**P**	**06 45 02.8**	**-0.5**
H29M				IAmb	IAmb	06 45 08.0	
	comp=Z,5.1nm,1.1s						
I28M	**Miner Creek**	**80.26**	**2**	P	**P**	**06 45 07.3**	**0.0**
I28M				IAmb	IAmb	06 45 07.5	
	comp=Z,1.6nm,0.8s						
ILAR	**Eielson Array**	**80.55**	**5**	P	**P**	**06 45 08.5**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=312,slow=4.5,SNR=6.0						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**82.02**	**351**	P	**P**	**06 45 15.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=20,slow=9.1,SNR=8.6						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**124.35**	**180**	PKP	**PKPdf**	**06 51 54.5**	**-0.3**
	comp=Z,0.5nm,0.2s,baz=293,slow=3.5,SNR=4.3						

IDC 05 07:09:54.5±1.9**, 2°.81N**×**124°.64E, h0**km**, mb3.3**/3**,
mbtmp3.3**/3**, Error ellipse: s-maj=203.8km
s-min=26.2km az=64.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.54**	**158**	P	P	07 15 15.9	-0.2
	0.8nm,0.8s,baz=336,slow=11,SNR=10						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**27.82**	**162**	P	P	07 15 46.4	+0.6
	0.1nm,0.7s,baz=353,slow=6.8,SNR=1.9						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**57.14**	**327**	P	P	07 19 42.9	-0.3
	0.2nm,0.3s,baz=117,slow=6.7,SNR=7.3						
	0.2nm,0.3s						

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*IDC **05** 07:13:13.9±1.1, 49°.76N×81°.64E, h0km, mbtmp2.5/3,
ML1.8/3, Error ellipse: s-maj=15.9km s-min=6.9km
az=56.0*

*NNC **05** 07:13:14.1±1.1, 49°.61N×81°.60E, h0km, mb3.5, mpv3.0,
Error ellipse: s-maj=13.9km s-min=3.3km az=58.0,
Suspected Mining explosion.*

ISC 05 07:13:11.7±1.0**, 49°.59N**±0°.04×**81°.47E**±0°.06**, h0**km**, n15,
σ1s.04**/20**, 7C-1D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.15**	**303**	⇑Pn	**Pg**	**07 13 52.1**	**-1.0**
	16nm,0.7s						
KURK				⇓Sn	**Sg**	**07 14 20.4**	**-0.5**
	28nm,0.7s						
KURBB	**Kurchatov Arra**	**2.16**	**300**	⇑Pn	**Pg**	**07 13 52.6**	**-0.5**
	21nm,0.8s						
KURBB				⇑Sn	**Sg**	**07 14 21.7**	**+0.6**
	52nm,0.8s						
KURBB	**Kurchatov Arra**	**2.16**	**300**	Pg	**Pg**	**07 13 52.7**	**-0.4**
	0.2nm,0.3s,baz=112,slow=18,SNR=47						
KURBB				Lg	Lg	07 14 23.1	
	0.4nm,0.3s,baz=108,slow=31,SNR=17						
MAKZ	**Makanchi**	**2.80**	**173**	⇑Pg	**Pg**	**07 14 04.6**	**-0.8**
	1.3nm,0.5s						
MAKZ				⇑Lg	Lg	07 14 43.0	
	4.2nm,0.7s						
MK31	**Makanchi Array**	**2.85**	**169**	⇑Pg	**Pg**	**07 14 05.5**	**-0.8**
	1.5nm,0.6s,baz=360,slow=12,SNR=18						
MK31				⇑Lg	Lg	07 14 45.0	
	10nm,0.7s,baz=358,slow=28,SNR=18						
MKAR	**Makanchi Array**	**2.85**	**169**	Pn	**Pb**	**07 14 04.2**	**+0.7**
	0.5nm,0.3s,baz=354,slow=14,SNR=20						
MKAR				Pg	**Pg**	**07 14 05.9**	**-0.3**
	0.5nm,0.3s,baz=354,slow=14,SNR=17						
MKAR				Sn	**Sg**	**07 14 41.7**	**-1.5**
	1.0nm,0.3s,baz=358,slow=28,SNR=28						
	1.9nm,0.6s						
KAPS	**Kapalarasan**	**4.54**	**199**	Pg	**Pg**	**07 14 38.5**	**-0.1**
	1.0nm,0.6s						
KAPS				Lg	Lg	07 15 38.4	
	5.3nm,0.8s						
ZALV	**Zalesovo Beam**	**4.84**	**24**	Pn	**Pn**	**07 14 26.0**	**+0.3**
	0.2nm,0.3s,baz=213,slow=12,SNR=4.6						
ZALV				Sn	**Sn**	**07 15 21.8**	**-0.6**
	0.1nm,0.3s,baz=240,slow=23,SNR=1.7						
ZALV				Lg	Lg	07 15 41.9	
	0.4nm,0.3s,baz=194,slow=24,SNR=12						
	0.5nm,0.5s						
I46RU	**ZALESOVO INFRA**	**4.84**	**24**	I	I	07 41 55.0	
	baz=200,slow=327,SNR=3.1						
DJR	**Jarkent**	**5.38**	**193**	Pg	**Pg**	**07 14 54.2**	**-0.6**
	2.0nm,0.4s						
DJR				Lg	Lg	07 16 05.4	
	3.7nm,0.5s						
KNOS	**Konyrlen**	**5.46**	**198**	Pg	**Pg**	**07 14 57.5**	**+1.1**
	0.5nm,0.2s						
KNOS				Lg	Lg	07 16 10.7	
	2.9nm,0.7s						
BRZS	**Berezniki**	**5.71**	**277**	Pg	**Pg**	**07 15 00.6**	**-0.6**
	1.8nm,0.6s						
BRZS				Lg	Lg	07 16 16.1	
	5.9nm,1.2s						
ARXS	**Arharly**	**5.93**	**206**	Pg	**Pg**	**07 15 04.2**	**-1.1**
	1.8nm,0.9s						
ARXS				Lg	Lg	07 16 22.7	
	4.8nm,0.8s						
OTUK	**Ortayu**	**6.17**	**261**	Pg	**Pg**	**07 15 07.8**	**-2.1**
	0.9nm,0.7s						
OTUK				Lg	Lg	07 16 29.2	
	2.0nm,1.0s						
BVAR	**Borovoye Array**	**7.75**	**301**	Pn	**Pn**	**07 15 07.7**	**+1.9**
	baz=85,slow=9.1,SNR=1.8						
BVAR				Sn	**Sn**	**07 16 33.5**	**-0.7**
	baz=104,slow=23,SNR=7.2						
BVAR				Lg	Lg	07 17 20.8	
	baz=119,slow=25						
	0.3nm,0.6s						

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*TEH **05** 07:13:27.9, 34°.59N×46°.28E, h10km±54km, ML2.6*

*ISN **05** 07:13:29.9±2.0, 34°.56N×46°.24E, h25km, ML2.5*

ISC 05 07:13:28.1±1.6**, 34°.58N**±0°.06×**46°.26E**±0°.09**, h8**km±15km**,
n12, σ0s.68**/13**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.16**	**42**	Pg	**Pg**	**07 13 31.3**	**-0.2**
IGHG	**Ghaleghazi**	**0.36**	**134**	Pg	**Pg**	**07 13 35.0**	**-0.2**
ILIN	**Lien**	**0.67**	**60**	Pg	**Pg**	**07 13 40.8**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.72**	**115**	Pg	**Pg**	**07 13 41.1**	**-0.8**
ILBA	**Ilam Banvizeh**	**0.95**	**182**	Pg	**Pb**	**07 13 46.6**	**-0.3**
IKOM	**Komasi**	**1.11**	**111**	Pg	**Pb**	**07 13 49.0**	**-0.6**
IBZA	**Bozab**	**1.33**	**94**	Pg	**Pb**	**07 13 53.5**	**+0.1**
IBDR	**Badra**	**1.49**	**191**	*e*Pg	**Pn**	**07 13 55.0**	**-0.1**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**07 14 17.0**	**+1.0**
IBDR				AML	AML	07 14 26.6	
	comp=E,101nm,0.5s						
IBDR				AML	AML	07 14 29.0	
	comp=N,69nm,0.5s						
IALM	**Almabolaq**	**1.60**	**79**	Pg	**Pg**	**07 13 59.8**	**+1.0**
IKFM	**Kafar-mosalman**	**1.69**	**128**	Pg	**Pg**	**07 14 00.3**	**-0.1**
HSAM	**Samen**	**1.97**	**100**	Pn	**Pb**	**07 14 04.9**	**+0.5**
HAGD	**Aghdareh**	**2.39**	**83**	Pn	**Pb**	**07 14 10.8**	**-0.7**

TRN 05 07:20:21.0, 16°.32N×**59°.63W, h24**km**, MD4.4, Leeward
Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**1.64**	**257**	*e*P	Pb	07 20 49.6	-0.9
ABD	**La Joyeuse, An**	**1.79**	**275**	*e*P	Pn	07 20 51.5	+1.1
ABD				*e*S	Sb	07 21 16.3	+1.0
CBE	**Ff, Capester**	**1.92**	**263**	*e*P	Pb	07 20 54.3	-1.0
CBE				*e*S	Sb	07 21 19.5	+0.5
ILAM	**Ilet Lapin Mar**	**1.95**	**218**	*e*P	Pn	07 20 54.1	+1.5
ILAM				*e*S	Sb	07 21 18.9	-0.9
TDBA	**Terre de Bas,**	**1.99**	**257**	*e*P	Pb	07 20 55.2	-1.3
SVN	**Savane Anatole**	**2.09**	**225**	*e*P	Pb	07 20 56.7	-1.6
SVN				*e*S	Sb	07 21 22.6	-1.3
BAMF	**Morne Balai**	**2.10**	**225**	*e*P	Pb	07 20 56.8	-1.6
CXM	**Morne La Croix**	**2.12**	**225**	*e*P	Pb	07 20 57.2	-1.5
GBMF	**Grand Be**	**2.12**	**225**	*e*P	Pb	07 20 57.2	-1.6
PCM	**Pelee Case Pet**	**2.14**	**226**	*e*P	Pb	07 20 57.4	-1.7
MVM	**Montagne Vaucl**	**2.14**	**215**	*e*P	Pn	07 20 57.0	+1.7
PML	**Morne Lenard**	**2.15**	**225**	*e*P	Pb	07 20 57.5	-1.7
FDF	**Fort de France**	**2.16**	**223**	*e*P	Pn	07 20 57.1	+1.6
FDF				*e*S	Sn	07 21 23.3	+1.8
LPMF	**Morne Lapointe**	**2.17**	**217**	*e*P	Pn	07 20 57.0	+1.4
ANBD	**Bethesda, Anti**	**2.17**	**290**	*e*P	Pn	07 20 56.4	+0.7
ANBD				*e*S	Sn	07 21 23.4	+1.6
ZAM	**Aeronautique**	**2.21**	**218**	*e*P	Pn	07 20 57.4	+1.4
MPOM	**Morne Pois Mar**	**2.21**	**213**	*e*P	Pn	07 20 57.5	+1.3
MPOM				*e*S	Sn	07 21 24.4	+1.6
BIM	**Bigot**	**2.27**	**218**	*e*P	Pn	07 20 58.6	+1.6
BIM				*e*S	Sn	07 21 26.0	+1.6
MBFL	**Flemmings, Mon**	**2.52**	**280**	*e*P	Pn	07 21 02.0	+1.6
SLBI	**Saint Lucia, B**	**2.63**	**210**	*e*P	Pn	07 21 03.3	+1.4
SLBI				*e*S	Sn	07 21 34.2	+1.1
SLCP	**Castries, St.**	**2.65**	**210**	*e*P	Pn	07 21 03.9	+1.7
SLCP				*e*S	Sn	07 21 34.9	+1.3
SLB	**Belfond**	**2.83**	**209**	*e*P	Pn	07 21 07.5	+2.8
SLB				*e*S	Sn	07 21 41.4	+3.2
BBGH	**Gun Hill**	**3.16**	**179**	*e*P	Pn	07 21 11.3	+2.0
BBGH				*e*S	Sn	07 21 49.6	+3.3
SSV	**Crater Summit**	**3.34**	**207**	*e*P	Pn	07 21 15.0	+3.1
SVB	**Belmont**	**3.42**	**208**	*e*P	Pn	07 21 15.3	+2.5
SVB				*e*S	Sn	07 21 53.7	+1.1
SVOC	**Richmond Hill,**	**3.51**	**206**	*e*P	Pn	07 21 16.2	+2.2
SVOC				*e*S	Sn	07 21 55.6	+0.8
GCMP	**Grenada, Carri**	**4.20**	**205**	*e*P	Pn	07 21 25.3	+1.9
GCMP	**Grenada, Carri**	**4.20**	**205**	*e*S	Sn	07 22 13.0	+1.3
GRHS	**Sauteurs**	**4.52**	**206**	*e*P	Pn	07 21 30.8	+2.9
GRHS	**Sauteurs**	**4.52**	**206**	*e*S	Sn	07 22 20.9	+1.2
TRN	**Trinidad (W)**	**5.90**	**197**	*e*P	Pn	07 21 49.2	+2.3
TRN	**Trinidad (W)**	**5.90**	**197**	*e*S	Sn	07 22 53.8	0.0
SJG	**San Juan**	**6.48**	**287**	*e*P	Pn	07 21 56.5	+1.6
AOPR	**Arecibo Observ**	**7.10**	**288**	*e*P	Pn	07 22 04.7	+1.3
AOPR	**Arecibo Observ**	**7.10**	**288**	*e*S	Sn	07 23 24.0	+0.6
BAUV	**El Baul**	**11.01**	**229**	*e*P	Pn	07 22 59.1	+2.1
BAUV	**El Baul**	**11.01**	**229**	*e*S	Sn	07 24 58.7	-0.8

IDC 05 07:23:27.1±6.2**, 30°.60S**×**178°.73W, h0**km**, mb3.6**/2**,
mbtmp3.6**/2**, Error ellipse: s-maj=247.2km
s-min=56.6km az=155.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.47**	**267**	P	P	07 31 23.7	-0.4
	0.3nm,0.5s,baz=106,slow=7.0,SNR=10.0						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.48**	**273**	P	P	07 31 32.5	+0.2
	0.5nm,0.4s,baz=113,slow=7.8,SNR=9.9						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**145.12**	**339**	PKPbc	PKPbc	07 43 04.4	-0.9
	2.7nm,0.8s,baz=54,slow=3.3,SNR=6.8						

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*IDC **05** 07:23:56.9±1.3, 27°.89S×66°.66W, h156km±13km, mb3.6/6,
mbtmp4.0/10, Error ellipse: s-maj=20.1km s-min=14.0km
az=110.0*

*SJA **05** 07:23:57.0±1.2, 27°.86S×66°.78W, h169km±4km, ML3.9,
MW3.7*

*NEIC **05** 07:23:57.1±1.3, 27°.83S±0°.04×66°.8W±0°.1, h151km±11km,
mb4.3/12, Error ellipse: s-maj=16.2km s-min=4.6km
az=103.0*

ISC 05 07:23:57.4±0.6**, 27°.83S**±0°.04×**66°.83W**±0°.04**, h167**km±6km**,
n90, σ1s.01**/108**, mb4.0**/11**, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TINO	**Tinogasta**	**0.69**	**250**	*i* P	**Pn**	**07 24 23.2**	**+1.4**
TINO				*i* S	**Sn**	**07 24 40.9**	**+0.3**
CYA	**Choya**	**1.09**	**124**	*i* P	**Pn**	**07 24 25.7**	**+1.1**
CYA				*i* S	**Sn**	**07 24 44.8**	**-0.8**
VCA	**Vinchina**	**1.51**	**233**	*i* P	**Pn**	**07 24 30.1**	**+1.6**
VCA				*i* S	**Sn**	**07 24 53.0**	**+0.3**
ACLC	**CERRO LA CRUZ**	**1.59**	**184**	*i* P	**Pn**	**07 24 30.5**	**+1.1**
ACLC				*i* S	**Sn**	**07 24 53.5**	**-0.8**
ACLC				IAML		07 24 55.9	
	comp=Z,761nm,0.3s						
AHML	**Horco Molle**	**1.69**	**52**	*i* P	**Pn**	**07 24 30.8**	**+0.5**
AHML				*e*P	**Pn**	**07 24 30.8**	**+0.5**
AHML				*i* S	**Sn**	**07 24 54.4**	**-1.3**
AHML				*e*S	**Sn**	**07 24 54.8**	**-0.9**
GUSE	**Guasayan**	**1.76**	**92**	*i* P	**Pn**	**07 24 31.1**	**+0.2**
GUSE				*i* S	**Sn**	**07 24 55.7**	**-1.2**
FSA	**Cafayete**	**1.87**	**24**	*i* P	**Pn**	**07 24 33.6**	**+1.2**
FSA				*i* S	**Sn**	**07 24 59.3**	**-0.1**
AVFE	**Valle Fertil**	**2.87**	**191**	*i* P	**Pn**	**07 24 44.3**	**+0.3**
AVFE				*i* S	**Sn**	**07 25 18.8**	**-1.4**
AVFE				IAML		07 25 21.8	
	comp=Z,346nm,0.3s						
GO03	**Copiap**	**3.03**	**274**		**Pn**	**07 24 46.1**	**+0.3**
GO03	**Copiap**	**3.03**	**274**	*i* P	**Pn**	**07 24 46.4**	**+0.5**
ACDV	**Cuesta del Vie**	**3.08**	**220**	*i* P	**Pn**	**07 24 47.6**	**+1.1**
ACDV				*i* S	**Sn**	**07 25 23.6**	**-1.2**
ACDV				IAML		07 25 27.1	
	comp=Z,337nm,0.7s						
AC06	**Mina Casimiro**	**3.16**	**278**		**Pn**	**07 24 46.6**	**-0.9**
AC05	**El Transito**	**3.20**	**251**	Pn	**Pn**	**07 24 48.6**	**+0.6**
SLA	**San Lorenzo**	**3.32**	**21**	*i* P	**Pn**	**07 24 51.0**	**+1.4**
ACHE	**Chepes**	**3.32**	**178**	*i* P	**Pn**	**07 24 50.4**	**+0.7**
ACHE				*i* S	**Sn**	**07 25 28.8**	**-1.6**
ACCO	**Cerro Coronel**	**3.37**	**215**	*i* P	**Pn**	**07 24 51.1**	**+0.7**
ACCO				*i* S	**Sn**	**07 25 32.0**	**+0.3**
CO01	**Juntas del Tor**	**3.57**	**232**	Pn	**Pn**	**07 24 54.3**	**+1.4**
CO01	**Juntas del Tor**	**3.57**	**232**	*i* P	**Pn**	**07 24 54.1**	**+1.2**
CO01				IAML		07 26 19.4	
	comp=Z,194nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LCO	Las Campanas	3.61	250	Pn	Pn	07 24 52.8	-0.6
GO02	Mina Guanaco	3.63	316		Pn	07 24 54.8	+1.1
GO02	Mina Guanaco	3.63	316	iP	Pn	07 24 54.6	+0.9
DOCA	Reserva Natura	3.68	212	iP	Pn	07 24 54.6	+0.3
AC01	Pan de Azucar	3.76	296		Pn	07 24 54.9	-0.2
AC04	Llanos de Chal	3.77	263		Pn	07 24 54.2	-0.9
AC04	Llanos de Chal	3.77	263	iP	Pn	07 24 54.7	-0.4
AC04				IAML		07 25 45.7	
	comp=Z,78nm,0.3s						
RTLL	Cerro Villicun	3.77	202	iP	Pn	07 24 55.5	+0.3
RTLL				iS	Sn	07 25 39.0	-1.3
AZAP	Zapla	3.92	24	iP	Pn	07 24 58.1	+0.7
AZAP				iS	Sn	07 25 43.3	-0.9
CFA	Coronel Fontan	3.96	198	iP	Pn	07 24 57.1	-0.5
CFA				IAML		07 25 45.1	
	comp=Z,155nm,0.7s						
CFA	Coronel Fontan	3.96	198	P	Pn	07 24 57.8	+0.2
	comp=Z,50nm,0.3s,baz=352,slow=9.6,SNR=576						
CFA				S	Sn	07 25 43.0	-1.6
	comp=Z,130nm,0.3s,baz=164,slow=19,SNR=13						
SJA	San Juan	3.98	202	iP	Pn	07 24 58.5	+0.6
SJA				IAML		07 25 56.0	
	comp=Z,90nm,0.6s						
TCA	Tanti	4.00	151	iP	Pn	07 24 58.2	0.0
TCA				iS	Sn	07 25 43.4	-2.3
TCA				IAML		07 25 44.9	
	comp=Z,124nm,0.5s						
GO04	Tololo Observa	4.19	235		Pn	07 25 00.3	-0.4
CO05	La Serena	4.39	241		Pn	07 25 02.0	-1.1
RTLS	Leoncito	4.50	208	iP	Pn	07 25 05.3	+0.5
CO03	El Pedregal	4.51	227		Pn	07 25 04.4	-0.3
CO03	El Pedregal	4.51	227	iP	Pn	07 25 05.2	+0.4
PB14	IPOC Station P	4.53	314		Pn	07 25 06.1	+0.8
PB14	IPOC Station P	4.53	314	iP	Pn	07 25 05.9	+0.7
PB14				IAML		07 26 01.2	
	comp=Z,61nm,0.7s						
ALOL	LOMAS DE OLMED	4.75	33	iP	Pn	07 25 08.6	+0.7
CO02	Combarbal	4.95	226		Pn	07 25 09.2	-1.3
ASAL	Salagasta	5.05	200	iP	Pn	07 25 12.1	+0.3
ASAL				IAML		07 26 14.2	
	comp=Z,41nm,0.6s						
CO06	Fray Jorge	5.07	235		Pn	07 25 10.9	-1.0
PB15	IPOC Station P	5.18	332		Pn	07 25 14.8	+1.0
PB15	IPOC Station P	5.18	332	iP	Pn	07 25 14.6	+0.8
ARCO	CERRO ARCO	5.32	199	iP	Pn	07 25 16.0	+0.6
ARCO				IAML		07 26 21.2	
	comp=Z,81nm,0.4s						
LVC	Limon Verde	5.53	340	Pn	Pn	07 25 17.4	-1.1
LVC	Limon Verde	5.53	340	P	Pn	07 25 19.2	+0.8
	comp=Z,7.3nm,0.3s,baz=144,slow=9.6,SNR=21						
LVC				S	Sn	07 26 20.0	-1.8
	comp=Z,22nm,0.4s,baz=289,slow=19,SNR=35						
PB06	IPOC Station P	5.67	333	Pn	Pn	07 25 19.9	-0.3
PB05	IPOC Station P	5.82	328		Pn	07 25 21.7	-0.3
VA06	Catapilco	6.10	218	Pn	Pn	07 25 23.8	-1.7
ROC1	El Roble	6.28	214		Pn	07 25 26.7	-1.3
PB09	IPOC Station P	6.39	339		Pn	07 25 29.2	-0.5
MT03	Universidad Ad	6.47	208		Pn	07 25 30.1	-0.4
MT05	Renca	6.49	210	Pn	Pn	07 25 29.9	-0.8
MT13	San Alfonso	6.60	206		Pn	07 25 32.6	+0.4
PB07	IPOC Station P	6.68	335		Pn	07 25 32.7	-0.8
MT09	Talagante	6.92	210		Pn	07 25 35.2	-1.4
BO04	La Punta	6.95	207		Pn	07 25 35.8	-0.9
PB02	IPOC Station P	7.06	336		Pn	07 25 37.2	-1.2
MT01	Popeta	7.12	211	Pn	Pn	07 25 36.4	-2.6
PB01	IPOC Station P	7.18	340		Pn	07 25 38.8	-1.2
BO02	Sierra Bellavi	7.72	205		Pn	07 25 46.3	-0.8
PB08	IPOC Station P	7.94	344	Pn	Pn	07 25 49.1	-1.3
GO01	Chusmiza	8.41	345		Pn	07 25 55.0	-1.6
CPUP	Villa Florida	8.60	82	P	Pn	07 25 57.2	-1.5
	comp=Z,3.0nm,0.7s,baz=257,slow=13,SNR=6.5						
TRQA	Tornquist	10.98	159	Pn	Pn	07 26 30.5	+0.6
LPAZ	La Paz	11.55	354		Pn	07 26 36.8	-1.3
SIV	San Ignacio	12.93	26	P	Pn	07 26 54.6	-0.7
	comp=Z,0.5nm,0.6s,baz=218,slow=13,SNR=2.7						
ETMB	Extrema	17.93	2	P	P	07 27 55.3	+0.5
SAML	Samuel	19.09	11	P	P	07 28 08.0	+0.6
CZSB	Cruzeiro do Su	20.75	343	P	P	07 28 25.1	-0.1
CZSB				IAmb	IAmb	07 28 29.3	
	comp=Z,18nm,0.9s						
BDFB	Brasilia	21.24	59	P	P	07 28 29.4	-1.2
	comp=Z,2.0nm,0.3s,baz=235,slow=11,SNR=3.4						
	comp=Z,2.0nm,0.3s						
TBTG	Tabatinga, AM	23.69	352	P	P	07 28 54.3	+0.2
MCRA	Macar, Loja	26.47	329	P	P	07 29 19.5	+0.3
BOSC	San Juan Bosco	26.95	334	P	P	07 29 24.5	+0.9
BOSC				IAmb	IAmb	07 29 25.5	
	comp=Z,2.3nm,0.5s						
BOAV	Boa Vista	30.66	12	P	P	07 29 56.2	-0.1
BOAV				IAmb	IAmb	07 30 08.5	
	comp=Z,14nm,1.5s						
ESPZ	Base Esperanza	36.15	173	P	P	07 30 45.9	+2.7
TEIG	Tepich	52.09	334	P	P	07 32 50.8	+0.5
HNDO	Hondo	64.94	329	P	P	07 34 20.6	+1.5
HNDO				IAmb	IAmb	07 34 21.3	
	comp=Z,3.6nm,0.7s						
BRDY	Brady	66.31	330	P	P	07 34 28.7	+0.8
BRDY				IAmb	IAmb	07 34 29.7	
	comp=Z,2.8nm,0.8s						
SAND	Sanderson	66.63	327	P	P	07 34 31.4	+1.4
SAND				IAmb	IAmb	07 34 32.5	
	comp=Z,3.3nm,0.8s						
TXAR	Lajitas Array	66.89	325	P	P	07 34 33.1	+1.5
	comp=Z,0.3nm,0.6s,baz=151,slow=6.8,SNR=4.0						
	comp=Z,0.3nm,0.6s						
DBIC	Dimbokro	68.91	70	P	P	07 34 44.2	-0.4
	comp=Z,1.0nm,0.3s,baz=219,slow=4.7,SNR=3.4						
	comp=Z,1.0nm,0.3s						
TORD	Torodi Ar. Bea	77.83	68	P	P	07 35 36.1	-0.5
	comp=Z,1.5nm,0.7s,baz=275,slow=4.8,SNR=13						
	comp=Z,1.5nm,0.7s						
BOSA	Boshof	78.88	116	P	P	07 35 42.8	+0.3
	comp=Z,1.7nm,0.5s,baz=239,slow=3.1,SNR=5.6						
	comp=Z,1.7nm,0.5s						
PDAR	Pinedale Array	80.51	330	P	P	07 35 52.0	+1.1
	comp=Z,0.4nm,0.6s,baz=124,slow=6.6,SNR=4.3						
	comp=Z,0.4nm,0.6s						
ASAR	Alice Springs	125.03	203	PKP	PKiKP	07 42 38.8	0.0
	comp=Z,0.3nm,0.5s,baz=126,slow=1.8,SNR=6.3						
KURBB	Kurchatov Arra	145.30	39	PKPbc	PKPab	07 43 15.4	+0.1
	comp=Z,0.6nm,0.7s,baz=304,slow=3.5,SNR=5.1						
ZALV	Zalesovo Beam	146.65	31	PKPbc	PKPbc	07 43 19.2	+0.3
	comp=Z,1.7nm,0.6s,baz=308,slow=4.9,SNR=7.2						
MKAR	Makanchi Array	149.28	44	PKPbc	PKiKP	07 43 27.1	-0.2
	comp=Z,0.7nm,0.6s,baz=302,slow=3.1,SNR=8.9						

*IDC **05** 07:33:22.0±1.8, 12°.30N×141°.70E, h0^{km}, mb4.2/9, mbtmp4.2/9, Error ellipse: s-maj=72.7km s-min=17.3km az=78.0*

ISC 05 07:33:26.8±1.7**, 12°.3N**±0°.2×**141°.7E**±0°.4**, h33^{km}, n9, σ0^{s}.60**/9**, mb4.3**/9**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.84	193	P	P	07 39 57.3	-0.3
	1.1nm,0.6s,baz=11,slow=9.8,SNR=12						
	1.1nm,0.6s						
ASAR	Alice Springs	36.54	192	P	P	07 40 29.8	+0.2
	0.3nm,0.4s,baz=20,slow=12,SNR=19						
	0.3nm,0.4s						
CMAR	Chiang Mai Arr	41.57	284	P	P	07 41 11.5	-0.3
	4.2nm,0.4s,baz=87,slow=7.1,SNR=4.9						
	4.2nm,0.4s						
STKA	Stephens Creek	43.92	180	P	P	07 41 30.8	+0.2
	1.5nm,0.6s,baz=354,slow=11,SNR=4.7						
	1.5nm,0.6s						
MKAR	Makanchi Array	60.27	317	P	P	07 43 32.8	+0.6
	1.6nm,0.8s,baz=105,slow=7.6,SNR=13						
	1.6nm,0.8s						
ZALV	Zalesovo Beam	60.88	325	P	P	07 43 36.6	+0.4
	1.4nm,0.5s,baz=98,slow=6.3,SNR=6.7						
	1.4nm,0.5s						
KURBB	Kurchatov Arra	63.61	321	P	P	07 43 55.1	+0.7
	4.7nm,0.7s,baz=104,slow=6.8,SNR=29						
	4.7nm,0.7s						
BVAR	Borovoye Array	69.01	322	P	P	07 44 29.5	+0.4
	3.5nm,0.6s,baz=102,slow=7.3,SNR=15						
	3.5nm,0.6s						
FINES	FINESS Array B	90.99	334	P	P	07 46 26.6	-0.8
	3.6nm,1.1s,baz=48,slow=2.8,SNR=3.9						
	3.6nm,1.1s						

*DJA **05** 07:37:39.6±0.5, 6°S±4°×15°4E±°, h23^{km}±3^{km}, M4.7/12, mB4.7/3, mb4.5/12, MLv4.8/3, Mw(mB)3.9/3*

*NEIC **05** 07:37:42.7±2.1, 5°.66S±0°.09×153°.58E±0°.04, h49^{km}±10^{km}, mb4.5/23, Error ellipse: s-maj=13.7km s-min=2.1km az=203.0*

*IDC **05** 07:37:42.4±1.5, 5°.70S×153°.67E, h53^{km}±13^{km}, mb4.0/12, mbtmp4.3/14, ML3.1/2, MS3.6/19, Error ellipse: s-maj=16.3km s-min=9.6km az=52.0*

ISC 05 07:37:41.5±0.4**, 5°.68S**±0°.05×**153°.65E**±0°.06**, h43^{km}, n68, σ1^{s}.39**/67**, mb4.5**/29**, MS3.6**/17**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.09	315		Pn	07 38 14.4	+0.4
KRVT	Keravat (AS076	2.11	310	P	Pn	07 38 16.1	+1.7
	baz=39,slow=19						
KRVT				S	Sn	07 38 41.5	+2.1
	baz=253,slow=19						
MANU	Manus Island	7.23	300		Pn	07 39 26.9	+2.2
HNR	Honiara	7.27	121		Pn	07 39 28.1	+2.9
HNR	Honiara	7.27	121	P	Pn	07 39 25.7	+0.5
	746nm,0.4s,baz=149,slow=5.7,SNR=7.8						
HNR				S	Sn	07 40 48.1	+1.5
	1μm,0.5s,baz=314,slow=12,SNR=1.4						
HNR				LR	LR	07 42 08.8	
	comp=Z,7μm,20.5s,baz=296,slow=37						
PMG	Port Moresby	7.42	240	Pn	Pn	07 39 28.1	+0.8
PMG	Port Moresby	7.42	240	P	Pn	07 39 29.0	+1.7
	5.2nm,0.3s,baz=49,slow=13,SNR=12						
PMG				S	Sn	07 40 52.2	+1.9
	136nm,0.8s,baz=323,slow=23,SNR=15						
PMG				LR	LR	07 42 28.2	
	comp=Z,664nm,21.4s,baz=76,slow=38						
	20nm,0.5s						
PMG	Port Moresby	7.42	240	P	Pn	07 39 28.4	+1.1
	50nm,0.8s,0.8nm						
PATS	Pohnpei	13.28	21	Pn	Pn	07 40 44.6	-2.8
CTA	Charters Tower	16.03	206	P	Pn	07 41 24.4	+0.4
	0.2nm,0.3s,baz=36,slow=13,SNR=3.3						
CTA				LR	LR	07 46 58.2	
	comp=Z,206nm,21.6s,baz=64,slow=35						
	7.8nm,0.9s						
CTAO	Charters Tower	16.03	206	Pn	Pn	07 41 24.0	0.0
CTAO				IAmb	IAmb	07 41 29.9	
	comp=Z,24nm,1.3s						
EIDS	Eidsvold	19.73	187	P	P	07 42 07.6	-0.1
LIFNC	LIFOU	19.98	140	P	P	07 42 10.2	-0.1
DZM	Mont Dzumac	20.46	144	P	P	07 42 15.1	-0.6
DZM				IAmb	IAmb	07 42 20.8	
	comp=Z,38nm,0.9s						
DZM	Mont Dzumac	20.46	144	P	P	07 42 15.3	-0.4
	comp=Z,28nm,0.8s,baz=339,slow=13,SNR=19						
DZM				LR	LR	07 49 36.3	
	comp=Z,246nm,20.0s,baz=220,slow=35						
	comp=Z,28nm,0.8s						
ONTNC	Ouen Toro	20.65	144	P	P	07 42 17.7	+0.1
OUENC	Ouen Island, N	20.96	144	P	P	07 42 20.4	-0.6
OUENC				IAmb	IAmb	07 42 21.9	
	comp=Z,20nm,0.9s						
GUMO	Guam	21.03	336	LR	LR	07 51 28.5	
	comp=Z,62nm,18.4s,baz=98,slow=39						
SIJI	Sorong	22.84	281	P	P	07 42 40.5	-0.8
	comp=Z,13nm,1.1s						
MTN	Manton Dam	23.32	251	P	P	07 42 45.2	-0.8
MTN				IAmb	IAmb	07 42 54.0	
	comp=Z,22nm,1.0s						
WR0	Warramunga Arr	23.38	231	P	P	07 42 45.5	-1.1
WR0				IAmb	IAmb	07 42 47.7	
	comp=Z,20nm,1.1s						
WB0	Warramunga Arr	23.39	231	P	P	07 42 46.3	-0.3
WB0				IAmb	IAmb	07 42 47.7	
	comp=Z,20nm,1.1s						
WRA	Warramunga Arr	23.53	231	P	P	07 42 46.2	-1.8
WRA	Warramunga Arr	23.53	231	P	P	07 42 47.5	-0.5
	comp=Z,9.0nm,0.9s,baz=57,slow=9.9,SNR=29						
WRA				PcP	PcP	07 46 32.5	-0.3
	comp=Z,1.2nm,0.8s,baz=52,slow=2.4,SNR=4.5						
WRA				LR	LR	07 51 50.1	
	comp=Z,243nm,19.7s,baz=44,slow=36						
	comp=Z,9.0nm,0.9s						
ARMA	Armidale	24.68	184	P	P	07 42 58.6	0.0
ARMA				IAmb	IAmb	07 43 01.0	
	comp=Z,14nm,1.2s						
AS31	Alice Springs	26.10	225	P	P	07 43 11.1	-0.4
ASAR	Alice Springs	26.10	225	P	P	07 43 11.8	+0.3
ASAR	Alice Springs	26.10	225	P	P	07 43 11.3	-0.1
	comp=Z,9.7nm,1.0s,baz=57,slow=9.1,SNR=50						
ASAR				PcP	PcP	07 46 37.8	-0.7
	comp=Z,1.6nm,0.8s,baz=52,slow=3.3,SNR=6.7						
ASAR				LR	LR	07 53 08.1	
	comp=Z,248nm,21.0s,baz=70,slow=36						
	comp=Z,9.7nm,1.0s						
KNRA	Kununurra	26.36	246	P	P	07 43 12.3	-1.6
KNRA				IAmb	IAmb	07 43 35.9	
	comp=Z,34nm,0.8s						
STKA	Stephens Creek	28.40	202	P	P	07 43 31.5	-0.4
STKA	Stephens Creek	28.40	202	P	P	07 43 31.2	-0.8
	comp=Z,0.9nm,0.5s,baz=349,slow=10,SNR=3.2						
STKA				LR	LR	07 54 59.7	
	comp=Z,81nm,21.7s,baz=17,slow=36						
	comp=Z,0.9nm,0.5s						
FITZ	Fitzroy Crossi	30.00	243	P	P	07 43 45.5	-0.8
FITZ				IAmb	IAmb	07 43 47.1	
	comp=Z,6.7nm,1.1s						
EDFI	Ende, Flores	31.84	263	P	P	07 44 00.8	-2.0
	comp=Z,14nm,0.8s						
EDFI				pP	pP	07 44 07.3	-5.6
	comp=Z,14nm,0.8s						
KAPI	Kappang	33.75	269	P	P	07 44 18.3	-1.1
KAPI				IAmb	IAmb	07 44 21.2	
	comp=Z,17nm,1.0s						
KAPI	Kappang	33.75	269	P	P	07 44 19.5	+0.1
	comp=Z,4.1nm,0.3s,baz=66,slow=7.0,SNR=8.1						
KAPI				LR	LR	08 01 05.7	
	comp=Z,70nm,18.6s,baz=70,slow=42						
	comp=Z,4.1nm,0.3s						
FORT	Forrest	34.66	221	P	P	07 44 26.3	-0.8
RAO	Raoul Island	35.66	134	P	P	07 44 36.6	+0.9
MBWA	Marble Bar	36.28	242	P	P	07 44 42.2	+1.1
MBWA				IAmb	IAmb	07 45 21.2	
	comp=Z,15nm,1.1s						
LTZ	Lake Taylor	40.46	159	P	P	07 45 16.4	+0.4
RPZ	Rata Peaks	40.87	161	LR	LR	08 00 47.5	
	comp=Z,101nm,20.6s,baz=324,slow=34						
AMCZ	Amberley	40.95	159	P	P	07 45 18.9	-1.0
NWAO	Narrogin (SRO)	43.39	227	LR	LR	08 04 15.3	
	comp=Z,210nm,18.6s,baz=68,slow=37						
LEM	Lembang	45.76	266	LR	LR	08 07 09.2	
	comp=Z,62nm,21.3s,baz=60,slow=39						
RAR	Rarotonga	47.66	114	LR	LR	08 03 09.3	
	comp=Z,31nm,20.3s,baz=296,slow=32						
NJ2	Nanjing	50.05	321	eP	P	07 46 34.5	+2.4
NJ2				pP	sP	07 46 46.2	-0.8
NJ2				sP	pwP	07 46 51.1	+1.7
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,3.6s						
ASAJ	Asahikawa	50.56	350	LR	LR	08 05 20.3	
	comp=Z,46nm,20.9s,baz=78,slow=33						
CM31	Chiang Mai Arr	59.01	295	P	P	07 47 38.0	+0.5
CMAR	Chiang Mai Arr	59.01	295	P	P	07 47 37.9	+0.4
CMAR	Chiang Mai Arr	59.01	295	P	P	07 47 38.7	+1.3
	comp=Z,3.8nm,0.7s,baz=111,slow=5.2,SNR=20						
CMAR				LR	LR	08 13 56.8	
	comp=Z,21nm,18.3s,baz=80,slow=37						
	comp=Z,3.8nm,0.7s						
CHTO	Chiang Mai	59.13	296	P	P	07 47 38.5	+0.2
CHTO				IAmb	IAmb	07 47 39.6	
	comp=Z,5.7nm,0.8s						
CHTO	Chiang Mai	59.13	296	P	P	07 47 38.4	+0.2
PZH	PanZhiHua	59.57	305	P	P	07 47 42.5	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.0s						
HHC	Hu-ho-hao-te	60.25	324	eP	P	07 47 48.6	+2.9
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
SHEM	Shemya Is, Ala	60.72	14	LR	LR	08 09 08.7	
	comp=Z,52nm,21.2s,baz=176,slow=31						
LZH	Lanzhou	62.45	316	eP	P	07 48 01.2	+0.5
LZH				pP	pP	07 48 10.7	-0.9
LZH				pmax	pmax		
	comp=Z,13nm,1.5s						
GTA	Gaotai	66.87	317	eP	P	07 48 35.0	+5.5
GTA				sP	PcP	07 48 54.1	-3.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	67.51	328	P	P	07 48 33.8	+0.4
	comp=Z,0.7nm,0.9s,baz=130,slow=2.3,SNR=4.6						
	comp=Z,0.7nm,0.9s						
VNDA	Vanda	71.93	178	P	P	07 48 59.8	-0.1
	comp=Z,1.3nm,1.0s,baz=21,slow=8.3,SNR=3.0						
	comp=Z,1.3nm,1.0s						
PALK	Pallekele	73.91	279	LR	LR	08 24 59.2	
	comp=Z,26nm,20.0s,baz=203,slow=38						
WMQ	Urumqi	76.96	317	eP	P	07 49 28.0	-1.8
WMQ				PcP	pP	07 49 41.9	+0.8
WMQ				sP	pwP	07 49 51.2	+4.1
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
MK31	Makanchi Array	81.54	319	P	P	07 49 54.1	-0.5
MK31				IAmb	IAmb	07 50 13.9	
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	81.54	319	P	P	07 49 54.5	-0.2
	comp=Z,1.2nm,0.7s,baz=99,slow=6.3,SNR=9.2						
	comp=Z,1.2nm,0.7s						
ZALV	Zalesovo Beam	82.35	326	P	P	07 49 57.4	-1.3
	comp=Z,0.5nm,0.4s,baz=104,slow=4.7,SNR=3.9						
ZALV				LR	LR	08 29 31.3	
	comp=Z,31nm,18.4s,baz=52,slow=38						
	comp=Z,0.5nm,0.4s						
ILAR	Eielson Array	82.65	22	P	P	07 49 59.9	-0.2
	comp=Z,0.9nm,0.9s,baz=241,slow=4.8,SNR=4.7						
ILAR				LR	LR	08 26 35.8	
	comp=Z,52nm,19.2s,baz=59,slow=36						
	comp=Z,0.9nm,0.9s						
KSH	Kashi	84.14	311	P	P	07 50 09.8	+1.3
KSH				sP	pwP	07 50 29.5	+3.0
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
QSPA	South Pole Qui	84.29	180	P	P	07 50 07.9	-0.8
	comp=Z,4.6nm,0.7s,baz=343,slow=1.1,SNR=16						
	comp=Z,4.6nm,0.7s						
LPIG	La Paz	97.80	67	LR	LR	08 26 36.8	
	comp=Z,74nm,21.6s,baz=346,slow=30						
TORD	Torodi Ar. Bea	151.38	287	PKPbc	PKPbc	07 57 30.5	-1.2
	comp=Z,0.8nm,0.5s,baz=53,slow=3.6,SNR=8.1						

*IDC **05** 07:39:13.8±2.2, 12°.30N×141°.91E, h0^{km}, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=88.3km s-min=19.6km az=77.0*

ISC 05 07:39:18.9±2.0**, 12°.3N**±0°.2×**141°.9E**±0°.5**, h33^{km}, n9, σ0^{s}.45**/9**, mb3.9**/9**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.86	193	P	P	07 45 49.0	-0.9
	0.5nm,0.6s,baz=10,slow=10,SNR=2.8						
	0.5nm,0.6s						
ASAR	Alice Springs	36.56	192	P	P	07 46 21.8	0.0
	0.4nm,0.6s,baz=20,slow=11,SNR=4.2						
	0.4nm,0.6s						
CMAR	Chiang Mai Arr	41.76	284	P	P	07 47 05.8	+0.3
	1.1nm,0.3s,baz=90,slow=6.3,SNR=1.4						
	1.1nm,0.3s						
STKA	Stephens Creek	43.90	180	P	P	07 47 23.1	+0.6
	0.8nm,0.4s,baz=8.3,slow=7.2,SNR=2.9						
	0.8nm,0.4s						
SONM	Songino Array	46.17	327	P	P	07 47 40.5	-0.1
	0.2nm,0.4s,baz=101,slow=7.8,SNR=1.3						
	0.2nm,0.4s						
MKAR	Makanchi Array	60.42	317	P	P	07 49 25.2	-0.1
	0.9nm,0.9s,baz=106,slow=7.7,SNR=6.3						
	0.9nm,0.9s						
ZALV	Zalesovo Beam	61.01	325	P	P	07 49 28.9	-0.1
	0.7nm,0.5s,baz=119,slow=10,SNR=2.6						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	63.75	321	P	P	07 49 47.4	-0.1
	2.7nm,0.2s,baz=105,slow=6.8,SNR=8.3						
	2.7nm,0.2s						
BVAR	Borovoye Array	69.15	322	P	P	07 50 22.0	0.0
	1.2nm,0.5s,baz=101,slow=7.6,SNR=6.5						
	1.2nm,0.5s						

*IDC **05** 07:52:51.1±4.5, 38°.04N×74°.35E, h160^{km}±30^{km}, mb3.5/10, mbtmp3.9/15, Error ellipse: s-maj=38.3km s-min=20.7km az=177.0*

*NEIC **05** 07:52:52.7±1.7, 38°.16N±0°.07×74°.3E±0°.1, h175^{km}±10^{km}, mb4.1/16, Error ellipse: s-maj=12.4km s-min=10.0km az=110.0*

*NNC **05** 07:52:54.6±3.5, 38°.46N×74°.15E, h0^{km}, mb4.2, mpv3.8, Error ellipse: s-maj=27.8km s-min=24.7km az=120.0*

ISC 05 07:52:50.8±0.5**, 38°.08N**±0°.05×**74°.33E**±0°.06**, h158^{km}, n77, σ1^{s}.66**/84**, mb4.1**/19**, 4C-3D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.92	41	P	Pn	07 53 23.8	-1.9
KSH				S	Sn	07 53 45.9	-6.7
KSH				smax	smax		
	comp=N,900nm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.7s						
BTK	Batken	3.37	307		Pn	07 53 46.0	+2.8
ARSB	Arslanbob	3.40	343		Pn	07 53 45.6	+1.9
NRN	Naryn	3.59	21		Pn	07 53 47.2	+1.0
KZA	Kyzart	4.05	10	P	Pn	07 53 53.9	+1.6
	SNR=110						
AML	Almayashu	4.07	353	P	Pn	07 53 54.2	+1.7
	SNR=169						
AML	Almayashu	4.07	353	⇑Pn	Pn	07 53 54.1	+1.5
	comp=E,3.1nm,0.5s						
AML				⇑Sn	Sn	07 54 39.1	-1.5
	comp=E,3.7nm,0.4s						
UCH	Uchtor	4.14	2	P	Pn	07 53 55.5	+2.0
	SNR=63						
SIMJ	Simiganj	4.22	279	Pn	Pn	07 53 54.7	+0.4
NIL	Nilore	4.51	192		Pn	07 54 01.2	+3.2
TARG	Taragay, Kyrgy	4.52	35	Pn	Pn	07 53 59.3	+0.9
AAK	Ala-Archa	4.55	2	P	Pn	07 54 00.8	+2.2
	SNR=17						
AAK	Ala-Archa	4.55	2	Pn	Pn	07 53 60.0	+1.4
AAK	Ala-Archa	4.55	2	P	Pn	07 54 00.8	+2.2
	comp=E,8.0nm,0.3s,baz=155,slow=7.1,SNR=39						
AAK				S	Sn	07 54 52.0	+0.6
	comp=E,11nm,0.4s,baz=186,slow=16,SNR=6.9						
BOOM	Boomskoye usch	4.57	15	Pn	Pn	07 54 00.7	+1.8
EKS2	Erkin-Say	4.59	355	P	Pn	07 54 01.4	+2.3
	SNR=6.9						
CHMS	Chumysh	4.92	4	P	Pn	07 54 05.5	+2.1
	SNR=14						
CHMS	Chumysh	4.92	4	⇑Pn	Pn	07 54 05.0	+1.7
	comp=E,30nm,0.8s						
CHMS				⇓Sn	Sn	07 55 00.0	+0.1
	comp=E,26nm,1.1s						
TKM2	Tokmak 2	4.93	11	P	Pn	07 54 05.4	+1.8
	SNR=14						
TKM2	Tokmak 2	4.93	11	⇓Pn	Pn	07 54 04.7	+1.1
	comp=E,6.8nm,0.6s						
TKM2				⇓Sn	Sn	07 54 59.8	-0.6
	comp=E,20nm,0.5s						
USP	Ospenovka	5.18	1	P	Pn	07 54 08.4	+1.6
	SNR=6.5						
JMU	Jammu	5.37	175	eP	Pn	07 54 01.7	-7.6
JMU				eS	Sn	07 55 08.9	-1.8
KBL	Kabul	5.54	232	Pn	Pn	07 54 13.5	+1.8
THN	Thein Dam	5.75	168	eP	Pn	07 54 16.8	+2.6
THN				eS	Sn	07 55 17.8	-1.8
KK31	Karatay Array	5.80	331	Pn	Pn	07 54 15.8	+1.0
	comp=E,18nm,0.5s,baz=131,slow=12,SNR=143						
KK31				⇑Sn	Sn	07 55 19.5	-1.2
	comp=E,9.9nm,0.3s,baz=144,slow=24,SNR=11						
KK31	Karatay Array	5.80	331	Pn	Pn	07 54 16.0	+1.1
KKAR	Karatay Array	5.80	331	Pn	Pn	07 54 16.1	+1.3
KKAR	Karatay Array	5.80	331		Pn	07 54 15.6	+0.7
DHRM	DHARAMSHALA	6.04	164	eP	Pn	07 54 20.4	+2.1
DHRM				eS	Sn	07 55 24.8	-2.1
DHRM				IAML		07 55 27.5	
	comp=E,211nm,0.5s						
DHRM				IAML		07 55 27.8	
	comp=N,171nm,0.5s						
BHK	Bhakra	6.87	165	eS	Sn	07 55 43.9	-2.5
LGTI	Lohaghat	9.92	149	eS	Sn	07 56 50.7	-8.9
KUDL	Kundal	10.07	169	eP	Pn	07 55 11.6	-0.1
KUDL				eS	Sn	07 56 56.0	-7.4
MAKZ	Makanchi	10.39	30	Pn	Pn	07 55 15.1	-0.6

MK31	**Makanchi Array**	**10.50**	**31**	Pn	**Pn**	**07 55 16.9**	**-0.3**
MKAR	**Makanchi Array**	**10.50**	**31**	Pn	**Pn**	**07 55 16.5**	**-0.7**
MKAR	**Makanchi Array**	**10.50**	**31**	P	**Pn**	**07 55 17.9**	**+0.7**
	comp=N,2.0nm,0.7s,baz=219,slow=15,SNR=22						
WMQ	**Urumqi**	**11.62**	**56**	*e*P	**Pn**	**07 55 32.3**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
GEYT	**Alibeck**	**12.79**	**274**	Pn	**Pn**	**07 55 46.2**	**-0.9**
GEYT	**Alibeck**	**12.79**	**274**	S	**Sn**	**07 58 01.8**	**-6.8**
	comp=Z,1.6nm,0.5s,baz=221,slow=18,SNR=4.1						
GYA0B	**ALIBECK ARRAY**	**12.79**	**274**	Pn	**Pn**	**07 55 45.9**	**-1.1**
KURBB	**Kurchatov Arra**	**12.89**	**12**	P	**Pn**	**07 55 46.6**	**-1.5**
	comp=Z,3.4nm,1.2s,baz=198,slow=11,SNR=4.3						
BVAR	**Borovoye Array**	**15.19**	**351**	P	**Pn**	**07 56 17.2**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=154,slow=9.0,SNR=10						
ABKAR	**Akbulak array**	**15.24**	**322**	P	**Pn**	**07 56 16.9**	**-0.7**
ABKAR	**Akbulak array**	**15.24**	**322**	P	**Pn**	**07 56 16.6**	**-1.0**
BRVK	**Borovoye**	**15.24**	**351**	P	**Pn**	**07 56 17.5**	**-0.1**
AKTO	**Aktyubinsk**	**16.95**	**322**	P	**P**	**07 56 38.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=109,slow=9.3,SNR=4.4						
ZAA0	**Zalesovo Array**	**17.43**	**21**	P	**P**	**07 56 42.9**	**-0.1**
ZAA0				IAmb	IAmb	07 56 44.4	
	comp=Z,9.3nm,0.8s						
ZALV	**Zalesovo Beam**	**17.43**	**21**	P	**P**	**07 56 43.6**	**+0.6**
ZALV	**Zalesovo Beam**	**17.43**	**21**	P	**P**	**07 56 43.3**	**+0.3**
	comp=Z,7.9nm,0.4s,baz=216,slow=12,SNR=55						
SONM	**Songino Array**	**25.25**	**57**	P	**P**	**07 58 02.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=253,slow=11,SNR=5.1						
	comp=Z,0.8nm,0.7s						
PZH	**PanZhiHua**	**25.80**	**109**	P	**P**	**07 58 08.9**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	**Hu-ho-hao-te**	**28.74**	**73**	*e*P	**P**	**07 58 33.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.0s						
NRIK	**Noril'sk**	**32.13**	**9**	P	**P**	**07 59 03.5**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=181,slow=7.6,SNR=4.2						
	comp=Z,1.1nm,0.4s						
FIA1	**FINESS Array S**	**37.71**	**324**	P	**P**	**07 59 51.1**	**+0.5**
FINES	**FINESS Array B**	**37.71**	**324**	P	**P**	**07 59 50.7**	**+0.1**
FINES	**FINESS Array B**	**37.71**	**324**	P	**P**	**07 59 51.4**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=118,slow=10.0,SNR=16						
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**40.74**	**336**	P	**P**	**08 00 15.1**	**-0.6**
ARCES	**ARCESS Array B**	**40.74**	**336**	P	**P**	**08 00 16.2**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=109,slow=7.8,SNR=10						
	comp=Z,0.9nm,0.4s						
TIXI	**Tiksi**	**43.31**	**22**	P	**P**	**08 00 36.0**	**-0.5**
HFS	**Hagfors**	**43.49**	**321**	P	**P**	**08 00 38.5**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=89,slow=12,SNR=6.3						
	comp=Z,1.1nm,0.5s						
NC405	**NORSAR Array S**	**44.50**	**322**	P	**P**	**08 00 46.2**	**0.0**
NOA	**NORSAR Array B**	**44.74**	**322**	P	**P**	**08 00 48.3**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=92,slow=7.9,SNR=2.1						
	comp=Z,0.5nm,0.6s						
NC204	**NORSAR Array S**	**44.97**	**322**	P	**P**	**08 00 49.9**	**0.0**
SPITS	**Spitsbergen Ar**	**46.58**	**346**	P	**P**	**08 01 03.3**	**+1.0**
	comp=Z,18nm,1.1s,baz=117,slow=11,SNR=7.2						
	comp=Z,18nm,1.1s						
B20K	**Meade River**	**65.94**	**17**	P	**P**	**08 03 18.9**	**-0.3**
B20K				IAmb	IAmb	08 03 28.3	
	comp=Z,3.8nm,1.2s						
C19K	**Lookout Ridge**	**66.01**	**19**	P	**P**	**08 03 19.7**	**-0.2**
C19K				IAmb	IAmb	08 03 38.4	
	comp=Z,4.6nm,1.4s						
B22K	**Teshekpuk Lake**	**66.52**	**16**	P	**P**	**08 03 22.4**	**-0.7**
B22K				IAmb	IAmb	08 03 43.5	
	comp=Z,3.8nm,1.2s						
D19K	**Kuna River**	**66.82**	**19**	P	**P**	**08 03 24.5**	**-0.6**
D19K				IAmb	IAmb	08 03 42.5	
	comp=Z,8.1nm,1.4s						
D22K	**Ayikyak River**	**67.83**	**17**	P	**P**	**08 03 31.1**	**-0.2**
D22K				IAmb	IAmb	08 03 32.4	
	comp=Z,4.3nm,1.2s						
E21K	**Killik River**	**67.87**	**17**	P	**P**	**08 03 31.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**68.39**	**270**	P	**P**	**08 03 35.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=49,slow=5.1,SNR=4.5						
	comp=Z,0.2nm,0.3s						
D25K	**Kavik River**	**68.80**	**14**	P	**P**	**08 03 38.1**	**+0.7**
D25K				IAmb	IAmb	08 04 05.9	
	comp=Z,5.1nm,1.4s						
IMAR	**Indian Mountai**	**69.84**	**19**	P	**P**	**08 03 42.9**	**-0.8**
BMAR	**Burnt Mountain**	**70.76**	**15**	P	**P**	**08 03 49.6**	**+0.2**
INK	**Inuvik**	**71.89**	**11**	P	**P**	**08 03 55.6**	**-0.4**
INK				IAmb	IAmb	08 04 25.1	
	comp=Z,4.8nm,1.4s						
ILAR	**Eielson Array**	**72.51**	**17**	P	**P**	**08 03 59.7**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=297,slow=4.0,SNR=4.1						
	comp=Z,0.4nm,0.9s						
YKA	**Yellowknife Ar**	**79.51**	**4**	P	**P**	**08 04 39.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=346,slow=5.7,SNR=11						
	comp=Z,0.4nm,0.6s						

*NEIC **05** 07:56:02.6±1.2, 6°.50N±0°.08×126°.7E±0°.1, h111km±7km, mb4.6/41, Error ellipse: s-maj=16.7km s-min=10.1km az=62.0*

*IDC **05** 07:56:02.5±1.2, 6°.54N×126°.83E, h116km±9km, mb4.1/24, mbtmp4.5/25, MS2.9/3, Error ellipse: s-maj=19.5km s-min=10.4km az=71.0*

*DJA **05** 07:56:03.7±0.5, 6°N±4°×12°7E±°, h102km±4km, M4.9/19, mB5.2/8, mb5.0/19, MLv5.2/8, Mw(mB)4.6/8*

ISC 05 07:56:01.2±0.4**, 6°.43N**±0°.05×**126°.80E**±0°.08**, h100**km**, n114, σ1s44**/126**, mb4.6**/51**, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.37**	**298**		**Pn**	**07 56 27.2**	**+1.3**
DAV	**Davao City (W)**	**1.37**	**298**	P	**Pn**	**07 56 27.6**	**+1.8**
	2µm,0.5s,baz=72,slow=0.6,SNR=26						
DAV				S	**Sn**	**07 56 47.4**	**+2.8**
	7µm,0.9s,baz=82,slow=2.1,SNR=15						
DAV				LR	LR	07 57 02.6	
	comp=Z,636nm,22.0s,baz=109,slow=44						
DAV	**Davao City (W)**	**1.37**	**298**	P	**Pn**	**07 56 27.1**	**+1.2**
DAV				S	**Sn**	**07 56 46.5**	**+1.9**
SGSI	**Sangihe**	**3.00**	**205**	P	**Pn**	**07 56 49.6**	**+2.5**
TNTI	**Ternate**	**5.65**	**174**	Pn	**Pn**	**07 57 24.7**	**+1.9**
KMSI	**Cibinong**	**6.46**	**206**	P	**Pn**	**07 57 36.2**	**+2.4**
	535nm,0.6s,1.9nm						
GTOI	**Gorontalo**	**6.88**	**213**	P	**Pn**	**07 57 40.8**	**+1.2**
	261nm,0.7s,2µm0.8nm						
MRSI	**Marisa**	**7.64**	**220**	P	**Pn**	**07 57 52.7**	**+2.8**
	402nm,0.8s,4µm1.4nm						
TOLI2	**Tolitoli**	**7.99**	**229**	Pn	**Pn**	**07 57 53.6**	**-1.1**
LUWI	**Luwuk**	**8.44**	**209**	Pn	**Pn**	**07 58 02.1**	**+1.4**
LUWI	**Luwuk**	**8.44**	**209**	P	**Pn**	**07 58 02.6**	**+1.8**
	378nm,1.0s,4µm						
SANI	**Sanana**	**8.46**	**186**	P	**Pn**	**07 57 59.0**	**-2.1**
	96nm,0.7s,2µm						
SWI	**Sorong**	**8.50**	**148**	P	**Pn**	**07 58 03.4**	**+1.7**
	58nm,0.6s						
SIJI	**Sorong**	**8.51**	**148**	P	**Pn**	**07 58 04.5**	**+2.7**
MPSI	**Mapaga**	**9.16**	**229**	P	**Pn**	**07 58 10.9**	**+0.2**
	31nm,1.0s						
FAKI	**Fak Fak**	**10.76**	**149**	Pn	**Pn**	**07 58 34.6**	**+2.1**
MMSI	**Mamuju**	**12.00**	**221**	P	**Pn**	**07 58 51.2**	**+2.1**
	30nm,0.7s						
BKB	**Balikpapan**	**12.49**	**233**	Pn	**Pn**	**07 58 54.4**	**-1.2**
PMSI	**Majene**	**12.62**	**219**	P	**Pn**	**07 58 57.2**	**0.0**
	88nm,1.5s						
KAPI	**Kappang**	**13.37**	**212**	Pn	**Pn**	**07 59 06.8**	**-0.2**
KAPI	**Kappang**	**13.37**	**212**	P	**Pn**	**07 59 07.4**	**+0.3**
	51nm,0.8s,baz=24,slow=9.6,SNR=36						
PKKI	**Palangkaraya**	**15.43**	**236**	P	**P**	**07 59 35.8**	**-0.1**
	248nm,0.9s						
BBKI	**Banjar Baru**	**15.46**	**231**	P	**P**	**07 59 36.4**	**+0.2**
MMRI	**Maumere**	**15.64**	**197**		**Pn**	**07 59 35.3**	**-0.9**
EDFI	**Ende, Flores**	**15.91**	**199**	P	**Pn**	**07 59 39.4**	**-0.3**
	60nm,0.9s,501nm						
SOEI	**Soe**	**16.27**	**189**	P	**Pn**	**07 59 44.5**	**+0.4**
SOEI	**Soe**	**16.27**	**189**	P	**P**	**07 59 46.8**	**+1.5**
	77nm,0.8s						
DBNI	**Kabupaten Domp**	**17.07**	**210**	P	**P**	**07 59 55.6**	**+1.5**
	29nm,0.7s						
PLAI	**Plampang**	**17.62**	**211**	P	**P**	**08 00 00.6**	**+0.5**
	83nm,0.9s						
TWSI	**Taliwang, Sumb**	**18.02**	**213**	P	**P**	**08 00 05.2**	**+0.7**
	46nm,0.7s,614nm						
YOJ	**Yonaguni jima**	**18.29**	**349**	P	**P**	**08 00 06.4**	**-1.0**
JAGI	**Jajag, Banyuwa**	**19.44**	**221**	P	**P**	**08 00 20.5**	**+0.5**
JAGI				IAmb	IAmb	08 00 25.2	
	comp=Z,32nm,0.8s						
JAGI	**Jajag, Banyuwa**	**19.44**	**221**	P	**P**	**08 00 20.9**	**+0.9**
	comp=Z,50nm,0.9s						
MTN	**Manton Dam**	**19.63**	**167**	P	**P**	**08 00 22.7**	**+0.7**
MTN				IAmb	IAmb	08 00 33.5	
	comp=Z,19nm,0.9s						
JOW	**Kunigami**	**20.34**	**4**	P	**P**	**08 00 27.9**	**-1.7**
KNRA	**Kununurra**	**22.05**	**175**	P	**P**	**08 00 49.0**	**+1.0**
KNRA				IAmb	IAmb	08 00 52.7	
	comp=Z,22nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.40**	**183**	P	**P**	**08 01 10.8**	**+0.4**
PMG	**Port Moresby**	**25.68**	**128**	LR	LR	08 14 30.8	
	comp=Z,34nm,18.0s,baz=304,slow=43						
NJ2	**Nanjing**	**26.55**	**345**	*e*P	**P**	**08 01 31.5**	**+1.7**
NJ2				pP	**pP**	**08 01 53.7**	**+2.2**
NJ2				sP	**sP**	**08 02 05.2**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,420nm,3.5s						
JNU	**Nakatsue**	**26.83**	**8**	P	**P**	**08 01 29.9**	**-2.5**
	comp=Z,11nm,1.0s,baz=208,slow=12,SNR=2.6						
JNU				LR	LR	08 15 30.3	
	comp=Z,27nm,18.0s,baz=199,slow=44						
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**27.08**	**164**	P	**P**	**08 01 34.5**	**-0.2**
WB0				IAmb	IAmb	08 01 39.0	
	comp=Z,8.9nm,0.6s						
WRA	**Warramunga Arr**	**27.24**	**164**	P	**P**	**08 01 36.0**	**0.0**
WRA	**Warramunga Arr**	**27.24**	**164**	P	**P**	**08 01 36.1**	**0.0**
	comp=Z,3.0nm,0.6s,baz=345,slow=10,SNR=40						
WRA				ScP	**ScP**	**08 08 23.2**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=342,slow=3.3,SNR=6.9						
	comp=Z,3.0nm,0.6s						
MBWA	**Marble Bar**	**28.28**	**194**	P	**P**	**08 01 45.8**	**+0.4**
MBWA				IAmb	IAmb	08 01 51.2	
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**28.65**	**194**	P	**P**	**08 01 49.0**	**+0.4**
PSA00				IAmb	IAmb	08 01 54.3	
	comp=Z,22nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.66**	**296**	P	**P**	**08 01 57.0**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=107,slow=6.9,SNR=6.2						
CMAR				PcP	**PcP**	**08 04 60.0**	**0.0**
	comp=Z,1.5nm,0.3s,baz=114,slow=1.1,SNR=5.3						
	comp=Z,1.3nm,0.4s						
AS31	**Alice Springs**	**30.71**	**167**	P	**P**	**08 02 07.5**	**+0.6**
ASAR	**Alice Springs**	**30.71**	**167**	P	**P**	**08 02 07.2**	**+0.4**
ASAR	**Alice Springs**	**30.71**	**167**	P	**P**	**08 02 07.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=341,slow=7.4,SNR=25						
ASAR				ScP	**ScP**	**08 08 34.7**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=328,slow=2.4,SNR=8.1						
	comp=Z,1.3nm,0.6s						
PZH	**PanZhiHua**	**31.12**	**313**	P	**P**	**08 02 11.8**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.5s						
MJAR	**Matsushiro Arr**	**31.74**	**18**	LR	LR	08 15 06.9	
	comp=Z,16nm,19.6s,baz=200,slow=36						
XAN	**Xi'an**	**32.07**	**331**	⇓P	**P**	**08 02 17.8**	**-1.0**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HNS	**HongShan**	**32.74**	**342**	⇓P	**P**	**08 02 26.8**	**+2.3**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	**Lanzhou**	**36.25**	**328**	*e*P	**P**	**08 02 55.4**	**+0.4**
LZH				sP	sP	08 03 37.8	+9.0
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
HHC	**Hu-ho-hao-te**	**36.88**	**341**	*e*P	**P**	**08 03 03.1**	**+2.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,5.7s						
FORT	**Forrest**	**37.02**	**178**	P	**P**	**08 03 01.7**	**+0.4**
USA0B	**Ussuriysk Arra**	**37.90**	**6**	P	**P**	**08 03 08.6**	**-0.1**
USA0B				IAmb	IAmb	08 03 34.2	
	comp=Z,7.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**37.90**	**6**	P	**P**	**08 03 07.4**	**-1.2**
USRK	**Ussuriysk Ar.**	**37.90**	**6**	P	**P**	**08 03 07.3**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=178,slow=9.5,SNR=4.9						
	comp=Z,3.2nm,0.8s						
MDJ	**Mudanjiang**	**38.12**	**3**	P	**P**	**08 03 13.4**	**+2.9**
MDJ				pP	pwP	08 03 38.9	+1.6
MDJ				PP	**PnPn**	**08 04 43.5**	**+1.3**
MDJ				S	**S**	**08 09 00.6**	**+4.5**
MDJ				ScP	**ScP**	**08 09 01.4**	**-0.9**
MDJ				PcS	**PcS**	**08 09 14.2**	**+1.8**
MDJ				sS	sS	08 09 42.4	+8.6
MDJ				SS	**SnSn**	**08 11 55.2**	**+5.2**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.6s						
BBOO	**Buckleboo**	**40.01**	**168**	P	**P**	**08 03 27.1**	**+0.8**
BBOO				IAmb	IAmb	08 03 42.1	
	comp=Z,9.3nm,0.9s						
STKA	**Stephens Creek**	**40.62**	**161**	P	**P**	**08 03 32.0**	**+0.5**
STKA	**Stephens Creek**	**40.62**	**161**	P	**P**	**08 03 32.3**	**+0.8**
	comp=Z,6.0nm,0.6s,baz=335,slow=8.8,SNR=22						
	comp=Z,6.0nm,0.6s						
GTA	**Gaotai**	**40.85**	**327**	P	**P**	**08 03 33.2**	**-0.2**
GTA				sP	sP	08 04 12.0	+4.3
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KLR	**Kul'dur**	**42.86**	**5**	P	**P**	**08 03 47.8**	**-1.7**
	comp=Z,1.6nm,0.4s,baz=194,slow=3.9,SNR=12						
	comp=Z,1.6nm,0.4s						
ARMA	**Armidale**	**43.69**	**148**	P	**P**	**08 03 57.2**	**+0.7**
SONM	**Songino Array**	**44.78**	**341**	P	**P**	**08 04 04.0**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=153,slow=8.4,SNR=5.0						
SONM				PcP	**PcP**	**08 05 44.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=152,slow=2.0,SNR=4.1						
	comp=Z,1.1nm,0.8s						
TOO	**Toolangi**	**47.12**	**160**	P	**P**	**08 04 24.8**	**+1.4**
TOO				IAmb	IAmb	08 04 37.2	
	comp=Z,9.0nm,1.2s						
WMQ	**Urumqi**	**50.58**	**324**	*e*P	**P**	**08 04 50.8**	**+0.9**
WMQ				pP	pP	08 05 17.0	+3.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
PETK	**Petropavlovsk-**	**52.93**	**23**	P	**P**	**08 05 06.6**	**-0.5**
	comp=Z,5.6nm,1.1s,baz=231,slow=4.2,SNR=4.8						
	comp=Z,5.6nm,1.1s						
MK31	**Makanchi Array**	**55.40**	**324**	P	**P**	**08 05 24.6**	**-0.6**
MK31				IAmb	IAmb	08 05 25.7	
	comp=Z,8.6nm,1.4s						
MKAR	**Makanchi Array**	**55.40**	**324**	P	**P**	**08 05 24.1**	**-1.1**
MKAR	**Makanchi Array**	**55.40**	**324**	P	**P**	**08 05 24.6**	**-0.6**
	comp=Z,2.9nm,0.4s,baz=117,slow=7.2,SNR=81						
MKAR				PcP	**PcP**	**08 06 23.9**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=119,slow=3.5,SNR=7.5						
	comp=Z,2.9nm,0.4s						
KSH	**Kashi**	**56.21**	**314**	P	**P**	**08 05 31.7**	**+0.4**
KSH				pP	pP	08 05 58.3	+3.3
KSH				sP	sP	08 06 12.2	+6.3
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NIL	**Nilore**	**56.36**	**306**	P	**P**	**08 05 31.4**	**-0.9**
ZAA0	**Zalesovo Array**	**58.24**	**332**	P	**P**	**08 05 42.8**	**-2.3**
ZAA0				IAmb	IAmb	08 05 44.0	
	comp=Z,4.3nm,0.6s						
ZALV	**Zalesovo Beam**	**58.24**	**332**	P	**P**	**08 05 43.5**	**-1.5**
	comp=Z,5.0nm,0.5s,baz=124,slow=6.7,SNR=21						
	comp=Z,5.0nm,0.5s						
KURK	**Kurchatov**	**59.52**	**327**	P	**P**	**08 05 52.9**	**-1.1**
KURBB	**Kurchatov Arra**	**59.53**	**327**	P	**P**	**08 05 53.3**	**-0.8**
	comp=Z,6.3nm,0.6s,baz=122,slow=6.9,SNR=73						
	comp=Z,6.3nm,0.6s						
KK31	**Karatay Array**	**61.33**	**316**	P	**P**	**08 06 05.2**	**-1.3**
KK31				IAmb	IAmb	08 06 06.4	
	comp=Z,8.1nm,0.8s						
KKAR	**Karatay Array**	**61.33**	**316**	P	**P**	**08 06 05.6**	**-0.9**
KKAR				IAmb	IAmb	08 06 06.4	
	comp=Z,8.1nm,0.8s						
BVAR	**Borovoye Array**	**65.12**	**326**	P	**P**	**08 06 30.7**	**-0.6**
	comp=Z,5.2nm,0.6s,baz=131,slow=8.1,SNR=18						
	comp=Z,5.2nm,0.6s						
WSAR	**Wadi Sarin**	**67.44**	**292**	P	**P**	**08 06 45.6**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=61,slow=13,SNR=2.3						
	comp=Z,2.1nm,0.8s						
NRIK	**Noril'sk**	**67.84**	**346**	P	**P**	**08 06 47.8**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=110,slow=2.2,SNR=3.9						
	comp=Z,3.2nm,0.6s						
GEYT	**Alibeck**	**69.28**	**308**	P	**P**	**08 06 56.8**	**-1.2**
GEYT				IAmb	IAmb	08 06 58.6	
	comp=Z,16nm,1.3s						
GEYT	**Alibeck**	**69.28**	**308**	P	**P**	**08 06 57.2**	**-0.8**
	comp=Z,4.9nm,1.0s,baz=163,slow=1.5,SNR=7.7						
	comp=Z,4.9nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**69.28**	**308**	P	**P**	**08 06 56.9**	**-1.1**
GYA0B				IAmb	IAmb	08 06 58.5	
	comp=Z,14nm,1.3s						
ABKAR	**Akbulak array**	**70.12**	**320**	P	**P**	**08 07 01.1**	**-1.7**
CTZ	**Chatham Island**	**71.33**	**140**	P	**P**	**08 07 10.4**	**+0.2**
AKTO	**Aktyubinsk**	**71.61**	**321**	P	**P**	**08 07 10.6**	**-1.2**
	comp=Z,3.7nm,0.7s,baz=96,slow=6.8,SNR=8.2						
	comp=Z,3.7nm,0.7s						
ARU	**Arti**	**72.71**	**327**	P	**P**	**08 07 17.1**	**-1.2**
ARU				IAmb	IAmb	08 07 18.5	
	comp=Z,5.5nm,0.7s						
ARU	**Arti**	**72.71**	**327**	P	**P**	**08 07 16.9**	**-1.4**
	comp=Z,5.9nm,0.5s,baz=84,slow=7.5,SNR=9.4						
	comp=Z,5.9nm,0.5s						
D19K	**Kuna River**	**78.60**	**21**	P	**P**	**08 07 51.3**	**-0.4**
B20K	**Meade River**	**79.23**	**20**	P	**P**	**08 07 54.9**	**-0.1**
KDAK	**Kodiak Island**	**79.59**	**33**	P	**P**	**08 07 57.9**	**+0.7**
IMAR	**Indian Mountai**	**79.87**	**24**	P	**P**	**08 07 58.7**	**+0.1**
B22K	**Teshekpuk Lake**	**80.54**	**20**	P	**P**	**08 08 01.6**	**-0.5**
B22K				IAmb	IAmb	08 08 02.3	
	comp=Z,9.7nm,1.5s						
MLY	**Manley**	**81.02**	**25**	P	**P**	**08 08 04.2**	**-0.7**
MLY				IAmb	IAmb	08 08 32.4	
	comp=Z,9.2nm,1.4s						
COLD	**Coldfoot**	**81.40**	**23**	P	**P**	**08 08 06.5**	**-0.2**
I23K	**Minto, Yukon-K**	**81.61**	**25**	P	**P**	**08 08 07.8**	**0.0**
TOLK	**Toolik Lake Re**	**81.73**	**22**	P	**P**	**08 08 08.1**	**-0.4**
ILAR	**Eielson Array**	**82.65**	**26**	P	**P**	**08 08 11.8**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=246,slow=4.6,SNR=14						
	comp=Z,0.5nm,0.7s						
IL03	**Eielson Array**	**82.67**	**26**	P	**P**	**08 08 12.8**	**-0.7**
BMAR	**Burnt Mountain**	**83.58**	**23**	P	**P**	**08 08 18.7**	**+0.6**
EGAK	**Eagle**	**85.11**	**25**	P	**P**	**08 08 25.5**	**-0.3**
EGAK				IAmb	IAmb	08 08 53.8	
	comp=Z,7.6nm,1.3s						
GRNC	**Granite Creek**	**85.15**	**30**	P	**P**	**08 08 27.4**	**+1.0**
BARN	**Barnard Glacie**	**85.17**	**29**	P	**P**	**08 08 27.4**	**+0.9**
BARN				IAmb	IAmb	08 09 02.9	
	comp=Z,10nm,1.3s						
F28M	**Old Crow**	**85.38**	**23**	P	**P**	**08 08 27.1**	**-0.1**
F28M				IAmb	IAmb	08 08 29.1	
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**87.95**	**340**	P	**P**	**08 08 38.0**	**-1.6**
	comp=Z,4.0nm,0.8s,baz=78,slow=4.9,SNR=12						
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**88.36**	**310**	P	**P**	**08 08 40.8**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=155,slow=3.8,SNR=5.4						
	comp=Z,1.5nm,0.8s						
FINES	**FINESS Array B**	**89.50**	**332**	P	**P**	**08 08 45.3**	**-1.7**
	comp=Z,2.4nm,0.6s,baz=94,slow=5.0,SNR=11						
	comp=Z,2.4nm,0.6s						
AKASG	**Malin Array Be**	**89.85**	**321**	P	**P**	**08 08 47.2**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=67,slow=4.5,SNR=6.5						
	comp=Z,0.9nm,0.5s						
HFS	**Hagfors**	**95.67**	**332**	P	**P**	**08 09 13.8**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=77,slow=9.3,SNR=4.5						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**122.11**	**290**	PKP	**PKPdf**	**08 14 44.2**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=34,slow=2.9,SNR=7.6						

TEH 05 07:58:42.3, 30°.69N×57°.38E, h6km±27km**, ML3.5, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.21**	**207**	Pg	Pg	07 58 48.4	+1.9
KRM1				Sg	Sg	07 58 51.1	+1.8
ZRDN	**Zarand Kerman**	**0.78**	**291**	Pg	Pb	07 58 58.6	+0.2
CHMN	**Cheshme madani**	**0.84**	**170**	Pg	Pb	07 58 59.8	+0.4
KHGB	**Koh Gabri**	**0.84**	**248**	Pg	Pb	07 58 59.6	+0.2
TVBK	**TV Kerman**	**0.88**	**218**	Pg	Pb	07 59 00.8	+0.7
NGRK	**Negar Kerman**	**1.18**	**209**	Pg	Pn	07 59 06.5	+0.8
IBAF	**Bafgh**	**1.80**	**301**	Pg	Pg	07 59 17.2	+0.5
KBAM	**BAM**	**1.81**	**149**	Pn	Pg	07 59 16.9	0.0
BSRN	**Basiran**	**1.96**	**49**	Pn	Pb	07 59 19.0	+0.4
IKOO	**Kooshah**	**2.22**	**38**	Pn	Pb	07 59 22.7	-0.2
TPRV	**Parvadeh(Tabas**	**2.41**	**346**	Pn	Pb	07 59 25.0	-1.1
IMEH	**Mehriz**	**2.48**	**287**	Pn	Pb	07 59 26.6	-0.7
ITEG	**Tejag**	**2.49**	**28**	Pn	Pb	07 59 26.6	-0.9
TKDS	**Koohdasht(Taba**	**2.92**	**356**	Pn	Pn	07 59 32.1	+2.6
AFRZ	**Afriz**	**3.06**	**27**	Pn	Pn	07 59 34.3	+2.9
ZHDN	**Zahedan**	**3.24**	**112**	Pn	Pn	07 59 36.4	+2.6
TNSJ	**Nastanj**	**3.33**	**349**	Pn	Pn	07 59 37.6	+2.6
SHRT	**Shahrakht**	**3.85**	**39**	Pn	Pn	07 59 45.2	+3.2
ANAR	**Anarak**	**3.98**	**310**	Pn	Pn	07 59 46.9	+2.9
IZEF	**Zefreh**	**4.83**	**298**	Pn	Pn	07 59 58.9	+3.1
TBJM	**Torbat-e-JAM**	**5.20**	**28**	Pn	Pn	08 00 03.9	+3.2
SRVN	**Saravan**	**5.48**	**125**	Pn	Pn	08 00 08.9	+4.3
ISFB	**Sefidab**	**5.67**	**311**	Pn	Pn	08 00 11.0	+3.9
SBZV	**Sabzevar**	**5.69**	**2**	Pn	Pn	08 00 10.1	+2.5
IFIR	**Firoozkooh**	**6.28**	**323**	Pn	Pn	08 00 18.0	+2.3

*SJA **05** 09:01:54.5±1.1, 22°.76S×66°.31W, h259km±6km, ML3.6, MW3.5*

ISC 05 09:01:53.9±2.2**, 22°.80S**±0°.06×**66°.33W**±0°.06**, h260**km±17km**, n29, σ1s49**/48**, 1C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**0.98**	**51**	*i* P	**Pn**	**09 02 31.6**	**+1.0**
YJA				*i* S	**S**	**09 02 58.5**	**-0.8**
AZAP	**Zapla**	**1.84**	**141**	*i* P	**Pn**	**09 02 36.6**	**+0.5**
AZAP				*i* S	**S**	**09 03 08.6**	**-0.9**
LVC	**Limon Verde**	**2.39**	**274**	*i* P	**Pn**	**09 02 42.8**	**+1.5**
LVC				*i* S	**S**	**09 03 17.2**	**-1.5**
LVC	**Limon Verde**	**2.39**	**274**	*e*P	**Pn**	**09 02 42.7**	**+1.4**
LVC				*e*S	**S**	**09 03 18.0**	**-0.6**
LVC				IAML		09 03 19.0	
	94nm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.39**	**116**	*i* P	**Pn**	**09 02 41.3**	**+0.4**
ALOL				*i* S	**S**	**09 03 16.9**	**-1.1**
PB09	**IPOC Station P**	**2.87**	**290**	*i* P	**Pn**	**09 02 48.0**	**+2.0**
PB09				IAML		09 03 30.8	
	comp=Z,76nm,0.2s						
PB09	**IPOC Station P**	**2.87**	**290**	*i* P	**Pn**	**09 02 47.9**	**+2.0**
PB09				*e*S	**S**	**09 03 27.3**	**+0.2**
PB09				IAML		09 03 30.5	
	comp=E,78nm,0.4s						
PB15	**IPOC Station P**	**2.92**	**261**	*i* P	**Pn**	**09 02 48.3**	**+1.8**
PB15				*i* S	**S**	**09 03 27.3**	**-0.8**
PB15	**IPOC Station P**	**2.92**	**261**	*e*P	**Pn**	**09 02 48.2**	**+1.8**
PB15				*e*S	**S**	**09 03 27.2**	**-0.8**
PB06	**IPOC Station P**	**2.99**	**271**	*i* P	**Pn**	**09 02 48.5**	**+1.4**
PB06				*i* S	**S**	**09 03 27.5**	**-1.8**
PB06				IAML		09 03 31.4	
	comp=Z,78nm,0.1s						
PB06	**IPOC Station P**	**2.99**	**271**	*i* P	**Pn**	**09 02 48.6**	**+1.4**
PB06				*e*S	**S**	**09 03 28.4**	**-0.9**
PB06				IAML		09 03 29.1	
	comp=N,134nm,0.1s						
FSA	**Cafayete**	**3.31**	**174**	*i* P	**Pn**	**09 02 51.9**	**+1.2**
PB01	**IPOC Station P**	**3.41**	**300**	*i* P	**Pn**	**09 02 52.9**	**+1.3**
PB01				*i* S	**S**	**09 03 34.9**	**-2.6**
PB01				IAML		09 03 38.1	
	comp=Z,136nm,0.1s						
PB01	**IPOC Station P**	**3.41**	**300**	*e*P	**Pn**	**09 02 52.9**	**+1.3**
PB01				*e*S	**S**	**09 03 35.8**	**-1.6**
PB07	**IPOC Station P**	**3.46**	**287**	*i* P	**Pn**	**09 02 53.6**	**+1.3**
PB07				*i* S	**S**	**09 03 36.8**	**-1.8**
PB07				IAML		09 03 38.9	
	comp=Z,142nm,0.1s						
PB07	**IPOC Station P**	**3.46**	**287**	⇑*i*P	**Pn**	**09 02 53.6**	**+1.3**
PB07				*e*S	**S**	**09 03 36.8**	**-1.8**
PB04	**IPOC Station P**	**3.56**	**277**	*i* P	**Pn**	**09 02 54.1**	**+0.8**
PB04				IAML		09 03 41.4	
	comp=Z,135nm,0.1s						
PB04	**IPOC Station P**	**3.56**	**277**	*e*P	**Pn**	**09 02 54.6**	**+1.3**
PB04				*e*S	**S**	**09 03 38.8**	**-1.8**
PB02	**IPOC Station P**	**3.62**	**293**	*i* P	**Pn**	**09 02 55.0**	**+1.0**
PB02				*i* S	**S**	**09 03 38.8**	**-2.9**
PB02	**IPOC Station P**	**3.62**	**293**	*e*P	**Pn**	**09 02 55.2**	**+1.3**
PB02				*e*S	**S**	**09 03 39.3**	**-2.4**
PB08	**IPOC Station P**	**3.73**	**315**	*i* P	**Pn**	**09 02 57.5**	**+2.0**
PB08				IAML		09 03 48.3	
	comp=Z,26nm,0.1s						
PB08	**IPOC Station P**	**3.73**	**315**	*e*P	**Pn**	**09 02 57.8**	**+2.2**
PB08				*e*S	**S**	**09 03 44.4**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GO02	**Mina Guanaco**	**3.80**	**231**	*i* P	**Pn**	**09 02 57.8**	**+1.6**
GO02	**Mina Guanaco**	**3.80**	**231**	*e*P	**Pn**	**09 02 57.7**	**+1.6**
GO02				*e*S	**S**	**09 03 44.9**	**-0.7**
PATCX	**Punta Patache**	**4.06**	**298**	*i* P	**Pn**	**09 02 59.9**	**+0.9**
PATCX				IAML		09 03 51.7	
	comp=Z,51nm,0.3s						
PB14	**IPOC Station P**	**4.15**	**243**	*i* P	**Pn**	**09 03 01.2**	**+1.0**
PB14				IAML		09 03 57.4	
	comp=Z,33nm,0.2s						
TA01	**Diego Aracena**	**4.21**	**301**	*i* P	**Pn**	**09 03 01.1**	**+0.4**
TA01				IAML		09 03 53.6	
	comp=Z,45nm,0.3s						
PB11	**IPOC Station P**	**4.33**	**314**	*i* P	**Pn**	**09 03 02.9**	**+0.6**
PB11				IAML		09 03 57.1	
	comp=Z,75nm,0.1s						
AC01	**Pan de Azucar**	**5.12**	**228**	*e*P	**Pn**	**09 03 11.7**	**+0.2**
AC01				IAML		09 04 15.0	
	comp=Z,18nm,0.6s						

*NNC **05** 09:04:27.9±0.8, 51.°80N×75.°49E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=13.9km s-min=4.5km az=25.0, Suspected Mining explosion.*
*IDC **05** 09:04:29.2±1.1, 51.°70N×75.°56E, h0km, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=30.8km s-min=8.2km az=30.0*
ISC 05 09:04:29.0±1.0**, 51.°78N**±0.°08×**75.°52E**±0.°05**, h0**km**, n12, σ1.s81**/13**, 9C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.22**	**120**	⇑Pg	**Pb**	**09 05 09.3**	**-0.8**
	2.6nm,0.3s						
KURBB				⇓Lg	Lg	09 05 41.1	
	20nm,0.7s						
KURBB	**Kurchatov Arra**	**2.22**	**120**	Pg	**Pn**	**09 05 08.1**	**+0.9**
	0.4nm,0.3s,baz=302,slow=17,SNR=14						
KURBB				Lg	Lg	09 05 38.9	
	0.6nm,0.3s,baz=304,slow=32,SNR=8.0						
KURK	**Kurchatov**	**2.22**	**118**	⇑Pg	**Pn**	**09 05 08.1**	**+1.0**
	9.4nm,1.5s						
KURK				⇑Lg	Lg	09 05 37.3	
	9.1nm,0.6s						
BVA0	**Borovoye Array**	**3.38**	**294**	Pg	**Pb**	**09 05 30.1**	**+0.4**
	1.4nm,0.7s,baz=116,slow=17,SNR=5.4						
BVA0				⇑Lg	Lg	09 06 14.8	
	3.3nm,0.6s,baz=109,slow=29,SNR=6.6						
BVAR	**Borovoye Array**	**3.38**	**294**	Pn	**Pn**	**09 05 23.2**	**+0.2**
	0.1nm,0.3s,baz=107,slow=13,SNR=5.5						
BVAR				Sn	**Sn**	**09 06 05.7**	**+2.0**
	0.1nm,0.3s,baz=113,slow=24,SNR=3.9						
	0.7nm,0.3s						
BRVK	**Borovoye**	**3.45**	**294**	⇑Pg	**Pb**	**09 05 29.7**	**-1.2**
	1.4nm,0.5s						
BRVK				⇑Lg	Lg	09 06 16.2	
	14nm,1.5s						
OTUK	**Ortayu**	**4.09**	**211**	⇑Pg	**Pb**	**09 05 42.6**	**+0.6**
	1.7nm,1.1s						
OTUK				⇓Lg	Lg	09 06 36.8	
	5.8nm,1.2s						
I46RU	**ZALESOVO INFRA**	**6.04**	**65**	I	I	09 40 40.0	
	baz=249,slow=336,SNR=10						
ZALV	**Zalesovo Beam**	**6.04**	**65**	Pn	**Pn**	**09 05 60.0**	**+0.5**
	0.3nm,0.3s,baz=257,slow=13,SNR=5.2						
	0.8nm,0.4s						
MAKZ	**Makanchi**	**6.53**	**137**	⇓Sn	**Sn**	**09 07 23.7**	**+2.3**
	1.4nm,1.1s						
MAKZ				⇑Lg	Lg	09 07 54.0	
	2.1nm,0.7s						
MK31	**Makanchi Array**	**6.67**	**136**	⇓Sn	**Sn**	**09 07 25.8**	**+0.8**
	0.4nm,0.5s						
MK31				⇑Lg	Lg	09 07 58.1	
	1.5nm,0.6s,baz=323,slow=28,SNR=8.0						
MKAR	**Makanchi Array**	**6.67**	**136**	Pn	**Pn**	**09 06 07.5**	**-0.8**
	baz=305,slow=15,SNR=1.9						
MKAR				Sn	**Sn**	**09 07 20.8**	**-4.2**
	baz=316,slow=19,SNR=1.6						
MKAR				Lg	Lg	09 07 56.8	
	0.5nm,0.3s,baz=325,slow=26,SNR=9.5						
	0.1nm,0.4s						

*RSPR **05** 09:07:34.6, 18.°81N×64.°96W, h99km±6km, MD3.4/6*
*NEIC **05** 09:07:38.2±2.2, 18.°9N±0.°1×65.°2W±0.°1, h35km±2km, ML2.2/12, Md3.4/6(RSPR), Error ellipse: s-maj=27.7km s-min=13.6km az=139.0*
ISC 05 09:07:33.5±2.2**, 19.°0N**±0.°2×**65.°09W**±0.°05**, h25**km**, n21, σ1.s26**/27**, 5C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.18**	**234**	⇑*e*P	**Pb**	**09 07 56.5**	**+1.4**
GCPR	**Guaynabo City**	**1.18**	**234**		**Pb**	**09 07 56.5**	**+1.4**
SJG	**San Juan**	**1.35**	**229**	Pn	**Pb**	**09 07 57.9**	**-0.2**
SJG				IAML		09 08 21.5	
	41nm,0.3s						
SJG				IAML		09 08 24.1	
	45nm,0.2s						
IGPR	**InterUniversit**	**1.42**	**223**	⇓*e*P	**Pb**	**09 07 59.0**	**-0.3**
IGPR	**InterUniversit**	**1.42**	**223**	*e*S	**Sb**	**09 08 17.7**	**+0.7**
IGPR	**InterUniversit**	**1.42**	**223**		**Pb**	**09 07 59.0**	**-0.3**
IGPR					**Sb**	**09 08 17.7**	**+0.7**
CELP	**Cerrillos**	**1.70**	**237**	⇓*e*P	**Pb**	**09 08 03.1**	**-1.0**
CELP	**Cerrillos**	**1.70**	**237**	*e*S	**Sb**	**09 08 23.6**	**-1.4**
CELP	**Cerrillos**	**1.70**	**237**		**Pn**	**09 08 02.9**	**+1.4**
CELP					**Sb**	**09 08 23.5**	**-1.4**
CELP				IAML		09 08 28.3	
	comp=N,30nm,0.4s						
OBIP	**Obispado Ponce**	**1.73**	**236**	⇑*e*P	**Pb**	**09 08 03.6**	**-1.1**
OBIP	**Obispado Ponce**	**1.73**	**236**	*e*S	**Sb**	**09 08 25.0**	**-1.0**
OBIP	**Obispado Ponce**	**1.73**	**236**		**Pn**	**09 08 02.5**	**+0.4**
OBIP					**Sn**	**09 08 22.6**	**-0.8**
OBIP				IAML		09 08 29.9	
	comp=N,28nm,0.7s						
LSP	**Las Mesas**	**2.07**	**247**	⇑*e*P	**Pn**	**09 08 08.1**	**+1.4**
LSP	**Las Mesas**	**2.07**	**247**		**Pn**	**09 08 08.1**	**+1.4**
MLPR	**Magueyes Islan**	**2.13**	**241**	⇑*e*P	**Pn**	**09 08 08.4**	**+1.0**
MLPR	**Magueyes Islan**	**2.13**	**241**	*e*S	**Sb**	**09 08 35.4**	**-2.0**
MLPR	**Magueyes Islan**	**2.13**	**241**		**Pn**	**09 08 08.4**	**+1.0**
MLPR				IAML		09 08 32.7	
	comp=E,21nm,3.3s						
MLPR					**Sn**	**09 08 33.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.17**	**243**	⇑*e*P	**Pn**	**09 08 09.6**	**+1.6**
CRPR	**Cabo Rojo, PR**	**2.17**	**243**	*e*S	**Sb**	**09 08 36.6**	**-1.8**
CRPR	**Cabo Rojo, PR**	**2.17**	**243**		**Pb**	**09 08 10.7**	**-1.3**
CRPR					**Sn**	**09 08 34.9**	**+0.9**
CRPR				IAML		09 09 16.2	
	comp=N,19nm,2.9s						
ANBD	**Bethesda, Anti**	**3.71**	**121**	*e*P	**Pn**	**09 08 30.6**	**+1.3**
ANBD				*e*S	**Sn**	**09 09 10.5**	**-1.8**

*IDC **05** 09:15:08.1±1.2, 30.°04S×178.°49W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=32.5km s-min=17.4km az=133.0*
*NEIC **05** 09:15:08.8±1.3, 30.°07S±0.°08×178.°4W±0.°2, h10km±2km, mb4.3/8, Error ellipse: s-maj=31.8km s-min=3.8km az=115.0*
ISC 05 09:15:08.8±0.8**, 30.°1S**±0.°1×**178.°4W**±0.°1**, h10**km**, n17, σ1.s11**/19**, mb4.2**/8**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93**	**27**	Pg	**Pg**	**09 15 25.1**	**-1.5**
RAO				Sg	**Sg**	**09 15 38.4**	**-0.2**
RAO	**Raoul Island**	**0.93**	**27**	Pn	**Pn**	**09 15 29.6**	**+1.8**
	72nm,0.3s,baz=227,slow=23,SNR=1.6						
RAO				Sn	**Sn**	**09 15 41.6**	**+0.4**
	231nm,0.3s,baz=274,slow=23,SNR=6.9						
TOZ	**Tahuroa Road**	**9.16**	**212**	Pn	**Pn**	**09 17 20.0**	**-1.0**
RAR	**Rarotonga**	**18.95**	**67**	P	**P**	**09 19 29.3**	**-0.8**
CTA	**Charters Tower**	**33.41**	**279**	P	**P**	**09 21 48.9**	**+1.0**
	2.1nm,0.7s,baz=114,slow=10.0,SNR=1.7						
	2.1nm,0.7s						
STKA	**Stephens Creek**	**34.22**	**257**	P	**P**	**09 21 55.9**	**+1.2**
	1.1nm,0.5s,baz=100,slow=11,SNR=4.6						
	1.1nm,0.5s						
BBOO	**Buckleboo**	**38.73**	**254**	P	**P**	**09 22 32.4**	**-0.9**
BBOO				IAmb	IAmb	09 22 47.1	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**42.79**	**267**	P	**P**	**09 23 05.0**	**-1.9**
ASAR	**Alice Springs**	**42.79**	**267**	P	**P**	**09 23 06.1**	**-0.9**
ASAR	**Alice Springs**	**42.79**	**267**	P	**P**	**09 23 06.3**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=102,slow=7.6,SNR=10						
	comp=Z,0.4nm,0.6s						
WR0	**Warramunga Arr**	**43.57**	**272**	P	**P**	**09 23 12.7**	**-0.5**
WR0				IAmb	IAmb	09 23 27.2	
	comp=Z,7.5nm,1.4s						
WB2	**Warramunga Arr**	**43.74**	**272**	P	**P**	**09 23 13.5**	**-1.1**
WRA	**Warramunga Arr**	**43.75**	**272**	P	**P**	**09 23 14.3**	**-0.4**
WRA	**Warramunga Arr**	**43.75**	**272**	P	**P**	**09 23 14.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=111,slow=8.0,SNR=12						
	comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**43.77**	**272**	P	**P**	**09 23 14.4**	**-0.5**
WB0				IAmb	IAmb	09 23 36.9	
	comp=Z,5.7nm,1.1s						
QSPA	**South Pole Qui**	**60.02**	**180**	P	**P**	**09 25 16.8**	**+1.2**
QSPA				IAmb	IAmb	09 25 23.7	
	comp=Z,2.5nm,1.1s						
QSPA	**South Pole Qui**	**60.02**	**180**	P	**P**	**09 25 16.6**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=16,slow=0.7,SNR=8.8						
	comp=Z,0.9nm,0.6s						

*NEIC **05** 09:31:14.4±1.6, 22.°2S±0.°1×179.°4W±0.°2, h552km±7km, mb4.4/41, Error ellipse: s-maj=20.6km s-min=16.7km az=83.0*
*IDC **05** 09:31:16.3±1.7, 22.°15S×179.°57W, h571km±17km, mb3.5/19, mbtmp4.4/20, Error ellipse: s-maj=16.4km s-min=13.1km az=100.0*
ISC 05 09:31:16.6±0.4**, 22.°33S**±0.°06×**179.°59W**±0.°08**, h579**km**, n138, σ1.s22**/151**, mb4.3**/39**, 26C-5D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**7.06**	**168**	P	**P**	**09 33 06.0**	**-0.1**
GLKZ				S	**S**	**09 34 33.7**	**-2.2**
LIFNC	**LIFOU**	**12.36**	**275**	P	**P**	**09 33 58.5**	**-0.4**
OUENC	**Ouen Island, N**	**12.56**	**267**	P	**P**	**09 33 59.9**	**-1.1**
DZM	**Mont Dzumac**	**12.94**	**269**	P	**P**	**09 34 05.3**	**+0.3**
DZM	**Mont Dzumac**	**12.94**	**269**	P	**P**	**09 34 05.1**	**0.0**
	12nm,0.7s,baz=87,slow=17,SNR=12						
OUZ	**Omahuta**	**14.15**	**203**	P	**P**	**09 34 17.5**	**+0.5**
KOUNC	**Koumac, New Ca**	**15.12**	**274**	P	**P**	**09 34 26.7**	**+0.1**
KOUNC				IAmb	IAmb	09 34 28.1	
	comp=Z,14nm,0.9s						
ETAZ	**East Tamaki Re**	**15.32**	**197**	P	**P**	**09 34 30.5**	**+2.2**
MKAZ	**Moumakai**	**15.40**	**196**	P	**P**	**09 34 30.3**	**+1.2**
AWAZ	**Awhitu Peninsu**	**15.51**	**198**	P	**P**	**09 34 31.5**	**+1.5**
TOZ	**Tahuroa Road**	**15.92**	**194**	P	**P**	**09 34 34.9**	**+1.0**
TOZ				IAmb	IAmb	09 35 01.4	
	comp=Z,18nm,1.1s						
TOZ	**Tahuroa Road**	**15.92**	**194**	P	**P**	**09 34 35.2**	**+1.3**
URZ	**Urewera**	**16.12**	**189**	P	**P**	**09 34 34.6**	**-1.2**
	comp=Z,13nm,0.3s,baz=5.4,slow=3.0,SNR=12						
URZ				S	**S**	**09 37 12.4**	**-5.8**
	comp=Z,15nm,0.6s,baz=57,slow=18,SNR=2.1						
URZ	**Urewera**	**16.12**	**189**	P	**P**	**09 34 34.6**	**-1.2**
URZ				S	**S**	**09 37 14.5**	**-3.7**
NMHZ	**Naumai**	**16.99**	**190**	P	**P**	**09 34 43.8**	**0.0**
NMHZ				S	**S**	**09 37 26.9**	**-5.6**
BKZ	**Black Stump Fm**	**17.11**	**190**	P	**P**	**09 34 43.5**	**-1.3**
BKZ				S	**S**	**09 37 30.4**	**-4.0**
VRZ	**Vera Road**	**17.42**	**195**	P	**P**	**09 34 50.5**	**+2.9**
BHHZ	**Black Hill Sta**	**17.50**	**191**	P	**P**	**09 34 46.7**	**-1.7**
KRHZ	**Kereru**	**17.59**	**190**	P	**P**	**09 34 47.9**	**-1.4**
KRHZ				S	**S**	**09 37 42.7**	**+0.5**
TSZ	**Takapari Road**	**18.07**	**191**	P	**P**	**09 34 53.1**	**-0.5**
TSZ				S	**S**	**09 37 51.7**	**+1.8**
ARMA	**Armidale**	**26.96**	**247**	P	**P**	**09 36 15.1**	**+1.9**
ARMA				IAmb	IAmb	09 36 15.8	
	comp=Z,6.0nm,0.8s						
EIDS	**Eidsvold**	**26.97**	**258**	P	**P**	**09 36 13.8**	**+0.5**
EIDS				IAmb	IAmb	09 36 14.8	
	comp=Z,5.9nm,0.7s						
CAN	**Canberra**	**30.27**	**238**	P	**P**	**09 36 43.2**	**+1.4**
CAN				IAmb	IAmb	09 36 44.1	
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**31.89**	**268**	P	**P**	**09 36 56.3**	**+0.6**
	comp=Z,5.0nm,0.4s,baz=94,slow=12,SNR=4.7						
	comp=Z,5.0nm,0.4s						
CTAO	**Charters Tower**	**31.89**	**268**	P	**P**	**09 36 56.5**	**+0.8**
CTAO				IAmb	IAmb	09 36 56.9	
	comp=Z,6.7nm,0.5s						
TOO	**Toolangi**	**33.63**	**235**	P	**P**	**09 37 11.8**	**+1.5**
TOO				IAmb	IAmb	09 37 12.1	
	comp=Z,5.5nm,0.8s						
PMG	**Port Moresby**	**34.38**	**287**	P	**P**	**09 37 15.2**	**-1.5**
STKA	**Stephens Creek**	**35.68**	**246**	P	**P**	**09 37 28.5**	**+1.2**
STKA	**Stephens Creek**	**35.68**	**246**	P	**P**	**09 37 28.4**	**+1.1**
	comp=Z,2.5nm,0.4s,baz=88,slow=9.2,SNR=9.5						
	comp=Z,2.5nm,0.4s						
MCQ	**Macquarie Isla**	**35.95**	**201**	P	**P**	**09 37 29.5**	**+0.4**
PATS	**Pohnpei**	**36.18**	**321**	P	**P**	**09 37 30.9**	**-0.7**
BBOO	**Buckleboo**	**40.42**	**245**	P	**P**	**09 38 05.8**	**+0.1**
AS31	**Alice Springs**	**42.69**	**259**	P	**P**	**09 38 24.2**	**+0.4**
ASAR	**Alice Springs**	**42.69**	**259**	P	**P**	**09 38 23.6**	**-0.1**
ASAR	**Alice Springs**	**42.69**	**259**	P	**P**	**09 38 23.9**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=98,slow=7.9,SNR=89						
ASAR				PcP	**PcP**	**09 40 02.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=109,slow=3.5,SNR=7.9						
ASAR				ScP	**ScP**	**09 42 58.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=105,slow=4.6,SNR=4.6						
ASAR				S	**S**	**09 44 04.3**	**-1.9**
	comp=Z,3.8nm,1.0s,baz=95,slow=16,SNR=17						
	comp=Z,3.3nm,0.6s						
WR0	**Warramunga Arr**	**42.73**	**264**	P	**P**	**09 38 23.8**	**-0.2**
WB0	**Warramunga Arr**	**42.90**	**265**	P	**P**	**09 38 25.2**	**-0.2**
WB0				IAmb	IAmb	09 38 25.5	
	comp=Z,5.8nm,0.6s						
WB2	**Warramunga Arr**	**42.90**	**264**	P	**P**	**09 38 24.9**	**-0.5**
WB2				IAmb	IAmb	09 38 25.6	
	comp=Z,5.1nm,0.7s						
WRAB	**Tennant Creek**	**42.91**	**264**	P	**P**	**09 38 25.3**	**-0.2**
WRA	**Warramunga Arr**	**42.92**	**264**	P	**P**	**09 38 25.6**	**0.0**
WRA	**Warramunga Arr**	**42.92**	**264**	P	**P**	**09 38 25.2**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=94,slow=7.9,SNR=106						
WRA				ScP	**ScP**	**09 43 01.8**	**+2.5**
	comp=Z,0.9nm,1.1s,baz=93,slow=4.1,SNR=5.2						
WRA				S	**S**	**09 44 06.4**	**-3.1**
	comp=Z,0.8nm,0.7s,baz=99,slow=13,SNR=4.6						
	comp=Z,3.1nm,0.5s						
FORT	**Forrest**	**47.23**	**248**	P	**P**	**09 38 58.5**	**+0.2**
FORT				IAmb	IAmb	09 39 00.6	
	comp=Z,18nm,1.1s						
MTN	**Manton Dam**	**47.74**	**273**	P	**P**	**09 39 02.3**	**0.0**
MTN				IAmb	IAmb	09 39 04.5	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**49.09**	**268**	P	**P**	**09 39 12.5**	**+0.2**
KNRA				IAmb	IAmb	09 39 18.5	
	comp=Z,7.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.35**	**264**	P	**P**	**09 39 29.5**	**+0.8**
PSA00	**Pilbara Seismi**	**55.83**	**258**	P	**P**	**09 40 00.6**	**+0.3**
VNDA	**Vanda**	**55.96**	**185**	P	**P**	**09 40 02.6**	**+2.4**
VNDA	**Vanda**	**55.96**	**185**	P	**P**	**09 40 02.5**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=357,slow=6.6,SNR=8.1						
	comp=Z,1.1nm,0.7s						
MBWA	**Marble Bar**	**56.03**	**259**	P	**P**	**09 40 01.7**	**0.0**
NWAO	**Narrogin (SRO)**	**56.24**	**245**	P	**P**	**09 40 03.8**	**+0.8**
NWAO				IAmb	IAmb	09 40 28.7	
	comp=Z,29nm,1.1s						
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**09 41 18.2**	**+1.2**
QSPA				IAmb	IAmb	09 41 19.4	
	comp=Z,7.0nm,1.0s						
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**09 41 18.3**	**+1.3**
	comp=Z,5.1nm,0.9s,baz=46,slow=3.1,SNR=8.9						
	comp=Z,5.1nm,0.9s						
UGM	**Wanagama**	**68.47**	**270**	P	**P**	**09 41 22.4**	**+0.2**
MJAR	**Matsushiro Arr**	**70.83**	**325**	P	**P**	**09 41 35.1**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=156,slow=5.9,SNR=17						
	comp=Z,4.6nm,0.8s						
JMN	**Monobe**	**71.22**	**320**	P	**P**	**09 41 38.6**	**+0.5**
JMN				IAmb	IAmb	09 41 44.7	
	comp=Z,9.6nm,1.0s						
JTM	**Tenmabayashi**	**72.67**	**330**	P	**P**	**09 41 46.9**	**+0.6**
YULB	**Yu-li**	**73.29**	**305**	P	**P**	**09 41 49.6**	**-0.7**
ADK	**Adak**	**73.94**	**2**	P	**P**	**09 41 52.3**	**-0.9**
ADK				IAmb	IAmb	09 41 52.5	
	comp=Z,11nm,0.7s						
ASAJ	**Asahikawa**	**74.65**	**333**	P	**P**	**09 41 57.5**	**+0.1**
	comp=Z,8.7nm,0.8s,baz=184,slow=7.2,SNR=5.9						
	comp=Z,8.7nm,0.8s						
KSRS	**Korea Array**	**77.30**	**320**	P	**P**	**09 42 12.4**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=126,slow=5.9,SNR=5.5						
	comp=Z,1.8nm,0.7s						
PEA0B	**Petropavlovsk-**	**77.67**	**346**	P	**P**	**09 42 13.6**	**-0.2**
PEA0B				IAmb	IAmb	09 42 32.0	
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**77.67**	**346**	P	**P**	**09 42 13.2**	**-0.6**
	comp=Z,8.1nm,0.7s,baz=115,slow=5.8,SNR=16						
	comp=Z,8.1nm,0.7s						
BELA	**Belgrano 2**	**77.93**	**173**	P	**P**	**09 42 15.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**79.66**	**327**	P	**P**	**09 42 25.1**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=142,slow=4.5,SNR=7.1						
	comp=Z,4.9nm,0.9s						
OHAK	**Old Harbor**	**82.27**	**14**	P	**P**	**09 42 36.9**	**-0.7**
OHAK				IAmb	IAmb	09 42 46.4	
	comp=Z,8.7nm,1.2s						
CN2	**Changchun**	**82.86**	**323**	P	**P**	**09 42 41.4**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**83.36**	**330**	P	**P**	**09 42 43.5**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=198,slow=2.3,SNR=6.6						
	comp=Z,2.1nm,0.7s						
NVAR	**Mina Array Bea**	**83.37**	**44**	P	**P**	**09 42 44.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=228,slow=6.9,SNR=5.1						
	comp=Z,0.8nm,0.8s						
O16K	**Kokwok River B**	**83.52**	**11**	P	**P**	**09 42 43.0**	**-0.9**
O16K				IAmb	IAmb	09 43 06.2	
	comp=Z,16nm,1.1s						
O19K	**Port Alsworth**	**84.78**	**12**	P	**P**	**09 42 49.6**	**-0.4**
MA2	**Magadan**	**85.17**	**345**	P	**P**	**09 42 51.0**	**-0.9**
	comp=Z,5.6nm,0.7s,baz=172,slow=5.1,SNR=5.2						
	comp=Z,5.6nm,0.7s						
HEH	**HeiHe**	**86.10**	**329**	*e*P	**P**	**09 42 56.3**	**-0.3**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HEH				pmax	pmax		
	comp=Z,300nm,5.1s						
SUA	**Susitna One**	**86.67**	**13**	P	**P**	**09 42 58.6**	**-0.6**
SEY	**Seymchan**	**87.83**	**348**	P	**P**	**09 43 03.9**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=164,slow=7.3,SNR=9.9						
	comp=Z,3.4nm,0.7s						
XAN	**Xi'an**	**88.08**	**308**	⇑P	**P**	**09 43 07.6**	**+1.2**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PLCA	**Paso Flores**	**89.08**	**134**	P	**P**	**09 43 12.1**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=310,slow=3.2,SNR=3.6						
	comp=Z,1.4nm,0.8s						
TXAR	**Lajitas Array**	**89.28**	**58**	P	**P**	**09 43 13.1**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=211,slow=6.6,SNR=3.8						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**09 43 14.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**09 43 14.3**	**+1.8**
	comp=Z,5.9nm,0.9s,baz=135,slow=3.2,SNR=22						
	comp=Z,5.9nm,0.9s						
CCB	**Clear Creek Bu**	**90.12**	**13**	P	**P**	**09 43 13.9**	**-1.1**
CCB				IAmb	IAmb	09 43 14.2	
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**90.43**	**13**	P	**P**	**09 43 15.3**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=216,slow=4.6,SNR=12						
	comp=Z,0.9nm,0.7s						
BILL	**Bilibino**	**90.71**	**355**	P	**P**	**09 43 16.6**	**-1.1**
J26L	**Joseph Creek**	**90.94**	**15**	IAmb	IAmb	09 43 20.3	
	comp=Z,6.1nm,1.1s						
BVAR	**Borovoye Array**	**119.51**	**319**	PKP	**PKPdf**	**09 48 59.8**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=114,slow=1.9,SNR=15						
ARU	**Arti**	**125.85**	**324**	PKP	**PKPdf**	**09 49 12.5**	**-0.3**
	comp=Z,4.2nm,0.5s,baz=342,slow=3.3,SNR=5.4						
AKTO	**Aktyubinsk**	**127.42**	**317**	PKP	**PKPdf**	**09 49 15.8**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=31,slow=2.1,SNR=5.7						
FINES	**FINESS Array B**	**137.08**	**342**	PKhKP	PKPpre	09 49 23.8	
	comp=Z,3.2nm,0.9s,baz=66,slow=3.4,SNR=3.9						
FINES				PKP	**PKPdf**	**09 49 33.1**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=104,slow=2.4,SNR=5.0						
HFS	**Hagfors**	**141.09**	**349**	PKhKP	PKPpre	09 49 34.9	
	comp=Z,2.8nm,0.4s,baz=81,slow=4.7,SNR=24						
AKASG	**Malin Array Be**	**143.85**	**329**	PKP	PKPbc	09 49 44.4	-1.2
	comp=Z,3.4nm,0.4s,baz=40,slow=4.2,SNR=31						
AKASG				SKPbc	**SKPbc**	**09 52 31.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=58,slow=1.8,SNR=4.7						
AKBB	**Malin Array Si**	**143.85**	**329**		PKPbc	09 49 44.9	-0.7
KIEV	**Kiev**	**143.86**	**329**	⇑P	PKPbc	09 49 45.4	-0.2
BNN	**Bunyan**	**145.60**	**307**		**PKPbc**	**09 49 51.8**	**+0.4**
SORM	**Soroca**	**145.94**	**326**	⇑P	**PKPbc**	**09 49 51.5**	**-0.4**
BRTR	**Keskin Array B**	**146.91**	**309**	PKPbc	**PKPbc**	**09 49 54.4**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=137,slow=4.5,SNR=7.7						
EKA	**Eskdalemuir Ar**	**146.94**	**4**	PKPbc	**PKPbc**	**09 49 53.5**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=355,slow=1.8,SNR=9.0						
MMAI	**Mount Meron Ar**	**147.37**	**297**	PKPbc	**PKPbc**	**09 49 56.7**	**+0.4**
	comp=Z,5.0nm,0.5s,baz=75,slow=6.4,SNR=10						
TLCR		**147.47**	**321**	⇑P	**PKPbc**	**09 49 56.1**	**0.0**
CFR	**Carcaliu**	**147.86**	**322**	⇑P	**PKPbc**	**09 49 56.9**	**-0.1**
BURAR	**Bucovina Array**	**147.87**	**328**	⇑P	**PKPbc**	**09 49 57.5**	**+0.3**
TPGR	**Topolog**	**147.89**	**321**	⇑P	**PKPbc**	**09 49 56.5**	**-0.7**
TIRR	**Tirgusor**	**148.12**	**320**	⇑P	**PKPbc**	**09 49 57.2**	**-0.5**
VRI	**Vrincioaia**	**148.23**	**324**	⇓P	**PKPbc**	**09 49 58.1**	**0.0**
HARR	**Harsova**	**148.27**	**321**	⇑P	**PKPbc**	**09 49 57.8**	**-0.3**
KOLS	**Kolonicke sedl**	**148.29**	**332**	*e*PKP	**PKiKP**	**09 49 59.1**	**-0.2**
STHS	**Stebnicka Huta**	**148.35**	**334**	*e*PKP	**PKPbc**	**09 49 58.1**	**-0.1**
MANR	**Mangalia**	**148.37**	**319**	⇑P	**PKiKP**	**09 49 58.9**	**-0.7**
CRVS	**Cervenica-Dubn**	**148.66**	**333**	*e*PKP	**PKPbc**	**09 49 59.3**	**+0.3**
DOPR	**Dopca**	**148.89**	**325**	⇑P	**PKiKP**	**09 50 00.1**	**-0.5**
KSP	**Ksiaz**	**148.96**	**340**	*e*PKP	**PKPbc**	**09 49 59.9**	**+0.3**
OSTC	**Ostas**	**149.23**	**340**	⇑*e*PKP	**PKiKP**	**09 50 00.8**	**-0.4**
LANS	**Liptovska Anna**	**149.27**	**335**	*e*PKP	**PKiKP**	**09 50 01.5**	**+0.2**
CJR	**Cluj-Napoca**	**149.29**	**328**	⇑P	**PKiKP**	**09 50 01.0**	**-0.4**
DPC	**Dobruska-Polom**	**149.38**	**340**	⇑*e*PKP	**PKPbc**	**09 50 00.9**	**+0.2**
VOIR		**149.41**	**325**	⇓P	**PKPbc**	**09 50 00.6**	**-0.5**
MORC	**Moravsky Berou**	**149.46**	**338**	⇓P	**PKPbc**	**09 50 00.5**	**-0.5**
MORC	**Moravsky Berou**	**149.46**	**338**	*e*PKP	**PKPbc**	**09 50 00.9**	**-0.1**
CLL	**Collm**	**149.47**	**344**		**PKPbc**	**09 50 00.9**	**+0.1**
CLL	**Collm**	**149.47**	**344**	*e*PKPdf	**PKPdf**	**09 49 56.0**	**+0.4**
	comp=Z,4.0nm,0.6s						
CLL				⇓*i*PKPbc	**PKPbc**	**09 50 00.6**	**-0.2**
	comp=Z,15nm,0.8s						
CLL				*i* PKPab	**PKPab**	**09 50 07.4**	**-0.8**
	comp=Z,12nm,0.9s						
CLL				*e*pPKPbc	**pPKPdf**	**09 52 08.0**	**-1.8**
KRLC	**Kraliky**	**149.47**	**339**	⇑*e*PKP	**PKPbc**	**09 50 01.0**	**0.0**
MARR	**Marisel-Cluj**	**149.55**	**328**	⇑P	**PKPbc**	**09 50 01.1**	**-0.2**
MAUC	**Maruska**	**149.71**	**337**	⇑*e*PKP	**PKiKP**	**09 50 01.9**	**-0.3**
HSKC	**Hora Svate Kat**	**150.00**	**343**	⇑*e*PKP	**PKiKP**	**09 50 02.5**	**-0.3**
VYHS	**Vyhne**	**150.05**	**335**	*e*PKP	**PKPbc**	**09 50 02.4**	**+0.1**
JAVC	**Velka Javorina**	**150.19**	**337**	*e*PKP	**PKiKP**	**09 50 03.6**	**+0.4**
GOPC	**GO Pecny, Ondr**	**150.24**	**341**	⇑*e*PKP	**PKPbc**	**09 50 02.7**	**0.0**
PRU	**Pruhonice**	**150.24**	**341**	⇑*e*PKP	**PKPbc**	**09 50 02.4**	**-0.3**
PRU				*e*PKPAB	**PKPab**	**09 50 11.4**	**-0.1**
GZR	**Gura Zlata**	**150.62**	**327**	⇑P	**PKiKP**	**09 50 04.0**	**-0.3**
SURR	**Surduc**	**150.69**	**328**	⇓P	**PKPbc**	**09 50 02.0**	**-1.9**
MODS	**Modra-Piesok**	**150.74**	**337**	*e*PKP	**PKiKP**	**09 50 04.3**	**0.0**
BZS	**Buzias**	**151.04**	**328**	⇑P	**PKPbc**	**09 50 04.3**	**-0.4**
HERR	**Herculane**	**151.16**	**326**	⇑P	**PKPbc**	**09 50 03.9**	**-1.1**
KHC	**Kasperske Hory**	**151.29**	**342**	⇑*e*PKP	**PKPbc**	**09 50 05.0**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**09 50 16.2**	**+0.2**
KHC				*e*x	x	09 52 16.0	
CKRC	**Cesky Krumlov**	**151.35**	**341**	⇑*e*PKP	**PKPbc**	**09 50 05.0**	**-0.3**
GERES	**GERESS Array B**	**151.51**	**341**	PKPbc	**PKPbc**	**09 50 05.4**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=347,slow=5.5,SNR=4.9						
CONA	**Conrad Observa**	**151.62**	**338**	*e*PKiKP	**PKPbc**	**09 50 05.9**	**-0.1**
	comp=Z,1.8nm,0.6s						
RONA	**Rosalia, Austr**	**151.66**	**337**	*i* PKiKP	**PKPbc**	**09 50 05.8**	**-0.3**
	comp=Z,0.9nm,0.2s						
MORH	**Mrgy, Hungar**	**151.95**	**332**	⇑P	**PKPbc**	**09 50 05.4**	**-1.3**
FUORN	**Ofenpass-Fuorn**	**154.49**	**344**	PKPab	**PKPab**	**09 50 30.5**	**+0.5**

*THE **05** 09:34:51.9, 36.°92N×27.°19E, h7km±1km, ML2.6/3, Error ellipse: s-maj=2.2km s-min=0.8km az=63.0*
*ISK **05** 09:34:51.2, 36.°90N×27.°18E, h6km, ML2.5/17*
*ATH **05** 09:34:52.5, 36.°91N×27.°21E, h13km±2km, ML2.9/1, Error ellipse: s-maj=3.8km s-min=1.0km az=238.0*
ISC 05 09:34:52.0±0.9**, 36.°89N**±0.°03×**27.°18E**±0.°03**, h11**km±7km**, n32, σ0.s67**/46**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLNA	**Kalymnos**	**0.18**	**291**	P	**Pg**	**09 34 56.9**	**+0.9**
KLNA				S	**Sg**	**09 35 00.1**	**+1.5**
KLNA				AML	AML	09 35 00.6	
	comp=E,11099μm,0.2s						
KLNA				AML	AML	09 35 00.8	
	comp=N,10165μm,0.2s						
BODT	**Bodrum**	**0.20**	**31**	Pg	**Pg**	**09 34 55.8**	**-0.5**
BODT				Sg	**Sg**	**09 34 58.5**	**-0.7**
BODT	**Bodrum**	**0.20**	**31**	P	**Pg**	**09 34 55.8**	**-0.5**
BODT				S	**Sg**	**09 34 58.5**	**-0.7**
YKAV	**Yalikavak-Bodr**	**0.24**	**19**	Pg	**Pg**	**09 34 56.6**	**-0.5**
YKAV				Sg	**Sg**	**09 34 59.9**	**-0.6**
NISR	**Nisiros**	**0.28**	**189**	P	**Pb**	**09 34 58.8**	**-0.3**
DAT	**Datca**	**0.36**	**117**	Pg	**Pg**	**09 34 58.8**	**-0.4**
DAT				Sg	**Sg**	**09 35 04.4**	**+0.4**
DAT	**Datca**	**0.36**	**117**	P	**Pg**	**09 34 58.8**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DAT				S	Sg	09 35 04.1	+0.1
RFTAA	Mazikoy-Bodrum	0.46	77	Pg	Pg	09 34 59.9	-1.2
MLSB	Milas	0.62	50	Pg	Pg	09 35 02.9	-1.2
GCAM	G?zelcaml?	0.81	3	Pg	Pg	09 35 07.4	-0.2
GCAM				Sg	Sb	09 35 18.9	-0.1
SMG	Samos	0.86	341	P	Pg	09 35 08.4	-0.2
SMG				S	Sg	09 35 19.9	0.0
	comp=N,738nm,0.2s						
SMG	Samos	0.86	341	P	Pg	09 35 08.4	-0.2
TURN	Turunc	0.86	98	Pg	Pg	09 35 08.3	-0.3
YER	Yerkesik	0.91	74	Pg	Pg	09 35 09.6	-0.1
YER				Sg	Sb	09 35 23.2	+1.1
YER	Yerkesik	0.91	74	P	Pg	09 35 09.3	-0.4
YER				S	Sb	09 35 22.5	+0.4
ARG	Arkhangelos	1.02	131	Pg	Pg	09 35 11.2	-0.4
ARG	Arkhangelos	1.02	131	P	Pg	09 35 11.1	-0.5
ARG				S	Sb	09 35 26.3	+1.3
	comp=N,265nm,0.3s						
ARG	Arkhangelos	1.02	131	P	Pg	09 35 11.1	-0.5
ARG				S	Sb	09 35 25.3	+0.3
DALY	Dalyan (Mula)	1.18	93	Pn	Pg	09 35 14.5	-0.3
DALY				Sn	Sn	09 35 30.9	+0.3
APE	Apeiranthos	1.33	278	Pn	Pn	09 35 16.5	-0.1
APE	Apeiranthos	1.33	278	P	Pn	09 35 16.2	-0.4
APE				S	Sb	09 35 33.1	-1.1
	comp=N,118nm,0.4s						
APE	Apeiranthos	1.33	278	P	Pn	09 35 16.3	-0.4
KARP	Karpathos	1.34	181	Pn	Pn	09 35 16.4	-0.4
KARP	Karpathos	1.34	181	P	Pn	09 35 16.3	-0.4
KARP	Karpathos	1.34	181	P	Pn	09 35 16.3	-0.4
FETY	Fethiye	1.55	99	Pn	Pn	09 35 20.2	+0.6
CAME	Cameli-Denizli	1.70	88	Pn	Pn	09 35 22.6	+0.8
CHOS	Chios island	1.74	329	Pn	Pn	09 35 22.7	+0.5
CHOS	Chios island	1.74	329	P	Pn	09 35 22.1	-0.2
APMY	Acipayam-Deniz	1.79	71	Pn	Pn	09 35 23.8	+0.9
KULA	Kula-Manisa	2.00	35	Pn	Pn	09 35 26.8	+1.0
RFT7	Candarli	2.07	354	Pn	Pn	09 35 27.2	+0.5

*IDC **05** 09:46:05.7±0.7, 40.°94N×72.°51E, h0km, mb3.8/17, mbtmp3.8/24, ML3.2/6, MS2.2/1, Error ellipse: s-maj=14.4km s-min=9.0km az=143.0*
*MOS **05** 09:46:06.2±1.0, 40.°97N×72.°30E, h10km, mb3.8/5, Error ellipse: s-maj=6.6km s-min=3.9km az=59.0*
*ISU **05** 09:46:07.6, 41.°02N×72.°66E, h23km*
*KRNET **05** 09:46:08.1±0.1, 41.°08N×72.°52E, h14km, mb4.3*
*SOME **05** 09:46:09.3, 41.°23N×72.°65E, h0km, MS3.5*
*KNET **05** 09:46:09.5±0.3, 41.°19N×72.°62E, h2km±1km, ml4.1, Error ellipse: s-maj=3.2km s-min=1.6km az=122.0*
*NNC **05** 09:46:11.4±0.6, 41.°24N×72.°57E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=6.0km s-min=3.5km az=156.0*
ISC 05 09:46:06.8±1.0**, 41.°10N**±0.°02×**72.°56E**±0.°01**, h8**km±7km**, n195, σ2.s21**/281**, mb3.8**/19**, 51C-28D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.39	54	i PG	Pb	09 46 16.5	+0.4
ARSB	Arslanbob	0.39	54	i P	Pb	09 46 16.5	+0.4
	baz=55						
ARSB				i S	Sb	09 46 22.6	+0.2
	baz=55						
TSTA	Tashata	0.52	187	P	Pb	09 46 17.4	-0.9
TSTA				S	Sb	09 46 24.6	-1.4
OHH	Osh	0.59	164	i PG	Pb	09 46 19.3	-0.3
OHH				S	Sb	09 46 27.2	-1.0
OHH	Osh	0.59	164	⇑iP	Pb	09 46 19.3	-0.3
	baz=60						
OHH				⇑iS	Sb	09 46 27.2	-1.0
	baz=60						
NAM	Namangan	0.69	262	P	Pn	09 46 22.5	-0.5
NAM				S	Sn	09 46 33.4	-0.6
KSNS	Kasansay	0.79	275	P	Pn	09 46 24.5	+0.1
KSNS				S	Sn	09 46 36.9	+0.4
ARK	Arkit	0.83	327	i PG	Pb	09 46 23.7	0.0
ARK				S	Sb	09 46 35.3	+0.1
ARK	Arkit	0.83	327	⇑iP	Pb	09 46 23.7	0.0
	baz=30						
ARK				⇑iS	Sb	09 46 35.3	+0.1
	baz=30						
FRG	Fergana	0.93	220	P	Pb	09 46 25.4	+0.1
FRG				S	Sb	09 46 38.6	+0.7
TRKS	Terek-Say	1.16	292	i PG	Pg	09 46 28.7	-0.4
TRKS				S	Sg	09 46 43.5	-0.6
TRKS	Terek-Say	1.16	292	⇑iP	Pg	09 46 28.7	-0.4
	baz=91						
TRKS				⇑iS	Sg	09 46 43.5	-0.6
	baz=91						
SFK	Sufi-Kurgan	1.30	146	i PG	Pb	09 46 32.3	+0.7
SFK				S	Sn	09 46 50.1	+0.9
SFK	Sufi-Kurgan	1.30	146	⇑iP	Pb	09 46 32.3	+0.7
	baz=44						
SFK				⇑iS	Sn	09 46 50.1	+0.9
	baz=44						
AML	Almayashu	1.34	39	⇓P	Pb	09 46 33.7	+1.2
	269nm,0.2s,SNR=211						
AML				⇓S	Sn	09 46 52.0	+1.6
	2µm,0.4s						
AML	Almayashu	1.34	39	⇑P	Pb	09 46 33.6	+1.2
	8.2nm,0.3s						
AML				⇑S	Sn	09 46 52.1	+1.7
	52nm,0.3s						
AML	Almayashu	1.34	39	i PN	Pb	09 46 33.9	+1.5
AML				S	Sn	09 46 52.5	+2.0
AML	Almayashu	1.34	39	⇑iP	Pb	09 46 33.9	+1.5
	baz=40						
AML				⇑iS	Sn	09 46 52.5	+2.0
	baz=40						
ARLS	Aral	1.53	59	⇑eP	Pg	09 46 37.1	+1.0
	baz=60						
ARLS				⇑eS	Sg	09 46 58.2	+2.3
	baz=60						
BTK	Batken	1.69	233	⇑eP	Pb	09 46 38.6	+0.4
	baz=32						
BTK				⇑eS	Sg	09 47 01.2	+0.2
	baz=32						
DRK	Karamyk	1.72	200	⇑eP	Pb	09 46 39.0	+0.2
	baz=99						
DRK				⇑eS	Sg	09 47 02.3	+0.3
	baz=99						
MRKS	Merke	1.72	16	eP	Pg	09 46 39.9	+0.1
	190nm,0.4s						
MRKS				eS	Sg	09 47 02.9	+0.7
	3µm,0.5s						
EKS2	Erkin-Say	1.81	30	P	Pg	09 46 41.9	+0.4
	111nm,0.2s,SNR=183						
EKS2				⇑S	Sg	09 47 06.9	+1.9
	433nm,0.3s						
EKS2	Erkin-Say	1.81	30	ePN	Pg	09 46 41.9	+0.4
EKS2	Erkin-Say	1.81	30	i P	Pg	09 46 41.9	+0.4
	baz=30						
EKS2				i S	Sg	09 47 06.6	+1.6
	baz=30						
UCH	Uchtor	1.85	52	⇑P	Pg	09 46 42.9	+0.5
	398nm,0.4s,SNR=320						
UCH				⇓S	Sg	09 47 09.5	+3.3
	1µm,0.4s						
UCH	Uchtor	1.85	52	i PN	Pg	09 46 42.8	+0.5
UCH				S	Sg	09 47 08.3	+2.1
UCH	Uchtor	1.85	52	⇑iP	Pg	09 46 42.8	+0.5
	baz=52						
UCH				⇑iS	Sg	09 47 08.3	+2.1
	baz=52						
CHMG	Chimgan	1.98	284	P	Pg	09 46 44.5	-0.2
CHMG				S	Sg	09 47 12.5	+2.1
DZA	Taraz	2.02	333	eP	Pg	09 46 45.5	0.0
	821nm,0.5s						
DZA				eS	Sg	09 47 12.0	+0.4
	1µm,0.4s						
CHRV	Charvak	2.04	286	P	Pg	09 46 45.5	-0.5
CHRV				S	Sg	09 47 14.4	+2.0
AAK	Ala-Archa	2.11	42	⇑P	Pg	09 46 47.5	+0.2
	414nm,0.3s,SNR=349						
AAK				⇓S	Sg	09 47 16.2	+1.6
	1µm,0.5s						
AAK	Ala-Archa	2.11	42	cePN	Pg	09 46 47.7	+0.4
AAK				pmax	pmax		
	comp=Z,177nm,0.4s						
AAK	Ala-Archa	2.11	42	Pn	Pg	09 46 47.8	+0.5
	comp=Z,372nm,0.3s,baz=202,slow=5.9,SNR=769						
AAK				LR	LR	09 47 12.3	
	comp=Z,46nm,18.3s,baz=227,slow=30						
AAK				Sn	Sg	09 47 17.2	+2.6
	comp=Z,101nm,0.3s,baz=185,slow=9.3,SNR=4.2						
AAK	Ala-Archa	2.11	42	⇑eP	Pb	09 46 46.3	+0.8
	baz=43						
AAK				⇑iS	Sg	09 47 14.4	-0.2
	baz=43						
KZA	Kyzart	2.24	63	⇑P	Pg	09 46 49.7	-0.1
	comp=Z,705nm,0.5s,SNR=412						
KZA				⇓S	Sg	09 47 20.8	+1.9
	comp=Z,1µm,0.5s						
KZA	Kyzart	2.24	63	i PN	Pb	09 46 48.4	+0.6
KZA				S	Sg	09 47 18.0	-0.9
KZA	Kyzart	2.24	63	⇓iP	Pb	09 46 48.4	+0.6
	baz=63						
KZA				⇓iS	Sg	09 47 18.0	-0.9
	baz=63						
FRU1	Bishkek	2.30	41	i PN	Pb	09 46 49.2	+0.5
FRU1				S	Sb	09 47 19.1	+1.7
FRU1	Bishkek	2.30	41	⇑iP	Pb	09 46 49.2	+0.5
	baz=42						
FRU1				⇑iS	Sb	09 47 19.1	+1.7
	baz=42						
TGS	TashGRES	2.32	279	P	Pg	09 46 51.0	-0.3
TGS				S	Sg	09 47 25.0	+3.7
KBK	Karagaybulak	2.37	48	⇑P	Pg	09 46 51.2	-1.0
	comp=Z,250nm,0.4s,SNR=254						
KBK				⇑S	Sg	09 47 23.4	+0.5
	comp=Z,3µm,0.6s						
KBK	Karagaybulak	2.37	48	i PN	Pb	09 46 50.0	+0.1
KBK				S	Sb	09 47 20.8	+1.5
KBK	Karagaybulak	2.37	48	⇓eP	Pb	09 46 50.0	+0.1
	baz=48						
KBK				⇓iS	Sb	09 47 20.8	+1.5
	baz=48						
CHMS	Chumysh	2.50	40	⇑P	Pb	09 46 53.0	+0.8
	comp=Z,180nm,0.2s,SNR=158						
CHMS				⇑S	Sg	09 47 26.5	-0.7
	comp=Z,331nm,0.3s						
CHMS	Chumysh	2.50	40	⇓Pn	Pb	09 46 52.9	+0.8
	comp=Z,258nm,0.8s						
CHMS				⇑Lg	Lg	09 47 28.0	
	comp=Z,455nm,0.7s						
CHMS	Chumysh	2.50	40	ePN	Pb	09 46 51.8	-0.3
CHMS				S	Sb	09 47 23.6	+0.5
CHMS	Chumysh	2.50	40	⇑eP	Pb	09 46 51.8	-0.3
	baz=40						
CHMS				⇑iS	Sb	09 47 23.6	+0.5
	baz=40						
KK31	Karatay Array	2.52	323	⇑Pn	Pb	09 46 51.6	-0.8
	comp=Z,178nm,0.6s,baz=134,slow=13,SNR=1028						
KK31				⇓Lg	Lg	09 47 27.9	
	comp=Z,243nm,0.5s,baz=142,slow=29,SNR=11						
KK31	Karatay Array	2.52	323	PN	Pb	09 46 51.6	-0.8
CHM	Chimkent	2.53	300	eP	Pg	09 46 57.1	+1.8
	comp=Z,129nm,0.2s						
CHM				eS	Sg	09 47 31.8	+3.6
	comp=Z,2µm,0.3s						
USP	Ospenovka	2.60	33	⇑P	Pb	09 46 54.0	+0.2
	comp=Z,294nm,0.2s,SNR=111						
USP	Ospenovka	2.60	33	i PN	Pb	09 46 53.2	-0.6
USP				S	Sb	09 47 26.1	+0.1
USP	Ospenovka	2.60	33	⇑iP	Pb	09 46 53.2	-0.6
	baz=33						
USP				⇑iS	Sb	09 47 26.1	+0.1
	baz=33						
NRN	Naryn	2.61	81	i PN	Pb	09 46 53.1	-1.0
NRN				S	Sb	09 47 26.0	-0.5
NRN	Naryn	2.61	81	⇑eP	Pb	09 46 53.1	-1.0
	baz=81						
NRN				⇑iS	Sb	09 47 26.0	-0.5
	baz=81						
YNGY	Yangiyul	2.67	271	P	Pb	09 46 54.1	-0.8
YNGY				S	Sg	09 47 30.5	-2.0
SGDS	Sogindy	2.81	32	Pg	Pg	09 47 00.6	-0.1
	comp=Z,122nm,0.5s						
SGDS				Lg	Lg	09 47 37.4	
	comp=Z,1µm,0.8s						
SGDS	Sogindy	2.81	32	ePn	Pb	09 46 56.2	-1.2
	baz=36						
SGDS				ePg	Pg	09 47 01.6	+0.9
	baz=36						
SGDS				eSn	Sb	09 47 31.9	-0.1
	baz=36						
SGDS	Sogindy	2.81	32	ePN	Pb	09 46 56.1	-1.2
SGDS				e		09 47 01.5	
SGDS				e		09 47 31.8	
BOOM	Boomskoye usch	2.88	60	ePN	Pb	09 46 57.3	-1.4
BOOM				S	Sb	09 47 33.1	-1.1
BOOM	Boomskoye usch	2.88	60	⇓eP	Pb	09 46 57.3	-1.4
	baz=60						
BOOM				⇓iS	Sb	09 47 33.1	-1.1
	baz=60						
TKM2	Tokmak 2	2.90	50	⇓P	Pb	09 46 58.6	-0.4
	comp=Z,112nm,0.3s,SNR=75						
TKM2	Tokmak 2	2.90	50	⇓Pn	Pb	09 46 58.7	-0.4
	comp=Z,84nm,0.5s						
TKM2				⇓Lg	Lg	09 47 40.6	
	comp=Z,352nm,0.6s						
TKM2	Tokmak 2	2.90	50	ePN	Pb	09 46 57.5	-1.5
TKM2	Tokmak 2	2.90	50	⇑eP	Pb	09 46 57.5	-1.5
	baz=50						
TKM2				⇑iS	Sb	09 47 33.8	-1.0
	baz=50						
ULHL	Ulahol	2.98	66	⇓P	Pb	09 46 59.7	-0.7
	comp=Z,54nm,0.3s,SNR=14						
ULHL	Ulahol	2.98	66	ePN	Pb	09 46 58.8	-1.6
ULHL				S	Sb	09 47 35.5	-1.6
ULHL	Ulahol	2.98	66	⇑eP	Pb	09 46 58.8	-1.6
	baz=66						
ULHL				⇑eS	Sb	09 47 35.5	-1.6
	baz=66						
KSH	Kashi	3.05	120	P	Pb	09 46 58.7	-2.7
KSH				pP	Pg	09 47 02.7	-2.5
KSH				S	Sn	09 47 34.9	+2.7
KSH				pmax	pmax		
	comp=Z,26nm,0.6s						
KSH				smax	smax		
	comp=N,400nm,0.7s						
KSH				smax	smax		
	comp=E,410nm,0.9s						
KSH				LR	LR		
	comp=N,590nm,4.6s						
KSH				LR	LR		
	comp=E,1µm,5.3s						
KSH				LR	LR		
	comp=Z,730nm,7.5s						
KST	Kastek	3.19	51	Pg	Pg	09 47 07.7	-0.3
	comp=Z,90nm,0.5s						
KST				Lg	Lg	09 47 49.4	
	comp=Z,427nm,0.7s						
KST	Kastek	3.19	51	eP	Pg	09 47 07.7	-0.3
	comp=Z,90nm,0.5s						
KST				eS	Sg	09 47 49.4	0.0
	comp=Z,427nm,0.7s						
DGS	Degeres	3.21	47	Pg	Pg	09 47 07.7	-0.6
	comp=Z,113nm,0.6s						
DGS				Lg	Lg	09 47 50.5	
	comp=Z,596nm,0.7s						
DGS	Degeres	3.21	47	eP	Pg	09 47 07.7	-0.6
	comp=Z,113nm,0.6s						
DGS				eS	Sg	09 47 50.5	+0.7
	comp=Z,596nm,0.7s						
KRBS	Karabastau	3.47	41	Pg	Pg	09 47 12.4	-0.9
	comp=Z,71nm,0.3s						
KRBS				Lg	Lg	09 47 57.7	
	comp=Z,186nm,0.4s						
KRBS	Karabastau	3.47	41	eP	Pg	09 47 12.4	-0.9
	comp=Z,71nm,0.3s						
KRBS				eS	Sg	09 47 57.7	-0.7
	comp=Z,186nm,0.4s						
MTBS	Maitube	3.52	53	Pg	Pg	09 47 13.9	-0.4
	comp=Z,38nm,0.5s						
MTBS				Lg	Lg	09 48 00.1	
	comp=Z,227nm,0.6s						
MTBS	Maitube	3.52	53	eP	Pg	09 47 13.9	-0.4
	comp=Z,38nm,0.5s						
MTBS				eS	Sg	09 48 00.1	+0.2
	comp=Z,227nm,0.6s						
IZV	Izvestkoviy	3.58	56	Pg	Pg	09 47 15.2	-0.3
	comp=Z,61nm,0.5s						
IZV				Lg	Lg	09 48 02.3	
	comp=Z,226nm,0.8s						
IZV	Izvestkoviy	3.58	56	eP	Pg	09 47 15.2	-0.3
	comp=Z,61nm,0.5s						
IZV				eS	Sg	09 48 02.3	+0.4
	comp=Z,226nm,0.8s						
BXML	Bakhmal	3.74	249	P	Pb	09 47 11.5	-1.7
BXML				S	Sg	09 48 04.5	-2.3
TNSS	Tian-Shan	3.80	58	Pg	Pg	09 47 19.4	-0.2
	comp=Z,52nm,0.3s						
TNSS				Lg	Lg	09 48 09.3	
	comp=Z,106nm,0.6s						
TNSS	Tian-Shan	3.80	58	ePn	Pb	09 47 11.3	-3.1
	baz=59						
TNSS				i Pg	Pg	09 47 19.7	+0.1
	baz=59						
TNSS	Tian-Shan	3.80	58	eP	Pg	09 47 19.4	-0.2
	comp=Z,52nm,0.3s						
TNSS				eS	Sg	09 48 09.3	+0.6
	comp=Z,106nm,0.6s						
TNSS	Tian-Shan	3.80	58	ePN	Pb	09 47 11.2	-3.1
TNSS				i		09 47 19.6	
AAA	Alma-Ata	3.86	55	Pg	Pg	09 47 18.1	-2.7
	comp=Z,80nm,0.4s						
AAA				Lg	Lg	09 48 08.5	
	comp=Z,230nm,0.5s						
AAA	Alma-Ata	3.86	55	ePn	Pn	09 47 11.0	+4.3
	baz=57						
AAA	Alma-Ata	3.86	55	eP	Pg	09 47 18.1	-2.7
	comp=Z,80nm,0.4s						
AAA				eS	Sg	09 48 08.5	-2.4
	comp=Z,230nm,0.5s						
AAA	Alma-Ata	3.86	55	ePN	Pn	09 47 10.9	+4.3
KNDC	Almaty	3.90	56	⇑Pn	Pb	09 47 12.2	-3.7
	comp=Z,36nm,0.4s						
KNDC				⇓Pg	Pg	09 47 22.2	+0.7
	comp=Z,125nm,0.5s						
KNDC				⇓Lg	Lg	09 48 12.9	
	comp=Z,619nm,1.0s						
KNDC	Almaty	3.90	56	PN	Pb	09 47 12.2	-3.7
MDOK	Medeo	3.92	57	⇑Pn	Pb	09 47 12.6	-3.8
	comp=Z,13nm,0.4s						
MDOK				Pg	Pg	09 47 20.8	-1.2
	comp=Z,54nm,0.7s						
MDOK				⇓Pg	Pg	09 47 21.8	-0.1
	comp=Z,48nm,0.5s						
MDOK				⇓Lg	Lg	09 48 11.4	
	comp=Z,134nm,0.6s						
MDOK				Lg	Lg	09 48 11.9	
	comp=Z,139nm,1.0s						
MDOK	Medeo	3.92	57	ePn	Pb	09 47 12.3	-4.1
	baz=58						
MDOK				ePg	Pg	09 47 23.4	+1.4
	baz=58						
MDOK	Medeo	3.92	57	eP	Pg	09 47 20.8	-1.2
	comp=Z,54nm,0.7s						
MDOK				eS	Sg	09 48 11.9	-0.9
	comp=Z,139nm,1.0s						
MDOK	Medeo	3.92	57	PN	Pb	09 47 12.5	-3.8
KUU	Kurty	3.95	44	Pg	Pg	09 47 20.7	-1.8
	comp=Z,45nm,0.4s						
KUU				Lg	Lg	09 48 12.7	
	comp=Z,250nm,0.7s						
KUU	Kurty	3.95	44	ePn	Pn	09 47 11.7	+3.9
	baz=46						
KUU				ePb	Pg	09 47 20.8	-1.8
	baz=46						
KUU	Kurty	3.95	44	eP	Pg	09 47 20.7	-1.8
	comp=Z,45nm,0.4s						
KUU				eS	Sg	09 48 12.7	-0.9
	comp=Z,250nm,0.7s						
KUU	Kurty	3.95	44	ePN	Pn	09 47 11.7	+3.9
KUU				e		09 47 20.7	
KOTS	Kotyrbulak	4.00	56	Pg	Pg	09 47 22.8	-0.6
	comp=Z,103nm,0.6s						
KOTS				Lg	Lg	09 48 15.5	
	comp=Z,349nm,0.9s						
KOTS	Kotyrbulak	4.00	56	eP	Pg	09 47 22.8	-0.6
	comp=Z,103nm,0.6s						
KOTS				eS	Sg	09 48 15.5	+0.3
	comp=Z,349nm,0.9s						
KTBS	Karatobe	4.02	48	Pg	Pg	09 47 21.9	-1.9
	comp=Z,52nm,0.5s						
KTBS				Lg	Lg	09 48 14.5	
	comp=Z,376nm,0.5s						
KTBS	Karatobe	4.02	48	eP	Pg	09 47 21.9	-1.9
	comp=Z,52nm,0.5s						
KTBS				eS	Sg	09 48 14.5	-1.3
	comp=Z,376nm,0.5s						
BTLS	Baital	4.09	15	Pg	Pg	09 47 23.0	-2.1
	comp=Z,44nm,0.6s						
BTLS				Lg	Lg	09 48 16.2	
	comp=Z,154nm,0.6s						
BTLS	Baital	4.09	15	ePn	Pn	09 47 13.6	+3.9
	baz=18						
BTLS				i Pg	Pg	09 47 24.6	-0.6
	baz=18						
BTLS	Baital	4.09	15	eP	Pg	09 47 23.0	-2.1
	comp=Z,44nm,0.6s						
BTLS				eS	Sg	09 48 16.2	-1.9
	comp=Z,154nm,0.6s						
BTLS	Baital	4.09	15	ePN	Pn	09 47 13.6	+3.9
BTLS				i		09 47 24.6	
CHKK	Chushkaly	4.28	48	Pg	Pg	09 47 27.0	-1.8
	comp=Z,48nm,0.5s						
CHKK				Lg	Lg	09 48 22.9	
	comp=Z,212nm,0.4s						
CHKK	Chushkaly	4.28	48	ePn	Pn	09 47 16.3	+4.0
	baz=50						
CHKK	Chushkaly	4.28	48	eP	Pg	09 47 27.0	-1.8
	comp=Z,48nm,0.5s						
CHKK				eS	Sg	09 48 22.9	-1.3
	comp=Z,212nm,0.4s						
CHKK	Chushkaly	4.28	48	ePN	Pn	09 47 16.3	+4.0
AGL	Agalyk	4.62	252	P	Pn	09 47 21.5	+4.4
AGL				S	Sb	09 48 23.7	-0.4
SATY	Saty	4.77	64	Pg	Pg	09 47 36.9	-1.3
	comp=Z,51nm,1.1s						
SATY				Lg	Lg	09 48 39.4	
	comp=Z,115nm,0.6s						
SATY	Saty	4.77	64	ePn	Pn	09 47 24.0	+4.9
	baz=65						
SATY				ePb	Pg	09 47 35.6	-2.6
	baz=65						
SATY				i Pg	Pg	09 47 39.4	+1.2
	baz=65						
SATY	Saty	4.77	64	eP	Pg	09 47 36.9	-1.3
	comp=Z,51nm,1.1s						
SATY				eS	Sg	09 48 39.4	-0.6
	comp=Z,115nm,0.6s						
SATY	Saty	4.77	64	ePN	Pn	09 47 24.0	+4.8
SATY				i		09 47 39.4	
KURS	Kuram	4.80	58	Pg	Pg	09 47 37.9	-0.8
	comp=Z,38nm,0.6s						
KURS				Lg	Lg	09 48 41.2	
	comp=Z,88nm,0.8s						
KURS	Kuram	4.80	58	eP	Pg	09 47 37.9	-0.8
	comp=Z,38nm,0.6s						
KURS				eS	Sg	09 48 41.2	+0.4
	comp=Z,88nm,0.8s						
ZHN	Zhinishke	4.83	63	Pg	Pg	09 47 37.1	-2.3
	comp=Z,28nm,0.6s						
ZHN				Lg	Lg	09 48 40.3	
	comp=Z,59nm,0.8s						
ZHN	Zhinishke	4.83	63	ePn	Pn	09 47 24.4	+4.3
	baz=64						
ZHN	Zhinishke	4.83	63	eP	Pg	09 47 37.1	-2.3
	comp=Z,28nm,0.6s						
ZHN				eS	Sg	09 48 40.3	-1.6
	comp=Z,59nm,0.8s						
ZHN	Zhinishke	4.83	63	ePN	Pn	09 47 24.3	+4.3
ARXS	Arharly	4.98	50	ePN	Pn	09 47 25.2	+3.2
UZB	Uzynbulak	5.22	65	Pg	Pg	09 47 44.7	-2.2
	comp=Z,19nm,0.5s						
UZB				Lg	Lg	09 48 52.7	
	comp=Z,54nm,0.6s						
UZB	Uzynbulak	5.22	65	ePn	Pn	09 47 29.8	+4.3
	baz=66						
UZB				eSn	Sb	09 48 33.7	-7.7
	baz=66						
UZB	Uzynbulak	5.22	65	eP	Pg	09 47 44.7	-2.2
	comp=Z,19nm,0.5s						
UZB				eS	Sg	09 48 52.6	-1.8
	comp=Z,54nm,0.6s						
UZB	Uzynbulak	5.22	65	ePN	Pn	09 47 29.7	+4.3
UZB				e		09 48 33.7	
NUT	Nurota	5.25	266	P	Pn	09 47 30.8	+5.1
NUT				S	Sb	09 48 41.3	-0.9
SHLS	Shalkode	5.53	66	Pg	Pg	09 47 56.3	+3.6
	comp=Z,28nm,0.3s						
SHLS				Lg	Lg	09 49 12.7	
	comp=Z,63nm,0.8s						
SHLS	Shalkode	5.53	66	ePn	Pb	09 47 37.7	-6.0
	baz=67						
SHLS	Shalkode	5.53	66	eP	Pg	09 47 56.3	+3.6
	comp=Z,28nm,0.3s						

SHLS				eS	Sg	09 49 12.7	+8.4
	comp=Z,63nm,0.8s						
SHLS	Shalkode	5.53	66	ePN	Pb	09 47 37.7	-6.0
PDGK	Podgornoye	5.61	64	Pg	Pg	09 47 50.5	-3.7
	comp=Z,5.3nm,0.6s						
PDGK				Lg	Lg	09 49 02.8	
	comp=Z,23nm,0.9s						
PDGK	Podgornoye	5.61	64	⇓Pn	Pb	09 47 38.3	-6.7
	comp=Z,8.2nm,0.7s						
PDGK				⇓Pg	Pg	09 47 54.9	+0.7
	comp=Z,20nm,0.7s						
PDGK				⇑Lg	Lg	09 49 05.0	
	comp=Z,102nm,1.1s						
PDGK	Podgornoye	5.61	64	PN	Pb	09 47 38.3	-6.7
TDK	Taldyqorghan	5.79	46	Pg	Pg	09 47 55.1	-2.6
	comp=Z,72nm,0.5s						
TDK				Lg	Lg	09 49 10.6	
	comp=Z,357nm,1.3s						
TDK	Taldyqorghan	5.79	46	ePn	Pn	09 47 37.2	+4.1
	baz=47						
TDK	Taldyqorghan	5.79	46	eP	Pg	09 47 55.1	-2.6
	comp=Z,72nm,0.5s						
TDK				eS	Sg	09 49 10.6	-2.1
	comp=Z,357nm,1.3s						
TDK	Taldyqorghan	5.79	46	ePN	Pn	09 47 37.2	+4.1
KNOS	Konyrlen	5.86	54	Pg	Pg	09 47 57.2	-1.9
	comp=Z,44nm,0.5s						
KNOS				Lg	Lg	09 49 14.3	
	comp=Z,47nm,0.6s						
DJR	Jarkent	6.23	56	Pg	Pg	09 48 02.8	-3.2
	comp=Z,14nm,0.8s						
DJR				Lg	Lg	09 49 24.3	
	comp=Z,61nm,0.9s						
DJR	Jarkent	6.23	56	eP	Pg	09 48 02.8	-3.2
	comp=Z,14nm,0.8s						
DJR				eS	Sg	09 49 24.3	-2.4
	comp=Z,61nm,0.9s						
KAPS	Kapalarasan	6.49	48	Pg	Pg	09 48 06.9	-4.3
	comp=Z,8.0nm,0.6s						
KAPS				Lg	Lg	09 49 31.0	
	comp=Z,59nm,0.8s						
KAPS	Kapalarasan	6.49	48	eP	Pg	09 48 06.8	-4.3
	comp=Z,8.0nm,0.6s						
KAPS				eS	Sg	09 49 31.0	-4.2
	comp=Z,59nm,0.8s						
OTUK	Ortayu	7.15	359	Pg	Pg	09 48 20.3	-3.4
	comp=Z,4.8nm,0.7s						
OTUK				Lg	Lg	09 49 54.0	
	comp=Z,70nm,0.8s						
OTUK	Ortayu	7.15	359	⇓Pn	Pn	09 47 56.2	+4.4
	comp=Z,6.4nm,0.6s						
OTUK				⇓Lg	Lg	09 49 55.0	
	comp=Z,130nm,0.7s						
OTUK	Ortayu	7.15	359	P	Pn	09 47 56.2	+4.4
MAKZ	Makanchi	8.87	47	⇓Pn	Pn	09 48 17.9	+2.6
	comp=Z,3.7nm,0.7s						
MAKZ				⇓Lg	Lg	09 50 49.0	
	comp=Z,37nm,1.2s						
MAKZ	Makanchi	8.87	47	P	Pn	09 48 17.9	+2.6
BRZS	Berezniki	8.89	0	Pg	Pg	09 48 50.1	-6.8
	comp=Z,5.9nm,0.8s						
BRZS				Lg	Lg	09 50 45.7	
	comp=Z,34nm,0.8s						
BRZS	Berezniki	8.89	0	ePn	Pn	09 48 18.4	+2.8
	baz=1.8						
BRZS	Berezniki	8.89	0	eP	Pg	09 48 50.1	-6.8
	comp=Z,5.9nm,0.8s						
BRZS				eS	Sg	09 50 45.7	-6.2
	comp=Z,34nm,0.8s						
BRZS	Berezniki	8.89	0	eP	Pn	09 48 18.3	+2.8
MK31	Makanchi Array	9.03	48	Pn	Pn	09 48 21.2	+3.6
	comp=Z,3.1nm,0.5s,baz=228,slow=12,SNR=37						
MK31				⇑Lg	Lg	09 50 56.9	
	comp=Z,18nm,0.9s,baz=245,slow=27,SNR=4.6						
MK31	Makanchi Array	9.03	48	eP	Pn	09 48 21.4	+3.8
MKAR	Makanchi Array	9.03	48	Pn	Pn	09 48 21.1	+3.6
	comp=Z,0.8nm,0.3s,baz=230,slow=15,SNR=29						
MKAR				Lg	Lg	09 50 51.0	
	comp=Z,0.8nm,0.3s,baz=243,slow=28,SNR=5.5						
	comp=Z,1.7nm,0.4s						
KURBB	Kurchatov Arra	10.39	22	⇑Lg	Lg	09 51 38.2	
	comp=Z,76nm,0.8s						
KURBB	Kurchatov Arra	10.39	22	Pn	Pn	09 48 37.6	+1.5
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=6.8						
KURBB				Sn	Sn	09 50 34.4	+1.6
	comp=Z,0.1nm,0.3s,baz=201,slow=15,SNR=2.3						
KURBB				Lg	Lg	09 51 36.8	
	comp=Z,0.3nm,0.3s,baz=184,slow=30,SNR=11						
	comp=Z,0.5nm,0.4s						
KURK	Kurchatov	10.50	22	⇓Lg	Lg	09 51 40.8	
	comp=Z,100nm,1.3s						
KURK	Kurchatov	10.50	22	P	Pn	09 48 37.6	0.0
KURK						09 50 34.4	
SEM	Semipalatinsk	10.74	27	ePn	Pn	09 48 44.9	+3.8
	baz=28						
SEM	Semipalatinsk	10.74	27	eP	Pn	09 48 44.9	+3.8
GEYT	Alibeck	11.60	259	Pn	Pn	09 48 51.3	-1.4
	comp=Z,0.4nm,0.3s,baz=96,slow=11,SNR=3.5						
	comp=Z,1.1nm,0.4s						
BVAR	Borovoye Array	12.03	354	Sn	Sn	09 51 11.0	-1.7
	comp=Z,0.1nm,0.3s,baz=164,slow=21,SNR=2.1						
BVAR				Lg	Lg	09 52 32.6	
	comp=Z,0.2nm,0.3s,baz=160,slow=24,SNR=5.7						
BRVK	Borovoye	12.07	353	iP	Pn	09 49 03.0	+4.0
DGZ	Jazzator, Alta	13.51	45	eP	P	09 49 24.4	-3.9
AKTO	Aktyubinsk	13.77	318	Pn	Pn	09 49 22.4	+0.1
	comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=3.9						
AKTO				Lg	Lg	09 53 26.2	
	comp=Z,0.2nm,0.3s,baz=233,slow=20,SNR=1.9						
	comp=Z,1.9nm,0.5s						
ZALV	Zalesovo Beam	15.26	28	iP	P	09 49 49.5	+2.0
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV	Zalesovo Beam	15.26	28	Pn	Pn	09 49 44.7	+2.2
	comp=Z,0.4nm,0.3s,baz=220,slow=12,SNR=9.1						
ZALV				Sn	Sn	09 52 37.6	+6.0
	comp=Z,0.2nm,0.3s,baz=198,slow=27,SNR=2.1						
ZALV				Lg	Lg	09 54 15.2	
	baz=209,slow=26,SNR=2.3						
	comp=Z,2.1nm,0.5s						
ARU	Arti	17.85	334	iP	Pn	09 50 15.9	+0.5
ARU				pmax	pmax		
	comp=Z,9.0nm,2.1s						
ARU	Arti	17.85	334	P	P	09 50 16.4	+0.3
	comp=Z,0.4nm,0.3s,baz=108,slow=10.0,SNR=4.0						
ARU				Lg	Lg	09 55 36.2	
	comp=Z,0.4nm,0.3s,baz=292,slow=22,SNR=1.7						
	comp=Z,1.5nm,0.4s						
MAK	Makhachkala	18.69	284	eP	P	09 50 19.8	-5.7
MAK				eS	Sn	09 53 46.3	-8.6
MAK				pmax	pmax		
	comp=Z,749nm,1.6s						
MAK				MLR	MLR		
	comp=Z,168nm,13.0s						
BELG	Belogornoye	20.38	312	iP	P	09 50 42.6	-1.2
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	Belogornoye	20.38	312	P	P	09 50 44.1	+0.3
	comp=Z,8.0nm,0.7s,baz=208,slow=6.3,SNR=4.3						
	comp=Z,8.0nm,0.7s						
WSAR	Wadi Sarin	21.31	218	P	P	09 50 54.4	+0.3
	comp=Z,3.0nm,0.8s,baz=34,slow=7.3,SNR=2.7						
	comp=Z,3.0nm,0.8s						
KBZ	Khabaz	22.01	287	iP	P	09 50 56.5	-5.0
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAK	Zakamensk	23.22	56	eP	P	09 51 14.8	+0.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	Songino Array	24.92	63	P	P	09 51 31.8	+1.3
	comp=Z,1.1nm,0.8s,baz=278,slow=9.8,SNR=7.9						
	comp=Z,1.1nm,0.8s						
ULN	Ulaanbaatar	25.37	63	iP	P	09 51 35.5	+1.0
ULN				pmax	pmax		
	comp=Z,7.0nm,1.6s						
BRTR	Keskin Array B	29.51	280	P	P	09 52 12.4	+0.6
	comp=Z,1.2nm,0.8s,baz=99,slow=7.6,SNR=3.8						
	comp=Z,1.2nm,0.8s						
FINES	FINESS Array B	34.48	322	P	P	09 52 55.3	+0.4
	comp=Z,2.4nm,0.8s,baz=118,slow=12,SNR=4.5						
	comp=Z,2.4nm,0.8s						
ARCES	ARCESS Array B	37.43	335	P	P	09 53 21.0	+0.8
ARCES	ARCESS Array B	37.43	335	P	P	09 53 21.0	+0.8
	comp=Z,2.5nm,0.8s,baz=110,slow=7.8,SNR=6.9						
	comp=Z,2.5nm,0.8s						
HFS	Hagfors	40.32	319	P	P	09 53 45.2	+0.8
	comp=Z,1.4nm,0.6s,baz=86,slow=11,SNR=6.0						
	comp=Z,1.4nm,0.6s						
TIXI	Tiksi	41.07	24	iP	P	09 53 51.5	+1.1
TIXI				pmax	pmax		
	comp=Z,18nm,3.0s						
TIXI	Tiksi	41.07	24	P	P	09 53 51.6	+1.1
	comp=Z,0.1nm,0.4s,baz=311,slow=3.0,SNR=6.6						
	comp=Z,0.1nm,0.4s						
GERES	GERESS Array B	41.43	301	P	P	09 53 54.6	+0.8
	comp=Z,1.0nm,0.6s,baz=81,slow=6.1,SNR=3.3						
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	41.55	320	P	P	09 53 55.2	+0.6
	comp=Z,0.5nm,0.6s,baz=90,slow=8.4,SNR=2.1						
	comp=Z,0.5nm,0.6s						
EKA	Eskdalemuir Ar	49.92	314	P	P	09 55 01.2	+0.4
	comp=Z,0.9nm,0.7s,baz=88,slow=7.9,SNR=3.5						
	comp=Z,0.9nm,0.7s						
TORD	Torodi Ar. Bea	67.09	268	P	P	09 57 00.5	-0.6
	comp=Z,0.7nm,0.6s,baz=39,slow=7.0,SNR=6.0						
	comp=Z,0.7nm,0.6s						
ILAR	Eielson Array	70.03	17	P	P	09 57 19.1	+0.4
	comp=Z,0.3nm,0.7s,baz=333,slow=4.9,SNR=4.8						
	comp=Z,0.3nm,0.7s						
YKA	Yellowknife Ar	76.60	3	P	P	09 57 58.1	+0.6
	comp=Z,0.6nm,0.7s,baz=349,slow=6.1,SNR=15						
	comp=Z,0.6nm,0.7s						
BOSA	Boshof	82.03	221	P	P	09 58 26.8	-0.9
	comp=Z,1.4nm,0.5s,baz=150,slow=5.6,SNR=3.9						
	comp=Z,1.4nm,0.5s						
WRA	Warramunga Arr	83.44	123	P	P	09 58 34.9	-0.1
	comp=Z,0.3nm,0.7s,baz=326,slow=4.2,SNR=2.4						
	comp=Z,0.3nm,0.7s						
ASAR	Alice Springs	85.93	126	P	P	09 58 46.8	-0.7
	comp=Z,0.8nm,0.8s,baz=314,slow=5.1,SNR=11						
	comp=Z,0.8nm,0.8s						

*MIRAS **05** 10:10:38.6, 54°.08N×59°.33E, h0km, ML2.2/3*

ISC 05 10:10:39.8±1.1**, 54°.09N**±0°.05×**59°.26E**±0°.08**, h10**km**, n7,** σ**1s.62**/12**, 2C-2D, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BA1R	Ufa	2.14	285	iP	Pn	10 11 16.3	+0.8
	13nm,0.5s,baz=285						
BA1R				iS	Sb	10 11 44.1	-1.0
	27nm,0.4s,baz=285						
BA1R				iAML	AML	10 11 48.4	
	42nm,0.2s,baz=285						
BA1R	Ufa	2.14	285	iP	Pn	10 11 16.3	+0.8
	baz=285						
BA1R				iS	Sb	10 11 44.1	-1.0
	baz=285						
BA1R				iAML	AML	10 11 48.4	
	37nm,0.2s						
ARU	Arti	2.38	351	iP	Pn	10 11 18.9	0.0
	7.5nm,0.6s,baz=350						
ARU				iS	Sb	10 11 50.5	-1.7
	10nm,0.7s,baz=350						
ARU				iAML	AML	10 11 51.9	
	13nm,0.7s,baz=350						
ARU	Arti	2.38	351	iP	Pn	10 11 18.9	0.0
	7.5nm,0.6s,baz=350						
ARU				iS	Sb	10 11 50.5	-1.7
	9.1nm,0.6s,baz=350						
ARU				iAML	AML	10 11 51.9	
	13nm,0.7s						
PR3R	Kungur	3.60	340	iP	Pn	10 11 36.3	+0.8
	18nm,0.2s,baz=340						
PR3R				iS	Sn	10 12 20.2	+2.2
	baz=340						
PR3R				iAML	AML	10 12 22.6	
	13nm,0.3s						
AKTO	Aktyubinsk	3.74	192	⇑Pg	Pg	10 11 49.0	-2.3
	3.2nm,1.4s						
AKTO				⇓Lg	Lg	10 12 38.2	
	4.5nm,1.2s						
AB31	Akbulak array	4.86	175	⇓Pg	Pb	10 12 06.8	+1.9
	0.6nm,0.7s						
AB31				⇑Lg	Lg	10 13 09.6	
	0.9nm,0.5s,baz=354,slow=27,SNR=7.1						

*WEL **05** 10:17:31.2±1.1, 44°S±5°×16°8E±°, h2km±4km, M3.3/5, ML3.5/14, MLv3.3/5, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4, confirmed*

*NOU **05** 10:17:34.5, 44°.58S×168°.03E, h0km, MLv3.5/5, South Island, New Zealand*

ISC 05 10:17:31.5±1.4**, 44°.52S**±0°.04×**167°.80E**±0°.05**, h12**km±11km**, n31,** σ**1s.08**/38**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.18	149	P	Pb	10 17 37.0	+0.2
MSZ				S	Sb	10 17 40.4	+2.0
JCZ	Jackson Bay	0.84	58	P	Pb	10 17 48.5	+0.4
JCZ	Jackson Bay	0.84	58	P	Pb	10 17 48.5	+0.4
JCZ				S	Sn	10 18 01.1	-0.4
MLZ	Mavora Lakes	0.88	165	P	Pg	10 17 48.7	+0.2
MLZ				S	Sn	10 18 01.6	-0.7
WKZ	Wanaka	0.92	110	P	Pn	10 17 50.5	+0.1
WKZ				S	Sn	10 18 03.8	+0.3
DCZ	Deep Cove	1.05	206	P	Pb	10 17 50.5	-1.1
DCZ				S	Sg	10 18 05.2	-0.2
EAZ	Earnscleugh	1.29	124	P	Pg	10 17 56.5	+0.2
WHZ	Wether Hill Ro	1.38	176	P	Pb	10 17 56.8	-0.3
WHZ				S	Sg	10 18 16.5	+0.6
LBZ	Lake Benmore	1.71	86	P	Pg	10 18 04.1	-0.3
FOZ	Fox Glacier	1.76	57	P	Pb	10 18 03.2	-0.5
FOZ				S	Sg	10 18 27.5	-0.6
PYZ	Puysegur Point	1.82	205	P	Pg	10 18 07.4	+0.9
TUZ	Tuapeka	1.93	139	P	Pb	10 18 06.5	-0.1
ODZ	Otahua Downs	2.09	105	P	Pb	10 18 08.8	-0.6
ODZ	Otahua Downs	2.09	105	P	Pb	10 18 08.3	-1.1
GCSZ	Gaunt Creek Bo	2.19	57	P	Pn	10 18 07.5	-0.1
SYZ	Scrubby Hill	2.23	155	P	Pb	10 18 10.1	-1.5
SYZ	Scrubby Hill	2.23	155	P	Pb	10 18 10.3	-1.4
TMZ	Timaru	2.30	88	P	Pb	10 18 11.3	-1.7
APZ	The Paps	2.31	177	P	Pb	10 18 11.7	-1.6
HHSZ	Highcliff Hill	2.40	126	P	Pb	10 18 13.4	-1.3
RPZ	Rata Peaks	2.48	72	P	Pb	10 18 14.5	-1.5
RPZ	Rata Peaks	2.48	72	P	Pn	10 18 13.4	+1.7
ARCZ	Arundel	2.50	78	P	Pn	10 18 13.5	+1.6
WVZ	Waitaha Valley	2.57	57	P	Pn	10 18 12.3	-0.6
WACZ	Wakanui South	2.96	80	P	Pn	10 18 20.1	+1.8
INZ	Inchbonnie	3.20	57	P	Pn	10 18 21.6	+0.1
LTZ	Lake Taylor	3.68	63	P	Pn	10 18 29.3	+1.0
DSZ	Denniston Nort	4.04	48	P	Pn	10 18 33.1	0.0
MRNZ	Matariki Terra	4.79	51	P	Pn	10 18 44.6	+1.1
QRZ	Quartz Range	5.08	45	P	Pn	10 18 47.4	0.0
PAWZ	Paruwai Farm	6.42	63	P	Pn	10 19 08.0	+2.2

*IDC **05** 10:30:10.0±1.0, 53°.74N×165°.59W, h0km, mb4.0/20, mbtmp4.0/22, ML3.2/2, MS3.4/4, Error ellipse: s-maj=26.1km s-min=13.5km az=177.0*

*AEIC **05** 10:30:14.3±2.5, 53°.53N±0°.06×165°.40W±0°.06, h51km±7km, Error ellipse: s-maj=8.9km s-min=4.3km az=159.0*

*NEIC **05** 10:30:14.7±1.8, 53°.47N±0°.05×165°.36W±0°.05, h38km±11km, mb3.8/33, ML3.9/8, ML3.8(AEIC), Error ellipse: s-maj=7.6km s-min=2.4km az=154.0*

ISC 05 10:30:15.4±1.3**, 53°.53N**±0°.09×**165°.35W**±0°.05**, h46**km±10km**, n191,** σ**1s.31**/196**, mb4.0**/19**, MS3.5**/3**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.65	342		Pn	10 30 27.4	-0.9
AKSA					Sn	10 30 37.5	-0.1
AKSA	Akutan Strait	0.65	342		Pn	10 30 27.4	-0.9
AHB	Akutan Harbor	0.65	335		Pn	10 30 27.8	-0.6
AKUT	Akutan	0.66	338	Pn	Pn	10 30 27.8	-0.6
AKUT					Sn	10 30 38.3	+0.4
AKBBA	Akutan Broad B	0.67	329		Pn	10 30 27.7	-0.9
AKBBA					Sn	10 30 37.6	-0.5
ZRO	Akutan Zero	0.68	327		Pn	10 30 28.0	-0.7
AKV	Akutan Volcano	0.70	329		Pn	10 30 28.3	-0.8
AKLV	Akutan Long Va	0.73	331		Pn	10 30 28.6	-0.8
AKRB	Akutan Reef Bi	0.74	325		Pn	10 30 28.9	-0.6
UNV	Unalaska Valle	0.76	296	Pn	Pn	10 30 28.5	-1.2
UNV	Unalaska Valle	0.76	296		Sn	10 30 39.0	-1.1
UNV	Unalaska Valle	0.76	296	P	Pn	10 30 28.5	-1.2
AKGG	Akutan Green G	0.77	331		Pn	10 30 29.3	-0.6
MNAT	Makushin Natee	0.87	295		Pn	10 30 30.3	-0.9
MNAT					Sn	10 30 42.5	-0.3
MSW	Makushin Switc	0.94	295		Pn	10 30 31.4	-0.8
MSW					Sn	10 30 44.5	+0.1
MGOD	Makushin Gods	0.94	287		Pn	10 30 31.2	-1.1
MGOD					Sn	10 30 43.7	-1.0
MAPS	Pakushin South	0.99	287		Pn	10 30 31.8	-1.1
WESE	West Dahl East	1.05	25		Pn	10 30 33.5	-0.3
SSLS	Shishaldin Sou	1.43	33		Pn	10 30 38.5	-0.4
SSLS					Sn	10 30 57.1	+0.4
BRPK	Brown Peak	1.47	40		Pn	10 30 39.1	-0.4
OKFG	Magazine Ridge	1.53	267		Pn	10 30 39.5	-0.8
ISLZ	Isanotski Laza	1.54	38		Pn	10 30 39.7	-0.8
ISLZ					Sn	10 30 59.1	-0.3
OKER	Okmok East Rim	1.61	269		Pn	10 30 40.8	-0.7
OKNC	Okmok New Cone	1.66	269		Pn	10 30 41.2	-0.8
OKCE	Okmok Cone E	1.68	268		Pn	10 30 42.0	-0.4
FALS	False Pass	1.75	40	Pn	Pn	10 30 43.1	-0.2
FALS	False Pass	1.75	40	P	Pn	10 30 44.0	+0.7
NIKH	Nikolski High	2.17	257	Pn	Pn	10 30 48.4	-0.6
NIKH	Nikolski High	2.17	257	P	Pn	10 30 49.0	-0.1
SDPT	Sand Point	3.38	55	Pn	Pn	10 31 04.5	-1.1
SDPT				IAML		10 31 56.5	
	comp=E,405nm,0.9s						
SDPT				IAML		10 32 08.7	
	comp=N,316nm,1.0s						
SDPT	Sand Point	3.38	55	P	Pn	10 31 07.1	+1.5
CNBA	Chernabura Isl	3.63	67	Pn	Pn	10 31 07.9	-1.1
CNBA				IAML		10 32 02.4	
	comp=E,134nm,2.5s						
CNBA				IAML		10 33 02.4	
	comp=N,131nm,3.7s						
CHGN	Chignik	4.88	52	Pn	Pn	10 31 27.1	+1.1
ATKA	Atka Island	5.52	260	Pn	Pn	10 31 33.9	-1.0
ATKA	Atka Island	5.52	260	P	Pn	10 31 35.8	+0.9
CHIR	Chirikof Islan	6.10	64	Pn	Pn	10 31 41.8	-1.0
O14K	Tigyukauivet M	6.17	20	Pn	Pn	10 31 43.5	-0.4
R17K	Ugashik Creek	6.54	47	Pn	Pn	10 31 49.1	+0.2
M13K	Dall Lake	6.99	8	Pn	Pn	10 31 57.3	+2.2
ADK	Adak	7.08	261	Pn	Pn	10 31 56.1	-0.3
ADK	Adak	7.08	261	P	Pn	10 31 57.0	+0.7
SII	Sitkinak Islan	7.10	60	Pn	Pn	10 31 54.6	-2.0
N15K	Kwethluk River	7.26	21	Pn	Pn	10 32 00.5	+1.8
O16K	Kokwok River B	7.28	30		Pn	10 32 01.5	+2.4
KIWB	Kanaga Island	7.36	262	Pn	Pn	10 32 00.9	+0.7
M14K	Bethel	7.48	13	Pn	Pn	10 32 03.0	+1.3
OHAK	Old Harbor	7.81	57	Pn	Pn	10 32 05.7	-0.6
OHAK	Old Harbor	7.81	57	P	Pn	10 32 05.5	-0.7
L14K	Kuka Creek	7.97	9	Pn	Pn	10 32 10.4	+2.0
P18K	Big Mountain,	8.12	40	Pn	Pn	10 32 10.8	+0.3
M16K	Timber Creek	8.27	22	Pn	Pn	10 32 14.1	+1.5
N17K	Nushagak Hills	8.31	29	Pn	Pn	10 32 15.3	+2.2
KDAK	Kodiak Island	8.38	54	Pn	Pn	10 32 16.4	+2.3
KDAK	Kodiak Island	8.38	54	Pn	Pn	10 32 13.3	-0.9
	comp=N,0.7nm,0.3s,baz=226,slow=5.7,SNR=23						
KDAK				Sn	Sn	10 33 43.0	-4.3
	baz=69,slow=6.7,SNR=1.9						
	comp=N,2.4nm,0.4s						
O18K	Koktuh Hills	8.44	37	Pn	Pn	10 32 14.9	-0.1
Q19K	Cape Douglas,	8.47	46	Pn	Pn	10 32 16.9	+1.5
L16K	Owhat River	8.79	19	Pn	Pn	10 32 21.6	+2.0
N18K	Kilae Creek	8.82	32	Pn	Pn	10 32 22.4	+2.2
M17K	Holitna River	8.97	25	Pn	Pn	10 32 24.6	+2.4
O19K	Port Alsworth	9.00	38	Pn	Pn	10 32 22.9	+0.3
K15K	Wolf Creek Mou	9.02	11	Pn	Pn	10 32 24.6	+1.7
P19K	Oil Pt	9.07	43	Pn	Pn	10 32 23.9	+0.3
SVW2	Sparrevohn	9.24	31	Pn	Pn	10 32 27.1	+1.2
SVW2	Sparrevohn	9.24	31	P	Pn	10 32 28.2	+2.3
J14K	Nanvaranak Lak	9.30	5	Pn	Pn	10 32 27.0	+0.3
N19K	Bonanza Creek	9.38	35		Pn	10 32 31.0	+3.1
RSO	Redoubt South	9.76	40	Pn	Pn	10 32 32.8	-0.4
CNPM	China Poot	9.84	47	Pn	Pn	10 32 34.3	+0.3
L18K	Granite Mounta	9.85	24	Pn	Pn	10 32 35.6	+1.3
K17K	Iditarod	9.94	19	Pn	Pn	10 32 36.7	+1.4
J16K	Anvik River	10.10	12	Pn	Pn	10 32 39.9	+2.3
BRLK	Bradley Lake	10.11	46	Pn	Pn	10 32 38.6	+0.7
L19K	White Mountain	10.31	29	Pn	Pn	10 32 43.2	+2.7
M20K	Styx River	10.61	33	Pn	Pn	10 32 50.3	+5.6
TTA	Tatalina	10.62	24	Pn	Pn	10 32 45.8	+0.9
SEW	Seward	10.91	46	Pn	Pn	10 32 48.6	-0.1
J18K	Innoko River	10.93	21	Pn	Pn	10 32 51.4	+2.4
O22K	Cooper Landing	10.99	44		Pn	10 32 50.0	+0.2
SUA	Susitna One	11.16	39	Pn	Pn	10 32 52.5	+0.3
SKT	Skwentna	11.21	35	Pn	Pn	10 32 53.6	+0.7
RC01	Rabbit Creek A	11.32	42	Pn	Pn	10 32 58.3	+4.0
K20K	Telida	11.47	26		Pn	10 32 58.5	+2.1
J19K	Poorman	11.63	22		Pn	10 33 01.0	+2.5
CUT	Chulitna	11.94	36	Pn	Pn	10 33 04.5	+1.8
G16K	Koyuk River	12.00	6	Pn	Pn	10 33 04.8	+1.2
KNK	Knik Glacier	12.02	42	Pn	Pn	10 33 02.9	-0.9
Q23K	Middleton Isla	12.03	53	Pn	Pn	10 33 04.1	+0.1
CAST	Castle Rocks	12.08	30	Pn	Pn	10 33 05.0	+0.4
J20K	Nowinta River	12.13	24		Pn	10 33 06.2	+0.9
TNA	Tin City	12.14	355	Pn	Pn	10 33 06.7	+1.3
H18K	Honhosa River	12.19	14	Pn	Pn	10 33 05.7	-0.4
F15K	North Star Dit	12.23	1	Pn	Pn	10 33 08.6	+1.9
SML	Sawmill	12.29	41	Pn	Pn	10 33 06.0	-1.5
HIN	Hinchinbrook I	12.35	49	Pn	Pn	10 33 07.2	-1.1
KTH	Kantishna Hill	12.53	31	Pn	Pn	10 33 09.6	-1.2
TRF	Thorofare Moun	12.65	32	Pn	Pn	10 33 12.1	-0.4
SCM	Sheep Creek Mo	12.70	42	Pn	Pn	10 33 12.4	-0.8
G18K	Tagagawik	12.85	12	Pn	Pn	10 33 14.8	-0.4
KLU	Klutina	13.10	45		Pn	10 33 16.8	-1.8
G19K	Purcell Mounta	13.30	15	Pn	Pn	10 33 24.0	+2.6
M24K	Tolsona, Glenn	13.31	42	Pn	Pn	10 33 19.9	-1.5
DHY	Denali Highway	13.40	37	Pn	Pn	10 33 23.2	+0.4
I21K	Tanana	13.49	25	Pn	Pn	10 33 26.3	+2.5
H21K	Melozitna Rive	13.69	22	Pn	Pn	10 33 27.0	+0.4
MLY	Manley	13.69	27	Pn	Pn	10 33 28.4	+1.7
N25K	Chitina, Valde	13.71	46	Pn	Pn	10 33 25.2	-1.8
IMAR	Indian Mountai	13.76	20	Pn	Pn	10 33 29.6	+2.1
GLB	Gilahina Butte	13.98	47	Pn	Pn	10 33 28.5	-2.2
CRQM	Cirque	14.01	50	Pn	Pn	10 33 29.4	-1.8
PAX	Paxson	14.05	40	Pn	Pn	10 33 30.0	-1.5
VRDI	Verde Repeater	14.05	48	Pn	Pn	10 33 29.9	-1.8
TGL	Tana Glacier	14.15	50	Pn	Pn	10 33 32.2	-0.8
I23K	Minto, Yukon-K	14.16	28	Pn	Pn	10 33 33.3	+0.3
G21K	Allakaket	14.27	19	Pn	Pn	10 33 34.5	+0.1
CCB	Clear Creek Bu	14.27	32	Pn	Pn	10 33 31.6	-2.8
MCARA	McCarthy VSAT	14.30	48	Pn	Pn	10 33 34.6	-0.3
ISLE	Juniper Island	14.33	51	Pn	Pn	10 33 34.7	-0.7
MDM	Murphy Dome	14.36	30	Pn	Pn	10 33 34.3	-1.3
HDA	Harding Lake	14.39	33	Pn	Pn	10 33 34.4	-1.6
E19K	Redstone River	14.52	13	Pn	Pn	10 33 38.2	+0.5
GRNC	Granite Creek	14.64	51	Pn	Pn	10 33 39.6	0.0
ILAR	Eielson Array	14.65	32	Pn	Pn	10 33 39.6	+0.2
ILAR	Eielson Array	14.65	32	Pn	Pn	10 33 36.3	-3.1
	baz=224,slow=13,SNR=1.9						
ILAR				LR	LR	10 39 13.7	
	comp=N,151nm,19.3s,baz=110,slow=37						
	comp=N,0.2nm,0.6s						
MENT	Mentasta	14.71	42	Pn	Pn	10 33 38.7	-1.7
M26K	Nabesna, AK	14.75	44		Pn	10 33 39.1	-1.8
BARN	Barnard Glacie	14.80	50	Pn	Pn	10 33 40.3	-1.3
C16K	Lisburne Hills	14.80	0	Pn	Pn	10 33 41.5	+0.1
F21K	Alatna River	14.89	18		P	10 33 45.8	-1.8
L26K	Log Cabin Wild	14.90	42	Pn	Pn	10 33 42.7	-0.2
CTGM	Chitina Glacie	14.91	50	Pn	Pn	10 33 43.8	+0.7
H24K	Noodor Dome	15.09	28	Pn	Pn	10 33 46.1	+0.8
H24K				IAmb	IAmb	10 34 07.0	
	comp=Z,12nm,1.4s						
SCRK	Sand Creek	15.16	38	Pn	Pn	10 33 44.0	-2.3
SCRK				IAmb	IAmb	10 33 54.0	
	comp=Z,3.3nm,0.6s						
M27K	Edge Creek, AK	15.20	45	Pn	Pn	10 33 46.1	-0.8
D19K	Kuna River	15.40	10	Pn	Pn	10 33 49.1	-0.2
D19K				IAmb	IAmb	10 34 01.2	
	comp=Z,10nm,1.4s						
L27K	Beaver Creek,	15.53	43	Pn	Pn	10 33 49.2	-1.8
BCAR	Beaver Creek A	15.55	43	Pn	Pn	10 33 48.7	-2.6
COLD	Coldfoot	15.58	22	Pn	Pn	10 33 51.9	+0.3
COLD				IAmb	IAmb	10 34 08.7	
	comp=Z,3.6nm,0.8s						
J26L	Joseph Creek	15.61	37		Pn	10 33 52.1	+0.1
J26L				IAmb	IAmb	10 33 55.5	
	comp=Z,7.0nm,1.3s						
G24K	Hadweenzic Riv	15.84	27	Pn	Pn	10 33 54.2	-0.8
E22K	Anaktuvuk Pass	16.01	19	Pn	Pn	10 33 57.4	+0.3
E22K				IAmb	IAmb	10 34 05.3	
	comp=Z,6.3nm,0.9s						
D22K	Ayikyak River	16.51	16	Pn	Pn	10 34 03.4	0.0
M29M	Somme Creek	16.70	47	Pn	Pn	10 34 05.3	-0.6
M29M				IAmb	IAmb	10 34 11.6	
	comp=Z,8.2nm,0.8s						

DAWY Dawson 16.96 41 Pn Pn 10 34 07.8 -1.3
DAWY IAmb IAmb 10 34 15.8
comp=Z,5.1nm,0.7s
B20K Meade River 16.96 10 Pn Pn 10 34 08.8 -0.1
N30M Aishikik Lake 17.02 51 P 10 34 10.8 -0.4
N30M IAmb IAmb 10 34 19.1
comp=Z,9.2nm,0.8s
L29M L29M 17.08 45 Pn Pn 10 34 10.0 -0.6
I28M Miner Creek 17.42 37 P P 10 34 15.3 -0.2
I28M IAmb IAmb 10 34 21.2
comp=Z,3.7nm,0.6s
SKAG Skagway 17.50 58 P 10 34 15.8 -0.6
SKAG IAmb IAmb 10 34 19.9
comp=Z,9.1nm,1.0s
K29M Barlow Dome 17.61 43 P 10 34 18.7 +0.9
K29M IAmb IAmb 10 34 23.6
comp=Z,7.0nm,0.9s
N31M Braeburn, Yuko 17.64 51 P 10 34 19.0 +1.0
N31M IAmb IAmb 10 34 28.4
comp=Z,9.2nm,0.8s
B22K Teshekpuk Lake 17.72 13 P P 10 34 21.9 +3.2
I29M Ogilvie Camp, 17.97 38 P Pn 10 34 21.2 -0.2
MAYO Mayo, Yukon 18.20 45 P Pn 10 34 25.3 +1.1
J30M Hart River 18.38 42 P Pn 10 34 26.2 -0.4
J30M IAmb IAmb 10 34 36.9
comp=Z,4.1nm,0.8s
I30M Mount Dempster 18.63 40 P P 10 34 28.7 -0.3
I30M IAmb IAmb 10 34 45.2
comp=Z,14nm,1.5s
F28M Old Crow 18.65 31 P P 10 34 28.5 -0.6
P33M Teslin, Yukon 18.85 56 P Pn 10 34 31.7 -0.5
FARO Faro, Yukon 18.93 50 P Pn 10 34 33.3 +0.1
EPYK Eagle Plains 19.02 36 P P 10 34 32.9 -0.3
G30M tAoh Zraii Nji 19.50 35 P P 10 34 37.3 -1.0
G30M IAmb IAmb 10 34 45.0
comp=Z,7.2nm,1.3s
H31M Peel River 19.64 39 P P 10 34 39.7 -0.2
H31M IAmb IAmb 10 34 45.3
comp=Z,8.2nm,1.1s
DLBC Dease Lake 20.20 62 P Pn 10 34 48.0 -0.3
comp=Z,1.9nm,0.8s,baz=76,slow=20,SNR=2.1
comp=Z,1.9nm,0.8s
INK Inuvik 21.05 33 P P 10 34 53.0 -1.9
INK Inuvik 21.05 33 P P 10 34 53.0 -1.9
comp=Z,2.6nm,0.6s,baz=214,slow=11,SNR=42
comp=Z,2.6nm,0.6s
PETK Petropavlovsk- 21.92 284 P P 10 35 03.3 -1.2
comp=Z,2.1nm,0.5s,baz=87,slow=14,SNR=15
PETK LR LR 10 44 12.5
comp=Z,40nm,19.1s,baz=70,slow=39
comp=Z,2.1nm,0.5s
WRGLY Wrigley 23.58 49 P P 10 35 22.7 +1.2
A36M Sachs Harbour 25.25 28 P P 10 35 37.3 +0.7
YKA Yellowknife Ar 27.64 51 P P 10 35 58.7 +0.5
YKA Yellowknife Ar 27.64 51 P P 10 35 59.1 +0.9
comp=Z,1.0nm,0.7s,baz=275,slow=9.6,SNR=24
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 35.31 96 P P 10 37 08.3 +2.3
comp=Z,0.9nm,0.8s,baz=309,slow=7.8,SNR=7.5
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 37.83 83 P P 10 37 29.0 +1.5
comp=Z,0.7nm,0.8s,baz=317,slow=6.3,SNR=4.5
comp=Z,0.7nm,0.8s
ANMO Albuquerque 44.70 90 LR LR 10 56 13.3
comp=Z,59nm,18.9s,baz=154,slow=35
KSRS Korea Array 47.66 279 P P 10 38 46.9 +0.1
comp=Z,1.2nm,0.8s,baz=49,slow=8.5,SNR=4.2
comp=Z,1.2nm,0.8s
TXAR Lajitas Array 50.34 93 P P 10 39 09.1 +1.4
comp=Z,0.8nm,0.6s,baz=302,slow=5.6,SNR=8.7
comp=Z,0.8nm,0.6s
SONM Songino Array 52.77 302 P P 10 39 25.0 -0.6
comp=Z,0.5nm,0.4s,baz=34,slow=8.7,SNR=5.7
SONM PcP PcP 10 40 35.7 +1.1
comp=Z,0.4nm,0.6s,baz=90,slow=4.3,SNR=2.2
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 56.99 355 P P 10 39 54.7 -1.0
comp=Z,3.4nm,0.8s,baz=7.6,slow=7.0,SNR=5.6
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 58.17 319 PcP PcP 10 40 55.1 0.0
comp=Z,0.6nm,0.4s,baz=12,slow=5.5,SNR=3.5
BVAR Borovoye Array 64.13 326 P P 10 40 44.2 -0.3
comp=Z,1.0nm,0.7s,baz=18,slow=6.7,SNR=4.2
BVAR PcP PcP 10 41 19.6 +0.4
comp=Z,0.8nm,0.5s,baz=24,slow=5.5,SNR=3.2
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 64.73 315 P P 10 40 48.2 -0.4
comp=Z,0.4nm,0.6s,baz=43,slow=5.5,SNR=4.1
comp=Z,0.4nm,0.6s
FINES FINESS Array B 65.02 354 P P 10 40 49.4 -0.7
comp=Z,1.3nm,0.4s,baz=20,slow=7.7,SNR=14
FINES LR LR 11 11 28.5
comp=Z,61nm,18.0s,baz=19,slow=38
comp=Z,1.3nm,0.4s
NB2 NORSAR Subarra 65.75 2 P P 10 40 54.3 -0.6
comp=Z,0.8nm,0.6s,baz=0.1,slow=6.2
NOA NORSAR Array B 65.75 2 P P 10 40 54.5 -0.4
comp=Z,1.4nm,0.7s,baz=0.5,slow=6.3,SNR=4.8
comp=Z,1.4nm,0.7s
HFS Hagfors 66.69 1 P P 10 41 00.2 -0.7
comp=Z,3.2nm,0.4s,baz=28,slow=3.5,SNR=28
comp=Z,3.2nm,0.4s
EKA Eskdalemuir Ar 70.52 11 P P 10 41 25.2 +0.4
comp=Z,1.2nm,0.6s,baz=343,slow=5.3,SNR=5.1
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 75.42 350 P P 10 41 53.0 -0.9
comp=Z,2.2nm,0.5s,baz=13,slow=5.7,SNR=8.7
comp=Z,2.2nm,0.5s
CMAR Chiang Mai Arr 78.69 286 P P 10 42 13.2 +0.4
comp=Z,2.4nm,1.1s,baz=12,slow=5.3,SNR=7.6
comp=Z,2.4nm,1.1s
KBZ Khabaz 80.14 340 P P 10 42 21.0 +0.8
comp=Z,2.6nm,0.9s,baz=250,slow=1.8,SNR=4.3
comp=Z,2.6nm,0.9s
BRTR Keskin Array B 85.68 345 P P 10 42 49.1 -0.1
comp=Z,1.1nm,0.6s,baz=80,slow=2.8,SNR=3.6
comp=Z,1.1nm,0.6s
H03N2 Juan Fernandez 114.13 114 T T 12 53 20.5
baz=322,slow=78,SNR=66
H03N1 Juan Fernandez 114.14 114 T T 12 53 21.8
baz=322,slow=78,SNR=68
H03N3 Juan Fernandez 114.15 114 T T 12 53 21.0
baz=322,slow=78,SNR=81

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*IDC **05** 10:52:16.9±1.6, 12°.16N×141°.18E, h0km, mb4.1/9, mbtmp4.1/9, Error ellipse: s-maj=63.1km s-min=17.0km az=79.0*
*NEIC **05** 10:52:19.2±0.5, 12°.2N±0°.1×141°.2E±0°.1, h10km±1km, mb4.3/11, Error ellipse: s-maj=24.6km s-min=16.1km az=198.0*
ISC 05 10:52:21.8±0.7**, 12°.2N**±0°.1×**141°.2E**±0°.1**, h34**km**, n25,** σ**0s.52**/25**, mb4.3**/16**, South of Mariana Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
GUMO Guam 3.82 68 Pn Pn 10 53 17.8 -0.5
CTAO Charters Tower 32.43 171 P P 10 58 48.0 -1.0
WB0 Warramunga Arr 32.44 192 P P 10 58 48.9 -0.1
WB0 IAmb IAmb 10 58 50.6
comp=Z,7.4nm,1.3s
WR0 Warramunga Arr 32.60 192 P P 10 58 50.2 -0.2
WR0 IAmb IAmb 10 58 53.0
comp=Z,4.7nm,1.1s
WRAB Tennant Creek 32.61 192 P P 10 58 49.6 -0.9
WB2 Warramunga Arr 32.62 192 P P 10 58 50.4 -0.2
WB2 IAmb IAmb 10 58 52.2
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 32.62 192 P P 10 58 50.2 -0.4
WRA Warramunga Arr 32.62 192 P P 10 58 50.0 -0.6
comp=Z,1.2nm,0.7s,baz=11,slow=9.8,SNR=13
comp=Z,1.2nm,0.7s
AS31 Alice Springs 36.33 191 P P 10 59 22.8 +0.1
AS31 IAmb IAmb 10 59 37.2
comp=Z,1.1nm,1.4s
ASAR Alice Springs 36.33 191 P P 10 59 23.1 +0.4
ASAR Alice Springs 36.33 191 P P 10 59 22.5 -0.2
comp=Z,0.4nm,0.4s,baz=18,slow=12,SNR=18
comp=Z,0.4nm,0.4s
CMAR Chiang Mai Arr 41.19 284 P P 11 00 03.2 -0.4
comp=Z,1.2nm,0.5s,baz=88,slow=6.1,SNR=9.5
comp=Z,1.2nm,0.5s
MARNC Mare, Loyalty 42.55 142 P P 11 00 15.9 +1.3
STKA Stephens Creek 43.80 180 P P 11 00 24.6 +0.2
comp=Z,1.8nm,0.7s,baz=354,slow=9.2,SNR=3.7
comp=Z,1.8nm,0.7s
BBOO Buckleboo 45.00 186 P P 11 00 34.3 +0.3
BBOO IAmb IAmb 11 00 40.5
comp=Z,10nm,1.4s
MK31 Makanchi Array 60.08 317 P P 11 02 26.3 +0.6
MK31 IAmb IAmb 11 02 26.8
comp=Z,1.7nm,1.1s
MKAR Makanchi Array 60.08 317 P P 11 02 26.1 +0.3
MKAR Makanchi Array 60.08 317 P P 11 02 25.9 +0.1
comp=Z,1.6nm,0.8s,baz=104,slow=7.7,SNR=14
comp=Z,1.6nm,0.8s
MAKZ Makanchi 60.29 317 P P 11 02 27.6 +0.4
MAKZ IAmb IAmb 11 02 28.1
comp=Z,3.5nm,1.1s
ZALV Zalesovo Beam 60.74 326 P P 11 02 29.9 -0.2
comp=Z,1.1nm,0.5s,baz=105,slow=8.0,SNR=6.7
comp=Z,1.1nm,0.5s
KURBB Kurchatov Arra 63.44 321 P P 11 02 48.3 +0.1
comp=Z,5.4nm,0.6s,baz=104,slow=6.8,SNR=21
comp=Z,5.4nm,0.6s
NRIK Noril'sk 66.34 342 P P 11 03 07.0 +0.3
comp=Z,1.9nm,0.6s,baz=103,slow=6.5,SNR=5.3
comp=Z,1.9nm,0.6s
KKAR Karatay Array 67.72 312 P P 11 03 16.6 +0.4
BVAR Borovoye Array 68.85 322 P P 11 03 22.9 0.0
comp=Z,2.6nm,0.5s,baz=108,slow=7.5,SNR=12
comp=Z,2.6nm,0.5s
ABKAR Akbulak array 75.21 318 P P 11 04 00.6 -0.5

IDC 05 10:52:51.1±55.0**, 18°.08S**×**175°.85W, h0**km**, mb3.7**/3**, mbtmp3.7**/3**, Error ellipse: s-maj=1036.0km s-min=179.4km az=80.0, Tonga Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
STKA Stephens Creek 40.69 242 P P 11 00 34.3 +0.8
1.0nm,0.6s,baz=91,slow=6.0,SNR=3.1
1.0nm,0.6s
WRA Warramunga Arr 46.99 259 P P 11 01 23.9 -0.5
0.3nm,0.4s,baz=98,slow=7.5,SNR=8.1
0.3nm,0.4s
ASAR Alice Springs 47.09 254 P P 11 01 24.8 -0.4
0.5nm,0.4s,baz=92,slow=8.1,SNR=14
0.5nm,0.4s

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*IDC **05** 10:55:23.5±0.6, 35°.23N×141°.28E, h0km, mb3.9/14, mbtmp3.9/21, ML3.3/7, MS3.7/23, Error ellipse: s-maj=16.4km s-min=14.4km az=111.0*
*NIED **05** 10:55:27.2, 35°.32N×141°.23E, h38km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.93; Mθθ0.83; Mφφ-2.76; Mrθ0.24; Mθφ-1.63; Mφr2.04; Fault plane solution: Mo3.41000×10^15 NP1:φs4.00000°, δ66.00000°, λ70.00000°. NP2:φs227.00000°, δ31.00000°, λ128.00000°.*
*JMA **05** 10:55:27.2±0.3, 35°.3N±0°.6×14°1E±°, h38km±3km, MV3.6/38, E OFF BOSO PENINSULA*
*NEIC **05** 10:55:27.4±2.7, 35°.29N±0°.05×141°.35E±0°.09, h28km±5km, mb4.5/56, Mwr4.3/10, Error ellipse: s-maj=11.4km s-min=7.2km az=104.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-2.82; Mθθ1.86; Mφφ0.97; Mrθ-0.57; Mθφ1.99; Mφr1.95; Fault plane solution: Mo3.78000×10^15 NP1:φs204.23000°, δ58.97000°, λ-123.90000°. NP2:φs76.73000°, δ44.66000°, λ-47.17000°. Principal axes: T 3.5585, Plg8.0000°, Azm318.0000°; N 0.4048, Plg29.0000°, Azm223.0000°; P -3.9633, Plg60.0000°, Azm62.0000°;*
*NEIC **05** 10:55:27.8, 35°.38N×141°.31E, h29km*
ISC 05 10:55:27.2±0.5**, 35°.30N**±0°.04×**141°.28E**±0°.05**, h25**km**, n138,** σ**1s.30**/125**, mb4.4**/46**, MS3.9**/19**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
BSO1 Boso 1 0.69 201 eP Pn 10 55 41.0 +0.1
BSO1 eX 10 55 50.5
JSMT Sammumatsuo 0.76 297 P Pb 10 55 41.3 -0.5
BSO3 Boso 3 0.80 232 P Pb 10 55 41.3 -1.0
BSO3 eX 10 55 51.8
KTR Katsuura 0.80 260 P Pb 10 55 41.5 -1.0
BSO4 Boso 4 0.83 249 P Pb 10 55 42.1 -0.8
JCN Nagara 0.89 278 eP Pn 10 55 43.9 -0.2
JKUC kamogawauchiur 0.89 262 P Pb 10 55 42.8 -1.3
JKUC eS Sb 10 55 52.0 -3.6
JYT Yasato 1.28 317 P Pn 10 55 49.2 -0.4
JIM2 Oshima 3 1.62 250 iP Pn 10 55 52.1 -2.1
JOD2 Odawara 2 1.79 270 P Pn 10 55 55.2 -1.4
JAG Ashikaga 1.86 308 P Pn 10 55 58.0 +0.4
JHJ2 Mitsune 2.49 209 Pn Pn 10 56 06.2 0.0
JHJ2 Sn Sn 10 56 35.7 -0.1
JHJ Hachijo jima 2 2.50 210 Pn Pn 10 56 06.1 -0.2
35nm,0.3s,baz=51,slow=14,SNR=7.2
JHJ Sn Sn 10 56 35.6 -0.4
71nm,0.3s,baz=84,slow=24,SNR=2.6
JHJ LR LR 10 56 57.3
comp=Z,165nm,19.1s,baz=72,slow=38
77nm,0.3s
JMM Marumori 2.59 351 Pn 10 56 07.0 -0.6
JMM Marumori 2.59 351 P Pn 10 56 07.2 -0.4
JSG Sagara 2.61 257 Pn Pn 10 56 07.9 0.0
JSG Sagara 2.61 257 P Pb 10 56 15.1 +1.7
MJAR Matsushiro Arr 2.78 297 Pn Pn 10 56 11.2 +1.0
1.0nm,0.3s,baz=99,slow=15,SNR=45
MJAR LR LR 10 56 46.7
comp=Z,195nm,19.1s,baz=111,slow=30
9.3nm,0.5s
MAJO Matsushiro 2.79 297 Pn 10 56 10.1 -0.2
MJB9 Matsu-Tunnel 2.79 297 Pn 10 56 12.2 +1.9
JWT Wachi 4.81 272 Pn Pn 10 56 39.4 +1.4
JTM Tenmabayashi 5.48 358 Pn Pn 10 56 46.1 -1.2
JTM Tenmabayashi 5.48 358 P Pn 10 56 47.2 -0.1
JMN Monobe 6.30 258 Pn Pn 10 57 00.2 +1.5
JMN Monobe 6.30 258 P Pn 10 57 05.9 +7.3
ERM Erimo 6.87 12 Pn Pn 10 57 04.8 -1.5
ERM Erimo 6.87 12 P Pn 10 57 05.2 -1.1
JEM Erimo 6.87 12 P Pn 10 57 05.1 -1.2
JCJ Chichijima 8.21 174 Pn Pn 10 57 23.0 -1.8
JCJ Chichijima 8.21 174 P Pn 10 57 33.0 +8.2
JCJ Chichijima 8.21 174 Pn Pn 10 57 18.6 -6.3
7.1nm,0.3s,baz=250,slow=18,SNR=1.9
JCJ Sn Sn 10 58 45.8 -11
7.2nm,0.3s,baz=276,slow=21,SNR=2.0
JCJ LR LR 11 00 29.3
comp=Z,275nm,21.7s,baz=106,slow=38
ASAJ Asahikawa 8.87 6 Pn Pn 10 57 31.7 -2.0
1.9nm,0.3s,baz=214,slow=10,SNR=19
ASAJ Sn Sn 10 59 08.3 -4.5
0.9nm,0.3s,baz=73,slow=20,SNR=2.9
ASAJ LR LR 11 01 48.7
comp=Z,236nm,20.1s,baz=180,slow=43
4.8nm,0.5s
JKA Kamikawa-asahi 8.87 6 Pn Pn 10 57 33.0 -0.7
JNU Nakatsue 8.88 259 Pn Pn 10 57 33.3 -0.7
0.1nm,0.3s,baz=16,slow=17,SNR=1.7
JNU LR LR 11 01 19.3
comp=Z,258nm,20.8s,baz=66,slow=40
4.9nm,0.9s
KSRS Korea Array 10.98 285 Pn Pn 10 58 02.2 -0.5
0.1nm,0.3s,baz=99,slow=14,SNR=2.1
KSRS LR LR 11 02 30.6
comp=Z,628nm,19.0s,baz=90,slow=39
0.9nm,0.7s
USA0B Ussuriysk Arra 11.40 324 Pn Pn 10 58 06.0 -2.4
USRK Ussuriysk Ar. 11.40 324 Pn Pn 10 58 06.1 -2.3
USRK Ussuriysk Ar. 11.40 324 Pn Pn 10 58 08.3 -0.1
0.2nm,0.3s,baz=130,slow=12,SNR=5.4
USRK LR LR 11 02 24.3
comp=Z,338nm,18.1s,baz=135,slow=37
3.6nm,0.8s
CN2 Changchun 14.86 310 P P 10 59 01.4 +0.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,300nm,12.0s
CN2 LR LR
comp=Z,300nm,16.0s
KLR Kul'dur 15.59 336 Pn Pn 10 59 05.9 +0.7
comp=Z,0.2nm,0.3s,baz=129,slow=8.6,SNR=4.7
KLR LR LR 11 05 06.7
comp=Z,211nm,18.8s,baz=130,slow=37
comp=Z,0.9nm,0.6s
HNS HongShan 21.48 283 eP P 11 00 16.7 +2.8
HNS eS S 11 04 09.7 -1.3
HNS LR LR
comp=N,190nm,15.9s
HNS LR LR
comp=E,390nm,18.3s
HNS LR LR
comp=Z,310nm,15.9s
HHC Hu-ho-hao-te 23.97 292 eP P 11 00 40.8 +1.0
HHC pmax pmax
comp=Z,31nm,0.6s
HHC pmax pmax
comp=Z,230nm,6.0s
HHC LR LR
comp=N,240nm,15.3s
HHC LR LR
comp=E,310nm,16.0s
HHC LR LR
comp=Z,300nm,15.5s
YAK Yakutsk 27.74 348 LR LR 11 13 13.5
comp=Z,4.2nm,18.0s,baz=106,slow=38
SONM Songino Array 28.70 307 P P 11 01 22.7 +0.4
comp=Z,0.5nm,0.6s,baz=111,slow=7.9,SNR=2.9
SONM LR LR 11 13 18.5
comp=Z,160nm,18.3s,baz=182,slow=37
comp=Z,0.5nm,0.6s
GTA Gaotai 33.01 290 eP P 11 02 04.5 +4.1
GTA sP sP 11 02 17.6 +6.7
GTA pmax pmax
comp=Z,2.0nm,1.0s
PZH PanZhiHua 34.85 267 P P 11 02 17.6 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.0s
FAKI Fak Fak 38.95 194 P P 11 02 51.3 +0.1
FAKI IAmb IAmb 11 03 10.2
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 40.98 257 LR LR 11 21 10.8
comp=Z,45nm,19.3s,baz=60,slow=38
WMQ Urumqi 41.55 299 eP P 11 03 13.8 +1.1
WMQ pP sP 11 03 23.9 +0.7
WMQ sP pP 11 03 26.5 +6.3
WMQ PcP PcP 11 05 13.9 +4.1
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ LR LR
comp=Z,88nm,24.9s
ZAA0 Zalesovo Array 43.02 314 P P 11 03 24.4 -0.1
ZALV Zalesovo Beam 43.02 314 P P 11 03 24.5 +0.1
ZALV Zalesovo Beam 43.02 314 P P 11 03 24.4 0.0
comp=Z,1.5nm,0.5s,baz=76,slow=7.9,SNR=4.0
comp=Z,1.5nm,0.5s
K15K Wolf Creek Mou 44.30 34 P P 11 03 33.7 -1.0
C16K Lisburne Hills 44.31 25 P P 11 03 36.0 +1.4
C16K IAmb IAmb 11 04 00.9
comp=Z,5.9nm,1.2s
N15K Kwethluk River 44.68 37 P P 11 03 37.2 -0.5
J16K Anvik River 44.90 33 P P 11 03 38.0 -1.4
J16K IAmb IAmb 11 03 58.0
comp=Z,18nm,1.5s
MK31 Makanchi Array 44.97 304 P P 11 03 40.0 -0.3
MKAR Makanchi Array 44.97 304 P P 11 03 39.0 -1.2
MKAR Makanchi Array 44.97 304 P P 11 03 39.9 -0.4
comp=Z,1.0nm,0.7s,baz=84,slow=8.9,SNR=7.7
MKAR LR LR 11 23 13.2
comp=Z,135nm,18.5s,baz=60,slow=37
comp=Z,1.0nm,0.7s
MAKZ Makanchi 45.18 304 P P 11 03 40.6 -1.4
K17K Iditarod 45.85 34 P P 11 03 46.2 -0.8
C18K Utukok River 45.89 25 P P 11 03 48.4 +1.1
C18K IAmb IAmb 11 04 09.5
comp=Z,4.0nm,1.0s
H18K Honhosa River 46.19 31 P P 11 03 48.6 -1.0
C19K Lookout Ridge 46.57 25 P P 11 03 54.5 +1.9
C19K IAmb IAmb 11 04 04.4
comp=Z,7.3nm,1.4s
F19K Shaleruckik Mo 46.73 28 P P 11 03 52.3 -1.4
F19K IAmb IAmb 11 04 03.5
comp=Z,4.5nm,0.7s
KURK Kurchatov 46.93 309 P P 11 03 55.0 -0.6
KURK IAmb IAmb 11 04 12.2
comp=Z,6.6nm,0.9s
KURBB Kurchatov Arra 47.00 309 P P 11 03 55.9 -0.2
comp=Z,1.1nm,0.3s,baz=84,slow=8.2,SNR=6.2
comp=Z,1.1nm,0.3s
P18K Big Mountain, 47.08 39 P P 11 03 54.8 -1.9
N19K Bonanza Creek 47.50 37 P P 11 03 57.9 -2.1
SOEI Soe 47.61 203 P P 11 04 00.5 -0.8
B20K Meade River 47.62 24 P P 11 04 02.0 +1.4
B20K IAmb IAmb 11 04 23.0
comp=Z,2.9nm,0.8s
K20K Telida 47.83 33 P P 11 04 03.0 +0.5
HNR Honiara 47.86 155 LR LR 11 22 50.4
comp=Z,489nm,21.3s,baz=0.5,slow=34
MDM Murphy Dome 50.45 31 P P 11 04 24.1 +1.6
MDM IAmb IAmb 11 04 25.1
comp=Z,7.4nm,1.2s
SML Sawmill 50.46 35 P P 11 04 24.4 +1.7
SML IAmb IAmb 11 04 43.0
comp=Z,8.9nm,1.2s
IL31 51.02 32 P P 11 04 27.4 +0.7
IL31 IAmb IAmb 11 04 28.0
comp=Z,3.1nm,0.8s
ILAR Eielson Array 51.02 32 P P 11 04 27.1 +0.3
ILAR Eielson Array 51.02 32 P P 11 04 27.2 +0.4
comp=Z,1.5nm,0.8s,baz=264,slow=6.1,SNR=14
comp=Z,1.5nm,0.8s
AAK Ala-Archa 51.23 300 LR LR 11 27 41.5
comp=Z,151nm,19.1s,baz=58,slow=38
BVAR Borovoye Array 51.67 313 P P 11 04 32.0 +0.2
comp=Z,0.7nm,0.6s,baz=76,slow=12,SNR=2.7
comp=Z,0.7nm,0.6s
BRVK Borovoye 51.73 313 P P 11 04 33.8 +1.6
BMAR Burnt Mountain 51.91 28 P P 11 04 35.3 +1.9
KNRA Kununurra 52.06 195 P P 11 04 35.2 +0.1
SCRK Sand Creek 52.32 33 P P 11 04 37.2 +0.6
KKAR Karatay Array 53.91 301 P P 11 04 48.0 -0.6
WB0 Warramunga Arr 55.15 188 P P 11 04 56.7 -1.0
CTA Charters Tower 55.28 174 LR LR 11 27 48.3
comp=Z,48nm,20.3s,baz=308,slow=35
WRAB Tennant Creek 55.32 188 P P 11 04 58.1 -0.7
WRAB IAmb IAmb 11 05 10.2
comp=Z,5.7nm,0.8s
WR0 Warramunga Arr 55.32 188 P P 11 04 58.0 -0.8
WB2 Warramunga Arr 55.33 188 P P 11 04 57.8 -1.1
WB2 IAmb IAmb 11 05 10.2
comp=Z,4.3nm,0.8s
WRA Warramunga Arr 55.33 188 P P 11 04 57.8 -1.0
WRA Warramunga Arr 55.33 188 P P 11 04 57.9 -1.0
comp=Z,2.4nm,0.6s,baz=0.4,slow=7.5,SNR=54
comp=Z,2.4nm,0.6s
I30M Mount Dempster 55.42 30 P P 11 05 00.7 +1.4
I30M IAmb IAmb 11 05 13.8
comp=Z,10nm,1.4s
ARU Arti 57.59 319 LR LR 11 30 26.8
comp=Z,36nm,19.8s,baz=354,slow=36
ABKAR Akbulak array 58.98 311 P P 11 05 23.4 -1.1
C36M Paulatuk 59.05 24 P P 11 05 22.9 -1.7
C36M IAmb IAmb 11 05 33.8
comp=Z,6.8nm,1.2s
AS31 Alice Springs 59.05 188 P P 11 05 24.7 -0.5
ASAR Alice Springs 59.05 188 P P 11 05 24.1 -1.1
ASAR Alice Springs 59.05 188 P P 11 05 24.7 -0.5
comp=Z,0.5nm,0.6s,baz=8.5,slow=8.0,SNR=20
comp=Z,0.5nm,0.6s
MBWA Marble Bar 59.75 203 P P 11 05 28.9 -1.2
KIRV Kirov 61.57 323 LR LR 11 34 09.6
comp=Z,82nm,19.3s,baz=17,slow=38
RES Resolute Bay 64.31 14 P P 11 05 59.1 -0.9
GEYT Alibeck 64.59 300 LR LR 11 35 29.8
comp=Z,79nm,19.3s,baz=38,slow=37
YKA Yellowknife Ar 65.37 30 P P 11 06 06.8 -0.3
YKA Yellowknife Ar 65.37 30 P P 11 06 07.5 +0.4
comp=Z,0.8nm,0.8s,baz=300,slow=6.4,SNR=12
comp=Z,0.8nm,0.8s
ARCES ARCESS Array B 65.58 340 P P 11 06 08.2 -0.2
FORT Forrest 66.89 192 P P 11 06 16.4 -0.8
OBN Obninsk 69.42 324 LR LR 11 37 37.6
comp=Z,98nm,19.0s,baz=350,slow=36
GNI Garni 72.66 307 LR LR 11 41 35.5
comp=Z,46nm,18.5s,baz=1.0,slow=38
AKASG Malin Array Be 75.60 323 P P 11 07 10.3 +0.5
comp=Z,0.2nm,0.3s,baz=50,slow=6.0,SNR=2.3
AKASG LR LR 11 43 41.6
comp=Z,92nm,18.5s,baz=76,slow=38
comp=Z,0.2nm,0.3s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NOA	NORSAR Array B	75.74	337	P	P	11 07 12.0	+1.5
	comp=Z,0.9nm,0.8s,baz=40,slow=5.8,SNR=2.8						
	comp=Z,0.9nm,0.8s						
NVAR	Mina Array Bea	76.12	53	P	P	11 07 11.9	-1.3
NVAR	Mina Array Bea	76.12	53	P	P	11 07 14.6	+1.3
	comp=Z,2.2nm,0.8s,baz=287,slow=5.7,SNR=14						
	comp=Z,2.2nm,0.8s						
ELK	Elko	76.76	49	P	P	11 07 15.8	-1.1
YHL	Hebgen Lake	76.76	44	P	P	11 07 14.7	-2.1
GWY	Greenwater Val	78.47	54	P	P	11 07 27.2	+0.9
GWY				IAmb	IAmb	11 07 44.4	
	comp=Z,6.0nm,1.4s						
BW06	Boulder Array	78.96	45	P	P	11 07 30.0	+0.9
PD31	Pinedale Array	78.96	45	P	P	11 07 29.6	+0.5
PDAR	Pinedale Array	78.96	45	P	P	11 07 29.7	+0.6
	comp=Z,1.0nm,0.6s,baz=262,slow=2.2,SNR=15						
	comp=Z,1.0nm,0.6s						
PFO	Pinyon Flats O	80.10	56	LR	LR	11 36 56.5	
	comp=Z,83nm,20.0s,baz=56,slow=31						
PMD	Palm Desert	80.13	56	P	P	11 07 35.2	-0.1
PMD				IAmb	IAmb	11 07 37.5	
	comp=Z,4.1nm,0.9s						
LCMT	Little Creek M	80.21	52	P	P	11 07 36.4	+0.5
LCMT				IAmb	IAmb	11 07 38.3	
	comp=Z,7.9nm,1.4s						
P17A	Butcher Ranch,	80.28	48	P	P	11 07 37.4	+1.2
P17A				IAmb	IAmb	11 07 38.8	
	comp=Z,4.0nm,0.9s						
RDMU	Red Mountain	80.31	47	P	P	11 07 37.0	+0.6
RDMU				IAmb	IAmb	11 07 38.4	
	comp=Z,3.7nm,0.6s						
KNB	Kanab	80.48	51	P	P	11 07 37.9	+0.5
KNB				IAmb	IAmb	11 07 41.1	
	comp=Z,5.9nm,1.2s						
BAR	Barrett	80.50	57	P	P	11 07 37.6	+0.3
BAR				IAmb	IAmb	11 07 39.5	
	comp=Z,4.8nm,0.9s						
MLR	Muntele Rosu	80.64	320	LR	LR	11 47 10.3	
	comp=Z,68nm,19.5s,baz=19,slow=38						
SRU	San Rafael Swe	80.64	49	P	P	11 07 38.1	-0.1
SRU				IAmb	IAmb	11 07 40.7	
	comp=Z,3.3nm,0.8s						
YUH	Yuha Desert	81.03	56	P	P	11 07 39.9	-0.2
YUH				IAmb	IAmb	11 07 42.0	
	comp=Z,4.3nm,0.9s						
HMU	Henry Mountain	81.23	50	P	P	11 07 40.4	-1.0
HMU				IAmb	IAmb	11 07 44.0	
	comp=Z,3.4nm,0.9s						
O20A	White River Ci	81.38	47	P	P	11 07 43.0	+0.9
O20A				IAmb	IAmb	11 08 00.2	
	comp=Z,6.4nm,1.4s						
ESJX	Sierra Juarez	81.39	57	P	P	11 07 42.6	+0.4
ESJX				IAmb	IAmb	11 07 44.3	
	comp=Z,6.0nm,1.0s						
113A	Mohawk Valley,	82.42	55	P	P	11 07 47.8	+0.4
113A				IAmb	IAmb	11 07 49.1	
	comp=Z,2.4nm,0.8s						
DAVOX	Davos/Dischmat	87.36	329	LR	LR	11 53 27.8	
	comp=Z,69nm,20.9s,baz=264,slow=40						
TXAR	Lajitas Array	91.27	52	P	P	11 08 31.4	+0.5
	comp=Z,1.0nm,0.8s,baz=284,slow=3.5,SNR=13						
	comp=Z,1.0nm,0.8s						
H03N2	Juan Fernandez	146.91	99	T	T	13 59 23.8	
	baz=289,slow=76,SNR=18						
H03N3	Juan Fernandez	146.92	99	T	T	13 59 44.3	
	baz=289,slow=76,SNR=20						
H03N1	Juan Fernandez	146.93	99	T	T	13 59 23.7	
	baz=289,slow=76,SNR=21						

HEL 05 10:59:16.6±0.1, 63˚.68N×25˚.60E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	Merijarvi	0.79	331	PG	Pg	10 59 30.9	-0.8
OUF				SG	Sg	10 59 40.7	-1.1
OUF				MSG		10 59 41.0	
	comp=Z,0.8nm,0.2s						
NIF	Nilsia	1.03	105	PG	Pg	10 59 35.5	-0.9
NIF				SB	Sg	10 59 49.6	-0.2
VAF	Ylistaro	1.47	245	PG	Pn	10 59 43.3	-1.0
VAF				MSG		11 00 00.7	
	comp=Z,0.6nm,0.2s						
KEF	Keuruu	1.56	193	MSG		11 00 03.3	
	comp=Z,0.4nm,0.2s						
KEF				SN	Sn	11 00 05.1	-1.2
KAF	Kangasniemi	1.61	168	PG	Pn	10 59 45.7	-0.5
KAF				MSG		11 00 04.8	
	comp=Z,1.1nm,0.2s						
KAF				SN	Sn	11 00 06.9	-0.7
RMF	Romuvaara	1.99	72	MSG		11 00 15.7	
	comp=Z,0.5nm,0.2s						
RMF				SG	Sb	11 00 18.9	0.0
BURU	Burvik	2.06	298	SG	Sb	11 00 21.5	+0.5
FIA0	FINESS Array S	2.26	174	PG	Pn	10 59 56.5	+1.4
	baz=356						
FIA0				MSG		11 00 23.5	
	comp=Z,1.2nm,0.2s						
FIA0				SG	Sb	11 00 26.3	-0.3
JOF	Joensuu	2.69	104	SG	Sb	11 00 38.5	-0.6
RUF	Ruokolahti	2.75	144	MSG		11 00 37.4	
	comp=Z,1.0nm,0.2s						

*NEIC **05** 11:14:13.9±1.8, 58˚.47N±0˚.05×155˚.8W±0˚.1, h159km±3km, Error ellipse: s-maj=8.0km s-min=6.8km az=69.0*

*AEIC **05** 11:14:15.2±1.8, 58˚.49N±0˚.05×155˚.78W±0˚.03, h156km±4km, ML2.8, ML3.0/104(NEIC), Error ellipse: s-maj=7.7km s-min=1.1km az=162.0*

ISC 05 11:14:13.2±1.3, 58˚.50N±0˚.09×155˚.82W±0˚.07, h162km±8km, n178, σ1s.11/183, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTC	Contact Creek	0.23	188		Pn	11 14 35.4	+0.2
CNTC					Sn	11 14 51.2	-0.7
ANCK	Angle Creek	0.34	150		Pn	11 14 35.9	+0.4
ANCK					Sn	11 14 52.3	-0.1
ACHA	Angle Creek He	0.39	138		Pn	11 14 35.9	+0.3
ACHA					Sn	11 14 52.6	-0.1
KCE	Katmai Mt Cerb	0.42	127		Pn	11 14 36.4	+0.7
KAKN	Katmai Knife C	0.45	116		Pn	11 14 36.2	+0.4
KAKN					Sn	11 14 53.0	-0.1
KAHC	Katmai Hardscr	0.45	70		Pn	11 14 36.2	+0.3
KAHC	Katmai Hardscr	0.45	70		Pn	11 14 36.2	+0.3
KAHC					Sn	11 14 52.8	-0.5
Q16K	King Salmon	0.47	293		Pn	11 14 36.4	+0.6
Q16K					Sn	11 14 52.8	-0.3
KAHG	Katmai Hook Gl	0.67	90		Pn	11 14 37.6	+0.7
KAHG					Sn	11 14 55.3	+0.2
P17K	Kvichak River	0.77	336		Pn	11 14 37.8	+0.4
PLK1	Peulik 1	0.81	211		Pn	11 14 38.5	+0.8
PLK3	Peulik 3	0.84	197		Pn	11 14 38.8	+0.8
R17K	Ugashik Creek	0.91	200	Pn	Pn	11 14 39.2	+0.7
R17K				IAML		11 14 58.8	
	comp=E,90nm,0.7s						
P18K	Big Mountain,	0.95	18	Pn	Pn	11 14 38.6	-0.2
R18K	Karluk	1.18	141		Pn	11 14 40.4	-0.3
R18K					Sn	11 15 01.0	-0.7
Q19K	Cape Douglas,	1.22	68	Pn	Pn	11 14 41.9	+0.9
Q19K				IAML		11 15 05.3	
	comp=N,162nm,1.0s						
Q19K				IAML		11 15 13.1	
	comp=E,169nm,1.1s						
P16K	Nushagak River	1.25	296		Pn	11 14 41.8	+0.5
R16K	Pilot Point	1.32	226		Pn	11 14 42.7	+0.8
R16K				IAML		11 15 08.4	
	comp=N,249nm,1.9s						
O18K	Koktuh Hills	1.40	13		Pn	11 14 43.4	+0.7
O17K	Koliganek Bris	1.44	333		Pn	11 14 43.5	+0.5
O16K	Kokwok River B	1.61	314	Pn	Pn	11 14 44.9	+0.1
P19K	Oil Pt	1.77	48	Pn	Pn	11 14 47.7	+1.2
P19K				IAML		11 15 13.3	
	comp=E,52nm,0.8s						
SYI	Shuyak Island	1.80	85	Pn	Pn	11 14 47.5	+0.7
SYI				IAML		11 15 13.2	
	comp=N,96nm,0.8s						
SYI				IAML		11 15 13.6	
	comp=E,93nm,0.6s						
KDAK	Kodiak Island	1.86	111	Pn	Pn	11 14 47.3	-0.1
KDAK				IAML		11 15 13.9	
	comp=E,94nm,0.5s						
KDAK				IAML		11 15 18.1	
	comp=E,67nm,0.4s						
OHAK	Old Harbor	1.86	132	Pn	Pn	11 14 47.7	+0.3
OHAK	Old Harbor	1.86	132	P	Pn	11 14 47.5	0.0
O19K	Port Alsworth	1.87	24	Pn	Pn	11 14 48.5	+1.0
O19K				IAML		11 15 14.9	
	comp=N,81nm,0.8s						
O19K				IAML		11 15 18.2	
	comp=E,40nm,0.5s						
SII	Sitkinak Islan	2.13	155	Pn	Pn	11 14 50.9	+0.2
SII	Sitkinak Islan	2.13	155	P	Pn	11 14 50.8	+0.2
N17K	Nushagak Hills	2.15	342	Pn	Pn	11 14 51.8	+1.0
N18K	Kilae Creek	2.19	359	Pn	Pn	11 14 52.2	+0.9
O15K	Ungalikthiuk R	2.19	290		Pn	11 14 51.8	+0.5
N19K	Bonanza Creek	2.42	16	Pn	Pn	11 14 55.3	+1.3
HOM	Homer	2.45	60	Pn	Pn	11 14 56.4	+2.1
N16K	Nishlik Lake	2.49	324		Pn	11 14 55.7	+0.9
RSO	Redoubt South	2.52	37	Pn	Pn	11 14 54.7	-0.6
NCT	North Crescent	2.54	34		Pn	11 14 56.3	+0.9
CNPM	China Poot	2.59	64	Pn	Pn	11 14 56.9	+1.0
CNPM				IAML		11 15 28.1	
	comp=E,63nm,1.0s						
CNPM				IAML		11 15 31.0	
	comp=N,46nm,0.6s						
CHGN	Chignik	2.61	214	Pn	Pn	11 14 56.9	+0.6
SVW2	Sparrevohn	2.61	3	Pn	Pn	11 14 57.0	+0.8
SVW2	Sparrevohn	2.61	3	P	Pn	11 14 57.1	+0.8
CHIR	Chirikof Islan	2.68	178	Pn	Pn	11 14 57.0	-0.1
RDT	Redoubt	2.71	38		Pn	11 14 58.7	+1.2
N15K	Kwethluk River	2.76	309	Pn	Pn	11 14 58.9	+0.9
N15K				IAML		11 15 48.8	
	comp=E,25nm,1.4s						
N15K				IAML		11 16 26.3	
	comp=N,20nm,1.4s						
BRLK	Bradley Lake	2.84	61	Pn	Pn	11 14 59.9	+0.8
BRLK				IAML		11 15 34.5	
	comp=N,30nm,0.6s						
BRLK				IAML		11 15 35.4	
	comp=E,38nm,0.4s						
BRSE	Bradley Lake S	2.90	62		Pn	11 15 00.2	+0.4
O14K	Tigyukauivet M	2.93	287	Pn	Pn	11 15 00.7	+0.6
O14K				IAML		11 15 35.2	
	comp=E,28nm,1.8s						
O14K				IAML		11 16 33.8	
	comp=N,34nm,1.9s						
M16K	Timber Creek	2.99	329	Pn	Pn	11 15 01.8	+0.9
M16K				IAML		11 15 48.6	
	comp=E,20nm,2.0s						
M16K				IAML		11 17 13.7	
	comp=N,21nm,1.8s						
M17K	Holitna River	3.03	345	Pn	Pn	11 15 02.7	+1.4
M17K				IAML		11 15 57.7	
	comp=N,21nm,1.6s						
M17K				IAML		11 16 06.2	
	comp=E,26nm,2.0s						
SPCR	Spurr Chakacha	3.27	32		Pn	11 15 05.8	+1.4
M19K	Big River Lodg	3.49	11	Pn	Pn	11 15 08.9	+1.7
SLKM	Skilak Lake	3.50	52		Pn	11 15 07.9	+0.6
STLK	Strandline Lak	3.62	32		Pn	11 15 10.2	+1.4
SEW	Seward	3.64	61	Pn	Pn	11 15 10.1	+1.1
M20K	Styx River	3.65	20	Pn	Pn	11 15 11.0	+1.7
O22K	Cooper Landing	3.69	55	Pn	Pn	11 15 11.2	+1.6
L16K	Owhat River	3.71	332	Pn	Pn	11 15 10.9	+1.0
L16K				IAML		11 15 50.0	
	comp=N,11nm,1.9s						
L16K				IAML		11 16 21.7	
	comp=E,11nm,2.0s						
L19K	White Mountain	3.73	7	Pn	Pn	11 15 11.7	+1.5
L18K	Granite Mounta	3.76	354	Pn	Pn	11 15 11.9	+1.3
L18K				IAML		11 16 12.4	
	comp=N,11nm,1.7s						
M14K	Bethel	3.85	309	Pn	Pn	11 15 13.3	+1.6
SUA	Susitna One	3.92	38	Pn	Pn	11 15 13.7	+1.0
SUA				IAML		11 15 58.6	
	comp=N,18nm,1.7s						
SUA				IAML		11 15 59.8	
	comp=E,24nm,0.8s						
RC01	Rabbit Creek A	4.03	47	Pn	Pn	11 15 15.4	+1.4
RC01				IAML		11 16 00.5	
	comp=E,22nm,0.4s						
RC01				IAML		11 16 04.1	
	comp=N,20nm,0.5s						
SKT	Skwentna	4.10	30	Pn	Pn	11 15 16.6	+1.7
SKT				IAML		11 16 07.8	
	comp=N,11nm,1.9s						
M13K	Dall Lake	4.30	300	Pn	Pn	11 15 18.4	+0.9
K17K	Iditarod	4.41	345	Pn	Pn	11 15 20.9	+1.9
K17K				IAML		11 16 42.3	
	comp=E,14nm,1.8s						
K17K				IAML		11 18 24.1	
	comp=N,13nm,1.9s						
TTA	Tatalina	4.45	359	Pn	Pn	11 15 21.5	+1.9
TTA				IAML		11 17 05.3	
	comp=N,7.3nm,2.0s						
TTA	Tatalina	4.45	359	P	Pn	11 15 21.5	+1.9
L14K	Kuka Creek	4.48	312		Pn	11 15 21.5	+1.6
L14K				IAML		11 17 34.6	
	comp=E,19nm,1.9s						
PMR	Palmer	4.57	44	Pn	Pn	11 15 20.3	-0.7
PMR				IAML		11 16 12.9	
	comp=N,7.5nm,1.8s						
PMR				IAML		11 16 13.8	
	comp=E,10nm,1.5s						
PMR	Palmer	4.57	44	P	Pn	11 15 20.3	-0.7
P23K	Montague Islan	4.58	67		Pn	11 15 21.9	+0.7
KNK	Knik Glacier	4.72	49	Pn	Pn	11 15 22.9	-0.1
KNK				IAML		11 16 17.2	
	comp=N,15nm,0.8s						
KNK				IAML		11 16 17.8	
	comp=E,16nm,1.2s						
K15K	Wolf Creek Mou	4.75	326	Pn	Pn	11 15 25.1	+1.8
K15K				IAML		11 16 32.9	
	comp=E,16nm,1.9s						
K15K				IAML		11 16 55.7	
	comp=N,13nm,1.8s						
GHO	Glory Hole Cre	4.76	43	Pn	Pn	11 15 23.3	-0.3
GHO				IAML		11 16 22.1	
	comp=E,14nm,1.3s						
GHO				IAML		11 16 50.7	
	comp=N,14nm,2.0s						
CUT	Chulitna	4.79	33		Pn	11 15 24.5	+0.7
K20K	Telida	4.95	9	Pn	Pn	11 15 28.1	+2.0
K20K				IAML		11 17 11.4	
	comp=E,5.9nm,1.9s						
SML	Sawmill	5.00	45	Pn	Pn	11 15 26.4	-0.4
SML				IAML		11 16 21.2	
	comp=E,14nm,1.6s						
SML				IAML		11 16 21.9	
	comp=N,9.4nm,1.1s						
J18K	Innoko River	5.01	355	Pn	Pn	11 15 27.7	+1.0
J18K				IAML		11 16 56.7	
	comp=E,4.1nm,1.8s						
J18K				IAML		11 17 25.6	
	comp=N,4.9nm,1.6s						
HIN	Hinchinbrook I	5.12	64	Pn	Pn	11 15 29.0	+0.6
M23K	Glacier View	5.22	47		Pn	11 15 30.5	+0.8
CAST	Castle Rocks	5.26	19	Pn	Pn	11 15 31.4	+1.2
CAST				IAML		11 16 36.3	
	comp=N,4.1nm,1.8s						
CAST				IAML		11 16 38.9	
	comp=E,4.2nm,1.9s						
J16K	Anvik River	5.34	336	Pn	Pn	11 15 32.6	+1.5
J16K				IAML		11 18 42.8	
	comp=E,9.6nm,1.9s						
J16K				IAML		11 19 02.5	
	comp=N,11nm,1.9s						
SCM	Sheep Creek Mo	5.40	48	Pn	Pn	11 15 31.1	-0.9
J19K	Poorman	5.52	1	Pn	Pn	11 15 34.8	+1.3
WAT7	Susitna Watana	5.54	35		Pn	11 15 33.5	-0.4
KTH	Kantishna Hill	5.60	23	Pn	Pn	11 15 34.9	+0.2
WAT1	Susitna Watana	5.63	36		Pn	11 15 34.2	-0.7
TRF	Thorofare Moun	5.65	26	Pn	Pn	11 15 35.9	+0.5
WAT6	Susitna Watana	5.71	41		Pn	11 15 35.4	-0.9
J14K	Nanvaranak Lak	5.72	322	Pn	Pn	11 15 35.5	-0.6
J20K	Nowinta River	5.76	7		Pn	11 15 37.9	+1.3
KLU	Klutina	5.80	55		Pn	11 15 37.5	+0.2
M24K	Tolsona, Glenn	6.01	49	Pn	Pn	11 15 40.5	+0.4
DHY	Denali Highway	6.18	38		Pn	11 15 41.6	-0.7
MCK	McKinley	6.22	29		Pn	11 15 42.5	-0.3
N25K	Chitina, Valde	6.42	56		Pn	11 15 46.8	+1.2
BERG	Berg Lake	6.47	68	Pn	Pn	11 15 47.1	+1.0
HARP	HAARP	6.56	49		Pn	11 15 48.4	+1.0
GLB	Gilahina Butte	6.71	59	Pn	Pn	11 15 50.1	+0.7
PAX	Paxson	6.77	44	Pn	Pn	11 15 50.4	+0.3
H18K	Honhosa River	6.79	351	Pn	Pn	11 15 51.6	+1.3
VRDI	Verde Repeater	6.80	61	Pn	Pn	11 15 51.2	+0.5
CRQM	Cirque	6.82	65	Pn	Pn	11 15 51.8	+0.9
SNH	Sunshine Point	6.85	70	Pn	Pn	11 15 53.2	+2.0
TGL	Tana Glacier	6.96	66	Pn	Pn	11 15 53.8	+1.0
MLY	Manley	6.99	18	Pn	Pn	11 15 52.2	-0.7
MCARA	McCarthy VSAT	7.05	60	Pn	Pn	11 15 55.1	+1.3
K24K	Donnelly Dome	7.20	38		Pn	11 15 56.5	+0.7
KIAG	Kiagna River	7.23	65		Pn	11 15 56.8	+0.4
PTPK	Patty Peak	7.25	62		Pn	11 15 57.4	+0.8
CCB	Clear Creek Bu	7.26	28		Pn	11 15 55.3	-1.2
HDA	Harding Lake	7.29	32		Pn	11 15 55.4	-1.6
H21K	Melozitna Rive	7.33	10	Pn	Pn	11 15 58.3	+0.9
I23K	Minto, Yukon-K	7.34	22	Pn	Pn	11 15 56.3	-1.3
MDM	Murphy Dome	7.41	26		Pn	11 15 57.0	-1.6
MENT	Mentasta	7.41	48		Pn	11 15 59.3	+0.7
COLA	College	7.43	27	Pn	Pn	11 15 57.8	-1.0
COLA	College	7.43	27	P	Pn	11 15 57.8	-1.0
M26K	Nabesna, AK	7.45	53	Pn	Pn	11 15 59.6	+0.5
RIDG	Independent Ri	7.47	41		Pn	11 15 59.4	0.0
GRNC	Granite Creek	7.48	67	Pn	Pn	11 16 01.2	+1.5
BARN	Barnard Glacie	7.59	64	Pn	Pn	11 16 02.7	+1.5
IL31		7.59	30		Pn	11 15 59.2	-1.7
ILAR	Eielson Array	7.59	30	Pn	Pn	11 15 58.8	-2.2
L26K	Log Cabin Wild	7.61	48	Pn	Pn	11 16 02.3	+1.1
CTGM	Chitina Glacie	7.73	65	Pn	Pn	11 16 05.0	+2.0
POKR	Poker Plat Res	7.73	27	Pn	Pn	11 16 02.4	-0.4
LOGN	Logan Glacier	7.86	66	Pn	Pn	11 16 06.3	+1.7
J25K	Salcha River,	7.90	35	Pn	Pn	11 16 03.9	-1.2
M27K	Edge Creek, AK	7.90	55	Pn	Pn	11 16 06.7	+1.5
SCRK	Sand Creek	7.92	41	Pn	Pn	11 16 04.6	-0.8
L27K	Beaver Creek,	8.23	50	Pn	Pn	11 16 10.3	+0.9
H24K	Noodor Dome	8.24	23	Pn	Pn	11 16 08.3	-1.4
BCAR	Beaver Creek A	8.25	50	Pn	Pn	11 16 10.7	+1.1
YUK3	Moose Creek	8.34	60		Pn	11 16 12.2	+1.2
J26L	Joseph Creek	8.39	39	Pn	Pn	11 16 11.4	-0.2
PRP	Porcupine Dome	8.54	30	Pn	Pn	11 16 13.0	-0.6
PNL	Peninsula	8.54	75	P	Pn	11 16 07.9	-5.6
F20K	Avaraart Lake	8.59	0	Pn	Pn	11 16 16.7	+2.6
G23K	Bananza Creek	8.66	15	Pn	Pn	11 16 14.2	-1.0
F21K	Alatna River	8.82	6	Pn	Pn	11 16 19.0	+1.8
O29M	Mount Kennedy	8.98	71	Pn	Pn	11 16 20.2	+0.7
E19K	Redstone River	9.02	357	Pn	Pn	11 16 19.5	-0.3
I26K	Coal Creek Min	9.06	36	Pn	Pn	11 16 19.6	-0.8
G24K	Hadweenzic Riv	9.08	21	Pn	Pn	11 16 18.8	-1.8
COLD	Coldfoot	9.13	14	Pn	Pn	11 16 20.4	-0.9
EGAK	Eagle	9.38	42	Pn	Pn	11 16 24.2	-0.4
M29M	Somme Creek	9.43	58	Pn	Pn	11 16 26.7	+1.3
HYT	Haines Junctio	9.55	68	Pn	Pn	11 16 24.1	-2.9
DAWY	Dawson	9.66	48	Pn	Pn	11 16 28.7	+0.3
F24K	Squaw Lake	9.74	18	Pn	Pn	11 16 27.6	-1.7
L29M	L29M	9.79	54	Pn	Pn	11 16 30.5	+0.5
N30M	Aishikik Lake	9.84	65	Pn	Pn	11 16 31.5	+0.8
E22K	Anaktuvuk Pass	9.84	9	Pn	Pn	11 16 31.9	+1.2
I28M	Miner Creek	10.19	40	Pn	Pn	11 16 34.9	-0.6
M30M	Minto, Yukon	10.21	58	Pn	Pn	11 16 36.8	+1.2
O30N	Mendenhall	10.24	69	Pn	Pn	11 16 34.5	-1.5
BMAR	Burnt Mountain	10.30	25	Pn	Pn	11 16 33.4	-3.3
K29M	Barlow Dome	10.31	51	Pn	Pn	11 16 38.0	+1.0
N31M	Braeburn, Yuko	10.46	65	Pn	Pn	11 16 37.4	-1.5
C18K	Utukok River	10.46	349	Pn	Pn	11 16 36.8	-2.0
E25K	Arctic Village	10.68	21	Pn	Pn	11 16 38.0	-3.7
I29M	Ogilvie Camp,	10.71	43	Pn	Pn	11 16 42.2	0.0
J30M	Hart River	11.08	49	Pn	Pn	11 16 49.1	+2.1
I30M	Mount Dempster	11.35	45	Pn	Pn	11 16 51.1	+0.6
B20K	Meade River	11.57	358	Pn	Pn	11 16 54.4	+1.1
C23K	Itkillik River	11.60	9	Pn	Pn	11 16 51.7	-2.0
F28M	Old Crow	11.62	32	Pn	Pn	11 16 52.3	-1.5
G29M	Pine Creek	11.70	36	Pn	Pn	11 16 54.8	-0.1
FARO	Faro, Yukon	11.71	62	Pn	Pn	11 16 53.8	-1.3
EPYK	Eagle Plains	11.81	40	Pn	Pn	11 16 54.1	-2.2
G30M	tAoh Zraii Nji	12.31	38	Pn	Pn	11 17 02.2	-0.7
H31M	Peel River	12.37	45	Pn	Pn	11 17 03.7	0.0
G31M	Satah River	12.93	40	Pn	Pn	11 17 09.7	-1.0
F31M	Tsiigehtchic	13.37	39	Pn	Pn	11 17 15.1	-1.3
INK	Inuvik	13.91	36	Pn	Pn	11 17 22.2	-0.9
DIB	Dawson Inlet,	14.10	102	Pn	Pn	11 17 24.6	-1.0
YKA	Yellowknife Ar	20.42	61	P	P	11 18 37.9	+0.5

*KRNET **05** 11:19:55.2±0.1, 42˚.66N×75˚.59E, h30km, mb2.4*

*SOME **05** 11:19:55.7, 42˚.62N×75˚.47E, h0km*

*KNET **05** 11:19:56.3±0.3, 42˚.64N×75˚.58E, h20km±4km, ml1.4, Error ellipse: s-maj=3.3km s-min=2.2km az=24.0*

*NNC **05** 11:19:56.7±0.4, 42˚.61N×75˚.53E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=2.3km s-min=1.3km az=161.0, Suspected Mining explosion.*

ISC 05 11:19:55.9±0.7, 42˚.58N±0˚.02×75˚.51E±0˚.01, h0km, n50, σ0s.74/92, 32C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	Boomskoye usch	0.33	105	⇑eP	Pg	11 20 03.0	+0.9
	baz=22						
BOOM				⇑eS	Sb	11 20 08.6	-2.0
	baz=22						
TKM2	Tokmak 2	0.35	10	⇑P	Pg	11 20 03.1	+0.4
	35nm,0.3s,SNR=5.8						
TKM2				⇑S	Sg	11 20 07.9	+0.7
	39nm,0.2s						
TKM2	Tokmak 2	0.35	10	⇓P	Pg	11 20 02.9	+0.3
	6.7nm,0.2s						
TKM2				⇑S	Sg	11 20 07.7	+0.5
	27nm,0.3s						
TKM2	Tokmak 2	0.35	10	⇓eP	Pg	11 20 02.7	+0.1
	baz=1.0						
TKM2				⇓eS	Sg	11 20 07.8	+0.7
	baz=1.0						
KBK	Karagaybulak	0.42	281	⇑P	Pb	11 20 06.0	-0.5
	18nm,0.2s,SNR=18						
KBK				⇑S	Sb	11 20 13.0	-0.4
	35nm,0.2s						
KBK	Karagaybulak	0.42	281	⇑eP	Pb	11 20 05.4	-1.0
	baz=70						
KBK				⇑eS	Sb	11 20 12.9	-0.5
	baz=70						
KZA	Kyzart	0.53	202	⇑P	Pb	11 20 08.5	+0.2
	20nm,0.3s,SNR=27						
KZA	Kyzart	0.53	202	⇑eP	Pb	11 20 07.9	-0.5
	baz=4.0						
KZA				⇑eS	Sb	11 20 17.2	+0.4
	baz=4.0						
KST	Kastek	0.57	35	P	Pg	11 20 07.1	+0.2
	13nm,0.3s						
KST				S	Sg	11 20 15.2	+0.8
	28nm,0.4s						
KST	Kastek	0.57	35	eP	Pg	11 20 07.1	+0.2
	13nm,0.3s						
KST				eS	Sg	11 20 15.1	+0.8
	28nm,0.4s						
ULHL	Ulahol	0.63	121	⇓P	Pb	11 20 09.1	-0.9
	7.8nm,0.2s,SNR=26						
ULHL				⇑S	Sg	11 20 17.4	+1.2
	15nm,0.3s						
ULHL	Ulahol	0.63	121	⇑eP	Pg	11 20 08.1	+0.1
	baz=30						
ULHL				⇑eS	Sg	11 20 17.2	+1.0
	baz=30						
DGS	Degeres	0.69	16	P	Pg	11 20 09.4	+0.2
	10nm,0.2s						
DGS				S	Sg	11 20 18.6	+0.4
	11nm,0.3s						
DGS	Degeres	0.69	16	eP	Pg	11 20 09.4	+0.2
	10nm,0.2s						
DGS				eS	Sg	11 20 19.5	+1.4
	11nm,0.3s						
CHMS	Chumysh	0.70	307	⇑P	Pg	11 20 10.1	+0.7
	5.5nm,0.3s,SNR=6.7						
CHMS				⇑S	Sg	11 20 20.0	+1.5
	8.4nm,0.2s						
CHMS	Chumysh	0.70	307	⇓P	Pg	11 20 10.0	+0.6
	1.9nm,0.3s						
CHMS				⇑S	Sg	11 20 20.0	+1.5
	7.5nm,0.5s						
CHMS	Chumysh	0.70	307	⇑eP	Pg	11 20 09.0	-0.4
	baz=99						
CHMS				⇑eS	Sg	11 20 18.9	+0.4
	baz=99						
AAK	Ala-Archa	0.76	275	⇑P	Pb	11 20 11.8	-0.2
	17nm,0.2s,SNR=44						
AAK				⇓S	Sb	11 20 23.0	0.0
	29nm,0.5s						
AAK	Ala-Archa	0.76	275	⇓eP	Pg	11 20 10.8	+0.4
	baz=69						
AAK				⇓eS	Sb	11 20 22.2	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=69						
UCH	**Uchtor**	**0.82**	**245**	⇑*e*P	**Pb**	**11 20 12.6**	**-0.7**
	baz=42						
UCH				⇑*e*S	**Sb**	**11 20 25.1**	**+0.1**
	baz=42						
MTBS	**Maitube**	**0.87**	**50**	P	**Pg**	**11 20 12.6**	**0.0**
	8.0nm,0.3s						
MTBS				S	**Sg**	**11 20 24.3**	**+0.4**
	12nm,0.3s						
MTBS	**Maitube**	**0.87**	**50**	*e*P	**Pg**	**11 20 12.6**	**0.0**
	8.0nm,0.3s						
MTBS				*e*S	**Sg**	**11 20 24.3**	**+0.4**
	12nm,0.2s						
USP	**Ospenovka**	**1.02**	**313**	⇓P	**Pg**	**11 20 15.6**	**+0.3**
	5.6nm,0.3s,SNR=8.5						
USP	**Ospenovka**	**1.02**	**313**	⇓*e*P	**Pg**	**11 20 14.2**	**-1.2**
	baz=8.0						
USP				⇓*e*S	**Sg**	**11 20 27.8**	**-0.7**
	baz=8.0						
ARLS	**Aral**	**1.14**	**231**	⇑*e*P	**Pg**	**11 20 17.6**	**0.0**
	baz=30						
ARLS				⇑*e*S	**Sb**	**11 20 33.9**	**0.0**
	baz=30						
TNSS	**Tian-Shan**	**1.15**	**66**	P	**Pg**	**11 20 18.2**	**+0.3**
	1.8nm,0.2s						
TNSS				S	**Sb**	**11 20 34.2**	**-0.4**
	4.0nm,0.4s						
TNSS	**Tian-Shan**	**1.15**	**66**	*e*P	**Pg**	**11 20 18.0**	**+0.1**
	1.8nm,0.2s						
TNSS				*e*S	**Sb**	**11 20 34.1**	**-0.4**
	4.0nm,0.4s						
EKS2	**Erkin-Say**	**1.28**	**274**	⇓P	**Pn**	**11 20 22.0**	**+0.8**
	6.0nm,0.3s,SNR=12						
EKS2				⇑S	**Sn**	**11 20 39.9**	**+0.7**
	5.4nm,0.4s						
EKS2	**Erkin-Say**	**1.28**	**274**	⇓*e*P	**Pg**	**11 20 19.4**	**-1.1**
	baz=71						
EKS2				⇓*e*S	**Sg**	**11 20 37.1**	**0.0**
	baz=71						
AML	**Almayashu**	**1.42**	**252**	⇓P	**Pb**	**11 20 23.9**	**+0.4**
	2.9nm,0.3s,SNR=8.3						
AML	**Almayashu**	**1.42**	**252**	⇑*e*P	**Pg**	**11 20 22.4**	**-0.7**
	baz=50						
AML				⇑*e*S	**Sg**	**11 20 41.9**	**+0.4**
	baz=50						
KTBS	**Karatobe**	**1.42**	**37**	P	**Pn**	**11 20 22.6**	**-0.5**
	7.8nm,0.3s						
KTBS				S	**Sg**	**11 20 41.2**	**-0.4**
	14nm,0.4s						
KTBS	**Karatobe**	**1.42**	**37**	*e*P	**Pn**	**11 20 22.6**	**-0.5**
	7.8nm,0.3s						
KTBS				*e*S	**Sg**	**11 20 41.9**	**+0.3**
	14nm,0.4s						
KUU	**Kurty**	**1.45**	**24**	P	**Pn**	**11 20 23.0**	**-0.4**
	16nm,0.3s						
KUU				S	**Sg**	**11 20 41.7**	**-0.8**
	5.2nm,0.1s						
KUU	**Kurty**	**1.45**	**24**	*e*P	**Pn**	**11 20 22.9**	**-0.4**
	16nm,0.2s						
KUU				*e*S	**Sg**	**11 20 42.5**	**+0.1**
	4.1nm,0.6s						
CHKK	**Chushkaly**	**1.67**	**40**	P	**Pn**	**11 20 27.1**	**+0.6**
	4.0nm,0.3s						
CHKK				S	**Sn**	**11 20 49.1**	**+0.5**
	8.6nm,0.3s						
CHKK	**Chushkaly**	**1.67**	**40**	*e*P	**Pn**	**11 20 27.1**	**+0.6**
	4.0nm,0.3s						
CHKK				*e*S	**Sn**	**11 20 49.1**	**+0.5**
	8.6nm,0.3s						
MRKS	**Merke**	**1.70**	**277**	P	**Pg**	**11 20 28.6**	**+0.2**
	7.6nm,0.4s						
MRKS				S	**Sg**	**11 20 51.8**	**+1.5**
	10nm,0.6s						
MRKS	**Merke**	**1.70**	**277**	*e*P	**Pg**	**11 20 28.6**	**+0.2**
	7.6nm,0.4s						
MRKS				*e*S	**Sg**	**11 20 52.7**	**+2.3**
	10nm,0.6s						
KURS	**Kuram**	**2.15**	**64**	*e*P	**Pg**	**11 20 36.7**	**-0.4**
	2.5nm,0.2s						
KURS				*e*S	**Sg**	**11 21 06.1**	**+1.1**
	2.9nm,0.2s						
SATY	**Saty**	**2.18**	**76**	Pg	**Pg**	**11 20 37.7**	**0.0**
	10nm,0.3s						
SATY				Lg	Lg	11 21 07.4	
	12nm,0.3s						
SATY	**Saty**	**2.18**	**76**	*e*P	**Pg**	**11 20 37.7**	**0.0**
	10nm,0.3s						
SATY				*e*S	**Sg**	**11 21 07.4**	**+1.4**
	12nm,0.3s						
ARSB	**Arslanbob**	**2.26**	**237**	⇑*e*P	**Pn**	**11 20 34.3**	**-0.4**
	baz=36						
ARSB				⇑*e*S	**Sn**	**11 21 01.7**	**-1.7**
	baz=36						
ARXS	**Arharly**	**2.35**	**45**	Pg	**Pb**	**11 20 38.5**	**-0.6**
	5.2nm,0.3s						
ARXS				Lg	Lg	11 21 08.8	
	9.4nm,0.4s						
ARXS	**Arharly**	**2.35**	**45**	*e*P	**Pb**	**11 20 38.6**	**-0.6**
	5.2nm,0.3s						
ARXS				*e*S	**Sb**	**11 21 09.2**	**+0.4**
	9.4nm,0.4s						
KPKS	**Kokpek**	**2.49**	**68**	*e*P	**Pb**	**11 20 41.7**	**+0.2**
	9.5nm,0.2s						
KPKS				*e*S	**Sg**	**11 21 15.2**	**-0.7**
	8.7nm,0.2s						
BTLS	**Baital**	**2.68**	**337**	Pg	**Pb**	**11 20 45.6**	**+0.8**
	2.2nm,0.4s						
BTLS				Lg	Lg	11 21 20.9	
	4.1nm,0.5s						
BTLS	**Baital**	**2.68**	**337**	*e*P	**Pb**	**11 20 45.2**	**+0.4**
	2.2nm,0.4s						
BTLS				*e*S	**Sg**	**11 21 20.9**	**-1.2**
	4.1nm,0.5s						
KNOS	**Konyrlen**	**3.21**	**55**	Pg	**Pb**	**11 20 54.0**	**+0.2**
	1.9nm,0.4s						
KNOS				Lg	Lg	11 21 35.0	
	2.2nm,0.4s						
KK31	**Karatay Array**	**3.72**	**280**	⇑Pg	**Pg**	**11 21 06.6**	**-0.5**
	0.5nm,0.3s,baz=87,slow=15,SNR=11						
KK31				⇑Lg	Lg	11 21 56.0	
	0.7nm,0.3s						

*IDC **05** 11:28:48.9±0.8, 29°.94N×106°.54E, h0^{km}, mb3.9/11, mbtmp3.8/12, ML3.6/1, MS3.2/1, Error ellipse: s-maj=44.9km s-min=16.2km az=61.0*

ISC 05 11:28:50.6±0.9**, 30°.0N**±0°.1×**106°.6E**±0°.1**, h10^{km}, n14,** σ**0^s.55**/15**, mb3.9**/11**, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**5.49**	**232**	Pn	**Pn**	**11 30 13.3**	**+0.6**
PZH				Pg	**Pg**	**11 30 35.5**	**-0.4**
PZH				Sg	**Sg**	**11 31 47.1**	**0.0**
PZH				smax	smax		
	comp=N,30nm,0.8s						
PZH				smax	smax		
	comp=E,40nm,0.8s						
PZH				LR	LR		
	comp=N,160nm,5.7s						
PZH				LR	LR		
	comp=E,180nm,5.7s						
PZH				LR	LR		
	comp=Z,110nm,4.3s						
SONM	**Songino Array**	**17.85**	**360**	P	**P**	**11 33 00.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=4.1						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**25.25**	**318**	P	**P**	**11 34 16.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=123,slow=10,SNR=11						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**28.70**	**333**	P	**P**	**11 34 47.1**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=127,slow=10,SNR=2.7						
	comp=Z,0.6nm,0.5s						
DAV	**Davao City (W)**	**28.93**	**138**	LR	LR	11 47 17.2	
	comp=Z,43nm,19.4s,baz=55,slow=38						
KURBB	**Kurchatov Arra**	**29.45**	**322**	P	**P**	**11 34 54.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=127,slow=8.8,SNR=5.3						
	comp=Z,0.5nm,0.5s						
NRIK	**Noril'sk**	**40.92**	**350**	P	**P**	**11 36 33.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=149,slow=5.0,SNR=3.9						
	comp=Z,1.3nm,0.5s						
WRA	**Warramunga Arr**	**56.35**	**148**	P	**P**	**11 38 32.0**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=338,slow=7.7,SNR=33						
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**59.42**	**151**	P	**P**	**11 38 53.7**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=338,slow=6.9,SNR=35						
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**59.70**	**327**	P	**P**	**11 38 55.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=94,slow=8.2,SNR=5.2						
	comp=Z,1.2nm,0.6s						
HFS	**Hagfors**	**65.91**	**327**	P	**P**	**11 39 36.1**	**-0.4**
	comp=Z,4.6nm,1.0s,baz=121,slow=5.7,SNR=4.4						
	comp=Z,4.6nm,1.0s						
NOA	**NORSAR Array B**	**66.77**	**328**	P	**P**	**11 39 40.9**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=73,slow=6.2,SNR=1.9						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**69.93**	**26**	P	**P**	**11 40 01.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=279,slow=4.3,SNR=5.2						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**82.13**	**18**	P	**P**	**11 41 11.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=332,slow=18,SNR=7.9						
	comp=Z,0.2nm,0.5s						

*UPA **05** 11:40:20.1±1.3, 7°.11N×78°.56W, h49^{km}±17^{km}, MW3.4*
*RSNC **05** 11:40:20.4±0.9, 7°.25N×78°.58W, h11^{km}±6^{km}, ML2.6*

ISC 05 11:40:17.2±2.5**, 7°.22N**±0°.05×**78°.63W**±0°.03**, h2^{km}**±17^{km}**, n16,** σ**1^s.33**/30**, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.82**	**95**	*e*P	**Pb**	**11 40 33.8**	**-0.4**
PTAC				*e*S	**Sb**	**11 40 44.8**	**-0.9**
PTAC				*i*		11 40 47.2	
	comp=Z,397nm,0.2s						
UPD2	**Meteti**	**1.45**	**25**	*e*P	**Pb**	**11 40 44.7**	**-0.3**
UPD2				*e*S	**Sb**	**11 41 03.0**	**-0.9**
UPD2	**Meteti**	**1.45**	**25**	*e*P	**Pn**	**11 40 44.4**	**-0.1**
UPD2				*e*S	**Sg**	**11 41 03.5**	**-0.3**
UPD2				*i*		11 41 07.3	
	comp=Z,294nm,0.6s						
CAPC	**Capurgana**	**1.89**	**42**	*e*P	**Pn**	**11 40 50.1**	**-0.4**
CAPC				*e*S	**Sn**	**11 41 14.3**	**-0.7**
CAPC				*i*		11 41 15.7	
	comp=Z,65nm,0.4s						
CHIT3	**Chitre**	**1.92**	**292**	*e*P	**Pn**	**11 40 52.3**	**+1.3**
CHIT3				*e*S	**Sn**	**11 41 15.3**	**-0.4**
UPA	**Univ. de Panam**	**1.96**	**333**	*e*P	**Pn**	**11 40 52.1**	**+0.5**
UPA				*e*S	**Sn**	**11 41 18.0**	**+1.1**
UPA	**Univ. de Panam**	**1.96**	**333**	*e*P	**Pn**	**11 40 52.1**	**+0.5**
UPA				*e*S	**Sn**	**11 41 17.9**	**+1.0**
CACAO	**El Cacao, Vera**	**2.22**	**273**	*e*P	**Pn**	**11 40 55.8**	**+0.7**
CACAO				*e*S	**Sn**	**11 41 21.5**	**-1.6**
CACAO	**El Cacao, Vera**	**2.22**	**273**	*e*P	**Pn**	**11 40 56.2**	**+1.1**
CACAO				*e*S	**Sn**	**11 41 20.7**	**-2.5**
CACAO				*i*		11 41 25.0	
	comp=Z,24nm,0.1s						
BCIP	**Isla Barro Col**	**2.27**	**328**	*e*P	**Pn**	**11 40 57.7**	**+1.9**
BCIP				*e*S	**Sb**	**11 41 27.6**	**-0.1**
BCIP				*i*		11 41 35.6	
	comp=Z,49nm,0.3s						
DBBC	**Dabeiba**	**2.41**	**95**	*e*P	**Pn**	**11 40 58.0**	**+0.2**
DBBC				*e*S	**Sn**	**11 41 27.5**	**-0.4**
DBBC				*i*		11 41 39.2	
	comp=Z,17nm,0.4s						
CBOC	**Ciudad Bolivar**	**2.93**	**117**	*e*P	**Pn**	**11 41 05.6**	**+0.5**
CBOC				*i*		11 42 01.1	
	comp=Z,7.6nm,0.6s						
UREC	**San Jos de Ur**	**3.11**	**80**	*e*P	**Pn**	**11 41 09.0**	**+1.6**
UREC				*e*S	**Sn**	**11 41 44.6**	**-0.7**
UREC				*i*		11 41 56.6	
	comp=Z,8.5nm,0.6s						
ZARC	**Zaragoza, Cauc**	**3.75**	**86**	*e*P	**Pn**	**11 41 17.6**	**+1.4**
ZARC				*e*S	**Sn**	**11 41 58.5**	**-2.5**
ZARC				*i*		11 42 15.9	
	comp=Z,14nm,0.6s						
PTBC	**PUERTO BERRIO,**	**4.20**	**99**	*e*P	**Pn**	**11 41 24.1**	**+1.8**
PTBC				*i*		11 42 38.0	
	comp=Z,4.2nm,0.6s						
PAMC	**Pamplona, Colo**	**5.88**	**88**	*e*P	**Pn**	**11 41 47.6**	**+1.6**
PAMC				*e*S	**Sn**	**11 42 57.0**	**+2.7**
PAMC				*i*		11 43 16.1	
	comp=Z,4.2nm,0.7s						

*AEIC **05** 11:43:08.1±1.8, 51°.51N±0°.08×178°.82E±0°.10, h42^{km}±8^{km}, Error ellipse: s-maj=11.6km s-min=8.4km az=193.0*

NEIC 05 11:43:08.0±1.9**, 51°.46N**±0°.06×**178°.86E**±0°.10**, h45^{km}**±4^{km}**, mb3.8**/21**, ML3.0**(AEIC)**, Error ellipse: s-maj=8.9km s-min=8.0km az=63.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.29**	**107**		Pn	11 43 16.1	-0.5
AMKA					Sn	11 43 22.3	-0.3
LSSE	**Little Sitkin**	**0.51**	**339**		Pn	11 43 18.9	-0.2
LSPA	**Little Sitkin**	**0.53**	**340**		Pn	11 43 19.2	-0.1
LSPA					Sn	11 43 27.8	+0.4
LSNW	**Little Sitkin**	**0.55**	**337**		Pn	11 43 19.1	-0.5
LSNW					Sn	11 43 27.3	-0.7
CESW	**Semis' Southwe**	**0.62**	**45**		Pn	11 43 20.8	+0.3
CERB	**Semis' Cerberu**	**0.67**	**45**		Pn	11 43 21.6	+0.5
CERB					Sn	11 43 32.3	+1.7
CEAP	**Semis' Anvil P**	**0.70**	**39**		Pn	11 43 22.0	+0.4
CEPE	**Semis' Perret**	**0.70**	**44**		Pn	11 43 22.0	+0.4
GANO	**Gareloi North**	**1.50**	**75**		Pn	11 43 32.9	+0.5
TASE	**Tanaga Southea**	**1.97**	**78**		Pn	11 43 39.6	+0.8
TAFP	**Tanaga Falls P**	**2.01**	**76**		Pn	11 43 39.9	+0.4
TAFP					Sn	11 44 04.4	+1.0
KIKV	**Kanaga Island**	**2.51**	**79**		Pn	11 43 47.3	+1.1
KIWB	**Kanaga Island**	**2.52**	**79**	Pn	Pn	11 43 46.8	+0.5
ADK	**Adak**	**2.81**	**80**		Pn	11 43 50.8	+0.6
ADK					Sn	11 44 24.2	+1.4
SMY	**Shemya**	**3.20**	**295**	Pn	Pn	11 43 56.7	+1.0
N18K	**Kilae Creek**	**16.74**	**47**	Pn	Pn	11 46 57.5	-1.5
H18K	**Honhosa River**	**18.05**	**32**	Pn	P	11 47 16.6	+1.6
H18K				IAmb	IAmb	11 47 20.3	
	comp=Z,13nm,1.5s						
KTH	**Kantishna Hill**	**20.01**	**41**	P	P	11 47 36.8	+0.2
H21K	**Melozitna Rive**	**20.25**	**35**	P	P	11 47 38.7	-0.4
H21K				IAmb	IAmb	11 47 44.6	
	comp=Z,6.3nm,1.5s						
D19K	**Kuna River**	**20.37**	**24**	P	P	11 47 40.1	-0.3
D19K				IAmb	IAmb	11 47 54.5	
	comp=Z,3.5nm,1.2s						
C19K	**Lookout Ridge**	**20.45**	**22**	P	P	11 47 40.5	-0.8
RIDG	**Independent Ri**	**22.63**	**43**	P	P	11 48 03.8	-0.9
TOLK	**Toolik Lake Re**	**22.90**	**30**	P	P	11 48 07.1	-0.4
TOLK				IAmb	IAmb	11 48 33.1	
	comp=Z,9.1nm,1.5s						
SCRK	**Sand Creek**	**23.06**	**43**	P	P	11 48 07.2	-2.0
L26K	**Log Cabin Wild**	**23.11**	**45**	P	P	11 48 08.6	-1.1
M26K	**Nabesna, AK**	**23.14**	**47**	P	P	11 48 08.6	-1.4
M26K				IAmb	IAmb	11 48 13.5	
	comp=Z,5.0nm,1.2s						
ISLE	**Juniper Island**	**23.20**	**52**	P	P	11 48 09.0	-1.6
C23K	**Itkillik River**	**23.28**	**26**	P	P	11 48 11.2	+0.1
J26L	**Joseph Creek**	**23.38**	**42**	P	P	11 48 11.5	-0.8
J26L				IAmb	IAmb	11 48 25.6	
	comp=Z,4.2nm,1.4s						
D24K	**Happy Valley**	**23.41**	**29**	P	P	11 48 12.4	0.0
GRNC	**Granite Creek**	**23.50**	**51**	P	P	11 48 13.1	-0.6
BARN	**Barnard Glacie**	**23.58**	**51**	P	P	11 48 13.0	-1.3
BARN				IAmb	IAmb	11 48 15.2	
	comp=Z,5.3nm,1.2s						
L27K	**Beaver Creek,**	**23.80**	**46**	P	P	11 48 15.8	-0.3
L27K				IAmb	IAmb	11 48 22.0	
	comp=Z,5.7nm,1.4s						
BCAR	**Beaver Creek A**	**23.82**	**46**	P	P	11 48 17.2	+0.9
K27K	**Chicken**	**23.89**	**43**	P	P	11 48 15.4	-1.6
K27K				IAmb	IAmb	11 48 39.1	
	comp=Z,3.4nm,1.4s						
E25K	**Arctic Village**	**23.94**	**33**	P	P	11 48 15.2	-2.2
D25K	**Kavik River**	**24.24**	**30**	P	P	11 48 18.4	-1.8
EGAK	**Eagle**	**24.45**	**42**	P	P	11 48 22.8	+0.7
EGAK				IAmb	IAmb	11 48 31.1	
	comp=Z,2.9nm,1.4s						
I28M	**Miner Creek**	**25.12**	**40**	P	P	11 48 29.1	+0.8
I28M				IAmb	IAmb	11 48 38.0	
	comp=Z,6.8nm,1.5s						
F28M	**Old Crow**	**25.74**	**36**	P	P	11 48 35.1	+1.3

IDC 05 11:54:09.6±3.6**, 3°.95S**×**152°.64E, h0^{km}, mb3.3**/2**, mbtmp3.4**/2**, Error ellipse: s-maj=161.8km s-min=47.5km az=119.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**227**	P	P	11 59 25.5	+0.3
	0.7nm,0.3s,baz=52,slow=9.6,SNR=17						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**26.67**	**221**	P	P	11 59 50.9	+0.4
	0.2nm,0.7s,baz=56,slow=8.2,SNR=4.5						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.88**	**289**	PKPbc	PKPbc	12 14 02.0	-0.9
	0.3nm,0.4s,baz=68,slow=3.1,SNR=6.5						

*MEX **05** 12:06:51.8±0.5, 14°.87N×93°.61W, h14^{km}±8^{km}, MD4.0*
*CATAC **05** 12:06:54.5±0.8, 14°.97N×93°.28W, h5^{km}, ML4.0*

ISC 05 12:06:49.3±1.6**, 14°.90N**±0°.05×**93°.54W**±0°.04**, h16^{km}**±10^{km}**, n46,** σ**2^s.03**/57**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		**0.86**	**21**	*i* P	**Pg**	**12 07 06.9**	**+0.9**
PCIG				*e*S	**Sg**	**12 07 17.5**	**+0.2**
THIG		**1.24**	**90**	*i* P	**Pb**	**12 07 12.2**	**-0.2**
THIG				*i* S	**Sg**	**12 07 27.7**	**-1.6**
PATR	**El Naranjo**	**1.28**	**80**	*e*P	**Pb**	**12 07 12.4**	**-0.9**
PATR				*e*S	**Sg**	**12 07 28.7**	**-2.2**
PAVE	**Pavencul**	**1.35**	**78**	*e*P	**Pn**	**12 07 13.8**	**0.0**
PAVE				*e*S	**Sb**	**12 07 31.2**	**-0.4**
CARR	**Arriaga**	**1.38**	**345**	*e*P	**Pn**	**12 07 14.2**	**+0.2**
CARR				*i* S	**Sb**	**12 07 31.4**	**-0.9**
CHUJ	**Union Juarez**	**1.40**	**82**	*e*P	**Pn**	**12 07 14.2**	**-0.3**
CHUJ				*i* S	**Sb**	**12 07 31.1**	**-1.9**
SMCA	**Catarina**	**1.42**	**92**	*i* P	**Pn**	**12 07 15.8**	**+1.2**
SMCA				*i* S	**Sb**	**12 07 31.4**	**-2.0**
SMCA				IAML		12 07 33.5	
	comp=Z,1μm,1.0s						
SMSP	**San Marcos**	**1.71**	**87**	*i* P	**Pn**	**12 07 17.9**	**-0.8**
SMSP				*i* S	**Sn**	**12 07 38.5**	**-2.0**
SMSP	**San Marcos**	**1.71**	**87**	*i* P	**Pn**	**12 07 21.0**	**+2.3**
SMSP				*i* S	**Sn**	**12 07 40.5**	**+0.1**
SMSP				IAML		12 07 44.8	
	comp=Z,3μm,1.0s						
RTAL	**Retalhuleu**	**1.83**	**102**	*i* P	**Pn**	**12 07 20.3**	**+0.1**
RTAL				*i* S	**Sn**	**12 07 40.9**	**-2.2**
RTAL	**Retalhuleu**	**1.83**	**102**	*i* P	**Pn**	**12 07 21.1**	**+0.9**
RTAL				*i* S	**Sn**	**12 07 45.2**	**+2.1**
RTAL				IAML		12 07 58.2	
	comp=Z,690nm,1.0s						
TGIG		**1.91**	**12**	*i* P	**Pn**	**12 07 22.6**	**+1.2**
TGIG				*e*S	**Sn**	**12 07 46.2**	**+1.1**
TGBT	**Tuxtla Gutierr**	**1.91**	**13**	*i* P	**Pn**	**12 07 22.6**	**+1.3**
TGBT				*i* S	**Sn**	**12 07 45.6**	**+0.5**
CCIG	**Comitan**	**1.93**	**45**	*i* P	**Pn**	**12 07 24.4**	**+2.6**
CCIG				*i* S	**Sn**	**12 07 42.2**	**-3.5**
CCIG	**Comitan**	**1.93**	**45**	*i* P	**Pn**	**12 07 24.3**	**+2.6**
CCIG				*i* S	**Sn**	**12 07 47.3**	**+1.5**
CCIG				IAML		12 07 54.1	
	comp=Z,740nm,1.0s						
NILT	**Santiago Nilte**	**1.95**	**328**	*e*P	Pn	12 07 21.3	-0.5
NILT				*i* S	**Sn**	**12 07 44.1**	**-1.9**
QUEO	**Labor Ovalle**	**1.96**	**91**	*i* P	**Pn**	**12 07 25.0**	**+2.7**
QUEO				IAML		12 08 55.0	
	comp=Z,2μm,1.0s						
HUEH	**Huehuetenango**	**2.01**	**78**	*i* P	**Pn**	**12 07 25.1**	**+2.1**
HUEH				*i* S	**Sn**	**12 07 50.8**	**+2.8**
HUEH	**Huehuetenango**	**2.01**	**78**	*i* P	**Pn**	**12 07 26.4**	**+3.5**
HUEH				IAML		12 07 57.9	
	comp=Z,5μm,1.0s						
SOKI	**Kika Raxquin**	**2.07**	**92**	*i* P	**Pn**	**12 07 27.0**	**+3.1**
SOKI				IAML		12 07 52.2	
	comp=Z,290nm,1.0s						
QUIS	**Sacapulas**	**2.40**	**80**	*i* P	**Pn**	**12 07 31.2**	**+3.0**
QUIS				IAML		12 08 03.4	
	comp=Z,2μm,1.0s						
UXUV	**UXUV**	**2.47**	**347**	*i* P	**Pn**	**12 07 30.7**	**+1.7**
UXUV				*e*S	**Sn**	**12 07 56.7**	**-2.2**
CMIG	**Matias Romero**	**2.53**	**330**	*e*P	Pn	12 07 29.9	0.0
CMIG				*i* S	**Sn**	**12 07 59.1**	**-1.3**
HUIG	**Huatulco**	**2.62**	**289**	*i* P	Pn	12 07 29.1	-2.0
HUIG				*i* S	Sn	12 07 54.3	-8.3
GUNB	**GUNB**	**3.11**	**95**	*i* P	**Pn**	**12 07 40.8**	**+2.7**
GUNB				IAML		12 08 43.0	
	comp=Z,150nm,1.0s						
NEUV	**Arroyo Zacate**	**3.54**	**322**	*e*P	Pn	12 07 43.2	-0.5
NEUV				*i* S	**Sn**	**12 08 23.9**	**-1.3**
PEIG	**Puerto Escondi**	**3.64**	**288**	*i* P	Pn	12 07 43.3	-1.8
PEIG				*i* S	Sn	12 08 15.6	-12
VHO	**Vista Hermosa**	**3.75**	**306**	*i* P	**Pn**	**12 07 47.7**	**+0.9**
NUBE	**Las Nubes**	**3.78**	**105**	*i* P	**Pn**	**12 07 49.1**	**+1.9**
NUBE				IAML		12 08 52.5	
	comp=Z,120nm,1.0s						
PMUV	**Sontecomapan**	**3.92**	**338**	*i* S	Sn	12 08 25.6	-9.3
UNIC	**Universidad Ca**	**3.98**	**103**	*i* P	**Pn**	**12 07 53.4**	**+3.6**
UNIC				IAML		12 08 26.6	
	comp=Z,210nm,1.0s						
PETF	**Flores**	**4.06**	**60**	*e*P	**Pn**	**12 07 52.8**	**+1.8**
PETF				*i* S	**Sn**	**12 08 35.4**	**-2.8**
PETF	**Flores**	**4.06**	**60**	*i* P	**Pn**	**12 07 52.9**	**+2.0**
PETF				IAML		12 07 56.7	
	comp=Z,170nm,1.0s						
MTO3	**Montecristo**	**4.08**	**97**	*i* P	**Pn**	**12 07 55.4**	**+4.0**
MTO3				IAML		12 09 09.0	
	comp=Z,43nm,1.0s						
PMON	**Piamonte**	**4.27**	**106**	*i* P	**Pn**	**12 07 57.0**	**+3.2**
PMON				IAML		12 08 10.9	
	comp=Z,120nm,1.0s						
YOIG	**Yosondua**	**4.31**	**297**	*i* P	**Pn**	**12 07 55.6**	**+1.0**
LLGN	**La Laguna**	**4.51**	**99**	*i* P	Pn	12 08 04.7	+7.5
TOIG	**Toxpalan**	**4.63**	**314**	*i* P	**Pn**	**12 07 60.0**	**+1.1**
PNIG	**Pinotepa**	**4.66**	**289**	*i* P	Pn	12 07 58.6	-0.5
PNIG				*e*S	Sn	12 08 45.5	-7.5
TXIG	**Tlaxiaco**	**4.68**	**300**	*i* P	**Pn**	**12 08 00.8**	**+1.0**
HLIG	**Huajuapan de L**	**5.02**	**306**	*e*P	**Pn**	**12 08 06.1**	**+1.9**
HLIG				*e*S	**Sn**	**12 09 03.1**	**+1.0**
FTIG	**Fresnillo de T**	**5.32**	**305**	*i* P	**Pn**	**12 08 10.4**	**+2.0**
FTIG				*i* S	Sn	12 08 51.2	-18
MGIG	**Malinaltepec**	**5.41**	**296**	*i* P	Pn	12 08 10.5	+0.8
JAUV	**Jalcomulco**	**5.42**	**325**	*i* P	Pn	12 08 08.8	-0.9
JAUV				*i* S	Sn	12 09 05.0	-6.8
CRIG	**Cruz Grande**	**5.68**	**289**	*i* P	Pn	12 08 12.6	-0.5
PPM	**Popocatepetl**	**6.39**	**311**	*i* P	**Pn**	**12 08 25.1**	**+1.8**

*IDC **05** 12:11:58.0±0.9, 27°.68N×142°.15E, h0^{km}, mb3.7/7, mbtmp3.6/8, ML2.7/1, MS3.3/4, Error ellipse: s-maj=36.2km s-min=12.7km az=87.0*

ISC 05 12:12:03.3±0.8**, 27°.65N**±0°.09×**142°.1E**±0°.2**, h39^{km}, n13,** σ**1^s.04**/10**, mb3.6**/7**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.56**	**170**	Pn	**Pn**	**12 12 13.8**	**-1.1**
	232nm,0.3s,baz=270,slow=23,SNR=104						
JCJ				Sn	**Sn**	**12 12 22.9**	**-0.2**
	2μm,0.3s,baz=73,slow=19,SNR=52						
MJAR	**Matsushiro Arr**	**9.45**	**341**	Pn	**Pn**	**12 14 16.3**	**-0.5**
	0.1nm,0.3s,baz=128,slow=19,SNR=2.5						
	0.8nm,0.4s						
JNU	**Nakatsue**	**11.09**	**302**	LR	LR	12 18 52.7	
	comp=Z,52nm,18.2s,baz=74,slow=37						
KSRS	**Korea Array**	**15.40**	**313**	LR	LR	12 20 46.5	
	comp=Z,40nm,19.5s,baz=110,slow=34						
SONM	**Songino Array**	**34.24**	**316**	P	**P**	**12 18 46.1**	**+0.6**
	0.2nm,0.5s,baz=112,slow=7.9,SNR=1.8						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**47.90**	**190**	P	**P**	**12 20 39.5**	**+1.7**
	1.5nm,0.5s,baz=10.0,slow=8.2,SNR=16						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**51.63**	**190**	P	**P**	**12 21 06.7**	**+0.6**
	0.4nm,0.8s,baz=10,slow=15,SNR=4.6						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**57.27**	**29**	LR	LR	12 43 29.0	
	comp=Z,76nm,20.9s,baz=26,slow=33						
BVAR	**Borovoye Array**	**57.57**	**317**	P	**P**	**12 21 48.1**	**-0.8**
	0.3nm,0.4s,baz=72,slow=9.3,SNR=2.6						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**80.25**	**52**	P	**P**	**12 24 11.3**	**+0.9**
	0.5nm,0.7s,baz=297,slow=6.4,SNR=4.7						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**83.89**	**45**	P	**P**	**12 24 28.5**	**-0.9**
	0.2nm,0.5s,baz=276,slow=4.4,SNR=1.8						
	0.2nm,0.5s						
MLR	**Muntele Rosu**	**86.94**	**321**	LR	LR	13 08 53.1	
	comp=Z,50nm,18.4s,baz=338,slow=39						
TXAR	**Lajitas Array**	**95.35**	**53**	P	**P**	**12 25 24.3**	**+0.4**
	0.4nm,0.8s,baz=296,slow=2.9,SNR=3.7						
	0.4nm,0.8s						

LVSN 05 12:20:38.8±3.4**, 56°.65N**×**25°.89E, h0^{km}**±17^{km}**, ML2.5,**

Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSU	Vasula	1.87	14	eS	Sb	12 21 37.7	0.0
VSU				AML	AML	12 21 42.9	
	comp=N,77nm,0.3s						
VSU				AML	AML	12 21 43.1	
	comp=E,64nm,0.3s						
VSU				AML	AML	12 21 45.1	
	comp=Z,29nm,0.3s						
SLIT	Slitere, Latvi	2.19	298	eP	Pb	12 21 18.6	-0.7
SLIT				eS	Sb	12 21 47.6	+0.7
SLIT				AML	AML	12 21 49.7	
	comp=N,151nm,0.3s						
SLIT				AML	AML	12 21 51.2	
	comp=E,206nm,0.4s						
SLIT				AML	AML	12 22 01.3	
	comp=Z,89nm,0.3s						
MTSE	Matsula	2.35	333	eP	Pb	12 21 21.8	-0.1
MTSE				eS	Sb	12 21 52.6	+1.2
MEF	Metsahovi	3.66	348	AML	AML	12 22 33.7	
	comp=Z,8.4nm,0.4s						
MEF				AML	AML	12 22 34.0	
	comp=E,11nm,0.3s						
MEF				AML	AML	12 22 34.9	
	comp=N,8.5nm,0.3s						
RAF	Rauma	4.88	336	eS	Sn	12 22 52.2	+1.8

HEL 05 12:21:33.7±1.3, 60°.36N×25°.16E, h0km, ML0.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	Pernaja	0.40	61	PG	Pg	12 21 38.8	-2.5
MEF	Metsahovi	0.40	250	PG	Pg	12 21 41.4	0.0
	baz=56						
MEF				SG	Sg	12 21 47.0	+0.4
ARBE	Arbavere	1.01	155	SB	Sg	12 22 04.0	-2.2
ARBE	Arbavere	1.01	155	eS	Sg	12 22 04.1	-2.1
ARBE				AML	AML	12 22 08.4	
	comp=Z,61nm,0.7s						
ARBE				AML	AML	12 22 08.8	
	comp=N,196nm,0.2s						
ARBE				AML	AML	12 22 10.4	
	comp=E,113nm,0.3s						
FIA0	FINESS Array S	1.18	22	PG	Pg	12 21 54.6	-1.7
	baz=189						
FIA0				SG	Sg	12 22 08.3	-3.3
FIA0				MSG		12 22 09.5	
	comp=Z,0.4nm,0.2s						
RAF	Rauma	1.80	293	PG	Pn	12 22 06.0	+0.1
RAF				MSG		12 22 27.4	
	comp=Z,0.8nm,0.2s						
KEF	Keuruu	1.82	356	PG	Pn	12 22 05.4	-0.9
	baz=175						
KEF				MSG		12 22 27.9	
	comp=Z,0.3nm,0.2s						
AAL	Aland	2.58	268	SN	Sn	12 22 46.4	-2.2

*ISU **05** 12:37:02.7, 41°.09N×72°.56E, h15km*
*IDC **05** 12:37:02.8±1.2, 40°.93N×72°.52E, h0km, mb3.7/8, mbtmp3.6/15, ML3.4/6, MS2.3/1, Error ellipse: s-maj=17.3km s-min=10.4km az=157.0*
*SOME **05** 12:37:03.8, 41°.00N×72°.55E, h10km*
*KRNET **05** 12:37:05.6±0.1, 41°.07N×72°.51E, h13km, mb4.0*
*KNET **05** 12:37:07.3±0.3, 41°.17N×72°.62E, h6km±2km, ml3.6, Error ellipse: s-maj=4.7km s-min=2.2km az=102.0*
*NNC **05** 12:37:07.5±0.8, 41°.16N×72°.56E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=7.3km s-min=4.7km az=157.0*
ISC 05 12:37:03.5±1.1, 41°.06N±0°.02×72°.56E±0°.01, h1km±8km, n106, σ1s.87/174, mb3.6/8, 36C-39D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.42	50	⇑iP	Pb	12 37 14.2	+0.5
	baz=55						
ARSB				⇑iS	Sb	12 37 20.0	-0.6
	baz=55						
TSTA	Tashata	0.48	187	P	Pg	12 37 13.0	+0.3
TSTA				S	Sg	12 37 20.8	+1.8
OHH	Osh	0.56	162	⇑iP	Pb	12 37 16.7	+0.6
	baz=59						
OHH				⇑iS	Sb	12 37 24.8	+0.1
	baz=59						
NAM	Namangan	0.68	265	P	Pg	12 37 16.0	-0.5
NAM				S	Sg	12 37 25.9	+0.5
KSNS	Kasansay	0.79	278	P	Pg	12 37 17.7	-0.9
KSNS				S	Sg	12 37 28.8	0.0
ARK	Arkit	0.86	329	⇓iP	Pb	12 37 21.3	0.0
	baz=31						
ARK				⇓iS	Sb	12 37 33.1	-0.3
	baz=31						
FRG	Fergana	0.90	221	P	Pg	12 37 20.1	-0.6
FRG				S	Sg	12 37 33.1	+0.7
TRKS	Terek-Say	1.17	294	⇓iP	Pg	12 37 26.0	+0.2
	baz=92						
TRKS				⇓iS	Sg	12 37 41.0	0.0
	baz=92						
SFK	Sufi-Kurgan	1.27	145	⇓iP	Pn	12 37 29.9	+1.3
	baz=44						
SFK				⇓iS	Sn	12 37 47.8	+1.5
	baz=44						
AML	Almayashu	1.37	38	⇑P	Pn	12 37 31.4	+1.3
	135nm,0.2s,SNR=237						
AML				⇓S	Sn	12 37 49.6	+0.6
	531nm,0.3s						
AML	Almayashu	1.37	38	⇓P	Pn	12 37 31.4	+1.3
	7.1nm,0.5s						
AML				⇓S	Sn	12 37 50.1	+1.0
	17nm,0.3s						
AML	Almayashu	1.37	38	⇓iP	Pn	12 37 31.5	+1.4
	baz=40						
AML				⇓iS	Sn	12 37 50.5	+1.4
	baz=40						
ARLS	Aral	1.55	58	⇑eP	Pg	12 37 34.6	+1.4
	baz=60						
ARLS				⇑eS	Sg	12 37 56.6	+3.3
	baz=60						
BTK	Batken	1.66	234	⇑iP	Pg	12 37 35.9	+0.6
	baz=32						
BTK				⇑iS	Sg	12 37 58.0	+1.2
	baz=32						
DRK	Karamyk	1.68	200	⇑eP	Pg	12 37 36.8	+1.1
	baz=99						
DRK				⇑eS	Sg	12 37 59.5	+2.1
	baz=99						
MRKS	Merke	1.76	16	Pg	Pg	12 37 37.9	+0.7
	166nm,0.4s						
MRKS				Lg	Lg	12 38 03.0	
	555nm,0.5s						
MRKS	Merke	1.76	16	eP	Pg	12 37 37.9	+0.7
	166nm,0.4s						
MRKS				eS	Sg	12 38 03.0	+3.1
	555nm,0.5s						
EKS2	Erkin-Say	1.84	29	P	Pg	12 37 39.6	+0.9
	44nm,0.2s,SNR=46						
EKS2				⇓S	Sg	12 38 04.4	+1.7
	68nm,0.2s						
EKS2	Erkin-Say	1.84	29	⇓iP	Pg	12 37 39.7	+0.9
	baz=30						
EKS2				⇓iS	Sg	12 38 04.6	+1.9
	baz=30						
UCH	Uchtor	1.87	51	⇑P	Pg	12 37 40.8	+1.4
	143nm,0.2s,SNR=243						
UCH				⇓S	Sg	12 38 07.1	+3.4
	451nm,0.4s						
UCH	Uchtor	1.87	51	⇑iP	Pg	12 37 40.8	+1.4
	baz=52						
UCH				⇑iS	Sg	12 38 06.2	+2.5
	baz=52						
CHMG	Chimgan	1.98	285	P	Pn	12 37 38.3	+0.1
CHMG				S	Sb	12 38 04.8	-0.8
CHRV	Charvak	2.05	287	P	Pn	12 37 39.5	+0.4
CHRV				S	Sb	12 38 06.8	-0.6
DZA	Taraz	2.05	334	eP	Pg	12 37 43.1	+0.4
	270nm,0.2s						
DZA				eS	Sg	12 38 11.2	+1.9
	2µm,0.3s						
AAK	Ala-Archa	2.14	42	⇓P	Pg	12 37 44.9	+0.4
	156nm,0.5s,SNR=114						
AAK				⇑S	Sg	12 38 13.1	+0.8
	133nm,0.2s						
AAK	Ala-Archa	2.14	42	Pn	Pg	12 37 45.2	+0.7
	35nm,0.3s,baz=215,slow=4.3,SNR=284						
AAK				Sn	Sg	12 38 14.3	+2.1
	32nm,0.3s,baz=124,slow=22,SNR=17						
AAK				LR	LR	12 38 49.9	
	comp=Z,59nm,18.6s,baz=151,slow=47						
	134nm,0.4s						
AAK	Ala-Archa	2.14	42	⇑iP	Pg	12 37 44.1	-0.4
	baz=43						
AAK				⇑iS	Sg	12 38 12.1	-0.2
	baz=43						
YBZ	Yangibazar	2.26	277	P	Pn	12 37 42.8	+0.9
YBZ				S	Sb	12 38 13.2	-0.2
KZA	Kyzart	2.26	62	P	Pg	12 37 47.2	+0.4
	173nm,0.3s,SNR=187						
KZA				⇑S	Sg	12 38 18.5	+2.3
	197nm,0.3s						
KZA	Kyzart	2.26	62	⇑iP	Pg	12 37 46.4	-0.4
	baz=63						
KZA				⇑iS	Sg	12 38 15.7	-0.5
	baz=63						
TGS	TashGRES	2.32	280	P	Pb	12 37 45.5	-0.6
TGS				S	Sg	12 38 18.3	+0.3
FRU1	Bishkek	2.33	41	⇓iP	Pb	12 37 46.9	+0.5
	baz=42						
FRU1				⇓iS	Sg	12 38 16.9	-1.6
	baz=42						
KBK	Karagaybulak	2.40	47	⇓P	Pg	12 37 48.8	-0.6
	151nm,0.4s,SNR=72						
KBK				⇓S	Sg	12 38 20.9	+0.4
	905nm,0.7s						
KBK	Karagaybulak	2.40	47	⇓iP	Pb	12 37 47.8	+0.3
	baz=48						
KBK				⇓iS	Sb	12 38 18.3	+0.7
	baz=48						
CHMS	Chumysh	2.54	39	⇑P	Pb	12 37 50.6	+0.8
	48nm,0.2s,SNR=36						
CHMS				⇓S	Sg	12 38 23.8	-1.1
	119nm,0.4s						
CHMS	Chumysh	2.54	39	⇑Pg	Pb	12 37 50.5	+0.7
	55nm,0.7s						
CHMS				⇓Lg	Lg	12 38 25.7	
	74nm,0.5s						
CHMS	Chumysh	2.54	39	⇑iP	Pb	12 37 49.5	-0.3
	baz=40						
CHMS				⇑iS	Sb	12 38 21.5	0.0
	baz=40						
CHM	Chimkent	2.54	301	eP	Pg	12 37 53.6	+1.4
	66nm,0.2s						
CHM				eS	Sg	12 38 29.8	+4.6
	2µm,0.4s						
KK31	Karatay Array	2.55	324	⇑Pn	Pb	12 37 49.2	-0.8
	97nm,0.6s,baz=136,slow=12,SNR=442						
KK31				Lg	Lg	12 38 25.1	
	86nm,0.3s,baz=136,slow=27,SNR=14						
USP	Ospenovka	2.64	33	⇑P	Pb	12 37 51.7	+0.2
	93nm,0.2s,SNR=60						
USP				⇑S	Sb	12 38 25.4	+1.0
	697nm,0.7s						
USP	Ospenovka	2.64	33	⇓iP	Pb	12 37 51.1	-0.4
	baz=33						
USP				⇓iS	Sb	12 38 23.8	-0.6
	baz=33						
BOOM	Boomskoye usch	2.91	59	⇓iP	Pb	12 37 55.0	-1.2
	baz=60						
BOOM				⇓iS	Sb	12 38 30.9	-1.4
	baz=60						
TKM2	Tokmak 2	2.93	50	⇑P	Pb	12 37 56.4	-0.3
	59nm,0.4s,SNR=42						
TKM2	Tokmak 2	2.93	50	⇑Pn	Pb	12 37 56.2	-0.4
	46nm,0.5s						
TKM2				⇑Lg	Lg	12 38 38.4	
	178nm,0.9s						
TKM2	Tokmak 2	2.93	50	⇓iP	Pb	12 37 55.4	-1.2
	baz=50						
TKM2				⇓iS	Sb	12 38 31.5	-1.6
	baz=50						
ULHL	Ulahol	3.00	66	⇓iP	Pb	12 37 56.3	-1.6
	baz=66						
ULHL				⇓iS	Sb	12 38 33.2	-2.0
	baz=66						
KSH	Kashi	3.03	119	P	Pb	12 37 56.5	-1.8
KSH				PP	Pg	12 38 00.3	-1.3
KSH				S	Sn	12 38 28.3	-1.4
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				smax	smax		
	comp=N,170nm,0.8s						
KSH				smax	smax		
	comp=E,190nm,0.8s						
KSH				LR	LR		
	comp=N,330nm,6.3s						
KSH				LR	LR		
	comp=E,410nm,5.9s						
KSH				LR	LR		
	comp=Z,350nm,7.3s						
KST	Kastek	3.22	51	Pg	Pg	12 38 03.7	-1.4
	comp=Z,17nm,0.3s						
KST				Lg	Lg	12 38 47.2	
	comp=Z,221nm,0.9s						
KST	Kastek	3.22	51	eP	Pg	12 38 03.7	-1.4
	comp=Z,17nm,0.3s						
KST				eS	Sg	12 38 47.2	+0.3
	comp=Z,221nm,0.9s						
DGS	Degeres	3.24	47	Pg	Pg	12 38 04.4	-1.1
	comp=Z,25nm,0.4s						
DGS				Lg	Lg	12 38 48.3	
	comp=Z,159nm,0.8s						
DGS	Degeres	3.24	47	eP	Pg	12 38 04.4	-1.1
	comp=Z,25nm,0.4s						
DGS				eS	Sg	12 38 48.3	+0.9
	comp=Z,159nm,0.8s						
KRBS	Karabastau	3.50	40	Pg	Pg	12 38 08.5	-2.1
	comp=Z,19nm,0.3s						
KRBS				Lg	Lg	12 38 55.2	
	comp=Z,91nm,0.8s						
KRBS	Karabastau	3.50	40	eP	Pg	12 38 08.5	-2.1
	comp=Z,19nm,0.3s						
KRBS				eS	Sg	12 38 55.2	-0.8
	comp=Z,91nm,0.8s						
MTBS	Maitube	3.55	53	Pg	Pg	12 38 09.8	-1.6
	comp=Z,11nm,0.3s						
MTBS				Lg	Lg	12 38 57.4	
	comp=Z,98nm,0.4s						
MTBS	Maitube	3.55	53	eP	Pg	12 38 09.8	-1.6
	comp=Z,11nm,0.3s						
MTBS				eS	Sg	12 38 57.4	0.0
	comp=Z,98nm,0.4s						
BXML	Bakhmal	3.72	250	P	Pb	12 38 06.6	-3.4
BXML				S	Sb	12 38 59.8	+4.2
TNSS	Tian-Shan	3.82	57	Pg	Pg	12 38 15.9	-0.8
	comp=Z,18nm,0.3s						
TNSS				Lg	Lg	12 39 07.1	
	comp=Z,46nm,1.0s						
TNSS	Tian-Shan	3.82	57	eP	Pg	12 38 15.9	-0.8
	comp=Z,18nm,0.3s						
TNSS				eS	Sg	12 39 07.1	+0.9
	comp=Z,46nm,1.0s						
AAA	Alma-Ata	3.89	55	Pg	Pg	12 38 16.1	-1.9
	comp=Z,25nm,0.1s						
AAA				Lg	Lg	12 39 08.3	
	comp=Z,91nm,0.5s						
AAA	Alma-Ata	3.89	55	eP	Pg	12 38 16.1	-1.9
	comp=Z,25nm,0.1s						
AAA				eS	Sg	12 39 08.3	-0.1
	comp=Z,91nm,0.5s						
KNDC	Almaty	3.92	55	⇓Pn	Pb	12 38 09.9	-3.5
	comp=Z,24nm,0.3s						
KNDC				⇑Pg	Pg	12 38 19.5	+0.9
	comp=Z,86nm,0.9s						
KNDC				⇑Lg	Lg	12 39 10.4	
	comp=Z,125nm,0.7s						
MDOK	Medeo	3.95	56	⇑Pn	Pb	12 38 10.6	-3.4
	comp=Z,8.1nm,0.4s						
MDOK				Pg	Pg	12 38 20.9	+1.8
	comp=Z,38nm,0.6s						
MDOK				⇑Lg	Lg	12 39 13.2	
	comp=Z,63nm,0.7s						
MDOK	Medeo	3.95	56	eP	Pg	12 38 19.3	+0.2
	comp=Z,38nm,0.6s						
MDOK				eS	Sg	12 39 13.5	+3.2
	comp=Z,58nm,1.0s						
KUU	Kurty	3.98	43	eP	Pg	12 38 17.2	-2.6
	comp=Z,10nm,0.4s						
KUU				eS	Sg	12 39 10.3	-1.1
	comp=Z,84nm,0.8s						
KOTS	Kotyrbulak	4.02	56	Pg	Pg	12 38 20.8	+0.2
	comp=Z,69nm,0.6s						
KOTS				Lg	Lg	12 39 15.3	
	comp=Z,133nm,0.7s						
KOTS	Kotyrbulak	4.02	56	eP	Pg	12 38 20.8	+0.2
	comp=Z,69nm,0.6s						
KOTS				eS	Sg	12 39 15.3	+2.6
	comp=Z,133nm,0.7s						
KTBS	Karatobe	4.04	48	Pg	Pg	12 38 18.8	-2.1
	comp=Z,9.8nm,0.4s						
KTBS				Lg	Lg	12 39 12.8	
	comp=Z,132nm,0.6s						
KTBS	Karatobe	4.04	48	eP	Pg	12 38 18.8	-2.1
	comp=Z,9.8nm,0.4s						
KTBS				eS	Sg	12 39 12.8	-0.6
	comp=Z,132nm,0.6s						
BTLS	Baital	4.13	15	Pg	Pg	12 38 19.9	-2.6
	comp=Z,9.2nm,0.5s						
BTLS				Lg	Lg	12 39 14.1	
	comp=Z,6.2nm,0.8s						
BTLS	Baital	4.13	15	eP	Pg	12 38 19.9	-2.6
	comp=Z,9.2nm,0.5s						
BTLS				eS	Sg	12 39 14.1	-1.9
	comp=Z,6.2nm,0.8s						
SATY	Saty	4.79	63	Pg	Pg	12 38 33.2	-2.0
	comp=Z,36nm,0.9s						
SATY				Lg	Lg	12 39 37.1	
	comp=Z,67nm,0.8s						
SATY	Saty	4.79	63	eP	Pg	12 38 33.2	-2.0
	comp=Z,36nm,0.9s						
SATY				eS	Sg	12 39 37.1	-0.2
	comp=Z,67nm,0.8s						
KURS	Kuram	4.82	58	Pg	Pg	12 38 35.2	-0.6
	comp=Z,9.5nm,0.9s						
KURS				Lg	Lg	12 39 41.8	
	comp=Z,39nm,1.1s						
KURS	Kuram	4.82	58	eP	Pg	12 38 35.2	-0.6
	comp=Z,9.5nm,0.9s						
KURS				eS	Sg	12 39 41.8	+3.5
	comp=Z,39nm,1.1s						
ARXS	Arharly	5.00	49	Pg	Pg	12 38 36.3	-3.0
	comp=Z,17nm,0.6s						
ARXS				Lg	Lg	12 39 42.6	
	comp=Z,81nm,0.9s						
ARXS	Arharly	5.00	49	eP	Pg	12 38 36.3	-3.0
	comp=Z,17nm,0.6s						
ARXS				eS	Sg	12 39 42.6	-1.5
	comp=Z,81nm,0.9s						
UZB	Uzynbulak	5.24	64	Pg	Pg	12 38 41.0	-2.9
	comp=Z,6.1nm,0.4s						
UZB				Lg	Lg	12 39 50.6	
	comp=Z,39nm,0.6s						
UZB	Uzynbulak	5.24	64	eP	Pg	12 38 41.0	-2.9
	comp=Z,6.1nm,0.4s						
UZB				eS	Sg	12 39 50.6	-1.2
	comp=Z,39nm,0.6s						
NUT	Nurota	5.24	267	P	Pn	12 38 25.5	+2.5
NUT				S	Sb	12 39 35.4	-4.0
PDGK	Podgornoye	5.63	64	Pg	Pg	12 38 48.7	-2.5
	comp=Z,2.5nm,0.6s						
PDGK				Lg	Lg	12 40 03.4	
	comp=Z,20nm,1.0s						
PDGK	Podgornoye	5.63	64	⇑Pg	Pg	12 38 49.1	-2.2
	comp=Z,6.7nm,0.6s						
PDGK				⇓Lg	Lg	12 40 03.6	
	comp=Z,43nm,1.2s						
ZRB	Zarabog	5.68	241	P	Pn	12 38 30.7	+1.7
ZRB				S	Sb	12 39 45.2	-6.7
KNOS	Konyrlen	5.89	54	Pg	Pg	12 38 55.0	-1.2
	comp=Z,19nm,0.6s						
KNOS				Lg	Lg	12 40 14.0	
	comp=Z,16nm,0.5s						
DJR	Jarkent	6.25	56	Pg	Pg	12 38 59.9	-3.4
	comp=Z,5.8nm,0.6s						
DJR				Lg	Lg	12 40 23.2	
	comp=Z,17nm,1.0s						
DJR	Jarkent	6.25	56	eP	Pg	12 38 59.9	-3.4
	comp=Z,5.8nm,0.6s						
DJR				eS	Sg	12 40 23.2	-1.0
	comp=Z,17nm,1.0s						
KAPS	Kapalarasan	6.52	47	Pg	Pg	12 39 04.4	-4.0
	comp=Z,2.5nm,0.4s						
KAPS				Lg	Lg	12 40 30.4	
	comp=Z,21nm,0.8s						
KAPS	Kapalarasan	6.52	47	eP	Pg	12 39 04.4	-4.0
	comp=Z,2.5nm,0.4s						
KAPS				eS	Sg	12 40 30.4	-2.5
	comp=Z,21nm,0.8s						
OTUK	Ortayu	7.19	359	Pg	Pg	12 39 15.8	-5.2
	comp=Z,2.1nm,0.5s						
OTUK				Lg	Lg	12 40 51.4	
	comp=Z,50nm,0.8s						
OTUK	Ortayu	7.19	359	⇓Pn	Pn	12 38 53.7	+4.1
	comp=Z,2.4nm,0.5s						
OTUK				⇓Lg	Lg	12 40 51.8	
	comp=Z,98nm,0.7s						
MAKZ	Makanchi	8.90	47	⇑Pn	Pn	12 39 16.2	+3.1
	comp=Z,1.5nm,0.8s						
MAKZ				⇓Lg	Lg	12 41 44.9	
	comp=Z,14nm,1.1s						
MK31	Makanchi Array	9.06	48	Pn	Pn	12 39 18.9	+3.5
	comp=Z,1.2nm,0.5s,baz=227,slow=14,SNR=17						
MK31				⇓Lg	Lg	12 41 53.9	
	comp=Z,3.6nm,0.6s,baz=236,slow=27,SNR=2.6						
MKAR	Makanchi Array	9.06	48	Pn	Pn	12 39 18.2	+2.8
	comp=Z,0.5nm,0.3s,baz=231,slow=15,SNR=18						
MKAR				Lg	Lg	12 41 53.3	
	comp=Z,0.4nm,0.3s,baz=245,slow=26,SNR=5.2						
	comp=Z,1.1nm,0.4s						
KURBB	Kurchatov Arra	10.43	21	⇓Pn	Pn	12 39 34.1	+0.1
	comp=Z,2.6nm,1.0s						
KURBB	Kurchatov Arra	10.43	21	Pn	Pn	12 39 34.5	+0.4
	baz=211,slow=12,SNR=6.9						
KURBB				Lg	Lg	12 42 36.2	
	comp=Z,0.2nm,0.3s,baz=175,slow=31,SNR=4.7						
	comp=Z,0.5nm,0.6s						
GEYT	Alibeck	11.59	259	Pn	Pn	12 39 49.6	-0.3
	comp=Z,0.4nm,0.3s,baz=45,slow=14,SNR=2.0						
GEYT				Sn	Sn	12 41 59.5	-0.5
	comp=Z,0.4nm,0.3s,baz=83,slow=24,SNR=1.9						
	comp=Z,0.6nm,0.4s						
BVAR	Borovoye Array	12.06	354	Pn	Pn	12 39 55.6	-0.8
	comp=Z,0.3nm,0.4s,baz=177,slow=15,SNR=2.4						
BVAR				Sn	Sn	12 42 09.2	-2.2
	baz=176,slow=26,SNR=1.9						
BVAR				Lg	Lg	12 43 28.9	
	comp=Z,0.1nm,0.3s,baz=150,slow=24,SNR=6.7						
AKTO	Aktyubinsk	13.80	318	Pn	Pn	12 40 19.6	-0.4
	comp=Z,0.2nm,0.3s,baz=148,slow=18,SNR=3.1						
AKTO				Sn	Sn	12 42 51.0	-2.9
	comp=Z,0.1nm,0.3s,baz=106,slow=2.2,SNR=1.6						
AKTO				Lg	Lg	12 44 23.0	
	comp=Z,0.3nm,0.3s,baz=247,slow=15,SNR=1.3						
	comp=Z,1.1nm,0.6s						
ZALV	Zalesovo Beam	15.30	28	Pn	Pn	12 40 41.4	+1.1
	comp=Z,0.8nm,0.3s,baz=219,slow=8.7,SNR=5.9						
ZALV				Sn	Sn	12 43 36.2	+5.9
	baz=222,slow=21						
ZALV				Lg	Lg	12 45 11.5	
	comp=Z,0.4nm,0.3s,baz=212,slow=24,SNR=2.2						
	comp=Z,0.9nm,0.3s						
SONM	Songino Array	24.95	63	P	P	12 42 29.5	+1.2
	comp=Z,0.3nm,0.4s,baz=264,slow=7.2,SNR=2.6						
	comp=Z,0.3nm,0.4s						
FINES	FINESS Array B	34.51	322	P	P	12 43 52.8	0.0
	comp=Z,3.6nm,1.0s,baz=90,slow=6.9,SNR=2.1						
	comp=Z,3.6nm,1.0s						
ARCES	ARCESS Array B	37.46	335	P	P	12 44 18.6	+0.6
	comp=Z,3.6nm,0.9s,baz=104,slow=9.0,SNR=4.5						
	comp=Z,3.6nm,0.9s						
HFS	Hagfors	40.34	319	P	P	12 44 41.7	-0.6
	comp=Z,3.1nm,0.9s,baz=106,slow=11,SNR=6.4						
	comp=Z,3.1nm,0.9s						
NOA	NORSAR Array B	41.57	320	P	P	12 44 52.3	-0.1
	comp=Z,0.2nm,0.3s,baz=25,slow=7.4,SNR=1.9						
	comp=Z,0.2nm,0.3s						
TORD	Torodi Ar. Bea	67.08	268	P	P	12 47 57.7	-1.0
	comp=Z,0.2nm,0.3s,baz=50,slow=5.5,SNR=4.4						
	comp=Z,0.2nm,0.3s						
ILAR	Eielson Array	70.07	17	P	P	12 48 16.5	-0.1
	comp=Z,0.2nm,0.8s,baz=319,slow=3.7,SNR=2.5						
	comp=Z,0.2nm,0.8s						
YKA	Yellowknife Ar	76.64	3	P	P	12 48 55.2	-0.2
	comp=Z,0.2nm,0.6s,baz=348,slow=6.2,SNR=6.7						
	comp=Z,0.2nm,0.6s						

*IDC **05** 12:39:26.0±6.5, 35°.80N×142°.21E, h0km, mb3.3/2, mbtmp3.1/3, ML2.0/1, MS2.5/1, Error ellipse: s-maj=147.9km s-min=31.3km az=36.0*
*JMA **05** 12:39:34.6±0.2, 35°.3N±0°.4×14°1E±°, h31km±2km,*

MV2.5/25, E OFF BOSO PENINSULA

ISC 05 12:39:32.2±1.9**, 35°.3N**±0°.1×**141°.4E**±0°.1**, h10**km**, n10,** σ**0ˢ90**/10**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.77**	**207**	*e*P	**Pg**	**12 39 47.6**	**+0.6**
BSO3	**Boso 3**	**0.91**	**234**	*e*P	**Pg**	**12 39 49.5**	**-0.2**
BSO3				*e*X		12 39 59.0	
BSO4	**Boso 4**	**0.94**	**249**	*e*P	**Pg**	**12 39 50.3**	**-0.1**
JCN	**Nagara**	**0.99**	**275**	*e*P	**Pg**	**12 39 51.5**	**+0.3**
JKUC	**kamogawauchiur**	**1.01**	**260**	*e*P	**Pg**	**12 39 51.0**	**-0.6**
JYT	**Yasato**	**1.33**	**312**	*e*P	**Pn**	**12 39 57.1**	**+0.4**
MJAR	**Matsushiro Arr**	**2.86**	**296**	Pn	**Pn**	**12 40 19.5**	**+1.6**
	0.2nm,0.3s,baz=100,slow=14,SNR=14						
MJAR				Sn	**Sb**	**12 40 58.0**	**-0.4**
	0.1nm,0.3s,baz=163,slow=18,SNR=5.3						
	1.4nm,0.3s						
GUMO	**Guam**	**21.88**	**171**	LR	LR	12 55 20.2	
	comp=Z,12nm,19.9s,baz=102,slow=43						
WRA	**Warramunga Arr**	**55.39**	**188**	P	**P**	**12 49 05.4**	**-1.2**
	0.3nm,0.6s,baz=6.9,slow=6.9,SNR=7.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**59.12**	**188**	P	**P**	**12 49 32.4**	**-0.5**
	0.2nm,0.9s,baz=9.8,slow=12,SNR=1.3						
	0.2nm,0.9s						

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*HLW **05** 12:58:01.7, 36°.03N×27°.52E, h10km±16km, Md4.4, Ml4.3*

*IDC **05** 12:58:01.1±2.1, 36°.26N×27°.49E, h83km±24km, mb3.4/11, mbtmp3.8/18, Error ellipse: s-maj=16.7km s-min=15.6km az=150.0*

*ATH **05** 12:58:02.9, 36°.31N×27°.43E, h83km±4km, ML3.5/13, Error ellipse: s-maj=4.7km s-min=1.3km az=111.0*

*ISK **05** 12:58:02.2, 36°.32N×27°.44E, h86km, ML3.6/22*

*AFAD **05** 12:58:03.9±0.0, 36°.45N×27°.46E, h58km±5km, MW3.7*

*THE **05** 12:58:04.0, 36°.29N×27°.41E, h89km±1km, ML3.8/3, Error ellipse: s-maj=1.9km s-min=0.5km az=92.0*

*GII **05** 12:58:06.3±0.5, 35°.66N±0°.02×28°.21E±0°.03, h0km, Md3.4/4, confirmed*

ISC 05 12:58:01.6±0.7**, 36°.23N**±0°.03×**27°.54E**±0°.03**, h88**km±5km**, n178,** σ**1ˢ82**/236**, mb3.5**/11**, 1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**0.46**	**352**	P	**Pn**	**12 58 16.4**	**+0.6**
YAZI				S	**Sn**	**12 58 25.2**	**-1.2**
ARG	**Arkhangelos**	**0.48**	**91**	Pg	**Pn**	**12 58 18.1**	**+2.2**
ARG				Sg	**Sn**	**12 58 28.6**	**+2.0**
ARG	**Arkhangelos**	**0.48**	**91**	P	**Pn**	**12 58 18.1**	**+2.2**
ARG				S	**Sn**	**12 58 28.8**	**+2.2**
ARG	**Arkhangelos**	**0.48**	**91**	P	**Pn**	**12 58 18.0**	**+2.2**
ARG				S	**Sn**	**12 58 27.8**	**+1.3**
ARG				AML	AML	12 58 29.1	
	comp=N,27888µm,0.3s						
ARG				AML	AML	12 58 29.6	
	comp=E,46312µm,0.2s						
DAT	**Datca**	**0.50**	**4**	Pg	**Pn**	**12 58 16.9**	**+0.7**
DAT				Sg	**Sn**	**12 58 27.2**	**+0.1**
DAT	**Datca**	**0.50**	**4**	P	**Pn**	**12 58 17.0**	**+0.7**
DAT				S	**Sn**	**12 58 27.3**	**+0.1**
DAT	**Datca**	**0.50**	**4**	P	**Pn**	**12 58 17.0**	**+0.7**
DAT				S	**Sn**	**12 58 26.9**	**-0.3**
KARP	**Karpathos**	**0.74**	**204**	Pg	**Pn**	**12 58 19.7**	**+1.3**
KARP	**Karpathos**	**0.74**	**204**	P	**Pn**	**12 58 19.7**	**+1.3**
KARP				S	**Sn**	**12 58 32.1**	**+1.2**
	comp=E,9µm,0.3s						
KARP	**Karpathos**	**0.74**	**204**	P	**Pn**	**12 58 19.8**	**+1.3**
KARP				S	**Sn**	**12 58 31.7**	**+0.8**
KARP				AML	AML	12 58 32.7	
	comp=E,23473µm,0.4s						
KARP				AML	AML	12 58 33.4	
	comp=N,20450µm,0.5s						
RFTAA	**Mazikoy-Bodrum**	**0.79**	**12**	Pg	**Pn**	**12 58 19.7**	**+0.9**
RFTAA				Sg	**Sn**	**12 58 31.4**	**-0.2**
TURN	**Turunc**	**0.79**	**46**	Pg	**Pn**	**12 58 20.2**	**+1.4**
TURN	**Turunc**	**0.79**	**46**	P	**Pn**	**12 58 20.0**	**+1.2**
TURN				S	**Sn**	**12 58 33.0**	**+1.3**
TURN				*i* AML	AML	12 58 33.0	
	comp=N,2µm,0.4s						
TURN				*i* AML	AML	12 58 34.0	
	comp=N,2µm,0.2s						
BDRM	**Kayabasi**	**0.84**	**355**	P	**Pn**	**12 58 19.8**	**+0.4**
BDRM				S	**Sn**	**12 58 32.4**	**-0.3**
BODT	**Bodrum**	**0.85**	**348**	Pg	**Pn**	**12 58 19.8**	**+0.3**
BODT				Sg	**Sn**	**12 58 32.4**	**-0.5**
BODT	**Bodrum**	**0.85**	**348**	P	**Pn**	**12 58 19.9**	**+0.4**
BODT				S	**Sn**	**12 58 32.3**	**-0.6**
KLNA	**Kalymnos**	**0.86**	**328**	P	**Pn**	**12 58 19.8**	**+0.3**
KLNA				AML	AML	12 58 32.4	
	comp=N,1912µm,0.4s						
KLNA				AML	AML	12 58 32.5	
	comp=E,1226µm,0.3s						
YKAV	**Yalikavak-Bodr**	**0.92**	**347**	Pg	**Pn**	**12 58 20.2**	**0.0**
DALY	**Dalyan (Mula)**	**1.08**	**56**	Pn	**Pn**	**12 58 23.9**	**+1.9**
MLSB	**Milas**	**1.08**	**10**	Pg	**Pn**	**12 58 22.9**	**+0.7**
YER	**Yerkesik**	**1.09**	**33**	Pg	**Pn**	**12 58 23.6**	**+1.4**
YER	**Yerkesik**	**1.09**	**33**	P	**Pn**	**12 58 23.6**	**+1.4**
MULA	**Mugla, Merkez-**	**1.21**	**31**	P	**Pn**	**12 58 24.9**	**+1.2**
MULA				S	**Sn**	**12 58 36.5**	**-3.8**
MULA				*i* AML	AML	12 58 44.0	
	comp=E,263nm,0.5s						
MULA				*i* AML	AML	12 58 45.0	
	comp=E,179nm,0.6s						
DDIM	**Aydin, Didim**	**1.25**	**349**	P	**Pn**	**12 58 23.4**	**-0.7**
DDIM				S	**Sn**	**12 58 40.5**	**-0.6**
DDIM				*i* AML	AML	12 58 42.0	
	comp=E,494nm,1.2s						
DDIM				*i* AML	AML	12 58 45.0	
	comp=E,543nm,0.6s						
SABU	**Mula-Dalaman**	**1.30**	**62**	P	**Pn**	**12 58 27.1**	**+2.4**
SABU				S	**Sn**	**12 58 43.5**	**+1.3**
SABU				*i* AML	AML	12 58 47.0	
	comp=E,1µm,0.4s						
SABU				*i* AML	AML	12 58 48.0	
	comp=E,1µm,0.3s						
FETY	**Fethiye**	**1.31**	**71**	Pn	**Pn**	**12 58 27.0**	**+2.1**
FETY	**Fethiye**	**1.31**	**71**	P	**Pn**	**12 58 27.7**	**+2.8**
FETY				S	**Sn**	**12 58 45.5**	**+3.0**
IZZE	**Mula-Seydike**	**1.38**	**81**	P	**Pn**	**12 58 27.6**	**+1.9**
IZZE				S	**Sn**	**12 58 45.4**	**+1.4**
IZZE				*i* AML	AML	12 58 46.0	
	comp=E,1µm,0.4s						
GCAM	**G?zelcaml?**	**1.49**	**351**	Pn	**Pn**	**12 58 27.7**	**+0.6**
GCAM				Sn	**Sn**	**12 58 45.2**	**-1.2**
GCAM	**G?zelcaml?**	**1.49**	**351**	P	**Pn**	**12 58 27.3**	**+0.2**
GCAM				S	**Sn**	**12 58 44.1**	**-2.3**
GCAM				*i* AML	AML	12 58 46.0	
	comp=E,549nm,0.9s						
GCAM				*i* AML	AML	12 58 46.0	
	comp=E,698nm,0.6s						
ZKR	**Zakros**	**1.54**	**224**	Pn	**Pn**	**12 58 29.5**	**+1.7**
ZKR	**Zakros**	**1.54**	**224**	P	**Pn**	**12 58 29.3**	**+1.5**
ZKR				S	**Sn**	**12 58 48.5**	**+0.9**
	comp=E,1µm,0.2s						
ZKR	**Zakros**	**1.54**	**224**	P	**Pn**	**12 58 29.3**	**+1.5**
ZKR				S	**Sn**	**12 58 48.6**	**+0.9**
ZKR				AML	AML	12 58 51.0	
	comp=N,1141µm,0.3s						
ZKR				AML	AML	12 58 51.1	
	comp=E,3137µm,0.3s						
SMG	**Samos**	**1.58**	**340**	P	**Pn**	**12 58 28.5**	**+0.2**
SMG				S	**Sn**	**12 58 47.8**	**-0.7**
SMG	**Samos**	**1.58**	**340**	P	**Pn**	**12 58 28.5**	**+0.2**
SMG				S	**Sn**	**12 58 45.5**	**-3.0**
SMG				AML	AML	12 58 48.0	
	comp=E,1189µm,0.5s						
SMG				AML	AML	12 58 48.0	
	comp=N,708µm,0.5s						
CAME	**Cameli-Denizli**	**1.59**	**63**	Pn	**Pn**	**12 58 30.7**	**+2.1**
KSL	**Kastellorizon**	**1.66**	**92**	P	**Pn**	**12 58 31.8**	**+2.6**
KSL	**Kastellorizon**	**1.66**	**92**	P	**Pn**	**12 58 31.8**	**+2.6**
KSL				S	**Sn**	**12 58 51.7**	**+1.5**
KSL				AML	AML	12 58 53.0	
	comp=E,3272µm,0.4s						
KSL				AML	AML	12 58 55.6	
	comp=N,1965µm,0.4s						
TAVA	**DENIZLI_Tavas**	**1.66**	**41**	P	**Pn**	**12 58 30.7**	**+1.3**
TAVA				S	**Sn**	**12 58 51.9**	**+1.5**
TAVA				*i* AML	AML	12 58 55.0	
	comp=N,156nm,0.5s						
TAVA				*i* AML	AML	12 58 55.0	
	comp=N,109nm,0.2s						
CAEL	**Denizli, Camel**	**1.69**	**58**	P	**Pn**	**12 58 31.8**	**+2.0**
CAEL				S	**Sn**	**12 58 54.0**	**+2.8**
CAEL				*i* AML	AML	12 59 00.0	
	comp=N,648nm,0.6s						
ESEN	**Aydn-Nazilli**	**1.70**	**22**	P	**Pn**	**12 58 31.1**	**+1.3**
ESEN				S	**Sn**	**12 58 49.2**	**-2.0**
ESEN				*i* AML	AML	12 58 51.0	
	comp=N,131nm,0.2s						
ESEN				*i* AML	AML	12 58 52.0	
	comp=N,92nm,0.2s						
THT2	**Imerovigli**	**1.72**	**278**	P	**Pn**	**12 58 30.7**	**+0.6**
CMBO	**Columbo, Santo**	**1.74**	**279**	P	**Pn**	**12 58 30.8**	**+0.5**
CMBO				S	**Sn**	**12 58 50.7**	**-1.3**
	comp=N,1µm,0.6s						
CMBO	**Columbo, Santo**	**1.74**	**279**	P	**Pn**	**12 58 30.7**	**+0.5**
CMBO				AML	AML	12 58 51.2	
	comp=N,3492µm,0.6s						
CMBO				AML	AML	12 58 52.6	
	comp=E,3038µm,0.7s						
KNIK	**Mula-Seydike**	**1.75**	**69**	P	**Pn**	**12 58 33.0**	**+2.4**
KNIK				S	**Sn**	**12 58 54.1**	**+1.4**
KNIK				*i* AML	AML	12 58 56.0	
	comp=E,450nm,0.5s						
APE	**Apeiranthos**	**1.82**	**298**	Pn	**Pn**	**12 58 31.5**	**+0.2**
APE	**Apeiranthos**	**1.82**	**298**	P	**Pn**	**12 58 31.6**	**+0.2**
APE	**Apeiranthos**	**1.82**	**298**	P	**Pn**	**12 58 31.4**	**0.0**
APE				AML	AML	12 58 53.1	
	comp=N,336µm,0.8s						
APE				AML	AML	12 58 53.9	
	comp=E,208µm,0.6s						
DNIZ	**Denizli-Tavas-**	**1.84**	**40**	P	**Pn**	**12 58 33.1**	**+1.3**
DNIZ				S	**Sn**	**12 58 55.8**	**+1.1**
DNIZ				*i* AML	AML	12 59 05.0	
	comp=E,360nm,0.2s						
DNIZ				*i* AML	AML	12 59 16.0	
	comp=E,247nm,0.8s						
APMY	**Acipayam-Deniz**	**1.89**	**48**	Pn	**Pn**	**12 58 33.8**	**+1.5**
APMY				Sn	**Sn**	**12 58 57.2**	**+1.6**
DGB	**zmir**	**1.90**	**344**	P	**Pn**	**12 58 31.8**	**-0.5**
DGB				S	**Sn**	**12 58 53.4**	**-2.3**
DGB				*i* AML	AML	12 59 05.0	
	comp=E,29nm,0.7s						
FRMA	**Ierapetra Chan**	**1.90**	**231**	P	**Pn**	**12 58 32.6**	**+0.2**
FRMA	**Ierapetra Chan**	**1.90**	**231**	P	**Pn**	**12 58 33.1**	**+0.7**
FRMA				S	**Sn**	**12 58 54.5**	**-1.4**
FRMA				AML	AML	12 58 56.9	
	comp=N,1387µm,0.5s						
FRMA				AML	AML	12 58 57.7	
	comp=E,2064µm,0.5s						
GOLH	**Golhisar**	**1.92**	**58**	P	**Pn**	**12 58 35.2**	**+2.5**
GOLH				S	**Sn**	**12 58 57.6**	**+1.2**
GOLH				*i* AML	AML	12 59 02.0	
	comp=E,330nm,0.6s						
DEMR	**Demre-Antalya**	**1.92**	**89**	Pn	**Pn**	**12 58 34.9**	**+2.3**
IZMR	**zmir-demi**	**1.94**	**10**	P	**Pn**	**12 58 33.7**	**+0.8**
IZMR				S	**Sn**	**12 58 54.3**	**-2.4**
IZMR				*i* AML	AML	12 58 56.0	
	comp=E,99nm,0.4s						
IZMR				*i* AML	AML	12 58 57.0	
	comp=E,63nm,0.5s						
ELL	**Elmali**	**1.98**	**74**	Pn	**Pn**	**12 58 36.4**	**+2.8**
KIRA	**zmir-Kiraz**	**2.08**	**19**	P	**Pn**	**12 58 36.0**	**+1.1**
ZEYE	**Izmir, Urla-Ze**	**2.17**	**338**	P	Pn	12 58 32.7	-3.3
ZEYE				S	**Sn**	**12 59 00.0**	**-2.2**
ZEYE				*i* AML	AML	12 59 03.0	
	comp=E,143nm,0.7s						
IACM	**Heraklion**	**2.21**	**246**	P	**Pn**	**12 58 37.1**	**+0.7**
INCE	**Denizli-Bozkur**	**2.21**	**47**	P	**Pn**	**12 58 37.7**	**+1.2**
INCE				S	**Sn**	**12 59 02.8**	**-0.4**
INCE				*i* AML	AML	12 59 11.0	
	comp=E,72nm,0.6s						
INCE				*i* AML	AML	12 59 13.0	
	comp=E,93nm,0.4s						
KSTL	**Kastelli Herak**	**2.21**	**246**	P	**Pn**	**12 58 35.2**	**-1.2**
KSTL				AML	AML	12 59 01.9	
	comp=E,789µm,0.3s						
KSTL				AML	AML	12 59 03.3	
	comp=N,992µm,0.3s						
AKUM	**Antalya-Kumluc**	**2.27**	**87**	P	**Pn**	**12 58 39.4**	**+2.1**
AKUM				S	**Sn**	**12 59 05.5**	**+0.9**
AKUM				*i* AML	AML	12 59 08.0	
	comp=N,473nm,0.7s						
AKUM				*i* AML	AML	12 59 08.0	
	comp=N,492nm,0.5s						
IDI	**Anoyia**	**2.35**	**247**	P	**Pn**	**12 58 38.4**	**0.0**
IDI				S	**Sn**	**12 59 04.6**	**-1.9**
IDI	**Anoyia**	**2.35**	**247**	P	**Pn**	**12 58 38.4**	**0.0**
IDI				S	**Sn**	**12 59 04.8**	**-1.7**
IDI				AML	AML	12 59 12.0	
	comp=N,790µm,0.4s						
IDI				AML	AML	12 59 14.5	
	comp=E,589µm,0.3s						
KORT	**Korkueli**	**2.39**	**70**	Pn	**Pn**	**12 58 42.2**	**+3.1**
KORT	**Korkueli**	**2.39**	**70**	P	**Pn**	**12 58 42.0**	**+3.0**
KORT				S	**Sn**	**12 59 10.5**	**+2.7**
KORT				*i* AML	AML	12 59 16.0	
	comp=E,288nm,0.7s						
MANT	**Manisa**	**2.40**	**20**	P	**Pn**	**12 58 39.6**	**+0.3**
MANT				S	**Sn**	**12 59 05.3**	**-2.8**
MANT				*i* AML	AML	12 59 08.0	
	comp=E,71nm,0.4s						
MANT				*i* AML	AML	12 59 08.0	
	comp=E,55nm,0.6s						
KULA	**Kula-Manisa**	**2.45**	**21**	Pn	**Pn**	**12 58 40.7**	**+0.9**
KULA	**Kula-Manisa**	**2.45**	**21**	P	**Pn**	**12 58 40.8**	**+0.9**
CHOS	**Chios island**	**2.46**	**332**	P	**Pn**	**12 58 40.2**	**+0.3**
CHOS	**Chios island**	**2.46**	**332**	P	**Pn**	**12 58 40.3**	**+0.3**
GOMA	**Golmarmara-Man**	**2.50**	**7**	Pn	**Pn**	**12 58 40.7**	**+0.4**
BRDR	**BURDUR-Merkez**	**2.50**	**53**	P	**Pn**	**12 58 42.3**	**+1.9**
BRDR				S	**Sn**	**12 59 03.8**	**-6.3**
BRDR				*i* AML	AML	12 59 20.0	
	comp=E,76nm,0.7s						
BRDR				*i* AML	AML	12 59 23.0	
	comp=E,75nm,0.5s						
KHL	**Karahalli**	**2.63**	**37**	Pn	**Pn**	**12 58 43.4**	**+1.3**
PASA	**Karahalli, USA**	**2.63**	**36**	P	**Pn**	**12 58 43.2**	**+1.1**
PASA				S	Sn	12 58 46.5	-27
PASA				*i* AML	AML	12 58 47.0	
	comp=E,61nm,0.4s						
PASA				*i* AML	AML	12 58 48.0	
	comp=E,75nm,0.2s						
BUCA	**Burdur, Bucak-**	**2.67**	**65**	P	**Pn**	**12 58 45.1**	**+2.5**
BUCA				S	**Sn**	**12 59 17.2**	**+3.1**
BUCA				*i* AML	AML	12 59 18.0	
	comp=E,219nm,0.6s						
BUCA				*i* AML	AML	12 59 18.0	
	comp=E,176nm,0.6s						
USAK	**Uak-Merkez**	**2.75**	**25**	P	**Pn**	**12 58 44.7**	**+0.9**
ZEDA	**zmir-Bergama**	**2.76**	**353**	P	**Pn**	**12 58 43.4**	**-0.4**
ZEDA				*i* AML	AML	12 59 11.0	
	comp=E,42nm,0.9s						
ZEDA				S	**Sn**	**12 59 13.1**	**-3.2**
ZEDA				*i* AML	AML	12 59 18.0	
	comp=E,37nm,0.5s						
KZIL	**AFYON_Kizioren**	**2.90**	**45**	P	**Pn**	**12 58 47.0**	**+1.1**
DEMI	**Demirci**	**2.96**	**18**	P	**Pn**	**12 58 47.3**	**+0.6**
IMMV	**Iera Moni Meta**	**2.99**	**256**	P	**Pn**	**12 58 47.1**	**+0.2**
IMMV	**Iera Moni Meta**	**2.99**	**256**	P	**Pn**	**12 58 47.5**	**+0.6**
IMMV				S	**Sn**	**12 59 19.8**	**-2.0**
IMMV				AML	AML	12 59 26.7	
	comp=E,1014µm,0.5s						
IMMV				AML	AML	12 59 27.3	
	comp=N,877µm,0.5s						
BNAZ	**Uak-Banaz**	**3.08**	**37**	P	**Pn**	**12 58 48.5**	**+0.3**
BNAZ				S	Sn	12 58 55.1	-29
BNAZ				*i* AML	AML	12 58 58.0	
	comp=N,98nm,0.3s						
BNAZ				*i* AML	AML	12 59 04.0	
	comp=N,73nm,0.4s						
GVD	**Gavdhos**	**3.13**	**245**	P	**Pn**	**12 58 50.3**	**+1.4**
RODP	**Rodopos**	**3.14**	**259**	P	**Pn**	**12 58 49.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**3.15**	**3**	P	**Pn**	**12 58 49.0**	**-0.1**
STEP				S	**Sn**	**12 59 24.0**	**-1.8**
STEP				*i* AML	AML	12 59 26.0	
	comp=N,89nm,0.7s						
BUHA	**Balikesir, Bur**	**3.29**	**354**	P	**Pn**	**12 58 50.7**	**-0.3**
BUHA				S	**Sn**	**12 59 24.4**	**-4.6**
BUHA				*i* AML	AML	12 59 45.0	
	comp=N,28nm,0.8s						
KEPZ	**Antalya-Kepez**	**3.34**	**77**	P	**Pn**	**12 58 54.4**	**+2.6**
KEPZ				S	**Sn**	**12 59 32.3**	**+1.8**
KEPZ				*i* AML	AML	12 59 35.0	
	comp=N,95nm,0.8s						
KEPZ				*i* AML	AML	12 59 36.0	
	comp=N,99nm,0.5s						
AFYO	**Afyonkarahisar**	**3.37**	**40**	P	**Pn**	**12 58 53.1**	**+0.9**
VLY	**Voula,Athens**	**3.41**	**300**	P	**Pn**	**12 58 53.5**	**+1.0**
EMET	**Ktahya-Emet**	**3.45**	**24**	P	**Pn**	**12 58 54.2**	**+1.0**
ANKY	**Antikythira Is**	**3.45**	**265**	P	**Pn**	**12 58 53.9**	**+0.7**
DURS	**Dursunbey**	**3.45**	**12**	P	**Pn**	**12 58 53.4**	**+0.2**
DURS				S	Sn	12 59 01.5	-32
DURS				*i* AML	AML	12 59 02.0	
	comp=N,12nm,0.5s						
DURS				*i* AML	AML	12 59 32.0	
	comp=N,11nm,0.7s						
BALY	**Balya**	**3.51**	**1**	P	**Pn**	**12 58 54.0**	**0.0**
BALY				S	**Sn**	**12 59 29.8**	**-4.7**
BALY				*i* AML	AML	12 59 35.0	
	comp=N,20nm,0.8s						
BALY				*i* AML	AML	12 59 37.0	
	comp=N,25nm,0.7s						
BKES	**Balkesir-Mer**	**3.52**	**5**	P	**Pn**	**12 58 52.1**	**-1.9**
BKES				S	**Sn**	**12 59 31.8**	**-2.7**
BKES				*i* AML	AML	12 59 34.0	
	comp=N,37nm,0.9s						
BKES				*i* AML	AML	12 59 50.0	
	comp=N,17nm,1.1s						
SEDI	**Konya, Seydise**	**3.60**	**69**	P	**Pn**	**12 58 57.8**	**+2.5**
SEDI				S	**Sn**	**12 59 37.5**	**+0.7**
SEDI				*i* AML	AML	12 59 41.0	
	comp=N,78nm,0.6s						
SEDI				*i* AML	AML	12 59 44.0	
	comp=N,84nm,0.5s						
KURO	**Afyon-Bolvadin**	**3.68**	**46**	P	**Pn**	**12 58 57.9**	**+1.5**
VLI	**Veliai**	**3.74**	**279**	P	**Pn**	**12 58 57.6**	**+0.5**
VLI	**Veliai**	**3.74**	**279**	P	**Pn**	**12 58 57.5**	**+0.5**
VLI				AML	AML	12 59 40.9	
	comp=E,177µm,0.4s						
VLI				AML	AML	12 59 42.1	
	comp=N,241µm,0.7s						
ANDZ	**Kutahya, Merke**	**3.77**	**29**	P	**Pn**	**12 58 58.8**	**+1.1**
CSS	**Mathiatis**	**4.89**	**103**	P	**Pn**	**12 59 13.5**	**+0.8**
SLUM	**Salum**	**5.10**	**203**	P	**Pn**	**12 59 15.8**	**+0.2**
	baz=204						
BRTR	**Keskin Array B**	**5.95**	**52**	P	**Pn**	**12 59 28.4**	**+1.1**
	comp=N,3.3nm,0.5s,baz=171,slow=18,SNR=18						
BRTR				S	**Sn**	**13 00 34.9**	**+0.8**
	comp=N,3.7nm,0.8s,baz=213,slow=20,SNR=5.1						
HNAT	**Natroun**	**7.07**	**158**	P	**Pn**	**12 59 43.3**	**+0.9**
	baz=156						
SWA2		**7.18**	**195**	⇓P	**Pn**	**12 59 44.0**	**+0.1**
	baz=195						
MMC1	**Mount Meron ar**	**7.23**	**114**	P	**Pn**	**12 59 42.3**	**-2.3**
MMAI	**Mount Meron Ar**	**7.23**	**114**	P	**Pn**	**12 59 44.2**	**-0.5**
	comp=N,3.1nm,0.3s,baz=302,slow=12,SNR=30						
MMAI				S	**Sn**	**13 01 02.1**	**-3.2**
	comp=N,6.8nm,0.3s,baz=300,slow=28,SNR=18						
MMA0B	**Mount Meron ar**	**7.23**	**114**	P	**Pn**	**12 59 44.4**	**-0.3**
MMA0B	**Mount Meron ar**	**7.23**	**114**	S	**Sn**	**13 01 01.7**	**-3.7**
MMB1	**Mount Meron ar**	**7.24**	**114**	P	**Pn**	**12 59 45.8**	**+1.0**
KOT	**Kottamia**	**7.24**	**149**	P	**Pn**	**12 59 45.0**	**+0.2**
	baz=148						
KOT				S	**Sn**	**13 01 01.4**	**-4.1**
	baz=148						
HHAG	**Hagoal**	**7.33**	**147**	P	**Pn**	**12 59 47.1**	**+1.1**
	baz=146						
HHAG				S	**Sn**	**13 01 03.8**	**-4.0**
	baz=146						
GEM	**Giv'at Ha'Em**	**7.34**	**112**	P	**Pn**	**12 59 45.3**	**-0.7**
GEM	**Giv'at Ha'Em**	**7.34**	**112**	S	**Sn**	**13 01 04.4**	**-3.3**
GEM	**Giv'at Ha'Em**	**7.34**	**112**	P	**Pn**	**12 59 45.8**	**-0.2**
SLTI	**Sal'it**	**7.38**	**120**	P	**Pn**	**12 59 47.0**	**+0.4**
MMLI	**Mount Malkishu**	**7.54**	**118**	P	**Pn**	**12 59 46.2**	**-2.6**
MMLI	**Mount Malkishu**	**7.54**	**118**	S	**Sn**	**13 01 08.2**	**-4.5**
MMLI	**Mount Malkishu**	**7.54**	**118**	P	**Pn**	**12 59 48.3**	**-0.5**
KSHT	**Keshet**	**7.55**	**113**	P	**Pn**	**12 59 48.8**	**-0.3**
KSHT	**Keshet**	**7.55**	**113**	S	**Sn**	**13 01 08.7**	**-4.4**
SALP	**Salfit**	**7.58**	**121**	P	**Pn**	**12 59 49.6**	**+0.2**
SHMJ	**Saham**	**7.64**	**115**	P	**Pn**	**12 59 50.5**	**+0.3**
QRNJ	**Al-Qirein**	**7.70**	**118**	P	**Pn**	**12 59 50.0**	**-1.0**
HMDT	**Nahal Hemdat**	**7.71**	**119**	P	**Pn**	**12 59 49.2**	**-1.9**
HMDT	**Nahal Hemdat**	**7.71**	**119**	P	**Pn**	**12 59 51.1**	**0.0**
AMAZ	**Amatzia**	**7.72**	**125**	P	**Pn**	**12 59 50.9**	**-0.4**
SUZ	**Suez**	**7.76**	**144**	⇑P	**Pn**	**12 59 53.4**	**+1.5**
	baz=142						
KZIT	**Kziot**	**7.80**	**131**	P	**Pn**	**12 59 51.3**	**-1.1**
KZIT	**Kziot**	**7.80**	**131**	P	**Pn**	**12 59 52.3**	**-0.1**
YTIR	**Yattir**	**7.96**	**125**	P	**Pn**	**12 59 54.3**	**-0.3**
YTIR	**Yattir**	**7.96**	**125**	P	**Pn**	**12 59 54.3**	**-0.3**
YTIR	**Yattir**	**7.96**	**125**	S	**Sn**	**13 01 19.2**	**-3.8**
DSI	**Dead Sea**	**8.00**	**123**	P	**Pn**	**12 59 53.9**	**-1.2**
DSI	**Dead Sea**	**8.00**	**123**	P	**Pn**	**12 59 55.1**	**0.0**
ZAF	**Zafarana**	**8.11**	**147**	P	**Pn**	**12 59 57.6**	**+1.0**
	baz=146						
MDBI	**Mazsada**	**8.15**	**125**	P	**Pn**	**12 59 56.9**	**-0.2**
MDBI	**Mazsada**	**8.15**	**125**	P	**Pn**	**12 59 57.3**	**+0.3**
MDBI	**Mazsada**	**8.15**	**125**	S	**Sn**	**13 01 23.2**	**-4.3**
MSBI	**Mazada**	**8.15**	**125**	P	**Pn**	**12 59 56.9**	**-0.2**
MSBI	**Mazada**	**8.15**	**125**	P	**Pn**	**12 59 57.1**	**+0.1**
MSBI	**Mazada**	**8.15**	**125**	S	**Sn**	**13 01 23.6**	**-3.9**
ZNM	**Zenema**	**8.17**	**145**	P	**Pn**	**12 59 58.8**	**+1.3**
	baz=144						
KARJ	**KARJ**	**8.46**	**125**	P	Pn	12 59 54.3	-7.1
PRNI	**Paran**	**8.56**	**131**	P	**Pn**	**13 00 01.6**	**-1.3**
PRNI	**Paran**	**8.56**	**131**	S	**Sn**	**13 01 32.9**	**-4.9**
PRNI	**Paran**	**8.56**	**131**	P	**Pn**	**13 00 01.6**	**-1.3**
ASF	**Jabal al Asfar**	**8.74**	**115**	P	**Pn**	**13 00 04.9**	**-0.4**
	comp=N,1.5nm,0.3s,baz=28,slow=15,SNR=1.4						
ASF				S	**Sn**	**13 01 42.1**	**-0.1**
	comp=N,2.7nm,0.4s,baz=314,slow=21,SNR=1.6						
HRFI	**Mount Harif**	**8.81**	**132**	P	**Pn**	**13 00 05.1**	**-1.1**
HRFI	**Mount Harif**	**8.81**	**132**	S	**Sn**	**13 01 40.0**	**-3.8**
HRFI	**Mount Harif**	**8.81**	**132**	P	**Pn**	**13 00 06.2**	**0.0**
EIL	**Elat**	**9.03**	**134**	P	**Pn**	**13 00 08.8**	**-0.4**
	comp=N,5.1nm,0.2s,baz=26,slow=18,SNR=37						
EIL				S	**Sn**	**13 01 42.9**	**-6.2**
	comp=N,10nm,0.3s,baz=17,slow=18,SNR=7.8						
EIL	**Elat**	**9.03**	**134**	P	**Pn**	**13 00 07.6**	**-1.5**
EIL	**Elat**	**9.03**	**134**	P	**Pn**	**13 00 08.3**	**-0.8**
EIL	**Elat**	**9.03**	**134**	S	**Sn**	**13 01 43.9**	**-5.1**
VYHS	**Vyhne**	**13.83**	**335**	*e*P	**P**	**13 01 20.7**	**+1.6**
RONA	**Rosalia, Austr**	**14.17**	**327**	*i* P	**P**	**13 01 23.1**	**+0.2**
	comp=N,2.1nm,0.5s						
VRAC	**Vranov**	**15.32**	**332**	P	**Pn**	**13 01 33.8**	**+0.9**
	comp=N,1.5nm,0.4s,baz=178,slow=12,SNR=3.5						
ABTA	**Abfaltersbach**	**15.38**	**318**	*e*P	**Pn**	**13 01 35.1**	**+1.5**
	comp=N,4.1nm,0.6s						
LESA	**Schwarzleotal**	**15.71**	**320**	*i* P	**P**	**13 01 41.3**	**+1.2**
	comp=N,4.4nm,0.4s						
WTTA	**Wattenberg**	**16.17**	**318**	*i* P	**P**	**13 01 46.9**	**+1.7**
	comp=N,4.1nm,0.4s						
GERES	**GERESS Array B**	**16.18**	**325**	P	**Pn**	**13 01 42.6**	**-1.1**
	comp=N,2.1nm,0.8s,baz=137,slow=12,SNR=6.4						
SQTA	**Sankt Quirin**	**16.37**	**317**	*i* P	**P**	**13 01 49.2**	**+1.8**
	comp=N,4.1nm,0.4s						
FETA	**Feichten**	**16.52**	**316**	*i* P	**P**	**13 01 50.8**	**+1.6**
	comp=N,5.5nm,0.7s						
DAVOX	**Davos/Dischmat**	**16.88**	**314**	P	**Pn**	**13 01 53.0**	**+0.6**
	comp=N,1.4nm,0.4s,baz=148,slow=9.5,SNR=1.4						
DAVA	**Damuels**	**17.15**	**316**	*i* P	**Pn**	**13 01 56.4**	**+0.7**
	comp=N,7.7nm,0.5s						
ESDC	**Sonseca Array**	**25.01**	**287**	P	**P**	**13 03 17.0**	**-0.4**
	comp=N,0.7nm,0.5s,baz=81,slow=9.2,SNR=5.3						
	comp=N,0.7nm,0.5s						
FINES	**FINESS Array B**	**25.26**	**358**	P	**P**	**13 03 17.7**	**-1.5**
	comp=N,1.4nm,0.7s,baz=171,slow=12,SNR=5.6						
	comp=N,1.4nm,0.7s						
HFS	**Hagfors**	**25.53**	**344**	P	**P**	**13 03 21.0**	**-0.8**
	comp=N,1.6nm,0.3s,baz=151,slow=11,SNR=16						
	comp=N,1.6nm,0.3s						
NOA	**NORSAR Array B**	**26.92**	**342**	P	**P**	**13 03 32.9**	**-1.4**
	comp=N,0.5nm,0.7s,baz=144,slow=9.8,SNR=1.8						
	comp=N,0.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**28.34**	**322**	P	**P**	**13 03 47.2**	**+0.3**
	comp=N,0.2nm,0.4s,baz=117,slow=10,SNR=1.3						
	comp=N,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**32.66**	**232**	P	**P**	**13 04 25.7**	**+0.3**
	comp=N,0.6nm,0.5s,baz=33,slow=9.2,SNR=8.2						
	comp=N,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**33.38**	**359**	P	**P**	**13 04 29.7**	**-1.5**
	comp=N,2.1nm,0.9s,baz=174,slow=8.3,SNR=7.0						
	comp=N,2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**38.95**	**52**	P	**P**	**13 05 19.5**	**+0.7**
	comp=N,0.2nm,0.4s,baz=276,slow=8.6,SNR=1.6						
	comp=N,0.2nm,0.4s						
MKAR	**Makanchi Array**	**41.57**	**58**	P	**P**	**13 05 40.9**	**+0.3**
	comp=N,0.1nm,0.4s,baz=292,slow=7.6,SNR=1.8						
	comp=N,0.1nm,0.4s						
SPITS	**Spitsbergen Ar**	**42.33**	**357**	P	**P**	**13 05 45.7**	**-0.6**
	comp=N,8.9nm,1.0s,baz=150,slow=9.8,SNR=2.4						

comp=N,8.9nm,1.0s
ZALV Zalesovo Beam 42.87 47 P P 13 05 52.6 +1.6
comp=N,0.3nm,0.4s,baz=270,slow=11,SNR=2.4
comp=N,0.3nm,0.4s

IDC 05 13:09:28.5±2.6**, 5°.78S**×**133°.64E, h0^{km}, mb3.5**/1**, mbtmp3.7**/3**, ML3.6**/2**, Error ellipse: s-maj=105.4km s-min=17.9km az=81.0, Aru Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 14.09 177 Pn Pn 13 12 49.3 -0.2
0.2nm,0.3s,baz=352,slow=13,SNR=13
WRA Sn Sn 13 15 28.7 +1.9
0.1nm,0.3s,baz=0.9,slow=23,SNR=1.7
WRA Lg Lg 13 16 57.1
baz=355,slow=30
0.3nm,0.3s
ASAR Alice Springs 17.78 179 P P 13 13 39.2 +0.7
0.5nm,0.3s,baz=5.7,slow=11,SNR=67
ASAR S Sn 13 16 57.0 +0.4
0.4nm,0.8s,baz=2.0,slow=28,SNR=1.8
3.2nm,0.6s
MKAR Makanchi Array 69.25 325 P P 13 20 37.4 -0.1
0.4nm,0.8s,baz=140,slow=5.1,SNR=4.3
0.4nm,0.8s

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*DJA **05** 13:22:14.9±0.4, 0°S±3°×12°3E±°, h165^{km}±4^{km}, M4.1/13, mb4.1/7, mB4.8/2, MLv4.2/13, Mw(mB)4.0/2*
*IDC **05** 13:22:15.1±1.8, 0°.03N×122°.97E, h183^{km}±16^{km}, mb3.4/15, mbtmp3.9/16, MS2.5/1, Error ellipse: s-maj=22.7km s-min=10.3km az=72.0*
ISC 05 13:22:12.9±0.5**, 0°.02N**±0°.06×**122°.99E**±0°.06**, h162^{km}, n33, σ1^{s}77**/38**, mb3.7**/16**, Minahassa Peninsula, Sulawesi**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
GTOI Gorontalo 0.62 2 P Pn 13 22 40.6 +4.3
GTOI S **Sn 13 22 59.7 +5.5**
LUWI Luwuk 1.07 192 P **Pn 13 22 42.2 +2.7**
LUWI S **Sn 13 23 01.6 +1.7**
KMSI Cibinong 1.13 61 P Pn 13 22 44.9 +4.9
MRSI Marisa 1.15 294 P **Pn 13 22 42.3 +2.2**
MRSI S **Sn 13 23 01.9 +1.0**
MPSI Mapaga 3.11 276 P **Pn 13 23 03.9 +1.7**
SANI Sanana 3.63 124 P **Pn 13 23 10.5 +1.7**
TTSI Tana Toraja 4.39 226 P **Pn 13 23 20.3 +1.6**
TNTI Ternate 4.44 80 P Pn 13 23 22.4 +3.2
LBMI Labuha 4.55 98 P **Pn 13 23 22.7 +1.9**
SPSI Sidrap Palu 5.10 219 P **Pn 13 23 29.6 +1.7**
19nm,0.6s,0.1nm
NLAI Namlea 5.22 128 P **Pn 13 23 31.6 +2.0**
20nm,0.5s,3µm0.5nm
BBSI Bau Bau 5.48 184 P **Pn 13 23 34.3 +1.3**
25nm,0.7s,0.1nm
KAPI Kappang 5.95 213 P **Pn 13 23 41.4 +2.2**
101nm,1.2s,baz=25,slow=6.7,SNR=21
KAPI LR LR 13 25 37.6
comp=Z,39nm,20.0s,baz=29,slow=34
BKSI Bulukumba 6.03 208 P **Pn 13 23 42.3 +2.1**
48nm,0.9s,517nm0.2nm
EDFI Ende, Flores 8.80 188 P **Pn 13 24 17.7 +0.6**
18nm,0.8s
WRA Warramunga Arr 22.74 151 P **P 13 27 01.8 +0.4**
2.1nm,0.9s,baz=280,slow=5.9,SNR=25
WRA PcP **PcP 13 30 47.4 -0.6**
0.2nm,0.6s,baz=329,slow=1.9,SNR=1.5
WRA ScP **ScP 13 34 08.2 -2.6**
0.6nm,0.9s,baz=332,slow=2.7,SNR=6.5
2.1nm,0.9s
ASAR Alice Springs 25.82 157 P **P 13 27 29.9 +0.6**
0.2nm,0.4s,baz=343,slow=14,SNR=11
ASAR PcP **PcP 13 30 54.5 -0.2**
0.5nm,0.5s,baz=344,slow=2.3,SNR=9.3
ASAR ScP **ScP 13 34 16.7 -2.5**
0.7nm,0.6s,baz=334,slow=2.9,SNR=10
0.2nm,0.4s
CMAR Chiang Mai Arr 29.90 309 P **P 13 28 06.9 +1.1**
1.5nm,0.7s,baz=135,slow=7.1,SNR=14
1.5nm,0.7s
STKA Stephens Creek 36.28 153 P **P 13 29 00.8 -0.1**
1.0nm,0.4s,baz=349,slow=16,SNR=3.9
1.0nm,0.4s
MJAR Matsushiro Arr 38.99 20 P **P 13 29 22.9 -0.7**
1.7nm,0.9s,baz=187,slow=8.1,SNR=5.3
1.7nm,0.9s
USRK Ussuriysk Ar. 44.72 9 P **P 13 30 10.6 +0.7**
1.0nm,0.5s,baz=198,slow=4.2,SNR=4.4
1.0nm,0.5s
SONM Songino Array 49.77 345 P **P 13 30 49.6 +0.5**
0.9nm,0.6s,baz=159,slow=9.3,SNR=7.1
0.9nm,0.6s
MKAR Makanchi Array 58.60 328 P **P 13 31 52.6 -0.2**
0.7nm,0.4s,baz=124,slow=9.1,SNR=10
MKAR PcP **PcP 13 32 39.3 -2.0**
0.5nm,0.5s,baz=132,slow=4.9,SNR=5.6
0.7nm,0.4s
PETK Petropavlovsk- 60.27 23 P **P 13 32 04.8 +0.7**
6.2nm,1.0s,baz=240,slow=1.1,SNR=7.6
6.2nm,1.0s
ZALV Zalesovo Beam 62.30 336 P **P 13 32 16.9 -0.9**
0.5nm,0.4s,baz=120,slow=7.4,SNR=3.5
0.5nm,0.4s
KURBB Kurchatov Arra 62.95 330 P **P 13 32 21.6 -0.5**
0.4nm,0.4s,baz=131,slow=4.9,SNR=7.1
0.4nm,0.4s
BVAR Borovoye Array 68.47 329 P **P 13 32 55.5 -2.0**
0.4nm,0.6s,baz=120,slow=5.2,SNR=2.2
0.4nm,0.6s
VNDA Vanda 80.26 172 P **P 13 34 05.4 +0.3**
0.6nm,0.7s,baz=302,slow=14,SNR=1.6
0.6nm,0.7s
QSPA South Pole Qui 89.95 180 P **P 13 34 53.4 -0.3**
1.3nm,1.1s,baz=36,slow=5.6,SNR=2.0
1.3nm,1.1s
ILAR Eielson Array 90.04 25 P **P 13 34 52.7 -1.3**
0.2nm,0.7s,baz=240,slow=5.5,SNR=4.4
0.2nm,0.7s
SPITS Spitsbergen Ar 93.37 349 P **P 13 35 07.3 -1.9**
4.5nm,0.9s,baz=74,slow=7.0,SNR=6.8
TORD Torodi Ar. Bea 120.40 285 PKP **PKPdf 13 40 44.7 -1.4**
0.6nm,0.5s,baz=55,slow=2.5,SNR=5.9
TXAR Lajitas Array 126.81 52 PKP **PKiKP 13 40 58.3 -0.3**
0.4nm,1.0s,baz=193,slow=2.0,SNR=2.0

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*NEIC **05** 13:30:33.2±0.6, 19°.85N±0°.04×157°.02W±0°.05, h16^{km}±6^{km}, Error ellipse: s-maj=8.7km s-min=4.4km az=53.0*
HVO 05 13:30:37.5±0.6**, 19°.86N**±0°.04×**157°.02W**±0°.06**, h33^{km}**±8^{km}**, ML2.7**/2**, ML2.9**/26(NEIC)**, Error ellipse: s-maj=9.5km s-min=4.9km az=59.0, Hawaiian Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KHLU Kahalu`u 1.10 104 Pn 13 30 53.9 -2.7
KHLU Sn 13 31 09.0 -1.7
CPH Captain Cook 1.10 109 Pn 13 30 54.1 -2.5
MHA Mahukona 1.10 72 Pn Pn 13 30 56.5 -0.1
HUH Hualalai 1.13 99 Pn 13 30 54.5 -2.8
HUH Hualalai 1.13 99 IAML 13 31 34.8
comp=E,222nm,3.0s
HUH IAML 13 31 37.3
comp=N,157nm,2.5s
HLK Haleakala 1.16 39 Pn Pn 13 30 56.1 -1.4
HLK IAML 13 31 08.4
comp=E,190nm,2.5s
HLK IAML 13 31 41.4
comp=N,218nm,3.9s
KHLH Kahului Airpor 1.18 28 Pn 13 30 56.0 -1.6
KHLH Kahului Airpor 1.18 28 Sn 13 31 09.4 -3.1
HPAH Hawaii Prepara 1.26 82 Pn 13 30 56.0 -2.8
HPAH Hawaii Prepara 1.26 82 Sn 13 31 10.8 -3.9
HPAH Hawaii Prepara 1.26 82 IAML 13 31 07.1
comp=E,80nm,3.8s
ALEP Alea Permanent 1.34 103 Pn 13 30 57.8 -2.4
MWH Moku'aweowe 1.40 105 Pn 13 30 58.2 -2.9
MWH Moku'aweowe 1.40 105 IAML 13 31 54.2
comp=N,226nm,3.7s
MLOA Mauna Loa Obse 1.40 103 Pn 13 30 58.4 -2.7
MLOA Mauna Loa Obse 1.40 103 IAML 13 31 10.2
comp=N,188nm,3.4s
MLOA IAML 13 31 26.2
comp=E,210nm,2.8s
POHA Pohakuloa 1.41 94 Pn 13 30 58.2 -2.8
POHA Pohakuloa 1.41 94 IAML 13 31 37.1
comp=E,104nm,2.4s
POHA IAML 13 31 50.7
comp=E,122nm,3.8s
KHU Kahuku 1.46 114 Pn 13 30 58.9 -2.8
HMH Humu'ula Sheep 1.47 100 Pn 13 30 59.6 -2.3
HMH Humu'ula Sheep 1.47 100 IAML 13 31 12.6
comp=E,147nm,3.5s
HMH IAML 13 31 26.0
comp=N,183nm,3.7s
AIN Ainahou 1.55 108 Pn 13 31 00.2 -2.7
AIN Ainahou 1.55 108 IAML 13 31 17.3
comp=E,132nm,3.5s
AIN Ainahou 1.55 108 Sn 13 31 19.2 -2.8
DHH Diamond Head 1.58 333 Pn 13 31 00.8 -2.3
WMR Waimanalo Ridg 1.58 337 Pn 13 31 00.7 -2.5
MLH Mauna Loa 1.59 103 Pn 13 31 00.8 -2.6
MLH Mauna Loa 1.59 103 IAML 13 31 21.7
comp=E,147nm,3.0s
STCH Steam Cracks 1.85 104 Pn 13 31 04.1 -2.9
STCH Steam Cracks 1.85 104 IAML 13 31 20.1
comp=E,148nm,1.0s
JOKA Jonika Flow 1.95 102 Pn 13 31 05.2 -3.1

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*IDC **05** 14:18:28.1±11.0, 20°.16S×177°.78W, h484^{km}±126^{km}, mb3.0/6, mbtmp3.8/6, Error ellipse: s-maj=38.7km s-min=27.8km az=84.0*
ISC 05 14:18:29.5±1.0**, 20°.1S**±0°.3×**177°.9W**±0°.2**, h500^{km}, n6, σ0^{s}87**/7**, mb3.3**/6**, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ASAR Alice Springs 44.74 256 P **P 14 25 58.4 +0.3**
1.3nm,0.6s,baz=88,slow=7.7,SNR=34
ASAR PcP **pP 14 27 30.1 +0.2**
0.3nm,0.6s,baz=102,slow=4.1,SNR=5.2
1.3nm,0.6s
WRA Warramunga Arr 44.79 262 P **P 14 25 58.5 +0.1**
0.8nm,0.7s,baz=96,slow=7.6,SNR=20
0.8nm,0.7s
QSPA South Pole Qui 69.95 180 P **P 14 28 49.4 -0.5**
1.7nm,0.7s,baz=40,slow=1.0,SNR=17
1.7nm,0.7s
TXAR Lajitas Array 86.73 57 P **P 14 30 21.7 +1.3**
0.3nm,0.7s,baz=205,slow=5.5,SNR=4.4
0.3nm,0.7s
ILAR Eielson Array 87.91 13 P **P 14 30 24.0 -0.9**
0.5nm,1.0s,baz=227,slow=5.0,SNR=4.3
0.5nm,1.0s
PDAR Pinedale Array 88.59 43 P **P 14 30 28.7 -0.3**
0.2nm,0.5s,baz=224,slow=5.0,SNR=2.3
0.2nm,0.5s

IDC 05 14:24:36.5±2.1**, 7°.12S**×**127°.87E, h0^{km}, mb3.3**/1**, mbtmp3.3**/3**, ML3.4**/2**, Error ellipse: s-maj=135.7km s-min=32.2km az=65.0, Banda Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 14.20 154 Pn Pn 14 27 58.0 -1.0
0.2nm,0.3s,baz=333,slow=12,SNR=16
WRA Sn Sn 14 30 24.6 -13
0.1nm,0.3s,baz=334,slow=22,SNR=4.8
0.2nm,0.3s
ASAR Alice Springs 17.44 161 P P 14 28 42.0 -0.7
0.1nm,0.3s,baz=339,slow=11,SNR=9.3
ASAR S Sn 14 31 44.6 -12
0.2nm,0.6s,baz=351,slow=26,SNR=1.4
0.3nm,0.6s
MKAR Makanchi Array 67.19 328 P P 14 35 32.5 0.0
0.2nm,0.4s,baz=127,slow=7.7,SNR=4.2
0.2nm,0.4s

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*IDC **05** 14:27:43.8±0.9, 36°.38N×142°.02E, h0^{km}, mb3.7/13, mbtmp3.7/18, ML3.3/5, MS3.2/5, Error ellipse: s-maj=19.3km s-min=18.1km az=106.0*
*JMA **05** 14:27:48.2±0.3, 36°.4N±0°.6×14°2E±°, h67^{km}, MV3.7/32, FAR E OFF IBARAKI PREF*
*NIED **05** 14:27:48.2, 36°.38N×141°.84E, h67^{km}, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.44; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-4.25; $M_{r\theta}$2.23; $M_{\theta\phi}$-2.47; $M_{\phi r}$4.47; Fault plane solution: $M_0$7.02000×10^{14} NP1:ϕ_s26.00000°, δ68.00000°, λ91.00000°. NP2:ϕ_s204.00000°, δ22.00000°, λ88.00000°.*
ISC 05 14:27:46.8±0.8**, 36°.39N**±0°.05×**141°.89E**±0°.06**, h19^{km}, n32, σ1^{s}15**/35**, mb3.8**/12**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
JHYU Hitachinakayam 1.05 267 P **Pb 14 28 06.7 +0.3**
JHYU *e*S **Sn 14 28 20.9 +0.2**
JHO Hitachi 1.09 282 P **Pn 14 28 07.0 -0.1**
ONAJ Iwakimizuishiy 1.13 309 *e*P **Pn 14 28 07.7 0.0**
JIHU Itakohorinouch 1.19 249 *e*P **Pb 14 28 09.0 +0.3**
JIHU *e*S **Sg 14 28 25.4 +0.1**
JFK Kawauchi 1.27 320 P **Pb 14 28 10.5 +0.3**
JOTO OTAMA OYAMA 1.71 313 P **Pb 14 28 17.3 -0.3**
JMM Marumori 1.71 329 P **Pn 14 28 16.5 +0.9**
BSO1 Boso 1 1.89 204 *e*P **Pn 14 28 18.1 +0.6**
BSO3 Boso 3 1.95 216 *e*P **Pn 14 28 19.5 +0.8**
JAG Ashikaga 1.97 272 *e*P **Pn 14 28 19.7 +0.5**
JFY Yanaizu 2.02 301 *e*P **Pn 14 28 21.6 +1.6**
JRY Ryogami san 2.45 262 *e*P **Pn 14 28 26.4 +0.6**
MJAR Matsushiro Arr 2.97 274 Pn **Pn 14 28 34.5 +1.5**
2.1nm,0.3s,baz=54,slow=15,SNR=114
MJAR Sn **Sb 14 29 12.8 -2.4**
1.1nm,0.3s,baz=96,slow=13,SNR=3.1
MJAR LR LR 14 30 00.7
comp=Z,240nm,18.9s,baz=162,slow=44
12nm,0.4s
JHJ Hachijo jima 2 3.70 209 Pn **Pn 14 28 43.6 +0.7**
29nm,0.3s,baz=90,slow=20,SNR=7.7
JHJ Sn **Sn 14 29 22.7 -3.3**
50nm,0.3s,baz=94,slow=23,SNR=8.6
65nm,0.3s
ASAJ Asahikawa 7.73 4 Pn **Pn 14 29 38.6 +0.3**
0.7nm,0.3s,baz=220,slow=14,SNR=6.4
ASAJ Sn **Sn 14 31 02.6 -2.7**
0.4nm,0.3s,baz=240,slow=20,SNR=2.6
5.2nm,0.9s
USRK Ussuriysk Ar. 10.86 319 Pn **Pn 14 30 23.0 +1.9**
0.2nm,0.3s,baz=108,slow=21,SNR=4.2
USRK LR LR 14 34 24.9
comp=Z,125nm,18.2s,baz=53,slow=37
1.8nm,0.8s
KSRS Korea Array 11.23 280 Pn **Pn 14 30 27.6 +1.3**
baz=66,slow=18,SNR=2.2
KSRS LR LR 14 34 41.7
comp=Z,81nm,18.4s,baz=105,slow=37
1.0nm,0.8s
KLR Kul'dur 14.81 333 LR LR 14 37 00.9
comp=Z,50nm,18.6s,baz=7.0,slow=37
SONM Songino Array 28.46 305 P **P 14 33 41.5 +0.8**
1.6nm,0.5s,baz=100,slow=8.8,SNR=14
1.6nm,0.5s
CMAR Chiang Mai Arr 41.71 256 P **P 14 35 34.7 +0.1**
0.7nm,0.3s,baz=46,slow=5.5,SNR=4.8
0.7nm,0.3s
ZALV Zalesovo Beam 42.63 313 P **P 14 35 40.9 -0.8**
1.8nm,0.8s,baz=91,slow=7.6,SNR=6.0
1.8nm,0.8s
MKAR Makanchi Array 44.79 303 P **P 14 36 00.0 +0.8**
0.9nm,0.7s,baz=88,slow=10,SNR=12
0.9nm,0.7s
KURBB Kurchatov Arra 46.70 309 P **P 14 36 14.9 +0.7**
1.5nm,0.6s,baz=82,slow=8.0,SNR=7.8
1.5nm,0.6s
ILAR Eielson Array 49.83 32 P **P 14 36 36.9 -1.3**
0.1nm,0.5s,baz=243,slow=7.9,SNR=1.0
0.1nm,0.5s
BVAR Borovoye Array 51.29 313 P **P 14 36 49.4 0.0**
0.8nm,0.7s,baz=113,slow=9.6,SNR=3.5
0.8nm,0.7s
WRA Warramunga Arr 56.48 189 P **P 14 37 27.3 -0.3**
0.2nm,0.4s,baz=7.1,slow=7.1,SNR=2.2
0.2nm,0.4s
ASAR Alice Springs 60.21 188 P **P 14 37 53.6 0.0**
0.3nm,0.7s,baz=5.5,slow=8.1,SNR=4.9
0.3nm,0.7s
YKA Yellowknife Ar 64.17 30 P **P 14 38 20.6 +0.9**
0.2nm,0.7s,baz=306,slow=6.8,SNR=2.7
0.2nm,0.7s
FINES FINESS Array B 69.56 333 P **P 14 38 54.3 +0.2**
5.3nm,1.1s,baz=58,slow=13,SNR=1.9
5.3nm,1.1s
AKASG Malin Array Be 75.04 323 P **P 14 39 26.9 -0.1**
0.3nm,0.3s,baz=48,slow=4.5,SNR=4.4
0.3nm,0.3s
BRTR Keskin Array B 79.56 312 LR LR 15 19 09.8
comp=Z,51nm,19.2s,baz=304,slow=39
TXAR Lajitas Array 90.20 53 P **P 14 40 46.7 +0.3**
baz=307,slow=1.9,SNR=2.6

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*IDC **05** 14:29:07.4±3.5, 35°.62N×142°.08E, h0^{km}, mb3.3/3, mbtmp3.3/4, ML1.6/1, Error ellipse: s-maj=94.5km s-min=28.1km az=48.0*
*JMA **05** 14:29:12.8±0.4, 35°.3N±0°.6×14°1E±°, h18^{km}±3^{km}, MV2.7/18, E OFF BOSO PENINSULA*
ISC 05 14:29:11.6±1.8**, 35°.2N**±0°.1×**141°.5E**±0°.1**, h10^{km}, n7, σ1^{s}03**/8**, mb3.3**/3**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BSO3 Boso 3 0.90 241 *e*P **Pb 14 29 29.2 +0.1**
BSO4 Boso 4 0.96 255 *e*P **Pg 14 29 29.7 -0.3**
JKUC kamogawauchiur 1.04 266 *e*P **Pg 14 29 30.8 -0.8**
MJAR Matsushiro Arr 2.95 297 Pn **Pn 14 29 59.4 +1.0**
0.1nm,0.3s,baz=123,slow=24,SNR=0.6
MJAR Sn **Sb 14 30 40.9 +0.6**
baz=119,slow=9.9
6.0nm,0.5s
MKAR Makanchi Array 45.13 304 P **P 14 37 26.8 -1.3**
0.2nm,0.5s,baz=88,slow=9.8,SNR=2.1
0.2nm,0.5s
WRA Warramunga Arr 55.30 188 P **P 14 38 45.1 -0.2**
0.3nm,0.6s,baz=3.5,slow=7.4,SNR=1.3
0.3nm,0.6s
ASAR Alice Springs 59.03 188 P **P 14 39 12.8 +1.1**
0.2nm,0.8s,baz=7.7,slow=7.6,SNR=1.5
0.2nm,0.8s

ROM 05 14:55:03.5±0.1**, 42°.646N**±0°.004×**13°.245E**±0°.005**, h10^{km}, ML2.5**/78**, 12C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=88.0, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SMA1 SAN MARTINO 0.07 103 P Pg 14 55 06.4 +0.5
SMA1 S Sg 14 55 08.1 +0.5
SMA1 AML AML
comp=E,84900µm,0.2s
SMA1 AML AML
comp=N,44100µm,0.2s
SMA1 AML AML
comp=E,84890µm,0.2s
SMA1 AML AML
comp=N,44130µm,0.2s
T1214 Arquata del Tr 0.12 347 ⇓P Pg 14 55 06.9 +0.4
T1214 S Sg 14 55 09.2 +0.4
T1214 AML AML
comp=N,2395µm,0.6s
T1214 AML AML
comp=N,2480µm,0.6s
T1214 AML AML
comp=E,2425µm,1.5s
T1214 AML AML
comp=N,2480µm,0.6s
T1214 AML AML
comp=E,2385µm,1.5s
T1214 AML AML
comp=N,2390µm,0.6s
T1214 AML AML
comp=E,1836µm,0.4s
T1214 AML AML
comp=N,2393µm,0.6s
T1214 AML AML
comp=N,2482µm,0.6s
T1214 AML AML
comp=E,1812µm,0.4s
RM33 Pellescritta (0.14 189 ⇑P Pg 14 55 07.4 +0.6
RM33 S Sg 14 55 10.0 +0.9
RM33 AML AML
comp=E,11650µm,0.6s
RM33 AML AML
comp=N,11200µm,0.1s
RM33 AML AML
comp=E,11650µm,0.6s
RM33 AML AML
comp=N,11050µm,0.1s
RM33 AML AML
comp=N,11176µm,0.1s
RM33 AML AML
comp=N,11017µm,0.1s
RM33 AML AML
comp=E,9426µm,0.1s
RM33 AML AML
comp=E,9464µm,0.2s
LNSS Leonessa 0.16 254 ⇑P Pg 14 55 07.7 +0.6
LNSS S Sg 14 55 10.7 +1.1
LNSS AML AML
comp=E,4845µm,0.4s
LNSS AML AML
comp=N,3665µm,1.5s
LNSS AML AML
comp=E,3767µm,0.4s
LNSS AML AML
comp=N,3411µm,0.1s
MTRA Matera 0.16 45 ⇑P Pg 14 55 07.4 +0.3
MTRA S Sg 14 55 10.0 +0.4
MTRA AML AML
comp=E,11965µm,1.3s
MTRA AML AML
comp=N,10215µm,0.4s
MTRA AML AML
comp=E,11930µm,1.3s
MTRA AML AML
comp=N,10025µm,0.4s
MTRA AML AML
comp=N,10018µm,0.4s
MTRA AML AML
comp=E,11658µm,0.5s
MTRA AML AML
comp=E,11553µm,0.5s
MTRA AML AML
comp=N,10200µm,0.4s
MTRA AML AML
comp=E,11658µm,1.5s
MTRA AML AML
comp=E,11553µm,1.5s
CAMP Campotosto 0.16 132 ⇑P Pg 14 55 07.6 +0.4
CAMP S Sg 14 55 10.5 +0.7
CAMP AML AML
comp=N,1925µm,0.7s
CAMP AML AML
comp=E,2390µm,0.7s
CAMP AML AML
comp=E,2294µm,0.3s
CAMP AML AML
comp=N,1872µm,0.3s
T1247 Pizzolo (AQ) 0.21 169 P Pg 14 55 08.5 +0.6
T1247 S Sg 14 55 12.3 +1.4
NRCA Norcia 0.21 333 ⇑P Pg 14 55 08.3 +0.3
NRCA S Sg 14 55 11.8 +0.7
NRCA AML AML
comp=E,1910µm,0.1s
NRCA AML AML
comp=N,874µm,0.1s
NRCA AML AML
comp=N,874µm,0.1s
NRCA AML AML
comp=E,1907µm,0.1s
NRCA AML AML
comp=N,827µm,0.1s
NRCA AML AML
comp=E,1838µm,0.1s
MMO1 Montemonaco 0.26 13 ⇑P Pg 14 55 09.2 +0.3
MMO1 S Sg 14 55 13.4 +0.9
TERO Teramo 0.27 95 P Pg 14 55 09.1 +0.2
TERO S Sg 14 55 13.1 +0.5
TERO AML AML
comp=E,1665µm,1.3s
TERO AML AML
comp=E,3150µm,0.1s
TERO AML AML
comp=E,1670µm,1.3s
TERO AML AML
comp=N,3550µm,1.2s
TERO AML AML
comp=E,1670µm,1.3s
TERO AML AML

comp=N,1730µm,1.2s
TERO AML AML
comp=N,1670µm,0.1s
TERO AML AML
comp=E,1426µm,0.1s
TERO AML AML
comp=N,3371µm,0.1s
TERO AML AML
comp=E,3148µm,0.1s
MC2 Monte Cornacci 0.27 351 P Pg 14 55 09.4 +0.3
MC2 S Sg 14 55 13.7 +0.8
ARRO Arrone 0.36 260 ⇑P Pg 14 55 10.9 +0.3
ARRO S Sb 14 55 16.9 -0.8
ARRO AML AML
comp=E,486µm,0.3s
ARRO AML AML
comp=N,534µm,1.5s
ARRO AML AML
comp=E,486µm,0.3s
ARRO AML AML
comp=N,451µm,0.2s
ARRO AML AML
comp=E,486µm,1.7s
MF5 Montefalcone A 0.38 25 P Pg 14 55 11.6 +0.6
MF5 S Sb 14 55 17.9 -0.3
MF5 AML AML
comp=N,1445µm,0.4s
MF5 AML AML
comp=E,1093µm,0.4s
MF5 AML AML
comp=N,1450µm,0.4s
MF5 AML AML
comp=E,1095µm,0.4s
MF5 AML AML
comp=N,1446µm,0.4s
FIAM Fiamignano 0.39 194 ⇑P Pg 14 55 11.5 +0.3
FDMO Fiordimonte 0.41 343 P Pg 14 55 11.9 +0.3
FDMO S Sb 14 55 18.1 -1.0
FDMO AML AML
comp=N,194µm,0.3s
FDMO AML AML
comp=E,196µm,0.7s
FDMO AML AML
comp=E,191µm,0.2s
FDMO AML AML
comp=N,193µm,0.3s
GUMA Gualdo di Mace 0.42 9 ⇑P Pg 14 55 12.3 +0.5
GUMA S Sb 14 55 19.3 -0.2
GUMA AML AML
comp=E,1710µm,0.9s
GUMA AML AML
comp=N,2795µm,0.6s
GUMA AML AML
comp=E,2890µm,0.4s
GUMA AML AML
comp=N,2120µm,0.5s
GUMA AML AML
comp=N,2120µm,0.5s
GUMA AML AML
comp=N,2792µm,0.6s
GUMA AML AML
comp=E,1688µm,0.4s
GUMA AML AML
comp=E,2893µm,0.4s
GUMA AML AML
comp=N,2792µm,1.4s
GUMA AML AML
comp=N,2120µm,1.5s
OFFI Offida 0.43 48 ⇑P Pb 14 55 13.0 -0.2
OFFI S Sb 14 55 21.4 +1.6
OFFI AML AML
comp=N,1835µm,0.5s
OFFI AML AML
comp=E,1705µm,0.6s
OFFI AML AML
comp=N,1836µm,0.5s
OFFI AML AML
comp=E,1702µm,0.6s
CESI CESI - Serrava 0.44 325 P Pg 14 55 12.4 +0.2
CESI S Sb 14 55 19.1 -0.9
CESI AML AML
comp=E,352µm,0.8s
CESI AML AML
comp=N,495µm,0.7s
CESI AML AML
comp=N,445µm,0.4s
CESI AML AML
comp=E,352µm,0.8s
CESI AML AML
comp=E,352µm,1.2s
CSP1 Cessapalombo 0.45 356 ⇑P Pg 14 55 12.4 +0.1
CSP1 S Sb 14 55 19.3 -1.0
CSP1 AML AML
comp=N,106µm,1.0s
CSP1 AML AML
comp=E,183µm,1.3s
CSP1 AML AML
comp=N,106µm,1.0s
CSP1 AML AML
comp=N,105µm,0.5s
CSP1 AML AML
comp=E,178µm,0.4s
CSP1 AML AML
comp=N,105µm,1.5s
FAGN Fagnano 0.46 146 P Pg 14 55 12.7 +0.2
FAGN AML AML
comp=E,1236µm,0.6s
FAGN AML AML
comp=N,1220µm,0.3s
FAGN AML AML
comp=E,1237µm,0.6s
FAGN AML AML
comp=N,1222µm,0.3s
FAGN AML AML
comp=N,1222µm,1.7s
CESX Cesi 0.49 266 P Pg 14 55 13.1 -0.1
CESX S Sb 14 55 21.0 -0.5
CESX AML AML
comp=E,368µm,0.8s
CESX AML AML
comp=N,330µm,0.9s
CESX AML AML
comp=N,316µm,0.6s
CESX AML AML
comp=N,316µm,1.4s
CESX AML AML
comp=E,344µm,0.6s
PF6 Pievefavera 0.50 356 P Pg 14 55 13.2 -0.1
VCEL Villa Celiera 0.51 120 ⇑P Pg 14 55 13.8 +0.4
VCEL S Sb 14 55 22.1 +0.1
VCEL AML AML
comp=E,1670µm,0.7s
VCEL AML AML
comp=N,2120µm,1.0s
VCEL AML AML
comp=E,1411µm,0.2s
VCEL AML AML
comp=E,1411µm,1.8s
VCEL AML AML
comp=N,2057µm,0.2s
TRTR Tortoreto Alta 0.52 72 P Pb 14 55 14.9 +0.2
TRTR AML AML
comp=E,1325µm,0.8s
TRTR AML AML
comp=N,1165µm,1.0s
TRTR AML AML
comp=N,1101µm,0.4s
TRTR AML AML
comp=E,1323µm,0.8s
MOMA Monte Martano 0.52 288 P Pg 14 55 13.8 +0.1
MOMA S Sb 14 55 21.9 -0.5
MOMA AML AML
comp=E,388µm,0.4s
MOMA AML AML
comp=N,523µm,0.6s
MOMA AML AML
comp=E,389µm,0.4s
MOMA AML AML
comp=E,362µm,0.3s
MOMA AML AML
comp=N,547µm,0.6s
MOMA AML AML
comp=N,523µm,0.6s
T0110 Collepietro 0.58 137 P Pg 14 55 14.6 -0.1
T0110 S Sb 14 55 24.1 +0.1
T0110 AML AML
comp=E,1110µm,0.4s
T0110 AML AML
comp=N,1300µm,0.3s
T0110 AML AML
comp=N,1297µm,0.3s
T0110 AML AML
comp=E,1109µm,0.4s
SNTG Esanatoglia 0.65 340 P Pg 14 55 16.4 +0.3
SRES S.Oreste - Sor 0.68 233 P Pg 14 55 16.9 +0.2
SRES AML AML
comp=E,202µm,0.5s
SRES AML AML
comp=N,170µm,0.4s
SRES AML AML
comp=N,169µm,0.4s
SRES AML AML
comp=E,201µm,0.6s
EL6 Elcito 0.69 351 P Pg 14 55 17.2 +0.3
EL6 AML AML
comp=E,370µm,1.3s
EL6 AML AML
comp=E,371µm,1.3s
EL6 AML AML
comp=N,291µm,0.5s
EL6 AML AML
comp=E,287µm,0.8s
EL6 AML AML
comp=N,291µm,0.5s
EL6 AML AML
comp=E,287µm,1.2s
EL6 AML AML
comp=N,291µm,1.5s
CERT Cerreto 0.72 196 P Pg 14 55 17.1 -0.4
CERT AML AML
comp=E,500µm,0.7s
CERT AML AML
comp=N,255µm,0.4s
CERT AML AML
comp=E,460µm,0.4s
CERT AML AML
comp=N,255µm,0.4s
CERT AML AML
comp=E,460µm,1.6s
MTCE Montecelio 0.73 211 P Pg 14 55 16.9 -0.6
INTR Introdacqua 0.80 142 P Pg 14 55 18.1 -0.9
INTR AML AML
comp=E,171µm,0.9s
INTR AML AML
comp=N,322µm,0.8s
INTR AML AML
comp=E,155µm,0.6s
INTR AML AML
comp=N,293µm,0.5s
MURB Monte Urbino 0.81 320 P Pb 14 55 19.8 0.0
RCAV Rocca di Cave 0.83 196 P Pg 14 55 19.0 -0.5
RCAV AML AML
comp=E,382µm,0.3s
RCAV AML AML
comp=N,641µm,0.4s
RCAV AML AML
comp=N,641µm,0.4s
RCAV AML AML
comp=E,382µm,0.3s
LPEL Lama dei Pelig 0.92 130 P Pg 14 55 20.4 -0.8
LPEL AML AML
comp=E,238µm,0.8s
LPEL AML AML
comp=N,262µm,0.2s
LPEL AML AML
comp=E,231µm,0.3s
LPEL AML AML
comp=N,262µm,0.2s

*IDC **05** 14:55:54.2±2.2,37°.48N×141°.85E,h0km,mb3.4/3,*
mbtmp3.3/4,ML2.1/1,MS3.8/1,Error ellipse: s-maj=45.2km
s-min=31.8km az=55.0
*JMA **05** 14:55:57.9±0.2,37°.4N±0°.3×141°.6E±0°.8,h28km±1km,*
MV3.1/40,E OFF FUKUSHIMA PREF
ISC 05 14:55:54.9±2.2,37°.40N±0°.05×141°.68E±0°.09,h3km±12km,
n16,σ0s63/24,mb3.3/3,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.64**	**268**	*i* P	**Pb**	**14 56 08.8**	**0.0**
JFK				S	**Sg**	**14 56 16.1**	**+0.6**
JMST	**Minamisoumatoc**	**0.71**	**298**	*i* P	**Pb**	**14 56 09.9**	**0.0**
JMST				S	**Sg**	**14 56 18.4**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.76**	**247**	*i* P	**Pb**	**14 56 10.5**	**-0.3**
ONAJ				S	**Sg**	**14 56 19.9**	**+0.5**
JMM	**Marumori**	**0.84**	**304**	P	**Pb**	**14 56 12.1**	**-0.1**
JMM				S	**Sg**	**14 56 22.3**	**+0.2**
JFFD	**Fukushimafurud**	**0.94**	**251**	*i* P	**Pg**	**14 56 13.4**	**+0.4**
JFFD				S	**Sg**	**14 56 24.3**	**-0.9**
JOTO	**OTAMA OYAMA**	**1.08**	**279**	*i* P	**Pb**	**14 56 16.3**	**0.0**
JOTO				S	**Sg**	**14 56 29.4**	**-0.3**
JIO	**Ouri**	**1.09**	**346**	P	**Pn**	**14 56 16.7**	**-0.4**
JHO	**Hitachi**	**1.18**	**229**	P	**Pg**	**14 56 16.6**	**-1.0**
JOU	**Okura**	**1.25**	**321**	*i* P	**Pn**	**14 56 19.8**	**+0.3**
JOU				S	**Sn**	**14 56 35.6**	**-1.2**
JYS	**Shirataka**	**1.52**	**303**	*e*S	**Sn**	**14 56 42.7**	**-0.6**
JFY	**Yanaizu**	**1.57**	**271**	P	**Pb**	**14 56 24.3**	**-0.3**
JFY				S	**Sn**	**14 56 43.5**	**-1.1**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=82,slow=16,SNR=26	**2.91**	**254**	Pn	**Pn**	**14 56 43.1**	**+1.0**
MJAR	0.3nm,0.3s,baz=136,slow=17,SNR=5.3 1.4nm,0.4s			Sn	**Sb**	**14 57 23.0**	**-0.3**
SONM	**Songino Array** 0.4nm,0.8s,baz=113,slow=9.3,SNR=2.0 0.4nm,0.8s	**27.76**	**303**	P	**P**	**15 01 45.1**	**+0.2**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=86,slow=9.8,SNR=4.7 0.4nm,0.8s	**44.10**	**302**	P	**P**	**15 04 04.8**	**+0.5**
INK	**Inuvik** comp=Z,80nm,20.1s,baz=44,slow=36	**53.97**	**27**	LR	LR	15 28 35.5	
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=5.4,slow=7.4,SNR=7.8 0.3nm,0.6s	**57.45**	**188**	P	**P**	**15 05 45.5**	**+0.4**

*VIE **05** 14:55:58.3±0.3,46°.38N×12°.84E,h14km±8km,mb2.1/7,*
ml2.1/14,Error ellipse: s-maj=1.5km s-min=1.0km az=42.0
5 km SE of Ampezzo
ROM 05 14:55:58.0±0.1,46°.365N±0°.007×12°.81E±0°.01,h10km,
ML1.6/32,5C-11D,Error ellipse: s-maj=0.9km
s-min=0.3km az=322.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLUD	**Cludinico**	**0.10**	**27**	⇓*e*P	Pg	14 56 01.4	+0.7
CLUD				*e*Sg	Sg	14 56 03.3	+0.7
CLUD	**Cludinico**	**0.10**	**27**	⇓P	Pg	14 56 01.3	+0.7
CLUD				S	Sg	14 56 03.2	+0.7
CLUD				AML	AML		
	comp=E,578µm,0.4s						
CLUD				AML	AML		
	comp=N,509µm,0.4s						
CLUD				AML	AML		
	comp=E,636µm,0.5s						
CLUD				AML	AML		
	comp=N,489µm,0.4s						
CLUD				AML	AML		
	comp=N,360µm,0.2s						
CLUD				AML	AML		
	comp=N,363µm,0.2s						
CLUD				AML	AML		
	comp=E,392µm,0.1s						
CLUD				AML	AML		
	comp=E,423µm,0.1s						
STAL	**STALIGIAL**	**0.13**	**214**	⇓P	Pg	14 56 01.5	+0.6
STAL				S	Sg	14 56 03.9	+0.8
STAL				AML	AML		
	comp=E,1670µm,0.2s						
STAL				AML	AML		
	comp=N,2770µm,0.1s						
STAL				AML	AML		
	comp=E,1675µm,0.2s						
STAL				AML	AML		
	comp=N,2770µm,0.1s						
STAL				AML	AML		
	comp=E,1720µm,0.3s						
STAL				AML	AML		
	comp=N,1820µm,0.1s						
STAL				AML	AML		
	comp=N,1818µm,0.1s						
STAL				AML	AML		
	comp=N,2770µm,0.1s						
STAL				AML	AML		
	comp=E,1505µm,0.1s						
FUSE	**Fusea**	**0.14**	**69**	⇑*e*Pg	Pg	14 56 01.8	+0.6
MPRI	**Monte Prat**	**0.17**	**135**	⇓*e*Pg	Pg	14 56 02.2	+0.5
MPRI				*e*Sg	Sg	14 56 05.2	+0.9
MPRI	**Monte Prat**	**0.17**	**135**	⇓P	Pg	14 56 02.2	+0.5
MPRI				S	Sg	14 56 05.3	+1.0
MPRI				AML	AML		
	comp=N,1125µm,0.5s						
MPRI				AML	AML		
	comp=E,942µm,0.5s						
MPRI				AML	AML		
	comp=N,1445µm,0.5s						
MPRI				AML	AML		
	comp=E,756µm,0.5s						
MPRI				AML	AML		
	comp=N,1120µm,0.5s						
MPRI				AML	AML		
	comp=E,719µm,0.2s						
MPRI				AML	AML		
	comp=E,719µm,1.8s						
CSMI	**Casera Mimoias**	**0.18**	**323**	⇓*e*Pg	Pg	14 56 02.7	+0.7
CSMI				*e*Sg	Sg	14 56 05.9	+1.1
BOO	**Bordano**	**0.20**	**103**	⇓*e*Pg	Pg	14 56 02.5	+0.3
BOO				*e*Sg	Sg	14 56 05.8	+0.7
ZOU	**Zoufplan**	**0.22**	**30**	⇑*e*Pg	Pg	14 56 03.4	+0.7
ZOU				*e*Sg	Sg	14 56 06.6	+0.8
ZOU	**Zoufplan**	**0.22**	**30**	P	Pg	14 56 03.4	+0.8
ZOU				S	Sg	14 56 06.9	+1.0
ZOU				AML	AML		
	comp=E,234µm,0.5s						
ZOU				AML	AML		
	comp=N,226µm,0.3s						
ZOU				AML	AML		
	comp=E,222µm,0.5s						
ZOU				AML	AML		
	comp=N,216µm,0.3s						
ZOU				AML	AML		
	comp=E,161µm,0.1s						
ZOU				AML	AML		
	comp=N,225µm,0.3s						
ZOU				AML	AML		
	comp=E,158µm,0.1s						
ZOU				AML	AML		
	comp=N,216µm,0.3s						
GEPF	**Gemona**	**0.24**	**112**	P	Pg	14 56 03.4	+0.5
GEPF				S	Sg	14 56 07.3	+1.1
GEPF				AML	AML		
	comp=E,298µm,0.4s						
GEPF				AML	AML		
	comp=N,358µm,0.3s						
GEPF				AML	AML		
	comp=N,358µm,0.3s						
GEPF				AML	AML		
	comp=E,238µm,0.1s						
MLNI	**Malnisio**	**0.26**	**213**	⇑*e*Pg	Pg	14 56 03.6	+0.4
MLNI				*e*Sg	Sg	14 56 07.9	+1.1
BUA	**Buia**	**0.26**	**124**	⇓*e*Pg	Pg	14 56 03.6	+0.3
BUA				*e*Sg	Sb	14 56 08.1	-1.2
CIMO	**Cimolais**	**0.27**	**258**	⇓*e*Pg	Pg	14 56 03.7	+0.3
CIMO				*e*Sg	Sg	14 56 07.7	+0.8
CIMO	**Cimolais**	**0.27**	**258**	P	Pg	14 56 03.7	+0.3
CIMO				S	Sg	14 56 07.7	+0.7
CIMO				AML	AML		
	comp=E,91µm,0.7s						
CIMO				AML	AML		
	comp=N,146µm,0.5s						
CIMO				AML	AML		
	comp=E,80µm,0.7s						
CIMO				AML	AML		
	comp=N,166µm,0.5s						
CIMO				AML	AML		
	comp=N,146µm,0.5s						
CIMO				AML	AML		
	comp=E,80µm,0.7s						
CIMO				AML	AML		
	comp=N,116µm,0.1s						
CIMO				AML	AML		
	comp=E,69µm,0.1s						
CIMO				AML	AML		
	comp=N,108µm,0.1s						
CIMO				AML	AML		
	comp=E,70µm,0.1s						
CIMO				AML	AML		
	comp=N,108µm,1.9s						
CIMO				AML	AML		
	comp=N,116µm,1.9s						
CIMO				AML	AML		
	comp=E,69µm,1.9s						
CIMO				AML	AML		
	comp=E,70µm,1.9s						
PLRO	**Paularo**	**0.30**	**51**	⇓*e*Pg	Pg	14 56 04.6	+0.6
PLRO				*e*Sg	Sg	14 56 09.0	+1.0
BAD	**Bernadia**	**0.32**	**113**	*e*Pg	Pg	14 56 04.7	+0.2
BAD				*e*Sg	Sg	14 56 09.7	+0.9
VINO	**Villanova**	**0.34**	**108**	⇓*e*Pg	Pg	14 56 04.8	0.0
VINO				*e*Sg	Sg	14 56 10.2	+0.8
VINO	**Villanova**	**0.34**	**108**	P	Pg	14 56 04.8	0.0
VINO				S	Sg	14 56 10.4	+1.1
VINO				AML	AML		
	comp=E,83µm,1.6s						
VINO				AML	AML		
	comp=N,100µm,0.8s						
VINO				AML	AML		
	comp=E,83µm,0.4s						
VINO				AML	AML		
	comp=E,62µm,0.1s						
VINO				AML	AML		
	comp=N,75µm,0.1s						
VINO				AML	AML		
	comp=N,100µm,1.2s						
PTCC	**Patocco-Chiusa**	**0.38**	**84**	P	Pg	14 56 05.6	+0.2
PTCC				S	Sb	14 56 11.7	-1.0
PTCC				AML	AML		
	comp=E,87µm,0.2s						
PTCC				AML	AML		
	comp=E,87µm,0.2s						
PTCC				AML	AML		
	comp=N,65µm,1.3s						
PTCC				AML	AML		
	comp=N,65µm,0.7s						
APGO	**Alpago**	**0.38**	**236**	⇑*e*Pg	Pg	14 56 05.8	+0.4
APGO				*e*Sg	Sg	14 56 11.5	+1.0
POLC	**Polcenigo**	**0.40**	**213**	P	Pb	14 56 06.8	-0.3
POLC				S	Sb	14 56 13.6	+0.3
POLC				AML	AML		
	comp=N,206µm,0.2s						
POLC				AML	AML		
	comp=E,109µm,0.2s						
POLC				AML	AML		
	comp=N,84µm,0.3s						
POLC				AML	AML		
	comp=E,148µm,0.4s						
ABTA	**Abfaltersbach** comp=E,18nm,0.1s,SNR=44	**0.43**	**332**	*i* Pg	Pb	14 56 07.3	-0.5
ABTA				*i* Sg	Sg	14 56 13.3	+1.0
	comp=E,23nm,0.1s						
CAE	**Caneva**	**0.44**	**216**	*e*Pg	Pg	14 56 07.1	+0.4
CAE				*e*Sg	Sb	14 56 14.7	0.0
COLI	**Coloredo**	**0.46**	**120**	*e*Pg	Pg	14 56 07.0	+0.2
COLI				*e*Sg	Sb	14 56 14.8	-0.1
TLI	**Talmassons**	**0.49**	**156**	*e*Pg	Pg	14 56 07.8	+0.4
ACOM	**Acomizza, Ital**	**0.52**	**69**	*e*Pg	Pb	14 56 08.7	-0.5
ACOM	**Acomizza, Ital**	**0.52**	**69**	⇑P	Pb	14 56 08.7	-0.6
ACOM				S	Sb	14 56 17.0	+0.1
ACOM				AML	AML		
	comp=E,171µm,0.2s						
ACOM				AML	AML		
	comp=N,156µm,1.4s						
ACOM				AML	AML		
	comp=E,172µm,0.2s						
ACOM				AML	AML		
	comp=N,144µm,0.4s						
ACOM				AML	AML		
	comp=N,140µm,0.3s						
ACOM				AML	AML		
	comp=N,143µm,0.3s						
ACOM				AML	AML		
	comp=E,172µm,0.2s						
ACOM				AML	AML		
	comp=E,171µm,0.2s						
PRED	**Cave del Predi**	**0.53**	**81**	*e*Pg	Pg	14 56 08.3	+0.1
DRE	**Drenchia**	**0.61**	**108**	*e*Pg	Pg	14 56 09.5	-0.2

VARN	Col Varnada, M	0.62	233	ePg	Pb	14 56 10.6	-0.3
MYKA	Terra Mystica	0.63	65	i Pg	Pg	14 56 10.4	+0.2
	comp=E,0.5nm,0.1s						
MYKA				eSg	Sb	14 56 19.5	-0.5
	comp=E,4.5nm,0.2s						
SABO	M.te Sabotino	0.67	125	ePg	Pg	14 56 11.3	+0.4
SABO	M.te Sabotino	0.67	125	P	Pg	14 56 11.2	+0.3
KBA	Koelnbreinsper	0.80	27	i Pg	Pb	14 56 14.1	-0.1
	comp=E,1.4nm,0.1s						
KBA				i Sg	Sg	14 56 24.2	+0.2
	comp=E,1.7nm,0.1s						
TRI	Trieste	0.93	134	P	Pn	14 56 16.7	-0.4
LESA	Schwarzleotal	1.06	355	i Pg	Pb	14 56 18.8	+0.2
	comp=E,2.0nm,0.1s						
LESA				i Sg	Sb	14 56 32.8	+0.3
	comp=E,8.9nm,0.3s						
OBKA	Obir	1.21	83	ePg	Pg	14 56 21.6	+0.5
	comp=E,0.8nm,0.2s						
OBKA				Sg	Sn	14 56 38.5	+1.0
	comp=E,4.9nm,0.4s						
WTTA	Wattenberg	1.21	318	i Pg	Pg	14 56 21.8	+0.6
	comp=E,6.9nm,0.1s,SNR=14						
WTTA				eSg	Sn	14 56 37.4	-0.3
	comp=E,9.0nm,0.3s,SNR=4.7						
WATA	Walderalm	1.29	319	ePg	Pg	14 56 23.3	+0.6
	comp=E,2.3nm,0.3s						
WATA				i Sg	Sn	14 56 40.2	+0.6
	comp=E,4.3nm,0.2s						
SQTA	Sankt Quirin	1.40	308	i Pg	Pg	14 56 25.5	+0.7
	comp=E,0.7nm,0.1s						
SQTA				eSg	Sg	14 56 44.0	+1.1
	comp=E,3.8nm,0.2s						
BIOA	Bad Ischl, Aus	1.44	23	ePg	Pg	14 56 27.1	+1.5
	comp=E,1.2nm,0.1s						
BIOA				eSg	Sg	14 56 45.5	+1.2
	comp=E,2.8nm,0.3s						
MOTA	Moosalm	1.53	310	ePg	Pg	14 56 27.6	+0.3
	comp=E,0.9nm,0.1s						
MOTA				eSg	Sg	14 56 48.0	+0.9
	comp=E,3.3nm,0.3s						
FETA	Feichten	1.58	295	ePg	Pg	14 56 28.4	+0.2
	comp=E,0.3nm,0.1s						
FETA				eSg	Sg	14 56 49.2	+0.5
	comp=E,1.9nm,0.3s						

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*IDC **05** 15:09:26.1±4.0, 7.°46S×148.°15E, h78km±33km, mb3.2/4, mbtmp3.6/6, Error ellipse: s-maj=41.8km s-min=29.5km az=98.0*

ISC 05 15:09:20.9±1.3**, 7.°3S**±0.°2×**148.°4E**±0.°4**, h35**km**, n7,** σ**1.49**/8**, mb3.4**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.41	211	P	Pn	15 09 58.6	+0.8
	24nm,0.3s,baz=26,slow=7.3,SNR=39						
PMG				S	Sn	15 10 27.4	+1.4
	92nm,0.4s,baz=13,slow=21,SNR=11						
WRA	Warramunga Arr	18.53	226	P	P	15 13 33.2	-1.4
	0.5nm,0.4s,baz=55,slow=11,SNR=11						
ASAR	Alice Springs	21.39	219	P	P	15 14 03.8	-1.9
	0.6nm,0.5s,baz=51,slow=9.4,SNR=29						
	0.6nm,0.5s						
MKAR	Makanchi Array	79.41	320	P	P	15 21 23.5	0.0
	0.1nm,0.4s,baz=99,slow=7.0,SNR=4.9						
	0.1nm,0.4s						
QSPA	South Pole Qui	82.65	180	P	P	15 21 39.5	-1.1
	0.7nm,0.5s,baz=171,slow=1.3,SNR=9.3						
	0.7nm,0.5s						
ILAR	Eielson Array	86.15	23	P	P	15 21 59.5	+1.3
	0.2nm,0.6s,baz=250,slow=4.7,SNR=5.4						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	146.76	283	PKPbc	PKPbc	15 29 00.2	-0.2
	0.1nm,0.3s,baz=66,slow=3.0,SNR=4.1						

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*MDD **05** 15:20:53.6±0.3, 35.°68N×3.°66W, h0km, mb_Lg2.8/13, Error ellipse: s-maj=3.0km s-min=2.3km az=16.0*
*INMG **05** 15:20:54.5±1.1, 35.°65N×3.°62W, h10km±5km, ML2.2, Error ellipse: s-maj=3.7km s-min=2.5km az=141.0*
*CNRM **05** 15:20:54.7, 35.°65N×3.°50W, h24km, ML2.3*
*SFS **05** 15:20:55.4, 35.°65N×3.°59W, h24km, ML2.7/9, ML3.1/6, MLv2.5/9*

ISC 05 15:20:54.6±1.0**, 35.°67N**±0.°02×**3.°57W**±0.°02**, h25**km±11km**, n63,** σ**0.92**/89**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.51	58	Pg	Pb	15 21 04.9	-0.1
EALB				Sg	Sb	15 21 13.1	+1.0
EALB	Alboran	0.51	58	Pg	Pb	15 21 04.5	-0.5
EALB				Sg	Sb	15 21 12.8	+0.7
EALB				i Vmb_Lg		15 21 15.1	
PALE	Palemas	0.54	214	P	Pb	15 21 04.9	-0.6
PALE	Palemas	0.54	214	P	Sn	15 21 14.0	-1.1
PALE	Palemas	0.54	214	S	Sb	15 21 13.7	+0.8
PALE	Palemas	0.54	214	P	Sn	15 21 14.0	-1.1
PALE	Palemas	0.54	214	P	Sn	15 21 14.0	-1.1
EMEL	Melilla	0.62	126	Pg	Pb	15 21 06.5	-0.4
EMEL				Sg	Sb	15 21 15.4	+0.1
GOG	Mont Gurugu	0.65	133	P	Pb	15 21 07.0	-0.4
GOG	Mont Gurugu	0.65	133	S	Sb	15 21 15.4	-0.7
GOG	Mont Gurugu	0.65	133	P	Pb	15 21 06.7	-0.7
GOG	Mont Gurugu	0.65	133	P	Pb	15 21 06.7	-0.7
PVLZ	Peæn de	0.78	230	Pg	Pn	15 21 09.6	-0.3
PVLZ				Sg	Sb	15 21 19.3	-0.3
CHAS	Isla Isabel II	1.05	117	Pn	Pb	15 21 14.3	+0.3
CHAS				Sn	Sb	15 21 26.3	-1.1
AKLM	AKL	1.18	192	P	Pb	15 21 16.0	-0.3
AKLM	AKL	1.18	192	P	Pb	15 21 17.0	+0.6
AKLM	AKL	1.18	192	S	Sn	15 21 30.9	+0.1
AKLM	AKL	1.18	192	P	Pb	15 21 17.0	+0.6
AKLM	AKL	1.18	192	P	Pb	15 21 17.0	+0.6
ELGU	Los Guajares,	1.20	358	Pn	Pn	15 21 14.6	-1.2
ELGU				Sn	Sn	15 21 30.5	-0.7
ELGU	Los Guajares,	1.20	358	Pg	Pn	15 21 14.9	-0.9
ELGU				Sg	Sn	15 21 30.1	-1.1
ELGU				i Vmb_Lg		15 21 33.9	
TAF	Taforalt	1.28	132	P	Pn	15 21 16.3	-0.5
TAF	Taforalt	1.28	132	S	Sn	15 21 32.7	-0.5
TAF	Taforalt	1.28	132	P	Pn	15 21 16.7	-0.1
TAF	Taforalt	1.28	132	P	Pn	15 21 16.7	-0.1
EMIJ	Mijas	1.32	313	Pn	Pn	15 21 16.3	-1.1
EMIJ	Mijas	1.32	313	Pg	Pn	15 21 16.1	-1.3
EMIJ				Sg	Sn	15 21 32.5	-1.7
EMIJ				i Vmb_Lg		15 21 35.7	
EBER	Berja	1.34	24	Pn	Pn	15 21 17.1	-0.8
EBER	Berja	1.34	24	Pn	Pn	15 21 16.9	-1.0
EBER				Sn	Sb	15 21 36.4	+0.4
EBER				i Vmb_Lg		15 21 40.2	
SMIR	Smir Dam	1.47	271	P	Pb	15 21 21.3	+0.1
SMIR	Smir Dam	1.47	271	S	Sb	15 21 39.6	0.0
ECEU	Ceuta	1.48	279	Sn	Sn	15 21 37.8	-0.5
EGOR	Sierra Gorda,	1.50	343	Pn	Pn	15 21 20.4	+0.4
EGOR	Sierra Gorda,	1.50	343	Pn	Pn	15 21 20.1	+0.1
EGOR				Sn	Sn	15 21 39.6	+0.8
EQUE	Quentar	1.54	4	Pn	Pn	15 21 20.7	+0.3
EQUE				Sn	Sb	15 21 40.9	-0.5
JBK	JBK	1.57	148	P	Pn	15 21 20.4	-0.5
JBK				P	Pn	15 21 20.5	-0.5
JBK	JBK	1.57	148	S	Sn	15 21 38.2	-2.3
JBK	JBK	1.57	148	P	Pn	15 21 20.5	-0.5
JBK	JBK	1.57	148	P	Pn	15 21 20.5	-0.5
ENIJ	Nijar	1.70	40	Pn	Pn	15 21 23.0	+0.3
ENIJ				Sn	Sb	15 21 45.5	-0.7
ENIJ				i Vmb_Lg		15 21 53.7	
EJIF	Jimena Fronter	1.72	297	Pn	Pn	15 21 22.6	-0.3
EJIF				Sn	Sn	15 21 44.4	+0.3
EQES	Quesada	2.17	11	Pn	Pn	15 21 29.9	+0.8
EQES				Sn	Sn	15 21 55.9	+0.6
EQES				i Vmb_Lg		15 22 08.4	
ESPR	Espera	2.20	304	Pn	Pn	15 21 29.4	0.0
ESPR				Sn	Sn	15 21 55.8	0.0
ESPR				i Vmb_Lg		15 22 05.4	
EADA	Adamuz	2.62	342	Pn	Pn	15 21 36.3	+1.0
EADA	Adamuz	2.62	342	Pn	Pn	15 21 36.2	+1.0
EADA				Sn	Sn	15 22 07.4	+1.1
EADA				i Vmb_Lg		15 22 15.6	
ECAB	El Cabril	2.82	329	Pn	Pn	15 21 38.9	+0.8
ECAB				Sn	Sn	15 22 11.8	+0.6
ECAB				i Vmb_Lg		15 22 13.2	
MD31	MD31	2.96	200	P	Pn	15 21 41.4	+1.3
MD31	MD31	2.96	200	S	Sn	15 22 16.1	+1.3
MDT	Midelt	2.98	197	P	Pn	15 21 42.5	+2.2
MDT	Midelt	2.98	197	S	Sn	15 22 16.7	+1.5
ETOB	Tobarra	3.38	28	Pn	Pn	15 21 47.8	+2.0
ETOB	Tobarra	3.38	28	Pn	Pn	15 21 47.4	+1.6
ETOB				Sn	Sn	15 22 27.1	+1.9
ETOB				i Vmb_Lg		15 23 00.5	
EGRO	El Granado	3.66	302	Pn	Pn	15 21 49.5	0.0
EGRO				Sn	Sn	15 22 30.9	-0.8
EGRO				i Vmb_Lg		15 23 49.1	
PBAR	Barrancos	3.74	313	eP	Pn	15 21 50.9	+0.3
PBAR				eS	Sn	15 22 32.2	-1.6
PBAR				A	A	15 22 34.4	
	2.7nm,0.8s						
PVAQ	Vaqueiros	3.76	299	eS	Sn	15 22 33.5	-0.9
PBDV	Barranco-do-Ve	3.85	295	eP	Pn	15 21 52.8	+0.6
PBDV				eS	Sn	15 22 35.8	-0.8
PAB	San Pablo	3.92	351	Pn	Pn	15 21 53.5	+0.3
PAB				i Vmb_Lg		15 21 55.7	
PAB				Sn	Sn	15 22 37.0	-1.4
PCVE	Castro Verde	4.09	300	eS	Sn	15 22 43.4	+0.9
PCVE				A	A	15 22 47.0	
	4.9nm,0.8s						
EBAD	Badajoz	4.13	319	Pn	Pn	15 21 55.8	-0.1
EBAD				Sn	Sn	15 22 42.2	-1.2
EBAD				i Vmb_Lg		15 22 45.9	
PESTR	Estremoz	4.52	316	eS	Sn	15 22 52.1	-1.1
PNCL	Nicolau / Gran	4.66	303	eP	Pn	15 22 03.9	+0.6
PNCL				eS	Sn	15 22 55.3	-1.3
PNCL				A	A	15 23 02.3	
	2.2nm,0.5s						
PMRV	Marv??o	4.83	322	eP	Pn	15 22 06.7	+1.1
PMRV				eS	Sn	15 23 00.2	-0.5
PMTG	Montargil	5.02	314	eS	Sn	15 23 04.7	-0.8

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*IDC **05** 15:25:47.3±10.0, 37.°21N×143.°12E, h0km, mb3.5/2, mbtmp3.4/4, ML2.6/2, Error ellipse: s-maj=171.7km s-min=38.6km az=137.0*
*JMA **05** 15:25:55.8±0.2, 37.°7N±0.°4×142.°3E±0.°9, h33km±2km, MV3.3/38, SE OFF MIYAGI PREF*

ISC 05 15:25:56.5±3.0**, 37.°78N**±0.°07×**142.°15E**±0.°10**, h12**km±15km**, n18,** σ**0.69**/25**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.76	315	i P	Pb	15 26 11.9	+0.2
JIKH				eS	Sn	15 26 23.4	-1.1
JIO	Ouri	0.93	317	i P	Pb	15 26 14.5	-0.1
JIO				eS	Sn	15 26 27.5	-1.1
JMST	Minamisoumatoc	1.00	267	i P	Pb	15 26 15.5	-0.4
JMST				S	Sn	15 26 29.5	-1.0
JMM	Marumori	1.08	275	i P	Pb	15 26 16.8	-0.3
JMM				eS	Sn	15 26 31.9	-0.5
JFK	Kawauchi	1.09	248	i P	Pb	15 26 16.4	-1.0
JOU	Okura	1.31	297	P	Pn	15 26 20.9	+0.1
JOU				eS	Sg	15 26 39.2	+0.4
JMK	Ichinoseki	1.38	328	P	Pn	15 26 21.2	-0.4
JOTO	OTAMA OYAMA	1.46	262	i P	Pn	15 26 23.0	+0.2
JOTO				eS	Sg	15 26 42.7	-0.7
JYS	Shirataka	1.71	286	eP	Pn	15 26 27.2	+1.0
JYK	Kaneyama	1.81	310	P	Pn	15 26 28.0	+0.4
JOM	Ohasama	1.82	339	P	Pn	15 26 27.1	-0.6
JFY	Yanaizu	1.98	260	P	Pn	15 26 30.6	+0.7
JRG	Rokugo	2.01	324	P	Pn	15 26 30.8	+0.6
JYA	Atsumi	2.09	294	eP	Pn	15 26 32.0	+0.7
MJAR	Matsushiro Arr	3.38	250	Pn	Pn	15 26 49.6	+0.4
	0.1nm,0.3s,baz=20,slow=12,SNR=11						
MJAR				Sn	Sb	15 27 38.1	+0.6
	0.1nm,0.3s,baz=91,slow=32,SNR=1.8						
	1.7nm,0.8s						
ASAJ	Asahikawa	6.34	3	Pn	Pn	15 27 30.1	+0.3
	0.2nm,0.3s,baz=342,slow=19,SNR=1.7						
	7.4nm,1.1s						
SONM	Songino Array	27.87	303	P	P	15 31 46.9	+0.7
	0.5nm,0.6s,baz=91,slow=9.1,SNR=4.9						
	0.5nm,0.6s						
MKAR	Makanchi Array	44.23	302	P	P	15 34 05.9	+0.3
	0.3nm,0.7s,baz=85,slow=9.8,SNR=4.0						
	0.3nm,0.7s						

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*IDC **05** 15:29:49.8±1.2, 5.°19S×151.°62E, h138km±6km, mb3.5/7, mbtmp3.9/8, Error ellipse: s-maj=51.7km s-min=10.9km az=123.0*

ISC 05 15:29:50.3±1.1**, 5.°0S**±0.°2×**151.°4E**±0.°2**, h129**km**, n10,** σ**1.32**/13**, mb3.8**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.95	44	P	Pn	15 30 13.7	+1.0
	baz=232,slow=19						
KRVT				S	Sn	15 30 31.2	+1.6
	baz=232,slow=19						
PMG	Port Moresby	6.05	223	P	Pn	15 31 18.9	+1.5
	6.7nm,0.4s,baz=68,slow=6.4,SNR=12						
PMG				S	Sn	15 32 26.5	+1.1
	39nm,0.4s,baz=207,slow=18,SNR=11						
WRA	Warramunga Arr	22.25	227	P	P	15 34 36.3	-0.6
	1.1nm,0.3s,baz=52,slow=9.8,SNR=44						
WRA				S	S	15 38 31.1	-1.8
	0.6nm,0.9s,baz=47,slow=19,SNR=3.3						
	1.1nm,0.3s						
ASAR	Alice Springs	25.05	220	P	P	15 35 02.1	-0.6
	2.1nm,0.5s,baz=55,slow=9.2,SNR=89						
	2.1nm,0.5s						
SONM	Songino Array	65.73	329	P	P	15 40 22.9	+1.6
	0.7nm,0.6s,baz=149,slow=4.9,SNR=4.8						
	0.7nm,0.6s						
MKAR	Makanchi Array	79.53	319	P	P	15 41 43.3	+0.4
	0.2nm,0.5s,baz=96,slow=7.4,SNR=5.9						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	80.52	327	P	P	15 41 47.3	-0.7
	0.4nm,0.3s,baz=78,slow=9.3,SNR=2.3						
	0.4nm,0.3s						
ILAR	Eielson Array	82.88	22	P	P	15 41 58.6	-1.6
	0.4nm,0.5s,baz=252,slow=5.2,SNR=14						
	0.4nm,0.5s						
BVAR	Borovoye Array	88.54	323	P	P	15 42 27.4	-0.9
	0.6nm,0.5s,baz=115,slow=6.2,SNR=6.0						
	0.6nm,0.5s						
TORD	Torodi Ar. Bea	149.00	287	PKPbc	PKPbc	15 49 23.7	-0.5
	1.1nm,0.5s,baz=66,slow=3.5,SNR=11						

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*IDC **05** 15:32:16.7±2.4, 46.°33N×150.°26E, h180km±25km, mb2.9/3, mbtmp3.6/7, Error ellipse: s-maj=36.8km s-min=18.4km az=131.0*
*JMA **05** 15:32:20.7±0.7, 46°N±4°×15°0E±°, h218km, MV3.9/12, KURILE ISLANDS REGION*
*SKHL **05** 15:32:21.1±0.0, 45.°20N×150.°20E, h209km±2km, mb5.0/4, msha5.2/3*

ISC 05 15:32:19.3±1.2**, 45.°9N**±0.°1×**150.°0E**±0.°1**, h200**km**, n24,** σ**2.25**/31**, mb3.0**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.63	249	eP	Pn	15 32 59.2	+5.1
KUR				AMB	AMB	15 33 05.5	
	30nm,0.2s						
KUR				eS	Sn	15 33 31.4	+10
KUR				A	A	15 33 32.6	
	130nm,0.2s						
KUR				A	A	15 33 32.6	
	50nm,0.2s						
SHO	Shikotan	3.01	230	eP	Pn	15 33 11.3	+2.3
SHO				AMB	AMB	15 33 13.1	
	70nm,0.2s						
SHO				eS	Sn	15 33 50.5	+2.7
SHO				A	A	15 33 51.9	
	210nm,0.4s						
SHO				A	A	15 33 51.9	
	130nm,0.4s						
YUK	Yuzh-Kuril'sk	3.46	240	eP	Pn	15 33 17.0	+2.6
YUK				AMB	AMB	15 33 17.4	
	410nm,0.3s						
YUK				eS	Sn	15 34 01.4	+3.9
YUK				A	A	15 34 03.7	
	100nm,0.5s						
YUK				A	A	15 34 03.7	
	170nm,0.5s						
NEM2	Nemuro 2	3.93	232	eP	Pn	15 33 21.3	+1.1
NEM2				eS	Sn	15 34 08.8	+0.9
NMR	Nemuro--Hokkai	3.94	233	eP	Pn	15 33 21.4	+1.1
NMR				eS	Sn	15 34 08.4	+0.3
JRA	Rausu	3.97	243	eP	Pn	15 33 22.4	+1.8
JNK	Nakash	4.40	241	eP	Pn	15 33 27.7	+1.6
AKK	Akkeshi	4.66	234	eP	Pn	15 33 30.1	+0.7
JTKR	Abashiri--Toko	4.73	249	eP	Pn	15 33 31.1	+0.9
JAK	Akkeshi	4.76	235	eP	Pn	15 33 31.4	+0.8
JAK				eS	Sn	15 34 26.6	-0.1
JAR	Ashorobuto	5.14	242	P	Pn	15 33 37.2	+1.8
JAR				eS	Sn	15 34 37.1	+1.6
JOB	Onbets	5.32	239	P	Pn	15 33 38.7	+1.0
JOB				eS	Sn	15 34 38.7	-0.9
JKK2	Kamakawa 2	5.53	252	eP	Pn	15 33 41.3	+0.8
ASAJ	Asahikawa	5.54	254	P	Pn	15 33 41.1	+0.5
	17nm,0.7s,baz=67,slow=13,SNR=19						
JCH	Churui	5.77	238	eP	Pn	15 33 43.8	+0.3
JCH				eS	Sn	15 34 48.1	-1.9
JNBK	Urakawa-nobuka	6.33	238	eP	Pn	15 33 50.0	-0.8
JNBK				eS	Sn	15 34 59.0	-4.2
JANG	Nango	8.28	232	eP	Pn	15 34 14.2	-1.9
JANG				eS	Sn	15 35 43.6	-5.6
JTH	Tanohata	8.40	228	eS	Sn	15 35 48.5	-3.7
PETK	Petropavlovsk-	8.82	32	P	Pn	15 34 14.9	-8.1
	4.0nm,0.7s,baz=172,slow=11,SNR=12						
MJAR	Matsushiro Arr	12.85	228	P	P	15 35 19.1	+0.8
	1.3nm,0.6s,baz=46,slow=10,SNR=8.4						
SEY	Seymchan	17.18	4	P	P	15 35 57.9	-7.9
	1.2nm,0.7s,baz=250,slow=22,SNR=4.3						
MKAR	Makanchi Array	45.44	297	P	P	15 40 17.0	-1.0
	0.4nm,1.0s,baz=64,slow=6.6,SNR=2.4						
	0.4nm,1.0s						
ASAR	Alice Springs	70.72	196	P	P	15 43 16.1	+2.7
	0.3nm,0.8s,baz=7.6,slow=5.5,SNR=5.7						
	0.3nm,0.8s						
TXAR	Lajitas Array	79.80	58	P	P	15 44 02.9	-2.6
	0.2nm,0.5s,baz=289,slow=5.4,SNR=4.8						
	0.2nm,0.5s						

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*BJI **05** 15:54:07.1±0.0, 35.°47N×140.°52E, h63km, mb4.9/75, mB5.0/41, Ms4.1/31, Ms7 3.9/36*
*BGR **05** 15:54:10.3, 36.°36N×141.°94E, h33km, mb5.2*
*MOS **05** 15:54:10.5±1.0, 35.°55N×140.°08E, h59km, mb5.3/65, MS3.6/4, Error ellipse: s-maj=6.4km s-min=3.7km az=118.0*
*JMA **05** 15:54:14.0±0.2, 35.°6N±0.°6×140.°0E±0.°8, h71km±2km, MD4.7/40, MW4.8/40, CENTRAL CHIBA PREF*
JMA Felt IV J1 at CENTRAL CHIBA PREF .
*NIED **05** 15:54:14.0, 35.°64N×140.°02E, h71km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.32; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-1.41; $M_{r\theta}$0.38; $M_{\theta\phi}$-0.04; $M_{\phi r}$0.99; Fault plane solution: $M_0$1.73000×10^{16} NP1:ϕ_s13.00000°, δ64.00000°, λ101.00000°. NP2:ϕ_s169.00000°, δ28.00000°, λ68.00000°.*
*IDC **05** 15:54:14.1±1.0, 35.°54N×139.°97E, h74km±8km, mb4.6/36, mbtmp4.9/41, MS3.6/45 Error ellipse: s-maj=12.1km s-min=6.2km az=70.0*
*NEIC **05** 15:54:14.4±2.3, 35.°582N±0.°010×140.°01E±0.°07, h73km±4km, mb5.0/279, Mwr4.8/15, Error ellipse: s-maj=8.1km s-min=1.3km az=92.0*
*GCMT **05** 15:54:16.4±0.4, 35.°56N±0.°02×140.°16E±0.°03, h66km±1km, MW4.9/82, Moment Tensor Solution. s43,c52; s82,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.38±.12; $M_{\theta\theta}$-0.01±.09; $M_{\phi\phi}$-2.38±.08; $M_{r\theta}$-0.05±.06; $M_{\theta\phi}$-0.29±.07; $M_{\phi r}$0.84±.07; Best double couple: $M_0$2.54100×10^{16} NP1:ϕ_s3.00000°, δ55.00000°, λ86.00000°. NP2: ϕ_s190.00000°, δ36.00000°, λ95.00000°. Principal axes: T 2.5280, Plg80.0000°, Azm257.0000°; N 0.0190, Plg3.0000°, Azm6.0000°; P -2.5540, Plg10.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 15:54:13.6±0.3**, 35.°60N**±0.°03×**140.°03E**±0.°03**, h70**km±2km**, h70**km**:pP-P, n1034,** σ**1.53**/986**, mb5.0**/292**, 39C-49D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.23	142	P	Pn	15 54 25.7	+1.4
JCN				S	Sn	15 54 34.7	+2.5
JCN	Nagara	0.23	142	A	A	15 54 25.7	
	comp=E,236nm,0.7s,comp=N,157nm,0.8s						
TOK	Tokyo	0.24	292	P	Pn	15 54 25.7	+1.4
TOK				S	Sn	15 54 34.8	+2.6
TOK	Tokyo	0.24	292	A	A	15 54 25.7	
	comp=E,2μm,0.6s,comp=N,910nm,0.9s						
JSMT	Sammumatsuo	0.34	83	P	Pn	15 54 26.2	+1.2
JSMT	Sammumatsuo	0.34	83	A	A	15 54 26.2	
	comp=E,120nm,1.9s,comp=N,85nm,2.3s						
I30JP	ISUMI INFRASON	0.37	141	P	Pn	15 54 26.4	+1.1
	baz=295,slow=5.4,SNR=0.1						
I30JP				I	I	15 57 20.0	
	comp=N,0.1nm,0.7s,baz=306,slow=335,SNR=0.6						
JKUC	kamogawauchiur	0.46	162	A	A	15 54 27.0	
	comp=E,143nm,1.1s,comp=N,86nm,1.1s						
JYO	Yokosk	0.48	219	A	A	15 54 27.0	
	comp=E,398nm,0.7s,comp=N,500nm,0.7s						
JIHU	Itakohorinouch	0.55	48	A	A	15 54 27.1	
	comp=E,115nm,0.5s,comp=N,134nm,2.1s						
TATJ	Tateyama 2	0.58	191	A	A	15 54 28.1	
	comp=E,216nm,0.8s,comp=N,148nm,1.3s						
JYT	Yasato	0.64	12	A	A	15 54 27.9	
	comp=E,143nm,0.4s,comp=N,337nm,0.3s						
JHU	Hanno	0.66	293	A	A	15 54 28.4	
	comp=E,111nm,1.2s,comp=N,95nm,0.8s						
JSGW	Sagamiharawaka	0.67	271	A	A	15 54 28.6	
	comp=E,86nm,0.6s,comp=N,82nm,0.5s						
JOD2	Odawara 2	0.84	247	⇓P	Pn	15 54 30.4	+0.2
JOD2				⇓S	Sn	15 54 42.0	-0.4
JOD2	Odawara 2	0.84	247	A	A	15 54 30.4	
	comp=E,106nm,0.3s,comp=N,93nm,1.0s						
JHYU	Hitachinakayam	0.87	31	A	A	15 54 30.6	
	comp=E,39nm,1.1s,comp=N,33nm,0.8s						
BSO3	Boso 3	0.89	154	P	Pn	15 54 30.9	+0.5
JAG	Ashikaga	0.95	331	⇓P	Pn	15 54 31.7	+0.3
JAG				⇓S	Sn	15 54 44.2	-0.5
JAG	Ashikaga	0.95	331	A	A	15 54 31.7	
	comp=E,70nm,0.8s,comp=N,136nm,0.4s						
JIM2	Oshima 3	1.01	209	⇓iP	Pn	15 54 32.0	-0.2
JIM2				⇓S	Sn	15 54 45.8	-0.2
JIM2	Oshima 3	1.01	209	A	A	15 54 32.0	
	comp=E,157nm,0.4s,comp=N,135nm,0.5s						
JRY	Ryogami san	1.01	295	⇓P	Pn	15 54 33.0	+0.8
JRY				⇓S	Sn	15 54 47.3	+1.2
JRY	Ryogami san	1.01	295	A	A	15 54 33.0	
	comp=E,38nm,0.9s,comp=N,36nm,1.8s						
JHTM	Izuhatsuma	1.05	233	A	A	15 54 33.7	
	comp=E,190nm,0.4s,comp=N,219nm,0.3s						
JHO	Hitachi	1.10	23	A	A	15 54 33.5	
	comp=E,17nm,1.5s,comp=N,23nm,1.6s						
JFNN	Fujinakano	1.17	250	⇓eP	Pn	15 54 34.7	+0.5
JFNN				⇓S	Sn	15 54 49.9	+0.2
JFNN	Fujinakano	1.17	250	A	A	15 54 34.7	
	comp=E,40nm,1.0s,comp=N,33nm,3.2s						
JYN	Shimob	1.22	266	⇓P	Pn	15 54 35.3	+0.4
JYN				⇓S	Sn	15 54 51.8	+0.9
JYN	Shimob	1.22	266	A	A	15 54 35.3	
	comp=E,37nm,0.2s,comp=N,20nm,0.8s						
BSO1	Boso 1	1.22	140	P	Pn	15 54 34.6	+0.3
JTHY	Toshimahigashi	1.23	210	A	A	15 54 36.2	
	comp=E,62nm,3.3s,comp=N,73nm,1.4s						
JIZS	Izushimoda	1.29	227	⇓P	Pn	15 54 36.1	+0.3
JIZS				⇓S	Sn	15 54 52.4	0.0
JIZS	Izushimoda	1.29	227	A	A	15 54 36.1	
	comp=E,45nm,0.5s,comp=N,38nm,2.1s						
JKT	Katashina	1.33	332	⇓P	Pn	15 54 36.4	+0.1
JKT				⇓S	Sn	15 54 53.3	-0.1
JKT	Katashina	1.33	332	A	A	15 54 36.4	
	comp=E,73nm,0.3s,comp=N,61nm,0.4s						
JSB	Shiboa	1.37	356	A	A	15 54 37.0	
	comp=E,46nm,0.8s,comp=N,51nm,1.2s						
JNIO	Niijimaoohara	1.39	207	A	A	15 54 38.3	
	comp=E,62nm,2.2s,comp=N,49nm,1.4s						
JSKK	Shikinejimakit	1.43	208	A	A	15 54 38.9	
	comp=E,37nm,2.2s,comp=N,21nm,2.0s						
JGK	Kuni	1.48	311	A	A	15 54 38.7	
	comp=E,15nm,0.8s,comp=N,18nm,1.2s						
JFFD	Fukushimafurud	1.55	16	A	A	15 54 39.5	
	comp=E,15nm,3.5s,comp=N,19nm,0.6s						
JNT	Takato	1.56	281	A	A	15 54 40.1	
	comp=E,10.0nm,2.3s,comp=N,11nm,0.9s						
SHZ3	Shizuoka 3	1.58	251	A	A	15 54 40.6	

comp=E,35nm,1.4s,comp=N,53nm,1.1s
JMYK Miyake Tsubota 1.58 195 A A 15 54 41.1
comp=E,19nm,1.1s,comp=N,18nm,0.9s
JKO Kozu shima 1.59 208 A A 15 54 41.1
comp=E,37nm,2.6s,comp=N,34nm,2.9s
ONAJ Iwakimizuishiy 1.62 22 A A 15 54 40.5
comp=E,30nm,2.3s,comp=N,18nm,0.3s
JMKN Mikurajimanish 1.74 192 A A 15 54 43.3
comp=E,15nm,1.1s,comp=N,13nm,0.8s
MJAR Matsushiro Arr 1.75 303 P **Pn 15 54 42.0 +0.1**
comp=N,942nm,0.3s,baz=155,slow=14,SNR=5091
MJAR S **Sn 15 55 03.1 -0.2**
comp=N,670nm,0.4s,baz=113,slow=28,SNR=4.4
MJAR LR LR 15 55 24.2
comp=N,2µm,20.8s,baz=78,slow=40
MAJO Matsushiro 1.75 303 Pn 15 54 42.6 +0.7
MAJO Sn **Sn 15 54 59.8 -3.6**
MAJO Matsushiro 1.75 303 P **Pn 15 54 42.8 +0.9**
MAJO Matsushiro 1.75 303 *d i*P **Pn 15 54 42.9 +1.0**
MJB9 Matsu-Tunnel 1.76 303 Pn 15 54 43.5 +1.5
JNG Nsakai 1.76 298 A A 15 54 42.6
comp=E,14nm,1.4s,comp=N,18nm,1.7s
JSG Sagara 1.77 239 Pn 15 54 42.4 +0.3
JSG Sn **Sn 15 55 02.4 -1.4**
JSG Sagara 1.77 239 P **Pn 15 54 43.2 +1.1**
JSG Sagara 1.77 239 A A 15 54 43.3
comp=E,23nm,0.6s,comp=N,27nm,1.7s
JNY Yasuok 1.79 263 A A 15 54 43.3
comp=E,11nm,1.0s,comp=N,14nm,0.6s
JUON Uonuma 1.79 334 A A 15 54 42.7
comp=E,14nm,1.2s,comp=N,9.0nm,0.8s
JFY Yanaizu 1.82 352 A A 15 54 43.2
comp=E,23nm,1.1s,comp=N,10.0nm,1.0s
JKKS Kakegawashinom 1.88 244 A A 15 54 44.7
comp=E,20nm,1.7s,comp=N,28nm,4.0s
JFK Kawauchi 1.89 21 A A 15 54 44.2
comp=E,16nm,2.2s,comp=N,12nm,1.2s
JOTO OTAMA OYAMA 1.97 7 A A 15 54 45.3
comp=E,27nm,1.2s,comp=N,30nm,0.7s
HMMJ Hamamatsu 2 2.03 249 A A 15 54 46.8
comp=E,5.0nm,0.8s,comp=N,8.0nm,3.4s
JJN Nakama 2.13 315 A A 15 54 47.6
comp=E,14nm,0.8s,comp=N,12nm,0.9s
JSSY Shinshiroyabe 2.17 252 A A 15 54 48.8
comp=E,7.0nm,1.3s,comp=N,7.0nm,3.8s
JGF Kuroka 2.18 271 A A 15 54 48.7
comp=E,5.0nm,2.8s,comp=N,5.0nm,1.7s
JIZZ Izumozaki 2.20 332 A A 15 54 48.5
comp=E,27nm,2.1s,comp=N,25nm,1.5s
JMST Minamisoumatoc 2.23 18 A A 15 54 48.9
comp=E,20nm,1.1s,comp=N,11nm,0.6s
JAO Obara 2.29 262 A A 15 54 50.3
comp=E,7.0nm,1.9s,comp=N,9.0nm,2.0s
JNS Sasagawa 2.29 346 A A 15 54 49.7
comp=E,6.0nm,2.4s,comp=N,6.0nm,2.2s
JGN Niukaw 2.29 287 A A 15 54 50.1
comp=E,5.0nm,5.8s,comp=N,4.0nm,3.4s
JYAR Yonezawaarcadi 2.31 A A 15 54 50.0
comp=E,22nm,1.3s,comp=N,16nm,1.3s
TTO5 TONANKAI O.B.S 2.33 235 A A 15 54 51.1
comp=E,24nm,2.3s,comp=N,21nm,2.6s
JMM Marumori 2.34 15 Pn 15 54 50.2 +0.3
JMM Sn **Sn 15 55 16.8 -0.8**
JMM Marumori 2.34 15 P **Pn 15 54 50.6 +0.8**
JMM Marumori 2.34 15 A A 15 54 50.5
comp=E,11nm,2.2s,comp=N,10.0nm,0.6s
JTT Ttatey 2.40 295 A A 15 54 51.6
comp=E,9.0nm,2.9s,comp=N,9.0nm,2.7s
JHJ Hachijo jima 2 2.48 185 P **Pn 15 54 51.9 +0.2**
comp=N,1µm,0.3s,baz=311,slow=20,SNR=61
JHJ S **Sn 15 55 20.9 -0.1**
comp=N,2µm,0.3s,baz=238,slow=24,SNR=10
JHJ LR LR 15 55 40.0
comp=N,463nm,21.0s,baz=356,slow=35
JHJ2 Mitsune 2.49 184 Pn 15 54 52.0 +0.2
JHJ2 Sn **Sn 15 55 19.4 -1.7**
JHJ2 Mitsune 2.49 184 P **Pn 15 54 52.6 +0.8**
JHJ2 Mitsune 2.49 184 A A 15 54 53.6
comp=E,14nm,0.8s,comp=N,11nm,1.6s
JAA Atsumi 2.56 249 A A 15 54 54.2
comp=E,4.0nm,2.6s,comp=N,5.0nm,2.5s
TTO4 TONANKAI O.B.S 2.59 233 A A 15 54 54.8
comp=E,9.0nm,4.0s,comp=N,9.0nm,9.7s
JYS Shirataka 2.62 1 A A 15 54 54.3
comp=E,19nm,1.0s,comp=N,18nm,1.5s
JICN Ichinomiyachia 2.62 264 A A 15 54 54.9
comp=E,13nm,3.0s,comp=N,11nm,2.3s
JYTA Yamagatataniai 2.69 271 A A 15 54 55.7
comp=E,3.0nm,4.1s,comp=N,5.0nm,4.4s
JOU Okura 2.81 10 A A 15 54 56.9
comp=E,11nm,2.0s,comp=N,16nm,1.0s
JSD Sado 2.82 330 A A 15 54 57.1
comp=E,4.0nm,2.5s,comp=N,5.0nm,4.5s
JSZ Suzu 2.83 311 A A 15 54 57.4
comp=E,6.0nm,5.4s,comp=N,4.0nm,4.0s
JJH Hakui 2.94 298 A A 15 54 59.0
comp=E,3.0nm,2.8s,comp=N,3.0nm,8.4s
JIE Ise 2.98 247 A A 15 55 00.1
comp=E,3.0nm,2.6s,comp=N,3.0nm,1.1s
JYA Atsumi 3.00 355 A A 15 54 59.6
comp=E,7.0nm,0.6s,comp=N,7.0nm,0.6s
JEG Eigenji 3.01 262 A A 15 55 00.4
comp=E,2.0nm,4.1s,comp=N,3.0nm,2.7s
JOFO Osakifurukawao 3.08 13 A A 15 55 00.7
comp=E,25nm,3.9s,comp=N,30nm,2.3s
JAOM Aogashimamukai 3.13 184 A A 15 55 02.7
comp=E,11nm,1.5s,comp=N,10.0nm,0.6s
JFM Mihama 3.30 270 A A 15 55 04.3
comp=E,4.0nm,7.1s,comp=N,4.0nm,1.0s
JYK Kaneyama 3.32 4 A A 15 55 04.1
comp=E,4.0nm,2.4s,comp=N,4.0nm,3.1s
JYYZ Yamagatayuza 3.41 359 A A 15 55 05.3
comp=E,15nm,3.1s,comp=N,12nm,2.5s
JRG Rokugo 3.82 7 A A 15 55 11.1
comp=E,4.0nm,1.1s,comp=N,6.0nm,2.2s
JOM Ohasama 4.00 14 A A 15 55 13.6
comp=E,4.0nm,3.6s,comp=N,3.0nm,0.5s
JMIK Miki 4.15 260 A A 15 55 16.3
comp=E,3.0nm,2.5s,comp=N,4.0nm,1.3s
JSZI Iwateshizukuis 4.20 10 A A 15 55 16.4
comp=E,10.0nm,2.7s,comp=N,10.0nm,2.0s
JKEN Kujiedanarisaw 4.79 16 A A 15 55 24.6
comp=E,6.0nm,1.0s,comp=N,7.0nm,0.9s
JTM Tenmabayashi 5.24 9 Pn **Pn 15 55 30.1 +0.7**
JTM Sn **Sn 15 56 27.4 -1.0**
JTM Tenmabayashi 5.24 9 P **Pn 15 55 30.4 +1.0**
JMN Monobe 5.40 252 Pn **Pn 15 55 32.7 +1.1**
JMN Monobe 5.40 252 P **Pn 15 55 33.1 +1.5**
ERM Erimo 6.86 20 Pn **Pn 15 55 49.8 -1.6**
ERM Erimo 6.86 20 P **Pn 15 55 50.0 -1.4**
ERM Erimo 6.86 20 *ce*P **Pn 15 55 49.7 -1.6**
ERM pmax pmax
comp=Z,81nm,0.8s
JEM Erimo 6.86 20 P **Pn 15 55 49.9 -1.5**
JNU Nakatsue 7.96 255 Pn **Pn 15 56 07.5 +0.9**
JNU Nakatsue 7.96 255 P **Pn 15 56 08.2 +1.6**
comp=Z,42nm,0.5s,baz=69,slow=3.7,SNR=44
JNU LR LR 15 59 53.5
comp=Z,480nm,18.3s,baz=68,slow=43
JCJ Chichijima 8.67 167 Pn **Pn 15 56 13.8 -2.5**
JCJ Chichijima 8.67 167 P **Pn 15 56 13.5 -2.8**
JCJ Chichijima 8.67 167 P Pn 15 56 09.3 -7.0
comp=Z,312nm,0.3s,baz=348,slow=6.7,SNR=50
JCJ S Sn 15 57 37.6 -15
comp=Z,125nm,0.4s,baz=323,slow=20,SNR=1.7
ASAJ Asahikawa 8.73 12 P **Pn 15 56 14.3 -2.7**
ASAJ Asahikawa 8.73 12 P **Pn 15 56 14.8 -2.3**
comp=Z,19nm,0.3s,baz=200,slow=12,SNR=46
ASAJ S **Sn 15 57 47.1 -6.7**
comp=Z,32nm,0.6s,baz=336,slow=20,SNR=1.3
JKA Kamikawa-asahi 8.73 12 Pn 15 56 14.3 -2.7
NMR Nemuro--Hokkai 8.92 28 *e*P **Pn 15 56 16.5 -3.1**
RUSJ Misakicho 9.39 24 *e*P **Pn 15 56 25.4 -0.6**
RUSJ *e*S **Sn 15 58 04.3 -5.6**
YUK Yuzh-Kuril'sk 9.54 26 *e*P **Pn 15 56 26.2 -1.8**
YUK pmax pmax
comp=Z,173nm,0.4s
YUK pmax pmax
comp=N,41nm,0.2s
YUK pmax pmax
comp=E,50nm,0.2s
SHO Shikotan 9.78 30 *e*P **Pn 15 56 28.4 -2.8**
SHO pmax pmax
comp=N,10.0nm,0.2s
SHO pmax pmax
comp=E,10.0nm,0.2s
SHO pmax pmax
comp=Z,12nm,0.2s
KSRS Korea Array 9.92 284 P **Pn 15 56 34.6 +1.4**
comp=Z,48nm,0.7s,baz=100,slow=14,SNR=116
KSRS LR LR 16 00 18.0
comp=Z,682nm,21.2s,baz=95,slow=37
KSAR Wonju Array Be 9.95 284 Pn 15 56 35.6 +2.0
KSAR Wonju Array Be 9.95 284 P **Pn 15 56 35.6 +2.0**
KS19 Wonju Array Si 9.97 285 Pn 15 56 36.4 +2.4
TJN Taejon 10.29 278 Pn 15 56 40.6 +2.3
TJN Taejon 10.29 278 P **Pn 15 56 41.9 +3.5**
TJN Taejon 10.29 278 P **Pn 15 56 40.7 +2.3**
USA0B Ussuriysk Arra 10.57 327 Pn 15 56 44.0 +1.9
USA0B Ussuriysk Arra 10.57 327 P **Pn 15 56 44.0 +1.9**
USRK Ussuriysk Ar. 10.57 327 Pn 15 56 43.5 +1.4
USRK Ussuriysk Ar. 10.57 327 P **Pn 15 56 44.0 +1.8**
USRK Ussuriysk Ar. 10.57 327 P **Pn 15 56 44.0 +1.8**
comp=Z,12nm,0.7s,baz=140,slow=13,SNR=23
USRK LR LR 16 00 49.0
comp=Z,154nm,21.7s,baz=163,slow=37
INCN Inchon 10.94 284 Pn **Pn 15 56 45.7 -1.6**
INCN Inchon 10.94 284 P **Pn 15 56 45.7 -1.6**
KUR Kuril'sk 11.32 29 *e*P **Pn 15 56 50.4 -1.9**
KUR pmax pmax
comp=Z,63nm,0.7s
KUR pmax pmax
comp=N,27nm,0.4s
KUR pmax pmax
comp=E,39nm,0.5s
YSS Yuzh-Sakhalins 11.53 9 Pn 15 56 53.2 -1.9
YSS Yuzh-Sakhalins 11.53 9 P **Pn 15 56 53.9 -1.2**
YSS Yuzh-Sakhalins 11.53 9 *e*P **Pn 15 56 54.1 -1.0**
YSS *e*S **Sn 15 58 57.7 -4.3**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,400nm,16.0s
MDJ Mudanjiang 12.03 322 P **Pn 15 57 02.4 +0.4**
MDJ sP P 15 57 22.4 +10
MDJ S **Sn 15 59 13.6 -0.7**
MDJ PcP **PcP 16 02 42.4 +0.5**
MDJ ScP **ScP 16 06 09.4 +0.9**
MDJ pmax pmax
comp=Z,21nm,1.4s
MDJ pmax pmax
comp=Z,180nm,3.5s
MDJ LR LR
comp=Z,440nm,14.7s
MDJ LR LR
comp=Z,410nm,13.1s
MDJ LR LR
comp=Z,540nm,15.9s
MDJ Mudanjiang 12.03 322 Pn **Pn 15 57 05.5 +3.5**
MDJ Mudanjiang 12.03 322 P **Pn 15 57 06.3 +4.3**
JOW Kunigami 13.32 232 Pn **Pn 15 57 16.1 -3.4**
JOW Kunigami 13.32 232 P **Pn 15 57 20.5 +1.0**
JOW Kunigami 13.32 232 P **Pn 15 57 22.4 +2.8**
comp=Z,56nm,0.7s,baz=41,slow=1.3,SNR=4.5
JOW LR LR 16 02 03.5
comp=Z,139nm,20.3s,baz=252,slow=35
CN2 Changchun 13.88 311 P **P 15 57 30.6 -2.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
BNX BinXian 13.93 321 ⇓P **Pn 15 57 27.7 +0.2**
BNX pmax pmax
comp=Z,53nm,1.1s
BNX pmax pmax
comp=Z,260nm,6.2s
KLR Kul'dur 14.92 338 *i*P **Pn 15 57 38.4 -2.0**
KLR Kul'dur 14.92 338 P **Pn 15 57 39.6 -0.7**
comp=Z,10nm,0.7s,baz=142,slow=9.6,SNR=27
KLR LR LR 16 03 21.2
comp=Z,96nm,20.1s,baz=150,slow=37
DL2 Dalian 15.02 288 P **P 15 57 45.8 +0.2**
DL2 S **S 16 00 34.6 -6.0**
DL2 pmax pmax
comp=Z,59nm,0.9s
DL2 pmax pmax
comp=Z,220nm,5.4s
DL2 LR LR
comp=Z,280nm,10.7s
DL2 LR LR
comp=Z,330nm,12.9s
DL2 LR LR
comp=Z,500nm,16.5s
TYV Tymovskoe 15.38 6 *e*P **P 15 57 51.0 +1.6**
TYV pmax pmax
comp=Z,53nm,0.8s
TYV pmax pmax
comp=Z,200nm,2.6s
GRNR Gornyy 15.39 351 ⇑*i*P **Pn 15 57 42.4 -4.0**
GRNR *e*S **Sn 16 00 29.3 -6.5**
GRNR pmax pmax
comp=E,4.0nm,0.8s
GRNR pmax pmax
comp=N,4.0nm,0.7s
GRNR pmax pmax
comp=Z,7.0nm,0.7s
GRNR smax smax
comp=E,1.0nm,0.7s
GRNR MLR MLR
comp=E,130nm,17.0s
GRNR MLR MLR
comp=N,110nm,15.0s
GRNR MLR MLR
comp=Z,160nm,16.0s
JMJ Miyako jima 2 16.65 234 P **P 15 58 05.6 +1.9**
HEH HeiHe 17.28 332 *e*P **Pn 15 58 06.8 -3.2**
HEH pmax pmax
comp=Z,25nm,0.7s
HEH pmax pmax
comp=Z,160nm,6.4s
NJ2 Nanjing 17.94 265 *e*P **Pn 15 58 18.5 +0.3**
NJ2 pP **pP 15 58 31.2 -1.2**
NJ2 sP **sP 15 58 38.2 -3.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,5.6s
TIA Tai'an 18.56 279 P **P 15 58 24.9 +0.1**
TIA pmax pmax
comp=Z,21nm,1.1s
TIA LR LR
comp=Z,330nm,15.7s
TIA LR LR
comp=Z,310nm,15.9s
TIA LR LR
comp=Z,480nm,29.0s
BJI Beijing 19.34 290 P **P 15 58 33.1 -0.1**
BJI pmax pmax
comp=Z,19nm,1.3s
YHNB Yeheng 19.43 241 P 15 58 32.8 -1.6
YHNB Yeheng 19.43 241 P **P 15 58 34.2 -0.2**
NACB Ninganchiao 19.59 239 P **P 15 58 33.6 -2.4**
NACB Ninganchiao 19.59 239 P **P 15 58 34.0 -2.0**
XLT XiLinHaoTe 20.14 302 ⇓*i*P **P 15 58 40.3 -1.7**
XLT pmax pmax
comp=Z,35nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.4s
XLT LR LR
comp=Z,270nm,15.1s
XLT LR LR
comp=Z,320nm,15.8s
HIA Hailar 20.18 319 P **P 15 58 40.7 -1.6**
HIA Hailar 20.18 319 P **P 15 58 40.7 -1.6**
HIA pmax pmax
comp=Z,21nm,0.8s
ZEA Zeya 20.23 338 *e*P **P 15 58 39.9 -2.8**
ZEA *e* 16 02 31.7
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,60nm,0.9s
ZEA pmax pmax
comp=Z,90nm,0.7s
SSLB Suanglung 20.29 240 P **P 15 58 41.2 -2.4**
SSLB IAmb IAmb 15 58 56.8
comp=Z,99nm,1.6s
SSLB Suanglung 20.29 240 P **P 15 58 42.7 -0.9**
YULB Yu-li 20.30 238 P **P 15 58 41.1 -2.7**
YULB IAmb IAmb 15 58 55.2
comp=Z,140nm,1.9s
YULB Yu-li 20.30 238 P **P 15 58 41.6 -2.2**
HNS HongShan 20.42 283 ⇓P **P 15 58 43.1 -1.8**
HNS *e*S **S 16 02 20.9 -8.8**
HNS pmax pmax
comp=Z,20nm,0.7s
HNS LR LR
comp=Z,360nm,24.0s
TPUB Ta-pu 20.83 239 P **P 15 58 47.5 -1.9**
TPUB IAmb IAmb 15 58 59.7
comp=Z,65nm,1.1s
TPUB Ta-pu 20.83 239 P **P 15 58 47.7 -1.7**
TWGBT Beinan 20.83 237 P **P 15 58 49.0 -0.5**
TWG Pinlang 20.83 237 P **P 15 58 48.3 -1.2**
TWG IAmb IAmb 15 58 54.6
comp=Z,62nm,0.5s
PEA0B Petropavlovsk- 21.49 30 P **P 15 58 56.4 +0.2**
PEA0B IAmb IAmb 15 59 07.1
comp=Z,152nm,1.9s
PEA0B Petropavlovsk- 21.49 30 P **P 15 58 56.4 +0.2**
PEA0B pmax pmax
comp=Z,152nm,2.0s
PETK Petropavlovsk- 21.49 30 P **P 15 58 55.8 -0.4**
PETK Petropavlovsk- 21.49 30 P **P 15 58 55.8 -0.4**
PETK Petropavlovsk- 21.49 30 P **P 15 58 54.5 -1.8**
comp=Z,14nm,1.1s,baz=115,slow=5.9,SNR=3.8
PETK LR LR 16 07 07.3
comp=Z,37nm,21.3s,baz=222,slow=36
PET Petropavlovsk 21.82 31 *e*P **P 15 59 04.4 +4.6**
PET *e*S **S 16 02 55.9 -1.0**
PET pmax pmax
comp=Z,42nm,1.4s
PET MLR MLR
comp=Z,100nm,16.0s
WHN Wuhan 22.08 264 P **P 15 59 02.9 +0.2**
WHN pP **pP 15 59 20.5 +2.9**
WHN sP **sP 15 59 27.4 +1.0**
WHN pmax pmax
comp=Z,58nm,0.6s
TIY Taiyuan 22.21 284 *e*P **P 15 59 08.0 +3.7**
TIY pP **pP 15 59 21.9 +2.8**
TIY S **S 16 03 04.9 +0.4**
TIY pmax pmax
comp=Z,24nm,0.5s
TIY LR LR
comp=Z,140nm,5.3s
TIY LR LR
comp=Z,160nm,4.3s
TIY LR LR
comp=Z,300nm,12.9s
GUMO Guam 22.34 168 LR LR 16 05 18.5
comp=Z,58nm,20.2s,baz=36,slow=30
LYN LuoYang 22.56 275 ⇑*i*P **P 15 59 05.4 -2.5**
LYN pP pP 15 59 23.4 +0.7
LYN sP sP 15 59 32.2 +0.6
LYN S **S 16 03 05.1 -5.2**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN LR LR
comp=Z,270nm,14.8s
LYN LR LR
comp=Z,420nm,21.0s
LYN LR LR
comp=Z,560nm,21.6s
HHC Hu-ho-hao-te 22.92 292 *e*P **P 15 59 12.3 +0.6**
HHC S **S 16 03 15.2 -1.0**
HHC pmax pmax
comp=Z,50nm,0.8s
HHC pmax pmax
comp=Z,240nm,5.3s
HHC LR LR
comp=Z,270nm,12.6s
HHC LR LR
comp=Z,320nm,11.5s
HHC LR LR
comp=Z,430nm,12.1s
BTO Baotou 24.07 291 *e*P **P 15 59 24.5 +2.1**
BTO pP **pP 15 59 42.0 +3.2**
BTO PP **PnPn 16 00 01.6 +6.6**
BTO S **S 16 03 39.5 +4.5**
BTO SS **SnSn 16 04 35.5 +13**
BTO pmax pmax
comp=Z,15nm,0.6s
BTO pmax pmax
comp=Z,410nm,5.1s
BTO LR LR
comp=Z,240nm,10.6s
BTO LR LR
comp=Z,220nm,6.2s
BTO LR LR
comp=Z,350nm,10.4s
MA2 Magadan 24.99 13 P **P 15 59 31.2 +0.8**
MA2 IAmb IAmb 15 59 33.6
comp=Z,48nm,0.8s
MA2 Magadan 24.99 13 P **P 15 59 31.5 +1.0**
MA2 Magadan 24.99 13 *ce*P **P 15 59 31.5 +1.0**
MA2 pmax pmax
comp=Z,50nm,0.8s
MA2 Magadan 24.99 13 LR LR 16 10 03.3
comp=Z,73nm,19.1s,baz=147,slow=38
XAN Xi'an 25.54 276 ⇓P **P 15 59 34.8 -0.9**
XAN pmax pmax
comp=Z,22nm,0.8s
XAN LR LR
comp=Z,260nm,17.2s
XAN LR LR
comp=Z,370nm,21.3s
XAN LR LR
comp=Z,420nm,22.0s
ENH Enshi 26.12 267 P **P 15 59 39.4 -1.6**
ENH IAmb IAmb 15 59 44.8
comp=Z,25nm,0.7s
ENH Enshi 26.12 267 P **P 15 59 40.0 -1.0**
HKPS Hong Kong Po S 26.16 247 P **P 15 59 40.1 -1.4**
YAK Yakutsk 27.25 349 P **P 15 59 49.7 -1.1**
YAK IAmb IAmb 15 59 53.3
comp=Z,70nm,1.1s
YAK Yakutsk 27.25 349 *e*P **P 15 59 50.7 0.0**
YAK *e**PP **pP 16 00 05.4 -2.0**
YAK *e* 16 00 38.4
YAK *e* 16 03 08.4
YAK *e*S **S 16 04 25.0 +0.4**
YAK *e*SS **SnSn 16 05 39.9 +0.7**
YAK *e* 16 10 30.1
YAK pmax pmax
comp=Z,70nm,2.3s
YAK pmax pmax
comp=N,36nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,152nm,4.3s
YAK pmax pmax
comp=N,125nm,7.2s
YAK pmax pmax
comp=E,136nm,4.7s
YAK smax smax
comp=E,174nm,4.9s
YAK smax smax
comp=N,114nm,3.2s
YAK Yakutsk 27.25 349 LR LR 16 11 16.0
comp=N,4.2nm,18.4s,baz=128,slow=37
ULN Ulaanbaatar 27.28 307 P **P 15 59 50.7 -0.7**
ULN Ulaanbaatar 27.28 307 *ce*P **P 15 59 50.2 -1.2**
ULN pmax pmax
comp=Z,10.0nm,0.6s
ULN Ulaanbaatar 27.28 307 P **P 15 59 50.8 -0.6**
ULN P **P 15 59 50.8 -0.6**
ULN Ulaanbaatar 27.28 307 P **P 15 59 50.5 -0.9**
comp=Z,61nm,0.7s
SONM Songino Array 27.70 307 P **P 15 59 54.2 -0.9**
SONM Songino Array 27.70 307 P **P 15 59 54.3 -0.8**
comp=Z,7.7nm,0.6s,baz=108,slow=9.5,SNR=26
SONM PcP **PcP 16 03 11.3 +0.9**
comp=Z,1.6nm,0.7s,baz=114,slow=3.1,SNR=3.9
SONM LR LR 16 11 11.3
comp=Z,268nm,19.0s,baz=116,slow=37
comp=Z,7.7nm,0.6s
BOD Bodaibo 28.18 330 *e*P **P 15 59 59.2 +0.1**
BOD pmax pmax
comp=Z,44nm,1.0s
SEY Seymchan 28.42 12 *i*P **P 16 00 02.3 +1.1**
SEY pmax pmax

comp=Z,10.0nm,0.8s
SEY Seymchan 28.42 12 LR LR 16 12 46.2
comp=Z,123nm,18.1s,baz=134,slow=39
WAKE Wake Island 28.55 118 P **P** **16 00 01.2 -1.5**
LZH Lanzhou 29.23 282 ⇑P **P** **16 00 09.6 +0.7**
LZH sP sP 16 00 35.5 +1.5
LZH S **S** **16 04 49.8 -7.0**
LZH pmax pmax
comp=Z,18nm,1.5s
LZH pmax pmax
comp=Z,120nm,4.8s
LZH LR LR
comp=Z,150nm,13.1s
LZH LR LR
comp=Z,160nm,12.0s
LZH LR LR
comp=Z,190nm,11.7s
SHEM Shemya Is, Ala 29.47 44 LR LR 16 10 25.4
comp=Z,73nm,20.1s,baz=290,slow=33
SMY Shemya 29.47 44 P **P** **16 00 10.0 -0.6**
SMY Shemya 29.47 44 P **P** **16 00 10.0 -0.6**
SMY pmax pmax
comp=Z,700nm,1.8s
GYA Guiyang 29.89 262 ⇑ *i*P **P** **16 00 13.9 -0.9**
GYA pmax pmax
comp=Z,21nm,1.1s
ZAK Zakamensk 30.32 311 *e*P **P** **16 00 16.7 -1.6**
ZAK pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 30.58 272 P **P** **16 00 21.7 +1.0**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,330nm,16.2s
GTA Gaotai 31.95 289 *e*P **P** **16 00 33.0 +0.2**
GTA sP sP 16 00 55.2 -2.7
GTA PcP **PcP** **16 03 22.7 +1.2**
GTA S **S** **16 05 34.2 -4.9**
GTA pmax pmax
comp=Z,14nm,0.9s
GTA LR LR
comp=Z,120nm,17.1s
GTA LR LR
comp=Z,92nm,15.6s
GTA LR LR
comp=Z,240nm,21.4s
MOY Mondy 32.04 312 *e*P **P** **16 00 32.9 -0.6**
KMI Kunming 33.65 262 ⇓P **P** **16 00 49.0 +1.1**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI LR LR
comp=Z,240nm,35.5s
PZH PanZhiHua 33.86 265 P **P** **16 00 48.1 -1.5**
PZH S **S** **16 06 07.8 -1.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,150nm,5.5s
PZH LR LR
comp=Z,150nm,12.0s
PZH LR LR
comp=Z,150nm,13.0s
PZH LR LR
comp=Z,210nm,14.7s
SLVN Son La 34.58 256 P **P** **16 00 55.0 -0.9**
BILL Bilibino 35.72 17 P **P** **16 01 05.4 +0.5**
BILL Bilibino 35.72 17 ⇑P **P** **16 01 05.4 +0.5**
BILL pmax pmax
comp=Z,6.0nm,0.7s
BILL Bilibino 35.72 17 P **P** **16 01 05.3 +0.3**
GOMU GeErMu 36.38 285 P **P** **16 01 12.3 +0.8**
GOMU PcP **PcP** **16 03 36.0 +1.4**
GOMU pmax pmax
comp=Z,16nm,0.7s
TIXI Tiksi 36.59 354 P **P** **16 01 12.5 +0.2**
TIXI IAmb IAmb 16 01 13.3
comp=Z,19nm,0.8s
TIXI Tiksi 36.59 354 P **P** **16 01 12.5 +0.2**
TIXI Tiksi 36.59 354 P **P** **16 01 12.5 +0.2**
TIXI PcP **PcP** **16 03 34.6 +0.6**
TNTI Ternate 36.60 202 P **P** **16 01 12.6 -0.4**
TNTI IAmb IAmb 16 01 33.7
comp=Z,12nm,0.9s
UBPT Khong Chiam 36.92 246 P **P** **16 01 15.3 -0.4**
UBPT Khong Chiam 36.92 246 P **P** **16 01 15.1 -0.6**
TNCH TengChong 37.11 265 P **P** **16 01 16.9 -0.7**
TNCH pP pP 16 01 35.6 +0.9
TNCH sP sP 16 01 43.5 +0.7
TNCH S **S** **16 07 00.5 +1.5**
TNCH sS sS 16 07 29.0 +0.8
TNCH pmax pmax
comp=Z,25nm,0.9s
TNCH pmax pmax
comp=Z,76nm,3.7s
SWI Sorong 37.19 195 P **P** **16 01 16.4 -1.6**
comp=Z,26nm,0.8s
SIJI Sorong 37.19 195 P **P** **16 01 17.4 -0.6**
comp=Z,20nm,0.8s
LBMI Labuha 37.90 201 P **P** **16 01 23.4 -0.6**
comp=Z,26nm,0.8s,comp=Z,1µm
KMSI Cibinong 37.91 207 P **P** **16 01 24.3 +0.2**
comp=Z,77nm,0.7s,comp=Z,2µm
CRAI Chiangrai 37.97 257 P **P** **16 01 24.6 0.0**
CRAI IAmb IAmb 16 01 28.1
comp=Z,21nm,0.8s
CRAI **PcP** **16 03 40.7 +1.5**
TOLI2 Tolitoli 38.70 212 P **P** **16 01 28.3 -2.4**
TOLI2 IAmb IAmb 16 01 35.1
comp=Z,15nm,1.0s
TOLI2 Tolitoli 38.70 212 P **P** **16 01 28.4 -2.4**
MRSI Marisa 38.79 210 P **P** **16 01 29.4 -2.1**
comp=Z,23nm,1.1s
FAKI Fak Fak 39.00 192 P **P** **16 01 32.2 -1.0**
FAKI PcP **PcP** **16 03 40.9 -1.5**
FAKI Fak Fak 39.00 192 P **P** **16 01 32.7 -0.6**
FAKI Fak Fak 39.00 192 P **P** **16 01 32.2 -1.0**
comp=Z,17nm,1.0s
SANI Sanana 39.69 202 P **P** **16 01 35.9 -3.1**
SANI Sanana 39.69 202 P **P** **16 01 35.5 -3.5**
comp=Z,44nm,0.6s
MPSI Mapaga 39.78 213 P **P** **16 01 40.0 +0.3**
comp=Z,6.5nm,0.8s
CMMT Chiang Mai 39.86 256 P **P** **16 01 39.9 -0.6**
comp=Z,23nm,0.9s
CHTO Chiang Mai 39.86 256 P **P** **16 01 39.0 -1.5**
CHTO PcP **PcP** **16 03 45.4 +0.3**
CHTO Chiang Mai 39.86 256 P **P** **16 01 39.0 -1.5**
CHTO 16 03 45.4
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 39.86 256 P **P** **16 01 40.0 -0.5**
CHTO Chiang Mai 39.86 256 P **P** **16 01 39.1 -1.4**
comp=Z,8.4nm,0.9s
CM31 Chiang Mai Arr 40.06 256 P **P** **16 01 42.1 0.0**
CM31 PcP **PcP** **16 03 46.2 +0.5**
CM31 Chiang Mai Arr 40.06 256 P **P** **16 01 43.5 +1.4**
CMAR Chiang Mai Arr 40.06 256 P **P** **16 01 43.8 +1.7**
CMAR PcP **PcP** **16 03 44.2 -1.6**
CMAR Chiang Mai Arr 40.06 256 *i*P **P** **16 01 44.5 +2.4**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 40.06 256 P **P** **16 01 40.8 -1.3**
comp=Z,2.5nm,0.7s,baz=46,slow=7.7,SNR=17
CMAR PcP **PcP** **16 03 46.0 +0.3**
comp=Z,2.6nm,0.7s,baz=26,slow=1.8,SNR=11
CMAR LR LR 16 20 08.5
comp=Z,95nm,18.6s,baz=55,slow=39
comp=Z,2.5nm,0.7s
DGZ Jazzator, Alta 40.35 307 *i*P **P** **16 01 45.2 +0.9**
DGZ pmax pmax
comp=Z,65nm,0.7s
WMQ Urumqi 40.51 298 *e*P **P** **16 01 46.7 +1.1**
WMQ PP **PnPn** **16 03 26.8 +2.4**
WMQ pmax pmax
comp=Z,39nm,1.1s
BNDI Bandanaira 41.03 195 P **P** **16 01 49.2 -0.8**
ZAA0 Zalesovo Array 42.07 314 P **P** **16 01 58.1 -0.1**
ZAA0 PcP **PcP** **16 03 50.7 -1.0**
ZALV Zalesovo Beam 42.07 314 P **P** **16 01 57.7 -0.5**
ZALV PcP **PcP** **16 03 50.7 -1.0**
ZALV Zalesovo Beam 42.07 314 P **P** **16 01 58.6 +0.4**
comp=Z,28nm,0.5s,baz=93,slow=6.8,SNR=156
ZALV PcP **PcP** **16 03 51.5 -0.2**
comp=Z,8.9nm,0.5s,baz=107,slow=3.5,SNR=13
ZALV ScP **ScP** **16 07 35.8 -0.2**
comp=Z,0.9nm,0.7s,baz=90,slow=4.5,SNR=3.4
comp=Z,28nm,0.5s
ZSN Zaisan 42.14 304 *e*P **P** **16 01 58.9 0.0**
comp=Z,24nm,0.6s,baz=304
ZSN Zaisan 42.14 304 *e*P **P** **16 01 58.9 0.0**
ZSN pmax pmax
comp=Z,24nm,0.6s
ANM Nome 43.40 31 P **P** **16 02 11.0 +2.2**
ANM IAmb IAmb 16 02 14.4
comp=Z,46nm,1.6s
ANM Nome 43.40 31 P **P** **16 02 11.0 +2.2**
ANM pmax pmax
comp=Z,45nm,1.6s
MK31 Makanchi Array 43.95 303 P **P** **16 02 13.8 +0.3**
MK31 IAmb IAmb 16 02 15.0
comp=Z,35nm,0.8s
MK31 Makanchi Array 43.95 303 *i*P **P** **16 02 13.8 +0.3**
MK31 pmax pmax
comp=Z,69nm,0.9s
MKAR Makanchi Array 43.95 303 P **P** **16 02 14.0 +0.5**
comp=Z,42nm,0.8s,baz=90,slow=10.0,SNR=353
MKAR ScP **ScP** **16 07 43.2 -0.5**
comp=Z,0.7nm,0.8s,baz=85,slow=4.3,SNR=3.9
MKAR LR LR 16 21 03.4
comp=Z,175nm,18.6s,baz=80,slow=37
comp=Z,42nm,0.8s
F15K North Star Dit 43.99 29 P **P** **16 02 15.2 +1.6**
F15K IAmb IAmb 16 02 34.1
comp=Z,70nm,1.9s
NRIK Noril'sk 44.11 336 P **P** **16 02 14.3 -0.1**
NRIK IAmb IAmb 16 02 16.3
comp=Z,24nm,0.9s
NRIK PcP **PcP** **16 03 58.6 +0.3**
NRIK Noril'sk 44.11 336 *ce*P **P** **16 02 14.6 +0.2**
NRIK pmax pmax
comp=Z,28nm,0.9s
NRIK Noril'sk 44.11 336 P **P** **16 02 15.1 +0.7**
comp=Z,16nm,0.5s,baz=106,slow=10,SNR=34
comp=Z,16nm,0.5s
MAKZ Makanchi 44.16 303 P **P** **16 02 15.6 +0.4**
MAKZ Makanchi 44.16 303 P **P** **16 02 15.5 +0.4**
MAKZ Makanchi 44.16 303 P **P** **16 02 15.7 +0.4**
C16K Lisburne Hills 44.48 26 P **P** **16 02 18.9 +1.5**
C16K Lisburne Hills 44.48 26 P **P** **16 02 18.6 +1.2**
baz=252
K15K Wolf Creek Mou 44.63 35 P **P** **16 02 17.8 -0.9**
KAPI Kappang 44.66 209 P **P** **16 02 17.8 -1.6**
KAPI PcP **PcP** **16 04 01.2 +0.1**
KAPI IAmb IAmb 16 04 02.9
comp=Z,15nm,0.7s
KAPI Kappang 44.66 209 P **P** **16 02 17.8 -1.6**
KAPI pmax pmax
comp=Z,15nm,0.7s
SEM Semipalatinsk 44.94 308 *e*P **P** **16 02 21.9 +0.2**
baz=308
SEM Semipalatinsk 44.94 308 *e*P **P** **16 02 21.8 +0.2**
D17K Noatak River 45.12 27 P **P** **16 02 23.7 +1.2**
baz=254
PMG Port Moresby 45.26 170 LR LR 16 20 10.7
comp=Z,50nm,18.4s,baz=27,slow=34
RDOG Red Dog Mine 45.28 26 P **P** **16 02 24.3 +0.5**
RDOG IAmb IAmb 16 03 04.0
comp=Z,32nm,1.7s
RDOG Red Dog Mine 45.28 26 P **P** **16 02 25.9 +2.1**
baz=254
E17K Hotham Inlet 45.44 28 P **P** **16 02 26.4 +1.3**
baz=256,SNR=5.7
L16K Owhat River 45.51 36 P **P** **16 02 27.0 +1.4**
L16K IAmb IAmb 16 03 23.4
comp=Z,50nm,1.6s
F17K Baldwin Pennin 45.52 29 P **P** **16 02 27.1 +1.6**
F17K IAmb IAmb 16 03 21.9
comp=Z,53nm,1.6s
F17K Baldwin Pennin 45.52 29 P **P** **16 02 27.4 +1.8**
baz=258
SRIT Nakonsritamara 45.61 244 P **P** **16 02 26.5 -0.5**
SRIT IAmb IAmb 16 02 27.7
comp=Z,29nm,0.8s
M16K Timber Creek 45.69 37 P **P** **16 02 28.8 +1.7**
KURK Kurchatov 45.95 309 P **P** **16 02 29.3 +0.1**
KURK Kurchatov 45.95 309 *ce*P **P** **16 02 29.4 +0.1**
KURK pmax pmax
comp=Z,168nm,1.3s
KURK Kurchatov 45.95 309 P **P** **16 02 29.8 +0.5**
KURK P **P** **16 02 29.8 +0.5**
KURK Kurchatov 45.95 309 P **P** **16 02 29.6 +0.3**
KURK sP **sP** **16 02 52.5 -2.5**
E18K Tukpahlearik C 45.98 28 P **P** **16 02 31.6 +2.3**
E18K IAmb IAmb 16 02 51.1
comp=Z,13nm,0.9s
E18K Tukpahlearik C 45.98 28 P **P** **16 02 31.0 +1.7**
baz=257
KURBB Kurchatov Arra 46.02 309 P **P** **16 02 29.6 -0.2**
KURBB Kurchatov Arra 46.02 309 P **P** **16 02 30.0 +0.2**
comp=Z,48nm,0.7s,baz=85,slow=7.8,SNR=378
KURBB LR LR 16 22 25.6
comp=Z,124nm,20.1s,baz=164,slow=37
comp=Z,48nm,0.7s
O16K Kokwok River B 46.02 39 P **P** **16 02 29.4 -0.4**
O16K IAmb IAmb 16 03 39.4
comp=Z,44nm,1.6s
B18K Kokolik River 46.03 25 P **P** **16 02 31.9 +2.2**
baz=254
C18K Utukok River 46.05 26 P **P** **16 02 31.4 +1.5**
C18K IAmb IAmb 16 02 57.1
comp=Z,12nm,0.7s
C18K Utukok River 46.05 26 P **P** **16 02 31.5 +1.5**
baz=256,SNR=11
K17K Iditarod 46.17 34 P **P** **16 02 32.0 +1.2**
K17K IAmb IAmb 16 03 00.6
comp=Z,44nm,1.4s
G18K Tagagawik 46.45 30 P **P** **16 02 33.9 +0.9**
G18K IAmb IAmb 16 02 54.8
comp=Z,12nm,1.0s
G18K Tagagawik 46.45 30 P **P** **16 02 35.0 +2.0**
baz=261
H18K Honhosa River 46.45 31 P **P** **16 02 34.4 +1.3**
H18K IAmb IAmb 16 02 38.0
comp=Z,56nm,1.9s
M17K Holitna River 46.46 36 P **P** **16 02 34.1 +1.0**
M17K IAmb IAmb 16 03 02.4
comp=Z,36nm,1.3s
PDGK Podgornoye 46.47 299 *i*P **P** **16 02 33.9 +0.2**
PDGK pmax pmax
comp=Z,75nm,0.8s
A19K Wainwright 46.51 24 P **P** **16 02 35.7 +2.4**
baz=254
N17K Nushagak Hills 46.53 37 P **P** **16 02 34.9 +1.3**
SHLS Shalkode 46.53 299 *e*P **P** **16 02 31.6 -2.6**
baz=298
SHLS Shalkode 46.53 299 *e*P **P** **16 02 31.5 -2.6**
C19K Lookout Ridge 46.73 25 P **P** **16 02 37.1 +1.9**
C19K IAmb IAmb 16 02 57.9
comp=Z,17nm,0.9s
C19K Lookout Ridge 46.73 25 P **P** **16 02 37.3 +2.1**
baz=257
UZB Uzunbulak 46.84 299 *e*P **P** **16 02 36.3 -0.3**
comp=Z,9.4nm,0.5s,baz=299
UZB Uzunbulak 46.84 299 *e*P **P** **16 02 36.3 -0.3**
UZB pmax pmax
comp=Z,9.0nm,0.5s
L18K Granite Mounta 46.87 35 P **P** **16 02 37.5 +1.2**
L18K IAmb IAmb 16 03 38.4
comp=Z,20nm,1.3s
TDK Taldyqorghan 46.91 301 *e*P **P** **16 02 37.1 +0.2**
comp=Z,16nm,0.6s,baz=301
TDK Taldyqorghan 46.91 301 *e*P **P** **16 02 37.1 +0.2**
TDK pmax pmax
comp=Z,16nm,0.6s
MMRI Maumere 47.09 204 P **P** **16 02 37.2 -1.3**
MMRI IAmb IAmb 16 02 42.7
comp=Z,21nm,0.7s
G19K Purcell Mounta 47.12 30 P **P** **16 02 39.5 +1.3**
D19K Kuna River 47.12 26 IAmb IAmb 16 03 02.5
comp=Z,27nm,1.2s
D19K Kuna River 47.12 26 P **P** **16 02 40.2 +2.0**
baz=259,SNR=7.5
WUS Wushi 47.14 296 P **P** **16 02 39.9 +1.0**
ZHN Zhinishke 47.26 299 *e*P **P** **16 02 39.5 -0.4**
baz=299
ZHN Zhinishke 47.26 299 *e*P **P** **16 02 39.4 -0.4**
E19K Redstone River 47.26 28 IAmb IAmb 16 03 02.6
comp=Z,14nm,0.8s
E19K Redstone River 47.26 28 P **P** **16 02 41.2 +1.9**
baz=260
H19K Roundabout Mou 47.30 30 P **P** **16 02 40.2 +0.7**
baz=263
H19K Roundabout Mou 47.30 30 P **P** **16 02 40.6 +1.0**
baz=263
SATY Saty 47.30 299 *e*P **P** **16 02 40.1 -0.1**
comp=Z,8.1nm,0.8s,baz=299
SATY Saty 47.30 299 *e*P **P** **16 02 40.0 -0.1**
SATY pmax pmax
comp=Z,8.0nm,0.8s
EDFI Ende, Flores 47.38 205 P **P** **16 02 39.1 -1.8**
comp=Z,17nm,0.8s
ARXS Arharly 47.47 300 *e*P **P** **16 02 41.7 +0.3**
J19K Poorman 47.49 33 P **P** **16 02 42.7 +1.5**
baz=265
SOEI Soe 47.50 201 P **P** **16 02 40.3 -1.6**
SOEI Soe 47.50 201 P **P** **16 02 40.5 -1.4**
SOEI Soe 47.50 201 P **P** **16 02 40.7 -1.2**
comp=Z,50nm,0.8s
D20K Etivluk River 47.70 26 P **P** **16 02 44.3 +1.5**
baz=260
TPRI Tanjung Pinang 47.73 232 P **P** **16 02 42.5 -1.1**
comp=Z,21nm,0.8s
B20K Meade River 47.76 24 IAmb IAmb 16 03 17.9
comp=Z,14nm,0.9s
B20K Meade River 47.76 24 P **P** **16 02 44.9 +1.8**
baz=258
E20K Nigu River 47.78 27 P **P** **16 02 44.7 +1.3**
baz=261
CHKK Chushkaly 48.14 300 *e*P **P** **16 02 46.4 0.0**
baz=300
CHKK Chushkaly 48.14 300 *e*P **P** **16 02 46.4 0.0**
K20K Telida 48.14 34 IAmb IAmb 16 03 13.6
comp=Z,13nm,1.1s
A21K Barrow 48.21 23 P **P** **16 02 47.4 +0.8**
baz=258
MDOK Medeo 48.25 299 *e*P **P** **16 02 47.4 -0.2**
baz=299
MDOK Medeo 48.25 299 *e*P **P** **16 02 47.3 -0.2**
AAA Alma-Ata 48.33 299 *e*P **P** **16 02 48.3 +0.2**
baz=299
AAA Alma-Ata 48.33 299 *e*P **P** **16 02 48.2 +0.2**
TNSS Tian-Shan 48.35 299 *e*P **P** **16 02 49.0 +0.5**
baz=299
TNSS Tian-Shan 48.35 299 *e*P **P** **16 02 49.0 +0.5**
DBNI Kabupaten Domp 48.41 209 P **P** **16 02 46.7 -2.1**
comp=Z,17nm,0.8s
C21K Knifeblade Rid 48.43 26 P **P** **16 02 50.3 +2.0**
baz=261
KDU Kakadu 48.55 190 P **P** **16 02 49.1 -0.7**
B21K Ikpikpuk River 48.56 25 P **P** **16 02 51.3 +2.0**
baz=261
OHAK Old Harbor 48.57 42 P **P** **16 02 50.5 +1.0**
KUU Kurty 48.59 300 *e*P **P** **16 02 49.5 -0.4**
comp=Z,15nm,0.7s,baz=300
KUU Kurty 48.59 300 *e*P **P** **16 02 49.5 -0.4**
KUU pmax pmax
comp=Z,15nm,0.7s
G21K Allakaket 48.60 29 P **P** **16 02 51.6 +2.0**
baz=265
E21K Killik River 48.62 27 IAmb IAmb 16 03 11.5
comp=Z,13nm,0.9s
E21K Killik River 48.62 27 P **P** **16 02 51.2 +1.4**
baz=263
A22K Sinclair Lake 48.67 23 P **P** **16 02 51.5 +1.4**
baz=260
H21K Melozitna Rive 48.82 31 P **P** **16 02 53.2 +1.9**
baz=266
MTN Manton Dam 48.91 192 P **P** **16 02 51.9 -0.6**
KDAK Kodiak Island 48.91 41 P **P** **16 02 52.9 +0.8**
KDAK Kodiak Island 48.91 41 P **P** **16 02 53.3 +1.1**
baz=274
KDAK Kodiak Island 48.91 41 P **P** **16 02 52.9 +0.8**
KDAK pmax pmax
comp=Z,80nm,1.7s
KDAK Kodiak Island 48.91 41 LR LR 16 23 17.5
comp=Z,68nm,21.6s,baz=83,slow=36
PLAI Plampang 48.92 210 P **P** **16 02 49.8 -2.9**
CHUM Lake Minchumin 48.94 33 P **P** **16 02 54.9 +2.6**
baz=268
N20K Mount Spurr 48.97 36 P **P** **16 02 54.9 +2.2**
baz=271
CAST Castle Rocks 49.04 34 P **P** **16 02 55.5 +2.4**
CAST IAmb IAmb 16 03 42.1
comp=Z,45nm,2.0s
B22K Teshekpuk Lake 49.07 24 IAmb IAmb 16 03 39.1
comp=Z,23nm,1.3s
B22K Teshekpuk Lake 49.07 24 P **P** **16 02 54.9 +1.7**
baz=262
D22K Ayikyak River 49.14 26 IAmb IAmb 16 03 15.5
comp=Z,19nm,1.0s
D22K Ayikyak River 49.14 26 P **P** **16 02 56.0 +2.2**
baz=264
TKM2 Tokmak 2 49.34 299 P **P** **16 02 57.2 +1.3**
SNR=32
TKM2 Tokmak 2 49.34 299 *i*P **P** **16 02 56.2 +0.3**
TKM2 pmax pmax
comp=Z,37nm,0.7s
E22K Anaktuvuk Pass 49.39 27 P **P** **16 02 57.1 +1.3**
E22K IAmb IAmb 16 03 17.8
comp=Z,18nm,1.1s
E22K Anaktuvuk Pass 49.39 27 P **P** **16 02 57.7 +2.0**
baz=265
H22K Ishtalitna Cre 49.42 30 P **P** **16 02 58.0 +2.1**
baz=268
NRN Naryn 49.43 297 IAmb IAmb 16 02 58.6
comp=Z,12nm,0.8s
MLY Manley 49.66 31 P **P** **16 02 59.3 +1.5**
MLY IAmb IAmb 16 03 01.9
comp=Z,42nm,1.9s
MLY Manley 49.66 31 P **P** **16 03 00.1 +2.3**
baz=269
KZA Kyzart 49.80 298 P **P** **16 03 01.4 +1.7**
SNR=13
BRZS Berezniki 49.82 309 *e*P **P** **16 02 58.9 -0.3**
baz=309
BRZS Berezniki 49.82 309 *e*P **P** **16 02 58.9 -0.3**
KBK Karagaybulak 49.87 299 P **P** **16 03 01.0 +1.1**
SNR=44
SGDS Sogindy 49.89 300 *e*P **P** **16 02 59.9 -0.1**
comp=Z,7.9nm,0.8s,baz=300
SGDS Sogindy 49.89 300 *e*P **P** **16 02 59.8 -0.2**
SGDS pmax pmax
comp=Z,8.0nm,0.8s
BTLS Baital 49.92 302 *e*P **P** **16 03 00.0 0.0**
comp=Z,6.2nm,0.6s,baz=302
BTLS Baital 49.92 302 *e*P **P** **16 03 00.0 0.0**
BTLS pmax pmax
comp=Z,6.0nm,0.6s
CHMS Chumysh 49.92 299 P **P** **16 03 00.9 +0.8**
SNR=12
C23K Itkillik River 49.97 25 IAmb IAmb 16 03 29.5
comp=Z,10nm,0.8s
C23K Itkillik River 49.97 25 P **P** **16 03 01.8 +1.8**
baz=265
KSH Kashi 49.98 295 P **P** **16 03 05.0 +4.3**
KSH PcP **PcP** **16 04 20.0 +0.1**
KSH pmax pmax
comp=Z,17nm,0.8s
USP Ospenovka 50.03 300 P **P** **16 03 01.0 0.0**
SNR=18
FRU1 Bishkek 50.06 299 P **P** **16 03 02.0 +0.9**
FRU1 Bishkek 50.06 299 P **P** **16 03 02.1 +0.9**
FRU1 pmax pmax
comp=Z,30nm,0.8s
AAK Ala-Archa 50.20 299 P **P** **16 03 03.1 +0.7**
SNR=19
AAK Ala-Archa 50.20 299 P **P** **16 03 02.6 +0.3**
AAK IAmb IAmb 16 03 04.1
comp=Z,17nm,0.7s
AAK Ala-Archa 50.20 299 *ce*P **P** **16 03 03.0 +0.7**
AAK pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 50.20 299 LR LR 16 25 41.4
comp=Z,99nm,19.4s,baz=74,slow=38
AAK Ala-Archa 50.20 299 P **P** **16 03 02.7 +0.4**
AAK Ala-Archa 50.20 299 P **P** **16 03 03.0 +0.7**
AAK PcP **PcP** **16 04 21.1 +0.4**
E23K Chandalar 50.21 27 P **P** **16 03 04.0 +2.0**
baz=267
TOLK Toolik Lake Re 50.25 27 P **P** **16 03 03.5 +1.2**
TOLK IAmb IAmb 16 03 31.1
comp=Z,17nm,1.3s
UCH Uchtor 50.29 299 P **P** **16 03 04.6 +1.1**
SNR=14
NEA2 Nenana 50.37 32 P **P** **16 03 04.5 +1.4**
NEA2 IAmb IAmb 16 03 42.5
comp=Z,17nm,1.1s
OTUK Ortayu 50.37 307 P **P** **16 03 03.4 0.0**

BKNI Bangkinang 50.45 235 P P 16 03 03.4 -1.0
RND Reindeer 50.49 34 P P 16 03 05.0 +0.9
RND IAmb IAmb 16 03 31.0
comp=Z,12nm,1.0s
RND Reindeer 50.49 34 P P 16 03 05.0 +0.9
RND pmax pmax
comp=Z,12nm,1.0s
D24K Happy Valley 50.55 26 IAmb IAmb 16 03 45.1
comp=Z,9.8nm,0.8s
D24K Happy Valley 50.55 26 P P 16 03 05.3 +0.9
baz=267
C24K Franklin Bluff 50.62 25 P P 16 03 06.6 +1.6
baz=267
E24K Your Creek 50.63 27 IAmb IAmb 16 03 34.2
comp=Z,14nm,1.2s
E24K Your Creek 50.63 27 P P 16 03 07.0 +1.9
baz=268
EKS2 Erkin-Say 50.70 299 P P 16 03 06.9 +0.8
SNR=8.7
BVA0 Borovoye Array 50.72 313 *i* P P 16 03 05.9 -0.1
BVAR Borovoye Array 50.72 313 P P 16 03 06.1 +0.1
comp=Z,11nm,0.5s,baz=82,slow=6.9,SNR=43
BVAR LR LR 16 24 58.3
comp=Z,78nm,20.0s,baz=60,slow=36
comp=Z,11nm,0.5s
MDM Murphy Dome 50.72 31 P P 16 03 07.3 +1.5
MDM IAmb IAmb 16 03 49.7
comp=Z,32nm,1.3s
KNK Knik Glacier 50.77 36 P 16 03 07.8 +1.6
KNK IAmb IAmb 16 03 43.6
comp=Z,45nm,1.7s
BRVK Borovoye 50.78 313 P P 16 03 06.2 -0.2
BRVK IAmb IAmb 16 03 10.4
comp=Z,28nm,1.1s
BRVK Borovoye 50.78 313 *ce* P P 16 03 06.7 +0.4
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 50.78 313 P P 16 03 06.8 +0.4
BRVK Borovoye 50.78 313 P P 16 03 06.5 +0.1
WRH Wood River Hil 50.79 32 P P 16 03 07.7 +1.4
WRH IAmb IAmb 16 03 38.0
comp=Z,44nm,2.0s
SML Sawmill 50.81 36 P P 16 03 07.6 +1.0
SML IAmb IAmb 16 03 36.9
comp=Z,12nm,0.8s
F24K Squaw Lake 50.85 28 P P 16 03 08.4 +1.7
H24K Noodor Dome 50.85 30 P P 16 03 08.6 +1.8
baz=271
COLA College 50.88 32 P P 16 03 09.0 +2.0
COLA College 50.88 32 P P 16 03 09.0 +2.0
COLA pmax pmax
comp=Z,12nm,0.3s
AML Almayashu 50.90 299 P P 16 03 09.4 +1.4
SNR=46
AML Almayashu 50.90 299 *i* P P 16 03 08.9 +0.9
AML pmax pmax
comp=Z,8.0nm,0.7s
CCB Clear Creek Bu 50.91 32 P P 16 03 07.8 +0.7
G24K Hadweenzic Riv 51.01 29 P P 16 03 10.6 +2.7
baz=270
POKR Poker Plat Res 51.05 31 P P 16 03 09.9 +1.6
POKR IAmb IAmb 16 03 36.3
comp=Z,21nm,0.9s
POKR Poker Plat Res 51.05 31 P P 16 03 10.2 +1.9
baz=272
DHY Denali Highway 51.17 34 P P 16 03 09.5 +0.1
SCM Sheep Creek Mo 51.28 35 P P 16 03 11.6 +1.5
SCM IAmb IAmb 16 03 31.9
comp=Z,26nm,1.2s
SCM Sheep Creek Mo 51.28 35 P P 16 03 11.6 +1.5
SCM pmax pmax
comp=Z,26nm,1.2s
HDA Harding Lake 51.29 32 P P 16 03 10.9 +0.8
HDA IAmb IAmb 16 03 36.2
comp=Z,11nm,0.8s
HDA Harding Lake 51.29 32 P P 16 03 10.9 +0.8
baz=273
IL31 51.30 32 P P 16 03 10.5 +0.5
IL31 IAmb IAmb 16 03 36.4
comp=Z,9.7nm,0.9s
ILAR Eielson Array 51.30 32 P P 16 03 10.7 +0.5
ILAR Eielson Array 51.30 32 P P 16 03 10.9 +0.8
comp=Z,3.5nm,0.7s,baz=268,slow=5.9,SNR=49
comp=Z,3.5nm,0.7s
D25K Kavik River 51.43 26 P P 16 03 12.7 +1.6
D25K IAmb IAmb 16 03 42.1
comp=Z,8.3nm,0.6s
D25K Kavik River 51.43 26 P P 16 03 12.4 +1.3
baz=269
UGM Wanagama 51.44 219 P P 16 03 08.8 -2.9
UGM Wanagama 51.44 219 P P 16 03 09.9 -1.9
ARSB Arslanbob 51.64 298 P P 16 03 13.4 +0.2
ARSB IAmb IAmb 16 03 15.4
comp=Z,17nm,1.4s
ARSB Arslanbob 51.64 298 P P 16 03 13.4 +0.2
ARSB pmax pmax
comp=Z,17nm,1.4s
F25K Christian Rive 51.71 28 P P 16 03 14.9 +1.7
baz=271
E25K Arctic Village 51.73 27 P P 16 03 13.6 +0.3
E25K Arctic Village 51.73 27 P P 16 03 15.1 +1.8
baz=271
M24K Tolsona, Glenn 51.80 35 P P 16 03 15.6 +1.6
M24K IAmb IAmb 16 04 00.1
comp=Z,27nm,1.1s
M24K Tolsona, Glenn 51.80 35 P P 16 03 15.5 +1.5
baz=275
PRP Porcupine Dome 51.84 31 P P 16 03 15.5 +1.2
PRP Porcupine Dome 51.84 31 P P 16 03 15.1 +0.8
baz=273
K24K Donnelly Dome 51.84 33 P P 16 03 15.1 +0.9
baz=274
FYU Fort Yukon 51.91 29 P P 16 03 16.4 +1.8
J25K Salcha River, 51.96 32 P P 16 03 16.8 +1.6
J25K IAmb IAmb 16 05 03.2
comp=Z,26nm,1.8s
KLU Klutina 51.98 36 P P 16 03 16.5 +1.1
KLU IAmb IAmb 16 03 55.0
comp=Z,30nm,1.4s
KLU Klutina 51.98 36 P P 16 03 17.3 +2.0
baz=276
LEM Lembang 52.07 222 LR LR 16 23 39.7
comp=Z,38nm,21.7s,baz=267,slow=34
KNRA Kununurra 52.10 194 P P 16 03 16.2 -0.3
KNRA Kununurra 52.10 194 P P 16 03 16.4 -0.1
GSI Gunungsitoli 52.10 239 P P 16 03 15.6 -1.1
GSI Gunungsitoli 52.10 239 P P 16 03 16.1 -0.6
GSI Gunungsitoli 52.10 239 P P 16 03 15.4 -1.3
comp=Z,86nm,0.9s
BMAR Burnt Mountain 52.12 28 P P 16 03 18.4 +2.2
EYAK Cordova Ski Ar 52.17 37 P P 16 03 18.3 +1.7
F26K Sheenjek River 52.28 28 P P 16 03 20.4 +3.0
baz=273
DZA Taraz 52.37 300 *e*P P 16 03 18.5 0.0
baz=300
DZA Taraz 52.37 300 *e*P P 16 03 18.5 0.0
G26K Porcupine Rive 52.46 29 P P 16 03 20.9 +2.3
baz=274
N25K Chitina, Valde 52.60 36 P P 16 03 21.5 +1.6
N25K IAmb IAmb 16 04 45.5
comp=Z,39nm,1.9s
SCRK Sand Creek 52.62 33 P P 16 03 21.0 +0.9
SCRK IAmb IAmb 16 03 46.6
comp=Z,12nm,1.0s
SCRK Sand Creek 52.62 33 P P 16 03 21.5 +1.5
baz=276
RAGM Ragged Mountai 52.72 37 P P 16 03 22.3 +1.5
J26L Joseph Creek 52.75 32 P P 16 03 21.8 +0.8
J26L IAmb IAmb 16 03 43.1
comp=Z,21nm,1.9s
KK31 Karatay Array 52.88 301 P P 16 03 21.7 -0.5
KK31 IAmb IAmb 16 03 23.9
comp=Z,27nm,1.1s
KK31 Karatay Array 52.88 301 *i* P P 16 03 22.8 +0.6
KKAR Karatay Array 52.88 301 P P 16 03 21.8 -0.4
KKAR PcP PcP 16 04 29.9 -0.6
KKAR Karatay Array 52.88 301 P P 16 03 21.8 -0.4
KKAR IAmb IAmb 16 03 23.9
comp=Z,27nm,1.1s
KKAR Karatay Array 52.88 301 P P 16 03 21.8 -0.4
KKAR pmax pmax
comp=Z,27nm,1.1s
KAIM Kayak Island 52.91 38 P 16 03 23.7 +1.6
GLB Gilahina Butte 52.99 36 P P 16 03 23.7 +0.9
GLB IAmb IAmb 16 03 50.3

comp=Z,25nm,1.5s
L26K Log Cabin Wild 53.01 34 IAmb IAmb 16 03 50.9
comp=Z,14nm,0.9s
L26K Log Cabin Wild 53.01 34 P P 16 03 24.6 +1.8
baz=277
VRDI Verde Repeater 53.19 36 P P 16 03 25.7 +1.2
VRDI IAmb IAmb 16 03 59.5
comp=Z,20nm,1.3s
E27K Coleen River 53.21 27 P P 16 03 26.1 +1.8
baz=275
M26K Nabesna, AK 53.25 34 P P 16 03 26.9 +2.2
baz=278
MCARA McCarthy VSAT 53.38 36 P P 16 03 27.1 +1.6
MCARA IAmb IAmb 16 03 54.8
comp=Z,23nm,1.0s
MCARA McCarthy VSAT 53.38 36 P P 16 03 27.4 +1.9
baz=278
H27K Steamboat Moun 53.42 30 P P 16 03 27.2 +1.3
baz=276
K27K Chicken 53.45 32 IAmb IAmb 16 03 53.5
comp=Z,10nm,0.9s
K27K Chicken 53.45 32 P P 16 03 27.9 +1.9
baz=277
TGL Tana Glacier 53.56 37 P P 16 03 27.4 +0.4
BTK Batken 53.60 297 P P 16 03 28.0 +0.4
L27K Beaver Creek, 53.69 34 P P 16 03 29.2 +1.4
L27K IAmb IAmb 16 03 56.1
comp=Z,11nm,1.0s
L27K Beaver Creek, 53.69 34 P P 16 03 29.8 +2.0
baz=278
BCAR Beaver Creek A 53.71 34 P P 16 03 29.5 +1.5
M27K Edge Creek, AK 53.77 34 IAmb IAmb 16 03 56.7
comp=Z,16nm,0.9s
M27K Edge Creek, AK 53.77 34 P P 16 03 30.8 +2.2
baz=279
ISLE Juniper Island 53.83 37 P P 16 03 30.3 +1.3
ISLE IAmb IAmb 16 03 57.3
comp=Z,24nm,1.3s
F28M Old Crow 53.91 28 IAmb IAmb 16 03 51.2
comp=Z,9.9nm,1.0s
F28M Old Crow 53.91 28 P P 16 03 31.8 +2.4
baz=277
E28M Babbage River 53.93 27 IAmb IAmb 16 03 57.8
comp=Z,29nm,1.6s
E28M Babbage River 53.93 27 P P 16 03 30.5 +1.0
baz=276
NIL Nilore 54.01 289 P P 16 03 30.3 -0.3
NIL Nilore 54.01 289 P P 16 03 30.3 -0.3
NIL Nilore 54.01 289 P P 16 03 31.4 +0.8
NIL Nilore 54.01 289 P P 16 03 31.5 +0.9
BARN Barnard Glacie 54.08 36 P P 16 03 31.5 +0.6
BARN IAmb IAmb 16 05 11.6
comp=Z,34nm,1.7s
GRNC Granite Creek 54.09 36 P P 16 03 31.4 +0.3
I28M Miner Creek 54.17 31 IAmb IAmb 16 03 58.9
comp=Z,13nm,0.9s
I28M Miner Creek 54.17 31 P P 16 03 33.0 +1.6
baz=278
BVCY Beaver Creek 54.23 34 P P 16 03 33.8 +2.0
baz=280
CTG Chitna Glacier 54.25 36 P P 16 03 33.6 +1.5
baz=280
CTGM Chitina Glacie 54.25 36 P P 16 03 32.7 +0.6
CTGM IAmb IAmb 16 05 25.4
comp=Z,41nm,1.6s
YUK3 Moose Creek 54.52 35 P P 16 03 35.7 +1.6
baz=280
E29M Blow River 54.55 27 IAmb IAmb 16 04 01.8
comp=Z,17nm,1.1s
E29M Blow River 54.55 27 P P 16 03 36.3 +2.3
baz=278
H29M Whitestone 54.69 29 P P 16 03 37.1 +2.0
baz=279
G29M Pine Creek 54.72 29 P P 16 03 37.7 +2.5
baz=279
I29M Ogilvie Camp, 54.85 30 P P 16 03 38.2 +2.0
baz=280
FITZ Fitzroy Crossi 55.12 197 P P 16 03 38.5 -0.1
FITZ IAmb IAmb 16 03 39.8
comp=Z,10nm,1.0s
FITZ Fitzroy Crossi 55.12 197 P P 16 03 39.0 +0.4
M29M Somme Creek 55.32 34 IAmb IAmb 16 04 08.4
comp=Z,8.4nm,0.8s
M29M Somme Creek 55.32 34 P P 16 03 42.3 +2.6
baz=282
WB0 Warramunga Arr 55.32 186 P P 16 03 39.5 -0.6
EPYK Eagle Plains 55.32 29 P P 16 03 39.9 +0.2
EPYK Eagle Plains 55.32 29 P P 16 03 41.5 +1.9
baz=280,SNR=9.6
L29M L29M 55.34 33 IAmb IAmb 16 04 08.8
comp=Z,16nm,0.9s
SIMJ Simiganj 55.39 296 P P 16 03 40.6 0.0
SIMJ IAmb IAmb 16 03 42.0
comp=Z,22nm,0.8s
SIMJ Simiganj 55.39 296 P P 16 03 40.9 +0.3
SIMJ PcP PcP 16 04 40.5 +0.2
G30M tAoh Zraii Nji 55.41 28 P P 16 03 42.0 +1.7
baz=280
F30M Barrier River 55.46 28 P P 16 03 42.3 +1.7
baz=280
K29M Barlow Dome 55.46 32 P P 16 03 42.5 +1.7
K29M IAmb IAmb 16 04 15.0
comp=Z,40nm,1.9s
K29M Barlow Dome 55.46 32 P P 16 03 42.9 +2.1
baz=281
WRAB Tennant Creek 55.49 186 P P 16 03 40.4 -0.9
WRAB Tennant Creek 55.49 186 P P 16 03 40.4 -0.9
WRAB pmax pmax
comp=Z,28nm,0.5s
SVE Sverdlovsk 55.49 319 *e*P P 16 03 41.7 +0.8
SVE pmax pmax
comp=Z,25nm,0.8s
WB2 Warramunga Arr 55.50 186 P P 16 03 40.8 -0.6
WR0 Warramunga Arr 55.50 186 P P 16 03 40.8 -0.5
WRA Warramunga Arr 55.50 186 P P 16 03 39.9 -1.4
WRA Warramunga Arr 55.50 186 P P 16 03 40.8 -0.6
comp=Z,24nm,0.5s,baz=0.0,slow=7.6,SNR=606
WRA ScP ScP 16 08 33.4 +0.3
comp=Z,1.0nm,0.8s,baz=2.6,slow=4.3,SNR=4.6
comp=Z,24nm,0.5s
I30M Mount Dempster 55.68 30 IAmb IAmb 16 04 09.8
comp=Z,20nm,0.9s
I30M Mount Dempster 55.68 30 P P 16 03 44.6 +2.3
baz=281
YUK6 Outpost Mounta 55.68 36 P P 16 03 45.1 +2.6
baz=283
CTA Charters Tower 55.70 173 LR LR 16 26 00.6
comp=Z,48nm,20.9s,baz=14,slow=34
CTAO Charters Tower 55.70 173 P P 16 03 42.8 +0.1
CTAO IAmb IAmb 16 04 21.8
comp=Z,20nm,1.2s
CTAO Charters Tower 55.70 173 P P 16 03 43.0 +0.3
CTAO Charters Tower 55.70 173 P P 16 03 42.8 +0.1
CTAO pmax pmax
comp=Z,20nm,1.3s
J30M Hart River 55.83 31 P P 16 03 44.8 +1.4
J30M Hart River 55.83 31 P P 16 03 44.6 +1.2
baz=282
QIS Mount Isa 55.85 180 P P 16 03 43.7 -0.1
M30M Minto, Yukon 56.05 34 P P 16 03 46.8 +1.9
M30M IAmb IAmb 16 04 34.3
comp=Z,26nm,1.6s
M30M Minto, Yukon 56.05 34 P P 16 03 47.5 +2.6
baz=283
HYT Haines Junctio 56.11 36 P P 16 03 47.8 +2.3
HYT IAmb IAmb 16 04 13.4
comp=Z,9.2nm,0.9s
INK Inuvik 56.17 27 P P 16 03 46.8 +1.3
INK IAmb IAmb 16 04 06.4
comp=Z,37nm,1.9s
INK Inuvik 56.17 27 P P 16 03 46.0 +0.5
baz=282
INK Inuvik 56.17 27 P P 16 03 46.8 +1.3
INK pmax pmax
comp=Z,37nm,1.9s
G31M Satah River 56.17 28 P P 16 03 46.8 +1.2
baz=282
P29M Windy Craggy 56.28 37 P P 16 03 49.3 +2.7
baz=284
H31M Peel River 56.38 30 IAmb IAmb 16 03 53.7
comp=Z,20nm,0.8s
H31M Peel River 56.38 30 P P 16 03 49.4 +2.2
baz=283
ARU Arti 56.70 319 P P 16 03 49.5 0.0
ARU Arti 56.70 319 *c i*P P 16 03 49.7 +0.2
ARU *PP pP 16 04 08.9 +1.2

ARU 16 04 44.8
ARU S S 16 11 38.7 +2.1
ARU pmax pmax
comp=Z,30nm,0.6s
ARU Arti 56.70 319 LR LR 16 30 49.5
comp=Z,55nm,19.1s,baz=16,slow=39
ARU Arti 56.70 319 P P 16 03 49.8 +0.2
KBL Kabul 56.89 291 P P 16 03 51.3 -0.2
KBL IAmb IAmb 16 03 52.8
comp=Z,17nm,0.9s
KBL Kabul 56.89 291 P P 16 03 51.3 -0.2
KBL pmax pmax
comp=Z,17nm,1.0s
KBL Kabul 56.89 291 P P 16 03 51.5 0.0
SNR=11
KBL P P 16 03 51.5 0.0
SNR=11
HYB Hyderabad 57.05 269 *e*P P 16 03 52.7 +0.1
HYB IVmB_BB 16 03 52.9
comp=Z,362nm,1.0s
HYB *e*sP sP 16 04 20.5 +1.9
M31M Drury Creek, Y 57.23 34 P P 16 03 55.2 +2.0
baz=285
FARO Faro, Yukon 57.69 34 P P 16 03 57.7 +1.2
FARO IAmb IAmb 16 03 59.1
comp=Z,23nm,1.6s
A36M Sachs Harbour 58.00 21 P P 16 04 00.3 +1.9
baz=287
AB31 Akbulak array 58.01 310 *i* P P 16 03 58.3 -0.6
ABKAR Akbulak array 58.01 310 P P 16 03 59.0 0.0
ABKAR Akbulak array 58.01 310 P P 16 03 58.9 0.0
JIS Juneau Island 58.32 38 P P 16 03 57.4 -3.5
P33M Teslin, Yukon 58.51 36 P P 16 04 04.0 +1.7
AKTO Aktyubinsk 58.81 312 P P 16 04 03.7 -0.7
AKTO Aktyubinsk 58.81 312 LR LR 16 30 42.6
comp=Z,74nm,19.8s,baz=292,slow=37
C36M Paulatuk 59.20 24 P P 16 04 08.1 +1.3
baz=289
AS31 Alice Springs 59.23 187 P P 16 04 06.9 -0.6
AS31 IAmb IAmb 16 04 09.9
comp=Z,4.5nm,0.5s
ASAR Alice Springs 59.23 187 P P 16 04 07.4 -0.1
ASAR Alice Springs 59.23 187 P P 16 04 07.4 -0.1
ASAR Alice Springs 59.23 187 P P 16 04 07.2 -0.3
comp=Z,6.2nm,0.5s,baz=18,slow=10.0,SNR=228
ASAR PKP2bc P'P'bc 16 33 50.0 +4.7
comp=Z,1.6nm,0.8s,baz=180,slow=2.5,SNR=13
ASAR PKP2ab P'P'ab 16 34 02.0 +3.8
comp=Z,2.4nm,1.2s,baz=174,slow=3.7,SNR=4.7
comp=Z,6.2nm,0.5s
MBWA Marble Bar 59.64 202 P P 16 04 09.8 -0.6
MBWA Marble Bar 59.64 202 P P 16 04 09.9 -0.5
MBWA Marble Bar 59.64 202 P P 16 04 09.2 -1.2
MBWA Marble Bar 59.64 202 P P 16 04 10.1 -0.3
MBWA pP pP 16 04 26.1 -2.6
PSA00 Pilbara Seismi 59.99 202 P P 16 04 12.4 -0.4
PSA00 Pilbara Seismi 59.99 202 IAmb IAmb 16 04 13.3
comp=Z,24nm,0.9s
PSA00 Pilbara Seismi 59.99 202 P P 16 04 12.7 -0.1
KIRV Kirov 60.72 323 *ce*P P 16 04 16.8 -0.6
KIRV Kirov 60.72 323 P P 16 04 17.9 +0.5
comp=Z,49nm,0.6s,baz=85,slow=3.2,SNR=20
KIRV LR LR 16 31 47.2
comp=Z,61nm,19.2s,baz=59,slow=37
comp=Z,49nm,0.6s
PALK Pallekele 60.97 257 LR LR 16 32 54.4
comp=Z,34nm,19.6s,baz=144,slow=38
PALK Pallekele 60.97 257 P P 16 04 20.3 +0.5
HOPEN Hopen 61.16 346 *e*P P 16 04 21.5 +1.4
WRKA Warakurna 61.32 192 P P 16 04 21.9 +0.1
ALE Alert 61.61 3 P P 16 04 24.3 +1.3
ALE pP pP 16 04 41.0 -0.5
SPA0 Spitsbergen Ar 61.71 349 *e*P P 16 04 25.0 +1.1
SPB2 Spitsbergen Ar 61.71 349 P P 16 04 23.6 -0.2
SPITS Spitsbergen Ar 61.71 349 P P 16 04 24.1 +0.2
comp=Z,7.7nm,0.5s,baz=82,slow=7.7,SNR=30
comp=Z,7.7nm,0.5s
KBS Kingsbay 61.88 350 *e*P P 16 04 26.3 +1.4
KBS Kingsbay 61.88 350 *ce*P P 16 04 27.2 +2.3
KBS pmax pmax
comp=Z,61nm,1.7s
KBS Kingsbay 61.88 350 *i* P P 16 04 25.6 +0.7
HRA Herat 62.07 294 P P 16 04 27.7 +0.5
HRA IAmb IAmb 16 04 48.9
comp=Z,9.7nm,0.7s
DZM Mont Dzumac 62.58 152 LR LR 16 28 37.9
comp=Z,26nm,21.9s,baz=18,slow=33
GIRL Giralia 62.87 207 P P 16 04 31.7 -0.5
LVZ Lovozero 62.96 336 *i* P P 16 04 32.3 0.0
LVZ pmax pmax
comp=Z,27nm,1.3s
INKA Innaminka 63.00 179 P P 16 04 33.1 +0.2
OOD Oodnadatta 63.19 184 P P 16 04 34.3 +0.1
VADS Vadso 63.50 339 *e*P P 16 04 36.4 +0.6
VADS IAmb IAmb 16 04 37.0
comp=Z,42nm,0.8s
APA Apatity 63.53 336 ⇓ *i*P P 16 04 35.9 -0.2
APA *i* 16 05 16.0
APA *i* 16 06 59.0
APA *i* S S 16 13 01.0 -2.8
APA *i* PS PnS 16 13 23.0 -6.7
APA *i* 16 14 28.0
APA pmax pmax
comp=Z,19nm,0.8s
APA MLR MLR
comp=Z,500nm,19.0s
GEYT Alibeck 63.55 299 IAmb IAmb 16 05 06.0
comp=Z,9.0nm,0.8s
GEYT Alibeck 63.55 299 P P 16 04 37.5 +0.8
comp=Z,3.9nm,0.6s,baz=72,slow=6.4,SNR=11
GEYT LR LR 16 34 33.8
comp=Z,77nm,18.6s,baz=16,slow=38
comp=Z,3.9nm,0.6s
BELG Belogornoye 64.09 317 ⇑ *i*P P 16 04 40.0 +0.1
BELG pmax pmax
comp=Z,10.0nm,0.9s
BELG Belogornoye 64.09 317 P P 16 04 40.1 +0.1
comp=Z,45nm,0.8s,baz=149,slow=3.0,SNR=17
comp=Z,45nm,0.8s
RES Resolute Bay 64.26 14 P P 16 04 41.3 +0.6
RES IAmb IAmb 16 04 43.4
comp=Z,17nm,0.8s
RES Resolute Bay 64.26 14 P P 16 04 41.1 +0.3
comp=Z,14nm,0.8s,baz=299,slow=6.7,SNR=26
comp=Z,14nm,0.8s
KLMR Klimovskoe 64.37 328 *e*P P 16 04 38.9 -2.8
KLMR *e**PP pP 16 05 00.5 +0.4
KLMR pmax pmax
comp=Z,23nm,0.7s
HAMF Hammerfest 64.80 341 *e*P P 16 04 44.7 +0.4
ARA0 ARCESS Array S 64.94 339 IAmb IAmb 16 04 47.4
comp=Z,26nm,1.0s
ARCES ARCESS Array B 64.94 339 P P 16 04 45.5 +0.3
ARCES ARCESS Array B 64.94 339 P P 16 04 45.6 +0.3
ARCES pmax pmax
comp=Z,99nm,1.9s
ARCES ARCESS Array B 64.94 339 P P 16 04 45.9 +0.6
comp=Z,14nm,0.7s,baz=60,slow=7.5,SNR=60
ARCES LR LR 16 35 36.9
comp=Z,32nm,20.6s,baz=90,slow=38
comp=Z,14nm,0.7s
MEEK Meekatharra 65.12 201 P P 16 04 46.4 -0.6
YKA Yellowknife Ar 65.61 29 P P 16 04 50.4 +0.8
comp=Z,2.6nm,0.8s,baz=301,slow=6.7,SNR=38
comp=Z,2.6nm,0.8s
LCRK Leigh Creek 65.72 182 P P 16 04 51.3 +0.7
MULG Mulgathing 65.77 186 P P 16 04 51.2 +0.2
KTK1 Kautokeino 65.91 339 *e*P P 16 04 52.0 +0.5
KTK1 IAmb IAmb 16 04 52.3
comp=Z,21nm,0.8s
JETT Jettan, Norway 66.36 341 *e*P P 16 04 54.3 -0.1
TRO Tromso 66.71 341 *e*P P 16 04 56.9 +0.4
TRO IAmb IAmb 16 04 57.6
comp=Z,17nm,0.9s
FORT Forrest 66.98 191 P P 16 04 58.7 0.0
FORT Forrest 66.98 191 P P 16 04 58.7 0.0
CMSA Cobar Meteorol 66.99 175 P P 16 04 59.6 +0.8
NEEM North Greenlan 67.01 3 *i* P P 16 04 58.9 +0.1
NEEM IAmb IAmb 16 05 01.7
comp=Z,29nm,0.7s
DAG Danmarks Havn 67.10 355 *i* P P 16 04 59.0 0.0
DAG IAmb IAmb 16 05 00.5
comp=Z,15nm,0.9s
STKA Stephens Creek 67.14 179 P P 16 04 59.7 0.0
STKA Stephens Creek 67.14 179 P P 16 04 59.7 0.0

STKA Stephens Creek 67.14 179 P **P** **16 04 59.1 -0.5**
comp=Z,9.1nm,0.8s,baz=342,slow=7.1,SNR=20
comp=Z,9.1nm,0.8s
MOS Moscow 67.73 323 *e*P **P** **16 05 02.1 -1.2**
MOS *e* 16 05 21.9
MOS *e* 16 05 28.4
MOS pmax pmax
comp=Z,37nm,0.9s
VRH Novokhopyorsk 67.89 318 *e*P **P** **16 05 02.2 -2.2**
VRH pmax pmax
comp=Z,30nm,0.7s
BBOO Buckleboo 68.15 184 P **P** **16 05 06.1 0.0**
BBOO IAmb IAmb 16 05 06.9
comp=Z,14nm,1.0s
BBOO Buckleboo 68.15 184 P **P** **16 05 06.0 0.0**
MORW Morawa 68.18 203 P **P** **16 05 06.4 +0.1**
MORW Morawa 68.18 203 P **P** **16 05 06.6 +0.3**
MAK Makhachkala 68.46 308 *e*P **P** **16 05 07.7 -0.4**
MAK *e**PP **pP** **16 05 26.3 -0.4**
MAK *e**SP **sP** **16 05 34.6 +0.1**
MAK *e* 16 07 39.1
MAK *e*S **S** **16 14 06.0 +1.7**
MAK *e**SS **sS** **16 14 36.0 0.0**
MAK *e*SS **SS** **16 18 29.2 +0.6**
MAK pmax pmax
comp=Z,710nm,1.9s
MAK MLR MLR
comp=Z,195nm,18.0s
OBN Obninsk 68.57 323 P **P** **16 05 08.5 0.0**
OBN IAmb IAmb 16 05 09.6
comp=Z,25nm,0.9s
OBN Obninsk 68.57 323 *ce*P **P** **16 05 08.4 -0.1**
OBN *e* 16 05 32.9
OBN *e*S **S** **16 13 58.5 -6.8**
OBN pmax pmax
comp=Z,24nm,0.8s
OBN MLR MLR
comp=Z,113nm,20.0s
OBN Obninsk 68.57 323 P **P** **16 05 08.6 0.0**
comp=Z,13nm,0.5s,baz=174,slow=22,SNR=5.7
comp=Z,13nm,0.5s
HTT Hallett 68.68 181 P **P** **16 05 09.9 +0.5**
LPSR Galich'ya Gora 68.68 320 *e*P **P** **16 05 07.2 -2.1**
LPSR pmax pmax
comp=Z,30nm,0.6s
STEI Steigen 68.85 341 *e*P **P** **16 05 10.4 +0.4**
STEI IAmb IAmb 16 05 11.4
comp=Z,34nm,0.9s
FAUS Fauske 69.22 340 *e*P **P** **16 05 12.8 +0.4**
FAUS IAmb IAmb 16 05 13.6
comp=Z,32nm,0.8s
VSR Storozhevoye 69.27 319 *e*P **P** **16 05 10.6 -2.4**
VSR pmax pmax
comp=Z,20nm,0.6s
VORD Divnogorie 69.33 318 *e*P **P** **16 05 10.8 -2.5**
VORD pmax pmax
comp=Z,20nm,1.0s
JASK Jask - Hormozg 69.42 288 P **P** **16 05 15.7 +1.3**
FIA1 FINESS Array S 69.56 332 P **P** **16 05 14.6 +0.1**
FINES FINESS Array B 69.56 332 P **P** **16 05 14.6 +0.1**
FINES FINESS Array B 69.56 332 P **P** **16 05 14.6 +0.1**
FINES FINESS Array B 69.56 332 P **P** **16 05 14.8 +0.2**
comp=Z,27nm,0.7s,baz=88,slow=6.0,SNR=110
FINES LR LR 16 36 41.0
comp=Z,47nm,19.1s,baz=32,slow=37
comp=Z,27nm,0.7s
KLBR Kellerberrin 70.03 200 P **P** **16 05 17.4 -0.4**
JLN Jalan Bani Buh 70.10 283 P **P** **16 05 18.9 +0.3**
WSAR Wadi Sarin 70.16 285 LR LR 16 41 00.5
comp=Z,24nm,20.4s,baz=53,slow=40
WSAR Wadi Sarin 70.16 285 P **P** **16 05 19.1 +0.2**
WBK Wadi Bani Khal 70.21 284 P **P** **16 05 19.9 +0.6**
MOR8 Moi Rana 70.31 339 *e*P **P** **16 05 18.4 -0.7**
MOR8 IAmb IAmb 16 05 18.9
comp=Z,39nm,0.8s
BIDO Bidbid 70.41 285 P **P** **16 05 20.8 +0.3**
KONS Konsvik 70.45 340 *e*P **P** **16 05 20.7 +0.8**
STOK Stokkvaagen 70.60 340 *e*P **P** **16 05 21.1 +0.3**
SHME Shamm 70.66 289 P **P** **16 05 22.4 +0.4**
SNR=6.1
SMDO Samad 70.71 285 P **P** **16 05 23.1 +0.7**
ZEI Tsey 70.84 309 *e*P **P** **16 05 21.9 -1.1**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
MUN Mundaring 70.84 201 P **P** **16 05 23.0 +0.3**
MEF Metsahovi 70.97 332 *e*P **P** **16 05 22.6 -0.5**
KBZ Khabaz 70.98 310 *ce*P **P** **16 05 24.5 +0.9**
KBZ pmax pmax
comp=Z,22nm,0.9s
KBZ Khabaz 70.98 310 P **P** **16 05 23.9 +0.3**
comp=Z,16nm,0.9s,baz=70,slow=3.2,SNR=28
KBZ LR LR 16 40 20.5
comp=Z,59nm,18.7s,baz=24,slow=39
comp=Z,16nm,0.9s
MASF Masafi 70.99 288 P **P** **16 05 24.5 +0.5**
KIV Kislovodsk 71.00 311 P **P** **16 05 24.1 +0.3**
KIV Kislovodsk 71.00 311 *ce*P **P** **16 05 24.2 +0.4**
KIV *e* 16 05 44.9
KIV *e* 16 08 00.6
KIV *e*S **S** **16 14 41.3 +7.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,35nm,15.0s
KIV Kislovodsk 71.00 311 P **P** **16 05 24.2 +0.4**
KIV Kislovodsk 71.00 311 P **P** **16 05 25.3 +1.5**
KIV pP **pP** **16 05 42.4 -0.1**
KIV PcP **PcP** **16 05 44.5 +0.6**
JMDO Jabal Madar 71.02 284 P **P** **16 05 24.4 +0.2**
VSU Vasula 71.12 329 *ce*P **P** **16 05 24.7 +0.6**
VSU pmax pmax
comp=Z,64nm,1.7s
VSU Vasula 71.12 329 *e*P **P** **16 05 25.0 +0.9**
HATD Hatta, Dubai 71.30 287 P **P** **16 05 26.1 +0.3**
SNR=7.0
SOHO SOHO 71.34 287 P **P** **16 05 26.2 +0.2**
ASHO Ashiyiah 71.43 287 P **P** **16 05 27.0 +0.3**
NWAO Narrogin (SRO) 71.44 200 P **P** **16 05 25.6 -0.6**
NWAO Narrogin (SRO) 71.44 200 P **P** **16 05 26.2 0.0**
NWAO Narrogin (SRO) 71.44 200 P **P** **16 05 26.3 0.0**
NWAO Narrogin (SRO) 71.44 200 P **P** **16 05 25.6 -0.6**
NWAO Narrogin (SRO) 71.44 200 P **P** **16 05 26.0 -0.2**
RAF Rauma 71.44 333 *e*P **P** **16 05 26.5 +0.5**
BSY Bisya 71.54 285 P **P** **16 05 27.5 +0.2**
GNI Garni 71.66 306 LR LR 16 39 29.0
comp=Z,98nm,18.5s,baz=41,slow=38
FAQ Al Faqa, Dubai 71.76 288 P **P** **16 05 29.0 +0.4**
ARQ Araqi 71.76 286 P **P** **16 05 29.4 +0.7**
SNR=7.9
MHTO MHTO 71.85 283 P **P** **16 05 29.7 +0.6**
SNR=8.0
NEW Newport 71.94 43 P **P** **16 05 31.0 +1.7**
baz=303,SNR=5.4
NEW Newport 71.94 43 LR LR 16 35 09.1
comp=Z,129nm,20.7s,baz=70,slow=34
ALNE Al Ain 71.99 287 P **P** **16 05 30.6 +0.6**
ARPS Mount Arapiles 72.02 178 P **P** **16 05 30.0 +0.4**
ASUD Al Ashush, Dub 72.02 288 P **P** **16 05 30.9 +0.7**
YBH Yreka Blue Hor 72.11 51 LR LR 16 30 53.1
comp=Z,64nm,21.4s,baz=56,slow=30
SUMG Summit 72.11 360 *i* P **P** **16 05 31.0 +0.6**
SUMG IAmb IAmb 16 05 33.2
comp=Z,30nm,0.8s
PINE Pine Mountain 72.12 49 P **P** **16 05 30.9 +0.2**
PINE IAmb IAmb 16 05 59.6
comp=Z,18nm,1.0s
MTSE Matsula 72.15 331 *e*P **P** **16 05 31.3 +1.0**
J05D Fort Rock, OR 72.21 49 P **P** **16 05 31.9 +0.7**
NSS Namsos 72.22 339 *e*P **P** **16 05 31.1 +0.5**
K05A Summer Lake 72.72 50 P **P** **16 05 35.0 +0.7**
K05A IAmb IAmb 16 05 37.8
comp=Z,19nm,1.1s
DQM DQM 72.75 282 P **P** **16 05 34.8 +0.3**
MILA Mila 72.78 172 P **P** **16 05 35.5 +1.2**
SOC Sochi 73.02 312 *e*P **P** **16 05 34.6 -1.2**
SOC *e* 16 08 17.7
SOC *e*PPP PPP 16 10 02.3
SOC *e*S **S** **16 14 56.4 -0.9**
SOC *e*SS **SS** **16 19 38.2 -0.3**
SOC *e*SSS SSS 16 22 59.8
MNK Minsk 73.05 326 *i* P **P** **16 05 36.5 +0.8**
MNK *i* 16 05 51.6
MNK *i* *PP **pP** **16 05 57.5 +3.0**
MNK *i* 16 08 20.1
MNK *i* PPP PPP 16 10 05.0
MNK *i* S **S** **16 14 58.5 +1.2**
MNK *i* *SS **SKSac** **16 15 34.9 -0.2**
MNK *i* SS **SS** **16 19 42.1 +3.7**
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,44nm,0.8s
ISAL Salakas 73.18 327 *e*P **P** **16 05 37.6 +1.1**
SCO Scoresbysund 73.42 354 P **P** **16 05 38.4 +0.8**
SCO IAmb IAmb 16 05 40.2
comp=Z,16nm,0.9s
SCO Scoresbysund 73.42 354 P **P** **16 05 38.4 +0.8**
SCO pmax pmax
comp=Z,16nm,0.9s
SCO Scoresbysund 73.42 354 *i* P **P** **16 05 38.4 +0.8**
SCO IAmb IAmb 16 05 40.3
comp=Z,9.2nm,0.7s
SLIT Slitere, Latvi 73.47 330 *e*P **P** **16 05 38.3 +0.1**
UMMG Uummannaq 73.66 4 *i* P **P** **16 05 39.0 -0.1**
UMMG IAmb IAmb 16 05 40.9
comp=Z,17nm,0.7s
TBLU Trondheim 73.69 339 *e*P **P** **16 05 39.2 -0.1**
JRN Qarnain Island 73.77 289 P **P** **16 05 39.7 -0.8**
PABE Paberze 74.16 328 P **P** **16 05 41.5 -0.7**
PABE Paberze 74.16 328 *e*P **P** **16 05 43.3 +1.1**
PBUR Paburge 74.69 329 *e*P **P** **16 05 45.8 +0.5**
AKASG Malin Array Be 74.74 322 IAmb IAmb 16 05 46.9
comp=Z,15nm,1.0s
AKASG Malin Array Be 74.74 322 P **P** **16 05 45.6 0.0**
comp=Z,11nm,0.6s,baz=47,slow=5.8,SNR=76
AKASG LR LR 16 39 39.8
comp=Z,112nm,19.2s,baz=38,slow=36
comp=Z,11nm,0.6s
AKBB Malin Array Si 74.74 322 P **P** **16 05 44.7 -1.0**
AKBB Malin Array Si 74.74 322 *i* P **P** **16 05 45.6 -0.1**
AKBB pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 74.75 322 ⇑P **P** **16 05 46.9 +1.1**
KIEV Kiev 74.75 322 P **P** **16 05 45.0 -0.7**
KIEV IAmb IAmb 16 05 46.6
comp=Z,30nm,0.9s
KIEV Kiev 74.75 322 P **P** **16 05 45.0 -0.7**
KIEV pmax pmax
comp=Z,30nm,1.0s
NC303 NORSAR Array S 74.88 337 IAmb IAmb 16 06 12.8
comp=Z,28nm,1.1s
HFS Hagfors 74.93 335 P **P** **16 05 46.9 +0.3**
comp=Z,12nm,0.7s,baz=84,slow=4.6,SNR=30
HFS LR LR 16 39 53.6
comp=Z,48nm,18.1s,baz=322,slow=36
comp=Z,12nm,0.7s
DOMB Dombas 74.97 338 *e*P **P** **16 05 47.5 +0.7**
MOL Molde 75.00 339 *e*P **P** **16 05 48.1 +1.1**
BPMT Black Pine Rid 75.03 43 P **P** **16 05 47.5 -0.3**
NB2 NORSAR Subarra 75.07 337 P **P** **16 05 47.5 0.0**
comp=Z,22nm,0.8s,baz=40,slow=5.9
NB2 NORSAR Subarra 75.07 337 P **P** **16 05 47.5 0.0**
baz=40,slow=5.9
NOA NORSAR Array B 75.07 337 P **P** **16 05 47.8 +0.3**
comp=Z,16nm,0.8s,baz=40,slow=5.8,SNR=56
NOA LR LR 16 41 04.4
comp=Z,27nm,21.4s,baz=280,slow=37
comp=Z,16nm,0.8s
ILULI Ilulissat 75.17 4 *i* P **P** **16 05 48.4 +0.6**
ILULI IAmb IAmb 16 05 50.4
comp=Z,18nm,0.8s
NC602 NORSAR Array S 75.19 337 P **P** **16 05 47.8 -0.4**
NC602 NORSAR Array S 75.19 337 *e*P **P** **16 05 48.1 -0.1**
NBO00 NORSAR Array S 75.22 337 IAmb IAmb 16 05 49.6
comp=Z,22nm,0.8s
NAO01 NORSAR Array S 75.32 337 P **P** **16 05 49.3 +0.4**
SMRA Abu-Samra 75.43 290 P **P** **16 05 49.5 -0.6**
AKN Aaknes 75.47 339 *e*P **P** **16 05 50.8 +1.1**
SUW Suwalki 75.49 327 *e*P **P** **16 05 49.5 -0.4**
FFC Flin Flon 75.51 32 P **P** **16 05 48.6 -1.4**
FFC IAmb IAmb 16 05 52.0
comp=Z,17nm,1.1s
FFC Flin Flon 75.51 32 P **P** **16 05 48.6 -1.4**
FFC pmax pmax
comp=Z,17nm,1.1s
SIM Simferopol' 75.56 315 *e*P **P** **16 05 52.4 +1.9**
SIM pmax pmax
comp=Z,38nm,0.9s
ICESG Greenland Ices 75.62 360 *i* P **P** **16 05 51.7 +0.8**
ICESG IAmb IAmb 16 05 53.2
comp=Z,33nm,0.6s
FCC Fort Churchill 75.78 26 P **P** **16 05 50.9 -0.6**
FCC Fort Churchill 75.78 26 P **P** **16 05 50.9 -0.6**
FCC pmax pmax
comp=Z,10.0nm,1.0s
DMTO DMTO 76.00 282 P **P** **16 05 53.5 0.0**
OSL Oslo 76.07 336 *e*P **P** **16 05 53.9 +0.8**
EGMT Eagleton 76.08 40 P **P** **16 05 55.1 +1.5**
baz=308,SNR=5.8
HLID Hailey 76.17 46 P **P** **16 05 56.2 +2.0**
baz=306,SNR=5.8
SKAR Skarslia 76.26 338 *e*P **P** **16 05 55.1 +0.8**
SKAR IAmb IAmb 16 05 56.7
comp=Z,35nm,1.5s
SOEG Soedalen 76.31 357 *i* P **P** **16 05 54.9 +0.6**
SOEG IAmb IAmb 16 05 56.8
comp=Z,21nm,0.9s
ARPR Arapgir-MALATY 76.39 308 IAmb IAmb 16 05 58.2
comp=Z,30nm,1.1s
KVN Kaiserville 76.52 52 IAmb IAmb 16 05 59.4
comp=Z,18nm,1.3s
BOZ Bozeman (W) 76.55 43 P **P** **16 05 57.3 +0.9**
baz=307,SNR=9.0
KONO Kongsberg 76.65 337 *e*P **P** **16 05 57.1 +0.7**
RBK Rabkut 76.71 282 P **P** **16 05 57.4 -0.2**
NVAR Mina Array Bea 76.75 52 P **P** **16 05 59.0 +1.4**
comp=Z,3.7nm,0.7s,baz=294,slow=5.6,SNR=22
comp=Z,3.7nm,0.7s
SORM Soroca 76.78 320 ⇑P **P** **16 05 57.3 -0.1**
SORM Soroca 76.78 320 P **P** **16 05 57.3 -0.1**
WHFO Wadi Hawf 76.83 283 P **P** **16 05 57.6 -0.7**
WHFO P **P** **16 05 57.7 -0.5**
SUE Sulen 77.01 339 *e*P **P** **16 05 59.4 +1.0**
ASK Askoy 77.35 339 *e*P **P** **16 06 02.0 +1.7**
ODD1 Odda 77.38 338 *e*P **P** **16 06 01.4 +0.9**
ODD1 IAmb IAmb 16 06 01.8
comp=Z,13nm,0.8s
BER Bergen 77.39 339 *e*P **P** **16 06 01.5 +0.9**
SFJD Kangerlussuaq 77.40 4 *i* P **P** **16 06 00.8 +0.3**
SFJD IAmb IAmb 16 06 02.7
comp=Z,13nm,0.8s
ABTO Aybut 77.52 282 P **P** **16 06 01.9 -0.2**
TPH Tonopah 77.64 52 IAmb IAmb 16 06 05.6
comp=Z,30nm,0.9s
PKM Mcpherson Peak 77.77 56 P **P** **16 06 05.3 +1.9**
baz=305
BLS5 Blasjo 77.83 338 *e*P **P** **16 06 03.7 +0.7**
BLS5 IAmb IAmb 16 06 06.5
comp=Z,956nm,3.1s
LVV L'vov 77.87 323 *e*P **P** **16 06 04.3 +0.9**
LVV pmax pmax
comp=Z,50nm,1.0s
H17A Grant Village 77.88 44 P **P** **16 06 07.8 +3.9**
baz=308,SNR=10
DY2G Dye2 78.14 3 *i* P **P** **16 06 05.5 +0.6**
DY2G IAmb IAmb 16 06 07.4
comp=Z,43nm,0.5s
RLMT Red Lodge 78.15 43 P **P** **16 06 07.3 +1.9**
baz=309
BSD Bornholm Skovb 78.17 331 *e*P **P** **16 06 05.3 +0.4**
BSD Bornholm Skovb 78.17 331 *i* P **P** **16 06 05.2 +0.3**
BSD IAmb IAmb 16 06 06.4
comp=Z,31nm,0.8s
GAZ Gaziantep 78.22 307 IAmb IAmb 16 06 08.2
comp=Z,23nm,1.0s
KSV Kosov 78.35 322 P **P** **16 06 04.5 -1.7**
KMY Karmoy 78.37 338 *e*P **P** **16 06 07.0 +1.0**
FRB Frobisher Bay 78.42 13 P **P** **16 06 07.0 +0.8**
FRB Frobisher Bay 78.42 13 P **P** **16 06 07.0 +0.8**
comp=Z,25nm,0.7s,baz=340,slow=5.6,SNR=35
comp=Z,25nm,0.7s
SNART Snartemo 78.45 337 *e*P **P** **16 06 07.3 +0.8**
R11B Troy Canyon, C 78.53 51 P **P** **16 06 09.2 +1.6**
baz=306,SNR=8.4
KWP Kalwaria Pacla 78.64 324 *e*P **P** **16 06 08.8 +1.1**
MPMC Manual Prospec 78.64 54 P **P** **16 06 09.7 +1.5**
baz=306,SNR=5.3
TESR Tescani 78.71 320 ⇓P **P** **16 06 08.6 +0.5**
BUR08 Bucovina Ar. S 78.72 321 IAmb IAmb 16 06 10.0
comp=Z,12nm,0.8s
BURAR Bucovina Array 78.73 321 ⇓P **P** **16 06 09.3 +0.8**
BURAR Bucovina Array 78.73 321 IAmb IAmb 16 06 10.4
comp=Z,16nm,0.9s
BURAR Bucovina Array 78.73 321 P **P** **16 06 09.2 +0.8**
CFR Carcaliu 78.77 318 ⇓P **P** **16 06 08.9 +0.4**
CFR Carcaliu 78.77 318 P **P** **16 06 08.8 +0.4**
LAO LASA Array 78.79 40 IAmb IAmb 16 06 11.4
comp=Z,15nm,1.1s
LAO LASA Array 78.79 40 P **P** **16 06 10.4 +1.7**
baz=311,SNR=5.2
TPGR Topolog 78.82 318 ⇓P **P** **16 06 09.3 +0.4**
S11A Rachel 78.84 52 IAmb IAmb 16 06 47.8
comp=Z,22nm,1.4s
TPNV Topopah Spring 78.93 52 P **P** **16 06 11.3 +1.6**
baz=306,SNR=6.7
BRTR Keskin Array B 78.96 311 P **P** **16 06 10.8 +1.0**
comp=Z,5.3nm,0.9s,baz=113,slow=3.2,SNR=14
comp=Z,5.3nm,0.9s
TIRR Tirgusor 79.08 317 ⇓P **P** **16 06 10.6 +0.5**
TIRR Tirgusor 79.08 317 IAmb IAmb 16 06 11.6
comp=Z,20nm,1.0s
TIRR Tirgusor 79.08 317 P **P** **16 06 10.6 +0.5**
VRI Vrincioaia 79.09 319 ⇑P **P** **16 06 10.9 +0.6**
VRI Vrincioaia 79.09 319 P **P** **16 06 10.8 +0.6**
ANGG Ammassalik, Gr 79.10 359 *i* P **P** **16 06 09.9 +0.1**
ANGG IAmb IAmb 16 06 11.6
comp=Z,10.0nm,0.9s
PLOR Plostina 79.14 319 ⇑P **P** **16 06 11.4 +0.9**
PLOR Plostina 79.14 319 P **P** **16 06 11.4 +0.9**
DUG Dugway, Tooele 79.14 48 P **P** **16 06 12.7 +1.9**
baz=308,SNR=7.3
ISOG Isortoq, Green 79.18 360 *i* P **P** **16 06 11.1 +0.8**
ISOG IAmb IAmb 16 06 12.7
comp=Z,13nm,0.7s
HARR Harsova 79.19 318 ⇑P **P** **16 06 11.2 +0.3**
HARR Harsova 79.19 318 P **P** **16 06 11.1 +0.3**
MUD Monsted U'grnd 79.28 335 *i* P **P** **16 06 12.0 +1.0**
MUD IAmb IAmb 16 06 13.4
comp=Z,12nm,0.7s
KOLS Kolonicke sedl 79.32 324 *e*P **P** **16 06 12.0 +0.6**
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 79.32 324 *e*P **P** **16 06 12.0 +0.6**
TURR Turia 79.34 320 ⇑P **P** **16 06 12.5 +0.8**
OZUR 79.44 320 ⇓P **P** **16 06 13.1 +0.9**
BW06 Boulder Array 79.47 45 P **P** **16 06 13.6 +0.9**
baz=309,SNR=6.0
PDAR Pinedale Array 79.47 45 P **P** **16 06 13.8 +1.1**
comp=Z,2.6nm,0.5s,baz=273,slow=1.3,SNR=40
comp=Z,2.6nm,0.5s
STHS Stebnicka Huta 79.48 324 *e*P **P** **16 06 12.9 +0.6**
STHS pmax pmax
comp=Z,13nm,0.9s
STHS Stebnicka Huta 79.48 324 *e*P **P** **16 06 12.9 +0.6**
UZH Uzhgorod 79.51 323 P **P** **16 06 14.1 +1.6**
ARCR ARCALIA 79.53 321 ⇓P **P** **16 06 13.6 +1.0**
GSC Goldstone, Bar 79.54 54 P **P** **16 06 15.0 +2.0**
baz=306
TRSU Tresnyk 79.55 323 P **P** **16 06 14.3 +1.6**
CIS Catalina Islan 79.57 56 P **P** **16 06 14.4 +1.3**
baz=306
BFSC Mount Baldy Ra 79.59 55 P **P** **16 06 15.2 +1.8**
baz=306
OJC Ojcow 79.60 326 *e*P **P** **16 06 13.7 +0.8**
CRVS Cervenica-Dubn 79.73 324 *e*P **P** **16 06 14.5 +0.8**
CRVS *e* 16 06 35.0
CRVS pmax pmax
comp=Z,14nm,0.9s
CRVS Cervenica-Dubn 79.73 324 *e* pP 16 06 35.0 +2.3
CRVS Cervenica-Dubn 79.73 324 *e*P **P** **16 06 14.5 +0.8**
DOPR Dopca 79.73 320 ⇓P **P** **16 06 14.4 +0.6**
MLR Muntele Rosu 79.75 319 ⇑P **P** **16 06 14.4 +0.4**
MLR Muntele Rosu 79.75 319 P **P** **16 06 13.5 -0.5**
comp=Z,1.3nm,0.4s,baz=25,slow=11,SNR=3.4
comp=Z,1.3nm,0.4s
NIE Niedzica 79.92 325 *e*P **P** **16 06 16.0 +1.2**
TUQ Turquoise Moun 80.04 54 P **P** **16 06 17.9 +2.1**
baz=307,SNR=7.8
NUUK Nuuk 80.12 5 *i* P **P** **16 06 16.7 +1.3**
NUUK IAmb IAmb 16 06 17.8
comp=Z,21nm,0.6s
RAR Rarotonga 80.24 125 LR LR 16 32 17.9
comp=Z,59nm,21.8s,baz=312,slow=28
VOIR 80.26 320 ⇓P **P** **16 06 17.1 +0.4**
VOIR 80.26 320 P **P** **16 06 17.1 +0.4**
TCRU Three Creeks R 80.33 49 IAmb IAmb 16 09 13.8
comp=Z,6.5nm,0.4s
MARR Marisel-Cluj 80.43 321 ⇑P **P** **16 06 18.5 +0.9**
LANS Liptovska Anna 80.50 325 *e*P **P** **16 06 19.7 +1.8**
LANS *e* 16 06 45.0
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 80.50 325 *e*P **P** **16 06 19.7 +1.8**
LANS *e* 16 06 45.0
MVU Marysvale 80.54 49 IAmb IAmb 16 07 03.4
comp=Z,30nm,1.1s
GMRC Granite Mounta 80.60 54 P **P** **16 06 20.5 +1.7**
baz=307,SNR=9.6
KSP Ksiaz 80.72 328 *e*P **P** **16 06 19.6 +0.7**
PFO Pinyon Flats O 80.77 55 P **P** **16 06 19.1 -0.6**
PFO Pinyon Flats O 80.77 55 P **P** **16 06 21.3 +1.6**
baz=307
PFO Pinyon Flats O 80.77 55 P **P** **16 06 19.1 -0.6**
PFO pmax pmax
comp=Z,9.0nm,1.0s
TPFO Pinon Flats 80.78 55 P **P** **16 06 21.2 +1.4**
baz=307,SNR=5.8
P17A Butcher Ranch, 80.84 48 IAmb IAmb 16 06 22.6
comp=Z,11nm,0.6s
BELC Belle Mtn. Jos 80.84 55 P **P** **16 06 21.4 +1.3**
baz=307,SNR=7.9
RDMU Red Mountain 80.85 46 IAmb IAmb 16 06 22.9
comp=Z,27nm,1.3s
MORC Moravsky Berou 80.94 326 ⇑P **P** **16 06 20.4 +0.2**
MORC Moravsky Berou 80.94 326 *e*P **P** **16 06 20.9 +0.7**
MORC Moravsky Berou 80.94 326 P **P** **16 06 22.3 +2.1**
OSTC Ostas 80.97 328 *e*P **P** **16 06 20.9 +0.6**
OSTC Ostas 80.97 328 *e*P **P** **16 06 20.9 +0.6**
CHVC Chvalec 81.01 328 *e*P **P** **16 06 20.7 +0.1**
CHVC *e*gP **sP** **16 06 45.6 -1.8**
CHVC Chvalec 81.01 328 *e*P **P** **16 06 20.7 +0.1**
CHVC *e**PP **sP** **16 06 45.6 -1.8**
KRLC Kraliky 81.07 327 *e*P **P** **16 06 21.8 +0.9**
KRLC Kraliky 81.07 327 *e*P **P** **16 06 21.8 +0.9**
DPC Dobruska-Polom 81.07 327 *e*P **P** **16 06 22.1 +1.2**
DPC Dobruska-Polom 81.07 327 *e*P **P** **16 06 22.1 +1.2**
DPC smax smax
comp=N,42nm,0.6s
UPC Upice 81.09 328 *e*P **P** **16 06 22.0 +1.1**
UPC Upice 81.09 328 *e*P **P** **16 06 22.0 +1.1**
MAUC Maruska 81.11 326 *e*P **P** **16 06 22.2 +1.1**
URZ Urewera 81.11 151 LR LR 16 43 52.1
comp=N,31nm,18.1s,baz=160,slow=37
PSZ Piszkesteto 81.17 324 ⇓P **P** **16 06 22.4 +0.9**
PSZ Piszkesteto 81.17 324 P **P** **16 06 22.4 +0.9**
SRU San Rafael Swe 81.20 48 P **P** **16 06 22.4 +0.4**
SRU IAmb IAmb 16 06 24.5
comp=Z,10nm,0.7s
SRU San Rafael Swe 81.20 48 P **P** **16 06 22.4 +0.4**
SRU pmax pmax
comp=Z,10.0nm,0.7s
MONP2 Monument Peak 81.22 56 P **P** **16 06 23.8 +1.5**
baz=307,SNR=6.6
VYHS Vyhne 81.26 325 *e*P **P** **16 06 22.8 +0.9**
VYHS *e* 16 06 47.6
VYHS pmax pmax
comp=Z,16nm,1.1s
VYHS Vyhne 81.26 325 *e*P **P** **16 06 22.8 +0.9**
VYHS *e* 16 06 47.6
ULM Lac du Bonnet 81.31 33 P **P** **16 06 21.4 -0.7**
comp=Z,5.2nm,0.8s,baz=328,slow=6.4,SNR=9.5
comp=Z,5.2nm,0.8s
IRM Iron Mountain 81.32 54 P **P** **16 06 24.1 +1.6**
baz=307,SNR=5.2
RTZ Ruatahuna 81.37 152 P **P** **16 06 21.6 -0.8**
BC3 Big Chuckawall 81.41 55 P **P** **16 06 24.8 +1.7**
baz=307,SNR=8.2
ELND Elena 81.47 317 ⇓P **P** **16 06 23.9 +0.9**
GZR Gura Zlata 81.47 321 ⇑P **P** **16 06 23.1 -0.1**
GZR Gura Zlata 81.47 321 P **P** **16 06 23.0 -0.1**
JAVC Velka Javorina 81.54 326 *e*P **P** **16 06 24.9 +1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SURR	**Surduc**	**81.56**	**321**	⇑P	**P**	**16 06 24.1**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**81.58**	**56**	P	**P**	**16 06 25.8**	**+1.8**
	baz=307						
PVCC	**Panska Ves**	**81.70**	**328**	*e*P	**P**	**16 06 24.6**	**+0.5**
PVCC	**Panska Ves**	**81.70**	**328**	*e*P	**P**	**16 06 24.6**	**+0.5**
VRAC	**Vranov**	**81.71**	**326**	⇓P	**P**	**16 06 25.2**	**+1.0**
VRAC	**Vranov**	**81.71**	**326**	*e*P	**P**	**16 06 25.1**	**+0.9**
VRAC	**Vranov**	**81.71**	**326**	P	**P**	**16 06 25.2**	**+1.0**
VRAC	**Vranov**	**81.71**	**326**	LR	LR	16 46 57.5	
	comp=Z,67nm,18.1s,baz=346,slow=39						
BRG	**Berggiesshubel**	**81.71**	**329**	⇓*i*P	**P**	**16 06 25.0**	**+0.8**
BRG				Amp		16 06 25.8	
	comp=Z,11nm,0.8s						
BRG	**Berggiesshubel**	**81.71**	**329**	⇓*i*P	**P**	**16 06 25.0**	**+0.8**
BRG				*e*		16 06 36.9	
BRG				*e*		16 06 50.8	
BRG				pmax	pmax		
	comp=Z,11nm,0.9s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**81.77**	**330**	⇑*i*P	**P**	**16 06 24.7**	**+0.2**
CLL				*e**PP	**pP**	**16 06 43.0**	**-0.6**
CLL				pmax	pmax		
	comp=Z,26nm,0.9s						
CLL	**Collm**	**81.77**	**330**	⇑*i*P	**P**	**16 06 24.7**	**+0.2**
	comp=Z,26nm,0.9s						
CLL				*e*pP	**pP**	**16 06 46.0**	**+2.4**
CLL				*e*pPcP		16 06 50.0	
HMU	**Henry Mountain**	**81.80**	**49**	IAmb	IAmb	16 06 27.9	
	comp=Z,14nm,0.7s						
PLVB	**Pleven**	**81.85**	**318**	⇓P	**P**	**16 06 26.1**	**+1.1**
MMAI	**Mount Meron Ar**	**81.87**	**305**	P	**P**	**16 06 26.3**	**+0.8**
	comp=Z,6.9nm,0.7s,baz=10,slow=5.1,SNR=8.7						
MMAI				LR	LR	16 45 12.7	
	comp=Z,34nm,19.7s,baz=18,slow=37						
	comp=Z,6.9nm,0.7s						
RICC	**Richard**	**81.89**	**329**	*e*P	**P**	**16 06 26.2**	**+1.1**
PDMCI	**Parker Dam,Lak**	**81.89**	**54**	P	**P**	**16 06 27.2**	**+1.7**
	baz=308,SNR=6.0						
SMOL	**Smolenice**	**81.90**	**326**	*e*P	**P**	**16 06 26.7**	**+1.4**
SMOL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
O20A	**White River Ci**	**81.91**	**46**	P	**P**	**16 06 27.2**	**+1.5**
	baz=310						
BZS	**Buzias**	**81.92**	**321**	⇓P	**P**	**16 06 25.9**	**+0.5**
BZS	**Buzias**	**81.92**	**321**	P	**P**	**16 06 25.8**	**+0.5**
KRUC	**Moravsky**	**81.97**	**326**	*e*P	**P**	**16 06 26.3**	**+0.7**
HERR	**Herculane**	**82.01**	**320**	⇑P	**P**	**16 06 25.6**	**-0.3**
GOPC	**GO Pecny, Ondr**	**82.06**	**328**	*e*P	**P**	**16 06 27.0**	**+0.9**
GOPC	**GO Pecny, Ondr**	**82.06**	**328**	*e*P	**P**	**16 06 27.0**	**+0.9**
MODS	**Modra-Piesok**	**82.07**	**326**	*e*P	**P**	**16 06 27.6**	**+1.4**
MODS				pmax	pmax		
	comp=Z,22nm,1.0s						
MODS	**Modra-Piesok**	**82.07**	**326**	*e*P	**P**	**16 06 27.6**	**+1.4**
PRU	**Pruhonice**	**82.11**	**328**	*e*P	**P**	**16 06 27.0**	**+0.7**
PRU	**Pruhonice**	**82.11**	**328**	*e*P	**P**	**16 06 27.0**	**+0.7**
HSKC	**Hora Svate Kat**	**82.12**	**329**	*e*P	**P**	**16 06 27.3**	**+0.9**
MDVR	**Moldovita**	**82.44**	**321**	⇑P	**P**	**16 06 28.0**	**-0.2**
ZVC	**Zvikov**	**82.67**	**328**	*e*P	**P**	**16 06 30.1**	**+0.8**
BLKB	**Belogradchik**	**82.73**	**319**	⇑P	**P**	**16 06 29.2**	**-0.6**
N23A	**Red Feather La**	**82.74**	**44**	P	**P**	**16 06 32.0**	**+1.9**
	baz=312						
NKC	**Novy Kostel**	**82.82**	**329**	*e*P	**P**	**16 06 30.9**	**+0.9**
NKC	**Novy Kostel**	**82.82**	**329**	*e*P	**P**	**16 06 30.9**	**+0.9**
RDO	**Rodhopi**	**82.84**	**316**	IAmb	IAmb	16 06 32.0	
	comp=Z,20nm,1.1s						
WUAZ	**Wupatki**	**82.93**	**51**	P	**P**	**16 06 32.9**	**+1.8**
	baz=309,SNR=9.3						
MORH	**Mrgy, Hungar**	**82.97**	**323**	⇓P	**P**	**16 06 30.7**	**-0.2**
KPL	**Plockton**	**83.00**	**342**	*e*P	**P**	**16 06 31.7**	**+1.0**
RONA	**Rosalia, Austr**	**83.02**	**326**	*e*P	**P**	**16 06 32.2**	**+1.0**
	comp=Z,4.8nm,0.6s,SNR=5.8						
CONA	**Conrad Observa**	**83.05**	**326**	*i* P	**P**	**16 06 32.2**	**+0.9**
	comp=Z,4.8nm,1.0s						
CKRC	**Cesky Krumlov**	**83.08**	**327**	*e*P	**P**	**16 06 32.3**	**+0.9**
CKRC				*e*pP	**sP**	**16 06 57.4**	**-0.9**
CKRC	**Cesky Krumlov**	**83.08**	**327**	*e*P	**P**	**16 06 32.3**	**+0.9**
CKRC				*e**PP	**sP**	**16 06 57.4**	**-0.9**
FRGS	**Fruska Gora**	**83.15**	**322**	⇑P	**P**	**16 06 31.4**	**-0.5**
KHC	**Kasperske Hory**	**83.17**	**328**	IAmb	IAmb	16 06 33.6	
	comp=Z,16nm,1.1s						
KHC	**Kasperske Hory**	**83.17**	**328**	*e*P	**P**	**16 06 32.5**	**+0.6**
KHC				*e*pP	**sP**	**16 06 57.9**	**-0.8**
KHC	**Kasperske Hory**	**83.17**	**328**	*e*P	**P**	**16 06 32.5**	**+0.6**
KHC				*e**PP	**sP**	**16 06 57.9**	**-0.8**
IVI	**Ivigtut**	**83.31**	**4**	P	**P**	**16 06 32.0**	**-0.2**
IVI	**Ivigtut**	**83.31**	**4**	*i* P	**P**	**16 06 32.3**	**+0.1**
IVI				IAmb	IAmb	16 06 36.4	
	comp=Z,16nm,0.7s						
GERES	**GERESS Array B**	**83.33**	**328**	P	**P**	**16 06 33.2**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=30,slow=6.2,SNR=10						
	comp=Z,4.3nm,0.8s						
INVG	**Invergeldie, C**	**83.39**	**341**	*e*P	**P**	**16 06 32.9**	**+0.1**
INVG				IAmb	IAmb	16 06 34.3	
	comp=Z,21nm,0.8s						
MVCO	**Mesa Verde**	**83.64**	**48**	P	**P**	**16 06 36.5**	**+1.8**
	baz=310,SNR=6.5						
GRF	**Grafenberg Arr**	**83.74**	**329**	*e*P	**P**	**16 06 35.5**	**+0.7**
	comp=Z,16nm,1.0s,baz=42,slow=4.3						
GRFO	**Grafenberg**	**83.74**	**329**	P	**P**	**16 06 36.0**	**+1.2**
GRFO	**Grafenberg**	**83.74**	**329**	P	**P**	**16 06 36.0**	**+1.2**
GRFO				pmax	pmax		
	comp=Z,31nm,1.0s						
LAWE	**Loch Awe, Argy**	**83.89**	**341**	*e*P	**P**	**16 06 36.4**	**+1.1**
EKA	**Eskdalemuir Ar**	**84.10**	**340**	P	**P**	**16 06 36.8**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=40,slow=4.8,SNR=13						
	comp=Z,2.3nm,0.5s						
BIOA	**Bad Ischl, Aus**	**84.23**	**327**	*i* P	**P**	**16 06 38.0**	**+0.7**
	comp=Z,2.9nm,0.4s						
S22A	**4UR Ranch, Cre**	**84.30**	**47**	P	**P**	**16 06 39.0**	**+0.8**
	baz=311						
PERS	**Pernice**	**84.34**	**325**	*i* P	**P**	**16 06 38.3**	**+0.4**
SOKA	**Soboth**	**84.35**	**325**	*i* P	**P**	**16 06 38.4**	**+0.3**
	comp=Z,11nm,0.7s,SNR=12						
GOLS	**Golise**	**84.57**	**325**	*i* P	**P**	**16 06 39.3**	**+0.2**
OBKA	**Obir**	**84.70**	**326**	*i* P	**P**	**16 06 39.5**	**-0.3**
	comp=Z,3.6nm,0.6s						
HPK	**Haverah Park**	**84.85**	**338**	*e*P	**P**	**16 06 41.1**	**+0.8**
HPK				IAmb	IAmb	16 06 42.1	
	comp=Z,38nm,0.9s						
LESA	**Schwarzleotal**	**84.86**	**327**	*i* P	**P**	**16 06 40.7**	**+0.1**
	comp=Z,4.9nm,0.8s						
GAL1	**Galloway**	**84.94**	**340**	*e*P	**P**	**16 06 42.0**	**+1.3**
GAL1				IAmb	IAmb	16 06 42.9	
	comp=Z,33nm,0.9s						
PPT	**Papeete**	**85.01**	**116**	LR	LR	16 36 51.1	
	comp=Z,50nm,21.4s,baz=10,slow=30						
MYKA	**Terra Mystica**	**85.02**	**326**	*i* P	**P**	**16 06 41.1**	**-0.3**
	comp=Z,4.9nm,0.5s						
BTNL	**Ternell**	**85.05**	**333**	*d*P	**P**	**16 06 41.4**	**0.0**
	comp=Z,11nm,1.1s						
MEM	**Membach**	**85.08**	**333**	*d*P	**P**	**16 06 42.2**	**+0.7**
	comp=Z,12nm,0.9s						
SDCO	**Great Sand Dun**	**85.08**	**46**	IAmb	IAmb	16 06 44.9	
	comp=Z,15nm,1.4s						
SDCO	**Great Sand Dun**	**85.08**	**46**	P	**P**	**16 06 43.6**	**+1.5**
	baz=312						
PRED	**Cave del Predi**	**85.20**	**326**	IAmb	IAmb	16 06 44.1	
	comp=Z,9.4nm,0.9s						
LBWR	**Ladybower, Pea**	**85.36**	**338**	*e*P	**P**	**16 06 43.2**	**+0.4**
JAVS	**Javornik**	**85.38**	**325**	*i* P	**P**	**16 06 42.7**	**-0.5**
WTTA	**Wattenberg**	**85.43**	**328**	*i* P	**P**	**16 06 43.6**	**0.0**
	comp=Z,1.9nm,0.5s						
ABTA	**Abfaltersbach**	**85.44**	**327**	*i* P	**P**	**16 06 43.3**	**-0.2**
	comp=Z,4.5nm,0.8s,SNR=5.1						
BCLA	**Clavier**	**85.50**	**333**	*d*P	**P**	**16 06 43.6**	**+0.1**
	comp=Z,9.5nm,1.2s						
BGES	**Gesves**	**85.60**	**333**	*d*P	**P**	**16 06 44.2**	**+0.1**
MOTA	**Moosalm**	**85.60**	**328**	*i* P	**P**	**16 06 44.4**	**0.0**
	comp=Z,2.7nm,0.5s						
RETA	**Reutte**	**85.64**	**328**	*e*P	**P**	**16 06 44.5**	**0.0**
	comp=Z,10nm,0.8s						
STAL	**STALIGIAL**	**85.72**	**326**	P	**P**	**16 06 44.0**	**-0.8**
STAL				IAmb	IAmb	16 06 44.7	
	comp=Z,13nm,0.8s						
ECSD	**EROS Data Cent**	**85.73**	**37**	P	**P**	**16 06 43.6**	**-1.3**
ECSD	**EROS Data Cent**	**85.73**	**37**	P	**P**	**16 06 45.4**	**+0.5**
	baz=317						
RCHB	**Rochefort**	**85.74**	**333**	*d*P	**P**	**16 06 45.0**	**+0.2**
BMRD	**Maredsous**	**85.79**	**333**	*d*P	**P**	**16 06 45.2**	**+0.2**
	comp=Z,12nm,0.9s						
CWF	**Charnwood Fore**	**85.80**	**338**	*e*P	**P**	**16 06 45.4**	**+0.4**
BFO	**Black Forest**	**86.00**	**330**	P	**P**	**16 06 44.3**	**-1.8**
BFO				IAmb	IAmb	16 06 47.3	
	comp=Z,16nm,1.0s						
BFO	**Black Forest**	**86.00**	**330**	P	**P**	**16 06 44.3**	**-1.8**
BFO				pmax	pmax		
	comp=Z,16nm,1.0s						
DOU	**Dourbes**	**86.02**	**333**	*d*P	**P**	**16 06 46.2**	**+0.1**
DAVA	**Damuels**	**86.17**	**329**	*i* P	**P**	**16 06 47.2**	**0.0**
	comp=Z,5.7nm,0.7s						
FOEL	**Foel Wylfa**	**86.25**	**339**	*e*P	**P**	**16 06 47.9**	**+0.6**
FOEL				IAmb	IAmb	16 06 48.8	
	comp=Z,30nm,0.8s						
YLL	**Llanberis**	**86.31**	**339**	*e*P	**P**	**16 06 48.5**	**+1.0**
ANMO	**Albuquerque**	**86.37**	**49**	LR	LR	16 41 09.8	
	comp=Z,103nm,21.5s,baz=148,slow=33						
LLW	**Llanuwychllyn**	**86.42**	**339**	*e*P	**P**	**16 06 48.9**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**86.53**	**328**	IAmb	IAmb	16 06 50.5	
	comp=Z,7.1nm,0.8s						
ECH	**Echery**	**86.56**	**331**	IAmb	IAmb	16 06 50.0	
	comp=Z,9.5nm,0.9s						
DAVOX	**Davos/Dischmat**	**86.57**	**328**	P	**P**	**16 06 48.8**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=356,slow=23,SNR=5.8						
DAVOX				LR	LR	16 48 39.2	
	comp=Z,57nm,18.2s,baz=266,slow=38						
	comp=Z,3.5nm,0.8s						
MCH1	**Michaelchurch**	**86.97**	**338**	*e*P	**P**	**16 06 50.6**	**-0.1**
MCH1				IAmb	IAmb	16 06 52.4	
	comp=Z,26nm,0.7s						
SCHQ	**Schefferville**	**87.02**	**15**	P	**P**	**16 06 51.2**	**+0.2**
SCHQ	**Schefferville**	**87.02**	**15**	P	**P**	**16 06 51.0**	**0.0**
	comp=Z,12nm,0.7s,baz=337,slow=8.4,SNR=5.8						
	comp=Z,12nm,0.7s						
TUE	**Stuetta**	**87.04**	**328**	IAmb	IAmb	16 07 00.2	
	comp=Z,7.4nm,0.9s						
TXAR	**Lajitas Array**	**91.88**	**52**	P	**P**	**16 07 13.7**	**-0.7**
TXAR	**Lajitas Array**	**91.88**	**52**	P	**P**	**16 07 13.7**	**-0.7**
TXAR	**Lajitas Array**	**91.88**	**52**	P	**P**	**16 07 15.4**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=300,slow=2.8,SNR=24						
	comp=Z,1.3nm,0.6s						
ESDC	**Sonseca Array**	**98.07**	**333**	LR	LR	16 55 44.1	
	comp=Z,60nm,18.4s,baz=316,slow=38						
TORD	**Torodi Ar. Bea**	**117.52**	**313**	PKP	**PKPdf**	**16 12 51.5**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=32,slow=1.6,SNR=20						
BOSA	**Boshof**	**125.19**	**258**	PKP	**PKPdf**	**16 13 06.1**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=153,slow=4.0,SNR=4.7						
QSPA	**South Pole Qui**	**125.34**	**180**		**PKiKP**	**16 13 05.8**	**+0.1**
QSPA	**South Pole Qui**	**125.34**	**180**	PKP	**PKPdf**	**16 13 04.9**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=286,slow=0.5,SNR=29						
DBIC	**Dimbokro**	**126.54**	**315**	PKP	**PKPdf**	**16 13 09.3**	**+0.1**
	comp=Z,3.2nm,0.4s,baz=0.0,slow=24,SNR=10						
TIC	**Toumodi**	**126.65**	**315**	⇑*e*PKP1	**PKPdf**	**16 13 09.4**	**-0.1**
	comp=Z,5.7nm,0.3s						
KIC	**Kosan Boka**	**126.72**	**314**	⇑*e*PKP1	**PKPdf**	**16 13 09.5**	**-0.1**
	comp=Z,9.8nm,0.6s						
LIC	**Lamto**	**127.00**	**315**	⇓*i*PKP1	**PKPdf**	**16 13 10.3**	**+0.2**
	comp=Z,14nm,0.4s						
ELIB	**Princess Elisa**	**131.66**	**202**	*d*PKPdf	**PKiKP**	**16 13 18.3**	**-0.1**
ETMB	**Extrema**	**144.94**	**49**	PKPdf	**PKPab**	**16 13 42.5**	**0.0**
SAML	**Samuel**	**146.05**	**44**	PKPbc	**PKPab**	**16 13 46.9**	**+0.3**
SAML	**Samuel**	**146.05**	**44**	PKP2	**PKPab**	**16 13 46.9**	**+0.3**
H03N2	**Juan Fernandez**	**147.96**	**98**	T	T	18 58 58.4	
	baz=291,slow=76						
H03N3	**Juan Fernandez**	**147.97**	**98**	T	T	18 58 57.8	
	baz=291,slow=76						
H03N1	**Juan Fernandez**	**147.98**	**98**	T	T	18 59 25.9	
	baz=291,slow=76						
PB12	**IPOC Station P**	**148.29**	**66**	PKPbc	**PKPdf**	**16 13 50.4**	**+1.5**
PB16	**IPOC Station P**	**148.72**	**64**	PKPab	**PKiKP**	**16 13 56.3**	**+0.9**
PB11	**IPOC Station P**	**149.50**	**67**	PKPbc	**PKiKP**	**16 13 56.9**	**+0.4**
PB01	**IPOC Station P**	**150.38**	**69**	PKPbc	**PKiKP**	**16 13 58.5**	**+0.4**
PB07	**IPOC Station P**	**150.47**	**70**	PKPbc	**PKiKP**	**16 13 59.0**	**+0.6**
PB05	**IPOC Station P**	**150.84**	**72**	PKPbc	**PKiKP**	**16 13 59.9**	**+0.8**
VILB	**Vilhena**	**150.99**	**44**	PKPbc	**PKiKP**	**16 14 00.3**	**+0.8**
AC01	**Pan de Azucar**	**152.17**	**79**	PKPbc	**PKiKP**	**16 14 02.4**	**+0.8**
GO02	**Mina Guanaco**	**152.50**	**76**	PKPbc	**PKiKP**	**16 14 03.9**	**+1.2**

JMA 05 15:55:00.4±0.2**, 42°.3N**±0°.4×**139°.4E**±0°.9**, h15**km±1km**,**
MV1.2/12**, SW OFF HOKKAIDO, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.25**	**165**	P	Pg	15 55 05.8	0.0
JHST	**Hiyamasetana**	**0.38**	**75**	P	Pg	15 55 08.0	-0.1
JSH	**Shimam**	**0.58**	**56**	P	Pg	15 55 11.4	-0.5
JSH				*e*S	Sg	15 55 19.2	-0.5
JYM2	**Yakumo 2**	**0.76**	**105**	*e*P	Pg	15 55 15.1	-0.1
JYM2				*e*S	Sg	15 55 24.9	-0.3
JOMM	**Oshimamatsumae**	**0.92**	**150**	*e*P	Pb	15 55 17.1	-1.0

SKO 05 16:03:59.7, 41°.20N×22°.86E, h15km**, ML0.7,**
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.05**	**143**	*i* Pg	Pg	16 04 02.9	+0.3
KNT				*i* Sg	Sg	16 04 04.5	+0.2
VAY	**Valandovo**	**0.25**	**299**	*i* Pg	Pg	16 04 05.3	+0.2
VAY				*i* Sg	Sg	16 04 09.1	+0.3
VAY				*e*Lg	Lg	16 04 09.3	
	comp=N,18nm,0.2s						
VAY				*e*Lg	Lg	16 04 09.6	
	comp=E,8.5nm,0.2s						
GRG	**Griva**	**0.42**	**235**	*i* Pg	Pb	16 04 08.7	-0.2
GRG				*i* Sg	Sb	16 04 14.9	-0.2
SOH	**Sokhos**	**0.53**	**135**	*i* Pg	Pb	16 04 11.3	+0.6
SOH				*i* Sg	Sb	16 04 18.6	+0.4
SRS	**Serrai**	**0.56**	**98**	*i* Pg	Pb	16 04 11.2	0.0
SRS				*i* Sg	Sb	16 04 18.7	-0.3
THE	**Thessaloniki**	**0.57**	**172**	*i* Pg	Pg	16 04 10.3	-0.7
THE				*i* Sg	Sb	16 04 19.9	+0.6
PEHC	**Pehcevo**	**0.58**	**3**	*i* Pg	Pg	16 04 11.1	0.0
PEHC				*i* Sg	Sg	16 04 18.7	-0.2
KKB	**Krupnik**	**0.67**	**17**	*i* Pg	Pg	16 04 12.8	0.0
KKB				*i* Sg	Sg	16 04 21.4	-0.3
MMB	**Musomishta**	**0.75**	**62**	*i* Pg	Pg	16 04 14.4	0.0
MMB				*i* Sg	Sb	16 04 24.6	0.0

*IDC **05** 16:07:16.2±1.8, 35°.77N×141°.26E, h0km, mb3.3/3, mbtmp3.4/6, ML3.0/3, MS3.3/1, Error ellipse: s-maj=36.3km s-min=22.1km az=73.0*
*JMA **05** 16:07:21.2±0.2, 35°.8N±0°.5×14°1E±°, h30km±1km, MV3.2/38, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
ISC 05 16:07:21.4±1.6**, 35°.86N**±0°.05×**140°.97E**±0°.09**, h29**km±11km**, n18,** σ**1s.31**/22**, mb3.3**/3**, 8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.37**	**287**	⇓*i*P	**Pn**	**16 07 30.4**	**-0.4**
JIHU				⇓S	**Sn**	**16 07 37.0**	**0.0**
JSMT	**Sammumatsuo**	**0.47**	**243**	P	**Pb**	**16 07 31.2**	**-0.1**
JSMT				*e*S	**Sn**	**16 07 38.7**	**-0.8**
JHYU	**Hitachinakayam**	**0.57**	**328**	⇓*i*P	**Pb**	**16 07 33.4**	**+0.4**
JHYU				⇓*e*S	**Sb**	**16 07 41.7**	**+0.8**
JYT	**Yasato**	**0.73**	**301**	⇓P	**Pn**	**16 07 34.8**	**-0.8**
JYT				⇓S	**Sb**	**16 07 44.4**	**-0.8**
JCN	**Nagara**	**0.76**	**235**	P	**Pb**	**16 07 36.2**	**+0.1**
JCN				S	**Sn**	**16 07 47.8**	**+1.2**
JHO	**Hitachi**	**0.82**	**337**	⇓P	**Pn**	**16 07 36.7**	**-0.2**
JHO				⇓S	**Sb**	**16 07 47.8**	**0.0**
BSO3	**Boso 3**	**1.11**	**200**	P	**Pn**	**16 07 40.0**	**-0.8**
BSO1	**Boso 1**	**1.20**	**180**	P	**Pn**	**16 07 40.3**	**-1.4**
MJAR	**Matsushiro Arr**	**2.33**	**288**	Pn	**Pn**	**16 07 58.1**	**+0.4**
	0.8nm,0.3s,baz=91,slow=8.6,SNR=86						
MJAR				Sn	**Sb**	**16 08 32.2**	**+1.0**
	0.5nm,0.3s,baz=195,slow=28,SNR=5.4						
	3.7nm,0.3s						
JHJ	**Hachijo jima 2**	**2.90**	**200**	Pn	**Pn**	**16 08 02.8**	**-2.7**
	9.8nm,0.3s,baz=90,slow=20,SNR=1.7						
JHJ				Sn	**Sn**	**16 08 41.6**	**+2.3**
	12nm,0.3s,baz=242,slow=20,SNR=1.3						
	103nm,0.7s						
ASAJ	**Asahikawa**	**8.35**	**8**	Pn	**Pn**	**16 09 18.2**	**-2.1**
	0.3nm,0.3s,baz=217,slow=9.8,SNR=1.6						
	2.1nm,0.4s						
MKAR	**Makanchi Array**	**44.45**	**303**	P	**P**	**16 15 31.5**	**+1.9**
	0.3nm,0.7s,baz=91,slow=10,SNR=4.2						
	0.3nm,0.7s						
KAPI	**Kappang**	**45.27**	**210**	LR	LR	16 33 48.4	
	comp=Z,39nm,20.8s,baz=48,slow=35						
WRA	**Warramunga Arr**	**55.85**	**188**	P	**P**	**16 16 55.2**	**-0.9**
	0.6nm,1.0s,baz=2.8,slow=7.5,SNR=2.0						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**59.57**	**188**	P	**P**	**16 17 21.2**	**-1.2**
	0.2nm,0.9s,baz=20,slow=8.4,SNR=1.6						
	0.2nm,0.9s						
H03N2	**Juan Fernandez**	**147.24**	**98**	T	T	19 11 30.3	
	baz=290,slow=76,SNR=22						
H03N3	**Juan Fernandez**	**147.25**	**98**	T	T	19 11 30.9	
	baz=290,slow=76,SNR=26						
H03N1	**Juan Fernandez**	**147.26**	**98**	T	T	19 11 29.7	
	baz=290,slow=76,SNR=22						

PRU 05 16:15:40.1, 50°.04N×18°.21E, h0km**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.21**	**191**	*e*PG	Pg	16 15 43.0	-1.0
OKC				*e*SG	Sg	16 15 47.0	+0.3
	comp=Z,97nm,0.8s						
MORC	**Moravsky Berou**	**0.51**	**239**	*e*PG	Pg	16 15 49.1	-0.7
MORC				*e*SG	Sg	16 15 57.2	+0.9
MAUC	**Maruska**	**0.72**	**200**	*e*SG	Sg	16 16 04.2	+1.0
KRLC	**Kraliky**	**0.92**	**273**	*e*PG	Pg	16 15 56.2	-1.5
KRLC				*e*SG	Sg	16 16 09.9	+0.2
	comp=Z,46nm,0.6s						
OJC	**Ojcow**	**1.04**	**79**	*e*Pg	Pg	16 15 52.9	-7.0
OJC				*e*Sg	Sg	16 16 05.5	-7.9
LANS	**Liptovska Anna**	**1.21**	**137**	*e*PG	Pg	16 15 58.6	-4.7
LANS				*e*SG	Sg	16 16 14.8	-4.1
LANS				*e*LG	Lg	16 16 18.0	
JAVC	**Velka Javorina**	**1.23**	**197**	*e*PG	Pg	16 16 01.5	-2.2
DPC	**Dobruska-Polom**	**1.25**	**285**	*e*PG	Pg	16 16 02.1	-2.0
DPC				*e*SG	Sg	16 16 20.7	+0.4
	comp=Z,42nm,0.6s						
DPC	**Dobruska-Polom**	**1.25**	**285**	*e*	Sg	16 16 20.7	+0.4
VRAC	**Vranov**	**1.28**	**236**	*e*PG	Pg	16 16 03.0	-1.6
VRAC				*e*SG	Sg	16 16 21.3	+0.1
OSTC	**Ostas**	**1.38**	**293**	*e*PG	Pg	16 16 04.3	-2.2
OSTC				*e*SG	Sg	16 16 24.2	-0.2
OSTC	**Ostas**	**1.38**	**293**	*e*	Sg	16 16 24.2	-0.2
KSP	**Ksiaz**	**1.47**	**304**	*e*Pg	Pn	16 16 05.4	-2.4
KSP				*e*Sg	Sg	16 16 26.2	-1.0
KSP				*e*Sg	Sb	16 16 26.2	-1.2
UPC	**Upice**	**1.49**	**289**	*e*SG	Sb	16 16 28.0	0.0
CHVC	**Chvalec**	**1.49**	**292**	*e*SG	Sb	16 16 28.1	+0.1
CHVC	**Chvalec**	**1.49**	**292**	*e*	Sb	16 16 28.1	+0.1
NIE	**Niedzica**	**1.49**	**114**	*e*Pg	Pn	16 16 03.0	-5.2
NIE				*e*Sg	Sg	16 16 22.5	-5.5
KRUC	**Moravsky**	**1.54**	**231**	*e*PN	Pn	16 16 06.9	-1.8
KRUC				*e*SG	Sg	16 16 29.0	-0.4
VYHS	**Vyhne**	**1.60**	**165**	*e*PG	Pn	16 16 06.0	-3.7
VYHS				*e*SG	Sn	16 16 28.2	-2.8
STHS	**Stebnicka Huta**	**2.06**	**106**	*e*PN	Pn	16 16 12.5	-3.5
GOPC	**GO Pecny, Ondr**	**2.21**	**268**	*e*SG	Sb	16 16 49.0	+0.1
ZVC	**Zvikov**	**2.67**	**259**	*e*SG	Sb	16 17 03.2	+1.0
KOLS	**Kolonicke sedl**	**2.87**	**111**	*e*PG	Pn	16 16 28.8	+1.7
KHC	**Kasperske Hory**	**3.15**	**255**	*e*SG	Sg	16 17 18.6	-2.6

PRU 05 16:16:18.2, 51°.49N×16°.10E, h0km**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.90**	**182**	*e*SG	Sg	16 16 46.8	-0.4
UPC	**Upice**	**0.99**	**183**	*e*SG	Sg	16 16 49.8	0.0
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*SG	Sg	16 16 55.5	+0.4
PVCC	**Panska Ves**	**1.36**	**226**	*e*SG	Sg	16 17 01.2	-0.8
	comp=Z,20nm,0.2s						
KRLC	**Kraliky**	**1.48**	**163**	*e*PG	Pn	16 16 45.4	-0.7
KRLC				*e*SG	Sg	16 17 04.7	-1.0
BRG	**Berggiesshubel**	**1.49**	**246**	Pg	Pb	16 16 46.6	-0.2
BRG				Sg	Sn	16 17 06.5	+0.1
BRG				Amp		16 17 07.6	
	comp=Z,11nm,0.4s						
HSKC	**Hora Svate Kat**	**1.90**	**243**	*e*SG	Sb	16 17 18.1	0.0
MORC	**Moravsky Berou**	**1.95**	**151**	*e*PN	Pn	16 16 51.2	-1.3
MORC				*e*SG	Sb	16 17 19.0	-0.3
CLL	**Collm**	**1.95**	**266**	*e*Pg	Pb	16 16 55.0	+0.5
CLL				*e*Sg	Sb	16 17 20.0	+0.6
NKC	**Novy Kostel**	**2.63**	**243**	*e*SG	Sg	16 17 42.5	-0.3
NKC	**Novy Kostel**	**2.63**	**243**	*e*	Sg	16 17 42.5	-0.3
KHC	**Kasperske Hory**	**2.86**	**215**	*e*SG	Sg	16 17 48.4	-1.7

*BUL **05** 16:26:20.9±0.6, 24°.50S×28°.42E, h10km±7km, MD3.9*
*IDC **05** 16:27:21.1±8.2, 25°.98S×28°.63E, h0km, mbtmp2.8/1, ML1.8/1, Error ellipse: s-maj=83.5km s-min=55.5km az=138.0*
ISC 05 16:27:23.5±1.5**, 26°.12S**±0°.09×**28°.63E**±0°.09**, h9**km**, n6,** σ**2s.18**/6**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.95**	**291**	*i* P	Pn	16 27 52.0	-19
LBTB				*i* S	**Sg**	**16 28 57.6**	**-0.7**
MOPA	**Mopani**	**3.61**	**45**	*i* P	Pn	16 27 53.7	-26
MOPA				*i* S	**Sn**	**16 29 01.6**	**-0.8**
BOSA	**Boshof**	**3.90**	**230**	*i* P	Pn	16 28 08.1	-16
BOSA				*i* S	**Sg**	**16 29 25.5**	**-3.1**
BOSA	**Boshof**	**3.90**	**230**	Pn	**Pn**	**16 28 23.5**	**-0.1**
	baz=45,slow=10.0,SNR=1.6						
BOSA				Pg	**Pb**	**16 28 34.3**	**+1.9**
	0.1nm,0.3s,baz=55,slow=17,SNR=1.7						
BOSA				Sn	**Sn**	**16 29 10.0**	**+0.5**
	0.2nm,0.3s,baz=118,slow=18,SNR=1.5						
BOSA				Lg	Lg	16 29 28.0	
	1.0nm,0.3s,baz=145,slow=18,SNR=10						
	3.1nm,1.1s						
I47ZA	**BOSHOF INFRASO**	**3.91**	**230**	I	I	16 53 10.0	
	0.1nm,0.5s,baz=49,slow=313,SNR=1.3						
I35NA	**TSUMEB INFRASO**	**12.31**	**302**	I	I	17 40 40.0	
	baz=127,slow=310,SNR=2.3						

*JMA **05** 16:30:11.9±0.3, 25°N±1°×122°.0E±0°.7, h93km±3km, MV3.5/17, TAIWAN REGION*
*TAP **05** 16:30:12.2, 24°.81N×122°.00E, h90km, ML4.2, C*
*IDC **05** 16:30:13.7±5.0, 24°.92N×122°.15E, h114km±50km, mb3.0/7, mbtmp3.4/8, Error ellipse: s-maj=38.6km s-min=16.9km az=62.0*
ISC 05 16:30:11.7±0.7**, 24°.82N**±0°.03×**122°.01E**±0°.02**, h94**km±4km**, n175,** σ**1s.00**/304**, mb3.2**/7**, 67C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**294**	*e*P	**Pn**	**16 30 25.0**	**+0.1**
	baz=301						
NTC	**Toucheng**	**0.16**	**284**	P	**Pn**	**16 30 25.3**	**+0.2**
	baz=293						
NTC				S	**Sn**	**16 30 34.6**	**-0.4**
	baz=293						
TWB1	**Santiao Chiao**	**0.19**	**355**	⇑*i*P	**Pn**	**16 30 25.4**	**+0.2**
	baz=357						
TWB1				*i* S	**Sn**	**16 30 34.5**	**-0.7**
	baz=357						
TIPB	**Shuangxi**	**0.23**	**314**	⇑*i*P	**Pn**	**16 30 25.5**	**+0.1**
	baz=314						
TIPB				S	**Sn**	**16 30 34.5**	**-1.0**
	baz=314						
ILA	**Ilan**	**0.24**	**258**	⇑*i*P	**Pn**	**16 30 25.8**	**+0.4**
	baz=265						
ILA				*e*S	**Sn**	**16 30 35.7**	**+0.3**
	baz=265						
TWC	**Suao**	**0.25**	**215**	⇑*i*P	**Pn**	**16 30 25.6**	**+0.2**
	baz=214						
TWC				S	**Sn**	**16 30 34.8**	**-0.8**
	baz=214						
ESAO	**Su ao**	**0.28**	**212**	⇑P	**Pn**	**16 30 25.9**	**+0.3**
	baz=213						
ESAO				*e*S	**Sn**	**16 30 35.2**	**-0.6**
	baz=213						
SXI1	**Grass Mountain**	**0.30**	**337**	⇑*i*P	**Pn**	**16 30 25.7**	**-0.1**
	baz=327						
SXI1				*e*S	**Sn**	**16 30 35.4**	**-0.8**
	baz=327						
NDS	**Dongshan**	**0.32**	**236**	⇑*i*P	**Pn**	**16 30 26.3**	**+0.6**
	baz=238						
NDS				*e*S	**Sn**	**16 30 36.9**	**+0.8**
	baz=238						
TWE	**Neicheng**	**0.32**	**253**	⇑*i*P	**Pn**	**16 30 26.0**	**+0.3**
	baz=254						
TWE				*e*S	**Sn**	**16 30 36.7**	**+0.5**
	baz=254						
NWF	**Wu-fen Shan**	**0.33**	**321**	*i* P	**Pn**	**16 30 26.0**	**+0.2**
	baz=314						

NWF				*e*S	**Sn**	**16 30 35.4 -1.0**
	baz=314					
WFSB	**Wu-fen Shan**	**0.33 321**	⇑	*i*P	**Pn**	**16 30 26.0 +0.3**
	baz=317					
WFSB				S	**Sn**	**16 30 35.3 -0.9**
	baz=317					
FUSB	**Fushanzhiwuyua**	**0.38 262**	⇑	*i*P	**Pn**	**16 30 26.5 +0.3**
	baz=267					
FUSB				S	**Sn**	**16 30 36.7 -0.2**
	baz=267					
TNOU	**National Taiwa**	**0.39 328**	⇑	*i*P	**Pn**	**16 30 26.2 +0.1**
	baz=322					
TNOU				S	**Sn**	**16 30 36.3 -0.7**
	baz=322					
TWA	**Mucha**	**0.42 293**	⇑	*i*P	**Pn**	**16 30 26.4 0.0**
	baz=300					
TWA				*e*S	**Sn**	**16 30 36.3 -0.9**
	baz=300					
EWUT	**Wuta**	**0.42 209**	⇑	*i*P	**Pn**	**16 30 27.1 +0.7**
	baz=210					
EWUT				*e*S	**Sn**	**16 30 37.9 +0.6**
	baz=210					
ENTT	**Nioudou**	**0.44 247**	⇑	*i*P	**Pn**	**16 30 27.1 +0.7**
	baz=248					
ENTT				*e*S	**Sn**	**16 30 38.6 +1.1**
	baz=248					
EOS2	**EOS2**	**0.45 152**	⇓	*e*P	**Pn**	**16 30 27.3 +1.0**
	baz=157					
ENA	**Nanau**	**0.45 212**	⇑	*i*P	**Pn**	**16 30 27.2 +0.7**
	baz=206					
ENA				S	**Sn**	**16 30 38.7 +1.1**
	baz=206					
NHY	**Taipei**	**0.45 300**		*e*P	**Pn**	**16 30 26.8 +0.3**
	baz=306					
NHY				*e*S	**Sn**	**16 30 38.8 +1.2**
	baz=306					
NWLT	**Wulai**	**0.46 265**	⇑	*i*P	**Pn**	**16 30 26.9 +0.3**
	baz=272					
NWLT				*e*S	**Sn**	**16 30 37.5 -0.3**
	baz=272					
NHDH	**Xindian Distri**	**0.46 289**	⇑	*i*P	**Pn**	**16 30 26.8 +0.2**
	baz=294					
NHDH				*e*S	**Sn**	**16 30 37.7 0.0**
	baz=294					
NDT	**Datong Townshi**	**0.49 245**	⇑	*i*P	**Pn**	**16 30 27.9 +1.0**
	baz=255					
NDT				S	**Sn**	**16 30 39.0 +0.9**
	baz=255					
TATO	**Taipei**	**0.50 289**		P	**Pn**	**16 30 26.7 -0.1**
TAP	**Taipei**	**0.51 296**	⇑	P	**Pn**	**16 30 27.0 +0.1**
	baz=302					
TAP				*e*S	**Sn**	**16 30 37.7 -0.6**
	baz=302					
YM01	**YM01**	**0.52 310**	⇑	*i*P	**Pn**	**16 30 27.1 +0.1**
	baz=310					
YM01				*e*S	**Sn**	**16 30 37.6 -0.9**
	baz=310					
LATG	**Datong**	**0.52 238**	⇑	*i*P	**Pn**	**16 30 28.0 +0.9**
	baz=246					
LATG				*e*S	**Sn**	**16 30 39.7 +1.0**
	baz=246					
YM08	**YM08**	**0.53 315**	⇑	*i*P	**Pn**	**16 30 27.0 -0.1**
	baz=312					
YM08				*e*S	**Sn**	**16 30 37.0 -1.6**
	baz=312					
EAHA	**Aohua**	**0.54 207**	⇑	*e*P	**Pn**	**16 30 27.6 +0.4**
	baz=201					
EAHA				*e*S	**Sn**	**16 30 39.5 +0.7**
	baz=201					
ANP	**Anpu**	**0.57 310**		*e*P	**Pn**	**16 30 27.6 0.0**
	baz=305					
ANP				*e*S	**Sn**	**16 30 39.8 +0.4**
	baz=305					
TWY	**Chenhua**	**0.59 321**	⇑	*i*P	**Pn**	**16 30 27.9 +0.3**
	baz=321					
TWY				S	**Sn**	**16 30 39.3 -0.1**
	baz=321					
YHNB	**Yeheng**	**0.59 256**		P	**Pn**	**16 30 28.0 +0.3**
YHNB	**Yeheng**	**0.59 256**	⇑	*i*P	**Pn**	**16 30 28.2 +0.5**
	baz=257					
YHNB				S	**Sn**	**16 30 39.6 0.0**
	baz=257					
EOS3	**EOS3**	**0.60 152**	⇓	*e*P	**Pn**	**16 30 28.7 +1.2**
	baz=158					
TWS1	**Kuangyinshan**	**0.60 298**	⇑	*i*P	**Pn**	**16 30 28.1 +0.4**
	baz=303					
TWS1				*i*S	**Sn**	**16 30 39.8 +0.1**
	baz=303					
NSK	**Sanguang**	**0.60 257**	⇑	*i*P	**Pn**	**16 30 28.3 +0.5**
	baz=257					
NSK				*i*S	**Sn**	**16 30 39.7 -0.1**
	baz=257					
NTST	**Danshui**	**0.61 305**		*e*P	**Pn**	**16 30 28.1 +0.3**
	baz=306					
NTST				*i*S	**Sn**	**16 30 39.9 +0.1**
	baz=306					
NNSB	**Datong**	**0.69 236**	⇑	P	**Pn**	**16 30 29.4 +0.8**
	baz=243					
NNSB				S	**Sn**	**16 30 41.8 +0.6**
	baz=243					
NNS	**Nan Shan**	**0.69 237**	⇑	P	**Pn**	**16 30 29.3 +0.7**
	baz=243					
NNS				*e*S	**Sn**	**16 30 41.4 +0.2**
	baz=243					
ETL	**Fush Village**	**0.74 208**	⇓	P	**Pn**	**16 30 29.2 +0.2**
	baz=219					
ETL				*e*S	**Sn**	**16 30 42.2 +0.2**
	baz=219					
NACB	**Ninganchiao**	**0.74 210**		P	**Pn**	**16 30 29.1 +0.1**
NACB	**Ninganchiao**	**0.74 210**	⇑	*i*P	**Pn**	**16 30 28.9 -0.1**
	baz=212					
NACB				*e*S	**Sn**	**16 30 41.5 -0.4**
	baz=212					
EOS4	**EOS4**	**0.75 158**	⇑	P	**Pn**	**16 30 29.1 +0.4**
	baz=165					
EOS4				S	**Sn**	**16 30 41.7 +0.4**
	baz=165					
NCU	**National Centr**	**0.76 282**	⇑	*i*P	**Pn**	**16 30 30.0 +0.9**
	baz=282					
NCU				*i*S	**Sn**	**16 30 43.2 +1.0**
	baz=282					
NCUH	**Zhongli**	**0.76 282**	⇑	P	**Pn**	**16 30 30.0 +0.8**
	baz=282					
NCUH				S	**Sn**	**16 30 43.5 +1.2**
	baz=282					
ETLH	**Xiulin Townshi**	**0.77 218**	⇑	*i*P	**Pn**	**16 30 29.6 +0.3**
	baz=228					
ETLH				*e*S	**Sn**	**16 30 42.5 -0.1**
	baz=228					
PCYT	**Pengchaiyu**	**0.81 4**		*e*P	**Pn**	**16 30 30.3 +0.6**
	baz=8.0					
PCYT				*e*S	**Sn**	**16 30 44.1 +1.0**
	baz=8.0					
TWD	**Chiawan**	**0.82 207**	⇑	*i*P	**Pn**	**16 30 29.7 -0.1**
	baz=218					
TWD				S	**Sn**	**16 30 42.6 -0.7**
	baz=218					
NFF	**Wufeng Townshi**	**0.83 257**	⇑	*i*P	**Pn**	**16 30 30.4 +0.5**
	baz=258					
NFF				*i*S	**Sn**	**16 30 43.5 -0.1**
	baz=258					
HWA	**Hwalien**	**0.91 204**	⇑	*i*P	**Pn**	**16 30 31.1 +0.4**
	baz=195					
HWA				*i*S	**Sn**	**16 30 45.5 +0.6**
	baz=195					
LIOB	**Emei**	**0.92 260**	⇑	*i*P	**Pn**	**16 30 31.4 +0.7**
	baz=260					
LIOB				*i*S	**Sn**	**16 30 44.8 -0.3**
	baz=260					
SBCB	**Hsinchu**	**0.93 269**	⇑	*i*P	**Pn**	**16 30 31.7 +0.8**
	baz=269					
SBCB				S	**Sn**	**16 30 45.6 +0.3**
	baz=269					
JYNG	**Yonagunijimaku**	**0.93 113**		P	**Pn**	**16 30 31.3 +0.4**
JYNG				*e*S	**Sn**	**16 30 45.2 -0.1**
NSTT	**Nanjuang**	**0.93 259**	⇑	*i*P	**Pn**	**16 30 31.5 +0.5**
	baz=259					
NSTT				S	**Sn**	**16 30 45.3 -0.1**
	baz=259					
TWT	**Tachien**	**0.94 234**	⇑	P	**Pn**	**16 30 32.5 +1.3**
	baz=229					
TWT				*e*S	**Sn**	**16 30 46.5 +0.7**
	baz=229					
HSN	**Hsinchu**	**0.94 269**	⇑	P	**Pn**	**16 30 31.4 +0.4**
	baz=262					
HSN				S	**Sn**	**16 30 45.5 -0.1**
	baz=262					
WHF	**Hehuan Shan**	**0.95 225**		*e*P	**Pn**	**16 30 32.2 +0.6**
	baz=221					
WHF				*e*S	**Sn**	**16 30 47.0 +0.5**
	baz=221					
TDCB	**Techi**	**0.95 234**	⇑	*i*P	**Pn**	**16 30 32.5 +1.2**
	baz=229					
TDCB				*e*S	**Sn**	**16 30 46.2 +0.2**
	baz=229					
LXIB	**Xiulin Townshi**	**0.96 214**	⇑	*i*P	**Pn**	**16 30 31.1 -0.3**
	baz=207					
LXIB				*e*S	**Sn**	**16 30 45.8 -0.4**
	baz=207					
ETM	**Tongmen**	**0.97 209**	⇑	*i*P	**Pn**	**16 30 31.0 -0.4**
	baz=211					
ETM				*e*S	**Sn**	**16 30 45.0 -1.1**
	baz=211					
YOJ	**Yonaguni jima**	**0.98 111**		P	**Pn**	**16 30 31.9 +0.4**
YOJ	**Yonaguni jima**	**0.98 111**		P	**Pn**	**16 30 31.9 +0.4**
YOJ				*e*S	**Sn**	**16 30 46.7 +0.4**
CHGB	**Renai**	**1.07 225**	⇑	*i*P	**Pn**	**16 30 33.7 +1.0**
	baz=221					
CHGB				*i*S	**Sn**	**16 30 49.0 +0.5**
	baz=221					
SHUL	**Shoufeng**	**1.10 202**	⇑	P	**Pn**	**16 30 33.3 +0.5**
	baz=195					
SHUL				*e*S	**Sn**	**16 30 49.0 +0.2**
	baz=195					
WHP	**Taichung City**	**1.10 241**	⇑	*i*P	**Pn**	**16 30 34.1 +1.2**
	baz=242					
WHP				*i*S	**Sn**	**16 30 49.7 +0.8**
	baz=242					
ESL	**Shilin**	**1.12 208**	⇑	P	**Pn**	**16 30 32.4 -0.7**
	baz=215					
ESL				*e*S	**Sn**	**16 30 47.7 -1.5**
	baz=215					
OWD	**Renai**	**1.14 222**	⇑	P	**Pn**	**16 30 34.1 +0.6**
	baz=223					
OWD				*e*S	**Sn**	**16 30 50.4 +0.5**
	baz=223					
WUSB	**Renai**	**1.15 225**	⇑	*i*P	**Pn**	**16 30 34.5 +0.9**
	baz=226					
WUSB				*e*S	**Sn**	**16 30 49.4 -0.6**
	baz=226					
TEGC	**Jichi Village**	**1.18 201**		*e*P	**Pn**	**16 30 34.2 +0.4**
	baz=197					
TEGC				*e*S	**Sn**	**16 30 50.3 -0.1**
	baz=197					
NSY	**Sanyi**	**1.20 251**	⇑	*i*P	**Pn**	**16 30 35.0 +1.0**
	baz=251					
NSY				*e*S	**Sn**	**16 30 51.6 +0.8**
	baz=251					
TWQ1	**Liyutan**	**1.21 248**	⇑	P	**Pn**	**16 30 34.9 +0.7**
	baz=248					
TWQ1				S	**Sn**	**16 30 51.6 +0.5**
	baz=248					
WARBT	**Fenglin Townsh**	**1.23 207**	⇑	*i*P	**Pn**	**16 30 33.5 -0.9**
	baz=209					
WARBT				*e*S	**Sn**	**16 30 49.5 -2.0**
	baz=209					
WCS	**Beigang Elemen**	**1.25 233**	⇑	P	**Pn**	**16 30 35.7 +1.1**
	baz=242					
WCS				*e*S	**Sn**	**16 30 53.0 +1.1**
	baz=242					
EGFH	**Guangfu**	**1.26 205**		*e*P	**Pn**	**16 30 34.0 -0.6**
	baz=196					
VWDT	**VWDT**	**1.32 217**	⇑	*i*P	**Pn**	**16 30 36.3 +0.9**
	baz=213					
VWDT				*e*S	**Sn**	**16 30 53.7 +0.4**
	baz=213					
WDJ	**Dajia District**	**1.33 250**	⇑	*i*P	**Pn**	**16 30 36.5 +1.0**
	baz=244					
WDJ				S	**Sn**	**16 30 54.2 +0.7**
	baz=244					
SMLT	**Sun Moon Lake**	**1.37 228**	⇑	*i*P	**Pn**	**16 30 37.3 +1.1**
	baz=237					
SMLT				S	**Sn**	**16 30 56.0 +1.3**
	baz=237					
TCU	**Taichung**	**1.38 242**		*e*P	**Pn**	**16 30 37.0 +0.8**
	baz=242					
TCU				*e*S	**Sn**	**16 30 55.5 +0.8**
	baz=242					
TYC	**Yuchr**	**1.39 229**	⇑	*i*P	**Pn**	**16 30 37.2 +1.0**
	baz=238					
TYC				*e*S	**Sn**	**16 30 56.0 +1.2**
	baz=238					
SSLB	**Suanglung**	**1.40 223**		P	**Pn**	**16 30 37.7 +1.2**
SSLB	**Suanglung**	**1.40 223**	⇑	*i*P	**Pn**	**16 30 37.6 +1.2**
	baz=225					
SSLB				*e*S	**Sn**	**16 30 56.5 +1.2**
	baz=225					
HGSD	**Ruisui**	**1.42 202**		*e*P	**Pn**	**16 30 36.9 +0.2**
	baz=213					
HGSD				*e*S	**Sn**	**16 30 56.0 +0.5**
	baz=213					
EHY	**Hungye**	**1.45 206**		*e*P	**Pn**	**16 30 36.0 -1.0**
	baz=200					
EHY				*e*S	**Sn**	**16 30 53.5 -2.6**
	baz=200					
WCHH	**Zhanghua**	**1.51 241**		*e*P	**Pn**	**16 30 38.5 +0.8**
	baz=242					
WCHH				S	**Sn**	**16 30 58.2 +0.7**
	baz=242					
WNT	**Mingjian**	**1.52 233**		P	**Pn**	**16 30 38.9 +0.9**
	baz=243					
WNT				*i*S	**Sn**	**16 30 58.8 +1.0**
	baz=243					
WJS	**Zhushan**	**1.53 230**	⇑	P	**Pn**	**16 30 39.0 +1.0**
	baz=241					
WJS				*e*S	**Sn**	**16 30 59.1 +1.2**
	baz=241					
WHYT	**Xinyi Township**	**1.53 224**	⇑	P	**Pn**	**16 30 39.4 +1.3**
	baz=234					
WHYT				*i*S	**Sn**	**16 30 59.9 +1.8**
	baz=234					
YULB	**Yu-li**	**1.56 205**		P	**Pn**	**16 30 39.5 +1.1**
YULB	**Yu-li**	**1.56 205**		*e*P	**Pn**	**16 30 37.4 -1.0**
	baz=200					
YULB				*e*S	**Sn**	**16 30 56.4 -2.2**
	baz=200					
ECBN	**Changbin**	**1.58 199**		*e*P	**Pn**	**16 30 38.8 +0.2**
	baz=210					
ECBN				*e*S	**Sn**	**16 30 57.7 -1.3**
	baz=210					
EYUL	**Yuli**	**1.59 203**		*e*P	**Pn**	**16 30 38.1 -0.7**
	baz=203					
TWF1	**Yuli**	**1.59 204**		*e*P	**Pn**	**16 30 38.0 -0.9**
	baz=197					
IRIF	**Iriomote-Funau**	**1.64 107**		P	**Pn**	**16 30 39.7 +0.3**
IRIF				S	**Sn**	**16 31 00.2 -0.2**
ALS	**Alishan**	**1.70 220**	⇑	P	**Pn**	**16 30 41.7 +1.2**
	baz=231					
ALS				*e*S	**Sn**	**16 31 04.4 +2.1**
	baz=231					
CHKH	**Chenggong**	**1.71 199**		*e*P	**Pn**	**16 30 40.2 -0.1**
	baz=202					
CHKH				*e*S	**Sn**	**16 31 01.2 -0.8**
	baz=202					
CHN5	**Tsauling**	**1.71 225**	⇑	P	**Pn**	**16 30 41.4 +0.9**
	baz=228					
CHN5				S	**Sn**	**16 31 03.6 +1.3**
	baz=228					
WGK	**Gukeng**	**1.73 230**	⇑	P	**Pn**	**16 30 41.6 +1.0**
	baz=241					
WGK				*i*S	**Sn**	**16 31 04.2 +1.6**
	baz=241					
FULB	**Fuli**	**1.74 202**		*e*P	**Pn**	**16 30 40.9 +0.2**
	baz=213					
FULB				*e*S	**Sn**	**16 31 02.4 -0.3**
	baz=213					
WRL	**Guolierlin Hig**	**1.74 239**		*e*P	**Pn**	**16 30 41.1 +0.5**
	baz=240					
WRL				S	**Sn**	**16 31 03.4 +0.6**
	baz=240					
WDLH	**Douliu**	**1.75 230**		*e*P	**Pn**	**16 30 41.7 +0.9**
	baz=241					
WDLH				*e*S	**Sn**	**16 31 03.8 +0.9**
	baz=241					
CHKT	**Chengkung**	**1.81 199**		*e*P	**Pn**	**16 30 41.0 -0.5**
	baz=202					
CHKT				*e*S	**Sn**	**16 31 02.1 -2.1**
	baz=202					
HATJ	**Hateruma jima**	**1.81 114**		P	**Pn**	**16 30 42.1 +0.6**
HATJ				S	**Sn**	**16 31 04.9 +0.7**
EHD	**Haiduan**	**1.81 204**		*e*P	**Pn**	**16 30 40.7 -1.0**
	baz=207					
EHD				*e*S	**Sn**	**16 31 03.1 -1.3**
	baz=207					
WTCT	**Ta-ch'eng**	**1.84 239**		*e*P	**Pn**	**16 30 42.5 +0.6**
	baz=240					
WTCT				*e*S	**Sn**	**16 31 04.8 -0.1**
	baz=240					
ELDTW	**Lidau**	**1.85 209**		*e*P	**Pn**	**16 30 42.2 -0.1**
	baz=204					
ELDTW				*e*S	**Sn**	**16 31 04.3 -1.2**
	baz=204					
WTK	**Tuku**	**1.85 233**		P	**Pn**	**16 30 42.9 +0.8**
	baz=235					
WTK				*i*S	**Sn**	**16 31 06.7 +1.4**
	baz=235					
ECS	**Chishang**	**1.86 203**		*e*P	**Pn**	**16 30 42.1 -0.1**
	baz=212					
ECS				*e*S	**Sn**	**16 31 05.1 -0.3**
	baz=212					
WCKO	**Fanlu**	**1.88 223**		*e*P	**Pn**	**16 30 43.6 +1.1**
	baz=226					
WCKO				S	**Sn**	**16 31 07.4 +1.6**
	baz=226					
JKRS	**Kuro-shima**	**1.91 107**		*e*P	**Pn**	**16 30 43.9 +1.0**
EDH	**Donghe**	**1.94 199**		*e*P	**Pn**	**16 30 43.1 -0.2**
	baz=202					
EDH				S	**Sn**	**16 31 06.6 -0.8**
	baz=202					
CHN4	**Tsaushan**	**1.95 222**		P	**Pn**	**16 30 44.6 +1.2**
	baz=224					
CHN4				*e*S	**Sn**	**16 31 09.9 +2.4**
	baz=224					
CHY	**Chiayi**	**1.95 228**		*e*P	**Pn**	**16 30 44.3 +0.9**
	baz=230					
CHY				*e*S	**Sn**	**16 31 08.8 +1.2**
	baz=230					
TPUB	**Ta-pu**	**1.96 220**		P	**Pn**	**16 30 45.1 +1.5**
TPUB	**Ta-pu**	**1.96 220**	⇑	P	**Pn**	**16 30 44.6 +1.0**
	baz=223					
TPUB				*e*S	**Sn**	**16 31 08.8 +0.8**
	baz=223					
STYH	**Taoyuan**	**1.99 215**		P	**Pn**	**16 30 45.3 +1.4**
	baz=209					
STYH				*e*S	**Sn**	**16 31 09.7 +1.3**
	baz=209					
JIJ	**Ishigaki jima**	**2.00 103**		P	**Pn**	**16 30 44.6 +0.6**
JIJ				S	**Sn**	**16 31 08.2 -0.5**
WSF	**Szhu**	**2.01 235**		*e*P	**Pn**	**16 30 44.7 +0.6**
	baz=236					
WSF				*i*S	**Sn**	**16 31 09.7 +0.8**
	baz=236					
WTP	**Ta-pu**	**2.01 219**		*e*P	**Pn**	**16 30 45.3 +1.0**
	baz=222					
WTP				*e*S	**Sn**	**16 31 09.8 +0.7**
	baz=222					
LONT	**Longtian**	**2.06 203**		*e*P	**Pn**	**16 30 44.0 -0.9**
	baz=199					
LONT				*e*S	**Sn**	**16 31 08.6 -1.7**
	baz=199					
WSL	**Shuilin Townsh**	**2.07 232**		*e*P	**Pn**	**16 30 45.9 +0.9**
	baz=240					
WSL				*e*S	**Sn**	**16 31 11.4 +1.0**
	baz=240					
TWK	**Hsinying**	**2.07 222**		*e*P	**Pn**	**16 30 45.9 +0.8**
	baz=222					
SNST	**Tainan City**	**2.10 221**		*e*P	**Pn**	**16 30 46.2 +0.8**
	baz=224					
SNST				*e*S	**Sn**	**16 31 12.0 +0.8**
	baz=224					
JISG	**Ishigakijimahi**	**2.11 96**		P	**Pn**	**16 30 46.2 +0.8**
JISG				*e*S	**Sn**	**16 31 12.8 +1.6**
CHN1	**Nanshi**	**2.11 220**		P	**Pn**	**16 30 46.8 +1.2**
	baz=223					
CHN1				*i*S	**Sn**	**16 31 12.1 +0.7**
	baz=223					
ICHU	**Yijhu**	**2.14 228**		*e*P	**Pn**	**16 30 46.7 +0.8**
	baz=230					
ICHU				*e*S	**Sn**	**16 31 13.3 +1.3**
	baz=230					
SGST	**Jiashian**	**2.16 217**	⇑	P	**Pn**	**16 30 46.4 +0.2**
	baz=229					
SGST				*e*S	**Sn**	**16 31 13.7 +1.1**
	baz=229					
TWG	**Pinlang**	**2.16 203**		*e*P	**Pn**	**16 30 45.2 -1.0**
	baz=199					
TWG				*e*S	**Sn**	**16 31 09.1 -3.4**
	baz=199					
TWGBT	**Beinan**	**2.16 203**		P	**Pn**	**16 30 46.3 +0.1**
TWGBT	**Beinan**	**2.16 203**		*e*P	**Pn**	**16 30 45.3 -0.9**
	baz=199					
TWGBT				*e*S	**Sn**	**16 31 09.2 -3.3**
	baz=199					
LDUT	**Ludao**	**2.19 193**		*e*P	**Pn**	**16 30 45.9 -0.7**
	baz=191					
LDUT				*e*S	**Sn**	**16 31 10.3 -2.8**
	baz=191					
CHN8	**Yiju**	**2.20 229**		*e*P	**Pn**	**16 30 47.5 +0.9**
	baz=230					
CHN8				*e*S	**Sn**	**16 31 14.7 +1.4**
	baz=230					
SLGT	**Liugui**	**2.20 215**		*e*P	**Pn**	**16 30 48.1 +1.5**
	baz=228					
SLGT				*e*S	**Sn**	**16 31 15.5 +2.1**
	baz=228					
MATB	**Ma-tsu**	**2.29 306**		*e*P	**Pn**	**16 30 47.1 -0.7**
	baz=305					
CHN3	**Shinhua**	**2.29 221**		*e*P	**Pn**	**16 30 49.5 +1.7**
	baz=233					
CHN3				*e*S	**Sn**	**16 31 16.7 +1.2**
	baz=233					
SSHA	**Shanhua**	**2.29 224**		*e*P	**Pn**	**16 30 49.2 +1.3**
	baz=226					
SSHA				*e*S	**Sn**	**16 31 17.5 +1.9**
	baz=226					
SCLT	**Jiali**	**2.33 226**		*e*P	**Pn**	**16 30 49.2 +0.9**
	baz=228					
SCLT				*e*S	**Sn**	**16 31 17.6 +1.3**
	baz=228					
SHHT	**Tainan City**	**2.34 221**		*e*P	**Pn**	**16 30 49.8 +1.3**
	baz=221					
SCST	**Cishan**	**2.37 216**		*i*P	**Pn**	**16 30 50.8 +1.9**
	baz=228					
SCST				*e*S	**Sn**	**16 31 20.0 +2.6**
	baz=228					
ECL	**Taimali**	**2.41 204**		*e*P	**Pn**	**16 30 49.1 -0.4**
	baz=201					
ECL				*e*S	**Sn**	**16 31 16.7 -1.7**
	baz=201					
TSCK	**Chigu Township**	**2.42 227**		*e*P	**Pn**	**16 30 50.1 +0.6**
	baz=229					
TSCK				*e*S	**Sn**	**16 31 20.0 +1.5**
	baz=229					
TSMG	**Majia**	**2.44 211**		*e*P	**Pn**	**16 30 51.9 +2.0**
	baz=211					
TWM1	**Shoushan**	**2.46 216**		*e*P	**Pn**	**16 30 52.5 +2.4**
	baz=216					
JTJ	**Tarama**	**2.46 93**		P	**Pn**	**16 30 51.8 +1.7**
JTJ				S	**Sn**	**16 31 20.9 +1.4**
MASBT	**Mashibuluo**	**2.53 210**		*e*P	**Pn**	**16 30 52.5 +1.4**
	baz=214					
MASBT				*e*S	**Sn**	**16 31 22.2 +1.0**
	baz=214					
PNG	**Penghu**	**2.56 241**		*e*P	**Pn**	**16 30 51.0 -0.4**
	baz=249					
PNG				*e*S	**Sn**	**16 31 20.2 -1.7**
	baz=249					
SNJT	**Kaohsiung City**	**2.56 217**		*e*P	**Pn**	**16 30 52.7 +1.3**
	baz=217					
PHUB	**P'eng-hu**	**2.57 240**		*e*P	**Pn**	**16 30 50.8 -0.8**
	baz=241					
PHUB				*e*S	**Sn**	**16 31 19.2 -3.1**
	baz=241					
EAST	**Anshuo**	**2.64 204**		*e*P	**Pn**	**16 30 52.9 +0.3**
	baz=198					
WDGT	**Dungji**	**2.65 235**		*e*P	**Pn**	**16 30 51.8 -0.8**
	baz=233					
LYJJ	**Jianjiangzhen**	**2.66 311**		*e*P	**Pn**	**16 30 52.6 -0.2**
	baz=310					
XPSS	**Dashiqiu**	**2.67 323**		*e*P	**Pn**	**16 30 52.4 -0.4**
	baz=322					
TAWH	**Dawu Township**	**2.67 203**		*e*P	**Pn**	**16 30 53.6 +0.7**
	baz=198					
WSSB	**Gushan**	**2.69 217**		*e*P	**Pn**	**16 30 54.6 +1.4**
	baz=217					
SCZT	**Fangliau**	**2.74 208**		*e*P	**Pn**	**16 30 55.5 +1.6**
	baz=218					
LAY	**Lan-yu**	**2.79 189**		*e*P	**Pn**	**16 30 54.0 -0.6**
	baz=189					
LYUB	**Lan-yu**	**2.83 188**		*e*P	**Pn**	**16 30 53.6 -1.4**
	baz=184					
VCHM	**Qimei**	**2.85 236**		*e*P	**Pn**	**16 30 54.0 -1.2**
	baz=238					
VCHM				*e*S	**Sn**	**16 31 27.1 -1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=238						
JIRB	Irabujima	2.88	89	P	Pn	16 30 57.1	+1.5
JIRB				eS	Sn	16 31 30.2	+0.7
JIKM	Ikemajima	2.95	87	eS	Sn	16 31 32.4	+1.2
MHZQ	Yeshan	2.98	296	eP	Pn	16 30 57.1	+0.1
	baz=295						
KNM	Kinmen	3.27	264	eP	Pn	16 31 02.3	+1.4
	baz=261						
KNMB	Chin-men Tao	3.31	265	eP	Pn	16 31 01.0	-0.4
	baz=262						
AXDP	Jialang	3.67	272	eP	Pn	16 31 06.5	+0.3
	baz=270						
ZPLA	Ao Xicun	3.98	258	eP	Pn	16 31 10.6	+0.1
	baz=255						
SXFK	Yanhouchang	4.24	293	eP	Pn	16 31 14.4	+0.4
	baz=291						
DSXP	Dongshan	4.32	256	eP	Pn	16 31 14.6	-0.5
	baz=252						
JOW	Kunigami	6.00	69	P	Pn	16 31 38.0	+0.2
	15nm,0.7s,baz=136,slow=24,SNR=6.7						
JOW				S	Sn	16 32 43.9	-1.3
	20nm,0.8s,baz=253,slow=14,SNR=1.5						
KSRS	Korea Array	13.57	20	P	P	16 33 26.2	+0.3
	4.4nm,0.7s,baz=203,slow=12,SNR=15						
SONM	Songino Array	26.09	336	P	P	16 35 36.6	0.0
	0.3nm,0.6s,baz=134,slow=6.2,SNR=1.7						
	0.3nm,0.6s						
MKAR	Makanchi Array	38.41	315	P	P	16 37 23.3	-0.6
	0.1nm,0.3s,baz=100,slow=9.6,SNR=1.4						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	42.12	319	P	P	16 37 54.8	+0.4
	0.1nm,0.3s,baz=108,slow=9.3,SNR=2.1						
	0.1nm,0.3s						
WRA	Warramunga Arr	46.08	164	P	P	16 38 26.6	+0.2
	0.8nm,0.7s,baz=346,slow=8.7,SNR=8.6						
	0.8nm,0.7s						
BVAR	Borovoye Array	47.66	320	P	P	16 38 38.2	-0.2
	0.3nm,0.5s,baz=96,slow=1.4,SNR=2.2						
	0.3nm,0.5s						
ASAR	Alice Springs	49.56	166	P	P	16 38 53.9	+0.7
	0.5nm,0.7s,baz=355,slow=7.0,SNR=7.3						
	0.5nm,0.7s						
YKA	Yellowknife Ar	82.10	23	P	P	16 42 20.5	-1.0
	0.1nm,0.6s,baz=292,slow=11,SNR=1.5						
	0.1nm,0.6s						

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*BJI **05** 16:36:18.6±0.0, 5°.91S×147°.08E, h172km, mb4.5/23, mB5.0/14*
*DJA **05** 16:36:21.5±0.3, 5°S±4°×14°7E±°, h187km±6km, M4.6/15, mB4.4/3, mb4.3/15, MLv4.9/5, Mw(mB)3.6/3*
*IDC **05** 16:36:22.4±1.6, 5°.42S×147°.17E, h192km±18km, mb3.3/9, mbtmp3.9/11, MS3.5/2, Error ellipse: s-maj=24.1km s-min=11.4km az=107.0*
*NEIC **05** 16:36:23.0±2.0, 5°.45S±0°.07×147°.06E±0°.08, h186km±7km, mb4.6/36, Error ellipse: s-maj=12.1km s-min=9.8km az=81.0*
ISC 05 16:36:23.7±0.3**, 5°.54S**±0°.04×**147°.07E**±0°.05**, h195km, n116, σ2s.17**/126**, mb4.4**/35**, 2C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.48	5		Pn	16 37 16.7	-2.2
PMG	Port Moresby	3.85	179	P	Pn	16 37 21.4	-2.0
PMG	Port Moresby	3.85	179	P	Pn	16 37 21.6	-1.8
	80nm,0.3s,baz=11,slow=8.6,SNR=176						
PMG				S	Sn	16 38 05.9	-4.4
	137nm,0.3s,baz=101,slow=23,SNR=18						
PMG	Port Moresby	3.85	179	P	Pn	16 37 21.2	-2.2
KAVG	Kavieng	4.75	52	P	Pn	16 37 33.5	-1.2
KRVT	Keravat (AS076	5.09	76	P	Pn	16 37 37.4	-1.8
	baz=107,slow=19						
KRVT				S	Sn	16 38 31.3	-7.3
	baz=233,slow=20						
RABL	Rabaul	5.25	75		Pn	16 37 39.6	-1.6
RABL	Rabaul	5.25	75	P	Pn	16 37 40.9	-0.4
MMPI	Merauke	7.24	246	P	Pn	16 38 04.9	-2.2
	284nm,0.8s,1.4nm						
GENI	Genyem	7.47	293	P	Pn	16 38 06.6	-3.5
	73nm,0.6s,0.5nm						
MTSU	Mount Surprise	12.81	192	P	Pn	16 39 20.9	+1.9
HNR	Honiara	13.34	108	Pn	Pn	16 39 24.9	-0.8
HNR	Honiara	13.34	108	P	P	16 39 29.7	+1.1
HNR	Honiara	13.34	108	P	Pn	16 39 24.7	-1.0
	482nm,0.4s,baz=191,slow=4.2,SNR=4.9						
CTA	Charters Tower	14.49	183	P	P	16 39 41.3	0.0
CTA	Charters Tower	14.49	183	P	P	16 39 41.2	0.0
	3.6nm,0.7s,baz=1.2,slow=12,SNR=6.0						
CTAO	Charters Tower	14.49	183	Pn	Pn	16 39 39.7	-0.2
CTAO	Charters Tower	14.49	183	P	P	16 39 41.1	-0.2
FAKI	Fak Fak	15.00	279		Pn	16 39 43.9	-2.3
KDU	Kakadu	16.06	243	P	P	16 39 57.7	-1.0
SIJI	Sorong	16.44	286	P	P	16 40 00.0	-2.9
	12nm,0.8s						
SWI	Sorong	16.45	286	P	P	16 40 00.4	-2.6
	22nm,0.8s						
QIS	Mount Isa	16.60	205	P	Pn	16 40 06.3	+0.8
MTN	Manton Dam	17.32	244	P	P	16 40 12.0	-0.4
MTN				IAmb	IAmb	16 40 13.3	
	comp=Z,39nm,0.8s						
MTN	Manton Dam	17.32	244	P	P	16 40 12.3	-0.2
WB0	Warramunga Arr	18.77	220	P	P	16 40 28.7	+0.4
WR0	Warramunga Arr	18.81	219	P	P	16 40 29.5	+0.7
WRAB	Tennant Creek	18.91	220	P	P	16 40 30.6	+0.7
WB2	Warramunga Arr	18.92	220	P	P	16 40 30.6	+0.6
WRA	Warramunga Arr	18.93	220	P	P	16 40 30.7	+0.7
WRA				IAmb	IAmb	16 40 31.7	
	comp=Z,8.7nm,0.6s						
WRA	Warramunga Arr	18.93	220	P	P	16 40 30.6	+0.5
	comp=Z,51nm,0.4s,baz=40,slow=11,SNR=565						
WRA				S	S	16 43 54.7	-0.1
	comp=Z,5.0nm,1.1s,baz=41,slow=20,SNR=5.2						
EIDS	Eidsvold	20.09	169	P	P	16 40 44.3	+1.8
KNRA	Kununurra	20.60	239	P	P	16 40 46.5	-1.4
KNRA				IAmb	IAmb	16 40 50.6	
	comp=Z,31nm,0.6s						
KNRA	Kununurra	20.60	239	P	P	16 40 46.8	-1.1
QLP	Quilpie	21.10	187	P	P	16 40 55.4	+2.2
SANI	Sanana	21.31	279	P	P	16 40 53.6	-1.9
	comp=Z,12nm,0.7s						
AS31	Alice Springs	22.04	214	P	P	16 41 03.8	+1.0
ASAR	Alice Springs	22.04	214	P	P	16 41 03.6	+0.9
	comp=Z,19nm,0.3s,baz=34,slow=11,SNR=1221						
ASAR				S	S	16 44 54.4	+2.6
	comp=Z,4.0nm,0.8s,baz=36,slow=22,SNR=10						
ASAR				LR	LR	16 49 42.1	
	comp=Z,73nm,18.0s,baz=54,slow=36						
KOUNC	Koumac, New Ca	22.42	133	P	P	16 41 06.0	-0.3
KOUNC				IAmb	IAmb	16 41 18.4	
	comp=Z,14nm,1.1s						
INKA	Innaminka	22.89	195	P	P	16 41 12.0	+1.6
SOEI	Soe	22.98	258	P	P	16 41 10.9	-0.6
SOEI				IAmb	IAmb	16 41 17.1	
	comp=Z,16nm,0.8s						
SOEI	Soe	22.98	258	P	P	16 41 10.7	-0.9
SOEI	Soe	22.98	258	P	P	16 41 13.4	+1.8
	comp=Z,22nm,0.8s						
FITZ	Fitzroy Crossi	24.37	237	P	P	16 41 24.1	0.0
FITZ				IAmb	IAmb	16 41 26.7	
	comp=Z,8.1nm,1.0s						
FITZ	Fitzroy Crossi	24.37	237	P	P	16 41 23.8	-0.2
OOD	Oodnadatta	24.64	205	P	P	16 41 27.4	+1.0
LIFNC	LIFOU	24.76	130	P	P	16 41 28.6	+1.1
LIFNC	LIFOU	24.76	130	P	P	16 41 29.3	+1.8
DZM	Mont Dzumac	24.93	133	P	P	16 41 29.6	+0.4
DZM				IAmb	IAmb	16 41 33.0	
	comp=Z,7.0nm,0.6s						
DZM	Mont Dzumac	24.93	133	P	P	16 41 30.8	+1.6
ARMA	Armidale	25.12	171	P	P	16 41 31.2	+0.3
ARMA	Armidale	25.12	171	P	P	16 41 32.7	+1.8
EDFI	Ende, Flores	25.38	261	P	P	16 41 30.1	-3.2
LCRK	Leigh Creek	26.14	198	P	P	16 41 40.8	+0.9
WRKA	Warakurna	26.46	221	P	P	16 41 43.2	+0.3
STKA	Stephens Creek	26.70	190	P	P	16 41 46.6	+1.7
MULG	Mulgathing	27.50	205	P	P	16 41 52.7	+0.7
HTT	Hallett	28.77	194	P	P	16 42 05.0	+1.7
BBOO	Buckleboo	29.01	199	P	P	16 42 05.7	+0.3
BBOO				IAmb	IAmb	16 42 17.5	
	comp=Z,5.3nm,0.8s						
BBOO	Buckleboo	29.01	199	P	P	16 42 05.9	+0.5
MBWA	Marble Bar	30.71	237	P	P	16 42 20.1	-0.5
MBWA				IAmb	IAmb	16 42 37.7	
	comp=Z,20nm,1.1s						
MBWA	Marble Bar	30.71	237	P	P	16 42 20.3	-0.3
PSA00	Pilbara Seismi	30.80	236	P	P	16 42 20.8	-0.5
PSA00				IAmb	IAmb	16 42 21.7	
	comp=Z,6.1nm,0.8s						
PSA00	Pilbara Seismi	30.80	236	P	P	16 42 21.1	-0.3
PSA00				IAmb	IAmb	16 42 21.7	
	comp=Z,15nm,0.8s						
PSA00	Pilbara Seismi	30.80	236	P	P	16 42 20.2	-1.2
FORT	Forrest	30.82	213	P	P	16 42 22.1	+0.7
FORT				IAmb	IAmb	16 42 22.7	
	comp=Z,19nm,0.7s						
FORT	Forrest	30.82	213	P	P	16 42 22.2	+0.8
DGTI	Dogotuki	33.76	111	P	P	16 42 50.6	+3.4
MEEK	Meekatharra	34.30	229	P	P	16 42 52.0	+0.2
JMZ	Minamidaito 2	34.76	334	P	P	16 42 55.7	+0.1
KMBL	Kambalda	34.90	220	P	P	16 42 56.7	-0.1
	comp=Z,38nm,1.7s						
GIRL	Giralia	35.97	239	P	P	16 43 06.4	+0.4
UGM	Wanagama	36.36	264	P	P	16 43 08.3	-1.2
MORW	Morawa	37.53	228	P	P	16 43 18.8	-0.3
MORW				IAmb	IAmb	16 43 25.2	
	comp=Z,17nm,1.1s						
MORW	Morawa	37.53	228	P	P	16 43 19.4	+0.3
KLBR	Kellerberrin	37.75	223	P	P	16 43 20.8	-0.2
TPUB	Ta-pu	38.58	319	P	P	16 43 25.9	-2.0
TPUB				IAmb	IAmb	16 43 27.9	
	comp=Z,15nm,0.8s						
SSLB	Suanglung	38.71	320	P	P	16 43 26.7	-2.4
SSLB				IAmb	IAmb	16 43 29.6	
	comp=Z,17nm,1.1s						
JHJ	Hachijo jima 2	39.06	350	LR	LR	16 58 50.7	
	comp=Z,84nm,20.3s,baz=117,slow=35						
BBJI	Bungbulang	39.20	265	P	P	16 43 31.2	-2.1
TKNZ	Takaka Hill	42.26	151	P	P	16 43 59.6	+1.7
RTZ	Ruatahuna	42.66	145	P	P	16 44 02.3	+1.1
RTZ				IAmb	IAmb	16 44 20.9	
	comp=Z,15nm,1.0s						
TUWZ	Tuamarina	43.05	150	P	P	16 44 04.5	+0.4
TCW	Tory Channel	43.05	150	P	P	16 44 03.4	-0.8
BSWZ	Blackbirch Sta	43.23	150	P	P	16 44 05.8	+0.2
MRZ	Mangatainoka R	43.31	148	P	P	16 44 05.1	-1.2
MRZ				IAmb	IAmb	16 44 13.4	
	comp=Z,28nm,1.1s						
MLZ	Mavora Lakes	43.71	159	P	P	16 44 11.4	+2.0
NJ2	Nanjing	46.03	326	eP	P	16 44 31.1	+3.2
NJ2				pP	pP	16 45 06.1	-3.8
NJ2				sP	sP	16 45 24.2	-7.4
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,310nm,3.6s						
KSRS	Korea Array	46.34	339	P	P	16 44 29.1	-1.1
	comp=Z,1.0nm,0.7s,baz=150,slow=8.4,SNR=2.4						
	comp=Z,1.0nm,0.7s						
COCO	West Island	50.01	259	P	P	16 45 01.0	+2.4
HNS	HongShan	52.29	327	⇑P	P	16 45 14.8	-0.4
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MDJ	Mudanjiang	52.34	344	P	P	16 45 19.1	+3.6
MDJ				pP	pP	16 45 57.8	-0.7
MDJ				PcP	PcP	16 46 29.6	+5.8
MDJ				S	S	16 52 31.1	+5.4
MDJ				sS	sS	16 53 37.6	-3.6
MDJ				ScS	ScS	16 54 49.6	+4.5
MDJ				SS	SKiKP	16 56 12.6	-4.5
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,180nm,6.3s						
CMAR	Chiang Mai Arr	53.09	298	P	P	16 45 20.9	-0.6
	comp=Z,0.4nm,0.5s,baz=125,slow=4.8,SNR=4.7						
	comp=Z,0.4nm,0.5s						
XAN	Xi'an	53.37	320	⇑P	P	16 45 22.6	-0.7
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH	PanZhiHua	54.22	308	P	P	16 45 32.7	+3.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.5s						
HHC	Hu-ho-hao-te	56.48	328	eP	P	16 45 48.8	+3.3
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,5.1s						
BTO	Baotou	57.13	327	eP	P	16 45 55.9	+5.8
BTO				sP	sP	16 46 54.6	-0.4
BTO				PP	PP	16 48 06.9	+7.6
BTO				S	S	16 53 40.4	+10
BTO				SS	SS	16 57 25.0	+2.7
BTO				pmax	pmax		
	comp=Z,14nm,0.6s						
BTO				pmax	pmax		
	comp=Z,290nm,6.1s						
BTO				LR	LR		
	comp=Z,250nm,5.7s						
BTO				LR	LR		
	comp=Z,280nm,4.5s						
BTO				LR	LR		
	comp=Z,200nm,6.1s						
LZH	Lanzhou	57.90	319	eP	P	16 45 56.6	+0.9
LZH				pmax	pmax		
	comp=Z,6.0nm,1.6s						
GTA	Gaotai	62.43	320	eP	P	16 46 26.7	+0.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	64.03	331	P	P	16 46 37.2	+0.6
SONM	Songino Array	64.03	331	P	P	16 46 36.4	-0.3
	comp=Z,1.0nm,0.7s,baz=140,slow=12,SNR=7.7						
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	72.37	177	P	P	16 47 27.4	-0.4
WMQ	Urumqi	72.48	319	eP	P	16 47 32.3	+3.1
MK31	Makanchi Array	77.18	320	P	P	16 47 55.4	-0.6
MKAR	Makanchi Array	77.18	320	P	P	16 47 55.2	-0.8
MKAR	Makanchi Array	77.18	320	P	P	16 47 55.0	-1.0
	comp=Z,0.5nm,0.4s,baz=99,slow=8.2,SNR=17						
	comp=Z,0.5nm,0.4s						
ZALV	Zalesovo Beam	78.66	328	P	P	16 48 01.6	-2.3
	comp=Z,0.6nm,0.4s,baz=106,slow=4.8,SNR=4.3						
	comp=Z,0.6nm,0.4s						
KURBB	Kurchatov Arra	80.90	323	P	P	16 48 14.7	-1.3
	comp=Z,0.2nm,0.6s,baz=96,slow=7.5,SNR=1.9						
	comp=Z,0.2nm,0.6s						
D19K	Kuna River	82.97	18	P	P	16 48 25.7	-0.8
QSPA	South Pole Qui	84.43	180	P	P	16 48 34.7	+0.5
QSPA	South Pole Qui	84.43	180	P	P	16 48 34.2	+0.1
	comp=Z,1.7nm,1.1s,baz=22,slow=5.4,SNR=2.8						
	comp=Z,1.7nm,1.1s						
ILAR	Eielson Array	85.03	23	P	P	16 48 34.5	-2.5
ILAR	Eielson Array	85.03	23	P	P	16 48 34.3	-2.6
	comp=Z,0.7nm,0.7s,baz=253,slow=5.3,SNR=11						
	comp=Z,0.7nm,0.7s						
ISLE	Juniper Island	85.42	28	P	P	16 48 37.9	-1.2
ISLE				IAmb	IAmb	16 48 40.5	
	comp=Z,8.6nm,1.1s						
BVAR	Borovoye Array	86.43	324	P	P	16 48 42.3	-1.8
	comp=Z,0.3nm,0.4s,baz=92,slow=4.5,SNR=3.9						
	comp=Z,0.3nm,0.4s						
TORD	Torodi Ar. Bea	145.04	285	PKPbc	PKPbc	16 55 36.5	-2.0
	comp=Z,0.4nm,0.5s,baz=76,slow=4.3,SNR=2.7						

SJA 05 16:43:07.9±0.5**, 32°.12S**×**67°.43W, h138km**±2km**, ML3.4, MW3.5, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	0.98	285	i P	Pn	16 43 32.0	+0.6
RTCV				eS	Sn	16 43 49.8	+0.6
RTCV				IAML		16 43 50.4	
	comp=Z,173nm,1.2s						
SJA	San Juan	1.13	301	i P	Pn	16 43 33.6	+0.9
SJA				eS	Sn	16 43 52.4	+0.7
SJA				IAML		16 43 55.0	
	comp=Z,335nm,0.2s						
ACHE	Chepes	1.15	35	i P	Pn	16 43 34.0	+0.8
ACHE				eS	Sn	16 43 53.0	+0.7
RTLL	Cerro Villicun	1.19	311	i P	Pn	16 43 34.0	+0.6
RTLL				eS	Sn	16 43 53.6	+0.9
RTLL				IAML		16 43 54.0	
	comp=Z,570nm,0.3s						
ASAL	Salagasta	1.28	248	i P	Pn	16 43 35.3	+1.0
ASAL				eS	Sn	16 43 55.2	+0.8
ASAL				IAML		16 43 56.0	
	comp=Z,342nm,0.5s						
AVFE	Valle Fertil	1.45	359	i P	Pn	16 43 37.1	+1.0
ARCO	CERRO ARCO	1.46	240	i P	Pn	16 43 37.2	+0.9
ARCO				eS	Sn	16 43 58.3	+0.3
ARCO				IAML		16 44 01.0	
	comp=Z,460nm,0.3s						
AAGR	Agrelo	1.53	230	i P	Pn	16 43 38.0	+1.1
AAGR				eS	Sn	16 43 59.9	+0.8
AAGR				IAML		16 44 01.9	
	comp=Z,344nm,0.2s						
AVIZ	Vizcacheras	1.64	214	i P	Pn	16 43 39.1	+1.0
DOCA	Reserva Natura	1.83	309	i P	Pn	16 43 41.5	+0.8
ACCO	Cerro Coronel	2.07	317	i P	Pn	16 43 44.8	+1.3
AROD	Rodeo	2.62	317	i P	Pn	16 43 51.6	+1.3
ACLC	CERRO LA CRUZ	2.71	9	i P	Pn	16 43 52.0	+0.6
ACLC				IAML		16 44 27.3	
	comp=Z,56nm,0.2s						
AGUA	GUANDACOL	2.78	340	i P	Pn	16 43 53.4	+1.3
AGUA				IAML		16 44 30.1	
	comp=Z,148nm,0.2s						
CO02	Combarbal	3.18	286	i P	Pn	16 43 58.1	+0.9
CO02				IAML		16 44 37.5	
	comp=Z,224nm,0.7s						
VCA	Vinchina	3.44	349	i P	Pn	16 44 01.9	+1.3
GO04	Tololo Observa	3.48	303	i P	Pn	16 44 02.2	+0.9
GO03	Copiap	5.12	331	i P	Pn	16 44 23.4	+0.5

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*NEIC **05** 17:06:18.6±1.1, 17°.5S±0°.2×178°.4W±0°.1, h475km±10km, mb4.2/29, Error ellipse: s-maj=28.7km s-min=9.1km az=153.0*
*IDC **05** 17:06:29.4±3.4, 17°.71S×178°.70W, h605km±45km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=58.4km s-min=15.2km az=152.0*
ISC 05 17:06:21.5±0.9**, 17°.2S**±0°.2×**178°.8W**±0°.2**, h500km, n48, σ1s.85**/46**, mb4.2**/23**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.49	65	P	P	17 08 13.3	+0.5
NIUE	Niue	8.61	104	P	P	17 08 11.9	-12
FUNA	Funafuti	8.85	347	P	P	17 08 24.5	-2.4
LIFNC	LIFOU	13.70	253		P	17 09 22.7	+4.6
PINNC	Pines Island,	14.03	245	P	P	17 09 25.2	+3.6
DZM	Mont Dzumac	14.75	248	P	P	17 09 33.6	+4.4
DZM	Mont Dzumac	14.75	248	P	P	17 09 33.2	+4.0
	2.9nm,0.8s,baz=83,slow=19,SNR=1.5						
EIDS	Eidsvold	29.19	249	P	P	17 11 41.5	-0.4
CTAO	Charters Tower	33.23	259	P	P	17 12 18.9	+2.2
CAN	Canberra	33.87	232	P	P	17 12 21.1	-0.8
CAN				IAmb	IAmb	17 12 59.6	
	comp=Z,12nm,1.4s						
STKA	Stephens Creek	38.67	240	P	P	17 13 00.9	-0.8
	comp=Z,2.4nm,0.7s,baz=83,slow=9.2,SNR=5.1						
	comp=Z,2.4nm,0.7s						
BBOO	Buckleboo	43.45	240	P	P	17 13 39.0	-0.8
BBOO				IAmb	IAmb	17 13 39.3	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	44.39	259	P	P	17 13 47.6	+0.3
WB0				IAmb	IAmb	17 14 07.2	
	comp=Z,12nm,1.5s						
WB2	Warramunga Arr	44.41	259	P	P	17 13 47.6	+0.1
WB2				IAmb	IAmb	17 13 48.4	
	comp=Z,8.7nm,1.1s						
WRA	Warramunga Arr	44.43	259		pP	17 15 17.1	-2.4
WRA	Warramunga Arr	44.43	259	P	P	17 13 48.1	+0.5
	comp=Z,1.9nm,0.5s,baz=96,slow=7.1,SNR=62						
	comp=Z,1.9nm,0.5s						
AS31	Alice Springs	44.65	254	P	P	17 13 49.5	+0.1
AS31				IAmb	IAmb	17 13 50.8	
	comp=Z,3.5nm,0.5s						
ASAR	Alice Springs	44.66	254	P	P	17 13 49.3	0.0
ASAR					PcP	17 15 16.0	-5.5
ASAR	Alice Springs	44.66	254	P	P	17 13 49.8	+0.5
	comp=Z,9.5nm,0.6s,baz=87,slow=8.8,SNR=296						
ASAR				S	S	17 19 43.0	-5.9
	comp=Z,0.4nm,0.8s,baz=91,slow=17,SNR=2.8						
	comp=Z,9.5nm,0.6s						
MTN	Manton Dam	48.48	268	P	P	17 14 19.5	+1.1
FORT	Forrest	50.00	244	P	P	17 14 28.0	-1.5
KNRA	Kununurra	50.22	264	P	P	17 14 30.9	-0.4
PETK	Petropavlovsk-	72.91	345	P	P	17 17 01.7	+2.6
	comp=Z,6.8nm,1.0s,baz=128,slow=7.9,SNR=3.4						
	comp=Z,6.8nm,1.0s						
O18K	Koktuh Hills	79.14	12	P	P	17 17 33.3	-0.1
NVAR	Mina Array Bea	79.16	44	P	P	17 17 35.0	+0.7
	comp=Z,0.7nm,0.7s,baz=225,slow=9.6,SNR=5.8						
	comp=Z,0.7nm,0.7s						
K17K	Iditarod	81.27	9	P	P	17 17 45.3	+0.8
K17K				IAmb	IAmb	17 18 14.0	
	comp=Z,19nm,1.4s						
J16K	Anvik River	81.47	8	P	P	17 17 46.0	+0.4
TTA	Tatalina	81.84	10	P	P	17 17 47.8	+0.2
TTA				IAmb	IAmb	17 18 14.4	
	comp=Z,15nm,1.5s						
U15A	North Rim	82.31	48	P	P	17 17 51.1	+0.3
SCM	Sheep Creek Mo	82.63	14	P	P	17 17 52.2	+0.6
N25K	Chitina, Valde	83.12	16	P	P	17 17 54.0	-0.1
N25K				IAmb	IAmb	17 18 18.3	
	comp=Z,9.4nm,1.4s						
TRF	Thorofare Moun	83.40	12	P	P	17 17 55.9	+0.4
TRF				IAmb	IAmb	17 17 56.1	
	comp=Z,15nm,1.4s						
Q32M	Nakina River	84.86	22	P	P	17 18 03.8	+0.9
Q32M				IAmb	IAmb	17 18 47.2	
	comp=Z,11nm,1.3s						
IMAR	Indian Mountai	85.05	10	P	P	17 18 03.5	+0.1
ILAR	Eielson Array	85.28	13	P	P	17 18 04.5	0.0
ILAR	Eielson Array	85.28	13	P	P	17 18 04.4	-0.1
	comp=Z,0.5nm,0.4s,baz=225,slow=5.0,SNR=15						
	comp=Z,0.5nm,0.4s						
J25K	Salcha River,	85.48	14	P	P	17 18 05.9	+0.3
E19K	Redstone River	85.89	8	P	P	17 18 08.1	+0.6
E19K				IAmb	IAmb	17 18 23.0	
	comp=Z,7.1nm,1.4s						
TXAR	Lajitas Array	85.91	58	P	P	17 18 08.4	-0.2
	comp=Z,1.1nm,0.7s,baz=213,slow=6.5,SNR=12						
	comp=Z,1.1nm,0.7s						
M30M	Minto, Yukon	86.07	18	P	P	17 18 09.2	+0.8
L29M	L29M	86.10	17	P	P	17 18 09.6	+1.0
L29M				IAmb	IAmb	17 18 52.1	
	comp=Z,6.2nm,1.4s						
I26K	Coal Creek Min	86.58	14	P	P	17 18 11.4	+0.6
D19K	Kuna River	86.76	7	P	P	17 18 12.2	+0.6
F24K	Squaw Lake	87.47	11	P	P	17 18 15.9	+0.9
F24K				IAmb	IAmb	17 18 57.2	
	comp=Z,4.5nm,1.4s						
BMAR	Burnt Mountain	88.05	13	P	P	17 18 18.4	+0.8
H29M	Whitestone	88.48	15	P	P	17 18 20.2	+0.6
H29M				IAmb	IAmb	17 18 34.8	
	comp=Z,9.1nm,1.5s						
C23K	Itkillik River	89.05	9	P	P	17 18 22.7	+0.5
C23K				IAmb	IAmb	17 18 30.2	
	comp=Z,3.6nm,1.3s						
YKA	Yellowknife Ar	93.84	25	P	P	17 18 43.7	-0.7
	comp=Z,0.2nm,0.6s,baz=260,slow=5.6,SNR=2.6						
	comp=Z,0.2nm,0.6s						

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*LJU **05** 17:25:49.7, 45°.32N×14°.76E, h18km, ML2.4*
*VIE **05** 17:25:50.3±0.4, 45°.31N×14°.77E, h6km, mb2.4/10, ml2.6/15, Error ellipse: s-maj=2.5km s-min=1.3km az=171.0 29 km E of Rijeka*
*RHSSO **05** 17:25:50.9±0.3, 45°.31N×14°.77E, h5km±2km, ML2.5/6*
*PRU **05** 17:25:53.9, 45°.37N×14°.50E, h8km*
ISC 05 17:25:50.7±1.1**, 45°.30N**±0°.02×**14°.78E**±0°.02**, h4km**±9km**, n50, σ0s.88**/88**, 7C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	Rijeka	0.21	276	i Pg	Pg	17 25 54.5	-0.2
RIY				Sg	Sg	17 25 58.2	+0.7
GBRS	Gornja Briga	0.23	5	⇓i Pg	Pg	17 25 55.2	+0.1
GBRS				IAML		17 25 59.0	
	comp=Z,356nm,0.1s						
KNDS	Knezji Dol	0.36	309	i Pg	Pg	17 25 57.1	-0.5
KNDS				i Sg	Sg	17 26 02.6	+0.2
KNDS				IAML		17 26 03.9	
	comp=Z,101nm,0.1s						
BOJS	Bojanci	0.39	59	i Pg	Pg	17 25 58.0	-0.2
BOJS				IAML		17 26 04.3	
	comp=Z,71nm,0.1s						
BOJS	Bojanci	0.39	59	⇑i Pg	Pg	17 25 57.8	-0.4
BOJS				eSg	Sg	17 26 03.4	+0.1
CEY	Cerknica	0.50	331	⇑i Pg	Pg	17 25 59.3	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CEY				eSg	Sg	17 26 07.2	+0.3
SMRN	**Sveta Marina**	**0.52**	**239**	ePg	**Pg**	**17 26 00.0**	**-0.5**
SMRN				Sg	Sg	17 26 08.2	+1.0
RABC	**Rab**	**0.55**	**180**	i Pg	**Pg**	**17 26 00.9**	**-0.3**
RABC				Sg	Sb	17 26 10.5	-0.6
OZLJ	**Ozalj**	**0.58**	**57**	ePg	**Pg**	**17 26 01.5**	**-0.2**
OZLJ				Sg	Sg	17 26 09.4	+0.1
SKDS	**Skadanscina**	**0.59**	**295**	i Pg	**Pg**	**17 26 00.8**	**-1.2**
SKDS				IAML		17 26 12.5	
	comp=Z,68nm,0.1s						
SKDS	**Skadanscina**	**0.59**	**295⇑**	iPg	**Pg**	**17 26 00.4**	**-1.6**
SKDS				eSg	Sg	17 26 09.7	0.0
A253A	**Karojba, Istri**	**0.68**	**270**	ePg	**Pg**	**17 26 02.4**	**-1.3**
A253A				Sg	Sg	17 26 12.7	+0.2
CRES	**Cresnjev**	**0.71**	**42⇑**	iPg	**Pg**	**17 26 03.8**	**-0.5**
CRES				eSg	Sg	17 26 13.6	+0.2
PLIT	**Plitvice**	**0.73**	**125**	ePg	**Pg**	**17 26 04.4**	**-0.3**
PLIT				Sg	Sg	17 26 14.9	+0.7
NVLJ	**Novalja**	**0.74**	**175**	ePg	**Pg**	**17 26 04.2**	**-0.7**
NVLJ				Sg	Sb	17 26 16.1	-0.5
BRJN	**Brijuni**	**0.83**	**242**	ePg	**Pg**	**17 26 07.0**	**+0.5**
BRJN				Sg	Sb	17 26 18.5	-0.6
VIRC	**Vir**	**1.03**	**169**	ePn	**Pg**	**17 26 09.7**	**-0.7**
VIRC				Sg	Sb	17 26 25.5	+0.6
PTJ	**Puntijarka**	**1.03**	**54**	ePg	**Pg**	**17 26 10.4**	**-0.1**
PTJ				Sg	Sb	17 26 24.6	-0.5
UDBI	**Udbina**	**1.04**	**138**	ePg	**Pb**	**17 26 11.5**	**+0.2**
UDBI				Sg	Sb	17 26 25.2	-0.2
OBKA	**Obir**	**1.22**	**353**	i Pg	**Pg**	**17 26 13.6**	**-0.5**
	comp=Z,7.0nm,0.1s						
OBKA				eSg	Sn	17 26 30.7	-0.9
	comp=Z,41nm,0.2s						
OBKA	**Obir**	**1.22**	**353⇑**	iPg	**Pg**	**17 26 13.2**	**-0.8**
OBKA				eSg	Sg	17 26 29.6	-0.2
LOBO	**Lobor**	**1.24**	**46**	ePg	**Pn**	**17 26 14.3**	**-0.5**
LOBO				Sg	Sn	17 26 31.1	-1.0
DUGI	**Dugi Otok**	**1.32**	**171**	ePn	**Pn**	**17 26 15.0**	**-0.9**
DUGI				Sn	Sb	17 26 32.5	-1.0
SOKA	**Soboth**	**1.39**	**7**	ePg	**Pb**	**17 26 16.8**	**-0.4**
	comp=Z,9.2nm,0.5s,SNR=16						
SOKA				eSg	**Sg**	**17 26 35.4**	**+0.1**
	comp=Z,13nm,0.3s						
PRIJ	**Prijedor**	**1.41**	**103**	eSg	**Sg**	**17 26 36.4**	**+0.5**
MOSL	**Moslavina**	**1.43**	**77**	ePn	**Pn**	**17 26 17.3**	**0.0**
MOSL				Sg	Sn	17 26 35.9	-0.6
A050A	**Klekovaca**	**1.49**	**123⇓**	iPn	**Pn**	**17 26 18.6**	**+0.3**
A050A				eSn	Sb	17 26 38.4	+0.1
A051A	**Mrakovica**	**1.53**	**100⇑**	iPn	**Pn**	**17 26 18.5**	**-0.4**
A051A				eSn	Sb	17 26 39.6	+0.1
MYKA	**Terra Mystica**	**1.55**	**330**	ePg	**Pb**	**17 26 19.5**	**-0.5**
	comp=Z,7.0nm,0.3s,SNR=8.8						
MYKA				eSg	**Sg**	**17 26 41.1**	**+0.7**
	comp=Z,42nm,0.3s						
MORI	**Morici**	**1.58**	**155**	ePn	**Pn**	**17 26 19.2**	**-0.2**
ZIRJ	**Zirje**	**1.76**	**159**	ePn	**Pb**	**17 26 23.3**	**-0.2**
BLY	**Banja Luka**	**1.79**	**107⇑**	iPn	**Pn**	**17 26 22.9**	**+0.5**
BLY				eSn	Sn	17 26 46.0	+0.4
BEHE	**Becsehely**	**1.82**	**49**	ePn	**Pn**	**17 26 22.4**	**-0.4**
BEHE				eSn	Sn	17 26 46.0	-0.3
KBA	**Koelnbreinsper**	**2.04**	**331**	eSn	**Sb**	**17 26 54.1**	**0.0**
	comp=Z,7.7nm,0.3s						
ABTA	**Abfaltersbach**	**2.14**	**313**	ePn	**Pn**	**17 26 27.8**	**+0.5**
	comp=Z,1.4nm,0.2s,SNR=6.8						
ABTA				eSg	**Sg**	**17 26 59.0**	**-0.4**
	comp=Z,27nm,0.5s						
BIOA	**Bad Ischl, Aus**	**2.52**	**342**	Sn	**Sn**	**17 27 04.6**	**+1.0**
	comp=Z,7.7nm,0.3s						
MOA	**Molln**	**2.57**	**352**	ePn	**Pn**	**17 26 33.8**	**+0.6**
	comp=Z,0.4nm,0.1s						
MOA				eSn	**Sn**	**17 27 04.7**	**-0.2**
	comp=Z,5.1nm,0.4s						
LESA	**Schwarzleotal**	**2.57**	**326**	ePn	**Pn**	**17 26 34.8**	**+1.6**
	comp=Z,1.7nm,0.2s						
LESA				eSn	**Sb**	**17 27 08.2**	**-1.3**
	comp=Z,5.3nm,0.3s						
RONA	**Rosalia, Austr**	**2.62**	**23**	ePn	**Pn**	**17 26 34.4**	**+0.6**
	comp=Z,0.9nm,0.1s						
CONA	**Conrad Observa**	**2.73**	**15**	ePn	**Pn**	**17 26 37.2**	**+1.8**
	comp=Z,0.8nm,0.2s						
CONA				i Sn	**Sn**	**17 27 08.9**	**-0.1**
	comp=Z,1.2nm,0.2s						
MORH	**Mrgy, Hungar**	**2.85**	**70**	ePn	**Pn**	**17 26 37.5**	**+0.5**
WTTA	**Wattenberg**	**2.93**	**313**	ePn	**Pn**	**17 26 40.0**	**+1.7**
	comp=Z,1.9nm,0.2s						
WTTA				eSn	**Sb**	**17 27 16.9**	**-3.0**
	comp=Z,13nm,0.5s						
WATA	**Walderalm**	**3.01**	**314**	i Pn	**Pn**	**17 26 40.9**	**+1.6**
	comp=Z,1.1nm,0.2s						
WATA				eSn	**Sn**	**17 27 18.0**	**+2.1**
	comp=Z,4.6nm,0.3s						
SQTA	**Sankt Quirin**	**3.13**	**309**	i Pn	**Pn**	**17 26 40.1**	**-0.8**
	comp=Z,0.6nm,0.1s						
SQTA				i Sn	**Sn**	**17 27 21.4**	**+2.5**
	comp=Z,9.4nm,0.4s						
HAPS	**Han Pijesak,Bl**	**3.21**	**111**	ePn	**Pn**	**17 26 42.2**	**+0.2**
STON	**Ston**	**3.21**	**138**	eSn	**Sn**	**17 27 20.5**	**-0.1**
MOTA	**Moosalm**	**3.27**	**310**	ePn	**Pn**	**17 26 42.6**	**-0.2**
	comp=Z,0.6nm,0.2s						
MOTA				eSn	**Sn**	**17 27 23.2**	**+1.1**
	comp=Z,1.9nm,0.3s						
FETA	**Feichten**	**3.30**	**303**	i Pn	**Pn**	**17 26 44.0**	**+0.8**
	comp=Z,0.8nm,0.3s						
FETA				eSn	**Sn**	**17 27 23.4**	**+0.4**
	comp=Z,2.1nm,0.4s						
KHC	**Kasperske Hory**	**3.92**	**348**	ePN	**Pn**	**17 26 53.0**	**+1.4**
KHC				ePG	**Pb**	**17 27 02.0**	**+1.7**
KHC				eSN	**Sn**	**17 27 36.6**	**-1.5**
DRME	**Dracevica, Mon**	**4.46**	**133**	ePn	**Pn**	**17 26 59.1**	**+0.1**

*IDC **05** 17:44:54.9±2.0, 43°.89N×128°.48W, h0km, mb3.3/6, mbtmp3.3/8, ML2.7/2, MS3.3/8, Error ellipse: s-maj=53.8km s-min=16.7km az=44.0*
*NEIC **05** 17:44:59.6±2.3, 43°.84N±0°.08×128°.1W±0°.1, h10km±2km, mb3.6/2, ML3.3/66, Error ellipse: s-maj=18.4km s-min=12.8km az=249.0*
ISC 05 17:44:57.0±1.2**, 43°.80N**±0°.08×**128°.4W**±0°.1**, h13**km**, n65,** σ**1s.37**/60**, mb3.7**/7**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.13**	**106**	Pn	**Pn**	**17 45 44.2**	**-1.8**
KEBM				IAML		17 46 24.9	
	comp=E,133nm,2.8s						
KEBM				IAML		17 46 24.9	
	comp=N,101nm,2.8s						
J01E	**Myrtle Point**	**3.33**	**99**	Pn	**Pn**	**17 45 47.8**	**-1.0**
J01E				IAML		17 46 30.9	
	comp=E,62nm,1.9s						
KBO	**Bosley Butte**	**3.46**	**116**	Pn	**Pn**	**17 45 48.8**	**-1.9**
K02D	**Willamette Mer**	**3.65**	**106**	Pn	**Pn**	**17 45 51.0**	**-2.2**
I03D	**Drain, OR**	**3.68**	**90**		**Pn**	**17 45 52.2**	**-1.4**
COR	**Corvallis**	**3.77**	**76**	Pn	**Pn**	**17 45 54.6**	**-0.1**
COR				IAML		17 47 19.1	
	comp=E,47nm,2.9s						
COR				IAML		17 47 49.0	
	comp=E,48nm,3.7s						
DBO	**Dodson Butte**	**3.83**	**98**		**Pn**	**17 45 55.5**	**-0.2**
KSXB	**Camp Six Broad**	**3.88**	**119**	Pn	**Pn**	**17 45 55.8**	**-0.7**
KSXB				IAML		17 47 01.0	
	comp=E,45nm,4.2s						
BUCK	**Buck Mountain**	**3.95**	**82**	Pn	**Pn**	**17 45 57.1**	**-0.2**
BUCK				IAML		17 46 36.8	
	comp=E,53nm,2.8s						
BUCK				IAML		17 46 43.3	
	comp=N,35nm,4.5s						
G03D	**McMinnville, O**	**3.96**	**67**	Pn	**Pn**	**17 45 57.4**	**+0.1**
G03D				IAML		17 46 35.4	
	comp=N,40nm,4.4s						
G03D				IAML		17 48 07.8	
	comp=E,34nm,2.0s						
KRMB	**Red Mountain**	**4.03**	**123**	Pn	**Pn**	**17 46 00.0**	**+1.5**
KRMB				IAML		17 47 47.2	
	comp=E,37nm,2.6s						
KRMB				IAML		17 48 17.1	
	comp=N,37nm,2.6s						
F03A	**Seaside**	**4.07**	**57**	Pn	**Pn**	**17 45 57.7**	**-1.2**
H04D	**Lebanon**	**4.16**	**78**	Pn	**Pn**	**17 46 00.2**	**0.0**
H04D				IAML		17 47 29.4	
	comp=N,43nm,3.9s						
HUMO	**Hull Mountain**	**4.17**	**105**		**Pn**	**17 45 59.8**	**-0.6**
RADR	**Rader Ridge**	**4.20**	**50**	Pn	**Pn**	**17 46 01.1**	**+0.5**
I04A	**Tendick Farm,**	**4.36**	**88**		**Pn**	**17 46 03.2**	**+0.3**
E03A	**Lebam**	**4.40**	**50**	Pn	**Pn**	**17 46 01.5**	**-2.0**
E03A				IAML		17 47 51.2	
	comp=N,37nm,2.7s						
E03A				IAML		17 48 06.9	
	comp=E,46nm,2.1s						
H04A	**Detroit Lake**	**4.57**	**77**	Pn	**Pn**	**17 46 06.0**	**+0.1**
H04A				IAML		17 48 39.0	
	comp=E,26nm,0.3s						
H04A				IAML		17 48 48.4	
	comp=N,21nm,0.3s						
WISH	**Wishkah**	**4.67**	**43**	Pn	**Pn**	**17 46 08.3**	**+1.2**
YBH	**Yreka Blue Hor**	**4.69**	**114**	Pn	**Pn**	**17 46 08.3**	**+0.8**
YBH	**Yreka Blue Hor**	**4.69**	**114**	Pn	**Pn**	**17 46 08.3**	**+0.8**
	comp=N,0.4nm,0.3s,baz=296,slow=14,SNR=1.9						
YBH				Sn	**Sn**	**17 47 02.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=241,slow=19,SNR=1.2						
YBH				LR	LR	17 47 47.3	
	comp=N,162nm,20.8s,baz=337,slow=36						
	comp=N,0.9nm,0.3s						
L04D	**Klamath Falls**	**4.76**	**107**	Pn	**Pn**	**17 46 09.9**	**+1.4**
L04D				IAML		17 47 55.3	
	comp=E,32nm,4.9s						
L04D				IAML		17 49 06.8	
	comp=N,29nm,4.7s						
F04A	**Amboy**	**4.78**	**61**	Pn	**Pn**	**17 46 09.3**	**+0.7**
F04A				IAML		17 47 08.7	
	comp=E,24nm,3.0s						
F04A				IAML		17 47 09.3	
	comp=N,25nm,2.4s						
NLWA	**Neilton Lookou**	**4.81**	**40**	Pn	**Pn**	**17 46 07.0**	**-2.1**
NLWA				IAML		17 47 54.4	
	comp=N,26nm,3.9s						
NLWA				IAML		17 48 32.3	
	comp=N,26nm,3.9s						
K04D	**Chiloquin, OR**	**5.02**	**101**	Pn	**Pn**	**17 46 10.9**	**-1.2**
HOOD	**Mount Hood Mea**	**5.08**	**70**		**Pn**	**17 46 13.4**	**+0.6**
HOOD				IAML		17 47 16.3	
	comp=E,28nm,1.3s						
HOOD				IAML		17 47 19.7	
	comp=N,20nm,0.1s						
J05D	**Fort Rock, OR**	**5.25**	**93**	Pn	**Pn**	**17 46 15.1**	**-0.3**
J05D				IAML		17 47 33.3	
	comp=N,26nm,5.0s						
J05D				IAML		17 47 50.2	
	comp=E,25nm,3.8s						
G05A	**Wamic**	**5.29**	**72**		**Pn**	**17 46 14.3**	**-1.3**
PINE	**Pine Mountain**	**5.42**	**87**	Pn	**Pn**	**17 46 16.2**	**-1.5**
PINE				IAML		17 49 29.7	
	comp=E,22nm,4.8s						
GNW	**Green Mountain**	**5.44**	**44**	Pn	**Pn**	**17 46 15.6**	**-2.1**
GNW				IAML		17 47 39.2	
	comp=E,16nm,3.6s						
GNW				IAML		17 48 45.9	
	comp=N,14nm,4.8s						
LON	**Longmire**	**5.53**	**55**		**Pn**	**17 46 18.6**	**-0.3**
LON				IAML		17 49 41.3	
	comp=N,11nm,4.7s						
K05A	**Summer Lake**	**5.61**	**98**	Pn	**Pn**	**17 46 20.3**	**+0.1**
D05A	**Enumclaw**	**5.66**	**51**	Pn	**Pn**	**17 46 21.5**	**+0.9**
G06A	**Carlson Farm,**	**5.75**	**73**	Pn	**Pn**	**17 46 22.3**	**+0.2**
CLRS	**Cowichan Lake**	**5.84**	**29**	Pn	**Pn**	**17 46 23.9**	**+0.7**
HOPS	**Hopland Field**	**6.26**	**138**	Pn	**Pn**	**17 46 32.9**	**+3.8**
MXC	**Moxie City**	**6.39**	**61**		**Pn**	**17 46 31.4**	**+0.7**
F07A	**Phinny Hill Vi**	**6.40**	**68**	Pn	**Pn**	**17 46 31.1**	**+0.2**
I07A	**Izee**	**6.45**	**84**		**Pn**	**17 46 31.1**	**-0.6**
LTY	**Liberty**	**6.46**	**55**		**Pn**	**17 46 32.1**	**+0.4**
ORV	**Oroville**	**6.70**	**127**	Pn	**Pn**	**17 46 36.3**	**+1.3**
HAWA	**Hanford**	**6.81**	**64**	Pn	**Pn**	**17 46 36.9**	**+0.4**
HOLB	**Holberg**	**6.85**	**2**	Pn	**Pn**	**17 46 38.2**	**+1.1**
G08A	**Pilot Rock**	**6.93**	**74**		**Pn**	**17 46 38.5**	**+0.2**
WVOR	**Wild Horse Val**	**7.29**	**97**	Pn	**Pn**	**17 46 43.9**	**+0.6**
C09A	**Chrisman Ranch**	**8.15**	**57**		**Pn**	**17 46 54.5**	**-0.4**
YERR	**Yerington**	**8.41**	**122**		**Pn**	**17 46 60.0**	**+1.3**
NEW	**Newport**	**9.04**	**56**	Pn	**Pn**	**17 47 07.1**	**-0.1**
NEW	**Newport**	**9.04**	**56**	LR	LR	17 50 49.3	
	comp=N,135nm,18.7s,baz=58,slow=39						
MFID	**Camas Ranch**	**9.15**	**88**	Pn	**Pn**	**17 47 07.9**	**-0.9**
NVAR	**Mina Array Bea**	**9.33**	**122**	Pn	**Pn**	**17 47 14.0**	**+2.7**
	comp=N,0.1nm,0.3s,baz=294,slow=13,SNR=5.5						
NVAR				LR	LR	17 51 05.6	
	comp=N,101nm,20.0s,baz=324,slow=39						
	comp=N,0.7nm,0.7s						
ELK	**Elko**	**10.24**	**103**	LR	LR	17 50 57.7	
	comp=N,99nm,18.6s,baz=28,slow=35						
TCRU	**Three Creeks R**	**13.10**	**108**		**Pn**	**17 47 59.2**	**-3.6**
PFO	**Pinyon Flats O**	**13.79**	**133**	LR	LR	17 52 34.6	
	comp=N,80nm,18.5s,baz=80,slow=33						
ANMO	**Albuquerque**	**19.10**	**110**	LR	LR	17 57 11.1	
	comp=N,99nm,21.5s,baz=132,slow=38						
YKA	**Yellowknife Ar**	**20.40**	**19**	P	**P**	**17 49 32.1**	**-1.1**
	comp=N,0.5nm,0.8s,baz=199,slow=9.2,SNR=3.1						
	comp=N,0.5nm,0.8s						
BCAR	**Beaver Creek A**	**20.80**	**343**	P	Pn	17 49 40.3	+0.2
K27K	**Chicken**	**21.71**	**344**	P	**P**	**17 49 50.9**	**+3.4**
K27K				IAmb	IAmb	17 50 07.7	
	comp=Z,4.3nm,1.3s						
ULM	**Lac du Bonnet**	**22.98**	**62**	P	**P**	**17 50 01.1**	**0.0**
	comp=Z,3.6nm,1.0s,baz=255,slow=12,SNR=2.9						
	comp=Z,3.6nm,1.0s						
ILAR	**Eielson Array**	**23.44**	**340**	P	**P**	**17 50 04.7**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=155,slow=8.1,SNR=4.2						
	comp=Z,0.3nm,0.8s						
G29M	**Pine Creek**	**23.74**	**351**	P	**P**	**17 50 10.1**	**+1.5**
G29M				IAmb	IAmb	17 50 13.1	
	comp=Z,1.2nm,1.1s						
TXAR	**Lajitas Array**	**24.45**	**118**	P	**P**	**17 50 17.0**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=325,slow=4.6,SNR=1.9						
TXAR				LR	LR	18 01 03.5	
	comp=Z,99nm,18.7s,baz=49,slow=40						
	comp=Z,0.2nm,0.8s						
JMIC	**Jan Mayen**	**57.78**	**20**	LR	LR	18 18 32.8	
	comp=Z,137nm,20.4s,baz=257,slow=35						
BVAR	**Borovoye Array**	**82.21**	**349**	P	**P**	**17 57 17.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=356,slow=5.8,SNR=2.8						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**83.08**	**343**	P	**P**	**17 57 20.9**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=15,slow=5.1,SNR=3.5						
	comp=Z,0.4nm,0.7s						

IDC 05 18:12:50.2±791.0**, 22°.26S**×**68°.14W, h0**km**, Error ellipse: s-maj=367.9km s-min=187.6km az=79.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I14CL	**ROBINSON CRUSO**	**14.74**	**217**	I	I	19 41 50.0	
	baz=44,slow=322,SNR=1.2						
I20EC	**Galapagos**	**30.53**	**312**	I	I	21 18 10.0	
	baz=142,slow=324,SNR=0.6						
I13CL	**EASTER ISLAND**	**37.65**	**254**	I	I	22 04 10.0	
	baz=91,slow=310,SNR=0.9						

*IDC **05** 18:23:27.7±2.2, 7°.86S×126°.50E, h0km, mb3.2/1, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=265.3km s-min=33.1km az=61.0*
*NEIC **05** 18:23:41.9±2.4, 7°.67S±0°.06×127°.91E±0°.06, h115km±33km, mb4.0/1, Error ellipse: s-maj=10.5km s-min=6.3km az=132.0*
ISC 05 18:23:40.4±1.0**, 7°.76S**±0°.07×**127°.91E**±0°.05**, h100**km**, n14,** σ**2s.92**/22**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.37**	**94**	Pn	**Pn**	**18 24 33.2**	**+2.1**
SAUI				Sn	**Sn**	**18 25 12.7**	**+2.4**
SOEI	**Soe**	**4.11**	**241**		**Pn**	**18 24 44.5**	**+3.3**
SOEI				Sn	**Sn**	**18 25 29.3**	**+0.9**
MMRI	**Maumere**	**5.68**	**261**	Pn	**Pn**	**18 25 02.8**	**+0.4**
MMRI				Sn	**Sn**	**18 26 07.6**	**+1.2**
MTN	**Manton Dam**	**5.97**	**148**	Pn	**Pn**	**18 25 10.4**	**+4.0**
MTN				Sn	**Sn**	**18 26 14.9**	**+1.6**
FAKI	**Fak Fak**	**6.46**	**42**	Pn	**Pn**	**18 25 12.7**	**-0.3**
FAKI				Sn	**Sn**	**18 26 22.8**	**-2.6**
KNRA	**Kununurra**	**7.92**	**174**	Pn	**Pn**	**18 25 35.5**	**+2.6**
KNRA				Sn	**Sn**	**18 26 59.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.52**	**192**	Pn	**Pn**	**18 26 08.2**	**0.0**
WB0	**Warramunga Arr**	**13.49**	**153**		**P**	**18 26 53.7**	**+0.2**
WRA	**Warramunga Arr**	**13.62**	**153**	Pn	**Pn**	**18 26 48.9**	**-0.7**
	0.4nm,0.3s,baz=324,slow=14,SNR=17						
WRA				Sn	**Sn**	**18 29 16.4**	**-3.2**
	0.9nm,0.3s,baz=336,slow=22,SNR=12						
	0.7nm,0.4s						
WR0	**Warramunga Arr**	**13.73**	**153**	P	**P**	**18 26 57.4**	**+1.3**
AS31	**Alice Springs**	**16.83**	**161**	P	**Pn**	**18 27 32.1**	**+2.0**
AS31				IAmb	IAmb	18 27 34.5	
	comp=Z,3.3nm,0.3s						
AS31				S	**Sn**	**18 30 30.2**	**-7.0**
ASAR	**Alice Springs**	**16.83**	**161**	P	**Pn**	**18 27 32.1**	**+1.9**
ASAR	**Alice Springs**	**16.83**	**161**	P	**Pn**	**18 27 31.3**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=338,slow=12,SNR=108						
ASAR				S	**Sn**	**18 30 31.2**	**-5.9**
	comp=Z,0.5nm,0.4s,baz=343,slow=25,SNR=9.0						
	comp=Z,3.3nm,0.5s						
MKAR	**Makanchi Array**	**67.74**	**328**	P	P	18 34 23.1	-4.2
	comp=Z,0.2nm,0.9s,baz=145,slow=5.3,SNR=1.4						
	comp=Z,0.2nm,0.9s						

*JMA **05** 18:28:30.0±0.1, 23°.9N±0°.3×121°.9E±0°.4, h35km±1km, MV3.1/14, TAIWAN REGION*
*TAP **05** 18:28:30.6, 23°.97N×121°.90E, h40km, ML3.1, C*
ISC 05 18:28:30.2±0.9**, 23°.94N**±0°.02×**121°.93E**±0°.02**, h32**km±8km**, n135,** σ**0s.70**/233**, 3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.30**	**278**	P	**Pn**	**18 28 38.8**	**+0.4**
	baz=264						
HWA				eS	**Sn**	**18 28 45.3**	**+1.5**
	baz=264						
TWD	**Chiawan**	**0.34**	**295**	i P	**Pn**	**18 28 38.5**	**-0.3**
	baz=293						
TWD				i S	**Sn**	**18 28 44.7**	**0.0**
	baz=293						
ETL	**Fush Village**	**0.36**	**308**	P	**Pn**	**18 28 38.8**	**-0.4**
	baz=307						
ETL				S	**Sn**	**18 28 45.2**	**-0.1**
	baz=307						
SHUL	**Shoufeng**	**0.37**	**247**	i P	**Pn**	**18 28 39.6**	**+0.3**
	baz=240						
SHUL				S	**Sn**	**18 28 46.4**	**+1.0**
	baz=240						
NACB	**Ninganchiao**	**0.39**	**308**	P	**Pb**	**18 28 39.0**	**0.0**
NACB	**Ninganchiao**	**0.39**	**308⇓**	iP	**Pb**	**18 28 39.1**	**0.0**
	baz=306						
NACB				i S	**Sn**	**18 28 45.7**	**-0.3**
	baz=306						
EOS4	**EOS4**	**0.40**	**62**	i P	**Pn**	**18 28 39.6**	**+0.2**
	baz=74						
EOS4				S	**Sn**	**18 28 46.3**	**+0.7**
	baz=74						
ETM	**Tongmen**	**0.40**	**274**	i P	**Pb**	**18 28 39.5**	**+0.2**
	baz=270						
ETM				i S	**Sn**	**18 28 46.4**	**+0.1**
	baz=270						
TEGC	**Jichi Village**	**0.42**	**238**	i P	**Pn**	**18 28 40.3**	**+0.2**
	baz=232						
TEGC				S	**Sn**	**18 28 47.9**	**+1.1**
	baz=232						
EAHA	**Aohua**	**0.43**	**336**	P	**Pn**	**18 28 39.8**	**-0.4**
	baz=338						
EAHA				S	**Sn**	**18 28 46.9**	**0.0**
	baz=338						
ESL	**Shilin**	**0.47**	**255**	P	**Pb**	**18 28 40.2**	**-0.1**
	baz=250						
LXIB	**Xiulin Townshi**	**0.48**	**280**	P	**Pb**	**18 28 40.5**	**0.0**
	baz=277						
LXIB				eS	**Sb**	**18 28 47.8**	**+0.1**
	baz=277						
ETLH	**Xiulin Townshi**	**0.49**	**303**	P	**Pb**	**18 28 40.6**	**-0.1**
	baz=302						
ETLH				S	**Sn**	**18 28 48.3**	**-0.4**
	baz=302						
EOS3	**EOS3**	**0.50**	**45**	P	**Pn**	**18 28 41.4**	**+0.5**
	baz=43						
EOS3				S	**Sn**	**18 28 49.6**	**+1.2**
	baz=43						
ENA	**Nanau**	**0.52**	**340⇓**	iP	**Pn**	**18 28 41.1**	**-0.3**
	baz=334						
ENA				S	**Sn**	**18 28 49.0**	**-0.2**
	baz=334						
EWUT	**Wuta**	**0.53**	**345**	P	**Pn**	**18 28 41.3**	**-0.2**
	baz=338						
EWUT				eS	**Sn**	**18 28 49.6**	**+0.3**
	baz=338						
EGFH	**Guangfu**	**0.53**	**240**	i P	**Pb**	**18 28 41.3**	**0.0**
	baz=231						
EGFH				eS	**Sn**	**18 28 49.6**	**+0.1**
	baz=231						
WARBT	**Fenglin Townsh**	**0.55**	**247**	P	**Pb**	**18 28 41.2**	**-0.3**
	baz=243						
WARBT				eS	**Sb**	**18 28 49.5**	**+0.3**
	baz=243						
EOS2	**EOS2**	**0.55**	**29**	P	**Pn**	**18 28 42.4**	**+0.7**
	baz=24						
EOS2				S	**Sn**	**18 28 51.4**	**+1.6**
	baz=24						
HGSD	**Ruisui**	**0.64**	**227**	eP	**Pb**	**18 28 42.7**	**-0.3**
	baz=218						
ESAO	**Su ao**	**0.64**	**353**	P	**Pn**	**18 28 43.1**	**0.0**
	baz=355						
ESAO				eS	**Sn**	**18 28 52.1**	**0.0**
	baz=355						
WHF	**Hehuan Shan**	**0.65**	**289**	P	**Pb**	**18 28 43.0**	**-0.4**
	baz=279						
WHF				eS	**Sb**	**18 28 52.0**	**-0.3**
	baz=279						
TWC	**Suao**	**0.68**	**354**	eP	**Pn**	**18 28 43.6**	**+0.1**
	baz=356						
TWC				eS	**Sn**	**18 28 53.1**	**+0.2**
	baz=356						
OWD	**Renai**	**0.69**	**272**	i P	**Pb**	**18 28 43.7**	**-0.2**
	baz=277						
OWD				i S	**Sb**	**18 28 52.9**	**-0.4**
	baz=277						
FUSS	**Fushou**	**0.70**	**296⇓**	iP	**Pb**	**18 28 44.0**	**-0.2**
	baz=295						
FUSS				S	**Sn**	**18 28 53.8**	**-0.2**
	baz=295						
NNSB	**Datong**	**0.70**	**314**	eP	**Pb**	**18 28 43.6**	**-0.5**
	baz=314						
NNSB				eS	**Sb**	**18 28 53.4**	**-0.2**
	baz=314						
NNSH	**Datong**	**0.70**	**315**	P	**Pb**	**18 28 43.8**	**-0.3**
	baz=314						
NNSH				eS	**Sn**	**18 28 53.6**	**-0.3**
	baz=314						
EHY	**Hungye**	**0.70**	**233**	eP	**Pb**	**18 28 43.3**	**-0.7**
	baz=239						
LATG	**Datong**	**0.70**	**328**	P	**Pb**	**18 28 43.7**	**-0.5**
	baz=321						
LATG				S	**Sb**	**18 28 53.5**	**-0.2**
	baz=321						
CHGB	**Renai**	**0.70**	**280**	i P	**Pb**	**18 28 43.9**	**-0.3**
	baz=270						
CHGB				S	**Sb**	**18 28 53.6**	**-0.1**
	baz=270						
NNS	**Nan Shan**	**0.72**	**315**	eP	**Pb**	**18 28 43.7**	**-0.6**
	baz=315						
NDS	**Dongshan**	**0.72**	**344**	P	**Pn**	**18 28 44.2**	**0.0**
	baz=345						
NDS				eS	**Sn**	**18 28 54.2**	**0.0**
	baz=345						
VWDT	**VWDT**	**0.75**	**256**	i P	**Pb**	**18 28 44.6**	**-0.1**
	baz=245						
VWDT				S	**Sb**	**18 28 54.4**	**-0.3**
	baz=245						
WUSB	**Renai**	**0.75**	**275**	i P	**Pb**	**18 28 44.6**	**-0.2**
	baz=272						
WUSB				S	**Sb**	**18 28 54.5**	**-0.4**
	baz=272						
ECBN	**Changbin**	**0.76**	**216**	eS	**Sb**	**18 28 55.0**	**+0.1**
	baz=204						
TWT	**Tachien**	**0.76**	**295**	P	**Pn**	**18 28 45.1**	**+0.3**
	baz=285						
TWT				eS	**Sn**	**18 28 55.6**	**+0.3**
	baz=285						
NDT	**Datong Townshi**	**0.77**	**330**	P	**Pb**	**18 28 44.8**	**-0.3**
	baz=331						
NDT				eS	**Sb**	**18 28 55.0**	**-0.3**
	baz=331						
TDCB	**Techi**	**0.78**	**294**	P	**Pb**	**18 28 45.1**	**-0.2**
	baz=285						
TDCB				eS	**Sb**	**18 28 55.0**	**-0.6**
	baz=285						
ENTT	**Nioudou**	**0.78**	**335**	eP	**Pn**	**18 28 45.0**	**+0.1**
	baz=328						
ENTT				S	**Sn**	**18 28 55.7**	**+0.1**
	baz=328						
YULB	**Yu-li**	**0.79**	**227**	P	**Pn**	**18 28 44.6**	**-0.6**
YULB	**Yu-li**	**0.79**	**227**	P	**Pn**	**18 28 44.5**	**-0.6**
	baz=235						
YULB				eS	**Sb**	**18 28 55.0**	**-1.1**

	baz=235						
EYUL	Yuli	0.81	224	eP	Pn	18 28 45.1	-0.3
	baz=233						
TWE	Neicheng	0.82	343	P	Pb	18 28 45.6	-0.4
	baz=352						
TWE				S	Sn	18 28 56.8	+0.3
	baz=352						
TWF1	Yuli	0.82	225	P	Pn	18 28 45.0	-0.6
	baz=233						
TWF1				eS	Sb	18 28 55.5	-1.3
	baz=233						
ILA	Ilan	0.84	349	eS	Sn	18 28 58.2	+1.1
	baz=350						
FUSB	Fushanzhiwuyua	0.88	339	P	Pn	18 28 46.4	0.0
	baz=340						
FUSB				eS	Sb	18 28 58.0	-0.5
	baz=340						
YHNB	Yeheng	0.89	325	P	Pn	18 28 46.6	0.0
YHNB	Yeheng	0.89	325	P	Pn	18 28 46.5	-0.1
	baz=316						
YHNB				S	Sb	18 28 58.2	-0.7
	baz=316						
WPL	Puli Township	0.90	275	eP	Pn	18 28 46.7	+0.2
	baz=273						
EGS		0.91	360	eP	Pb	18 28 47.7	+0.3
	baz=11						
NSK	Sanguang	0.91	325	P	Pn	18 28 46.7	0.0
	baz=316						
NSK				eS	Sb	18 28 58.2	-1.0
	baz=316						
SSLB	Suanglung	0.91	261	P	Pn	18 28 46.8	+0.1
SSLB	Suanglung	0.91	261	P	Pn	18 28 46.9	+0.1
	baz=259						
SSLB				S	Sn	18 28 58.9	+0.1
	baz=259						
NWLT	Wulai	0.93	335	eP	Pn	18 28 47.2	+0.1
	baz=325						
NWLT				eS	Sn	18 28 59.1	-0.1
	baz=325						
FULB	Fuli	0.94	219	eP	Pn	18 28 47.4	+0.2
	baz=205						
FULB				eS	Sn	18 28 59.7	+0.2
	baz=205						
WCS	Beigang Elemen	0.94	278	P	Pb	18 28 47.7	-0.3
	baz=281						
SMLT	Sun Moon Lake	0.95	267	eP	Pn	18 28 47.6	+0.2
	baz=255						
WHP	Taichung City	0.96	291	P	Pb	18 28 48.4	-0.1
	baz=290						
WHP				eS	Sb	18 29 01.2	+0.3
	baz=290						
CHKT	Chengkung	0.98	212	eP	Pn	18 28 46.6	-1.1
	baz=198						
CHKT				eS	Sn	18 28 58.8	-1.8
	baz=198						
TYC	Yuchr	0.98	268	eP	Pn	18 28 48.0	+0.3
	baz=267						
TYC				eS	Sn	18 29 00.8	+0.2
	baz=267						
NFF	Wufeng Townshi	1.02	313	eP	Pb	18 28 48.8	-0.6
	baz=313						
NFF				eS	Sb	18 29 02.0	-0.5
	baz=313						
WHYT	Xinyi Township	1.02	257	eP	Pb	18 28 48.9	-0.4
	baz=247						
WHYT				eS	Sb	18 29 02.6	+0.3
	baz=247						
EHD	Haiduan	1.03	221	eP	Pn	18 28 47.4	-1.0
	baz=229						
EHD				eS	Sn	18 29 00.1	-1.6
	baz=229						
TIPB	Shuangxi	1.04	355	P	Pb	18 28 49.3	-0.4
	baz=6.0						
TIPB				eS	Sb	18 29 02.6	-0.3
	baz=6.0						
TWB1	Santiao Chiao	1.07	3	eP	Pb	18 28 51.1	+1.0
	baz=5.0						
NHDH	Xindian Distri	1.09	340	P	Pb	18 28 50.1	-0.4
	baz=330						
NHDH				S	Sb	18 29 04.2	-0.2
	baz=330						
TWA	Mucha	1.09	343	P	Pb	18 28 50.4	-0.1
	baz=333						
TWA				eS	Sb	18 29 04.5	+0.1
	baz=333						
LIOB	Emei	1.10	310	P	Pb	18 28 50.6	-0.1
	baz=310						
LIOB				eS	Sb	18 29 04.7	+0.1
	baz=310						
NSTT	Nanjuang	1.10	309	P	Pb	18 28 50.5	-0.1
	baz=309						
NSTT				eS	Sb	18 29 04.3	-0.3
	baz=309						
NJD	Zhudong	1.11	316	P	Pb	18 28 51.1	+0.2
	baz=316						
WJS	Zhushan	1.11	264	eP	Pb	18 28 50.9	+0.1
	baz=263						
WJS				eS	Sb	18 29 06.9	+1.9
	baz=263						
TATO	Taipei	1.11	339	P	Pb	18 28 50.6	-0.3
YOJ	Yonaguni jima	1.12	62	eP	Pn	18 28 49.9	+0.3
YOJ				eS	Sn	18 29 04.3	+0.5
ALS	Alishan	1.12	248	eP	Pn	18 28 50.5	+0.7
	baz=246						
ALS				eS	Sn	18 29 04.6	+0.3
	baz=246						
EDH	Donghe	1.12	211	eP	Pn	18 28 49.1	-0.5
	baz=200						
EDH				eS	Sn	18 29 02.9	-1.0
	baz=200						
ELDTW	Lidau	1.12	229	eP	Pn	18 28 49.1	-0.6
	baz=226						
ELDTW				eS	Sn	18 29 03.4	-0.8
	baz=226						
TWQ1	Liyutan	1.14	291	eP	Pb	18 28 51.1	-0.2
	baz=291						
TWQ1				eS	Sb	18 29 05.8	0.0
	baz=291						
NWF	Wu-fen Shan	1.14	353	P	Pb	18 28 51.1	-0.3
	baz=354						
NWF				eS	Sb	18 29 06.3	+0.3
	baz=354						
WFSB	Wu-fen Shan	1.14	353	eP	Pb	18 28 51.1	-0.3
	baz=355						
WNT	Mingjian	1.14	267	P	Pb	18 28 51.6	+0.2
	baz=266						
WNT				eS	Sb	18 29 06.7	+0.8
	baz=266						
WNT1	Nantou City	1.15	269	P	Pb	18 28 51.9	+0.4
	baz=256						
WNT1				eS	Sb	18 29 07.5	+1.4
	baz=256						
SXI1	Grass Mountain	1.16	357	eP	Pb	18 28 51.0	-0.7
	baz=14						
SXI1				eS	Sb	18 29 06.0	-0.4
	baz=14						
TCU	Taichung	1.17	281	eP	Pb	18 28 51.8	0.0
	baz=280						
TCU				eS	Sb	18 29 08.0	+1.3
	baz=280						
HSN1	Hsinchu	1.18	315	eP	Pb	18 28 52.0	-0.1
	baz=315						
CHN5	Tsauling	1.20	254	eP	Pb	18 28 52.1	-0.2
	baz=252						
CHN5				eS	Sb	18 29 07.8	+0.2
	baz=252						
SBCB	Hsinchu	1.22	315	eP	Pb	18 28 52.6	0.0
	baz=315						
NCUH	Zhongli	1.23	327	eP	Pb	18 28 52.1	-0.8
	baz=327						
NCUH				eS	Sb	18 29 08.5	0.0
	baz=327						
NCU	National Centr	1.23	327	eP	Pb	18 28 52.1	-0.8
	baz=328						
NCU				eS	Sb	18 29 08.5	0.0
	baz=328						
WDJ	Dajia District	1.25	289	eP	Pb	18 28 52.6	-0.6
	baz=288						
YM01	YM01	1.25	345	eP	Pn	18 28 52.0	+0.6
	baz=331						
TWS1	Kuangyinshan	1.25	338	eP	Pn	18 28 52.0	+0.5
	baz=339						
TWS1				S	Sb	18 29 08.4	-0.6
	baz=339						
LONT	Longtian	1.26	216	eP	Pn	18 28 51.0	-0.6
	baz=214						
LONT				eS	Sn	18 29 07.0	-0.4
	baz=214						
WCHH	Zhanghua	1.27	277	eP	Pb	18 28 53.5	0.0
	baz=276						
WCHH				iS	Sb	18 29 10.9	+1.5
	baz=276						
WGK	Gukeng	1.28	259	P	Pb	18 28 53.3	-0.4
	baz=257						
YM08	YM08	1.29	346	eP	Pn	18 28 52.1	+0.1
	baz=333						
YM08				eS	Sn	18 29 08.1	0.0
	baz=333						
WDLH	Douliu	1.30	259	eP	Pb	18 28 53.5	-0.5
	baz=258						
WDLH				eS	Sb	18 29 12.7	+2.3
	baz=258						
STYH	Taoyuan	1.31	235	eP	Pn	18 28 52.9	+0.7
	baz=227						
STYH				S	Sn	18 29 09.9	+1.3
	baz=227						
WCKO	Fanlu	1.31	248	eP	Pb	18 28 54.1	-0.2
	baz=246						
WCKO				eS	Sb	18 29 11.4	+0.6
	baz=246						
TPUB	Ta-pu	1.35	242	P	Pb	18 28 54.6	-0.3
TPUB	Ta-pu	1.35	242	eP	Pb	18 28 54.2	-0.7
	baz=241						
TPUB				eS	Sb	18 29 11.9	0.0
	baz=241						
TWGBT	Beinan	1.36	215	eP	Pn	18 28 53.9	+1.0
	baz=212						
TWG	Pinlang	1.36	216	eP	Pn	18 28 53.4	+0.4
	baz=212						
WTP	Ta-pu	1.39	241	eP	Pn	18 28 54.7	+1.3
	baz=239						
WTP				eS	Sb	18 29 12.9	-0.1
	baz=239						
WRL	Guolierlin Hig	1.42	269	eP	Pb	18 28 55.2	-0.9
	baz=268						
WRL				iS	Sb	18 29 13.5	-0.4
	baz=268						
WTK	Tuku	1.44	260	eP	Pb	18 28 55.6	-0.7
	baz=259						
WTK				eS	Sb	18 29 14.9	+0.7
	baz=259						
CHY	Chiayi	1.45	253	eP	Pb	18 28 55.8	-0.7
	baz=251						
CHY				eS	Sb	18 29 14.5	-0.2
	baz=251						
TWK	Hsinying	1.48	244	eP	Pn	18 28 56.1	+1.4
	baz=241						
TWK				eS	Sn	18 29 14.6	+1.6
	baz=241						
CHN1	Nanshi	1.49	240	eP	Pb	18 28 56.4	-0.9
	baz=238						
CHN1				eS	Sb	18 29 15.4	-0.4
	baz=238						
SNST	Tainan City	1.50	242	eP	Pn	18 28 56.0	+1.2
	baz=240						
SNST				eS	Sb	18 29 15.6	-0.4
	baz=240						
SGST	Jiashian	1.50	236	eP	Pn	18 28 55.9	+1.0
	baz=234						
SGST				eS	Sn	18 29 14.8	+1.4
	baz=234						
SLGT	Liugui	1.51	232	eP	Pn	18 28 56.3	+1.3
	baz=240						
SLGT				S	Sb	18 29 16.4	0.0
	baz=240						
WTCT	Ta-ch'eng	1.51	268	eP	Pn	18 28 56.2	+1.2
	baz=267						
WTCT				eS	Sb	18 29 16.7	+0.2
	baz=267						
WSF	Szhu	1.59	260	eP	Pn	18 28 57.4	+1.2
	baz=258						
WSF				eS	Sb	18 29 18.6	-0.2
	baz=258						
ECL	Taimali	1.61	214	eP	Pn	18 28 57.0	+0.6
	baz=211						
WSL	Shuilin Townsh	1.61	256	eP	Pn	18 28 57.5	+1.1
	baz=254						
WSL				eS	Sb	18 29 19.1	-0.2
	baz=254						
ICHU	Yijhu	1.62	250	eP	Pn	18 28 58.1	+1.6
	baz=248						
ICHU				eS	Sb	18 29 18.7	-0.8
	baz=248						
CHN8	Yiju	1.68	250	eP	Pb	18 28 59.2	-1.4
	baz=248						
CHN8				eS	Sn	18 29 19.8	+1.9
	baz=248						
SCST	Cishan	1.69	232	eP	Pb	18 29 00.1	-0.5
	baz=242						
SCST				eS	Sb	18 29 22.0	+0.6
	baz=242						
IRIF	Iriomote-Funau	1.69	76	P	Pn	18 28 57.9	+0.4
IRIF				S	Sn	18 29 18.4	+0.4
SHHT	Tainan City	1.72	238	eP	Pn	18 28 59.5	+1.7
	baz=236						
HATJ	Hateruma jima	1.72	86	P	Pn	18 28 58.3	+0.5
HATJ				eS	Sn	18 29 19.2	+0.5
MASBT	Mashibuluo	1.78	222	eP	Pb	18 29 01.2	-0.9
	baz=221						
MASBT				eS	Sb	18 29 22.8	-1.2
	baz=221						
EAST	Anshuo	1.84	213	eP	Pb	18 29 02.5	-0.7
	baz=210						
TSCK	Chigu Township	1.87	246	eP	Pn	18 29 00.7	+0.8
	baz=244						
TSCK				eS	Sn	18 29 24.0	+1.6
	baz=244						
JKRS	Kuro-shima	1.92	81	P	Pn	18 29 01.6	+1.0
JKRS				eS	Sn	18 29 24.8	+1.1
SCZT	Fangliau	1.97	218	eP	Pn	18 29 03.5	+2.2
	baz=210						
JIJ	Ishigaki jima	2.06	78	P	Pn	18 29 02.7	+0.1
JIJ				eS	Sn	18 29 26.4	-0.8
PHUB	P'eng-hu	2.20	260	P	Pn	18 29 04.9	+0.4
	baz=258						
PHUB				eS	Sn	18 29 30.8	0.0
	baz=258						
JISG	Ishigakijimahi	2.27	73	P	Pn	18 29 05.5	+0.1
JISG				eS	Sn	18 29 31.4	-0.8
VCHM	Qimei	2.41	253	eP	Pn	18 29 08.3	+0.9
	baz=251						
JTJ	Tarama	2.62	74	eP	Pn	18 29 10.9	+0.6
KNMB	Chin-men Tao	3.28	280	eP	Pn	18 29 19.0	-0.4
	baz=279						
XPSS	Dashiqiu	3.37	333	eP	Pn	18 29 19.8	-0.9
	baz=334						
MHZQ	Yeshan	3.40	310	eP	Pn	18 29 20.8	-0.3
	baz=310						
AXDP	Jialang	3.74	286	eP	Pn	18 29 25.2	-0.4
	baz=285						

*CATAC **05** 19:00:02.8±0.6, 9°.08N×84°.49W, h10km, ML3.1*
*UCR **05** 19:00:03.7±1.4, 9°.14N×84°.49W, h10km, MW3.7*
ISC 05 19:00:02.5±1.6, **9°.09N**±0°.06×**84°.50W**±0°.04, **h9**km±13km, **n28**, σ0s.75/32, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLNJ	Naranjito	0.55	46	eP	Pg	19 00 12.9	-0.4
JACO	JACO, Garabito	0.59	345	eP	Pg	19 00 13.5	-0.5
JACO				eS	Sg	19 00 22.8	+1.0
JACO	JACO, Garabito	0.59	345	iP	Pg	19 00 13.4	-0.5
JACO				iS	Sb	19 00 22.9	-0.6
JACO				IAML		19 00 24.8	
	comp=Z,840nm,1.0s						
ABE2	San Pablo	0.76	36	eP	Pg	19 00 16.3	-0.9
CBL1	Cabuya	0.76	311	eP	Pg	19 00 16.9	-0.3
LCR2	La Lucha 2	0.81	37	iP	Pg	19 00 17.3	-1.0
LCR2				iS	Sg	19 00 29.3	+0.4
LCR2				IAML		19 00 31.9	
	comp=Z,450nm,1.0s						
TRB2	Turrubares	0.82	4	eP	Pg	19 00 18.2	-0.2
OCHAL	Ojochal	0.85	89	iP	Pg	19 00 19.5	+0.6
OCHAL				IAML		19 00 23.4	
	comp=Z,9.4nm,1.0s						
OCHAL				iS	Sg	19 00 30.4	+0.5
CDM	Cerro de Muert	0.86	58	eP	Pg	19 00 18.4	-0.8
CDM	Cerro de Muert	0.86	58	iP	Pg	19 00 18.4	-0.9
CDM				IAML		19 00 37.7	
	comp=Z,370nm,1.0s						
BUS1	Rivas	0.88	58	eP	Pg	19 00 18.5	-1.0
TBLN	Tablon, Guarco	0.88	34	iP	Pg	19 00 19.3	-0.3
TBLN				IAML		19 00 34.7	
	comp=Z,790nm,1.0s						
RIMA	Rio Macho	0.92	43	iP	Pg	19 00 20.7	+0.4
RIMA				IAML		19 00 36.6	
	comp=Z,250nm,1.0s						
OCM	Ochomogo	0.96	34	iP	Pg	19 00 21.3	+0.2
OCM				IAML		19 00 37.2	
	comp=Z,280nm,1.0s						
TCS1	Tacares	0.97	12	eP	Pg	19 00 21.1	-0.1
TCS1	Tacares	0.97	12	iP	Pg	19 00 21.6	+0.4
TCS1				IAML		19 00 39.3	
	comp=Z,7μm,1.0s						
ICR3	Volcano Irazu	1.10	37	eP	Pb	19 00 24.3	+0.2
SRBA	San Rafael, Bu	1.14	83	iP	Pb	19 00 24.2	-0.2
SRBA				IAML		19 00 43.2	
	comp=Z,220nm,1.0s						
INDI	Punta indio, G	1.25	308	iP	Pn	19 00 25.1	-1.1
INDI				IAML		19 00 55.7	
	comp=Z,110nm,1.0s						
DRK0	Durika	1.26	82	eP	Pn	19 00 25.8	-0.6
JTS	Las Juntas de	1.27	340	eP	Pn	19 00 24.9	-1.6
SOCE	Pocosol	1.29	355	iP	Pn	19 00 26.6	-0.2
SOCE				IAML		19 00 28.0	
	comp=Z,700nm,1.0s						
POTG	Potrero Grande	1.37	91	eP	Pb	19 00 28.8	+0.4
VACR	Volcan Arenal	1.39	353	iP	Pb	19 00 29.1	+0.5
VACR				IAML		19 00 54.2	
	comp=Z,330nm,1.0s						
ORTG	Ortega, Santa	1.58	323	iS	Sb	19 00 52.9	+0.9
TRT2	Tortugero	1.65	27	iP	Pn	19 00 32.5	+0.9
TRT2				iS	Sg	19 00 54.7	-0.8
TRT2				IAML		19 00 58.6	
	comp=Z,210nm,1.0s						
HZTE	Horizontes, Gu	1.94	326	iP	Pn	19 00 36.8	+1.1
HZTE				IAML		19 00 56.3	
	comp=Z,160nm,1.0s						
CNRM	Centro Naciona	5.65	321	iP	Pn	19 01 22.2	-4.5

IDC 05 19:10:01.6±2.4, **3°.40N**×**125°.96E**, **h0**km, **mb3.3**/3, **mbtmp3.3**/3, **Error ellipse: s-maj=215.9km s-min=29.9km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.61	161	P	P	19 15 23.4	-0.4
	0.7nm,0.8s,baz=339,slow=10,SNR=5.9						
	0.7nm,0.8s						
ASAR	Alice Springs	27.99	164	P	P	19 15 55.0	+0.7
	0.2nm,0.9s,baz=345,slow=12,SNR=1.2						
	0.2nm,0.9s						
MKAR	Makanchi Array	57.39	326	P	P	19 19 51.8	-0.2
	0.4nm,0.9s,baz=114,slow=6.3,SNR=1.8						
	0.4nm,0.9s						

*IDC **05** 19:12:05.1±0.7, 41°.65S×173°.90E, h0km, mb4.2/6, mbtmp4.2/8, ML4.3/2, MS3.7/10, Error ellipse: s-maj=23.7km s-min=22.1km az=124.0*
*NOU **05** 19:12:07.3, 42°.17S×174°.47E, h16km, MLv4.8/13, Off E. Coast of S. Island, N.Z.*
*NEIC **05** 19:12:08.1±1.6, 41°.88S±0°.01×174°.01E±0°.03, h24km±5km, mb4.5/18, Mwr4.2/34, Error ellipse: s-maj=3.4km s-min=1.4km az=113.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.92; $M_{\theta\theta}$-0.78; $M_{\phi\phi}$-1.14; $M_{r\theta}$-0.33; $M_{\theta\phi}$-1.31; $M_{\phi r}$-0.95; Fault plane solution: $M_0$2.35000×10^{15} NP1:ϕ_s210.43000°, δ57.94000°, λ77.38000°. NP2:ϕ_s53.30000°, δ34.20000°, λ109.23000°. Principal axes: T 2.1901, Plg74.0000°, Azm87.0000°; N 0.2938, Plg11.0000°, Azm217.0000°; P -2.4839, Plg12.0000°, Azm310.0000°;*
*WEL **05** 19:12:08.6, 41°.88S×173°.99E, h19km, ML4.5, Mw4.2, Moment Tensor Solution. s5 Moment tensor: M_{rr}146.81; $M_{\theta\theta}$-43.74; $M_{\phi\phi}$-103.06; $M_{r\theta}$-34.08; $M_{\theta\phi}$128.13; $M_{\phi r}$161.32; Fault plane solution: NP1:ϕ_s64.00000°, δ30.00000°, λ132.00000°. NP2:ϕ_s198.00000°, δ68.00000°, λ69.00000°. Principal axes: T -260.6400, Plg61.0000°, Azm76.0000°; N 31.8500, Plg19.0000°, Azm206.0000°; P 228.7900, Plg20.0000°, Azm304.0000°; SOUTH ISLAND*
*WEL **05** 19:12:08.6±0.4, 42°S±3°×17°4E±°, h11km±4km, M4.5/17, ML4.8/17, MLv4.5/17 Error ellipse: s-maj=0.0km s-min=0.0km az=147.4, confirmed*
*NEIC **05** 19:12:08.1, 41°.87S×173°.99E, h24km*
ISC 05 19:12:07.7±0.4, **41°.91S**±0°.02×**174°.02E**±0°.02, **h20**km±1km, **n240**, σ1s.45/264, **mb4.4**/16, **MS3.6**/9, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.21	41		Pg	19 12 13.8	+0.7
CMWZ				Sg	Sg	19 12 16.9	+0.2
CMWZ	Cape Campbell	0.21	41	P	Pg	19 12 14.0	+1.0
BSWZ	Blackbirch Sta	0.23	330		Pb	19 12 13.0	+0.1
BSWZ				Sg	Sb	19 12 15.2	-1.3
BSWZ	Blackbirch Sta	0.23	330	P	Pb	19 12 13.1	+0.1
BSWZ				S	Sb	19 12 16.4	-0.1
TUWZ	Tuamarina	0.48	353		Pg	19 12 17.7	+0.1
TUWZ				Sg	Sg	19 12 23.8	-0.4
TUWZ	Tuamarina	0.48	353	P	Pg	19 12 17.8	+0.2
KHZ	Kahutara	0.62	215		Pn	19 12 21.1	-0.3
KHZ				Sg	Sg	19 12 29.1	+0.7
KHZ	Kahutara	0.62	215	P	Pn	19 12 21.8	+0.4
KHZ	Kahutara	0.62	215	P	Pn	19 12 21.3	-0.1
KHZ				S	Sn	19 12 32.8	+2.0
TCW	Tory Channel	0.72	15		Pg	19 12 22.0	0.0
TCW				Sg	Sb	19 12 30.9	-0.3
TCW	Tory Channel	0.72	15	P	Pg	19 12 22.0	0.0
SNZO	South Karori	0.79	41		Pn	19 12 23.4	-0.3
SNZO				Sg	Sn	19 12 35.7	+0.8
SNZO	South Karori	0.79	41	P	Pn	19 12 24.4	+0.7
BHW	Baring Head	0.81	52		Pn	19 12 24.7	+0.7
BHW				Sg	Sn	19 12 36.4	+0.9
BHW	Baring Head	0.81	52	P	Pn	19 12 24.9	+0.9
BHW				S	Sn	19 12 37.8	+2.3
WEL	Wellington	0.84	42	P	Pn	19 12 25.2	+0.7
WEL				S	Sn	19 12 38.3	+2.2
NNZ	Nelson	0.84	325		Pb	19 12 23.9	+0.2
NNZ					Sb	19 12 34.9	+0.2
NNZ	Nelson	0.84	325	P	Pg	19 12 24.1	-0.2
NNZ				S	Sn	19 12 35.9	-0.4
THZ	Tophouse	0.85	280		Pg	19 12 24.4	0.0
THZ					Sg	19 12 35.3	-0.3
THZ	Tophouse	0.85	280	P	Pn	19 12 24.6	-0.1
PLWZ	Palliser	0.98	70		Pn	19 12 26.4	-0.1
PLWZ				Sg	Sb	19 12 38.6	-0.1
PLWZ	Palliser	0.98	70	P	Pg	19 12 26.8	-0.1
MSWZ	Moikau Station	1.04	62		Pb	19 12 27.1	-0.1
MSWZ				Sn	Sg	19 12 41.5	-0.2
MSWZ	Moikau Station	1.04	62	P	Pg	19 12 28.0	0.0
MRNZ	Matariki Terra	1.08	298		Pg	19 12 28.3	-0.3
MRNZ				Sn	Sn	19 12 42.4	+0.3
MRNZ	Matariki Terra	1.08	298	P	Pg	19 12 28.6	-0.1
DUWZ	D'Urville Isla	1.11	356	P	Pb	19 12 28.6	+0.3
DUWZ				S	Sg	19 12 43.9	+0.1
CAW	Cannon Point	1.12	45	P	Pg	19 12 29.3	-0.1
PAWZ	Paruwai Farm	1.18	64	P	Pb	19 12 29.5	+0.1
TKNZ	Takaka Hill	1.19	317		Pb	19 12 29.8	+0.2
TKNZ				Sn	Sb	19 12 44.2	-0.3
TKNZ	Takaka Hill	1.19	317	P	Pb	19 12 30.0	+0.4
TKNZ				S	Sg	19 12 46.8	+0.5
KIW	Kapiti Island	1.24	33	P	Pg	19 12 31.3	-0.5
KIW				S	Sg	19 12 48.8	+0.8
GVZ	Greta Valley S	1.28	214		Pb	19 12 31.4	+0.2
GVZ				Sn	Sg	19 12 49.0	-0.4
GVZ	Greta Valley S	1.28	214	P	Pb	19 12 31.7	+0.5
MTW	Mount Morrison	1.34	56	P	Pn	19 12 31.7	+0.3
TRWZ	Traveller	1.35	68	P	Pn	19 12 31.4	0.0
OGWZ	Otaki Gorge	1.39	39	P	Pb	19 12 33.1	0.0
HOWZ	Holdsworth Sta	1.51	48	P	Pn	19 12 34.0	+0.3
QRZ	Quartz Range	1.56	313		Pb	19 12 35.9	0.0
QRZ				Sn	Sn	19 12 52.6	-1.5
QRZ	Quartz Range	1.56	313	P	Pb	19 12 36.2	+0.3
LTZ	Lake Taylor	1.56	236		Pb	19 12 35.6	-0.4
LTZ				Sn	Sb	19 12 55.8	+0.4
LTZ	Lake Taylor	1.56	236	P	Pb	19 12 35.9	-0.2
TMWZ	Te Maipa	1.62	61	P	Pn	19 12 35.1	0.0
AMCZ	Amberley	1.62	218		Pn	19 12 35.6	+0.4
AMCZ				Sn	Sb	19 12 56.5	-0.5
AMCZ	Amberley	1.62	218	P	Pn	19 12 36.0	+0.8
DSZ	Denniston Nort	1.67	275		Pb	19 12 38.0	+0.2
DSZ				Sn	Sn	19 12 56.8	0.0
DSZ	Denniston Nort	1.67	275	P	Pb	19 12 38.2	+0.4

MRZ	Mangatainoka R	1.71	44		Pn	19 12 36.8	+0.4
MRZ	Mangatainoka R	1.71	44	P	Pn	19 12 37.0	+0.5
TIWZ	Tintock	1.80	52	P	Pn	19 12 38.2	+0.5
CPWZ	Castlepoint	1.92	59	P	Pg	19 12 45.8	+1.2
OHWZ	Ohakea	1.96	30	P	Pb	19 12 42.1	-0.7
PRWZ	Pori Road	2.00	48	P	Pn	19 12 40.5	+0.1
POWZ	Post Office Ro	2.01	42	P	Pn	19 12 40.9	+0.3
OXZ	Oxford	2.04	225		Pn	19 12 40.8	-0.1
OXZ	Oxford	2.04	225	P	Pn	19 12 41.0	+0.1
MQZ	McQueen's Vall	2.06	209		Pn	19 12 40.5	-0.7
MQZ	McQueen's Vall	2.06	209	P	Pn	19 12 40.7	-0.5
BFZ	Birch Farm	2.08	54		Pn	19 12 40.7	-0.7
BFZ	Birch Farm	2.08	54	P	Pn	19 12 41.2	-0.3
BFZ	Birch Farm	2.08	54	P	Pn	19 12 40.9	-0.6
INZ	Inchbonnie	2.08	246		Pn	19 12 41.4	-0.1
INZ	Inchbonnie	2.08	246	P	Pn	19 12 43.1	+1.6
AKCZ	Akaroa Harbour	2.12	202	P	Pn	19 12 42.6	+0.4
WAZ	Wanganui	2.27	19	P	Pb	19 12 47.1	-1.0
DVHZ	Dannevirke	2.28	46	P	Pn	19 12 43.8	-0.5
RACZ	Rakaia	2.28	217	P	Pn	19 12 44.1	-0.2
ANWZ	Angora Road	2.35	53	P	Pn	19 12 44.4	-0.8
TSZ	Takapari Road	2.36	39	P	Pn	19 12 45.6	+0.2
MHCZ	Mount Hutt	2.43	227	P	Pn	19 12 46.4	0.0
LREZ	Lake Rotokare	2.46	7	P	Pb	19 12 50.3	-1.1
NMEZ	Namu Road	2.50	357	P	Pb	19 12 52.0	+0.1
PREZ	Palmer Road	2.57	2	P	Pb	19 12 52.8	-0.4
PRHZ	Porangahau	2.57	51	P	Pn	19 12 48.0	-0.2
WACZ	Wakanui South	2.59	218	P	Pn	19 12 48.3	-0.2
PNHZ	Pukenui	2.59	40	P	Pn	19 12 48.4	-0.2
WPHZ	Waipukurau	2.60	46	P	Pn	19 12 48.3	-0.4
KHEZ	Kahui Hut	2.61	360	P	Pb	19 12 53.7	-0.2
KHEZ	Kahui Hut	2.61	360	P	Pb	19 12 52.9	-1.1
NEZ	North Egmont	2.64	1	P	Pb	19 12 54.0	-0.3
NBEZ	Newall Road No	2.64	357	P	Pb	19 12 52.5	-1.8
WVZ	Waitaha Valley	2.69	243	P	Pn	19 12 51.3	+1.4
PKE	Pukeiti	2.71	359	P	Pb	19 12 53.6	-2.0
DREZ	Durham Road	2.72	3	P	Pb	19 12 54.2	-1.6
MTVZ	Mangateitei	2.75	24	P	Pn	19 12 53.2	+2.3
PKVZ	Pokaka	2.81	21	P	Pn	19 12 53.8	+2.3
MOVZ	Moawhango	2.83	28	P	Pn	19 12 52.7	+0.9
RPZ	Rata Peaks	2.83	229	Pn	Pn	19 12 52.0	+0.1
RPZ	Rata Peaks	2.83	229	P	Pn	19 12 52.3	+0.4
RPZ	Rata Peaks	2.83	229	Pn	Pn	19 12 52.3	+0.4
	51nm,0.3s,baz=92,slow=2.6,SNR=166						
RPZ				Sn	Sn	19 13 25.4	0.0
	49nm,0.3s,baz=183,slow=23,SNR=41						
RPZ				LR	LR	19 14 27.7	
	comp=Z,748nm,18.2s,baz=66,slow=48						
	135nm,0.4s						
RPZ	Rata Peaks	2.83	229	P	Pn	19 12 52.2	+0.4
VRZ	Vera Road	2.84	12	P	Pb	19 12 55.0	-2.8
MHEZ	Mangahewa	2.84	5	P	Pg	19 13 00.6	-1.6
WNVZ	Wahianoa	2.85	25	P	Pn	19 12 54.0	+1.8
PXZ	Pawanui	2.85	50	P	Pn	19 12 51.1	-1.1
TRVZ	Turoa	2.86	24	P	Pn	19 12 54.4	+2.0
BHHZ	Black Hill Sta	2.87	33	P	Pn	19 12 53.0	+0.6
KRHZ	Kereru	2.88	39	P	Pn	19 12 52.2	-0.4
WHVZ	Whangaehu Hut	2.88	25	P	Pn	19 12 54.9	+2.2
MAVZ	Matarangi	2.89	24	P	Pn	19 12 54.8	+1.9
FWVZ	Far West T-bar	2.90	24	P	Pn	19 12 55.3	+2.3
ARCZ	Arundel	2.92	225	P	Pn	19 12 53.1	0.0
TUVZ	Tukino	2.92	26	P	Pn	19 12 55.0	+1.8
COVZ	Chateau Observ	2.94	24	P	Pn	19 12 55.3	+1.8
NGZ	Ngauruhoe	2.98	24	P	Pn	19 12 55.9	+1.8
SNVZ	South Ngauruho	2.99	25	P	Pn	19 12 55.9	+1.8
OTVZ	Oturere	3.02	25	P	Pn	19 12 56.3	+1.7
KAHZ	Kahuranaki	3.02	47	P	Pn	19 12 53.7	-0.8
NNVZ	North Ngauruho	3.03	24	P	Pn	19 12 56.8	+2.1
TWVZ	Taurewa	3.04	21	P	Pn	19 12 56.5	+1.8
WTVZ	West Tongariro	3.04	24	P	Pn	19 12 56.6	+1.8
ETVZ	East Tongariro	3.06	25	P	Pn	19 12 56.9	+1.9
GCSZ	Gaunt Creek Bo	3.07	242	P	Pn	19 12 56.6	+1.5
KRVZ	Karewarewa	3.07	24	P	Pn	19 12 57.0	+1.7
TMVZ	Te Maari	3.07	25	P	Pn	19 12 56.8	+1.5
NTVZ	North Tongarir	3.08	25	P	Pn	19 12 57.0	+1.6
KWHZ	Kaweka Forest	3.08	37	P	Pn	19 12 55.4	0.0
MCHZ	McNeill Hill	3.19	40	P	Pn	19 12 56.3	-0.5
KATZ	Kakaramea	3.20	24	P	Pn	19 12 58.6	+1.6
RITZ	Rihia Road	3.25	26	P	Pb	19 13 01.2	-3.5
TMZ	Timaru	3.31	221	P	Pn	19 12 58.6	+0.1
RATZ	Rangitukua	3.32	24	P	Pn	19 13 00.2	+1.6
BKZ	Black Stump Fm	3.33	35	Pn	Pn	19 12 58.0	-0.7
BKZ	Black Stump Fm	3.33	35	P	Pn	19 12 58.5	-0.2
BKZ	Black Stump Fm	3.33	35	P	Pn	19 12 58.2	-0.5
HIZ	Hauiti	3.45	11		Pn	19 13 01.9	+1.5
HIZ	Hauiti	3.45	11	P	Pn	19 13 03.5	+3.1
HIZ	Hauiti	3.45	11	P	Pn	19 13 03.3	+2.9
WATZ	Wairara	3.46	23	P	Pn	19 13 04.2	+3.7
ARHZ	Aropaoanui	3.48	42	P	Pn	19 12 59.8	-0.9
FOZ	Fox Glacier	3.50	241		Pn	19 13 02.1	+1.2
FOZ	Fox Glacier	3.50	241	P	Pn	19 13 02.4	+1.4
NMHZ	Naumai	3.52	38	P	Pn	19 13 00.9	-0.5
MRHZ	Matea Rd	3.58	32	P	Pn	19 13 01.7	-0.4
ARAZ	Aratiatia Land	3.65	27	P	Pb	19 13 11.0	-0.5
KUTZ	Kaahu Road	3.69	23	P	Pb	19 13 10.9	-1.3
MTHZ	Maungataniwha	3.74	36	P	Pn	19 13 03.5	-0.8
WHHZ	Waihua	3.74	42	P	Pn	19 13 03.8	-0.6
LBZ	Lake Benmore	3.74	227		Pn	19 13 05.0	+0.6
LBZ	Lake Benmore	3.74	227	P	Pn	19 13 05.0	+0.6
TLZ	Tolley Road	3.76	18	P	Pn	19 13 06.8	+2.1
WPRZ	Whakapapatarin	3.76	26	P	Pn	19 13 04.8	+0.1
RAHZ	Arahi	3.80	39	P	Pn	19 13 03.9	-1.2
PRRZ	Plateau Road	3.86	29	P	Pn	19 13 05.6	-0.4
GRRZ	Galatos Road	3.90	25	P	Pn	19 13 07.1	+0.6
HRRZ	Handcock Road	3.92	27	P	Pn	19 13 07.2	+0.3
ODZ	Otahua Downs	3.98	217	Pn	Pn	19 13 07.2	-0.4
ODZ	Otahua Downs	3.98	217	P	Pn	19 13 07.2	-0.4
ODZ	Otahua Downs	3.98	217	P	Pn	19 13 07.2	-0.4
RTZ	Ruatahuna	3.99	35	Pn	Pn	19 13 06.6	-1.3
SNGZ	Shannon Statio	4.02	40	P	Pn	19 13 06.6	-1.6
MHGZ	Mahia Peninsul	4.04	48	P	Pn	19 13 07.7	-0.8
RRRZ	Republican Roa	4.05	29	P	Pn	19 13 07.9	-0.7
TARZ	Mount Tarawera	4.13	28	P	Pn	19 13 09.7	-0.1
PRGZ	Paritu Road	4.19	46	P	Pn	19 13 09.0	-1.6
KARZ	Kaharoa	4.24	24	P	Pn	19 13 13.1	+1.9
RIGZ	Rimuhau	4.29	43	P	Pn	19 13 10.4	-1.6
TOZ	Tahuroa Road	4.33	16	Pn	Pn	19 13 13.7	+1.4
TOZ	Tahuroa Road	4.33	16	P	Pn	19 13 14.0	+1.7
URZ	Urewera	4.35	34	P	Pn	19 13 13.1	+0.4
URZ	Urewera	4.35	34	Pn	Pn	19 13 11.4	-1.3
	15nm,0.3s,baz=317,slow=7.0,SNR=48						
URZ				Sn	Sn	19 14 01.2	-1.6
	13nm,0.3s,baz=188,slow=15,SNR=1.3						
	30nm,0.3s						
JCZ	Jackson Bay	4.41	239	P	Pn	19 13 16.7	+3.1
JCZ	Jackson Bay	4.41	239	P	Pn	19 13 15.9	+2.3
WKZ	Wanaka	4.67	230		Pn	19 13 17.3	+0.2
WKZ	Wanaka	4.67	230	P	Pn	19 13 17.2	+0.1
HHSZ	Highcliff Hill	4.68	211	P	Pn	19 13 15.4	-1.8
EAZ	Earnscleugh	4.77	224	P	Pn	19 13 18.3	-0.2
AWAZ	Awhitu Peninsu	4.86	6	P	Pn	19 13 23.1	+3.4
MKAZ	Moumakai	4.88	11	P	Pn	19 13 22.0	+2.0
WTAZ	Waiatarua	4.99	5	P	Pn	19 13 25.7	+4.2
ETAZ	East Tamaki Re	5.00	8	P	Pn	19 13 25.2	+3.6
EPAZ	Eden Park BICE	5.06	7	P	Pn	19 13 26.9	+4.5
TUZ	Tuapeka	5.14	217	P	Pn	19 13 23.2	-0.3
RVAZ	Riverhead Bore	5.15	5	P	Pn	19 13 26.9	+3.1
MBAZ	Motutapu North	5.18	8	P	Pn	19 13 28.0	+3.9
WIAZ	Waiheke Island	5.18	10	P	Pn	19 13 28.2	+4.0
KUZ	Kuaotunu	5.32	15	P	Pn	19 13 28.0	+1.9
KUZ	Kuaotunu	5.32	15	P	Pn	19 13 27.9	+1.9
ABAZ	Army Bay	5.34	7	P	Pn	19 13 29.9	+3.6
MXZ	Matakaoa Point	5.46	39		Pn	19 13 25.2	-2.7
MLZ	Mavora Lakes	5.50	229		Pn	19 13 28.2	-0.4
MLZ	Mavora Lakes	5.50	229	P	Pn	19 13 28.2	-0.4
SYZ	Scrubby Hill	5.80	216	P	Pn	19 13 33.2	+0.5
SYZ	Scrubby Hill	5.80	216	P	Pn	19 13 32.7	0.0
WHZ	Wether Hill Ro	5.92	226	Pn	Pn	19 13 34.1	-0.2
WCZ	Waipu Caves	5.97	3	P	Pn	19 13 38.3	+3.3
DCZ	Deep Cove	6.12	232	Pn	Pn	19 13 37.1	+0.1
APZ	The Paps	6.55	219	P	Pn	19 13 42.5	-0.4
OUZ	Omahuta	6.69	357	P	Pn	19 13 48.1	+3.3
OUZ	Omahuta	6.69	357	P	Pn	19 13 48.2	+3.4
PYZ	Puysegur Point	6.79	229	Pn	Pn	19 13 45.0	-1.2
CTZ	Chatham Island	7.12	108	Pn	Pn	19 13 49.7	-1.0
MCQ	Macquarie Isla	16.06	213	Pn	Pn	19 15 51.6	-0.6
CAN	Canberra	20.59	280	P	P	19 16 44.3	-1.2
DZM	Mont Dzumac	20.78	340	P	P	19 16 43.6	-4.0
DZM				IAmb	IAmb	19 17 05.0	
	comp=Z,14nm,1.1s						
DZM	Mont Dzumac	20.78	340	P	Pn	19 16 52.3	+2.2
	comp=Z,4.2nm,0.7s,baz=182,slow=14,SNR=2.8						
DZM				LR	LR	19 24 40.6	
	comp=Z,88nm,18.3s,baz=208,slow=37						
EIDS	Eidsvold	25.12	304	P	P	19 17 28.4	-3.0
BBOO	Buckleboo	31.30	274	P	P	19 18 25.0	-1.6
CTA	Charters Tower	32.01	304	LR	LR	19 29 53.3	
	comp=Z,68nm,21.9s,baz=112,slow=34						
CTAO	Charters Tower	32.01	304	P	P	19 18 31.6	-1.3
CTAO				IAmb	IAmb	19 18 47.1	
	comp=Z,15nm,1.4s						
HNR	Honiara	34.65	335	LR	LR	19 30 34.7	
	comp=Z,697nm,19.0s,baz=201,slow=32						
AS31	Alice Springs	37.91	286	P	P	19 19 21.8	-2.0
ASAR	Alice Springs	37.91	286	P	P	19 19 22.8	-1.0
ASAR	Alice Springs	37.91	286	P	P	19 19 23.2	-0.6
	comp=Z,1.9nm,0.9s,baz=124,slow=6.9,SNR=18						
ASAR				PcP	PcP	19 21 38.3	-1.3
	comp=Z,0.3nm,0.6s,baz=125,slow=3.8,SNR=2.3						
ASAR				LR	LR	19 35 16.6	
	comp=Z,105nm,18.1s,baz=134,slow=37						
	comp=Z,1.9nm,0.9s						
FORT	Forrest	38.24	272	P	P	19 19 24.5	-1.9
PPT	Papeete	39.40	63	LR	LR	19 33 41.0	
	comp=Z,75nm,18.5s,baz=25,slow=33						
WB2	Warramunga Arr	39.99	291	P	P	19 19 39.5	-1.7
WB2				IAmb	IAmb	19 19 49.4	
	comp=Z,5.6nm,0.9s						
WRAB	Tennant Creek	40.00	291	P	P	19 19 39.2	-2.0
WRAB				IAmb	IAmb	19 20 22.8	
	comp=Z,6.6nm,1.1s						
WRA	Warramunga Arr	40.00	291	P	P	19 19 40.7	-0.5
	comp=Z,0.7nm,0.4s,baz=135,slow=6.8,SNR=6.9						
WRA				PcP	PcP	19 21 44.8	-1.4
	comp=Z,0.4nm,0.5s,baz=125,slow=3.1,SNR=2.1						
	comp=Z,0.7nm,0.4s						
WB0	Warramunga Arr	40.08	291	P	P	19 19 40.7	-1.2
WB0				IAmb	IAmb	19 20 17.4	
	comp=Z,11nm,1.4s						
PMG	Port Moresby	40.09	316	LR	LR	19 36 55.7	
	comp=Z,80nm,18.3s,baz=112,slow=37						
RABL	Rabaul	42.34	327	P	P	19 19 59.8	-0.7
RABL				IAmb	IAmb	19 20 06.7	
	comp=Z,14nm,0.8s						
KNRA	Kununurra	46.78	290	P	P	19 20 33.0	-3.0
MTN	Manton Dam	47.13	295	P	P	19 20 37.6	-1.1
FITZ	Fitzroy Crossi	47.39	285	P	P	19 20 38.4	-2.3
FITZ				IAmb	IAmb	19 20 58.2	
	comp=Z,7.3nm,1.4s						
QSPA	South Pole Qui	48.22	180	P	P	19 20 49.9	+3.2
	comp=Z,3.6nm,0.8s,baz=24,slow=4.5,SNR=7.3						
	comp=Z,3.6nm,0.8s						
PSA00	Pilbara Seismi	49.47	277	P	P	19 20 54.1	-2.6
PSA00				IAmb	IAmb	19 21 20.6	
	comp=Z,5.0nm,1.2s						
PSA00	Pilbara Seismi	49.47	277	P	P	19 20 54.5	-2.2
PSA00				IAmb	IAmb	19 21 08.9	
	comp=Z,14nm,1.1s						
FAKI	Fak Fak	53.87	305	P	P	19 21 28.5	-1.1
MAW	Mawson	59.24	205	LR	LR	19 46 26.1	
	comp=Z,58nm,19.3s,baz=132,slow=35						
KAPI	Kappang	60.53	292	LR	LR	19 50 07.3	
	comp=Z,33nm,18.3s,baz=90,slow=38						
LEM	Lembang	67.96	281	LR	LR	19 51 04.4	
	comp=Z,58nm,21.6s,baz=256,slow=34						
PLCA	Paso Flores	79.10	136	P	P	19 24 13.6	+2.7
	comp=Z,4.2nm,1.1s,baz=220,slow=3.7,SNR=3.2						
	comp=Z,4.2nm,1.1s						
NJ2	Nanjing	89.40	316	*e*P	P	19 25 04.2	+1.4
NJ2				pP	sP	19 25 11.0	-0.8
NJ2				sP	pP	19 25 13.6	+4.0
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,260nm,4.3s						
KSRS	Korea Array	89.49	325	P	P	19 25 03.2	+0.2
	comp=Z,1.2nm,0.7s,baz=155,slow=5.7,SNR=3.1						
	comp=Z,1.2nm,0.7s						
CMAR	Chiang Mai Arr	91.55	293	P	P	19 25 13.4	+0.2
	comp=Z,0.6nm,0.5s,baz=153,slow=3.4,SNR=5.6						
	comp=Z,0.6nm,0.5s						
PZH	PanZhiHua	95.27	301	P	P	19 25 31.9	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.1s						
HHC	Hu-ho-hao-te	99.89	317	*e*P	Pdif	19 25 53.2	+2.4
HHC				pmax	pmax		
	comp=Z,40nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,4.9s						
YKA	Yellowknife Ar	118.60	30	PKP	PKPdf	19 30 52.8	-0.3
	comp=Z,0.5nm,0.6s,baz=264,slow=2.0,SNR=10						
MKAR	Makanchi Array	119.94	308	PKP	PKPdf	19 30 55.8	-0.4
	comp=Z,0.2nm,0.7s,baz=174,slow=3.2,SNR=1.8						
ULM	Lac du Bonnet	120.74	48	PKP	PKiKP	19 30 57.8	+0.2
	comp=Z,2.5nm,0.7s,baz=24,slow=13,SNR=2.8						
KURBB	Kurchatov Arra	123.95	310	PKP	PKPdf	19 31 03.5	-0.2
	comp=Z,0.3nm,0.4s,baz=93,slow=1.4,SNR=2.0						
BVAR	Borovoye Array	129.54	310	PKP	PKPdf	19 31 14.6	+0.2
	comp=Z,0.3nm,0.7s,baz=83,slow=3.5,SNR=2.3						
KBZ	Khabaz	144.52	290	PKP	PKPbc	19 31 40.9	0.0
	comp=Z,2.8nm,0.8s,baz=343,slow=8.1,SNR=5.8						
MMAI	Mount Meron Ar	146.25	268	PKPbc	PKPbc	19 31 47.1	+0.4
	comp=Z,1.6nm,0.5s,baz=90,slow=4.3,SNR=1.8						
ARCES	ARCESS Array B	147.87	340	PKPbc	PKPbc	19 31 49.5	-0.7
	comp=Z,1.2nm,0.6s,baz=54,slow=2.1,SNR=8.9						
BRTR	Keskin Array B	150.12	279	PKPbc	PKPbc	19 31 56.8	-0.1
	comp=Z,0.8nm,0.6s,baz=129,slow=6.1,SNR=2.3						
TORD	Torodi Ar. Bea	150.57	195	PKP	PKPdf	19 31 53.8	+0.6
	comp=Z,0.7nm,0.9s,baz=291,slow=1.3,SNR=3.7						
TORD				PKPbc	PKiKP	19 31 59.4	+0.1
	comp=Z,2.2nm,0.5s,baz=152,slow=2.4,SNR=23						
FINES	FINESS Array B	152.57	326	PKPbc	PKPbc	19 32 01.0	-0.7
	comp=Z,1.4nm,0.6s,baz=101,slow=3.9,SNR=6.6						
AKASG	Malin Array Be	154.35	302	PKPab	PKPab	19 32 19.8	-0.3
	comp=Z,1.1nm,0.5s,baz=66,slow=4.6,SNR=4.7						

*NEIC **05** 19:37:58.3±1.4, 34°.85N±0°.03×139°.27E±0°.04, h12^{km}±4^{km}, mb4.5/34, Error ellipse: s-maj=5.6km s-min=3.9km az=65.0*

*NIED **05** 19:37:58.1, 34°.85N×139°.25E, h12^{km}, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.00; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-0.26; $M_{r\theta}$-0.07; $M_{\theta\phi}$-1.51; $M_{\phi r}$-0.22; Fault plane solution: $M_0$1.55000×10^{15} NP1: ϕ_s355.00000°, δ87.00000°, λ-8.00000°. NP2: ϕ_s85.00000°, δ82.00000°, λ-177.00000°.*

*JMA **05** 19:37:58.1±0.1, 34°.9N±0°.2×139°.3E±0°.3, h12^{km}±1^{km}, MD4.4/11, MW4.2/11, E OFF IZU PENINSULA*

JMA Felt III J1 at E OFF IZU PENINSULA .

*IDC **05** 19:38:00.7±2.2, 34°.75N×139°.30E, h39^{km}±20^{km}, mb3.6/16, mbtmp3.8/19, ML3.3/3, MS3.4/10, Error ellipse: s-maj=20.9km s-min=13.6km az=68.0*

ISC 05 19:37:57.9±0.8**, 34°.85N**±0°.03×**139°.28E**±0°.03**, h14**^{km}±5^{km}**, n133,** σ1§**04**/112**, mb4.4**/34**, MS3.4**/8**, 12D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.18	137	⇓P	Pg	19 38 02.6	+0.3
JIM2	Oshima 3	0.18	137	A	A	19 38 02.6	
	comp=E,124nm,1.5s,comp=N,119nm,1.1s						
KTJ3	Kamata3	0.19	296	⇓P	Pg	19 38 01.9	-0.5
KTJ3				⇓S	Sg	19 38 04.7	-0.7
JHTM	Izuhatsuma	0.25	296	⇓P	Pg	19 38 03.0	-0.3
JHTM	Izuhatsuma	0.25	296	A	A	19 38 03.0	
	comp=E,172nm,1.4s,comp=N,105nm,0.6s						
AJI	Ajiro2	0.25	322	⇓P	Pg	19 38 03.2	-0.1
JTHY	Toshimahigashi	0.33	179	P	Pg	19 38 05.2	+0.6
JTHY				*e*S	Sb	19 38 10.5	-0.1
JTHY	Toshimahigashi	0.33	179	A	A	19 38 05.2	
	comp=E,78nm,2.6s,comp=N,88nm,0.5s						
JIZS	Izushimoda	0.36	248	P	Pg	19 38 05.0	-0.2
JIZS				S	Sg	19 38 09.8	-0.4
JIZS	Izushimoda	0.36	248	A	A	19 38 05.0	
	comp=E,35nm,2.2s,comp=N,78nm,0.8s						
JOD2	Odawara 2	0.44	339	⇓P	Pg	19 38 06.6	-0.1
JOD2				⇓S	Sg	19 38 12.9	+0.1
JOD2	Odawara 2	0.44	339	A	A	19 38 06.6	
	comp=E,42nm,0.7s,comp=N,26nm,1.6s						
JYO	Yokosk	0.49	40	A	A	19 38 07.9	
	comp=E,58nm,1.0s,comp=N,43nm,1.0s						
JNIO	Niijimaoohara	0.49	181	A	A	19 38 07.8	
	comp=E,70nm,2.1s,comp=N,58nm,2.3s						
JSKK	Shikinejimakit	0.52	186	A	A	19 38 08.2	
	comp=E,90nm,0.9s,comp=N,44nm,0.7s						
TATJ	Tateyama 2	0.53	70	A	A	19 38 08.8	
	comp=E,38nm,1.4s,comp=N,53nm,0.9s						
JFNN	Fujinakano	0.60	305	⇓P	Pg	19 38 09.4	-0.3
JFNN				⇓S	Sg	19 38 17.7	+0.1
JFNN	Fujinakano	0.60	305	A	A	19 38 09.4	
	comp=E,12nm,1.0s,comp=N,12nm,2.2s						
JKO	Kozu shima	0.67	190	A	A	19 38 10.9	
	comp=E,27nm,2.7s,comp=N,22nm,2.8s						
JSGW	Sagamiharawaka	0.75	356	A	A	19 38 12.4	
	comp=E,17nm,0.8s,comp=N,5.0nm,1.7s						
JKUC	kamogawauchiur	0.82	67	A	A	19 38 13.9	
	comp=E,13nm,4.8s,comp=N,21nm,2.2s						
JMYK	Miyake Tsubota	0.82	164	P	Pg	19 38 13.4	-0.4
JYN	Shimob	0.88	317	⇓P	Pg	19 38 14.1	-1.0
JYN				⇓S	Sg	19 38 25.9	-0.8
SHZ3	Shizuoka 3	0.91	284	P	Pg	19 38 15.1	-0.4
SHZ3	Shizuoka 3	0.91	284	A	A	19 38 15.1	
	comp=E,17nm,0.8s,comp=N,27nm,0.9s						
JSG	Sagara	0.92	259	Pg	Pb	19 38 15.9	+0.3
JSG				Sn	Sn	19 38 29.5	+0.2
JSG	Sagara	0.92	259	P	Pb	19 38 16.0	+0.4
JSG	Sagara	0.92	259	A	A	19 38 15.1	
	comp=E,43nm,0.7s,comp=N,69nm,0.8s						
TOK	Tokyo	0.92	25	A	A	19 38 15.6	
	comp=E,25nm,1.4s,comp=N,37nm,1.8s						
JCN	Nagara	0.94	53	A	A	19 38 16.1	
	comp=E,26nm,2.9s,comp=N,19nm,5.7s						
I30JP	ISUMI INFRASON	0.96	61	I	I	19 44 20.0	
	baz=242,slow=320,SNR=0.6						
JMKN	Mikurajimanish	0.99	165	P	Pb	19 38 16.3	-0.5
JMKN	Mikurajimanish	0.99	165	A	A	19 38 16.3	
	comp=E,20nm,0.9s,comp=N,17nm,0.8s						
JHU	Hanno	1.00	0	A	A	19 38 16.8	
	comp=E,12nm,0.7s,comp=N,5.0nm,0.6s						
BSO3	Boso 3	1.01	92	⇓P	Pb	19 38 16.8	-0.2
JKKS	Kakegawashinom	1.07	265	A	A	19 38 17.7	
	comp=E,12nm,7.5s,comp=N,19nm,1.4s						
JNY	Yasuok	1.27	294	A	A	19 38 21.1	
	comp=E,4.0nm,1.6s,comp=N,5.0nm,1.4s						
HMMJ	Hamamatsu 2	1.28	271	A	A	19 38 21.3	
	comp=E,2.0nm,1.3s,comp=N,9.0nm,3.0s						
TTO5	TONANKAI O.B.S	1.42	246	A	A	19 38 23.5	
	comp=E,17nm,4.9s,comp=N,13nm,2.3s						
JAO	Obara	1.71	285	A	A	19 38 27.9	
	comp=N,5.0nm,1.8s						
JHJ	Hachijo jima 2	1.78	166	Pn	Pn	19 38 28.4	+0.2
	comp=N,215nm,0.3s,baz=360,slow=3.7,SNR=35						
JHJ				Sn	Sn	19 38 51.9	+1.4
	comp=N,216nm,0.3s,baz=33,slow=22,SNR=18						
JHJ2	Mitsune	1.79	165		Pn	19 38 28.4	0.0
JHJ2				Sn	Sb	19 38 52.5	-0.2
JHJ2	Mitsune	1.79	165	P	Pn	19 38 28.9	+0.5
MJAR	Matsushiro Arr	1.90	333	Pn	Pn	19 38 30.6	+0.6
	comp=N,6.9nm,0.3s,baz=147,slow=15,SNR=350						
MJAR				Sn	Sn	19 38 54.4	+0.7
	comp=N,14nm,0.3s,baz=118,slow=15,SNR=8.2						
MAJO	Matsushiro	1.90	333	Pn	Pn	19 38 31.0	+1.0
MAJO				Sn	Sb	19 38 55.6	-0.5
MAJO	Matsushiro	1.90	333	P	Pn	19 38 31.1	+1.1
MJB9	Matsu-Tunnel	1.91	333		Pn	19 38 31.1	+1.1
MJB9					Sb	19 38 56.6	+0.4
JMM	Marumori	3.25	22	Pn	Pn	19 38 48.8	+0.4
JMM	Marumori	3.25	22	P	Pn	19 38 49.6	+1.2
JMN	Monobe	4.61	257	Pn	Pn	19 39 07.6	+0.4
JMN				Sn	Sn	19 39 59.8	-0.8
JMN	Monobe	4.61	257	P	Pn	19 39 09.5	+2.3
JTM	Tenmabayashi	6.09	13	Pn	Pn	19 39 27.3	-0.2
JTM	Tenmabayashi	6.09	13	P	Pn	19 39 31.0	+3.5
JNU	Nakatsue	7.19	258	Pn	Pn	19 39 43.0	+0.4
JNU	Nakatsue	7.19	258	P	Pn	19 39 45.8	+3.2
	comp=N,24nm,2.0s						
JNU	Nakatsue	7.19	258	Pn	Pn	19 39 43.3	+0.7
	comp=N,0.7nm,0.3s,baz=78,slow=4.8,SNR=5.2						
	comp=N,10nm,0.8s						
ERM	Erimo	7.77	22	Pn	Pn	19 39 49.6	-1.0
ERM	Erimo	7.77	22	P	Pn	19 39 53.1	+2.5
JEM	Erimo	7.77	22	P	Pn	19 39 53.3	+2.7
KSRS	Korea Array	9.54	289	Pn	Pn	19 40 17.4	+2.5
	comp=N,0.1nm,0.3s,baz=96,slow=15,SNR=2.1						
KSRS				LR	LR	19 43 57.7	
	comp=N,33nm,18.4s,baz=110,slow=37						
	comp=N,1.0nm,0.6s						
ASAJ	Asahikawa	9.60	14	LR	LR	19 43 58.9	
	comp=N,192nm,19.6s,baz=211,slow=37						
KLR	Kul'dur	15.41	341	Pn	Pn	19 41 34.6	-0.1
	comp=N,0.1nm,0.3s,baz=3.8,slow=18,SNR=2.2						
	comp=N,0.6nm,0.5s						
NJ2	Nanjing	17.27	266	*e*P	Pn	19 41 58.1	-0.6
NJ2				pP	pP	19 42 04.0	-0.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,360nm,5.1s						
PETK	Petropavlovsk-	22.44	30	LR	LR	19 51 59.5	
	comp=Z,68nm,18.7s,baz=179,slow=37						
HHC	Hu-ho-hao-te	22.64	294	*e*P	P	19 42 58.5	-0.1
HHC				pmax	pmax		
	comp=Z,27nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.0s						
MA2	Magadan	25.86	13	P	P	19 43 28.3	-0.6
MA2	Magadan	25.86	13	LR	LR	19 55 43.7	
	comp=Z,91nm,19.0s,baz=14,slow=41						
SONM	Songino Array	27.66	308	P	P	19 43 45.5	+0.1
	comp=Z,0.4nm,0.8s,baz=117,slow=9.4,SNR=2.1						
SONM				LR	LR	19 55 26.7	
	comp=Z,94nm,18.5s,baz=55,slow=38						
	comp=Z,0.4nm,0.8s						
YAK	Yakutsk	27.88	350	P	P	19 43 45.4	-1.5
YAK				IAmb	IAmb	19 43 47.1	
	comp=Z,7.4nm,0.7s						
SHEM	Shemya Is, Ala	30.44	43	LR	LR	19 54 37.8	
	comp=Z,48nm,19.0s,baz=320,slow=33						
PZH	PanZhiHua	33.19	266	P	P	19 44 36.5	+2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,70nm,3.5s						
TIXI	Tiksi	37.27	355	P	P	19 45 08.1	-0.7
WMQ	Urumqi	40.33	299	*e*P	P	19 45 36.9	+2.0
ZALV	Zalesovo Beam	42.15	314	P	P	19 45 49.8	+0.1
	comp=Z,0.4nm,0.5s,baz=98,slow=8.9,SNR=1.9						
	comp=Z,0.4nm,0.5s						
MK31	Makanchi Array	43.85	304	P	P	19 46 04.1	+0.5
MKAR	Makanchi Array	43.85	304	P	P	19 46 03.7	+0.1
MKAR	Makanchi Array	43.85	304	P	P	19 46 03.0	-0.6
	comp=Z,0.4nm,0.7s,baz=92,slow=11,SNR=5.5						
	comp=Z,0.4nm,0.7s						
MAKZ	Makanchi	44.06	304	P	P	19 46 05.3	0.0
NRIK	Noril'sk	44.55	337	P	P	19 46 10.0	+1.2
	comp=Z,1.5nm,0.4s,baz=98,slow=13,SNR=3.6						
	comp=Z,1.5nm,0.4s						
M14K	Bethel	45.17	36	P	P	19 46 13.7	-0.2
C16K	Lisburne Hills	45.42	25	P	P	19 46 16.6	+0.9
C16K				IAmb	IAmb	19 46 17.4	
	comp=Z,8.5nm,1.1s						
KURK	Kurchatov	45.95	310	P	P	19 46 21.0	+0.9
KURK				IAmb	IAmb	19 46 26.8	
	comp=Z,13nm,1.4s						
KURBB	Kurchatov Arra	46.01	309	P	P	19 46 21.1	+0.4
	comp=Z,1.6nm,0.7s,baz=85,slow=7.9,SNR=9.9						
	comp=Z,1.6nm,0.7s						
N15K	Kwethluk River	46.03	37	P	P	19 46 20.6	-0.1
C18K	Utukok River	46.99	26	P	P	19 46 28.3	0.0
C18K				IAmb	IAmb	19 46 30.0	
	comp=Z,3.8nm,0.8s						
K17K	Iditarod	47.13	34	P	P	19 46 29.3	0.0
H18K	Honhosa River	47.41	31	P	P	19 46 32.4	+1.0
H18K				IAmb	IAmb	19 46 50.8	
	comp=Z,5.4nm,1.1s						
M17K	Holitna River	47.42	36	P	P	19 46 32.6	+1.0
D19K	Kuna River	48.06	26	P	P	19 46 37.3	+0.8
HNR	Honiara	48.19	152	LR	LR	20 08 34.7	
	comp=Z,353nm,18.8s,baz=172,slow=38						
E19K	Redstone River	48.21	28	P	P	19 46 38.7	+1.1
E19K				IAmb	IAmb	19 46 40.1	
	comp=Z,3.7nm,0.7s						
B20K	Meade River	48.69	24	P	P	19 46 41.6	+0.4
B20K				IAmb	IAmb	19 46 45.4	
	comp=Z,5.4nm,1.0s						
B21K	Ikpikpuk River	49.50	25	P	P	19 46 48.4	+0.9
B21K				IAmb	IAmb	19 46 49.8	
	comp=Z,5.0nm,0.8s						

AAK	Ala-Archa	50.03	299	LR	LR	20 11 31.6	
	comp=Z,45nm,18.1s,baz=19,slow=40						
D22K	Ayikyak River	50.09	26	P	P	19 46 53.7	+1.7
D22K				IAmb	IAmb	19 46 54.4	
	comp=Z,3.3nm,0.8s						
E22K	Anaktuvuk Pass	50.34	27	P	P	19 46 55.4	+1.5
E22K				IAmb	IAmb	19 47 27.0	
	comp=Z,6.9nm,1.4s						
BVAR	Borovoye Array	50.78	313	P	P	19 46 56.9	-0.5
	comp=Z,1.0nm,0.8s,baz=74,slow=9.1,SNR=5.0						
	comp=Z,1.0nm,0.8s						
CUT	Chulitna	50.84	34	P	P	19 46 57.9	+0.3
MDM	Murphy Dome	51.68	31	P	P	19 47 04.8	+0.7
MDM				IAmb	IAmb	19 47 20.6	
	comp=Z,8.8nm,1.3s						
H24K	Noodor Dome	51.81	30	P	P	19 47 04.8	-0.2
H24K				IAmb	IAmb	19 47 11.7	
	comp=Z,8.9nm,1.4s						
ILAR	Eielson Array	52.26	31	P	P	19 47 08.4	+0.1
ILAR	Eielson Array	52.26	31	P	P	19 47 08.7	+0.4
	comp=Z,0.7nm,0.8s,baz=278,slow=6.2,SNR=8.4						
	comp=Z,0.7nm,0.8s						
D25K	Kavik River	52.37	26	P	P	19 47 10.1	+0.9
BMAR	Burnt Mountain	53.07	28	P	P	19 47 16.2	+1.8
MCARA	McCarthy VSAT	54.34	35	P	P	19 47 24.3	+0.6
WB0	Warramunga Arr	54.51	186	P	P	19 47 23.6	-1.7
L27K	Beaver Creek,	54.65	33	P	P	19 47 26.1	+0.2
L27K				IAmb	IAmb	19 47 36.7	
	comp=Z,5.1nm,1.4s						
BCAR	Beaver Creek A	54.67	33	P	P	19 47 27.6	+1.5
WRA	Warramunga Arr	54.69	186	P	P	19 47 26.0	-0.6
WRA	Warramunga Arr	54.69	186	P	P	19 47 25.1	-1.5
	comp=Z,3.0nm,1.0s,baz=2.3,slow=7.6,SNR=8.7						
	comp=Z,3.0nm,1.0s						
E28M	Babbage River	54.87	26	P	P	19 47 28.9	+1.5
CTA	Charters Tower	55.03	172	LR	LR	20 11 17.7	
	comp=Z,36nm,19.1s,baz=40,slow=36						
I28M	Miner Creek	55.12	30	P	P	19 47 30.8	+1.4
I30M	Mount Dempster	56.63	30	P	P	19 47 40.7	+0.4
I30M				IAmb	IAmb	19 47 46.7	
	comp=Z,3.1nm,0.9s						
HYT	Haines Junctio	57.08	35	P	P	19 47 44.2	+0.7
G31M	Satah River	57.12	28	P	P	19 47 44.1	+0.6
G31M				IAmb	IAmb	19 47 56.2	
	comp=Z,5.5nm,1.2s						
ABKAR	Akbulak array	58.03	311	P	P	19 47 50.6	+0.4
ASAR	Alice Springs	58.42	186	P	P	19 47 50.8	-2.3
	comp=Z,0.7nm,0.9s,baz=18,slow=9.8,SNR=4.5						
	comp=Z,0.7nm,0.9s						
A36M	Sachs Harbour	58.92	21	P	P	19 47 56.6	+0.6
A36M				IAmb	IAmb	19 48 07.2	
	comp=Z,5.0nm,0.8s						
ARCES	ARCESS Array B	65.42	339	P	P	19 48 39.9	+0.2
	comp=Z,4.4nm,1.1s,baz=61,slow=7.3,SNR=1.1						
	comp=Z,4.4nm,1.1s						
YKA	Yellowknife Ar	66.56	29	P	P	19 48 46.6	-0.5
	comp=Z,0.3nm,0.7s,baz=302,slow=7.0,SNR=4.5						
	comp=Z,0.3nm,0.7s						
FINES	FINESS Array B	69.93	332	P	P	19 49 07.2	-1.0
FINES	FINESS Array B	69.93	332	P	P	19 49 08.1	-0.1
	comp=Z,4.9nm,1.1s,baz=108,slow=4.2,SNR=4.9						
FINES				LR	LR	20 24 31.3	
	comp=Z,50nm,18.9s,baz=253,slow=40						
	comp=Z,4.9nm,1.1s						
AKASG	Malin Array Be	74.95	322	P	P	19 49 38.1	-0.3
	comp=Z,0.3nm,0.4s,baz=51,slow=5.6,SNR=2.4						
	comp=Z,0.3nm,0.4s						
NC204	NORSAR Array S	75.48	337	P	P	19 49 41.9	+0.6
NOA	NORSAR Array B	75.52	337	P	P	19 49 41.2	-0.3
	comp=Z,0.7nm,0.8s,baz=44,slow=5.6,SNR=3.8						
	comp=Z,0.7nm,0.8s						
NVAR	Mina Array Bea	77.69	52	P	P	19 49 53.5	-0.9
	comp=Z,1.0nm,0.7s,baz=284,slow=5.7,SNR=8.0						
	comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	80.43	44	P	P	19 50 09.1	-0.3
	comp=Z,0.2nm,0.6s,baz=295,slow=6.8,SNR=2.5						
	comp=Z,0.2nm,0.6s						
CLL	Collm	82.11	329	eP	P	19 50 17.0	-0.8
TORD	Torodi Ar. Bea	117.58	312	PKP	PKPdf	19 56 43.2	-0.8
	comp=Z,0.5nm,0.9s,baz=58,slow=3.6,SNR=2.3						
H03N2	Juan Fernandez	148.47	99	T	T	22 43 35.1	
	baz=286,slow=75,SNR=18						
H03N3	Juan Fernandez	148.48	99	T	T	22 43 35.1	
	baz=286,slow=75,SNR=16						
H03N1	Juan Fernandez	148.48	99	T	T	22 43 37.6	
	baz=286,slow=75,SNR=16						

CATAC 05 19:48:48.7±0.3, 8°.85N×83°.03W, h20km±3km, ML2.8
UPA 05 19:48:50.3±1.0, 8°.81N×82°.97W, h27km±3km, MW3.8
ISC 05 19:48:49.3±1.0, 8°.85N±0°.03×83°.01W±0°.03, h33km±3km, n26, σ0s.74/48, 3C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLIR3	Monte Lirio, C	0.19	106	⇑iP	Pb	19 48 56.2	+0.2
MLIR3				iS	Sb	19 49 00.5	0.0
POTG	Potrero Grande	0.23	333	iP	Pb	19 48 56.2	-0.2
POTG				iS	Sb	19 49 01.2	+0.1
POTG				IAML		19 49 02.2	
	comp=Z,2μm,1.0s						
CTCR	Cotoan	0.25	79	iP	Pb	19 48 56.3	-0.5
CTCR				iS	Sb	19 49 01.5	-0.3
CTCR				IAML		19 49 07.7	
	comp=Z,3μm,1.0s						
BRU2	Volcan	0.32	99	⇑iP	Pb	19 48 57.4	-0.2
BRU2				iS	Sb	19 49 03.4	+0.3
BRU2	Volcan	0.32	99	iP	Pb	19 48 57.3	-0.2
BRU2				iS	Sb	19 49 03.2	+0.1
BRU2				IAML		19 49 06.2	
	comp=Z,660nm,1.0s						
BC3P	Paso Ancho	0.40	94	⇓iP	Pb	19 48 58.4	-0.2
BC3P				iS	Sb	19 49 04.6	-0.3
CCOL	Caracol de Cor	0.44	175	iP	Pb	19 48 59.1	+0.1
CCOL				iS	Sb	19 49 05.8	+0.1
CCOL				IAML		19 49 14.3	
	comp=Z,2μm,1.0s						
BCO2	Palmira	0.49	105	⇑iP	Pb	19 48 59.8	-0.2
BCO2				iS	Sb	19 49 07.2	-0.1
SRBA	San Rafael, Bu	0.52	318	iP	Pb	19 48 59.6	-0.7
SRBA				iS	Sb	19 49 07.2	-0.6
SRBA				IAML		19 49 12.5	
	comp=Z,420nm,1.0s						
PTAR3	Potrerillos Ar	0.53	107	⇓iP	Pb	19 49 00.4	-0.1
PTAR3				iS	Sb	19 49 09.0	+0.7
PIRO	Carate, Puerto	0.55	216	iP	Pb	19 49 01.0	+0.3
PIRO				iS	Sb	19 49 08.6	+0.2
PIRO				IAML		19 49 10.7	
	comp=Z,740nm,1.0s						
PTPM	Petroterminale	0.65	168	eP	Pn	19 49 02.0	-0.3
PTPM				iS	Sb	19 49 10.9	-0.4
OCHAL	Ojochal	0.67	292	iP	Pn	19 49 01.6	-1.0
OCHAL				iS	Sb	19 49 11.4	-0.5
OCHAL				IAML		19 49 12.5	
	comp=Z,8.4nm,1.0s						
DVD	David	0.69	126	eP	Pn	19 49 02.4	-0.4
DVD				eS	Sb	19 49 11.2	-1.1
LIMO3	Limones	0.76	169	eP	Pn	19 49 03.7	0.0
LIMO3				eS	Sn	19 49 13.4	-0.6
GUAL3	Gualaca, Chiri	0.77	114	⇓iP	Pn	19 49 04.0	+0.1
GUAL3				iS	Sn	19 49 14.3	-0.1
CHGR2	Aguacate	0.86	84	⇓iP	Pn	19 49 05.1	-0.1
CHGR2				⇓eP	Pn	19 49 05.1	-0.1
CHGR2				iS	Sn	19 49 16.0	-0.6
CDM	Cerro de Muert	1.02	313	iP	Pn	19 49 07.7	-0.1
CDM				IAML		19 49 07.9	
	comp=Z,240nm,1.0s						
CDM				iS	Sn	19 49 20.6	-0.6
RIMA	Rio Macho	1.24	317	iP	Pn	19 49 10.9	+0.3
RIMA				IAML		19 49 11.0	
	comp=Z,220nm,1.0s						
LCR2	La Lucha 2	1.32	312	iP	Pn	19 49 11.9	+0.2
LCR2				IAML		19 49 12.4	
	comp=Z,76nm,1.0s						
LCR2				iS	Sn	19 49 29.0	+0.7
HAYA	Volcan Irazu	1.39	324	iP	Pn	19 49 13.2	+0.3
HAYA				IAML		19 49 35.3	
	comp=Z,230nm,1.0s						
NANC3	Nancito, Chiri	1.40	115	eP	Pn	19 49 11.3	-1.3
NANC3				eS	Sn	19 49 28.3	-1.7
SFRA3	San Francisco,	2.10	106	eP	Pn	19 49 23.1	+0.9
SFRA3				eS	Sn	19 49 47.8	+0.5
JTS	Las Juntas de	2.39	307	eP	Pn	19 49 28.3	+2.0
CACAO	El Cacao, Vera	2.60	125	eP	Pn	19 49 31.3	+2.2
BCIP	Isla Barro Col	3.15	84	eP	Pn	19 49 38.3	+1.6

SKHL 05 20:03:56.5±0.2, 47°.00N×152°.60E, h116km±7km, mb5.3/7, msha6.0/6
NEIC 05 20:03:56.7±1.1, 47°.38N±0°.06×152°.1E±0°.1, h89km±6km, mb4.4/61, Error ellipse: s-maj=13.3km s-min=9.2km az=96.0
MOS 05 20:03:57.3±1.5, 47°.27N×152°.34E, h122km, mb4.3/6, Error ellipse: s-maj=11.0km s-min=6.5km az=62.2
JMA 05 20:03:59.7±0.6, 46°N±3°×15°3E±°, h122km, MV4.3/15, KURILE ISLANDS REGION
IDC 05 20:04:00.8±1.8, 47°.40N×152°.24E, h134km±15km, mb3.4/19, mbtmp3.9/25, Error ellipse: s-maj=16.5km s-min=10.3km az=136.0
ISC 05 20:03:56.2±0.5, 47°.02N±0°.06×152°.51E±0°.06, h100km, n159, σ1s.99/175, mb4.2/45, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.69	243	⇓iPN	Pn	20 04 54.4	+3.3
KUR				iS	Sn	20 05 39.9	+6.3
KUR				pmax	pmax		
	comp=Z,283nm,0.4s						
KUR				pmax	pmax		
	comp=E,43nm,0.5s						
KUR				pmax	pmax		
	comp=N,83nm,0.3s						
KUR				smax	smax		
	comp=N,294nm,0.3s						
KUR				smax	smax		
	comp=E,457nm,0.3s						
KUR	Kuril'sk	3.69	243	iP	Pn	20 04 54.4	+3.3
KUR				AMB	AMB	20 04 55.7	
	comp=E,280nm,0.4s						
KUR				iS	Sn	20 05 39.9	+6.3
KUR				A	A	20 05 51.2	
	comp=E,290nm,0.3s						
KUR				A	A	20 05 51.2	
	comp=E,460nm,0.3s						
SKR	Severo-Kuril's	4.37	32	ePN	Pn	20 04 49.3	-11
SKR				eS	Sn	20 05 48.5	-1.6
SKR				smax	smax		
	comp=N,171nm,0.8s						
SKR				smax	smax		
	comp=E,213nm,0.7s						
SKR				MLR	MLR		
	comp=Z,400nm,15.0s						
SKR	Severo-Kuril's	4.37	32	eP	Pn	20 05 00.5	+0.2
SKR				AMB	AMB	20 05 05.9	
	comp=Z,90nm,0.4s						
SKR				eS	Sn	20 05 48.7	-1.4
SKR				A	A	20 05 54.9	
	comp=Z,160nm,0.5s						
SKR				A	A	20 05 54.9	
	comp=Z,160nm,0.5s						
SHO	Shikotan	5.09	234	ePN	Pn	20 05 10.7	+0.7
SHO				eS	Sn	20 06 05.1	-2.4
SHO				pmax	pmax		
	comp=N,59nm,0.3s						
SHO				pmax	pmax		
	comp=Z,103nm,0.3s						
SHO				pmax	pmax		
	comp=E,100nm,0.2s						
SHO				smax	smax		
	comp=E,151nm,0.3s						
SHO				smax	smax		
	comp=N,159nm,0.2s						
SHO	Shikotan	5.09	234	eP	Pn	20 05 10.8	+0.7
SHO				AMB	AMB	20 05 15.4	
	comp=N,100nm,0.3s						
SHO				eS	Sn	20 06 07.5	0.0
SHO				A	A	20 06 09.2	
	comp=N,160nm,0.3s						
SHO				A	A	20 06 09.2	
	comp=N,150nm,0.3s						
PAU	Pauzhetka	5.27	31	eP	Pn	20 05 13.4	+1.0
PAU				AMB	AMB	20 05 16.3	
	comp=N,50nm,0.6s						
PAU				eS	Sn	20 06 10.3	-1.5
PAU				A	A	20 06 11.8	
	comp=N,200nm,0.3s						
PAU				A	A	20 06 11.8	
	comp=N,300nm,0.3s						
YUK	Yuzh-Kuril'sk	5.54	240	ePN	Pn	20 05 18.6	+2.4
YUK				eS	Sn	20 06 19.9	+1.4
YUK				pmax	pmax		
	comp=N,110nm,0.2s						
YUK				pmax	pmax		
	comp=E,138nm,0.2s						
YUK				pmax	pmax		
	comp=Z,274nm,0.2s						
YUK				smax	smax		
	comp=E,209nm,0.4s						
YUK				smax	smax		
	comp=N,246nm,0.5s						
YUK	Yuzh-Kuril'sk	5.54	240	eP	Pn	20 05 18.2	+2.0
YUK				AMB	AMB	20 05 21.5	
	comp=N,270nm,0.2s						
YUK				eS	Sn	20 06 19.5	+1.0
YUK				A	A	20 06 23.7	
	comp=N,250nm,0.5s						
YUK				A	A	20 06 23.7	
	comp=N,210nm,0.5s						
RUSJ	Misakicho	5.87	243	ePN	Pn	20 05 26.0	+5.4
RUSJ				eS	Sn	20 06 32.9	+6.4
NEM2	Nemuro 2	6.02	235	eP	Pn	20 05 22.6	0.0
NEM2				eS	Sn	20 06 27.1	-3.0
NMR	Nemuro--Hokkai	6.02	235	ePN	Pn	20 05 22.8	+0.1
NMR	Nemuro--Hokkai	6.02	235	eP	Pn	20 05 22.8	+0.1
JRA	Rausu	6.04	242	eP	Pn	20 05 25.3	+2.4
JNK	Nakash	6.48	241	eP	Pn	20 05 30.6	+1.7
YSS	Yuzh-Sakhalins	6.67	273		Pn	20 05 30.3	-1.2
YSS	Yuzh-Sakhalins	6.67	273	ePN	Pn	20 05 34.7	+3.2
YSS				eS	Sn	20 06 50.9	+4.9
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	Yuzh-Sakhalins	6.67	273	eP	Pn	20 05 33.5	+2.0
YSS				AMB	AMB	20 05 36.4	
	comp=Z,30nm,0.5s						
YSS				eS	Sn	20 06 46.9	+0.9
JTKR	Abashiri--Toko	6.77	246	eP	Pn	20 05 35.5	+2.7
JAK	Akkeshi	6.84	237	eP	Pn	20 05 34.0	+0.2
JAK				eS	Sn	20 06 47.5	-2.7
PEA0B	Petropavlovsk-	6.95	27	Pn	Pn	20 05 33.9	-1.4
PEA0B	Petropavlovsk-	6.95	27	PN	Pn	20 05 33.9	-1.4
PETK	Petropavlovsk-	6.95	27	Pn	Pn	20 05 32.6	-2.7
PETK	Petropavlovsk-	6.95	27	PN	Pn	20 05 32.6	-2.7
PETK	Petropavlovsk-	6.95	27	P	Pn	20 05 35.3	+0.1
	comp=Z,7.9nm,0.6s,baz=178,slow=12,SNR=16						
PETK				S	Sn	20 06 59.5	+6.9
	comp=Z,3.6nm,0.6s,baz=197,slow=18,SNR=1.2						
PET	Petropavlovsk	7.20	31	ePN	Pn	20 05 41.0	+2.5
PET				eS	Sn	20 07 00.9	+2.3
PET				smax	smax		
	comp=E,78nm,1.4s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
PET	Petropavlovsk	7.20	31	eP	Pn	20 05 41.0	+2.5
JAR	Ashorobuto	7.21	242	eP	Pn	20 05 40.6	+1.7
JAR				eS	Sn	20 07 00.3	+1.1
UGL	Uglegorsk	7.30	290	eP	Pn	20 05 42.1	+2.1
JOB	Onbets	7.40	239	eP	Pn	20 05 42.5	+1.1
JOB				eS	Sn	20 07 01.2	-2.5
JKA	Kamikawa-asahi	7.54	251		Pn	20 05 42.6	-0.7
JKA	Kamikawa-asahi	7.54	251	eP	Pn	20 05 47.4	+4.1
ASAJ	Asahikawa	7.54	251	P	Pn	20 05 47.4	+4.1
	comp=Z,55nm,0.7s,baz=164,slow=12,SNR=5.3						
ASAJ				S	Sn	20 07 11.9	+4.9
	comp=Z,6.9nm,0.5s,baz=103,slow=29,SNR=1.1						
TYV	Tymovskoe	7.54	304	eP	Pn	20 05 44.6	+1.3
JKK2	Kamakawa 2	7.55	249	eP	Pn	20 05 46.5	+3.0
JCH	Churui	7.85	239	eP	Pn	20 05 47.8	+0.2
JCH				eS	Sn	20 07 10.5	-4.2
JAB	Ashibetsu	8.06	248	eP	Pn	20 05 53.4	+3.0
JRBN	Rebuntou	8.10	263	eP	Pn	20 05 56.2	+5.4
ERM	Erimo	8.35	237		Pn	20 05 54.6	+0.3
ERM	Erimo	8.35	237	PN	Pn	20 05 54.6	+0.3
JNBK	Urakawa-nobuka	8.41	239	eP	Pn	20 05 54.4	-0.8
JNBK				eS	Sn	20 07 24.7	-3.7
OKH	Okha	8.96	320	eP	Pn	20 06 04.2	+1.7
NKL	Nikolayevsk	9.76	313	eP	Pn	20 06 14.0	+0.6
JTM	Tenmabayashi	10.34	237	Pn	Pn	20 06 18.8	-2.6
JANG	Nango	10.36	234	eP	Pn	20 06 18.5	-3.2
JMM	Marumori	12.58	228	Pn	Pn	20 06 49.4	-2.0
MA2	Magadan	12.62	356	Pn	Pn	20 06 49.4	-2.5
MA2	Magadan	12.62	356	P	Pn	20 06 51.0	-0.8
	comp=Z,4.3nm,0.5s,baz=162,slow=12,SNR=8.7						
KLR	Kul'dur	14.04	287	P	Pn	20 07 11.6	+1.2
	comp=Z,1.3nm,0.4s,baz=100,slow=12,SNR=8.3						
USA0B	Ussuriysk Arra	14.63	266		Pn	20 07 18.9	+0.8
USA0B	Ussuriysk Arra	14.63	266	P	Pn	20 07 18.9	+0.8
USRK	Ussuriysk Ar.	14.63	266		Pn	20 07 18.5	+0.4
USRK	Ussuriysk Ar.	14.63	266	P	Pn	20 07 18.5	+0.4
USRK	Ussuriysk Ar.	14.63	266	P	Pn	20 07 19.4	+1.3
	comp=Z,8.3nm,0.5s,baz=73,slow=12,SNR=22						
SEY	Seymchan	15.95	360	P	Pn	20 07 33.8	-0.7
	comp=Z,1.3nm,0.5s,baz=195,slow=12,SNR=13						
MDJ	Mudanjiang	16.15	270	P	Pn	20 07 36.7	-0.4
MDJ				IAmb	IAmb	20 07 40.4	
	comp=Z,23nm,1.2s						
YAK	Yakutsk	19.87	327	P	P	20 08 18.2	-0.8
	comp=Z,0.5nm,0.5s,baz=150,slow=3.0,SNR=5.1						
KSRS	Korea Array	20.49	251	P	P	20 08 27.8	+1.9
	comp=Z,3.5nm,0.6s,baz=57,slow=11,SNR=12						
	comp=Z,3.5nm,0.6s						
KS19	Wonju Array Si	20.50	251	P	P	20 08 24.9	-1.2
KS19				IAmb	IAmb	20 08 31.1	
	comp=Z,30nm,1.3s						
JNU	Nakatsue	21.51	238	P	P	20 08 38.3	+1.3
	comp=Z,16nm,1.2s,baz=56,slow=14,SNR=1.7						
	comp=Z,16nm,1.2s						
C16K	Lisburne Hills	30.03	30	P	P	20 09 54.5	-0.6
C16K				IAmb	IAmb	20 10 10.9	
	comp=Z,10nm,1.5s						
SONM	Songino Array	30.85	289	P	P	20 10 02.4	-0.4
	comp=Z,0.1nm,0.3s,baz=81,slow=7.7,SNR=2.5						
	comp=Z,0.1nm,0.3s						
K17K	Iditarod	31.43	42	P	P	20 10 07.7	+0.2
C18K	Utukok River	31.60	30	P	P	20 10 08.7	-0.3
H18K	Honhosa River	31.77	37	P	P	20 10 09.7	-0.8
H18K				IAmb	IAmb	20 10 47.9	
	comp=Z,7.0nm,1.1s						
C19K	Lookout Ridge	32.30	30	P	P	20 10 14.3	-0.8
C19K				IAmb	IAmb	20 10 21.0	
	comp=Z,7.1nm,1.4s						
TTA	Tatalina	32.49	42	P	P	20 10 17.8	+0.8
TTA				IAmb	IAmb	20 10 42.7	
	comp=Z,6.9nm,1.2s						
TTA	Tatalina	32.49	42	P	P	20 10 17.8	+0.8
TTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
H19K	Roundabout Mou	32.63	37	P	P	20 10 17.9	-0.1
H19K				IAmb	IAmb	20 10 29.2	
	comp=Z,3.7nm,0.9s						
D19K	Kuna River	32.63	31	P	P	20 10 18.0	0.0
D19K				IAmb	IAmb	20 10 35.6	
	comp=Z,10nm,1.4s						
E19K	Redstone River	32.70	33	P	P	20 10 18.2	-0.3
E19K				IAmb	IAmb	20 10 25.7	
	comp=Z,6.9nm,1.4s						
B20K	Meade River	33.38	29	P	P	20 10 24.4	0.0
B20K				IAmb	IAmb	20 11 06.2	
	comp=Z,5.5nm,1.2s						
J20K	Nowinta River	33.43	40	P	P	20 10 25.7	+0.7
IMAR	Indian Mountai	33.80	36	P	P	20 10 27.7	-0.4
E21K	Killik River	34.11	32	P	P	20 10 30.9	+0.1
E21K				IAmb	IAmb	20 10 39.4	
	comp=Z,5.3nm,1.4s						
B21K	Ikpikpuk River	34.13	30	P	P	20 10 31.1	+0.2
H21K	Melozitna Rive	34.14	37	P	P	20 10 31.6	+0.5
CAST	Castle Rocks	34.30	41	P	P	20 10 32.9	+0.3
SKT	Skwentna	34.54	44	P	P	20 10 35.5	+0.8
D22K	Ayikyak River	34.65	31	P	P	20 10 36.4	+0.9
B22K	Teshekpuk Lake	34.70	29	P	P	20 10 35.8	0.0
B22K				IAmb	IAmb	20 11 05.0	
	comp=Z,7.2nm,1.4s						
KTH	Kantishna Hill	34.83	41	P	P	20 10 38.0	+0.9
KTH				IAmb	IAmb	20 11 04.0	
	comp=Z,8.3nm,1.2s						
E22K	Anaktuvuk Pass	34.84	33	P	P	20 10 37.6	+0.4
E22K				IAmb	IAmb	20 10 38.8	
	comp=Z,3.3nm,1.0s						
SUA	Susitna One	34.93	45	P	P	20 10 37.8	-0.3
BRLK	Bradley Lake	34.96	48	P	P	20 10 37.7	-0.5
C23K	Itkillik River	35.54	30	P	P	20 10 43.0	-0.1
C23K				IAmb	IAmb	20 11 10.9	
	comp=Z,9.4nm,1.4s						
SML	Sawmill	36.06	44	P	P	20 10 48.0	+0.3
D24K	Happy Valley	36.07	31	P	P	20 10 47.6	+0.1
D24K				IAmb	IAmb	20 11 15.4	
	comp=Z,11nm,1.5s						
F24K	Squaw Lake	36.26	34	P	P	20 10 49.4	+0.1
SCM	Sheep Creek Mo	36.53	44	P	P	20 10 52.3	+0.6
SCM	Sheep Creek Mo	36.53	44	P	P	20 10 52.3	+0.6
SCM				pmax	pmax		
	comp=Z,23nm,1.5s						
HDA	Harding Lake	36.58	39	P	P	20 10 51.9	-0.1
HDA				IAmb	IAmb	20 11 02.5	
	comp=Z,5.0nm,1.2s						
IL31		36.60	39	P	P	20 10 51.7	-0.4
IL31				IAmb	IAmb	20 11 13.3	
	comp=Z,4.6nm,1.2s						
ILAR	Eielson Array	36.60	39	P	P	20 10 52.1	0.0
ILAR	Eielson Array	36.60	39	P	P	20 10 52.0	-0.1
	comp=Z,0.3nm,0.5s,baz=263,slow=6.6,SNR=9.2						
	comp=Z,0.3nm,0.5s						
D25K	Kavik River	36.95	31	P	P	20 10 55.2	0.0
ENH	Enshi	37.01	259	P	P	20 10 55.2	-0.8
HIN	Hinchinbrook I	37.08	46	P	P	20 10 56.7	+0.4
E25K	Arctic Village	37.17	33	P	P	20 10 57.7	+0.7
KLU	Klutina	37.23	44	P	P	20 10 57.4	-0.3
KLU				IAmb	IAmb	20 11 15.1	
	comp=Z,9.9nm,1.3s						
BMAR	Burnt Mountain	37.53	34	P	P	20 10 59.9	-0.2
RAGM	Ragged Mountai	37.98	46	P	P	20 11 04.4	+0.5
VRDI	Verde Repeater	38.45	44	P	P	20 11 08.6	+0.6
VRDI				IAmb	IAmb	20 11 29.2	
	comp=Z,9.2nm,1.4s						
K27K	Chicken	38.73	40	P	P	20 11 10.7	+0.7
L27K	Beaver Creek,	38.95	41	P	P	20 11 13.4	+1.4
L27K				IAmb	IAmb	20 11 50.3	
	comp=Z,5.0nm,1.4s						
BCAR	Beaver Creek A	38.97	41	P	P	20 11 13.4	+1.2
BARN	Barnard Glacie	39.33	44	P	P	20 11 16.6	+1.1
BARN				IAmb	IAmb	20 11 49.4	
	comp=Z,6.4nm,1.0s						
CTGM	Chitina Glacie	39.51	45	P	P	20 11 17.8	+1.0
H29M	Whitestone	40.05	36	P	P	20 11 21.5	+0.5
M29M	Somme Creek	40.58	42	P	P	20 11 26.5	+0.9
L29M	L29M	40.61	41	P	P	20 11 27.3	+1.5
I30M	Mount Dempster	41.00	37	P	P	20 11 29.7	+0.6
INK	Inuvik	41.65	33	P	P	20 11 34.4	+0.3
INK	Inuvik	41.65	33	P	P	20 11 34.4	+0.3
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
A36M	Sachs Harbour	43.80	26	P	P	20 11 51.9	+0.5
A36M				IAmb	IAmb	20 11 53.2	
	comp=Z,4.7nm,0.6s						
R33M	Jennings River	44.91	45	P	P	20 12 01.9	+1.3
R33M				IAmb	IAmb	20 12 03.3	
	comp=Z,8.5nm,1.4s						
MKAR	Makanchi Array	46.45	297	P	P	20 12 10.4	-2.3
MKAR	Makanchi Array	46.45	297	P	P	20 12 10.0	-2.8
	comp=Z,0.1nm,0.3s,baz=62,slow=6.2,SNR=5.9						
MKAR				PcP	PcP	20 13 44.5	-1.3
	comp=Z,0.5nm,1.0s,baz=75,slow=5.0,SNR=1.8						
MKAR				ScP	ScP	20 17 25.5	-4.4
	comp=Z,0.3nm,0.7s,baz=53,slow=4.7,SNR=4.8						
	comp=Z,0.1nm,0.3s						
CRAI	Chiangrai	49.83	256	P	P	20 12 39.7	+0.6
CRAI				IAmb	IAmb	20 12 40.9	
	comp=Z,3.6nm,1.2s						
BVAR	Borovoye Array	50.37	309	P	P	20 12 39.4	-3.3
	comp=Z,0.3nm,0.4s,baz=59,slow=8.2,SNR=2.9						
	comp=Z,0.3nm,0.4s						
RES	Resolute Bay	50.71	18	P	P	20 12 44.7	-0.2
RES				IAmb	IAmb	20 12 56.6	
	comp=Z,5.3nm,1.4s						
RES	Resolute Bay	50.71	18	P	P	20 12 44.7	-0.2
RES				pmax	pmax		
	comp=Z,5.0nm,1.4s						
YKA	Yellowknife Ar	50.95	37	P	P	20 12 47.1	+0.2
	comp=Z,0.2nm,0.5s,baz=301,slow=7.2,SNR=3.1						
	comp=Z,0.2nm,0.5s						
CHTO	Chiang Mai	51.78	256	P	P	20 12 54.7	+1.0
CHTO				IAmb	IAmb	20 12 55.5	
	comp=Z,3.1nm,0.8s						
CHTO	Chiang Mai	51.78	256	P	P	20 12 54.7	+1.0
CHTO				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	52.03	256	P	P	20 12 56.2	+0.6
CMAR	Chiang Mai Arr	52.03	256	P	P	20 12 56.2	+0.6
CMAR	Chiang Mai Arr	52.03	256	P	P	20 12 56.5	+0.9
	comp=Z,1.2nm,0.8s,baz=33,slow=7.1,SNR=14						
	comp=Z,1.2nm,0.8s						
PMG	Port Moresby	56.37	186	P	P	20 13 31.3	+4.4
PMG	Port Moresby	56.37	186	P	P	20 13 31.3	+4.4
PMG				pmax	pmax		
	comp=Z,11nm,0.9s						
ARCES	ARCESS Array B	57.46	341	P	P	20 13 31.3	-2.8
	comp=Z,2.9nm,1.0s,baz=45,slow=10,SNR=1.6						
	comp=Z,2.9nm,1.0s						
ABKAR	Akbulak array	57.94	309	P	P	20 13 36.2	-1.5
ABKAR	Akbulak array	57.94	309	P	P	20 13 35.9	-1.7
ABKAR				IAmb	IAmb	20 14 14.2	
	comp=Z,4.0nm,1.4s						
NVAR	Mina Array Bea	62.67	62	P	P	20 14 10.4	0.0
	comp=Z,0.5nm,0.6s,baz=291,slow=7.3,SNR=3.6						
	comp=Z,0.5nm,0.6s						
FIA1	FINESS Array S	63.62	334	P	P	20 14 13.9	-2.0
FINES	FINESS Array B	63.62	334	P	P	20 14 13.8	-2.2
FINES	FINESS Array B	63.62	334	P	P	20 14 13.8	-2.2
FINES	FINESS Array B	63.62	334	P	P	20 14 13.6	-2.3
	comp=Z,0.7nm,0.4s,baz=39,slow=5.7,SNR=11						
	comp=Z,0.7nm,0.4s						
PDAR	Pinedale Array	64.92	54	P	P	20 14 26.2	+1.1
PDAR	Pinedale Array	64.92	54	P	P	20 14 25.7	+0.6
	comp=Z,0.2nm,0.6s,baz=312,slow=4.4,SNR=1.6						
	comp=Z,0.2nm,0.6s						
NB201	NORSAR Array S	67.81	341	P	P	20 14 41.8	-1.2
NB2	NORSAR Subarra	67.84	341	P	P	20 14 42.0	-1.1
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5						
NOA	NORSAR Array B	67.84	341	P	P	20 14 41.4	-1.7
	comp=Z,0.4nm,0.4s,baz=29,slow=6.6,SNR=5.9						
	comp=Z,0.4nm,0.4s						
HFS	Hagfors	68.06	339	P	P	20 14 42.8	-1.6
	comp=Z,1.1nm,0.4s,baz=74,slow=6.3,SNR=12						
	comp=Z,1.1nm,0.4s						
WB2	Warramunga Arr	68.63	198	P	P	20 14 51.2	+2.7
WRA	Warramunga Arr	68.64	198	P	P	20 14 50.5	+2.1
	comp=Z,0.9nm,0.8s,baz=18,slow=6.8,SNR=3.6						
	comp=Z,0.9nm,0.8s						
AKASG	Malin Array Be	71.09	326	P	P	20 15 01.0	-2.2
AKASG	Malin Array Be	71.09	326	P	P	20 15 01.0	-2.2
	comp=Z,0.5nm,0.3s,baz=32,slow=6.5,SNR=4.2						
	comp=Z,0.5nm,0.3s						
ASAR	Alice Springs	72.33	198	P	P	20 15 14.4	+3.4
ASAR	Alice Springs	72.33	198	P	P	20 15 14.0	+3.1
	comp=Z,2.4nm,0.8s,baz=8.8,slow=5.1,SNR=19						
	comp=Z,2.4nm,0.8s						
BUR08	Bucovina Ar. S	75.12	326	P	P	20 15 25.7	-1.5
BURAR	Bucovina Array	75.13	326	P	P	20 15 26.3	-0.9
EKA	Eskdalemuir Ar	75.98	346	P	P	20 15 30.3	-1.5
	comp=Z,0.4nm,0.3s,baz=21,slow=4.8,SNR=5.4						
	comp=Z,0.4nm,0.3s						
TXAR	Lajitas Array	77.72	60	P	P	20 15 42.8	+0.7
TXAR	Lajitas Array	77.72	60	P	P	20 15 43.0	+0.8
TXAR	Lajitas Array	77.72	60	P	P	20 15 43.0	+0.8
	comp=Z,0.6nm,0.7s,baz=311,slow=4.0,SNR=8.2						
	comp=Z,0.6nm,0.7s						
H03N2	Juan Fernandez	139.17	90	T	T	22 58 53.4	
	baz=308,slow=77,SNR=9.5						
H03N1	Juan Fernandez	139.18	90	T	T	22 58 56.6	
	baz=308,slow=77,SNR=10						
H03N3	Juan Fernandez	139.18	90	T	T	22 58 57.7	
	baz=308,slow=77,SNR=9.7						

IDC 05 20:05:21.0±2.2, 8°.26S×129°.03E, h0km, mb3.0/1, mbtmp3.1/3, ML3.3/2, Error ellipse: s-maj=138.5km s-min=27.2km az=66.0, Timor Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.70	157	Pn	Pn	20 08 23.1	+0.1
	0.2nm,0.3s,baz=332,slow=14,SNR=6.2						
WRA				Sn	Sn	20 10 45.4	+0.1
	0.3nm,0.3s,baz=334,slow=22,SNR=7.5						
	0.3nm,0.5s						
ASAR	Alice Springs	16.01	164	Pn	Pn	20 09 08.6	+0.7
	0.1nm,0.3s,baz=348,slow=9.4,SNR=8.8						
ASAR				Sn	Sn	20 12 07.0	+0.8
	baz=348,slow=27,SNR=1.9						
	0.2nm,0.4s						
MKAR	Makanchi Array	68.76	328	P	P	20 16 26.8	-0.1
	0.1nm,0.4s,baz=145,slow=5.3,SNR=1.8						
	0.1nm,0.4s						

IDC 05 20:11:20.3±6.4, 29°.79N×143°.35E, h0km, mb3.5/4, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=256.5km s-min=25.8km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	7.99	329	Pn	Pn	20 13 19.0	+1.2
	0.1nm,0.3s,baz=146,slow=6.8,SNR=6.2						
MJAR				Sn	Sn	20 14 41.9	-7.0
	baz=43,slow=20						
	0.4nm,0.4s						
MKAR	Makanchi Array	49.60	308	P	P	20 20 12.9	-0.4
	0.2nm,0.6s,baz=92,slow=9.4,SNR=2.3						
	0.2nm,0.6s						
WRA	Warramunga Arr	50.20	191	P	P	20 20 17.0	-1.0
	0.7nm,1.0s,baz=8.3,slow=8.6,SNR=2.0						
	0.7nm,1.0s						
ASAR	Alice Springs	53.92	191	P	P	20 20 46.8	+1.1
	0.4nm,1.1s,baz=20,slow=5.6,SNR=1.6						
	0.4nm,1.1s						
BVAR	Borovoye Array	56.78	316	P	P	20 21 05.6	-0.5
	0.7nm,0.5s,baz=84,slow=8.2,SNR=5.5						
	0.7nm,0.5s						

*NEIC **05** 20:19:56.1±1.3, 18°.3S±0°.2×174°.0W±0°.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=39.1km s-min=14.7km az=125.0*
*IDC **05** 20:19:57.6±5.5, 18°.04S×174°.52W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=175.0km s-min=108.4km az=156.0*
ISC 05 20:19:55.8±2.0, 18°.3S±0°.2×174°.0W±0°.3, h10km, n16, σ0.s92/19, mb4.4/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	25.46	201	P	P	20 25 24.0	0.0
CTAO	Charters Tower	37.54	261	P	P	20 27 11.4	+0.9
CTAO				IAmb	IAmb	20 27 22.1	
	comp=Z,10nm,1.2s						
STKA	Stephens Creek	42.17	243	P	P	20 27 50.1	+1.3
STKA	Stephens Creek	42.17	243	P	P	20 27 49.7	+0.8
	comp=Z,0.7nm,0.3s,baz=107,slow=11,SNR=4.1						
	comp=Z,0.7nm,0.3s						
BBOO	Buckleboo	46.93	242	P	P	20 28 26.9	+0.1
WB2	Warramunga Arr	48.70	259	P	P	20 28 39.8	-1.0
WB2				IAmb	IAmb	20 28 41.1	
	comp=Z,11nm,1.5s						
WB2				PcP	PcP	20 30 04.6	-1.5
WRA	Warramunga Arr	48.71	259	P	P	20 28 40.2	-0.6
	comp=Z,1.4nm,0.4s,baz=98,slow=7.4,SNR=29						
	comp=Z,1.4nm,0.4s						
AS31	Alice Springs	48.74	254	P	P	20 28 41.1	-0.1
AS31				IAmb	IAmb	20 28 41.3	
	comp=Z,0.9nm,0.5s						
ASAR	Alice Springs	48.75	254	P	P	20 28 40.4	-0.8
ASAR				PcP	PcP	20 30 05.8	-0.4
ASAR	Alice Springs	48.75	254	P	P	20 28 41.0	-0.1
	comp=Z,3.0nm,0.7s,baz=90,slow=7.7,SNR=56						
ASAR				PcP	PcP	20 30 07.8	+1.6
	comp=Z,0.3nm,0.7s,baz=104,slow=3.9,SNR=1.9						
	comp=Z,3.0nm,0.7s						
MTN	Manton Dam	53.00	268	P	P	20 29 12.6	-0.6
KNRA	Kununurra	54.64	263	P	P	20 29 24.4	-0.9
FITZ	Fitzroy Crossi	57.12	260	P	P	20 29 42.4	-0.6
FITZ				IAmb	IAmb	20 29 44.3	
	comp=Z,2.8nm,1.4s						
SOEI	Soe	60.28	269	P	P	20 30 04.7	-0.6
SOEI				IAmb	IAmb	20 30 10.4	
	comp=Z,11nm,0.9s						
MBWA	Marble Bar	62.06	255	P	P	20 30 15.9	-1.2
AMKA	Amchitka	69.62	356	P	P	20 31 05.4	+0.4

*IDC **05** 20:21:46.3±6.8, 15°.55N×86°.56W, h0km, mb3.3/2, mbtmp3.4/2, Error ellipse: s-maj=296.2km s-min=69.5km az=31.0*
*CATAC **05** 20:21:47.8±0.5, 15°.57N×86°.91W, h15km, ML4.1*
*SNET **05** 20:21:49.0±1.8, 15°.32N×87°.07W, h7km±20km, ML3.9*
ISC 05 20:21:48.0±1.1, 15°.46N±0°.05×86°.95W±0°.05, h10km, n31, σ2.s29/47, Honduras

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NISHN	Nisperales Com	0.95	290	*i* P	Pg	20 22 04.6	-1.8
NISHN				*i* S	Sb	20 22 19.3	-0.1
COMHN	El Horno	1.17	210	*i* P	Pn	20 22 05.8	-4.8
COMHN				*i* S	Sb	20 22 21.8	-3.8
TGUH	Tegucigalpa,Un	1.43	193	*e*P	Pn	20 22 11.4	-2.7
TGUH				*e*S	Sn	20 22 30.4	-2.7
TGUH	Tegucigalpa,Un	1.43	193	*i* P	Pn	20 22 10.8	-3.3
TGUH				*i* S	Sn	20 22 30.3	-2.7
TGUH				IAML		20 22 41.1	
	comp=Z,2µm,1.0s						
YUSH	Yuscaran	1.50	176	*i* P	Pn	20 22 13.2	-1.9
INTHN	La Esperanza I	1.59	225	*i* P	Pn	20 22 15.2	-1.3
IZABA	Izabal, Puerto	1.60	280	*i* P	Pn	20 22 15.4	-0.9
IZABA				*i* S	Sn	20 22 37.3	+0.3
IZABA				IAML		20 22 42.1	
	comp=Z,25nm,1.0s						
SARH	Santa Rosa de	1.87	249	*i* P	Pn	20 22 19.1	-1.1
RCPN	Sur Rio San Ju	2.09	156	*i* P	Pn	20 22 20.5	-2.8
RCPN				IAML		20 22 50.6	
	comp=Z,3.3nm,1.0s						
AMPH	Amapala	2.26	198	*e*P	Pn	20 22 26.1	+0.6
AMPH				*e*S	Sn	20 22 54.1	+0.6
AMPH	Amapala	2.26	198	*i* P	Pn	20 22 24.3	-1.2
LLGN	La Laguna	2.32	237	*e*P	Pn	20 22 27.9	+1.6
LCND	La Caada	2.32	203	*i* P	Pn	20 22 25.7	-0.6
LCND				IAML		20 23 06.5	
	comp=Z,250nm,1.0s						
CNCH	Conchagua	2.33	202	*i* P	Pn	20 22 27.0	+0.4
CNCH				*i* S	Sn	20 22 57.9	+2.6
CNCH				IAML		20 23 00.6	
	comp=Z,980nm,1.0s						
PACA	Pacayal	2.38	214	*i* P	Pn	20 22 27.9	+0.6
PACA				*i* S	Sn	20 22 59.4	+2.8
PACA				IAML		20 23 12.3	
	comp=Z,2µm,1.0s						
LIMN	Finca el Limon	2.45	167	*i* P	Pn	20 22 28.1	-0.1
LIMN				*i* S	Sn	20 22 59.7	+1.5
LIMN				IAML		20 23 04.0	
	comp=Z,890nm,1.0s						
ESQI	Esquipulas	2.48	249	*e*P	Pn	20 22 29.8	+1.2
ESQI	Esquipulas	2.48	249	*i* P	Pn	20 22 29.5	+1.0
ESQI				*i* S	Sn	20 23 01.9	+3.0
ESQI				IAML		20 23 11.9	
	comp=Z,610nm,1.0s						
CSGN	Cosiguina Volc	2.54	193	*i* P	Pn	20 22 31.0	+1.7
CSGN				IAML		20 23 12.8	
	comp=Z,610nm,1.0s						
MTO3	Montecristo	2.56	246	*e*P	Pn	20 22 31.2	+1.5
MTO3				*e*S	Sn	20 23 03.0	+1.9
MTO3	Montecristo	2.56	246	*i* P	Pn	20 22 29.8	0.0
MTO3				*i* S	Sn	20 23 04.0	+3.0
MTO3				IAML		20 23 06.0	
	comp=Z,410nm,1.0s						
PAVA	Las Pavas	2.59	228	*i* P	Pn	20 22 32.5	+2.4
PAVA				*i* S	Sn	20 23 04.5	+2.8
PAVA				IAML		20 23 09.1	
	comp=Z,1µm,1.0s						
MATN	Matagalpa	2.70	158	*i* P	Pn	20 22 32.3	+0.6
MATN				*i* S	Sn	20 23 06.6	+2.1
MATN				IAML		20 23 10.8	
	comp=Z,510nm,1.0s						
CNGN	Cerro Negro	2.95	175	*e*P	Pn	20 22 35.9	+0.9
CNGN	Cerro Negro	2.95	175	*i* P	Pn	20 22 38.3	+3.3
CNGN				*i* S	Sn	20 23 15.7	+5.2
CNGN				IAML		20 23 27.8	
	comp=Z,410nm,1.0s						
NUBE	Las Nubes	3.14	241	*i* P	Pn	20 22 41.9	+4.1
NUBE				*i* S	Sb	20 23 22.2	-0.4
NUBE				IAML		20 23 26.9	
	comp=Z,190nm,1.0s						
BOAB	BOACO BROADBAN	3.24	157	*i* P	Pn	20 22 41.6	+2.6
BOAB				*i* S	Sn	20 23 23.2	+5.6
BOAB				IAML		20 23 32.0	
	comp=Z,290nm,1.0s						
COPN	Copaltepe	3.28	174	*i* P	Pn	20 22 40.9	+1.4
COPN				*i* S	Sb	20 23 25.5	-0.8
COPN				IAML		20 23 35.1	
	comp=Z,230nm,1.0s						
TXAR	Lajitas Array	20.69	315	P	Pn	20 26 30.9	0.0
	comp=Z,2.2nm,0.9s,baz=134,slow=11,SNR=14						
	comp=Z,2.2nm,0.9s						
ILAR	Eielson Array	63.49	336	P	P	20 32 17.8	-0.3
	comp=Z,0.2nm,0.7s,baz=115,slow=6.1,SNR=1.9						
	comp=Z,0.2nm,0.7s						
CMAR	Chiang Mai Arr	145.80	350	PKPbc	PKPbc	20 41 27.8	-0.6
	comp=Z,0.6nm,0.7s,baz=346,slow=3.9,SNR=4.6						

*MDD **05** 20:30:26.5±0.3, 37°.50N×8°.85W, h12km, mb_Lg4.0/49, Error ellipse: s-maj=2.6km s-min=1.7km az=71.0*
*LDG **05** 20:30:27.8±0.2, 37°.55N×8°.68W, h2km, Ml3.9/4, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*INMG **05** 20:30:27.9±1.5, 37°.49N×8°.74W, h8km±1km, ML3.6, Error ellipse: s-maj=2.3km s-min=0.9km az=76.0*
*SFS **05** 20:30:27.5, 37°.48N×8°.77W, h12km, mb4.1/7, ML4.0/31, ML4.2/25, MLv3.8/31*
*IGIL **05** 20:30:28.0, 37°.47N×8°.74W, h12km, ML3.7*
ISC 05 20:30:26.3±0.8, 37°.53N±0°.02×8°.70W±0°.02, h18km±5km, n146, σ1.s51/263, 14C-3D, Portugal

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.03	311	⇑*e*Pg	Pg	20 30 29.6	+0.2
PTEO				*e*Sg	Sg	20 30 31.3	-0.2
PTEO				A	A	20 30 31.8	
	9µm,0.4s						
PALJ	Aljezur	0.22	202	*e*Pg	Pg	20 30 31.4	-0.1
PALJ				*e*Sg	Sg	20 30 34.3	-0.7
MORF	Marmelete	0.22	171	⇓*i*Pg	Pg	20 30 31.7	+0.1
MORF				*e*Sg	Sg	20 30 34.7	-0.5
MORF				A	A	20 30 35.7	
	10µm,0.7s						
MORF	Marmelete	0.22	171	*e*P	Pg	20 30 31.7	+0.1
MORF				*e*S	Sg	20 30 34.6	-0.5
MORF				IAML		20 30 35.1	
	comp=N,23µm,0.3s						
PFVI	Vila Bisbo	0.41	195	⇑*i*Pg	Pg	20 30 34.4	-0.2
PFVI				*e*Sg	Sg	20 30 39.1	-1.1
PFVI				A	A	20 30 40.1	
	comp=N,5µm,0.2s						
PFVI	Vila Bisbo	0.41	195	Pg	Pg	20 30 34.4	-0.2
PPOR	Portimao	0.41	162	*e*Pg	Pg	20 30 35.1	+0.4
PPOR				*e*Sg	Sg	20 30 41.0	+0.6
PPOR				A	A	20 30 42.4	
	comp=N,4µm,0.3s						
PLAGO	Lagos	0.43	179	⇑*e*Pg	Pg	20 30 35.2	+0.2
PLAGO				*e*Sg	Sg	20 30 40.5	-0.4
PLAGO				A	A	20 30 42.4	
	comp=N,3µm,0.2s						
PSINE	Sines	0.45	343	*e*Pg	Pb	20 30 36.5	+0.7
PSINE				*e*Sg	Sb	20 30 42.8	+0.6
PSINE				A	A	20 30 47.3	
	comp=N,2µm,0.1s						
MESJ	Messejana	0.49	50	⇑*i*Pg	Pn	20 30 38.0	-0.5
MESJ				*e*Sg	Sn	20 30 45.3	-1.3
MESJ				A	A	20 30 48.6	
	comp=N,1µm,0.5s						
MESJ	Messejana	0.49	50	*e*P	Pn	20 30 37.9	-0.5
MESJ				*e*S	Sn	20 30 45.3	-1.3
MESJ				IAML		20 30 45.8	
	comp=N,1µm,0.2s						
PCVE	Castro Verde	0.53	78	⇑*e*Pg	Pn	20 30 38.5	-0.5
PCVE				*e*Sg	Sb	20 30 46.3	+1.8
PCVE				A	A	20 30 47.2	
	comp=N,2µm,0.2s						
PCVE	Castro Verde	0.53	78	Pg	Pn	20 30 38.5	-0.5
PCVE				Sg	Sb	20 30 45.5	+1.0
PSVI	Cabo S. Vicent	0.56	206	⇑*i*Pg	Pg	20 30 37.1	-0.2
PSVI				*e*Sg	Sg	20 30 43.9	-0.9
PSVI				A	A	20 30 46.0	
	comp=N,2µm,0.6s						
PALBU	Albufeira	0.56	140	*e*Pg	Pb	20 30 38.0	+0.5
PALBU				*e*Sg	Sb	20 30 46.1	+0.9
PALBU				A	A	20 30 50.8	
	comp=N,1µm,0.3s						
PNCL	Nicolau / Gran	0.60	13	⇑*i*Pg	Pn	20 30 39.7	-0.3
PNCL				*e*Sg	Sn	20 30 48.0	-1.3
PNCL				A	A	20 30 50.7	
	comp=N,1µm,0.2s						
PNCL	Nicolau / Gran	0.60	13	Pg	Pn	20 30 39.7	-0.3
PBDV	Barranco-do-Ve	0.67	115	⇓*i*P	Pg	20 30 40.2	+0.7
PBDV				*e*S	Sb	20 30 49.8	+1.3
PBDV				A	A	20 30 53.2	
	comp=N,2µm,0.2s						
PVAQ	Vaqueiros	0.79	99	⇓*e*P	Pn	20 30 42.5	0.0
PVAQ				*e*S	Sn	20 30 54.1	+0.2
PVAQ	Vaqueiros	0.79	99	Pg	Pn	20 30 42.5	0.0
PVAQ				Sg	Sn	20 30 54.6	+0.8
PFARO	Faro	0.79	129	*e*P	Pn	20 30 43.0	+0.4
PFARO				*e*S	Sn	20 30 53.7	-0.3
PFARO				A	A	20 30 59.8	
	comp=N,2µm,0.3s						
PBEJ	Beja	0.82	52	⇑*e*P	Pn	20 30 44.0	+0.9
PBEJ				*e*S	Sn	20 30 55.6	+0.8
PBEJ				A	A	20 30 58.0	
	comp=N,1µm,0.3s						
PTAV	Tavira	0.92	115	*e*P	Pn	20 30 45.1	+0.8
PTAV				*e*S	Sn	20 30 59.4	+2.3
PTAV				A	A	20 31 01.5	
	comp=N,5µm,0.4s						
EGRO	El Granado	0.96	89	Pg	Pg	20 30 45.8	+0.8
EGRO				Sg	Sn	20 30 59.5	+1.3
EGRO	El Granado	0.96	89	Pg	Pg	20 30 45.7	+0.8
EGRO				Sg	Sn	20 30 58.9	+0.7
EGRO				*i* Vmb_Lg		20 31 01.8	
PSETU	Setºbal	1.02	352	A	A	20 31 53.5	
	comp=N,4µm,0.5s						
EVO	Evora	1.14	28	⇑*e*P	Pg	20 30 48.5	+0.1
EVO				*e*S	Sg	20 31 05.0	+1.7
EVO				A	A	20 31 07.4	
	comp=N,557nm,0.1s						
EVO	Evora	1.14	28	Pg	Pg	20 30 48.5	+0.1
EVO				Sg	Sg	20 31 04.8	+1.6
LIS	Lisbon	1.24	343	*e*P	Pg	20 30 50.4	+0.1
LIS				*e*S	Sg	20 31 07.5	+0.9
LIS				A	A	20 31 09.6	
	comp=N,985nm,0.3s						
LIS	Lisbon	1.24	343	*e*P	Pg	20 30 50.2	-0.1
LIS				*e*S	Sg	20 31 06.2	-0.4
LIS				IAML		20 31 10.0	
	comp=E,2µm,0.5s						
PACT	Alcochete	1.25	355	*e*Pn	Pg	20 30 50.4	+0.1
PACT	Alcochete	1.25	355	*e*Pg	Pg	20 30 51.6	+1.3
PACT				*e*Sg	Sg	20 31 08.8	+2.2
PACT				A	A	20 31 13.2	
	comp=E,2µm,0.5s						
INMG	Instituto de M	1.29	345	*e*Pg	Pg	20 30 53.0	+1.8
INMG				*e*Sg	Sg	20 31 10.2	+2.1
INMG				A	A	20 31 11.6	
	comp=E,625nm,0.3s						
PVERD	Verdizela	1.36	337	A	A	20 30 52.9	
	comp=E,2µm,0.2s						
PCASC	Cascais	1.39	334	*e*Sn	Sg	20 31 10.9	-0.4
PCASC				*e*Sg	Sb	20 31 12.5	+3.2
PCASC				A	A	20 31 13.5	
	comp=E,626nm,0.5s						
PBEN	Benavente	1.42	356	*e*Sg	Sg	20 31 13.6	+1.3
PVFX	Vila Franca de	1.44	351	*e*Sg	Sg	20 31 15.0	+2.1
PVFX				A	A	20 31 17.0	
	comp=E,1µm,0.3s						
PBAR	Barrancos	1.46	63	*e*Pn	Pb	20 30 53.1	+0.1
PBAR	Barrancos	1.46	63	*e*Pg	Pg	20 30 55.1	+0.6
PBAR				*e*Sg	Sg	20 31 14.6	+1.1
PBAR				A	A	20 31 16.3	
	comp=E,1µm,0.3s						
PBAR	Barrancos	1.46	63	Pn	Pb	20 30 52.8	-0.2
PMAFR	Mafra	1.50	342	*e*Pn	Pb	20 30 53.6	-0.1
PMAFR				*e*Sn	Sb	20 31 13.3	+0.9
PMAFR				A	A	20 31 17.2	
	comp=E,2µm,0.3s						
PMAFR	Mafra	1.50	342	Pn	Pb	20 30 53.6	-0.1
PMAFR				Sn	Sb	20 31 13.1	+0.7
PMTG	Montargil	1.58	13	⇑*e*Pn	Pb	20 30 54.5	-0.6
PMTG	Montargil	1.58	13	*e*Pg	Pg	20 30 57.0	+0.2
PMTG				*e*Sn	Sg	20 31 17.2	-0.2
PMTG				A	A	20 31 19.0	
	comp=E,588nm,0.2s						
PESTR	Estremoz	1.60	33	⇑*i*Pn	Pn	20 30 54.6	+0.9
PESTR	Estremoz	1.60	33	*e*Pg	Pg	20 30 57.7	+0.7
PESTR				*e*Sg	Sg	20 31 18.8	+1.0
PESTR				A	A	20 31 20.9	
	comp=E,215nm,0.7s						
PESTR	Estremoz	1.60	33	Pn	Pn	20 30 54.6	+0.9
PESTR				Sn	Sg	20 31 17.9	0.0
ARNO	Arenosillo	1.62	105	Pn	Pb	20 30 56.2	+0.6
ARNO				Sg	Sg	20 31 20.3	+1.7
PSANT	Santarm	1.71	0	*e*Pg	Pg	20 31 00.3	+1.0
PSANT				*e*Sg	Sg	20 31 22.6	+1.0
PSANT				A	A	20 31 23.4	
	comp=E,914nm,0.5s						
EBAD	Badajoz	1.81	47	Pn	Pn	20 30 57.4	+0.8
EBAD	Badajoz	1.81	47	Pn	Pn	20 30 57.5	+1.0
EBAD				Sn	Sb	20 31 22.2	+1.0
EBAD				*i* Vmb_Lg		20 31 26.5	
PCDRA	Caldas da Rain	1.91	350	*e*Pg	Pg	20 31 04.1	+1.1
PCDRA				*e*Sn	Sb	20 31 23.2	-1.0
PCDRA				*e*Sg	Sg	20 31 27.9	0.0
PCDRA				A	A	20 31 28.9	
	comp=E,3µm,0.3s						
PSBE	So Bento	1.99	358	*e*Pn	Pn	20 31 00.4	+1.3
PSBE	So Bento	1.99	358	*e*Pg	Pg	20 31 05.4	+0.9
PSBE				*e*Sg	Sg	20 31 30.2	-0.1
PSBE				A	A	20 31 33.5	
	comp=E,439nm,0.6s						
PMRV	Marv??o	2.16	28	⇑*e*Pn	Pn	20 31 02.5	+1.1
PMRV	Marv??o	2.16	28	*e*Pg	Pg	20 31 07.7	0.0
PMRV				*e*Sn	Sn	20 31 29.4	+1.6
PMRV				*e*Sg	Sg	20 31 34.6	-1.1
PMRV				A	A	20 31 37.8	
	comp=E,181nm,0.6s						
ESPR	Espera	2.36	105	Pn	Pn	20 31 06.2	+2.0
ESPR	Espera	2.36	105	Pn	Pn	20 31 06.1	+2.0
ESPR				Sn	Sb	20 31 36.3	-0.7
ESPR				Sg	Sg	20 31 41.8	-0.4
ESPR				*i* Vmb_Lg		20 31 50.3	
PCBR	Castelo Branco	2.50	22	*e*Pn	Pn	20 31 07.3	+1.2
PCBR	Castelo Branco	2.50	22	*e*Pg	Pg	20 31 14.0	-0.2
PCBR				*e*Sg	Sg	20 31 45.8	-0.9
PCBR				A	A	20 31 48.9	
	comp=E,188nm,0.4s						
PCAS	Casmilo, Conde	2.53	3	*e*Pn	Pn	20 31 07.7	+1.2
PCAS	Casmilo, Conde	2.53	3	*e*Pg	Pg	20 31 14.8	0.0
PCAS				*e*Sn	Sn	20 31 38.5	+1.6
PCAS				*e*Sg	Sg	20 31 48.1	+0.5
PCAS				A	A	20 31 54.6	
	comp=E,207nm,0.6s						
ECAB	El Cabril	2.65	77	Pn	Pn	20 31 09.0	+0.8
ECAB				Sn	Sn	20 31 39.8	-0.2
ECAB	El Cabril	2.65	77	Pn	Pn	20 31 09.9	+1.7
ECAB				Sn	Sn	20 31 42.0	+2.0
ECAB				*i* Vmb_Lg		20 31 54.5	
COI	Coimbra	2.69	5	*e*Pn	Pn	20 31 10.7	+2.0
COI				*e*Sn	Sn	20 31 42.4	+1.6
COI				*e*Sg	Sg	20 31 52.3	-0.4
COI				A	A	20 31 59.1	
	comp=E,306nm,0.3s						
EJIF	Jimena Fronter	2.80	112	Pn	Pn	20 31 12.1	+1.9
EJIF				Sn	Sn	20 31 44.5	+1.1
MTE	Manteigas	3.01	17	⇑*e*Pn	Pn	20 31 14.2	+1.1
MTE				*e*Sn	Sn	20 31 50.0	+1.2
MTE				*e*Sg	Sg	20 32 00.9	-2.0
MTE				A	A	20 32 03.8	
	comp=E,229nm,0.6s						
ECEU	Ceuta	3.12	120	Pn	Pn	20 31 16.5	+1.9
ECEU				Sn	Sn	20 31 53.0	+1.5
CEU	Ceuta	3.12	120	Pn	Pn	20 31 17.2	+2.5
CEU				Sn	Sn	20 31 52.5	+1.0
PVIS	Viseu	3.25	11	*e*Pn	Pn	20 31 17.5	+1.1
PVIS	Viseu	3.25	11	*e*Pg	Pg	20 31 28.8	+0.3
PVIS				*e*Sn	Sn	20 31 55.0	+0.3
PVIS				*e*Sg	Sg	20 32 10.7	+0.1
PVIS				A	A	20 32 16.3	
	comp=E,120nm,0.5s						
EPLA	Plasencia	3.26	38	Pn	Pn	20 31 17.3	+0.8
EPLA				Sn	Sn	20 31 55.4	+0.5
EPLA				*i* Vmb_Lg		20 32 11.5	
EMIJ	Mijas	3.28	106	Pn	Pn	20 31 18.0	+1.1

EMIJ	Mijas	3.28	106	Pn	Pn	20 31 17.7	+0.9
EMIJ				Sn	Sn	20 31 57.6	+2.1
EMIJ				*i* Vmb_Lg		20 32 21.9	
EADA	Adamuz	3.32	78	Pn	Pn	20 31 18.4	+1.0
EADA				Sn	Sn	20 31 56.6	+0.1
EADA				Sg	Sg	20 32 11.7	-1.3
EADA	Adamuz	3.32	78	Pn	Pn	20 31 18.4	+1.0
EADA				Sn	Sn	20 31 57.2	+0.7
EADA				*i* Vmb_Lg		20 32 18.2	
EMAL	Malaga-Limoner	3.49	101	Sn	Sn	20 32 01.2	+0.6
EMAL				Pn	Pn	20 31 22.1	+2.4
PTO	Porto	3.61	1	*e*Pn	Pn	20 31 22.6	+1.3
PTO				*e*Sn	Sn	20 32 03.4	-0.1
PTO				A	A	20 32 29.3	
	comp=E,82nm,0.4s						
EGOR	Sierra Gorda,	3.68	95	Pn	Pn	20 31 24.2	+1.7
EGOR	Sierra Gorda,	3.68	95	Pn	Pn	20 31 23.6	+1.1
EGOR				Sn	Sn	20 32 08.0	+2.6
EGOR				*i* Vmb_Lg		20 32 32.3	
PVRL	Vila Real	3.82	11	*e*Pn	Pn	20 31 25.4	+1.1
PVRL				*e*Sn	Sn	20 32 08.9	+0.1
PVRL				A	A	20 32 36.0	
	comp=E,110nm,0.5s						
MVO	Moncorvo	3.86	19	*e*Pn	Pn	20 31 25.7	+0.9
MVO				*e*Sn	Sn	20 32 09.4	-0.3
MVO				A	A	20 32 34.4	
	comp=E,132nm,0.5s						
POLO	Lamas de Olo	3.91	10	*e*Pn	Pn	20 31 26.7	+1.2
POLO				*e*Sn	Sn	20 32 10.1	-0.9
POLO				*e*Sg	Sg	20 32 30.1	-1.6
POLO				A	A	20 32 35.4	
	comp=E,35nm,0.5s						
PAB	San Pablo	3.96	58	Pn	Pn	20 31 26.6	+0.4
PAB				Sn	Sn	20 32 12.3	0.0
PAB				*i* Vmb_Lg		20 32 39.5	
ELGU	Los Guajares,	4.10	98	Pn	Pn	20 31 30.9	+2.7
ELGU	Los Guajares,	4.10	98	Pn	Pn	20 31 30.6	+2.4
ELGU				Sn	Sn	20 32 15.8	+0.1
ELGU				*i* Vmb_Lg		20 32 46.7	
EJUZ	Juzbado, Salam	4.17	31	Pn	Pn	20 31 28.7	-0.4
EJUZ				Sn	Sn	20 32 15.9	-1.5
EQTA	Presa de Quent	4.20	93	Sn	Sn	20 32 19.1	+1.0
EQTA				Pn	Pn	20 31 31.8	+2.3
EQUE	Quentar	4.20	93	Pn	Pn	20 31 31.3	+1.8
EQUE				Sn	Sn	20 32 18.5	+0.3
EQUE				*i* Vmb_Lg		20 32 49.8	
PCAB	Cabril	4.21	7	⇑*e*Pn	Pn	20 31 30.7	+1.0
PCAB				*e*Sn	Sn	20 32 17.4	-1.0
PCAB				*e*Sg	Sg	20 32 40.3	-1.2
PCAB				A	A	20 32 46.5	
	comp=E,59nm,0.8s						
ESDC	Sonseca Array	4.28	58	Pn	Pn	20 31 31.3	+0.7
ESDC				Sn	Sn	20 32 20.6	+0.4
ESDC				*i* Vmb_Lg		20 32 47.0	
AVE	Averroes	4.34	166	Pn	Pn	20 31 32.7	+1.2
AVE				Sn	Sn	20 32 19.6	-2.1
ELOB	Lobios	4.36	6	Pn	Pn	20 31 31.3	-0.5
ELOB				Sn	Sn	20 32 22.2	-0.1
ELOB				*i* Vmb_Lg		20 32 48.3	
PGAV	Gavieira, Arco	4.45	4	*e*Pn	Pn	20 31 32.5	-0.4
PGAV				*e*Sn	Sn	20 32 21.0	-3.3
PGAV				A	A	20 32 55.9	
	comp=E,48nm,0.5s						
EQES	Quesada	4.47	85	Pn	Pn	20 31 34.7	+1.4
EQES				Sn	Sn	20 32 25.8	+0.9
EQES				*i* Vmb_Lg		20 33 01.3	
PBRG	Braganca	4.53	19	*e*Pn	Pn	20 31 35.1	+1.0
PBRG				*e*Sn	Sn	20 32 26.4	+0.1
PBRG				A	A	20 32 57.4	
	comp=E,34nm,0.6s						
EZAM	Zamans	4.62	360	Pn	Pn	20 31 35.5	+0.3
EZAM				Sn	Sn	20 32 27.1	-1.3
EZAM				*i* Vmb_Lg		20 32 53.1	
ECAL	Calabor	4.66	18	Pn	Pn	20 31 37.0	+1.1
ECAL				Sn	Sn	20 32 29.0	-0.6
ECAL	Calabor	4.66	18	Pn	Pn	20 31 36.3	+0.4
ECAL				Sn	Sn	20 32 29.5	-0.1
EBER	Berja	4.68	96	Pn	Pn	20 31 38.1	+1.9
EBER	Berja	4.68	96	Pn	Pn	20 31 36.6	+0.4
EBER				Sn	Sn	20 32 30.0	-0.1
EBER				*i* Vmb_Lg		20 33 08.8	
GUD	Guadarrama	4.71	47	Pn	Pn	20 31 36.6	0.0
GUD				Sn	Sn	20 32 30.3	-0.6
GUD				*i* Vmb_Lg		20 33 00.8	
IFR	Ifrane	4.95	143	Pn	Pn	20 31 39.1	-0.8
IFR				Sn	Sn	20 32 33.6	-3.1
UCM	Universidad Co	5.08	55	Pn	Pn	20 31 42.9	+1.3
UCM				Sn	Sn	20 32 38.9	-0.9
UCM				Sg	Sg	20 33 05.4	-3.9
ENIJ	Nijar	5.21	94	Pn	Pn	20 31 45.4	+2.1
ENIJ				Sn	Sn	20 32 41.5	-1.5
ENIJ	Nijar	5.21	94	Pn	Pn	20 31 46.2	+2.9
ENIJ				Sn	Sn	20 32 42.2	-0.7
ENIJ				*i* Vmb_Lg		20 33 28.7	
EAGO	Agolada(Pontev	5.29	5	Pn	Pn	20 31 44.4	-0.1
EAGO				Sn	Sn	20 32 42.8	-2.3
EAGO				*i* Vmb_Lg		20 33 30.7	
EZAR	Zarzadilla de	5.56	84	Pn	Pn	20 31 49.6	+1.3
EZAR				Sn	Sn	20 32 49.2	-2.6
EZAR				*i* Vmb_Lg		20 33 33.5	
CHAS	Isla Isabel II	5.57	113	Sn	Sn	20 32 48.3	-3.6
ETOB	Tobarra	5.75	77	Pn	Pn	20 31 50.9	+0.1
ETOB	Tobarra	5.75	77	Pn	Pn	20 31 51.1	+0.3
ETOB				Sn	Sn	20 32 56.1	-0.3
ETOB				*i* Vmb_Lg		20 33 44.7	
EPON	Pontenova	5.91	11	Pn	Pn	20 31 53.8	+0.7
EPON				Sn	Sn	20 32 56.6	-3.8
EMUR	La Murta	5.92	85	Pn	Pn	20 31 54.1	+1.0
EMUR				Sn	Sn	20 32 59.7	-0.9
EMUR	La Murta	5.92	85	Pn	Pn	20 31 54.3	+1.1
EMUR				Sn	Sn	20 33 01.0	+0.4
EMUR				*i* Vmb_Lg		20 33 49.3	
CART	Cartagena	6.11	87	Pn	Pn	20 31 57.4	+1.6
CART				Sn	Sn	20 33 02.4	-2.8
ETOR	Torete	6.12	55	Pn	Pn	20 31 56.6	+0.7
ETOR				Sn	Sn	20 33 03.1	-2.4
ETOR				*i* Vmb_Lg		20 33 52.1	
EVIV	Cofrentes, Val	6.20	71	Pn	Pn	20 31 58.7	+1.7
EVIV				Sn	Sn	20 33 07.0	-0.4
EVIV				*i* Vmb_Lg		20 33 57.4	
EARI	Arriondas	6.35	24	Pn	Pn	20 32 00.5	+1.5
EARI				Sn	Sn	20 33 07.5	-3.6
EARI				*i* Vmb_Lg		20 34 59.3	
ECHE	Chera	6.40	69	Pn	Pn	20 32 00.8	+1.1
ECHE	Chera	6.40	69	Pn	Pn	20 32 01.3	+1.6
ECHE				Sn	Sn	20 33 11.7	-0.6
AFON	Font Roja	6.53	77	Pn	Pn	20 32 02.6	+1.0
AFON				Sn	Sn	20 33 15.2	-0.5
AFON				*i* Vmb_Lg		20 34 23.9	
TIO	Tiouine	6.69	169	Pn	Pn	20 32 04.1	+0.3
TIO				Sn	Sn	20 33 14.0	-5.7
EBEN2	Beniarda presa	6.80	78	Sn	Sn	20 33 21.4	-1.0
EBEN2				*i* Vmb_Lg		20 34 14.5	
ELAN	Lanestosa	6.97	34	Pn	Pn	20 32 09.7	+2.1
ELAN				Sn	Sn	20 33 22.6	-3.8
ELAN				*i* Vmb_Lg		20 34 41.5	
EMOS	Mosqueruela	7.01	64	Pn	Pn	20 32 09.1	+0.9
EMOS				Sn	Sn	20 33 26.8	-0.7
ESAC	San Caprasio	7.61	54	Pn	Pn	20 32 15.7	-0.6
ESAC				Sn	Sn	20 33 38.7	-3.4
ESAC				*i* Vmb_Lg		20 34 37.6	
EORO	Oroz-Betelu	7.79	44	Pn	Pn	20 32 20.1	+1.3
EORO				Sn	Sn	20 33 45.0	-1.6
EORO				*i* Vmb_Lg		20 35 12.4	
ERTA	Horta de San J	7.80	61	Pn	Pn	20 32 21.1	+2.2
ERTA				Sn	Sn	20 33 43.9	-2.9
ERTA				*i* Vmb_Lg		20 34 41.7	
EALK	Alkurruntz	7.90	42	Pn	Pn	20 32 21.2	+0.8
EALK				Sn	Sn	20 33 45.0	-4.3
SJPF	Ste Jean	7.98	43	*e*Pn	Pn	20 32 22.5	+1.1
SJPF				*e*Sn	Sn	20 33 47.1	-4.1
	comp=E,4.9nm,0.4s						
ETSF	Etsaut	8.22	47	*e*Pn	Pn	20 32 25.5	+0.8
ETSF				*e*Sn	Sn	20 33 53.0	-4.1
	comp=E,13nm,0.9s						
EPOB	Poblet	8.47	60	Pn	Pn	20 32 28.5	+0.3
EPOB				Sn	Sn	20 33 58.6	-4.8
ECHI	Chisagues Biel	8.53	50	Pn	Pn	20 32 29.0	-0.1
ECHI				Sn	Sn	20 34 02.3	-2.6
ECHI				*i* Vmb_Lg		20 36 10.7	
EPF	Esparros	8.82	49	*e*Pn	Pn	20 32 33.9	+0.9
EPF				*e*Sn	Sn	20 34 07.7	-4.3
	comp=E,18nm,0.9s						
MTLF	Montolieu	10.14	52	*e*Sn	Sn	20 34 38.9	-5.4
	comp=E,109nm,1.8s						
CAF	Calviac	10.96	44	*e*Pn	Pn	20 33 01.9	-0.3
MFF	Saint Martin d	11.07	32	*e*Pn	Pn	20 33 03.0	-0.6
QUIF	Quistinic	11.15	20	*e*Pn	Pn	20 33 04.7	0.0
ROSF	Rostrenen	11.51	18	*e*Pn	Pn	20 33 08.9	-0.8
SGMF	Saint Gilles	11.62	21	*e*Pn	Pn	20 33 10.2	-1.0
TCF	Toulx Ste Croi	11.93	39	*e*Pn	Pn	20 33 14.8	-0.7
GRR	Gorron	12.27	25	*e*Pn	Pn	20 33 19.5	-0.6
LDF	La Druitiere	12.70	27	*e*Pn	Pn	20 33 25.6	-0.4
FLN	La Foliniere	12.72	25	*e*Pn	Pn	20 33 25.4	-0.8
	baz=210						
AVF	Avril sur Loir	12.85	40	*e*Pn	Pn	20 33 27.2	-0.9
SSF	Saint Saulge	13.11	40	*e*Pn	Pn	20 33 30.9	-0.7

*IDC **05** 20:47:56.2±0.5, 34.°81N×139.°28E, h0km, mb4.1/25, mbtmp4.0/29, ML3.8/3, MS3.4/20, Error ellipse: s-maj=15.1km s-min=11.4km az=76.0*
*NIED **05** 20:47:59.0, 34.°85N×139.°25E, h11km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; Mrr0.05; Mθθ0.63; Mφφ-0.68; Mrθ-0.37; Mθφ-2.61; Mφr-0.30; Fault plane solution: $M_0$2.73000×10^{15} NP1:φs83.00000°, δ85.00000°, λ-172.00000°. NP2:φs353.00000°, δ82.00000°, λ-5.00000°.*
*JMA **05** 20:47:59.0±0.1, 34.°9N±0.°2×139.°3E±0.°3, h11km±1km, MD4.5/11, MW4.3/11, E OFF IZU PENINSULA*
JMA Felt III J1 at E OFF IZU PENINSULA .
*NEIC **05** 20:47:59.3±1.8, 34.°82N±0.°04×139.°23E±0.°05, h15km±1km, mb4.7/86, Error ellipse: s-maj=5.6km s-min=4.9km az=67.0*
ISC 05 20:47:58.2±0.7**, 34.°82N**±0.°02**×139.°27E**±0.°03**, h11**km±4km**, n229, σ0.90**/196**, mb4.6**/74**, MS3.5**/18**, 14D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.17	127	⇓*i*P	Pg	20 48 03.4	+1.4
JIM2	Oshima 3	0.17	127	A	A	20 48 03.4	
	comp=E,195nm,1.5s,comp=N,227nm,1.0s						
KTJ3	Kamata3	0.20	305	⇓*i*P	Pg	20 48 02.6	0.0
KTJ3				⇓S	Sg	20 48 05.3	-0.3
JHTM	Izuhatsuma	0.26	303	⇓*i*P	Pb	20 48 03.8	-1.1
JHTM	Izuhatsuma	0.26	303	A	A	20 48 03.8	
	comp=E,317nm,0.4s,comp=N,367nm,0.3s						
AJI	Ajiro2	0.27	327	⇓*i*P	Pb	20 48 03.9	-1.2
JTHY	Toshimahigashi	0.29	177	*i* P	Pb	20 48 06.0	+0.5
JTHY	Toshimahigashi	0.29	177	A	A	20 48 06.0	
	comp=E,138nm,1.0s,comp=N,158nm,1.1s						
JIZS	Izushimoda	0.34	253	*i* P	Pb	20 48 05.6	-0.6
JIZS				S	Sb	20 48 10.4	-1.2
JIZS	Izushimoda	0.34	253	A	A	20 48 05.6	
	comp=E,48nm,2.2s,comp=N,98nm,1.1s						
JNIO	Niijimaoohara	0.46	180	A	A	20 48 08.7	
	comp=E,113nm,0.9s,comp=N,100nm,2.2s						
JOD2	Odawara 2	0.47	341	⇓*i*P	Pb	20 48 07.4	-1.1
JOD2				⇓S	Sg	20 48 13.7	0.0
JOD2	Odawara 2	0.47	341	A	A	20 48 07.4	
	comp=E,82nm,0.7s,comp=N,47nm,1.5s						
JSKK	Shikinejimakit	0.48	186	A	A	20 48 09.1	
	comp=E,148nm,0.8s,comp=N,65nm,1.0s						
JYO	Yokosk	0.52	39	A	A	20 48 08.8	
	comp=E,148nm,0.9s,comp=N,77nm,0.9s						
TATJ	Tateyama 2	0.55	67	A	A	20 48 09.8	
	comp=E,82nm,1.4s,comp=N,106nm,0.9s						
JFNN	Fujinakano	0.61	308	⇓*i*P	Pb	20 48 10.1	-0.8
JFNN				⇓S	Sb	20 48 18.2	-1.2
JFNN	Fujinakano	0.61	308	A	A	20 48 10.1	
	comp=E,22nm,1.3s,comp=N,27nm,0.5s						
JKO	Kozu shima	0.64	190	A	A	20 48 11.8	
	comp=E,40nm,3.1s,comp=N,34nm,2.6s						
JSGW	Sagamiharawaka	0.78	356	A	A	20 48 13.3	
	comp=E,33nm,0.7s,comp=N,13nm,0.6s						
JMYK	Miyake Tsubota	0.79	163	P	Pn	20 48 14.2	-1.0
JMYK	Miyake Tsubota	0.79	163	A	A	20 48 14.2	
	comp=E,20nm,4.1s,comp=N,20nm,1.6s						
JKUC	kamogawauchiur	0.83	66	A	A	20 48 14.8	
	comp=E,27nm,1.5s,comp=N,37nm,3.0s						
JYN	Shimob	0.90	319	⇓*i*P	Pb	20 48 14.8	-1.1
JYN				⇓S	Sg	20 48 26.6	-0.9
JYN	Shimob	0.90	319	A	A	20 48 14.8	
	comp=E,13nm,1.8s						
JSG	Sagara	0.91	261		Pn	20 48 16.4	-0.5
JSG					Sn	20 48 30.1	+0.2
JSG	Sagara	0.91	261	P	Pn	20 48 16.7	-0.1
SHZ3	Shizuoka 3	0.91	286	*i* P	Pb	20 48 15.8	-0.2
SHZ3				S	Sb	20 48 28.8	+0.8
SHZ3	Shizuoka 3	0.91	286	A	A	20 48 15.8	
	comp=E,27nm,0.9s,comp=N,47nm,1.0s						
JMKN	Mikurajimanish	0.96	164	⇓P	Pn	20 48 17.0	-0.6
JMKN	Mikurajimanish	0.96	164	A	A	20 48 17.0	
	comp=E,44nm,0.9s,comp=N,30nm,0.7s						
BSO3	Boso 3	1.02	91	*i* P	Pn	20 48 17.6	-0.6
JHU	Hanno	1.03	0	A	A	20 48 17.8	
	comp=E,24nm,0.8s,comp=N,14nm,0.4s						
JKKS	Kakegawashinom	1.06	267	A	A	20 48 18.4	
	comp=E,17nm,6.2s,comp=N,31nm,1.4s						
JRY	Ryogami san	1.23	346	A	A	20 48 21.1	
	comp=E,6.0nm,3.1s,comp=N,5.0nm,5.4s						
JSMT	Sammumatsuo	1.27	49	A	A	20 48 22.2	
	comp=E,45nm,5.5s,comp=N,35nm,6.6s						
HMMJ	Hamamatsu 2	1.27	272	A	A	20 48 22.1	
	comp=E,3.0nm,1.0s,comp=N,16nm,2.8s						
JNY	Yasuok	1.27	295	A	A	20 48 21.9	
	comp=E,7.0nm,0.7s,comp=N,10.0nm,1.2s						
TTO5	TONANKAI O.B.S	1.40	247	A	A	20 48 24.2	
	comp=E,28nm,7.4s,comp=N,21nm,1.6s						
JSSY	Shinshiroyabe	1.45	274	A	A	20 48 24.9	
	comp=E,5.0nm,0.6s,comp=N,18nm,1.6s						
JIHU	Itakohorinouch	1.54	41	A	A	20 48 26.2	
	comp=E,26nm,6.1s,comp=N,21nm,2.8s						
JYT	Yasato	1.59	28	A	A	20 48 27.1	
	comp=E,11nm,0.4s,comp=N,8.0nm,0.5s						
JAG	Ashikaga	1.61	5	A	A	20 48 27.2	
	comp=E,4.0nm,0.7s,comp=N,7.0nm,0.6s						
JAO	Obara	1.71	286	A	A	20 48 28.8	
	comp=E,4.0nm,3.3s,comp=N,9.0nm,1.6s						
JHJ	Hachijo jima 2	1.75	166	Pn	Pg	20 48 29.8	-2.0
	comp=N,965nm,0.3s,baz=18,slow=2.7,SNR=146						
JHJ				Sn	Sg	20 48 53.6	-0.8
	comp=N,773nm,0.3s,baz=43,slow=22,SNR=25						
JGF	Kuroka	1.75	297	A	A	20 48 29.2	
	comp=E,4.0nm,1.3s,comp=N,3.0nm,1.2s						
JHJ2	Mitsune	1.76	165	Pn	Pb	20 48 29.6	-0.8
JHJ2				Sn	Sg	20 48 52.6	-2.2
JHJ2	Mitsune	1.76	165	P	Pb	20 48 29.5	-1.0
JHJ2	Mitsune	1.76	165	A	A	20 48 30.4	
	comp=E,17nm,1.6s,comp=N,14nm,1.0s						
JAA	Atsumi	1.76	265	A	A	20 48 29.7	
	comp=E,2.0nm,8.8s,comp=N,4.0nm,3.6s						
JHCJ	Hachijojimakas	1.79	166	A	A	20 48 31.0	
	comp=E,15nm,1.2s,comp=N,6.0nm,0.8s						
JGK	Kuni	1.81	344	A	A	20 48 30.2	
	comp=E,15nm,0.8s,comp=N,9.0nm,1.4s						
JNG	Nsakai	1.85	329	A	A	20 48 30.7	
	comp=E,4.0nm,0.9s,comp=N,4.0nm,0.7s						
MJAR	Matsushiro Arr	1.93	334	Pn	Pn	20 48 31.2	+0.3
	comp=N,40nm,0.3s,baz=165,slow=15,SNR=1151						
MJAR				Sn	Sn	20 48 56.0	+0.9
	comp=N,45nm,0.3s,baz=117,slow=15,SNR=11						
MAJO	Matsushiro	1.93	334		Pb	20 48 31.9	-1.4
MAJO				Sn	Sn	20 48 56.1	+0.9
MAJO	Matsushiro	1.93	334	P	Pb	20 48 31.8	-1.6
MJB9	Matsu-Tunnel	1.93	334		Pb	20 48 32.8	-0.6
MJB9				Sn	Sb	20 48 57.1	-0.4
JICN	Ichinomiyachia	2.05	284	A	A	20 48 33.7	
	comp=E,7.0nm,1.2s,comp=N,17nm,2.3s						
JSB	Shiboa	2.21	14	A	A	20 48 36.0	
	comp=E,8.0nm,3.0s,comp=N,8.0nm,4.8s						
JTT	Ttatey	2.38	319	A	A	20 48 38.4	
	comp=E,5.0nm,2.5s,comp=N,5.0nm,1.8s						
JMM	Marumori	3.28	22	Pn	Pn	20 48 49.1	-0.4
JMM	Marumori	3.28	22	P	Pn	20 48 49.9	+0.4
JMN	Monobe	4.59	258	Pn	Pn	20 49 07.9	+0.3
JMN	Monobe	4.59	258	P	Pn	20 49 08.7	+1.1
JTM	Tenmabayashi	6.13	13		Pn	20 49 29.5	+0.9
JTM	Tenmabayashi	6.13	13	P	Pn	20 49 30.0	+1.4
JNU	Nakatsue	7.17	259		Pn	20 49 43.7	+0.7
JNU	Nakatsue	7.17	259	P	Pn	20 49 42.6	-0.5
JNU	Nakatsue	7.17	259	Pn	Pn	20 49 43.3	+0.3
	comp=N,1.1nm,0.3s,baz=53,slow=4.2,SNR=12						
JNU				LR	LR	20 52 26.6	
	comp=N,81nm,21.6s,baz=78,slow=38						
	comp=N,11nm,0.8s						
ERM	Erimo	7.80	22	Pn	Pn	20 49 50.3	-1.3
ERM	Erimo	7.80	22	P	Pn	20 49 51.7	+0.1
JEM	Erimo	7.81	22	P	Pn	20 49 51.7	+0.1
KSRS	Korea Array	9.55	289	Pn	Pn	20 50 15.0	-0.6
	comp=N,1.1nm,0.8s,baz=101,slow=13,SNR=2.0						
KSRS				LR	LR	20 53 33.5	
	comp=N,144nm,21.3s,baz=115,slow=35						
ASAJ	Asahikawa	9.63	14	Pn	Pn	20 50 16.5	-0.2
	comp=N,2.0nm,0.3s,baz=300,slow=17,SNR=2.4						
ASAJ				LR	LR	20 54 08.9	
	comp=N,364nm,18.7s,baz=206,slow=39						
	comp=N,4.7nm,0.3s						
JKA	Kamikawa-asahi	9.63	14	Pn	Pn	20 50 16.3	-0.4
USRK	Ussuriysk Ar.	10.92	331	LR	LR	20 54 27.0	
	comp=N,112nm,18.7s,baz=166,slow=36						
JOW	Kunigami	12.35	233	Pn	Pn	20 50 52.4	-1.5
KLR	Kul'dur	15.44	341	Pn	Pn	20 51 34.6	-1.1
	comp=N,0.3nm,0.3s,baz=164,slow=11,SNR=7.3						
KLR				LR	LR	20 57 30.2	
	comp=N,158nm,18.2s,baz=156,slow=37						
	comp=N,1.7nm,0.6s						
NJ2	Nanjing	17.26	267	*e*P	Pn	20 51 59.4	+0.2
NJ2				sP	sP	20 52 05.7	+0.5
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,150nm,4.1s						
HNS	HongShan	20.00	285	⇓P	P	20 52 31.4	+0.7
HNS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WHN	Wuhan	21.39	265	P	P	20 52 48.0	+2.2
GUMO	Guam	21.73	165	LR	LR	20 59 57.9	
	comp=Z,108nm,20.4s,baz=32,slow=33						
LYN	LuoYang	22.02	277	⇓*i*P	P	20 53 00.0	+7.4
LYN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PETK	Petropavlovsk-	22.47	30	P	P	20 52 57.1	-0.2
	comp=Z,4.8nm,0.8s,baz=211,slow=8.1,SNR=4.2						
PETK				LR	LR	21 02 19.9	
	comp=Z,123nm,18.2s,baz=191,slow=38						
	comp=Z,4.8nm,0.8s						
HHC	Hu-ho-hao-te	22.64	294	*e*P	P	20 53 00.8	+1.5
HHC				pmax	pmax		
	comp=Z,33nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,4.4s						
HHC				LR	LR		
	comp=N,370nm,13.0s						
HHC				LR	LR		
	comp=E,210nm,12.9s						
HHC				LR	LR		
	comp=Z,220nm,12.3s						
MA2	Magadan	25.89	13	P	P	20 53 29.5	-0.4
MA2	Magadan	25.89	13	LR	LR	21 05 09.9	
	comp=Z,68nm,18.4s,baz=194,slow=40						
SONM	Songino Array	27.68	308	P	P	20 53 47.1	+0.9
	comp=Z,0.6nm,0.8s,baz=111,slow=7.9,SNR=3.7						
SONM				PcP	PcP	20 57 02.8	-0.2
	comp=Z,0.3nm,0.6s,baz=127,slow=2.9,SNR=2.3						
SONM				LR	LR	21 05 08.9	
	comp=Z,197nm,18.0s,baz=72,slow=37						
	comp=Z,0.6nm,0.8s						
YAK	Yakutsk	27.91	350	P	P	20 53 46.9	-1.0
QIZ	Qiongzhong	30.44	247	P	P	20 54 11.8	+0.9
QIZ				S	S	20 59 13.2	+1.4
QIZ				LR	LR		
	comp=N,160nm,9.6s						
QIZ				LR	LR		
	comp=E,190nm,7.1s						
QIZ				LR	LR		
	comp=Z,200nm,8.0s						
SHEM	Shemya Is, Ala	30.47	43	LR	LR	21 04 37.2	
	comp=Z,64nm,19.2s,baz=291,slow=33						
PZH	PanZhiHua	33.18	266	P	P	20 54 36.8	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						
TNCH	TengChong	36.43	266	P	P	20 55 03.5	+0.3
TNCH				sP	sP	20 55 09.8	+1.9
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,85nm,5.4s						
TIXI	Tiksi	37.30	355	P	P	20 55 08.9	-0.9
TIXI	Tiksi	37.30	355	LR	LR	21 11 26.4	
	comp=Z,4.3nm,18.0s,baz=202,slow=38						
FAKI	Fak Fak	38.11	191	P	P	20 55 17.9	+0.6
FAKI				IAmb	IAmb	20 55 35.7	
	comp=Z,16nm,1.2s						
CMAR	Chiang Mai Arr	39.27	256	P	P	20 55 27.4	+0.4
	comp=Z,0.5nm,0.3s,baz=46,slow=5.2,SNR=1.6						
CMAR				LR	LR	21 13 11.0	
	comp=Z,40nm,18.9s,baz=80,slow=39						
	comp=Z,0.5nm,0.3s						
ZAA0	Zalesovo Array	42.17	314	P	P	20 55 48.7	-1.8
ZALV	Zalesovo Beam	42.17	314	P	P	20 55 48.7	-1.8
ZALV	Zalesovo Beam	42.17	314	P	P	20 55 49.9	-0.6
	comp=Z,0.6nm,0.3s,baz=99,slow=6.7,SNR=3.9						
ZALV				PcP	PcP	20 57 42.7	-2.0
	comp=Z,0.9nm,0.5s,baz=121,slow=3.8,SNR=3.8						
	comp=Z,0.6nm,0.3s						
MK31	Makanchi Array	43.86	304	P	P	20 56 03.8	-0.6
MKAR	Makanchi Array	43.86	304	P	P	20 56 03.4	-1.0
MKAR	Makanchi Array	43.86	304	P	P	20 56 04.4	0.0
	comp=Z,0.6nm,0.6s,baz=89,slow=10,SNR=10.0						
MKAR				PcP	PcP	20 57 50.7	+0.1
	comp=Z,0.2nm,0.7s,baz=70,slow=5.5,SNR=1.3						
MKAR				ScP	ScP	21 01 42.4	+0.3
	comp=Z,0.3nm,0.7s,baz=84,slow=5.1,SNR=2.2						
MKAR				LR	LR	21 14 39.9	
	comp=Z,74nm,19.4s,baz=64,slow=37						
	comp=Z,0.6nm,0.6s						
MAKZ	Makanchi	44.07	304	P	P	20 56 05.6	-0.5
NRIK	Noril'sk	44.58	337	P	P	20 56 09.9	+0.1
NRIK	Noril'sk	44.58	337	P	P	20 56 08.5	-1.3
	comp=Z,1.0nm,0.3s,baz=110,slow=12,SNR=4.7						
	comp=Z,1.0nm,0.3s						
F15K	North Star Dit	44.98	29	P	P	20 56 14.4	+1.3
M14K	Bethel	45.20	36	P	P	20 56 14.7	-0.2
C16K	Lisburne Hills	45.45	25	P	P	20 56 16.9	+0.2
C16K				IAmb	IAmb	20 56 18.2	
	comp=Z,7.4nm,0.8s						
KURK	Kurchatov	45.96	310	P	P	20 56 20.5	-0.5
KURK				IAmb	IAmb	20 56 27.0	
	comp=Z,7.4nm,0.8s						
KURBB	Kurchatov Arra	46.03	309	P	P	20 56 21.7	+0.2
	comp=Z,3.7nm,1.1s,baz=83,slow=7.8,SNR=22						
	comp=Z,3.7nm,1.1s						
RDOG	Red Dog Mine	46.26	26	P	P	20 56 24.0	+0.9
RDOG				IAmb	IAmb	20 56 25.4	
	comp=Z,4.0nm,0.7s						
C18K	Utukok River	47.03	26	P	P	20 56 29.6	+0.3
C18K				IAmb	IAmb	20 56 30.9	
	comp=Z,6.2nm,0.8s						
G18K	Tagagawik	47.43	30	P	P	20 56 33.0	+0.6
G18K				IAmb	IAmb	20 56 34.2	
	comp=Z,3.6nm,0.7s						
H18K	Honhosa River	47.44	31	P	P	20 56 32.4	0.0
H18K				IAmb	IAmb	20 56 33.8	
	comp=Z,5.8nm,0.8s						
M17K	Holitna River	47.45	36	P	P	20 56 33.4	+0.8
C19K	Lookout Ridge	47.70	25	P	P	20 56 35.4	+1.0
C19K				IAmb	IAmb	20 56 37.4	
	comp=Z,7.6nm,1.0s						
D19K	Kuna River	48.10	26	P	P	20 56 37.9	+0.4
D19K				IAmb	IAmb	20 56 39.3	
	comp=Z,5.6nm,0.8s						
D19K				PcP	PcP	20 58 05.6	+0.6
HNR	Honiara	48.17	152	LR	LR	21 15 27.8	
	comp=Z,838nm,21.8s,baz=312,slow=34						
E19K	Redstone River	48.24	28	P	P	20 56 39.0	+0.4
J19K	Poorman	48.48	32	P	P	20 56 41.4	+0.8
J19K				IAmb	IAmb	20 57 25.0	
	comp=Z,16nm,1.4s						
O18K	Koktuh Hills	48.49	38	P	P	20 56 41.4	+0.7
L19K	White Mountain	48.72	35	P	P	20 56 43.4	+1.0
L19K				IAmb	IAmb	20 57 09.2	
	comp=Z,13nm,1.3s						
B20K	Meade River	48.73	24	P	P	20 56 43.1	+0.9
B20K				IAmb	IAmb	20 56 45.3	
	comp=Z,7.9nm,0.9s						
B20K				PcP	PcP	20 58 08.1	+1.0

F20K	**Avaraart Lake**	**48.76**	**28**	P	**P**	**20 56 43.2**	**+0.7**
N19K	**Bonanza Creek**	**48.86**	**37**	P	**P**	**20 56 44.7**	**+1.2**
N19K				IAmb	IAmb	20 56 57.7	
	comp=Z,14nm,1.2s						
JOHN	**Johnston Islan**	**48.96**	**98**	P	**P**	**20 56 44.4**	**-0.3**
K20K	**Telida**	**49.13**	**33**	P	**P**	**20 56 46.0**	**+0.4**
K20K				IAmb	IAmb	20 56 54.8	
	comp=Z,9.0nm,0.9s						
J20K	**Nowinta River**	**49.14**	**32**	P	**P**	**20 56 46.8**	**+1.2**
J20K				IAmb	IAmb	20 56 47.8	
	comp=Z,5.6nm,0.9s						
RPSI	**Rantau Prapat**	**49.24**	**239**	P	**P**	**20 56 45.6**	**-1.3**
Q19K	**Cape Douglas,**	**49.30**	**39**	P	**P**	**20 56 46.9**	**0.0**
IMAR	**Indian Mountai**	**49.44**	**30**	P	**P**	**20 56 47.9**	**+0.1**
M20K	**Styx River**	**49.53**	**35**	P	**P**	**20 56 48.2**	**-0.4**
M20K				IAmb	IAmb	20 57 29.8	
	comp=Z,8.9nm,1.2s						
B21K	**Ikpikpuk River**	**49.53**	**25**	P	**P**	**20 56 49.3**	**+0.9**
B21K				IAmb	IAmb	20 56 55.0	
	comp=Z,15nm,1.4s						
G21K	**Allakaket**	**49.58**	**29**	P	**P**	**20 56 49.1**	**+0.3**
G21K				IAmb	IAmb	20 57 03.5	
	comp=Z,11nm,1.3s						
RSO	**Redoubt South**	**49.72**	**37**	P	**P**	**20 56 50.5**	**+0.3**
H21K	**Melozitna Rive**	**49.80**	**30**	P	**P**	**20 56 51.8**	**+1.2**
KDAK	**Kodiak Island**	**49.91**	**41**	P	**P**	**20 56 51.3**	**-0.2**
KDAK	**Kodiak Island**	**49.91**	**41**	P	**P**	**20 56 51.3**	**-0.2**
	comp=Z,4.6nm,0.4s,baz=236,slow=19,SNR=2.2						
	comp=Z,4.6nm,0.4s						
SYI	**Shuyak Island**	**49.96**	**39**	P	**P**	**20 56 51.5**	**-0.3**
PPLA	**Purkeypile**	**49.97**	**34**	P	**P**	**20 56 53.5**	**+1.4**
PPLA				IAmb	IAmb	20 57 19.1	
	comp=Z,14nm,1.2s						
CAST	**Castle Rocks**	**50.03**	**33**	P	**P**	**20 56 53.4**	**+1.0**
AAK	**Ala-Archa**	**50.03**	**299**	LR	LR	21 20 41.5	
	comp=Z,64nm,19.0s,baz=44,slow=39						
B22K	**Teshekpuk Lake**	**50.04**	**24**	P	**P**	**20 56 53.0**	**+0.8**
B22K				IAmb	IAmb	20 56 54.0	
	comp=Z,7.1nm,0.9s						
E22K	**Anaktuvuk Pass**	**50.37**	**27**	P	**P**	**20 56 56.1**	**+1.2**
E22K				IAmb	IAmb	20 56 56.9	
	comp=Z,5.0nm,0.8s						
UGM	**Wanagama**	**50.44**	**218**	P	**P**	**20 56 57.8**	**+1.8**
CNPM	**China Poot**	**50.51**	**38**	P	**P**	**20 56 55.9**	**-0.1**
BRLK	**Bradley Lake**	**50.68**	**38**	P	**P**	**20 56 57.0**	**-0.3**
BVAR	**Borovoye Array**	**50.80**	**313**	P	**P**	**20 56 58.6**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=109,slow=8.0,SNR=8.1						
BVAR				PcP	**PcP**	**20 58 15.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=92,slow=4.3,SNR=1.7						
BVAR				LR	LR	21 19 09.8	
	comp=Z,52nm,18.8s,baz=18,slow=37						
	comp=Z,0.6nm,0.3s						
C23K	**Itkillik River**	**50.94**	**25**	P	**P**	**20 56 60.0**	**+0.9**
C23K				IAmb	IAmb	20 57 16.7	
	comp=Z,12nm,1.4s						
SEW	**Seward**	**51.37**	**37**	P	**P**	**20 57 02.6**	**+0.1**
SEW				IAmb	IAmb	20 57 05.7	
	comp=Z,13nm,1.1s						
MDM	**Murphy Dome**	**51.71**	**31**	P	**P**	**20 57 05.7**	**+0.7**
MDM				IAmb	IAmb	20 57 07.3	
	comp=Z,6.9nm,0.8s						
SML	**Sawmill**	**51.80**	**35**	P	**P**	**20 57 06.4**	**+0.6**
SML				IAmb	IAmb	20 57 15.6	
	comp=Z,9.6nm,1.0s						
POKR	**Poker Plat Res**	**52.04**	**31**	P	**P**	**20 57 08.4**	**+1.0**
POKR				IAmb	IAmb	20 57 18.1	
	comp=Z,11nm,1.1s						
IL31		**52.29**	**31**	P	**P**	**20 57 08.9**	**-0.3**
IL31				IAmb	IAmb	20 57 24.6	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**52.29**	**31**	P	**P**	**20 57 09.4**	**+0.1**
ILAR				PcP	**PcP**	**20 58 19.8**	**-0.7**
ILAR	**Eielson Array**	**52.29**	**31**	P	**P**	**20 57 08.9**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=274,slow=6.3,SNR=17						
	comp=Z,1.5nm,0.8s						
D25K	**Kavik River**	**52.40**	**26**	P	**P**	**20 57 10.6**	**+0.5**
BMAR	**Burnt Mountain**	**53.10**	**28**	P	**P**	**20 57 16.9**	**+1.6**
E27K	**Coleen River**	**54.19**	**27**	P	**P**	**20 57 24.2**	**+1.0**
E27K				IAmb	IAmb	20 58 03.6	
	comp=Z,6.2nm,1.4s						
D27M	**Malcolm River**	**54.33**	**26**	P	**P**	**20 57 25.3**	**+1.0**
MCARA	**McCarthy VSAT**	**54.37**	**35**	P	**P**	**20 57 26.0**	**+1.3**
MCARA				IAmb	IAmb	20 57 47.3	
	comp=Z,11nm,1.0s						
CRQM	**Cirque**	**54.41**	**36**	P	**P**	**20 57 25.9**	**+0.7**
CRQM				IAmb	IAmb	20 57 43.0	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**54.48**	**186**	P	**P**	**20 57 24.8**	**-1.1**
WB0				IAmb	IAmb	20 57 33.9	
	comp=Z,11nm,1.2s						
SNH	**Sunshine Point**	**54.65**	**37**	P	**P**	**20 57 28.7**	**+2.0**
WB2	**Warramunga Arr**	**54.66**	**186**	P	**P**	**20 57 25.8**	**-1.3**
WRA	**Warramunga Arr**	**54.66**	**186**	P	**P**	**20 57 25.8**	**-1.3**
WRA	**Warramunga Arr**	**54.66**	**186**	P	**P**	**20 57 25.7**	**-1.4**
	comp=Z,2.9nm,0.8s,baz=0.5,slow=7.6,SNR=15						
	comp=Z,2.9nm,0.8s						
BCAR	**Beaver Creek A**	**54.70**	**33**	P	**P**	**20 57 28.2**	**+1.1**
M27K	**Edge Creek, AK**	**54.76**	**34**	P	**P**	**20 57 28.3**	**+0.7**
M27K				IAmb	IAmb	20 57 53.1	
	comp=Z,10nm,1.3s						
E28M	**Babbage River**	**54.90**	**26**	P	**P**	**20 57 29.7**	**+1.3**
CTA	**Charters Tower**	**55.00**	**172**	LR	LR	21 21 52.1	
	comp=Z,24nm,19.2s,baz=312,slow=37						
I28M	**Miner Creek**	**55.15**	**30**	P	**P**	**20 57 31.3**	**+0.9**
I28M				IAmb	IAmb	20 57 33.9	
	comp=Z,3.0nm,0.7s						
G29M	**Pine Creek**	**55.70**	**28**	P	**P**	**20 57 35.3**	**+1.1**
G29M				IAmb	IAmb	20 57 44.7	
	comp=Z,5.5nm,1.0s						
M29M	**Somme Creek**	**56.31**	**34**	P	**P**	**20 57 40.3**	**+1.6**
M29M				IAmb	IAmb	20 57 43.7	
	comp=Z,6.7nm,1.1s						
I30M	**Mount Dempster**	**56.66**	**30**	P	**P**	**20 57 42.2**	**+1.0**
I30M				IAmb	IAmb	20 57 52.3	
	comp=Z,7.4nm,1.1s						
O29M	**Mount Kennedy**	**56.71**	**36**	P	**P**	**20 57 43.2**	**+1.5**
O29M				IAmb	IAmb	20 57 54.0	
	comp=Z,9.4nm,0.8s						
ARU	**Arti**	**56.88**	**319**	LR	LR	21 24 31.5	
	comp=Z,47nm,18.5s,baz=307,slow=39						
G31M	**Satah River**	**57.15**	**28**	P	**P**	**20 57 44.8**	**+0.4**
G31M				IAmb	IAmb	20 57 53.9	
	comp=Z,4.4nm,1.0s						
ABKAR	**Akbulak array**	**58.05**	**311**	P	**P**	**20 57 51.4**	**+0.3**
ABKAR	**Akbulak array**	**58.05**	**311**	P	**P**	**20 57 51.5**	**+0.4**
AS31	**Alice Springs**	**58.38**	**186**	P	**P**	**20 57 53.6**	**-0.1**
ASAR	**Alice Springs**	**58.39**	**186**	P	**P**	**20 57 53.0**	**-0.7**
ASAR	**Alice Springs**	**58.39**	**186**	P	**P**	**20 57 52.8**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=11,slow=9.7,SNR=7.0						
	comp=Z,1.6nm,0.8s						
A36M	**Sachs Harbour**	**58.95**	**21**	P	**P**	**20 57 57.7**	**+0.7**
A36M				IAmb	IAmb	20 58 00.7	
	comp=Z,6.9nm,0.8s						
P33M	**Teslin, Yukon**	**59.51**	**35**	P	**P**	**20 58 02.9**	**+1.7**
P33M				IAmb	IAmb	20 58 03.0	
	comp=Z,6.9nm,1.1s						
PALK	**Pallekele**	**60.19**	**257**	LR	LR	21 25 25.8	
	comp=Z,26nm,20.5s,baz=141,slow=37						
KIRV	**Kirov**	**60.97**	**323**	LR	LR	21 25 04.5	
	comp=Z,27nm,18.6s,baz=345,slow=36						
DZM	**Mont Dzumac**	**62.19**	**151**	LR	LR	21 24 15.8	
	comp=Z,37nm,19.5s,baz=102,slow=35						
SPITS	**Spitsbergen Ar**	**62.35**	**349**	P	**P**	**20 58 20.2**	**0.0**
	comp=Z,6.9nm,0.9s,baz=90,slow=3.4,SNR=5.0						
	comp=Z,6.9nm,0.9s						
EUNU	**Eureka**	**62.63**	**8**	P	**P**	**20 58 22.4**	**+0.4**
GEYT	**Alibeck**	**63.39**	**299**	P	**P**	**20 58 27.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=235,slow=22,SNR=1.4						
	comp=Z,0.7nm,0.6s						
RES	**Resolute Bay**	**65.17**	**14**	P	**P**	**20 58 38.4**	**-0.3**
ARCES	**ARCESS Array B**	**65.45**	**339**	P	**P**	**20 58 40.3**	**-0.4**
ARCES	**ARCESS Array B**	**65.45**	**339**	P	**P**	**20 58 40.4**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=49,slow=7.2,SNR=9.1						
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**66.38**	**178**	P	**P**	**20 58 46.1**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=337,slow=12,SNR=1.7						
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**66.59**	**29**		**P**	**20 58 47.9**	**-0.2**
YKA	**Yellowknife Ar**	**66.59**	**29**	P	**P**	**20 58 47.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=299,slow=6.8,SNR=9.8						
	comp=Z,0.8nm,0.7s						
FIA1	**FINESS Array S**	**69.95**	**332**	P	**P**	**20 59 08.8**	**-0.3**
FINES	**FINESS Array B**	**69.95**	**332**	P	**P**	**20 59 08.7**	**-0.5**
FINES	**FINESS Array B**	**69.95**	**332**	P	**P**	**20 59 08.8**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=57,slow=6.5,SNR=15						
	comp=Z,1.8nm,0.5s						
KBZ	**Khabaz**	**71.02**	**310**	P	**P**	**20 59 16.6**	**+0.7**
	comp=Z,1.8nm,1.2s,baz=133,slow=16,SNR=1.5						
	comp=Z,1.8nm,1.2s						
GNI	**Garni**	**71.62**	**306**	LR	LR	21 32 58.7	
	comp=Z,39nm,19.0s,baz=2.0,slow=38						
SUMG	**Summit**	**72.88**	**359**	P	**P**	**20 59 27.2**	**0.0**
SUMG				IAmb	IAmb	20 59 33.6	
	comp=Z,6.3nm,1.0s						
SUMG	**Summit**	**72.88**	**359**	*i* P	**P**	**20 59 29.0**	**+1.8**
AKASG	**Malin Array Be**	**74.97**	**322**	P	**P**	**20 59 38.4**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=50,slow=5.9,SNR=9.0						
	comp=Z,0.6nm,0.4s						
NC405	**NORSAR Array S**	**75.32**	**337**	P	**P**	**20 59 42.3**	**+1.2**
HFS	**Hagfors**	**75.38**	**335**	P	**P**	**20 59 41.2**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=46,slow=4.3,SNR=5.6						
	comp=Z,2.5nm,0.9s						
NC204	**NORSAR Array S**	**75.51**	**337**	P	**P**	**20 59 41.9**	**-0.4**
NB2	**NORSAR Subarra**	**75.54**	**337**	P	**P**	**20 59 41.5**	**-0.9**
	comp=Z,17nm,1.7s,baz=44,slow=6.2						
NOA	**NORSAR Array B**	**75.54**	**337**	P	**P**	**20 59 42.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=42,slow=5.8,SNR=4.9						
	comp=Z,1.0nm,0.6s						
FCC	**Fort Churchill**	**76.75**	**25**	P	**P**	**20 59 48.4**	**-0.8**
WAKR	**Walker**	**76.94**	**52**	P	**P**	**20 59 50.5**	**-0.5**
RYN	**Ryan**	**77.46**	**52**	P	**P**	**20 59 53.9**	**+0.1**
KVN	**Kaiserville**	**77.49**	**51**		**P**	**20 59 54.0**	**-0.1**
KVN				IAmb	IAmb	20 59 56.0	
	comp=Z,4.1nm,0.8s						
NVAR	**Mina Array Bea**	**77.71**	**52**	P	**P**	**20 59 55.7**	**+0.3**
NVAR	**Mina Array Bea**	**77.71**	**52**	P	**P**	**20 59 56.0**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=285,slow=5.2,SNR=20						
	comp=Z,2.2nm,0.7s						
BURAR	**Bucovina Array**	**78.95**	**321**	P	**P**	**21 00 00.8**	**-1.1**
TPNV	**Topopah Spring**	**79.90**	**52**	P	**P**	**21 00 07.4**	**+0.1**
QSM	**Queen of Sheba**	**80.07**	**53**	P	**P**	**21 00 08.1**	**0.0**
QSM				IAmb	IAmb	21 00 09.7	
	comp=Z,3.9nm,0.8s						
GWY	**Greenwater Val**	**80.07**	**53**		**P**	**21 00 08.4**	**+0.1**
PDAR	**Pinedale Array**	**80.46**	**44**	P	**P**	**21 00 10.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=270,slow=4.5,SNR=3.0						
	comp=Z,0.4nm,0.7s						
HMU	**Henry Mountain**	**82.78**	**49**	P	**P**	**21 00 22.6**	**-0.2**
HMU				IAmb	IAmb	21 00 50.1	
	comp=Z,8.7nm,1.4s						
SCHQ	**Schefferville**	**87.93**	**15**	P	**P**	**21 00 50.3**	**+2.5**
	comp=Z,2.5nm,0.8s,baz=164,slow=7.5,SNR=1.3						
TXAR	**Lajitas Array**	**92.86**	**51**	P	**P**	**21 01 12.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=322,slow=1.9,SNR=4.8						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**117.59**	**312**	PKP	**PKPdf**	**21 06 44.1**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=81,slow=1.8,SNR=3.5						
H03N2	**Juan Fernandez**	**148.47**	**99**	T	T	23 53 35.8	
	baz=289,slow=74						
H03N3	**Juan Fernandez**	**148.48**	**99**	T	T	23 53 36.4	
	baz=289,slow=74						
H03N1	**Juan Fernandez**	**148.49**	**99**	T	T	23 53 36.0	
	baz=289						

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*IDC **05** 20:52:35.1±1.1, 45.°38N×149.°14E, h0km, mb3.7/13, mbtmp3.7/14, ML3.7/1, MS3.6/4, Error ellipse: s-maj=30.2km s-min=17.6km az=166.0*
*JMA **05** 20:52:38.2±0.5, 45°N±2°×14°9E±°, h30km, MV4.4/14, SE OFF ETOROFU*
*MOS **05** 20:52:38.3±0.9, 44.°39N×149.°20E, h82km, mb4.4/1, Error ellipse: s-maj=16.0km s-min=12.3km az=4.9*
*SKHL **05** 20:52:39.5±0.8, 44.°30N×149.°10E, h89km±6km, mb5.2/3, msha5.6/3*
ISC 05 20:52:37.2±1.6**, 44.°30N**±0.°07×**149.°35E**±0.°09**, h54**km±15km**, n45,** σ**1.s51**/60**, mb3.6**/13**, MS3.6**/4**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.41**	**312**	*d i*PN	**Pn**	**20 53 00.7**	**+0.3**
KUR				*i* S	**Sn**	**20 53 17.2**	**-0.7**
KUR				pmax	pmax		
	comp=Z,955nm,0.4s						
KUR				pmax	pmax		
	comp=N,438nm,0.3s						
KUR				pmax	pmax		
	comp=E,388nm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR	**Kuril'sk**	**1.41**	**312**	*i* P	**Pn**	**20 53 00.8**	**+0.3**
KUR				AMB	AMB	20 53 01.4	
	comp=N,960nm,0.4s						
KUR				*i* S	**Sn**	**20 53 16.7**	**-1.2**
KUR				A	A	20 53 17.4	
	comp=N,2μm,0.3s						
KUR				A	A	20 53 17.4	
	comp=N,2μm,0.3s						
SHO	**Shikotan**	**1.86**	**258**	*e*PN	**Pn**	**20 53 07.1**	**+0.4**
SHO				S	**Sn**	**20 53 27.4**	**-1.6**
SHO				pmax	pmax		
	comp=N,32nm,0.2s						
SHO				pmax	pmax		
	comp=E,56nm,0.2s						
SHO				pmax	pmax		
	comp=Z,69nm,0.2s						
SHO				smax	smax		
	comp=N,310nm,0.2s						
SHO				smax	smax		
	comp=E,443nm,0.3s						
SHO	**Shikotan**	**1.86**	**258**	*e*P	**Pn**	**20 53 07.1**	**+0.4**
SHO				AMB	AMB	20 53 09.5	
	comp=E,160nm,0.4s						
SHO				*e*S	**Sn**	**20 53 28.4**	**-0.6**
SHO				A	A	20 53 31.2	
	comp=E,310nm,0.3s						
SHO				A	A	20 53 31.2	
	comp=E,410nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.52**	**265**	*e*PN	**Pn**	**20 53 16.8**	**+1.1**
YUK				*e*S	**Sn**	**20 53 44.9**	**-0.2**
YUK				pmax	pmax		
	comp=Z,463nm,0.2s						
YUK				pmax	pmax		
	comp=N,204nm,0.1s						
YUK				pmax	pmax		
	comp=E,163nm,0.1s						
YUK				smax	smax		
	comp=E,473nm,0.3s						
YUK				smax	smax		
	comp=N,581nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.52**	**265**	*e*P	**Pn**	**20 53 16.7**	**+1.1**
YUK				AMB	AMB	20 53 18.1	
	comp=N,300nm,0.2s						
YUK				*e*S	**Sn**	**20 53 44.5**	**-0.7**
YUK				A	A	20 53 48.8	
	comp=N,450nm,0.6s						
YUK				A	A	20 53 48.8	
	comp=N,470nm,0.6s						
NEM2	**Nemuro 2**	**2.77**	**252**	*e*P	**Pn**	**20 53 19.5**	**+0.5**
NEM2				*e*S	**Sn**	**20 53 49.8**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.78**	**252**	*e*PN	**Pn**	**20 53 19.6**	**+0.4**
NMR				*e*S	**Sn**	**20 53 50.2**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.78**	**252**	*e*P	**Pn**	**20 53 19.6**	**+0.4**
NMR				*e*S	**Sn**	**20 53 50.2**	**-1.2**
RUSJ	**Misakicho**	**2.95**	**268**	*e*PN	**Pn**	**20 53 24.2**	**+2.6**
RUSJ				*e*S	**Sn**	**20 53 57.1**	**+1.3**
JRA	**Rausu**	**3.06**	**265**	*e*P	**Pn**	**20 53 25.0**	**+1.9**
JRA				*e*S	**Sn**	**20 53 59.8**	**+1.3**
JNK	**Nakash**	**3.42**	**260**	*e*P	**Pn**	**20 53 29.2**	**+1.3**
JNK				*e*S	**Sn**	**20 54 07.0**	**-0.2**
AKK	**Akkeshi**	**3.51**	**250**	*e*P	**Pn**	**20 53 29.8**	**+0.6**
JAK	**Akkeshi**	**3.62**	**251**	*e*P	**Pn**	**20 53 31.3**	**+0.7**
JAK				*e*S	**Sn**	**20 54 10.6**	**-1.5**
JTKR	**Abashiri--Toko**	**3.93**	**267**	*e*P	**Pn**	**20 53 37.3**	**+2.4**
JAR	**Ashorobuto**	**4.16**	**258**	*e*P	**Pn**	**20 53 39.9**	**+1.8**
JAR				*e*S	**Sn**	**20 54 26.2**	**+0.8**
JOB	**Onbets**	**4.24**	**253**	*e*P	**Pn**	**20 53 40.5**	**+1.3**
JOB				*e*S	**Sn**	**20 54 27.2**	**-0.2**
JCH	**Churui**	**4.67**	**251**	*e*P	**Pn**	**20 53 46.0**	**+0.9**
JCH				*e*S	**Sn**	**20 54 36.1**	**-1.9**
JKK2	**Kamakawa 2**	**4.77**	**267**	*e*P	**Pn**	**20 53 49.3**	**+2.8**
JKA	**Kamikawa-asahi**	**4.85**	**270**	*e*P	**Pn**	**20 53 50.3**	**+2.7**
ASAJ	**Asahikawa**	**4.86**	**270**	Pn	**Pn**	**20 53 50.3**	**+2.6**
	comp=N,2.7nm,0.3s,baz=66,slow=18,SNR=5.0						
ASAJ				Sn	**Sn**	**20 54 46.5**	**+4.0**
	comp=N,1.0nm,0.3s,baz=39,slow=32,SNR=8.3						
	comp=N,5.6nm,0.3s						
JNBK	**Urakawa-nobuka**	**5.22**	**250**	*e*P	**Pn**	**20 53 53.4**	**+0.8**
YSS	**Yuzh-Sakhalins**	**5.33**	**302**	*e*PN	**Pn**	**20 53 55.9**	**+1.8**
YSS				*e*S	**Sn**	**20 54 51.4**	**-2.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.3s						
YSS				smax	smax		
	comp=E,20nm,0.5s						
YSS				smax	smax		
	comp=E,10.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.33**	**302**	*e*P	**Pn**	**20 53 55.9**	**+1.8**
YSS				*e*S	**Sn**	**20 54 51.4**	**-2.7**
JANG	**Nango**	**7.00**	**239**	*e*P	**Pn**	**20 54 16.6**	**-0.5**
SKR	**Severo-Kuril's**	**7.86**	**33**	*e*S	**Sn**	**20 55 56.1**	**0.0**
PAU	**Pauzhetka**	**8.75**	**32**	*e*S	**Sn**	**20 56 17.9**	**0.0**
SONM	**Songino Array**	**29.73**	**292**	P	**P**	**20 58 37.3**	**-0.8**
	comp=E,0.2nm,0.3s,baz=88,slow=9.0,SNR=2.0						
	comp=E,0.2nm,0.3s						
KDAK	**Kodiak Island**	**37.71**	**48**	P	**P**	**20 59 47.4**	**+0.3**
	comp=E,7.9nm,0.9s,baz=65,slow=3.3,SNR=5.1						
KDAK				LR	LR	21 15 22.4	
	comp=E,77nm,19.8s,baz=93,slow=37						
	comp=E,7.9nm,0.9s						
ILAR	**Eielson Array**	**40.10**	**37**	P	**P**	**21 00 06.3**	**-0.8**
	comp=E,0.6nm,1.0s,baz=276,slow=9.0,SNR=2.4						
	comp=E,0.6nm,1.0s						
INK	**Inuvik**	**45.12**	**31**	LR	LR	21 22 26.0	
	comp=E,58nm,18.7s,baz=8.0,slow=40						
MKAR	**Makanchi Array**	**45.73**	**298**	P	**P**	**21 00 52.6**	**-0.2**
	comp=E,0.9nm,0.7s,baz=75,slow=8.3,SNR=8.7						
	comp=E,0.9nm,0.7s						
KURK	**Kurchatov**	**46.53**	**304**	P	**P**	**21 00 58.6**	**-0.4**
KURK	**Kurchatov**	**46.53**	**304**	*e*P	**P**	**21 00 58.6**	**-0.4**
KURBB	**Kurchatov Arra**	**46.62**	**304**	P	**P**	**21 00 58.5**	**-1.1**
	comp=E,0.3nm,0.4s,baz=73,slow=8.2,SNR=4.6						
	comp=E,0.3nm,0.4s						
BBB	**Bella Bella**	**52.71**	**50**	LR	LR	21 25 04.0	
	comp=E,58nm,18.3s,baz=42,slow=37						
YKA	**Yellowknife Ar**	**54.46**	**35**	P	**P**	**21 01 58.7**	**+0.1**
	comp=E,0.5nm,0.9s,baz=300,slow=7.0,SNR=2.8						
	comp=E,0.5nm,0.9s						
ARCES	**ARCESS Array B**	**59.28**	**340**	P	**P**	**21 02 30.5**	**-2.1**
	comp=E,3.4nm,1.0s,baz=43,slow=6.8,SNR=2.1						
	comp=E,3.4nm,1.0s						
FINES	**FINESS Array B**	**65.09**	**334**	P	**P**	**21 03 10.3**	**-1.3**
	comp=E,3.1nm,0.9s,baz=33,slow=12,SNR=1.9						
	comp=E,3.1nm,0.9s						
WRA	**Warramunga Arr**	**65.39**	**196**	P	P	21 03 26.5	+13
	comp=E,0.2nm,0.6s,baz=17,slow=6.7,SNR=1.5						
	comp=E,0.2nm,0.6s						
NVAR	**Mina Array Bea**	**65.94**	**59**	P	**P**	**21 03 19.9**	**+2.2**
	comp=E,0.2nm,0.4s,baz=306,slow=7.7,SNR=2.6						
	comp=E,0.2nm,0.4s						
NOA	**NORSAR Array B**	**69.65**	**340**	P	**P**	**21 03 39.4**	**-1.0**
	comp=E,0.4nm,0.7s,baz=34,slow=5.8,SNR=7.7						
	comp=E,0.4nm,0.7s						
HFS	**Hagfors**	**69.78**	**338**	P	**P**	**21 03 40.3**	**-0.9**
	comp=E,0.5nm,0.3s,baz=42,slow=3.6,SNR=10						
	comp=E,0.5nm,0.3s						
PFO	**Pinyon Flats O**	**70.14**	**62**	LR	LR	21 32 54.4	
	comp=E,41nm,18.1s,baz=42,slow=35						
TXAR	**Lajitas Array**	**81.02**	**58**	P	**P**	**21 04 47.8**	**+1.4**
	comp=E,0.5nm,0.6s,baz=308,slow=4.4,SNR=6.6						
	comp=E,0.5nm,0.6s						

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*NOU **05** 20:54:16.6, 37.°37S×179.°42E, h124km, MLv4.5/8, Off E. Coast of N. Island, N.Z.*
*WEL **05** 20:54:20.6±1.3, 37°S±4°×17°9E±1°1, h12km, M3.4/11, ML3.6/15, MLv3.4/11, Error ellipse: s-maj=0.0km s-min=0.0km az=87.1, confirmed*
ISC 05 20:54:17.2±2.8**, 37.°24S**±0.°07×**179.°1E**±0.°1**, h10**km±11km**, n70,** σ**1.s22**/75**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.69**	**242**	P	**Sg**	**20 54 37.9**	**-1.5**
MXZ	**Matakaoa Point**	**0.69**	**242**	P	**Pb**	**20 54 31.1**	**-0.1**
MXZ				S	**Sg**	**20 54 37.9**	**-1.5**
WMGZ	**Waiomatatini S**	**0.77**	**222**	P	**Pb**	**20 54 34.9**	**+2.1**
WMGZ				S	**Sn**	**20 54 45.3**	**-0.6**
PUZ	**Puketiti**	**1.05**	**218**	P	**Pg**	**20 54 38.7**	**+1.3**
PUZ				S	**Sb**	**20 54 52.1**	**+0.8**
HAZ	**Te Kaha**	**1.14**	**243**	P	**Pn**	**20 54 39.8**	**+0.5**
TWGZ	**Tauwhareparae**	**1.27**	**222**	P	**Pb**	**20 54 42.0**	**+0.7**
TWGZ				S	**Sn**	**20 54 58.2**	**-0.1**
RUGZ	**Raukumara Rang**	**1.32**	**236**	P	**Pb**	**20 54 42.4**	**+0.3**
CNGZ	**Carnagh Statio**	**1.41**	**209**	P	**Pn**	**20 54 44.5**	**+1.4**
CNGZ				S	**Sg**	**20 55 03.6**	**+0.9**
WIZ	**White Island**	**1.52**	**259**	P	**Pg**	**20 54 45.6**	**-0.8**
TKGZ	**Te Karaka**	**1.54**	**219**	P	**Pn**	**20 54 45.2**	**+0.5**
TKGZ				S	**Sn**	**20 55 04.1**	**-0.6**
MWZ	**Matawai**	**1.64**	**228**	P	**Pn**	**20 54 46.6**	**+0.5**
RIGZ	**Rimuhau**	**1.79**	**215**	P	**Pn**	**20 54 48.5**	**+0.3**
RAGZ	**Rawiri**	**1.81**	**226**	P	**Pn**	**20 54 49.4**	**+0.8**
URZ	**Urewera**	**1.85**	**236**	P	**Pn**	**20 54 49.8**	**+0.7**
URZ	**Urewera**	**1.85**	**236**	P	**Pn**	**20 54 49.8**	**+0.7**
PRGZ	**Paritu Road**	**1.92**	**209**	P	**Pn**	**20 54 50.3**	**+0.3**
EDRZ	**Edgecumbe**	**2.04**	**244**	P	**Pn**	**20 54 52.6**	**+0.9**
MARZ	**Manawahe**	**2.04**	**248**	P	**Pn**	**20 54 52.0**	**+0.4**
SNGZ	**Shannon Statio**	**2.05**	**221**	P	**Pn**	**20 54 52.1**	**+0.2**
OPRZ	**Ohinepanea**	**2.08**	**253**	P	**Pn**	**20 54 52.3**	**0.0**
KNZ	**Kokohu**	**2.09**	**211**	P	**Pn**	**20 54 51.9**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.11**	**205**	P	**Pn**	**20 54 53.2**	**+0.5**
RTZ	**Ruatahuna**	**2.15**	**230**	P	**Pn**	**20 54 53.9**	**+0.8**
TARZ	**Mount Tarawera**	**2.26**	**243**	P	**Pn**	**20 54 55.7**	**+0.9**
RAHZ	**Arahi**	**2.29**	**223**	P	**Pn**	**20 54 55.6**	**+0.5**
OMRZ	**Omania**	**2.31**	**247**	P	**Pn**	**20 54 56.4**	**+1.1**
WHHZ	**Waihua**	**2.33**	**218**	P	**Pn**	**20 54 55.7**	**0.0**
KARZ	**Kaharoa**	**2.37**	**250**	P	**Pn**	**20 54 56.6**	**+0.3**
MTHZ	**Maungataniwha**	**2.38**	**227**	P	**Pn**	**20 54 57.1**	**+0.7**
NMHZ	**Naumai**	**2.57**	**223**	P	**Pn**	**20 54 59.7**	**+0.7**
ARHZ	**Aropaoanui**	**2.59**	**218**	P	**Pn**	**20 54 59.6**	**+0.4**
MRHZ	**Matea Rd**	**2.63**	**232**	P	**Pn**	**20 55 00.4**	**+0.7**
KUZ	**Kuaotunu**	**2.73**	**280**	P	**Pn**	**20 54 59.5**	**-1.5**
BKZ	**Black Stump Fm**	**2.79**	**226**	P	**Pn**	**20 55 02.2**	**+0.2**
TOZ	**Tahuroa Road**	**2.88**	**259**	P	**Pn**	**20 55 03.3**	**+0.1**
MCHZ	**McNeill Hill**	**2.88**	**220**	P	**Pn**	**20 55 03.2**	**0.0**
KWHZ	**Kaweka Forest**	**3.01**	**223**	P	**Pn**	**20 55 04.8**	**-0.2**
KAHZ	**Kahuranaki**	**3.07**	**213**	P	**Pn**	**20 55 05.0**	**-0.8**
MKAZ	**Moumakai**	**3.12**	**271**	P	**Pn**	**20 55 05.6**	**-0.9**
WIAZ	**Waiheke Island**	**3.18**	**277**	P	**Pn**	**20 55 06.3**	**-1.0**
KRHZ	**Kereru**	**3.20**	**221**	P	**Pn**	**20 55 06.6**	**-0.9**
TMVZ	**Te Maari**	**3.24**	**234**	P	**Pn**	**20 55 08.5**	**+0.2**
NTVZ	**North Tongarir**	**3.25**	**234**	P	**Pn**	**20 55 08.7**	**+0.2**
BHHZ	**Black Hill Sta**	**3.26**	**226**	P	**Pn**	**20 55 08.4**	**-0.1**
KRVZ	**Karewarewa**	**3.27**	**235**	P	**Pn**	**20 55 09.0**	**+0.3**
OTVZ	**Oturere**	**3.29**	**233**	P	**Pn**	**20 55 09.2**	**+0.2**
NNVZ	**North Ngauruho**	**3.31**	**234**	P	**Pn**	**20 55 09.7**	**+0.5**
SNVZ	**South Ngauruho**	**3.32**	**233**	P	**Pn**	**20 55 09.5**	**0.0**
NGZ	**Ngauruhoe**	**3.34**	**234**	P	**Pn**	**20 55 09.9**	**+0.2**
MBAZ	**Motutapu North**	**3.37**	**277**	P	**Pn**	**20 55 09.8**	**-0.1**
MOVZ	**Moawhango**	**3.38**	**229**	P	**Pn**	**20 55 09.8**	**-0.4**
WNVZ	**Wahianoa**	**3.43**	**232**	P	**Pn**	**20 55 11.0**	**0.0**
PNHZ	**Pukenui**	**3.49**	**219**	P	**Pn**	**20 55 10.1**	**-1.5**
HIZ	**Hauiti**	**3.56**	**248**	P	**Pn**	**20 55 14.5**	**+1.9**
HIZ	**Hauiti**	**3.56**	**248**	P	**Pn**	**20 55 10.9**	**-1.7**
TSZ	**Takapari Road**	**3.72**	**220**	P	**Pn**	**20 55 12.9**	**-1.8**
DVHZ	**Dannevirke**	**3.80**	**216**	P	**Pn**	**20 55 14.2**	**-1.6**
VRZ	**Vera Road**	**3.88**	**240**	P	**Pn**	**20 55 18.1**	**+1.2**
WCZ	**Waipu Caves**	**4.02**	**287**	P	**Pn**	**20 55 19.0**	**+0.2**
WAZ	**Wanganui**	**4.07**	**231**	P	**Pn**	**20 55 19.9**	**+0.4**
BFZ	**Birch Farm**	**4.08**	**212**	P	**Pn**	**20 55 17.4**	**-2.2**
NEZ	**North Egmont**	**4.41**	**241**	P	**Pn**	**20 55 26.9**	**+2.6**
PKE	**Pukeiti**	**4.45**	**243**	P	**Pn**	**20 55 27.9**	**+3.1**
KHEZ	**Kahui Hut**	**4.47**	**241**	P	**Pn**	**20 55 28.3**	**+3.2**
OUZ	**Omahuta**	**4.86**	**293**	P	**Pn**	**20 55 31.8**	**+1.4**
OUZ	**Omahuta**	**4.86**	**293**	P	**Pn**	**20 55 31.6**	**+1.2**
QRZ	**Quartz Range**	**6.22**	**233**	P	**Pn**	**20 55 47.0**	**-2.1**
	80nm,1.8s						
KHZ	**Kahutara**	**6.69**	**218**	P	**Pn**	**20 55 52.7**	**-2.8**
RPZ	**Rata Peaks**	**8.89**	**221**	P	**Pn**	**20 56 22.4**	**-3.3**
ODZ	**Otahua Downs**	**10.05**	**217**	P	Pn	20 56 37.8	-3.8
	58nm,2.2s						

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*IDC **05** 20:55:21.1±6.8, 29.°51N×81.°09E, h0km, mb3.5/6, mbtmp3.5/7, ML2.7/1, MS3.0/1, Error ellipse: s-maj=158.7km s-min=40.1km az=122.0*
ISC 05 20:55:23.9±5.6**, 29.°5N**±0.°5×**81.°1E**±0.°8**, h17**km**, n7,** σ**0.s58**/7**, mb3.5**/6**, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.26**	**3**	P	**Pn**	**20 59 24.4**	**+0.3**
	baz=178,slow=12,SNR=1.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.3nm,0.9s						
KURBB	Kurchatov Arra	21.16	355	P	P	21 00 08.5	+0.5
	0.2nm,0.4s,baz=188,slow=8.8,SNR=2.4						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	24.55	5	P	P	21 00 42.2	-0.3
	0.2nm,0.4s,baz=192,slow=5.7,SNR=1.7						
ZALV				LR	LR	21 11 02.6	
	comp=Z,35nm,19.0s,baz=71,slow=38						
	0.2nm,0.4s						
BVAR	Borovoye Array	24.76	344	P	P	21 00 44.7	+0.2
	0.4nm,0.3s,baz=144,slow=11,SNR=6.2						
	0.4nm,0.3s						
FINES	FINESS Array B	47.92	328	P	P	21 04 00.4	-0.6
	2.5nm,0.9s,baz=119,slow=7.2,SNR=4.1						
	2.5nm,0.9s						
HFS	Hagfors	53.69	325	P	P	21 04 44.0	-0.6
	3.1nm,0.9s,baz=83,slow=12,SNR=2.3						
	3.1nm,0.9s						
TORD	Torodi Ar. Bea	74.52	277	P	P	21 07 02.5	+0.4
	0.3nm,0.5s,baz=52,slow=4.3,SNR=2.2						
	0.3nm,0.5s						

*IDC **05** 21:00:16.6±8.2, 18.°60S×175.°42W, h196km±76km, mb3.5/6, mbtmp4.0/6, Error ellipse: s-maj=47.6km s-min=24.7km az=157.0*

*NEIC **05** 21:00:16.4±1.5, 18.°5S±0.°1×175.°5W±0.°2, h193km±14km, mb4.3/8, Error ellipse: s-maj=23.3km s-min=17.1km az=62.0*

ISC 05 21:00:16.6±0.6, 18.°46S±0.°10×175.°42W±0.°08, h200km, n29, σ1.s02/27, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	5.24	98	Pn	Pn	21 01 34.5	+0.5
NIUE				Sn	Sn	21 02 34.0	-1.1
AFI	Afiamalu	5.72	38	Pn	Pn	21 01 41.3	+1.0
AFI				Sn	Sn	21 02 43.7	-2.8
LIFNC	LIFOU	16.50	259	P	P	21 03 55.1	-1.0
URZ	Urewera	20.78	197	P	P	21 04 40.5	-1.6
	10nm,0.7s,baz=350,slow=15,SNR=7.8						
	10nm,0.7s						
RTZ	Ruatahuna	21.15	197	P	P	21 04 45.8	-0.4
RTZ				IAmb	IAmb	21 04 58.8	
	comp=Z,40nm,1.5s						
QRZ	Quartz Range	24.58	202	P	P	21 05 18.4	+0.2
TUWZ	Tuamarina	24.64	199	P	P	21 05 17.7	-0.9
LTZ	Lake Taylor	26.40	201	P	P	21 05 36.0	+1.4
WB0	Warramunga Arr	47.30	260	P	P	21 08 30.0	-0.4
WB0				IAmb	IAmb	21 08 39.3	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	47.32	260	P	P	21 08 29.8	-0.7
WB2				IAmb	IAmb	21 08 33.5	
	comp=Z,9.9nm,1.2s						
WRAB	Tennant Creek	47.32	260	P	P	21 08 29.5	-1.0
WRAB				IAmb	IAmb	21 08 34.5	
	comp=Z,8.0nm,1.2s						
WRA	Warramunga Arr	47.33	260	P	P	21 08 29.8	-0.8
WRA	Warramunga Arr	47.33	260	P	P	21 08 30.1	-0.5
	comp=Z,0.6nm,0.6s,baz=97,slow=7.5,SNR=9.6						
WRA				PcP	PcP	21 09 58.8	+0.5
	comp=Z,0.2nm,0.5s,baz=91,slow=3.8,SNR=4.8						
	comp=Z,0.6nm,0.6s						
AS31	Alice Springs	47.38	255	P	P	21 08 31.3	+0.3
ASAR	Alice Springs	47.38	255	P	P	21 08 30.8	-0.2
ASAR	Alice Springs	47.38	255	P	P	21 08 31.6	+0.6
	comp=Z,3.2nm,0.6s,baz=88,slow=8.5,SNR=71						
ASAR				PcP	PcP	21 09 58.9	+0.4
	comp=Z,0.5nm,0.5s,baz=106,slow=4.0,SNR=7.3						
	comp=Z,3.2nm,0.6s						
NVAR	Mina Array Bea	77.88	42	P	P	21 11 54.4	+1.9
	comp=Z,0.4nm,0.6s,baz=221,slow=10,SNR=4.4						
	comp=Z,0.4nm,0.6s						
H03S2	Juan Fernandez	85.12	124	T	T	22 45 43.6	
	baz=249,slow=75,SNR=3.5						
H03S1	Juan Fernandez	85.13	124	T	T	22 45 44.6	
	baz=249,slow=75,SNR=3.4						
H03S3	Juan Fernandez	85.13	124	T	T	22 45 45.7	
	baz=249,slow=75,SNR=3.6						
H03N2	Juan Fernandez	85.24	124	T	T	22 45 58.4	
	baz=247,slow=77						
H03N3	Juan Fernandez	85.24	124	T	T	22 45 56.2	
	baz=247,slow=77						
H03N1	Juan Fernandez	85.25	124	T	T	22 46 00.1	
	baz=247,slow=77						
ILAR	Eielson Array	85.81	12	P	P	21 12 33.5	+0.5
	comp=Z,0.4nm,0.8s,baz=233,slow=5.9,SNR=7.1						
	comp=Z,0.4nm,0.8s						
CMAR	Chiang Mai Arr	91.75	289	P	P	21 13 02.1	+0.1
	comp=Z,0.6nm,0.3s,baz=92,slow=4.6,SNR=2.1						
	comp=Z,0.6nm,0.3s						
MKAR	Makanchi Array	111.56	314	PKiKP	PKiKP	21 18 26.7	-0.4
	comp=Z,0.1nm,0.4s,baz=120,slow=0.3,SNR=5.1						
BVAR	Borovoye Array	119.06	321	PKP	PKPdf	21 18 41.0	-0.3
	comp=Z,1.0nm,0.4s,baz=110,slow=2.5,SNR=14						
ARCES	ARCESS Array B	127.33	351	PKP	PKPdf	21 18 56.7	0.0
	comp=Z,3.2nm,0.9s,baz=335,slow=5.4,SNR=3.7						
FINES	FINESS Array B	134.46	346	PKP	PKiKP	21 19 11.3	-0.5
	comp=Z,5.3nm,1.0s,baz=136,slow=37,SNR=3.0						

IDC 05 21:13:37.8±3.9, 29.°15S×178.°77W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=99.0km s-min=44.1km az=43.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.52	266	P	P	21 21 34.8	-0.5
	0.5nm,0.7s,baz=102,slow=7.0,SNR=7.8						
	0.5nm,0.7s						
WRA	Warramunga Arr	43.39	271	P	P	21 21 42.6	+0.2
	0.5nm,0.5s,baz=110,slow=8.2,SNR=9.0						
	0.5nm,0.5s						
VNDA	Vanda	49.27	185	P	P	21 22 27.8	0.0
	0.3nm,0.5s,baz=354,slow=7.9,SNR=1.1						
	0.3nm,0.5s						
FINES	FINESS Array B	143.74	340	PKP	PKPdf	21 33 13.3	-0.8
	3.6nm,0.9s,baz=40,slow=2.4,SNR=5.8						

*IDC **05** 21:51:32.9±1.3, 22.°48N×93.°52E, h0km, mb3.5/7, mbtmp3.5/8, ML3.7/1, MS3.0/1, Error ellipse: s-maj=60.8km s-min=15.8km az=56.0*

ISC 05 21:51:38.0±1.7, 22.°5N±0.°3×93.°7E±0.°4, h35km, n9, σ0.s78/8, mb3.6/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.39	128	Pn	Pn	21 53 09.7	0.0
	0.4nm,0.3s,baz=300,slow=15,SNR=1.5						
CMAR				Lg	Lg	21 55 00.0	
	baz=324,slow=29						
	1.0nm,0.3s						
MKAR	Makanchi Array	25.90	342	P	P	21 57 08.0	+1.3
	0.5nm,0.6s,baz=146,slow=9.7,SNR=8.5						
MKAR				PcP	PcP	22 00 35.1	+0.2
	0.1nm,0.5s,baz=138,slow=3.4,SNR=2.1						
	0.5nm,0.6s						
SONM	Songino Array	27.23	19	P	P	21 57 19.1	+0.3
	0.1nm,0.3s,baz=199,slow=12,SNR=1.7						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	30.44	341	P	P	21 57 46.2	-0.9
	0.1nm,0.5s,baz=139,slow=10,SNR=1.6						
KURBB				PcP	PcP	22 00 46.4	+0.4
	0.3nm,0.5s,baz=147,slow=2.4,SNR=4.3						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	32.08	350	P	P	21 58 01.0	-0.5
	0.6nm,0.6s,baz=158,slow=9.3,SNR=3.6						
	0.6nm,0.6s						
WRA	Warramunga Arr	57.96	134	P	P	22 01 27.2	0.0
	0.4nm,0.5s,baz=322,slow=7.4,SNR=7.7						
	0.4nm,0.5s						
KMBO	Kilima Mbogo	59.74	255	LR	LR	22 30 24.7	
	comp=Z,10nm,18.2s,baz=87,slow=39						
ASAR	Alice Springs	60.33	137	P	P	22 01 44.3	+0.7
	0.2nm,0.4s,baz=319,slow=6.9,SNR=8.5						
	0.2nm,0.4s						
ARCES	ARCESS Array B	61.47	338	P	P	22 01 50.9	+0.1
	2.4nm,1.0s,baz=94,slow=7.2,SNR=1.2						
	2.4nm,1.0s						

*NEIC **05** 21:59:03.5±2.7, 43.°89N±0.°01×105.°35W±0.°05, h0km±1km, ML3.0/85, Error ellipse: s-maj=6.5km s-min=2.7km az=80.0*

*IDC **05** 21:59:05.5±1.7, 43.°99N×105.°52W, h0km, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=55.7km s-min=9.1km az=147.0*

ISC 05 21:59:04.1±0.9, 43.°92N±0.°06×105.°39W±0.°04, h0km, n33, σ1.s60/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	1.00	78		Pb	21 59 24.4	+0.1
K22A	Casper	1.52	213		Pn	21 59 32.2	-0.4
RWWY	Rawlins	2.60	212		Pn	21 59 49.1	+1.5
RWWY				IAML		22 00 26.6	
	91nm,0.7s						
RWWY				IAML		22 00 29.7	
	75nm,0.3s						
PHWY	Pilot Hill	2.62	181		Pn	21 59 48.9	+1.0
PHWY				IAML		22 00 25.1	
	46nm,0.3s						
LAO	LASA Array	2.83	348		Pg	21 59 58.0	-0.3
RLMT	Red Lodge	3.02	295	Pn	Pn	21 59 54.7	+1.3
RLMT				IAML		22 00 48.7	
	50nm,0.3s						
RLMT				IAML		22 00 52.8	
	43nm,2.6s						
N23A	Red Feather La	3.05	188	Pn	Pn	21 59 55.2	+1.4
N23A				IAML		22 00 39.3	
	comp=E,45nm,0.3s						
N23A				IAML		22 00 40.0	
	comp=N,61nm,0.3s						
BW06	Boulder Array	3.25	251	Pn	Pn	21 59 56.9	+0.4
BW06				IAML		22 00 47.3	
	comp=N,30nm,0.3s						
PD31	Pinedale Array	3.25	251	Pn	Pb	21 59 59.7	-3.2
PDAR	Pinedale Array	3.25	251	Pn	Pn	21 59 57.6	+1.0
PDAR	Pinedale Array	3.25	251	Pn	Pn	21 59 59.5	+2.9
	comp=N,2.7nm,0.3s,baz=70,slow=17,SNR=51						
PDAR				Lg	Lg	22 00 45.3	
	comp=N,14nm,0.3s,baz=71,slow=33,SNR=3.8						
	comp=N,2.7nm,0.3s						
BRIGG	Briggsdale	3.43	166		Pn	21 59 58.8	-0.1
YMP	Mirror Lake Pl	3.52	285	Pn	Pn	22 00 00.1	-0.2
YMP				IAML		22 01 03.4	
	comp=N,37nm,0.4s						
H17A	Grant Village	3.76	279	Pg	Pg	22 00 15.7	-0.5
H17A				IAML		22 00 33.9	
	comp=N,20nm,4.3s						
LOHW	Long Hollow	3.79	267		Pn	22 00 03.2	-0.7
LOHW				IAML		22 02 14.3	
	comp=N,20nm,5.0s						
FLWY	Flagg Ranch	3.83	274		Pg	22 00 18.0	+0.5
FLWY				IAML		22 01 23.1	
	comp=N,25nm,4.9s						
FLWY				IAML		22 01 42.1	
	comp=N,34nm,4.8s						
OGNE	Ogallala	3.88	139	Pn	Pn	22 00 05.4	+0.4
MOOW	Moose Ponds	3.88	269		Pg	22 00 17.8	-0.6
REDW	Red Top Meadow	4.00	264		Pb	22 00 17.8	+2.2
IMW	Indian Meadow	4.01	272	Pn	Pn	22 00 08.0	+1.0
IMW				IAML		22 01 41.2	
	comp=N,18nm,4.5s						
IMW				IAML		22 01 42.6	
	comp=N,15nm,4.4s						
YHH	Holmes Hill	4.01	284		Pg	22 00 19.6	-1.3
TPAW	Teton Pass	4.05	266		Pn	22 00 05.7	-1.9
TPAW				IAML		22 00 46.2	
	comp=N,20nm,4.9s						
TPAW				IAML		22 01 33.7	
	comp=N,16nm,5.0s						
YMR	Madison River	4.07	282	Pg	Pg	22 00 21.9	-0.2
YMR				IAML		22 01 31.0	
	comp=E,25nm,3.8s						
YMR				IAML		22 02 36.6	
	comp=N,27nm,5.0s						
FXWY	Fox Creek	4.09	268		Pn	22 00 08.1	-0.1
ISCO	Idaho Springs	4.12	182	Pn	Pn	22 00 10.1	+1.5
YHL	Hebgen Lake	4.25	285	IAML		22 02 01.1	
	comp=E,22nm,4.9s						
YHL				IAML		22 02 18.5	
	comp=N,15nm,4.4s						
AHID	Auburn Hatcher	4.32	256	IAML		22 01 08.5	
	comp=N,16nm,4.5s						
AHID				IAML		22 01 24.6	
	comp=N,12nm,1.3s						
RDMU	Red Mountain	4.56	224	IAML		22 01 27.4	
	comp=N,17nm,4.5s						
RDMU				IAML		22 02 00.5	
	comp=E,16nm,4.8s						
DGMT	Dagmar	4.62	10	IAML		22 01 32.6	
	comp=E,73nm,4.4s						
DGMT				IAML		22 01 52.7	
	comp=E,66nm,2.7s						
BOZ	Bozeman (W)	4.75	293		Pg	22 00 34.1	-0.9
BOZ				IAML		22 02 02.2	
	comp=E,16nm,5.0s						
BSUT	Blindstream Ca	5.23	232	IAML		22 01 41.1	
	comp=N,12nm,5.0s						
ULM	Lac du Bonnet	9.06	42	Pn	Pn	22 01 15.6	-0.4
	comp=N,1.3nm,0.3s,baz=224,slow=12,SNR=11						
ULM				Lg	Lg	22 03 45.1	
	baz=108,slow=6.5						
	comp=N,2.3nm,0.3s						
NVAR	Mina Array Bea	11.17	245	Pn	Pn	22 01 49.7	+4.6
	comp=N,0.1nm,0.3s,baz=60,slow=13,SNR=2.1						
	comp=N,0.2nm,0.5s						

TRN 05 22:38:22.9, 16.°24N×61.°80W, h191km, MD3.7, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBE	Ff, Capester	0.25	133	eP	Pn	22 38 49.6	+1.4
CBE				eS	Sn	22 39 08.5	+0.8
ABD	La Joyeuse, An	0.38	51	eP	Pn	22 38 49.9	+1.4
ABD				eS	Sn	22 39 07.8	-0.5
MLYT	Lee's Yard	0.61	322	eP	Pn	22 38 50.5	+1.0
MBFL	Flemmings, Mon	0.65	322	eP	Pn	22 38 50.7	+1.1
MBFL				eS	Sn	22 39 11.6	+1.3
ANBD	Bethesda, Anti	0.81	2	eP	Pn	22 38 51.9	+1.5
ANBD				eS	Sn	22 39 11.2	-0.7
SVN	Savane Anatole	1.52	156	eP	Pn	22 38 56.6	+0.6
FDF	Fort de France	1.62	157	eP	Pn	22 38 57.4	+0.4
ILAM	Ilet Lapin Mar	1.71	148	eP	Pn	22 38 58.5	+0.8
BIM	Bigot	1.85	158	eP	Pn	22 38 59.9	+0.7
BIM				eS	Sn	22 39 28.2	+0.7
MPOM	Morne Pois Mar	2.00	153	eP	Pn	22 39 01.5	+0.8
MPOM				eS	Sn	22 39 30.3	+0.1
SLBI	Saint Lucia, B	2.34	160	eP	Pn	22 39 04.9	+0.5
SLB	Belfond	2.50	163	eP	Pn	22 39 08.1	+1.7
SVB	Belmont	3.00	170	eP	Pn	22 39 12.5	+0.4
BBGH	Gun Hill	3.76	145	eP	Pn	22 39 23.0	+1.6
BBGH				eS	Sn	22 40 04.7	-2.6
AOPR	Arecibo Observ	5.18	295	eP	Pn	22 39 40.1	+0.7
AOPR	Arecibo Observ	5.18	295	eS	Sn	22 40 35.8	-3.9

*IDC **05** 22:41:09.6±1.2, 39.°27N×143.°87E, h0km, mb3.6/8, mbtmp3.6/12, ML3.1/4, Error ellipse: s-maj=28.1km s-min=18.9km az=82.0*

*JMA **05** 22:41:14.8±0.2, 39.°1N±0.°5×143.°3E±0.°9, h28km±3km, MV3.8/36, FAR E OFF SANRIKU*

*NIED **05** 22:41:14.8, 39.°10N×143.°30E, h28km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-1.00; Mθθ1.35; Mϕϕ-0.35; Mrθ5.28; Mθϕ-0.52; Mϕr3.56; Fault plane solution: M0 6.48000×10^14 NP1: ϕs238.00000°, δ87.00000°, λ-99.00000°. NP2: ϕs128.00000°, δ9.00000°, λ-20.00000°.*

ISC 05 22:41:11.2±2.4, 39.°10N±0.°06×143.°40E±0.°08, h5km±13km, n27, σ1.s68/37, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.31	292	P	Pg	22 41 36.5	0.0
MIYJ				eS	Sg	22 41 52.6	-0.9
OFUJ	Ofunato	1.35	270	i P	Pn	22 41 37.1	+0.4
OFUJ				eS	Sg	22 41 53.4	-1.1
JTH	Tanohata	1.45	306	P	Pn	22 41 38.9	+0.8
JKMT	Kesennumamotoy	1.53	260	i P	Pn	22 41 39.8	+0.6
JKMT				eS	Sn	22 41 57.9	-1.4
JOM	Ohasama	1.68	283	i P	Pn	22 41 42.4	+1.2
JOM				eS	Sn	22 42 02.7	-0.3
JMK	Ichinoseki	1.71	266	i P	Pn	22 41 42.8	+1.3
JMK				eS	Sn	22 42 02.9	-0.8
JIO	Ouri	1.73	249	P	Pn	22 41 42.8	+0.9
JIO				eS	Sn	22 42 02.5	-1.8
JANG	Nango	1.93	312	P	Pn	22 41 45.5	+0.8
JRG	Rokugo	2.17	279	i P	Pn	22 41 49.8	+1.9
JRG				eS	Sn	22 42 15.9	+0.8
JOU	Okura	2.26	252	eP	Pn	22 41 50.9	+1.7
JOU				eS	Sn	22 42 17.2	-0.3
JYK	Kaneyama	2.38	266	eP	Pn	22 41 52.5	+1.8
JMM	Marumori	2.39	240	eP	Pn	22 41 52.2	+1.2
JTM	Tenmabayashi	2.46	314	eP	Pn	22 41 53.0	+1.1
JTM				eS	Sn	22 42 21.8	-0.5
JFK	Kawauchi	2.64	230	P	Pn	22 41 55.3	+0.9
JOT	Ohata	2.90	322	eP	Pn	22 42 00.2	+2.2
MJAR	Matsushiro Arr	4.84	240	Pn	Pn	22 42 28.5	+3.8
	0.2nm,0.3s,baz=35,slow=13,SNR=11						
MJAR				Sn	Sb	22 43 31.5	-3.5
	baz=51,slow=30,SNR=1.2						
	1.8nm,0.5s						
ASAJ	Asahikawa	5.05	353	Pn	Pn	22 42 23.8	-3.7
	0.8nm,0.3s,baz=78,slow=25,SNR=1.2						
ASAJ				Sn	Sn	22 43 23.4	-2.7
	0.5nm,0.3s,baz=294,slow=24,SNR=1.1						
	2.6nm,0.3s						
USRK	Ussuriysk Ar.	9.94	304	Pn	Pn	22 43 37.7	+3.1
	0.3nm,0.3s,baz=102,slow=13,SNR=6.7						
	1.9nm,0.7s						
KLR	Kul'dur	13.11	324	Pn	Pn	22 44 18.5	+0.5
	0.1nm,0.3s,baz=354,slow=10,SNR=2.6						
	0.5nm,0.6s						
SONM	Songino Array	28.01	300	P	P	22 47 04.6	+1.5
	0.8nm,0.6s,baz=90,slow=8.5,SNR=9.0						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	41.72	311	P	P	22 49 00.7	0.0
	0.8nm,0.5s,baz=85,slow=8.6,SNR=4.0						
	0.8nm,0.5s						
MKAR	Makanchi Array	44.38	301	P	P	22 49 24.0	+1.5
	0.5nm,0.7s,baz=80,slow=9.1,SNR=6.0						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	45.99	307	P	P	22 49 35.0	-0.2
	1.0nm,0.7s,baz=80,slow=8.2,SNR=6.6						
	1.0nm,0.7s						
ILAR	Eielson Array	46.91	33	P	P	22 49 39.1	-3.1
	0.2nm,0.6s,baz=270,slow=6.3,SNR=1.6						
	0.2nm,0.6s						
BVAR	Borovoye Array	50.36	311	P	P	22 50 10.0	+1.0
	0.5nm,0.4s,baz=268,slow=40,SNR=3.8						
	0.5nm,0.4s						
WRA	Warramunga Arr	59.34	190	P	P	22 51 14.6	+0.4
	0.4nm,0.6s,baz=7.5,slow=6.9,SNR=5.9						
	0.4nm,0.6s						
ASAR	Alice Springs	63.07	190	P	P	22 51 40.5	+1.0
	0.4nm,0.8s,baz=7.0,slow=8.4,SNR=2.0						
	0.4nm,0.8s						

IDC 05 23:05:36.0±2.0, 24.°78N×95.°79E, h0km, mb3.6/2, mbtmp3.6/2, MS3.6/3, Error ellipse: s-maj=89.6km s-min=22.8km az=66.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.94	154	Pg	Pg	23 07 43.7	-5.3
	0.6nm,0.3s,baz=331,slow=16,SNR=7.5						
CMAR				Lg	Lg	23 09 15.3	
	baz=333,slow=31						
MKAR	Makanchi Array	24.48	337	P	P	23 10 56.7	-0.1
	0.7nm,0.5s,baz=160,slow=9.0,SNR=11						
	0.7nm,0.5s						
ZALV	Zalesovo Beam	30.27	347	P	P	23 11 48.6	0.0
	0.4nm,0.4s,baz=152,slow=9.5,SNR=2.3						
	0.4nm,0.4s						
DAV	Davao City (W)	33.50	117	LR	LR	23 24 54.6	
	comp=Z,17nm,19.5s,baz=231,slow=35						
FINES	FINESS Array B	58.87	328	LR	LR	23 43 24.8	
	comp=Z,99nm,19.2s,baz=252,slow=38						
RES	Resolute Bay	80.54	3	LR	LR	23 54 49.2	
	comp=Z,86nm,19.8s,baz=44,slow=37						

*THE **05** 23:07:15.0, 34.°85N×23.°12E, h15km±7km, ML3.2/4, Error ellipse: s-maj=8.3km s-min=1.1km az=234.0*

*ATH **05** 23:07:16.8, 34.°91N×23.°25E, h46km±11km, ML3.0/7, Error ellipse: s-maj=12.2km s-min=2.1km az=78.0*

*IDC **05** 23:07:18.9±3.6, 34.°89N×23.°22E, h82km±35km, mb3.4/6, mbtmp3.6/10, MS3.1/2, Error ellipse: s-maj=33.6km s-min=24.4km az=137.0*

ISC 05 23:07:16.5±1.3, 34.°89N±0.°07×23.°30E±0.°07, h58km±10km, n37, σ1.s53/44, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.65	94	P	Pn	23 07 30.2	+0.1
GVD				S	Sn	23 07 41.4	+1.4
	4μm,0.4s						
GVD	Gavdhos	0.65	94	P	Pn	23 07 29.6	-0.4
GVD				S	Sn	23 07 39.9	-0.1
GVD				AML	AML	23 07 43.7	
	comp=N,8086μm,0.3s						
GVD				AML	AML	23 07 43.9	
	comp=E,6273μm,0.4s						
GVDS	Gavdos	0.66	94	P	Pn	23 07 29.8	-0.3
GVDS				S	Sn	23 07 41.5	+1.5
	comp=E,2μm,0.4s						
RODP	Rodopos	0.77	29	P	Pn	23 07 31.5	0.0
IMMV	Iera Moni Meta	0.80	44	P	Pn	23 07 31.6	-0.3
IMMV				S	Sn	23 07 45.4	+2.2
	comp=E,1μm,0.5s						
IMMV	Iera Moni Meta	0.80	44	P	Pn	23 07 31.7	-0.2
IMMV				S	Sn	23 07 41.7	-1.5
IMMV				AML	AML	23 07 49.8	
	comp=N,2093μm,0.6s						
IMMV				AML	AML	23 07 55.3	
	comp=E,2175μm,0.5s						
CHAN	Chania	0.88	44	P	Pn	23 07 33.4	+0.5
CHAN				S	Sn	23 07 44.7	-0.2
CHAN				AML	AML	23 07 52.2	
	comp=N,1950μm,0.8s						
CHAN				AML	AML	23 07 58.2	
	comp=E,1849μm,0.7s						
ANKY	Antikythira Is	0.97	0	P	Pn	23 07 33.9	-0.3
ANKY				S	Sn	23 07 48.5	+1.3
	comp=E,732nm,0.6s						
ANKY	Antikythira Is	0.97	0	P	Pn	23 07 33.9	-0.3
ANKY				AML	AML	23 07 53.6	
	comp=E,1345μm,0.7s						
ANKY				AML	AML	23 07 54.0	
	comp=N,1574μm,0.6s						
PRNS	Prines Rethymn	1.10	64	P	Pn	23 07 35.4	-0.3
IDI	Anoyia	1.37	73	P	Pn	23 07 40.3	+0.9
IDI	Anoyia	1.37	73	P	Pn	23 07 40.3	+0.9
IDI				AML	AML	23 08 05.5	
	comp=E,316μm,0.5s						
IDI				AML	AML	23 08 14.2	
	comp=N,503μm,0.6s						
VLI	Veliai	1.85	351	P	Pn	23 07 45.6	-0.3
VLI				AML	AML	23 08 26.3	
	comp=E,271μm,0.9s						
VLI				AML	AML	23 08 28.3	
	comp=N,227μm,0.8s						
MHLO	Agia Marina, M	2.01	26	P	Pn	23 07 48.4	+0.4
MHLO				AML	AML	23 08 37.0	
	comp=E,745μm,0.6s						
MHLO				AML	AML	23 08 39.0	
	comp=N,919μm,0.7s						
SNT5	Nea Kammeni, S	2.28	48	P	Pn	23 07 51.8	0.0
PYL	PYLOS	2.37	328	P	Pn	23 07 51.9	-1.1
ZKR	Zakros	2.41	84	P	Pn	23 07 55.1	+1.5
KRND	KRANIDI	2.49	357	P	Pn	23 07 55.7	+1.1
APE	Apeiranthos	2.83	39	P	Pn	23 07 58.6	-0.7
VLY	Voula,Athens	2.98	8	P	Pn	23 08 01.0	-0.4
ATHU	Athens Univers	3.10	7	P	Pn	23 08 02.9	0.0
GUR	Goura	3.14	346	P	Pn	23 08 04.0	+0.5
DION	Dionisos Attik	3.22	9	P	Pn	23 08 05.8	+1.1
KLV	Kalavryta, Ach	3.28	344	P	Pn	23 08 04.9	-0.6
VIL2	Platees	3.31	360	P	Pn	23 08 04.8	-1.2
AXAR	Agios Charalam	3.90	353	P	Pn	23 08 14.0	0.0
BRTR	Keskin Array B	9.55	57	P	Pn	23 09 35.4	+4.0
	comp=N,1.0nm,0.8s,baz=256,slow=15,SNR=4.1						
BRTR				LR	LR	23 14 37.2	
	comp=N,51nm,18.9s,baz=256,slow=46						
MMAI	Mount Meron Ar	10.23	97	P	Pn	23 09 42.0	+1.3
	comp=N,2.9nm,0.8s,baz=307,slow=12,SNR=1.3						
MMAI				S	Sn	23 11 27.2	-6.7
	comp=N,6.1nm,0.9s,baz=280,slow=40,SNR=0.6						
AKASG	Malin Array Be	16.38	13	P	P	23 11 05.4	+1.0
	comp=N,0.1nm,0.3s,baz=206,slow=9.1,SNR=6.5						
KBZ	Khabaz	17.52	54	P	P	23 11 18.6	+1.5
	comp=N,1.2nm,0.7s,baz=259,slow=5.2,SNR=2.5						
ESDC	Sonseca Array	22.17	290	LR	LR	23 21 10.7	

	comp=N,79nm,18.5s,baz=340,slow=38						
HFS	**Hagfors**	**26.02**	**349**	P	**P**	**23 12 44.3**	**+0.4**
	comp=N,1.5nm,0.6s,baz=131,slow=6.5,SNR=2.4						
	comp=N,1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.16**	**227**	P	**P**	**23 13 12.4**	**0.0**
	comp=N,0.4nm,0.9s,baz=34,slow=8.5,SNR=1.9						
	comp=N,0.4nm,0.9s						
ARCES	**ARCESS Array B**	**34.72**	**1**	P	**P**	**23 13 58.8**	**-1.8**
	comp=N,1.8nm,0.9s,baz=188,slow=11,SNR=1.6						
	comp=N,1.8nm,0.9s						
MKAR	**Makanchi Array**	**45.20**	**56**	P	**P**	**23 15 28.2**	**+0.5**
	comp=N,0.7nm,0.5s,baz=278,slow=7.5,SNR=11						
	comp=N,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**46.29**	**46**	P	**P**	**23 15 35.9**	**-0.2**
	comp=N,0.6nm,0.4s,baz=268,slow=9.8,SNR=3.8						
	comp=N,0.6nm,0.4s						
SONM	**Songino Array**	**60.84**	**50**	P	**P**	**23 17 23.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=289,slow=9.0,SNR=2.4						
	comp=N,0.2nm,0.3s						

IDC 05 23:11:13.3±5.5**,3°.15S×139°.51E,h0km,mb3.0**/2**, mbtmp3.2**/3**,ML3.3**/1**,Error ellipse: s-maj=211.1km s-min=34.5km az=87.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.44**	**196**	P	Pn	23 15 18.5	+0.3
	0.1nm,0.3s,baz=16,slow=12,SNR=2.5						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**21.11**	**194**	P	P	23 15 59.0	-0.7
	0.3nm,0.8s,baz=21,slow=9.8,SNR=1.9						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**70.62**	**322**	P	P	23 22 31.0	+0.3
	0.2nm,0.6s,baz=100,slow=6.0,SNR=2.6						
	0.2nm,0.6s						

IDC 05 23:19:54.9±1.9**,6°.72S×128°.94E,h0km,mb3.7**/2**, mbtmp3.7**/4**,ML3.7**/2**,Error ellipse: s-maj=149.0km s-min=29.4km az=67.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.15**	**159**	Pn	Pn	23 23 16.8	0.0
	0.4nm,0.3s,baz=341,slow=13,SNR=14						
WRA				Sn	Sn	23 25 40.8	-14
	0.9nm,0.3s,baz=132,slow=11,SNR=9.0						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**17.51**	**165**	P	Pn	23 24 00.8	+0.1
	0.2nm,0.3s,baz=340,slow=10,SNR=17						
ASAR				S	Sn	23 26 59.7	-17
	0.3nm,0.3s,baz=350,slow=21,SNR=2.5						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**67.42**	**327**	P	P	23 30 52.8	+0.4
	0.2nm,0.4s,baz=116,slow=7.6,SNR=6.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.72**	**329**	P	P	23 31 18.4	-0.4
	0.5nm,0.3s,baz=130,slow=5.3,SNR=5.4						
	0.5nm,0.3s						

*IDC **05** 23:31:55.7±0.7, 33°.63S×16°.40W, h0km, mb4.3/10, mbtmp4.2/10, MS3.7/22, Error ellipse: s-maj=33.2km s-min=18.5km az=108.0*
*NEIC **05** 23:31:57.8±1.4, 33°.72S±0°.08×16°.3W±0°.1, h10km±1km, mb4.8/35, Error ellipse: s-maj=18.0km s-min=11.1km az=240.0*
ISC 05 23:31:57.4±0.4**,33°.64S**±0°.08×**16°.34W**±0°.08**,h10km,n89, σ0s.95**/55**,mb4.7**/29**,MS3.6**/22**,3D,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**4.74**	**137**	T	T	23 37 59.3	
	SNR=7.9						
TRIS	**Tristan da Cun**	**4.74**	**137**	Pn	**Pn**	**23 33 08.1**	**-0.9**
H09W1	**TRISTAN DA CUN**	**4.75**	**138**	T	T	23 37 59.4	
	SNR=43						
H10S2	**ASCENSION HYDR**	**24.61**	**4**	T	T	00 02 49.1	
	baz=37,slow=74,SNR=55						
H10S3	**ASCENSION HYDR**	**24.62**	**4**	T	T	00 02 48.1	
	baz=183,slow=74,SNR=97						
H10N1	**ASCENSION HYDR**	**25.73**	**4**	T	T	00 04 12.3	
	baz=181,slow=73,SNR=24						
H10N3	**ASCENSION HYDR**	**25.73**	**4**	T	T	00 04 22.7	
	baz=181,slow=73,SNR=90						
H10N2	**ASCENSION HYDR**	**25.75**	**4**	T	T	00 04 09.6	
	baz=181,slow=73,SNR=30						
SUR	**Sutherland**	**31.07**	**98**	LR	LR	23 47 59.0	
	comp=Z,106nm,18.9s,baz=252,slow=31						
ITAB	**Concordia**	**31.41**	**272**	P	**P**	**23 38 19.3**	**+0.5**
ITAB				IAmb	IAmb	23 38 38.0	
	comp=Z,15nm,1.3s						
RCBR	**Riachuelo**	**33.10**	**322**	LR	LR	23 48 46.8	
	comp=Z,95nm,20.5s,baz=102,slow=31						
TSUM	**Tsumeb**	**33.44**	**73**	LR	LR	23 49 34.2	
	comp=Z,87nm,18.4s,baz=224,slow=32						
BDFB	**Brasilia**	**33.72**	**294**	P	**P**	**23 38 38.9**	**-0.3**
BDFB				IAmb	IAmb	23 38 59.1	
	comp=Z,11nm,1.5s						
BDFB	**Brasilia**	**33.72**	**294**	LR	LR	23 49 43.3	
	comp=Z,115nm,21.1s,baz=143,slow=32						
ITQB	**Itaqui**	**34.37**	**265**	P	**P**	**23 38 46.9**	**+2.2**
ITQB				IAmb	IAmb	23 38 49.5	
	comp=Z,42nm,1.3s						
BOSA	**Boshof**	**35.78**	**93**	P	**P**	**23 38 56.2**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=264,slow=8.9,SNR=4.7						
BOSA				LR	LR	23 51 06.2	
	comp=Z,123nm,18.8s,baz=205,slow=32						
	comp=Z,3.1nm,0.8s						
CPUP	**Villa Florida**	**36.06**	**271**	P	**P**	**23 38 58.2**	**-1.1**
CPUP	**Villa Florida**	**36.06**	**271**	LR	LR	23 51 06.9	
	comp=Z,111nm,21.6s,baz=108,slow=32						
LBTB	**Lobatse**	**37.35**	**88**	LR	LR	23 51 26.5	
	comp=Z,103nm,21.1s,baz=246,slow=31						
VNA2	**Neumayer--Watz**	**37.65**	**175**	⇓P	**P**	**23 39 13.4**	**+1.1**
	comp=Z,10nm,0.7s,baz=345,slow=11						
VNA3	**Neumayer Olymp**	**37.83**	**176**	⇓P	**P**	**23 39 14.5**	**+0.7**
	comp=Z,16nm,0.8s						
TROLL	**Troll, Antarti**	**39.70**	**171**	⇓P	**P**	**23 39 31.0**	**+1.4**
	comp=Z,529nm,0.8s						
MG01	**Puerto William**	**41.29**	**223**	P	**P**	**23 39 43.6**	**+0.9**
DBIC	**Dimbokro**	**41.55**	**17**	P	**P**	**23 39 45.2**	**0.0**
DBIC	**Dimbokro**	**41.55**	**17**	P	**P**	**23 39 44.5**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=172,slow=11,SNR=4.7						
	comp=Z,3.1nm,0.8s						
PLCA	**Paso Flores**	**43.18**	**244**	P	**P**	**23 39 56.9**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=139,slow=5.2,SNR=5.0						
PLCA				LR	LR	23 56 12.1	
	comp=Z,35nm,19.2s,baz=86,slow=34						
	comp=Z,1.8nm,0.7s						
CFA	**Coronel Fontan**	**43.38**	**258**	LR	LR	23 55 02.1	
	comp=Z,79nm,21.6s,baz=56,slow=32						
GO09	**Cerro Castillo**	**43.77**	**229**	P	**P**	**23 40 02.2**	**-0.8**
LL02	**Futaleuf**	**43.82**	**241**	P	**P**	**23 40 03.7**	**+0.2**
LL02				IAmb	IAmb	23 40 10.0	
	comp=Z,28nm,1.4s						
SIV	**San Ignacio**	**43.87**	**282**	LR	LR	23 56 06.0	
	comp=Z,114nm,21.2s,baz=105,slow=33						
LSZ	**Lusaka**	**44.08**	**77**	P	**P**	**23 40 07.1**	**+1.1**
LSZ	**Lusaka**	**44.08**	**77**	LR	LR	23 55 33.5	
	comp=Z,50nm,19.0s,baz=296,slow=32						
LMEL	**Las Melosas**	**44.35**	**254**	P	**P**	**23 40 08.5**	**+0.4**
LMEL				IAmb	IAmb	23 40 16.9	
	comp=Z,16nm,1.3s						
MT16	**CCHEN**	**44.72**	**255**	P	**P**	**23 40 12.5**	**+1.5**
BELA	**Belgrano 2**	**45.06**	**185**	P	**P**	**23 40 12.6**	**-0.4**
BELA				IAmb	IAmb	23 40 14.9	
	comp=Z,13nm,1.1s						
ROC1	**El Roble**	**45.24**	**255**	P	**P**	**23 40 14.4**	**-0.9**
ROC1				IAmb	IAmb	23 40 16.4	
	comp=Z,29nm,1.1s						
CO01	**Juntas del Tor**	**45.41**	**259**	P	**P**	**23 40 16.4**	**-0.3**
CO01				IAmb	IAmb	23 40 18.1	
	comp=Z,9.5nm,0.7s						
VA06	**Catapilco**	**45.59**	**255**	P	**P**	**23 40 18.2**	**+0.5**
VA06				IAmb	IAmb	23 40 20.4	
	comp=Z,35nm,1.1s						
GO03	**Copiap**	**46.34**	**262**	P	**P**	**23 40 23.6**	**-0.3**
GO03				IAmb	IAmb	23 40 42.7	
	comp=Z,17nm,1.2s						
AC06	**Mina Casimiro**	**46.53**	**263**	P	**P**	**23 40 25.5**	**+0.2**
AC06				IAmb	IAmb	23 40 52.8	
	comp=Z,19nm,1.4s						
AC01	**Pan de Azucar**	**47.18**	**264**	P	**P**	**23 40 30.0**	**-0.4**
LVC	**Limon Verde**	**47.21**	**269**	LR	LR	23 59 37.7	
	comp=Z,41nm,19.7s,baz=66,slow=35						
PB05	**IPOC Station P**	**48.19**	**268**	P	**P**	**23 40 38.1**	**-0.2**
PB08	**IPOC Station P**	**48.51**	**272**	P	**P**	**23 40 39.6**	**-1.6**
GO01	**Chusmiza**	**48.76**	**273**	P	**P**	**23 40 42.1**	**-1.2**
GO01				IAmb	IAmb	23 40 47.3	
	comp=Z,8.2nm,1.1s						
SACV	**Santiago Islan**	**48.84**	**351**	P	**P**	**23 40 43.8**	**+0.7**
PB11	**IPOC Station P**	**49.10**	**272**	P	**P**	**23 40 43.5**	**-2.0**
PB11				IAmb	IAmb	23 40 45.4	
	comp=Z,13nm,0.9s						
SAML	**Samuel**	**49.54**	**289**	P	**P**	**23 40 48.4**	**-0.3**
TOA0	**Torodi Ar. Sit**	**49.60**	**23**	P	**P**	**23 40 49.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**49.60**	**23**	P	**P**	**23 40 48.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**49.60**	**23**	P	**P**	**23 40 49.0**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=202,slow=6.0,SNR=20						
	comp=Z,3.0nm,0.8s						
PB16	**IPOC Station P**	**49.65**	**274**	P	**P**	**23 40 49.3**	**-0.9**
PB16				IAmb	IAmb	23 40 56.7	
	comp=Z,4.9nm,0.9s						
ETMB	**Extrema**	**51.45**	**285**	P	**P**	**23 41 02.8**	**-0.3**
ETMB				IAmb	IAmb	23 41 10.2	
	comp=Z,9.9nm,1.2s						
MDP	**Montagnes des**	**51.61**	**311**	LR	LR	00 01 54.0	
	comp=Z,88nm,18.8s,baz=135,slow=35						
H04S3	**CROZET ISLANDS**	**52.16**	**126**	T	T	00 37 39.6	
	baz=254						
H04S2	**CROZET ISLANDS**	**52.16**	**126**	T	T	00 37 34.7	
	baz=254						
H04S1	**CROZET ISLANDS**	**52.18**	**126**	T	T	00 37 34.1	
	baz=254						
MBAR	**Mbarara**	**54.98**	**63**	P	**P**	**23 41 29.6**	**+0.3**
MBAR				IAmb	IAmb	23 41 33.5	
	comp=Z,9.1nm,0.8s						
MAW	**Mawson**	**55.31**	**153**	LR	LR	00 00 49.3	
	comp=Z,78nm,19.6s,baz=258,slow=31						
QSPA	**South Pole Qui**	**56.60**	**180**	P	**P**	**23 41 39.9**	**-0.4**
QSPA				IAmb	IAmb	23 41 42.7	
	comp=Z,18nm,0.9s						
QSPA	**South Pole Qui**	**56.60**	**180**	P	**P**	**23 41 41.5**	**+1.2**
	comp=Z,12nm,0.8s,baz=219,slow=2.4,SNR=37						
	comp=Z,12nm,0.8s						
NNA	**Nana**	**58.96**	**276**	LR	LR	00 06 14.3	
	comp=Z,27nm,19.7s,baz=146,slow=35						
KMBO	**Kilima Mbogo**	**59.61**	**69**	LR	LR	00 06 55.3	
	comp=Z,36nm,18.4s,baz=90,slow=35						
TAM	**Tamanrasset**	**59.86**	**23**	P	**P**	**23 42 02.7**	**-0.9**
LODK	**Lodwar**	**61.09**	**63**	P	**P**	**23 42 11.4**	**-0.6**
LODK				IAmb	IAmb	23 42 15.3	
	comp=Z,5.1nm,1.2s						
BBGH	**Gun Hill**	**62.12**	**311**	P	**P**	**23 42 19.5**	**+0.7**
PCRV	**Puerto La Cruz**	**63.28**	**305**	LR	LR	00 07 47.7	
	comp=Z,161nm,21.0s,slow=34						
COHC	**Cochancay**	**66.23**	**284**	P	**P**	**23 42 45.9**	**-0.1**
SDV	**Santo Domingo**	**66.64**	**299**	LR	LR	00 11 58.5	
	comp=Z,101nm,18.5s,baz=86,slow=36						
ROSC	**El Rosal**	**66.76**	**293**	LR	LR	00 10 40.8	
	comp=Z,140nm,19.7s,baz=79,slow=35						
MDT	**Midelt**	**67.02**	**11**	LR	LR	00 10 01.3	
	comp=Z,47nm,18.7s,baz=313,slow=34						
VNDA	**Vanda**	**69.09**	**180**	P	**P**	**23 43 04.1**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=252,slow=9.6,SNR=2.0						
	comp=Z,1.2nm,0.9s						
SJG	**San Juan**	**70.03**	**309**	LR	LR	00 15 57.5	
	comp=Z,31nm,18.6s,baz=48,slow=38						
KEST	**Kesra**	**73.08**	**22**	P	**P**	**23 43 29.2**	**+1.5**
	comp=Z,3.7nm,0.9s,baz=320,slow=9.9,SNR=4.1						
	comp=Z,3.7nm,0.9s						
ESDC	**Sonseca Array**	**73.84**	**10**	P	**P**	**23 43 32.8**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=178,slow=6.4,SNR=4.9						
	comp=Z,0.8nm,0.9s						
H07N1	**FLORES T-PHASE**	**74.24**	**348**	T	T	01 03 32.6	
	SNR=3.7						
EKA	**Eskdalemuir Ar**	**89.34**	**7**	P	**P**	**23 44 54.3**	**+0.8**
	comp=Z,4.5nm,1.0s,baz=210,slow=4.1,SNR=3.3						
	comp=Z,4.5nm,1.0s						
AKASG	**Malin Array Be**	**93.11**	**27**	P	**P**	**23 45 11.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=219,slow=0.7,SNR=5.0						
	comp=Z,0.6nm,0.7s						
H01W2	**Cape Leeuwin H**	**97.53**	**141**	T	T	01 35 08.0	
	baz=220						
H01W3	**Cape Leeuwin H**	**97.54**	**141**	T	T	01 35 07.8	
	baz=220						
H01W1	**Cape Leeuwin H**	**97.54**	**141**	T	T	01 35 08.5	
	baz=220						
PALK	**Pallekele**	**99.83**	**88**	LR	LR	00 23 44.4	
	comp=Z,42nm,21.6s,baz=7.7,slow=31						
ASAR	**Alice Springs**	**116.35**	**149**	PKP	**PKPdf**	**23 50 40.9**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=203,slow=2.2,SNR=7.0						
KURBB	**Kurchatov Arra**	**118.05**	**46**	PKP	**PKiKP**	**23 50 44.6**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=238,slow=2.7,SNR=5.1						
WRA	**Warramunga Arr**	**119.82**	**148**	PKP	**PKPdf**	**23 50 47.4**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=226,slow=1.8,SNR=6.0						
CMAR	**Chiang Mai Arr**	**120.78**	**87**	PKP	**PKPdf**	**23 50 49.9**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=245,slow=3.0,SNR=4.2						
YKA	**Yellowknife Ar**	**122.96**	**327**	PKP	**PKPdf**	**23 50 51.4**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=109,slow=2.0,SNR=7.4						
ILAR	**Eielson Array**	**136.94**	**332**	PKP	**PKPdf**	**23 51 19.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=7.0,slow=1.1,SNR=18						
KSRS	**Korea Array**	**150.78**	**72**	PKPbc	**PKPbc**	**23 51 48.4**	**-1.6**
	comp=Z,2.8nm,0.9s,baz=271,slow=3.9,SNR=5.4						

*AFAD **06** 00:07:12.7±0.0, 36°.86N×35°.41E, h7km±3km, ML2.6*
*ISK **06** 00:07:12.5, 36°.92N×35°.43E, h18km, ML2.8/27*
*GII **06** 00:07:14.7±0.4, 36°.675N±0°.004×35°.262E±0°.001, h1km, Mws2.4, confirmed*
ISC 06 00:07:13.7±0.9**,36°.92N**±0°.02×**35°.44E**±0°.02**,h24**km±7km**, n57,σ0s.65**/75**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.18**	**120**	P	**Pb**	**00 07 18.8**	**-0.2**
YURE				S	**Sb**	**00 07 23.3**	**+0.7**
CEYT	**Ceyhan**	**0.26**	**69**	Pg	**Pb**	**00 07 19.4**	**-0.7**
CEYT				Sg	**Sb**	**00 07 25.0**	**+0.5**
KARA	**Karaisali**	**0.46**	**318**	Pg	**Pb**	**00 07 22.3**	**-1.0**
KARA				Sg	**Sb**	**00 07 29.1**	**-0.7**
AKO	**Adana**	**0.55**	**1**	P	**Pb**	**00 07 24.2**	**-0.5**
AKO				*i* AML	AML	00 07 33.0	
	comp=N,304nm,0.7s						
AKO				S	**Sn**	**00 07 33.5**	**-1.0**
AKO				*i* AML	AML	00 07 34.0	
	comp=E,314nm,0.2s						
KOZT	**Kozan**	**0.64**	**29**	Pg	**Pb**	**00 07 25.6**	**-0.8**
KOZT				Sg	**Sb**	**00 07 34.3**	**-0.6**
GULE	**Gulek**	**0.65**	**305**	P	**Pb**	**00 07 26.1**	**-0.4**
GULE				S	**Sb**	**00 07 35.8**	**+0.6**
GULE				*i* AML	AML	00 07 36.0	
	comp=E,634nm,0.5s						
GULE				*i* AML	AML	00 07 37.0	
	comp=N,822nm,0.7s						
MERS	**Mersin**	**0.74**	**267**	Pg	**Pb**	**00 07 27.4**	**-0.6**
MERS				Sg	**Sn**	**00 07 38.6**	**-0.7**
TAHT	**Tahtakopru-Hat**	**0.81**	**132**	Pg	**Pb**	**00 07 28.9**	**-0.2**
TAHT				Sg	**Sb**	**00 07 40.2**	**+0.6**
CMRD	**Camardi-Nigde**	**0.83**	**334**	Pg	**Pb**	**00 07 28.4**	**-1.1**
CMRD				Sg	**Sb**	**00 07 40.2**	**-0.1**
HASA	**Hatay-Hassa-Ha**	**0.86**	**101**	P	**Pb**	**00 07 29.7**	**-0.3**
HASA				S	**Sn**	**00 07 42.3**	**+0.2**
ANDN	**Andirin**	**0.98**	**47**	P	**Pn**	**00 07 32.5**	**+0.3**
ANDN				S	**Sn**	**00 07 46.2**	**+0.8**
ANDN				*i* AML	AML	00 07 47.0	
	comp=N,118nm,0.3s						
ANDN				*i* AML	AML	00 07 47.0	
	comp=E,88nm,0.3s						
KAMA	**Osmaniye**	**1.02**	**74**	P	**Pn**	**00 07 32.1**	**-0.5**
KAMA				S	**Sb**	**00 07 45.8**	**0.0**
KAMA				*i* AML	AML	00 07 46.0	
	comp=N,85nm,0.5s						
KIZK	**Mersin**	**1.13**	**248**	Pn	**Pn**	**00 07 33.7**	**-0.4**
KIZK				Sn	**Sn**	**00 07 49.3**	**+0.4**
KIZK	**Mersin**	**1.13**	**248**	P	**Pn**	**00 07 34.1**	**0.0**
KIZK				S	**Sn**	**00 07 49.2**	**+0.4**
KIZK				*i* AML	AML	00 07 50.0	
	comp=E,191nm,0.3s						
KIZK				*i* AML	AML	00 07 51.0	
	comp=N,153nm,0.4s						
KERG	**Konya-Eregli**	**1.16**	**296**	P	**Pn**	**00 07 34.6**	**-0.1**
KERG				S	**Sn**	**00 07 50.8**	**+0.9**
KERG				*i* AML	AML	00 07 53.0	
	comp=E,184nm,0.2s						
KERG				*i* AML	AML	00 07 54.0	
	comp=N,183nm,0.2s						
SAIM	**ADANA**	**1.18**	**26**	P	**Pn**	**00 07 34.7**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.18**	**357**	P	**Pn**	**00 07 34.7**	**-0.2**
YAHY				S	**Sn**	**00 07 52.1**	**+1.9**
NIDE	**Nigde/Merkez-G**	**1.20**	**334**	P	**Pn**	**00 07 35.3**	**0.0**
NIDE				S	**Sb**	**00 07 53.4**	**+2.3**
NIDE				*i* AML	AML	00 07 54.0	
	comp=E,305nm,0.2s						
NIDE				*i* AML	AML	00 07 57.0	
	comp=N,226nm,0.3s						
HCB	**Kahramanmara**	**1.25**	**70**	P	**Pn**	**00 07 35.2**	**-0.5**
HCB				S	**Sn**	**00 07 51.4**	**-0.5**
KMRS	**Kahramanmaras**	**1.31**	**63**	Pn	**Pn**	**00 07 36.2**	**-0.4**
SLFK	**Silifke-Mersin**	**1.31**	**247**	Pn	**Pn**	**00 07 35.7**	**-0.8**
SILI	**Silifke-Mersin**	**1.34**	**246**	Pn	**Pn**	**00 07 36.6**	**-0.3**
NIG	**Nigde**	**1.36**	**331**	Pn	**Pn**	**00 07 37.5**	**-0.1**
GAZ	**Gaziantep**	**1.44**	**79**	Pn	**Pn**	**00 07 38.4**	**0.0**
KEBE	**Keben-Mersin**	**1.47**	**252**	Pn	**Pn**	**00 07 38.9**	**+0.1**
KARG	**Kargicak-Mersi**	**1.56**	**243**	Pn	**Pn**	**00 07 40.3**	**+0.2**
IKL	**Isikli**	**1.57**	**245**	Pn	**Pn**	**00 07 39.7**	**-0.4**
TISA	**Tisan-Mersin**	**1.60**	**243**	Pn	**Pn**	**00 07 39.7**	**-0.9**
YESY	**Yesilyurt**	**1.60**	**303**	Pn	**Pn**	**00 07 41.1**	**+0.3**
YESI	**Yesilovacik-Me**	**1.62**	**244**	Pn	**Pn**	**00 07 39.9**	**-0.9**
TEPK	**Tepekoy-MERSIN**	**1.67**	**246**	Pn	**Pn**	**00 07 41.9**	**+0.3**
TEVE	**Tevekalti-Mers**	**1.68**	**254**	Pn	**Pn**	**00 07 41.8**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.68**	**27**	Pn	**Pn**	**00 07 42.4**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.70**	**244**	Pn	**Pn**	**00 07 42.1**	**+0.2**
AKK2	**Akkuyu-Mersin**	**1.71**	**244**	Pn	**Pn**	**00 07 42.1**	**+0.1**
AKK1	**Akkuyu-Mersin**	**1.71**	**244**	Pn	**Pn**	**00 07 42.3**	**+0.2**
BERE	**Bereket-Mersin**	**1.87**	**253**	Pn	**Pn**	**00 07 44.7**	**+0.3**
BNN	**Bunyan**	**1.96**	**9**	Pn	**Pn**	**00 07 46.1**	**+0.5**
SULT	**Sultanhani-AKS**	**2.00**	**311**	Pn	**Pn**	**00 07 46.9**	**+0.8**
CSS	**Mathiatis**	**2.59**	**222**	P	**Pn**	**00 07 54.0**	**-0.2**
GEM	**Giv'at Ha'Em**	**3.70**	**177**	S	**Sn**	**00 08 52.1**	**-0.2**
GEM	**Giv'at Ha'Em**	**3.70**	**177**	P	**Pn**	**00 08 09.4**	**0.0**
MMA0B	**Mount Meron ar**	**3.89**	**180**	P	**Pn**	**00 08 12.1**	**0.0**
MMA0B	**Mount Meron ar**	**3.89**	**180**	S	**Sn**	**00 08 56.9**	**-0.2**
KSHT	**Keshet**	**3.94**	**175**	P	**Pn**	**00 08 13.3**	**+0.5**
KSHT	**Keshet**	**3.94**	**175**	S	**Sn**	**00 08 58.9**	**+0.7**
BLGI	**Bet Lehem HaGe**	**4.18**	**183**	P	**Pn**	**00 08 15.6**	**-0.4**
MMLI	**Mount Malkishu**	**4.47**	**180**	S	**Sn**	**00 09 09.9**	**-1.4**
MMLI	**Mount Malkishu**	**4.47**	**180**	P	**Pn**	**00 08 20.4**	**+0.4**
HMDT	**Nahal Hemdat**	**4.65**	**179**	P	**Pn**	**00 08 23.3**	**+0.8**
HMDT	**Nahal Hemdat**	**4.65**	**179**	S	**Sn**	**00 09 16.2**	**+0.4**
SLTI	**Sal'it**	**4.68**	**184**	P	**Pn**	**00 08 23.2**	**+0.3**
SLTI	**Sal'it**	**4.68**	**184**	S	**Sn**	**00 09 15.9**	**-0.5**
SALP	**Salfit**	**4.84**	**183**	P	**Pn**	**00 08 25.5**	**+0.3**
SALP	**Salfit**	**4.84**	**183**	S	**Sn**	**00 09 19.7**	**-0.8**
DSI	**Dead Sea**	**5.33**	**181**	P	**Pn**	**00 08 32.6**	**+0.7**
KZIT	**Kziot**	**6.06**	**189**	P	**Pn**	**00 08 42.7**	**+0.8**

*KRNET **06** 00:24:12.0±0.1, 41°.50N×69°.19E, mb2.7*
*ISU **06** 00:24:13.0, 41°.52N×69°.14E, h15km*
*SOME **06** 00:24:13.2, 41°.50N×69°.42E, h0km*
*NNC **06** 00:24:17.9±4.0, 41°.76N×69°.23E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=29.7km s-min=18.7km az=43.0*
ISC 06 00:24:14.9±1.6**,41°.50N**±0°.03×**69°.33E**±0°.06**,h4**km±10km**, n32,σ1s.64**/55**,15C-12D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGS	**TashGRES**	**0.16**	**120**	P	**Pg**	**00 24 18.0**	**-0.1**
TGS				S	**Sg**	**00 24 21.7**	**+1.5**
CHRV	**Charvak**	**0.48**	**73**	P	**Pg**	**00 24 25.1**	**+0.9**
CHRV				S	**Sb**	**00 24 34.2**	**+0.7**
CHMG	**Chimgan**	**0.51**	**85**	P	**Pg**	**00 24 25.7**	**+1.0**
CHMG				S	**Sb**	**00 24 35.3**	**+0.9**
TRKS	**Terek-Say**	**1.36**	**88**	⇓*i*P	**Pn**	**00 24 39.5**	**-1.3**
	baz=91						
TRKS				⇓*i*S	**Sg**	**00 24 59.5**	**+1.0**
	baz=91						
KSNS	**Kasansay**	**1.68**	**101**	P	**Pb**	**00 24 46.3**	**-0.2**
KSNS				S	**Sg**	**00 25 10.8**	**+1.8**
KK31	**Karatay Array**	**1.82**	**28**	Pn	**Pn**	**00 24 47.2**	**+0.2**
	1.0nm,0.2s,baz=217,slow=16,SNR=51						
KK31				⇑Sn	**Sn**	**00 25 10.8**	**+0.2**
	9.7nm,0.3s,baz=210,slow=22						
BTK	**Batken**	**1.83**	**142**	⇓*i*P	**Pn**	**00 24 46.6**	**-0.6**
	baz=39						
BTK				⇓*i*S	**Sb**	**00 25 11.9**	**-0.5**
	baz=39						
ARK	**Arkit**	**1.99**	**81**	⇓*i*P	**Pn**	**00 24 49.4**	**-0.1**
	baz=81						
ARK				⇓*i*S	**Sb**	**00 25 16.7**	**-0.3**
	baz=81						
DZA	**Taraz**	**2.03**	**46**	Pg	**Pb**	**00 24 51.7**	**-0.7**
	6.9nm,0.0s						
DZA				Lg	Lg	00 25 19.1	
	56nm,0.1s						
DZA	**Taraz**	**2.03**	**46**	*e*P	**Pb**	**00 24 51.7**	**-0.7**
	6.9nm,0.0s						
DZA				*e*S	**Sb**	**00 25 19.1**	**+1.1**
	56nm,0.1s						
FRG	**Fergana**	**2.17**	**120**	P	**Pb**	**00 24 54.0**	**-0.8**
FRG				S	**Sg**	**00 25 25.1**	**+0.4**
TSTA	**Tashata**	**2.55**	**110**	P	**Pb**	**00 24 59.5**	**-1.8**
TSTA				S	**Sg**	**00 25 35.3**	**-1.5**
ARSB	**Arslanbob**	**2.75**	**93**	⇑*e*P	**Pn**	**00 24 59.7**	**-0.2**
	baz=92						
ARSB				⇑*i*S	**Sn**	**00 25 34.6**	**+0.9**
	baz=92						
DRK	**Karamyk**	**2.76**	**136**	⇓*e*P	**Pn**	**00 24 59.6**	**-0.6**
	baz=35						
DRK				⇓*e*S	**Sn**	**00 25 34.2**	**0.0**
	baz=35						
OHH	**Osh**	**2.79**	**109**	⇑*i*P	**Pn**	**00 25 00.1**	**-0.3**
	baz=9.0						
OHH				⇑*i*S	**Sn**	**00 25 35.5**	**+1.0**
	baz=9.0						
MRKS	**Merke**	**3.15**	**66**	Lg	Lg	00 25 54.9	
	12nm,0.4s						
MRKS	**Merke**	**3.15**	**66**	*e*P	**Pb**	**00 25 12.1**	**+0.6**
	2.3nm,0.2s						
MRKS				*e*S	**Sg**	**00 25 54.9**	**-1.2**
	12nm,0.4s						
AML	**Almayashu**	**3.32**	**78**	⇑Pn	**Pb**	**00 25 12.6**	**-1.9**
	0.3nm,0.6s						
AML				⇑Sn	**Sb**	**00 25 54.8**	**-0.6**
	0.8nm,0.5s						
AML	**Almayashu**	**3.32**	**78**	⇓*i*P	**Pn**	**00 25 07.9**	**-0.1**
	baz=78						
AML				⇓*i*S	**Sn**	**00 25 48.9**	**+0.8**
	baz=78						
SFK	**Sufi-Kurgan**	**3.50**	**114**	⇑*i*P	**Pn**	**00 25 10.2**	**-0.1**
	baz=13						
SFK				⇑*i*S	**Sn**	**00 25 52.9**	**+0.6**
	baz=13						
EKS2	**Erkin-Say**	**3.50**	**69**	⇑*i*P	**Pn**	**00 25 10.3**	**0.0**
	baz=70						
EKS2				⇑*i*S	**Sn**	**00 25 52.6**	**+0.4**
	baz=70						
ARLS	**Aral**	**3.75**	**83**	⇓*e*P	**Pn**	**00 25 13.9**	**+0.2**
	baz=83						
ARLS				⇓*e*S	**Sn**	**00 25 58.8**	**+0.3**
	baz=83						
UCH	**Uchtor**	**3.94**	**78**	⇑*i*P	**Pn**	**00 25 16.8**	**+0.3**
	baz=78						
UCH				⇑*i*S	**Sn**	**00 26 03.7**	**+0.4**
	baz=78						
USP	**Ospenovka**	**4.21**	**64**	⇑*i*P	**Pn**	**00 25 19.7**	**-0.2**
	baz=64						
USP				⇑*i*S	**Sn**	**00 26 09.4**	**-0.2**
	baz=64						
DGS	**Degeres**	**5.08**	**68**	Pg	**Pb**	**00 25 46.7**	**+2.4**
	1.1nm,0.5s						
DGS	**Degeres**	**5.08**	**68**	*e*P	**Pb**	**00 25 46.7**	**+2.4**
	1.1nm,0.5s						
DGS				*e*S	**Sg**	**00 26 53.9**	**-3.9**
	9.8nm,0.5s						
KST	**Kastek**	**5.15**	**70**	*e*P	**Pb**	**00 25 48.7**	**+3.1**
	1.9nm,0.3s						
KST				*e*S	**Sg**	**00 26 56.7**	**-3.6**
	4.9nm,0.6s						
KRBS	**Karabastau**	**5.17**	**63**	Lg	Lg	00 26 57.2	
	2.4nm,0.5s						
KRBS	**Karabastau**	**5.17**	**63**	*e*P	**Pb**	**00 25 48.6**	**+2.8**
	0.7nm,0.3s						
KRBS				*e*S	**Sg**	**00 26 57.1**	**-3.7**
	2.4nm,0.5s						
KTBS	**Karatobe**	**5.85**	**65**	Lg	Lg	00 27 17.7	
	3.0nm,0.6s						
KTBS	**Karatobe**	**5.85**	**65**	*e*P	**Pb**	**00 26 00.6**	**+3.1**
	1.0nm,1.3s						
KTBS				*e*S	**Sg**	**00 27 17.7**	**-5.1**
	3.5nm,0.4s						
AB31	**Akbulak array**	**10.18**	**323**	Pn	**Pn**	**00 26 41.4**	**-0.2**
	0.4nm,0.7s,baz=143,slow=11,SNR=6.0						

OMAN 06 00:26:15.9±1.3,26°.22N×58°.86E,h2km±7km,ml2.7/18, Error ellipse: s-maj=10.5km s-min=6.0km az=26.0
TEH 06 00:26:16.6,26°.49N×58°.80E,h9km±114km,ML3.0
ISC 06 00:26:15.6±1.6,26°.30N±0°.04×58°.83E±0°.03,h2km±13km, n29,σ1s.33/43,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASK	Jask - Hormozg	0.97	244	Pg	Pb	00 26 35.7	+0.5
JASK	Jask - Hormozg	0.97	244	P	Pn	00 26 35.8	-0.4
JASK				S	Sg	00 26 46.1	-0.7
CHBR	Chabahar	1.64	115	Pg	Pg	00 26 47.9	+0.7
KHNJ	Kahnooj	1.92	329	Pg	Pn	00 26 48.2	-1.2
NGCH	Negor - Chabah	2.28	114	Pn	Pb	00 26 57.4	-0.1
NGCH	Negor - Chabah	2.28	114	P	Pn	00 26 54.1	-0.1
	SNR=7.4						
BANOM	Banah	2.31	261	P	Pb	00 26 56.8	-1.2
SHME	Shamm	2.43	265	P	Pn	00 26 56.9	+0.6
SHME				S	Sn	00 27 26.6	0.0
MASF	Masafi	2.58	250	P	Pn	00 26 58.7	+0.2
GENO	Geno	2.62	295	Pn	Pn	00 27 00.1	+1.0
BIDO	Bidbid	2.84	193	P	Pn	00 27 00.4	-1.6
BIDO				S	Sn	00 27 35.1	-1.7
KBAM	BAM	2.84	353	Pn	Pn	00 27 00.2	-1.9
HATD	Hatta, Dubai	2.85	240	P	Pn	00 27 00.9	-1.2
ASHO	Ashiyiah	2.98	238	P	Pn	00 27 02.1	-1.8
	SNR=18						
ASHO				S	Sn	00 27 40.6	+0.4
SOHO	SOHO	3.00	224	P	Pn	00 27 02.1	-2.0
SOHO				S	Sn	00 27 38.5	-2.1
WSAR	Wadi Sarin	3.05	183	P	Pn	00 27 04.5	-0.4
WSAR				P	Pn	00 27 04.7	-0.2
	SNR=40						
WSAR				S	Sn	00 27 41.3	-0.7
NAZ	Nazwa, Dubai	3.15	246	P	Pn	00 27 06.2	+0.1
SMDO	Samad	3.31	193	P	Pn	00 27 07.4	-1.0
	SNR=16						
SMDO				S	Sn	00 27 47.6	-0.8
SRVN	Saravan	3.37	70	Pn	Pn	00 27 11.4	+2.0
ZHDN	Zahedan	3.55	29	Pn	Pn	00 27 11.1	-0.8
ALNE	Al Ain	3.58	232	P	Pn	00 27 12.6	+0.5
ALNE				S	Sn	00 27 56.2	+1.3
ASUD	Al Ashush, Dub	3.58	243	P	Pn	00 27 13.3	+1.2
ASUD				S	Sn	00 27 57.3	+2.4
ARQ	Araqi	3.62	216	P	Pn	00 27 13.6	+0.9
	SNR=15						
ARQ				S	Sn	00 27 59.9	+3.8
WBK	Wadi Bani Khal	3.68	178	P	Pn	00 27 13.0	-0.5
	SNR=42						
WBK				S	Sn	00 27 56.2	-1.2
BSY	Bisya	3.84	203	P	Pn	00 27 16.5	+0.7
BSY				S	Sn	00 28 03.6	+2.1
JMDO	Jabal Madar	3.97	190	P	Pn	00 27 17.5	0.0
JMDO				S	Sn	00 28 04.1	-0.6
JLN	Jalan Bani Buh	4.17	173	P	Pn	00 27 18.9	-1.3
KHGB	Koh Gabri	4.56	333	Pn	Pn	00 27 25.3	-0.5
MHTO	MHTO	5.35	189	P	Pn	00 27 37.1	+0.6

WEL 06 00:43:28.9±1.0,37°S±7°×18°0E±°,h12km,M3.3/10, mB5.3/2,ML3.7/19,MLv3.3/10,Mw(mB)4.7/2,Error ellipse: s-maj=0.0km s-min=0.0km az=117.8,confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.37	230	P	Pn	00 43 52.8	-1.0
MXZ				S	Sn	00 44 11.7	-0.3
WMGZ	Waiomatatini S	1.49	220	P	Pn	00 43 55.8	+0.3
PKGZ	Pakihiroa	1.73	226	P	Pn	00 43 58.8	0.0
PKGZ				S	Sn	00 44 21.5	+0.7
PUZ	Puketiti	1.76	218	P	Pn	00 43 58.9	-0.3
PUZ				S	Sg	00 44 24.5	-1.2
HAZ	Te Kaha	1.82	234	P	Pn	00 43 59.0	-1.0
HAZ				S	Sb	00 44 26.0	+1.1
TWGZ	Tauwhareparae	1.99	221	P	Pn	00 44 02.4	0.0
RUGZ	Raukumara Rang	2.02	230	P	Pn	00 44 03.5	+0.7
CNGZ	Carnagh Statio	2.12	212	P	Pn	00 44 04.6	+0.4
MWZ	Matawai	2.35	225	P	Pn	00 44 07.2	-0.1
MWZ				S	Sn	00 44 36.3	+0.3
RIGZ	Rimuhau	2.50	216	P	Pn	00 44 08.8	-0.6
URZ	Urewera	2.55	231	P	Pn	00 44 09.8	-0.2
SNGZ	Shannon Statio	2.77	220	P	Pn	00 44 10.7	-2.4
SNGZ				S	Sn	00 44 46.8	+0.2
MTHZ	Maungataniwha	3.09	225	P	Pn	00 44 17.2	-0.4
MTHZ				S	Sn	00 44 54.2	-0.3
KUZ	Kuaotunu	3.14	268	P	Pn	00 44 17.4	-0.8
TOZ	Tahuroa Road	3.46	251	P	Pn	00 44 22.2	-0.4
MKAZ	Moumakai	3.61	262	P	Pn	00 44 24.6	0.0
KWHZ	Kaweka Forest	3.73	222	P	Pn	00 44 25.9	-0.4
KWHZ				S	Sn	00 45 07.2	-2.9
BHHZ	Black Hill Sta	3.97	224	P	Pn	00 44 28.8	-0.9
OTVZ	Oturere	3.99	231	P	Pn	00 44 32.1	+2.0
WCZ	Waipu Caves	4.33	278	P	Pn	00 44 34.9	+0.3
MRZ	Mangatainoka R	5.08	217	P	Pn	00 44 49.0	+4.2
HOWZ	Holdsworth Sta	5.29	216	P	Pn	00 44 46.2	-1.5
MTW	Mount Morrison	5.50	215	P	Pn	00 44 50.8	+0.1

IDC 06 00:49:28.4±1.9,0°.28S×123°.69E,h0km,mb3.1/3, mbtmp3.1/3,MS3.2/1,Error ellipse: s-maj=191.6km s-min=28.5km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.15	153	P	P	00 54 26.4	+0.5
	0.5nm,0.5s,baz=331,slow=10,SNR=6.1						
	0.5nm,0.5s						
ASAR	Alice Springs	25.27	158	P	P	00 54 56.1	-0.4
	0.3nm,0.7s,baz=344,slow=9.2,SNR=5.0						
	0.3nm,0.7s						
MJAR	Matsushiro Arr	39.04	19	LR	LR	01 11 29.4	
	comp=Z,38nm,21.4s,baz=285,slow=34						
MKAR	Makanchi Array	59.21	328	P	P	00 59 31.5	0.0
	0.1nm,0.5s,baz=123,slow=5.3,SNR=1.6						
	0.1nm,0.5s						

IDC 06 00:54:47.5±56.0,18°.62S×179°.45E,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=1003.0km s-min=154.8km az=79.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.51	241	P	P	01 01 54.5	-0.2
	0.9nm,0.3s,baz=90,slow=11,SNR=2.3						
	0.9nm,0.3s						
WRA	Warramunga Arr	42.51	261	P	P	01 02 45.1	+0.1
	0.5nm,0.4s,baz=96,slow=7.7,SNR=13						
	0.5nm,0.4s						
ASAR	Alice Springs	42.64	255	P	P	01 02 45.8	-0.3
	0.7nm,0.4s,baz=84,slow=8.5,SNR=17						
	0.7nm,0.4s						

IDC 06 01:10:09.3±1.1,3°.78S×35°.61E,h0km,mb3.7/5, mbtmp3.7/8,ML3.8/3,MS3.3/6,Error ellipse: s-maj=45.7km s-min=15.8km az=122.0
ISC 06 01:10:09.2±0.8,3°.73S±0°.05×35°.75E±0°.07,h10km,n17, σ2s.28/18,mb3.8/5,MS3.1/4,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	Dodoma, Tanzan	2.44	180	*i* P	Pn	01 10 48.4	-0.8
DODT				*i* S	Sn	01 11 15.1	-4.1
KMBO	Kilima Mbogo	2.99	30	Pn	Pn	01 10 58.6	+1.7
	5.8nm,0.3s,baz=264,slow=24,SNR=52						
KMBO				Sn	Sn	01 11 34.5	+1.5
	30nm,0.3s,baz=198,slow=18,SNR=3.6						
KMBO				Lg	Lg	01 11 49.9	
	91nm,0.3s,baz=293,slow=22,SNR=12						
KMBO				LR	LR	01 11 59.4	
	comp=Z,29nm,21.7s,baz=268,slow=36						
	46nm,0.3s						
KMBO	Kilima Mbogo	2.99	30	*e*P	Pb	01 11 01.2	-1.6
KMBO				*e*S	Sb	01 11 36.9	-2.6
KMBO	Kilima Mbogo	2.99	30	*e*P	Pb	01 11 00.4	-2.3
MBAR	Mbarara	5.90	302	*e*P	Pn	01 11 38.6	+1.8
MBAR				*e*S	Sn	01 12 42.4	-2.2
LODK	Lodwar	7.12	357	*e*P	Pn	01 11 50.5	-3.1
LODK				*e*S	Sb	01 13 37.4	-0.8
LODK	Lodwar	7.12	357	*e*P	Pn	01 11 58.0	+4.5
LODK				*e*S	Sb	01 13 28.1	-10
LSZ	Lusaka	13.68	212	Pn	Pn	01 13 22.8	-0.6
	0.6nm,0.3s,baz=60,slow=8.5,SNR=3.5						
LSZ				LR	LR	01 19 01.6	
	comp=Z,76nm,19.4s,baz=8.5,slow=39						
	1.3nm,0.3s						
MATP	Matopo	18.03	202	P	Pn	01 14 19.7	-0.5
	0.1nm,0.3s,baz=13,slow=20,SNR=2.2						
MATP				LR	LR	01 22 07.8	
	comp=Z,73nm,19.0s,baz=240,slow=40						
	0.8nm,0.7s						
LBTB	Lobatse	23.30	204	LR	LR	01 24 30.1	
	comp=Z,52nm,19.9s,baz=1.5,slow=37						
TSUM	Tsumeb	23.48	228	LR	LR	01 25 05.5	
	comp=Z,82nm,20.6s,baz=350,slow=38						
BOSA	Boshof	26.68	201	P	P	01 15 50.6	+1.9
	1.3nm,0.6s,baz=33,slow=15,SNR=2.1						
	1.3nm,0.6s						
TORD	Torodi Ar. Bea	37.74	297	P	P	01 17 26.6	+1.0
	0.5nm,0.7s,baz=100,slow=7.4,SNR=4.3						
	0.5nm,0.7s						
PALK	Pallekele	46.17	76	LR	LR	01 34 55.5	
	comp=Z,22nm,18.8s,baz=96,slow=32						
BVAR	Borovoye Array	63.62	23	P	P	01 20 41.7	+1.5
	0.6nm,0.5s,baz=224,slow=6.0,SNR=4.4						
	0.6nm,0.5s						
MKAR	Makanchi Array	64.88	33	P	P	01 20 50.7	+2.1
	0.3nm,0.8s,baz=229,slow=5.5,SNR=3.9						
	0.3nm,0.8s						
KURBB	Kurchatov Arra	65.38	28	P	P	01 20 55.0	+3.2
	0.3nm,0.3s,baz=224,slow=5.1,SNR=1.4						
KURBB				LR	LR	01 52 37.8	
	comp=Z,45nm,18.5s,baz=173,slow=39						
	0.3nm,0.3s						

IDC 06 01:19:54.9±37.0,11°.17N×123°.44E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=715.1km s-min=67.5km az=142.0,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	24.75	290	P	P	01 25 18.6	+0.2
	0.9nm,0.3s,baz=99,slow=7.3,SNR=5.3						
	0.9nm,0.3s						
SONM	Songino Array	39.25	342	P	P	01 27 25.7	+0.4
	0.2nm,0.4s,baz=171,slow=10,SNR=2.4						
	0.2nm,0.4s						
MKAR	Makanchi Array	49.64	324	P	P	01 28 47.4	-0.9
	0.2nm,0.3s,baz=115,slow=8.2,SNR=4.7						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	52.52	332	P	P	01 29 09.6	-0.2
	0.4nm,0.3s,baz=114,slow=7.5,SNR=4.5						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	53.77	326	P	P	01 29 19.1	+0.1
	0.3nm,0.3s,baz=125,slow=8.0,SNR=4.0						
	0.3nm,0.3s						

IDC 06 01:54:21.8±1.8,14°.23S×167°.45E,h192km±15km, mb3.9/19,mbtmp4.4/20,Error ellipse: s-maj=16.2km s-min=12.3km az=97.0
NEIC 06 01:54:23.6±1.3,14°.2S±0°.1×167°.3E±0°.2,h198km±6km, mb4.5/35,Error ellipse: s-maj=23.1km s-min=15.4km az=101.0
ISC 06 01:54:22.9±0.4,14°.23S±0°.06×167°.39E±0°.10,h200km, n105,σ1s.05/110,mb4.4/41,1C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.51	181	Pn	Pn	01 55 55.5	-1.3
KOUNC	Koumac, New Ca	6.95	205	Pn	Pn	01 56 03.3	+0.8
DZM	Mont Dzumac	7.85	186	Pn	Pn	01 56 14.3	0.0
DZM	Mont Dzumac	7.85	186	P	Pn	01 56 15.1	+0.8
	4.7nm,0.8s,baz=52,slow=21,SNR=2.8						
DZM				S	Sn	01 57 43.6	+0.6
	3.0nm,0.3s,baz=110,slow=22,SNR=1.0						
ONTNC	Ouen Toro	8.09	186	Pn	Pn	01 56 18.4	+1.1
OUENC	Ouen Island, N	8.16	184	Pn	Pn	01 56 21.3	+3.1
PINNC	Pines Island,	8.34	180	Pn	Pn	01 56 21.1	+0.5
EIDS	Eidsvold	18.90	232		P	01 58 28.1	-0.5
PMG	Port Moresby	20.36	281	P	P	01 58 43.1	-1.3
PMG				IAmb	IAmb	01 58 47.6	
	comp=Z,15nm,0.8s						
PMG	Port Moresby	20.36	281	P	P	01 58 45.8	+1.4
	comp=Z,16nm,0.7s,baz=86,slow=4.1,SNR=5.2						
	comp=Z,16nm,0.7s						
CTA	Charters Tower	21.01	251	P	P	01 58 52.0	+0.9
	comp=Z,12nm,0.8s,baz=76,slow=11,SNR=13						
	comp=Z,12nm,0.8s						
CTAO	Charters Tower	21.01	251	P	P	01 58 50.5	-0.6
CTAO				IAmb	IAmb	01 58 53.7	
	comp=Z,12nm,0.7s						
ARMA	Armidale	21.68	219	P	P	01 58 57.7	-0.5
ARMA				IAmb	IAmb	01 59 02.7	
	comp=Z,25nm,1.4s						
CAN	Canberra	26.74	215	P	P	01 59 44.2	+0.1
CAN				IAmb	IAmb	02 00 06.9	
	comp=Z,8.4nm,1.2s						
STKA	Stephens Creek	29.40	229	P	P	02 00 08.1	+0.4
STKA	Stephens Creek	29.40	229	P	P	02 00 08.6	+0.9
	comp=Z,7.5nm,0.5s,baz=51,slow=9.0,SNR=24						
	comp=Z,7.5nm,0.5s						
TOO	Toolangi	30.32	216	P	P	02 00 16.1	+0.3
TOO				IAmb	IAmb	02 00 18.9	
	comp=Z,16nm,1.2s						
WR0	Warramunga Arr	31.87	255	P	P	02 00 28.6	-0.9
WR0				IAmb	IAmb	02 00 29.4	
	comp=Z,11nm,1.1s						
WB0	Warramunga Arr	31.99	255	P	P	02 00 29.8	-0.8
WB0				IAmb	IAmb	02 00 30.3	
	comp=Z,24nm,1.1s						
WRA	Warramunga Arr	32.06	255	P	P	02 00 29.3	-1.9
WRA	Warramunga Arr	32.06	255	P	P	02 00 30.0	-1.2
	comp=Z,5.9nm,0.5s,baz=86,slow=9.5,SNR=70						
WRA				PcP	PcP	02 03 15.9	0.0
	comp=Z,0.7nm,0.6s,baz=86,slow=3.4,SNR=3.6						
	comp=Z,5.9nm,0.5s						
AS31	Alice Springs	32.96	248	P	P	02 00 38.3	-0.7
ASAR	Alice Springs	32.96	248	P	P	02 00 38.3	-0.7
ASAR	Alice Springs	32.96	248	P	P	02 00 37.8	-1.2
	comp=Z,6.6nm,0.4s,baz=74,slow=9.8,SNR=150						
ASAR				PcP	PcP	02 03 18.2	-0.1
	comp=Z,0.8nm,0.6s,baz=82,slow=2.6,SNR=5.5						
	comp=Z,6.6nm,0.4s						
BBOO	Buckleboo	33.98	232	P	P	02 00 48.3	+0.7
BBOO				IAmb	IAmb	02 00 48.6	
	comp=Z,14nm,0.6s						
MTN	Manton Dam	35.25	268	P	P	02 00 59.2	+0.4
KNRA	Kununurra	37.31	263	P	P	02 01 15.7	-0.4
FORT	Forrest	39.65	239	P	P	02 01 35.1	-0.4
FITZ	Fitzroy Crossi	40.22	259	P	P	02 01 40.5	+0.2
PSA00	Pilbara Seismi	45.68	254	P	P	02 02 23.5	-0.6
MBWA	Marble Bar	45.79	254	P	P	02 02 24.6	-0.3
MBWA				IAmb	IAmb	02 02 44.5	
	comp=Z,20nm,1.2s						
TOLI2	Tolitoli	48.59	284	P	P	02 02 46.1	-0.6
MORW	Morawa	49.59	244	P	P	02 02 53.6	-0.4
MORW				IAmb	IAmb	02 03 20.6	
	comp=Z,23nm,1.1s						
MJAR	Matsushiro Arr	57.52	332	P	P	02 03 50.8	-0.6
	comp=Z,4.3nm,0.8s,baz=167,slow=7.5,SNR=9.9						
	comp=Z,4.3nm,0.8s						
MAJO	Matsushiro	57.52	332	P	P	02 03 51.4	0.0
MAJO				IAmb	IAmb	02 03 52.1	
	comp=Z,14nm,1.1s						
JMM	Marumori	57.52	335	P	P	02 03 52.5	+1.1
MJB9	Matsu-Tunnel	57.52	332	P	P	02 03 51.9	+0.5
MJB9				IAmb	IAmb	02 03 53.1	
	comp=Z,13nm,1.1s						
JNU	Nakatsue	58.58	324	P	P	02 03 58.0	-0.9
JNU				IAmb	IAmb	02 03 59.9	
	comp=Z,18nm,1.0s						
YHNB	Yeheng	59.24	310	P	P	02 04 03.4	-0.3
JTM	Tenmabayashi	59.93	337	P	P	02 04 08.3	+0.4
VNDA	Vanda	63.36	181	P	P	02 04 30.9	+0.6
VNDA				IAmb	IAmb	02 04 52.7	
	comp=Z,8.0nm,1.4s						
VNDA	Vanda	63.36	181	P	P	02 04 30.4	+0.1
	comp=Z,1.1nm,0.7s,baz=356,slow=9.6,SNR=6.2						
	comp=Z,1.1nm,0.7s						
KSRS	Korea Array	63.39	326	P	P	02 04 31.2	+0.1
	comp=Z,2.6nm,0.8s,baz=149,slow=7.4,SNR=6.0						
	comp=Z,2.6nm,0.8s						
USRK	Ussuriysk Ar.	66.49	333	P	P	02 04 51.7	+0.8
	comp=Z,6.6nm,0.9s,baz=159,slow=5.9,SNR=5.2						
	comp=Z,6.6nm,0.9s						
PETK	Petropavlovsk-	67.58	354	P	P	02 04 58.5	+0.9
PETK	Petropavlovsk-	67.58	354	P	P	02 04 58.0	+0.4
	comp=Z,5.3nm,0.8s,baz=133,slow=6.0,SNR=4.6						
	comp=Z,5.3nm,0.8s						
CN2	Changchun	69.28	329	P	P	02 05 09.1	+0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	BinXian	69.75	331	⇓P	P	02 05 11.7	+0.5
BNX				pmax	pmax		
	comp=Z,25nm,0.6s						
BNX				pmax	pmax		
	comp=Z,150nm,5.2s						
LYN	LuoYang	71.21	314	*e*P	P	02 05 18.4	-1.9
LYN				pmax	pmax		
	comp=Z,14nm,0.8s						
HNS	HongShan	71.31	318	⇑P	P	02 05 21.4	+0.6
HNS				pmax	pmax		
	comp=Z,11nm,0.9s						
CRAI	Chiangrai	74.23	296	P	P	02 05 38.8	+0.3
CRAI				IAmb	IAmb	02 05 40.4	
	comp=Z,8.4nm,1.0s						
CMAR	Chiang Mai Arr	74.85	294	P	P	02 05 42.2	+0.2
CMAR	Chiang Mai Arr	74.85	294	P	P	02 05 43.1	+1.1
	comp=Z,2.3nm,0.6s,baz=116,slow=4.2,SNR=14						
	comp=Z,2.3nm,0.6s						
CHTO	Chiang Mai	74.97	294	P	P	02 05 42.4	-0.3
HHC	Hu-ho-hao-te	75.28	320	*e*P	P	02 05 48.3	+4.2
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,5.7s						
PZH	PanZhiHua	75.52	303	P	P	02 05 48.6	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
QSPA	South Pole Qui	75.80	180	P	P	02 05 46.3	-0.3
	comp=Z,3.1nm,0.7s,baz=16,slow=1.1,SNR=10.0						
	comp=Z,3.1nm,0.7s						
LZH	Lanzhou	78.07	312	*e*P	P	02 05 57.0	-2.9
LZH				pP	PcP	02 06 01.7	-7.0
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
J16K	Anvik River	81.15	14	P	P	02 06 17.5	+1.9
J16K				IAmb	IAmb	02 06 31.0	
	comp=Z,10nm,1.2s						
YAK	Yakutsk	81.59	343	P	P	02 06 17.4	-0.5
ULN	Ulaanbaatar	81.80	324	P	P	02 06 19.6	0.0
ULN				IAmb	IAmb	02 06 21.4	
	comp=Z,9.5nm,1.1s						
SONM	Songino Array	82.16	324	P	P	02 06 21.7	+0.3
SONM	Songino Array	82.16	324	P	P	02 06 21.9	+0.4
	comp=Z,1.4nm,0.4s,baz=143,slow=5.4,SNR=21						
	comp=Z,1.4nm,0.4s						
GTA	Gaotai	82.40	314	*e*P	P	02 06 23.8	+0.9
GTA				pP	PcP	02 06 27.9	+0.3
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RND	Reindeer	84.43	18	P	P	02 06 32.3	-0.3
RND				IAmb	IAmb	02 06 36.4	
	comp=Z,11nm,1.4s						
IMAR	Indian Mountai	85.06	15	P	P	02 06 35.4	-0.2
ILAR	Eielson Array	86.02	18	P	P	02 06 39.6	-0.8
ILAR	Eielson Array	86.02	18	P	P	02 06 39.2	-1.1
	comp=Z,1.3nm,0.8s,baz=241,slow=4.9,SNR=14						
	comp=Z,1.3nm,0.8s						
NVAR	Mina Array Bea	86.86	49	P	P	02 06 45.9	+0.5
	comp=Z,0.4nm,0.8s,baz=245,slow=5.9,SNR=2.7						
	comp=Z,0.4nm,0.8s						
WMQ	Urumqi	92.46	315	*e*P	P	02 07 14.3	+3.1
TXAR	Lajitas Array	95.94	61	P	P	02 07 27.2	-0.3
	comp=Z,0.1nm,0.7s,baz=242,slow=9.8,SNR=1.6						
	comp=Z,0.1nm,0.7s						
MKAR	Makanchi Array	96.92	316	P	P	02 07 31.9	+0.4
	comp=Z,3.0nm,0.6s,baz=93,slow=6.2,SNR=38						
	comp=Z,3.0nm,0.6s						
YKA	Yellowknife Ar	97.05	27	P	P	02 07 31.1	-0.6
	comp=Z,0.3nm,0.8s,baz=255,slow=4.8,SNR=5.3						
	comp=Z,0.3nm,0.8s						
ZALV	Zalesovo Beam	97.06	324	P	P	02 07 31.0	-0.9
	comp=Z,2.1nm,0.7s,baz=119,slow=4.9,SNR=12						
	comp=Z,2.1nm,0.7s						
ARCES	ARCESS Array B	119.80	346	PKP	PKPdf	02 12 48.6	-0.1
	comp=Z,1.1nm,0.3s,baz=71,slow=1.9,SNR=47						
KBZ	Khabaz	124.49	314	PKP	PKPdf	02 12 57.0	-1.3
	comp=Z,1.3nm,0.8s,baz=104,slow=8.3,SNR=3.6						
FINES	FINESS Array B	125.30	338	PKP	PKPdf	02 12 58.8	-0.6
	comp=Z,2.0nm,0.8s,baz=48,slow=2.1,SNR=14						
NB2	NORSAR Subarra	130.17	345	PKPdf	PKPdf	02 13 09.3	+0.5
	comp=Z,0.2nm,0.4s,baz=31,slow=1.9						
NOA	NORSAR Array B	130.17	345	PKP	PKPdf	02 13 08.3	-0.5
	comp=Z,1.3nm,0.9s,baz=34,slow=21,SNR=3.8						
HFS	Hagfors	130.28	343	PKP	PKPdf	02 13 08.2	-0.8
	comp=Z,0.8nm,0.4s,baz=69,slow=7.9,SNR=1.9						
HFS				SKPbc	SKPab	02 16 14.3	+0.9
	comp=Z,2.7nm,0.8s,baz=84,slow=5.9,SNR=6.7						
AKASG	Malin Array Be	130.38	326	PKP	PKPdf	02 13 09.9	+0.5
	comp=Z,0.7nm,0.5s,baz=43,slow=1.2,SNR=5.1						
BRTR	Keskin Array B	132.27	311	PKP	PKPdf	02 13 13.2	-0.3
	comp=Z,0.8nm,0.6s,baz=127,slow=2.8,SNR=3.9						
MMAI	Mount Meron Ar	132.64	302	PKP	PKPdf	02 13 12.7	-1.7
	comp=Z,4.1nm,0.9s,baz=29,slow=3.3,SNR=1.6						
RONA	Rosalia, Austr	138.89	330	*i* PKiKP	PKiKP	02 13 28.5	+0.7
	comp=Z,1.7nm,0.5s						
CONA	Conrad Observa	138.94	331	*i* PKiKP	PKiKP	02 13 28.7	+0.8
	comp=Z,0.9nm,0.3s						
GERES	GERESS Array B	139.25	333	PKP	PKPdf	02 13 25.5	-0.7
	comp=Z,1.1nm,0.6s,baz=43,slow=1.7,SNR=4.6						
GERES				SKPbc	SKPbc	02 16 43.5	+0.8
	comp=Z,0.9nm,0.8s,baz=15,slow=4.1,SNR=4.8						
MOA	Molln	139.74	332	*i* PKP	PKiKP	02 13 29.7	+0.3
	comp=Z,1.1nm,0.5s						
BIOA	Bad Ischl, Aus	140.14	332	*i* PKP	PKiKP	02 13 30.5	+0.2
	comp=Z,3.8nm,1.1s						
KBA	Koelnbreinsper	140.73	332	*e*PKP	PKiKP	02 13 31.3	-0.4
	comp=Z,2.0nm,0.5s						
LESA	Schwarzleotal	140.77	333	*i* PKiKP	PKiKP	02 13 31.8	+0.1
	comp=Z,2.6nm,0.5s						
WATA	Walderalm	141.32	334	*i* PKiKP	PKiKP	02 13 33.1	+0.2
	comp=Z,1.8nm,0.5s						
WTTA	Wattenberg	141.35	333	*i* PKiKP	PKiKP	02 13 33.4	+0.4
	comp=Z,1.4nm,0.3s						
ABTA	Abfaltersbach	141.36	332	*i* PKP	PKiKP	02 13 32.7	-0.2
	comp=Z,1.5nm,0.5s						
FETA	Feichten	141.93	334	*i* PKiKP	PKiKP	02 13 34.7	+0.5
	comp=Z,1.0nm,0.5s						
DAVA	Damuels	142.08	335	*i* PKP	PKiKP	02 13 34.0	-0.4
	comp=Z,0.8nm,0.2s						
DAVOX	Davos/Dischmat	142.48	334	PKP	PKPdf	02 13 29.5	-2.7
	comp=Z,2.4nm,0.5s,baz=304,slow=3.6,SNR=12						
ZCCA	Zocca	143.87	331	PKPdf	PKPbc	02 13 33.9	+1.1
NRCA	Norcia	143.91	327	PKPdf	PKPbc	02 13 33.7	+0.7
OSSC	Osservatorio P	144.36	330	PKPdf	PKPab	02 13 33.6	-0.3
BNI	Bardonecchia	145.19	336	PKPbc	PKPbc	02 13 37.3	+0.4
VAE	Valguarnera	146.63	319	PKPbc	PKPdf	02 13 38.6	-0.9
	comp=Z,3.4nm,0.8s,baz=56,slow=16,SNR=1.2						
RAFF	Raffo Rosso	146.82	319	PKPbc	PKPdf	02 13 41.1	+1.4
KEST	Kesra	150.89	321	PKPbc	PKPbc	02 13 52.2	-0.1
	comp=Z,11nm,0.7s,baz=81,slow=1.6,SNR=27						
ESDC	Sonseca Array	153.53	345	PKPbc	PKPbc	02 13 58.1	0.0
	comp=Z,0.8nm,0.7s,baz=5.7,slow=2.6,SNR=3.6						
ESDC				PKPab	PKPab	02 14 11.8	+0.6
	comp=Z,1.4nm,0.8s,baz=8.5,slow=4.1,SNR=7.4						
TORD	Torodi Ar. Bea	166.05	267	PKP	PKPdf	02 14 03.3	-1.5
	comp=Z,0.4nm,0.5s,baz=57,slow=2.1,SNR=3.7						
TORD				PKPab	PKPab	02 15 05.7	-0.7
	comp=Z,0.9nm,0.8s,baz=89,slow=3.6,SNR=5.2						

IDC 06 02:13:37.4±1.1,10°.37S×161°.66E,h69km±8km,mb3.6/6, mbtmp3.9/6,MS3.4/2,Error ellipse: s-maj=23.2km s-min=11.1km az=24.0
ISC 06 02:13:38.2±0.8,10°.2S±0°.1×161°.7E±0°.1,h69km,n9, σ1s.11/13,mb3.8/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.85	295	P	Pn	02 14 08.3	+0.5
	6μm,0.4s,baz=179,slow=9.7,SNR=24						
HNR				S	Sn	02 14 31.8	+1.6
	8μm,0.3s,baz=345,slow=23,SNR=15						
HNR				LR	LR	02 15 02.8	
	comp=Z,2μm,20.9s,baz=356,slow=44						
DZM	Mont Dzumac	12.66	159	P	Pn	02 16 36.5	+1.0
	1.0nm,0.4s,baz=328,slow=22,SNR=1.0						
DZM				S	Sn	02 18 55.3	+0.6
	1.9nm,0.5s,baz=268,slow=17,SNR=3.1						
DZM				LR	LR	02 20 21.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,73nm,18.0s,baz=264,slow=32						
WRA	Warramunga Arr	28.05	247	P	P	02 19 22.1	-1.2
	0.6nm,0.5s,baz=77,slow=8.9,SNR=7.9						
WRA				pP	pP	02 19 39.2	0.0
	1.0nm,0.8s,baz=74,slow=8.5,SNR=2.6						
	0.6nm,0.5s						
ASAR	Alice Springs	29.64	240	P	P	02 19 35.8	-1.7
	0.3nm,0.5s,baz=65,slow=9.8,SNR=4.3						
	0.3nm,0.5s						
USRK	Ussuriysk Ar.	60.47	336	P	P	02 23 41.6	+0.8
	4.0nm,0.8s,baz=165,slow=7.3,SNR=2.7						
	4.0nm,0.8s						
SONM	Songino Array	75.65	325	P	P	02 25 16.5	+0.3
	2.1nm,0.8s,baz=143,slow=4.9,SNR=14						
SONM				pP	pP	02 25 34.5	+0.1
	0.9nm,0.6s,baz=142,slow=6.1,SNR=4.7						
	2.1nm,0.8s						
ILAR	Eielson Array	84.05	20	P	P	02 26 01.0	0.0
	0.6nm,0.8s,baz=227,slow=5.1,SNR=6.7						
ILAR				pP	pP	02 26 19.5	-0.2
	1.2nm,1.1s,baz=219,slow=7.0,SNR=2.8						
	0.6nm,0.8s						
NVAR	Mina Array Bea	88.59	51	LR	LR	03 03 35.2	
	comp=Z,44nm,18.4s,baz=78,slow=34						
MKAR	Makanchi Array	90.18	318	P	P	02 26 29.4	-1.8
	0.3nm,0.7s,baz=108,slow=4.7,SNR=3.1						
	0.3nm,0.7s						

*IDC **06** 02:18:47.4±3.0, 36°.38N×71°.06E, h182km±24km, mb3.2/8, mbtmp3.7/14, Error ellipse: s-maj=27.7km s-min=16.9km az=162.0*

ISC 06 02:18:48.2±1.2**, 36°.4N**±0°.1×**71°.01E**±0°.09**, h188km, n22, σ1s.13**/25**, mb3.4**/7**, 1C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.07	19	P	Pn	02 20 17.2	+0.7
	SNR=41						
AML	Almayashu	6.07	19	⇓P	Pn	02 20 18.5	+1.9
	1.5nm,0.5s						
AML				⇓S	Sn	02 21 26.4	+0.2
	9.0nm,0.6s						
UCH	Uchtor	6.40	24	P	Pn	02 20 21.7	+0.8
	SNR=13						
KZA	Kyzart	6.53	29	P	Pn	02 20 23.7	+1.1
	SNR=6.0						
EKS2	Erkin-Say	6.59	18	P	Pn	02 20 24.1	+1.1
	SNR=6.0						
KK31	Karatay Array	6.68	357	P	Pn	02 20 21.0	-3.1
	3.3nm,0.4s,baz=181,slow=12,SNR=100						
KK31				⇑S	Sn	02 21 29.3	-11
	21nm,0.5s,baz=190,slow=24						
AAK	Ala-Archa	6.76	22	P	Pn	02 20 26.6	+1.2
	SNR=6.3						
AAK	Ala-Archa	6.76	22	P	Pn	02 20 26.0	+0.6
	3.1nm,0.3s,baz=186,slow=6.0,SNR=22						
AAK				S	Sn	02 21 39.8	-2.4
	10nm,0.7s,baz=327,slow=22,SNR=19						
GEYT	Alibeck	10.40	282	P	Pn	02 21 12.9	+0.1
	0.6nm,0.4s,baz=108,slow=9.8,SNR=4.8						
GEYT				S	S	02 23 09.9	+0.6
	1.2nm,0.5s,baz=142,slow=51,SNR=1.9						
MKAR	Makanchi Array	13.35	36	P	Pn	02 21 50.1	-0.3
	0.3nm,0.3s,baz=214,slow=11,SNR=8.3						
KURBB	Kurchatov Arra	15.19	19	P	P	02 22 14.0	+0.2
	0.2nm,0.5s,baz=206,slow=12,SNR=1.8						
BVAR	Borovoye Array	16.61	359	P	Pn	02 22 31.3	+1.1
	0.4nm,0.3s,baz=161,slow=9.2,SNR=8.7						
AKTO	Aktyubinsk	16.85	330	P	P	02 22 31.9	-0.2
	1.4nm,0.6s,baz=154,slow=6.3,SNR=6.2						
ZALV	Zalesovo Beam	19.98	24	P	P	02 23 05.6	-0.4
	0.9nm,0.3s,baz=220,slow=9.7,SNR=7.3						
	0.9nm,0.3s						
FINES	FINESS Array B	37.55	326	P	P	02 25 44.3	+0.4
	2.6nm,0.9s,baz=124,slow=9.2,SNR=9.0						
	2.6nm,0.9s						
ARCES	ARCESS Array B	41.22	338	P	P	02 26 14.3	+0.1
	0.9nm,0.6s,baz=114,slow=5.9,SNR=8.3						
	0.9nm,0.6s						
HFS	Hagfors	43.13	322	P	P	02 26 30.0	+0.3
	1.6nm,0.5s,baz=97,slow=12,SNR=8.0						
	1.6nm,0.5s						
NB2	NORSAR Subarra	44.45	323	P	P	02 26 39.7	-0.5
	comp=Z,0.4nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	44.45	323	P	P	02 26 40.0	-0.2
	comp=Z,0.4nm,0.4s,baz=98,slow=7.8,SNR=3.4						
	comp=Z,0.4nm,0.4s						
TORD	Torodi Ar. Bea	65.72	269	P	P	02 29 12.2	-0.9
	comp=Z,0.4nm,0.6s,baz=43,slow=6.9,SNR=4.6						
	comp=Z,0.4nm,0.6s						
YKA	Yellowknife Ar	81.32	3	P	P	02 30 43.1	-0.1
	comp=Z,0.2nm,0.5s,baz=351,slow=5.8,SNR=6.6						
	comp=Z,0.2nm,0.5s						
ASAR	Alice Springs	84.20	125	P	P	02 30 58.4	-0.3
	comp=Z,0.5nm,1.0s,baz=318,slow=5.4,SNR=2.1						
	comp=Z,0.5nm,1.0s						

TAP 06 02:32:42.8, 24°.27N×121°.75E, h7km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.04	349	P	Pg	02 32 44.4	+0.2
EHP				S	Sg	02 32 45.8	+0.5
EAHA	Aohua	0.06	351	*i* P	Pg	02 32 44.6	+0.1
	baz=351						
EAHA				*i* S	Sg	02 32 46.2	+0.5
	baz=351						
ENA	Nanau	0.16	357	*i* P	Pg	02 32 46.5	+0.4
	baz=360						
ENA				*i* S	Sg	02 32 49.0	+0.8
	baz=360						
ETL	Fush Village	0.16	226	*i* P	Pg	02 32 46.6	+0.5
	baz=226						
ETL				*i* S	Sg	02 32 49.4	+1.0
	baz=226						
NACB	Ninganchiao	0.17	236	*i* P	Pg	02 32 46.7	+0.4
	baz=228						
NACB				*i* S	Sg	02 32 49.6	+1.0
	baz=228						
EWUT	Wuta	0.18	9	*i* S	Sg	02 32 49.3	+0.5
	baz=9.0						
TWD	Chiawan	0.24	216	*i* P	Pg	02 32 47.9	+0.4
	baz=215						
TWD				*i* S	Sg	02 32 51.6	+1.0
	baz=215						
ETLH	Xiulin Townshi	0.25	255	*i* P	Pg	02 32 48.4	+0.6
	baz=255						
ETLH				*i* S	Sg	02 32 52.5	+1.3
	baz=255						
LATG	Datong	0.33	322	*i* P	Pg	02 32 50.2	+0.9
	baz=322						
LATG				S	Sg	02 32 54.9	+1.1
	baz=322						
TWC	Suao	0.35	15	*e*P	Pg	02 32 49.8	+0.1
	baz=17						
TWC				*e*S	Sg	02 32 55.0	+0.7
	baz=17						
NDS	Dongshan	0.36	355	S	Sg	02 32 55.8	+1.1
	baz=355						
NNS	Nan Shan	0.38	296	*e*S	Sb	02 32 57.4	-0.8
	baz=296						
ETM	Tongmen	0.38	218	P	Pg	02 32 50.4	+0.1
	baz=207						
ETM				S	Sg	02 32 55.9	+0.5
	baz=207						
NDT	Datong Townshi	0.39	327	*i* P	Pb	02 32 51.5	-0.7
	baz=327						
NDT				*e*S	Sb	02 32 57.7	-0.8
	baz=327						
LXIB	Xiulin Townshi	0.40	231	P	Pg	02 32 51.1	+0.5
	baz=231						
LXIB				S	Sg	02 32 57.0	+1.3
	baz=231						
ENTT	Nioudou	0.40	336	*i* P	Pb	02 32 51.6	-0.8
	baz=337						
ENTT				*e*S	Sg	02 32 57.0	+1.0
	baz=337						
WHF	Hehuan Shan	0.46	254	P	Pg	02 32 52.5	+0.6
	baz=253						
WHF				S	Sb	02 32 59.6	-1.2
	baz=253						
FUSB	Fushanzhiwuyua	0.51	343	*e*P	Pg	02 32 53.2	+0.5
	baz=343						
FUSB				S	Sg	02 33 00.4	+1.0
	baz=343						
TWT	Tachien	0.52	268	*e*S	Sb	02 33 02.1	-0.3
	baz=267						
YHNB	Yeheng	0.52	319	P	Pb	02 32 54.1	-0.4
	baz=320						
YHNB				S	Sb	02 33 01.3	-1.0
	baz=320						
TDCB	Techi	0.54	268	*e*P	Pb	02 32 54.5	-0.2
	baz=268						
TDCB				*e*S	Sb	02 33 01.9	-1.0
	baz=268						
NWLT	Wulai	0.55	336	P	Pb	02 32 54.5	-0.4
	baz=337						
NWLT				S	Sg	02 33 01.7	+1.0
	baz=337						
CHGB	Renai	0.57	248	*e*P	Pg	02 32 54.5	+0.7
	baz=238						
CHGB				*e*S	Sg	02 33 02.2	+1.0
	baz=238						
WUSB	Renai	0.64	244	P	Pb	02 32 56.2	-0.2
	baz=234						
WUSB				S	Sb	02 33 04.9	-0.8
	baz=234						
WARBT	Fenglin Townsh	0.64	211	*e*P	Pg	02 32 55.2	-0.1
	baz=211						
WARBT				*e*S	Sb	02 33 05.0	-0.6
	baz=211						
NFF	Wufeng Townshi	0.68	302	P	Pb	02 32 57.4	+0.3
	baz=302						
TIPB	Shuangxi	0.70	6	*e*P	Pb	02 32 57.4	-0.1
	baz=6.0						
TIPB				*e*S	Sg	02 33 06.4	+0.9
	baz=6.0						
WHP	Taichung City	0.73	271	P	Pb	02 32 58.8	+0.8
	baz=270						
WHP				*e*S	Sb	02 33 08.6	+0.3
	baz=270						
VWDT	VWDT	0.76	227	*e*S	Sb	02 33 08.6	-0.4
	baz=217						

JMA 06 02:32:46.3±0.2**, 24°.3N**±0°.3×**123°.8E**±0°.3**, h18km**±1km**, MV0.6**/5**, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.11	321	P	Pg	02 32 50.0	0.0
JKRS	Kuro-shima	0.19	93	P	Pb	02 32 51.0	0.0
JKRS				*e*S	Sg	02 32 54.5	+0.3
HATJ	Hateruma jima	0.19	180	*i* P	Pb	02 32 50.9	-0.1
HATJ				*e*S	Sb	02 32 54.2	0.0
JIJ	Ishigaki jima	0.33	69	P	Pg	02 32 53.2	-0.1
JIJ				*e*S	Sg	02 32 57.6	-0.5

*SOME **06** 02:50:46.2, 42°.40N×84°.95E, h35km*

*NNC **06** 02:50:52.4±8.3, 42°.42N×86°.03E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=64.7km s-min=39.9km az=129.0*

ISC 06 02:50:41.3±4.1**, 42°.1N**±0°.1×**85°.3E**±0°.1**, h10km, n8, σ1s.14**/13**, 2C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	4.43	288	Pg	Pb	02 51 56.8	-2.5
	0.8nm,0.4s						
PDGK				Lg	Lg	02 52 47.0	
	4.4nm,0.2s						
PDGK	Podgornoye	4.43	288	⇓Pn	Pg	02 52 07.6	+1.4
	4.3nm,0.8s						
PDGK				⇓Sn	Sg	02 53 04.3	+0.7
	12nm,0.7s						
DJR	Jarkent	4.58	301	Pg	Pb	02 52 01.9	+0.1
	2.2nm,0.3s						
DJR				Lg	Lg	02 52 56.6	
	6.7nm,0.3s						
DJR	Jarkent	4.58	301	*e*P	Pb	02 52 01.9	+0.1
	2.2nm,0.3s						
DJR				*e*S	Sb	02 52 56.6	-0.4
	6.7nm,0.3s						
KNOS	Konyrlen	4.98	299	Pg	Pb	02 52 08.4	-0.3
	2.4nm,0.2s						
KNOS				Lg	Lg	02 53 07.5	
	3.4nm,0.2s						
KPKS	Kokpek	5.03	288	*e*P	Pb	02 52 09.4	-0.2
KPKS				*e*S	Sb	02 53 09.3	-0.8
MK31	Makanchi Array	5.13	336	⇑P	Pb	02 52 11.1	0.0
	0.9nm,0.4s,baz=147,slow=16,SNR=22						
MK31				⇑S	Sb	02 53 12.3	-0.5
	7.7nm,0.7s,baz=141,slow=24						
MAKZ	Makanchi	5.24	334	P	Pb	02 52 12.6	-0.4
MAKZ				S	Sb	02 53 14.3	-1.6

*IDC **06** 02:55:25.4±3.8, 17°.53S×167°.87E, h0km, mb3.8/3, mbtmp3.8/4, ML3.6/1, MS2.6/1, Error ellipse: s-maj=91.1km s-min=31.8km az=99.0*

*NOU **06** 02:55:27.5, 17°.52S×167°.88E, h1km, MLv4.2/11, Vanuatu Islands*

ISC 06 02:55:30.3±1.8**, 17°.6S**±0°.1×**167°.8E**±0°.2**, h27km, n11, σ0s.81**/12**, mb3.8**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	3.25	189	P	Pn	02 56 19.8	+0.3
MARNC	Mare, Loyalty	3.92	176	P	Pn	02 56 29.6	+0.8
KOUNC	Koumac, New Ca	4.44	227	P	Pn	02 56 36.9	+1.0
YATNC	Mamie plateau,	4.56	190	P	Pn	02 56 38.2	+0.6
DZM	Mont Dzumac	4.67	195	P	Pn	02 56 39.7	+0.6
DZM	Mont Dzumac	4.67	195	Pn	Pn	02 56 38.8	-0.4
	2.9nm,0.3s,baz=124,slow=20,SNR=33						
DZM				Sn	Sn	02 57 31.5	-1.0
	4.1nm,0.3s,baz=132,slow=22,SNR=8.0						
DZM				LR	LR	02 58 13.6	
	comp=Z,66nm,20.1s,baz=252,slow=36						
	4.9nm,0.3s						
NOUC	Port Laguerre	4.74	197	P	Pn	02 56 40.0	+0.1
OUENC	Ouen Island, N	4.92	190	P	Pn	02 56 44.0	+1.5
STKA	Stephens Creek	27.63	234	P	P	03 01 15.6	-0.1
	2.1nm,1.0s,baz=68,slow=16,SNR=1.7						
	2.1nm,1.0s						
ASAR	Alice Springs	32.22	253	P	P	03 01 56.6	+0.1
	0.4nm,0.5s,baz=78,slow=8.8,SNR=9.3						
	0.4nm,0.5s						
SONM	Songino Array	85.03	324	P	P	03 08 03.0	-0.5
	0.7nm,0.7s,baz=125,slow=4.2,SNR=4.7						
	0.7nm,0.7s						

IDC 06 02:55:40.5±1.9**, 6°.64S**×**129°.42E, h0km, mb3.5**/2**, mbtmp3.4**/4**, ML3.4**/2**, MS2.9**/1**, Error ellipse: s-maj=119.7km s-min=31.3km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.06	161	Pn	Pn	02 59 01.0	-0.1
	0.1nm,0.3s,baz=340,slow=13,SNR=7.5						
WRA				Sn	Sn	03 01 20.6	-17
	0.3nm,0.3s,baz=325,slow=24,SNR=2.7						
	0.5nm,0.8s						
ASAR	Alice Springs	17.47	166	Pn	Pn	02 59 45.8	+0.1
	0.2nm,0.3s,baz=339,slow=10,SNR=17						
ASAR				Sn	Sn	03 02 44.3	-17
	0.2nm,0.3s,baz=313,slow=18,SNR=4.9						
ASAR				LR	LR	03 06 06.1	
	comp=Z,37nm,19.0s,baz=112,slow=36						
	0.6nm,0.5s						
MKAR	Makanchi Array	67.61	327	P	P	03 06 39.3	+0.1
	0.3nm,0.5s,baz=115,slow=7.3,SNR=4.1						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	71.91	329	P	P	03 07 05.4	-0.1
	0.2nm,0.3s,baz=134,slow=5.2,SNR=2.1						
	0.2nm,0.3s						

*TAP **06** 02:56:05.1, 23°.92N×121°.47E, h17km, ML3.5, B*

ISC 06 02:56:05.1±0.8**, 23°.91N**±0°.01×**121°.47E**±0°.02**, h15km**±4km**, n119, σ0s.62**/196**, 7C-14D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETM	Tongmen	0.06	19	P	Pg	02 56 08.5	+0.4
	baz=29						
ETM				S	Sg	02 56 10.9	+0.9
	baz=29						
ESL	Shilin	0.10	200	⇑*i*P	Pb	02 56 08.9	+0.1
	baz=191						
ESL				*i* S	Sb	02 56 11.2	-0.1
	baz=191						
LXIB	Xiulin Townshi	0.12	333	⇑*i*P	Pg	02 56 09.1	+0.2
	baz=335						
LXIB				*i* S	Sg	02 56 11.7	+0.3
	baz=335						
HWA	Hwalien	0.14	62	*i* P	Pb	02 56 09.9	+0.5
	baz=68						
HWA				*i* S	Sb	02 56 13.2	+0.9
	baz=68						
SHUL	Shoufeng	0.15	147	⇓*i*P	Pb	02 56 10.0	+0.3
	baz=146						
SHUL				*i* S	Sb	02 56 13.3	+0.8
	baz=146						
TWD	Chiawan	0.20	34	⇓*i*P	Pb	02 56 10.2	-0.3
	baz=33						
TWD				*i* S	Sg	02 56 13.6	+0.5
	baz=33						
WARBT	Fenglin Townsh	0.21	202	⇓*i*P	Pg	02 56 10.0	0.0
	baz=199						
WARBT				*i* S	Sg	02 56 13.3	0.0
	baz=199						
TEGC	Jichi Village	0.21	163	P	Pb	02 56 11.0	+0.3
	baz=165						
TEGC				S	Sb	02 56 15.2	+0.8
	baz=165						
EGFH	Guangfu	0.25	190	P	Pg	02 56 10.5	-0.1
	baz=188						
EGFH				S	Sg	02 56 14.3	+0.1
	baz=188						
OWD	Renai	0.28	279	⇑*i*P	Pb	02 56 11.5	-0.3
	baz=283						
OWD				*i* S	Sg	02 56 15.6	+0.3
	baz=283						
ETL	Fush Village	0.28	29	⇑*i*P	Pg	02 56 11.3	+0.1
	baz=31						
ETL				S	Sg	02 56 15.3	0.0
	baz=31						
NACB	Ninganchiao	0.28	23	P	Pg	02 56 11.3	+0.1
NACB	Ninganchiao	0.28	23	⇑*i*P	Pg	02 56 11.2	+0.1
	baz=25						
NACB				*i* S	Sg	02 56 15.2	-0.1
	baz=25						
ETLH	Xiulin Townshi	0.29	2	P	Pg	02 56 11.5	+0.1
	baz=3.0						
ETLH				S	Sg	02 56 15.3	-0.5
	baz=3.0						
WHF	Hehuan Shan	0.30	321	⇓*i*P	Pg	02 56 11.8	+0.1
	baz=317						
WHF				S	Sg	02 56 15.8	-0.4
	baz=317						
CHGB	Renai	0.31	298	⇓*i*P	Pb	02 56 12.2	-0.3
	baz=303						
CHGB				S	Sb	02 56 16.7	-0.7
	baz=303						
WUSB	Renai	0.34	284	⇓*i*P	Pb	02 56 12.6	-0.3
	baz=287						
WUSB				S	Sg	02 56 17.0	0.0
	baz=287						
VWDT	VWDT	0.34	243	⇑*i*P	Pb	02 56 12.8	-0.1
	baz=236						
VWDT				S	Sb	02 56 17.8	-0.4
	baz=236						
HGSD	Ruisui	0.42	186	P	Pg	02 56 13.8	+0.1
	baz=190						
HGSD				*e*S	Sb	02 56 21.3	+0.9
	baz=190						
EHY	Hungye	0.43	199	⇓*i*P	Pg	02 56 13.0	-0.7
	baz=190						
EHY				*e*S	Sg	02 56 19.5	-0.1
	baz=190						
TWT	Tachien	0.43	321	P	Pb	02 56 14.4	-0.2
	baz=314						
TWT				S	Sb	02 56 20.2	-0.8
	baz=314						
TDCB	Techi	0.45	320	⇓*i*P	Pb	02 56 14.5	-0.3
	baz=314						
TDCB				*e*S	Sg	02 56 20.2	0.0
	baz=314						
EAHA	Aohua	0.48	30	P	Pg	02 56 14.7	-0.1
	baz=32						
EAHA				S	Sg	02 56 21.3	0.0
	baz=32						
WPL	Puli Township	0.48	282	P	Pb	02 56 14.9	-0.4
	baz=282						
SSLB	Suanglung	0.49	255	P	Pb	02 56 15.2	-0.3
SSLB	Suanglung	0.49	255	P	Pg	02 56 15.0	0.0
	baz=262						
SSLB				S	Sg	02 56 21.1	-0.5
	baz=262						
DPDB	Guoxing	0.51	284	*e*P	Pb	02 56 15.6	-0.3
	baz=283						
NNSB	Datong	0.52	351	⇓*i*P	Pb	02 56 15.7	-0.3
	baz=352						
NNSB				S	Sg	02 56 22.2	-0.3
	baz=352						
NNSH	Datong	0.52	351	⇓P	Pb	02 56 15.7	-0.4
	baz=357						
NNSH				S	Sg	02 56 22.5	-0.1
	baz=357						
SMLT	Sun Moon Lake	0.53	267	⇓*i*P	Pb	02 56 15.8	-0.3
	baz=265						
SMLT				S	Sg	02 56 22.8	+0.1
	baz=265						
NNS	Nan Shan	0.53	350	⇓*i*P	Pb	02 56 16.0	-0.3
	baz=360						
NNS				S	Sg	02 56 22.8	-0.1
	baz=360						
WCS	Beigang Elemen	0.53	286	⇓*i*P	Pb	02 56 15.9	-0.3
	baz=285						
WCS				*e*S	Sb	02 56 23.0	-0.7
	baz=285						
YULB	Yu-li	0.54	197	P	Pg	02 56 15.6	-0.3
YULB	Yu-li	0.54	197	P	Pg	02 56 15.8	-0.1
YULB	Yu-li	0.54	197	*e*P	Pg	02 56 14.7	-1.2
	baz=188						
YULB				*e*S	Sg	02 56 23.3	+0.1
	baz=188						
TYC	Yuchr	0.56	269	⇓*i*P	Pg	02 56 16.3	0.0
	baz=273						
TYC				S	Sg	02 56 23.3	-0.5
	baz=273						
ENA	Nanau	0.57	25	P	Pg	02 56 15.8	-0.5
	baz=28						
ENA				*e*S	Sg	02 56 23.9	-0.1
	baz=28						
EYUL	Yuli	0.58	194	P	Pg	02 56 16.2	-0.4
	baz=198						
EYUL				*e*S	Sb	02 56 25.0	-0.1
	baz=198						
TWF1	Yuli	0.58	196	*e*P	Pg	02 56 15.1	-1.5
	baz=194						
TWF1				*e*S	Sg	02 56 24.5	+0.1
	baz=194						
EWUT	Wuta	0.60	28	P	Pg	02 56 16.3	-0.6
	baz=29						
EWUT				*e*S	Sg	02 56 24.1	-0.9
	baz=29						
WHP	Taichung City	0.60	307	P	Pb	02 56 17.4	-0.1
	baz=299						
WHYT	Xinyi Township	0.61	249	*e*P	Pb	02 56 18.0	+0.5
	baz=253						
WHYT				*e*S	Sb	02 56 25.6	-0.2
	baz=253						
LATG	Datong	0.62	4	⇑*i*P	Pg	02 56 17.1	-0.4
	baz=6.0						
LATG				S	Sg	02 56 25.5	-0.3
	baz=6.0						
NDT	Datong Townshi	0.69	3	P	Pb	02 56 18.6	-0.2
	baz=4.0						
NDT				S	Sg	02 56 27.4	-0.4
	baz=4.0						
WJS	Zhushan	0.69	263	*e*P	Pn	02 56 19.9	-0.4
	baz=264						
WJS				*e*S	Sn	02 56 30.2	-0.5
	baz=264						
CHKH	Chenggong	0.72	186	*e*P	Pb	02 56 18.3	-1.1
	baz=184						
CHKH				*e*S	Sg	02 56 29.4	+0.7
	baz=184						
WNT	Mingjian	0.72	267	P	Pn	02 56 20.2	-0.6
	baz=269						
WNT				S	Sn	02 56 31.0	-0.5
	baz=269						
ENTT	Nioudou	0.73	7	P	Pb	02 56 19.1	-0.4
	baz=8.0						
ENTT				S	Sb	02 56 28.7	-0.7
	baz=8.0						
FULB	Fuli	0.73	193	*e*P	Pb	02 56 19.0	-0.5
	baz=201						

FULB				*e*S	**Sn**	**02 56 31.3**	**-0.5**
	baz=201						
ALS	**Alishan**	**0.73**	**237**	P	**Pb**	**02 56 19.9**	**+0.1**
	baz=227						
ALS				*e*S	**Sg**	**02 56 29.2**	**-0.1**
	baz=227						
ESAO	**Su ao**	**0.74**	**27**	*e*P	**Pb**	**02 56 19.3**	**-0.4**
	baz=28						
ESAO				*e*S	**Sb**	**02 56 28.5**	**-1.2**
	baz=28						
NDS	**Dongshan**	**0.75**	**17**	*e*P	**Pb**	**02 56 19.4**	**-0.5**
	baz=18						
NDS				*e*S	**Sb**	**02 56 29.6**	**-0.4**
	baz=18						
YHNB	**Yeheng**	**0.76**	**353**	P	**Pg**	**02 56 20.3**	**+0.3**
YHNB	**Yeheng**	**0.76**	**353**	P	**Pg**	**02 56 20.4**	**+0.4**
YHNB	**Yeheng**	**0.76**	**353**	P	**Pg**	**02 56 19.9**	**0.0**
	baz=346						
YHNB				*e*S	**Sb**	**02 56 29.3**	**-0.9**
	baz=346						
TCU	**Taichung**	**0.77**	**288**	*e*P	**Pn**	**02 56 21.3**	**-0.1**
	baz=285						
TCU				*e*S	**Sn**	**02 56 33.8**	**+1.2**
	baz=285						
NSK	**Sanguang**	**0.77**	**352**	P	**Pg**	**02 56 20.2**	**+0.1**
	baz=346						
NSK				*e*S	**Sb**	**02 56 30.0**	**-0.5**
	baz=346						
TWQ1	**Liyutan**	**0.77**	**304**	P	**Pn**	**02 56 21.1**	**-0.4**
	baz=304						
TWQ1				*e*S	**Sn**	**02 56 33.5**	**+0.6**
	baz=304						
TWC	**Suao**	**0.77**	**26**	*e*P	**Pb**	**02 56 19.4**	**-0.9**
	baz=28						
TWC				*e*S	**Sb**	**02 56 30.3**	**-0.3**
	baz=28						
NFF	**Wufeng Townshi**	**0.79**	**336**	*e*P	**Pg**	**02 56 20.6**	**+0.1**
	baz=345						
CHN5	**Tsauling**	**0.79**	**247**	P	**Pn**	**02 56 21.4**	**-0.4**
	baz=238						
CHN5				*e*S	**Sn**	**02 56 32.8**	**-0.6**
	baz=238						
EHD	**Haiduan**	**0.80**	**198**	*e*P	**Pb**	**02 56 20.1**	**-0.6**
	baz=196						
EHD				*e*S	**Sb**	**02 56 31.0**	**-0.4**
	baz=196						
CHKT	**Chengkung**	**0.82**	**187**	P	**Pb**	**02 56 19.8**	**-1.2**
	baz=185						
CHKT				*e*S	**Sb**	**02 56 31.8**	**0.0**
	baz=185						
NSY	**Sanyi**	**0.82**	**308**	P	**Pn**	**02 56 22.2**	**0.0**
	baz=309						
TWE	**Neicheng**	**0.82**	**12**	P	**Pb**	**02 56 21.0**	**-0.2**
	baz=14						
TWE				*e*S	**Sb**	**02 56 31.5**	**-0.6**
	baz=14						
ELDTW	**Lidau**	**0.83**	**210**	*e*P	**Pb**	**02 56 19.6**	**-1.8**
	baz=215						
ELDTW				*e*S	**Sb**	**02 56 31.5**	**-0.9**
	baz=215						
NSTT	**Nanjuang**	**0.83**	**329**	*e*P	**Pg**	**02 56 21.6**	**+0.2**
	baz=331						
LIOB	**Emei**	**0.84**	**330**	P	**Pn**	**02 56 22.0**	**-0.4**
	baz=332						
ECS	**Chishang**	**0.85**	**196**	*e*P	**Pn**	**02 56 22.1**	**-0.4**
	baz=194						
ECS				*e*S	**Sn**	**02 56 34.0**	**-0.6**
	baz=194						
FUSB	**Fushanzhiwuyua**	**0.85**	**7**	P	**Pb**	**02 56 20.9**	**-0.7**
	baz=8.0						
FUSB				*e*S	**Sb**	**02 56 31.2**	**-1.7**
	baz=8.0						
WCHH	**Zhanghua**	**0.85**	**281**	*e*P	**Pn**	**02 56 22.8**	**+0.2**
	baz=281						
EOS2	**EOS2**	**0.86**	**54**	*e*P	**Pn**	**02 56 22.6**	**+0.1**
	baz=67						
EOS3	**EOS3**	**0.86**	**64**	*e*P	**Pb**	**02 56 21.7**	**+0.1**
	baz=63						
NWLT	**Wulai**	**0.86**	**2**	*e*P	**Pg**	**02 56 21.8**	**-0.1**
	baz=3.0						
NWLT				*e*S	**Sb**	**02 56 32.9**	**-0.3**
	baz=3.0						
WDJ	**Dajia District**	**0.88**	**300**	*e*P	**Pn**	**02 56 23.4**	**+0.6**
	baz=306						
WDLH	**Douliu**	**0.89**	**256**	*e*P	**Pn**	**02 56 23.0**	**0.0**
	baz=254						
WCKO	**Fanlu**	**0.93**	**240**	*e*P	**Pn**	**02 56 23.8**	**+0.2**
	baz=233						
WCKO				*e*S	**Sn**	**02 56 37.5**	**+0.9**
	baz=233						
EDH	**Donghe**	**0.95**	**189**	*e*P	**Pb**	**02 56 21.9**	**-1.4**
	baz=187						
STYH	**Taoyuan**	**0.98**	**221**	*e*P	**Pb**	**02 56 23.8**	**0.0**
	baz=220						
CHN4	**Tsaushan**	**0.98**	**235**	P	**Pg**	**02 56 24.6**	**+0.5**
	baz=229						
CHN4				*e*S	**Sn**	**02 56 39.0**	**+1.0**
	baz=229						
SBCB	**Hsinchu**	**0.98**	**333**	*e*P	**Pg**	**02 56 26.0**	**+1.8**
	baz=335						
TPUB	**Ta-pu**	**0.98**	**232**	P	**Pg**	**02 56 24.6**	**+0.4**
TPUB	**Ta-pu**	**0.98**	**232**	P	**Pg**	**02 56 24.7**	**+0.5**
TPUB	**Ta-pu**	**0.98**	**232**	*e*P	**Pg**	**02 56 24.4**	**+0.1**
	baz=225						
TPUB				*e*S	**Sn**	**02 56 38.1**	**0.0**
	baz=225						
WRL	**Guolierlin Hig**	**1.00**	**270**	*e*P	**Pg**	**02 56 24.6**	**0.0**
	baz=269						
WRL				*e*S	**Sn**	**02 56 38.5**	**0.0**
	baz=269						
WTK	**Tuku**	**1.02**	**258**	*e*P	**Pg**	**02 56 25.1**	**+0.2**
	baz=257						
WTK				*e*S	**Sn**	**02 56 39.5**	**+0.6**
	baz=257						
WTP	**Ta-pu**	**1.03**	**230**	P	**Pg**	**02 56 25.2**	**+0.1**
	baz=218						
WTP				*e*S	**Sn**	**02 56 40.2**	**+0.9**
	baz=218						
CHY	**Chiayi**	**1.05**	**247**	*e*P	**Pg**	**02 56 25.8**	**+0.4**
	baz=259						
CHY				*e*S	**Sn**	**02 56 40.5**	**+1.0**
	baz=259						
NHDH	**Xindian Distri**	**1.05**	**3**	*e*P	**Pg**	**02 56 25.9**	**+0.5**
	baz=3.0						
NHDH				*e*S	**Sn**	**02 56 39.8**	**+0.2**
	baz=3.0						
LONT	**Longtian**	**1.05**	**198**	*e*P	**Pg**	**02 56 25.5**	**0.0**
	baz=181						
TATO	**Taipei**	**1.06**	**1**	P	**Pg**	**02 56 26.2**	**+0.6**
TWA	**Mucha**	**1.07**	**5**	*e*P	**Pg**	**02 56 25.9**	**+0.1**
	baz=7.0						
TWA				*e*S	**Sn**	**02 56 39.6**	**-0.5**
	baz=7.0						
NCUH	**Zhongli**	**1.08**	**346**	*e*P	**Pg**	**02 56 26.4**	**+0.3**
	baz=347						
NCUH				*e*S	**Sg**	**02 56 42.3**	**+2.1**
	baz=347						
NCU	**National Centr**	**1.08**	**346**	*e*S	**Sg**	**02 56 42.4**	**+2.1**
	baz=348						
TIPB	**Shuangxi**	**1.10**	**17**	*e*P	**Pb**	**02 56 25.6**	**-0.3**
	baz=19						
TWK	**Hsinying**	**1.11**	**235**	*e*P	**Pg**	**02 56 27.1**	**+0.5**
	baz=223						
TWK				*e*S	**Sg**	**02 56 42.6**	**+1.5**
	baz=223						
CHN1	**Nanshi**	**1.13**	**230**	*e*P	**Pg**	**02 56 27.4**	**+0.4**
	baz=219						
CHN1				*e*S	**Sg**	**02 56 43.2**	**+1.4**
	baz=219						
SNST	**Tainan City**	**1.13**	**233**	*e*P	**Pg**	**02 56 27.1**	**+0.1**
	baz=221						
SNST				*e*S	**Sg**	**02 56 42.9**	**+1.1**
	baz=221						
TWG	**Pinlang**	**1.15**	**199**	*e*P	**Pb**	**02 56 26.6**	**-0.1**
	baz=182						
TWG				*e*S	**Sg**	**02 56 42.9**	**+0.6**
	baz=182						
TWGBT	**Beinan**	**1.15**	**198**	P	**Pg**	**02 56 27.2**	**-0.1**
TWGBT	**Beinan**	**1.15**	**198**	P	**Pg**	**02 56 27.4**	**+0.1**
TWGBT	**Beinan**	**1.15**	**198**	*e*P	**Pb**	**02 56 26.6**	**-0.1**
	baz=183						
NHW	**Xinwu Township**	**1.16**	**340**	P	**Pg**	**02 56 28.2**	**+0.7**
	baz=327						
NHW				*e*S	**Sg**	**02 56 44.3**	**+1.7**
	baz=327						
SGST	**Jiashian**	**1.16**	**225**	*e*P	**Pn**	**02 56 26.6**	**-0.3**
	baz=223						
SGST				*e*S	**Sg**	**02 56 44.2**	**+1.5**
	baz=223						
WSF	**Szhu**	**1.18**	**257**	*e*P	**Pg**	**02 56 27.6**	**-0.3**
	baz=255						
TWS1	**Kuangyinshan**	**1.18**	**358**	*e*P	**Pg**	**02 56 27.9**	**-0.1**
	baz=10.0						
TWS1				*e*S	**Sg**	**02 56 44.7**	**+1.2**
	baz=10.0						
NWF	**Wu-fen Shan**	**1.19**	**14**	*e*P	**Pg**	**02 56 28.4**	**+0.3**
	baz=26						
TWB1	**Santiao Chiao**	**1.19**	**23**	*e*P	**Pg**	**02 56 29.1**	**+1.0**
	baz=25						
TWB1				*e*S	**Sb**	**02 56 42.4**	**-0.1**
	baz=25						
WFSB	**Wu-fen Shan**	**1.19**	**14**	*e*P	**Pg**	**02 56 28.1**	**0.0**
	baz=26						
SLGT	**Liugui**	**1.19**	**220**	*e*P	**Pg**	**02 56 28.1**	**0.0**
	baz=218						
ICHU	**Yijhu**	**1.23**	**244**	*e*P	**Pg**	**02 56 28.5**	**-0.2**
	baz=241						
YM01	**YM01**	**1.23**	**4**	*e*P	**Pb**	**02 56 28.1**	**0.0**
	baz=7.0						
SXI1	**Grass Mountain**	**1.23**	**17**	*e*P	**Pb**	**02 56 28.2**	**+0.1**
	baz=20						
NTST	**Danshui**	**1.25**	**359**	*e*P	**Pg**	**02 56 28.9**	**-0.3**
	baz=12						
NTST				*e*S	**Sg**	**02 56 46.5**	**+1.0**
	baz=12						
ANP	**Anpu**	**1.27**	**2**	*e*P	**Pb**	**02 56 28.9**	**+0.1**
	baz=25						
SCST	**Cishan**	**1.36**	**222**	*e*P	**Pg**	**02 56 31.4**	**0.0**
	baz=219						
ECL	**Taimali**	**1.39**	**200**	*e*P	**Pb**	**02 56 30.7**	**-0.2**
	baz=184						
TSCK	**Chigu Township**	**1.48**	**239**	*e*P	**Pb**	**02 56 31.9**	**-0.5**
	baz=236						
MASBT	**Mashibuluo**	**1.51**	**211**	*e*P	**Pb**	**02 56 32.8**	**0.0**
	baz=220						

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*TIR **06** 03:12:32.9, 41.°11N×20.°02E, h15km±2km, Md2.7, Ml1.9*
*BEO **06** 03:12:33.8±0.8, 41.°11N×19.°89E, h11km±5km, ML1.6/5*
*THE **06** 03:12:34.7, 41.°14N×20.°05E, h4km±1km, ML1.6/9, Error ellipse: s-maj=1.9km s-min=0.6km az=45.0*
ISC 06 03:12:34.4±0.9**, 41.°13N**±0.°02×**20.°05E**±0.°03**, h10**km±8km**,** **n20,** σ**1.s12**/39**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**328**	P	**Pg**	**03 12 39.2**	**-0.5**
	baz=335						
TIR				S	**Sg**	**03 12 43.5**	**+0.2**
	baz=335						
TIR				AMP			
	comp=N,0.7nm,0.1s,baz=335						
TIR	**Tirane**	**0.26**	**328**	P	**Pg**	**03 12 39.3**	**-0.5**
TIR				S	**Sg**	**03 12 43.9**	**+0.7**
	comp=N,220nm,0.4s						
TIR	**Tirane**	**0.26**	**328**	*e*Pg	**Pg**	**03 12 39.2**	**-0.5**
TIR				*e*Sg	**Sg**	**03 12 44.0**	**+0.7**
OHR	**Ohrid**	**0.57**	**92**	*e*Pg	**Pg**	**03 12 45.7**	**+0.2**
OHR				*e*Sg	**Sb**	**03 12 55.7**	**+1.1**
PHP	**Peshkopia**	**0.63**	**28**	P	**Pg**	**03 12 45.8**	**-0.9**
	baz=28						
PHP				S	**Sb**	**03 12 55.9**	**-0.6**
	baz=28						
PHP				AMP			
	comp=N,0.3nm,0.3s,baz=28						
PHP	**Peshkopia**	**0.63**	**28**	P	**Pg**	**03 12 45.9**	**-0.8**
PHP				S	**Sb**	**03 12 55.7**	**-0.7**
	comp=N,60nm,0.2s						
KBN	**Korca**	**0.75**	**132**	P	**Pg**	**03 12 48.0**	**-1.0**
	baz=129						
KBN				S	**Sg**	**03 12 58.9**	**+0.1**
	baz=129						
KBN	**Korca**	**0.75**	**132**	P	**Pg**	**03 12 48.5**	**-0.5**
KBN				S	**Sb**	**03 13 00.6**	**+0.6**
	comp=N,50nm,0.5s						
VLO	**Vlora**	**0.78**	**213**	P	**Pb**	**03 12 49.8**	**-0.3**
VLO				S	**Sb**	**03 13 01.1**	**+0.4**
	comp=N,148nm,0.5s						
NEST	**Nestorio**	**1.04**	**133**	P	**Pb**	**03 12 53.9**	**-0.7**
NEST				S	**Sn**	**03 13 09.1**	**-0.7**
	comp=N,18nm,1.0s						
FNA	**Florina**	**1.06**	**109**	P	**Pb**	**03 12 54.4**	**-0.6**
	baz=106						
FNA				S	**Sn**	**03 13 09.7**	**-0.6**
	baz=106						
FNA	**Florina**	**1.06**	**109**	P	**Pb**	**03 12 54.2**	**-0.7**
FNA				S	**Sn**	**03 13 11.0**	**+0.7**
	comp=N,32nm,0.4s						
FNA	**Florina**	**1.06**	**109**	*e*Pg	**Pb**	**03 12 54.7**	**-0.2**
FNA				*e*Sg	**Sn**	**03 13 11.7**	**+1.4**
LSK	**Leskovik**	**1.06**	**157**	P	**Pn**	**03 12 55.0**	**-0.5**
LSK				S	**Sn**	**03 13 09.9**	**-0.4**
	comp=N,45nm,0.8s						
BCI	**Bajram Curri**	**1.24**	**1**	P	**Sg**	**03 13 19.2**	**+4.9**
	baz=1.0						
SRN	**Sarande**	**1.25**	**182**	P	**Pg**	**03 12 59.0**	**+0.5**
	baz=181						
SRN				S	**Sb**	**03 13 13.8**	**-0.3**
	baz=181						
SRN	**Sarande**	**1.25**	**182**	P	**Pg**	**03 12 58.5**	**+0.1**
SRN				S	**Sg**	**03 13 16.7**	**+2.1**
	comp=N,25nm,1.4s						
KEK	**Kerkira**	**1.43**	**188**	P	**Pn**	**03 13 00.0**	**-0.4**
KEK				S	**Sg**	**03 13 20.5**	**+0.2**
	comp=N,45nm,1.0s						
TREB	**Trebinje**	**2.03**	**322**	*e*Pg	**Pb**	**03 13 10.2**	**-1.2**
TREB				*e*Sg	**Sn**	**03 13 34.8**	**+0.7**
SJES	**Sjenica**	**2.13**	**359**	*e*Pg	**Pb**	**03 13 13.8**	**+0.6**
SJES				*e*Sg	**Sg**	**03 13 42.2**	**-0.7**

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*IDC **06** 03:27:22.9±1.2, 67.°92N×20.°48E, h0km, mbtmp2.8/3, ML1.8/3, Error ellipse: s-maj=18.4km s-min=7.0km az=121.0*
*UPP **06** 03:27:22.0±0.0, 67.°87N×20.°15E, h0km, ML2.1, Confirmed Induced event*
*HEL **06** 03:27:23.4±0.1, 67.°87N×20.°28E, h0km, ML1.6, Explosion*
ISC 06 03:27:21.7±0.8**, 67.°83N**±0.°03×**20.°23E**±0.°03**, h0**km**, n20,** σ**0.s89**/25**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**18**	P	**Pg**	**03 27 24.4**	**+0.3**
KUA				S	**Sg**	**03 27 26.6**	**+0.9**
RATU	**Laukkuluspa**	**0.24**	**268**	P	**Pg**	**03 27 26.4**	**+0.1**
LANU	**Lannavaara**	**0.70**	**71**	*e*P	**Pg**	**03 27 35.2**	**+0.2**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pb**	**03 27 35.8**	**-1.0**
DUNU	**Dundret**	**0.73**	**170**	P	**Pb**	**03 27 36.4**	**-0.8**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**03 27 36.9**	**-0.1**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pn**	**03 27 45.4**	**-0.2**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**03 27 44.5**	**-0.1**
KIF				*e*S	**Sg**	**03 28 00.3**	**+0.3**
KIF				MSG		03 28 02.1	
	comp=Z,8.1nm,0.2s						
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pb**	**03 27 48.5**	**-0.2**
HEF	**Hetta**	**1.41**	**64**	*e*PG	**Pn**	**03 27 48.1**	**-0.5**
HEF				MSG		03 28 02.1	
	comp=Z,3.3nm,0.2s						
KLF	**Kolari**	**1.55**	**111**	*e*PG	**Pg**	**03 27 51.1**	**-0.3**
KLF				MSG		03 28 07.5	
	comp=Z,3.0nm,0.2s						
KTK1	**Kautokeino**	**1.62**	**42**	*e*PN	**Pg**	**03 27 52.5**	**-0.3**
HARU	**Harads**	**1.70**	**170**	P	**Pg**	**03 27 54.0**	**-0.3**
TRO	**Tromso**	**1.87**	**346**	*e*P	**Pb**	**03 27 55.8**	**-0.8**
TOF	**Tornio**	**2.39**	**136**	*e*P	**Pb**	**03 28 04.0**	**-1.4**
TOF				MSG		03 28 33.9	
	comp=Z,2.5nm,0.2s						
SGF	**Sodankyl**	**2.44**	**96**	*e*PB	**Pb**	**03 28 05.7**	**-0.6**
SGF				*e*SB	**Sb**	**03 28 36.6**	**-0.2**
RNF	**Rovaniemi**	**2.56**	**116**	*e*P	**Pb**	**03 28 06.8**	**-1.6**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**03 28 05.6**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=229,slow=14,SNR=50						
ARCES				Lg	Lg	03 28 38.8	
	comp=Z,1.5nm,0.3s,baz=228,slow=25,SNR=17						
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**03 29 06.3**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=3.5						
FINES				Sn	**Sn**	**03 30 23.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=349,slow=18,SNR=1.8						
FINES				Lg	Lg	03 31 01.0	
	comp=Z,0.3nm,0.3s,baz=343,slow=26,SNR=5.8						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**03 29 16.3**	**-0.6**
	baz=23,slow=19,SNR=1.1						
NOA				Sn	**Sn**	**03 30 46.4**	**+0.1**
	baz=25,slow=21,SNR=1.9						
NOA				Lg	Lg	03 31 32.5	
	baz=16,slow=15,SNR=4.3						
	comp=Z,0.6nm,0.8s						

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*IDC **06** 03:32:23.3±1.2, 14.°88S×173.°66W, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=50.7km s-min=30.4km az=137.0*
ISC 06 03:32:27.5±1.1**, 14.°8S**±0.°3×**173.°8W**±0.°3**, h30**km**, n6,** σ**0.s87**/6**, mb3.7**/5**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.66**	**256**	P	**P**	**03 41 17.3**	**+0.4**
	0.5nm,0.8s,baz=91,slow=8.3,SNR=1.1						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**49.99**	**251**	P	**P**	**03 41 19.4**	**0.0**
	0.7nm,0.6s,baz=86,slow=8.1,SNR=8.3						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**75.27**	**180**	P	**P**	**03 44 07.6**	**+0.1**
	1.1nm,0.7s,baz=69,slow=4.8,SNR=4.2						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**81.90**	**11**	P	**P**	**03 44 44.1**	**+0.4**
	0.8nm,1.1s,baz=225,slow=6.2,SNR=3.2						
	0.8nm,1.1s						
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**	**03 44 45.3**	**+0.1**
	0.4nm,0.7s,baz=204,slow=3.3,SNR=3.5						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**145.46**	**321**	PKPbc	**PKiKP**	**03 52 05.7**	**-1.4**
	0.6nm,0.6s,baz=44,slow=4.4,SNR=2.6						

IDC 06 03:52:14.2±11.0**, 29.°81N×80.°65E, h0**km**, mb3.6**/3**, mbtmp3.6**/4**, ML3.4**/1**, Error ellipse: s-maj=216.6km s-min=76.6km az=139.0, Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.00**	**4**	P	P	03 56 14.5	-0.8
	0.1nm,0.3s,baz=196,slow=12,SNR=6.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**20.85**	**356**	P	P	03 56 57.1	-0.3
	0.9nm,0.6s,baz=182,slow=11,SNR=10.0						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**24.31**	**6**	P	P	03 57 32.9	-0.4
	0.8nm,0.4s,baz=196,slow=10.0,SNR=5.2						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**47.48**	**328**	P	P	04 00 50.6	+0.1
	1.9nm,0.9s,baz=106,slow=10,SNR=5.2						
	1.9nm,0.9s						

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*JMA **06** 04:06:14.3±0.2, 42°N±1°×142.°5E±1.°0, h49km±2km, MD3.8/40, MV3.6/40, S OFF URAKAWA*
JMA Felt I J1 at S OFF URAKAWA .
*NIED **06** 04:06:14.3, 41.°98N×142.°50E, h49km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.24; $M_{\theta\theta}$-2.08; $M_{\phi\phi}$2.32; $M_{r\theta}$3.21; $M_{\theta\phi}$-0.51; $M_{\phi r}$-4.00; Fault plane solution: $M_0$5.57000×10^{14} NP1: ϕ_s318.00000°, δ87.00000°, λ-112.00000°. NP2: ϕ_s222.00000°, δ23.00000°, λ-7.00000°.*
*SKHL **06** 04:06:15.4±0.4, 42.°00N×142.°50E, h44km±6km, mb4.6/3*
*IDC **06** 04:06:16.6±1.8, 41.°99N×142.°37E, h65km±14km, mb3.3/16, mbtmp3.6/20, MS2.9/4, Error ellipse: s-maj=18.0km s-min=11.4km az=117.0*
ISC 06 04:06:14.5±0.8**, 41.°95N**±0.°05×**142.°51E**±0.°03**, h47**km±8km**,** **n60,** σ**0.s90**/59**, mb3.5**/16**, 3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.38**	**29**	⇓*e*P	**Pn**	**04 06 23.2**	**-1.0**
JNBK	**Urakawa-nobuka**	**0.38**	**29**	A	A	04 06 23.2	
	comp=E,14nm,0.5s,comp=N,9.0nm,0.6s						
JSHD	**Hidakashinhida**	**0.47**	**356**	⇓*e*P	**Pn**	**04 06 24.6**	**-0.5**
JSHD				⇓*e*S	**Sn**	**04 06 32.6**	**-0.2**
JSHD	**Hidakashinhida**	**0.47**	**356**	A	A	04 06 24.6	
	comp=E,18nm,2.9s,comp=N,9.0nm,1.7s						
JEM	**Erimo**	**0.49**	**82**	P	**Pn**	**04 06 25.6**	**+0.2**
JEM				*e*S	**Sn**	**04 06 33.2**	**0.0**
JEM	**Erimo**	**0.49**	**82**	A	A	04 06 25.6	
	comp=E,3.0nm,2.7s,comp=N,3.0nm,2.5s						
JTHR	**Tokachihiroo**	**0.68**	**59**	*e*P	**Pn**	**04 06 27.9**	**0.0**
JTHR				*e*S	**Sn**	**04 06 37.9**	**+0.3**
JTHR	**Tokachihiroo**	**0.68**	**59**	A	A	04 06 27.9	
	comp=E,12nm,0.7s,comp=N,7.0nm,0.4s						
JIAM	**Iburiatsuma**	**0.80**	**328**	*e*P	**Pn**	**04 06 30.0**	**+0.5**
JIAM				*e*S	**Sn**	**04 06 41.7**	**+1.3**
JIAM	**Iburiatsuma**	**0.80**	**328**	A	A	04 06 30.0	
	comp=E,9.0nm,0.3s,comp=N,9.0nm,0.4s						
JBT2	**Biratori 2**	**0.84**	**353**	P	**Pn**	**04 06 29.1**	**-0.9**
JCH	**Churui**	**0.92**	**43**	*e*P	**Pn**	**04 06 30.9**	**-0.2**
JCH				*e*S	**Sn**	**04 06 43.1**	**-0.2**
JKB	**Kayabe**	**1.10**	**268**	*e*P	**Pn**	**04 06 33.4**	**-0.1**
JKB				*e*S	**Sn**	**04 06 47.4**	**-0.2**
JKB	**Kayabe**	**1.10**	**268**	A	A	04 06 33.4	
	comp=E,10.0nm,1.0s,comp=N,5.0nm,0.3s						
JAHD	**Aomorihigashid**	**1.11**	**233**	A	A	04 06 34.0	
	comp=E,11nm,0.4s,comp=N,11nm,0.8s						
JEW	**Eniwo**	**1.19**	**319**	*e*P	**Pn**	**04 06 34.8**	**+0.1**
JEW				*e*S	**Sn**	**04 06 49.9**	**+0.2**
JNB	**Noboribetsu**	**1.21**	**296**	*e*P	**Pn**	**04 06 34.1**	**-0.9**
JNB				*e*S	**Sn**	**04 06 49.0**	**-1.2**
JFR	**Furan**	**1.22**	**3**	*e*P	**Pn**	**04 06 34.7**	**-0.4**
JFR	**Furan**	**1.22**	**3**	A	A	04 06 34.7	
	comp=E,3.0nm,4.8s,comp=N,2.0nm,5.0s						
JOT	**Ohata**	**1.23**	**243**	*e*P	**Pn**	**04 06 35.3**	**+0.1**
JOT				*e*S	**Sn**	**04 06 50.8**	**+0.2**
JARK	**Aomorirokkasho**	**1.27**	**223**	A	A	04 06 36.4	
	comp=E,2.0nm,0.3s,comp=N,3.0nm,1.0s						
JOB	**Onbets**	**1.37**	**45**	*e*P	**Pn**	**04 06 38.1**	**+0.9**
JOB	**Onbets**	**1.37**	**45**	A	A	04 06 38.1	
	comp=E,6.0nm,0.7s,comp=N,1.0nm,2.8s						
JISS	**Ishikarishitsu**	**1.55**	**329**	*e*P	**Pn**	**04 06 40.0**	**+0.3**
JISS				*e*S	**Sn**	**04 06 58.8**	**+0.2**
JAB	**Ashibetsu**	**1.57**	**352**	*e*P	**Pn**	**04 06 40.1**	**+0.2**
JAB	**Ashibetsu**	**1.57**	**352**	A	A	04 06 40.1	
	comp=E,1.0nm,1.6s,comp=N,2.0nm,2.5s						
JYM2	**Yakumo 2**	**1.60**	**277**	*e*P	**Pn**	**04 06 40.5**	**+0.2**
JYM2				*e*S	**Sn**	**04 06 59.9**	**+0.2**
JSI2	**Shiura 2**	**1.81**	**241**	A	A	04 06 43.9	
	comp=E,2.0nm,5.4s,comp=N,1.0nm,2.8s						
JKEN	**Kujiedanarisaw**	**1.84**	**199**	A	A	04 06 44.7	
	comp=E,4.0nm,0.3s,comp=N,4.0nm,3.2s						
AKK	**Akkeshi**	**2.03**	**57**	*e*P	**Pn**	**04 06 46.5**	**+0.3**
AKK				*e*S	**Sn**	**04 07 09.6**	**-0.8**
ASAJ	**Asahikawa**	**2.17**	**2**	P	**Pn**	**04 06 48.7**	**+0.5**
	comp=N,63nm,0.4s,baz=224,slow=10,SNR=24						
ASAJ				S	**Sn**	**04 07 16.1**	**+2.3**
	comp=N,112nm,0.6s,baz=356,slow=17,SNR=12						
JTKR	**Abashiri--Toko**	**2.27**	**26**	A	A	04 06 50.0	
	comp=E,1.0nm,2.6s,comp=N,1.0nm,0.9s						
NMR	**Nemuro--Hokkai**	**2.77**	**58**	*e*P	**Pn**	**04 06 56.4**	**+0.1**
NMR				*e*S	**Sn**	**04 07 28.0**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**3.23**	**49**	*e*P	**Pn**	**04 07 03.5**	**+0.9**
YUK				AMB	AMB	04 07 05.4	
	comp=N,130nm,0.3s						
YUK				*e*S	**Sn**	**04 07 39.1**	**-0.7**
YUK				A	A	04 07 45.0	
	comp=N,400nm,0.5s						
YUK				A	A	04 07 45.0	
	comp=N,460nm,0.5s						
SHO	**Shikotan**	**3.71**	**57**	*e*P	**Pn**	**04 07 09.7**	**+0.4**
SHO				AMB	AMB	04 07 11.3	
	comp=N,30nm,0.4s						
SHO				*e*S	**Sn**	**04 07 50.1**	**-1.6**
SHO				A	A	04 07 51.5	
	comp=N,100nm,0.5s						
SHO				A	A	04 07 51.5	
	comp=N,160nm,0.5s						
KUR	**Kuril'sk**	**5.09**	**48**	*e*P	**Pn**	**04 07 30.2**	**+2.0**
KUR				AMB	AMB	04 07 34.1	
	comp=N,60nm,0.4s						
KUR				*e*S	**Sn**	**04 08 27.5**	**+1.8**
MJAR	**Matsushiro Arr**	**6.34**	**213**	P	**Pn**	**04 07 48.1**	**+2.7**
	comp=N,2.3nm,0.4s,baz=24,slow=16,SNR=12						
MJAR				LR	LR	04 10 07.1	
	comp=N,55nm,20.7s,baz=52,slow=36						
USRK	**Ussuriysk Ar.**	**8.02**	**290**	P	**Pn**	**04 08 10.4**	**+2.1**
	comp=N,2.3nm,0.7s,baz=100,slow=14,SNR=3.4						
USRK				LR	LR	04 11 10.0	
	comp=N,53nm,19.0s,baz=182,slow=37						

KSRS	**Korea Array**	**12.09**	**253**	P	**Pn**	**04 09 04.4**	**+0.4**
	comp=N,0.5nm,0.3s,baz=63,slow=14,SNR=2.4						
KSRS				LR	LR	04 13 08.8	
	comp=N,34nm,19.4s,baz=120,slow=34						
SONM	**Songino Array**	**26.08**	**295**	P	**P**	**04 11 42.5**	**-1.2**
	comp=N,0.2nm,0.4s,baz=107,slow=9.2,SNR=1.6						
	comp=N,0.2nm,0.4s						
NRIK	**Noril'sk**	**39.23**	**333**	LR	LR	04 29 34.2	
	comp=N,56nm,18.7s,baz=127,slow=36						
ZALV	**Zalesovo Beam**	**39.39**	**308**	P	**P**	**04 13 38.1**	**-1.2**
	comp=N,0.4nm,0.5s,baz=91,slow=13,SNR=2.2						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**42.40**	**298**	P	**P**	**04 14 03.8**	**-0.3**
	comp=N,0.7nm,0.9s,baz=83,slow=12,SNR=6.6						
	comp=N,0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**43.79**	**304**	P	**P**	**04 14 15.2**	**-0.2**
	comp=N,1.4nm,0.3s,baz=78,slow=8.7,SNR=1.3						
	comp=N,1.4nm,0.3s						
ILAR	**Eielson Array**	**44.94**	**35**	P	**P**	**04 14 24.2**	**-0.1**
	comp=N,0.5nm,0.7s,baz=260,slow=5.6,SNR=12						
	comp=N,0.5nm,0.7s						
BVAR	**Borovoye Array**	**48.00**	**309**	P	**P**	**04 14 48.1**	**-0.3**
	comp=N,0.6nm,0.4s,baz=75,slow=9.1,SNR=3.2						
	comp=N,0.6nm,0.4s						
YKA	**Yellowknife Ar**	**59.17**	**32**	P	**P**	**04 16 09.6**	**-0.4**
	comp=N,0.3nm,0.9s,baz=303,slow=7.2,SNR=4.1						
	comp=N,0.3nm,0.9s						
WRA	**Warramunga Arr**	**62.04**	**189**	P	**P**	**04 16 29.8**	**-0.2**
	comp=N,0.4nm,0.5s,baz=6.6,slow=6.9,SNR=8.6						
	comp=N,0.4nm,0.5s						
FINES	**FINESS Array B**	**64.88**	**332**	P	**P**	**04 16 48.0**	**-0.3**
	comp=N,1.0nm,0.6s,baz=39,slow=7.3,SNR=6.0						
	comp=N,1.0nm,0.6s						
ASAR	**Alice Springs**	**65.76**	**189**	P	**P**	**04 16 54.8**	**+0.3**
	comp=N,0.4nm,0.9s,baz=5.6,slow=8.4,SNR=5.0						
	comp=N,0.4nm,0.9s						
HFS	**Hagfors**	**69.97**	**335**	P	**P**	**04 17 20.1**	**-0.4**
	comp=N,1.0nm,0.7s,baz=54,slow=7.5,SNR=4.4						
	comp=N,1.0nm,0.7s						
NOA	**NORSAR Array B**	**69.99**	**337**	P	**P**	**04 17 19.7**	**-1.0**
	comp=N,0.4nm,0.7s,baz=35,slow=6.4,SNR=1.9						
	comp=N,0.4nm,0.7s						
AKASG	**Malin Array Be**	**70.95**	**322**	P	**P**	**04 17 25.6**	**-1.0**
	comp=N,0.1nm,0.4s,baz=50,slow=1.3,SNR=1.5						
	comp=N,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**71.42**	**55**	P	**P**	**04 17 31.0**	**+1.0**
	comp=N,0.4nm,0.7s,baz=305,slow=5.2,SNR=3.8						
	comp=N,0.4nm,0.7s						
PDAR	**Pinedale Array**	**73.66**	**47**	P	**P**	**04 17 43.5**	**+0.3**
	comp=N,0.3nm,0.6s,baz=101,slow=0.8,SNR=4.5						
	comp=N,0.3nm,0.6s						
TXAR	**Lajitas Array**	**86.48**	**53**	P	**P**	**04 18 53.4**	**+0.9**
	comp=N,0.4nm,0.6s,baz=298,slow=3.1,SNR=6.3						
	comp=N,0.4nm,0.6s						
H03N2	**Juan Fernandez**	**146.40**	**89**	T	T	07 10 52.3	
	baz=306						
H03N3	**Juan Fernandez**	**146.41**	**89**	T	T	07 10 55.3	
	baz=306						
H03N1	**Juan Fernandez**	**146.41**	**89**	T	T	07 10 54.9	
	baz=306						
SIV	**San Ignacio**	**147.13**	**45**	PKPbc	**PKPbc**	**04 25 52.9**	**+0.3**
	comp=N,0.9nm,0.6s,baz=337,slow=13,SNR=5.2						

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*IDC **06** 04:15:47.7±0.8, 14°.47S×166°.76E, h0km, mb4.2/9, mbtmp4.3/10, ML4.5/1, MS3.6/13, Error ellipse: s-maj=33.8km s-min=20.0km az=129.0*
*NOU **06** 04:15:49.2, 14°.50S×166°.79E, h1km, MLv4.8/10, Vanuatu Islands*
*NEIC **06** 04:15:52.6±1.3, 14°.55S±0°.10×166°.86E±0°.09, h36km±8km, mb4.6/26, Error ellipse: s-maj=15.1km s-min=10.8km az=212.0*
ISC 06 04:15:52.5±0.6**, 14°.56S**±0°.07**×166°.8E**±0°.1**, h35km, n71, σ0s.96**/65**, mb4.5**/21**, MS3.5**/11**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.20**	**176**	Pn	**Pn**	**04 17 21.0**	**-0.6**
LIFNC	**LIFOU**	**6.20**	**176**	P	**Pn**	**04 17 21.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**6.43**	**202**	Pn	**Pn**	**04 17 25.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**6.43**	**202**	P	**Pn**	**04 17 25.8**	**+1.1**
MARNC	**Mare, Loyalty**	**6.98**	**171**	Pn	**Pn**	**04 17 31.6**	**-0.7**
YATNC	**Mamie plateau,**	**7.46**	**179**	P	**Pn**	**04 17 39.1**	**+0.2**
DZM	**Mont Dzumac**	**7.48**	**183**	Pn	**Pn**	**04 17 39.0**	**-0.3**
DZM	**Mont Dzumac**	**7.48**	**183**	*e*Pn	**Pn**	**04 17 40.5**	**+1.2**
	45nm,1.1s						
DZM				*e*Sn	**Sn**	**04 19 04.3**	**+1.4**
	45nm,1.0s						
DZM				*e*LR	LR	04 19 27.2	
	453nm,25.4s						
DZM	**Mont Dzumac**	**7.48**	**183**	Pn	**Pn**	**04 17 38.0**	**-1.3**
	7.9nm,0.3s,baz=18,slow=20,SNR=42						
DZM				Sn	**Sn**	**04 19 00.7**	**-2.2**
	1.2nm,0.3s,baz=120,slow=20,SNR=1.1						
DZM				LR	LR	04 20 12.7	
	comp=Z,328nm,21.6s,baz=328,slow=35						
	15nm,0.3s						
NOUC	**Port Laguerre**	**7.52**	**184**	P	**Pn**	**04 17 40.5**	**+0.8**
ONTNC	**Ouen Toro**	**7.71**	**182**	Pn	**Pn**	**04 17 42.2**	**-0.2**
ONTNC	**Ouen Toro**	**7.71**	**182**	P	**Pn**	**04 17 44.2**	**+1.8**
OUENC	**Ouen Island, N**	**7.82**	**180**	Pn	**Pn**	**04 17 44.2**	**+0.4**
OUENC	**Ouen Island, N**	**7.82**	**180**	P	**Pn**	**04 17 45.2**	**+1.4**
PINNC	**Pines Island,**	**8.03**	**176**	Pn	**Pn**	**04 17 47.0**	**+0.2**
HNR	**Honiara**	**8.43**	**306**	LR	LR	04 20 56.8	
	comp=Z,2µm,19.4s,baz=130,slow=37						
EIDS	**Eidsvold**	**18.26**	**232**	P	**P**	**04 20 02.1**	**-1.1**
CTA	**Charters Tower**	**20.37**	**251**	P	**P**	**04 20 27.8**	**+1.4**
	17nm,0.9s,baz=73,slow=10.0,SNR=12						
CTA				LR	LR	04 27 31.8	
	comp=Z,105nm,18.6s,baz=84,slow=35						
	17nm,0.9s						
CTAO	**Charters Tower**	**20.37**	**251**	P	**P**	**04 20 26.6**	**+0.2**
ARMA	**Armidale**	**21.08**	**219**	P	**P**	**04 20 34.3**	**+0.3**
RTZ	**Ruatahuna**	**25.59**	**161**	P	**P**	**04 21 18.5**	**0.0**
RTZ				IAmb	IAmb	04 21 44.7	
	comp=Z,35nm,1.2s						
STKA	**Stephens Creek**	**28.77**	**229**	P	**P**	**04 21 47.8**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=38,slow=9.7,SNR=6.1						
STKA				LR	LR	04 32 39.6	
	comp=Z,114nm,20.2s,baz=26,slow=35						
	comp=Z,4.3nm,0.7s						
RPZ	**Rata Peaks**	**29.28**	**174**	LR	LR	04 31 59.2	
	comp=Z,111nm,18.2s,baz=5.0,slow=33						
WR0	**Warramunga Arr**	**31.25**	**256**	P	**P**	**04 22 07.7**	**-1.5**
WR0				IAmb	IAmb	04 22 13.3	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**31.37**	**256**	P	**P**	**04 22 09.1**	**-1.2**
WB0				IAmb	IAmb	04 22 10.1	
	comp=Z,4.7nm,0.7s						
WB2	**Warramunga Arr**	**31.43**	**256**	P	**P**	**04 22 10.2**	**-0.5**
WB2				IAmb	IAmb	04 22 37.4	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**31.44**	**256**	P	**P**	**04 22 09.6**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=86,slow=9.2,SNR=14						
	comp=Z,3.7nm,0.8s						
AS31	**Alice Springs**	**32.32**	**249**	P	**P**	**04 22 17.8**	**-0.8**
ASAR	**Alice Springs**	**32.32**	**249**	P	**P**	**04 22 17.2**	**-1.4**
ASAR	**Alice Springs**	**32.32**	**249**	P	**P**	**04 22 17.6**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=71,slow=9.8,SNR=52						
ASAR				LR	LR	04 34 06.8	
	comp=Z,76nm,21.4s,baz=80,slow=34						
	comp=Z,3.5nm,0.7s						
BBOO	**Buckleboo**	**33.34**	**232**	P	**P**	**04 22 26.5**	**-0.9**
GUMO	**Guam**	**35.41**	**321**	LR	LR	04 38 42.2	
	comp=Z,24nm,18.1s,baz=110,slow=39						
KNRA	**Kununurra**	**36.72**	**263**	P	**P**	**04 22 56.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**39.61**	**259**	P	**P**	**04 23 20.8**	**-0.3**
PPT2	**Papeete2**	**41.95**	**100**	*e*LR	LR	04 35 28.5	
	comp=Z,54nm,24.2s						
NWAO	**Narrogin (SRO)**	**48.46**	**239**	LR	LR	04 45 27.4	
	comp=Z,89nm,18.1s,baz=272,slow=37						
MORW	**Morawa**	**48.94**	**244**	P	**P**	**04 24 35.6**	**0.0**
ASAJ	**Asahikawa**	**62.44**	**341**	LR	LR	04 49 20.5	
	comp=Z,21nm,21.0s,baz=176,slow=32						
VNDA	**Vanda**	**63.02**	**181**	P	**P**	**04 26 15.4**	**-0.1**
VNDA				IAmb	IAmb	04 26 43.3	
	comp=Z,6.1nm,1.4s						
CM31	**Chiang Mai Arr**	**74.48**	**294**	P	**P**	**04 27 26.8**	**-1.1**
CM31				IAmb	IAmb	04 27 38.4	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**74.48**	**294**	P	**P**	**04 27 27.4**	**-0.5**
MA2	**Magadan**	**75.02**	**352**	P	**P**	**04 27 30.1**	**0.0**
MA2				IAmb	IAmb	04 27 33.5	
	comp=Z,16nm,1.5s						
QSPA	**South Pole Qui**	**75.47**	**180**	P	**P**	**04 27 33.1**	**+0.1**
QSPA				IAmb	IAmb	04 27 37.5	
	comp=Z,10nm,1.5s						
QSPA	**South Pole Qui**	**75.47**	**180**	P	**P**	**04 27 34.8**	**+1.8**
	comp=Z,3.0nm,0.8s,baz=38,slow=3.5,SNR=4.2						
	comp=Z,3.0nm,0.8s						
K15K	**Wolf Creek Mou**	**80.54**	**14**	P	**P**	**04 28 01.4**	**+0.6**
SONM	**Songino Array**	**82.10**	**324**	P	**P**	**04 28 09.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=125,slow=7.6,SNR=1.4						
	comp=Z,0.2nm,0.4s						
SUA	**Susitna One**	**82.88**	**19**	P	**P**	**04 28 12.9**	**-0.4**
SUA				IAmb	IAmb	04 28 35.2	
	comp=Z,14nm,1.4s						
CAST	**Castle Rocks**	**83.97**	**17**	P	**P**	**04 28 18.0**	**-0.8**
CAST				IAmb	IAmb	04 28 22.5	
	comp=Z,10nm,1.4s						
J20K	**Nowinta River**	**83.98**	**16**	P	**P**	**04 28 19.3**	**+0.5**
J20K				IAmb	IAmb	04 28 24.5	
	comp=Z,10.0nm,1.4s						
KTH	**Kantishna Hill**	**84.41**	**18**	P	**P**	**04 28 19.2**	**-1.8**
TRF	**Thorofare Moun**	**84.51**	**18**	P	**P**	**04 28 20.8**	**-1.0**
RND	**Reindeer**	**84.92**	**18**	P	**P**	**04 28 23.3**	**-0.3**
RND				IAmb	IAmb	04 28 47.0	
	comp=Z,5.4nm,1.3s						
IMAR	**Indian Mountai**	**85.52**	**15**	P	**P**	**04 28 26.5**	**0.0**
IL31		**86.50**	**18**	P	**P**	**04 28 30.3**	**-1.0**
IL31				IAmb	IAmb	04 28 31.6	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**86.50**	**18**	P	**P**	**04 28 31.1**	**-0.3**
ILAR	**Eielson Array**	**86.50**	**18**	P	**P**	**04 28 30.2**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=239,slow=5.5,SNR=29						
ILAR				LR	LR	05 02 00.7	
	comp=Z,37nm,21.0s,baz=144,slow=32						
	comp=Z,1.6nm,0.7s						
J25K	**Salcha River,**	**86.85**	**19**	P	**P**	**04 28 33.4**	**+0.2**
J25K				IAmb	IAmb	04 28 36.3	
	comp=Z,3.0nm,0.9s						
PFO	**Pinyon Flats O**	**87.26**	**54**	LR	LR	05 00 38.3	
	comp=Z,53nm,19.3s,baz=39,slow=31						
NVAR	**Mina Array Bea**	**87.50**	**49**	LR	LR	05 00 11.5	
	comp=Z,55nm,19.4s,baz=338,slow=30						
PDAR	**Pinedale Array**	**95.16**	**47**	LR	LR	05 09 41.5	
	comp=Z,52nm,18.2s,baz=70,slow=34						
MK31	**Makanchi Array**	**96.78**	**316**	P	**P**	**04 29 19.1**	**-0.6**
MKAR	**Makanchi Array**	**96.78**	**316**	P	**P**	**04 29 19.1**	**-0.6**
MKAR	**Makanchi Array**	**96.78**	**316**	P	**P**	**04 29 21.3**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=95,slow=4.8,SNR=8.0						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**97.60**	**27**	P	**P**	**04 29 22.4**	**-0.6**
	comp=Z,0.2nm,0.9s,baz=257,slow=5.1,SNR=2.0						
	comp=Z,0.2nm,0.9s						
ARCES	**ARCESS Array B**	**119.98**	**345**	PKP	**PKiKP**	**04 34 38.9**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=65,slow=3.2,SNR=20						
FINES	**FINESS Array B**	**125.40**	**338**	PKP	**PKiKP**	**04 34 50.0**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=125,slow=3.0,SNR=6.9						
NOA	**NORSAR Array B**	**130.34**	**345**	PKP	**PKiKP**	**04 34 59.5**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=38,slow=2.2,SNR=2.3						
GERES	**GERESS Array B**	**139.29**	**333**	PKP	**PKiKP**	**04 35 18.1**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=48,slow=1.6,SNR=3.1						
KEST	**Kesra**	**150.80**	**320**	PKPbc	**PKiKP**	**04 35 42.8**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=99,slow=2.0,SNR=5.7						
ESDC	**Sonseca Array**	**153.70**	**344**	PKPbc	**PKiKP**	**04 35 50.4**	**+2.1**
	comp=Z,1.6nm,1.0s,baz=7.8,slow=2.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**165.48**	**266**	PKP	**PKPdf**	**04 35 56.1**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=100,slow=38,SNR=1.7						
TORD				PKPab	**PKPab**	**04 36 52.9**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=83,slow=6.0,SNR=3.0						

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*KRNET **06** 04:28:41.9±0.1, 39°.40N×71°.91E, h17km, mb3.5*
*ISU **06** 04:28:43.7, 39°.55N×72°.13E, h11km*
*NNC **06** 04:28:43.2±3.1, 39°.36N×71°.65E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=24.9km s-min=13.8km az=8.0*
*SOME **06** 04:28:46.4, 39°.83N×71°.82E, h10km*
ISC 06 04:28:41.5±1.1**, 39°.59N**±0°.04**×72°.03E**±0°.02**, h7km**±9km**, n60, σ2s.18**/99**, 27C-22D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.20**	**238**	⇓*e*P	**Pg**	**04 28 44.3**	**-1.4**
	baz=17						
DRK				⇓*e*S	**Sg**	**04 28 46.7**	**-1.8**
	baz=17						
FRG	**Fergana**	**0.81**	**347**	P	**Pn**	**04 29 00.8**	**+1.5**
FRG				S	**Sn**	**04 29 13.5**	**+1.9**
BTK	**Batken**	**1.04**	**297**	⇑*i*P	**Pb**	**04 29 02.2**	**+0.3**
	baz=8.0						
BTK				⇑*i*S	**Sn**	**04 29 16.7**	**-0.7**
	baz=8.0						
TSTA	**Tashata**	**1.05**	**19**	P	**Pn**	**04 29 04.4**	**+1.8**
TSTA				S	**Sn**	**04 29 19.8**	**+2.2**
OHH	**Osh**	**1.10**	**32**	⇑*i*P	**Pn**	**04 29 06.3**	**+2.9**
	baz=31						
OHH				⇑*i*S	**Sn**	**04 29 24.2**	**+5.3**
	baz=31						
SFK	**Sufi-Kurgan**	**1.22**	**69**	⇓*i*P	**Pg**	**04 29 07.7**	**+2.9**
	baz=63						
SFK				⇓*i*S	**Sn**	**04 29 26.3**	**+4.3**
	baz=63						
ARSB	**Arslanbob**	**1.88**	**23**	⇑*i*P	**Pg**	**04 29 19.6**	**+2.1**
	baz=23						
ARSB				⇑*i*S	**Sg**	**04 29 46.9**	**+5.0**
	baz=23						
TRKS	**Terek-Say**	**2.05**	**341**	⇓*i*P	**Pb**	**04 29 20.2**	**+1.0**
	baz=45						
TRKS				⇓*i*S	**Sg**	**04 29 47.9**	**+0.4**
	baz=45						
ARK	**Arkit**	**2.21**	**359**	⇑*i*P	**Pg**	**04 29 23.8**	**0.0**
	baz=1.0						
ARK				⇑*i*S	**Sg**	**04 29 54.0**	**+1.6**
	baz=1.0						
CHMG	**Chimgan**	**2.49**	**323**	P	**Pb**	**04 29 28.2**	**+1.6**
CHMG				S	**Sg**	**04 30 02.7**	**+1.3**
CHRV	**Charvak**	**2.59**	**323**	P	**Pb**	**04 29 29.6**	**+1.4**
CHRV				S	**Sg**	**04 30 05.2**	**+0.6**
AML	**Almayashu**	**2.84**	**26**	P	**Pb**	**04 29 35.2**	**+2.5**
	SNR=32						
AML	**Almayashu**	**2.84**	**26**	⇓Pn	**Pg**	**04 29 35.9**	**+0.1**
	1.8nm,0.6s						
AML				⇑Sn	**Sg**	**04 30 16.4**	**+3.7**
	7.0nm,0.7s						
AML	**Almayashu**	**2.84**	**26**	⇑*i*P	**Pb**	**04 29 32.7**	**0.0**
	baz=26						
AML				⇑*i*S	**Sb**	**04 30 09.9**	**+2.1**
	baz=26						
ARLS	**Aral**	**2.86**	**37**	⇓*e*P	**Pb**	**04 29 33.2**	**+0.2**
	baz=36						
ARLS				⇓*e*S	**Sb**	**04 30 10.7**	**+2.4**
	baz=36						
BXML	**Bakhmal**	**3.08**	**273**	P	**Pg**	**04 29 39.8**	**-0.8**
BXML				S	**Sg**	**04 30 24.7**	**+4.1**
UCH	**Uchtor**	**3.24**	**35**	P	**Pb**	**04 29 41.2**	**+1.6**
	SNR=11						
UCH	**Uchtor**	**3.24**	**35**	⇑*i*P	**Pb**	**04 29 38.7**	**-0.9**
	baz=34						
UCH				⇑*i*S	**Sb**	**04 30 20.2**	**+0.7**
	baz=34						
MRKS	**Merke**	**3.28**	**16**	Pg	**Pg**	**04 29 45.0**	**+0.6**
	3.4nm,0.2s						
MRKS				Lg	Lg	04 30 26.7	
	15nm,0.3s						
MRKS	**Merke**	**3.28**	**16**	*e*P	**Pg**	**04 29 45.0**	**+0.6**
	3.4nm,0.2s						
MRKS				*e*S	**Sg**	**04 30 26.7**	**-0.2**
	15nm,0.3s						
EKS2	**Erkin-Say**	**3.34**	**23**	P	**Pb**	**04 29 43.7**	**+2.5**
	SNR=9.6						
EKS2	**Erkin-Say**	**3.34**	**23**	⇑*i*P	**Pb**	**04 29 39.9**	**-1.3**
	baz=23						
EKS2				⇑*i*S	**Sb**	**04 30 22.2**	**+0.1**
	baz=23						
KZA	**Kyzart**	**3.49**	**43**	P	**Pb**	**04 29 45.3**	**+1.5**
	SNR=11						
KZA	**Kyzart**	**3.49**	**43**	⇓*i*P	**Pb**	**04 29 42.0**	**-1.8**
	baz=42						
KZA				⇓*i*S	**Sb**	**04 30 25.9**	**-0.6**
	baz=42						
NRN	**Naryn**	**3.55**	**57**	⇓*i*P	**Pb**	**04 29 42.1**	**-2.6**
	baz=56						
NRN				⇓*i*S	**Sb**	**04 30 26.1**	**-2.0**
	baz=56						
AAK	**Ala-Archa**	**3.57**	**31**	P	**Pb**	**04 29 46.8**	**+1.7**
	SNR=6.4						
AAK	**Ala-Archa**	**3.57**	**31**	⇑*i*P	**Pb**	**04 29 43.2**	**-1.9**
	baz=30						
AAK				⇑*i*S	**Sb**	**04 30 27.8**	**-0.9**
	baz=30						
KK31	**Karatay Array**	**3.69**	**343**	⇑Pn	**Pb**	**04 29 44.7**	**-2.3**
	2.5nm,0.3s,baz=163,slow=11,SNR=51						
KK31				⇑Pg	**Pg**	**04 29 54.0**	**+1.8**
	13nm,0.7s						
KK31				⇓Sn	**Sb**	**04 30 29.8**	**-2.2**
	5.1nm,0.6s,baz=170,slow=21						
KBK	**Karagaybulak**	**3.78**	**35**	⇓*i*P	**Pb**	**04 29 46.1**	**-2.5**
	baz=34						
KBK				⇓*i*S	**Sb**	**04 30 32.6**	**-2.0**
	baz=34						
CHMS	**Chumysh**	**3.98**	**30**	P	**Pb**	**04 29 52.3**	**+0.4**
	SNR=12						
CHMS	**Chumysh**	**3.98**	**30**	⇓Pn	**Pb**	**04 29 51.7**	**-0.2**
	12nm,0.6s						
CHMS				⇓Sn	**Sb**	**04 30 43.1**	**+2.9**
	19nm,0.7s						
CHMS	**Chumysh**	**3.98**	**30**	⇑*i*P	**Pb**	**04 29 48.5**	**-3.4**
	baz=30						
CHMS				⇑*i*S	**Sb**	**04 30 37.1**	**-3.1**
	baz=30						
USP	**Ospenovka**	**4.12**	**26**	P	**Pb**	**04 29 52.7**	**-1.6**
	SNR=15						
USP	**Ospenovka**	**4.12**	**26**	⇓*i*P	**Pb**	**04 29 50.7**	**-3.6**
	baz=26						
USP				⇓*i*S	**Sb**	**04 30 40.7**	**-3.6**
	baz=26						
BOOM	**Boomskoye usch**	**4.14**	**44**	⇑*i*P	Pb	04 29 51.1	-3.7
	baz=43						
BOOM				⇑*i*S	**Sb**	**04 30 41.2**	**-3.9**
	baz=43						
ULHL	**Ulahol**	**4.15**	**49**	⇑*i*P	Pb	04 29 51.1	-3.9
	baz=48						
ULHL				⇑*i*S	**Sb**	**04 30 41.3**	**-4.2**
	baz=48						
TKM2	**Tokmak 2**	**4.28**	**38**	⇓Pn	**Pb**	**04 29 55.2**	**-2.0**
	4.0nm,0.8s						
TKM2				⇓Sn	**Sb**	**04 30 51.8**	**+2.7**
	8.8nm,0.8s						
TKM2	**Tokmak 2**	**4.28**	**38**	⇑*i*P	Pb	04 29 53.1	-4.1
	baz=37						
TKM2				⇑*i*S	**Sb**	**04 30 44.9**	**-4.2**
	baz=37						
KST	**Kastek**	**4.55**	**39**	Pg	**Pg**	**04 30 09.9**	**+1.3**
	2.7nm,0.8s						
KST				Lg	Lg	04 31 09.4	
	9.5nm,0.6s						
KST	**Kastek**	**4.55**	**39**	*e*P	**Pg**	**04 30 09.9**	**+1.3**
	2.7nm,0.8s						
KST				*e*S	**Sg**	**04 31 09.4**	**+1.8**
	11nm,0.5s						
DGS	**Degeres**	**4.61**	**36**	Pg	**Pg**	**04 30 11.3**	**+1.5**
	4.9nm,0.6s						
DGS				Lg	Lg	04 31 11.9	
	8.7nm,0.6s						
DGS	**Degeres**	**4.61**	**36**	*e*P	**Pg**	**04 30 11.3**	**+1.5**
	4.9nm,0.6s						
DGS				*e*S	**Sg**	**04 31 11.9**	**+2.3**
	10nm,0.6s						
ZRB	**Zarabog**	**4.72**	**253**	P	**Pn**	**04 29 57.2**	**+4.0**
ZRB				S	**Sb**	**04 31 03.9**	**+2.2**
MTBS	**Maitube**	**4.85**	**42**	Pg	**Pg**	**04 30 15.3**	**+1.0**
	3.0nm,0.2s						
MTBS				Lg	Lg	04 31 18.5	
	9.7nm,0.3s						
MTBS	**Maitube**	**4.85**	**42**	*e*P	**Pg**	**04 30 15.3**	**+1.0**
	3.0nm,0.2s						
MTBS				*e*S	**Sg**	**04 31 18.5**	**+1.4**
	9.7nm,0.3s						
KRBS	**Karabastau**	**4.93**	**32**	Pg	**Pg**	**04 30 16.6**	**+0.7**
	3.8nm,0.6s						
KRBS				Lg	Lg	04 31 21.0	
	5.5nm,0.6s						
KRBS	**Karabastau**	**4.93**	**32**	*e*P	**Pg**	**04 30 16.6**	**+0.7**
	3.8nm,0.6s						
KRBS				*e*S	**Sg**	**04 31 21.0**	**+1.2**
	5.5nm,0.6s						
TNSS	**Tian-Shan**	**5.06**	**46**	Pg	**Pg**	**04 30 19.9**	**+1.5**
	2.9nm,0.3s						
TNSS				Lg	Lg	04 31 26.5	
	2.8nm,0.4s						
TNSS	**Tian-Shan**	**5.06**	**46**	*e*P	**Pg**	**04 30 19.9**	**+1.5**
	2.9nm,0.3s						
TNSS				*e*S	**Sg**	**04 31 26.5**	**+2.5**
	2.8nm,0.4s						
MDOK	**Medeo**	**5.20**	**45**	Pg	**Pg**	**04 30 22.6**	**+1.6**
	3.0nm,0.1s						
MDOK				Lg	Lg	04 31 31.2	
	4.3nm,0.2s						
MDOK	**Medeo**	**5.20**	**45**	*e*P	**Pg**	**04 30 22.6**	**+1.6**
	3.0nm,0.1s						
MDOK				*e*S	**Sg**	**04 31 31.2**	**+2.8**
	4.3nm,0.2s						
KOTS	**Kotyrbulak**	**5.28**	**45**	Pg	**Pg**	**04 30 23.6**	**+1.0**
	4.3nm,0.4s						
KOTS				Lg	Lg	04 31 32.8	
	14nm,0.6s						
KOTS	**Kotyrbulak**	**5.28**	**45**	*e*P	**Pg**	**04 30 23.6**	**+1.0**
	4.3nm,0.4s						
KOTS				*e*S	**Sg**	**04 31 32.8**	**+1.7**
	14nm,0.6s						
KTBS	**Karatobe**	**5.40**	**39**	Pg	**Pg**	**04 30 26.1**	**+1.3**
	2.1nm,0.4s						
KTBS				Lg	Lg	04 31 37.2	
	14nm,0.5s						
KTBS	**Karatobe**	**5.40**	**39**	*e*P	**Pg**	**04 30 26.1**	**+1.3**
	2.1nm,0.4s						
KTBS				*e*S	**Sg**	**04 31 37.2**	**+2.5**
	14nm,0.3s						
BTLS	**Baital**	**5.65**	**15**	Pg	**Pg**	**04 30 29.5**	**-0.1**
	1.5nm,0.3s						
BTLS				Lg	Lg	04 31 43.1	
	6.0nm,0.4s						
BTLS	**Baital**	**5.65**	**15**	*e*P	**Pg**	**04 30 29.6**	**-0.1**
	1.5nm,0.3s						
BTLS				*e*S	**Sg**	**04 31 43.1**	**+0.2**
	6.0nm,0.4s						
CHKK	**Chushkaly**	**5.65**	**39**	Pg	**Pg**	**04 30 31.1**	**+1.4**
	1.0nm,0.1s						
CHKK				Lg	Lg	04 31 45.8	
	5.3nm,0.2s						
CHKK	**Chushkaly**	**5.65**	**39**	*e*P	**Pg**	**04 30 31.1**	**+1.4**
	1.0nm,0.1s						
CHKK				*e*S	**Sg**	**04 31 45.8**	**+2.9**
	5.3nm,0.2s						
AB31	**Akbulak array**	**12.94**	**322**	P	**Pn**	**04 31 47.6**	**+1.9**
	0.6nm,0.5s,baz=126,slow=13,SNR=22						

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*CATAC **06** 04:39:04.5±1.0, 8°.36N×82°.82W, h19km±5km, ML3.5*
*UCR **06** 04:39:05.4±0.9, 8°.38N×82°.83W, h31km±2km, MW3.7*
*UPA **06** 04:39:06.2±1.2, 8°.40N×82°.78W, h23km±5km, ML3.6, MW3.5*
ISC 06 04:39:05.3±1.0**, 8°.39N**±0°.02**×82°.79W**±0°.02**, h33km**±2km**, n42, σ0s.90**/64**, 4C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.20**	**337**	⇑*i*P	**Pn**	**04 39 11.5**	**0.0**
CDITO				*e*S	**Sb**	**04 39 16.4**	**0.0**
CDITO	**Canoas**	**0.20**	**337**	*e*P	**Pn**	**04 39 11.4**	**0.0**
CDITO	**Canoas**	**0.20**	**337**	*i* P	**Pn**	**04 39 11.4**	**-0.1**
CDITO				IAML		04 39 21.2	
	comp=Z,6µm,1.0s						
PTPM	**Petroterminale**	**0.20**	**205**	*e*P	**Pn**	**04 39 11.5**	**0.0**
PTPM				*i* S	**Sb**	**04 39 17.2**	**+0.9**
LIMO3	**Limones**	**0.29**	**194**	*e*P	**Pb**	**04 39 12.7**	**-0.2**
LIMO3				*e*S	**Sn**	**04 39 18.3**	**+0.3**
DVD	**David**	**0.34**	**82**	⇓*i*P	**Pn**	**04 39 13.6**	**-0.4**
DVD				*e*S	**Sn**	**04 39 19.7**	**+0.2**
PEDE3	**Pedregal, Chir**	**0.37**	**91**	⇓*i*P	**Pb**	**04 39 13.8**	**-0.2**
PEDE3				*e*S	**Sn**	**04 39 19.7**	**-0.5**
MLIR3	**Monte Lirio, C**	**0.40**	**356**	*i* P	**Pn**	**04 39 15.0**	**0.0**
MLIR3				*e*S	**Sn**	**04 39 21.1**	**-0.3**
BRU2	**Volcan**	**0.42**	**14**	⇑*i*P	**Pb**	**04 39 14.7**	**-0.1**
BRU2				*e*S	**Sn**	**04 39 22.2**	**+0.5**
BRU2	**Volcan**	**0.42**	**14**	*e*P	**Pb**	**04 39 14.7**	**-0.1**
BRU2				*e*S	**Sn**	**04 39 22.2**	**+0.5**
BRU2	**Volcan**	**0.42**	**14**	*i* P	**Pb**	**04 39 14.7**	**-0.1**
BRU2				*i* S	**Sn**	**04 39 22.2**	**+0.5**
BRU2				IAML		04 39 25.5	
	comp=Z,4µm,1.0s						
BCO2	**Palmira**	**0.42**	**39**	⇑*i*P	**Pn**	**04 39 15.0**	**-0.2**
BCO2				*e*S	**Sn**	**04 39 22.4**	**+0.6**
PTAR3	**Potrerillos Ar**	**0.42**	**44**	*e*P	**Pn**	**04 39 15.0**	**-0.2**
PTAR3				*e*S	**Sb**	**04 39 21.0**	**-0.4**
FITO	**Golfito**	**0.43**	**303**	*e*P	**Pb**	**04 39 13.4**	**-1.3**
FITO				*e*S	**Sb**	**04 39 20.1**	**-1.2**
EDAD	**Golfito**	**0.45**	**305**	*e*P	**Pb**	**04 39 13.9**	**-1.3**
EDAD				*e*S	**Sb**	**04 39 20.8**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BC3P	Paso Ancho	0.46	23	⇑iP	Pb	04 39 15.3	-0.2
BC3P				AMP		04 39 17.6	
	comp=Z,4µm,0.1s						
BC3P				eS	Sn	04 39 23.4	+0.4
VITO	San Vito	0.46	338	eP	Pb	04 39 15.4	0.0
CTCR	Cotoan	0.51	4	eP	Pb	04 39 15.7	-0.5
CTCR	Cotoan	0.51	4	iP	Pb	04 39 15.9	-0.2
CTCR				iS	Sn	04 39 24.0	-0.1
CTCR				IAML		04 39 26.8	
	comp=Z,11µm,1.0s						
PIRO	Carate, Puerto	0.54	272	eP	Pb	04 39 15.2	-1.2
PIRO	Carate, Puerto	0.54	272	iP	Pb	04 39 15.6	-0.9
PIRO				iS	Sn	04 39 26.6	+2.1
PIRO				IAML		04 39 30.9	
	comp=Z,4µm,1.0s						
JIME	Puerto Jimenez	0.55	286	eP	Pb	04 39 15.8	-0.8
POTG	Potrero Grande	0.73	334	eP	Pn	04 39 19.2	-0.2
POTG	Potrero Grande	0.73	334	iP	Pn	04 39 19.3	-0.2
POTG				iS	Sb	04 39 30.3	+0.7
POTG				IAML		04 39 33.0	
	comp=Z,4µm,1.0s						
CHGR2	Aguacate	0.84	50	eP	Pn	04 39 20.6	-0.2
CHGR2				eS	Sb	04 39 32.5	-0.1
EDPN	Palmar Norte	0.87	311	eP	Pn	04 39 20.7	-0.5
BURE	Buenos Aires	0.95	325	eP	Pn	04 39 22.5	+0.2
DRK0	Durika	0.98	333	eP	Pn	04 39 22.6	-0.3
CNI2	El Empalme, Bo	1.08	17	eP	Pb	04 39 25.1	-0.4
CNI2				eS	Sn	04 39 38.2	+0.3
OCHAL	Ojochal	1.10	310	iP	Pn	04 39 24.3	-0.1
OCHAL				IAML		04 39 24.9	
	comp=Z,18nm,1.0s						
OCHAL				iS	Sb	04 39 39.3	-0.5
BRIBI	Bribri	1.23	357	eP	Pb	04 39 28.5	+0.5
BUS1	Rivas	1.49	321	eP	Pn	04 39 30.4	+0.2
CDM	Cerro de Muert	1.50	320	eP	Pn	04 39 30.9	+0.5
CDM	Cerro de Muert	1.50	320	iP	Pn	04 39 30.6	+0.3
CDM				iS	Sb	04 39 50.4	-1.4
CDM				IAML		04 39 55.1	
	comp=Z,370nm,1.0s						
LCR2	La Lucha 2	1.80	318	iP	Pb	04 39 36.3	-1.5
LCR2				iS	Sb	04 39 59.0	-1.1
ABE2	San Pablo	1.81	317	eP	Pn	04 39 35.7	+1.4
ACOS	Acosta	1.95	316	eP	Pb	04 39 38.3	-1.9
BELE	Belen	2.09	319	eP	Pb	04 39 41.8	-1.0
TRT2	Tortugero	2.35	337	iP	Pb	04 39 47.4	+0.5
SOCE	Pocosol	2.68	318	iP	Pn	04 39 49.1	+3.0
JTS	Las Juntas de	2.85	312	eP	Pn	04 39 50.7	+2.3
JTS				iS	Sn	04 40 23.5	+1.9
BRAN	Las Pilas	5.55	321	iP	Pn	04 40 19.8	-5.8

*NEIC **06** 04:46:18.5±1.1, 34.°94N±0.°01×97.°81W±0.°02, h5km±1km, Error ellipse: s-maj=3.3km s-min=2.9km az=300.0*

TUL 06 04:46:19.6±1.4**, 34.°97N**±0.°02×**97.°82W**±0.°02**, h6**km±5km**, ML2.4, mb_Lg2.5**/27(NEIC)**, ML2.3**/18(NEIC)**, Error ellipse: s-maj=2.7km s-min=2.2km az=75.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNO	Franklin	0.45	50	Pg	Pg	04 46 28.6	+0.3
FNO				IAML		04 46 39.6	
	comp=E,162nm,0.2s						
FNO				IAML		04 46 42.6	
	comp=N,226nm,0.6s						
OKCSW	OKLAHOMA CITY	0.54	35	Pg	Pg	04 46 29.7	-0.2
OKCSW				IAML		04 46 38.2	
	comp=E,254nm,0.6s						
OKCSW				IAML		04 46 44.2	
	comp=N,183nm,0.1s						
WMOK	Wichita Mounta	0.82	254	Pg	Pg	04 46 34.6	-0.9
OK029	Liberty Lake	0.88	20	Sg	Sg	04 46 48.1	+0.2
CSTR	Hydro, Custer	0.98	314	Pg	Pb	04 46 38.9	-0.2
LOOK	Love County	1.10	151	Pg	Pg	04 46 39.7	-1.1
LOOK				Sg	Sg	04 46 55.0	-0.1
OK052	Battle Ridge R	1.32	39		Pn	04 46 43.6	-0.9
DEOK	Depew	1.39	51		Pn	04 46 44.6	-0.9
QUOK	Quay	1.50	37		Pn	04 46 46.8	-0.3
CROK	Carrier	1.54	355		Pn	04 46 47.9	+0.3
OK048	Pawnee Station	1.61	26		Pn	04 46 48.6	0.0
OK038	West end E0370	1.69	334		Pn	04 46 50.2	+0.6
Z35A	Perchaven, San	1.70	164		Pn	04 46 48.8	-1.0
ELIS	Ellis County	1.71	310		Pb	04 46 50.7	-0.7
U32A	Winter Ranch,	1.71	326		Pn	04 46 50.5	+0.5
U32A				IAmb_Lg		04 47 17.9	
	comp=Z,30nm,0.9s						
OK051	E0350 and S346	1.73	27	Pn	Pn	04 46 50.6	+0.3
BLOK	Blackwell	1.86	15	Pn	Pn	04 46 52.0	0.0
OK032	Salt Plains WL	1.86	350		Pn	04 46 52.2	+0.2
GC02	Grant County #	1.88	359		Pn	04 46 52.3	0.0
TUL3	Leonard	1.90	60		Pn	04 46 52.9	+0.3
KAN14	Manchester OK	1.99	357	Pn	Pn	04 46 54.0	+0.1
SMWD	Samnorwood	2.00	275		Pn	04 46 54.0	+0.1
KAN13	South Haven SW	2.06	8	IAmb_Lg		04 47 24.2	
	comp=Z,23nm,0.9s						
KAN09	Caldwell North	2.17	4	IAmb_Lg		04 47 33.8	
	comp=Z,17nm,0.9s						
PLPT	Palo Pinto	2.19	191		Pn	04 46 56.7	+0.2
T35A	Sooner Cattle	2.21	28	Pn	Pn	04 46 56.2	-0.7
RLO	Rose Lookout	2.57	61	Pn	Pn	04 47 01.9	+0.1
TREL	Terrell	2.65	147	Pn	Pn	04 47 01.6	-1.3
TREL				IAmb_Lg		04 47 49.2	
	comp=Z,21nm,0.9s						
ABTX	Abilene, Hawle	2.79	214	Pn	Pn	04 47 04.0	-0.8
DKNS	Dickens	2.88	244	Pn	Pn	04 47 05.8	-0.3
WHTX	Lake Whitney,	2.98	174	Pn	Pn	04 47 07.3	-0.2
U38A	Gravette	3.15	61	Pn	Pn	04 47 10.1	+0.2
AMTX	Amarillo	3.18	270	Pn	Pn	04 47 10.5	+0.3
SN01	Snyder 1	3.31	231	IAmb_Lg		04 48 08.4	
	comp=Z,12nm,0.9s						
237A	Washetta, Mont	3.40	150	IAmb_Lg		04 48 14.5	
	comp=Z,14nm,1.1s						
HHAR	Hobbs	3.42	66		Pn	04 47 13.6	+0.1
R32A	Long Quarter,	3.52	348	IAmb_Lg		04 48 16.3	
	comp=Z,9.6nm,0.8s						
POST	Post	3.60	239	Pn	Pn	04 47 16.4	+0.4
BRDY	Brady	3.80	195	Pn	Pn	04 47 18.6	-0.2
BRDY				IAmb_Lg		04 48 25.0	
	comp=Z,15nm,1.0s						
SGCY	Sterling City	4.11	223	IAmb_Lg		04 48 40.6	
	comp=Z,12nm,0.7s						
435B	Jarrell	4.18	177	IAmb_Lg		04 48 36.0	
	comp=Z,11nm,0.9s						
S39A	Bolivar	4.53	52	Pn	Pn	04 47 28.8	0.0
JCT	Junction City	4.78	201	IAmb_Lg		04 48 56.8	
	comp=Z,14nm,0.9s						
OZNA	Ozona	4.90	216	Pn	Pn	04 47 33.4	-0.5
R40A	Maddies Statio	5.56	52	Pn	Pn	04 47 42.4	-0.4
HNDO	Hondo	5.56	193	Pn	Pn	04 47 42.2	-0.7
KSCO	Kaye Shedlock'	5.58	318	IAmb_Lg		04 49 29.1	
	comp=Z,6.7nm,0.8s						
DRIO	Del Rio	6.02	204	IAmb_Lg		04 49 34.9	
	comp=Z,7.1nm,1.0s						
SAND	Sanderson	6.18	217	IAmb_Lg		04 49 41.7	
	comp=Z,9.8nm,1.0s						
K38A	Parkersburg	8.62	26	IAmb_Lg		04 51 14.6	
	comp=Z,7.1nm,0.8s						

IDC 06 04:49:04.6±10.0**, 21.°92S×176.°24W, h0**km**, mb3.5**/2**, mbtmp3.5**/2**, Error ellipse: s-maj=443.0km s-min=58.2km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.81	258	P	P	04 57 29.0	+0.4
	0.5nm,0.6s,baz=92,slow=7.6,SNR=7.5						
	0.5nm,0.6s						
WRA	Warramunga Arr	46.04	263	P	P	04 57 29.6	-0.9
	0.4nm,0.8s,baz=102,slow=6.8,SNR=7.7						
	0.4nm,0.8s						
AKASG	Malin Array Be	145.04	331	PKPbc	PKPbc	05 08 42.4	-0.7
	1.4nm,0.5s,baz=42,slow=4.0,SNR=6.8						

*IDC **06** 05:03:43.4±0.8, 51.°98N×179.°94E, h0km, mb3.9/14, mbtmp3.9/16, ML1.9/1, Error ellipse: s-maj=25.2km s-min=14.4km az=172.0*

*NEIC **06** 05:03:59.1±1.4, 51.°9N±0.°1×179.°68W±0.°07, h128km±5km, mb4.2/46, ML3.9/6, ML3.6(AEIC), Error ellipse: s-maj=21.2km s-min=5.9km az=178.0*

*AEIC **06** 05:04:00.5±2.0, 51.°9N±0.°1×179.°69W±0.°06, h120km±5km, Error ellipse: s-maj=19.8km s-min=5.7km az=177.0*

ISC 06 05:03:58.7±0.7**, 51.°9N**±0.°1×**179.°74W**±0.°04**, h130**km±5km**, n107,** σ1§**22**/114**, mb4.1**/26**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEPE	Semis' Perret	0.38	280		Pn	05 04 17.4	+0.2
CERB	Semis' Cerberu	0.39	275		Pn	05 04 17.5	+0.3
CERB					Sn	05 04 31.4	+0.2
CESW	Semis' Southwe	0.43	271		Pn	05 04 17.3	-0.1
CEAP	Semis' Anvil P	0.43	284		Pn	05 04 17.7	+0.3
CEAP					Sn	05 04 31.7	+0.2
GANE	Gareloi Northe	0.60	97		Pn	05 04 18.1	-0.3
GAEA	Gareloi East	0.63	100		Pn	05 04 18.5	0.0
GAEA					Sn	05 04 33.9	+0.4
AMKA	Amchitka	0.79	229		Pn	05 04 19.8	0.0
AMKA				Sn	Sn	05 04 35.3	-0.4
TANO	Tanaga North	1.00	88		Pn	05 04 21.7	+0.1
LSPA	Little Sitkin	1.04	274		Pn	05 04 22.6	+0.6
LSSE	Little Sitkin	1.05	273		Pn	05 04 22.5	+0.5
TASE	Tanaga Southea	1.06	93		Pn	05 04 22.2	0.0
TASE					Sn	05 04 40.2	+0.1
LSNW	Little Sitkin	1.08	275		Pn	05 04 22.6	+0.2
TAFP	Tanaga Falls P	1.09	89		Pn	05 04 22.1	-0.3
TAFP					Sn	05 04 39.8	-0.7
KICM	Kanaga Island	1.58	88		Pn	05 04 27.9	+0.3
KIWB	Kanaga Island	1.61	91		Pn	05 04 27.4	-0.6
KIWB				Sn	Sn	05 04 49.7	-0.6
KINC	Kanaga Island	1.62	88		Pn	05 04 28.4	+0.3
ADK	Adak	1.90	89	Pn	Pn	05 04 30.5	-0.8
ADK				Sn	Sn	05 04 54.4	-1.9
ADK				IAML		05 04 56.4	
	670nm,0.2s						
ADK				IAML		05 04 56.8	
	568nm,0.5s						
ADK	Adak	1.90	89	P	Pn	05 04 31.5	+0.2
GSTR	Great Sitkin T	2.29	84	Pn	Pn	05 04 35.0	-1.2
GSTR				Sn	Sn	05 05 05.2	+0.3
KOWE	Korovin West	3.42	80		Pn	05 04 50.5	-0.2
ATKA	Atka Island	3.44	83	Pn	Pn	05 04 49.2	-1.7
ATKA				IAML		05 07 01.8	
	comp=E,156nm,4.6s						
ATKA	Atka Island	3.44	83	P	Pn	05 04 51.8	+0.9
KOKL	Mount Kliuchef	3.44	81		Pn	05 04 50.9	-0.2
SMY	Shemya	3.87	285		Pn	05 04 58.5	+1.9
SMY	Shemya	3.87	285	IAML		05 06 39.5	
	comp=E,321nm,3.1s						
NIKH	Nikolski High	6.75	77		Pn	05 05 36.9	+1.8
NIKH	Nikolski High	6.75	77	P	Pn	05 05 36.8	+1.7
OKFG	Magazine Ridge	7.36	73		Pn	05 05 45.4	+2.1
P08K	Saint George I	7.60	48		Pn	05 05 49.3	+2.7
SPIA	Saint Paul Isl	7.64	42	P	Pn	05 05 50.3	+3.2
MNAT	Makushin Natee	8.15	71		Pn	05 05 56.2	+2.3
UNV	Unalaska Valle	8.24	71		Pn	05 05 56.9	+1.7
UNV	Unalaska Valle	8.24	71	P	Pn	05 05 56.5	+1.3
AKGG	Akutan Green G	8.60	69		Pn	05 06 03.0	+2.9
AKUT	Akutan	8.72	70	Pn	Pn	05 06 02.2	+0.6
SDPT	Sand Point	11.94	66	Pn	Pn	05 06 43.0	-1.5
SDPT	Sand Point	11.94	66	P	Pn	05 06 43.5	-1.0
PETK	Petropavlovsk-	13.79	284	Pn	Pn	05 06 56.5	-12
	baz=77,slow=15,SNR=1.6						
	comp=E,2.7nm,0.9s						
N18K	Kilae Creek	15.81	47		P	05 07 35.6	+0.6
N18K				IAmb	IAmb	05 07 36.1	
	comp=Z,18nm,1.4s						
SVW2	Sparrevohn	16.12	46	P	P	05 07 39.4	+1.1
OHAK	Old Harbor	16.18	60	P	Pn	05 07 36.6	-1.7
G16K	Koyuk River	16.18	27		P	05 07 40.2	+1.2
KDAK	Kodiak Island	16.64	59	Pn	Pn	05 07 42.5	-1.4
KDAK	Kodiak Island	16.64	59	Pn	Pn	05 07 39.9	-4.0
	comp=Z,6.0nm,0.3s,baz=213,slow=1.2,SNR=49						
J19K	Poorman	17.48	37	P	P	05 07 53.9	+0.6
J19K				IAmb	IAmb	05 07 58.1	
	comp=Z,19nm,1.5s						
CNPM	China Poot	17.67	53	P	P	05 07 55.5	+0.1
J20K	Nowinta River	18.13	37	P	P	05 08 01.4	+1.0
J20K				IAmb	IAmb	05 08 04.8	
	comp=Z,11nm,1.0s						
SKT	Skwentna	18.25	45	P	P	05 08 02.6	+0.9
G19K	Purcell Mounta	18.27	30		P	05 08 03.3	+1.5
G19K				IAmb	IAmb	05 08 09.4	
	comp=Z,10nm,0.8s						
SUA	Susitna One	18.43	47	P	P	05 08 04.5	+0.7
SUA				IAmb	IAmb	05 08 09.1	
	comp=Z,15nm,1.1s						
CAST	Castle Rocks	18.58	41	P	P	05 08 06.5	+1.2
CUT	Chulitna	18.95	45	P	P	05 08 09.5	+0.2
C18K	Utukok River	19.00	21	P	P	05 08 11.8	+1.9
C18K				IAmb	IAmb	05 08 12.8	
	comp=Z,20nm,1.4s						
KTH	Kantishna Hill	19.11	41	P	P	05 08 12.5	+1.4
TRF	Thorofare Moun	19.33	42	P	P	05 08 14.2	+0.6
TRF				IAmb	IAmb	05 08 19.2	
	comp=Z,18nm,1.0s						
H21K	Melozitna Rive	19.39	34	P	P	05 08 15.9	+1.8
SML	Sawmill	19.63	47	P	P	05 08 16.1	-0.7
SML				IAmb	IAmb	05 08 22.5	
	comp=Z,13nm,1.1s						
RND	Reindeer	19.91	43	P	P	05 08 20.0	+0.2
RND				IAmb	IAmb	05 08 21.0	
	comp=Z,16nm,1.3s						
SCM	Sheep Creek Mo	20.10	48	P	P	05 08 21.6	-0.2
NEA2	Nenana	20.28	39	P	P	05 08 24.4	+0.7
DHY	Denali Highway	20.43	44	P	P	05 08 25.4	0.0
DHY				IAmb	IAmb	05 08 29.9	
	comp=Z,11nm,0.7s						
KLU	Klutina	20.67	49	P	P	05 08 27.3	-0.7
KLU				IAmb	IAmb	05 08 34.4	
	comp=Z,6.1nm,0.8s						
M24K	Tolsona, Glenn	20.69	47		P	05 08 28.2	0.0
MDM	Murphy Dome	20.76	39	P	P	05 08 28.8	0.0
MDM				IAmb	IAmb	05 08 32.4	
	comp=Z,6.2nm,0.6s						
G23K	Bananza Creek	20.91	34	P	P	05 08 31.5	+1.1
G23K				IAmb	IAmb	05 08 34.6	
	comp=Z,12nm,0.8s						
IL31		21.21	40	P	P	05 08 32.1	-1.5
ILAR	Eielson Array	21.21	40	P	P	05 08 31.5	-2.2
	comp=Z,0.7nm,0.5s,baz=237,slow=8.2,SNR=25						
	comp=Z,0.7nm,0.5s						
H24K	Noodor Dome	21.26	37	P	P	05 08 34.6	+0.4
H24K				IAmb	IAmb	05 08 37.5	
	comp=Z,16nm,1.0s						
J25K	Salcha River,	21.77	41	P	P	05 08 38.3	-1.4
MENT	Mentasta	22.00	46	P	P	05 08 42.6	+0.6
TOLK	Toolik Lake Re	22.09	29	P	P	05 08 43.2	+0.2
SCRK	Sand Creek	22.15	43	P	P	05 08 43.0	-0.6
SCRK				IAmb	IAmb	05 08 44.0	
	comp=Z,6.9nm,0.6s						
D24K	Happy Valley	22.61	29	P	P	05 08 48.7	+0.7
D24K				IAmb	IAmb	05 08 50.6	
	comp=Z,11nm,1.1s						
E25K	Arctic Village	23.10	32	P	P	05 08 53.7	+1.0
D25K	Kavik River	23.43	29	P	P	05 08 56.7	+0.9
EGAK	Eagle	23.55	42	P	P	05 08 57.3	+0.5
EGAK				IAmb	IAmb	05 08 58.9	
	comp=Z,9.1nm,1.0s						
PNL	Peninsula	23.66	55	P	P	05 08 56.0	-1.8
DAWY	Dawson	24.14	44	P	P	05 09 03.9	+1.7
DAWY				IAmb	IAmb	05 09 06.4	
	comp=Z,15nm,1.3s						
I28M	Miner Creek	24.22	41	P	P	05 09 02.5	-0.5
I28M				IAmb	IAmb	05 09 05.0	
	comp=Z,10nm,1.1s						
M29M	Somme Creek	24.30	48	P	P	05 09 03.6	-0.1
M29M				IAmb	IAmb	05 09 08.5	
	comp=Z,7.2nm,1.1s						
F28M	Old Crow	24.88	36	P	P	05 09 09.8	+0.9
F28M				IAmb	IAmb	05 09 12.5	
	comp=Z,9.2nm,0.9s						
K29M	Barlow Dome	24.91	45	P	P	05 09 09.6	+0.4
K29M				IAmb	IAmb	05 09 15.2	
	comp=Z,5.5nm,0.8s						
YKA	Yellowknife Ar	35.30	47	P	P	05 10 41.0	+0.4
	comp=Z,0.7nm,0.5s,baz=281,slow=8.3,SNR=15						
	comp=Z,0.7nm,0.5s						
PNTR	Pine Nut	42.87	83	P	P	05 11 45.3	+1.2
CMB	Columbia Colle	43.03	85	P	P	05 11 46.4	+1.2
YERR	Yerington	43.15	83	P	P	05 11 47.5	+1.2
YERR				IAmb	IAmb	05 11 49.0	
	comp=Z,6.5nm,1.2s						
BMN	Battle Mountai	43.51	80	P	P	05 11 49.9	+0.8
NVAR	Mina Array Bea	44.07	83	P	P	05 11 55.3	+1.5
	comp=Z,2.8nm,0.7s,baz=298,slow=7.4,SNR=19						
	comp=Z,2.8nm,0.7s						
SONM	Songino Array	45.89	296	P	P	05 12 07.4	-0.5
	comp=Z,0.3nm,0.5s,baz=56,slow=8.0,SNR=3.2						
	comp=Z,0.3nm,0.5s						
PDAR	Pinedale Array	46.71	72	P	P	05 12 14.4	-0.1
	comp=Z,1.2nm,0.5s,baz=345,slow=2.7,SNR=21						
	comp=Z,1.2nm,0.5s						
SPITS	Spitsbergen Ar	49.81	356	P	P	05 12 35.7	-1.8
	comp=Z,8.9nm,0.9s,baz=21,slow=8.0,SNR=8.1						
	comp=Z,8.9nm,0.9s						
KURBB	Kurchatov Arra	58.34	313	P	P	05 13 38.5	-1.1
	comp=Z,0.4nm,0.6s,baz=44,slow=6.7,SNR=4.7						
	comp=Z,0.4nm,0.6s						
WMQ	Urumqi	58.57	302	eP	P	05 13 44.8	+3.4
TX31	Lajitas Ar. Si	59.15	81	P	P	05 13 45.7	0.0
TXAR	Lajitas Array	59.15	81	P	P	05 13 46.1	+0.4
TXAR	Lajitas Array	59.15	81	P	P	05 13 46.5	+0.8
	comp=Z,1.2nm,0.6s,baz=305,slow=5.5,SNR=28						
	comp=Z,1.2nm,0.6s						
MKAR	Makanchi Array	59.25	308	P	P	05 13 45.1	-0.9
	comp=Z,0.3nm,0.4s,baz=50,slow=6.7,SNR=8.0						
	comp=Z,0.3nm,0.4s						
BVAR	Borovoye Array	60.11	319	P	P	05 13 49.9	-1.9
	comp=Z,0.3nm,0.3s,baz=70,slow=4.7,SNR=2.1						
	comp=Z,0.3nm,0.3s						
PZH	PanZhiHua	62.68	279	P	P	05 14 11.2	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.9s						
ABKAR	Akbulak array	67.17	322	P	P	05 14 37.7	-0.4
CMAR	Chiang Mai Arr	70.38	275	P	P	05 14 58.4	-0.1
	comp=Z,0.8nm,0.3s,baz=23,slow=8.2,SNR=4.4						
	comp=Z,0.8nm,0.3s						
AKASG	Malin Array Be	74.87	341	P	P	05 15 23.4	-1.1
	comp=Z,0.4nm,0.3s,baz=20,slow=6.5,SNR=4.2						
	comp=Z,0.4nm,0.3s						
WB0	Warramunga Arr	81.81	223	P	P	05 16 03.0	0.0
WR0	Warramunga Arr	81.92	223	P	P	05 16 04.2	+0.7
WR0				IAmb	IAmb	05 16 04.4	
	comp=Z,5.2nm,1.2s						
WRA	Warramunga Arr	81.99	223	P	P	05 16 04.5	+0.6
	comp=Z,0.7nm,0.5s,baz=31,slow=5.9,SNR=7.7						
	comp=Z,0.7nm,0.5s						
ASAR	Alice Springs	85.48	222	P	P	05 16 22.1	+0.5
ASAR	Alice Springs	85.48	222	P	P	05 16 22.6	+1.0
	comp=Z,0.4nm,0.6s,baz=28,slow=6.0,SNR=6.7						
	comp=Z,0.4nm,0.6s						

*ECX **06** 05:25:43.5±0.3, 29.°95N×114.°14W, h16km±8km, ML2.7*

*MEX **06** 05:25:45.6±0.5, 29.°83N×114.°38W, h17km±10km, MD3.1*

ISC 06 05:25:42.7±1.2**, 30.°01N**±0.°04×**114.°15W**±0.°04**, h6**km±11km**, n11,** σ1§**17**/19**, 2C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLGB	San Luis Gonza	0.28	230	⇑iP	Pg	05 25 48.9	+0.6
SLGB				eS	Sg	05 25 52.7	+0.7
SLGB				IAML		05 25 53.0	
	comp=N,1µm,0.3s						
SLGB				e		05 25 53.0	
SLGB				⇑e		05 25 53.5	
SLGB				IAML		05 25 53.5	
	comp=E,965nm,0.2s						
BAHB	Baha de los	1.18	154	iP	Pn	05 26 04.0	-1.7
BAHB				eS	Sg	05 26 18.7	-2.0
SFX	San Felipe	1.19	330	eP	Pg	05 26 05.0	-0.5
SFX				eS	Sg	05 26 19.6	-1.2
SFX	San Felipe	1.19	330	eP	Pg	05 26 04.9	-0.6
SFX				eS	Sn	05 26 21.6	-0.6
PPXB	Puerto Peasco	1.39	19	eP	Pn	05 26 08.1	-0.5
SPIG	San Pedro Mart	1.53	313	eP	Pn	05 26 11.1	+0.2
SPIG				eS	Sb	05 26 30.9	-0.6
SPIG	San Pedro Mart	1.53	313	eP	Pn	05 26 10.8	-0.1
SPIG				eS	Sg	05 26 31.3	-0.7
SQX	San Quintin	1.59	291	eP	Pn	05 26 11.2	-0.2
SQX				eS	Sn	05 26 32.2	-0.1
SQX				IAML		05 26 37.1	
	comp=N,80nm,0.4s						
SQX				e		05 26 37.1	
PIX	Pinacate	1.65	21	eP	Pn	05 26 12.0	-0.2
LAPR	La Primavera	1.66	72	eP	Pb	05 26 15.7	+2.0
LAPR				iS	Sn	05 26 35.7	+1.8
LAPR	La Primavera	1.66	72	eP	Pn	05 26 11.2	-1.1
LAPR				IAML		05 26 45.5	
	comp=E,99nm,0.8s						
LAPR				⇓e		05 26 45.5	
LAPR				⇓e		05 26 47.4	
LAPR				IAML		05 26 47.4	
	comp=N,62nm,0.3s						

IDC 06 05:26:01.9±5.3**, 27.°40S×23.°04E, h0**km**, mbtmp2.3**/1**, ML1.8**/1**, Error ellipse: s-maj=41.5km s-min=19.0km az=81.0, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I47ZA	BOSHOF INFRASO	2.29	123	I	I	05 44 17.3	
	0.1nm,1.2s,baz=300,slow=318,SNR=4.3						
BOSA	Boshof	2.31	122	iP	Pn	05 26 30.4	-11
BOSA				iS	Sn	05 27 07.9	-2.6
BOSA	Boshof	2.31	122	Pg	Pb	05 26 44.2	-0.3
	0.1nm,0.3s,baz=306,slow=16,SNR=1.5						
BOSA				Lg	Lg	05 27 14.8	
	0.7nm,0.3s,baz=210,slow=19,SNR=10						
BOSA				Rg	Rg	05 27 25.3	
	25nm,1.1s,baz=115,slow=1.5,SNR=12						
LBTB	Lobatse	3.31	45	iP	Pn	05 26 45.0	-10
LBTB				iS	Sn	05 27 33.8	-1.4
LBTB	Lobatse	3.31	45	Pn	Pn	05 26 55.6	+0.5
	0.1nm,0.3s,baz=202,slow=11,SNR=1.6						
LBTB				Pg	Pb	05 27 03.4	+1.9
	0.1nm,0.3s,baz=211,slow=14,SNR=1.0						
LBTB				Sn	Sn	05 27 33.7	-1.5
	0.7nm,0.3s,baz=292,slow=21,SNR=14						
LBTB				Lg	Lg	05 27 45.3	
	0.9nm,0.3s,baz=125,slow=22,SNR=6.8						
	1.3nm,0.7s						
I35NA	TSUMEB INFRASO	9.59	327	I	I	06 22 30.0	
	baz=154,slow=316,SNR=4.5						

*AFAD **06** 05:27:57.6±0.0, 35.°17N×27.°61E, h2km±2km, ML2.3*

*ATH **06** 05:28:02.2, 35.°30N×27.°58E, h9km±4km, ML2.6/1, Error ellipse: s-maj=5.4km s-min=1.1km az=341.0*

*THE **06** 05:28:02.5, 35.°32N×27.°61E, h8km±3km, ML2.4/3, Error ellipse: s-maj=4.8km s-min=1.7km az=329.0*

ISC 06 05:28:01.9±1.6**, 35.°28N**±0.°06×**27.°59E**±0.°04**, h12**km±10km**, n19,** σ0§**88**/33**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.43	307	P	Pg	05 28 10.6	+0.1
KARP				S	Sb	05 28 18.3	+0.2
	1µm,0.3s						
KARP	Karpathos	0.43	307	P	Pg	05 28 10.5	-0.1
KARP				S	Sg	05 28 16.0	-0.3
KARP				AML	AML	05 28 19.6	
	comp=N,2122µm,0.2s						
KARP				AML	AML	05 28 19.7	
	comp=E,2427µm,0.4s						
ARG	Arkhangelos	1.03	25	P	Pg	05 28 21.1	-0.6
ARG				S	Sg	05 28 34.4	-0.8
	comp=E,138nm,0.6s						
ARG	Arkhangelos	1.03	25	P	Pg	05 28 21.2	-0.6
ARG				S	Sb	05 28 35.1	-0.2
ZKR	Zakros	1.13	262	P	Pg	05 28 22.5	-1.2
ZKR				S	Sg	05 28 39.4	+0.9
ZKR	Zakros	1.13	262	P	Pg	05 28 23.2	-0.6
ZKR				S	Sg	05 28 38.8	+0.4
YAZI	Mula-Dat§a-	1.40	356	P	Pn	05 28 27.1	-0.2
YAZI				S	Sg	05 28 46.9	-0.1
YAZI				i AML	AML	05 29 28.0	
	comp=E,64nm,2.0s						
DAT	Datca	1.44	360	P	Pn	05 28 27.6	-0.4
DAT	Datca	1.44	360	P	Pn	05 28 28.5	+0.5
DAT				S	Sg	05 28 48.2	-0.2
DAT				i AML	AML	05 28 55.0	
	comp=E,44nm,0.3s						
DAT				i AML	AML	05 28 56.0	
	comp=E,37nm,0.5s						
TURN	Turunc	1.58	20	P	Pn	05 28 29.8	0.0
TURN				S	Sg	05 28 53.6	+0.7
IZZE	Mula-Seydike	1.76	49	P	Pn	05 28 31.4	-0.8

IZZE				S	**Sn**	**05 28 54.1**	**-0.5**	
IZZE				*i* AML	AML	05 29 00.0		
	comp=E,27nm,0.4s							
SABU	**Mula-Dalaman**	**1.90**	**36**	P	**Pn**	**05 28 33.9**	**-0.3**	
SABU				S	**Sg**	**05 29 06.3**	**+3.2**	
SABU				*i* AML	AML	05 29 09.0		
	comp=E,28nm,1.0s							
SABU				*i* AML	AML	05 29 15.0		
	comp=E,27nm,1.0s							
SABU				*i* AML	AML	05 29 23.0		
	comp=E,23nm,1.5s							
SNT5	**Nea Kammeni, S**	**2.10**	**303**	P	**Pn**	**05 28 37.0**	**+0.1**	
IDI	**Anoyia**	**2.21**	**271**	P	**Pn**	**05 28 40.1**	**+1.6**	
IDI	**Anoyia**	**2.21**	**271**	P	**Pn**	**05 28 38.4**	**-0.1**	
TAVA	**DENIZLI_Tavas**	**2.43**	**26**	P	**Pn**	**05 28 41.5**	**0.0**	
TAVA				S	**Sb**	**05 29 16.8**	**+1.2**	
TAVA				*i* AML	AML	05 29 25.0		
	comp=E,19nm,0.8s							
TAVA				*i* AML	AML	05 29 32.0		
	comp=E,12nm,0.7s							
APE	**Apeiranthos**	**2.44**	**318**	P	**Pn**	**05 28 41.2**	**-0.4**	
APE				S	**Sn**	**05 29 10.7**	**-0.7**	
	comp=E,42nm,1.9s							
APE	**Apeiranthos**	**2.44**	**318**	P	**Pn**	**05 28 41.6**	**0.0**	
ESEN	**Aydn-Nazilli**	**2.58**	**14**	P	**Pn**	**05 28 44.3**	**+0.7**	
ESEN				*i* AML	AML	05 29 19.0		
	comp=E,15nm,2.0s							
ESEN				S	**Sb**	**05 29 20.5**	**+0.6**	

*NOU **06** 05:51:39.3, 41°.92S × 174°.56E, h7km, MLv4.2/8, Cook Strait, New Zealand*
*WEL **06** 05:51:40.9±0.4, 42°.S±3°.× 17°.4E±°, h5km±4km, M3.5/16, ML3.7/16, MLv3.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=145.2, confirmed*

ISC 06 05:51:39.3±1.1, 41°.81S±0°.03 × 174°.41E±0°.03, h11km±8km, n91, σ1s18/99, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.16**	**293**	P	**Pg**	**05 51 43.4**	**+0.4**
CMWZ				S	**Sg**	**05 51 46.6**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.41**	**283**	P	**Pg**	**05 51 47.7**	**+0.2**
BSWZ				S	**Sg**	**05 51 53.7**	**+0.7**
TUWZ	**Tuamarina**	**0.52**	**317**	P	**Pg**	**05 51 48.9**	**-0.6**
TUWZ				S	**Sg**	**05 51 55.7**	**-0.7**
BHW	**Baring Head**	**0.53**	**41**	P	**Pb**	**05 51 50.9**	**+0.3**
SNZO	**South Karori**	**0.55**	**24**	P	**Pb**	**05 51 50.6**	**-0.3**
WEL	**Wellington**	**0.59**	**27**	P	**Pb**	**05 51 51.6**	**-0.1**
TCW	**Tory Channel**	**0.61**	**350**	P	**Pg**	**05 51 50.5**	**-0.7**
TCW				S	**Sg**	**05 51 58.1**	**-1.1**
PLWZ	**Palliser**	**0.68**	**69**	P	**Pn**	**05 51 55.4**	**+0.6**
CAW	**Cannon Point**	**0.86**	**35**	P	**Pb**	**05 51 56.2**	**0.0**
PAWZ	**Paruwai Farm**	**0.87**	**61**	P	**Pn**	**05 51 57.9**	**+0.3**
KHZ	**Kahutara**	**0.89**	**227**	P	**Pn**	**05 51 58.5**	**+0.8**
KHZ	**Kahutara**	**0.89**	**227**	P	**Pn**	**05 51 58.6**	**+0.9**
KHZ				S	**Sn**	**05 52 12.7**	**+2.2**
NNZ	**Nelson**	**0.98**	**307**	P	**Pg**	**05 51 57.1**	**-1.1**
KIW	**Kapiti Island**	**1.02**	**22**	P	**Pg**	**05 51 58.6**	**-0.4**
TRWZ	**Traveller**	**1.04**	**67**	P	**Pn**	**05 52 00.1**	**+0.2**
MTW	**Mount Morrison**	**1.05**	**52**	P	**Pn**	**05 52 00.1**	**+0.2**
DUWZ	**D'Urville Isla**	**1.07**	**340**	P	**Pg**	**05 51 58.6**	**-1.4**
DUWZ				S	**Sg**	**05 52 13.6**	**-0.4**
THZ	**Tophouse**	**1.13**	**272**	P	**Pb**	**05 52 00.9**	**0.0**
THZ				S	**Sn**	**05 52 17.9**	**+1.3**
OGWZ	**Otaki Gorge**	**1.15**	**30**	P	**Pb**	**05 52 01.2**	**+0.1**
OGWZ				S	**Sn**	**05 52 17.4**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.23**	**43**	P	**Pn**	**05 52 02.6**	**+0.1**
MRNZ	**Matariki Terra**	**1.31**	**288**	P	**Pb**	**05 52 03.8**	**-0.1**
TMWZ	**Te Maipa**	**1.31**	**58**	P	**Pn**	**05 52 03.6**	**0.0**
TKNZ	**Takaka Hill**	**1.34**	**305**	P	**Pn**	**05 52 03.5**	**-0.4**
MRZ	**Mangatainoka R**	**1.45**	**38**	P	**Pn**	**05 52 05.6**	**+0.2**
TIWZ	**Tintock**	**1.52**	**48**	P	**Pn**	**05 52 06.2**	**-0.2**
GVZ	**Greta Valley S**	**1.54**	**221**	P	**Pb**	**05 52 07.6**	**-0.3**
PRWZ	**Pori Road**	**1.72**	**44**	P	**Pn**	**05 52 09.1**	**0.0**
QRZ	**Quartz Range**	**1.73**	**304**	P	**Pn**	**05 52 10.1**	**+0.9**
QRZ	**Quartz Range**	**1.73**	**304**	P	**Pn**	**05 52 08.1**	**-1.1**
OHWZ	**Ohakea**	**1.74**	**23**	P	**Pb**	**05 52 11.4**	**+0.1**
POWZ	**Post Office Ro**	**1.75**	**36**	P	**Pn**	**05 52 10.0**	**+0.4**
BFZ	**Birch Farm**	**1.79**	**51**	P	**Pn**	**05 52 09.6**	**-0.4**
BFZ	**Birch Farm**	**1.79**	**51**	P	**Pn**	**05 52 09.4**	**-0.6**
LTZ	**Lake Taylor**	**1.86**	**238**	P	**Pn**	**05 52 11.8**	**+0.6**
DSZ	**Denniston Nort**	**1.95**	**271**	P	**Pn**	**05 52 13.6**	**+1.3**
DVHZ	**Dannevirke**	**2.01**	**42**	P	**Pn**	**05 52 12.5**	**-0.6**
WAZ	**Wanganui**	**2.10**	**12**	P	**Pb**	**05 52 16.8**	**-0.6**
TSZ	**Takapari Road**	**2.11**	**34**	P	**Pn**	**05 52 14.4**	**-0.1**
OKCZ	**Okains Bay**	**2.15**	**207**	P	**Pn**	**05 52 15.3**	**+0.1**
MQZ	**McQueen's Vall**	**2.29**	**214**	P	**Pn**	**05 52 16.4**	**-0.6**
OXZ	**Oxford**	**2.32**	**228**	P	**Pn**	**05 52 17.1**	**-0.2**
WPHZ	**Waipukurau**	**2.33**	**42**	P	**Pn**	**05 52 17.9**	**+0.4**
PNHZ	**Pukenui**	**2.33**	**36**	P	**Pn**	**05 52 17.1**	**-0.5**
LREZ	**Lake Rotokare**	**2.35**	**360**	P	**Pb**	**05 52 22.0**	**+0.4**
INZ	**Inchbonnie**	**2.38**	**247**	P	**Pn**	**05 52 19.7**	**+1.4**
NMEZ	**Namu Road**	**2.43**	**350**	P	**Pb**	**05 52 23.4**	**+0.4**
PREZ	**Palmer Road**	**2.47**	**355**	P	**Pb**	**05 52 23.5**	**-0.3**
KHEZ	**Kahui Hut**	**2.53**	**353**	P	**Pb**	**05 52 23.8**	**-1.0**
KHEZ	**Kahui Hut**	**2.53**	**353**	P	**Pb**	**05 52 23.8**	**-1.0**
NEZ	**North Egmont**	**2.55**	**354**	P	**Pb**	**05 52 24.0**	**-1.1**
NBEZ	**Newall Road No**	**2.57**	**351**	P	**Pb**	**05 52 24.4**	**-1.1**
MOVZ	**Moawhango**	**2.61**	**23**	P	**Pn**	**05 52 21.9**	**+0.5**
PKVZ	**Pokaka**	**2.62**	**16**	P	**Pn**	**05 52 23.7**	**+2.2**
KRHZ	**Kereru**	**2.63**	**35**	P	**Pn**	**05 52 21.0**	**-0.7**
PKE	**Pukeiti**	**2.63**	**353**	P	**Pb**	**05 52 24.4**	**-2.1**
BHHZ	**Black Hill Sta**	**2.64**	**29**	P	**Pn**	**05 52 22.0**	**+0.2**
WNVZ	**Wahianoa**	**2.64**	**20**	P	**Pn**	**05 52 23.0**	**+1.0**
TRVZ	**Turoa**	**2.66**	**19**	P	**Pb**	**05 52 26.8**	**-0.2**
MAVZ	**Matarangi**	**2.69**	**19**	P	**Pb**	**05 52 28.1**	**+0.5**
FWVZ	**Far West T-bar**	**2.70**	**19**	P	**Pb**	**05 52 28.0**	**+0.3**
VRZ	**Vera Road**	**2.70**	**6**	P	**Pn**	**05 52 25.0**	**+2.5**
TUVZ	**Tukino**	**2.71**	**21**	P	**Pn**	**05 52 24.0**	**+1.1**
MHCZ	**Mount Hutt**	**2.71**	**230**	P	**Pn**	**05 52 22.7**	**-0.1**
COVZ	**Chateau Observ**	**2.75**	**19**	P	**Pb**	**05 52 28.7**	**+0.2**
NGZ	**Ngauruhoe**	**2.78**	**19**	P	**Pn**	**05 52 25.0**	**+1.1**
SNVZ	**South Ngauruho**	**2.78**	**20**	P	**Pn**	**05 52 25.1**	**+1.2**
OTVZ	**Oturere**	**2.81**	**20**	P	**Pn**	**05 52 25.3**	**+0.9**
NNVZ	**North Ngauruho**	**2.83**	**19**	P	**Pn**	**05 52 26.1**	**+1.5**
KWHZ	**Kaweka Forest**	**2.83**	**33**	P	**Pb**	**05 52 31.5**	**+1.5**
WTVZ	**West Tongariro**	**2.84**	**19**	P	**Pb**	**05 52 28.4**	**-1.7**
TWVZ	**Taurewa**	**2.85**	**16**	P	**Pb**	**05 52 28.2**	**-2.0**
ETVZ	**East Tongariro**	**2.85**	**21**	P	**Pn**	**05 52 25.9**	**+1.1**
TMVZ	**Te Maari**	**2.87**	**21**	P	**Pn**	**05 52 25.9**	**+0.8**
KRVZ	**Karewarewa**	**2.87**	**19**	P	**Pn**	**05 52 26.7**	**+1.6**
NTVZ	**North Tongarir**	**2.88**	**20**	P	**Pn**	**05 52 26.0**	**+0.8**
KATZ	**Kakaramea**	**3.00**	**19**	P	**Pn**	**05 52 34.0**	**+1.3**
WVZ	**Waitaha Valley**	**3.00**	**244**	P	**Pn**	**05 52 27.9**	**+1.2**
RITZ	**Rihia Road**	**3.04**	**22**	P	**Pb**	**05 52 34.8**	**+1.4**
BKZ	**Black Stump Fm**	**3.08**	**32**	P	**Pb**	**05 52 35.6**	**+1.4**
RPZ	**Rata Peaks**	**3.12**	**231**	P	**Pn**	**05 52 28.5**	**0.0**
RPZ	**Rata Peaks**	**3.12**	**231**	P	**Pn**	**05 52 28.4**	**0.0**
ARCZ	**Arundel**	**3.19**	**227**	P	**Pn**	**05 52 29.4**	**-0.1**
HIZ	**Hauiti**	**3.31**	**6**	P	**Pn**	**05 52 34.4**	**+3.4**
HIZ	**Hauiti**	**3.31**	**6**	P	**Pb**	**05 52 35.5**	**-2.5**
TMZ	**Timaru**	**3.58**	**223**	P	**Pn**	**05 52 34.6**	**-0.2**
TLZ	**Tolley Road**	**3.58**	**14**	P	**Pb**	**05 52 39.2**	**-3.5**
FOZ	**Fox Glacier**	**3.80**	**242**	P	**Pb**	**05 52 43.7**	**-2.7**
TOZ	**Tahuroa Road**	**4.16**	**12**	P	**Pb**	**05 52 48.7**	**-3.8**
ODZ	**Otahua Downs**	**4.24**	**219**	P	**Pn**	**05 52 43.5**	**-0.3**
ODZ	**Otahua Downs**	**4.24**	**219**	P	**Pn**	**05 52 43.3**	**-0.5**
MKAZ	**Moumakai**	**4.74**	**7**	P	**Pn**	**05 52 52.7**	**+2.1**

ROM 06 05:53:07.2±0.1, 43°.041N±0°.003 × 13°.005E±0°.004, h8km, ML2.0/51, Error ellipse: s-maj=0.3km s-min=0.2km az=77.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**95**	P	Pg	05 53 09.1	0.0
FDMO				S	Sg	05 53 10.3	0.0
FDMO				AML	AML		
	comp=N,7015μm,0.2s						
FDMO				AML	AML		
	comp=E,5669μm,0.2s						
FDMO				AML	AML		
	comp=N,7015μm,0.2s						
FDMO				AML	AML		
	comp=E,5875μm,0.5s						
CESI	**CESI - Serrava**	**0.08**	**244**	P	Pg	05 53 10.0	+0.7
CESI				S	Sg	05 53 11.8	+0.9
CESI				AML	AML		
	comp=N,1925μm,0.7s						
CESI				AML	AML		
	comp=E,1830μm,0.4s						
CESI				AML	AML		
	comp=N,1643μm,0.2s						
CESI				AML	AML		
	comp=E,1830μm,0.4s						
CESI				AML	AML		
	comp=E,1830μm,1.6s						
FEMA	**Monte Fema**	**0.09**	**157**	P	Pg	05 53 09.9	+0.4
FEMA				S	Sg	05 53 11.5	+0.5
FEMA				AML	AML		
	comp=E,3420μm,0.6s						
FEMA				AML	AML		
	comp=N,2790μm,0.6s						
FEMA				AML	AML		
	comp=E,2844μm,0.2s						
FEMA				AML	AML		
	comp=N,2610μm,0.2s						
FEMA				AML	AML		
	comp=N,2790μm,1.4s						
SEF1	**Sefro**	**0.11**	**338**	P	Pg	05 53 10.4	+0.6
SEF1				S	Sg	05 53 12.2	+0.5
PIO1	**Pioraco**	**0.14**	**354**	P	Pg	05 53 10.5	+0.3
CSP1	**Cessapalombo**	**0.15**	**71**	P	Pg	05 53 11.3	+0.7
CSP1				S	Sg	05 53 14.1	+1.3
CSP1				AML	AML		
	comp=E,846μm,1.4s						
CSP1				AML	AML		
	comp=N,379μm,1.5s						
CSP1				AML	AML		
	comp=N,362μm,0.3s						
CSP1				AML	AML		
	comp=E,811μm,0.3s						
CSP1				AML	AML		
	comp=E,846μm,0.6s						
CSP1				AML	AML		
	comp=N,379μm,0.5s						
FIU1	**Fiuminata**	**0.16**	**340**	P	Pg	05 53 10.7	+0.1
FIU1				S	Sg	05 53 14.2	+1.4
PF6	**Pievefavera**	**0.17**	**52**	P	Pg	05 53 11.4	+0.6
MDAR	**Monte D'Aria**	**0.18**	**34**	P	Pg	05 53 11.8	+0.8
MC2	**Monte Cornacci**	**0.19**	**133**	P	Pg	05 53 11.8	+0.7
GAG1	**Gagliole**	**0.20**	**13**	P	Pg	05 53 11.9	+0.5
SNTG	**Esanatoglia**	**0.22**	**348**	P	Pg	05 53 12.2	+0.6
SNTG				S	Sg	05 53 16.2	+1.6
SNTG				AML	AML		
	comp=E,698μm,0.2s						
SNTG				AML	AML		
	comp=N,411μm,1.2s						
SNTG				AML	AML		
	comp=N,423μm,1.3s						
SNTG				AML	AML		
	comp=N,411μm,1.1s						
SNTG				AML	AML		
	comp=E,642μm,0.2s						
SNTG				AML	AML		
	comp=E,698μm,0.2s						
SNTG				AML	AML		
	comp=N,320μm,0.1s						
SNTG				AML	AML		
	comp=E,642μm,0.2s						
SNTG				AML	AML		
	comp=E,698μm,0.3s						
SNTG				AML	AML		
	comp=N,367μm,0.1s						
NRCA	**Norcia**	**0.22**	**159**	P	Pg	05 53 12.2	+0.5
NRCA				S	Sg	05 53 16.3	+1.5
NRCA				AML	AML		
	comp=E,980μm,0.7s						
NRCA				AML	AML		
	comp=N,620μm,1.6s						
NRCA				AML	AML		
	comp=E,1032μm,0.7s						
NRCA				AML	AML		
	comp=E,919μm,0.1s						
NRCA				AML	AML		
	comp=N,643μm,0.1s						
NRCA				AML	AML		
	comp=E,963μm,0.2s						
NRCA				AML	AML		
	comp=N,603μm,0.1s						
NRCA				AML	AML		
	comp=E,980μm,1.3s						
NRCA				AML	AML		
	comp=E,1032μm,1.3s						
NRCA				AML	AML		
	comp=N,643μm,0.1s						
NRCA				AML	AML		
	comp=N,620μm,0.4s						
SSM1	**San Severino M**	**0.23**	**34**	P	Pg	05 53 12.1	+0.3
GUMA	**Gualdo di Mace**	**0.24**	**85**	P	Pg	05 53 13.1	+1.0
GUMA				S	Sg	05 53 17.3	+1.9
MMO1	**Montemonaco**	**0.28**	**121**	P	Pg	05 53 13.1	+0.3
MMO1				S	Sb	05 53 18.0	-1.4
EL6	**Elcito**	**0.30**	**14**	P	Pg	05 53 13.9	+0.7
EL6				S	Sb	05 53 19.1	-1.0
EL6				AML	AML		
	comp=N,1007μm,0.3s						
EL6				AML	AML		
	comp=N,1008μm,0.3s						
EL6				AML	AML		
	comp=N,1007μm,0.3s						
EL6				AML	AML		
	comp=E,800μm,0.3s						
EL6				AML	AML		
	comp=E,834μm,0.6s						
FOSV	**Fossato di Vic**	**0.31**	**325**	P	Pg	05 53 14.0	+0.6
FOSV				S	Sb	05 53 19.1	-1.3
FOSV				AML	AML		
	comp=E,234μm,0.4s						
FOSV				AML	AML		
	comp=N,388μm,0.2s						
FOSV				AML	AML		
	comp=E,225μm,0.2s						
FOSV				AML	AML		
	comp=N,389μm,0.2s						
FOSV				AML	AML		
	comp=E,234μm,0.4s						
FOSV				AML	AML		
	comp=N,389μm,0.2s						
T1214	**Arquata del Tr**	**0.32**	**152**	P	Pg	05 53 14.0	+0.5
T1214				S	Sb	05 53 19.5	-1.2
T1214				AML	AML		
	comp=E,364μm,0.8s						
T1214				AML	AML		
	comp=N,332μm,0.2s						
T1214				AML	AML		
	comp=N,332μm,0.2s						
T1214				AML	AML		
	comp=E,245μm,0.2s						
T1214				AML	AML		
	comp=N,344μm,0.2s						
T1214				AML	AML		
	comp=E,259μm,0.2s						
T1214				AML	AML		
	comp=E,297μm,0.8s						
T1214				AML	AML		
	comp=N,344μm,0.2s						
MF5	**Montefalcone A**	**0.34**	**99**	P	Pb	05 53 14.9	-0.7
MF5				S	Sb	05 53 20.9	-0.3
MF5				AML	AML		
	comp=N,625μm,0.6s						
MF5				AML	AML		
	comp=E,484μm,0.7s						
MF5				AML	AML		
	comp=N,625μm,0.6s						
MF5				AML	AML		
	comp=E,484μm,0.7s						
CING	**Cingoli**	**0.36**	**23**	P	Pg	05 53 15.0	+0.6
CING				S	Sb	05 53 21.3	-0.6
CING				AML	AML		
	comp=E,410μm,0.6s						
CING				AML	AML		
	comp=N,292μm,0.9s						
CING				AML	AML		
	comp=E,345μm,0.2s						
CING				AML	AML		
	comp=N,258μm,0.1s						
MURB	**Monte Urbino**	**0.41**	**302**	P	Pb	05 53 16.2	-0.7
MURB				S	Sb	05 53 23.2	-0.2
MURB				AML	AML		
	comp=E,493μm,1.1s						
MURB				AML	AML		
	comp=N,513μm,0.3s						
MURB				AML	AML		
	comp=E,491μm,0.3s						
MURB				AML	AML		
	comp=N,513μm,0.3s						
MURB				AML	AML		
	comp=E,534μm,0.3s						
MURB				AML	AML		
	comp=N,542μm,0.3s						
MURB				AML	AML		
	comp=E,534μm,0.3s						
MURB				AML	AML		
	comp=N,542μm,0.3s						
SSFR	**Montelago di S**	**0.43**	**338**	P	Pg	05 53 16.2	+0.7
SSFR				S	Sb	05 53 22.8	-1.0
SSFR				AML	AML		
	comp=N,458μm,0.2s						
SSFR				AML	AML		
	comp=N,408μm,0.6s						
SSFR				AML	AML		
	comp=E,580μm,0.2s						
SSFR				AML	AML		
	comp=N,458μm,0.2s						
SSFR				AML	AML		
	comp=E,598μm,0.2s						
SSFR				AML	AML		
	comp=E,598μm,0.2s						
SSFR				AML	AML		
	comp=E,580μm,0.2s						
ATFO	**Monte Foce - G**	**0.45**	**316**	P	Pg	05 53 16.6	+0.5
ATFO				AML	AML		
	comp=E,111μm,1.0s						
ATFO				AML	AML		
	comp=N,96μm,0.2s						
ATFO				AML	AML		
	comp=E,82μm,0.3s						
ATFO				AML	AML		
	comp=N,96μm,0.2s						
ATFO				AML	AML		
	comp=E,111μm,1.0s						
ARVD	**Arcevia**	**0.46**	**354**	P	Pg	05 53 16.8	+0.6
ARVD				S	Sb	05 53 24.5	-0.2
ARVD				AML	AML		
	comp=N,148μm,0.4s						
ARVD				AML	AML		
	comp=N,124μm,0.3s						
ARVD				AML	AML		
	comp=E,294μm,0.3s						
ARVD				AML	AML		
	comp=E,294μm,0.3s						
FRON	**Frontone**	**0.52**	**337**	P	Pg	05 53 17.7	+0.4
FRON				S	Sb	05 53 26.3	-0.1
FRON				AML	AML		
	comp=E,186μm,0.2s						
FRON				AML	AML		
	comp=N,248μm,0.2s						
FRON				AML	AML		
	comp=N,249μm,0.2s						
FRON				AML	AML		
	comp=E,186μm,0.2s						
CESX	**Cesi**	**0.53**	**216**	P	Pg	05 53 18.1	+0.6
CESX				S	Sb	05 53 26.5	-0.3
CESX				AML	AML		
	comp=E,214μm,0.3s						
CESX				AML	AML		
	comp=N,164μm,0.3s						
CESX				AML	AML		
	comp=E,214μm,0.3s						
CESX				AML	AML		
	comp=N,166μm,1.2s						
COR1	**Corinaldo**	**0.59**	**360**	P	Pb	05 53 19.8	-0.1
PIEI	**Pieia**	**0.60**	**325**	P	Pg	05 53 18.7	-0.1
PIEI				AML	AML		
	comp=E,98μm,0.1s						
PIEI				AML	AML		
	comp=N,61μm,1.2s						
PIEI				AML	AML		
	comp=N,54μm,0.2s						
PIEI				AML	AML		
	comp=E,98μm,0.1s						
PIEI				AML	AML		
	comp=E,98μm,1.9s						
PIEI				AML	AML		
	comp=N,61μm,0.8s						
NARO	**Abbazia di Nar**	**0.65**	**332**	P	Pg	05 53 20.0	+0.2
NARO				S	Sb	05 53 30.2	+0.1
NARO				AML	AML		
	comp=E,67μm,1.1s						
NARO				AML	AML		
	comp=N,58μm,1.4s						
NARO				AML	AML		
	comp=E,55μm,0.2s						
NARO				AML	AML		
	comp=N,44μm,0.2s						
NARO				AML	AML		
	comp=N,58μm,0.6s						
CAFI	**Castiglion Fio**	**0.81**	**291**	P	Pg	05 53 23.0	+0.1
SRES	**S.Oreste - Sor**	**0.88**	**205**	P	Pb	05 53 24.7	-0.2

ROM 06 05:53:17.0±0.1, 41°.732N±0°.005 × 14°.249E±0°.007, h18km±1km, ML1.1/8, Error ellipse: s-maj=0.7km s-min=0.3km az=49.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RNI2	**Rionero Sannit**	**0.08**	**248**	P	Pg	05 53 20.8	+0.2
RNI2				S	Sg	05 53 23.6	+0.6
MIDA	**Miranda**	**0.09**	**178**	P	Pg	05 53 20.6	-0.1
MIDA				S	Sg	05 53 23.2	0.0
MIDA				AML	AML		
	comp=E,133μm,0.1s						
MIDA				AML	AML		
	comp=E,114μm,0.1s						
MIDA				AML	AML		
	comp=N,161μm,0.3s						
MIDA				AML	AML		
	comp=N,130μm,0.2s						
CERA	**Filignano**	**0.22**	**232**	P	Pb	05 53 22.4	+0.1
CERA				S	Sg	05 53 26.2	+0.4
TRIV	**Trivento**	**0.23**	**81**	P	Pb	05 53 22.7	+0.3
TRIV				S	Sb	05 53 26.7	+0.6
INTR	**Introdacqua**	**0.38**	**317**	P	Pg	05 53 25.0	0.0
INTR				S	Sg	05 53 30.6	+0.2
INTR				AML	AML		
	comp=E,25μm,0.0s						
INTR				AML	AML		
	comp=N,36μm,0.1s						
POFI	**Posta Fibreno**	**0.40**	**268**	P	Pb	05 53 25.6	-0.1
POFI				S	Sb	05 53 31.9	+0.3
VVLD	**Villa Vallelon**	**0.49**	**287**	P	Pg	05 53 26.9	-0.1
VVLD				S	Sb	05 53 33.9	-0.1
TERO	**Teramo**	**1.01**	**332**	AML	AML		
	comp=N,74μm,1.0s						
TERO				AML	AML		
	comp=E,89μm,1.0s						
TERO				AML	AML		
	comp=N,74μm,1.0s						
TERO				AML	AML		
	comp=N,74μm,1.0s						
CAMP	**Campotosto**	**1.02**	**322**	AML	AML		
	comp=N,58μm,1.4s						
CAMP				AML	AML		
	comp=E,53μm,0.2s						
RM33	**Pellescritta (**	**1.09**	**316**	AML	AML		
	comp=N,83μm,0.7s						
RM33				AML	AML		
	comp=E,82μm,0.8s						
RM33				AML	AML		
	comp=E,83μm,0.8s						
SMA1	**SAN MARTINO**	**1.13**	**323**	AML	AML		
	comp=E,142μm,0.4s						
SMA1				AML	AML		
	comp=N,130μm,1.5s						
SMA1				AML	AML		
	comp=N,130μm,1.5s						
MTRA	**Matera**	**1.20**	**329**	AML	AML		
	comp=N,238μm,1.7s						
MTRA				AML	AML		
	comp=E,204μm,0.3s						
MTRA				AML	AML		
	comp=N,238μm,0.3s						
MTRA				AML	AML		
	comp=N,238μm,0.3s						
MTRA				AML	AML		
	comp=E,204μm,0.3s						
LNSS	**Leonessa**	**1.25**	**314**	AML	AML		
	comp=N,228μm,1.2s						
LNSS				AML	AML		
	comp=E,286μm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNSS				AML	AML		
	comp=E,286µm,0.2s						
LNSS				AML	AML		
	comp=N,228µm,0.8s						
GUMA	Gualdo di Mace	1.49	333	AML	AML		
	comp=N,2275µm,0.3s						
GUMA				AML	AML		
	comp=E,1675µm,0.2s						
GUMA				AML	AML		
	comp=E,2890µm,0.3s						
GUMA				AML	AML		
	comp=N,1880µm,0.4s						
MOMA	Monte Martano	1.64	311	AML	AML		
	comp=N,130µm,0.4s						
MOMA				AML	AML		
	comp=E,148µm,0.5s						
MOMA				AML	AML		
	comp=N,130µm,1.6s						
MOMA				AML	AML		
	comp=E,326µm,1.5s						
MOMA				AML	AML		
	comp=N,442µm,1.6s						
MOMA				AML	AML		
	comp=N,442µm,0.4s						
ARVD	Arcevia	2.01	332	AML	AML		
	comp=N,148µm,0.4s						
ARVD				AML	AML		
	comp=E,294µm,0.3s						
PIEI	Pieia	2.20	326	AML	AML		
	comp=N,61µm,1.2s						
PIEI				AML	AML		
	comp=E,98µm,0.1s						
PIEI				AML	AML		
	comp=E,98µm,1.9s						
PIEI				AML	AML		
	comp=N,61µm,0.8s						
NARO	Abbazia di Nar	2.25	327	AML	AML		
	comp=N,58µm,0.6s						
NARO				AML	AML		
	comp=N,58µm,1.4s						
NARO				AML	AML		
	comp=E,67µm,1.1s						

*SJA **06** 06:16:35.7±0.7, 25°.23S×70°.69W, h31^{km}±3^{km}, ML3.4, MW3.5*
*GUC **06** 06:16:36.3±0.8, 25°.20S×70°.74W, h42^{km}±3^{km}, ML3.4*
ISC 06 06:16:36.1±1.5**, 25°.23S**±0°.04×**70°.81W**±0°.09**, h32**^{km}±16^{km}**, n23, σ1^{s}92**/31**, 3C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB14	IPOC Station P	0.70	32	eP	Pn	06 16 49.9	-0.3
PB14				eS	Sn	06 16 59.4	-0.7
PB14				IAML		06 17 00.7	
	comp=Z,1µm,0.2s						
PB14	IPOC Station P	0.70	32	⇑iP	Pn	06 16 50.0	-0.2
PB14				eS	Sn	06 16 59.4	-0.7
AC01	Pan de Azucar	0.94	168	eP	Pb	06 16 53.8	-0.1
AC01				eS	Sb	06 17 07.0	+1.0
AC01				IAML		06 17 07.4	
	comp=Z,572nm,0.1s						
AC01	Pan de Azucar	0.94	168	⇓iP	Pb	06 16 53.8	-0.1
AC01				eS	Sb	06 17 06.8	+0.8
AC01				IAML		06 17 07.9	
	comp=E,1µm,0.1s						
GO02	Mina Guanaco	1.10	87	eP	Pb	06 16 56.0	-0.9
GO02				eS	Sb	06 17 09.9	-1.1
GO02	Mina Guanaco	1.10	87	⇑iP	Pb	06 16 56.0	-0.9
GO02				eS	Sb	06 17 10.2	-0.9
AC06	Mina Casimiro	2.16	169	eP	Pb	06 17 11.7	-2.9
AC06				IAML		06 17 49.9	
	comp=E,354nm,0.4s						
PB15	IPOC Station P	2.35	32	eP	Pb	06 17 14.5	-3.4
PB15	IPOC Station P	2.35	32	eP	Pn	06 17 14.0	+1.2
GO03	Copiap	2.41	168	eP	Pn	06 17 15.1	+1.6
GO03	Copiap	2.41	168	eP	Pn	06 17 14.9	+1.4
GO03				IAML		06 17 54.3	
	comp=E,206nm,0.2s						
PB05	IPOC Station P	2.43	13	eP	Pn	06 17 13.4	-0.3
PB05	IPOC Station P	2.43	13	⇑iP	Pn	06 17 13.4	-0.3
PB06	IPOC Station P	2.75	25	eP	Pn	06 17 18.9	+0.7
PB06				eS	Sb	06 18 03.5	+5.4
PB06				IAML		06 18 07.9	
	comp=Z,167nm,0.3s						
PB06	IPOC Station P	2.75	25	eP	Pn	06 17 18.7	+0.5
PB06				IAML		06 18 05.8	
	comp=N,205nm,0.6s						
PB04	IPOC Station P	2.94	12	eP	Pn	06 17 20.7	-0.2
PB04				IAML		06 18 13.6	
	comp=Z,146nm,0.6s						
AC04	Llanos de Chal	2.98	185	eP	Pn	06 17 20.6	-0.6
LVC	Limon Verde	3.13	34	eP	Pn	06 17 24.7	+1.1
LVC				eS	Sb	06 18 14.6	+5.4
LVC				IAML		06 18 16.3	
	comp=Z,167nm,0.7s						
PB07	IPOC Station P	3.58	14	eP	Pn	06 17 29.5	-0.2
PB07				IAML		06 18 34.1	
	comp=Z,70nm,0.4s						
PB09	IPOC Station P	3.71	23	eP	Pn	06 17 32.3	+0.9
PB09				IAML		06 18 36.5	
	comp=Z,90nm,0.6s						
LCO	Las Campanas	3.77	179	eP	Pn	06 17 33.4	+1.1
TA01	Diego Aracena	4.67	7	eP	Pn	06 17 42.8	-1.8
TA01				IAML		06 19 10.7	
	comp=Z,35nm,0.6s						
PB08	IPOC Station P	5.29	17	eP	Pn	06 17 54.8	+1.5
PB08				IAML		06 19 23.8	
	comp=Z,18nm,1.0s						

*IDC **06** 06:30:33.1±6.3, 20°.40S×178°.21W, h536^{km}±71^{km}, mb2.9/7, mbtmp3.9/8, Error ellipse: s-maj=41.7km s-min=29.4km az=141.0*
ISC 06 06:30:32.9±0.9**, 20°.4S**±0°.3×**178°.2W**±0°.2**, h534**^{km}**, n8, σ0^{s}45**/9**, mb3.4**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.39	261	P	P	06 33 36.6	+0.1
	5.8nm,1.0s,baz=126,slow=8.6,SNR=2.3						
STKA	Stephens Creek	37.65	244	P	P	06 37 02.7	+0.2
	1.8nm,0.5s,baz=97,slow=10.0,SNR=3.2						
	1.8nm,0.5s						
ASAR	Alice Springs	44.34	257	P	P	06 37 56.1	+0.2
	3.6nm,0.7s,baz=95,slow=7.9,SNR=46						
ASAR				PcP	PcP	06 39 28.4	-0.1
	0.4nm,0.6s,baz=97,slow=5.0,SNR=2.7						
	3.6nm,0.7s						
WRA	Warramunga Arr	44.41	262	P	P	06 37 56.3	-0.1
	1.0nm,0.6s,baz=98,slow=8.9,SNR=8.0						
	1.0nm,0.6s						
QSPA	South Pole Qui	69.68	180	P	P	06 40 48.4	-0.3
	0.5nm,0.7s,baz=295,slow=21,SNR=1.6						
	0.5nm,0.7s						
TXAR	Lajitas Array	87.17	57	P	P	06 42 23.4	+0.7
	0.3nm,0.8s,baz=210,slow=4.3,SNR=2.8						
	0.3nm,0.8s						
ILAR	Eielson Array	88.25	13	P	P	06 42 26.1	-0.7
	0.8nm,1.2s,baz=210,slow=4.8,SNR=4.3						
	0.8nm,1.2s						
PDAR	Pinedale Array	89.03	43	P	P	06 42 31.4	+0.1
	0.1nm,0.4s,baz=224,slow=3.8,SNR=1.6						
	0.1nm,0.4s						

*NOU **06** 06:55:24.3, 21°.68S×169°.15E, h0^{km}, MLv4.2/9, Southeast of Loyalty Islands*
*IDC **06** 06:55:27.4±1.8, 21°.91S×168°.76E, h0^{km}, mb3.6/3, mbtmp3.6/4, ML3.8/1, MS3.1/4, Error ellipse: s-maj=52.0km s-min=28.7km az=10.0*
ISC 06 06:55:28.5±1.6**, 21°.8S**±0°.1×**168°.8E**±0°.1**, h10**^{km}**, n17, σ0^{s}95**/15**, mb3.4**/3**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.79	296	P	Pb	06 55 44.5	+0.2
PINNC	Pines Island,	1.47	238	P	Pg	06 55 56.9	+0.1
YATNC	Mamie plateau,	1.78	262	P	Pn	06 55 59.9	+0.6
LIFNC	LIFOU	1.79	306	P	Pn	06 55 59.1	-0.3
OUENC	Ouen Island, N	1.90	252	P	Pb	06 56 02.7	-0.6
DZM	Mont Dzumac	2.19	263	P	Pb	06 56 06.7	-1.6
DZM	Mont Dzumac	2.19	263	Pn	Pn	06 56 06.1	+1.0
	30nm,0.3s,baz=123,slow=11,SNR=272						
DZM				LR	LR	06 56 32.5	
	comp=Z,216nm,18.7s,baz=176,slow=30						
DZM				Sn	Sn	06 56 32.7	+0.3
	97nm,0.3s,baz=119,slow=19,SNR=9.6						
	147nm,0.5s						
ONTNC	Ouen Toro	2.22	257	P	Pb	06 56 08.0	-0.7
NOUC	Port Laguerre	2.33	263	P	Pn	06 56 08.1	+1.3
KOUNC	Koumac, New Ca	4.39	286	P	Pn	06 56 36.3	+1.0
URZ	Urewera	17.88	158	LR	LR	07 05 24.0	
	comp=Z,67nm,20.7s,baz=48,slow=34						
CTA	Charters Tower	21.12	271	LR	LR	07 07 50.6	
	comp=Z,26nm,19.1s,baz=86,slow=35						
ASAR	Alice Springs	32.18	260	P	P	07 01 57.3	+0.5
	0.4nm,0.7s,baz=95,slow=9.2,SNR=6.5						
	0.4nm,0.7s						
WRA	Warramunga Arr	32.21	267	P	P	07 01 55.4	-1.6
	0.2nm,0.6s,baz=92,slow=7.4,SNR=1.5						
	0.2nm,0.6s						
NWAO	Narrogin (SRO)	46.70	245	LR	LR	07 23 04.1	
	comp=Z,46nm,18.5s,baz=160,slow=36						
QSPA	South Pole Qui	68.24	180	P	P	07 06 29.3	+0.1
	1.4nm,0.8s,baz=7.5,slow=5.5,SNR=5.9						
	1.4nm,0.8s						
GERES	GERESS Array B	146.54	330	PKPbc	PKPbc	07 15 10.5	+0.4
	3.9nm,0.9s,baz=29,slow=3.0,SNR=12						

*KRNET **06** 07:03:13.1±0.1, 41°.55N×78°.76E, mb2.2*
*NNC **06** 07:03:14.7±0.8, 41°.74N×78°.28E, h1^{km}±4^{km}, mb3.5, mpv3.0, Error ellipse: s-maj=5.3km s-min=3.2km az=169.0, Suspected Mining explosion.*
ISC 06 07:03:12.6±2.3**, 41°.7N**±0°.1×**78°.55E**±0°.10**, h0**^{km}**, n17, σ1^{s}01**/24**, 14C, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.82	352	⇑eP	Pn	07 03 31.9	+0.3
	baz=44						
PRZ				⇑eS	Sn	07 03 45.2	+0.7
	baz=44						
ANVS	Anan'yevo	1.29	330	⇑iP	Pn	07 03 38.9	+0.8
	baz=27						
ANVS				⇑iS	Sn	07 03 57.6	+1.5
	baz=27						
TNSS	Tian-Shan	1.81	319	S	Sn	07 04 06.9	-2.4
	1.7nm,0.2s						
ULHL	Ulahol	1.81	289	⇑iP	Pn	07 03 46.1	+0.8
	baz=91						
ULHL				⇑iS	Sb	07 04 10.3	+0.1
	baz=91						
NRN	Naryn	1.93	264	⇑iP	Pn	07 03 47.2	+0.2
	baz=68						
NRN				⇑iS	Sn	07 04 12.4	+0.3
	baz=68						
BOOM	Boomskoye usch	2.11	294	⇑iP	Pn	07 03 50.2	+0.9
	baz=95						
BOOM				⇑iS	Sn	07 04 17.5	+1.2
	baz=95						
KST	Kastek	2.36	306	Pg	Pn	07 03 53.6	+1.0
	1.3nm,0.2s						
KST				Lg	Lg	07 04 22.6	
	4.5nm,0.3s						
KTBS	Karatobe	2.46	327	Pg	Pb	07 03 57.2	-0.5
	1.6nm,0.3s						
KTBS				Lg	Lg	07 04 28.8	
	7.1nm,0.4s						
CHKK	Chushkaly	2.46	333	Pg	Pb	07 03 57.2	-0.6
	5.5nm,0.2s						
CHKK				Lg	Lg	07 04 28.7	
	6.0nm,0.2s						
KZA	Kyzart	2.50	280	⇑iP	Pn	07 03 55.7	+0.8
	baz=83						
KZA				⇑iS	Sn	07 04 26.8	+0.5
	baz=83						
TKM2	Tokmak 2	2.52	301	⇑iP	Pn	07 03 56.2	+1.2
	baz=1.0						
TKM2				⇑iS	Sn	07 04 27.5	+0.9
	baz=1.0						
DGS	Degeres	2.58	308	Pg	Pb	07 03 58.6	-1.3
	3.0nm,0.3s						
DGS				Lg	Lg	07 04 31.2	
	4.2nm,0.3s						
ARXS	Arharly	2.59	348	Pg	Pb	07 04 00.2	+0.2
	2.4nm,0.2s						
ARXS				Lg	Lg	07 04 33.9	
	5.0nm,0.2s						
KNOS	Konyrlen	2.72	10	Pg	Pg	07 04 04.0	-0.7
	2.8nm,0.1s						
KNOS				Lg	Lg	07 04 40.6	
	1.7nm,0.2s						
KUU	Kurty	2.75	324	Pg	Pb	07 04 01.8	-0.9
	2.7nm,0.3s						
KUU				Lg	Lg	07 04 36.7	
	5.9nm,0.0s						
DJR	Jarkent	2.81	18	Pg	Pg	07 04 06.1	-0.3
	0.9nm,0.1s						
DJR				Lg	Lg	07 04 44.1	
	3.0nm,0.3s						
KRBS	Karabastau	2.93	315	Pg	Pb	07 04 04.4	-1.3
	1.6nm,0.3s						
KRBS				Lg	Lg	07 04 41.1	
	1.6nm,0.2s						

*NEIC **06** 07:16:49.5±0.7, 19°.70N±0°.04×156°.04W±0°.05, h41^{km}±3^{km}, Error ellipse: s-maj=8.4km s-min=2.9km az=121.0*
HVO 06 07:16:49.4±0.8**, 19°.74N**±0°.04×**156°.18W**±0°.08**, h37**^{km}±4^{km}**, ML2.5**/3**, ML2.4**/18(NEIC)**, Error ellipse: s-maj=10.2km s-min=5.7km az=88.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHLU	Kahalu`u	0.31	119		Pn	07 16 56.4	-1.4
KHLU					Sn	07 17 01.8	-3.1
KHLU	Kahalu`u	0.31	119	IAML		07 17 02.3	
	comp=E,170nm,0.1s						
KHLU				IAML		07 17 03.0	
	comp=N,228nm,0.1s						
HUH	Hualalai	0.33	100		Pn	07 16 57.7	-0.4
HUH					Sn	07 17 02.4	-2.8
HUH	Hualalai	0.33	100	IAML		07 17 06.0	
	comp=E,241nm,0.4s						
HUH				IAML		07 17 11.1	
	comp=N,239nm,1.0s						
CPH	Captain Cook	0.35	136		Pn	07 16 56.9	-1.0
MHA	Mahukona	0.52	30	Pn	Pn	07 17 00.7	+0.4
HPAH	Hawaii Prepara	0.54	57	Pn	Pn	07 16 58.3	-2.5
ALEP	Alea Permanent	0.54	111		Pn	07 16 59.6	-1.4
ALEP					Sn	07 17 07.7	-1.4
MLOA	Mauna Loa Obse	0.60	110	Pn	Pn	07 17 00.0	-2.0
MLOA				IAML		07 17 12.1	
	comp=N,132nm,3.8s						
MLOA				IAML		07 17 17.1	
	comp=E,182nm,3.6s						
MWH	Moku'aweowe	0.60	115		Pn	07 17 00.1	-2.0
MWH	Moku'aweowe	0.60	115	IAML		07 17 06.3	
	comp=E,309nm,2.3s						
MWH				IAML		07 17 18.2	
	comp=N,213nm,2.1s						
HMH	Humu'ula Sheep	0.67	102	Pn	Pn	07 17 01.1	-1.6
HMH				IAML		07 17 09.6	
	comp=E,157nm,3.2s						
HMH				IAML		07 17 15.8	
	comp=N,184nm,4.1s						
KHU	Kahuku	0.72	133		Pn	07 17 01.6	-1.7
KHU	Kahuku	0.72	133	IAML		07 17 21.2	
	comp=N,207nm,4.6s						
AIN	Ainahou	0.77	118		Pn	07 17 02.3	-1.6
AIN					Sn	07 17 12.1	-2.4
AIN	Ainahou	0.77	118	IAML		07 17 20.4	
	comp=N,190nm,3.7s						
MLH	Mauna Loa	0.79	108		Pn	07 17 02.5	-1.7
MLH					Sn	07 17 12.5	-2.4
MLH	Mauna Loa	0.79	108	IAML		07 17 17.1	
	comp=E,182nm,4.2s						

*TEH **06** 07:20:02.1, 30°.68N×57°.38E, h7^{km}±29^{km}, ML3.4*
*IDC **06** 07:20:04.7±2.6, 31°.02N×56°.67E, h0^{km}, mb3.2/4, mbtmp3.1/5, ML2.8/1, MS3.4/2, Error ellipse: s-maj=74.2km s-min=29.2km az=146.0*
ISC 06 07:20:03.9±1.6**, 30°.68N**±0°.05×**57°.37E**±0°.04**, h3**^{km}±14^{km}**, n29, σ1^{s}14**/28**, mb3.2**/4**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRM1	Kerman Provinc	0.20	204	Pg	Pg	07 20 08.0	+0.3
KRM1				Sg	Sg	07 20 11.1	+0.7
ZRDN	Zarand Kerman	0.77	292	Pg	Pg	07 20 18.3	-0.3
KHGB	Koh Gabri	0.82	248	Pg	Pg	07 20 19.3	-0.4
CHMN	Cheshme madani	0.83	170	Pg	Pg	07 20 19.1	-0.7
TVBK	TV Kerman	0.87	217	Pg	Pb	07 20 20.9	-0.9
NGRK	Negar Kerman	1.17	208	Pg	Pb	07 20 26.3	-0.7
IBAF	Bafgh	1.79	301	Pg	Pn	07 20 36.7	+1.0
KBAM	BAM	1.81	148	Pn	Pb	07 20 36.9	-0.8
BSRN	Basiran	1.98	49	Pn	Pn	07 20 38.6	+0.2
IKOO	Kooshah	2.23	38	Pn	Pn	07 20 42.5	+0.6
TPRV	Parvadeh(Tabas	2.41	346	Pn	Pn	07 20 45.1	+0.8
NHDN	Nehbandan	2.41	72	Pn	Pn	07 20 45.4	+1.1
IMEH	Mehriz	2.46	287	Pn	Pn	07 20 46.5	+1.4
ITEG	Tejag	2.50	28	Pn	Pn	07 20 46.1	+0.5
TKDS	Koohdasht(Taba	2.93	356	Pn	Pn	07 20 51.8	+0.4
ICHK	Chekchek	2.97	302	Pn	Pn	07 20 53.1	+1.0
AFRZ	Afriz	3.07	27	Pn	Pn	07 20 53.9	+0.5
TNSJ	Nastanj	3.33	349	Pn	Pn	07 20 57.4	+0.5
GENO	Geno	3.44	198	Pn	Pn	07 20 59.3	+0.8
SHRT	Shahrakht	3.86	39	Pn	Pn	07 21 05.5	+1.3
ANAR	Anarak	3.97	310	Pn	Pn	07 21 06.6	+0.8
IZEF	Zefreh	4.82	299	Pn	Pn	07 21 18.9	+1.3
GEYT	Alibeck	7.25	5	Pn	Pn	07 21 50.2	-0.6
	0.2nm,0.3s,baz=193,slow=19,SNR=1.6						
	0.7nm,0.6s						
BVAR	Borovoye Array	24.26	19	P	P	07 25 22.9	+0.8
	0.4nm,0.5s,baz=206,slow=8.8,SNR=4.1						
	0.4nm,0.5s						
MKAR	Makanchi Array	25.08	43	P	P	07 25 32.4	+2.8
	0.2nm,0.6s,baz=238,slow=9.7,SNR=2.0						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	25.42	32	P	P	07 25 32.9	+0.4
	0.2nm,0.6s,baz=232,slow=9.3,SNR=4.0						
	0.2nm,0.6s						
ARU	Arti	25.75	2	LR	LR	07 36 02.6	
	comp=Z,67nm,18.9s,baz=296,slow=38						
ARCES	ARCESS Array B	42.89	344	LR	LR	07 49 36.6	
	comp=Z,66nm,18.6s,baz=279,slow=42						
TORD	Torodi Ar. Bea	53.98	264	P	P	07 29 26.9	-2.5
	0.4nm,0.8s,baz=53,slow=7.8,SNR=2.2						
	0.4nm,0.8s						

*NOU **06** 07:22:36.7, 36°.99S×179°.99W, h0^{km}, MLv4.5/9, East of North Island, N.Z.*
*WEL **06** 07:22:47.2±1.1, 37°S±5°×17°9E±°, h12^{km}, M3.5/8, ML3.8/13, MLv3.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=105.5, confirmed*
ISC 06 07:22:43.1±2.8**, 37°.11S**±0°.07×**179°.4E**±0°.1**, h9**^{km}±11^{km}**, n87, σ1^{s}00**/98**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.00	243	P	Pg	07 23 02.6	+0.3
MXZ	Matakaoa Point	1.00	243	P	Pg	07 23 02.2	-0.1
MXZ				S	Sg	07 23 12.0	-3.3
WMGZ	Waiomatatini S	1.07	229	P	Pn	07 23 05.6	+1.4
WMGZ				S	Sg	07 23 19.3	+1.7
PKGZ	Pakihiroa	1.32	234	P	Pn	07 23 08.6	+0.8
PKGZ				S	Sb	07 23 24.7	-0.6
PUZ	Puketiti	1.34	224	P	Pn	07 23 09.0	+1.1
PUZ				S	Sn	07 23 25.6	-0.3
HAZ	Te Kaha	1.46	243	P	Pb	07 23 11.1	+0.7
HAZ				S	Sn	07 23 29.1	+0.3
TWGZ	Tauwhareparae	1.57	227	P	Pn	07 23 12.4	+1.3
TWGZ				S	Sn	07 23 32.0	+0.4
RUGZ	Raukumara Rang	1.63	238	P	Pn	07 23 13.3	+1.2
RUGZ				S	Sn	07 23 32.6	-0.7
CNGZ	Carnagh Statio	1.68	215	P	Pb	07 23 14.7	+0.5
TKGZ	Te Karaka	1.82	223	P	Pn	07 23 15.7	+1.1
TKGZ				S	Sn	07 23 36.8	-1.0
WIZ	White Island	1.83	256	P	Pn	07 23 14.6	-0.1
MWZ	Matawai	1.94	230	P	Pn	07 23 17.1	+0.9
MWZ				S	Sn	07 23 39.5	-1.3
RIGZ	Rimuhau	2.07	219	P	Pn	07 23 18.9	+0.9
RAGZ	Rawiri	2.11	229	P	Pn	07 23 19.5	+0.9
URZ	Urewera	2.17	237	P	Pn	07 23 20.6	+1.3
URZ	Urewera	2.17	237	P	Pn	07 23 20.4	+1.0
URZ				S	Sn	07 23 45.1	-1.2
PRGZ	Paritu Road	2.18	214	P	Pn	07 23 20.5	+0.9
SNGZ	Shannon Statio	2.35	224	P	Pn	07 23 22.4	+0.6
EDRZ	Edgecumbe	2.35	244	P	Pn	07 23 23.0	+1.0
MARZ	Manawahe	2.36	247	P	Pn	07 23 22.3	+0.3
KNZ	Kokohu	2.36	215	P	Pn	07 23 22.2	+0.3
MHGZ	Mahia Peninsul	2.36	210	P	Pn	07 23 23.2	+1.1
OPRZ	Ohinepanea	2.40	251	P	Pn	07 23 22.8	+0.2
RTZ	Ruatahuna	2.45	232	P	Pn	07 23 24.6	+1.3
RTZ				P	Pn	07 23 24.7	+1.3
MUGZ	Murupara	2.51	236	P	Pn	07 23 24.5	+0.4
TARZ	Mount Tarawera	2.58	243	P	Pn	07 23 26.2	+1.1
RAHZ	Arahi	2.58	225	P	Pn	07 23 25.6	+0.5
TGRZ	Tauranga	2.60	255	P	Pn	07 23 25.4	+0.2
RRRZ	Republican Roa	2.62	241	P	Pn	07 23 26.2	+0.7
WHHZ	Waihua	2.62	221	P	Pn	07 23 26.1	+0.5
MTHZ	Maungataniwha	2.68	229	P	Pn	07 23 27.4	+0.9
KARZ	Kaharoa	2.69	249	P	Pn	07 23 27.5	+1.0
ALRZ	Allen Road	2.84	238	P	Pn	07 23 28.9	+0.3
NMHZ	Naumai	2.87	225	P	Pn	07 23 29.7	+0.7
KMRZ	Kaimai	2.87	254	P	Pn	07 23 29.8	+0.8
ARHZ	Aropaoanui	2.88	221	P	Pn	07 23 29.5	+0.3
MRHZ	Matea Rd	2.94	233	P	Pn	07 23 30.5	+0.5
KUZ	Kuaotunu	2.99	276	P	Pn	07 23 29.9	-0.8
KUZ	Kuaotunu	2.99	276	P	Pn	07 23 29.5	-1.2
BKZ	Black Stump Fm	3.09	228	P	Pn	07 23 32.7	+0.6
BKZ	Black Stump Fm	3.09	228	P	Pn	07 23 32.6	+0.4
MCHZ	McNeill Hill	3.17	222	P	Pn	07 23 33.3	+0.2
TOZ	Tahuroa Road	3.19	258	P	Pn	07 23 33.1	-0.2
KWHZ	Kaweka Forest	3.31	225	P	Pn	07 23 34.7	-0.3
GRZ	Great Barrier	3.31	284	P	Pn	07 23 35.4	+0.4
KAHZ	Kahuranaki	3.34	216	P	Pn	07 23 35.2	-0.4
RITZ	Rihia Road	3.38	235	P	Pn	07 23 36.5	+0.5
MKAZ	Moumakai	3.41	269	P	Pn	07 23 36.0	-0.4
WIAZ	Waiheke Island	3.46	274	P	Pn	07 23 36.7	-0.4
KRHZ	Kereru	3.49	223	P	Pn	07 23 36.9	-0.6
TMVZ	Te Maari	3.55	235	P	Pn	07 23 38.6	0.0
BHHZ	Black Hill Sta	3.56	227	P	Pn	07 23 38.7	+0.2
ETVZ	East Tongariro	3.56	234	P	Pn	07 23 38.6	0.0
NTVZ	North Tongarir	3.56	235	P	Pn	07 23 38.6	0.0
KRVZ	Karewarewa	3.58	235	P	Pn	07 23 39.0	0.0
ETAZ	East Tamaki Re	3.60	271	P	Pn	07 23 40.1	+1.0
OTVZ	Oturere	3.60	234	P	Pn	07 23 39.2	-0.1
NNVZ	North Ngauruho	3.62	235	P	Pn	07 23 39.9	+0.4
WTVZ	West Tongariro	3.63	235	P	Pn	07 23 40.0	+0.5
SNVZ	South Ngauruho	3.63	234	P	Pn	07 23 39.6	-0.1
MBAZ	Motutapu North	3.65	274	P	Pn	07 23 40.4	+0.7
NGZ	Ngauruhoe	3.65	235	P	Pn	07 23 39.9	-0.1
MOVZ	Moawhango	3.69	231	P	Pn	07 23 40.1	-0.3
ABAZ	Army Bay	3.72	277	P	Pn	07 23 41.5	+0.8
WNVZ	Wahianoa	3.74	233	P	Pn	07 23 40.9	-0.2
TRVZ	Turoa	3.76	233	P	Pn	07 23 41.6	+0.2
WPHZ	Waipukurau	3.76	218	P	Pn	07 23 40.6	-0.7
PNHZ	Pukenui	3.77	221	P	Pn	07 23 40.7	-0.7
AWAZ	Awhitu Peninsu	3.83	269	P	Pn	07 23 42.9	+0.7
HIZ	Hauiti	3.88	248	P	Pn	07 23 44.7	+1.8
HIZ	Hauiti	3.88	248	P	Pn	07 23 44.5	+1.6
WTAZ	Waiatarua	3.89	271	P	Pn	07 23 44.1	+1.0
RVAZ	Riverhead Bore	3.90	274	P	Pn	07 23 43.5	+0.4
TSZ	Takapari Road	4.00	222	P	Pn	07 23 43.4	-1.2
DVHZ	Dannevirke	4.08	218	P	Pn	07 23 44.4	-1.3
VRZ	Vera Road	4.20	240	P	Pn	07 23 48.2	+0.9
WCZ	Waipu Caves	4.26	284	P	Pn	07 23 48.3	+0.2
BFZ	Birch Farm	4.34	214	P	Pn	07 23 47.7	-1.6
PRWZ	Pori Road	4.37	217	P	Pn	07 23 48.4	-1.2
WAZ	Wanganui	4.37	232	P	Pn	07 23 49.7	0.0
NEZ	North Egmont	4.72	241	P	Pn	07 23 57.5	+3.0
PKE	Pukeiti	4.77	242	P	Pn	07 23 57.8	+2.7
KHEZ	Kahui Hut	4.79	241	P	Pn	07 23 57.9	+2.4
OGWZ	Otaki Gorge	4.97	221	P	Pn	07 23 57.1	-0.8
OUZ	Omahuta	5.08	290	P	Pn	07 24 00.1	+0.7
OUZ	Omahuta	5.08	290	P	Pn	07 23 59.9	+0.5
QRZ	Quartz Range	6.53	233	P	Pn	07 24 20.1	+0.8

*IDC **06** 07:32:12.3±0.7, 6°.76N×72°.94W, h155^{km}±7^{km}, mb3.5/9, mbtmp4.1/12, Error ellipse: s-maj=15.3km s-min=8.2km az=131.0*
*RSNC **06** 07:32:13.2±1.0, 6°.83N×73°.13W, h150^{km}±4^{km}, ML3.9, Mw4.1, Fault plane solution: NP1:ϕ_s125.00000°, δ47.00000°, λ-102.00000°.*

*NEIC **06** 07:32:13.8±1.6, 6°.76N±0°.08×73°.06W±0°.09, h155km±12km, mb4.2/13, Error ellipse: s-maj=14.0km s-min=11.3km az=127.0*

ISC 06 07:32:12.2±0.6**, 6°.84N**±0°.03×**73°.05W**±0°.04**, h152**km±5km**, n98,** σ1s.78/170**, mb4.1**/15**, 7C-6D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28	209	⇓iP	Pn	07 32 33.5	+0.2
BARC				eS	Sn	07 32 48.8	-0.4
BARC				i		07 32 52.2	
	comp=Z,3µm,0.5s						
PAMC	Pamplona, Colo	0.60	35	⇓iP	Pn	07 32 36.4	+1.4
PAMC				eS	Sn	07 32 53.2	+0.9
PAMC				i		07 32 56.1	
	comp=Z,1µm,0.5s						
TAMC	Tame, Arauca	1.31	108	⇓iP	Pn	07 32 41.9	+1.8
TAMC				eS	Sn	07 33 03.0	+1.7
TAMC				i		07 33 04.0	
	comp=Z,1µm,0.6s						
OCAC	Ocana	1.42	349	⇓iP	Pn	07 32 41.8	+0.6
OCAC				eS	Sn	07 33 03.6	0.0
PTBC	PUERTO BERRIO,	1.43	258	⇓eP	Pn	07 32 40.0	-1.3
PTBC				eS	Sn	07 33 00.7	-2.8
PTBC				i		07 33 03.5	
	comp=Z,2µm,0.2s						
SPBC	San Pablo de B	1.56	221	⇑iP	Pn	07 32 42.4	-0.3
SPBC				eS	Sn	07 33 04.5	-1.5
SPBC				i		07 33 09.8	
	comp=Z,2µm,0.2s						
ZARC	Zaragoza, Cauc	1.91	290	eP	Pn	07 32 46.2	-0.3
ZARC				eS	Sn	07 33 12.1	-0.6
ZARC				i		07 33 20.5	
	comp=Z,2µm,0.3s						
ROSC	El Rosal	2.36	213		Pn	07 32 53.9	+1.8
ROSC	El Rosal	2.36	213	P	Pn	07 32 53.6	+1.5
	comp=Z,303nm,0.3s,baz=119,slow=23,SNR=177						
ROSC				S	Sn	07 33 23.0	+0.2
	comp=Z,541nm,0.3s,baz=90,slow=23,SNR=7.1						
ROSC	El Rosal	2.36	213	⇑eP	Pn	07 32 53.4	+1.3
ROSC				eS	Sn	07 33 24.4	+1.6
ROSC				i		07 33 27.5	
	comp=Z,907nm,0.4s						
CVER	Cruz Verde, Cu	2.52	204	eP	Pn	07 32 55.0	+0.8
CVER				eS	Sn	07 33 25.6	-0.9
CVER				i		07 33 37.2	
	comp=Z,468nm,0.3s						
MEDEC	Medelln, Ant	2.59	258	eP	Pn	07 32 55.1	+0.3
MEDEC				eS	Sn	07 33 26.5	-1.0
UREC	San Jos de Ur	2.63	290	eP	Pn	07 32 53.7	-1.4
UREC				eS	Sn	07 33 25.9	-2.2
UREC				i		07 33 38.4	
	comp=Z,1µm,0.2s						
PTGC	Puerto Gaitan,	2.77	161	⇓iP	Pn	07 32 56.7	-0.2
PTGC				eS	Sn	07 33 29.7	-1.7
PTGC				i		07 33 32.5	
	comp=Z,488nm,0.4s						
VILC	Villavicencio,	2.79	193	eP	Pn	07 32 57.0	-0.2
VILC				eS	Sn	07 33 31.5	-0.4
VILC				i		07 33 42.6	
	comp=Z,628nm,0.3s						
GUY2C	Guyana, Caldas	2.81	235	eP	Pn	07 32 57.8	0.0
GUY2C				eS	Sn	07 33 33.9	+1.0
GUY2C				i		07 33 40.9	
	comp=Z,794nm,0.5s						
LL6C	La Loma 6 Bece	2.89	356	eP	Pn	07 32 58.1	-0.2
LL6C				eS	Sn	07 33 37.2	+3.2
LL6C				i		07 33 42.2	
	comp=Z,191nm,0.2s						
NIZA	Niza - Manizal	2.99	234	eP	Pn	07 33 02.3	+2.4
NIZA				eS	Sn	07 33 39.1	+2.4
CMAN1	Manizales, Cal	3.03	235	eP	Pn	07 33 03.2	+2.9
CMAN1				eS	Sn	07 33 40.9	+3.5
CBOC	Ciudad Bolivar	3.10	252	⇑eP	Pn	07 33 01.2	+0.1
CBOC				eS	Sn	07 33 38.4	-0.6
CBOC				i		07 33 49.5	
	comp=Z,222nm,0.5s						
SDV	Santo Domingo	3.14	49		Pn	07 33 03.9	+2.2
SDV	Santo Domingo	3.14	49	P	Pn	07 33 03.4	+1.8
	comp=Z,126nm,0.3s,baz=166,slow=2.3,SNR=292						
SDV				S	Sn	07 33 39.7	-0.2
	comp=Z,488nm,0.4s,baz=276,slow=19,SNR=4.8						
SDV	Santo Domingo	3.14	49	eP	Pn	07 33 03.1	+1.5
SDV				eS	Sn	07 33 40.5	+0.6
SDV				i		07 33 43.7	
	comp=Z,437nm,0.5s						
DBBC	Dabeiba	3.15	273	⇑eP	Pn	07 33 01.4	-0.2
DBBC				eS	Sn	07 33 37.6	-2.2
DBBC				i		07 33 41.8	
	comp=Z,332nm,0.3s						
ARGC	Ariguani, Magd	3.23	338	eP	Pn	07 33 03.8	+1.2
ARGC				eS	Sn	07 33 42.3	+0.7
ARGC				i		07 33 58.6	
	comp=Z,192nm,0.3s						
ARMEC	Armenia, Quind	3.45	229	eP	Pn	07 33 05.0	-0.7
ARMEC				eS	Sn	07 33 45.2	-1.8
PRAC	Prado	3.60	211	eP	Pn	07 33 07.0	-0.5
PRAC				eS	Sn	07 33 49.6	-0.8
PRAC				i		07 33 55.8	
	comp=Z,515nm,0.4s						
ORTC	Ortega, Tolima	3.64	217	eP	Pn	07 33 08.0	0.0
ORTC				eS	Sn	07 33 51.5	+0.2
ORTC				i		07 33 58.2	
	comp=Z,368nm,0.4s						
APAC	Apartado, Choc	3.66	287	⇑iP	Pn	07 33 08.0	-0.1
APAC				eS	Sn	07 33 50.8	-0.8
APAC				i		07 34 08.4	
	comp=Z,205nm,0.6s						
SJCC	San Jacinto, C	3.70	325	⇑eP	Pn	07 33 07.9	-0.8
SJCC				eS	Sn	07 33 49.5	-3.1
SJCC				i		07 33 53.6	
	comp=Z,355nm,0.3s						
PLMC	San Jos del P	3.75	239	eP	Pn	07 33 09.2	-0.2
PLMC				eS	Sn	07 33 51.7	-2.1
PLMC				i		07 34 03.0	
	comp=Z,214nm,0.3s						
LCBC	Los crdobas,	3.85	302	eP	Pn	07 33 09.6	-1.0
LCBC				eS	Sn	07 33 57.0	+1.0
LCBC				i		07 33 58.7	
	comp=Z,225nm,0.2s						
CRJC	Cerrejon, Guaj	4.16	2	eP	Pn	07 33 14.2	-0.5
CRJC				eS	Sn	07 34 01.1	-2.3
CRJC				i		07 34 11.3	
	comp=Z,216nm,0.2s						
YOTC	Yotoco, Valle	4.34	229	⇑eP	Pn	07 33 16.3	-0.9
YOTC				eS	Sn	07 34 09.4	+1.7
YOTC				i		07 34 13.9	
	comp=Z,47nm,0.5s						
SOLC	Bahia Solano	4.38	262	eP	Pn	07 33 17.3	-0.2
SMRC	Santa Marta, M	4.45	345	eP	Pn	07 33 18.4	-0.1
SMRC				eS	Sn	07 34 07.3	-2.8
SMRC				i		07 34 11.0	
	comp=Z,82nm,0.1s						
CAPC	Capurgana	4.62	293	eP	Pn	07 33 18.5	-2.3
CAPC				eS	Sn	07 34 09.6	-4.6
CAPC				i		07 34 11.2	
	comp=Z,107nm,0.3s						
PIZC	Pizarro, Choco	4.68	247	eP	Pn	07 33 22.1	+0.6
PIZC				eS	Sn	07 34 14.2	-1.2
PIZC				i		07 34 24.9	
	comp=Z,83nm,0.5s						
PTAC	Punta Ardita,	4.74	274	eP	Pn	07 33 20.9	-1.3
PTAC				eS	Sn	07 34 17.2	+0.4
PTAC				i		07 34 23.9	
	comp=Z,74nm,0.4s						
BETC	Betania	4.77	210	eP	Pn	07 33 17.9	-4.9
BETC				eS	Sn	07 34 15.5	-2.2
BETC				i		07 34 17.7	
	comp=Z,52nm,0.5s						
BETC				i		07 34 17.7	
	comp=Z,52nm,0.5s						
JAMC	Jamundi, Valle	5.10	225	eP	Pn	07 33 26.5	-0.8
JAMC				eP	Pn	07 33 26.5	-0.8
JAMC				eS	Sn	07 34 25.3	-0.5
JAMC				eS	Sn	07 34 25.3	-0.5
JAMC				i		07 34 35.7	
	comp=Z,38nm,0.4s						
JAMC				i		07 34 35.7	
	comp=Z,38nm,0.4s						
MALC	Bahia Malaga	5.11	237	eP	Pn	07 33 28.1	+0.9
MALC				eP	Pn	07 33 28.1	+0.9
MALC				eS	Sn	07 34 28.0	+2.3
MALC				eS	Sn	07 34 28.0	+2.3
MALC				i		07 34 36.4	
	comp=Z,66nm,0.6s						
MALC				i		07 34 36.4	
	comp=Z,66nm,0.6s						
UPD2	Meteti	5.21	289	eP	Pn	07 33 26.9	-1.5
UPD2				eP	Pn	07 33 26.9	-1.5
UPD2				eS	Sn	07 34 25.3	-2.7
UPD2				eS	Sn	07 34 25.3	-2.7
UPD2				i		07 34 37.5	
	comp=Z,130nm,0.6s						
UPD2				i		07 34 37.5	
	comp=Z,130nm,0.6s						
GARC	Garzon, Huila	5.23	208	eP	Pn	07 33 28.1	-0.9
GARC				eP	Pn	07 33 28.1	-0.9
GARC				eS	Sn	07 34 25.2	-3.6
GARC				eS	Sn	07 34 25.2	-3.6
GARC				i		07 34 33.5	
	comp=Z,158nm,0.2s						
GARC				i		07 34 33.5	
	comp=Z,158nm,0.2s						
BAUV	El Baul	5.38	67	Pn	Pn	07 33 29.4	-1.3
POPC	Popayan, Colom	5.60	220	eP	Pn	07 33 33.3	-0.6
POPC				eP	Pn	07 33 33.3	-0.6
POPC				eS	Sn	07 34 35.4	-2.2
POPC				eS	Sn	07 34 35.4	-2.2
POPC				i		07 34 48.1	
	comp=Z,22nm,0.7s						
POPC				i		07 34 48.1	
	comp=Z,22nm,0.7s						
BBAC	Balboa, Cauca	6.36	221	eP	Pn	07 33 44.6	+0.6
BBAC				eP	Pn	07 33 44.6	+0.6
BBAC				eS	Sn	07 34 52.3	-3.6
BBAC				eS	Sn	07 34 52.3	-3.6
BBAC				i		07 34 57.9	
	comp=Z,33nm,0.7s						
BBAC				i		07 34 57.9	
	comp=Z,33nm,0.7s						
AUA1	Aruba	6.38	28	Pn	Pn	07 33 48.0	+4.0
CRUC	La Cruz	6.53	217	eP	Pn	07 33 49.1	+2.8
CRUC				eP	Pn	07 33 49.1	+2.8
CRUC				eS	Sn	07 35 01.9	+1.8
CRUC				eS	Sn	07 35 01.9	+1.8
GCUF	Volcan Galeras	7.03	218	eP	Pn	07 33 54.2	+0.9
GCUF				eP	Pn	07 33 54.2	+0.9
GCUF				eS	Sn	07 35 09.7	-2.8
GCUF				eS	Sn	07 35 09.7	-2.8
GCUF				i		07 35 15.3	
	comp=Z,26nm,0.4s						
GCUF				i		07 35 15.3	
	comp=Z,26nm,0.4s						
BCIP	Isla Barro Col	7.11	289	Pn	Pn	07 33 51.8	-2.1
BCIP	Isla Barro Col	7.11	289	eP	Pn	07 33 52.3	-1.5
BCIP				eP	Pn	07 33 52.3	-1.5
CMBC	Cumbal	7.55	219	eP	Pn	07 34 01.1	+1.0
CMBC				eP	Pn	07 34 01.1	+1.0
TULM	Tulcn-Chalpat	7.71	218		Pn	07 34 03.0	+0.7
TULM	Tulcn-Chalpat	7.71	218	eP	Pn	07 34 03.8	+1.6
TULM				eP	Pn	07 34 03.8	+1.6
IMBA	Imbabura, San	8.30	218	Pn	Pn	07 34 11.3	+1.1
OTAV	Otavalo	8.49	220	Pn	Pn	07 34 11.5	-1.2
OTAV	Otavalo	8.49	220	eP	Pn	07 34 11.5	-1.2
OTAV				eP	Pn	07 34 11.5	-1.2
OTAV				eS	Sn	07 35 42.1	-5.3
OTAV				eS	Sn	07 35 42.1	-5.3
PAC1	Pacto, Paraso	8.69	222	eP	Pn	07 34 10.2	-4.9
PAC1				eP	Pn	07 34 10.2	-4.9
PAC1				eS	Sn	07 35 47.4	-4.3
PAC1				eS	Sn	07 35 47.4	-4.3
PULU	Pululahua	8.69	219	Pn	Pn	07 34 13.2	-2.0
PCRV	Puerto La Cruz	8.95	68	P	Pn	07 34 17.0	-1.4
	comp=Z,10.0nm,0.5s,baz=278,slow=4.1,SNR=14						
PCRV				S	Sn	07 35 53.3	-4.6
	comp=Z,9.6nm,0.8s,baz=170,slow=13,SNR=1.6						
SLOR	San Lorenzo -	9.28	216	Pn	Pn	07 34 22.8	-0.4
BRU2	Volcan	9.75	282	Pn	Pn	07 34 29.7	+0.5
DRK0	Durika	10.38	284	Pn	Pn	07 34 37.2	-0.3
RIMA	Rio Macho	11.09	286	Pn	Pn	07 34 46.8	-0.1
LCR2	La Lucha 2	11.22	286		Pn	07 34 49.8	+1.2
TBTG	Tabatinga, AM	11.39	164	Pn	Pn	07 34 51.0	+0.4
JACO	JACO, Garabito	11.83	284	Pn	Pn	07 34 58.4	+2.0
MTDJ	Mount Denham	12.13	339	Pn	Pn	07 35 03.8	+3.4
ACON	Acoyapa	13.00	294	Pn	Pn	07 35 12.7	+1.2
BOAV	Boa Vista	13.24	109	Pn	Pn	07 35 13.4	-1.1
ETMB	Extrema	17.89	158	P	P	07 36 10.3	0.0
ETMB				IAmb	IAmb	07 36 11.1	
	comp=Z,4.9nm,0.5s						
SAML	Samuel	18.51	148	P	P	07 36 17.1	+0.1
TEIG	Tepich	19.88	313	P	P	07 36 33.2	+1.3
	comp=Z,68nm,0.6s,baz=152,slow=2.7,SNR=8.7						
LPAZ	La Paz	23.49	168	P	P	07 37 08.7	-0.4
Y49A	Blount Mountai	29.60	337	P	P	07 38 04.8	+1.7
Y49A				IAmb	IAmb	07 38 48.4	
	comp=Z,8.2nm,1.1s						
W50A	Signal Mountai	30.40	340	P	P	07 38 09.9	-0.3
W50A				IAmb	IAmb	07 38 17.9	
	comp=Z,8.8nm,1.1s						
Y45A	Yeager Farm, C	30.93	333	P	P	07 38 15.3	+0.5
WVT	Waverly	32.15	337	P	P	07 38 26.6	+1.2
WVT				IAmb	IAmb	07 38 37.6	
	comp=Z,7.0nm,1.5s						
BDFB	Brasilia	33.37	132	P	P	07 38 35.0	-1.5
	comp=Z,1.1nm,0.5s,baz=310,slow=9.3,SNR=3.2						
	comp=Z,1.1nm,0.5s						
WHAR	Wooly Hollow	33.39	331	P	P	07 38 36.8	+0.6
CCM	Cathedral Cave	35.19	335	P	P	07 38 53.0	+1.3
TXAR	Lajitas Array	36.51	312	P	P	07 39 03.9	+0.7
	comp=Z,1.0nm,0.6s,baz=126,slow=9.0,SNR=19						
TXAR				PcP	PcP	07 41 25.6	+1.8
	comp=Z,0.5nm,0.6s,baz=138,slow=5.9,SNR=7.6						
	comp=Z,1.0nm,0.6s						
TX31	Lajitas Ar. Si	36.51	312	P	P	07 39 04.0	+0.8
KNB	Kanab	47.02	316	P	P	07 40 29.2	+0.5
KNB				IAmb	IAmb	07 40 31.5	
	comp=Z,3.9nm,0.9s						
ULM	Lac du Bonnet	47.29	340	P	P	07 40 30.2	-0.1
	comp=Z,3.3nm,0.5s,baz=137,slow=7.2,SNR=11						
	comp=Z,3.3nm,0.5s						
PDAR	Pinedale Array	48.11	324	P	P	07 40 37.1	+0.1
	comp=Z,0.7nm,0.5s,baz=126,slow=9.1,SNR=9.8						
PDAR				PcP	PcP	07 42 02.1	-0.2
	comp=Z,0.3nm,0.6s,baz=120,slow=5.3,SNR=2.5						
	comp=Z,0.7nm,0.5s						
SCHQ	Schefferville	48.12	5	P	P	07 40 37.3	+0.7
	comp=Z,7.9nm,1.0s,baz=172,slow=6.9,SNR=4.2						
	comp=Z,7.9nm,1.0s						
TCUT	Toone Canyon	48.26	321	P	P	07 40 39.1	+0.8
TCUT				IAmb	IAmb	07 40 40.6	
	comp=Z,5.1nm,0.6s						
NVAR	Mina Array Bea	51.52	315	P	P	07 41 03.8	+0.9
	comp=Z,0.6nm,0.6s,baz=121,slow=7.2,SNR=6.8						
NVAR				PcP	PcP	07 42 16.1	+1.2
	comp=Z,0.3nm,0.5s,baz=134,slow=3.9,SNR=2.8						
	comp=Z,0.6nm,0.6s						
MFID	Camas Ranch	52.26	321	P	P	07 41 09.4	+1.3
MFID				IAmb	IAmb	07 41 10.0	
	comp=Z,2.1nm,0.6s						
YKA	Yellowknife Ar	63.27	340	P	P	07 42 24.8	+0.4
	comp=Z,2.1nm,0.6s,baz=132,slow=6.5,SNR=70						
	comp=Z,2.1nm,0.6s						
TORD	Torodi Ar. Bea	73.66	78	P	P	07 43 28.5	-1.4
	comp=Z,0.5nm,1.0s,baz=293,slow=6.8,SNR=1.7						
	comp=Z,0.5nm,1.0s						
ILAR	Eielson Array	76.98	335	P	P	07 43 48.0	+0.2
	comp=Z,0.3nm,0.7s,baz=102,slow=4.3,SNR=7.4						
	comp=Z,0.3nm,0.7s						
MKAR	Makanchi Array	122.28	20	PKP	PKPdf	07 50 48.6	-0.8
	comp=Z,0.2nm,0.4s,baz=288,slow=3.9,SNR=6.4						
SONM	Songino Array	125.56	0	PKP	PKPdf	07 50 55.3	-0.6
	comp=Z,0.3nm,0.5s,baz=0.0,slow=0.4,SNR=2.6						
ASAR	Alice Springs	149.18	234	PKP	PKPdf	07 51 39.2	-0.2
	comp=Z,2.7nm,0.6s,baz=85,slow=1.7,SNR=4.8						
ASAR				PKPbc	PKPbc	07 51 42.9	-0.9
	comp=Z,3.1nm,0.6s,baz=119,slow=3.4,SNR=22						
WRA	Warramunga Arr	150.41	241	PKPbc	PKPbc	07 51 46.2	-0.6
	comp=Z,2.1nm,0.4s,baz=108,slow=2.7,SNR=30						

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*UPA **06** 07:56:45.5±2.1, 5°.29N×77°.83W, h14km±10km, MW4.2*

*RSNC **06** 07:56:46.6±2.6, 5°.31N×77°.83W, h25km±7km, ML3.7, Mw3.9*

*NEIC **06** 07:56:49.4±2.5, 5°.47N±0°.07×77°.71W±0°.07, h37km±15km, mb4.5/15, Error ellipse: s-maj=11.0km s-min=8.8km az=45.0*

*IDC **06** 07:56:52.5±2.8, 5°.31N×77°.61W, h72km±26km, mb3.6/12, mbtmp4.0/15, MS3.4/13, Error ellipse: s-maj=26.0km s-min=14.4km az=56.0*

ISC 06 07:56:45.3±2.5**, 5°.33N**±0°.02×**77°.75W**±0°.03**, h15**km±17km**, n128,** σ**2s.13**/180**, mb4.2**/17**, MS3.2**/7**, 6C-2D, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	Pizarro, Choco	0.53	133	⇑iP	Pb	07 56 57.3	+1.0
PIZC				eS	Sb	07 57 05.5	+1.7
SOLC	Bahia Solano	0.95	21	⇓iP	Pb	07 57 03.1	-0.5
SOLC				eS	Sb	07 57 14.9	-1.1
MALC	Bahia Malaga	1.37	163	⇑iP	Pn	07 57 10.3	+0.4
MALC				eS	Sb	07 57 28.3	+0.2
MALC				i		07 57 29.4	
	comp=Z,3µm,0.3s						
PLMC	San Jos del P	1.52	106	⇑iP	Pn	07 57 11.1	-0.9
PLMC				eS	Sn	07 57 29.1	-2.5
PLMC				i		07 57 33.0	
	comp=Z,1µm,0.4s						
CBOC	Ciudad Bolivar	1.81	73	eP	Pn	07 57 15.1	-1.1
CBOC				eS	Sn	07 57 36.0	-2.9
CBOC				i		07 57 37.6	
	comp=Z,316nm,0.4s						
PTAC	Punta Ardita,	1.81	358	eP	Pn	07 57 14.6	-1.4
PTAC				eS	Sn	07 57 34.6	-4.1
PTAC				i		07 57 38.0	
	comp=Z,1µm,0.1s						
YOTC	Yotoco, Valle	1.93	134	⇑iP	Pn	07 57 17.2	-0.6
YOTC				eS	Sn	07 57 39.2	-2.8
YOTC				i		07 57 41.1	
	comp=Z,347nm,0.4s						
ARMEC	Armenia, Quind	2.21	110	eP	Pn	07 57 23.7	+2.0
DBBC	Dabeiba	2.27	42	eP	Pn	07 57 23.2	+0.7
DBBC				eS	Sn	07 57 52.0	+1.8
DBBC				i		07 57 56.0	
	comp=Z,208nm,0.3s						
NIZA	Niza - Manizal	2.28	97	eP	Pn	07 57 24.4	+1.6
NIZA				eS	Sn	07 57 52.3	+1.5
MEDEC	Medelln, Ant	2.34	66	eP	Pn	07 57 23.6	+0.1
MEDEC				eS	Sn	07 57 52.1	-0.1
GR1C	Gorgona, Isla	2.35	190	eP	Pn	07 57 22.1	-1.3
GR1C				eS	Sn	07 57 48.5	-3.5
GR1C				i		07 57 53.7	
	comp=Z,1µm,0.4s						
JAMC	Jamundi, Valle	2.36	153	eP	Pn	07 57 23.1	-0.6
JAMC				eS	Sn	07 57 50.8	-1.8
JAMC				i		07 57 53.1	
	comp=Z,336nm,0.4s						
GUY2C	Guyana, Caldas	2.37	92	eP	Pn	07 57 24.6	+0.4
GUY2C				eS	Sn	07 57 53.4	+0.1
GUY2C				i		07 57 57.7	
	comp=Z,209nm,0.4s						
APAC	Apartado, Choc	2.80	24	eP	Pn	07 57 31.3	+1.6
APAC				eS	Sn	07 58 03.6	+0.2
APAC				i		07 58 17.2	
	comp=Z,184nm,0.5s						
ORTC	Ortega, Tolima	2.86	119	⇑iP	Pn	07 57 32.3	+1.7
ORTC				i		07 58 11.0	
	comp=Z,133nm,0.5s						
POPC	Popayan, Colom	2.97	159	eP	Pn	07 57 32.6	+0.4
POPC				eS	Sn	07 58 06.2	-1.5
POPC				i		07 58 08.4	
	comp=Z,290nm,0.4s						
PEDA3	Pedasi	3.15	314	eP	Pn	07 57 33.3	-1.1
PEDA3				eS	Sn	07 58 10.2	-1.6
ACHO3	Achotines, Los	3.18	311	eP	Pn	07 57 33.4	-1.5
ACHO3				eS	Sn	07 58 10.5	-2.2
UPD2	Meteti	3.21	355	eP	Pn	07 57 36.5	+1.2
UPD2				eS	Sn	07 58 14.4	+1.1
UPD2	Meteti	3.21	355	eP	Pn	07 57 35.5	+0.2
UPD2				eS	Sn	07 58 13.6	+0.3
UPD2				i		07 58 22.6	
	comp=Z,410nm,0.5s						
UREC	San Jos de Ur	3.26	42	eP	Pn	07 57 37.8	+1.8
UREC				eS	Sn	07 58 15.0	+0.4
UREC				i		07 58 18.5	
	comp=Z,273nm,0.7s						
PRAC	Prado	3.27	119	⇑iP	Pn	07 57 38.2	+2.0
PRAC				eS	Sn	07 58 17.5	+2.6
PRAC				i		07 58 19.6	
	comp=Z,147nm,0.4s						
CAPC	Capurgana	3.31	7	eP	Pn	07 57 37.4	+0.7
CAPC				eS	Sn	07 58 16.1	+0.4
CAPC				i		07 58 22.6	
	comp=Z,109nm,0.6s						
BBAC	Balboa, Cauca	3.32	171	eP	Pn	07 57 36.5	-0.5
BBAC				eS	Sn	07 58 10.3	-6.1
BBAC				i		07 58 26.2	
	comp=Z,88nm,0.3s						
ROSC	El Rosal	3.45	98	Pn	Pn	07 57 42.5	+3.6
ROSC	El Rosal	3.45	98	P	Pb	07 57 43.3	-3.0
	comp=Z,118nm,0.6s,baz=206,slow=23,SNR=38						
ROSC	El Rosal	3.45	98	eP	Pb	07 57 43.3	-3.0
ROSC				i		07 58 06.8	
	comp=Z,80nm,0.6s						
PTBC	PUERTO BERRIO,	3.48	70	⇓iP	Pn	07 57 41.0	+1.9
PTBC				eS	Sn	07 58 21.7	+1.5
BETC	Betania	3.49	139	eP	Pn	07 57 41.8	+2.6
BETC				eS	Sn	07 58 22.3	+1.8
BETC				i		07 58 29.0	
	comp=Z,124nm,0.5s						
AZU	Azuero	3.51	314	eP	Pn	07 57 38.3	-1.1
AZU				eS	Sn	07 58 19.1	-1.6
AZU	Azuero	3.51	314	i P	Pn	07 57 38.2	-1.1
AZU				eS	Sn	07 58 18.7	-1.9
AZU				i		07 58 23.7	
	comp=Z,247nm,0.5s						
ZARC	Zaragoza, Cauc	3.58	53	eP	Pn	07 57 42.7	+2.2
ZARC				eS	Sn	07 58 23.6	+1.0
ZARC				i		07 58 27.7	
	comp=Z,98nm,0.4s						
TUMC	Tumaco	3.62	196	Pn	Pn	07 57 45.1	+4.2
TUMC	Tumaco	3.62	196	eS	Sb	07 58 29.0	-3.8
TUMC	Tumaco	3.62	196	eP	Pn	07 57 39.1	-1.8
TUMC				eS	Sn	07 58 23.4	0.0
SPBC	San Pablo de B	3.67	85	eP	Pn	07 57 44.2	+2.5
SPBC				eS	Sn	07 58 18.9	-6.0
CACAO	El Cacao, Vera	3.69	303	eP	Pn	07 57 40.1	-1.7
CACAO				eS	Sn	07 58 23.0	-2.2
CACAO	El Cacao, Vera	3.69	303	eP	Pn	07 57 40.8	-1.1
CACAO				eS	Sn	07 58 21.5	-3.7
CACAO				i		07 58 27.6	
	comp=Z,64nm,0.1s						
CHIT3	Chitre	3.72	315	eP	Pn	07 57 41.3	-1.0
CHIT3				eS	Sn	07 58 24.6	-1.5
CVER	Cruz Verde, Cu	3.75	102	eP	Pn	07 57 46.8	+3.7
LCBC	Los crdobas,	3.76	21	eP	Pn	07 57 45.8	+2.9
CRUC	La Cruz	3.82	168	eP	Pn	07 57 45.4	+1.4
CRUC				eS	Sn	07 58 29.3	+0.4
PESE3	Pese, Herrera	3.83	312	eP	Pn	07 57 43.7	-0.2
PESE3				eS	Sn	07 58 27.1	-1.6
GARC	Garzon, Huila	3.85	144	eP	Pn	07 57 46.5	+2.3
GARC				eS	Sn	07 58 30.9	+1.5
UPA	Univ. de Panam	4.04	334	eP	Pn	07 57 45.6	-1.1
UPA				eS	Sn	07 58 32.7	-1.1
UPA	Univ. de Panam	4.04	334	eP	Pn	07 57 45.9	-0.8
UPA				eS	Sn	07 58 32.5	-1.3
PNME	Penonome	4.05	321	eP	Pn	07 57 47.0	+0.1
PNME				eS	Sn	07 58 32.6	-1.5
CRIS3	El Cristo, Coc	4.07	316	eP	Pn	07 57 47.1	0.0
CRIS3				eS	Sn	07 58 33.2	-1.4
ARRA3	Arraijan, Pana	4.08	332	eP	Pn	07 57 47.1	-0.2
ARRA3				eS	Sn	07 58 33.0	-1.9
GCUF	Volcan Galeras	4.09	174	eP	Pn	07 57 50.1	+2.1
GCUF				eS	Sn	07 58 34.5	-1.4
GCUF				i		07 58 39.9	
	comp=Z,82nm,0.5s						
VILC	Villavicencio,	4.21	106	eP	Pn	07 57 53.0	+3.7
VILC				eS	Sb	07 58 46.3	-3.8
RSUS3	Rio de Jesus,	4.30	308	eP	Pn	07 57 49.6	-0.6
BCIP	Isla Barro Col	4.34	332	Pn	Pn	07 57 49.9	-0.9
BCIP	Isla Barro Col	4.34	332	eP	Pn	07 57 48.1	-2.8
BCIP				eS	Sn	07 58 41.6	+0.3
BCIP	Isla Barro Col	4.34	332	eP	Pn	07 57 50.3	-0.6
BCIP				eS	Sn	07 58 41.0	-0.2
BCIP				i		07 58 56.0	
	comp=Z,41nm,0.6s						
TULM	Tulcn-Chalpat	4.58	181		Pn	07 57 57.4	+2.8
BARC	Barichara	4.71	74	eP	Pn	07 57 59.0	+2.9
BARC				eS	Sn	07 58 52.1	+1.4
BARC				i		07 59 16.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,94nm,0.6s						
CUSE	Cuicocha Este	5.03	187	eP	Pn	07 58 00.1	-0.7
CUSE				eS	Sn	07 58 55.0	-4.0
CUSE				i		07 59 04.6	
	comp=Z,220nm,0.3s						
IMBA	Imbabura, San	5.04	185		Pn	07 58 03.7	+2.8
OTAV	Otavalo	5.11	188	Pn	Pn	07 58 02.1	+0.3
OTAV	Otavalo	5.11	188	eP	Pn	07 58 02.2	+0.3
OTAV				eS	Sn	07 58 58.0	-2.8
OTAV	Otavalo	5.11	188	eP	Pn	07 58 02.0	+0.3
OTAV				eS	Sn	07 58 57.3	-3.5
PAC1	Pacto, Paraso	5.14	192	eP	Pn	07 58 00.4	-1.6
PAC1				eS	Sn	07 58 58.2	-3.0
SJCC	San Jacinto, C	5.20	29	eP	Pn	07 58 02.8	+0.1
SJCC				eS	Sn	07 59 00.8	-1.8
SJCC	San Jacinto, C	5.20	29	eP	Pn	07 58 03.9	+1.1
SJCC				eS	Sn	07 58 58.7	-3.9
OCAC	Ocana	5.26	56	eP	Pn	07 58 05.7	+2.0
OCAC				eS	Sn	07 59 05.2	+1.0
OCAC				i		07 59 36.2	
	comp=Z,63nm,0.5s						
PULU	Pululahua	5.33	188		Pn	07 58 07.5	+2.7
PAMC	Pamplona, Colo	5.40	68	eP	Pn	07 58 08.9	+3.0
PAMC				eS	Sn	07 59 09.3	+1.3
PAMC				i		07 59 14.4	
	comp=Z,60nm,0.8s						
PAMC				i		07 59 14.4	
	comp=Z,60nm,0.8s						
PTGC	Puerto Gaitan,	5.70	101	eP	Pn	07 58 11.1	+1.5
PTGC				eP	Pn	07 58 11.1	+1.5
PTLC	Puerto Leguiza	5.91	150	eP	Pn	07 58 17.9	+5.4
PTLC				eP	Pn	07 58 17.9	+5.4
CDITO	Canoas	6.03	303	Pn	Pn	07 58 14.6	+0.6
SLOR	San Lorenzo -	6.07	187		Pn	07 58 18.7	+3.7
DRK0	Durika	6.71	306		Pn	07 58 24.4	+0.7
CHSH	Refugio Sur-Vo	6.87	189		Pn	07 58 30.1	+4.0
RIMA	Rio Macho	7.50	306	Pn	Pn	07 58 36.2	+1.8
LCR2	La Lucha 2	7.60	306		Pn	07 58 37.2	+1.4
SDV	Santo Domingo	7.89	63	Pn	Pn	07 58 41.8	+1.9
SDV	Santo Domingo	7.89	63	eP	Pn	07 58 42.6	+2.7
SDV				eS	Sn	08 00 02.1	-7.0
SDV	Santo Domingo	7.89	63	P	Pn	07 58 42.3	+2.5
	comp=Z,20nm,0.6s,baz=216,slow=2.5,SNR=31						
SDV				S	Sn	08 00 07.3	-1.8
	comp=Z,7.1nm,0.5s,baz=62,slow=20,SNR=1.4						
SDV				LR	LR	08 02 02.6	
	comp=Z,188nm,18.6s,baz=266,slow=40						
SDV	Santo Domingo	7.89	63	eP	Pn	07 58 42.4	+2.5
SDV				eP	Pn	07 58 42.4	+2.5
SDV				eS	Sn	08 00 02.9	-6.2
SDV				eS	Sn	08 00 02.9	-6.2
SDV				i		08 00 15.3	
	comp=Z,11nm,0.5s						
SDV				i		08 00 15.3	
	comp=Z,11nm,0.5s						
JACO	JACO, Garabito	8.09	303	Pn	Pn	07 58 44.4	+1.9
BOSC	San Juan Bosco	8.46	185		Pn	07 58 51.9	+4.3
COVE	Coope Vega, Sa	8.49	310	Pn	Pn	07 58 49.1	+1.2
ARNL	Arenillas	9.12	195	Pn	Pn	07 59 01.6	+5.1
MCRA	Macar, Loja	9.88	193		Pn	07 59 09.6	+2.5
BAUV	El Baul	10.28	69	Pn	Pn	07 59 11.7	-0.7
ATAH	Atahualpa	12.40	183	LR	LR	08 05 30.6	
	comp=Z,236nm,21.3s,baz=12,slow=42						
PCRV	Puerto La Cruz	13.85	69	P	Pn	08 00 01.3	0.0
	comp=Z,6.8nm,0.8s,baz=216,slow=14,SNR=1.8						
PCRV				LR	LR	08 05 23.1	
	comp=Z,69nm,21.1s,slow=37						
MTO3	Montecristo	14.56	309		Pn	08 00 09.1	-2.1
SDDR	Presa de Saban	14.96	24	Pn	Pn	08 00 16.1	-0.4
SJG	San Juan	17.02	41	LR	LR	08 06 41.5	
	comp=Z,43nm,21.7s,baz=234,slow=35						
NNA	Nana	17.23	177	P	P	08 00 49.1	+2.0
	comp=Z,8.9nm,0.6s,baz=348,slow=13,SNR=4.8						
NNA				LR	LR	08 09 18.9	
	comp=Z,92nm,21.9s,baz=356,slow=43						
BOAV	Boa Vista	17.43	99		Pn	08 00 46.8	-1.4
TEIG	Tepich	18.00	326	LR	LR	08 09 05.4	
	comp=Z,656nm,18.0s,baz=186,slow=40						
ETMB	Extrema	18.93	143		P	08 01 05.2	-0.7
ETMB				IAmb	IAmb	08 01 07.9	
	comp=Z,14nm,0.8s						
MACA	Manacapuru-AM	19.02	116		P	08 01 06.2	-0.7
MACA				IAmb	IAmb	08 01 10.2	
	comp=Z,22nm,0.8s						
SAML	Samuel	20.30	134	P	P	08 01 19.7	-1.2
SAML				IAmb	IAmb	08 01 25.3	
	comp=Z,16nm,0.8s						
SAML	Samuel	20.30	134	eP	P	08 01 20.3	-0.6
SAML				eP	P	08 01 20.3	-0.6
CMIG	Matias Romero	20.45	306	P	Pn	08 01 25.8	+1.1
	comp=Z,2.8nm,0.6s,baz=103,slow=8.4,SNR=4.4						
CMIG				LR	LR	08 08 50.1	
	comp=Z,54nm,19.5s,baz=70,slow=35						
	comp=Z,2.8nm,0.6s						
LPAZ	La Paz	23.49	156	P	P	08 01 54.9	-0.6
PB16	IPOC Station P	24.88	161	P	P	08 02 09.3	+0.9
PB12	IPOC Station P	24.89	163	P	P	08 02 09.3	+1.4
PB12				IAmb	IAmb	08 02 12.7	
	comp=Z,11nm,0.5s						
MDP	Montagnes des	25.00	89	LR	LR	08 12 31.0	
	comp=Z,75nm,19.1s,baz=297,slow=38						
VILB	Vilhena	25.17	136	P	P	08 02 11.4	+0.9
PB11	IPOC Station P	26.17	163	P	P	08 02 21.2	+1.6
GO01	Chusmiza	26.23	162	P	P	08 02 22.7	+2.2
TA01	Diego Aracena	26.78	164	P	P	08 02 27.6	+2.6
TA01				IAmb	IAmb	08 02 32.7	
	comp=Z,11nm,0.9s						
PB01	IPOC Station P	27.43	163	P	P	08 02 31.9	+0.9
PB01				IAmb	IAmb	08 02 35.6	
	comp=Z,7.8nm,0.9s						
PB09	IPOC Station P	28.22	163	P	P	08 02 39.7	+1.7
PB09				IAmb	IAmb	08 02 51.2	
	comp=Z,21nm,1.5s						
GOGA	Godfrey	28.44	350	P	P	08 02 39.5	-0.2
GOGA				IAmb	IAmb	08 02 45.7	
	comp=Z,14nm,1.4s						
LVC	Limon Verde	29.08	163	LR	LR	08 17 40.5	
	comp=Z,60nm,19.4s,baz=335,slow=43						
V53A	Saluda	30.55	352	P	P	08 02 59.6	+1.1
V53A				IAmb	IAmb	08 03 14.2	
	comp=Z,11nm,1.5s						
AQDB	Aquidauana	33.57	140	P	P	08 03 24.8	-0.2
TXAR	Lajitas Array	34.21	317	P	P	08 03 31.8	+1.0
	comp=Z,0.6nm,1.0s,baz=116,slow=8.3,SNR=3.4						
	comp=Z,0.6nm,1.0s						
BDFB	Brasilia	36.07	126	P	P	08 03 46.2	-0.6
	comp=Z,2.5nm,0.8s,baz=237,slow=23,SNR=4.4						
BDFB				LR	LR	08 19 36.9	
	comp=Z,107nm,19.2s,baz=233,slow=38						
	comp=Z,2.5nm,0.8s						
CPUP	Villa Florida	37.18	149	LR	LR	08 20 47.0	
	comp=Z,40nm,18.9s,baz=312,slow=39						
PLCA	Paso Flores	46.31	172	P	P	08 05 09.4	-1.3
	comp=Z,1.7nm,0.7s,baz=350,slow=11,SNR=6.0						
	comp=Z,1.7nm,0.7s						
PDAR	Pinedale Array	46.72	328	P	P	08 05 15.8	+1.6
	comp=Z,0.3nm,0.6s,baz=119,slow=8.6,SNR=4.0						
PDAR				LR	LR	08 30 28.9	
	comp=Z,27nm,18.2s,baz=72,slow=43						
	comp=Z,0.3nm,0.6s						
ULM	Lac du Bonnet	47.29	344	P	P	08 05 18.1	-0.1
	comp=Z,1.3nm,0.5s,baz=180,slow=7.5,SNR=4.5						
ULM				LR	LR	08 26 51.8	
	comp=Z,61nm,18.4s,baz=14,slow=38						
	comp=Z,1.3nm,0.5s						
NVAR	Mina Array Bea	49.36	318	P	P	08 05 35.9	+1.2
	comp=Z,0.1nm,0.3s,baz=125,slow=7.8,SNR=1.9						
	comp=Z,0.1nm,0.3s						
YKA	Yellowknife Ar	63.15	342	P	P	08 07 12.6	+0.2
	comp=Z,0.6nm,0.7s,baz=130,slow=6.6,SNR=14						
	comp=Z,0.6nm,0.7s						
DBIC	Dimbokro	72.44	85	P	P	08 08 11.1	-0.9
	comp=Z,6.7nm,1.2s,baz=269,slow=10,SNR=1.8						
	comp=Z,6.7nm,1.2s						
ILAR	Eielson Array	76.39	336	P	P	08 08 34.8	+0.8
	comp=Z,0.4nm,0.7s,baz=112,slow=4.7,SNR=7.1						
	comp=Z,0.4nm,0.7s						
TORD	Torodi Ar. Bea	78.54	78	P	P	08 08 46.8	-0.2
	comp=Z,0.6nm,0.7s,baz=305,slow=5.1,SNR=2.6						
	comp=Z,0.6nm,0.7s						
QSPA	South Pole Qui	95.35	180	P	P	08 10 08.7	-0.2
	comp=Z,1.2nm,0.7s,baz=120,slow=22,SNR=25						
	comp=Z,1.2nm,0.7s						
ASAR	Alice Springs	144.49	236	PKP	PKPab	08 16 20.6	+0.1
	comp=Z,3.3nm,0.8s,baz=120,slow=3.8,SNR=32						
WRA	Warramunga Arr	145.59	242	PKPbc	PKPab	08 16 24.5	-0.1
	comp=Z,2.1nm,0.9s,baz=107,slow=3.1,SNR=12						

NNC 06 08:02:42.5±8.4, 37.52N×71.75E, h0km, mb3.8, mpv3.5, 3C-2D, Error ellipse: s-maj=69.4km s-min=55.9km az=9.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.85	17	P	Pn	08 03 57.6	+0.5
	SNR=17						
AML	Almayashu	4.85	17	⇑P	Pn	08 03 57.5	+0.4
	0.2nm,0.2s						
AML				⇓S	Sn	08 04 59.3	+5.2
	1.0nm,0.5s						
UCH	Uchtor	5.16	23	P	Pn	08 04 01.5	0.0
	SNR=6.8						
MRKS	Merke	5.34	12	Pg	Pn	08 04 04.1	+0.4
	5.0nm,0.2s						
MRKS				Lg	Lg	08 05 03.1	
	9.9nm,0.2s						
KK31	Karatay Array	5.66	351	Pn	Pn	08 04 07.8	-0.1
	1.4nm,0.3s,baz=182,slow=15,SNR=20						
KK31				⇑Sn	Sn	08 05 15.7	+2.1
	13nm,0.6s,baz=174,slow=24						
TKM2	Tokmak 2	6.15	27	⇑P	Pn	08 04 15.0	+0.2
	2.8nm,0.9s						
TKM2				⇓S	Sn	08 05 25.3	-0.6
	2.0nm,0.6s						
KST	Kastek	6.39	29	Pg	Pn	08 04 13.7	-4.3
	3.3nm,0.7s						
KST				Lg	Lg	08 05 19.4	
	2.0nm,0.2s						
DGS	Degeres	6.49	27	Pg	Pn	08 04 16.6	-2.8
	2.0nm,0.2s						
DGS				Lg	Lg	08 05 24.3	
	1.9nm,0.4s						
MTBS	Maitube	6.65	31	Pg	Pn	08 04 18.0	-3.6
	2.9nm,0.4s						
MTBS				Lg	Lg	08 05 26.8	
	4.8nm,0.2s						

IDC 06 08:03:51.0±8.8, 37.81N×72.24E, h83km±93km, mb3.4/2, mbtmp3.7/6, ML3.1/4, Error ellipse: s-maj=85.2km s-min=62.1km az=120.0
SOME 06 08:03:52.6, 38.77N×73.40E, h10km
NNC 06 08:03:56.5±1.6, 38.95N×73.50E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=12.7km s-min=10.1km az=125.0
ISC 06 08:03:50.3±2.0, 38.9N±0.1×72.19E±0.07, h10km, n28, σ1.74/33, 4D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.48	19	⇓Pn	Pb	08 04 54.1	+1.9
	2.7nm,0.6s						
AML				⇓Sn	Sg	08 05 44.6	+2.6
	8.8nm,0.6s						
MRKS	Merke	3.97	11	Pg	Pg	08 05 05.8	-0.7
	24nm,0.2s						
MRKS				Lg	Lg	08 05 58.0	
	44nm,0.3s						
MRKS	Merke	3.97	11	eP	Pg	08 05 05.8	-0.7
	24nm,0.2s						
MRKS				eS	Sg	08 05 57.3	-0.6
	44nm,0.3s						
KZA	Kyzart	3.98	35	P	Pg	08 05 04.4	-2.2
	SNR=7.6						
EKS2	Erkin-Say	4.00	17	P	Pg	08 05 06.0	-0.9
	SNR=9.9						
AAK	Ala-Archa	4.17	24	P	Pg	08 05 07.9	-2.4
	SNR=12						
KK31	Karatay Array	4.44	344	⇓Pn	Pb	08 05 06.3	-2.1
	11nm,0.5s						
KK31				⇓Sn	Sg	08 06 12.0	-0.8
	6.3nm,0.3s						
CHMS	Chumysh	4.58	24	P	Pb	08 05 13.2	+2.4
	SNR=11						
ULHL	Ulahol	4.59	41	P	Pb	08 05 12.1	+1.0
	SNR=6.1						
USP	Ospenovka	4.75	21	P	Pb	08 05 15.3	+1.6
	SNR=8.8						
KST	Kastek	5.07	33	Lg	Lg	08 06 19.0	
	13nm,0.5s						
KST	Kastek	5.07	33	eP	Pb	08 05 18.1	-1.2
	3.3nm,0.4s						
KST				eS	Sb	08 06 19.0	-1.4
	13nm,0.6s						
DGS	Degeres	5.16	31	Pg	Pb	08 05 20.5	-0.2
	4.0nm,0.5s						
DGS				Lg	Lg	08 06 23.0	
	6.0nm,0.4s						
DGS	Degeres	5.16	31	eP	Pb	08 05 20.5	-0.2
	4.0nm,0.5s						
DGS				eS	Sb	08 06 23.0	+0.2
	6.0nm,0.4s						
MTBS	Maitube	5.35	36	Pg	Pb	08 05 22.4	-1.5
	2.9nm,0.3s						
MTBS				Lg	Lg	08 06 26.3	
	4.2nm,0.2s						
MTBS	Maitube	5.35	36	eP	Pb	08 05 22.4	-1.5
	2.9nm,0.3s						
MTBS				eS	Sb	08 06 26.3	-1.9
	4.2nm,0.2s						
IZV	Izvestkoviy	5.36	37	Pg	Pb	08 05 22.1	-2.1
	1.8nm,0.3s						
IZV				Lg	Lg	08 06 25.8	
	6.8nm,0.3s						
IZV	Izvestkoviy	5.36	37	eP	Pb	08 05 22.1	-2.1
	1.8nm,0.3s						
IZV				eS	Sb	08 06 25.8	-2.9
	6.8nm,0.3s						
KOTS	Kotyrbulak	5.75	39	Pg	Pb	08 05 30.0	-0.8
	3.6nm,0.4s						
KOTS				Lg	Lg	08 06 39.1	
	6.0nm,0.4s						
KOTS	Kotyrbulak	5.75	39	eP	Pb	08 05 30.0	-0.8
	3.6nm,0.4s						
KOTS				eS	Sb	08 06 39.1	-0.7
	6.0nm,0.4s						
KTBS	Karatobe	5.92	33	Pg	Pb	08 05 34.7	+1.0
	1.0nm,0.3s						
KTBS				Lg	Lg	08 06 47.1	
	3.4nm,0.3s						
KTBS	Karatobe	5.92	33	eP	Pb	08 05 34.7	+1.0
	1.0nm,0.3s						
KTBS				eS	Sb	08 06 47.1	+2.5
	3.4nm,0.3s						
MKAR	Makanchi Array	10.86	40	P	Pn	08 06 34.3	+8.5
	0.1nm,0.3s,baz=225,slow=14,SNR=10						
	1.1nm,0.8s						
KURBB	Kurchatov Arra	12.60	19	P	Pn	08 07 00.5	+11
	baz=207,slow=12,SNR=2.4						
	0.2nm,0.3s						
BVAR	Borovoye Array	14.24	356	P	P	08 07 20.4	+1.2
	0.3nm,0.3s,baz=168,slow=9.5,SNR=6.6						
	1.2nm,0.6s						
ZALV	Zalesovo Beam	17.39	26	P	P	08 07 58.0	+3.7
	0.4nm,0.3s,baz=219,slow=12,SNR=9.3						
	2.4nm,0.6s						
FINES	FINESS Array B	36.10	324	P	P	08 10 52.2	+0.2
	1.7nm,0.9s,baz=112,slow=9.4,SNR=1.0						
	1.7nm,0.9s						
TORD	Torodi Ar. Bea	66.72	268	P	P	08 14 33.5	-8.4
	0.3nm,0.4s,baz=47,slow=5.9,SNR=4.1						
	0.3nm,0.4s						

IDC 06 08:09:18.0±13.0, 24.80S×179.04W, h344km±130km, mb3.1/4, mbtmp3.8/4, Error ellipse: s-maj=55.4km s-min=30.4km az=46.0
ISC 06 08:09:23.1±1.2, 24.8S±0.3×179.2W±0.2, h400km, n7, σ0.34/6, mb3.4/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.67	261	P	P	08 16 43.0	+0.3
	0.4nm,0.3s,baz=92,slow=7.0,SNR=13						
	0.4nm,0.3s						
WRA	Warramunga Arr	43.13	267	P	P	08 16 46.2	-0.1
	1.5nm,0.6s,baz=103,slow=8.1,SNR=16						
	1.5nm,0.6s						
QSPA	South Pole Qui	65.33	180	P	P	08 19 23.6	-0.1
	1.0nm,0.8s,baz=117,slow=2.3,SNR=6.1						
	1.0nm,0.8s						
TXAR	Lajitas Array	90.23	58	P	P	08 21 39.9	+0.1
	0.3nm,0.9s,baz=218,slow=5.7,SNR=2.6						
	0.3nm,0.9s						
HFS	Hagfors	143.53	349	PKhKP	PKPpre	08 28 08.0	
	2.1nm,0.4s,baz=72,slow=4.8,SNR=19						
AKASG	Malin Array Be	146.11	327	PKPbc	PKPab	08 28 17.9	-0.4
	0.9nm,0.5s,baz=43,slow=3.9,SNR=6.3						
MMAI	Mount Meron Ar	148.76	293	PKPbc	PKPbc	08 28 24.6	+0.2
	1.3nm,0.4s,baz=104,slow=6.1,SNR=5.9						

IDC 06 08:22:00.2±1.6, 16.13N×93.61W, h93km±10km, mb3.4/7, mbtmp3.8/9, MS3.3/2, Error ellipse: s-maj=24.0km s-min=12.2km az=18.0
NEIC 06 08:22:01.3±2.2, 16.08N±0.08×93.73W±0.03, h108km±8km, mb4.0/7, Md4.4/123(MEX), Error ellipse: s-maj=12.9km s-min=1.1km az=201.0
MEX 06 08:22:02.2±0.6, 16.09N×93.79W, h105km±6km, MD4.4
ISC 06 08:22:01.1±0.7, 16.11N±0.04×93.74W±0.03, h110km±6km, n126, σ2.46/183, mb4.0/10, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CARR	Arriaga	0.21	311	i P	Pn	08 22 16.3	-0.3
CARR				eS	Sn	08 22 27.3	-0.9
PCIG		0.65	128		Pn	08 22 18.4	-0.6
PCIG					Sn	08 22 31.6	-0.9
PCIG		0.65	128	i P	Pn	08 22 18.4	-0.6
PCIG				i S	Sn	08 22 31.6	-0.9
TGIG		0.90	42		Pn	08 22 21.2	-0.1
TGIG					Sn	08 22 35.6	-1.0
TGIG		0.90	42	i P	Pn	08 22 21.2	-0.1
TGIG				i S	Sn	08 22 35.6	-1.0
TGBT	Tuxtla Gutierr	0.92	43		Pn	08 22 21.2	-0.3
TGBT					Sn	08 22 35.8	-1.0
TGBT	Tuxtla Gutierr	0.92	43	i P	Pn	08 22 21.2	-0.3
TGBT				eS	Sn	08 22 35.8	-1.0
NILT	Santiago Nilte	0.95	299	i P	Pn	08 22 20.9	-0.9
NILT				eS	Sn	08 22 35.9	-1.5
UXUV	UXUV	1.26	342	i P	Pn	08 22 24.7	-0.5
UXUV				eS	Sn	08 22 42.2	-1.2
CMIG	Matias Romero	1.47	312		Pn	08 22 27.2	-0.4
CMIG					Sn	08 22 46.4	-1.3
CMIG	Matias Romero	1.47	312	P	Pn	08 22 27.0	-0.6
	202nm,0.3s,baz=132,slow=8.1,SNR=2587						
CMIG				S	Sn	08 22 46.7	-0.9
	778nm,0.5s,baz=72,slow=20,SNR=65						
CMIG	Matias Romero	1.47	312	i P	Pn	08 22 27.2	-0.4
CMIG				eS	Sn	08 22 46.4	-1.3
CCIG	Comitan	1.55	83		Pn	08 22 28.0	-0.8
CCIG	Comitan	1.55	83	eP	Pn	08 22 29.4	+0.7
CCIG				eS	Sn	08 22 50.0	+0.2
PATR	El Naranjo	1.76	124	i P	Pn	08 22 31.1	-0.2
PATR				i S	Sn	08 22 53.5	-0.8
PAVE	Pavencul	1.76	121	i P	Pn	08 22 31.5	+0.2
PAVE				i S	Sn	08 22 54.5	+0.1
THIG		1.86	130		Pn	08 22 32.7	+0.4
THIG		1.86	130	eP	Pn	08 22 32.7	+0.4
THIG				eS	Sn	08 22 57.7	+1.6
CHUJ	Union Juarez	1.87	122	i P	Pn	08 22 32.7	0.0
CHUJ				i S	Sn	08 22 55.7	-1.1
SMSP	San Marcos	2.20	121	i P	Pn	08 22 37.9	+0.9
SMSP				eS	Sn	08 23 04.1	-0.3
HUEH	Huehuetenango	2.30	110		Pn	08 22 38.0	-0.1
HUEH	Huehuetenango	2.30	110	eP	Pn	08 22 38.4	+0.2
HUEH				eS	Sn	08 23 05.2	-1.3
HUIG	Huatulco	2.30	262	i P	Pn	08 22 35.5	-2.4
HUIG				eS	Sn	08 23 00.3	-5.8
RTAL	Retalhuleu	2.53	128	Pn	Pn	08 22 39.2	-1.7
RTAL	Retalhuleu	2.53	128	eP	Pn	08 22 37.1	-3.8
RTAL				eS	Sn	08 23 09.6	-1.9
NEUV	Arroyo Zacate	2.54	309	i P	Pn	08 22 40.2	-0.7
NEUV				i S	Sn	08 23 08.8	-2.8
PMUV	Sontecomapan	2.76	332	eP	Pn	08 22 41.5	-2.5
PMUV				eS	Sn	08 23 12.6	-4.4
OXLC	Oaxaca	2.99	289	i P	Pn	08 22 48.1	+0.9
OXLC				eS	Sn	08 23 21.2	-1.5
OXIG	Oaxaca	3.02	289		Pn	08 22 48.3	+0.7
OXIG					Sn	08 23 21.6	-1.8
VHO	Vista Hermosa	3.02	289	i P	Pn	08 22 48.3	+0.8
VHO				i S	Sn	08 23 21.6	-1.8
PEIG	Puerto Escondi	3.27	269	i P	Pn	08 22 48.6	-2.1
PEIG				eS	Sn	08 23 21.8	-7.4
YOIG	Yosondua	3.72	282		Pn	08 22 56.8	-0.2
YOIG	Yosondua	3.72	282	eP	Pn	08 22 56.8	-0.2
YOIG				eS	Sn	08 23 35.8	-4.4
TOIG	Toxpalan	3.74	302		Pn	08 22 57.3	+0.2
TOIG					Sn	08 23 38.6	-1.8
TOIG	Toxpalan	3.74	302	eP	Pn	08 22 57.3	+0.2
TOIG				eS	Sn	08 23 38.6	-1.8
SCIG	Sabancuy	3.75	40	eP	Pn	08 22 56.4	-0.7
SCIG				eS	Sn	08 23 32.2	-8.2
PETF	Flores	3.81	77	Pn	Pn	08 22 57.2	-0.6
PETF	Flores	3.81	77	i P	Pn	08 22 57.5	-0.3
PETF				eS	Sn	08 23 38.8	-3.0
TXIG	Tlaxiaco	4.02	287		Pn	08 23 01.7	+0.7
TXIG	Tlaxiaco	4.02	287	i P	Pn	08 23 01.7	+0.7
TXIG				eS	Sn	08 23 42.5	-4.9
TPIG	Tehuac#an	4.15	304		Pn	08 23 03.2	+0.6
TPIG					Sn	08 23 48.3	-2.1
TPIG	Tehuac#an	4.15	304	eP	Pn	08 23 03.2	+0.6
TPIG				eS	Sn	08 23 48.3	-2.1
PNIG	Pinotepa	4.22	274		Pn	08 23 02.1	-1.3
PNIG	Pinotepa	4.22	274	i P	Pn	08 23 02.1	-1.3
PNIG				eS	Sn	08 23 45.9	-5.9
HLIG	Huajuapan de L	4.25	294		Pn	08 23 05.0	+1.1
HLIG	Huajuapan de L	4.25	294	eP	Pn	08 23 05.0	+1.1
JAUV	Jalcomulco	4.36	318	i P	Pn	08 23 03.7	-1.6
JAUV				eS	Sn	08 23 50.0	-5.2
LVIG	Laguna Verde	4.41	325	eP	Pn	08 23 04.0	-1.9
LVIG				eS	Sn	08 23 47.9	-8.3
ESQI	Esquipulas	4.52	109		Pn	08 23 06.0	-1.5
MTO3	Montecristo	4.56	111		Pn	08 23 07.2	-1.0
FTIG	Fresnillo de T	4.56	294		Pn	08 23 09.2	+1.1
FTIG	Fresnillo de T	4.56	294	eP	Pn	08 23 09.2	+1.1
FTIG				eS	Sn	08 23 56.7	-3.6
MGIG	Malinaltepec	4.82	284		Pn	08 23 11.9	+0.3
MGIG	Malinaltepec	4.82	284	eP	Pn	08 23 11.9	+0.3
MGIG				eS	Sn	08 24 02.3	-4.1
TLIG	Tlapa	4.84	288	Pn	Pn	08 23 12.9	+1.0
TLIG	Tlapa	4.84	288	eP	Pn	08 23 12.7	+0.8
TLIG				i P		08 23 12.7	
TLIG				eS	Sn	08 24 02.4	-4.5
TLIG				eS		08 24 02.9	
CRIG	Cruz Grande	5.21	278		Pn	08 23 15.6	-1.1
CRIG	Cruz Grande	5.21	278	eP	Pn	08 23 15.6	-1.1
CRIG				eS	Sn	08 24 05.1	-11
PPM	Popocatepetl	5.51	303	eP	Pn	08 23 24.2	+2.9
PPM				eS	Sn	08 24 13.8	-10
AMVM	AMECAMECA	5.67	303	eP	Pn	08 23 20.5	-2.8
AMVM				eS	Sn	08 24 24.2	-3.1
DAIG	Los Arroyos	5.74	280		Pn	08 23 23.2	-0.7
DAIG	Los Arroyos	5.74	280	eP	Pn	08 23 23.2	-0.7
DAIG				eS	Sn	08 24 19.4	-9.1
MPVM	San Francisco	5.89	302	eP	Pn	08 23 28.4	+2.3
MPVM				eS	Sn	08 24 23.3	-9.2
MEIG	Mezcala	5.90	289		Pn	08 23 27.5	+1.3
MEIG	Mezcala	5.90	289	i P	Pn	08 23 27.5	+1.3
MEIG				eS	Sn	08 24 27.5	-5.1
THVM	De Xico	5.91	303	eP	Pn	08 23 27.9	+1.4
THVM				eS	Sn	08 24 26.1	-7.1
PLIG	Platanillo	5.95	293		Pn	08 23 28.4	+1.5
PLIG	Platanillo	5.95	293	eP	Pn	08 23 28.4	+1.5
PLIG				eS	Sn	08 24 24.3	-10
XCVM	Xochimilco	6.00	302	eP	Pn	08 23 28.1	+0.3
XCVM				eS	Sn	08 24 28.4	-6.9
AOVM	Tlapan	6.17	301	eP	Pn	08 23 32.7	+2.4
AOVM				eS	Sn	08 24 43.9	+4.1
INVM	La Marquesa	6.24	301	eP	Pn	08 23 28.4	-2.7
INVM				eS	Sn	08 24 38.6	-2.6
AZVM	Cuida Lopez Ma	6.31	304	eP	Pn	08 23 29.3	-2.6
AZVM				eS	Sn	08 24 40.0	-2.7
CAIG	El Cayaco	6.32	279		Pn	08 23 31.4	-0.5
CAIG	El Cayaco	6.32	279	i P	Pn	08 23 31.4	-0.5
CAIG				eS	Sn	08 24 32.8	-10
DEIG	Demacu	6.53	310	eP	Pn	08 23 32.2	-2.7
DEIG				eS	Sn	08 24 49.7	+1.6
TGUH	Tegucigalpa,Un	6.58	107	Pn	Pn	08 23 35.1	-0.3
TEIG	Tepich	6.62	51	Pn	Pn	08 23 34.2	-1.6
TEIG	Tepich	6.62	51	P	Pn	08 23 34.6	-1.2
	555nm,0.4s,baz=250,slow=12,SNR=100						
TEIG				S	Sn	08 24 46.3	-3.5
	2μm,0.4s,baz=288,slow=19,SNR=19						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TEIG				LR	LR	08 26 25.7	
	comp=Z,534nm,19.3s,baz=214,slow=41						
ARIG	Puente Sto Nin	6.67	290		Pn	08 23 38.3	+1.7
ARIG	Puente Sto Nin	6.67	290	i P	Pn	08 23 38.3	+1.7
ARIG				eS	Sn	08 24 44.7	-6.5
CTUV	Llano Grande	6.89	321	eP	Pn	08 23 39.6	0.0
CTUV				eS	Sn	08 24 52.1	-4.4
ZIIG	Zihuatanejo	7.54	282		Pn	08 23 48.6	+0.2
ZIIG	Zihuatanejo	7.54	282	eP	Pn	08 23 48.6	+0.2
ZIIG				eS	Sn	08 25 06.5	-5.8
MOIG	Morelia	7.93	298	Pn	Pn	08 23 55.6	+1.8
MOIG	Morelia	7.93	298	eP	Pn	08 23 55.8	+2.0
MOIG				eS	Sn	08 25 27.7	+5.7
MATN	Matagalpa	8.20	112		Pn	08 23 58.3	+0.8
RPIG	Rio Verde	8.24	315		Pn	08 23 57.8	-0.1
RPIG	Rio Verde	8.24	315	eP	Pn	08 23 57.8	-0.1
RPIG				eS	Sn	08 25 23.7	-5.6
MMIG	Aquila	9.43	285		Pn	08 24 14.9	+0.9
MMIG	Aquila	9.43	285	eP	Pn	08 24 14.9	+0.9
HZTE	Horizontes, Gu	9.57	123	Pn	Pn	08 24 16.2	+0.3
ORTG	Ortega, Santa	9.88	124	Pn	Pn	08 24 20.2	0.0
JUBC	Volcan de Coli	9.95	291	eP	Pn	08 24 25.3	+4.0
COIG	Colima	9.96	289	eP	Pn	08 24 23.5	+2.2
COIG				eS	Sn	08 26 09.5	-1.7
EZ5V		9.97	291	eP	Pn	08 24 26.1	+4.5
MNGA	Volcan de Coli	9.98	291	eP	Pn	08 24 25.3	+3.5
MNGA				eS	Sn	08 26 11.9	-0.2
INCO	Volcan de Coli	9.99	291	eP	Pn	08 24 25.4	+3.5
SOMAC	Volcano de Col	10.01	291	eP	Pn	08 24 25.7	+3.5
SOMAC				eS	Sn	08 26 13.0	+0.2
CEGR	Campo Tres	10.17	290	eP	Pn	08 24 27.1	+2.9
CEGR				eS	Sn	08 26 16.5	0.0
CDAR	Ciudad de Arme	10.19	288	eP	Pn	08 24 25.8	+1.5
JTS	Las Juntas de	10.33	123	P	Pn	08 24 25.5	-0.7
	13nm,0.4s,baz=313,slow=12,SNR=8.3						
ARE1	Arenal 1	10.42	121	Pn	Pn	08 24 27.2	-0.3
JACO	JACO, Garabito	10.93	125	Pn	Pn	08 24 34.5	+0.2
LCR2	La Lucha 2	11.41	123		Pn	08 24 40.0	-0.9
RIMA	Rio Macho	11.51	122	Pn	Pn	08 24 41.8	-0.4
DRK0	Durika	12.29	122		Pn	08 24 52.3	-0.4
HNDO	Hondo	14.30	340	Pn	Pn	08 25 20.0	+1.6
SAND	Sanderson	15.78	332	P	P	08 25 39.2	+0.3
TXAR	Lajitas Array	16.02	327		P	08 25 42.8	+1.3
TXAR	Lajitas Array	16.02	327	P	P	08 25 42.5	+1.0
	1.4nm,0.8s,baz=147,slow=14,SNR=15						
TX31	Lajitas Ar. Si	16.02	327		P	08 25 42.2	+0.7
TX31				IAmb	IAmb	08 25 45.0	
	comp=Z,7.9nm,1.1s						
OZNA	Ozona	16.22	337	P	P	08 25 44.6	+1.0
OZNA				IAmb	IAmb	08 26 20.8	
	comp=Z,9.4nm,1.0s						
LPIG	La Paz	17.46	300	LR	LR	08 32 59.3	
	comp=Z,59nm,21.0s,baz=58,slow=38						
121A	Cookes Peak, D	20.73	325	P	Pn	08 26 35.8	-0.6
ANMO	Albuquerque	21.95	331	P	P	08 26 47.8	+1.7
	comp=Z,2.4nm,0.8s,baz=222,slow=16,SNR=13						
	comp=Z,2.4nm,0.8s						
CHSH	Refugio Sur-Vo	22.84	139	P	P	08 26 57.0	+1.3
CHSH				IAmb	IAmb	08 26 59.5	
	comp=Z,6.6nm,0.7s						
PDAR	Pinedale Array	29.82	336	P	P	08 28 00.5	+2.6
	comp=Z,0.1nm,0.4s,baz=144,slow=11,SNR=1.9						
	comp=Z,0.1nm,0.4s						
NVAR	Mina Array Bea	30.98	321	P	P	08 28 11.4	+3.1
	comp=Z,2.4nm,0.7s,baz=130,slow=9.0,SNR=24						
	comp=Z,2.4nm,0.7s						
SAML	Samuel	39.18	127	P	P	08 29 15.7	-2.8
SAML				IAmb	IAmb	08 29 16.5	
	comp=Z,2.1nm,0.9s						
LPAZ	La Paz	40.92	141	P	P	08 29 32.8	-0.9
PTLB	Pontes e Lacer	46.37	131	P	P	08 30 14.6	-2.0
PTLB				IAmb	IAmb	08 30 15.9	
	comp=Z,2.6nm,0.9s						
YKA	Yellowknife Ar	48.60	347	P	P	08 30 33.1	-0.1
	comp=Z,0.4nm,0.7s,baz=154,slow=7.1,SNR=9.0						
	comp=Z,0.4nm,0.7s						
BDFB	Brasilia	55.07	123	P	P	08 31 21.3	-0.8
	comp=Z,1.8nm,0.5s,baz=333,slow=6.8,SNR=3.6						
	comp=Z,1.8nm,0.5s						
INK	Inuvik	57.95	344	P	P	08 31 41.8	+0.2
	comp=Z,1.6nm,1.0s,baz=124,slow=6.4,SNR=5.8						
	comp=Z,1.6nm,1.0s						
ILAR	Eielson Array	60.25	337	P	P	08 31 57.8	+0.3
	comp=Z,0.3nm,0.7s,baz=133,slow=6.0,SNR=8.8						
	comp=Z,0.3nm,0.7s						
WRA	Warramunga Arr	134.24	258	PKP	PKPdf	08 41 07.9	+1.2
	comp=Z,0.4nm,0.7s,baz=90,slow=4.4,SNR=2.8						

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*IDC **06** 08:36:29.3±3.7, 8°.20S×111°.18E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=210.4km s-min=30.6km az=49.0*

*DJA **06** 08:36:35.5±1.0, 9°S±4°×11°0E±°, h30km±12km, M3.9/13, mB5.2/1, MLv3.9/13, Mw(mB)4.6/1*

ISC 06 08:36:33.6±1.1**, 9°.10S**±0°.08×**110°.40E**±0°.04**, h35**km**, n21, σ1s.81**/27**, mb3.2**/3**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	Wanagama	1.19	6	P	Pn	08 36 53.4	-0.4
UGM				S	Sn	08 37 07.4	-1.4
YOGI	Yogyakarta	1.28	356	P	Pn	08 36 55.1	0.0
YOGI				S	Sn	08 37 09.5	-1.5
PWJI	Pagerwojo	1.76	53	P	Pn	08 37 02.2	+0.6
SJI	Sawahan	1.92	45	P	Pn	08 37 03.4	-0.5
SJI				S	Sn	08 37 27.7	+0.8
NGJI	Ngawi	2.02	32	P	Pn	08 37 07.5	+2.3
NGJI				S	Sn	08 37 38.0	+8.7
SMRI	Semarang	2.04	1	P	Pn	08 37 07.6	+2.1
SMRI				S	Sn	08 37 33.6	+3.8
KRKI	Karangkates	2.24	65	P	Pn	08 37 08.7	+0.5
KRKI				S	Sn	08 37 36.4	+1.7
KPJI	Karang Pucung	2.28	320	P	Pn	08 37 11.3	+2.5
CMJI	Cimerak	2.33	304	P	Pn	08 37 10.4	+0.9
CMJI				S	Sn	08 37 38.1	+1.2
BBJI	Bungbulang	3.17	301	P	Pn	08 37 22.3	+1.2
BBJI				S	Sn	08 37 59.7	+2.0
BLJI	Banyuglugur	3.44	67	P	Pn	08 37 26.8	+2.0
CNJI	Cibinong	3.69	299	P	Pn	08 37 30.0	+1.8
CNJI				S	Sn	08 38 10.0	-0.5
JAGI	Jajag, Banyuwa	3.77	81	P	Pn	08 37 29.7	+0.4
JAGI				S	Sn	08 38 13.5	+1.1
ABJI	Asem Bagus	4.01	71	P	Pn	08 37 35.8	+3.2
CGJI	Cibinong	5.27	298	P	Pn	08 37 50.9	+0.9
WRA	Warramunga Arr	25.52	118	P	P	08 41 57.0	-2.2
	0.6nm,1.0s,baz=292,slow=11,SNR=2.8						
	0.6nm,1.0s						
ASAR	Alice Springs	26.74	126	P	P	08 42 10.6	+0.4
	0.3nm,0.5s,baz=307,slow=10,SNR=6.9						
	0.3nm,0.5s						
MKAR	Makanchi Array	61.03	338	P	P	08 46 41.1	-2.7
	0.2nm,0.4s,baz=139,slow=7.5,SNR=2.7						
	0.2nm,0.4s						
H04N2	CROZET ISLANDS	61.92	222	T	T	09 54 47.3	
	baz=70						
H04N1	CROZET ISLANDS	61.94	222	T	T	09 54 52.1	
	baz=70						
H04N3	CROZET ISLANDS	61.94	222	T	T	09 54 47.1	
	baz=70						

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*SJA **06** 09:04:55.6±0.7, 20°.88S×69°.05W, h114km±3km, ML3.8, MW3.7*

*IDC **06** 09:04:56.3±0.8, 20°.85S×68°.91W, h115km±7km, mb3.2/4, mbtmp3.7/6, Error ellipse: s-maj=25.8km s-min=9.5km az=97.0*

*GUC **06** 09:04:56.9±0.7, 20°.88S×69°.04W, h112km±2km, ML3.8*

ISC 06 09:04:55.6±0.7**, 20°.84S**±0°.03×**69°.01W**±0°.05**, h115**km±5km**, n48, σ1s.55**/83**, mb3.5**/3**, 6C, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.49	245	eP	Pn	09 05 13.0	0.0
PB01				eS	Sn	09 05 26.0	-0.1
PB01	IPOC Station P	0.49	245	i P	Pn	09 05 13.0	0.0
PB01				eS	Sn	09 05 25.8	-0.3
PB01				IAML		09 05 26.7	
	comp=E,9µm,0.2s						
PB08	IPOC Station P	0.71	349	eP	Pn	09 05 15.8	+0.9
PB08				eS	Sn	09 05 30.6	+1.2
PB08				IAML		09 05 31.2	
	comp=Z,2µm,0.4s						
PB08	IPOC Station P	0.71	349	i P	Pn	09 05 15.8	+0.9
PB08				eS	Sn	09 05 30.4	+1.0
PB08				IAML		09 05 30.9	
	comp=E,5µm,0.3s						
PX03	IPOC Station P	0.72	307	eP	Pn	09 05 14.3	-0.4
PX03				eS	Sn	09 05 29.4	+0.3
PX03				IAML		09 05 35.7	
	comp=Z,3µm,0.2s						
PB02	IPOC Station P	0.95	240	eP	Pn	09 05 17.2	+0.4
PB02				eS	Sn	09 05 32.9	+0.1
PB02	IPOC Station P	0.95	240	⇑iP	Pn	09 05 17.2	+0.4
PB02				eS	Sn	09 05 32.5	-0.4
PB02				IAML		09 05 34.0	
	comp=N,5µm,0.4s						
PB09	IPOC Station P	0.98	193	eP	Pn	09 05 17.6	+0.4
PB09				eS	Sn	09 05 34.3	+0.9
PB09				IAML		09 05 35.2	
	comp=Z,2µm,0.8s						
PB09	IPOC Station P	0.98	193	⇑iP	Pn	09 05 17.5	+0.4
PB09				eS	Sn	09 05 33.2	-0.2
PB09				IAML		09 05 35.6	
	comp=N,2µm,0.8s						
TA01	Diego Aracena	1.13	284	eP	Pn	09 05 18.8	+0.3
TA01				eS	Sn	09 05 40.5	+4.8
TA01	Diego Aracena	1.13	284	⇑iP	Pn	09 05 18.8	+0.3
TA01				eS	Sn	09 05 35.7	-0.1
GO01	Chusmiza	1.18	352	eP	Pn	09 05 20.3	+0.7
GO01				eS	Sn	09 05 39.6	+2.0
GO01	Chusmiza	1.18	352	eP	Pn	09 05 20.6	+1.1
GO01				eS	Sn	09 05 38.9	+1.3
GO01				IAML		09 05 41.1	
	comp=N,3µm,0.2s						
TA02	Huaiquique	1.19	298	eP	Pn	09 05 19.6	+0.5
TA02				eS	Sn	09 05 38.0	+1.0
TA02				IAML		09 05 41.2	
	comp=Z,1µm,0.1s						
TA02	Huaiquique	1.19	298	⇑iP	Pn	09 05 19.6	+0.5
TA02				eS	Sn	09 05 37.3	+0.3
TA02				IAML		09 05 43.5	
	comp=N,4µm,0.1s						
PB07	IPOC Station P	1.20	223	eP	Pn	09 05 19.7	+0.2
PB07				eS	Sn	09 05 37.2	-0.4
PB07				IAML		09 05 38.1	
	comp=Z,1µm,0.2s						
PB07	IPOC Station P	1.20	223	⇑iP	Pn	09 05 19.7	+0.2
PB07				eS	Sn	09 05 36.8	-0.8
PB07				IAML		09 05 39.2	
	comp=E,2µm,0.3s						
PB11	IPOC Station P	1.23	331	eP	Pn	09 05 20.0	+0.2
PB11				eS	Sn	09 05 39.6	+1.5
PB11				IAML		09 05 42.8	
	comp=Z,793nm,0.5s						
PB11	IPOC Station P	1.23	331	⇑iP	Pn	09 05 20.5	+0.7
PB11				i S	Sn	09 05 39.0	+0.9
PB11				IAML		09 05 40.9	
	comp=N,2µm,0.4s						
LVC	Limon Verde	1.77	177	eP	Pn	09 05 26.8	+0.5
LVC				eS	Sn	09 05 50.2	+0.6
LVC	Limon Verde	1.77	177	P	Pn	09 05 27.2	+0.9
	comp=N,48nm,0.3s,baz=356,slow=9.0,SNR=28						
LVC				S	Sn	09 05 50.0	+0.4
	comp=N,132nm,0.3s,baz=118,slow=23,SNR=11						
LVC	Limon Verde	1.77	177	eP	Pn	09 05 27.1	+0.8
LVC				eS	Sn	09 05 49.8	+0.2
LVC				IAML		09 05 53.8	
	comp=N,954nm,0.3s						
PB04	IPOC Station P	1.83	215	eP	Pn	09 05 27.1	+0.3
PB04				eS	Sn	09 05 50.2	-0.4
PB04				IAML		09 05 58.2	
	comp=Z,509nm,0.3s						
PB04	IPOC Station P	1.83	215	i P	Pn	09 05 26.7	-0.1
PB04				eS	Sn	09 05 49.0	-1.6
PB04				IAML		09 05 54.7	
	comp=N,816nm,0.4s						
PB06	IPOC Station P	1.93	196	eP	Pn	09 05 28.4	+0.3
PB06				eS	Sn	09 05 52.4	-0.5
PB06				IAML		09 05 59.4	
	comp=Z,382nm,0.2s						
PB06	IPOC Station P	1.93	196	eP	Pn	09 05 28.4	+0.3
PB06				eS	Sn	09 05 51.5	-1.3
PB06				IAML		09 05 59.1	
	comp=E,497nm,0.2s						
PB05	IPOC Station P	2.29	209	eP	Pn	09 05 32.4	-0.2
PB05				IAML		09 06 03.5	
	comp=Z,299nm,0.3s						
PB05	IPOC Station P	2.29	209	eP	Pn	09 05 32.5	-0.1
PB05				eS	Sn	09 05 58.6	-2.3
PB05				IAML		09 06 00.8	
	comp=N,369nm,0.6s						
PB15	IPOC Station P	2.40	190	eP	Pn	09 05 36.4	+2.3
PB15				eS	Sn	09 06 07.1	+3.5
PB15				IAML		09 06 13.3	
	comp=Z,919nm,0.4s						
PB15	IPOC Station P	2.40	190	eP	Pn	09 05 34.6	+0.6
PB15				eS	Sn	09 06 03.2	-0.3
PB16	IPOC Station P	2.53	349	eP	Pn	09 05 38.1	+1.9
PB16	IPOC Station P	2.53	349	eP	Pn	09 05 38.2	+2.0
PB16				eS	Sn	09 06 05.0	-2.3
PB12	IPOC Station P	2.54	331	eP	Pn	09 05 35.8	0.0
PB12				eS	Sn	09 06 03.3	-3.3
PB12	IPOC Station P	2.54	331	eP	Pn	09 05 36.5	+0.7
PB12				eS	Sn	09 06 02.9	-3.7
PB12				IAML		09 06 17.1	
	comp=N,262nm,0.7s						
AP01	Chacalluta	2.76	333	eP	Pn	09 05 40.5	+1.9
AP01				IAML		09 06 37.2	
	comp=Z,190nm,0.5s						
PB18	Visviri	3.26	352	eP	Pn	09 05 51.5	+5.8
YJA	Yavi	3.52	113	eP	Pn	09 05 51.0	+2.0
PB14	IPOC Station P	3.98	199	eP	Pn	09 05 54.4	-0.7
PB14	IPOC Station P	3.98	199	eP	Pn	09 05 53.8	-1.3
GO02	Mina Guanaco	4.34	187	eP	Pn	09 05 59.8	0.0
GO02				eS	Sn	09 06 48.3	-1.4
LPAZ	La Paz	4.60	11	eP	Pn	09 06 07.4	+3.6
SIV	San Ignacio	8.95	59	P	Pn	09 06 59.7	-2.2
	comp=Z,2.9nm,0.4s,baz=246,slow=9.6,SNR=35						
SIV				S	Sn	09 08 34.3	-6.7
	comp=Z,0.3nm,0.5s,baz=340,slow=22,SNR=0.9						
PLCA	Paso Flores	19.88	183	P	Pn	09 09 20.1	-0.4
	comp=Z,1.9nm,0.8s,baz=6.1,slow=7.7,SNR=3.7						
BDFB	Brasilia	20.60	79	P	P	09 09 26.6	+0.7
	comp=Z,2.9nm,0.4s,baz=260,slow=11,SNR=6.3						
	comp=Z,2.9nm,0.4s						
TXAR	Lajitas Array	60.03	325	P	P	09 14 51.4	+0.8
	comp=Z,0.1nm,0.7s,baz=153,slow=8.1,SNR=1.6						
	comp=Z,0.1nm,0.7s						
TORD	Torodi Ar. Bea	77.23	71	P	P	09 16 37.4	-0.2
	comp=Z,0.4nm,0.5s,baz=263,slow=5.1,SNR=6.2						
TORD				pP	pP	09 17 06.6	-1.5
	comp=Z,0.3nm,0.4s,baz=255,slow=5.3,SNR=2.0						
	comp=Z,0.4nm,0.5s						
YKA	Yellowknife Ar	90.53	341	P	P	09 17 44.5	+0.4
	comp=Z,0.3nm,1.0s,baz=123,slow=4.5,SNR=2.4						
YKA				pP	pP	09 18 14.0	-0.9
	comp=Z,0.3nm,0.8s,baz=129,slow=4.9,SNR=4.9						
	comp=Z,0.3nm,1.0s						
MKAR	Makanchi Array	145.15	35	PKPbc	PKPbc	09 24 19.3	-0.1
	comp=Z,0.2nm,0.6s,baz=327,slow=4.3,SNR=2.2						
MKAR				pPKPbc	pPKPab	09 24 51.1	0.0
	comp=Z,0.4nm,0.6s,baz=321,slow=1.6,SNR=3.9						

IDC 06 09:19:03.7±65.0**, 19°.99S**×**178°.41W, h0**km**, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=1177.0km s-min=176.1km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.67	243	P	P	09 26 20.2	-0.6
	1.4nm,0.9s,baz=67,slow=7.7,SNR=1.5						
	1.4nm,0.9s						
ASAR	Alice Springs	44.26	256	P	P	09 27 15.6	+0.2
	1.0nm,0.9s,baz=97,slow=7.2,SNR=5.5						
	1.0nm,0.9s						
WRA	Warramunga Arr	44.29	262	P	P	09 27 15.6	-0.1
	0.3nm,0.5s,baz=97,slow=7.5,SNR=5.4						
	0.3nm,0.5s						

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*LDG **06** 09:32:32.5±0.0, 36°.55N×5°.42E, h10km, Ml3.2/7, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*CRAAG **06** 09:32:32.6, 36°.54N×5°.45E, Ml3.2, Algerie 10km NW Babor*

*MDD **06** 09:32:37.3±0.9, 36°.76N×5°.27E, h0km, Mb4.5/13, M_mb3.9/13, Error ellipse: s-maj=8.9km s-min=6.1km az=97.0*

ISC 06 09:32:33.2±1.1**, 36°.71N**±0°.06×**5°.45E**±0°.04**, h10**km**, n30, σ2s.58**/43**, 10C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DFRA	Djebel Bou Aff	0.38	116	P	Pg	09 32 41.2	+0.5
SET	Setif	0.51	185	P	Pg	09 32 44.0	+0.8
CAZD	Ain Tagrout	0.59	204	P	Pg	09 32 42.5	-2.1
CBHR	Beni Haroun da	0.68	102	P	Pg	09 32 46.5	+0.2
CBOS	Bilal Ibnou Ra	0.70	83	P	Pg	09 32 47.8	+1.1
CTCHA	Tamokra	0.70	247	P	Pg	09 32 46.4	-0.4
COAT	Oued Athmania	0.82	125	P	Pg	09 32 47.7	-1.4
ETOS	Mallorca	3.69	327	P	Pn	09 33 32.5	+2.2
ETOS				⇑iVmb_V		09 33 34.2	
	597nm,SNR=1.6						
ETOS				S	Sn	09 34 12.5	-1.3
EIBI	Ibiza	3.99	307	P	Pn	09 33 36.5	+2.1
EIBI				⇑iVmb_V		09 33 39.8	
	731nm,SNR=2.1						
EIBI				S	Sn	09 34 20.1	-1.1
ECOL	Islas Columbre	4.92	312	P	Pn	09 33 48.7	+1.6
ECOL				S	Sn	09 34 40.5	-3.5
EMUR	La Murta	5.46	284	P	Pn	09 33 55.4	+0.9
EPOB	Poblet	5.75	325	P	Pn	09 34 00.7	+2.0
EPOB				⇑iVmb_V		09 34 02.4	
	255nm,SNR=1.6						
EPOB				S	Sn	09 35 02.8	-1.9
EVIV	Cofrentes, Val	5.78	298	P	Pn	09 34 01.9	+2.9
EVIV				⇑iVmb_V		09 34 06.3	
	211nm,SNR=1.1						
ECHE	Chera	5.82	302	P	Pn	09 34 02.1	+2.6
ECHE				⇑iVmb_V		09 34 03.5	
	182nm,SNR=0.9						
ERTA	Horta de San J	5.82	318	P	Pn	09 34 02.0	+2.3
ERTA				⇑iVmb_V		09 34 03.6	
	281nm,SNR=1.7						
ERTA				S	Sn	09 35 03.3	-3.2
ETOB	Tobarra	5.88	291	P	Pn	09 34 02.8	+2.3
ETOB				⇑iVmb_V		09 34 11.9	
	165nm,SNR=1.2						
ETOB				S	Sn	09 35 07.5	-0.3
EMOS	Mosqueruela	5.90	310	P	Pn	09 34 03.2	+2.3
EMOS				⇑iVmb_V		09 34 12.4	
	292nm,SNR=2.0						
EMOS				S	Sn	09 35 06.5	-2.2
EMIR	Miracle	6.02	331	P	Pn	09 34 05.4	+3.1
EMIR				⇑iVmb_V		09 34 09.1	
	420nm,SNR=1.7						
PGF	Pioggiola	6.44	24	ePn	Pn	09 34 08.2	+0.1
PGF				eSn	Sn	09 35 19.9	-1.8
	3.2nm,0.3s						
LMR	La Mourre	6.66	7	ePn	Pn	09 34 12.5	+1.4
LMR				eSn	Sn	09 35 23.8	-3.3
	3.0nm,0.3s						
EBER	Berja	6.70	274	P	Pn	09 34 11.9	+0.2
EBER				⇑iVmb_V		09 34 18.4	
	289nm,SNR=2.1						
ESAC	San Caprasio	6.79	319	P	Pn	09 34 16.0	+3.0
MTLF	Montolieu	7.07	340	eP	Pn	09 34 19.1	+2.4
MTLF				eSn	Sn	09 35 34.2	-2.9
	2.5nm,0.3s						
SBF	Sospel	7.30	11	ePn	Pn	09 34 20.1	+0.2
SBF				eSn	Sn	09 35 38.4	-4.5
	2.8nm,0.3s						
EPF	Esparros	7.43	330	eP	Pn	09 34 25.8	+4.1
ETSF	Etsaut	7.72	325	eP	Pn	09 34 29.7	+4.1
MBDF	Montbardon	8.07	7	eP	Pn	09 34 34.9	+4.4
MBDF				eSn	Sn	09 35 58.5	-3.4
	1.2nm,0.5s						
VIVF	Saint-Julien-l	8.16	356	ePn	Pn	09 34 32.4	+0.8
VIVF				eSn	Sn	09 36 00.1	-3.8
	2.7nm,0.4s						
SJPF	Ste Jean	8.19	323	eP	Pn	09 34 36.1	+4.0
MFF	Saint Martin d	10.73	339	eP	Pn	09 35 10.4	+3.6

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*JMA **06** 09:32:33.2±0.1, 25°.5N±1°.0×126°.4E±1°.0, h61km±3km, MV3.3/19, NEAR MIYAKOJIMA ISLAND*

*IDC **06** 09:32:35.7±3.7, 25°.47N×126°.47E, h69km±36km, mb3.5/11, mbtmp3.8/12, ML2.8/1, MS3.5/2, Error ellipse: s-maj=31.1km s-min=19.2km az=65.0*

ISC 06 09:32:34.0±1.0**, 25°.47N**±0°.08×**126°.40E**±0°.06**, h52**km±11km**, n30, σ0s.55**/41**, mb3.6**/11**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.92	22	P	Pn	09 32 50.2	-0.5
JKE				eS	Sn	09 33 02.4	-0.6
JOGS	Gusukube	1.14	232	P	Pn	09 32 53.6	-0.1
JOGS				S	Sn	09 33 09.1	+0.8
JIKM	Ikemajima	1.17	243	P	Pn	09 32 54.1	0.0
JIKM				S	Sn	09 33 09.5	+0.4
JMJ2	Miyako jima3	1.21	233	P	Pn	09 32 54.7	+0.1
JMJ2				eS	Sn	09 33 10.2	+0.2
JIRB	Irabujima	1.28	240	P	Pn	09 32 55.3	-0.3
JIRB				eS	Sn	09 33 11.8	+0.2
JAGN	Aguni-jima	1.35	34	P	Pn	09 32 56.4	-0.1
JAGN				eS	Sn	09 33 13.6	+0.3
JJT3	Tamagusuku3	1.42	61	P	Pn	09 32 56.7	-0.8
JJT3				S	Sn	09 33 14.6	-0.4
JTJ	Tarama	1.75	242	P	Pn	09 33 01.5	-0.4
JTJ				eS	Sn	09 33 22.8	-0.2
JNTH	Nagotoyohara	1.80	54	eP	Pn	09 33 02.3	-0.3
JNTH				S	Sn	09 33 24.5	+0.3
JISG	Ishigakijimahi	2.09	246	P	Pn	09 33 06.2	-0.3
JISG				eS	Sn	09 33 31.6	+0.3
JIH	Iheya	2.10	42	P	Pn	09 33 06.9	+0.2
JOW	Kunigami	2.17	51	P	Pn	09 33 08.4	+0.8
JOW	Kunigami	2.17	51	P	Pn	09 33 08.3	+0.7
	4.8nm,0.3s,baz=23,slow=25,SNR=3.0						
JOW				S	Sn	09 33 34.9	+1.6
	41nm,0.3s,baz=98,slow=30,SNR=3.6						
	18nm,0.3s						
JIJ	Ishigaki jima	2.32	242	P	Pn	09 33 09.8	0.0
JIJ				eS	Sn	09 33 36.7	-0.4
JYRO	Yoronjima	2.41	50	P	Pn	09 33 10.6	-0.3
JKRS	Kuro-shima	2.49	241	P	Pn	09 33 12.1	0.0
IRIF	Iriomote-Funau	2.67	246	P	Pn	09 33 14.8	+0.2
JOKE	Okinoerabujima	2.71	46	P	Pn	09 33 15.3	+0.2
SONM	Songino Array	27.34	330	P	P	09 38 15.6	+1.5
	0.7nm,0.5s,baz=151,slow=11,SNR=7.9						
SONM				LR	LR	09 51 36.1	
	comp=Z,61nm,18.1s,baz=310,slow=42						
	0.7nm,0.5s						
MKAR	Makanchi Array	40.83	313	P	P	09 40 10.8	+0.3
	0.8nm,0.4s,baz=99,slow=9.2,SNR=23						
	0.8nm,0.4s						
ZALV	Zalesovo Beam	41.87	324	P	P	09 40 18.7	-0.1
	0.7nm,0.6s,baz=109,slow=9.3,SNR=2.7						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	44.28	317	P	P	09 40 38.0	-0.3
	0.4nm,0.3s,baz=108,slow=9.5,SNR=12						
	0.4nm,0.3s						
WRA	Warramunga Arr	45.80	170	P	P	09 40 50.8	+0.1
	0.4nm,0.9s,baz=348,slow=8.7,SNR=2.5						
	0.4nm,0.9s						
ASAR	Alice Springs	49.38	171	P	P	09 41 18.1	-0.4
	0.4nm,0.9s,baz=358,slow=8.3,SNR=2.5						
	0.4nm,0.9s						
BVAR	Borovoye Array	49.75	319	P	P	09 41 20.4	-0.6
	0.5nm,0.4s,baz=84,slow=6.1,SNR=3.9						
	0.5nm,0.4s						
ARCES	ARCESS Array B	70.11	338	LR	LR	10 18 38.4	
	comp=Z,39nm,18.4s,baz=238,slow=39						
FINES	FINESS Array B	72.71	330	P	P	09 43 56.7	+0.6
	8.4nm,1.1s,baz=63,slow=5.3,SNR=10						
	8.4nm,1.1s						
HFS	Hagfors	78.72	332	P	P	09 44 30.2	-0.3
	3.6nm,1.0s,baz=82,slow=10,SNR=2.2						
	3.6nm,1.0s						
NOA	NORSAR Array B	79.26	333	P	P	09 44 33.1	-0.4
	0.6nm,0.6s,baz=55,slow=7.8,SNR=1.7						
	0.6nm,0.6s						
YKA	Yellowknife Ar	79.90	24	P	P	09 44 36.2	-0.7
	0.3nm,0.6s,baz=301,slow=5.6,SNR=5.3						
	0.3nm,0.6s						

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*NOU **06** 09:37:33.7, 42°.40S×173°.87E, h15km, MLv3.9/8, South Island, New Zealand*

*WEL **06** 09:37:34.6±0.4, 42°S±3°×17°4E±°, h13km±4km, M3.2/13, ML3.4/16, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0, confirmed*

ISC 06 09:37:34.2±1.1**, 42°.31S**±0°.03×**173°.81E**±0°.04**, h22**km±3km**, n61, σ1^{s}19**/68**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.23**	**243**	P	**Pb**	**09 37 40.2**	**+0.2**
KHZ	**Kahutara**	**0.23**	**243**	P	**Pb**	**09 37 40.3**	**+0.3**
KHZ				S	**Sb**	**09 37 44.0**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.60**	**4**	P	**Pb**	**09 37 45.9**	**-0.1**
CMWZ	**Cape Campbell**	**0.64**	**28**	P	**Pn**	**09 37 48.7**	**+0.8**
GVZ	**Greta Valley S**	**0.87**	**221**	P	**Pn**	**09 37 52.2**	**+1.1**
GVZ				S	**Sn**	**09 38 05.4**	**+2.3**
THZ	**Tophouse**	**0.87**	**309**	P	**Pb**	**09 37 49.6**	**-1.1**
THZ				S	**Sb**	**09 37 59.8**	**-2.1**
TUWZ	**Tuamarina**	**0.89**	**6**	P	**Pb**	**09 37 51.1**	**+0.2**
TUWZ				S	**Sn**	**09 38 03.7**	**+0.2**
NNZ	**Nelson**	**1.14**	**343**	P	**Pn**	**09 37 54.7**	**-0.2**
TCW	**Tory Channel**	**1.16**	**18**	P	**Pn**	**09 37 55.6**	**+0.6**
TCW				S	**Sn**	**09 38 11.0**	**+0.9**
SNZO	**South Karori**	**1.20**	**34**	P	**Pb**	**09 37 56.7**	**+0.4**
MRNZ	**Matariki Terra**	**1.21**	**319**	P	**Pn**	**09 37 55.9**	**+0.1**
MRNZ				S	**Sn**	**09 38 12.9**	**+1.5**
AMCZ	**Amberley**	**1.22**	**224**	P	**Pb**	**09 37 56.6**	**+0.1**
LTZ	**Lake Taylor**	**1.23**	**247**	P	**Pn**	**09 37 56.6**	**+0.5**
WEL	**Wellington**	**1.25**	**35**	P	**Pb**	**09 37 57.4**	**+0.3**
PLWZ	**Palliser**	**1.31**	**56**	P	**Pn**	**09 37 57.9**	**+0.8**
TKNZ	**Takaka Hill**	**1.43**	**333**	P	**Pn**	**09 37 59.7**	**+0.9**
DUWZ	**D'Urville Isla**	**1.51**	**3**	P	**Pn**	**09 38 01.0**	**+1.1**
DUWZ				S	**Sb**	**09 38 20.4**	**+0.1**
PAWZ	**Paruwai Farm**	**1.52**	**53**	P	**Pn**	**09 38 00.7**	**+0.6**
CAW	**Cannon Point**	**1.53**	**38**	P	**Pn**	**09 38 00.9**	**+0.8**
DSZ	**Denniston Nort**	**1.60**	**290**	P	**Pn**	**09 38 01.9**	**+0.7**
MQZ	**McQueen's Vall**	**1.63**	**211**	P	**Pn**	**09 38 01.5**	**-0.1**
OXZ	**Oxford**	**1.65**	**232**	P	**Pn**	**09 38 01.7**	**-0.1**
KIW	**Kapiti Island**	**1.67**	**30**	P	**Pn**	**09 38 03.2**	**+1.2**
AKCZ	**Akaroa Harbour**	**1.69**	**203**	P	**Pn**	**09 38 03.2**	**+0.7**
MTW	**Mount Morrison**	**1.71**	**48**	P	**Pn**	**09 38 03.0**	**+0.4**
QRZ	**Quartz Range**	**1.77**	**327**	P	**Pn**	**09 38 04.7**	**+1.2**
QRZ	**Quartz Range**	**1.77**	**327**	P	**Pn**	**09 38 04.8**	**+1.4**
INZ	**Inchbonnie**	**1.80**	**256**	P	**Pn**	**09 38 04.3**	**+0.5**
OGWZ	**Otaki Gorge**	**1.81**	**35**	P	**Pn**	**09 38 04.8**	**+0.8**
RACZ	**Rakaia**	**1.87**	**220**	P	**Pn**	**09 38 04.8**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.91**	**43**	P	**Pn**	**09 38 05.8**	**+0.4**
TMWZ	**Te Maipa**	**1.97**	**53**	P	**Pn**	**09 38 06.4**	**+0.2**
MRZ	**Mangatainoka R**	**2.12**	**39**	P	**Pn**	**09 38 08.6**	**+0.3**
WACZ	**Wakanui South**	**2.18**	**221**	P	**Pn**	**09 38 09.0**	**-0.1**
WVZ	**Waitaha Valley**	**2.39**	**250**	P	**Pn**	**09 38 12.6**	**+0.6**
BFZ	**Birch Farm**	**2.45**	**49**	P	**Pn**	**09 38 12.5**	**-0.3**
BFZ	**Birch Farm**	**2.45**	**49**	P	**Pn**	**09 38 12.6**	**-0.2**
RPZ	**Rata Peaks**	**2.46**	**234**	P	**Pn**	**09 38 12.6**	**-0.4**
RPZ	**Rata Peaks**	**2.46**	**234**	P	**Pn**	**09 38 12.7**	**-0.3**
ARCZ	**Arundel**	**2.53**	**229**	P	**Pn**	**09 38 13.8**	**-0.1**
WAZ	**Wanganui**	**2.71**	**20**	P	**Pn**	**09 38 19.2**	**+2.9**
GCSZ	**Gaunt Creek Bo**	**2.75**	**247**	P	**Pn**	**09 38 18.0**	**+1.0**
TSZ	**Takapari Road**	**2.77**	**36**	P	**Pn**	**09 38 17.5**	**+0.2**
TMZ	**Timaru**	**2.91**	**224**	P	**Pn**	**09 38 19.2**	**0.0**
KHEZ	**Kahui Hut**	**3.02**	**3**	P	**Pb**	**09 38 28.1**	**+0.8**
PKE	**Pukeiti**	**3.12**	**2**	P	**Pb**	**09 38 26.7**	**-2.3**
FOZ	**Fox Glacier**	**3.18**	**246**	P	**Pn**	**09 38 23.9**	**+1.1**
VRZ	**Vera Road**	**3.27**	**13**	P	**Pn**	**09 38 26.4**	**+2.3**
WNVZ	**Wahianoa**	**3.28**	**25**	P	**Pn**	**09 38 26.6**	**+2.3**
LBZ	**Lake Benmore**	**3.36**	**231**	P	**Pn**	**09 38 25.6**	**+0.2**
SNVZ	**South Ngauruho**	**3.42**	**25**	P	**Pb**	**09 38 31.0**	**-3.2**
OTVZ	**Oturere**	**3.45**	**25**	P	**Pn**	**09 38 28.2**	**+1.5**
ODZ	**Otahua Downs**	**3.57**	**219**	P	**Pn**	**09 38 27.7**	**-0.5**
ODZ	**Otahua Downs**	**3.57**	**219**	P	**Pn**	**09 38 27.9**	**-0.3**
HIZ	**Hauiti**	**3.88**	**12**	P	**Pn**	**09 38 34.7**	**+2.2**
HIZ	**Hauiti**	**3.88**	**12**	P	**Pb**	**09 38 37.9**	**-3.9**
EAZ	**Earnscleugh**	**4.38**	**227**	P	**Pn**	**09 38 38.9**	**-0.4**
TUZ	**Tuapeka**	**4.72**	**218**	P	**Pn**	**09 38 44.2**	**+0.2**
MLZ	**Mavora Lakes**	**5.13**	**232**	P	**Pn**	**09 38 48.9**	**-0.7**
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**09 38 53.8**	**+0.7**
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**09 38 53.8**	**+0.7**

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*AFAD **06** 10:04:04.8±0.0, 41°.23N×28°.55E, h0km±3km, ML1.3*

ISK 06 10:04:03.1, 41°.29N×28°.72E, h0km**, ML1.6**/9**, Suspected Mining explosion., Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGKT	**Bogazkoy**	**0.12**	**158**	Pg	Pg	10 04 06.3	+1.0
BGKT				Sg	Sg	10 04 08.1	+1.3
CTKS	**Kestanelik-??a**	**0.17**	**252**	Pg	Pg	10 04 07.2	+0.9
CTKS				Sg	Sg	10 04 09.9	+1.5
KLYT	**Kilyos**	**0.25**	**98**	Pg	Pg	10 04 09.1	+1.2
KLYT				Sg	Sg	10 04 12.8	+1.7
ISK	**Istanbul-Kandi**	**0.34**	**130**	Pg	Pb	10 04 11.2	-0.9
KAVV	**Kandilli-Istan**	**0.34**	**131**	Pg	Pb	10 04 11.1	-1.0
SLVT	**Silivri**	**0.39**	**261**	Pg	Pb	10 04 12.1	-0.7
SILT	**Sile**	**0.71**	**101**	Pg	Pb	10 04 18.1	-0.3
VIZE	**Kirklareli, Vi**	**0.72**	**294**	P	Pg	10 04 17.6	+0.7
VIZE				S	Sg	10 04 27.5	+1.3
ARMT	**Armutlu**	**0.73**	**171**	Pg	Pb	10 04 18.0	-0.7
HRT	**Hereke**	**0.86**	**123**	Pg	Pb	10 04 20.5	-0.4
ARMN	**Kirklareli, Me**	**1.12**	**301**	P	Pg	10 04 24.7	0.0
ARMN				S	Sn	10 04 41.9	-0.3
ARMN				*i* AML	AML	10 04 42.0	
	comp=E,8.2nm,0.8s						
KIRK	**Kırklareli**	**1.31**	**293**	P	Pg	10 04 27.9	-0.3
KIRK				S	Sn	10 04 47.1	+0.2

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*AFAD **06** 10:04:17.4±0.0, 41°.21N×28°.89E, h7km±4km, ML1.4*

ISK 06 10:04:22.2, 41°.15N×28°.73E, h0km**, ML1.3**/5**, Suspected Mining explosion., Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGKT	**Bogazkoy**	**0.05**	**49**	Pg	Pg	10 04 23.7	+0.6
CTKS	**Kestanelik-??a**	**0.19**	**297**	Pg	Pg	10 04 26.5	+0.7
KLYT	**Kilyos**	**0.26**	**67**	Pg	Pg	10 04 27.9	+0.7
KLYT				Sg	Sg	10 04 32.2	+1.7
ISK	**Istanbul-Kandi**	**0.27**	**109**	Pg	Pg	10 04 28.0	+0.7
ISK				Sg	Sg	10 04 32.3	+1.6
KAVV	**Kandilli-Istan**	**0.27**	**109**	Pg	Pg	10 04 28.2	+0.9
KAVV				Sg	Sg	10 04 32.3	+1.5
VIZE	**Kirklareli, Vi**	**0.79**	**303**	P	Pg	10 04 34.6	-2.8
VIZE				S	Sg	10 04 45.5	-2.2
VIZE				*i* AML	AML	10 04 53.0	
	comp=N,16nm,0.4s						
BAND	**Balkesir-Ban**	**0.93**	**211**	P	Pg	10 04 37.1	-2.9
BAND				S	Sn	10 04 55.9	-0.5
BAND				*i* AML	AML	10 04 59.0	
	comp=E,12nm,0.3s						
BAND				*i* AML	AML	10 05 01.0	
	comp=N,9.6nm,0.4s						
BAND	**Balkesir-Ban**	**0.93**	**211**	P	Pg	10 04 37.5	-2.4
BAND				S	Sn	10 04 56.4	-0.1
BAND				*i* AML	AML	10 05 00.0	
	comp=E,10nm,0.3s						
BAND				*i* AML	AML	10 05 01.0	
	comp=N,9.6nm,0.4s						
ARMN	**Kirklareli, Me**	**1.21**	**307**	P	Pg	10 04 42.2	-3.2
ARMN				S	Sg	10 04 59.2	-1.8
ARMN				*i* AML	AML	10 05 03.0	
	comp=N,12nm,0.9s						
SART	**Tekirdag**	**1.26**	**249**	P	Pg	10 04 40.7	-5.6
SART				S	Sb	10 05 04.2	+0.6
KIRK	**Kırklareli**	**1.38**	**298**	P	Pg	10 04 44.6	-4.0
KIRK				S	Sb	10 05 06.8	-0.2
KIRK				*i* AML	AML	10 05 09.0	
	comp=E,5.9nm,0.7s						
KIRK				*i* AML	AML	10 05 09.0	
	comp=N,6.1nm,0.2s						

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*TAP **06** 10:19:12.8, 24°.95N×122°.90E, h47km±1km, ML3.2, D*
*JMA **06** 10:19:14.2±0.1, 25°N±1°×122°.9E±0°.5, h34km±2km, MV2.3/14, NW OFF ISHIGAKIJIMA IS*

ISC 06 10:19:12.4±1.4**, 24°.97N**±0°.05×**122°.88E**±0°.03**, h13**km±10km**, n68, σ0^{s}99**/76**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.52**	**174**	P	**Pb**	**10 19 23.4**	**+0.1**
JYNG				*e*S	**Sg**	**10 19 29.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.52**	**167**	P	**Pb**	**10 19 23.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.52**	**167**	P	**Pb**	**10 19 23.5**	**+0.2**
YOJ				*e*S	**Sb**	**10 19 30.0**	**-0.7**
EOS2	**EOS2**	**0.81**	**227**	P	**Pg**	**10 19 28.4**	**+0.4**
	baz=233						
EOS2				*e*S	**Sn**	**10 19 41.7**	**+0.7**
	baz=233						
TWB1	**Santiao Chiao**	**0.81**	**273**	*e*P	**Pg**	**10 19 28.4**	**+0.4**
	baz=274						
EOS3	**EOS3**	**0.85**	**217**	*i* P	**Pg**	**10 19 29.1**	**+0.2**
	baz=218						
EOS3				*e*S	**Sb**	**10 19 40.9**	**+0.8**
	baz=218						
SXI1	**Grass Mountain**	**0.92**	**278**	P	**Pg**	**10 19 30.6**	**+0.4**
	baz=274						
TIPB	**Shuangxi**	**0.96**	**270**	*e*P	**Pg**	**10 19 30.9**	**+0.1**
	baz=266						
EOS4	**EOS4**	**0.99**	**211**	*e*P	**Pg**	**10 19 31.2**	**-0.2**
	baz=213						
EOS4				*e*S	**Sg**	**10 19 43.2**	**-1.0**
	baz=213						
IRIF	**Iriomote-Funau**	**1.00**	**129**	*e*P	**Pb**	**10 19 31.7**	**+0.2**
TWC	**Suao**	**1.00**	**249**	*e*P	**Pg**	**10 19 30.7**	**-1.0**
	baz=251						
TWC				*e*S	**Sg**	**10 19 45.4**	**+0.5**
	baz=251						
ESAO	**Su ao**	**1.02**	**248**	*e*P	**Pg**	**10 19 30.7**	**-1.4**
	baz=254						
NDS	**Dongshan**	**1.11**	**253**	*e*P	**Pb**	**10 19 32.8**	**-0.6**
	baz=254						
TWE	**Neicheng**	**1.13**	**258**	*e*P	**Pb**	**10 19 33.3**	**-0.5**
	baz=259						
EWUT	**Wuta**	**1.13**	**243**	*e*P	**Pb**	**10 19 31.4**	**-2.3**
	baz=244						
ENA	**Nanau**	**1.17**	**243**	*e*P	**Pb**	**10 19 34.9**	**+0.5**
	baz=244						
FUSB	**Fushanzhiwuyua**	**1.19**	**260**	P	**Pb**	**10 19 34.1**	**-0.7**
	baz=261						
FUSB				*e*S	**Sb**	**10 19 50.8**	**+0.6**
	baz=261						
YM01	**YM01**	**1.20**	**279**	*e*P	**Pn**	**10 19 34.6**	**-0.3**
	baz=289						
EAHA	**Aohua**	**1.22**	**239**	*e*P	**Pn**	**10 19 35.7**	**+0.6**
	baz=240						
ENTT	**Nioudou**	**1.24**	**255**	*e*P	**Pn**	**10 19 35.3**	**-0.1**
	baz=256						
HATJ	**Hateruma jima**	**1.24**	**137**	*e*P	**Pn**	**10 19 34.5**	**-0.9**
JKRS	**Kuro-shima**	**1.26**	**125**	*e*P	**Pn**	**10 19 35.2**	**-0.4**
NWLT	**Wulai**	**1.27**	**262**	*e*P	**Pn**	**10 19 35.8**	**0.0**
	baz=263						
NDT	**Datong Townshi**	**1.30**	**254**	*e*P	**Pn**	**10 19 35.9**	**-0.3**
	baz=255						
LATG	**Datong**	**1.30**	**251**	P	**Pn**	**10 19 36.0**	**-0.4**
	baz=252						
JISG	**Ishigakijimahi**	**1.35**	**106**	*e*P	**Pn**	**10 19 37.2**	**+0.3**
YHNB	**Yeheng**	**1.40**	**258**	P	**Pn**	**10 19 37.9**	**+0.3**
YHNB	**Yeheng**	**1.40**	**258**	*e*P	**Pn**	**10 19 37.6**	**0.0**
	baz=259						
NACB	**Ninganchiao**	**1.41**	**236**	P	**Pn**	**10 19 38.5**	**+0.8**
NACB	**Ninganchiao**	**1.41**	**236**	*e*P	**Pn**	**10 19 38.0**	**+0.2**
	baz=237						
NSK	**Sanguang**	**1.41**	**258**	*e*P	**Pn**	**10 19 38.1**	**+0.3**
	baz=252						
NSK				*e*S	**Sn**	**10 19 54.3**	**-2.0**
	baz=252						
NNSB	**Datong**	**1.47**	**249**	*e*P	**Pn**	**10 19 38.4**	**-0.2**
	baz=243						
NNS	**Nan Shan**	**1.47**	**249**	*e*P	**Pn**	**10 19 38.5**	**-0.1**
	baz=243						
ETLH	**Xiulin Townshi**	**1.48**	**239**	*e*P	**Pn**	**10 19 38.6**	**-0.2**
	baz=228						
ETM	**Tongmen**	**1.61**	**232**	*e*P	**Pn**	**10 19 40.4**	**-0.1**
	baz=233						
LXIB	**Xiulin Townshi**	**1.64**	**235**	*e*P	**Pn**	**10 19 41.2**	**+0.2**
	baz=236						
NFF	**Wufeng Townshi**	**1.64**	**258**	*e*P	**Pn**	**10 19 41.3**	**+0.4**
	baz=271						
WHF	**Hehuan Shan**	**1.69**	**241**	*e*P	**Pn**	**10 19 42.7**	**+0.8**
	baz=230						
JTJ	**Tarama**	**1.69**	**101**	P	**Pn**	**10 19 42.1**	**+0.6**
LIOB	**Emei**	**1.73**	**260**	*e*P	**Pn**	**10 19 43.1**	**+1.1**
	baz=261						
NSTT	**Nanjuang**	**1.74**	**259**	*e*P	**Pb**	**10 19 44.4**	**+0.3**
	baz=260						
CHGB	**Renai**	**1.80**	**240**	*e*P	**Pn**	**10 19 44.2**	**+0.9**
	baz=230						
WARBT	**Fenglin Townsh**	**1.85**	**228**	*e*P	**Pn**	**10 19 42.9**	**-0.9**
	baz=228						
WUSB	**Renai**	**1.88**	**239**	*e*P	**Pn**	**10 19 45.6**	**+1.4**
	baz=229						
WHP	**Taichung City**	**1.89**	**249**	*e*P	**Pn**	**10 19 46.3**	**+1.9**
	baz=240						
HGSD	**Ruisui**	**1.98**	**222**	*e*P	**Pn**	**10 19 44.5**	**-1.1**
	baz=214						
VWDT	**VWDT**	**2.00**	**233**	*e*P	**Pn**	**10 19 46.1**	**+0.3**
	baz=234						
WCS	**Beigang Elemen**	**2.01**	**244**	*e*P	**Pn**	**10 19 46.9**	**+1.0**
	baz=235						
EHY	**Hungye**	**2.04**	**225**	*e*P	**Pn**	**10 19 45.6**	**-0.7**
	baz=236						
SMLT	**Sun Moon Lake**	**2.10**	**239**	*e*P	**Pn**	**10 19 48.4**	**+1.0**
	baz=231						
SSLB	**Suanglung**	**2.12**	**237**	P	**Pn**	**10 19 48.6**	**+1.2**
SSLB	**Suanglung**	**2.12**	**237**	*e*P	**Pn**	**10 19 47.7**	**+0.2**
	baz=227						
YULB	**Yu-li**	**2.13**	**223**	P	**Pn**	**10 19 47.5**	**-0.2**
YULB	**Yu-li**	**2.13**	**223**	*e*P	**Pn**	**10 19 46.9**	**-0.8**
	baz=234						
EYUL	**Yuli**	**2.15**	**222**	*e*P	**Pn**	**10 19 48.3**	**+0.4**
	baz=234						
TWF1	**Yuli**	**2.17**	**222**	*e*P	**Pn**	**10 19 48.0**	**-0.1**
	baz=234						
ALS	**Alishan**	**2.39**	**233**	*e*P	**Pn**	**10 19 52.1**	**+0.7**
	baz=233						
CHN5	**Tsauling**	**2.43**	**236**	*e*P	**Pn**	**10 19 53.8**	**+2.0**
	baz=225						
WCKO	**Fanlu**	**2.58**	**234**	*e*P	**Pn**	**10 19 56.0**	**+2.2**
	baz=234						
STYH	**Taoyuan**	**2.63**	**227**	*e*P	**Pn**	**10 19 55.7**	**+1.2**
	baz=228						
CHN4	**Tsaushan**	**2.64**	**233**	*e*P	**Pn**	**10 19 56.7**	**+2.1**
	baz=233						
TPUB	**Ta-pu**	**2.64**	**232**	P	**Pn**	**10 19 56.7**	**+2.0**
TPUB	**Ta-pu**	**2.64**	**232**	*e*P	**Pn**	**10 19 56.3**	**+1.6**
	baz=222						
WTP	**Ta-pu**	**2.69**	**231**	*e*P	**Pn**	**10 19 56.9**	**+1.5**
	baz=222						
TWGBT	**Beinan**	**2.70**	**218**	P	**Pn**	**10 19 57.7**	**+2.2**
TWK	**Hsinying**	**2.77**	**233**	*e*P	**Pn**	**10 19 57.7**	**+1.3**
	baz=232						
SGST	**Jiashian**	**2.82**	**229**	*e*P	**Pn**	**10 19 57.7**	**+0.6**
	baz=229						
SLGT	**Liugui**	**2.84**	**227**	*e*P	**Pn**	**10 19 59.4**	**+2.0**
	baz=226						

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*BJI **06** 10:26:36.0±0.0, 0°.06N×98°.69E, h60km, mb5.1/69, mB5.1/33, Ms4.5/29, Ms7 4.3/30*
*IDC **06** 10:26:38.1±2.2, 0°.36N×98°.70E, h43km±18km, mb4.5/32, mbtmp4.7/34, ML4.1/2, MS3.6/18, Error ellipse: s-maj=16.4km s-min=10.9km az=43.0*
*DJA **06** 10:26:39.0±0.2, 0°N±2°×9°9E±°, h55km±3km, M5.0/32, mB5.4/11, mb5.0/32, MLv5.3/15, Mw(mB)4.8/11, MwMwp5.2/1, Mwp5.5/1*
*NEIC **06** 10:26:39.2±1.4, 0°.37N±0°.07×98°.62E±0°.07, h51km±7km, mb4.9/90, Error ellipse: s-maj=12.1km s-min=7.6km az=219.0*

ISC 06 10:26:38.0±0.4**, 0°.31N**±0°.04×**98°.61E**±0°.04**, h44**km±3km**, h44**km**:pP-P, n310, σ1^{s}14**/312**, mb4.9**/100**, MS3.8**/29**, 31C-6D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.49**	**222**	P	**Pn**	**10 26 50.7**	**+1.8**
SBSI	**Sibolga**	**1.26**	**13**	P	**Pn**	**10 27 00.8**	**+1.5**
GSI	**Gunungsitoli**	**1.43**	**314**	Pn	**Pn**	**10 27 02.8**	**+1.3**
GSI	**Gunungsitoli**	**1.43**	**314**	P	**Pn**	**10 27 03.2**	**+1.7**
GSI	**Gunungsitoli**	**1.43**	**314**	P	**Pn**	**10 27 02.9**	**+1.3**
TRSI	**Tarutung**	**1.74**	**12**	P	**Pn**	**10 27 06.6**	**+0.7**
PDSI	**Padang**	**2.22**	**123**	P	**Pn**	**10 27 14.0**	**+1.6**
RPSI	**Rantau Prapat**	**2.39**	**8**	Pn	**Pn**	**10 27 15.5**	**+0.8**
BKNI	**Bangkinang**	**2.43**	**90**	Pn	**Pn**	**10 27 16.4**	**+1.2**
BKNI	**Bangkinang**	**2.43**	**90**	P	**Pn**	**10 27 17.0**	**+1.7**
BKNI	**Bangkinang**	**2.43**	**90**	P	**Pn**	**10 27 16.5**	**+1.2**
PSI	**Prapat**	**2.49**	**7**	P	**Pn**	**10 27 15.5**	**-0.8**
SNSI	**Sinabang, Aceh**	**3.09**	**312**	P	**Pn**	**10 27 25.3**	**+1.0**
KCSI	**Kotacane, Aceh**	**3.30**	**345**	P	**Pn**	**10 27 27.5**	**+0.3**
PPSI	**Pulau Pagai**	**3.36**	**155**	P	**Pn**	**10 27 29.4**	**+1.3**
KRJI	**Kerinci**	**3.72**	**130**	P	**Pn**	**10 27 36.7**	**+3.6**
MLSI	**Meulaboh, Aceh**	**4.50**	**331**	P	**Pn**	**10 27 45.2**	**+1.4**
LHMI	**Lhok Sumawe**	**5.16**	**341**		**Pn**	**10 27 53.2**	**+0.4**
LHMI	**Lhok Sumawe**	**5.16**	**341**	P	**Pn**	**10 27 55.7**	**+2.9**
LHMI	**Lhok Sumawe**	**5.16**	**341**	P	**Pn**	**10 27 53.6**	**+0.8**
	361nm,0.5s,7µm1.9nm						
UBSI	**University, Be**	**5.46**	**138**	P	**Pn**	**10 27 59.8**	**+2.9**
	389nm,0.8s,2.5nm						
DSRI	**Dabo**	**6.02**	**97**	P	**Pn**	**10 28 05.6**	**+1.0**
	88nm,0.7s,2µm0.6nm						
EGSI	**Enggano, Bengk**	**6.71**	**147**	P	**Pn**	**10 28 14.8**	**+0.7**
	169nm,0.7s,5µm0.9nm						
PMBI	**Palembang**	**6.95**	**118**	Pn	**Pn**	**10 28 17.1**	**-0.3**
PMBI	**Palembang**	**6.95**	**118**	P	**Pn**	**10 28 17.3**	**-0.1**
SKLT	**Songkhla**	**7.10**	**16**	P	**Pn**	**10 28 21.3**	**+1.8**
SKLT	**Songkhla**	**7.10**	**16**	P	**Pn**	**10 28 20.8**	**+1.3**
	608nm,0.9s,7µm2.7nm						
KASI	**Kota Agung**	**8.26**	**135**	P	**Pn**	**10 28 37.9**	**+2.6**
SRIT	**Nakonsritamara**	**8.29**	**7**	Pn	**Pn**	**10 28 33.9**	**-1.8**
CNJI	**Cibinong**	**11.38**	**132**	P	**Pn**	**10 29 19.2**	**+1.1**
	24nm,1.0s						
LEM	**Lembang**	**11.45**	**128**	LR	LR	10 34 12.6	
	comp=Z,127nm,18.4s,baz=254,slow=40						
BBJI	**Bungbulang**	**11.87**	**131**	P	**Pn**	**10 29 23.7**	**-1.2**
BBJI	**Bungbulang**	**11.87**	**131**	P	**Pn**	**10 29 23.3**	**-1.6**
	56nm,0.9s						
CMJI	**Cimerak**	**12.69**	**130**	P	**Pn**	**10 29 34.5**	**-1.4**
	75nm,1.8s						
KPJI	**Karang Pucung**	**12.79**	**127**	P	**Pn**	**10 29 38.6**	**+1.2**
	39nm,0.6s						
XMI	**Christmas Isla**	**12.80**	**147**	P	**Pn**	**10 29 35.7**	**-1.9**
STKI	**Sintang**	**12.87**	**91**	P	**P**	**10 29 51.0**	**+2.7**
SRDT	**SRDT**	**13.96**	**2**	P	**Pn**	**10 29 55.1**	**+1.8**
	61nm,0.8s						
UGM	**Wanagama**	**14.42**	**125**	Pn	**Pn**	**10 29 59.2**	**-0.3**
UGM	**Wanagama**	**14.42**	**125**	P	**Pn**	**10 29 59.6**	**+0.1**
UBPT	**Khong Chiam**	**16.34**	**24**		**Pn**	**10 30 24.9**	**+0.3**
KMMI	**Kalianget**	**16.98**	**116**	P	**P**	**10 30 33.2**	**-0.7**
	45nm,0.8s						
CM31	**Chiang Mai Arr**	**18.04**	**1**	P	**P**	**10 30 42.0**	**-3.6**
CM31				IAmb	IAmb	10 30 49.0	
	comp=Z,43nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.04**	**1**	P	**P**	**10 30 45.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**18.04**	**1**	P	**P**	**10 30 45.0**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=190,slow=12,SNR=24						
CMAR				PcP	**PcP**	**10 35 18.4**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=206,slow=2.8,SNR=5.8						
CMAR				LR	LR	10 38 04.2	
	comp=Z,307nm,19.6s,baz=185,slow=38						
CMAR				ScP	**ScP**	**10 38 50.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=244,slow=2.1,SNR=4.6						
	comp=Z,24nm,0.7s						
CMMT	**Chiang Mai**	**18.39**	**1**	P	**P**	**10 30 48.6**	**-0.9**
	comp=Z,46nm,1.0s,comp=Z,911nm						
CHTO	**Chiang Mai**	**18.39**	**1**	P	**P**	**10 30 48.9**	**-0.6**
CHTO	**Chiang Mai**	**18.39**	**1**	P	**P**	**10 30 49.7**	**+0.2**
CHTO	**Chiang Mai**	**18.39**	**1**	P	**P**	**10 30 48.8**	**-0.7**
	comp=Z,16nm,1.0s						
PALK	**Pallekele**	**19.15**	**292**	P	**P**	**10 30 58.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=283,slow=13,SNR=2.2						
PALK				LR	LR	10 38 35.5	
	comp=Z,110nm,18.8s,baz=211,slow=37						
	comp=Z,6.6nm,0.9s						
PALK	**Pallekele**	**19.15**	**292**	P	**P**	**10 30 57.4**	**-0.5**
	comp=Z,15nm,1.1s						
CRAI	**Chiangrai**	**19.87**	**5**	P	**P**	**10 31 05.6**	**-0.1**
CRAI				IAmb	IAmb	10 31 09.6	
	comp=Z,43nm,0.9s						
TWSI	**Taliwang, Sumb**	**20.30**	**117**	P	**P**	**10 31 10.5**	**+0.1**
	comp=Z,22nm,0.8s,comp=Z,469nm						
PMSI	**Majene**	**20.64**	**101**	P	Pn	10 31 16.1	-0.7
	comp=Z,103nm,0.9s,comp=Z,1µm						
PLAI	**Plampang**	**21.14**	**116**	P	**P**	**10 31 16.6**	**-2.9**
PLAI	**Plampang**	**21.14**	**116**	P	**P**	**10 31 13.8**	**-5.7**
	comp=Z,21nm,0.7s						
MPSI	**Mapaga**	**21.29**	**90**	P	**P**	**10 31 21.4**	**+0.3**
	comp=Z,31nm,1.0s						
SLVN	**Son La**	**21.52**	**14**	P	**P**	**10 31 22.8**	**-0.8**
SLVN				IAmb	IAmb	10 31 29.3	
	comp=Z,30nm,0.9s						
QIZ	**Qiongzhong**	**21.62**	**30**	P	**P**	**10 31 25.2**	**+0.6**
QIZ				S	**S**	**10 35 24.5**	**+2.6**
QIZ				LR	LR		
	comp=Z,220nm,4.0s						
QIZ				LR	LR		
	comp=Z,270nm,3.6s						
QIZ				LR	LR		
	comp=Z,270nm,15.1s						
KAPI	**Kappang**	**21.77**	**104**	P	**P**	**10 31 24.8**	**-1.5**
KAPI	**Kappang**	**21.77**	**104**	P	**P**	**10 31 25.3**	**-0.9**
	comp=Z,3.5nm,0.4s,baz=135,slow=10.0,SNR=1.6						
KAPI				LR	LR	10 39 42.9	
	comp=Z,99nm,19.7s,baz=288,slow=36						
	comp=Z,3.5nm,0.4s						
TOLI2	**Tolitoli**	**22.18**	**88**	P	**P**	**10 31 30.6**	**-0.1**
TOLI2				IAmb	IAmb	10 31 32.1	
	comp=Z,33nm,0.6s						
TOLI2	**Tolitoli**	**22.18**	**88**	P	**P**	**10 31 31.0**	**+0.3**
BKSI	**Bulukumba**	**22.20**	**105**	P	**P**	**10 31 31.1**	**+0.2**
	comp=Z,31nm,0.8s,comp=Z,338nm						
MRSI	**Marisa**	**23.33**	**90**	P	**P**	**10 31 42.5**	**-0.1**
	comp=Z,67nm,0.7s,comp=Z,1µm						
LUWI	**Luwuk**	**24.20**	**93**	P	**P**	**10 31 51.8**	**+1.1**
LUWI	**Luwuk**	**24.20**	**93**	P	**P**	**10 31 51.7**	**+1.0**
	comp=Z,149nm,1.0s						
GTOI	**Gorontalo**	**24.40**	**89**	P	**P**	**10 31 51.8**	**-0.8**
	comp=Z,17nm,0.7s,comp=Z,256nm						
BBSI	**Bau Bau**	**24.61**	**104**	P	**P**	**10 31 55.1**	**+0.6**
	comp=Z,29nm,0.8s						
EDFI	**Ende, Flores**	**24.69**	**112**	P	**P**	**10 31 55.5**	**+0.1**
	comp=Z,10nm,0.7s						
KMI	**Kunming**	**24.99**	**9**	⇓P	**P**	**10 31 59.5**	**+1.5**
KMI				pmax	pmax		
	comp=Z,27nm,0.9s						
KMI				LR	LR		
	comp=Z,230nm,9.9s						
KMI				LR	LR		
	comp=Z,160nm,13.7s						
KMI				LR	LR		
	comp=Z,230nm,15.5s						
MMRI	**Maumere**	**25.16**	**111**	P	**P**	**10 32 01.4**	**+1.8**
MMRI				IAmb	IAmb	10 32 21.1	
	comp=Z,35nm,1.1s						
PZH	**PanZhiHua**	**26.21**	**6**	P	**P**	**10 32 10.9**	**+1.9**
PZH				S	**S**	**10 36 39.2**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
PZH				LR	LR		
	comp=Z,220nm,16.6s						
PZH				LR	LR		
	comp=Z,130nm,15.5s						
PZH				LR	LR		
	comp=Z,210nm,19.1s						
GYA	**Guiyang**	**27.13**	**16**	⇓*i*P	**P**	**10 32 17.6**	**+0.3**
GYA				pP	sP	10 32 35.1	+0.8
GYA				pmax	pmax		
	comp=Z,42nm,0.8s						
GYA				LR	LR		
	comp=Z,290nm,20.6s						
H08S2	**Diego Garcia H**	**27.21**	**253**	T	T	10 59 49.8	
	baz=74,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**27.22**	**253**	T	T	10 59 50.1	
	baz=74,slow=75,SNR=1224						
H08S1	**Diego Carcia H**	**27.23**	**253**	T	T	10 59 51.2	
	baz=74,slow=75,SNR=17						
PSA00	**Pilbara Seismi**	**30.05**	**138**	P	**P**	**10 32 44.7**	**+1.5**
TPUB	**Ta-pu**	**31.30**	**42**	P	**P**	**10 32 54.2**	**-0.1**
TPUB				IAmb	IAmb	10 33 15.0	
	comp=Z,29nm,1.1s						
ENH	**Enshi**	**31.54**	**18**	P	**P**	**10 32 55.4**	**-0.8**
ENH	**Enshi**	**31.54**	**18**	P	**P**	**10 32 55.6**	**-0.7**
ENH	**Enshi**	**31.54**	**18**	P	**P**	**10 32 55.5**	**-0.8**
YULB	**Yu-li**	**31.81**	**42**	P	**P**	**10 32 58.7**	**0.0**
YULB				IAmb	IAmb	10 33 02.0	
	comp=Z,24nm,1.1s						
FITZ	**Fitzroy Crossi**	**32.27**	**126**	P	**P**	**10 33 01.2**	**-1.5**
WHN	**Wuhan**	**33.58**	**25**	⇓*i*P	**P**	**10 33 14.7**	**+0.6**
WHN				pmax	pmax		
	comp=Z,76nm,0.7s						
MORW	**Morawa**	**33.63**	**152**	P	**P**	**10 33 14.5**	**-0.1**
MORW				IAmb	IAmb	10 33 38.7	
	comp=Z,14nm,1.0s						
MTN	**Manton Dam**	**34.80**	**113**	P	**P**	**10 33 24.9**	**0.0**
MTN				IAmb	IAmb	10 33 29.9	
	comp=Z,12nm,0.9s						
XAN	**Xi'an**	**34.92**	**15**	P	**P**	**10 33 23.7**	**-2.0**

XAN S **S** **10 38 53.0 -1.2**
XAN pmax pmax
comp=Z,230nm,0.8s
XAN LR LR
comp=Z,250nm,15.6s
XAN LR LR
comp=Z,570nm,15.6s
XAN LR LR
comp=Z,830nm,17.8s
XAN Xi'an 34.92 15 P **P** **10 33 24.7 -1.0**
LZH Lanzhou 35.93 7 *e*P **P** **10 33 34.8 +0.3**
LZH pP pP 10 33 49.3 +2.9
LZH PcP **PcP** **10 36 02.2 +1.4**
LZH pmax pmax
comp=Z,34nm,1.0s
LZH LR LR
comp=Z,290nm,15.1s
LZH LR LR
comp=Z,340nm,14.9s
LZH LR LR
comp=Z,430nm,15.1s
LYN LuoYang 36.45 19 ⇑P **P** **10 33 39.4 +0.7**
LYN PP **PP** **10 35 06.0 +3.6**
LYN S S 10 39 06.1 -11
LYN pmax pmax
comp=Z,140nm,0.6s
NJ2 Nanjing 36.91 29 *e*P **P** **10 33 43.7 +1.0**
NJ2 pP **pP** **10 33 54.6 -0.1**
NJ2 sP **sP** **10 34 00.0 0.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,160nm,3.8s
NJ2 LR LR
comp=Z,190nm,16.1s
NJ2 LR LR
comp=Z,550nm,18.0s
NJ2 LR LR
comp=Z,1μm,20.5s
NWAO Narrogin (SRO) 37.44 154 P **P** **10 33 46.2 -1.0**
NWAO IAmb IAmb 10 34 07.1
comp=Z,12nm,0.8s
NWAO Narrogin (SRO) 37.44 154 LR LR 10 47 00.6
comp=Z,103nm,20.9s,baz=256,slow=33
JOW Kunigami 38.84 45 P **P** **10 33 58.0 -1.2**
JOW IAmb IAmb 10 34 12.6
comp=Z,29nm,1.0s
JOW Kunigami 38.84 45 P **P** **10 33 59.3 +0.1**
JOW Kunigami 38.84 45 P **P** **10 33 58.3 -0.9**
comp=Z,9.5nm,0.4s,baz=58,slow=10.0,SNR=2.0
comp=Z,9.5nm,0.4s
GTA Gaotai 38.93 1 P **P** **10 34 00.0 +0.2**
GTA pP pP 10 34 12.6 +0.7
GTA sP sP 10 34 20.0 +2.9
GTA PcP **PcP** **10 36 10.7 +0.8**
GTA pmax pmax
comp=Z,15nm,0.9s
GTA LR LR
comp=Z,120nm,15.9s
GTA LR LR
comp=Z,170nm,13.1s
GTA LR LR
comp=Z,210nm,18.7s
TIA Tai'an 39.64 24 P **P** **10 34 05.0 -0.7**
TIA pmax pmax
comp=Z,14nm,0.6s
TIA pmax pmax
comp=Z,57nm,3.0s
TIA LR LR
comp=Z,110nm,12.9s
TIA LR LR
comp=Z,170nm,14.4s
TIA LR LR
comp=Z,160nm,17.3s
HNS HongShan 39.79 20 ⇑P **P** **10 34 07.6 +0.8**
HNS *e*S **S** **10 40 09.7 +1.7**
HNS pmax pmax
comp=Z,170nm,0.7s
HNS LR LR
comp=Z,240nm,17.5s
HNS LR LR
comp=Z,460nm,18.3s
HNS LR LR
comp=Z,400nm,17.6s
WB0 Warramunga Arr 40.34 122 P **P** **10 34 10.5 -1.2**
WRA Warramunga Arr 40.37 122 P **P** **10 34 10.5 -1.5**
WRA Warramunga Arr 40.37 122 P **P** **10 34 10.2 -1.8**
comp=Z,2.8nm,0.5s,baz=302,slow=9.1,SNR=38
WRA PcP **PcP** **10 36 15.4 +0.7**
comp=Z,2.8nm,0.6s,baz=313,slow=2.6,SNR=8.6
WRA ScP **ScP** **10 39 58.8 -1.9**
comp=Z,0.1nm,0.3s,baz=318,slow=3.3,SNR=4.6
comp=Z,2.8nm,0.5s
WRAB Tennant Creek 40.38 122 P **P** **10 34 11.0 -1.0**
WB2 Warramunga Arr 40.38 122 P **P** **10 34 10.6 -1.5**
WB2 IAmb IAmb 10 34 23.2
comp=Z,8.4nm,0.6s
WR0 Warramunga Arr 40.55 122 P **P** **10 34 12.1 -1.4**
WR0 IAmb IAmb 10 34 24.6
comp=Z,12nm,0.7s
NIL Nilore 40.82 327 P **P** **10 34 15.5 0.0**
NIL Nilore 40.82 327 P **P** **10 34 15.7 +0.1**
BTO Baotou 41.43 13 *e*P **P** **10 34 21.9 +1.4**
BTO pP **sP** **10 34 36.9 -0.9**
BTO sP pP 10 34 44.8 +12
BTO PP **PnPn** **10 36 04.8 +3.1**
BTO S **S** **10 40 34.7 +2.1**
BTO SS **SS** **10 43 35.4 -2.7**
BTO pmax pmax
comp=Z,74nm,0.8s
BTO pmax pmax
comp=Z,240nm,3.8s
BTO LR LR
comp=Z,250nm,6.1s
BTO LR LR
comp=Z,410nm,5.1s
BTO LR LR
comp=Z,2μm,14.2s
FORT Forrest 41.70 140 P **P** **10 34 22.3 -0.4**
ASAR Alice Springs 41.74 127 P **P** **10 34 22.4 -0.8**
ASAR Alice Springs 41.74 127 P **P** **10 34 22.2 -1.0**
comp=Z,3.2nm,0.5s,baz=299,slow=7.6,SNR=76
ASAR PcP **PcP** **10 36 20.2 +1.0**
comp=Z,3.5nm,0.7s,baz=304,slow=3.0,SNR=12
ASAR ScP **ScP** **10 40 04.9 -1.2**
comp=Z,0.7nm,0.9s,baz=278,slow=2.7,SNR=3.6
comp=Z,3.2nm,0.5s
AS31 Alice Springs 41.74 127 P **P** **10 34 22.2 -1.1**
HHC Hu-ho-hao-te 42.03 15 *e*P **P** **10 34 26.8 +1.4**
HHC PP **PP** **10 36 06.8 +3.4**
HHC pmax pmax
comp=Z,90nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.0s
HHC LR LR
comp=Z,860nm,15.3s
HHC LR LR
comp=Z,780nm,16.8s
HHC LR LR
comp=Z,2μm,16.0s
BJT Baijiatuan 42.64 20 P **P** **10 34 29.9 -0.3**
BJT Baijiatuan 42.64 20 P **P** **10 34 31.4 +1.2**
BJT Baijiatuan 42.64 20 ⇑P **P** **10 34 31.4 +1.2**
BJT pP **pP** **10 34 43.1 +0.7**
BJT sP **sP** **10 34 47.6 0.0**
BJI Beijing 42.66 20 P **P** **10 34 31.4 +1.0**
BJI pmax pmax
comp=Z,43nm,0.7s
BJI LR LR
comp=Z,140nm,15.9s
BJI LR LR
comp=Z,220nm,17.2s
BJI LR LR
comp=Z,330nm,16.0s
KBL Kabul 43.86 324 P **P** **10 34 37.8 -2.6**
KSH Kashi 44.16 335 P **P** **10 34 42.0 -0.7**
KSH pP pP 10 34 55.4 +0.5
KSH pmax pmax
comp=Z,8.0nm,0.6s
WUS Wushi 44.33 339 P **P** **10 34 44.7 +0.7**
WMQ Urumqi 44.40 349 *e*P **P** **10 34 46.0 +1.5**
WMQ pP pP 10 34 59.3 +2.6
WMQ pmax pmax
comp=Z,24nm,1.1s
JNU Nakatsue 44.56 40 P **P** **10 34 44.3 -1.6**
JNU IAmb IAmb 10 34 46.6
comp=Z,24nm,1.0s
JNU Nakatsue 44.56 40 P **P** **10 34 45.4 -0.5**
JNU Nakatsue 44.56 40 P **P** **10 34 45.4 -0.5**
comp=Z,6.2nm,0.4s,baz=251,slow=4.1,SNR=19
comp=Z,6.2nm,0.4s
TJN Taejon 44.71 33 P **P** **10 34 46.1 -0.8**
TJN Taejon 44.71 33 P **P** **10 34 47.1 +0.2**
TARG Taragay, Kyrgy 45.31 338 IAmb IAmb 10 34 54.4
comp=Z,15nm,0.7s
KSAR Wonju Array Be 45.77 33 P **P** **10 34 54.8 -0.5**
KSRS Korea Array 45.80 33 P **P** **10 34 54.6 -1.0**
comp=Z,16nm,0.6s,baz=221,slow=8.4,SNR=95
comp=Z,16nm,0.6s
KS19 Wonju Array Si 45.80 33 P **P** **10 34 55.0 -0.7**
SHLS Shalkode 45.98 341 *e*P **P** **10 34 56.6 -0.4**
comp=Z,8.7nm,0.6s,baz=341
XLT XiLinHaoTe 46.11 18 ⇓*i*P **P** **10 34 59.0 +1.0**
XLT pP sP 10 35 14.2 -1.3
XLT pmax pmax
comp=Z,27nm,0.6s
XLT pmax pmax
comp=Z,120nm,4.7s
XLT LR LR
comp=Z,19nm,17.0s
XLT LR LR
comp=Z,180nm,16.2s
XLT LR LR
comp=Z,230nm,15.8s
UZB Uzynbulak 46.12 340 *e*P **P** **10 34 58.6 +0.5**
comp=Z,8.2nm,0.5s,baz=340
SATY Saty 46.25 339 *e*P **P** **10 34 59.6 +0.4**
comp=Z,11nm,0.8s,baz=340
ZHN Zhinishke 46.34 340 *e*P **P** **10 35 00.3 +0.4**
baz=340
ULHL Ulahol 46.35 337 P **P** **10 35 00.9 +0.8**
SNR=5.7
BOOM Boomskoye usch 46.67 337 P **P** **10 35 02.4 -0.2**
BOOM IAmb IAmb 10 35 04.0
comp=Z,8.4nm,0.7s
TNSS Tian-Shan 46.76 338 *e*P **P** **10 35 03.6 +0.1**
baz=338
MDOK Medeo 46.83 338 *e*P **P** **10 35 04.6 +0.8**
baz=338
SIMJ Simiganj 46.84 328 P **P** **10 35 03.2 -0.7**
SIMJ Simiganj 46.84 328 P **P** **10 35 04.0 +0.1**
SIMJ sP **sP** **10 35 20.5 -0.8**
JMN Monobe 46.89 41 P **P** **10 35 04.1 -0.2**
AAA Alma-Ata 46.92 338 *e*P **P** **10 35 05.5 +1.1**
baz=338
BTK Batken 46.97 331 IAmb IAmb 10 35 12.0
comp=Z,9.1nm,0.7s
UCH Uchtor 47.03 336 P **P** **10 35 06.9 +1.2**
SNR=9.2
TKM2 Tokmak 2 47.17 337 P **P** **10 35 07.7 +1.1**
SNR=16
KBK Karagaybulak 47.21 336 P **P** **10 35 08.2 +1.5**
SNR=6.4
AML Almayashu 47.30 335 P **P** **10 35 08.9 +1.2**
SNR=11
AAK Ala-Archa 47.38 336 LR LR 10 57 53.0
comp=Z,69nm,18.2s,baz=106,slow=40
CHKK Chushkaly 47.45 339 *e*P **P** **10 35 08.1 -0.3**
baz=339
EKS2 Erkin-Say 47.70 335 P **P** **10 35 12.0 +1.5**
SNR=7.6
KUU Kurty 47.72 338 *e*P **P** **10 35 10.2 -0.3**
comp=Z,11nm,0.7s,baz=338
SONM Songino Array 47.82 7 P **P** **10 35 12.3 +0.9**
SONM Songino Array 47.82 7 P **P** **10 35 12.2 +0.9**
comp=Z,18nm,0.5s,baz=190,slow=9.6,SNR=100
SONM PcP **PcP** **10 36 40.3 +0.6**
comp=Z,12nm,0.7s,baz=186,slow=3.9,SNR=10.0
comp=Z,18nm,0.5s
USP Ospenovka 47.90 336 P **P** **10 35 13.0 +1.0**
SNR=16
ULN Ulaanbaatar 47.93 8 P **P** **10 35 12.9 +0.7**
ULN IAmb IAmb 10 35 31.1
comp=Z,21nm,0.8s
ULN PcP **PcP** **10 36 40.8 +0.7**
ULN Ulaanbaatar 47.93 8 P **P** **10 35 13.0 +0.7**
ULN pP **pP** **10 35 25.2 +0.7**
ULN sP **sP** **10 35 30.2 +0.4**
ULN PcP **PcP** **10 36 40.4 +0.3**
ULN Ulaanbaatar 47.93 8 P **P** **10 35 11.8 -0.5**
comp=Z,125nm,0.9s
TDK Taldyqorghan 47.96 341 *e*P **P** **10 35 12.2 -0.2**
comp=Z,7.5nm,0.6s,baz=341
SGDS Sogindy 48.00 337 *e*P **P** **10 35 12.8 0.0**
baz=337
BBOO Buckleboo 48.27 137 P **P** **10 35 14.7 -0.3**
BBOO IAmb IAmb 10 35 18.4
comp=Z,20nm,1.1s
MK31 Makanchi Array 48.45 345 P **P** **10 35 16.5 +0.4**
MK31 IAmb IAmb 10 35 17.4
comp=Z,17nm,0.7s
MKAR Makanchi Array 48.45 345 P **P** **10 35 16.6 +0.5**
comp=Z,25nm,0.7s,baz=154,slow=7.7,SNR=266
MKAR PcP **PcP** **10 36 42.2 +0.4**
comp=Z,3.1nm,0.7s,baz=160,slow=5.9,SNR=1.9
comp=Z,25nm,0.7s
ZSN Zaisan 48.45 348 *e*P **P** **10 35 16.6 +0.5**
comp=Z,8.7nm,0.9s,baz=348
MAKZ Makanchi 48.54 345 P **P** **10 35 17.3 +0.4**
MAKZ Makanchi 48.54 345 P **P** **10 35 17.0 +0.2**
DZA Taraz 48.94 333 *e*P **P** **10 35 19.8 -0.2**
comp=Z,5.7nm,0.6s,baz=334
CN2 Changchun 49.48 25 P **P** **10 35 23.2 -0.8**
CN2 pmax pmax
comp=Z,40nm,0.5s
KK31 Karatay Array 49.48 333 P **P** **10 35 23.9 -0.1**
KKAR Karatay Array 49.48 333 P **P** **10 35 24.0 -0.1**
BTLS Baital 49.56 337 *e*P **P** **10 35 24.2 -0.4**
baz=337
QLP Quilpie 51.40 125 P **P** **10 35 38.8 -0.1**
MAJO Matsushiro 51.41 41 P **P** **10 35 37.8 -1.0**
MJAR Matsushiro Arr 51.41 41 P **P** **10 35 37.5 -1.3**
comp=Z,4.6nm,0.5s,baz=221,slow=7.3,SNR=19
MJAR LR LR 10 58 02.2
comp=Z,46nm,19.0s,baz=222,slow=37
comp=Z,4.6nm,0.5s
STKA Stephens Creek 51.72 132 P **P** **10 35 41.7 +0.5**
STKA Stephens Creek 51.72 132 P **P** **10 35 41.1 -0.1**
comp=Z,4.0nm,0.6s,baz=310,slow=8.3,SNR=14
STKA LR LR 10 57 55.6
comp=Z,44nm,21.7s,baz=351,slow=36
comp=Z,4.0nm,0.6s
BNX BinXian 51.86 25 ⇑P **P** **10 35 41.4 -0.5**
BNX pmax pmax
comp=Z,40nm,0.6s
BNX pmax pmax
comp=Z,150nm,4.1s
HIA Hailar 52.04 17 P **P** **10 35 43.5 +0.2**
HIA IAmb IAmb 10 36 00.5
comp=Z,17nm,1.0s
HIA Hailar 52.04 17 P **P** **10 35 43.9 +0.7**
SEM Semipalatinsk 52.31 345 *e*P **P** **10 35 44.7 -0.8**
baz=345
GEYT Alibeck 52.80 320 P **P** **10 35 48.5 -0.6**
GEYT Alibeck 52.80 320 P **P** **10 35 49.1 0.0**
comp=Z,3.6nm,0.5s,baz=122,slow=11,SNR=7.5
comp=Z,3.6nm,0.5s
USA0B Ussuriysk Arra 52.82 30 P **P** **10 35 47.7 -1.4**
USRK Ussuriysk Ar. 52.82 30 P **P** **10 35 47.9 -1.1**
USRK Ussuriysk Ar. 52.82 30 P **P** **10 35 49.0 -0.1**
comp=Z,20nm,0.7s,baz=252,slow=3.1,SNR=73
comp=Z,20nm,0.7s
KURBB Kurchatov Arra 52.96 344 P **P** **10 35 50.2 +0.3**
comp=Z,6.2nm,0.6s,baz=163,slow=7.1,SNR=62
KURBB PcP **PcP** **10 36 59.2 +0.9**
comp=Z,2.9nm,0.6s,baz=151,slow=3.4,SNR=7.4
comp=Z,6.2nm,0.6s
KURK Kurchatov 53.02 344 P **P** **10 35 50.0 -0.4**
KURK IAmb IAmb 10 35 51.8
comp=Z,12nm,0.8s
KURK Kurchatov 53.02 344 P **P** **10 35 50.8 +0.4**
KURK PcP **PcP** **10 36 59.2 +0.6**
JMM Marumori 53.86 41 P **P** **10 35 55.6 -1.2**
BRZS Berezniki 54.22 340 *e*P **P** **10 35 58.8 -0.5**
baz=340
CMSA Cobar Meteorol 54.65 130 P **P** **10 36 03.3 +0.6**
ZAA0 Zalesovo Array 54.66 350 P **P** **10 36 02.5 +0.1**
ZALV Zalesovo Beam 54.66 350 P **P** **10 36 02.1 -0.3**
ZALV Zalesovo Beam 54.66 350 P **P** **10 36 02.5 +0.1**
comp=Z,30nm,0.4s,baz=171,slow=7.0,SNR=108
comp=Z,30nm,0.4s
HEH HeiHe 55.48 22 *e*P **P** **10 36 08.2 -0.2**
HEH pmax pmax
comp=Z,14nm,0.9s
HEH pmax pmax
comp=Z,210nm,5.1s
JTM Tenmabayashi 55.69 38 P **P** **10 36 09.7 -0.3**
KLR Kul'dur 56.43 25 LR LR 11 02 40.1
comp=Z,75nm,18.2s,baz=160,slow=38
BVAR Borovoye Array 57.55 340 P **P** **10 36 22.6 -0.5**
comp=Z,20nm,0.5s,baz=143,slow=9.0,SNR=144
comp=Z,20nm,0.5s
BRVK Borovoye 57.62 340 P **P** **10 36 22.6 -0.9**
BRVK Borovoye 57.62 340 ⇑P **P** **10 36 23.0 -0.5**
ASAJ Asahikawa 58.54 36 P **P** **10 36 29.8 -0.3**
comp=Z,9.3nm,0.6s,baz=265,slow=11,SNR=14
comp=Z,9.3nm,0.6s
ABKAR Akbulak array 58.96 331 P **P** **10 36 32.6 -0.4**
YSS Yuzh-Sakhalins 60.30 33 P **P** **10 36 41.7 -0.5**
YSS Yuzh-Sakhalins 60.30 33 P **P** **10 36 42.0 -0.2**
KMBO Kilima Mbogo 61.37 269 P **P** **10 36 49.4 -1.1**
H04N2 CROZET ISLANDS 61.85 215 T T 11 43 21.9
baz=56,slow=75,SNR=274
H04N1 CROZET ISLANDS 61.86 215 T T 11 43 22.4
baz=56,slow=75,SNR=236
H04N3 CROZET ISLANDS 61.87 215 T T 11 43 20.9
baz=56,slow=75,SNR=262
H04S1 CROZET ISLANDS 62.17 214 T T 11 43 44.7
baz=55,slow=75,SNR=10.0
H04S3 CROZET ISLANDS 62.18 214 T T 11 43 46.7
baz=55,slow=75,SNR=9.3
H04S2 CROZET ISLANDS 62.19 214 T T 11 43 47.0
baz=55,slow=75,SNR=7.5
GURO Guroymak-BITLI 64.20 313 P **P** **10 37 08.1 -0.6**
ARU Arti 64.55 337 P **P** **10 37 09.3 -1.1**
ARU IAmb IAmb 10 37 10.2
comp=Z,7.4nm,0.6s
MARD Mardin 64.67 312 P **P** **10 37 11.4 -0.5**
KBZ Khabaz 65.66 319 P **P** **10 37 17.9 0.0**
comp=Z,7.7nm,0.7s,baz=121,slow=7.4,SNR=21
comp=Z,7.7nm,0.7s
YAK Yakutsk 65.89 15 P **P** **10 37 18.2 -0.7**
YAK Yakutsk 65.89 15 P **P** **10 37 18.1 -0.8**
YAK pP **pP** **10 37 30.7 -1.0**
YAK sP **sP** **10 37 35.6 -1.2**
GAZ Gaziantep 67.32 311 IAmb IAmb 10 37 30.6
comp=Z,15nm,0.7s
MMAI Mount Meron Ar 67.56 306 P **P** **10 37 31.7 +1.3**
comp=Z,2.6nm,0.6s,baz=65,slow=5.9,SNR=4.2
comp=Z,2.6nm,0.6s
BNN Bunyan 68.86 312 IAmb IAmb 10 37 39.5
comp=Z,21nm,0.7s
NRIK Noril'sk 69.31 356 P **P** **10 37 40.1 -0.4**
NRIK IAmb IAmb 10 37 40.9
comp=Z,18nm,1.1s
NRIK Noril'sk 69.31 356 P **P** **10 37 40.0 -0.5**
comp=Z,5.1nm,0.4s,baz=152,slow=5.7,SNR=17
comp=Z,5.1nm,0.4s
BRTR Keskin Array B 70.75 312 P **P** **10 37 49.5 -0.6**
comp=Z,4.6nm,0.6s,baz=132,slow=7.4,SNR=26
comp=Z,4.6nm,0.6s
BR131 Keskin Array S 70.75 312 P **P** **10 37 49.6 -0.5**
BR131 IAmb IAmb 10 37 50.3
comp=Z,6.7nm,0.6s
LSZ Lusaka 71.22 254 LR LR 11 05 45.0
comp=Z,38nm,18.1s,baz=30,slow=33
MA2 Magadan 71.53 25 P **P** **10 37 54.5 +0.3**
MA2 IAmb IAmb 10 37 55.5
comp=Z,7.1nm,0.7s
MA2 Magadan 71.53 25 P **P** **10 37 54.3 +0.1**
comp=Z,6.2nm,0.5s,baz=234,slow=4.8,SNR=8.5
comp=Z,6.2nm,0.5s
MA2 Magadan 71.53 25 P **P** **10 37 54.3 +0.1**
PEA0B Petropavlovsk- 71.70 33 P **P** **10 37 54.8 -0.6**
PEA0B IAmb IAmb 10 38 20.7
comp=Z,24nm,1.1s
PETK Petropavlovsk- 71.70 33 P **P** **10 37 54.8 -0.6**
PETK Petropavlovsk- 71.70 33 P **P** **10 37 54.5 -0.9**
comp=Z,3.2nm,0.6s,baz=357,slow=1.2,SNR=17
comp=Z,3.2nm,0.6s
MAW Mawson 72.18 194 P **P** **10 37 57.1 -0.8**
MAW Mawson 72.18 194 LR LR 11 02 43.0
comp=Z,86nm,20.6s,baz=40,slow=30
PET Petropavlovsk 72.19 33 P **P** **10 37 57.9 -0.3**
MDUB Mudurnu 72.75 312 P **P** **10 38 01.4 -0.6**
TIXI Tiksi 73.82 10 P **P** **10 38 06.8 -0.7**
TIXI IAmb IAmb 10 38 07.7
comp=Z,11nm,0.8s
SEY Seymchan 74.03 23 P **P** **10 38 08.5 -0.4**
comp=Z,5.8nm,0.6s,baz=241,slow=6.2,SNR=32
comp=Z,5.8nm,0.6s
LBTB Lobatse 74.76 244 LR LR 11 07 18.8
comp=Z,39nm,18.1s,baz=54,slow=33
BOSA Boshof 75.56 240 LR LR 11 04 39.8
comp=Z,44nm,21.7s,baz=32,slow=30
TIRR Tirgusor 75.74 316 ⇑P **P** **10 38 19.3 +0.1**
TPGR Topolog 75.83 316 ⇑P **P** **10 38 17.7 -2.1**
MILM Milestii Mici 76.07 318 ⇑P **P** **10 38 21.3 +0.2**
CFR Carcaliu 76.10 317 ⇑P **P** **10 38 20.9 -0.3**
HARR Harsova 76.13 316 ⇑P **P** **10 38 22.1 +0.7**
SORM Soroca 76.69 320 ⇑P **P** **10 38 24.4 -0.1**
AKASG Malin Array Be 76.82 322 P **P** **10 38 24.5 -0.7**
comp=Z,1.6nm,0.5s,baz=87,slow=5.1,SNR=25
comp=Z,1.6nm,0.5s
AKBB Malin Array Si 76.82 322 IAmb IAmb 10 38 24.9
comp=Z,6.1nm,0.7s
KIEV Kiev 76.83 322 ⇑P **P** **10 38 22.4 -2.8**
KIEV Kiev 76.83 322 P **P** **10 38 24.7 -0.5**
KIEV IAmb IAmb 10 38 25.0
comp=Z,5.5nm,0.7s
VRI Vrincioaia 77.22 317 ⇑P **P** **10 38 28.6 +1.0**
PLOR Plostina 77.27 317 ⇑P **P** **10 38 29.5 +1.5**
TESR Tescani 77.42 318 ⇑P **P** **10 38 29.2 +0.5**
RPZ Rata Peaks 77.58 135 LR LR 11 11 22.1
comp=Z,42nm,20.2s,baz=281,slow=35
MLR Muntele Rosu 77.68 317 ⇓P **P** **10 38 30.8 +0.5**
MLR Muntele Rosu 77.68 317 P **P** **10 38 30.8 +0.5**
MLR IAmb IAmb 10 38 31.8
comp=Z,9.5nm,0.9s
DOPR Dopca 78.16 317 ⇑P **P** **10 38 32.1 -0.8**
PLVB Pleven 78.18 314 ⇑P **P** **10 38 34.1 +1.1**
VOIR 78.28 316 ⇑P **P** **10 38 32.6 -1.1**
ARR Arges 78.56 316 ⇑P **P** **10 38 34.2 -0.9**
BURAR Bucovina Array 78.62 319 ⇑P **P** **10 38 35.9 +0.5**
BURAR Bucovina Array 78.62 319 P **P** **10 38 36.5 +1.0**
BURAR IAmb IAmb 10 38 37.3
comp=Z,8.7nm,0.7s
BUR08 Bucovina Ar. S 78.64 319 IAmb IAmb 10 38 37.5
comp=Z,7.3nm,0.8s
AGG Agios Georgios 79.16 310 P **P** **10 38 37.1 -1.4**
BLKB Belogradchik 79.62 314 ⇑P **P** **10 38 40.9 -0.1**
MARR Marisel-Cluj 79.84 317 ⇓P **P** **10 38 43.0 +0.8**
DEV Deva 79.84 317 ⇑P **P** **10 38 43.0 +0.9**
GZR Gura Zlata 79.85 316 ⇑P **P** **10 38 43.4 +1.2**
SUR Sutherland 79.86 237 LR LR 11 10 16.3
comp=Z,39nm,18.4s,baz=138,slow=33
HERR Herculane 80.01 315 ⇑P **P** **10 38 43.8 +0.8**
BOVS Bovan 80.31 314 ⇑P **P** **10 38 44.6 -0.1**
SURR Surduc 80.36 316 ⇑P **P** **10 38 45.5 +0.6**
MDVR Moldovita 80.49 315 ⇑P **P** **10 38 46.4 +0.8**
BZS Buzias 80.69 316 ⇑P **P** **10 38 47.0 +0.4**
BKZ Black Stump Fm 80.81 130 P **P** **10 38 47.7 +0.2**
BKZ IAmb IAmb 10 38 48.6
comp=Z,16nm,0.9s
RTZ Ruatahuna 81.11 129 P **P** **10 38 49.1 0.0**
KEK Kerkira 81.19 310 P **P** **10 38 48.1 -1.3**
KEK IAmb IAmb 10 39 14.4
comp=Z,30nm,1.0s
FIA1 FINESS Array S 81.43 332 P **P** **10 38 50.2 0.0**
FIA1 IAmb IAmb 10 39 03.4
comp=Z,25nm,1.1s
FINES FINESS Array B 81.43 332 P **P** **10 38 50.2 0.0**
comp=Z,6.0nm,0.8s,baz=106,slow=5.2,SNR=32
comp=Z,6.0nm,0.8s
BILL Bilibino 81.49 21 P **P** **10 38 51.3 +0.9**
TSUM Tsumeb 81.62 251 LR LR 11 12 58.0
comp=Z,44nm,18.7s,baz=322,slow=34
PSZ Piszkesteto 82.20 318 ⇑P **P** **10 38 52.8 -1.9**
MORH Mrgy, Hungar 82.83 316 ⇑P **P** **10 38 58.1 +0.2**
ARCES ARCESS Array B 83.84 340 P **P** **10 39 02.5 -0.1**
comp=Z,1.7nm,0.4s,baz=99,slow=4.0,SNR=30
comp=Z,1.7nm,0.4s
MORC Moravsky Berou 83.98 320 ⇑P **P** **10 39 05.0 +1.2**
RAO Raoul Island 84.45 119 LR LR 11 18 50.0
comp=Z,35nm,18.7s,baz=300,slow=37
KRLC Kraliky 84.51 320 *e*P **P** **10 39 07.2 +0.7**
VNDA Vanda 84.68 169 LR LR 11 10 40.1
comp=Z,36nm,19.9s,baz=298,slow=31
DPC Dobruska-Polom 84.83 320 *e*P **P** **10 39 09.1 +1.0**

CKRC	Cesky Krumlov	86.00	319	eP	P	10 39 14.4	+0.5
ZVC	Zvikov	86.12	319	eP	P	10 39 15.0	+0.5
PRED	Cave del Predi	86.35	316	IAmb	IAmb	10 39 37.6	
	comp=Z,5.7nm,1.0s						
GERES	GERESS Array B	86.41	319	P	P	10 39 16.2	+0.2
	comp=Z,0.6nm,0.6s,baz=98,slow=9.6,SNR=5.9						
	comp=Z,0.6nm,0.6s						
KHC	Kasperske Hory	86.50	319	eP	P	10 39 16.5	+0.1
HFS	Hagfors	87.19	330	P	P	10 39 19.7	+0.2
	comp=Z,2.8nm,0.4s,baz=123,slow=5.5,SNR=29						
	comp=Z,2.8nm,0.4s						
SPB2	Spitsbergen Ar	88.10	348	P	P	10 39 23.4	0.0
SPITS	Spitsbergen Ar	88.10	348	P	P	10 39 23.1	-0.4
	comp=Z,3.4nm,0.5s,baz=108,slow=8.2,SNR=15						
	comp=Z,3.4nm,0.5s						
NOA	NORSAR Array B	88.46	331	P	P	10 39 25.9	+0.3
	comp=Z,1.4nm,1.0s,baz=91,slow=3.8,SNR=1.8						
	comp=Z,1.4nm,1.0s						
QSPA	South Pole Qui	90.26	180	P	P	10 39 34.9	+1.0
	comp=Z,0.5nm,0.6s,baz=216,slow=22,SNR=1.5						
	comp=Z,0.5nm,0.6s						
B21K	Ikpikpuk River	95.51	20	P	P	10 39 58.5	+0.5
B21K				IAmb	IAmb	10 39 58.8	
	comp=Z,3.7nm,0.7s						
F20K	Avaraart Lake	95.79	22	P	P	10 39 59.6	+0.3
F20K				IAmb	IAmb	10 40 00.2	
	comp=Z,4.8nm,0.8s						
ESDC	Sonseca Array	99.47	310	P	Pdif	10 40 17.3	+0.7
	comp=Z,0.4nm,0.8s,baz=90,slow=3.7,SNR=1.8						
	comp=Z,0.4nm,0.8s						
YKA	Yellowknife Ar	112.56	16	PP	PP	10 45 52.5	-3.2
	comp=Z,0.2nm,0.6s,baz=335,slow=7.9,SNR=4.1						
ULM	Lac du Bonnet	128.13	12	PKP	PKPdf	10 45 39.2	-0.3
	comp=Z,3.5nm,0.4s,baz=334,slow=1.1,SNR=13						
NVAR	Mina Array Bea	128.65	37	PKP	PKiKP	10 45 41.8	-0.1
	comp=Z,1.5nm,0.9s,baz=274,slow=2.4,SNR=7.5						
PDAR	Pinedale Array	130.21	27	PKP	PKPdf	10 45 44.1	0.0
	comp=Z,0.9nm,0.7s,baz=238,slow=1.0,SNR=8.5						
SADO	Sadowa	135.07	358	PKP	PKPdf	10 45 52.1	-0.7
	comp=Z,6.8nm,1.0s,baz=6.5,slow=2.6,SNR=1.5						
TXAR	Lajitas Array	143.65	34	PKP	PKPbc	10 46 06.7	+0.2
	comp=Z,1.2nm,0.5s,baz=311,slow=1.4,SNR=19						
BDFB	Brasilia	143.70	244	PKP	PKPdf	10 46 08.5	-1.0
	comp=Z,2.3nm,0.4s,baz=152,slow=4.5,SNR=4.5						
CPUP	Villa Florida	145.27	220	PKPbc	PKPdf	10 46 12.9	+1.2
	comp=Z,2.9nm,0.5s,baz=144,slow=1.8,SNR=7.5						

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*BJI **06** 10:35:59.5±0.0, 28°.92N×142°.20E, h8km, mb4.6/54, mB4.9/30, Ms4.3/25, Ms7 4.1/26*

*IDC **06** 10:36:00.6±0.5, 28°.94N×142°.24E, h0km, mb4.3/28, mbtmp4.3/31, ML3.5/3, MS3.9/37, Error ellipse: s-maj=17.5km s-min=12.4km az=81.0*

*NEIC **06** 10:36:01.8±1.0, 28°.95N±0°.03×142°.4E±0°.1, h10km±1km, mb4.7/69, Error ellipse: s-maj=16.9km s-min=4.3km az=82.0*

*JMA **06** 10:36:02.6±0.2, 29°.0N±0°.4×14°2E±°, h40km, MD4.6/36, MV4.6/36, NEAR TORISHIMA IS*

*NIED **06** 10:36:02.6, 29°.00N×142°.44E, h40km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.02; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-3.45; $M_{r\theta}$6.74; $M_{\theta\phi}$-1.14; $M_{\phi r}$3.34; Fault plane solution: $M_0$8.19000×10^{15} NP1:ϕ_s56.00000°, δ81.00000°, λ107.00000°. NP2:ϕ_s175.00000°, δ19.00000°, λ30.00000°.*

ISC 06 10:36:03.9±0.4**, 28°.93N**±0°.04×**142°.37E**±0°.06**, h27**km**, n177, σ1s82**/170**, mb4.6**/67**, MS4.0**/38**, 2C, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.83	185	eP	Pn	10 36 33.8	+0.1
CBIJ				S	Sn	10 36 56.7	+0.7
CBIJ	Chichi jima	1.83	185	A	A	10 36 33.8	
	comp=E,9.0nm,2.2s,comp=N,11nm,4.6s						
JCJ	Chichijima	1.83	185		Pn	10 36 32.9	-0.7
JCJ	Chichijima	1.83	185	Pn	Pn	10 36 30.2	-3.4
	comp=N,107nm,0.3s,baz=239,slow=1.9,SNR=15						
JCJ				Sn	Sn	10 36 52.0	-3.9
	comp=N,277nm,0.3s,baz=283,slow=21,SNR=7.2						
JHH2	Haha-jima-NKT2	2.29	184	eP	Pn	10 36 40.7	+0.7
JHH2				eS	Sn	10 37 08.2	+0.9
JHH2	Haha-jima-NKT2	2.29	184	A	A	10 36 40.7	
	comp=E,8.0nm,4.2s,comp=N,8.0nm,3.7s						
JHJ2	Mitsune	4.71	333	Pn	Pn	10 37 12.2	-0.9
JHJ	Hachijo jima 2	4.73	333	Sn	Sn	10 38 06.4	-1.0
	comp=N,35nm,0.3s,baz=96,slow=19,SNR=4.1						
JHJ				LR	LR	10 39 04.1	
	comp=N,1μm,19.8s,baz=150,slow=39						
BSO1	Boso 1	5.83	349	P	Pn	10 37 27.6	-0.4
BSO1				eS	Sn	10 38 31.5	-2.2
BSO3	Boso 3	6.06	345	P	Pn	10 37 31.6	0.0
BSO4	Boso 4	6.28	345	P	Pn	10 37 34.9	+0.2
JOD2	Odawara 2	6.90	337	eP	Pn	10 37 44.2	+0.8
JHU	Hanno	7.38	340	P	Pn	10 37 50.2	+0.3
JHU				eS	Sn	10 39 09.0	-3.7
JYT	Yasato	7.50	346	P	Pn	10 37 51.2	-0.4
JRY	Ryogami san	7.65	338	P	Pn	10 37 54.3	+0.7
JHO	Hitachi	7.81	349	P	Pn	10 37 54.4	-1.4
JAG	Ashikaga	7.87	343	eP	Pn	10 37 56.3	-0.3
JAG				eS	Sn	10 39 21.0	-3.7
MJAR	Matsushiro Arr	8.36	336	Pn	Pn	10 38 03.7	+0.4
	comp=N,0.8nm,0.3s,baz=152,slow=12,SNR=27						
MJAR				Sn	Sn	10 39 35.8	-1.0
	comp=N,0.1nm,0.3s,baz=86,slow=36,SNR=1.6						
MJAR				LR	LR	10 41 18.9	
	comp=N,542nm,19.3s,baz=154,slow=38						
	comp=N,14nm,0.6s						
MAJO	Matsushiro	8.36	336	Pn	Pn	10 38 03.8	+0.5
MJB9	Matsu-Tunnel	8.36	336		Pn	10 38 04.8	+1.4
JFK	Kawauchi	8.51	352	eS	Sn	10 39 31.7	-8.8
JWT	Wachi	8.66	319	Pn	Pn	10 38 07.8	+0.4
JMN	Monobe	8.69	306	Pn	Pn	10 38 07.0	-1.0
JMM	Marumori	9.01	352	Pn	Pn	10 38 11.1	-1.2
JMK	Ichinoseki	10.04	355	eP	Pn	10 38 25.6	-0.8
JMK				eS	Sn	10 40 10.1	-8.0
JNU	Nakatsue	10.70	296	Pn	Pn	10 38 35.1	-0.3
JNU	Nakatsue	10.70	296	LR	LR	10 42 33.8	
	comp=N,898nm,18.6s,baz=124,slow=37						
JAMN	Amaminishikomi	11.61	270	eP	Pn	10 38 52.6	+4.7
JTM	Tenmabayashi	11.88	355	Pn	Pn	10 38 50.7	-0.8
JOW	Kunigami	12.64	264	LR	LR	10 43 16.7	
	comp=N,760nm,21.5s,baz=128,slow=35						
ERM	Erimo	13.07	3	Pn	Pn	10 39 04.9	-2.9
KSRS	Korea Array	14.77	309	Pn	Pn	10 39 30.6	-0.4
	comp=N,0.1nm,0.3s,baz=114,slow=11,SNR=4.8						
KSRS				LR	LR	10 45 11.3	
	comp=N,446nm,18.2s,baz=120,slow=38						
	comp=N,1.5nm,0.7s						
KSAR	Wonju Array Be	14.79	309	Pn	Pn	10 39 30.4	-0.8
ASAJ	Asahikawa	15.16	1	Pn	Pn	10 39 33.2	-2.9
	comp=N,0.6nm,0.3s,baz=100,slow=34,SNR=1.7						
JKA	Kamikawa-asahi	15.16	1	Pn	Pn	10 39 33.0	-3.1
USA0B	Ussuriysk Arra	17.35	334	P	Pn	10 40 02.9	-1.2
USRK	Ussuriysk Ar.	17.35	334	P	Pn	10 40 02.9	-1.2
USRK	Ussuriysk Ar.	17.35	334	P	Pn	10 40 01.9	-2.1
	comp=N,0.3nm,0.3s,baz=140,slow=10,SNR=5.7						
USRK				LR	LR	10 46 21.3	
	comp=N,271nm,19.0s,baz=152,slow=36						
	comp=N,6.1nm,0.6s						
YSS	Yuzh-Sakhalins	18.00	1		Pn	10 40 10.3	-1.7
MDJ	Mudanjiang	18.67	330	P	P	10 40 15.1	-4.7
MDJ				S	S	10 43 48.9	-1.9
MDJ				sS	Sn	10 43 53.3	+5.1
MDJ				SS	SnSn	10 44 02.6	+0.4
MDJ				pmax	pmax		
	comp=N,4.0nm,0.9s						
MDJ				pmax	pmax		
	comp=N,45nm,4.7s						
MDJ				LR	LR		
	comp=N,340nm,17.7s						
MDJ				LR	LR		
	comp=N,470nm,15.7s						
MDJ				LR	LR		
	comp=N,570nm,17.4s						
MDJ	Mudanjiang	18.67	330	P	P	10 40 18.9	-0.9
NACB	Ninganchiao	19.17	261	P	P	10 40 24.9	-0.6
NACB				IAmb	IAmb	10 40 39.1	
	comp=Z,40nm,1.0s						
YHNB	Yeheng	19.21	262	P	P	10 40 25.0	-1.0
YHNB				IAmb	IAmb	10 40 37.1	
	comp=Z,31nm,0.8s						
YULB	Yu-li	19.69	259	P	P	10 40 30.5	-0.6
YULB				IAmb	IAmb	10 40 50.0	
	comp=Z,56nm,1.0s						
TPUB	Ta-pu	20.30	259	P	P	10 40 36.5	-1.3
TPUB				IAmb	IAmb	10 40 59.6	
	comp=Z,60nm,1.0s						
NJ2	Nanjing	20.49	285	eP	P	10 40 38.8	-1.0
NJ2				pP	Pn	10 40 40.2	-1.9
NJ2				sP	pP	10 40 42.4	-3.7
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,230nm,4.7s						
BNX	BinXian	20.51	329	⇑P	P	10 40 39.8	-0.1
BNX				pmax	pmax		
	comp=Z,29nm,0.8s						
BNX				pmax	pmax		
	comp=Z,140nm,4.9s						
KLR	Kul'dur	21.84	341	P	P	10 40 53.7	-0.5
	comp=Z,6.3nm,0.6s,baz=142,slow=12,SNR=20						
	comp=Z,6.3nm,0.6s						
HEH	HeiHe	24.13	336	eP	P	10 41 18.6	+1.2
HEH				pP	sP	10 41 24.8	-2.1
HEH				S	S	10 45 38.9	+5.4
HEH				pmax	pmax		
	comp=Z,12nm,1.2s						
HEH				pmax	pmax		
	comp=Z,230nm,5.4s						
HEH				LR	LR		
	comp=Z,270nm,16.6s						
HEH				LR	LR		
	comp=Z,360nm,15.2s						
HEH				LR	LR		
	comp=Z,380nm,18.2s						
HIA	Hailar	26.66	326	P	P	10 41 40.5	-0.1
HIA				IAmb	IAmb	10 41 43.6	
	comp=Z,33nm,1.3s						
PETK	Petropavlovsk-	26.67	21	LR	LR	10 54 33.7	
	comp=Z,52nm,18.9s,baz=190,slow=42						
DAV	Davao City (W)	26.90	219	LR	LR	10 51 35.3	
	comp=Z,81nm,20.7s,baz=357,slow=35						
HHC	Hu-ho-hao-te	27.78	304	eP	P	10 41 52.0	+1.3
HHC				S	S	10 46 39.1	+7.1
HHC				pmax	pmax		
	comp=Z,20nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=Z,890nm,16.8s						
HHC				LR	LR		
	comp=Z,780nm,17.6s						
HHC				LR	LR		
	comp=Z,2μm,16.0s						
ENH	Enshi	28.57	281	P	P	10 41 56.1	-1.6
ENH				IAmb	IAmb	10 42 04.2	
	comp=Z,20nm,1.4s						
BTO	Baotou	28.85	302	eP	P	10 42 02.9	+2.6
BTO				pP	pP	10 42 07.1	-0.1
BTO				sP	sP	10 42 09.7	-0.2
BTO				S	S	10 46 55.8	+7.0
BTO				pmax	pmax		
	comp=Z,14nm,1.1s						
BTO				pmax	pmax		
	comp=Z,450nm,5.1s						
BTO				LR	LR		
	comp=Z,760nm,15.8s						
BTO				LR	LR		
	comp=Z,1μm,16.4s						
BTO				LR	LR		
	comp=Z,2μm,16.4s						
XAN	Xi'an	28.89	289	⇑P	P	10 41 57.6	-3.0
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				LR	LR		
	comp=Z,260nm,15.5s						
XAN				LR	LR		
	comp=Z,570nm,15.2s						
XAN				LR	LR		
	comp=Z,690nm,17.5s						
MA2	Magadan	31.18	8	P	P	10 42 20.7	+0.3
	comp=Z,1.7nm,0.3s,baz=162,slow=20,SNR=1.9						
	comp=Z,1.7nm,0.3s						
QIZ	Qiongzhong	31.22	259	P	P	10 42 20.6	-0.7
QIZ				S	S	10 47 27.2	+1.1
QIZ				pmax	pmax		
	comp=Z,19nm,1.5s						
GYA	Guiyang	31.64	274	P	P	10 42 24.5	-0.5
GYA				pmax	pmax		
	comp=Z,18nm,1.1s						
GYA				LR	LR		
	comp=Z,400nm,25.2s						
ULN	Ulaanbaatar	33.13	315	P	P	10 42 37.4	-0.5
ULN				IAmb	IAmb	10 42 38.8	
	comp=Z,7.3nm,1.1s						
SONM	Songino Array	33.53	314	P	P	10 42 40.9	-0.5
SONM	Songino Array	33.53	314	P	P	10 42 41.1	-0.3
	comp=Z,1.5nm,0.5s,baz=117,slow=7.7,SNR=9.8						
	comp=Z,1.5nm,0.5s						
YAK	Yakutsk	34.15	349	P	P	10 42 46.2	-0.2
YAK				IAmb	IAmb	10 43 00.2	
	comp=Z,11nm,0.7s						
TOLI2	Tolitoli	34.49	221	P	P	10 42 49.7	-0.2
SEY	Seymchan	34.63	8	P	P	10 42 51.6	+1.1
	comp=Z,1.8nm,0.6s,baz=110,slow=7.4,SNR=6.8						
	comp=Z,1.8nm,0.6s						
SLVN	Son La	35.51	267	P	P	10 42 58.1	-0.7
SLVN				IAmb	IAmb	10 42 59.7	
	comp=Z,9.5nm,0.9s						
PZH	PanZhiHua	35.92	276	P	P	10 43 01.5	-0.8
PZH				S	S	10 48 39.6	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,5.1s						
PZH				LR	LR		
	comp=Z,190nm,18.8s						
PZH				LR	LR		
	comp=Z,160nm,17.0s						
PZH				LR	LR		
	comp=Z,170nm,17.1s						
GTA	Gaotai	36.43	298	eP	P	10 43 05.3	-1.2
GTA				pP	pP	10 43 10.3	-3.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CRAI	Chiangrai	38.99	267	P	P	10 43 28.3	+0.1
CRAI				IAmb	IAmb	10 43 29.3	
	comp=Z,15nm,0.9s						
TNCH	TengChong	39.10	275	eP	P	10 43 29.7	+0.4
TNCH				pP	pP	10 43 32.8	-3.5
TNCH				S	S	10 49 28.6	+1.0
TNCH				pmax	pmax		
	comp=Z,76nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,140nm,4.7s						
TNCH				LR	LR		
	comp=Z,370nm,9.1s						
TNCH				LR	LR		
	comp=Z,390nm,17.8s						
TNCH				LR	LR		
	comp=Z,360nm,20.2s						
KAPI	Kappang	40.15	216	P	P	10 43 37.1	-0.7
KAPI				IAmb	IAmb	10 43 40.1	
	comp=Z,16nm,1.2s						
KAPI	Kappang	40.15	216	LR	LR	11 01 36.6	
	comp=Z,31nm,19.7s,baz=45,slow=38						
CHTO	Chiang Mai	40.77	266	P	P	10 43 42.1	-0.9
CHTO				IAmb	IAmb	10 43 43.3	
	comp=Z,13nm,1.1s						
CM31	Chiang Mai Arr	40.91	265	P	P	10 43 43.7	-0.5
CMAR	Chiang Mai Arr	40.91	265	P	P	10 43 42.9	-1.3
CMAR	Chiang Mai Arr	40.91	265	P	P	10 43 43.9	-0.3
	comp=Z,2.6nm,0.8s,baz=54,slow=8.2,SNR=20						
CMAR				PcP	PcP	10 45 45.4	+0.9
	comp=Z,0.4nm,0.3s,baz=54,slow=1.2,SNR=5.8						
CMAR				LR	LR	11 00 19.2	
	comp=Z,145nm,21.4s,baz=75,slow=36						
	comp=Z,2.6nm,0.8s						
BILL	Bilibino	41.64	13	P	P	10 43 50.4	+0.8
HNR	Honiara	41.74	153	LR	LR	11 01 14.3	
	comp=Z,1μm,19.1s,baz=46,slow=36						
MTN	Manton Dam	42.92	196	P	P	10 44 00.1	-0.4
MTN				IAmb	IAmb	10 44 03.7	
	comp=Z,32nm,1.3s						
TIXI	Tiksi	43.41	354	P	P	10 44 04.1	+0.2
WMQ	Urumqi	45.66	304	eP	P	10 44 22.8	+0.5
WMQ				sP	pP	10 44 29.7	+0.4
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
ZAA0	Zalesovo Array	48.22	318	P	P	10 44 41.9	-0.2
ZALV	Zalesovo Beam	48.22	318	P	P	10 44 42.3	+0.2
ZALV	Zalesovo Beam	48.22	318	P	P	10 44 42.2	+0.1
	comp=Z,5.1nm,0.5s,baz=100,slow=7.0,SNR=30						
ZALV				PcP	PcP	10 46 09.4	+0.4
	comp=Z,2.8nm,0.6s,baz=116,slow=3.5,SNR=5.4						
ZALV				LR	LR	11 05 36.3	
	comp=Z,116nm,18.1s,baz=90,slow=37						
	comp=Z,5.1nm,0.5s						
RPSI	Rantau Prapat	48.83	246	P	P	10 44 46.9	-0.3
RPSI				IAmb	IAmb	10 44 59.9	
	comp=Z,9.6nm,0.8s						
CTAO	Charters Tower	48.88	175	P	P	10 44 46.8	-0.6
CTAO				IAmb	IAmb	10 44 51.9	
	comp=Z,20nm,1.4s						
WB0	Warramunga Arr	49.02	190	P	P	10 44 48.2	-0.4
WR0	Warramunga Arr	49.19	190	P	P	10 44 49.8	0.0
WR0				IAmb	IAmb	10 45 01.2	
	comp=Z,9.2nm,0.7s						
WB2	Warramunga Arr	49.20	190	P	P	10 44 50.1	+0.2
WRA	Warramunga Arr	49.20	190	P	P	10 44 49.3	-0.6
WRA	Warramunga Arr	49.20	190	P	P	10 44 50.0	+0.1
	comp=Z,3.6nm,0.4s,baz=18,slow=9.0,SNR=74						
WRA				PcP	PcP	10 46 14.4	+1.6
	comp=Z,1.6nm,0.5s,baz=1.1,slow=3.8,SNR=5.3						
	comp=Z,3.6nm,0.4s						
MK31	Makanchi Array	49.45	308	P	P	10 44 51.7	0.0
MKAR	Makanchi Array	49.45	308	P	P	10 44 51.7	0.0
MKAR	Makanchi Array	49.45	308	P	P	10 44 51.5	-0.2
	comp=Z,4.5nm,0.8s,baz=93,slow=9.8,SNR=22						
MKAR				PcP	PcP	10 46 14.6	+1.0
	comp=Z,1.5nm,0.6s,baz=81,slow=10,SNR=4.4						
MKAR				LR	LR	11 06 52.6	
	comp=Z,197nm,18.1s,baz=87,slow=38						
	comp=Z,4.5nm,0.8s						
FITZ	Fitzroy Crossi	49.47	201	P	P	10 44 52.1	+0.2
MAKZ	Makanchi	49.66	308	P	P	10 44 53.3	0.0
MAKZ				IAmb	IAmb	10 44 54.6	
	comp=Z,11nm,1.2s						
I17K	Unalakleet	49.97	29	P	P	10 44 55.0	-0.3
I17K				IAmb	IAmb	10 45 04.0	
	comp=Z,8.7nm,1.1s						
GSI	Gunungsitoli	50.74	245	P	P	10 45 01.1	-0.7
NRIK	Noril'sk	51.01	338	P	P	10 45 03.6	+0.6
NRIK				IAmb	IAmb	10 45 05.0	
	comp=Z,15nm,1.1s						
NRIK	Noril'sk	51.01	338	P	P	10 45 03.6	+0.6
	comp=Z,7.6nm,0.9s,baz=107,slow=8.1,SNR=8.8						
	comp=Z,7.6nm,0.9s						
KURK	Kurchatov	51.83	314	P	P	10 45 09.4	-0.1
KURK				IAmb	IAmb	10 45 11.3	
	comp=Z,22nm,1.2s						
KURBB	Kurchatov Arra	51.89	313	P	P	10 45 09.9	0.0
	comp=Z,9.3nm,0.5s,baz=92,slow=9.7,SNR=165						
KURBB				LR	LR	11 09 35.3	
	comp=Z,96nm,18.1s,baz=170,slow=39						
	comp=Z,9.3nm,0.5s						
E19K	Redstone River	52.34	25	IAmb	IAmb	10 45 34.3	
	comp=Z,6.3nm,0.9s						
KDAK	Kodiak Island	52.81	38	LR	LR	11 05 43.9	
	comp=Z,68nm,21.3s,baz=287,slow=34						
AS31	Alice Springs	52.92	190	P	P	10 45 18.0	+0.1
ASAR	Alice Springs	52.92	190	P	P	10 45 17.6	-0.3
ASAR	Alice Springs	52.92	190	P	P	10 45 18.2	+0.3
	comp=Z,0.6nm,0.4s,baz=16,slow=8.6,SNR=27						
ASAR				PcP	PcP	10 46 29.1	+2.4
	comp=Z,1.2nm,0.6s,baz=15,slow=4.9,SNR=4.3						
	comp=Z,0.6nm,0.4s						
TARG	Taragay, Kyrgy	53.06	302	IAmb	IAmb	10 45 20.9	
	comp=Z,6.8nm,1.0s						
B20K	Meade River	53.10	22	IAmb	IAmb	10 45 35.2	
	comp=Z,9.9nm,1.1s						
SUA	Susitna One	54.03	33	P	P	10 45 24.3	-1.4
BOOM	Boomskoye usch	54.33	303	P	P	10 45 27.6	-0.7
KSH	Kashi	54.79	300	P	P	10 45 34.8	+3.1
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AAK	Ala-Archa	55.36	304	P	P	10 45 34.5	-1.2
AAK	Ala-Archa	55.36	304	LR	LR	11 10 10.6	
	comp=Z,112nm,20.7s,baz=88,slow=37						
MDM	Murphy Dome	55.48	29	P	P	10 45 36.0	0.0
F24K	Squaw Lake	55.88	26	IAmb	IAmb	10 45 43.8	
	comp=Z,4.2nm,0.8s						
ILAR	Eielson Array	56.04	29	P	P	10 45 40.7	+0.7
ILAR	Eielson Array	56.04	29	P	P	10 45 41.0	+1.0
	comp=Z,0.9nm,0.6s,baz=262,slow=6.1,SNR=14						
	comp=Z,0.9nm,0.6s						
D25K	Kavik River	56.64	24	IAmb	IAmb	10 45 56.5	
	comp=Z,5.9nm,0.9s						
BVAR	Borovoye Array	56.81	317	P	P	10 45 46.4	+0.6
	comp=Z,15nm,0.6s,baz=90,slow=8.0,SNR=52						
BVAR				LR	LR	11 10 54.6	
	comp=Z,134nm,18.4s,baz=98,slow=37						
	comp=Z,15nm,0.6s						
BRVK	Borovoye	56.88	317	P	P	10 45 46.4	+0.2
KK31	Karatay Array	58.16	305	P	P	10 45 55.2	-0.2
KKAR	Karatay Array	58.16	305	P	P	10 45 55.2	-0.3
NIL	Nilore	58.26	294	P	P	10 45 56.0	-0.3
I28M	Miner Creek	58.99	28	IAmb	IAmb	10 46 23.3	
	comp=Z,4.3nm,0.9s						
E28M	Babbage River	59.07	25	IAmb	IAmb	10 46 23.5	
	comp=Z,11nm,1.1s						
SIMJ	Simiganj	60.27	300	P	P	10 46 10.0	-0.3
STKA	Stephens Creek	60.48	181	P	P	10 46 11.5	+0.2
	comp=Z,2.4nm,0.7s,baz=9.5,slow=15,SNR=3.1						
	comp=Z,2.4nm,0.7s						
FORT	Forrest	60.92	194	P	P	10 46 14.2	-0.2
G31M	Satah River	61.17	27	P	P	10 46 17.6	+1.9
INK	Inuvik	61.30	25	P	P	10 46 18.1	+1.5
INK				IAmb	IAmb	10 46 29.9	
	comp=Z,9.2nm,1.4s						
PALK	Pallekele	61.75	262	LR	LR	11 13 03.4	
	comp=Z,25nm,20.7s,baz=157,slow=36						
WHY	Whitehorse	61.75	34	P	P	10 46 20.3	+0.4
WHY				IAmb	IAmb	10 46 29.6	
	comp=Z,7.2nm,1.3s						
ARU	Arti	63.08	322	P	P	10 46 29.1	+0.4
A36M	Sachs Harbour	63.51	20	P	P	10 46 31.7	+0.4
A36M				IAmb	IAmb	10 46 48.1	
	comp=Z,8.2nm,1.1s						
ABKAR	Akbulak array	63.94	314	P	P	10 46 35.2	+0.7
C36M	Paulatuk	64.49	23	P	P	10 46 38.5	+0.8
C36M				IAmb	IAmb	10 46 53.4	
	comp=Z,5.1nm,1.0s						
AKTO	Aktyubinsk	64.84	315	LR	LR	11 17 02.1	
	comp=Z,124nm,18.2s,baz=4.5,slow=38						
KIRV	Kirov	67.27	325	LR	LR	11 18 51.2	
	comp=Z,133nm,18.9s,baz=85,slow=38						
GEYT	Alibeck	68.65	302	P	P	10 47 05.8	+0.8
	comp=Z,3.0nm,0.9s,baz=289,slow=9.2,SNR=3.9						
	comp=Z,3.0nm,0.9s						
RES	Resolute Bay	70.25	14	P	P	10 47 14.3	+0.2
RES	Resolute Bay	70.25	14	P	P	10 47 15.2	+1.0
	comp=Z,0.9nm,0.8s,baz=303,slow=10,SNR=5.5						
	comp=Z,0.9nm,0.8s						
YKA	Yellowknife Ar	70.46	29	P	P	10 47 16.4	+0.8
	comp=Z,0.6nm,0.6s,baz=295,slow=6.5,SNR=13						
	comp=Z,0.6nm,0.6s						
ARCES	ARCESS Array B	71.87	341	P	P	10 47 24.4	+0.3
	comp=Z,2.0nm,0.8s,baz=50,slow=8.4,SNR=1.2						
	comp=Z,2.0nm,0.8s						
NEEM	North Greenlan	73.56	3	eP	P	10 47 35.5	+1.1
NEEM				IAmb	IAmb	10 47 37.3	
	comp=Z,22nm,1.3s						
YBH	Yreka Blue Hor	74.76	51	LR	LR	11 13 34.9	
	comp=Z,75nm,19.9s,baz=318,slow=30						
RAR	Rarotonga	74.81	125	LR	LR	11 12 38.0	
	comp=Z,76nm,21.7s,baz=312,slow=29						
FINES	FINESS Array B	76.38	334	P	P	10 47 50.7	+0.3
	comp=Z,3.0nm,0.7s,baz=72,slow=4.9,SNR=14						
	comp=Z,3.0nm,0.7s						
KBZ	Khabaz	76.88	313	P	P	10 47 55.0	+1.4
	comp=Z,8.0nm,0.8s,baz=114,slow=1.6,SNR=15						
KBZ				LR	LR	11 22 40.2	
	comp=Z,90nm,20.8s,baz=37,slow=36						
	comp=Z,8.0nm,0.8s						
ONI	Oni	77.04	312	IAmb	IAmb	10 48 09.5	
	comp=Z,12nm,1.2s						
GNI	Garni	77.30	309	LR	LR	11 25 34.2	
	comp=Z,72nm,18.9s,baz=36,slow=38						
SUMG	Summit	78.77	0	iP	P	10 48 07.0	+2.9
NVAR	Mina Array Bea	79.27	52	P	P	10 48 09.4	+2.1
	comp=Z,0.6nm,0.7s,baz=310,slow=4.2,SNR=2.5						
NVAR				LR	LR	11 16 40.2	
	comp=Z,60nm,20.3s,baz=273,slow=31						
	comp=Z,0.6nm,0.7s						
ELK	Elko	80.22	49	LR	LR	11 17 07.4	
	comp=Z,61nm,20.7s,baz=344,slow=31						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	Papeete	80.32	116	LR	LR	11 17 29.5	
	comp=Z,29nm,19.9s,baz=272,slow=31						
AKASG	Malin Array Be	81.24	324	P	P	10 48 17.1	-0.2
	comp=Z,1.0nm,0.4s,baz=52,slow=5.6,SNR=6.0						
AKASG				LR	LR	11 26 28.4	
	comp=Z,138nm,18.6s,baz=8.5,slow=37						
	comp=Z,1.0nm,0.4s						
HFS	Hagfors	81.81	337	P	P	10 48 20.1	-0.2
	comp=Z,1.1nm,0.5s,baz=84,slow=7.6,SNR=7.2						
HFS				LR	LR	11 27 04.2	
	comp=Z,95nm,18.3s,baz=324,slow=38						
	comp=Z,1.1nm,0.5s						
NB2	NORSAR Subarra	81.97	338	P	P	10 48 21.3	+0.2
	comp=Z,0.5nm,0.6s,baz=45,slow=5.1						
NOA	NORSAR Array B	81.97	338	P	P	10 48 21.1	0.0
	comp=Z,0.9nm,0.8s,baz=40,slow=4.9,SNR=2.4						
NOA				LR	LR	11 28 08.4	
	comp=Z,59nm,20.2s,baz=235,slow=38						
	comp=Z,0.9nm,0.8s						
ICESG	Greenland Ices	82.26	1	eP	P	10 48 18.8	-4.1
PDAR	Pinedale Array	82.80	45	P	P	10 48 27.1	+1.0
	comp=Z,0.4nm,0.6s,baz=285,slow=4.6,SNR=2.6						
	comp=Z,0.4nm,0.6s						
BR131	Keskin Array S	84.88	313	P	P	10 48 35.8	-0.9
BRTR	Keskin Array B	84.88	313	P	P	10 48 35.7	-0.9
BRTR	Keskin Array B	84.88	313	P	P	10 48 37.0	+0.4
	comp=Z,6.0nm,0.8s,baz=102,slow=3.6,SNR=18						
BRTR				LR	LR	11 28 45.0	
	comp=Z,88nm,20.6s,baz=40,slow=37						
	comp=Z,6.0nm,0.8s						
BURAR	Bucovina Array	85.20	323	P	P	10 48 37.6	-0.4
MMAI	Mount Meron Ar	87.36	306	P	P	10 48 49.5	+0.5
	comp=Z,2.2nm,0.6s,baz=15,slow=3.5,SNR=5.4						
MMAI				LR	LR	11 32 23.8	
	comp=Z,45nm,18.1s,baz=28,slow=39						
	comp=Z,2.2nm,0.6s						
VRAC	Vranov	88.37	328	LR	LR	11 33 49.9	
	comp=Z,72nm,19.4s,baz=322,slow=39						
CLL	Collm	88.53	331	eP	P	10 48 56.0	+2.0
ANMO	Albuquerque	89.18	50	LR	LR	11 24 57.1	
	comp=Z,59nm,20.4s,baz=110,slow=33						
GERES	GERESS Array B	90.03	329	LR	LR	11 33 34.5	
	comp=Z,111nm,18.7s,baz=290,slow=38						
LPIG	La Paz	92.47	61	LR	LR	11 24 25.2	
	comp=Z,48nm,19.0s,baz=358,slow=31						
DAVOX	Davos/Dischmat	93.28	329	LR	LR	11 36 40.9	
	comp=Z,127nm,18.2s,baz=284,slow=39						
TXAR	Lajitas Array	94.38	53	P	P	10 49 24.1	+2.4
	comp=Z,0.2nm,0.6s,baz=290,slow=2.7,SNR=2.9						
	comp=Z,0.2nm,0.6s						
QSPA	South Pole Qui	118.69	180	PKP	PKiKP	10 54 48.7	-0.1
	comp=Z,2.0nm,0.9s,baz=284,slow=1.5,SNR=10						
TORD	Torodi Ar. Bea	123.49	312	PKP	PKiKP	10 55 00.0	+0.3
	comp=Z,1.1nm,0.6s,baz=16,slow=1.6,SNR=9.3						
DBIC	Dimbokro	132.58	313	PKP	PKiKP	10 55 17.6	-0.4
	comp=Z,2.5nm,0.8s,baz=297,slow=2.3,SNR=3.2						
PLCA	Paso Flores	150.69	122	PKPbc	PKiKP	10 55 55.3	+0.9
	comp=Z,1.6nm,0.8s,baz=270,slow=3.0,SNR=2.0						

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*SOME **06** 10:42:45.9,44°.35N×82°.97E,h10km*
*NNC **06** 10:42:47.2±1.7,44°.09N×82°.84E,h16km±25km,mb3.0, mpv2.8,Error ellipse: s-maj=29.4km s-min=11.5km az=1.0*
ISC 06 10:42:44.5±2.5,**44°.0N**±0°.1×**82°.9E**±0°.1,**h10**km,**n7**, σ**0^{s}65**/11,**2C-2D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.27	280	Pg	Pg	10 43 27.9	-0.1
	2.9nm,0.2s						
DJR				Lg	Lg	10 43 57.6	
	4.3nm,0.2s						
DJR	Jarkent	2.27	280	eP	Pg	10 43 27.9	-0.1
	2.9nm,0.2s						
DJR				eS	Sg	10 43 57.6	+0.2
	4.3nm,0.2s						
PDGK	Podgornoye	2.56	256	Pg	Pg	10 43 33.4	-0.2
	0.8nm,0.2s						
PDGK				Lg	Lg	10 44 07.2	
	2.4nm,0.2s						
KNOS	Konyrlen	2.71	279	Pg	Pg	10 43 35.6	-0.7
	5.8nm,0.1s						
KNOS				Lg	Lg	10 44 11.0	
	2.9nm,0.2s						
MK31	Makanchi Array	2.84	351	⇑Pn	Pn	10 43 31.0	+1.1
	0.1nm,0.1s,baz=174,slow=15,SNR=22						
MK31				⇓Sn	Sn	10 44 03.6	-0.5
	2.8nm,0.6s,baz=169,slow=27						
MAKZ	Makanchi	2.89	347	⇓Pn	Pn	10 43 31.4	+0.7
	1.8nm,0.6s						
MAKZ				⇑Sn	Sn	10 44 05.3	-0.3
	0.6nm,0.3s						
ZSN	Zaisan	3.72	21	eP	Pb	10 43 49.6	-0.7
	2.9nm,0.3s						
ZSN				eS	Sb	10 44 35.8	+0.3
	4.9nm,0.4s						

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*NEIC **06** 10:58:34.4±0.5,36°.438N±0°.006×98°.79W±0°.02,h5km±2km, Error ellipse: s-maj=3.5km s-min=2.5km az=269.0*
TUL 06 10:58:34.4±0.6,**36°.46N**±0°.02×**98°.78W**±0°.04,**h7**km±5km, **ML2.5,mb_Lg2.3**/6(NEIC),**ML2.4**/10(NEIC),**Error ellipse: s-maj=4.3km s-min=2.5km az=90.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.04	59	Pg	Pg	10 58 36.2	+0.4
U32A	Winter Ranch,	0.19	246	Pg	Pg	10 58 38.8	+0.5
U32A				Sg	Sg	10 58 42.1	+1.2
U32A				IAML		10 58 42.4	
	comp=N,882nm,0.5s						
OK032	Salt Plains WL	0.57	53	Pg	Pg	10 58 45.7	+0.2
OK032				IAML		10 58 53.9	
	comp=N,208nm,0.4s						
OK032				IAML		10 59 01.7	
	comp=N,204nm,0.2s						
CROK	Carrier	0.65	86	Pg	Pg	10 58 46.9	0.0
CROK				Sg	Sg	10 58 56.0	+0.8
CROK				IAML		10 59 05.5	
	comp=N,227nm,0.3s						
KAN14	Manchester OK	0.82	53	Pg	Pg	10 58 50.5	+0.2
GC02	Grant County #	0.84	62	Pg	Pg	10 58 50.4	-0.1
KAN05	Bluff City Nor	0.98	48	Pg	Pg	10 58 53.4	+0.2
KAN17	Caldwell West	1.00	54	Pg	Pg	10 58 53.5	-0.2
KAN08	Anthony NE Sta	1.00	40	Pg	Pg	10 58 53.9	+0.2
KAN01	Argonia South	1.07	50	Pg	Pg	10 58 55.0	0.0
KAN06	Argonia West S	1.08	43	Pg	Pg	10 58 55.1	0.0
KAN09	Caldwell North	1.15	54	Pg	Pg	10 58 56.2	-0.3
KAN13	South Haven SW	1.18	62	Pg	Pg	10 58 56.6	-0.5
KS21	Milan North St	1.22	47	Pg	Pg	10 58 57.5	-0.3
OK029	Liberty Lake	1.26	121	Pg	Pn	10 58 57.9	-0.6
BLOK	Blackwell	1.30	76		Pn	10 58 58.2	-0.8
OK048	Pawnee Station	1.48	91		Pn	10 59 01.8	+0.2
OK051	E0350 and S346	1.57	88		Pn	10 59 03.2	+0.5
FNO	Franklin	1.64	137		Pn	10 59 03.5	-0.2
FNO				IAmb_Lg		10 59 29.6	
	comp=Z,15nm,0.9s						
WMOK	Wichita Mounta	1.72	180	Pn	Pn	10 59 04.8	0.0
SMWD	Samnorwood	1.80	222	IAmb_Lg		10 59 33.6	
	comp=Z,15nm,0.8s						
DEOK	Depew	1.95	108	Pn	Pn	10 59 08.0	+0.1
R32A	Long Quarter,	1.96	2	IAmb_Lg		10 59 39.9	
	comp=Z,14nm,0.7s						
TUL3	Leonard	2.48	102	Pn	Pn	10 59 15.6	+0.4
AMTX	Amarillo	2.84	237	IAmb_Lg		11 00 09.8	
	comp=Z,12nm,0.8s						

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*ISN **06** 11:37:33.8±0.7,32°.94N×46°.21E,h35km±4km,ML3.1*
*TEH **06** 11:37:38.3,32°.92N×46°.14E,h11km,ML2.7*
ISC 06 11:37:34.9±1.0,**32°.82N**±0°.04×**46°.02E**±0°.06,**h10**km,**n10**, σ**0^{s}79**/14,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.30	345	ePg	Pb	11 37 42.0	-0.5
IBDR				eSg	Sb	11 37 47.0	-0.5
IBDR				AML	AML	11 37 51.5	
	comp=N,2µm,0.4s						
IBDR				AML	AML	11 37 52.0	
	comp=E,848nm,0.4s						
ILBA	Ilam Banvizeh	0.82	11	Pg	Pb	11 37 51.1	-0.2
ILBA				Sg	Sb	11 38 02.7	+0.2
RAFI	Al-Rafai	1.09	176	ePn	Pg	11 37 56.0	0.0
RAFI				eSn	Sn	11 38 13.0	+1.5
BHD	Baghdad	1.45	289	ePn	Pn	11 38 01.0	-0.2
BHD				eSn	Sg	11 38 21.0	-0.6
BHD				AML	AML	11 38 30.7	
	comp=E,279nm,0.5s						
IGHG	Ghaleghazi	1.58	17	Pg	Pg	11 38 06.4	+1.2
IKFM	Kafar-mosalman	1.69	65	Pg	Pg	11 38 07.8	+0.5
IKOM	Komasi	1.84	42	Pg	Pg	11 38 09.7	-0.5
IDHR	Dehrash	1.90	9	Pg	Pg	11 38 11.8	+0.3
ILIN	Lien	2.24	20	Pn	Pb	11 38 15.9	+0.2
HSAM	Samen	2.57	56	Pn	Pb	11 38 20.0	-1.2

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*IDC **06** 11:41:02.6±2.1,7°.97S×107°.72E,h0km,mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=118.3km s-min=19.1km az=51.0*
*DJA **06** 11:41:09.3±1.1,8°S±5°×10°8E±°,h11km±10km,M4.2/10, mb4.6/1,MLv3.9/10*
ISC 06 11:41:04.2±0.7,**8°.54S**±0°.05×**107°.34E**±0°.06,**h10**km,**n30**, σ**2^{s}28**/23,**mb3.9**/7,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJI	Bungbulang	1.11	16	P	Pn	11 41 27.8	+1.9
BBJI	Bungbulang	1.11	16	P	Pn	11 41 27.5	+1.6
CNJI	Cibinong	1.24	350	P	Pg	11 41 31.2	+3.1
CMJI	Cimerak	1.33	56	P	Pb	11 41 29.7	+0.5
SKJI	Sukabumi	1.71	333	P	Pg	11 41 40.2	+3.1
LEM	Lembang	1.72	9	P	Pg	11 41 37.5	+0.2
KPJI	Karang Pucung	1.98	53	P	Pn	11 41 39.1	+1.3
XMI	Christmas Isla	2.50	221	P	Pg	11 41 54.2	+1.9
CGJI	Cibinong	2.52	319	P	Pb	11 41 50.4	+0.9
XMIS	Christmas Isla	2.55	221	P	Pg	11 41 54.6	+1.4
UGM	Wanagama	3.21	79	P	Pn	11 41 56.5	+1.7
UGM	Wanagama	3.21	79	P	Pn	11 41 55.9	+1.1
SMRI	Semarang	3.41	64	P	Pn	11 41 59.8	+2.3
SMRI	Semarang	3.41	64	P	Pn	11 41 59.2	+1.7
EGSI	Enggano, Bengk	5.94	302	P	Pn	11 42 38.6	+6.3
JAGI	Jajag, Banyuwa	6.74	90	P	Pn	11 42 46.9	+3.6
PLAI	Plampang	10.32	92	P	Pn	11 43 34.7	+2.3
WRA	Warramunga Arr	28.46	116	P	P	11 46 58.3	-1.4
	0.3nm,0.7s,baz=288,slow=11,SNR=2.1						
	0.3nm,0.7s						
ASAR	Alice Springs	29.54	124	P	P	11 47 08.8	-0.5
	0.4nm,0.9s,baz=302,slow=9.7,SNR=2.5						
	0.4nm,0.9s						
H08S2	Diego Garcia H	34.51	269	T	T	12 25 07.5	
	baz=93						
H08S3	Diego Garcia H	34.52	269	T	T	12 25 05.8	
	baz=93						
H08S1	Diego Carcia H	34.53	269	T	T	12 25 02.4	
	baz=93						
STKA	Stephens Creek	39.37	131	P	P	11 48 35.7	+1.5
	1.7nm,0.6s,baz=321,slow=6.5,SNR=5.1						
	1.7nm,0.6s						
SONM	Songino Array	56.13	359	P	P	11 50 40.8	-3.3
	0.2nm,0.4s,baz=183,slow=10.0,SNR=2.0						
	0.2nm,0.4s						
MKAR	Makanchi Array	59.44	340	P	P	11 51 04.0	-3.2
	0.6nm,0.4s,baz=154,slow=7.9,SNR=14						
	0.6nm,0.4s						
H04N2	CROZET ISLANDS	60.33	221	T	T	12 58 11.4	
	baz=70						
H04N1	CROZET ISLANDS	60.34	221	T	T	12 58 11.6	
	baz=70						
H04N3	CROZET ISLANDS	60.35	221	T	T	12 58 10.3	
	baz=70						
KURBB	Kurchatov Arra	64.00	340	P	P	11 51 34.9	-2.9
	0.6nm,0.6s,baz=155,slow=5.6,SNR=8.3						
	0.6nm,0.6s						
BVAR	Borovoye Array	68.91	337	P	P	11 52 07.0	-2.3
	1.1nm,0.5s,baz=131,slow=8.2,SNR=8.2						
	1.1nm,0.5s						

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*IDC **06** 11:44:07.8±0.7,27°.41N×140°.62E,h457km±13km,mb3.0/7, mbtmp3.9/8,Error ellipse: s-maj=41.8km s-min=14.5km az=72.0*
*JMA **06** 11:44:12.2±0.2,28°N±2°×14°1E±°,h477km,MV3.8/11,W OFF OGASAWARA*
ISC 06 11:44:09.7±1.2,**27°.3N**±0°.1×**140°.0E**±0°.2,**h450**km,**n15**, σ**2^{s}78**/15,**mb3.3**/7,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.98	96	P	P	11 45 12.9	+2.9
CBIJ				eS	S	11 46 00.0	+1.0
JCJ	Chichijima	1.98	96	P	P	11 45 06.3	-3.8
	49nm,0.5s,baz=346,slow=19,SNR=9.0						
JCJ				S	S	11 45 53.8	-5.3
	41nm,0.3s,baz=344,slow=21,SNR=1.6						
JHH2	Haha-jima-NKT2	2.08	109	P	P	11 45 13.5	+2.9
JHH2				eS	S	11 46 02.5	+2.5
BSO1	Boso 1	7.36	6	P	P	11 45 58.7	+1.2
BSO1				eS	S	11 47 24.7	-1.3
BSO3	Boso 3	7.47	3	eP	P	11 46 00.1	+1.2
JIE	Ise	7.59	339	eP	P	11 46 05.0	+4.5
JHO	Hitachi	9.28	3	P	P	11 46 19.4	+0.6
JOW	Kunigami	10.44	270	P	P	11 46 36.1	+4.5
	4.8nm,0.3s,baz=89,slow=23,SNR=1.3						
WRA	Warramunga Arr	47.30	187	P	P	11 51 60.0	-1.3
	0.2nm,0.3s,baz=7.1,slow=7.8,SNR=9.3						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	48.03	319	P	P	11 52 05.8	-0.5
	0.4nm,0.3s,baz=81,slow=9.1,SNR=2.1						
	0.4nm,0.3s						
MKAR	Makanchi Array	48.82	310	P	P	11 52 12.7	+0.3
	0.4nm,0.4s,baz=89,slow=9.4,SNR=11						
	0.4nm,0.4s						
ASAR	Alice Springs	51.03	187	P	P	11 52 27.7	-1.2
	0.3nm,0.8s,baz=357,slow=4.0,SNR=6.1						
	0.3nm,0.8s						
KURBB	Kurchatov Arra	51.48	314	P	P	11 52 31.9	0.0
	1.5nm,0.4s,baz=91,slow=8.1,SNR=40						
	1.5nm,0.4s						
BVAR	Borovoye Array	56.55	317	P	P	11 53 07.8	0.0
	1.6nm,0.4s,baz=85,slow=7.3,SNR=12						
	1.6nm,0.4s						
FINES	FINESS Array B	76.87	333	P	P	11 55 12.4	-1.5
	2.6nm,0.9s,baz=83,slow=4.3,SNR=7.8						
	2.6nm,0.9s						

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*IDC **06** 12:15:59.7±0.9,30°.65N×138°.48E,h402km±13km, mb3.2/12,mbtmp4.0/17,Error ellipse: s-maj=32.0km s-min=11.0km az=75.0*
*JMA **06** 12:16:01.2±0.3,31°N±2°×13°9E±°,h437km,MV3.8/36, NEAR TORISHIMA IS*
ISC 06 12:15:59.3±0.7,**30°.73N**±0°.08×**138°.8E**±0°.1,**h400**km,**n30**, σ**2^{s}13**/42,**mb3.5**/12,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.52	19	P	Pn	12 17 01.3	+2.6
	118nm,0.3s,baz=26,slow=19,SNR=8.7						
JHJ				S	S	12 17 49.9	+3.0
	98nm,0.4s,baz=241,slow=23,SNR=2.0						
JHJ2	Mitsune	2.53	20	eP	Pn	12 17 02.4	+3.6
JHJ2				S	S	12 17 50.3	+3.4
BSO3	Boso 3	4.31	19	eP	Pn	12 17 16.4	+2.4
BSO3				eS	S	12 18 15.6	+1.0
BSO1	Boso 1	4.32	24	eP	Pn	12 17 16.0	+2.3
BSO1				eS	S	12 18 15.1	+0.8
JOD2	Odawara 2	4.53	3	P	Pn	12 17 18.5	+2.1
JOD2				eS	S	12 18 20.3	+1.1
JCJ	Chichijima	4.67	140	S	S	12 18 16.6	-5.3
	69nm,0.3s,baz=274,slow=18,SNR=7.5						
JNY	Yasuok	4.69	350	P	Pn	12 17 21.5	+3.4
JAO	Obara	4.71	344	P	Pn	12 17 21.2	+2.9
JHU	Hanno	5.13	4	P	Pn	12 17 23.6	+1.1
JHU				S	S	12 18 27.4	-2.9
JRY	Ryogami san	5.28	1	P	Pn	12 17 25.9	+1.8
JRY				S	S	12 18 32.4	-0.8
JYT	Yasato	5.61	12	P	Pn	12 17 27.9	+0.4
JYT				S	S	12 18 35.8	-3.7
JAG	Ashikaga	5.71	5	P	Pn	12 17 29.1	+0.4
JAG				eS	S	12 18 37.9	-3.5
MJAR	Matsushiro Arr	5.82	355	P	Pn	12 17 29.8	-0.1
	2.6nm,0.4s,baz=292,slow=12,SNR=21						
MJAR				S	S	12 18 45.9	+2.1
	3.7nm,0.8s,baz=33,slow=24,SNR=4.3						
JHO	Hitachi	6.05	14	eP	Pn	12 17 33.1	+0.8
JHO				eS	S	12 18 44.7	-3.5
ASAJ	Asahikawa	13.70	12	P	Pn	12 19 00.4	+0.4
	7.2nm,0.9s,baz=231,slow=12,SNR=6.9						
USRK	Ussuriysk Ar.	14.49	340	P	P	12 19 06.9	+0.8
	1.4nm,0.5s,baz=147,slow=10,SNR=1.8						
KLR	Kul'dur	19.24	346	P	P	12 19 56.7	+0.3
	0.8nm,0.6s,baz=342,slow=20,SNR=3.0						
SONM	Songino Array	30.06	314	P	P	12 21 33.3	-0.3
	0.2nm,0.4s,baz=126,slow=9.2,SNR=2.6						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	44.82	317	P	P	12 23 34.4	-0.9
	0.3nm,0.4s,baz=88,slow=6.9,SNR=2.5						
ZALV				PcP	PcP	12 25 08.1	-1.0
	0.4nm,0.4s,baz=128,slow=4.0,SNR=2.5						
	0.3nm,0.4s						
MKAR	Makanchi Array	45.91	307	P	P	12 23 42.8	-1.2
	0.4nm,0.6s,baz=87,slow=9.7,SNR=6.4						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	48.41	312	P	P	12 24 01.6	-1.1
	1.2nm,0.3s,baz=94,slow=7.2,SNR=4.2						
	1.2nm,0.3s						
WRA	Warramunga Arr	50.56	185	P	P	12 24 18.6	-0.6
	1.3nm,0.3s,baz=0.9,slow=8.0,SNR=55						
	1.3nm,0.3s						
BVAR	Borovoye Array	53.38	316	P	P	12 24 38.6	-0.7
	0.7nm,0.4s,baz=93,slow=7.1,SNR=4.4						
	0.7nm,0.4s						
ASAR	Alice Springs	54.29	186	P	P	12 24 45.7	-0.4
	0.7nm,0.5s,baz=357,slow=5.0,SNR=48						
	0.7nm,0.5s						
ARCES	ARCESS Array B	69.14	340	P	P	12 26 23.6	+0.2
	5.4nm,0.9s,baz=68,slow=7.1,SNR=3.9						
	5.4nm,0.9s						
FINES	FINESS Array B	73.38	332	P	P	12 26 48.3	-0.2
	2.5nm,1.0s,baz=75,slow=6.1,SNR=11						
	2.5nm,1.0s						
AKASG	Malin Array Be	77.95	322	P	P	12 27 13.4	-0.9
	0.3nm,0.3s,baz=52,slow=5.5,SNR=4.8						
	0.3nm,0.3s						
HFS	Hagfors	78.92	335	P	P	12 27 18.9	-0.5
	2.8nm,0.9s,baz=52,slow=5.7,SNR=2.3						
	2.8nm,0.9s						
TXAR	Lajitas Array	95.72	51	P	P	12 28 43.4	+2.1
	0.7nm,1.2s,baz=256,slow=6.1,SNR=1.9						
	0.7nm,1.2s						
QSPA	South Pole Qui	120.49	180	PKP	PKPdf	12 34 02.8	-0.4
	1.2nm,1.0s,baz=346,slow=1.2,SNR=2.2						

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*IDC **06** 12:33:35.1±4.6,7°.28S×129°.16E,h100km±43km,mb3.8/14, mbtmp4.3/17,MS2.7/2,Error ellipse: s-maj=30.8km s-min=14.3km az=73.0*
*DJA **06** 12:33:38.4±0.3,7°S±2°×12°9E±°,h191km±8km,M4.6/14, mb4.6/12,mB5.1/6,MLv4.7/14,Mw(mB)4.4/6*
*NEIC **06** 12:33:39.6±2.0,7°.30S±0°.07×129°.22E±0°.07,h147km±9km, mb4.2/13,Error ellipse: s-maj=10.7km s-min=10.0km az=146.0*
ISC 06 12:33:40.0±0.4,**7°.34S**±0°.05×**129°.26E**±0°.05,**h150**km,**n88**, σ**1^{s}85**/89,**mb4.0**/21,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.12	108	Pn	Pn	12 34 16.4	-0.1
SAUI				Sn	Sn	12 34 45.3	+0.7
SAUI	Saumlaki	2.12	108	P	Pn	12 34 17.4	+0.9
SAUI	Saumlaki	2.12	108	P	Pn	12 34 17.0	+0.5
SAUI				S	Sn	12 34 46.5	+1.9
BNDI	Bandanaira	2.87	13	P	Pn	12 34 26.4	+0.7
BNDI	Bandanaira	2.87	13	P	Pn	12 34 26.4	+0.7
KRAI	Karang Ratu	4.09	348	P	Pn	12 34 43.1	+1.7
NLAI	Namlea	4.61	332	P	Pn	12 34 49.7	+1.4
FAKI	Fak Fak	5.30	34		Pn	12 34 55.5	-2.0
FAKI				Sn	Sn	12 35 53.5	-4.4
FAKI	Fak Fak	5.30	34	P	Pn	12 34 55.3	-2.2
	96nm,0.8s,2µm0.5nm						
SOEI	Soe	5.49	244	Pn	Pn	12 34 58.6	-1.5
SOEI				Sn	Sn	12 36 00.2	-2.5
SOEI	Soe	5.49	244	P	Pn	12 34 59.3	-0.9
SOEI	Soe	5.49	244	P	Pn	12 34 59.2	-0.9
	267nm,0.8s,2µm1.6nm						
KMPI	Kaimana, Papua	5.73	51	P	Pn	12 35 01.9	-1.3
	245nm,0.7s,5µm3.4nm						
MTN	Manton Dam	5.77	162		Pn	12 35 02.7	-1.0
MTN	Manton Dam	5.77	162	P	Pn	12 35 02.8	-0.9
KDU	Kakadu	6.18	150	P	Pn	12 35 07.8	-1.4
SANI	Sanana	6.19	328	P	Pn	12 35 16.9	+7.7
SIJI	Sorong	6.73	17	P	Pn	12 35 14.5	-2.0
	21nm,1.0s,3µm0.5nm						
SWI	Sorong	6.73	17	P	Pn	12 35 15.0	-1.5
	42nm,0.7s,1µm0.4nm						
LBMI	Labuha	6.88	345	P	Pn	12 35 20.5	+1.9
	102nm,0.9s,0.4nm						
BBSI	Bau Bau	6.90	285	P	Pn	12 35 20.6	+1.8
	36nm,1.2s,0.1nm						
EDFI	Ende, Flores	7.63	259	P	Pn	12 35 28.5	-0.1
	10nm,0.7s,0.1nm						
KNRA	Kununurra	8.30	183	Pn	Pn	12 35 34.8	-2.6
KNRA	Kununurra	8.30	183	P	Pn	12 35 34.9	-2.6
BASI	Baing, Sumba	9.05	251	P	Pn	12 35 45.6	-1.8
	67nm,0.6s						
BKSI	Bulukumba	9.30	282	P	Pn	12 35 51.0	+0.2
	20nm,0.9s						
KAPI	Kappang	9.73	283	LR	LR	12 39 25.9	
	comp=Z,24nm,18.7s,baz=143,slow=36						
PLAI	Plampang	11.47	262	P	Pn	12 36 15.9	-3.6
	23nm,0.9s						
TABU	Tabubil	12.06	81	P	Pn	12 36 28.8	+1.6
WB0	Warramunga Arr	13.32	159	Pn	Pn	12 36 39.0	-4.4
WRAB	Tennant Creek	13.46	159		Pn	12 36 41.1	-4.0
WRA	Warramunga Arr	13.46	159	Pn	Pn	12 36 40.5	-4.7
WRA	Warramunga Arr	13.46	159	P	Pn	12 36 41.6	-3.6
	16nm,0.8s,baz=347,slow=13,SNR=123						
WRA				S	Sn	12 38 57.5	-17
	81nm,0.6s,baz=336,slow=22,SNR=13						
WB2	Warramunga Arr	13.47	159	Pn	Pn	12 36 41.6	-3.6
WR0	Warramunga Arr	13.55	158		Pn	12 36 42.7	-3.6
QIS	Mount Isa	16.52	144	P	P	12 37 24.0	+0.9
MBWA	Marble Bar	16.55	213	P	Pn	12 37 24.4	+1.0
PSA00	Pilbara Seismi	16.82	212		P	12 37 25.1	-1.3
PSA00				IAmb	IAmb	12 37 28.8	
	comp=Z,11nm,1.1s						
PSA00	Pilbara Seismi	16.82	212	P	Pn	12 37 27.4	+0.6
AS31	Alice Springs	16.83	165		P	12 37 25.8	-0.8
AS31				IAmb	IAmb	12 37 28.6	
	comp=Z,6.2nm,0.5s						
ASAR	Alice Springs	16.84	165	P	P	12 37 26.1	-0.5
	comp=Z,9.3nm,0.4s,baz=338,slow=9.0,SNR=254						
ASAR				S	S	12 40 18.2	-16
	comp=Z,3.1nm,0.5s,baz=345,slow=25,SNR=2.4						
WRKA	Warakurna	17.62	183	P	P	12 37 35.8	+0.6
PMG	Port Moresby	17.82	98	P	P	12 37 38.5	+1.0
	comp=Z,8.5nm,0.8s,baz=349,slow=23,SNR=3.1						
PMG				S	S	12 40 46.4	-8.4
	comp=Z,7.4nm,0.9s,baz=316,slow=18,SNR=1.4						
PMG				LR	LR	12 46 11.7	
	comp=Z,44nm,18.0s,baz=174,slow=42						
MTSU	Mount Surprise	18.17	128	P	Pn	12 37 44.6	+1.7
KKM	Kota Kinabalu	18.61	315	P	P	12 37 46.5	+0.4
KKM				IAmb	IAmb	12 37 55.7	
	comp=Z,17nm,0.9s						
SBUM	Sibu	19.59	299	P	P	12 37 57.1	+0.4
KSM	Kuching	20.84	294	P	P	12 38 09.2	-1.0
OOD	Oodnadatta	21.24	164	P	P	12 38 14.9	+0.7
MEEK	Meekatharra	21.70	207	P	P	12 38 19.7	+0.4
INKA	Innaminka	23.02	153	P	P	12 38 34.2	+2.2
MULG	Mulgathing	23.26	169	P	P	12 38 36.0	+1.8
FORT	Forrest	23.35	183	P	P	12 38 36.5	+1.6
QLP	Quilpie	23.85	145	P	P	12 38 41.9	+2.3
LCRK	Leigh Creek	24.48	161	P	P	12 38 46.5	+1.3
MORW	Morawa	24.95	208	P	P	12 38 50.7	+1.1
BBOO	Buckleboo	26.12	167	P	P	12 39 01.0	+1.0
BBOO	Buckleboo	26.12	167	P	P	12 39 01.2	+1.1
STKA	Stephens Creek	26.99	156	P	P	12 39 08.1	+0.2
STKA	Stephens Creek	26.99	156	P	P	12 39 09.4	+1.6
STKA	Stephens Creek	26.99	156	P	P	12 39 08.9	+1.1
	comp=Z,3.5nm,0.5s,baz=338,slow=12,SNR=8.9						
	comp=Z,3.5nm,0.5s						
HTT	Hallett	27.46	162	P	P	12 39 14.1	+2.0
CMSA	Cobar Meteorol	28.55	150	P	P	12 39 23.7	+2.0
ARPS	Mount Arapiles	31.46	160	P	P	12 39 49.5	+2.1
CMAR	Chiang Mai Arr	39.39	311	P	P	12 40 55.1	-0.3
	comp=Z,1.5nm,0.6s,baz=144,slow=6.8,SNR=16						
CMAR				PcP	PcP	12 43 02.0	+1.3
	comp=Z,0.4nm,0.4s,baz=150,slow=3.4,SNR=4.3						
	comp=Z,1.5nm,0.6s						
PZH	PanZhiHua	42.95	323	P	P	12 41 24.7	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,90nm,3.9s						
KSRS	Korea Array	44.58	358	P	P	12 41 36.4	-0.6
	comp=Z,0.7nm,0.6s,baz=178,slow=9.0,SNR=4.8						
	comp=Z,0.7nm,0.6s						
LYN	LuoYang	44.59	340	eP	P	12 41 41.8	+4.6
LYN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC	Hu-ho-hao-te	50.64	343	eP	P	12 42 25.7	+1.7
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,5.7s						
USRK	Ussuriysk Ar.	51.36	3	P	P	12 42 28.6	-0.5
	comp=Z,1.6nm,0.6s,baz=192,slow=6.8,SNR=5.0						
	comp=Z,1.6nm,0.6s						
SONM	Songino Array	58.53	342	P	P	12 43 19.9	-0.8
	comp=Z,0.9nm,0.5s,baz=161,slow=6.4,SNR=3.9						
	comp=Z,0.9nm,0.5s						
WMQ	Urumqi	63.28	327	eP	P	12 43 54.1	+1.3
PETK	Petropavlovsk-	64.87	18	P	P	12 44 03.5	+0.5
	comp=Z,3.3nm,0.9s,baz=242,slow=6.2,SNR=2.8						
	comp=Z,3.3nm,0.9s						
KSH	Kashi	67.78	318	P	P	12 44 23.6	+1.7
KSH				pP	pP	12 44 58.5	+1.7
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	Makanchi Array	68.11	327	P	P	12 44 23.8	+0.1
MKAR	Makanchi Array	68.11	327	P	P	12 44 23.2	-0.5
MKAR	Makanchi Array	68.11	327	P	P	12 44 23.8	+0.1
	comp=Z,1.6nm,0.5s,baz=122,slow=7.9,SNR=36						
	comp=Z,1.6nm,0.5s						
ZAA0	Zalesovo Array	71.56	334	P	P	12 44 43.7	-0.9
ZAA0				IAmb	IAmb	12 44 45.4	
	comp=Z,1.6nm,0.7s						
ZALV	Zalesovo Beam	71.56	334	P	P	12 44 43.9	-0.7
	comp=Z,1.4nm,0.6s,baz=135,slow=5.8,SNR=10						
	comp=Z,1.4nm,0.6s						
VNDA	Vanda	72.20	173	P	P	12 44 47.4	-0.7
VNDA				IAmb	IAmb	12 44 47.7	
	comp=Z,5.1nm,1.2s						
KURBB	Kurchatov Arra	72.42	329	P	P	12 44 49.7	0.0
	comp=Z,1.5nm,0.5s,baz=131,slow=4.9,SNR=22						
	comp=Z,1.5nm,0.5s						
KURK	Kurchatov	72.43	329	P	P	12 44 49.5	-0.3
KURK				IAmb	IAmb	12 44 52.2	
	comp=Z,2.5nm,0.8s						
MAW	Mawson	74.37	201	P	P	12 45 01.8	+0.9
	comp=Z,2.1nm,0.6s,baz=72,slow=9.6,SNR=1.9						
	comp=Z,2.1nm,0.6s						
BVAR	Borovoye Array	77.96	328	P	P	12 45 21.5	0.0
	comp=Z,0.6nm,0.6s,baz=145,slow=5.4,SNR=3.7						
	comp=Z,0.6nm,0.6s						
NRIK	Noril'sk	81.71	346	P	P	12 45 41.5	+0.3
	comp=Z,1.3nm,0.5s,baz=68,slow=3.3,SNR=2.4						
	comp=Z,1.3nm,0.5s						
QSPA	South Pole Qui	82.64	180	P	P	12 45 47.1	+0.6
QSPA				IAmb	IAmb	12 45 48.1	
	comp=Z,8.1nm,1.4s						
QSPA	South Pole Qui	82.64	180	P	P	12 45 47.1	+0.6
	comp=Z,1.7nm,0.6s,baz=264,slow=0.6,SNR=16						
	comp=Z,1.7nm,0.6s						
AKTO	Aktyubinsk	83.89	322	P	P	12 45 52.9	0.0
	comp=Z,1.6nm,0.6s,baz=121,slow=5.4,SNR=6.2						
	comp=Z,1.6nm,0.6s						
TXAR	Lajitas Array	125.73	59	PKP	PKiKP	12 52 26.1	+1.1
	comp=Z,0.2nm,0.8s,baz=285,slow=4.6,SNR=2.5						

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*NOU **06** 13:01:21.5, 35°.50S×141°.77E, h0km, MLv4.2/14, Victoria, Australia*
*AUST **06** 13:01:21.7±0.5, 35°.53S×141°.74E, h10km, Error ellipse: s-maj=7.9km s-min=5.2km az=32.0*
*IDC **06** 13:01:23.3±7.9, 35°.32S×141°.36E, h0km, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=118.2km s-min=42.1km az=110.0*
ISC 06 13:01:21.6±0.9**, 35°.49S**±0°.05×**141°.77E**±0°.05**, h10km, n35, σ1s.33**/44**, 1C, Victoria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARPS	Mount Arapiles	1.28	178	⇑P	Pn	13 01 44.1	-1.5
	baz=1.2,SNR=406						
ARPS				S	Sb	13 02 00.8	-1.4
	baz=1.2,SNR=6.5						
ARPS	Mount Arapiles	1.28	178	P	Pn	13 01 44.4	-1.1
AUMAG	Moama Anglican	2.50	105	P	Pn	13 02 03.0	+0.7
	baz=2.5						
AUMAR	Marden Senior	2.63	282	P	Pn	13 02 04.7	+0.5
	baz=2.6						
AUHPC	Hawkesdale P12	2.65	171	P	Pn	13 02 04.5	+0.1
	baz=2.6						
BRAT	Ballarat	2.69	140	P	Pn	13 02 06.0	+1.0
HTT	Hallett	3.12	310	P	Pn	13 02 11.7	+0.7
	baz=3.1						
HTT				S	Sn	13 02 49.1	+0.7
	baz=3.1						
HTT	Hallett	3.12	310	P	Pn	13 02 11.5	+0.5
GEXS	Deakin Univers	3.38	144	P	Pn	13 02 16.3	+1.9
STKA	Stephens Creek	3.61	358	P	Pn	13 02 18.7	+1.2
	baz=3.7,SNR=35						
STKA				S	Sn	13 02 59.0	-1.3
	baz=3.7						
STKA	Stephens Creek	3.61	358	P	Pn	13 02 18.6	+1.0
STKA	Stephens Creek	3.61	358	Pn	Pn	13 02 18.8	+1.2
	2.5nm,0.3s,baz=177,slow=15,SNR=34						
STKA				Sn	Sn	13 02 59.0	-1.3
	2.7nm,0.3s,baz=96,slow=19,SNR=4.5						
STKA				Lg	Lg	13 03 13.1	
	12nm,0.3s,baz=101,slow=22,SNR=6.4						
	11nm,0.5s						
TOO	Toolangi	3.65	126	P	Pn	13 02 19.3	+1.1
	baz=3.6,SNR=22						
TOO	Toolangi	3.65	126	P	Pn	13 02 19.2	+1.1
CMSA	Cobar Meteorol	5.12	41	P	Pn	13 02 37.7	-0.7
	baz=5.2						
CMSA	Cobar Meteorol	5.12	41	P	Pn	13 02 39.3	+0.9
BBOO	Buckleboo	5.44	298	P	Pn	13 02 43.6	+0.9
	baz=5.4						
BBOO				S	Sn	13 03 44.1	-1.3
	baz=5.4						
BBOO	Buckleboo	5.44	298	P	Pn	13 02 43.9	+1.2
YNG	Young	5.57	80	P	Pn	13 02 44.8	+0.2
	baz=5.6						
YNG				S	Sn	13 03 49.7	+1.0
	baz=5.6						
YNG	Young	5.57	80	P	Pn	13 02 45.8	+1.2
AUSMG	Snowy Mountain	5.62	101	P	Pn	13 02 45.4	0.0
	baz=5.6						
LCRK	Leigh Creek	5.85	328	P	Pn	13 02 47.2	-1.2
	baz=5.9						
LCRK				S	Sn	13 03 56.6	+1.1
	baz=5.9						
LCRK	Leigh Creek	5.85	328	P	Pn	13 02 49.6	+1.2
CAN	Canberra	5.91	90	P	Pn	13 02 49.8	+0.6
AUMTS	Mt Stromlo	5.91	90	P	Pn	13 02 49.7	+0.4
	baz=5.9						
MILA	Mila	6.17	107	P	Pn	13 02 53.8	+1.0
	baz=6.2						
MILA				S	Sn	13 04 02.6	-0.8
	baz=6.2						
CNB	Canberra Magne	6.20	91	P	Pn	13 02 53.2	-0.1
	baz=6.2						
CNB				S	Sn	13 04 04.8	+0.4
	baz=6.2						
CNB	Canberra Magne	6.20	91	P	Pn	13 02 54.0	+0.7
AUDCS	Dubbo College	6.57	62	P	Pn	13 02 59.3	+1.1
	baz=6.6						
INKA	Innaminka	7.78	353	P	Pn	13 03 14.9	+0.1
	baz=7.8,SNR=3.4						
INKA				S	Sn	13 04 38.2	-4.8
	baz=7.8						
INKA	Innaminka	7.78	353	P	Pn	13 03 15.8	+1.0
OOD	Oodnadatta	9.26	324	P	Pn	13 03 36.4	+1.2
ASAR	Alice Springs	13.62	328	Pn	Pn	13 04 33.3	-1.6
	0.1nm,0.3s,baz=152,slow=12,SNR=5.5						
ASAR				Sn	Sn	13 06 53.5	-13
	baz=148,slow=21						
	0.6nm,0.7s						
WRA	Warramunga Arr	16.82	335	Pn	Pn	13 05 15.9	-1.3
	0.2nm,0.3s,baz=156,slow=11,SNR=5.6						
	0.9nm,0.7s						
KNRA	Kununurra	22.91	326	P	P	13 06 28.5	+2.8
	baz=23,SNR=3.8						

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*IDC **06** 13:06:48.2±3.7, 11°.40S×166°.22E, h69km±32km, mb3.8/6, mbtmp4.0/7, ML3.5/1, MS3.4/3, Error ellipse: s-maj=28.4km s-min=22.7km az=61.0*
ISC 06 13:06:44.0±0.9**, 11°.6S**±0°.1×**166°.4E**±0°.1**, h35km, n10, σ1s.31**/10**, mb4.0**/6**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.69	288	P	Pn	13 08 21.3	+1.5
	928nm,0.4s,baz=150,slow=2.2,SNR=8.1						
HNR				S	Sn	13 09 33.0	-1.9
	397nm,0.7s,baz=205,slow=21,SNR=1.0						
HNR				LR	LR	13 11 01.5	
	comp=Z,2μm,19.6s,baz=148,slow=39						
DZM	Mont Dzumac	10.43	180	P	Pn	13 09 17.8	+6.6
	0.3nm,0.3s,baz=107,slow=20,SNR=8.7						
DZM				S	Sn	13 11 06.0	-1.0
	6.1nm,1.0s,baz=206,slow=22,SNR=2.1						
DZM				LR	LR	13 12 32.4	
	comp=Z,51nm,20.3s,baz=58,slow=32						
	3.2nm,0.8s						
CTA	Charters Tower	21.12	244	LR	LR	13 18 04.1	
	comp=Z,50nm,18.7s,baz=82,slow=32						
WRA	Warramunga Arr	31.90	251	P	P	13 13 06.8	+0.3
	1.8nm,0.9s,baz=82,slow=9.4,SNR=5.2						
	1.8nm,0.9s						
ASAR	Alice Springs	33.12	244	P	P	13 13 17.6	+0.4
	1.6nm,0.7s,baz=74,slow=9.7,SNR=13						
	1.6nm,0.7s						
QSPA	South Pole Qui	78.42	180	P	P	13 18 42.1	+1.0
	2.3nm,0.8s,baz=327,slow=3.8,SNR=6.0						
	2.3nm,0.8s						
ILAR	Eielson Array	83.82	18	P	P	13 19 08.7	-0.9
	0.4nm,0.7s,baz=239,slow=5.4,SNR=8.7						
	0.4nm,0.7s						
MKAR	Makanchi Array	94.34	317	P	P	13 20 00.0	-0.1
	1.1nm,0.6s,baz=89,slow=6.2,SNR=9.4						
	1.1nm,0.6s						
YKA	Yellowknife Ar	95.16	27	P	P	13 20 04.0	+0.6
	0.2nm,0.7s,baz=254,slow=3.8,SNR=4.6						
	0.2nm,0.7s						
ARCES	ARCESS Array B	117.01	346	PKP	PKPdf	13 25 23.0	-1.7
	4.2nm,0.9s,baz=0.0,slow=0.4,SNR=5.4						

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*IDC **06** 13:08:13.0±3.6, 8°.51N×126°.75E, h84km±33km, mb3.6/10, mbtmp3.9/10, Error ellipse: s-maj=35.8km s-min=18.1km az=64.0*
ISC 06 13:08:04.2±1.7**, 8°.62N**±0°.03×**126°.75E**±0°.07**, h11km**±10km**, n24, σ1s.77**/33**, mb3.8**/10**, 4C-7D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.57	222	⇓eP	Pn	13 08 17.6	-0.8
BIPH				eS	Sg	13 08 23.6	+0.6
CDOP	Cateel, Davao	0.88	200	⇓iP	Pn	13 08 22.3	-0.2
CDOP				i S	Sb	13 08 32.3	-1.0
SCPH	Surigao	1.70	313	eP	Pg	13 08 37.4	+0.6
SCPH				eS	Sn	13 08 49.9	-5.7
DAV	Davao City (W)	1.92	217	P	Pg	13 08 41.5	+0.4
	360nm,0.4s,baz=48,slow=4.2,SNR=6.7						
DAV				S	Sg	13 09 06.6	+0.6
	174nm,0.3s,baz=260,slow=22,SNR=4.6						
DAV				LR	LR	13 09 31.9	
	comp=Z,213nm,18.6s,baz=317,slow=43						
KCP	Kidapawan	2.29	226	⇓eP	Pb	13 08 44.8	-0.8
KCP				i S	Sn	13 09 07.2	-3.0
MSLP	Maasin	2.40	309	⇑iP	Pg	13 08 59.9	+10
GHBP	Garcia Hernand	2.60	293	⇑eP	Pb	13 08 51.2	+0.3
TBP	Tagbilaran	3.04	291	eP	Pb	13 08 57.0	-1.4
TBP				eS	Sb	13 09 35.1	-0.5
PLP	Palo	3.07	326	⇓eP	Pb	13 08 57.3	-1.7
PLP				eS	Sg	13 09 40.8	-2.3
LSIP	Lazi, Siquijor	3.12	280	⇑iP	Pb	13 08 57.3	-2.4
LLP	Lapu-Lapu	3.22	302	⇓eP	Pb	13 09 01.0	-0.5
LLP				eS	Sb	13 09 41.9	+1.1
DCPH	Dipolog City	3.36	270	⇓eP	Pn	13 08 59.5	+2.9
DCPH				eS	Sn	13 09 39.1	+2.5
PAGZ	Pagadian	3.42	257	⇓iP	Pb	13 09 03.0	-1.8
RCP	Roxas	4.91	307	⇑iP	Pn	13 09 24.1	+6.1
CMAR	Chiang Mai Arr	28.70	293	P	P	13 14 03.0	+1.3
	1.1nm,0.3s,baz=110,slow=7.3,SNR=5.8						
	1.1nm,0.3s						
WRA	Warramunga Arr	29.35	165	P	P	13 14 07.0	-0.3
	0.2nm,0.3s,baz=345,slow=7.9,SNR=8.0						
	0.2nm,0.3s						
ASAR	Alice Springs	32.84	168	P	P	13 14 36.9	-1.2
	0.3nm,0.3s,baz=344,slow=7.5,SNR=4.9						
	0.3nm,0.3s						
KLR	Kul'dur	40.70	5	P	P	13 15 46.0	+1.3
	1.1nm,0.6s,baz=158,slow=7.3,SNR=4.2						
	1.1nm,0.6s						
MKAR	Makanchi Array	53.62	323	P	P	13 17 25.9	+0.2
	0.5nm,0.6s,baz=121,slow=8.7,SNR=7.0						
MKAR				PcP	PcP	13 18 32.5	+0.4
	0.4nm,0.6s,baz=95,slow=3.8,SNR=4.0						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	57.70	326	P	P	13 17 54.4	-0.5
	0.7nm,0.6s,baz=123,slow=7.2,SNR=8.2						
	0.7nm,0.6s						
BVAR	Borovoye Array	63.29	326	P	P	13 18 33.5	+0.5
	1.0nm,0.6s,baz=111,slow=8.1,SNR=7.5						
BVAR				PcP	PcP	13 19 09.7	-0.4
	0.5nm,0.6s,baz=116,slow=3.4,SNR=2.2						
	1.0nm,0.6s						
ILAR	Eielson Array	80.72	26	P	P	13 20 19.1	+1.8
	0.3nm,0.7s,baz=257,slow=4.0,SNR=4.2						
	0.3nm,0.7s						
ARCES	ARCESS Array B	85.90	340	P	P	13 20 44.1	+0.1
	7.6nm,1.0s,baz=79,slow=6.5,SNR=5.3						
	7.6nm,1.0s						
FINES	FINESS Array B	87.56	332	P	P	13 20 51.8	-0.4
	1.4nm,0.5s,baz=78,slow=3.9,SNR=14						
	1.4nm,0.5s						

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*NIED **06** 13:45:25.3, 40°.71N×142°.69E, h22km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr3.33; Mθθ0.04; Mφφ-3.38; Mrθ-1.88; Mθφ-0.32; Mφr1.62; Fault plane solution: M0 4.13000×10^15 NP1: φs340.00000°, δ62.00000°, λ65.00000°. NP2: φs205.00000°, δ37.00000°, λ128.00000°.*
*JMA **06** 13:45:25.3±0.2, 40°.7N±0°.4×142°.7E±0°.8, h22km±3km, MD4.5/39, MV4.9/39, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
*NEIC **06** 13:45:29.2±2.0, 40°.79N±0°.06×142°.5E±0°.1, h50km±7km, mb4.6/63, Error ellipse: s-maj=14.1km s-min=8.2km az=101.0*
*IDC **06** 13:45:30.3±1.7, 40°.72N×142°.59E, h66km±14km, mb4.0/26, mbtmp4.3/33, MS3.5/12, Error ellipse: s-maj=14.7km s-min=9.9km az=109.0*
*BGR **06** 13:45:38.8, 42°.19N×141°.89E, h48km, mb4.5*
ISC 06 13:45:26.7±0.6**, 40°.73N**±0°.03×**142°.69E**±0°.04**, h33km**±1km**, h34km:pP-P, n204, σ1s.52**/207**, mb4.5**/87**, MS3.7**/8**, 1C-19D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKEN	Kujiedanarisaw	0.91	235	⇓iP	Pn	13 45 41.9	-1.2
JKEN				⇓S	Sn	13 45 53.4	-1.6
JKEN	Kujiedanarisaw	0.91	235	A	A	13 45 41.9	
	comp=E,16nm,0.7s,comp=N,17nm,0.8s						
JANG	Nango	0.96	249	⇓iP	Pn	13 45 43.0	-0.8
JANG				⇓S	Sn	13 45 55.1	-1.2
JANG	Nango	0.96	249	A	A	13 45 43.0	
	comp=E,11nm,0.3s,comp=N,20nm,0.4s						
JTH	Tanohata	1.01	219	⇓iP	Pn	13 45 43.4	-1.0
JTH				⇓S	Sn	13 45 56.0	-1.4
JARK	Aomorirokkasho	1.04	286	⇓iP	Pn	13 45 44.2	-0.7
JARK	Aomorirokkasho	1.04	286	A	A	13 45 44.2	
	comp=E,15nm,0.8s,comp=N,13nm,0.6s						
JAHD	Aomorihigashid	1.16	298	A	A	13 45 46.2	
	comp=E,26nm,0.5s,comp=N,29nm,1.2s						
JTM	Tenmabayashi	1.23	273	Pn	Pn	13 45 47.3	-0.2
JTM	Tenmabayashi	1.23	273	⇓iP	Pn	13 45 47.3	-0.2
JTM				⇓S	Sn	13 46 03.1	+0.1
JTM	Tenmabayashi	1.23	273	A	A	13 45 47.3	
	comp=E,8.0nm,0.5s,comp=N,7.0nm,0.9s						
JKZ	Kuzumaki	1.28	235	A	A	13 45 47.8	
	comp=E,13nm,0.3s,comp=N,15nm,0.2s						
ERM	Erimo	1.33	15	Pn	Pb	13 45 49.9	-1.2
JEM	Erimo	1.33	15	eP	Pn	13 45 48.8	-0.1
JOT	Ohata	1.40	298	⇓iP	Pn	13 45 49.4	-0.4
JOT				⇓S	Sn	13 46 06.0	-1.2
JOT	Ohata	1.40	298	A	A	13 45 49.4	
	comp=E,9.0nm,1.0s,comp=N,13nm,0.9s						
JNBK	Urakawa-nobuka	1.55	2	P	Pn	13 45 53.0	+1.1
JNBK				S	Sb	13 46 13.8	-0.3
JNBK	Urakawa-nobuka	1.55	2	A	A	13 45 53.0	
	comp=E,8.0nm,2.9s,comp=N,8.0nm,0.6s						
JOM	Ohasama	1.65	221	⇓iP	Pn	13 45 53.4	+0.2
JOM				⇓eS	Sn	13 46 14.2	+0.9
JOM	Ohasama	1.65	221	A	A	13 45 53.4	
	comp=E,12nm,0.3s,comp=N,10.0nm,0.7s						
JSZI	Iwateshizukuis	1.66	234	A	A	13 45 53.5	
	comp=E,18nm,0.8s,comp=N,17nm,1.2s						
JAH	Hinai	1.66	252	⇓iP	Pn	13 45 54.1	+0.8
JAH				⇓S	Sb	13 46 15.1	-2.0
JAH	Hinai	1.66	252	A	A	13 45 54.1	
	comp=E,11nm,1.3s,comp=N,9.0nm,1.6s						
JSHD	Hidakashinhida	1.69	354	A	A	13 45 54.4	
	comp=E,12nm,2.5s,comp=N,8.0nm,1.5s						
JKB	Kayabe	1.70	313	⇓iP	Pn	13 45 53.8	-0.2
JKB				⇓eS	Sn	13 46 13.8	-0.9
JKB	Kayabe	1.70	313	A	A	13 45 53.8	
	comp=E,8.0nm,1.0s,comp=N,9.0nm,0.8s						
JSI2	Shiura 2	1.76	282	A	A	13 45 55.3	
	comp=E,14nm,1.1s,comp=N,16nm,0.7s						
JHHS	Hirosakihyakuz	1.77	268	A	A	13 45 55.4	
	comp=E,14nm,4.0s,comp=N,12nm,1.2s						
JSR	Shiriuchi	1.90	296	i P	Pn	13 45 57.1	+0.5
JSR				S	Sn	13 46 20.4	+1.1
JSR	Shiriuchi	1.90	296	A	A	13 45 57.1	
	comp=E,4.0nm,0.8s,comp=N,6.0nm,0.8s						
JCH	Churui	1.95	15	P	Pn	13 45 58.2	+0.8
JCH				S	Sn	13 46 22.1	+1.4
JIAM	Iburiatsuma	1.98	343	P	Pb	13 46 00.1	-1.9
JIAM				eS	Sb	13 46 25.1	-1.3
JIAM	Iburiatsuma	1.98	343	A	A	13 46 00.1	
	comp=E,16nm,0.9s,comp=N,13nm,1.3s						
JIW	Iwasaki	2.05	267	P	Pn	13 45 59.6	+0.9
JIW	Iwasaki	2.05	267	A	A	13 45 59.6	
	comp=E,6.0nm,0.6s,comp=N,5.0nm,0.6s						
JRG	Rokugo	2.06	231	A	A	13 45 59.4	
	comp=E,11nm,0.6s,comp=N,10.0nm,1.1s						
JMK	Ichinoseki	2.10	213	P	Pn	13 46 00.7	+1.2
JMK				eS	Sn	13 46 26.6	+2.1
JMK	Ichinoseki	2.10	213	A	A	13 46 00.7	
	comp=E,7.0nm,1.3s,comp=N,5.0nm,1.7s						
JYM2	Yakumo 2	2.23	309	A	A	13 46 02.2	
	comp=E,4.0nm,0.5s,comp=N,4.0nm,0.7s						
JYW	Yuwa	2.24	239	A	A	13 46 02.1	
	comp=E,10.0nm,2.8s,comp=N,12nm,2.7s						
JEW	Eniwo	2.31	337	A	A	13 46 03.4	
	comp=E,16nm,0.8s,comp=N,11nm,0.9s						
JAB	Ashibetsu	2.80	353	A	A	13 46 10.4	
	comp=E,4.0nm,1.1s,comp=N,4.0nm,1.0s						
JHR	Hokuryu	3.10	347	A	A	13 46 14.7	
	comp=E,6.0nm,4.4s,comp=N,4.0nm,1.7s						
JYA	Atsumi	3.13	228	A	A	13 46 14.8	
	comp=E,5.0nm,0.7s,comp=N,6.0nm,0.8s						
JMM	Marumori	3.21	208	Pn	Pn	13 46 15.8	+1.0
ASAJ	Asahikawa	3.39	359	P	Pn	13 46 18.8	+1.7
	comp=N,68nm,0.4s,baz=203,slow=11,SNR=72						
ASAJ				S	Sb	13 47 01.4	-5.3
	comp=N,139nm,0.6s,baz=249,slow=14,SNR=4.1						
JKA	Kamikawa-asahi	3.39	359	Pn	Pn	13 46 18.7	+1.6
JYAR	Yonezawaarcadi	3.44	216	A	A	13 46 19.0	
	comp=E,7.0nm,1.0s,comp=N,9.0nm,1.2s						
MJB9	Matsu-Tunnel	5.46	222		Pn	13 46 49.0	+3.4
MAJO	Matsushiro	5.46	221	Pn	Pn	13 46 48.4	+2.8
MJAR	Matsushiro Arr	5.46	221	P	Pn	13 46 48.5	+2.9
	comp=N,32nm,0.5s,baz=32,slow=13,SNR=137						
MJAR				LR	LR	13 49 19.4	
	comp=N,423nm,20.6s,baz=62,slow=42						
YSS	Yuzh-Sakhalins	6.22	0		Pn	13 46 57.2	+1.1
JHJ	Hachijo jima 2	7.94	198	P	Pn	13 47 18.6	-1.1
	comp=N,58nm,0.3s,baz=82,slow=16,SNR=5.0						
JHJ				S	Sn	13 48 43.4	-5.0
	comp=N,50nm,0.3s,baz=252,slow=23,SNR=1.3						
JHJ2	Mitsune	7.94	198	Pn	Pn	13 47 18.7	-1.0
USA0B	Ussuriysk Arra	8.64	297	Pn	Pn	13 47 29.3	+0.1
USRK	Ussuriysk Ar.	8.64	297	Pn	Pn	13 47 28.9	-0.3
USRK	Ussuriysk Ar.	8.64	297	P	Pn	13 47 30.7	+1.5
	comp=N,33nm,0.7s,baz=101,slow=14,SNR=28						
USRK				LR	LR	13 50 52.8	
	comp=N,272nm,18.4s,baz=178,slow=38						
JMN	Monobe	9.90	228	Pn	Pn	13 47 47.9	+1.3
MDJ	Mudanjiang	10.40	296	P	Pn	13 47 51.9	-1.4
MDJ				sP		13 48 07.0	
MDJ				S	Sn	13 49 22.0	-27
MDJ				SS	SnSn	13 49 34.1	-26
MDJ	Mudanjiang	10.40	296	Pn	Pn	13 47 55.1	+1.8
KLR	Kul'dur	11.49	321	P	Pn	13 48 11.6	+3.4
	comp=N,1.9nm,0.7s,baz=116,slow=16,SNR=5.6						
KLR				LR	LR	13 52 56.7	
	comp=N,133nm,18.5s,baz=142,slow=39						
KSRS	Korea Array	11.93	259	P	Pn	13 48 18.6	+4.3
	comp=N,3.5nm,0.6s,baz=67,slow=14,SNR=8.5						
KSRS				S	Sn	13 50 26.6	+0.4
	comp=N,0.9nm,0.7s,baz=67,slow=25,SNR=1.9						
KSRS				LR	LR	13 52 31.4	
	comp=N,279nm,18.3s,baz=70,slow=35						
JNU	Nakatsue	12.11	235	P	Pn	13 48 18.4	+1.5
	comp=N,15nm,1.0s,baz=55,slow=4.2,SNR=11						
JNU				LR	LR	13 53 00.1	
	comp=N,176nm,18.4s,baz=57,slow=37						
HEH	HeiHe	14.31	317	eP	P	13 48 50.2	-3.2
HEH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HEH				LR	LR		
	comp=N,170nm,12.5s						
HEH				LR	LR		
	comp=E,180nm,13.5s						
HEH				LR	LR		
	comp=Z,180nm,12.6s						
PETK	Petropavlovsk-	16.04	34	P	Pn	13 49 06.0	-3.5
	comp=Z,4.4nm,1.0s,baz=240,slow=16,SNR=2.9						
PETK				LR	LR	13 55 30.2	
	comp=Z,112nm,18.9s,baz=229,slow=37						
HIA	Hailar	18.28	306	P	P	13 49 35.1	-2.4
MA2	Magadan	19.54	12	P	P	13 49 51.6	+0.5
	comp=Z,3.0nm,0.7s,baz=190,slow=12,SNR=3.6						
MA2				LR	LR	13 56 35.1	
	comp=Z,72nm,21.4s,baz=176,slow=34						
BJI	Beijing	20.19	277	P	P	13 49 56.1	-2.2
BJI				pP	pP	13 50 07.5	+0.6
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TIA	Tai'an	20.49	266	P	P	13 50 00.6	-1.1
TIA				pmax	pmax		
	comp=Z,13nm,1.0s						
NJ2	Nanjing	21.00	253	eP	P	13 50 07.7	+0.5
NJ2				pP	pP	13 50 16.3	+0.5
NJ2				sP	sP	13 50 23.6	+3.8
NJ2				pmax	pmax		
	comp=Z,25nm,0.7s						
HNS	HongShan	21.94	270	⇓P	P	13 50 14.3	-2.9
HNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SEY	Seymchan	22.98	11	LR	LR	14 00 37.1	
	comp=Z,72nm,20.9s,baz=306,slow=39						
HHC	Hu-ho-hao-te	23.51	281	eP	P	13 50 32.3	-1.3
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,5.5s						
HHC				LR	LR		
	comp=N,120nm,13.8s						
HHC				LR	LR		
	comp=E,390nm,14.5s						
HHC				LR	LR		
	comp=Z,380nm,15.3s						
LYN	LuoYang	24.64	265	⇓P	P	13 50 43.0	-1.0
LYN				pmax	pmax		
	comp=Z,13nm,0.8s						
LYN				pmax	pmax		
	comp=Z,170nm,4.1s						
LYN				LR	LR		
	comp=N,500nm,17.2s						
LYN				LR	LR		
	comp=E,370nm,15.5s						
LYN				LR	LR		
	comp=Z,670nm,16.8s						
BTO	Baotou	24.71	280	eP	P	13 50 45.5	+0.8
BTO				pP	sP	13 50 56.6	-1.2
BTO				sP	pP	13 51 03.2	+9.3
BTO				PP	PnPn	13 51 22.2	+5.0
BTO				S	S	13 55 06.0	+1.6
BTO				SS	SnSn	13 55 58.1	+6.2
BTO				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,21nm,0.5s						
BTO				pmax	pmax		
	comp=Z,210nm,4.4s						
BTO				LR	LR		
	comp=N,290nm,7.3s						
BTO				LR	LR		
	comp=E,230nm,5.5s						
BTO				LR	LR		
	comp=Z,200nm,5.1s						
WHN	Wuhan	25.08	255	P	P	13 50 53.6	+5.6
ULN	Ulaanbaatar	26.31	298	P	P	13 50 59.4	+0.2
ULN	Ulaanbaatar	26.31	298	P	P	13 51 01.4	+2.1
SONM	Songino Array	26.75	298	P	P	13 51 01.7	-1.5
SONM	Songino Array	26.75	298	P	P	13 51 03.3	+0.1
	comp=Z,2.7nm,0.5s,baz=86,slow=8.5,SNR=16						
SONM				LR	LR	14 02 20.3	
	comp=Z,102nm,19.0s,baz=167,slow=38						
	comp=Z,2.7nm,0.5s						
XAN	Xi'an	27.53	267	P	P	13 51 09.3	-1.0
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LZH	Lanzhou	30.62	274	eP	P	13 51 38.1	+0.3
LZH				pP	sP	13 51 52.6	+1.7
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
TIXI	Tiksi	31.76	352	P	P	13 51 46.5	-0.8
GTA	Gaotai	32.60	282	eP	P	13 51 53.9	-1.3
GTA				pP	pP	13 51 59.6	-4.8
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GYA	Guiyang	32.96	256⇑	iP	P	13 51 58.1	-0.3
GYA				pP	sP	13 52 10.3	-1.2
GYA				pmax	pmax		
	comp=Z,25nm,0.7s						
QIZ	Qiongzhong	35.45	242	P	P	13 52 19.9	+0.1
QIZ				S	S	13 57 52.1	-0.6
QIZ				pmax	pmax		
	comp=Z,13nm,1.9s						
QIZ				LR	LR		
	comp=N,400nm,18.1s						
QIZ				LR	LR		
	comp=E,310nm,14.6s						
QIZ				LR	LR		
	comp=Z,440nm,18.6s						
PZH	PanZhiHua	36.60	260	P	P	13 52 29.4	-0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,4.9s						
L16K	Owhat River	40.16	39	P	P	13 53 01.6	+2.4
L16K				IAmb	IAmb	13 53 19.1	
	comp=Z,19nm,1.5s						
WMQ	Urumqi	40.18	293	eP	P	13 53 01.1	+1.4
WMQ				sP	sP	13 53 15.6	+2.8
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZAA0	Zalesovo Array	40.26	309	P	P	13 52 59.2	-0.9
ZALV	Zalesovo Beam	40.26	309	P	P	13 52 58.9	-1.2
ZALV	Zalesovo Beam	40.26	309	P	P	13 52 59.8	-0.3
	comp=Z,11nm,0.6s,baz=93,slow=8.2,SNR=47						
ZALV				PcP	PcP	13 55 03.2	-0.1
	comp=Z,1.6nm,0.4s,baz=105,slow=3.5,SNR=4.8						
ZALV				LR	LR	14 10 28.4	
	comp=Z,90nm,18.9s,baz=61,slow=37						
	comp=Z,11nm,0.6s						
H18K	Honhosa River	41.00	33	P	P	13 53 07.2	+1.2
H18K				IAmb	IAmb	13 53 24.6	
	comp=Z,22nm,1.2s						
CRAI	Chiangrai	41.31	253	P	P	13 53 10.3	+1.1
CRAI				IAmb	IAmb	13 53 24.6	
	comp=Z,16nm,0.9s						
L18K	Granite Mounta	41.51	38	P	P	13 53 12.0	+1.8
L18K				IAmb	IAmb	13 53 50.9	
	comp=Z,16nm,1.4s						
D19K	Kuna River	41.61	28	P	P	13 53 12.1	+1.0
D19K				IAmb	IAmb	13 53 30.5	
	comp=Z,19nm,1.4s						
G19K	Purcell Mounta	41.65	32	P	P	13 53 12.3	+0.9
G19K				IAmb	IAmb	13 53 30.2	
	comp=Z,9.1nm,0.9s						
E19K	Redstone River	41.77	30	P	P	13 53 13.7	+1.3
H19K	Roundabout Mou	41.84	33	P	P	13 53 14.0	+1.1
J19K	Poorman	42.08	35	P	P	13 53 15.2	+0.4
J19K				IAmb	IAmb	13 53 32.3	
	comp=Z,10nm,1.1s						
PHRA	Phrae	42.52	251	P	P	13 53 18.5	-0.5
J20K	Nowinta River	42.73	35	P	P	13 53 21.3	+1.1
IMAR	Indian Mountai	42.99	33	P	P	13 53 23.8	+1.5
B21K	Ikpikpuk River	43.04	27	P	P	13 53 23.6	+0.9
B21K				IAmb	IAmb	13 53 38.7	
	comp=Z,7.0nm,0.8s						
MK31	Makanchi Array	43.10	299	P	P	13 53 23.2	-0.3
MK31				IAmb	IAmb	13 53 36.1	
	comp=Z,7.2nm,0.8s						
MKAR	Makanchi Array	43.10	299	P	P	13 53 22.3	-1.2
MKAR	Makanchi Array	43.10	299	P	P	13 53 23.3	-0.2
	comp=Z,3.9nm,0.5s,baz=84,slow=11,SNR=60						
MKAR				PcP	PcP	13 55 12.2	-0.6
	comp=Z,0.3nm,0.3s,baz=70,slow=4.3,SNR=1.0						
	comp=Z,3.9nm,0.5s						
G21K	Allakaket	43.12	32	P	P	13 53 23.0	-0.4
G21K				IAmb	IAmb	13 53 42.5	
	comp=Z,11nm,0.8s						
CMMT	Chiang Mai	43.25	253	P	P	13 53 25.2	+0.3
	comp=Z,20nm,0.8s						
CHTO	Chiang Mai	43.25	253	P	P	13 53 25.3	+0.4
	comp=Z,7.5nm,0.9s						
MAKZ	Makanchi	43.30	299	P	P	13 53 24.4	-0.7
MAKZ				IAmb	IAmb	13 53 32.7	
	comp=Z,8.1nm,0.8s						
H21K	Melozitna Rive	43.36	33	P	P	13 53 26.8	+1.5
H21K				IAmb	IAmb	13 53 43.9	
	comp=Z,20nm,1.3s						
CMAR	Chiang Mai Arr	43.48	253	P	P	13 53 26.8	0.0
	comp=Z,1.6nm,0.6s,baz=48,slow=6.8,SNR=9.2						
CMAR				PcP	PcP	13 55 15.0	+0.5
	comp=Z,0.5nm,0.3s,baz=5.7,slow=1.8,SNR=2.4						
	comp=Z,1.6nm,0.6s						
B22K	Teshekpuk Lake	43.55	26	P	P	13 53 26.8	+0.1
CAST	Castle Rocks	43.64	36	P	P	13 53 29.0	+1.4
CAST				IAmb	IAmb	13 53 38.8	
	comp=Z,14nm,1.5s						
E22K	Anaktuvuk Pass	43.89	29	P	P	13 53 30.7	+1.1
TOLI2	Tolitoli	44.15	212	P	P	13 53 31.4	-0.8
TOLI2				IAmb	IAmb	13 53 50.1	
	comp=Z,9.6nm,1.0s						
C23K	Itkillik River	44.45	27	P	P	13 53 34.9	+1.0
FAKI	Fak Fak	44.47	195	P	P	13 53 33.7	-1.0
KURK	Kurchatov	44.52	305	P	P	13 53 34.1	-0.7
KURK				IAmb	IAmb	13 53 49.3	
	comp=Z,11nm,0.7s						
KURBB	Kurchatov Arra	44.60	305	P	P	13 53 34.8	-0.6
	comp=Z,3.5nm,0.4s,baz=79,slow=8.7,SNR=49						
KURBB				PcP	PcP	13 55 17.3	-0.5
	comp=Z,2.4nm,0.8s,baz=93,slow=3.5,SNR=3.9						
	comp=Z,3.5nm,0.4s						
D24K	Happy Valley	45.04	28	P	P	13 53 39.2	+0.6
D24K				IAmb	IAmb	13 53 54.9	
	comp=Z,7.0nm,0.6s						
F24K	Squaw Lake	45.36	30	P	P	13 53 42.6	+1.4
H24K	Noodor Dome	45.39	33	P	P	13 53 42.0	+0.5
H24K				IAmb	IAmb	13 53 59.7	
	comp=Z,7.5nm,1.1s						
ILAR	Eielson Array	45.86	34	P	P	13 53 46.1	+0.8
	comp=Z,0.6nm,0.7s,baz=262,slow=6.0,SNR=9.7						
ILAR				LR	LR	14 14 07.5	
	comp=Z,40nm,18.1s,baz=115,slow=37						
	comp=Z,0.6nm,0.7s						
D25K	Kavik River	45.91	28	P	P	13 53 46.0	+0.3
E25K	Arctic Village	46.23	30	P	P	13 53 48.3	+0.1
BMAR	Burnt Mountain	46.63	30	P	P	13 53 52.9	+1.5
L26K	Log Cabin Wild	47.61	36	P	P	13 54 00.8	+1.8
L26K				IAmb	IAmb	13 54 18.2	
	comp=Z,5.9nm,0.9s						
E27K	Coleen River	47.71	29	P	P	13 54 00.9	+1.3
TARG	Taragay, Kyrgy	47.75	294	P	P	13 54 00.3	-0.5
TARG				IAmb	IAmb	13 54 07.9	
	comp=Z,11nm,1.0s						
D27M	Malcolm River	47.84	28	P	P	13 54 02.0	+1.3
TGL	Tana Glacier	48.24	39	P	P	13 54 03.7	-0.2
BCAR	Beaver Creek A	48.31	36	P	P	13 54 05.3	+0.9
F28M	Old Crow	48.42	30	P	P	13 54 07.0	+1.9
F28M				IAmb	IAmb	13 54 24.7	
	comp=Z,8.1nm,0.8s						
E28M	Babbage River	48.42	29	P	P	13 54 06.9	+1.8
E28M				IAmb	IAmb	13 54 38.0	
	comp=Z,7.4nm,1.2s						
I28M	Miner Creek	48.71	33	P	P	13 54 09.0	+1.5
I28M				IAmb	IAmb	13 54 26.8	
	comp=Z,4.5nm,0.9s						
BOOM	Boomskoye usch	48.75	295	P	P	13 54 07.4	-0.9
BVAR	Borovoye Array	48.89	310	P	P	13 54 08.9	-0.1
	comp=Z,9.9nm,0.5s,baz=71,slow=8.3,SNR=36						
BVAR				PcP	PcP	13 55 32.8	-0.1
	comp=Z,1.9nm,0.6s,baz=87,slow=3.2,SNR=1.6						
	comp=Z,9.9nm,0.5s						
BRVK	Borovoye	48.94	310	P	P	13 54 07.8	-1.5
BRVK				IAmb	IAmb	13 54 10.1	
	comp=Z,5.9nm,0.7s						
E29M	Blow River	49.05	29	P	P	13 54 12.2	+2.2
E29M				IAmb	IAmb	13 54 28.3	
	comp=Z,10nm,1.1s						
AAK	Ala-Archa	49.69	296	P	P	13 54 14.2	-1.2
AAK				IAmb	IAmb	13 54 28.0	
	comp=Z,3.2nm,0.7s						
KSH	Kashi	49.89	292	P	P	13 54 20.8	+3.9
KSH				pP	sP	13 54 33.7	+3.4
G30M	tAoh Zraii Nji	49.92	31	P	P	13 54 17.9	+1.3
G30M				IAmb	IAmb	13 54 33.4	
	comp=Z,7.5nm,0.8s						
K29M	Barlow Dome	50.03	35	P	P	13 54 19.2	+1.5
K29M				IAmb	IAmb	13 54 36.5	
	comp=Z,3.8nm,0.8s						
I30M	Mount Dempster	50.22	33	P	P	13 54 20.7	+1.6
INK	Inuvik	50.66	29	P	P	13 54 23.4	+1.3
INK				IAmb	IAmb	13 54 40.5	
	comp=Z,7.1nm,0.8s						
INK	Inuvik	50.66	29	LR	LR	14 18 02.7	
	comp=Z,84nm,18.4s,baz=192,slow=38						
G31M	Satah River	50.68	30	P	P	13 54 23.6	+1.2
G31M				IAmb	IAmb	13 54 41.1	
	comp=Z,6.6nm,0.8s						
N31M	Braeburn, Yuko	51.40	37	P	P	13 54 29.7	+1.9
N31M				IAmb	IAmb	13 55 10.2	
	comp=Z,11nm,1.2s						
KKAR	Karatay Array	52.20	298	P	P	13 54 33.2	-0.9
A36M	Sachs Harbour	52.47	23	P	P	13 54 37.3	+1.7
MTN	Manton Dam	54.36	194	P	P	13 54 49.5	-0.6
ABKAR	Akbulak array	56.37	309	P	P	13 55 03.8	-0.5
SPITS	Spitsbergen Ar	57.10	349	P	P	13 55 08.4	-0.7
	comp=Z,2.4nm,0.7s,baz=44,slow=8.5,SNR=0.9						
	comp=Z,2.4nm,0.7s						
RES	Resolute Bay	58.78	15	P	P	13 55 20.4	-0.5
RES				IAmb	IAmb	13 55 35.2	
	comp=Z,7.0nm,0.9s						
YKA	Yellowknife Ar	60.13	31	P	P	13 55 30.9	+0.5
	comp=Z,0.1nm,0.6s,baz=267,slow=5.4,SNR=2.5						
WB0	Warramunga Arr	60.67	189	P	P	13 55 33.6	-0.9
WB2	Warramunga Arr	60.85	189	P	P	13 55 35.0	-0.7
WRA	Warramunga Arr	60.85	189	P	P	13 55 34.1	-1.6
WRA	Warramunga Arr	60.85	189	P	P	13 55 35.1	-0.6
	comp=Z,4.1nm,0.7s,baz=7.1,slow=6.9,SNR=43						
	comp=Z,4.1nm,0.7s						
ARCES	ARCESS Array B	60.90	339	P	P	13 55 35.0	-0.6
	comp=Z,5.2nm,1.0s,baz=27,slow=6.8,SNR=6.7						
	comp=Z,5.2nm,1.0s						
NEEM	North Greenlan	61.79	3	eP	P	13 55 41.8	0.0
GEYT	Alibeck	62.96	298	P	P	13 55 49.3	-0.6
	comp=Z,3.9nm,0.6s,baz=68,slow=8.2,SNR=8.0						
	comp=Z,3.9nm,0.6s						
AS31	Alice Springs	64.58	189	P	P	13 56 00.5	-0.1
ASAR	Alice Springs	64.58	189	P	P	13 56 00.3	-0.2
ASAR	Alice Springs	64.58	189	P	P	13 56 00.5	-0.1
	comp=Z,4.5nm,0.8s,baz=1.0,slow=5.8,SNR=56						
	comp=Z,4.5nm,0.8s						
FINES	FINESS Array B	66.02	332	P	P	13 56 08.9	-0.5
	comp=Z,5.8nm,0.5s,baz=46,slow=7.2,SNR=56						
	comp=Z,5.8nm,0.5s						
SUMG	Summit	66.99	0	iP	P	13 56 17.0	+1.0
SUMG				IAmb	IAmb	13 56 17.9	
	comp=Z,13nm,0.9s						
KBZ	Khabaz	69.27	310	P	P	13 56 30.9	+0.6
	comp=Z,4.3nm,0.8s,baz=50,slow=6.2,SNR=10						
	comp=Z,4.3nm,0.8s						
ICESG	Greenland Ices	70.49	1	eP	P	13 56 37.7	-0.1
ICESG				IAmb	IAmb	13 56 38.9	
	comp=Z,8.2nm,0.9s						
HFS	Hagfors	71.14	336	P	P	13 56 41.2	-0.2
	comp=Z,2.7nm,0.4s,baz=38,slow=5.6,SNR=17						
	comp=Z,2.7nm,0.4s						
NB2	NORSAR Subarra	71.17	337	P	P	13 56 41.4	-0.2
	comp=Z,2.4nm,0.8s,baz=36,slow=6.5						
NOA	NORSAR Array B	71.17	337	P	P	13 56 41.4	-0.2
	comp=Z,3.0nm,0.8s,baz=37,slow=6.1,SNR=10						
	comp=Z,3.0nm,0.8s						
AKASG	Malin Array Be	71.99	322	P	P	13 56 46.1	-0.6
	comp=Z,1.4nm,0.5s,baz=44,slow=6.0,SNR=12						
	comp=Z,1.4nm,0.5s						
NVAR	Mina Array Bea	72.01	55	P	P	13 56 47.9	+0.6
	comp=Z,0.4nm,0.7s,baz=286,slow=7.4,SNR=2.5						
	comp=Z,0.4nm,0.7s						
STKA	Stephens Creek	72.25	181	P	P	13 56 48.3	0.0
	comp=Z,2.3nm,0.9s,baz=236,slow=3.6,SNR=1.8						
	comp=Z,2.3nm,0.9s						
DY2G	Dye2	72.91	4	eP	P	13 56 52.4	+0.2
DY2G				IAmb	IAmb	13 56 54.3	
	comp=Z,7.9nm,0.7s						
PDAR	Pinedale Array	74.39	47	P	P	13 57 02.0	+0.7
	comp=Z,0.5nm,0.6s,baz=278,slow=2.2,SNR=6.2						
	comp=Z,0.5nm,0.6s						
STHS	Stebnicka Huta	76.51	325	eP	P	13 57 12.4	-0.7
BRTR	Keskin Array B	77.15	312	P	P	13 57 16.8	-0.3
	comp=Z,1.2nm,0.6s,baz=64,slow=3.8,SNR=5.6						
	comp=Z,1.2nm,0.6s						
MORC	Moravsky Berou	77.81	327	P	P	13 57 19.0	-1.4
MORC				IAmb	IAmb	13 57 21.3	
	comp=Z,3.8nm,0.9s						
KRLC	Kraliky	77.89	328	eP	P	13 57 21.0	+0.2
VYHS	Vyhne	78.25	326	eP	P	13 57 23.0	+0.2
CLL	Collm	78.39	330	iP	P	13 57 23.3	-0.2
	comp=Z,3.0nm,0.6s						
CLL				epP	sP	13 57 38.0	+0.8
ZVC	Zvikov	79.42	329	eP	P	13 57 29.8	+0.5
CKRC	Cesky Krumlov	79.87	328	eP	P	13 57 33.9	+2.2
KHC	Kasperske Hory	79.91	329	eP	P	13 57 32.3	+0.3
KHC				epP	sP	13 57 47.4	+1.7
RONA	Rosalia, Austr	79.94	326	iP	P	13 57 33.0	+0.9
	comp=Z,4.8nm,1.2s						
CONA	Conrad Observa	79.94	327	iP	P	13 57 32.9	+0.7
	comp=Z,3.5nm,1.0s						
EKA	Eskdalemuir Ar	79.98	341	P	P	13 57 30.0	-2.1
	comp=Z,0.8nm,0.5s,baz=17,slow=5.2,SNR=4.6						
	comp=Z,0.8nm,0.5s						
GERES	GERESS Array B	80.09	329	P	P	13 57 31.8	-1.2
	comp=Z,0.8nm,0.6s,baz=46,slow=5.8,SNR=5.0						
	comp=Z,0.8nm,0.6s						
GRF	Grafenberg Arr	80.36	330	eP	P	13 57 34.8	+0.4
	comp=Z,4.6nm,0.9s,baz=36,slow=4.6						
GRF				epP	sP	13 57 48.5	+0.4
MMAI	Mount Meron Ar	80.64	306	P	P	13 57 36.8	+0.6
	comp=Z,2.3nm,0.6s,baz=11,slow=4.7,SNR=5.6						
	comp=Z,2.3nm,0.6s						
SOKA	Soboth	81.28	327	eP	P	13 57 39.4	+0.1
	comp=Z,5.9nm,1.2s						
OBKA	Obir	81.61	327	iP	P	13 57 41.6	+0.4
	comp=Z,5.0nm,1.1s						
WTTA	Wattenberg	82.19	329	iP	P	13 57 45.1	+0.8
	comp=Z,2.4nm,0.6s						
MOTA	Moosalm	82.33	329	iP	P	13 57 45.3	+0.3
	comp=Z,8.4nm,1.1s						
RETA	Reutte	82.35	329	eP	P	13 57 45.1	+0.1
	comp=Z,5.7nm,0.9s						
DAVA	Damuels	82.85	330	iP	P	13 57 47.5	-0.2
	comp=Z,6.3nm,0.9s						
FUORN	Ofenpass-Fuorn	83.25	329	P	P	13 57 50.3	+0.4
FUORN				IAmb	IAmb	13 58 06.8	
	comp=Z,4.4nm,0.6s						
TOZ	Tahuroa Road	83.66	154	P	P	13 57 51.9	+0.4
TXAR	Lajitas Array	87.10	53	P	P	13 58 10.0	+0.7
	comp=Z,0.2nm,0.4s,baz=308,slow=4.4,SNR=2.8						
	comp=Z,0.2nm,0.4s						
ESDC	Sonseca Array	94.40	335	P	P	13 58 42.5	-0.6
	comp=Z,0.4nm,0.6s,baz=3.7,slow=4.0,SNR=1.9						
	comp=Z,0.4nm,0.6s						

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*BJI **06** 13:52:50.7±0.0, 3°.47N×126°.54E, h70km, mb4.5/56, mB5.0/32, Ms4.4/34, Ms7 4.3/35*
*MAN **06** 13:52:50.4, 3°.91N×126°.63E, h25km, mb5.6, ML4.7, MS5.0*
*IDC **06** 13:52:52.0±2.3, 4°.14N×126°.62E, h32km±15km, mb4.3/28, mbtmp4.5/30, ML4.0/2, MS3.8/36, Error ellipse: s-maj=20.8km s-min=9.3km az=76.0*
*NEIC **06** 13:52:54.6±2.3, 4°.15N±0°.05×126°.71E±0°.07, h47km±6km, mb4.9/74, Error ellipse: s-maj=11.7km s-min=5.6km az=56.0*
*DJA **06** 13:52:54.5±0.3, 4°N±3°×12°7E±°, h10km, M4.8/33, mb5.0/33, mB5.3/20, MLv5.0/17, Mw(mB)4.7/20, MwMwp4.5/1, Mwp4.8/1*
ISC 06 13:52:55.8±0.4, **4°.03N**±0°.03×**126°.53E**±0°.05, **h58**km±3km, **h59**km**:pP-P, n288,** σ2.35/302, **mb4.8**/81, **MS4.0**/49, **38C-16D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.05	251	P	Pn	13 53 14.3	-0.2
DDMP	Don Marcelino,	2.21	338⇓	eP	Pn	13 53 25.9	-4.3
DDMP				eS	Sn	13 54 00.3	+3.9
MATI	Mati	2.91	355⇑	eP	Pn	13 53 37.2	-2.5
MATI				eS	Sn	13 54 16.7	+3.3
DAV	Davao City (W)	3.16	343	Pn	Pn	13 53 40.5	-2.6
DAV	Davao City (W)	3.16	343	Pn	Pn	13 53 39.2	-3.9
	28nm,0.3s,baz=44,slow=7.1,SNR=1.7						
DAV				Lg	Lg	13 54 29.9	
	91nm,0.3s,baz=51,slow=24,SNR=1.9						
	123nm,0.3s						
DAV	Davao City (W)	3.16	343	P	Pn	13 53 48.1	+5.0
SKMP	Bagumbayan, Su	3.16	321⇓	eP	Pn	13 53 42.6	-0.6
SKMP				eS	Sn	13 54 20.7	+1.0
KCP	Kidapawan	3.28	334⇓	eP	Pn	13 53 42.8	-2.1
KCP				eS	Sn	13 54 15.5	-7.2
TNTI	Ternate	3.35	165	Pn	Pn	13 53 44.7	-1.0
TNTI	Ternate	3.35	165	P	Pn	13 53 46.2	+0.5
CDOP	Cateel, Davao	3.73	359⇑	eP	Pn	13 53 50.3	-0.5
CDOP				eS	Sn	13 54 36.7	+3.2
CDOP	Cateel, Davao	3.73	359⇑	iP	Pn	13 53 50.4	-0.5
BIPH	Bislig	4.13	358⇑	eP	Pn	13 53 55.3	-1.1
BIPH				eS	Sn	13 54 43.3	0.0
KMSI	Cibinong	4.28	217	P	Pn	13 54 01.0	+2.6
TASP	Talacogon, Agu	4.45	351⇑	eP	Pn	13 53 59.6	-1.2
TASP				eS	Sn	13 55 05.2	+14
TASP	Talacogon, Agu	4.45	351⇓	iP	Pn	13 54 03.3	+2.5
LBMI	Labuha	4.74	168	P	Pn	13 54 04.8	0.0
BLNP	Bacolod Lanao	4.79	329⇑	eP	Pn	13 54 09.6	+4.2
BLNP				eS	Sn	13 55 26.0	+26
GTOI	Gorontalo	4.87	226	P	Pn	13 54 08.9	+2.3
PAGZ	Pagadian	4.91	321⇑	eP	Pn	13 54 06.9	-0.2
PAGZ				eS	Sn	13 54 57.4	-5.3
PAGZ	Pagadian	4.91	321⇑	iP	Pn	13 54 07.0	-0.1
BUTP	Butuan	4.98	350⇑	eP	Pn	13 54 07.2	-1.0
BUTP				eS	Sn	13 55 23.9	+19
ZCP	Zamboanga City	5.28	303⇑	iP	Pn	13 54 11.5	-0.7
ZCP				iS	Sn	13 55 09.6	-2.3
DCPH	Dipolog City	5.51	325⇓	eP	Pn	13 54 17.0	+1.6
GLSP	General Luna,	5.73	356⇑	eP	Pn	13 54 21.3	+3.0
GLSP				eS	Sn	13 55 30.5	+7.8
MRSI	Marisa	5.79	232	P	Pn	13 54 21.8	+2.7
	383nm,0.5s,6μm1.7nm						
SCPH	Surigao	5.80	350	eP	Pn	13 54 16.6	-2.7
LSIP	Lazi, Siquijor	5.82	331⇑	eP	Pn	13 54 15.3	-4.3
LSIP	Lazi, Siquijor	5.82	331⇑	eP	Pn	13 54 19.6	0.0
LSIP				eS	Sn	13 55 28.9	+3.8
GHBP	Garcia Hernand	5.97	339⇓	eP	Pn	13 54 21.5	-0.3
GHBP				eS	Sn	13 55 38.1	+9.3
GHBP	Garcia Hernand	5.97	339⇑	iP	Pn	13 54 24.4	+2.7
SANI	Sanana	6.07	185	P	Pn	13 54 22.0	-1.0
	66nm,0.5s,1μm0.4nm						
TBP	Tagbilaran	6.21	335⇓	eP	Pn	13 54 23.4	-1.6
MSLP	Maasin	6.28	345⇑	eP	Pn	13 54 29.5	+3.6
MSLP				eS	Sn	13 55 55.4	+19
LUWI	Luwuk	6.29	217	P	Pn	13 54 30.4	+4.4
	903nm,1.2s,11μm3.9nm						
DACP	Dalaguete, Ceb	6.43	333⇓	eP	Pn	13 54 28.1	+0.1
DACP				eS	Sn	13 55 54.3	+14
TOLI2	Tolitoli	6.43	243		Pn	13 54 28.8	+0.8
LLP	Lapu-Lapu	6.74	338⇑	eP	Pn	13 54 34.6	+2.4
LLP				eS	Sn	13 55 58.4	+11
SWI	Sorong	6.79	136	P	Pn	13 54 31.3	-1.5
	79nm,0.4s,1μm0.4nm						
SIJI	Sorong	6.79	136	P	Pn	13 54 31.3	-1.7
	44nm,0.4s,1μm0.3nm						
BTTP	Bongao, Tawi-T	6.81	279⇑	eP	Pn	13 54 33.0	-0.2
BTTP				eS	Sn	13 55 46.9	-2.5
SFCP	San Francisco,	6.90	342⇑	iP	Pn	13 54 37.9	+3.4
SFCP				eS	Sn	13 55 59.2	+7.6
CNOP	Candoni, Negro	6.93	326⇑	eP	Pn	13 54 35.2	+0.4
CNOP				eS	Sn	13 56 02.0	+10
GNOP	Guihulngan Cit	6.96	332⇑	eP	Pn	13 54 34.8	-0.5
GNOP				eS	Sn	13 56 13.0	+20
OCLP	Ormoc	7.23	345⇑	eP	Pn	13 54 43.2	+4.4
OCLP				eS	Sn	13 56 14.5	+15
NLAI	Namlea	7.25	175	P	Pn	13 54 38.5	-0.7
	45nm,1.0s,2μm0.4nm						
PLP	Palo	7.25	348⇓	eP	Pn	13 54 40.8	+1.6
PLP				eS	Sn	13 56 12.4	+12
MECP	Medelin, Cebu	7.52	340⇑	eP	Pn	13 54 43.6	+0.7
MECP				eS	Sn	13 56 13.9	+7.2
KRAI	Karang Ratu	7.54	166	P	Pn	13 54 43.5	+0.3
	91nm,0.6s,2μm0.4nm						
CADP	Cadiz City	7.55	335⇑	eP	Pn	13 54 47.9	+4.5
MPSI	Mapaga	7.57	241	P	Pn	13 54 47.6	+4.0
	47nm,0.9s,807nm0.2nm						
BESP	Borongan	7.59	352⇑	eP	Pn	13 54 44.8	+0.9
BESP				eS	Sn	13 56 24.9	+16
GUIM	Jordan	7.62	329⇑	eP	Pn	13 54 45.4	+1.0
GUIM				eS	Sn	13 56 15.9	+6.6
RCP	Roxas	8.36	334⇓	eP	Pn	13 54 52.6	-1.8
CNP	Catarman	8.62	348⇑	eP	Pn	13 55 04.8	+6.9
CNP				eS	Sn	13 56 34.1	+0.3
FAKI	Fak Fak	8.97	140		Pn	13 55 02.3	-0.5
FAKI	Fak Fak	8.97	140	P	Pn	13 55 03.2	+0.5
	53nm,0.8s						
OTRP	Odiongan	9.40	332⇑	eP	Pn	13 54 59.3	-9.3
TTSI	Tana Toraja	9.71	224	P	Pn	13 55 17.1	+4.1
	141nm,1.2s,2μm						
PVCP	Virac	9.79	346⇓	eP	Pn	13 55 15.1	+1.2
BBSI	Bau Bau	10.25	203	P	Pn	13 55 24.9	+4.6
	34nm,0.9s,485nm						
SPSI	Sidrap Palu	10.43	220	P	Pn	13 55 27.7	+5.0
	39nm,1.1s						
KKM	Kota Kinabalu	10.46	281	Pn	Pn	13 55 26.9	+3.6
KKM	Kota Kinabalu	10.46	281	P	Pn	13 55 26.5	+3.2
	31nm,1.6s,656nm						
GQP	Guinayangan	10.60	338⇑	eP	Pn	13 55 25.9	+0.9
JCNP	Jose Panganiba	10.87	340⇑	eP	Pn	13 55 29.4	+0.7
LQP	Lukban	11.16	334⇓	eP	Pn	13 55 35.9	+3.1
KAPI	Kappang	11.25	217	Pn	Pn	13 55 33.6	-0.3
	0.6nm,0.3s,baz=227,slow=23,SNR=2.1						
KAPI				LR	LR	14 00 40.9	
	comp=Z,751nm,19.1s,baz=30,slow=41						
	2.4nm,0.3s						
BKSI	Bulukumba	11.28	215	P	Pn	13 55 36.9	+2.5
	27nm,1.0s,447nm						
LBLP	Los Banos, Lag	11.35	333⇑	eP	Pn	13 55 35.7	+0.5
MKS	Makassar	11.58	218	P	Pn	13 55 47.9	+9.4
MACP	Maragondon, Ca	11.67	331⇑	eP	Pn	13 55 40.2	+0.5
RTBP	Dona Remedios	12.12	334⇑	eP	Pn	13 55 47.3	+1.4
RTBP				eS	S	13 58 21.6	-3.8
ABPP	Abucay Bataan	12.21	331⇑	eP	Pn	13 55 51.8	+4.8
MTKI	Muara Teweh, K	12.63	247	P	P	13 55 59.0	-3.4
	59nm,0.7s,9μm						
KBKI	Kotabaru	12.66	235	P	Pn	13 55 56.7	+3.5
	603nm,0.6s,48μm						
CAAP	Casiguran, Aur	12.88	340	eP	Pn	13 55 57.2	+1.1
IBZP	Iba, Zambales	12.98	331⇓	eP	Pn	13 55 58.0	+0.5
MMRI	Maumere	13.29	199	P	P	13 56 16.5	+6.8
SMPP	San Manuel, Pa	13.34	335⇑	eP	Pn	13 56 02.0	-0.5
PALP	Palanan	13.56	343⇑	eP	P	13 56 13.8	+1.2
EDFI	Ende, Flores	13.58	201	P	Pn	13 56 07.1	+1.2
	56nm,0.8s						
CAUP	Cauayan	13.63	341⇑	eP	P	13 56 12.7	-0.8
PKKI	Palangkaraya	14.01	244	P	P	13 56 18.2	+0.5
	228nm,0.8s,4μm						
SAMP	Sagada Mountai	14.09	337⇑	eP	Pn	13 56 15.3	+2.8
SBUM	Sibu	14.37	264	Pn	P	13 56 19.2	-2.4
DBNI	Kabupaten Domp	14.91	213	P	P	13 56 26.5	-1.2
	95nm,0.8s						
GENI	Genyem	15.14	116	P	P	13 56 32.5	+2.3
PACPP	Pamplona Cagay	15.20	341⇑	eP	P	13 56 30.2	-0.7
BASI	Baing, Sumba	15.35	203	P	P	13 56 31.0	-1.6
	99nm,0.8s,1μm						
PLAI	Plampang	15.47	214	P	P	13 56 33.3	-0.6
	219nm,0.9s,1μm						
STKI	Sintang	15.54	256	P	P	13 56 37.6	+2.8

41nm,0.7s
TWSI Taliwang, Sumb 15.92 217 P P 13 56 39.1 +0.2
87nm,0.9s,934nm
KSM Kuching 16.40 262 P P 13 56 46.6 +2.4
KSM IAmb IAmb 13 56 53.0
comp=Z,95nm,1.3s
SRBI Singaraja 16.50 223 P P 13 56 46.5 +1.1
comp=Z,83nm,1.4s,comp=Z,829nm
MTN Manton Dam 17.38 165 Pn Pn 13 56 50.6 -3.9
BLJI Banyuglugur 17.42 228 P P 13 57 01.0 +5.5
comp=Z,52nm,0.9s
JAGI Jajag, Banyuwa 17.51 225 Pn Pn 13 56 54.8 -1.3
JAGI Jajag, Banyuwa 17.51 225 P P 13 56 59.9 +3.4
comp=Z,35nm,0.7s
SJI Sawahan 18.80 232 P Pn 13 57 11.6 -0.3
comp=Z,69nm,0.9s
NGJI Ngawi 18.82 233 P Pn 13 57 13.8 +1.8
comp=Z,93nm,1.0s
TWG Pinlang 19.41 345 P P 13 57 13.4 -3.9
KNRA Kununurra 19.71 174 P P 13 57 19.9 -0.7
KNRA IAmb IAmb 13 57 27.4
comp=Z,54nm,0.6s
YULB Yu-li 19.90 346 P P 13 57 18.9 -3.8
YULB IAmb IAmb 13 57 26.3
comp=Z,124nm,1.8s
TPUB Ta-pu 19.98 344 P P 13 57 21.8 -1.8
TPUB IAmb IAmb 13 57 28.7
comp=Z,59nm,0.9s
SSLB Suanglung 20.36 345 P P 13 57 26.1 -1.6
GUMO Guam 20.44 61 LR LR 14 04 02.4
comp=Z,85nm,21.6s,baz=263,slow=33
KPJI Karang Pucung 20.88 237 P P 13 57 34.6 +1.3
YHNB Yeheng 21.11 347 P P 13 57 31.8 -4.0
PPBI Pangkal Pinang 21.29 254 P P 13 57 43.7 +6.0
LEM Lembang 21.74 240 P P 13 57 41.8 -1.0
comp=Z,12nm,0.6s,baz=341,slow=22,SNR=2.7
comp=Z,12nm,0.6s
FITZ Fitzroy Crossi 22.01 182 P P 13 57 44.5 -0.8
QIZ Qiongzhong 22.08 314 P P 13 57 47.7 +1.5
QIZ S S **14 01 49.5 +3.0**
QIZ pmax pmax
comp=Z,20nm,1.5s
QIZ LR LR
comp=Z,350nm,14.1s
QIZ LR LR
comp=Z,290nm,13.5s
QIZ LR LR
comp=Z,280nm,21.0s
TPRI Tanjung Pinang 22.19 263 P P 13 57 51.7 +4.2
comp=Z,29nm,0.6s,comp=Z,20µm
DSRI Dabo 22.39 259 P P 13 57 54.7 +5.1
comp=Z,30nm,1.0s
JOW Kunigami 22.73 4 P P 13 57 51.9 -1.2
comp=Z,15nm,0.7s,baz=155,slow=9.8,SNR=2.6
JOW LR LR 14 06 51.4
comp=Z,74nm,19.3s,baz=156,slow=37
comp=Z,15nm,0.7s
MYKOM Kota Tinggi 22.75 265 P P 13 57 55.0 +1.5
UBPT Khong Chiam 23.54 300 P P 13 58 01.2 +0.1
UBPT IAmb IAmb 13 58 01.8
comp=Z,65nm,1.3s
PMG Port Moresby 24.52 123 LR LR 14 08 51.2
comp=Z,157nm,18.4s,baz=311,slow=39
WB0 Warramunga Arr 24.89 162 P P 13 58 12.0 -1.4
WB0 IAmb IAmb 13 58 25.9
comp=Z,52nm,0.8s
WRAB Tennant Creek 25.03 162 P P 13 58 13.6 -1.0
WRAB IAmb IAmb 13 58 19.1
comp=Z,24nm,0.8s
WRA Warramunga Arr 25.03 162 P P 13 58 13.7 -1.0
WRA Warramunga Arr 25.03 162 P P 13 58 13.7 -1.0
comp=Z,16nm,0.7s,baz=344,slow=9.5,SNR=37
WRA S S **14 02 36.7 +1.8**
comp=Z,12nm,1.4s,baz=340,slow=17,SNR=3.5
comp=Z,16nm,0.7s
WB2 Warramunga Arr 25.04 162 P P 13 58 14.3 -0.4
WB2 IAmb IAmb 13 58 27.0
comp=Z,39nm,1.0s
WR0 Warramunga Arr 25.11 162 P P 13 58 14.7 -0.7
WR0 IAmb IAmb 13 58 43.8
comp=Z,91nm,1.5s
BKNI Bangkinang 25.73 262 P P 13 58 27.6 +6.5
comp=Z,81nm,0.4s
MBWA Marble Bar 25.91 195 P P 13 58 23.8 +1.2
MBWA IAmb IAmb 13 58 27.0
comp=Z,29nm,0.9s
PSA00 Pilbara Seismi 26.28 194 P P 13 58 27.4 +1.4
PSA00 IAmb IAmb 13 58 30.2
comp=Z,37nm,0.9s
PSA00 Pilbara Seismi 26.28 194 P P 13 58 28.0 +2.1
PSA00 IAmb IAmb 13 58 29.6
comp=Z,31nm,1.1s
PDSI Padang 26.51 260 P P 13 58 34.1 +5.9
JCJ Chichijima 27.38 32 LR LR 14 10 14.0
comp=Z,86nm,19.2s,baz=260,slow=38
AS31 Alice Springs 28.46 166 P P 13 58 45.4 -0.1
ASAR Alice Springs 28.46 166 P P 13 58 45.6 +0.1
ASAR Alice Springs 28.46 166 P P 13 58 45.2 -0.2
comp=Z,3.6nm,0.6s,baz=342,slow=6.8,SNR=26
ASAR S S **14 03 32.2 +3.3**
comp=Z,0.6nm,0.8s,baz=348,slow=22,SNR=2.3
ASAR LR LR 14 11 17.5
comp=Z,125nm,20.5s,baz=346,slow=39
comp=Z,3.6nm,0.6s
WHN Wuhan 28.77 338 P P 13 58 52.1 +4.0
NJ2 Nanjing 28.79 346 eP P 13 58 50.6 +2.3
NJ2 pP **pP 13 59 01.8 -0.1**
NJ2 sP **sP 13 59 09.4 +1.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,170nm,3.6s
GSI Gunungsitoli 29.04 265 P P 13 58 49.3 -1.6
GSI IAmb IAmb 13 58 56.8
comp=Z,28nm,0.9s
JNU Nakatsue 29.22 7 P P 13 58 50.3 -1.9
JNU IAmb IAmb 13 59 42.4
comp=Z,96nm,2.0s
JNU Nakatsue 29.22 7 LR LR 14 10 55.1
comp=Z,101nm,21.1s,baz=190,slow=37
PHRA Phrae 29.46 301 P P 13 58 55.0 +0.6
CRAI Chiangrai 30.13 304 P P 13 59 01.3 +0.9
JMN Monobe 30.33 12 P P 13 58 59.8 -2.2
CMAR Chiang Mai Arr 30.54 300 P P 13 59 03.9 -0.2
comp=Z,6.5nm,0.8s,baz=118,slow=7.5,SNR=30
CMAR ScP **ScP 14 05 43.4 +3.7**
comp=Z,0.3nm,0.3s,baz=136,slow=1.4,SNR=1.5
comp=Z,6.5nm,0.8s
CHTO Chiang Mai 30.69 301 P P 13 59 06.7 +1.4
CHTO Chiang Mai 30.69 301 P P 13 59 06.0 +0.6
CTA Charters Tower 30.83 142 LR LR 14 13 13.8
comp=Z,142nm,18.2s,baz=284,slow=40
PZH PanZhiHua 32.59 316 P P 13 59 23.1 +1.1
PZH S S **14 04 36.9 +3.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,50nm,4.5s
PZH LR LR
comp=Z,250nm,20.0s
PZH LR LR
comp=Z,200nm,19.0s
PZH LR LR
comp=Z,270nm,23.5s
LYN LuoYang 33.05 338 ⇓P P 13 59 24.7 -1.2
LYN pP pP 13 59 39.5 0.0
LYN S S **14 04 39.7 -0.9**
LYN sS sS 14 05 09.3 +4.6
LYN pmax pmax
comp=Z,12nm,1.0s
LYN pmax pmax
comp=Z,170nm,4.4s
LYN LR LR
comp=Z,510nm,18.2s
LYN LR LR
comp=Z,370nm,17.2s
LYN LR LR
comp=Z,680nm,17.9s
TIA Tai'an 33.17 346 eP P 13 59 29.2 +2.3
TIA pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 33.28 2 P P 13 59 25.8 -2.1
comp=Z,1.8nm,0.7s,baz=178,slow=9.6,SNR=9.3
comp=Z,1.8nm,0.7s
XAN Xi'an 34.05 333 P P 13 59 31.6 -3.1
XAN pmax pmax
comp=Z,20nm,1.1s
XAN LR LR
comp=Z,490nm,15.6s
XAN LR LR
comp=Z,470nm,15.6s
XAN LR LR
comp=Z,640nm,17.5s
XAN Xi'an 34.05 333 P P 13 59 32.6 -2.0
MJAR Matsushiro Arr 34.09 17 P P 13 59 30.7 -4.2
comp=Z,1.4nm,0.8s,baz=183,slow=8.9,SNR=2.4
MJAR LR LR 14 15 05.5
comp=Z,139nm,19.1s,baz=204,slow=39
comp=Z,1.4nm,0.8s
CD2 Chengdu 34.28 324 P P 13 59 36.1 -0.6
MORW Morawa 34.42 196 P P 13 59 39.4 +1.6
FORT Forrest 34.65 178 P P 13 59 40.7 +1.0
HNS HongShan 34.93 343 ⇓P P 13 59 41.4 -0.7
HNS sP **sP 14 00 04.3 +2.0**
HNS eS **S 14 05 06.3 -3.2**
HNS pmax pmax
comp=Z,11nm,0.7s
HNS LR LR
comp=Z,400nm,22.3s
HNS LR LR
comp=Z,300nm,19.1s
JMM Marumori 36.11 19 P P 13 59 47.7 -4.5
BJT Baijiatuau 37.03 347 P P 14 00 03.9 +3.9
BJI Beijing 37.05 347 P P 14 00 00.0 -0.1
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJI LR LR
comp=Z,77nm,20.9s
BJI LR LR
comp=Z,91nm,20.2s
BJI LR LR
comp=Z,110nm,20.4s
EIDS Eidsvold 37.72 142 P P 14 00 06.6 +0.6
EIDS IAmb IAmb 14 00 09.8
comp=Z,33nm,1.3s
BBOO Buckleboo 37.74 167 P P 14 00 06.2 +0.1
NWAO Narrogin (SRO) 37.80 193 P P 14 00 07.3 +0.7
LZH Lanzhou 38.14 330 ⇓P P 14 00 09.3 -0.4
LZH pP pwP 14 00 27.2 -0.4
LZH sP sP 14 00 34.8 +4.8
LZH sS sS 14 06 32.0 +8.7
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,260nm,16.1s
LZH LR LR
comp=Z,340nm,16.3s
LZH LR LR
comp=Z,500nm,18.9s
STKA Stephens Creek 38.48 159 P P 14 00 12.9 +0.5
STKA Stephens Creek 38.48 159 P P 14 00 12.0 -0.4
comp=Z,14nm,0.6s,baz=333,slow=9.4,SNR=19
STKA LR LR 14 20 31.1
comp=Z,64nm,18.1s,baz=344,slow=43
comp=Z,14nm,0.6s
HHC Hu-ho-hao-te 39.05 342 eP P 14 00 18.7 +1.5
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,190nm,5.2s
HHC LR LR
comp=Z,510nm,16.8s
HHC LR LR
comp=Z,250nm,15.3s
HHC LR LR
comp=Z,580nm,16.8s
BTO Baotou 39.33 340 eP P 14 00 22.2 +2.7
BTO pP **pwP 14 00 37.3 -0.4**
BTO sP **sP 14 00 44.9 +5.2**
BTO S **S 14 06 22.5 +5.9**
BTO pmax pmax
comp=Z,7.0nm,0.5s
BTO pmax pmax
comp=Z,330nm,6.7s
BTO LR LR
comp=Z,350nm,15.3s
BTO LR LR
comp=Z,350nm,7.2s
BTO LR LR
comp=Z,560nm,21.6s
USRK Ussuriysk Ar. 40.29 6 P P 14 00 26.7 -0.6
USRK Ussuriysk Ar. 40.29 6 P P 14 00 24.4 -2.9
comp=Z,1.9nm,0.8s,baz=131,slow=36,SNR=2.0
comp=Z,1.9nm,0.8s
USA0B Ussuriysk Arra 40.29 6 P P 14 00 25.1 -2.2
USA0B IAmb IAmb 14 01 51.9
comp=Z,56nm,2.0s
MDJ Mudanjiang 40.51 3 P P 14 00 32.2 +3.1
MDJ pP pwP 14 00 46.3 -0.3
MDJ sP sP 14 00 52.9 +3.3
MDJ S **S 14 06 34.8 +1.0**
MDJ SS **SS 14 09 37.2 +1.8**
MDJ pmax pmax
comp=Z,11nm,1.9s
MDJ pmax pmax
comp=Z,250nm,4.6s
XLT XiLinHaoTe 40.76 348 eP P 14 00 31.3 0.0
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,130nm,5.1s
XLT LR LR
comp=Z,14nm,19.1s
XLT LR LR
comp=Z,140nm,11.4s
XLT LR LR
comp=Z,210nm,21.3s
ARMA Armidale 41.83 147 P P 14 00 40.0 -0.2
ARMA IAmb IAmb 14 00 44.7
comp=Z,26nm,1.0s
ASAJ Asahikawa 42.36 17 LR LR 14 24 20.4
comp=Z,72nm,18.1s,baz=191,slow=45
GTA Gaotai 42.73 329 eP P 14 00 46.4 -1.1
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=Z,270nm,19.5s
GTA LR LR
comp=Z,200nm,19.1s
GTA LR LR
comp=Z,410nm,18.3s
GOMU GeErMu 43.32 322 P P 14 00 53.2 +0.6
GOMU LR LR
comp=Z,170nm,18.8s
GOMU LR LR
comp=Z,140nm,17.8s
GOMU LR LR
comp=Z,280nm,18.1s
KOUNC Koumac, New Ca 44.38 125 P P 14 01 00.0 -0.9
KOUNC IAmb IAmb 14 01 36.1
comp=Z,36nm,1.3s
CAN Canberra 44.47 154 P P 14 00 59.5 -2.0
CAN IAmb IAmb 14 01 13.5
comp=Z,30nm,1.2s
CAN Canberra 44.47 154 P P 14 01 04.4 +3.0
PALK Pallekele 45.70 276 LR LR 14 20 15.8
comp=Z,78nm,22.0s,baz=197,slow=36
HEH HeiHe 46.06 1 eP P 14 01 13.9 +0.1
HEH pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 46.77 342 P P 14 01 21.2 +1.6
SONM Songino Array 46.95 341 P P 14 01 21.1 +0.1
SONM Songino Array 46.95 341 P P 14 01 20.5 -0.4
comp=Z,0.6nm,0.3s,baz=159,slow=8.8,SNR=8.0
SONM PcP **PcP 14 02 49.2 -3.5**
comp=Z,0.7nm,0.8s,baz=163,slow=5.4,SNR=1.1
SONM LR LR 14 22 23.2
comp=Z,199nm,21.7s,baz=164,slow=38
comp=Z,0.6nm,0.3s
WMQ Urumqi 52.36 325 eP P 14 02 03.8 +1.7
WMQ LR LR
comp=Z,340nm,15.7s
WMQ LR LR
comp=Z,410nm,19.1s
WMQ LR LR
comp=Z,410nm,18.9s
PETK Petropavlovsk- 55.23 22 P P 14 02 21.4 -1.4
PETK Petropavlovsk- 55.23 22 P P 14 02 21.2 -1.5
comp=Z,3.1nm,0.8s,baz=84,slow=22,SNR=10
PETK LR LR 14 27 39.4
comp=Z,42nm,19.4s,baz=215,slow=38
comp=Z,3.1nm,0.8s
ZSN Zaisan 56.14 327 eP P 14 02 27.6 -1.9
comp=Z,7.8nm,1.5s,baz=327
SHLS Shalkode 56.98 320 eP P 14 02 32.1 -3.6
baz=320
MK31 Makanchi Array 57.19 325 P P 14 02 35.9 -1.0
MK31 IAmb IAmb 14 02 39.9
comp=Z,6.5nm,0.8s
MKAR Makanchi Array 57.19 325 P P 14 02 35.9 -1.0
comp=Z,5.5nm,0.6s,baz=121,slow=7.2,SNR=45
MKAR PcP **PcP 14 03 27.4 -3.6**
comp=Z,2.4nm,0.8s,baz=70,slow=2.6,SNR=1.1
MKAR ScP **ScP 14 07 27.8 +1.9**
comp=Z,0.2nm,0.6s,baz=123,slow=5.3,SNR=2.0
MKAR LR LR 14 28 36.4
comp=Z,229nm,18.9s,baz=108,slow=38
comp=Z,5.5nm,0.6s
UZB Uzynbulak 57.26 320 eP P 14 02 36.2 -1.5
comp=Z,9.0nm,1.7s,baz=320
MAKZ Makanchi 57.38 325 P P 14 02 37.3 -0.9
MAKZ IAmb IAmb 14 02 41.2
comp=Z,11nm,0.8s
MAKZ Makanchi 57.38 325 P P 14 02 36.9 -1.3
MAKZ pP **pP 14 02 48.9 -3.9**
SATY Saty 57.61 320 eP P 14 02 38.5 -1.6
comp=Z,4.6nm,0.8s,baz=320
ZHN Zhinishke 57.65 320 eP P 14 02 38.6 -1.7
baz=320
KSH Kashi 57.69 315 P P 14 02 42.0 +1.3
KSH LR LR
comp=Z,220nm,17.9s
KSH LR LR
comp=Z,160nm,13.1s
KSH LR LR
comp=Z,190nm,15.8s
MA2 Magadan 58.46 14 LR LR 14 33 21.7
comp=Z,31nm,18.1s,baz=204,slow=42
MDOK Medeo 58.54 319 eP P 14 02 45.3 -1.4
baz=319
TNSS Tian-Shan 58.55 319 eP P 14 02 45.5 -1.6
baz=319
TDK Taldyqorghan 58.55 322 eP P 14 02 44.7 -1.9
comp=Z,6.4nm,0.8s,baz=322
AAA Alma-Ata 58.65 319 eP P 14 02 45.8 -1.5
baz=319
CHKK Chushkaly 58.90 320 eP P 14 02 46.7 -2.3
baz=320
KUU Kurty 59.33 320 eP P 14 02 49.9 -2.1
comp=Z,8.0nm,0.8s,baz=320
AAK Ala-Archa 60.00 318 LR LR 14 32 48.0
comp=Z,123nm,18.4s,baz=93,slow=40
AAK Ala-Archa 60.00 318 PcP PcP 14 03 42.9 +0.6
ZAA0 Zalesovo Array 60.23 333 P P 14 02 56.1 -1.8
ZALV Zalesovo Beam 60.23 333 P P 14 02 55.5 -2.3
ZALV Zalesovo Beam 60.23 333 P P 14 02 55.9 -1.9
comp=Z,1.7nm,0.4s,baz=126,slow=7.8,SNR=9.3
ZALV LR LR 14 30 29.2
comp=Z,107nm,18.2s,baz=120,slow=38
comp=Z,1.7nm,0.4s
SGDS Sogindy 60.25 319 eP P 14 02 57.0 -1.3
baz=319
SEM Semipalatinsk 60.34 328 eP P 14 02 57.7 -1.3
baz=328
ARSB Arslanbob 60.50 316 P P 14 02 59.2 -1.0
BTLS Baital 61.31 320 eP P 14 03 04.6 -0.8
baz=320
KURBB Kurchatov Arra 61.38 327 P P 14 03 04.5 -1.2
comp=Z,18nm,0.7s,baz=122,slow=6.4,SNR=55
KURBB LR LR 14 30 05.2
comp=Z,49nm,19.7s,baz=174,slow=36
comp=Z,18nm,0.7s
KURK Kurchatov 61.38 327 P P 14 03 04.4 -1.3
KURK Kurchatov 61.38 327 P P 14 03 04.5 -1.3
KURK pP **pP 14 03 17.4 -3.0**
KURK sP **pwP 14 03 22.6 -2.1**
RPZ Rata Peaks 62.12 145 LR LR 14 30 11.0
comp=Z,48nm,21.1s,baz=313,slow=36
DZA Taraz 62.23 317 eP P 14 03 10.4 -1.3
comp=Z,4.5nm,0.7s,baz=317
KKAR Karatay Array 62.87 317 P P 14 03 15.0 -1.0
BRZS Berezniki 64.33 325 eP P 14 03 23.6 -1.8
baz=325
BVAR Borovoye Array 66.96 327 P P 14 03 40.4 -1.9
comp=Z,8.6nm,0.9s,baz=111,slow=7.9,SNR=19
BVAR LR LR 14 33 40.9
comp=Z,110nm,20.5s,baz=104,slow=37
comp=Z,8.6nm,0.9s
BRVK Borovoye 67.03 327 P P 14 03 42.5 -0.2
BRVK IAmb IAmb 14 03 45.7
comp=Z,15nm,1.1s
BRVK Borovoye 67.03 327 P P 14 03 41.8 -0.9
BRVK pP **pP 14 03 54.2 -3.4**
BRVK sP **pwP 14 03 59.1 -2.8**
TIXI Tiksi 67.54 1 P P 14 03 43.8 -1.8
TIXI Tiksi 67.54 1 P P 14 03 45.3 -0.3
NRIK Noril'sk 70.09 346 P P 14 04 02.7 +1.3
NRIK IAmb IAmb 14 04 08.5
comp=Z,36nm,1.5s
NRIK Noril'sk 70.09 346 P P 14 04 00.6 -0.9
comp=Z,3.7nm,0.5s,baz=129,slow=7.2,SNR=3.5
comp=Z,3.7nm,0.5s
GEYT Alibeck 70.55 309 P P 14 04 05.0 0.0
comp=Z,5.2nm,0.8s,baz=123,slow=5.5,SNR=9.1
comp=Z,5.2nm,0.8s
CASY Casey 71.09 187 P P 14 04 09.1 +1.5
CASY IAmb IAmb 14 05 23.0
comp=Z,7.5nm,0.6s
CASY Casey 71.09 187 P P 14 04 10.3 +2.8
ABKAR Akbulak array 71.79 321 P P 14 04 11.7 -0.4
ABKAR Akbulak array 71.79 321 P P 14 04 12.1 -0.1
AKTO Aktyubinsk 73.30 322 LR LR 14 39 21.8
comp=Z,209nm,19.1s,baz=54,slow=38
ARU Arti 74.57 328 P P 14 04 27.2 -1.2
ARU IAmb IAmb 14 04 46.0
comp=Z,16nm,1.3s
ARU Arti 74.57 328 LR LR 14 38 20.9
comp=Z,84nm,21.7s,baz=84,slow=37
KIRV Kirov 79.86 329 LR LR 14 43 12.2
comp=Z,83nm,19.2s,baz=99,slow=38
D19K Kuna River 80.91 21 P P 14 05 03.2 -0.4
D19K IAmb IAmb 14 05 22.1
comp=Z,15nm,1.4s
E19K Redstone River 81.03 22 P P 14 05 02.2 -1.9
E19K IAmb IAmb 14 05 14.9
comp=Z,12nm,0.9s
GNI Garni 81.13 310 LR LR 14 45 35.6
comp=Z,34nm,21.8s,baz=54,slow=39
F20K Avaraart Lake 81.53 23 P P 14 05 04.7 -2.0
F20K IAmb IAmb 14 05 39.8
comp=Z,20nm,1.6s
KDAK Kodiak Island 81.74 32 LR LR 14 33 56.8
comp=Z,97nm,21.7s,baz=248,slow=30
M20K Styx River 81.90 28 P P 14 05 06.8 -2.2
IMAR Indian Mountai 82.15 24 P P 14 05 07.9 -2.2
G21K Allakaket 82.32 23 P P 14 05 08.8 -2.2
G21K IAmb IAmb 14 05 21.1
comp=Z,11nm,1.1s
B21K Ikpikpuk River 82.36 20 P P 14 05 09.1 -1.9
B21K IAmb IAmb 14 05 24.5
comp=Z,18nm,1.2s
H21K Melozitna Rive 82.49 24 P P 14 05 10.5 -1.4
H21K IAmb IAmb 14 05 46.5
comp=Z,40nm,1.8s
CAST Castle Rocks 82.55 27 P P 14 05 11.9 -0.4
CAST IAmb IAmb 14 05 54.0
comp=Z,14nm,1.3s
KBZ Khabaz 82.62 313 LR LR 14 48 10.8
comp=Z,69nm,18.4s,baz=66,slow=40
B22K Teshekpuk Lake 82.87 20 P P 14 05 12.8 -0.9
B22K IAmb IAmb 14 05 26.8
comp=Z,7.0nm,0.8s
E22K Anaktuvuk Pass 83.17 22 P P 14 05 14.8 -0.6
RC01 Rabbit Creek A 83.46 29 P P 14 05 14.4 -2.6
VNDA Vanda 83.75 173 P P 14 05 18.2 +0.1
VNDA IAmb IAmb 14 06 19.3
comp=Z,26nm,1.9s
VNDA Vanda 83.75 173 P P 14 05 18.6 +0.5
comp=Z,3.9nm,1.1s,baz=327,slow=4.3,SNR=7.3
VNDA LR LR 14 42 35.8
comp=Z,21nm,20.7s,baz=294,slow=36
comp=Z,3.9nm,1.1s
C23K Itkillik River 83.77 20 P P 14 05 18.4 0.0
C23K IAmb IAmb 14 06 05.2
comp=Z,26nm,1.6s
TOLK Toolik Lake Re 84.04 21 P P 14 05 20.0 +0.2
KNK Knik Glacier 84.09 29 P P 14 05 18.5 -1.7
H24K Noodor Dome 84.53 24 P P 14 05 20.9 -1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H24K				IAmb	IAmb	14 06 09.1	
	comp=Z,29nm,2.0s						
ILAR	Eielson Array	84.92	25	P	P	14 05 23.1	-1.2
	comp=Z,0.7nm,0.8s,baz=244,slow=6.1,SNR=8.7						
	comp=Z,0.7nm,0.8s						
KLU	Klutina	85.31	29	P	P	14 05 25.3	-1.1
BMAR	Burnt Mountain	85.88	23	P	P	14 05 28.6	-0.5
BCAR	Beaver Creek A	87.20	27	P	P	14 05 35.1	-0.5
F28M	Old Crow	87.68	22	P	P	14 05 36.9	-0.9
I28M	Miner Creek	87.83	25	P	P	14 05 38.1	-0.6
MMAI	Mount Meron Ar	88.77	303	P	P	14 05 43.1	-0.7
	comp=Z,1.7nm,0.6s,baz=108,slow=14,SNR=1.6						
MMAI				LR	LR	14 51 56.3	
	comp=Z,18nm,18.8s,baz=58,slow=40						
	comp=Z,1.7nm,0.6s						
KMBO	Kilima Mbogo	89.36	269	LR	LR	14 43 39.2	
	comp=Z,32nm,19.9s,baz=91,slow=34						
EIL	Elat	89.40	300	LR	LR	14 50 57.2	
	comp=Z,55nm,20.8s,baz=66,slow=39						
BRTR	Keskin Array B	89.67	310	P	P	14 05 45.7	-2.3
BRTR	Keskin Array B	89.67	310	P	P	14 05 47.0	-1.0
	comp=Z,2.0nm,0.8s,baz=150,slow=4.8,SNR=12						
BRTR				LR	LR	14 53 02.6	
	comp=Z,40nm,18.5s,baz=30,slow=40						
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	90.09	340	P	P	14 05 48.4	-0.7
ARCES	ARCESS Array B	90.09	340	P	P	14 05 47.7	-1.5
	comp=Z,3.0nm,0.9s,baz=53,slow=6.2,SNR=7.6						
ARCES				LR	LR	14 50 56.4	
	comp=Z,93nm,18.2s,baz=21,slow=39						
	comp=Z,3.0nm,0.9s						
SPITS	Spitsbergen Ar	90.14	349	P	P	14 05 49.4	+0.2
	comp=Z,1.8nm,0.6s,baz=96,slow=7.6,SNR=9.8						
	comp=Z,1.8nm,0.6s						
FARO	Faro, Yukon	91.17	27	P	P	14 05 53.0	-1.4
FIA1	FINESS Array S	91.47	332	P	P	14 05 54.0	-1.6
FINES	FINESS Array B	91.47	332	P	P	14 05 55.0	-0.6
	comp=Z,6.3nm,0.8s,baz=64,slow=6.6,SNR=13						
	comp=Z,6.3nm,0.8s						
AKASG	Malin Array Be	91.53	321	P	P	14 05 54.4	-1.8
	comp=Z,0.6nm,0.5s,baz=69,slow=4.5,SNR=7.1						
AKASG				LR	LR	14 50 10.6	
	comp=Z,69nm,18.4s,baz=357,slow=38						
	comp=Z,0.6nm,0.5s						
BURAR	Bucovina Array	94.64	318	P	P	14 06 10.3	-0.4
BURAR				IAmb	IAmb	14 06 12.3	
	comp=Z,4.9nm,1.1s						
CRVS	Cervenica-Dubn	96.81	320	ePDIFF	P	14 06 22.7	+2.2
HFS	Hagfors	97.66	332	P	P	14 06 22.4	-1.6
	comp=Z,5.9nm,1.0s,baz=76,slow=7.6,SNR=3.5						
HFS				LR	LR	14 54 44.0	
	comp=Z,146nm,18.4s,baz=72,slow=38						
	comp=Z,5.9nm,1.0s						
NB2	NORSAR Subarra	98.43	334	P	P	14 06 26.7	-0.8
	comp=Z,8.9nm,1.4s,baz=67,slow=4.4						
NB2	NORSAR Subarra	98.43	334	P	P	14 06 26.7	-0.8
	baz=67,slow=4.4						
NOA	NORSAR Array B	98.43	334	P	P	14 06 26.9	-0.6
	comp=Z,2.0nm,0.9s,baz=66,slow=4.7,SNR=4.7						
NOA				LR	LR	14 55 43.9	
	comp=Z,77nm,18.6s,baz=230,slow=38						
	comp=Z,2.0nm,0.9s						
YKA	Yellowknife Ar	99.31	24	P	Pdif	14 06 31.4	+0.1
	comp=Z,0.2nm,0.8s,baz=297,slow=4.1,SNR=3.2						
	comp=Z,0.2nm,0.8s						
GERES	GERESS Array B	101.72	322	P	Pdif	14 06 42.3	-0.3
	comp=Z,0.6nm,0.8s,baz=60,slow=5.8,SNR=2.3						
TXAR	Lajitas Array	121.57	52	PKP	PKPdf	14 11 42.0	-1.7
	comp=Z,0.6nm,1.1s,baz=5.7,slow=2.7,SNR=2.6						
TORD	Torodi Ar. Bea	122.63	288	PKP	PKPdf	14 11 44.5	-1.5
	comp=Z,0.7nm,0.8s,baz=81,slow=2.4,SNR=4.3						
PLCA	Paso Flores	140.36	160	PKP	PKiKP	14 12 20.4	-0.9
	comp=Z,1.9nm,1.1s,baz=254,slow=0.3,SNR=3.4						
CPUP	Villa Florida	157.52	171	PKPab	PKPab	14 13 19.1	+1.1
	comp=Z,1.6nm,0.7s,baz=180,slow=9.1,SNR=2.1						

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*RSNC **06** 14:00:00.4±1.7, 3°.74N×78°.30W, h20km±5km, ML3.6, Mw4.4*

*NEIC **06** 14:00:02.9±2.5, 3°.60N±0°.07×78°.08W±0°.09, h31km±5km, mb4.8/25, Error ellipse: s-maj=13.9km s-min=8.5km az=124.0*

*VAO **06** 14:00:05.4±0.8, 3°.46N×78°.03W, h46km, mb4.7*

*IDC **06** 14:00:06.7±1.9, 3°.68N×78°.09W, h63km±17km, mb3.9/18, mbtmp4.3/26, MS3.8/15, Error ellipse: s-maj=16.7km s-min=11.0km az=64.0*

ISC 06 14:00:01.8±0.6**, 3°.62N**±0°.03×**78°.20W**±0°.04**, h27**km±4km**, n172,** σ1s.**67**/186**, mb4.7**/43**, MS3.9**/9**, 14C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	Gorgona, Isla	0.62	177	⇑iP	Pb	14 00 13.5	-0.6
GR1C				eS	Sn	14 00 23.6	-0.2
MALC	Bahia Malaga	0.94	66	⇑iP	Pn	14 00 19.1	-0.2
MALC				eS	Sn	14 00 31.2	-0.7
MALC				i		14 00 46.2	
	comp=Z,2μm,0.6s						
PIZC	Pizarro, Choco	1.57	32	⇑iP	Pn	14 00 25.6	-2.4
PIZC				eS	Sn	14 00 44.8	-2.7
JAMC	Jamundi, Valle	1.58	105	⇑iP	Pn	14 00 27.9	-0.3
JAMC				eS	Sn	14 00 48.2	+0.3
JAMC				i		14 00 52.8	
	comp=Z,793nm,0.5s						
BBAC	Balboa, Cauca	1.85	149	⇑iP	Pn	14 00 31.7	-0.3
BBAC				eS	Sn	14 00 55.5	+0.8
BBAC				i		14 01 03.5	
	comp=Z,753nm,0.7s						
POPC	Popayan, Colom	1.86	125	⇑iP	Pn	14 00 32.1	-0.1
POPC				i		14 00 55.8	
	comp=Z,258nm,0.6s						
POPC				eS	Sb	14 00 57.7	-0.7
TUMC	Tumaco	1.86	196	Pn	Pn	14 00 31.8	-0.2
TUMC	Tumaco	1.86	196	eP	Pn	14 00 31.1	-0.9
TUMC				eS	Sn	14 00 55.3	+0.7
TUMC				i		14 01 11.8	
	comp=Z,924nm,0.6s						
YOTC	Yotoco, Valle	1.88	79	⇑iP	Pn	14 00 31.9	-0.5
YOTC				eS	Sn	14 00 56.3	+1.0
YOTC				i		14 01 07.6	
	comp=Z,392nm,0.5s						
PLMC	San Jos del P	2.30	56	eP	Pn	14 00 36.2	-1.8
PLMC				i		14 01 11.2	
	comp=Z,222nm,0.4s						
CRUC	La Cruz	2.39	149	eP	Pn	14 00 40.9	+1.3
GCUF	Volcan Galeras	2.53	160	⇑iP	Pn	14 00 42.5	+0.9
GCUF				eS	Sn	14 01 11.8	0.0
GCUF				i		14 01 25.2	
	comp=Z,570nm,0.5s						
CMBC	Cumbal	2.69	172	eP	Pn	14 00 43.3	-0.5
CMBC				eS	Sn	14 01 10.7	-5.0
BETC	Betania	2.91	109	eP	Pn	14 00 49.9	+3.5
BETC				eS	Sn	14 01 20.6	0.0
BETC				i		14 01 29.3	
	comp=Z,210nm,0.5s						
TULM	Tulcn-Chalpat	2.92	172		Pn	14 00 48.2	+1.3
TULM	Tulcn-Chalpat	2.92	172	eP	Pn	14 00 48.6	+1.7
TULM				eS	Sn	14 01 20.8	-0.6
TULM				i		14 01 33.8	
	comp=Z,144nm,0.6s						
ORTC	Ortega, Tolima	2.96	84	⇑iP	Pn	14 00 49.3	+2.1
ORTC				eS	Sb	14 01 27.5	-2.2
ORTC				i		14 01 44.5	
	comp=Z,214nm,0.6s						
GARC	Garzon, Huila	3.06	118	eP	Pn	14 00 51.2	+2.5
GARC				i		14 01 27.3	
	comp=Z,118nm,0.3s						
CBOC	Ciudad Bolivar	3.12	44	eP	Pn	14 00 47.3	-2.0
CBOC				eS	Sn	14 01 26.9	+1.1
CBOC				i		14 01 45.9	
	comp=Z,73nm,0.7s						
RECRC	Villamaria, Ca	3.13	65	eP	Pn	14 00 51.2	+1.2
BONI	La Bonita	3.22	168	eP	Pn	14 00 53.1	+2.2
BONI				i		14 01 34.3	
	comp=Z,114nm,0.5s						
GUY2C	Guyana, Caldas	3.24	61	⇑iP	Pn	14 00 51.7	+0.3
GUY2C				i		14 01 37.0	
	comp=Z,88nm,0.7s						
CUSE	Cuicocha Este	3.30	183	eP	Pn	14 00 52.1	0.0
CUSE				eS	Sn	14 01 24.8	-6.0
PRAC	Prado	3.31	88	Pn	Pn	14 00 50.5	-1.4
PRAC	Prado	3.31	88	⇑iP	Pn	14 00 54.1	+2.2
PRAC				eS	Sn	14 01 28.3	-2.1
PRAC				i		14 01 39.9	
	comp=Z,164nm,0.7s						
IMBA	Imbabura, San	3.33	180		Pn	14 00 53.6	+1.1
OTAV	Otavalo	3.37	184	Pn	Pn	14 00 52.9	-0.3
OTAV	Otavalo	3.37	184	eP	Pn	14 00 52.7	-0.5
OTAV	Otavalo	3.37	184	eP	Pn	14 00 53.0	-0.2
PTAC	Punta Ardita,	3.52	6	eP	Pn	14 00 55.5	+0.7
PTAC				i		14 01 34.9	
	comp=Z,53nm,0.4s						
PULU	Pululahua	3.59	185		Pn	14 00 54.7	-1.4
DBBC	Dabeiba	3.91	30	eP	Pn	14 01 00.3	0.0
DBBC				eS	Sn	14 01 47.0	+1.6
ROSC	El Rosal	4.05	73	Pn	Pn	14 01 01.8	-0.6
ROSC	El Rosal	4.05	73	P	Pn	14 01 05.8	+3.3
	comp=Z,38nm,0.4s,baz=256,slow=9.2,SNR=19						
ROSC	El Rosal	4.05	73	eP	Pn	14 01 05.6	+3.2
ROSC				eS	Sn	14 01 50.9	+1.6
ROSC				i		14 01 51.7	
	comp=Z,42nm,0.6s						
SLOR	San Lorenzo -	4.33	184		Pn	14 01 05.5	-0.9
VILC	Villavicencio,	4.52	84	eP	Pn	14 01 11.6	+2.9
VILC				eS	Sn	14 02 02.8	+2.3
VILC				i		14 02 23.8	
	comp=Z,98nm,0.5s						
CACAO	El Cacao, Vera	4.55	324	eP	Pn	14 01 04.7	-4.2
CACAO				eS	Sn	14 01 53.8	-7.2
SPBC	San Pablo de B	4.58	64	eP	Pn	14 01 11.4	+1.9
SPBC				i		14 01 45.0	
	comp=Z,29nm,0.6s						
PTBC	PUERTO BERRIO,	4.72	52	eP	Pn	14 01 11.9	+0.6
PTLC	Puerto Leguiza	4.83	135	eP	Pn	14 01 18.4	+5.5
PTLC				i		14 02 01.2	
	comp=Z,56nm,0.7s						
UREC	San Jos de Ur	4.88	33	eP	Pn	14 01 13.4	-0.2
CAP2	Capurgana	5.06	9	Pn	Pn	14 01 18.4	+2.3
ZARC	Zaragoza, Cauc	5.08	41	eP	Pn	14 01 16.9	+0.6
ZARC				i		14 01 53.7	
	comp=Z,26nm,0.6s						
CHSH	Refugio Sur-Vo	5.13	188		Pn	14 01 20.8	+3.3
BARC	Barichara	5.80	59	eP	Pn	14 01 28.9	+2.6
BARC				i		14 02 04.7	
	comp=Z,56nm,0.6s						
PTGC	Puerto Gaitan,	6.08	84	eP	Pn	14 01 34.5	+4.5
PTGC				i		14 02 20.8	
	comp=Z,37nm,0.7s						
COHC	Cochancay	6.14	190	Pn	Pn	14 01 34.2	+3.4
COHC	Cochancay	6.14	190	eS	Sn	14 02 40.0	-0.2
PAMC	Pamplona, Colo	6.60	56	eP	Pn	14 01 38.8	+1.2
PAMC				i		14 02 14.6	
	comp=Z,19nm,0.5s						
OCAC	Ocana	6.68	46	eP	Pn	14 01 33.7	-4.7
OCAC				i		14 02 26.0	
	comp=Z,33nm,0.4s						
BOSC	San Juan Bosco	6.74	183	Pn	Pn	14 01 44.4	+5.2
DRK0	Durika	7.52	318		Pn	14 01 49.2	-0.7
SRBA	San Rafael, Bu	7.57	318	Pn	Pn	14 01 51.6	+1.0
MCRA	Macar, Loja	8.13	192		Pn	14 01 58.3	0.0
RIMA	Rio Macho	8.30	318	Pn	Pn	14 02 01.5	+0.8
LCR2	La Lucha 2	8.38	317		Pn	14 02 03.8	+2.0
SDV	Santo Domingo	9.16	55	Pn	Pn	14 02 10.4	-2.0
SDV	Santo Domingo	9.16	55	P	Pn	14 02 15.2	+2.7
	comp=Z,6.0nm,0.3s,baz=220,slow=8.3,SNR=9.0						
SDV				LR	LR	14 06 09.1	
	comp=Z,393nm,18.0s,baz=214,slow=40						
SDV	Santo Domingo	9.16	55	eP	Pn	14 02 14.3	+1.8
JTS	Las Juntas de	9.42	315	P	Pn	14 02 18.4	+2.5
	comp=Z,21nm,1.1s,baz=143,slow=16,SNR=3.6						
JTS				LR	LR	14 05 25.9	
	comp=Z,262nm,20.3s,baz=76,slow=34						
URIC	Uribia, Colomb	10.11	37	Pn	Pn	14 02 25.8	+0.5
ATAH	Atahualpa	10.69	181	P	Pn	14 02 38.9	+5.3
	comp=Z,2.6nm,0.3s,baz=352,slow=7.2,SNR=3.0						
ATAH				S	Sn	14 04 37.0	+4.2
	comp=Z,4.0nm,0.8s,baz=342,slow=19,SNR=1.4						
ATAH				LR	LR	14 07 24.6	
	comp=Z,701nm,19.3s,baz=353,slow=41						
BAUV	El Baul	11.39	62	Pn	Pn	14 02 39.4	-3.5
PCRV	Puerto La Cruz	14.95	64	P	Pn	14 03 33.9	+2.4
	comp=Z,17nm,1.1s,baz=333,slow=6.8,SNR=3.2						
PCRV				LR	LR	14 10 49.8	
	comp=Z,312nm,18.9s,slow=43						
NNA	Nana	15.57	175	P	P	14 03 43.3	-0.4
	comp=Z,8.1nm,0.4s,baz=346,slow=11,SNR=5.2						
NNA				LR	LR	14 10 33.7	
	comp=Z,577nm,19.4s,baz=356,slow=40						
BOAV	Boa Vista	17.69	93		Pn	14 04 05.4	-1.1
BOAV	Boa Vista	17.69	93	eP	P	14 04 07.9	+0.7
ETMB	Extrema	17.91	138		Pn	14 04 08.8	-0.4
ETMB	Extrema	17.91	138	eP	Pn	14 04 09.0	-0.2
SJG	San Juan	18.62	38	P	P	14 04 18.2	+0.9
	comp=Z,8.9nm,0.5s,baz=225,slow=2.9,SNR=4.2						
SJG				LR	LR	14 12 50.3	
	comp=Z,166nm,18.7s,baz=190,slow=41						
MACA	Manacapuru-AM	18.76	111	P	P	14 04 16.6	-2.3
TEIG	Tepich	19.20	330	P	Pn	14 04 27.1	+2.3
	comp=Z,37nm,0.8s,baz=232,slow=17,SNR=2.0						
SVB	Belmont	19.29	59	P	P	14 04 23.8	-1.1
SAML	Samuel	19.50	130		P	14 04 26.9	-0.2
SAML				IAmb	IAmb	14 04 30.0	
	comp=Z,29nm,0.8s						
SAML	Samuel	19.50	130	eP	P	14 04 25.5	-1.6
MPOM	Morne Pois Mar	20.20	57	P	P	14 04 31.1	-3.6
MAGL	Barre de l'ile	20.66	53	P	P	14 04 37.1	-2.6
CMIG	Matias Romero	21.15	310	P	P	14 04 48.2	+3.2
	comp=Z,3.6nm,0.7s,baz=95,slow=17,SNR=2.5						
	comp=Z,3.6nm,0.7s						
LPAZ	La Paz	22.15	154	P	P	14 04 55.3	-1.1
PB12	IPOC Station P	23.42	161	P	P	14 05 08.8	-0.2
PB12				IAmb	IAmb	14 05 22.1	
	comp=Z,44nm,1.5s						
PB16	IPOC Station P	23.44	159	P	P	14 05 08.4	-1.4
ITTB	Itaituba	23.81	109	eP	P	14 05 11.7	-1.0
VILB	Vilhena	24.31	133	P	P	14 05 17.5	+0.1
VILB				IAmb	IAmb	14 05 19.4	
	comp=Z,43nm,0.8s						
VILB	Vilhena	24.31	133	eP	P	14 05 17.3	-0.1
MALB	Monte Alegre	24.53	102	eP	P	14 05 19.1	-0.4
PB11	IPOC Station P	24.71	160	P	P	14 05 21.5	+0.3
GO01	Chusmiza	24.78	159	P	P	14 05 23.3	+1.1
GO01				IAmb	IAmb	14 05 33.0	
	comp=Z,15nm,0.7s						
NPGB	Novo Progresso	25.14	115	eP	P	14 05 24.5	-0.5
PB08	IPOC Station P	25.23	160	P	P	14 05 25.8	-0.3
PB08				IAmb	IAmb	14 05 30.5	
	comp=Z,25nm,1.2s						
MDP	Montagnes des	25.52	86	LR	LR	14 16 56.0	
	comp=Z,147nm,19.5s,baz=286,slow=40						
SIV	San Ignacio	25.82	139	P	P	14 05 30.4	-0.7
	comp=Z,12nm,0.7s,baz=318,slow=10,SNR=20						
	comp=Z,12nm,0.7s						
PB01	IPOC Station P	25.96	161	P	P	14 05 32.7	+0.3
PB01				IAmb	IAmb	14 05 35.3	
	comp=Z,20nm,1.2s						
PB02	IPOC Station P	26.09	162	P	P	14 05 34.4	+0.8
PB02				IAmb	IAmb	14 05 51.2	
	comp=Z,32nm,0.9s						
PDRB	Porto dos Gac	26.17	126	eP	P	14 05 34.6	+0.2
PB07	IPOC Station P	26.48	162	P	P	14 05 36.5	-0.6
PB07				IAmb	IAmb	14 05 45.0	
	comp=Z,20nm,0.9s						
CLDB	Colider	26.54	123	eP	P	14 05 37.1	-0.6
PTLB	Pontes e Lacer	26.74	136	P	P	14 05 35.1	-4.3
BBSD	Serra de San D	27.00	140	eP	P	14 05 41.7	-0.1
LVC	Limon Verde	27.61	161	P	P	14 05 49.0	+1.5
	comp=Z,6.5nm,1.0s,baz=351,slow=4.6,SNR=3.6						
LVC				LR	LR	14 19 57.3	
	comp=Z,308nm,19.2s,baz=328,slow=43						
	comp=Z,6.5nm,1.0s						
LVC	Limon Verde	27.61	161	eP	P	14 05 47.7	+0.2
BBRB	Robore, Bolivi	28.32	141	eP	P	14 05 52.4	-1.2
SNDB	Serra Nova Dou	30.91	120	eP	P	14 06 14.2	-2.4
RVDE	Rio Verde (Bra	32.10	135	eP	P	14 06 26.2	-0.8
AQDB	Aquidauana	32.58	138	eP	P	14 06 29.9	-1.2
TXAR	Lajitas Array	35.18	319	P	P	14 06 55.5	+1.7
	comp=Z,1.3nm,0.9s,baz=141,slow=8.1,SNR=5.8						
TXAR				PcP	PcP	14 09 25.5	+0.7
	comp=Z,0.9nm,0.9s,baz=111,slow=4.9,SNR=3.7						
	comp=Z,1.3nm,0.9s						
BDFB	Brasilia	35.48	123	P	P	14 06 57.7	+1.2
	comp=Z,0.9nm,0.3s,baz=320,slow=7.9,SNR=2.3						
	comp=Z,0.9nm,0.3s						
CCM	Cathedral Cave	36.29	342	P	P	14 07 02.4	-0.7
CCM	Cathedral Cave	36.29	342	P	P	14 07 02.2	-0.8
CCM				pP	pP	14 07 09.4	-1.2
IPMB	Ipameri, GO	36.54	127	eP	P	14 07 04.7	-0.8
SDBA	SAO DESIDERIO	36.72	116	eP	P	14 07 07.1	-0.1
JANB	Januaria	38.35	120	eP	P	14 07 20.6	-0.4
CRSM	Crissiumal (Br	38.73	144	eP	P	14 07 23.7	-0.2
UNIS	Unistalda (Bra	39.36	147	eP	P	14 07 29.5	+0.3
121A	Cookes Peak, D	39.94	319	P	P	14 07 35.9	+1.7
121A				IAmb	IAmb	14 07 45.2	
	comp=Z,18nm,1.0s						
VAO	Valinhos	40.37	132	eP	P	14 07 36.3	-1.4
DIAM	Diamantina, MG	40.40	124	eP	P	14 07 36.9	-1.2
ANMO	Albuquerque	40.72	323	LR	LR	14 28 46.6	
	comp=Z,48nm,19.3s,baz=165,slow=42						
ANMO	Albuquerque	40.72	323	P	P	14 07 42.3	+1.7
ANMO				pP	pP	14 07 49.9	+1.7
SDCO	Great Sand Dun	42.16	327	P	P	14 07 53.3	+0.8
SDCO				IAmb	IAmb	14 08 02.4	
	comp=Z,19nm,1.5s						
CMC01	Camacan, BA	42.68	117	eP	P	14 07 56.2	-0.5
RPN	Rapa Nui	42.87	223	LR	LR	14 21 46.7	
	comp=Z,134nm,18.1s,baz=18,slow=30						
PLCA	Paso Flores	44.69	172	P	P	14 08 11.5	-1.1
PLCA				IAmb	IAmb	14 08 16.0	
	comp=Z,16nm,1.1s						
PLCA	Paso Flores	44.69	172	P	P	14 08 14.1	+1.5
	comp=Z,7.1nm,0.9s,baz=347,slow=9.5,SNR=12						
	comp=Z,7.1nm,0.9s						
PLCA	Paso Flores	44.69	172	P	P	14 08 14.7	+2.1
PLCA	Paso Flores	44.69	172	eP	P	14 08 13.2	+0.5
RSSD	Black Hills	46.33	334	P	P	14 08 26.4	+0.7
RSSD				pP	pP	14 08 34.3	+0.9
PDAR	Pinedale Array	47.93	329	P	P	14 08 40.3	+2.0
	comp=Z,0.2nm,0.3s,baz=137,slow=22,SNR=6.0						
PDAR				LR	LR	14 32 51.2	
	comp=Z,36nm,18.8s,baz=92,slow=41						
	comp=Z,0.2nm,0.3s						
ULM	Lac du Bonnet	48.81	345	P	P	14 08 43.4	-1.2
	comp=Z,5.1nm,0.8s,baz=151,slow=7.2,SNR=5.3						
	comp=Z,5.1nm,0.8s						
NVAR	Mina Array Bea	50.33	319	P	P	14 08 58.1	+1.4
	comp=Z,1.0nm,0.8s,baz=125,slow=7.8,SNR=3.4						
	comp=Z,1.0nm,0.8s						
FFC	Flin Flon	54.48	343	P	P	14 09 26.4	-0.6
FFC				pP	pP	14 09 33.9	-0.8
YKA	Yellowknife Ar	64.62	342	P	P	14 10 35.9	-0.9
	comp=Z,1.5nm,0.9s,baz=130,slow=6.8,SNR=26						
	comp=Z,1.5nm,0.9s						
M30M	Minto, Yukon	72.76	336	P	P	14 11 27.8	+0.3
M30M				IAmb	IAmb	14 11 37.1	
	comp=Z,15nm,1.2s						
TIC	Toumodi	72.89	84	⇑eP	P	14 11 28.8	-0.5
	comp=Z,2.4nm,0.2s						
LIC	Lamto	72.90	85	⇑iP	P	14 11 29.0	-0.3
	comp=Z,12nm,0.6s						
DBIC	Dimbokro	73.06	84	P	P	14 11 28.3	-1.9
DBIC	Dimbokro	73.06	84	P	P	14 11 30.4	+0.2
	comp=Z,6.4nm,1.0s,baz=262,slow=7.0,SNR=5.6						
	comp=Z,6.4nm,1.0s						
SUMG	Summit	73.08	12	iP	P	14 11 30.1	+0.4
KIC	Kosan Boka	73.18	84	⇑iP	P	14 11 30.7	-0.2
	comp=Z,22nm,1.1s						
A36M	Sachs Harbour	74.26	346	P	P	14 11 35.2	-0.9
A36M				IAmb	IAmb	14 11 43.4	
	comp=Z,12nm,0.8s						
BCAR	Beaver Creek A	75.04	335	P	P	14 11 41.4	+0.4
NEEM	North Greenlan	75.19	6	iP	P	14 11 42.2	+0.4
ESDC	Sonseca Array	75.57	50	P	P	14 11 44.4	-0.1
	comp=Z,2.9nm,0.9s,baz=266,slow=6.7,SNR=12						
	comp=Z,2.9nm,0.9s						
ILAR	Eielson Array	77.75	336	P	P	14 11 56.0	-0.2
	comp=Z,0.4nm,0.9s,baz=96,slow=4.6,SNR=4.2						
	comp=Z,0.4nm,0.9s						
EKA	Eskdalemuir Ar	78.54	34	P	P	14 11 59.2	-1.5
	comp=Z,3.5nm,1.0s,baz=253,slow=7.3,SNR=2.3						
	comp=Z,3.5nm,1.0s						
TORD	Torodi Ar. Bea	79.35	77	P	P	14 12 05.8	-0.2
	comp=Z,1.5nm,0.8s,baz=334,slow=3.7,SNR=6.8						
TORD				LR	LR	14 47 31.4	
	comp=Z,45nm,19.7s,baz=346,slow=36						
	comp=Z,1.5nm,0.8s						
DAVA	Damuels	86.06	43	i PcP	P	14 12 42.3	+1.8
	comp=Z,9.9nm,0.9s						
NOA	NORSAR Array B	86.57	29	P	P	14 12 43.0	+0.5
	comp=Z,2.2nm,0.9s,baz=270,slow=4.6,SNR=3.8						
	comp=Z,2.2nm,0.9s						
FETA	Feichten	86.64	43	i PcP	PcP	14 12 45.1	-0.5
	comp=Z,8.5nm,1.1s						
RETA	Reutte	86.65	43	i PcP	PcP	14 12 45.0	-0.6
	comp=Z,5.7nm,1.4s						
SQTA	Sankt Quirin	86.96	43	eP	P	14 12 45.6	+0.7
	comp=Z,5.3nm,1.2s						
WATA	Walderalm	87.21	43	i P	P	14 12 46.6	+0.6
	comp=Z,2.8nm,0.7s						
WTTA	Wattenberg	87.25	43	i P	P	14 12 45.8	-0.6
	comp=Z,7.0nm,1.2s						
ABTA	Abfaltersbach	87.88	43	eP	P	14 12 50.1	+0.9
	comp=Z,6.3nm,0.9s						
CLL	Collm	87.95	39	i P	P	14 12 50.7	+1.4
	comp=Z,10.0nm,1.3s						
LESA	Schwarzleotal	87.95	43	i P	P	14 12 50.3	+0.7
	comp=Z,5.4nm,0.9s						
KBA	Koelnbreinsper	88.43	43	eP	P	14 12 51.4	-0.5
	comp=Z,4.4nm,1.0s						
GERES	GERESS Array B	88.55	41	P	P	14 12 53.2	+0.9
	comp=Z,1.7nm,0.8s,baz=291,slow=4.1,SNR=7.3						
	comp=Z,1.7nm,0.8s						
BIOA	Bad Ischl, Aus	88.59	42	i P	P	14 12 53.3	+0.8
	comp=Z,9.7nm,1.5s						
MYKA	Terra Mystica	88.66	44	eP	P	14 12 53.7	+0.8
	comp=Z,2.2nm,0.5s						
CONA	Conrad Observa	90.06	42	eP	P	14 12 59.1	-0.3
	comp=Z,3.2nm,1.2s						
FINES	FINESS Array B	93.62	28	LR	LR	14 51 23.7	
	comp=Z,112nm,18.6s,baz=296,slow=33						
QSPA	South Pole Qui	93.65	180	P	P	14 13 14.6	-1.1
QSPA	South Pole Qui	93.65	180	P	P	14 13 16.9	+1.3
	comp=Z,3.7nm,0.9s,baz=156,slow=1.2,SNR=7.6						
QSPA				LR	LR	14 49 44.4	
	comp=Z,243nm,21.9s,baz=247,slow=32						
	comp=Z,3.7nm,0.9s						
SUR	Sutherland	99.54	122	LR	LR	14 54 32.0	
	comp=Z,71nm,20.6s,baz=244,slow=33						
ZALV	Zalesovo Beam	120.90	12	PKP	PKPdf	14 18 51.8	+0.1
	comp=Z,0.3nm,0.4s,baz=324,slow=9.2,SNR=1.8						
KURBB	Kurchatov Arra	122.38	17	PKP	PKPdf	14 18 55.0	+0.3
	comp=Z,0.2nm,0.3s,baz=355,slow=2.2,SNR=2.2						
MKAR	Makanchi Array	126.92	17	PKP	PKPdf	14 19 03.5	0.0
	comp=Z,0.6nm,0.8s,baz=8.7,slow=1.9,SNR=4.1						
SONM	Songino Array	128.60	356	PKP	PKPdf	14 19 07.2	+0.4
	comp=Z,0.9nm,0.9s,baz=90,slow=1.4,SNR=6.2						
ASAR	Alice Springs	143.15	234	PKhKP	PKPpre	14 19 30.9	
	comp=Z,0.7nm,0.6s,baz=119,slow=3.4,SNR=11						
WRA	Warramunga Arr	144.37	240	PKP	PKPbc	14 19 35.2	+0.3
	comp=Z,6.7nm,0.8s,baz=112,slow=3.1,SNR=29						
CMAR	Chiang Mai Arr	157.88	7	PKPab	PKPab	14 20 29.5	-0.2
	comp=Z,0.4nm,0.3s,baz=324,slow=5.2,SNR=5.8						

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*IDC **06** 14:05:34.4±1.6, 1°.35N×125°.87E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=177.0km s-min=20.0km az=66.0*

*DJA **06** 14:05:39.8±1.0, 1°N±18°×12°6E±°, h10km, M3.2/3, MLv3.2/3*

ISC 06 14:05:35.5±1.1**, 1°.5N**±0°.2×**126°.4E**±0°.3**, h10**km**, n8,** σ**0s.71**/7**, mb3.6**/5**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.23	127	P	Pg	14 05 59.3	+0.1
SGSI	Sangihe	2.32	338	P	Pg	14 06 35.3	+15
LBMI	Labuha	2.42	152	P	Pn	14 06 14.7	-0.4
WRA	Warramunga Arr	22.71	160	P	P	14 10 37.6	-0.1
	0.7nm,0.4s,baz=337,slow=11,SNR=12						
	0.7nm,0.4s						
ASAR	Alice Springs	26.08	164	P	P	14 11 10.3	+0.8
	0.3nm,0.3s,baz=344,slow=9.2,SNR=22						
	0.3nm,0.3s						
MKAR	Makanchi Array	59.18	326	P	P	14 15 36.7	0.0
	0.2nm,0.4s,baz=122,slow=7.5,SNR=5.0						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	63.41	328	P	P	14 16 04.2	-1.1
	0.2nm,0.2s,baz=126,slow=6.1,SNR=4.6						
	0.2nm,0.2s						
BVAR	Borovoye Array	68.98	328	P	P	14 16 41.1	0.0
	0.3nm,0.7s,baz=115,slow=9.7,SNR=2.2						
	0.3nm,0.7s						

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*NEIC **06** 14:06:13.2±2.6, 4°.39N±0°.10×126°.9E±0°.1, h34km±7km,*

mb4.4/21, Error ellipse: s-maj=18.6km s-min=12.4km az=62.0
*IDC **06** 14:06:21.4±1.9, 4°.20N×126°.71E, h106km±18km, mb3.5/10, mbtmp3.9/11, Error ellipse: s-maj=48.8km s-min=12.2km az=67.0*
ISC 06 14:06:19.4±0.6**, 4°.27N**±0°.07×**126°.7E**±0°.1**, h100**km**, n40, σ2.s36**/39**, mb4.0**/18**, 3D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.01**	**337**	P	**Pn**	**14 07 09.1**	**+3.8**
	88nm,0.3s,baz=73,slow=16,SNR=2.1						
DAV				S	**Sn**	**14 07 44.5**	**+3.8**
	171nm,0.3s,baz=90,slow=20,SNR=2.3						
KCP	**Kidapawan**	**3.18**	**329**⇓	*e*P	**Pn**	**14 07 05.2**	**-2.4**
KCP				*i* S	**Sn**	**14 07 42.1**	**-2.7**
TNTI	**Ternate**	**3.53**	**170**	Pn	Pn	14 07 07.7	-4.6
BIPH	**Bislig**	**3.91**	**354**⇓	*i*P	**Pn**	**14 07 18.5**	**+1.2**
BIPH				*i* S	Sn	14 08 12.2	+10
SCPH	**Surigao**	**5.62**	**347**⇓	*i*P	Pn	14 07 46.0	+5.5
SCPH				*i* S	Sn	14 08 07.6	-36
TOLI2	**Tolitoli**	**6.73**	**242**	Pn	Pn	14 07 50.8	-4.9
MTN	**Manton Dam**	**17.55**	**166**	Pn	**P**	**14 10 12.3**	**-5.2**
MTN				IAmb	IAmb	14 10 23.9	
	comp=Z,22nm,1.2s						
YULB	**Yu-li**	**19.72**	**345**	P	**P**	**14 10 35.2**	**-6.0**
YULB				IAmb	IAmb	14 10 47.4	
	comp=Z,30nm,1.3s						
TPUB	**Ta-pu**	**19.82**	**343**	P	**P**	**14 10 37.0**	**-5.2**
KNRA	**Kununurra**	**19.92**	**174**	P	**P**	**14 10 42.5**	**-0.9**
KNRA				IAmb	IAmb	14 10 59.9	
	comp=Z,25nm,1.4s						
SSLB	**Suanglung**	**20.19**	**344**	P	**P**	**14 10 42.4**	**-3.9**
FITZ	**Fitzroy Crossi**	**22.25**	**183**	P	**P**	**14 11 09.0**	**+0.7**
WB0	**Warramunga Arr**	**25.04**	**163**	P	**P**	**14 11 34.6**	**+0.1**
WB0				IAmb	IAmb	14 11 48.1	
	comp=Z,5.3nm,0.8s						
WRA	**Warramunga Arr**	**25.19**	**163**	P	**P**	**14 11 38.1**	**+2.2**
WRA	**Warramunga Arr**	**25.19**	**163**	P	**P**	**14 11 36.4**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=342,slow=10,SNR=15						
	comp=Z,3.7nm,0.7s						
WB2	**Warramunga Arr**	**25.20**	**163**	P	**P**	**14 11 36.4**	**+0.5**
WB2				IAmb	IAmb	14 11 39.4	
	comp=Z,5.5nm,0.8s						
WR0	**Warramunga Arr**	**25.27**	**163**	P	**P**	**14 11 37.8**	**+1.2**
WR0				IAmb	IAmb	14 11 40.4	
	comp=Z,5.3nm,0.8s						
KULM	**Kulim**	**26.02**	**273**	P	**P**	**14 11 43.8**	**+0.4**
MBWA	**Marble Bar**	**26.19**	**195**	P	**P**	**14 11 46.1**	**+1.3**
MBWA				IAmb	IAmb	14 11 57.0	
	comp=Z,23nm,1.4s						
PSA00	**Pilbara Seismi**	**26.56**	**194**	P	**P**	**14 11 48.8**	**+0.7**
PSA00				IAmb	IAmb	14 11 49.6	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**28.63**	**166**	P	**P**	**14 12 06.3**	**-0.4**
ASAR	**Alice Springs**	**28.63**	**166**	P	**P**	**14 12 08.2**	**+1.5**
ASAR	**Alice Springs**	**28.63**	**166**	P	**P**	**14 12 08.1**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=346,slow=6.9,SNR=11						
	comp=Z,0.5nm,0.4s						
JNU	**Nakatsue**	**28.96**	**7**	P	**P**	**14 12 09.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**14 12 25.9**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=112,slow=7.2,SNR=7.6						
	comp=Z,0.7nm,0.7s						
MORW	**Morawa**	**34.71**	**197**	P	**P**	**14 12 58.9**	**-1.0**
BBOO	**Buckleboo**	**37.92**	**167**	P	**P**	**14 13 27.5**	**+0.3**
STKA	**Stephens Creek**	**38.63**	**160**	P	**P**	**14 13 33.7**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=338,slow=8.6,SNR=3.8						
	comp=Z,2.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**40.03**	**6**	P	**P**	**14 13 42.2**	**-2.4**
USA0B				IAmb	IAmb	14 14 06.7	
	comp=Z,5.6nm,1.0s						
USRK	**Ussuriysk Ar.**	**40.03**	**6**	P	**P**	**14 13 41.7**	**-2.9**
ARMA	**Armidale**	**41.91**	**147**	P	**P**	**14 13 59.6**	**-0.8**
ARMA				IAmb	IAmb	14 14 13.5	
	comp=Z,9.9nm,1.4s						
SONM	**Songino Array**	**46.79**	**341**	P	**P**	**14 14 40.6**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=166,slow=7.9,SNR=2.2						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**57.12**	**325**	P	**P**	**14 15 55.5**	**-0.1**
MKAR	**Makanchi Array**	**57.12**	**325**	P	**P**	**14 15 56.5**	**+0.9**
MKAR	**Makanchi Array**	**57.12**	**325**	P	**P**	**14 15 57.2**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=120,slow=7.4,SNR=9.9						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**60.11**	**333**	P	**P**	**14 16 17.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=146,slow=9.3,SNR=2.6						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**61.29**	**327**	P	**P**	**14 16 25.9**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=123,slow=6.3,SNR=15						
	comp=Z,2.2nm,0.8s						
KURK	**Kurchatov**	**61.29**	**327**	P	**P**	**14 16 24.8**	**+0.6**
KURK				IAmb	IAmb	14 16 29.1	
	comp=Z,3.5nm,0.7s						
BVAR	**Borovoye Array**	**66.88**	**327**	P	**P**	**14 17 02.5**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=152,slow=10,SNR=4.5						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**84.61**	**25**	P	**P**	**14 18 43.7**	**+2.2**
	comp=Z,0.4nm,0.9s,baz=268,slow=5.5,SNR=2.0						
	comp=Z,0.4nm,0.9s						

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*FCIAR **06** 14:16:22.0, 82°.96N×5°.59W, h10km, station ZFI2 has station magnitude of 3.50*
*DNK **06** 14:16:24.4±1.9, 82°.78N×5°.84W, h24km±19km, ML1.7*
BER 06 14:16:22.3±2.7**, 82°.87N×6°.42W, h10**km**, mb(Pn)3.5, ML1.7**(DNK)**, Confirmed Earthquake, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.88**	**134**	*e*P	Pn	14 17 33.6	-1.9
KBS				*e*S	Sn	14 18 24.5	-7.5
KBS				IAML		14 18 29.8	
	comp=Z,5.0nm,0.7s						
KBS	**Kingsbay**	**4.88**	**134**	*e*P	Pn	14 17 33.4	-2.2
KBS				*e*S	Sn	14 18 25.1	-6.9
KBS	**Kingsbay**	**4.88**	**134**	*e*P	Pn	14 17 33.7	-1.9
KBS				*e*S	Sn	14 18 24.6	-7.3
KBS				IAML		14 18 29.8	
	comp=Z,5.0nm,0.7s						
BRBB	**Barentsburg B**	**5.83**	**134**	*e*P	Pn	14 17 47.4	-1.2
BRBB				*e*S	Sn	14 18 47.2	-8.2
BRBB	**Barentsburg B**	**5.83**	**134**	*e*P	Pn	14 17 47.4	-1.2
BRBB				*e*S	Sn	14 18 47.2	-8.2
BRBA	**Barentsburg A**	**5.86**	**134**	*e*P	Pn	14 17 47.6	-1.5
BRBA	**Barentsburg A**	**5.86**	**134**	*e*P	Pn	14 17 47.6	-1.5
SPA0	**Spitsbergen Ar**	**5.96**	**130**	*e*P	Pn	14 17 48.1	-2.3
SPA0				*e*S	Sn	14 18 51.2	-7.3
SPA0				IAML		14 19 24.1	
	comp=Z,2.9nm,1.0s						
SPA0	**Spitsbergen Ar**	**5.96**	**130**	*e*P	Pn	14 17 47.3	-3.1
SPA0				*e*S	Sn	14 18 51.0	-7.6
SPA0	**Spitsbergen Ar**	**5.96**	**130**	*e*P	Pn	14 17 48.1	-2.3
SPA0				*e*S	Sn	14 18 51.2	-7.3
SPA0				IAML		14 19 24.1	
	comp=Z,2.9nm,1.0s						
DAG	**Danmarks Havn**	**6.47**	**206**	*e*P	Pn	14 17 56.1	-1.3
DAG				*e*S	Sn	14 19 04.6	-6.6
DAG				IAML		14 19 11.4	
	comp=Z,1.4nm,0.4s						
DAG	**Danmarks Havn**	**6.47**	**206**	*e*P	Pn	14 17 56.2	-1.2
DAG				*e*S	Sn	14 19 04.9	-6.3
DAG				IAML		14 19 11.4	
	comp=Z,1.4nm,0.4s						
HSPB	**Hornsund (broa**	**6.95**	**136**	*e*P	Pn	14 18 02.7	-1.2
HSPB	**Hornsund (broa**	**6.95**	**136**	*e*P	Pn	14 18 02.7	-1.2
ZFI2	**Zemlya Franca-**	**7.68**	**77**	P	Pn	14 18 09.2	-4.7
ZFI2				*e*S	Sn	14 19 27.9	-13
	comp=Z,14nm,3.4s						
OMEGA	**Omega**	**7.70**	**77**	P	Pn	14 18 09.0	-5.2
HOPEN	**Hopen**	**8.32**	**122**	*e*P	Pn	14 18 20.4	-2.3
HOPEN	**Hopen**	**8.32**	**122**	*e*P	Pn	14 18 20.0	-2.8
HOPEN				*e*S	Sn	14 19 46.6	-10
HOPEN	**Hopen**	**8.32**	**122**	*e*P	Pn	14 18 20.4	-2.3
NEEM	**North Greenlan**	**9.04**	**258**	*e*P	Pn	14 18 30.0	-2.8
NEEM				*i* S	Sn	14 20 06.4	-8.2
NEEM				IAML		14 20 07.0	
	comp=Z,1.7nm,0.3s						
NEEM	**North Greenlan**	**9.04**	**258**	*e*P	Pn	14 18 30.0	-2.8
NEEM				*i* S	Sn	14 20 06.4	-8.2
NEEM				IAML		14 20 07.0	
	comp=Z,1.7nm,0.3s						

NEIC 06 14:19:27.2±2.6**, 42°.22N**±0°.03×**104°.81W**±0°.03**, h5**km±2km**, mb_Lg2.7**/12**, ML3.0**/62**, Error ellipse: s-maj=5.9km s-min=4.0km az=8.0, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**1.04**	**208**		Pb	14 19 47.8	0.0
PHWY				Sg	Sn	14 20 03.3	-0.4
K22A	**Casper**	**1.34**	**289**		Pb	14 19 53.9	+1.0
K22A				IAML		14 20 17.3	
	comp=E,275nm,0.2s						
K22A				IAML		14 20 18.7	
	comp=N,238nm,0.2s						
N23A	**Red Feather La**	**1.57**	**213**	Pg	Pn	14 19 55.0	-1.1
BRIGG	**Briggsdale**	**1.68**	**167**		Pb	14 19 58.1	-0.5
BRIGG					Sg	14 20 20.7	-0.5
BRIGG				IAmb_Lg		14 20 22.1	
	comp=Z,26nm,0.8s						
RWWY	**Rawlins**	**1.87**	**254**		Pb	14 20 01.1	-0.8
RWWY				IAML		14 20 32.8	
	comp=Z,84nm,0.4s						
RWWY				IAML		14 20 35.5	
	comp=Z,99nm,0.8s						
RSSD	**Black Hills**	**1.98**	**16**	IAML		14 20 28.5	
	comp=Z,122nm,0.8s						
RSSD				IAML		14 20 29.3	
	comp=Z,89nm,0.7s						
RSSD	**Black Hills**	**1.98**	**16**		Pn	14 20 01.6	-0.1
OGNE	**Ogallala**	**2.44**	**121**		Pn	14 20 09.2	+1.3
OGNE				IAmb_Lg		14 20 47.6	
	comp=Z,48nm,0.9s						
ISCO	**Idaho Springs**	**2.49**	**194**	Pn	Pn	14 20 10.1	+1.3
Q24A	**Divide**	**3.26**	**185**	Pn	Pn	14 20 17.9	-1.4
Q24A				IAML		14 21 12.3	
	comp=N,27nm,0.2s						
Q24A				IAML		14 21 14.4	
	comp=E,36nm,0.3s						
O20A	**White River Ci**	**3.32**	**232**	Pn	Pn	14 20 20.6	+0.5
O20A				IAML		14 21 33.3	
	comp=E,28nm,3.5s						
O20A				IAML		14 21 33.8	
	comp=N,37nm,4.9s						
BW06	**Boulder Array**	**3.55**	**280**	Pn	Pn	14 20 22.8	-0.5
PD31	**Pinedale Array**	**3.55**	**280**		Pn	14 20 24.1	+0.9
PDAR	**Pinedale Array**	**3.55**	**280**	Pn	Pn	14 20 21.6	-1.7
KSCO	**Kaye Shedlock'**	**3.61**	**152**	Pn	Pn	14 20 22.9	-1.1
KSCO				IAmb_Lg		14 21 25.0	
	comp=Z,34nm,1.2s						
K30B	**Basset**	**3.87**	**82**	Pn	Pn	14 20 24.9	-2.6
K30B				IAmb_Lg		14 21 36.3	
	comp=Z,25nm,0.7s						
LOHW	**Long Hollow**	**4.48**	**290**	Pn	Pn	14 20 36.6	+0.6
LOHW				IAML		14 21 57.4	
	comp=Z,20nm,5.0s						
LOHW				IAML		14 23 23.1	
	comp=Z,13nm,4.8s						
SNOW	**Snow King Moun**	**4.54**	**288**	Pn	Pn	14 20 36.3	-0.6
LAO	**LASA Array**	**4.58**	**348**	Pn	Pn	14 20 36.3	-0.9
TPAW	**Teton Pass**	**4.69**	**288**	Pg	Pg	14 20 53.6	-3.4
H17A	**Grant Village**	**4.74**	**299**	Pg	Pg	14 20 55.3	-2.6
H17A				IAML		14 22 49.6	
	comp=E,14nm,4.9s						
BSUT	**Blindstream Ca**	**4.78**	**251**	Pn	Pn	14 20 39.4	-0.8
BSUT				IAML		14 22 34.5	
	comp=E,15nm,4.8s						
BSUT				IAML		14 22 54.9	
	comp=N,12nm,5.0s						
IMW	**Indian Meadow**	**4.79**	**293**	Pg	Pb	14 20 54.5	+2.7
IMW				IAML		14 21 23.5	
	comp=N,12nm,4.6s						
BGNE	**Belgrade**	**5.04**	**97**	IAmb_Lg		14 22 08.2	
	comp=Z,31nm,0.7s						
T25A	**Trinidad**	**5.08**	**176**	IAmb_Lg		14 22 15.8	
	comp=Z,10nm,0.8s						

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*IDC **06** 14:39:13.6±13.0, 1°.04N×100°.01E, h147km±121km, mb3.4/9, mbtmp3.8/10, ML4.0/1, MS3.1/2, Error ellipse: s-maj=54.5km s-min=21.1km az=54.0*
*DJA **06** 14:39:20.9±0.7, 1°N±4°×10°0E±°, h202km±9km, M4.0/12, mb4.4/1, MLv3.8/12*
ISC 06 14:39:19.8±0.7**, 1°.15N**±0°.06×**100°.12E**±0°.07**, h200**km**, n23, σ1.s13**/23**, mb3.5**/9**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.23**	**132**	P	**Pn**	**14 39 53.1**	**+1.9**
TRSI	**Tarutung**	**1.45**	**307**	P	**Pn**	**14 39 54.0**	**+0.8**
PSI	**Prapat**	**2.03**	**324**	P	**Pn**	**14 39 59.2**	**+0.5**
PDSI	**Padang**	**2.08**	**171**	P	**Pn**	**14 40 00.1**	**+1.0**
PDSI				S	**Sn**	**14 40 30.6**	**+0.7**
PBSI	**Pulau Batu**	**2.20**	**237**	P	**Pn**	**14 40 01.4**	**+1.0**
PBSI				S	**Sn**	**14 40 33.8**	**+1.8**
GSI	**Gunungsitoli**	**2.55**	**273**	P	**Pn**	**14 40 05.3**	**+1.0**
PPSI	**Pulau Pagai**	**3.89**	**182**	P	**Pn**	**14 40 20.7**	**+0.5**
SNSI	**Sinabang, Aceh**	**4.00**	**288**	P	**Pn**	**14 40 22.1**	**+0.6**
KULM	**Kulim**	**4.14**	**7**	P	**Pn**	**14 40 25.6**	**+2.2**
MLSI	**Meulaboh, Aceh**	**4.83**	**310**	P	**Pn**	**14 40 34.0**	**+1.9**
LHMI	**Lhok Sumawe**	**5.14**	**322**	P	**Pn**	**14 40 36.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.24**	**356**	P	**P**	**14 43 05.7**	**-1.7**
	0.2nm,0.3s,baz=189,slow=12,SNR=2.2						
	0.5nm,0.5s						
TGY	**Tagaytay City**	**24.27**	**57**	LR	LR	14 54 20.2	
	comp=Z,69nm,21.8s,baz=52,slow=37						
WRA	**Warramunga Arr**	**39.55**	**124**	P	**P**	**14 46 30.8**	**-0.9**
	0.6nm,0.5s,baz=304,slow=9.2,SNR=6.1						
	0.6nm,0.5s						
KSRS	**Korea Array**	**44.28**	**32**	P	**P**	**14 47 09.4**	**-0.3**
	0.4nm,0.6s,baz=228,slow=9.2,SNR=4.2						
	0.4nm,0.6s						
GUMO	**Guam**	**45.96**	**72**	LR	LR	15 09 28.8	
	comp=Z,16nm,19.0s,baz=0.5,slow=39						
SONM	**Songino Array**	**46.82**	**6**	P	**P**	**14 47 29.6**	**+0.1**
	0.3nm,0.5s,baz=201,slow=7.7,SNR=2.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**48.05**	**344**	P	**P**	**14 47 39.2**	**+0.2**
	0.4nm,0.5s,baz=148,slow=7.6,SNR=8.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**52.59**	**343**	P	**P**	**14 48 12.5**	**-0.3**
	0.4nm,0.5s,baz=165,slow=7.4,SNR=5.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**54.12**	**349**	P	**P**	**14 48 23.6**	**-0.3**
	0.5nm,0.3s,baz=183,slow=5.3,SNR=4.8						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**57.30**	**339**	P	**P**	**14 48 46.1**	**-0.4**
	1.6nm,0.5s,baz=141,slow=9.5,SNR=17						
	1.6nm,0.5s						
BRTR	**Keskin Array B**	**71.31**	**312**	P	**P**	**14 50 17.5**	**-0.5**
	1.2nm,0.7s,baz=120,slow=7.3,SNR=6.1						
	1.2nm,0.7s						
FINES	**FINESS Array B**	**81.40**	**332**	P	**P**	**14 51 14.1**	**0.0**
	2.8nm,1.0s,baz=97,slow=6.0,SNR=8.0						
	2.8nm,1.0s						

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*IDC **06** 14:39:56.2±1.8, 4°.07N×126°.74E, h168km±20km, mb3.1/5, mbtmp3.7/6, Error ellipse: s-maj=79.8km s-min=15.8km az=64.0*
ISC 06 14:39:54.8±1.2**, 3°.9N**±0°.2×**126°.6E**±0°.4**, h150**km**, n6, σ1.s21**/8**, mb3.4**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.31**	**343**	P	**Pn**	**14 40 46.7**	**+0.5**
	185nm,0.5s,baz=226,slow=11,SNR=3.1						
DAV				S	**Sn**	**14 41 26.6**	**+0.5**
	298nm,0.5s,baz=202,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**24.88**	**162**	P	**P**	**14 45 04.8**	**+1.0**
	2.0nm,0.7s,baz=342,slow=10,SNR=9.2						
WRA				PcP	**PcP**	**14 48 34.0**	**-1.9**
	0.3nm,0.7s,baz=316,slow=2.6,SNR=1.6						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**14 45 35.5**	**+0.9**
	0.1nm,0.3s,baz=335,slow=7.0,SNR=4.5						
	0.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	**P**	**14 45 55.5**	**+0.3**
	0.2nm,0.3s,baz=115,slow=8.0,SNR=1.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**14 49 26.3**	**-0.9**
	0.3nm,0.6s,baz=122,slow=7.5,SNR=4.5						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**61.52**	**327**	P	**P**	**14 49 55.1**	**-0.6**
	0.6nm,0.6s,baz=128,slow=6.6,SNR=3.4						
	0.6nm,0.6s						

IDC 06 15:09:21.6±2.2**, 3°.35S×130°.18E, h0**km**, mb3.7**/2**, mbtmp3.7**/3**, ML3.7**/1**, Error ellipse: s-maj=112.7km s-min=29.8km az=70.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.98**	**166**	Pn	Pn	15 13 21.3	+0.5
	0.3nm,0.3s,baz=347,slow=11,SNR=8.2						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**20.52**	**170**	P	P	15 14 01.4	-0.2
	2.6nm,0.4s,baz=350,slow=11,SNR=91						
	2.6nm,0.4s						
MKAR	**Makanchi Array**	**65.31**	**326**	P	P	15 20 05.6	0.0
	0.2nm,0.6s,baz=129,slow=6.0,SNR=3.6						
	0.2nm,0.6s						

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*ISN **06** 15:22:05.6±0.7, 34°.35N×45°.89E, h8km±182km, ML5.1*
*IDC **06** 15:22:05.4±0.5, 34°.36N×45°.79E, h0km, mb4.5/32, mbtmp4.5/42, ML4.0/8, MS4.3/71, Error ellipse: s-maj=10.1km s-min=9.0km az=129.0*
*MOS **06** 15:22:06.9±1.3, 34°.30N×45°.87E, h14km, mb5.0/55, MS4.2/15, Error ellipse: s-maj=4.3km s-min=3.2km az=105.4*
*TEH **06** 15:22:08.4, 34°.47N×45°.76E, h6km±20km, ML5.0*
*AFAD **06** 15:22:08.7±0.0, 34°.27N×45°.49E, h7km±5km, MW4.7*
*THR **06** 15:22:08.5±1.0, 34°.46N×45°.74E, h15km±7km, ML4.8*
*NEIC **06** 15:22:09.1±2.6, 34°.59N±0°.05×45°.77E±0°.08, h10km±1km, mb5.0/169, Mww5.0/21, Error ellipse: s-maj=10.9km s-min=7.9km az=79.0*
*NEIC **06** 15:22:09, 34°.57N×45°.76E, h12km, Moment Tensor Solution. Duration: 1.s7 Moment tensor: Scale 10^16Nm; Mrr3.83; Mθθ-0.75; Mφφ-3.08; Mrθ1.01; Mθφ2.12; Mφr-0.85; Fault plane solution: M0 4.30000×10^16 NP1: φs142.68000°, δ53.86000°, λ81.65000°. NP2: φs336.66000°, δ36.97000°, λ101.25000°. Principal axes: T 4.0702, Plg79.0000°, Azm20.0000°; N 0.4505, Plg7.0000°, Azm148.0000°; P -4.5207, Plg9.0000°, Azm239.0000°;*
*DSN **06** 15:22:09.2±0.4, 34°.16N×45°.79E, h15km, mb5.4/4 Error ellipse: s-maj=9.3km s-min=4.1km az=55.0*
*NEIC **06** 15:22:09, 34°.57N×45°.76E, h12km*
*NAO **06** 15:22:10.2, 34°.39N×45°.53E, h33km, mb4.7*
*GCMT **06** 15:22:12.1±0.2, 34°.39N±0°.01×45°.66E±0°.01, h14km, MW5.1/96, Moment Tensor Solution. s64,c90; s96,c159; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.00±.16; Mθθ-0.86±.12; Mφφ-3.14±.12; Mrθ1.86±.29; Mθφ3.64±.10; Mφr-0.10±.25; Best double couple: M0 5.39000×10^16 NP1: φs121.00000°, δ57.00000°, λ60.00000°. NP2: φs348.00000°, δ44.00000°, λ128.00000°. Principal axes: T 4.8200, Plg64.0000°, Azm337.0000°; N 1.1360, Plg25.0000°, Azm139.0000°; P -5.9600, Plg7.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 15:22:09.7±0.5**, 34°.40N**±0°.02×**45°.85E**±0°.02**, h19**km±2km**, n1034, σ2.s17**/1028**, mb4.9**/208**, MS4.3**/86**, 86C-19D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**297**	Pg	**Pg**	**15 22 11.8**	**-3.7**
IDHR	**Dehrash**	**0.54**	**55**	Pg	**Pg**	**15 22 18.8**	**-1.9**
IDHR				Sg	**Sb**	**15 22 28.2**	**+0.1**
IGHG	**Ghaleghazi**	**0.60**	**96**	Pg	**Pg**	**15 22 21.4**	**-0.4**
IGHG				Sg	**Sn**	**15 22 33.0**	**+0.3**
KSBB	**Baniby**	**0.66**	**350**	Pg	**Pg**	**15 22 20.8**	**-2.0**
ILBA	**Ilam Banvizeh**	**0.82**	**159**	*e*Pg	**Pb**	**15 22 25.5**	**+0.1**
ILBA				*e*Sg	**Sn**	**15 22 39.0**	**+1.0**
ILBA				IAML		15 22 44.9	
	comp=N,29μm,0.4s						
ILBA	**Ilam Banvizeh**	**0.82**	**159**	Pg	**Pb**	**15 22 25.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.99**	**97**	Pg	**Pb**	**15 22 27.9**	**-0.5**
ILIN	**Lien**	**1.06**	**60**	Pg	**Pb**	**15 22 28.0**	**-1.5**
SLY	**Sulaymaniyah**	**1.24**	**347**	Pg	**Pn**	**15 22 29.4**	**-2.7**
IBDR	**Badra**	**1.28**	**177**	*e*Pn	**Pn**	**15 22 32.0**	**-0.6**
IBDR				*e*Sn	**Sg**	**15 22 51.0**	**-0.4**
IBDR				AML	AML	15 22 58.6	
	comp=E,55μm,0.7s						
IBDR				AML	AML	15 23 05.7	
	comp=N,38μm,0.6s						
IKOM	**Komasi**	**1.39**	**99**	Pg	**Pb**	**15 22 35.3**	**0.0**
SNGE	**Sanandaj**	**1.42**	**60**	*e*Pg	**Pn**	**15 22 35.1**	**+0.4**
SNGE				*e*Sg	**Sg**	**15 22 55.8**	**+0.1**
SNGE				IAML		15 22 59.7	
	comp=N,10μm,0.6s						
SNGE				IAML		15 23 12.7	
	comp=E,10μm,0.6s						
BHD	**Baghdad**	**1.66**	**228**	*e*Pn	**Pn**	**15 22 38.0**	**+0.2**
BHD				*e*Sn	**Sb**	**15 23 01.0**	**+0.8**
BHD				AML	AML	15 23 12.3	
	comp=E,28μm,0.7s						
IBZA	**Bozab**	**1.66**	**87**	Pg	**Pb**	**15 22 39.4**	**-0.6**
SDS1	**Sardasht. Az.**	**1.77**	**350**	Pg	**Pn**	**15 22 39.8**	**+0.2**
IKFM	**Kafar-mosalman**	**1.87**	**117**	Pn	**Pb**	**15 22 43.0**	**-0.3**
IALM	**Almabolaq**	**1.97**	**76**	Pn	**Pb**	**15 22 44.3**	**-0.8**
HSAM	**Samen**	**2.29**	**94**	Pn	**Pb**	**15 22 48.9**	**-1.7**
MAHB	**Mahabad**	**2.37**	**357**	Pn	**Pn**	**15 22 47.8**	**+0.1**
RAFI	**Al-Rafai**	**2.67**	**175**	*e*Pn	**Pn**	**15 22 51.0**	**-0.7**
RAFI				*e*Sn	**Sn**	**15 23 25.0**	**+1.4**
HAGD	**Aghdareh**	**2.75**	**80**	Pn	**Pn**	**15 22 55.0**	**+2.0**
IHSH	**Hashtrud**	**3.12**	**21**	Pn	**Pn**	**15 22 58.8**	**+0.6**
ZNJK	**Zanjan**	**3.24**	**45**	*e*Pn	**Pn**	**15 23 01.7**	**+1.9**
IAZR	**Azarshahr**	**3.28**	**2**	Pn	**Pn**	**15 23 01.0**	**+0.7**
CUKT	**Cukurca**	**3.38**	**328**	P	**Pn**	**15 23 02.8**	**+1.2**
CUKT	**Cukurca**	**3.38**	**328**	P	**Pn**	**15 23 02.8**	**+1.2**
CUKT				S	**Sn**	**15 23 37.7**	**-3.5**
ASAO	**Ashtian**	**3.45**	**86**	*e*Pn	**Pn**	**15 23 05.7**	**+3.0**
ASAO				IAML		15 24 13.9	
	comp=N,1μm,0.3s						
KHMZ	**Khomeyn**	**3.47**	**100**	*e*Pn	**Pn**	**15 23 05.7**	**+2.7**
KHMZ				IAML		15 24 19.2	
	comp=N,1μm,0.6s						
IRAZ	**Razeghan**	**3.50**	**72**	Pn	**Pn**	**15 23 05.5**	**+2.2**
HAKT	**HAKKARI**	**3.60**	**332**	P	**Pn**	**15 23 04.9**	**+0.2**
HAKT				S	**Sn**	**15 23 42.7**	**-4.1**
ISRB	**Sarab**	**3.73**	**23**	Pn	**Pn**	**15 23 06.6**	**+0.2**
ITBZ	**Tabriz**	**3.84**	**4**	Pn	**Pn**	**15 23 09.1**	**+1.2**
AHWZ	**Ahwaz**	**3.86**	**142**	Pn	**Pn**	**15 23 10.8**	**+2.8**
ISHB	**Shabestar**	**3.88**	**357**	Pn	**Pn**	**15 23 07.8**	**-0.9**
IHRS	**Heris**	**4.03**	**13**	Pn	**Pn**	**15 23 11.7**	**+1.1**
IMHD	**Mahdasht**	**4.16**	**71**	Pn	**Pn**	**15 23 13.6**	**+1.4**
GIDE	**GILAN DEYLAMAN**	**4.16**	**52**	*e*Pn	**Pn**	**15 23 13.4**	**+1.1**
GIDE				IAML		15 24 32.7	
	comp=N,702nm,0.8s						
SIRN	**Sırnak**	**4.17**	**319**	P	**Pn**	**15 23 11.6**	**-0.8**
SIRN				S	**Sn**	**15 23 58.4**	**-2.1**
IMRD	**Marand**	**4.31**	**358**	Pn	**Pn**	**15 23 14.5**	**0.0**
IQOM	**Qom**	**4.33**	**83**	Pn	**Pn**	**15 23 16.5**	**+1.8**
THKV	**Tehran--Karaj**	**4.39**	**68**	*e*Pn	**Pn**	**15 23 18.6**	**+3.1**
AMD1	**Meshkindasht**	**4.41**	**71**	Pn	**Pn**	**15 23 18.3**	**+2.6**
PERV	**Siirt/Pervari-**	**4.44**	**324**	P	**Pn**	**15 23 15.4**	**-0.7**
PERV				S	**Sn**	**15 24 08.5**	**+1.2**
GHVR	**GHOM**	**4.50**	**87**	*e*Pn	**Pn**	**15 23 18.9**	**+1.9**
GHVR				IAML		15 24 41.2	
	comp=N,875nm,0.6s						
GHVR				IAML		15 24 53.7	
	comp=E,684nm,0.8s						
GEVA	**Gevas**	**4.51**	**331**	P	**Pn**	**15 23 16.7**	**-0.5**
GEVA				S	**Sn**	**15 24 08.6**	**-0.6**
OZAP	**Van, Ozalp-Mer**	**4.51**	**341**	P	**Pn**	**15 23 17.8**	**+0.5**
IPIR	**Pirpir**	**4.54**	**111**	Pn	**Pn**	**15 23 18.8**	**+1.0**
AKDM	**Akdamar-Van**	**4.56**	**330**	*e*P	**Pn**	**15 23 19.2**	**+1.4**
TVAN	**Van**	**4.57**	**335**	P	**Pn**	**15 23 19.2**	**+1.2**
JHBN	**Jahan bin**	**4.57**	**117**	Pn	**Pn**	**15 23 19.3**	**+1.1**
CHTH	**Charan**	**4.58**	**69**	*e*Pn	**Pn**	**15 23 20.6**	**+2.4**
IHSB	**Hasanabad**	**4.58**	**75**	Pn	**Pn**	**15 23 21.0**	**+2.9**
VANB	**Van**	**4.64**	**335**	*e*P	**Pn**	**15 23 20.5**	**+1.7**
QAMS	**Qamsar**	**4.65**	**97**	Pn	**Pn**	**15 23 21.1**	**+1.9**
GAS1	**Astara - Iran**	**4.66**	**30**	Pn	**Pn**	**15 23 20.6**	**+1.7**
MIDY	**Mardin/Midyat-**	**4.70**	**311**	P	**Pn**	**15 23 17.6**	**-2.1**
MIDY				S	**Sn**	**15 24 10.9**	**-2.8**
GRMI	**Germi**	**4.70**	**20**	*e*Pn	**Pn**	**15 23 21.0**	**+1.3**
TEH	**Tehran**	**4.73**	**72**	Pn	**Pn**	**15 23 22.0**	**+1.8**
KLST	**Kelardasht - M**	**4.75**	**62**	Pn	**Pn**	**15 23 22.4**	**+1.8**
ZNGN	**Zangian**	**4.77**	**117**	Pn	**Pn**	**15 23 21.5**	**+0.7**
NAX	**Nakhchivan**	**4.78**	**357**	P	**Pn**	**15 23 21.7**	**+1.0**
IVRN	**Varamin**	**4.88**	**81**	Pn	**Pn**	**15 23 24.2**	**+2.1**
IKLH	**Kolahrood**	**4.89**	**101**	Pn	**Pn**	**15 23 24.4**	**+2.0**
LKRN	**Lenkeran, Azer**	**4.91**	**28**	P	**Pn**	**15 23 23.0**	**+0.6**

VMUR Van-Muradiye 4.94 339 P Pn 15 23 24.1 +1.1
CLDR Caldiran 4.99 342 P Pn 15 23 24.4 +0.7
BLIS Bitlis-Merkez 5.01 324 P Pn 15 23 22.5 -1.6
MAKU Maku 5.04 350 eP Pn 15 23 24.9 +0.5
MARD Mardin 5.04 307 P Pn 15 23 22.3 -2.2
MARD S Sn 15 24 15.7 -6.5
ADCV BITLIS_Adilcev 5.07 331 P Pn 15 23 26.2 +1.3
BTMN Batman 5.09 315 P Pn 15 23 25.3 +0.2
BTMN S Sn 15 24 18.8 -4.4
MZPU Pul - Mazandar 5.10 65 Pn Pn 15 23 27.9 +2.7
GURO Guroymak-BITLI 5.16 325 eP Pn 15 23 26.0 -0.1
GURO Guroymak-BITLI 5.16 325 Pn Pn 15 23 25.7 -0.4
IBRJ Brojen 5.17 117 Pn Pn 15 23 27.0 +0.6
DAMV Damavand 5.17 74 ePn Pn 15 23 13.5 -13
IDMV Damavand 5.21 75 Pn Pn 15 23 28.2 +1.3
KRSH Karshahi 5.23 93 Pn Pn 15 23 28.5 +1.5
ISFB Sefidab 5.29 89 Pn Pn 15 23 29.0 +1.2
SVAN Silvan-Diyarba 5.31 316 P Pn 15 23 26.9 -1.1
SVAN Silvan-Diyarba 5.31 316 P Pn 15 23 26.4 -1.5
SVAN S Sn 15 24 21.2 -7.3
MAZI Mazidag 5.34 306 eP Pn 15 23 26.9 -1.7
DYDN Diyadin 5.42 342 P Pn 15 23 34.3 +4.6
MLAZ Malazgirt-MUS 5.43 332 eP Pn 15 23 32.4 +2.7
IGAR Gharneh 5.55 109 Pn Pn 15 23 33.0 +1.6
MUSM Mu-Merkez 5.55 322 P Pn 15 23 29.9 -1.6
DORK Agr/Tutak/Do 5.56 335 P Pn 15 23 31.6 +0.1
IZEF Zefreh 5.61 104 Pn Pn 15 23 34.3 +1.9
AGRB Hanur-Agry 5.65 337 eP Pn 15 23 36.5 +3.6
TASB TASBURUN-IGDIR 5.72 347 eP Pb 15 23 42.2 -6.8
IFIR Firoozkooh 5.80 76 Pn Pn 15 23 37.1 +2.1
GNI Garni 5.81 352 Pn Pn 15 23 36.7 +1.7
GNI Garni 5.81 352 P Pn 15 23 39.0 +4.0
GNI Garni 5.81 352 ⇑eP Pn 15 23 31.6 -3.4
GNI Garni 5.81 352 Pn Pn 15 23 35.6 +0.6
comp=E,0.4nm,0.3s,baz=72,slow=17,SNR=2.9
GNI Lg Lg 15 25 10.4
comp=E,6.2nm,0.3s,baz=54,slow=19,SNR=1.9
GNI LR LR 15 26 08.6
comp=E,2µm,19.4s,baz=174,slow=42
comp=E,14nm,0.9s
GNI Garni 5.81 352 P Pn 15 23 40.5 +5.5
DIYA Diyarbakir 5.82 309 P Pn 15 23 33.5 -1.5
DYBB Diyarbakir 5.82 309 eP Pn 15 23 33.9 -1.2
KLNJ Kolanjah 5.90 123 Pn Pn 15 23 36.6 +0.1
VRTB Varto-Mus 5.92 325 eP Pn 15 23 37.2 +0.7
VRTB Varto-Mus 5.92 325 P Pn 15 23 35.7 -0.8
ILAS Lasjerd 5.93 78 Pn Pn 15 23 37.9 +1.2
IALA Alasht 5.94 72 Pn Pn 15 23 39.4 +2.5
HANI Diyarbakir_Han 5.95 314 P Pn 15 23 35.2 -1.7
SLHN Bingol, Solhan 5.98 321 P Pn 15 23 36.8 -0.5
NASN Na'in 6.02 103 ePn Pn 15 23 39.8 +1.8
IRAM Ramesheh 6.06 113 Pn Pn 15 23 39.0 +0.6
EATA Eleskirt 6.08 335 P Pn 15 23 45.4 +6.6
BNGB Bingl 6.19 319 iP Pn 15 23 39.4 -0.7
SANL SANLIURFA_Merk 6.22 298 P Pn 15 23 37.4 -3.2
KARO Karliova-Bingo 6.23 323 eP Pn 15 23 41.2 +0.4
GANJ Ganja 6.25 3 P Pn 15 23 41.7 +0.8
SURC SANLIURFA_SURC 6.39 295 P Pn 15 23 41.6 -1.3
KOPR Koprukoy-ERZUR 6.43 331 eP Pn 15 23 45.8 +2.3
MNGR Mingechevir, A 6.44 8 P Pn 15 23 44.2 +0.7
HOMI Horasan 6.46 332 P Pn 15 23 47.3 +3.4
URFA Urfa 6.46 300 eP Pn 15 23 43.1 -0.8
HANM anlurfa/Hi 6.48 301 P Pn 15 23 42.3 -1.8
KOVA Elazig, Kovanc 6.49 313 P Pn 15 23 42.5 -1.7
ECAT Cat-ERZURUM 6.50 325 P Pn 15 23 47.6 +3.1
EKONA Konakl - Erz 6.52 327 P Pn 15 23 45.4 +0.4
ERZM Erzurum 6.56 328 P Pn 15 23 47.5 +2.1
ETEKE Tekederesi - E 6.57 326 P Pn 15 23 45.8 +0.3
KARS Kars 6.60 341 eP Pn 15 23 51.9 +6.1
ANAR Anarak 6.67 98 Pn Pn 15 23 48.4 +1.6
NARI Adyaman-Kaht 6.71 303 P Pn 15 23 46.0 -1.2
SENK Senkaya-Erzuru 6.75 337 eP Pn 15 23 51.8 +3.8
EMRE Erzurum,Aziziy 6.84 327 P Pn 15 23 53.5 +4.4
IGLO Ghaloghah 6.84 70 Pn Pn 15 23 50.8 +1.5
PTK Pertek 6.86 313 eP Pn 15 23 48.4 -1.1
TNCL Tunceli-Merkez 6.91 315 P Pn 15 23 49.6 -0.5
ISAD Sadrabad 7.02 105 Pn Pn 15 23 52.2 +0.5
KRIK Erzurum-spir 7.11 328 P Pn 15 24 01.6 +8.8
NZIP Nizip/Gaziante 7.15 294 P Pn 15 23 51.2 -2.1
AKH Akhalkalaki 7.25 346 eP Pn 15 24 02.9 +8.2
ZKTA Zakatala 7.26 5 P Pn 15 23 55.6 +0.9
DAGI Agillar 7.36 336 P Pn 15 24 01.0 +4.8
SHI Shiraz 7.38 128 Pn Pn 15 23 57.6 +1.0
AKCA Adyaman/G¶l 7.42 300 P Pn 15 23 54.3 -2.8
AKCD Akcadag 7.49 304 P Pn 15 23 57.9 0.0
GAZ Gaziantep 7.55 294 Pn 15 23 57.4 -1.4
YZKH Yazd 7.58 103 ePn Pn 15 24 02.4 +3.1
DSBU Dashti - Bushe 7.59 141 Pn Pn 15 23 59.2 -0.1
ARPR Arapgir-MALATY 7.64 310 Pn Pn 15 24 00.5 +0.4
KELT Kelkit 7.78 319 P Pn 15 24 00.2 -1.9
BCA Borcka 7.79 336 eP Pn 15 24 06.6 +4.6
CHOM Cayeli-Rize 7.81 330 eP Pn 15 24 05.5 +3.2
ASF Jabal al Asfar 7.82 256 Pn Pn 15 24 00.3 -2.2
comp=E,3.2nm,0.3s,baz=61,slow=2.1,SNR=22
ASF Lg Lg 15 26 12.3
comp=E,11nm,0.3s,baz=60,slow=20,SNR=2.2
ASF LR LR 15 28 02.0
comp=E,6µm,18.6s,baz=75,slow=46
comp=E,8.4nm,0.3s
ASF Jabal al Asfar 7.82 256 P Pn 15 24 00.7 -1.8
HSUJ Al Zarqa 8.40 257 P Pn 15 24 07.9 -2.6
SHRO Shahrood 8.47 76 ePn Pn 15 24 14.8 +3.3
KSHT Keshet 8.48 263 P Pn 15 24 12.7 +1.1
NATI Neve Ativ 8.49 265 P Pn 15 24 11.7 +0.1
ZEI Tsey 8.52 350 eP Pn 15 24 18.7 +6.5
ZEI pmax pmax
comp=Z,26nm,0.6s
GEM Giv'at Ha'Em 8.56 265 P Pn 15 24 13.4 +0.8
GEM Giv'at Ha'Em 8.56 265 P Pn 15 24 13.2 +0.6
SHMJ Saham 8.58 262 P Pn 15 24 14.7 +1.8
IBAF Bafgh 8.63 106 Pn Pn 15 24 15.2 +1.5
MAK Makhachkala 8.65 8 eP Pn 15 24 08.8 -5.0
MAK pmax pmax
comp=Z,226nm,1.9s
MAK MLR MLR
comp=Z,2µm,9.0s
MMA0 Mount Meron ar 8.81 264 P Pn 15 24 15.9 -0.2
MMA0B Mount Meron ar 8.81 264 P Pn 15 24 17.1 +0.9
MMAI Mount Meron Ar 8.81 264 Pn Pn 15 24 14.1 -2.0
comp=Z,2.6nm,0.3s,baz=78,slow=17,SNR=13
MMAI Lg Lg 15 26 36.4
comp=Z,6.6nm,0.3s,baz=95,slow=34,SNR=2.3
MMAI LR LR 15 28 32.7
comp=Z,4µm,19.9s,baz=47,slow=44
comp=Z,3.1nm,0.4s
QRNJ Al-Qirein 8.84 259 P Pn 15 24 20.3 +4.0
HMDT Nahal Hemdat 8.90 259 P Pn 15 24 21.7 +4.5
HMDT Nahal Hemdat 8.90 259 P Pn 15 24 18.8 +1.6
MRVT Maraveh tapeh 8.91 66 ePn Pn 15 24 20.3 +2.8
TNSJ Nastanj 8.93 90 Pn Pn 15 24 20.6 +2.9
MMLI Mount Malkishu 8.93 260 P Pn 15 24 18.5 +0.8
HNTI Hanita 8.99 265 P Pn 15 24 20.6 +2.1
HNTI Hanita 8.99 265 P Pn 15 24 19.6 +1.2
UJAP Al Uja 9.04 257 P Pn 15 24 22.7 +3.6
BLGI Bet Lehem HaGe 9.05 262 P Pn 15 24 22.8 +3.5
TPRV Parvadeh(Tabas 9.13 96 Pn Pn 15 24 22.2 +1.6
GHAJ Ghor Haditha 9.18 253 Pn Pn 15 24 19.7 -1.4
GHAJ Ghor Haditha 9.18 253 P Pn 15 24 21.0 -0.1
GHAJ Ghor Haditha 9.18 253 P Pn 15 24 21.7 +0.6
KARJ KARJ 9.19 252 P Pn 15 24 19.8 -1.4
DSI Dead Sea 9.23 255 P Pn 15 24 23.2 +1.4
DSI Dead Sea 9.23 255 P Pn 15 24 22.6 +0.8
OFRI `Ofer 9.24 262 P Pn 15 24 25.8 +3.8
LISJ El Lisan 9.27 253 P Pn 15 24 23.3 +1.0
SLTI Sal'it 9.30 260 P Pn 15 24 26.7 +4.0
SAKB Bahrain 9.32 153 P Pn 15 24 22.1 -0.9
SAKB S Sn 15 26 05.1 -2.1
MSBI Mazada 9.34 254 P Pn 15 24 24.9 +1.6
MSBI Mazada 9.34 254 P Pn 15 24 23.1 -0.2
TABS Tabas 9.38 91 ePn Pn 15 24 26.2 +2.2
TKDS Koohdasht(Taba 9.39 92 Pn Pn 15 24 26.3 +2.2
YTIR Yattir 9.52 254 P Pn 15 24 28.3 +2.5
YTIR Yattir 9.52 254 P Pn 15 24 27.1 +1.3
SHMA Al-Shehemyia 9.59 151 P Pn 15 24 25.4 -1.4
SHMA S Sn 15 26 12.5 -1.4
KBZ Khabaz 9.60 347 ⇑eP Pn 15 24 24.1 -2.7
KBZ Khabaz 9.60 347 Pn Pn 15 24 29.1 +2.3
comp=Z,4.6nm,1.0s,baz=142,slow=14,SNR=4.5
KBZ LR LR 15 28 18.1
comp=Z,767nm,19.8s,baz=144,slow=39

ZFRI Zfri 9.79 250 P Pn 15 24 33.9 +4.4
ZFRI Zfri 9.79 250 P Pn 15 24 30.7 +1.2
SBZV Sabzevar 9.81 75 Pn Pn 15 24 32.3 +2.4
KHGB Koh Gabri 9.84 111 Pn Pn 15 24 32.0 +1.6
KVAR Kislovodsk Arr 9.86 347 Pn Pn 15 24 32.4 +2.0
baz=97,slow=16
KVAR LR LR 15 28 12.3
comp=Z,4µm,19.7s,baz=314,slow=37
comp=Z,1.3nm,0.5s
KIV Kislovodsk 9.86 347 ⇑P Pn 15 24 34.7 +4.3
KIV Kislovodsk 9.86 347 eP Pn 15 24 27.7 -2.7
KIV eS Sn 15 26 17.7 -2.8
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,410nm,11.0s
KIV Kislovodsk 9.86 347 P Pn 15 24 36.5 +6.1
PRNI Paran 10.02 249 P Pn 15 24 33.6 +1.0
PRNI Paran 10.02 249 P Pn 15 24 32.4 -0.2
HRFI Mount Harif 10.13 248 P Pn 15 24 34.6 +0.4
ISFR Sfrayin 10.23 71 Pn Pn 15 24 38.3 +2.6
TVBK TV Kerman 10.24 112 Pn Pn 15 24 36.7 +0.8
KRBR Kerman 10.24 112 ePn Pn 15 24 36.5 +0.6
KRMI Paran Flat 10.34 249 P Pn 15 24 36.6 -0.4
SOC Sochi 10.34 334 eP Pn 15 24 36.4 -0.5
SOC e 15 26 33.2
SOC MLR MLR
comp=Z,1µm,12.0s
MBRI Mt Berech 10.35 247 P Pn 15 24 39.2 +2.0
MBRI Mt Berech 10.35 247 P Pn 15 24 37.4 +0.2
EIL Elat 10.38 246 Pn Pn 15 24 35.7 -1.9
comp=Z,3.2nm,0.3s,baz=100,slow=6.7,SNR=24
EIL Lg Lg 15 27 26.5
comp=Z,1.9nm,0.3s,baz=16,slow=18,SNR=4.5
EIL LR LR 15 29 43.4
comp=Z,4µm,18.3s,baz=60,slow=44
comp=Z,8.3nm,0.4s
EIL Elat 10.38 246 P Pn 15 24 36.9 -0.6
KRM1 Kerman Provinc 10.40 109 Pn Pn 15 24 39.9 +1.8
GEYT Alibeck 10.53 67 Pn Pn 15 24 44.9 +5.3
GEYT Alibeck 10.53 67 P Pn 15 24 44.9 +5.3
GEYT Alibeck 10.53 67 Pn Pn 15 24 43.6 +4.1
comp=Z,0.8nm,0.3s,baz=254,slow=15,SNR=23
GEYT Lg Lg 15 27 38.8
comp=Z,0.2nm,0.3s,baz=225,slow=20,SNR=1.7
GEYT LR LR 15 29 19.0
comp=Z,4µm,19.7s,baz=278,slow=41
GYA0 ALIBECK ARRAY 10.53 67 P Pn 15 24 44.8 +5.2
GYA0B ALIBECK ARRAY 10.53 67 Pn Pn 15 24 41.9 +2.4
SMRA Abu-Samra 10.54 154 P Pn 15 24 38.6 -1.2
SMRA SNR=12
SMRA S Sn 15 26 35.0 -2.3
TRNA Turayna 10.70 153 P Pn 15 24 40.7 -1.2
TRNA SNR=67
TRNA S Sn 15 26 36.6 -4.5
IAKL Akhelmad 10.75 74 Pn Pn 15 24 45.6 +2.7
IEMG Emamgholi 10.81 70 Pn Pn 15 24 42.7 +2.8
GOF Gofitskoye 10.87 349 ceP Pn 15 24 52.7 +8.6
LABN Labinsk 10.97 340 eP Pn 15 24 37.3 -8.2
LABN pmax pmax
comp=Z,29nm,0.5s
LABN MLR MLR
comp=Z,2µm,16.0s
AFRZ Afriz 10.98 91 Pn Pn 15 24 48.6 +2.6
DIKM Dikmen 11.05 314 ⇑P Pn 15 24 51.1 +4.4
BR131 Keskin Array S 11.11 302 Pn Pn 15 24 50.6 +3.0
BR131 Keskin Array S 11.11 302 P Pn 15 24 50.6 +3.0
BR131 Keskin Array S 11.11 302 P Pn 15 24 53.7 +6.1
SNR=8.1
BRTR Keskin Array B 11.11 302 Pn Pn 15 24 50.3 +2.7
BRTR Keskin Array B 11.11 302 Pn Pn 15 24 49.4 +1.7
comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=14
BRTR Lg Lg 15 27 56.8
comp=Z,0.1nm,0.3s,baz=227,slow=34,SNR=2.0
BRTR LR LR 15 29 52.9
comp=Z,4µm,19.1s,baz=118,slow=42
comp=Z,6.7nm,1.1s
IKOO Kooshah 11.17 96 Pn Pn 15 24 50.4 +1.7
JRN Qarnain Island 11.21 145 P Pn 15 24 47.4 -1.5
SNR=5.6
JRN S Sn 15 26 50.1 -3.6
BNDS Bandar-Abbas 11.27 125 ePn Pn 15 24 48.5 -1.5
IKRD Kardeh 11.38 74 Pn Pn 15 24 53.1 +1.6
BSRN Basiran 11.39 99 ePn Pn 15 24 52.6 +1.1
ANTO Ankara 11.76 301 ⇓P Pn 15 24 59.1 +2.6
ANTO Ankara 11.76 301 P Pn 15 24 59.0 +2.6
ANTO Ankara 11.76 301 P Pn 15 25 03.3 +6.8
KBAM BAM 11.94 113 Pn Pn 15 25 00.5 +1.6
JRKH Jarkhoshk 11.97 79 Pn Pn 15 25 01.2 +1.9
SHRT Shahrakht 12.01 90 ePn Pn 15 25 02.8 +2.9
ERBR Yeremizino-Bor 12.03 342 eP Pn 15 25 03.4 +3.4
ERBR eS Sn 15 27 23.1 +10
ERBR pmax pmax
comp=Z,126nm,2.1s
ERBR MLR MLR
comp=Z,906nm,11.0s
SHME Shamm 12.17 130 iP Pn 15 24 59.6 -2.5
SNR=31
SHME Shamm 12.17 130 P Pn 15 25 00.1 -2.0
SNR=32
SHME S Sn 15 27 12.4 -4.9
ANN Anapa 12.24 331 eP Pn 15 25 05.4 +2.5
ANN eS Sn 15 27 22.3 +3.5
ANN pmax pmax
comp=Z,42nm,1.6s
ANN MLR MLR
comp=Z,1µm,14.0s
ANN MLR MLR
comp=E,1µm,12.0s
UMQ Umm Al-Quwin 12.26 134 iP Pn 15 25 02.1 -1.2
SNR=10
UMQ Umm Al-Quwin 12.26 134 P Pn 15 25 01.1 -2.2
SNR=10
UMQ S Sn 15 27 16.9 -2.5
BANOM Banah 12.36 130 iP Pn 15 25 02.5 -2.3
SNR=17
BANOM Banah 12.36 130 P Pn 15 25 02.8 -2.0
BANOM S Sn 15 27 18.3 -3.8
AJN Ajban 12.62 139 iP Pn 15 25 06.8 -1.4
SNR=17
AJN Ajban 12.62 139 P Pn 15 25 07.2 -1.0
SNR=17
AJN S Sn 15 27 24.6 -3.6
SNR=9.1
NAZ Nazwa, Dubai 12.67 135 iP Pn 15 25 07.8 -1.1
SNR=73
NAZ Nazwa, Dubai 12.67 135 P Pn 15 25 08.1 -0.8
SNR=73
NAZ S Sn 15 27 24.8 -4.6
SNR=13
MASF Masafi 12.68 132 P Pn 15 25 07.3 -1.7
SNR=63
MASF S Sn 15 27 24.8 -4.9
SNR=14
MSFE Esma-Masafi 12.69 132 iP Pn 15 25 07.3 -1.8
SNR=51
ASUD Al Ashush, Dub 12.76 137 iP Pn 15 25 09.3 -0.8
SNR=157
ASUD Al Ashush, Dub 12.76 137 P Pn 15 25 09.6 -0.5
SNR=157
ASUD S Sn 15 27 27.0 -4.5
FAQ Al Faqa, Dubai 12.81 136 iP Pn 15 25 09.7 -1.1
SNR=19
FAQ Al Faqa, Dubai 12.81 136 P Pn 15 25 10.0 -0.9
SNR=18
FAQ S Sn 15 27 29.7 -3.2
SNR=5.5
UOSS Minazif 13.02 134 Pn P 15 25 22.2 -1.8
HATD Hatta, Dubai 13.07 134 iP Pn 15 25 12.8 -1.6
SNR=148
HATD Hatta, Dubai 13.07 134 P Pn 15 25 13.2 -1.1
SNR=52
HATD S Sn 15 27 35.1 -4.1
SNR=8.1
MDUB Mudurnu 13.12 302 Pn Pn 15 25 17.3 +2.1
ASHO Ashiyiah 13.13 135 iP Pn 15 25 13.6 -1.6
SNR=39
ASHO Ashiyiah 13.13 135 P Pn 15 25 13.9 -1.3
SNR=154
ASHO S Sn 15 27 34.4 -6.3
SNR=10
MZR Muzera 13.17 148 iP Pn 15 25 14.4 -1.4
SNR=10
MZR Muzera 13.17 148 P Pn 15 25 14.4 -1.4
MZR S Sn 15 27 38.3 -3.5

ELL Elmali 13.19 285 Pn P 15 25 23.0 -3.0
ELL Elmali 13.19 285 P P 15 25 23.0 -3.0
JASK Jask - Hormozg 13.42 126 P Pn 15 25 16.8 -2.4
SNR=11
JASK S Sn 15 27 41.7 -6.2
ALNE Al Ain 13.44 137 iP Pn 15 25 17.9 -1.5
SNR=68
ALNE Al Ain 13.44 137 P Pn 15 25 18.2 -1.3
SNR=97
ALNE S Sn 15 27 42.6 -5.7
ZHSF Zahedan 13.53 107 ePn Pn 15 25 24.5 +3.6
HRA Herat 13.54 85 Pn Pn 15 25 25.6 +4.6
ZHDN Zahedan 13.65 107 Pn Pn 15 25 26.1 +3.7
SOHO SOHO 13.83 135 iP Pn 15 25 22.2 -2.5
SNR=38
SOHO SOHO 13.83 135 P Pn 15 25 22.6 -2.1
SOHO S Sn 15 27 53.6 -4.1
SIM Simferopol' 13.87 323 eP Pn 15 25 29.3 +4.2
SIM eS Sn 15 27 56.7 -1.8
SIM pmax pmax
comp=Z,110nm,1.0s
SIM MLR MLR
comp=Z,893nm,21.0s
ARQ Araqi 14.44 137 P Pn 15 25 30.8 -2.3
SNR=52
ARQ S Sn 15 28 07.7 -5.0
BIDO Bidbid 15.24 132 P Pn 15 25 41.6 -2.4
SNR=21
BIDO S Sn 15 28 26.8 -5.5
BALB Balikesir 15.27 295 P Pn 15 25 46.3 +2.1
BSY Bisya 15.29 136 P Pn 15 25 41.6 -2.9
SNR=19
BSY P Pn 15 25 41.6 -2.9
SNR=19
BSY S Sn 15 28 26.4 -7.0
BSY S Sn 15 28 26.4 -7.0
KARP Karpathos 15.37 280 P 15 25 49.3 -0.8
SMDO Samad 15.54 133 P Pn 15 25 45.5 -2.5
SNR=97
SMDO S Sn 15 28 32.5 -7.2
WSAR Wadi Sarin 15.76 131 Pn Pn 15 25 47.9 -2.9
comp=Z,14nm,0.3s,baz=319,slow=9.2,SNR=194
WSAR Sn Sn 15 28 37.0 -7.9
comp=Z,5.4nm,0.3s,baz=324,slow=17,SNR=3.0
WSAR LR LR 15 32 58.6
comp=Z,1µm,18.8s,baz=341,slow=41
WSAR Wadi Sarin 15.76 131 P Pn 15 25 47.6 -3.1
SNR=112
WSAR S Sn 15 28 37.7 -7.3
NGCH Negor - Chabah 16.01 120 P Pn 15 25 51.1 -2.8
SNR=10
NGCH S Sn 15 28 45.0 -6.0
JMDO Jabal Madar 16.10 135 P Pn 15 25 53.1 -2.0
SNR=66
JMDO S Sn 15 28 47.1 -6.1
WBK Wadi Bani Khal 16.44 132 P Pn 15 25 57.4 -2.0
SNR=46
WBK S Sn 15 28 52.3 -9.0
MFTR Murfatlar 16.63 311 ⇓P P 15 26 03.5 -0.4
JURR Jurilovca 16.66 313 ⇑P P 15 26 05.1 +0.8
APE Apeiranthos 16.71 285 ⇑P Pn 15 26 02.4 -0.5
APE Apeiranthos 16.71 285 deP Pn 15 26 03.1 +0.3
TIRR Tirgusor 16.77 312 ⇑P P 15 26 06.2 +0.7
TIRR Tirgusor 16.77 312 P Pn 15 26 03.7 +0.2
TIRR Tirgusor 16.77 312 P Pn 15 26 03.7 +0.2
TIRR pmax pmax
comp=Z,64nm,1.0s
PRD Provadia 16.81 307 eP P 15 26 09.1 +3.2
TLCR 16.92 315 ⇑P P 15 26 07.6 +0.3
TLCR 16.92 315 P P 15 26 07.5 +0.3
ALN Alexandroupoli 16.96 298 Pn 15 26 06.0 +0.2
ALN Alexandroupoli 16.96 298 P Pn 15 26 06.0 +0.2
ALN pmax pmax
comp=Z,65nm,1.4s
TPGR Topolog 16.98 313 ⇑P P 15 26 08.9 +1.0
TLBR Topalu 17.04 312 ⇑P P 15 26 09.7 +1.2
JLN Jalan Bani Buh 17.05 132 P Pn 15 26 04.9 -2.2
SNR=79
JLN S Sn 15 29 07.7 -8.5
VRH Novokhopyorsk 17.06 351 eP P 15 26 08.1 -0.6
VRH pmax pmax
comp=Z,40nm,0.5s
MHTO MHTO 17.11 138 P Pn 15 26 04.8 -3.1
SNR=48
MHTO P Pn 15 26 04.8 -3.1
SNR=48
MHTO S Sn 15 29 09.0 -8.7
MHTO S Sn 15 29 09.0 -8.7
PURM Purcari 17.13 320 ⇑P P 15 26 09.9 +0.5
HARR Harsova 17.19 312 ⇑P P 15 26 11.2 +1.0
HARR Harsova 17.19 312 P P 15 26 11.2 +1.0
IDI Anoyia 17.23 279 P P 15 26 11.4 +0.6
VORD Divnogorie 17.24 346 eP P 15 26 10.4 -0.2
VORD pmax pmax
comp=Z,50nm,0.8s
CFR Carcaliu 17.32 314 ⇑P P 15 26 12.1 +0.5
CFR Carcaliu 17.32 314 P P 15 26 12.1 +0.5
RDO Rodhopi 17.40 299 Pn 15 26 10.1 -1.1
LOZB Loznitsa 17.43 307 ⇑P P 15 26 13.7 +0.7
VSR Storozhevoye 17.50 346 eP P 15 26 13.9 +0.4
VSR pmax pmax
comp=Z,60nm,0.9s
RAZG Razgrad 17.57 307 ⇑P P 15 26 15.1 +0.7
VLDR Vladesti 17.72 315 ⇑P P 15 26 16.8 +0.8
ELND Elena 17.74 305 ⇑P P 15 26 16.5 +0.1
DQM DQM 17.75 141 P Pn 15 26 13.5 -2.3
SNR=175
DQM S Sn 15 29 23.4 -10
WHFO Wadi Hawf 17.87 155 P Pn 15 26 13.2 -4.1
SNR=68
WHFO S Sn 15 29 26.2 -10
SNR=8.4
MILM Milestii Mici 17.94 319 eP P 15 26 19.0 +0.6
comp=Z,100nm,1.2s
MILM eS Sn 15 29 35.0 -2.4
MILM eL L 15 33 09.0
MILM LRM MLR 15 35 31.0
comp=Z,900nm,15.0s
MILM Milestii Mici 17.94 319 ⇑P P 15 26 19.7 +1.3
MILM Milestii Mici 17.94 319 eP P 15 26 19.0 +0.6
MILM eS Sn 15 29 35.0 -2.4
MILM pmax pmax
comp=Z,100nm,1.2s
MILM MLR MLR
comp=Z,900nm,15.0s
IMMV Iera Moni Meta 17.96 280 P P 15 26 21.8 +3.0
BELG Belogornoye 18.04 4 P Pn 15 26 19.1 0.0
comp=Z,47nm,0.7s,baz=173,slow=16,SNR=11
BELG S Sn 15 29 42.3 +2.7
comp=Z,21nm,1.0s,baz=107,slow=19,SNR=1.8
BELG LR LR 15 34 23.8
comp=Z,533nm,20.2s,baz=166,slow=41
DION Dionisos Attik 18.05 288 P P 15 26 23.3 +3.5
PTL Penteli 18.10 288 P P 15 26 26.7 +6.3
KAVA Kavala 18.10 298 P Pn 15 26 19.5 -0.5
RODP Rodopos 18.14 280 P P 15 26 25.6 +4.8
AB31 Akbulak array 18.14 31 iP Pn 15 26 20.0 -0.4
ABKAR Akbulak array 18.14 31 P Pn 15 26 18.7 -1.7
ABKAR Akbulak array 18.14 31 P Pn 15 26 19.4 -1.0
ABKAR lAmb lAmb 15 26 31.2
comp=Z,28nm,0.8s
VLY Voula,Athens 18.14 287 P P 15 26 21.6 +0.8
SGRR Singureni 18.20 309 ⇑P P 15 26 22.3 +0.9
GHRR 18.23 315 ⇑P P 15 26 23.2 +1.6
ABTO Aybut 18.23 157 P Pn 15 26 17.5 -4.3
SNR=62
ABTO S Sn 15 29 35.9 -9.1
ISR Istrita 18.26 312 ⇑P P 15 26 23.9 +1.8
ISR Istrita 18.26 312 P P 15 26 23.8 +1.8
ODBI Odobesti 18.27 314 ⇑P P 15 26 23.7 +1.6
PANC Panciu 18.28 314 ⇑P P 15 26 23.4 +1.3
AKTO Aktyubinsk 18.33 25 P Pn 15 26 22.1 -0.7
comp=Z,1.6nm,0.3s,baz=205,slow=9.7,SNR=26
comp=Z,33nm,0.6s
VASR Vaslui 18.34 317 ⇑P P 15 26 23.9 +1.1
RBK Rabkut 18.41 154 P P 15 26 20.6 -3.2
SNR=58
RBK S Sn 15 29 42.0 -7.1
KOKK Kokkinochori, 18.44 297 P Pn 15 26 25.8 +1.7
DMTO DMTO 18.50 152 P P 15 26 21.2 -3.5
SNR=110
DMTO S Sn 15 29 42.7 -8.5
SNR=11
SHAO Shalim 18.50 149 iP P 15 26 21.0 -3.8

SNR=133
SHAO Shalim 18.50 149 P **P** 15 26 22.0 -2.8
SNR=133
SHAO S **Sn** 15 29 44.6 -6.6
VRI Vrincioaia 18.52 314 ⇑P **Pn** 15 26 26.5 +1.3
VRI Vrincioaia 18.52 314 P **Pn** 15 26 26.4 +1.3
VILL Villia 18.55 288 P **Pn** 15 26 26.9 +1.4
NEHR Nehoiu 18.56 312 ⇑P **Pn** 15 26 26.5 +0.9
PLOR Plostina 18.56 314 ⇑P **Pn** 15 26 27.2 +1.6
PLOR Plostina 18.56 314 P **Pn** 15 26 27.2 +1.6
PGB Panagyurishte 18.78 302 *e*P **Pn** 15 26 31.8 +3.5
VLI Veliai 18.78 284 P **Pn** 15 26 29.3 +1.0
MLR Muntele Rosu 18.81 312 ⇑P **Pn** 15 26 30.0 +1.2
MLR Muntele Rosu 18.81 312 Pn **P** 15 26 28.1 -0.1
MLR Muntele Rosu 18.81 312 P **P** 15 26 28.1 -0.1
MLR pmax pmax
comp=Z,31nm,1.0s
MLR Muntele Rosu 18.81 312 P **P** 15 26 27.0 -1.1
comp=Z,0.2nm,0.3s,baz=96,slow=6.2,SNR=3.9
comp=Z,1.9nm,0.5s
SRS Serrai 18.81 297 P **Pn** 15 26 29.0 +0.4
COVR Voineasa-Covas 18.83 313 ⇑P **Pn** 15 26 30.0 +1.2
LPSR Galich'ya Gora 18.86 347 *e*P **P** 15 26 25.7 -2.8
LPSR pmax pmax
comp=Z,100nm,0.6s
TESR Tescani 18.91 316 ⇑P **Pn** 15 26 30.1 +0.2
SORM Soroca 18.95 322 ⇑P **Pn** 15 26 30.3 +0.1
SORM Soroca 18.95 322 P **Pn** 15 26 30.3 +0.1
HUMR Humele 18.98 308 ⇑P **Pn** 15 26 32.2 +1.6
TURR Turia 19.05 314 ⇑P **P** 15 26 30.9 +0.2
SIMJ Simiganj 19.08 70 P **Pn** 15 26 33.1 +1.0
AXAR Agios Charalam 19.11 290 P **Pn** 15 26 32.2 -0.1
KBL Kabul 19.12 83 P **P** 15 26 32.4 +0.6
KBL Kabul 19.12 83 P **P** 15 26 32.4 +0.6
KBL pmax pmax
comp=Z,27nm,1.0s
KBL Kabul 19.12 83 P **Pn** 15 26 33.3 +0.6
SNR=12
VLAD Vladila 19.14 306 ⇑P **Pn** 15 26 32.6 0.0
KBU Kabul Universi 19.20 83 P **P** 15 26 30.6 -2.1
OZUR 19.20 313 ⇑P **Pn** 15 26 34.2 +0.8
BOSR Bodos 19.27 313 ⇑P **Pn** 15 26 34.6 +0.4
GUR Goura 19.29 287 P **Pn** 15 26 34.4 -0.2
KKB Krupnik 19.33 299 *e*P **Pn** 15 26 38.4 +3.5
KNT Kendrikon 19.33 297 P **Pn** 15 26 36.9 +2.0
VOIR 19.34 311 ⇑P **Pn** 15 26 35.1 0.0
VOIR 19.34 311 P **Pn** 15 26 35.0 0.0
MPEP Malo Peshtene 19.36 304 *e*P **P** 15 26 31.8 -2.3
DOPR Dopca 19.38 313 ⇑P **Pn** 15 26 35.7 +0.2
AGG Agios Georgios 19.40 291 P **P** 15 26 34.3 -0.2
AGG Agios Georgios 19.40 291 P **Pn** 15 26 41.4 +5.6
AGG Agios Georgios 19.40 291 P **P** 15 26 34.3 -0.2
AGG pmax pmax
comp=Z,22nm,1.0s
KLV Kalavryta, Ach 19.45 288 P **P** 15 26 34.4 -0.8
VTS Vitosha 19.47 302 *e*P **Pn** 15 26 40.7 +4.0
PEHC Pehcevo 19.48 299 *i* P **P** 15 26 34.6 -0.8
TYRN Tyrnavos 19.56 293 P **P** 15 26 32.5 -3.8
ARR Arges 19.57 310 ⇑P **P** 15 26 37.0 +0.5
VAY Valandovo 19.61 297 *i* P **Pn** 15 26 38.4 +0.2
PRAR RASCA 19.63 317 ⇑P **Pn** 15 26 38.4 0.0
GRG Griva 19.65 296 P **Pn** 15 26 39.9 +1.1
ANX Ano Chora 19.67 289 P **Pn** 15 26 39.3 +0.2
VALD Valchedram 19.68 305 *e*P **Pn** 15 26 40.0 +1.0
THL Klokotos Trika 19.71 292 P **Pn** 15 26 40.8 +1.4
PYL PYLOS 19.74 284 P **P** 15 26 35.9 -2.4
PVO Paravola 19.98 289 P **Pn** 15 26 44.6 +1.9
MDB Medias 20.08 312 ⇑P Pn 15 26 43.6 -0.3
MDB Medias 20.08 312 P Pn 15 26 43.5 -0.3
BLKB Belogradchik 20.18 304 ⇑P **P** 15 26 42.8 -0.2
SRE Strehaia 20.19 307 ⇑P **P** 15 26 44.1 +1.0
SRE Strehaia 20.19 307 P **P** 15 26 44.1 +1.0
CHM Chimkent 20.20 60 *e*P **P** 15 26 43.7 +0.5
baz=60
CHM Chimkent 20.20 60 *e*P **P** 15 26 43.7 +0.5
KPRO Kipourio 20.26 293 P Pn 15 26 48.4 +2.4
AKASG Malin Array Be 20.31 328 P **P** 15 26 42.0 -2.4
AKASG IAmb IAmb 15 26 49.4
comp=Z,44nm,0.8s
AKASG Malin Array Be 20.31 328 P **P** 15 26 42.0 -2.4
AKASG pmax pmax
comp=Z,44nm,0.9s
AKASG Malin Array Be 20.31 328 P **P** 15 26 42.5 -1.8
comp=Z,22nm,0.8s,baz=139,slow=9.9,SNR=44
AKASG PcP **PcP** 15 30 55.9 -1.3
comp=Z,0.8nm,0.6s,baz=96,slow=2.0,SNR=2.2
AKASG LR LR 15 36 48.4
comp=Z,518nm,19.7s,baz=116,slow=44
comp=Z,22nm,0.8s
AKBB Malin Array Si 20.31 328 P **P** 15 26 42.2 -2.1
AKBB IAmb IAmb 15 26 50.0
comp=Z,69nm,0.9s
AKBB Malin Array Si 20.31 328 *de*P **P** 15 26 45.1 +0.8
KIEV Kiev 20.31 328 ⇑P Pn 15 26 45.9 -0.5
KIEV Kiev 20.31 328 P **P** 15 26 42.5 -1.8
KIEV IAmb IAmb 15 26 50.0
comp=Z,62nm,0.9s
KIEV Kiev 20.31 328 P **P** 15 26 45.5 +1.1
KIEV Kiev 20.31 328 P **P** 15 26 42.5 -1.8
KIEV pmax pmax
comp=Z,62nm,0.9s
BURAR Bucovina Array 20.34 317 ⇑P **P** 15 26 45.9 +1.1
BURAR Bucovina Array 20.34 317 P **P** 15 26 43.8 -1.0
BURAR Bucovina Array 20.34 317 P **P** 15 26 45.9 +1.1
BUR08 Bucovina Ar. S 20.36 317 P **P** 15 26 44.0 -1.2
BUR08 IAmb IAmb 15 26 54.2
comp=Z,52nm,1.1s
FNA Florina 20.38 295 P **P** 15 26 43.4 -1.9
FNA Florina 20.38 295 P Pn 15 26 47.8 +0.4
FNA Florina 20.38 295 P **P** 15 26 43.4 -1.9
FNA pmax pmax
comp=Z,10.0nm,0.7s
RMGR Halanga-Turnu 20.53 307 ⇑P **P** 15 26 47.9 +1.0
ARCR ARCALIA 20.56 315 ⇑P Pn 15 26 48.5 -0.9
SKO Skopje 20.58 299 *i* P Pn 15 26 51.6 +1.9
BTK Batken 20.64 67 P **P** 15 26 49.1 +0.9
BTK Batken 20.64 67 P **P** 15 26 49.1 +0.9
BTK pmax pmax
comp=Z,38nm,1.0s
DJES Djerdap 20.65 307 ⇑P **P** 15 26 48.7 +0.6
DJES Djerdap 20.65 307 P **P** 15 26 48.0 -0.1
EVGI Lefkada island 20.66 289 P **P** 15 26 46.8 -1.5
LKD2 Lefkada island 20.67 290 P **P** 15 26 47.2 -1.3
TSLK Tsoukalades, L 20.68 290 P Pn 15 26 50.4 -0.4
FSK Fiskardo 20.73 289 P **P** 15 26 47.2 -1.8
GZR Gura Zlata 20.76 309 ⇑P **P** 15 26 50.4 +1.0
KBN Korca 20.79 295 P **P** 15 26 50.0 +0.2
KBN Korca 20.79 295 P **P** 15 26 50.0 +0.2
KBN pmax pmax
comp=Z,27nm,0.7s
HERR Herculane 20.80 307 ⇑P **P** 15 26 49.6 -0.1
KEF4 Livadi, Kephal 20.82 288 P **P** 15 26 46.8 -3.2
CJR Cluj-Napoca 20.83 313 ⇑P **P** 15 26 51.0 +0.9
CJR Cluj-Napoca 20.83 313 P **P** 15 26 51.0 +0.9
BOVS Bovan 20.85 303 ⇑P **P** 15 26 49.1 -1.1
DMLN Damoulianata-K 20.86 288 P **P** 15 26 51.7 +1.2
OHR Ohrid 20.87 296 *i* P Pn 15 26 54.2 +1.0
KEF3 Kipouria, Keph 20.88 288 P **P** 15 26 50.6 0.0
CBBR Cluj-Babes-Bol 20.88 313 ⇑P **P** 15 26 50.7 +0.1
IGT Igoumenitsa 20.99 292 P **P** 15 26 51.4 -0.5
KK31 Karatay Array 21.05 58 P **P** 15 26 52.8 +0.3
KK31 Karatay Array 21.05 58 P **P** 15 26 52.8 +0.3
KK31 pmax pmax
comp=Z,32nm,1.0s
KKAR Karatay Array 21.05 58 P **P** 15 26 52.4 -0.1
KKAR Karatay Array 21.05 58 P **P** 15 26 52.8 +0.3
KKAR IAmb IAmb 15 27 02.0
comp=Z,32nm,0.9s
KKAR Karatay Array 21.05 58 P **P** 15 26 52.4 -0.1
KKAR pmax pmax
comp=Z,32nm,1.0s
MARR Marisel-Cluj 21.10 312 ⇑P **P** 15 26 54.2 +1.1
MDVR Moldovita 21.22 306 ⇑P **P** 15 26 54.4 0.0
SURR Surduc 21.32 309 ⇑P **P** 15 26 56.4 +1.0
BMR Baia Mare 21.36 315 ⇑P **P** 15 26 57.1 +1.3
BMR Baia Mare 21.36 315 P **P** 15 26 57.0 +1.3
KEK Kerkira 21.42 292 P **P** 15 26 56.1 -0.4
KEK IAmb IAmb 15 27 03.6
comp=Z,32nm,0.6s
MESR Meseseni 21.43 313 ⇑P **P** 15 26 58.4 +1.9
DZA Taraz 21.57 59 *e*P **P** 15 26 58.4 +0.2
comp=Z,26nm,0.9s,baz=60
DZA Taraz 21.57 59 *e*P **P** 15 26 58.3 +0.2
DZA pmax pmax
comp=Z,26nm,0.9s
BZS Buzias 21.60 309 ⇑P **P** 15 26 59.4 +1.1
BZS Buzias 21.60 309 P **P** 15 26 59.4 +1.1
OBN Obninsk 21.70 345 P **P** 15 26 57.6 -1.7
OBN IAmb IAmb 15 27 19.8
comp=Z,104nm,1.4s
OBN Obninsk 21.70 345 *ce*P **P** 15 26 58.9 -0.4
OBN *e*PPP PPP 15 27 26.2
OBN *e* 15 31 02.3
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,523nm,17.0s
OBN Obninsk 21.70 345 P **P** 15 26 57.8 -1.5
comp=Z,22nm,0.5s,baz=211,slow=19,SNR=5.9
OBN LR LR 15 36 36.7
comp=Z,643nm,19.3s,baz=160,slow=40
comp=Z,22nm,0.5s
BANR Banloc 21.82 308 ⇑P **P** 15 27 01.9 +1.2
SIRR Siria 21.83 310 ⇑P **P** 15 27 02.4 +1.6
SJES Sjenica 21.95 301 *e*P **P** 15 27 01.1 -1.1
MOS Moscow 22.09 348 *e*P **P** 15 27 05.7 +2.2
MOS *e* 15 27 26.8
MOS *e*S **S** 15 31 04.9 -1.0
MOS pmax pmax
comp=Z,92nm,1.1s
LVV L'vov 22.23 320 *e*P **P** 15 27 06.6 +1.5
DRME Dracevica, Mon 22.27 298 *e*P **P** 15 27 04.7 -0.8
RUDO Rudo 22.47 302 *e*P **P** 15 27 07.5 -0.2
BBLS Lazići 22.51 303 *e*P **P** 15 27 06.9 -1.3
TEKS Tekeris 22.62 304 *e*P **P** 15 27 08.3 -1.0
FRGS Fruska Gora 22.62 306 *e*P **P** 15 27 09.4 +0.1
KOLS Kolonicke sedl 22.70 317 *e*P **P** 15 27 12.1 +1.9
KOLS pmax pmax
comp=Z,35nm,1.1s
KOLS Kolonicke sedl 22.70 317 *e*P **P** 15 27 12.1 +1.9
NIL Nilore 22.70 84 P **P** 15 27 10.1 -0.2
NIL IAmb IAmb 15 27 14.8
comp=Z,47nm,0.9s
NIL Nilore 22.70 84 P **P** 15 27 10.1 -0.2
NIL pmax pmax
comp=Z,47nm,0.9s
HCY Herceg Novi 22.82 299 *e*P **P** 15 27 11.6 +0.2
KWP Kalwaria Pacla 22.83 319 P **P** 15 27 10.4 -1.1
KWP Kalwaria Pacla 22.83 319 P **P** 15 27 10.4 -1.1
KWP pmax pmax
comp=Z,115nm,0.9s
BRY Bratogost 22.88 300 *e*P **P** 15 27 13.6 +1.4
HAPS Han Pijesak,Bl 22.88 303 *e*P **P** 15 27 11.8 -0.4
ATD Arta Tunnel 22.93 188 P **P** 15 27 18.6 +5.8
ATD IAmb IAmb 15 27 22.3
comp=Z,36nm,1.1s
ATD Arta Tunnel 22.93 188 LR LR 15 35 27.6
comp=Z,17nm,19.4s,baz=1.5,slow=35
ATD Arta Tunnel 22.93 188 P **P** 15 27 14.2 +1.5
ATD Arta Tunnel 22.93 188 *e*P **P** 15 27 19.5 +6.7
ATD Arta Tunnel 22.93 188 *e*P **P** 15 27 19.8 +7.0
ATD *e*S Sn 15 31 31.8 -6.0
TREB Trebinje 22.98 299 *e*P **P** 15 27 10.9 -2.2
AML Almayashu 23.12 62 P **P** 15 27 17.9 +3.0
SNR=34
AML Almayashu 23.12 62 P **P** 15 27 15.7 +0.8
CRVS Cervenica-Dubn 23.15 316 *e*P **P** 15 27 16.7 +1.9
CRVS pmax pmax
comp=Z,69nm,1.1s
CRVS Cervenica-Dubn 23.15 316 *e*P **P** 15 27 16.7 +1.9
EKS2 Erkin-Say 23.28 61 P **P** 15 27 15.1 -1.2
SNR=12
STON Ston 23.48 299 *e*P **P** 15 27 13.7 -4.4
KECS Kecovo 23.52 314 *e*P **P** 15 27 21.9 +3.5
KECS pmax pmax
comp=Z,54nm,1.4s
KECS Kecovo 23.52 314 *e*P **P** 15 27 21.9 +3.5
STHS Stebnicka Huta 23.53 317 *e*P **P** 15 27 20.5 +1.9
STHS Stebnicka Huta 23.53 317 *e*P **P** 15 27 20.5 +1.9
PSZ Piszkesteto 23.62 313 P **P** 15 27 17.8 -1.7
PSZ IAmb IAmb 15 27 31.0
comp=Z,26nm,0.9s
PSZ Piszkesteto 23.62 313 P **P** 15 27 17.8 -1.7
PSZ pmax pmax
comp=Z,26nm,0.9s
ARU Arti 23.70 18 P **P** 15 27 18.9 -1.2
ARU IAmb IAmb 15 27 30.8
comp=Z,36nm,0.9s
ARU Arti 23.70 18 *c* *i*P **P** 15 27 20.5 +0.4
ARU PPP PPP 15 27 57.7
ARU S **S** 15 31 37.1 +3.2
ARU SS **SnSn** 15 32 16.3 +4.3
ARU pmax pmax
comp=Z,22nm,1.8s
ARU MLR MLR
comp=Z,717nm,16.0s
ARU Arti 23.70 18 P **P** 15 27 19.4 -0.6
comp=Z,2.2nm,0.4s,baz=172,slow=6.3,SNR=6.9
ARU LR LR 15 38 49.9
comp=Z,854nm,18.2s,baz=204,slow=42
comp=Z,2.2nm,0.4s
MNK Minsk 23.72 333 *i* P **P** 15 27 21.1 +0.8
comp=E,21nm,1.2s
MNK *i* P **P** 15 27 21.1 +0.8
comp=N,55nm,1.2s
MNK *i* P **P** 15 27 21.1 +0.8
comp=Z,59nm,1.0s,baz=140
MNK *i* PP **PnPn** 15 27 48.9 +1.0
MNK *i* S **S** 15 31 37.2 +3.0
MNK *i* SS **SnSn** 15 32 17.8 +5.3
MNK *i* LQ LQ 15 34 44.6
MNK *i* LR LR 15 36 00.9
MNK *i* LRM MLR 15 37 33.7
comp=Z,159nm,14.2s
MNK *i* LRM MLR 15 37 44.7
comp=N,349nm,15.8s
MNK *i* LRM MLR 15 38 47.2
comp=E,303nm,24.3s
MNK Minsk 23.72 333 *c* *i*P **P** 15 27 21.0 +0.8
MORH Mrgy, Hungar 23.75 308 ⇑P **P** 15 27 20.3 -0.4
AAK Ala-Archa 23.79 61 P **P** 15 27 21.8 +0.4
AAK Ala-Archa 23.79 61 *i* P **P** 15 27 22.7 +1.4
SNR=5.8
AAK Ala-Archa 23.79 61 *de*P **P** 15 27 23.1 +1.7
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 23.79 61 P **P** 15 27 21.1 -0.3
comp=Z,1.9nm,0.5s,baz=207,slow=6.4,SNR=6.6
comp=Z,1.9nm,0.5s
AAK Ala-Archa 23.79 61 P **P** 15 27 22.8 +1.4
DESE Dese 23.86 195 *e*P **P** 15 27 30.8 +8.5
DESE Dese 23.86 195 *e*P **P** 15 27 10.0 -12
DESE *e*S S 15 31 23.4 -14
USP Ospenovka 23.92 60 P **P** 15 27 23.3 +0.9
SNR=33
BTLS Baital 24.04 55 ⇑ *i*P **P** 15 27 23.1 -0.4
comp=Z,18nm,0.9s,baz=56
BTLS Baital 24.04 55 *c* *i*P **P** 15 27 23.9 +0.4
BTLS pmax pmax
comp=Z,18nm,0.9s
CHMS Chumysh 24.05 60 P **P** 15 27 24.6 +1.0
SNR=20
SGDS Sogindy 24.05 59 *e*P **P** 15 27 24.1 +0.3
comp=Z,22nm,1.1s,baz=60
SGDS Sogindy 24.05 59 *e*P **P** 15 27 24.0 +0.3
SGDS pmax pmax
comp=Z,22nm,1.1s
OTUK Ortayu 24.08 47 P **P** 15 27 23.6 -0.3
KBK Karagaybulak 24.12 61 P **P** 15 27 26.4 +1.9
SNR=10
KZA Kyzart 24.25 63 P **P** 15 27 29.8 +3.9
SNR=7.6
MGRS Mrkonjic Grad 24.27 303 *e*P **P** 15 27 25.1 -0.5
BLY Banja Luka 24.28 304 *e*P **P** 15 27 22.9 -2.8
KIRV Kirov 24.32 5 *de*P **P** 15 27 25.0 -0.8
KIRV Kirov 24.32 5 P **P** 15 27 24.8 -1.0
comp=Z,30nm,0.6s,baz=248,slow=1.0,SNR=9.5
KIRV LR LR 15 38 25.5
comp=Z,454nm,18.1s,baz=184,slow=40
comp=Z,30nm,0.6s
CEL Celeste 24.39 288 P **P** 15 27 26.7 -0.1
CEL IAmb IAmb 15 27 35.0
comp=Z,33nm,0.7s
LANS Liptovska Anna 24.42 315 *e*P **P** 15 27 30.0 +3.0
LANS pmax pmax
comp=Z,13nm,1.1s
LANS Liptovska Anna 24.42 315 *e*P **P** 15 27 30.0 +3.0
NACGM Naroch 24.43 333 *e*P **P** 15 27 27.4 +0.5
comp=Z,52nm,0.7s,baz=139
CUC Castrocucco 24.50 292 P **P** 15 27 28.4 +0.5
VYHS Vyhne 24.51 313 *e*P **P** 15 27 29.5 +1.8
A051A Mrakovica 24.54 304 *e*P **P** 15 27 27.6 -0.5
KSH Kashi 24.55 69 P **P** 15 27 27.2 -1.1
KSH pP pP 15 27 31.0 -3.5
KSH sP sP 15 27 36.6 -0.4
KSH pmax pmax
comp=Z,13nm,0.7s
KSH LR LR
comp=Z,470nm,11.3s
KSH LR LR
comp=Z,2µm,18.6s
KSH LR LR
comp=Z,2µm,19.2s
SRO Srobarova 24.55 311 *e*P **P** 15 27 31.7 +3.6
SRO Srobarova 24.55 311 *e*P **P** 15 27 31.7 +3.6
SVE Sverdlovsk 24.60 20 *e*P **P** 15 27 30.9 +2.5
SVE pmax pmax
comp=Z,64nm,1.3s
TKM2 Tokmak 2 24.64 61 P **P** 15 27 30.4 +1.2
SNR=18
TKM2 Tokmak 2 24.64 61 P **P** 15 27 29.5 +0.2
A050A Klekovaca 24.66 303 *e*P **P** 15 27 27.4 -1.9
NRN Naryn 24.72 65 P **P** 15 27 30.1 0.0
NRN IAmb IAmb 15 27 36.0
comp=Z,34nm,1.1s
NRN Naryn 24.72 65 P **P** 15 27 30.1 0.0
NRN pmax pmax
comp=Z,34nm,1.1s
OJC Ojcow 24.74 318 P **P** 15 27 28.8 -1.0
OJC IAmb IAmb 15 27 36.6
comp=Z,40nm,1.1s
OJC Ojcow 24.74 318 P **P** 15 27 28.8 -1.0
OJC pmax pmax
comp=Z,40nm,1.1s
BRZS Berezniki 25.07 43 *e*P **P** 15 27 33.1 +0.3
comp=Z,29nm,1.1s,baz=44
BRZS Berezniki 25.07 43 *e*P **P** 15 27 33.0 +0.3
BRZS pmax pmax
comp=Z,29nm,1.1s
HARA HARA 25.10 186 *e*P **P** 15 27 38.1 +4.5
HARA HARA 25.10 186 *e*P **P** 15 27 39.3 +5.7
HARA *e*S **S** 15 32 04.9 +7.4
GRD1 Great Renaissa 25.16 206 *e*P **P** 15 27 37.1 +3.1
GRD1 *e*S S 15 32 18.0 +20
ISAL Salakas 25.19 333 *e*P **P** 15 27 35.1 +1.4
SUW Suwalki 25.27 328 *e*P **P** 15 27 36.1 +1.6
KUU Kurty 25.36 59 ⇑ *i*P **P** 15 27 36.1 +0.6
comp=Z,19nm,0.8s,baz=59
KUU Kurty 25.36 59 *c* *i*P **P** 15 27 36.0 +0.6
KUU pmax pmax
comp=Z,19nm,0.8s
JAVC Velka Javorina 25.36 313 *e*P **P** 15 27 35.7 +0.2
SMOL Smolenice 25.37 312 *e*P **P** 15 27 38.0 +2.5
KOGS Kog 25.39 307 *e*P **P** 15 27 35.0 -0.8
MODS Modra-Piesok 25.41 312 *e*P **P** 15 27 38.3 +2.4
MODS pmax pmax
comp=Z,67nm,1.2s
MODS Modra-Piesok 25.41 312 *e*P **P** 15 27 38.3 +2.4
ZST Bratislava 25.45 312 *e*P **P** 15 27 38.2 +2.0
ZST pmax pmax
comp=Z,198nm,1.6s
ZST Bratislava 25.45 312 *e*P **P** 15 27 38.2 +2.0
BRVK Borovoye 25.48 35 P **P** 15 27 35.9 -0.5
BRVK Borovoye 25.48 35 ⇑ *e*P **P** 15 27 37.3 +0.9
BRVK pmax pmax
comp=Z,54nm,1.7s
BRVK Borovoye 25.48 35 P **P** 15 27 39.0 +2.5
BRVK P **P** 15 27 39.0 +2.5
OKC Ostrava-Krasne 25.50 316 *e*P **P** 15 27 38.1 +1.4
OKC Ostrava-Krasne 25.50 316 *e*P **P** 15 27 38.1 +1.4
BVA0 Borovoye Array 25.51 36 *i* P **P** 15 27 36.0 -0.7
BVAR Borovoye Array 25.51 36 P **P** 15 27 36.3 -0.4
comp=Z,14nm,0.9s,baz=257,slow=7.8,SNR=36
BVAR PcP **PcP** 15 31 07.3 -0.5
comp=Z,2.4nm,0.6s,baz=212,slow=2.3,SNR=4.3
BVAR ScP **ScP** 15 34 46.3 +0.1
comp=Z,1.5nm,0.9s,baz=248,slow=2.7,SNR=2.0
BVAR LR LR 15 40 51.7
comp=Z,652nm,19.6s,baz=224,slow=44
comp=Z,14nm,0.9s
VAE Valguarnera 25.58 286 LR LR 15 40 33.5
comp=Z,664nm,18.0s,baz=57,slow=43
RAFF Raffo Rosso 25.63 285 P **P** 15 27 40.2 +2.2
TNSS Tian-Shan 25.64 61 *e*P **P** 15 27 39.2 +0.6
baz=61
TNSS Tian-Shan 25.64 61 *e*P **P** 15 27 39.1 +0.6
AAA Alma-Ata 25.64 61 *e*P **P** 15 27 39.1 +1.0
baz=61
AAA Alma-Ata 25.64 61 *e*P **P** 15 27 39.1 +1.0
MDOK Medeo 25.73 61 *e*P **P** 15 27 39.9 +0.8
baz=61
MDOK Medeo 25.73 61 *e*P **P** 15 27 39.8 +0.8
CRES Cresnjev 25.74 305 *e*P **P** 15 27 40.4 +1.4
RONA Rosalia, Austr 25.77 310 *e*P **P** 15 27 38.2 -1.1
comp=Z,30nm,1.1s
BOJS Bojanci 25.80 305 *e*P **P** 15 27 38.2 -1.2
CHKK Chushkaly 25.81 59 *e*P **P** 15 27 40.1 +0.5
baz=60
CHKK Chushkaly 25.81 59 *e*P **P** 15 27 40.1 +0.5
MORC Moravsky Berou 25.82 315 ⇓P **P** 15 27 39.6 -0.2
MORC Moravsky Berou 25.82 315 P **P** 15 27 39.5 -0.2
MORC IAmb IAmb 15 27 46.6
comp=Z,30nm,1.0s
MORC Moravsky Berou 25.82 315 *e*P **P** 15 27 38.3 -1.4
MORC Moravsky Berou 25.82 315 P **P** 15 27 39.5 -0.2
PABE Paberze 25.97 331 P **P** 15 27 38.6 -2.2
PABE Paberze 25.97 331 *e*P **P** 15 27 42.4 +1.5
WLRA Wolmera 26.02 196 *e*P **P** 15 27 47.5 +5.5
INTR Introdacqua 26.12 296 P **P** 15 27 43.0 +0.5
CONA Conrad Observa 26.12 310 *e*P **P** 15 27 43.0 +0.5
comp=Z,34nm,0.9s
VRAC Vranov 26.19 314 *e*P **P** 15 27 42.5 -0.5
VRAC Vranov 26.19 314 LR LR 15 39 60.0
comp=Z,804nm,18.8s,baz=122,slow=41
KRUC Moravsky 26.21 313 *e*P **P** 15 27 41.8 -1.4
FURI Furi 26.22 196 *e*P P 15 27 51.7 +7.9
FURI *e*S S 15 32 38.5 +23
SOKA Soboth 26.26 307 *i* P **P** 15 27 45.5 +1.8
comp=Z,19nm,1.2s
SOKA *i* PcP **PcP** 15 31 12.6 +2.8
comp=Z,7.7nm,0.9s
KRLC Kraliky 26.40 315 *e*P **P** 15 27 45.9 +1.0
KRLC Kraliky 26.40 315 *e*P **P** 15 27 45.9 +1.0
CEY Cerknica 26.42 305 *e*P **P** 15 27 49.0 +3.9
ARXS Arharly 26.47 59 *e*P **P** 15 27 45.9 +0.2
OBKA Obir 26.54 307 *e*pP **P** 15 27 48.5 +2.3
comp=Z,17nm,1.1s
OBKA Obir 26.54 307 *e*P **P** 15 27 48.0 +1.8
CRNS Crni Vrh 26.61 306 *i* P **P** 15 27 46.0 -0.8
SKDS Skadanscina 26.65 304 *e*P **P** 15 27 47.8 +0.6
SATY Saty 26.70 61 ⇑ *i*P **P** 15 27 48.9 +1.1
comp=Z,22nm,1.1s,baz=62
SATY Saty 26.70 61 *c* *i*P **P** 15 27 48.9 +1.1
SATY pmax pmax
comp=Z,22nm,1.1s
ZHN Zhinishke 26.73 61 *e*P **P** 15 27 49.1 +1.0
baz=62
ZHN Zhinishke 26.73 61 *e*P **P** 15 27 49.1 +1.0
DPC Dobruska-Polom 26.78 316 *e*P **P** 15 27 47.4 -0.9
DPC AMS AMS 15 41 50.0
comp=Z,800nm,15.2s
DPC Dobruska-Polom 26.78 316 *e*P **P** 15 27 47.4 -0.9
DPC MLR MLR
comp=Z,800nm,15.2s
KLMR Klimovskoe 26.79 353 *e*P **P** 15 27 47.4 -0.8
KLMR pmax pmax
comp=Z,56nm,1.9s
KLMR MLR MLR
comp=Z,336nm,8.0s
FDMO Fiordimonte 26.84 299 IAmb IAmb 15 27 55.9
comp=Z,18nm,0.8s
OSTC Ostas 26.93 316 *e*P **P** 15 27 50.2 +0.5
OSTC Ostas 26.93 316 *e*P **P** 15 27 50.2 +0.5
UPC Upice 27.03 316 *e*P **P** 15 27 49.6 -0.9
UPC Upice 27.03 316 *e*P **P** 15 27 49.6 -0.9
TDK Taldyqorghan 27.03 57 *e*P **P** 15 27 50.8 +0.1
comp=Z,24nm,0.9s,baz=58
TDK Taldyqorghan 27.03 57 *e*P **P** 15 27 50.7 +0.1
TDK pmax pmax
comp=Z,24nm,0.9s
SABO M.te Sabotino 27.04 305 IAmb IAmb 15 27 56.6

comp=Z,30nm,0.9s
CHVC Chvalec 27.04 316 *e*P **P 15 27 49.3 -1.3**
CHVC Chvalec 27.04 316 *e*P **P 15 27 49.3 -1.3**
MOA Molln 27.11 309 *e*P **P 15 27 49.4 -2.0**
comp=Z,28nm,1.0s
UZB Uzynbulak 27.16 61 *e*P **P 15 27 52.4 +0.5**
comp=Z,14nm,1.0s,baz=62
UZB Uzynbulak 27.16 61 *e*P **P 15 27 52.4 +0.5**
UZB pmax pmax
comp=Z,14nm,1.0s
PBUR Paburge 27.16 330 *e*P **P 15 27 52.1 +0.5**
MYKA Terra Mystica 27.17 306 *i*P **P 15 27 52.8 +0.8**
comp=Z,7.7nm,0.8s
VSU Vasula 27.25 338⇑ *e*P **P 15 27 54.4 +2.1**
VSU Vasula 27.25 338 *e*P **P 15 27 51.3 -1.0**
MURB Monte Urbino 27.28 299 IAmb IAmb 15 28 09.0
comp=Z,41nm,1.1s
CKRC Cesky Krumlov 27.40 311 *e*P **P 15 27 56.2 +2.3**
CKRC AMS AMS 15 44 30.0
comp=Z,700nm,12.2s
CKRC Cesky Krumlov 27.40 311 *e*P **P 15 27 56.2 +2.3**
CKRC MLR MLR
comp=Z,700nm,12.2s
BIOA Bad Ischl, Aus 27.47 309 *e*P **P 15 27 53.1 -1.4**
comp=Z,33nm,1.1s
SHLS Shalkode 27.48 61 *e*P **P 15 27 58.3 +3.5**
baz=62
SHLS Shalkode 27.48 61 *e*P **P 15 27 58.2 +3.5**
KBA Koelnbreinsper 27.49 307 *e*P **P 15 27 53.0 -1.9**
comp=Z,33nm,1.1s
CLUD Cludinico 27.64 306 P **P 15 27 55.1 -0.9**
CLUD IAmb IAmb 15 28 04.8
comp=Z,18nm,0.9s
CLUD **PcP 15 31 15.4 +2.4**
PRU Pruhonice 27.68 314 *e*P **P 15 27 57.9 +1.5**
PRU Pruhonice 27.68 314 *e*P **P 15 27 57.9 +1.5**
ZVC Zvikov 27.69 313 *e*P **P 15 27 56.2 -0.3**
STAL STALIGIAL 27.70 305 P **P 15 27 57.4 +0.8**
GERES GERESS Array B 27.79 311 P **P 15 27 55.9 -1.6**
comp=Z,1.0nm,0.5s,baz=113,slow=7.6,SNR=5.3
GERES PcP **PcP 15 31 12.2 -1.3**
comp=Z,0.5nm,0.6s,baz=134,slow=3.9,SNR=1.7
GERES LR LR 15 39 56.5
comp=Z,465nm,20.8s,baz=126,slow=39
comp=Z,1.0nm,0.5s
PVCC Panska Ves 27.88 315 AMS AMS 15 42 30.0
comp=Z,800nm,13.8s
ABTA Abfaltersbach 27.95 306 *e*pP **P 15 28 00.1 +1.2**
comp=Z,9.7nm,1.0s
ABTA *e*PcP **PcP 15 31 17.0 +3.1**
comp=Z,5.7nm,0.9s
KHC Kasperske Hory 27.96 312 *e*P **P 15 28 00.0 +1.1**
KHC Kasperske Hory 27.96 312 *ce*P **P 15 27 59.8 +0.9**
KHC pmax pmax
comp=Z,21nm,1.7s
LESA Schwarzleotal 28.02 308 *e*P **P 15 28 00.2 +0.7**
comp=Z,9.8nm,1.1s
LESA *e*PcP **PcP 15 31 16.0 +1.9**
comp=Z,5.8nm,1.0s
SLIT Slitere, Latvi 28.14 333 *e*P **P 15 28 00.5 +0.2**
BRG Berggiesshubel 28.38 315 *e*P **P 15 28 03.9 +1.3**
BRG Amp 15 28 05.4
comp=Z,2.9nm,0.8s
BRG Amp 15 42 59.0
comp=N,0.5nm,21.0s
BRG Amp 15 43 02.0
comp=Z,0.8nm,16.3s
BRG Amp 15 43 05.0
comp=E,0.5nm,17.6s
BRG Berggiesshubel 28.38 315 *e*P **P 15 28 03.8 +1.3**
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=N,471nm,21.0s
BRG MLR MLR
comp=Z,796nm,16.3s
BRG MLR MLR
comp=E,515nm,17.6s
MTSE Matsula 28.39 336 *e*P **P 15 28 04.2 +1.6**
WTTA Wattenberg 28.66 307 *e*P **P 15 28 05.2 -0.1**
comp=E,28nm,1.2s
WTTA *i*PcP **PcP 15 31 18.3 +2.5**
comp=E,11nm,1.3s
DILA Dilla 28.69 196 *e*P P 15 28 14.1 +8.3
WATA Walderalm 28.72 307 *e*P **P 15 28 05.5 -0.3**
comp=E,16nm,1.0s
WATA *e*PcP **PcP 15 31 18.2 +2.4**
comp=E,12nm,1.0s
KURBB Kurchatov Arra 28.74 46 P **P 15 28 06.1 +0.3**
KURBB Kurchatov Arra 28.74 46 P **P 15 28 06.6 +0.9**
comp=E,29nm,0.9s,baz=253,slow=8.9,SNR=28
KURBB ScP **ScP 15 34 56.2 +0.3**
comp=E,1.2nm,0.3s,baz=256,slow=4.4,SNR=2.2
KURBB LR LR 15 41 28.1
comp=E,610nm,19.8s,baz=266,slow=40
comp=E,29nm,0.9s
KURK Kurchatov 28.83 46 P **P 15 28 06.6 +0.1**
KURK Kurchatov 28.83 46 *c i*P **P 15 28 07.3 +0.8**
KURK pmax pmax
comp=Z,64nm,1.3s
KURK Kurchatov 28.83 46 P **P 15 28 07.6 +1.1**
SQTA Sankt Quirin 28.93 307 *e*P **P 15 28 06.1 -1.6**
comp=Z,15nm,0.5s
SQTA *i*PcP **PcP 15 31 15.9 -0.4**
comp=Z,5.0nm,0.8s
MOTA Moosalm 29.03 307 *i*P **P 15 28 06.9 -1.7**
comp=Z,15nm,0.9s
MOTA *e*PcP **PcP 15 31 16.2 -0.4**
comp=Z,4.8nm,0.7s
CLL Collm 29.09 316 *i*P **P 15 28 10.6 +1.7**
CLL *i* *PP **sP 15 28 19.9 +2.2**
CLL pmax pmax
comp=Z,13nm,1.3s
CLL MLR MLR
comp=Z,800nm,18.6s
CLL Collm 29.09 316 *i*Px Px 15 28 10.6
comp=Z,13nm,1.3s
CLL *e*PP **PnPn 15 29 04.0 +2.7**
CLL *ex* x 15 33 36.0
CLL AMS AMS 15 41 00.0
comp=N,400nm,20.5s
CLL AMS AMS 15 41 00.0
comp=E,600nm,19.0s
CLL AMS AMS 15 41 00.0
comp=Z,800nm,18.6s
FETA Feichten 29.21 306 *i*P **P 15 28 08.8 -1.3**
comp=Z,11nm,0.9s
FETA *e*PcP **PcP 15 31 16.3 -0.8**
comp=Z,10nm,0.9s
RETA Reutte 29.29 307 *e*P **P 15 28 08.9 -1.9**
comp=Z,3.7nm,0.5s
MEF Metsahovi 29.37 338 *e*P **P 15 28 11.7 +0.4**
GRF Grafenberg Arr 29.60 312 *e*P **P 15 28 13.6 +0.1**
comp=Z,12nm,1.1s,baz=108,slow=10
SEM Semipalatinsk 29.69 47 *e*P **P 15 28 15.1 +0.5**
comp=Z,14nm,0.9s,baz=47
SEM Semipalatinsk 29.69 47 *e*P **P 15 28 15.0 +0.5**
SEM pmax pmax
comp=Z,14nm,0.9s
DAVOX Davos/Dischmat 29.72 306 LR LR 15 42 40.6
comp=Z,559nm,21.8s,baz=90,slow=42
BSD Bornholm Skovb 29.80 324 *e*P **P 15 28 17.0 +1.9**
KEST Kesra 29.80 283 P **P 15 28 14.3 -1.2**
comp=Z,3.4nm,0.8s,baz=88,slow=15,SNR=1.2
KEST LR LR 15 44 02.4
comp=Z,376nm,18.1s,baz=352,slow=44
comp=Z,3.4nm,0.8s
DAVA Damuels 29.83 306 *i*P **P 15 28 13.2 -2.5**
comp=Z,13nm,0.5s
MAKZ Makanchi 29.84 54 P **P 15 28 15.1 -0.5**
MAKZ Makanchi 29.84 54 P **P 15 28 14.5 -1.1**
FINES FINESS Array B 29.88 341 P **P 15 28 16.3 +0.6**
FINES FINESS Array B 29.88 341 P **P 15 28 14.0 -1.8**
comp=Z,3.4nm,0.5s,baz=136,slow=7.9,SNR=28
FINES PcP **PcP 15 31 16.9 -1.3**
comp=Z,5.1nm,0.9s,baz=194,slow=5.3,SNR=2.0
FINES LR LR 15 41 22.4
comp=Z,542nm,20.9s,baz=146,slow=39
comp=Z,3.4nm,0.5s
BLEU Blekinge 30.02 326 *e*P **P 15 28 18.0 +1.0**
MK31 Makanchi Array 30.05 55 P **P 15 28 17.9 +0.5**
MK31 Makanchi Array 30.05 55 *de*P **P 15 28 18.2 +0.7**
MKAR Makanchi Array 30.05 55 P **P 15 28 17.6 +0.1**
MKAR Makanchi Array 30.05 55 P **P 15 28 17.7 +0.3**
comp=Z,12nm,0.8s,baz=251,slow=7.0,SNR=69
MKAR LR LR 15 41 48.0
comp=Z,477nm,19.5s,baz=254,slow=39
comp=Z,12nm,0.8s
LUNU Lund 30.79 324 *e*P **P 15 28 25.2 +1.3**
RAF Rauma 30.82 337 *e*P **P 15 28 23.8 -0.3**
DEL Delary 31.01 325 *i*P **P 15 28 24.0 -1.8**
ECH Echery 31.82 308 IAmb IAmb 15 28 38.0
comp=Z,18nm,1.1s
ZSN Zaisan 31.89 54 *e*P **P 15 28 34.8 +1.1**
comp=Z,20nm,2.6s,baz=54
ZSN Zaisan 31.89 54 *e*P **P 15 28 34.8 +1.1**
ZSN pmax pmax
comp=Z,20nm,2.6s
BORU Boraas 32.14 327 *e*P **P 15 28 35.1 -0.6**
LODK Lodwar 32.33 200 P P 15 28 43.1 +5.3
LODK Lodwar 32.33 200 *e*P P 15 28 43.2 +5.4
ONAU Onsala 32.41 326 *e*P **P 15 28 38.4 +0.4**
WLF Walferdange 32.77 310 IAmb IAmb 15 28 46.5
comp=Z,21nm,0.9s
WLF Walferdange 32.77 310 P **P 15 28 41.9 +0.6**
HFS Hagfors 33.15 331 P **P 15 28 42.8 -1.7**
comp=Z,11nm,0.4s,baz=132,slow=8.2,SNR=32
comp=Z,11nm,0.4s
SSB Saint Sauveur 33.20 302 P **P 15 28 44.4 -0.8**
SSB IAmb IAmb 15 28 50.4
comp=Z,11nm,0.9s
SSB Saint Sauveur 33.20 302 P **P 15 28 44.4 -0.8**
SSB pmax pmax
comp=Z,11nm,0.9s
MUD Monsted U'grnd 33.29 323 *i*P **P 15 28 47.0 +1.2**
WMQ Urumqi 33.50 61 *e*P **P 15 28 50.3 +2.4**
WMQ pP pP 15 28 52.5 -1.7
WMQ sP sP 15 28 56.7 +0.1
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ LR LR
comp=Z,790nm,14.1s
WMQ LR LR
comp=Z,690nm,11.5s
WMQ LR LR
comp=Z,440nm,19.3s
ZAA0 Zalesovo Array 33.53 42 IAmb IAmb 15 28 52.3
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 33.53 42 P **P 15 28 46.8 -1.1**
comp=Z,11nm,0.6s,baz=256,slow=7.9,SNR=30
ZALV LR LR 15 45 15.4
comp=Z,535nm,18.4s,baz=246,slow=41
comp=Z,11nm,0.6s
STRU Stroemstad 33.59 328 *e*P **P 15 28 48.7 +0.3**
STRU Stroemstad 33.59 328 *e*P **P 15 28 50.7 +2.3**
BGES Gesves 33.60 311 *d*P **P 15 28 48.1 -0.5**
comp=Z,6.9nm,1.3s
HYB Hyderabad 33.73 112 *e*P **P 15 28 51.4 +1.3**
HYB *e*S **S 15 34 15.8 +3.1**
DGZ Jazzator, Alta 33.98 50 *de*P **P 15 28 53.0 +0.9**
DGZ pmax pmax
comp=Z,16nm,1.0s
OSL Oslo 34.27 329 *e*P **P 15 28 54.2 -0.1**
NC602 NORSAR Array S 34.37 331 *e*P **P 15 28 54.0 -1.2**
NC602 *e*S **S 15 34 17.0 -4.7**
HOMB Homborsund 34.43 325 *e*P **P 15 28 57.3 +1.7**
KONO Kongsberg 34.61 328 P **P 15 28 58.0 +0.8**
KONO IAmb IAmb 15 29 03.8
comp=Z,18nm,0.8s
KONO Kongsberg 34.61 328 *e*P **P 15 28 57.0 -0.2**
KONO Kongsberg 34.61 328⇑ *e*P **P 15 28 56.5 -0.7**
KONO pmax pmax
comp=Z,13nm,1.0s
NB2 NORSAR Subarra 34.68 331 P **P 15 28 55.2 -2.7**
comp=Z,10nm,0.9s,baz=125,slow=9.3
NB2 NORSAR Subarra 34.68 331 P **P 15 28 55.2 -2.7**
baz=125,slow=9.3
NOA NORSAR Array B 34.68 331 P **P 15 28 55.6 -2.3**
comp=Z,2.1nm,0.6s,baz=124,slow=8.7,SNR=3.0
NOA LR LR 15 46 25.9
comp=Z,334nm,18.6s,baz=145,slow=42
comp=Z,2.1nm,0.6s
SNART Snartemo 35.07 325 *e*P **P 15 29 01.6 +0.3**
SKAR Skarslia 35.69 329 *e*P **P 15 29 06.2 -0.4**
SKAR IAmb IAmb 15 29 10.5
comp=Z,14nm,0.9s
BLS5 Blasjo 35.91 326 *e*P **P 15 29 08.4 0.0**
ODD1 Odda 36.05 327 *e*P **P 15 29 11.4 +1.8**
DOMB Dombas 36.09 331 *e*P **P 15 29 10.2 +0.2**
DOMB IAmb IAmb 15 29 11.8
comp=Z,120nm,2.4s
KMBO Kilima Mbogo 36.24 195⇑ *e*P **P 15 29 12.2 +0.2**
KMBO Kilima Mbogo 36.24 195 P **P 15 29 10.8 -1.2**
comp=Z,1.0nm,0.5s,baz=287,slow=11,SNR=1.2
KMBO LR LR 15 43 10.8
comp=Z,592nm,20.7s,baz=14,slow=35
comp=Z,1.0nm,0.5s
NSS Namsos 36.50 336 *e*P **P 15 29 12.7 -0.6**
MOR8 Moi Rana 36.82 339 *e*P **P 15 29 16.6 +0.5**
HYA Hoyanger 36.83 329 *e*P **P 15 29 17.1 +0.8**
BER Bergen 36.84 327 *e*P **P 15 29 18.4 +2.0**
VADS Vadso 36.91 351 *e*P **P 15 29 16.3 -0.5**
KTK1 Kautokeino 36.91 347 *e*P **P 15 29 17.2 +0.4**
ASK Askoy 36.95 328 *e*P **P 15 29 19.5 +2.3**
ARA0 ARCESS Array S 36.96 348 *e*P **P 15 29 18.1 +0.9**
ARCES ARCESS Array B 36.96 348 P **P 15 29 15.4 -1.8**
comp=Z,2.5nm,0.5s,baz=166,slow=8.6,SNR=22
ARCES LR LR 15 46 44.6
comp=Z,319nm,21.6s,baz=147,slow=40
comp=Z,2.5nm,0.5s
TAM Tamanrasset 37.02 263 P **P 15 29 19.4 +0.9**
TAM IAmb IAmb 15 29 27.6
comp=Z,21nm,1.1s
TAM Tamanrasset 37.02 263 P **P 15 29 19.4 +0.9**
TAM pmax pmax
comp=Z,21nm,1.1s
KIBK Kibwezi 37.27 193 P **P 15 29 24.4 +3.8**
STOK Stokkvaagen 37.35 339 *e*P **P 15 29 20.5 0.0**
ECHE Chera 37.42 292 P **P 15 29 22.9 +1.3**
KONS Konsvik 37.43 339 *e*P **P 15 29 21.0 -0.3**
KONS IAmb IAmb 15 29 21.6
comp=Z,143nm,1.8s
FAUS Fauske 37.44 341 *e*P **P 15 29 21.4 0.0**
FAUS IAmb IAmb 15 29 22.0
comp=Z,22nm,1.1s
FOO Floro 37.52 329 *e*P **P 15 29 23.6 +1.6**
MBAR Mbarara 37.59 205 P P 15 29 28.2 +4.9
MBAR Mbarara 37.59 205 P P 15 29 28.2 +4.9
MBAR pmax pmax
comp=Z,6.0nm,0.8s
STEI Steigen 37.85 342 *e*P **P 15 29 23.5 -1.3**
JETT Jettan, Norway 37.92 346 *e*P **P 15 29 24.9 -0.5**
ETOB Tobarra 38.00 291 P **P 15 29 25.8 -0.7**
HAMF Hammerfest 38.23 348 *e*P **P 15 29 29.0 +1.0**
TRO Tromso 38.29 345 *e*P **P 15 29 26.4 -2.1**
TRO IAmb IAmb 15 29 37.0
comp=Z,30nm,0.7s
UCM Universidad Co 39.06 293 P **P 15 29 34.5 -1.0**
EKA Eskdalemuir Ar 39.52 317 P **P 15 29 37.0 -2.0**
comp=Z,3.7nm,0.4s,baz=103,slow=9.1,SNR=16
EKA PcP **PcP 15 31 44.9 -1.4**
comp=Z,0.5nm,0.5s,baz=96,slow=4.4,SNR=2.1
comp=Z,3.7nm,0.4s
GOMU GeErMu 39.67 73 P **P 15 29 42.7 +1.8**
GOMU pP sP 15 29 48.1 -1.6
GOMU sP pP 15 29 50.4 +3.1
GOMU S **S 15 35 44.1 +0.5**
GOMU sS sS 15 35 56.9 +3.2
GOMU pmax pmax
comp=Z,8.0nm,0.6s
GOMU LR LR
comp=Z,710nm,20.2s
GOMU LR LR
comp=Z,310nm,21.2s
GOMU LR LR
comp=Z,460nm,21.2s
ESDC Sonseca Array 39.70 293 P **P 15 29 39.5 -1.3**
ESDC Sonseca Array 39.70 293 P **P 15 29 38.9 -1.9**
comp=Z,2.3nm,0.8s,baz=73,slow=7.8,SNR=14
ESDC PcP **PcP 15 31 46.5 -0.7**
comp=Z,0.7nm,0.7s,baz=73,slow=1.7,SNR=2.3
ESDC LR LR 15 48 15.2
comp=Z,269nm,18.4s,baz=108,slow=40
comp=Z,2.3nm,0.8s
PBRG Braganca 41.49 296 *e*P **P 15 29 57.1 +1.5**
comp=Z,72nm,1.9s
MDT Midelt 41.70 283 LR LR 15 52 35.6
comp=Z,184nm,18.5s,baz=138,slow=44
MVO Moncorvo 41.80 295 *e*P **P 15 30 00.2 +2.1**
NRIK Noril'sk 41.86 21 P **P 15 29 57.7 -0.4**
NRIK Noril'sk 41.86 21⇓ *e*P **P 15 29 58.4 +0.3**
NRIK Noril'sk 41.86 21 P **P 15 29 57.0 -1.1**
comp=Z,5.8nm,0.8s,baz=245,slow=5.0,SNR=6.2
NRIK LR LR 15 51 10.0
comp=Z,623nm,19.6s,baz=230,slow=42
comp=Z,5.8nm,0.8s
PALK Pallekele 41.93 122 LR LR 15 48 29.9
comp=Z,677nm,19.5s,baz=64,slow=38
PALK Pallekele 41.93 122 P **P 15 29 59.4 0.0**
PVRL Vila Real 42.29 296 *e*P **P 15 30 03.6 +1.5**
comp=Z,34nm,1.5s
MTE Manteigas 42.30 294 *e*P **P 15 30 03.4 +1.2**
comp=Z,45nm,1.6s
PBAR Barrancos 42.33 291 *e*P **P 15 30 03.7 +1.4**
POLO Lamas de Olo 42.34 296 *e*P **P 15 30 06.8 +4.3**
PCBR Castelo Branco 42.35 294 *e*P **P 15 30 02.1 -0.4**
comp=Z,48nm,1.8s
PMRV Marv??o 42.35 293 *e*P **P 15 30 03.7 +1.1**
comp=Z,48nm,1.9s
PGAV Gavieira, Arco 42.60 297 *e*P **P 15 30 08.0 +3.3**
PESTR Estremoz 42.61 292 *e*P **P 15 30 05.4 +0.7**
comp=Z,30nm,2.0s
GTA Gaotai 42.91 67 P **P 15 30 07.9 +0.7**
GTA sP sP 15 30 17.7 +1.7
GTA S **S 15 36 32.9 +1.7**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA LR LR
comp=Z,250nm,15.5s
GTA LR LR
comp=Z,560nm,14.7s
GTA LR LR
comp=Z,620nm,16.7s
PCAS Casmilo, Conde 43.08 294 *e*P **P 15 30 10.3 +1.8**
HOPEN Hopen 43.28 353 *e*P **P 15 30 09.3 -0.2**
ZAK Zakamensk 44.20 51 *e*P **P 15 30 18.5 +1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
IRK Irkutsk 44.79 48 *e*P **P 15 30 25.1 +3.1**
IRK pmax pmax
comp=Z,33nm,2.2s
TOA0 Torodi Ar. Sit 45.17 253 P **P 15 30 24.6 -0.8**
TOA0 IAmb IAmb 15 30 33.1
comp=Z,13nm,0.9s
TOA0 Torodi Ar. Sit 45.17 253 P **P 15 30 27.1 +1.7**
TORD Torodi Ar. Bea 45.17 253 P **P 15 30 25.6 +0.2**
TORD Torodi Ar. Bea 45.17 253 P **P 15 30 23.3 -2.1**
comp=Z,2.4nm,0.5s,baz=46,slow=6.1,SNR=24
TORD PcP **PcP 15 32 03.8 -1.9**
comp=Z,0.8nm,0.7s,baz=37,slow=4.0,SNR=1.2
TORD LR LR 15 52 23.1
comp=Z,490nm,18.5s,baz=55,slow=40
comp=Z,2.4nm,0.5s
SPA0 Spitsbergen Ar 45.68 352 *e*P **P 15 30 26.9 -1.9**
SPITS Spitsbergen Ar 45.68 352 P **P 15 30 27.3 -1.5**
comp=Z,2.7nm,0.4s,baz=147,slow=11,SNR=40
comp=Z,2.7nm,0.4s
TNCH TengChong 46.25 87 P **P 15 30 36.0 +1.8**
TNCH pP pP 15 30 39.0 -1.6
TNCH S **S 15 37 21.7 +1.5**
TNCH SS **SS 15 40 38.7 -6.9**
TNCH pmax pmax
comp=Z,16nm,0.6s
TNCH pmax pmax
comp=Z,85nm,3.8s
TNCH LR LR
comp=Z,310nm,19.3s
TNCH LR LR
comp=Z,180nm,19.9s
TNCH LR LR
comp=Z,480nm,20.5s
SONM Songino Array 46.41 54 P **P 15 30 33.9 -1.1**
comp=Z,1.2nm,0.7s,baz=258,slow=4.3,SNR=2.1
SONM PcP **PcP 15 32 08.3 -1.4**
comp=Z,0.5nm,0.5s,baz=304,slow=5.4,SNR=1.8
SONM LR LR 15 53 41.8
comp=Z,369nm,18.8s,baz=258,slow=41
comp=Z,1.2nm,0.7s
JMIC Jan Mayen 46.43 338 LR LR 15 50 44.7
comp=Z,287nm,21.9s,baz=72,slow=37
LZH Lanzhou 46.78 70 *e*P **P 15 30 39.2 +1.0**
LZH sP sP 15 30 48.3 +1.3
LZH S **S 15 37 31.8 +4.3**
LZH pmax pmax
comp=Z,11nm,1.0s
LZH LR LR
comp=Z,480nm,16.7s
LZH LR LR
comp=Z,630nm,16.3s
LZH LR LR
comp=Z,790nm,17.2s
ULN Ulaanbaatar 46.85 54 P **P 15 30 38.4 -0.2**
ULN IAmb IAmb 15 30 44.0
comp=Z,13nm,0.9s
ULN Ulaanbaatar 46.85 54 *de*P **P 15 30 39.1 +0.6**
ULN pmax pmax
comp=Z,18nm,1.3s
ULN Ulaanbaatar 46.85 54 P **P 15 30 40.5 +2.0**
comp=Z,64nm,1.0s
PZH PanZhiHua 48.31 84 P **P 15 30 52.8 +2.7**
PZH S **S 15 37 50.9 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,70nm,3.7s
PZH LR LR
comp=Z,350nm,19.6s
PZH LR LR
comp=Z,400nm,19.1s
PZH LR LR
comp=Z,450nm,20.6s
CD2 Chengdu 48.32 77 P **P 15 30 51.0 +1.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,270nm,10.3s
CD2 LR LR
comp=Z,370nm,14.1s
CD2 LR LR
comp=Z,600nm,16.2s
CHTO Chiang Mai 49.41 94 P **P 15 30 56.9 -1.6**
CHTO IAmb IAmb 15 31 06.6
comp=Z,13nm,0.7s
CHTO Chiang Mai 49.41 94 P **P 15 30 56.9 -1.6**
CHTO pmax pmax
comp=Z,13nm,0.7s
CHTO Chiang Mai 49.41 94 P **P 15 30 57.9 -0.7**
CHTO P **P 15 30 57.9 -0.7**
CHTO Chiang Mai 49.41 94 P **P 15 30 58.1 -0.4**
comp=Z,16nm,0.9s,comp=Z,240nm
CMMT Chiang Mai 49.42 94 P **P 15 30 57.7 -0.9**
comp=Z,44nm,0.9s,comp=Z,671nm
CM31 Chiang Mai Arr 49.59 95 P **P 15 30 59.0 -0.8**
CM31 IAmb IAmb 15 31 03.2
comp=Z,17nm,0.9s
CM31 Chiang Mai Arr 49.59 95 P **P 15 30 59.4 -0.5**
SNR=11
CMAR Chiang Mai Arr 49.59 95 P **P 15 30 58.6 -1.3**
CMAR Chiang Mai Arr 49.59 95 P **P 15 30 58.2 -1.6**
comp=Z,8.5nm,0.7s,baz=293,slow=8.3,SNR=42
CMAR PcP **PcP 15 32 20.5 -0.9**
comp=Z,0.9nm,0.6s,baz=290,slow=4.5,SNR=0.9
CMAR LR LR 15 54 39.1
comp=Z,272nm,20.4s,baz=295,slow=39
comp=Z,8.5nm,0.7s
KMI Kunming 49.69 85⇑ P **P 15 31 01.3 +0.4**
KMI pmax pmax
comp=Z,11nm,1.5s
KMI pmax pmax
comp=Z,160nm,7.2s
KMI LR LR
comp=Z,560nm,18.3s
KMI LR LR
comp=Z,360nm,22.0s
KMI LR LR
comp=Z,620nm,25.2s
BORG Borgarnes 49.79 329 LR LR 15 52 06.1
comp=Z,265nm,20.8s,baz=97,slow=36
CRAI Chiangrai 49.91 92 P **P 15 31 01.9 -0.4**
BOD Bodaibo 50.23 40 *e*P **P 15 31 03.5 -0.7**
BOD pmax pmax
comp=Z,16nm,1.3s
BTO Baotou 50.29 63 *e*P **P 15 31 04.7 -0.4**
BTO pP **sP 15 31 16.8 +2.9**
BTO PP **PP 15 33 01.8 +1.4**
BTO S **S 15 38 14.8 -2.0**
BTO SS **SS 15 41 48.6 -1.6**

BTO pmax pmax
comp=Z,38nm,0.6s
BTO LR LR
comp=Z,730nm,15.7s
BTO LR LR
comp=Z,420nm,10.5s
DAG Danmarks Havn 51.01 344 *i* P **P 15 31 08.0 -1.8**
DAG IAmb IAmb 15 31 18.0
comp=Z,5.7nm,0.5s
HHC Hu-ho-hao-te 51.36 62 *e*P **P 15 31 14.0 +0.9**
HHC sP sP 15 31 21.3 -0.7
HHC S **S 15 38 33.4 +1.7**
HHC SS **SS 15 42 04.8 -2.3**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,310nm,4.4s
HHC LR LR
comp=Z,790nm,17.6s
HHC LR LR
comp=Z,600nm,16.9s
HHC LR LR
comp=Z,630nm,15.5s
XAN Xi'an 51.37 71 ⇑P **P 15 31 12.6 -0.6**
XAN pP pP 15 31 16.6 -3.2
XAN sP sP 15 31 19.3 -2.8
XAN pmax pmax
comp=Z,12nm,1.0s
XAN LR LR
comp=Z,1μm,18.1s
XAN LR LR
comp=Z,910nm,16.5s
XAN LR LR
comp=Z,780nm,17.1s
LSZ Lusaka 52.18 202 P P 15 31 26.0 +6.6
LSZ IAmb IAmb 15 31 28.0
comp=Z,16nm,1.2s
LSZ Lusaka 52.18 202 P P 15 31 26.0 +6.6
LSZ pmax pmax
comp=Z,16nm,1.2s
LSZ Lusaka 52.18 202 LR LR 15 52 25.6
comp=Z,464nm,22.0s,baz=31,slow=35
SLVN Son La 52.32 88 P **P 15 31 20.2 -0.2**
TIY Taiyuan 52.91 66 *e*P **P 15 31 28.6 +4.0**
TIY pP sP 15 31 38.2 +4.7
TIY pmax pmax
comp=Z,9.0nm,1.1s
ENH Enshi 53.15 76 P **P 15 31 25.5 -1.0**
ENH IAmb IAmb 15 31 40.7
comp=Z,9.5nm,0.7s
XLT XiLinHaoTe 53.79 57 *e*P **P 15 31 27.2 -3.9**
XLT S **S 15 39 08.9 +4.2**
XLT sS sS 15 39 15.3 +0.1
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,170nm,7.1s
XLT LR LR
comp=N,49nm,24.2s
XLT LR LR
comp=E,320nm,14.0s
XLT LR LR
comp=Z,320nm,15.3s
LYN LuoYang 53.96 70 ⇑P **P 15 31 32.0 -0.3**
LYN pP sP 15 31 45.2 +4.0
LYN PP **PP 15 33 34.2 +0.6**
LYN S **S 15 39 07.3 +0.2**
LYN pmax pmax
comp=Z,18nm,0.8s
LYN pmax pmax
comp=Z,320nm,6.3s
LYN LR LR
comp=Z,860nm,15.1s
LYN LR LR
comp=Z,680nm,16.5s
LYN LR LR
comp=Z,960nm,16.1s
DBIC Dimbokro 54.19 251 P **P 15 31 34.0 -0.1**
DBIC IAmb IAmb 15 31 40.5
comp=Z,16nm,0.8s
DBIC Dimbokro 54.19 251 P **P 15 31 34.1 -0.1**
DBIC pmax pmax
comp=Z,16nm,0.8s
DBIC Dimbokro 54.19 251 P **P 15 31 32.8 -1.4**
comp=Z,4.9nm,0.5s,baz=49,slow=7.6,SNR=8.8
DBIC LR LR 15 57 44.9
comp=Z,643nm,19.0s,baz=30,slow=40
comp=Z,4.9nm,0.5s
KIC Kosan Boka 54.29 251⇑*e*PKP1 **P 15 31 33.9 -1.0**
comp=Z,35nm,0.9s
TIC Toumodi 54.34 252⇑*e*PKP1 **P 15 31 33.1 -2.2**
comp=Z,4.4nm,0.3s
LIC Lamto 54.60 251⇑*e*PKP1 **P 15 31 34.4 -2.8**
comp=Z,83nm,0.9s
HNS HongShan 54.72 65 ⇓P **P 15 31 37.9 +0.1**
HNS *e*S **S 15 39 13.3 -3.8**
HNS pmax pmax
comp=Z,7.0nm,0.5s
HNS LR LR
comp=Z,410nm,17.5s
HNS LR LR
comp=Z,430nm,20.7s
HNS LR LR
comp=Z,310nm,19.1s
HIA Hailar 54.89 50 P **P 15 31 38.6 -0.3**
HIA IAmb IAmb 15 31 43.6
comp=Z,12nm,1.0s
HIA Hailar 54.89 50 P **P 15 31 38.6 -0.3**
HIA pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 55.58 22 P **P 15 31 42.7 -0.7**
TIXI IAmb IAmb 15 31 51.6
comp=Z,8.3nm,0.6s
TIXI Tiksi 55.58 22⇓*e*P **P 15 31 42.8 -0.7**
TIXI pmax pmax
comp=Z,12nm,1.7s
TIXI Tiksi 55.58 22 LR LR 15 59 20.9
comp=Z,15nm,19.6s,baz=320,slow=40
SUMG Summit 55.88 339 P **P 15 31 45.2 -0.9**
SUMG Summit 55.88 339 P **P 15 31 45.2 -0.9**
SUMG pmax pmax
comp=Z,28nm,1.1s
SUMG Summit 55.88 339 *i* P **P 15 31 47.0 +0.9**
SUMG IAmb IAmb 15 31 53.6
comp=Z,12nm,1.0s
ICESG Greenland Ices 56.76 335 *i* P **P 15 31 54.0 +1.6**
ICESG IAmb IAmb 15 31 60.0
comp=Z,12nm,0.7s
WHN Wuhan 56.92 73 P **P 15 31 57.6 +3.9**
WHN LR LR
comp=Z,1μm,14.8s
TIA Tai'an 56.95 66 ⇓P **P 15 31 53.8 0.0**
TIA pmax pmax
comp=Z,5.0nm,0.7s
ISOG Isortoq, Green 57.16 330 *i* P **P 15 31 58.7 +4.0**
ISOG IAmb IAmb 15 32 08.3
comp=Z,11nm,0.5s
YAK Yakutsk 57.47 34⇓*e*P **P 15 31 57.5 +0.5**
YAK pmax pmax
comp=Z,16nm,1.3s
YAK Yakutsk 57.47 34 LR LR 16 00 33.4
comp=Z,30nm,20.2s,baz=274,slow=40
NEEM North Greenlan 58.20 345 *i* P **P 15 32 00.8 -1.5**
NEEM IAmb IAmb 15 32 09.5
comp=Z,5.9nm,0.5s
ZEA Zeya 58.28 44 *e*P **P 15 32 06.9 +4.0**
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
PSI Prapat 58.43 110 P **P 15 32 04.0 -0.6**
PSI pmax pmax
comp=Z,10.0nm,1.1s
RPSI Rantau Prapat 58.50 111 P **P 15 32 04.0 -0.9**
RPSI IAmb IAmb 15 32 07.2
comp=Z,9.9nm,1.1s
HEH HeiHe 59.40 48 *e*P **P 15 32 09.8 -0.9**
HEH pmax pmax
comp=Z,7.0nm,0.7s
HEH pmax pmax
comp=Z,210nm,4.6s
DY2G Dye2 59.82 332 *i* P **P 15 32 15.9 +2.3**
DY2G IAmb IAmb 15 32 20.8
comp=Z,17nm,1.0s

NJ2 Nanjing 59.85 70 *e*P **P 15 32 13.5 -0.6**
NJ2 pP **pP 15 32 17.9 -2.9**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,3.6s
BNX BinXian 60.89 52 ⇓P **P 15 32 25.2 +4.2**
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,130nm,4.3s
LBTB Lobatse 62.13 201 P **P 15 32 30.5 +0.9**
LBTB IAmb IAmb 15 32 46.8
comp=Z,14nm,1.0s
LBTB Lobatse 62.13 201 P **P 15 32 30.5 +0.9**
LBTB pmax pmax
comp=Z,14nm,1.0s
LBTB Lobatse 62.13 201 LR LR 15 59 08.9
comp=Z,305nm,18.1s,baz=24,slow=36
KLR Kul'dur 62.39 48⇓*e*P **P 15 32 33.6 +2.5**
KLR pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 62.39 48 LR LR 16 03 50.1
comp=Z,199nm,19.3s,baz=296,slow=40
WIN Windhoek 62.90 210 P **P 15 32 34.4 -0.5**
WIN Windhoek 62.90 210 P **P 15 32 34.4 -0.5**
WIN pmax pmax
comp=Z,15nm,1.0s
MYKOM Kota Tinggi 62.91 108 P **P 15 32 34.1 -0.9**
KRJI Kerinci 63.49 113 P **P 15 32 40.7 +1.7**
comp=Z,158nm,0.7s
KS19 Wonju Array Si 64.39 61 P **P 15 32 44.2 -0.3**
KSAR Wonju Array Be 64.43 61 P **P 15 32 42.7 -2.1**
KSAR Wonju Array Be 64.43 61 P **P 15 32 42.7 -2.1**
KSRS Korea Array 64.45 61 P **P 15 32 44.0 -0.9**
comp=Z,5.5nm,0.7s,baz=282,slow=7.2,SNR=22
KSRS LR LR 16 04 18.2
comp=Z,206nm,19.3s,baz=305,slow=39
comp=Z,5.5nm,0.7s
USA0B Ussuriysk Arra 64.49 53 P **P 15 32 43.3 -1.7**
USA0B Ussuriysk Arra 64.49 53 P **P 15 32 43.3 -1.7**
USA0B pmax pmax
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 64.49 53 P **P 15 32 41.5 -3.5**
USRK Ussuriysk Ar. 64.49 53 P **P 15 32 41.5 -3.5**
USRK Ussuriysk Ar. 64.49 53 P **P 15 32 44.1 -0.9**
comp=Z,7.9nm,0.8s,baz=296,slow=6.3,SNR=4.0
USRK LR LR 16 05 05.8
comp=Z,405nm,19.2s,baz=297,slow=40
comp=Z,7.9nm,0.8s
BOSA Boshof 65.63 200 P **P 15 32 52.9 +0.3**
BOSA Boshof 65.63 200 P **P 15 32 52.9 +0.3**
BOSA pmax pmax
comp=Z,11nm,0.8s
BOSA Boshof 65.63 200 P **P 15 32 51.7 -0.9**
comp=Z,4.5nm,0.7s,baz=15,slow=7.7,SNR=8.0
BOSA LR LR 16 00 32.6
comp=Z,286nm,18.1s,baz=27,slow=35
comp=Z,4.5nm,0.7s
PMBI Palembang 66.56 111 P **P 15 32 58.4 -0.4**
SEY Seymchan 66.90 28⇓*e*P **P 15 33 00.8 +0.6**
SEY pmax pmax
comp=Z,29nm,2.1s
SEY Seymchan 66.90 28 LR LR 16 07 21.4
comp=Z,394nm,18.2s,baz=322,slow=41
LWLI Liwa 67.35 113 P **P 15 33 08.0 +4.1**
MA2 Magadan 67.93 32⇑*e*P **P 15 33 08.8 +1.9**
MA2 pmax pmax
comp=Z,5.0nm,0.9s
MA2 Magadan 67.93 32 LR LR 16 06 59.1
comp=Z,230nm,18.1s,baz=300,slow=40
RES Resolute Bay 68.17 350 P **P 15 33 07.0 -1.1**
RES IAmb IAmb 15 33 25.1
comp=Z,11nm,1.4s
RES Resolute Bay 68.17 350 P **P 15 33 07.0 -1.1**
RES pmax pmax
comp=Z,11nm,1.4s
RES Resolute Bay 68.17 350 LR LR 16 04 01.4
comp=Z,160nm,18.0s,baz=8.5,slow=37
KSM Kuching 68.24 104 P **P 15 33 09.2 -0.2**
JNU Nakatsue 68.53 64 LR LR 16 07 36.9
comp=Z,176nm,19.3s,baz=292,slow=40
BILL Bilibino 68.68 20 P **P 15 33 11.6 +0.2**
BILL IAmb IAmb 15 33 18.5
comp=Z,7.3nm,0.7s
BILL Bilibino 68.68 20⇑*e*P **P 15 33 13.2 +1.8**
FRB Frobisher Bay 69.41 334 LR LR 16 03 09.0
comp=Z,188nm,18.7s,baz=37,slow=36
KUNJ Kunigami 69.52 71 LR LR 16 09 50.2
comp=Z,158nm,18.7s,baz=13,slow=41
TGY Tagaytay City 69.96 86 LR LR 16 07 24.9
comp=Z,217nm,19.8s,baz=54,slow=39
STKI Sintang 70.01 104 P **P 15 33 24.9 +4.4**
KKM Kota Kinabalu 70.42 96 P **P 15 33 21.4 -1.6**
SUR Sutherland 70.47 202 LR LR 16 05 00.4
comp=Z,605nm,18.9s,baz=22,slow=37
CNJI Cibinong 71.15 113 P **P 15 33 31.3 +4.0**
LEM Lembang 71.21 112 LR LR 16 07 35.6
comp=Z,190nm,19.6s,baz=272,slow=38
ASAJ Asahikawa 71.33 49 LR LR 16 08 53.6
comp=Z,220nm,19.7s,baz=302,slow=39
MJAR Matsushiro Arr 72.19 58 P **P 15 33 31.9 -1.6**
comp=Z,1.9nm,0.9s,baz=287,slow=4.3,SNR=2.4
MJAR LR LR 16 08 23.6
comp=Z,165nm,20.4s,baz=302,slow=38
comp=Z,1.9nm,0.9s
A36M Sachs Harbour 73.72 357 P **P 15 33 41.0 -0.8**
A36M Sachs Harbour 73.72 357 P **P 15 33 41.0 -0.8**
baz=7.7
A19K Wainwright 73.89 9 P **P 15 33 43.3 +0.4**
baz=337
SCHQ Schefferville 74.09 326 P **P 15 33 42.6 -1.7**
comp=Z,7.7nm,0.7s,baz=38,slow=12,SNR=3.6
SCHQ LR LR 16 07 30.8
comp=Z,104nm,18.0s,baz=95,slow=37
comp=Z,7.7nm,0.7s
B20K Meade River 74.56 8 IAmb IAmb 15 33 54.6
comp=Z,19nm,1.1s
B20K Meade River 74.56 8 P **P 15 33 47.0 +0.2**
baz=340
B18K Kokolik River 74.57 10 P **P 15 33 47.5 +0.7**
baz=337
B22K Teshekpuk Lake 74.64 7 P **P 15 33 48.7 +1.6**
B22K IAmb IAmb 15 33 55.7
comp=Z,24nm,1.1s
PETK Petropavlovsk- 74.75 35 P **P 15 33 46.1 -2.1**
comp=Z,2.1nm,0.9s,baz=210,slow=1.2,SNR=2.1
PETK LR LR 16 13 30.2
comp=Z,198nm,18.2s,baz=296,slow=41
comp=Z,2.1nm,0.9s
C16K Lisburne Hills 75.02 12 P **P 15 33 49.0 -0.4**
C16K IAmb IAmb 15 34 12.7
comp=Z,15nm,1.2s
C17K DeLong Mountai 75.18 11 P **P 15 33 50.6 +0.2**
baz=336
B21K Ikpikpuk River 75.21 7 IAmb IAmb 15 33 59.6
comp=Z,13nm,1.1s
C18K Utukok River 75.31 10 P **P 15 33 51.0 -0.3**
C18K IAmb IAmb 15 33 58.8
comp=Z,21nm,1.1s
C18K Utukok River 75.31 10 P **P 15 33 51.2 -0.1**
baz=337
C23K Itkillik River 75.38 6 IAmb IAmb 15 33 59.8
comp=Z,23nm,1.1s
C21K Knifeblade Rid 75.64 7 P **P 15 33 53.4 +0.4**
baz=343
D20K Etivluk River 75.85 8 P **P 15 33 54.3 +0.1**
baz=341
D19K Kuna River 75.87 9 P **P 15 33 54.5 +0.1**
baz=340
D22K Ayikyak River 76.12 7 IAmb IAmb 15 34 21.1
comp=Z,11nm,1.1s
D22K Ayikyak River 76.12 7 P **P 15 33 56.4 +0.6**
baz=344
D24K Happy Valley 76.19 5 P **P 15 33 56.7 +0.5**
baz=348
D25K Kavik River 76.20 4 IAmb IAmb 15 34 04.5
comp=Z,13nm,0.9s
D25K Kavik River 76.20 4 P **P 15 33 56.7 +0.4**
baz=350
D23K Nanushuk River 76.22 6 P **P 15 33 57.0 +0.6**
baz=346
C36M Paulatuk 76.30 356 P **P 15 33 55.1 -1.6**
C36M Paulatuk 76.30 356 P **P 15 33 55.6 -1.1**
baz=8.6
E20K Nigu River 76.34 8 P **P 15 33 57.0 -0.1**
baz=342

E18K Tukpahlearik C 76.54 10 P **P 15 33 57.7 -0.4**
E18K IAmb IAmb 15 34 05.6
comp=Z,13nm,1.1s
E18K Tukpahlearik C 76.54 10 P **P 15 33 57.9 -0.2**
baz=338
D27M Malcolm River 76.55 2 IAmb IAmb 15 34 17.9
comp=Z,9.1nm,1.1s
TOLK Toolik Lake Re 76.63 6 P **P 15 33 54.9 -3.8**
TOLK IAmb IAmb 15 34 06.6
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 76.63 6 P **P 15 33 58.8 +0.1**
baz=347
E17K Hotham Inlet 76.67 11 P **P 15 33 58.9 0.0**
baz=337
E22K Anaktuvuk Pass 76.93 7 P **P 15 34 00.0 -0.4**
E22K IAmb IAmb 15 34 08.0
comp=Z,15nm,1.4s
E22K Anaktuvuk Pass 76.93 7 P **P 15 34 00.3 -0.1**
baz=345
E19K Redstone River 76.97 9 IAmb IAmb 15 34 06.3
comp=Z,13nm,0.7s
E19K Redstone River 76.97 9 P **P 15 34 00.4 -0.1**
baz=341
E28M Babbage River 77.23 2 IAmb IAmb 15 34 09.8
comp=Z,14nm,1.1s
E28M Babbage River 77.23 2 P **P 15 34 02.1 0.0**
baz=356
E24K Your Creek 77.28 5 IAmb IAmb 15 34 10.9
comp=Z,16nm,1.1s
F17K Baldwin Pennin 77.35 11 P **P 15 34 02.8 +0.1**
baz=337
E25K Arctic Village 77.44 4 P **P 15 34 02.6 -0.6**
E25K IAmb IAmb 15 34 11.5
comp=Z,14nm,1.1s
E25K Arctic Village 77.44 4 P **P 15 34 03.3 0.0**
baz=350
F18K Selawik 77.44 10 P **P 15 34 03.2 0.0**
baz=339
E29M Blow River 77.49 1 P **P 15 34 03.5 +0.1**
baz=357
F20K Avaraart Lake 77.54 8 P **P 15 34 03.9 +0.1**
baz=342
E27K Coleen River 77.58 3 IAmb IAmb 15 34 11.9
comp=Z,19nm,1.1s
E27K Coleen River 77.58 3 P **P 15 34 04.0 -0.1**
baz=354
DAV Davao City (W) 77.58 90 LR LR 16 13 14.5
comp=Z,108nm,18.1s,baz=350,slow=40
INK Inuvik 77.61 360 P **P 15 34 04.9 +0.8**
INK Inuvik 77.61 360 P **P 15 34 04.9 +0.8**
INK pmax pmax
comp=Z,7.0nm,0.9s
F24K Squaw Lake 77.87 5 IAmb IAmb 15 34 13.8
comp=Z,10nm,1.1s
F24K Squaw Lake 77.87 5 P **P 15 34 05.7 0.0**
baz=348
COLD Coldfoot 77.96 6 P **P 15 34 06.0 -0.2**
baz=347
BMAR Burnt Mountain 78.18 4 P **P 15 34 06.0 -1.5**
F28M Old Crow 78.21 2 IAmb IAmb 15 34 15.1
comp=Z,10nm,0.9s
F28M Old Crow 78.21 2 P **P 15 34 07.8 +0.2**
baz=355
G19K Purcell Mounta 78.23 9 IAmb IAmb 15 34 15.2
comp=Z,16nm,0.9s
G19K Purcell Mounta 78.23 9 P **P 15 34 07.4 -0.3**
baz=341
F30M Barrier River 78.30 1 P **P 15 34 07.6 -0.5**
baz=359
G21K Allakaket 78.32 8 IAmb IAmb 15 34 15.6
comp=Z,18nm,1.1s
F31M Tsiigehtchic 78.48 360 P **P 15 34 08.2 -0.7**
baz=0.4
G26K Porcupine Rive 78.70 4 P **P 15 34 10.4 +0.2**
baz=352
G30M tAoh Zraii Nji 78.93 1 P **P 15 34 10.9 -0.6**
baz=358
G27K Doyon Strip 78.95 3 IAmb IAmb 15 34 19.9
comp=Z,14nm,1.1s
G27K Doyon Strip 78.95 3 P **P 15 34 11.9 +0.3**
baz=354
H18K Honhosa River 78.99 10 P **P 15 34 12.1 +0.3**
baz=340
G31M Satah River 79.00 0 P **P 15 34 11.2 -0.6**
baz=360
H20K Anotleneega Mo 79.14 9 P **P 15 34 12.8 +0.1**
baz=343
H21K Melozitna Rive 79.22 8 P **P 15 34 13.6 +0.4**
baz=344
H27K Steamboat Moun 79.53 3 P **P 15 34 15.2 +0.4**
baz=354
EPYK Eagle Plains 79.54 1 IAmb IAmb 15 34 22.0
comp=Z,16nm,0.9s
EPYK Eagle Plains 79.54 1 P **P 15 34 14.2 -0.7**
baz=358
H29M Whitestone 79.65 2 IAmb IAmb 15 34 22.8
comp=Z,18nm,1.1s
H29M Whitestone 79.65 2 P **P 15 34 15.6 +0.1**
baz=356
KAPI Kappang 79.65 103 LR LR 16 14 23.2
comp=Z,99nm,18.4s,baz=311,slow=39
I17K Unalakleet 79.81 12 P **P 15 34 16.7 +0.4**
baz=338
I20K Naaghedeneel 79.86 9 P **P 15 34 14.4 -2.2**
JCJ Chichijima 80.01 64 LR LR 16 14 25.3
comp=Z,65nm,18.7s,baz=271,slow=39
MLY Manley 80.05 7 P **P 15 34 17.8 +0.1**
baz=346
I27K Kandik River 80.16 3 P **P 15 34 18.1 -0.2**
baz=354
POKR Poker Plat Res 80.27 6 IAmb IAmb 15 34 27.4
comp=Z,14nm,1.0s
POKR Poker Plat Res 80.27 6 P **P 15 34 19.1 +0.3**
baz=349
MDM Murphy Dome 80.36 6 IAmb IAmb 15 34 27.7
comp=Z,26nm,1.1s
I26K Coal Creek Min 80.38 4 IAmb IAmb 15 34 27.0
comp=Z,15nm,1.1s
I26K Coal Creek Min 80.38 4 P **P 15 34 19.3 0.0**
baz=353
I28M Miner Creek 80.38 2 P **P 15 34 19.0 -0.6**
baz=355
COLA College 80.47 6 P **P 15 34 19.4 -0.5**
COLA IAmb IAmb 15 34 28.0
comp=Z,20nm,0.8s
COLA College 80.47 6 P **P 15 34 19.4 -0.5**
COLA pmax pmax
comp=Z,20nm,0.9s
J19K Poorman 80.47 9 IAmb IAmb 15 34 28.0
comp=Z,20nm,1.1s
J19K Poorman 80.47 9 P **P 15 34 20.2 +0.2**
baz=342
J20K Nowinta River 80.49 9 IAmb IAmb 15 34 28.2
comp=Z,10nm,0.8s
J20K Nowinta River 80.49 9 P **P 15 34 20.4 +0.4**
baz=344
I29M Ogilvie Camp, 80.52 2 P **P 15 34 19.8 -0.4**
baz=357
ILAR Eielson Array 80.66 5 P **P 15 34 19.8 -1.1**
comp=Z,2.4nm,0.9s,baz=323,slow=3.8,SNR=14
comp=Z,2.4nm,0.9s
I30M Mount Dempster 80.69 1 IAmb IAmb 15 34 28.5
comp=Z,13nm,0.9s
I30M Mount Dempster 80.69 1 P **P 15 34 20.9 -0.4**
baz=358
CCB Clear Creek Bu 80.70 6 IAmb IAmb 15 34 28.2
comp=Z,17nm,1.2s
J25K Salcha River, 80.92 5 IAmb IAmb 15 34 35.5
comp=Z,16nm,1.4s
J25K Salcha River, 80.92 5 P **P 15 34 22.3 -0.1**
baz=351
EGAK Eagle 81.00 3 IAmb IAmb 15 34 30.1
comp=Z,23nm,1.2s
EGAK Eagle 81.00 3 P **P 15 34 22.9 +0.1**
baz=354
K20K Telida 81.29 9 IAmb IAmb 15 34 32.9
comp=Z,18nm,1.1s
K20K Telida 81.29 9 P **P 15 34 25.2 +0.9**
baz=344
J30M Hart River 81.34 1 P **P 15 34 24.8 +0.1**
baz=358
CAST Castle Rocks 81.47 8 P **P 15 34 25.5 +0.2**
baz=345
SCRK Sand Creek 81.65 4 IAmb IAmb 15 34 34.2
comp=Z,20nm,1.0s
SCRK Sand Creek 81.65 4 P **P 15 34 26.5 +0.1**
baz=352
K27K Chicken 81.70 4 P **P 15 34 26.5 0.0**

	baz=354						
DAWY	Dawson	81.78	2	IAmb	IAmb	15 34 34.4	
	comp=Z,18nm,1.2s						
K29M	Barlow Dome	82.06	2	IAmb	IAmb	15 34 36.0	
	comp=Z,13nm,1.2s						
K29M	Barlow Dome	82.06	2	P	P	15 34 28.4	-0.1
	baz=357						
YKA	Yellowknife Ar	82.17	351	P	P	15 34 27.6	-1.4
YKA	Yellowknife Ar	82.17	351	P	P	15 34 27.7	-1.2
	comp=Z,7.9nm,1.1s,baz=17,slow=5.5,SNR=21						
YKA				LR	LR	16 12 40.6	
	comp=Z,185nm,19.3s,baz=294,slow=37						
	comp=Z,7.9nm,1.1s						
SHEM	Shemya Is, Ala	82.24	29	LR	LR	16 14 49.0	
	comp=Z,191nm,21.4s,baz=296,slow=38						
DHY	Denali Highway	82.29	6	P	P	15 34 29.4	-0.4
	baz=349						
WRGLY	Wrigley	82.33	355	P	P	15 34 30.0	+0.2
	baz=9.0						
L27K	Beaver Creek,	82.68	4	IAmb	IAmb	15 34 39.7	
	comp=Z,13nm,1.1s						
MENT	Mentasta	82.70	4	IAmb	IAmb	15 34 40.2	
	comp=Z,13nm,1.0s						
WAT6	Susitna Watana	82.74	6	P	P	15 34 31.7	-0.4
	baz=349						
M26K	Nabesna, AK	83.28	4	P	P	15 34 34.5	-0.3
M26K				IAmb	IAmb	15 34 44.8	
	comp=Z,14nm,1.4s						
M30M	Minto, Yukon	83.34	1	P	P	15 34 34.1	-1.0
M30M				IAmb	IAmb	15 34 53.1	
	comp=Z,11nm,1.4s						
M24K	Tolsona, Glenn	83.34	6	P	P	15 34 35.8	+0.7
	baz=350						
M29M	Somme Creek	83.44	2	P	P	15 34 35.5	-0.1
SUA	Susitna One	83.53	8	P	P	15 34 36.1	-0.1
FARO	Faro, Yukon	83.71	360	IAmb	IAmb	15 34 46.2	
	comp=Z,14nm,1.4s						
FARO	Faro, Yukon	83.71	360	P	P	15 34 37.1	+0.1
	baz=0.7						
M31M	Drury Creek, Y	83.74	0	IAmb	IAmb	15 34 44.8	
	comp=Z,12nm,1.1s						
KLU	Klutina	83.97	6	P	P	15 34 39.2	+0.8
	baz=350						
RC01	Rabbit Creek A	84.01	8	P	P	15 34 38.6	+0.2
	baz=347						
YUK3	Moose Creek	84.03	3	P	P	15 34 39.0	+0.1
	baz=355						
YUK4	Talbot Arm	84.53	2	P	P	15 34 41.5	+0.1
	baz=356						
WTLY	Watson Lake, Y	85.73	357	IAmb	IAmb	15 35 01.9	
	comp=Z,12nm,1.2s						
RCBR	Riachuelo	86.48	261	LR	LR	16 16 54.2	
	comp=Z,157nm,18.1s,baz=70,slow=38						
SADO	Sadowa	86.74	324	LR	LR	16 14 57.7	
	comp=Z,142nm,18.2s,baz=58,slow=37						
KDAK	Kodiak Island	86.87	10	LR	LR	16 19 29.2	
	comp=Z,66nm,18.0s,baz=14,slow=40						
DLBC	Dease Lake	87.45	358	LR	LR	16 19 45.9	
	comp=Z,64nm,18.9s,baz=324,slow=40						
ULM	Lac du Bonnet	89.18	337	LR	LR	16 17 17.0	
	comp=Z,150nm,18.1s,baz=71,slow=37						
GUMO	Guam	89.70	74	LR	LR	16 18 16.2	
	comp=Z,47nm,21.7s,baz=308,slow=38						
BBB	Bella Bella	93.62	356	LR	LR	16 24 42.2	
	comp=Z,51nm,18.1s,baz=0.5,slow=40						
MDP	Montagnes des	94.13	279	LR	LR	16 18 21.1	
	comp=Z,101nm,20.2s,baz=99,slow=36						
TKL	Tuckaleechee C	95.92	321	LR	LR	16 23 38.3	
	comp=Z,60nm,21.1s,baz=48,slow=38						
QSPA	South Pole Qui	124.23	180	PKPdf	PKPdf	15 41 05.6	-0.6
QSPA	South Pole Qui	124.23	180	PKP	PKPdf	15 41 05.0	-1.2
	comp=Z,2.4nm,0.6s,baz=270,slow=1.4,SNR=9.7						
DZM	Mont Dzumac	126.90	93	eLR	LR	16 20 50.3	
	comp=Z,177nm,25.6s						
TAOE	Nuku Hiva Isla	153.99	14	eLR	LR	16 33 19.6	
	comp=Z,291nm,26.1s						
PPT2	Papeete2	158.31	43	eLR	LR	16 35 12.6	
	comp=Z,161nm,29.0s						
PPT2				eLR	LR	16 35 25.5	
	comp=Z,156nm,24.5s						

*IDC **06** 15:25:23.1±4.6, 24°.56S×179°.86E, h487km±52km, mb3.5/6, mbtmp4.4/8, Error ellipse: s-maj=32.6km s-min=21.4km az=40.0*

ISC 06 15:25:24.3±1.3**, 24°.6S**±0°.1×**179°.8E**±0°.2**, h500**km**, n8, σ0s.61**/9**, mb3.8**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.53	279	P	P	15 28 07.8	-0.8
	11nm,0.9s,baz=82,slow=13,SNR=4.0						
URZ	Urewera	13.77	189	P	P	15 28 21.0	-0.3
	4.7nm,0.7s,baz=38,slow=20,SNR=1.3						
URZ				S	S	15 30 47.2	-0.2
	5.1nm,0.7s,baz=323,slow=18,SNR=1.5						
CTA	Charters Tower	31.30	272	P	P	15 31 04.0	+0.9
	9.6nm,0.4s,baz=94,slow=10,SNR=31						
	9.6nm,0.4s						
STKA	Stephens Creek	34.28	249	P	P	15 31 28.7	+0.5
	1.2nm,0.3s,baz=91,slow=9.6,SNR=5.8						
	1.2nm,0.3s						
ASAR	Alice Springs	41.74	261	P	P	15 32 29.1	-0.1
	1.3nm,0.4s,baz=88,slow=7.1,SNR=13						
	1.3nm,0.4s						
WRA	Warramunga Arr	42.18	267	P	P	15 32 32.4	-0.4
	4.0nm,0.4s,baz=99,slow=7.1,SNR=45						
	4.0nm,0.4s						
QSPA	South Pole Qui	65.45	180	P	P	15 35 17.4	+0.4
	1.1nm,0.6s,baz=63,slow=2.3,SNR=12						
	1.1nm,0.6s						
TXAR	Lajitas Array	90.98	58	P	P	15 37 34.7	-0.2
	0.9nm,0.8s,baz=216,slow=6.2,SNR=9.2						
	0.9nm,0.8s						

*NEIC **06** 15:26:55.4±1.5, 6°.46S±0°.09×154°.61E±0°.09, h60km±8km, mb4.6/23, Error ellipse: s-maj=14.7km s-min=10.5km az=224.0*

*IDC **06** 15:26:56.2±1.4, 6°.43S×154°.54E, h68km±12km, mb3.9/19, mbtmp4.2/22, MS3.6/9, Error ellipse: s-maj=14.0km s-min=9.3km az=49.0*

ISC 06 15:26:53.9±0.4**, 6°.43S**±0°.06×**154°.58E**±0°.06**, h48**km**, n61, σ1s.36**/64**, mb4.4**/28**, MS3.6**/6**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.27	313	Pn	Pn	15 27 44.8	+2.0
KRVT	Keravat (AS076	3.30	310	P	Pn	15 27 45.8	+2.6
	baz=231,slow=20						
KRVT				S	Sn	15 28 23.1	+1.9
	baz=233,slow=20						
HNR	Honiara	6.10	120		Pn	15 28 23.1	+1.6
HNR	Honiara	6.10	120	P	Pn	15 28 24.2	+2.6
	590nm,0.4s,baz=266,slow=3.4,SNR=9.4						
HNR				S	Sn	15 29 33.6	+3.6
	2µm,0.9s,baz=274,slow=9.7,SNR=4.4						
PMG	Port Moresby	7.92	248		Pn	15 28 47.7	+1.1
PMG	Port Moresby	7.92	248	P	Pn	15 28 49.2	+2.6
	35nm,0.8s,baz=44,slow=9.2,SNR=7.6						
PMG				S	Sn	15 30 17.8	+2.8
	25nm,0.7s,baz=82,slow=23,SNR=7.0						
PMG				LR	LR	15 32 12.5	
	comp=Z,624nm,19.0s,baz=59,slow=40						
PATS	Pohnpei	13.69	16	Pn	Pn	15 30 06.1	+0.5
CTA	Charters Tower	15.80	210	P	P	15 30 36.1	-0.4
	15nm,0.8s,baz=36,slow=12,SNR=14						
CTA				LR	LR	15 36 09.5	
	comp=Z,255nm,20.3s,baz=66,slow=35						
CTAO	Charters Tower	15.80	210	P	P	15 30 36.7	+0.2
CTAO				IAmb	IAmb	15 30 38.1	
	comp=Z,18nm,0.8s						
LIFNC	LIFOU	18.82	141	P	P	15 31 06.8	-2.9
LIFNC				IAmb	IAmb	15 31 18.0	
	comp=Z,103nm,1.0s						
DZM	Mont Dzumac	19.32	145	P	P	15 31 12.3	-3.0
DZM	Mont Dzumac	19.32	145	P	P	15 31 16.6	+1.3
	comp=Z,9.7nm,1.0s,baz=347,slow=18,SNR=3.7						
DZM				LR	LR	15 37 53.8	
	comp=Z,204nm,19.5s,baz=330,slow=34						
GUMO	Guam	22.10	334	LR	LR	15 40 06.1	
	comp=Z,37nm,19.9s,baz=134,slow=36						
WR0	Warramunga Arr	23.65	233	P	P	15 32 00.5	-0.7
WR0				IAmb	IAmb	15 32 02.3	
	comp=Z,13nm,0.8s						
WB0	Warramunga Arr	23.67	234	P	P	15 31 59.6	-1.8
WB0				IAmb	IAmb	15 32 15.0	
	comp=Z,32nm,1.4s						
WRAB	Tennant Creek	23.79	234	P	P	15 32 01.9	-0.6
WRAB				IAmb	IAmb	15 32 08.1	
	comp=Z,24nm,1.2s						
WB2	Warramunga Arr	23.80	234	P	P	15 32 02.2	-0.3
WB2				IAmb	IAmb	15 32 17.6	
	comp=Z,13nm,0.9s						
WRA	Warramunga Arr	23.81	234	P	P	15 32 02.5	-0.1
WRA	Warramunga Arr	23.81	234	P	P	15 32 02.1	-0.5
	comp=Z,8.0nm,0.8s,baz=56,slow=10.0,SNR=33						
WRA				PcP	PcP	15 35 45.0	-0.3
	comp=Z,2.3nm,0.8s,baz=67,slow=1.9,SNR=8.3						
	comp=Z,8.0nm,0.8s						
AS31	Alice Springs	26.24	227	P	P	15 32 24.3	-0.5
ASAR	Alice Springs	26.25	227	P	P	15 32 25.0	+0.2
ASAR	Alice Springs	26.25	227	P	P	15 32 24.1	-0.7
	comp=Z,2.5nm,0.8s,baz=61,slow=8.5,SNR=50						
ASAR				PcP	PcP	15 35 49.9	-0.7
	comp=Z,0.8nm,0.8s,baz=72,slow=3.0,SNR=4.1						
ASAR				LR	LR	15 42 17.3	
	comp=Z,202nm,20.4s,baz=78,slow=35						
	comp=Z,2.5nm,0.8s						
STKA	Stephens Creek	28.08	204	P	P	15 32 39.6	-1.5
STKA	Stephens Creek	28.08	204	P	P	15 32 39.9	-1.2
	comp=Z,3.4nm,0.7s,baz=26,slow=10,SNR=6.0						
STKA				LR	LR	15 44 16.0	
	comp=Z,192nm,18.7s,baz=25,slow=37						
	comp=Z,3.4nm,0.7s						
FITZ	Fitzroy Crossi	30.51	245	P	P	15 33 03.6	+0.8
URZ	Urewera	37.70	150	P	P	15 34 05.5	+0.6
	comp=Z,21nm,1.2s,baz=262,slow=16,SNR=2.0						
URZ				LR	LR	15 46 41.1	
	comp=Z,85nm,20.1s,baz=235,slow=31						
	comp=Z,21nm,1.2s						
THZ	Tophouse	38.78	158	P	P	15 34 13.2	-0.7
TCW	Tory Channel	38.84	156	P	P	15 34 14.1	-0.3
RPZ	Rata Peaks	39.86	161	LR	LR	15 50 14.8	
	comp=Z,79nm,20.6s,baz=312,slow=35						
NWAO	Narrogin (SRO)	43.56	228	LR	LR	15 52 47.6	
	comp=Z,166nm,21.2s,baz=320,slow=36						
YULB	Yu-li	43.99	313	P	P	15 34 56.6	-0.3
NACB	Ninganchiao	44.27	315	P	P	15 34 57.5	-1.6
TPUB	Ta-pu	44.42	313	P	P	15 35 00.2	-0.2
SSLB	Suanglung	44.48	314	P	P	15 35 00.9	+0.1
JNU	Nakatsue	45.32	332	P	P	15 35 05.5	-1.9
JNU				IAmb	IAmb	15 35 08.6	
	comp=Z,17nm,1.1s						
KSRS	Korea Array	50.25	332	P	P	15 35 43.8	-1.6
	comp=Z,1.6nm,0.9s,baz=144,slow=7.8,SNR=5.2						
	comp=Z,1.6nm,0.9s						
PETK	Petropavlovsk-	59.37	2	P	P	15 36 51.5	+0.3
	comp=Z,2.3nm,0.8s,baz=165,slow=6.2,SNR=1.6						
	comp=Z,2.3nm,0.8s						
CMAR	Chiang Mai Arr	60.17	295	P	P	15 36 55.8	-1.5
CMAR	Chiang Mai Arr	60.17	295	P	P	15 36 58.9	+1.6
	comp=Z,2.1nm,0.8s,baz=115,slow=4.8,SNR=21						
	comp=Z,2.1nm,0.8s						
SONM	Songino Array	68.64	327	P	P	15 37 52.7	+0.3
	comp=Z,0.4nm,0.4s,baz=136,slow=5.4,SNR=3.2						
	comp=Z,0.4nm,0.4s						
VNDA	Vanda	71.16	178	P	P	15 38 05.7	-1.4
VNDA				IAmb	IAmb	15 38 16.6	
	comp=Z,5.3nm,1.3s						
VNDA	Vanda	71.16	178	P	P	15 38 07.6	+0.5
	comp=Z,0.9nm,0.8s,baz=326,slow=11,SNR=2.0						
	comp=Z,0.9nm,0.8s						
SBA	Scott Base	71.67	177	P	P	15 38 08.8	-1.4
SBA				IAmb	IAmb	15 38 16.6	
	comp=Z,10nm,1.1s						
E19K	Redstone River	81.21	17	P	P	15 39 04.3	0.0
E19K				IAmb	IAmb	15 39 05.9	
	comp=Z,5.7nm,1.0s						
IMAR	Indian Mountai	81.33	19	P	P	15 39 05.5	+0.5
MKAR	Makanchi Array	82.71	319	P	P	15 39 14.2	+1.5
MKAR	Makanchi Array	82.71	319	P	P	15 39 13.2	+0.6
	comp=Z,2.1nm,0.8s,baz=102,slow=5.3,SNR=20						
	comp=Z,2.1nm,0.8s						
ILAR	Eielson Array	83.00	22	P	P	15 39 12.7	-1.1
	comp=Z,0.6nm,0.7s,baz=246,slow=4.7,SNR=4.5						
	comp=Z,0.6nm,0.7s						
J25K	Salcha River,	83.48	22	P	P	15 39 16.2	-0.1
J25K				IAmb	IAmb	15 39 36.6	
	comp=Z,12nm,1.4s						
ZALV	Zalesovo Beam	83.48	326	P	P	15 39 15.7	-0.8
	comp=Z,1.0nm,0.7s,baz=102,slow=6.1,SNR=5.5						
	comp=Z,1.0nm,0.7s						
QSPA	South Pole Qui	83.54	180	P	P	15 39 16.5	-0.3
QSPA				IAmb	IAmb	15 39 17.7	
	comp=Z,12nm,1.2s						
QSPA	South Pole Qui	83.54	180	P	P	15 39 16.1	-0.7
	comp=Z,4.3nm,0.9s,baz=316,slow=1.7,SNR=12						
	comp=Z,4.3nm,0.9s						
B22K	Teshekpuk Lake	84.12	16	P	P	15 39 18.2	-1.2
B22K				IAmb	IAmb	15 39 37.8	
	comp=Z,9.3nm,1.5s						
KURBB	Kurchatov Arra	86.17	322	P	P	15 39 30.1	+0.1
	comp=Z,0.6nm,0.2s,baz=112,slow=4.1,SNR=1.5						
	comp=Z,0.6nm,0.2s						
NRIK	Noril'sk	88.07	341	P	P	15 39 37.5	-1.3
	comp=Z,1.8nm,0.6s,baz=158,slow=2.8,SNR=4.4						
	comp=Z,1.8nm,0.6s						
BVAR	Borovoye Array	91.60	323	P	P	15 39 54.3	-1.4
	comp=Z,1.5nm,0.8s,baz=103,slow=5.2,SNR=7.9						
	comp=Z,1.5nm,0.8s						
NVAR	Mina Array Bea	91.70	52	P	P	15 39 57.5	+0.6
	comp=Z,2.0nm,0.9s,baz=252,slow=6.0,SNR=9.8						
	comp=Z,2.0nm,0.9s						
YKA	Yellowknife Ar	96.03	28	P	P	15 40 16.0	+0.1
	comp=Z,0.4nm,0.9s,baz=286,slow=5.0,SNR=4.6						
	comp=Z,0.4nm,0.9s						
PDAR	Pinedale Array	98.63	48	P	P	15 40 28.9	+0.5
	comp=Z,0.2nm,0.6s,baz=354,slow=1.8,SNR=1.8						
	comp=Z,0.2nm,0.6s						
BDFB	Brasilia	148.67	135	PKPbc	PKPbc	15 46 36.5	-0.6
	comp=Z,5.2nm,0.8s,baz=229,slow=2.5,SNR=4.1						
TORD	Torodi Ar. Bea	152.47	286	PKP	PKPdf	15 46 38.1	-0.9
	comp=Z,0.1nm,0.4s,baz=30,slow=4.0,SNR=2.4						
TORD				PKPbc	PKPbc	15 46 46.1	+0.1
	comp=Z,5.0nm,0.9s,baz=49,slow=3.5,SNR=20						

*TEH **06** 15:27:09.9, 34°.43N×45°.80E, h8km±41km, ML3.4*

*ISN **06** 15:27:09.1±1.4, 34°.41N×45°.77E, h7km±999km, ML3.3*

ISC 06 15:27:09.8±1.2**, 34°.41N**±0°.03×**45°.80E**±0°.03**, h5**km±12km**, n17, σ1s.24**/22**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.20	299	Pg	Pg	15 27 13.8	+0.1
KGS1				Sg	Sg	15 27 16.9	+0.6
IDHR	Dehrash	0.57	59	Pg	Pg	15 27 20.7	0.0
IGHG	Ghaleghazi	0.64	97	Pg	Pb	15 27 23.0	-0.6
ILBA	Ilam Banvizeh	0.86	156	Pg	Pg	15 27 26.5	+0.3
KCHF	Cheshme Sefid,	1.04	97	Pg	Pb	15 27 30.2	-0.2
KCHF				Sg	Sn	15 27 45.1	-1.0
ILIN	Lien	1.09	62	Pg	Pg	15 27 30.5	-0.2
IBDR	Badra	1.30	175	ePn	Pg	15 27 35.0	+0.2
IBDR				eSn	Sn	15 27 54.0	+1.6
IBDR				AML	AML	15 27 59.5	
	comp=N,426nm,0.5s						
IBDR				AML	AML	15 27 59.9	
	comp=E,688nm,1.0s						
IKOM	Komasi	1.44	99	Pg	Pg	15 27 38.6	+1.2
BHD	Baghdad	1.64	226	ePn	Pb	15 27 40.0	-0.5
BHD				eSn	Sg	15 28 02.0	-0.4
BHD				AML	AML	15 28 12.0	
	comp=E,415nm,0.6s						
IBZA	Bozab	1.71	87	Pg	Pb	15 27 41.8	0.0
IKFM	Kafar-mosalman	1.92	117	Pn	Pg	15 27 45.9	-0.7
IALM	Almabolaq	2.01	76	Pn	Pb	15 27 46.5	-0.4
HSAM	Samen	2.33	94	Pn	Pb	15 27 50.9	-1.5
MAHB	Mahabad	2.35	358	Pn	Pb	15 27 51.0	-1.7
RAFI	Al-Rafai	2.69	174	ePn	Pn	15 27 55.0	+1.2
RAFI				eSn	Sb	15 28 29.0	-2.8
HAGD	Aghdareh	2.79	81	Pn	Pn	15 27 56.8	+1.5
IHSH	Hashtrud	3.12	22	Pn	Pn	15 28 01.9	+1.9

*NEIC **06** 15:37:17.8±2.2, 28°.85N±0°.03×98°.12W±0°.05, h5km±2km, mb_Lg3.6/56, ML3.5/10, Error ellipse: s-maj=7.5km s-min=5.0km az=65.0*

*ANF **06** 15:37:17.1±0.2, 28°.85N×98°.21W, h5km, ML3.8/8, Error ellipse: s-maj=2.7km s-min=2.4km az=116.0*

ISC 06 15:37:17.1±1.2**, 28°.87N**±0°.03×**98°.19W**±0°.03**, h6**km±11km**, n52, σ0s.84**/47**, Southern Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EF01	Eagle Ford 01	0.31	328	Pg	Pg	15 37 23.5	+0.4
EF01				Sg	Sb	15 37 30.5	0.0
EF01				IAML		15 37 32.0	
	6µm,0.4s						
EF01				IAML		15 37 32.0	
	8µm,0.2s						
735A	Kenedy	0.34	91		Pg	15 37 23.6	-0.1
735A				IAML		15 37 31.4	
	comp=E,5µm,0.9s						
735A	Kenedy	0.34	91	P	Pg	15 37 23.5	-0.2
	baz=272						
HNDO	Hondo	1.16	305		Pb	15 37 38.3	-1.3
HNDO				IAmb_Lg		15 37 58.6	
	comp=Z,569nm,0.9s						
HNDO				IAML		15 38 03.2	
	comp=Z,620nm,0.8s						
833A	Chaparral WMA,	1.19	243	Pg	Pb	15 37 39.1	-1.0
833A				Sg	Sn	15 37 56.6	-0.2
833A				IAmb_Lg		15 37 59.7	
	comp=Z,522nm,1.0s						
833A	Chaparral WMA,	1.19	243	P	Pb	15 37 39.2	-0.8
	baz=63						
833A				S	Sg	15 37 55.8	+0.5
	baz=63						
KVTX	Kingsville	1.34	169		Pb	15 37 42.5	-0.2
KVTX				IAML		15 38 05.4	
	comp=Z,979nm,1.1s						
KVTX				IAML		15 38 12.3	
	comp=Z,1µm,0.7s						
KVTX	Kingsville	1.34	169	P	Pb	15 37 42.5	-0.2
	baz=349						
KVTX				S	Sg	15 38 02.2	+2.1
	baz=349						
HBVL	Hebbronville	1.84	193	Pn	Pb	15 37 50.5	-0.8
435B	Jarrell	1.98	15	Pn	Pn	15 37 51.3	0.0
435B	Jarrell	1.98	15	P	Pn	15 37 51.9	+0.6
	baz=195						
435B				S	Sg	15 38 20.0	-0.9
	baz=195						
JCT	Junction City	2.13	319	Pn	Pn	15 37 53.5	+0.1
JCT				IAmb_Lg		15 38 29.6	
	comp=Z,285nm,1.1s						
JCT	Junction City	2.13	319	P	Pn	15 37 53.9	+0.5
	baz=138						
DRIO	Del Rio	2.20	285	Pn	Pn	15 37 53.8	-0.4
HKT	Hockley	2.32	62	Pn	Pn	15 37 54.4	-1.5
BRDY	Brady	2.51	344	Pn	Pn	15 37 58.5	0.0
BRDY				IAmb_Lg		15 38 37.3	
	comp=Z,187nm,0.8s						
WHTX	Lake Whitney,	3.18	11	Pn	Pn	15 38 08.6	+0.9
WHTX				IAmb_Lg		15 38 58.8	
	comp=Z,94nm,1.2s						
WHTX	Lake Whitney,	3.18	11	P	Pn	15 38 08.7	+0.9
	baz=191						
WHTX				S	Sn	15 38 47.4	+1.4
	baz=191						
OZNA	Ozona	3.27	310	Pn	Pn	15 38 09.9	+0.9
OZNA				IAmb_Lg		15 39 10.6	
	comp=Z,170nm,0.9s						
SAND	Sanderson	3.60	289	Pn	Pn	15 38 11.7	-1.8
SAND				IAmb_Lg		15 39 19.8	
	comp=Z,188nm,1.0s						
FW14	Alvarado	3.63	13	IAmb_Lg		15 39 17.3	
	comp=Z,83nm,1.3s						
237A	Washetta, Mont	3.74	33	Pn	Pn	15 38 14.8	-0.6
FW16	Waxahatchie	3.77	17	IAmb_Lg		15 39 24.2	
	comp=Z,175nm,1.2s						
PLPT	Palo Pinto	3.94	358	Pn	Pn	15 38 17.8	-0.3
ABTX	Abilene, Hawle	3.95	342	Pn	Pn	15 38 19.0	+0.7
ABTX	Abilene, Hawle	3.95	342	P	Pn	15 38 18.7	+0.4
	baz=161						
ABTX				S	Sn	15 39 05.8	+0.8
	baz=161						
FW06	Azle	4.13	7	Pn	Pn	15 38 21.5	+0.7
FW06				IAmb_Lg		15 39 31.3	
	comp=Z,78nm,1.2s						
FW03	Perrin-Whitt E	4.16	1	Pn	Pn	15 38 22.1	+0.8
FW03				IAmb_Lg		15 39 35.9	
	comp=Z,76nm,1.1s						
TREL	Terrell	4.26	25	Pn	Pn	15 38 21.5	-1.0
Z35A	Perchaven, San	4.52	10	Pn	Pn	15 38 26.9	+0.7
SN01	Snyder 1	4.61	330		Pn	15 38 27.9	+0.5
MNHN	Monahans	4.67	303		Pn	15 38 29.6	+1.4
MNHN				IAmb_Lg		15 39 44.6	
	comp=Z,145nm,0.7s						
APMT	Aspermont	4.75	340	Pn	Pn	15 38 30.1	+0.8
TXAR	Lajitas Array	4.81	277	Pn	Pn	15 38 29.8	-0.5
TX31	Lajitas Ar. Si	4.82	277	Pn	Pn	15 38 29.6	-0.7
TX31	Lajitas Ar. Si	4.82	277	P	Pn	15 38 29.8	-0.5
	baz=94						
WTFS	Witchita Falls	4.89	357		Pn	15 38 30.1	-1.1
ODSA	Odessa	4.97	312	IAmb_Lg		15 39 56.2	
	comp=Z,91nm,1.1s						
ALPN	Alpine	4.98	289	IAmb_Lg		15 40 04.5	
	comp=Z,108nm,0.9s						
POST	Post	5.06	327		Pn	15 38 33.8	+0.2
POST				IAmb_Lg		15 40 07.3	
	comp=Z,107nm,0.9s						
LOOK	Love County	5.18	9	IAmb_Lg		15 40 09.5	
	comp=Z,124nm,1.0s						
DKNS	Dickens	5.33	335		Pn	15 38 37.9	+0.5
PECS	Pecos	5.51	298	IAmb_Lg		15 40 20.7	
	comp=Z,110nm,0.8s						
WMOK	Wichita Mounta	5.88	355		Pn	15 38 44.3	-0.5
WMOK				IAmb_Lg		15 40 39.7	
	comp=Z,80nm,1.1s						
VHRN	Van Horn	6.21	290	IAmb_Lg		15 40 44.7	
	comp=Z,82nm,1.1s						
SMWD	Samnorwood	6.46	345	Pn	Pn	15 38 53.6	+0.7
SMWD				IAmb_Lg		15 40 56.1	
	comp=Z,95nm,0.9s						
AMTX	Amarillo	6.69	335	Pn	Pn	15 38 56.0	-0.1
RLO	Rose Lookout	7.75	19	IAmb_Lg		15 41 40.6	
	comp=Z,14nm,1.1s						
OK035	E0210 Rd and N	7.83	357	IAmb_Lg		15 41 46.6	
	comp=Z,39nm,0.8s						
121A	Cookes Peak, D	9.03	296	IAmb_Lg		15 42 23.9	
	comp=Z,50nm,1.1s						
ANMO	Albuquerque	9.28	313	IAmb_Lg		15 42 12.8	
	comp=Z,42nm,1.2s						
T25A	Trinidad	9.76	329	IAmb_Lg		15 42 52.5	
	comp=Z,42nm,1.0s						

*BJI **06** 15:39:40.8±0.0, 0°.45N×125°.47E, h99km, mb4.7/41, mB5.2/25*

*NEIC **06** 15:39:43.7±2.6, 0°.88N±0°.08×125°.36E±0°.06, h76km±5km, mb5.0/89, Error ellipse: s-maj=10.9km s-min=8.7km az=185.0*

*IDC **06** 15:39:44.1±1.5, 0°.90N×125°.14E, h81km±12km, mb4.3/31, mbtmp4.6/33, MS3.7/5, Error ellipse: s-maj=15.8km s-min=8.5km az=85.0*

*DJA **06** 15:39:45.6±0.2, 1°N±2°×12°5E±°, h53km±5km, M4.8/25, mb5.0/25, mB5.2/12, MLv5.0/22, Mw(mB)4.6/12*

ISC 06 15:39:43.8±0.4**, 0°.88N**±0°.03×**125°.34E**±0°.04**, h79**km±3km**, h80**km**:pP-P, n314, σ1s.72**/351**, mb4.8**/89**, 2C-2D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.39	257	P	Pn	15 40 09.3	+1.6
KMSI				S	Sn	15 40 28.0	+2.3
TNTI	Ternate	2.03	93	Pn	Pn	15 40 16.2	+0.2
TNTI	Ternate	2.03	93	P	Pn	15 40 17.2	+1.2
TNTI	Ternate	2.03	93	P	Pn	15 40 16.7	+0.7
TNTI				S	Sn	15 40 41.8	+1.2
GTOI	Gorontalo	2.34	264	P	Pn	15 40 22.7	+2.5
GTOI				S	Sn	15 40 53.8	+5.6
LBMI	Labuha	2.63	125	P	Pn	15 40 25.1	+0.9
SGSI	Sangihe	2.79	4	P	Pn	15 40 30.2	+3.8
SANI	Sanana	2.98	167	P	Pn	15 40 27.9	-1.0
SANI	Sanana	2.98	167	P	Pn	15 40 27.1	-1.8
SANI				S	Sn	15 41 00.7	-2.9
LUWI	Luwuk	3.20	233	Pn	Pn	15 40 34.7	+2.9
LUWI	Luwuk	3.20	233	P	Pn	15 40 34.5	+2.7
LUWI	Luwuk	3.20	233	P	Pn	15 40 34.7	+2.9
MRSI	Marisa	3.42	263	P	Pn	15 40 36.2	+1.3
NLAI	Namlea	4.45	157	P	Pn	15 40 48.8	-0.1
TOLI2	Tolitoli	4.56	273	Pn	Pn	15 40 51.2	+0.7
TOLI2	Tolitoli	4.56	273	P	Pn	15 40 51.1	+0.7

KRAI **Karang Ratu** 5.17 144 P Pn 15 41 00.8 +2.1
802nm,0.6s,14µm3.6nm
MPSI **Mapaga** 5.47 264 P Pn 15 41 06.0 +3.2
81nm,0.7s,2µm0.5nm
DAV **Davao City (W)** 6.15 2 P Pn 15 41 14.0 +1.8
92nm,0.3s,baz=210,slow=20,SNR=1.2
DAV S Sn 15 42 24.3 +3.2
147nm,0.4s,baz=170,slow=18,SNR=2.2
SWI **Sorong** 6.17 106 P Pn 15 41 14.9 +2.6
73nm,0.6s,1µm0.3nm
SIJI **Sorong** 6.17 106 P Pn 15 41 14.1 +1.7
57nm,1.1s,0.2nm
TTSI **Tana Toraja** 6.76 235 P Pn 15 41 21.6 +1.2
204nm,0.6s,2µm0.7nm
ZCP **Zamboanga City** 6.84 332⇓ eP Pn 15 41 23.2 +1.8
ZCP eS Sn 15 42 37.8 -0.1
BBSI **Bau Bau** 6.90 204 P Pn 15 41 24.9 +2.5
64nm,0.8s,497nm0.2nm
BNDI **Bandanaira** 7.04 140 P Pn 15 41 25.0 +0.7
BNDI **Bandanaira** 7.04 140 P Pn 15 41 24.4 +0.1
246nm,0.5s,6µm1.5nm
PAGZ **Pagadian** 7.19 344⇑ eP Pn 15 41 28.4 +2.1
BIPH **Bislig** 7.33 8⇑ eP Pn 15 41 32.7 +4.5
BIPH eS Sn 15 42 55.1 +5.3
MMSI **Mamuju** 7.34 241 P Pn 15 41 30.4 +2.0
54nm,0.7s,514nm0.2nm
SPSI **Sidrap Palu** 7.36 229 P Pn 15 41 31.3 +2.7
138nm,0.5s,2µm0.6nm
PMSI **Majene** 7.76 236 P Pn 15 41 35.6 +1.5
92nm,0.8s,942nm0.7nm
FAKI **Fak Fak** 7.87 119 Pn Pn 15 41 35.9 +0.4
FAKI **Fak Fak** 7.87 119 P Pn 15 41 36.2 +0.6
FAKI **Fak Fak** 7.87 119 P Pn 15 41 35.8 +0.2
69nm,0.9s,0.2nm
BKSI **Bulukumba** 8.07 220 P Pn 15 41 39.8 +1.5
46nm,0.6s
KAPI **Kappang** 8.09 224 Pn Pn 15 41 41.1 +2.5
KAPI **Kappang** 8.09 224 P Pn 15 41 39.1 +0.5
19nm,0.4s,baz=36,slow=3.3,SNR=12
KAPI S Sn 15 43 05.9 -2.7
12nm,0.4s,baz=47,slow=19,SNR=1.1
MKS **Makassar** 8.43 224 P Pn 15 41 44.7 +1.5
68nm,0.7s
KMPI **Kaimana, Papua** 9.50 118 P Pn 15 41 58.8 +1.0
171nm,0.7s,2µm
EDFI **Ende, Flores** 10.23 201 P Pn 15 42 09.3 +1.3
11nm,0.6s
KKM **Kota Kinabalu** 10.45 300 Pn Pn 15 42 14.7 +3.8
KKM **Kota Kinabalu** 10.45 300 P Pn 15 42 15.0 +4.1
KKM **Kota Kinabalu** 10.45 300 P Pn 15 42 14.1 +3.2
63nm,0.8s,664nm
SOEI **Soe** 10.62 186 P Pn 15 42 14.7 +1.5
45nm,0.9s
SAUI **Saumlaki** 10.62 146 Pn Pn 15 42 11.8 -1.4
SAUI **Saumlaki** 10.62 146 P Pn 15 42 12.8 -0.3
101nm,0.6s
KMMI **Kalianget** 13.81 235 P P 15 43 00.0 -1.9
97nm,0.8s
TGY **Tagaytay City** 13.84 342 P Pn 15 42 54.3 -2.3
62nm,0.3s,baz=162,slow=20,SNR=3.2
MTN **Manton Dam** 14.80 157 Pn 15 43 08.1 -0.8
MTN **Manton Dam** 14.80 157 P Pn 15 43 08.1 -0.8
KSM **Kuching** 15.04 272 P P 15 43 15.8 +0.2
KSM **Kuching** 15.04 272 P P 15 43 15.0 -0.6
64nm,0.8s
KDU **Kakadu** 15.22 153 P Pn 15 43 13.8 -0.6
SJI **Sawahan** 16.02 237 P P 15 43 27.5 +1.0
35nm,0.6s
KNRA **Kununurra** 16.80 169 P P 15 43 34.5 -0.5
KNRA **Kununurra** 16.80 169 P P 15 43 36.0 +1.0
30nm,0.9s
TABU **Tabubil** 17.00 111 P P 15 43 38.8 +1.4
UGM **Wanagama** 17.16 239 P 15 43 39.8 +0.7
UGM **Wanagama** 17.16 239 P P 15 43 40.6 +1.4
MMPI **Merauke** 17.64 122 P Pn 15 43 46.7 +2.3
469nm,0.6s
KPJI **Karang Pucung** 18.29 243 P Pn 15 43 53.3 +0.9
FITZ **Fitzroy Crossi** 18.86 179 P Pn 15 43 59.0 -0.1
BBJI **Bungbulang** 19.50 245 P Pn 15 44 07.2 +0.4
MYKOM **Kota Tinggi** 21.50 273 P P 15 44 27.9 +1.5
WB0 **Warramunga Arr** 22.36 157 P P 15 44 35.0 -0.5
WB0 IAmb IAmb 15 44 36.0
comp=Z,20nm,0.5s
WRA **Warramunga Arr** 22.50 157 P P 15 44 35.2 -1.8
WRA **Warramunga Arr** 22.50 157 P P 15 44 36.5 -0.5
comp=Z,16nm,0.6s,baz=337,slow=11,SNR=217
WRA PcP PcP 15 48 29.3 +0.8
comp=Z,0.6nm,0.5s,baz=329,slow=1.9,SNR=2.3
WRA S S 15 48 35.3 -3.2
comp=Z,4.6nm,0.9s,baz=338,slow=16,SNR=5.7
comp=Z,16nm,0.6s
WB2 **Warramunga Arr** 22.50 157 P P 15 44 36.4 -0.6
MBWA **Marble Bar** 22.58 194 P P 15 44 37.4 -0.4
WR0 **Warramunga Arr** 22.59 157 P P 15 44 37.0 -1.0
WR0 IAmb IAmb 15 44 39.8
comp=Z,44nm,1.3s
YULB **Yu-li** 22.72 350 P P 15 44 36.5 -2.8
YULB IAmb IAmb 15 44 37.8
comp=Z,85nm,1.6s
YULB **Yu-li** 22.72 350 P P 15 44 39.8 +0.5
TPUB **Ta-pu** 22.75 349 P P 15 44 36.9 -2.7
TPUB **Ta-pu** 22.75 349 P P 15 44 39.8 +0.2
PSA00 **Pilbara Seismi** 22.95 193 P P 15 44 40.1 -1.5
PSA00 IAmb IAmb 15 44 46.7
comp=Z,61nm,1.6s
PSA00 **Pilbara Seismi** 22.95 193 P P 15 44 42.2 +0.6
comp=Z,12nm,1.0s
QIZ **Qiongzhong** 23.59 321 P P 15 44 47.7 +0.1
QIZ PcP PcP 15 48 31.0 +0.3
QIZ S S 15 48 56.5 +0.4
QIZ LR LR
comp=Z,330nm,20.0s
QIZ LR LR
comp=Z,280nm,15.3s
QIZ LR LR
comp=Z,320nm,22.1s
YHNB **Yeheng** 23.96 351 P P 15 44 47.0 -3.9
YHNB **Yeheng** 23.96 351 P P 15 44 52.5 +1.5
KULM **Kulim** 25.04 281 P P 15 45 01.2 +0.4
QIS **Mount Isa** 25.48 148 P P 15 45 06.0 +1.3
GIRL **Giralia** 25.76 204 P P 15 45 08.2 +0.9
comp=Z,232nm,1.5s
AS31 **Alice Springs** 25.78 162 P P 15 45 08.7 +1.2
ASAR **Alice Springs** 25.78 162 P P 15 45 08.4 +0.9
ASAR **Alice Springs** 25.78 162 P P 15 45 08.0 +0.5
comp=Z,8.9nm,0.6s,baz=348,slow=14,SNR=136
ASAR PcP PcP 15 48 36.5 +1.0
comp=Z,2.7nm,0.6s,baz=346,slow=2.1,SNR=8.7
ASAR S S 15 49 29.8 -1.4
comp=Z,1.7nm,0.9s,baz=354,slow=18,SNR=4.6
ASAR ScP ScP 15 52 08.6 +0.4
comp=Z,1.0nm,1.0s,baz=351,slow=2.7,SNR=4.2
comp=Z,8.9nm,0.6s
WRKA **Warakurna** 25.92 174 P P 15 45 10.1 +1.3
JOW **Kunigami** 25.96 6 P P 15 45 10.3 +1.3
JOW IAmb IAmb 15 45 12.7
comp=Z,46nm,0.6s
JOW **Kunigami** 25.96 6 P P 15 45 11.9 +2.9
MTSU **Mount Surprise** 26.56 136 P P 15 45 15.4 +0.8
MEEK **Meekatharra** 28.12 193 P P 15 45 28.7 +0.3
CTA **Charters Tower** 29.23 137 LR LR 15 59 04.8
comp=Z,46nm,18.9s,baz=302,slow=40
OOD **Oodnadatta** 30.19 162 P P 15 45 48.5 +1.7
PHRA **Phrae** 30.23 307 P P 15 45 47.3 +0.1
PHRA IAmb IAmb 15 46 30.3
comp=Z,44nm,1.2s
CRAI **Chiangrai** 31.08 310 P P 15 45 51.9 -2.9
CMAR **Chiang Mai Arr** 31.25 306 P P 15 45 55.9 -0.3
comp=Z,0.8nm,0.6s,baz=130,slow=7.2,SNR=11
CMAR PcP PcP 15 48 50.0 +0.8
comp=Z,0.4nm,0.5s,baz=149,slow=4.5
CMAR ScP ScP 15 52 25.0 -0.4
comp=Z,1.1nm,0.7s,baz=161,slow=2.9,SNR=8.5
comp=Z,0.8nm,0.6s
CHTO **Chiang Mai** 31.43 306 P P 15 45 58.4 +0.5
FORT **Forrest** 31.59 176 P P 15 45 59.4 +0.4
FORT IAmb IAmb 15 46 53.9
comp=Z,46nm,1.1s
FORT **Forrest** 31.59 176 P P 15 46 00.3 +1.3
NJ2 **Nanjing** 31.61 349 eP P 15 45 59.6 +0.5
NJ2 pP pP 15 46 18.7 +1.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,240nm,4.0s

MULG **Mulgathing** 32.08 166 P P 15 46 04.8 +1.4
JNU **Nakatsue** 32.49 9 P P 15 46 06.9 0.0
JNU IAmb IAmb 15 47 16.9
comp=Z,61nm,1.7s
JNU **Nakatsue** 32.49 9 P P 15 46 10.3 +3.3
ENH **Enshi** 32.89 334 P P 15 46 11.4 +0.9
LCRK **Leigh Creek** 33.48 160 P P 15 46 17.8 +2.2
MUN **Mundaring** 33.80 194 P P 15 46 20.1 +1.7
comp=Z,23nm,1.4s
PZH **PanZhiHua** 34.12 320 P P 15 46 22.9 +1.5
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,50nm,3.7s
RK1H **Rockhampton Ha** 34.35 136 P P 15 46 24.1 +0.9
comp=Z,11nm,0.7s
NWAO **Narrogin (SRO)** 34.48 192 P P 15 46 23.1 -1.2
NWAO IAmb IAmb 15 46 27.5
comp=Z,27nm,1.1s
NWAO **Narrogin (SRO)** 34.48 192 P P 15 46 23.1 -1.2
NWAO IAmb IAmb 15 46 27.5
comp=Z,99nm,1.1s
NWAO **Narrogin (SRO)** 34.48 192 P P 15 46 26.6 +2.3
BBOO **Buckleboo** 35.00 164 P P 15 46 29.8 +1.0
BBOO **Buckleboo** 35.00 164 P P 15 46 30.8 +2.1
STKA **Stephens Creek** 36.03 156 P P 15 46 38.4 +0.8
STKA **Stephens Creek** 36.03 156 P P 15 46 40.4 +2.8
STKA **Stephens Creek** 36.03 156 P P 15 46 38.8 +1.2
comp=Z,8.6nm,0.7s,baz=332,slow=7.8,SNR=12
STKA PcP PcP 15 49 03.6 +1.1
comp=Z,1.2nm,0.3s,baz=304,slow=3.6,SNR=1.8
STKA LR LR 16 02 21.1
comp=Z,28nm,21.6s,baz=25,slow=38
comp=Z,8.6nm,0.7s
EIDS **Eidsvold** 36.07 138 P P 15 46 38.6 +0.6
EIDS IAmb IAmb 15 47 47.2
comp=Z,11nm,1.1s
XAN **Xi'an** 36.40 337 P P 15 46 39.8 -0.9
XAN pmax pmax
comp=Z,5.0nm,0.6s
HTT **Hallett** 36.45 161 P P 15 46 42.6 +1.5
KSRS **Korea Array** 36.47 3 P P 15 46 41.8 +0.6
comp=Z,3.4nm,0.7s,baz=179,slow=9.7,SNR=20
KSRS PcP PcP 15 49 05.2 +1.5
comp=Z,0.7nm,0.5s,baz=190,slow=2.7,SNR=3.2
KSRS ScP ScP 15 52 43.1 -0.3
comp=Z,0.9nm,0.8s,baz=199,slow=3.4,SNR=3.2
comp=Z,3.4nm,0.7s
KS19 **Wonju Array Si** 36.52 3 P P 15 46 42.1 +0.5
KS19 IAmb IAmb 15 46 50.5
comp=Z,47nm,1.6s
MAJO **Matsushiro** 37.43 17 P P 15 46 49.4 0.0
MAJO IAmb IAmb 15 46 50.1
comp=Z,75nm,1.9s
MAJO **Matsushiro** 37.43 17 P P 15 46 50.3 +0.9
MAJO **Matsushiro** 37.43 17 P P 15 46 48.5 -0.9
MAJO pP pP 15 47 06.4 -1.4
MAJO sP sP 15 47 13.5 -3.2
MJAR **Matsushiro Arr** 37.43 17 P P 15 46 48.9 -0.5
comp=Z,3.0nm,0.7s,baz=202,slow=7.9,SNR=10.0
comp=Z,3.0nm,0.7s
MJB9 **Matsu-Tunnel** 37.44 17 P P 15 46 49.4 -0.1
MJB9 IAmb IAmb 15 46 51.0
comp=Z,77nm,1.9s
CMSA **Cobar Meteorol** 37.58 151 P P 15 46 53.0 +2.3
JMM **Marumori** 39.46 19 P P 15 47 07.0 +0.6
JMM IAmb IAmb 15 47 38.4
comp=Z,28nm,0.9s
JMM **Marumori** 39.46 19 P P 15 47 09.4 +3.0
ARMA **Armidale** 39.94 143 P P 15 47 11.8 +1.2
ARMA IAmb IAmb 15 47 49.9
comp=Z,13nm,1.2s
ARMA **Armidale** 39.94 143 P P 15 47 13.3 +2.7
comp=Z,9.2nm,2.4s
LZH **Lanzhou** 40.31 333 eP P 15 47 15.8 +2.1
LZH pmax pmax
comp=Z,12nm,1.0s
ARPS **Mount Arapiles** 40.47 159 P P 15 47 16.5 +1.7
comp=Z,28nm,1.0s
YNG **Young** 41.14 150 P P 15 47 23.2 +2.8
HHC **Hu-ho-hao-te** 41.70 344 eP P 15 47 27.5 +2.6
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.7s
BTO **Baotou** 41.92 342 eP P 15 47 29.1 +2.4
BTO pP sP 15 47 51.9 -2.7
BTO sP pP 15 48 03.2 +18
BTO PP PnPn 15 49 11.4 +0.5
BTO S S 15 53 43.2 +3.9
BTO SS SS 15 56 46.6 -2.3
BTO pmax pmax
comp=Z,7.0nm,0.5s
BTO pmax pmax
comp=Z,350nm,4.8s
BTO LR LR
comp=Z,570nm,8.6s
BTO LR LR
comp=Z,360nm,10.7s
BTO LR LR
comp=Z,290nm,8.8s
JTM **Tenmabayashi** 42.21 18 P P 15 47 28.4 -0.5
CAN **Canberra** 42.26 151 P P 15 47 30.0 +0.5
CAN IAmb IAmb 15 47 57.7
comp=Z,89nm,2.0s
CAN **Canberra** 42.26 151 P P 15 47 32.4 +2.9
CAN **Canberra** 42.26 151 P P 15 47 31.5 +2.1
USRK **Ussuriysk Ar.** 43.54 7 P P 15 47 39.8 +0.2
USRK **Ussuriysk Ar.** 43.54 7 P P 15 47 40.2 +0.6
comp=Z,4.6nm,0.5s,baz=187,slow=7.6,SNR=30
comp=Z,4.6nm,0.5s
USA0B **Ussuriysk Arra** 43.54 7 P P 15 47 39.2 -0.4
MDJ **Mudanjiang** 43.71 4 P P 15 47 40.8 -0.2
MDJ sP sP 15 48 12.9 +4.3
MDJ PcP PcP 15 49 28.6 +1.9
MDJ ScP ScP 15 53 09.5 -2.0
MDJ PcS PcS 15 53 13.3 -6.2
MDJ SS SS 15 57 18.0 -5.7
MDJ pmax pmax
comp=Z,8.0nm,1.7s
MDJ pmax pmax
comp=Z,100nm,6.9s
MDJ **Mudanjiang** 43.71 4 P P 15 47 41.4 +0.4
MDJ **Mudanjiang** 43.71 4 P P 15 47 42.0 +1.0
BNX **BinXian** 44.71 2 ⇓P P 15 47 49.2 +0.2
BNX pmax pmax
comp=Z,7.0nm,0.5s
BNX pmax pmax
comp=Z,160nm,5.2s
GTA **Gaotai** 44.88 332 eP P 15 47 50.3 -0.3
GTA pmax pmax
comp=Z,3.0nm,0.6s
JKA **Kamikawa-asahi** 45.71 17 P P 15 47 57.9 +1.0
HYB **Hyderabad** 48.84 292 eP P 15 48 21.0 -0.7
HEH **HeiHe** 49.22 2 eP P 15 48 24.1 +0.1
HEH PcP PcP 15 49 44.6 -1.4
HEH S S 15 55 27.8 +3.9
HEH pmax pmax
comp=Z,20nm,0.5s
HEH pmax pmax
comp=Z,170nm,6.1s
ULN **Ulaanbaatar** 49.42 344 P P 15 48 25.2 -0.6
SONM **Songino Array** 49.58 343 P P 15 48 25.8 -1.1
SONM PcP PcP 15 49 47.8 +0.2
SONM **Songino Array** 49.58 343 P P 15 48 26.2 -0.7
comp=Z,1.0nm,0.5s,baz=159,slow=7.2,SNR=8.6
SONM PcP PcP 15 49 46.9 -0.7
comp=Z,1.3nm,0.7s,baz=144,slow=3.2,SNR=5.1
comp=Z,1.0nm,0.5s
WMQ **Urumqi** 54.30 327 eP P 15 49 03.8 +1.7
PEA0B **Petropavlovsk-** 58.58 22 P P 15 49 32.1 -0.1
PETK **Petropavlovsk-** 58.58 22 P P 15 49 32.8 +0.6
PETK **Petropavlovsk-** 58.58 22 P P 15 49 33.1 +0.9
comp=Z,3.5nm,0.6s,baz=180,slow=2.9,SNR=13
comp=Z,3.5nm,0.6s
SHLS **Shalkode** 58.68 322 eP P 15 49 30.7 -2.6
baz=322
UZB **Uzynbulak** 58.95 322 eP P 15 49 33.9 -1.3
baz=322
TARG **Taragay, Kyrgy** 58.98 320 P P 15 49 34.6 -1.1
MK31 **Makanchi Array** 59.13 327 P P 15 49 35.5 -0.7
MK31 PcP PcP 15 50 23.8 -0.2
MKAR **Makanchi Array** 59.13 327 P P 15 49 35.5 -0.7
MKAR PcP PcP 15 50 25.3 +1.3
MKAR **Makanchi Array** 59.13 327 P P 15 49 35.5 -0.7
comp=Z,8.3nm,0.3s,baz=122,slow=7.7,SNR=324
MKAR PcP PcP 15 50 23.9 -0.2
comp=Z,2.9nm,0.5s,baz=116,slow=5.0,SNR=8.0
comp=Z,8.3nm,0.3s
SATY **Saty** 59.28 321 eP P 15 49 36.4 -1.0
comp=Z,4.6nm,0.8s,baz=321
MAKZ **Makanchi** 59.31 327 P P 15 49 36.6 -0.8
MAKZ **Makanchi** 59.31 327 P P 15 49 36.7 -0.8
ZHN **Zhinishke** 59.32 322 eP P 15 49 36.7 -1.0
baz=322
NRN **Naryn** 60.01 319 P P 15 49 41.3 -1.4
NRN IAmb IAmb 15 50 59.4
comp=Z,9.7nm,0.7s
MDOK **Medeo** 60.19 321 eP P 15 49 42.6 -1.1
baz=321
TDK **Taldyqorghan** 60.32 323 eP P 15 49 43.4 -1.0
comp=Z,4.2nm,0.5s,baz=323
CHKK **Chushkaly** 60.58 322 eP P 15 49 45.0 -1.2
baz=322
TUWZ **Tuamarina** 60.85 140 P P 15 49 47.3 -0.7
TKM2 **Tokmak 2** 60.99 320 P P 15 49 48.7 -0.6
SNR=8.9
KUU **Kurty** 61.00 321 eP P 15 49 48.2 -0.9
comp=Z,6.7nm,0.6s,baz=321
YAK **Yakutsk** 61.09 2 P P 15 49 49.1 -0.1
YAK **Yakutsk** 61.09 2 P P 15 49 49.7 +0.5
YAK sP sP 15 50 17.6 +0.2
UCH **Uchtor** 61.36 319 P P 15 49 52.3 +0.2
SNR=6.5
RTZ **Ruatahuna** 61.53 136 P P 15 49 52.1 -0.7
AAK **Ala-Archa** 61.56 319 P P 15 49 52.5 -0.5
AAK IAmb IAmb 15 51 15.8
comp=Z,7.1nm,0.6s
MA2 **Magadan** 61.79 14 P P 15 49 55.1 +1.1
MA2 IAmb IAmb 15 49 56.4
comp=Z,11nm,0.7s
MA2 **Magadan** 61.79 14 P P 15 49 55.5 +1.5
AML **Almayashu** 61.85 319 P P 15 49 55.1 -0.2
SNR=7.0
USP **Ospenovka** 61.86 320 P P 15 49 54.1 -0.8
SNR=5.1
SGDS **Sogindy** 61.87 320 eP P 15 49 53.7 -1.2
baz=320
EKS2 **Erkin-Say** 62.04 319 P P 15 49 56.1 -0.1
SNR=6.1
KBL **Kabul** 62.19 309 P P 15 49 55.2 -2.3
ZAA0 **Zalesovo Array** 62.51 334 P P 15 49 56.6 -2.3
ZALV **Zalesovo Beam** 62.51 334 P P 15 49 56.1 -2.9
ZALV **Zalesovo Beam** 62.51 334 P P 15 49 57.2 -1.7
comp=Z,1.5nm,0.4s,baz=133,slow=6.3,SNR=13
comp=Z,1.5nm,0.4s
BTK **Batken** 62.92 315 P P 15 49 57.5 -4.6
BTLS **Baital** 63.00 322 eP P 15 50 01.3 -1.1
baz=322
KURBB **Kurchatov Arra** 63.41 329 P P 15 50 04.0 -1.0
comp=Z,4.8nm,0.5s,baz=126,slow=6.4,SNR=45
comp=Z,4.8nm,0.5s
KURK **Kurchatov** 63.41 329 P P 15 50 03.3 -1.7
KURK **Kurchatov** 63.41 329 P P 15 50 04.0 -1.0
KK31 **Karatay Array** 64.39 318 P P 15 50 09.7 -2.0
KK31 IAmb IAmb 15 51 59.2
comp=Z,23nm,0.8s
KKAR **Karatay Array** 64.39 318 P P 15 50 09.7 -1.9
KKAR IAmb IAmb 15 51 59.2
comp=Z,23nm,0.8s
KKAR **Karatay Array** 64.39 318 P P 15 50 09.3 -2.3
BRZS **Berezniki** 66.23 326 eP P 15 50 22.4 -0.9
baz=326
CASY **Casey** 67.84 186 P P 15 50 31.7 -1.5
BVAR **Borovoye Array** 68.96 328 P P 15 50 39.4 -1.1
comp=Z,3.4nm,0.3s,baz=129,slow=8.4,SNR=60
comp=Z,3.4nm,0.3s
BRVK **Borovoye** 69.03 328 P P 15 50 39.2 -1.7
BRVK IAmb IAmb 15 50 40.3
comp=Z,5.8nm,0.5s
BRVK **Borovoye** 69.03 328 P P 15 50 39.9 -1.0
BRVK pP pP 15 50 60.0 -1.1
TIXI **Tiksi** 70.70 1 P P 15 50 50.4 -0.4
TIXI IAmb IAmb 15 50 51.2
comp=Z,8.1nm,0.6s
TIXI **Tiksi** 70.70 1 P P 15 50 50.5 -0.2
GEYT **Alibeck** 71.61 310 P P 15 50 56.2 -0.8
GEYT **Alibeck** 71.61 310 P P 15 50 56.1 -1.0
comp=Z,1.5nm,0.5s,baz=116,slow=5.6,SNR=5.5
comp=Z,1.5nm,0.5s
ATKA **Atka Island** 71.62 34 P P 15 50 55.7 -0.9
BILL **Bilibino** 72.65 15 P P 15 51 02.4 -0.1
BILL IAmb IAmb 15 51 23.7
comp=Z,34nm,2.0s
NRIK **Noril'sk** 72.86 347 P P 15 51 02.8 -1.0
NRIK IAmb IAmb 15 51 04.9
comp=Z,12nm,0.6s
NRIK **Noril'sk** 72.86 347 P P 15 51 03.6 -0.2
comp=Z,1.1nm,0.6s,baz=124,slow=5.9,SNR=35
comp=Z,1.1nm,0.6s
ABKAR **Akbulak array** 73.48 322 P P 15 51 06.7 -1.1
ARU **Arti** 76.60 328 P P 15 51 23.7 -2.0
OPO **Ambohidratompo** 79.05 251 P P 15 51 40.3 +0.1
comp=Z,4.9nm,0.5s,baz=160,slow=13,SNR=2.2
comp=Z,4.9nm,0.5s
MAW **Mawson** 80.62 200 P P 15 51 45.9 -1.6
MAW **Mawson** 80.62 200 P P 15 51 47.1 -0.3
comp=Z,2.1nm,0.5s,baz=67,slow=4.7,SNR=7.7
comp=Z,2.1nm,0.5s
VNDA **Vanda** 80.80 172 P P 15 51 48.8 +0.5
VNDA **Vanda** 80.80 172 P P 15 51 49.0 +0.7
comp=Z,1.4nm,0.5s,baz=315,slow=7.3,SNR=16
comp=Z,1.4nm,0.5s
F15K **North Star Dit** 81.07 23 P P 15 51 52.0 +2.1
F15K IAmb IAmb 15 53 07.6
comp=Z,60nm,1.9s
K15K **Wolf Creek Mou** 81.42 27 P P 15 51 52.7 +0.8
C16K **Lisburne Hills** 81.62 21 P P 15 51 53.9 +1.1
C16K **Lisburne Hills** 81.62 21 P P 15 51 54.8 +2.0
baz=251
SBA **Scott Base** 81.72 172 P P 15 51 53.5 +0.4
KIRV **Kirov** 81.93 329 LR LR 16 28 44.1
comp=Z,60nm,20.7s,baz=253,slow=36
J16K **Anvik River** 82.08 26 P P 15 51 57.6 +2.3
baz=256
L16K **Owhat River** 82.23 28 P P 15 51 57.1 +1.0
L16K IAmb IAmb 15 54 27.8
comp=Z,48nm,1.6s
L16K **Owhat River** 82.23 28 P P 15 51 59.1 +3.0
baz=257
C17K **DeLong Mountai** 82.45 21 P P 15 51 59.3 +2.2
baz=253
E17K **Hotham Inlet** 82.55 22 P P 15 52 00.3 +2.6
baz=254
G17K **Kiwalik Mounta** 82.60 24 P P 15 52 00.5 +2.5
baz=256
F17K **Baldwin Pennin** 82.61 23 P P 15 52 00.5 +2.6
baz=255
H17K **Granite Mounta** 82.77 24 P P 15 52 01.4 +2.5
baz=256
K17K **Iditarod** 82.98 27 P P 15 51 59.8 -0.2
K17K IAmb IAmb 15 52 03.5
comp=Z,14nm,0.8s
K17K **Iditarod** 82.98 27 P P 15 52 02.6 +2.6
baz=258
E18K **Tukpahlearik C** 83.10 22 P P 15 52 00.3 -0.3
E18K IAmb IAmb 15 52 03.5
comp=Z,8.8nm,0.7s
E18K **Tukpahlearik C** 83.10 22 P P 15 52 03.0 +2.5
baz=256
B18K **Kokolik River** 83.18 20 P P 15 52 03.4 +2.5
baz=254
C18K **Utukok River** 83.20 21 P P 15 51 59.5 -1.6
C18K **Utukok River** 83.20 21 P P 15 52 03.4 +2.3
baz=255
F18K **Selawik** 83.26 23 P P 15 52 03.7 +2.3
baz=256
H18K **Honhosa River** 83.46 24 P P 15 52 01.2 -1.2
H18K IAmb IAmb 15 53 10.1
comp=Z,39nm,1.8s
H18K **Honhosa River** 83.46 24 P P 15 52 04.9 +2.5
baz=258
L18K **Granite Mounta** 83.62 27 P P 15 52 03.7 +0.4
L18K **Granite Mounta** 83.62 27 P P 15 52 06.1 +2.8
baz=260
A19K **Wainwright** 83.65 19 P P 15 52 06.4 +3.1
baz=255
C19K **Lookout Ridge** 83.88 20 P P 15 52 05.6 +1.0
C19K IAmb IAmb 15 52 08.3
comp=Z,24nm,1.2s
C19K **Lookout Ridge** 83.88 20 P P 15 52 07.4 +2.8

	baz=256						
KBZ	Khabaz	83.92	314	P	P	15 52 04.3	-0.9
	comp=Z,0.7nm,0.4s,baz=130,slow=18,SNR=9.2						
	comp=Z,0.7nm,0.4s						
GCSA	Galena City Sc	84.00	25	P	P	15 52 07.8	+2.7
	baz=259						
TTA	Tatalina	84.05	27	P	P	15 52 06.2	+0.6
TTA				IAmb	IAmb	15 53 19.1	
	comp=Z,50nm,1.8s						
G19K	Purcell Mounta	84.18	24	P	P	15 52 06.4	+0.3
G19K				IAmb	IAmb	15 52 09.1	
	comp=Z,11nm,1.0s						
G19K	Purcell Mounta	84.18	24	P	P	15 52 08.3	+2.2
	baz=259						
D19K	Kuna River	84.26	21	P	P	15 52 06.3	-0.2
D19K				IAmb	IAmb	15 52 09.4	
	comp=Z,13nm,1.1s						
D19K	Kuna River	84.26	21	P	P	15 52 08.5	+2.0
	baz=258						
H19K	Roundabout Mou	84.32	24	P	P	15 52 09.2	+2.5
	baz=260						
E19K	Redstone River	84.38	22	P	P	15 52 05.8	-1.3
E19K	Redstone River	84.38	22	P	P	15 52 09.2	+2.1
	baz=259						
D20K	Etivluk River	84.85	21	P	P	15 52 11.7	+2.3
	baz=259						
B20K	Meade River	84.91	20	P	P	15 52 08.9	-0.7
B20K	Meade River	84.91	20	P	P	15 52 11.8	+2.2
	baz=258						
E20K	Nigu River	84.92	22	P	P	15 52 11.9	+2.1
	baz=260						
M20K	Styx River	85.23	28	P	P	15 52 11.1	-0.4
M20K				IAmb	IAmb	15 52 39.4	
	comp=Z,57nm,1.9s						
PPT	Papeete	85.57	108	P	P	15 52 14.8	+0.7
	comp=Z,30nm,0.7s,baz=25,slow=14,SNR=2.0						
	comp=Z,30nm,0.7s						
B21K	Ikpikpuk River	85.71	20	P	P	15 52 13.7	+0.1
B21K	Ikpikpuk River	85.71	20	P	P	15 52 15.6	+1.9
	baz=261						
A22K	Sinclair Lake	85.81	19	P	P	15 52 16.1	+2.0
	baz=260						
SKT	Skwentna	85.99	28	P	P	15 52 14.5	-0.7
SKT				IAmb	IAmb	15 54 59.8	
	comp=Z,60nm,2.0s						
B22K	Teshekpuk Lake	86.22	20	P	P	15 52 16.4	+0.3
B22K				IAmb	IAmb	15 54 03.9	
	comp=Z,26nm,1.7s						
B22K	Teshekpuk Lake	86.22	20	P	P	15 52 17.8	+1.6
	baz=262						
SUA	Susitna One	86.31	29	P	P	15 52 16.8	-0.2
G22K	Bettles	86.50	23	P	P	15 52 19.0	+1.4
	baz=264						
E22K	Anaktuvuk Pass	86.52	22	P	P	15 52 19.9	+2.2
	baz=264						
COLD	Coldfoot	87.04	23	P	P	15 52 21.9	+1.6
	baz=265						
C23K	Itkillik River	87.12	20	P	P	15 52 20.6	0.0
C23K				IAmb	IAmb	15 54 46.0	
	comp=Z,26nm,1.8s						
C23K	Itkillik River	87.12	20	P	P	15 52 22.3	+1.8
	baz=265						
E23K	Chandalar	87.33	22	P	P	15 52 23.7	+1.9
	baz=266						
H24K	Noodor Dome	87.88	24	P	P	15 52 24.1	-0.3
H24K				IAmb	IAmb	15 54 23.3	
	comp=Z,34nm,1.9s						
KMBO	Kilima Mbogo	88.11	269	P	P	15 52 25.6	-1.1
	comp=Z,3.6nm,0.5s,baz=54,slow=7.6,SNR=13						
KMBO				LR	LR	16 33 18.6	
	comp=Z,97nm,18.3s,baz=82,slow=37						
	comp=Z,3.6nm,0.5s						
ILAR	Eielson Array	88.26	25	P	P	15 52 25.2	-0.9
	comp=Z,0.4nm,0.7s,baz=248,slow=4.6,SNR=5.4						
	comp=Z,0.4nm,0.7s						
D25K	Kavik River	88.57	21	P	P	15 52 27.6	+0.1
D25K				IAmb	IAmb	15 55 16.1	
	comp=Z,17nm,1.8s						
D25K	Kavik River	88.57	21	P	P	15 52 28.7	+1.2
	baz=269						
OBN	Obninsk	88.58	325	P	P	15 52 25.9	-1.9
F25K	Christian Rive	88.82	23	P	P	15 52 30.6	+1.8
	baz=269						
E25K	Arctic Village	88.85	22	P	P	15 52 27.4	-1.5
E25K				IAmb	IAmb	15 55 19.0	
	comp=Z,22nm,1.9s						
E25K	Arctic Village	88.85	22	P	P	15 52 30.6	+1.8
	baz=270						
BMAR	Burnt Mountain	89.22	23	P	P	15 52 30.0	-0.6
MMAI	Mount Meron Ar	89.47	303	P	P	15 52 33.2	+0.6
	comp=Z,1.2nm,0.4s,baz=83,slow=7.1,SNR=7.5						
	comp=Z,1.2nm,0.4s						
GLB	Gilahina Butte	89.64	29	P	P	15 52 30.5	-2.2
GLB				IAmb	IAmb	15 52 54.4	
	comp=Z,30nm,1.6s						
TGL	Tana Glacier	90.14	29	P	P	15 52 35.8	+0.6
BRTR	Keskin Array B	90.76	310	P	P	15 52 37.4	-1.1
	comp=Z,0.7nm,0.5s,baz=130,slow=4.8,SNR=2.9						
	comp=Z,0.7nm,0.5s						
QSPA	South Pole Qui	90.81	180	P	P	15 52 38.9	+0.7
	comp=Z,1.1nm,0.5s,baz=244,slow=0.7,SNR=33						
	comp=Z,1.1nm,0.5s						
ARCES	ARCESS Array B	92.62	340	P	P	15 52 45.2	-1.1
	comp=Z,1.2nm,0.4s,baz=80,slow=6.7,SNR=14						
	comp=Z,1.2nm,0.4s						
SPITS	Spitsbergen Ar	92.99	349	P	P	15 52 47.5	-0.4
	comp=Z,1.4nm,0.3s,baz=96,slow=7.6,SNR=16						
SPITS				LR	LR	16 41 41.4	
	comp=Z,87nm,18.2s,baz=202,slow=40						
	comp=Z,1.4nm,0.3s						
AKASG	Malin Array Be	93.21	321	P	P	15 52 48.1	-1.3
	comp=Z,1.2nm,0.5s,baz=65,slow=4.6,SNR=13						
	comp=Z,1.2nm,0.5s						
FINES	FINESS Array B	93.67	332	P	P	15 52 50.0	-1.2
	comp=Z,2.2nm,0.7s,baz=60,slow=4.6,SNR=14						
	comp=Z,2.2nm,0.7s						
FARO	Faro, Yukon	94.50	27	P	P	15 52 56.4	+1.2
FARO				IAmb	IAmb	15 52 57.5	
	comp=Z,5.4nm,0.9s						
FARO	Faro, Yukon	94.50	27	P	P	15 52 56.8	+1.6
	baz=280						
R32K	Eaglecrest	94.59	31	P	P	15 52 56.7	+1.1
R32K	Eaglecrest	94.59	31	P	P	15 52 57.7	+2.1
	baz=279						
N32M	Quiet Lake	94.82	28	P	P	15 52 58.4	+1.8
	baz=281						
BUR08	Bucovina Ar. S	96.19	318	P	P	15 53 03.0	-0.3
BUR08				IAmb	IAmb	15 53 04.0	
	comp=Z,5.9nm,0.8s						
C36M	Paulatuk	96.34	20	P	P	15 53 03.9	+0.6
	baz=290						
KOLS	Kolonicke sedl	97.91	320	*e*PDIFF	Pdif	15 53 11.2	+0.2
CRVS	Cervenica-Dubn	98.44	320	*e*PDIFF	Pdif	15 53 13.9	+0.6
STHS	Stebnicka Huta	98.48	320	*e*PDIFF	P	15 53 12.8	-0.7
BOSA	Boshof	99.28	241	P	Pdif	15 53 16.7	-1.0
	comp=Z,2.7nm,1.2s,baz=143,slow=15,SNR=2.3						
	comp=Z,2.7nm,1.2s						
HFS	Hagfors	99.87	332	P	Pdif	15 53 18.6	-0.8
	comp=Z,1.3nm,0.5s,baz=104,slow=6.3,SNR=8.8						
	comp=Z,1.3nm,0.5s						
NOA	NORSAR Array B	100.70	333	P	Pdif	15 53 22.1	-1.0
	comp=Z,0.6nm,0.9s,baz=78,slow=6.4,SNR=1.9						
PDAR	Pinedale Array	114.40	41	PKP	PKiKP	15 58 15.9	+0.8
	comp=Z,0.2nm,0.4s,baz=126,slow=2.6,SNR=2.4						
PDAR				PKKPab	PKKPab	16 09 00.8	-1.0
	comp=Z,0.4nm,0.5s,baz=122,slow=4.8,SNR=4.9						
ULM	Lac du Bonnet	118.11	29	PKP	PKPdf	15 58 21.6	-0.1
	comp=Z,1.3nm,0.5s,baz=20,slow=1.5,SNR=4.1						
ESDC	Sonseca Array	118.63	317	PKP	PKPdf	15 58 22.9	-0.2
	comp=Z,0.3nm,0.5s,baz=33,slow=2.0,SNR=2.2						
TORD	Torodi Ar. Bea	122.43	286	PKP	PKPdf	15 58 31.0	0.0
	comp=Z,2.1nm,0.8s,baz=57,slow=2.7,SNR=11						
TXAR	Lajitas Array	124.42	53	PKP	PKiKP	15 58 36.0	+1.0
	comp=Z,0.2nm,0.5s,baz=193,slow=2.7,SNR=3.9						
S39A	Bolivar	127.59	39		PKiKP	15 58 40.9	0.0
MATN	Matagalpa	146.09	65		PKPdf	15 59 14.5	-0.5

IDC 06 15:49:03.4±15.0**, 55°.02S**×**30°.16W, h224**^{km}±140^{km}**, mb3.2**/2**, mbtmp3.8**/2**, MS3.4**/3**, Error ellipse: s-maj=79.2km s-min=40.0km az=113.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMSA	Palmer Station	19.35	226	LR	LR	15 59 13.6	
	comp=Z,113nm,19.4s,baz=86,slow=32						
PLCA	Paso Flores	30.15	281	LR	LR	16 06 28.9	
	comp=Z,49nm,21.6s,baz=166,slow=35						
QSPA	South Pole Qui	35.23	180	P	P	15 55 36.2	0.0
	1.2nm,0.7s,baz=222,slow=7.2,SNR=3.3						
QSPA				LR	LR	16 09 05.4	
	comp=Z,98nm,18.8s,baz=219,slow=34						
	1.2nm,0.7s						
TORD	Torodi Ar. Bea	73.04	33	P	P	16 00 08.8	+0.1
	0.6nm,0.7s,baz=208,slow=5.2,SNR=3.6						
	0.6nm,0.7s						
YKA	Yellowknife Ar	134.29	320	PKP	PKiKP	16 07 54.2	-0.1
	0.2nm,0.6s,baz=133,slow=2.3,SNR=4.9						
MKAR	Makanchi Array	138.17	72	PKP	PKPdf	16 08 01.7	+1.0
	0.2nm,0.6s,baz=242,slow=3.1,SNR=2.2						
ZALV	Zalesovo Beam	143.43	64	PKP	PKPdf	16 08 10.4	+0.5
	0.2nm,0.3s,baz=246,slow=2.8,SNR=2.0						
ILAR	Eielson Array	148.18	313	PKPbc	PKPbc	16 08 20.2	-1.0
	0.8nm,0.7s,baz=113,slow=1.5,SNR=8.3						
SONM	Songino Array	152.35	87	PKPbc	PKPbc	16 08 30.6	-1.2
	0.1nm,0.4s,baz=256,slow=5.8,SNR=1.4						

DJA 06 16:04:14.7±0.7**, 1°N**±5°×**12°2E**±°**, h13**^{km}±4^{km}**, M3.6**/9**, mb3.6**/1**, MLv3.6**/9**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	0.73	185	P	Pg	16 04 29.1	+0.2
MRSI				S	Sb	16 04 39.8	+0.6
GTOI	Gorontalo	1.16	119	P	Pb	16 04 33.7	-2.9
GTOI				S	Sb	16 04 46.9	-4.7
KMSI	Cibinong	2.08	108	P	Pn	16 04 50.2	+0.9
MPSI	Mapaga	2.27	248	P	Pn	16 04 53.2	+1.2
LUWI	Luwuk	2.37	161	P	Pn	16 04 52.2	-1.1
TTSI	Tana Toraja	4.76	207	P	Pn	16 05 27.2	+1.1
MMSI	Mamuju	4.96	219	P	Pn	16 05 28.6	-0.3
SANI	Sanana	5.14	129	P	Pn	16 05 29.8	-1.6

ISN ***06*** *16:10:16.3±0.5, 34°.40N×45°.77E, h14^{km}, ML2.8*
TEH ***06*** *16:10:16.9, 34°.44N×45°.76E, h10^{km}±110^{km}, ML2.9*
ISC 06 16:10:16.7±1.2**, 34°.43N**±0°.05×**45°.76E**±0°.04**, h9**^{km}±13^{km}**, n11, σ0**^{s}**68**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.16	299	Pg	Pg	16 10 20.7	+0.5
IDHR	Dehrash	0.58	62	Pg	Pg	16 10 27.8	-0.2
ILBA	Ilam Banvizeh	0.88	155	Pg	Pb	16 10 33.9	-0.3
KCHF	Cheshme Sefid,	1.07	98	Pg	Pn	16 10 38.3	+0.3
ILIN	Lien	1.10	63	Pg	Pg	16 10 38.0	0.0
IBDR	Badra	1.32	174	*e*Pn	Pg	16 10 42.0	-0.1
IBDR				*e*Sn	Sg	16 11 00.0	+0.8
IBDR				AML	AML	16 11 13.3	
	comp=E,144nm,0.4s						
IBDR				AML	AML	16 11 15.1	
	comp=N,101nm,0.5s						
IKOM	Komasi	1.47	99	Pg	Pg	16 10 45.4	+0.5
BHD	Baghdad	1.63	225	*e*Pn	Pb	16 10 46.0	-0.9
BHD				*e*Sn	Sg	16 11 08.0	-1.1
BHD				AML	AML	16 11 26.2	
	comp=E,374nm,0.5s						
IBZA	Bozab	1.73	88	Pg	Pg	16 10 49.5	-0.5
IKFM	Kafar-mosalman	1.95	117	Pn	Pg	16 10 53.6	-0.5
RAFI	Al-Rafai	2.71	174	*e*Pn	Pn	16 11 01.0	+0.6
RAFI				*e*Sn	Sn	16 11 34.0	+0.7

NNC 06 16:13:30.0±8.7**, 37°.76N**×**79°.30E, h0**^{km}**, mb4.0, mpv3.7, 2C, Error ellipse: s-maj=68.4km s-min=62.8km az=15.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SATY	Saty	5.33	353	Pg	Pg	16 15 09.0	-3.2
	3.1nm,0.3s						
SATY				Lg	Lg	16 16 26.4	
	17nm,0.3s						
TNSS	Tian-Shan	5.57	342	Pg	Pb	16 15 08.7	+0.5
	3.3nm,0.3s						
KST	Kastek	5.86	335	Pg	Pb	16 15 13.9	+0.9
	1.8nm,0.3s						
KST				Lg	Lg	16 16 34.8	
	6.4nm,0.5s						
DGS	Degeres	6.10	335	Pg	Pb	16 15 17.0	-0.1
	2.5nm,0.4s						
DGS				Lg	Lg	16 16 40.0	
	3.8nm,0.5s						
KTBS	Karatobe	6.27	342	Pg	Pb	16 15 23.0	+3.1
	2.4nm,0.3s						
KTBS				Lg	Lg	16 16 50.6	
	7.0nm,0.4s						
KRBS	Karabastau	6.54	336	Pg	Pb	16 15 25.0	+0.5
	1.8nm,0.3s						
KRBS				Lg	Lg	16 16 54.0	
	4.3nm,0.4s						
MAKZ	Makanchi	9.26	12	⇑Pn	Pn	16 15 46.1	+1.4
	1.5nm,0.5s						
MAKZ				Sn	Sn	16 17 30.7	+1.3
	2.1nm,0.6s						
MK31	Makanchi Array	9.29	13	Pn	Pn	16 15 46.1	+0.9
	0.3nm,0.5s,baz=194,slow=14,SNR=12						
MK31				⇑Sn	Sn	16 17 32.1	+1.6
	1.3nm,0.8s,baz=190,slow=23						

IDC ***06*** *16:16:22.5±2.1, 41°.49N×143°.70E, h43^{km}±18^{km}, mb3.3/13, mbtmp3.5/16, ML2.9/3, Error ellipse: s-maj=21.1km s-min=11.3km az=101.0*
JMA ***06*** *16:16:22.4±0.2, 41°.7N±0°.8×143°.7E±0°.6, h47^{km}±2^{km}, MV3.2/37, SE OFF ERIMOMISAKI*
ISC 06 16:16:21.2±1.7**, 41°.62N**±0°.05×**143°.68E**±0°.06**, h29**^{km}±11^{km}**, n32, σ0**^{s}**90**/38**, mb3.6**/15**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	0.56	316	*e*P	Pn	16 16 33.0	-0.2
JEM				*e*S	Sn	16 16 40.9	-0.7
JTHR	Tokachihiroo	0.73	337	*i* P	Pb	16 16 35.5	+0.1
JTHR				*e*S	Sb	16 16 45.6	+0.5
JNBK	Urakawa-nobuka	0.96	314	P	Pb	16 16 39.2	-0.1
JNBK				*e*S	Sb	16 16 51.8	+0.3
JCH	Churui	1.02	347	P	Pn	16 16 39.3	-0.4
JCH				*e*S	Sn	16 16 52.5	-0.6
JSHD	Hidakashinhida	1.20	312	*e*P	Pb	16 16 43.2	-0.2
JOB	Onbets	1.29	5	P	Pn	16 16 43.5	+0.2
JOB				*e*S	Sn	16 16 59.0	-0.6
JBT2	Biratori 2	1.52	320	*e*P	Pn	16 16 47.0	+0.5
JAK	Akkeshi	1.57	28	*i* P	Pn	16 16 47.1	0.0
JAK				*e*S	Sn	16 17 06.0	-0.5
JIAM	Iburiatsuma	1.65	308	*e*S	Sn	16 17 08.9	+0.4
JAR	Ashorobuto	1.68	2	*i* P	Pn	16 16 48.4	-0.3
JAR				*e*S	Sn	16 17 08.3	-1.0
JFR	Furan	1.74	333	*e*P	Pn	16 16 48.8	-0.8
ASAJ	Asahikawa	2.62	343	P	Pn	16 17 02.1	+0.5
	2.8nm,0.3s,baz=192,slow=15,SNR=40						
ASAJ				S	Sb	16 17 37.0	-2.2
	14nm,0.4s,baz=229,slow=20,SNR=1.9						
	8.7nm,0.4s						
MJAR	Matsushiro Arr	6.62	222	P	Pn	16 17 57.1	+0.5
	0.1nm,0.3s,baz=344,slow=7.5,SNR=9.5						
MJAR				S	Sn	16 19 09.9	-1.1
	1.1nm,0.7s,baz=10,slow=15,SNR=1.3						
	0.7nm,0.3s						
PETK	Petropavlovsk-	14.88	35	P	Pn	16 19 50.1	+0.7
	0.1nm,0.3s,baz=213,slow=10,SNR=1.4						
	1.4nm,0.8s						
SONM	Songino Array	27.02	296	P	P	16 22 02.1	+1.3
	0.2nm,0.4s,baz=79,slow=8.7,SNR=1.8						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	40.28	309	P	P	16 23 55.8	+0.3
	0.5nm,0.5s,baz=85,slow=8.8,SNR=2.0						
	0.5nm,0.5s						
MKAR	Makanchi Array	43.33	298	P	P	16 24 20.2	-0.3
	0.2nm,0.5s,baz=84,slow=9.9,SNR=5.1						
	0.2nm,0.5s						
CMAR	Chiang Mai Arr	44.46	253	P	P	16 24 30.1	+0.2
	0.1nm,0.3s,baz=51,slow=7.1,SNR=1.3						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	44.70	305	P	P	16 24 30.7	-0.7
	0.8nm,0.6s,baz=74,slow=8.8,SNR=12						
	0.8nm,0.6s						
ILAR	Eielson Array	44.71	35	P	P	16 24 31.6	+0.3
	0.6nm,0.8s,baz=271,slow=7.8,SNR=6.3						
	0.6nm,0.8s						
BVAR	Borovoye Array	48.89	310	P	P	16 25 04.2	0.0
	0.6nm,0.3s,baz=80,slow=9.8,SNR=5.4						
	0.6nm,0.3s						
YKA	Yellowknife Ar	58.98	32	P	P	16 26 19.4	+1.7
	0.2nm,0.6s,baz=302,slow=7.4,SNR=2.3						
	0.2nm,0.6s						
ARCES	ARCESS Array B	60.34	339	P	P	16 26 28.6	+1.7
	11nm,1.2s,baz=76,slow=7.6,SNR=1.6						
WRA	Warramunga Arr	61.86	190	P	P	16 26 35.3	-2.4
	0.7nm,0.6s,baz=5.6,slow=6.8,SNR=9.7						
	0.7nm,0.6s						
ASAR	Alice Springs	65.58	190	P	P	16 27 01.5	-0.8
	0.3nm,0.5s,baz=8.2,slow=7.5,SNR=7.8						
	0.3nm,0.5s						
FINES	FINESS Array B	65.59	332	P	P	16 27 01.1	-0.8
	14nm,1.2s,baz=35,slow=5.8,SNR=15						
HFS	Hagfors	70.63	336	P	P	16 27 33.5	-0.1
	2.4nm,0.9s,baz=79,slow=7.5,SNR=1.8						
	2.4nm,0.9s						
NOA	NORSAR Array B	70.63	338	P	P	16 27 34.4	+0.8
	0.4nm,0.8s,baz=34,slow=6.5,SNR=2.7						
	0.4nm,0.8s						
TXAR	Lajitas Array	85.97	54	P	P	16 28 58.4	-0.6
	0.1nm,0.6s,baz=295,slow=4.9,SNR=1.4						
	0.1nm,0.6s						
H03N2	Juan Fernandez	145.52	90	T	T	19 18 59.6	
	baz=299						
H03N3	Juan Fernandez	145.53	90	T	T	19 19 02.9	
	baz=299						
H03N1	Juan Fernandez	145.53	90	T	T	19 18 57.4	
	baz=299						

ISN ***06*** *16:29:12.2±1.2, 34°.58N×45°.78E, h25^{km}±31^{km}, ML2.8*
TEH ***06*** *16:29:13.2, 34°.46N×45°.79E, h8^{km}±158^{km}, ML2.8*
ISC 06 16:29:12.9±1.3**, 34°.51N**±0°.07×**45°.78E**±0°.05**, h15**^{km}±13^{km}**, n10, σ0**^{s}**70**/12**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.16	268	Pg	Pg	16 29 17.0	+0.1
IDHR	Dehrash	0.54	69	Pg	Pb	16 29 23.7	-0.4
IGHG	Ghaleghazi	0.68	105	Pg	Pb	16 29 26.3	-0.3
ILBA	Ilam Banvizeh	0.95	158	Pg	Pb	16 29 30.4	-0.8
ILIN	Lien	1.06	67	Pg	Pg	16 29 34.0	+0.6
KCHF	Cheshme Sefid,	1.07	102	Pg	Pg	16 29 34.1	+0.6
IBDR	Badra	1.40	175	*e*Pn	Pb	16 29 39.0	+0.2
	baz=355						
IBDR				*e*Sn	Sg	16 29 58.0	-0.1
IBDR				AML	AML	16 30 02.4	
	comp=E,184nm,0.6s						
IBDR				AML	AML	16 30 02.8	
	comp=N,166nm,0.3s						
IKOM	Komasi	1.47	103	Pg	Pg	16 29 41.3	+0.1
BHD	Baghdad	1.70	224	*e*Pn	Pb	16 29 43.0	-0.8
BHD				*e*Sn	Sb	16 30 06.0	+1.0
IBZA	Bozab	1.72	91	Pg	Pg	16 29 45.2	-0.8

TAP ***06*** *16:35:28.7, 24°.79N×122°.23E, h109^{km}, ML2.9, D*
JMA ***06*** *16:35:28.6±0.2, 25°N±3°×12°2E±°, h108^{km}, MV1.9/9, TAIWAN REGION*
ISC 06 16:35:28.7±1.6**, 24°.75N**±0°.05×**122°.30E**±0°.03**, h107**^{km}±8^{km}**, n89, σ0**^{s}**92**/155**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS2	EOS2	0.34	190	P	Pn	16 35 44.9	+0.7
	baz=201						
EOS2				*e*S	Sn	16 35 56.9	+1.3
	baz=201						
TWC	Suao	0.43	251	P	Pn	16 35 44.5	-0.3
	baz=245						
TWC				*e*S	Sn	16 35 56.0	-0.8
	baz=245						
EOS3	EOS3	0.47	178	P	Pn	16 35 45.9	+1.0
	baz=186						
EOS3				S	Sn	16 35 58.9	+2.0
	baz=186						
TIPB	Shuangxi	0.48	297	*e*P	Pn	16 35 45.1	-0.1
	baz=286						
TIPB				*i* S	Sn	16 35 56.6	-0.8
	baz=286						
SXI1	Grass Mountain	0.51	312	P	Pn	16 35 46.0	+0.5
	baz=304						
NDS	Dongshan	0.54	257	*e*P	Pn	16 35 45.3	-0.2
	baz=254						
NDS				*e*S	Sn	16 35 58.8	+0.7
	baz=254						
EWUT	Wuta	0.56	237	*e*P	Pn	16 35 45.9	+0.3
	baz=228						
EWUT				*i* S	Sn	16 35 58.5	+0.1
	baz=228						
TWE	Neicheng	0.57	267	*e*P	Pn	16 35 45.8	0.0
	baz=266						
TWE				*e*S	Sn	16 35 57.9	-0.6
	baz=266						
ENA	Nanau	0.60	238	*e*P	Pn	16 35 46.2	+0.2
	baz=229						
ENA				*e*S	Sn	16 35 59.1	+0.2
	baz=229						
EOS4	EOS4	0.63	178	P	Pn	16 35 46.0	+0.2
	baz=181						
EOS4				*e*S	Sn	16 35 59.3	+0.7
	baz=181						
FUSB	Fushanzhiwuyua	0.64	271	*i* P	Pn	16 35 45.9	-0.5
	baz=271						
FUSB				*e*S	Sn	16 35 60.0	+0.3
	baz=271						
JYNG	Yonagunijimaku	0.66	117	P	Pn	16 35 46.5	0.0
ENTT	Nioudou	0.67	261	*e*P	Pn	16 35 47.2	+0.6
	baz=258						
ENTT				S	Sn	16 36 00.8	+0.8
	baz=258						
YOJ	Yonaguni jima	0.71	114	*e*P	Pn	16 35 46.8	0.0
NWLT	Wulai	0.72	272	*e*P	Pn	16 35 46.8	-0.3
	baz=273						
NWLT				*e*S	Sn	16 36 00.5	-0.2
	baz=273						
NDT	Datong Townshi	0.73	258	*e*P	Pn	16 35 47.7	+0.7
	baz=256						
NDT				*i* S	Sn	16 36 01.2	+0.4
	baz=256						
LATG	Datong	0.73	253	P	Pn	16 35 47.4	+0.2
	baz=247						
LATG				*e*S	Sn	16 36 01.8	+0.7
	baz=247						
YM01	YM01	0.77	301	*e*P	Pn	16 35 46.9	-0.5
	baz=296						
YM01				S	Sn	16 35 59.8	-1.7
	baz=296						
TWY	Chenhua	0.82	310	*e*P	Pn	16 35 46.2	-1.7
	baz=304						
TWY				*e*S	Sn	16 36 00.3	-2.0
	baz=304						
YHNB	Yeheng	0.84	265	P	Pn	16 35 48.1	-0.1
	baz=263						
YHNB				*e*S	Sn	16 36 01.8	-1.0
	baz=263						
ETL	Fush Village	0.85	226	*e*P	Pn	16 35 47.9	-0.3
	baz=218						
ETL				S	Sn	16 36 02.6	-0.3
	baz=218						
NSK	Sanguang	0.86	265	*e*P	Pn	16 35 48.2	-0.1
	baz=262						
NSK				*i* S	Sn	16 36 02.2	-0.8
	baz=262						
NACB	Ninganchiao	0.86	228	P	Pn	16 35 48.0	-0.3
NACB	Ninganchiao	0.86	228	*e*P	Pn	16 35 47.9	-0.3
	baz=220						
NACB				*e*S	Sn	16 36 02.8	-0.2
	baz=220						
TWS1	Kuangyinshan	0.87	294	*e*P	Pn	16 35 48.9	+0.5
	baz=293						
TWS1				*e*S	Sn	16 36 04.1	+1.0
	baz=293						
NNSB	Datong	0.89	249	*i* P	Pn	16 35 49.0	+0.3
	baz=240						
NNSB				*e*S	Sn	16 36 03.7	-0.1
	baz=240						
NNS	Nan Shan	0.90	250	P	Pn	16 35 48.9	+0.2
	baz=241						
NNS				*e*S	Sn	16 36 04.0	+0.2
	baz=241						
ETLH	Xiulin Townshi	0.92	234	P	Pn	16 35 48.8	-0.2
	baz=239						
ETLH				*e*S	Sn	16 36 03.7	-0.5
	baz=239						
TWD	Chiawan	0.93	224	*e*P	Pn	16 35 48.8	-0.1
	baz=218						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TWD				eS	Sn	16 36 04.2	+0.1
	baz=218						
ETM	Tongmen	1.07	223	eP	Pn	16 35 49.8	-0.7
	baz=221						
ETM				eS	Sn	16 36 05.5	-1.4
	baz=221						
NFF	Wufeng Townshi	1.08	264	eP	Pn	16 35 50.6	+0.1
	baz=263						
NFF				i S	Sn	16 36 06.3	-0.8
	baz=263						
LXIB	Xiulin Townshi	1.08	228	eP	Pn	16 35 49.8	-1.0
	baz=218						
LXIB				eS	Sn	16 36 06.9	-0.5
	baz=218						
WHF	Hehuan Shan	1.12	237	i P	Pn	16 35 51.8	+0.4
	baz=233						
WHF				i S	Sn	16 36 08.3	-0.1
	baz=233						
TWT	Tachien	1.14	244	eP	Pn	16 35 52.1	+0.7
	baz=243						
TWT				eS	Sn	16 36 08.9	+0.5
	baz=243						
TDCB	Techi	1.15	245	eP	Pn	16 35 51.5	0.0
	baz=243						
TDCB				eS	Sn	16 36 08.9	+0.3
	baz=243						
LIOB	Emei	1.17	265	eP	Pn	16 35 50.1	-1.4
	baz=264						
LIOB				i S	Sn	16 36 07.8	-0.9
	baz=264						
SHUL	Shoufeng	1.17	215	eP	Pn	16 35 51.4	-0.1
	baz=207						
SHUL				S	Sn	16 36 09.1	+0.3
	baz=207						
NSTT	Nanjuang	1.18	264	eP	Pn	16 35 51.2	-0.5
	baz=263						
NSTT				eS	Sn	16 36 08.0	-1.0
	baz=263						
ESL	Shilin	1.22	220	eP	Pn	16 35 51.2	-0.9
	baz=218						
ESL				eS	Sn	16 36 08.3	-1.5
	baz=218						
CHGB	Renai	1.23	236	eP	Pn	16 35 52.6	+0.2
	baz=240						
CHGB				i S	Sn	16 36 10.6	+0.2
	baz=240						
OWD	Renai	1.29	232	eP	Pn	16 35 53.2	+0.2
	baz=227						
OWD				eS	Sn	16 36 11.0	-0.5
	baz=227						
WUSB	Renai	1.31	235	i P	Pn	16 35 53.8	+0.5
	baz=238						
WUSB				eS	Sn	16 36 11.7	-0.2
	baz=238						
WHP	Taichung City	1.32	249	eP	Pn	16 35 54.4	+1.1
	baz=255						
WHP				i S	Sn	16 36 12.0	+0.2
	baz=255						
WARBT	Fenglin Townsh	1.32	219	eP	Pn	16 35 52.1	-1.2
	baz=218						
WARBT				S	Sn	16 36 10.0	-1.9
	baz=218						
EGFH	Guangfu	1.34	216	eP	Pn	16 35 52.6	-0.9
	baz=221						
EGFH				eS	Sn	16 36 10.9	-1.3
	baz=221						
IRIF	Iriomote-Funau	1.37	107	eP	Pn	16 35 53.6	-0.1
NSY	Sanyi	1.44	257	eP	Pn	16 35 54.5	-0.1
	baz=256						
NSY				eS	Sn	16 36 14.6	+0.3
	baz=256						
WCS	Beigang Elemen	1.44	242	eP	Pn	16 35 55.7	+1.0
	baz=248						
WCS				S	Sn	16 36 15.1	+0.9
	baz=248						
TWQ1	Liyutan	1.44	254	eP	Pn	16 35 55.6	+0.9
	baz=253						
TWQ1				eS	Sn	16 36 14.4	0.0
	baz=253						
VWDT	VWDT	1.45	227	i P	Pn	16 35 55.1	+0.4
	baz=221						
VWDT				eS	Sn	16 36 15.0	+0.6
	baz=221						
HGSD	Ruisui	1.49	213	eP	Pn	16 35 54.9	-0.3
	baz=220						
HGSD				eS	Sn	16 36 14.8	-0.5
	baz=220						
EHY	Hungye	1.53	216	eP	Pn	16 35 54.9	-0.8
	baz=219						
SMLT	Sun Moon Lake	1.54	236	eP	Pn	16 35 56.8	+0.8
	baz=235						
SMLT				S	Sn	16 36 18.8	+2.2
	baz=235						
SSLB	Suanglung	1.56	232	P	Pn	16 35 56.5	+0.4
SSLB	Suanglung	1.56	232	i P	Pn	16 35 57.0	+0.9
	baz=235						
SSLB				eS	Sn	16 36 18.1	+1.2
	baz=235						
TYC	Yuchr	1.56	238	eP	Pn	16 35 57.2	+1.1
	baz=244						
TYC				eS	Sn	16 36 18.3	+1.4
	baz=244						
YULB	Yu-li	1.63	214	P	Pn	16 35 55.7	-1.3
YULB	Yu-li	1.63	214	eP	Pn	16 35 55.6	-1.4
	baz=218						
YULB				eS	Sn	16 36 16.6	-2.0
	baz=218						
JKRS	Kuro-shima	1.64	108	eP	Pn	16 35 57.4	+0.3
EYUL	Yuli	1.66	213	eP	Pn	16 35 57.0	-0.4
	baz=218						
TWF1	Yuli	1.67	213	eP	Pn	16 35 56.2	-1.2
	baz=218						
TWF1				eS	Sn	16 36 17.1	-2.1
	baz=218						
WHYT	Xinyi Township	1.69	232	P	Pn	16 35 58.7	+1.0
	baz=239						
WHYT				S	Sn	16 36 21.3	+1.6
	baz=239						
WJS	Zhushan	1.71	237	eP	Pn	16 35 58.9	+1.0
	baz=237						
WJS				eS	Sn	16 36 21.2	+1.1
	baz=237						
WNT	Mingjian	1.71	240	eP	Pn	16 35 58.8	+0.9
	baz=238						
WNT				eS	Sn	16 36 21.0	+0.9
	baz=238						
JIJ	Ishigaki jima	1.73	103	eP	Pn	16 35 58.0	-0.1
JIJ				eS	Sn	16 36 20.5	0.0
FULB	Fuli	1.80	211	eP	Pn	16 35 58.7	-0.4
	baz=217						
FULB				eS	Sn	16 36 22.2	0.0
	baz=217						
ALS	Alishan	1.84	228	i P	Pn	16 36 00.8	+0.9
	baz=220						
ALS				i S	Sn	16 36 25.2	+1.7
	baz=220						
JISG	Ishigakijimahi	1.84	95	eP	Pn	16 35 59.6	0.0
CHN5	Tsauling	1.87	232	eP	Pn	16 36 00.5	+0.4
	baz=240						
CHN5				i S	Sn	16 36 25.2	+1.2
	baz=240						
EHD	Haiduan	1.88	212	eP	Pn	16 35 58.5	-1.7
	baz=218						
EHD				eS	Sn	16 36 22.0	-2.0
	baz=218						
WGK	Gukeng	1.91	237	eP	Pn	16 36 01.6	+1.3
	baz=235						
WGK				eS	Sn	16 36 25.9	+1.4
	baz=235						
WDLH	Douliu	1.92	237	eP	Pn	16 36 00.2	-0.3
	baz=236						
WDLH				eS	Sn	16 36 24.8	-0.2
	baz=236						
ELDTW	Lidau	1.95	217	eP	Pn	16 36 00.2	-0.8
	baz=216						
ELDTW				eS	Sn	16 36 24.8	-0.8
	baz=216						
EDH	Donghe	1.99	207	eP	Pn	16 35 59.7	-1.8
	baz=214						
EDH				eS	Sn	16 36 23.4	-3.1
	baz=214						
WCKO	Fanlu	2.02	230	eP	Pn	16 36 02.8	+0.8
	baz=230						
WCKO				S	Sn	16 36 28.7	+1.4
	baz=230						
CHN4	Tsaushan	2.09	228	eP	Pn	16 36 03.0	+0.2
	baz=236						
TPUB	Ta-pu	2.10	227	P	Pn	16 36 03.4	+0.5
TPUB	Ta-pu	2.10	227	eP	Pn	16 36 03.3	+0.4
	baz=235						
TPUB				eS	Sn	16 36 29.7	+0.6
	baz=235						
STYH	Taoyuan	2.10	222	eP	Pn	16 36 03.8	+1.0
	baz=221						
STYH				eS	Sn	16 36 30.9	+1.9
	baz=221						
LONT	Longtian	2.13	210	eP	Pn	16 36 02.0	-1.3
	baz=204						
WTP	Ta-pu	2.15	226	eP	Pn	16 36 03.4	-0.2
	baz=235						
TWK	Hsinying	2.22	229	eP	Pn	16 36 04.4	-0.1
	baz=236						
SNST	Tainan City	2.24	228	eP	Pn	16 36 04.5	-0.3
	baz=236						
CHN1	Nanshi	2.25	226	eP	Pn	16 36 04.7	-0.1
	baz=234						
SGST	Jiashian	2.29	224	eP	Pn	16 36 04.6	-0.7
	baz=224						
SLGT	Liugui	2.31	221	eP	Pn	16 36 06.7	+1.1
	baz=221						
SCST	Cishan	2.49	222	eP	Pn	16 36 08.4	+0.6
	baz=232						
MASBT	Mashibuluo	2.62	216	eP	Pn	16 36 10.1	+0.4
	baz=226						
JMJ2	Miyako jima3	2.76	90	eP	Pn	16 36 12.3	+0.9

*ISN **06** 16:36:41.6±1.0, 34.53N×45.75E, h10km±999km, ML2.8*
*TEH **06** 16:36:42.6, 34.54N×45.77E, h8km±137km, ML2.8*
ISC 06 16:36:42.9±1.5, **34.54N**±0.08×**45.78E**±0.04, **h5**km±12km, **n10**, σ**0.33**/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.16	258	Pg	Pg	16 36 46.2	+0.1
IDHR	Dehrash	0.52	72	Pg	Pg	16 36 53.2	+0.2
IGHG	Ghaleghazi	0.68	108	Pg	Pg	16 36 55.9	-0.1
IGHG				Sg	Sb	16 37 07.0	-0.2
ILIN	Lien	1.04	68	Pg	Pg	16 37 03.1	+0.2
KCHF	Cheshme Sefid,	1.07	104	Pg	Pg	16 37 03.4	-0.1
IBDR	Badra	1.43	175	ePn	Pn	16 37 09.0	-0.5
IBDR				eSn	Sg	16 37 29.0	+0.1
IBDR				AML	AML	16 37 32.9	
	comp=E,161nm,1.0s						
IBDR				AML	AML	16 37 33.8	
	comp=N,79nm,0.6s						
IKOM	Komasi	1.48	104	Pg	Pg	16 37 11.2	0.0
IBZA	Bozab	1.72	92	Pg	Pb	16 37 15.0	-0.1
BHD	Baghdad	1.72	223	ePn	Pn	16 37 13.0	-0.4
BHD				eSn	Sn	16 37 36.0	+0.2
BHD				AML	AML	16 37 40.7	
	comp=E,259nm,0.3s						
RAFI	Al-Rafai	2.82	174	ePn	Pn	16 37 29.0	+0.4
RAFI				eSn	Sn	16 38 03.5	+0.5

*DNK **06** 16:38:36.1±3.2, 81.13N×3.09W, h1km±44km, ML1.8*
*BER **06** 16:38:37.5±3.5, 81.37N×3.72W, h15km±42km, mb(Pn)3.4, ML1.8(DNK), Confirmed Earthquake*
*FCIAR **06** 16:38:38.0, 81.33N×3.14W, h10km, station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.50*
ISC 06 16:38:29.9±1.2, **81.18N**±0.08×**1.69W**±0.05, **h10**km, **n18**, σ**2.60**/28, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	3.26	127	eP	Pg	16 39 30.9	-1.4
KBS				eS	Sb	16 40 09.3	+1.9
KBS				IAML		16 40 15.2	
	comp=Z,12nm,0.3s						
KBS	Kingsbay	3.26	127	eP	Pg	16 39 30.7	-1.6
KBS				S	Sg	16 40 10.0	-4.5
KBS	Kingsbay	3.26	127	eP	Pg	16 39 30.9	-1.4
KBS				eS	Sb	16 40 09.3	+1.9
BRBB	Barentsburg B	4.20	129	eP	Pb	16 39 45.0	+1.3
BRBB				eS	Sb	16 40 33.3	-1.2
BRBA	Barentsburg A	4.23	129	eP	Pb	16 39 45.5	+1.3
BRBA				eS	Sb	16 40 34.0	-1.3
BRBA				IAML		16 40 38.7	
	comp=Z,5.9nm,0.1s						
SPA0	Spitsbergen Ar	4.41	124	eP	Pb	16 39 46.9	-0.3
SPA0				eS	Sb	16 40 40.0	-0.3
SPA0				IAML		16 40 41.5	
	comp=Z,3.7nm,0.5s						
SPA0	Spitsbergen Ar	4.41	124	eP	Pb	16 39 46.7	-0.5
SPA0				eS	Sb	16 40 37.3	-3.0
HSPB	Hornsund (broa	5.29	133	eP	Pb	16 39 59.3	-2.8
HSPB				IAML		16 41 00.1	
	comp=Z,3.3nm,0.7s						
DAG	Danmarks Havn	5.46	225	e	Pn	16 39 51.4	+0.2
	baz=41,slow=14						
DAG				i P	Pb	16 39 54.6	-10
DAG				eS	Sn	16 40 52.8	-1.1
DAG				IAML		16 41 03.6	
	comp=Z,5.4nm,0.4s						
DAG	Danmarks Havn	5.46	225	e	Pn	16 39 51.4	+0.2
	baz=41,slow=14						
DAG				i P	Pn	16 39 54.6	+3.5
DAG				eS	Sn	16 40 52.8	-1.1
DAG				IAML		16 41 03.6	
	comp=Z,5.4nm,0.4s						
HOPEN	Hopen	6.89	118	eP	Pb	16 40 20.0	-9.4
HOPEN				eS	Sn	16 41 35.5	+6.5
HOPEN				IAML		16 41 43.9	
	comp=Z,4.0nm,1.2s						
HOPEN	Hopen	6.89	118	eP	Pb	16 40 20.4	-9.0
HOPEN				eS	Sn	16 41 36.0	+7.1
ZFI2	Zemlya Franca-	7.55	68	eP	Pn	16 40 26.6	+6.8
ZFI2				eS	Sn	16 41 46.8	+1.6
	comp=Z,22nm,4.1s						
OMEGA	Omega	7.57	68	eP	Pn	16 40 26.7	+6.6
OMEGA				eS	Sn	16 41 46.9	+1.1
	comp=Z,14nm,2.6s						
NEEM	North Greenlan	9.57	273	i P	Pn	16 40 48.1	+0.4
NEEM				IAML		16 42 32.3	
	comp=Z,1.5nm,0.4s						
NEEM	North Greenlan	9.57	273	i P	Pn	16 40 48.1	+0.4
NEEM				IAML		16 42 32.3	
	comp=Z,1.5nm,0.4s						
SUMG	Summit	11.66	243	i P	Pn	16 41 16.9	+0.6
SUMG				eS	Sn	16 43 16.5	-10
SUMG	Summit	11.66	243	i P	Pn	16 41 16.9	+0.6
SUMG				eS	Sn	16 43 16.5	-10

IDC 06 16:51:09.7±1.9, **5.43S**×**151.30E**, **h0**km, **mb3.3**/4, **mbtmp3.3**/4, **Error ellipse: s-maj=68.0km s-min=18.0km az=125.0**, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.33	33	Pn	Pg	16 51 35.0	-0.2
	baz=270,slow=20						
KRVT				Sn	Sn	16 51 55.8	+1.8
	baz=180,slow=20						
WRA	Warramunga Arr	21.92	227	P	P	16 56 06.6	+1.8
	0.9nm,1.1s,baz=50,slow=10,SNR=2.1						
	0.9nm,1.1s						
ASAR	Alice Springs	24.69	221	P	P	16 56 31.6	-1.1
	0.9nm,1.0s,baz=56,slow=9.2,SNR=11						
	0.9nm,1.0s						
SONM	Songino Array	66.07	329	P	P	17 01 59.4	+0.7
	0.4nm,0.8s,baz=123,slow=5.3,SNR=3.7						
	0.4nm,0.8s						
MKAR	Makanchi Array	79.82	319	P	P	17 03 19.8	-0.4
	0.2nm,0.6s,baz=107,slow=4.8,SNR=2.4						
	0.2nm,0.6s						

DJA 06 16:55:12.6±0.4, **10°S**±3°×**10°6E**±°, **h10**km, **M4.2**/9, **mb4.7**/1, **MLv3.9**/9, **South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	2.72	30	P	Pn	16 55 56.1	-0.3
SKJI	Sukabumi	2.78	16	P	Pn	16 55 58.3	+1.1
BBJI	Bungbulang	2.89	40	P	Pn	16 55 58.6	-0.2
CGJI	Cibinong	3.06	359	P	Pn	16 56 00.8	-0.2
CMJI	Cimerak	3.25	55	P	Pn	16 56 03.4	-0.3
LEM	Lembang	3.38	33	P	Pn	16 56 05.4	-0.2
KPJI	Karang Pucung	3.91	53	P	Pn	16 56 13.1	+0.4
KASI	Kota Agung	4.33	343	P	Pn	16 56 18.0	-0.5
UGM	Wanagama	5.02	70	P	Pn	16 56 28.0	-0.1

IDC 06 16:55:37.7±730.0, **22.37S**×**69.29W**, **h0**km, **Error ellipse: s-maj=344.2km s-min=180.7km az=79.0**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I14CL	ROBINSON CRUSO	14.02	215	I	I	18 18 10.0	
	baz=40,slow=321,SNR=0.6						
I20EC	Galapagos	29.82	314	I	I	19 57 10.0	
	baz=142,slow=316,SNR=2.1						
I13CL	EASTER ISLAND	36.59	254	I	I	20 41 20.0	
	baz=90,slow=315,SNR=0.6						

IDC 06 16:58:27.0±2.8, **30.15S**×**178.02W**, **h0**km, **mb3.8**/3, **mbtmp3.7**/3, **Error ellipse: s-maj=68.2km s-min=19.4km az=118.0**, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.90	6	Pn	Pn	16 58 46.3	-0.6
	208nm,0.3s,baz=252,slow=19,SNR=16						
RAO				Sn	Sn	16 59 02.1	+1.5
	456nm,0.3s,baz=102,slow=22,SNR=9.3						
ASAR	Alice Springs	43.10	267	P	P	17 06 29.6	+0.4
	0.2nm,0.4s,baz=104,slow=7.7,SNR=7.9						
ASAR				PcP	PcP	17 08 17.0	-2.2
	0.4nm,0.9s,baz=98,slow=3.8,SNR=1.8						
	0.2nm,0.4s						
WRA	Warramunga Arr	44.07	272	P	P	17 06 36.9	-0.1
	0.4nm,0.4s,baz=111,slow=8.1,SNR=7.0						
	0.4nm,0.4s						
ILAR	Eielson Array	97.69	13	P	Pdif	17 12 04.7	+1.6
	0.7nm,1.1s,baz=199,slow=4.2,SNR=2.8						
	0.7nm,1.1s						

*NEIC **06** 17:02:11.3±1.3, 36.162N±0.010×98.29W±0.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=175.0*
TUL 06 17:02:11.4±1.3, **36.15N**±0.01×**98.30W**±0.01, **h7**km±3km, **ML2.6**, **ML2.5**/36(NEIC), **Error ellipse: s-maj=1.6km s-min=1.5km az=213.0**, **Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.43	36		Pg	17 02 20.0	+0.2
CROK				Sg	Sg	17 02 26.3	+0.8
OK038	West end E0370	0.48	312		Pg	17 02 21.0	+0.2
OK038				Sg	Sg	17 02 27.5	+0.3
OK038				IAML		17 02 31.4	
	492nm,0.3s						
CSTR	Hydro, Custer	0.60	212		Pg	17 02 23.1	+0.2
CSTR				Sg	Sb	17 02 32.0	-0.9
U32A	Winter Ranch,	0.61	292		Pg	17 02 23.3	+0.1
U32A				Sg	Sg	17 02 31.9	+0.7
U32A				IAML		17 02 34.7	
	comp=N,242nm,0.4s						
OK035	E0210 Rd and N	0.65	329	Pg	Pg	17 02 23.8	-0.1
OK035				IAML		17 02 33.2	
	comp=N,177nm,0.4s						
OK032	Salt Plains WL	0.65	6		Pg	17 02 23.9	-0.1
OK032				Sg	Sg	17 02 33.1	+0.6
OK032				IAML		17 02 33.4	
	comp=N,283nm,0.1s						
OK032				IAML		17 02 38.4	
	comp=N,276nm,0.2s						
OK029	Liberty Lake	0.77	117	Pg	Pg	17 02 26.2	+0.1
OK029				Sg	Sg	17 02 36.4	+0.3
OK029				IAML		17 02 36.8	
	comp=N,246nm,0.4s						
GC02	Grant County #	0.78	27		Pg	17 02 26.2	-0.2
GC02				Sg	Sg	17 02 36.6	0.0
KAN14	Manchester OK	0.84	18	Pg	Pg	17 02 27.3	-0.4
KAN14				Sg	Sg	17 02 39.0	+0.3
ADOK	Arcadia Dam	0.90	123	Pg	Pg	17 02 28.1	-0.7
ADOK				Sg	Sg	17 02 40.9	+0.5
ELIS	Ellis County	0.91	265	Pg	Pg	17 02 28.8	-0.2
ELIS				Sg	Sb	17 02 41.7	-0.3
ELIS				IAML		17 02 50.8	
	comp=N,121nm,0.2s						
ELIS				IAML		17 02 51.1	
	comp=E,103nm,0.2s						
KAN10	Anthony SW Sta	0.98	9	Pg	Pg	17 02 29.6	-0.6
KAN10				Sg	Sg	17 02 43.2	+0.2
KAN17	Caldwell West	0.99	26	Pg	Pg	17 02 29.6	-0.7
KAN17				Sg	Sg	17 02 43.2	0.0
KAN05	Bluff City Nor	1.01	20	Pg	Pg	17 02 29.4	-1.4
KAN05				Sg	Sg	17 02 44.0	0.0
BLOK	Blackwell	1.06	55		Pg	17 02 31.3	-0.5
BLOK					Sb	17 02 46.3	+0.1
BLOK				IAML		17 02 48.3	
	comp=N,156nm,0.2s						
KAN13	South Haven SW	1.08	37		Pg	17 02 31.4	-0.8
KAN13				Sg	Sg	17 02 45.7	-0.5
KAN01	Argonia South	1.09	23	Pg	Pg	17 02 30.6	-1.6
KAN01				Sg	Sg	17 02 45.7	-0.7
KAN08	Anthony NE Sta	1.10	14	Pg	Pg	17 02 31.6	-0.9
KAN08				Sg	Sg	17 02 47.0	+0.1
OK033	Mehan	1.10	95		Pg	17 02 31.5	-1.1
OK033				Sg	Sg	17 02 47.0	0.0
KAN09	Caldwell North	1.12	29		Pg	17 02 32.1	-0.9
KAN09				Sg	Sg	17 02 47.2	-0.3
OK048	Pawnee Station	1.12	76	Pg	Pg	17 02 32.3	-0.7
OK048				Sg	Sg	17 02 47.2	-0.3
OK048				IAML		17 02 51.7	
	comp=N,80nm,0.3s						
KAN06	Argonia West S	1.15	18		Pg	17 02 32.1	-1.4
KAN06					Sg	17 02 47.3	-1.0
FNO	Franklin	1.15	141		Pg	17 02 32.5	-1.0
FNO					Sg	17 02 48.3	-0.2
FNO				IAML		17 02 48.8	
	comp=E,106nm,0.3s						
FNO				IAML		17 02 54.3	
	comp=N,92nm,0.3s						
KAN12	Harper NE Stat	1.17	12		Pg	17 02 31.6	-2.2
KAN12					Sb	17 02 49.2	-0.1
OK052	Battle Ridge R	1.22	97		Pg	17 02 33.2	-1.6
OK052					Sg	17 02 50.3	-0.3
OK052				IAML		17 02 55.4	
	comp=N,123nm,0.2s						
QUOK	Quay	1.28	89		Pn	17 02 34.8	-1.0
QUOK				IAML		17 02 56.3	
	comp=N,129nm,0.3s						
QUOK				IAML		17 03 01.2	
	comp=E,114nm,0.2s						
WMOK	Wichita Mounta	1.47	196	Pg	Pn	17 02 37.7	-0.6
DEOK	Depew	1.49	101		Pn	17 02 38.2	-0.4
T35A	Sooner Cattle	1.63	62		Pn	17 02 39.4	-1.1
SMWD	Samnorwood	1.90	237		Pn	17 02 43.6	-0.7
TUL3	Leonard	2.04	96	Pn	Pn	17 02 45.0	-1.2
R32A	Long Quarter,	2.29	352	Pn	Pn	17 02 47.9	-1.8
LOOK	Love County	2.34	157	Pn	Pn	17 02 49.1	-1.2
WTFS	Witchita Falls	2.39	183		Pn	17 02 49.5	-1.5
RLO	Rose Lookout	2.65	89	Pn	Pn	17 02 52.2	-2.3
CBKS	Cedar Bluff	2.89	337	Pn	Pn	17 02 56.1	-1.9
AMTX	Amarillo	3.04	246	Pn	Pn	17 02 57.0	-3.1
KSU1	Kansas State U	3.23	24	Pn	Pn	17 03 00.0	-2.6
DKNS	Dickens	3.29	222		Pn	17 03 02.4	-1.1
HHAR	Hobbs	3.52	87		Pn	17 03 04.4	-2.2
RTBA	Rita Blanca	3.60	276		Pn	17 03 04.8	-3.0
ABTX	Abilene, Hawle	3.69	198	Pn	Pn	17 03 04.0	-4.9
S39A	Bolivar	4.27	67	Pn	Pn	17 03 14.5	-2.3
X40A	Basin Creek Fa	4.76	109	Pn	Pn	17 03 20.1	-3.6
BRDY	Brady	4.89	187	Pn	Pn	17 03 22.5	-2.9
WHAR	Wooly Hollow	4.96	98	Pn	Pn	17 03 22.5	-3.9
T25A	Trinidad	5.01	283	Pn	Pn	17 03 24.2	-3.1
R40A	Maddies Statio	5.26	64	Pn	Pn	17 03 26.9	-3.5
P40A	Paris	5.98	54	Pn	Pn	17 03 37.9	-2.4

*IDC **06** 17:14:51.6±1.5, 55.50N×111.14E, h0km, mb3.7/2, mbtmp3.5/8, ML3.4/6, Error ellipse: s-maj=29.5km s-min=24.8km az=179.0*
*MOS **06** 17:14:53.7±1.0, 55.33N×110.55E, h12km, mb3.6/1, Error ellipse: s-maj=12.0km s-min=6.9km az=71.7*
*BYKL **06** 17:14:54.0±0.2, 55.34N×110.46E*
ISC 06 17:14:53.1±1.1, **55.35N**±0.02×**110.63E**±0.02, **h3**km±9km, **n65**, σ**2.49**/137, **6C-4D**, **Lake Baykal region**

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

YLYR Ulyunkhan 0.56 147⇑iPg Pg 17 15 05.3 +1.4
YLYR eSg Sb 17 15 14.2 +0.1
YLYR Pmax
701nm,0.5s
YLYR Smax
817nm,0.3s
YLYR Ulyunkhan 0.56 147⇑iPG Pg 17 15 05.3 +1.4
YLYR e 17 15 14.4
YLYR pmax pmax
comp=Z,700nm,0.3s
YLYR smax smax
comp=E,624nm,0.2s
KMO Kumora 0.63 31⇓iPg Pg 17 15 07.0 +1.7
KMO eSg Sb 17 15 16.0 -0.2
KMO Pmax
comp=E,251nm,0.4s
KMO Smax
comp=E,2μm,0.9s
KMO Kumora 0.63 31⇓iPG Pg 17 15 06.9 +1.7
KMO e 17 15 16.2
KMO pmax pmax
comp=Z,251nm,0.3s
KMO smax smax
comp=E,2μm,0.9s
NIZB Nizh Angarsk 0.75 305⇑iPg Pg 17 15 06.9 -0.6
NIZB ePb Pb 17 15 09.6 +0.8
NIZB eSg Sg 17 15 16.4 -0.7
NIZB eSb Sn 17 15 24.3 +1.7
NIZB Pmax
comp=E,419nm,0.6s
NIZB max
comp=E,813nm,0.2s
NIZB Nizh Angarsk 0.75 305⇑iPG Pg 17 15 06.9 -0.6
NIZB e 17 15 16.4
NIZB pmax pmax
comp=Z,419nm,0.7s
NIZB smax smax
comp=N,818nm,0.2s
YOA Uoyan 1.00 38 ePg Pb 17 15 13.9 +0.7
YOA eSg Sb 17 15 27.2 +0.4
YOA Pmax
comp=N,331nm,0.3s
YOA Smax
comp=N,4μm,0.8s
YOA Uoyan 1.00 38 ePG Pb 17 15 13.7 +0.5
YOA e 17 15 28.2
YOA pmax pmax
comp=Z,346nm,0.4s
YOA smax smax
comp=N,4μm,0.8s
UKT Uakit 1.72 84⇑iPg Pb 17 15 26.4 +1.0
UKT eSg Sg 17 15 50.3 +2.1
UKT Pmax
comp=N,269nm,0.7s
UKT Smax
comp=N,782nm,0.7s
UKT Uakit 1.72 84⇓iPN Pg 17 15 26.6 +0.6
UKT e 17 15 50.3
UKT pmax pmax
comp=Z,273nm,0.8s
UKT smax smax
comp=N,784nm,0.8s
SYVR Suvo 1.73 192 ePg Pn 17 15 24.8 +0.6
SYVR eSg Sb 17 15 47.9 +0.2
SYVR Pmax
comp=N,220nm,0.5s
SYVR Smax
comp=N,836nm,0.8s
SYVR Suvo 1.73 192⇑iPN Pn 17 15 24.8 +0.6
SYVR e 17 15 46.7
SYVR pmax pmax
comp=Z,223nm,0.5s
SYVR smax smax
comp=E,865nm,0.6s
SVKR Severomuysk 1.83 64 ePg Pb 17 15 28.2 +1.0
SVKR e 17 15 32.7
SVKR eSg Sg 17 15 53.8 +1.9
SVKR max
comp=E,354nm,0.5s
SVKR Smax
comp=E,1μm,0.6s
SVKR Severomuysk 1.83 64 ePN Pb 17 15 28.3 +1.0
SVKR e 17 15 54.8
SVKR pmax pmax
comp=Z,354nm,0.8s
SVKR smax smax
comp=N,1μm,1.1s
MXMB Maximikha 2.36 209 ePg Pb 17 15 35.5 -0.8
MXMB e 17 15 41.2
MXMB eSn Sn 17 16 01.3 -1.0
MXMB eSg Sb 17 16 07.0 +1.1
OGRR Ongureny 2.46 227 ePn Pn 17 15 34.6 +0.5
OGRR ePg Pb 17 15 37.2 -0.8
OGRR eSn Sn 17 16 02.3 -2.4
OGRR eSg Sb 17 16 07.9 -0.7
OGRR Pmax
comp=N,84nm,0.6s
OGRR Smax
comp=N,330nm,0.6s
OGRR Ongureny 2.46 227 ePN Pn 17 15 34.7 +0.6
OGRR e 17 15 37.8
OGRR e 17 16 08.0
OGRR pmax pmax
comp=Z,85nm,1.1s
OGRR smax smax
comp=E,333nm,0.1s
UZR Uzur 2.64 221 ePn Pn 17 15 36.8 +0.2
UZR ePg Pb 17 15 40.4 -0.7
UZR eSn Sn 17 16 06.3 -2.9
UZR eSg Sb 17 16 13.5 -0.4
UZR Pmax
comp=E,47nm,0.5s
UZR Smax
comp=E,323nm,0.7s
GORB Goryachinsk 2.74 211 ePn Pn 17 15 37.8 -0.2
GORB ePg Pb 17 15 42.4 -0.3
GORB e 17 15 52.9
GORB eSn Sn 17 16 11.0 -0.6
GORB eSg Sb 17 16 18.0 +1.3
KELR Kotokel 3.00 211 ePn Pn 17 15 40.8 -0.7
KELR ePg Pb 17 15 47.2 +0.1
KELR eSn Sn 17 16 16.4 -1.5
KELR eSg Sb 17 16 25.5 +1.4
NLYR Nelyaty 3.08 66 ePn Pn 17 15 44.7 +2.0
NLYR ePg Pb 17 15 50.0 +1.5
NLYR ePgPg Pg 17 15 54.0 +1.9
NLYR eSn Sn 17 16 21.5 +1.5
NLYR eSg Sg 17 16 31.4 -0.5
NLYR eSgSg SbSb 17 16 39.8 +8.2
NLYR max
comp=E,95nm,0.8s
NLYR Smax
comp=E,382nm,0.8s
NLYR Nelyaty 3.08 66⇓iPN Pn 17 15 44.7 +2.0
NLYR e 17 15 52.3
NLYR eS Sn 17 16 21.0 +1.0
NLYR e 17 16 32.5
NLYR pmax pmax
comp=Z,94nm,1.0s
NLYR smax smax
comp=N,382nm,0.9s
BOD Bodaibo 3.10 36 ePn Pn 17 15 44.3 +1.3
BOD ePg Pb 17 15 49.4 +0.5
BOD eSn Sn 17 16 19.0 -1.6
BOD eSg Sg 17 16 31.0 -1.7
BOD Pmax
comp=N,23nm,0.4s
BOD Smax
comp=N,331nm,0.9s
BOD Bodaibo 3.10 36 ePN Pn 17 15 43.9 +0.9
BOD e 17 15 51.8
BOD e 17 16 31.3
BOD pmax pmax
comp=Z,22nm,0.3s
BOD smax smax
comp=E,331nm,0.9s
TRG Tyrgan 3.62 226 ePn Pn 17 15 50.6 +0.5
TRG e 17 15 52.9
TRG ePg Pb 17 15 56.8 -0.9
TRG e 17 16 01.5
TRG eSn Sn 17 16 29.9 -3.4
TRG eSg Sb 17 16 42.9 +0.9
TRG e 17 16 50.5
TRG max
comp=E,21nm,0.8s
TRG max
comp=E,253nm,1.4s
TRG Tyrgan 3.62 226 ePN Pn 17 15 49.4 -0.7
TRG e 17 15 57.5
TRG eS Sn 17 16 30.9 -2.4
TRG e 17 16 42.9
TRG pmax pmax
comp=Z,21nm,0.5s
TRG smax smax
comp=N,253nm,0.9s
CIT Chita 3.76 151 ePg Pb 17 16 02.3 +2.2
CIT eSn Sn 17 16 37.5 +0.7
CIT eSg Sg 17 16 50.7 -3.0
CIT Pmax
comp=N,70nm,0.4s
CIT Smax
comp=N,281nm,1.0s
CIT Chita 3.76 151 ePN Pn 17 15 51.6 -0.5
CIT e 17 16 00.8
CIT e 17 16 49.6
CIT pmax pmax
comp=Z,84nm,1.6s
CIT smax smax
comp=E,228nm,1.4s
UUDB Ulan-Yde 3.91 208 ePn Pn 17 15 53.6 -0.5
UUDB ePg Pb 17 16 03.1 +0.4
UUDB eSn Sn 17 16 39.3 -1.2
UUDB eSg Sb 17 16 53.9 +3.6
UUDB Pmax
comp=E,22nm,0.7s
UUDB Smax
comp=E,164nm,0.6s
FFNB Fofonovo 4.02 216 eSg Sb 17 16 56.0 +2.3
KAB Kabansk 4.06 217 eSg Sb 17 16 58.7 +4.0
KAB Smax
comp=E,535nm,1.0s
STDB Stepnoy Dvoret 4.07 220 eSg Sg 17 16 59.3 -4.3
VTMR Vitim 4.24 13 ePn Pn 17 15 59.3 +0.8
VTMR ePg Pb 17 16 10.4 +2.2
VTMR eSn Sn 17 16 47.4 -1.0
VTMR eSg Sg 17 17 05.5 -3.5
HRMR Khuramsha 4.32 212 ePn Pn 17 16 00.2 +0.4
HRMR ePg Pb 17 16 11.7 +2.0
HRMR eSn Sn 17 16 48.1 -2.6
HRMR eSg Sb 17 17 05.7 +3.4
HRMR Pmax
comp=E,48nm,0.6s
HRMR Smax
comp=E,536nm,0.7s
BGT Bolshoye Golou 4.53 225 eSg Sb 17 17 11.6 +3.3
BGT Smax
comp=E,152nm,1.1s
CRS Chara 4.55 67 ePn Pn 17 16 05.3 +2.4
CRS ePg Pg 17 16 17.9 -2.4
CRS eSn Sn 17 16 57.0 +0.7
CRS eSg Sg 17 17 16.9 -2.3
CRS Pmax
comp=E,62nm,1.0s
CRS Smax
comp=E,191nm,2.1s
IRK Irkutsk 4.88 233 eSg Sb 17 17 21.9 +3.5
IRK Smax
comp=E,447nm,1.2s
IRK Irkutsk 4.88 233 ePN Pb 17 16 21.1 +1.8
IRK e 17 17 23.1
IRK pmax pmax
comp=Z,67nm,0.2s
IRK smax smax
comp=N,446nm,1.2s
LSTR Listvyanka 4.90 227 ePn Pn 17 16 09.0 +1.3
LSTR ePg Pb 17 16 21.5 +1.9
LSTR eSn Sn 17 17 01.1 -3.9
LSTR eSg Sb 17 17 22.1 +3.1
LSTR e 17 17 35.6
LSTR Pmax
comp=N,8.0nm,0.4s
LSTR Smax
comp=N,107nm,2.0s
IVK Ivanovka 5.13 229 ePn Pn 17 16 11.4 +0.5
IVK ePg Pb 17 16 24.9 +1.4
IVK e 17 17 10.3
IVK eSg Sb 17 17 28.9 +3.4
IVK Pmax
comp=N,19nm,1.4s
IVK Smax
comp=N,102nm,1.3s
TUP Tupik 5.46 96 ePn Pn 17 16 17.0 +1.5
TUP e 17 16 21.4
TUP e 17 16 36.3
TUP eSn Sn 17 17 17.6 -1.2
TUP eSg Sg 17 17 45.4 -3.0
TUP e 17 17 55.5
TUP max
comp=N,17nm,1.0s
TUP Smax
comp=N,255nm,1.1s
TUP Tupik 5.46 96 ePN Pn 17 16 17.0 +1.5
TUP e 17 16 35.9
TUP eS Sn 17 17 17.6 -1.2
TUP e 17 17 45.8
TUP pmax pmax
comp=Z,14nm,0.5s
TUP smax smax
comp=N,256nm,0.8s
TLY Talaya 5.55 231 ePn Pn 17 16 16.3 -0.4
TLY ePg Pb 17 16 31.7 +1.0
TLY e 17 17 20.2
TLY eSg Sb 17 17 42.2 +4.6
TLY Pmax
comp=N,13nm,0.9s
TLY Smax
comp=N,80nm,0.5s
KPC Khapcheranga 5.75 169 ePn Pn 17 16 18.8 -0.7
KPC ePg Pb 17 16 37.0 +2.9
KPC e 17 16 45.3
KPC eSn Sn 17 17 23.2 -2.8
KPC eSg Sg 17 17 52.3 -5.4
KPC Pmax
comp=N,18nm,1.3s
KPC Smax
comp=N,131nm,1.0s
KPC Khapcheranga 5.75 169 ePN Pn 17 16 19.3 -0.2
KPC e 17 16 36.6
KPC eS Sn 17 17 23.1 -2.9
KPC e 17 17 50.5
KPC pmax pmax
comp=Z,16nm,0.5s
KPC smax smax
comp=E,132nm,1.3s
ARS Arshan 5.96 238 ePn Pn 17 16 22.9 +0.5
ARS ePg Pb 17 16 41.1 +3.4
ARS eSn Sn 17 17 27.1 -4.1
ARS eSg Sb 17 17 56.4 +6.8
ARS e 17 18 06.3
ARS Pmax
comp=E,32nm,0.7s
ARS max
comp=E,232nm,1.0s
ARS Arshan 5.96 238 ePN Pn 17 16 22.9 +0.5
ARS e 17 16 43.2
ARS eS Sn 17 17 28.7 -2.5
ARS e 17 17 56.2
ARS pmax pmax
comp=Z,31nm,0.7s
ARS smax smax
comp=E,231nm,0.8s
YKLR Yuktali 6.32 74 ePn Pn 17 16 29.5 +2.4
YKLR e 17 16 52.2
YKLR e 17 17 46.0
YKLR eSg Sg 17 18 11.4 -4.4
ZAK Zakamensk 6.67 225 e Pn 17 16 35.2 +3.1
ZAK ePg Pb 17 16 52.7 +3.0
ZAK e 17 18 00.6
ZAK eSg Sb 17 18 18.0 +8.2
ZAK Pmax
comp=E,11nm,0.8s
ZAK Smax
comp=E,72nm,1.1s
ZAK Zakamensk 6.67 225 ePN Pn 17 16 35.6 +3.5
ZAK e 17 16 54.4
ZAK e 17 18 17.6
ZAK pmax pmax
comp=Z,7.0nm,0.7s
ZAK smax smax
comp=E,72nm,1.1s
MOY Mondy 6.83 241 ePN Pn 17 16 36.8 +2.6
MOY e 17 16 57.6
MOY eS Sn 17 17 49.7 -2.8
MOY e 17 18 22.3
MOY pmax pmax
comp=Z,20nm,1.4s
MOY smax smax
comp=N,128nm,1.4s
ORL Orlik 6.98 251 ePn Pn 17 16 36.8 +0.5
ORL e 17 17 53.0
ORL eSg Sb 17 18 27.0 +8.3
ORL max
comp=N,21nm,0.8s
ORL Smax
comp=N,98nm,0.7s
ORL Orlik 6.98 251 ePN Pn 17 16 37.0 +0.7
ORL e 17 16 59.2
ORL eS Sn 17 17 53.6 -2.6
ORL e 17 18 27.2
ORL pmax pmax
comp=Z,21nm,1.1s
ORL smax smax
comp=N,97nm,1.4s
SONM Songino Array 7.97 201 Pn Pn 17 16 51.4 +1.4
comp=N,0.3nm,0.3s,baz=15,slow=13,SNR=10
SONM Lg Lg 17 19 03.3
comp=N,1.9nm,0.3s,baz=18,slow=28,SNR=16
comp=N,0.4nm,0.3s
CLNS Chul'man 8.12 74 eSg Sg 17 19 07.8 -5.7
YAK Yakutsk 11.93 48 Lg Lg 17 20 57.5
baz=159,slow=17
KLR Kul'dur 14.27 107 Pn Pn 17 18 11.2 -4.8
comp=N,0.1nm,0.3s,baz=315,slow=19,SNR=1.5
KLR Lg Lg 17 22 16.6
comp=N,0.1nm,0.3s,baz=259,slow=20,SNR=4.6
comp=N,0.5nm,0.6s
ZALV Zalesovo Beam 14.98 275 Pn Pn 17 18 25.9 +0.3
comp=N,0.2nm,0.3s,baz=74,slow=11,SNR=16
ZALV Lg Lg 17 22 40.9
comp=N,0.1nm,0.3s,baz=81,slow=31,SNR=4.2
comp=N,3.2nm,0.8s
NRIK Noril'sk 17.47 332 Pn Pn 17 18 54.4 -3.1
comp=N,0.3nm,0.3s,baz=113,slow=15,SNR=1.7
NRIK Sn Sn 17 21 57.8 -14
comp=N,0.3nm,0.3s,baz=45,slow=18,SNR=1.6
NRIK Lg Lg 17 23 55.1
baz=218,slow=19,SNR=1.0
comp=N,0.8nm,0.3s
TIXI Tiksi 18.12 19 P Pn 17 19 01.0 -4.5
baz=214,slow=18,SNR=2.4
TIXI S Sn 17 22 12.7 -15
comp=N,0.1nm,0.3s,baz=321,slow=1.7,SNR=2.7
TIXI Lg Lg 17 24 12.8
baz=318,slow=6.9,SNR=1.3
comp=N,0.1nm,0.3s
MKAR Makanchi Array 19.64 256 P Pn 17 19 25.5 +1.4
comp=N,0.1nm,0.3s,baz=64,slow=11,SNR=6.5
comp=N,0.4nm,0.6s
KURK Kurchatov 19.69 270 P Pn 17 19 26.9 +2.3
KURBB Kurchatov Arra 19.78 270 P Pn 17 19 26.9 +1.1
comp=N,1.2nm,0.7s,baz=67,slow=12,SNR=9.1
comp=N,1.2nm,0.7s
FINES FINESS Array B 41.76 314 P P 17 22 43.0 -0.2
comp=N,1.6nm,0.7s,baz=52,slow=9.1,SNR=3.7
comp=N,1.6nm,0.7s
CPUP Villa Florida 149.71 338 PKPbc PKPbc 17 34 43.1 -0.9
comp=N,1.1nm,0.6s,baz=45,slow=1.4,SNR=3.1

IDC 06 17:17:50.7±6.4, 7°.07S×155°.93E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=125.8km s-min=38.7km az=85.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	4.75	305	Pn	Pn	17 19 05.2	+1.5
	baz=288,slow=20						
KRVT				Sn	Sn	17 19 53.1	-6.4
	baz=218,slow=20						
WRA	Warramunga Arr	24.54	236	P	P	17 23 12.2	-0.1
	0.3nm,0.5s,baz=60,slow=9.5,SNR=6.4						
	0.3nm,0.5s						
ASAR	Alice Springs	26.82	230	P	P	17 23 33.1	+0.2
	0.1nm,0.5s,baz=60,slow=10.0,SNR=6.3						
	0.1nm,0.5s						
CMAR	Chiang Mai Arr	61.65	295	P	P	17 28 10.5	-0.4
	0.5nm,0.6s,baz=128,slow=5.3,SNR=8.4						
	0.5nm,0.6s						

IDC 06 17:28:48.9±0.7, 24°.21S×176°.61W, h0km, mb4.1/10, mbtmp4.1/11, ML4.0/1, MS3.6/10, Error ellipse: s-maj=29.6km s-min=21.8km az=129.0
NEIC 06 17:28:48.7±2.3, 24°.2S±0°.1×176°.3W±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=23.4km s-min=16.2km az=318.0
ISC 06 17:28:49.4±0.5, 24°.10S±0°.10×176°.5W±0°.1, h10km, n36, σ1s93/29, mb4.3/12, MS3.5/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	7.88	52		Pn	17 30 44.9	+0.8
NIUE				Sn	Sn	17 32 03.4	-10
AFI	Afiamalu	11.06	24	Pn	Pn	17 31 26.6	-1.3
AFI				Sn	Sn	17 33 26.2	-5.6
URZ	Urewera	15.14	200	Pn	Pn	17 32 20.8	-2.5
	0.6nm,0.3s,baz=163,slow=16,SNR=1.7						
URZ				Sn	Sn	17 34 57.3	-14
	0.7nm,0.3s,baz=59,slow=9.2,SNR=2.4						
	8.1nm,0.9s						
RAR	Rarotonga	15.69	83		Pn	17 32 28.1	-2.5
RAR				IAmb	IAmb	17 32 47.4	
	comp=Z,70nm,1.2s						
RAR	Rarotonga	15.69	83	Pn	Pn	17 32 29.2	-1.4
	comp=Z,3.3nm,0.3s,baz=270,slow=6.9,SNR=9.8						
RAR				Sn	Sn	17 35 06.5	-18
	comp=Z,0.9nm,0.3s,baz=100,slow=22,SNR=1.4						
RAR				LR	LR	17 37 33.7	
	comp=Z,94nm,20.1s,baz=220,slow=33						
DZM	Mont Dzumac	15.85	274	LR	LR	17 36 18.8	
	comp=Z,98nm,19.0s,baz=118,slow=29						
RPZ	Rata Peaks	22.09	205	LR	LR	17 41 43.9	
	comp=Z,130nm,19.8s,baz=26,slow=35						
PPT	Papeete	25.94	81	LR	LR	17 41 56.6	
	comp=Z,70nm,20.0s,baz=260,slow=30						
CTAO	Charters Tower	34.70	269	P	P	17 35 39.4	-0.3
STKA	Stephens Creek	37.65	249	LR	LR	17 50 07.7	
	comp=Z,80nm,19.1s,baz=29,slow=34						
BBOO	Buckleboo	42.33	247	P	P	17 36 43.8	+0.1
BBOO				IAmb	IAmb	17 37 18.6	
	comp=Z,32nm,1.4s						
AS31	Alice Springs	45.18	260	P	P	17 37 06.3	-0.5
ASAR	Alice Springs	45.18	260	P	P	17 37 05.9	-0.9
ASAR	Alice Springs	45.18	260	P	P	17 37 07.8	+1.0
	comp=Z,4.2nm,0.9s,baz=102,slow=8.3,SNR=26						
ASAR				LR	LR	17 55 21.4	
	comp=Z,60nm,18.0s,baz=92,slow=35						
	comp=Z,4.2nm,0.9s						
WB2	Warramunga Arr	45.59	265	P	P	17 37 09.8	-0.3
WB2				IAmb	IAmb	17 37 11.0	
	comp=Z,14nm,1.3s						
WRA	Warramunga Arr	45.60	265	P	P	17 37 09.6	-0.6
WRA	Warramunga Arr	45.60	265	P	P	17 37 10.1	-0.1
	comp=Z,2.1nm,0.7s,baz=99,slow=6.8,SNR=22						
	comp=Z,2.1nm,0.7s						
GUMO	Guam	53.19	311	LR	LR	17 58 49.4	
	comp=Z,18nm,22.0s,baz=84,slow=34						
CASY	Casey	61.35	206	P	P	17 39 01.4	-3.6
DAV	Davao City (W)	64.42	291	LR	LR	18 04 42.0	
	comp=Z,306nm,20.4s,baz=116,slow=34						
QSPA	South Pole Qui	65.99	180	P	P	17 39 36.1	+0.2
QSPA				IAmb	IAmb	17 39 51.5	
	comp=Z,3.3nm,0.9s						
QSPA	South Pole Qui	65.99	180	P	P	17 39 36.3	+0.4
	comp=Z,1.9nm,0.7s,baz=13,slow=1.5,SNR=16						
	comp=Z,1.9nm,0.7s						
MAW	Mawson	78.67	200	P	P	17 40 51.4	0.0
MAW				IAmb	IAmb	17 41 08.9	
	comp=Z,3.1nm,1.4s						
MAW	Mawson	78.67	200	P	P	17 40 51.9	+0.6
	comp=Z,6.3nm,1.0s,baz=144,slow=9.9,SNR=3.4						
	comp=Z,6.3nm,1.0s						
PETK	Petropavlovsk-	80.09	345	P	P	17 41 01.1	+1.9
	comp=Z,5.0nm,1.0s,baz=126,slow=7.3,SNR=2.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.0nm,1.0s						
NVAR	Mina Array Bea	82.69	42	P	P	17 41 16.2	+2.6
	comp=Z,0.5nm,0.6s,baz=244,slow=7.8,SNR=3.8						
	comp=Z,0.5nm,0.6s						
TXAR	Lajitas Array	87.83	57	P	P	17 41 42.8	+3.4
	comp=Z,0.3nm,0.8s,baz=224,slow=5.0,SNR=1.5						
	comp=Z,0.3nm,0.8s						
ANMO	Albuquerque	88.57	51	LR	LR	18 16 41.0	
	comp=Z,48nm,18.0s,baz=140,slow=32						
NEW	Newport	89.47	35	LR	LR	18 20 02.0	
	comp=Z,48nm,18.1s,baz=59,slow=34						
PDAR	Pinedale Array	90.62	43	P	P	17 41 53.0	+0.7
	comp=Z,1.1nm,1.0s,baz=247,slow=11,SNR=4.1						
	comp=Z,1.1nm,1.0s						
ILAR	Eielson Array	91.50	12	P	P	17 41 58.2	+2.6
	comp=Z,0.3nm,0.7s,baz=213,slow=6.5,SNR=1.8						
	comp=Z,0.3nm,0.7s						
CMAR	Chiang Mai Arr	92.63	289	P	P	17 42 01.8	-0.2
	comp=Z,0.5nm,0.8s,baz=127,slow=2.7,SNR=5.7						
	comp=Z,0.5nm,0.8s						
AKASG	Malin Array Be	146.82	330	PKPbc	PKPbc	17 48 31.4	-0.2
	comp=Z,1.1nm,0.5s,baz=43,slow=3.6,SNR=9.8						
EKA	Eskdalemuir Ar	148.41	7	PKPbc	PKPbc	17 48 36.5	+0.7
	comp=Z,1.3nm,0.7s,baz=250,slow=4.2,SNR=3.6						
BRTR	Keskin Array B	150.24	309	PKPbc	PKPbc	17 48 40.1	-1.1
	comp=Z,1.1nm,0.8s,baz=141,slow=50,SNR=5.2						
CLL	Collm	151.87	347	ePKPbc	PKiKP	17 48 46.0	+1.3

*IDC **06** 17:34:48.5±1.5, 4°.07N×126°.12E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=178.3km s-min=18.2km az=66.0*
*DJA **06** 17:34:49.0±2.9, 4°N±23°×12°7E±°, h13km±7km, M4.0/6, mb4.1/4, MLv3.9/6*
ISC 06 17:34:49.3±1.2, **4°.3N**±0°.1×**126°.8E**±0°.1, **h10km, n11,** σ**1s.04**/11, **mb3.5**/7, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.43	243	P	Pn	17 35 14.5	-0.9
TNTI	Ternate	3.59	171	P	Pn	17 35 43.9	-1.1
GTOI	Gorontalo	5.29	226	P	Pn	17 36 08.3	-0.1
	3.7nm,0.9s,0.0nm						
MRSI	Marisa	6.19	232	P	Pn	17 36 20.8	-0.1
WRA	Warramunga Arr	25.24	163	P	P	17 40 14.8	-0.9
	0.3nm,0.4s,baz=340,slow=11,SNR=6.9						
	0.3nm,0.4s						
ASAR	Alice Springs	28.68	166	P	P	17 40 46.5	-0.2
	0.2nm,0.5s,baz=345,slow=7.1,SNR=5.3						
	0.2nm,0.5s						
STKA	Stephens Creek	38.67	160	P	P	17 42 15.1	+1.7
	1.8nm,0.7s,baz=333,slow=10,SNR=3.6						
	1.8nm,0.7s						
MKAR	Makanchi Array	57.10	325	P	P	17 44 36.0	0.0
	0.2nm,0.4s,baz=135,slow=7.3,SNR=2.6						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	60.09	333	P	P	17 44 55.7	-0.9
	0.2nm,0.4s,baz=123,slow=8.8,SNR=1.7						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	61.27	327	P	P	17 45 04.1	-0.7
	0.2nm,0.3s,baz=124,slow=5.7,SNR=6.6						
	0.2nm,0.3s						
BVAR	Borovoye Array	66.86	327	P	P	17 45 42.7	+1.2
	0.2nm,0.5s,baz=115,slow=5.4,SNR=1.6						
	0.2nm,0.5s						

DJA 06 17:38:38.2±3.7, **4°N**±34°×**12°7E**±1°9, **h16km**±6km, **M3.7**/6, **mb3.9**/2, **MLv3.6**/6, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.18	254	P	Pn	17 38 59.9	-0.1
TNTI	Ternate	3.30	168	P	Pn	17 39 29.4	+0.1
MRSI	Marisa	5.88	233	P	Pn	17 40 04.5	-0.3
	12nm,0.6s,0.1nm						
SANI	Sanana	6.07	186	P	Pn	17 40 07.1	-0.2

*ISN **06** 17:39:49.6±0.8, 34°.53N×45°.75E, h10km, ML2.7*
*TEH **06** 17:39:50.7, 34°.53N×45°.79E, h8km±186km, ML2.7*
ISC 06 17:39:50.8±1.2, **34°.53N**±0°.07×**45°.79E**±0°.04, **h7km**±12km, **n9,** σ**0s.88**/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.16	263	Pg	Pg	17 39 54.1	-0.1
KGS1				Sg	Sg	17 39 57.3	+0.9
IDHR	Dehrash	0.53	71	Pg	Pg	17 40 01.0	0.0
IGHG	Ghaleghazi	0.68	107	Pg	Pg	17 40 03.5	-0.4
IGHG				Sg	Sb	17 40 14.4	-0.4
ILIN	Lien	1.04	68	Pg	Pb	17 40 11.1	-0.3
IBDR	Badra	1.42	175	ePn	Pb	17 40 17.0	-0.6
IBDR				eSn	Sg	17 40 37.0	+0.6
IBDR				AML	AML	17 40 39.9	
	comp=E,140nm,0.7s						
IBDR				AML	AML	17 40 40.3	
	comp=N,108nm,0.5s						
IKOM	Komasi	1.47	103	Pg	Pg	17 40 18.9	-0.1
BHD	Baghdad	1.71	223	ePn	Pb	17 40 21.0	-1.6
BHD				eSn	Sb	17 40 44.0	-0.4
IBZA	Bozab	1.71	91	Pg	Pg	17 40 22.9	-0.9
RAFI	Al-Rafai	2.81	174	ePn	Pn	17 40 37.0	+0.8
RAFI				eSn	Sn	17 41 11.5	+1.2

*IDC **06** 17:41:25.9±1.4, 4°.88S×153°.76E, h0km, mb4.0/9, mbtmp4.1/10, ML2.3/1, MS3.5/8, Error ellipse: s-maj=39.7km s-min=22.0km az=119.0*
*NEIC **06** 17:41:37.4±1.8, 4°.77S±0°.09×153°.04E±0°.08, h58km±9km, mb4.4/18, Error ellipse: s-maj=14.6km s-min=10.0km az=222.0*
ISC 06 17:41:35.1±0.7, **4°.77S**±0°.07×**153°.22E**±0°.08, **h50km, n44,** σ**1s.40**/37, **mb4.3**/17, **MS3.6**/8, **New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.28	291	Pn	Pn	17 41 57.9	+1.2
	baz=128,slow=20						
KRVT				Sn	Sn	17 42 15.4	+2.7
	baz=129,slow=20						
MANU	Manus Island	6.45	295		Pn	17 43 07.1	-0.4
PMG	Port Moresby	7.58	232		Pn	17 43 23.7	+0.7
PMG	Port Moresby	7.58	232	Pn	Pn	17 43 24.8	+1.8
	2.4nm,0.3s,baz=40,slow=11,SNR=11						
PMG				Sn	Sn	17 44 45.4	-2.2
	5.1nm,0.3s,baz=146,slow=21,SNR=3.0						
	9.3nm,0.5s						
HNR	Honiara	8.12	125	Pn	Pn	17 43 36.5	+6.0
PATS	Pohnpei	12.60	24	Pn	Pn	17 44 31.5	-0.2
FAKI	Fak Fak	21.01	274	P	P	17 46 14.3	-0.4
FAKI				IAmb	IAmb	17 46 45.6	
	comp=Z,29nm,1.2s						
DZM	Mont Dzumac	21.44	145	P	P	17 46 21.6	+2.3
DZM				IAmb	IAmb	17 46 36.8	
	comp=Z,11nm,0.9s						
MTN	Manton Dam	23.24	248	P	P	17 46 37.2	-1.1
WB0	Warramunga Arr	23.64	229	P	P	17 46 40.9	-1.1
WB0				IAmb	IAmb	17 46 47.9	
	comp=Z,14nm,1.1s						
WR0	Warramunga Arr	23.64	229	P	P	17 46 39.6	-2.5
WR0				IAmb	IAmb	17 46 48.1	
	comp=Z,12nm,0.9s						
WRAB	Tennant Creek	23.77	229	P	P	17 46 41.3	-1.9
WRAB				IAmb	IAmb	17 46 44.8	
	comp=Z,10nm,0.8s						
WB2	Warramunga Arr	23.77	229	P	P	17 46 41.8	-1.5
WB2				IAmb	IAmb	17 46 44.9	
	comp=Z,10nm,0.8s						
WRA	Warramunga Arr	23.78	229	P	P	17 46 42.0	-1.4
WRA	Warramunga Arr	23.78	229	P	P	17 46 42.7	-0.7
	comp=Z,7.2nm,0.8s,baz=50,slow=9.4,SNR=35						
	comp=Z,7.2nm,0.8s						
KNRA	Kununurra	26.36	244	P	P	17 47 05.7	-1.2
AS31	Alice Springs	26.46	223	P	P	17 47 06.9	-0.8
ASAR	Alice Springs	26.46	223	P	P	17 47 07.0	-0.7
ASAR	Alice Springs	26.46	223	P	P	17 47 07.2	-0.5
	comp=Z,0.9nm,0.5s,baz=48,slow=9.3,SNR=29						
	comp=Z,0.9nm,0.5s						
STKA	Stephens Creek	29.09	201	LR	LR	17 58 58.2	
	comp=Z,29nm,21.9s,baz=26,slow=36						
FITZ	Fitzroy Crossi	30.04	242	P	P	17 47 38.4	-1.2
JCJ	Chichijima	33.43	342	LR	LR	17 59 44.7	
	comp=Z,64nm,20.3s,baz=82,slow=33						
FORT	Forrest	35.08	220	P	P	17 48 23.3	-0.3
MBWA	Marble Bar	36.35	240	P	P	17 48 33.9	-0.7
PSA00	Pilbara Seismi	36.41	240		P	17 48 34.3	-0.8
PSA00				IAmb	IAmb	17 48 37.7	
	comp=Z,5.7nm,0.9s						
PSA00	Pilbara Seismi	36.41	240	P	P	17 48 33.5	-1.6
PSA00				IAmb	IAmb	17 48 40.2	
	comp=Z,20nm,1.1s						
TUWZ	Tuamarina	40.94	156	P	P	17 49 14.4	+1.6
MORW	Morawa	42.69	231	P	P	17 49 27.6	+0.2
KULM	Kulim	53.45	280	P	P	17 50 50.6	-0.1
KULM				IAmb	IAmb	17 51 11.4	
	comp=Z,12nm,1.2s						
PETK	Petropavlovsk-	57.79	3	LR	LR	18 12 29.4	
	comp=Z,34nm,19.9s,baz=58,slow=32						
CMAR	Chiang Mai Arr	58.25	295	P	P	17 51 26.2	+1.2
	comp=Z,1.9nm,0.8s,baz=118,slow=5.2,SNR=23						
	comp=Z,1.9nm,0.8s						
SONM	Songino Array	66.53	328	P	P	17 52 20.7	+0.8
SONM	Songino Array	66.53	328	P	P	17 52 20.9	+1.0
	comp=Z,0.4nm,0.6s,baz=134,slow=6.0,SNR=2.9						
	comp=Z,0.4nm,0.6s						
PALK	Pallekele	73.35	279	LR	LR	18 27 50.5	
	comp=Z,32nm,19.0s,baz=253,slow=38						
KDAK	Kodiak Island	75.96	27	LR	LR	18 19 57.8	
	comp=Z,47nm,21.1s,baz=175,slow=30						
MKAR	Makanchi Array	80.58	319	P	P	17 53 43.0	+0.6
	comp=Z,1.4nm,0.8s,baz=99,slow=6.6,SNR=16						
	comp=Z,1.4nm,0.8s						
ZALV	Zalesovo Beam	81.36	326	P	P	17 53 46.9	+0.6
	comp=Z,0.6nm,0.5s,baz=101,slow=1.5,SNR=5.1						
	comp=Z,0.6nm,0.5s						
ILAR	Eielson Array	81.97	22	P	P	17 53 46.1	-3.2
	comp=Z,0.3nm,0.8s,baz=243,slow=6.0,SNR=2.2						
	comp=Z,0.3nm,0.8s						
KURBB	Kurchatov Arra	84.04	322	P	P	17 53 59.3	-1.0
	comp=Z,1.1nm,0.8s,baz=109,slow=4.0,SNR=12						
	comp=Z,1.1nm,0.8s						
YBH	Yreka Blue Hor	88.72	48	LR	LR	18 26 46.3	
	comp=Z,25nm,19.0s,baz=346,slow=31						
BVAR	Borovoye Array	89.47	323	P	P	17 54 26.7	0.0
	comp=Z,4.2nm,0.8s,baz=100,slow=5.2,SNR=27						
	comp=Z,4.2nm,0.8s						
NVAR	Mina Array Bea	91.73	52	LR	LR	18 28 22.6	
	comp=Z,37nm,19.9s,baz=354,slow=31						
ELK	Elko	94.25	50	LR	LR	18 35 04.6	
	comp=Z,37nm,18.1s,baz=41,slow=34						
TORD	Torodi Ar. Bea	150.70	288	PKPbc	PKiKP	18 01 23.2	-0.3
	comp=Z,2.4nm,0.8s,baz=53,slow=3.2,SNR=15						

*ISN **06** 17:44:40.8±1.2, 34°.43N×46°.07E, h29km±9km, ML2.8*
*TEH **06** 17:44:40.0, 34°.35N×46°.09E, h10km±164km, ML2.8*
ISC 06 17:44:40.0±0.9, **34°.40N**±0°.05×**46°.12E**±0°.04, **h10km, n10,** σ**0s.85**/13, **Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.37	36	Pg	Pb	17 44 47.7	-1.2
IGHG	Ghaleghazi	0.38	100	Pg	Pb	17 44 48.0	-0.9
KGS1	Ghasr-e-Shirin	0.45	284	Pg	Pb	17 44 49.1	-1.0
KGS1				Sg	Sb	17 44 57.6	+0.7
KCHF	Cheshme Sefid,	0.77	99	Sg	Sb	17 45 06.3	+0.1
ILBA	Ilam Banvizeh	0.78	175	Pg	Pg	17 44 54.2	-0.8
ILIN	Lien	0.87	53	Pg	Pn	17 44 58.6	+0.1
IKOM	Komasi	1.17	101	Pg	Pn	17 45 02.9	+0.3
IBDR	Badra	1.29	187	ePg	Pn	17 45 04.0	-0.1
	baz=5.0						
IBDR				eSg	Sg	17 45 23.0	+1.4
IBDR				AML	AML	17 45 28.2	
	comp=E,182nm,0.5s						
IBDR				AML	AML	17 45 37.2	
	comp=N,158nm,0.6s						
IBZA	Bozab	1.44	87	Pg	Pg	17 45 08.4	+0.8
BHD	Baghdad	1.83	233	ePn	Pn	17 45 12.0	+0.5
BHD				eSn	Sn	17 45 35.0	+0.2

*DJA **06** 17:49:22.5±2.9, 4°N±23°×12°7E±1°1, h10km, M4.1/7, mb4.0/3, MLv4.2/7*
*IDC **06** 17:49:46.1±2.4, 4°.20N×127°.11E, h218km±24km, mb3.0/5, mbtmp3.7/7, MS3.0/1, Error ellipse: s-maj=53.6km s-min=14.6km az=69.0*
ISC 06 17:49:27.5±1.3, **4°.2N**±0°.1×**126°.9E**±0°.1, **h35km, n14,** σ**1s.01**/12, **mb3.6**/5, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.48	249	P	Pn	17 49 49.6	-2.0
DAV	Davao City (W)	3.12	335	P	Pn	17 50 38.8	+25
	93nm,0.4s,baz=192,slow=19,SNR=1.5						
DAV				S	Sn	17 51 12.3	+22
	70nm,0.3s,baz=277,slow=20,SNR=1.1						
DAV				LR	LR	17 52 09.8	
	comp=Z,214nm,18.8s,baz=124,slow=44						
TNTI	Ternate	3.46	172	P	Pn	17 50 17.7	-1.2
KMSI	Cibinong	4.66	219	P	Pn	17 50 36.0	+0.6
LBMI	Labuha	4.86	173	P	Pn	17 50 37.4	-0.9
GTOI	Gorontalo	5.28	228	P	Pn	17 50 43.9	0.0
	6.7nm,1.2s,0.0nm						
MRSI	Marisa	6.20	233	P	Pn	17 50 56.7	0.0
	32nm,0.5s,0.1nm						
SANI	Sanana	6.30	188	P	Pn	17 50 56.9	-1.1
KAPI	Kappang	11.63	218	P	Pn	17 52 29.2	+18
	6.1nm,0.7s,baz=69,slow=17,SNR=3.8						
WRA	Warramunga Arr	25.10	163	P	P	17 54 50.1	+1.0
	1.4nm,0.8s,baz=336,slow=11,SNR=12						
	1.4nm,0.8s						
ASAR	Alice Springs	28.55	166	P	P	17 55 20.6	+0.4
	0.2nm,0.5s,baz=346,slow=6.6,SNR=4.8						
	0.2nm,0.5s						
STKA	Stephens Creek	38.52	160	P	P	17 56 47.1	+0.3
	0.6nm,0.3s,baz=315,slow=8.6,SNR=1.4						
	0.6nm,0.3s						
MKAR	Makanchi Array	57.26	325	P	P	17 59 11.9	+0.3
	0.2nm,0.5s,baz=133,slow=8.0,SNR=4.6						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	61.42	327	P	P	17 59 40.3	0.0
	0.3nm,0.5s,baz=126,slow=6.4,SNR=5.6						
	0.3nm,0.5s						

*IDC **06** 17:54:23.2±1.5, 1°.03N×126°.32E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=106.3km s-min=20.4km az=63.0*
ISC 06 17:54:24.4±1.5, **1°.2N**±0°.3×**126°.6E**±0°.6, **h10km, n7,** σ**0s.52**/7, **mb3.5**/6, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.75	336	P	Pn	17 55 08.9	+0.4
WRA	Warramunga Arr	22.28	161	P	P	17 59 22.3	+0.3
	0.6nm,0.7s,baz=334,slow=11,SNR=6.0						
	0.6nm,0.7s						
ASAR	Alice Springs	25.66	164	P	P	17 59 54.5	0.0
	0.2nm,0.4s,baz=345,slow=7.6,SNR=8.7						
	0.2nm,0.4s						
CMAR	Chiang Mai Arr	32.16	304	P	P	18 00 52.7	+0.1
	0.4nm,0.6s,baz=115,slow=6.1,SNR=2.6						
	0.4nm,0.6s						
MKAR	Makanchi Array	59.62	326	P	P	18 04 27.9	-0.8
	0.2nm,0.5s,baz=112,slow=7.3,SNR=1.5						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	63.85	328	P	P	18 04 56.6	-0.5
	0.3nm,0.5s,baz=124,slow=6.6,SNR=2.1						
	0.3nm,0.5s						
BVAR	Borovoye Array	69.42	328	P	P	18 05 32.8	+0.1
	0.3nm,0.8s,baz=107,slow=5.0,SNR=2.2						
	0.3nm,0.8s						

*DJA **06** 18:01:45.2±1.1, 4°N±11°×12°7E±°, h10km, M4.3/14, mb4.2/11, mB5.2/3, MLv4.3/14, Mw(mB)4.5/3*
*NEIC **06** 18:01:45.5±2.1, 4°.30N±0°.08×126°.7E±0°.1, h18km±6km, mb4.4/20, Error ellipse: s-maj=15.5km s-min=10.8km az=63.0*
*IDC **06** 18:01:58.5±1.8, 3°.83N×126°.10E, h133km±17km, mb3.4/12, mbtmp3.9/13, Error ellipse: s-maj=35.4km s-min=11.2km az=69.0*
ISC 06 18:01:48.4±0.6, **4°.22N**±0°.06×**126°.73E**±0°.09, **h45km, n53,** σ**1s.36**/50, **mb4.2**/20, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.31	246	P	Pn	18 02 09.6	-0.7
DAV	Davao City (W)	3.06	338	P	Pn	18 02 48.6	+14
	98nm,0.4s,baz=230,slow=15,SNR=1.6						
DAV				S	Sn	18 03 27.8	+18
	154nm,0.5s,baz=230,slow=17,SNR=2.6						
TNTI	Ternate	3.48	169		Pn	18 02 40.1	+0.1
TNTI				Sn	Sn	18 03 20.1	+0.1
TNTI	Ternate	3.48	169	P	Pn	18 02 40.2	+0.1
BIPH	Bislig	3.96	355⇓	eP	Pn	18 02 53.3	+6.7
BIPH				eS	Sn	18 03 47.2	+15
KMSI	Cibinong	4.54	217	P	Pn	18 02 54.3	-0.4
LBMI	Labuha	4.88	171	P	Pn	18 02 58.2	-1.2
GTOI	Gorontalo	5.14	226	P	Pn	18 03 02.3	-0.6
	14nm,0.8s,0.0nm						
MRSI	Marisa	6.06	232	P	Pn	18 03 16.3	+0.8
	62nm,0.6s,721nm0.3nm						
SANI	Sanana	6.27	187	P	Pn	18 03 17.5	-0.9
	11nm,0.9s,0.1nm						
LUWI	Luwuk	6.55	217		Pn	18 03 23.5	+1.3
LUWI	Luwuk	6.55	217	P	Pn	18 03 22.6	+0.3
	121nm,1.2s,1μm0.4nm						
TOLI2	Tolitoli	6.70	243		Pn	18 03 24.2	-0.1
SWI	Sorong	6.78	138	P	Pn	18 03 23.9	-1.4
	21nm,1.1s,0.1nm						
SIJI	Sorong	6.79	138	P	Pn	18 03 24.8	-0.7
	14nm,0.9s,0.1nm						
NLAI	Namlea	7.42	177	P	Pn	18 03 34.0	-0.1
	7.4nm,0.8s,4μm0.1nm						
MPSI	Mapaga	7.84	241	P	Pn	18 03 40.5	+0.6
	12nm,0.8s,0.0nm						
FAKI	Fak Fak	8.98	142	Pn	Pn	18 03 56.1	+0.5
MTN	Manton Dam	17.50	166		Pn	18 05 46.4	-3.0
MTN				IAmb	IAmb	18 05 54.7	
	comp=Z,26nm,1.2s						
KNRA	Kununurra	19.87	174	P	P	18 06 15.0	-0.9
KNRA				IAmb	IAmb	18 06 58.9	
	comp=Z,26nm,1.2s						
TPUB	Ta-pu	19.87	343	P	P	18 06 08.3	-7.6
FITZ	Fitzroy Crossi	22.20	183	P	P	18 06 40.2	-0.8
JOW	Kunigami	22.54	4	P	P	18 06 38.8	-5.8
UBPT	Khong Chiam	23.63	299	P	P	18 06 54.3	-1.4
UBPT				IAmb	IAmb	18 06 57.7	
	comp=Z,16nm,1.4s						
WB0	Warramunga Arr	25.00	163	P	P	18 07 07.3	-0.9
WB0				IAmb	IAmb	18 07 21.6	
	comp=Z,7.8nm,0.8s						
WRA	Warramunga Arr	25.15	163	P	P	18 07 08.9	-0.6
WRA	Warramunga Arr	25.15	163	P	P	18 07 09.6	+0.1
	comp=Z,5.7nm,0.9s,baz=338,slow=11,SNR=19						
	comp=Z,5.7nm,0.9s						
WB2	Warramunga Arr	25.15	163		P	18 07 09.2	-0.4
WB2				IAmb	IAmb	18 07 10.5	
	comp=Z,13nm,1.1s						
WR0	Warramunga Arr	25.22	163	P	P	18 07 10.6	+0.4
WR0				IAmb	IAmb	18 07 22.8	
	comp=Z,20nm,1.4s						
PSA00	Pilbara Seismi	26.50	194	P	P	18 07 22.7	+0.9
AS31	Alice Springs	28.58	166	P	P	18 07 41.1	+0.7
ASAR	Alice Springs	28.58	166	P	P	18 07 40.8	+0.3
ASAR	Alice Springs	28.58	166	P	P	18 07 41.0	+0.6
	comp=Z,0.6nm,0.5s,baz=347,slow=7.3,SNR=12						
	comp=Z,0.6nm,0.5s						
CMAR	Chiang Mai Arr	30.63	300	P	P	18 07 56.7	-1.9
	comp=Z,0.4nm,0.7s,baz=114,slow=7.2,SNR=6.7						
	comp=Z,0.4nm,0.7s						
EIDS	Eidsvold	37.73	142	P	P	18 08 59.9	-0.1
BBOO	Buckleboo	37.87	167	P	P	18 09 01.8	+0.7
STKA	Stephens Creek	38.58	160	P	P	18 09 07.0	-0.1
STKA	Stephens Creek	38.58	160	P	P	18 09 07.2	+0.2
	comp=Z,1.9nm,0.5s,baz=329,slow=14,SNR=7.2						
	comp=Z,1.9nm,0.5s						
USRK	Ussuriysk Ar.	40.09	6	P	P	18 09 18.7	-0.8
ARMA	Armidale	41.87	147	P	P	18 09 35.5	+1.0
ARMA				IAmb	IAmb	18 10 00.8	
	comp=Z,6.6nm,1.1s						
SONM	Songino Array	46.84	341	P	P	18 10 16.3	+2.3
	comp=Z,0.3nm,0.6s,baz=154,slow=8.8,SNR=2.6						
	comp=Z,0.3nm,0.6s						
PETK	Petropavlovsk-	54.98	22	P	P	18 11 20.2	+5.2
	comp=Z,2.3nm,0.8s,baz=191,slow=5.9,SNR=2.0						
	comp=Z,2.3nm,0.8s						
MK31	Makanchi Array	57.16	325	P	P	18 11 30.8	+0.1
MKAR	Makanchi Array	57.16	325	P	P	18 11 30.2	-0.5
MKAR	Makanchi Array	57.16	325	P	P	18 11 31.6	+0.9
	comp=Z,0.5nm,0.5s,baz=118,slow=8.4,SNR=11						
	comp=Z,0.5nm,0.5s						
ZALV	Zalesovo Beam	60.16	333	P	P	18 11 51.9	+0.5
	comp=Z,0.4nm,0.5s,baz=119,slow=5.0,SNR=2.3						
	comp=Z,0.4nm,0.5s						
KURBB	Kurchatov Arra	61.33	327	P	P	18 11 59.8	+0.3
	comp=Z,1.1nm,0.7s,baz=125,slow=6.1,SNR=12						
	comp=Z,1.1nm,0.7s						
KURK	Kurchatov	61.33	327	P	P	18 11 59.6	+0.2
KURK				IAmb	IAmb	18 12 19.0	
	comp=Z,2.6nm,0.9s						
BVAR	Borovoye Array	66.92	327	P	P	18 12 36.2	+0.1
	comp=Z,0.7nm,0.8s,baz=141,slow=9.6,SNR=4.9						
	comp=Z,0.7nm,0.8s						
BRVK	Borovoye	66.99	327	P	P	18 12 35.8	-0.7
BRVK				IAmb	IAmb	18 12 56.0	
	comp=Z,2.6nm,1.1s						
NRIK	Noril'sk	69.96	346	P	P	18 12 57.9	+3.2
	comp=Z,1.1nm,0.4s,baz=118,slow=11,SNR=2.5						
	comp=Z,1.1nm,0.4s						
C23K	Itkillik River	83.53	20	P	P	18 14 13.2	+1.9
C23K				IAmb	IAmb	18 14 14.7	
	comp=Z,5.1nm,1.5s						
ILAR	Eielson Array	84.67	25	P	P	18 14 18.8	+1.6
	comp=Z,0.3nm,0.8s,baz=251,slow=5.6,SNR=2.2						
	comp=Z,0.3nm,0.8s						

*IDC **06** 18:15:02.9±0.6, 6°.04S×153°.49E, h0km, mb4.1/17, mbtmp4.2/19, ML2.7/1, MS3.1/5, Error ellipse: s-maj=21.3km s-min=14.4km az=87.0*
*NEIC **06** 18:15:04.2±1.6, 6°.02S±0°.07×153°.53E±0°.10, h10km±1km, mb4.6/40, Error ellipse: s-maj=16.8km s-min=11.0km az=85.0*
ISC 06 18:15:07.5±0.5, **6°.04S**±0°.05×**153°.45E**±0°.07, **h32km, n82,** σ**1s.18**/86, **mb4.5**/39, **MS3.2**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.23	320	Pn	Pn	18 15 41.4	-0.9
	baz=128,slow=19						
KRVT				Sn	Sn	18 16 05.6	-3.2
	baz=218,slow=19						
RABL	Rabaul	2.24	325		Pn	18 15 41.3	-1.1
RABL				Sn	Sn	18 16 08.4	-0.6
PMG	Port Moresby	7.08	241		Pn	18 16 48.3	-0.6
PMG				Sn	Sn	18 18 08.5	+0.2
PMG	Port Moresby	7.08	241	Pn	Pn	18 16 49.0	+0.1
	8.6nm,0.3s,baz=38,slow=12,SNR=28						
PMG				Sn	Sn	18 18 07.3	-1.0
	2.8nm,0.3s,baz=80,slow=15,SNR=2.1						
PMG				LR	LR	18 19 08.4	
	comp=Z,38nm,21.6s,baz=24,slow=34						
	44nm,0.5s						
MANU	Manus Island	7.25	303		Pn	18 16 51.0	-0.4
HNR	Honiara	7.26	118	Pn	Pn	18 16 50.4	-1.1
	70nm,0.3s,baz=246,slow=10.0,SNR=0.7						
DZM	Mont Dzumac	20.29	143	P	P	18 19 39.6	-1.3
	4.5nm,0.8s,baz=286,slow=18,SNR=2.1						
DZM				LR	LR	18 26 21.9	
	comp=Z,65nm,20.3s,baz=22,slow=34						
	4.5nm,0.8s						
WR0	Warramunga Arr	23.00	231	P	P	18 20 09.6	-0.2
WR0				IAmb	IAmb	18 20 34.5	
	comp=Z,20nm,1.5s						
WB0	Warramunga Arr	23.01	232	P	P	18 20 08.3	-1.7
MTN	Manton Dam	23.02	251	P	P	18 20 09.1	-1.0
MTN				IAmb	IAmb	18 20 31.1	
	comp=Z,22nm,0.8s						
WB2	Warramunga Arr	23.14	232	P	P	18 20 10.5	-0.7
WRA	Warramunga Arr	23.15	232	P	P	18 20 11.2	-0.1
	comp=Z,2.3nm,0.8s,baz=54,slow=9.6,SNR=8.8						
WRA				PcP	PcP	18 24 01.1	+1.6
	comp=Z,0.5nm,1.0s,baz=62,slow=2.5,SNR=1.8						
	comp=Z,2.3nm,0.8s						
AS31	Alice Springs	25.70	225	P	P	18 20 34.5	-0.5
ASAR	Alice Springs	25.71	225	P	P	18 20 33.0	-2.0
ASAR	Alice Springs	25.71	225	P	P	18 20 35.0	-0.1
	comp=Z,1.1nm,0.5s,baz=57,slow=9.3,SNR=37						
ASAR				PcP	PcP	18 24 05.3	+0.3
	comp=Z,0.5nm,0.9s,baz=71,slow=2.3,SNR=2.4						
	comp=Z,1.1nm,0.5s						
KNRA	Kununurra	26.04	246	P	P	18 20 37.0	-1.1
STKA	Stephens Creek	27.99	202		P	18 20 52.8	-2.7
STKA	Stephens Creek	27.99	202	P	P	18 20 54.2	-1.3
	comp=Z,2.0nm,0.9s,baz=15,slow=12,SNR=1.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA				LR	LR	18 32 21.6	
	comp=Z,42nm,19.0s,baz=25,slow=37						
	comp=Z,2.0nm,0.9s						
SOEI	Soe	29.14	261	P	P	18 21 05.1	-0.9
FITZ	Fitzroy Crossi	29.66	244	P	P	18 21 08.9	-1.6
PSA00	Pilbara Seismi	35.98	241	P	P	18 22 04.6	-1.1
PSA00	Pilbara Seismi	35.98	241	P	P	18 22 04.1	-1.6
PSA00				IAmb	IAmb	18 22 34.0	
	comp=Z,11nm,1.4s						
RPZ	Rata Peaks	40.59	160	LR	LR	18 37 00.1	
	comp=Z,56nm,21.4s,baz=353,slow=32						
JNU	Nakatsue	44.46	333	P	P	18 23 14.9	-0.9
JNU				IAmb	IAmb	18 23 28.3	
	comp=Z,17nm,1.2s						
MJAR	Matsushiro Arr	44.70	342	P	P	18 23 17.0	-0.6
	comp=Z,0.7nm,0.6s,baz=170,slow=8.7,SNR=4.2						
	comp=Z,0.7nm,0.6s						
MAJO	Matsushiro	44.70	342	P	P	18 23 17.5	-0.2
MJB9	Matsu-Tunnel	44.71	342	P	P	18 23 17.4	-0.3
RAR	Rarotonga	47.69	113	LR	LR	18 43 32.6	
	comp=Z,22nm,18.1s,baz=166,slow=36						
KSRS	Korea Array	49.39	333	P	P	18 23 54.7	+0.5
	comp=Z,0.5nm,0.5s,baz=147,slow=7.5,SNR=2.3						
	comp=Z,0.5nm,0.5s						
NJ2	Nanjing	50.21	321	eP	P	18 24 02.6	+2.0
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
USRK	Ussuriysk Ar.	53.62	341	P	P	18 24 26.5	+0.7
USRK	Ussuriysk Ar.	53.62	341	P	P	18 24 26.8	+1.0
	comp=Z,1.5nm,0.6s,baz=129,slow=4.5,SNR=7.4						
	comp=Z,1.5nm,0.6s						
USA0B	Ussuriysk Arra	53.63	341	P	P	18 24 26.2	+0.4
USA0B				IAmb	IAmb	18 24 29.5	
	comp=Z,5.1nm,0.9s						
KULM	Kulim	53.90	281	P	P	18 24 27.8	-0.6
KULM				IAmb	IAmb	18 24 56.9	
	comp=Z,8.4nm,1.3s						
CRAI	Chiangrai	58.33	298	P	P	18 25 01.1	+1.2
CRAI				IAmb	IAmb	18 25 13.0	
	comp=Z,4.4nm,1.2s						
CMAR	Chiang Mai Arr	58.99	296	P	P	18 25 05.5	+0.9
CMAR	Chiang Mai Arr	58.99	296	P	P	18 25 06.0	+1.4
	comp=Z,1.3nm,0.8s,baz=123,slow=4.8,SNR=14						
	comp=Z,1.3nm,0.8s						
PEA0B	Petropavlovsk-	59.03	3	P	P	18 25 03.8	-0.4
PETK	Petropavlovsk-	59.03	3	P	P	18 25 03.6	-0.6
PETK	Petropavlovsk-	59.03	3	P	P	18 25 05.0	+0.8
	comp=Z,2.0nm,0.5s,baz=149,slow=6.4,SNR=16						
	comp=Z,2.0nm,0.5s						
CHTO	Chiang Mai	59.11	296	P	P	18 25 05.6	+0.2
CHTO				IAmb	IAmb	18 25 09.8	
	comp=Z,4.5nm,1.3s						
PZH	PanZhiHua	59.62	305	P	P	18 25 13.0	+4.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	Hu-ho-hao-te	60.43	324	eP	P	18 25 16.0	+1.8
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,5.0s						
HHC				LR	LR		
	comp=N,610nm,20.6s						
HHC				LR	LR		
	comp=E,370nm,19.1s						
HHC				LR	LR		
	comp=Z,660nm,18.3s						
HEH	HeiHe	60.43	341	eP	P	18 25 14.4	+0.5
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AMKA	Amchitka	61.35	18	P	P	18 25 17.8	-2.3
SONM	Songino Array	67.71	328		P	18 26 02.3	+0.3
SONM	Songino Array	67.71	328	P	P	18 26 03.4	+1.4
	comp=Z,0.8nm,0.5s,baz=141,slow=5.9,SNR=12						
	comp=Z,0.8nm,0.5s						
VNDA	Vanda	71.57	178	P	P	18 26 26.5	+1.4
VNDA				IAmb	IAmb	18 26 33.9	
	comp=Z,5.1nm,1.4s						
WMQ	Urumqi	77.09	317	eP	P	18 27 00.4	+2.5
CNPM	China Poot	78.55	25	P	P	18 27 05.0	-0.6
L19K	White Mountain	78.65	22	P	P	18 27 05.2	-0.8
L19K				IAmb	IAmb	18 27 47.6	
	comp=Z,11nm,1.3s						
SUA	Susitna One	79.82	24	P	P	18 27 12.2	-0.5
E18K	Tukpahlearik C	80.18	16	P	P	18 27 15.0	+0.7
CAST	Castle Rocks	80.41	22	P	P	18 27 15.5	-0.1
E19K	Redstone River	81.17	17	P	P	18 27 19.6	0.0
E19K				IAmb	IAmb	18 27 36.0	
	comp=Z,9.9nm,1.3s						
D19K	Kuna River	81.60	16	P	P	18 27 22.1	+0.2
D19K				IAmb	IAmb	18 27 35.2	
	comp=Z,5.8nm,1.4s						
MK31	Makanchi Array	81.68	319	P	P	18 27 23.5	+0.7
MKAR	Makanchi Array	81.68	319	P	P	18 27 22.8	0.0
MKAR	Makanchi Array	81.68	319	P	P	18 27 23.8	+0.9
	comp=Z,0.7nm,0.6s,baz=95,slow=4.8,SNR=8.1						
	comp=Z,0.7nm,0.6s						
MCK	McKinley	81.76	22	P	P	18 27 22.0	-0.9
ZAA0	Zalesovo Array	82.54	326	P	P	18 27 27.2	+0.2
ZAA0				IAmb	IAmb	18 27 30.7	
	comp=Z,2.4nm,0.7s						
ZALV	Zalesovo Beam	82.54	326	P	P	18 27 27.2	+0.2
ZALV	Zalesovo Beam	82.54	326	P	P	18 27 26.9	-0.2
	comp=Z,2.7nm,0.5s,baz=150,slow=6.4,SNR=16						
	comp=Z,2.7nm,0.5s						
ILAR	Eielson Array	83.06	22	P	P	18 27 29.3	-0.3
ILAR	Eielson Array	83.06	22	P	P	18 27 28.8	-0.8
	comp=Z,0.7nm,0.7s,baz=246,slow=5.2,SNR=12						
	comp=Z,0.7nm,0.7s						
J25K	Salcha River,	83.55	22	P	P	18 27 31.9	-0.3
J25K				IAmb	IAmb	18 27 32.9	
	comp=Z,4.4nm,0.9s						
QSPA	South Pole Qui	83.93	180	P	P	18 27 35.6	+1.3
	comp=Z,2.6nm,1.0s,baz=341,slow=3.2						
	comp=Z,2.6nm,1.0s						
KURK	Kurchatov	85.14	322	P	P	18 27 40.9	+0.4
KURK				IAmb	IAmb	18 27 44.1	
	comp=Z,6.6nm,1.1s						
KURBB	Kurchatov Arra	85.17	322	P	P	18 27 40.9	+0.4
	comp=Z,2.1nm,0.8s,baz=111,slow=3.7,SNR=18						
	comp=Z,2.1nm,0.8s						
BMAR	Burnt Mountain	85.18	20	PcP	PcP	18 27 42.0	-1.5
L29M	L29M	85.80	25	P	P	18 27 44.1	+0.5
K29M	Barlow Dome	86.33	25	P	P	18 27 45.9	-0.4
K29M				IAmb	IAmb	18 27 49.8	
	comp=Z,10nm,1.4s						
P33M	Teslin, Yukon	87.22	29	P	P	18 27 53.2	+2.6
G29M	Pine Creek	87.28	22	P	P	18 27 51.5	+0.9
G29M				IAmb	IAmb	18 28 34.4	
	comp=Z,7.9nm,1.4s						
NRIK	Noril'sk	87.34	341	P	P	18 27 50.9	0.0
NRIK				IAmb	IAmb	18 27 52.7	
	comp=Z,4.1nm,0.8s						
NRIK	Noril'sk	87.34	341	P	P	18 27 50.0	-0.9
	comp=Z,3.7nm,0.6s,baz=127,slow=3.5,SNR=8.9						
	comp=Z,3.7nm,0.6s						
G31M	Satah River	88.67	22	P	P	18 27 57.5	+0.2
G31M				IAmb	IAmb	18 28 35.3	
	comp=Z,8.2nm,1.5s						
BVAR	Borovoye Array	90.62	323	P	P	18 28 06.9	+0.2
	comp=Z,5.3nm,0.7s,baz=109,slow=5.6,SNR=28						
	comp=Z,5.3nm,0.7s						
BRVK	Borovoye	90.69	323	P	P	18 28 07.9	+0.9
BRVK				IAmb	IAmb	18 28 10.3	
	comp=Z,4.3nm,1.1s						
GERES	GERESS Array B	125.44	328	PKP	PKiKP	18 34 06.5	+0.6
	comp=Z,0.8nm,0.7s,baz=45,slow=4.0,SNR=4.1						
BDFB	Brasilia	149.73	136	PKPbc	PKiKP	18 34 57.1	+0.7
	comp=Z,2.5nm,0.4s,baz=145,slow=1.2,SNR=6.1						
TORD	Torodi Ar. Bea	151.29	286	PKPbc	PKiKP	18 34 59.2	-0.2
	comp=Z,0.9nm,0.6s,baz=80,slow=2.4,SNR=9.2						

PRU 06 18:17:02.0, 50°22N×18°86E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.60	90	ePg	Pg	18 17 13.0	-0.5
OJC				eSg	Sg	18 17 21.0	-0.4
MORC	Moravsky Berou	0.96	243	ePG	Pb	18 17 21.0	-0.5
MORC				eSG	Sg	18 17 33.3	+0.5
LANS	Liptovska Anna	1.14	160	ePG	Pg	18 17 24.1	+0.3
LANS				eSG	Sb	18 17 39.7	-0.3
LANS				eLG	Lg	18 17 44.7	
KRLC	Kraliky	1.34	265	ePG	Pg	18 17 26.4	-1.4
KRLC				eSG	Sg	18 17 44.8	-0.4
DPC	Dobruska-Polom	1.63	276	ePG	Pn	18 17 30.3	-1.7
DPC				eSG	Sg	18 17 54.5	+0.1
OSTC	Ostas	1.73	282	eSG	Sb	18 17 56.8	0.0
VYHS	Vyhne	1.73	181	ePN	Pn	18 17 32.8	-0.5
VYHS				eSN	Sg	18 17 57.3	-0.2
VRAC	Vranov	1.73	239	eSG	Sb	18 17 56.6	-0.3

MAN **06** *18:35:07.6, 4°00N×126°53E, h11km, mb5.7, ML4.8, MS5.1*
MOS **06** *18:35:08.2±1.2, 4°20N×126°61E, h34km, mb5.0/42, Error ellipse: s-maj=9.6km s-min=4.4km az=115.2*
BJI **06** *18:35:08.4±0.0, 3°75N×126°63E, h63km, mb4.7/74, mB5.0/38, Ms4.4/46, Ms7 4.2/45*
NEIC **06** *18:35:09.2±1.9, 4°19N±0°06×126°69E±0°08, h29km±4km, mb5.1/143, Error ellipse: s-maj=11.6km s-min=7.6km az=71.0*
IDC **06** *18:35:09.1±2.5, 4°18N×126°63E, h24km±15km, mb4.6/30, mbtmp4.7/32, ML4.3/1, MS3.9/42, Error ellipse: s-maj=19.5km s-min=9.0km az=75.0*
GCMT **06** *18:35:10.2±0.3, 4°29N±0°02×126°75E±0°03, h29km, MW4.9/68, Moment Tensor Solution. s38,c45; s68,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.45±.20; $M_{\theta\theta}$-0.57±.11; $M_{\phi\phi}$-1.88±.13; $M_{r\theta}$-0.79±.20; $M_{\theta\phi}$-1.36±.07; $M_{\phi r}$0.49±.20; Best double couple: $M_0$2.76600×10^{16} NP1:ϕ_s231.00000°,δ49.00000°,λ118.00000°. NP2: ϕ_s13.00000°,δ48.00000°,λ62.00000°. Principal axes: T 2.7970, Plg70.0000°, Azm212.0000°; N -0.0660, Plg20.0000°, Azm32.0000°; P -2.7360, Plg0.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA **06** *18:35:11.8±0.3, 4°N±2°×12°7E±°, h47km±3km, M4.8/63, mb5.1/63, mB5.3/31, MLv5.1/15, Mw(mB)4.7/31, MwMwp4.5/3, Mwp4.9/3*
ISC 06 18:35:11.4±0.4, **4°10N**±0°03×**126°48E**±0°04, **h43**km±3km, **h43**km**:pP-P, n650,** σ1.99/638, **mb5.0**/168, **MS4.1**/62, **53C-55D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.03	246	P	Pn	18 35 32.4	+2.9
DDMP	Don Marcelino,	2.13	339⇓	eP	Pn	18 35 43.5	-1.0
DDMP				eS	Sn	18 36 16.7	+6.9
MATI	Mati	2.83	356⇑	eP	Pn	18 35 54.0	-0.2
MATI				eS	Sn	18 36 34.1	+6.9
SKMP	Bagumbayan, Su	3.08	321⇓	eP	Pn	18 36 00.1	+2.6
SKMP				eS	Sn	18 36 38.2	+5.1
DAV	Davao City (W)	3.08	343		Pn	18 35 57.3	-0.3
DAV	Davao City (W)	3.08	343	P	Pn	18 36 04.0	+6.4
DAV	Davao City (W)	3.08	343	Pn	Pn	18 35 57.2	-0.4
	42nm,0.3s,baz=249,slow=14,SNR=11						
DAV				Sn	Sn	18 36 32.4	-0.8
	81nm,0.3s,baz=126,slow=15,SNR=5.3						
	357nm,0.7s						
DAV	Davao City (W)	3.08	343	P	Pn	18 36 00.7	+3.1
KCP	Kidapawan	3.20	335⇑	eP	Pn	18 35 60.0	+0.7
KCP				iS	Sn	18 36 42.8	+6.5
TNTI	Ternate	3.43	165	Pn	Pn	18 36 00.4	-2.0
TNTI	Ternate	3.43	165	P	Pn	18 36 02.7	+0.3
CDOP	Cateel, Davao	3.66	359⇑	eP	Pn	18 36 07.0	+1.4
CDOP				eS	Sn	18 36 52.1	+4.7
CDOP	Cateel, Davao	3.66	359⇓	iP	Pn	18 36 08.1	+2.5
BIPH	Bislig	4.06	358⇑	eP	Pn	18 36 12.8	+1.8
BIPH				eS	Sn	18 37 09.2	+12
KMSI	Cibinong	4.30	215	P	Pn	18 36 18.1	+3.7
TASP	Talacogon, Agu	4.37	351⇓	eP	Pn	18 36 18.4	+3.1
TASP				eS	Sn	18 37 20.2	+15
TASP	Talacogon, Agu	4.37	351⇑	eP	Pn	18 36 20.5	+5.1
BLNP	Bacolod Lanao	4.70	329⇑	eP	Pn	18 36 21.6	+1.7
BLNP				eS	Sn	18 37 28.6	+15
LBMI	Labuha	4.82	168	P	Pn	18 36 22.7	+1.2
PAGZ	Pagadian	4.83	321⇓	eP	Pn	18 36 23.3	+1.7
PAGZ				eS	Sn	18 37 14.4	-1.9
PAGZ	Pagadian	4.83	321⇑	iP	Pn	18 36 24.7	+3.1
GTOI	Gorontalo	4.88	225	P	Pn	18 36 26.1	+3.7
	189nm,0.8s,1μm0.5nm						
BUTP	Butuan	4.91	350⇑	eP	Pn	18 36 24.7	+2.0
BUTP				eS	Sn	18 37 36.7	+18
ZCP	Zamboanga City	5.21	303⇓	iP	Pn	18 36 28.6	+1.8
ZCP				iS	Sn	18 37 27.9	+2.2
DCPH	Dipolog City	5.43	325⇓	eP	Pn	18 36 36.0	+6.2
GLSP	General Luna,	5.66	357⇑	eP	Pn	18 36 34.9	+1.9
GLSP				eS	Sn	18 37 42.1	+5.4
SCPH	Surigao	5.73	350	eP	Pn	18 36 35.0	+1.0
SCPH				iS	Sn	18 36 54.7	-44
LSIP	Lazi, Siquijor	5.74	331⇓	eP	Pn	18 36 36.2	+2.0
LSIP				eS	Sn	18 37 53.8	+15
LSIP	Lazi, Siquijor	5.74	331⇑	iP	Pn	18 36 38.7	+4.5
MRSI	Marisa	5.79	232	P	Pn	18 36 39.1	+4.3
	719nm,0.6s,8μm2.8nm						
GHBP	Garcia Hernand	5.89	339⇓	eP	Pn	18 36 37.8	+1.5
GHBP				eS	Sn	18 37 48.7	+6.1
GHBP	Garcia Hernand	5.89	339⇓	eP	Pn	18 36 41.0	+4.7
SNPH	Sibulan	6.12	328	eP	Pn	18 36 51.0	+12
TBP	Tagbilaran	6.13	335⇓	eP	Pn	18 36 44.5	+5.0
TBP				iS	Sn	18 38 08.0	+20
SANI	Sanana	6.13	185	P	Pn	18 36 38.4	-1.1
	81nm,0.5s,2μm0.6nm						
MSLP	Maasin	6.20	345⇑	eP	Pn	18 36 42.5	+1.9
MSLP				eS	Sn	18 38 04.3	+14
MSLP	Maasin	6.20	345⇑	eP	Pn	18 36 53.3	+13
LUWI	Luwuk	6.31	216		Pn	18 36 46.0	+4.0
LUWI	Luwuk	6.31	216	P	Pn	18 36 49.1	+7.1
LUWI	Luwuk	6.31	216	P	Pn	18 36 47.5	+5.5
	1μm,1.3s,14μm4.4nm						
DACP	Dalaguete, Ceb	6.35	333⇑	eP	Pn	18 36 44.5	+2.0
DACP				eS	Sn	18 38 09.4	+16
TOLI2	Tolitoli	6.42	243		Pn	18 36 45.2	+1.7
TOLI2	Tolitoli	6.42	243	P	Pn	18 36 46.7	+3.2
LLP	Lapu-Lapu	6.66	338	eP	Pn	18 36 50.9	+4.1
LLP				eS	Sn	18 38 21.1	+20
BTTP	Bongao, Tawi-T	6.75	278⇓	eP	Pn	18 36 50.2	+2.2
BTTP				eS	Sn	18 37 58.2	-5.5
SFCP	San Francisco,	6.82	342⇓	eP	Pn	18 36 51.0	+2.0
SFCP				eS	Sn	18 38 16.8	+11
CNOP	Candoni, Negro	6.84	326⇓	eP	Pn	18 36 52.9	+3.6
CNOP				eS	Sn	18 38 17.6	+12
SWI	Sorong	6.87	136	P	Pn	18 36 47.8	-1.9
	119nm,0.8s,1μm0.3nm						
GNOP	Guihulngan Cit	6.87	332⇑	eP	Pn	18 36 52.2	+2.4
GNOP				eS	Sn	18 38 22.6	+16
SIJI	Sorong	6.88	136	P	Pn	18 36 47.6	-2.2
	51nm,0.6s,1μm0.2nm						
OCLP	Ormoc	7.15	345⇓	eP	Pn	18 36 54.4	+0.9
OCLP				eS	Sn	18 38 44.5	+31
PLP	Palo	7.17	348⇑	eP	Pn	18 36 55.2	+1.4
PLP				eS	Sn	18 38 31.7	+18
NLAI	Namlea	7.32	175	P	Pn	18 36 56.0	+0.1
	46nm,0.5s,0.4nm						
MECP	Medelin, Cebu	7.44	341	eP	Pn	18 37 04.5	+7.0
MECP				eS	Sn	18 38 50.1	+30
CADP	Cadiz City	7.47	335⇑	eP	Pn	18 37 05.7	+7.7
CADP				eS	Sn	18 38 52.1	+31
BESP	Borongan	7.52	352	eP	Pn	18 37 05.4	+6.8
BESP				eS	Sn	18 38 33.5	+11
GUIM	Jordan	7.54	329⇑	eP	Pn	18 37 01.6	+2.7
GUIM				eS	Sn	18 38 32.8	+10
MPSI	Mapaga	7.56	241	P	Pn	18 37 03.0	+3.8
	94nm,0.7s,1μm0.3nm						
RCP	Roxas	8.28	334⇑	eP	Pn	18 37 11.2	+2.2
CNP	Catarman	8.54	348	eP	Pn	18 37 16.6	+3.9
CNP				eS	Sn	18 38 42.0	-5.7
FAKI	Fak Fak	9.05	140		Pn	18 37 18.0	-1.6
FAKI	Fak Fak	9.05	140	P	Pn	18 37 19.2	-0.4
	33nm,1.1s						
BNDI	Bandanaira	9.23	158	P	Pn	18 37 28.6	+6.6
BNDI	Bandanaira	9.23	158	P	Pn	18 37 23.5	+1.5
	110nm,1.1s,2μm1μm						
OTRP	Odiongan	9.31	332⇑	eP	Pn	18 37 28.7	+5.5
PVCP	Virac	9.71	346	eP	Pn	18 37 36.3	+7.7
TTSI	Tana Toraja	9.73	223	P	Pn	18 37 32.6	+3.7
	172nm,1.0s,2μm						
ENPP	El Nido	9.93	316⇑	eP	Pn	18 37 33.1	+1.4
MMSI	Mamuju	10.13	228	P	Pn	18 37 38.3	+3.8
	143nm,1.2s,1μm						
KKM	Kota Kinabalu	10.40	281	Pn	Pn	18 37 40.2	+2.0
KKM	Kota Kinabalu	10.40	281	P	Pn	18 37 42.8	+4.6
	58nm,1.0s,790nm						
SPSI	Sidrap Palu	10.45	220	P	Pn	18 37 42.0	+3.3
	62nm,1.5s,900nm						
GQP	Guinayangan	10.52	338⇑	eP	Pn	18 37 43.4	+3.7
JCNP	Jose Panganiba	10.79	340⇓	eP	Pn	18 37 50.6	+7.3
BKB	Balikpapan	10.96	241		Pn	18 37 46.8	+1.1
BKB	Balikpapan	10.96	241	P	Pn	18 37 50.8	+5.1
BKB	Balikpapan	10.96	241	P	Pn	18 37 46.6	+0.9
	140nm,1.4s						
LQP	Lukban	11.07	334⇓	eP	Pn	18 37 49.7	+2.2
LBLP	Los Banos, Lag	11.26	333⇑	eP	Pn	18 37 54.4	+4.5
KAPI	Kappang	11.28	217		Pn	18 37 52.7	+2.6
KAPI	Kappang	11.28	217	P	Pn	18 37 52.7	+2.6
KAPI	Kappang	11.28	217	Pn	Pn	18 37 54.5	+4.4
	0.6nm,0.3s,baz=40,slow=16,SNR=2.5						
KAPI				LR	LR	18 42 58.1	
	comp=Z,1μm,19.1s,baz=32,slow=41						
BKSI	Bulukumba	11.31	214	P	Pn	18 37 54.4	+3.9
	37nm,0.8s,642nm						
TGY	Tagaytay City	11.34	332	Pn	Pn	18 37 51.1	+0.1
	47nm,0.3s,baz=342,slow=20,SNR=1.0						
RTBP	Dona Remedios	12.04	334⇓	eP	P	18 38 10.1	-2.4
ABPP	Abucay Bataan	12.12	331⇓	eP	P	18 38 10.8	-2.6
MTKI	Muara Teweh, K	12.61	247	P	Pn	18 38 12.5	+4.2
	89nm,1.6s,4μm						
CAAP	Casiguran, Aur	12.80	340⇑	eP	Pn	18 38 14.9	+4.0
IBZP	Iba, Zambales	12.90	331⇓	eP	Pn	18 38 16.8	+4.6
SAUI	Saumlaki	12.93	158	Pn	Pn	18 38 10.6	-2.1
SMPP	San Manuel, Pa	13.26	335⇓	eP	P	18 38 25.8	-0.2
MMRI	Maumere	13.34	198		Pn	18 38 18.9	+0.5
MMRI	Maumere	13.34	198	P	P	18 38 23.8	-3.2
MMRI	Maumere	13.34	198	P	P	18 38 33.7	+6.7
CAUP	Cauayan	13.55	341⇑	eP	Pn	18 38 23.6	+2.4
EDFI	Ende, Flores	13.63	200	P	Pn	18 38 24.4	+2.0
	54nm,0.7s,602nm						
SOEI	Soe	13.94	189	Pn	Pn	18 38 26.8	+0.2
SOEI	Soe	13.94	189	P	P	18 38 33.7	-0.1
SOEI	Soe	13.94	189	P	Pn	18 38 28.8	+2.2
	76nm,0.8s						
PKKI	Palangkaraya	13.99	243	P	P	18 38 31.2	-3.0
	245nm,0.8s,2μm						
SAMP	Sagada Mountai	14.01	337⇑	eP	P	18 38 34.3	0.0
SBUM	Sibu	14.33	264		P	18 38 36.2	-1.8
SBUM	Sibu	14.33	264	P	P	18 38 36.9	-1.0
	46nm,0.9s,370nm						
SGCP	Gonzaga	14.71	343⇑	eP	P	18 38 42.5	+0.4
DBNI	Kabupaten Domp	14.94	213	P	P	18 38 43.2	-1.5
	133nm,0.8s,1μm						
PACPP	Pamplona Cagay	15.12	341⇑	eP	P	18 38 46.5	-0.2
GENI	Genyem	15.21	116	P	P	18 38 50.6	+2.8
GENI	Genyem	15.21	116	P	Pn	18 38 42.7	-0.8
	145nm,1.2s						
BASI	Baing, Sumba	15.39	202	P	P	18 38 48.9	-0.9
	281nm,1.1s,2μm						
PLAI	Plampang	15.50	214	P	P	18 38 51.2	+0.2
PLAI	Plampang	15.50	214	P	P	18 38 50.3	-0.7
	412nm,0.8s,3μm						
STKI	Sintang	15.51	255	P	P	18 38 52.4	+1.3
	85nm,1.2s,2μm						
TWSI	Taliwang, Sumb	15.94	217	P	P	18 38 56.4	+0.5
	226nm,0.7s,2μm						
KSM	Kuching	16.36	261	P	P	18 39 01.1	+0.6
KSM	Kuching	16.36	261	P	P	18 39 03.0	+2.5
KSM	Kuching	16.36	261	P	P	18 39 02.4	+1.9
	79nm,1.4s,890nm						
SRBI	Singaraja	16.52	223	P	P	18 39 03.6	+1.4
	131nm,0.7s,1μm						
KMMI	Kalianget	16.69	228	P	P	18 39 05.8	+1.6
	88nm,0.9s						
ABJI	Asem Bagus	17.00	226	P	P	18 39 09.8	+2.2
	75nm,0.9s						
TABU	Tabubil	17.43	122	P	P	18 39 16.9	+4.5
BLJI	Banyuglugur	17.43	228	P	P	18 39 14.5	+2.2
	86nm,1.1s,4μm						
MTN	Manton Dam	17.46	165	Pn	Pn	18 39 09.4	-2.5
JAGI	Jajag, Banyuwa	17.52	225	P	P	18 39 15.1	+1.7
JAGI	Jajag, Banyuwa	17.52	225	P	P	18 39 17.3	+3.9
JAGI	Jajag, Banyuwa	17.52	225	P	P	18 39 15.9	+2.5
	83nm,0.8s						
GRJI	Gresik	17.75	232	P	P	18 39 17.8	+1.9
	159nm,1.4s						
KRKI	Karangkates	18.55	229	P	Pn	18 39 32.2	+7.0
SJI	Sawahan	18.80	231	P	Pn	18 39 28.6	+0.2
	105nm,0.7s,2μm						
NGJI	Ngawi	18.82	233	P	Pn	18 39 30.5	+1.9
	157nm,1.0s						
TWG	Pinlang	19.33	345	P	P	18 39 31.9	-1.3
SMRI	Semarang	19.46	235	P	P	18 39 35.1	+0.3
SMRI	Semarang	19.46	235	P	Pn	18 39 37.9	+1.6
SMRI	Semarang	19.46	235	P	Pn	18 39 35.5	-0.8
	86nm,1.3s						
KNRA	Kununurra	19.78	173	P	P	18 39 37.1	-1.1
KNRA				IAmb	IAmb	18 39 44.9	
	comp=Z,150nm,1.2s						
KNRA	Kununurra	19.78	173	P	Pn	18 39 40.0	0.0
YULB	Yu-li	19.82	346	P	P	18 39 36.8	-1.8
YULB				IAmb	IAmb	18 39 43.1	
	comp=Z,134nm,1.9s						
UGM	Wanagama	19.89	233	P	P	18 39 39.9	+0.4
TPUB	Ta-pu	19.91	344	P	P	18 39 37.4	-2.1
TPUB				IAmb	IAmb	18 39 41.7	
	comp=Z,60nm,0.7s						
TPUB	Ta-pu	19.91	344	P	Pn	18 39 40.9	-0.5
SSLB	Suanglung	20.28	345	P	P	18 39 41.9	-1.7
SSLB				IAmb	IAmb	18 39 53.8	
	comp=Z,183nm,1.9s						
SSLB	Suanglung	20.28	345	P	Pn	18 39 46.7	+0.8
GUMO	Guam	20.45	61	LR	LR	18 46 20.2	
	comp=Z,107nm,20.6s,baz=246,slow=33						
NACB	Ninganchiao	20.50	347	P	P	18 39 43.8	-2.1
NACB				IAmb	IAmb	18 40 02.3	
	comp=Z,129nm,1.8s						
YOJ	Yonaguni jima	20.52	351	P	P	18 39 43.0	-3.1
YOJ	Yonaguni jima	20.52	351	P	P	18 39 43.0	-3.1
YOJ				pmax	pmax		
	comp=Z,532nm,1.9s						
KPJI	Karang Pucung	20.87	237	P	Pn	18 39 52.3	-0.6
	comp=Z,126nm,0.8s,comp=Z,1μm						
YHNB	Yeheng	21.03	347	P	P	18 39 49.2	-2.6
YHNB				IAmb	IAmb	18 40 03.4	
	comp=Z,121nm,1.4s						
PPBI	Pangkal Pinang	21.26	253	P	P	18 39 57.3	+3.1
TATO	Taipei	21.30	347	P	P	18 39 51.0	-3.5
KNMB	Chin-men Tao	21.69	340	P	P	18 39 58.3	-0.4
KNMB				IAmb	IAmb	18 40 01.1	
	comp=Z,59nm,0.9s						
LEM	Lembang	21.73	240	P	P	18 40 02.0	+2.5
LEM	Lembang	21.73	240	P	P	18 40 02.0	+2.5
	comp=Z,42nm,0.7s,baz=38,slow=7.7,SNR=13						
	comp=Z,42nm,0.7s						
QIZ	Qiongzhong	22.00	314	P	P	18 40 02.3	+0.2
QIZ				PcP	PcP	18 43 57.8	-1.8
QIZ				S	S	18 44 04.5	+1.8
QIZ				pmax	pmax		
	comp=Z,13nm,1.3s						
QIZ				LR	LR		
	comp=Z,410nm,15.9s						
QIZ				LR	LR		
	comp=Z,380nm,12.8s						
QIZ				LR	LR		
	comp=Z,520nm,17.2s						
BBJI	Bungbulang	22.02	239	P	P	18 40 05.5	+3.0
BBJI	Bungbulang	22.02	239	P	P	18 40 02.9	+0.4
	comp=Z,76nm,0.9s						
FITZ	Fitzroy Crossi	22.08	182	P	P	18 40 02.3	-0.6
FITZ	Fitzroy Crossi	22.08	182	P	P	18 40 05.1	+2.2
TPRI	Tanjung Pinang	22.15	262	P	P	18 40 06.7	+2.9
	comp=Z,41nm,0.7s						
CBJI	Citeko	22.21	242	P	P	18 40 06.9	+2.5
	comp=Z,153nm,0.9s						
DSRI	Dabo	22.35	259	P	P	18 40 08.8	+2.8
	comp=Z,32nm,1.1s						
DBJI	Dramaga	22.36	242	P	P	18 40 09.8	+3.7
	comp=Z,72nm,1.0s						
JOW	Kunigami	22.67	4	P	P	18 40 08.2	-1.0
JOW				IAmb	IAmb	18 40 17.0	
	comp=Z,111nm,1.6s						
JOW	Kunigami	22.67	4	LR	LR	18 49 17.2	
	comp=Z,129nm,19.4s,baz=186,slow=38						
MYKOM	Kota Tinggi	22.71	265	P	P	18 40 11.1	+1.3
MYKOM				IAmb	IAmb	18 40 19.6	
	comp=Z,44nm,1.0s						
MYKOM	Kota Tinggi	22.71	265	P	P	18 40 12.0	+2.2
	comp=Z,45nm,0.8s,comp=Z,543nm						
CGJI	Cibinong	23.32	243	P	P	18 40 16.0	+0.1

comp=Z,84nm,0.6s
UBPT Khong Chiam 23.47 300 P P 18 40 17.8 +0.5
UBPT IAmb IAmb 18 40 19.2
comp=Z,72nm,1.1s
UBPT Khong Chiam 23.47 300 P P 18 40 19.2 +1.9
KASI Kota Agung 23.94 247 P P 18 40 23.0 +1.2
comp=Z,55nm,0.7s
LWLI Liwa 24.16 248 P P 18 40 24.9 +1.0
comp=Z,141nm,0.9s,comp=Z,1µm
PMG Port Moresby 24.60 123 LR LR 18 51 10.5
comp=Z,202nm,18.7s,baz=307,slow=39
WB0 Warramunga Arr 24.96 162 P P 18 40 29.7 -1.4
WB0 IAmb IAmb 18 40 44.5
comp=Z,59nm,0.9s
WRAB Tennant Creek 25.11 162 P P 18 40 30.9 -1.5
WRAB IAmb IAmb 18 40 46.8
comp=Z,42nm,0.8s
WRAB Tennant Creek 25.11 162 P P 18 40 30.9 -1.5
WRAB pmax pmax
comp=Z,42nm,0.8s
WRA Warramunga Arr 25.11 162 P P 18 40 30.9 -1.5
WRA Warramunga Arr 25.11 162 P P 18 40 32.0 -0.5
comp=Z,20nm,0.7s,baz=342,slow=10,SNR=54
WRA S **S 18 44 55.8 +1.4**
comp=Z,7.5nm,1.1s,baz=346,slow=17,SNR=5.2
comp=Z,20nm,0.7s
WB2 Warramunga Arr 25.12 162 P P 18 40 31.3 -1.2
WB2 IAmb IAmb 18 40 46.8
comp=Z,46nm,0.8s
WR0 Warramunga Arr 25.19 162 P P 18 40 31.7 -1.5
WR0 IAmb IAmb 18 40 51.3
comp=Z,27nm,0.7s
XMIS Christmas Isla 25.30 235 P P 18 40 35.1 +0.9
XMIS IAmb IAmb 18 40 39.1
comp=Z,60nm,0.9s
BKNI Bangkinang 25.69 262 P P 18 40 40.4 +2.6
BKNI Bangkinang 25.69 262 P P 18 40 46.7 +8.9
KULM Kulim 25.77 274 P P 18 40 39.0 +0.5
KULM IAmb IAmb 18 40 48.0
comp=Z,38nm,1.0s
KULM Kulim 25.77 274 P P 18 40 42.3 +3.8
comp=Z,44nm,1.2s,comp=Z,456nm
MBWA Marble Bar 25.96 195 P P 18 40 39.5 -0.6
MBWA IAmb IAmb 18 40 44.5
comp=Z,45nm,0.7s
MBWA Marble Bar 25.96 195 P P 18 40 41.5 +1.4
PSA00 Pilbara Seismi 26.33 194 P P 18 40 42.7 -0.8
PSA00 Pilbara Seismi 26.33 194 IAmb IAmb 18 40 47.6
comp=Z,45nm,0.9s
PSA00 Pilbara Seismi 26.33 194 P P 18 40 43.8 +0.4
PDSI Padang 26.47 260 P P 18 40 49.4 +4.5
comp=Z,34nm,1.2s
NAYO Nakonayok 26.79 294 P P 18 40 51.4 +3.7
comp=Z,316nm,0.8s
SURA Surathani 27.13 282 P P 18 40 53.3 +2.6
JCJ Chichijima 27.35 32 LR LR 18 49 41.3
comp=Z,111nm,21.2s,baz=264,slow=32
PSI Prapat 27.53 268 P P 18 40 57.0 +2.5
comp=Z,19nm,1.0s
QIS Mount Isa 27.69 153 P P 18 40 58.9 +3.2
AS31 Alice Springs 28.53 166 P P 18 41 01.1 -2.1
ASAR Alice Springs 28.54 166 P P 18 41 01.1 -2.2
ASAR Alice Springs 28.54 166 P P 18 41 02.6 -0.6
comp=Z,6.2nm,0.6s,baz=342,slow=6.5,SNR=63
ASAR PcP **PcP 18 44 14.4 +0.3**
comp=Z,1.8nm,0.9s,baz=358,slow=3.0,SNR=3.1
ASAR S **S 18 45 52.7 +4.3**
comp=Z,1.3nm,1.0s,baz=345,slow=20,SNR=2.7
ASAR LR LR 18 54 34.1
comp=Z,86nm,19.6s,baz=338,slow=41
comp=Z,6.2nm,0.6s
WHN Wuhan 28.68 338 P P 18 41 09.6 +5.2
WHN pmax pmax
comp=Z,36nm,1.0s
WHN LR LR
comp=Z,2µm,14.8s
NJ2 Nanjing 28.71 346 *e*P **P 18 41 05.4 +0.8**
NJ2 pP **pP 18 41 16.2 +0.9**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,3.5s
SRDT SRDT 28.82 293 P P 18 41 09.7 +3.9
SRDT SRDT 28.82 293 P P 18 41 08.1 +2.3
comp=Z,27nm,0.8s
GSI Gunungsitoli 29.00 265 P P 18 41 07.1 -0.4
GSI IAmb IAmb 18 41 09.3
comp=Z,29nm,0.7s
GSI Gunungsitoli 29.00 265 P P 18 41 08.1 +0.6
GSI Gunungsitoli 29.00 265 P P 18 41 08.0 +0.6
comp=Z,45nm,0.8s
WRKA Warakurna 29.02 177 P P 18 41 10.5 +3.0
JNU Nakatsue 29.16 8 P P 18 41 05.8 -2.9
JNU IAmb IAmb 18 41 41.3
comp=Z,44nm,1.4s
JNU Nakatsue 29.16 8 LR LR 18 53 01.7
comp=Z,151nm,21.2s,baz=160,slow=37
CRAI Chiangrai 30.05 304 P P 18 41 16.5 -0.2
CM31 Chiang Mai Arr 30.47 300 P P 18 41 20.8 +0.4
CMAR Chiang Mai Arr 30.47 300 P P 18 41 20.9 +0.5
CMAR Chiang Mai Arr 30.47 300 P P 18 41 22.0 +1.6
comp=Z,8.1nm,0.8s,baz=117,slow=7.2,SNR=74
CMAR ScP **ScP 18 48 00.8 +2.3**
comp=Z,0.9nm,0.6s,baz=172,slow=1.3,SNR=7.5
CMAR LR LR 18 54 07.0
comp=Z,162nm,20.1s,baz=110,slow=37
comp=Z,8.1nm,0.8s
ENH Enshi 30.58 330 P P 18 41 23.0 +1.7
ENH Enshi 30.58 330 P P 18 41 21.1 -0.3
CMMT Chiang Mai 30.61 301 P P 18 41 23.1 +1.4
comp=Z,57nm,0.7s
CHTO Chiang Mai 30.61 301 P P 18 41 22.3 +0.6
CHTO IAmb IAmb 18 41 25.4
comp=Z,16nm,0.8s
CHTO Chiang Mai 30.61 301 P P 18 41 23.2 +1.5
CHTO Chiang Mai 30.61 301 P P 18 41 22.3 +0.6
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO Chiang Mai 30.61 301 P P 18 41 22.9 +1.2
CHTO pP **pP 18 41 29.3 -3.0**
CHTO PcP **PcP 18 44 20.9 +1.3**
CHTO Chiang Mai 30.61 301 P P 18 41 22.9 +1.2
comp=Z,21nm,0.7s
CTA Charters Tower 30.91 142 LR LR 18 55 12.2
comp=Z,210nm,19.1s,baz=304,slow=39
CTAO Charters Tower 30.91 142 P P 18 41 28.1 +3.8
CTAO pP **pP 18 41 34.8 -0.7**
KMI Kunming 30.94 315 ⇑P **P 18 41 23.4 -1.4**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI LR LR
comp=Z,220nm,25.9s
KMI LR LR
comp=Z,370nm,20.6s
KMI LR LR
comp=Z,480nm,20.0s
MEEK Meekatharra 31.49 194 P P 18 41 30.0 +0.6
JWT Wachi 32.11 14 P P 18 41 31.1 -3.6
PZH PanZhiHua 32.50 316 P P 18 41 40.1 +1.7
PZH S **S 18 46 52.2 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
PZH LR LR
comp=Z,270nm,20.8s
PZH LR LR
comp=Z,200nm,20.6s
PZH LR LR
comp=Z,350nm,19.1s
LYN LuoYang 32.97 338 *e*P **P 18 41 41.8 -0.4**
LYN pP pwP 18 41 56.3 -0.9
LYN S **S 18 46 54.7 -2.9**
LYN sS sS 18 47 23.0 +7.2
LYN pmax pmax
comp=Z,16nm,1.0s
LYN pmax pmax
comp=Z,110nm,4.3s
LYN LR LR
comp=Z,550nm,18.9s
LYN LR LR
comp=Z,390nm,18.5s
LYN LR LR
comp=Z,740nm,18.9s
TIA Tai'an 33.09 346 P P 18 41 43.8 +0.5
TIA S **S 18 47 06.8 +7.3**
TIA pmax pmax
comp=Z,5.0nm,0.7s
TIA pmax pmax
comp=Z,66nm,4.3s
TIA LR LR
comp=Z,140nm,15.8s
TIA LR LR
comp=Z,120nm,17.3s
TIA LR LR
comp=Z,130nm,15.8s
KSAR Wonju Array Be 33.21 2 P P 18 41 40.1 -4.1
KSAR Wonju Array Be 33.21 2 P P 18 41 40.1 -4.1
KSRS Korea Array 33.22 2 P P 18 41 42.8 -1.5
comp=Z,2.9nm,0.6s,baz=179,slow=9.6,SNR=18
comp=Z,2.9nm,0.6s
KS19 Wonju Array Si 33.27 2 P P 18 41 40.5 -4.2
XAN Xi'an 33.97 333 ⇑P **P 18 41 49.8 -1.2**
XAN pmax pmax
comp=Z,30nm,1.1s
XAN LR LR
comp=Z,510nm,17.8s
XAN LR LR
comp=Z,630nm,16.5s
XAN LR LR
comp=Z,830nm,16.8s
XAN Xi'an 33.97 333 P P 18 41 49.8 -1.2
TNCH TengChong 33.98 310 *e*P **P 18 41 53.0 +1.6**
TNCH pP pwP 18 42 04.8 -1.6
TNCH pmax pmax
comp=Z,11nm,0.5s
MJAR Matsushiro Arr 34.04 17 P P 18 41 48.6 -2.9
comp=Z,1.4nm,0.6s,baz=184,slow=9.8,SNR=8.8
MJAR LR LR 18 57 12.5
comp=Z,186nm,18.9s,baz=216,slow=39
comp=Z,1.4nm,0.6s
CD2 Chengdu 34.20 324 P P 18 41 52.2 -0.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,280nm,13.7s
CD2 LR LR
comp=Z,140nm,15.3s
CD2 LR LR
comp=Z,450nm,14.5s
MND Mandalay 34.40 304 P P 18 41 55.8 +1.0
INKA Innaminka 34.52 157 P P 18 41 58.7 +3.0
FORT Forrest 34.72 178 P P 18 41 56.7 -0.7
FORT Forrest 34.72 178 P P 18 42 00.3 +2.9
HNS HongShan 34.85 343 ⇓P **P 18 41 57.4 -1.1**
HNS *e*S **S 18 47 27.9 +1.4**
HNS pmax pmax
comp=Z,21nm,0.9s
HNS LR LR
comp=Z,260nm,24.7s
HNS LR LR
comp=Z,430nm,23.1s
HNS LR LR
comp=Z,460nm,22.6s
DL2 Dalian 34.92 353 P P 18 41 59.0 -0.1
DL2 pmax pmax
comp=Z,23nm,0.9s
QLP Quilpie 35.01 152 P P 18 42 02.4 +2.4
KMBL Kambalda 35.54 187 P P 18 42 07.0 +2.5
TIY Taiyuan 35.83 341 ⇓P **P 18 42 06.9 -0.2**
TIY pmax pmax
comp=Z,7.0nm,0.7s
TIY LR LR
comp=Z,120nm,5.4s
TIY LR LR
comp=Z,210nm,13.2s
HNR Honiara 35.96 112 LR LR 18 56 15.7
comp=Z,2µm,18.6s,baz=290,slow=35
RK1H Rockhampton Ha 35.99 140 P P 18 42 12.3 +3.8
comp=Z,27nm,0.9s
JMM Marumori 36.06 19 P P 18 42 07.7 -1.2
LCRK Leigh Creek 36.14 163 P P 18 42 12.5 +2.8
KLBR Kellerberrin 36.45 193 P P 18 42 15.4 +3.1
BJT Baijiatuau 36.95 347 P P 18 42 13.6 -2.8
BJT IAmb IAmb 18 42 26.9
comp=Z,42nm,1.4s
BJT Baijiatuau 36.95 347 P P 18 42 18.8 +2.4
BJT Baijiatuau 36.95 347 P P 18 42 13.6 -2.8
BJT pmax pmax
comp=Z,43nm,1.4s
BJT Baijiatuau 36.95 347 P P 18 42 17.5 +1.1
BJI Beijing 36.97 347 P P 18 42 17.5 +0.9
BJI pmax pmax
comp=Z,10.0nm,1.1s
BJI LR LR
comp=Z,150nm,20.3s
BJI LR LR
comp=Z,94nm,17.0s
BJI LR LR
comp=Z,180nm,18.6s
EIDS Eidsvold 37.80 142 P P 18 42 22.3 -1.6
EIDS IAmb IAmb 18 42 27.2
comp=Z,19nm,0.9s
EIDS Eidsvold 37.80 142 P P 18 42 26.8 +3.0
BBOO Buckleboo 37.82 167 P P 18 42 22.5 -1.4
NWAO Narrogin (SRO) 37.86 193 P P 18 42 23.2 -1.0
NWAO Narrogin (SRO) 37.86 193 P P 18 42 23.1 -1.1
NWAO IAmb IAmb 18 42 26.1
comp=Z,192nm,1.4s
NWAO Narrogin (SRO) 37.86 193 P P 18 42 23.1 -1.1
NWAO pmax pmax
comp=Z,192nm,1.4s
NWAO Narrogin (SRO) 37.86 193 P P 18 42 23.9 -0.3
LZH Lanzhou 38.05 330 ⇓P **P 18 42 26.7 +0.6**
LZH pP pP 18 42 36.6 -0.3
LZH pmax pmax
comp=Z,28nm,1.1s
LZH LR LR
comp=Z,320nm,14.3s
LZH LR LR
comp=Z,380nm,13.6s
LZH LR LR
comp=Z,620nm,19.8s
WHYH Whyalla 38.40 165 P P 18 42 31.0 +2.2
comp=Z,24nm,0.6s
STKA Stephens Creek 38.57 159 P P 18 42 28.1 -2.1
STKA Stephens Creek 38.57 159 P P 18 42 30.3 +0.1
STKA Stephens Creek 38.57 159 P P 18 42 28.1 -2.1
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA Stephens Creek 38.57 159 P P 18 42 29.8 -0.4
comp=Z,15nm,0.6s,baz=332,slow=7.7,SNR=23
STKA PcP **PcP 18 44 42.6 +0.3**
comp=Z,4.8nm,0.7s,baz=322,slow=4.2,SNR=2.5
STKA LR LR 19 00 29.2
comp=Z,126nm,18.2s,baz=340,slow=39
comp=Z,15nm,0.6s
JTM Tenmabayashi 38.81 18 P P 18 42 30.4 -1.7
HHC Hu-ho-hao-te 38.97 342 *e*P **P 18 42 33.4 -0.2**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,210nm,4.0s
HHC LR LR
comp=Z,660nm,19.9s
HHC LR LR
comp=Z,370nm,18.3s
HHC LR LR
comp=Z,660nm,20.6s
AULRC Lightning Ridg 39.21 150 P P 18 42 38.7 +3.1
BTO Baotou 39.25 340 *e*P **P 18 42 39.6 +3.7**
BTO pP **sP 18 42 54.8 +3.3**
BTO sP pwP 18 43 02.1 +11
BTO S **S 18 48 39.8 +6.1**
BTO SS **SS 18 51 25.6 -2.7**
BTO pmax pmax
comp=Z,13nm,0.9s
BTO pmax pmax
comp=Z,250nm,4.1s
BTO LR LR
comp=Z,440nm,15.2s
BTO LR LR
comp=Z,400nm,16.0s
BTO LR LR
comp=Z,700nm,20.2s
CN2 Changchun 39.54 359 P P 18 42 44.1 +5.9
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CMSA Cobar Meteorol 39.89 154 P P 18 42 44.2 +2.9
USA0B Ussuriysk Arra 40.23 6 P P 18 42 40.1 -3.8
USA0B IAmb IAmb 18 43 34.7
comp=Z,61nm,1.9s
USA0B Ussuriysk Arra 40.23 6 P P 18 42 40.1 -3.8
USA0B pmax pmax
comp=Z,61nm,2.0s
USRK Ussuriysk Ar. 40.23 6 P P 18 42 41.8 -2.0
USRK Ussuriysk Ar. 40.23 6 P P 18 42 44.4 +0.5
comp=Z,3.9nm,0.6s,baz=190,slow=7.2,SNR=13
comp=Z,3.9nm,0.6s
MDJ Mudanjiang 40.44 3 P P 18 42 45.0 -0.7
MDJ pP pP 18 42 56.6 -0.1
MDJ PcP **PcP 18 44 50.2 +2.3**
MDJ PcS **PcS 18 48 40.2 +1.8**
MDJ SS SS 18 51 53.3 +1.6
MDJ ScS **ScS 18 52 46.3 -1.7**
MDJ pmax pmax
comp=Z,8.0nm,1.7s
MDJ pmax pmax
comp=Z,140nm,3.7s
MDJ Mudanjiang 40.44 3 P P 18 42 44.3 -1.4
MDJ Mudanjiang 40.44 3 P P 18 42 47.5 +1.8
MDJ Mudanjiang 40.44 3 P P 18 42 45.5 -0.2
MDJ pP **pP 18 42 52.7 -4.0**
XLT XiLinHaoTe 40.68 348 *e*P **P 18 42 46.9 -0.9**
XLT sP sP 18 43 09.0 +5.2
XLT pmax pmax
comp=Z,23nm,0.7s
XLT pmax pmax
comp=Z,92nm,5.8s
XLT LR LR
comp=Z,230nm,17.6s
XLT LR LR
comp=Z,320nm,18.8s
GC1S Gold Coast 1 S 41.31 143 P P 18 42 57.4 +4.3
BNX BinXian 41.48 1 ⇓P **P 18 42 54.7 +0.5**
BNX pmax pmax
comp=Z,6.0nm,0.9s
BNX pmax pmax
comp=Z,180nm,5.4s
AUDCS Dubbo College 41.82 151 P P 18 43 00.6 +3.4
ARMA Armidale 41.91 147 P P 18 42 56.5 -1.6
ARMA IAmb IAmb 18 43 02.6
comp=Z,23nm,0.8s
ARMA Armidale 41.91 147 P P 18 43 01.3 +3.2
ASAJ Asahikawa 42.31 17 P P 18 42 59.3 -1.7
ASAJ pmax pmax
comp=Z,123nm,1.8s
JKA Kamikawa-asahi 42.31 17 P P 18 42 59.3 -1.7
GTA Gaotai 42.65 329 P P 18 43 04.0 0.0
GTA pP pP 18 43 16.5 +1.5
GTA PcP **PcP 18 44 57.6 +2.1**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA LR LR
comp=Z,290nm,19.5s
GTA LR LR
comp=Z,260nm,18.7s
GTA LR LR
comp=Z,480nm,19.5s
ARPS Mount Arapiles 43.12 162 P P 18 43 08.4 +0.8
GOMU GeErMu 43.24 322 P P 18 43 10.3 +1.2
GOMU S **S 18 49 35.0 +1.4**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU LR LR
comp=Z,180nm,13.9s
GOMU LR LR
comp=Z,180nm,14.7s
GOMU LR LR
comp=Z,180nm,15.9s
KOUNC Koumac, New Ca 44.46 125 P P 18 43 15.7 -3.0
CAN Canberra 44.56 153 P P 18 43 17.4 -1.9
CAN Canberra 44.56 153 P P 18 43 17.4 -1.9
CAN pmax pmax
comp=Z,84nm,1.9s
CAN Canberra 44.56 153 P P 18 43 22.7 +3.4
YSS Yuzh-Sakhalins 44.95 16 P P 18 43 21.5 -0.7
YSS Yuzh-Sakhalins 44.95 16 *e*P **P 18 43 20.3 -1.9**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,200nm,16.0s
TOO Toolangi 45.08 159 P P 18 43 21.5 -1.9
TOO Toolangi 45.08 159 P P 18 43 21.5 -1.9
TOO pmax pmax
comp=Z,69nm,1.9s
KLR Kul'dur 45.19 5⇑*e*P **P 18 43 22.6 -1.4**
KLR pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 45.37 354 P P 18 43 27.6 +2.1
PALK Pallekele 45.64 276 LR LR 19 02 33.3
comp=Z,94nm,22.0s,baz=203,slow=36
HEH HeiHe 46.00 1 *e*P **P 18 43 29.9 -0.5**
HEH pmax pmax
comp=Z,5.0nm,0.7s
HEH pmax pmax
comp=Z,210nm,5.5s
ULN Ulaanbaatar 46.69 342 P P 18 43 35.9 -0.2
ULN Ulaanbaatar 46.69 342 *d*e**P P 18 43 36.5 +0.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 46.69 342 P P 18 43 36.3 +0.2
ULN Ulaanbaatar 46.69 342 P P 18 43 36.4 +0.3
comp=Z,43nm,0.7s
SONM Songino Array 46.87 342 P P 18 43 36.6 -0.9
SONM Songino Array 46.87 342 P P 18 43 37.9 +0.5
comp=Z,2.1nm,0.7s,baz=162,slow=8.9,SNR=17
SONM PcP **PcP 18 45 10.2 +0.4**
comp=Z,2.4nm,0.8s,baz=176,slow=6.0,SNR=5.0
SONM LR LR 19 04 40.5
comp=Z,315nm,20.2s,baz=177,slow=38
comp=Z,2.1nm,0.7s
DZM Mont Dzumac 46.96 125 P P 18 43 37.0 -1.5
DZM IAmb IAmb 18 44 00.2
comp=Z,24nm,1.3s
DZM Mont Dzumac 46.96 125 *e*S S 18 50 15.6 -12
comp=Z,181nm,33.5s
DZM *e*SS **ScS 18 53 39.9 +10**
comp=Z,117nm,25.3s
DZM *e*LR LR 18 57 06.2
comp=Z,192nm,24.2s
DZM Mont Dzumac 46.96 125 LR LR 19 03 39.7
comp=Z,87nm,18.2s,baz=218,slow=36
HYB Hyderabad 48.75 290 *e*P **P 18 43 52.8 +0.3**
ZEA Zeya 49.48 1 *e*P **P 18 43 56.8 -0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
WMQ Urumqi 52.27 325 ⇓*i*P **P 18 44 18.9 +0.2**
WMQ pP pwP 18 44 33.3 -0.7
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ LR LR
comp=Z,310nm,21.3s
WMQ LR LR
comp=Z,510nm,17.7s
WMQ LR LR
comp=Z,320nm,24.9s
BOD Bodaibo 54.46 352 *e*P **P 18 44 34.6 +0.2**
BOD pmax pmax
comp=Z,19nm,1.5s
PEA0B Petropavlovsk- 55.18 22 P P 18 44 38.4 -1.3
PEA0B Petropavlovsk- 55.18 22 P P 18 44 38.4 -1.3
PEA0B pmax pmax
comp=Z,93nm,1.7s
PETK Petropavlovsk- 55.18 22 P P 18 44 38.4 -1.3
PETK Petropavlovsk- 55.18 22 P P 18 44 39.1 -0.6
comp=Z,3.1nm,0.6s,baz=148,slow=2.2,SNR=15
PETK LR LR 19 09 47.9
comp=Z,64nm,19.4s,baz=212,slow=38
comp=Z,3.1nm,0.6s
ZSN Zaisan 56.06 327 *e*P **P 18 44 45.6 -0.6**
comp=Z,14nm,2.0s,baz=327
ZSN Zaisan 56.06 327 *e*P **P 18 44 45.5 -0.6**
ZSN pmax pmax
comp=Z,14nm,2.0s
DGZ Jazzator, Alta 56.15 330*ce*P **P 18 44 46.4 -0.5**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
SHLS Shalkode 56.90 320 *e*P **P 18 44 50.4 -1.9**
comp=Z,6.5nm,0.9s,baz=320
SHLS Shalkode 56.90 320 *e*P **P 18 44 50.4 -1.9**
SHLS pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 57.11 325 P P 18 44 53.0 -0.6
MK31 PcP **PcP 18 45 48.3 +0.2**

MK31 Makanchi Array 57.11 325 P **P** 18 44 53.0 -0.6
MK31 18 45 48.3
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 57.11 325 P **P** 18 44 53.1 -0.5
MKAR PcP **PcP** 18 45 48.5 +0.5
MKAR Makanchi Array 57.11 325 P **P** 18 44 53.1 -0.5
MKAR 18 45 48.5
MKAR Makanchi Array 57.11 325 P **P** 18 44 53.3 -0.3
comp=Z,7.3nm,0.6s,baz=127,slow=8.1,SNR=105
MKAR PcP **PcP** 18 45 49.4 +1.4
comp=Z,5.7nm,0.7s,baz=114,slow=3.6,SNR=5.8
MKAR ScP **ScP** 18 49 46.5 +2.0
comp=Z,1.8nm,0.8s,baz=121,slow=4.7,SNR=5.3
MKAR LR LR 19 11 45.0
comp=Z,310nm,18.1s,baz=102,slow=38
comp=Z,7.3nm,0.6s
UZB Uzynbulak 57.17 320 *e*P **P** 18 44 54.1 -0.3
baz=320
UZB Uzynbulak 57.17 320 *e*P **P** 18 44 54.0 -0.3
MAKZ Makanchi 57.29 325 P **P** 18 44 53.8 -1.1
MAKZ IAmb IAmb 18 44 55.6
comp=Z,11nm,0.8s
MAKZ Makanchi 57.29 325 P **P** 18 44 53.8 -1.1
MAKZ pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 57.29 325 P **P** 18 44 54.5 -0.5
MAKZ PcP **PcP** 18 45 49.4 +0.6
TARG Taragay, Kyrgy 57.30 318 P **P** 18 44 54.7 -0.8
TARG Taragay, Kyrgy 57.30 318 P **P** 18 44 54.7 -0.8
TARG pmax pmax
comp=Z,6.0nm,0.9s
NIL Nilore 57.50 308 P **P** 18 44 56.0 -0.5
NIL IAmb IAmb 18 45 00.3
comp=Z,21nm,1.0s
NIL Nilore 57.50 308 P **P** 18 44 56.1 -0.5
NIL pmax pmax
comp=Z,21nm,1.0s
SATY Saty 57.53 320⇑ *i*P **P** 18 44 56.5 -0.3
comp=Z,5.6nm,0.8s,baz=320
SATY Saty 57.53 320*c i*P **P** 18 44 56.5 -0.3
SATY pmax pmax
comp=Z,6.0nm,0.8s
ZHN Zhinishke 57.56 320 *e*P **P** 18 44 56.7 -0.3
baz=320
ZHN Zhinishke 57.56 320 *e*P **P** 18 44 56.7 -0.3
KSH Kashi 57.60 315 P **P** 18 44 58.8 +1.4
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,200nm,15.5s
KSH LR LR
comp=Z,94nm,10.2s
KSH LR LR
comp=Z,260nm,16.1s
YAK Yakutsk 57.85 2 P **P** 18 44 56.5 -2.0
YAK Yakutsk 57.85 2 *e*P **P** 18 44 57.5 -0.9
YAK *e**PP **sP** 18 45 16.5 +1.9
YAK *e* 18 45 47.8
YAK *e*PPP PPP 18 48 25.6
YAK *e*S **S** 18 52 52.0 -2.7
YAK *e* 18 54 38.4
YAK *e*SS **SS** 18 56 43.8 -2.2
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,214nm,5.3s
YAK pmax pmax
comp=N,118nm,5.3s
YAK pmax pmax
comp=E,138nm,5.5s
YAK smax smax
comp=N,70nm,4.0s
YAK smax smax
comp=E,54nm,2.8s
YAK Yakutsk 57.85 2 P **P** 18 44 58.1 -0.3
MA2 Magadan 58.41 14 P **P** 18 45 00.6 -1.8
MA2 IAmb IAmb 18 45 18.7
comp=Z,21nm,1.4s
MA2 Magadan 58.41 14 P **P** 18 45 00.6 -1.8
MA2 pmax pmax
comp=Z,21nm,1.4s
MA2 Magadan 58.41 14 LR LR 19 07 46.2
comp=Z,48nm,21.5s,baz=204,slow=34
MA2 Magadan 58.41 14 P **P** 18 45 01.9 -0.5
MDOK Medeo 58.46 319 *e*P **P** 18 45 03.2 -0.1
baz=319
MDOK Medeo 58.46 319 *e*P **P** 18 45 03.2 -0.1
TNSS Tian-Shan 58.47 319 *e*P **P** 18 45 03.9 +0.2
baz=319
TNSS Tian-Shan 58.47 319 *e*P **P** 18 45 03.8 +0.2
TDK Taldyqorghan 58.47 322 *e*P **P** 18 45 03.0 -0.3
comp=Z,6.1nm,0.7s,baz=322
TDK Taldyqorghan 58.47 322 *e*P **P** 18 45 02.9 -0.3
TDK pmax pmax
comp=Z,6.0nm,0.7s
AAA Alma-Ata 58.56 319 *e*P **P** 18 45 03.7 -0.3
baz=319
AAA Alma-Ata 58.56 319 *e*P **P** 18 45 03.6 -0.3
CHKK Chushkaly 58.81 320 *e*P **P** 18 45 05.3 -0.3
baz=320
CHKK Chushkaly 58.81 320 *e*P **P** 18 45 05.3 -0.3
KUU Kurty 59.25 320⇑ *i*P **P** 18 45 08.4 -0.2
comp=Z,16nm,1.3s,baz=320
KUU Kurty 59.25 320*c i*P **P** 18 45 08.4 -0.2
KUU pmax pmax
comp=Z,16nm,1.3s
TKM2 Tokmak 2 59.30 318 P **P** 18 45 09.6 +0.3
SNR=9.1
UCH Uchtor 59.73 317 P **P** 18 45 13.4 +0.9
SNR=9.0
AAK Ala-Archa 59.91 318 P **P** 18 45 11.9 -1.5
AAK PcP **PcP** 18 46 00.1 +0.6
AAK IAmb IAmb 18 46 01.7
comp=Z,9.9nm,1.0s
AAK Ala-Archa 59.91 318*de*P **P** 18 45 13.3 -0.1
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 59.91 318 LR LR 19 14 56.1
comp=Z,171nm,19.0s,baz=94,slow=40
AAK Ala-Archa 59.91 318 P **P** 18 45 13.9 +0.5
AAK PcP **PcP** 18 46 00.3 +0.9
ZAA0 Zalesovo Array 60.14 333 P **P** 18 45 12.5 -2.0
ZALV Zalesovo Beam 60.14 333 P **P** 18 45 12.4 -2.1
ZALV Zalesovo Beam 60.14 333 P **P** 18 45 12.4 -2.1
ZALV Zalesovo Beam 60.14 333 P **P** 18 45 13.3 -1.2
comp=Z,3.3nm,0.6s,baz=116,slow=6.8,SNR=17
ZALV LR LR 19 13 05.2
comp=Z,129nm,18.9s,baz=115,slow=38
comp=Z,3.3nm,0.6s
SGDS Sogindy 60.17 319 *e*P **P** 18 45 14.5 -0.5
comp=Z,11nm,2.1s,baz=319
SGDS Sogindy 60.17 319 *e*P **P** 18 45 14.5 -0.5
SGDS pmax pmax
comp=Z,11nm,2.1s
USP Ospenovka 60.17 318 P **P** 18 45 15.2 +0.2
SNR=7.8
AML Almayashu 60.25 317 P **P** 18 45 16.7 +0.7
SNR=8.7
SEM Semipalatinsk 60.25 328 *e*P **P** 18 45 15.3 -0.3
baz=328
SEM Semipalatinsk 60.25 328 *e*P **P** 18 45 15.3 -0.3
EKS2 Erkin-Say 60.41 318 P **P** 18 45 17.5 +0.8
SNR=6.7
ARSB Arslanbob 60.42 316 P **P** 18 45 15.2 -1.7
ARSB Arslanbob 60.42 316 P **P** 18 45 15.2 -1.7
ARSB pmax pmax
comp=Z,7.0nm,1.6s
KBL Kabul 61.10 307 P **P** 18 45 20.1 -1.6
KBL Kabul 61.10 307 P **P** 18 45 20.1 -1.6
KBL pmax pmax
comp=Z,9.0nm,1.0s
BTLS Baital 61.23 320 *e*P **P** 18 45 21.4 -0.7
comp=Z,12nm,2.4s,baz=320
BTLS Baital 61.23 320 *e*P **P** 18 45 21.4 -0.7
BTLS pmax pmax
comp=Z,12nm,2.4s
KURBB Kurchatov Arra 61.29 327 P **P** 18 45 21.9 -0.5
comp=Z,21nm,0.8s,baz=123,slow=6.4,SNR=199
KURBB LR LR 19 13 48.1
comp=Z,108nm,18.6s,baz=168,slow=38
comp=Z,21nm,0.8s

KURK Kurchatov 61.29 327 P **P** 18 45 21.7 -0.7
KURK Kurchatov 61.29 327*c i*P **P** 18 45 21.6 -0.8
KURK pmax pmax
comp=Z,32nm,0.7s
KURK Kurchatov 61.29 327 P **P** 18 45 22.0 -0.4
KURK pP **pP** 18 45 29.2 -4.6
BTK Batken 61.48 314 P **P** 18 45 22.9 -1.1
BTK IAmb IAmb 18 45 26.8
comp=Z,26nm,1.5s
BTK Batken 61.48 314 P **P** 18 45 22.9 -1.1
BTK pmax pmax
comp=Z,26nm,1.5s
SEY Seymchan 61.73 13⇑ *e*P **P** 18 45 24.5 -0.6
SEY *i* *PP **pP** 18 45 35.3 -1.6
SEY pmax pmax
comp=Z,11nm,2.4s
SEY Seymchan 61.73 13 LR LR 19 16 35.8
comp=Z,30nm,18.2s,baz=258,slow=40
TKNZ Takaka Hill 61.77 141 P **P** 18 45 23.3 -2.5
DZA Taraz 62.15 317 *e*P **P** 18 45 28.2 -0.2
baz=317
DZA Taraz 62.15 317 *e*P **P** 18 45 28.2 -0.2
RPZ Rata Peaks 62.21 145 LR LR 19 13 15.2
comp=Z,99nm,18.1s,baz=309,slow=37
SIMJ Simiganj 62.34 312 P **P** 18 45 29.7 -0.3
SIMJ IAmb IAmb 18 45 31.5
comp=Z,27nm,1.7s
SIMJ Simiganj 62.34 312 P **P** 18 45 30.8 +0.9
SIMJ PcP **PcP** 18 46 10.1 +0.8
KK31 Karatay Array 62.79 317 P **P** 18 45 31.6 -1.0
KK31 IAmb IAmb 18 45 34.1
comp=Z,32nm,2.0s
KK31 Karatay Array 62.79 317 P **P** 18 45 31.6 -1.0
KK31 pmax pmax
comp=Z,32nm,2.0s
KKAR Karatay Array 62.79 317 P **P** 18 45 31.5 -1.1
KKAR Karatay Array 62.79 317 P **P** 18 45 31.6 -1.1
KKAR IAmb IAmb 18 45 34.1
comp=Z,32nm,2.0s
KKAR Karatay Array 62.79 317 P **P** 18 45 31.6 -1.1
KKAR pmax pmax
comp=Z,32nm,2.0s
URZ Urewera 62.98 137 LR LR 19 11 44.6
comp=Z,63nm,21.3s,baz=106,slow=35
BRZS Berezniki 64.24 325 *e*P **P** 18 45 41.6 -0.5
baz=325
BRZS Berezniki 64.24 325 *e*P **P** 18 45 41.6 -0.5
HRA Herat 66.51 306 P **P** 18 45 55.9 -1.5
BVAR Borovoye Array 66.87 327 P **P** 18 45 58.8 -0.2
comp=Z,6.1nm,0.7s,baz=131,slow=9.0,SNR=31
BVAR LR LR 19 15 46.5
comp=Z,166nm,21.1s,baz=111,slow=36
comp=Z,6.1nm,0.7s
BRVK Borovoye 66.94 327 P **P** 18 45 58.4 -1.1
BRVK IAmb IAmb 18 46 08.1
comp=Z,12nm,0.8s
BRVK Borovoye 66.94 327*ce*P **P** 18 45 59.0 -0.4
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 66.94 327 P **P** 18 45 59.1 -0.4
BRVK pP **pP** 18 46 06.9 -4.1
BRVK PcP **PcP** 18 46 27.2 -0.5
TIXI Tiksi 67.47 1 P **P** 18 46 00.7 -1.8
TIXI IAmb IAmb 18 46 10.5
comp=Z,10nm,0.8s
TIXI Tiksi 67.47 1⇓ *e*P **P** 18 46 01.7 -0.8
TIXI pmax pmax
comp=Z,18nm,1.7s
NRIK Noril'sk 70.01 346 P **P** 18 46 17.7 -0.6
NRIK IAmb IAmb 18 46 25.9
comp=Z,13nm,0.8s
NRIK Noril'sk 70.01 346*de*P **P** 18 46 18.6 +0.3
NRIK pmax pmax
comp=Z,14nm,0.8s
NRIK Noril'sk 70.01 346 P **P** 18 46 18.7 +0.4
comp=Z,6.0nm,0.5s,baz=135,slow=6.0,SNR=15
comp=Z,6.0nm,0.5s
GEYT Alibeck 70.46 309 P **P** 18 46 21.1 -0.7
GEYT Alibeck 70.46 309 P **P** 18 46 22.5 +0.7
comp=Z,8.9nm,0.8s,baz=116,slow=6.8,SNR=24
comp=Z,8.9nm,0.8s
GYA0B ALIBECK ARRAY 70.46 309 IAmb IAmb 18 46 23.4
comp=Z,10nm,0.8s
MSEY Mahe Island 71.46 264 P **P** 18 46 27.1 -1.2
MSEY Mahe Island 71.46 264 P **P** 18 46 27.1 -1.2
MSEY pmax pmax
comp=Z,40nm,1.4s
ABKAR Akbulak array 71.70 321 P **P** 18 46 27.4 -1.6
ABKAR Akbulak array 71.70 321 P **P** 18 46 27.7 -1.3
ABKAR IAmb IAmb 18 46 48.3
comp=Z,29nm,1.8s
AKTO Aktyubinsk 73.21 322 LR LR 19 20 38.4
comp=Z,218nm,21.8s,baz=92,slow=37
SVE Sverdlovsk 73.51 328 *e*P **P** 18 46 39.7 +0.1
SVE pmax pmax
comp=Z,11nm,0.8s
ARU Arti 74.49 328 P **P** 18 46 44.2 -1.1
ARU Arti 74.49 328*de*P **P** 18 46 44.6 -0.7
ARU pmax pmax
comp=Z,17nm,1.7s
ARU Arti 74.49 328 LR LR 19 21 58.7
comp=Z,112nm,20.8s,baz=93,slow=38
H16K Elim 78.35 25 P **P** 18 47 07.1 +0.1
baz=254
L16K Owhat River 78.87 28 P **P** 18 47 10.2 +0.3
baz=258
E17K Hoham Inlet 79.16 22 P **P** 18 47 12.0 +0.6
baz=254
G17K Kiwalik Mounta 79.22 24 P **P** 18 47 12.1 +0.3
baz=256
L17K Donlin 79.50 28 P **P** 18 47 14.0 +0.6
baz=259
K17K Iditarod 79.61 27 P **P** 18 47 14.9 +1.0
baz=258
E18K Tukpahlearik C 79.71 22 P **P** 18 47 15.0 +0.6
baz=256
KIRV Kirov 79.77 329*de*P **P** 18 47 14.8 -0.1
KIRV Kirov 79.77 329 LR LR 19 24 06.8
comp=Z,102nm,19.9s,baz=97,slow=37
C18K Utukok River 79.80 21 P **P** 18 47 14.9 -0.1
baz=255
BELG Belogornoye 79.96 322⇓ *e*P **P** 18 47 15.3 -0.7
BELG pmax pmax
comp=Z,4.0nm,1.0s
J18K Innoko River 80.46 26 P **P** 18 47 18.8 +0.2
baz=260
M18K Stony River 80.54 28 P **P** 18 47 19.4 +0.4
baz=261
O18K Koktuh Hills 80.60 30 P **P** 18 47 18.6 -0.8
SII Sitkinak Islan 80.72 33 P **P** 18 47 16.8 -3.3
G19K Purcell Mounta 80.79 24 P **P** 18 47 20.6 +0.3
baz=259
D19K Kuna River 80.87 21 P **P** 18 47 21.1 +0.4
baz=258
H19K Roundabout Mou 80.94 24 IAmb IAmb 18 47 50.0
comp=Z,25nm,1.2s
H19K Roundabout Mou 80.94 24 P **P** 18 47 21.6 +0.6
baz=260
E19K Redstone River 80.98 22 IAmb IAmb 18 47 39.0
comp=Z,17nm,1.1s
E19K Redstone River 80.98 22 P **P** 18 47 21.8 +0.5
baz=259
D20K Etivluk River 81.45 21 P **P** 18 47 24.2 +0.4
baz=259
F20K Avaraart Lake 81.49 23 P **P** 18 47 24.6 +0.7
baz=260
B20K Meade River 81.51 20 IAmb IAmb 18 47 39.3
comp=Z,29nm,1.7s
B20K Meade River 81.51 20 P **P** 18 47 24.4 +0.5
baz=258
E20K Nigu River 81.52 22 P **P** 18 47 24.6 +0.4
baz=260
H20K Anotleneega Mo 81.58 24 P **P** 18 47 24.9 +0.5
baz=261
J20K Nowinta River 81.70 26 P **P** 18 47 25.7 +0.6
baz=262
KDAK Kodiak Island 81.71 32 P **P** 18 47 24.1 -1.2
KDAK Kodiak Island 81.71 32 P **P** 18 47 24.1 -1.2
KDAK pmax pmax
comp=Z,193nm,1.6s
KDAK Kodiak Island 81.71 32 LR LR 19 17 53.2
comp=Z,119nm,21.2s,baz=256,slow=31
ZEI Tsey 81.78 312 *e*P **P** 18 47 23.1 -3.2
ZEI pmax pmax
comp=Z,7.0nm,1.0s
M20K Styx River 81.87 28 P **P** 18 47 26.6 +0.4
baz=263
IMAR Indian Mountai 82.11 24 P **P** 18 47 26.8 -0.4
C21K Knifeblade Rid 82.18 21 P **P** 18 47 28.0 +0.5
baz=261
G21K Allakaket 82.28 23 IAmb IAmb 18 47 39.0
comp=Z,17nm,1.3s
G21K Allakaket 82.28 23 P **P** 18 47 28.9 +0.8
baz=262
B21K Ikpikpuk River 82.31 20 IAmb IAmb 18 47 56.9
comp=Z,12nm,0.9s
B21K Ikpikpuk River 82.31 20 P **P** 18 47 28.9 +0.7
baz=261
E21K Killik River 82.36 22 IAmb IAmb 18 47 55.9
comp=Z,23nm,1.5s
E21K Killik River 82.36 22 P **P** 18 47 28.8 +0.2
baz=262
A22K Sinclair Lake 82.42 19 P **P** 18 47 29.3 +0.6
baz=260
H21K Melozitna Rive 82.45 24 P **P** 18 47 29.6 +0.5
baz=263
CAST Castle Rocks 82.52 27 P **P** 18 47 28.5 -0.9
CAST Castle Rocks 82.52 27 P **P** 18 47 29.4 -0.1
baz=264
KBZ Khabaz 82.54 313⇓ *e*P **P** 18 47 30.8 +0.9
KBZ Khabaz 82.54 313 P **P** 18 47 30.2 +0.3
comp=Z,2.8nm,1.0s,baz=108,slow=3.2,SNR=4.1
comp=Z,2.8nm,1.0s
CNPM China Poot 82.57 31 P **P** 18 47 28.0 -1.8
KIV Kislovodsk 82.70 314 *e*P **P** 18 47 29.7 -1.2
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,67nm,19.0s
B22K Teshekpuk Lake 82.83 20 IAmb IAmb 18 47 44.2
comp=Z,8.9nm,0.8s
B22K Teshekpuk Lake 82.83 20 P **P** 18 47 31.4 +0.5
baz=262
D22K Ayikyak River 82.89 21 P **P** 18 47 32.4 +1.1
baz=263
F22K John River 82.92 23 P **P** 18 47 32.6 +1.1
baz=263
SUA Susitna One 82.96 29 P **P** 18 47 30.5 -1.4
SUA Susitna One 82.96 29 P **P** 18 47 31.2 -0.7
baz=265
KTH Kantishna Hill 83.05 27 P **P** 18 47 31.5 -0.8
H22K Ishtalitna Cre 83.06 24 P **P** 18 47 32.6 +0.4
baz=264
G22K Bettles 83.11 23 P **P** 18 47 32.6 +0.2
baz=264
E22K Anaktuvuk Pass 83.12 22 IAmb IAmb 18 47 45.8
comp=Z,18nm,1.3s
E22K Anaktuvuk Pass 83.12 22 P **P** 18 47 33.1 +0.5
baz=264
MLY Manley 83.25 25 P **P** 18 47 33.1 -0.2
MLY IAmb IAmb 18 47 48.4
comp=Z,9.9nm,1.0s
MLY Manley 83.25 25 P **P** 18 47 33.4 +0.2
baz=265
TRF Thorofare Moun 83.32 27 P **P** 18 47 32.1 -1.7
RC01 Rabbit Creek A 83.42 29 P **P** 18 47 33.3 -0.9
VRH Novokhopyorsk 83.53 321 *e*P **P** 18 47 32.7 -2.2
VRH pmax pmax
comp=Z,20nm,0.8s
D23K Nanushuk River 83.62 21 P **P** 18 47 35.6 +0.6
baz=265
COLD Coldfoot 83.65 23 P **P** 18 47 36.0 +0.8
baz=265
G23K Bananza Creek 83.68 23 IAmb IAmb 18 47 58.3
comp=Z,15nm,1.1s
G23K Bananza Creek 83.68 23 P **P** 18 47 36.2 +0.8
baz=266
C23K Itkillik River 83.72 20 P **P** 18 47 36.1 +0.6
baz=265
VNDA Vanda 83.83 173 P **P** 18 47 36.0 +0.2
VNDA IAmb IAmb 18 47 37.6
comp=Z,12nm,1.1s
VNDA Vanda 83.83 173 P **P** 18 47 36.8 +1.0
comp=Z,6.2nm,1.0s,baz=313,slow=6.9,SNR=14
VNDA LR LR 19 23 35.4
comp=Z,30nm,22.0s,baz=310,slow=35
comp=Z,6.2nm,1.0s
I23K Minto, Yukon-K 83.84 25 P **P** 18 47 34.9 -1.3
I23K Minto, Yukon-K 83.84 25 P **P** 18 47 36.4 +0.2
baz=266
E23K Chandalar 83.94 22 P **P** 18 47 37.3 +0.5
baz=266
TOLK Toolik Lake Re 83.99 21 IAmb IAmb 18 48 05.6
comp=Z,10.0nm,1.1s
TOLK Toolik Lake Re 83.99 21 P **P** 18 47 37.5 +0.5
baz=266
KNK Knik Glacier 84.06 29 P **P** 18 47 35.7 -1.7
KNK IAmb IAmb 18 47 57.0
comp=Z,19nm,1.0s
KNK Knik Glacier 84.06 29 P **P** 18 47 37.5 +0.1
baz=268
SML Sawmill 84.13 28 P **P** 18 47 37.8 0.0
baz=268
MDM Murphy Dome 84.31 25 P **P** 18 47 37.4 -1.2
MDM IAmb IAmb 18 48 26.4
comp=Z,33nm,1.9s
C24K Franklin Bluff 84.38 20 P **P** 18 47 39.5 +0.7
baz=266
M23K Glacier View 84.42 28 P **P** 18 47 39.1 -0.1
baz=268
CCB Clear Creek Bu 84.48 26 IAmb IAmb 18 48 00.2
comp=Z,26nm,1.6s
H24K Noodor Dome 84.50 24 P **P** 18 47 40.4 +0.8
baz=268
F24K Squaw Lake 84.56 23 IAmb IAmb 18 47 41.6
comp=Z,30nm,1.9s
F24K Squaw Lake 84.56 23 P **P** 18 47 40.5 +0.6
baz=267
SCM Sheep Creek Mo 84.61 28 P **P** 18 47 39.1 -1.2
SCM Sheep Creek Mo 84.61 28 P **P** 18 47 39.1 -1.2
SCM pmax pmax
comp=Z,95nm,1.8s
HDA Harding Lake 84.84 26 P **P** 18 47 40.0 -1.3
HDA IAmb IAmb 18 48 41.8
comp=Z,17nm,1.5s
SOC Sochi 84.85 313 *e*P **P** 18 47 38.7 -3.1
SOC *e*PPP PPP 18 52 48.8
SOC *e*S **SKSac** 18 57 58.6 -4.3
SOC *e*SS **SS** 19 03 34.3 -5.7
SOC *e*SSS SSS 19 07 12.0
ILAR Eielson Array 84.88 25 P **P** 18 47 40.4 -1.1
comp=Z,1.0nm,0.6s,baz=245,slow=5.8,SNR=14
ILAR LR LR 19 20 29.6
comp=Z,45nm,21.6s,baz=354,slow=32
comp=Z,1.0nm,0.6s
KLMR Klimovskoe 84.96 331 *e*P **P** 18 47 37.7 -4.2
KLMR pmax pmax
comp=Z,68nm,0.9s
VORD Divnogorie 85.06 321 *e*P **P** 18 47 41.2 -1.4
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORR Voronezh 85.11 321 *e*P **P** 18 47 42.7 -0.2
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 85.14 321 *e*P **P** 18 47 41.7 -1.3
VSR pmax pmax
comp=Z,20nm,1.8s
D25K Kavik River 85.18 21 P **P** 18 47 41.9 -1.0
D25K IAmb IAmb 18 47 53.0
comp=Z,24nm,1.6s
D25K Kavik River 85.18 21 P **P** 18 47 43.2 +0.3
baz=269
LPSR Galich'ya Gora 85.28 322 *e*P **P** 18 47 42.6 -1.1
LPSR pmax pmax
comp=Z,20nm,1.0s
F25K Christian Rive 85.42 23 P **P** 18 47 45.3 +1.0
baz=269
E25K Arctic Village 85.46 22 IAmb IAmb 18 48 01.1
comp=Z,23nm,1.6s
E25K Arctic Village 85.46 22 P **P** 18 47 45.0 +0.7
baz=270
PPT2 Papeete2 85.47 108 *e*LR LR 19 14 35.2
comp=Z,56nm,26.5s
PPT2 *e*LR LR 19 14 42.6
comp=Z,95nm,32.5s
MOS Moscow 85.99 325 *e*P **P** 18 47 45.6 -1.6
MOS pmax pmax
comp=Z,65nm,1.2s
F26K Sheenjek River 86.00 22 P **P** 18 47 48.0 +1.0
baz=271
G26K Porcupine Rive 86.15 23 P **P** 18 47 49.2 +1.5
baz=271
OBN Obninsk 86.61 325 P **P** 18 47 49.2 -1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	86.96	307	IAmb	IAmb	18 47 54.7	
	comp=Z,8.0nm,0.6s						
D27M	Malcolm River	87.10	21	P	P	18 47 53.1	+0.6
	baz=274						
F28M	Old Crow	87.63	22	P	P	18 47 55.3	+0.3
	baz=275						
E28M	Babbage River	87.67	21	P	P	18 47 54.6	-0.6
I28M	Miner Creek	87.80	25	P	P	18 47 56.1	+0.2
	baz=275						
KIBK	Kibwezi	88.60	268	P	P	18 48 01.0	+0.2
KIBK				IAmb	IAmb	18 48 02.8	
	comp=Z,11nm,1.0s						
MMAI	Mount Meron Ar	88.69	303	P	P	18 48 01.2	+0.4
	comp=Z,4.3nm,0.8s,baz=79,slow=7.5,SNR=3.3						
	comp=Z,4.3nm,0.8s						
KMBO	Kilima Mbogo	89.31	269	P	P	18 48 04.7	+0.4
KMBO				IAmb	IAmb	18 48 06.4	
	comp=Z,7.9nm,1.1s						
KMBO	Kilima Mbogo	89.31	269	⇑eP	P	18 48 03.3	-1.0
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	Kilima Mbogo	89.31	269	P	P	18 48 03.5	-0.9
	comp=Z,4.3nm,0.9s,baz=42,slow=4.2,SNR=8.0						
KMBO				LR	LR	19 26 17.1	
	comp=Z,33nm,18.8s,baz=92,slow=34						
	comp=Z,4.3nm,0.9s						
EIL	Elat	89.32	300	LR	LR	19 33 14.6	
	comp=Z,54nm,20.9s,baz=51,slow=39						
BR131	Keskin Array S	89.59	310	⇑eP	P	18 48 04.7	-0.3
BRTR	Keskin Array B	89.59	310	ceP	P	18 48 05.5	+0.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	89.59	310	P	P	18 48 03.6	-1.3
	comp=Z,2.1nm,0.7s,baz=128,slow=4.4,SNR=10.0						
	comp=Z,2.1nm,0.7s						
INK	Inuvik	89.91	21	LR	LR	19 31 24.7	
	comp=Z,34nm,19.3s,baz=291,slow=38						
ARCES	ARCESS Array B	90.01	340	P	P	18 48 06.2	0.0
	comp=Z,4.6nm,0.7s,baz=56,slow=3.1,SNR=9.2						
	comp=Z,4.6nm,0.7s						
SPITS	Spitsbergen Ar	90.07	349	P	P	18 48 07.5	+1.3
	comp=Z,11nm,1.0s,baz=91,slow=7.0,SNR=15						
SPITS				LR	LR	19 33 39.9	
	comp=Z,176nm,20.0s,baz=20,slow=39						
	comp=Z,11nm,1.0s						
FINES	FINESS Array B	91.39	332	P	P	18 48 12.8	+0.2
	comp=Z,5.5nm,0.7s,baz=145,slow=7.0,SNR=17						
FINES				LR	LR	19 32 14.0	
	comp=Z,150nm,20.3s,baz=64,slow=38						
	comp=Z,5.5nm,0.7s						
AKASG	Malin Array Be	91.44	321	IAmb	IAmb	18 48 14.2	
	comp=Z,7.7nm,1.3s						
AKASG	Malin Array Be	91.44	321	P	P	18 48 12.5	-0.7
	comp=Z,3.1nm,0.9s,baz=70,slow=4.3,SNR=11						
AKASG				LR	LR	19 32 57.3	
	comp=Z,83nm,19.2s,baz=146,slow=38						
	comp=Z,3.1nm,0.9s						
AKBB	Malin Array Si	91.44	321	IAmb	IAmb	18 48 12.8	
	comp=Z,10nm,1.2s						
AKBB	Malin Array Si	91.44	321	⇓eP	P	18 48 12.4	-0.8
KIEV	Kiev	91.46	321	⇓P	P	18 48 13.6	+0.4
KIEV	Kiev	91.46	321	P	P	18 48 12.2	-1.0
KIEV				IAmb	IAmb	18 48 12.8	
	comp=Z,9.0nm,1.2s						
KIEV	Kiev	91.46	321	⇓P	P	18 48 13.6	+0.4
PURM	Purcari	91.59	317	⇑P	P	18 48 14.7	+0.8
VSU	Vasula	91.62	329	eP	P	18 48 13.8	0.0
MNK	Minsk	91.67	325	i P	P	18 48 12.2	-1.9
MNK				i *PP	pP	18 48 26.9	+0.8
MNK				i		18 51 51.1	
MNK				i PPP	PPP	18 53 49.9	
MNK				i S	SKSac	18 58 38.0	-5.4
MNK				i SS	SS	19 05 17.2	-1.4
MNK				i SSS	SSS	19 08 55.9	
MNK				pmax	pmax		
	comp=E,12nm,1.0s						
MNK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,6.0nm,1.1s						
MILM	Milestii Mici	92.26	317	eP	P	18 48 16.9	-0.1
MILM				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SORM	Soroca	92.39	318	⇓P	P	18 48 17.0	-0.6
SORM	Soroca	92.39	318	⇓P	P	18 48 17.0	-0.6
MEF	Metsahovi	92.44	331	eP	P	18 48 17.3	-0.3
TLCR		92.51	315	⇓P	P	18 48 19.1	+0.9
TLCR		92.51	315	⇓P	P	18 48 19.1	+0.9
RAF	Rauma	93.51	332	eP	P	18 48 21.8	-0.6
DLBC	Dease Lake	93.56	31	LR	LR	19 24 38.5	
	comp=Z,199nm,21.2s,baz=322,slow=32						
PABE	Paberze	93.69	326	eP	P	18 48 23.8	+0.4
TESR	Tescani	93.79	317	⇓P	P	18 48 23.9	-0.2
VRI	Vrincioaia	93.85	316	⇓P	P	18 48 25.0	+0.6
VRI	Vrincioaia	93.85	316	⇓P	P	18 48 25.0	+0.6
PLOR	Plostina	93.91	316	⇓P	P	18 48 25.9	+1.2
PLOR	Plostina	93.91	316	⇓P	P	18 48 25.9	+1.2
QSPA	South Pole Qui	94.01	180	P	P	18 48 24.7	-0.1
QSPA				IAmb	IAmb	18 48 26.9	
	comp=Z,14nm,1.3s						
QSPA	South Pole Qui	94.01	180	P	P	18 48 25.9	+1.1
	comp=Z,4.5nm,1.0s,baz=24,slow=0.7,SNR=7.5						
	comp=Z,4.5nm,1.0s						
MLR	Muntele Rosu	94.46	316	⇑P	P	18 48 28.3	+0.9
MLR	Muntele Rosu	94.46	316	P	P	18 48 26.0	-1.4
MLR				IAmb	IAmb	18 48 28.8	
	comp=Z,7.3nm,0.9s						
MLR	Muntele Rosu	94.46	316	⇑P	P	18 48 28.3	+0.9
SUW	Suwalki	94.47	325	P	P	18 48 24.3	-2.7
SUW	Suwalki	94.47	325	P	P	18 48 24.3	-2.7
SUW	Suwalki	94.47	325	eP	P	18 48 25.1	-2.0
BURAR	Bucovina Array	94.56	318	⇑P	P	18 48 28.4	+0.7
BURAR	Bucovina Array	94.56	318	P	P	18 48 26.1	-1.7
BURAR				IAmb	IAmb	18 48 29.7	
	comp=Z,6.3nm,0.8s						
BURAR	Bucovina Array	94.56	318	⇑P	P	18 48 28.4	+0.7
BUR08	Bucovina Ar. S	94.56	318	P	P	18 48 26.4	-1.3
BUR08				IAmb	IAmb	18 48 31.3	
	comp=Z,7.9nm,0.9s						
ARR	Arges	95.39	316	⇑P	P	18 48 32.1	+0.5
CJR	Cluj-Napoca	95.82	318	⇓P	P	18 48 32.6	-0.9
CJR	Cluj-Napoca	95.82	318	⇓P	P	18 48 32.6	-0.9
MARR	Marisel-Cluj	96.15	318	⇓P	P	18 48 35.1	0.0
KOLS	Kolonicke sedl	96.20	320	eP	P	18 48 35.2	+0.1
KOLS	Kolonicke sedl	96.20	320	ePDIFF	P	18 48 35.2	+0.1
CEI	Carei	96.36	319	⇓P	P	18 48 32.6	-3.2
CEI	Carei	96.36	319	⇓P	P	18 48 32.6	-3.2
GZR	Gura Zlata	96.66	316	⇑P	P	18 48 37.4	0.0
GZR	Gura Zlata	96.66	316	⇑P	P	18 48 37.4	0.0
CRVS	Cervenica-Dubn	96.72	320	eP	P	18 48 38.4	+0.9
CRVS	Cervenica-Dubn	96.72	320	ePDIFF	P	18 48 38.4	+0.9
STHS	Stebnicka Huta	96.74	321	eP	P	18 48 38.2	+0.7
STHS	Stebnicka Huta	96.74	321	ePDIFF	P	18 48 38.2	+0.7
DAG	Danmarks Havn	96.85	352	i P	P	18 48 39.0	+1.6
HERR	Herculane	97.03	316	⇑P	P	18 48 38.5	-0.4
SURR	Surduc	97.03	317	⇓P	P	18 48 38.2	-0.7
BLKB	Belogradchik	97.12	315	⇑P	P	18 48 38.9	-0.6
BZS	Buzias	97.41	317	⇓P	P	18 48 40.3	-0.3
BZS	Buzias	97.41	317	⇓P	P	18 48 40.3	-0.3
RES	Resolute Bay	97.49	10	LR	LR	19 38 35.4	
	comp=Z,25nm,19.0s,baz=19,slow=39						
HFS	Hagfors	97.57	332	P	P	18 48 40.5	-0.5
	comp=Z,5.7nm,1.0s,baz=100,slow=5.3,SNR=6.5						
HFS				LR	LR	19 36 59.8	
	comp=Z,144nm,18.6s,baz=86,slow=38						
	comp=Z,5.7nm,1.0s						
LANS	Liptovska Anna	97.93	321	eP	Pdif	18 48 44.1	+1.1
LANS	Liptovska Anna	97.93	321	ePDIFF	Pdif	18 48 44.1	+1.1
NB2	NORSAR Subarra	98.34	334	P	Pdif	18 48 44.6	0.0
	comp=Z,2.8nm,0.8s,baz=63,slow=5.3						
NOA	NORSAR Array B	98.34	334	P	P	18 48 44.2	-0.3
	comp=Z,1.9nm,0.8s,baz=65,slow=4.6,SNR=4.8						
NOA				LR	LR	19 36 20.6	
	comp=Z,102nm,20.2s,baz=65,slow=37						
	comp=Z,1.9nm,0.8s						
MORC	Moravsky Berou	98.96	322	⇑P	Pdif	18 48 47.9	+0.3
MORC	Moravsky Berou	98.96	322	⇑P	Pdif	18 48 47.9	+0.3
LSZ	Lusaka	99.05	255	LR	LR	19 29 46.0	
	comp=Z,48nm,19.9s,baz=92,slow=33						
MORH	Mrgy, Hungar	99.26	318	⇓P	Pdif	18 48 49.2	+0.3
YKA	Yellowknife Ar	99.27	24	P	Pdif	18 48 48.4	-0.2
	comp=Z,0.3nm,0.8s,baz=293,slow=4.3,SNR=3.9						
	comp=Z,0.3nm,0.8s						
RUE	Ruedersdorf	100.32	325	ePdiff	Pdif	18 48 54.5	+1.1
BRG	Berggiesshubel	100.79	323	eP	Pdif	18 48 56.4	+0.7
BRG				Amp		18 48 57.1	
	comp=Z,6.9nm,0.9s						
BRG	Berggiesshubel	100.79	323	eP	Pdif	18 48 56.3	+0.7
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRG	Berggiesshubel	100.79	323	ePdiff	Pdif	18 48 55.5	-0.2
CLL	Collm	101.19	324	i P	Pdif	18 48 57.5	+0.2
CLL				pmax	pmax		
	comp=Z,28nm,1.7s						
CLL	Collm	101.19	324	i Pdif	Pdif	18 48 57.5	+0.2
	comp=Z,28nm,1.7s						
CLL	Collm	101.19	324	ePdiff	Pdif	18 48 57.6	+0.2
GEC2	GERESS Array S	101.64	322	ePdiff	Pdif	18 48 59.6	0.0
GERES	GERESS Array B	101.64	322	P	Pdif	18 48 59.6	0.0
	comp=Z,1.5nm,0.9s,baz=56,slow=3.4,SNR=7.3						
FLTG	Flechtingen	101.82	325	ePdiff	Pdif	18 49 00.8	+0.7
WERD	Werda	101.91	323	ePdiff	Pdif	18 49 00.8	+0.1
GUNZ	Gunzen	101.93	323	ePdiff	Pdif	18 49 02.1	+1.3
WERN	Wernitzgruen	101.93	323	ePdiff	Pdif	18 49 01.8	+1.0
NEUB	Neuenburg	101.94	324	ePdiff	Pdif	18 49 01.7	+1.0
PLN	Plauen	101.99	323	ePdiff	Pdif	18 49 01.5	+0.5
ROTZ	Rotzenmuhle	102.22	323	ePdiff	Pdif	18 49 02.8	+0.7
CLZ	Clausthal	102.51	325	ePdiff	Pdif	18 49 04.3	+1.0
RETH	Rethem/Aller,	102.71	326	ePdiff	Pdif	18 49 04.0	0.0
TXAR	Lajitas Array	121.57	52	PKP	PKiKP	18 54 01.6	+0.1
	comp=Z,0.2nm,0.4s,baz=292,slow=2.7,SNR=5.0						
TORD	Torodi Ar. Bea	122.56	288	PKP	PKiKP	18 54 03.6	+0.1
	comp=Z,2.2nm,0.8s,baz=37,slow=3.1,SNR=13						
S39A	Bolivar	124.38	38	PKPdf	PKPdf	18 54 05.2	-1.1
DBIC	Dimbokro	130.25	282	PKP	PKPdf	18 54 18.0	-0.1
	comp=Z,1.8nm,0.6s,baz=34,slow=3.6,SNR=2.8						
PLCA	Paso Flores	140.44	160	PKP	PKPdf	18 54 37.0	+0.6
	comp=Z,2.7nm,0.9s,baz=284,slow=5.3,SNR=4.7						
CO01	Juntas del Tor	149.87	150		PKPdf	18 54 51.4	-1.7
CPUP	Villa Florida	157.60	171	PKPab	PKPab	18 55 35.7	0.0
	comp=Z,2.0nm,0.8s,baz=167,slow=5.3,SNR=4.8						
BDFB	Brasilia	167.32	205	PKPab	PKPab	18 56 20.4	+1.7
	comp=Z,0.9nm,0.3s,baz=135,slow=5.7,SNR=3.0						

HEL 06 18:36:48.2±0.2, 67°.64N×33°.86E, h0km, ML1.1, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.40	49	PG	Pg	18 36 55.6	-0.2
LVZ				SG	Sg	18 36 56.9	-4.0
VRF	Varrio	1.62	276	MSG		18 37 36.9	
	comp=Z,1.1nm,0.2s						
VRF				SG	Sn	18 37 37.0	-2.6
OLKF	Oulanka, Finla	2.20	235	PG	Pb	18 37 27.9	-0.9
OLKF				MSG		18 37 53.2	
	comp=Z,0.7nm,0.2s						
OLKF				SG	Sb	18 37 55.3	-1.2
KU6	Riekki	2.26	226	PG	Pb	18 37 28.6	-1.2
	baz=43						
KU6				MSG		18 37 55.1	
	comp=Z,0.5nm,0.2s						
KU6				SG	Sb	18 37 57.4	-0.8
MSF	Maaselka	2.58	230	PG	Pb	18 37 34.0	-1.3
MSF				SG	Sb	18 38 07.7	+0.2
SGF	Sodankyl	2.82	269	SB	Sb	18 38 12.6	-1.9
KEV	Kevo	3.28	313	PN	Pn	18 37 41.2	+0.5
ARA0	ARCESS Array S	3.60	306	PN	Pn	18 37 44.1	-1.1
HEF	Hetta	3.91	286	eP	Pb	18 37 57.8	-0.2
LANU	Lannavaara	4.51	281	PB	Pn	18 38 02.1	+4.5

HEL 06 18:37:28.5±0.2, 67°.17N×20°.59E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	1.03	31	PG	Pg	18 37 46.9	-1.3
LANU				SB	Sg	18 38 01.5	-0.2
KLF	Kolari	1.32	86	PG	Pg	18 37 52.0	-1.7
KLF				MSG		18 38 08.2	
	comp=Z,0.6nm,0.2s						
KLF				SG	Sg	18 38 08.5	-2.2
HEF	Hetta	1.71	42	PG	Pn	18 37 59.1	-0.4
HEF				MSG		18 38 19.3	
	comp=Z,0.9nm,0.2s						
HEF				SN	Sn	18 38 21.6	-0.4
KALU	Kalix	1.72	139	SN	Sb	18 38 22.9	-0.2
KIF	Kilpisjarvi	1.84	2	eP	Pb	18 38 02.3	-0.7
KIF	Kilpisjarvi	1.84	2	PG	Pn	18 38 02.1	+0.8
KIF				MSG		18 38 24.5	
	comp=Z,1.3nm,0.2s						
KIF				SG	Sg	18 38 27.4	-0.3
TOF	Tornio	1.85	125	PG	Pn	18 38 01.7	+0.3
TOF				MSG		18 38 23.7	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sn	18 38 25.8	+0.4
KTK1	Kautokeino	2.10	27	PG	Pn	18 38 06.1	+1.2
KTK1				SG	Sn	18 38 32.7	+1.1
RNF	Rovaniemi	2.21	102	SG	Sb	18 38 36.8	-0.4
SGF	Sodankyl	2.32	81	SG	Sb	18 38 40.3	0.0

HEL 06 18:37:34.1±0.2, 67°.79N×33°.67E, h0km, ML1.6, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.39	74	PG	Pg	18 37 40.6	-0.9
LVZ				SG	Sg	18 37 46.8	+0.3
VRF	Varrio	1.54	270	PG	Pn	18 38 01.7	-1.2
VRF				MSG		18 38 20.5	
	comp=Z,4.7nm,0.2s						
VRF				SG	Sn	18 38 21.6	-2.0
OLKF	Oulanka, Finla	2.23	231	PB	Pn	18 38 12.1	-0.1
OLKF				MSG		18 38 40.2	
	comp=Z,2.6nm,0.2s						
OLKF				SN	Sn	18 38 40.4	-0.1
KU6	Riekki	2.32	222	PN	Pn	18 38 13.1	-0.3
KU6				SN	Sn	18 38 42.5	-0.1
KU6				MSG		18 38 42.5	
	comp=Z,1.6nm,0.2s						
MSF	Maaselka	2.63	226	PB	Pn	18 38 18.8	+1.1
MSF				SB	Sb	18 38 53.0	-1.8
SGF	Sodankyl	2.76	266	PB	Pn	18 38 21.8	+2.3
SGF				SG	Sb	18 38 59.0	+0.6
KEV	Kevo	3.12	312	PB	Pn	18 38 25.5	+1.0
KEV				SB	Sn	18 39 03.7	+1.3
KEV				MSG		18 39 05.8	
	comp=Z,1.8nm,0.2s						
RNF	Rovaniemi	3.21	252	PN	Pn	18 38 24.5	-1.1
ARA0	ARCESS Array S	3.46	304	PN	Pn	18 38 28.8	-0.3
KLF	Kolari	3.77	266	SG	Sb	18 39 30.5	+2.9
HEF	Hetta	3.80	284	SN	Sn	18 39 15.3	-3.9
TOF	Tornio	4.06	249	SG	Sb	18 39 39.8	+4.0

*IDC **06** 19:07:04.2±1.1, 36°.13N×21°.73E, h0km, mb3.6/10, mbtmp3.6/17, ML3.5/6, MS3.3/2, Error ellipse: s-maj=22.7km s-min=18.3km az=176.0*
*ATH **06** 19:07:07.9, 36°.11N×21°.52E, h10km±3km, ML3.4/11, Manual Solution by A.Papageorgiou This location: 2020/05/06 18:17:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*THE **06** 19:07:09.7, 36°.17N×21°.59E, h15km±1km, ML3.2/8, Error ellipse: s-maj=1.7km s-min=0.9km az=47.0*
ISC 06 19:07:06.8±1.2, 36°.10N±0°.04×21°.55E±0°.03, h18km±5km, n56, σ1.45/72, mb3.6/9, 2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.81	11	P	Pb	19 07 23.1	+0.8
PYL				S	Sn	19 07 34.9	+0.1
	3µm,0.5s						
PYL	PYLOS	0.81	11	P	Pb	19 07 22.8	+0.5
PYL				S	Sb	19 07 34.0	+1.1
KLMT	Kalamata	1.04	23	P	Pg	19 07 27.2	+0.2
KLMT				S	Sn	19 07 41.8	+1.2
	2µm,0.5s						
VLI	Veliai	1.27	61	P	Pg	19 07 31.5	+0.1
VLI				S	Sg	19 07 48.0	-0.1
	965nm,0.8s						
VLI	Veliai	1.27	61	P	Pg	19 07 31.2	-0.3
VLI				S	Sg	19 07 49.9	+1.8
ANKY	Antikythira Is	1.44	99	P	Pg	19 07 34.7	+0.1
ANKY	Antikythira Is	1.44	99	P	Pg	19 07 34.6	+0.1
ANKY				S	Sg	19 07 53.4	+0.2
LTHK	Lithakia	1.71	341	P	Pn	19 07 36.8	+1.2
LTHK				S	Sb	19 07 59.1	+0.4
	410nm,0.4s						
LTHK	Lithakia	1.71	341	P	Pn	19 07 36.5	+0.9
LTHK				S	Sn	19 07 58.6	+1.7
KRND	KRANIDI	1.81	45	P	Pb	19 07 38.7	-0.7
KRND				S	Sb	19 08 01.7	-0.1
	372nm,0.5s						
KRND	KRANIDI	1.81	45	P	Pb	19 07 38.9	-0.6
KRND				S	Sb	19 08 02.6	+0.9
RODP	Rodopos	1.87	106	P	Pb	19 07 40.7	+0.3
RODP				S	Sb	19 08 04.3	+0.8
	122nm,0.6s						
GUR	Goura	1.94	19	P	Pb	19 07 41.3	-0.4
RLS	Riolos of Patr	1.95	358	P	Pb	19 07 41.4	-0.5
RLS				S	Sn	19 08 04.1	+1.0
	338nm,0.7s						
RLS	Riolos of Patr	1.95	358	P	Pb	19 07 41.4	-0.5
RLS				S	Sn	19 08 04.5	+1.3
KLV	Kalavryta, Ach	2.00	14	P	Pn	19 07 41.5	+1.8
KLV				S	Sb	19 08 06.7	-0.5
IMMV	Iera Moni Meta	2.08	107	P	Pb	19 07 43.9	0.0
IMMV				S	Sb	19 08 09.5	+0.1
PSDA	Pessada-Kefalo	2.15	339	P	Pb	19 07 44.1	-1.1
PSDA				S	Sb	19 08 10.8	-0.8
	172nm,0.6s						
LAKA	Lakka	2.16	9	P	Pb	19 07 44.4	-1.0
LOUT	Loutraki	2.20	31	P	Pn	19 07 44.1	+1.7
VLS	Valsamata	2.21	340	P	Pn	19 07 44.7	+2.1
MHLO	Agia Marina, M	2.37	75	P	Pn	19 07 47.0	+2.2
GVD	Gavdhos	2.42	121	P	Pn	19 07 47.4	+1.9
FSK	Fiskardo	2.48	342	P	Pn	19 07 48.6	+2.3
ANX	Ano Chora	2.50	7	P	Pn	19 07 49.3	+2.6
VLY	Voula,Athens	2.50	45	P	Pn	19 07 48.5	+1.8
DION	Dionisos Attik	2.74	43	P	Pn	19 07 51.7	+1.8
LKD2	Lefkada island	2.78	345	P	Pb	19 07 53.6	-2.2
AXAR	Agios Charalam	2.80	18	P	Pn	19 07 52.5	+1.7
EVR	Evrytania	2.82	4	P	Pn	19 07 53.3	+2.3
IDI	Anoyia	2.83	106	P	Pn	19 07 53.2	+2.0
NEO	Neokhori	3.46	22	P	Pn	19 08 01.4	+1.5
THL	Klokotos Trika	3.48	6	P	Pn	19 08 02.4	+2.4
KPRO	Kipourio	3.85	358	P	Pn	19 08 08.4	+3.2
OHR	Ohrid	5.04	354	i Pn	Pn	19 08 24.0	+2.5
OHR				eSn	Sn	19 09 19.4	+0.1
VAY	Valandovo	5.27	8	i Pn	Pn	19 08 27.1	+2.5
STIP	Stip	5.61	5	⇓iPn	Pn	19 08 31.9	+2.7
PEHC	Pehcevo	5.77	10	⇓iPn	Pn	19 08 33.1	+1.6
VAE	Valguarnera	5.89	286	Pn	Pn	19 08 35.9	+2.6
	5.8nm,0.8s,baz=176,slow=19,SNR=2.0						
VAE				Sn	Sn	19 09 40.8	+0.5
	1.7nm,0.3s,baz=160,slow=12,SNR=1.5						
KEST	Kesra	9.91	271	LR	LR	19 13 59.3	
	comp=Z,126nm,18.4s,baz=301,slow=41						
MLR	Muntele Rosu	9.95	18	Pn	Pn	19 09 28.6	-0.4
	0.1nm,0.3s,baz=178,slow=14,SNR=2.0						
	0.9nm,0.7s						
MMAI	Mount Meron Ar	11.83	101	Pn	Pn	19 09 52.9	-1.7
	0.7nm,0.3s,baz=291,slow=14,SNR=2.2						
	0.3nm,0.3s						
EIL	Elat	12.95	116	Pn	Pn	19 10 07.7	-2.3
	0.3nm,0.3s,baz=144,slow=19,SNR=1.8						
EIL				Sn	Sn	19 12 22.6	-11
	0.8nm,0.3s,baz=101,slow=21,SNR=4.1						
	1.9nm,0.7s						
GERES	GERESS Array B	13.98	338	Pn	Pn	19 10 24.5	+0.5
	0.1nm,0.3s,baz=160,slow=14,SNR=1.5						
GERES				Sn	Sn	19 12 49.6	-9.1
	0.1nm,0.3s,baz=154,slow=29,SNR=2.2						
GERES				LR	LR	19 17 24.2	
	comp=Z,118nm,18.3s,baz=292,slow=44						
	0.1nm,0.3s						
AKASG	Malin Array Be	15.61	18	Pn	Pn	19 10 44.2	-1.5
	0.1nm,0.3s,baz=211,slow=12,SNR=1.7						
	0.1nm,0.3s						
KBZ	Khabaz	18.03	58	P	Pn	19 11 15.7	-0.6
	0.1nm,0.3s,baz=247,slow=7.7,SNR=1.3						
	0.9nm,0.6s						
ESDC	Sonseca Array	20.43	288	P	Pn	19 11 45.0	-0.2
	0.4nm,0.7s,baz=89,slow=9.0,SNR=4.4						
	0.4nm,0.7s						
HFS	Hagfors	24.58	351	P	P	19 12 25.0	-0.5
	0.8nm,0.4s,baz=151,slow=14,SNR=6.2						
	0.8nm,0.4s						
FINES	FINESS Array B	25.52	5	P	P	19 12 33.7	-0.3
	8.8nm,1.1s,baz=179,slow=8.3,SNR=3.9						
	8.8nm,1.1s						
TORD	Torodi Ar. Bea	29.00	223	P	P	19 13 06.8	+1.2
	0.3nm,0.6s,baz=26,slow=10,SNR=2.7						
	0.3nm,0.6s						
ARCES	ARCESS Array B	33.56	3	P	P	19 13 44.3	-1.0
	3.0nm,1.0s,baz=195,slow=6.5,SNR=1.5						
	3.0nm,1.0s						
KURBB	Kurchatov Arra	42.83	52	P	P	19 15 02.6	-0.9
	0.2nm,0.3s,baz=275,slow=8.5,SNR=4.9						
	0.2nm,0.3s						
MKAR	Makanchi Array	45.72	57	P	P	19 15 25.9	-0.8
	0.6nm,0.3s,baz=270,slow=8.0,SNR=20						
	0.6nm,0.3s						
ZALV	Zalesovo Beam	46.49	47	P	P	19 15 31.3	-1.3
	0.5nm,0.3s,baz=270,slow=8.6,SNR=4.1						
	0.5nm,0.3s						
SONM	Songino Array	61.15	50	P	P	19 17 19.4	-0.8
	0.2nm,0.5s,baz=293,slow=9.0,SNR=1.7						
	0.2nm,0.5s						
YKA	Yellowknife Ar	75.62	341	P	P	19 18 51.0	+0.8
	0.1nm,0.5s,baz=28,slow=5.1,SNR=1.8						
	0.1nm,0.5s						

*GII **06** 19:21:12.6±0.3, 33°.675N±0°.004×35°.675E±0°.001, h1km, Md1.0/1, Mws2.0/5, confirmed*
*GRAL **06** 19:21:13.6±0.4, 33°.66N×35°.62E, h8km±3km, MD2.7*
ISC 06 19:21:13.5±0.9, 33°.67N±0°.03×35°.65E±0°.05, h7km±7km, n25, σ0.51/28, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	Deir Qamar	0.07	300	eP	Pg	19 21 15.5	0.0
DQRL				eS	Sg	19 21 16.9	-0.1
QRWL	Qaraoun	0.12	166	eP	Pg	19 21 16.1	-0.1
BHL	Bhannes	0.23	2	eP	Pg	19 21 18.4	+0.1
BHL				eS	Sg	19 21 21.6	+0.2
ZAHL	Zahle	0.27	47	eP	Pg	19 21 19.3	+0.3
ZAHL				eS	Sg	19 21 23.4	+0.8
NATI	Neve Ativ	0.41	169	S	Sb	19 21 28.9	-0.6
NATI	Neve Ativ	0.41	169	P	Pg	19 21 21.3	-0.2
GEM	Giv'at Ha'Em	0.46	178	S	Sb	19 21 30.1	-0.7
GEM	Giv'at Ha'Em	0.46	178	P	Pg	19 21 22.6	+0.3
HWQ	Hawqa	0.66	22	eP	Pg	19 21 26.1	-0.1
MMC7	Mount Meron ar	0.68	198	P	Pg	19 21 26.5	-0.1
MMA0B	Mount Meron ar	0.68	197	P	Pb	19 21 27.4	-0.4
MMA0B	Mount Meron ar	0.68	197	S	Sb	19 21 38.4	+1.0
KSHT	Keshet	0.70	169	S	Sb	19 21 38.6	+0.8
KSHT	Keshet	0.70	169	P	Pb	19 21 27.3	-0.8
HNTI	Hanita	0.70	214	P	Pb	19 21 28.0	-0.1
HNTI	Hanita	0.70	214	S	Sb	19 21 38.4	+0.4
BEIL	Beino	0.98	27	eP	Pg	19 21 31.4	-1.0
OFRI	\`Ofer	1.18	208	S	Sn	19 21 53.1	+0.3
OFRI	\`Ofer	1.18	208	P	Pg	19 21 35.6	-0.6
MMLI	Mount Malkishu	1.24	189	P	Pn	19 21 37.4	+0.1
MMLI	Mount Malkishu	1.24	189	S	Sn	19 21 54.9	+0.6
HMDT	Nahal Hemdat	1.42	184	S	Sn	19 21 58.6	+0.2
HMDT	Nahal Hemdat	1.42	184	P	Pb	19 21 40.0	-0.2
SLTI	Sal'it	1.51	200	P	Pn	19 21 40.8	-0.2
SLTI	Sal'it	1.51	200	S	Sg	19 22 02.4	+0.3

*DJA **06** 19:28:49.7±1.0, 8°S±8°×12°0E±°, h158km±11km, M3.1/6, MLv3.1/6*
*IDC **06** 19:28:52.5±5.0, 7°.94S×120°.12E, h226km±59km, mb3.0/3, mbtmp3.5/4, Error ellipse: s-maj=145.6km s-min=17.0km az=49.0*
ISC 06 19:28:48.0±1.0, 8°.3S±0°.1×119°.64E±0°.06, h200km, n10, σ2.41/15, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.32	191	P	Pn	19 29 33.0	+13
DBNI	Kabupaten Domp	1.32	263	P	Pn	19 29 18.8	-1.4
DBNI				S	Sn	19 29 41.4	-3.7
PLAI	Plampang	1.91	255	P	Pn	19 29 24.8	-0.8
PLAI				S	Sn	19 29 51.9	-2.9

EDFI	**Ende, Flores**	**2.07**	**102**	P	**Pn**	**19 29 25.8**	**-1.5**
EDFI				S	**Sn**	**19 29 54.4**	**-3.5**
BASI	**Baing, Sumba**	**2.09**	**154**	P	**Pn**	**19 29 26.3**	**-1.1**
BASI				S	**Sn**	**19 29 55.2**	**-3.1**
TWSI	**Taliwang, Sumb**	**2.76**	**261**	P	**Pn**	**19 29 34.4**	**-0.4**
TWSI				S	**Sn**	**19 30 10.1**	**-1.2**
WRA	**Warramunga Arr**	**18.32**	**131**	P	**Pn**	**19 32 49.3**	**-0.6**
	0.3nm,0.4s,baz=304,slow=12,SNR=9.9						
WRA				S	**S**	**19 36 06.5**	**0.0**
	0.6nm,1.0s,baz=314,slow=28,SNR=5.3						
ASAR	**Alice Springs**	**20.47**	**140**	P	**P**	**19 33 13.1**	**+2.5**
	0.3nm,0.5s,baz=315,slow=9.1,SNR=15						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**31.07**	**142**	P	**P**	**19 34 50.7**	**+3.3**
	3.5nm,1.1s,baz=297,slow=6.8,SNR=3.9						
	3.5nm,1.1s						
MKAR	**Makanchi Array**	**64.16**	**332**	P	**P**	**19 39 01.9**	**+0.8**
	0.4nm,1.0s,baz=121,slow=6.9,SNR=2.3						
	0.4nm,1.0s						

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*IGQ **06** 19:30:20±0.3, 1˚S±2˚×8˚0W±˚, h20km*
*NEIC **06** 19:30:23.8±2.4, 0.˚88S±0.˚03×80.˚31W±0.˚04, h30km±6km, mb4.2/14, Mwr4.3/18, Error ellipse: s-maj=5.5km s-min=3.8km az=94.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.69; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$1.20; $M_{r\theta}$1.17; $M_{\theta\phi}$0.72; $M_{\phi r}$-2.48; Fault plane solution: $M_0$3.02000×10^{15} NP1:ϕ_s233.95000°, δ22.80000°, λ-17.01000°. NP2:ϕ_s339.69000°, δ83.49000°, λ-111.89000°. Principal axes: T 2.9094, Plg35.0000°, Azm88.0000°; N 0.2050, Plg22.0000°, Azm342.0000°; P -3.1144, Plg47.0000°, Azm227.0000°;*
*NEIC **06** 19:30:23.8, 0.˚87S×80.˚32W, h31km*
*IDC **06** 19:30:25.6±1.8, 0.˚85S×80.˚27W, h64km±18km, mb3.6/9, mbtmp4.1/15, MS3.6/14, Error ellipse: s-maj=19.6km s-min=12.5km az=73.0*
ISC 06 19:30:21.3±1.0**, 0.˚81S**±0.˚03×**80.˚39W**±0.˚03**, h23**km±8km**, n198, σ1.61**/208**, mb4.2**/16**, MS3.7**/9**, 4C, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APO2	**Ecuador-Portov**	**0.26**	**194**	P	**Pb**	**19 30 28.0**	**+0.4**
PECV	**Mancha de Ca P**	**0.34**	**84**	P	**Pb**	**19 30 26.0**	**-3.0**
CHIS	**Cerro-Chispas-**	**0.41**	**235**	P	**Pb**	**19 30 28.0**	**-2.0**
ISPT	**Isla de la Pla**	**0.81**	**237**	P	**Pb**	**19 30 34.0**	**-2.9**
ISPT				S	**Sb**	**19 30 46.0**	**-1.4**
PPLP	**Puerto Lpez**	**0.82**	**208**	⇑*i*P	**Pb**	**19 30 35.2**	**-1.8**
PPLP	**Puerto Lpez**	**0.82**	**208**	P	**Pb**	**19 30 35.0**	**-2.0**
PPLP				S	**Sb**	**19 30 47.0**	**-0.7**
AQUE	**Quevedo**	**0.93**	**105**	P	**Pn**	**19 30 38.0**	**-1.0**
AQUE				S	**Sb**	**19 30 50.0**	**-0.8**
MAG1	**Magdalena**	**0.96**	**40**	P	**Pn**	**19 30 38.0**	**-1.4**
AGUAY	**Guayaquil**	**1.31**	**160**	P	**Pn**	**19 30 41.0**	**-3.2**
ASDO	**Santo Domingo**	**1.38**	**67**	P	**Pn**	**19 30 43.0**	**-2.2**
ASDO				S	**Sn**	**19 30 57.0**	**-5.8**
GYE3	**Ecuador-Guayaq**	**1.42**	**160**	P	**Pn**	**19 30 46.0**	**+0.2**
AV18	**Acelerografo,**	**1.44**	**39**	P	**Pn**	**19 30 46.0**	**0.0**
SALI	**Salinas**	**1.49**	**204**		**Pn**	**19 30 46.4**	**-0.3**
SALI				Sn	**Sb**	**19 31 07.4**	**+0.5**
SALI	**Salinas**	**1.49**	**204**	P	**Pn**	**19 30 46.0**	**-0.7**
SALI				S	**Sn**	**19 31 06.0**	**+0.6**
BV15	**Puerto Quito-O**	**1.52**	**51**	P	**Pn**	**19 30 47.0**	**0.0**
AMIL	**Milagro (Trans**	**1.54**	**149**	P	**Pn**	**19 30 48.0**	**+0.7**
AMIL				S	**Sb**	**19 31 08.0**	**-0.2**
PTGL	**Punta Galera**	**1.62**	**13**	P	**Pn**	**19 30 48.0**	**-0.5**
PTGL				S	**Sb**	**19 31 11.0**	**+0.3**
CHSH	**Refugio Sur-Vo**	**1.67**	**114**		**Pn**	**19 30 50.4**	**+0.8**
CHSH				Sn	**Sn**	**19 31 09.0**	**-1.6**
CHSH	**Refugio Sur-Vo**	**1.67**	**114**	P	**Pn**	**19 30 50.0**	**+0.4**
ILLI	**Illinizas Sur**	**1.67**	**87**	P	**Pn**	**19 30 49.0**	**-0.6**
ILLI				S	**Sn**	**19 31 09.0**	**-1.5**
APR2	**Miler**	**1.68**	**58**	P	**Pn**	**19 30 47.0**	**-2.3**
MILO	**Milagro-Astudi**	**1.68**	**150**	P	**Pn**	**19 30 48.0**	**-1.3**
MILO				S	**Sn**	**19 31 10.0**	**-0.1**
AV21	**Acelerografo,**	**1.69**	**30**	P	**Pn**	**19 30 49.0**	**-0.4**
PORT	**Chimborazo Vol**	**1.74**	**112**	P	**Pn**	**19 30 51.0**	**+0.3**
PAST	**Pastocalle**	**1.75**	**86**	P	**Pn**	**19 30 51.0**	**+0.3**
TAMH	**Tambohuasha Ch**	**1.77**	**114**	P	**Pn**	**19 30 51.0**	**+0.1**
ATON	**Ecuador-Tonsup**	**1.79**	**19**	P	**Pn**	**19 30 52.0**	**+1.3**
SRAM	**San Ramn-Vol**	**1.83**	**88**	P	**Pn**	**19 30 53.0**	**+1.3**
HPAL	**Hacienda Las P**	**1.84**	**71**	P	**Pn**	**19 30 51.0**	**-0.8**
AMA1	**Acelerografo,**	**1.86**	**21**	P	**Pn**	**19 30 53.0**	**+1.2**
GGPT	**Toaza - Volcan**	**1.87**	**72**	P	**Pn**	**19 30 51.0**	**-1.2**
IGUA	**Igualata**	**1.88**	**111**	P	**Pn**	**19 30 53.0**	**+0.5**
JUA2	**San Juan 2**	**1.88**	**72**	P	**Pn**	**19 30 54.0**	**+1.5**
CAMI	**Rancho Maria**	**1.89**	**86**	P	**Pn**	**19 30 53.0**	**+0.4**
TERV	**Terraza Guagua**	**1.90**	**71**	P	**Pn**	**19 30 52.0**	**-0.8**
SLOR	**San Lorenzo -**	**1.90**	**88**		**Pn**	**19 30 53.7**	**+1.0**
SLOR				Sn	**Sn**	**19 31 16.5**	**+0.4**
SLOR	**San Lorenzo -**	**1.90**	**88**	P	**Pn**	**19 30 53.0**	**+0.3**
PINO	**Pino**	**1.90**	**70**	P	**Pn**	**19 30 52.0**	**-0.8**
GGPC	**Guagua Pichinc**	**1.90**	**71**	P	**Pn**	**19 30 52.0**	**-0.9**
SUCR	**Mariscal Sucre**	**1.91**	**85**	P	**Pn**	**19 30 54.0**	**+1.2**
BRRN	**Barrancas-Volc**	**1.92**	**89**	P	**Pn**	**19 30 53.0**	**0.0**
PAC1	**Pacto, Paraso**	**1.93**	**56**	*e*P	**Pn**	**19 30 51.8**	**-1.0**
PAC1	**Pacto, Paraso**	**1.93**	**56**	P	**Pn**	**19 30 52.0**	**-0.8**
APR1	**Acelerografo,**	**1.93**	**67**	P	**Pn**	**19 30 52.0**	**-1.1**
YANA	**Yana**	**1.95**	**69**	P	**Pn**	**19 30 52.0**	**-1.4**
BREF	**Cotopaxi Volca**	**1.96**	**86**	P	**Pn**	**19 30 54.0**	**+0.3**
PITA	**Cotopaxi Volc**	**1.98**	**83**	P	**Pn**	**19 30 54.0**	**+0.2**
TOMA	**Boca Toma-Volc**	**1.98**	**81**	P	**Pn**	**19 30 54.0**	**+0.2**
BVC2	**Cotopaxi Volca**	**1.99**	**86**	P	**Pn**	**19 30 55.0**	**+1.0**
BIL2	**Estacion Bilba**	**2.00**	**109**	P	**Pb**	**19 30 56.0**	**-1.1**
VC1	**Cotopaxi 1**	**2.00**	**85**	P	**Pn**	**19 30 55.0**	**+0.9**
VCES	**Cotopaxi**	**2.00**	**90**	P	**Pn**	**19 30 54.0**	**-0.1**
COHC	**Cochancay**	**2.00**	**145**	Pn	**Pn**	**19 30 53.2**	**-0.4**
COHC	**Cochancay**	**2.00**	**145**	*e*P	**Pn**	**19 30 53.4**	**-0.3**
COHC	**Cochancay**	**2.00**	**145**	P	**Pn**	**19 30 53.0**	**-0.7**
BTAM	**Cotopaxi Volca**	**2.00**	**86**	P	**Pn**	**19 30 55.0**	**+0.8**
BBIL	**Ulba Tungurahu**	**2.01**	**108**	P	**Pn**	**19 30 55.0**	**+0.9**
FENY	**Casa Vinicio C**	**2.02**	**71**	P	**Pn**	**19 30 56.0**	**+1.7**
PIS1	**Pisayambo**	**2.02**	**97**	P	**Pn**	**19 30 55.0**	**+0.5**
TAMB	**Tambo**	**2.03**	**87**	P	**Pn**	**19 30 56.0**	**+1.4**
TUYU	**Q. Yuibug Volc**	**2.03**	**109**	P	**Pn**	**19 30 55.0**	**+0.5**
BMAS	**Trigal station**	**2.03**	**110**	P	**Pn**	**19 30 55.0**	**+0.5**
POND	**Pondoa**	**2.03**	**107**	P	**Pn**	**19 30 55.0**	**+0.5**
RETU	**Refugio**	**2.05**	**108**	P	**Pn**	**19 30 56.0**	**+1.2**
BRUN	**Tungurahua Vol**	**2.06**	**107**	P	**Pn**	**19 30 56.0**	**+1.2**
ARRY	**Arrayan**	**2.06**	**110**	P	**Pn**	**19 30 56.0**	**+1.2**
PULU	**Pululahua**	**2.06**	**66**		**Pn**	**19 30 54.7**	**-0.3**
PULU	**Pululahua**	**2.06**	**66**	P	**Pn**	**19 30 54.0**	**-0.9**
BULB	**Ulba Tungurahu**	**2.08**	**107**	P	**Pn**	**19 30 56.0**	**+0.9**
RVRD	**Rio Verde**	**2.12**	**28**	P	**Pn**	**19 30 55.0**	**-0.4**
APSY	**Ecuador-Napo A**	**2.14**	**94**	P	**Pb**	**19 30 59.0**	**-0.6**
PIAT	**Ana Tenorio**	**2.14**	**95**	*e*P	**Pn**	**19 30 57.1**	**+1.2**
PIAT	**Ana Tenorio**	**2.14**	**95**	P	**Pn**	**19 30 57.0**	**+1.0**
AIMS	**Ecuador-Tababe**	**2.15**	**71**	P	**Pn**	**19 30 57.0**	**+1.0**
AV11	**Acelerografo,**	**2.15**	**70**	P	**Pb**	**19 30 59.0**	**-0.8**
ISPG	**Isla Puna-Puer**	**2.15**	**174**	P	**Pb**	**19 30 59.0**	**-0.7**
ANTG	**Antisana-Guama**	**2.16**	**82**	P	**Pn**	**19 30 57.0**	**+0.6**
ANTM	**Antisana-La Mi**	**2.19**	**83**	P	**Pn**	**19 30 58.0**	**+1.2**
OTAV	**Otavalo**	**2.20**	**62**	Pn	**Pn**	**19 30 56.5**	**-0.4**
OTAV	**Otavalo**	**2.20**	**62**	*e*P	**Pn**	**19 30 56.9**	**0.0**
OTAV	**Otavalo**	**2.20**	**62**	P	**Pn**	**19 30 56.0**	**-0.9**
ANTS	**Antisana-Sarah**	**2.24**	**82**	P	**Pn**	**19 30 59.0**	**+1.4**
ANTI	**Antisana**	**2.26**	**81**	P	**Pn**	**19 30 59.0**	**+1.2**
CUSE	**Cuicocha Este**	**2.28**	**61**	*e*P	**Pn**	**19 30 58.5**	**+0.5**
CUSE	**Cuicocha Este**	**2.28**	**61**	P	**Pn**	**19 30 58.0**	**0.0**
CUIC	**Cuicocha-Domo**	**2.31**	**61**	P	**Pn**	**19 30 58.0**	**-0.4**
CUSW	**Cuicocha Oeste**	**2.31**	**62**	P	Pn	19 30 51.0	-7.4
COTA	**Cotacachi**	**2.35**	**61**	P	**Pn**	**19 30 59.0**	**0.0**
SANGA	**Volcan Sangay**	**2.37**	**121**	P	**Pn**	**19 31 00.0**	**+0.8**
IMBA	**Imbabura, San**	**2.44**	**64**		**Pn**	**19 31 01.6**	**+1.4**
IMBA	**Imbabura, San**	**2.44**	**64**	P	**Pn**	**19 31 02.0**	**+1.8**
PUYO	**Puyo, Santa Ro**	**2.46**	**106**	P	**Pb**	**19 31 03.0**	**-2.0**
URCU	**Urcuqui**	**2.47**	**60**	P	**Pn**	**19 31 01.0**	**+0.4**
ACUE	**Ecuador-Cuenca**	**2.53**	**146**	P	**Pb**	**19 31 05.0**	**-1.3**
ANGU	**Angureal**	**2.53**	**70**	P	**Pn**	**19 31 03.0**	**+1.4**
CAYA	**Cayambe**	**2.56**	**70**	P	**Pn**	**19 31 03.0**	**+1.1**
AIB2	**Ibarra (Univer**	**2.56**	**63**	P	**Pn**	**19 31 04.0**	**+2.3**
ALIT	**Ecuador-Imbabu**	**2.58**	**52**	P	**Pn**	**19 31 03.0**	**+1.1**
LITE1	**Lita**	**2.58**	**52**	P	**Pn**	**19 31 02.0**	**+0.1**
ARNL	**Arenillas**	**2.74**	**173**		**Pn**	**19 31 03.1**	**-0.8**
ARNL	**Arenillas**	**2.74**	**173**	P	**Pn**	**19 31 03.0**	**-0.8**
LNGL	**El Angel-Carch**	**2.84**	**57**	P	**Pn**	**19 31 08.0**	**+2.2**
CHMA	**Chilma**	**2.86**	**54**	P	**Pn**	**19 31 07.0**	**+1.2**
ECEN	**Cerro Negro**	**2.92**	**56**	P	**Pn**	**19 31 08.0**	**+1.2**
CHL1	**Volc¡n Chiles**	**2.92**	**57**	P	**Pn**	**19 31 08.0**	**+1.2**
CHL2	**Volc¡n Chiles**	**2.95**	**57**	P	**Pn**	**19 31 10.0**	**+2.8**
BOSC	**San Juan Bosco**	**3.00**	**141**		**Pn**	**19 31 10.2**	**+2.6**
BOSC	**San Juan Bosco**	**3.00**	**141**	P	**Pn**	**19 31 11.0**	**+3.4**
TULM	**Tulcn-Chalpat**	**3.02**	**60**		**Pn**	**19 31 10.2**	**+2.1**
TULM	**Tulcn-Chalpat**	**3.02**	**60**	*e*P	**Pb**	**19 31 11.8**	**-2.9**
TULM	**Tulcn-Chalpat**	**3.02**	**60**	P	**Pn**	**19 31 11.0**	**+2.9**
TUMC	**Tumaco**	**3.10**	**32**	Pn	**Pn**	**19 31 11.4**	**+2.6**
TUMC	**Tumaco**	**3.10**	**32**	*e*P	**Pn**	**19 31 05.8**	**-3.0**
TUMC	**Tumaco**	**3.10**	**32**	P	**Pn**	**19 31 08.0**	**-0.9**
BONI	**La Bonita**	**3.13**	**66**	*e*P	**Pn**	**19 31 13.2**	**+3.7**
BONI	**La Bonita**	**3.13**	**66**	P	**Pn**	**19 31 12.0**	**+2.6**
CASC	**Dorado de Casc**	**3.19**	**73**	P	**Pn**	**19 31 13.0**	**+2.7**
TAIS	**Taisha**	**3.29**	**118**	P	**Pn**	**19 31 14.0**	**+2.6**
MCRA	**Macar, Loja**	**3.56**	**173**		**Pn**	**19 31 15.9**	**+0.7**
MCRA	**Macar, Loja**	**3.56**	**173**	*e*P	**Pn**	**19 31 15.9**	**+0.7**
MCRA	**Macar, Loja**	**3.56**	**173**	P	**Pn**	**19 31 16.0**	**+0.7**
GCUF	**Volcan Galeras**	**3.66**	**56**	*e*P	**Pn**	**19 31 20.1**	**+3.1**
GCUF				*i*		19 32 23.5	
	comp=Z,113nm,0.4s						
CRUC	**La Cruz**	**4.17**	**56**	*e*P	**Pn**	**19 31 26.9**	**+2.9**
ZUMB	**Zumba**	**4.21**	**163**	P	**Pn**	**19 31 28.0**	**+3.7**
BBAC	**Balboa, Cauca**	**4.22**	**48**	*e*P	**Pn**	**19 31 25.2**	**+0.7**
BBAC				*e*S	**Sn**	**19 32 14.8**	**+1.7**
BBAC				*i*		19 32 23.3	
	comp=Z,278nm,0.5s						
BBAC	**Balboa, Cauca**	**4.22**	**48**	P	**Pn**	**19 31 25.0**	**+0.5**
GR1C	**Gorgona, Isla**	**4.39**	**30**	*e*P	**Pn**	**19 31 23.9**	**-2.7**
POPC	**Popayan, Colom**	**4.99**	**48**	*e*P	**Pn**	**19 31 35.6**	**+0.6**
POPC				*e*S	**Sn**	**19 32 36.1**	**+4.0**
POPC				*i*		19 32 41.4	
	comp=Z,75nm,0.6s						
JAMC	**Jamundi, Valle**	**5.46**	**43**	*e*P	**Pn**	**19 31 40.9**	**-0.6**
PTLC	**Puerto Leguiza**	**5.68**	**80**	*e*P	**Pn**	**19 31 46.8**	**+2.4**
MALC	**Bahia Malaga**	**5.68**	**33**	*e*P	**Pn**	**19 31 48.3**	**+3.9**
GARC	**Garzon, Huila**	**5.73**	**59**	*e*P	**Pn**	**19 31 47.9**	**+2.6**
BETC	**Betania**	**6.04**	**55**	*e*P	**Pn**	**19 31 53.0**	**+3.6**
YOTC	**Yotoco, Valle**	**6.25**	**40**	*e*P	**Pn**	**19 31 49.9**	**-2.3**
ATAH	**Atahualpa**	**6.59**	**162**	P	**Pn**	**19 32 01.1**	**+3.9**
	comp=Z,6.8nm,0.3s,baz=14,slow=7.5,SNR=19						
ATAH				S	**Sn**	**19 33 12.1**	**+0.2**
	comp=Z,36nm,1.0s,baz=140,slow=7.2,SNR=4.5						
ATAH				LR	LR	19 34 52.8	
	comp=Z,231nm,21.9s,baz=341,slow=41						
ORTC	**Ortega, Tolima**	**6.96**	**48**	*e*P	**Pn**	**19 32 01.6**	**-0.4**
PLMC	**San Jos del P**	**7.01**	**36**	*e*P	**Pn**	**19 32 00.9**	**-1.8**
PRAC	**Prado**	**7.11**	**51**	*e*P	**Pn**	**19 32 04.8**	**+0.9**
GUY2C	**Guyana, Caldas**	**7.82**	**40**	*e*P	**Pn**	**19 32 14.6**	**+0.4**
CBOC	**Ciudad Bolivar**	**7.94**	**33**	*e*P	**Pn**	**19 32 16.3**	**+0.7**
CVER	**Cruz Verde, Cu**	**8.24**	**50**	*e*P	**Pn**	**19 32 20.0**	**0.0**
ROSC	**El Rosal**	**8.27**	**47**	Pn	**Pn**	**19 32 21.7**	**+1.4**
ROSC	**El Rosal**	**8.27**	**47**	P	**Pn**	**19 32 22.2**	**+2.0**
	comp=Z,25nm,0.5s,baz=229,slow=7.9,SNR=17						
ROSC				S	**Sn**	**19 33 54.3**	**+1.2**
	comp=Z,8.1nm,0.4s,baz=108,slow=23,SNR=1.0						
ROSC				LR	LR	19 35 58.9	
	comp=Z,317nm,18.4s,baz=212,slow=41						
ROSC	**El Rosal**	**8.27**	**47**	*e*P	**Pn**	**19 32 22.2**	**+2.0**
VILC	**Villavicencio,**	**8.29**	**54**	*e*P	**Pn**	**19 32 21.9**	**+1.6**
PTBC	**PUERTO BERRIO,**	**9.40**	**39**	*e*P	**Pn**	**19 32 36.4**	**+0.9**
PAYG	**Puerto Ayora**	**9.89**	**271**	Pn	**Pn**	**19 32 43.4**	**+1.1**
ZARC	**Zaragoza, Cauc**	**9.93**	**34**	*e*P	**Pn**	**19 32 45.3**	**+2.6**
BARC	**Barichara**	**10.29**	**44**	*e*P	**Pn**	**19 32 50.2**	**+2.4**
CZSB	**Cruzeiro do Su**	**10.29**	**132**	Pn	**Pn**	**19 32 48.7**	**+1.0**
CZSB	**Cruzeiro do Su**	**10.29**	**132**	*e*P	**Pn**	**19 32 49.5**	**+1.9**
TBTG	**Tabatinga, AM**	**11.00**	**108**	Pn	**Pn**	**19 32 58.2**	**+0.8**
NNA	**Nana**	**11.65**	**163**	Pn	**Pn**	**19 33 07.3**	**+1.0**
NNA	**Nana**	**11.65**	**163**	P	**Pn**	**19 33 08.3**	**+2.0**
	comp=Z,11nm,0.4s,baz=318,slow=13,SNR=4.7						
NNA				S	**Sn**	**19 35 17.3**	**+1.5**
	comp=Z,12nm,0.3s,baz=217,slow=19,SNR=8.3						
NNA				LR	LR	19 37 42.4	
	comp=Z,56nm,21.7s,baz=342,slow=38						
JTS	**Las Juntas de**	**11.93**	**338**	P	**Pn**	**19 33 13.2**	**+3.1**
	comp=Z,13nm,0.9s,baz=178,slow=13,SNR=3.6						
SDV	**Santo Domingo**	**13.69**	**45**	Pn	**Pn**	**19 33 34.8**	**+0.5**
SDV	**Santo Domingo**	**13.69**	**45**	P	**Pn**	**19 33 36.4**	**+2.1**
	comp=Z,2.7nm,0.5s,baz=271,slow=15,SNR=4.2						
SDV				LR	LR	19 39 53.3	
	comp=Z,277nm,20.8s,baz=232,slow=42						
SDV	**Santo Domingo**	**13.69**	**45**	*e*P	**Pn**	**19 33 37.1**	**+2.8**
BAUV	**El Baul**	**15.66**	**52**	Pn	**Pn**	**19 34 00.7**	**0.0**
BAUV				IAmb	IAmb	19 34 21.4	
	comp=Z,28nm,1.2s						
ETMB	**Extrema**	**16.70**	**123**	Pn	**Pn**	**19 34 11.7**	**-2.3**
ETMB				IAmb	IAmb	19 34 13.4	
	comp=Z,19nm,0.8s						
AUA1	**Aruba**	**16.77**	**38**	Pn	**Pn**	**19 34 15.5**	**+0.6**
MTO3	**Montecristo**	**17.53**	**330**		**P**	**19 34 26.8**	**+1.2**
SAML	**Samuel**	**18.94**	**116**		**P**	**19 34 39.2**	**-1.8**
SAML				IAmb	IAmb	19 34 43.4	
	comp=Z,14nm,0.8s						
SAML	**Samuel**	**18.94**	**116**	*e*P	**P**	**19 34 39.7**	**-1.2**
PCRV	**Puerto La Cruz**	**19.11**	**55**	P	**Pn**	**19 34 43.3**	**-0.4**
	comp=Z,5.7nm,0.5s,baz=329,slow=2.6,SNR=1.7						
PCRV				LR	LR	19 43 08.8	
	comp=Z,166nm,18.4s,slow=40						
LPAZ	**La Paz**	**19.56**	**142**	P	**P**	**19 34 47.8**	**-0.5**
BOAV	**Boa Vista**	**20.12**	**81**	P	**P**	**19 34 54.0**	**+0.2**
BOAV	**Boa Vista**	**20.12**	**81**	*e*P	Pn	19 34 55.9	+0.1
PB16	**IPOC Station P**	**20.43**	**149**	P	**P**	**19 34 58.4**	**+0.6**
PB16				IAmb	IAmb	19 35 12.9	
	comp=Z,8.4nm,0.9s						
TEIG	**Tepich**	**22.29**	**340**	P	**P**	**19 35 18.4**	**+1.3**
	comp=Z,128nm,1.1s,baz=157,slow=13,SNR=2.4						
CMIG	**Matias Romero**	**22.81**	**322**	P	**P**	**19 35 23.9**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=4.9,slow=8.4,SNR=1.6						
CMIG				LR	LR	19 42 34.2	
	comp=Z,68nm,21.5s,baz=198,slow=32						
	comp=Z,1.9nm,0.8s						
OBIP	**Obispado Ponce**	**23.13**	**35**	P	**P**	**19 35 27.3**	**+1.3**
CELP	**Cerrillos**	**23.17**	**35**	P	**P**	**19 35 28.1**	**+1.7**
VILB	**Vilhena**	**23.36**	**122**	P	**P**	**19 35 28.9**	**+0.5**
SJG	**San Juan**	**23.45**	**36**	P	**P**	**19 35 29.0**	**-0.2**
	comp=Z,8.9nm,0.6s,baz=194,slow=6.2,SNR=4.2						
	comp=Z,8.9nm,0.6s						
SIV	**San Ignacio**	**24.30**	**129**	LR	LR	19 46 12.5	
	comp=Z,442nm,18.1s,baz=288,slow=39						
LVC	**Limon Verde**	**24.38**	**154**	LR	LR	19 45 38.2	
	comp=Z,44nm,20.0s,baz=292,slow=38						
PTLB	**Pontes e Lacer**	**25.53**	**126**	P	**P**	**19 35 49.3**	**+0.9**
MDP	**Montagnes des**	**28.34**	**78**	LR	LR	19 47 33.2	
	comp=Z,312nm,19.9s,baz=285,slow=36						
CPUP	**Villa Florida**	**33.71**	**141**	LR	LR	19 53 45.1	
	comp=Z,128nm,18.5s,baz=20,slow=42						
BDFB	**Brasilia**	**35.18**	**116**	P	**P**	**19 37 12.4**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=279,slow=13,SNR=2.5						
BDFB				LR	LR	19 52 24.3	
	comp=Z,139nm,19.3s,baz=31,slow=38						
	comp=Z,1.5nm,0.5s						
TXAR	**Lajitas Array**	**37.33**	**325**	P	**P**	**19 37 33.8**	**+1.6**
	comp=Z,0.3nm,0.9s,baz=146,slow=5.2,SNR=1.8						
	comp=Z,0.3nm,0.9s						
ANMO	**Albuquerque**	**43.12**	**328**	P	**P**	**19 38 22.0**	**+1.7**
ANMO				IAmb	IAmb	19 38 30.2	
	comp=Z,4.3nm,0.8s						
SDCO	**Great Sand Dun**	**44.83**	**332**	P	**P**	**19 38 35.2**	**+1.2**
SDCO				IAmb	IAmb	19 38 44.3	
	comp=Z,3.1nm,0.9s						
NVAR	**Mina Array Bea**	**52.35**	**322**	P	**P**	**19 39 32.2**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=146,slow=8.3,SNR=3.4						
NVAR				LR	LR	20 00 05.7	
	comp=Z,31nm,20.9s,baz=84,slow=34						
	comp=Z,0.6nm,0.8s						
ULM	**Lac du Bonnet**	**52.57**	**348**	P	**P**	**19 39 33.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=148,slow=9.5,SNR=1.8						
	comp=Z,0.8nm,0.6s						
YKA	**Yellowknife Ar**	**68.19**	**344**	P	**P**	**19 41 19.5**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=139,slow=5.6,SNR=3.8						
	comp=Z,0.3nm,0.8s						
LIC	**Lamto**	**75.54**	**83**	⇑*i*P	**P**	**19 42 03.9**	**-0.8**
	comp=Z,12nm,0.6s						
TIC	**Toumodi**	**75.57**	**83**	⇑*i*P	**P**	**19 42 03.9**	**-1.0**
	comp=Z,5.1nm,0.3s						
DBIC	**Dimbokro**	**75.73**	**83**	P	**P**	**19 42 05.0**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=276,slow=5.8,SNR=7.7						
	comp=Z,3.9nm,0.6s						
KIC	**Kosan Boka**	**75.83**	**83**	⇑*i*P	**P**	**19 42 05.7**	**-0.7**
	comp=Z,22nm,0.7s						
TOA0	**Torodi Ar. Sit**	**82.48**	**77**	P	**P**	**19 42 41.2**	**-1.5**
TOA0				IAmb	IAmb	19 42 42.3	
	comp=Z,4.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.48**	**77**	P	**P**	**19 42 41.3**	**-1.4**
TORD				IAmb	IAmb	19 42 43.2	
	comp=Z,3.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.48**	**77**	P	**P**	**19 42 41.4**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=287,slow=5.4,SNR=5.8						
TORD				LR	LR	20 17 21.1	
	comp=Z,99nm,21.4s,baz=326,slow=34						
	comp=Z,0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**92.18**	**12**	LR	LR	20 25 35.1	
	comp=Z,30nm,19.2s,baz=172,slow=36						
KURBB	**Kurchatov Arra**	**127.24**	**17**	PKP	**PKPdf**	**19 49 23.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=321,slow=2.4,SNR=7.6						
WRA	**Warramunga Arr**	**140.20**	**237**	PKhKP	PKPpre	19 49 41.8	
	comp=Z,0.5nm,0.9s,baz=110,slow=2.6,SNR=1.7						
CMAR	**Chiang Mai Arr**	**162.45**	**2**	PKP	**PKPdf**	**19 50 18.3**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=359,slow=5.4,SNR=1.5						
CMAR				PKPab	**PKPab**	**19 51 08.2**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=313,slow=4.5,SNR=2.0						

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*NOU **06** 19:35:03.1, 39.˚55S×179.˚12E, h0km, MLv3.9/7, Off E. Coast of N. Island, N.Z.*
*WEL **06** 19:35:10.4±0.6, 39˚S±4˚×17˚9E±˚, h33km, M3.1/9, ML3.4/12, MLv3.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=41.5, confirmed*
ISC 06 19:35:07.3±2.2**, 39.˚38S**±0.˚05×**178.˚87E**±0.˚09**, h32**km±13km**, n88, σ1.92**/104**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.78**	**287**	P	**Pb**	**19 35 23.1**	**+0.7**
MHGZ				S	**Sb**	**19 35 32.1**	**-0.6**
PRGZ	**Paritu Road**	**0.89**	**301**	P	**Pn**	**19 35 24.3**	**+0.7**
PRGZ				S	**Sb**	**19 35 34.4**	**-1.5**
KNZ	**Kokohu**	**0.99**	**291**	P	**Pn**	**19 35 25.7**	**+0.8**
KNZ				S	**Sb**	**19 35 36.7**	**-2.0**
CNGZ	**Carnagh Statio**	**1.03**	**330**	P	**Pn**	**19 35 27.3**	**+1.7**
RIGZ	**Rimuhau**	**1.09**	**308**	P	**Pn**	**19 35 27.6**	**+1.2**
RIGZ				S	**Sn**	**19 35 40.2**	**-0.3**
TKGZ	**Te Karaka**	**1.23**	**320**	P	**Pn**	**19 35 29.5**	**+1.2**
TKGZ				S	**Sn**	**19 35 40.6**	**-3.2**
WHHZ	**Waihua**	**1.30**	**283**	P	**Pn**	**19 35 30.9**	**+1.6**
WHHZ				S	**Sn**	**19 35 44.8**	**-0.8**
SNGZ	**Shannon Statio**	**1.33**	**296**	P	**Pn**	**19 35 31.0**	**+1.3**
SNGZ				S	**Sn**	**19 35 44.9**	**-1.5**
TWGZ	**Tauwhareparae**	**1.39**	**330**	P	**Pn**	**19 35 32.2**	**+1.7**
TWGZ				S	**Sn**	**19 35 46.3**	**-1.5**
PUZ	**Puketiti**	**1.39**	**340**	P	**Pn**	**19 35 32.0**	**+1.4**
PUZ				S	**Sn**	**19 35 45.8**	**-2.1**
CKHZ	**Cape Kidnapper**	**1.41**	**258**	P	**Pn**	**19 35 32.5**	**+1.8**
CKHZ				S	**Sn**	**19 35 48.1**	**-0.1**
RAGZ	**Rawiri**	**1.44**	**308**	P	**Pn**	**19 35 32.5**	**+1.3**
RAGZ				S	**Sn**	**19 35 47.6**	**-1.4**
ARHZ	**Aropaoanui**	**1.46**	**274**	P	**Pn**	**19 35 33.8**	**+2.4**
ARHZ				S	**Sn**	**19 35 49.0**	**-0.4**
RAHZ	**Arahi**	**1.46**	**288**	P	**Pn**	**19 35 33.0**	**+1.5**
RAHZ				S	**Sn**	**19 35 48.4**	**-1.1**
MWZ	**Matawai**	**1.48**	**315**	P	**Pn**	**19 35 32.9**	**+1.1**
MWZ				S	**Sn**	**19 35 47.6**	**-2.4**
WMGZ	**Waiomatatini S**	**1.60**	**347**	P	**Pn**	**19 35 35.2**	**+1.8**
PKGZ	**Pakihiroa**	**1.62**	**337**	P	**Pn**	**19 35 35.5**	**+1.8**
NMHZ	**Naumai**	**1.62**	**280**	P	**Pn**	**19 35 35.7**	**+1.9**
NMHZ				S	**Sn**	**19 35 52.8**	**-0.8**
RTZ	**Ruatahuna**	**1.66**	**297**	P	**Pn**	**19 35 35.5**	**+1.3**
RTZ				S	**Sn**	**19 35 52.2**	**-2.2**
MTHZ	**Maungataniwha**	**1.66**	**288**	P	**Pn**	**19 35 35.5**	**+1.3**
MTHZ				S	**Sn**	**19 35 52.7**	**-1.8**
PXZ	**Pawanui**	**1.68**	**247**	P	**Pn**	**19 35 36.0**	**+1.6**
MCHZ	**McNeill Hill**	**1.68**	**267**	P	**Pn**	**19 35 36.9**	**+2.4**
RUGZ	**Raukumara Rang**	**1.69**	**326**	P	**Pn**	**19 35 36.0**	**+1.2**
URZ	**Urewera**	**1.77**	**309**	P	**Pn**	**19 35 37.2**	**+1.5**
URZ	**Urewera**	**1.77**	**309**	P	**Pn**	**19 35 37.2**	**+1.5**
HAZ	**Te Kaha**	**1.83**	**332**	P	**Pn**	**19 35 38.2**	**+1.6**
BKZ	**Black Stump Fm**	**1.85**	**276**	P	**Pn**	**19 35 39.1**	**+2.2**
BKZ	**Black Stump Fm**	**1.85**	**276**	P	**Pn**	**19 35 38.7**	**+1.8**
MUGZ	**Murupara**	**1.87**	**298**	P	**Pn**	**19 35 39.1**	**+2.0**
MXZ	**Matakaoa Point**	**1.87**	**346**	P	**Pn**	**19 35 39.6**	**+2.5**
MXZ	**Matakaoa Point**	**1.87**	**346**	P	**Pn**	**19 35 39.5**	**+2.5**
KWHZ	**Kaweka Forest**	**1.89**	**268**	P	**Pn**	**19 35 39.5**	**+2.0**
PRHZ	**Porangahau**	**1.93**	**242**	P	**Pn**	**19 35 39.4**	**+1.5**
KRHZ	**Kereru**	**1.95**	**262**	P	**Pn**	**19 35 40.0**	**+1.8**
MRHZ	**Matea Rd**	**1.98**	**285**	P	**Pn**	**19 35 40.6**	**+1.9**
WPHZ	**Waipukurau**	**1.99**	**249**	P	**Pn**	**19 35 40.5**	**+1.8**
EDRZ	**Edgecumbe**	**2.10**	**307**	P	**Pn**	**19 35 42.0**	**+1.8**
RRRZ	**Republican Roa**	**2.11**	**299**	P	**Pn**	**19 35 42.4**	**+2.0**
PNHZ	**Pukenui**	**2.12**	**255**	P	**Pn**	**19 35 42.2**	**+1.6**
ANWZ	**Angora Road**	**2.13**	**239**	P	**Pn**	**19 35 42.0**	**+1.4**
TARZ	**Mount Tarawera**	**2.17**	**301**	P	**Pn**	**19 35 43.3**	**+2.0**
BHHZ	**Black Hill Sta**	**2.17**	**266**	P	**Pn**	**19 35 43.2**	**+1.9**
DVHZ	**Dannevirke**	**2.27**	**245**	P	**Pn**	**19 35 44.2**	**+1.6**
TSZ	**Takapari Road**	**2.34**	**252**	P	**Pn**	**19 35 45.0**	**+1.5**
OPRZ	**Ohinepanea**	**2.38**	**310**	P	**Pn**	**19 35 45.3**	**+1.3**
BFZ	**Birch Farm**	**2.39**	**236**	P	**Pn**	**19 35 44.6**	**+0.3**
BFZ	**Birch Farm**	**2.39**	**236**	P	**Pn**	**19 35 45.2**	**+0.9**
MOVZ	**Moawhango**	**2.41**	**268**	P	**Pn**	**19 35 47.2**	**+2.6**
ETVZ	**East Tongariro**	**2.46**	**275**	P	**Pn**	**19 35 48.0**	**+2.6**
KARZ	**Kaharoa**	**2.46**	**303**	P	**Pn**	**19 35 46.5**	**+1.3**
TMVZ	**Te Maari**	**2.47**	**275**	P	**Pn**	**19 35 47.8**	**+2.4**
NTVZ	**North Tongarir**	**2.49**	**276**	P	**Pn**	**19 35 48.0**	**+2.3**
OTVZ	**Oturere**	**2.49**	**274**	P	**Pn**	**19 35 48.3**	**+2.5**
TUVZ	**Tukino**	**2.49**	**272**	P	**Pn**	**19 35 48.5**	**+2.7**
KATZ	**Kakaramea**	**2.50**	**278**	P	**Pn**	**19 35 48.1**	**+2.3**
SNVZ	**South Ngauruho**	**2.51**	**273**	P	**Pn**	**19 35 48.5**	**+2.5**
PRWZ	**Pori Road**	**2.51**	**241**	P	**Pn**	**19 35 47.5**	**+1.6**
KRVZ	**Karewarewa**	**2.52**	**276**	P	**Pn**	**19 35 48.4**	**+2.3**
WNVZ	**Wahianoa**	**2.53**	**270**	P	**Pn**	**19 35 48.9**	**+2.6**
NNVZ	**North Ngauruho**	**2.54**	**275**	P	**Pn**	**19 35 49.1**	**+2.7**
NGZ	**Ngauruhoe**	**2.54**	**274**	P	**Pn**	**19 35 48.9**	**+2.4**
WTVZ	**West Tongariro**	**2.56**	**275**	P	**Pn**	**19 35 49.2**	**+2.6**
MAVZ	**Matarangi**	**2.56**	**272**	P	**Pn**	**19 35 48.1**	**+1.2**
FWVZ	**Far West T-bar**	**2.57**	**272**	P	**Pn**	**19 35 49.3**	**+2.3**
TRVZ	**Turoa**	**2.57**	**271**	P	**Pn**	**19 35 49.1**	**+2.1**
POWZ	**Post Office Ro**	**2.59**	**246**	P	**Pn**	**19 35 48.9**	**+2.0**
MTVZ	**Mangateitei**	**2.63**	**269**	P	**Pn**	**19 35 50.2**	**+2.6**
TIWZ	**Tintock**	**2.68**	**238**	P	**Pn**	**19 35 49.8**	**+1.6**
MRZ	**Mangatainoka R**	**2.83**	**242**	P	**Pn**	**19 35 51.3**	**+1.1**
TMWZ	**Te Maipa**	**2.85**	**232**	P	**Pn**	**19 35 51.0**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.98**	**238**	P	**Pn**	**19 35 53.0**	**+0.7**
OGWZ	**Otaki Gorge**	**3.17**	**242**	P	**Pn**	**19 35 56.2**	**+1.2**
VRZ	**Vera Road**	**3.20**	**273**	P	**Pn**	**19 35 57.8**	**+2.5**
HIZ	**Hauiti**	**3.25**	**284**	P	**Pn**	**19 35 58.2**	**+2.2**
HIZ	**Hauiti**	**3.25**	**284**	P	**Pn**	**19 35 58.1**	**+2.1**
KIW	**Kapiti Island**	**3.37**	**243**	P	**Pn**	**19 35 59.0**	**+1.2**
CAW	**Cannon Point**	**3.38**	**238**	P	**Pn**	**19 35 58.4**	**+0.6**
PREZ	**Palmer Road**	**3.65**	**269**	P	**Pn**	**19 36 05.0**	**+3.4**
NEZ	**North Egmont**	**3.70**	**270**	P	**Pn**	**19 36 06.1**	**+3.8**
KHEZ	**Kahui Hut**	**3.76**	**270**	P	**Pn**	**19 36 06.8**	**+3.6**
KHEZ	**Kahui Hut**	**3.76**	**270**	P	**Pn**	**19 36 06.8**	**+3.6**
PKE	**Pukeiti**	**3.79**	**271**	P	**Pn**	**19 36 06.6**	**+3.1**
TCW	**Tory Channel**	**3.96**	**241**	P	**Pn**	**19 36 06.1**	**+0.4**
TUWZ	**Tuamarina**	**4.28**	**240**	P	**Pn**	**19 36 09.7**	**-0.4**
QRZ	**Quartz Range**	**5.07**	**251**	P	**Pn**	**19 36 21.2**	**+0.2**
QRZ	**Quartz Range**	**5.07**	**251**	P	**Pn**	**19 36 21.2**	**+0.2**
MRNZ	**Matariki Terra**	**5.08**	**245**	P	**Pn**	**19 36 21.9**	**+0.7**
CTZ	**Chatham Island**	**5.51**	**144**	P	Pb	19 36 34.7	-8.0
CTZ				S	Sn	19 37 34.9	+5.6

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*ISK **06** 19:45:09.9, 40.˚55N×36.˚59E, h5km, ML4.0/25*
*IDC **06** 19:45:10.9±0.6, 40.˚70N×36.˚58E, h0km, mb3.6/11, mbtmp3.6/23, ML3.6/10, MS3.2/13, Error ellipse: s-maj=10.9km s-min=6.7km az=163.0*
*AFAD **06** 19:45:10.4±0.0, 40.˚55N×36.˚60E, h16km±1km, MW4.0*
*CFUSG **06** 19:45:11.4, 40.˚60N×36.˚60E, h5km, mb3.2/5, Central Turkey*
ISC 06 19:45:10.7±1.1**, 40.˚59N**±0.˚02×**36.˚60E**±0.˚02**, h3**km±8km**, n120, σ1.27**/164**, mb3.6**/10**, MS3.7**/6**, 12C-21D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.27**	**189**	Pg	**Pg**	**19 45 16.1**	**+0.2**
TOKT				Sg	**Sg**	**19 45 20.2**	**+0.7**
TOKA	**Tokat**	**0.28**	**200**	P	**Pg**	**19 45 15.9**	**-0.2**
TOKA				S	**Sg**	**19 45 20.5**	**+0.7**
RSDY	**Resadiye-TOKAT**	**0.59**	**109**	Pg	**Pg**	**19 45 22.2**	**+0.2**
RSDY				Sg	**Sb**	**19 45 31.5**	**-0.9**
KIZO	**Buyukkizoglu-L**	**0.60**	**302**	Pg	**Pg**	**19 45 22.5**	**+0.3**
KIZO				Sg	**Sb**	**19 45 31.9**	**-0.8**
KVT	**Kavak**	**0.65**	**320**	Pg	**Pg**	**19 45 23.7**	**+0.5**
KVT				Sg	**Sb**	**19 45 35.3**	**+1.1**
YARM	**Yarimca-Ladik(**	**0.68**	**300**	Pg	**Pg**	**19 45 24.1**	**+0.4**
YARM				Sg	**Sb**	**19 45 34.3**	**-0.8**
SVSK	**Karacayir**	**0.74**	**155**	Pg	**Pg**	**19 45 24.2**	**-0.6**
SVSK				Sg	**Sg**	**19 45 34.9**	**+0.6**

HAVZ	Havza	0.83	306	P	Pg	19 45 26.3	-0.3
HAVZ				S	Sb	19 45 38.7	-0.6
SCER	sogukcermik	0.83	151	P	Pg	19 45 25.7	-0.9
SCER				S	Sb	19 45 39.6	+0.1
SAMS	Samsun-Alacam	0.83	338	P	Pb	19 45 27.3	-0.5
SAMS				S	Sb	19 45 40.2	+0.7
CKRK	Yozgat, Cekere	0.99	239	P	Pg	19 45 28.0	-1.6
CKRK				S	Sb	19 45 43.9	-0.1
ORDU	Ordu-Boztepe	1.03	67	P	Pg	19 45 30.5	-0.1
ORDU				S	Sb	19 45 46.0	+0.7
HACI	Hacifakili, Ak	1.11	217	P	Pg	19 45 30.9	-1.1
HACI				S	Sg	19 45 46.9	+0.6
CUZAR	Zara_SIVAS	1.14	128	P	Pg	19 45 31.6	-0.9
CUZAR				S	Sn	19 45 49.6	-0.2
CUSAR	Sarkisla-SIVAS	1.20	193	P	Pg	19 45 32.5	-1.2
CUSAR				S	Sg	19 45 49.7	+0.4
COAL	Corum-Alaca	1.28	255	P	Pg	19 45 32.9	-2.3
COAL				S	Sn	19 45 53.7	+0.4
SUSE	Susehri	1.28	107	P	Pg	19 45 34.3	-0.9
SUSE				S	Sg	19 45 52.1	+0.3
YOZ	Yozgat	1.36	226	Pn	Pn	19 45 35.1	-1.7
CTAK	Corum_Osmancik	1.38	273	P	Pn	19 45 36.1	-1.0
CTAK				S	Sn	19 45 55.5	-0.4
CUKAN	kangal_SIVAS	1.43	152	P	Pn	19 45 37.1	-0.6
CUKAN				S	Sg	19 45 58.4	+1.7
DIKM	Dikmen	1.47	317	⇓P	Pn	19 45 37.9	-0.2
DIKM				⇑S	Sb	19 45 55.2	-2.6
DIKM	Dikmen	1.47	317	Pn	Pg	19 45 38.8	-0.1
DIKM				Sn	Sg	19 46 00.8	+2.9
CORM	Corum	1.56	255	Pn	Pn	19 45 39.4	-0.1
YOZG	Bozok Univ. Me	1.60	240	P	Pn	19 45 39.0	-1.0
YOZG				S	Sg	19 46 03.1	+0.9
ESPY	Espiye-Giresun	1.65	78	Pn	Pn	19 45 40.7	+0.1
ALUC	Giresun/Alucra	1.67	98	P	Pn	19 45 41.0	-0.1
ALUC				S	Sn	19 46 02.5	-0.6
SIRC	Yozgat	1.68	222	P	Pn	19 45 40.3	-0.7
SIRC				S	Sb	19 46 04.2	+0.4
KAGI	orum-Kargı	1.70	290	P	Pb	19 45 42.1	-0.6
KAGI				S	Sg	19 46 05.1	-0.3
BOYA	Sinop/Boyabat-	1.73	304	P	Pn	19 45 42.0	+0.2
SINP	Sinop	1.80	321	Pn	Pb	19 45 43.6	-0.7
BNN	Bunyan	1.83	199	Pn	Pn	19 45 43.3	+0.1
BNN				Sn	Sn	19 46 07.4	+0.5
SUNG	orum-Sungurl	1.84	258	P	Pn	19 45 43.7	+0.4
SUNG				S	Sn	19 46 07.6	+0.5
GUNE	Kayseri	1.84	204	P	Pn	19 45 44.0	+0.7
GUNE				S	Sg	19 46 10.4	+0.5
ILIC	ilic-Erzincan	1.89	126	Pn	Pn	19 45 44.9	+0.9
KOZK	Kozakli-Nevseh	1.92	225	Pn	Pn	19 45 44.9	+0.5
CUGUR	Gurin_SVAS	1.93	164	P	Pn	19 45 45.8	+1.1
CUGUR				S	Sb	19 46 10.9	-0.4
CDAG	Cicekdag	1.96	241	P	Pn	19 45 44.9	-0.1
KEMA	Kemaliye	1.96	132	P	Pn	19 45 45.6	+0.6
KEMA				S	Sb	19 46 11.8	-0.3
ARPR	Arapgir-MALATY	2.00	138	Pn	Pn	19 45 46.3	+0.7
TOS	Tosya	2.01	284	Pn	Pb	19 45 46.8	-1.1
KELT	Kelkit	2.08	101	P	Pn	19 45 46.8	+0.2
KELT				S	Sn	19 46 12.7	-0.4
YENC	ankr-Yen	2.10	273	P	Pb	19 45 48.3	-1.2
YENC				S	Sn	19 46 14.5	+0.9
DARE	Darende-Malaty	2.13	161	Pn	Pn	19 45 47.9	+0.7
DELI	KIRIKKALE	2.13	255	P	Pn	19 45 47.5	+0.1
MCUR	KIREHR	2.14	229	P	Pn	19 45 47.0	-0.5
SARI	SarD1z-Kayseri	2.18	184	Pn	Pn	19 45 48.8	+0.7
AVNS	Nevsehir-Avano	2.23	218	P	Pn	19 45 48.9	+0.1
AVNS				S	Sb	19 46 18.8	-1.1
ILGA	Ilgaz	2.24	283	P	Pn	19 45 48.6	-0.3
KMON	Kastamonu	2.27	291	Pn	Pn	19 45 50.4	+1.2
AKPI	Kirsehir/Akpin	2.27	242	P	Pn	19 45 49.6	+0.4
ELBS	KAHRAMANMARAS	2.30	170	P	Pn	19 45 51.0	+1.4
ELBS				S	Sb	19 46 20.4	-1.3
BR131	Keskin Array S	2.43	250	Pn	Pn	19 45 51.9	+0.5
BRTR	Keskin Array B	2.43	250	Pn	Pn	19 45 52.3	+0.8
	4.7nm,0.3s,baz=73,slow=12,SNR=101						
BRTR				Sn	Sb	19 46 26.1	+0.6
	5.3nm,0.3s,baz=100,slow=20,SNR=5.0						
BRTR				LR	LR	19 47 04.0	
	comp=Z,461nm,20.3s,baz=72,slow=46						
	38nm,0.7s						
KTUT	Trabzon	2.44	80	⇓P	Pb	19 45 54.3	-0.9
KTUT				⇓S	Sg	19 46 27.8	-1.2
KTUT	Trabzon	2.44	80	Pn	Pn	19 45 52.9	+1.5
AKCD	Akcadag	2.51	155	P	Pn	19 45 52.9	+0.4
KIRS	Kirsehir-Merke	2.53	236	P	Pn	19 45 53.6	+0.9
ERZN	Erzincan	2.59	112	Pn	Pn	19 45 55.1	+1.4
YAYX	Yaylak	2.71	233	Pn	Pn	19 45 55.9	+0.6
PTK	Pertek	2.74	127	Pn	Pn	19 45 56.9	+1.2
SERE	Sereflikochisa	2.86	236	Pn	Pn	19 45 58.3	+1.0
GULA	Gulagac	2.89	220	Pn	Pn	19 45 58.7	+0.9
NIG	Nigde	2.92	213	Pn	Pn	19 45 59.3	+1.0
ANTO	Ankara	3.00	257	⇓P	Pn	19 46 00.1	+0.8
BCA	Borcka	3.89	76	⇓P	Pn	19 46 14.4	+3.0
BCA				⇑S	Sb	19 47 03.7	-3.8
YAL	Yalta	4.30	336	eP	Pn	19 46 17.9	+1.0
YAL				Pm		19 46 21.7	
	comp=Z,4.0nm,0.3s						
YAL				eS	Sn	19 47 08.3	+0.8
YAL				Sm		19 47 08.7	
	comp=N,14nm,0.6s						
YAL				Sm		19 47 08.7	
	comp=E,11nm,0.4s						
ALU	Alushta	4.40	339	eP	Pn	19 46 18.4	0.0
ALU				Pm		19 46 19.5	
	comp=Z,27nm,0.6s						
ALU				eS	Sn	19 47 09.0	-1.1
ALU				Sm		19 47 10.6	
	comp=N,19nm,0.5s						
ALU				Sm		19 47 10.6	
	comp=E,23nm,0.6s						
SUDU	Sudak	4.46	345	eP	Pn	19 46 20.9	+1.7
SUDU				Pm		19 46 24.2	
	comp=Z,35nm,1.1s						
SUDU				eS	Sn	19 47 13.8	+2.3
SUDU				Sm		19 47 15.3	
	comp=N,80nm,0.7s						
SUDU				Sm		19 47 15.3	
	comp=E,24nm,0.6s						
SEV	Sevastopol'	4.51	332	eP	Pn	19 46 19.7	-0.2
SEV				Pm		19 46 20.4	
	comp=Z,12nm,0.4s						
SEV				eS	Sn	19 47 12.0	-0.8
SEV				Sm		19 47 13.4	
	comp=N,16nm,0.4s						
SEV				Sm		19 47 13.4	
	comp=E,14nm,0.4s						
SIM	Simferopol'	4.73	338	eP	Pn	19 46 24.3	+1.4
SIM				Pm		19 46 26.0	
	comp=Z,57nm,1.3s						
SIM				eS	Sn	19 47 19.2	+1.0
SIM				Sm		19 47 29.7	
	comp=N,118nm,1.0s						
SIM				Sm		19 47 29.7	
	comp=E,264nm,1.4s						
KIV	Kislovodsk	5.63	51	⇓P	Pn	19 46 37.0	+1.6
KBZ	Khabaz	5.63	54	Pn	Pn	19 46 36.1	+0.8
	comp=E,1.9nm,0.3s,baz=230,slow=12,SNR=32						
KBZ				Sn	Sn	19 47 40.5	0.0
	baz=236,slow=8.2						
KBZ				LR	LR	19 49 23.8	
	comp=E,73nm,21.9s,baz=224,slow=45						
	comp=E,5.9nm,0.5s						
KVAR	Kislovodsk Arr	5.63	51	Pn	Pn	19 46 36.6	+1.1
	baz=261,slow=19						
KVAR				Sn	Sn	19 47 42.5	+1.7
	baz=346,slow=18						
	comp=E,3.6nm,0.4s						
GNI	Garni	6.23	91	Pn	Pn	19 46 46.2	+2.5
	comp=E,1.0nm,0.4s,baz=351,slow=16,SNR=1.0						
GNI				Lg	Lg	19 48 32.8	
	comp=E,0.5nm,0.3s,baz=111,slow=11,SNR=1.2						
GNI				LR	LR	19 48 41.7	
	comp=E,39nm,20.5s,baz=304,slow=34						
TIRR	Tirgusor	7.18	305	⇓P	Pn	19 46 56.1	-0.4
TIRR				⇓S	Sn	19 48 16.6	-1.9
TLCR		7.33	311	⇑P	Pn	19 46 57.7	-0.9
TPGR	Topolog	7.38	308	⇑P	Pn	19 46 59.3	-0.1
TPGR				⇓S	Sn	19 48 21.8	-1.7
HARR	Harsova	7.59	306	⇓P	Pn	19 47 01.6	-0.6
MMAI	Mount Meron Ar	7.62	188	Pn	Pn	19 47 05.2	+2.5
	comp=E,0.7nm,0.3s,baz=12,slow=14,SNR=2.2						
MMAI				LR	LR	19 50 07.3	
	comp=E,120nm,19.0s,baz=344,slow=38						
	comp=E,1.0nm,0.4s						
PURM	Purcari	7.69	323	⇑P	Pn	19 47 03.5	0.0
CFR	Carcaliu	7.72	309	⇓P	Pn	19 47 03.9	-0.1
VLDR	Vladesti	8.14	313	⇓P	Pn	19 47 08.4	-1.3
ASF	Jabal al Asfar	8.40	178	Pn	Pn	19 47 17.5	+4.0
	comp=E,0.2nm,0.3s,baz=66,slow=20,SNR=1.3						
ASF				Lg	Lg	19 49 41.0	
	comp=E,0.2nm,0.3s,baz=330,slow=23,SNR=1.1						
	comp=E,0.7nm,0.4s						
ODBI	Odobesti	8.68	310	⇑P	Pn	19 47 14.9	-2.2
VRI	Vrincioaia	8.93	309	⇑P	Pn	19 47 18.6	-2.0
NEHR	Nehoiu	8.96	306	⇓P	Pn	19 47 19.5	-1.6
PLOR	Plostina	8.97	309	⇓P	Pn	19 47 21.0	-0.1
MLR	Muntele Rosu	9.21	306	⇓P	Pn	19 47 22.9	-1.6
MLR	Muntele Rosu	9.21	306	Pn	Pn	19 47 23.0	-1.6
	comp=E,0.5nm,0.3s,baz=150,slow=17,SNR=3.6						
MLR				Sn	Sn	19 49 07.1	-1.7
	comp=E,0.1nm,0.3s,baz=136,slow=18,SNR=2.0						
MLR				LR	LR	19 50 45.5	
	comp=E,84nm,21.5s,baz=106,slow=37						
	comp=E,1.1nm,0.3s						
COVR	Voineasa-Covas	9.23	308	⇑P	Pn	19 47 24.6	-0.1
TESR	Tescani	9.34	313	⇑P	Pn	19 47 25.6	-0.5
SORM	Soroca	9.58	325	⇓P	Pn	19 47 28.2	-1.2
SORM				⇓S	Sn	19 49 14.6	-2.9
OZUR		9.61	309	⇓P	Pn	19 47 29.6	-0.3
VOIR		9.75	304	⇑P	Pn	19 47 31.8	-0.1
DOPR	Dopca	9.78	307	⇑P	Pn	19 47 31.5	-0.8
ARR	Arges	9.98	303	⇓P	Pn	19 47 34.1	-1.0
PRAR	RASCA	10.08	316	⇓P	Pn	19 47 36.1	-0.3
IDI	Anoyia	10.65	244	LR	LR	19 52 38.2	
	comp=E,59nm,18.4s,baz=88,slow=42						
BURAR	Bucovina Array	10.78	314	⇑P	Pn	19 47 45.6	-0.4
BURAR				⇓S	Sn	19 49 46.3	-0.9
EIL	Elat	10.98	188	LR	LR	19 52 13.7	
	comp=E,76nm,19.0s,baz=346,slow=38						
AKASG	Malin Array Be	11.35	335	Pn	Pn	19 47 52.0	-1.7
	comp=E,0.9nm,0.3s,baz=138,slow=13,SNR=5.2						
AKASG				Sn	Sn	19 49 53.8	-7.1
	comp=E,0.4nm,0.3s,baz=145,slow=24,SNR=5.5						
	comp=E,0.2nm,0.3s						
BELG	Belogornoye	14.02	29	Pn	Pn	19 48 28.7	-1.3
	comp=E,0.2nm,0.3s,baz=285,slow=20,SNR=1.6						
	comp=E,3.4nm,0.5s						
GEYT	Alibeck	16.87	92	Pn	P	19 49 10.0	0.0
	comp=E,0.7nm,0.5s,baz=277,slow=12,SNR=2.6						
AKTO	Aktyubinsk	17.89	49	P	P	19 49 21.0	-0.1
	comp=E,0.2nm,0.3s,baz=250,slow=9.7,SNR=9.2						
	comp=E,2.7nm,0.6s						
GERES	GERESS Array B	18.20	305	P	P	19 49 24.8	+0.1
	comp=E,0.1nm,0.3s,baz=108,slow=13,SNR=4.4						
	comp=E,0.5nm,0.7s						
DAVOX	Davos/Dischmat	20.24	297	P	P	19 49 46.9	-0.2
	comp=E,0.7nm,0.6s,baz=68,slow=12,SNR=1.7						
	comp=E,0.7nm,0.6s						
ARU	Arti	21.37	35	P	P	19 49 59.1	+0.1
	comp=E,1.7nm,0.6s,baz=234,slow=7.9,SNR=3.1						
ARU				LR	LR	20 00 15.4	
	comp=E,99nm,18.6s,baz=256,slow=42						
	comp=E,1.7nm,0.6s						
FINES	FINESS Array B	21.85	346	P	P	19 50 04.5	+0.3
	comp=E,1.4nm,0.5s,baz=158,slow=9.7,SNR=12						
	comp=E,1.4nm,0.5s						
NOA	NORSAR Array B	25.71	331	P	P	19 50 41.9	0.0
	comp=E,1.1nm,0.9s,baz=123,slow=11,SNR=2.8						
NOA				LR	LR	20 01 50.6	
	comp=E,54nm,18.3s,baz=285,slow=39						
	comp=E,1.1nm,0.9s						
BVAR	Borovoye Array	26.00	50	P	P	19 50 46.2	+1.6
	comp=E,0.8nm,0.9s,baz=255,slow=11,SNR=3.6						
	comp=E,0.8nm,0.9s						
ARCES	ARCESS Array B	29.60	352	P	P	19 51 16.6	0.0
	comp=E,3.4nm,0.9s,baz=162,slow=12,SNR=1.9						
	comp=E,3.4nm,0.9s						
KURBB	Kurchatov Arra	30.63	57	P	P	19 51 26.9	+1.0
	comp=E,1.5nm,0.8s,baz=274,slow=9.1,SNR=12						
	comp=E,1.5nm,0.8s						
MKAR	Makanchi Array	33.24	64	P	P	19 51 50.2	+1.3
	comp=E,0.4nm,0.6s,baz=276,slow=8.1,SNR=5.8						
	comp=E,0.4nm,0.6s						
ZALV	Zalesovo Beam	34.65	51	P	P	19 52 01.4	+0.3
	comp=E,0.3nm,0.4s,baz=297,slow=9.5,SNR=1.9						
	comp=E,0.3nm,0.4s						
TORD	Torodi Ar. Bea	40.99	238	P	P	19 52 56.5	+1.5
	comp=E,0.8nm,0.9s,baz=36,slow=9.5,SNR=3.7						
	comp=E,0.8nm,0.9s						
SEY	Seymchan	64.86	27	LR	LR	20 27 51.3	
	comp=E,47nm,18.5s,baz=318,slow=40						
KSRS	Korea Array	67.76	59	LR	LR	20 28 46.4	
	comp=E,42nm,18.9s,baz=320,slow=39						
BOSA	Boshof	69.65	191	LR	LR	20 28 29.8	
	comp=E,40nm,18.1s,baz=354,slow=37						
YKA	Yellowknife Ar	74.69	347	P	P	19 56 52.6	+1.5
	comp=E,0.3nm,0.9s,baz=15,slow=5.9,SNR=4.4						
	comp=E,0.3nm,0.9s						
PCRV	Puerto La Cruz	91.85	285	LR	LR	20 38 30.0	
	comp=E,34nm,19.0s,slow=35						

*ISK **06** 19:47:15.9, 40°.56N×36°.59E, h2km, ML3.4/22*
*CFUSG **06** 19:47:16.3, 40°.60N×36°.60E, h5km, mb2.9/4, Central Turkey Magtype MSH 3.3 from 2 stations*
*IDC **06** 19:47:16.1±1.7, 40°.44N×36°.66E, h0km, mb3.4/3, mbtmp3.4/6, ML2.9/3, Error ellipse: s-maj=54.0km s-min=12.1km az=156.0*
*AFAD **06** 19:47:17.0±0.0, 40°.55N×36°.58E, h8km, ML3.4*
ISC 06 19:47:16.4±1.1**, 40°.55N**±0°.02×**36°.59E**±0°.02**, h3**km±9km**, n55,** σ1**§06**/85**, mb3.5**/3**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	Tokat	0.24	188	Pg	Pg	19 47 21.8	+0.9
TOKT				Sg	Sg	19 47 25.4	+1.4
TOKA	Tokat	0.25	200	P	Pg	19 47 22.0	+0.9
TOKA				S	Sg	19 47 25.6	+1.2
TOKA				*i* AML	AML	19 47 26.0	
	comp=N,9μm,0.3s						
AMSY	Amasya-Merkez	0.58	278	P	Pn	19 47 32.7	+1.0
AMSY				S	Sn	19 47 40.8	-0.9
RSDY	Resadiye-TOKAT	0.58	105	Pg	Pg	19 47 27.9	+0.3
RSDY				Sg	Sb	19 47 36.9	-1.1
KIZO	Buyukkizoglu-L	0.61	305	Pg	Pg	19 47 28.6	+0.6
KIZO				Sg	Sb	19 47 37.5	-1.2
KVT	Kavak	0.67	322	Pg	Pg	19 47 29.8	+0.6
YARM	Yarimca-Ladik(	0.69	303	Pg	Pg	19 47 29.9	+0.3
YARM				Sg	Sb	19 47 39.9	-1.1
SVSK	Karacayir	0.71	154	Pg	Pg	19 47 29.8	-0.2
SCER	sogukcermik	0.81	149	P	Pg	19 47 31.5	-0.3
SCER				S	Sb	19 47 44.0	-0.4
HAVZ	Havza	0.84	308	P	Pg	19 47 32.6	+0.1
HAVZ				S	Sg	19 47 43.1	-0.3
HAVZ				*i* AML	AML	19 47 46.0	
	comp=E,1μm,0.7s						
SAMS	Samsun-Alacam	0.86	339	P	Pg	19 47 33.1	+0.2
SAMS				S	Sg	19 47 42.3	-1.8
CKRK	Yozgat, Cekere	0.96	240	P	Pg	19 47 34.2	-0.7
CKRK				S	Sg	19 47 47.4	+0.1
ORDU	Ordu-Boztepe	1.06	65	P	Pg	19 47 36.3	-0.3
ORDU				S	Sg	19 47 49.1	-1.2
HACI	Hacifakili, Ak	1.08	218	P	Pg	19 47 36.8	-0.2
HACI				S	Sg	19 47 50.8	-0.1
CUZAR	Zara_SIVAS	1.12	126	P	Pg	19 47 37.6	-0.2
CUZAR				S	Sg	19 47 52.6	+0.2
CUSAR	Sarkisla-SIVAS	1.17	193	P	Pg	19 47 38.4	-0.3
CUSAR				S	Sg	19 47 53.9	+0.1
CUSAR				*i* AML	AML	19 47 58.0	
	comp=N,721nm,0.3s						
COAL	Corum-Alaca	1.26	257	P	Pg	19 47 39.0	-1.6
COAL				S	Sg	19 47 56.3	-0.6
SUSE	Susehri	1.28	105	P	Pg	19 47 40.4	-0.5
SUSE				S	Sg	19 47 56.6	-0.9
YOZ	Yozgat	1.33	227	Pn	Pn	19 47 41.9	-0.2
YOZ				Sn	Sn	19 48 02.1	+1.7
CTAK	Corum_Osmancik	1.37	274	P	Pn	19 47 42.5	-0.1
CTAK				S	Sg	19 47 58.4	-2.1
CUKAN	kangal_SIVAS	1.41	151	P	Pn	19 47 42.4	-0.7
CUKAN				S	Sb	19 47 59.3	-2.5
DIKM	Dikmen	1.49	318	Pn	Pg	19 47 44.8	-0.1
DIKM				Sn	Sg	19 48 05.6	+1.4
CORM	Corum	1.54	257	Pn	Pg	19 47 46.1	+0.1
YOZG	Bozok Univ. Me	1.58	241	P	Pn	19 47 45.3	-0.1
YOZG				S	Sn	19 48 06.0	-0.4
SIRC	Yozgat	1.65	223	P	Pn	19 47 46.4	+0.1
ESPY	Espiye-Giresun	1.66	77	Pn	Pn	19 47 46.6	+0.1
ALUC	Giresun/Alucra	1.68	96	P	Pn	19 47 46.5	-0.2
ALUC				*i* AML	AML	19 48 12.0	
	comp=N,438nm,0.3s						
ALUC				*i* AML	AML	19 48 18.0	
	comp=E,436nm,0.5s						
KAGI	orum-Kargı	1.71	291	P	Pb	19 47 48.1	-0.3
KAGI				S	Sn	19 48 09.0	-0.4
KAGI				*i* AML	AML	19 48 14.0	
	comp=N,472nm,0.5s						
BOYA	Sinop/Boyabat-	1.74	305	P	Pb	19 47 48.5	-0.5
BOYA				S	Sn	19 48 08.3	-2.1
BNN	Bunyan	1.79	199	Pn	Pb	19 47 49.6	-0.4
GUNE	Kayseri	1.81	205	P	Pb	19 47 50.3	+0.1
GUNE				S	Sg	19 48 14.6	+0.1
GUNE				*i* AML	AML	19 48 24.0	
	comp=N,641nm,1.1s						
SUNG	orum-Sungurl	1.83	259	P	Pb	19 47 50.2	-0.3
SUNG				S	Sg	19 48 15.3	+0.2
ILIC	ilic-Erzincan	1.88	125	Pn	Pb	19 47 50.4	-1.0
KOZK	Kozakli-Nevseh	1.89	225	Pn	Pb	19 47 50.9	-0.6
CUGUR	Gurin_SVAS	1.90	164	P	Pb	19 47 51.6	-0.2
CUGUR				*i* AML	AML	19 48 23.0	
	comp=E,435nm,0.7s						
CUGUR				*i* AML	AML	19 48 24.0	
	comp=N,341nm,0.7s						
CDAG	Cicekdag	1.94	242	P	Pn	19 47 51.1	+0.8
CDAG				S	Sn	19 48 14.8	-0.5
ARPR	Arapgir-MALATY	1.98	137	Pn	Pb	19 47 51.9	-1.3
DARE	Darende-Malaty	2.10	161	Pn	Pb	19 47 53.9	-1.2
SARI	SarD1z-Kayseri	2.15	184	Pn	Pb	19 47 54.5	-1.5
BR131	Keskin Array S	2.41	251	Pn	Pn	19 47 57.6	+0.8
BRTR	Keskin Array B	2.41	251	Pn	Pn	19 47 57.9	+1.0
	2.3nm,0.3s,baz=78,slow=13,SNR=1.1						
BRTR				Lg	Lg	19 48 34.4	
	2.8nm,0.3s,baz=225,slow=14,SNR=1.3						
	13nm,0.5s						
KTUT	Trabzon	2.45	79	Pn	Pn	19 47 58.6	+1.3
YAYX	Yaylak	2.68	234	Pn	Pn	19 48 01.6	+1.0
PTK	Pertek	2.73	127	Pn	Pn	19 48 02.6	+1.4
SERE	Sereflikochisa	2.83	236	Pn	Pn	19 48 04.3	+1.7
GULA	Gulagac	2.86	220	Pn	Pn	19 48 04.1	+1.1
YAL	Yalta	4.32	336	eP	Pn	19 48 22.9	-0.1
YAL				eS	Sn	19 49 13.9	0.0
YAL				Sm		19 49 15.7	
	comp=E,10.0nm,0.4s,comp=N,7.0nm,0.4s						
ALU	Alushta	4.43	339	eP	Pn	19 48 23.9	-0.5
ALU				Pm		19 48 25.9	
	comp=Z,9.0nm,0.6s						
ALU				eS	Sn	19 49 16.1	-0.4
ALU				Sm		19 49 19.6	
	comp=N,8.0nm,0.3s						
ALU				Sm		19 49 19.6	
	comp=E,6.0nm,0.4s						
SUDU	Sudak	4.49	345	eP	Pn	19 48 26.6	+1.3
SUDU				Pm		19 48 27.8	
	comp=Z,3.0nm,0.3s						
SUDU				eS	Sn	19 49 20.5	+2.5
SUDU				Sm		19 49 20.7	
	comp=N,17nm,0.3s						
SUDU				Sm		19 49 20.7	
	comp=E,9.0nm,0.6s						
SEV	Sevastopol'	4.54	333	eP	Pn	19 48 25.4	-0.5
SEV				Pm		19 48 29.5	
	comp=Z,4.0nm,0.3s						
SEV				eS	Sn	19 49 17.7	-1.4
SEV				Sm		19 49 18.8	
	comp=N,10.0nm,0.5s						
SEV				Sm		19 49 18.8	
	comp=E,7.0nm,0.4s						
KBZ	Khabaz	5.66	54	Pn	Pn	19 48 44.1	+2.7
	comp=E,0.3nm,0.3s,baz=302,slow=13,SNR=1.2						
	comp=E,4.4nm,0.7s						
KVAR	Kislovodsk Arr	5.66	51	Pn	Pn	19 48 44.3	+2.8
	baz=257,slow=19						
	comp=E,4.1nm,0.5s						
FINES	FINESS Array B	21.88	346	P	P	19 52 11.7	+1.5
	comp=E,2.6nm,0.9s,baz=158,slow=11,SNR=5.2						
	comp=E,2.6nm,0.9s						
KURBB	Kurchatov Arra	30.65	57	P	P	19 53 32.2	+0.4
	comp=E,0.3nm,0.5s,baz=275,slow=9.3,SNR=3.0						
	comp=E,0.3nm,0.5s						
MKAR	Makanchi Array	33.26	64	P	P	19 53 55.6	+0.7
	comp=E,0.1nm,0.5s,baz=268,slow=8.1,SNR=1.6						
	comp=E,0.1nm,0.5s						

*NEIC **06** 19:52:30.9±2.2, 46°.55N±0°.10×154°.2E±0°.1, h10km±1km, mb4.6/37, Error ellipse: s-maj=20.6km s-min=10.7km az=135.0*
*MOS **06** 19:52:33.7±1.1, 46°.62N×154°.04E, h41km, mb4.9/23, Error ellipse: s-maj=7.0km s-min=5.5km az=97.0*
*SKHL **06** 19:52:33.8±0.0, 46°.50N×154°.20E, h54km±4km, mb5.1/7*
*IDC **06** 19:52:37.4±2.2, 46°.78N×153°.88E, h47km±19km, mb3.9/27, mbtmp4.2/33, ML3.7/5, MS3.5/23, Error ellipse: s-maj=17.5km s-min=11.5km az=149.0*
ISC 06 19:52:33.5±0.5**, 46°.59N**±0°.05×**154°.07E**±0°.05**, h25**km**, n206,** σ1**§33**/218**, mb4.5**/67**, MS3.7**/21**, 11C-10D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.32	18	ePN	Pn	19 53 38.2	+0.7
SKR				eS	Sn	19 54 26.7	-0.3
SKR				pmax	pmax		
	comp=Z,201nm,0.7s						
SKR				smax	smax		
	comp=N,379nm,0.9s						
SKR				smax	smax		
	comp=E,291nm,0.9s						
SKR				MLR	MLR		
	comp=Z,400nm,12.0s						
SKR	Severo-Kuril's	4.32	18	eP	Pn	19 53 38.4	+0.9
SKR				AMB	AMB	19 53 42.2	
	comp=Z,130nm,0.8s						
SKR				eS	Sn	19 54 25.8	-1.2
SKR				A	A	19 54 30.4	
	comp=Z,380nm,0.5s						
SKR				A	A	19 54 30.4	
	comp=Z,150nm,0.5s						
KUR	Kuril'sk	4.54	255	ePN	Pn	19 53 43.4	+2.9
KUR				eS	Sn	19 54 33.2	+0.8
KUR				pmax	pmax		
	comp=Z,381nm,0.6s						
KUR				pmax	pmax		
	comp=N,62nm,0.5s						
KUR				pmax	pmax		
	comp=E,62nm,0.5s						
KUR				smax	smax		
	comp=N,618nm,0.6s						
KUR				smax	smax		
	comp=E,338nm,0.6s						
KUR	Kuril'sk	4.54	255	eP	Pn	19 53 43.0	+2.5
KUR				AMB	AMB	19 53 44.2	
	comp=E,380nm,0.6s						
KUR				eS	Sn	19 54 33.2	+0.8
KUR				A	A	19 54 38.0	
	comp=E,620nm,0.6s						
KUR				A	A	19 54 38.0	
	comp=E,340nm,0.6s						
PAU	Pauzhetka	5.21	19	eP	Pn	19 53 51.7	+2.0
PAU				AMB	AMB	19 53 52.0	
	comp=E,60nm,0.3s						
PAU				eS	Sn	19 54 48.3	-0.6
PAU				A	A	19 54 49.9	
	comp=E,170nm,0.3s						
PAU				A	A	19 54 49.9	
	comp=E,210nm,0.3s						
SHO	Shikotan	5.79	245	ePN	Pn	19 53 57.3	-0.5
SHO				pmax	pmax		
	comp=Z,141nm,0.4s						
SHO				pmax	pmax		
	comp=N,36nm,0.5s						
SHO				pmax	pmax		
	comp=E,92nm,0.6s						
SHO	Shikotan	5.79	245	eP	Pn	19 53 57.8	0.0
SHO				AMB	AMB	19 54 00.4	
	comp=E,140nm,0.4s						
SHO				eS	Sn	19 55 00.8	-2.5
SHO				A	A	19 55 02.9	
	comp=E,190nm,0.4s						
SHO				A	A	19 55 02.9	
	comp=E,290nm,0.4s						
YUK	Yuzh-Kuril'sk	6.33	249	ePN	Pn	19 54 06.2	+1.1
YUK				pmax	pmax		
	comp=Z,184nm,0.2s						
YUK	Yuzh-Kuril'sk	6.33	249	eP	Pn	19 54 06.8	+1.7

YUK AMB AMB 19 54 08.3
comp=Z,220nm,0.6s
YUK eS Sn 19 55 15.8 -0.7
YUK A A 19 55 17.7
comp=Z,420nm,0.4s
YUK A A 19 55 17.7
comp=Z,310nm,0.4s
RUSJ Misakicho 6.69 251 ePN **Pn 19 54 11.3 +1.1**
NMR Nemuro--Hokkai 6.73 244 ePN **Pn 19 54 09.9 -0.8**
NMR Nemuro--Hokkai 6.73 244 eP **Pn 19 54 10.7 0.0**
NMR eS **Sn 19 55 22.7 -3.8**
PEA0B Petropavlovsk- 6.94 18 Pn **Pn 19 54 14.2 +0.7**
PEA0B Petropavlovsk- 6.94 18 dePN **Pn 19 54 14.9 +1.4**
PETK Petropavlovsk- 6.94 18 Pn **Pn 19 54 13.8 +0.3**
PETK Petropavlovsk- 6.94 18 P **Pn 19 54 14.7 +1.2**
comp=Z,3.2nm,0.3s,baz=181,slow=13,SNR=90
PETK S **Sn 19 55 30.2 -1.3**
comp=Z,9.0nm,0.8s,baz=152,slow=13,SNR=2.0
comp=Z,15nm,0.6s
PET Petropavlovsk 7.09 23 Pn **Pn 19 54 14.5 -1.1**
PET Petropavlovsk 7.09 23 ePN **Pn 19 54 16.1 +0.5**
PET pmax pmax
comp=Z,23nm,0.4s
PET MLR MLR
comp=Z,100nm,10.0s
PET Petropavlovsk 7.09 23 eP **Pn 19 54 16.1 +0.5**
PET AMB AMB 19 54 17.8
comp=Z,20nm,0.5s
PET eS **Sn 19 55 32.9 -2.4**
PET A A 19 55 33.9
comp=Z,40nm,0.5s
PET A A 19 55 33.9
comp=Z,30nm,0.5s
YSS Yuzh-Sakhalins 7.78 277 Pn 19 54 25.8 +0.7
YSS Yuzh-Sakhalins 7.78 277 ePN Pn 19 54 30.1 +5.1
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS MLR MLR
comp=E,300nm,16.0s
YSS Yuzh-Sakhalins 7.78 277 eP **Pn 19 54 27.1 +2.1**
YSS eS **Sn 19 55 51.5 -0.7**
JKA Kamikawa-asahi 8.45 257 Pn 19 54 35.3 +1.1
JKA Kamikawa-asahi 8.45 257 eP **Pn 19 54 36.6 +2.4**
ASAJ Asahikawa 8.45 257 P **Pn 19 54 36.6 +2.3**
comp=E,1.5nm,0.3s,baz=68,slow=11,SNR=17
comp=E,18nm,0.7s
UGL Uglegorsk 8.45 292 eP **Pn 19 54 36.5 +2.2**
UGL eS **Sn 19 56 08.6 -0.2**
TYV Tymovskoe 8.67 304 ePN **Pn 19 54 41.5 +4.2**
TYV pmax pmax
comp=Z,200nm,3.8s
TYV pmax pmax
comp=Z,10.0nm,0.9s
TYV Tymovskoe 8.67 304 eP **Pn 19 54 39.5 +2.2**
TYV eS **Sn 19 56 13.8 -0.3**
ERM Erimo 9.06 244 Pn 19 54 43.2 +0.6
ERM Erimo 9.06 244 cePN **Pn 19 54 44.1 +1.5**
OKH Okha 9.98 318 eP **Pn 19 54 57.2 +2.0**
NKL Nikolayevsk 10.84 312 eP **Pn 19 55 08.5 +1.5**
JTM Tenmabayashi 11.05 243 Pn **Pn 19 55 08.4 -1.5**
MA2 Magadan 13.16 353 Pn 19 55 38.9 +0.3
MA2 Magadan 13.16 353 dePN **Pn 19 55 40.8 +2.2**
MA2 pmax pmax
comp=Z,19nm,1.5s
MA2 Magadan 13.16 353 P **Pn 19 55 40.3 +1.7**
comp=Z,7.3nm,0.5s,baz=171,slow=11,SNR=18
MA2 LR LR 20 00 13.2
comp=Z,140nm,20.2s,baz=155,slow=35
MA2 Magadan 13.16 353 eP **Pn 19 55 40.8 +2.2**
KLR Kul'dur 15.19 288⇑ eP **P 19 56 08.9 -2.1**
KLR pmax pmax
comp=Z,13nm,1.3s
KLR Kul'dur 15.19 288 P **Pn 19 56 08.3 +2.0**
comp=Z,0.2nm,0.3s,baz=104,slow=10,SNR=16
KLR LR LR 20 02 07.2
comp=Z,132nm,19.7s,baz=94,slow=38
comp=Z,4.1nm,0.9s
MAJO Matsushiro 15.52 235 Pn 19 56 09.3 -1.3
MAJO IAmb IAmb 19 56 17.5
comp=Z,21nm,0.8s
MAJO Matsushiro 15.52 235⇑ eP **Pn 19 56 09.1 -1.5**
MAJO pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 15.52 235 P **Pn 19 56 09.2 -1.4**
comp=Z,5.2nm,0.6s,baz=28,slow=14,SNR=23
MJAR LR LR 20 03 34.5
comp=Z,49nm,19.3s,baz=1.5,slow=42
MJB9 Matsu-Tunnel 15.52 235 Pn 19 56 08.3 -2.3
MJB9 IAmb IAmb 19 56 17.5
comp=Z,21nm,0.8s
USA0B Ussuriysk Arra 15.69 269 Pn **Pn 19 56 13.0 +0.3**
USA0B Ussuriysk Arra 15.69 269 P **Pn 19 56 13.0 +0.3**
USA0B pmax pmax
comp=Z,21nm,0.9s
USRK Ussuriysk Ar. 15.69 269 Pn **Pn 19 56 13.8 +1.1**
USRK Ussuriysk Ar. 15.69 269 P **Pn 19 56 13.8 +1.1**
USRK Ussuriysk Ar. 15.69 269 P **Pn 19 56 13.0 +0.2**
comp=Z,1.3nm,0.3s,baz=74,slow=13,SNR=18
USRK LR LR 20 02 07.1
comp=Z,93nm,21.1s,baz=108,slow=37
comp=Z,17nm,0.8s
SEY Seymchan 16.41 357⇓ eP **Pn 19 56 21.1 -0.7**
SEY Seymchan 16.41 357 P **Pn 19 56 20.4 -1.5**
comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=3.2
comp=Z,1.2nm,0.6s
SEY Seymchan 16.41 357 eP **Pn 19 56 21.1 -0.7**
MDJ Mudanjiang 17.23 272 P **Pn 19 56 32.4 +0.1**
MDJ S **Sn 19 59 41.3 -1.7**
MDJ sS S 19 59 49.8 -1.9
MDJ SS **SnSn 19 59 53.6 -2.5**
MDJ PcP PcP 20 01 05.2 -9.5
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,150nm,3.6s
MDJ Mudanjiang 17.23 272 Pn **Pn 19 56 32.4 +0.1**
HEH HeiHe 18.03 291 eP **Pn 19 56 41.6 -0.6**
HEH pmax pmax
comp=Z,23nm,0.9s
ZEA Zeya 18.53 303 eP **P 19 56 47.6 -0.4**
CN2 Changchun 20.32 273 P **P 19 57 05.8 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YAK Yakutsk 20.82 327 P **P 19 57 11.5 -1.3**
YAK Yakutsk 20.82 327 eP **P 19 57 10.5 -2.3**
YAK eS **S 20 01 02.1 -1.4**
YAK e*SS **pS 20 01 22.2 +7.2**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK smax smax
comp=N,47nm,2.8s
YAK smax smax
comp=E,29nm,2.5s
YAK Yakutsk 20.82 327 P **P 19 57 11.1 -1.6**
comp=E,0.5nm,0.2s,baz=122,slow=4.6,SNR=16
YAK LR LR 20 04 33.6
comp=E,4.9nm,21.4s,baz=110,slow=35
KSRS Korea Array 21.38 254 P **P 19 57 20.3 +1.3**
comp=E,9.2nm,0.8s,baz=58,slow=8.3,SNR=27
KSRS LR LR 20 06 38.2
comp=E,31nm,18.4s,baz=45,slow=39
comp=E,9.2nm,0.8s
KS19 Wonju Array Si 21.39 254 P **P 19 57 18.3 -0.9**
KSAR Wonju Array Be 21.41 254 P **P 19 57 19.5 +0.1**
KSAR Wonju Array Be 21.41 254 P **P 19 57 19.5 +0.1**
BILL Bilibino 22.41 12 P **P 19 57 28.1 -1.8**
BILL IAmb IAmb 19 57 33.8
comp=Z,18nm,1.1s
BILL Bilibino 22.41 12⇑ P **P 19 57 29.0 -0.8**
BILL Bilibino 22.41 12 eP **P 19 57 29.0 -0.8**
BOD Bodaibo 26.60 310 eP **P 19 58 07.4 -2.1**
BOD pmax pmax
comp=Z,10.0nm,1.3s
XLT XiLinHaoTe 26.71 278 eP **P 19 58 11.9 +1.1**
XLT pP pP 19 58 16.2 -0.4
XLT sP sP 19 58 19.2 +0.2
XLT pmax pmax
comp=Z,12nm,0.6s
XLT pmax pmax
comp=Z,120nm,4.7s
TIK Tiksi 27.80 343 eP **P 19 58 21.1 +1.0**
TIXI Tiksi 27.81 343⇓ eP **P 19 58 21.1 +0.9**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
BJT Baijiatuau 28.15 270 P **P 19 58 24.3 +0.7**
BJT IAmb IAmb 19 58 28.0
comp=Z,9.0nm,0.8s
BJT Baijiatuau 28.15 270 P **P 19 58 24.3 +0.7**
BJT pmax pmax
comp=Z,9.0nm,0.8s
C16K Lisburne Hills 29.88 29 P **P 19 58 38.7 +0.1**
HNS HongShan 30.39 267⇑ P **P 19 58 46.4 +3.0**
HNS pmax pmax
comp=Z,5.0nm,0.7s
NJ2 Nanjing 30.58 254 eP **P 19 58 44.8 -0.4**
NJ2 pP **pP 19 58 51.5 +0.8**
NJ2 sP **sP 19 58 52.5 -0.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,100nm,3.9s
HHC Hu-ho-hao-te 30.96 275 eP **P 19 58 49.5 +0.9**
HHC pmax pmax
comp=Z,32nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.2s
C18K Utukok River 31.44 30 P **P 19 58 52.8 +0.3**
C18K IAmb IAmb 19 58 54.4
comp=Z,4.9nm,0.9s
ULN Ulaanbaatar 31.57 290 P **P 19 58 53.9 -0.1**
ULN Ulaanbaatar 31.57 290⇑ eP **P 19 58 53.1 -0.9**
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 31.57 290 eP **P 19 58 53.1 -0.9**
SONM Songino Array 32.01 290 P **P 19 58 56.1 -1.7**
comp=Z,0.9nm,0.8s,baz=76,slow=8.8,SNR=6.7
SONM LR LR 20 13 26.8
comp=Z,138nm,18.3s,baz=186,slow=39
comp=Z,0.9nm,0.8s
D19K Kuna River 32.45 31 P **P 19 59 02.0 +0.7**
D19K IAmb IAmb 19 59 26.9
comp=Z,14nm,1.4s
IMAR Indian Mountai 33.51 36 P **P 19 59 10.2 -0.4**
GUMO Guam 33.79 196 LR LR 20 10 43.1
comp=Z,36nm,20.6s,baz=92,slow=32
KTH Kantishna Hill 34.46 40 P **P 19 59 18.4 -0.4**
KTH IAmb IAmb 19 59 24.0
comp=Z,14nm,1.3s
SUA Susitna One 34.49 44 P **P 19 59 19.4 +0.2**
E22K Anaktuvuk Pass 34.63 32 P **P 19 59 20.9 +0.6**
E22K IAmb IAmb 19 59 22.8
comp=Z,7.0nm,0.7s
SML Sawmill 35.63 43 P **P 19 59 29.3 +0.3**
E24K Your Creek 35.86 33 P **P 19 59 31.3 +0.5**
SCM Sheep Creek Mo 36.11 43 P **P 19 59 32.6 -0.5**
SCM IAmb IAmb 19 59 39.8
comp=Z,22nm,1.4s
SCM Sheep Creek Mo 36.11 43 P **P 19 59 32.6 -0.5**
SCM pmax pmax
comp=Z,22nm,1.4s
XAN Xi'an 36.16 266 P **P 19 59 36.1 +2.3**
XAN pmax pmax
comp=Z,6.0nm,1.0s
ILAR Eielson Array 36.27 38 P **P 19 59 35.1 +0.8**
comp=Z,1.5nm,1.1s,baz=257,slow=8.1,SNR=8.0
comp=Z,1.5nm,1.1s
NRIK Noril'sk 39.24 329⇑ eP **P 19 59 58.6 -0.8**
NRIK pmax pmax
comp=Z,20nm,4.3s
GYA Guiyang 42.32 259 P **P 20 00 25.8 +0.3**
GYA pmax pmax
comp=Z,11nm,1.2s
ZALV Zalesovo Beam 43.24 306 P **P 20 00 31.6 -0.8**
comp=Z,2.8nm,0.6s,baz=65,slow=7.7,SNR=7.1
ZALV LR LR 20 19 05.6
comp=Z,93nm,19.1s,baz=78,slow=37
comp=Z,2.8nm,0.6s
C36M Paulatuk 44.63 30 P **P 20 00 44.0 +0.7**
C36M IAmb IAmb 20 00 45.7
comp=Z,8.5nm,1.1s
GOMU GeErMu 44.69 279 P **P 20 00 45.6 +0.9**
GOMU pP pP 20 00 50.4 -0.2
GOMU sP sP 20 00 51.4 -1.5
GOMU pmax pmax
comp=Z,14nm,0.9s
WMQ Urumqi 45.60 292 eP **P 20 00 54.1 +2.6**
PZH PanZhiHua 45.64 263 P **P 20 00 52.7 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.1s
MKAR Makanchi Array 47.60 298 P **P 20 01 05.7 -1.4**
comp=Z,2.8nm,0.7s,baz=69,slow=7.9,SNR=1.6
MKAR LR LR 20 22 22.6
comp=Z,107nm,18.2s,baz=34,slow=38
comp=Z,2.8nm,0.7s
MKAR Makanchi Array 47.60 298 eP **P 20 01 09.5 +2.4**
KURK Kurchatov 48.00 304 P **P 20 01 09.3 -0.8**
KURK IAmb IAmb 20 01 10.7
comp=Z,5.9nm,0.9s
KURK Kurchatov 48.00 304 deP **P 20 01 09.5 -0.6**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 48.00 304 eP **P 20 01 09.5 -0.6**
KURBB Kurchatov Arra 48.09 304 P **P 20 01 09.3 -1.5**
comp=Z,5.0nm,0.8s,baz=64,slow=8.1,SNR=8.4
KURBB LR LR 20 21 38.6
comp=Z,63nm,19.3s,baz=164,slow=36
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 50.66 37 P **P 20 01 31.0 +0.8**
comp=Z,2.0nm,0.9s,baz=296,slow=7.4,SNR=15
comp=Z,2.0nm,0.9s
RES Resolute Bay 50.78 19 LR LR 20 26 37.8
comp=Z,51nm,18.1s,baz=44,slow=40
BVAR Borovoye Array 51.47 310 P **P 20 01 36.3 -0.2**
comp=Z,4.4nm,0.6s,baz=50,slow=8.7,SNR=11
BVAR LR LR 20 24 03.8
comp=Z,68nm,18.5s,baz=37,slow=37
comp=Z,4.4nm,0.6s
BRVK Borovoye 51.51 310 P **P 20 01 36.5 -0.2**
BRVK IAmb IAmb 20 01 37.9
comp=Z,5.2nm,0.7s
BRVK Borovoye 51.51 310 deP **P 20 01 36.9 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 51.51 310 eP **P 20 01 36.9 +0.2**
PHRA Phrae 52.08 256 P **P 20 01 42.2 +0.8**
SPITS Spitsbergen Ar 52.89 350 P **P 20 01 46.7 0.0**
comp=Z,9.3nm,0.9s,baz=57,slow=8.1,SNR=7.9
comp=Z,9.3nm,0.9s
CMAR Chiang Mai Arr 52.97 257 P **P 20 01 48.5 +0.5**
CMAR Chiang Mai Arr 52.97 257 P **P 20 01 49.2 +1.1**
comp=Z,1.3nm,0.6s,baz=38,slow=7.1,SNR=18
CMAR LR LR 20 26 47.7
comp=Z,19nm,18.6s,baz=15,slow=39
comp=Z,1.3nm,0.6s
SVE Sverdlovsk 54.40 318 eP **P 20 01 58.6 +0.6**
SVE pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 54.49 297 P **P 20 01 59.3 +0.2**
AAK IAmb IAmb 20 02 01.1
comp=Z,6.3nm,0.8s
AAK Ala-Archa 54.49 297⇑ eP **P 20 01 59.7 +0.6**
AAK pmax pmax
comp=Z,11nm,1.7s
AAK Ala-Archa 54.49 297 LR LR 20 26 05.2
comp=Z,84nm,19.6s,baz=38,slow=37
AAK Ala-Archa 54.49 297 eP **P 20 01 59.7 +0.6**
ARU Arti 55.58 318c *i* P **P 20 02 05.9 -0.6**
ARU 20 02 59.3
ARU 20 04 09.2
ARU S **S 20 09 49.7 -0.6**
ARU SS **SS 20 13 34.4 -0.3**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU Arti 55.58 318 P **P 20 02 06.5 0.0**
comp=Z,8.1nm,0.3s,baz=35,slow=3.5,SNR=18
ARU LR LR 20 27 39.2
comp=Z,76nm,18.2s,baz=325,slow=38
comp=Z,8.1nm,0.3s
ARU Arti 55.58 318 eP **P 20 02 05.8 -0.7**
ARSB Arslanbob 56.16 296 P **P 20 02 12.7 +1.6**
ARSB Arslanbob 56.16 296 P **P 20 02 12.7 +1.6**
ARSB pmax pmax
comp=Z,2.0nm,0.9s
KK31 Karatay Array 56.65 299 P **P 20 02 14.6 +0.1**
KK31 IAmb IAmb 20 02 15.5
comp=Z,6.5nm,0.9s
KK31 Karatay Array 56.65 299 P **P 20 02 14.6 +0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 56.65 299 P **P 20 02 14.4 0.0**
KKAR Karatay Array 56.65 299 P **P 20 02 14.4 0.0**
ARCES ARCESS Array B 58.22 341 P **P 20 02 24.6 -0.5**
comp=Z,9.6nm,1.1s,baz=344,slow=1.0,SNR=9.5
comp=Z,9.6nm,1.1s
KIRV Kirov 58.30 323⇓ eP **P 20 02 25.9 +0.2**
ABKAR Akbulak array 59.03 310 P **P 20 02 30.8 -0.2**
ABKAR Akbulak array 59.03 310 P **P 20 02 30.6 -0.4**
AKTO Aktyubinsk 59.32 312 P **P 20 02 32.6 -0.4**
comp=Z,1.6nm,0.6s,baz=84,slow=8.1,SNR=2.7
AKTO LR LR 20 29 40.3
comp=Z,90nm,20.9s,baz=246,slow=38
comp=Z,1.6nm,0.6s
SIMJ Simiganj 60.20 296 P **P 20 02 39.8 +0.3**
NIL Nilore 60.58 289 P **P 20 02 41.7 -0.2**
NIL Nilore 60.58 289 P **P 20 02 41.7 -0.2**
NIL pmax pmax
comp=Z,13nm,0.8s
KLMR Klimovskoe 60.58 329 *i* P **P 20 02 40.4 -1.1**
KLMR pmax pmax
comp=Z,31nm,1.8s
NVAR Mina Array Bea 61.92 63 P **P 20 02 52.9 +1.7**
comp=Z,0.3nm,0.4s,baz=306,slow=6.6,SNR=3.6
comp=Z,0.3nm,0.4s
KBL Kabul 62.74 292 P **P 20 02 56.1 -0.6**
KBL IAmb IAmb 20 02 58.7
comp=Z,5.8nm,0.8s
KBL Kabul 62.74 292 P **P 20 02 56.1 -0.6**
KBL pmax pmax
comp=Z,6.0nm,0.8s
BELG Belogornoye 63.09 319 deP **P 20 02 58.6 +0.2**
BELG pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 64.31 54 P **P 20 03 07.8 +0.8**
comp=Z,0.3nm,0.6s,baz=259,slow=0.9,SNR=3.0
comp=Z,0.3nm,0.6s
FINES FINESS Array B 64.47 335 *i* P **P 20 03 07.5 +0.1**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 64.47 335 P **P 20 03 06.9 -0.4**
comp=Z,5.9nm,0.8s,baz=30,slow=8.4,SNR=17
comp=Z,5.9nm,0.8s
FRB Frobisher Bay 64.99 19 LR LR 20 34 49.2
comp=Z,43nm,18.6s,baz=320,slow=39
OBN Obninsk 65.81 326 deP **P 20 03 15.5 -0.6**
OBN e*PP **pwP 20 03 28.1 -2.3**
OBN e*SP sP 20 03 33.8 +10
OBN e 20 03 45.0
OBN e 20 05 37.0
OBN ePPP PPP 20 07 14.4
OBN eS **S 20 11 59.7 -1.3**
OBN eSS **SS 20 16 15.2 +0.4**
OBN pmax pmax
comp=Z,36nm,2.5s
OBN MLR MLR
comp=Z,41nm,11.0s
OBN Obninsk 65.81 326 eP **P 20 03 15.6 -0.6**
VRH Novokhopyorsk 66.55 321 eP **P 20 03 19.0 -2.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 66.73 323 eP **P 20 03 21.3 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.7s
GEYT Alibeck 67.25 301 P **P 20 03 25.0 -0.8**
GEYT IAmb IAmb 20 03 27.4
comp=Z,5.1nm,0.8s
GEYT Alibeck 67.25 301 P **P 20 03 26.4 +0.6**
comp=Z,2.5nm,0.7s,baz=42,slow=4.5,SNR=5.0
comp=Z,2.5nm,0.7s
VSR Storozhevoye 67.65 322 eP **P 20 03 25.6 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 67.78 322 eP **P 20 03 27.1 -1.7**
VORD pmax pmax
comp=Z,10.0nm,0.7s
WRA Warramunga Arr 68.58 200 P **P 20 03 37.0 +2.9**
WRA Warramunga Arr 68.58 200 P **P 20 03 37.0 +2.9**
comp=Z,0.6nm,0.9s,baz=15,slow=5.9,SNR=2.1
comp=Z,0.6nm,0.9s
NB2 NORSAR Subarra 68.59 342 P **P 20 03 33.4 -0.4**
comp=Z,20nm,1.7s,baz=29,slow=6.5
NOA NORSAR Array B 68.59 342 P **P 20 03 33.7 -0.1**
comp=Z,0.8nm,0.7s,baz=29,slow=6.6,SNR=8.5
NOA LR LR 20 36 52.7
comp=Z,22nm,18.1s,baz=5.0,slow=39
comp=Z,0.8nm,0.7s
DZM Mont Dzumac 69.25 168 eLR LR 20 24 24.4
comp=Z,46nm,24.9s
KIV Kislovodsk 71.38 315 P **P 20 03 50.8 -0.6**
KIV Kislovodsk 71.38 315 eP **P 20 03 51.5 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 71.38 315 eP **P 20 03 51.5 +0.2**
KBZ Khabaz 71.44 315⇑ eP **P 20 03 52.1 +0.6**
KBZ pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 71.44 315 P **P 20 03 51.8 +0.3**
comp=Z,7.9nm,0.9s,baz=48,slow=2.0,SNR=14
comp=Z,7.9nm,0.9s
KBZ Khabaz 71.44 315 eP **P 20 03 52.1 +0.6**
AKASG Malin Array Be 72.05 327 P **P 20 03 54.1 -0.9**
comp=Z,2.6nm,0.6s,baz=33,slow=6.3,SNR=13
comp=Z,2.6nm,0.6s
AKBB Malin Array Si 72.05 327 P **P 20 03 54.2 -0.8**
AKBB Malin Array Si 72.05 327⇑ eP **P 20 03 53.7 -1.3**
KIEV Kiev 72.06 327 P **P 20 03 54.0 -1.1**
KIEV IAmb IAmb 20 04 04.9
comp=Z,9.2nm,1.1s
KIEV Kiev 72.06 327 P **P 20 03 54.0 -1.1**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
ASAR Alice Springs 72.27 199 P **P 20 03 57.4 +0.8**
comp=Z,0.3nm,0.6s,baz=15,slow=5.0,SNR=4.8
comp=Z,0.3nm,0.6s
GNI Garni 73.14 311 LR LR 20 39 41.8
comp=Z,57nm,19.2s,baz=26,slow=39
SCHQ Schefferville 73.20 23 P **P 20 03 59.4 -2.5**
STHS Stebnicka Huta 75.98 330 eP **P 20 04 17.0 -1.1**
STHS Stebnicka Huta 75.98 330 eP **P 20 04 17.0 -1.1**
KOLS Kolonicke sedl 76.04 330 eP **P 20 04 19.0 +0.6**
KOLS Kolonicke sedl 76.04 330 eP **P 20 04 19.0 +0.6**
BUR08 Bucovina Ar. S 76.07 327 P **P 20 04 18.4 -0.3**
BUR08 IAmb IAmb 20 04 19.5
comp=Z,4.2nm,0.9s
BURAR Bucovina Array 76.08 327 P **P 20 04 18.6 -0.2**
BURAR IAmb IAmb 20 04 19.9
comp=Z,3.2nm,0.9s
EKA Eskdalemuir Ar 76.65 347 P **P 20 04 23.3 +1.6**
comp=Z,0.2nm,0.3s,baz=24,slow=5.1,SNR=5.4
comp=Z,0.2nm,0.3s
LANS Liptovska Anna 76.81 331 eP **P 20 04 24.1 +1.3**
LANS Liptovska Anna 76.81 331 eP **P 20 04 24.1 +1.3**
CLL Collm 76.88 336 *i* P **P 20 04 21.4 -1.7**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 76.88 336 *i* P **P 20 04 22.6 -0.5**
comp=Z,5.0nm,1.0s
CLL *i* PcP **PcP 20 04 33.8 -0.4**
CLL *i* x x 20 04 38.5
TXAR Lajitas Array 77.00 61 P **P 20 04 25.2 +0.9**
comp=Z,1.1nm,0.6s,baz=301,slow=3.8,SNR=17
comp=Z,1.1nm,0.6s
VYHS Vyhne 77.59 331 eP **P 20 04 27.9 +0.7**
VYHS Vyhne 77.59 331 eP **P 20 04 27.9 +0.7**
VRAC Vranov 77.60 333 LR LR 20 42 02.8
comp=Z,63nm,18.6s,baz=268,slow=38
MODS Modra-Piesok 78.20 332 eP **P 20 04 31.3 +0.7**
MODS Modra-Piesok 78.20 332 eP **P 20 04 31.3 +0.7**
SRO Srobarova 78.35 331 eP **P 20 04 32.2 +0.8**
SRO Srobarova 78.35 331 eP **P 20 04 32.2 +0.8**
KHC Kasperske Hory 78.67 335 eP **P 20 04 33.6 +0.4**
KHC ex x 20 04 45.6
KHC Kasperske Hory 78.67 335⇓ eP **P 20 04 33.9 +0.7**
KHC pmax pmax
comp=Z,24nm,2.5s
GERES GERESS Array B 78.89 335 P **P 20 04 33.9 -0.5**
comp=Z,0.9nm,0.8s,baz=64,slow=2.3,SNR=2.5
GERES LR LR 20 43 12.0
comp=Z,88nm,18.3s,baz=284,slow=39
comp=Z,0.9nm,0.8s

BRTR Keskin Array B 78.96 317 P P 20 04 35.5 +0.4
BRTR Keskin Array B 78.96 317 *i* P P 20 04 36.0 +0.9
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 78.96 317 P P 20 04 35.1 0.0
comp=Z,0.9nm,0.9s,baz=0.0,slow=2.5,SNR=3.7
comp=Z,0.9nm,0.9s
RAR Rarotonga 79.32 137 LR LR 20 39 36.1
comp=Z,24nm,19.0s,baz=354,slow=35
PPT2 Papeete2 81.55 127 *e*LR LR 20 30 05.5
comp=Z,112nm,26.5s
PPT2 *e*LR LR 20 30 17.2
comp=Z,78nm,25.8s
MMAI Mount Meron Ar 83.41 312 P P 20 04 58.3 -0.5
comp=Z,2.6nm,0.8s,baz=60,slow=8.5,SNR=2.2
MMAI LR LR 20 46 42.1
comp=Z,44nm,18.9s,baz=346,slow=39
comp=Z,2.6nm,0.8s
H03N2 Juan Fernandez 138.09 91 T T 22 47 34.7
baz=308,slow=77,SNR=22
H03N3 Juan Fernandez 138.11 91 T T 22 47 36.6
baz=308,slow=77,SNR=19
H03N1 Juan Fernandez 138.11 91 T T 22 47 50.0
baz=308,slow=77,SNR=40
CPUP Villa Florida 147.97 62 PKPbc PKPbc 20 12 15.9 -0.7
comp=Z,1.0nm,0.6s,baz=355,slow=5.3,SNR=3.2

*IDC **06** 19:55:12.1±0.8, 37°.47N×77°.96E, h0km, mb3.7/15, mbtmp3.7/22, ML3.4/6, MS3.0/4, Error ellipse: s-maj=17.2km s-min=14.1km az=59.0*
*NNC **06** 19:55:14.9±1.8, 37°.57N×77°.67E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=14.0km s-min=11.8km az=93.0*
*NEIC **06** 19:55:15.4±1.5, 37°.51N±0°.03×78°.1E±0°.1, h10km±2km, mb4.0/12, Error ellipse: s-maj=14.7km s-min=4.4km az=85.0*
ISC 06 19:55:15.9±0.5**, 37°.59N**±0°.04×**78°.06E**±0°.05**, h17km, n92, σ2s.54**/96**, mb3.8**/17**, 10C-6D, Southern Xinjiang**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TARG Taragay, Kyrgy 4.13 357 Pn 19 56 21.1 +2.5
NRN Naryn 4.15 338 Pn Pn 19 56 21.7 +2.9
ULHL Ulahol 4.85 344 P Pb 19 56 43.8 +3.3
SNR=5.7
PRZ Przheval'sk 4.89 3 Pn 19 56 30.8 +2.0
KZA Kyzart 4.97 335 P Pb 19 56 37.9 -4.9
SNR=6.5
UCH Uchtor 5.37 331 P Pn 19 56 38.8 +3.2
SNR=12
ARSB Arslanbob 5.41 315 Pn 19 56 37.8 +1.8
SATY Saty 5.46 3 Pg Pb 19 56 54.6 +3.6
20nm,0.7s
SATY Lg Lg 19 58 08.5
97nm,0.9s
TNSS Tian-Shan 5.50 351 Pg Pb 19 56 55.2 +3.4
31nm,0.3s
TNSS Lg Lg 19 58 09.6
52nm,0.3s
DHRM DHARAMSHALA 5.52 196 *e*P Pn 19 56 41.4 +3.8
DHRM *e*S Sn 19 57 47.8 +7.0
DHRM IAML 19 58 15.4
comp=N,53nm,0.2s
DHRM IAML 19 58 15.4
comp=E,91nm,0.8s
NIL Nilore 5.55 226 Pn 19 56 39.7 +1.9
KBK Karagaybulak 5.59 336 P Pb 19 56 57.1 +4.0
SNR=9.2
MDOK Medeo 5.62 352 ⇓Pg Pb 19 56 58.2 +4.7
comp=E,44nm,0.9s
MDOK Lg Lg 19 58 12.3
comp=E,216nm,1.2s
AML Almayashu 5.64 325 P Pn 19 56 42.5 +3.2
SNR=10
AML Almayashu 5.64 325 ⇑Pg Pb 19 56 56.0 +2.0
comp=E,6.7nm,0.9s
AML ⇑Lg Lg 19 58 09.3
comp=E,20nm,0.8s
TKM2 Tokmak 2 5.64 341 P Pn 19 56 42.8 +3.5
SNR=7.2
TKM2 Tokmak 2 5.64 341 ⇑Pg Pb 19 56 53.4 -0.6
comp=E,18nm,0.6s
TKM2 ⇓Lg Lg 19 58 10.4
comp=E,100nm,1.1s
MTBS Maitube 5.67 348 Pg Pb 19 56 58.0 +3.6
comp=E,11nm,0.5s
MTBS Lg Lg 19 58 14.4
comp=E,56nm,0.3s
KST Kastek 5.67 344 Pg Pb 19 56 57.9 +3.4
comp=E,12nm,0.3s
KST Lg Lg 19 58 14.2
comp=E,54nm,0.3s
KNDC Almaty 5.68 352 Pg Pg 19 57 03.5 -1.1
KNDC Lg Lg 19 58 08.6
KASK Kaskelen 5.72 350 Pg Pg 19 57 03.7 -1.7
KASK Lg Lg 19 58 16.2
AAK Ala-Archa 5.73 333 P Pn 19 56 44.0 +3.6
SNR=7.1
AAK Ala-Archa 5.73 333 Pn 19 56 43.5 +3.2
AAK Ala-Archa 5.73 333 Pn Pn 19 56 44.0 +3.6
comp=E,1.0nm,0.3s,baz=150,slow=7.3,SNR=17
AAK Pg Pb 19 56 57.8 +2.4
comp=E,4.8nm,0.3s,baz=156,slow=10,SNR=27
AAK Sn Sn 19 57 47.8 +2.0
comp=E,3.6nm,0.3s,baz=205,slow=8.2,SNR=4.2
AAK Lg Lg 19 58 14.0
comp=E,6.4nm,0.3s,baz=20,slow=11,SNR=3.7
AAK LR LR 19 59 08.1
comp=E,25nm,21.2s,baz=216,slow=41
comp=E,5.4nm,0.5s
FRU1 Bishkek 5.83 334 Pn Pn 19 56 43.4 +1.8
PDGK Podgornoye 5.83 10 ⇑Pg Pn 19 56 47.8 +6.1
comp=E,10nm,0.7s
PDGK ⇓Lg Lg 19 57 50.8
comp=E,62nm,0.7s
DGS Degeres 5.90 344 Pg Pb 19 57 01.6 +3.2
comp=E,18nm,0.6s
DGS Lg Lg 19 58 20.7
comp=E,70nm,0.6s
CHMS Chumysh 5.96 336 ⇓Pg Pb 19 57 03.5 +4.1
comp=E,23nm,0.8s
CHMS ⇑Lg Lg 19 58 16.9
comp=E,141nm,1.2s
EKS2 Erkin-Say 6.03 328 P Pn 19 56 48.8 +4.4
SNR=6.2
BTK Batken 6.16 296 Pn Pn 19 56 47.7 +1.4
KTBS Karatobe 6.20 351 Pg Pb 19 57 06.9 +3.4
comp=E,14nm,0.2s
KTBS Lg Lg 19 58 29.6
comp=E,83nm,0.5s
BHK Bhakra 6.31 193 *e*P Pn 19 56 51.7 +3.5
BHK *e*S Sn 19 58 05.7 +5.8
BHK IAML 19 58 44.9
comp=E,49nm,0.9s
BHK IAML 19 58 46.1
comp=N,61nm,1.8s
MRKS Merke 6.33 326 Pg Pb 19 57 08.8 +3.0
comp=N,11nm,0.6s
MRKS Lg Lg 19 58 33.2
comp=N,55nm,0.6s
KRBS Karabastau 6.36 344 Pg Pb 19 57 10.1 +3.9
comp=N,7.4nm,0.4s
KRBS Lg Lg 19 58 35.4
comp=N,70nm,0.5s
SGDS Sogindy 6.41 337 Pg Pb 19 57 10.7 +3.8
comp=N,6.6nm,0.4s
SGDS Lg Lg 19 58 36.3
comp=N,42nm,0.7s
SMLA Simla 6.49 187 *e*P Pn 19 56 53.0 +2.4
SMLA *e*S Sn 19 58 05.7 +1.4
SMLA IAML 19 58 13.4
comp=N,62nm,0.4s
SMLA IAML 19 58 15.0
comp=E,56nm,0.4s
SIMJ Simiganj 7.21 281 Pn Pn 19 57 00.9 +0.2
DZA Taraz 7.38 318 Pg Pb 19 57 26.3 +2.9
comp=E,42nm,0.1s
DZA Lg Lg 19 59 03.4
comp=E,42nm,0.2s
KBL Kabul 7.91 250 Pn Pn 19 57 10.3 0.0
KK31 Karatay Array 7.96 316 ⇑Pg Pb 19 57 44.2 +11
comp=E,1.2nm,0.3s,baz=129,slow=13,SNR=2.5
KK31 ⇑Lg Lg 19 59 13.6
comp=E,5.6nm,0.6s,baz=119,slow=24
KK31 Karatay Array 7.96 316 Pn Pn 19 57 11.8 +0.9
KKAR Karatay Array 7.96 316 Pn 19 57 11.7 +0.8
KKAR Karatay Array 7.96 316 Pn Pn 19 57 11.7 +0.8
LGTI Lohaghat 8.33 167 *e*P Pn 19 57 17.8 +2.0
LGTI *e*S Sn 19 58 47.5 -2.0
LGTI IAML 19 58 58.1
comp=E,18nm,0.6s
LGTI IAML 19 59 08.0
comp=N,18nm,0.3s
KUDL Kundal 9.52 188 *e*P Pn 19 57 32.3 +0.1
KUDL *e*S Sn 19 59 18.0 -0.7
MAKZ Makanchi 9.65 16 ⇑Pg Pn 19 57 35.2 +1.2
comp=N,12nm,0.9s
MAKZ ⇑Lg Lg 19 59 19.7
comp=N,6.0nm,0.7s
MAKZ Makanchi 9.65 16 Pn Pn 19 57 35.5 +1.5
MK31 Makanchi Array 9.71 17 ⇓Pg Pn 19 57 34.8 -0.1
comp=N,11nm,0.8s,baz=197,slow=12,SNR=8.6
MK31 ⇓Lg Lg 19 59 21.6
comp=N,6.3nm,0.5s
MK31 Makanchi Array 9.71 17 Pn Pn 19 57 35.9 +1.1
MKAR Makanchi Array 9.71 17 Pn Pn 19 57 35.9 +1.1
comp=N,1.0nm,0.3s,baz=200,slow=12,SNR=53
MKAR Sn Sn 19 59 19.7 -3.8
comp=N,2.0nm,0.3s,baz=205,slow=26,SNR=6.8
comp=N,2.4nm,0.4s
OTUK Ortayu 11.44 340 Lg Lg 20 01 09.7
AJM Ajmer 11.45 196 *e*P Pn 19 57 59.9 +1.1
AJM *e*S Sn 20 00 05.8 -0.5
KURBB Kurchatov Arra 13.03 1 Pn Pn 19 58 20.0 -0.2
comp=N,0.3nm,0.3s,baz=184,slow=13,SNR=4.7
KURBB Lg Lg 20 02 07.1
baz=180,slow=20,SNR=1.9
comp=N,2.3nm,0.2s
GEYT Alibeck 15.78 277 Pn 19 58 59.1 +1.8
GEYT IAmb IAmb 19 59 02.5
comp=Z,6.3nm,0.7s
GEYT Alibeck 15.78 277 Pn Pn 19 58 54.0 -3.3
comp=Z,0.1nm,0.3s,baz=125,slow=9.6,SNR=2.4
GEYT Sn Sn 20 01 46.6 -5.2
comp=Z,0.2nm,0.3s,baz=126,slow=50,SNR=2.3
comp=Z,0.6nm,0.5s
GYA0B ALIBECK ARRAY 15.78 277 Pn 19 58 58.5 +1.2
GYA0B IAmb IAmb 19 59 07.6
comp=Z,7.4nm,0.8s
BVAR Borovoye Array 16.33 343 Pn Pn 19 59 03.3 -0.9
comp=Z,0.5nm,0.8s,baz=164,slow=16,SNR=3.6
BVAR Lg Lg 20 03 47.8
baz=137,slow=28,SNR=2.8
BRVK Borovoye 16.39 343 P P 19 59 08.2 +0.4
ZAA0 Zalesovo Array 17.01 14 Pn Pn 19 59 12.7 -0.1
ZALV Zalesovo Beam 17.01 14 Pn Pn 19 59 13.5 +0.7
ZALV Zalesovo Beam 17.01 14 P Pn 19 59 11.7 -1.2
comp=Z,0.2nm,0.3s,baz=201,slow=11,SNR=9.8
comp=Z,3.3nm,0.9s
AB31 Akbulak array 17.52 317 ⇑P P 19 59 25.7 +5.3
comp=Z,1.1nm,0.6s,baz=121,slow=12,SNR=8.6
ABKAR Akbulak array 17.52 317 Pn 19 59 19.3 0.0
AKTO Aktyubinsk 19.22 318 P P 19 59 38.5 -0.5
AKTO Aktyubinsk 19.22 318 P P 19 59 37.1 -1.9
comp=Z,0.2nm,0.3s,baz=117,slow=9.0,SNR=2.3
AKTO LR LR 20 07 50.4
comp=Z,88nm,18.6s,baz=58,slow=39
comp=Z,0.6nm,0.3s
LZH Lanzhou 20.68 86 *e*P P 19 59 55.4 +0.2
LZH sP sP 20 00 04.6 +1.8
LZH pmax pmax
comp=Z,22nm,1.2s
WSAR Wadi Sarin 21.97 235 P P 20 00 04.9 -4.1
comp=Z,1.5nm,0.7s,baz=80,slow=12,SNR=1.7
comp=Z,1.5nm,0.7s
ARU Arti 22.91 332 P 20 00 19.9 +1.2
ARU IAmb IAmb 20 00 30.9
comp=Z,5.5nm,0.7s
ARU Arti 22.91 332 P P 20 00 17.5 -1.2
comp=Z,1.0nm,0.5s,baz=107,slow=20,SNR=1.5
comp=Z,1.0nm,0.5s
SONM Songino Array 23.08 55 P P 20 00 21.2 +0.5
SONM Songino Array 23.08 55 P P 20 00 20.2 -0.6
comp=Z,0.9nm,0.7s,baz=249,slow=7.4,SNR=5.3
comp=Z,0.9nm,0.7s
ULN Ulaanbaatar 23.52 55 P P 20 00 26.7 +1.5
ULN IAmb IAmb 20 00 32.2
comp=Z,4.3nm,0.9s
CMAR Chiang Mai Arr 26.41 130 P P 20 00 50.6 -1.2
comp=Z,0.4nm,0.8s,baz=308,slow=10,SNR=2.4
comp=Z,0.4nm,0.8s
PALK Pallekele 30.28 175 LR LR 20 13 31.5
comp=Z,39nm,19.1s,baz=99,slow=36
BRTR Keskin Array B 34.49 288 P P 20 01 60.0 -3.1
comp=Z,1.4nm,0.8s,baz=101,slow=7.5,SNR=1.5
comp=Z,1.4nm,0.8s
AKASG Malin Array Be 36.74 307 P P 20 02 21.0 -1.2
comp=Z,0.4nm,0.3s,baz=75,slow=7.8,SNR=5.7
comp=Z,0.4nm,0.3s
AKBB Malin Array Si 36.74 307 P P 20 02 21.2 -1.0
KIEV Kiev 36.75 307 P P 20 02 21.3 -0.9
BURAR Bucovina Array 39.47 302 P P 20 02 46.7 +1.3
FINES FINESS Array B 39.84 324 P P 20 02 48.8 +0.8
FINES FINESS Array B 39.84 324 P P 20 02 49.0 +0.9
comp=Z,1.8nm,0.5s,baz=112,slow=9.3,SNR=14
comp=Z,1.8nm,0.5s
IDI Anoyia 42.36 284 LR LR 20 22 48.3
comp=Z,30nm,18.8s,baz=286,slow=39
HFS Hagfors 45.74 321 P P 20 03 35.2 -0.7
HFS Hagfors 45.74 321 P P 20 03 35.2 -0.7
comp=Z,2.6nm,0.6s,baz=85,slow=4.9,SNR=12
comp=Z,2.6nm,0.6s
GERES GERESS Array B 46.91 305 P P 20 03 44.9 -0.5
comp=Z,0.4nm,0.7s,baz=100,slow=9.3,SNR=2.3
comp=Z,0.4nm,0.7s
NOA NORSAR Array B 46.94 322 P P 20 03 43.7 -1.7
comp=Z,0.4nm,0.5s,baz=79,slow=7.4,SNR=5.6
comp=Z,0.4nm,0.5s
ESDC Sonseca Array 61.87 300 P P 20 05 33.6 -0.8
comp=Z,0.3nm,0.5s,baz=54,slow=5.7,SNR=2.2
comp=Z,0.3nm,0.5s
SHEM Shemya Is, Ala 64.44 42 P P 20 05 51.0 -0.1
comp=Z,58nm,0.4s,baz=343,slow=11,SNR=2.2
TORD Torodi Ar. Bea 71.35 272 P P 20 06 34.4 -0.7
comp=Z,0.5nm,0.4s,baz=44,slow=5.3,SNR=6.2
comp=Z,0.5nm,0.4s
ILAR Eielson Array 72.07 19 P P 20 06 39.3 +0.6
comp=Z,1.0nm,0.8s,baz=311,slow=5.9,SNR=1.5
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 79.73 6 P P 20 07 22.3 -0.2
comp=Z,0.2nm,0.6s,baz=344,slow=5.2,SNR=4.2
comp=Z,0.2nm,0.6s
ASAR Alice Springs 80.42 130 P P 20 07 24.5 -2.2
comp=Z,0.2nm,0.5s,baz=330,slow=6.8,SNR=1.7
comp=Z,0.2nm,0.5s

*IDC **06** 19:55:38.9±0.9, 36°.59N×33°.28W, h0km, mb4.1/17, mbtmp4.1/17, MS3.7/19, Error ellipse: s-maj=27.8km s-min=14.1km az=11.0*
*NEIC **06** 19:55:41.1±0.8, 36°.7N±0°.1×33°.3W±0°.1, h10km±1km, mb4.9/48, Error ellipse: s-maj=22.5km s-min=17.4km az=173.0*
ISC 06 19:55:40.5±0.5**, 36°.6N**±0°.1×**33°.28W**±0°.07**, h10km, n85, σ0s.51**/70**, mb4.7**/39**, MS3.8**/19**, Azores Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ESDC Sonseca Array 23.21 73 P P 20 00 47.9 +0.2
ESDC Sonseca Array 23.21 73 P P 20 00 47.5 -0.2
10nm,1.0s,baz=277,slow=10,SNR=23
ESDC LR LR 20 08 02.0
comp=Z,137nm,19.3s,baz=301,slow=32
10nm,1.0s
ESBB Sonseca Array 23.21 73 P P 20 00 47.4 -0.3
ESBB IAmb IAmb 20 00 49.4
comp=Z,50nm,1.4s
MDT Midelt 23.83 91 LR LR 20 07 56.9
comp=Z,168nm,20.7s,baz=342,slow=31
SCHQ Schefferville 29.28 319 LR LR 20 12 25.7
comp=Z,221nm,18.6s,baz=78,slow=34
DAVOX Davos/Dischmat 33.41 59 LR LR 20 13 04.7
comp=Z,110nm,19.7s,baz=260,slow=31
KEST Kesra 34.22 78 LR LR 20 14 58.8
comp=Z,97nm,19.7s,baz=224,slow=34
SADO Sadowa 35.33 298 LR LR 20 15 02.7
comp=Z,74nm,19.0s,baz=100,slow=33
MDP Montagnes des 36.04 214 LR LR 20 13 20.6
comp=Z,80nm,19.9s,baz=12,slow=30
SUMG Summit 36.14 357 P P 20 02 42.8 -0.1
SUMG IAmb IAmb 20 02 44.2
comp=Z,22nm,1.3s
SUMG Summit 36.14 357 *i* P P 20 02 43.0 +0.1
TAM Tamanrasset 36.16 101 P P 20 02 44.1 +0.8
NOA NORSAR Array B 37.06 34 P P 20 02 50.3 -0.1
comp=Z,3.9nm,1.1s,baz=250,slow=8.9,SNR=4.0
comp=Z,3.9nm,1.1s
TOA0 Torodi Ar. Sit 39.06 118 P P 20 03 07.8 0.0
TORD Torodi Ar. Bea 39.06 118 P P 20 03 07.7 -0.1
TORD Torodi Ar. Bea 39.06 118 P P 20 03 07.5 -0.2
comp=Z,2.9nm,1.0s,baz=327,slow=6.7,SNR=9.3
comp=Z,2.9nm,1.0s
DBIC Dimbokro 39.51 132 P P 20 03 11.4 -0.1
comp=Z,2.1nm,0.7s,baz=306,slow=11,SNR=4.6
DBIC LR LR 20 18 15.8
comp=Z,128nm,18.1s,baz=327,slow=34
comp=Z,2.1nm,0.7s
TKL Tuckaleechee C 40.41 284 LR LR 20 17 45.1
comp=Z,124nm,18.6s,baz=74,slow=33
BAUV El Baul 41.86 238 P P 20 03 31.3 +0.4
BAUV IAmb IAmb 20 03 33.5
comp=Z,31nm,1.2s
SWET Sewanee 42.23 284 P P 20 03 34.2 +0.4
CLTN Cedars of Leba 42.27 286 P P 20 03 35.2 +1.0
CLTN IAmb IAmb 20 03 37.0
comp=Z,22nm,1.3s
OXF Oxford 45.16 285 P P 20 03 57.5 +0.1
PBMO Poplar Bluff 45.22 288 P P 20 03 58.0 +0.1
PBMO IAmb IAmb 20 03 59.0
comp=Z,14nm,1.1s
AKASG Malin Array Be 46.01 52 P P 20 04 04.1 +0.2
comp=Z,4.8nm,1.0s,baz=272,slow=8.2,SNR=9.5
comp=Z,4.8nm,1.0s
ULM Lac du Bonnet 46.13 308 P P 20 04 03.5 -1.4
comp=Z,5.0nm,1.0s,baz=74,slow=7.9,SNR=4.7
ULM LR LR 20 21 46.8
comp=Z,105nm,21.0s,baz=66,slow=34
comp=Z,5.0nm,1.0s
MGMO Mountain Grove 46.51 289 P P 20 04 08.3 +0.3
MGMO IAmb IAmb 20 04 09.4
comp=Z,16nm,1.2s
S39A Bolivar 47.14 290 P P 20 04 12.6 -0.3
BALB Balikesir 47.39 67 P P 20 04 14.6 -0.3
BALB IAmb IAmb 20 04 17.1
comp=Z,15nm,1.1s
RES Resolute Bay 47.62 342 P P 20 04 16.4 +0.2
ECSD EROS Data Cent 47.88 299 P P 20 04 18.3 -0.4
ECSD IAmb IAmb 20 04 20.3
comp=Z,17nm,1.1s
Z41A Richland Creek 48.24 285 P P 20 04 22.0 +0.4
KSU1 Kansas State U 49.16 293 P P 20 04 28.1 -0.5
MDUB Mudurnu 49.58 65 P P 20 04 31.9 0.0
BGNE Belgrade 49.59 297 P P 20 04 31.3 -0.5
OK051 E0350 and S346 50.18 290 P P 20 04 35.8 -0.6
TEIG Tepich 50.40 267 LR LR 20 21 26.4
comp=Z,413nm,21.7s,baz=186,slow=31
KAN14 Manchester OK 50.88 291 P P 20 04 40.8 -0.9
KAN14 IAmb IAmb 20 04 42.7
comp=Z,22nm,1.1s
BRTR Keskin Array B 51.59 65 P P 20 04 46.3 -0.9
comp=Z,3.9nm,1.1s,baz=270,slow=2.5,SNR=7.8
comp=Z,3.9nm,1.1s
WHTX Lake Whitney, 52.35 285 P P 20 04 52.5 -0.2
WHTX IAmb IAmb 20 04 54.7
comp=Z,32nm,1.4s
JTS Las Juntas de 53.38 254 LR LR 20 25 01.9
comp=Z,49nm,21.1s,baz=92,slow=33
BNN Bunyan 53.50 65 P P 20 05 01.2 -0.1
YKA Yellowknife Ar 54.40 326 P P 20 05 07.6 +0.4
YKA Yellowknife Ar 54.40 326 P P 20 05 08.0 +0.7
comp=Z,3.2nm,1.0s,baz=77,slow=7.4,SNR=20
comp=Z,3.2nm,1.0s
K22A Casper 55.12 301 P P 20 05 12.8 -0.3
K22A IAmb IAmb 20 05 14.1
comp=Z,18nm,1.4s
OTAV Otavalo 55.27 240 P P 20 05 15.0 +0.2
EDM Edmonton 56.10 314 P P 20 05 20.2 +0.4
KBZ Khabaz 56.74 57 P P 20 05 26.1 +1.7
comp=Z,4.9nm,1.0s,baz=274,slow=2.5,SNR=4.6
comp=Z,4.9nm,1.0s
BELG Belogornoye 56.83 46 LR LR 20 28 34.8
comp=Z,87nm,20.5s,baz=156,slow=35
PD31 Pinedale Array 57.17 302 P P 20 05 27.1 -0.7
PD31 IAmb IAmb 20 05 28.6
comp=Z,10nm,1.4s
PDAR Pinedale Array 57.17 302 P P 20 05 27.2 -0.6
PDAR Pinedale Array 57.17 302 P P 20 05 27.4 -0.4
comp=Z,3.0nm,1.0s,baz=79,slow=7.7,SNR=12
comp=Z,3.0nm,1.0s
CMIG Matias Romero 57.36 268 LR LR 20 26 24.5
comp=Z,55nm,21.6s,baz=20,slow=32
YMR Madison River 57.42 304 P P 20 05 29.6 0.0
BOSC San Juan Bosco 57.75 237 P P 20 05 31.1 -1.0
REDW Red Top Meadow 57.83 303 P P 20 05 32.3 -0.1
ANMO Albuquerque 58.01 292 LR LR 20 29 05.4
comp=Z,73nm,19.5s,baz=152,slow=35
TXAR Lajitas Array 58.32 285 P P 20 05 36.4 +0.5
comp=Z,2.0nm,0.8s,baz=91,slow=7.5,SNR=12
comp=Z,2.0nm,0.8s
TX31 Lajitas Ar. Si 58.32 285 P P 20 05 36.0 0.0
NEW Newport 60.04 310 P P 20 05 46.9 -0.6
NEW IAmb IAmb 20 05 48.6
comp=Z,17nm,1.2s
NEW Newport 60.04 310 LR LR 20 31 57.5
comp=Z,66nm,18.6s,baz=50,slow=36
BGU Big Grassy Mou 60.27 301 P P 20 05 49.5 +0.1
BGU IAmb IAmb 20 05 50.7
comp=Z,7.8nm,1.3s
DUG Dugway, Tooele 60.42 300 P P 20 05 50.1 -0.2
DUG IAmb IAmb 20 05 52.2
comp=Z,12nm,1.3s
PLID Pearl Lake 60.58 306 P P 20 05 50.9 -0.5
PLID IAmb IAmb 20 05 52.9
comp=Z,15nm,1.3s
ARU Arti 61.36 39 P P 20 05 56.0 -0.2
ARU IAmb IAmb 20 05 57.7
comp=Z,14nm,1.3s
G30M tAoh Zraii Nji 61.64 334 P P 20 05 58.0 0.0
D27M Malcolm River 62.12 337 P P 20 06 01.5 +0.2
D27M IAmb IAmb 20 06 03.1
comp=Z,12nm,1.2s
I29M Ogilvie Camp, 63.16 333 P P 20 06 08.3 +0.1
I29M IAmb IAmb 20 06 10.0
comp=Z,13nm,1.2s
AKTO Aktyubinsk 63.59 46 P P 20 06 10.3 -1.0
comp=Z,3.0nm,0.9s,baz=314,slow=11,SNR=3.8
comp=Z,3.0nm,0.9s
M29M Somme Creek 64.69 330 P P 20 06 18.7 +0.3
M29M IAmb IAmb 20 06 20.6
comp=Z,14nm,1.2s
NVAR Mina Array Bea 65.02 300 P P 20 06 21.0 -0.2
comp=Z,2.0nm,1.1s,baz=67,slow=7.5,SNR=7.2
NVAR LR LR 20 33 46.6
comp=Z,37nm,18.3s,baz=90,slow=35
comp=Z,2.0nm,1.1s
ABKAR Akbulak array 65.23 46 P P 20 06 22.2 +0.1
PFO Pinyon Flats O 65.99 295 LR LR 20 33 09.9
comp=Z,58nm,21.4s,baz=142,slow=34
YBH Yreka Blue Hor 66.44 305 LR LR 20 34 02.0
comp=Z,69nm,20.9s,baz=43,slow=35
ILAR Eielson Array 66.53 335 P P 20 06 30.9 +0.8
comp=Z,0.9nm,1.0s,baz=59,slow=4.3,SNR=5.8
comp=Z,0.9nm,1.0s
IMAR Indian Mountai 67.99 338 P P 20 06 39.3 -0.1
BVAR Borovoye Array 69.00 39 P P 20 06 45.8 -0.2
comp=Z,1.0nm,0.8s,baz=307,slow=5.2,SNR=4.0
comp=Z,1.0nm,0.8s
C16K Lisburne Hills 69.49 343 P P 20 06 49.0 +0.3
C16K IAmb IAmb 20 06 50.5
comp=Z,6.8nm,1.1s
KURBB Kurchatov Arra 74.50 38 P P 20 07 19.3 +0.3
comp=Z,2.1nm,1.0s,baz=311,slow=6.4,SNR=7.5
comp=Z,2.1nm,1.0s
KK31 Karatay Array 74.70 48 P P 20 07 20.1 -0.3
KKAR Karatay Array 74.70 48 P P 20 07 19.7 -0.7
SIMJ Simiganj 76.39 52 P P 20 07 30.6 +0.3
SIMJ IAmb IAmb 20 07 32.6
comp=Z,9.4nm,1.4s
MK31 Makanchi Array 78.88 39 P P 20 07 43.8 -0.1
MKAR Makanchi Array 78.88 39 P P 20 07 44.1 +0.1
MKAR Makanchi Array 78.88 39 P P 20 07 43.9 -0.1
comp=Z,1.0nm,0.8s,baz=324,slow=6.0,SNR=6.2
comp=Z,1.0nm,0.8s
NIL Nilore 82.15 54 P P 20 08 01.3 -0.5
NIL IAmb IAmb 20 08 07.6
comp=Z,12nm,1.1s

*THE **06** 20:02:06.9, 40°.59N×25°.62E, h3km±1km, ML1.6/4, Error*

ellipse: s-maj=1.5km s-min=0.4km az=126.0
*ISK **06** 20:02:06.2, 40°.57N×25°.67E, h4km, ML1.9/22*
*AFAD **06** 20:02:07.6±0.0, 40°.54N×25°.70E, h11km, ML2.1*
ATH 06 20:02:06.7, 40°.57N×25°.64E, h7km±2km, ML1.6/6, Error ellipse: s-maj=2.2km s-min=0.7km az=278.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMTH	Samothraki Isl	0.13	220	P	Pg	20 02 09.6	+0.1
SMTH				S	Sg	20 02 11.9	+0.5
	1µm,0.1s						
SMTH	Samothraki Isl	0.13	220	P	Pg	20 02 09.5	0.0
SMTH				S	Sg	20 02 11.8	+0.4
CAVK	Edirne/Enez-Ca	0.42	73	P	Pg	20 02 14.8	+0.1
CAVK				S	Sg	20 02 20.7	+0.5
CAVK				*i* AML	AML	20 02 21.0	
	comp=N,198nm,0.2s						
CAVK				*i* AML	AML	20 02 21.0	
	comp=E,231nm,0.2s						
ENEZ	Enez	0.42	67	Pg	Pg	20 02 15.0	+0.2
ENEZ				Sg	Sg	20 02 21.0	+0.6
ENEZ	Enez	0.42	67	P	Pg	20 02 15.0	+0.2
ENEZ				S	Sg	20 02 21.4	+1.0
	352nm,0.3s						
GADA	Gvkgeada	0.43	153	Pg	Pg	20 02 14.9	-0.1
GADA				Sg	Sg	20 02 20.9	+0.3
ALN	Alexandroupoli	0.45	43	Pg	Pg	20 02 15.2	-0.1
ALN				Sg	Sg	20 02 21.9	+0.8
ALN	Alexandroupoli	0.45	43	P	Pg	20 02 15.3	0.0
ALN				S	Sg	20 02 21.5	+0.4
	32nm,0.3s						
ALN	Alexandroupoli	0.45	43	P	Pg	20 02 15.2	-0.1
ALN				S	Sg	20 02 21.3	+0.1
ALN				AML	AML	20 02 21.6	
	comp=E,65µm,0.4s						
ALN				AML	AML	20 02 24.3	
	comp=N,60µm,0.3s						
GOAD	anakkale-G¶	0.46	154	P	Pg	20 02 15.5	0.0
GOAD				S	Sg	20 02 21.5	-0.1
GOAD				*i* AML	AML	20 02 22.0	
	comp=N,251nm,0.3s						
GOAD				*i* AML	AML	20 02 22.0	
	comp=N,193nm,0.5s						
RDO	Rodhopi	0.58	352	Pg	Pg	20 02 17.7	-0.1
RDO	Rodhopi	0.58	352	P	Pg	20 02 17.7	-0.1
RDO				S	Sg	20 02 24.8	-0.6
RDO				AML	AML	20 02 30.0	
	comp=E,74µm,0.2s						
RDO				AML	AML	20 02 30.0	
	comp=N,79µm,0.2s						
GELI	Tayfur-Gelibol	0.66	105	Pg	Pg	20 02 18.9	-0.4
GELI				Sg	Sg	20 02 28.2	+0.3
ECEA	Canakkale, Ece	0.67	142	P	Pb	20 02 20.5	-0.1
ECEA				S	Sg	20 02 28.0	-0.1
ERIK	Erikli-Kesan	0.67	81	Pg	Pg	20 02 19.2	-0.3
ERIK				Sg	Sg	20 02 28.6	+0.3
THAS	Thassos island	0.70	273	P	Pg	20 02 19.8	-0.4
THAS				S	Sg	20 02 30.1	+0.7
	comp=N,28nm,0.2s						
THAS	Thassos island	0.70	273	P	Pg	20 02 19.7	-0.5
THAS				S	Sg	20 02 29.2	-0.1
THAS				AML	AML	20 02 32.3	
	comp=E,62µm,0.4s						
THAS				AML	AML	20 02 32.9	
	comp=N,52µm,0.1s						
LIA	Limnos Island	0.76	208	P	Pg	20 02 20.7	-0.6
LIA				S	Sg	20 02 31.2	0.0
LIA				AML	AML	20 02 32.4	
	comp=E,419µm,0.3s						
LIA				AML	AML	20 02 32.5	
	comp=N,357µm,0.2s						
CNKL	anakkale-Mer	0.76	131	P	Pg	20 02 21.2	-0.1
CNKL				P	Pb	20 02 21.2	-1.0
CNKL				S	Sg	20 02 30.3	-0.9
COMU	Canakkale	0.79	126	Pg	Pg	20 02 21.6	-0.3
COMU				Sg	Sb	20 02 33.1	-0.6
BOZC	Bozcaada	0.80	157	P	Pg	20 02 21.0	-1.0
BOZC				S	Sg	20 02 30.3	-2.0
BOZC				S	Sb	20 02 30.4	-3.3
BOZC				*i* AML	AML	20 02 32.0	
	comp=N,78nm,0.3s						
BOZC				*i* AML	AML	20 02 32.0	
	comp=N,69nm,0.2s						
LPK	Lapseki	0.88	103	Pg	Pg	20 02 23.0	-0.5
EZN	Ezine	0.91	145	Pg	Pg	20 02 23.9	-0.2
UKOP	Uzunkopru-Edir	0.93	53	Pg	Pg	20 02 24.3	-0.3
KAVA	Kavala	0.96	297	P	Pg	20 02 24.6	-0.4
KAVA				S	Sg	20 02 37.9	+0.5
KAVA	Kavala	0.96	297	P	Pg	20 02 24.6	-0.4
KAVA				S	Sg	20 02 37.8	+0.3
KDZ	Kurdzhali	1.08	348	Pn	Pg	20 02 26.6	-0.8
BAYC	CANAKKALE_Bayr	1.08	140	P	Pg	20 02 26.8	-0.6
BAYC				S	Sg	20 02 40.1	-1.4
BAYC				*i* AML	AML	20 02 42.0	
	comp=N,38nm,0.3s						
BAYC				*i* AML	AML	20 02 42.0	
	comp=N,54nm,0.4s						
KOCA	Canakkale, Ayv	1.14	160	P	Pg	20 02 27.5	-0.9
KOCA				S	Sg	20 02 41.3	-1.8
RKY	Sarkoy-Tekirda	1.17	84	Pn	Pg	20 02 28.5	-0.7
SART	Tekirdag	1.18	84	P	Pg	20 02 27.1	-2.1
SART				S	Sg	20 02 42.4	-2.1
KOKK	Kokkinochori,	1.27	282	P	Pn	20 02 30.0	-0.8
KRBG	Karabiga-Canak	1.27	98	Pn	Pn	20 02 30.6	-0.3
OUR	Ouranopolis	1.29	260	Pn	Pg	20 02 31.6	+0.2
OUR	Ouranopolis	1.29	260	P	Pb	20 02 31.3	+0.1
OUR				S	Sn	20 02 48.7	+0.1
OUR	Ouranopolis	1.29	260	P	Pn	20 02 30.2	-0.8
OUR				AML	AML	20 02 53.2	
	comp=N,48µm,0.3s						
OUR				AML	AML	20 02 54.1	
	comp=E,42µm,0.2s						
SIGR	SIGRI	1.37	173	Pn	Pb	20 02 32.5	-0.1
SIGR	SIGRI	1.37	173	P	Pn	20 02 31.4	-0.8
SIGR				AML	AML	20 02 52.1	
	comp=E,95µm,0.5s						
SIGR				AML	AML	20 02 52.8	
	comp=N,88µm,0.4s						
EDRB	Edirne	1.52	33	Pn	Pn	20 02 34.5	+0.2
BUHA	Balikesir, Bur	1.54	134	P	Pn	20 02 34.4	-0.1
BUHA				S	Sn	20 02 52.7	-1.9
BUHA				*i* AML	AML	20 02 56.0	
	comp=N,27nm,0.5s						
BUHA				*i* AML	AML	20 02 56.0	
	comp=N,20nm,0.4s						
NVR	Nevrokopi	1.56	300	P	Pn	20 02 34.6	-0.2
KIRK	Kırklareli	1.63	42	P	Pn	20 02 34.6	-1.2
KIRK				S	Sn	20 02 54.6	-2.4
PAIG	Paliouri	1.64	247	Pn	Pb	20 02 36.8	-0.3
SRS	Serrai	1.65	290	P	Pn	20 02 34.9	-1.2
CRLT	Corlu	1.68	70	Pn	Pn	20 02 36.5	0.0
PLD	Plovdiv	1.71	337	Pn	Pn	20 02 37.2	+0.3
DKL	Dikili	1.79	147	Pn	Pn	20 02 38.5	+0.6
RFT7	Candarli	1.89	148	Pn	Pn	20 02 39.7	+0.4
HORT	Hortiatis	1.94	272	Pn	Pn	20 02 41.1	+1.0

NNC 06 20:05:12.9±2.0, 38°.09N×78°.20E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=30.9km s-min=13.0km az=81.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SATY	Saty	4.96	2	Pg	Pb	20 06 43.8	+3.1
	2.8nm,0.4s						
SATY				Lg	Lg	20 07 51.8	
	7.6nm,0.6s						
TNSS	Tian-Shan	5.03	349	Pg	Pb	20 06 44.0	+2.0
	4.0nm,0.4s						
TNSS				Lg	Lg	20 07 52.4	
	2.7nm,0.6s						
MDOK	Medeo	5.14	351	Pg	Pb	20 06 46.0	+2.3
	3.1nm,0.3s						
MDOK				Lg	Lg	20 07 55.7	
	4.8nm,0.3s						
KOTS	Kotyrbulak	5.20	351	Pg	Pb	20 06 47.6	+2.9
	2.4nm,0.5s						
KOTS				Lg	Lg	20 07 58.5	
	8.4nm,0.9s						
MTBS	Maitube	5.21	346	Pg	Pb	20 06 47.8	+3.0
	2.0nm,0.1s						
MTBS				Lg	Lg	20 07 58.7	
	5.0nm,0.3s						
DGS	Degeres	5.46	341	Pg	Pb	20 06 52.4	+3.2
	3.5nm,0.2s						
DGS				Lg	Lg	20 08 06.8	
	2.9nm,0.5s						
KTBS	Karatobe	5.73	349	Pg	Pb	20 06 56.7	+3.0
	1.9nm,0.3s						
KTBS				Lg	Lg	20 08 14.0	
	4.7nm,0.3s						
KRBS	Karabastau	5.91	342	Pg	Pg	20 07 02.8	-3.3
	1.2nm,0.3s						

*DJA **06** 20:07:40.7±0.5, 5°N±5°×12°7E±°, h10km, M4.4/13, mb4.2/12, mB5.0/4, MLv4.5/13, Mw(mB)4.3/4*
*NEIC **06** 20:07:48.0±1.7, 4°.23N±0°.07×126°.71E±0°.09, h40km±9km, mb4.2/25, Error ellipse: s-maj=14.2km s-min=8.9km az=70.0*
*IDC **06** 20:07:53.9±2.0, 3°.96N×126°.42E, h97km±20km, mb3.6/10, mbtmp4.0/11, MS2.7/3, Error ellipse: s-maj=49.0km s-min=11.9km az=68.0*
ISC 06 20:07:48.2±0.5, 4°.16N±0°.05×126°.67E±0°.07, h45km, n67, σ1s.59/64, mb4.0/19, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	1.23	247	P	Pn	20 08 08.6	-0.4
DAV	Davao City (W)	3.08	339	Pn	Pn	20 08 33.1	-1.3
DAV	Davao City (W)	3.08	339	P	Pn	20 08 40.6	+6.2
	184nm,0.4s,baz=248,slow=13,SNR=3.3						
DAV				S	Sn	20 09 20.8	+11
	132nm,0.4s,baz=81,slow=20,SNR=1.7						
DAV				LR	LR	20 09 59.2	
	comp=Z,196nm,20.4s,baz=89,slow=39						
DAV	Davao City (W)	3.08	339	P	Pn	20 08 24.3	-10
KCP	Kidapawan	3.23	331⇓	*i*P	Pn	20 08 39.3	+2.7
KCP				*e*S	Sn	20 09 22.9	+9.0
TNTI	Ternate	3.44	168		Pn	20 08 39.6	+0.2
TNTI				Sn	Sn	20 09 18.9	+0.1
TNTI	Ternate	3.44	168	P	Pn	20 08 39.9	+0.6
BIPH	Bislig	4.00	356⇑	*e*P	Pn	20 08 51.1	+4.0
BIPH				*e*S	Sn	20 09 49.5	+17
KMSI	Cibinong	4.46	217	P	Pn	20 08 55.9	+2.5
LBMI	Labuha	4.84	170	P	Pn	20 08 59.0	+0.4
	39nm,0.6s,2µm0.5nm						
GTOI	Gorontalo	5.06	226	P	Pn	20 09 03.6	+2.0
	14nm,0.9s,0.1nm						
ZCP	Zamboanga City	5.34	301⇓	*e*P	Pn	20 09 05.8	+0.4
ZCP				*e*S	Sn	20 10 01.7	-3.9
SCPH	Surigao	5.70	348	*e*P	Pn	20 09 18.4	+8.1
SCPH				*e*S	Sn	20 09 40.8	-34
MRSI	Marisa	5.98	232	P	Pn	20 09 16.0	+1.8
	73nm,0.6s,964nm0.3nm						
SANI	Sanana	6.21	186	P	Pn	20 09 16.7	-0.7
	11nm,1.2s,0.1nm						
LUWI	Luwuk	6.47	217	Pn	Pn	20 09 24.0	+3.0
LUWI	Luwuk	6.47	217	P	Pn	20 09 24.8	+3.8
	80nm,1.1s,1µm0.3nm						
TOLI2	Tolitoli	6.62	243	Pn	Pn	20 09 23.4	+0.4
SWI	Sorong	6.78	137	P	Pn	20 09 22.8	-2.4
	16nm,1.0s,0.1nm						
SIJI	Sorong	6.79	137	P	Pn	20 09 23.0	-2.3
	10.0nm,1.1s,0.1nm						
NLAI	Namlea	7.37	177	P	Pn	20 09 33.1	-0.1
	11nm,0.8s,0.1nm						
MPSI	Mapaga	7.76	241	P	Pn	20 09 40.7	+2.1
	11nm,1.2s						
FAKI	Fak Fak	8.98	142	Pn	Pn	20 09 55.3	0.0
KAPI	Kappang	11.44	217	LR	LR	20 14 15.1	
	comp=Z,31nm,19.0s,baz=25,slow=34						
MKS	Makassar	11.77	218	P	Pn	20 10 39.2	+5.6
PLAI	Plampang	15.66	214	P	P	20 11 30.0	+0.7
	32nm,0.9s						
TWSI	Taliwang, Sumb	16.11	217	P	P	20 11 34.7	+0.3
MTN	Manton Dam	17.47	165	Pn	Pn	20 11 44.9	-3.8
MTN				IAmb	IAmb	20 12 11.2	
	comp=Z,26nm,1.2s						
YULB	Yu-li	19.81	345	P	P	20 12 15.9	+0.8
YULB				IAmb	IAmb	20 12 35.1	
	comp=Z,16nm,1.1s						
KNRA	Kununurra	19.82	174	P	P	20 12 14.5	-0.7
KNRA				IAmb	IAmb	20 12 23.0	
	comp=Z,11nm,0.8s						
TPUB	Ta-pu	19.90	343	P	P	20 12 15.2	-0.8
FITZ	Fitzroy Crossi	22.14	183	P	P	20 12 39.7	-0.5
UBPT	Khong Chiam	23.60	299	P	P	20 12 53.1	-2.2
UBPT				IAmb	IAmb	20 12 58.9	
	comp=Z,18nm,1.4s						
WB0	Warramunga Arr	24.96	163	P	P	20 13 07.4	-0.3
WB0				IAmb	IAmb	20 13 10.8	
	comp=Z,8.3nm,0.9s						
WRA	Warramunga Arr	25.11	163	P	P	20 13 07.8	-1.3
WRA	Warramunga Arr	25.11	163	P	P	20 13 08.9	-0.1
	comp=Z,3.7nm,0.8s,baz=343,slow=11,SNR=18						
	comp=Z,3.7nm,0.8s						
KULM	Kulim	25.95	274	P	P	20 13 17.1	+0.4
KULM				IAmb	IAmb	20 13 34.6	
	comp=Z,7.4nm,1.3s						
MBWA	Marble Bar	26.07	195	P	P	20 13 17.2	-0.5
PSA00	Pilbara Seismi	26.44	194	P	P	20 13 20.8	-0.2
PSA00	Pilbara Seismi	26.44	194	P	P	20 13 20.0	-1.0
PSA00				IAmb	IAmb	20 13 24.2	
	comp=Z,4.7nm,1.0s						
JCJ	Chichijima	27.20	31	LR	LR	20 24 46.0	
	comp=Z,13nm,19.7s,baz=92,slow=37						
AS31	Alice Springs	28.55	166	P	P	20 13 41.4	+1.4
ASAR	Alice Springs	28.55	166	P	P	20 13 41.1	+1.2
ASAR	Alice Springs	28.55	166	P	P	20 13 39.0	-0.9
	comp=Z,1.0nm,0.7s,baz=349,slow=7.8,SNR=17						
	comp=Z,1.0nm,0.7s						
PHRA	Phrae	29.51	301	P	P	20 13 49.5	+0.9
CMAR	Chiang Mai Arr	30.60	300	P	P	20 13 59.0	+0.8
	comp=Z,0.5nm,0.5s,baz=121,slow=8.2,SNR=10						
	comp=Z,0.5nm,0.5s						
KSRS	Korea Array	33.15	2	P	P	20 14 24.2	+3.9
	comp=Z,0.5nm,0.5s,baz=180,slow=9.7,SNR=2.1						
	comp=Z,0.5nm,0.5s						
BBOO	Buckleboo	37.84	167	P	P	20 15 01.3	+0.7
STKA	Stephens Creek	38.55	159	P	P	20 15 07.7	+1.0
STKA	Stephens Creek	38.55	159	P	P	20 15 07.1	+0.4
	comp=Z,3.0nm,0.8s,baz=344,slow=9.7,SNR=5.4						
	comp=Z,3.0nm,0.8s						
ARMA	Armidale	41.86	147	P	P	20 15 35.3	+1.1
ARMA				IAmb	IAmb	20 15 37.2	
	comp=Z,7.4nm,1.1s						
SONM	Songino Array	46.87	341	P	P	20 16 13.4	-0.6
SONM	Songino Array	46.87	341	P	P	20 16 14.7	+0.7
	comp=Z,0.4nm,0.6s,baz=155,slow=8.1,SNR=3.5						
	comp=Z,0.4nm,0.6s						
MK31	Makanchi Array	57.17	325	P	P	20 17 29.6	-1.0
MK31				IAmb	IAmb	20 17 46.4	
	comp=Z,0.8nm,0.9s						
MKAR	Makanchi Array	57.17	325	P	P	20 17 29.6	-0.9
MKAR	Makanchi Array	57.17	325	P	P	20 17 31.1	+0.5
	comp=Z,0.8nm,0.5s,baz=122,slow=7.0,SNR=12						
MKAR				PcP	PcP	20 18 25.2	+0.4
	comp=Z,0.4nm,0.5s,baz=109,slow=5.7,SNR=1.8						
	comp=Z,0.8nm,0.5s						
KURBB	Kurchatov Arra	61.34	327	P	P	20 17 58.4	-0.9
	comp=Z,1.4nm,0.7s,baz=138,slow=7.1,SNR=18						
	comp=Z,1.4nm,0.7s						
KURK	Kurchatov	61.34	327	P	P	20 17 57.5	-1.8
KKAR	Karatay Array	62.88	317	P	P	20 18 07.9	-1.9
BVAR	Borovoye Array	66.93	327	P	P	20 18 36.1	+0.2
	comp=Z,0.5nm,0.6s,baz=94,slow=4.8,SNR=3.0						
	comp=Z,0.5nm,0.6s						
BRVK	Borovoye	67.00	327	P	P	20 18 35.8	-0.6
BRVK				IAmb	IAmb	20 18 54.3	
	comp=Z,1.8nm,0.9s						
ABKAR	Akbulak array	71.78	321	P	P	20 19 05.2	-0.8
ABKAR	Akbulak array	71.78	321	P	P	20 19 05.8	-0.2
ABKAR				IAmb	IAmb	20 19 09.7	
	comp=Z,2.7nm,1.5s						
L18K	Granite Mounta	80.11	28	P	P	20 19 53.1	-0.2
L18K				IAmb	IAmb	20 20 09.6	
	comp=Z,3.1nm,1.1s						
D19K	Kuna River	80.74	21	P	P	20 19 56.7	+0.2
BMAR	Burnt Mountain	85.70	23	P	P	20 20 22.3	+0.1
ARCES	ARCESS Array B	90.02	340	P	P	20 20 42.6	-0.1
	comp=Z,7.9nm,1.0s,baz=76,slow=5.2,SNR=3.0						
	comp=Z,7.9nm,1.0s						

*NEIC **06** 20:40:30.8±1.0, 59°.05N±0°.04×154°.39W±0°.07, h135km±5km, Error ellipse: s-maj=5.5km s-min=5.3km az=134.0*
*IDC **06** 20:40:30.5±1.8, 59°.18N×154°.04W, h119km±28km, mb3.1/1, mbtmp3.3/3, Error ellipse: s-maj=39.2km s-min=17.0km az=105.0*
*AEIC **06** 20:40:32.0±1.0, 59°.03N±0°.03×154°.38W±0°.06, h130km±3km, ML2.7, ML2.8/100(NEIC), Error ellipse: s-maj=5.6km s-min=3.0km az=128.0*
ISC 06 20:40:30.5±1.0, 59°.05N±0°.04×154°.33W±0°.04, h138km±6km, n117, σ0s.90/130, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
Q19K	Cape Douglas,	0.37	108		Pn	20 40 49.9	0.0
Q19K					Sn	20 41 04.3	-0.3
Q19K				IAML		20 41 08.3	
	comp=N,207nm,1.0s						
Q19K				IAML		20 41 13.5	
	comp=E,333nm,1.3s						
KAPH	Katmai Pasha	0.45	181		Pn	20 40 50.5	+0.2
KAHC	Katmai Hardscr	0.54	222		Pn	20 40 50.4	-0.4
KAHC					Sn	20 41 04.8	-1.3
AUCH	Augustine Cone	0.55	55		Pn	20 40 51.4	+0.6
KAHG	Katmai Hook Gl	0.57	192		Pn	20 40 50.9	-0.1
KAHG					Sn	20 41 06.0	-0.4
P18K	Big Mountain,	0.58	307		Pn	20 40 50.3	-0.6
P18K					Sn	20 41 04.6	-1.9
P18K				IAML		20 41 05.1	
	comp=N,78nm,0.4s						
P18K				IAML		20 41 05.4	
	comp=E,118nm,0.5s						
P19K	Oil Pt	0.83	42		Pn	20 40 53.4	+0.7
KVTA	Katmai Vly 10	0.84	218		Pn	20 40 52.8	0.0
O18K	Koktuh Hills	0.93	331		Pn	20 40 53.4	-0.1
O18K					Sn	20 41 09.9	-1.1
O18K				IAML		20 41 10.3	
	comp=N,74nm,1.2s						
ACHA	Angle Creek He	0.99	212		Pn	20 40 53.9	-0.2
ANCK	Angle Creek	1.05	216		Pn	20 40 54.6	0.0
ANCK					Sn	20 41 12.2	-0.7
SYI	Shuyak Island	1.10	113		Pn	20 40 55.6	+0.6
SYI					Sn	20 41 13.3	-0.3
SYI				IAML		20 41 14.9	
	comp=E,108nm,0.7s						
SYI				IAML		20 41 20.7	
	comp=N,58nm,1.5s						
P17K	Kvichak River	1.10	279		Pn	20 40 54.8	-0.1
P17K					Sn	20 41 13.0	-0.7
ILSW	Iliamna Southw	1.12	32		Pn	20 40 55.5	+0.2
ILSW					Sn	20 41 13.8	-0.5
ILSW				IAML		20 41 14.3	
	comp=N,102nm,0.8s						
ILSW				IAML		20 41 14.3	
	comp=E,82nm,0.8s						
CNTC	Contact Creek	1.13	227		Pn	20 40 55.3	-0.1
CNTC					Sn	20 41 13.4	-1.0
O19K	Port Alsworth	1.15	0		Pn	20 40 55.4	0.0
O19K					Sn	20 41 13.4	-1.1
O19K				IAML		20 41 14.2	
	comp=N,144nm,0.5s						
O19K				IAML		20 41 14.7	
	comp=E,128nm,0.5s						
IVE	Iliamna Volcan	1.18	34		Pn	20 40 56.4	+0.5
ILW	Iliamna West	1.18	30		Pn	20 40 56.3	+0.3
Q16K	King Salmon	1.27	254		Pn	20 40 56.5	-0.1
O20K	Slope Mountain	1.35	39		Pn	20 40 58.2	+0.6
O20K					Sn	20 41 18.9	+0.6
R18K	Karluk	1.49	183		Pn	20 40 58.3	-0.7
KDAK	Kodiak Island	1.56	143	Pn	Pn	20 40 59.7	0.0
KDAK				IAML		20 41 22.8	
	comp=E,190nm,0.3s						
KDAK				IAML		20 41 24.5	
	comp=E,182nm,0.5s						
KDAK	Kodiak Island	1.56	143	P	Pn	20 40 59.8	0.0
	comp=E,41nm,0.3s,baz=351,slow=8.8,SNR=292						
KDAK				S	Sn	20 41 20.4	-1.8
	comp=E,80nm,0.5s,baz=229,slow=23,SNR=45						
RED	Redoubt Volcan	1.58	29		Pn	20 41 00.6	+0.5
O17K	Koliganek Bris	1.59	298		Pn	20 40 59.9	-0.2
RDSO	Redoubt South	1.62	29		Pn	20 41 01.0	+0.4
RDSO					Sn	20 41 23.8	+0.1
RSO	Redoubt South	1.63	29		Pn	20 41 01.3	+0.6
RDWB	Redoubt West	1.63	27		Pn	20 41 00.9	+0.2
RDWB					Sn	20 41 23.6	-0.2
CNPM	China Poot	1.66	72		Pn	20 41 01.4	+0.5
CNPM				IAML		20 41 25.1	
	comp=E,140nm,0.6s						
CNPM				IAML		20 41 25.9	
	comp=N,145nm,0.3s						
NCT	North Crescent	1.68	24		Pn	20 41 01.6	+0.5
NCT					Sn	20 41 24.4	-0.2
DFR	Drift River	1.76	27		Pn	20 41 02.4	+0.3
N19K	Bonanza Creek	1.77	358		Pn	20 41 02.8	+0.5
N19K				IAML		20 41 27.6	
	comp=N,38nm,0.8s						
N19K				IAML		20 41 28.1	
	comp=E,25nm,0.9s						
R17K	Ugashik Creek	1.78	218		Pn	20 41 02.7	+0.4
R17K				IAML		20 41 28.2	
	comp=N,35nm,1.2s						
R17K				IAML		20 41 32.4	
	comp=E,35nm,1.0s						
RDT	Redoubt	1.81	32		Pn	20 41 03.1	+0.4
N18K	Kilae Creek	1.82	335		Pn	20 41 03.0	+0.3
P16K	Nushagak River	1.89	271		Pn	20 41 03.8	+0.3
BRLK	Bradley Lake	1.90	66		Pn	20 41 04.0	+0.4
BRLK				IAML		20 41 29.6	
	comp=N,134nm,0.3s						
BRLK				IAML		20 41 31.0	
	comp=E,106nm,0.2s						
OHAK	Old Harbor	1.91	163		Pn	20 41 03.5	-0.3
OHAK				IAML		20 41 28.8	
	comp=E,74nm,0.2s						
OHAK				IAML		20 41 29.0	
	comp=N,100nm,0.7s						
O16K	Kokwok River B	2.01	287		Pn	20 41 05.0	+0.1
N17K	Nushagak Hills	2.07	317		Pn	20 41 06.0	+0.3
SVW2	Sparrevohn	2.15	344		Pn	20 41 06.9	+0.2
R16K	Pilot Point	2.27	231		Pn	20 41 08.5	+0.5
R16K				IAML		20 41 50.2	
	comp=E,104nm,1.4s						
SPCR	Spurr Chakacha	2.41	25		Pn	20 41 10.3	+0.5
CKN	Chakachatna No	2.43	25		Pn	20 41 10.9	+0.7
SPCN	Chakachatna No	2.43	25		Pn	20 41 10.8	+0.7
SPNN	North Nagishla	2.46	19		Pn	20 41 11.1	+0.5
SPCP	Crater Peak Br	2.48	25		Pn	20 41 11.4	+0.6
SII	Sitkinak Islan	2.50	178		Pn	20 41 10.6	-0.4
SPCG	Spurr Capps Gl	2.53	26		Pn	20 41 12.1	+0.6
SLKM	Skilak Lake	2.54	53		Pn	20 41 12.4	+0.9
M18K	Stony River	2.56	344		Pn	20 41 12.3	+0.6
SEW	Seward	2.70	65		Pn	20 41 14.1	+0.7
O22K	Cooper Landing	2.74	56		Pn	20 41 14.5	+0.6
STLK	Strandline Lak	2.75	26		Pn	20 41 14.9	+0.7
M17K	Holitna River	2.83	328		Pn	20 41 15.7	+0.7
M17K				IAML		20 41 53.6	
	comp=N,14nm,1.0s						
O15K	Ungalikthiuk R	2.84	275		Pn	20 41 15.6	+0.4
M20K	Styx River	2.91	11		Pn	20 41 16.7	+0.6
SUA	Susitna One	3.01	35		Pn	20 41 17.9	+0.4
SUA	Susitna One	3.01	35	IAML		20 41 57.6	
	comp=N,34nm,1.0s						
RC01	Rabbit Creek A	3.08	46		Pn	20 41 18.5	+0.2
N15K	Kwethluk River	3.14	293		Pn	20 41 19.7	+0.7
N15K	Kwethluk River	3.14	293	IAML		20 41 49.4	
	comp=E,9.3nm,1.2s						
L19K	White Mountain	3.16	355		Pn	20 41 20.0	+0.7
SKT	Skwentna	3.25	24		Pn	20 41 21.0	+0.4
SKT				IAML		20 42 02.9	
	comp=E,15nm,0.9s						
SKT				IAML		20 42 03.4	
	comp=N,9.7nm,0.5s						
CHIR	Chirikof Islan	3.31	193		Pn	20 41 20.5	-0.8
L18K	Granite Mounta	3.39	341		Pn	20 41 22.8	+0.5
L20K	Farewell, AK	3.45	3		Pn	20 41 23.5	+0.4
CHGN	Chignik	3.52	220		Pn	20 41 24.3	+0.2
CHGN				IAML		20 42 22.2	
	comp=N,29nm,1.5s						
CHGN				IAML		20 42 47.8	
	comp=E,29nm,1.5s						
L17K	Donlin	3.66	329		Pn	20 41 26.5	+0.6
KNK	Knik Glacier	3.77	48		Pn	20 41 26.8	-0.5
KNK				IAML		20 42 11.8	
	comp=N,31nm,0.6s						
GHO	Glory Hole Cre	3.83	42		Pn	20 41 27.4	-0.7

GHO	Glory Hole Cre	3.83	42	IAML		20 42 12.3	
	comp=E,35nm,0.7s						
GHO				IAML		20 42 12.9	
	comp=N,33nm,0.5s						
CUT	Chulitna	3.91	29		Pn	20 41 29.6	+0.5
TTA	Tatalina	3.98	349		Pn	20 41 30.4	+0.3
PPLA	Purkeypile	4.00	14		Pn	20 41 31.7	+1.3
SML	Sawmill	4.06	44		Pn	20 41 30.3	-0.9
SML				IAML		20 42 27.8	
	comp=N,14nm,1.3s						
SML				IAML		20 42 31.6	
	comp=E,14nm,1.4s						
K17K	Iditarod	4.16	334		Pn	20 41 33.4	+1.0
K17K				IAML		20 43 08.9	
	comp=N,4.5nm,1.3s						
K17K				IAML		20 43 23.5	
	comp=E,6.1nm,1.4s						
HIN	Hinchinbrook I	4.19	68		Pn	20 41 33.1	+0.3
FID	Port Fidalgo	4.30	63		Pn	20 41 33.8	-0.6
K20K	Telida	4.33	2	Pn	Pn	20 41 35.8	+1.2
SCM	Sheep Creek Mo	4.45	48		Pn	20 41 36.0	-0.4
SCM				IAML		20 42 32.1	
	comp=N,20nm,1.4s						
CAST	Castle Rocks	4.52	13		Pn	20 41 37.8	+0.6
J18K	Innoko River	4.58	346		Pn	20 41 38.5	+0.5
J18K				IAML		20 42 48.4	
	comp=N,2.9nm,1.4s						
WAT7	Susitna Watana	4.64	33		Pn	20 41 38.2	-0.7
WAT1	Susitna Watana	4.72	34		Pn	20 41 39.4	-0.6
WAT6	Susitna Watana	4.79	39		Pn	20 41 40.0	-0.9
KTH	Kantishna Hill	4.81	18		Pn	20 41 41.2	+0.1
KTH				IAML		20 44 53.5	
	comp=N,4.8nm,1.5s						
KTH				IAML		20 45 06.2	
	comp=E,4.3nm,1.1s						
TRF	Thorofare Moun	4.83	22		Pn	20 41 41.4	0.0
TRF				IAML		20 42 24.1	
	comp=N,3.6nm,1.2s						
TRF				IAML		20 43 57.7	
	comp=E,4.3nm,1.1s						
KLU	Klutina	4.85	56		Pn	20 41 41.4	-0.2
J19K	Poorman	5.00	353		Pn	20 41 43.8	+0.2
M24K	Tolsona, Glenn	5.06	49		Pn	20 41 44.4	+0.1
M24K				IAML		20 43 19.9	
	comp=N,15nm,1.2s						
RND	Reindeer	5.11	29		Pn	20 41 44.3	-0.7
RND	Reindeer	5.11	29	IAML		20 42 43.9	
	comp=N,4.8nm,1.2s						
RND				IAML		20 43 22.1	
	comp=E,2.4nm,1.4s						
J20K	Nowinta River	5.15	1	Pn	Pn	20 41 45.7	+0.2
J20K				IAML		20 43 00.1	
	comp=N,2.3nm,1.5s						
BMRM	Bremner River	5.24	64		Pn	20 41 47.1	+0.2
DHY	Denali Highway	5.26	37		Pn	20 41 46.5	-0.7
DHY				IAML		20 42 48.5	
	comp=E,6.7nm,0.5s						
DHY				IAML		20 42 53.1	
	comp=N,7.6nm,1.5s						
MCK	McKinley	5.37	27		Pn	20 41 48.0	-0.4
N25K	Chitina, Valde	5.47	58	Pn	Pn	20 41 50.4	+0.4
BERG	Berg Lake	5.54	71	Pn	Pn	20 41 51.2	+0.4
GLB	Gilahina Butte	5.76	61	Pn	Pn	20 41 54.4	+0.6
VRDI	Verde Repeater	5.86	63	Pn	Pn	20 41 55.6	+0.4
SNH	Sunshine Point	5.94	74	Pn	Pn	20 41 56.7	+0.5
CCB	Clear Creek Bu	6.41	26		Pn	20 42 01.0	-1.3
HDA	Harding Lake	6.42	30		Pn	20 42 01.6	-0.9
MDM	Murphy Dome	6.59	23		Pn	20 42 03.9	-0.9
H21K	Melozitna Rive	6.67	5		Pn	20 42 06.5	+0.6
IL31		6.73	28		Pn	20 42 05.5	-1.1
ILAR	Eielson Array	6.73	28	Pn	Pn	20 42 04.9	-1.7
ILAR	Eielson Array	6.73	28	P	Pn	20 42 05.5	-1.2
	comp=N,2.3nm,0.5s,baz=212,slow=13,SNR=36						
ILAR				S	Sn	20 43 15.4	-6.5
	comp=N,0.5nm,0.6s,baz=200,slow=20,SNR=2.4						
IMAR	Indian Mountai	6.97	2	Pn	Pn	20 42 09.6	-0.2
J25K	Salcha River,	7.01	33		Pn	20 42 09.6	-0.8
BCAR	Beaver Creek A	7.29	51	Pn	Pn	20 42 14.3	0.0
EGAK	Eagle	8.45	42	Pn	Pn	20 42 29.9	+0.2
P29M	Windy Craggy	8.50	79	Pn	Pn	20 42 33.1	+2.7
DAWY	Dawson	8.71	48	Pn	Pn	20 42 33.7	+0.4
YKA	Yellowknife Ar	19.48	63	P	P	20 44 47.0	+0.8
	comp=N,0.2nm,0.5s,baz=277,slow=10,SNR=4.5						
SONM	Songino Array	54.80	306	P	P	20 49 47.0	+1.3
	comp=N,0.4nm,0.7s,baz=50,slow=7.7,SNR=3.0						
	comp=N,0.4nm,0.7s						

*GUC **06** 20:43:55.8±0.5, 20°.80S×69°.22W, h85km±2km, ML3.4*
*SJA **06** 20:43:55.1±0.8, 20°.79S×69°.27W, h83km±4km, ML3.4, MW3.6*
ISC 06 20:43:58.2±1.3**, 20°.80S**±0°.02×**69°.34W**±0°.04**, h68**km±8km**,**
n32, σ1§45/56, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.28	211	eP	Pn	20 44 08.0	-1.2
PB01				eS	Sn	20 44 18.7	+1.5
PB01	IPOC Station P	0.28	211	⇓iP	Pn	20 44 08.6	-0.6
PB01				eS	Sn	20 44 18.5	+1.3
PX03	IPOC Station P	0.48	325	i P	Pn	20 44 09.7	-1.1
PX03				eS	Sn	20 44 20.9	+0.8
PX03				IAML		20 44 23.5	
	comp=N,2µm,0.3s						
PB08	IPOC Station P	0.68	15	eP	Pn	20 44 11.7	-1.5
PB08				eS	Sn	20 44 24.2	+0.1
PB08	IPOC Station P	0.68	15	⇓iP	Pn	20 44 11.9	-1.3
PB08				eS	Sn	20 44 24.1	-0.1
PB02	IPOC Station P	0.73	225	eP	Pn	20 44 12.9	-0.6
PB02				eS	Sn	20 44 26.6	+1.8
PB02	IPOC Station P	0.73	225	⇑iP	Pn	20 44 12.7	-0.9
PB02				eS	Sn	20 44 26.0	+1.2
PB02				IAML		20 44 32.4	
	comp=E,3µm,0.4s						
TA01	Diego Aracena	0.83	286	eP	Pn	20 44 12.9	-1.5
TA01				eS	Sn	20 44 28.1	+1.7
TA01				IAML		20 44 31.8	
	comp=Z,554nm,0.5s						
TA01	Diego Aracena	0.83	286	⇑iP	Pn	20 44 13.5	-0.9
TA01				eS	Sn	20 44 27.2	+0.7
TA01				IAML		20 44 30.3	
	comp=E,1µm,0.3s						
TA02	Huaiquique	0.92	305	eP	Pn	20 44 15.6	0.0
TA02				eS	Sn	20 44 30.4	+2.0
TA02				IAML		20 44 33.2	
	comp=Z,1µm,0.1s						
TA02	Huaiquique	0.92	305	⇑iP	Pn	20 44 14.4	-1.1
TA02				eS	Sn	20 44 29.1	+0.7
PB09	IPOC Station P	0.99	175	eP	Pn	20 44 15.5	-1.3
PB09				eS	Sn	20 44 31.1	+0.6
PB09				IAML		20 44 31.8	
	comp=Z,1µm,0.6s						
PB09	IPOC Station P	0.99	175	i P	Pn	20 44 15.4	-1.3
PB09				eS	Sn	20 44 30.4	0.0
PB09				IAML		20 44 32.5	
	comp=E,1µm,0.5s						
PB07	IPOC Station P	1.05	209	eP	Pn	20 44 16.0	-1.4
PB07				eS	Sn	20 44 32.6	+0.8
PB07				IAML		20 44 34.5	
	comp=Z,695nm,0.1s						
PB07	IPOC Station P	1.05	209	⇑iP	Pn	20 44 16.1	-1.3
PB11	IPOC Station P	1.08	344	eP	Pn	20 44 16.4	-1.4
PB11				eS	Sn	20 44 32.8	+0.4
PB11				IAML		20 44 35.1	
	comp=Z,450nm,0.2s						
PB11	IPOC Station P	1.08	344	i P	Pn	20 44 16.3	-1.5
PB11				eS	Sn	20 44 32.3	0.0
PB11				IAML		20 44 33.9	
	comp=N,1µm,0.2s						
GO01	Chusmiza	1.14	7	eP	Pn	20 44 17.5	-1.3
GO01	Chusmiza	1.14	7	i P	Pn	20 44 16.8	-2.0
PB04	IPOC Station P	1.70	206	eP	Pn	20 44 25.1	-0.9
PB04				eS	Sn	20 44 50.2	+3.3
PB04				IAML		20 44 52.8	
	comp=Z,550nm,0.2s						
PB04	IPOC Station P	1.70	206	i P	Pn	20 44 24.5	-1.5
PB04				eS	Sn	20 44 46.1	-0.9
PB04				IAML		20 44 52.6	
	comp=N,832nm,0.2s						
LVC	Limon Verde	1.84	168	eP	Pn	20 44 27.3	-0.8
LVC				eS	Sn	20 44 51.6	+1.0
LVC				IAML		20 44 54.6	
	comp=Z,165nm,0.2s						
LVC	Limon Verde	1.84	168	i P	Pn	20 44 25.9	-2.1
LVC				eS	Sn	20 44 49.7	-0.9
PB06	IPOC Station P	1.91	187	eP	Pn	20 44 27.3	-1.4
PB06				eS	Sn	20 44 52.4	+0.5
PB06				IAML		20 45 00.2	
	comp=Z,322nm,0.3s						
PB06	IPOC Station P	1.91	187	i P	Pn	20 44 26.7	-2.0
PB12	IPOC Station P	2.37	337	eP	Pn	20 44 32.7	-2.2
PB12				eS	Sn	20 45 05.1	+2.1
PB12	IPOC Station P	2.37	337	i P	Pn	20 44 32.6	-2.3
PB15	IPOC Station P	2.40	183	eP	Pn	20 44 35.6	+0.2
PB15				eS	Sn	20 45 06.0	+2.1
PB16	IPOC Station P	2.46	356	eP	Pn	20 44 35.6	-1.0
PB16				IAML		20 45 11.8	
	comp=Z,90nm,0.3s						
YJA	Yavi	3.81	112	eP	Pn	20 44 54.5	-0.4
YJA				eS	Sn	20 45 41.3	+2.6
GO02	Mina Guanaco	4.35	183	eP	Pn	20 45 00.2	-1.9
LPAZ	La Paz	4.63	14	eP	Pn	20 45 08.2	+1.9

*ASRS **06** 20:54:28.3±0.2, 47°N±1°×8°0E±°, h5km, MLh4.3/11, Error ellipse: s-maj=4.0km s-min=2.2km az=134.2, confirmed*
*NNC **06** 20:54:33.5±0.8, 47°.01N×80°.61E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=6.7km s-min=3.6km az=157.0*
*SOME **06** 20:54:35.3, 46°.95N×80°.35E, h10km*
ISC 06 20:54:30.1±1.0**, 47°.00N**±0°.02×**80°.53E**±0°.03**, h8**km±11km**,**
n57, σ1§91/88, 16C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	Makanchi	1.01	101	⇑P	Pn	20 54 52.2	+1.7
	9.5nm,0.3s						
MAKZ				⇑S	Sb	20 55 04.8	+1.6
	70nm,0.3s						
MAKZ	Makanchi	1.01	101	Pg	Pn	20 54 52.4	+1.8
MAKZ				Sg	Sb	20 55 04.7	+1.5
MK31	Makanchi Array	1.22	99	⇑P	Pg	20 54 56.2	+2.6
	9.0nm,0.4s,baz=277,slow=16,SNR=883						
MK31				⇑S	Sn	20 55 12.0	+1.8
	41nm,0.3s,baz=287,slow=27						
MKAR	Makanchi Array	1.22	99	Pg	Pg	20 54 56.6	+3.0
MKAR				Sg	Sn	20 55 12.2	+2.0
KAPS	Kapalarasan	1.90	206	eP	Pg	20 55 09.2	+2.6
	28nm,0.2s						
KAPS				eS	Sg	20 55 33.9	+2.6
	918nm,0.3s						
TDK	Taldyqorghan	2.49	217	Pg	Pg	20 55 19.4	+1.5
	85nm,0.3s						
TDK				Lg	Lg	20 55 51.1	
	405nm,0.4s						
TDK	Taldyqorghan	2.49	217	eP	Pg	20 55 19.4	+1.5
	85nm,0.3s						
TDK				eS	Sg	20 55 51.1	+1.0
	405nm,0.4s						
DJR	Jarkent	2.72	191	Pg	Pg	20 55 23.9	+1.6
	11nm,0.3s						
DJR				Lg	Lg	20 55 58.8	
	156nm,0.3s						
DJR	Jarkent	2.72	191	eP	Pg	20 55 22.4	+0.1
	11nm,0.3s						
DJR				eS	Sg	20 55 57.2	-0.3
	140nm,0.3s						
KNOS	Konyrlen	2.81	200	Pg	Pg	20 55 25.1	+1.2
	18nm,0.1s						
KNOS				Lg	Lg	20 56 01.0	
	87nm,0.2s						
ZSN	Zaisan	2.99	80	Pg	Pg	20 55 27.1	-0.2
	14nm,0.3s						
ZSN	Zaisan	2.99	80	eP	Pg	20 55 27.6	+0.3
	24nm,0.3s						
ZSN				eS	Sg	20 56 05.6	-0.4
	32nm,0.3s						
ARXS	Arharly	3.38	215	Lg	Lg	20 56 17.9	
	138nm,0.2s						
ARXS	Arharly	3.38	215	eP	Pg	20 55 35.0	+0.2
	28nm,0.2s						
ARXS				eS	Sg	20 56 17.9	-0.6
	138nm,0.2s						
SEM	Semipalatinsk	3.41	357	Pg	Pg	20 55 38.6	+3.1
	13nm,0.3s						
SEM	Semipalatinsk	3.41	357	eP	Pg	20 55 38.6	+3.1
	13nm,0.3s						
SEM				eS	Sg	20 56 24.3	+4.6
	66nm,0.2s						
PDGK	Podgornoye	3.75	192	Lg	Lg	20 56 30.7	
	50nm,0.4s						
PDGK	Podgornoye	3.75	192	⇑Pg	Pg	20 55 40.5	-1.4
	6.8nm,0.5s						
PDGK				⇓Lg	Lg	20 56 29.2	
	67nm,0.5s						
KPKS	Kokpek	3.77	201	eP	Pg	20 55 43.9	+1.5
	9.4nm,0.2s						
KPKS				eS	Sg	20 56 33.0	+1.8
	143nm,0.5s						
KURBB	Kurchatov Arra	3.86	341	⇑Pg	Pg	20 55 45.6	+1.6
	9.5nm,0.4s						
KURBB				⇑Lg	Lg	20 56 35.6	
	105nm,0.6s						
KURK	Kurchatov	3.92	342	⇑Pg	Pg	20 55 47.7	+2.4
	15nm,0.6s						
KURK				⇑Lg	Lg	20 56 37.8	
	172nm,0.8s						
KURK	Kurchatov	3.92	342	Pg	Pg	20 55 46.5	+1.2
KURK				Sg	Sg	20 56 38.5	+2.4
UZB	Uzynbulak	4.00	196	Lg	Lg	20 56 40.2	
	56nm,0.2s						
UZB	Uzynbulak	4.00	196	eP	Pg	20 55 47.9	+1.1
	5.8nm,0.2s						
UZB				eS	Sg	20 56 40.2	+1.6
	56nm,0.2s						
CHKK	Chushkaly	4.02	220	Pg	Pg	20 55 47.0	-0.1
	6.1nm,0.2s						
CHKK				Lg	Lg	20 56 38.8	
	90nm,0.2s						
CHKK	Chushkaly	4.02	220	eP	Pg	20 55 47.0	-0.1
	6.1nm,0.2s						
CHKK				eS	Sg	20 56 38.8	-0.3
	90nm,0.2s						
SATY	Saty	4.22	202	Lg	Lg	20 56 45.2	
	75nm,0.2s						
SATY	Saty	4.22	202	eP	Pg	20 55 50.8	-0.2
	2.1nm,0.1s						
SATY				eS	Sg	20 56 45.2	-0.5
	75nm,0.2s						
KTBS	Karatobe	4.27	221	Pg	Pg	20 55 51.7	-0.1
	15nm,0.6s						
KTBS				Lg	Lg	20 56 46.8	
	187nm,0.2s						
KTBS	Karatobe	4.27	221	eP	Pg	20 55 51.7	-0.1
	15nm,0.6s						
KTBS				eS	Sg	20 56 46.8	-0.3
	187nm,0.2s						
KUU	Kurty	4.29	225	Pg	Pg	20 55 52.0	-0.2
	5.3nm,0.2s						
KUU				Lg	Lg	20 56 47.1	
	182nm,0.5s						
KUU	Kurty	4.29	225	eP	Pg	20 55 52.0	-0.2
	5.3nm,0.2s						
KUU				eS	Sg	20 56 47.1	-0.6
	182nm,0.5s						
KOTS	Kotyrbulak	4.48	214	eP	Pg	20 55 56.3	+0.4
	5.1nm,0.2s						
KOTS				eS	Sg	20 56 54.9	+0.9
	95nm,0.6s						
KNDC	Almaty	4.55	215	⇑Pg	Pg	20 55 56.4	-0.9
	14nm,0.5s						
KNDC				⇑Lg	Lg	20 56 57.5	
	149nm,0.8s						
MDOK	Medeo	4.56	214	⇑Pg	Pg	20 55 57.4	-0.2
	9.2nm,0.8s						
MDOK				⇑Lg	Lg	20 56 56.7	
	44nm,0.7s						
MDOK	Medeo	4.56	214	eP	Pg	20 55 56.6	-1.0
	3.9nm,0.1s						
MDOK				eS	Sg	20 56 54.5	-2.2
	60nm,0.5s						
TNSS	Tian-Shan	4.71	214	eP	Pg	20 56 00.5	+0.2
	4.3nm,0.2s						
TNSS				eS	Sg	20 57 00.8	-0.5
	28nm,0.4s						
PRZ	Przheval'sk	4.77	199	Sg	Sg	20 57 04.2	+1.0
UKR	Ust'-Kan	4.83	34	Pn	Pb	20 55 51.5	-3.4
UKR				Pg	Pg	20 56 02.1	-0.4
UKR				S	Sb	20 56 46.5	-6.6
UKR				Sg	Sg	20 57 04.6	-0.4
MTBS	Maitube	4.84	218	eP	Pg	20 56 01.8	-1.0
	6.1nm,0.3s						
MTBS				eS	Sg	20 57 04.4	-1.2
	77nm,0.4s						
BTLS	Baital	4.93	249	Pg	Pg	20 56 03.3	-1.2
	9.3nm,0.3s						
BTLS	Baital	4.93	249	eP	Pg	20 56 03.3	-1.2
	9.3nm,0.3s						
BTLS				eS	Sg	20 57 06.8	-1.5
	7.4nm,0.3s						
DGS	Degeres	5.05	224	eP	Pg	20 56 06.4	-0.4
	14nm,0.3s						
DGS				eS	Sg	20 57 11.9	-0.3
	69nm,0.4s						
DGZ	Jazzator, Alta	5.33	57	Pn	Pb	20 55 58.7	-4.9
DGZ				Pg	Pg	20 56 12.2	0.0
DGZ				Sg	Sg	20 57 21.5	+0.3
TKM2	Tokmak 2	5.38	222	⇑Pg	Pg	20 56 12.2	-0.9
	6.2nm,0.7s						
TKM2				⇑Lg	Lg	20 57 19.7	
	16nm,0.7s						
ELDR	Elanda	5.58	39	Pn	Pb	20 56 01.5	-6.2
ELDR				Pg	Pg	20 56 14.2	-2.6
ELDR				S	Sn	20 57 01.4	+3.9
ELDR				Sg	Sg	20 57 29.7	+0.7
OTUK	Ortayu	5.68	286	⇓Lg	Lg	20 57 31.5	
	60nm,0.7s						
CHBI	Chibit, Altay	5.68	52	Pn	Pb	20 56 03.1	-6.4
CHBI				Pg	Pg	20 56 19.1	+0.2
CHBI				S	Sb	20 57 10.2	-7.5
CHBI				Sg	Sg	20 57 32.0	-0.4
AKAR	Aktash	5.75	52	Pn	Pb	20 56 04.3	-6.3
AKAR				Pg	Pg	20 56 20.5	+0.3
AKAR				Sg	Sg	20 57 32.7	-1.9
FRU1	Bishkek	5.93	227	Pg	Pg	20 56 21.6	-2.1
FRU1	Bishkek	5.93	227	Sg	Sg	20 57 41.4	+1.0
BRZS	Berezniki	6.01	303	eP	Pg	20 56 25.6	+0.3
	1.3nm,0.2s						
BRZS				eS	Sg	20 57 45.7	+2.6
	36nm,0.4s						
CUR	Chagan-Uzun	6.04	56	Pn	Pb	20 56 08.1	-7.6
CUR				Pg	Pg	20 56 28.3	+2.5
CUR				Sg	Sg	20 57 43.9	-0.1
GALT	Gorno-Altaysk,	6.08	33	Pg	Pg	20 56 26.4	-0.2
GALT				Sg	Sg	20 57 46.7	+1.3
ULGR	Ulagan, Altay	6.10	51	Pg	Pg	20 56 24.6	-2.2
ULGR				Sg	Sg	20 57 46.1	+0.3
AAK	Ala-Archa	6.12	227	Pn	Pn	20 56 06.3	+5.3
AAK				Pg	Pg	20 56 27.5	+0.2
AAK				Sg	Sg	20 57 47.1	+0.5
KK31	Karatay Array	8.10	245	⇑Lg	Lg	20 58 53.6	
	5.1nm,0.6s						

*IDC **06** 21:17:39.0±1.1, 7°.95S×121°.75E, h267km±12km, mb3.4/5, mbtmp4.0/8, Error ellipse: s-maj=70.2km s-min=9.2km az=58.0*
*DJA **06** 21:17:39.3±0.5, 8°S±6°×12°2E±°, h260km±5km, M4.1/13, mb4.2/2, MLv4.0/13*
ISC 06 21:17:39.1±0.6**, 7°.99S**±0°.06×**121°.75E**±0°.06**, h267**km**, n39,**
σ1§22/46, mb3.3/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	0.75	184	P	Pn	21 18 14.3	-0.6
EDFI				S	S	21 18 41.7	-1.6
MMRI	Maumere	0.80	143	P	Pn	21 18 14.8	-0.2
MMRI				S	S	21 18 42.4	-1.0
BASI	Baing, Sumba	2.49	207	P	Pn	21 18 26.0	-1.5
SOEI	Soe	3.04	125	P	Pn	21 18 33.7	+0.5
SOEI	Soe	3.04	125	P	Pn	21 18 33.6	+0.4
BKSI	Bulukumba	3.11	329	P	Pn	21 18 34.2	+0.4
DBNI	Kabupaten Domp	3.44	261	P	Pn	21 18 37.3	0.0
DBNI				S	S	21 19 22.8	-0.9
KAPI	Kappang	3.56	326	P	Pn	21 18 36.6	-2.1
	11nm,0.5s,baz=162,slow=20,SNR=15						
KAPI				S	S	21 19 25.1	-1.2
	8.3nm,0.8s,baz=77,slow=12,SNR=1.3						
MKS	Makassar	3.57	321	P	Pn	21 18 40.2	+1.4
PLAI	Plampang	4.01	258	P	Pn	21 18 43.8	0.0
PLAI	Plampang	4.01	258	P	Pn	21 18 43.5	-0.3
TWSI	Taliwang, Sumb	4.87	261	P	Pn	21 18 53.1	-0.8
SRBI	Singaraja	6.47	269	P	Pn	21 19 12.3	-1.1
	28nm,0.6s,0.1nm						
JAGI	Jajag, Banyuwa	7.53	266	P	Pn	21 19 25.6	-1.0
JAGI	Jajag, Banyuwa	7.53	266	P	Pn	21 19 23.8	-2.8
KNRA	Kununurra	10.27	139	P	Pn	21 20 00.8	0.0
MTN	Manton Dam	10.41	118	P	Pn	21 20 03.6	+0.9
FITZ	Fitzroy Crossi	10.73	160	P	Pn	21 20 08.9	+2.3
UGM	Wanagama	11.12	270	P	Pn	21 20 11.6	+0.1
KDU	Kakadu	11.54	115	P	P	21 20 18.8	-0.8
FAKI	Fak Fak	11.60	65	P	Pn	21 20 16.8	-0.7
BBJI	Bungbulang	13.98	271	P	P	21 20 47.7	+0.9
KKM	Kota Kinabalu	15.00	338	P	Pn	21 20 59.9	+1.1
WRA	Warramunga Arr	17.03	136	P	P	21 21 21.0	+0.8
	2.5nm,0.3s,baz=318,slow=11,SNR=72						
WRA				S	S	21 24 22.1	-1.9
	0.9nm,0.7s,baz=305,slow=20,SNR=5.3						
WRKA	Warakurna	18.07	161	P	P	21 21 32.9	+1.5
ASAR	Alice Springs	19.46	145	P	P	21 21 47.5	+1.1
	2.9nm,0.6s,baz=320,slow=8.0,SNR=62						
ASAR				S	S	21 25 11.2	-0.7
	2.0nm,0.9s,baz=312,slow=19,SNR=7.7						
ASAR				ScP	ScP	21 29 03.0	-2.7
	0.5nm,0.6s,baz=341,slow=2.2,SNR=5.3						
QIS	Mount Isa	21.31	128	P	P	21 22 06.2	+0.7
FORT	Forrest	23.43	166	P	P	21 22 25.7	+1.1
OOD	Oodnadatta	23.70	148	P	P	21 22 28.2	+1.0
MULG	Mulgathing	25.00	154	P	P	21 22 39.8	+0.9
BBOO	Buckleboo	28.04	154	P	P	21 23 06.7	+0.8
HTT	Hallett	29.88	150	P	P	21 23 23.7	+1.4
STKA	Stephens Creek	30.10	145	P	P	21 23 25.5	+1.3
STKA	Stephens Creek	30.10	145	P	P	21 23 25.4	+1.3
	3.8nm,0.3s,baz=325,slow=9.3,SNR=12						
	3.8nm,0.3s						
ARPS	Mount Arapiles	33.98	150	P	P	21 23 59.5	+1.7
SONM	Songino Array	57.22	348	P	P	21 26 57.8	-1.0
	0.3nm,0.6s,baz=164,slow=6.2,SNR=2.8						
	0.3nm,0.6s						
MKAR	Makanchi Array	64.85	331	P	P	21 27 49.6	-0.2
	0.3nm,0.5s,baz=145,slow=6.6,SNR=9.0						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	69.11	338	P	P	21 28 16.7	+0.3
	0.3nm,0.4s,baz=142,slow=4.9,SNR=2.0						
	0.3nm,0.4s						
SEY	Seymchan	74.52	14	P	P	21 28 48.2	0.0
	2.2nm,0.3s,baz=233,slow=20,SNR=4.4						
	2.2nm,0.3s						

IDC 06 21:18:51.9±63.0**, 21°.12S×179°.80W, h0**km**, mb4.4**/3**,**
mbtmp4.4/3**, Error ellipse: s-maj=1129.0km**
s-min=152.0km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.00	245	P	P	21 25 53.3	-1.5
	1.8nm,0.4s,baz=66,slow=9.1,SNR=5.5						
	1.8nm,0.4s						
ASAR	Alice Springs	42.74	258	P	P	21 26 51.0	-0.2
	3.3nm,0.6s,baz=102,slow=7.8,SNR=21						
	3.3nm,0.6s						
WRA	Warramunga Arr	42.85	263	P	P	21 26 53.1	+1.0
	3.7nm,0.6s,baz=91,slow=8.3,SNR=52						
	3.7nm,0.6s						

IDC 06 21:26:24.1±294.0**, 55°.34N×54°.20E, h0**km**, Error ellipse:**
s-maj=155.1km s-min=95.4km az=154.0, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	5.46	153	I	I	21 59 59.0	
	0.1nm,1.1s,baz=334,slow=325,SNR=2.2						
I43RU	DUBNA INFRASON	9.61	285	I	I	22 26 30.0	
	baz=93,slow=335,SNR=2.1						
I46RU	ZALESOVO INFRA	17.70	82	I	I	23 11 10.0	
	baz=292,slow=325,SNR=1.6						
I34MN	SONGINO INFRAS	32.62	81	I	I	00 44 20.0	
	baz=305,slow=342,SNR=2.2						

*IDC **06** 21:28:42.9±0.8, 24°.11S×115°.54W, h0km, mb3.8/6,*

mbtmp3.8/6, MS3.8/25, Error ellipse: s-maj=48.7km s-min=24.5km az=77.0

ISC 06 21:28:46.4±0.9, **24°.1S**±0°.2×**115°.5W**±0°.3, **h21**km, **n40**, σ**1s.19**/12, **mb3.9**/6, **MS3.7**/24, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	6.32	120	LR	LR	21 32 11.3	
	comp=Z,2μm,18.2s,baz=312,slow=33						
TAOE	Nuku Hiva Isla	28.02	299	eLR	LR	21 41 37.4	
	512nm,25.7s						
PPT2	Papeete2	32.46	275	eLR	LR	21 43 29.0	
	301nm,28.2s						
PPT2				eLR	LR	21 43 35.4	
	156nm,29.0s						
PPT	Papeete	32.47	275	LR	LR	21 45 06.3	
	comp=Z,86nm,21.2s,baz=138,slow=30						
H03N2	Juan Fernandez	33.22	115	T	T	22 10 17.0	
	baz=280,slow=75						
H03N3	Juan Fernandez	33.23	115	T	T	22 10 17.9	
	baz=280,slow=75						
H03N1	Juan Fernandez	33.24	115	T	T	22 10 27.3	
	baz=280,slow=75						
NNA	Nana	38.53	79	LR	LR	21 47 43.7	
	comp=Z,129nm,19.2s,baz=238,slow=30						
ATAH	Atahualpa	39.32	71	LR	LR	21 48 09.5	
	comp=Z,114nm,20.7s,baz=236,slow=30						
RAR	Rarotonga	40.85	265	LR	LR	21 48 20.7	
	comp=Z,101nm,21.9s,baz=121,slow=29						
PLCA	Paso Flores	40.93	125	P	P	21 36 27.6	+0.1
	4.3nm,1.0s,baz=268,slow=11,SNR=5.7						
PLCA				LR	LR	21 49 03.2	
	comp=Z,225nm,21.4s,baz=294,slow=30						
	4.3nm,1.0s						
CFA	Coronel Fontan	42.18	111	LR	LR	21 49 39.8	
	comp=Z,288nm,21.9s,baz=234,slow=30						
LVC	Limon Verde	42.63	98	LR	LR	21 49 50.9	
	comp=Z,122nm,19.4s,baz=250,slow=30						
CMIG	Matias Romero	45.60	28	LR	LR	21 52 05.4	
	comp=Z,84nm,18.9s,baz=202,slow=31						
LPIG	La Paz	48.17	6	LR	LR	21 52 40.8	
	comp=Z,62nm,19.4s,baz=68,slow=30						
SIV	San Ignacio	51.48	92	LR	LR	21 56 38.7	
	comp=Z,61nm,21.2s,baz=295,slow=32						
CPUP	Villa Florida	52.27	105	LR	LR	21 56 01.3	
	comp=Z,70nm,19.2s,baz=232,slow=31						
TXAR	Lajitas Array	54.32	13	P	P	21 38 11.9	+0.6
	0.2nm,0.7s,baz=198,slow=11,SNR=2.6						
	0.2nm,0.7s						
SDV	Santo Domingo	54.69	59	LR	LR	21 57 34.1	
	comp=Z,41nm,18.5s,baz=286,slow=32						
ANMO	Albuquerque	59.33	9	LR	LR	21 59 06.0	
	comp=Z,35nm,19.1s,baz=180,slow=31						
RPZ	Rata Peaks	62.09	232	LR	LR	21 59 44.5	
	comp=Z,72nm,21.7s,baz=90,slow=30						
NVAR	Mina Array Bea	62.24	357	P	P	21 39 08.8	+1.9
	0.6nm,0.7s,baz=183,slow=9.5,SNR=5.4						
NVAR				LR	LR	22 00 35.1	
	comp=Z,52nm,19.1s,baz=84,slow=31						
	0.6nm,0.7s						
BDFB	Brasilia	63.50	96	LR	LR	22 02 42.3	
	comp=Z,61nm,21.9s,baz=48,slow=32						
ELK	Elko	64.50	0	LR	LR	22 03 02.2	
	comp=Z,66nm,18.6s,baz=40,slow=32						
VNDA	Vanda	65.07	194	LR	LR	22 01 16.4	
	comp=Z,42nm,19.3s,baz=98,slow=30						
QSPA	South Pole Qui	66.07	180	P	P	21 39 32.7	+1.2
	1.4nm,1.0s,baz=134,slow=6.1,SNR=2.8						
QSPA				LR	LR	22 04 09.0	
	comp=Z,41nm,18.0s,baz=98,slow=32						
	1.4nm,1.0s						
TKL	Tuckaleechee C	66.57	28	LR	LR	22 04 48.6	
	comp=Z,91nm,20.7s,baz=29,slow=32						
PDAR	Pinedale Array	66.74	5	P	P	21 39 36.2	+0.1
	0.6nm,0.8s,baz=147,slow=5.1,SNR=6.7						
	0.6nm,0.8s						
MDP	Montagnes des	67.68	73	LR	LR	22 05 36.8	
	comp=Z,78nm,19.9s,baz=344,slow=33						
DZM	Mont Dzumac	70.93	254	eLR	LR	22 01 23.3	
	55nm,24.2s						
DZM	Mont Dzumac	70.93	254	LR	LR	22 03 12.2	
	comp=Z,58nm,20.4s,baz=270,slow=29						
YKA	Yellowknife Ar	86.28	0	P	P	21 41 26.0	0.0
	0.7nm,0.8s,baz=176,slow=5.1,SNR=11						
	0.7nm,0.8s						
MAW	Mawson	88.58	179	LR	LR	22 17 13.1	
	comp=Z,36nm,19.0s,baz=200,slow=33						
PMG	Port Moresby	92.85	258	LR	LR	22 17 24.8	
	comp=Z,68nm,18.7s,baz=66,slow=32						
ZALV	Zalesovo Beam	146.52	338	PKPbc	PKPdf	21 48 24.1	-0.2
	0.8nm,0.6s,baz=22,slow=4.7,SNR=3.8						
CMAR	Chiang Mai Arr	147.49	267	PKPbc	PKPbc	21 48 29.3	-0.3
	0.4nm,0.4s,baz=95,slow=2.0,SNR=6.2						
BRTR	Keskin Array B	149.69	52	PKPbc	PKPbc	21 48 33.0	-1.8
	0.3nm,0.5s,baz=270,slow=4.2,SNR=3.2						
BVAR	Borovoye Array	150.76	353	PKPbc	PKPbc	21 48 35.5	-1.2
	0.9nm,0.8s,baz=338,slow=1.6,SNR=4.7						
KURBB	Kurchatov Arra	151.37	341	PKPbc	PKPbc	21 48 37.4	-0.9
	0.7nm,0.2s,baz=31,slow=1.5,SNR=1.6						
MKAR	Makanchi Array	153.24	332	PKPbc	PKPbc	21 48 41.4	-1.3
	0.6nm,0.9s,baz=18,slow=3.3,SNR=4.3						

*IDC **06** 21:32:14.1±0.9, 19°.24N×120°.09E, h0km, mb3.9/10, mbtmp3.9/11, ML3.6/1, MS3.0/4, Error ellipse: s-maj=42.6km s-min=17.6km az=70.0*

*NEIC **06** 21:32:16.5±1.0, 19°.28N±0°.03×119°.9E±0°.2, h10km±1km, mb4.0/7, Error ellipse: s-maj=27.1km s-min=2.9km az=261.0*

ISC 06 21:32:15.6±0.7, **19°.20N**±0°.05×**119°.9E**±0°.1, **h10**km, **n43**, σ**0s.94**/42, **mb3.9**/13, **MS3.1**/3, **2C-1D**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	1.12	141⇑	iP	Pn	21 32 37.5	+0.1
PIP				iS	Sn	21 32 52.8	-0.1
SIPP	Brgy, Tapao	1.39	156⇓	eP	Pn	21 32 41.1	+0.1
SIPP				eS	Sb	21 32 58.0	-1.3
PACPP	Pamplona Cagay	1.58	117⇑	iP	Pb	21 32 44.5	-0.5
TWGBT	Beinan	3.77	17	P	Pn	21 33 15.8	+1.9
TWG	Pinlang	3.78	17	Pn	Pn	21 33 13.3	-0.6
TPUB	Ta-pu	4.14	10	Pn	Pn	21 33 17.7	-1.3
TPUB	Ta-pu	4.14	10	P	Pn	21 33 17.7	-1.3
YULB	Yu-li	4.38	17	Pn	Pn	21 33 22.9	+0.7
YULB	Yu-li	4.38	17	P	Pn	21 33 23.3	+1.1
SSLB	Suanglung	4.68	12	Pn	Pn	21 33 24.6	-1.7
SSLB	Suanglung	4.68	12	P	Pn	21 33 26.4	+0.1
NACB	Ninganchiao	5.21	18	Pn	Pn	21 33 33.3	-0.2
NACB	Ninganchiao	5.21	18	P	Pn	21 33 34.7	+1.2
KNMB	Chin-men Tao	5.42	346	Pn	Pn	21 33 35.4	-1.1
YHNB	Yeheng	5.62	14	Pn	Pn	21 33 38.8	-0.5
YHNB	Yeheng	5.62	14	P	Pn	21 33 40.9	+1.5
DAV	Davao City (W)	13.27	155	LR	LR	21 41 35.1	
	comp=Z,56nm,21.5s,baz=26,slow=42						
TOLI2	Tolitoli	18.00	177		P	21 36 27.7	+1.2
TOLI2				IAmb	IAmb	21 36 29.7	
	comp=Z,8.2nm,0.9s						
KSRS	Korea Array	19.50	20	P	P	21 36 41.5	-1.4
	comp=Z,0.2nm,0.3s,baz=205,slow=11,SNR=6.4						
	comp=Z,1.7nm,0.7s						
BJT	Baijiatuau	20.99	352	P	P	21 36 58.3	-0.8
BJT				IAmb	IAmb	21 37 09.3	
	comp=Z,9.9nm,1.4s						
KAPI	Kappang	24.06	180	LR	LR	21 49 03.2	
	comp=Z,18nm,18.0s,baz=86,slow=42						
SONM	Songino Array	30.60	342	P	P	21 38 30.6	+0.8
	comp=Z,0.3nm,0.6s,baz=169,slow=11,SNR=2.3						
	comp=Z,0.3nm,0.6s						
MK31	Makanchi Array	41.23	321	P	P	21 40 00.9	+0.2
MKAR	Makanchi Array	41.23	321	P	P	21 40 00.8	+0.1
MKAR	Makanchi Array	41.23	321	P	P	21 40 02.0	+1.2
	comp=Z,0.5nm,0.8s,baz=128,slow=9.3,SNR=5.4						
MKAR				LR	LR	21 57 53.7	
	comp=Z,24nm,19.2s,baz=22,slow=37						
	comp=Z,0.5nm,0.8s						
WB0	Warramunga Arr	41.26	159	P	P	21 40 00.6	-0.6
WB0				IAmb	IAmb	21 40 14.5	
	comp=Z,6.6nm,1.2s						
WRA	Warramunga Arr	41.40	159	P	P	21 40 00.7	-1.7
	comp=Z,1.4nm,0.9s,baz=339,slow=9.1,SNR=5.0						
	comp=Z,1.4nm,0.9s						
ZALV	Zalesovo Beam	43.87	331	P	P	21 40 21.7	-0.3
ZALV	Zalesovo Beam	43.87	331	P	P	21 40 21.9	-0.2
	comp=Z,0.7nm,0.7s,baz=157,slow=7.8,SNR=3.6						
	comp=Z,0.7nm,0.7s						
AAK	Ala-Archa	44.73	312	LR	LR	22 01 50.4	
	comp=Z,46nm,19.5s,baz=5.0,slow=40						
AS31	Alice Springs	44.75	162	P	P	21 40 30.5	+1.1
AS31				IAmb	IAmb	21 40 51.6	
	comp=Z,2.1nm,1.3s						
ASAR	Alice Springs	44.75	162	P	P	21 40 29.6	+0.2
ASAR	Alice Springs	44.75	162	P	P	21 40 30.1	+0.7
	comp=Z,0.9nm,0.7s,baz=340,slow=7.1,SNR=17						
	comp=Z,0.9nm,0.7s						
KURBB	Kurchatov Arra	45.26	324	P	P	21 40 33.6	+0.4
	comp=Z,2.7nm,0.2s,baz=123,slow=8.0,SNR=5.9						
	comp=Z,2.7nm,0.2s						
NRIK	Noril'sk	53.91	346	P	P	21 41 38.8	0.0
	comp=Z,0.8nm,0.3s,baz=136,slow=2.8,SNR=4.2						
	comp=Z,0.8nm,0.3s						
C18K	Utukok River	68.25	23	P	P	21 43 16.4	+0.1
TTA	Tatalina	70.43	29	P	P	21 43 30.2	+0.3
ILAR	Eielson Array	74.19	26	P	P	21 43 50.9	-1.4
	comp=Z,0.2nm,0.5s,baz=278,slow=4.1,SNR=4.2						
	comp=Z,0.2nm,0.5s						
BMAR	Burnt Mountain	74.56	23	P	P	21 43 54.7	+0.2
FINES	FINESS Array B	75.13	330	P	P	21 43 58.2	+0.5
	comp=Z,10.0nm,1.3s,baz=72,slow=4.5,SNR=8.0						
	comp=Z,10.0nm,1.3s						
E28M	Babbage River	76.10	22	P	P	21 44 03.8	+0.6
E28M				IAmb	IAmb	21 44 08.0	
	comp=Z,3.4nm,1.4s						
BCAR	Beaver Creek A	76.79	28	P	P	21 44 07.8	+0.5
YKA	Yellowknife Ar	88.02	22	P	P	21 45 06.5	+0.7
	comp=Z,0.8nm,0.8s,baz=316,slow=4.8,SNR=13						
	comp=Z,0.8nm,0.8s						

*JMA **06** 22:01:54.0±0.1, 25°.0N±0°.5×122°.8E±0°.4, h23km±1km, MV2.3/12, NW OFF ISHIGAKIJIMA IS*

*TAP **06** 22:01:56.8, 24°.85N×122°.68E, h31km±1km, ML2.6, D*

ISC 06 22:01:54.3±1.2, **24°.92N**±0°.05×**122°.80E**±0°.03, **h26**km±11km, **n62**, σ**1s.30**/82, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.49	164	P	Pb	22 02 04.2	-0.2
JYNG				S	Sb	22 02 11.3	+0.1
YOJ	Yonaguni jima	0.50	157	P	Pb	22 02 04.3	-0.3
YOJ				eS	Sb	22 02 11.6	+0.1
EOS2	EOS2	0.72	226	iP	Pn	22 02 09.3	+0.7
	baz=230						
EOS2				S	Sn	22 02 18.7	0.0
	baz=230						
TWB1	Santiao Chiao	0.74	277	iP	Pb	22 02 09.3	+0.7
	baz=284						
TWB1				S	Sb	22 02 17.8	-0.5
	baz=284						
EOS3	EOS3	0.77	215	iP	Pn	22 02 09.8	+0.5
	baz=216						
EOS3				S	Sn	22 02 20.8	+0.8
	baz=216						
EGS		0.79	265	eP	Pb	22 02 08.7	-0.7
	baz=270						
EGS				eS	Sn	22 02 19.7	-1.0
	baz=270						
SXI1	Grass Mountain	0.85	282	iP	Pn	22 02 11.4	+0.7
	baz=289						
SXI1				eS	Sb	22 02 21.2	-0.5
	baz=289						
TIPB	Shuangxi	0.88	273	iP	Pb	22 02 11.9	+0.8
	baz=279						
TIPB				eS	Sb	22 02 21.4	-1.2
	baz=279						
EOS4	EOS4	0.91	209	eP	Pb	22 02 11.8	+0.6
	baz=201						
TWC	Suao	0.92	250	eP	Pb	22 02 12.9	+1.3
	baz=253						
TWC				eS	Sb	22 02 20.7	-2.7
	baz=253						
NWF	Wu-fen Shan	0.93	279	eP	Pn	22 02 12.6	+0.8
	baz=285						
NWF				eS	Sn	22 02 23.0	-1.4
	baz=285						
WFSB	Wu-fen Shan	0.93	279	eP	Pn	22 02 12.4	+0.7
	baz=285						
WFSB				eS	Sn	22 02 22.6	-1.7
	baz=285						
NDS	Dongshan	1.02	254	eP	Pb	22 02 13.9	+0.5
	baz=257						
IRIF	Iriomote-Funau	1.03	124	P	Pn	22 02 12.7	-0.4
IRIF				S	Sn	22 02 26.2	-0.4
TWE	Neicheng	1.05	259	iP	Pb	22 02 14.1	+0.3
	baz=262						
ENA	Nanau	1.08	243	eP	Pn	22 02 14.1	+0.4
	baz=244						
ENA				eS	Sb	22 02 27.3	-0.8
	baz=244						
TWA	Mucha	1.10	273	eP	Pb	22 02 15.8	+1.1
	baz=278						
FUSB	Fushanzhiwuyua	1.11	262	eP	Pb	22 02 15.2	+0.3
	baz=274						
YM01	YM01	1.14	282	eP	Pn	22 02 15.6	+1.0
	baz=287						
ENTT	Nioudou	1.15	256	eP	Pb	22 02 16.2	+0.5
	baz=267						
NHDH	Xindian Distri	1.16	272	eP	Pn	22 02 15.6	+0.8
	baz=266						
NHDH				eS	Sn	22 02 28.6	-1.1
	baz=266						
NWLT	Wulai	1.19	263	eP	Pb	22 02 16.9	+0.7
	baz=267						
NDT	Datong Townshi	1.21	255	eP	Pb	22 02 17.1	+0.5
	baz=258						
LATG	Datong	1.22	252	eP	Pn	22 02 16.2	+0.4
	baz=254						
HATJ	Hateruma jima	1.26	133	eS	Sn	22 02 32.6	+0.4
JKRS	Kuro-shima	1.30	121	P	Pn	22 02 16.8	+0.1
JKRS				S	Sn	22 02 33.6	+0.4
YHNB	Yeheng	1.32	259	eP	Pb	22 02 18.2	-0.2
	baz=262						
NACB	Ninganchiao	1.32	236	eP	Pb	22 02 18.6	+0.1
	baz=237						
NACB				eS	Sb	22 02 34.0	-1.1
	baz=237						
NSK	Sanguang	1.33	260	eP	Pn	22 02 18.4	+1.2
	baz=262						
JIJ	Ishigaki jima	1.34	114	eP	Pn	22 02 17.6	+0.2
JIJ				S	Sn	22 02 34.6	+0.2
NNSB	Datong	1.38	249	eP	Pb	22 02 19.4	-0.1
	baz=251						
NNS	Nan Shan	1.38	250	eP	Pb	22 02 19.4	-0.2
	baz=252						
NNS				eS	Sn	22 02 34.3	-1.3
	baz=252						
ETLH	Xiulin Townshi	1.39	240	eP	Pb	22 02 20.1	+0.3
	baz=227						
JISG	Ishigakijimahi	1.42	103	eP	Pn	22 02 18.6	+0.2
JISG				S	Sn	22 02 36.1	-0.1
LXIB	Xiulin Townshi	1.55	235	eP	Pn	22 02 21.5	+1.2
	baz=236						
NFF	Wufeng Townshi	1.55	260	eP	Pn	22 02 21.9	+1.5
	baz=262						
SHUL	Shoufeng	1.60	225	eP	Pb	22 02 22.7	-0.5
	baz=213						
WHF	Hehuan Shan	1.60	241	eP	Pb	22 02 23.3	-0.1
	baz=242						
ESL	Shilin	1.66	229	eP	Pn	22 02 23.2	+1.4
	baz=229						
CHGB	Renai	1.71	240	eP	Pb	22 02 25.4	+0.2
	baz=230						
WARBT	Fenglin Townsh	1.76	227	eP	Pn	22 02 23.8	+0.7
	baz=228						
WARBT				eS	Sn	22 02 42.2	-2.5
	baz=228						
EGFH	Guangfu	1.77	225	eP	Pn	22 02 23.1	-0.1
	baz=214						
WUSB	Renai	1.79	239	eP	Pb	22 02 25.7	-0.8
	baz=227						
WHP	Taichung City	1.80	250	eP	Pb	22 02 27.8	+1.0
	baz=241						
HGSD	Ruisui	1.90	222	eP	Pn	22 02 25.6	+0.6
	baz=211						
VWDT	VWDT	1.91	233	eP	Pn	22 02 26.8	+1.6
	baz=223						
EHY	Hungye	1.95	224	eP	Pn	22 02 26.6	+0.9
	baz=224						
SSLB	Suanglung	2.03	236	eP	Pn	22 02 28.6	+1.8
	baz=225						
YULB	Yu-li	2.05	222	eP	Pn	22 02 27.9	+0.8
	baz=236						
EYUL	Yuli	2.07	221	eP	Pn	22 02 28.0	+0.6
	baz=235						
TWF1	Yuli	2.08	222	eP	Pn	22 02 28.7	+1.2
	baz=235						
WHYT	Xinyi Township	2.15	236	eP	Pn	22 02 30.7	+2.2
	baz=226						
FULB	Fuli	2.20	219	eP	Pn	22 02 29.6	+0.4
	baz=208						
ALS	Alishan	2.30	233	eP	Pn	22 02 33.0	+2.2
	baz=234						
STYH	Taoyuan	2.54	227	eP	Pn	22 02 35.7	+1.9
	baz=218						
TPUB	Ta-pu	2.56	231	eP	Pn	22 02 36.9	+2.8
	baz=221						
WTP	Ta-pu	2.60	231	eP	Pn	22 02 37.5	+2.8
	baz=221						
TWK	Hsinying	2.68	232	eP	Pn	22 02 38.2	+2.4
	baz=233						
SGST	Jiashian	2.73	228	eP	Pn	22 02 39.4	+2.9
	baz=218						
SLGT	Liugui	2.75	226	eP	Pb	22 02 40.1	-2.7
	baz=227						
MASBT	Mashibuluo	3.04	221	eP	Pn	22 02 44.1	+3.4
	baz=214						
SCZT	Fangliau	3.23	219	eP	Pn	22 02 46.8	+3.5
	baz=210						

IDC 06 22:29:02.8±1.9, **4°.17S**×**144°.48E**, **h0**km, **mb3.2**/3, **mbtmp3.3**/4, **ML3.5**/1, **Error ellipse: s-maj=73.4km s-min=27.6km az=108.0**, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.54	211	P	P	22 33 20.6	-0.6
	0.2nm,0.3s,baz=34,slow=11,SNR=8.6						
	1.1nm,0.7s						
ASAR	Alice Springs	21.91	207	P	P	22 33 57.5	-0.4
	0.4nm,0.5s,baz=32,slow=7.9,SNR=9.5						
	0.4nm,0.5s						
MKAR	Makanchi Array	74.50	321	P	P	22 40 42.9	-0.4
	0.1nm,0.3s,baz=102,slow=6.9,SNR=4.1						
	0.1nm,0.3s						
ILAR	Eielson Array	84.81	24	P	P	22 41 40.0	+1.1
	0.3nm,0.7s,baz=236,slow=6.4,SNR=2.8						
	0.3nm,0.7s						

*IDC **06** 22:55:36.2±1.7, 30°.42S×178°.21W, h0km, mb4.1/4, mbtmp4.2/6, ML3.7/2, Error ellipse: s-maj=51.1km s-min=29.6km az=141.0*

ISC 06 22:55:42.1±1.4, **30°.8S**±0°.1×**178°.1W**±0°.2, **h46**km, **n7**, σ**1s.98**/9, **mb4.1**/4, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.47	206	Pn	Pn	22 57 43.5	+1.5
	0.3nm,0.3s,baz=125,slow=6.8,SNR=2.7						
URZ				Sn	Sn	22 59 12.6	-3.6
	3.7nm,0.3s,baz=110,slow=23,SNR=13						
	15nm,1.0s						
RPZ	Rata Peaks	15.54	211	Pn	Pn	22 59 19.4	+1.4
	0.8nm,0.3s,baz=5.5,slow=16,SNR=1.7						
RPZ				Sn	Sn	23 02 10.8	+1.8
	0.2nm,0.3s,baz=285,slow=3.6,SNR=1.7						
	5.5nm,0.4s						
STKA	Stephens Creek	34.31	257	P	P	23 02 25.3	+1.1
	4.2nm,0.5s,baz=96,slow=18,SNR=11						
	4.2nm,0.5s						
ASAR	Alice Springs	43.00	267	P	P	23 03 36.1	-1.0
	0.6nm,0.5s,baz=105,slow=7.5,SNR=17						
	0.6nm,0.5s						
WRA	Warramunga Arr	44.02	273	P	P	23 03 44.5	-0.9
	1.1nm,0.3s,baz=112,slow=8.0,SNR=37						
	1.1nm,0.3s						
NVAR	Mina Array Bea	88.56	43	P	P	23 08 29.9	-0.2
	0.4nm,0.3s,baz=219,slow=5.6,SNR=2.1						
	0.4nm,0.3s						
FINES	FINESS Array B	145.44	340	PKPbc	PKPbc	23 15 13.9	-0.4
	4.1nm,1.0s,baz=35,slow=5.1,SNR=7.3						

*IDC **06** 22:56:52.0±0.8, 17°.77N×94°.39E, h0km, mb4.0/15, mbtmp4.0/16, ML4.5/1, MS2.6/2, Error ellipse: s-maj=30.8km s-min=15.0km az=50.0*

*NDI **06** 22:56:53.0±2.9, 17°.53N×95°.12E, h10km, ML3.8, MW3.8, mb4.1(NEIC)*

*NEIC **06** 22:56:57.3±1.6, 17°.68N±0°.09×94°.40E±0°.06, h36km±6km, mb4.1/9, Error ellipse: s-maj=13.9km s-min=8.2km az=198.0*

ISC 06 22:56:58.0±0.6, **17°.72N**±0°.06×**94°.39E**±0°.06, **h46**km, **n57**, σ**1s.94**/63, **mb4.0**/20, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	4.39	80		Pn	22 58 01.5	-0.7
CM31				Sn	Sn	22 58 49.9	-2.2
CMAR	Chiang Mai Arr	4.39	80		Pn	22 58 01.9	-0.2
CMAR	Chiang Mai Arr	4.39	80	Pn	Pn	22 58 01.1	-1.1
	6.1nm,0.3s,baz=260,slow=14,SNR=85						
CMAR				Sn	Sn	22 58 53.7	+1.6
	0.8nm,0.3s,baz=258,slow=18,SNR=7.6						
CMAR				LR	LR	23 00 00.8	
	comp=Z,46nm,18.8s,baz=255,slow=43						
	21nm,0.4s						
CHTO	Chiang Mai	4.46	75		Pn	22 58 02.3	-0.8
CHTO				Sn	Sn	22 58 52.3	-1.4
MND	Mandalay	4.57	21		Pn	22 58 02.0	-2.6
DGPR	DIGLIPUR	4.73	198	eP	Pn	22 58 05.7	-1.2
DGPR				eS	Sn	22 58 58.6	-1.9
SAIH	SAIHA	4.92	345	eP	Pn	22 58 10.0	+0.5
SAIH				ex	Sn	22 59 02.9	-2.4
PHRA	Phrae	5.61	81		Pn	22 58 18.6	-0.2
CRAI	Chiangrai	6.18	65		Pn	22 58 26.1	-0.7
IMP	Imphal	7.08	357	eP	Pn	22 58 40.7	+1.5
IMP				eS	Sn	22 59 58.9	+0.4
IMP				eS	Sn	23 00 02.0	+3.6
KOHI	KOHIMA	7.96	358	eP	Pn	22 58 51.0	-0.3
KOHI				eS	Sn	23 00 17.9	-2.3
KOHI				IAML		23 00 21.3	
	comp=E,52nm,0.2s						
KOHI				IAML		23 00 21.9	
	comp=N,80nm,0.2s						
SHL	Shillong	8.15	344	eP	Pn	22 58 55.4	+1.6
SHL				ex	Sn	23 00 16.2	-8.4
SHL				IAML		23 00 24.1	
	comp=E,47nm,0.5s						
SHL				IAML		23 00 27.1	
	comp=N,107nm,0.2s						
TNCH	TengChong	8.22	27	eP	Pn	22 58 57.3	+2.4
TNCH				sP		22 59 09.6	
TNCH				pmax	pmax		
	comp=Z,15nm,0.4s						
MOKO	MOKOCHONG	8.56	1	eP	Pn	22 58 59.2	-0.2
MOKO				eS	Sn	23 00 33.8	-0.9
MOKO				IAML		23 00 34.6	
	comp=E,55nm,0.6s						
MOKO				IAML		23 00 35.3	
	comp=N,52nm,0.4s						
TEZP	TEZPUR	8.97	351	ex	Pn	22 59 02.7	-2.2
TEZP				IAML		23 00 40.1	
	comp=E,24nm,1.0s						
TEZP				eS	Sn	23 00 42.4	-2.3
TEZP				IAML		23 00 46.7	
	comp=E,38nm,1.6s						
DHUB	DHUBRI	9.21	334	eP	Pn	22 59 13.8	+5.7
DHUB				ex	x	22 59 15.9	
DHUB				ex	x	23 00 53.1	
DHUB				eS	Sn	23 00 53.6	+3.1
DHUB				IAML		23 00 55.3	
	comp=N,26nm,0.4s						
ITAN	ITANAGAR	9.40	356	eS	Sn	23 00 48.1	-7.0
UBPT	Khong Chiam	10.90	101	Pn	Pn	22 59 30.7	-0.7
GTK	Tadong	10.94	332	eP	Pn	22 59 32.8	+0.7
PALK	Pallekele	16.91	234	LR	LR	23 08 28.7	
	comp=N,30nm,18.1s,baz=94,slow=41						
XAN	Xi'an	20.81	36	P	P	23 01 36.5	+0.9
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NIL	Nilore	24.71	314	P	P	23 02 13.7	-1.3
NIL				IAmb	IAmb	23 02 20.6	
	comp=Z,6.2nm,0.8s						
WMQ	Urumqi	26.62	349	eP	P	23 02 34.9	+2.7
HHC	Hu-ho-hao-te	27.38	29	eP	P	23 02 41.5	+2.4
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC				pmax	pmax		
	comp=Z,190nm,4.8s						
MK31	**Makanchi Array**	**30.67**	**344**	P	**P**	**23 03 08.7**	**+0.6**
MKAR	**Makanchi Array**	**30.67**	**344**	P	**P**	**23 03 08.1**	**0.0**
MKAR	**Makanchi Array**	**30.67**	**344**	P	**P**	**23 03 08.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=163,slow=8.0,SNR=18						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**31.60**	**16**	P	**P**	**23 03 16.2**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=189,slow=8.5,SNR=3.9						
	comp=Z,1.2nm,0.9s						
H08S3	**Diego Garcia H**	**33.21**	**222**	T	T	23 38 04.1	
	baz=42,slow=74,SNR=5.4						
H08S2	**Diego Garcia H**	**33.22**	**222**	T	T	23 38 02.7	
	baz=42,slow=74,SNR=4.7						
H08S1	**Diego Carcia H**	**33.23**	**222**	T	T	23 38 03.4	
	baz=42						
KURBB	**Kurchatov Arra**	**35.19**	**342**	P	**P**	**23 03 46.6**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=152,slow=8.4,SNR=2.9						
	comp=Z,0.7nm,0.3s						
KURK	**Kurchatov**	**35.25**	**343**	P	**P**	**23 03 47.0**	**-0.9**
KURK				IAmb	IAmb	23 03 49.1	
	comp=Z,2.9nm,1.1s						
ZAA0	**Zalesovo Array**	**36.91**	**351**	P	**P**	**23 04 02.3**	**+0.2**
ZAA0				IAmb	IAmb	23 04 06.1	
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**36.91**	**351**	P	**P**	**23 04 02.1**	**0.0**
	comp=Z,1.8nm,0.5s,baz=180,slow=9.6,SNR=10						
	comp=Z,1.8nm,0.5s						
GEYT	**Alibeck**	**37.55**	**310**	P	**P**	**23 04 07.6**	**-0.3**
GEYT				IAmb	IAmb	23 04 13.9	
	comp=Z,2.7nm,0.9s						
GEYT	**Alibeck**	**37.55**	**310**	P	**P**	**23 04 09.0**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=75,slow=6.1,SNR=2.6						
	comp=Z,2.3nm,1.0s						
ABKAR	**Akbulak array**	**41.97**	**326**	P	**P**	**23 04 44.5**	**+0.2**
ABKAR	**Akbulak array**	**41.97**	**326**	P	**P**	**23 04 44.3**	**-0.1**
ABKAR				IAmb	IAmb	23 04 46.6	
	comp=Z,2.1nm,1.2s						
NRIK	**Noril'sk**	**51.78**	**357**	P	**P**	**23 06 00.3**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=153,slow=9.0,SNR=2.0						
	comp=Z,0.7nm,0.4s						
WB0	**Warramunga Arr**	**54.13**	**132**	P	**P**	**23 06 17.9**	**-0.9**
WRA	**Warramunga Arr**	**54.21**	**132**	P	**P**	**23 06 19.7**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=314,slow=7.1,SNR=6.8						
WRA				PcP	**PcP**	**23 07 24.4**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=322,slow=3.9,SNR=4.9						
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**56.40**	**136**	P	**P**	**23 06 36.1**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=314,slow=6.9,SNR=20						
ASAR				PcP	**PcP**	**23 07 32.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=327,slow=4.4,SNR=2.5						
	comp=Z,0.7nm,0.5s						
ELL	**Elmali**	**59.33**	**303**	P	**P**	**23 06 56.2**	**+0.6**
BURAR	**Bucovina Array**	**63.12**	**315**	P	**P**	**23 07 21.8**	**+0.8**
BURAR				IAmb	IAmb	23 07 23.4	
	comp=Z,0.8nm,0.9s						
FINES	**FINESS Array B**	**64.24**	**330**	P	**P**	**23 07 28.6**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=98,slow=7.6,SNR=5.4						
	comp=Z,1.7nm,0.8s						
ARCES	**ARCESS Array B**	**66.17**	**339**	P	**P**	**23 07 41.2**	**+0.8**
	comp=Z,4.0nm,1.0s,baz=87,slow=8.2,SNR=7.6						
	comp=Z,4.0nm,1.0s						
HFS	**Hagfors**	**70.18**	**328**	P	**P**	**23 08 05.8**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=93,slow=8.7,SNR=1.6						
	comp=Z,2.3nm,0.8s						
GERES	**GERESS Array B**	**70.79**	**316**	P	**P**	**23 08 10.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=86,slow=5.0,SNR=3.5						
	comp=Z,0.8nm,0.7s						
CLL	**Collm**	**71.03**	**319**	*e*P	**P**	**23 08 11.0**	**0.0**
NOA	**NORSAR Array B**	**71.37**	**329**	P	**P**	**23 08 13.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=87,slow=6.1,SNR=3.4						
	comp=Z,0.7nm,0.7s						
H04N2	**CROZET ISLANDS**	**74.33**	**209**	T	T	00 29 26.6	
	baz=42,slow=75,SNR=10.0						
H04N1	**CROZET ISLANDS**	**74.33**	**209**	T	T	00 29 30.4	
	baz=42,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**74.34**	**209**	T	T	00 29 26.6	
	baz=42,slow=75,SNR=11						
EKA	**Eskdalemuir Ar**	**79.82**	**325**	P	**P**	**23 09 01.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=70,slow=4.9,SNR=4.2						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**85.58**	**22**	P	**P**	**23 09 30.7**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=292,slow=4.6,SNR=5.4						
	comp=Z,0.5nm,0.8s						
BCAR	**Beaver Creek A**	**88.41**	**22**	P	**P**	**23 09 45.6**	**+0.7**

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*HEL **06** 22:57:50.6±0.1, 67°.66N×33°.73E, h0km, ML1.9, Suspected explosion*
*KOLA **06** 22:57:50.6, 67°.64N×33°.77E, h0km, ML2.1, Error ellipse: s-maj=12.2km s-min=4.2km az=140.0, Khibiny, mines Kirovsk, Yukspor,Khibiny, mines Rasvumchorr, Central*
*IDC **06** 22:57:54.0±2.3, 67°.65N×33°.15E, h0km, mbtmp3.4/4, ML2.3/4, Error ellipse: s-maj=24.4km s-min=9.0km az=79.0*
ISC 06 22:57:49.7±0.9**, 67°.63N**±0°.03×**33°.79E**±0°.04**, h0km, n29, σ1s.45**/54**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**246**	P	**Pg**	**22 57 53.6**	**+0.9**
APA				S	**Sg**	**22 57 56.0**	**+1.2**
APA0	**Apatity Array**	**0.31**	**265**	P	**Pg**	**22 57 55.7**	**+0.2**
APA0				S	**Sg**	**22 57 59.6**	**+0.1**
LVZ	**Lovozero**	**0.42**	**51**	PG	**Pg**	**22 57 57.8**	**0.0**
LVZ				SG	**Sg**	**22 58 04.3**	**+1.1**
VRF	**Varrio**	**1.60**	**276**	PG	**Pn**	**22 58 18.6**	**-0.6**
VRF				MSG		22 58 37.8	
	comp=Z,14nm,0.2s						
VRF				SG	**Sn**	**22 58 38.5**	**-2.0**
TERR	**Teriberka**	**1.65**	**17**	P	**Pn**	**22 58 19.5**	**-0.3**
TERR				S	**Sn**	**22 58 40.5**	**-1.1**
OLKF	**Oulanka, Finla**	**2.17**	**235**	PG	**Pb**	**22 58 29.2**	**-0.6**
OLKF				MSG		22 58 54.9	
	comp=Z,4.8nm,0.2s						
OLKF				SG	**Sb**	**22 58 58.0**	**+0.8**
KU6	**Riekki**	**2.23**	**225**	PB	**Pn**	**22 58 29.3**	**+1.5**
	baz=46						
KU6				MSG		22 58 56.9	
	comp=Z,4.9nm,0.2s						
KU6				SG	**Sb**	**22 58 59.8**	**+0.9**
SGF	**Sodankyl**	**2.80**	**269**	PB	**Pb**	**22 58 38.7**	**-1.7**
SGF				SG	**Sb**	**22 59 15.1**	**0.0**
VADS	**Vadso**	**2.97**	**329**	P	**Pn**	**22 58 39.1**	**+1.2**
VADS				S	**Sn**	**22 59 15.3**	**+1.1**
RNF	**Rovaniemi**	**3.21**	**255**	PN	**Pn**	**22 58 41.7**	**+0.5**
	baz=69						
RNF				SN	**Sn**	**22 59 20.9**	**+0.8**
KEV	**Kevo**	**3.27**	**314**	*e*P	**Pn**	**22 58 42.4**	**+0.4**
KEV	**Kevo**	**3.27**	**314**	PN	**Pn**	**22 58 42.4**	**+0.4**
	baz=128						
KEV				SN	**Sn**	**22 59 20.7**	**-0.8**
ARA0	**ARCESS Array S**	**3.59**	**306**	*e*P	**Pn**	**22 58 46.7**	**+0.2**
ARA0	**ARCESS Array S**	**3.59**	**306**	PN	**Pn**	**22 58 46.3**	**-0.2**
	baz=118						
ARA0				SN	**Sn**	**22 59 27.4**	**-2.1**
ARCES	**ARCESS Array B**	**3.59**	**306**	P	**Pn**	**22 58 46.4**	**-0.1**
ARCES				S	**Sn**	**22 59 27.6**	**-1.9**
ARCES	**ARCESS Array B**	**3.59**	**306**	Pn	**Pn**	**22 58 46.4**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=123,slow=15,SNR=58						
ARCES				Pg	**Pb**	**22 58 55.0**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=116,slow=15,SNR=15						
ARCES				Sn	**Sn**	**22 59 27.9**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=118,slow=25,SNR=12						
ARCES				Lg	Lg	22 59 38.9	
	comp=Z,1.9nm,0.3s,baz=117,slow=34,SNR=12						
	comp=Z,3.6nm,0.5s						
RMF	**Romuvaara**	**3.78**	**207**	PN	**Pn**	**22 58 50.6**	**+1.5**
RMF				SN	**Sn**	**22 59 34.9**	**+0.8**
KLF	**Kolari**	**3.81**	**269**	PG	**Pb**	**22 58 57.6**	**0.0**
	baz=81						
KLF				SG	**Sb**	**22 59 47.5**	**+3.2**
HEF	**Hetta**	**3.89**	**286**	PN	**Pn**	**22 58 52.1**	**+1.5**
HEF				SN	**Sn**	**22 59 35.4**	**-1.5**
TOF	**Tornio**	**4.05**	**252**	PG	**Pb**	**22 59 03.0**	**+1.3**
TOF				SN	**Sn**	**22 59 40.5**	**-0.3**
OUL	**Oulu**	**4.08**	**235**	PB	**Pb**	**22 58 59.5**	**-2.8**
OUL				SB	**Sb**	**22 59 50.4**	**-1.6**
KTK1	**Kautokeino**	**4.15**	**294**	PG	**Pb**	**22 59 04.5**	**+1.0**
KTK1				SN	**Sn**	**22 59 41.7**	**-1.6**
PAJU	**Pajala**	**4.18**	**267**	PG	**Pb**	**22 59 05.1**	**+1.1**
PAJU				SN	**Sn**	**22 59 43.4**	**-0.6**
LANU	**Lannavaara**	**4.49**	**281**	PN	**Pn**	**22 58 59.4**	**+0.6**
LANU				SN	**Sn**	**22 59 50.6**	**-1.0**
KALU	**Kalix**	**4.50**	**252**	PG	**Pb**	**22 59 11.2**	**+1.7**
KALU				SN	**Sn**	**22 59 50.4**	**-1.6**
FINES	**FINESS Array B**	**7.04**	**212**	Pn	**Pn**	**22 59 34.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=4.3						
FINES				Sn	**Sn**	**23 00 52.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=22,SNR=2.8						
FINES				Lg	Lg	23 01 27.8	
	comp=Z,0.9nm,0.3s,baz=32,slow=24,SNR=12						
	comp=Z,1.9nm,0.9s						
FAUS	**Fauske**	**7.10**	**277**	S	**Sn**	**23 00 50.9**	**-4.9**
HFS	**Hagfors**	**11.56**	**239**	Pn	**Pn**	**23 00 33.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=16,slow=18,SNR=2.1						
HFS				Sn	Sn	23 02 29.8	-16
	baz=76,slow=24,SNR=2.1						
HFS				Lg	Lg	23 03 47.9	
	comp=Z,0.1nm,0.3s,baz=58,slow=27,SNR=1.6						
	comp=Z,5.3nm,1.1s						
NOA	**NORSAR Array B**	**11.75**	**247**	Pn	**Pn**	**23 00 37.2**	**-1.1**
	baz=45,slow=11,SNR=1.6						
	comp=Z,0.8nm,0.9s						

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*TAP **06** 23:04:31.7, 24°.79N×122°.27E, h17km, ML2.7, D*
*JMA **06** 23:04:32.2±0.1, 24°.7N±0°.5×122°.3E±0°.2, h14km±2km, MV2.2/10, TAIWAN REGION*
ISC 06 23:04:31.6±1.0**, 24°.78N**±0°.02×**122°.30E**±0°.02**, h14**km±8km**, n81, σ0s.57**/116**, 2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.34**	**282**	*e*P	**Pg**	**23 04 38.7**	**+0.2**
	baz=275						
TWB1	**Santiao Chiao**	**0.36**	**310**	⇑*i*P	**Pg**	**23 04 39.1**	**+0.1**
	baz=310						
TWB1				*i* S	**Sg**	**23 04 43.7**	**-0.2**
	baz=310						
EOS2	**EOS2**	**0.36**	**189**	⇑*i*P	**Pb**	**23 04 39.9**	**+0.1**
	baz=188						
EOS2				*i* S	**Sb**	**23 04 46.0**	**+0.7**
	baz=188						
TWC	**Suao**	**0.44**	**248**	P	**Pg**	**23 04 40.3**	**-0.1**
	baz=251						
TWC				S	**Sg**	**23 04 46.2**	**0.0**
	baz=251						
ESAO	**Su ao**	**0.46**	**244**	*e*P	**Pb**	**23 04 41.1**	**-0.3**
	baz=248						
ESAO				*e*S	**Sg**	**23 04 46.9**	**+0.1**
	baz=248						
TIPB	**Shuangxi**	**0.47**	**294**	*e*P	**Pb**	**23 04 42.0**	**+0.3**
	baz=299						
TIPB				*e*S	**Sb**	**23 04 48.7**	**+0.2**
	baz=299						
EOS3	**EOS3**	**0.49**	**178**	*e*P	**Pb**	**23 04 41.9**	**0.0**
	baz=183						
SXI1	**Grass Mountain**	**0.49**	**310**	P	**Pg**	**23 04 41.9**	**+0.4**
	baz=309						
SXI1				S	**Sg**	**23 04 48.3**	**+0.2**
	baz=309						
NDS	**Dongshan**	**0.55**	**255**	*e*P	**Pg**	**23 04 42.5**	**+0.2**
	baz=249						
NDS				*e*S	**Sb**	**23 04 50.4**	**-0.3**
	baz=249						
NWF	**Wu-fen Shan**	**0.55**	**302**	*e*P	**Pg**	**23 04 40.6**	**-1.9**
	baz=301						
WFSB	**Wu-fen Shan**	**0.55**	**302**	*e*P	**Pg**	**23 04 40.6**	**-1.9**
	baz=301						
TWE	**Neicheng**	**0.57**	**264**	*e*P	**Pg**	**23 04 42.9**	**0.0**
	baz=264						
TWE				*e*S	**Sb**	**23 04 52.1**	**+0.7**
	baz=264						
EWUT	**Wuta**	**0.57**	**235**	*e*P	**Pb**	**23 04 43.5**	**0.0**
	baz=233						
EWUT				*e*S	**Sb**	**23 04 51.3**	**-0.2**
	baz=233						
TNOU	**National Taiwa**	**0.60**	**308**	*e*P	**Pb**	**23 04 44.2**	**+0.2**
	baz=308						
TNOU				S	**Sb**	**23 04 52.7**	**+0.3**
	baz=308						
ENA	**Nanau**	**0.61**	**235**	*e*P	**Pg**	**23 04 43.6**	**0.0**
	baz=233						
FUSB	**Fushanzhiwuyua**	**0.64**	**269**	*e*P	**Pb**	**23 04 45.0**	**+0.3**
	baz=267						
FUSB				S	**Sb**	**23 04 53.4**	**-0.2**
	baz=267						
EOS4	**EOS4**	**0.65**	**178**	*e*P	**Pb**	**23 04 45.0**	**+0.4**
	baz=176						
EAHA	**Aohua**	**0.68**	**229**	*e*P	**Pb**	**23 04 45.4**	**+0.2**
	baz=226						
JYNG	**Yonagunijimaku**	**0.68**	**119**	P	**Pg**	**23 04 44.6**	**-0.2**
JYNG				S	**Sg**	**23 04 53.4**	**-0.3**
ENTT	**Nioudou**	**0.68**	**258**	*e*P	**Pb**	**23 04 45.8**	**+0.6**
	baz=264						
ENTT				*e*S	**Sb**	**23 04 55.1**	**+0.7**
	baz=264						
TWA	**Mucha**	**0.68**	**287**	*e*P	**Pb**	**23 04 46.0**	**+0.8**
	baz=278						
TWA				*e*S	**Sb**	**23 04 55.5**	**+1.0**
	baz=278						
NWLT	**Wulai**	**0.72**	**270**	*e*P	**Pb**	**23 04 46.6**	**+0.6**
	baz=269						
NWLT				*e*S	**Sb**	**23 04 55.9**	**+0.1**
	baz=269						
NHDH	**Xindian Distri**	**0.72**	**285**	*e*P	**Pn**	**23 04 46.9**	**-0.5**
	baz=284						
YOJ	**Yonaguni jima**	**0.72**	**116**	P	**Pg**	**23 04 45.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.72**	**116**	P	**Pg**	**23 04 45.3**	**-0.4**
YOJ				S	**Sg**	**23 04 55.0**	**-0.2**
NDT	**Datong Townshi**	**0.73**	**256**	*e*P	**Pb**	**23 04 46.8**	**+0.6**
	baz=255						
LATG	**Datong**	**0.74**	**251**	*e*P	**Pb**	**23 04 46.3**	**-0.1**
	baz=250						
LATG				*e*S	**Sn**	**23 04 57.4**	**-1.5**
	baz=250						
TATO	**Taipei**	**0.76**	**285**	P	**Pn**	**23 04 47.6**	**-0.3**
TWY	**Chenhua**	**0.80**	**308**	*e*P	**Pb**	**23 04 47.6**	**+0.2**
	baz=308						
TWY				*e*S	**Sb**	**23 04 58.9**	**+0.8**
	baz=308						
YHNB	**Yeheng**	**0.84**	**263**	P	**Pg**	**23 04 48.4**	**+0.4**
YHNB	**Yeheng**	**0.84**	**263**	P	**Pb**	**23 04 48.1**	**0.0**
	baz=271						
YHNB				*e*S	**Sb**	**23 05 00.1**	**+0.8**
	baz=271						
NSK	**Sanguang**	**0.86**	**263**	P	**Pb**	**23 04 48.4**	**+0.1**
	baz=262						
NSK				S	**Sg**	**23 04 59.9**	**+0.3**
	baz=262						
ETL	**Fush Village**	**0.87**	**225**	*e*P	**Pg**	**23 04 48.5**	**0.0**
	baz=223						
PCYT	**Pengchaiyu**	**0.87**	**347**	P	**Pb**	**23 04 48.9**	**+0.4**
	baz=348						
NACB	**Ninganchiao**	**0.88**	**227**	P	**Pb**	**23 04 48.3**	**-0.3**
NACB	**Ninganchiao**	**0.88**	**227**	P	**Pb**	**23 04 48.4**	**-0.3**
	baz=226						
NACB				*e*S	**Sb**	**23 04 59.8**	**-0.5**
	baz=226						
NNSB	**Datong**	**0.90**	**247**	P	**Pb**	**23 04 48.9**	**-0.2**
	baz=237						
NNSB				*e*S	**Sn**	**23 05 01.9**	**-1.0**
	baz=237						
NNSH	**Datong**	**0.90**	**247**	*e*P	**Pn**	**23 04 50.1**	**+0.1**
	baz=247						
NNS	**Nan Shan**	**0.90**	**248**	*e*P	**Pg**	**23 04 49.5**	**+0.3**
	baz=238						
NNS				*e*S	**Sg**	**23 05 01.4**	**+0.4**
	baz=238						
ETLH	**Xiulin Townshi**	**0.93**	**233**	*e*P	**Pn**	**23 04 50.2**	**-0.3**
	baz=231						
TWD	**Chiawan**	**0.94**	**223**	*e*P	**Pn**	**23 04 50.6**	**+0.2**
	baz=230						
TWD				*e*S	**Sn**	**23 05 03.9**	**+0.1**
	baz=230						
NFF	**Wufeng Townshi**	**1.08**	**263**	*e*P	**Pg**	**23 04 52.9**	**+0.4**
	baz=262						
ETM	**Tongmen**	**1.09**	**222**	*e*P	**Pg**	**23 04 54.0**	**+1.3**
	baz=235						
ETM				*e*S	**Sn**	**23 05 08.3**	**+0.9**
	baz=235						
FUSS	**Fushou**	**1.09**	**241**	*e*P	**Pg**	**23 04 53.0**	**+0.2**
	baz=241						
FUSS				*e*S	**Sn**	**23 05 07.8**	**0.0**
	baz=241						
LXIB	**Xiulin Townshi**	**1.10**	**227**	*e*P	**Pn**	**23 04 52.7**	**-0.1**
	baz=235						
LXIB				S	**Sn**	**23 05 07.7**	**-0.2**
	baz=235						
WHF	**Hehuan Shan**	**1.13**	**236**	P	**Pg**	**23 04 53.6**	**+0.1**
	baz=236						
WHF				S	**Sn**	**23 05 08.8**	**-0.2**
	baz=236						
TWT	**Tachien**	**1.15**	**243**	*e*P	**Pg**	**23 04 53.8**	**+0.1**
	baz=242						
LIOB	**Emei**	**1.17**	**264**	*e*P	**Pg**	**23 04 54.4**	**+0.2**
	baz=263						
NSTT	**Nanjuang**	**1.19**	**263**	*e*P	**Pb**	**23 04 54.2**	**+0.3**
	baz=263						
SHUL	**Shoufeng**	**1.19**	**214**	*e*P	**Pg**	**23 04 56.2**	**+1.7**
	baz=197						
ESL	**Shilin**	**1.24**	**220**	*e*P	**Pg**	**23 04 55.3**	**-0.2**
	baz=201						
CHGB	**Renai**	**1.25**	**235**	P	**Pg**	**23 04 55.5**	**-0.1**
	baz=236						
CHGB				*e*S	**Sg**	**23 05 13.1**	**+1.1**
	baz=236						
OWD	**Renai**	**1.31**	**231**	*e*P	**Pg**	**23 04 56.8**	**0.0**
	baz=231						
WHP	**Taichung City**	**1.33**	**248**	*e*P	**Pg**	**23 04 58.0**	**+0.9**
	baz=250						
WHP				*e*S	**Sg**	**23 05 14.3**	**-0.1**
	baz=250						
WUSB	**Renai**	**1.33**	**234**	*e*P	**Pg**	**23 04 57.3**	**+0.1**
	baz=233						
WARBT	**Fenglin Townsh**	**1.34**	**218**	*e*P	**Pb**	**23 04 56.5**	**-0.1**
	baz=234						
WARBT				*e*S	**Sg**	**23 05 15.4**	**+0.5**
	baz=234						
IRIF	**Iriomote-Funau**	**1.38**	**108**	P	**Pn**	**23 04 56.7**	**+0.3**
IRIF				*e*S	**Sn**	**23 05 14.3**	**-0.2**
TWQ1	**Liyutan**	**1.45**	**253**	*e*P	**Pg**	**23 04 59.6**	**+0.1**
	baz=269						
DPDB	**Guoxing**	**1.45**	**240**	*e*P	**Pg**	**23 04 59.7**	**+0.2**
	baz=239						
WCS	**Beigang Elemen**	**1.45**	**241**	*e*P	**Pg**	**23 04 59.8**	**+0.3**
	baz=241						
VWDT	**VWDT**	**1.47**	**226**	*e*P	**Pg**	**23 04 59.5**	**-0.3**
	baz=231						
VWDT				*e*S	**Sg**	**23 05 19.0**	**+0.2**
	baz=231						
HGSD	**Ruisui**	**1.51**	**212**	*e*P	**Pb**	**23 04 59.5**	**+0.1**
	baz=197						
EHY	**Hungye**	**1.55**	**215**	*e*P	**Pb**	**23 04 59.7**	**-0.4**
	baz=213						
SMLT	**Sun Moon Lake**	**1.55**	**235**	*e*P	**Pg**	**23 05 01.4**	**-0.1**
	baz=220						
SSLB	**Suanglung**	**1.57**	**231**	P	**Pg**	**23 05 01.5**	**-0.3**
SSLB	**Suanglung**	**1.57**	**231**	*e*P	**Pb**	**23 05 01.1**	**+0.6**
	baz=230						
TYC	**Yuchr**	**1.57**	**237**	*e*P	**Pg**	**23 05 01.8**	**0.0**
	baz=237						
YULB	**Yu-li**	**1.65**	**214**	P	**Pb**	**23 05 01.6**	**-0.3**
YULB	**Yu-li**	**1.65**	**214**	*e*P	**Pn**	**23 04 59.8**	**-0.5**
	baz=212						
TWF1	**Yuli**	**1.69**	**213**	*e*P	**Pb**	**23 05 02.8**	**+0.3**
	baz=211						
WHYT	**Xinyi Township**	**1.70**	**231**	*e*P	**Pg**	**23 05 03.7**	**-0.6**
	baz=217						
WJS	**Zhushan**	**1.72**	**237**	*e*P	**Pg**	**23 05 04.0**	**-0.7**
	baz=236						
JIJ	**Ishigaki jima**	**1.73**	**103**	*e*P	**Pn**	**23 05 01.9**	**+0.6**
JIJ				*e*S	**Sn**	**23 05 23.6**	**+0.4**
ALS	**Alishan**	**1.86**	**227**	*e*P	**Pb**	**23 05 05.3**	**-0.2**
	baz=209						
CHN5	**Tsauling**	**1.89**	**232**	*e*P	**Pb**	**23 05 06.0**	**+0.1**
	baz=231						
WCKO	**Fanlu**	**2.04**	**230**	*e*P	**Pb**	**23 05 07.8**	**-0.7**
	baz=229						
CHN4	**Tsaushan**	**2.11**	**228**	*e*P	**Pb**	**23 05 09.7**	**+0.1**
	baz=228						
TPUB	**Ta-pu**	**2.12**	**226**	P	**Pb**	**23 05 09.8**	**0.0**
TPUB	**Ta-pu**	**2.12**	**226**	*e*P	**Pb**	**23 05 09.3**	**-0.5**
	baz=210						
TPUB				*e*S	**Sg**	**23 05 37.8**	**-1.9**
	baz=210						
WTP	**Ta-pu**	**2.17**	**226**	*e*P	**Pb**	**23 05 09.9**	**-0.7**
	baz=209						
TWK	**Hsinying**	**2.23**	**228**	*e*P	**Pb**	**23 05 10.7**	**-1.2**
	baz=228						

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*NEIC **06** 23:31:03.0±1.4, 36°.51N±0°.02×99°.23W±0°.04, h5km±2km, Error ellipse: s-maj=5.7km s-min=3.0km az=301.0*
TUL 06 23:31:04±1.4**, 36°.50N**±0°.02×**99°.20W**±0°.03**, h7**km±5km**, ML2.8, mb_Lg2.6**/27(NEIC)**, ML2.8**/8(NEIC)**, Error ellipse: s-maj=3.8km s-min=2.4km az=116.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.20**	**127**	Pg	Pg	23 31 08.3	+0.3
U32A				Sg	Sg	23 31 11.6	+0.8
U32A				IAML		23 31 12.0	
	comp=E,2μm,0.1s						
OK038	**West end E0370**	**0.37**	**94**	Pg	Pg	23 31 11.6	+0.4
OK038				Sg	Sg	23 31 17.0	+0.9
OK038				IAML		23 31 19.5	
	comp=E,936nm,0.2s						
OK038				IAML		23 31 22.6	
	comp=E,938nm,0.4s						
OK035	**E0210 Rd and N**	**0.45**	**62**	Pg	Pg	23 31 12.9	+0.2
OK035				Sg	Sg	23 31 19.3	+0.9
OK035				IAML		23 31 23.0	
	comp=E,922nm,0.2s						
ELIS	**Ellis County**	**0.47**	**202**	Pg	Pg	23 31 13.4	+0.3
OK032	**Salt Plains WL**	**0.85**	**69**	Pg	Pg	23 31 20.0	-0.3
OK032					Sg	23 31 31.2	-0.2
CSTR	**Hydro, Custer**	**0.95**	**154**	Pg	Pg	23 31 21.9	-0.3
CROK	**Carrier**	**0.98**	**90**		Pg	23 31 22.5	-0.3
KAN10	**Anthony SW Sta**	**1.08**	**55**		Pg	23 31 24.3	-0.5
KAN08	**Anthony NE Sta**	**1.22**	**53**	Pg	Pg	23 31 26.7	-0.7
KAN17	**Caldwell West**	**1.27**	**64**	Pg	Pn	23 31 27.6	-0.7
KAN06	**Argonia West S**	**1.31**	**55**		Pn	23 31 28.2	-0.5
KAN01	**Argonia South**	**1.33**	**60**		Pn	23 31 27.9	-1.2
KAN09	**Caldwell North**	**1.42**	**63**		Pn	23 31 30.1	-0.2
OK029	**Liberty Lake**	**1.58**	**116**	Pg	Pn	23 31 32.3	-0.2
BLOK	**Blackwell**	**1.62**	**80**	Pg	Pn	23 31 32.8	-0.2
SMWD	**Samnorwood**	**1.63**	**212**		Pn	23 31 33.6	+0.4
SMWD				IAmb_Lg		23 31 56.2	
	comp=Z,31nm,0.9s						
WMOK	**Wichita Mounta**	**1.79**	**169**	Pn	Pn	23 31 35.6	+0.1
WMOK					Sb	23 31 59.5	-0.5
WMOK				IAmb_Lg		23 32 01.0	
	comp=Z,19nm,0.8s						
OK048	**Pawnee Station**	**1.82**	**92**		Pn	23 31 36.1	+0.3
OK051	**E0350 and S346**	**1.91**	**89**		Pn	23 31 37.6	+0.6
FNO	**Franklin**	**1.92**	**130**		Pn	23 31 37.3	+0.1
R32A	**Long Quarter,**	**1.96**	**11**		Pn	23 31 38.0	+0.3
OK052	**Battle Ridge R**	**2.00**	**104**		Pn	23 31 38.5	+0.2
QUOK	**Quay**	**2.04**	**99**		Pn	23 31 39.2	+0.4
T35A	**Sooner Cattle**	**2.20**	**78**		Pn	23 31 41.0	-0.1
T35A				IAmb_Lg		23 32 13.8	
	comp=Z,20nm,0.7s						
DEOK	**Depew**	**2.28**	**106**	Pn	Pn	23 31 42.8	+0.6
CBKS	**Cedar Bluff**	**2.35**	**350**		Pn	23 31 43.4	+0.3
AMTX	**Amarillo**	**2.59**	**232**		Pn	23 31 46.6	+0.3
WTFS	**Witchita Falls**	**2.80**	**167**		Pn	23 31 49.6	+0.4
RTBA	**Rita Blanca**	**2.85**	**270**	Pn	Pn	23 31 50.2	+0.1
DKNS	**Dickens**	**3.16**	**207**	IAmb_Lg		23 32 52.3	
	comp=Z,20nm,0.7s						
KSU1	**Kansas State U**	**3.31**	**38**	IAmb_Lg		23 32 55.7	
	comp=Z,15nm,0.8s						
Z35A	**Perchaven, San**	**3.55**	**153**	Pn	Pn	23 31 59.4	-0.1
PLPT	**Palo Pinto**	**3.75**	**169**	IAmb_Lg		23 33 13.1	
	comp=Z,13nm,1.0s						
U38A	**Gravette**	**3.88**	**90**		Pn	23 32 05.9	+1.7
ABTX	**Abilene, Hawle**	**3.89**	**186**		Pn	23 32 04.5	+0.2
SN01	**Snyder 1**	**3.89**	**201**	IAmb_Lg		23 33 16.3	
	comp=Z,21nm,1.0s						
POST	**Post**	**3.92**	**210**	IAmb_Lg		23 33 11.7	
	comp=Z,11nm,0.7s						
FW07	**Weatherford**	**3.97**	**162**	IAmb_Lg		23 33 12.1	
	comp=Z,13nm,1.0s						
T25A	**Trinidad**	**4.23**	**280**		Pn	23 32 09.3	+0.2
T25A				IAmb_Lg		23 33 28.5	
	comp=Z,9.3nm,0.7s						
S39A	**Bolivar**	**4.85**	**74**	Pn	Pn	23 32 17.1	-0.3
SDCO	**Great Sand Dun**	**5.18**	**286**	Pn	Pn	23 32 22.1	-0.3
BRDY	**Brady**	**5.21**	**178**		Pn	23 32 22.9	+0.5
BRDY				IAmb_Lg		23 33 59.0	
	comp=Z,10.0nm,0.8s						
X40A	**Basin Creek Fa**	**5.57**	**109**	Pn	Pn	23 32 28.0	+0.7
MNHN	**Monahans**	**5.94**	**211**	IAmb_Lg		23 34 17.4	
	comp=Z,9.6nm,0.8s						
JCT	**Junction City**	**6.03**	**185**	IAmb_Lg		23 34 18.8	
	comp=Z,12nm,0.7s						
N23A	**Red Feather La**	**6.86**	**312**	IAmb_Lg		23 34 49.5	

comp=Z,10nm,0.8s

*IDC **06** 23:58:29.8±1.2, 23°.88S×179°.89W, h497km±11km, mb4.1/18, mbtmp4.9/19, Error ellipse: s-maj=11.6km s-min=10.3km az=162.0*

*NEIC **06** 23:58:29.9±1.8, 23°.90S±0°.09×179°.8W±0°.1, h497km±4km, mb4.7/79, Error ellipse: s-maj=15.0km s-min=11.4km az=126.0*

*NOU **06** 23:58:30.8, 23°.89S×179°.60W, h528km, mb4.9/72, South of Fiji Islands*

ISC 06 23:58:31.1±0.3**, 23°.91S**±0°.05×**179°.80W**±0°.06**, h518**km**, n255, σ1s.18**/269**, mb4.7**/79**, 1C-5D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	5.57	163	P	P	00 00 05.0	+0.9
RAO	Raoul Island	5.58	163	P	P	00 00 03.5	-0.6
RAO	Raoul Island	5.58	163	P	P	00 00 05.3	+1.2
RAO	Raoul Island	5.58	163	P	P	23 59 57.6	-6.5
	186nm,0.3s,baz=343,slow=19,SNR=2.5						
RAO				S	S	00 01 08.0	-12
	191nm,0.2s,baz=73,slow=22,SNR=2.3						
GLKZ	Green Lake	5.59	163	P	P	00 00 04.6	+0.3
GLKZ				S	S	00 01 11.3	-9.1
LKBA	Tubou, Lakemba	5.72	9	P	P	00 00 05.1	-0.6
TAVE	Taveuni	7.17	359	P	P	00 00 19.8	+0.2
DGTI	Dogotuki	7.58	357	P	P	00 00 23.7	-0.1
YSA	Yasawairara	7.59	341	P	P	00 00 23.7	-0.1
NIUE	Niue	10.37	64	P	P	00 00 51.1	-1.4
NIUE	Niue	10.37	64	P	P	00 00 51.8	-0.7
MARNC	Mare, Loyalty	11.49	280	P	P	00 01 03.3	-1.1
PINNC	Pines Island,	11.80	274	P	P	00 01 07.2	-0.3
OUENC	Ouen Island, N	12.38	274	P	P	00 01 12.2	-1.4
LIFNC	LIFOU	12.39	282	P	P	00 01 10.9	-2.9
AFI	Afiamalu	12.50	39	P	P	00 01 10.8	-4.3
OUZ	Omahuta	12.65	205	P	P	00 01 17.9	+1.7
OUZ	Omahuta	12.65	205	P	P	00 01 17.3	+1.1
DZM	Mont Dzumac	12.81	275	P	P	00 01 17.6	-0.6
DZM	Mont Dzumac	12.81	275	P	P	00 01 21.8	+3.6
DZM	Mont Dzumac	12.81	275	P	P	00 01 16.9	-1.4
	11nm,1.0s,baz=87,slow=18,SNR=8.2						
GRZ	Great Barrier	12.96	197	P	P	00 01 19.3	-0.2
KUZ	Kuaotunu	13.36	196	P	P	00 01 23.8	+0.1
KUZ	Kuaotunu	13.36	196	P	P	00 01 23.3	-0.4
WIAZ	Waiheke Island	13.56	198	P	P	00 01 26.6	+0.8
MXZ	Matakaoa Point	13.71	186	P	P	00 01 25.1	-2.2
MXZ	Matakaoa Point	13.71	186	P	P	00 01 25.2	-2.1
MXZ				S	S	00 03 52.1	-0.5
ETAZ	East Tamaki Re	13.77	198	P	P	00 01 29.0	+1.0
MKAZ	Moumakai	13.85	197	P	P	00 01 29.2	+0.4
WMGZ	Waiomatatini S	13.95	186	P	P	00 01 29.4	-0.5
WMGZ				S	S	00 03 53.4	-3.8
AWAZ	Awhitu Peninsu	13.96	199	P	P	00 01 30.3	+0.4
HAZ	Te Kaha	13.96	188	P	P	00 01 28.0	-1.9
HAZ				S	S	00 03 55.6	-1.7
TWGZ	Tauwhareparae	14.35	187	P	P	00 01 32.5	-1.6
TWGZ				S	S	00 04 00.5	-4.5
URZ	Urewera	14.55	190	P	P	00 01 36.3	+0.2
URZ	Urewera	14.55	190	P	P	00 01 31.8	-4.3
	53nm,0.3s,baz=24,slow=4.7,SNR=38						
URZ				S	S	00 04 04.7	-4.0
	9.7nm,0.5s,baz=81,slow=22,SNR=2.7						
MWZ	Matawai	14.56	188	P	P	00 01 34.4	-1.9
MWZ				S	S	00 04 05.7	-3.4
RTZ	Ruatahuna	14.92	190	P	P	00 01 38.5	-1.5
HIZ	Hauiti	15.26	196	P	P	00 01 43.7	+0.2
BKZ	Black Stump Fm	15.53	191	P	P	00 01 44.5	-1.9
KHEZ	Kahui Hut	16.21	197	P	P	00 01 55.8	+2.4
BFZ	Birch Farm	17.05	190	P	P	00 02 00.6	-1.0
SNZO	South Karori	17.95	194	P	P	00 02 08.7	-1.2
QRZ	Quartz Range	18.06	199	P	P	00 02 10.5	-0.3
QRZ	Quartz Range	18.06	199	P	P	00 02 10.4	-0.5
MRNZ	Matariki Terra	18.52	198	P	P	00 02 13.4	-1.7
KHZ	Kahutara	19.27	195	P	P	00 02 20.4	-1.5
LTZ	Lake Taylor	19.94	197	P	P	00 02 25.9	-2.1
LHI	Lord Howe Isla	20.17	243	P	P	00 02 29.9	-0.4
RPZ	Rata Peaks	21.14	199	P	P	00 02 37.7	-1.2
RPZ	Rata Peaks	21.14	199	P	P	00 02 37.1	-1.8
	57nm,0.6s,baz=327,slow=2.0,SNR=18						
	57nm,0.6s						
FOZ	Fox Glacier	21.36	201	P	P	00 02 39.1	-1.7
LBZ	Lake Benmore	22.01	199	P	P	00 02 44.2	-2.5
LBZ				IAmb	IAmb	00 03 06.8	
	comp=Z,50nm,1.3s						
JCZ	Jackson Bay	22.19	202	P	P	00 02 47.6	-0.8
ODZ	Otahua Downs	22.48	198	P	P	00 02 49.4	-1.5
WHZ	Wether Hill Ro	24.07	201	P	P	00 03 04.2	-0.9
PYZ	Puysegur Point	24.74	203	P	P	00 03 13.0	+2.0
	comp=Z,42nm,0.9s						
ARMA	Armidale	26.19	249	P	P	00 03 25.3	+1.0
ARMA				IAmb	IAmb	00 03 26.4	
	comp=Z,26nm,0.7s						
ARMA	Armidale	26.19	249	P	P	00 03 25.7	+1.4
EIDS	Eidsvold	26.49	261	P	P	00 03 26.7	-0.1
EIDS				IAmb	IAmb	00 03 28.0	
	comp=Z,24nm,0.6s						
MGCD	Mangrove Creek	27.11	243	P	P	00 03 33.5	+1.4
RK1H	Rockhampton Ha	27.20	265	P	P	00 03 34.0	+1.0
SYDH	Sydney Hard Ro	27.53	242	P	P	00 03 37.3	+1.5
PPT	Papeete	28.92	83	P	P	00 03 47.9	-0.3
	comp=Z,21nm,0.6s,baz=228,slow=23,SNR=1.8						
	comp=Z,21nm,0.6s						
PPTF	Pamatai, Papee	28.92	83	P	P	00 03 47.6	-0.6
CNB	Canberra Magne	29.01	240	P	P	00 03 50.0	+1.2
CAN	Canberra	29.30	240	P	P	00 03 52.1	+0.9
CAN				IAmb	IAmb	00 03 53.1	
	comp=Z,42nm,0.7s						
CAN	Canberra	29.30	240	P	P	00 03 52.2	+0.9
MILA	Mila	29.65	237	P	P	00 03 55.3	+1.0
CMSA	Cobar Meteorol	31.39	248	P	P	00 04 09.6	+0.3
CTA	Charters Tower	31.66	270	P	P	00 04 12.3	+0.5
	comp=Z,53nm,0.4s,baz=90,slow=10,SNR=134						
	comp=Z,53nm,0.4s						
CTAO	Charters Tower	31.66	270	P	P	00 04 12.2	+0.5
CTAO	Charters Tower	31.66	270	P	P	00 04 12.3	+0.5
GLAD	Gladstone	31.83	230	P	P	00 04 13.6	+0.7
QLP	Quilpie	32.58	258	P	P	00 04 19.7	+0.2
TOO	Toolangi	32.60	237	P	P	00 04 20.2	+0.6
TOO				IAmb	IAmb	00 04 21.0	
	comp=Z,36nm,0.7s						
TOO	Toolangi	32.60	237	P	P	00 04 20.1	+0.5
MOO	Moorlands	32.96	228	P	P	00 04 23.2	+0.6
TAU	Tasmania Unive	33.06	227	P	P	00 04 24.0	+0.6
TAU	Tasmania Unive	33.06	227	P	P	00 04 24.2	+0.8
XMAS	Kiritimati	33.73	43	P	P	00 04 29.3	-0.1
MTSU	Mount Surprise	33.92	273	P	P	00 04 31.7	+0.6
MCQ	Macquarie Isla	34.42	202	P	P	00 04 35.9	+1.3
PMG	Port Moresby	34.67	289	P	P	00 04 36.7	-0.6
PMG				IAmb	IAmb	00 04 38.1	
	comp=Z,30nm,0.8s						
PMG	Port Moresby	34.67	289	P	P	00 04 36.8	-0.6
	comp=Z,25nm,0.7s,baz=113,slow=7.4,SNR=7.5						
	comp=Z,25nm,0.7s						
PMG	Port Moresby	34.67	289	P	P	00 04 37.4	+0.1
	comp=Z,41nm,0.9s						
STKA	Stephens Creek	34.89	248	P	P	00 04 39.2	+0.2
STKA	Stephens Creek	34.89	248	P	P	00 04 39.1	+0.1
STKA	Stephens Creek	34.89	248	P	P	00 04 38.9	-0.1
	comp=Z,8.7nm,0.4s,baz=92,slow=10,SNR=24						
STKA				PcP	PcP	00 06 58.5	+1.2
	comp=Z,2.7nm,0.5s,baz=46,slow=2.7,SNR=3.4						
	comp=Z,8.7nm,0.4s						
ARPS	Mount Arapiles	35.27	240	P	P	00 04 42.4	+0.3
COEN	Coen	36.30	279	P	P	00 04 50.8	-0.1
COEN				IAmb	IAmb	00 04 52.9	
	comp=Z,18nm,1.1s						
HTT	Hallett	37.24	246	P	P	00 04 58.4	-0.1
QIS	Mount Isa	37.64	267	P	P	00 05 01.5	-0.4
LCRK	Leigh Creek	37.75	251	P	P	00 05 02.6	0.0
BBOO	Buckleboo	39.61	247	P	P	00 05 17.3	-0.4
BBOO	Buckleboo	39.61	247	P	P	00 05 17.0	-0.7
OOD	Oodnadatta	40.09	255	P	P	00 05 22.1	+0.6
MULG	Mulgathing	41.35	251	P	P	00 05 31.0	-0.6
AS31	Alice Springs	42.22	261	P	P	00 05 38.6	0.0
AS31				IAmb	IAmb	00 05 39.6	
	comp=Z,9.1nm,0.6s						
ASAR	Alice Springs	42.22	261	P	P	00 05 38.4	-0.2
	comp=Z,28nm,0.7s,baz=100,slow=7.0,SNR=343						
ASAR				PcP	PcP	00 07 21.2	+0.3
	comp=Z,1.3nm,0.5s,baz=103,slow=5.9,SNR=4.9						
ASAR				ScP	ScP	00 10 26.1	+4.0
	comp=Z,6.7nm,0.7s,baz=108,slow=4.1,SNR=23						
ASAR				S	S	00 11 20.1	-1.3
	comp=Z,1.1nm,0.8s,baz=99,slow=15,SNR=5.0						
	comp=Z,28nm,0.7s						
WR0	Warramunga Arr	42.40	266	P	P	00 05 39.4	-0.7
WR0				IAmb	IAmb	00 05 39.8	
	comp=Z,23nm,0.5s						
WB0	Warramunga Arr	42.59	266	P	P	00 05 40.6	-1.0
WRA	Warramunga Arr	42.59	266	P	P	00 05 40.4	-1.2
WRA	Warramunga Arr	42.59	266	P	P	00 05 40.6	-0.9
	comp=Z,48nm,0.6s,baz=96,slow=8.3,SNR=354						
WRA				ScP	ScP	00 10 28.1	+4.5
	comp=Z,7.3nm,0.9s,baz=99,slow=4.1,SNR=17						
WRA				S	S	00 11 22.9	-3.9
	comp=Z,1.7nm,0.8s,baz=101,slow=14,SNR=6.5						
	comp=Z,48nm,0.6s						
KDU	Kakadu	46.48	275	P	P	00 06 10.6	-0.9
FORT	Forrest	46.48	250	P	P	00 06 10.5	-0.9
FORT	Forrest	46.48	250	P	P	00 06 10.5	-0.9
WRKA	Warakurna	47.02	257	P	P	00 06 15.2	-0.4
MTN	Manton Dam	47.64	274	P	P	00 06 19.4	-0.9
MTN				IAmb	IAmb	00 06 21.1	
	comp=Z,18nm,0.9s						
MTN	Manton Dam	47.64	274	P	P	00 06 19.5	-0.9
KNRA	Kununurra	48.87	270	P	P	00 06 29.3	-0.3
KNRA				IAmb	IAmb	00 06 29.8	
	comp=Z,40nm,0.8s						
KNRA	Kununurra	48.87	270	P	P	00 06 29.4	-0.1
KHLU	Kahalu`u	49.12	30	P	P	00 06 30.9	-0.4
FAKI	Fak Fak	50.76	287	P	P	00 06 42.6	-0.9
FAKI				IAmb	IAmb	00 06 58.2	
	comp=Z,39nm,1.2s						
FITZ	Fitzroy Crossi	51.01	266	P	P	00 06 45.2	0.0
FITZ	Fitzroy Crossi	51.01	266	P	P	00 06 45.5	+0.3
KMBL	Kambalda	51.69	248	P	P	00 06 50.0	0.0
SIJI	Sorong	52.62	288	P	P	00 06 56.5	-0.4
	comp=Z,43nm,0.8s						
SWI	Sorong	52.62	288	P	P	00 06 56.6	-0.3
	comp=Z,64nm,0.8s						
SBA	Scott Base	54.38	183	P	P	00 07 10.3	+2.0
SBA				IAmb	IAmb	00 07 12.4	
	comp=Z,23nm,0.8s						
VNDA	Vanda	54.39	185		P	00 07 09.4	+1.0
VNDA	Vanda	54.39	185	P	P	00 07 09.0	+0.6
	comp=Z,5.0nm,0.7s,baz=2.2,slow=8.0,SNR=28						
	comp=Z,5.0nm,0.7s						
SOEI	Soe	55.03	275	P	P	00 07 14.2	+0.1
SOEI				IAmb	IAmb	00 07 16.3	
	comp=Z,52nm,1.0s						
SOEI	Soe	55.03	275	P	P	00 07 15.5	+1.4
SOEI	Soe	55.03	275	P	P	00 07 14.7	+0.6
	comp=Z,49nm,1.0s						
MEEK	Meekatharra	55.29	253	P	P	00 07 15.0	-0.7
PSA00	Pilbara Seismi	55.35	260	P	P	00 07 15.4	-0.6
PSA00				IAmb	IAmb	00 07 16.5	
	comp=Z,56nm,1.4s						
PSA00	Pilbara Seismi	55.35	260	P	P	00 07 15.6	-0.5
RKGY	Rocky Gully	55.40	243	P	P	00 07 16.4	+0.2
NWAO	Narrogin (SRO)	55.40	246	P	P	00 07 15.9	-0.4
NWAO	Narrogin (SRO)	55.40	246	P	P	00 07 15.9	-0.4
NWAO	Narrogin (SRO)	55.40	246	P	P	00 07 16.0	-0.3
NWAO	Narrogin (SRO)	55.40	246	P	P	00 07 16.1	-0.3
	comp=Z,8.7nm,0.5s,baz=101,slow=6.3,SNR=21						
	comp=Z,8.7nm,0.5s						
MBWA	Marble Bar	55.55	260	P	P	00 07 16.8	-0.7
MBWA				IAmb	IAmb	00 07 17.5	
	comp=Z,18nm,0.7s						
MBWA	Marble Bar	55.55	260	P	P	00 07 16.9	-0.6
LBMI	Labuha	56.02	286	P	P	00 07 20.6	-0.2
	comp=Z,29nm,0.9s						
MORW	Morawa	57.05	250	P	P	00 07 27.5	-0.2
MORW				IAmb	IAmb	00 07 28.1	
	comp=Z,32nm,0.6s						
MORW	Morawa	57.05	250	P	P	00 07 27.3	-0.4
MMRI	Maumere	57.31	275	P	P	00 07 29.2	-0.6
MMRI				IAmb	IAmb	00 07 30.2	
	comp=Z,36nm,1.1s						
MMRI	Maumere	57.31	275	P	P	00 07 29.1	-0.6
	comp=Z,31nm,0.7s						
EDFI	Ende, Flores	57.76	275	P	P	00 07 32.4	-0.5
	comp=Z,38nm,0.9s,comp=Z,507nm						
BASI	Baing, Sumba	58.23	273	P	P	00 07 36.5	+0.5
	comp=Z,72nm,1.0s						
GIRL	Giralia	60.09	257	P	P	00 07 49.1	+0.8
GIRL	Giralia	60.09	257	P	P	00 07 49.6	+1.2
CASY	Casey	60.19	206	P	P	00 07 48.1	-0.1
CASY				IAmb	IAmb	00 07 48.6	
	comp=Z,13nm,0.6s						
BKSI	Bulukumba	60.55	278	P	P	00 07 50.7	-0.8
	comp=Z,27nm,0.8s						
DBNI	Kabupaten Domp	60.94	274	P	P	00 07 53.2	-0.9
	comp=Z,59nm,0.7s						
KAPI	Kappang	61.01	278	P	P	00 07 53.9	-0.6
	comp=Z,5.0nm,0.6s,baz=131,slow=9.3,SNR=2.0						
	comp=Z,5.0nm,0.6s						
PLAI	Plampang	61.31	273	P	P	00 07 56.0	-0.5
PLAI	Plampang	61.31	273	P	P	00 07 56.0	-0.5
	comp=Z,75nm,0.8s,comp=Z,866nm						
TWSI	Taliwang, Sumb	62.16	273	P	P	00 08 01.7	-0.4
	comp=Z,26nm,0.9s						
TOLI2	Tolitoli	62.76	284	P	P	00 08 04.9	-1.1
TOLI2	Tolitoli	62.76	284	P	P	00 08 05.8	-0.1
MPSI	Mapaga	63.19	283	P	P	00 08 08.2	-0.5
	comp=Z,22nm,0.7s						
SRBI	Singaraja	63.93	273	P	P	00 08 13.0	-0.5
	comp=Z,27nm,1.0s						
JAGI	Jajag, Banyuwa	64.76	272	P	P	00 08 16.6	-2.1
JAGI				IAmb	IAmb	00 08 18.3	
	comp=Z,55nm,1.4s						
JAGI	Jajag, Banyuwa	64.76	272	P	P	00 08 17.5	-1.2
	comp=Z,34nm,1.0s						
KMMI	Kalianget	65.47	273	P	P	00 08 23.9	+0.7
	comp=Z,46nm,1.1s						
QSPA	South Pole Qui	66.17	180	P	P	00 08 27.9	+1.0
QSPA				IAmb	IAmb	00 08 29.4	
	comp=Z,28nm,0.8s						
QSPA	South Pole Qui	66.17	180	P	P	00 08 28.3	+1.5
	comp=Z,26nm,0.7s,baz=344,slow=0.6,SNR=115						
	comp=Z,26nm,0.7s						
UGM	Wanagama	68.29	271	P	P	00 08 39.8	-0.9
UGM	Wanagama	68.29	271	P	P	00 08 40.5	-0.2
KKM	Kota Kinabalu	69.08	287	P	P	00 08 45.0	-0.5
KKM				IAmb	IAmb	00 08 57.7	
	comp=Z,54nm,1.5s						
KPJI	Karang Pucung	69.97	271	P	P	00 08 50.5	-0.2
	comp=Z,37nm,0.6s,comp=Z,49µm						
LEM	Lembang	71.36	271	P	P	00 08 59.4	+0.2
	comp=Z,49nm,0.8s						
CNJI	Cibinong	71.62	270	P	P	00 08 59.4	-1.1
	comp=Z,19nm,0.8s						
MAJO	Matsushiro	72.01	325	P	P	00 09 00.4	-1.8
KSM	Kuching	72.29	280	P	P	00 09 03.6	-0.8
KSM				IAmb	IAmb	00 09 05.3	
	comp=Z,22nm,0.7s						
KSM	Kuching	72.29	280	P	P	00 09 04.2	-0.2
	comp=Z,33nm,0.8s						
ADK	Adak	75.51	2	P	P	00 09 21.6	-0.2
ATKA	Atka Island	75.94	4	P	P	00 09 23.6	-0.5
ATKA	Atka Island	75.94	4	P	P	00 09 24.2	+0.1
SMAI	San Martin Ant	76.03	159	P	P	00 09 25.6	+1.1
BELA	Belgrano 2	76.40	173	P	P	00 09 26.9	+0.4
BELA				IAmb	IAmb	00 09 27.8	
	comp=Z,12nm,0.7s						
SMY	Shemya	76.50	356	P	P	00 09 25.5	-1.6
NIKH	Nikolski High	77.15	7	P	P	00 09 31.0	+0.3
MAW	Mawson	77.81	200	P	P	00 09 34.9	+0.7
MAW	Mawson	77.81	200	P	P	00 09 34.9	+0.7
	comp=Z,13nm,0.6s,baz=139,slow=5.7,SNR=13						
	comp=Z,13nm,0.6s						
UNV	Unalaska Valle	78.28	8	P	P	00 09 35.7	-1.1
KSRS	Korea Array	78.37	320	P	P	00 09 38.0	+0.4
	comp=Z,1.1nm,0.9s,baz=136,slow=7.0,SNR=4.1						
PEA0B	Petropavlovsk-	79.15	346	P	P	00 09 41.6	+0.1
PEA0B				IAmb	IAmb	00 09 42.3	
	comp=Z,44nm,1.4s						
PETK	Petropavlovsk-	79.15	346	P	P	00 09 40.9	-0.6
PETK	Petropavlovsk-	79.15	346	P	P	00 09 42.1	+0.6
	comp=Z,3.9nm,0.6s,baz=115,slow=6.9,SNR=14						
	comp=Z,3.9nm,0.6s						
KULM	Kulim	82.63	279	P	P	00 10 00.1	-0.3
SLBS	Sierra La Lagu	82.64	60	P	P	00 10 01.5	+1.1
ISA	Isabella, Lake	82.89	46	P	P	00 10 01.9	+0.5
ELIB	Princess Elisa	83.08	187	*d*P	P	00 10 01.8	0.0
AFDM	Forest Hills D	83.27	42	P	P	00 10 03.8	+0.7
ORV	Oroville	83.33	41	P	P	00 10 03.9	+0.6
GSI	Gunungsitoli	83.78	274	P	P	00 10 06.1	-0.1
GSI				IAmb	IAmb	00 10 08.2	
	comp=Z,50nm,1.5s						
GSI	Gunungsitoli	83.78	274	P	P	00 10 06.5	+0.3
	comp=Z,23nm,1.6s						
OHAK	Old Harbor	83.84	14	P	P	00 10 05.3	-0.1
OHAK				IAmb	IAmb	00 10 24.8	
	comp=Z,30nm,1.3s						
OHAK	Old Harbor	83.84	14	P	P	00 10 05.6	+0.2
WAKR	Walker	83.96	43	P	P	00 10 07.0	+0.2
TROLL	Troll, Antarti	84.33	181	⇓P	P	00 10 08.2	+0.2
	comp=Z,530nm,0.3s						
113A	Mohawk Valley,	84.48	51	P	P	00 10 09.1	-0.1
HSIG		84.56	55	P	P	00 10 09.8	+0.1
HSIG				IAmb	IAmb	00 10 12.1	
	comp=Z,13nm,0.9s						
NVAR	Mina Array Bea	84.63	44	P	P	00 10 10.0	-0.1
NVAR	Mina Array Bea	84.63	44	P	P	00 10 10.7	+0.6
	comp=Z,2.5nm,0.8s,baz=223,slow=7.3,SNR=14						
	comp=Z,2.5nm,0.8s						
VNA3	Neumayer Olymp	84.86	177	⇓P	P	00 10 10.3	-0.1
	comp=Z,7.3nm,0.8s						
I03D	Drain, OR	84.87	37	P	P	00 10 10.9	+0.1
TPNV	Topopah Spring	85.10	46		P	00 10 13.4	+1.0
VNA2	Neumayer--Watz	85.28	178	⇓P	P	00 10 12.7	+0.2
	comp=Z,7.8nm,0.6s,baz=187,slow=3.0						
VNA1	Neumayer--Stat	85.51	177	⇓P	P	00 10 14.2	+0.6
	comp=Z,14nm,0.9s						
K05A	Summer Lake	85.65	39	P	P	00 10 15.7	+0.8
K05A				IAmb	IAmb	00 10 17.6	
	comp=Z,11nm,1.0s						
J05D	Fort Rock, OR	85.80	39	P	P	00 10 16.4	+0.9
J05D				IAmb	IAmb	00 10 18.2	
	comp=Z,9.4nm,0.8s						
TUC	Tucson	86.38	52	P	P	00 10 19.8	+1.3
TUC				IAmb	IAmb	00 10 21.7	
	comp=Z,10.0nm,0.8s						
CNPM	China Poot	86.39	14	P	P	00 10 18.0	+0.2
BRLK	Bradley Lake	86.68	14	P	P	00 10 19.2	0.0
BRLK				IAmb	IAmb	00 10 45.7	
	comp=Z,26nm,1.3s						
LCMT	Little Creek M	87.14	47	P	P	00 10 22.3	+0.3
I07A	Izee	87.28	39		P	00 10 23.6	+1.2
I07A				IAmb	IAmb	00 10 25.0	
	comp=Z,10nm,1.0s						
KNK	Knik Glacier	88.70	14	P	P	00 10 28.4	-0.2
KNK				IAmb	IAmb	00 10 37.2	
	comp=Z,20nm,1.4s						
XAN	Xi'an	88.89	308	⇑P	P	00 10 31.8	+1.6
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MFID	Camas Ranch	89.04	41	P	P	00 10 31.0	+0.2
MFID				IAmb	IAmb	00 10 32.9	
	comp=Z,8.9nm,0.9s						
CMAR	Chiang Mai Arr	89.70	290	P	P	00 10 34.8	+0.6
CMAR	Chiang Mai Arr	89.70	290	P	P	00 10 35.4	+1.2
	comp=Z,3.6nm,1.0s,baz=141,slow=3.3,SNR=19						
	comp=Z,3.6nm,1.0s						
CAST	Castle Rocks	89.74	12	P	P	00 10 32.4	-0.9
CAST				IAmb	IAmb	00 10 33.6	
	comp=Z,6.2nm,0.8s						
CHTO	Chiang Mai	89.86	291		P	00 10 35.9	+1.0
CHTO				IAmb	IAmb	00 10 37.5	
	comp=Z,6.9nm,1.1s						
CHTO	Chiang Mai	89.86	291	P	P	00 10 36.1	+1.2
TRF	Thorofare Moun	90.12	13	P	P	00 10 34.8	-0.5
TX31	Lajitas Ar. Si	90.28	58	P	P	00 10 38.1	+1.3
TX31				IAmb	IAmb	00 10 39.5	
	comp=Z,4.7nm,0.8s						
TXAR	Lajitas Array	90.28	58	P	P	00 10 38.1	+1.3
	comp=Z,4.0nm,0.7s,baz=213,slow=6.3,SNR=59						
TXAR				PKKPbc	PKKPbc	00 28 04.7	+1.5
	comp=Z,0.3nm,0.6s,baz=51,slow=2.9,SNR=3.1						
	comp=Z,4.0nm,0.7s						
HHC	Hu-ho-hao-te	90.56	315	*e*P	P	00 10 37.1	-0.7
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.5s						
BSUT	Blindstream Ca	90.65	45	P	P	00 10 40.1	+1.5
BSUT				IAmb	IAmb	00 10 40.8	
	comp=Z,12nm,0.7s						
ALPN	Alpine	90.78	57	P	P	00 10 39.7	+0.5
ALPN				IAmb	IAmb	00 10 41.3	
	comp=Z,9.2nm,1.2s						
PZH	PanZhiHua	90.85	299	P	P	00 10 40.2	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,4.5s						
ILAR	Eielson Array	92.00	13	P	P	00 10 42.8	-1.0
	comp=Z,1.1nm,0.9s,baz=225,slow=5.8,SNR=9.8						
	comp=Z,1.1nm,0.9s						
PD31	Pinedale Array	92.57	44	P	P	00 10 47.2	0.0
PDAR	Pinedale Array	92.57	44	P	P	00 10 47.8	+0.6
	comp=Z,1.7nm,0.7s,baz=212,slow=3.2,SNR=19						
	comp=Z,1.7nm,0.7s						
MKAR	Makanchi Array	112.30	313	PKiKP	PKiKP	00 16 06.2	-1.5
	comp=Z,0.2nm,0.6s,baz=228,slow=1.2,SNR=2.5						
KURBB	Kurchatov Arra	115.38	316	PKiKP	PKPdf	00 16 13.2	-0.2
	comp=Z,0.3nm,0.3s,baz=98,slow=1.6,SNR=4.6						
BVAR	Borovoye Array	120.57	319	PKP	PKPdf	00 16 23.1	-0.3
	comp=Z,0.9nm,0.8s,baz=18,slow=1.8,SNR=4.2						
ARCES	ARCESS Array B	131.93	348	PKP	PKPdf	00 16 44.5	-0.2
	comp=Z,3.0nm,0.8s,baz=0.0,slow=1.8,SNR=6.5						
ARCES				SKPbc	SKPab	00 19 23.6	-0.1
	comp=Z,4.7nm,1.0s,baz=27,slow=4.2,SNR=4.4						
KMBO	Kilima Mbogo	136.26	241	SKPbc	SKPbc	00 19 38.9	+0.7
	comp=Z,1.7nm,0.9s,baz=75,slow=12,SNR=5.5						
FINES	FINESS Array B	138.51	342	PKP	PKiKP	00 16 58.7	-0.6
	comp=Z,2.8nm,0.9s,baz=32,slow=3.4,SNR=4.3						
FINES				SKPbc	SKPbc	00 19 44.1	+1.3
	comp=Z,3.8nm,0.7s,baz=72,slow=4.5,SNR=9.1						
NB2	NORSAR Subarra	142.12	351	PKP	PKPpre	00 16 59.9	
	comp=Z,0.2nm,0.4s,baz=27,slow=2.7						
NOA	NORSAR Array B	142.12	351	PKhKP	PKPpre	00 16 59.3	
	comp=Z,0.2nm,0.4s,baz=24,slow=4.4,SNR=5.0						
NOA				SKPbc	SKiKP	00 19 53.6	0.0
	comp=Z,0.8nm,0.7s,baz=14,slow=4.1,SNR=3.7						
HFS	Hagfors	142.59	349	PKhKP	PKPpre	00 17 01.3	
	comp=Z,5.5nm,0.5s,baz=64,slow=3.4,SNR=33						
HFS				SKPbc	SKiKP	00 19 55.0	+0.4
	comp=Z,2.8nm,0.8s,baz=18,slow=3.2,SNR=2.5						
KONO	Kongsberg	143.68	352	PKPbc	PKPab	00 17 04.8	-0.3
PABE	Paberze	143.90	337	PKPbc	PKPdf	00 17 06.4	-0.4
ARPR	Arapgir-MALATY	144.42	304		PKPab	00 17 08.9	+0.1
AKASG	Malin Array Be	145.08	327	PKPbc	PKPab	00 17 10.7	0.0
	comp=Z,0.3nm,0.3s,baz=49,slow=4.6,SNR=5.2						
AKASG				SKPbc	SKiKP	00 20 01.4	+1.4
	comp=Z,1.8nm,0.6s,baz=39,slow=3.0,SNR=6.0						
GAZ	Gaziantep	145.72	301	PKPbc	PKPbc	00 17 12.7	+0.5
BNN	Bunyan	146.36	305		PKPdf	00 17 12.7	+0.9
BRTR	Keskin Array B	147.73	307	PKPbc	PKPbc	00 17 17.6	-0.1
BRTR				PKPab	PKPab	00 17 22.2	+0.3
BRTR	Keskin Array B	147.73	307	PKPbc	PKPbc	00 17 17.9	+0.2
	comp=Z,1.0nm,0.5s,baz=41,slow=4.6,SNR=4.4						
MMAI	Mount Meron Ar	147.88	294	PKPbc	PKiKP	00 17 19.3	-0.3
	comp=Z,5.9nm,0.4s,baz=72,slow=6.2,SNR=49						
EKA	Eskdalemuir Ar	148.51	4	PKPbc	PKPbc	00 17 18.5	-0.4
	comp=Z,0.5nm,0.3s,baz=343,slow=2.6,SNR=13						
KWP	Kalwaria Pacla	148.87	331	PKPbc	PKPbc	00 17 20.0	0.0
BURAR	Bucovina Array	149.08	326	PKPbc	PKPbc	00 17 21.0	+0.3
CSS	Mathiatis	149.25	299	PKPbc	PKiKP	00 17 21.9	-0.4
CLL	Collm	150.92	343	*i* PKPbc	PKiKP	00 17 25.2	+0.1
	comp=Z,3.0nm,0.6s						
ELL	Elmali	151.47	304	PKPbc	PKiKP	00 17 26.9	-0.1
DBIC	Dimbokro	162.18	163	PKPab	PKPab	00 18 23.4	-0.5
	comp=Z,3.9nm,1.0s,baz=175,slow=6.7,SNR=2.8						
ESDC	Sonseca Array	163.89	12	PKPab	PKPab	00 18 30.4	-0.6
	comp=Z,1.6nm,1.1s,baz=323,slow=1.9,SNR=4.2						
TORD	Torodi Ar. Bea	169.20	188	PKPab	PKPab	00 18 55.5	+0.6
	comp=Z,2.6nm,0.6s,baz=166,slow=3.1,SNR=17						

*IDC **07** 00:32:52.8±1.1, 24°.06S×67°.01W, h163km±10km, mb3.2/8, mbtmp3.8/13, Error ellipse: s-maj=15.9km s-min=11.8km az=89.0*

*SJA **07** 00:32:52.7±1.2, 24°.08S×67°.21W, h192km±9km, ML3.7, MW3.6*

*NEIC **07** 00:32:53.8±2.0, 24°.06S±0°.07×67°.3W±0°.1, h200km±10km, mb4.0/7, Error ellipse: s-maj=19.0km s-min=10.2km az=101.0*

*GUC **07** 00:32:55.2±0.7, 24°.04S×67°.45W, h201km±6km, ML3.9*

ISC 07 00:32:53.6±0.7**, 24°.08S**±0°.04×**67°.25W**±0°.04**, h183**km±6km**,**

n94, σ1.44/124, mb3.6/12, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.41	323		Pn	00 33 25.9	+0.5
AF01				Sn	Sn	00 33 52.3	+2.4
AF01	San Pedro de A	1.41	323	eP	Pn	00 33 26.8	+1.4
AF01				eS	Sn	00 33 50.7	+0.8
AF01				IAML		00 33 54.4	
	comp=N,476nm,0.2s						
SLA	San Lorenzo	1.72	112	i P	Pn	00 33 28.7	+0.5
SLA				i S	Sn	00 33 54.6	-0.3
LVC	Limon Verde	2.11	313	i P	Pn	00 33 33.6	+1.0
LVC				i S	Sn	00 34 03.3	+0.6
LVC				IAML		00 34 04.7	
	comp=Z,186nm,0.6s						
LVC	Limon Verde	2.11	313	P	Pn	00 33 33.6	+1.0
	comp=Z,41nm,0.3s,baz=135,slow=8.2,SNR=183						
LVC				S	Sn	00 34 02.7	+0.1
	comp=Z,138nm,0.5s,baz=16,slow=22,SNR=34						
LVC	Limon Verde	2.11	313⇑	iP	Pn	00 33 33.6	+1.0
LVC				i S	Sn	00 34 02.6	0.0
LVC				IAML		00 34 04.4	
	comp=Z,759nm,0.5s						
PB15	IPOC Station P	2.21	293		Pn	00 33 34.8	+1.3
PB15	IPOC Station P	2.21	293	i P	Pn	00 33 34.7	+1.3
PB15				i S	Sn	00 34 04.8	+0.5
PB15	IPOC Station P	2.21	293⇑	iP	Pn	00 33 34.6	+1.3
PB15				eS	Sn	00 34 04.3	0.0
GO02	Mina Guanaco	2.39	243	Pn	Pn	00 33 36.7	+1.2
GO02	Mina Guanaco	2.39	243	i P	Pn	00 33 36.9	+1.4
GO02				i S	Sn	00 34 07.9	-0.2
GO02	Mina Guanaco	2.39	243⇑	iP	Pn	00 33 36.9	+1.4
GO02				eS	Sn	00 34 09.1	+1.1
GO02				IAML		00 34 10.7	
	comp=E,656nm,0.2s						
YJA	Yavi	2.48	41	i P	Pn	00 33 36.5	-0.3
YJA				i S	Sn	00 34 10.1	-0.1
PB06	IPOC Station P	2.53	302		Pn	00 33 38.2	+1.1
PB06	IPOC Station P	2.53	302	i P	Pn	00 33 38.2	+1.1
PB06				i S	Sn	00 34 10.3	-0.5
PB06				IAML		00 34 12.1	
	comp=Z,438nm,0.4s						
PB06	IPOC Station P	2.53	302⇑	iP	Pn	00 33 38.1	+1.1
PB06				i S	Sn	00 34 10.0	-0.7
PB06				IAML		00 34 12.4	
	comp=E,682nm,0.2s						
PB09	IPOC Station P	2.92	321		Pn	00 33 43.0	+1.4
PB09	IPOC Station P	2.92	321	i P	Pn	00 33 42.8	+1.2
PB09				i S	Sn	00 34 19.1	+0.1
PB09				IAML		00 34 20.0	
	comp=Z,181nm,0.6s						
PB09	IPOC Station P	2.92	321	eP	Pn	00 33 42.9	+1.3
PB09				eS	Sn	00 34 19.2	+0.1
PB09				IAML		00 34 20.5	
	comp=N,212nm,0.5s						
PB14	IPOC Station P	2.92	259	Pn	Pn	00 33 42.6	+0.8
PB14	IPOC Station P	2.92	259	i P	Pn	00 33 42.6	+0.8
PB14				IAML		00 34 26.9	
	comp=Z,129nm,0.5s						
PB14	IPOC Station P	2.92	259⇑	iP	Pn	00 33 42.6	+0.8
PB14				eS	Sn	00 34 18.4	-1.0
PB14				IAML		00 34 20.2	
	comp=E,112nm,0.2s						
PB05	IPOC Station P	2.97	294	Pn	Pn	00 33 42.8	+0.6
PB04	IPOC Station P	3.18	303	Pn	Pn	00 33 45.3	+0.5
PB04	IPOC Station P	3.18	303	i P	Pn	00 33 45.3	+0.5
PB04	IPOC Station P	3.18	303	eP	Pn	00 33 45.4	+0.5
PB04				eS	Sn	00 34 23.3	-1.4
AHML	Horco Molle	3.21	148	i P	Pn	00 33 45.1	+0.2
AHML	Horco Molle	3.21	148	eP	Pn	00 33 45.1	+0.2
PB07	IPOC Station P	3.37	313		Pn	00 33 47.5	+0.3
PB07	IPOC Station P	3.37	313	i P	Pn	00 33 47.6	+0.3
PB07				i S	Sn	00 34 28.2	-0.8
PB07	IPOC Station P	3.37	313	eP	Pn	00 33 47.5	+0.3
PB07				eS	Sn	00 34 26.6	-2.3
PB01	IPOC Station P	3.66	325		Pn	00 33 50.7	0.0
PB01	IPOC Station P	3.66	325	eP	Pn	00 33 50.6	0.0
PB01				eS	Sn	00 34 32.6	-2.7
AC01	Pan de Azucar	3.67	235	Pn	Pn	00 33 50.4	-0.2
AC01	Pan de Azucar	3.67	235	i P	Pn	00 33 50.5	-0.1
AC01				IAML		00 34 35.5	
	comp=Z,67nm,0.3s						
AC01	Pan de Azucar	3.67	235⇑	iP	Pn	00 33 50.5	-0.1
PB02	IPOC Station P	3.67	318		Pn	00 33 50.9	0.0
PB02	IPOC Station P	3.67	318	eP	Pn	00 33 50.8	0.0
PB02				eS	Sn	00 34 32.7	-2.9
PB08	IPOC Station P	4.29	335		Pn	00 33 59.3	+0.3
PB08	IPOC Station P	4.29	335	eP	Pn	00 33 59.7	+0.7
PB08				eS	Sn	00 34 48.7	-1.5
AC06	Mina Casimiro	4.30	220		Pn	00 33 58.2	-0.4
AC06	Mina Casimiro	4.30	220	eP	Pn	00 33 58.2	-0.4
AC06				eS	Sn	00 34 48.4	-1.3
GO03	Copiap	4.41	217		Pn	00 33 59.6	-0.5
GO03	Copiap	4.41	217	i P	Pn	00 33 59.9	-0.3
GO03				i S	Sn	00 34 49.9	-2.5
GO03	Copiap	4.41	217	eP	Pn	00 33 59.8	-0.3
GO03				eS	Sn	00 34 51.0	-1.4
TA01	Diego Aracena	4.42	322	Pn	Pn	00 34 00.0	-0.2
TA01	Diego Aracena	4.42	322	i P	Pn	00 34 00.0	-0.2
TA01				IAML		00 34 55.7	
	comp=Z,55nm,0.5s						
TA01	Diego Aracena	4.42	322	eP	Pn	00 34 00.1	-0.2
TA01				eS	Sn	00 34 49.3	-3.2
TA02	Huaiquique	4.63	324		Pn	00 34 02.6	-0.4
VCA	Vinchina	4.72	190	i P	Pn	00 34 04.6	+0.5
GO01	Chusmiza	4.74	337		Pn	00 34 05.4	+0.5
GO01	Chusmiza	4.74	337	eP	Pn	00 34 05.9	+1.0
GO01				eS	Sn	00 34 59.5	-1.2
PB11	IPOC Station P	4.84	332	Pn	Pn	00 34 04.2	-1.6
PB11	IPOC Station P	4.84	332	i P	Pn	00 34 04.4	-1.4
PB11				IAML		00 35 02.9	
	comp=Z,43nm,0.3s						
PB11	IPOC Station P	4.84	332	eP	Pn	00 34 04.6	-1.2
PB11				eS	Sn	00 34 59.2	-3.2
ACLC	CERRO LA CRUZ	5.33	177⇓	iP	Pn	00 34 12.6	+0.5
AC04	Llanos de Chal	5.36	219	Pn	Pn	00 34 10.5	-1.7
AC04	Llanos de Chal	5.36	219	i P	Pn	00 34 10.7	-1.6
AC04				IAML		00 35 22.6	
	comp=Z,31nm,0.5s						
AC04	Llanos de Chal	5.36	219	eP	Pn	00 34 11.0	-1.2
LCO	Las Campanas	5.80	211	Pn	Pn	00 34 16.8	-1.6
PB16	IPOC Station P	6.09	339		Pn	00 34 22.9	+0.4
PB12	IPOC Station P	6.14	332		Pn	00 34 21.7	-1.0
CO01	Juntas del Tor	6.40	203	Pn	Pn	00 34 26.3	+0.2
CO05	La Serena	6.82	211	Pn	Pn	00 34 29.5	-1.8
GO04	Tololo Observa	6.84	207	Pn	Pn	00 34 30.2	-1.7
CO03	El Pedregal	7.39	204	Pn	Pn	00 34 36.7	-2.3
CFA	Coronel Fontan	7.55	186	P	Pn	00 34 40.8	-0.2
	comp=Z,1.6nm,0.4s,baz=30,slow=18,SNR=8.3						
CFA				S	Sn	00 36 02.9	-3.1
	comp=Z,2.1nm,0.3s,baz=137,slow=21,SNR=6.1						
CO06	Fray Jorge	7.64	210	Pn	Pn	00 34 38.9	-3.2
LPAZ	La Paz	7.79	354		Pn	00 34 44.5	-0.3
CO02	Combarbal	7.84	204	Pn	Pn	00 34 42.7	-2.2
MT02	Curacav	9.76	200	Pn	Pn	00 35 06.9	-3.1
SIV	San Ignacio	9.92	37	P	Pn	00 35 09.2	-3.0
	comp=Z,3.5nm,0.4s,baz=228,slow=8.8,SNR=34						
SIV				S	Sn	00 36 57.9	-5.0
	comp=Z,1.2nm,0.7s,baz=52,slow=22,SNR=2.6						
PTLB	Pontes e Lacer	11.49	43	Pn	Pn	00 35 32.2	-0.2
VILB	Vilhena	12.93	32	Pn	Pn	00 35 50.3	-0.5
ETMB	Extrema	14.22	4	Pn	Pn	00 36 05.2	-1.8
SAML	Samuel	15.54	15	P	Pn	00 36 21.0	-2.3
SAML				IAmb	IAmb	00 36 23.7	
	comp=Z,2.4nm,0.8s						
PLCA	Paso Flores	16.84	189	P	Pn	00 36 39.6	+0.9
	comp=Z,1.6nm,1.0s,baz=359,slow=17,SNR=1.5						
BDFB	Brasilia	19.93	69	P	P	00 37 10.7	-1.0
BDFB	Brasilia	19.93	69	P	P	00 37 10.8	-1.0
	comp=Z,19nm,0.6s,baz=242,slow=11,SNR=32						
MACA	Manacapuru-AM	21.74	18	P	P	00 37 28.1	-2.6
MACA				IAmb	IAmb	00 37 29.2	
	comp=Z,10nm,0.5s						
BOAV	Boa Vista	27.12	15	P	P	00 38 18.3	-1.4
BOAV				IAmb	IAmb	00 38 23.4	
	comp=Z,4.5nm,1.4s						
TXAR	Lajitas Array	63.61	325	P	P	00 43 07.6	+2.4
	comp=Z,0.1nm,0.4s,baz=115,slow=5.9,SNR=1.8						
	comp=Z,0.1nm,0.4s						
QSPA	South Pole Qui	66.13	180	P	P	00 43 23.1	+2.1
QSPA				IAmb	IAmb	00 43 23.9	
	comp=Z,2.0nm,0.7s						
QSPA	South Pole Qui	66.13	180	P	P	00 43 23.3	+2.3
	comp=Z,1.3nm,0.5s,baz=255,slow=0.7,SNR=11						
	comp=Z,1.3nm,0.5s						
VNDA	Vanda	74.58	190	P	P	00 44 13.5	+1.5
	comp=Z,1.0nm,1.0s,baz=101,slow=8.4,SNR=1.8						
	comp=Z,1.0nm,1.0s						
TOA0	Torodi Ar. Sit	76.81	69	P	P	00 44 23.3	-2.3
TOA0				IAmb	IAmb	00 44 27.7	
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	76.81	69	P	P	00 44 24.1	-1.5
TORD	Torodi Ar. Bea	76.81	69	P	P	00 44 25.0	-0.6
	comp=Z,0.6nm,0.5s,baz=268,slow=7.4,SNR=7.4						
	comp=Z,0.6nm,0.5s						
PDAR	Pinedale Array	77.10	329	P	P	00 44 28.5	+1.6
	comp=Z,0.2nm,0.7s,baz=75,slow=1.0,SNR=1.9						
	comp=Z,0.2nm,0.7s						
NVAR	Mina Array Bea	78.45	321	P	P	00 44 36.1	+1.6
	comp=Z,0.2nm,0.4s,baz=127,slow=2.4,SNR=1.9						
	comp=Z,0.2nm,0.4s						
ESDC	Sonseca Array	86.61	44	P	P	00 45 16.2	-0.2
	comp=Z,0.9nm,1.1s,baz=268,slow=7.0,SNR=1.5						
	comp=Z,0.9nm,1.1s						
URZ	Urewera	93.50	225	P	P	00 45 49.6	+0.9
	comp=Z,15nm,1.1s,baz=48,slow=2.2,SNR=3.0						
YKA	Yellowknife Ar	94.12	340	P	P	00 45 51.8	+1.1
	comp=Z,0.2nm,0.8s,baz=124,slow=5.4,SNR=4.0						
	comp=Z,0.2nm,0.8s						
MKAR	Makanchi Array	146.73	39	PKPbc	PKPab	00 52 15.4	0.0
	comp=Z,0.4nm,0.7s,baz=305,slow=2.8,SNR=5.9						

IDC 07 00:33:32.7±2.3, 18.85S×169.44E, h243km±25km, mb3.6/9, mbtmp4.2/10, Error ellipse: s-maj=44.7km s-min=19.6km az=147.0
NEIC 07 00:33:33.4±1.8, 19.0S±0.1×169.62E±0.10, h250km±9km, mb4.4/17, Error ellipse: s-maj=17.9km s-min=11.9km az=153.0
NOU 07 00:33:36.1, 19.05S×169.64E, h201km, MLv4.2/8, Vanuatu Islands
ISC 07 00:33:32.7±0.6, 19.02S±0.09×169.6E±0.1, h246km, n57, σ1.20/59, mb4.2/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.83	231		Pn	00 34 23.9	+0.8
LIFNC				Sn	S	00 35 01.4	-1.5
LIFNC	LIFOU	2.83	231	P	Pn	00 34 23.9	+0.8
MARNC	Mare, Loyalty	2.86	211		Pn	00 34 24.2	+0.8
MARNC				Sn	S	00 35 02.3	-1.2
MARNC	Mare, Loyalty	2.86	211	P	Pn	00 34 24.4	+1.0
YATNC	Mamie plateau,	3.95	220	P	Pn	00 34 36.8	+1.1
PINNC	Pines Island,	4.11	209	Pn	Pn	00 34 38.7	+1.2
DZM	Mont Dzumac	4.24	224	Pn	Pn	00 34 40.6	+1.3
DZM	Mont Dzumac	4.24	224	P	Pn	00 34 41.1	+1.8
DZM	Mont Dzumac	4.24	224	P	Pn	00 34 40.9	+1.7
	14nm,0.6s,baz=59,slow=16,SNR=18						
DZM				S	S	00 35 31.5	-0.6
	20nm,0.5s,baz=297,slow=22,SNR=4.9						
OUENC	Ouen Island, N	4.26	217		Pn	00 34 40.4	+1.0
OUENC	Ouen Island, N	4.26	217	P	Pn	00 34 41.4	+2.1
NOUC	Port Laguerre	4.36	225	P	Pn	00 34 42.2	+1.7
ONTNC	Ouen Toro	4.40	221	Pn	Pn	00 34 42.3	+1.2
KOUNC	Koumac, New Ca	5.23	252		Pn	00 34 52.6	+1.3
KOUNC	Koumac, New Ca	5.23	252	P	Pn	00 34 54.0	+2.8
EIDS	Eidsvold	18.27	246	P	P	00 37 29.6	+1.1
EIDS				IAmb	IAmb	00 37 44.8	
	comp=Z,16nm,1.4s						
ARMA	Armidale	19.85	232	P	P	00 37 46.2	+0.6
ARMA				IAmb	IAmb	00 37 50.0	
	comp=Z,12nm,1.1s						
CTA	Charters Tower	22.03	263	P	P	00 38 07.5	+0.1
	comp=Z,2.8nm,0.7s,baz=224,slow=19,SNR=1.3						
	comp=Z,2.8nm,0.7s						
MRZ	Mangatainoka R	22.17	168	P	P	00 38 08.4	-0.1
THZ	Tophouse	22.85	174	P	P	00 38 15.7	+1.0
TOO	Toolangi	28.02	224	P	P	00 39 00.2	-1.0
TOO				IAmb	IAmb	00 39 15.9	
	comp=Z,15nm,1.4s						
STKA	Stephens Creek	28.25	238	P	P	00 39 03.5	+0.2
STKA	Stephens Creek	28.25	238	P	P	00 39 04.1	+0.8
	comp=Z,6.4nm,0.6s,baz=70,slow=8.6,SNR=12						
	comp=Z,6.4nm,0.6s						
WR0	Warramunga Arr	33.03	262	P	P	00 39 43.6	-1.7
WR0				IAmb	IAmb	00 39 52.5	
	comp=Z,6.7nm,1.2s						
WRA	Warramunga Arr	33.22	262	P	P	00 39 45.1	-1.9
WRA	Warramunga Arr	33.22	262	P	P	00 39 45.2	-1.7
	comp=Z,1.5nm,0.6s,baz=83,slow=5.9,SNR=23						
	comp=Z,1.5nm,0.6s						
AS31	Alice Springs	33.51	256	P	P	00 39 48.9	-0.6
AS31				IAmb	IAmb	00 39 49.6	
	comp=Z,6.1nm,0.6s						
ASAR	Alice Springs	33.51	256	P	P	00 39 48.3	-1.2
ASAR	Alice Springs	33.51	256	P	P	00 39 48.6	-0.8
	comp=Z,13nm,0.5s,baz=83,slow=9.0,SNR=278						
	comp=Z,13nm,0.5s						
FITZ	Fitzroy Crossi	41.61	264	P	P	00 40 57.2	+0.1
MBWA	Marble Bar	46.73	259	P	P	00 41 37.1	-0.6
MBWA				IAmb	IAmb	00 41 58.5	
	comp=Z,28nm,1.3s						
MJAR	Matsushiro Arr	62.72	332	P	P	00 43 31.0	-0.7
	comp=Z,2.3nm,0.9s,baz=152,slow=6.4,SNR=4.1						
	comp=Z,2.3nm,0.9s						
QSPA	South Pole Qui	71.03	180	P	P	00 44 23.4	-0.4
PETK	Petropavlovsk-	72.56	353	P	P	00 44 32.0	-0.8
	comp=Z,2.7nm,0.7s,baz=101,slow=6.2,SNR=2.6						
	comp=Z,2.7nm,0.7s						
M16K	Timber Creek	83.67	15	P	P	00 45 34.3	+0.9
K15K	Wolf Creek Mou	84.21	13	P	P	00 45 36.7	+0.6
M17K	Holitna River	84.38	15	P	P	00 45 37.4	+0.5
M17K				IAmb	IAmb	00 45 48.1	
	comp=Z,11nm,1.2s						
SONM	Songino Array	87.25	323	P	P	00 45 50.9	-0.6
	comp=Z,0.6nm,0.6s,baz=133,slow=6.1,SNR=6.1						
	comp=Z,0.6nm,0.6s						
NVAR	Mina Array Bea	88.40	48	P	P	00 45 57.8	+0.5
	comp=Z,0.2nm,0.3s,baz=232,slow=7.1,SNR=5.0						
	comp=Z,0.2nm,0.3s						
G19K	Purcell Mounta	88.53	13	P	P	00 45 56.0	-0.9
G19K				IAmb	IAmb	00 46 19.0	
	comp=Z,7.8nm,1.5s						
J05D	Fort Rock, OR	88.60	43	P	P	00 45 59.0	+1.0
J05D				IAmb	IAmb	00 46 00.2	
	comp=Z,6.6nm,0.8s						
IMAR	Indian Mountai	89.13	14	P	P	00 45 59.6	-0.2
ILAR	Eielson Array	89.92	17	P	P	00 46 02.0	-1.4
ILAR	Eielson Array	89.92	17	P	P	00 46 01.6	-1.9
	comp=Z,0.7nm,0.8s,baz=245,slow=4.3,SNR=5.7						
	comp=Z,0.7nm,0.8s						
YKA	Yellowknife Ar	100.32	27	P	Pdif	00 46 52.0	+1.3
	comp=Z,0.3nm,0.7s,baz=263,slow=4.5,SNR=5.4						
MKAR	Makanchi Array	101.82	315	P	Pdif	00 46 56.6	-1.4
	comp=Z,0.2nm,0.7s,baz=78,slow=8.2,SNR=2.8						
RONA	Rosalia, Austr	144.08	329	i PKP	PKPab	00 52 38.2	+0.9
	comp=Z,0.4nm,0.3s						
GERES	GERESS Array B	144.46	332	PKP	PKPab	00 52 38.1	-0.6
	comp=Z,1.1nm,0.7s,baz=353,slow=6.7,SNR=6.0						
MOA	Molln	144.94	331	i PKP	PKPbc	00 52 40.0	-0.3
	comp=Z,0.6nm,0.4s						
LESA	Schwarzleotal	145.98	332	i PKP	PKPdf	00 52 42.7	+0.4
	comp=Z,0.7nm,0.3s						
WATA	Walderalm	146.53	333	i PKP	PKPdf	00 52 44.4	+1.0
	comp=Z,1.0nm,0.6s						
ABTA	Abfaltersbach	146.56	331	i PKP	PKPdf	00 52 44.1	+0.7
	comp=Z,1.5nm,0.6s						
WTTA	Wattenberg	146.56	332	i PKP	PKPdf	00 52 44.9	+1.4
	comp=Z,0.4nm,0.3s						
MOTA	Moosalm	146.73	333	i PKP	PKPdf	00 52 44.7	+1.0
	comp=Z,0.9nm,0.5s						
RETA	Reutte	146.76	333	i PKP	PKPdf	00 52 45.1	+1.5
	comp=Z,0.3nm,0.3s						
SQTA	Sankt Quirin	146.78	333	ePKP	PKPdf	00 52 45.3	+1.6
	comp=Z,0.7nm,0.3s						
FETA	Feichten	147.14	333	i PKP	PKPdf	00 52 46.1	+1.7
	comp=Z,1.5nm,0.6s						

HEL 07 00:36:13.6±0.4, 67.77N×20.21E, h0km, ML1.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANU	Lannavaara	0.73	67	PB	Pg	00 36 27.6	0.0
LANU				SG	Sg	00 36 36.9	-0.2
KIF	Kilpisjarvi	1.26	10	eP	Pg	00 36 36.9	-0.9
KIF	Kilpisjarvi	1.26	10	PG	Pg	00 36 37.4	-0.4
	baz=186						
KIF				MSG		00 36 53.0	
	comp=Z,4.2nm,0.2s						
KIF				SG	Sg	00 36 53.0	-1.0
PAJU	Pajala	1.35	122	PN	Pg	00 36 39.2	-0.2
	baz=304						
PAJU				SN	Sb	00 36 57.8	+0.3
HEF	Hetta	1.45	62	eP	Pn	00 36 40.0	-1.0
HEF	Hetta	1.45	62	PN	Pn	00 36 40.3	-0.7
	baz=248						
HEF				MSG		00 36 57.1	
	comp=Z,2.1nm,0.2s						
HEF				SN	Sg	00 36 59.0	-1.0
KLF	Kolari	1.54	109	PN	Pn	00 36 42.6	+0.3
KLF				MSG		00 36 59.7	
	comp=Z,1.2nm,0.2s						
KLF				SN	Sg	00 37 04.7	+1.7
KTK1	Kautokeino	1.68	41	PN	Pn	00 36 44.1	-0.1
KTK1				SN	Sg	00 37 07.8	+0.3
TRO	Tromso	1.93	347	SG	Sn	00 37 13.3	+0.8
KALU	Kalix	2.29	145	PG	Pb	00 36 54.5	-1.1
	baz=328						
TOF	Tornio	2.35	134	PG	Pb	00 36 55.8	-0.9
TOF				MSG		00 37 23.1	
	comp=Z,0.9nm,0.2s						
SGF	Sodankyl	2.44	95	PG	Pb	00 36 57.2	-1.2
SGF				SG	Sb	00 37 29.1	+0.2
RNF	Rovaniemi	2.54	115	PG	Pb	00 36 58.8	-1.3
ARA0	ARCESS Array S	2.63	45	PB	Pn	00 36 58.2	+1.0
	baz=230						
ARA0				SG	Sb	00 37 32.4	-1.9
KEV	Kevo	3.18	48	SN	Sn	00 37 44.0	+0.7

ISK 07 00:38:27.8, 33.91N×35.28E, h21km, ML3.2/19
GII 07 00:38:28.5±0.3, 33.87N±0.03×35.328E±0.008, h8km, Md2.9/10, Mws2.8/9, confirmed
NIC 07 00:38:28.3, 34.01N×35.49E, h32km±69km, Ml2.6/6
JSO 07 00:38:29, 33.87N×35.26E, h10km, ML3.1/22, Mw2.8/22
GRAL 07 00:38:29.1±0.3, 33.89N×35.36E, h24km±3km, MD3.4
AFAD 07 00:38:33.2±0.0, 34.32N×35.10E, h7km±3km, ML3.0
ISC 07 00:38:27.6±0.9, 33.90N±0.02×35.32E±0.03, h32km±7km, n98, σ2.19/128, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BEYL	Beirut	0.15	100	eP	Pb	00 38 33.6	0.0
BHL	Bhannes	0.28	89	eP	Pb	00 38 34.7	-0.5
DQRL	Deir Qamar	0.29	132	eP	Pb	00 38 34.9	-0.3
DQRL				eS	Sb	00 38 39.4	-1.0
QRWL	Qaraoun	0.47	139	eP	Pb	00 38 37.5	-0.1
ZAHL	Zahle	0.48	95	eP	Pb	00 38 37.8	-0.1
ZAHL				eS	Sb	00 38 43.9	-1.0
SHBL	Chebaa	0.66	147	eP	Pb	00 38 40.6	-0.2
SHBL				eS	Sb	00 38 48.9	-0.9
NATI	Neve Ativ	0.73	151	S	Sb	00 38 50.7	-0.8
NATI	Neve Ativ	0.73	151	P	Pb	00 38 41.6	-0.3
GEM	Giv'at Ha'Em	0.74	157	P	Pb	00 38 41.2	-1.0
GEM	Giv'at Ha'Em	0.74	157	S	Sb	00 38 51.2	-0.9
GEM	Giv'at Ha'Em	0.74	157	P	Pb	00 38 42.0	-0.2
HNTI	Hanita	0.82	188	P	Pb	00 38 42.5	-1.0
HNTI	Hanita	0.82	188	S	Sb	00 38 54.1	-0.1
HNTI	Hanita	0.82	188	P	Pb	00 38 43.0	-0.4
MMC1	Mount Meron ar	0.87	175	P	Pb	00 38 43.4	-0.9
MMA0B	Mount Meron ar	0.88	175	S	Sb	00 38 56.0	-0.1
MMA0B	Mount Meron ar	0.88	175	P	Pb	00 38 44.2	-0.4
MMB1	Mount Meron ar	0.89	175	P	Pb	00 38 43.6	-1.0
BEIL	Beino	0.96	48	eP	Pb	00 38 45.5	-0.4
KSHT	Keshet	1.00	155	S	Sb	00 38 59.4	-0.1
KSHT	Keshet	1.00	155	P	Pb	00 38 46.3	-0.2
BLGI	Bet Lehem HaGe	1.17	185	P	Pn	00 38 48.1	+0.4
BLGI	Bet Lehem HaGe	1.17	185	S	Sb	00 39 04.9	+0.8
BLGI	Bet Lehem HaGe	1.17	185	P	Pn	00 38 48.4	+0.7
SHMJ	Saham	1.23	162	P	Pn	00 38 49.5	+0.9
OFRI	`Ofer	1.30	192	P	Pn	00 38 49.7	+0.1
OFRI	`Ofer	1.30	192	S	Sb	00 39 08.5	+0.6
OFRI	`Ofer	1.30	192	P	Pn	00 38 51.1	+1.5
MMLI	Mount Malkishu	1.46	176	Pn	Pb	00 38 53.9	-0.3
MMLI				Sn	Sb	00 39 12.9	+0.5
MMLI	Mount Malkishu	1.46	176	P	Pn	00 38 53.0	+1.2
MMLI				S	Sb	00 39 12.4	0.0
MMLI	Mount Malkishu	1.46	176	S	Sb	00 39 12.5	0.0
MMLI	Mount Malkishu	1.46	176	P	Pn	00 38 53.1	+1.4
PARAL	Paralimni	1.52	316	P	Pn	00 38 54.1	+1.6
PARAL				S	Sn	00 39 12.6	+1.4
PARAL				AML	AML	00 39 13.5	
	0.2nm,0.4s						
PARAL				AML	AML	00 39 13.8	
	0.4nm,0.4s						
QRNJ	Al-Qirein	1.57	172	P	Pn	00 38 54.2	+0.9
HMDT	Nahal Hemdat	1.65	174	P	Pn	00 38 55.0	+0.6
HMDT	Nahal Hemdat	1.65	174	S	Sb	00 39 17.8	0.0
HMDT	Nahal Hemdat	1.65	174	P	Pn	00 38 55.9	+1.5
SLTI	Sal'it	1.67	188	P	Pn	00 38 55.6	+1.0
SLTI	Sal'it	1.67	188	P	Pn	00 38 56.2	+1.6
SLTI	Sal'it	1.67	188	S	Sb	00 39 18.3	-0.1
MVOU	Mavrovouni	1.78	309	P	Pn	00 38 57.1	+0.9
MVOU				S	Sn	00 39 18.4	+0.6
MVOU				AML	AML	00 39 21.1	
	0.1nm,0.3s						
MVOU				AML	AML	00 39 21.8	
	0.1nm,0.3s						
ASGA	Asgata	1.93	298	P	Pn	00 38 59.4	+1.2
ASGA				S	Sn	00 39 23.1	+1.8
HSUJ	Al Zarqa	1.94	157	P	Pb	00 39 01.1	-1.2
CSS	Mathiatis	1.95	303	Pn	Pn	00 39 00.3	+1.7
CSS				Sn	Sn	00 39 23.5	+1.5
CSS	Mathiatis	1.95	303	P	Pn	00 39 00.2	+1.6
CSS				S	Sn	00 39 23.5	+1.5
CSS				AML	AML	00 39 27.0	
	0.1nm,0.4s						
CSS				AML	AML	00 39 27.7	
	0.1nm,0.3s						
LFK	Lefkose	2.02	314	Pn	Pn	00 39 01.2	+1.8
LFK				Sn	Sn	00 39 25.8	+2.2
ASF	Jabal al Asfar	2.17	142	P	Pn	00 39 03.7	+2.0
TROD	Troodos	2.28	298	P	Pn	00 39 05.2	+2.0
TROD				S	Sn	00 39 33.0	+2.7
TROD				AML	AML	00 39 36.0	
	0.1nm,0.4s						
TROD				AML	AML	00 39 36.3	
	0.1nm,0.6s						
DSI	Dead Sea	2.32	179	P	Pn	00 39 04.3	+0.7
DSI	Dead Sea	2.32	179	P	Pn	00 39 05.1	+1.5
LEF	Lefka	2.34	302	Pn	Pn	00 39 06.4	+2.5
LEF				Sn	Sn	00 39 34.3	+2.7
LEF	Lefka	2.34	302	P	Pb	00 39 08.1	-1.0
LEF				S	Sn	00 39 30.7	-0.9
AMAZ	Amatzia	2.38	188	P	Pn	00 39 07.2	+2.7
AMAZ				S	Sb	00 39 38.3	-0.6
AMAZ	Amatzia	2.38	188	P	Pn	00 39 06.3	+1.8
ASUZ	Hatay-Arsuz	2.42	9	P	Pn	00 39 07.1	+2.2
ASUZ				S	Sn	00 39 32.3	-1.1
NATA	Nata	2.44	292	P	Pn	00 39 08.2	+3.0
NATA				S	Sb	00 39 38.0	-2.4
YTIR	Yattir	2.53	184	P	Pn	00 39 08.1	+1.5
YTIR	Yattir	2.53	184	P	Pn	00 39 08.9	+2.3
ALFC	Alefka	2.57	300	P	Pn	00 39 08.9	+1.9
ALFC				S	Sn	00 39 39.8	+2.6
ALFC				AML	AML	00 39 43.8	
	0.1nm,0.3s						
ALFC				AML	AML	00 39 44.5	
	0.1nm,0.3s						
TAHT	Tahtakopru-Hat	2.57	16	Pn	Pn	00 39 09.3	+2.3
RHAN	Hatay/Reyhanl	2.58	24	P	Pn	00 39 08.9	+1.7
RHAN				S	Sb	00 39 45.0	+0.4
LISJ	El Lisan	2.66	177	P	Pn	00 39 10.4	+2.3
AKKU	Akkuyu-Mersin	2.68	328	Pn	Pn	00 39 10.6	+2.1
IKL	Isikli	2.69	331	Pn	Pn	00 39 11.2	+2.5
AKMS	Akamas	2.70	295	P	Pn	00 39 11.9	+3.0
AKMS				S	Sb	00 39 45.4	-2.7
AKMS				AML	AML	00 39 47.0	
	0.1nm,0.5s						
AKMS				AML	AML	00 39 47.5	
	0.1nm,0.4s						
GULN	MERSIN_Gulnar	2.70	328	P	Pn	00 39 10.0	+1.1
GULN				S	Sn	00 39 39.3	-1.1
KIZK	Mersin	2.75	340	Pn	Pn	00 39 11.9	+2.4
KIZK	Mersin	2.75	340	P	Pn	00 39 11.1	+1.7
KIZK				S	Sn	00 39 37.5	-4.1

KARJ	KARJ	2.79	174	P	Pn	00 38 59.8	-10
KEBE	Keben-Mersin	2.86	333	Pn	Pn	00 39 13.4	+2.3
YURE	YUREGIR	2.93	5	P	Pn	00 39 14.9	+2.9
BERE	Bereket-Mersin	2.98	326	Pn	Pn	00 39 15.2	+2.3
MERS	Mersin	3.03	348	Pn	Pn	00 39 15.9	+2.5
CEYT	Ceyhan	3.12	6	Pn	Pn	00 39 17.4	+2.8
ZFRI	Zfri	3.34	182	P	Pn	00 39 18.6	+1.1
KARA	Karaisali	3.36	356	Pn	Pn	00 39 20.6	+2.7
GAZI	Gazipasa	3.39	314	Pn	Pn	00 39 20.8	+2.5
GAZI	Gazipasa	3.39	314	P	Pn	00 39 19.9	+1.6
GULE	Gulek	3.41	353	P	Pn	00 39 21.0	+2.4
GULE				S	Sn	00 39 56.6	-1.5
GULE				*i* AML	AML	00 40 02.0	
	comp=E,53nm,0.4s						
GULE				*i* AML	AML	00 40 03.0	
	comp=N,64nm,0.5s						
PRNI	Paran	3.55	184	P	Pn	00 39 22.0	+1.5
KOZT	Kozan	3.60	6	Pn	Pn	00 39 23.8	+2.6
KERG	Konya-Eregli	3.64	345	P	Pn	00 39 23.4	+1.6
KERG				S	Sn	00 40 03.0	-0.8
KERG				*i* AML	AML	00 40 08.0	
	comp=N,31nm,0.6s						
KERG				*i* AML	AML	00 40 09.0	
	comp=E,29nm,0.5s						
CMRD	Camardi-Nigde	3.77	356	Pn	Pn	00 39 26.6	+3.0
HDMB	Hadim	3.83	324	Pn	Pn	00 39 27.3	+2.7
KKBE	Karaman, Kazim	3.84	330	P	Pn	00 39 27.9	+3.4
HRFI	Mount Harif	3.86	184	Pn	Pn	00 39 28.3	+3.5
YESY	Yesilyurt	4.08	342	Pn	Pn	00 39 30.9	+3.0
NIDE	Nigde/Merkez-G	4.12	354	P	Pn	00 39 32.2	+3.8
NIDE				S	Sn	00 40 13.4	-2.1
NIDE				*i* AML	AML	00 40 20.0	
	comp=N,24nm,0.3s						
NIDE				*i* AML	AML	00 40 20.0	
	comp=E,29nm,0.2s						
SAIM	ADANA	4.12	8	P	Pn	00 39 31.6	+3.2
SAIM				S	Sn	00 40 10.3	-5.2
KEPZ	Antalya-Kepez	4.26	316	P	Pn	00 39 33.8	+3.5
KEPZ				S	Sn	00 40 12.7	-6.3
BSIR	Belisirma, Guz	4.44	350	P	Pn	00 39 35.5	+2.7
SEDI	Konya, Seydise	4.58	322	P	Pn	00 39 38.4	+3.7
SEDI				S	Sn	00 40 27.0	+0.2
AKUM	Antalya-Kumluc	4.74	302	P	Pn	00 39 40.0	+3.1
AKUM				S	Sn	00 40 24.4	-6.2
IZZE	Mula-Seydike	5.59	299	P	Pn	00 39 49.9	+1.3
GOLH	Golhisar	5.75	307	P	Pn	00 39 54.0	+3.1
GOLH				S	Sn	00 40 51.1	-4.7
GOLH				*i* AML	AML	00 40 55.0	
	comp=E,11nm,2.6s						
GOLH				*i* AML	AML	00 41 42.0	
	comp=N,10nm,3.1s						
CAME	Cameli-Denizli	5.77	303	Pn	Pn	00 39 54.6	+3.4
APMY	Acipayam-Deniz	6.05	308	Pn	Pn	00 39 58.7	+3.7
TAVA	DENIZLI_Tavas	6.31	306	P	Pn	00 39 59.1	+0.6
TAVA				S	Sn	00 41 03.6	-5.9

*NEIC **07** 00:42:21.2±1.6, 18°.86N±0°.03×147°.1E±0°.1, h10km±1km, mb5.1/71, Error ellipse: s-maj=20.4km s-min=5.0km az=88.0*

*BJI **07** 00:42:22.1±0.0, 18°.81N×147°.25E, h43km, mb4.6/30, mB5.1/15, Ms4.4/6, Ms7 4.2/6*

*IDC **07** 00:42:28.1±3.0, 18°.89N×146°.97E, h72km±28km, mb3.9/22, mbtmp4.2/24, MS3.5/20, Error ellipse: s-maj=19.7km s-min=13.3km az=85.0*

ISC 07 00:42:24.4±0.4, **18°.91N**±0°.05×**147°.14E**±0°.08, **h37**km, **n234**, σ1s.**83**/230, **mb4.8**/63, **MS3.5**/18, **1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.72	203	Pn	Pn	00 43 45.7	-1.2
GUMO	Guam	5.72	203	P	Pn	00 43 50.1	+3.2
	63nm,0.5s,baz=336,slow=4.8,SNR=5.3						
GUMO				S	Sn	00 44 53.6	+2.2
	39nm,0.3s,baz=60,slow=23,SNR=2.4						
GUMO				LR	LR	00 45 47.4	
	comp=Z,386nm,19.2s,baz=326,slow=35						
JCJ	Chichijima	9.34	332	S	Sn	00 46 12.9	-7.3
	42nm,0.4s,baz=297,slow=20,SNR=1.7						
JHJ	Hachijo jima 2	15.61	336	LR	LR	00 51 37.0	
	comp=Z,77nm,20.4s,baz=58,slow=35						
PATS	Pohnpei	16.19	136	Pn	Pn	00 46 07.2	-2.1
PATS				IAmb	IAmb	00 46 11.5	
	comp=Z,256nm,1.3s						
JMN	Monobe	18.92	324	P	Pn	00 46 42.8	-0.2
JOW	Kunigami	19.07	298	LR	LR	00 52 59.2	
	comp=Z,142nm,21.4s,baz=3.0,slow=33						
MJAR	Matsushiro Arr	19.24	338	P	P	00 46 45.4	-0.2
	comp=Z,1.6nm,0.8s,baz=162,slow=9.5,SNR=2.7						
MAJO	Matsushiro	19.24	338		Pn	00 46 47.5	+0.7
MJB9	Matsu-Tunnel	19.25	338	P	Pn	00 46 47.3	+0.5
JMM	Marumori	19.68	345	P	Pn	00 46 52.1	+0.1
JMM				IAmb	IAmb	00 46 52.3	
	comp=Z,145nm,1.9s						
JNU	Nakatsue	20.30	317	P	P	00 46 55.5	-1.7
JNU	Nakatsue	20.30	317	P	P	00 46 56.9	-0.4
	comp=Z,11nm,1.0s,baz=177,slow=5.4,SNR=3.0						
JNU				LR	LR	00 54 15.4	
	comp=Z,51nm,18.5s,baz=128,slow=35						
	comp=Z,11nm,1.0s						
DAV	Davao City (W)	24.04	244	LR	LR	00 55 06.4	
	comp=Z,141nm,21.9s,baz=58,slow=32						
KSRS	Korea Array	24.98	322	P	P	00 47 44.0	-0.6
	comp=Z,2.8nm,0.7s,baz=149,slow=9.0,SNR=15						
	comp=Z,2.8nm,0.7s						
KSAR	Wonju Array Be	24.99	322	P	P	00 47 44.0	-0.7
ASAJ	Asahikawa	25.42	352	LR	LR	00 58 05.5	
	comp=Z,26nm,19.5s,baz=42,slow=37						
FAKI	Fak Fak	26.18	216	P	P	00 47 54.3	-1.4
FAKI				IAmb	IAmb	00 48 17.1	
	comp=Z,58nm,1.6s						
NJ2	Nanjing	28.59	303	*e*P	P	00 48 18.3	+1.1
NJ2				pP	pP	00 48 24.3	-2.4
NJ2				sP	pwP	00 48 32.5	+1.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,200nm,3.6s						
HNR	Honiara	30.87	155	LR	LR	01 01 37.8	
	comp=Z,372nm,19.2s,baz=110,slow=37						
HNS	HongShan	33.78	310	⇑P	P	00 49 02.2	-0.6
HNS				pmax	pmax		
	comp=Z,13nm,0.9s						
HEH	HeiHe	35.01	338	*e*P	P	00 49 13.0	-0.3
PETK	Petropavlovsk-	35.10	11	P	P	00 49 16.0	+1.9
	comp=Z,4.4nm,1.0s,baz=138,slow=9.1,SNR=2.4						
PETK				LR	LR	01 02 50.9	
	comp=Z,48nm,19.4s,baz=200,slow=35						
	comp=Z,4.4nm,1.0s						
QIZ	Qiongzhong	35.23	276	P	P	00 49 15.0	-0.6
QIZ				S	S	00 54 47.2	+0.3
QIZ				LR	LR		
	comp=Z,190nm,9.0s						
QIZ				LR	LR		
	comp=Z,160nm,8.4s						
QIZ				LR	LR		
	comp=Z,200nm,7.6s						
KAPI	Kappang	35.96	231	LR	LR	01 02 11.7	
	comp=Z,47nm,20.5s,baz=360,slow=33						
HHC	Hu-ho-hao-te	37.44	313	*e*P	P	00 49 35.0	+0.7
HHC				pP	pP	00 49 44.6	+0.5
HHC				S	S	00 55 23.6	+3.2
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				LR	LR		
	comp=Z,240nm,15.5s						
HHC				LR	LR		
	comp=Z,250nm,14.1s						
HHC				LR	LR		
	comp=Z,230nm,14.5s						
BTO	Baotou	38.41	312	*e*P	P	00 49 46.2	+3.7
BTO				pP	pwP	00 49 58.1	+2.1
BTO				sP	sP	00 50 03.8	+7.9
BTO				PP	PnPn	00 51 16.4	+3.7
BTO				S	S	00 55 40.7	+5.6
BTO				SS	SnSn	00 58 21.8	-1.1
BTO				pmax	pmax		
	comp=Z,12nm,0.8s						
BTO				pmax	pmax		
	comp=Z,230nm,4.5s						
BTO				LR	LR		
	comp=Z,250nm,6.3s						
BTO				LR	LR		
	comp=Z,220nm,5.4s						
BTO				LR	LR		
	comp=Z,210nm,5.0s						
CTA	Charters Tower	38.77	181	LR	LR	01 06 56.1	
	comp=Z,38nm,18.1s,baz=84,slow=38						
WB0	Warramunga Arr	40.42	199	P	P	00 49 58.4	-0.9
WB0				IAmb	IAmb	00 50 02.9	
	comp=Z,40nm,2.0s						
WRA	Warramunga Arr	40.60	199	P	P	00 49 59.3	-1.5
WRA	Warramunga Arr	40.60	199	P	P	00 50 00.1	-0.8
	comp=Z,1.0nm,0.5s,baz=20,slow=8.4,SNR=8.0						
WRA				PcP	PcP	00 52 02.3	-0.2
	comp=Z,0.4nm,0.5s,baz=17,slow=3.3,SNR=4.9						
	comp=Z,1.0nm,0.5s						
MA2	Magadan	40.70	3	LR	LR	01 06 00.1	
	comp=Z,24nm,20.6s,baz=151,slow=35						
PZH	PanZhiHua	42.38	289	P	P	00 50 16.5	+0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.2s						
FITZ	Fitzroy Crossi	42.41	211	P	P	00 50 15.3	-0.3
SONM	Songino Array	43.84	321	P	P	00 50 26.8	-0.3
SONM	Songino Array	43.84	321	P	P	00 50 27.2	+0.1
	comp=Z,2.0nm,0.7s,baz=147,slow=12,SNR=8.5						
SONM				PcP	PcP	00 52 13.5	+0.4
	comp=Z,0.5nm,0.4s,baz=135,slow=3.8,SNR=2.8						
SONM				LR	LR	01 10 21.0	
	comp=Z,75nm,18.6s,baz=252,slow=38						
	comp=Z,2.0nm,0.7s						
AS31	Alice Springs	44.24	198	P	P	00 50 30.0	-0.4
ASAR	Alice Springs	44.24	198	P	P	00 50 30.1	-0.4
ASAR	Alice Springs	44.24	198	P	P	00 50 29.7	-0.7
	comp=Z,0.4nm,0.5s,baz=20,slow=9.5,SNR=9.7						
	comp=Z,0.4nm,0.5s						
DZM	Mont Dzumac	44.89	154	*e*LR	LR	01 03 19.3	
	comp=Z,129nm,24.1s						
DZM	Mont Dzumac	44.89	154	LR	LR	01 08 08.2	
	comp=Z,70nm,20.4s,baz=32,slow=34						
CMAR	Chiang Mai Arr	45.54	278	P	P	00 50 40.2	-0.7
	comp=Z,0.7nm,0.3s,baz=64,slow=6.8,SNR=6.1						
	comp=Z,0.7nm,0.3s						
PSA00	Pilbara Seismi	48.29	215	P	P	00 51 01.5	-0.8
PSA00				IAmb	IAmb	00 52 29.7	
	comp=Z,35nm,1.4s						
GOMU	GeErMu	48.90	302	P	P	00 51 08.7	+1.4
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STKA	Stephens Creek	50.78	186	LR	LR	01 13 49.6	
	comp=Z,51nm,20.5s,baz=19,slow=37						
L14K	Kuka Creek	54.94	27	P	P	00 51 52.9	+1.5
L14K				IAmb	IAmb	00 52 02.0	
	comp=Z,65nm,1.8s						
M14K	Bethel	54.98	28	P	P	00 51 53.4	+1.7
M14K				IAmb	IAmb	00 51 54.7	
	comp=Z,30nm,1.1s						
M14K	Bethel	54.98	28	P	P	00 51 54.2	+2.5
	baz=244						
TNA	Tin City	55.13	21	P	P	00 51 54.4	+1.8
	baz=235						
WMQ	Urumqi	55.20	311	*e*P	P	00 51 54.6	+0.9
WMQ				pP	pwP	00 52 08.1	+0.2
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
N15K	Kwethluk River	55.57	29	P	P	00 51 58.6	+2.6
	baz=246						
N16K	Nishlik Lake	56.30	29	P	P	00 52 03.8	+2.6
	baz=247						
J16K	Anvik River	56.68	25	P	P	00 52 06.7	+2.8
	baz=244						
O17K	Koliganek Bris	56.82	30	P	P	00 52 07.5	+2.6
	baz=249						
N17K	Nushagak Hills	57.04	29	P	P	00 52 09.2	+2.7
	baz=249						
L17K	Donlin	57.16	27	P	P	00 52 10.0	+2.8
	baz=247						
K17K	Iditarod	57.39	26	P	P	00 52 11.9	+3.0
	baz=246						
C16K	Lisburne Hills	57.52	19	P	P	00 52 11.0	+1.3
	baz=236						
G17K	Kiwalik Mounta	57.68	23	P	P	00 52 13.1	+2.2
	baz=242						
H17K	Granite Mounta	57.69	24	P	P	00 52 13.5	+2.5
	baz=244						
N18K	Kilae Creek	57.70	29	P	P	00 52 13.8	+2.6
	baz=250						
F17K	Baldwin Pennin	57.91	22	P	P	00 52 14.8	+2.4
	baz=241						
E17K	Hotham Inlet	58.02	21	P	P	00 52 15.5	+2.3
	baz=240						
C17K	DeLong Mountai	58.30	19	P	P	00 52 17.4	+2.2
	baz=238						
H18K	Honhosa River	58.38	24	P	P	00 52 17.7	+1.9
	baz=245						
N19K	Bonanza Creek	58.39	29	P	P	00 52 18.7	+2.6
	baz=251						
KDAK	Kodiak Island	58.44	33	LR	LR	01 13 30.7	
	comp=Z,34nm,21.2s,baz=252,slow=32						
TTA	Tatalina	58.45	27	P	P	00 52 17.4	+1.0
TTA				IAmb	IAmb	00 54 09.4	
	comp=Z,32nm,1.9s						
TTA	Tatalina	58.45	27	P	P	00 52 18.3	+1.9
	baz=249						
G18K	Tagagawik	58.59	23	P	P	00 52 19.4	+2.1
	baz=244						
E18K	Tukpahlearik C	58.60	21	P	P	00 52 19.7	+2.4
	baz=242						
P19K	Oil Pt	58.63	31	P	P	00 52 18.6	+0.9
ZAA0	Zalesovo Array	58.68	322	P	P	00 52 16.8	-1.3
ZALV	Zalesovo Beam	58.68	322	P	P	00 52 16.7	-1.4
ZALV				PcP	PcP	00 53 07.2	-0.6
ZALV	Zalesovo Beam	58.68	322	P	P	00 52 16.2	-1.9
	comp=Z,4.2nm,0.8s,baz=109,slow=7.4,SNR=19						
ZALV				PcP	PcP	00 53 06.9	-0.9
	comp=Z,0.9nm,0.6s,baz=112,slow=4.0,SNR=1.4						
	comp=Z,4.2nm,0.8s						
J19K	Poorman	59.00	26	P	P	00 52 21.9	+1.7
J19K				IAmb	IAmb	00 54 22.8	
	comp=Z,43nm,1.9s						
J19K	Poorman	59.00	26	P	P	00 52 22.4	+2.3
	baz=248						
C18K	Utukok River	59.02	20	P	P	00 52 21.8	+1.6
	baz=240						
B18K	Kokolik River	59.19	19	P	P	00 52 23.9	+2.6
	baz=239						
L20K	Farewell, AK	59.21	28	P	P	00 52 23.5	+1.8
	baz=251						
H19K	Roundabout Mou	59.27	24	P	P	00 52 24.4	+2.5
	baz=247						
G19K	Purcell Mounta	59.28	23	P	P	00 52 24.1	+2.1
	baz=246						
MK31	Makanchi Array	59.30	314	P	P	00 52 22.1	-0.5
MKAR	Makanchi Array	59.30	314	P	P	00 52 22.2	-0.4
	comp=Z,3.3nm,0.6s,baz=88,slow=7.5,SNR=53						
	comp=Z,3.3nm,0.6s						
M20K	Styx River	59.35	28	P	P	00 52 23.9	+1.1
	baz=252						
K20K	Telida	59.42	27	P	P	00 52 25.6	+2.6
	baz=250						
CNPM	China Poot	59.57	31	P	P	00 52 25.1	+0.9
J20K	Nowinta River	59.67	26	P	P	00 52 27.3	+2.5
	baz=250						
C19K	Lookout Ridge	59.75	19	P	P	00 52 27.6	+2.4
	baz=242						
E19K	Redstone River	59.78	22	P	P	00 52 27.7	+2.2
	baz=245						
BRLK	Bradley Lake	59.80	31	P	P	00 52 25.6	-0.2
H20K	Anotleneega Mo	59.86	24	P	P	00 52 28.4	+2.4
	baz=248						
D19K	Kuna River	59.94	20	P	P	00 52 28.4	+1.8
	baz=244						
SKT	Skwentna	60.10	29	P	P	00 52 28.5	+0.7
F20K	Avaraart Lake	60.14	22	P	P	00 52 30.2	+2.3
	baz=247						
CAST	Castle Rocks	60.29	27	P	P	00 52 30.6	+1.5
CAST				IAmb	IAmb	00 52 31.7	
	comp=Z,13nm,1.1s						
CAST	Castle Rocks	60.29	27	P	P	00 52 31.3	+2.2
	baz=252						
SUA	Susitna One	60.32	29	P	P	00 52 30.3	+0.9
IMAR	Indian Mountai	60.47	24	P	P	00 52 31.2	+1.0
E20K	Nigu River	60.48	21	P	P	00 52 32.6	+2.2
	baz=246						
O22K	Cooper Landing	60.55	30	P	P	00 52 32.3	+1.5
RC01	Rabbit Creek A	60.69	30	P	P	00 52 32.8	+1.0
RC01	Rabbit Creek A	60.69	30	P	P	00 52 32.7	+1.0
	baz=256						
H21K	Melozitna Rive	60.72	24	P	P	00 52 34.4	+2.4
	baz=250						
G21K	Allakaket	60.76	23	P	P	00 52 34.3	+2.2
	baz=249						
KTH	Kantishna Hill	60.83	27	P	P	00 52 34.0	+1.3
KTH				IAmb	IAmb	00 52 35.3	
	comp=Z,14nm,1.1s						
I21K	Tanana	60.89	25	P	P	00 52 34.3	+1.2
	baz=251						
B20K	Meade River	60.92	19	P	P	00 52 34.4	+1.2
B20K				IAmb	IAmb	00 52 35.9	
	comp=Z,9.8nm,0.8s						
B20K	Meade River	60.92	19	P	P	00 52 35.5	+2.3
	baz=244						
BPAW	Bear Paw Mtn.	60.96	26	P	P	00 52 33.5	-0.1
BPAW				IAmb	IAmb	00 52 35.9	
	comp=Z,9.6nm,0.6s						
F21K	Alatna River	61.02	23	P	P	00 52 35.8	+1.8
	baz=249						
TRF	Thorofare Moun	61.07	27	P	P	00 52 35.4	+0.8
TRF				IAmb	IAmb	00 52 36.0	
	comp=Z,16nm,1.0s						
TRF	Thorofare Moun	61.07	27	P	P	00 52 35.9	+1.4
	baz=254						
PMR	Palmer	61.10	29	P	P	00 52 35.1	+0.6
PMR				IAmb	IAmb	00 54 04.2	
	comp=Z,50nm,1.7s						
GHO	Glory Hole Cre	61.24	29	P	P	00 52 36.1	+0.5
C21K	Knifeblade Rid	61.32	20	P	P	00 52 38.1	+2.2
	baz=246						
MLY	Manley	61.34	25	P	P	00 52 37.8	+1.6
MLY				IAmb	IAmb	00 52 38.5	
	comp=Z,7.0nm,0.6s						
MLY	Manley	61.34	25	P	P	00 52 38.2	+1.9
	baz=253						
KNK	Knik Glacier	61.37	30	P	P	00 52 37.6	+1.2
SML	Sawmill	61.52	29	P	P	00 52 38.3	+0.8
SML	Sawmill	61.52	29	P	P	00 52 39.5	+2.0
	baz=257						
B21K	Ikpikpuk River	61.56	20	P	P	00 52 39.6	+2.0
	baz=246						
F22K	John River	61.59	22	P	P	00 52 40.4	+2.6
	baz=250						
BWN	Browne	61.62	26	P	P	00 52 39.5	+1.5
BWN				IAmb	IAmb	00 52 40.7	
	comp=Z,22nm,1.0s						
WAT1	Susitna Watana	61.67	28	P	P	00 52 39.7	+1.3
	baz=256						
RND	Reindeer	61.68	27	P	P	00 52 38.8	+0.2
RND				IAmb	IAmb	00 54 44.1	
	comp=Z,39nm,1.8s						
MCK	McKinley	61.73	27	P	P	00 52 39.7	+0.8
	baz=255						
NRIK	Noril'sk	61.88	340	P	P	00 52 39.5	-0.2
	comp=Z,1.4nm,0.4s,baz=108,slow=10,SNR=4.3						
	comp=Z,1.4nm,0.4s						
NEA2	Nenana	61.90	26	P	P	00 52 42.1	+2.1
	baz=254						
D22K	Ayikyak River	61.91	21	P	P	00 52 42.6	+2.6
	baz=249						
I23K	Minto, Yukon-K	61.93	25	P	P	00 52 41.6	+1.5
I23K				IAmb	IAmb	00 52 43.0	
	comp=Z,6.8nm,0.8s						
I23K	Minto, Yukon-K	61.93	25	P	P	00 52 42.3	+2.2
	baz=254						
E22K	Anaktuvuk Pass	61.94	22	P	P	00 52 42.5	+2.3
	baz=250						
WAT6	Susitna Watana	61.97	28	P	P	00 52 42.3	+1.6
	baz=257						
SCM	Sheep Creek Mo	61.99	29	P	P	00 52 41.7	+1.0
SCM				IAmb	IAmb	00 52 43.3	
	comp=Z,22nm,1.0s						
SCM	Sheep Creek Mo	61.99	29	P	P	00 52 42.7	+2.1
	baz=258						
A22K	Sinclair Lake	62.02	18	P	P	00 52 42.7	+2.2
	baz=245						
KURK	Kurchatov	62.03	318	P	P	00 52 40.0	-1.0
KURK				IAmb	IAmb	00 52 42.0	
	comp=Z,16nm,1.4s						
KURBB	Kurchatov Arra	62.08	318	P	P	00 52 40.6	-0.8
	comp=Z,6.7nm,0.7s,baz=96,slow=7.2,SNR=42						
	comp=Z,6.7nm,0.7s						
HIN	Hinchinbrook I	62.09	31	P	P	00 52 42.2	+0.9
B22K	Teshekpuk Lake	62.22	19	P	P	00 52 43.8	+1.9
	baz=247						
MDM	Murphy Dome	62.34	26	P	P	00 52 44.3	+1.4
MDM				IAmb	IAmb	00 52 45.6	
	comp=Z,5.2nm,0.7s						
CCB	Clear Creek Bu	62.44	26	P	P	00 52 44.1	+0.6
CCB				IAmb	IAmb	00 52 50.4	
	comp=Z,26nm,2.0s						
D23K	Nanushuk River	62.62	21	P	P	00 52 47.4	+2.8
	baz=251						
H24K	Noodor Dome	62.72	25	P	P	00 52 47.4	+2.0
	baz=255						
HDA	Harding Lake	62.74	26	P	P	00 52 46.1	+0.6
HDA				IAmb	IAmb	00 54 39.1	
	comp=Z,26nm,1.8s						
HDA	Harding Lake	62.74	26	P	P	00 52 46.2	+0.6
	baz=257						
IL31		62.85	26	P	P	00 52 46.2	0.0
IL31				IAmb	IAmb	00 52 47.5	
	comp=Z,6.6nm,0.9s						
ILAR	Eielson Array	62.85	26	P	P	00 52 46.6	+0.3
ILAR	Eielson Array	62.85	26	P	P	00 52 46.4	0.0
	comp=Z,3.0nm,0.8s,baz=250,slow=6.6,SNR=24						
ILAR				LR	LR	01 20 00.2	
	comp=Z,36nm,19.2s,baz=295,slow=36						
	comp=Z,3.0nm,0.8s						
TOLK	Toolik Lake Re	62.89	22	P	P	00 52 48.5	+1.9
	baz=252						
C23K	Itkillik River	62.93	20	P	P	00 52 49.0	+2.3
	baz=250						
PAX	Paxson	63.07	28	P	P	00 52 49.7	+1.8
	baz=259						
HARP	HAARP	63.10	29	P	P	00 52 50.4	+2.4
	baz=259						
E24K	Your Creek	63.11	22	P	P	00 52 50.4	+2.4
	baz=253						
D24K	Happy Valley	63.31	21	P	P	00 52 51.8	+2.6
	baz=252						
J25K	Salcha River,	63.45	26	P	P	00 52 50.8	+0.4
	baz=258						
BERG	Berg Lake	63.46	31	P	P	00 52 52.0	+1.6
VRDI	Verde Repeater	63.70	30	P	P	00 52 53.1	+0.9
CRQM	Cirque	63.78	31	P	P	00 52 54.4	+1.7
CRQM				IAmb	IAmb	00 54 30.5	
	comp=Z,29nm,1.2s						
SCRK	Sand Creek	63.92	27		P	00 52 54.3	+0.7
SCRK				IAmb	IAmb	00 52 58.8	
	comp=Z,36nm,2.0s						
SCRK	Sand Creek	63.92	27	P	P	00 52 55.1	+1.6
	baz=260						
QRZ	Quartz Range	63.95	159	P	P	00 52 52.8	-1.0
F25K	Christian Rive	64.02	23	P	P	00 52 56.7	+2.7
	baz=256						
L26K	Log Cabin Wild	64.04	28	P	P	00 52 56.2	+2.0
	baz=261						
D25K	Kavik River	64.19	21	P	P	00 52 57.3	+2.2
	baz=255						
J26L	Joseph Creek	64.20	27	P	P	00 52 56.8	+1.5
	baz=260						
BMAR	Burnt Mountain	64.38	23	P	P	00 52 58.1	+1.7
GRNC	Granite Creek	64.46	31	P	P	00 52 58.5	+1.2
BARN	Barnard Glacie	64.54	31	P	P	00 52 59.2	+1.5
BARN				IAmb	IAmb	00 53 09.6	
	comp=Z,28nm,1.3s						
G26K	Porcupine Rive	64.58	24	P	P	00 53 00.1	+2.5
	baz=258						
F26K	Sheenjek River	64.60	23	P	P	00 53 00.5	+2.7
	baz=258						
CTGM	Chitina Glacie	64.69	31	P	P	00 52 58.7	+0.1
L27K	Beaver Creek,	64.73	28	P	P	00 53 00.8	+2.1
	baz=262						
C26K	Camden Bay	64.84	21	P	P	00 53 02.2	+3.0
	baz=256						
EGAK	Eagle	65.26	27	P	P	00 53 03.8	+1.7
EGAK				IAmb	IAmb	00 54 37.0	
	comp=Z,29nm,1.9s						
H27K	Steamboat Moun	65.33	25	P	P	00 53 04.7	+2.1
	baz=261						
RAR	Rarotonga	65.50	125	LR	LR	01 13 16.6	
	comp=Z,26nm,22.0s,baz=208,slow=28						
E27K	Coleen River	65.64	23	P	P	00 53 06.7	+2.2
	baz=260						
I28M	Miner Creek	65.87	26	P	P	00 53 07.9	+1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=263						
DAWY	Dawson	65.94	27	P	P	00 53 07.6	+1.1
DAWY				IAmb	IAmb	00 53 24.9	
	comp=Z,29nm,1.9s						
DAWY	Dawson	65.94	27	P	P	00 53 08.7	+2.2
	baz=264						
ARSB	Arslanbob	66.01	308	P	P	00 53 07.0	-0.5
YUK4	Talbot Arm	66.02	31	P	P	00 53 10.5	+3.2
	baz=266						
D27M	Malcolm River	66.06	22	P	P	00 53 09.7	+2.4
	baz=260						
F28M	Old Crow	66.19	24	P	P	00 53 10.2	+2.2
	baz=262						
L29M	L29M	66.40	29	P	P	00 53 12.4	+2.8
	baz=265						
E28M	Babbage River	66.46	23	P	P	00 53 12.1	+2.3
	baz=262						
HYT	Haines Junctio	66.54	31	P	P	00 53 12.2	+1.6
HYT				IAmb	IAmb	00 53 14.0	
	comp=Z,17nm,1.1s						
HYT	Haines Junctio	66.54	31	P	P	00 53 13.5	+3.0
	baz=267						
H29M	Whitestone	66.60	25	P	P	00 53 12.7	+1.9
	baz=264						
NIL	Nilore	66.62	299	P	P	00 53 09.6	-1.9
NIL				IAmb	IAmb	00 53 13.1	
	comp=Z,4.6nm,0.9s						
K29M	Barlow Dome	66.74	28	P	P	00 53 14.3	+2.6
	baz=266						
N30M	Aishikik Lake	66.78	30	P	P	00 53 14.7	+2.7
	baz=267						
D28M	Stokes Point	66.85	22	P	P	00 53 14.5	+2.3
	baz=262						
BVAR	Borovoye Array	67.18	320	P	P	00 53 14.3	-0.4
	comp=Z,6.4nm,0.6s,baz=90,slow=7.2,SNR=56						
	comp=Z,6.4nm,0.6s						
BRVK	Borovoye	67.25	320	P	P	00 53 14.6	-0.4
BRVK				IAmb	IAmb	00 53 17.5	
	comp=Z,9.0nm,0.9s						
EPYK	Eagle Plains	67.28	25	P	P	00 53 17.0	+1.9
	baz=265						
J30M	Hart River	67.31	27	P	P	00 53 17.6	+2.2
	baz=266						
I30M	Mount Dempster	67.33	26	P	P	00 53 17.2	+1.7
	baz=266						
N31M	Braeburn, Yuko	67.41	30	P	P	00 53 17.3	+1.4
KK31	Karatay Array	67.69	310	P	P	00 53 17.3	-0.7
KKAR	Karatay Array	67.69	310	P	P	00 53 17.5	-0.5
F30M	Barrier River	67.75	24	P	P	00 53 20.2	+2.3
	baz=266						
G31M	Satah River	68.29	25	P	P	00 53 22.1	+0.8
G31M				IAmb	IAmb	00 53 51.9	
	comp=Z,50nm,1.9s						
G31M	Satah River	68.29	25	P	P	00 53 23.0	+1.6
	baz=267						
F31M	Tsiigehtchic	68.52	24	P	P	00 53 23.8	+1.1
	baz=268						
FARO	Faro, Yukon	68.57	30	P	P	00 53 24.5	+1.2
FARO				IAmb	IAmb	00 54 43.0	
	comp=Z,33nm,1.9s						
INK	Inuvik	68.64	23	P	P	00 53 24.1	+0.7
INK				IAmb	IAmb	00 53 25.4	
	comp=Z,5.0nm,0.9s						
INK	Inuvik	68.64	23	P	P	00 53 24.9	+1.4
	baz=268						
SIMJ	Simiganj	69.34	305	P	P	00 53 27.4	-1.2
KBL	Kabul	69.94	301	P	P	00 53 31.4	-1.1
A36M	Sachs Harbour	71.43	19	P	P	00 53 41.4	+0.8
PPT	Papeete	71.98	116	LR	LR	01 20 35.8	
	comp=Z,77nm,19.3s,baz=308,slow=32						
PPT2	Papeete2	71.99	116	*e*LR	LR	01 15 47.1	
	comp=Z,73nm,21.0s						
PPT2				*e*LR	LR	01 16 00.0	
	comp=Z,117nm,25.0s						
C36M	Paulatuk	72.04	22	P	P	00 53 45.3	+1.1
	baz=276						
ARU	Arti	73.69	325	P	P	00 53 53.7	-0.6
ABKAR	Akbulak array	74.11	317	P	P	00 53 56.3	-0.6
ABKAR	Akbulak array	74.11	317	P	P	00 53 56.2	-0.7
ABKAR				IAmb	IAmb	00 53 57.0	
	comp=Z,4.3nm,0.6s						
YKA	Yellowknife Ar	77.16	28	P	P	00 54 13.8	-0.2
YKA	Yellowknife Ar	77.16	28	P	P	00 54 14.8	+0.8
	comp=Z,1.6nm,0.8s,baz=289,slow=5.8,SNR=18						
	comp=Z,1.6nm,0.8s						
YBH	Yreka Blue Hor	77.77	50	LR	LR	01 23 29.8	
	comp=Z,44nm,19.0s,baz=360,slow=32						
PINE	Pine Mountain	78.51	48	P	P	00 54 23.1	+0.9
SPITS	Spitsbergen Ar	79.18	351	P	P	00 54 26.1	+1.0
	comp=Z,8.1nm,0.9s,baz=32,slow=10.0,SNR=2.0						
	comp=Z,8.1nm,0.9s						
NEW	Newport	79.84	42	LR	LR	01 23 17.1	
	comp=Z,59nm,19.6s,baz=12,slow=31						
NVAR	Mina Array Bea	81.93	52	P	P	00 54 41.4	+0.6
NVAR	Mina Array Bea	81.93	52	P	P	00 54 42.0	+1.2
	comp=Z,0.8nm,0.6s,baz=268,slow=6.1,SNR=6.9						
	comp=Z,0.8nm,0.6s						
ARCES	ARCESS Array B	82.71	342	P	P	00 54 44.5	+0.6
	comp=Z,6.9nm,1.0s,baz=29,slow=2.8,SNR=3.6						
	comp=Z,6.9nm,1.0s						
PDAR	Pinedale Array	86.70	46	P	P	00 55 04.3	-0.7
	comp=Z,0.2nm,0.6s,baz=318,slow=1.2,SNR=2.2						
	comp=Z,0.2nm,0.6s						
FINES	FINESS Array B	87.26	336	P	P	00 55 05.5	-1.4
	comp=Z,1.2nm,0.4s,baz=80,slow=4.9,SNR=15						
	comp=Z,1.2nm,0.4s						
HFS	Hagfors	92.69	339	P	P	00 55 30.2	-2.2
	comp=Z,2.8nm,0.9s,baz=72,slow=5.3,SNR=1.8						
	comp=Z,2.8nm,0.9s						
BRTR	Keskin Array B	94.94	315	P	P	00 55 41.7	-1.6
	comp=Z,0.6nm,0.9s,baz=34,slow=6.1,SNR=2.2						
	comp=Z,0.6nm,0.9s						
TXAR	Lajitas Array	96.59	56	P	P	00 55 49.4	-1.7
	comp=Z,0.1nm,0.5s,baz=238,slow=3.1,SNR=2.1						
	comp=Z,0.1nm,0.5s						
TORD	Torodi Ar. Bea	133.37	311	PKP	PKPdf	01 01 36.2	-1.3
	comp=Z,0.6nm,0.7s,baz=341,slow=2.1,SNR=3.6						

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*TEH **07** 01:10:24.7, 39°.84N×53°.50E, h5km, ML4.9*
*IDC **07** 01:10:24.9±0.6, 39°.89N×53°.50E, h0km, mb4.4/29, mbtmp4.6/39, ML4.8/9, MS3.8/52, Error ellipse: s-maj=10.8km s-min=7.1km az=174.0*
*NEIC **07** 01:10:26.8±1.8, 40°.04N±0°.03×53°.64E±0°.08, h10km±1km, mb4.9/121, Error ellipse: s-maj=10.0km s-min=5.3km az=88.0*
*THR **07** 01:10:26.5±0.8, 39°.89N×53°.51E, h15km, ML4.9*
*MOS **07** 01:10:26.1±1.1, 40°.14N×53°.62E, h14km, mb4.8/29, Error ellipse: s-maj=4.3km s-min=3.2km az=32.4*
*NNC **07** 01:10:35.2±7.9, 40°.38N×54°.30E, h6km±67km, mb4.9, Error ellipse: s-maj=61.5km s-min=30.6km az=61.0*
ISC 07 01:10:26.6±0.3**, 40°.10N**±0°.04×**53°.63E**±0°.03**, h10km, n751, σ1§66**/743**, mb4.8**/139**, MS3.9**/50**, 90C-29D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	Gala	2.68	278	Pn	Pn	01 11 10.1	+0.3
NDR	Nardaran	2.83	281	Pn	Pn	01 11 12.1	+0.3
MRVT	Maraveh tapeh	3.10	141	*e*Pn	Pn	01 11 15.6	-0.1
MRVT	Maraveh tapeh	3.10	141	Pn	Pn	01 11 15.5	-0.1
IMND	Minoodasht	3.16	153	Pn	Pn	01 11 15.7	-0.7
ALIB	Äli-Bayra	3.55	269	Pn	Pn	01 11 22.0	+0.2
IGLO	Ghaloghah	3.59	177	Pn	Pn	01 11 20.4	-2.2
GBS	Qobustan	3.61	279	Pn	Pn	01 11 22.9	+0.2
BJRD	Bojnurd	3.80	128	*e*Pn	Pn	01 11 25.6	+0.3
IKIA	Kiasar	3.88	179	Pn	Pn	01 11 25.2	-1.4
IALA	Alasht	4.06	189	Pn	Pn	01 11 27.2	-1.9
GAS1	Astara - Iran	4.09	247	Pn	Pn	01 11 27.2	-2.0
KLST	Kelardasht - M	4.10	210	Pn	Pn	01 11 26.4	-3.3
GEYT	Alibeck	4.11	120	Pn	Pn	01 11 29.3	-0.2
	109nm,0.3s,baz=307,slow=15,SNR=184						
GEYT				Sn	Sn	01 12 15.8	-1.9
	67nm,0.3s,baz=313,slow=18,SNR=2.0						
GEYT				Lg	Lg	01 12 38.1	
	97nm,0.3s,baz=280,slow=27,SNR=5.4						
GEYT				LR	LR	01 13 27.3	
	comp=Z,616nm,18.9s,baz=324,slow=44						
	643nm,0.6s						
GYA0	ALIBECK ARRAY	4.11	120	P	Pn	01 11 29.2	-0.3
GYA0B	ALIBECK ARRAY	4.11	120	⇑Pn	Pn	01 11 30.9	+1.4
GYA0B				⇓Lg	Lg	01 12 42.7	
GYA0B	ALIBECK ARRAY	4.11	120		Pn	01 11 29.6	+0.1
GIDE	GILAN DEYLAMAN	4.30	224	*e*Pn	Pn	01 11 30.2	-2.2
GIDE				IAML		01 12 20.8	
	comp=E,716nm,0.5s						
GIDE				IAML		01 12 32.5	
	comp=N,893nm,0.5s						
CSN1	Caspian	4.35	236	Pn	Pn	01 11 30.2	-2.6
IFIR	Firoozkooh	4.50	189	Pn	Pn	01 11 34.0	-1.1
SHRO	Shahrood	4.51	155	*e*Pn	Pn	01 11 34.5	-0.5
GRMI	Germi	4.62	256	*e*Pn	Pn	01 11 36.1	-0.6
GRMI				IAML		01 12 27.0	
	comp=N,629nm,0.3s						
GRMI				IAML		01 12 31.5	
	comp=E,598nm,0.3s						
GRMI	Germi	4.62	256	Pn	Pn	01 11 35.8	-0.8
CHTH	Charan	4.62	206	*e*Pn	Pn	01 11 34.9	-1.9
IANJ	Anjilo	4.62	177	Pn	Pn	01 11 36.5	-0.3
DAMV	Damavand	4.65	197	*e*Pn	Pn	01 11 20.9	-16
DAMV				IAML		01 12 13.5	
	comp=E,646nm,0.4s						
DAMV				IAML		01 12 19.4	
	comp=N,624nm,0.5s						
IDMV	Damavand	4.68	196	Pn	Pn	01 11 36.6	-1.0
TEH	Tehran	4.70	203	Pn	Pn	01 11 36.7	-1.1
THKV	Tehran--Karaj	4.70	208	*e*Pn	Pn	01 11 36.3	-1.5
THKV				IAML		01 12 31.1	
	comp=N,1μm,0.5s						
THKV				IAML		01 12 33.3	
	comp=E,2μm,0.5s						
ILAS	Lasjerd	4.73	187	Pn	Pn	01 11 37.4	-0.9
IEMG	Emamgholi	4.75	123	Pn	Pn	01 11 38.6	0.0
IMHD	Mahdasht	4.99	209	Pn	Pn	01 11 41.1	-0.6
IHSB	Hasanabad	5.01	203	Pn	Pn	01 11 41.4	-0.5
ISRB	Sarab	5.17	246	Pn	Pn	01 11 43.1	-1.1
ZNJK	Zanjan	5.17	230	*e*Pn	Pn	01 11 42.1	-2.3
ZNJK				IAML		01 12 43.0	
	comp=N,523nm,0.3s						
ZNJK				IAML		01 12 45.6	
	comp=E,483nm,0.5s						
IVRN	Varamin	5.31	197	Pn	Pn	01 11 45.2	-0.8
IAKL	Akhelmad	5.33	129	Pn	Pn	01 11 46.8	+0.3
IHRS	Heris	5.42	253	Pn	Pn	01 11 47.6	0.0
MAK	Makhachkala	5.42	304*c*	*i*P	Pn	01 11 51.0	+3.6
MAK				*e*S	Sn	01 12 57.9	+8.2
MAK				pmax	pmax		
	comp=Z,424nm,0.8s						
MAK				MLR	MLR		
	comp=Z,209nm,9.0s						
IRAZ	Razeghan	5.52	213	Pn	Pn	01 11 47.7	-1.5
IPAY	Payeh	5.57	129	Pn	Pn	01 11 49.9	+0.1
IQOM	Qom	5.62	202	Pn	Pn	01 11 49.4	-1.2
IKRD	Kardeh	5.69	124	Pn	Pn	01 11 50.4	-1.0
IHSH	Hashtrud	5.71	243	Pn	Pn	01 11 49.9	-1.8
ISFB	Sefidab	5.84	191	Pn	Pn	01 11 52.2	-1.1
GHVR	GHOM	5.91	199	*e*Pn	Pn	01 11 52.6	-1.6
IMOG	Moghan	6.01	130	Pn	Pn	01 11 55.7	-0.2
ITBZ	Tabriz	6.10	255	Pn	Pn	01 11 56.5	-0.5
KRSH	Karshahi	6.23	192	Pn	Pn	01 11 57.6	-1.2
ASAO	Ashtian	6.24	209	*e*Pn	Pn	01 11 57.3	-1.6
IMRD	Marand	6.29	260	Pn	Pn	01 12 00.2	+0.5
IMYA	Miami	6.32	124	Pn	Pn	01 12 01.9	+1.8
HAGD	Aghdareh	6.36	216	Pn	Pn	01 11 59.2	-1.4
IAZR	Azarshahr	6.44	250	Pn	Pn	01 12 02.2	+0.6
ISHB	Shabestar	6.48	256	Pn	Pn	01 12 01.5	-0.8
QAMS	Qamsar	6.59	196	Pn	Pn	01 12 02.8	-1.0
GNI	Garni	6.81	273	Pn	Pn	01 12 08.1	+1.3
GNI	Garni	6.81	273*d*	*i*P	Pn	01 12 08.1	+1.3
GNI				pmax	pmax		
	comp=Z,56nm,0.8s						
GNI	Garni	6.81	273	Pn	Pn	01 12 08.3	+1.6
	comp=Z,23nm,0.3s,baz=308,slow=1.8,SNR=105						
GNI				Sn	Sn	01 13 22.1	-2.4
	comp=Z,15nm,0.3s,baz=193,slow=10.0,SNR=4.0						
	comp=Z,57nm,0.4s						
GNI	Garni	6.81	273	P	Pn	01 12 08.3	+1.6
GNI				S	Sn	01 13 25.8	+1.4
CHRG	Chargali	6.93	292	P	Pn	01 12 11.4	+3.1
CHRG				S	Sn	01 13 27.2	-0.1
MAKU	Maku	6.94	267	*e*Pn	Pn	01 12 09.5	+1.0
MAKU	Maku	6.94	267	Pn	Pn	01 12 09.1	+0.6
IKLH	Kolahrood	6.96	194	Pn	Pn	01 12 07.9	-1.0
KHMZ	Khomeyn	6.99	206	*e*Pn	Pn	01 12 08.3	-1.0
TABS	Tabas	7.01	155	*e*Pn	Pn	01 12 09.7	+0.2
TKDS	Koohdasht(Taba	7.05	156	Pn	Pn	01 12 09.8	-0.2
SNGE	Sanandaj	7.06	227	*e*Pn	Pn	01 12 09.2	-0.9
HSAM	Samen	7.11	216	Pn	Pn	01 12 10.4	-0.6
TBJM	Torbat-e-JAM	7.17	130	Pn	Pn	01 12 11.7	0.0
IBZA	Bozab	7.26	221	Pn	Pn	01 12 13.7	+0.7
IZEF	Zefreh	7.26	189	Pn	Pn	01 12 10.9	-2.1
GUDG	Gudauri	7.29	292	P	Pn	01 12 17.4	+4.0
GUDG				S	Sn	01 13 37.8	+1.5
GUDG	Gudauri	7.29	292	*e*P	Pn	01 12 17.3	+4.0
GUDG				*e*S	Sn	01 13 37.7	+1.5
NASN	Na'in	7.31	185	*e*Pn	Pn	01 12 12.3	-1.5
TPRV	Parvadeh(Tabas	7.47	160	Pn	Pn	01 12 15.6	-0.2
BRNG	Burnasheti	7.58	285	P	Pn	01 12 18.7	+1.3
BRNG				S	Sn	01 13 40.7	-2.8
BRNG	Burnasheti	7.58	285	*e*P	Pn	01 12 18.6	+1.3
BRNG				*e*S	Sn	01 13 40.6	-2.8
IKOM	Komasi	7.67	221	Pn	Pn	01 12 18.7	+0.2
BGD	Bogdanovka	7.71	282	P	Pn	01 12 22.2	+3.0
BGD				S	Sn	01 13 43.9	-2.8
BGD	Bogdanovka	7.71	282	*e*P	Pn	01 12 22.2	+3.0
BGD				*e*S	Sn	01 13 43.9	-2.8
YZKH	Yazd	7.73	174	*e*Pn	Pn	01 12 18.4	-0.9
ZEI	Tsey	7.79	293	*e*P	Pn	01 12 22.6	+2.4
ZEI				*e*S	Sn	01 13 51.6	+3.1
ZEI				pmax	pmax		
	comp=Z,19nm,0.6s						
ZEI				smax	smax		
	comp=E,129nm,0.8s						
ZEI				smax	smax		
	comp=N,169nm,0.7s						
ALIG	Mtskhetisjvari	7.80	288	P	Pn	01 12 21.2	+1.0
ALIG				S	Sn	01 13 44.4	-4.3
ALIG	Mtskhetisjvari	7.80	288	*e*P	Pn	01 12 21.7	+1.5
ALIG				*e*S	Sn	01 13 44.3	-4.3
AKH	Akhalkalaki	7.81	283	Pn	Pn	01 12 22.4	+2.0
AKH	Akhalkalaki	7.81	283	P	Pn	01 12 24.2	+3.8
AKH				S	Sn	01 13 45.8	-3.2
AKH	Akhalkalaki	7.81	283	*e*P	Pn	01 12 24.2	+3.8
AKH				*e*S	Sn	01 13 45.7	-3.2
KCHF	Cheshme Sefid,	7.83	224	Pn	Pn	01 12 21.1	+0.3
IDHR	Dehrash	7.89	229	Pn	Pn	01 12 22.4	+0.8
AFRZ	Afriz	7.93	145	Pn	Pn	01 12 22.3	+0.1
IKFM	Kafar-mosalman	8.03	217	Pn	Pn	01 12 23.9	+0.6
ONI	Oni	8.05	291	Pn	Pn	01 12 26.7	+3.0
ONI	Oni	8.05	291	P	Pn	01 12 29.0	+5.3
ONI	Oni	8.05	291	*e*P	Pn	01 12 29.0	+5.3
KARS	Kars	8.07	277		Pn	01 12 25.7	+1.7
KARS	Kars	8.07	277	P	Pn	01 12 25.7	+1.7
JHBN	Jahan bin	8.20	198	Pn	Pn	01 12 26.5	+0.5
ZNGN	Zangian	8.27	197	Pn	Pn	01 12 26.8	-0.2
ITEG	Tejag	8.28	149	Pn	Pn	01 12 27.2	+0.2
TKB	Tkibuli	8.33	289	P	Pn	01 12 30.0	+2.6
TKB	Tkibuli	8.33	289	*e*P	Pn	01 12 30.0	+2.6
IRAM	Ramesheh	8.33	187	Pn	Pn	01 12 27.2	-0.5
SHRT	Shahrakht	8.36	138	*e*Pn	Pn	01 12 27.9	-0.1
IBRJ	Brojen	8.39	194	Pn	Pn	01 12 29.1	+0.5
KGS1	Ghasr-e-Shirin	8.49	231	Pn	Pn	01 12 30.5	+0.8
IBAF	Bafgh	8.63	169	Pn	Pn	01 12 32.0	+0.3
IMEH	Mehriz	8.72	174	Pn	Pn	01 12 31.7	-1.4
ILBA	Ilam Banvizeh	8.78	225	*e*Pn	Pn	01 12 33.2	-0.4
KBZ	Khabaz	8.79	298*c*	*e*P	Pn	01 12 34.0	+0.4
KBZ	Khabaz	8.79	298	Pn	Pn	01 12 34.9	+1.3
	comp=N,6.8nm,0.3s,baz=113,slow=5.7,SNR=73						
KBZ				Sn	Sn	01 14 12.8	+0.2
	comp=N,16nm,0.3s,baz=311,slow=17,SNR=10						
KBZ				LR	LR	01 16 32.5	
	comp=N,148nm,18.4s,baz=121,slow=42						
	comp=N,31nm,0.5s						
IKOO	Kooshah	8.80	149	Pn	Pn	01 12 33.9	-0.2
HRA	Herat	8.92	127	Pn	Pn	01 12 36.0	+0.3
KIV	Kislovodsk	9.01	299	Pn	Pn	01 12 37.8	+1.0
KIV	Kislovodsk	9.01	299	*e*P	Pn	01 12 37.3	+0.5
KIV				*e*S	Sn	01 14 19.7	+1.3
KIV				pmax	pmax		
	comp=Z,69nm,0.9s						
KIV				MLR	MLR		
	comp=Z,59nm,10.0s						
KIV	Kislovodsk	9.01	299	P	Pn	01 12 38.0	+1.2
KIV				S	Sn	01 14 18.0	-0.4
GURO	Guroymak-BITLI	9.12	264	Pn	Pn	01 12 39.2	+0.8
KLNJ	Kolanjah	9.22	191	Pn	Pn	01 12 39.4	-0.5
GOF	Gofitskoye	9.25	306*c*	*e*P	Pn	01 12 42.0	+2.0
GOF				*e*S	Sn	01 14 20.9	-3.2
BSRN	Basiran	9.25	150	*e*Pn	Pn	01 12 40.1	-0.2
KHGB	Koh Gabri	9.97	166	Pn	Pn	01 12 49.4	-0.8
NHDN	Nehbandan	10.13	147	Pn	Pn	01 12 51.8	-0.4
AB31	Akbulak array	10.20	24	⇓Pn	Pn	01 12 53.6	+0.7
	comp=Z,15nm,0.4s,baz=208,slow=14,SNR=422						
AB31				⇑Sn	Sn	01 14 43.8	-3.5
	comp=Z,100nm,0.7s,baz=181,slow=24,SNR=6.6						
AB31	Akbulak array	10.20	24	*e*P	Pn	01 12 53.5	+0.5
AB31						01 14 43.7	
ABKAR	Akbulak array	10.20	24	Pn	Pn	01 12 53.9	+0.9
ABKAR	Akbulak array	10.20	24	Pn	Pn	01 12 53.8	+0.9
LABN	Labinsk	10.57	300	*e*P	Pn	01 12 56.5	-1.6
LABN				*e*S	Sn	01 14 56.5	-0.1
LABN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NGRK	Negar Kerman	10.73	165	Pn	Pn	01 13 01.5	+0.8
AKTO	Aktyubinsk	10.79	15	⇑Pn	Pn	01 13 01.2	+0.1
	comp=Z,26nm,0.6s						
AKTO				⇓Sn	Sn	01 14 59.1	-2.7
	comp=Z,83nm,0.6s						
AKTO	Aktyubinsk	10.79	15	Pn	Pn	01 13 02.3	+1.2
	comp=Z,6.9nm,0.3s,baz=199,slow=11,SNR=109						
AKTO				Sn	Sn	01 15 01.1	-0.7
	comp=Z,20nm,0.3s,baz=277,slow=20,SNR=9.1						
AKTO				LR	LR	01 18 32.1	
	comp=Z,1μm,18.9s,baz=195,slow=44						
	comp=Z,45nm,0.5s						
SOC	Sochi	10.95	293	*e*P	Pn	01 13 00.8	-2.5
SOC				*e*		01 15 04.4	
SOC				MLR	MLR		
	comp=Z,170nm,16.0s						
ERBR	Yeremizino-Bor	11.15	305	*e*P	Pn	01 13 04.3	-1.8
ERBR				*e*S	Sn	01 15 10.0	-0.8
ERBR				pmax	pmax		
	comp=Z,14nm,0.6s						
ARPR	Arapgir-MALATY	11.85	270		Pn	01 13 14.5	-1.2
SIMJ	Simiganj	11.99	92	Pn	Pn	01 13 17.6	-0.1
ANN	Anapa	12.85	297	*e*P	Pn	01 13 30.1	+0.9
ANN				*e*S	Sn	01 15 55.7	+3.5
ANN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BELG	Belogornoye	12.98	343*d*	*e*P	Pn	01 13 30.4	-0.5
BELG	Belogornoye	12.98	343	Pn	Pn	01 13 30.9	0.0
	comp=Z,24nm,0.3s,baz=347,slow=1.2,SNR=123						
BELG				Sn	Sn	01 15 50.6	-4.6
	comp=Z,17nm,0.3s,baz=338,slow=17,SNR=9.7						
BELG				LR	LR	01 20 13.8	
	comp=Z,370nm,19.7s,baz=162,slow=45						
KK31	Karatay Array	12.99	71	Pn	Pn	01 13 30.4	-0.8
	comp=Z,14nm,0.5s,baz=255,slow=14,SNR=198						
KK31				⇑Sn	Sn	01 15 48.5	-7.3
	comp=Z,45nm,0.7s,baz=258,slow=26,SNR=7.5						
KK31	Karatay Array	12.99	71	Pn	Pn	01 13 30.5	-0.8
KK31	Karatay Array	12.99	71	*i* P	Pn	01 13 30.4	-0.8
KK31						01 15 48.4	
KKAR	Karatay Array	12.99	71	Pn	Pn	01 13 30.5	-0.7
KKAR	Karatay Array	12.99	71	P	Pn	01 13 30.5	-0.7
KBL	Kabul	13.46	109		Pn	01 13 38.1	+0.3
KBL	Kabul	13.46	109	P	Pn	01 13 38.1	+0.3
KBL	Kabul	13.46	109	P	Pn	01 13 38.8	+1.0
KBL				P	Pn	01 13 38.8	+1.0
DZA	Taraz	13.56	72	*e*P	Pn	01 13 39.6	+0.6
	comp=Z,15nm,0.7s,baz=72						
DZA	Taraz	13.56	72	*e*P	Pn	01 13 39.6	+0.6
DZA				pmax	pmax		
	comp=Z,15nm,0.7s						
VRH	Novokhopyorsk	13.86	327	*e*P	Pn	01 13 42.9	-0.1
VRH				*e*S	Sn	01 16 09.7	-7.2
VRH				pmax	pmax		
	comp=Z,110nm,0.7s						
VRH				smax	smax		
	comp=E,590nm,0.7s						
DIKM	Dikmen	13.99	282	⇑P	Pn	01 13 47.0	+2.1
SHME	Shamm	14.16	171	P	P	01 13 53.5	-1.3
SHME				P	P	01 13 53.5	-1.3
VORD	Divnogorie	14.77	322	*e*P	Pn	01 13 54.3	-1.2
VORD				*e*S	Sn	01 16 38.5	-0.6
VORD				pmax	pmax		
	comp=Z,50nm,0.7s						
VORD				smax	smax		
	comp=N,660nm,0.8s						
MASF	Masafi	14.84	171	P	P	01 14 00.8	-1.6
MASF				P	P	01 14 00.8	-1.6
VSR	Storozhevoye	15.00	323	*e*P	Pn	01 13 57.4	-1.1
VSR				*e*S	Sn	01 16 36.3	-8.3
VSR				pmax	pmax		
	comp=Z,70nm,0.6s						
VSR				smax	smax		
	comp=N,330nm,0.8s						
SIM	Simferopol'	15.18	295	*e*P	Pn	01 14 01.2	+0.3
SIM				*e*S	Sn	01 16 54.9	+5.9
SIM				pmax	pmax		
	comp=Z,42nm,0.8s						
SIM				smax	smax		
	comp=N,58nm,0.8s						
SIM				MLR	MLR		
	comp=Z,32nm,13.1s						
UOSS	Minazif	15.26	171	Pn	Pn	01 14 00.6	-1.6
AML	Almayashu	15.26	76	P	Pn	01 14 02.0	-0.4
	SNR=30						
AML	Almayashu	15.26	76	⇓Pn	Pn	01 14 01.2	-1.2
	comp=Z,2.5nm,0.7s						
AML				⇓Sn	Sn	01 16 46.1	-5.6
	comp=Z,15nm,0.8s						
AML	Almayashu	15.26	76	P	Pn	01 14 01.2	-1.2
AML						01 16 46.0	
VORR	Voronezh	15.29	324	*e*P	Pn	01 14 02.1	-0.3
VORR				*e*S	Sn	01 16 45.4	-6.3
VORR				pmax	pmax		
	comp=Z,140nm,0.4s						
VORR				smax	smax		
	comp=N,740nm,0.8s						
EKS2	Erkin-Say	15.34	74	P	Pn	01 14 02.4	-0.9
	SNR=20						
BR131	Keskin Array S	15.35	275		Pn	01 14 02.2	-1.2
BR131	Keskin Array S	15.35	275*d*	*e*P	Pn	01 14 03.7	+0.3
BR131	Keskin Array S	15.35	275	P	Pn	01 14 04.4	+1.1
BRTR	Keskin Array B	15.35	275		Pn	01 14 02.7	-0.7
BRTR	Keskin Array B	15.35	275*c*	*e*P	Pn	01 14 04.1	+0.7
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRTR	Keskin Array B	15.35	275	Pn	Pn	01 14 04.2	+0.8
	comp=Z,4.2nm,1.0s,baz=94,slow=12,SNR=18						
HATD	Hatta, Dubai	15.37	171	P	Pn	01 14 03.7	0.0
ASUD	Al Ashush, Dub	15.49	174	P	P	01 14 07.9	-1.8
ASHO	Ashiyiah	15.50	172	P	Pn	01 14 06.7	+1.3
ASHO				P	Pn	01 14 06.7	+1.3
ASF	Jabal al Asfar	15.64	245	Pn	Pn	01 14 08.1	+0.8
	comp=Z,0.5nm,0.3s,baz=78,slow=22,SNR=15						
OTUK	Ortayu	15.68	53	⇓Pn	Pn	01 14 07.3	-0.2
	comp=Z,25nm,0.6s						
OTUK				⇓Sn	Sn	01 16 50.6	-11
	comp=Z,96nm,0.8s						
OTUK	Ortayu	15.68	53	P	Pn	01 14 07.3	-0.2
BTLS	Baital	15.82	65	*e*P	Pn	01 14 10.4	+1.0
	baz=65						
BTLS	Baital	15.82	65	*e*P	Pn	01 14 10.3	+0.9
AAK	Ala-Archa	15.87	74	P	Pn	01 14 10.6	+0.4
	SNR=32						
AAK	Ala-Archa	15.87	74		Pn	01 14 09.3	-0.9
AAK				IAmb	IAmb	01 14 27.2	
	comp=Z,113nm,1.6s						
AAK	Ala-Archa	15.87	74*c*	*i*P	Pn	01 14 10.4	+0.2
AAK				pmax	pmax		
	comp=Z,36nm,1.0s						
AAK	Ala-Archa	15.87	74	Pn	Pn	01 14 10.6	+0.4
	comp=Z,2.4nm,0.3s,baz=257,slow=7.3,SNR=44						
AAK				Sn	Sn	01 16 57.9	-8.2
	comp=Z,0.8nm,0.3s,baz=245,slow=17,SNR=3.7						
AAK	Ala-Archa	15.87	74	P	Pn	01 14 10.6	+0.4
UCH	Uchtor	15.87	75	P	Pn	01 14 10.2	-0.3
	SNR=15						
USP	Ospenovka	15.91	72	P	Pn	01 14 11.4	+0.9
	SNR=9.8						
ANTO	Ankara	15.97	276	⇑P	P	01 14 13.8	-1.3
ANTO	Ankara	15.97	276	Pn	Pn	01 14 10.4	-1.0
ANTO	Ankara	15.97	276	P	Pn	01 14 10.5	-1.0
ANTO				pmax	pmax		
	comp=Z,21nm,1.0s						
FRU1	Bishkek	15.97	73	IAmb	IAmb	01 14 28.9	
	comp=Z,124nm,1.1s						
NGCH	Negor - Chabah	15.98	155	P	P	01 14 13.5	-1.6
SGDS	Sogindy	16.02	71	*e*P	Pn	01 14 13.0	+1.0
	baz=71						
SGDS	Sogindy	16.02	71	*e*P	Pn	01 14 12.9	+1.0

LPSR Galich'ya Gora 16.07 326 *e*P **Pn** **01 14 12.2 -0.3**
LPSR *e*S **Sn** **01 17 03.1 -7.4**
LPSR pmax pmax
comp=Z,220nm,0.7s
LPSR smax smax
comp=E,630nm,1.3s
CHMS Chumysh 16.07 73 P **Pn** **01 14 12.7 +0.1**
SNR=23
ALNE Al Ain 16.09 173 P **P** **01 14 15.7 -0.6**
ALNE P **P** **01 14 15.7 -0.6**
SOHO SOHO 16.10 170 P **P** **01 14 16.0 -0.4**
KBK Karagaybulak 16.20 74 P **P** **01 14 17.7 +0.1**
SNR=29
MMAI Mount Meron Ar 16.25 250 Pn **Pn** **01 14 14.7 -0.2**
comp=E,0.7nm,0.3s,baz=59,slow=12,SNR=12
MMAI LR LR 01 22 18.9
comp=E,157nm,18.1s,baz=34,slow=44
KZA Kyzart 16.42 76 P **Pn** **01 14 17.9 +0.4**
SNR=11
BRZS Berezniki 16.66 47 *e*P **Pn** **01 14 21.8 +1.7**
baz=47
BRZS Berezniki 16.66 47 *e*P **Pn** **01 14 21.7 +1.7**
ARU Arti 16.66 10 **Pn** **01 14 19.3 -0.8**
ARU Arti 16.66 10*d i*P **Pn** **01 14 18.7 -1.4**
ARU S **Sn** **01 17 24.0 -1.0**
ARU pmax pmax
comp=Z,14nm,0.4s
ARU MLR MLR
comp=Z,886nm,20.0s
ARU Arti 16.66 10 Pn **Pn** **01 14 17.8 -2.3**
comp=Z,9.5nm,0.3s,baz=203,slow=7.6,SNR=83
ARU Sn **Sn** **01 17 18.7 -6.3**
comp=Z,8.3nm,0.3s,baz=81,slow=22,SNR=5.4
ARU LR LR 01 22 19.7
comp=Z,851nm,18.9s,baz=188,slow=42
comp=Z,26nm,0.4s
TKM2 Tokmak 2 16.69 73 P **Pn** **01 14 21.6 +0.9**
SNR=15
TKM2 Tokmak 2 16.69 73 ⇑Pn **Pn** **01 14 20.8 +0.1**
comp=Z,44nm,0.7s
TKM2 ⇑Sn **Sn** **01 17 22.3 -3.8**
comp=Z,63nm,0.9s
TKM2 Tokmak 2 16.69 73 P **Pn** **01 14 20.8 +0.1**
TKM2 01 17 22.2
ARQ Araqi 16.89 171 P **Pn** **01 14 21.3 -1.8**
ARQ P **Pn** **01 14 21.3 -1.8**
MDUB Mudurnu 17.12 279 IAmb IAmb 01 14 49.2
comp=Z,68nm,0.6s
KSH Kashi 17.18 85 P **Pn** **01 14 23.6 -3.2**
KSH pP P 01 14 26.4 -2.0
KSH sP sP 01 14 35.2 +2.6
KSH S Sn 01 17 21.5 -16
KSH pmax pmax
comp=Z,23nm,0.5s
KSH LR LR
comp=N,290nm,6.2s
KSH LR LR
comp=E,530nm,13.1s
KSH LR LR
comp=Z,480nm,15.1s
BRVK Borovoye 17.24 36 ⇓Pn **Pn** **01 14 27.7 +0.4**
comp=Z,77nm,1.1s
BRVK ⇑Sn Sn 01 17 29.0 -10
comp=Z,67nm,1.1s
BRVK Borovoye 17.24 36 P **Pn** **01 14 27.9 +0.6**
BRVK IAmb IAmb 01 14 41.7
comp=Z,77nm,1.1s
BRVK Borovoye 17.24 36*de*P **Pn** **01 14 28.3 +1.0**
BRVK pmax pmax
comp=Z,69nm,1.7s
BRVK Borovoye 17.24 36 P **Pn** **01 14 28.4 +1.0**
BVA0 Borovoye Array 17.27 36 ⇓Pn **Pn** **01 14 27.9 +0.2**
comp=Z,17nm,0.5s,baz=222,slow=12,SNR=148
BVA0 ⇓Sn Sn 01 17 28.9 -11
comp=Z,28nm,0.7s,baz=231,slow=24,SNR=9.2
BVA0 Borovoye Array 17.27 36 *i* P **Pn** **01 14 27.8 +0.2**
BVA0 *i* 01 17 28.9
BVAR Borovoye Array 17.27 36 P **Pn** **01 14 28.4 +0.8**
comp=Z,0.4nm,0.3s,baz=225,slow=12,SNR=42
BVAR S **Sn** **01 17 35.1 -4.5**
comp=Z,35nm,0.7s,baz=229,slow=23,SNR=8.5
comp=Z,21nm,0.5s
KUU Kurty 17.29 70 *e*P **P** **01 14 29.5 -0.1**
baz=70
KUU Kurty 17.29 70 *e*P **P** **01 14 29.4 -0.1**
WSAR Wadi Sarin 17.33 164 P **Pn** **01 14 27.9 -0.8**
comp=Z,4.3nm,0.8s,baz=14,slow=6.6,SNR=5.1
WSAR Wadi Sarin 17.33 164 P **Pn** **01 14 28.8 +0.2**
SVE Sverdlovsk 17.36 13*de*P **P** **01 14 32.9 +2.7**
SVE *e*S **S** **01 17 48.3 -2.2**
SVE pmax pmax
comp=Z,186nm,0.9s
SMDO Samad 17.39 166 P **Pn** **01 14 29.3 -0.2**
BSY Bisya 17.56 169 P **Pn** **01 14 31.3 -0.3**
TNSS Tian-Shan 17.68 73 *e*P **P** **01 14 35.1 +0.8**
baz=73
TNSS Tian-Shan 17.68 73 *e*P **P** **01 14 35.1 +0.8**
CHKK Chushkaly 17.75 70 *e*P **P** **01 14 35.3 +0.6**
baz=70
CHKK Chushkaly 17.75 70 *e*P **P** **01 14 35.2 +0.6**
MDOK Medeo 17.76 72 *e*P **P** **01 14 35.2 +0.3**
baz=72
MDOK Medeo 17.76 72 *e*P **P** **01 14 35.1 +0.2**
WBK Wadi Bani Khal 18.01 164 P **P** **01 14 37.5 0.0**
WBK P **P** **01 14 37.5 0.0**
JMDO Jabal Madar 18.07 167 P **P** **01 14 37.8 -0.4**
TARG Taragay, Kyrgy 18.34 77 IAmb IAmb 01 15 00.1
comp=Z,121nm,1.9s
PURM Purcari 18.41 298 ⇑P **P** **01 14 42.3 +0.5**
EIL Elat 18.48 242 P **Pn** **01 14 43.0 +0.1**
comp=Z,18nm,1.0s,baz=12,slow=6.2,SNR=10
EIL LR LR 01 23 47.2
comp=Z,225nm,20.2s,baz=54,slow=44
JLN Jalan Bani Buh 18.55 163 P **Pn** **01 14 44.2 +0.5**
JLN P **Pn** **01 14 44.2 +0.5**
KIRV Kirov 18.70 353*de*P **P** **01 14 44.4 -0.5**
KIRV Kirov 18.70 353 P **P** **01 14 45.0 +0.1**
comp=Z,12nm,0.3s,baz=355,slow=5.1,SNR=30
KIRV S **Sn** **01 18 08.0 -6.2**
comp=Z,15nm,0.6s,baz=349,slow=23,SNR=1.8
KIRV LR LR 01 23 44.9
comp=Z,491nm,19.8s,baz=166,slow=42
comp=Z,98nm,0.6s
SATY Saty 18.75 73 *e*P **Pn** **01 14 46.6 +0.4**
baz=73
SATY Saty 18.75 73 *e*P **Pn** **01 14 46.6 +0.4**
ZHN Zhinishke 18.78 72 *e*P **Pn** **01 14 47.6 +1.1**
baz=72
ZHN Zhinishke 18.78 72 *e*P **Pn** **01 14 47.5 +1.1**
JURR Jurilovca 18.83 292 ⇑P **P** **01 14 47.0 +0.5**
OBN Obninsk 18.84 329 ⇑P **P** **01 14 47.1 +0.6**
OBN Obninsk 18.84 329 P **P** **01 14 45.9 -0.6**
OBN Obninsk 18.84 329*d i*P **P** **01 14 47.0 +0.6**
OBN *e*S **Sn** **01 18 19.9 +2.2**
OBN pmax pmax
comp=Z,137nm,0.8s
OBN MLR MLR
comp=Z,242nm,17.0s
OBN Obninsk 18.84 329 P **P** **01 14 47.4 +0.9**
comp=Z,20nm,0.3s,baz=114,slow=2.1,SNR=38
OBN S **Sn** **01 18 08.6 -9.1**
comp=Z,18nm,0.4s,baz=16,slow=22,SNR=1.9
OBN LR LR 01 23 36.4
comp=Z,271nm,18.3s,baz=169,slow=42
comp=Z,112nm,0.6s
ELL Elmali 18.87 267 IAmb IAmb 01 15 03.7
comp=Z,74nm,0.7s
TDK Taldyqorghan 18.87 67 *e*P **Pn** **01 14 48.2 +0.7**
comp=Z,51nm,0.9s,baz=67
TDK Taldyqorghan 18.87 67 *e*P **Pn** **01 14 48.2 +0.7**
TDK pmax pmax
comp=Z,51nm,0.9s
MOS Moscow 18.90 331 *e*P **P** **01 14 45.4 -1.7**
MOS *e*S Sn 01 18 09.2 -10
MOS pmax pmax
comp=Z,128nm,0.9s
MOS pmax pmax
comp=E,92nm,0.9s
MOS pmax pmax
comp=N,128nm,0.9s
TLCR 18.92 294 ⇑P **Pn** **01 14 48.4 +0.4**
TLCR 18.92 294 P **Pn** **01 14 48.4 +0.4**
TIRR Tirgusor 19.13 291 ⇑P **P** **01 14 50.3 +0.5**
TIRR Tirgusor 19.13 291 P **P** **01 14 49.0 -0.7**
TIRR Tirgusor 19.13 291 P **P** **01 14 49.0 -0.7**
TIRR pmax pmax
comp=Z,42nm,0.8s
TPGR Topolog 19.16 293 ⇑P **P** **01 14 51.0 +0.9**
MILM Milestii Mici 19.20 299 ⇑P **Pn** **01 14 51.6 +0.1**
MILM Milestii Mici 19.20 299*d i*P **P** **01 14 51.0 +0.5**
MILM *i* S **Sn** **01 18 24.0 -2.5**
MILM pmax pmax
comp=Z,120nm,1.4s
UZB Uzynbulak 19.21 73 *e*P **Pn** **01 14 52.0 +0.3**
baz=72
UZB Uzynbulak 19.21 73 *e*P **Pn** **01 14 52.0 +0.3**
KIS Kishinev 19.21 299 *e*P **Pn** **01 14 52.0 +0.4**
comp=Z,50nm,0.8s
KIS Kishinev 19.21 299 *e*P **Pn** **01 14 52.0 +0.4**
KIS *e*S **Sn** **01 18 28.0 +1.2**
KIS pmax pmax
comp=Z,50nm,0.8s
KIS pmax pmax
comp=E,100nm,1.4s
CFR Carcaliu 19.40 294 ⇑P **P** **01 14 52.8 +0.2**
CFR Carcaliu 19.40 294 P **P** **01 14 52.8 +0.2**
TLBR Topalu 19.40 292 ⇓P **P** **01 14 53.6 +0.9**
MHTO MHTO 19.40 168 P **P** **01 14 52.4 -0.5**
HARR Harsova 19.50 292 ⇑P **P** **01 14 54.5 +0.7**
HARR Harsova 19.50 292 P **P** **01 14 54.4 +0.7**
LEOM Leova 19.50 297 ⇑P **P** **01 14 54.3 +0.6**
LEOM Leova 19.50 297 P **P** **01 14 54.3 +0.6**
TATR Tatarca 19.51 295 ⇑P **Pn** **01 14 55.3 +0.2**
VLDR Vladesti 19.52 296 ⇑P **P** **01 14 54.9 +1.0**
SHLS Shalkode 19.53 73 *e*P **Pn** **01 14 58.8 +3.2**
baz=72
SHLS Shalkode 19.53 73 *e*P **Pn** **01 14 58.7 +3.2**
PDGK Podgornoye 19.55 72 ⇑P **Pn** **01 14 56.7 +0.9**
comp=E,12nm,1.1s
PDGK Podgornoye 19.55 72 P **Pn** **01 14 56.7 +0.9**
ICOR Ion Corvin 19.55 290 ⇑P **Pn** **01 14 55.9 +0.3**
SCTR Scnteiesti 19.55 295 ⇑P **P** **01 14 55.0 +0.7**
BALB Balikesir 19.75 277 IAmb IAmb 01 15 00.6
comp=Z,129nm,1.9s
SORM Soroca 19.79 302 ⇑P **P** **01 14 57.4 +0.6**
SORM Soroca 19.79 302 P **P** **01 14 57.4 +0.6**
PRD Provadia 19.81 287 P **Pn** **01 15 00.6 +1.9**
VASR Vaslui 19.84 298 ⇑P **P** **01 14 58.2 +0.7**
BIR Birlad 19.89 297 ⇑P **P** **01 14 59.1 +1.0**
BIR Birlad 19.89 297 P **P** **01 14 59.0 +1.0**
NEF NEVSHA 19.91 288 P **Pn** **01 15 00.1 +0.2**
GHRR 20.01 296 ⇑P Pn 01 15 00.9 -0.2
AKASG Malin Array Be 20.06 310 IAmb IAmb 01 15 03.0
comp=Z,97nm,0.9s
AKASG Malin Array Be 20.06 310 P **P** **01 14 59.8 -0.1**
comp=Z,15nm,0.4s,baz=110,slow=10.0,SNR=109
AKASG S **S** **01 18 38.9 -6.2**
comp=Z,2.6nm,0.6s,baz=44,slow=37,SNR=2.0
AKASG LR LR 01 24 35.7
comp=Z,122nm,19.5s,baz=148,slow=42
comp=Z,15nm,0.4s
AKBB Malin Array Si 20.06 310*de*P **P** **01 15 00.1 +0.3**
KIEV Kiev 20.07 310 ⇑P **P** **01 15 00.9 +1.0**
KIEV Kiev 20.07 310 P **P** **01 15 00.5 +0.6**
KIEV Kiev 20.07 310 P **P** **01 15 00.5 +0.6**
KIEV pmax pmax
comp=Z,167nm,1.0s
ODBI Odobesti 20.22 295 ⇑P Pn 01 15 03.5 -0.1
KURBB Kurchatov Arra 20.32 51 P Pn 01 15 05.0 +0.3
comp=Z,13nm,0.9s,baz=251,slow=12,SNR=54
KURBB S **S** **01 18 50.8 +0.4**
comp=Z,4.1nm,0.8s,baz=230,slow=12,SNR=5.3
KURBB LR LR 01 24 03.6
comp=Z,526nm,19.0s,baz=274,slow=40
comp=Z,13nm,0.9s
DQM DQM 20.38 169 P **P** **01 15 02.7 -0.7**
LOZB Loznitsa 20.41 288 ⇑P **P** **01 15 04.7 +1.0**
KURK Kurchatov 20.41 50 P **P** **01 15 03.9 +0.2**
KURK Kurchatov 20.41 50*ce*P Pn 01 15 05.7 -0.1
KURK pmax pmax
comp=Z,41nm,1.3s
KURK Kurchatov 20.41 50 P Pn 01 15 06.1 +0.4
VRI Vrincioaia 20.46 295 ⇑P **P** **01 15 05.8 +1.5**
VRI Vrincioaia 20.46 295 P **P** **01 15 05.7 +1.5**
RAZG Razgrad 20.47 289 ⇑P **P** **01 15 05.8 +1.4**
JMB Yambol 20.47 286 P Pn 01 15 07.6 +1.1
PLOR Plostina 20.51 295 ⇑P Pn 01 15 06.5 -0.5
PLOR Plostina 20.51 295 P Pn 01 15 06.5 -0.5
ISR Istrita 20.51 293 ⇑P **P** **01 15 05.6 +0.6**
ISR Istrita 20.51 293 P **P** **01 15 05.5 +0.6**
TESR Tescani 20.60 297 ⇑P **P** **01 15 06.6 +0.9**
SULR 20.69 292 ⇑P **P** **01 15 07.9 +1.3**
NEHR Nehoiu 20.71 294 ⇑P **P** **01 15 08.0 +1.0**
COVR Voineasa-Covas 20.82 295 ⇑P **P** **01 15 09.9 +1.7**
SZH Strazhitsa 20.86 288 P Pn 01 15 11.5 +0.4
SGRR Singureni 20.87 290 ⇑P **P** **01 15 08.7 +0.1**
ELND Elena 20.94 287 ⇑P **P** **01 15 10.3 +0.9**
MLR Muntele Rosu 20.96 294 ⇑P **P** **01 15 10.9 +1.0**
MLR Muntele Rosu 20.96 294 P **P** **01 15 09.9 0.0**
MLR IAmb IAmb 01 15 26.7
comp=Z,42nm,0.9s
MLR Muntele Rosu 20.96 294 P **P** **01 15 09.9 0.0**
MLR pmax pmax
comp=Z,42nm,0.9s
MLR Muntele Rosu 20.96 294 P **P** **01 15 10.5 +0.7**
comp=Z,16nm,0.6s,baz=152,slow=3.1,SNR=41
MLR LR LR 01 25 10.0
comp=Z,214nm,19.1s,baz=78,slow=42
comp=Z,16nm,0.6s
TURR Turia 20.97 296 ⇑P **P** **01 15 10.6 +0.8**
PRAR RASCA 21.02 299 ⇑P **P** **01 15 10.6 +0.3**
OZUR 21.14 296 ⇑P **P** **01 15 12.5 +0.9**
BOSR Bodos 21.22 296 ⇑P **P** **01 15 13.8 +1.3**
SEM Semipalatinsk 21.28 52 *e*P **P** **01 15 14.7 +1.4**
baz=52
SEM Semipalatinsk 21.28 52 *e*P **P** **01 15 14.7 +1.4**
KARP Karpathos 21.36 266 P **P** **01 15 13.4 -0.7**
DOPR Dopca 21.40 295 ⇓P **P** **01 15 15.4 +1.0**
COPA Copaceanca 21.41 290 ⇑P **P** **01 15 15.0 +0.5**
MTUR Matau 21.57 293 ⇑P **P** **01 15 17.7 +1.4**
MTUR Matau 21.57 293 P **P** **01 15 17.6 +1.4**
MAKZ Makanchi 21.57 63 P **P** **01 15 16.0 -0.3**
MAKZ Makanchi 21.57 63 P **P** **01 15 16.0 -0.3**
MAKZ pmax pmax
comp=Z,19nm,1.0s
VOIR 21.59 294 ⇑P **P** **01 15 17.3 +0.8**
VOIR 21.59 294 P **P** **01 15 17.3 +0.8**
HUMR Humele 21.59 291 ⇑P **P** **01 15 17.2 +0.8**
STFAR Stefanesti-Arg 21.62 292 ⇑P **P** **01 15 17.3 +1.3**
BURAR Bucovina Array 21.74 300 ⇑P **P** **01 15 18.3 +0.1**
BURAR Bucovina Array 21.74 300 IAmb IAmb 01 15 37.9
comp=Z,39nm,0.7s
BURAR Bucovina Array 21.74 300 P **P** **01 15 18.2 +0.1**
BUR08 Bucovina Ar. S 21.75 300 P **P** **01 15 18.6 +0.3**
BUR08 IAmb IAmb 01 15 37.5
comp=Z,27nm,0.6s
MK31 Makanchi Array 21.78 63 ⇑P **P** **01 15 19.3 +0.7**
comp=Z,28nm,0.8s,baz=253,slow=7.0,SNR=153
MK31 Makanchi Array 21.78 63*c i*P **P** **01 15 20.2 +1.7**
MKAR Makanchi Array 21.78 63 P **P** **01 15 19.3 +0.8**
MKAR Makanchi Array 21.78 63 P **P** **01 15 19.3 +0.8**
MKAR Makanchi Array 21.78 63 P **P** **01 15 20.4 +1.8**
comp=Z,16nm,0.9s,baz=256,slow=10,SNR=102
MKAR S **S** **01 19 22.1 +2.8**
comp=Z,2.6nm,0.7s,baz=263,slow=28,SNR=2.1
MKAR LR LR 01 24 44.5
comp=Z,393nm,18.4s,baz=257,slow=39
comp=Z,16nm,0.9s
PLVB Pleven 21.84 288 ⇑P **P** **01 15 20.5 +1.3**
ARR Arges 21.88 293 ⇑P **P** **01 15 20.0 +0.4**
VLAD Vladila 22.00 290 ⇑P **P** **01 15 22.0 +1.3**
SHAO Shalim 22.06 175 P **P** **01 15 19.6 -2.1**
SNR=18
SHAO P **P** **01 15 19.6 -2.1**
SNR=18
WHFO Wadi Hawf 22.10 180 P **P** **01 15 19.4 -2.7**
SNR=11
APE Apeiranthos 22.14 271 ⇑P **P** **01 15 22.7 +0.3**
APE Apeiranthos 22.14 271*e*P **P** **01 15 22.7 +0.3**
APE pmax pmax
comp=Z,18nm,0.9s
ARCR ARCALIA 22.24 298 ⇑P **P** **01 15 24.2 +0.8**
DMTO DMTO 22.33 177 P **P** **01 15 21.9 -2.6**
DMTO P **P** **01 15 21.9 -2.6**
MNK Minsk 22.47 318 *i* P **P** **01 15 25.1 -0.6**
comp=E,30nm,0.8s
MNK *i* P **P** **01 15 25.1 -0.6**
comp=N,62nm,0.9s
MNK *i* P **P** **01 15 25.1 -0.6**
comp=Z,127nm,0.8s,baz=119
MNK *i* PP **PnPn** **01 15 48.7 -0.1**
MNK *i* PPP PPP 01 15 57.1
MNK *i* S **S** **01 19 32.0 -0.1**
MNK *i* SS **SnSn** **01 20 01.6 +1.1**
MNK *i* SSS SSS 01 20 16.2
MNK *i* LQ LQ 01 22 25.1
MNK *i* LR LR 01 23 58.2
MNK *i* LRM MLR 01 25 52.5
comp=N,112nm,12.2s
MNK *i* LRM MLR 01 26 05.0
comp=Z,274nm,15.1s
MNK *i* LRM MLR 01 26 16.8
comp=E,63nm,15.2s
MNK Minsk 22.47 318 *i* P **P** **01 15 25.1 -0.6**
MNK *i* PPP PPP 01 15 57.0
MNK *i* S **S** **01 19 32.0 -0.1**
MNK *i* SS **SnSn** **01 20 01.5 +1.1**
MNK *i* SSS SSS 01 20 16.2
MNK pmax pmax
comp=E,30nm,0.8s
MNK pmax pmax
comp=Z,127nm,0.8s
MNK pmax pmax
comp=N,62nm,0.9s
MNK MLR MLR
comp=N,112nm,12.0s
MNK MLR MLR
comp=Z,274nm,15.0s
MNK MLR MLR
comp=E,63nm,15.0s
LOT Lotru 22.49 294 ⇑P **P** **01 15 27.0 +0.7**
RBK Rabkut 22.52 179 P **P** **01 15 24.0 -2.6**
RBK P **P** **01 15 24.0 -2.6**
KLMR Klimovskoe 22.54 342 *e*P **P** **01 15 25.0 -1.5**
KLMR *e* 01 15 50.1
KLMR *e*S **S** **01 19 28.7 -4.7**
KLMR pmax pmax
comp=Z,373nm,0.8s
KLMR MLR MLR
comp=Z,841nm,15.0s
ABTO Aybut 22.66 181 P **P** **01 15 25.1 -3.0**
SNR=28
ABTO P **P** **01 15 25.1 -3.0**
SNR=28
CJR Cluj-Napoca 22.71 297 ⇑P **P** **01 15 29.5 +1.0**
CJR Cluj-Napoca 22.71 297 P **P** **01 15 29.5 +1.0**
CBBR Cluj-Babes-Bol 22.75 297 ⇑P **P** **01 15 26.5 -2.3**
BMR Baia Mare 22.90 299 ⇓P **P** **01 15 30.9 +0.5**
BMR Baia Mare 22.90 299 P **P** **01 15 30.9 +0.5**
LVV L'vov 22.96 305 *e*P **P** **01 15 32.1 +1.1**
LVV *e*S **S** **01 19 38.2 -2.9**
LVV MLR MLR
comp=Z,120nm,13.0s
MARR Marisel-Cluj 23.03 297 ⇑P **P** **01 15 32.8 +0.9**
KKB Krupnik 23.04 284 P **P** **01 15 32.7 +0.8**
DEV Deva 23.12 295 ⇑P **P** **01 15 33.0 +0.3**
DEV Deva 23.12 295 P **P** **01 15 32.9 +0.3**
GZR Gura Zlata 23.18 293 ⇑P **P** **01 15 33.5 +0.1**
MESR Meseseni 23.20 298 ⇑P **P** **01 15 34.5 +1.1**
PEHC Pehcevo 23.22 284 *i* P **P** **01 15 36.9 +3.1**
NACGM Naroch 23.22 319 ⇑*i* P **P** **01 15 35.0 +1.4**
comp=Z,164nm,0.9s,baz=119
BLKB Belogradchik 23.25 289 ⇓P **P** **01 15 34.8 +0.7**
HERR Herculane 23.43 292 ⇑P **P** **01 15 35.3 -0.5**
VAY Valandovo 23.52 283 *i* P **P** **01 15 32.4 -4.3**
ZSN Zaisan 23.61 61 *e*P **P** **01 15 38.9 +1.2**
comp=Z,22nm,0.9s,baz=61
ZSN Zaisan 23.61 61 *e*P **P** **01 15 38.8 +1.2**
ZSN pmax pmax
comp=Z,22nm,0.9s
SURR Surduc 23.66 294 ⇑P **P** **01 15 38.6 +0.6**
STIP Stip 23.76 284 *i* P **P** **01 15 38.4 -0.7**
ISAL Salakas 23.87 320 *e*P **P** **01 15 41.4 +1.4**
KOLS Kolonicke sedl 23.90 302 *e*P **P** **01 15 42.1 +1.7**
KOLS pmax pmax
comp=Z,40nm,0.7s
KOLS Kolonicke sedl 23.90 302 *e*P **P** **01 15 42.1 +1.7**
BOVS Bovan 23.96 289 ⇑P **P** **01 15 41.9 +1.0**
BZS Buzias 24.01 294 ⇑P **P** **01 15 42.0 +0.5**
BZS Buzias 24.01 294 P **P** **01 15 41.9 +0.5**
AGG Agios Georgios 24.10 278 P **P** **01 15 41.4 -1.0**
AGG Agios Georgios 24.10 278 P **P** **01 15 41.4 -1.0**
AGG pmax pmax
comp=Z,23nm,1.5s
CRVS Cervenica-Dubn 24.42 302 *e*P **P** **01 15 46.5 +1.2**
CRVS pmax pmax
comp=Z,66nm,1.9s
CRVS Cervenica-Dubn 24.42 302 *e*P **P** **01 15 46.5 +1.2**
STHS Stebnicka Huta 24.65 303 *e*P **P** **01 15 50.1 +2.8**
STHS Stebnicka Huta 24.65 303 *e*P **P** **01 15 50.1 +2.8**
SUW Suwalki 24.75 314 *e*P **P** **01 15 48.0 -0.1**
SUW Suwalki 24.75 314 *e*P **P** **01 15 49.1 +1.1**
OHR Ohrid 24.87 283 *i* P **P** **01 15 54.0 +4.5**
PABE Paberze 24.93 318 *e*P **P** **01 15 50.9 +1.2**
VSU Vasula 25.13 326*ce*P **P** **01 15 51.3 -0.2**
VSU pmax pmax
comp=Z,125nm,0.8s
VSU Vasula 25.13 326 *e*P **P** **01 15 53.3 +1.8**
ZAA0 Zalesovo Array 25.13 46 P **P** **01 15 51.0 -0.6**
ZAA0 IAmb IAmb 01 16 03.2
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 25.13 46 *i* P **P** **01 15 52.7 +1.1**
ZALV pmax pmax
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 25.13 46 P **P** **01 15 52.6 +1.1**
comp=Z,12nm,0.6s,baz=255,slow=9.3,SNR=50
ZALV S S 01 20 29.6 +13
comp=Z,0.7nm,0.5s,baz=348,slow=18,SNR=1.5
ZALV LR LR 01 27 07.5
comp=Z,373nm,18.3s,baz=246,slow=40
comp=Z,12nm,0.6s
VSVD Vaisvydziai 25.16 319 *e*P **P** **01 15 53.5 +1.7**
NIE Niedzica 25.26 303 *e*P **P** **01 15 54.7 +1.9**
FRGS Fruska Gora 25.27 293 ⇑P **P** **01 15 54.9 +1.9**
PSZ Piszkesteto 25.34 299 ⇑P **P** **01 15 54.4 +0.8**
PSZ Piszkesteto 25.34 299 P **P** **01 15 54.1 +0.6**
PSZ IAmb IAmb 01 16 23.2
comp=Z,31nm,1.4s
PSZ Piszkesteto 25.34 299 P **P** **01 15 54.3 +0.8**
BEL Belsk 25.45 308 *e*P **P** **01 15 57.3 +2.9**
WMQ Urumqi 25.50 70 *e*P **P** **01 15 56.1 +1.0**
WMQ pP sP 01 16 00.9 +1.5
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ LR LR
comp=Z,220nm,17.7s
DGZ Jazzator, Alta 25.61 57*c i*P **P** **01 15 57.7 +1.6**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 25.71 304 *e*P **P** **01 15 57.5 +0.6**
LANS Liptovska Anna 25.76 302 *e*P **P** **01 15 59.5 +2.1**
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 25.76 302 *e*P **P** **01 15 59.5 +2.1**
MORH Mrgy, Hungar 26.10 295 ⇑P **P** **01 16 00.7 +0.3**
VYHS Vyhne 26.10 300 *e*P **P** **01 16 01.6 +1.2**
VYHS pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 26.10 300 *e*P **P** **01 16 01.6 +1.2**
PBUR Paburge 26.20 318 *e*P **P** **01 16 02.1 +0.9**
SRO Srobarova 26.39 299 *e*P **P** **01 16 05.4 +2.4**
SRO pmax pmax
comp=Z,22nm,1.0s
SRO Srobarova 26.39 299 *e*P **P** **01 16 05.4 +2.4**
MTSE Matsula 26.55 325 *e*P **P** **01 16 06.8 +2.5**
OKC Ostrava-Krasne 26.70 303 *e*P **P** **01 16 06.5 +0.7**
OKC Ostrava-Krasne 26.70 303 *e*P **P** **01 16 06.5 +0.7**
MAUC Maruska 26.85 302 *e*P **P** **01 16 08.3 +1.1**
JAVC Velka Javorina 26.90 301 *e*P **P** **01 16 10.4 +2.7**
SMOL Smolenice 27.03 300 *e*P **P** **01 16 09.0 +0.2**
MORC Moravsky Berou 27.09 303 ⇑P **P** **01 16 09.8 +0.5**
MORC Moravsky Berou 27.09 303 *e*P **P** **01 16 09.8 +0.5**
MORC Moravsky Berou 27.09 303 P **P** **01 16 09.8 +0.5**
MEF Metsahovi 27.12 328 *e*P **P** **01 16 10.6 +1.1**
MODS Modra-Piesok 27.12 300 *e*P **P** **01 16 10.8 +1.1**
MODS pmax pmax
comp=Z,41nm,1.4s
MODS Modra-Piesok 27.12 300 *e*P **P** **01 16 10.8 +1.1**
FIA1 FINESS Array S 27.20 331 P **P** **01 16 10.7 +0.6**
FINES FINESS Array B 27.20 331 P **P** **01 16 10.3 +0.2**
FINES FINESS Array B 27.20 331 P **P** **01 16 10.8 +0.6**
comp=Z,9.5nm,0.4s,baz=137,slow=10,SNR=85
FINES S S 01 21 02.8 +14

comp=Z,3.6nm,0.8s,baz=120,slow=27,SNR=1.3
FINES LR LR 01 28 09.5
comp=Z,255nm,19.3s,baz=133,slow=39
comp=Z,9.5nm,0.4s
ZST Bratislava 27.23 299 *e*P **P 01 16 13.6 +3.0**
ZST pmax pmax
comp=Z,36nm,1.1s
ZST Bratislava 27.23 299 *e*P **P 01 16 13.6 +3.0**
KRLC Kraliky 27.61 304 *e*P **P 01 16 14.5 +0.4**
KRLC Kraliky 27.61 304 *e*P **P 01 16 14.5 +0.4**
VRAC Vranov 27.65 302 *e*P **P 01 16 17.5 +3.1**
VRAC Vranov 27.65 302 P **P 01 16 14.9 +0.5**
comp=Z,1.2nm,0.4s,baz=12,slow=6.0,SNR=3.6
VRAC S **S 01 20 52.7 -3.4**
comp=Z,1.9nm,0.3s,baz=310,slow=21,SNR=4.8
VRAC LR LR 01 30 00.6
comp=Z,131nm,20.3s,baz=94,slow=42
comp=Z,1.2nm,0.4s
RONA Rosalia, Austr 27.74 298 *e*P **P 01 16 15.9 +0.7**
comp=Z,0.7nm,0.4s
KRUC Moravsky 27.76 301 *e*P **P 01 16 17.9 +2.6**
DPC Dobruska-Polom 27.94 304 *e*P **P 01 16 18.1 +1.1**
DPC Dobruska-Polom 27.94 304 *e*P **P 01 16 18.1 +1.1**
OSTC Ostas 28.03 304 *e*P **P 01 16 18.8 +1.0**
OSTC Ostas 28.03 304 *e*P **P 01 16 18.8 +1.0**
CONA Conrad Observa 28.04 299 *e*P **P 01 16 18.7 +0.7**
comp=Z,1.1nm,0.6s
CHVC Chvalec 28.14 304 *e*P **P 01 16 19.7 +1.0**
CHVC Chvalec 28.14 304 *e*P **P 01 16 19.7 +1.0**
UPC Upice 28.15 304 *e*P **P 01 16 19.6 +0.8**
UPC Upice 28.15 304 *e*P **P 01 16 19.6 +0.8**
SOKA Soboth 28.59 296 *i*P **P 01 16 23.7 +0.8**
comp=Z,3.3nm,0.5s,SNR=5.0
RAF Rauma 28.65 328 *e*P **P 01 16 23.3 +0.2**
OBKA Obir 28.93 296 *i*P **P 01 16 26.5 +0.6**
comp=Z,2.3nm,0.5s
PRU Pruhonice 29.04 303 *e*P **P 01 16 27.3 +0.6**
PRU Pruhonice 29.04 303 *e*P **P 01 16 27.3 +0.6**
PVCC Panska Ves 29.07 304 *e*P **P 01 16 29.0 +2.0**
PVCC Panska Ves 29.07 304 *e*P **P 01 16 29.0 +2.0**
CKRC Cesky Krumlov 29.11 301 *e*P **P 01 16 26.9 -0.5**
CKRC Cesky Krumlov 29.11 301 *e*P **P 01 16 26.9 -0.5**
MOA Molln 29.11 299 *e*P **P 01 16 28.1 +0.7**
comp=Z,1.1nm,0.4s
ZVC Zvikov 29.22 302 *e*P **P 01 16 28.7 +0.3**
BLEU Blekinge 29.50 316 *e*P **P 01 16 31.3 +0.7**
BRG Berggiesshubel 29.50 305 Amp 01 16 35.4
comp=Z,9.4nm,0.8s
BRG Berggiesshubel 29.50 305 Amp 01 16 42.7
comp=Z,4.5nm,0.7s
BRG Berggiesshubel 29.50 305 *i*P **P 01 16 32.5 +1.7**
BRG *e* 01 16 42.1
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG Berggiesshubel 29.50 305 *i*P **P 01 16 32.5 +1.7**
BRG Berggiesshubel 29.50 305 P P 01 16 42.1 +11
GERES GERESS Array B 29.52 301 P **P 01 16 31.9 +0.9**
GERES GERESS Array B 29.52 301 P **P 01 16 32.0 +0.9**
GERES GERESS Array B 29.52 301 P **P 01 16 31.0 -0.1**
comp=Z,1.2nm,0.3s,baz=100,slow=9.7,SNR=16
comp=Z,1.2nm,0.3s
KHC Kasperske Hory 29.61 301 *e*P **P 01 16 33.0 +1.2**
KHC Kasperske Hory 29.61 301⇑*e*P **P 01 16 34.4 +2.6**
KHC pmax pmax
comp=Z,12nm,1.7s
BSD Bornholm Skovb 29.66 313 *e*P **P 01 16 33.2 +1.0**
KBA Koelnbreinsper 29.74 297 *e*P **P 01 16 33.7 +0.5**
comp=Z,5.1nm,0.4s
HSKC Hora Svate Kat 29.80 304 *e*P **P 01 16 32.7 -0.8**
CLL Collm 30.14 306 *i*P **P 01 16 37.2 +0.8**
CLL *i* 01 16 40.0
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 30.14 306 *i*P **P 01 16 37.2 +0.8**
comp=Z,8.0nm,0.9s
CLL *i*P **pP 01 16 40.0 +0.5**
CLL *i* x x 01 17 17.1
CLL *i* x x 01 17 27.6
CLL *ex* x x 01 18 01.0
LESA Schwarzleotal 30.19 298 *i*P **P 01 16 37.5 +0.4**
comp=Z,18nm,0.4s
ABTA Abfaltersbach 30.32 296 *i*P **P 01 16 38.8 +0.5**
comp=Z,2.2nm,0.5s
NKC Novy Kostel 30.40 303 *e*P P 01 16 33.4 -5.4
DEL Delary 30.58 316 *i*P **P 01 16 41.0 +0.7**
LUNU Lund 30.60 314 *i*P **P 01 16 41.0 +0.6**
WTTA Wattenberg 30.90 297 *i*P **P 01 16 43.0 -0.5**
comp=Z,4.9nm,0.3s,SNR=9.6
WATA Walderalm 30.94 298 *e*P **P 01 16 44.4 +0.6**
comp=Z,2.3nm,0.3s,SNR=5.6
TEOL Teolo 31.00 294 IAmb IAmb 01 17 00.6
comp=Z,10nm,0.8s
GRF Grafenberg Arr 31.17 302 *e*P **P 01 16 46.8 +1.3**
comp=Z,4.8nm,1.1s,baz=92,slow=8.3
SQTA Sankt Quirin 31.20 297 *i*P **P 01 16 45.6 -0.4**
comp=Z,3.2nm,0.3s,SNR=8.6
MOTA Moosalm 31.26 298 *i*P **P 01 16 45.6 -1.0**
comp=Z,0.8nm,0.3s
BORU Boraas 31.47 318 *e*P **P 01 16 48.9 +0.8**
RETA Reutte 31.49 298 *e*P **P 01 16 47.6 -0.9**
comp=Z,2.3nm,0.4s,SNR=6.8
FETA Feichten 31.53 297 *i*P **P 01 16 48.4 -0.6**
comp=Z,2.0nm,0.4s,SNR=5.4
HFS Hagfors 31.81 322 P **P 01 16 51.2 +0.1**
comp=Z,6.8nm,0.4s,baz=109,slow=8.0,SNR=34
HFS LR LR 01 31 21.6
comp=Z,132nm,21.7s,baz=94,slow=39
comp=Z,6.8nm,0.4s
FUORN Ofenpass-Fuorn 31.88 296 IAmb IAmb 01 17 17.2
comp=Z,34nm,1.9s
DAVA Damuels 32.10 298 *i*P **P 01 16 52.9 -1.1**
comp=Z,3.0nm,0.3s
TJOU Tjoern 32.17 318 *e*P **P 01 16 54.0 -0.3**
STU Stuttgart 32.49 300 IAmb IAmb 01 17 00.9
comp=Z,32nm,1.3s
VADS Vadso 32.64 345 *e*P **P 01 16 59.8 +1.5**
ARA0 ARCESS Array S 33.02 342 *e*P **P 01 17 02.8 +1.1**
ARCES ARCESS Array B 33.02 342 P **P 01 17 02.9 +1.3**
comp=Z,3.2nm,0.7s,baz=141,slow=8.9,SNR=23
comp=Z,3.2nm,0.7s
NC602 NORSAR Array S 33.02 323 *e*P **P 01 17 01.5 -0.2**
NC405 NORSAR Array S 33.07 324 P **P 01 17 02.4 +0.2**
OSL Oslo 33.16 321 *e*P **P 01 17 03.4 +0.6**
KTK1 Kautokeino 33.19 341 *e*P **P 01 17 04.0 +0.9**
NC303 NORSAR Array S 33.27 324 IAmb IAmb 01 17 05.8
comp=Z,22nm,1.1s
NB2 NORSAR Subarra 33.27 323 P **P 01 17 03.7 -0.3**
baz=111,slow=8.6 comp=Z,1nm,0.5s,baz=111,slow=8.6
NB2 NORSAR Subarra 33.27 323 P **P 01 17 03.7 -0.3**
baz=111,slow=8.6
NOA NORSAR Array B 33.27 323 P **P 01 17 03.6 -0.4**
comp=Z,6.3nm,0.9s,baz=112,slow=8.4,SNR=15
NOA LR LR 01 32 03.0
comp=Z,192nm,18.7s,baz=110,slow=39
comp=Z,6.3nm,0.9s
KONO Kongsberg 33.62 320 *e*P **P 01 17 07.8 +0.8**
HOMB Homborsund 33.83 318 *e*P **P 01 17 10.1 +1.4**
MOR8 Moi Rana 34.13 333 *e*P **P 01 17 12.0 +0.7**
HAMF Hammerfest 34.27 343 *e*P **P 01 17 13.5 +1.1**
NSS Namsos 34.28 329 *e*P **P 01 17 13.5 +0.9**
JETT Jettan, Norway 34.30 340 *e*P **P 01 17 13.7 +0.9**
NRIK Noril'sk 34.34 21 P **P 01 17 14.4 +1.4**
NRIK Noril'sk 34.34 21 *ce*P **P 01 17 15.2 +2.1**
NRIK pmax pmax
comp=Z,4.0nm,0.8s
NRIK Noril'sk 34.34 21 P **P 01 17 15.3 +2.3**
comp=Z,5.2nm,0.6s,baz=239,slow=6.6,SNR=9.7
NRIK LR LR 01 33 57.0
comp=Z,248nm,20.9s,baz=207,slow=41
comp=Z,5.2nm,0.6s
TBLU Trondheim 34.47 327 *e*P **P 01 17 15.2 +0.9**
FAUS Fauske 34.48 335 *e*P **P 01 17 15.5 +1.2**
SNART Snartemo 34.52 318 *e*P **P 01 17 15.7 +1.0**
SKAR Skarslia 34.52 322 *e*P **P 01 17 16.1 +1.3**
DOMB Dombas 34.58 324 *e*P **P 01 17 15.7 +0.4**
STOK Stokkvaagen 34.71 333 *e*P **P 01 17 16.7 +0.4**
TRO Tromso 34.74 340 *e*P **P 01 17 17.2 +0.7**
KONS Konsvik 34.76 333 *e*P **P 01 17 16.9 +0.2**
STEI Steigen 34.80 336 *e*P **P 01 17 17.3 +0.3**
KEST Kesra 34.94 277 P **P 01 17 19.7 +1.0**
comp=Z,4.4nm,0.8s,baz=342,slow=2.9,SNR=6.9
comp=Z,4.4nm,0.8s
KEST Kesra 34.94 277 P **P 01 17 19.8 +1.1**

BLS5 Blasjo 35.12 319 *e*P **P 01 17 21.2 +1.3**
ODD1 Odda 35.14 320 *e*P **P 01 17 21.5 +1.3**
GTA Gaotai 35.21 76 *e*P P 01 17 30.5 +9.4
GTA pP sP 01 17 34.6 +9.1
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA LR LR
comp=N,130nm,13.1s
GTA LR LR
comp=E,150nm,17.1s
GTA LR LR
comp=Z,140nm,15.9s
MOL Molde 35.41 325 *e*P **P 01 17 23.5 +1.1**
LOF Lofoten 35.45 335 *e*P **P 01 17 22.4 -0.2**
AKN Aaknes 35.54 324 *e*P **P 01 17 24.5 +1.0**
HYA Hoyanger 35.65 322 *e*P **P 01 17 25.6 +1.2**
BER Bergen 35.88 321 *e*P **P 01 17 27.2 +0.8**
SUE Sulen 36.30 322 *e*P **P 01 17 31.1 +1.2**
SONM Songino Array 38.11 60 P **P 01 17 47.0 +1.2**
comp=Z,1.0nm,0.5s,baz=286,slow=9.8,SNR=9.0
SONM LR LR 01 34 41.8
comp=Z,187nm,18.1s,baz=243,slow=38
comp=Z,1.0nm,0.5s
ULN Ulaanbaatar 38.55 60 P **P 01 17 50.1 +0.6**
ULN Ulaanbaatar 38.55 60 *ce*P **P 01 17 51.0 +1.6**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 38.55 60 P **P 01 17 51.1 +1.6**
ULN Ulaanbaatar 38.55 60 P **P 01 17 50.3 +0.9**
comp=Z,41nm,0.5s
HOPEN Hopen 38.59 350 *e*P **P 01 17 51.5 +2.3**
LZH Lanzhou 39.30 79 *e*P **P 01 17 55.7 -0.2**
LZH pP sP 01 18 02.3 +2.0
LZH pmax pmax
comp=Z,19nm,1.1s
EKA Eskdalemuir Ar 39.95 312 P **P 01 18 01.2 +0.3**
comp=Z,3.3nm,0.4s,baz=97,slow=8.7,SNR=31
comp=Z,3.3nm,0.4s
LODK Lodwar 40.08 209 P **P 01 18 01.8 -0.5**
LODK Lodwar 40.08 209 P **P 01 18 01.9 -0.5**
PALK Pallekele 40.69 136 LR LR 01 35 11.3
comp=Z,66nm,19.8s,baz=69,slow=37
SPB2 Spitsbergen Ar 41.09 349 P **P 01 18 11.0 +1.0**
SPA0 Spitsbergen Ar 41.09 349 *e*P **P 01 18 11.2 +1.1**
SPITS Spitsbergen Ar 41.09 349 P **P 01 18 11.6 +1.5**
comp=Z,16nm,0.6s,baz=137,slow=11,SNR=21
SPITS LR LR 01 40 03.3
comp=Z,144nm,18.1s,baz=96,slow=43
comp=Z,16nm,0.6s
BOD Bodaibo 41.85 44 *e*P **P 01 18 16.2 -0.3**
BOD pmax pmax
comp=Z,7.0nm,0.9s
PZH PanZhiHua 41.95 94 P **P 01 18 17.9 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.8s
KBS Kingsbay 42.25 349 *e*P **P 01 18 20.3 +0.8**
BTO Baotou 42.34 70 *e*P **P 01 18 18.1 -2.7**
BTO pP **pP 01 18 22.6 -1.4**
BTO sP **sP 01 18 25.0 -0.3**
BTO PP **PP 01 20 01.2 +2.5**
BTO S **S 01 24 38.6 -3.3**
BTO SS SS 01 27 29.3 -21
BTO pmax pmax
comp=Z,6.0nm,0.6s
BTO pmax pmax
comp=Z,360nm,4.9s
BTO LR LR
comp=N,240nm,5.5s
BTO LR LR
comp=E,190nm,7.5s
BTO LR LR
comp=Z,190nm,4.1s
HHC Hu-ho-hao-te 43.37 69 *e*P **P 01 18 30.7 +1.5**
HHC sP sP 01 18 39.0 +5.4
HHC *e*S **S 01 25 01.6 +4.5**
HHC sS sS 01 25 09.3 +7.0
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,170nm,5.6s
HHC LR LR
comp=N,310nm,18.6s
HHC LR LR
comp=Z,270nm,16.3s
KMI Kunming 43.44 95 ⇑P **P 01 18 29.9 -0.2**
KMI pmax pmax
comp=Z,20nm,0.8s
ESDC Sonseca Array 43.51 289 P **P 01 18 29.9 -0.4**
comp=Z,1.9nm,0.8s,baz=59,slow=8.4,SNR=14
comp=Z,1.9nm,0.8s
KMBO Kilima Mbogo 43.67 204 LR LR 01 39 29.4
comp=Z,62nm,19.6s,baz=94,slow=40
XAN Xi'an 43.93 80 ⇑P **P 01 18 34.3 +0.6**
XAN pP sP 01 18 45.3 +7.1
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN LR LR
comp=N,180nm,17.1s
XAN LR LR
comp=E,220nm,17.5s
XAN LR LR
comp=Z,350nm,15.9s
CRAI Chiangrai 44.43 102 P **P 01 18 37.2 -0.6**
CMAR Chiang Mai Arr 44.45 105 P **P 01 18 40.4 +2.5**
comp=Z,0.9nm,0.3s,baz=294,slow=8.3,SNR=4.3
CMAR LR LR 01 39 43.8
comp=Z,25nm,21.3s,baz=270,slow=40
MBAR Mbarara 45.58 213 P **P 01 18 46.7 -0.4**
MBAR Mbarara 45.58 213 P **P 01 18 46.7 -0.4**
MBAR pmax pmax
comp=Z,3.0nm,0.6s
XLT XiLinHaoTe 45.59 64 *e*P **P 01 18 48.8 +1.9**
XLT pmax pmax
comp=Z,4.0nm,0.7s
XLT pmax pmax
comp=Z,120nm,5.0s
PESTR Estremoz 46.43 289 *e*Sn **S 01 25 43.0 +1.7**
PESTR *e*Sg 01 25 57.4
PESTR A A 01 26 05.4
comp=Z,4.8nm,0.4s
HIA Hailar 46.51 56 P **P 01 18 54.8 +0.8**
HIA IAmb IAmb 01 18 56.5
comp=Z,16nm,1.5s
HIA Hailar 46.51 56 P **P 01 18 54.8 +0.8**
HIA pmax pmax
comp=Z,16nm,1.5s
DAG Danmarks Havn 47.31 343 *i*P **P 01 19 00.0 +0.2**
DAG IAmb IAmb 01 19 03.0
comp=Z,6.3nm,0.8s
TIXI Tiksi 47.90 24 P **P 01 19 05.3 +0.9**
TIXI Tiksi 47.90 24⇓*e*P **P 01 19 05.9 +1.5**
TIXI pmax pmax
comp=Z,21nm,1.3s
TIXI Tiksi 47.90 24 LR LR 01 42 38.1
comp=Z,19nm,18.3s,baz=289,slow=40
BORG Borgarnes 48.33 326 LR LR 01 40 07.3
comp=Z,130nm,20.5s,baz=90,slow=37
YAK Yakutsk 49.24 37⇑*e*P **P 01 19 17.4 +2.6**
YAK pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 49.24 37 LR LR 01 42 16.8
comp=Z,14nm,21.2s,baz=280,slow=39
ZEA Zeya 49.87 48 *e*P **P 01 19 22.3 +2.5**
ZEA *e* 01 19 32.8
HEH HeiHe 50.99 52 *e*P **P 01 19 29.9 +1.5**
HEH pmax pmax
comp=Z,32nm,0.8s
CN2 Changchun 51.99 61 P **P 01 19 36.9 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 52.28 77 *e*P **P 01 19 38.4 +0.2**
NJ2 sP **sP 01 19 42.3 -0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,270nm,6.6s
BNX BinXian 52.55 58 ⇓P **P 01 19 41.2 +1.1**
BNX pmax pmax
comp=Z,5.0nm,0.6s
BNX pmax pmax
comp=Z,180nm,4.1s
TOA0 Torodi Ar. Sit 52.72 255 P **P 01 19 40.2 -1.4**
TOA0 Torodi Ar. Sit 52.72 255 P **P 01 19 40.0 -1.6**

TORD Torodi Ar. Bea 52.72 255 P **P 01 19 39.8 -1.9**
TORD Torodi Ar. Bea 52.72 255 P **P 01 19 40.3 -1.4**
comp=Z,1.4nm,0.5s,baz=41,slow=5.5,SNR=22
comp=Z,1.4nm,0.5s
SUMG Summit 52.89 338 P **P 01 19 42.4 -0.3**
SUMG Summit 52.89 338 P **P 01 19 42.4 -0.3**
SUMG pmax pmax
comp=Z,65nm,1.8s
SUMG Summit 52.89 338 *i*P **P 01 19 43.0 +0.3**
SUMG IAmb IAmb 01 19 46.5
comp=Z,7.1nm,0.7s
KLR Kul'dur 53.99 52 *ce*P **P 01 19 51.5 +0.9**
KLR pmax pmax
comp=Z,10.0nm,1.7s
KLR Kul'dur 53.99 52 LR LR 01 45 06.5
comp=Z,68nm,19.7s,baz=302,slow=38
NEEM North Greenlan 54.31 345 *i*P **P 01 19 51.2 -1.7**
NEEM IAmb IAmb 01 19 55.5
comp=Z,6.4nm,0.7s
USRK Ussuriysk Ar. 56.15 58 P **P 01 20 06.5 +0.3**
USRK Ussuriysk Ar. 56.15 58 P **P 01 20 06.7 +0.4**
comp=Z,4.1nm,0.6s,baz=274,slow=10,SNR=12
comp=Z,4.1nm,0.6s
KSAR Wonju Array Be 56.35 67 P **P 01 20 07.4 -0.4**
KSAR Wonju Array Be 56.35 67 P **P 01 20 07.4 -0.4**
KSRS Korea Array 56.38 67 P **P 01 20 08.6 +0.6**
comp=Z,3.0nm,0.6s,baz=294,slow=6.5,SNR=12
KSRS LR LR 01 46 42.1
comp=Z,45nm,19.1s,baz=340,slow=38
comp=Z,3.0nm,0.6s
SEY Seymchan 58.87 32 *de*P **P 01 20 27.1 +2.0**
SEY pmax pmax
comp=Z,5.0nm,1.3s
SEY Seymchan 58.87 32 LR LR 01 49 14.1
comp=Z,230nm,18.2s,baz=297,slow=39
SFJD Kangerlussuaq 58.96 334 LR LR 01 45 54.3
comp=Z,195nm,19.1s,baz=68,slow=36
MA2 Magadan 59.76 36 *de*P **P 01 20 33.0 +1.7**
MA2 pmax pmax
comp=Z,15nm,1.7s
MA2 Magadan 59.76 36 LR LR 01 48 31.9
comp=Z,116nm,19.6s,baz=298,slow=38
JNU Nakatsue 60.60 70 LR LR 01 48 33.5
comp=Z,58nm,20.1s,baz=312,slow=38
BILL Bilibino 61.10 23 P **P 01 20 41.2 +0.8**
BILL IAmb IAmb 01 20 42.9
comp=Z,13nm,0.9s
BILL Bilibino 61.10 23 *e*P **P 01 20 41.8 +1.4**
BILL pmax pmax
comp=Z,19nm,1.3s
YSS Yuzh-Sakhalins 61.62 51 *e*P **P 01 20 45.9 +1.7**
YSS pmax pmax
comp=Z,10.0nm,0.7s
DBIC Dimbokro 61.81 254 P **P 01 20 44.6 -1.4**
comp=Z,2.5nm,0.4s,baz=24,slow=6.7,SNR=7.6
DBIC LR LR 01 51 10.1
comp=Z,63nm,18.4s,baz=348,slow=40
comp=Z,2.5nm,0.4s
JOW Kunigami 62.00 77 LR LR 01 50 48.1
comp=Z,83nm,19.3s,baz=313,slow=39
ASAJ Asahikawa 62.94 54 LR LR 01 51 12.7
comp=Z,83nm,19.6s,baz=142,slow=39
RES Resolute Bay 63.60 351 LR LR 01 53 05.5
comp=Z,100nm,19.6s,baz=26,slow=40
MJAR Matsushiro Arr 63.98 63 P **P 01 21 00.3 +0.1**
comp=Z,1.8nm,1.0s,baz=295,slow=12,SNR=2.4
comp=Z,1.8nm,1.0s
PETK Petropavlovsk- 66.46 40 LR LR 01 52 09.9
comp=Z,142nm,21.9s,baz=299,slow=38
FRB Frobisher Bay 66.86 336 LR LR 01 50 53.3
comp=Z,132nm,19.6s,baz=37,slow=36
A22K Sinclair Lake 67.32 10 P **P 01 21 22.9 +1.8**
baz=336
B18K Kokolik River 67.77 13 P **P 01 21 25.9 +1.9**
baz=331,SNR=18
B20K Meade River 67.93 11 IAmb IAmb 01 21 27.6
comp=Z,9.4nm,0.9s
B20K Meade River 67.93 11 P **P 01 21 26.5 +1.6**
baz=335
C16K Lisburne Hills 68.08 15 P **P 01 21 27.0 +1.0**
baz=329
B22K Teshekpuk Lake 68.13 10 P **P 01 21 27.6 +1.3**
baz=338
A36M Sachs Harbour 68.22 360 P **P 01 21 27.4 +0.6**
A36M IAmb IAmb 01 21 39.2
comp=Z,11nm,0.9s
A36M Sachs Harbour 68.22 360 P **P 01 21 27.3 +0.6**
baz=0.9,SNR=8.7
C17K DeLong Mountai 68.31 14 P **P 01 21 28.9 +1.4**
baz=330
C19K Lookout Ridge 68.37 12 P **P 01 21 29.7 +1.9**
baz=333
C18K Utukok River 68.51 13 P **P 01 21 30.0 +1.2**
baz=332
B21K Ikpikpuk River 68.64 10 P **P 01 21 31.5 +2.1**
baz=337
RDOG Red Dog Mine 68.73 14 P **P 01 21 31.1 +1.1**
baz=331
C23K Itkillik River 68.95 9 P **P 01 21 33.1 +1.7**
baz=340
C21K Knifeblade Rid 69.05 11 P **P 01 21 33.6 +1.6**
baz=337,SNR=5.9
D19K Kuna River 69.16 12 P **P 01 21 34.0 +1.2**
baz=334
C24K Franklin Bluff 69.28 8 P **P 01 21 35.3 +1.9**
baz=342
C26K Camden Bay 69.46 7 P **P 01 21 36.3 +1.8**
baz=345
D22K Ayikyak River 69.59 10 IAmb IAmb 01 21 37.6
comp=Z,7.9nm,0.9s
D22K Ayikyak River 69.59 10 P **P 01 21 37.4 +1.9**
baz=339
E20K Nigu River 69.67 11 P **P 01 21 37.4 +1.4**
baz=336
E18K Tukpahlearik C 69.70 13 P **P 01 21 36.6 +0.5**
E18K IAmb IAmb 01 21 37.7
comp=Z,8.8nm,0.8s
E18K Tukpahlearik C 69.70 13 P **P 01 21 37.2 +1.1**
baz=333
D23K Nanushuk River 69.77 9 P **P 01 21 38.2 +1.8**
baz=340
E17K Hotham Inlet 69.78 14 P **P 01 21 37.3 +0.7**
baz=332,SNR=5.8
D24K Happy Valley 69.80 8 IAmb IAmb 01 21 43.1
comp=Z,17nm,1.6s
D24K Happy Valley 69.80 8 P **P 01 21 37.9 +1.2**
baz=342
E21K Killik River 69.83 11 IAmb IAmb 01 21 44.5
comp=Z,18nm,1.9s
E21K Killik River 69.83 11 P **P 01 21 37.8 +0.9**
baz=338
LBTB Lobatse 69.84 207 LR LR 01 54 47.0
comp=Z,95nm,18.1s,baz=18,slow=38
D25K Kavik River 69.90 7 IAmb IAmb 01 21 41.0
comp=Z,9.4nm,0.8s
D25K Kavik River 69.90 7 P **P 01 21 38.7 +1.4**
baz=344,SNR=12
TOLK Toolik Lake Re 70.21 9 P **P 01 21 40.8 +1.6**
baz=341,SNR=13
E19K Redstone River 70.24 12 IAmb IAmb 01 21 41.5
comp=Z,11nm,0.8s
E19K Redstone River 70.24 12 P **P 01 21 40.4 +1.0**
baz=335
E22K Anaktuvuk Pass 70.41 10 IAmb IAmb 01 21 44.0
comp=Z,9.9nm,0.9s
E22K Anaktuvuk Pass 70.41 10 P **P 01 21 41.6 +1.1**
baz=340
F15K North Star Dit 70.43 16 P **P 01 21 41.7 +1.1**
baz=330
D27M Malcolm River 70.44 5 P **P 01 21 41.5 +0.8**
baz=348
F17K Baldwin Pennin 70.46 14 P **P 01 21 41.5 +0.8**
baz=332
E23K Chandalar 70.76 9 P **P 01 21 44.2 +1.6**
baz=341
F20K Avaraart Lake 70.86 12 P **P 01 21 43.9 +0.8**
baz=336
C36M Paulatuk 70.86 359 P **P 01 21 43.3 +0.2**
C36M IAmb IAmb 01 21 45.3
comp=Z,7.8nm,1.0s
C36M Paulatuk 70.86 359 P **P 01 21 43.1 +0.1**
baz=1.9,SNR=6.7
E24K Your Creek 70.87 9 IAmb IAmb 01 21 45.9
comp=Z,11nm,1.2s
E24K Your Creek 70.87 9 P **P 01 21 44.6 +1.3**
baz=342
F22K John River 70.95 10 P **P 01 21 45.6 +1.8**
baz=339

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
F21K	Alatna River	71.03	11	IAmb	IAmb	01 21 46.6	
	comp=Z,9.3nm,1.1s						
F21K	Alatna River	71.03	11	P	P	01 21 45.4	+1.1
	baz=338						
E25K	Arctic Village	71.14	7	IAmb	IAmb	01 22 08.8	
	comp=Z,21nm,1.7s						
E25K	Arctic Village	71.14	7	P	P	01 21 45.8	+0.9
	baz=344						
E28M	Babbage River	71.17	5	P	P	01 21 46.0	+1.0
	baz=349						
G16K	Koyuk River	71.17	15	P	P	01 21 46.5	+1.4
	baz=332						
G17K	Kiwalik Mounta	71.41	14	P	P	01 21 47.6	+1.1
	baz=333						
G18K	Tagagawik	71.42	13	IAmb	IAmb	01 21 49.4	
	comp=Z,20nm,1.6s						
G18K	Tagagawik	71.42	13	P	P	01 21 47.6	+1.0
	baz=334						
E27K	Coleen River	71.44	6	P	P	01 21 46.7	0.0
E27K				IAmb	IAmb	01 21 48.9	
	comp=Z,12nm,1.2s						
E27K	Coleen River	71.44	6	P	P	01 21 48.0	+1.3
	baz=348						
G19K	Purcell Mounta	71.47	13	IAmb	IAmb	01 21 50.8	
	comp=Z,25nm,1.5s						
G19K	Purcell Mounta	71.47	13	P	P	01 21 47.5	+0.6
	baz=336						
COLD	Coldfoot	71.47	10	P	P	01 21 48.3	+1.4
	baz=341,SNR=5.5						
E29M	Blow River	71.49	4	IAmb	IAmb	01 21 49.2	
	comp=Z,21nm,1.5s						
E29M	Blow River	71.49	4	P	P	01 21 48.2	+1.3
	baz=351						
G22K	Bettles	71.59	10	P	P	01 21 48.8	+1.2
	baz=340						
F25K	Christian Rive	71.64	8	P	P	01 21 48.8	+0.8
	baz=344						
DAV	Davao City (W)	71.68	96	LR	LR	01 56 33.8	
	comp=Z,31nm,21.6s,baz=351,slow=39						
G21K	Allakaket	71.69	11	IAmb	IAmb	01 21 50.1	
	comp=Z,8.6nm,1.1s						
G21K	Allakaket	71.69	11	P	P	01 21 48.5	+0.3
	baz=338						
F26K	Sheenjek River	71.69	7	P	P	01 21 49.3	+1.1
	baz=346						
INK	Inuvik	71.79	3	P	P	01 21 49.1	+0.4
	baz=354						
INK	Inuvik	71.79	3	LR	LR	01 58 25.3	
	comp=Z,47nm,18.1s,baz=6.0,slow=40						
H16K	Elim	71.87	15	P	P	01 21 50.2	+0.9
	baz=332						
IMAR	Indian Mountai	72.15	11	P	P	01 21 51.5	+0.5
H20K	Anotleneega Mo	72.43	12	P	P	01 21 53.8	+1.1
	baz=337						
H22K	Ishtalitna Cre	72.58	10	P	P	01 21 55.0	+1.5
	baz=340						
H21K	Melozitna Rive	72.60	11	P	P	01 21 54.3	+0.6
	baz=339						
F31M	Tsiigehtchic	72.64	3	IAmb	IAmb	01 22 13.3	
	comp=Z,8.5nm,0.9s						
F31M	Tsiigehtchic	72.64	3	P	P	01 21 53.9	0.0
	baz=354,SNR=7.1						
SCHQ	Schefferville	72.65	329	P	P	01 21 54.4	+0.2
	comp=Z,4.7nm,0.8s,baz=74,slow=9.1,SNR=4.4						
	comp=Z,4.7nm,0.8s						
G27K	Doyon Strip	72.78	6	IAmb	IAmb	01 21 57.6	
	comp=Z,15nm,1.5s						
I17K	Unalakleet	72.85	15	P	P	01 21 56.3	+1.2
	baz=333						
G30M	tAoh Zraii Nji	72.99	4	IAmb	IAmb	01 21 59.0	
	comp=Z,10nm,1.1s						
G30M	tAoh Zraii Nji	72.99	4	P	P	01 21 56.2	+0.2
	baz=352						
G31M	Satah River	73.14	3	P	P	01 21 56.9	+0.1
	baz=354,SNR=11						
BOSA	Boshof	73.27	206	P	P	01 21 57.9	-0.2
	comp=Z,0.9nm,0.6s,baz=145,slow=21,SNR=1.4						
	comp=Z,0.9nm,0.6s						
H27K	Steamboat Moun	73.36	6	P	P	01 21 59.3	+1.1
	baz=348						
J16K	Anvik River	73.41	15	P	P	01 21 59.1	+0.6
	baz=333						
MLY	Manley	73.49	11	IAmb	IAmb	01 22 02.7	
	comp=Z,14nm,1.2s						
MLY	Manley	73.49	11	P	P	01 21 59.8	+0.8
	baz=341,SNR=5.2						
J20K	Nowinta River	73.77	12	P	P	01 22 02.1	+1.5
	baz=338						
POKR	Poker Plat Res	73.84	9	P	P	01 22 01.9	+0.9
	baz=343						
MDM	Murphy Dome	73.89	9	P	P	01 22 02.6	+1.2
MDM				IAmb	IAmb	01 22 05.1	
	comp=Z,13nm,1.2s						
I26K	Coal Creek Min	74.12	7	P	P	01 22 03.2	+0.6
	baz=347						
NEA2	Nenana	74.13	10	P	P	01 22 03.9	+1.2
	baz=342						
SHEM	Shemya Is, Ala	74.18	33	LR	LR	01 58 23.6	
	comp=Z,73nm,18.0s,baz=294,slow=39						
IL31		74.23	9	IAmb	IAmb	01 22 06.3	
	comp=Z,14nm,1.4s						
ILAR	Eielson Array	74.23	9	P	P	01 22 04.2	+0.8
	comp=Z,2.2nm,0.7s,baz=339,slow=4.6,SNR=26						
ILAR				LR	LR	01 57 50.8	
	comp=Z,52nm,20.5s,baz=325,slow=38						
	comp=Z,2.2nm,0.7s						
CCB	Clear Creek Bu	74.24	9	IAmb	IAmb	01 22 20.0	
	comp=Z,17nm,1.6s						
I28M	Miner Creek	74.26	6	IAmb	IAmb	01 22 05.0	
	comp=Z,10nm,0.7s						
I28M	Miner Creek	74.26	6	P	P	01 22 04.1	+0.5
	baz=349						
I29M	Ogilvie Camp,	74.47	5	IAmb	IAmb	01 22 06.8	
	comp=Z,36nm,1.9s						
J25K	Salcha River,	74.56	8	IAmb	IAmb	01 22 07.4	
	comp=Z,21nm,1.6s						
J25K	Salcha River,	74.56	8	P	P	01 22 05.8	+0.5
	baz=345						
HDA	Harding Lake	74.58	9	P	P	01 22 05.1	-0.2
	baz=344						
I30M	Mount Dempster	74.73	4	P	P	01 22 06.3	0.0
I30M				IAmb	IAmb	01 22 08.7	
	comp=Z,34nm,1.6s						
I30M	Mount Dempster	74.73	4	P	P	01 22 06.7	+0.3
	baz=352						
CAST	Castle Rocks	74.81	12	IAmb	IAmb	01 22 08.8	
	comp=Z,15nm,0.8s						
CAST	Castle Rocks	74.81	12	P	P	01 22 08.0	+1.3
	baz=340,SNR=8.5						
EGAK	Eagle	74.82	7	IAmb	IAmb	01 22 08.5	
	comp=Z,9.1nm,1.0s						
EGAK	Eagle	74.82	7	P	P	01 22 07.0	+0.3
	baz=348						
KTH	Kantishna Hill	74.86	11	IAmb	IAmb	01 22 09.5	
	comp=Z,13nm,1.1s						
J26L	Joseph Creek	74.86	8	IAmb	IAmb	01 22 09.4	
	comp=Z,37nm,1.9s						
RND	Reindeer	75.29	10	IAmb	IAmb	01 22 10.5	
	comp=Z,9.3nm,0.9s						
K24K	Donnelly Dome	75.30	9	P	P	01 22 10.4	+0.9
	baz=345						
KAPI	Kappang	75.31	110	LR	LR	02 00 17.8	
	comp=Z,11nm,21.8s,baz=336,slow=40						
SCRK	Sand Creek	75.33	8	IAmb	IAmb	01 22 12.1	
	comp=Z,24nm,1.6s						
SCRK	Sand Creek	75.33	8	P	P	01 22 11.1	+1.3
	baz=346,SNR=6.2						
J30M	Hart River	75.37	4	IAmb	IAmb	01 22 34.5	
	comp=Z,38nm,2.0s						
DAWY	Dawson	75.67	6	P	P	01 22 12.1	+0.4
DAWY				IAmb	IAmb	01 22 13.3	
	comp=Z,7.4nm,0.9s						
DAWY	Dawson	75.67	6	P	P	01 22 12.4	+0.7
	baz=350,SNR=5.9						
K29M	Barlow Dome	76.03	5	P	P	01 22 14.7	+0.9
	baz=351						
MENT	Mentasta	76.37	8	IAmb	IAmb	01 22 19.5	
	comp=Z,20nm,1.3s						
L27K	Beaver Creek,	76.44	7	IAmb	IAmb	01 22 18.4	
	comp=Z,9.6nm,1.0s						
L27K	Beaver Creek,	76.44	7	P	P	01 22 17.7	+1.6
	baz=348						
BCAR	Beaver Creek A	76.45	7	P	P	01 22 16.2	+0.1
SUA	Susitna One	76.87	12	P	P	01 22 19.3	+0.7
	baz=341						
PMR	Palmer	76.99	11	P	P	01 22 20.1	+1.0
	baz=342						
YKA	Yellowknife Ar	77.32	354	*i* P	P	01 22 20.8	-0.1
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	77.32	354	P	P	01 22 20.9	-0.1
	comp=Z,1.7nm,0.8s,baz=9.3,slow=5.9,SNR=24						
YKA				LR	LR	02 00 34.9	
	comp=Z,72nm,20.0s,baz=140,slow=39						
	comp=Z,1.7nm,0.8s						
RC01	Rabbit Creek A	77.38	11	P	P	01 22 22.3	+1.0
	baz=342						
SUR	Sutherland	78.25	208	LR	LR	02 00 46.0	
	comp=Z,82nm,18.5s,baz=42,slow=39						
KDAK	Kodiak Island	80.04	14	LR	LR	02 03 05.2	
	comp=Z,69nm,18.8s,baz=6.4,slow=39						
FFC	Flin Flon	83.27	346	P	P	01 22 53.0	-0.1
FFC				IAmb	IAmb	01 22 53.2	
	comp=Z,5.4nm,0.7s						
FFC	Flin Flon	83.27	346	P	P	01 22 53.0	-0.1
FFC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ULM	Lac du Bonnet	86.13	341	P	P	01 23 06.6	-1.1
	comp=Z,2.1nm,0.5s,baz=12,slow=10.0,SNR=4.5						
ULM				LR	LR	02 02 31.3	
	comp=Z,86nm,18.4s,baz=76,slow=36						
	comp=Z,2.1nm,0.5s						
EDM	Edmonton	86.38	352	IAmb	IAmb	01 23 10.1	
	comp=Z,9.9nm,0.8s						
BBB	Bella Bella	88.08	1	LR	LR	02 07 09.5	
	comp=Z,29nm,21.1s,baz=330,slow=39						
NEW	Newport	91.64	354	LR	LR	02 10 34.5	
	comp=Z,56nm,18.1s,baz=24,slow=39						
PLID	Pearl Lake	94.69	353	P	P	01 23 47.3	-0.9
WRA	Warramunga Arr	95.80	111	P	P	01 23 54.9	+1.6
	comp=Z,0.4nm,0.8s,baz=284,slow=6.8,SNR=2.2						
	comp=Z,0.4nm,0.8s						
PDAR	Pinedale Array	96.13	348	P	P	01 23 54.4	-0.4
	comp=Z,0.2nm,0.4s,baz=104,slow=2.2,SNR=1.8						
	comp=Z,0.2nm,0.4s						
YBH	Yreka Blue Hor	98.49	357	LR	LR	02 14 20.3	
	comp=Z,38nm,20.4s,baz=34,slow=39						

LJU 07 01:15:25.1, 46°.51N×13°.70E, h11km, ML0.3, Austria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GORS	Gorjuse	0.28	133	*e*Pg	Pg	01 15 31.3	+0.4
GORS				*i* Sg	Sg	01 15 35.1	+0.4
GORS				IAML		01 15 36.9	
	comp=Z,1.1nm,0.1s						
CADS	Cadrg	0.28	175	*i* Pg	Pg	01 15 31.3	+0.5
CADS				*e*Sg	Sg	01 15 35.1	+0.4
CADS				IAML		01 15 36.3	
	comp=Z,2.1nm,0.1s						
ROBS	Robic	0.30	206	*i* Pg	Pg	01 15 30.8	-0.2
ROBS				*i* Sg	Sg	01 15 35.8	+0.7
ROBS				IAML		01 15 36.2	
	comp=Z,0.6nm,0.1s						

*TAP **07** 01:26:49.5, 23°.86N×122°.53E, h11km±1km, ML2.5, D*
*JMA **07** 01:26:50.4±0.1, 24°N±2°×122°.6E±0°.3, h56km±1km, MV1.7/10, NW OFF ISHIGAKIJIMA IS*
ISC 07 01:26:47.9±1.1**, 23°.90N**±0°.04×**122°.61E**±0°.02**, h8**km±10km**, n48, σ1s.03**/85**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.35	310	*i* P	Pn	01 26 57.8	-1.2
	baz=323						
EOS4				*i* S	Sb	01 27 03.7	+2.0
	baz=323						
EOS3	EOS3	0.47	326	*i* P	Pn	01 26 59.5	-1.3
	baz=335						
EOS3				S	Sb	01 27 06.7	+1.3
	baz=335						
EOS2	EOS2	0.62	327	*i* P	Pn	01 27 02.3	-0.7
	baz=334						
EOS2				*i* S	Sn	01 27 11.7	-1.4
	baz=334						
JYNG	Yonagunijimaku	0.63	29	P	Pg	01 27 00.5	+0.4
JYNG				*e*S	Sg	01 27 07.8	-0.6
YOJ	Yonaguni jima	0.67	33	P	Pg	01 27 01.2	+0.3
YOJ				S	Sg	01 27 09.0	-0.6
EWUT	Wuta	0.93	306	P	Pn	01 27 07.2	-0.1
	baz=310						
EWUT				S	Sn	01 27 19.9	-1.0
	baz=310						
ENA	Nanau	0.95	304	*e*P	Pn	01 27 08.3	+0.7
	baz=308						
ENA				*e*S	Sn	01 27 20.4	-1.0
	baz=308						
NACB	Ninganchiao	0.97	287	P	Pb	01 27 07.2	+0.3
	baz=290						
NACB				S	Sb	01 27 19.6	-0.3
	baz=290						
ESAO	Su ao	0.97	314	*e*P	Pn	01 27 07.7	-0.2
	baz=318						
ESAO				*e*S	Sn	01 27 21.0	-0.9
	baz=318						
TWC	Suao	0.99	316	*i* P	Pn	01 27 07.7	-0.5
	baz=320						
TWC				S	Sn	01 27 21.4	-1.0
	baz=320						
ETM	Tongmen	1.02	274	*e*P	Pg	01 27 06.5	-1.0
	baz=276						
ETM				*e*S	Sn	01 27 22.5	-0.7
	baz=276						
ETLH	Xiulin Townshi	1.07	287	*e*P	Pb	01 27 08.6	-0.2
	baz=289						
ETLH				*e*S	Sb	01 27 22.8	-0.3
	baz=289						
NDS	Dongshan	1.10	312	*e*P	Pn	01 27 11.1	+1.4
	baz=316						
NDS				*e*S	Sn	01 27 25.3	+0.3
	baz=316						
LXIB	Xiulin Townshi	1.10	277	P	Pb	01 27 09.4	+0.1
	baz=279						
LXIB				S	Sb	01 27 24.2	+0.3
	baz=279						
HATJ	Hateruma jima	1.11	81	P	Pg	01 27 10.7	+1.6
HATJ				*e*S	Sg	01 27 26.0	+2.5
IRIF	Iriomote-Funau	1.11	67	P	Pg	01 27 09.2	-0.1
IRIF				*e*S	Sg	01 27 23.9	+0.2
EGS		1.13	327	*e*P	Pn	01 27 11.6	+1.6
	baz=331						
EGS				*e*S	Sn	01 27 28.3	+2.6
	baz=331						
WARBT	Fenglin Townsh	1.13	261	P	Pg	01 27 09.7	0.0
	baz=262						
WARBT				S	Sb	01 27 25.0	+0.3
	baz=262						
HGSD	Ruisui	1.16	250	*e*P	Pg	01 27 10.1	0.0
	baz=250						
HGSD				*e*S	Sg	01 27 24.7	-0.5
	baz=250						
LATG	Datong	1.18	303	P	Pn	01 27 11.9	+1.1
	baz=306						
TWE	Neicheng	1.19	314	P	Pn	01 27 11.4	+0.6
	baz=317						
TWE				*i* S	Sn	01 27 27.2	0.0
	baz=317						
ENTT	Nioudou	1.21	308	P	Pn	01 27 11.7	+0.6
	baz=311						
ENTT				*e*S	Sn	01 27 29.4	+1.7
	baz=311						
NDT	Datong Townshi	1.22	305	*e*P	Pb	01 27 10.8	-0.6
	baz=308						
NDT				*e*S	Sn	01 27 29.6	+1.4
	baz=308						
EHY	Hungye	1.24	252	*e*P	Pg	01 27 10.5	-1.2
	baz=252						
EHY				S	Sb	01 27 28.2	+0.4
	baz=252						
WHF	Hehuan Shan	1.25	282	*i* P	Pn	01 27 12.4	+0.2
	baz=283						
WHF				*i* S	Sn	01 27 28.8	-0.6
	baz=283						
FUSB	Fushanzhiwuyua	1.27	313	P	Pn	01 27 13.6	+1.5
	baz=316						
FUSB				S	Sn	01 27 30.1	+0.8
	baz=316						
TIPB	Shuangxi	1.29	326	*e*P	Pn	01 27 12.9	+0.7
	baz=329						
TIPB				*e*S	Sn	01 27 29.3	-0.4
	baz=329						
YULB	Yu-li	1.30	248	P	Pg	01 27 13.1	+0.2
	baz=247						
YULB				S	Sg	01 27 29.8	0.0
	baz=247						
CHGB	Renai	1.32	277	P	Pg	01 27 12.8	-0.4
	baz=279						
CHGB				S	Sb	01 27 29.9	-0.5
	baz=279						
JKRS	Kuro-shima	1.32	75	P	Pn	01 27 13.0	+0.2
JKRS				*e*S	Sg	01 27 29.9	-0.6
NWLT	Wulai	1.34	311	*e*P	Pn	01 27 13.9	+0.9
	baz=314						
NWLT				*e*S	Sn	01 27 32.3	+1.3
	baz=314						
VWDT	VWDT	1.35	264	*e*P	Pb	01 27 13.9	+0.4
	baz=265						
VWDT				*e*S	Sg	01 27 29.7	-1.7
	baz=265						
YHNB	Yeheng	1.36	305	P	Pn	01 27 13.5	+0.1
	baz=307						
YHNB				S	Sn	01 27 33.1	+1.4
	baz=307						
SXI1	Grass Mountain	1.37	331	P	Pg	01 27 13.0	-1.2
	baz=334						
SXI1				*e*S	Sn	01 27 32.5	+0.7
	baz=334						
WUSB	Renai	1.37	274	*e*P	Pn	01 27 14.5	+1.0
	baz=275						
WUSB				*e*S	Sb	01 27 31.0	-0.5
	baz=275						
NSK	Sanguang	1.38	304	P	Pn	01 27 13.7	+0.1
	baz=307						
NSK				S	Sn	01 27 33.1	+1.0
	baz=307						
NWF	Wu-fen Shan	1.39	327	*e*P	Pn	01 27 14.2	+0.4
	baz=330						
WFSB	Wu-fen Shan	1.39	327	*e*P	Pn	01 27 14.1	+0.4
	baz=330						
FULB	Fuli	1.39	240	*e*P	Pb	01 27 15.3	+1.1
	baz=239						
JIJ	Ishigaki jima	1.48	71	P	Pn	01 27 14.2	-0.7
JIJ				S	Sn	01 27 32.2	-2.2
SSLB	Suanglung	1.52	266	*e*P	Pn	01 27 15.6	+0.1
	baz=267						
WCS	Beigang Elemen	1.56	276	*e*P	Pn	01 27 16.5	+0.5
	baz=277						
SMLT	Sun Moon Lake	1.56	270	*e*P	Pg	01 27 18.2	+0.3
	baz=270						
WHP	Taichung City	1.57	284	*e*P	Pn	01 27 16.4	+0.3
	baz=286						
TYC	Yuchr	1.60	271	*e*P	Pn	01 27 16.8	+0.3
	baz=271						
WHYT	Xinyi Township	1.62	263	*e*P	Pg	01 27 18.8	-0.2
	baz=264						
JISG	Ishigakijimahi	1.70	66	P	Pn	01 27 16.8	-1.1
JISG				S	Sn	01 27 36.2	-3.6
CHN5	Tsauling	1.79	261	*e*P	Pb	01 27 20.8	-0.3
	baz=261						

*IDC **07** 01:29:05.5±2.7, 4°.39N×92°.92E, h0km, mb3.5/5, mbtmp3.6/6, Error ellipse: s-maj=101.9km s-min=30.5km az=57.0*
ISC 07 01:29:09.0±2.0**, 4°.5N**±0°.2×**93°.0E**±0°.3**, h22km, n18, σ0s.60**/6**, mb3.6**/5**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.10	22	Pn	Pn	01 32 41.0	-0.1
	0.8nm,0.3s,baz=214,slow=14,SNR=4.8						
H08S2	Diego Garcia H	23.70	240	T	T	01 59 23.5	
	baz=60,slow=76,SNR=64						
H08S3	Diego Garcia H	23.70	240	T	T	01 59 25.4	
	baz=60,slow=76,SNR=223						
H08S1	Diego Carcia H	23.71	240	T	T	01 59 26.0	
	baz=60,slow=76,SNR=39						
MKAR	Makanchi Array	43.19	349	P	P	01 37 07.8	-0.4
	0.4nm,0.5s,baz=169,slow=8.7,SNR=12						
	0.4nm,0.5s						
H01W3	Cape Leeuwin H	43.90	155	T	T	02 24 30.7	
	baz=330						
H01W2	Cape Leeuwin H	43.91	155	T	T	02 24 25.5	
	baz=330						
H01W1	Cape Leeuwin H	43.92	155	T	T	02 24 21.9	
	baz=330						
WRA	Warramunga Arr	47.33	122	P	P	01 37 41.5	-0.1
	0.6nm,0.9s,baz=297,slow=9.5,SNR=2.7						
	0.6nm,0.9s						
KURBB	Kurchatov Arra	47.59	348	P	P	01 37 43.5	+0.4
	0.4nm,0.5s,baz=169,slow=7.5,SNR=6.8						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	49.80	354	P	P	01 38 00.7	+0.8
	0.3nm,0.3s,baz=160,slow=9.2,SNR=3.7						
	0.3nm,0.3s						
BVAR	Borovoye Array	51.87	343	P	P	01 38 16.0	+0.4
	0.4nm,0.5s,baz=140,slow=9.1,SNR=2.7						
	0.4nm,0.5s						
H04N2	CROZET ISLANDS	62.20	211	T	T	02 47 35.9	
	baz=48,slow=75,SNR=177						
H04N1	CROZET ISLANDS	62.21	211	T	T	02 47 36.6	
	baz=48,slow=75,SNR=212						
H04N3	CROZET ISLANDS	62.22	211	T	T	02 47 35.2	
	baz=48,slow=75,SNR=240						
H04S1	CROZET ISLANDS	62.60	211	T	T	02 48 01.8	
	baz=47,slow=75,SNR=5.4						
H04S3	CROZET ISLANDS	62.61	211	T	T	02 48 01.1	
	baz=47,slow=75,SNR=23						
H04S2	CROZET ISLANDS	62.62	211	T	T	02 48 02.0	
	baz=47,slow=75,SNR=8.9						

*ANF **07** 01:31:09.3±0.6, 34°.39N×120°.01W, h5km, ML3.7/31, Error ellipse: s-maj=5.7km s-min=3.0km az=85.0*
*NEIC **07** 01:31:11.0±2.1, 34°.41N±0°.02×120°.02W±0°.02, h10km±1km, Error ellipse: s-maj=4.1km s-min=2.9km az=22.0*
*PAS **07** 01:31:11.2±2.9, 34°.42N±0°.02×120°.00W±0°.01, h2km±6km, Mwr3.8/4, ML3.3/80(NEIC), Error ellipse: s-maj=2.7km s-min=1.4km az=201.0*
*IDC **07** 01:31:15.3±1.7, 34°.63N×119°.28W, h0km, mb3.2/1, mbtmp3.1/6, ML3.1/5, MS2.6/3, Error ellipse: s-maj=24.6km s-min=10.1km az=57.0*
ISC 07 01:31:10.1±1.1**, 34°.39N**±0°.02×**119°.99W**±0°.03**, h12**km±7km**, n95, σ0s.94**/108**, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJQ	Nojoqui County	0.22	313		Pg	01 31 18.6	+3.8
SBC	Santa Barbara	0.23	76		Pb	01 31 16.1	-0.1
SBC	Santa Barbara	0.23	76	P	Pb	01 31 16.2	-0.1
	baz=265,SNR=931						
SBC				S	Sb	01 31 20.4	+2.0
	baz=265						
FIGC	Figueroa Mtn.	0.34	360		Pb	01 31 17.5	-0.7
FIGC					Sb	01 31 22.4	-1.2
GATR	Gnd/Air Tx Cnt	0.46	292		Sb	01 31 27.0	+0.1
BSM	San Miguel Isl	0.46	221		Pb	01 31 20.6	+0.4
BSM					Sb	01 31 28.0	+1.1
SCZ2	Santa Cruz Isl	0.49	143		Pb	01 31 20.8	+0.2
SCZ2					Sb	01 31 28.6	+0.9
SCZ2	Santa Cruz Isl	0.49	143	P	Pb	01 31 20.8	+0.2
	baz=325,SNR=96						
SCZ2				S	Sb	01 31 28.7	+0.9
	baz=325						
PKM	Mcpherson Peak	0.52	16		Sb	01 31 28.5	-0.5
PKM	Mcpherson Peak	0.52	16	P	Pb	01 31 20.7	-0.7
	baz=198,SNR=586						
STCC	Santa Clara	0.67	97		Pn	01 31 25.0	-0.4
STCC					Sn	01 31 35.8	0.0
PMLM	Mount Lospe	0.72	315		Pb	01 31 23.9	-0.7
BCW	Bitter Crk WRg	0.73	40		Pb	01 31 24.9	+0.1
BCW	Bitter Crk WRg	0.73	40		Sb	01 31 35.2	+0.4
MPI	Mount Pinos, F	0.81	58		Pb	01 31 26.5	0.0
MPI					Pn	01 31 37.3	+10
CRGC	Crocker Grade	0.88	14		Pb	01 31 27.5	0.0
CRGC					Sb	01 31 39.6	+0.4
SMMC	Simmler	0.93	360		Pb	01 31 27.9	-0.3
SMMC	Simmler	0.93	360	P	Pb	01 31 28.1	-0.1
	baz=180,SNR=168						
SMMC				S	Sb	01 31 40.1	-0.3
	baz=180						
CARC	Carrizo Plain	0.93	7		Pb	01 31 28.0	-0.2
CARC					Sb	01 31 40.5	0.0
OSI	Osito Audit: C	1.07	77	P	Pg	01 31 30.2	-0.5
	baz=260,SNR=57						
OSI				S	Sb	01 31 45.1	+0.5
	baz=260						
SNCC	San Nicolas Is	1.20	161		Pg	01 31 32.4	-0.8
SNCC	San Nicolas Is	1.20	161	P	Pg	01 31 32.1	-1.1

baz=341,SNR=12
SNCC S Sb 01 31 48.6 +0.4
baz=341
SBI Santa Barbara 1.20 138 Pg 01 31 32.5 -0.7
ARVC Arvin 1.21 52 P Pg 01 31 32.5 -0.9
baz=234,SNR=99
ARVC S Sg 01 31 48.6 -0.4
baz=234
DECC Green Verdugo 1.37 95 P Pn 01 31 35.0 -0.2
baz=277,SNR=69
DECC S Sb 01 31 53.3 0.0
baz=277
PASC Pasadena Art C 1.51 98 Pn 01 31 36.4 -0.5
PASC IAML 01 31 57.8
comp=N,440nm,0.8s
PASC Pasadena Art C 1.51 98 Pn 01 31 36.6 -0.4
FMP Fort Macarthur 1.56 115 P Pn 01 31 36.9 -0.7
baz=297
VES Vestal, Richgr 1.63 27 P Pn 01 31 38.4 -0.2
baz=208,SNR=56
VES S Sn 01 31 59.0 -0.6
baz=208
CIS Catalina Islan 1.63 126 P Pn 01 31 38.0 -0.7
baz=308,SNR=104
CIAC Catalina I. Ai 1.64 126 Pn 01 31 38.1 -0.7
JNH Juniper Hills 1.68 87 Pn 01 31 39.6 +0.1
EDW2 Edwards Air Fo 1.72 73 P Pn 01 31 39.8 -0.1
baz=255,SNR=172
EDW2 S Sb 01 32 03.3 +0.1
baz=255
ISA Isabella, Lake 1.78 44 Pn Pn 01 31 41.0 +0.2
ISA IAML 01 32 06.3
comp=E,302nm,0.5s
ISA IAML 01 32 07.7
comp=N,293nm,0.6s
ISA Isabella, Lake 1.78 44 P Pn 01 31 40.9 +0.2
baz=226,SNR=107
ISA S Sn 01 32 03.2 -0.1
baz=226
CCAC Calif City Air 1.79 64 Pn 01 31 41.7 +0.8
SCI2 San Clemente I 1.84 139 P Pn 01 31 41.9 +0.3
baz=320,SNR=14
SCI2 S Sb 01 32 06.9 +0.1
baz=320
BFSC Mount Baldy Ra 1.93 94 P Pn 01 31 43.2 +0.2
baz=276,SNR=168
BFSC S Sn 01 32 08.3 +1.0
baz=276
PMPB Monarch Peak 1.94 340 Pn Pn 01 31 42.4 -0.6
BBGB Big Mountain B 2.35 339 Pn 01 31 48.3 -0.4
HAST Hastings Reser 2.37 328 Pn 01 31 47.4 -1.6
MURC Murrieta 2.45 108 P Pn 01 31 49.6 -0.4
baz=290,SNR=28
MURC S Sn 01 32 20.3 +0.5
baz=290
BBRC Big Bear Solar 2.54 92 P Pn 01 31 52.3 +0.9
baz=274,SNR=11
MPMC Manual Prospec 2.64 50 P Pn 01 31 52.8 +0.1
baz=232,SNR=116
MPMC Sb Sg 01 32 33.0 -2.0
baz=232
SAO San Andreas Ge 2.66 334 Pn Pn 01 31 51.8 -1.0
GSC Goldstone, Bar 2.77 70 Pn Pn 01 31 54.4 0.0
GSC Goldstone, Bar 2.77 70 P Pn 01 31 54.8 +0.3
baz=252,SNR=13
109C Camp Elliot, M 2.83 121 Pn Pn 01 31 54.1 -1.0
109C IAML 01 32 42.3
comp=N,94nm,0.6s
109C IAML 01 32 44.3
comp=E,73nm,0.8s
109C Camp Elliot, M 2.83 121 P Pn 01 31 54.4 -0.7
baz=303,SNR=6.7
MTRP Mission Trails 2.90 122 Pb 01 31 59.8 -2.0
QSM Queen of Sheba 3.00 57 Pn 01 31 57.8 +0.3
QSM IAML 01 32 48.3
comp=N,160nm,1.1s
QSM IAML 01 32 55.7
comp=E,134nm,0.9s
PFO Pinyon Flats O 3.03 104 Pn 01 31 58.3 +0.3
PFO IAML 01 32 36.7
comp=E,52nm,0.5s
PFO Pinyon Flats O 3.03 104 P Pn 01 31 58.1 +0.1
baz=286,SNR=15
PFO Pinyon Flats O 3.03 104 Pn Pn 01 31 58.3 +0.3
comp=E,4.9nm,0.3s,baz=270,slow=15,SNR=34
PFO LR LR 01 32 31.8
comp=E,43nm,19.2s,baz=292,slow=30
PFO Lg Lg 01 32 34.9
comp=E,18nm,0.3s,baz=258,slow=6.7,SNR=12
comp=E,12nm,0.3s
TPFO Pinon Flats 3.04 104 P Pn 01 31 58.3 +0.2
baz=286,SNR=22
HEC Hector,Ludlow 3.04 81 P Pn 01 31 59.0 +0.8
baz=263,SNR=15
PMD Palm Desert 3.09 103 Pn Pn 01 31 59.0 +0.3
PMD IAML 01 33 03.6
comp=N,52nm,0.9s
BAR Barrett 3.25 121 Pn 01 31 59.6 -1.4
BAR IAML 01 32 54.6
comp=E,48nm,0.5s
BAR IAML 01 32 57.0
comp=N,57nm,0.6s
GWY Greenwater Val 3.25 56 Pn 01 32 00.8 -0.3
GWY IAML 01 33 04.5
comp=N,62nm,1.2s
GWY IAML 01 33 06.0
comp=E,74nm,1.0s
OMMB Old Mammoth Mi 3.32 14 Pn 01 32 02.9 +0.7
OMMB IAML 01 32 55.3
comp=E,80nm,0.6s
OMMB IAML 01 33 00.1
comp=N,86nm,0.8s
MDPB Devils Postpil 3.32 13 Pn 01 32 03.3 +1.2
MDPB IAML 01 32 58.5
comp=N,76nm,0.9s
MDPB IAML 01 33 22.0
comp=E,85nm,1.0s
MONP2 Monument Peak 3.33 116 P Pn 01 32 02.0 -0.2
baz=298,SNR=16
BELC Belle Mtn. Jos 3.33 96 P Pn 01 32 02.5 +0.3
baz=278,SNR=10
GRAC Grapevine Rang 3.37 39 IAML 01 33 01.3
comp=N,96nm,0.8s
GRAC Grapevine Rang 3.37 39 P Pn 01 32 04.2 +1.6
baz=220
GMRC Granite Mounta 3.59 82 P Pn 01 32 05.7 0.0
baz=265,SNR=11
WCT Wildcat Mounta 3.64 48 Pn 01 32 07.3 +0.9
WCT IAML 01 33 18.0
comp=E,35nm,1.3s
CMB Columbia Colle 3.66 355 Pn Pn 01 32 06.4 -0.1
GMN Gold Mountain 3.66 37 Pn 01 32 08.2 +1.5
GMN IAML 01 33 09.7
comp=N,36nm,1.3s
IKP In-Ko-Pah, Jac 3.67 117 P Pn 01 32 07.5 +0.7
baz=300,SNR=19
BC3 Big Chuckawall 3.83 100 P Pn 01 32 09.0 0.0
baz=283,SNR=9.4
MZP Montezuma Peak 3.92 32 Pn 01 32 11.2 +0.8
TPNV Topopah Spring 3.97 49 Pn 01 32 13.0 +1.9
TPNV IAML 01 33 24.1
comp=N,46nm,1.1s
TPNV IAML 01 33 32.6
comp=N,53nm,1.1s
IRM Iron Mountain 4.01 92 P Pn 01 32 11.0 -0.5
baz=275,SNR=12
LHV Little Huntoon 4.04 17 Pn 01 32 13.1 +1.3
LHV IAML 01 33 42.6
comp=E,62nm,1.0s
LHV IAML 01 33 48.0
comp=N,41nm,1.3s
WAKR Walker 4.13 6 Pn 01 32 15.5 +2.2
WAKR IAML 01 33 34.2
comp=E,57nm,1.1s
WAKR IAML 01 33 51.6
comp=N,37nm,1.2s
ESJX Sierra Juarez 4.13 124 Pn 01 32 13.8 +0.5
NVAR Mina Array Bea 4.26 18 Pn 01 32 16.6 +1.7
NVAR Mina Array Bea 4.26 18 Pn Pn 01 32 18.2 +3.2
comp=N,0.5nm,0.3s,baz=207,slow=13,SNR=11
NVAR Lg Lg 01 33 18.8
comp=N,1.8nm,0.3s,baz=200,slow=30,SNR=5.9
comp=N,0.3nm,0.3s
NV11 Mina Array Sit 4.30 20 Pn Pn 01 32 17.0 +1.5
NV11 IAML 01 33 41.0
comp=E,22nm,1.2s
TPH Tonopah 4.31 30 Pn 01 32 15.3 -0.3
RYN Ryan 4.39 15 Pn 01 32 17.5 +0.7
V12A Nelson 4.42 71 IAML 01 33 43.5
comp=N,42nm,2.2s
V12A IAML 01 33 49.0
comp=E,21nm,2.2s
YERR Yerington 4.63 7 Pn Pn 01 32 22.2 +2.1
YERR IAML 01 33 33.2
comp=E,38nm,1.4s
YERR IAML 01 33 52.5
comp=N,32nm,0.9s
PDMCI Parker Dam,Lak 4.84 89 P Pn 01 32 22.7 0.0
baz=273,SNR=13
W13A Hualapai Mount 5.07 80 Pn 01 32 26.7 +0.5
W13A IAML 01 33 26.8
comp=E,15nm,0.6s
W13A IAML 01 34 00.0
comp=N,22nm,1.0s
ORV Oroville 5.30 347 IAML 01 34 25.7
comp=E,10nm,3.1s
ORV IAML 01 34 34.5
comp=N,9.4nm,4.1s
U15A North Rim 6.61 70 Pn 01 32 48.8 +1.5
X16A Lo Mia Camp, P 7.06 87 Pn 01 32 54.5 +1.0
ELK Elko 7.38 29 Pn Pn 01 32 59.5 +1.6
comp=N,0.2nm,0.3s,baz=206,slow=10,SNR=3.3
ELK Lg Lg 01 34 51.1
comp=N,0.1nm,0.3s,baz=308,slow=19,SNR=1.5
ELK LR LR 01 35 27.6
comp=N,58nm,20.7s,baz=68,slow=37
comp=N,0.5nm,0.3s
YBH Yreka Blue Hor 7.64 344 Pn Pn 01 33 08.9 +7.5
comp=N,0.1nm,0.3s,baz=151,slow=10,SNR=2.0
comp=N,1.0nm,0.7s
X18A Snowflake 8.29 86 Pn Pn 01 33 11.5 +1.1
LPIG La Paz 13.27 138 LR LR 01 38 37.3
comp=N,78nm,20.4s,baz=0.5,slow=34
TXAR Lajitas Array 14.75 105 Pn Pn 01 34 41.5 +2.8
baz=281,slow=14,SNR=9.1
comp=N,0.9nm,0.9s
ILAR Eielson Array 34.51 340 P P 01 38 04.6 +6.8
comp=N,0.2nm,0.7s,baz=156,slow=8.9,SNR=2.1
comp=N,0.2nm,0.7s

IDC ***07*** *01:34:16.2±0.9, 55°.34S×24°.28W, h0km, mb4.1/3, mbtmp4.1/3, MS3.2/4, Error ellipse: s-maj=45.3km s-min=30.6km az=111.0*
NEIC ***07*** *01:34:17.5±0.9, 55°.34S±0°.09×24°.3W±0°.1, h10km±1km, mb4.6/31, Error ellipse: s-maj=19.3km s-min=4.8km az=35.0*
ISC 07 01:34:17.1±0.4, 55°.32S±0°.08×24°.37W±0°.08, h10km, n61, σ0s69/50, mb4.5/18, MS3.2/4, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	7.08	273	Pn	Pn	01 35 60.0	-0.7
VNA1	Neumayer--Stat	16.93	161	⇓P	P	01 38 14.6	-1.1
	comp=Z,20nm,0.9s						
VNA3	Neumayer Olymp	17.20	164	⇓P	Pn	01 38 16.7	-0.4
	comp=Z,5.8nm,0.7s						
VNA2	Neumayer--Watz	17.32	161	⇓P	P	01 38 19.4	-0.6
	comp=Z,8.4nm,0.8s,baz=326,slow=16						
TROLL	Troll, Antarti	20.23	156	⇓P	Pn	01 38 53.0	-1.0
	comp=Z,589nm,0.5s						
EFI	East Falkland	20.25	266	P	P	01 38 52.4	+0.1
EFI				IAmb	IAmb	01 39 05.9	
	comp=Z,52nm,1.1s						
PMSA	Palmer Station	21.58	228	P	P	01 39 06.5	+0.1
PMSA				IAmb	IAmb	01 39 25.2	
	comp=Z,23nm,1.1s						
PMSA	Palmer Station	21.58	228	LR	LR	01 45 56.8	
	comp=Z,73nm,18.4s,baz=94,slow=32						
BELA	Belgrano 2	22.94	186	P	P	01 39 20.8	-0.1
MG04	Isla Riesco	27.38	255	P	P	01 40 04.1	+1.9
GO09	Cerro Castillo	28.49	258	P	P	01 40 12.6	+0.4
GO09				IAmb	IAmb	01 40 14.9	
	comp=Z,8.4nm,0.9s						
GO08	Villa O'Higgin	30.00	263	P	P	01 40 26.1	+0.6
GO08				IAmb	IAmb	01 40 38.7	
	comp=Z,5.7nm,0.9s						
ITQB	Itaqui	34.43	305	P	P	01 41 02.7	-1.9
ITAB	Concordia	34.53	313	P	P	01 41 04.3	-1.2
LR05	Currie	34.64	276	P	P	01 41 06.4	+0.1
LR05				IAmb	IAmb	01 41 19.3	
	comp=Z,5.2nm,0.8s						
QSPA	South Pole Qui	34.93	180	P	P	01 41 09.2	+0.4
QSPA				IAmb	IAmb	01 41 14.2	
	comp=Z,5.0nm,0.8s						
CFA	Coronel Fontan	38.78	289	LR	LR	01 57 04.8	
	comp=Z,39nm,20.0s,baz=328,slow=35						
MAW	Mawson	39.78	143	LR	LR	01 55 19.8	
	comp=Z,36nm,21.7s,baz=285,slow=32						
BOSA	Boshof	44.24	74	P	P	01 42 26.8	+0.2
BOSA	Boshof	44.24	74	P	P	01 42 26.5	-0.1
	comp=Z,1.8nm,0.7s,baz=226,slow=5.8,SNR=5.2						
	comp=Z,1.8nm,0.7s						
GO02	Mina Guanaco	44.62	294	P	P	01 42 29.7	-0.1
LVC	Limon Verde	46.36	296	P	P	01 42 43.6	-0.1
LVC				IAmb	IAmb	01 42 49.4	
	comp=Z,6.8nm,1.1s						
H04S2	CROZET ISLANDS	46.38	113	T	T	02 33 03.1	
	baz=230,slow=75,SNR=23						
H04S3	CROZET ISLANDS	46.38	113	T	T	02 33 04.8	
	baz=230,slow=75,SNR=18						
H04S1	CROZET ISLANDS	46.39	113	T	T	02 33 09.2	
	baz=230,slow=75,SNR=28						
VNDA	Vanda	47.36	182	P	P	01 42 51.4	+0.9
VNDA	Vanda	47.36	182	P	P	01 42 51.0	+0.5
	comp=Z,1.5nm,0.7s,baz=206,slow=2.7,SNR=7.2						
	comp=Z,1.5nm,0.7s						
PB07	IPOC Station P	47.59	296	P	P	01 42 52.6	-0.6
PB07				IAmb	IAmb	01 42 59.8	
	comp=Z,7.4nm,1.0s						
PTLB	Pontes e Lacer	47.93	312	P	P	01 42 54.9	-0.7
PTLB				IAmb	IAmb	01 42 59.2	
	comp=Z,3.9nm,0.9s						
H10N1	ASCENSION HYDR	48.00	13	T	T	02 34 44.0	
	baz=190,slow=71						
H10N3	ASCENSION HYDR	48.00	13	T	T	02 34 51.8	
	baz=190,slow=71						
H10N2	ASCENSION HYDR	48.02	13	T	T	02 34 44.7	
	baz=190,slow=71						
PB08	IPOC Station P	48.54	298	P	P	01 43 01.2	+0.4
PB08				IAmb	IAmb	01 43 09.6	
	comp=Z,4.1nm,1.1s						
PB11	IPOC Station P	49.12	298	P	P	01 43 05.1	+0.2
PB11				IAmb	IAmb	01 43 12.1	
	comp=Z,8.1nm,1.1s						
LPAZ	La Paz	51.30	302	P	P	01 43 22.2	+0.1
CASY	Casey	54.04	159	P	P	01 43 40.7	-0.3
CASY				IAmb	IAmb	01 43 42.2	
	comp=Z,11nm,1.1s						
SAML	Samuel	55.47	311	P	P	01 43 52.1	+0.2
ETMB	Extrema	56.04	308	P	P	01 43 56.5	+0.5
ETMB				IAmb	IAmb	01 43 59.5	
	comp=Z,5.0nm,0.9s						
DBIC	Dimbokro	63.87	22	P	P	01 44 49.8	+0.1
DBIC				IAmb	IAmb	01 45 05.0	
	comp=Z,5.0nm,1.1s						
ABPO	Ambohimpanom	64.12	86	P	P	01 44 50.9	-0.9
ABPO				IAmb	IAmb	01 44 57.5	
	comp=Z,13nm,1.1s						
RPN	Rapa Nui	65.36	258	LR	LR	02 11 44.1	
	comp=Z,14nm,19.8s,baz=334,slow=34						
RER	Riviere de l'E	67.29	95	P	P	01 45 11.0	-1.1
TOA0	Torodi Ar. Sit	71.66	27	P	P	01 45 39.3	+0.5
TORD	Torodi Ar. Bea	71.66	27	P	P	01 45 39.2	+0.4
TORD	Torodi Ar. Bea	71.66	27	P	P	01 45 39.6	+0.8
	comp=Z,1.1nm,0.4s,baz=205,slow=5.4,SNR=13						
	comp=Z,1.1nm,0.4s						
BAUV	El Baul	73.64	315	P	P	01 45 49.6	-1.0
BAUV				IAmb	IAmb	01 45 58.5	
	comp=Z,7.4nm,1.1s						
BIM	Bigot	76.15	323	P	P	01 46 06.2	+1.1
ILAM	Ilet Lapin Mar	76.32	324	P	P	01 46 06.3	+0.3
SMRT	St. Maarten	80.12	323	P	P	01 46 27.6	+0.6
COVE	Coope Vega, Sa	82.59	301	P	P	01 46 41.4	+1.1
BBOO	Buckleboo	90.63	164	P	P	01 47 19.7	+0.1
ASAR	Alice Springs	99.17	160	P	Pdif	01 47 58.8	0.0
FINES	FINESS Array B	123.01	26	PKP	PKiKP	01 53 12.5	+0.1
	comp=Z,3.1nm,0.8s,baz=202,slow=0.7,SNR=3.5						
CMAR	Chiang Mai Arr	123.79	107	PKP	PKiKP	01 53 15.6	+0.3
	comp=Z,1.1nm,0.3s,baz=242,slow=3.9,SNR=1.8						
BVAR	Borovoye Array	133.05	55	PKP	PKiKP	01 53 32.7	0.0
	comp=Z,0.7nm,0.4s,baz=253,slow=1.5,SNR=5.4						
MKAR	Makanchi Array	135.14	69	PKP	PKPdf	01 53 36.6	+0.9
	comp=Z,0.1nm,0.5s,baz=260,slow=4.0,SNR=1.9						
KURBB	Kurchatov Arra	135.55	62	PKP	PKPdf	01 53 35.5	-0.8
	comp=Z,0.3nm,0.6s,baz=228,slow=2.7,SNR=4.8						
INK	Inuvik	146.25	321	PKPbc	PKPbc	01 53 56.1	0.0
	comp=Z,2.1nm,0.8s,baz=56,slow=2.4,SNR=8.1						
NRIK	Noril'sk	147.45	38	PKPbc	PKPbc	01 54 00.1	+0.5
	comp=Z,0.7nm,0.3s,baz=80,slow=4.3,SNR=3.6						
SONM	Songino Array	149.07	83	PKPbc	PKPbc	01 54 04.7	0.0
	comp=Z,1.1nm,0.8s,baz=247,slow=2.3,SNR=8.4						
ILAR	Eielson Array	150.81	312	PKPbc	PKPbc	01 54 08.6	+0.4
	comp=Z,0.7nm,0.6s,baz=135,slow=1.9,SNR=8.5						

OSPL ***07*** *01:46:57.3±2.0, 20°.40N×70°.71W, h36km±66km, ML3.2*
SDD ***07*** *01:47:00.4±2.6, 20°.06N×70°.66W, h23km±262km, MD3.6, ML3.0, MW3.4*
ISC 07 01:47:01.2±2.1, 20°.00N±0°.09×70°.70W±0°.04, h26km±16km, n20, σ1s04/28, 5C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOPP1	Punta Rusia, P	0.49	253	eS	Sb	01 47 19.3	+1.1
MCDR	Montecristi	0.91	263	eSg	Sn	01 47 31.3	+0.8
MCDR				IAML		01 48 11.3	
	comp=N,160nm,0.9s						
LONA1	Toro Cenizo, N	1.00	128	eS	Sn	01 47 33.4	+0.6
LONA1				IAML		01 47 39.7	
	comp=Z,1μm,1.4s						
LODA1	ITESIL, Dajabo	1.05	245	eS	Sb	01 47 32.7	-1.3
LODA1				IAML		01 47 36.0	
	comp=Z,928nm,0.7s						
SDDR	Presa de Saban	1.15	209	↑ePg	Pn	01 47 20.5	-1.2
SDDR				eSg	Sn	01 47 35.3	-1.4
SDDR				IAML		01 47 37.2	
	comp=N,397nm,0.7s						
SDDR	Presa de Saban	1.15	209	*i* P	Pn	01 47 20.5	-1.2
SDDR				eS	Sn	01 47 36.8	+0.2
SDDR				IAML		01 47 37.1	
	comp=Z,214nm,0.5s						
ABDR	Alto Bandera	1.18	177	ePg	Pn	01 47 21.5	-0.9
ABDR				eSg	Sn	01 47 37.5	-0.4
ABDR				IAML		01 47 38.7	
	comp=N,340nm,0.5s						
DR08	Loma La Naviza	1.21	148	⇓ePg	Pn	01 47 21.5	-1.1
DR08				eSg	Sn	01 47 38.3	+0.1
DR08				IAML		01 47 41.3	
	comp=N,2μm,0.2s						
LOSC1	San Cristbal	1.68	160	eS	Sn	01 47 50.9	+1.3
LOSC1				IAML		01 47 59.0	
	comp=Z,199nm,0.4s						
SDD	Santo Domingo	1.70	154	⇓ePg	Pn	01 47 29.5	+0.2
SDD				⇓eSg	Sn	01 47 51.6	+1.4
SDD				IAML		01 47 55.1	
	comp=N,43nm,1.1s						
SDD	Santo Domingo	1.70	154	*i* P	Pn	01 47 29.2	0.0
SDD				eS	Sb	01 47 52.3	-0.5
HATOM	Hato Mayor del	1.73	134	↑ePg	Pn	01 47 29.4	-0.3
HATOM				eSg	Sb	01 47 52.9	-0.8
HATOM				IAML		01 47 54.0	
	comp=N,128nm,0.2s						
MIDR	Miches	1.86	123	↑ePg	Pn	01 47 31.2	-0.2
MIDR				⇓eSg	Sb	01 47 56.3	-0.9
MIDR				IAML		01 48 00.1	
	comp=N,61nm,0.3s						
PODR	Polo	1.90	197	↑ePg	Pn	01 47 33.7	+1.5
PODR				IAML		01 48 02.5	
	comp=N,176nm,0.5s						
PODR	Polo	1.90	197	*i* P	Pn	01 47 33.8	+1.5
PODR				eS	Sb	01 48 00.6	+1.8
PAPH	Port-au-Prince	2.11	226	⇓eSg	Sb	01 48 04.1	-0.4
PAPH				IAML		01 48 06.9	
	comp=N,130nm,1.0s						
PAPH	Port-au-Prince	2.11	226	eS	Sn	01 48 00.3	+0.1
PAPH				IAML		01 48 09.1	
	comp=Z,40nm,0.6s						
LOPE2	Hotel El Peder	2.19	207	*i* P	Pn	01 47 35.2	-0.7
LOPE2				IAML		01 48 16.5	
	comp=Z,85nm,0.8s						
HIDR	Higuey Centro	2.34	126	ePg	Pn	01 47 38.7	+0.7
AOPR	Arecibo Observ	4.08	113	ePg	Pn	01 48 06.2	+4.2

IDC ***07*** *02:01:40.9±0.8, 34°.33N×45°.80E, h0km, mb4.0/19, mbtmp3.9/30, ML3.5/10, MS3.3/11, Error ellipse: s-maj=15.9km s-min=11.0km az=162.0*
ISN ***07*** *02:01:42.7±0.3, 34°.41N×45°.77E, h11km±999km, ML3.8*
TEH ***07*** *02:01:43.6, 34°.41N×45°.79E, h8km±27km, ML3.9*
DSN ***07*** *02:01:43.2±0.7, 34°.02N×45°.50E, h15km, mb4.5/2, Error ellipse: s-maj=24.3km s-min=4.3km az=57.0*
NEIC ***07*** *02:01:46.4±1.9, 34°.56N±0°.08×45°.8E±0°.1, h10km±2km, mb4.2/26, Error ellipse: s-maj=17.4km s-min=12.2km az=236.0*
AFAD ***07*** *02:01:51.5±0.0, 34°.59N×45°.10E, h7km±3km, MW4.1*
GII ***07*** *02:02:23.8±0.3, 34°.69N×45°.98E, h10km, confirmed*
ISC 07 02:01:44.2±0.9, 34°.42N±0°.03×45°.81E±0°.03, h13km±6km, n191, σ1s88/191, mb4.0/36, MS3.1/6, 1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	Ghasr-e-Shirin	0.20	295	Pg	Pg	02 01 47.7	-0.9
KGS1				Sg	Sg	02 01 51.5	-0.2
IDHR	Dehrash	0.55	60	Pg	Pg	02 01 54.2	-0.8
IGHG	Ghaleghazi	0.63	98	Pg	Pb	02 01 56.2	-1.1
IGHG				Sg	Sn	02 02 07.1	-2.2
ILBA	Ilam Banvizeh	0.86	157	Pg	Pg	02 02 00.0	-0.8
KCHF	Cheshme Sefid,	1.03	98	Pg	Pg	02 02 03.0	-1.0
ILIN	Lien	1.07	62	Pg	Pb	02 02 04.6	-0.2
IBDR	Badra	1.31	176	ePn	Pn	02 02 08.5	+0.3
IBDR				eSn	Sg	02 02 27.5	+1.0
IBDR				AML	AML	02 02 32.1	
	comp=E,2μm,0.4s						
IKOM	Komasi	1.43	99	Pg	Pg	02 02 11.4	-0.3
BHD	Baghdad	1.65	226	ePn	Pn	02 02 13.0	+0.1
BHD				eSn	Sn	02 02 35.0	+0.9
BHD				AML	AML	02 02 46.3	
	comp=E,1μm,0.5s						
IBZA	Bozab	1.69	88	Pg	Pg	02 02 15.9	-0.9
SDS1	Sardasht. Az.	1.74	351	Pg	Pn	02 02 16.2	+1.9
IKFM	Kafar-mosalman	1.92	117	Pn	Pn	02 02 18.7	-0.3
IALM	Almaboliaq	1.99	77	Pn	Pb	02 02 20.3	-0.2
HSAM	Samen	2.32	94	Pn	Pb	02 02 24.3	-1.8
MAHB	Mahabad	2.34	358	Pn	Pn	02 02 24.7	+2.1
RAFI	Al-Rafai	2.70	174	ePn	Pn	02 02 28.0	+0.6
RAFI				eSn	Sn	02 03 01.0	+1.0
HAGD	Aghdareh	2.77	81	Pn	Pb	02 02 31.0	-2.8
IHSH	Hashtrud	3.11	22	Pn	Pn	02 02 35.7	+2.4
IAZR	Azarshahr	3.25	2	Pn	Pn	02 02 36.7	+1.5
CUKT	Cukurca	3.34	328	P	Pn	02 02 38.1	+1.8
CUKT				S	Sn	02 03 15.4	-0.4
IRAZ	Razeghan	3.52	73	Pn	Pn	02 02 41.2	+2.3
HAKT	HAKKARI	3.56	332	P	Pn	02 02 42.2	+2.7
HAKT				S	Sn	02 03 19.3	-2.3
ISRB	Sarab	3.71	23	Pn	Pn	02 02 43.8	+2.3
ITBZ	Tabriz	3.81	4	Pn	Pn	02 02 45.0	+2.2
ISHB	Shabestar	3.86	358	Pn	Pn	02 02 44.3	+0.8
IHRS	Heris	4.01	14	Pn	Pn	02 02 48.2	+2.6
SIRN	Sirnak	4.12	319	P	Pn	02 02 47.6	+0.7
SIRN				S	Sn	02 03 33.0	-2.2
IMRD	Marand	4.28	359	Pn	Pn	02 02 50.8	+1.5
PERV	Siirt/Pervari-	4.40	324	P	Pn	02 02 53.3	+2.4
PERV				S	Sn	02 03 38.4	-3.6
LHJ2	Lahijan - Gila	4.41	50	Pn	Pn	02 02 54.0	+3.2
GEVA	Gevas	4.47	331	Pn	Pn	02 02 52.5	+0.7
GEVA	Gevas	4.47	331	P	Pn	02 02 54.0	+2.2
GEVA				S	Sn	02 03 40.9	-3.0
OZAP	Van, Ozalp-Mer	4.48	341	P	Pn	02 02 53.7	+1.8
TVAN	Van	4.53	335	P	Pn	02 02 55.2	+2.5
TVAN				S	Sn	02 03 43.7	-1.8
IPIR	Pirpir	4.58	111	Pn	Pn	02 02 54.0	+0.5
JHBN	Jahan bin	4.62	117	Pn	Pn	02 02 54.2	+0.2
GAS1	Astara - Iran	4.65	31	Pn	Pn	02 02 56.9	+2.8
MIDY	Mardin/Midyat-	4.66	311	P	Pn	02 02 55.5	+1.1
QAMS	Qamsar	4.69	97	Pn	Pn	02 02 56.4	+1.5
KLST	Kelardasht - M	4.77	62	Pn	Pn	02 02 59.3	+3.2
ZNGN	Zangian	4.81	117	Pn	Pn	02 02 57.1	+0.4
IKLH	Kolahrood	4.92	101	Pn	Pn	02 03 00.1	+1.9
CLDR	Caldiran	4.95	343	P	Pn	02 03 00.2	+1.7
BLIS	Bitlis-Merkez	4.97	324	P	Pn	02 03 00.3	+1.5

ADCV	BITLIS_Adilcev	5.03	331	P	Pn	02 03 03.7	+4.1
BTMN	Batman	5.05	315	P	Pn	02 03 02.3	+2.6
GURO	Guroymak-BITLI	5.12	325	Pn	Pn	02 03 02.2	+1.4
GURO				Sn	Sn	02 04 01.2	+1.4
IDMV	Damavand	5.24	76	Pn	Pn	02 03 03.9	+1.4
KRSH	Karshahi	5.26	93	Pn	Pn	02 03 04.2	+1.5
ISFB	Sefidab	5.32	89	Pn	Pn	02 03 04.3	+0.9
MUSM	Mu-Merkez	5.51	322	P	Pn	02 03 07.7	+1.6
IGAR	Gharneh	5.59	109	Pn	Pn	02 03 08.2	+1.0
IGDI	IGDIR	5.61	346	P	Pg	02 03 28.4	-3.1
IGDI				S	Sb	02 04 28.3	-0.9
IZEF	Zefreh	5.64	104	Pn	Pn	02 03 09.8	+1.7
KOTA	Agri, Merkez-K	5.76	340	P	Pn	02 03 11.9	+2.4
GNI	Garni	5.78	352	Pn	Pn	02 03 12.0	+2.2
GNI	Garni	5.78	352	P	Pn	02 03 14.0	+4.2
GNI	Garni	5.78	352	Pn	Pn	02 03 12.8	+3.0
	comp=E,0.4nm,0.3s,baz=39,slow=3.4,SNR=7.3						
GNI				Lg	Lg	02 04 48.7	
	comp=E,0.3nm,0.3s,baz=302,slow=19,SNR=3.6						
	comp=E,6.2nm,0.8s						
IFIR	Firoozkooh	5.83	76	Pn	Pn	02 03 11.4	+0.9
VRTB	Varto-Mus	5.88	325	P	Pn	02 03 09.4	-1.8
VRTB				S	Sn	02 04 20.6	+2.0
HANI	Diyarbakir_Han	5.91	314	P	Pn	02 03 12.2	+0.7
SLHN	Bingol, Solhan	5.94	321	P	Pn	02 03 12.9	+0.9
KLNJ	Kolanjah	5.94	123	Pn	Pn	02 03 12.0	-0.3
ILAS	Lasjerd	5.95	79	Pn	Pn	02 03 13.7	+1.4
IRAM	Ramesheh	6.10	113	Pn	Pn	02 03 14.5	+0.2
GAZ	Gaziantep	7.51	294	Pn	Pn	02 03 36.8	+3.3
ARPR	Arapgir-MALATY	7.60	310		Pn	02 03 36.5	+1.8
ASF	Jabal al Asfar	7.79	256	Pn	Pn	02 03 36.1	-1.3
	comp=E,1.0nm,0.3s,baz=123,slow=6.0,SNR=10						
ASF				Lg	Lg	02 05 48.8	
	comp=E,0.9nm,0.3s,baz=262,slow=7.4,SNR=2.8						
	comp=E,2.4nm,0.4s						
ASF	Jabal al Asfar	7.79	256	P	Pg	02 04 22.3	+9.0
HSUJ	Al Zarqa	8.38	257	P	Pg	02 04 28.7	+4.1
KSHT	Keshet	8.46	263	P	Pg	02 04 29.8	+3.7
GEM	Giv'at Ha'Em	8.53	265	P	Pg	02 04 26.9	-0.5
GEM	Giv'at Ha'Em	8.53	265	P	Pg	02 04 30.0	+2.5
SHMJ	Saham	8.55	261	P	Pg	02 04 28.7	+0.8
MMA0B	Mount Meron ar	8.78	264	P	Pg	02 04 33.8	+1.5
MMAI	Mount Meron Ar	8.78	264	Pn	Pn	02 03 47.0	-4.0
	comp=E,0.9nm,0.3s,baz=82,slow=17,SNR=6.5						
MMAI				Lg	Lg	02 06 22.5	
	comp=E,2.1nm,0.3s,baz=107,slow=36,SNR=2.3						
MMAI				LR	LR	02 08 14.5	
	comp=E,199nm,18.2s,baz=49,slow=45						
	comp=E,0.8nm,0.5s						
SWQJ	Swaqa	8.79	252	P	Pg	02 04 35.8	+3.3
QRNJ	Al-Qirein	8.81	259	P	Pg	02 04 33.0	+0.2
HMDT	Nahal Hemdat	8.87	259	P	Pg	02 04 34.7	+0.7
HMDT	Nahal Hemdat	8.87	259	P	Pg	02 04 35.1	+1.1
MMLI	Mount Malkishu	8.90	260	P	Pg	02 04 35.7	+1.0
DSI	Dead Sea	9.21	255	P	Pn	02 04 39.5	+43
OFRI	`Ofer	9.21	262	P	Pn	02 04 39.1	+42
MSBI	Mazada	9.32	253	P	Pn	02 04 41.1	+43
KBZ	Khabaz	9.56	347	Pn	Pn	02 04 03.7	+2.1
	comp=E,1.0nm,0.9s,baz=186,slow=14,SNR=2.4						
KVAR	Kislovodsk Arr	9.82	347	Pn	Pn	02 04 07.6	+2.4
	baz=164,slow=19						
	comp=E,0.6nm,0.4s						
PRNI	Paran	9.99	249	P	Pn	02 04 50.7	+43
HRFI	Mount Harif	10.12	247	P	Pn	02 04 52.2	+43
MBRI	Mt Berech	10.33	246	P	Pn	02 04 55.4	+43
EIL	Elat	10.36	246	Pn	Pn	02 04 10.9	-1.6
	comp=E,0.4nm,0.3s,baz=86,slow=7.4,SNR=6.8						
EIL				Lg	Lg	02 07 12.5	
	comp=E,0.2nm,0.3s,baz=172,slow=23,SNR=2.6						
EIL				LR	LR	02 09 15.9	
	comp=E,188nm,19.4s,baz=64,slow=44						
	comp=E,1.7nm,0.6s						
EIL	Elat	10.36	246	P	Pn	02 04 55.2	+43
GEYT	Alibeck	10.54	67	Pn	Pn	02 04 14.7	-0.3
	comp=E,0.1nm,0.3s,baz=256,slow=16,SNR=2.1						
GEYT				LR	LR	02 08 53.2	
	comp=E,259nm,18.4s,baz=263,slow=41						
	comp=E,0.8nm,0.6s						
BRTR	Keskin Array B	11.07	302	Pn	Pn	02 04 22.1	-0.2
	baz=131,slow=17						
BRTR				LR	LR	02 09 05.3	
	comp=E,74nm,19.4s,baz=116,slow=40						
SHME	Shamm	12.22	130	P	Pn	02 04 35.4	-2.6
NAZ	Nazwa, Dubai	12.71	135	P	Pn	02 04 42.5	-2.2
MSFE	Esma-Masafi	12.73	132	P	Pn	02 04 42.9	-2.1
ASUD	Al Ashush, Dub	12.80	137	P	Pn	02 04 44.5	-1.4
UOSS	Minazif	13.06	134	Pn	Pn	02 04 52.7	+3.2
HATD	Hatta, Dubai	13.11	134	P	Pn	02 04 47.9	-2.3
ASHO	Ashiyiah	13.17	135	P	Pn	02 04 48.9	-2.2
ALNE	Al Ain	13.48	137	P	Pn	02 04 53.1	-2.1
SOHO	SOHO	13.87	135	P	Pn	02 04 56.9	-3.7
KARP	Karpathos	15.33	280	Pn	Pn	02 05 23.6	+3.3
KARP				IAmb	IAmb	02 05 34.3	
	comp=Z,24nm,0.8s						
WSAR	Wadi Sarin	15.81	131	Pn	Pn	02 05 23.2	-3.4
	comp=Z,0.8nm,0.3s,baz=338,slow=8.3,SNR=11						
	comp=Z,3.0nm,0.4s						
RDO	Rodhopi	17.36	299	P	P	02 05 49.0	+1.6
RDO				IAmb	IAmb	02 05 53.5	
	comp=Z,6.9nm,0.9s						
BELG	Belogornoye	18.01	4	P	Pn	02 05 53.2	-0.9
	comp=Z,0.4nm,0.3s,baz=180,slow=19,SNR=2.0						
BELG				LR	LR	02 13 08.5	
	comp=Z,64nm,19.2s,baz=350,slow=38						
	comp=Z,5.3nm,0.8s						
ABKAR	Akbulak array	18.13	31	P	Pn	02 05 56.2	+0.5
ABKAR	Akbulak array	18.13	31	P	Pn	02 05 56.3	+0.6
AKTO	Aktyubinsk	18.32	25	P	Pn	02 05 57.5	-0.5
	comp=Z,0.7nm,0.3s,baz=213,slow=9.6,SNR=13						
	comp=Z,6.3nm,0.8s						
SHAO	Shalim	18.54	149	P	P	02 05 57.2	-3.3
MLR	Muntele Rosu	18.77	312	P	P	02 06 04.1	+1.0
MLR	Muntele Rosu	18.77	312	P	P	02 06 02.1	-1.0
	baz=137,slow=12,SNR=1.7						
	comp=Z,0.9nm,0.8s						
SIMJ	Simiganj	19.10	70	P	Pn	02 06 10.5	+2.9
KBL	Kabul	19.15	83	P	Pn	02 06 10.5	+2.1
AGG	Agios Georgios	19.36	291	P	Pn	02 06 13.3	+2.6
AGG				IAmb	IAmb	02 06 56.1	
	comp=Z,6.9nm,1.2s						
AKASG	Malin Array Be	20.27	328	P	P	02 06 17.9	-1.4
	comp=Z,3.3nm,0.7s,baz=140,slow=9.8,SNR=12						
	comp=Z,3.3nm,0.7s						
AKBB	Malin Array Si	20.27	328	P	P	02 06 17.6	-1.7
AKBB				IAmb	IAmb	02 06 23.5	
	comp=Z,9.2nm,0.9s						
KIEV	Kiev	20.27	328	P	P	02 06 16.8	-2.5
KIEV				IAmb	IAmb	02 06 23.6	
	comp=Z,8.9nm,1.0s						
KIEV	Kiev	20.27	328	P	P	02 06 19.9	+0.6
BURAR	Bucovina Array	20.30	317	P	P	02 06 20.7	+0.9
BURAR				IAmb	IAmb	02 06 29.7	
	comp=Z,9.7nm,0.7s						
BUR08	Bucovina Ar. S	20.32	317	P	P	02 06 21.8	+1.7
BUR08				IAmb	IAmb	02 06 29.8	
	comp=Z,7.6nm,0.8s						
DJES	Djerdap	20.60	307	P	P	02 06 23.6	+0.6
BTK	Batken	20.66	67	P	Pn	02 06 27.0	+0.9
KKAR	Karatay Array	21.07	58	P	P	02 06 29.5	+1.5
KOLS	Kolonicke sedl	22.66	317	eP	P	02 06 48.7	+3.6
KWP	Kalwaria Pacla	22.79	319	P	P	02 06 47.4	+0.9
KWP				IAmb	IAmb	02 06 57.0	
	comp=Z,21nm,1.0s						
ARU	Arti	23.68	18	LR	LR	02 18 12.0	
	comp=Z,65nm,18.5s,baz=234,slow=42						
AAK	Ala-Archa	23.81	61	LR	LR	02 18 17.6	
	comp=Z,54nm,19.9s,baz=249,slow=42						
FRU1	Bishkek	23.94	61	P	P	02 07 01.2	+3.1
VYHS	Vyhne	24.46	313	eP	P	02 07 06.2	+3.4
OJC	Ojcow	24.70	318	P	P	02 07 06.0	+1.1
OJC				IAmb	IAmb	02 07 11.8	
	comp=Z,8.8nm,1.0s						
SUW	Suwalki	25.23	328	P	P	02 07 09.7	0.0
MODS	Modra-Piesok	25.36	312	eP	P	02 07 13.0	+2.0
ZST	Bratislava	25.40	311	eP	P	02 07 15.4	+4.1
MAUC	Maruska	25.44	314	eP	P	02 07 12.9	+1.3
BRVK	Borovoye	25.48	36	P	P	02 07 13.1	+1.2
BRVK				IAmb	IAmb	02 07 13.8	
	comp=Z,8.1nm,1.1s						
BVAR	Borovoye Array	25.51	36	P	P	02 07 12.2	0.0
	comp=Z,1.9nm,0.5s,baz=239,slow=6.9,SNR=10						
BVAR				LR	LR	02 19 00.8	
	comp=Z,43nm,21.9s,baz=238,slow=41						
	comp=Z,1.9nm,0.5s						
RONA	Rosalia, Austr	25.73	310	eP	P	02 07 14.6	+0.3
	comp=Z,1.3nm,0.5s						
CONA	Conrad Observa	26.08	310	eP	P	02 07 17.1	-0.5
	comp=Z,0.7nm,0.4s						
MOA	Molln	27.07	309	eP	P	02 07 26.8	+0.3
	comp=Z,1.4nm,0.6s						
MURB	Monte Urbino	27.24	299	P	P	02 07 29.1	+1.1
BIOA	Bad Ischl, Aus	27.43	309	iP	P	02 07 29.8	+0.2
	comp=Z,0.9nm,0.3s						
KBA	Koelnbreinsper	27.45	307	eP	P	02 07 30.3	+0.3
	comp=Z,2.4nm,0.7s						
KHC	Kasperske Hory	27.92	312	eP	P	02 07 38.9	+4.9
ZCCA	Zocca	28.50	301	P	P	02 07 42.5	+3.2
KURBB	Kurchatov Arra	28.74	46	P	P	02 07 42.1	+0.9
	comp=Z,1.6nm,0.3s,baz=254,slow=9.2,SNR=9.7						
KURBB				LR	LR	02 21 23.3	
	comp=Z,54nm,20.2s,baz=173,slow=41						
	comp=Z,1.6nm,0.3s						
KURK	Kurchatov	28.83	46	P	P	02 07 43.2	+1.2
KURK				IAmb	IAmb	02 07 45.3	
	comp=Z,8.3nm,1.4s						
SQTA	Sankt Quirin	28.89	307	eP	P	02 07 42.2	-0.6
	comp=Z,1.0nm,0.4s						
MOTA	Moosalm	28.99	307	eP	P	02 07 43.0	-0.7
	comp=Z,1.3nm,0.5s						
FETA	Feichten	29.16	306	eP	P	02 07 45.3	0.0
	comp=Z,0.9nm,0.5s						
RETA	Reutte	29.25	307	eP	P	02 07 44.3	-1.6
	comp=Z,0.3nm,0.2s						
DAVA	Damuels	29.79	306	eP	P	02 07 49.8	-1.0
	comp=Z,0.7nm,0.2s						
FINES	FINESS Array B	29.84	341	P	P	02 07 50.4	-0.5
FINES	FINESS Array B	29.84	341	P	P	02 07 49.0	-1.9
	comp=Z,4.5nm,0.9s,baz=142,slow=7.0,SNR=6.0						
	comp=Z,4.5nm,0.9s						
MK31	Makanchi Array	30.06	55	P	P	02 07 53.9	+0.8
MKAR	Makanchi Array	30.06	55	P	P	02 07 53.8	+0.8
MKAR	Makanchi Array	30.06	55	P	P	02 07 51.8	-1.3
	comp=Z,0.6nm,0.6s,baz=252,slow=6.3,SNR=8.7						
	comp=Z,0.6nm,0.6s						
BNI	Bardonecchia	31.63	301	P	P	02 08 06.8	-0.2
HFS	Hagfors	33.11	331	P	P	02 08 18.4	-1.3
	comp=Z,2.2nm,0.4s,baz=122,slow=10,SNR=15						
	comp=Z,2.2nm,0.4s						
WMQ	Urumqi	33.52	61	eP	P	02 08 28.1	+4.6
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
ZALV	Zalesovo Beam	33.53	42	P	P	02 08 22.9	-0.5
	comp=Z,1.8nm,0.7s,baz=260,slow=8.3,SNR=8.2						
	comp=Z,1.8nm,0.7s						
NC602	NORSAR Array S	34.33	331	eP	P	02 08 31.9	+1.5
NOA	NORSAR Array B	34.64	331	P	P	02 08 33.1	+0.1
	comp=Z,0.6nm,0.7s,baz=125,slow=8.8,SNR=1.9						
	comp=Z,0.6nm,0.7s						
DOMB	Dombas	36.05	331	eP	P	02 08 46.5	+1.3
KMBO	Kilima Mbogo	36.26	195	LR	LR	02 24 41.1	
	comp=Z,28nm,19.8s,baz=82,slow=38						
NSS	Namsos	36.46	336	eP	P	02 08 48.8	+0.3
VADS	Vadso	36.87	351	eP	P	02 08 52.2	+0.3
KTK1	Kautokeino	36.88	347	eP	P	02 08 52.3	+0.3
ARA0	ARCESS Array S	36.92	348	eP	P	02 08 56.2	+3.7
ARCES	ARCESS Array B	36.92	348	P	P	02 08 52.3	-0.1
	comp=Z,3.0nm,0.8s,baz=146,slow=8.8,SNR=8.8						
	comp=Z,3.0nm,0.8s						
KONS	Konsvik	37.40	339	eP	P	02 08 58.2	+1.8
FAUS	Fauske	37.41	341	eP	P	02 08 57.3	+0.8
JETT	Jettan, Norway	37.89	346	eP	P	02 09 00.9	+0.2
HAMF	Hammerfest	38.20	348	eP	P	02 09 05.3	+2.1
TRO	Tromso	38.26	345	eP	P	02 09 03.6	-0.1
EKA	Eskdalemuir Ar	39.48	317	P	P	02 09 13.4	-0.7
	comp=Z,0.6nm,0.4s,baz=102,slow=9.3,SNR=7.9						
	comp=Z,0.6nm,0.4s						
ESDC	Sonseca Array	39.66	293	P	P	02 09 15.1	-0.8
	comp=Z,0.7nm,0.8s,baz=69,slow=8.5,SNR=4.6						
	comp=Z,0.7nm,0.8s						
NRIK	Noril'sk	41.84	21	P	P	02 09 32.7	-0.8
	comp=Z,1.2nm,0.4s,baz=228,slow=4.1,SNR=5.3						
	comp=Z,1.2nm,0.4s						
TORD	Torodi Ar. Bea	45.15	253	P	P	02 09 59.0	-1.7
	comp=Z,0.6nm,0.6s,baz=41,slow=9.5,SNR=3.7						
	comp=Z,0.6nm,0.6s						
SPA0	Spitsbergen Ar	45.65	352	eP	P	02 10 04.9	+0.9
SPITS	Spitsbergen Ar	45.65	352	P	P	02 10 04.1	+0.1
	comp=Z,9.2nm,0.8s,baz=128,slow=9.3,SNR=15						
	comp=Z,9.2nm,0.8s						
KBS	Kingsbay	46.78	351	eP	P	02 10 14.2	+1.4
CMAR	Chiang Mai Arr	49.62	95	P	P	02 10 34.5	-1.2
	comp=Z,0.8nm,0.4s,baz=292,slow=7.3,SNR=4.0						
	comp=Z,0.8nm,0.4s						
HHC	Hu-ho-hao-te	51.38	62	⇓P	P	02 10 50.3	+1.5
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,270nm,5.8s						
DBIC	Dimbokro	54.17	251	P	P	02 11 08.1	-1.5
	comp=Z,1.3nm,0.6s,baz=72,slow=9.6,SNR=1.5						
DBIC				LR	LR	02 34 55.1	
	comp=Z,45nm,19.4s,baz=3.0,slow=37						
	comp=Z,1.3nm,0.6s						
KSRS	Korea Array	64.47	61	P	P	02 12 18.3	-2.2
	comp=Z,0.5nm,0.5s,baz=291,slow=7.3,SNR=2.7						
	comp=Z,0.5nm,0.5s						
ILAR	Eielson Array	80.63	5	P	P	02 13 55.2	-1.1
	comp=Z,0.6nm,0.8s,baz=326,slow=4.0,SNR=7.4						
	comp=Z,0.6nm,0.8s						
YKA	Yellowknife Ar	82.14	351	P	P	02 14 02.2	-2.1
	comp=Z,0.5nm,0.7s,baz=15,slow=5.4,SNR=5.5						
	comp=Z,0.5nm,0.7s						
BCAR	Beaver Creek A	82.66	3	P	P	02 14 08.8	+1.7
L27K	Beaver Creek,	82.66	3	P	P	02 14 09.7	+2.6
L27K				IAmb	IAmb	02 14 50.3	
	comp=Z,5.6nm,1.4s						
M31M	Drury Creek, Y	83.71	0	P	P	02 14 14.8	+2.2
M31M				IAmb	IAmb	02 14 42.9	
	comp=Z,8.2nm,1.3s						

*GRAL **07** 02:11:20.6±0.3, 33°.73N×35°.10E, h26km±2km, MD2.9*
*GII **07** 02:11:20.4±0.4, 33°.62N±0°.04×35°.12E±0°.01, h4km, Md2.0/2, Mws2.1/7, confirmed*

ISC 07 02:11:19.1±1.5**, 33°.71N**±0°.05×**35°.07E**±0°.07**, h12km, n32,** σ**0ˢ.60**/35**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEYL	Beirut	0.39	65	eP	Pg	02 11 28.0	+1.1
DQRL	Deir Qamar	0.42	90	eP	Pg	02 11 28.5	+1.0
BHL	Bhannes	0.53	68	eP	Pg	02 11 29.9	+0.5
BHL				eS	Sg	02 11 37.1	+0.7
QRWL	Qaraoun	0.54	107	eP	Pb	02 11 30.5	0.0
QRWL				eS	Sb	02 11 37.8	-0.5
HNTI	Hanita	0.63	172	P	Pg	02 11 31.6	+0.2
HNTI	Hanita	0.63	172	S	Sb	02 11 40.4	-0.5
SHBL	Chebaa	0.67	122	eP	Pg	02 11 32.7	+0.5
ZAHL	Zahle	0.70	77	eP	Pg	02 11 32.9	+0.2
ZAHL				eS	Sg	02 11 41.8	0.0
GEM	Giv'at Ha'Em	0.70	135	S	Sb	02 11 42.2	-0.7
GEM	Giv'at Ha'Em	0.70	135	P	Pg	02 11 33.1	+0.3
NATI	Neve Ativ	0.71	128	P	Pg	02 11 33.2	+0.2
NATI	Neve Ativ	0.71	128	S	Sb	02 11 42.6	-0.6
MMA0B	Mount Meron ar	0.75	158	P	Pg	02 11 33.9	+0.3
MMA0B	Mount Meron ar	0.75	158	S	Sb	02 11 43.7	-0.5
KSHT	Keshet	0.95	139	S	Sb	02 11 50.2	-0.1
KSHT	Keshet	0.95	139	P	Pg	02 11 37.5	-0.1
BLGI	Bet Lehem HaGe	0.98	174	S	Sb	02 11 50.7	-0.2
BLGI	Bet Lehem HaGe	0.98	174	P	Pg	02 11 38.2	+0.2
OFRI	`Ofer	1.09	184	S	Sb	02 11 53.8	-0.3
OFRI	`Ofer	1.09	184	P	Pb	02 11 39.4	-0.5
BEIL	Beino	1.24	48	eP	Pn	02 11 41.0	-1.4
MMLI	Mount Malkishu	1.30	167	S	Sb	02 11 59.4	-0.8
MMLI	Mount Malkishu	1.30	167	P	Pn	02 11 42.7	-0.5
SLTI	Sal'it	1.46	181	S	Sb	02 12 04.8	-0.1
SLTI	Sal'it	1.46	181	P	Pn	02 11 45.6	+0.2
HMDT	Nahal Hemdat	1.50	165	S	Sb	02 12 05.7	-0.2
HMDT	Nahal Hemdat	1.50	165	P	Pn	02 11 45.9	0.0
UJAP	Al Uja	1.78	169	P	Pn	02 11 50.6	+0.9
UJAP	Al Uja	1.78	169	S	Sb	02 12 13.2	-0.8
DSI	Dead Sea	2.15	173	P	Pn	02 11 55.2	+0.4
AMAZ	Amatzia	2.17	183	P	Pn	02 11 56.0	+0.8
MSBI	Mazada	2.40	174	P	Pn	02 11 58.9	+0.7

*IDC **07** 02:21:46.0±0.7, 6°.90N×127°.55E, h0km, mb4.0/11, mbtmp4.0/11, Error ellipse: s-maj=30.8km s-min=15.1km az=62.0*

*NEIC **07** 02:21:47.8±1.8, 6°.97N±0°.07×127°.53E±0°.08, h10km±1km, mb4.8/49, Error ellipse: s-maj=13.7km s-min=11.2km az=62.0*

ISC 07 02:21:50.4±0.5**, 6°.93N**±0°.06×**127°.51E**±0°.07**, h31km, n70,** σ**0ˢ.85**/71**, mb4.7**/35**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.92	274	Pn	Pn	02 22 21.4	+0.5
DAV	Davao City (W)	1.92	274	Pn	Pn	02 22 22.4	+1.4
	59nm,0.3s,baz=95,slow=3.6,SNR=5.8						
DAV				Sn	Sb	02 22 47.7	-0.6
	64nm,0.3s,baz=280,slow=21,SNR=8.3						
DAV				LR	LR	02 23 46.4	
	comp=Z,136nm,18.4s,baz=10.0,slow=61						
TNTI	Ternate	6.12	181	Pn	Pn	02 23 18.6	-0.2
TOLI2	Tolitoli	8.85	230		Pn	02 23 55.4	-0.9
LUWI	Luwuk	9.22	211	Pn	Pn	02 24 01.8	+0.5
FAKI	Fak Fak	10.87	154	Pn	Pn	02 24 24.6	+0.7
SBUM	Sibu	15.87	254		P	02 25 35.1	0.0
JOW	Kunigami	19.81	2		Pn	02 26 20.5	+0.4
MTN	Manton Dam	19.97	170	P	P	02 26 20.3	0.0
MTN				IAmb	IAmb	02 26 34.3	
	comp=Z,38nm,1.5s						
FITZ	Fitzroy Crossi	24.93	184	P	P	02 27 11.4	+0.3
JMN	Monobe	27.32	12	P	P	02 27 31.0	-1.5
JMN				IAmb	IAmb	02 27 32.0	
	comp=Z,54nm,1.5s						
WB0	Warramunga Arr	27.38	166	P	P	02 27 32.8	-0.4
WRA	Warramunga Arr	27.53	166	P	P	02 27 33.8	-0.7
WRA	Warramunga Arr	27.53	166	P	P	02 27 33.9	-0.7
	comp=Z,1.3nm,0.7s,baz=344,slow=9.9,SNR=18						
	comp=Z,1.3nm,0.7s						
WB2	Warramunga Arr	27.54	166	P	P	02 27 34.3	-0.3
WR0	Warramunga Arr	27.60	166	P	P	02 27 34.5	-0.7
ASAR	Alice Springs	31.04	169	P	P	02 28 05.7	0.0
	comp=Z,0.4nm,0.4s,baz=342,slow=7.2,SNR=19						
ASAR				PcP	PcP	02 31 02.0	+0.9
	comp=Z,0.5nm,0.5s,baz=348,slow=2.3,SNR=6.9						
	comp=Z,0.4nm,0.4s						
EIDS	Eidsvold	39.45	145	P	P	02 29 17.9	-0.1
EIDS				IAmb	IAmb	02 29 22.4	
	comp=Z,15nm,1.2s						
BBOO	Buckleboo	40.35	169	P	P	02 29 25.3	0.0
BBOO				IAmb	IAmb	02 29 44.5	
	comp=Z,24nm,1.3s						
NWAO	Narrogin (SRO)	40.82	193	P	P	02 29 29.9	+0.7
NWAO				IAmb	IAmb	02 29 40.4	
	comp=Z,36nm,1.4s						
STKA	Stephens Creek	40.86	162	P	P	02 29 29.9	+0.3
STKA	Stephens Creek	40.86	162	P	P	02 29 30.0	+0.3
	comp=Z,2.1nm,0.7s,baz=344,slow=9.2,SNR=3.5						
	comp=Z,2.1nm,0.7s						
SONM	Songino Array	44.56	340	P	P	02 30 01.5	+1.9
	comp=Z,0.4nm,0.5s,baz=157,slow=8.2,SNR=2.3						
	comp=Z,0.4nm,0.5s						
MK31	Makanchi Array	55.42	324	P	P	02 31 22.3	+0.4
MKAR	Makanchi Array	55.42	324	P	P	02 31 22.0	0.0
MKAR	Makanchi Array	55.42	324	P	P	02 31 22.2	+0.3
	comp=Z,2.0nm,0.5s,baz=116,slow=8.0,SNR=15						
	comp=Z,2.0nm,0.5s						
MAKZ	Makanchi	55.61	324	P	P	02 31 23.7	+0.3
NIL	Nilore	56.64	306	P	P	02 31 31.4	+0.4
NIL				IAmb	IAmb	02 31 31.5	
	comp=Z,6.9nm,0.8s						
ZALV	Zalesovo Beam	58.13	332	P	P	02 31 41.3	+0.3
ZALV	Zalesovo Beam	58.13	332	P	P	02 31 41.0	0.0
	comp=Z,0.7nm,0.5s,baz=130,slow=7.4,SNR=2.4						
	comp=Z,0.7nm,0.5s						
KURBB	Kurchatov Arra	59.51	326	P	P	02 31 51.0	+0.4
	comp=Z,1.6nm,0.5s,baz=124,slow=7.1,SNR=16						
	comp=Z,1.6nm,0.5s						
KK31	Karatay Array	61.47	316	P	P	02 32 04.0	-0.2
KK31				IAmb	IAmb	02 32 26.1	
	comp=Z,8.1nm,1.8s						
KKAR	Karatay Array	61.47	316	P	P	02 32 04.1	-0.2
MRNZ	Matariki Terra	63.46	143	P	P	02 32 16.6	-0.8
WHZ	Wether Hill Ro	63.77	150	P	P	02 32 19.0	-0.4
LTZ	Lake Taylor	64.03	145	P	P	02 32 22.3	+1.0
BVAR	Borovoye Array	65.10	326	P	P	02 32 28.9	+0.8
	comp=Z,1.4nm,0.5s,baz=128,slow=7.8,SNR=7.6						
	comp=Z,1.4nm,0.5s						
HRA	Herat	65.74	305	P	P	02 32 31.8	-1.1
HRA				IAmb	IAmb	02 32 32.3	
	comp=Z,5.6nm,1.5s						
CTZ	Chatham Island	71.27	141	P	P	02 33 08.0	+1.2
TNA	Tin City	73.36	23	P	P	02 33 19.0	+0.1
TNA				IAmb	IAmb	02 33 28.3	
	comp=Z,33nm,1.5s						
CASY	Casey	74.06	187	P	P	02 33 23.1	+0.1
CASY				IAmb	IAmb	02 33 27.2	
	comp=Z,19nm,1.5s						
PAF	Port-aux-Franc	74.92	215	P	P	02 33 27.8	-0.4
G16K	Koyuk River	75.52	24	P	P	02 33 31.3	-0.2
G16K				IAmb	IAmb	02 33 34.5	
	comp=Z,12nm,1.3s						
RER	Riviere de l'E	75.70	246	P	P	02 33 32.9	-0.6
M16K	Timber Creek	76.02	29	P	P	02 33 31.1	-3.4
M16K				IAmb	IAmb	02 33 52.7	
	comp=Z,11nm,1.1s						
K17K	Iditarod	76.65	27	P	P	02 33 37.6	-0.4
K17K				IAmb	IAmb	02 33 49.4	
	comp=Z,28nm,1.3s						
N17K	Nushagak Hills	76.78	29	P	P	02 33 39.9	+1.1
N17K				IAmb	IAmb	02 34 00.1	
	comp=Z,13nm,1.2s						
J19K	Poorman	78.06	26	P	P	02 33 44.6	-1.2
J19K				IAmb	IAmb	02 33 44.8	
	comp=Z,14nm,1.5s						
K20K	Telida	78.65	27	P	P	02 33 49.8	+0.6
K20K				IAmb	IAmb	02 33 53.9	
	comp=Z,11nm,1.4s						
M20K	Styx River	78.91	28	P	P	02 33 50.9	+0.2
M20K				IAmb	IAmb	02 34 16.1	
	comp=Z,12nm,1.4s						
CNPM	China Poot	79.63	31	P	P	02 33 54.7	+0.1
D22K	Ayikyak River	79.90	21	P	P	02 33 55.5	-0.5
D22K				IAmb	IAmb	02 34 12.2	
	comp=Z,27nm,1.5s						
COLD	Coldfoot	80.67	23	P	P	02 33 58.6	-1.5
COLD				IAmb	IAmb	02 34 08.6	
	comp=Z,14nm,1.4s						
C23K	Itkillik River	80.74	20	P	P	02 34 00.6	+0.3
C23K				IAmb	IAmb	02 34 28.1	
	comp=Z,8.9nm,1.4s						
KNK	Knik Glacier	81.10	29	P	P	02 34 01.6	-0.9
E24K	Your Creek	81.38	22	P	P	02 34 04.6	+0.7
E24K				IAmb	IAmb	02 34 19.4	
	comp=Z,12nm,1.4s						
H24K	Noodor Dome	81.52	24	P	P	02 34 03.7	-1.0
H24K				IAmb	IAmb	02 34 22.1	
	comp=Z,6.2nm,1.1s						
ILAR	Eielson Array	81.90	26	P	P	02 34 08.9	+2.3
	comp=Z,0.8nm,0.8s,baz=242,slow=6.4,SNR=1.7						
	comp=Z,0.8nm,0.8s						
MCARA	McCarthy VSAT	83.72	29	P	P	02 34 16.1	-0.1
BCAR	Beaver Creek A	84.20	27	P	P	02 34 19.0	+0.3
GRNC	Granite Creek	84.37	30	P	P	02 34 19.9	+0.1
P29M	Windy Craggy	86.48	30	P	P	02 34 29.2	-0.8
F31M	Tsiigehtchic	87.00	22	P	P	02 34 32.8	+0.4
F31M				IAmb	IAmb	02 34 35.9	
	comp=Z,6.4nm,1.0s						
BRTR	Keskin Array B	88.59	310	P	P	02 34 40.5	-0.4
	comp=Z,0.6nm,0.5s,baz=96,slow=5.8,SNR=7.0						
	comp=Z,0.6nm,0.5s						
A36M	Sachs Harbour	88.72	17	P	P	02 34 39.9	-0.7
A36M				IAmb	IAmb	02 34 55.1	
	comp=Z,5.0nm,0.8s						
P33M	Teslin, Yukon	88.83	29	P	P	02 34 40.6	-0.8
P33M				IAmb	IAmb	02 34 54.0	
	comp=Z,11nm,1.4s						
CRAG	Craig	89.63	34	P	P	02 34 43.9	-1.3
AKASG	Malin Array Be	89.91	321	P	P	02 34 46.2	-0.3
	comp=Z,1.6nm,0.7s,baz=64,slow=5.3,SNR=5.0						
	comp=Z,1.6nm,0.7s						
NLWA	Neilton Lookou	97.33	40	P	Pdif	02 35 21.2	+0.3
TORD	Torodi Ar. Bea	122.60	290	PKP	PKPdf	02 40 43.7	-0.3
	comp=Z,0.5nm,0.8s,baz=32,slow=2.3,SNR=2.5						

*NIED **07** 02:23:11.8, 38°.89N×141°.97E, h49km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.10; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-2.33; $M_{r\theta}$1.07; $M_{\theta\phi}$-2.11; $M_{\phi r}$3.30; Fault plane solution: $M_0$4.91000×10^{14} NP1:ϕ_s22.00000°, δ68.00000°, λ78.00000°. NP2:ϕ_s231.00000°, δ25.00000°,*

λ117.00000°.

*JMA **07** 02:23:11.8±0.1, 38°.9N±0°.3×142°.0E±0°.6, h49km, MV3.9/39, KINKAZAN REGION*

JMA Felt II J1 at KINKAZAN REGION .

*IDC **07** 02:23:12.5±2.8, 38°.90N×142°.19E, h66km±20km, mb3.6/8, mbtmp3.9/12, MS3.8/1, Error ellipse: s-maj=34.2km s-min=16.8km az=101.0*

ISC 07 02:23:11.6±1.4**, 38°.85N**±0°.06×**142°.0E**±0°.1**, h50**km±9km**, n23,** σ1s.**06**/29**, mb3.9**/8**, 14D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.35**	**310**	⇓iP	**Pn**	**02 23 21.0**	**-0.2**
OFUJ				⇓S	**Sn**	**02 23 27.3**	**-0.8**
JKMT	**Kesennumamotoy**	**0.42**	**265**	⇓iP	**Pn**	**02 23 21.8**	**-0.2**
JKMT				⇓iS	**Sn**	**02 23 28.6**	**-0.8**
JMK	**Ichinoseki**	**0.63**	**279**	⇓iP	**Pn**	**02 23 24.2**	**-0.3**
JMK				⇓S	**Sn**	**02 23 32.9**	**-0.8**
JIO	**Ouri**	**0.66**	**233**	⇓iP	**Pn**	**02 23 24.7**	**-0.1**
JIO				⇓S	**Sn**	**02 23 33.4**	**-0.9**
JOM	**Ohasama**	**0.84**	**318**	⇓iP	**Pn**	**02 23 26.8**	**-0.4**
JOM				⇓S	**Sn**	**02 23 37.5**	**-1.0**
JOU	**Okura**	**1.17**	**246**	⇓iP	**Pn**	**02 23 31.4**	**-0.2**
JOU				⇓S	**Sn**	**02 23 46.0**	**-0.4**
JRG	**Rokugo**	**1.20**	**297**	⇓iP	**Pn**	**02 23 31.7**	**-0.4**
JYK	**Kaneyama**	**1.29**	**273**	⇓iP	**Pn**	**02 23 33.1**	**-0.2**
JMM	**Marumori**	**1.38**	**225**	P	**Pn**	**02 23 34.1**	**-0.4**
JMM				S	**Sn**	**02 23 50.9**	**-0.6**
MJAR	**Matsushiro Arr**	**3.80**	**234**	P	**Pn**	**02 24 09.8**	**+2.1**
	5.9nm,0.5s,baz=37,slow=12,SNR=55						
MJAR				LR	LR	02 25 33.8	
	comp=Z,53nm,18.2s,baz=101,slow=36						
ASAJ	**Asahikawa**	**5.28**	**5**	P	**Pn**	**02 24 28.7**	**+0.8**
	2.9nm,0.3s,baz=222,slow=14,SNR=1.2						
ASAJ				S	**Sn**	**02 25 27.1**	**-0.3**
	4.4nm,0.4s,baz=302,slow=25,SNR=1.5						
USRK	**Ussuriysk Ar.**	**9.22**	**309**	P	**Pn**	**02 25 24.0**	**+2.1**
	5.4nm,0.7s,baz=124,slow=14,SNR=11						
JNU	**Nakatsue**	**10.68**	**241**	LR	LR	02 30 45.3	
	comp=Z,77nm,19.7s,baz=142,slow=42						
KSRS	**Korea Array**	**11.19**	**267**	P	**Pn**	**02 25 52.1**	**+3.3**
	0.4nm,0.3s,baz=82,slow=16,SNR=2.2						
SONM	**Songino Array**	**27.21**	**301**	P	**P**	**02 28 51.0**	**+0.2**
	0.5nm,0.7s,baz=94,slow=8.7,SNR=2.3						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**41.06**	**311**	P	**P**	**02 30 49.7**	**-0.3**
	1.2nm,0.6s,baz=87,slow=7.7,SNR=7.2						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**43.58**	**301**	P	**P**	**02 31 10.3**	**-0.3**
	1.7nm,0.6s,baz=82,slow=9.0,SNR=22						
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**45.28**	**307**	P	**P**	**02 31 23.6**	**-0.5**
	3.8nm,0.6s,baz=81,slow=8.1,SNR=26						
	3.8nm,0.6s						
BVAR	**Borovoye Array**	**49.72**	**311**	P	**P**	**02 31 57.8**	**-0.8**
	2.0nm,0.5s,baz=65,slow=9.5,SNR=3.9						
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**58.92**	**188**	P	**P**	**02 33 05.2**	**-0.6**
	0.5nm,0.5s,baz=7.0,slow=7.6,SNR=6.1						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**73.15**	**322**	P	**P**	**02 34 36.0**	**-0.8**
	0.6nm,0.5s,baz=44,slow=6.4,SNR=4.7						
	0.6nm,0.5s						
BRTR	**Keskin Array B**	**78.00**	**312**	P	**P**	**02 35 04.8**	**-0.1**
	0.2nm,0.4s,baz=54,slow=3.7,SNR=1.5						
	0.2nm,0.4s						
RAR	**Rarotonga**	**80.85**	**127**	LR	LR	03 08 54.6	
	comp=Z,52nm,19.6s,baz=324,slow=34						

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*BJI **07** 02:24:03.7±0.0, 55°.22N×165°.59E, h30km, mb5.2/86, mB5.2/62, Ms4.7/81, Ms7 4.6/81*

*KRSC **07** 02:24:05.1±1.8, 54°.96N×165°.55E, h60km±19km, Mc5.3, Ml5.9, Felt [IV-V] at Nikolskoe; [II-III] at kordon Aerodrom.*

*MOS **07** 02:24:06.4±0.8, 55°.01N×165°.69E, h53km, mb5.5/75, MS4.2/30, Error ellipse: s-maj=4.6km s-min=3.5km az=104.7*

*NEIC **07** 02:24:06.8±1.6, 55°.03N±0°.05×165°.7E±0°.1, h38km±4km, mb5.7/895, Ms_20 4.6/232, Mww5.1/32, Error ellipse: s-maj=9.2km s-min=7.6km az=64.0*

*GCMT **07** 02:24:06.8±0.1, 55°.12N±0°.01×165°.83E±0°.02, h66km±2km, MW5.1/134, Moment Tensor Solution. s76,c111; s134,c201; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.67±.15; $M_{\theta\theta}$-1.12±.17; $M_{\phi\phi}$-1.54±.15; $M_{r\theta}$2.88±.10; $M_{\theta\phi}$0.84±.13; $M_{\phi r}$-4.10±.08; Best double couple: $M_0$5.57000×10^{16} NP1:ϕ_s145.00000°, δ77.00000°, λ91.00000°. NP2:ϕ_s321.00000°, δ13.00000°, λ86.00000°. Principal axes: T 5.8080, Plg58.0000°, Azm56.0000°; N -0.4650, Plg1.0000°, Azm324.0000°; P -5.3330, Plg32.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 02:24:07.3, 55°.06N×165°.72E, h40km*

*IDC **07** 02:24:07.0±1.2, 55°.07N×165°.72E, h41km±10km, mb4.9/45, mbtmp5.2/50, ML5.1/5, MS4.3/65, Error ellipse: s-maj=9.7km s-min=7.2km az=166.0*

*NEIC **07** 02:24:07.3, 54°.96N×165°.72E, h40km, Moment Tensor Solution. Duration: 1s.9 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.93; $M_{\theta\theta}$1.04; $M_{\phi\phi}$-0.11; $M_{r\theta}$3.55; $M_{\theta\phi}$1.91; $M_{\phi r}$-4.61; Fault plane solution: $M_0$5.83000×10^{16} NP1: ϕ_s141.80000°, δ88.55000°, λ88.95000°. NP2: ϕ_s357.62000°, δ1.79000°, λ125.81000°. Principal axes: T 4.6028, Plg46.0000°, Azm51.0000°; N 2.4544, Plg1.0000°, Azm142.0000°; P -7.0572, Plg44.0000°, Azm233.0000°;*

*BGR **07** 02:24:09.8, 55°.42N×165°.76E, h33km, mb5.3, Ms4.3*

ISC 07 02:24:06.9±0.3**, 54°.97N**±0°.03×**165°.65E**±0°.03**, h41**km±2km**, h40**km**:pP-P, n2021,** σ1s.**22**/1747**, mb5.7**/665**, MS4.5**/218**, 84C-46D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**38**	PN	**Pn**	**02 24 16.1**	**+0.8**
BKI				S	**Sn**	**02 24 22.4**	**+1.3**
BKI	**Bering**	**0.30**	**38**	iP	**Pn**	**02 24 16.1**	**+0.8**
BKI				eS	**Sn**	**02 24 22.4**	**+1.3**
KBTR	**Krutoberegovo**	**2.03**	**309**	PN	**Pn**	**02 24 37.3**	**-1.3**
KBTR	**Krutoberegovo**	**2.03**	**309**	eP	**Pn**	**02 24 37.3**	**-1.3**
KBG	**Krutoberegovo**	**2.11**	**309**	PN	**Pn**	**02 24 38.5**	**-1.2**
KBG				S	**Sn**	**02 25 03.0**	**-1.7**
KBG	**Krutoberegovo**	**2.11**	**309**	eP	**Pn**	**02 24 38.5**	**-1.2**
KBG				eS	**Sn**	**02 25 03.0**	**-1.7**
SMKR	**Semkarok**	**2.86**	**306**	PN	**Pn**	**02 24 50.7**	**+0.6**
SMKR	**Semkarok**	**2.86**	**306**	eP	**Pn**	**02 24 50.7**	**+0.6**
ZLN	**Zelenaya**	**2.95**	**293**	PN	**Pn**	**02 24 53.0**	**+1.7**
ZLN	**Zelenaya**	**2.95**	**293**	eP	**Pn**	**02 24 53.0**	**+1.7**
BDR	**Baidarnaya**	**2.98**	**304**	PN	**Pn**	**02 24 52.8**	**+1.1**
BDR	**Baidarnaya**	**2.98**	**304**	eP	**Pn**	**02 24 52.8**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**2.98**	**291**	PN	**Pn**	**02 24 53.9**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**2.98**	**291**	eP	**Pn**	**02 24 53.9**	**+2.1**
CIRR	**Tsirk**	**3.01**	**294**	PN	**Pn**	**02 24 53.7**	**+1.5**
CIRR	**Tsirk**	**3.01**	**294**	eP	**Pn**	**02 24 53.7**	**+1.5**
TUMD	**Tumrok D**	**3.03**	**277**	eP	**Pn**	**02 24 53.8**	**+1.6**
TUMD				eS	**Sn**	**02 25 28.1**	**+0.8**
SRKR	**Sorokina**	**3.04**	**306**	PN	**Pn**	**02 24 53.6**	**+1.0**
SRKR	**Sorokina**	**3.04**	**306**	eP	**Pn**	**02 24 53.6**	**+1.0**
BZP	**Bezymyannyi-Pe**	**3.06**	**290**	eP	**Pn**	**02 24 54.5**	**+1.6**
BZMR	**Bezymyannaya**	**3.10**	**290**	PN	**Pn**	**02 24 55.4**	**+2.1**
BZMR	**Bezymyannaya**	**3.10**	**290**	eP	**Pn**	**02 24 55.4**	**+2.1**
BZWR	**Bezymyannyi-We**	**3.10**	**291**	PN	**Pn**	**02 24 55.2**	**+1.8**
BZWR	**Bezymyannyi-We**	**3.10**	**291**	eP	**Pn**	**02 24 55.2**	**+1.8**
KLY	**Klyuchi**	**3.14**	**298**	PN	**Pn**	**02 24 53.7**	**-0.1**
KLY				S	**Sn**	**02 25 27.8**	**-2.1**
KLY	**Klyuchi**	**3.14**	**298**	eP	**Pn**	**02 24 53.7**	**-0.1**
KLY				eS	**Sn**	**02 25 27.8**	**-2.1**
TUMR	**Tumrok**	**3.18**	**278**	PN	**Pn**	**02 24 53.8**	**-0.6**
TUMR				S	**Sn**	**02 25 28.1**	**-3.0**
TUMR	**Tumrok**	**3.18**	**278**	eP	**Pn**	**02 24 56.3**	**+1.9**
KIRR	**Kirishev**	**3.18**	**290**	PN	**Pn**	**02 24 56.4**	**+1.9**
KIRR	**Kirishev**	**3.18**	**290**	eP	**Pn**	**02 24 56.4**	**+1.9**
KMNR	**Kamenistaya**	**3.19**	**287**	PN	**Pn**	**02 24 56.0**	**+1.4**
KMNR	**Kamenistaya**	**3.19**	**287**	eP	**Pn**	**02 24 56.0**	**+1.4**
KPT	**Kopyto**	**3.25**	**290**	PN	**Pn**	**02 24 57.4**	**+2.0**
KPT	**Kopyto**	**3.25**	**290**	eP	**Pn**	**02 24 57.4**	**+2.0**
KOZ	**Kozyrevsk**	**3.46**	**291**	PN	**Pn**	**02 25 00.4**	**+2.2**
KOZ				S	**Sn**	**02 25 40.2**	**+2.2**
KOZ	**Kozyrevsk**	**3.46**	**291**	eP	**Pn**	**02 25 00.4**	**+2.2**
KOZ				eS	**Sn**	**02 25 40.2**	**+2.2**
SRDR	**Sredinnyy**	**3.62**	**294**	PN	**Pn**	**02 25 02.1**	**+1.6**
SRDR	**Sredinnyy**	**3.62**	**294**	eP	**Pn**	**02 25 02.1**	**+1.6**
KII	**Karymskiy**	**3.73**	**258**	PN	**Pn**	**02 25 03.6**	**+1.6**
KII	**Karymskiy**	**3.73**	**258**	eP	**Pn**	**02 25 03.6**	**+1.6**
SPN	**Mys Shipunski**	**3.81**	**243**	PN	**Pn**	**02 25 03.7**	**+0.7**
SPN	**Mys Shipunski**	**3.81**	**243**	eP	**Pn**	**02 25 03.7**	**+0.7**
ESO	**Esso**	**4.07**	**287**	PN	**Pn**	**02 25 08.1**	**+1.5**
ESO				S	**Sn**	**02 25 53.1**	**+0.1**
ESO	**Esso**	**4.07**	**287**	eP	**Pn**	**02 25 08.1**	**+1.5**
ESO				eS	**Sn**	**02 25 53.1**	**+0.1**
SMAR	**Somma**	**4.38**	**250**	PN	**Pn**	**02 25 12.5**	**+1.5**
SMAR				S	**Sn**	**02 26 01.5**	**+0.7**
SMAR	**Somma**	**4.38**	**250**	eP	**Pn**	**02 25 12.5**	**+1.5**
SMAR				eS	**Sn**	**02 26 01.5**	**+0.7**
UGLR	**Uglovaya**	**4.39**	**249**	PN	**Pn**	**02 25 12.9**	**+1.9**
UGLR	**Uglovaya**	**4.39**	**249**	eP	**Pn**	**02 25 12.9**	**+1.9**
AVH	**Avacha**	**4.41**	**250**	PN	**Pn**	**02 25 13.5**	**+2.2**
AVH	**Avacha**	**4.41**	**250**	eP	**Pn**	**02 25 13.5**	**+2.2**
KRX	**Arik**	**4.42**	**252**	PN	**Pn**	**02 25 13.3**	**+1.8**
KRX	**Arik**	**4.42**	**252**	eP	**Pn**	**02 25 13.3**	**+1.8**
KOK	**Koryaka**	**4.45**	**251**	PN	**Pn**	**02 25 13.9**	**+2.0**
KOK	**Koryaka**	**4.45**	**251**	i P	**Pn**	**02 25 13.9**	**+2.0**
DALK	**Dalny**	**4.51**	**247**	PN	**Pn**	**02 25 14.1**	**+1.5**
DALK	**Dalny**	**4.51**	**247**	eP	**Pn**	**02 25 14.1**	**+1.5**
DALK				eS	**Sn**	**02 26 01.8**	**-1.8**
OSSR	**Ossora**	**4.52**	**343**	PN	**Pn**	**02 25 13.7**	**+0.9**
OSSR				S	**Sn**	**02 26 02.1**	**-1.9**
OSSR	**Ossora**	**4.52**	**343**	eP	**Pn**	**02 25 13.7**	**+0.9**
OSSR				eS	**Sn**	**02 26 02.1**	**-1.9**
PET	**Petropavlovsk**	**4.56**	**248**		**Pn**	**02 25 14.9**	**+1.5**
PET	**Petropavlovsk**	**4.56**	**248**	⇓iPN	**Pn**	**02 25 14.8**	**+1.5**
PET				pmax	pmax		
	comp=Z,2μm,4.3s						
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				pmax	pmax		
	comp=Z,800nm,6.4s						
PET				MLR	MLR		
	comp=Z,8μm,18.0s						
PET				MLR	MLR		
	comp=Z,5μm,14.0s						
PET	**Petropavlovsk**	**4.56**	**248**	eP	**Pn**	**02 25 14.7**	**+1.4**
PET				eS	**Sn**	**02 26 03.8**	**-1.2**
INSR	**Institute**	**4.57**	**248**	eP	**Pn**	**02 25 15.0**	**+1.6**
INSR				eS	**Sn**	**02 26 04.4**	**-0.7**
TIGL	**Tigil**	**4.79**	**309**	eP	**Pn**	**02 25 18.1**	**+1.7**
KRMR	**Karymshinskiy**	**4.93**	**247**	PN	**Pn**	**02 25 20.3**	**+1.9**
KRMR	**Karymshinskiy**	**4.93**	**247**	i P	**Pn**	**02 25 20.3**	**+1.9**
KRMR				i S	**Sn**	**02 26 13.2**	**-0.9**
PEA0B	**Petropavlovsk-**	**5.04**	**252**	Pn	**Pn**	**02 25 22.1**	**+2.2**
PEA0B	**Petropavlovsk-**	**5.04**	**252**	d iPN	**Pn**	**02 25 22.0**	**+2.1**
PETK	**Petropavlovsk-**	**5.04**	**252**	Pn	**Pn**	**02 25 21.1**	**+1.2**
PETK	**Petropavlovsk-**	**5.04**	**252**	P	**Pn**	**02 25 21.8**	**+1.8**
	comp=Z,228nm,0.3s,baz=77,slow=17,SNR=310						
PETK				S	**Sn**	**02 26 17.8**	**+0.9**
	comp=Z,717nm,0.5s,baz=281,slow=19,SNR=16						
	comp=Z,369nm,0.5s						
GRL	**Gorelyy**	**5.10**	**245**	PN	**Pn**	**02 25 23.0**	**+2.1**
GRL	**Gorelyy**	**5.10**	**245**	eP	**Pn**	**02 25 23.0**	**+2.1**
PALN	**Palana**	**5.17**	**325**	PN	**Pn**	**02 25 23.2**	**+1.6**
PALN				S	**Sn**	**02 26 24.9**	**+5.0**
PALN	**Palana**	**5.17**	**325**	eP	**Pn**	**02 25 23.2**	**+1.6**
PALN				eS	**Sn**	**02 26 24.9**	**+5.0**
ASAK	**Asacha**	**5.28**	**244**	PN	**Pn**	**02 25 25.8**	**+2.5**
ASAK	**Asacha**	**5.28**	**244**	eP	**Pn**	**02 25 25.8**	**+2.5**
APC	**Apacha**	**5.42**	**251**	PN	**Pn**	**02 25 24.6**	**-0.4**
APC	**Apacha**	**5.42**	**251**	eP	**Pn**	**02 25 24.6**	**-0.4**
SHEM	**Shemya Is, Ala**	**5.48**	**111**	P	**Pn**	**02 25 27.3**	**+1.4**
	comp=Z,13nm,0.3s,baz=251,slow=21,SNR=1.8						
SHEM				S	**Sn**	**02 26 24.6**	**-3.0**
	comp=Z,472nm,0.8s,baz=288,slow=18,SNR=7.3						
	comp=Z,201nm,1.2s						
SMY	**Shemya**	**5.48**	**111**	Pn	**Pn**	**02 25 25.1**	**-0.8**
SMY	**Shemya**	**5.48**	**111**	PN	**Pn**	**02 25 25.1**	**-0.8**
TILK	**Tilichiki**	**5.50**	**3**	PN	**Pn**	**02 25 28.3**	**+2.1**
TILK				S	**Sn**	**02 26 29.8**	**+1.7**
TILK	**Tilichiki**	**5.50**	**3**	eP	**Pn**	**02 25 28.3**	**+2.1**
TILK				eS	**Sn**	**02 26 29.8**	**+1.7**
KDTR	**Khodutka, Kamc**	**5.52**	**238**	PN	**Pn**	**02 25 27.4**	**+0.9**
KDTR	**Khodutka, Kamc**	**5.52**	**238**	eP	**Pn**	**02 25 27.4**	**+0.9**
KDTR				eS	**Sn**	**02 26 25.2**	**-3.5**
PAU	**Pauzhetka**	**6.36**	**240**	PN	**Pn**	**02 25 41.0**	**+3.0**
PAU	**Pauzhetka**	**6.36**	**240**	eP	**Pn**	**02 25 41.0**	**+3.0**
SKR	**Severo-Kuril's**	**7.19**	**237**	ePN	**Pn**	**02 25 50.5**	**+1.1**
SKR				pmax	pmax		
	comp=Z,385nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,5.0s						
SKR				MLR	MLR		
	comp=Z,3μm,18.0s						
SKR	**Severo-Kuril's**	**7.19**	**237**	eP	**Pn**	**02 25 50.1**	**+0.7**
SKR				eS	**Sn**	**02 27 04.7**	**-5.0**
KMSK	**Kamenskaya**	**7.53**	**2**	PN	**Pn**	**02 25 55.6**	**+1.6**
KMSK	**Kamenskaya**	**7.53**	**2**	eP	**Pn**	**02 25 55.6**	**+1.6**
KMSK				eS	**Sn**	**02 27 17.2**	**-0.8**
MA2	**Magadan**	**9.28**	**306**	Pn	**Pn**	**02 26 19.3**	**+1.3**
MA2	**Magadan**	**9.28**	**306**	P	**Pn**	**02 26 21.3**	**+3.3**
MA2	**Magadan**	**9.28**	**306**	dePN	**Pn**	**02 26 19.7**	**+1.7**
MA2				pmax	pmax		
	comp=Z,66nm,1.0s						
MA2				MLR	MLR		
	comp=Z,859nm,14.0s						
MA2	**Magadan**	**9.28**	**306**	P	**Pn**	**02 26 19.6**	**+1.6**
	comp=Z,3.0nm,0.3s,baz=114,slow=8.1,SNR=20						
MA2				LR	LR	02 30 42.9	
	comp=Z,747nm,18.3s,baz=112,slow=43						
	comp=Z,55nm,0.9s						
SEY	**Seymchan**	**10.50**	**325**	⇓ePN	**Pn**	**02 26 38.2**	**+3.5**
SEY				pmax	pmax		
	comp=Z,11nm,1.0s						
SEY				MLR	MLR		
	comp=Z,1μm,15.0s						
SEY	**Seymchan**	**10.50**	**325**	P	**Pn**	**02 26 35.9**	**+1.2**
	comp=Z,3.4nm,0.4s,baz=133,slow=12,SNR=18						
SEY				LR	LR	02 30 51.3	
	comp=Z,961nm,21.1s,baz=120,slow=39						
ATKA	**Atka Island**	**12.29**	**95**	Pn	**Pn**	**02 26 56.1**	**-2.9**
ATKA	**Atka Island**	**12.29**	**95**	P	**Pn**	**02 27 03.3**	**+4.2**
BILL	**Bilibino**	**13.12**	**1**		**Pn**	**02 27 12.9**	**+2.5**
BILL	**Bilibino**	**13.12**	**1**	PN	**Pn**	**02 27 13.2**	**+2.8**
OKH	**Okha**	**13.34**	**273**	dePN	Pn	02 27 08.2	-5.3
OKH				pmax	pmax		
	comp=Z,300nm,15.1s						
OKH				MLR	MLR		
	comp=Z,1μm,15.0s						
OKH				MLR	MLR		
	comp=N,500nm,15.0s						
OKH				MLR	MLR		
	comp=E,1μm,16.0s						
TYV	**Tymovskoe**	**14.44**	**263**	eP	**Pn**	**02 27 30.7**	**+2.3**
TYV				eS	**Sn**	**02 30 14.0**	**+6.9**
TYV				pmax	pmax		
	comp=Z,700nm,4.9s						
TYV				pmax	pmax		
	comp=Z,41nm,1.1s						
TYV				smax	smax		
	comp=N,10.0nm,1.2s						
TYV				smax	smax		
	comp=N,500nm,5.9s						
TYV				smax	smax		
	comp=E,600nm,5.9s						
TYV	**Tymovskoe**	**14.44**	**263**	eP	**Pn**	**02 27 29.8**	**+1.3**
KUR	**Kuril'sk**	**14.96**	**237**	eP	**Pn**	**02 27 37.1**	**+1.8**
KUR				S	**Sn**	**02 30 19.9**	**+0.3**
KUR				pmax	pmax		
	comp=Z,163nm,1.0s						
UGL	**Uglegorsk**	**15.63**	**258**	eP	**P**	**02 27 47.7**	**+0.1**
UGL				S	**Sn**	**02 30 34.5**	**-1.3**
UGL				pmax	pmax		
	comp=Z,307nm,0.9s						
M11K	**Mekoryuk**	**15.93**	**59**	P	**P**	**02 27 49.8**	**-1.0**
	baz=263,SNR=15						
UNV	**Unalaska Valle**	**16.21**	**82**	P	**P**	**02 27 55.6**	**+1.6**
UNV	**Unalaska Valle**	**16.21**	**82**	P	**P**	**02 27 54.1**	**0.0**
	baz=286,SNR=9.4						
YSS	**Yuzh-Sakhalins**	**16.44**	**250**		**P**	**02 27 55.5**	**-1.1**
YSS	**Yuzh-Sakhalins**	**16.44**	**250**	P	**P**	**02 27 57.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**16.44**	**250**	⇑iP	**P**	**02 27 56.2**	**-0.5**
YSS				eS	**Sn**	**02 31 00.7**	**+5.0**
YSS				pmax	pmax		
	comp=Z,500nm,2.5s						
YSS				pmax	pmax		
	comp=Z,200nm,1.1s						
YSS				pmax	pmax		
	comp=E,110nm,1.0s						
YSS				MLR	MLR		
	comp=N,1μm,18.0s						
YSS				MLR	MLR		
	comp=E,1μm,17.0s						
SHO	**Shikotan**	**16.47**	**235**	eP	**Pn**	**02 27 51.0**	**-3.8**
SHO				pmax	pmax		
	comp=Z,115nm,0.6s						
SHO				pmax	pmax		
	comp=N,51nm,0.4s						
SHO				pmax	pmax		
	comp=E,65nm,0.4s						
SHO	**Shikotan**	**16.47**	**235**	eP	**Pn**	**02 27 50.9**	**-3.8**
AKUT	**Akutan**	**16.55**	**81**	Pn	**Pn**	**02 27 54.7**	**-1.0**
AKUT				IAmb	IAmb	02 28 12.8	
	comp=Z,394nm,0.9s						
AKUT	**Akutan**	**16.55**	**81**	P	**P**	**02 27 59.3**	**+1.5**
TNA	**Tin City**	**16.71**	**40**	P	**P**	**02 27 58.8**	**-0.8**
	baz=243,SNR=60						
YUK	**Yuzh-Kuril'sk**	**16.81**	**238**	eP	**Pn**	**02 27 58.8**	**-0.2**
YUK				eS	**Sn**	**02 30 57.9**	**-6.7**
YUK				pmax	pmax		
	comp=Z,3μm,1.0s						
YUK				pmax	pmax		
	comp=Z,712nm,0.8s						
YUK				pmax	pmax		
	comp=N,246nm,0.5s						
YUK				pmax	pmax		
	comp=E,272nm,0.5s						
YUK				MLR	MLR		
	comp=Z,2μm,14.0s						
RUSJ	**Misakicho**	**17.06**	**239**	eP	**P**	**02 28 04.0**	**+0.5**
RUSJ				eS	**Sn**	**02 31 07.3**	**-3.3**
F14K	**Arctic Creek**	**17.27**	**41**	P	**P**	**02 28 06.2**	**+0.4**
	baz=246,SNR=19						
ANM	**Nome**	**17.31**	**45**		**Pn**	**02 28 04.7**	**-0.4**
ANM	**Nome**	**17.31**	**45**	P	**P**	**02 28 06.7**	**+0.6**
	baz=250,SNR=27						
ANM	**Nome**	**17.31**	**45**	P	**Pn**	**02 28 04.7**	**-0.4**
ANM				pmax	pmax		
	comp=Z,132nm,1.0s						
M13K	**Dall Lake**	**17.34**	**59**		**P**	**02 28 06.3**	**-0.1**
M13K				IAmb	IAmb	02 28 21.4	
	comp=Z,629nm,1.1s						
M13K	**Dall Lake**	**17.34**	**59**	P	**P**	**02 28 07.4**	**+1.0**
	baz=266						
NMR	**Nemuro--Hokkai**	**17.37**	**236**	eP	**Pn**	**02 28 02.3**	**-3.7**
J14K	**Nanvaranak Lak**	**17.58**	**51**		**Pn**	**02 28 07.9**	**-0.5**
J14K	**Nanvaranak Lak**	**17.58**	**51**	P	**P**	**02 28 09.4**	**+0.3**
	baz=258						
FALS	**False Pass**	**17.72**	**78**	P	**P**	**02 28 12.2**	**+1.5**
FALS	**False Pass**	**17.72**	**78**	P	**P**	**02 28 10.6**	**-0.1**
	baz=283						
L14K	**Kuka Creek**	**17.75**	**56**	P	**P**	**02 28 12.8**	**+1.8**
L14K	**Kuka Creek**	**17.75**	**56**	P	**P**	**02 28 12.4**	**+1.4**
	baz=263						
G15K	**Niukluk**	**17.99**	**44**	P	**P**	**02 28 15.5**	**+1.9**
	baz=250,SNR=25						
F15K	**North Star Dit**	**18.01**	**42**	P	**P**	**02 28 15.9**	**+2.0**
	baz=248,SNR=101						
M14K	**Bethel**	**18.05**	**58**		**P**	**02 28 14.2**	**0.0**
M14K	**Bethel**	**18.05**	**58**	P	**P**	**02 28 15.7**	**+1.5**
	baz=266,SNR=50						
GRNR	**Gornyy**	**18.07**	**269**	⇓iP	**P**	**02 28 16.3**	**+1.7**
GRNR				eS	**S**	**02 31 41.0**	**+1.6**
GRNR				pmax	pmax		
	comp=N,20nm,1.0s						
GRNR				pmax	pmax		
	comp=E,20nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,40nm,1.1s						
GRNR				smax	smax		
	comp=N,4.0nm,1.0s						
GRNR				MLR	MLR		
	comp=N,390nm,16.0s						
N14K	**Kuskokwak Cree**	**18.14**	**61**	P	**Pn**	**02 28 16.2**	**+0.9**
	baz=269						
O14K	**Tigyukauivet M**	**18.35**	**63**	P	**Pn**	**02 28 18.5**	**+0.6**
	baz=271						
L15K	**Ungalak Mounta**	**18.36**	**55**	P	**Pn**	**02 28 19.3**	**+1.3**
	baz=264						
JKA	**Kamikawa-asahi**	**18.39**	**243**	P	**Pn**	**02 28 18.4**	**-0.1**
ASAJ	**Asahikawa**	**18.39**	**243**	P	**Pn**	**02 28 19.8**	**+1.2**
	comp=N,5.8nm,0.3s,baz=44,slow=8.3,SNR=28						
ASAJ				LR	LR	02 34 48.6	
	comp=N,2μm,22.0s,baz=6.5,slow=35						
	comp=N,139nm,0.9s						
K15K	**Wolf Creek Mou**	**18.42**	**53**		**Pn**	**02 28 19.1**	**+0.3**
K15K	**Wolf Creek Mou**	**18.42**	**53**	P	**Pn**	**02 28 19.9**	**+1.2**
	baz=262						
H16K	**Elim**	**18.61**	**46**	P	**Pn**	**02 28 21.7**	**+0.6**
	baz=254,SNR=64						
M15K	**Kasigluk River**	**18.67**	**58**	P	**Pn**	**02 28 22.3**	**+0.6**
	baz=267,SNR=52						
G16K	**Koyuk River**	**18.79**	**44**		**P**	**02 28 22.0**	**-0.4**
G16K	**Koyuk River**	**18.79**	**44**	P	**Pn**	**02 28 22.9**	**-0.3**
	baz=252,SNR=42						
C16K	**Lisburne Hills**	**18.91**	**34**	P	**Pn**	**02 28 24.2**	**-0.4**
	baz=240,SNR=70						
N15K	**Kwethluk River**	**18.95**	**60**	P	**P**	**02 28 24.6**	**+0.4**
N15K				IAmb	IAmb	02 28 31.9	
	comp=Z,409nm,0.7s						
N15K	**Kwethluk River**	**18.95**	**60**	P	**Pn**	**02 28 25.9**	**+0.8**
	baz=269,SNR=69						
J16K	**Anvik River**	**19.01**	**50**		**P**	**02 28 24.4**	**-0.4**
J16K	**Anvik River**	**19.01**	**50**	P	**Pn**	**02 28 26.3**	**+0.5**
	baz=260,SNR=49						
I17K	**Unalakleet**	**19.08**	**49**	P	**P**	**02 28 25.7**	**+0.1**
I17K				IAmb	IAmb	02 28 28.8	
	comp=Z,622nm,1.6s						
I17K	**Unalakleet**	**19.08**	**49**	P	**Pn**	**02 28 27.3**	**+0.6**
	baz=258,SNR=79						
O15K	**Ungalikthiuk R**	**19.09**	**63**	P	**Pn**	**02 28 26.6**	**-0.3**
	baz=272						
SDPT	**Sand Point**	**19.25**	**75**	P	**P**	**02 28 26.7**	**-0.8**
SDPT	**Sand Point**	**19.25**	**75**	P	**Pn**	**02 28 28.7**	**-0.1**
SDPT	**Sand Point**	**19.25**	**75**	P	**Pn**	**02 28 28.7**	**-0.1**
	baz=283						
L16K	**Owhat River**	**19.32**	**55**	P	**Pn**	**02 28 29.0**	**-0.6**
	baz=266,SNR=40						
G17K	**Kiwalik Mounta**	**19.50**	**44**	P	**Pn**	**02 28 31.0**	**-0.7**
	baz=254						
M16K	**Timber Creek**	**19.53**	**58**	IAmb	IAmb	02 28 33.2	
	comp=Z,378nm,0.9s						
M16K	**Timber Creek**	**19.53**	**58**	P	**Pn**	**02 28 31.7**	**-0.4**
	baz=268,SNR=75						
F17K	**Baldwin Pennin**	**19.57**	**41**	IAmb	IAmb	02 28 37.7	
	comp=Z,255nm,0.7s						
F17K	**Baldwin Pennin**	**19.57**	**41**	P	**Pn**	**02 28 32.3**	**-0.1**
	baz=250						
S14K	**Fog Glacier**	**19.57**	**72**	P	**Pn**	**02 28 32.3**	**-0.4**
	baz=281,SNR=26						
E17K	**Hotham Inlet**	**19.59**	**39**	P	**Pn**	**02 28 32.6**	**-0.1**
	baz=248,SNR=227						
N16K	**Nishlik Lake**	**19.61**	**59**	P	**Pn**	**02 28 32.6**	**-0.5**
	baz=270						
RDOG	**Red Dog Mine**	**19.61**	**36**	P	**P**	**02 28 31.1**	**-0.3**
RDOG	**Red Dog Mine**	**19.61**	**36**	P	**Pn**	**02 28 32.2**	**-0.7**
	baz=244,SNR=83						
JEM	**Erimo**	**19.64**	**238**	P	**Pn**	**02 28 34.7**	**+1.3**
ERM	**Erimo**	**19.64**	**238**	P	**Pn**	**02 28 32.8**	**-0.7**
ERM	**Erimo**	**19.64**	**238**	P	**Pn**	**02 28 35.0**	**+1.5**
ERM	**Erimo**	**19.64**	**238**	⇓eP	**Pn**	**02 28 32.8**	**-0.7**
ERM				pmax	pmax		
	comp=Z,129nm,1.2s						
H17K	**Granite Mounta**	**19.65**	**46**	IAmb	IAmb	02 28 34.6	
	comp=Z,255nm,0.8s						
H17K	**Granite Mounta**	**19.65**	**46**	P	**Pn**	**02 28 33.5**	**0.0**
	baz=256,SNR=74						
C17K	**DeLong Mountai**	**19.71**	**34**	P	**Pn**	**02 28 33.5**	**-0.7**
	baz=242						
YAK	**Yakutsk**	**19.86**	**305**	P	**P**	**02 28 33.4**	**-0.7**
YAK				IAmb	IAmb	02 28 35.0	
	comp=Z,446nm,1.4s						
YAK	**Yakutsk**	**19.86**	**305**	d iP	**P**	**02 28 33.0**	**-1.1**
YAK				pmax	pmax		
	comp=Z,238nm,1.0s						
YAK				MLR	MLR		
	comp=Z,533nm,19.0s						
YAK	**Yakutsk**	**19.86**	**305**	P	**P**	**02 28 33.2**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=84,slow=2.3,SNR=68						
YAK				LR	LR	02 37 12.0	
	comp=Z,25nm,18.9s,baz=97,slow=40						
CNBA	**Chernabura Isl**	**19.88**	**76**	P	**P**	**02 28 33.8**	**-0.5**
CNBA				IAmb	IAmb	02 28 39.9	
	comp=Z,211nm,0.7s						

L17K	Donlin	19.91	54	P	Pn	02 28 35.9	-0.6
	baz=265						
K17K	Iditarod	19.96	53	P	Pn	02 28 36.7	-0.5
	baz=264,SNR=287						
O16K	Kokwok River B	19.96	62	P	P	02 28 35.7	+0.5
	baz=273						
P16K	Nushagak River	20.05	63	P	P	02 28 36.8	+0.6
	baz=274,SNR=12						
E18K	Tukpahlearik C	20.16	39	IAmb	IAmb	02 28 43.1	
	comp=Z,327nm,0.8s						
E18K	Tukpahlearik C	20.16	39	P	Pn	02 28 38.8	-0.6
	baz=248						
CHGN	Chignik	20.19	71	IAmb	IAmb	02 28 40.2	
	comp=Z,512nm,1.0s						
CHGN				IAMs_20	IAMs_20	02 35 41.5	
	comp=Z,2µm,20.0s						
CHGN	Chignik	20.19	71	P	P	02 28 37.3	-0.4
	baz=282,SNR=32						
M17K	Holitna River	20.27	57	IAMs_20	IAMs_20	02 35 59.3	
	comp=Z,2µm,19.0s						
M17K	Holitna River	20.27	57	P	Pn	02 28 39.9	-1.0
	baz=268						
H18K	Honhosa River	20.34	46	IAmb	IAmb	02 28 41.8	
	comp=Z,274nm,0.8s						
H18K				IAMs_20	IAMs_20	02 36 47.6	
	comp=Z,3µm,18.0s						
H18K	Honhosa River	20.34	46	P	P	02 28 40.5	+1.1
	baz=257						
N17K	Nushagak Hills	20.39	59	P	P	02 28 40.6	+0.8
	baz=271,SNR=38						
G18K	Tagagawik	20.41	43	IAmb	IAmb	02 28 42.4	
	comp=Z,330nm,1.0s						
G18K	Tagagawik	20.41	43	P	Pn	02 28 41.3	-1.1
	baz=255						
R16K	Pilot Point	20.43	68	P	P	02 28 41.0	+0.7
	baz=279						
C18K	Utukok River	20.44	35	P	P	02 28 40.2	-0.2
C18K				IAmb	IAmb	02 28 45.2	
	comp=Z,282nm,0.9s						
C18K	Utukok River	20.44	35	P	P	02 28 41.1	+0.7
	baz=245						
O17K	Koliganek Bris	20.46	61	P	P	02 28 41.2	+0.6
	baz=273,SNR=69						
B18K	Kokolik River	20.57	33	P	P	02 28 42.7	+1.0
	baz=242,SNR=204						
L18K	Granite Mounta	20.67	54	IAMs_20	IAMs_20	02 36 10.9	
	comp=Z,2µm,22.0s						
L18K	Granite Mounta	20.67	54	P	P	02 28 44.1	+1.2
	baz=267,SNR=85						
J18K	Innoko River	20.76	51	P	P	02 28 44.9	+1.0
	baz=263,SNR=284						
Q16K	King Salmon	20.77	64	P	P	02 28 45.1	+1.1
	baz=276,SNR=153						
P17K	Kvichak River	20.83	63	P	P	02 28 45.7	+1.1
	baz=275,SNR=67						
GCSA	Galena City Sc	20.88	47	P	P	02 28 45.5	+0.4
	baz=260,SNR=76						
TEY	Ternei	21.00	254⇑	eP	P	02 28 48.1	+1.5
TEY				e		02 32 43.0	
TEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=Z,60nm,0.9s						
TEY				pmax	pmax		
	comp=Z,300nm,2.1s						
F19K	Shaleruckik Mo	21.01	41	IAmb	IAmb	02 28 50.5	
	comp=Z,403nm,0.9s						
F19K	Shaleruckik Mo	21.01	41	P	P	02 28 46.8	+0.3
	baz=254						
N18K	Kilae Creek	21.03	59	IAmb	IAmb	02 28 51.4	
	comp=Z,359nm,0.7s						
N18K	Kilae Creek	21.03	59	P	P	02 28 47.5	+0.8
	baz=272						
TTA	Tatalina	21.03	52	P	P	02 28 48.5	+1.6
TTA	Tatalina	21.03	52	P	P	02 28 47.7	+0.8
	baz=266,SNR=109						
R17K	Ugashik Creek	21.05	67	P	P	02 28 46.5	-0.5
R17K				IAMs_20	IAMs_20	02 36 06.0	
	comp=Z,2µm,19.0s						
R17K	Ugashik Creek	21.05	67	P	P	02 28 47.9	+0.9
	baz=279,SNR=44						
M18K	Stony River	21.05	56	P	P	02 28 47.9	+0.9
	baz=270,SNR=81						
G19K	Purcell Mounta	21.09	43	P	P	02 28 47.9	+0.5
	baz=256,SNR=73						
C19K	Lookout Ridge	21.16	35	IAmb	IAmb	02 28 50.1	
	comp=Z,435nm,0.9s						
C19K	Lookout Ridge	21.16	35	P	P	02 28 48.8	+0.6
	baz=246						
SVW2	Sparrevohn	21.17	57	P	P	02 28 49.4	+1.1
A19K	Wainwright	21.20	31	P	P	02 28 49.2	+0.8
	baz=241						
H19K	Roundabout Mou	21.21	45	IAmb	IAmb	02 28 53.3	
	comp=Z,331nm,0.8s						
H19K	Roundabout Mou	21.21	45	P	P	02 28 49.3	+0.6
	baz=258						
Q17K	Contact Creek	21.22	65	P	P	02 28 49.4	+0.4
	baz=278,SNR=38						
J19K	Poorman	21.31	49	IAmb	IAmb	02 28 53.1	
	comp=Z,174nm,0.8s						
J19K	Poorman	21.31	49	P	P	02 28 50.1	+0.3
	baz=263						
E19K	Redstone River	21.39	40	P	P	02 28 51.7	+1.0
	baz=253						
O18K	Koktuh Hills	21.41	61	IAmb	IAmb	02 28 52.8	
	comp=Z,423nm,1.2s						
O18K				IAMs_20	IAMs_20	02 36 32.3	
	comp=Z,3µm,20.0s						
O18K	Koktuh Hills	21.41	61	P	P	02 28 51.6	+0.8
	baz=274,SNR=32						
D19K	Kuna River	21.42	37	IAmb	IAmb	02 28 54.2	
	comp=Z,339nm,0.9s						
D19K				IAMs_20	IAMs_20	02 38 05.9	
	comp=Z,2µm,18.0s						
D19K	Kuna River	21.42	37	P	P	02 28 51.1	+0.1
	baz=249						
P18K	Big Mountain,	21.43	62	P	P	02 28 51.6	+0.4
P18K				IAmb	IAmb	02 28 53.0	
	comp=Z,267nm,0.8s						
P18K	Big Mountain,	21.43	62	P	P	02 28 51.8	+0.7
	baz=275,SNR=40						
KLR	Kul'dur	21.45	269⇑	eP	P	02 28 49.9	-1.5
KLR				pmax	pmax		
	comp=Z,97nm,1.0s						
KLR				MLR	MLR		
	comp=Z,1µm,23.0s						
KLR	Kul'dur	21.45	269	P	P	02 28 52.0	+0.6
	comp=Z,71nm,0.9s,baz=57,slow=11,SNR=68						
KLR				LR	LR	02 37 51.0	
	comp=Z,1µm,20.2s,baz=64,slow=38						
	comp=Z,71nm,0.9s						
L19K	White Mountain	21.52	54	IAMs_20	IAMs_20	02 36 48.4	
	comp=Z,2µm,20.0s						
L19K	White Mountain	21.52	54	P	P	02 28 52.8	+0.7
	baz=269,SNR=70						
JTM	Tenmabayashi	21.59	239	P	P	02 28 54.0	+1.0
JTM	Tenmabayashi	21.59	239	P	P	02 28 56.3	+3.3
Q18K	Katmai Hardscr	21.63	64	P	P	02 28 53.4	0.0
	baz=278,SNR=42						
N19K	Bonanza Creek	21.71	58	IAmb	IAmb	02 28 57.9	
	comp=Z,352nm,0.8s						
N19K				IAMs_20	IAMs_20	02 37 11.3	
	comp=Z,2µm,18.0s						
N19K	Bonanza Creek	21.71	58	P	P	02 28 54.8	+0.6
	baz=272,SNR=83						
O19K	Port Alsworth	21.83	60	IAMs_20	IAMs_20	02 37 06.4	
	comp=Z,3µm,20.0s						
O19K	Port Alsworth	21.83	60	P	P	02 28 55.8	+0.5
	baz=274,SNR=23						
F20K	Avaraart Lake	21.84	41	IAmb	IAmb	02 28 58.9	
	comp=Z,211nm,0.8s						
F20K	Avaraart Lake	21.84	41	P	P	02 28 56.0	+0.5
	baz=255						
H20K	Anotleneega Mo	21.84	45	P	P	02 28 55.9	+0.4
	baz=260,SNR=168						
I20K	Naaghedeneel	21.91	47	IAMs_20	IAMs_20	02 37 37.4	
	comp=Z,2µm,20.0s						
I20K	Naaghedeneel	21.91	47	P	P	02 28 56.5	+0.4
	baz=262						
K20K	Telida	21.94	51	P	P	02 28 56.5	-0.1
K20K				IAmb	IAmb	02 28 59.6	
	comp=Z,198nm,0.8s						
K20K				IAMs_20	IAMs_20	02 37 22.2	
	comp=Z,2µm,20.0s						
K20K	Telida	21.94	51	P	P	02 28 56.7	+0.2
	baz=266						

J20K	Nowinta River	21.98	49	P	P	02 28 57.0	+0.1
	baz=264,SNR=188						
L20K	Farewell, AK	21.99	54	P	P	02 28 57.1	+0.1
	baz=269,SNR=64						
E20K	Nigu River	22.01	38	P	P	02 28 57.7	+0.3
	baz=252						
R18K	Karluk	22.09	67	P	P	02 28 56.3	-1.8
	baz=280						
ZEA	Zeya	22.23	283	eP	P	02 28 59.5	-0.2
ZEA				eS	S	02 32 53.2	-8.5
ZEA				pmax	pmax		
	comp=E,100nm,4.0s						
ZEA				pmax	pmax		
	comp=Z,100nm,2.7s						
ZEA				pmax	pmax		
	comp=E,50nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,90nm,0.7s						
ZEA				smax	smax		
	comp=E,200nm,5.6s						
ZEA				smax	smax		
	comp=N,500nm,4.2s						
ZEA				MLR	MLR		
	comp=N,200nm,15.0s						
Q19K	Cape Douglas,	22.30	63	IAmb	IAmb	02 29 02.4	
	comp=Z,391nm,0.9s						
Q19K	Cape Douglas,	22.30	63	P	P	02 29 00.2	-0.2
	baz=278,SNR=9.4						
B20K	Meade River	22.31	33	P	P	02 29 00.0	-0.4
	baz=247						
M20K	Styx River	22.34	55	IAmb	IAmb	02 29 03.8	
	comp=Z,244nm,1.0s						
M20K				IAMs_20	IAMs_20	02 37 15.7	
	comp=Z,2µm,20.0s						
M20K	Styx River	22.34	55	P	P	02 29 01.4	+0.5
	baz=271,SNR=77						
P19K	Oil Pt	22.42	61	IAmb	IAmb	02 29 04.2	
	comp=Z,200nm,0.9s						
P19K	Oil Pt	22.42	61	P	P	02 29 02.1	+0.3
	baz=276,SNR=7.6						
SII	Sitkinak Islan	22.43	69	P	P	02 29 00.8	-1.2
SII				IAmb	IAmb	02 29 01.5	
	comp=Z,290nm,0.9s						
SII	Sitkinak Islan	22.43	69	P	P	02 29 01.9	0.0
SII	Sitkinak Islan	22.43	69	P	P	02 29 00.4	-1.5
	baz=283,SNR=7.3						
G21K	Allakaket	22.58	43	IAmb	IAmb	02 29 18.0	
	comp=Z,234nm,0.9s						
G21K	Allakaket	22.58	43	P	P	02 29 03.0	-0.4
	baz=259						
O20K	Slope Mountain	22.68	60	P	P	02 29 04.5	-0.1
	baz=276,SNR=14						
H21K	Melozitna Rive	22.72	45	IAmb	IAmb	02 29 19.2	
	comp=Z,371nm,1.1s						
H21K				IAMs_20	IAMs_20	02 38 12.7	
	comp=Z,2µm,19.0s						
H21K	Melozitna Rive	22.72	45	P	P	02 29 04.4	-0.4
	baz=262						
F21K	Alatna River	22.73	41	IAmb	IAmb	02 29 07.5	
	comp=Z,310nm,0.9s						
F21K	Alatna River	22.73	41	P	P	02 29 05.0	0.0
	baz=258						
CHUM	Lake Minchumin	22.75	50	P	P	02 29 05.7	+0.5
	baz=267,SNR=136						
OHAK	Old Harbor	22.77	67	IAmb	IAmb	02 29 06.4	
	comp=Z,409nm,1.1s						
OHAK	Old Harbor	22.77	67	P	P	02 29 03.7	-1.7
	baz=282,SNR=25						
PPLA	Purkeypile	22.77	53	P	P	02 29 06.1	+0.5
	baz=269,SNR=49						
C21K	Knifeblade Rid	22.79	36	P	P	02 29 05.4	-0.1
	baz=252,SNR=308						
N20K	Mount Spurr	22.80	57	P	P	02 29 06.0	+0.2
	baz=273						
CAST	Castle Rocks	22.84	51	IAmb	IAmb	02 29 08.7	
	comp=Z,334nm,0.8s						
CAST				IAMs_20	IAMs_20	02 38 00.8	
	comp=Z,2µm,20.0s						
CAST	Castle Rocks	22.84	51	P	P	02 29 06.3	+0.2
	baz=268,SNR=340						
E21K	Killik River	22.86	38	IAmb	IAmb	02 29 07.5	
	comp=Z,273nm,0.8s						
E21K	Killik River	22.86	38	P	P	02 29 05.6	-0.7
	baz=254						
TIXI	Tiksi	22.90	331	P	P	02 29 06.1	-0.5
TIXI	Tiksi	22.90	331 c	iP	P	02 29 05.9	-0.7
TIXI				pmax	pmax		
	comp=Z,81nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,619nm,17.0s						
TIXI	Tiksi	22.90	331	P	P	02 29 05.5	-1.1
	comp=Z,2.0nm,0.7s,baz=125,slow=8.8,SNR=94						
TIXI				LR	LR	02 38 42.1	
	comp=Z,24nm,19.6s,baz=136,slow=38						
Q20K	Shuyak Island	22.99	64	P	P	02 29 06.8	-0.8
	baz=279,SNR=16						
SYI	Shuyak Island	22.99	64	P	P	02 29 06.6	-1.1
B21K	Ikpikpuk River	22.99	35	P	P	02 29 07.2	-0.4
	baz=251						
I21K	Tanana	23.00	47	IAMs_20	IAMs_20	02 38 12.3	
	comp=Z,2µm,20.0s						
I21K	Tanana	23.00	47	P	P	02 29 07.8	0.0
	baz=264						
A21K	Barrow	23.02	30	P	P	02 29 06.9	-1.0
	baz=244,SNR=16						
KDAK	Kodiak Island	23.03	66	P	P	02 29 06.5	-1.6
KDAK				IAmb	IAmb	02 29 09.9	
	comp=Z,243nm,0.8s						
KDAK	Kodiak Island	23.03	66	P	P	02 29 06.3	-1.8
	baz=281						
KDAK	Kodiak Island	23.03	66	P	P	02 29 06.5	-1.6
KDAK				pmax	pmax		
	comp=Z,243nm,0.9s						
KDAK	Kodiak Island	23.03	66	P	P	02 29 06.4	-1.6
	comp=Z,163nm,0.6s,baz=316,slow=6.0,SNR=137						
KDAK				LR	LR	02 37 33.6	
	comp=Z,1µm,21.9s,baz=273,slow=35						
	comp=Z,163nm,0.6s						
SKT	Skwentna	23.09	55	IAmb	IAmb	02 29 10.5	
	comp=Z,359nm,1.0s						
SKT				IAMs_20	IAMs_20	02 37 37.6	
	comp=Z,2µm,20.0s						
SKT	Skwentna	23.09	55	P	P	02 29 08.9	+0.2
	baz=272,SNR=130						
HOM	Homer	23.22	61	P	P	02 29 10.3	+0.3
	baz=277,SNR=8.9						
F22K	John River	23.29	41	P	P	02 29 10.7	+0.1
	baz=258						
H22K	Ishtalitna Cre	23.34	45	P	P	02 29 11.2	+0.1
	baz=263						
BPAW	Bear Paw Mtn.	23.35	50	IAmb	IAmb	02 29 12.1	
	comp=Z,216nm,0.8s						
BPAW	Bear Paw Mtn.	23.35	50	P	P	02 29 11.4	+0.1
	baz=268,SNR=137						
KTH	Kantishna Hill	23.36	51	IAMs_20	IAMs_20	02 38 15.9	
	comp=Z,2µm,21.0s						
A22K	Sinclair Lake	23.38	32	P	P	02 29 10.6	-0.8
	baz=247,SNR=317						
D22K	Ayikyak River	23.43	37	P	P	02 29 10.9	-1.1
D22K				IAMs_20	IAMs_20	02 39 39.5	
	comp=Z,2µm,18.0s						
D22K	Ayikyak River	23.43	37	P	P	02 29 11.9	-0.1
	baz=255						
G22K	Bettles	23.44	42	P	P	02 29 11.7	-0.3
	baz=260,SNR=426						
CNPM	China Poot	23.44	61	IAmb	IAmb	02 29 14.5	
	comp=Z,370nm,0.9s						
CNPM				IAMs_20	IAMs_20	02 37 57.9	
	comp=Z,2µm,20.0s						
HEH	HeiHe	23.48	274	eP	P	02 29 10.1	-2.5
HEH				sP	sP	02 29 24.2	-1.3
HEH				S	S	02 33 20.2	-2.8
HEH				ScS	ScS	02 40 16.6	-1.3
HEH				pmax	pmax		
	comp=Z,31nm,0.8s						
HEH				pmax	pmax		
	comp=Z,540nm,5.3s						
HEH				LR	LR		
	comp=Z,380nm,23.1s						
HEH				LR	LR		
	comp=Z,850nm,22.6s						
HEH				LR	LR		
	comp=Z,1µm,23.7s						
SUA	Susitna One	23.49	56	IAMs_20	IAMs_20	02 37 41.4	
	comp=Z,2µm,20.0s						
SUA	Susitna One	23.49	56	P	P	02 29 12.2	-0.5
	baz=274,SNR=190						
MLY	Manley	23.52	47	IAmb	IAmb	02 29 14.4	

	comp=Z,628nm,1.6s						
MLY				IAMs_20	IAMs_20	02 38 36.9	
	comp=Z,2µm,20.0s						
MLY	Manley	23.52	47	P	P	02 29 12.8	0.0
	baz=266,SNR=122						
E22K	Anaktuvuk Pass	23.56	39	P	P	02 29 13.3	+0.1
	baz=257						
BRLK	Bradley Lake	23.59	60	P	P	02 29 11.4	-2.2
BRLK				IAmb	IAmb	02 29 16.7	
	comp=Z,230nm,1.0s						
B22K	Teshekpuk Lake	23.62	34	P	P	02 29 13.2	-0.5
	baz=251						
TRF	Thorofare Moun	23.64	51	IAMs_20	IAMs_20	02 38 25.4	
	comp=Z,2µm,20.0s						
TRF	Thorofare Moun	23.64	51	P	P	02 29 14.2	-0.1
	baz=270,SNR=230						
BRSE	Bradley Lake S	23.66	60	P	P	02 29 12.8	-1.5
	baz=278,SNR=12						
CUT	Chulitna	23.67	54	IAMs_20	IAMs_20	02 37 57.1	
	comp=Z,2µm,21.0s						
CUT	Chulitna	23.67	54	P	P	02 29 13.4	-0.9
	baz=272,SNR=42						
G23K	Bananza Creek	23.99	43	P	P	02 29 16.7	-0.5
	baz=262,SNR=76						
COLD	Coldfoot	23.99	42	P	P	02 29 16.9	-0.3
	baz=261,SNR=711						
RC01	Rabbit Creek A	24.00	57	P	P	02 29 16.0	-1.4
RC01				IAmb	IAmb	02 29 19.8	
	comp=Z,218nm,1.3s						
RC01				IAMs_20	IAMs_20	02 38 11.0	
	comp=Z,2µm,22.0s						
RC01	Rabbit Creek A	24.00	57	P	P	02 29 16.0	-1.4
	baz=276,SNR=29						
JMM	Marumori	24.01	235	P	P	02 29 17.5	-0.1
JMM				IAmb	IAmb	02 29 28.9	
	comp=Z,239nm,1.1s						
JMM	Marumori	24.01	235	P	P	02 29 20.6	+3.0
O22K	Cooper Landing	24.07	59	P	P	02 29 16.6	-1.4
	baz=277,SNR=30						
USA0B	Ussuriysk Arra	24.10	257	P	P	02 29 18.2	-0.1
USA0B	Ussuriysk Arra	24.10	257	P	P	02 29 18.3	-0.1
USA0B				pmax	pmax		
	comp=Z,61nm,1.1s						
USA0B				MLR	MLR		
	comp=Z,1µm,20.0s						
USRK	Ussuriysk Ar.	24.10	257	P	P	02 29 18.1	-0.3
	comp=Z,26nm,0.7s,baz=52,slow=9.2,SNR=29						
USRK				LR	LR	02 39 13.1	
	comp=Z,922nm,21.0s,baz=47,slow=38						
	comp=Z,26nm,0.7s						
I23K	Minto, Yukon-K	24.11	47	P	P	02 29 18.4	+0.1
	baz=267,SNR=320						
NEA2	Nenana	24.20	48	IAMs_20	IAMs_20	02 39 19.2	
	comp=Z,1µm,20.0s						
NEA2	Nenana	24.20	48	P	P	02 29 18.8	-0.5
	baz=268,SNR=312						
MCK	McKinley	24.25	50	P	P	02 29 19.1	-0.6
	baz=270,SNR=215						
PMR	Palmer	24.25	56	P	P	02 29 19.4	-0.2
PMR	Palmer	24.25	56	P	P	02 29 17.7	-1.9
	baz=275,SNR=30						
SEW	Seward	24.26	59	P	P	02 29 18.3	-1.4
	baz=278,SNR=28						
RND	Reindeer	24.29	51	IAMs_20	IAMs_20	02 38 57.4	
	comp=Z,2µm,19.0s						
GHO	Glory Hole Cre	24.34	55	IAmb	IAmb	02 29 22.9	
	comp=Z,227nm,0.8s						
GHO				IAMs_20	IAMs_20	02 38 29.7	
	comp=Z,2µm,21.0s						
E23K	Chandalar	24.35	40	P	P	02 29 20.8	+0.2
	baz=260,SNR=970						
C23K	Itkillik River	24.39	35	IAMs_20	IAMs_20	02 40 23.9	
	comp=Z,2µm,18.0s						
C23K	Itkillik River	24.39	35	P	P	02 29 20.5	-0.4
	baz=255						
WAT1	Susitna Watana	24.44	53	P	P	02 29 20.1	-1.3
	baz=273						
TOLK	Toolik Lake Re	24.48	39	P	P	02 29 21.6	-0.1
TOLK	Toolik Lake Re	24.48	39	P	P	02 29 21.6	-0.1
	baz=259,SNR=594						
MDM	Murphy Dome	24.58	48	IAmb	IAmb	02 29 37.5	
	comp=Z,311nm,1.0s						
MDM				IAMs_20	IAMs_20	02 39 29.0	
	comp=Z,1µm,19.0s						
KNK	Knik Glacier	24.59	56	IAMs_20	IAMs_20	02 38 28.5	
	comp=Z,2µm,21.0s						
KNK	Knik Glacier	24.59	56	P	P	02 29 21.4	-1.3
	baz=276,SNR=91						
SML	Sawmill	24.61	55	IAMs_20	IAMs_20	02 38 38.1	
	comp=Z,2µm,20.0s						
SML	Sawmill	24.61	55	P	P	02 29 21.9	-1.1
	baz=275,SNR=92						
WRH	Wood River Hil	24.62	49	IAmb	IAmb	02 29 25.2	
	comp=Z,159nm,0.8s						
COLA	College	24.73	48	P	P	02 29 23.8	-0.2
COLA	College	24.73	48	IAMs_20	IAMs_20	02 39 24.1	
	comp=Z,2µm,20.0s						
COLA	College	24.73	48	P	P	02 29 24.1	+0.1
COLA	College	24.73	48	P	P	02 29 24.0	+0.1
	baz=269						
COLA	College	24.73	48 c	iP	P	02 29 25.1	+1.1
COLA				pmax	pmax		
	comp=Z,171nm,1.5s						
CCB	Clear Creek Bu	24.75	48	IAMs_20	IAMs_20	02 39 14.6	
	comp=Z,1µm,19.0s						
H24K	Noodor Dome	24.77	45	IAmb	IAmb	02 29 39.9	
	comp=Z,190nm,1.1s						
H24K				IAMs_20	IAMs_20	02 39 36.0	
	comp=Z,2µm,18.0s						
H24K	Noodor Dome	24.77	45	P	P	02 29 24.4	+0.1
	baz=267,SNR=124						
E24K	Your Creek	24.77	40	P	P	02 29 24.7	+0.3
	baz=261						
WAT6	Susitna Watana	24.83	53	P	P	02 29 23.8	-1.3
	baz=274,SNR=66						
D24K	Happy Valley	24.84	37	IAMs_20	IAMs_20	02 40 20.4	
	comp=Z,2µm,20.0s						
D24K	Happy Valley	24.84	37	P	P	02 29 24.8	-0.1
	baz=258						
M23K	Glacier View	24.90	55	P	P	02 29 24.9	-0.7
	baz=276,SNR=152						
F24K	Squaw Lake	24.92	41	IAmb	IAmb	02 29 26.4	
	comp=Z,231nm,0.7s						
F24K				IAMs_20	IAMs_20	02 39 06.7	
	comp=Z,1µm,21.0s						
F24K	Squaw Lake	24.92	41	P	P	02 29 25.6	-0.1
	baz=263,SNR=340						
POKR	Poker Plat Res	24.92	47	IAmb	IAmb	02 29 27.7	
	comp=Z,200nm,0.8s						
POKR	Poker Plat Res	24.92	47	IAMs_20	IAMs_20	02 39 19.1	
	comp=Z,2µm,20.0s						
POKR	Poker Plat Res	24.92	47	P	P	02 29 25.8	0.0
	baz=268,SNR=135						
DHY	Denali Highway	24.97	52	IAMs_20	IAMs_20	02 38 59.4	
	comp=Z,2µm,22.0s						
DHY	Denali Highway	24.97	52	P	P	02 29 25.4	-1.0
	baz=273,SNR=136						
G24K	Hadweenzic Riv	24.99	43	IAMs_20	IAMs_20	02 39 34.7	
	comp=Z,1µm,19.0s						
G24K	Hadweenzic Riv	24.99	43	P	P	02 29 26.7	+0.3
	baz=265						
C24K	Franklin Bluff	25.01	36	P	P	02 29 25.9	-0.5
	baz=257						
SCM	Sheep Creek Mo	25.09	55	IAMs_20	IAMs_20	02 38 30.5	
	comp=Z,2µm,22.0s						
SCM	Sheep Creek Mo	25.09	55	P	P	02 29 26.9	-0.4
	baz=276,SNR=119						
HDA	Harding Lake	25.12	49	IAmb	IAmb	02 29 29.1	
	comp=Z,249nm,0.9s						
HDA				IAMs_20	IAMs_20	02 38 56.3	
	comp=Z,1µm,21.0s						
HDA	Harding Lake	25.12	49	P	P	02 29 26.4	-1.2
	baz=270,SNR=162						
ILAR	Eielson Array	25.15	48	P	P	02 29 27.0	-0.8
ILAR	Eielson Array	25.15	48	P	P	02 29 26.9	-0.8
	comp=Z,313nm,0.8s,baz=253,slow=8.6,SNR=1301						
ILAR				LR	LR	02 39 58.4	
	comp=Z,1µm,19.2s,baz=266,slow=38						
MDJ	Mudanjiang	25.20	261	P	P	02 29 28.9	+0.5
MDJ				pP	pP	02 29 37.8	+0.3
MDJ				sP	sP	02 29 43.6	+1.9
MDJ				S	S	02 33 51.9	+1.1
MDJ				pmax	pmax		
	comp=Z,170nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,600nm,4.0s						
MDJ				LR	LR		
	comp=Z,600nm,23.4s						

MDJ LR LR
comp=Z,890nm,20.6s
MDJ LR LR
comp=Z,1µm,23.4s
MDJ Mudanjiang 25.20 261 P P 02 29 29.1 +0.7
P23K Montague Islan 25.29 59 P P 02 29 28.3 -0.8
baz=280,SNR=11
G25K Bearman Lake 25.54 43 P P 02 29 31.4 +0.1
baz=266
M24K Tolsona, Glenn 25.60 54 P P 02 29 32.3 +0.3
baz=276,SNR=113
MSHR Mys Shultsa 25.60 255⇑*e*P **P 02 29 30.7 -1.3**
MSHR pmax pmax
comp=Z,56nm,0.8s
FID Port Fidalgo 25.63 57 IAmb IAmb 02 29 35.5
comp=Z,311nm,0.8s
K24K Donnelly Dome 25.65 50 P P 02 29 31.2 -1.2
baz=273,SNR=68
HIN Hinchinbrook I 25.67 58 IAmb IAmb 02 29 32.9
comp=Z,250nm,1.0s
PRP Porcupine Dome 25.73 46 IAMs_20 IAMs_20 02 40 05.3
comp=Z,2µm,20.0s
PRP Porcupine Dome 25.73 46 P P 02 29 32.6 -0.6
baz=269,SNR=249
D25K Kavik River 25.73 37 P P 02 29 32.6 -0.5
baz=261
F25K Christian Rive 25.78 41 P P 02 29 33.8 +0.2
baz=265
KLU Klutina 25.79 56 P P 02 29 33.4 -0.3
KLU IAmb IAmb 02 29 38.4
comp=Z,276nm,0.8s
KLU IAMs_20 IAMs_20 02 39 06.2
comp=Z,2µm,22.0s
KLU Klutina 25.79 56 P P 02 29 33.3 -0.4
baz=278,SNR=78
BNX BinXian 25.80 265⇓P **P 02 29 33.6 -0.2**
BNX pP **pP 02 29 42.1 -0.9**
BNX sP **sP 02 29 46.1 -0.9**
BNX PP **PnPn 02 30 10.8 -0.9**
BNX S **S 02 34 01.3 +1.2**
BNX sS **sS 02 34 16.2 +0.7**
BNX pmax pmax
comp=Z,230nm,1.1s
BNX pmax pmax
comp=Z,130nm,4.3s
BNX LR LR
comp=Z,580nm,22.8s
BNX LR LR
comp=Z,250nm,12.5s
BNX LR LR
comp=Z,680nm,22.8s
J25K Salcha River, 25.80 48 IAMs_20 IAMs_20 02 39 58.1
comp=Z,1µm,20.0s
J25K Salcha River, 25.80 48 P P 02 29 32.0 -1.8
baz=272
PAX Paxson 25.84 52 P P 02 29 33.8 -0.4
baz=275,SNR=140
E25K Arctic Village 25.86 40 P P 02 29 34.6 +0.4
baz=264,SNR=328
FYU Fort Yukon 25.88 44 IAMs_20 IAMs_20 02 40 12.1
comp=Z,1µm,19.0s
EYAK Cordova Ski Ar 26.01 58 P P 02 29 35.8 +0.2
EYAK Cordova Ski Ar 26.01 58 P P 02 29 35.3 -0.3
baz=280,SNR=24
HARP HAARP 26.04 53 P P 02 29 36.0 +0.1
baz=276,SNR=40
RIDG Independent Ri 26.07 50 IAmb IAmb 02 29 35.9
comp=Z,318nm,1.2s
RIDG IAMs_20 IAMs_20 02 40 10.5
comp=Z,1µm,19.0s
RIDG Independent Ri 26.07 50 P P 02 29 34.8 -1.4
baz=274,SNR=40
MAJO Matsushiro 26.30 237 P P 02 29 40.1 +1.6
MAJO Matsushiro 26.30 237 P P 02 29 40.6 +2.1
MAJO Matsushiro 26.30 237*d i*P **P 02 29 40.2 +1.7**
MAJO pmax pmax
comp=Z,341nm,0.9s
MJAR Matsushiro Arr 26.30 237 P P 02 29 39.9 +1.4
comp=Z,144nm,0.8s,baz=28,slow=8.4,SNR=268
MJAR ScP **ScP 02 36 39.4 -0.5**
comp=Z,0.9nm,0.7s,baz=0.8,slow=1.9,SNR=4.1
comp=Z,144nm,0.8s
C26K Camden Bay 26.34 36 P P 02 29 38.7 +0.3
baz=261
F26K Sheenjek River 26.36 41 P P 02 29 39.1 +0.3
baz=266,SNR=138
N25K Chitina, Valde 26.40 55 IAmb IAmb 02 29 40.2
comp=Z,173nm,0.7s
N25K IAMs_20 IAMs_20 02 39 36.6
comp=Z,2µm,21.0s
N25K Chitina, Valde 26.40 55 P P 02 29 39.2 0.0
baz=278,SNR=61
SCRK Sand Creek 26.43 50 IAmb IAmb 02 29 39.4
comp=Z,174nm,0.8s
SCRK Sand Creek 26.43 50 P P 02 29 38.1 -1.5
baz=274,SNR=113
G26K Porcupine Rive 26.46 43 P P 02 29 40.1 +0.5
baz=268
BMRM Bremner River 26.50 57 P P 02 29 39.9 -0.2
baz=280,SNR=48
RAGM Ragged Mountai 26.57 58 IAmb IAmb 02 29 55.9
comp=Z,266nm,0.9s
J26L Joseph Creek 26.58 49 IAMs_20 IAMs_20 02 40 33.1
comp=Z,1µm,20.0s
J26L Joseph Creek 26.58 49 P P 02 29 38.7 -2.1
baz=273,SNR=69
MENT Mentasta 26.64 52 IAmb IAmb 02 30 00.3
comp=Z,97nm,0.6s
MENT IAMs_20 IAMs_20 02 40 09.8
comp=Z,2µm,20.0s
MENT Mentasta 26.64 52 P P 02 29 42.0 +0.6
I26K Coal Creek Min 26.72 47 IAMs_20 IAMs_20 02 40 46.2
comp=Z,2µm,19.0s
I26K Coal Creek Min 26.72 47 P P 02 29 40.3 -1.7
baz=272
KAIM Kayak Island 26.78 59 P P 02 29 42.9 +0.4
baz=282,SNR=11
GLB Gilahina Butte 26.80 55 IAmb IAmb 02 29 56.5
comp=Z,278nm,1.2s
GLB IAMs_20 IAMs_20 02 39 49.1
comp=Z,2µm,21.0s
L26K Log Cabin Wild 26.80 52 IAMs_20 IAMs_20 02 40 26.0
comp=Z,2µm,20.0s
L26K Log Cabin Wild 26.80 52 P P 02 29 42.4 -0.4
baz=276,SNR=32
VRDI Verde Repeater 27.01 56 IAmb IAmb 02 29 58.4
comp=Z,146nm,1.0s
VRDI IAMs_20 IAMs_20 02 39 44.5
comp=Z,2µm,22.0s
BERG Berg Lake 27.04 58 IAmb IAmb 02 29 46.2
comp=Z,224nm,1.2s
M26K Nabesna, AK 27.04 53 IAmb IAmb 02 29 59.4
comp=Z,238nm,1.0s
M26K IAMs_20 IAMs_20 02 40 04.0
comp=Z,1µm,21.0s
M26K Nabesna, AK 27.04 53 P P 02 29 45.3 +0.4
baz=278
MCARA McCarthy VSAT 27.18 55 P P 02 29 45.5 -0.7
MCARA IAmb IAmb 02 29 57.0
comp=Z,151nm,0.8s
MCARA IAMs_20 IAMs_20 02 39 51.2
comp=Z,2µm,21.0s
MCARA McCarthy VSAT 27.18 55 P P 02 29 46.3 +0.1
baz=280,SNR=14
CRQE Cirque 27.26 57 P P 02 29 47.2 +0.1
baz=281,SNR=29
K27K Chicken 27.27 49 IAmb IAmb 02 29 47.8
comp=Z,252nm,0.9s
K27K Chicken 27.27 49 P P 02 29 46.5 -0.4
baz=275
G27K Doyon Strip 27.30 43 IAmb IAmb 02 29 49.9
comp=Z,256nm,1.5s
G27K Doyon Strip 27.30 43 P P 02 29 47.5 +0.3
baz=270
E27K Coleen River 27.35 40 IAmb IAmb 02 29 48.9
comp=Z,127nm,0.9s
E27K Coleen River 27.35 40 P P 02 29 47.8 +0.2
baz=268
I27K Kandik River 27.35 46 P P 02 29 46.4 -1.4
baz=273,SNR=24
H27K Steamboat Moun 27.36 45 P P 02 29 47.9 +0.1
baz=272
TGL Tana Glacier 27.39 57 IAmb IAmb 02 29 48.8
comp=Z,83nm,0.6s
L27K Beaver Creek, 27.49 52 IAMs_20 IAMs_20 02 40 56.0
comp=Z,2µm,19.0s
L27K Beaver Creek, 27.49 52 P P 02 29 49.1 +0.2
baz=278,SNR=210

SNH Sunshine Point 27.50 58 IAmb IAmb 02 29 51.8
comp=Z,170nm,1.0s
BCAR Beaver Creek A 27.50 52 P P 02 29 49.1 0.0
M27K Edge Creek, AK 27.56 53 IAmb IAmb 02 30 04.2
comp=Z,239nm,1.0s
M27K IAMs_20 IAMs_20 02 40 20.8
comp=Z,2µm,21.0s
M27K Edge Creek, AK 27.56 53 P P 02 29 50.3 +0.5
baz=279
EGAK Eagle 27.60 48 IAmb IAmb 02 29 49.7
comp=Z,218nm,0.8s
EGAK IAMs_20 IAMs_20 02 41 21.6
comp=Z,1µm,19.0s
EGAK Eagle 27.60 48 P P 02 29 48.6 -1.2
baz=275,SNR=139
D27M Malcolm River 27.64 38 P P 02 29 50.2 0.0
baz=266
JSG Sagara 27.82 235 P P 02 29 53.0 +0.9
JSG Sagara 27.82 235 P P 02 29 55.2 +3.1
GRNC Granite Creek 27.91 56 IAmb IAmb 02 30 07.5
comp=Z,167nm,0.9s
F28M Old Crow 27.99 42 IAmb IAmb 02 29 55.0
comp=Z,244nm,0.9s
F28M Old Crow 27.99 42 P P 02 29 53.9 +0.5
baz=270,SNR=231
BVCY Beaver Creek 28.02 53 P P 02 29 54.3 +0.6
baz=280,SNR=47
I28M Miner Creek 28.06 46 IAMs_20 IAMs_20 02 42 04.1
comp=Z,2µm,18.0s
I28M Miner Creek 28.06 46 P P 02 29 53.3 -0.8
baz=274,SNR=40
CTG Chitna Glacier 28.06 56 P P 02 29 54.6 +0.4
baz=282,SNR=27
CN2 Changchun 28.07 263 P P 02 29 54.2 0.0
CN2 S **S 02 34 35.6 -0.3**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,700nm,20.0s
CTGM Chitina Glacie 28.07 56 IAmb IAmb 02 29 55.6
comp=Z,101nm,0.8s
E28M Babbage River 28.13 40 IAmb IAmb 02 29 55.8
comp=Z,313nm,1.5s
E28M IAMs_20 IAMs_20 02 41 32.7
comp=Z,1µm,20.0s
E28M Babbage River 28.13 40 P P 02 29 54.6 +0.1
baz=269,SNR=184
BOD Bodaibo 28.16 297*e*P **P 02 29 54.7 -0.2**
BOD pmax pmax
comp=Z,38nm,1.5s
LOGN Logan Glacier 28.25 56 IAmb IAmb 02 29 57.0
comp=Z,118nm,0.8s
LOGN IAMs_20 IAMs_20 02 40 47.1
comp=Z,2µm,22.0s
YUK3 Moose Creek 28.32 54 P P 02 29 56.6 0.0
baz=281,SNR=29
HIA Hailar 28.34 278 P P 02 29 56.0 -0.7
HIA Hailar 28.34 278 P P 02 29 57.6 +0.9
HIA Hailar 28.34 278*ce*P **P 02 29 56.8 +0.1**
HIA pmax pmax
comp=Z,7.0nm,0.6s
JHJ Hachijo jima 2 28.39 230 LR LR 02 41 38.0
comp=Z,136nm,21.4s,baz=88,slow=37
D28M Stokes Point 28.43 38 P P 02 29 57.1 0.0
baz=268,SNR=59
DAWY Dawson 28.44 49 P P 02 29 57.0 -0.3
baz=278,SNR=72
H29M Whitestone 28.64 45 IAmb IAmb 02 30 00.6
comp=Z,106nm,0.7s
E29M Blow River 28.73 40 IAmb IAmb 02 30 01.4
comp=Z,231nm,1.1s
E29M Blow River 28.73 40 P P 02 30 00.2 +0.4
baz=271,SNR=207
G29M Pine Creek 28.73 43 P P 02 30 00.9 +0.9
baz=273,SNR=203
YUK8 Steele Glacier 28.75 55 P P 02 30 00.2 -0.2
baz=282,SNR=19
I29M Ogilvie Camp, 28.75 46 IAmb IAmb 02 30 00.8
comp=Z,311nm,1.7s
I29M IAMs_20 IAMs_20 02 42 36.2
comp=Z,1µm,18.0s
PINM Pinnacle 28.78 57 P P 02 30 00.6 +0.1
baz=284,SNR=14
M29M Somme Creek 29.11 52 IAmb IAmb 02 30 05.1
comp=Z,107nm,0.8s
M29M IAMs_20 IAMs_20 02 41 56.0
comp=Z,1µm,19.0s
M29M Somme Creek 29.11 52 P P 02 30 03.9 +0.4
baz=281,SNR=68
L29M L29M 29.14 51 P P 02 30 04.6 +1.0
baz=280
YUK4 Talbot Arm 29.26 55 P P 02 30 04.9 +0.1
baz=283,SNR=34
K29M Barlow Dome 29.29 49 P P 02 30 04.8 -0.2
baz=279,SNR=38
EPYK Eagle Plains 29.30 44 IAMs_20 IAMs_20 02 42 29.4
comp=Z,1µm,19.0s
EPYK Eagle Plains 29.30 44 P P 02 30 05.3 +0.3
baz=276,SNR=122
PNL Peninsula 29.31 58 P P 02 30 05.6 +0.5
PNL Peninsula 29.31 58 P P 02 30 05.0 -0.1
baz=285,SNR=7.8
HHU Hamhung 29.41 255 P P 02 30 07.4 +1.3
G30M tAoh Zraii Nji 29.44 43 P P 02 30 05.3 -0.9
G30M IAmb IAmb 02 30 07.2
comp=Z,150nm,0.8s
G30M tAoh Zraii Nji 29.44 43 P P 02 30 06.1 -0.1
baz=275
YUK6 Outpost Mounta 29.48 55 P P 02 30 07.2 +0.2
baz=284,SNR=22
O29M Mount Kennedy 29.54 57 IAMs_20 IAMs_20 02 41 40.3
comp=Z,2µm,22.0s
O29M Mount Kennedy 29.54 57 P P 02 30 07.5 +0.2
baz=285,SNR=25
F30M Barrier River 29.56 42 P P 02 30 07.8 +0.6
baz=274
I30M Mount Dempster 29.57 46 IAMs_20 IAMs_20 02 43 02.7
comp=Z,1µm,18.0s
I30M Mount Dempster 29.57 46 P P 02 30 07.0 -0.6
baz=278
J30M Hart River 29.68 48 IAMs_20 IAMs_20 02 42 20.0
comp=Z,1µm,20.0s
J30M Hart River 29.68 48 P P 02 30 08.0 -0.5
baz=279,SNR=18
M30M Minto, Yukon 29.85 52 P P 02 30 10.3 +0.4
baz=282,SNR=29
HYT Haines Junctio 29.92 55 IAmb IAmb 02 30 12.3
comp=Z,184nm,1.0s
HYT Haines Junctio 29.92 55 P P 02 30 11.3 +0.6
baz=285,SNR=54
N30M Aishikik Lake 29.96 54 IAMs_20 IAMs_20 02 42 19.4
comp=Z,1µm,19.0s
N30M Aishikik Lake 29.96 54 P P 02 30 10.6 -0.3
baz=284
MAYO Mayo, Yukon 30.04 50 IAmb IAmb 02 30 19.7
comp=Z,109nm,0.7s
MAYO IAMs_20 IAMs_20 02 42 52.3
comp=Z,1µm,19.0s
P29M Windy Craggy 30.13 58 IAmb IAmb 02 30 39.0
comp=Z,116nm,0.8s
P29M Windy Craggy 30.13 58 P P 02 30 12.9 +0.5
baz=286,SNR=26
G31M Satah River 30.21 43 IAmb IAmb 02 30 13.9
comp=Z,141nm,0.8s
G31M Satah River 30.21 43 P P 02 30 12.6 -0.3
baz=277,SNR=78
INK Inuvik 30.35 40 P P 02 30 14.3 +0.1
INK Inuvik 30.35 40 P P 02 30 14.5 +0.3
baz=275,SNR=209
INK Inuvik 30.35 40 P P 02 30 14.3 +0.1
INK pmax pmax
comp=Z,236nm,1.0s
INK Inuvik 30.35 40 LR LR 02 42 51.6
comp=Z,643nm,21.2s,baz=196,slow=37
F31M Tsiigehtchic 30.36 42 P P 02 30 14.2 0.0
baz=276,SNR=122
P30M Million Dollar 30.37 57 P P 02 30 14.9 +0.4
baz=286
SNY Shenyang 30.38 262⇓P **P 02 30 15.4 +0.7**
SNY S **S 02 35 12.3 +0.1**
SNY pmax pmax
comp=Z,41nm,0.8s
SNY pmax pmax
comp=Z,330nm,3.5s

SNY LR LR
comp=Z,490nm,21.6s
SNY LR LR
comp=Z,310nm,18.0s
SNY LR LR
comp=Z,810nm,16.0s
CIT Chita 30.54 286*e*P **P 02 30 17.2 +1.0**
CIT *e* 02 30 30.5
CIT *e* 02 31 32.6
CIT pmax pmax
comp=Z,163nm,1.7s
N31M Braeburn, Yuko 30.56 54 P P 02 30 16.8 +0.5
baz=285,SNR=11
O30N Mendenhall 30.61 55 IAMs_20 IAMs_20 02 42 23.3
comp=Z,1µm,21.0s
O30N Mendenhall 30.61 55 P P 02 30 17.1 +0.5
baz=286,SNR=27
JMN Monobe 30.67 239 IAmb IAmb 02 30 27.5
comp=Z,192nm,1.3s
JMN IAMs_20 IAMs_20 02 41 50.8
comp=Z,1µm,22.0s
KSRS Korea Array 30.94 251 P P 02 30 22.1 +2.4
comp=Z,54nm,0.8s,baz=42,slow=9.0,SNR=204
KSRS ScP **ScP 02 36 54.5 +0.1**
comp=Z,5.4nm,1.1s,baz=52,slow=3.5,SNR=9.4
comp=Z,54nm,0.8s
KSAR Wonju Array Be 30.97 251 P P 02 30 21.2 +1.2
KSAR Wonju Array Be 30.97 251 P P 02 30 21.2 +1.2
SUJ Sinuiju 30.99 259 P P 02 30 21.0 +0.9
SUJ S **S 02 35 23.1 +1.2**
SUJ AmB
comp=Z,249nm,1.1s
SUJ AMS AMS
comp=Z,846nm,12.2s
PYAG Pyongyang 31.00 256 P P 02 30 21.6 +1.4
M31M Drury Creek, Y 31.02 52 P P 02 30 20.8 +0.5
M31M IAMs_20 IAMs_20 02 42 47.2
comp=Z,1µm,21.0s
M31M Drury Creek, Y 31.02 52 P P 02 30 21.3 +1.0
baz=284,SNR=107
WHY Whitehorse 31.21 55 IAmb IAmb 02 30 24.2
comp=Z,107nm,0.9s
WHY IAMs_20 IAMs_20 02 42 20.2
comp=Z,2µm,22.0s
WHY Whitehorse 31.21 55 P P 02 30 22.8 +0.8
baz=287,SNR=37
SKAG Skagway 31.35 57 IAMs_20 IAMs_20 02 43 41.1
comp=Z,1µm,20.0s
SKAG Skagway 31.35 57 P P 02 30 25.2 +2.1
SKAG Skagway 31.35 57 P P 02 30 24.0 +0.9
baz=288,SNR=16
FARO Faro, Yukon 31.49 52 IAMs_20 IAMs_20 02 43 39.5
comp=Z,1µm,18.0s
FARO Faro, Yukon 31.49 52 P P 02 30 25.0 +0.6
baz=285,SNR=53
INCN Inchon 31.63 253 P P 02 30 25.8 0.0
INCN Inchon 31.63 253 P P 02 30 28.0 +2.2
INCN Inchon 31.63 253 P P 02 30 25.8 0.0
INCN pmax pmax
comp=Z,40nm,0.9s
INCN MLR MLR
comp=Z,700nm,21.0s
HJU Haeju 31.73 254 P P 02 30 27.6 +0.9
N32M Quiet Lake 31.91 54 IAmb IAmb 02 30 30.7
comp=Z,125nm,0.9s
N32M IAMs_20 IAMs_20 02 43 38.5
comp=Z,1µm,20.0s
N32M Quiet Lake 31.91 54 P P 02 30 27.6 -0.4
baz=287
TJN Taejon 32.03 251 P P 02 30 31.6 +2.3
TJN Taejon 32.03 251*d i*P **P 02 30 31.2 +1.9**
P32M Atlin 32.09 57 IAmb IAmb 02 30 44.6
comp=Z,104nm,1.1s
P32M Atlin 32.09 57 P P 02 30 30.6 +1.0
baz=289,SNR=17
R32K Eaglecrest 32.14 59 IAmb IAmb 02 30 32.3
comp=Z,140nm,0.8s
R32K Eaglecrest 32.14 59 P P 02 30 31.3 +1.2
baz=290,SNR=21
SIT Sitka 32.18 62 IAmb IAmb 02 30 33.0
comp=Z,156nm,1.0s
SIT Sitka 32.18 62 P P 02 30 32.2 +1.8
SIT Sitka 32.18 62 P P 02 30 31.9 +1.5
baz=292,SNR=5.9
JIS Juneau Island 32.21 59 P P 02 30 32.2 +1.6
P33M Teslin, Yukon 32.32 55 IAmb IAmb 02 30 34.5
comp=Z,172nm,1.1s
P33M Teslin, Yukon 32.32 55 P P 02 30 32.7 +0.9
baz=289,SNR=50
S32K Killisnoo 32.40 61 IAmb IAmb 02 30 34.7
comp=Z,101nm,0.8s
S32K Killisnoo 32.40 61 P P 02 30 33.6 +1.2
baz=292,SNR=10
JNU Nakatsue 32.67 242 P P 02 30 36.1 +1.1
JNU IAmb IAmb 02 30 40.7
comp=Z,67nm,0.9s
JNU Nakatsue 32.67 242 P P 02 30 37.2 +2.2
JNU Nakatsue 32.67 242 P P 02 30 36.6 +1.7
comp=Z,73nm,1.0s,baz=24,slow=3.4,SNR=28
JNU LR LR 02 45 26.1
comp=Z,239nm,20.4s,baz=39,slow=39
comp=Z,73nm,1.0s
JCJ Chichijima 32.68 221 LR LR 02 42 49.5
comp=Z,128nm,21.2s,baz=60,slow=34
A36M Sachs Harbour 32.81 32 P P 02 30 35.4 -0.4
A36M IAmb IAmb 02 30 37.1
comp=Z,142nm,0.8s
A36M Sachs Harbour 32.81 32 P P 02 30 36.0 +0.2
baz=276,SNR=143
Q32M Nakina River 33.00 57 IAmb IAmb 02 30 40.7
comp=Z,142nm,1.0s
Q32M Nakina River 33.00 57 P P 02 30 39.5 +1.6
baz=291,SNR=39
XLT XiLinHaoTe 33.40 272*e*P **P 02 30 41.8 +0.5**
XLT pP pP 02 30 50.6 +0.1
XLT sP sP 02 30 54.4 -0.2
XLT PP **PP 02 31 55.5 -1.7**
XLT S **S 02 35 58.4 -1.1**
XLT sS sS 02 36 21.0 +6.0
XLT SS **SnSn 02 37 59.2 -3.8**
XLT pmax pmax
comp=Z,39nm,1.1s
XLT pmax pmax
comp=Z,100nm,4.1s
XLT LR LR
comp=Z,620nm,21.3s
XLT LR LR
comp=Z,740nm,25.9s
DL2 Dalian 33.43 260 P P 02 30 42.0 +0.5
DL2 pmax pmax
comp=Z,100nm,0.9s
DL2 LR LR
comp=Z,610nm,23.7s
DL2 LR LR
comp=Z,840nm,19.4s
DL2 LR LR
comp=Z,1µm,22.5s
R33M Jennings River 33.48 56 IAmb IAmb 02 30 44.6
comp=Z,167nm,1.1s
R33M Jennings River 33.48 56 P P 02 30 43.4 +1.6
baz=291,SNR=65
C36M Paulatuk 33.61 37 P P 02 30 42.0 -0.7
C36M IAMs_20 IAMs_20 02 42 09.2
comp=Z,758nm,18.0s
C36M Paulatuk 33.61 37 P P 02 30 42.8 +0.1
baz=281,SNR=354
U33K Whale Pass 33.67 62 IAmb IAmb 02 30 46.3
comp=Z,80nm,0.9s
WRAK Wrangell Islan 33.94 62 P P 02 30 47.6 +1.9
baz=294,SNR=14
S34M Telegraph Cree 33.95 59 P P 02 30 46.4 +0.5
S34M IAmb IAmb 02 30 48.5
comp=Z,105nm,0.8s
S34M Telegraph Cree 33.95 59 P P 02 30 47.6 +1.7
baz=293,SNR=35
WTLY Watson Lake, Y 34.24 54 IAMs_20 IAMs_20 02 46 10.4
comp=Z,1µm,18.0s
WTLY Watson Lake, Y 34.24 54 P P 02 30 49.4 +0.9
baz=291,SNR=42
DLBC Dease Lake 34.28 57 P P 02 30 50.8 +1.9
baz=293,SNR=79
DLBC Dease Lake 34.28 57 LR LR 02 45 02.2
comp=Z,616nm,20.4s,baz=296,slow=37
T35M Bob Quinn 34.76 60 P P 02 30 55.3 +2.4
baz=295,SNR=41
DIB Dawson Inlet, 35.30 67 IAmb IAmb 02 30 59.4
comp=Z,56nm,0.7s

IRK Irkutsk 35.50 292 *e*P **P 02 30 58.8 -0.5**
IRK pmax pmax
comp=Z,93nm,1.3s
WRGLY Wrigley 35.52 47 P **P 02 31 00.5 +1.2**
baz=290,SNR=32
BJI Beijing 35.79 266 P **P 02 31 02.6 +0.7**
BJI S **S 02 36 37.4 +1.3**
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI pmax pmax
comp=Z,110nm,3.8s
BJI LR LR
comp=Z,250nm,18.3s
BJI LR LR
comp=Z,310nm,20.5s
BJI LR LR
comp=Z,520nm,21.5s
BJT Baijiatuau 35.81 266 P **P 02 31 02.4 +0.4**
BJT Baijiatuau 35.81 266 IAMs_20 IAMs_20 02 46 50.0
comp=Z,847nm,20.0s
BJT Baijiatuau 35.81 266 P **P 02 31 03.9 +1.9**
BJT Baijiatuau 35.81 266 P **P 02 31 02.4 +0.4**
BJT pmax pmax
comp=Z,14nm,0.9s
BJT MLR MLR
comp=Z,800nm,20.0s
ULN Ulaanbaatar 36.26 284 P **P 02 31 05.5 -0.5**
ULN Ulaanbaatar 36.26 284*d* *i*P **P 02 31 07.3 +1.2**
ULN pmax pmax
comp=Z,39nm,1.0s
ULN Ulaanbaatar 36.26 284 P **P 02 31 07.4 +1.2**
ULN Ulaanbaatar 36.26 284 P **P 02 31 07.2 +1.2**
comp=Z,151nm,1.2s,comp=Z,2µm
NRIK Noril'sk 36.29 324 P **P 02 31 05.6 -0.2**
NRIK Noril'sk 36.29 324*ce* P **P 02 31 05.3 -0.6**
NRIK pmax pmax
comp=Z,36nm,1.3s
NRIK MLR MLR
comp=Z,498nm,19.0s
NRIK Noril'sk 36.29 324 P **P 02 31 05.5 -0.4**
comp=Z,12nm,0.9s,baz=84,slow=9.7,SNR=18
NRIK LR LR 02 46 46.6
comp=Z,517nm,20.4s,baz=76,slow=38
comp=Z,12nm,0.9s
HG4B Hotspring 36.42 67 IAmb IAmb 02 31 09.4
comp=Z,104nm,0.6s
KOTAN Kotaneelee Air 36.43 53 P **P 02 31 08.4 +1.2**
baz=294,SNR=52
SONM Songino Array 36.65 284 P **P 02 31 10.1 +0.8**
SONM Songino Array 36.65 284 P **P 02 31 10.1 +0.8**
SONM pmax pmax
comp=Z,45nm,0.8s
SONM Songino Array 36.65 284 P **P 02 31 10.9 +1.6**
comp=Z,41nm,0.7s,baz=60,slow=8.0,SNR=164
SONM ScP **ScP 02 37 14.2 -0.3**
comp=Z,2.7nm,1.1s,baz=94,slow=5.0,SNR=4.6
SONM LR LR 02 47 39.8
comp=Z,672nm,19.3s,baz=52,slow=38
comp=Z,41nm,0.7s
FLDN Fort Liard 36.65 52 IAmb IAmb 02 31 11.9
comp=Z,94nm,0.8s
ZAK Zakamensk 36.98 289 *e*P **P 02 31 12.1 0.0**
ZAK pmax pmax
comp=Z,42nm,1.0s
MOY Mondy 37.54 293 *e*P **P 02 31 17.5 +0.7**
MOY pmax pmax
comp=Z,74nm,1.7s
TIA Tai'an 37.87 261 ⇓P **P 02 31 20.3 +0.7**
TIA pmax pmax
comp=Z,30nm,1.0s
TIA pmax pmax
comp=Z,160nm,7.8s
TIA LR LR
comp=Z,410nm,23.0s
TIA LR LR
comp=Z,380nm,20.1s
TIA LR LR
comp=Z,650nm,21.6s
HHC Hu-ho-hao-te 37.92 271 ⇓P **P 02 31 21.1 +1.0**
HHC S **S 02 37 12.6 +3.8**
HHC sS sS 02 37 26.4 +2.0
HHC pmax pmax
comp=Z,54nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.8s
HHC LR LR
comp=Z,1µm,18.6s
HHC LR LR
comp=Z,560nm,20.1s
HHC LR LR
comp=Z,1µm,21.8s
BBB Bella Bella 38.11 66 IAmb IAmb 02 31 23.9
comp=Z,127nm,0.8s
BBB Bella Bella 38.11 66 LR LR 02 46 07.9
comp=Z,530nm,20.0s,baz=307,slow=35
HNS HongShan 38.42 264 ⇓P **P 02 31 25.6 +1.4**
HNS pP **pP 02 31 35.4 +1.8**
HNS *e*S **S 02 37 18.6 +2.4**
HNS pmax pmax
comp=Z,81nm,1.0s
HNS LR LR
comp=Z,350nm,21.5s
HNS LR LR
comp=Z,850nm,23.1s
HNS LR LR
comp=Z,930nm,22.3s
BTO Baotou 38.96 272 *e*P **P 02 31 30.2 +1.3**
BTO pP **pP 02 31 39.2 +1.0**
BTO sP **sP 02 31 41.8 -0.5**
BTO S **S 02 37 28.4 +3.8**
BTO SS **SS 02 40 08.9 -8.2**
BTO pmax pmax
comp=Z,230nm,0.9s
BTO pmax pmax
comp=Z,1µm,3.7s
BTO LR LR
comp=Z,1µm,21.8s
BTO LR LR
comp=Z,1µm,19.0s
BTO LR LR
comp=Z,2µm,22.7s
JOW Kunigami 39.08 239 IAmb IAmb 02 31 32.6
comp=Z,160nm,1.0s
JOW IAMs_20 IAMs_20 02 46 47.4
comp=Z,903nm,21.0s
JOW Kunigami 39.08 239 P **P 02 31 32.3 +2.4**
JOW Kunigami 39.08 239 P **P 02 31 31.4 +1.6**
comp=Z,60nm,0.5s,baz=45,slow=4.7,SNR=26
comp=Z,60nm,0.5s
EUNU Eureka 39.32 15 IAmb IAmb 02 31 32.4
comp=Z,99nm,0.8s
SSE Sheshan 39.38 251 P **P 02 31 31.8 -0.5**
SSE S **S 02 37 31.1 +0.3**
SSE pmax pmax
comp=Z,21nm,1.0s
SSE pmax pmax
comp=Z,160nm,3.9s
SSE LR LR
comp=Z,210nm,21.4s
SSE LR LR
comp=Z,200nm,21.4s
TIY Taiyuan 39.51 267 ⇑P **P 02 31 35.3 +1.8**
TIY S **S 02 37 38.1 +5.3**
TIY pmax pmax
comp=Z,22nm,0.8s
TIY LR LR
comp=Z,270nm,11.3s
TIY LR LR
comp=Z,310nm,12.3s
TIY LR LR
comp=Z,450nm,21.6s
YKA Yellowknife Ar 39.53 46 P **P 02 31 33.2 -0.1**
comp=Z,68nm,0.7s,baz=297,slow=8.1,SNR=644
YKA PcP **PcP 02 33 39.7 -0.2**
comp=Z,5.1nm,0.8s,baz=296,slow=3.6,SNR=4.0
YKA ScP **ScP 02 37 23.8 -1.2**
comp=Z,2.6nm,0.8s,baz=299,slow=4.0,SNR=5.5
comp=Z,68nm,0.7s
NJ2 Nanjing 39.94 255 *e*P **P 02 31 37.9 +0.9**
NJ2 S **S 02 37 42.8 +3.7**
NJ2 sS **sS 02 37 59.4 +4.5**
NJ2 pmax pmax
comp=Z,24nm,0.9s
NJ2 pmax pmax
comp=Z,210nm,5.2s
NJ2 LR LR
comp=Z,570nm,19.0s
NJ2 LR LR
comp=Z,490nm,22.7s
NJ2 LR LR
comp=Z,1µm,21.5s
RES Resolute Bay 40.32 24 IAmb IAmb 02 31 40.3
comp=Z,71nm,0.8s
RES Resolute Bay 40.32 24 LR LR 02 51 59.4
comp=Z,307nm,18.4s,baz=329,slow=42
ALE Alert 40.60 9 P **P 02 31 41.6 -0.4**
ALE pP **pP 02 31 53.7 +1.1**
ALE ScP **ScP 02 37 30.8 +1.9**
CBB Campbell River 40.73 67 IAMs_20 IAMs_20 02 46 00.6
comp=Z,948nm,21.0s
OZB Mount Ozzard 41.28 69 IAmb IAmb 02 31 50.2
comp=Z,141nm,0.8s
LYN LuoYang 41.71 263 ⇓*i*P **P 02 31 53.1 +1.5**
LYN pP pP 02 32 02.6 +1.6
LYN S **S 02 38 07.6 +2.1**
LYN pmax pmax
comp=Z,160nm,1.3s
LYN pmax pmax
comp=Z,220nm,8.5s
LYN LR LR
comp=Z,330nm,15.0s
LYN LR LR
comp=Z,560nm,18.6s
LYN LR LR
comp=Z,720nm,21.5s
CLRS Cowichan Lake 42.09 68 P **P 02 31 54.5 0.0**
CLRS IAmb IAmb 02 31 56.6
comp=Z,143nm,0.8s
C03A Quillayute Air 42.37 69 IAmb IAmb 02 31 59.8
comp=Z,243nm,1.4s
PGC Sidney 42.55 68 IAmb IAmb 02 32 00.1
comp=Z,90nm,0.7s
B04A Port Angeles 42.88 69 IAmb IAmb 02 32 03.0
comp=Z,93nm,0.8s
NLWA Neilton Lookou 43.09 70 IAmb IAmb 02 32 05.0
comp=Z,153nm,0.9s
WHN Wuhan 43.60 258 ⇓*i*P **P 02 32 07.6 +0.7**
WHN S **S 02 38 33.2 0.0**
WHN pmax pmax
comp=Z,170nm,1.0s
WHN LR LR
comp=Z,2µm,23.6s
B06A Marblemount 43.68 67 IAmb IAmb 02 32 08.8
comp=Z,115nm,0.7s
RADR Rader Ridge 43.72 71 IAmb IAmb 02 32 27.0
comp=Z,116nm,1.1s
E03A Lebam 43.77 70 IAmb IAmb 02 32 10.3
comp=Z,201nm,1.0s
XAN Xi'an 44.12 266 ⇓P **P 02 32 11.4 +0.3**
XAN pP sP 02 32 22.7 -1.9
XAN PcP **PcP 02 33 57.5 +1.9**
XAN pmax pmax
comp=Z,38nm,1.5s
XAN pmax pmax
comp=Z,310nm,6.4s
XAN LR LR
comp=Z,800nm,18.4s
XAN LR LR
comp=Z,1µm,20.3s
XAN LR LR
comp=Z,2µm,20.6s
XAN Xi'an 44.12 266 P **P 02 32 11.7 +0.6**
F03A Seaside 44.15 71 IAmb IAmb 02 32 13.4
comp=Z,142nm,0.9s
TULEG Thule 44.30 16 P **P 02 32 10.0 -1.9**
TULEG IAMs_20 IAMs_20 02 49 13.6
comp=Z,592nm,21.0s
F04D Rainier, OR 44.35 71 P **P 02 32 12.6 -0.2**
F04D IAmb IAmb 02 32 14.6
comp=Z,122nm,0.8s
GUMO Guam 44.36 210 LR LR 02 48 10.0
comp=Z,236nm,19.3s,baz=62,slow=32
YHNB Yeheng 44.38 245 IAMs_20 IAMs_20 02 49 46.6
comp=Z,769nm,22.0s
ZAA0 Zalesovo Array 44.50 304 P **P 02 32 13.7 -0.1**
ZALV Zalesovo Beam 44.50 304 P **P 02 32 13.3 -0.5**
comp=Z,3.0nm,0.7s,baz=36,slow=8.1,SNR=9.4
ZALV PcP **PcP 02 33 56.1 -0.3**
comp=Z,3.9nm,0.8s,baz=64,slow=3.4,SNR=3.0
ZALV LR LR 02 53 03.6
comp=Z,223nm,19.7s,baz=56,slow=39
NACB Ninganchiao 44.67 245 IAMs_20 IAMs_20 02 50 50.3
comp=Z,615nm,21.0s
G03D McMinnville, O 44.76 72 IAmb IAmb 02 32 17.9
comp=Z,138nm,1.5s
F04A Amboy 44.77 70 IAmb IAmb 02 32 17.7
comp=Z,107nm,0.9s
LTY Liberty 44.89 68 IAmb IAmb 02 32 18.6
comp=Z,135nm,1.4s
B08A Colville Reser 44.91 66 IAmb IAmb 02 32 18.8
comp=Z,71nm,0.8s
COR Corvallis 45.14 72 P **P 02 32 19.4 +0.3**
COR IAmb IAmb 02 32 21.4
comp=Z,128nm,0.8s
COR Corvallis 45.14 72 P **P 02 32 19.4 +0.3**
COR pmax pmax
comp=Z,128nm,0.8s
COR Corvallis 45.14 72 P **P 02 32 20.4 +1.4**
COR pP **sP 02 32 33.0 -2.1**
SSLB Suanglung 45.32 245 P **P 02 32 20.4 -0.3**
SSLB IAMs_20 IAMs_20 02 50 06.5
comp=Z,738nm,22.0s
SSLB Suanglung 45.32 245 P **P 02 32 22.6 +1.9**
KBS Kingsbay 45.44 353 P **P 02 32 20.4 -0.7**
KBS IAmb IAmb 02 32 22.8
comp=Z,263nm,1.8s
KBS Kingsbay 45.44 353 *e*P **P 02 32 21.3 +0.2**
KBS IAmb IAmb 02 32 22.4
comp=Z,298nm,1.8s
KBS Kingsbay 45.44 353 ⇑*e*P **P 02 32 21.0 0.0**
KBS pmax pmax
comp=Z,101nm,1.3s
KBS Kingsbay 45.44 353 *i*P **P 02 32 19.6 -1.4**
YULB Yu-li 45.46 244 P **P 02 32 22.3 +0.5**
YULB IAMs_20 IAMs_20 02 50 32.3
comp=Z,566nm,19.0s
YULB Yu-li 45.46 244 P **P 02 32 23.2 +1.4**
H04D Lebanon 45.49 72 IAmb IAmb 02 32 23.9
comp=Z,91nm,0.8s
BUCK Buck Mountain 45.56 73 IAmb IAmb 02 32 24.9
comp=Z,77nm,0.8s
HOOD Mount Hood Mea 45.57 71 IAMs_20 IAMs_20 02 47 54.8
comp=Z,792nm,22.0s
LZH Lanzhou 45.59 272 ⇓*i*P **P 02 32 24.3 +1.4**
LZH pP sP 02 32 36.1 -0.4
LZH sP pwP 02 32 40.4 -0.7
LZH ScP **ScP 02 37 49.0 -1.0**
LZH S **S 02 39 02.4 0.0**
LZH sS sS 02 39 23.1 +4.8
LZH SS **ScS 02 42 16.0 +0.4**
LZH pmax pmax
comp=Z,87nm,1.0s
LZH pmax pmax
comp=Z,290nm,4.1s
LZH LR LR
comp=Z,510nm,16.8s
LZH LR LR
comp=Z,440nm,16.8s
LZH LR LR
comp=Z,710nm,17.4s
GTA Gaotai 45.61 278 ⇓P **P 02 32 24.2 +1.2**
GTA pP sP 02 32 35.3 -1.2
GTA S **S 02 39 03.4 +0.8**
GTA SS **ScS 02 42 14.3 -1.3**
GTA pmax pmax
comp=Z,37nm,0.7s
GTA LR LR
comp=Z,390nm,21.1s
GTA LR LR
comp=Z,350nm,21.9s
GTA LR LR
comp=Z,620nm,19.5s
KEBM Edson Butte 45.68 75 IAmb IAmb 02 32 25.7
comp=Z,86nm,0.9s
I03D Drain, OR 45.69 73 IAmb IAmb 02 32 25.6
comp=Z,69nm,0.8s
H04A Detroit Lake 45.69 72 P **P 02 32 23.2 -0.2**
H04A IAmb IAmb 02 32 25.1
comp=Z,81nm,1.0s
J01E Myrtle Point 45.71 74 IAmb IAmb 02 32 25.9
comp=Z,105nm,0.9s
DGZ Jazzator, Alta 45.75 297*d* *i*P **P 02 32 24.5 +0.5**
DGZ pmax pmax
comp=Z,16nm,1.1s
DGZ MLR MLR
comp=Z,485nm,21.0s
E07A Sunnyside 45.76 68 IAmb IAmb 02 32 25.6
comp=Z,88nm,1.0s
SPA0 Spitsbergen Ar 45.80 352 *e*P **P 02 32 23.4 -0.5**
SPITS Spitsbergen Ar 45.80 352 P **P 02 32 23.3 -0.5**
comp=Z,193nm,0.6s,baz=60,slow=7.1,SNR=484
SPITS LR LR 02 53 25.9
comp=Z,213nm,18.0s,baz=345,slow=38
comp=Z,193nm,0.6s
SPB2 Spitsbergen Ar 45.80 352 P **P 02 32 22.8 -1.1**
G05A Wamic 45.81 70 IAmb IAmb 02 32 31.9
comp=Z,125nm,0.8s
C09A Chrisman Ranch 45.82 66 IAmb IAmb 02 32 25.7
comp=Z,88nm,0.8s
TPUB Ta-pu 45.88 245 P **P 02 32 25.5 +0.3**
TPUB IAmb IAmb 02 32 28.2
comp=Z,199nm,1.4s
TPUB Ta-pu 45.88 245 P **P 02 32 27.2 +2.0**
NEEM North Greenlan 45.89 10 *i*P **P 02 32 22.8 -2.2**
NEEM IAmb IAmb 02 32 25.5
comp=Z,164nm,1.0s
D08A Wollman Farm, 45.94 67 IAmb IAmb 02 32 26.7
comp=Z,134nm,1.5s
HAWA Hanford 46.04 68 IAmb IAmb 02 32 27.7
comp=Z,91nm,1.1s
TWGBT Beinan 46.05 244 P **P 02 32 28.9 +2.5**
TWG Pinlang 46.05 244 P **P 02 32 26.7 +0.2**
TWG IAmb IAmb 02 32 31.6
comp=Z,169nm,1.5s
TWG IAMs_20 IAMs_20 02 47 37.9
comp=Z,670nm,20.0s
DBO Dodson Butte 46.12 74 P **P 02 32 26.8 -0.2**
NEW Newport 46.13 65 IAmb IAmb 02 32 28.2
comp=Z,81nm,0.8s
NEW Newport 46.13 65 P **P 02 32 26.9 0.0**
baz=309,SNR=87
NEW Newport 46.13 65 LR LR 02 49 51.1
comp=Z,771nm,21.4s,baz=300,slow=34
I04A Tendick Farm, 46.14 73 IAmb IAmb 02 32 28.8
comp=Z,80nm,0.9s
CNSH ChangSha 46.20 257 ⇓P **P 02 32 28.4 +0.8**
CNSH pmax pmax
comp=Z,50nm,1.0s
I05D Terrebonne, OR 46.38 71 IAmb IAmb 02 32 30.0
comp=Z,60nm,0.7s
HOPEN Hopen 46.41 348 *e*P **P 02 32 28.7 +0.1**
ENH Enshi 46.56 262 P **P 02 32 30.0 -0.5**
ENH IAmb IAmb 02 32 32.2
comp=Z,98nm,0.9s
ENH IAMs_20 IAMs_20 02 51 18.6
comp=Z,826nm,22.0s
ENH Enshi 46.56 262 P **P 02 32 31.5 +1.0**
ENH Enshi 46.56 262 P **P 02 32 31.4 +1.0**
L02F Cave Junction 46.59 75 IAmb IAmb 02 32 32.8
comp=Z,61nm,0.8s
PINE Pine Mountain 46.95 72 P **P 02 32 33.8 +0.2**
PINE IAmb IAmb 02 32 35.7
comp=Z,90nm,0.9s
PINE PcP **PcP 02 34 05.1 -0.4**
JCC Jacoby Creek, 47.21 77 IAmb IAmb 02 32 37.8
comp=Z,83nm,1.0s
K04D Chiloquin, OR 47.27 73 IAmb IAmb 02 32 38.0
comp=Z,122nm,0.9s
YBH Yreka Blue Hor 47.33 75 IAmb IAmb 02 32 38.9
comp=Z,62nm,0.8s
YBH IAMs_20 IAMs_20 02 46 42.6
comp=Z,773nm,22.0s
YBH Yreka Blue Hor 47.33 75 LR LR 02 50 47.1
comp=Z,328nm,19.9s,baz=320,slow=34
KHMM Horse Mountain 47.34 77 IAmb IAmb 02 32 39.2
comp=Z,204nm,1.5s
KHMM IAMs_20 IAMs_20 02 51 01.8
comp=Z,616nm,19.0s
KMPM Mount Pierce 47.43 77 IAmb IAmb 02 32 39.9
comp=Z,106nm,0.9s
F10A Beach Ranch, E 47.53 67 IAmb IAmb 02 32 39.2
comp=Z,53nm,0.9s
K05A Summer Lake 47.68 73 IAmb IAmb 02 32 41.1
comp=Z,73nm,0.7s
KMRM Mail Ridge 47.79 77 IAmb IAmb 02 32 42.7
comp=Z,95nm,0.8s
BMO Blue Mountains 48.23 68 IAmb IAmb 02 32 44.9
comp=Z,79nm,1.1s
ZSN Zaisan 48.49 297 *e*P **P 02 32 45.1 -0.2**
baz=297
ZSN Zaisan 48.49 297 *e*P **P 02 32 45.0 -0.2**
DAG Danmarks Havn 48.50 1 *i*P **P 02 32 43.0 -1.9**
DAG IAmb IAmb 02 32 44.9
comp=Z,58nm,0.8s
J08A Circle Bar Ran 48.58 71 P **P 02 32 45.6 -0.5**
J08A PcP **PcP 02 34 11.1 -0.1**
MSO Missoula 48.71 64 IAmb IAmb 02 32 48.3
comp=Z,90nm,1.1s
MSO Missoula 48.71 64 P **P 02 32 47.1 0.0**
baz=311,SNR=48
PLID Pearl Lake 48.77 67 IAmb IAmb 02 32 49.1
comp=Z,59nm,0.8s
SEM Semipalatinsk 48.90 302 *e*P **P 02 32 47.6 -1.0**
baz=302
SEM Semipalatinsk 48.90 302 *e*P **P 02 32 47.5 -1.0**
BJO1 Bjornoya 48.90 349 *e*P **P 02 32 47.8 -0.1**
WVOR Wild Horse Val 49.11 72 IAmb IAmb 02 32 52.0
comp=Z,65nm,0.9s
GDXM Geysers 49.27 78 IAmb IAmb 02 32 53.9
comp=Z,50nm,0.9s
UPNV Upernavik 49.32 15 *i*P **P 02 32 49.5 -1.7**
UPNV IAmb IAmb 02 32 51.3
comp=Z,116nm,0.6s
FFC Flin Flon 49.34 50 P **P 02 32 51.5 -0.1**
FFC IAmb IAmb 02 32 52.6
comp=Z,92nm,0.9s
FFC Flin Flon 49.34 50 P **P 02 32 51.5 -0.1**
FFC pmax pmax
comp=Z,93nm,0.9s
FFC Flin Flon 49.34 50 P **P 02 32 51.5 -0.1**
FFC pP **pP 02 33 04.3 +2.0**
FFC ScP **ScP 02 38 05.0 -0.2**
CD2 Chengdu 49.37 267 P **P 02 32 53.3 +1.1**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 LR LR
comp=Z,250nm,11.8s
CD2 LR LR
comp=Z,180nm,14.5s
CD2 LR LR
comp=Z,730nm,22.6s
WMQ Urumqi 49.40 291 *e*P **P 02 32 52.9 +0.6**
WMQ pP pP 02 33 01.5 -0.6
WMQ pmax pmax
comp=Z,34nm,0.9s
WMQ pmax pmax
comp=Z,250nm,6.9s
WMQ LR LR
comp=Z,570nm,15.9s
WMQ LR LR
comp=Z,580nm,21.5s
WMQ LR LR
comp=Z,740nm,22.5s
KURK Kurchatov 49.48 303 P **P 02 32 51.9 -0.9**
KURK IAMs_20 IAMs_20 02 55 22.1
comp=Z,515nm,18.0s
KURK Kurchatov 49.48 303*d* *i*P **P 02 32 52.5 -0.2**
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 49.48 303 P **P 02 32 52.5 -0.2**
ORV Oroville 49.49 76 IAmb IAmb 02 32 54.0
comp=Z,58nm,0.8s
KURBB Kurchatov Arra 49.59 303 P **P 02 32 53.4 -0.2**
comp=Z,25nm,0.9s,baz=57,slow=8.0,SNR=72
KURBB LR LR 02 55 36.5
comp=Z,480nm,18.6s,baz=184,slow=38
comp=Z,25nm,0.9s
MFID Camas Ranch 49.98 69 IAmb IAmb 02 32 58.1
comp=Z,48nm,0.8s
EGMT Eagleton 50.06 61 IAmb IAmb 02 32 58.1
comp=Z,99nm,0.8s
EGMT Eagleton 50.06 61 P **P 02 32 57.1 -0.2**
baz=312,SNR=42
MK31 Makanchi Array 50.25 297 P **P 02 32 58.0 -0.7**
MK31 Makanchi Array 50.25 297*d* *i*P **P 02 32 57.6 -1.1**
MKAR Makanchi Array 50.25 297 P **P 02 32 57.9 -0.8**
comp=Z,7.2nm,0.7s,baz=52,slow=7.3,SNR=39
comp=Z,7.2nm,0.7s
MAKZ Makanchi 50.40 298 P **P 02 32 58.9 -0.9**
MAKZ IAMs_20 IAMs_20 02 55 34.7

comp=Z,504nm,19.0s
MAKZ Makanchi 50.40 298 P **P** 02 32 58.9 -0.9
MAKZ pmax pmax
comp=Z,30nm,1.2s
MAKZ MLR MLR
comp=Z,500nm,19.0s
MAKZ Makanchi 50.40 298 P **P** 02 32 59.2 -0.6
PAHR Pah Rah Range 50.56 75 IAmb IAmb 02 33 03.0
comp=Z,80nm,0.9s
HLID Hailey 50.63 68 P **P** 02 33 02.1 +0.3
baz=313,SNR=80
EMB Emerald Bay 50.67 76 P **P** 02 33 02.1 -0.1
EMB IAmb IAmb 02 33 03.5
comp=Z,40nm,0.7s
EMB PcP **PcP** 02 34 18.8 -0.3
GOMU GeErMu 50.69 279 P **P** 02 33 02.7 +0.2
GOMU pP pP 02 33 08.5 -3.6
GOMU sP sP 02 33 11.6 -4.4
GOMU PcP **PcP** 02 34 15.8 -3.6
GOMU S **S** 02 40 12.8 -2.1
GOMU sS sS 02 40 28.4 -2.7
GOMU pmax pmax
comp=Z,24nm,0.9s
GOMU LR LR
comp=Z,550nm,20.0s
GOMU LR LR
comp=Z,340nm,19.0s
GOMU LR LR
comp=Z,700nm,19.5s
BOZ Bozeman (W) 50.72 64 IAmb IAmb 02 33 03.9
comp=Z,68nm,0.9s
BOZ Bozeman (W) 50.72 64 P **P** 02 33 02.7 +0.2
baz=312,SNR=74
SZP Santa 50.76 241 P **P** 02 33 04.8 +2.1
GYA Guiyang 51.07 261⇑ *i*P **P** 02 33 06.5 +1.3
GYA S **S** 02 40 20.1 +0.3
GYA pmax pmax
comp=Z,36nm,1.1s
GYA pmax pmax
comp=Z,250nm,4.3s
GYA LR LR
comp=Z,380nm,25.6s
GYA LR LR
comp=Z,520nm,26.9s
GYA LR LR
comp=Z,1μm,26.9s
YERR Yerington 51.14 75 IAmb IAmb 02 33 07.2
comp=Z,76nm,0.6s
CMB Columbia Colle 51.17 77 IAMs_20 IAMs_20 02 51 50.2
comp=Z,566nm,22.0s
BMN Battle Mountai 51.26 73 IAmb IAmb 02 33 08.5
comp=Z,84nm,0.9s
VADS Vadso 51.31 342 *e*P **P** 02 33 04.8 -1.5
WAKR Walker 51.37 76 IAMs_20 IAMs_20 02 51 23.3
comp=Z,618nm,19.0s
YHL Hebgen Lake 51.46 65 IAmb IAmb 02 33 09.8
comp=Z,77nm,0.9s
SUMG Summit 51.65 9 P **P** 02 33 08.7 -0.6
SUMG Summit 51.65 9 P **P** 02 33 08.7 -0.6
SUMG pmax pmax
comp=Z,145nm,0.8s
SUMG Summit 51.65 9 *i*P **P** 02 33 07.6 -1.7
SUMG IAmb IAmb 02 33 10.8
comp=Z,112nm,0.8s
KVN Kaiserville 51.73 74 IAmb IAmb 02 33 12.2
comp=Z,94nm,0.8s
BVAR Borovoye Array 51.74 310 P **P** 02 33 09.6 -0.2
comp=Z,20nm,0.7s,baz=51,slow=6.5,SNR=49
BVAR LR LR 02 56 51.0
comp=Z,249nm,19.9s,baz=44,slow=38
comp=Z,20nm,0.7s
BRVK Borovoye 51.77 310 P **P** 02 33 09.9 0.0
BRVK Borovoye 51.77 310*c i*P **P** 02 33 09.7 -0.2
BRVK pmax pmax
comp=Z,24nm,0.8s
BRVK Borovoye 51.77 310 P **P** 02 33 09.7 -0.2
BRVK pP **sP** 02 33 22.9 -0.8
HAMF Hammerfest 51.77 345 *e*P **P** 02 33 08.9 -0.8
UMMG Uummannaq 51.78 15 *i*P **P** 02 33 07.5 -2.2
UMMG IAmb IAmb 02 33 09.6
comp=Z,39nm,0.6s
RYN Ryan 51.79 75 IAmb IAmb 02 33 12.1
comp=Z,58nm,0.6s
YNR Norris Junctio 51.82 64 IAmb IAmb 02 33 13.0
comp=Z,92nm,1.0s
BBGB Big Mountain B 51.83 79 IAmb IAmb 02 33 13.1
comp=Z,120nm,1.0s
YFT Old Faithful 51.92 65 IAmb IAmb 02 33 14.3
comp=Z,119nm,0.8s
NVAR Mina Array Bea 52.05 75 P **P** 02 33 13.2 +0.6
NVAR PcP **PcP** 02 34 24.9 +0.6
NVAR Mina Array Bea 52.05 75 P **P** 02 33 13.7 +1.1
comp=Z,56nm,0.7s,baz=300,slow=7.7,SNR=448
NVAR PcP **PcP** 02 34 25.0 +0.8
comp=Z,7.2nm,0.7s,baz=286,slow=4.0,SNR=4.1
NVAR LR LR 02 52 16.0
comp=Z,303nm,22.0s,baz=305,slow=32
comp=Z,56nm,0.7s
LHV Little Huntoon 52.07 75 IAmb IAmb 02 33 15.2
comp=Z,120nm,1.2s
YMP Mirror Lake Pl 52.07 64 IAmb IAmb 02 33 14.7
comp=Z,130nm,0.9s
H17A Grant Village 52.09 65 IAmb IAmb 02 33 15.9
comp=Z,127nm,0.9s
H17A Grant Village 52.09 65 P **P** 02 33 14.8 +2.0
baz=314,SNR=105
ELK Elko 52.12 71 LR LR 02 52 25.9
comp=Z,341nm,21.8s,baz=325,slow=33
NV11 Mina Array Sit 52.14 75 IAmb IAmb 02 33 14.7
comp=Z,51nm,0.8s
MDPB Devils Postpil 52.18 76 IAmb IAmb 02 33 16.0
comp=Z,65nm,0.9s
LVZ Lovozero 52.19 339 P **P** 02 33 11.5 -1.4
LVZ Lovozero 52.19 339⇑ *e*P **P** 02 33 11.4 -1.5
LVZ pmax pmax
comp=Z,46nm,0.8s
LVZ MLR MLR
comp=Z,287nm,21.0s
LVZ Lovozero 52.19 339 P **P** 02 33 11.3 -1.5
OMMB Old Mammoth Mi 52.24 76 P **P** 02 33 13.7 -0.3
OMMB IAmb IAmb 02 33 16.5
comp=Z,112nm,1.6s
OMMB PcP **PcP** 02 34 24.4 -0.7
IMW Indian Meadow 52.24 65 IAmb IAmb 02 33 16.1
comp=Z,109nm,0.8s
RLMT Red Lodge 52.27 63 P **P** 02 33 14.9 +0.9
baz=314,SNR=8.7
FXWY Fox Creek 52.38 66 IAmb IAmb 02 33 16.8
comp=Z,66nm,0.8s
MOOW Moose Ponds 52.45 65 IAmb IAmb 02 33 17.3
comp=Z,55nm,0.9s
ARA0 ARCESS Array S 52.48 343 *e*P **P** 02 33 13.9 -1.1
ARCES ARCESS Array B 52.48 343 P **P** 02 33 14.0 -1.0
ARCES ARCESS Array B 52.48 343 P **P** 02 33 13.7 -1.3
comp=Z,31nm,0.8s,baz=26,slow=9.0,SNR=35
ARCES LR LR 02 58 35.5
comp=Z,197nm,18.2s,baz=10.0,slow=40
comp=Z,31nm,0.8s
DGMT Dagmar 52.50 57 P **P** 02 33 15.6 +0.1
baz=314,SNR=37
DGMT Dagmar 52.50 57 P **P** 02 33 15.6 +0.1
baz=314,SNR=37
TPAW Teton Pass 52.52 66 IAmb IAmb 02 33 18.1
comp=Z,65nm,0.9s
LOHW Long Hollow 52.62 65 IAmb IAmb 02 33 18.7
comp=Z,83nm,0.9s
SNOW Snow King Moun 52.64 66 IAmb IAmb 02 33 19.1
comp=Z,80nm,1.1s
APA Apatity 52.73 339⇓ *i*P P 02 33 10.4 -6.4
APA pmax pmax
comp=Z,12nm,1.0s
LAO LASA Array 52.73 60 P **P** 02 33 17.4 +0.1
LAO LASA Array 52.73 60 P **P** 02 33 18.0 +0.8
baz=314,SNR=48
LAO LASA Array 52.73 60 P **P** 02 33 18.1 +0.8
baz=314,SNR=48
BRZS Berezniki 52.80 306 *e*P **P** 02 33 17.2 -0.4
baz=306
BRZS Berezniki 52.80 306 *e*P **P** 02 33 17.2 -0.4
AHID Auburn Hatcher 52.94 66 IAmb IAmb 02 33 20.8
comp=Z,64nm,0.9s
TIN Tinemaha, Big 53.07 76 P **P** 02 33 21.5 +1.5
baz=316,SNR=12
MZP Montezuma Peak 53.08 75 IAmb IAmb 02 33 22.2
comp=Z,60nm,1.0s
SVE Sverdlovsk 53.11 318⇑ *e*P **P** 02 33 20.3 +0.5
SVE pmax pmax
comp=Z,26nm,0.9s
JETT Jettan, Norway 53.24 346 *e*P **P** 02 33 19.9 -0.7
JETT IAmb IAmb 02 33 20.6
comp=Z,101nm,1.0s
ILULI Ilulissat 53.26 15 P **P** 02 33 18.9 -1.8
ILULI IAmb IAmb 02 33 20.5
comp=Z,84nm,0.9s
ILULI Ilulissat 53.26 15 P **P** 02 33 18.9 -1.8
ILULI pmax pmax
comp=Z,84nm,0.9s
ILULI Ilulissat 53.26 15 *i*P **P** 02 33 18.7 -2.0
ILULI IAmb IAmb 02 33 20.7
comp=Z,55nm,0.7s
KTK1 Kautokeino 53.31 344 *e*P **P** 02 33 20.2 -0.9
KTK1 IAmb IAmb 02 33 21.0
comp=Z,104nm,1.0s
SMMC Simmler 53.32 79 P **P** 02 33 23.0 +1.3
baz=316,SNR=14
TRO Tromso 53.38 346 *e*P **P** 02 33 20.7 -0.8
TRO IAmb IAmb 02 33 21.0
comp=Z,44nm,0.9s
GMN Gold Mountain 53.44 75 IAmb IAmb 02 33 25.1
comp=Z,71nm,1.0s
TDK Taldyqorghan 53.45 298 *e*P **P** 02 33 22.4 -0.2
baz=298
TDK Taldyqorghan 53.45 298 *e*P **P** 02 33 22.4 -0.2
TGY Tagaytay City 53.46 238 LR LR 02 56 58.2
comp=Z,151nm,21.3s,baz=170,slow=37
VES Vestal, Richgr 53.46 78 P **P** 02 33 23.1 +0.4
baz=316,SNR=27
HWUT Hardware Ranch 53.51 68 IAmb IAmb 02 33 25.2
comp=Z,87nm,0.9s
Q12A Willow Creek R 53.55 72 IAmb IAmb 02 33 28.9
comp=Z,59nm,0.9s
GRAC Grapevine Rang 53.59 76 IAmb IAmb 02 33 26.3
comp=Z,121nm,1.1s
R11B Troy Canyon, C 53.62 73 IAmb IAmb 02 33 26.0
comp=Z,61nm,0.9s
R11B Troy Canyon, C 53.62 73 P **P** 02 33 24.7 +0.7
baz=316,SNR=108
PKM Mcpherson Peak 53.73 79 P **P** 02 33 26.2 +1.2
baz=317,SNR=21
BW06 Boulder Array 53.75 65 IAmb IAmb 02 33 26.7
comp=Z,107nm,0.9s
BW06 Boulder Array 53.75 65 P **P** 02 33 25.4 +0.4
baz=315,SNR=125
PD31 Pinedale Array 53.75 65 IAmb IAmb 02 33 26.7
comp=Z,96nm,0.9s
PDAR Pinedale Array 53.75 65 P **P** 02 33 24.9 -0.2
PDAR Pinedale Array 53.75 65 P **P** 02 33 25.5 +0.5
comp=Z,71nm,0.8s,baz=326,slow=3.1,SNR=479
comp=Z,71nm,0.8s
DUG Dugway, Tooele 53.83 70 IAmb IAmb 02 33 27.7
comp=Z,100nm,1.0s
DUG Dugway, Tooele 53.83 70 P **P** 02 33 26.4 +0.9
baz=315,SNR=92
PZH PanZhiHua 53.85 265 P **P** 02 33 26.5 +0.7
PZH S **S** 02 40 59.1 +1.2
PZH sS **sS** 02 41 15.7 +0.8
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,170nm,4.5s
PZH LR LR
comp=Z,200nm,22.7s
PZH LR LR
comp=Z,240nm,23.3s
PZH LR LR
comp=Z,260nm,23.7s
BCW Bitter Crk WRg 53.92 79 IAmb IAmb 02 33 28.7
comp=Z,84nm,1.1s
ISA Isabella, Lake 53.93 78 P **P** 02 33 26.3 +0.1
baz=316,SNR=36
CTU Camp Tracy 54.05 69 IAmb IAmb 02 33 28.9
comp=Z,83nm,0.9s
ARVC Arvin 54.12 78 P **P** 02 33 27.8 +0.3
baz=317,SNR=6.1
WCT Wildcat Mounta 54.15 75 IAmb IAmb 02 33 30.0
comp=Z,69nm,0.9s
ARU Arti 54.19 319*c i*P **P** 02 33 27.1 -0.6
ARU 02 34 26.7
ARU 02 35 26.1
ARU S **S** 02 41 02.2 +0.8
ARU SS **SS** 02 44 44.0 +1.3
ARU pmax pmax
comp=Z,34nm,0.9s
ARU MLR MLR
comp=Z,464nm,18.0s
ARU Arti 54.19 319 P **P** 02 33 27.1 -0.6
MPMC Manual Prospec 54.20 77 P **P** 02 33 29.1 +0.8
baz=316,SNR=93
SHLS Shalkode 54.21 296 *e*P **P** 02 33 26.5 -1.8
baz=296
SHLS Shalkode 54.21 296 *e*P **P** 02 33 26.4 -1.8
TPNV Topopah Spring 54.25 75 P **P** 02 33 29.1 +0.5
TPNV Topopah Spring 54.25 75 P **P** 02 33 29.8 +1.1
baz=316,SNR=165
TPNV Topopah Spring 54.25 75 P **P** 02 33 29.1 +0.5
TPNV pmax pmax
comp=Z,200nm,1.1s
FURC Furnace Creek, 54.26 76 P **P** 02 33 29.9 +1.4
baz=316,SNR=159
JMIC Jan Mayen 54.28 358 LR LR 02 58 25.3
comp=Z,101nm,18.0s,baz=260,slow=38
KMI Kunming 54.34 263⇑ *i*P **P** 02 33 29.3 -0.2
KMI S **S** 02 41 02.1 -2.6
KMI pmax pmax
comp=Z,68nm,0.9s
KMI pmax pmax
comp=Z,260nm,5.5s
KMI LR LR
comp=Z,670nm,22.2s
KMI LR LR
comp=Z,440nm,21.1s
KMI LR LR
comp=Z,630nm,27.1s
NLU North Lily Min 54.40 70 IAmb IAmb 02 33 31.9
comp=Z,104nm,1.0s
FRB Frobisher Bay 54.43 26 LR LR 02 57 42.0
comp=Z,374nm,21.9s,baz=316,slow=37
UZB Uzynbulak 54.44 296 *e*P **P** 02 33 29.5 -0.5
baz=296
UZB Uzynbulak 54.44 296 *e*P **P** 02 33 29.4 -0.5
OSI Osito Audit: C 54.55 79 P **P** 02 33 31.9 +1.2
baz=317,SNR=7.0
CCAC Calif City Air 54.56 78 P **P** 02 33 30.3 -0.5
CCAC PcP **PcP** 02 34 32.4 -1.1
GWY Greenwater Val 54.57 76 IAMs_20 IAMs_20 02 55 35.3
comp=Z,597nm,22.0s
QSM Queen of Sheba 54.61 76 IAmb IAmb 02 33 33.2
comp=Z,82nm,0.8s
QSM IAMs_20 IAMs_20 02 51 26.5
comp=Z,596nm,21.0s
ZHN Zhinishke 54.73 296 *e*P **P** 02 33 31.6 -0.4
baz=296
ZHN Zhinishke 54.73 296 *e*P **P** 02 33 31.6 -0.4
SCO Scoresbysund 54.73 3 P **P** 02 33 31.4 0.0
SCO Scoresbysund 54.73 3 P **P** 02 33 31.4 0.0
SCO pmax pmax
comp=Z,68nm,1.5s
SCO Scoresbysund 54.73 3 *i*P **P** 02 33 30.4 -1.1
SCO IAmb IAmb 02 33 32.3
comp=Z,9.5nm,0.8s
EDW2 Edwards Air Fo 54.77 78 P **P** 02 33 32.9 +0.6
baz=317,SNR=41
SATY Saty 54.82 296 *e*P **P** 02 33 32.5 -0.1
baz=296
SATY Saty 54.82 296 *e*P **P** 02 33 32.5 -0.1
ICESG Greenland Ices 54.88 11 *i*P **P** 02 33 31.1 -1.8
ICESG IAmb IAmb 02 33 32.9
comp=Z,90nm,0.7s
CHKK Chushkaly 54.98 298 *e*P **P** 02 33 32.8 -0.9
baz=298
CHKK Chushkaly 54.98 298 *e*P **P** 02 33 32.8 -0.9
SHOC Shoshone, Teco 54.99 76 P **P** 02 33 35.0 +1.2
baz=317,SNR=16
DECC Green Verdugo 55.03 79 P **P** 02 33 35.0 +0.8
baz=317,SNR=16
ULM Lac du Bonnet 55.12 51 P **P** 02 33 34.4 -0.2
comp=Z,101nm,0.8s,baz=315,slow=7.0,SNR=146
ULM LR LR 02 57 59.6
comp=Z,947nm,20.2s,baz=301,slow=37
comp=Z,101nm,0.8s
GSC Goldstone, Bar 55.13 77 P **P** 02 33 35.9 +1.0
baz=317,SNR=97
MDND Maddock 55.13 55 P **P** 02 33 35.4 +0.7
baz=316,SNR=36
MDND Maddock 55.13 55 P **P** 02 33 35.3 +0.7
baz=316,SNR=36
QIZ Qiongzhong 55.15 252 P **P** 02 33 35.6 +0.4
QIZ S **S** 02 41 18.0 +2.7
QIZ LR LR
comp=Z,250nm,10.4s
QIZ LR LR
comp=Z,310nm,13.5s
QIZ LR LR
comp=Z,320nm,16.7s
QIZ Qiongzhong 55.15 252 P **P** 02 33 36.1 +0.9
QIZ Qiongzhong 55.15 252 IAMs_20 IAMs_20 02 56 53.1
comp=Z,489nm,21.0s
QIZ Qiongzhong 55.15 252 P **P** 02 33 37.9 +2.7
TCRU Three Creeks R 55.16 71 IAmb IAmb 02 33 37.9
comp=Z,96nm,0.8s
PASC Pasadena Art C 55.17 79 IAmb IAmb 02 33 36.9
comp=Z,94nm,0.8s
SHPR Sheep Range 55.18 75 IAmb IAmb 02 33 37.7
comp=Z,103nm,1.9s
KUU Kurty 55.29 298 *e*P **P** 02 33 34.6 -1.3
baz=298
KUU Kurty 55.29 298 *e*P **P** 02 33 34.6 -1.3
SFJD Kangerlussuaq 55.35 16 P **P** 02 33 34.3 -1.7
SFJD IAmb IAmb 02 33 35.3
comp=Z,54nm,0.7s
SFJD Kangerlussuaq 55.35 16 P **P** 02 33 34.3 -1.7
SFJD pmax pmax
comp=Z,54nm,0.7s
SFJD Kangerlussuaq 55.35 16 LR LR 02 59 53.7
comp=Z,228nm,19.0s,baz=335,slow=39
SFJD Kangerlussuaq 55.35 16 *i*P **P** 02 33 33.5 -2.5
SFJD IAmb IAmb 02 33 35.6
comp=Z,36nm,0.6s
SFJD Kangerlussuaq 55.35 16 P **P** 02 33 34.8 -1.2
SFJD pP **pP** 02 33 47.1 0.0
K22A Casper 55.41 64 IAmb IAmb 02 33 39.1
comp=Z,86nm,0.9s
K22A Casper 55.41 64 P **P** 02 33 37.0 +0.1
baz=316,SNR=46
K22A Casper 55.41 64 P **P** 02 33 37.1 +0.1
baz=316,SNR=46
BFSC Mount Baldy Ra 55.42 78 P **P** 02 33 37.8 +0.7
baz=317,SNR=54
MDOK Medeo 55.45 297 *e*P **P** 02 33 36.7 -0.6
baz=297
MDOK Medeo 55.45 297 *e*P **P** 02 33 36.6 -0.6
FMP Fort Macarthur 55.45 79 P **P** 02 33 37.9 +0.8
baz=317
P17A Butcher Ranch, 55.46 69 IAmb IAmb 02 33 40.6
comp=Z,70nm,0.8s
STEI Steigen 55.47 347 *e*P **P** 02 33 36.5 -0.2
AAA Alma-Ata 55.48 297 *e*P **P** 02 33 37.2 -0.2
baz=298
AAA Alma-Ata 55.48 297 *e*P **P** 02 33 37.1 -0.2
LOF Lofoten 55.49 348 *e*P **P** 02 33 36.3 -0.6
E28A Huff 55.52 57 P **P** 02 33 38.1 +0.5
baz=316,SNR=35
TUQ Turquoise Moun 55.53 76 P **P** 02 33 39.2 +1.3
baz=317,SNR=11
SZCU Shurtz Canyon 55.54 72 IAmb IAmb 02 33 40.1
comp=Z,102nm,1.1s
TNSS Tian-Shan 55.59 297 *e*P **P** 02 33 39.6 +1.1
baz=297
TNSS Tian-Shan 55.59 297 *e*P **P** 02 33 39.6 +1.1
CIS Catalina Islan 55.61 80 P **P** 02 33 38.9 +0.6
baz=318,SNR=12
BTLS Baital 55.62 301 *e*P **P** 02 33 37.6 -0.6
baz=301
BTLS Baital 55.62 301 *e*P **P** 02 33 37.6 -0.6
RSSD Black Hills 55.63 61 P **P** 02 33 38.5 -0.1
RSSD Black Hills 55.63 61 P **P** 02 33 38.7 +0.1
baz=316
RSSD Black Hills 55.63 61 P **P** 02 33 38.8 +0.3
baz=316,SNR=94
RSSD Black Hills 55.63 61 P **P** 02 33 38.5 -0.1
RSSD pmax pmax
comp=Z,120nm,0.9s
RSSD Black Hills 55.63 61 P **P** 02 33 38.9 +0.3
RSSD pP **pwP** 02 33 52.0 -0.5
MTPU Mount Pierson 55.71 71 IAmb IAmb 02 33 42.1
comp=Z,83nm,0.9s
WUS Wushi 55.73 294 P **P** 02 33 39.3 +0.1
WUS pP **sP** 02 33 51.7 -1.5
HEC Hector,Ludlow 55.74 77 P **P** 02 33 40.2 +0.9
baz=317,SNR=28
KIRV Kirov 55.78 325*c i*P **P** 02 33 38.6 -0.5
LCMT Little Creek M 55.87 73 IAmb IAmb 02 33 42.9
comp=Z,125nm,1.0s
V12A Nelson 55.91 75 IAmb IAmb 02 33 43.0
comp=Z,98nm,1.0s
FAUS Fauske 55.98 347 *e*P **P** 02 33 39.7 -0.7
FAUS IAmb IAmb 02 33 40.4
comp=Z,106nm,0.9s
PKCU Pink Cliffs 56.07 72 IAMs_20 IAMs_20 02 54 05.8
comp=Z,523nm,20.0s
KNB Kanab 56.10 73 IAmb IAmb 02 33 44.6
comp=Z,116nm,1.0s
GMRC Granite Mounta 56.15 76 P **P** 02 33 43.3 +1.0
baz=317,SNR=132
MURC Murrieta 56.15 78 P **P** 02 33 42.9 +0.6
baz=318,SNR=43
O20A White River Ci 56.32 67 P **P** 02 33 44.4 +0.8
baz=316,SNR=159
SGDS Sogindy 56.47 299 *e*P **P** 02 33 44.2 -0.3
baz=299
SGDS Sogindy 56.47 299 *e*P **P** 02 33 44.1 -0.3
SOEG Soedalen 56.50 8 *i*P **P** 02 33 43.3 -0.8
SOEG IAmb IAmb 02 33 44.9
comp=Z,39nm,0.8s
DY2G Dye2 56.51 15 *i*P **P** 02 33 42.5 -2.0
DY2G IAmb IAmb 02 33 44.6
comp=Z,78nm,0.8s
BELC Belle Mtn. Jos 56.53 77 P **P** 02 33 45.8 +0.7
baz=318,SNR=24
AGMN Agassiz Nation 56.54 52 IAmb IAmb 02 33 45.9
comp=Z,109nm,0.8s
AGMN Agassiz Nation 56.54 52 P **P** 02 33 44.8 0.0
baz=317,SNR=28
AGMN Agassiz Nation 56.54 52 P **P** 02 33 44.8 0.0
baz=317,SNR=28
PFO Pinyon Flats O 56.56 78 P **P** 02 33 45.2 0.0
PFO IAmb IAmb 02 33 46.8
comp=Z,51nm,0.9s
PFO Pinyon Flats O 56.56 78 P **P** 02 33 45.7 +0.5
baz=318,SNR=35
PFO Pinyon Flats O 56.56 78 P **P** 02 33 45.3 0.0
PFO pmax pmax
comp=Z,51nm,1.0s
PFO Pinyon Flats O 56.56 78 LR LR 02 54 21.9
comp=Z,586nm,21.4s,baz=281,slow=32
PFO Pinyon Flats O 56.56 78 P **P** 02 33 45.7 +0.5
PFO pP **pP** 02 33 58.1 +2.1
TPFO Pinon Flats 56.57 78 P **P** 02 33 45.7 +0.4
baz=318,SNR=35
PMD Palm Desert 56.58 78 IAmb IAmb 02 33 46.6
comp=Z,69nm,0.9s
SLVN Son La 56.63 260 P **P** 02 33 46.4 +0.6
SLVN IAmb IAmb 02 33 53.0
comp=Z,58nm,0.8s
SLVN IAMs_20 IAMs_20 02 57 14.5
comp=Z,408nm,22.0s
109C Camp Elliot, M 56.73 79 IAmb IAmb 02 33 48.2
comp=Z,93nm,1.1s
109C Camp Elliot, M 56.73 79 P **P** 02 33 46.9 +0.6
baz=318,SNR=16
U15A North Rim 56.82 73 P **P** 02 33 47.4 +0.1
U15A IAmb IAmb 02 33 49.7
comp=Z,62nm,1.0s
TNCH TengChong 56.83 267 *e*P **P** 02 33 48.5 +1.1
TNCH S **S** 02 41 33.1 -4.8
TNCH pmax pmax
comp=Z,81nm,0.4s
TNCH pmax pmax
comp=Z,200nm,4.6s
TNCH LR LR
comp=Z,310nm,23.1s
TNCH LR LR
comp=Z,340nm,22.5s
TNCH LR LR
comp=Z,390nm,23.4s
D32B Dogwood Acres, 56.86 54 P **P** 02 33 47.4 +0.4
baz=317
IRM Iron Mountain 56.90 77 P **P** 02 33 48.4 +0.9
baz=318,SNR=93
W13A Hualapai Mount 56.91 75 IAmb IAmb 02 33 49.9

comp=Z,106nm,1.4s
KLMR Klimovskoe 56.91 332 *e*P **P** **02 33 43.3 -3.8**
KLMR pmax pmax
comp=Z,84nm,1.7s
FRU1 Bishkek 56.93 299 P **P** **02 33 47.5 -0.2**
FRU1 IAmb IAmb 02 34 16.0
comp=Z,162nm,1.8s
FRU1 Bishkek 56.93 299 P **P** **02 33 47.5 -0.2**
FRU1 pmax pmax
comp=Z,162nm,1.8s
FRU1 MLR MLR
comp=Z,300nm,21.0s
N23A Red Feather La 56.98 65 P **P** **02 33 49.2 +0.9**
baz=317,SNR=104
BC3 Big Chuckawall 57.09 77 P **P** **02 33 49.5 +0.5**
baz=318,SNR=37
KONS Konsvik 57.10 347 *e*P **P** **02 33 47.6 -0.7**
MONP2 Monument Peak 57.11 78 P **P** **02 33 49.9 +0.6**
baz=318,SNR=22
BAR Barrett 57.12 79 IAmb IAmb 02 33 50.9
comp=Z,50nm,0.9s
AAK Ala-Archa 57.13 299 P **P** **02 33 49.2 +0.1**
AAK Ala-Archa 57.13 299 *d i*P **P** **02 33 49.1 -0.1**
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 57.13 299 P **P** **02 33 49.3 +0.1**
AAK pP **sP** **02 34 02.0 -1.1**
MOR8 Moi Rana 57.23 347 *e*P **P** **02 33 47.3 -2.2**
TKX Tecate 57.24 79 IAMs_20 IAMs_20 02 51 42.4
comp=Z,406nm,22.0s
PV19 Morning Glory 57.25 69 P **P** **02 33 50.8 +0.6**
STOK Stokkvaagen 57.27 347 *e*P **P** **02 33 48.8 -0.7**
SWSC Sam W. Stewart 57.42 78 P **P** **02 33 51.6 +0.4**
baz=318,SNR=11
DAV Davao City (W) 57.46 229 LR LR 02 57 51.1
comp=Z,156nm,21.9s,baz=357,slow=35
B35A Bob, Littlefor 57.46 51 IAmb IAmb 02 33 52.2
comp=Z,79nm,1.0s
B35A Bob, Littlefor 57.46 51 P **P** **02 33 51.3 0.0**
baz=318,SNR=29
IKP In-Ko-Pah, Jac 57.47 78 P **P** **02 33 52.2 +0.6**
baz=318,SNR=21
BLYC Blythe 57.55 76 IAmb IAmb 02 33 54.2
comp=Z,170nm,1.4s
YUH Yuha Desert 57.57 78 IAmb IAmb 02 33 54.0
comp=Z,51nm,1.0s
SMCO Snowmass 57.69 67 P **P** **02 33 53.6 +0.1**
SMCO IAmb IAmb 02 33 55.5
comp=Z,86nm,0.9s
GLA Glamis 57.89 77 IAmb IAmb 02 33 56.7
comp=Z,130nm,1.1s
SUSD Miller 57.91 57 P **P** **02 33 55.0 +0.5**
baz=318
ISCO Idaho Springs 57.95 65 IAmb IAmb 02 33 57.7
comp=Z,99nm,1.0s
ISCO Idaho Springs 57.95 65 P **P** **02 33 56.5 +1.3**
baz=317,SNR=108
ISCO Idaho Springs 57.95 65 P **P** **02 33 56.5 +1.3**
baz=317,SNR=108
WUAZ Wupatki 57.99 73 IAmb IAmb 02 33 57.9
comp=Z,152nm,1.4s
WUAZ Wupatki 57.99 73 P **P** **02 33 56.6 +1.2**
baz=318,SNR=18
ESJX Sierra Juarez 58.04 79 IAmb IAmb 02 33 57.8
comp=Z,69nm,1.1s
ESJX IAMs_20 IAMs_20 02 52 37.3
comp=Z,398nm,19.0s
BRIGG Briggsdale 58.05 64 IAmb IAmb 02 33 58.0
comp=Z,100nm,0.9s
CPBX Cerro Prieto 58.09 78 IAmb IAmb 02 33 58.0
comp=Z,94nm,1.1s
F33A 5 Mile Ranch, 58.15 55 IAmb IAmb 02 33 57.1
comp=Z,49nm,0.8s
F33A 5 Mile Ranch, 58.15 55 P **P** **02 33 56.0 -0.1**
baz=318,SNR=13
MVCO Mesa Verde 58.31 69 P **P** **02 33 57.5 -0.2**
MVCO IAmb IAmb 02 33 59.5
comp=Z,43nm,0.8s
MVCO Mesa Verde 58.31 69 P **P** **02 33 58.3 +0.6**
baz=318,SNR=35
ISOG Isortoq, Green 58.36 12 *i*P **P** **02 33 54.7 -2.5**
ISOG IAmb IAmb 02 33 56.2
comp=Z,51nm,0.5s
ANGG Ammassalik, Gr 58.44 11 P **P** **02 33 56.3 -1.5**
ANGG Ammassalik, Gr 58.44 11 *i*P **P** **02 33 55.5 -2.3**
ANGG IAmb IAmb 02 33 57.5
comp=Z,58nm,0.8s
DZA Taraz 58.52 301 *e*P **P** **02 33 58.3 -0.6**
baz=301
DZA Taraz 58.52 301 *e*P **P** **02 33 58.2 -0.6**
VTX Valle De La Tr 58.59 79 IAmb IAmb 02 34 01.4
comp=Z,52nm,1.2s
KSH Kashi 58.65 295 P **P** **02 34 03.9 +4.0**
KSH pP sP 02 34 15.4 +1.5
KSH sP pwP 02 34 18.9 +1.1
KSH S **S** **02 42 07.3 +6.1**
KSH pmax pmax
comp=Z,12nm,1.1s
KSH LR LR
comp=Z,350nm,19.2s
KSH LR LR
comp=Z,390nm,16.5s
KSH LR LR
comp=Z,480nm,22.0s
113A Mohawk Valley, 58.70 77 IAmb IAmb 02 34 01.9
comp=Z,78nm,1.3s
EYMN Ely 58.77 50 P **P** **02 34 00.3 -0.1**
baz=319,SNR=18
EYMN Ely 58.77 50 P **P** **02 34 00.3 -0.1**
baz=319,SNR=18
X16A Lo Mia Camp, P 58.77 74 IAmb IAmb 02 34 03.3
comp=Z,51nm,0.9s
KK31 Karatay Array 58.77 301 P **P** **02 34 00.5 -0.1**
KK31 Karatay Array 58.77 301 P **P** **02 34 00.5 -0.1**
KK31 pmax pmax
comp=Z,29nm,1.0s
KKAR Karatay Array 58.77 301 P **P** **02 34 00.5 -0.1**
KKAR Karatay Array 58.77 301 P **P** **02 34 00.5 -0.1**
Q24A Divide 58.81 66 P **P** **02 34 02.1 +0.9**
baz=318,SNR=25
S22A 4UR Ranch, Cre 58.82 68 P **P** **02 34 01.9 +0.6**
S22A IAmb IAmb 02 34 03.8
comp=Z,99nm,1.1s
S22A 4UR Ranch, Cre 58.82 68 P **P** **02 34 02.6 +1.4**
baz=318,SNR=121
ARSB Arslanbob 58.85 298 P **P** **02 34 01.8 +0.5**
ARSB Arslanbob 58.85 298 P **P** **02 34 01.8 +0.5**
ARSB pmax pmax
comp=Z,7.0nm,1.0s
K30B Basset 58.89 59 P **P** **02 34 01.8 +0.4**
baz=318,SNR=25
OGNE Ogallala 58.96 62 P **P** **02 34 03.0 +1.0**
baz=318
NSS Namsos 59.13 347 *e*P **P** **02 34 01.8 -0.8**
NSS IAmb IAmb 02 34 02.9
comp=Z,85nm,1.2s
W18A Petrified Fore 59.19 72 IAmb IAmb 02 34 06.1
comp=Z,74nm,1.0s
W18A Petrified Fore 59.19 72 P **P** **02 34 04.8 +1.0**
baz=318,SNR=20
SFX San Felipe 59.38 79 IAMs_20 IAMs_20 02 50 53.9
comp=Z,312nm,18.0s
F36A Milaca 59.42 53 P **P** **02 34 04.6 -0.3**
baz=319,SNR=13
X18A Snowflake 59.51 72 IAmb IAmb 02 34 08.4
comp=Z,109nm,1.1s
CRAI Chiangrai 59.51 262 P **P** **02 34 06.4 +0.4**
CRAI IAmb IAmb 02 34 13.1
comp=Z,45nm,0.8s
SDCO Great Sand Dun 59.52 67 IAmb IAmb 02 34 08.3
comp=Z,57nm,1.1s
SDCO Great Sand Dun 59.52 67 P **P** **02 34 07.1 +1.0**
baz=318,SNR=49
SDCO Great Sand Dun 59.52 67 P **P** **02 34 07.1 +1.0**
baz=318,SNR=49
ECSD EROS Data Cent 59.57 56 IAmb IAmb 02 34 06.7
comp=Z,53nm,0.9s
ECSD EROS Data Cent 59.57 56 P **P** **02 34 05.4 -0.6**
baz=319,SNR=34
ECSD EROS Data Cent 59.57 56 P **P** **02 34 05.5 -0.6**
baz=319,SNR=34
FINES FINESS Array B 59.63 339 P **P** **02 34 04.5 -1.5**
FINES FINESS Array B 59.63 339 P **P** **02 34 04.6 -1.5**
FINES FINESS Array B 59.63 339 P **P** **02 34 05.3 -0.8**
comp=Z,16nm,0.5s,baz=27,slow=9.4,SNR=5.1
FINES LR LR 03 02 13.6
comp=Z,187nm,21.5s,baz=35,slow=38
comp=Z,16nm,0.5s
NONG Nongkai 59.66 258 P **P** **02 34 08.0 +1.1**
E38A The Farm, Brul 59.76 51 P **P** **02 34 06.8 -0.4**
baz=320,SNR=24
PIX Pinacate 59.77 77 IAmb IAmb 02 34 09.5
comp=Z,56nm,1.3s
PIX IAMs_20 IAMs_20 02 53 34.1
comp=Z,301nm,19.0s
CHM Chimkent 59.80 301 *e*P **P** **02 34 07.4 -0.3**
baz=302
CHM Chimkent 59.80 301 *e*P **P** **02 34 07.3 -0.3**
214A Organ Pipe Nat 59.84 77 IAmb IAmb 02 34 10.1
comp=Z,88nm,1.2s
214A Organ Pipe Nat 59.84 77 P **P** **02 34 08.8 +0.7**
baz=319,SNR=51
RABL Rabaul 60.00 196 P **P** **02 34 09.1 -0.1**
KSCO Kaye Shedlock' 60.09 64 IAmb IAmb 02 34 11.1
comp=Z,67nm,0.7s
KSCO Kaye Shedlock' 60.09 64 P **P** **02 34 10.5 +0.7**
baz=318,SNR=22
KSCO Kaye Shedlock' 60.09 64 P **P** **02 34 10.5 +0.7**
baz=318,SNR=22
SPMN Marine on St. 60.24 53 P **P** **02 34 10.5 -0.1**
baz=320,SNR=23
SPMN Marine on St. 60.24 53 P **P** **02 34 10.4 -0.2**
baz=320,SNR=23
BORG Borgarnes 60.50 3 LR LR 02 59 06.7
comp=Z,165nm,21.7s,baz=348,slow=35
T25A Trinidad 60.55 67 IAmb IAmb 02 34 15.0
comp=Z,59nm,0.9s
T25A Trinidad 60.55 67 P **P** **02 34 13.7 +0.6**
baz=319,SNR=27
BGNE Belgrade 60.56 59 P **P** **02 34 12.8 -0.1**
baz=319,SNR=9.3
BGNE Belgrade 60.56 59 P **P** **02 34 12.8 -0.1**
baz=319,SNR=9.3
TBLU Trondheim 60.57 348 *e*P **P** **02 34 10.8 -1.7**
TBLU IAmb IAmb 02 34 12.3
comp=Z,58nm,0.8s
UBPT Khong Chiam 60.61 254 P **P** **02 34 14.2 +0.7**
UBPT Khong Chiam 60.61 254 P **P** **02 34 15.3 +1.9**
TUC Tucson 60.71 75 P **P** **02 34 14.3 +0.3**
TUC IAmb IAmb 02 34 16.2
comp=Z,53nm,1.2s
TUC Tucson 60.71 75 P **P** **02 34 14.8 +0.8**
baz=319
TUC Tucson 60.71 75 P **P** **02 34 14.3 +0.3**
TUC pmax pmax
comp=Z,53nm,1.2s
TUC Tucson 60.71 75 P **P** **02 34 15.0 +0.9**
TUC pP **pP** **02 34 27.9 +2.0**
D41A Chassel 60.73 49 P **P** **02 34 13.5 -0.3**
baz=321,SNR=7.9
RAF Rauma 60.87 341 *e*P **P** **02 34 14.1 -0.5**
I37A Lemond, Waseca 60.88 54 P **P** **02 34 14.6 -0.4**
I37B Waseca 60.88 54 P **P** **02 34 15.4 +0.4**
baz=320,SNR=34
BTK Batken 60.89 299 P **P** **02 34 15.0 -0.2**
BTK IAmb IAmb 02 34 36.7
comp=Z,38nm,0.8s
BTK Batken 60.89 299 P **P** **02 34 15.0 -0.2**
BTK pmax pmax
comp=Z,38nm,0.8s
L34A Svendsen Farm, 61.01 58 P **P** **02 34 15.5 -0.4**
baz=319,SNR=6.9
MEF Metsahovi 61.09 339 *e*P **P** **02 34 15.4 -0.7**
ANMO Albuquerque 61.10 70 P **P** **02 34 17.0 +0.1**
ANMO IAmb IAmb 02 34 18.8
comp=Z,55nm,1.1s
ANMO PcP **PcP** **02 34 59.2 -0.3**
ANMO Albuquerque 61.10 70 P **P** **02 34 17.4 +0.6**
baz=319
ANMO Albuquerque 61.10 70 P **P** **02 34 17.9 +1.0**
baz=319,SNR=56
ANMO Albuquerque 61.10 70 *d i*P **P** **02 34 17.0 +0.1**
ANMO pmax pmax
comp=Z,41nm,1.0s
ANMO Albuquerque 61.10 70 LR LR 03 00 06.5
comp=Z,220nm,19.5s,baz=54,slow=35
ANMO Albuquerque 61.10 70 P **P** **02 34 17.7 +0.8**
ANMO pP **pP** **02 34 30.5 +2.1**
ANMO PcP **PcP** **02 35 00.4 +0.8**
IVI Ivigtut 61.13 18 IAmb IAmb 02 34 17.0
comp=Z,101nm,0.9s
IVI Ivigtut 61.13 18 *i*P **P** **02 34 14.4 -1.9**
IVI IAmb IAmb 02 34 17.3
comp=Z,59nm,0.8s
IVI Ivigtut 61.13 18 P **P** **02 34 15.0 -1.3**
IVI pP **pP** **02 34 27.3 -0.4**
COWI Conover 61.22 50 IAmb IAmb 02 34 17.7
comp=Z,54nm,0.8s
COWI Conover 61.22 50 P **P** **02 34 16.7 -0.5**
baz=321
BELG Belogornoye 61.34 322 *de*P **P** **02 34 16.9 -1.0**
BELG pmax pmax
comp=Z,10.0nm,0.9s
BELG Belogornoye 61.34 322 P **P** **02 34 16.9 -1.0**
comp=Z,51nm,0.9s,baz=207,slow=1.7,SNR=11
comp=Z,51nm,0.9s
G40A Rib Lake 61.39 51 IAmb IAmb 02 34 19.1
comp=Z,57nm,1.1s
G40A Rib Lake 61.39 51 P **P** **02 34 17.9 -0.5**
baz=321,SNR=13
N33A J Bar K, Exete 61.41 59 P **P** **02 34 17.6 -1.1**
N33B J Bar K, Exete 61.42 59 P **P** **02 34 18.0 -0.7**
baz=320,SNR=5.3
CMMT Chiang Mai 61.45 262 P **P** **02 34 19.1 0.0**
comp=Z,150nm,1.0s,comp=Z,2µm
CMMT pP **pP** **02 34 24.9 -4.1**
comp=Z,150nm,1.0s,comp=Z,2µm
CHTO Chiang Mai 61.45 262 P **P** **02 34 18.8 -0.3**
CHTO IAmb IAmb 02 34 26.4
comp=Z,52nm,1.0s
CHTO Chiang Mai 61.45 262 IAMs_20 IAMs_20 03 03 09.9
comp=Z,432nm,20.0s
CHTO Chiang Mai 61.45 262 P **P** **02 34 20.2 +1.1**
CHTO Chiang Mai 61.45 262 P **P** **02 34 18.8 -0.3**
CHTO pmax pmax
comp=Z,52nm,1.0s
CHTO MLR MLR
comp=Z,400nm,20.0s
CHTO Chiang Mai 61.45 262 P **P** **02 34 19.8 +0.6**
CHTO Chiang Mai 61.45 262 P **P** **02 34 19.4 +0.3**
comp=Z,55nm,1.0s,comp=Z,477nm
CHTO pP **pP** **02 34 25.2 -3.8**
comp=Z,55nm,1.0s,comp=Z,477nm
Y22D IRIS PASSCAL I 61.51 71 P **P** **02 34 21.2 +1.7**
baz=319,SNR=7.6
Y22D IRIS PASSCAL I 61.51 71 P **P** **02 34 21.2 +1.7**
baz=319,SNR=7.6
Y22F Passcal Instru 61.51 71 P **P** **02 34 21.2 +1.6**
baz=319,SNR=7.7
MOL Molde 61.56 349 *e*P **P** **02 34 19.1 -0.1**
MOL IAmb IAmb 02 34 19.4
comp=Z,52nm,0.9s
MOL IAML 02 34 32.0
comp=Z,7.0nm,0.7s
Y22A Socorro 61.59 71 P **P** **02 34 21.4 +1.3**
baz=319,SNR=63
NRS Narsarsuaq 61.64 17 *i*P **P** **02 34 17.8 -2.0**
NRS IAmb IAmb 02 34 19.8
comp=Z,46nm,0.9s
CBKS Cedar Bluff 61.72 62 IAmb IAmb 02 34 21.5
comp=Z,88nm,0.8s
CBKS Cedar Bluff 61.72 62 P **P** **02 34 20.5 -0.3**
baz=319,SNR=11
CBKS Cedar Bluff 61.72 62 P **P** **02 34 20.4 -0.3**
baz=319,SNR=11
CM31 Chiang Mai Arr 61.73 262 P **P** **02 34 21.4 +0.3**
CMAR Chiang Mai Arr 61.73 262 *de*P **P** **02 34 22.1 +1.0**
CMAR pmax pmax
comp=Z,16nm,0.7s
CMAR Chiang Mai Arr 61.73 262 P **P** **02 34 21.8 +0.7**
comp=Z,14nm,0.7s,baz=21,slow=7.3,SNR=65
CMAR LR LR 03 03 48.3
comp=Z,405nm,19.7s,baz=40,slow=38
comp=Z,14nm,0.7s
MOS Moscow 61.78 330 *e*P P 02 34 15.5 -5.3
MOS *e*S **S** **02 42 37.6 -2.9**
MOS pmax pmax
comp=Z,28nm,0.7s
DOMB Dombas 61.89 348 *e*P **P** **02 34 20.8 -0.8**
DOMB IAmb IAmb 02 34 21.9
comp=Z,52nm,0.8s
F42A Maple Grove Fa 61.92 50 P **P** **02 34 21.9 -0.1**
baz=321,SNR=12
E43A Lone Tree Farm 61.94 48 IAmb IAmb 02 34 21.9
comp=Z,35nm,0.8s
E43A Lone Tree Farm 61.94 48 P **P** **02 34 21.4 -0.7**
baz=322,SNR=7.8
RTBA Rita Blanca 61.96 66 P **P** **02 34 21.9 -0.6**
RTBA IAmb IAmb 02 34 23.2
comp=Z,51nm,0.7s
AKN Aaknes 62.00 349 *e*P **P** **02 34 22.1 -0.1**
VSU Vasula 62.19 337 *e*P **P** **02 34 21.1 -2.4**
VSU pmax pmax
comp=Z,139nm,1.7s
VSU Vasula 62.19 337 *e*P **P** **02 34 22.1 -1.4**
121A Cookes Peak, D 62.20 72 IAmb IAmb 02 34 26.7
comp=Z,62nm,1.2s
121A Cookes Peak, D 62.20 72 P **P** **02 34 25.4 +1.1**
baz=320,SNR=22
121A Cookes Peak, D 62.20 72 P **P** **02 34 25.3 +1.1**
baz=320,SNR=22
N35A Tabor 62.21 58 P **P** **02 34 24.0 0.0**
baz=320,SNR=17
K38A Parkersburg 62.22 55 IAmb IAmb 02 34 24.1
comp=Z,47nm,0.7s
K38A Parkersburg 62.22 55 P **P** **02 34 23.5 -0.6**
baz=320,SNR=5.4
I40A Norwalk 62.26 53 P **P** **02 34 23.8 -0.5**
baz=321,SNR=21
SWI Sorong 62.38 220 P **P** **02 34 26.0 +0.7**
comp=Z,172nm,1.0s,comp=Z,2µm
SIJI Sorong 62.38 220 P **P** **02 34 25.7 +0.3**
comp=Z,165nm,0.9s,comp=Z,1µm
SCHQ Schefferville 62.41 31 P **P** **02 34 24.0 -1.1**
SCHQ IAmb IAmb 02 34 25.4
comp=Z,96nm,1.1s
SCHQ Schefferville 62.41 31 P **P** **02 34 24.1 -1.1**
comp=Z,45nm,0.8s,baz=328,slow=5.5,SNR=56
SCHQ LR LR 03 02 49.1
comp=Z,252nm,21.4s,baz=282,slow=37
comp=Z,45nm,0.8s
R32A Long Quarter, 62.54 62 P **P** **02 34 25.4 -0.9**
baz=320,SNR=7.7
NB2 NORSAR Subarra 62.58 346 P **P** **02 34 25.2 -1.0**
comp=Z,17nm,0.7s,baz=16,slow=6.9
NB2 NORSAR Subarra 62.58 346 P **P** **02 34 25.2 -1.0**
baz=16,slow=6.9
NOA NORSAR Array B 62.58 346 P **P** **02 34 25.3 -1.0**
comp=Z,20nm,0.6s,baz=17,slow=6.7,SNR=96
NOA LR LR 03 02 24.6
comp=Z,115nm,20.2s,baz=5.0,slow=37
comp=Z,20nm,0.6s
SCIA State Center 62.58 56 P **P** **02 34 26.4 -0.1**
baz=321,SNR=23
SCIA State Center 62.58 56 P **P** **02 34 26.5 +0.1**
baz=321,SNR=23
MTSE Matsula 62.59 339 *e*P **P** **02 34 26.3 +0.1**
OBN Obninsk 62.62 330 P **P** **02 34 25.4 -1.1**
OBN Obninsk 62.62 330 *e*P **P** **02 34 25.0 -1.5**
OBN *e* 02 35 04.9
OBN *e* 02 36 43.7
OBN *e*PPP PPP 02 38 11.5
OBN pmax pmax
comp=Z,25nm,1.2s
OBN MLR MLR
comp=Z,140nm,16.0s
NBO00 NORSAR Array S 62.65 347 IAmb IAmb 02 34 26.9
comp=Z,60nm,1.1s
KKM Kota Kinabalu 62.72 238 P **P** **02 34 28.4 +0.7**
KKM Kota Kinabalu 62.72 238 P **P** **02 34 29.3 +1.6**
KKM Kota Kinabalu 62.72 238 P **P** **02 34 29.4 +1.7**
comp=Z,38nm,1.2s
FOO Floro 62.78 350 *e*P **P** **02 34 27.7 +0.3**
NC602 NORSAR Array S 62.83 346 *e*P **P** **02 34 27.1 -0.7**
SIMJ Simiganj 62.87 299 P **P** **02 34 28.2 -0.4**
SIMJ Simiganj 62.87 299 P **P** **02 34 28.2 -0.4**
I42A Draeger Farm, 63.03 51 IAmb IAmb 02 34 29.8
comp=Z,45nm,0.7s
I42A Draeger Farm, 63.03 51 P **P** **02 34 28.8 -0.7**
baz=322,SNR=10
HYA Hoyanger 63.08 349 *e*P **P** **02 34 29.1 -0.3**
KSU1 Kansas State U 63.08 60 IAmb IAmb 02 34 29.6
comp=Z,89nm,0.9s
KSU1 Kansas State U 63.08 60 P **P** **02 34 28.7 -1.1**
baz=320,SNR=28
KSU1 Kansas State U 63.08 60 P **P** **02 34 28.7 -1.1**
baz=320,SNR=28
HFS Hagfors 63.09 345 P **P** **02 34 28.3 -1.2**
comp=Z,20nm,0.6s,baz=44,slow=4.5,SNR=90
HFS LR LR 03 01 51.3
comp=Z,186nm,21.8s,baz=16,slow=36
comp=Z,20nm,0.6s
E46A Sault Ste Mari 63.09 47 P **P** **02 34 27.8 -2.0**
E46A IAmb IAmb 02 34 29.5
comp=Z,69nm,0.8s
E46A PcP **PcP** **02 35 06.3 -0.9**
E46A Sault Ste Mari 63.09 47 P **P** **02 34 28.5 -1.3**
baz=323,SNR=10.0
H43A Windswept, Lux 63.09 50 IAmb IAmb 02 34 30.3
comp=Z,81nm,0.8s
H43A Windswept, Lux 63.09 50 P **P** **02 34 29.5 -0.3**
baz=322,SNR=11
HSIG 63.11 77 IAmb IAmb 02 34 32.0
comp=Z,50nm,1.0s
JFWS Jewell Farm 63.19 53 IAmb IAmb 02 34 30.3
comp=Z,55nm,0.7s
JFWS Jewell Farm 63.19 53 P **P** **02 34 29.2 -1.3**
baz=321,SNR=18
JFWS Jewell Farm 63.19 53 P **P** **02 34 29.4 -1.0**
baz=321,SNR=18
SKAR Skarslia 63.30 348 *e*P **P** **02 34 30.6 -0.4**
SKAR IAmb IAmb 02 34 31.8
comp=Z,92nm,1.2s
SUE Sulen 63.34 350 *e*P **P** **02 34 30.8 -0.3**
TABU Tabubil 63.36 207 P **P** **02 34 34.7 +2.8**
L40A Anamosa 63.40 54 IAmb IAmb 02 34 31.9
comp=Z,73nm,0.7s
L40A Anamosa 63.40 54 P **P** **02 34 30.9 -1.0**
baz=321,SNR=21
N38A Joes South For 63.43 56 P **P** **02 34 31.5 -0.6**
baz=321,SNR=16
G45A Suttons Bay 63.57 49 P **P** **02 34 32.5 -0.4**
baz=322,SNR=7.2
G45A P **P** **02 34 32.5 -0.4**
baz=322,SNR=7.2
SRIG Santa Rosalia 63.68 79 P **P** **02 34 33.6 -0.3**
SRIG IAmb IAmb 02 34 35.4
comp=Z,55nm,0.9s
AMTX Amarillo 63.70 66 P **P** **02 34 34.4 +0.4**
baz=320
NAYO Nakonayok 63.71 257 P **P** **02 34 35.3 +1.1**
OSL Oslo 63.71 346 *e*P **P** **02 34 33.3 -0.2**
MSTX Muleshoe 63.82 68 IAmb IAmb 02 34 36.2
comp=Z,97nm,1.1s
MSTX Muleshoe 63.82 68 P **P** **02 34 35.0 +0.1**
baz=320,SNR=28
MSTX Muleshoe 63.82 68 P **P** **02 34 35.0 +0.1**
baz=320,SNR=28
ASK Askoy 63.85 349 *e*P **P** **02 34 35.1 +0.6**
ASK IAmb IAmb 02 34 36.5
comp=Z,135nm,0.9s
OK035 E0210 Rd and N 63.85 63 P **P** **02 34 33.8 -1.2**
OK035 IAmb IAmb 02 34 35.1
comp=Z,74nm,1.1s
FAKI Fak Fak 63.93 218 P **P** **02 34 36.5 +0.9**
FAKI IAmb IAmb 02 34 37.2
comp=Z,50nm,0.9s
FAKI Fak Fak 63.93 218 P **P** **02 34 36.7 +1.1**
FAKI Fak Fak 63.93 218 P **P** **02 34 35.7 +0.1**
comp=Z,71nm,0.9s
BER Bergen 63.94 349 *e*P **P** **02 34 34.8 -0.3**
BER IAmb IAmb 02 34 36.0
comp=Z,122nm,1.0s
U32A Winter Ranch, 63.95 63 IAmb IAmb 02 34 36.0
comp=Z,57nm,0.8s
U32A Winter Ranch, 63.95 63 P **P** **02 34 34.9 -0.7**
baz=320,SNR=13
ELIS Ellis County 63.98 64 IAmb IAmb 02 34 36.1
comp=Z,38nm,0.5s
KAN01 Argonia South 64.00 62 IAmb IAmb 02 34 35.8
comp=Z,93nm,1.0s
OK038 West end E0370 64.01 63 IAmb IAmb 02 34 36.4
comp=Z,76nm,0.9s
LPSR Galich'ya Gora 64.08 327 *e*P **P** **02 34 34.1 -2.0**
LPSR pmax pmax
comp=Z,30nm,0.8s
I45A Fountain 64.11 50 P **P** **02 34 36.2 -0.3**
baz=323,SNR=7.4
I45A P **P** **02 34 36.2 -0.3**
baz=323,SNR=7.4

KONO **Kongsberg** 64.14 347 P P 02 34 35.5 -1.0
KONO IAmb IAmb 02 34 37.2
comp=Z,52nm,1.0s
KONO **Kongsberg** 64.14 347 eP P 02 34 36.0 -0.4
KONO **Kongsberg** 64.14 347 ceP P 02 34 35.9 -0.5
KONO pmax pmax
comp=Z,47nm,1.0s
KONO **Kongsberg** 64.14 347 P P 02 34 35.9 -0.5
MNTX **Cornudas Mount** 64.15 71 P P 02 34 37.7 +0.7
baz=320,SNR=116
MNTX **Cornudas Mount** 64.15 71 P P 02 34 37.7 +0.7
baz=320,SNR=116
L42A **Oliver, Polo** 64.17 53 P P 02 34 35.7 -1.2
baz=322,SNR=16
GLMI **Grayling** 64.19 48 P P 02 34 36.4 -0.7
baz=323,SNR=10
GLMI **Grayling** 64.19 48 P P 02 34 36.5 -0.5
baz=323,SNR=10
P38A **Dawn** 64.19 57 IAmb IAmb 02 34 37.4
comp=Z,87nm,0.8s
P38A **Dawn** 64.19 57 P P 02 34 36.5 -0.6
baz=321,SNR=26
K43A **Burlington** 64.23 52 IAmb IAmb 02 34 37.3
comp=Z,85nm,0.8s
K43A **Burlington** 64.23 52 P P 02 34 35.8 -1.5
baz=322,SNR=6.5
ODD1 **Odda** 64.25 348 eP P 02 34 37.1 -0.2
SMWD **Samnorwood** 64.29 65 IAmb IAmb 02 34 39.0
comp=Z,103nm,0.9s
HNR **Honiara** 64.33 186 LR LR 02 58 10.8
comp=Z,9μm,21.7s,baz=351,slow=32
VRH **Novokhopyorsk** 64.37 325 eP P 02 34 34.9 -3.2
VRH pmax pmax
comp=Z,30nm,0.7s
CROK **Carrier** 64.38 63 IAmb IAmb 02 34 38.5
comp=Z,56nm,1.0s
NIL **Nilore** 64.50 293 P P 02 34 39.3 0.0
NIL **Nilore** 64.50 293 P P 02 34 39.3 0.0
NIL **Nilore** 64.50 293 P P 02 34 39.6 +0.3
STRU **Stroemstad** 64.52 346 eP P 02 34 38.8 -0.1
N41A **Harden Midland** 64.63 55 P P 02 34 39.4 -0.6
baz=322,SNR=35
BLS5 **Blasjo** 64.75 348 eP P 02 34 40.3 -0.2
VORR **Voronezh** 64.79 326 eP P 02 34 40.5 -0.3
VORR pmax pmax
comp=Z,46nm,0.4s
T35B **Sooner Cattle** 64.81 61 P P 02 34 39.9 -1.3
baz=321,SNR=6.7
L44A **Lake County Fo** 64.83 52 P P 02 34 39.9 -1.4
L44A **Lake County Fo** 64.83 52 P P 02 34 40.5 -0.8
baz=322,SNR=8.9
L44A **Lake County Fo** 64.83 52 P P 02 34 40.4 -0.8
baz=322,SNR=8.9
TOLI2 **Tolitoli** 64.89 231 P P 02 34 42.2 +0.3
TOLI2 **Tolitoli** 64.89 231 P P 02 34 42.5 +0.6
SRDT **SRDT** 64.92 259 P P 02 34 42.9 +0.7
SRDT **SRDT** 64.92 259 P P 02 34 42.6 +0.4
comp=Z,38nm,1.1s,comp=Z,5μm
MRSI **Marisa** 64.94 230 P P 02 34 42.6 +0.4
comp=Z,37nm,1.0s
ISAL **Salakas** 64.96 336 eP P 02 34 41.8 0.0
P40A **Paris** 64.98 56 P P 02 34 41.7 -0.5
baz=322,SNR=34
DKNS **Dickens** 65.04 67 IAmb IAmb 02 34 43.8
comp=Z,53nm,0.9s
VHRN **Van Horn** 65.06 72 IAmb IAmb 02 34 45.0
comp=Z,71nm,1.1s
VSVD **Vaisvydziai** 65.08 337 eP P 02 34 42.6 -0.1
KMY **Karmoy** 65.09 349 eP P 02 34 42.7 +0.1
HQIL **Hanson Quary C** 65.16 52 IAmb IAmb 02 34 43.5
comp=Z,93nm,0.9s
POST **Post** 65.19 68 IAmb IAmb 02 34 45.0
comp=Z,75nm,0.8s
VSR **Storozhevoye** 65.20 326 eP P 02 34 41.7 -1.8
VSR pmax pmax
comp=Z,20nm,0.9s
OK029 **Liberty Lake** 65.20 63 IAmb IAmb 02 34 43.7
comp=Z,54nm,0.6s
PECS **Pecos** 65.23 70 IAmb IAmb 02 34 45.8
comp=Z,77nm,1.4s
WMOK **Wichita Mounta** 65.33 64 P 02 34 43.7 -1.0
WMOK IAmb IAmb 02 34 45.7
comp=Z,92nm,0.8s
WMOK **Wichita Mounta** 65.33 64 P P 02 34 45.0 +0.3
baz=321,SNR=6.4
WMOK **Wichita Mounta** 65.33 64 P P 02 34 43.7 -1.0
WMOK pmax pmax
comp=Z,92nm,0.9s
ODSA **Odessa** 65.36 69 IAmb IAmb 02 34 46.2
comp=Z,60nm,0.9s
J47A **Sunmer** 65.37 49 P P 02 34 44.5 -0.3
baz=323,SNR=15
J47A P P 02 34 44.5 -0.3
baz=323,SNR=15
M44A **Midewin, Midew** 65.40 53 IAmb IAmb 02 34 44.9
comp=Z,91nm,0.8s
M44A **Midewin, Midew** 65.40 53 P P 02 34 43.6 -1.3
baz=323,SNR=8.2
NACGM **Naroch** 65.41 335 eP P 02 34 43.4 -1.4
TJOU **Tjoern** 65.42 345 eP P 02 34 44.1 -0.7
SANI **Sanana** 65.50 225 P P 02 34 48.7 +2.8
SANI **Sanana** 65.50 225 P P 02 34 45.4 -0.5
comp=Z,44nm,1.0s
MNK **Minsk** 65.51 334 i LRM MLR 03 08 13.1
comp=E,84nm,18.7s
MNK **Minsk** 65.51 334 i P P 02 34 44.6 -0.8
MNK i 02 37 07.9
MNK i PPP PPP 02 38 41.0
MNK i S S 02 43 28.1 +1.2
MNK i SS SS 02 47 48.4 +8.6
MNK pmax pmax
comp=Z,38nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=N,30nm,1.4s
MNK MLR MLR
comp=N,174nm,14.0s
MNK MLR MLR
comp=Z,400nm,21.0s
MNK MLR MLR
comp=E,84nm,19.0s
MNK **Minsk** 65.51 334 i P P 02 34 44.7 -0.8
comp=E,6.0nm,1.0s
MNK **Minsk** 65.51 334 i P P 02 34 44.7 -0.8
comp=N,30nm,1.4s
MNK **Minsk** 65.51 334 i P P 02 34 44.7 -0.8
comp=Z,38nm,0.8s,baz=25
MNK **Minsk** 65.51 334 i PP PP 02 37 08.0 -1.2
MNK **Minsk** 65.51 334 i PPP PPP 02 38 41.0
MNK **Minsk** 65.51 334 i S S 02 43 28.1 +1.2
MNK **Minsk** 65.51 334 i SS SS 02 47 48.5 +8.6
MNK **Minsk** 65.51 334 i SSS SSS 02 50 50.9
MNK **Minsk** 65.51 334 i LQ LQ 02 59 15.3
MNK **Minsk** 65.51 334 i LR LR 03 04 39.1
MNK **Minsk** 65.51 334 i LRM MLR 03 07 26.7
comp=N,174nm,13.5s
MNK **Minsk** 65.51 334 i LRM MLR 03 07 41.5
comp=Z,400nm,20.6s
OKCSW **OKLAHOMA CITY** 65.51 63 IAmb IAmb 02 34 45.9
comp=Z,67nm,0.7s
PABE **Paberze** 65.51 337 P P 02 34 44.7 -0.7
PABE **Paberze** 65.51 337 eP P 02 34 45.4 0.0
HOMB **Homborsund** 65.62 347 eP P 02 34 45.8 -0.2
FNO **Franklin** 65.65 63 IAmb IAmb 02 34 47.0
comp=Z,54nm,0.6s
DEOK **Depew** 65.65 62 IAmb IAmb 02 34 47.0
comp=Z,48nm,0.9s
I49A **Point Hope** 65.67 48 IAmb IAmb 02 34 46.9
comp=Z,74nm,0.8s
I49A **Point Hope** 65.67 48 P P 02 34 45.8 -0.8
baz=324,SNR=6.1
I49A P P 02 34 45.8 -0.8
baz=324,SNR=6.1
L46A **Eue Claire** 65.70 51 P P 02 34 46.0 -0.9
baz=323,SNR=8.1
L46A P P 02 34 46.0 -0.9
baz=323,SNR=8.1
SNART **Snartemo** 65.72 348 eP P 02 34 46.4 -0.3
SNART **Snartemo** 65.72 348 eP P 02 34 46.4 -0.3
S39A **Bolivar** 65.80 59 P P 02 34 45.8 -1.8
S39A **Bolivar** 65.80 59 P P 02 34 45.7 -1.9
baz=322,SNR=27
MNHN **Monahans** 65.85 70 IAmb IAmb 02 34 49.2
comp=Z,69nm,0.7s
R40A **Maddies Statio** 65.85 57 P P 02 34 47.1 -0.8
baz=322,SNR=67
TUL3 **Leonard** 65.96 62 IAmb IAmb 02 34 48.5
comp=Z,40nm,0.7s
TUL3 **Leonard** 65.96 62 IAMs_20 IAMs_20 03 03 48.9
comp=Z,304nm,21.0s
TUL3 **Leonard** 65.96 62 P P 02 34 47.8 -0.9
baz=322,SNR=14
TUL3 **Leonard** 65.96 62 P P 02 34 47.9 -0.7
baz=322,SNR=14
MPSI **Mapaga** 65.97 232 P P 02 34 49.4 +0.5
comp=Z,31nm,1.2s,comp=Z,761nm
PMG **Port Moresby** 65.98 200 IAMs_20 IAMs_20 02 58 24.4
comp=Z,358nm,20.0s
PMG **Port Moresby** 65.98 200 LR LR 02 58 34.3
comp=Z,343nm,21.6s,baz=358,slow=31
ONAU **Onsala** 65.99 345 eP P 02 34 46.7 -1.7
KBL **Kabul** 66.02 296 P P 02 34 47.6 -1.8
KBL **Kabul** 66.02 296 P P 02 34 47.6 -1.8
KBL pmax pmax
comp=Z,33nm,1.0s
KBL MLR MLR
comp=Z,200nm,19.0s
P43A **Skaggs, Pawnee** 66.10 55 P P 02 34 48.7 -0.8
baz=323,SNR=32
ALPN **Alpine** 66.12 71 IAmb IAmb 02 34 51.2
comp=Z,88nm,1.4s
RLO **Rose Lookout** 66.15 61 IAmb IAmb 02 34 49.4
comp=Z,30nm,0.6s
O44A **Mansfield** 66.19 54 P P 02 34 49.2 -0.8
baz=323,SNR=14
FABU **Falkenberg** 66.25 344 eP P 02 34 48.9 -1.2
WTFS **Witchita Falls** 66.25 65 IAmb IAmb 02 34 51.2
comp=Z,90nm,1.1s
U38A **Gravette** 66.25 60 P P 02 34 49.4 -1.2
baz=322,SNR=16
BNDI **Bandanaira** 66.26 220 P P 02 34 51.2 +0.5
comp=Z,50nm,1.1s
SGCY **Sterling City** 66.28 68 IAmb IAmb 02 34 51.9
comp=Z,60nm,0.7s
SADO **Sadowa** 66.52 45 LR LR 03 06 01.9
comp=Z,475nm,18.6s,baz=354,slow=38
ABTX **Abilene, Hawle** 66.52 66 IAmb IAmb 02 34 53.4
comp=Z,82nm,0.9s
ABTX **Abilene, Hawle** 66.52 66 P P 02 34 52.2 -0.1
baz=321,SNR=17
ABTX **Abilene, Hawle** 66.52 66 P P 02 34 52.3 -0.1
baz=321,SNR=17
CCM **Cathedral Cave** 66.53 57 P P 02 34 50.8 -1.5
CCM IAmb IAmb 02 34 52.4
comp=Z,74nm,0.8s
CCM **Cathedral Cave** 66.53 57 P P 02 34 51.1 -1.1
baz=322
CCM **Cathedral Cave** 66.53 57 P P 02 34 51.3 -0.9
baz=322,SNR=36
CCM **Cathedral Cave** 66.53 57 P P 02 34 50.8 -1.5
CCM pmax pmax
comp=Z,74nm,0.8s
CCM **Cathedral Cave** 66.53 57 ⇑P P 02 34 51.4 -0.9
SLM **Saint Louis** 66.56 56 P P 02 34 51.9 -0.5
baz=323,SNR=19
L48A **N Adams** 66.58 50 IAmb IAmb 02 34 52.9
comp=Z,88nm,0.8s
L48A **N Adams** 66.58 50 P P 02 34 51.9 -0.6
baz=324,SNR=15
L48A P P 02 34 51.9 -0.6
baz=324,SNR=15
HHAR **Hobbs** 66.60 60 IAmb IAmb 02 34 52.1
comp=Z,50nm,0.6s
AAM **Ann Arbor** 66.63 49 IAmb IAmb 02 34 53.5
comp=Z,106nm,0.9s
AAM **Ann Arbor** 66.63 49 P P 02 34 52.3 -0.5
baz=324,SNR=12
AAM **Ann Arbor** 66.63 49 P P 02 34 52.3 -0.5
baz=324,SNR=12
SFIN **Lafayette** 66.64 53 IAmb IAmb 02 34 52.5
comp=Z,41nm,0.7s
SFIN **Lafayette** 66.64 53 P P 02 34 51.7 -1.2
baz=323,SNR=9.2
SFIN **Lafayette** 66.64 53 P P 02 34 52.1 -0.8
baz=323,SNR=9.2
K50A **Casco** 66.69 48 IAmb IAmb 02 34 54.7
comp=Z,56nm,0.9s
K50A **Casco** 66.69 48 P P 02 34 52.4 -0.8
baz=324,SNR=6.4
K50A P P 02 34 52.4 -0.8
baz=324,SNR=6.4
MGMO **Mountain Grove** 66.74 58 IAmb IAmb 02 34 53.3
comp=Z,67nm,0.8s
LOOK **Love County** 66.74 64 IAmb IAmb 02 34 54.7
comp=Z,92nm,0.9s
LDAQ **Lac Daran** 66.84 38 P P 02 34 52.5 -1.7
LDAQ IAmb IAmb 02 34 54.2
comp=Z,51nm,1.0s
N47A **Urbana** 66.87 51 IAmb IAmb 02 34 53.9
comp=Z,58nm,0.7s
N47A **Urbana** 66.87 51 P P 02 34 52.9 -1.5
baz=324,SNR=9.1
N47A P P 02 34 52.9 -1.5
baz=324,SNR=9.1
TX31 **Lajitas Ar. Si** 66.91 72 P P 02 34 55.3 +0.3
baz=321,SNR=201
TXAR **Lajitas Array** 66.91 72 P P 02 34 55.4 +0.5
comp=Z,55nm,0.7s,baz=300,slow=4.4,SNR=717
comp=Z,55nm,0.7s
Q44A **Meyer Farm, Va** 66.92 55 IAmb IAmb 02 34 55.0
comp=Z,83nm,0.8s
Q44A **Meyer Farm, Va** 66.92 55 P P 02 34 53.9 -0.8
baz=323,SNR=16
FVM **French Village** 66.98 56 P P 02 34 54.6 -0.6
baz=323,SNR=84
LINV **Loch Inver, As** 67.00 355⇑eP P 02 34 54.5 -0.4
LINV IAmb IAmb 02 34 56.1
comp=Z,76nm,1.2s
OZNA **Ozona** 67.05 69 P P 02 34 54.4 -1.4
OZNA IAmb IAmb 02 34 56.9
comp=Z,90nm,1.6s
SUW **Suwalki** 67.07 337 P P 02 34 53.2 -2.2
SUW IAmb IAmb 02 34 54.0
comp=Z,44nm,0.6s
SUW **Suwalki** 67.07 337 P P 02 34 53.2 -2.2
SUW pmax pmax
comp=Z,44nm,0.6s
SUW **Suwalki** 67.07 337 eP P 02 34 53.5 -1.9
PLPT **Palo Pinto** 67.07 65 IAmb IAmb 02 34 56.0
comp=Z,54nm,0.6s
U40A **Yellville** 67.08 59 P P 02 34 54.6 -1.2
baz=322,SNR=49
U40A P P 02 34 54.6 -1.2
baz=322,SNR=49
BJUU **Bjuv** 67.09 344 eP P 02 34 55.0 -0.4
TRQ **Mont Tremblant** 67.11 41 IAmb IAmb 02 34 55.4
comp=Z,89nm,0.8s
P46A **Rosedale** 67.20 53 P P 02 34 55.7 -0.8
baz=323,SNR=40
Z35A **Perchaven, San** 67.22 64 IAmb IAmb 02 34 57.0
comp=Z,69nm,0.8s
Z35A **Perchaven, San** 67.22 64 P P 02 34 56.0 -0.7
baz=322,SNR=18
LPIG **La Paz** 67.27 80 LR LR 03 00 04.8
comp=Z,112nm,21.0s,baz=320,slow=32
SAND **Sanderson** 67.27 70 IAmb IAmb 02 34 58.6
comp=Z,134nm,1.6s
MUD **Monsted U'grnd** 67.30 346 eP P 02 34 56.4 -0.4
MUD IAmb IAmb 02 34 59.0
comp=Z,61nm,1.2s
DELO **Deloro Mine** 67.34 44 IAmb IAmb 02 34 56.3
comp=Z,50nm,0.8s
LUNU **Lund** 67.44 343 eP P 02 34 57.2 -0.5
MCD **Coleburn Disti** 67.45 354⇑eP P 02 34 57.4 -0.4
MCD IAmb IAmb 02 34 58.2
comp=Z,74nm,0.9s
OLIL **Olney** 67.49 54 IAmb IAmb 02 34 58.7
comp=Z,121nm,1.1s
OLIL **Olney** 67.49 54 P P 02 34 57.5 -0.8
baz=323,SNR=16
N49A **Columbus Grove** 67.52 50 IAmb IAmb 02 34 58.6
comp=Z,75nm,0.9s
N49A **Columbus Grove** 67.52 50 P P 02 34 57.4 -1.1
baz=324,SNR=19
N49A P P 02 34 57.4 -1.1
baz=324,SNR=19
LMQ **La Malbaie** 67.52 37 P P 02 34 57.3 -1.1
LMQ IAmb IAmb 02 34 58.7
comp=Z,179nm,1.5s
O48B **Farmland** 67.62 51 IAmb IAmb 02 34 58.7
comp=Z,89nm,1.0s
O48B **Farmland** 67.62 51 P P 02 34 57.7 -1.5
baz=324,SNR=17
O48B **Farmland** 67.62 51 P P 02 34 57.7 -1.5
baz=324,SNR=17
M50A **Fremont** 67.63 49 IAmb IAmb 02 34 59.2
comp=Z,59nm,0.8s
M50A **Fremont** 67.63 49 P P 02 34 58.0 -1.2
baz=325,SNR=14
M50A P P 02 34 58.0 -1.2
baz=325,SNR=14
HPIG **HPIG** 67.67 75 P P 02 35 00.0 +0.1
HPIG IAmb IAmb 02 35 01.4
comp=Z,124nm,1.9s
BSD **Bornholm Skovb** 67.69 342 eP P 02 34 59.1 -0.2
S44A **Carbondale** 67.77 56 P P 02 34 59.6 -0.5
baz=323,SNR=46
SBUM **Sibu** 67.79 240 P P 02 35 01.3 +0.8
SBUM **Sibu** 67.79 240 P P 02 35 01.0 +0.5
comp=Z,25nm,1.3s,comp=Z,305nm
SLBS **Sierra La Lagu** 67.80 80 P P 02 35 00.6 0.0
KPL **Plockton** 67.83 355 eP P 02 34 59.6 -0.5
WBO **Williamsburg** 67.86 42 IAmb IAmb 02 34 59.7
comp=Z,60nm,1.2s
BLO **Bloomington** 67.87 53 IAmb IAmb 02 35 00.7
comp=Z,81nm,1.0s
PBMO **Poplar Bluff** 67.94 57 P P 02 35 00.5 -0.6
baz=323,SNR=62
O49A **Covington** 68.04 51 IAmb IAmb 02 35 01.9
comp=Z,110nm,0.9s
O49A **Covington** 68.04 51 P P 02 35 00.6 -1.2
baz=324,SNR=25
O49A P P 02 35 00.6 -1.2
baz=324,SNR=25
MNTQ **Montreal, Queb** 68.06 41 IAmb IAmb 02 35 01.2
comp=Z,72nm,0.8s
JCT **Junction City** 68.11 68 IAmb IAmb 02 35 03.4
comp=Z,76nm,0.9s
JCT **Junction City** 68.11 68 P P 02 35 02.1 -0.3
baz=322,SNR=36
JCT **Junction City** 68.11 68 P P 02 35 02.2 -0.3
baz=322,SNR=36
P48A **Milroy** 68.14 52 P P 02 35 01.1 -1.3
baz=324,SNR=32
P48A P P 02 35 01.1 -1.3
baz=324,SNR=32
LCAR **Lake Charles** 68.15 58 P P 02 35 01.0 -1.5
baz=323,SNR=17
WHTX **Lake Whitney,** 68.17 65 IAmb IAmb 02 35 02.9
comp=Z,41nm,0.6s
WHTX **Lake Whitney,** 68.17 65 P P 02 35 02.3 -0.4
baz=322,SNR=12
WHTX **Lake Whitney,** 68.17 65 P P 02 35 02.1 -0.6
baz=322,SNR=12
WHAR **Wooly Hollow** 68.20 59 IAmb IAmb 02 35 03.1
comp=Z,88nm,0.9s
M52A **Chesterland** 68.25 48 P P 02 35 02.4 -0.7
baz=325,SNR=19
M52A P P 02 35 02.4 -0.7
baz=325,SNR=19
BMNY **Brushton-Moira** 68.29 42 P P 02 35 01.5 -1.7
baz=328,SNR=13
TREL **Terrell** 68.30 64 P P 02 35 02.4 -1.1
TREL IAmb IAmb 02 35 04.0
comp=Z,68nm,0.9s
J55A **Hilton** 68.30 45 P P 02 35 02.1 -1.2
baz=326,SNR=5.6
J55A P P 02 35 02.1 -1.2
baz=326,SNR=5.6
N51A **Ashland** 68.31 49 P P 02 35 02.8 -0.8
baz=325,SNR=28
N51A P P 02 35 02.8 -0.8
baz=325,SNR=28
ERPA **Erie** 68.35 47 P P 02 35 02.8 -0.9
baz=326,SNR=23
ERPA **Erie** 68.35 47 P P 02 35 02.8 -0.9
baz=326,SNR=23
D62A **Allapoint, All** 68.36 37 P P 02 35 03.0 -0.7
baz=330,SNR=22
D62A P P 02 35 03.0 -0.7
baz=330,SNR=22
P49A **Miami Univ. Ec** 68.40 52 P P 02 35 02.9 -1.1
baz=324,SNR=28
P49A **Miami Univ. Ec** 68.40 52 P P 02 35 03.1 -1.0
baz=324,SNR=28
LONY **Lake Ozonia** 68.44 42 P P 02 35 02.2 -2.0
baz=328,SNR=6.2
Z38A **Mt. Pleasant** 68.45 63 P P 02 35 03.4 -1.1
Z38A IAmb IAmb 02 35 05.0
comp=Z,70nm,0.8s
Z38A **Mt. Pleasant** 68.45 63 P P 02 35 04.0 -0.4
baz=322,SNR=15
DRIO **Del Rio** 68.50 69 IAmb IAmb 02 35 05.6
comp=Z,53nm,0.8s
WCNY **West Carthage** 68.56 43 P P 02 35 03.3 -1.7
baz=327,SNR=5.0
E62A **Clayton Lake** 68.60 37 P P 02 35 04.3 -0.9
baz=330,SNR=18
E62A P P 02 35 04.3 -0.9
baz=330,SNR=18
AKASG **Malin Array Be** 68.60 332 P P 02 35 03.9 -1.2
comp=Z,4.1nm,0.4s,baz=26,slow=6.0,SNR=20
comp=Z,4.1nm,0.4s
AKBB **Malin Array Si** 68.60 332 deP P 02 35 04.1 -1.0
T45B **Paducah** 68.61 56 P P 02 35 05.2 -0.2
baz=324,SNR=20
ACSO **Alum Creek Sta** 68.61 50 IAmb IAmb 02 35 05.6
comp=Z,83nm,0.9s
ACSO **Alum Creek Sta** 68.61 50 P P 02 35 04.5 -0.8
baz=325,SNR=17
ACSO **Alum Creek Sta** 68.61 50 P P 02 35 04.5 -0.8
baz=325,SNR=17
KIEV **Kiev** 68.61 332 ⇑P P 02 35 05.1 0.0
KIEV **Kiev** 68.61 332 P P 02 35 04.1 -1.1
KIEV **Kiev** 68.61 332 P P 02 35 04.1 -1.1
KIEV pmax pmax
comp=Z,15nm,1.0s
KIEV **Kiev** 68.61 332 P P 02 35 05.0 -0.2
M53A **WI Miller and** 68.62 48 P P 02 35 04.8 -0.6
baz=326,SNR=44
INVG **Invergeldie, C** 68.65 354⇑eP P 02 35 04.6 -0.7
INVG IAmb IAmb 02 35 05.4
comp=Z,18nm,0.9s
ALLY **Alegheny Colle** 68.67 47 P P 02 35 04.9 -0.9
baz=326,SNR=14
J56A **Wolcott** 68.68 44 IAmb IAmb 02 35 05.0
comp=Z,94nm,0.8s
AK05 **Malin Array Si** 68.68 332 P P 02 35 04.4 -1.2
WVNY **West Valley, N** 68.69 46 P P 02 35 04.7 -1.2
baz=326,SNR=16
GEYT **Alibeck** 68.73 306 P P 02 35 05.5 -0.7
GEYT **Alibeck** 68.73 306 P P 02 35 05.5 -0.7
GEYT pmax pmax
comp=Z,12nm,0.8s
GEYT **Alibeck** 68.73 306 P P 02 35 06.0 -0.3
comp=Z,4.6nm,0.7s,baz=7.1,slow=3.6,SNR=16
comp=Z,4.6nm,0.7s
WCI **Wyandotte Cave** 68.73 53 P P 02 35 05.2 -0.9
WCI **Wyandotte Cave** 68.73 53 P P 02 35 05.3 -0.9
baz=324
WCI **Wyandotte Cave** 68.73 53 P P 02 35 05.5 -0.7
baz=324,SNR=46
WCI **Wyandotte Cave** 68.73 53 P P 02 35 05.2 -0.9
WCI pmax pmax
comp=Z,102nm,0.8s
WCI **Wyandotte Cave** 68.73 53 P P 02 35 05.5 -0.7
BKB **Balikpapan** 68.76 234 P P 02 35 07.3 +0.8
comp=Z,135nm,0.9s
HBAR **Harrisburg** 68.80 58 IAmb IAmb 02 35 08.9
comp=Z,120nm,1.1s
LAWE **Loch Awe, Argy** 68.89 355⇑eP P 02 35 06.5 -0.3
LAWE IAmb IAmb 02 35 06.8
comp=Z,53nm,1.1s
J57A **Williamstown** 68.91 43 IAmb IAmb 02 35 06.7
comp=Z,99nm,1.2s
J57A **Williamstown** 68.91 43 P P 02 35 05.9 -1.3
baz=327
J57A P P 02 35 05.9 -1.3
baz=327
SAUI **Saumlaki** 68.97 217 P P 02 35 08.8 +1.0
SAUI **Saumlaki** 68.97 217 P P 02 35 09.8 +2.0
SAUI **Saumlaki** 68.97 217 P P 02 35 08.8 +1.0
comp=Z,211nm,0.9s
PAOC **Oil Creek Stat** 68.98 47 P P 02 35 06.6 -1.0
baz=326
TTSI **Tana Toraja** 69.01 230 P P 02 35 07.9 -0.2
comp=Z,17nm,0.9s
237A **Washetta, Mont** 69.02 64 P P 02 35 07.4 -0.6
baz=322
435B **Jarrell** 69.05 66 IAmb IAmb 02 35 09.2

	comp=Z,117nm,1.2s						
435B	Jarrell	69.05	66	P	P	02 35 08.0	-0.2
	baz=322						
435B	Jarrell	69.05	66	P	P	02 35 08.1	-0.1
	baz=322,SNR=11						
WLAR	White Oak Lake	69.06	61	IAmb	IAmb	02 35 09.1	
	comp=Z,104nm,0.9s						
N53A	Lisbon	69.07	48	IAmb	IAmb	02 35 08.4	
	comp=Z,89nm,0.9s						
N53A	Lisbon	69.07	48	P	P	02 35 07.4	-0.8
	baz=326,SNR=19						
N53A				P	P	02 35 07.4	-0.8
	baz=326,SNR=19						
PQI	Presque Isle	69.08	36	P	P	02 35 06.1	-2.0
PQI				IAmb	IAmb	02 35 07.8	
	comp=Z,178nm,1.8s						
MMSI	Mamuju	69.10	231	P	P	02 35 08.2	-0.5
	comp=Z,30nm,0.7s,comp=Z,410nm						
NCB	Newcomb	69.13	42	P	P	02 35 07.2	-1.4
	baz=328,SNR=6.5						
GOF	Gofitskoye	69.14	320	*ce*P	P	02 35 08.0	-0.6
E63A	Oxbow	69.15	37	P	P	02 35 07.2	-1.4
	baz=330,SNR=6.5						
E63A				P	P	02 35 07.2	-1.4
	baz=330,SNR=6.5						
P51A	Williamsport	69.19	50	IAmb	IAmb	02 35 08.7	
	comp=Z,48nm,0.7s						
P51A	Williamsport	69.19	50	P	P	02 35 07.7	-1.2
	baz=325,SNR=13						
P51A				P	P	02 35 07.7	-1.2
	baz=325,SNR=13						
MAK	Makhachkala	69.20	316	*e*P	P	02 35 09.0	+0.1
MAK				*e*		02 37 46.0	
MAK				*e*PPP	PPP	02 39 22.7	
MAK				*e*S	S	02 44 13.8	+2.2
MAK				*e*SS	SS	02 48 37.1	-0.4
MAK				pmax	pmax		
	comp=Z,134nm,1.2s						
MAK				MLR	MLR		
	comp=Z,171nm,17.0s						
R49A	Shelbyville	69.20	53	IAmb	IAmb	02 35 09.6	
	comp=Z,87nm,1.2s						
R49A	Shelbyville	69.20	53	P	P	02 35 08.2	-0.9
	baz=324,SNR=14						
R49A				P	P	02 35 08.2	-0.9
	baz=324,SNR=14						
BATG	Bathurst New B	69.21	35	IAmb	IAmb	02 35 08.9	
	comp=Z,51nm,0.7s						
O52A	Adamsville	69.21	49	P	P	02 35 08.2	-0.9
	baz=325,SNR=44						
O52A				P	P	02 35 08.2	-0.9
	baz=325,SNR=44						
J58A	Remsen	69.23	43	IAmb	IAmb	02 35 08.6	
	comp=Z,64nm,0.8s						
J58A	Remsen	69.23	43	P	P	02 35 07.2	-2.0
	baz=328,SNR=12						
J58A				P	P	02 35 07.2	-2.0
	baz=328,SNR=12						
K57A	Scipio Center	69.27	44	IAmb	IAmb	02 35 08.8	
	comp=Z,66nm,0.8s						
K57A	Scipio Center	69.27	44	P	P	02 35 08.1	-1.3
	baz=327,SNR=6.5						
PAMR	Moraine State	69.28	48	P	P	02 35 08.6	-0.9
	baz=326						
SRIT	Nakonsritamara	69.34	255	P	P	02 35 10.5	+0.4
SRIT	Nakonsritamara	69.34	255	P	P	02 35 11.6	+1.4
L56A	Greenwood	69.34	45	P	P	02 35 08.0	-2.0
L56A	Greenwood	69.34	45	P	P	02 35 08.8	-1.1
	baz=327,SNR=32						
L56A				P	P	02 35 08.8	-1.1
	baz=327,SNR=32						
T47A	Sharon Grove	69.36	55	P	P	02 35 10.0	-0.1
	baz=324,SNR=94						
O53A	New Philadelph	69.37	49	P	P	02 35 09.0	-1.0
	baz=326,SNR=27						
M55A	Ridgway	69.40	46	P	P	02 35 09.3	-1.0
	baz=326,SNR=25						
M55A				P	P	02 35 09.3	-1.0
	baz=326,SNR=25						
Q51A	Peebles	69.43	51	IAmb	IAmb	02 35 10.7	
	comp=Z,78nm,0.7s						
Q51A	Peebles	69.43	51	P	P	02 35 09.5	-1.0
	baz=325,SNR=22						
Q51A				P	P	02 35 09.5	-1.0
	baz=325,SNR=22						
J59A	Piesco	69.45	42	P	P	02 35 08.7	-1.8
	baz=328,SNR=7.7						
J59A				P	P	02 35 08.7	-1.8
	baz=328,SNR=7.7						
P52A	Corning	69.47	50	IAmb	IAmb	02 35 10.5	
	comp=Z,75nm,0.8s						
P52A	Corning	69.47	50	P	P	02 35 09.5	-1.2
	baz=325,SNR=20						
F63A	Nahmakanta, Br	69.54	38	P	P	02 35 09.9	-1.1
	baz=330						
F63A				P	P	02 35 09.9	-1.1
	baz=330						
CCAR	Cane Creek	69.55	60	IAmb	IAmb	02 35 12.5	
	comp=Z,127nm,1.0s						
CCAR	Cane Creek	69.55	60	P	P	02 35 11.4	+0.1
	baz=323,SNR=10						
Z41A	Richland Creek	69.56	61	IAmb	IAmb	02 35 12.1	
	comp=Z,47nm,0.8s						
BSEG	Bad Segeberg	69.57	345	*e*P	P	02 35 11.1	+0.1
	comp=Z,31nm,1.1s,baz=15,slow=5.9						
HRA	Herat	69.59	301	P	P	02 35 11.5	-0.3
HRA				IAMs_20	IAMs_20	03 08 27.4	
	comp=Z,287nm,20.0s						
KSM	Kuching	69.59	241	P	P	02 35 11.7	0.0
KSM	Kuching	69.59	241	P	P	02 35 13.8	+2.1
KSM	Kuching	69.59	241	P	P	02 35 12.4	+0.7
	comp=Z,37nm,0.9s						
R50A	Paris	69.59	52	IAmb	IAmb	02 35 12.0	
	comp=Z,75nm,0.8s						
R50A	Paris	69.59	52	P	P	02 35 10.9	-0.6
	baz=325,SNR=21						
R50A				P	P	02 35 10.9	-0.6
	baz=325,SNR=21						
MCVT	Middlebury Col	69.61	41	P	P	02 35 10.4	-1.1
	baz=328						
BEL	Belsk	69.63	338	*e*P	P	02 35 11.6	+0.2
F64A	Sherman	69.66	37	IAmb	IAmb	02 35 11.7	
	comp=Z,90nm,0.8s						
F64A	Sherman	69.66	37	P	P	02 35 10.8	-0.9
	baz=330,SNR=9.7						
F64A				P	P	02 35 10.8	-0.9
	baz=330,SNR=9.7						
EKA	Eskdalemuir Ar	69.68	353	P	P	02 35 11.4	-0.3
	comp=Z,21nm,0.6s,baz=7.9,slow=5.5,SNR=52						
	comp=Z,21nm,0.6s						
PSDB	Penn State Uni	69.69	47	P	P	02 35 12.0	0.0
	baz=326						
ESK	Eskdalemuir	69.70	353	P	P	02 35 10.8	-1.0
ESK				IAmb	IAmb	02 35 12.6	
	comp=Z,65nm,1.0s						
ESK	Eskdalemuir	69.70	353	*e*P	P	02 35 11.4	-0.4
ESK				IAmb	IAmb	02 35 12.4	
	comp=Z,67nm,1.0s						
ESK	Eskdalemuir	69.70	353	P	P	02 35 10.8	-1.0
ESK				pmax	pmax		
	comp=Z,65nm,1.0s						
ESK	Eskdalemuir	69.70	353	P	P	02 35 11.4	-0.4
ESK				pP	pwP	02 35 24.9	-1.0
WVT	Waverly	69.71	56	P	P	02 35 11.5	-0.7
WVT	Waverly	69.71	56	P	P	02 35 11.9	-0.3
	baz=324						
WVT	Waverly	69.71	56	P	P	02 35 12.0	-0.2
	baz=324,SNR=69						
WVT	Waverly	69.71	56	P	P	02 35 11.5	-0.7
WVT				pmax	pmax		
	comp=Z,90nm,0.6s						
WVT	Waverly	69.71	56	P	P	02 35 12.2	0.0
H62A	Milan	69.77	40	IAmb	IAmb	02 35 12.9	
	comp=Z,90nm,0.8s						
H62A	Milan	69.77	40	P	P	02 35 12.0	-0.5
	baz=329,SNR=7.6						
H62A				P	P	02 35 12.0	-0.5
	baz=329,SNR=7.6						
LBNH	Lisbon	69.77	40	IAmb	IAmb	02 35 12.8	
	comp=Z,66nm,0.9s						
LBNH	Lisbon	69.77	40	P	P	02 35 11.7	-0.8
	baz=329,SNR=6.3						
LBNH	Lisbon	69.77	40	P	P	02 35 12.0	-0.5
	baz=329,SNR=6.3						
O54A	Avella	69.78	48	IAmb	IAmb	02 35 12.9	
	comp=Z,53nm,0.7s						
O54A	Avella	69.78	48	P	P	02 35 11.7	-0.9

	baz=326,SNR=16						
O54A				P	P	02 35 11.7	-0.9
	baz=326,SNR=16						
NATX	Nacogdoches	69.80	63	IAmb	IAmb	02 35 13.8	
	comp=Z,92nm,0.7s						
NATX	Nacogdoches	69.80	63	P	P	02 35 12.8	0.0
	baz=323,SNR=16						
NATX	Nacogdoches	69.80	63	P	P	02 35 12.7	-0.2
	baz=323,SNR=16						
ACCN	Adirondack Com	69.84	42	IAmb	IAmb	02 35 12.6	
	comp=Z,56nm,0.8s						
ACCN	Adirondack Com	69.84	42	P	P	02 35 11.6	-1.4
	baz=328,SNR=12						
SPSI	Sidrap Palu	69.86	230	P	P	02 35 13.1	-0.2
	comp=Z,20nm,1.1s,comp=Z,2µm						
P53A	Whipple	69.92	49	IAmb	IAmb	02 35 13.6	
	comp=Z,75nm,1.0s						
P53A	Whipple	69.92	49	P	P	02 35 12.4	-1.0
	baz=326,SNR=16						
P53A				P	P	02 35 12.4	-1.0
	baz=326,SNR=16						
BINY	Binghamton	69.93	44	P	P	02 35 12.1	-1.5
BINY	Binghamton	69.93	44	P	P	02 35 11.8	-1.8
	baz=327,SNR=7.5						
SKLT	Songkhla	69.95	253	P	P	02 35 14.2	+0.3
	comp=Z,117nm,1.0s,comp=Z,2µm						
Q52A	Bidwell	69.96	50	IAmb	IAmb	02 35 13.7	
	comp=Z,75nm,0.9s						
Q52A	Bidwell	69.96	50	P	P	02 35 12.7	-1.0
	baz=326,SNR=16						
Q52A				P	P	02 35 12.7	-1.0
	baz=326,SNR=16						
833A	Chaparral WMA,	70.02	69	IAmb	IAmb	02 35 15.8	
	comp=Z,64nm,1.0s						
833A	Chaparral WMA,	70.02	69	P	P	02 35 14.6	+0.4
	baz=322,SNR=14						
833A	Chaparral WMA,	70.02	69	P	P	02 35 14.4	+0.1
	baz=322,SNR=14						
EDMD	Edmundbyers	70.09	352	*e*P	P	02 35 13.8	-0.5
HNH	Hanover	70.09	41	IAmb	IAmb	02 35 14.2	
	comp=Z,50nm,0.9s						
M57A	Sunshine Farm,	70.19	45	P	P	02 35 14.1	-1.0
	baz=327,SNR=28						
M57A				P	P	02 35 14.1	-1.0
	baz=327,SNR=28						
KVAR	Kislovodsk Arr	70.21	320	P	P	02 35 16.9	+1.5
	comp=Z,3.4nm,0.6s,baz=66,slow=11,SNR=3.0						
	comp=Z,3.4nm,0.6s						
KIV	Kislovodsk	70.22	320	⇑P	P	02 35 15.7	+0.4
KIV	Kislovodsk	70.22	320	P	P	02 35 14.3	-1.0
KIV	Kislovodsk	70.22	320	*e*P	P	02 35 14.5	-0.8
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,161nm,18.0s						
STKI	Sintang	70.22	240	P	P	02 35 16.3	+0.8
GAL1	Galloway	70.25	354	⇑*e*P	P	02 35 14.4	-0.8
GAL1				IAmb	IAmb	02 35 15.9	
	comp=Z,31nm,0.8s						
OXF	Oxford	70.25	58	P	P	02 35 15.2	-0.4
	baz=324,SNR=40						
OXF	Oxford	70.25	58	P	P	02 35 15.1	-0.4
	baz=324,SNR=40						
J61A	Chester	70.30	41	IAmb	IAmb	02 35 15.3	
	comp=Z,43nm,0.8s						
J61A	Chester	70.30	41	P	P	02 35 14.9	-0.9
	baz=329						
J61A				P	P	02 35 14.9	-0.9
	baz=329						
L59A	Walton	70.31	43	IAmb	IAmb	02 35 15.5	
	comp=Z,80nm,0.8s						
L59A	Walton	70.31	43	P	P	02 35 14.5	-1.4
	baz=328,SNR=13						
L59A				P	P	02 35 14.5	-1.4
	baz=328,SNR=13						
KBZ	Khabaz	70.33	320	*ce*P	P	02 35 15.7	-0.2
KBZ				pmax	pmax		
	comp=Z,17nm,0.9s						
KBZ	Khabaz	70.33	320	P	P	02 35 15.4	-0.4
	comp=Z,16nm,0.9s,baz=21,slow=1.0,SNR=32						
	comp=Z,16nm,0.9s						
GORT1	Trebel	70.33	344	*e*P	P	02 35 16.0	+0.3
	comp=Z,74nm,1.5s,baz=15,slow=5.9						
U49A	Red Boiling Sp	70.36	54	IAmb	IAmb	02 35 16.9	
	comp=Z,105nm,1.0s						
U49A	Red Boiling Sp	70.36	54	P	P	02 35 15.8	-0.4
	baz=325,SNR=38						
T50A	Nancy	70.39	53	IAmb	IAmb	02 35 17.0	
	comp=Z,102nm,1.1s						
T50A	Nancy	70.39	53	P	P	02 35 15.9	-0.4
	baz=325						
T50A				P	P	02 35 15.9	-0.4
	baz=325						
RUE	Ruedersdorf	70.41	342	*e*P	P	02 35 14.7	-1.5
RUE	Ruedersdorf	70.41	342	*e*P	P	02 35 16.0	-0.1
	baz=15,slow=5.9						
KESW	Keswick, Cumbr	70.42	353	*e*P	P	02 35 16.1	-0.2
KESW				IAmb	IAmb	02 35 17.0	
	comp=Z,88nm,0.9s						
I63A	Otisfield	70.43	40	P	P	02 35 15.6	-0.9
I63A				IAmb	IAmb	02 35 17.3	
	comp=Z,84nm,1.0s						
I63A	Otisfield	70.43	40	P	P	02 35 16.3	-0.2
	baz=330,SNR=5.3						
I63A				P	P	02 35 16.3	-0.2
	baz=330,SNR=5.3						
MCWV	Mont Chateau	70.45	48	P	P	02 35 16.1	-0.6
	baz=326,SNR=22						
MCWV	Mont Chateau	70.45	48	P	P	02 35 16.1	-0.6
	baz=326,SNR=22						
735A	Kenedy	70.45	68	IAmb	IAmb	02 35 18.8	
	comp=Z,52nm,0.9s						
S51A	Beattyville	70.45	52	IAmb	IAmb	02 35 17.1	
	comp=Z,47nm,0.8s						
S51A	Beattyville	70.45	52	P	P	02 35 16.1	-0.7
	baz=325,SNR=14						
S51A				P	P	02 35 16.1	-0.7
	baz=325,SNR=14						
PABK	Blue Knob Stat	70.48	47	P	P	02 35 15.7	-1.2
	baz=327						
V48A	Smith Brothers	70.50	55	P	P	02 35 16.7	-0.4
	baz=324,SNR=73						
G65A	Princeton	70.51	37	IAmb	IAmb	02 35 16.9	
	comp=Z,86nm,0.7s						
G65A	Princeton	70.51	37	P	P	02 35 16.5	-0.5
	baz=331,SNR=8.9						
G65A				P	P	02 35 16.5	-0.5
	baz=331,SNR=8.9						
PLAL	Pickwick Lake	70.51	57	P	P	02 35 16.7	-0.5
KSPA	Keystone Colle	70.56	44	IAmb	IAmb	02 35 16.8	
	comp=Z,47nm,0.9s						
KSPA	Keystone Colle	70.56	44	P	P	02 35 15.9	-1.4
	baz=328,SNR=8.7						
Q54A	Coxs Mills	70.58	49	IAmb	IAmb	02 35 17.3	
	comp=Z,46nm,0.6s						
Q54A	Coxs Mills	70.58	49	P	P	02 35 16.7	-0.8
	baz=326,SNR=12						
Q54A				P	P	02 35 16.7	-0.8
	baz=326,SNR=12						
R53A	Hurricane	70.62	50	P	P	02 35 17.2	-0.6
	baz=326,SNR=34						
R53A				P	P	02 35 17.2	-0.6
	baz=326,SNR=34						
HKT	Hockley	70.63	65	P	P	02 35 17.9	+0.1
HKT				IAmb	IAmb	02 35 19.2	
	comp=Z,127nm,1.9s						
HKT	Hockley	70.63	65	P	P	02 35 17.7	-0.1
	baz=323						
HKT	Hockley	70.63	65	P	P	02 35 17.9	+0.1
HKT				pmax	pmax		
	comp=Z,127nm,1.9s						
HKT	Hockley	70.63	65	P	P	02 35 17.7	-0.1
HKT				pP	pP	02 35 31.1	+1.5
Y45A	Yeager Farm, C	70.70	58	P	P	02 35 18.4	+0.1
	baz=324,SNR=37						
143A	Socs Landing,	70.71	61	IAmb	IAmb	02 35 19.5	
	comp=Z,82nm,0.9s						
143A	Socs Landing,	70.71	61	P	P	02 35 18.4	0.0
	baz=324,SNR=9.2						
ZEI	Tsey	70.76	318	*e*P	P	02 35 17.4	-1.4
ZEI				pmax	pmax		
	comp=Z,12nm,1.0s						
N58A	Sunbury	70.78	45	IAmb	IAmb	02 35 18.4	
	comp=Z,75nm,0.8s						
N58A	Sunbury	70.78	45	P	P	02 35 17.4	-1.3
	baz=327,SNR=15						
N58A				P	P	02 35 17.4	-1.3
	baz=327,SNR=15						

KAPI	Kappang	70.80	229	LR	LR	03 08 21.0	
	comp=Z,25nm,20.8s,baz=64,slow=37						
GGN	Saint George	70.83	36	IAmb	IAmb	02 35 19.0	
	comp=Z,93nm,0.7s						
RETH	Rethem/Aller,	70.88	345	*e*P	P	02 35 19.1	+0.1
	comp=Z,37nm,1.4s,baz=15,slow=5.9						
BKSI	Bulukumba	70.91	229	P	P	02 35 19.4	-0.3
	comp=Z,26nm,0.9s						
HPK	Haverah Park	70.94	352	*e*P	P	02 35 19.0	-0.4
WIM	Isle of Man	70.96	354	⇑*e*P	P	02 35 19.0	-0.6
EMMW	East Machias	70.98	37	IAmb	IAmb	02 35 20.0	
	comp=Z,73nm,0.7s						
FLTG	Flechtingen	70.98	344	*e*P	P	02 35 19.0	-0.7
	baz=15,slow=5.9						
ONI	Oni	71.10	319	P	P	02 35 20.6	-0.1
ONI				IAMs_20	IAMs_20	03 11 21.5	
	comp=Z,296nm,19.0s						
ONI	Oni	71.10	319	P	P	02 35 20.6	-0.1
ONI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ONI				MLR	MLR		
	comp=Z,300nm,19.0s						
UNH	University of	71.15	40	P	P	02 35 19.8	-1.1
	baz=330,SNR=6.4						
SORM	Soroca	71.17	331	⇑P	P	02 35 19.9	-1.0
SORM	Soroca	71.17	331	P	P	02 35 19.9	-1.0
Q56A	Snyder Ridge,	71.24	48	IAmb	IAmb	02 35 21.9	
	comp=Z,48nm,0.8s						
Q56A	Snyder Ridge,	71.24	48	P	P	02 35 20.8	-0.8
	baz=327,SNR=10						
Q56A				P	P	02 35 20.8	-0.8
	baz=327,SNR=10						
KWP	Kalwaria Pacla	71.25	336	*e*P	P	02 35 21.7	+0.3
ASSE	Asse, Remlinge	71.27	344	*e*P	P	02 35 21.4	+0.1
	comp=Z,90nm,1.9s,baz=15,slow=5.9						
S54A	Dingess, Beckl	71.35	50	P	P	02 35 21.7	-0.5
	baz=326,SNR=8.5						
S54A				P	P	02 35 21.7	-0.5
	baz=326,SNR=8.5						
OJC	Ojcow	71.36	338	*e*P	P	02 35 22.2	+0.1
441A	DeRidder	71.36	63	IAmb	IAmb	02 35 23.9	
	comp=Z,88nm,0.9s						
TZTN	Tazewell	71.37	53	IAmb	IAmb	02 35 23.1	
	comp=Z,70nm,0.8s						
TZTN	Tazewell	71.37	53	P	P	02 35 22.0	-0.4
	baz=326,SNR=20						
TZTN	Tazewell	71.37	53	P	P	02 35 21.4	-0.9
	baz=326,SNR=20						
P57A	Homestead Farm	71.37	47	P	P	02 35 21.0	-1.3
	baz=327,SNR=6.2						
P57A				P	P	02 35 21.0	-1.3
	baz=327,SNR=6.2						
HRV	Adam Dziewonsk	71.39	41	P	P	02 35 21.5	-0.9
HRV	Adam Dziewonsk	71.39	41	P	P	02 35 21.5	-0.9
	baz=329						
HRV	Adam Dziewonsk	71.39	41	P	P	02 35 21.5	-0.9
HRV				pmax	pmax		
	comp=Z,37nm,0.8s						
HRV	Adam Dziewonsk	71.39	41	P	P	02 35 21.4	-1.0
HBVL	Hebbronville	71.41	69	IAmb	IAmb	02 35 25.3	
	comp=Z,110nm,0.9s						
X48A	Hartselle	71.44	56	IAmb	IAmb	02 35 23.6	
	comp=Z,87nm,1.1s						
X48A	Hartselle	71.44	56	P	P	02 35 21.9	-0.9
	baz=325,SNR=28						
R55A	Marlinton	71.47	49	IAmb	IAmb	02 35 23.5	
	comp=Z,54nm,0.8s						
R55A	Marlinton	71.47	49	P	P	02 35 22.2	-0.9
	baz=326,SNR=12						
R55A				P	P	02 35 22.2	-0.9
	baz=326,SNR=12						
KULM	Kulim	71.49	252	P	P	02 35 23.4	+0.1
LBWR	Ladybower, Pea	71.50	352	⇑*e*P	P	02 35 22.4	-0.5
LBWR				IAmb	IAmb	02 35 23.3	
	comp=Z,196nm,1.4s						
KSP	Ksiaz	71.50	340	*e*P	P	02 35 22.8	-0.1
LUPA	Lehigh Univers	71.53	45	IAmb	IAmb	02 35 22.9	
	comp=Z,62nm,0.9s						
IBBN	Ibbenburen	71.53	346	*e*P	P	02 35 22.9	-0.1
	comp=Z,172nm,1.8s,baz=15,slow=5.9						
VBMS	Vicksburg	71.54	60	IAmb	IAmb	02 35 24.5	
	comp=Z,122nm,1.0s						
VBMS	Vicksburg	71.54	60	P	P	02 35 23.4	0.0
	baz=324,SNR=6.4						
CLZ	Clausthal	71.59	344	*e*P	P	02 35 23.6	+0.1
	comp=Z,108nm,1.7s,baz=15,slow=5.9						
V51A	Loudon	71.61	54	IAmb	IAmb	02 35 24.3	
	comp=Z,129nm,0.9s						
V51A	Loudon	71.61	54	P	P	02 35 23.4	-0.4
	baz=325,SNR=33						
SOC	Sochi	71.62	322	*e*P	P	02 35 23.2	-0.5
SOC				*e*		02 37 57.9	
SOC				*e*PPP	PPP	02 39 47.0	
SOC				*e*S	S	02 44 42.0	+2.2
SOC				*e*SS	SS	02 49 17.1	+2.6
SOC				MLR	MLR		
	comp=Z,177nm,18.0s						
W50A	Signal Mountai	71.65	55	P	P	02 35 23.7	-0.5
W50A	Signal Mountai	71.65	55	P	P	02 35 23.6	-0.5
	baz=325,SNR=57						
CLL	Collm	71.67	342	*i* P	P	02 35 22.9	-1.0
CLL				pmax	pmax		
	comp=Z,82nm,1.8s						
CLL	Collm	71.67	342	*i* P	P	02 35 22.9	-1.0
	comp=Z,82nm,1.8s						
CLL				*e*PP	PP	02 38 02.0	-0.5
CLL				AMS	AMS	03 06 00.0	
	comp=N,200nm,19.3s						
CLL				AMS	AMS	03 06 00.0	
	comp=E,100nm,21.1s						
CLL	Collm	71.67	342	*e*P	P	02 35 23.3	-0.6
	comp=E,90nm,1.8s,baz=15,slow=5.9						
PAL	Palisades	71.77	43	IAmb	IAmb	02 35 23.8	
	comp=Z,58nm,0.7s						
PAL	Palisades	71.77	43	P	P	02 35 23.2	-1.5
	baz=329,SNR=6.5						
PAL	Palisades	71.77	43	P	P	02 35 22.7	-1.9
	baz=329,SNR=6.5						
BRNJ	Basking Ridge	71.78	44	P	P	02 35 23.4	-1.3
	baz=328						
OSTC	Ostas	71.79	340	*e*P	P	02 35 24.4	-0.3
OSTC				*e*x	x	02 35 27.7	
OSTC	Ostas	71.79	340	*e*P	P	02 35 24.4	-0.3
STHS	Stebnicka Huta	71.79	336	*e*P	P	02 35 24.7	0.0
STHS				pmax	pmax		
	comp=Z,15nm,0.8s						
STHS	Stebnicka Huta	71.79	336	*e*P	P	02 35 24.7	0.0
CHVC	Chvalec	71.79	340	*e*P	P	02 35 24.2	-0.5
CHVC	Chvalec	71.79	340	*e*P	P	02 35 24.2	-0.5
CPCT	Cooper Cave	71.82	54	IAmb	IAmb	02 35 25.5	
	comp=Z,105nm,1.0s						
UPC	Upice	71.88	340	*e*P	P	02 35 24.5	-0.7
UPC	Upice	71.88	340	*e*P	P	02 35 24.5	-0.7
FOR	Fordham	71.90	43	P	P	02 35 23.0	-2.4
	baz=329,SNR=5.1						
BRG	Berggiesshubel	71.92	342	*i* P	P	02 35 25.0	-0.4
BRG				Amp		02 35 27.1	
	comp=Z,12nm,1.0s						
BRG	Berggiesshubel	71.92	342	Amp		02 35 40.2	
	comp=Z,12nm,1.1s						
BRG	Berggiesshubel	71.92	342	*i* P	P	02 35 24.9	-0.4
BRG				*e*		02 35 39.2	
BRG				pmax	pmax		
	comp=Z,12nm,1.0s						
BRG	Berggiesshubel	71.92	342	*e*P	P	02 35 25.0	-0.4
	comp=Z,82nm,2.0s,baz=15,slow=5.9						
BRG	Berggiesshubel	71.92	342	P	P	02 35 39.3	+14
SDMD	Soldier's Deli	71.93	46	P	P	02 35 24.2	-1.4
	baz=328,SNR=9.0						
V52A	Sevierville	71.93	53	IAmb	IAmb	02 35 26.3	
	comp=Z,56nm,0.8s						
V52A	Sevierville	71.93	53	P	P	02 35 25.2	-0.5
	baz=326,SNR=20						
CPNY	Central Park	71.93	44	IAmb	IAmb	02 35 25.3	
	comp=Z,84nm,0.8s						
146A	Union	71.93	59	P	P	02 35 26.0	+0.3
	baz=324,SNR=45						
GTTG	Gottingen	71.94	344	*e*P	P	02 35 26.6	+1.1
	comp=Z,13nm,0.8s,baz=15,slow=5.9						
DSB	Dublin	71.95	355	P	P	02 35 24.9	-0.7
DSB				IAmb	IAmb	02 35 26.4	
	comp=Z,97nm,1.1s						
Z47A	Carrollton	71.96	58	P	P	02 35 25.2	-0.7
Z47A	Carrollton	71.96	58	P	P	02 35 25.6	-0.3
	baz=325,SNR=87						
DPC	Dobruska-Polom	71.97	340	*e*P	P	02 35 25.7	-0.1

DPC Dobruska-Polom 71.97 340 *e*P P 02 35 25.7 -0.1
TUPA Temple Univers 71.97 45 P P 02 35 24.3 -1.6
baz=328,SNR=9.0
NEUB Neuenburg 71.98 343 *e*P P 02 35 25.3 -0.4
comp=Z,19nm,0.8s,baz=15,slow=5.9
FBE Freiberg 71.98 342 *e*P P 02 35 25.6 -0.1
comp=Z,37nm,1.4s,baz=15,slow=5.9
PANJ Princeton 71.98 44 P P 02 35 24.2 -1.7
baz=328,SNR=5.3
TKL Tuckaleechee C 72.00 53 IAmb IAmb 02 35 26.6
comp=Z,77nm,1.2s
TKL Tuckaleechee C 72.00 53 P P 02 35 25.1 -1.0
baz=326,SNR=14
TKL Tuckaleechee C 72.00 53 LR LR 03 08 25.7
comp=Z,690nm,20.1s,baz=337,slow=37
KOLS Kolonicke sedl 72.00 336 *e*P P 02 35 26.3 +0.3
KOLS pmax pmax
comp=Z,17nm,0.7s
KOLS Kolonicke sedl 72.00 336 *e*P P 02 35 26.3 +0.3
NIE Niedzica 72.01 337 *e*P P 02 35 26.4 +0.4
OKC Ostrava-Krasne 72.08 339 *e*P P 02 35 26.1 -0.3
OKC Ostrava-Krasne 72.08 339 *e*P P 02 35 26.1 -0.3
AKH Akhalkalaki 72.09 318 P P 02 35 26.9 +0.1
AKH Akhalkalaki 72.09 318 P P 02 35 26.9 +0.1
AKH pmax pmax
comp=Z,25nm,1.0s
FOEL Foel Wylfa 72.11 353 *e*P P 02 35 26.3 -0.3
CWF Charnwood Fore 72.12 352 *e*P P 02 35 25.9 -0.6
PVCC Panska Ves 72.13 341 *e*P P 02 35 25.5 -1.2
PVCC *ex* x 02 35 30.3
PVCC Panska Ves 72.13 341 *e*P P 02 35 25.5 -1.2
KRLC Kraliky 72.14 340 *e*P P 02 35 26.8 0.0
KRLC Kraliky 72.14 340 *e*P P 02 35 26.8 0.0
MILM Milestii Mici 72.15 330 ⇑*i*P P 02 35 25.5 -1.3
comp=Z,30nm,1.0s
MILM Milestii Mici 72.15 330 *e*PP PP 02 38 06.0 -0.8
MILM Milestii Mici 72.15 330 *c i*P P 02 35 25.5 -1.3
MILM *e* 02 38 06.0
MILM pmax pmax
comp=Z,30nm,1.0s
M63A Gales Ferry 72.16 42 P P 02 35 26.0 -1.0
baz=329
M63A P P 02 35 26.0 -1.0
baz=329
U54A Nelsons Funny 72.18 51 P P 02 35 26.2 -1.1
U54A IAmb IAmb 02 35 27.8
comp=Z,116nm,0.8s
U54A Nelsons Funny 72.18 51 P P 02 35 26.8 -0.4
baz=326,SNR=25
U54A P P 02 35 26.8 -0.4
baz=326,SNR=25
PURM Purcari 72.20 330 ⇑P P 02 35 26.3 -0.8
RICC Richard 72.21 341 *e*P P 02 35 26.3 -0.8
CRVS Cervenica-Dubn 72.22 336 *e*P P 02 35 27.4 +0.1
CRVS pmax pmax
comp=Z,16nm,0.8s
CRVS Cervenica-Dubn 72.22 336 *e*P P 02 35 27.4 +0.1
Y49A Blount Mountai 72.23 56 IAmb IAmb 02 35 27.8
comp=Z,137nm,1.1s
Y49A Blount Mountai 72.23 56 P P 02 35 26.7 -0.9
baz=325,SNR=37
BLA Blacksburg 72.23 50 IAmb IAmb 02 35 28.0
comp=Z,91nm,0.9s
BLA Blacksburg 72.23 50 P P 02 35 26.8 -0.8
baz=326,SNR=20
BLA Blacksburg 72.23 50 P P 02 35 26.8 -0.8
baz=326,SNR=20
MORC Moravsky Berou 72.26 339 ⇑P P 02 35 27.9 +0.3
MORC Moravsky Berou 72.26 339 P P 02 35 27.0 -0.5
MORC Moravsky Berou 72.26 339 *e*P P 02 35 27.6 0.0
MORC Moravsky Berou 72.26 339 P P 02 35 27.0 -0.5
MORC pmax pmax
comp=Z,15nm,0.9s
HSKC Hora Svate Kat 72.27 342 *e*P P 02 35 26.5 -1.0
SIM Simferopol' 72.32 326 *e*P P 02 35 23.2 -4.7
SIM *e*S S 02 44 39.6 -8.2
SIM pmax pmax
comp=Z,15nm,0.9s
SIM smax smax
comp=E,47nm,15.8s
X51A Calhoun 72.39 55 IAmb IAmb 02 35 29.1
comp=Z,124nm,0.8s
X51A Calhoun 72.39 55 P P 02 35 27.8 -0.6
baz=325,SNR=29
X51A P P 02 35 27.8 -0.6
baz=325,SNR=29
W52A Murphy 72.39 54 IAmb IAmb 02 35 29.1
comp=Z,95nm,0.8s
W52A Murphy 72.39 54 P P 02 35 28.1 -0.4
baz=326,SNR=31
S57A Dark Hollow, R 72.41 49 IAmb IAmb 02 35 29.3
comp=Z,94nm,0.8s
S57A Dark Hollow, R 72.41 49 P P 02 35 28.1 -0.5
baz=327,SNR=25
S57A P P 02 35 28.1 -0.5
baz=327,SNR=25
V53A Saluda 72.43 53 P P 02 35 28.4 -0.4
V53A IAmb IAmb 02 35 29.4
comp=Z,59nm,0.8s
V53A Saluda 72.43 53 P P 02 35 28.2 -0.5
baz=326,SNR=21
V53A P P 02 35 28.2 -0.5
baz=326,SNR=21
BUG Bochum--Univer 72.44 346 *e*P P 02 35 28.1 -0.4
comp=Z,128nm,2.0s,baz=15,slow=5.9
LANS Liptovska Anna 72.44 337 *e*P P 02 35 29.5 +0.9
LANS pmax pmax
comp=Z,21nm,0.7s
LANS Liptovska Anna 72.44 337 *e*P P 02 35 29.5 +0.9
BUR08 Bucovina Ar. S 72.47 333 P P 02 35 28.2 -0.7
BURAR Bucovina Array 72.49 333 ⇑P P 02 35 28.6 -0.5
BURAR Bucovina Array 72.49 333 P P 02 35 28.5 -0.5
KASTN Kahler Asten 72.51 345 *e*P P 02 35 28.9 -0.1
comp=Z,70nm,1.8s,baz=15,slow=5.9
MOX Moxa 72.55 343 *e*P P 02 35 29.0 -0.2
comp=Z,14nm,0.9s,baz=15,slow=5.9
MAUC Maruska 72.59 339 *e*P P 02 35 29.9 +0.4
PRA Prague 72.60 341 *e*P P 02 35 29.3 -0.2
PRA Prague 72.60 341 *e*P P 02 35 29.3 -0.2
PLN Plauen 72.61 343 *e*P P 02 35 29.5 0.0
comp=Z,22nm,1.2s,baz=15,slow=5.9
LRAL Lakeview Retre 72.61 57 IAmb IAmb 02 35 29.6
comp=Z,76nm,0.7s
LRAL Lakeview Retre 72.61 57 P P 02 35 28.7 -1.2
baz=325,SNR=45
LRAL Lakeview Retre 72.61 57 P P 02 35 28.7 -1.2
baz=325,SNR=45
WERD Werda 72.62 343 *e*P P 02 35 29.5 -0.1
comp=Z,16nm,1.0s,baz=15,slow=5.9
TANN Tannenbergstha 72.62 342 *e*P P 02 35 29.7 0.0
comp=Z,15nm,1.1s,baz=15,slow=5.9
UBBA Unterbreizbach 72.64 344 *e*P P 02 35 29.8 +0.2
comp=Z,16nm,0.9s,baz=15,slow=5.9
PRU Pruhonice 72.66 341 *e*P P 02 35 28.8 -1.0
PRU *e*pP pwP 02 35 43.6 -1.5
PRU Pruhonice 72.66 341 *e*P P 02 35 28.8 -1.0
PRU *e* 02 35 43.6
MYKOM Kota Tinggi 72.68 247 P P 02 35 30.3 -0.1
MYKOM IAmb IAmb 02 35 56.1
comp=Z,30nm,0.3s
GOPC GO Pecny, Ondr 72.68 341 *e*P P 02 35 29.5 -0.5
GOPC GO Pecny, Ondr 72.68 341 *e*P P 02 35 29.5 -0.5
GNI Garni 72.68 316 P P 02 35 29.8 -0.6
GNI Garni 72.68 316 *c i*P P 02 35 30.7 +0.3
GNI pmax pmax
comp=Z,17nm,1.2s
GNI Garni 72.68 316 P P 02 35 30.5 +0.2
comp=Z,7.5nm,1.0s,baz=104,slow=4.2,SNR=5.5
comp=Z,7.5nm,1.0s
VASR Vaslui 72.69 331 ⇑P P 02 35 29.8 -0.3
GUNZ Gunzen 72.70 342 *e*P P 02 35 30.1 0.0
comp=Z,27nm,1.2s,baz=15,slow=5.9
R58B Mineral 72.70 48 IAmb IAmb 02 35 30.8
comp=Z,174nm,1.7s
R58B Mineral 72.70 48 P P 02 35 29.6 -0.7
baz=327,SNR=10.0
R58B P P 02 35 29.6 -0.7
baz=327,SNR=10.0
CBN Corbin Frederi 72.72 47 IAmb IAmb 02 35 30.7
comp=Z,236nm,1.8s
346A Big Creek Wild 72.74 60 IAmb IAmb 02 35 31.9
comp=Z,119nm,0.8s
346A Big Creek Wild 72.74 60 P P 02 35 30.7 +0.1
baz=324,SNR=10
WERN Wernitzgruen 72.76 342 *e*P P 02 35 30.5 0.0
comp=Z,21nm,0.8s,baz=15,slow=5.9

NKC Novy Kostel 72.80 342 *e*P P 02 35 30.5 -0.2
NKC Novy Kostel 72.80 342 *e*P P 02 35 30.5 -0.2
VRAC Vranov 72.90 339 ⇑P P 02 35 31.8 +0.5
VRAC Vranov 72.90 339 *e*P P 02 35 31.6 +0.3
VRAC Vranov 72.90 339 P P 02 35 31.8 +0.5
VRAC Vranov 72.90 339 P P 02 35 31.1 -0.2
comp=Z,14nm,0.8s,baz=17,slow=6.2,SNR=41
VRAC LR LR 03 14 18.2
comp=Z,123nm,18.1s,baz=9.5,slow=41
comp=Z,14nm,0.8s
T57A Hurt 72.92 49 IAmb IAmb 02 35 31.8
comp=Z,65nm,0.9s
T57A Hurt 72.92 49 P P 02 35 30.8 -0.8
baz=327,SNR=15
T57A P P 02 35 30.8 -0.8
baz=327,SNR=15
BG3 Lake Jocassee 72.93 53 P P 02 35 30.8 -0.9
BG3 IAmb IAmb 02 35 32.5
comp=Z,118nm,0.9s
CASEE Lake Jocassee 72.93 53 P P 02 35 31.5 -0.2
baz=326,SNR=25
U56A King 72.96 50 IAmb IAmb 02 35 32.4
comp=Z,91nm,0.9s
U56A King 72.96 50 P P 02 35 31.6 -0.3
baz=327,SNR=21
U56A P P 02 35 31.6 -0.3
baz=327,SNR=21
KDU Kakadu 72.98 214 P P 02 35 32.8 +0.8
MCH1 Michaelchurch 72.99 353 ⇑*e*P P 02 35 31.3 -0.5
MCH1 IAmb IAmb 02 35 32.0
comp=Z,38nm,1.0s
MMRI Maumere 73.00 225 P P 02 35 32.3 +0.1
MMRI Maumere 73.00 225 P P 02 35 31.7 -0.5
comp=Z,43nm,1.0s
V55A Taylorsville 73.00 51 IAmb IAmb 02 35 32.5
comp=Z,66nm,0.8s
V55A Taylorsville 73.00 51 P P 02 35 31.5 -0.6
baz=326,SNR=22
V55A P P 02 35 31.5 -0.6
baz=326,SNR=22
BIR Birlad 73.08 331 ⇑P P 02 35 33.1 +0.7
BIR Birlad 73.08 331 P P 02 35 33.1 +0.7
MANZ Manzenberg 73.10 343 *e*P P 02 35 32.3 -0.2
comp=Z,2.8nm,0.9s,baz=15,slow=5.9
JAVC Velka Javorina 73.11 339 *e*P P 02 35 33.8 +1.2
TESR Tescani 73.13 332 ⇑P P 02 35 32.0 -0.7
TREC Trest 73.14 340 *e*P P 02 35 32.8 +0.1
TREC Trest 73.14 340 *e*P P 02 35 32.8 +0.1
STRD Stroud 73.14 352 ⇑*e*P P 02 35 32.3 -0.4
STRD IAmb IAmb 02 35 32.7
comp=Z,89nm,0.9s
KRUC Moravsky 73.18 339 *e*P P 02 35 33.1 +0.2
VYHS Vyhne 73.20 338 *e*P P 02 35 33.5 +0.4
VYHS pmax pmax
comp=Z,21nm,1.5s
VYHS Vyhne 73.20 338 *e*P P 02 35 33.5 +0.4
SOEI Soe 73.20 223 P P 02 35 34.3 +0.8
SOEI Soe 73.20 223 P P 02 35 36.1 +2.6
SOEI Soe 73.20 223 P P 02 35 33.7 +0.2
comp=Z,40nm,0.8s
ZVC Zvikov 73.25 341 *e*P P 02 35 33.0 -0.3
Z51A Franklin 73.26 56 IAmb IAmb 02 35 33.8
comp=Z,136nm,1.0s
Z51A Franklin 73.26 56 P P 02 35 32.9 -0.8
baz=326,SNR=23
ROTZ Rotzenmuhle 73.29 342 *e*P P 02 35 33.8 +0.2
comp=Z,4.3nm,0.9s,baz=15,slow=5.9
GHRR 73.33 331 ⇑P P 02 35 33.9 0.0
Y52A Lilburn 73.34 55 P P 02 35 33.8 -0.3
baz=326,SNR=39
Y52A P P 02 35 33.8 -0.3
baz=326,SNR=39
SWN1 Swindon 73.38 352 ⇑*e*P P 02 35 33.9 -0.1
SWN1 IAmb IAmb 02 35 34.8
comp=Z,174nm,1.2s
MEM Membach 73.43 347 *d*P P 02 35 33.9 -0.5
BTNL Ternell 73.44 347 *d*P P 02 35 34.1 -0.3
TNS Taunus Mts 73.46 345 *e*P P 02 35 34.4 -0.2
comp=Z,11nm,0.9s,baz=15,slow=5.9
SMOL Smolenice 73.49 339 *e*P P 02 35 35.5 +0.7
SMOL pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 73.51 337 ⇑P P 02 35 35.5 +0.5
PSZ Piszkesteto 73.51 337 P P 02 35 35.5 +0.5
BSTI Sart Tilman 73.51 347 *d*P P 02 35 34.5 -0.4
GRF Grafenberg Arr 73.53 343 *e*P P 02 35 35.3 +0.2
comp=Z,30nm,0.8s,baz=15,slow=5.9
GRF *e*L L 03 07 10.3
comp=Z,154nm,21.2s
GRFO Grafenberg 73.53 343 P P 02 35 34.8 -0.2
GRFO Grafenberg 73.53 343 P P 02 35 34.8 -0.2
GRFO pmax pmax
comp=Z,31nm,0.9s
KMSC Kings Mountain 73.54 52 IAmb IAmb 02 35 35.6
comp=Z,125nm,1.1s
KMSC Kings Mountain 73.54 52 P P 02 35 34.6 -0.7
baz=327,SNR=28
KMSC Kings Mountain 73.54 52 P P 02 35 34.6 -0.7
baz=327,SNR=28
MTN Manton Dam 73.56 215 P P 02 35 35.4 -0.1
MTN IAmb IAmb 02 35 57.5
comp=Z,70nm,0.9s
MTN Manton Dam 73.56 215 P P 02 35 36.2 +0.7
PANC Panciu 73.58 331 ⇑P P 02 35 35.6 +0.3
LHMI Lhok Sumawe 73.59 255 P P 02 35 37.4 +1.6
PAULI Pauline 73.59 52 IAmb IAmb 02 35 35.9
comp=Z,93nm,1.3s
PAULI Pauline 73.59 52 P P 02 35 34.7 -0.8
baz=326,SNR=11
MODS Modra-Piesok 73.65 339 *e*P P 02 35 36.6 +0.8
MODS Modra-Piesok 73.65 339 *e*P P 02 35 36.6 +0.8
KHC Kasperske Hory 73.66 341 *e*P P 02 35 35.1 -0.7
KHC *ex* x 02 35 39.2
KHC Kasperske Hory 73.66 341 *ce*P P 02 35 35.9 +0.1
KHC pmax pmax
comp=Z,49nm,1.3s
T59A Double "B" Far 73.68 48 P P 02 35 35.5 -0.5
baz=328,SNR=11
T59A P P 02 35 35.5 -0.5
baz=328,SNR=11
BHOU Houvegnez 73.68 347 *d*P P 02 35 35.6 -0.3
VRI Vrincioaia 73.70 331 ⇑P P 02 35 35.4 -0.6
VRI Vrincioaia 73.70 331 P P 02 35 35.4 -0.6
BCLA Clavier 73.71 347 *d*P P 02 35 35.6 -0.4
TURR Turia 73.72 332 ⇑P P 02 35 34.9 -1.3
PLOR Plostina 73.73 331 ⇑P P 02 35 35.9 -0.5
PLOR Plostina 73.73 331 P P 02 35 35.8 -0.5
CJR Cluj-Napoca 73.74 334 ⇑P P 02 35 36.3 -0.1
CJR Cluj-Napoca 73.74 334 P P 02 35 36.3 -0.1
BGES Gesves 73.77 347 *d*P P 02 35 35.9 -0.4
WET Wettzell 73.77 342 *e*P P 02 35 36.8 +0.4
comp=Z,20nm,1.0s,baz=15,slow=5.9
CKRC Cesky Krumlov 73.82 341 *e*P P 02 35 35.8 -0.9
CKRC *ex* x 02 35 41.5
CKRC Cesky Krumlov 73.82 341 *e*P P 02 35 35.8 -0.9
250A Grady 73.83 57 IAmb IAmb 02 35 37.0
comp=Z,66nm,0.6s
250A Grady 73.83 57 P P 02 35 36.4 -0.6
baz=325,SNR=16
ZST Bratislava 73.86 339 *e*P P 02 35 38.0 +1.1
ZST pmax pmax
comp=Z,44nm,0.9s
ZST Bratislava 73.86 339 *e*P P 02 35 38.0 +1.1
COVR Voineasa-Covas 73.86 332 ⇓P P 02 35 37.7 +0.7
HODGE Hodges 73.87 53 IAmb IAmb 02 35 37.8
comp=Z,102nm,0.8s
HODGE Hodges 73.87 53 P P 02 35 36.8 -0.4
baz=326,SNR=46
T60A Surry 73.89 47 P P 02 35 36.3 -1.0
T60A Surry 73.89 47 P P 02 35 36.8 -0.4
baz=328,SNR=13
T60A P P 02 35 36.8 -0.4
baz=328,SNR=13
BMRD Maredsous 73.89 347 *d*P P 02 35 36.3 -0.8
MARR Marisel-Cluj 73.90 334 ⇑P P 02 35 37.1 -0.2
GEC2 GERESS Array S 73.91 341 *e*P P 02 35 37.3 -0.1
comp=Z,13nm,0.8s,baz=15,slow=5.9
GERES GERESS Array B 73.91 341 P P 02 35 36.6 -0.8
GERES GERESS Array B 73.91 341 P P 02 35 37.2 -0.1
comp=Z,8.9nm,0.7s,baz=30,slow=4.9,SNR=53
GERES LR LR 03 12 43.8
comp=Z,144nm,18.1s,baz=14,slow=40
comp=Z,8.9nm,0.7s
CFR Carcaliu 73.93 330 ⇑P P 02 35 36.5 -0.9
CFR Carcaliu 73.93 330 P P 02 35 36.4 -0.9

SRO Srobarova 73.96 338 *e*P P 02 35 39.1 +1.6
SRO Srobarova 73.96 338 *e*P P 02 35 39.1 +1.6
DOPR Dopca 73.97 332 ⇑P P 02 35 38.1 +0.4
RCHB Rochefort 73.97 347 *d*P P 02 35 36.4 -1.1
V58A Windy Hill, Pi 73.99 50 P P 02 35 37.5 -0.4
baz=327,SNR=29
V58A P P 02 35 37.5 -0.4
baz=327,SNR=29
GOGA Godfrey 73.99 54 P P 02 35 37.1 -0.8
baz=326,SNR=13
GOGA Godfrey 73.99 54 P P 02 35 37.2 -0.8
baz=326,SNR=13
BISRR Bisoca 74.00 331 ⇑P P 02 35 37.2 -0.7
152A Waverly Hall 74.01 56 IAmb IAmb 02 35 38.2
comp=Z,89nm,0.8s
152A Waverly Hall 74.01 56 P P 02 35 37.2 -0.9
baz=326,SNR=40
HTL Hartland 74.09 354 *e*P P 02 35 37.9 -0.3
U59A Littleton 74.10 49 IAmb IAmb 02 35 39.2
comp=Z,64nm,0.8s
U59A Littleton 74.10 49 P P 02 35 38.2 -0.3
baz=328,SNR=16
U59A P P 02 35 38.2 -0.3
baz=328,SNR=16
BRAL Brewton 74.11 58 P P 02 35 38.4 -0.3
BRAL Brewton 74.11 58 P P 02 35 39.0 +0.3
baz=325,SNR=9.1
DOU Dourbes 74.11 347 *d*P P 02 35 37.8 -0.6
W57A Gilead 74.14 51 IAmb IAmb 02 35 39.0
comp=Z,90nm,0.8s
W57A Gilead 74.14 51 P P 02 35 38.0 -0.8
baz=327,SNR=20
W57A P P 02 35 38.0 -0.8
baz=327,SNR=20
TPGR Topolog 74.14 330 ⇑P P 02 35 38.3 -0.3
MLR Muntele Rosu 74.26 332 ⇑P P 02 35 39.6 +0.2
MLR Muntele Rosu 74.26 332 P P 02 35 39.7 +0.2
comp=Z,8.1nm,0.6s,baz=338,slow=5.4,SNR=29
comp=Z,8.1nm,0.6s
HYB Hyderabad 74.28 278 *e*P P 02 35 39.8 0.0
JSC Jenkinsville 74.29 52 P P 02 35 39.0 -0.7
baz=327,SNR=17
WLF Walferdange 74.33 346 *d*P P 02 35 40.0 +0.3
BIRD Birdtown, Kers 74.35 52 IAmb IAmb 02 35 40.4
comp=Z,75nm,0.9s
BIRD Birdtown, Kers 74.35 52 P P 02 35 39.3 -0.8
baz=327,SNR=14
CONA Conrad Observa 74.37 339 *i*P P 02 35 40.5 +0.5
comp=Z,12nm,0.8s,SNR=7.1
HARR Harsova 74.44 330 ⇑P P 02 35 40.4 +0.1
HARR Harsova 74.44 330 P P 02 35 40.4 +0.1
RONA Rosalia, Austr 74.50 339 *i*P P 02 35 41.4 +0.7
comp=Z,6.2nm,0.7s,SNR=6.3
PSI Prapat 74.50 252 P P 02 35 42.0 +0.8
PSI Prapat 74.50 252 P P 02 35 41.5 +0.3
PSI pmax pmax
comp=Z,20nm,1.0s
TIRR Tirgusor 74.51 330 ⇓P P 02 35 40.5 -0.2
TIRR Tirgusor 74.51 330 P P 02 35 40.5 -0.2
DBNI Kabupaten Domp 74.54 229 P P 02 35 40.4 -0.8
comp=Z,16nm,2.0s
VOIR 74.55 332 ⇑P P 02 35 41.0 -0.2
VOIR 74.55 332 P P 02 35 40.9 -0.2
RPSI Rantau Prapat 74.59 252 P P 02 35 41.5 -0.1
ARR Arges 74.72 333 ⇑P P 02 35 42.3 +0.2
STU Stuttgart 74.76 344 P P 02 35 41.2 -0.9
STU Stuttgart 74.76 344 P P 02 35 41.2 -0.9
STU pmax pmax
comp=Z,11nm,0.8s
STU Stuttgart 74.76 344 *e*P P 02 35 41.8 -0.3
comp=Z,28nm,0.8s,baz=15,slow=5.9
MOA Molln 74.76 340 *i*P P 02 35 42.2 0.0
comp=Z,8.0nm,0.8s
W59A Clinton 74.81 50 P P 02 35 42.6 -0.1
baz=328,SNR=14
154A Montrose 74.82 55 P P 02 35 42.5 -0.3
baz=326,SNR=24
PPBI Pangkal Pinang 74.83 243 P P 02 35 43.2 +0.2
comp=Z,18nm,0.5s
352A Blakely 74.89 57 IAmb IAmb 02 35 43.2
comp=Z,73nm,0.7s
352A Blakely 74.89 57 P P 02 35 42.0 -1.2
baz=326
HAW Hawthorne Fire 74.89 53 P P 02 35 42.8 -0.4
baz=327,SNR=13
Y57A Sumter 74.91 52 IAmb IAmb 02 35 43.5
comp=Z,59nm,0.8s
Y57A Sumter 74.91 52 P P 02 35 42.6 -0.6
baz=327,SNR=6.8
Y57A P P 02 35 42.6 -0.6
baz=327,SNR=6.8
X58A Rowland 74.93 51 IAmb IAmb 02 35 43.9
comp=Z,118nm,0.9s
X58A Rowland 74.93 51 P P 02 35 43.1 -0.3
baz=327,SNR=19
X58A P P 02 35 43.1 -0.3
baz=327,SNR=19
CNNC Cliffs of the 74.99 49 P P 02 35 43.6 -0.1
CNNC IAmb IAmb 02 35 44.5
comp=Z,134nm,0.9s
CNNC Cliffs of the 74.99 49 P P 02 35 43.5 -0.2
baz=328,SNR=10
CNNC Cliffs of the 74.99 49 P P 02 35 43.4 -0.2
baz=328,SNR=10
FUR Furstenfeldbru 75.00 343 *e*P P 02 35 43.7 +0.1
comp=Z,21nm,1.1s,baz=15,slow=5.9
SURR Surduc 75.01 334 ⇑P P 02 35 43.3 -0.3
BIOA Bad Ischl, Aus 75.03 341 *i*P P 02 35 42.3 -1.5
comp=Z,14nm,1.6s
PLAI Plampang 75.06 229 P P 02 35 42.3 -2.0
comp=Z,24nm,1.0s
V61A Roper 75.09 48 P P 02 35 43.9 -0.4
baz=328,SNR=7.0
V61A P P 02 35 43.9 -0.4
baz=328,SNR=7.0
RJOB Jochberg 75.14 341 *e*P P 02 35 44.8 +0.3
comp=Z,30nm,0.8s,baz=15,slow=5.9
GZR Gura Zlata 75.18 334 ⇑P P 02 35 44.1 -0.7
GZR Gura Zlata 75.18 334 P P 02 35 44.0 -0.7
451A Vernon 75.20 58 P P 02 35 45.4 +0.4
baz=326,SNR=6.1
KMMI Kalianget 75.21 234 P P 02 35 44.8 -0.3
comp=Z,47nm,1.4s
KOUNC Koumac, New Ca 75.22 181 P P 02 35 45.4 +0.5
BZS Buzias 75.26 335 ⇑P P 02 35 44.7 -0.4
BZS Buzias 75.26 335 P P 02 35 44.7 -0.4
BFO Black Forest 75.32 345 P P 02 35 44.1 -1.3
BFO Black Forest 75.32 345 P P 02 35 44.1 -1.3
BFO pmax pmax
comp=Z,119nm,2.0s
BFO Black Forest 75.32 345 *e*P P 02 35 45.0 -0.4
comp=Z,11nm,0.7s,baz=15,slow=5.9
Y58A Scranton 75.33 51 P P 02 35 45.6 -0.1
baz=327,SNR=12
Y58A P P 02 35 45.6 -0.1
baz=327,SNR=12
MORH Mrgy, Hungar 75.40 337 ⇑P P 02 35 45.3 -0.5
HUMR Humele 75.41 332 ⇑P P 02 35 44.4 -1.6
LESA Schwarzleotal 75.47 341 *e*P P 02 35 46.7 +0.3
comp=Z,10nm,0.7s
TIGA Tifton 75.56 56 P P 02 35 46.8 -0.2
baz=326,SNR=28
TIGA Tifton 75.56 56 P P 02 35 46.9 -0.2
baz=326,SNR=28
UBR Ueberruh 75.67 343 *e*P P 02 35 46.9 -0.7
comp=Z,18nm,1.0s,baz=15,slow=5.9
KBA Koelnbreinsper 75.67 341 *e*P P 02 35 48.5 +0.8
comp=Z,43nm,0.9s
255A Hazlehurst 75.69 55 P P 02 35 47.8 0.0
baz=327,SNR=43
SOKA Soboth 75.73 340 *e*P P 02 35 48.2 +0.3
comp=Z,9.9nm,0.6s,SNR=8.0
RETA Reutte 75.75 343 *e*P P 02 35 47.9 -0.1
comp=Z,9.4nm,0.8s
WATA Walderalm 75.75 342 *e*P P 02 35 48.0 -0.1
comp=Z,34nm,1.2s,SNR=11
HERR Herculane 75.75 334 ⇑P P 02 35 47.3 -0.7
PERS Pernice 75.75 340 *i*P P 02 35 48.3 +0.3
NHSC New Hope 75.76 52 P P 02 35 48.0 -0.1
baz=327,SNR=9.1
WTTA Wattenberg 75.81 342 *e*P P 02 35 48.7 +0.2
comp=Z,18nm,0.7s,SNR=10
MOTA Mooosalm 75.82 342 *e*P P 02 35 48.3 -0.2
comp=Z,35nm,1.0s,SNR=7.2
Y60A Bolivia 75.89 50 P P 02 35 48.1 -0.7
baz=328,SNR=5.4

Y60A P P 02 35 48.1 -0.7
baz=328,SNR=5.4
SQTA Sankt Quirin 75.93 342 *eP* P 02 35 48.8 -0.3
comp=Z,29nm,0.8s,SNR=13
OBKA Obir 75.99 340 *eP* P 02 35 49.7 +0.3
comp=Z,36nm,0.8s
OBKA Obir 75.99 340 ⇑*i*P P 02 35 49.3 -0.1
MDVR Moldovita 76.02 334 ⇑P P 02 35 48.8 -0.7
LOZB Loznitsa 76.03 330 ⇑P P 02 35 49.6 0.0
MYKA Terra Mystica 76.05 341 *eP* P 02 35 49.4 -0.3
comp=Z,12nm,0.9s
ARPR Arapgir-MALATY 76.05 320 P P 02 35 49.6 -0.4
DAVA Damuels 76.09 343 *eP* P 02 35 49.8 -0.2
comp=Z,19nm,1.7s
FRGS Fruska Gora 76.13 336 ⇓P P 02 35 49.8 -0.3
FRGS Fruska Gora 76.13 336 ⇑*i*P P 02 35 49.7 -0.4
ABTA Abfaltersbach 76.15 341 *eP* P 02 35 50.3 0.0
comp=Z,17nm,0.7s,SNR=9.8
FETA Feichten 76.20 343 *i*P P 02 35 50.8 +0.2
comp=Z,22nm,1.0s,SNR=9.7
SNSI Sinabang, Aceh 76.26 254 P P 02 35 50.7 -0.5
comp=Z,77nm,0.9s,comp=Z,2µm
CRES Cresnjev 76.46 339 *eP* P 02 35 51.6 -0.4
GSI Gunungsitoli 76.48 253 P P 02 35 53.4 +0.9
GSI Gunungsitoli 76.48 253 P P 02 35 52.4 -0.1
comp=Z,51nm,0.8s
PLVB Pleven 76.56 332 ⇑P P 02 35 52.2 -0.4
CTA Charters Tower 76.57 199 P P 02 35 52.9 +0.2
comp=Z,9.0nm,0.7s,baz=8.4,slow=6.8,SNR=9.3
CTA LR LR 03 06 24.9
comp=Z,119nm,19.5s,baz=71,slow=33
comp=Z,9.0nm,0.7s
CTAO Charters Tower 76.57 199 P P 02 35 53.2 +0.5
CTAO Charters Tower 76.57 199 P P 02 35 53.2 +0.5
CTAO pmax pmax
comp=Z,35nm,1.0s
DAVOX Davos/Dischmat 76.58 343 P P 02 35 52.7 -0.1
comp=Z,16nm,0.8s,baz=25,slow=1.9,SNR=41
DAVOX LR LR 03 13 13.9
comp=Z,166nm,19.5s,baz=60,slow=38
comp=Z,16nm,0.8s
DZM Mont Dzumac 76.72 179 *eP* P 02 36 15.2 +22
comp=Z,90nm,1.4s
DZM Mont Dzumac 76.72 179 *e*LR LR 02 59 22.3
comp=Z,249nm,23.1s
DZM Mont Dzumac 76.72 179 LR LR 03 04 29.1
comp=Z,156nm,19.3s,baz=288,slow=32
CEY Cerknica 76.75 340 *eP* P 02 35 51.7 -1.9
PDSI Padang 76.76 249 P P 02 35 52.4 -1.6
TEKS Tekeris 76.77 336 *eP* P 02 35 52.8 -1.0
BOJS Bojanci 76.81 339 *i*P P 02 35 53.9 0.0
BOJS Bojanci 76.81 339 ⇑*i*P P 02 35 53.8 -0.1
BLKB Belogradchik 76.86 333 ⇑P P 02 35 53.8 -0.5
A051A Mrakovica 76.93 338 *eP* P 02 35 51.2 -3.5
KNRA Kununurra 77.00 216 P P 02 35 55.9 +0.7
SKDS Skadanscina 77.02 340 *eP* P 02 35 53.8 -1.3
BOVS Bovan 77.10 334 ⇑P P 02 35 54.4 -1.2
BLY Banja Luka 77.12 338 *eP* P 02 35 52.6 -3.1
BR131 Keskin Array S 77.15 324*c i*P P 02 35 55.3 -0.8
BRTR Keskin Array B 77.15 324*ce*P P 02 35 55.5 -0.6
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 77.15 324 P P 02 35 55.5 -0.6
comp=Z,4.5nm,0.8s,baz=56,slow=3.9,SNR=28
comp=Z,4.5nm,0.8s
MDUB Mudurnu 77.28 326 P P 02 35 57.3 +0.5
ANTO Ankara 77.30 325 ⇓P P 02 35 58.0 +1.1
ANTO Ankara 77.30 325 P P 02 35 56.4 -0.5
ANTO Ankara 77.30 325 P P 02 35 58.0 +1.1
HAPS Han Pijesak,BI 77.34 336 ⇑*i*P P 02 35 56.7 -0.4
BBLS Lazići 77.44 336 *eP* P 02 35 57.2 -0.4
MGRS Mrkonjic Grad 77.45 337 ⇑*i*P P 02 35 56.9 -0.7
A050A Klekovaca 77.51 338 *eP* P 02 35 57.4 -0.6
TEOL Teolo 77.64 342 IAmb IAmb 02 36 00.8
comp=Z,102nm,0.8s
RUDO Rudo 77.69 336 *eP* P 02 35 55.7 -3.2
SJES Sjenica 77.88 335 ⇑*i*P P 02 35 59.7 -0.4
TAOE Nuku Hiva Isla 77.97 125 *e*LR LR 03 00 18.7
comp=Z,268nm,28.9s
LEM Lembang 78.07 239 LR LR 03 11 16.8
comp=Z,49nm,21.9s,baz=20,slow=36
NEVS Nevesinje 78.29 336 *eP* P 02 36 02.0 -0.3
QIS Mount Isa 78.44 205 P P 02 36 06.0 +2.8
PRMA PARMA 78.46 342 IAmb IAmb 02 36 10.3
comp=Z,260nm,1.9s
ZCCA Zocca 78.74 342 IAmb IAmb 02 36 08.6
comp=Z,58nm,0.9s
TREB Trebinje 78.78 336 ⇑*i*P P 02 36 04.7 -0.2
WB0 Warramunga Arr 79.07 210 IAmb IAmb 02 36 28.6
comp=Z,60nm,0.9s
TLIG Tlapa 79.07 75 P P 02 36 07.1 +0.1
DRME Dracevica, Mon 79.08 335 ⇑*i*P P 02 36 05.7 -0.9
WRAB Tennant Creek 79.24 210 P P 02 36 07.8 +0.3
WRAB IAmb IAmb 02 36 29.6
comp=Z,64nm,1.1s
WRAB Tennant Creek 79.24 210 P P 02 36 07.8 +0.3
WRAB pmax pmax
comp=Z,64nm,1.1s
WB2 Warramunga Arr 79.25 210 IAmb IAmb 02 36 29.6
comp=Z,58nm,0.9s
WRA Warramunga Arr 79.25 210 *i*P P 02 36 07.9 +0.3
WRA pmax pmax
comp=Z,8.0nm,0.4s
WRA Warramunga Arr 79.25 210 P P 02 36 07.9 +0.3
comp=Z,11nm,0.6s,baz=24,slow=6.0,SNR=103
comp=Z,11nm,0.6s
MURB Monte Urbino 79.50 340 IAmb IAmb 02 36 12.0
comp=Z,58nm,0.9s
GUMA Gualdo di Mace 79.54 340 P P 02 36 08.5 -0.6
GUMA IAmb IAmb 02 36 24.7
comp=Z,46nm,0.9s
NRCA Norcia 79.80 340 IAmb IAmb 02 36 13.6
comp=Z,65nm,0.8s
FITZ Fitzroy Crossi 80.34 218 P P 02 36 16.6 +3.1
WSAR Wadi Sarin 80.49 297 LR LR 03 16 17.6
comp=Z,226nm,20.9s,baz=56,slow=39
EIDS Eidsvold 80.98 193 P P 02 36 17.4 +0.6
PALK Pallekele 81.19 270 LR LR 03 15 39.1
comp=Z,204nm,21.7s,baz=143,slow=38
PPT2 Papeete2 81.66 137 *eP* P 02 36 19.8 -0.8
comp=Z,44nm,25.0s
PPT2 Papeete2 81.66 137 *e*LR LR 03 01 56.5
comp=Z,216nm,21.8s
PPT2 *e*LR LR 03 02 07.0
comp=Z,191nm,23.8s
TEIG Tepich 82.48 66 P P 02 36 24.4 -0.7
TEIG Tepich 82.48 66 LR LR 03 14 19.0
comp=Z,1µm,21.3s,baz=149,slow=37
MMAI Mount Meron Ar 82.53 320 P P 02 36 24.8 -0.5
comp=Z,4.8nm,0.8s,baz=45,slow=8.4,SNR=7.5
comp=Z,4.8nm,0.8s
ASF Jabal al Asfar 82.72 318 P P 02 36 25.5 -0.8
comp=Z,4.8nm,0.7s,baz=45,slow=8.3,SNR=8.0
comp=Z,4.8nm,0.7s
AS31 Alice Springs 82.90 209 P P 02 36 27.8 +0.8
ASAR Alice Springs 82.90 209 P P 02 36 27.9 +0.8
comp=Z,16nm,0.7s,baz=16,slow=5.2,SNR=142
ASAR LR LR 03 10 03.2
comp=Z,207nm,21.9s,baz=11,slow=33
comp=Z,16nm,0.7s
QLP Quilpie 83.27 199 P P 02 36 31.0 +2.2
PGAV Gavieira, Arco 83.30 355 *eP* P 02 36 28.4 -0.7
comp=Z,83nm,1.6s
PBRG Braganca 83.38 354 *eP* P 02 36 29.5 0.0
comp=Z,36nm,1.9s
CCIG Comitan 83.66 71 P P 02 36 31.3 -0.1
CCIG IAmb IAmb 02 36 33.8
comp=Z,81nm,1.3s
POLO Lamas de Olo 83.87 355 *eP* P 02 36 32.2 +0.1
comp=Z,33nm,1.8s
PVRL Vila Real 83.96 355 *eP* P 02 36 32.8 +0.3
comp=Z,73nm,1.4s
IDI Anoyia 84.00 329 LR LR 03 19 51.1
comp=Z,48nm,18.2s,baz=42,slow=40
MVO Moncorvo 84.04 354 *eP* P 02 36 33.0 +0.1
comp=Z,66nm,1.7s
PTO Porto 84.14 356 *eP* P 02 36 33.6 +0.3
comp=Z,58nm,1.4s
PVIS Viseu 84.53 355 *eP* P 02 36 35.5 +0.1
VAE Valguarnera 84.67 337 LR LR 03 23 40.0
comp=Z,116nm,18.2s,baz=354,slow=42
MTE Manteigas 84.83 355 *eP* P 02 36 37.1 +0.2
comp=Z,42nm,1.7s
RAO Raoul Island 85.06 166 LR LR 03 07 46.3
comp=Z,211nm,21.7s,baz=9.0,slow=31
COI Coimbra 85.06 355 *eP* P 02 36 38.7 +0.7
PCAS Casmilo, Conde 85.22 355 *eP* P 02 36 39.0 +0.2
comp=Z,109nm,1.6s
ESDC Sonseca Array 85.31 352 P P 02 36 39.0 -0.3
comp=Z,21nm,0.8s,baz=359,slow=5.0,SNR=96
comp=Z,21nm,0.8s
MBWA Marble Bar 85.34 222 P P 02 36 39.4 0.0
PCBR Castelo Branco 85.38 355 *eP* P 02 36 39.8 +0.2
comp=Z,51nm,1.0s
PSA00 Pilbara Seismi 85.67 222 P P 02 36 41.0 -0.1
EIL Elat 85.69 319 P P 02 36 40.4 -0.9
comp=Z,2.8nm,0.7s,baz=12,slow=9.3,SNR=2.7
comp=Z,2.8nm,0.7s
PSBE So Bento 85.77 356 *eP* P 02 36 41.8 +0.2
PMRV Marv??o 85.79 355 *eP* P 02 36 41.9 +0.3
comp=Z,54nm,1.7s
WRKA Warakurna 85.87 213 P P 02 36 43.6 +1.6
PMTG Montargil 86.19 355 *eP* P 02 36 43.4 -0.2
OOD Oodnadatta 86.35 206 P P 02 36 45.9 +1.7
PESTR Estremoz 86.36 355 *eP* P 02 36 44.4 -0.1
EVO Evora 86.71 355 *eP* P 02 36 46.4 +0.2
comp=Z,56nm,1.8s
PBAR Barrancos 87.02 354 *eP* P 02 36 47.3 -0.4
comp=Z,47nm,1.9s
KEST Kesra 87.40 341 P P 02 36 48.8 -0.9
comp=Z,3.7nm,0.7s,baz=22,slow=3.9,SNR=8.2
KEST LR LR 03 21 48.1
comp=Z,158nm,18.3s,baz=285,slow=40
comp=Z,3.7nm,0.7s
PVAQ Vaqueiros 87.82 355 *eP* P 02 36 51.5 0.0
CMSA Cobar Meteorol 87.85 197 P P 02 36 53.9 +2.5
LCRK Leigh Creek 88.28 203 P P 02 36 56.1 +2.6
STKA Stephens Creek 88.93 200 P P 02 36 57.0 +0.5
STKA Stephens Creek 88.93 200 P P 02 36 57.8 +1.3
STKA Stephens Creek 88.93 200 P P 02 36 57.0 +0.5
STKA pmax pmax
comp=Z,7.0nm,0.9s
STKA Stephens Creek 88.93 200 P P 02 36 56.7 +0.2
comp=Z,8.1nm,0.8s,baz=355,slow=7.2,SNR=16
STKA LR LR 03 11 53.7
comp=Z,194nm,22.0s,baz=8.7,slow=32
comp=Z,8.1nm,0.8s
FORT Forrest 91.30 212 P P 02 37 07.7 +0.1
JTS Las Juntas de 92.49 68 LR LR 03 23 51.8
comp=Z,99nm,18.1s,baz=318,slow=39
URZ Urewera 93.38 171 LR LR 03 14 43.3
comp=Z,68nm,20.8s,baz=110,slow=32
SJG San Juan 94.98 49 LR LR 03 22 38.5
comp=Z,129nm,20.8s,baz=333,slow=37
NWAO Nargin (SRO) 96.90 219 LR LR 03 16 45.5
comp=Z,78nm,20.6s,baz=89,slow=33
ATD Arta Tunnel 98.28 304 LR LR 03 28 00.8
comp=Z,11nm,19.8s,baz=18,slow=39
RPZ Rata Peaks 98.41 176 LR LR 03 17 06.7
comp=Z,140nm,21.5s,baz=339,slow=32
ARNL Arenillas 106.67 72 IAMs_20 IAMs_20 03 16 35.1
comp=Z,132nm,20.0s
TORD Torodi Ar. Bea 110.81 343 IAMs_20 IAMs_20 03 31 34.3
comp=Z,154nm,22.0s
DBIC Dimbokro 118.08 349 PKP **PKPdf** 02 42 48.1 -1.3
comp=Z,2.4nm,0.8s,baz=15,slow=3.3,SNR=4.0
PB11 IPOC Station P 125.71 72 **PKPdf** 02 43 03.9 -0.1
SIV San Ignacio 127.15 61 PKP **PKPdf** 02 43 05.9 -0.8
comp=Z,2.6nm,0.6s,baz=86,slow=1.4,SNR=14
PTLB Pontes e Lacer 127.66 59 PKPdf **PKPdf** 02 43 07.4 -0.1
BDFB Brasilia 132.95 47 PKP **PKPdf** 02 43 17.6 -0.2
comp=Z,1.5nm,0.5s,baz=341,slow=1.4,SNR=4.7
CFA Coronel Fontan 135.73 81 PKP **PKPdf** 02 43 21.6 -0.9
comp=Z,2.4nm,0.6s,baz=0.5,slow=3.2,SNR=5.4
CPUP Villa Florida 137.65 65 PKP **PKPdf** 02 43 24.9 -1.2
comp=Z,2.4nm,0.8s,baz=0.0,slow=7.1,SNR=4.5
PLCA Paso Flores 140.79 93 PKPdf **PKPdf** 02 43 31.4 -0.1
PLCA Paso Flores 140.79 93 PKIKP **PKPdf** 02 43 31.4 -0.1
PLCA Paso Flores 140.79 93 PKhKP PKPpre 02 43 23.6
comp=Z,1.4nm,0.6s,baz=339,slow=2.7,SNR=7.4
BOSA Boshof 141.25 296 PKP **PKPdf** 02 43 30.8 -1.9
comp=Z,1.1nm,0.5s,baz=72,slow=2.9,SNR=5.6
GO08 Villa O'Higgin 144.29 104 PKPbc 02 43 36.5 +0.7
GO10 Punta Arenas 147.45 111 **PKPbc** 02 43 44.7 -0.5
ELIB Princess Elisa 156.71 209 *d*PKP **PKPab** 02 44 25.6 -0.1
NVL N'lazarevskaya 160.44 206 *e*PKP2 **PKPab** 02 44 43.7 +2.0
NVL pmax pmax
comp=Z,33nm,1.6s

IDC ***07*** *02:26:22.0±1.5, 7.°13N×127.°71E, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=37.7km s-min=22.0km az=55.0*
NEIC ***07*** *02:26:25.0±1.7, 6.°9N±0.°1×127.°6E±0.°1, h10km±2km, mb4.3/8, Error ellipse: s-maj=26.0km s-min=14.1km az=26.0*
ISC 07 02:26:26.3±1.2, 7.°0N±0.°1×127.°63E±0.°10, h31km, n16, σ1s35/17, mb4.0/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.04**	**273**	Pn	**Pn**	**02 26 58.5**	**-0.1**
DAV	**Davao City (W)**	**2.04**	**273**	Pn	**Pn**	**02 26 58.3**	**-0.3**
	42nm,0.3s,baz=243,slow=5.0,SNR=2.4						
DAV				Sn	**Sb**	**02 27 27.5**	**-0.3**
	23nm,0.3s,baz=84,slow=21,SNR=3.7						
	167nm,0.4s						
TOLI2	**Tolitoli**	**8.97**	**230**	Pn	**Pn**	**02 28 32.8**	**-1.0**
FAKI	**Fak Fak**	**10.85**	**155**	Pn	**Pn**	**02 29 00.2**	**+0.6**
SBUM	**Sibu**	**16.00**	**254**	P	**P**	**02 30 13.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.98**	**184**	P	**P**	**02 31 48.4**	**+1.0**
FITZ				IAmb	IAmb	02 32 04.6	
	comp=Z,2.7nm,1.2s						
COEN	**Coen**	**25.88**	**143**	P	**P**	**02 31 52.1**	**-3.5**
COEN				IAmb	IAmb	02 31 53.0	
	comp=Z,17nm,1.1s						
WB0	**Warramunga Arr**	**27.38**	**166**	P	**P**	**02 32 09.2**	**+0.1**
WB0				IAmb	IAmb	02 32 17.7	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**27.54**	**166**	P	**P**	**02 32 13.4**	**+2.9**
	comp=Z,1.2nm,1.0s,baz=347,slow=10,SNR=4.6						
	comp=Z,1.2nm,1.0s						
WB2	**Warramunga Arr**	**27.54**	**166**	P	**P**	**02 32 10.1**	**-0.5**
WB2				IAmb	IAmb	02 32 29.9	
	comp=Z,8.3nm,1.2s						
ASAR	**Alice Springs**	**31.05**	**169**	P	**P**	**02 32 41.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=340,slow=7.0,SNR=5.4						
	comp=Z,0.2nm,0.5s						
BBOO	**Buckleboo**	**40.36**	**169**	P	**P**	**02 34 01.6**	**+0.2**
STKA	**Stephens Creek**	**40.86**	**162**	P	**P**	**02 34 06.8**	**+1.3**
NWAO	**Narrogin (SRO)**	**40.88**	**193**	P	**P**	**02 34 06.0**	**+0.3**
MKAR	**Makanchi Array**	**55.47**	**324**	P	**P**	**02 35 58.5**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=108,slow=6.8,SNR=1.9						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**59.55**	**326**	P	**P**	**02 36 26.4**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=121,slow=6.9,SNR=4.2						
	comp=Z,1.0nm,0.7s						

JMA 07 02:28:27.5±0.1, 36.°6N±0.°3×137.°7E±0.°3, h0km, MV0.7/26, HIDA MOUNTAINS REGION, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTT	**Ttatey**	**0.33**	**264**	*e*S	Sg	02 28 40.0	+1.9
JNG	**Nsakai**	**0.37**	**129**	P	Pg	02 28 35.1	+0.4
JNG				*e*S	Sg	02 28 40.1	+0.6
MAT	**Matsushiro**	**0.39**	**104**	*e*P	Pg	02 28 35.2	+0.3
MAT				*e*S	Sg	02 28 40.1	+0.1
JGN	**Niukaw**	**0.54**	**219**	P	Pg	02 28 37.6	-0.2
JGN				*e*S	Sg	02 28 45.6	+0.8

IDC ***07*** *02:39:18.2±0.6, 6.°86N×127.°45E, h0km, mb4.0/17, mbtmp4.0/17, Error ellipse: s-maj=25.9km s-min=14.5km az=74.0*
NEIC ***07*** *02:39:20.8±1.6, 6.°92N±0.°07×127.°21E±0.°08, h10km±1km, mb4.4/36, Error ellipse: s-maj=14.3km s-min=11.2km az=65.0*
ISC 07 02:39:23.0±0.4, 6.°87N±0.°06×127.°36E±0.°06, h31km, n67, σ1s35/69, mb4.3/31, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.78**	**276**	⇓*i*P	**Pb**	**02 39 56.0**	**+0.9**
DAV	**Davao City (W)**	**1.78**	**276**	Pn	**Pn**	**02 39 49.7**	**-2.0**
DAV	**Davao City (W)**	**1.78**	**276**	Pn	**Pb**	**02 39 53.4**	**-1.7**
	38nm,0.3s,baz=93,slow=2.8,SNR=14						
DAV				LR	LR	02 40 14.0	
	comp=Z,120nm,20.7s,baz=355,slow=30						

DAV Sn **Sb** 02 40 22.2 +5.2
54nm,0.3s,baz=95,slow=23,SNR=7.5
TNTI Ternate 6.06 180 Pn **Pn** 02 40 49.8 -0.8
TOLI2 Tolitoli 8.71 229 Pn **Pn** 02 41 25.4 -1.5
LUWI Luwuk 9.10 210 Pn **Pn** 02 41 32.1 -0.2
SBUM Sibu 15.72 254 P **P** 02 43 04.8 -1.3
MMRI Maumere 16.23 198 **P** 02 43 11.0 -0.8
MMRI IAmb IAmb 02 43 25.0
comp=Z,24nm,0.5s
KSM Kuching 17.83 253 P **P** 02 43 28.8 -0.7
JOW Kunigami 19.87 2 Pn **Pn** 02 43 55.4 +1.9
JOW IAmb IAmb 02 44 05.0
comp=Z,17nm,0.9s
MTN Manton Dam 19.94 169 P **Pn** 02 43 53.8 -0.7
MTN IAmb IAmb 02 43 56.6
comp=Z,17nm,1.1s
JAGI Jajag, Banyuwa 20.15 221 P **P** 02 43 53.5 -1.4
JAGI IAmb IAmb 02 44 03.3
comp=Z,11nm,0.8s
KNRA Kununurra 22.45 176 P **P** 02 44 21.0 +1.3
KNRA IAmb IAmb 02 44 34.9
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 24.87 184 P **P** 02 44 43.8 +0.7
PMG Port Moresby 25.51 129 P **P** 02 44 51.6 +2.7
SLVN Son La 26.85 305 P **P** 02 44 59.2 -2.0
WB0 Warramunga Arr 27.36 165 P **P** 02 45 05.4 -0.3
JMN Monobe 27.39 12 P **P** 02 45 07.4 +1.6
WRAB Tennant Creek 27.51 166 P **P** 02 45 08.7 +1.7
WRA Warramunga Arr 27.52 166 P **P** 02 45 07.1 0.0
WRA Warramunga Arr 27.52 166 P **P** 02 45 06.0 -1.1
comp=Z,2.2nm,0.8s,baz=341,slow=10,SNR=8.3
comp=Z,2.2nm,0.8s
WB2 Warramunga Arr 27.52 166 P **P** 02 45 07.2 +0.1
WB2 IAmb IAmb 02 45 21.8
comp=Z,11nm,1.3s
WR0 Warramunga Arr 27.59 165 P **P** 02 45 07.4 -0.2
WR0 IAmb IAmb 02 45 15.0
comp=Z,7.1nm,1.1s
KSRS Korea Array 30.44 1 P **P** 02 45 34.3 +1.5
comp=Z,0.8nm,0.6s,baz=181,slow=8.7,SNR=2.3
comp=Z,0.8nm,0.6s
ASAR Alice Springs 31.02 168 P **P** 02 45 38.2 +0.1
ASAR Alice Springs 31.02 168 P **P** 02 45 37.8 -0.4
comp=Z,1.0nm,0.7s,baz=7.3,slow=8.1,SNR=11
ASAR PcP **PcP** 02 48 34.7 +0.9
comp=Z,0.6nm,0.6s,baz=342,slow=2.5,SNR=5.1
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 31.15 17 P **P** 02 45 38.5 -0.6
comp=Z,1.6nm,0.9s,baz=186,slow=7.3,SNR=2.5
comp=Z,1.6nm,0.9s
PZH PanZhiHua 31.24 312 P **P** 02 45 42.3 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.0s
HHC Hu-ho-hao-te 36.66 340 *eP* **P** 02 46 30.5 +3.5
HHC pmax pmax
comp=Z,6.0nm,0.6s
MORW Morawa 37.36 196 P **P** 02 46 33.9 +0.9
USRK Ussuriysk Ar. 37.40 5 P **P** 02 46 32.9 -0.2
comp=Z,1.4nm,0.8s,baz=168,slow=10,SNR=1.8
comp=Z,1.4nm,0.8s
FORT Forrest 37.45 179 P **P** 02 46 34.2 +0.6
BBOO Buckleboo 40.32 169 P **P** 02 46 58.2 +0.4
NWAO Narrogin (SRO) 40.74 193 P **P** 02 47 02.1 +0.9
STKA Stephens Creek 40.86 161 P **P** 02 47 02.6 +0.4
STKA Stephens Creek 40.86 161 P **P** 02 47 01.2 -0.9
comp=Z,3.8nm,0.8s,baz=353,slow=5.7,SNR=4.9
comp=Z,3.8nm,0.8s
KLR Kul'dur 42.37 4 P **P** 02 47 13.5 -0.9
comp=Z,0.8nm,0.7s,baz=198,slow=6.4,SNR=1.9
comp=Z,0.8nm,0.7s
ARMA Armidale 43.78 149 P **P** 02 47 25.3 -0.8
ARMA IAmb IAmb 02 47 32.1
comp=Z,5.1nm,1.0s
ULN Ulaanbaatar 44.36 340 P **P** 02 47 27.6 -3.1
SONM Songino Array 44.56 340 P **P** 02 47 31.9 -0.4
SONM Songino Array 44.56 340 P **P** 02 47 32.1 -0.1
comp=Z,0.3nm,0.3s,baz=160,slow=9.5,SNR=3.7
comp=Z,0.3nm,0.3s
WMQ Urumqi 50.56 323 *eP* **P** 02 48 21.0 +2.1
MK31 Makanchi Array 55.38 324 P **P** 02 48 53.9 -0.4
MK31 IAmb IAmb 02 48 56.4
comp=Z,2.6nm,0.8s
MKAR Makanchi Array 55.38 324 P **P** 02 48 53.9 -0.4
MKAR Makanchi Array 55.38 324 P **P** 02 48 54.7 +0.4
comp=Z,2.9nm,0.8s,baz=123,slow=7.9,SNR=26
comp=Z,2.9nm,0.8s
MAKZ Makanchi 55.57 324 P **P** 02 48 55.5 -0.2
MAKZ IAmb IAmb 02 49 07.8
comp=Z,4.4nm,1.1s
NIL Nilore 56.56 306 P **P** 02 49 01.8 -1.2
ZALV Zalesovo Beam 58.11 332 P **P** 02 49 12.9 -0.6
comp=Z,0.4nm,0.5s,baz=108,slow=9.3,SNR=2.5
comp=Z,0.4nm,0.5s
KURK Kurchatov 59.47 326 P **P** 02 49 22.2 -0.8
KURK IAmb IAmb 02 49 23.7
comp=Z,2.8nm,0.9s
KURBB Kurchatov Arra 59.47 326 P **P** 02 49 23.1 0.0
comp=Z,1.7nm,0.8s,baz=126,slow=6.3,SNR=22
comp=Z,1.7nm,0.8s
KK31 Karatay Array 61.41 316 P **P** 02 49 35.7 -0.8
KK31 IAmb IAmb 02 49 37.3
comp=Z,2.8nm,0.8s
KKAR Karatay Array 61.41 316 P **P** 02 49 35.7 -0.8
GEYT Alibeck 69.45 308 P **P** 02 50 27.9 -0.8
GEYT IAmb IAmb 02 50 29.9
comp=Z,3.3nm,1.1s
GEYT Alibeck 69.45 308 P **P** 02 50 29.5 +0.9
comp=Z,1.1nm,0.6s,baz=101,slow=7.7,SNR=3.6
comp=Z,1.1nm,0.6s
ABKAR Akbulak array 70.15 320 P **P** 02 50 32.4 -0.2
ARU Arti 72.64 327 P **P** 02 50 46.5 -1.1
ARU IAmb IAmb 02 50 58.7
comp=Z,5.0nm,0.7s
ILAR Eielson Array 82.01 26 P **P** 02 51 40.4 +0.5
comp=Z,0.4nm,0.6s,baz=240,slow=5.1,SNR=11
comp=Z,0.4nm,0.6s
GURO Guroymak-BITLI 82.12 308 P **P** 02 51 41.5 +0.3
GURO IAmb IAmb 02 51 43.6
comp=Z,4.7nm,0.8s
GAZ Gaziantep 86.02 307 P **P** 02 52 00.0 -1.0
F31M Tsiigehtchic 87.11 22 P **P** 02 52 04.8 -0.7
F31M IAmb IAmb 02 52 06.9
comp=Z,6.2nm,1.2s
BR131 Keskin Array S 88.51 310 P **P** 02 52 11.6 -1.4
BR131 IAmb IAmb 02 52 14.7
comp=Z,2.8nm,1.0s
BRTR Keskin Array B 88.51 310 P **P** 02 52 12.5 -0.6
comp=Z,1.5nm,0.8s,baz=103,slow=5.0,SNR=14
comp=Z,1.5nm,0.8s
FINES FINESS Array B 89.38 332 P **P** 02 52 16.3 -0.1
comp=Z,3.4nm,0.9s,baz=96,slow=8.5,SNR=4.4
comp=Z,3.4nm,0.9s
AKASG Malin Array Be 89.86 321 P **P** 02 52 18.4 -0.5
comp=Z,2.8nm,0.8s,baz=70,slow=4.4,SNR=7.6
comp=Z,2.8nm,0.8s
BURAR Bucovina Array 93.08 319 P **P** 02 52 32.6 -1.5
BURAR IAmb IAmb 02 52 35.7
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 96.39 24 P **P** 02 52 49.9 +1.2
comp=Z,0.2nm,0.6s,baz=302,slow=5.8,SNR=2.3
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 122.49 290 PKP **PKiKP** 02 58 16.2 -0.4
comp=Z,0.8nm,0.8s,baz=48,slow=3.6,SNR=4.7

IDC 07 02:49:36.9±1.5, 15.°18S×178.°20W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=44.7km s-min=37.4km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.39**	**257**	P	P	02 57 57.1	-0.5
	0.6nm,1.0s,baz=94,slow=7.4,SNR=1.0						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**45.78**	**252**	P	P	02 58 00.8	+0.1
	1.4nm,0.3s,baz=84,slow=8.6,SNR=36						
	1.4nm,0.3s						
QSPA	**South Pole Qui**	**74.86**	**180**	P	P	03 01 19.4	+0.1
	2.3nm,0.8s,baz=28,slow=0.3,SNR=12						
	2.3nm,0.8s						
ILAR	**Eielson Array**	**83.19**	**13**	P	P	03 02 04.6	0.0
	0.4nm,0.8s,baz=230,slow=5.3,SNR=4.8						
	0.4nm,0.8s						

IDC 07 02:52:22.8±0.8, 6°.87N×127°.54E, h0km, mb4.0/13, mbtmp4.0/13, Error ellipse: s-maj=29.6km s-min=16.7km az=62.0

ISC 07 02:52:27.5±0.8**, 6°.8N**±0°.1×**127°.40E**±0°.10**, h31**km**, n15, σ0s.88**/16**, mb4.0**/13**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.83**	**279**	Pn	**Pb**	**02 52 59.4**	**-0.9**
	48nm,0.3s,baz=105,slow=2.3,SNR=6.2						
DAV				Sn	**Sb**	**02 53 24.4**	**+1.6**
	20nm,0.3s,baz=96,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**27.43**	**166**	P	**P**	**02 58 11.1**	**+0.4**
	0.6nm,0.6s,baz=344,slow=10,SNR=1.9						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**30.93**	**168**	P	**P**	**02 58 42.4**	**+0.6**
	0.4nm,0.5s,baz=338,slow=7.4,SNR=7.0						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**40.77**	**161**	P	**P**	**03 00 05.8**	**-0.1**
	1.5nm,0.9s,baz=335,slow=17,SNR=2.2						
	1.5nm,0.9s						
SONM	**Songino Array**	**44.65**	**340**	P	**P**	**03 00 38.0**	**+0.6**
	0.3nm,0.4s,baz=151,slow=8.9,SNR=2.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**55.47**	**324**	P	**P**	**03 01 60.0**	**+0.6**
	1.4nm,0.5s,baz=120,slow=8.0,SNR=26						
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**58.20**	**332**	P	**P**	**03 02 18.2**	**-0.3**
	0.5nm,0.4s,baz=112,slow=5.0,SNR=2.6						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**59.56**	**326**	P	**P**	**03 02 28.1**	**0.0**
	1.1nm,0.5s,baz=122,slow=7.4,SNR=22						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**65.15**	**326**	P	**P**	**03 03 05.4**	**-0.1**
	1.1nm,0.5s,baz=137,slow=7.5,SNR=5.4						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**82.08**	**26**	P	**P**	**03 04 46.1**	**+1.5**
	0.6nm,0.9s,baz=238,slow=5.1,SNR=6.9						
	0.6nm,0.9s						
ARCES	**ARCESS Array B**	**87.83**	**340**	P	**P**	**03 05 13.4**	**0.0**
	6.1nm,1.0s,baz=71,slow=5.8,SNR=2.7						
	6.1nm,1.0s						
BRTR	**Keskin Array B**	**88.59**	**310**	P	**P**	**03 05 16.9**	**-1.0**
	0.8nm,0.8s,baz=107,slow=4.2,SNR=5.3						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**89.47**	**332**	P	**P**	**03 05 20.1**	**-1.3**
	2.8nm,0.9s,baz=79,slow=7.2,SNR=5.2						
	2.8nm,0.9s						
AKASG	**Malin Array Be**	**89.95**	**321**	P	**P**	**03 05 23.2**	**-0.7**
	0.5nm,0.5s,baz=63,slow=5.0,SNR=2.7						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**122.55**	**290**	PKP	**PKPdf**	**03 11 21.0**	**0.0**
	0.2nm,0.6s,baz=92,slow=1.1,SNR=1.9						

TEH 07 02:53:16.8, 34°.39N×45°.77E, h8km±44km, ML3.3

ISN 07 02:53:16.7±0.6, 34°.41N×45°.77E, h17km, ML3.4

ISC 07 02:53:17.2±1.6**, 34°.36N**±0°.04×**45°.75E**±0°.05**, h1**km±13km**, n27, σ1s.11**/32**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**318**	Pg	Pg	02 53 20.6	-0.3
IDHR	**Dehrash**	**0.63**	**57**	Pg	**Pg**	**02 53 28.0**	**-1.3**
IGHG	**Ghaleghazi**	**0.68**	**93**	Pg	**Pg**	**02 53 30.2**	**-0.1**
IGHG				Sg	**Sg**	**02 53 40.8**	**+1.7**
ILBA	**Ilam Banvizeh**	**0.83**	**152**	Pg	**Pb**	**02 53 33.3**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.07**	**94**	Pg	**Pb**	**02 53 37.3**	**-1.5**
KCHF				Sg	**Sb**	**02 53 52.2**	**-1.1**
ILIN	**Lien**	**1.15**	**61**	Pg	**Pb**	**02 53 38.6**	**-1.3**
ILIN				Sg	**Sb**	**02 53 54.8**	**-0.6**
IBDR	**Badra**	**1.26**	**173**	*e*Pn	**Pn**	**02 53 42.0**	**+0.1**
IBDR				*e*Sn	**Sg**	**02 54 00.0**	**+2.4**
IBDR				AML	AML	02 54 05.8	
	comp=E,1μm,0.5s						
IBDR				AML	AML	02 54 19.9	
	comp=N,401nm,0.5s						
IKOM	**Komasi**	**1.47**	**97**	Pg	**Pn**	**02 53 45.4**	**+0.4**
BHD	**Baghdad**	**1.57**	**227**	*e*Pn	**Pn**	**02 53 46.0**	**-0.3**
BHD				*e*Sn	**Sn**	**02 54 08.0**	**+0.7**
BHD				AML	AML	02 54 24.6	
	comp=E,551nm,0.4s						
IBZA	**Bozab**	**1.75**	**86**	Pg	**Pn**	**02 53 50.1**	**+1.2**
SDS1	**Sardasht. Az.**	**1.80**	**353**	Pg	**Pn**	**02 53 50.7**	**+1.1**
IKFM	**Kafar-mosalman**	**1.94**	**115**	Pn	**Pn**	**02 53 52.4**	**+1.2**
IALM	**Almabolaq**	**2.06**	**75**	Pn	**Pn**	**02 53 54.2**	**+1.0**
HSAM	**Samen**	**2.37**	**93**	Pn	**Pn**	**02 53 58.1**	**+0.7**
MAHB	**Mahabad**	**2.40**	**359**	Pn	**Pn**	**02 53 59.1**	**+1.3**
RAFI	**Al-Rafai**	**2.65**	**173**	*e*Pn	**Pn**	**02 54 01.5**	**+0.4**
RAFI				*e*Sn	**Sn**	**02 54 34.0**	**+0.2**
HAGD	**Aghdareh**	**2.84**	**80**	Pn	**Pn**	**02 54 05.2**	**+1.4**
ISRB	**Sarab**	**3.79**	**24**	Pn	**Pn**	**02 54 17.4**	**+0.4**
IMRD	**Marand**	**4.34**	**360**	Pn	**Pn**	**02 54 26.1**	**+1.5**
IPIR	**Pirpir**	**4.61**	**110**	Pn	**Pn**	**02 54 28.3**	**0.0**
JHBN	**Jahan bin**	**4.63**	**116**	Pn	**Pn**	**02 54 29.5**	**+0.8**
QAMS	**Qamsar**	**4.73**	**96**	Pn	**Pn**	**02 54 30.4**	**+0.4**
ZNGN	**Zangian**	**4.83**	**116**	Pn	**Pn**	**02 54 31.8**	**+0.4**
IKLH	**Kolahrood**	**4.96**	**100**	Pn	**Pn**	**02 54 33.7**	**+0.6**
IZEF	**Zefreh**	**5.68**	**103**	Pn	**Pn**	**02 54 44.2**	**+1.2**
KLNJ	**Kolanjah**	**5.96**	**123**	Pn	**Pn**	**02 54 47.8**	**+1.0**
IRAM	**Ramesheh**	**6.12**	**113**	Pn	**Pn**	**02 54 50.0**	**+1.0**

IDC 07 02:54:25.9±1.0, 6°.86N×127°.53E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=32.4km s-min=21.1km az=56.0

ISC 07 02:54:30.6±1.0**, 6°.8N**±0°.2×**127°.5E**±0°.1**, h31**km**, n9, σ0s.72**/10**, mb3.9**/8**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.89**	**278**	Pn	**Pn**	**02 55 01.0**	**+0.3**
	26nm,0.3s,baz=128,slow=22,SNR=1.1						
DAV				Sn	**Sb**	**02 55 27.9**	**+0.2**
	62nm,0.3s,baz=321,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**27.43**	**166**	P	**P**	**03 00 14.0**	**+0.1**
	0.3nm,0.6s,baz=336,slow=11,SNR=2.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**30.94**	**168**	P	**P**	**03 00 44.9**	**0.0**
	0.7nm,1.1s,baz=341,slow=7.0,SNR=2.1						
	0.7nm,1.1s						
MKAR	**Makanchi Array**	**55.49**	**324**	P	**P**	**03 04 02.7**	**+0.1**
	0.7nm,0.5s,baz=118,slow=8.1,SNR=9.1						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**58.21**	**332**	P	**P**	**03 04 21.1**	**-0.7**
	0.6nm,0.5s,baz=110,slow=8.0,SNR=2.5						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**59.58**	**326**	P	**P**	**03 04 31.1**	**-0.2**
	0.6nm,0.5s,baz=122,slow=7.5,SNR=8.1						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**65.17**	**326**	P	**P**	**03 05 09.1**	**+0.4**
	0.8nm,0.6s,baz=121,slow=11,SNR=3.0						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**82.03**	**26**	P	**P**	**03 06 48.5**	**+1.1**
	0.2nm,0.7s,baz=230,slow=6.1,SNR=4.4						
	0.2nm,0.7s						
BRTR	**Keskin Array B**	**88.63**	**310**	P	**P**	**03 07 19.9**	**-1.3**
	0.5nm,0.8s,baz=83,slow=4.5,SNR=2.8						
	0.5nm,0.8s						

IDC 07 02:55:13.9±0.8, 6°.79N×127°.27E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=63.8km s-min=17.2km az=68.0

ISC 07 02:55:19.1±0.9**, 6°.8N**±0°.2×**127°.2E**±0°.4**, h35**km**, n9, σ0s.54**/10**, mb4.0**/9**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.44**	**165**	P	**P**	**03 01 02.0**	**+0.1**
	0.4nm,0.4s,baz=335,slow=11,SNR=6.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**30.93**	**168**	P	**P**	**03 01 33.5**	**+0.5**
	0.2nm,0.3s,baz=342,slow=7.1,SNR=4.9						
ASAR				PcP	**PcP**	**03 04 29.7**	**+0.6**
	0.3nm,0.4s,baz=348,slow=2.5,SNR=2.0						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**40.79**	**161**	P	**P**	**03 02 56.5**	**-0.7**
	1.5nm,0.9s,baz=349,slow=5.2,SNR=1.2						
	1.5nm,0.9s						
MKAR	**Makanchi Array**	**55.39**	**324**	P	**P**	**03 04 50.5**	**+0.6**
	1.2nm,0.5s,baz=118,slow=7.2,SNR=15						
	1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**58.15**	**332**	P	**P**	**03 05 08.8**	**-0.5**
	0.5nm,0.4s,baz=136,slow=6.3,SNR=2.6						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**59.49**	**326**	P	**P**	**03 05 18.7**	**+0.1**
	0.8nm,0.5s,baz=123,slow=7.1,SNR=13						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**65.08**	**326**	P	**P**	**03 05 56.4**	**+0.3**
	1.1nm,0.5s,baz=126,slow=7.3,SNR=4.0						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**82.18**	**26**	P	**P**	**03 07 36.4**	**+0.1**
	0.3nm,0.5s,baz=282,slow=4.1,SNR=6.1						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**88.48**	**310**	P	**P**	**03 08 08.0**	**-0.4**
	0.5nm,0.5s,baz=88,slow=4.7,SNR=5.8						
	0.5nm,0.5s						

IDC 07 03:20:15.4±0.7, 4°.33S×134°.05E, h0km, mb4.0/12, mbtmp4.1/15, ML4.6/2, MS3.6/14, Error ellipse: s-maj=40.9km s-min=15.1km az=67.0

NEIC 07 03:20:16.6±1.3, 4°.31S±0°.05×134°.24E±0°.10, h10km±1km, mb4.4/21, Error ellipse: s-maj=16.4km s-min=8.0km az=90.0

DJA 07 03:20:17.1±0.7, 4°S±3°×13°4E±°, h32km±8km, M4.8/25, mB5.3/7, mb4.8/25, MLv4.7/12, Mw(mB)4.8/7

ISC 07 03:20:18.1±0.5**, 4°.47S**±0°.04×**134°.05E**±0°.07**, h21**km**, n116, σ2s.13**/108**, mb4.3**/24**, MS3.6**/12**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.87**	**337**	P	**Pb**	**03 20 32.1**	**-2.4**
KMPI				S	**Sb**	**03 20 44.8**	**-0.9**
FAKI	**Fak Fak**	**2.37**	**310**		**Pn**	**03 20 54.6**	**-1.1**
FAKI	**Fak Fak**	**2.37**	**310**	P	**Pn**	**03 20 55.3**	**-0.4**
FAKI	**Fak Fak**	**2.37**	**310**	P	**Pn**	**03 20 54.6**	**-1.1**
MWPI	**Manokwari, Pap**	**3.51**	**360**	P	Pn	03 21 04.7	-6.8
BNDI	**Bandanaira**	**4.13**	**269**	P	**Pn**	**03 21 21.5**	**+1.4**
BNDI	**Bandanaira**	**4.13**	**269**	P	**Pn**	**03 21 21.4**	**+1.4**
SAUI	**Saumlaki**	**4.44**	**218**	Pn	**Pn**	**03 21 27.1**	**+2.9**
SIJI	**Sorong**	**4.53**	**322**	P	**Pn**	**03 21 23.5**	**-2.0**
SWI	**Sorong**	**4.54**	**322**	P	**Pn**	**03 21 23.6**	**-2.0**
KRAI	**Karang Ratu**	**5.76**	**281**	P	**Pn**	**03 21 43.8**	**+1.4**
	130nm,0.8s,0.6nm						
GENI	**Genyem**	**6.38**	**73**	P	**Pn**	**03 21 47.3**	**-3.7**
	68nm,0.7s,4μm0.5nm						
NLAI	**Namlea**	**7.04**	**280**	P	**Pn**	**03 22 01.9**	**+1.9**
	23nm,0.8s,0.2nm						
TABU	**Tabubil**	**7.19**	**97**	P	**Pn**	**03 22 06.1**	**+4.0**
LBMI	**Labuha**	**7.57**	**300**	P	**Pn**	**03 22 05.0**	**-2.3**
	78nm,0.7s,0.3nm						
KDU	**Kakadu**	**8.32**	**191**	P	**Pn**	**03 22 19.3**	**+1.8**
	baz=8.4,SNR=233						
KDU				S	**Sn**	**03 23 50.7**	**-0.2**
	baz=8.4						
KDU	**Kakadu**	**8.32**	**191**	P	**Pn**	**03 22 20.4**	**+2.9**
SANI	**Sanana**	**8.40**	**286**	P	**Pn**	**03 22 18.1**	**-0.6**
SANI	**Sanana**	**8.40**	**286**	P	**Pn**	**03 22 16.8**	**-1.9**
	115nm,0.7s,841nm						
MTN	**Manton Dam**	**8.81**	**199**	P	**Pn**	**03 22 25.1**	**+0.8**
	baz=8.9,SNR=60						
MTN	**Manton Dam**	**8.81**	**199**	Pn	**Pn**	**03 22 25.6**	**+1.3**
MTN	**Manton Dam**	**8.81**	**199**	P	**Pn**	**03 22 26.6**	**+2.3**
SOEI	**Soe**	**11.04**	**241**	Pn	**Pn**	**03 22 55.6**	**+0.6**
SOEI	**Soe**	**11.04**	**241**	P	**Pn**	**03 22 57.1**	**+2.1**
	157nm,0.8s						
GTOI	**Gorontalo**	**12.14**	**294**	P	**Pn**	**03 23 12.2**	**+2.3**
	14nm,0.8s						
KNRA	**Kununurra**	**12.29**	**205**	P	**Pn**	**03 23 12.5**	**+0.4**
	baz=12,SNR=47						
KNRA	**Kununurra**	**12.29**	**205**	Pn	**Pn**	**03 23 11.8**	**-0.2**
KNRA	**Kununurra**	**12.29**	**205**	P	**Pn**	**03 23 13.1**	**+1.1**
MMRI	**Maumere**	**12.45**	**250**		**Pn**	**03 23 15.4**	**+1.3**
MMRI	**Maumere**	**12.45**	**250**	P	**Pn**	**03 23 17.6**	**+3.5**
	38nm,0.8s						
EDFI	**Ende, Flores**	**12.99**	**250**	P	**Pn**	**03 23 24.3**	**+2.6**
	17nm,0.8s						
COEN	**Coen**	**13.03**	**137**	Pn	**Pn**	**03 23 20.5**	**-1.7**
MRSI	**Marisa**	**13.06**	**292**	P	**Pn**	**03 23 22.5**	**0.0**
	19nm,0.6s						
PMG	**Port Moresby**	**13.90**	**111**	Pn	**Pn**	**03 23 33.0**	**-1.1**
	3.0nm,0.3s,baz=308,slow=17,SNR=1.4						
PMG				LR	LR	03 29 49.8	
	comp=Z,282nm,18.2s,baz=336,slow=41						
BKSI	**Bulukumba**	**13.90**	**266**	P	**Pn**	**03 23 34.7**	**+0.6**
DAV	**Davao City (W)**	**14.24**	**324**	LR	LR	03 29 51.4	
	comp=Z,140nm,18.6s,baz=155,slow=41						
SPSI	**Sidrap Palu**	**14.25**	**271**	P	**Pn**	**03 23 37.2**	**-1.6**
	9.4nm,0.7s,4μm						
WB0	**Warramunga Arr**	**15.21**	**179**	Pn	**Pn**	**03 23 50.1**	**-1.8**
WB0				IAmb	IAmb	03 24 00.4	
	comp=Z,18nm,0.7s						
WRAB	**Tennant Creek**	**15.38**	**179**	Pn	**Pn**	**03 23 52.4**	**-1.5**
WRAB				IAmb	IAmb	03 24 03.5	
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**15.39**	**179**	Pn	**Pn**	**03 23 51.5**	**-2.6**
WRA	**Warramunga Arr**	**15.39**	**179**	Pn	**Pn**	**03 23 52.5**	**-1.6**
	comp=Z,2.2nm,0.3s,baz=352,slow=13,SNR=39						
WRA				Sn	**Sn**	**03 26 34.8**	**-9.3**
	comp=Z,1.2nm,0.3s,baz=358,slow=22,SNR=3.4						
WB2	**Warramunga Arr**	**15.39**	**179**	Pn	**Pn**	**03 23 52.1**	**-2.0**
WB2				IAmb	IAmb	03 24 02.3	
	comp=Z,28nm,0.5s						
WR0	**Warramunga Arr**	**15.41**	**178**		**Pn**	**03 23 52.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**15.85**	**211**	P	**Pn**	**03 23 58.7**	**-1.4**
	baz=16,SNR=42						
FITZ	**Fitzroy Crossi**	**15.85**	**211**	Pn	**Pn**	**03 23 58.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**15.85**	**211**	P	**Pn**	**03 24 00.9**	**+0.8**
DBNI	**Kabupaten Domp**	**16.14**	**255**	P	**Pn**	**03 24 06.2**	**+2.3**
	comp=Z,23nm,0.7s						
PLAI	**Plampang**	**16.73**	**254**	P	**Pn**	**03 24 11.1**	**-0.3**
PLAI	**Plampang**	**16.73**	**254**	P	**Pn**	**03 24 10.3**	**-1.1**
	comp=Z,28nm,0.7s						
MTSU	**Mount Surprise**	**16.89**	**144**	P	**Pn**	**03 24 12.9**	**-0.6**
	baz=17,SNR=5.2						
TWSI	**Taliwang, Sumb**	**17.57**	**255**	P	**Pn**	**03 24 20.3**	**-1.6**
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**19.09**	**180**	P	**P**	**03 24 40.5**	**+0.9**
AS31				IAmb	IAmb	03 24 48.4	
	comp=Z,10nm,0.5s						
ASAR	**Alice Springs**	**19.09**	**180**	P	**Pn**	**03 24 41.0**	**+0.6**
ASAR	**Alice Springs**	**19.09**	**180**	P	**Pn**	**03 24 41.3**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=8.9,slow=11,SNR=154						
ASAR				S	**Sn**	**03 28 06.0**	**-7.8**
	comp=Z,3.7nm,0.9s,baz=2.3,slow=28,SNR=4.7						
	comp=Z,12nm,0.5s						
CTA	**Charters Tower**	**19.55**	**144**	P	**Pn**	**03 24 48.2**	**+2.2**
CTA	**Charters Tower**	**19.55**	**144**	P	**Pn**	**03 24 46.8**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=325,slow=11,SNR=20						
CTA				LR	LR	03 33 30.7	
	comp=Z,354nm,19.1s,baz=274,slow=40						
	comp=Z,10nm,0.6s						
CTAO	**Charters Tower**	**19.55**	**144**	P	**P**	**03 24 44.4**	**-0.2**
CTAO				IAmb	IAmb	03 24 59.1	
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**19.55**	**144**	P	**Pn**	**03 24 48.2**	**+2.2**
KMMI	**Kalianget**	**20.15**	**262**	P	**P**	**03 24 52.0**	**+0.9**
GUMO	**Guam**	**20.91**	**31**	LR	LR	03 33 25.0	
	comp=Z,48nm,19.0s,baz=97,slow=38						
WRKA	**Warakurna**	**21.19**	**195**	P	**P**	**03 25 04.5**	**+2.2**
	baz=21,SNR=45						
WRKA	**Warakurna**	**21.19**	**195**	P	**P**	**03 25 04.8**	**+2.4**
MBWA	**Marble Bar**	**21.65**	**219**	P	**P**	**03 25 09.7**	**+2.4**
MBWA	**Marble Bar**	**21.65**	**219**	P	**P**	**03 25 10.3**	**+3.0**
PSA00	**Pilbara Seismi**	**21.89**	**218**	P	**P**	**03 25 12.0**	**+2.1**
PSA00	**Pilbara Seismi**	**21.89**	**218**	P	**P**	**03 25 12.8**	**+2.9**
OOD	**Oodnadatta**	**23.25**	**176**	P	**P**	**03 25 27.0**	**+2.8**
INKA	**Innaminka**	**24.01**	**165**	P	**P**	**03 25 35.4**	**+3.9**
QLP	**Quilpie**	**24.05**	**157**	P	**P**	**03 25 34.9**	**+3.0**
	baz=24,SNR=7.0						
KPJI	**Karang Pucung**	**25.15**	**262**	P	**P**	**03 25 42.0**	**-0.1**
	comp=Z,37nm,1.7s						
MULG	**Mulgathing**	**25.68**	**180**	P	**P**	**03 25 48.7**	**+2.0**
LCRK	**Leigh Creek**	**26.14**	**172**	P	**P**	**03 25 54.2**	**+3.3**
	comp=Z,32nm,0.8s						
HNR	**Honiara**	**26.17**	**102**	LR	LR	03 37 10.5	
	comp=Z,2μm,19.3s,baz=318,slow=39						
GIRL	**Giralia**	**26.35**	**225**	P	**P**	**03 25 55.9**	**+3.1**
BBJI	**Bungbulang**	**26.42**	**262**	P	**P**	**03 25 51.4**	**-2.3**
	comp=Z,19nm,1.0s						
FORT	**Forrest**	**26.78**	**192**	P	**P**	**03 25 57.4**	**+0.7**
FORT	**Forrest**	**26.78**	**192**	P	**P**	**03 25 59.7**	**+3.1**
	comp=Z,44nm,0.8s						
STKA	**Stephens Creek**	**28.17**	**166**	P	**P**	**03 26 08.1**	**-1.1**
STKA	**Stephens Creek**	**28.17**	**166**	P	**P**	**03 26 10.9**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=336,slow=10,SNR=3.5						
STKA				LR	LR	03 39 21.8	
	comp=Z,192nm,18.0s,baz=350,slow=40						
	comp=Z,1.4nm,0.6s						
BBOO	**Buckleboo**	**28.26**	**176**	P	**P**	**03 26 11.1**	**+1.1**
JOW	**Kunigami**	**31.61**	**350**	LR	LR	03 37 54.7	
	comp=Z,172nm,20.5s,baz=110,slow=34						
JNU	**Nakatsue**	**37.50**	**356**	LR	LR	03 41 16.7	
	comp=Z,61nm,19.8s,baz=158,slow=34						
CMAR	**Chiang Mai Arr**	**41.42**	**304**	P	**P**	**03 28 03.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**41.42**	**304**	P	**P**	**03 28 03.1**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=128,slow=7.0,SNR=6.5						
	comp=Z,0.7nm,0.3s						
KSRS	**Korea Array**	**42.09**	**353**	P	**P**	**03 28 08.0**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=177,slow=9.7,SNR=4.6						
KSRS				LR	LR	03 44 08.3	
	comp=Z,55nm,21.2s,baz=180,slow=34						
	comp=Z,1.1nm,1.0s						
PZH	**PanZhiHua**	**43.88**	**316**	P	**P**	**03 28 27.1**	**+3.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
ASAJ	**Asahikawa**	**48.97**	**8**	LR	LR	03 48 22.9	
	comp=Z,42nm,20.7s,baz=196,slow=35						
HHC	**Hu-ho-hao-te**	**49.58**	**338**	*e*P	**P**	**03 29 10.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,5.0s						
RPZ	**Rata Peaks**	**50.91**	**146**	LR	LR	03 50 25.7	
	comp=Z,156nm,18.6s,baz=296,slow=36						
URZ	**Urewera**	**51.60**	**137**	LR	LR	03 51 07.0	
	comp=Z,102nm,19.7s,baz=259,slow=36						
ULN	**Ulaanbaatar**	**57.25**	**339**	P	**P**	**03 30 03.6**	**-0.6**
SONM	**Songino Array**	**57.46**	**338**	P	**P**	**03 30 06.6**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=148,slow=8.5,SNR=2.8						
	comp=Z,0.5nm,0.7s						
WMQ	**Urumqi**	**63.60**	**324**	*e*P	**P**	**03 30 49.0**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**68.42**	**325**	P	**P**	**03 31 18.5**	**0.0**
MK31				IAmb	IAmb	03 31 20.1	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**68.42**	**325**	P	**P**	**03 31 18.4**	**0.0**
MKAR	**Makanchi Array**	**68.42**	**325**	P	**P**	**03 31 18.6**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=118,slow=7.8,SNR=12						
	comp=Z,1.3nm,0.7s						
MAKZ	**Makanchi**	**68.61**	**324**	P	**P**	**03 31 19.4**	**-0.3**
MAKZ				IAmb	IAmb	03 31 22.4	
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**71.19**	**332**	P	**P**	**03 31 34.8**	**-0.5**
ZALV	**Zalesovo Beam**	**71.19**	**332**	P	**P**	**03 31 34.3**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=116,slow=3.4,SNR=3.6						
	comp=Z,0.9nm,0.6s						
AAK	**Ala-Archa**	**71.30**	**318**	LR	LR	04 05 22.1	
	comp=Z,31nm,18.7s,baz=34,slow=38						
KURK	**Kurchatov**	**72.55**	**327**	P	**P**	**03 31 42.4**	**-1.2**
KURK				IAmb	IAmb	03 31 52.7	
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**72.55**	**327**	P	**P**	**03 31 43.5**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=123,slow=4.8,SNR=12						
	comp=Z,1.8nm,0.9s						
KK31	**Karatay Array**	**74.17**	**317**	P	**P**	**03 31 53.9**	**+0.5**
KKAR	**Karatay Array**	**74.17**	**317**	P	**P**	**03 31 53.2**	**-0.1**
VNDA	**Vanda**	**74.49**	**174**	P	**P**	**03 31 56.3**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=277,slow=8.1,SNR=1.9						
	comp=Z,0.7nm,0.9s						
PPT	**Papeete**	**75.68**	**107**	LR	LR	04 03 25.3	
	comp=Z,20nm,19.8s,baz=276,slow=34						
BVAR	**Borovoye Array**	**78.14**	**326**	P	**P**	**03 32 15.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=116,slow=6.8,SNR=7.3						
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**78.21**	**326**	P	**P**	**03 32 15.0**	**-1.0**
BRVK				IAmb	IAmb	03 32 22.1	
	comp=Z,2.7nm,0.9s						
NRIK	**Noril'sk**	**80.14**	**345**	P	**P**	**03 32 26.2**	**0.0**
NRIK				IAmb	IAmb	03 32 30.0	
	comp=Z,3.7nm,0.9s						
NRIK	**Noril'sk**	**80.14**	**345**	P	**P**	**03 32 26.3**	**0.0**
	comp=Z,1.2nm,0.4s,baz=149,slow=5.7,SNR=4.2						
	comp=Z,1.2nm,0.4s						
GEYT	**Alibeck**	**81.70**	**309**	P	**P**	**03 32 35.0**	**-0.4**
GEYT				IAmb	IAmb	03 32 42.8	
	comp=Z,9.4nm,1.5s						
ABKAR	**Akbulak array**	**83.08**	**321**	P	**P**	**03 32 41.1**	**-1.1**
QSPA	**South Pole Qui**	**85.49**	**180**	P	**P**	**03 32 55.0**	**+0.7**
	comp=Z,3.7nm,1.1s,baz=327,slow=1.9,SNR=5.2						
	comp=Z,3.7nm,1.1s						
ILAR	**Eielson Array**	**89.36**	**25**	P	**P**	**03 33 12.9**	**+0.1**
	comp=Z,1.0nm,1.1s,baz=258,slow=4.5,SNR=2.0						
	comp=Z,1.0nm,1.1s						
KIRV	**Kirov**	**90.98**	**329**	LR	LR	04 19 50.9	
	comp=Z,38nm,18.2s,baz=294,slow=39						
TORD	**Torodi Ar. Bea**	**132.21**	**284**	PKP	**PKiKP**	**03 39 33.0**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=78,slow=2.7,SNR=2.1						

IDC 07 03:42:38.7±1.4, 6°.36N×125°.84E, h0km, mb3.8/6, mbtmp3.8/6, MS2.6/1, Error ellipse: s-maj=158.1km s-min=20.1km az=68.0

ISC 07 03:42:39.1±1.6**, 6°.7N**±0°.5×**12°7E**±°**, h10**km**, n7, σ1s.11**/7**, mb3.7**/6**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**9.32**	**322**	LR	LR	03 49 33.6	
	comp=Z,38nm,19.8s,baz=338,slow=46						
WRA	**Warramunga Arr**	**27.53**	**165**	P	**P**	**03 48 27.6**	**+1.4**
	1.0nm,1.0s,baz=338,slow=11,SNR=2.1						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**31.01**	**167**	P	**P**	**03 48 57.2**	**+0.1**
	0.1nm,0.4s,baz=337,slow=7.1,SNR=6.2						
ASAR				PcP	**PcP**	**03 51 52.0**	**-1.2**
	0.2nm,0.4s,baz=354,slow=2.8,SNR=1.8						
	0.1nm,0.4s						
SONM	**Songino Array**	**44.50**	**340**	P	**P**	**03 50 51.6**	**+0.8**
	0.2nm,0.3s,baz=152,slow=9.6,SNR=2.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**03 52 12.3**	**+0.4**
	0.7nm,0.5s,baz=116,slow=7.5,SNR=18						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**59.28**	**326**	P	**P**	**03 52 41.0**	**+0.1**
	0.6nm,0.5s,baz=123,slow=7.1,SNR=11						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**89.23**	**332**	P	**P**	**03 55 34.2**	**-0.9**
	6.0nm,1.2s,baz=76,slow=5.9,SNR=3.8						
	6.0nm,1.2s						

IDC 07 03:46:25.9±1.5, 39°.39N×140°.71E, h129km±14km, mb3.6/4, mbtmp3.8/7, Error ellipse: s-maj=26.9km s-min=11.6km az=120.0

JMA 07 03:46:28.0±0.1, 39°.4N±0°.5×140°.6E±0°.7, h145km±1km, MV3.1/39, SOUTHERN AKITA PREF

ISC 07 03:46:27.4±0.9**, 39°.38N**±0°.05×**140°.67E**±0°.08**, h151**km±7km**, n21, σ1s.09**/34**, mb3.9**/4**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.03**	**306**	*i* P	**Pn**	**03 46 47.6**	**+0.1**
JRG				S	**Sn**	**03 47 02.7**	**-0.3**
JOM	**Ohasama**	**0.49**	**79**	*i* P	**Pn**	**03 46 49.0**	**+0.2**
JOM				S	**Sn**	**03 47 04.9**	**-0.2**
JYK	**Kaneyama**	**0.52**	**208**	*i* P	**Pn**	**03 46 48.8**	**-0.1**
JYK				S	**Sn**	**03 47 04.7**	**-0.7**
JMK	**Ichinoseki**	**0.60**	**135**	*i* P	**Pn**	**03 46 49.2**	**-0.2**
JMK				S	**Sn**	**03 47 05.3**	**-0.7**
JAH	**Hinai**	**0.81**	**358**	*i* P	**Pn**	**03 46 51.2**	**+0.5**
JAH				S	**Sn**	**03 47 08.9**	**+0.2**
JOU	**Okura**	**1.01**	**180**	P	**Pn**	**03 46 52.3**	**-0.1**
JOU				*e*S	**Sn**	**03 47 11.0**	**-0.4**
JIO	**Ouri**	**1.06**	**150**	*i* P	**Pn**	**03 46 52.2**	**-0.6**
JIO				S	**Sn**	**03 47 10.3**	**-1.8**
JYA	**Atsumi**	**1.08**	**224**	*i* P	**Pn**	**03 46 52.8**	**-0.2**
JYA				S	**Sn**	**03 47 11.4**	**-1.1**
JANG	**Nango**	**1.19**	**33**	*i* P	**Pn**	**03 46 54.3**	**+0.4**
JANG				S	**Sn**	**03 47 13.7**	**-0.6**
JYS	**Shirataka**	**1.25**	**202**	P	**Pn**	**03 46 54.7**	**+0.2**
JYS				*e*S	**Sn**	**03 47 15.0**	**-0.2**
JAW	**Awa shima**	**1.44**	**231**	P	**Pn**	**03 46 55.9**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.83**	**188**	P	**Pn**	**03 47 00.6**	**-0.2**
JOTO				S	**Sn**	**03 47 25.9**	**-0.4**
JNS	**Sasagawa**	**1.88**	**215**	P	**Pn**	**03 47 01.1**	**-0.1**
JOT	**Ohata**	**2.02**	**8**	P	**Pn**	**03 47 03.3**	**+0.5**
MJAR	**Matsushiro Arr**	**3.43**	**215**	P	**Pn**	**03 47 20.6**	**+0.2**
	5.9nm,0.4s,baz=28,slow=14,SNR=23						
MJAR				S	**Sn**	**03 47 58.9**	**-2.5**
	0.8nm,0.4s,baz=46,slow=31,SNR=1.2						
ASAJ	**Asahikawa**	**4.95**	**16**	P	**Pn**	**03 47 39.5**	**-0.5**
	3.3nm,0.2s,baz=203,slow=15,SNR=8.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ				S	Sn	03 48 32.5	-4.4
	6.9nm,0.6s,baz=23,slow=16,SNR=1.9						
USRK	Ussuriysk Ar.	8.08	309	P	Pn	03 48 21.4	-0.3
	1.0nm,0.3s,baz=116,slow=14,SNR=7.8						
ZALV	Zalesovo Beam	39.93	310	P	P	03 53 46.8	+0.3
	1.5nm,0.4s,baz=82,slow=8.5,SNR=8.9						
	1.5nm,0.4s						
MKAR	Makanchi Array	42.41	300	P	P	03 54 07.2	+0.4
	1.4nm,0.7s,baz=87,slow=10.0,SNR=16						
	1.4nm,0.7s						
KURBB	Kurchatov Arra	44.12	306	P	P	03 54 20.8	+0.3
	1.7nm,0.3s,baz=82,slow=8.6,SNR=31						
	1.7nm,0.3s						
ILAR	Eielson Array	47.85	33	P	P	03 54 50.9	+1.4
	0.4nm,0.7s,baz=271,slow=5.8,SNR=9.8						
	0.4nm,0.7s						

IDC 07 03:52:56.4±3.0, 22°.44S×148°.32E, h0km, mbtmp3.4/2, ML2.8/2, Error ellipse: s-maj=102.4km s-min=35.7km az=2.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.28	278	Pn	Pn	03 56 05.6	-0.6
	0.1nm,0.3s,baz=100,slow=12,SNR=8.9						
WRA				Lg	Lg	03 59 59.7	
	0.1nm,0.3s,baz=101,slow=26,SNR=6.1						
	1.0nm,0.9s						
I07AU	WARRAMUNGA INF	13.29	278	I	I	05 14 20.0	
	baz=104,slow=309,SNR=1.6						
ASAR	Alice Springs	13.33	262	Pn	Pn	03 56 06.3	-0.6
	0.1nm,0.3s,baz=101,slow=12,SNR=5.0						
ASAR				Sn	Sn	03 58 43.9	+7.9
	baz=84,slow=25,SNR=3.5						
ASAR				Lg	Lg	03 59 59.2	
	0.1nm,0.3s,baz=90,slow=28,SNR=5.2						
	0.7nm,0.9s						
TORD	Torodi Ar. Bea	146.97	259	PKPbc	PKPbc	04 12 41.2	-0.6
	1.4nm,1.1s,baz=66,slow=2.9,SNR=3.6						

IDC 07 04:05:09.5±0.7, 35°.13N×23°.75E, h0km, mb3.9/20, mbtmp3.9/31, ML4.0/10, MS3.3/8, Error ellipse: s-maj=15.4km s-min=12.4km az=0.0
ISK 07 04:05:11.3, 35°.14N×23°.58E, h5km, ML4.1/5
GII 07 04:05:11.3±0.6, 35°.281N±0°.004×23°.920E±0°.001, h10km, Mws4.2, confirmed
ATH 07 04:05:13.5, 35°.11N×23°.67E, h6km±1km, ML4.0/12, Manual Solution by A.Papageorgiou This location: 2020/05/08 13:04:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km
THE 07 04:05:14.2, 35°.14N×23°.70E, h1km±2km, ML3.7/8, Error ellipse: s-maj=2.2km s-min=0.7km az=232.0
AFAD 07 04:05:15.1±0.0, 35°.12N×23°.80E, h6km±5km, MW4.2
NAO 07 04:05:57.4, 40°.02N×25°.29E, h33km, mb3.0
ISC 07 04:05:12.2±1.1, 35°.06N±0°.04×23°.71E±0°.03, h18km±7km, n212, σ2s.02/234, mb3.9/20, MS3.2/4, 18C-10D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.38	125	Pg	Pn	04 05 22.3	-0.5
GVD				Sg	Sb	04 05 30.6	+4.6
GVD	Gavdhos	0.38	125	P	Pn	04 05 22.4	-0.4
GVD				S	Sb	04 05 29.4	+3.4
GVD	Gavdhos	0.38	125	P	Pn	04 05 22.0	-0.8
GVD				S	Sb	04 05 28.2	+2.2
GVDS	Gavdos	0.38	125	Pg	Pn	04 05 22.0	-0.8
GVDS				Sg	Sb	04 05 30.1	+4.1
GVDS	Gavdos	0.38	125	P	Pn	04 05 22.0	-0.8
GVDS				S	Sb	04 05 29.4	+3.4
	33μm,0.4s						
IMMV	Iera Moni Meta	0.46	29	Pg	Pb	04 05 21.5	-0.2
IMMV				Sg	Sb	04 05 28.8	+0.6
IMMV	Iera Moni Meta	0.46	29	P	Pb	04 05 22.6	+0.9
IMMV				S	Sg	04 05 28.6	+0.8
	38μm,0.4s						
IMMV	Iera Moni Meta	0.46	29	P	Pb	04 05 21.9	+0.1
IMMV				S	Sg	04 05 27.8	+0.1
RODP	Rodopos	0.50	4	Pg	Pg	04 05 21.2	-1.1
RODP				Sg	Sg	04 05 28.4	-0.7
RODP	Rodopos	0.50	4	P	Pg	04 05 22.7	+0.4
RODP				S	Sg	04 05 29.2	+0.1
	7μm,0.4s						
RODP	Rodopos	0.50	4	P	Pg	04 05 22.5	+0.2
RODP				S	Sg	04 05 28.7	-0.4
CHAN	Chania	0.53	30	P	Pb	04 05 23.5	+0.6
CHAN				S	Sg	04 05 29.8	-0.3
PRNS	Prines Rethymn	0.71	65	P	Pb	04 05 25.8	-0.3
PRNS				S	Sb	04 05 35.3	-0.2
	3μm,0.5s						
PRNS	Prines Rethymn	0.71	65	P	Pb	04 05 26.1	0.0
PRNS				S	Sb	04 05 35.3	-0.2
TMBK	Timbaki Herakl	0.86	89	P	Pn	04 05 30.7	+1.2
TMBK	Timbaki Herakl	0.86	89	P	Pn	04 05 30.6	+1.2
ANKY	Antikythira Is	0.87	337	P	Pg	04 05 28.6	-0.6
ANKY				S	Sg	04 05 40.5	-0.3
	8μm,0.7s						
ANKY	Antikythira Is	0.87	337	P	Pg	04 05 28.8	-0.4
ANKY				S	Sg	04 05 40.1	-0.7
IDI	Anoyia	0.99	76	Pn	Pn	04 05 33.2	+1.9
IDI	Anoyia	0.99	76	P	Pn	04 05 32.2	+0.9
IDI				S	Sn	04 05 46.5	+1.6
	2μm,0.5s						
IDI	Anoyia	0.99	76	P	Pn	04 05 32.5	+1.2
IDI				S	Sn	04 05 46.5	+1.6
IACM	Heraklion	1.14	77	P	Pn	04 05 35.9	+2.7
IACM	Heraklion	1.14	77	P	Pn	04 05 35.5	+2.3
KSTL	Kastelli Herak	1.14	77	P	Pn	04 05 39.0	+5.8
KSTL				S	Sn	04 05 57.6	+9.3
AGNA	Agios Nikolaos	1.65	85	P	Pg	04 05 44.4	+0.4
FRMA	Ierapetra Chan	1.66	91	P	Pg	04 05 46.2	+2.1
FRMA				S	Sg	04 06 08.7	+3.0
	618nm,0.7s						
FRMA	Ierapetra Chan	1.66	91	P	Pg	04 05 46.0	+1.9
MNVA	Monemvasia	1.71	342	P	Pn	04 05 43.5	+2.4
MHLO	Agia Marina, M	1.72	19	P	Pb	04 05 43.9	+0.6
MHLO	Agia Marina, M	1.72	19	P	Pb	04 05 43.0	-0.3
MHLO				S	Sn	04 06 05.2	+2.4
VLI	Veliai	1.77	339	P	Pn	04 05 44.1	+2.2
VLI				S	Sn	04 06 06.6	+2.6
	2μm,0.8s						
VLI	Veliai	1.77	339	P	Pn	04 05 44.1	+2.2
MILOS	Milos	1.78	19	P	Pb	04 05 44.2	0.0
MILOS				S	Sn	04 06 06.2	+2.0
CMBO	Columbo, Santo	1.97	44	P	Pb	04 05 47.5	0.0
CMBO	Columbo, Santo	1.97	44	P	Pb	04 05 47.7	+0.2
ZKR	Zakros	2.05	88	Pn	Pg	04 05 49.9	-1.8
ZKR	Zakros	2.05	88	P	Pg	04 05 49.8	-1.9
KRND	KRANIDI	2.36	349	P	Pn	04 05 52.5	+2.4
KRND				S	Sn	04 06 22.4	+3.8
KRND	KRANIDI	2.36	349	P	Pn	04 05 52.4	+2.3
KARP	Karpathos	2.86	79	P	Pb	04 06 01.0	-1.8
YAZI	Mula-Dat§a-	3.44	61	P	Pn	04 06 07.7	+2.7
DAT	Datca	3.55	61	P	Pn	04 06 09.2	+2.6
BDRM	Kayabasi	3.62	55	P	Pn	04 06 07.8	+0.4
DDIM	Aydin, Didim	3.72	49	P	Pn	04 06 10.6	+1.8
DDIM				S	Sn	04 06 53.0	+0.9
GCAM	G?zelcaml?	3.87	46	P	Pn	04 06 10.2	-0.6
ZEYE	Izmir, Urla-Ze	3.89	34	P	Pn	04 06 12.6	+1.6
DGB	zmir	3.93	40	P	Pb	04 06 17.1	-3.8
TURN	Turunc	4.06	64	P	Pn	04 06 15.6	+2.3
TURN				S	Sn	04 06 58.2	-2.1
IZMR	zmir-demi	4.59	47	P	Pn	04 06 23.5	+2.9
IZMR				S	Sn	04 07 16.1	+2.6
SABU	Mula-Dalaman	4.61	66	P	Pn	04 06 25.1	+4.0
SABU				S	Sn	04 07 16.7	+2.6
ESEN	Aydn-Nazilli	4.63	52	P	Pn	04 06 25.6	+4.4
FETY	Fethiye	4.64	69	P	Pb	04 06 26.4	-6.6
IZZE	Mula-Seydike	4.69	71	P	Pn	04 06 24.6	+2.6
IZZE				S	Sn	04 07 10.6	-5.5
TAVA	DENIZLI_Tavas	4.84	59	P	Pn	04 06 28.4	+4.2
KIRA	zmir-Kiraz	4.90	49	P	Pn	04 06 27.7	+2.7
CAEL	Denizli, Camel	4.99	64	P	Pn	04 06 29.4	+3.1
DNIZ	Denizli-Tavas-	5.00	58	P	Pn	04 06 28.3	+1.8
KNIK	Mula-Seydike	5.08	68	P	Pn	04 06 30.8	+3.3
KNIK				S	Sn	04 07 17.8	-7.9
BAYC	CANAKKALE_Bayr	5.19	25	P	Pn	04 06 30.2	+1.3
GOLH	Golhisar	5.21	64	P	Pn	04 06 33.0	+3.8
INCE	Denizli-Bozkur	5.42	59	P	Pn	04 06 35.8	+3.7
INCE				S	Sn	04 07 27.4	-6.7
VAY	Valandovo	6.32	352	ePn	Pn	04 06 42.2	-2.2
OHR	Ohrid	6.46	340	ePn	Pn	04 06 48.2	+1.7
KEPZ	Antalya-Kepez	6.66	72	P	Pn	04 06 51.5	+2.4
KEPZ				S	Sn	04 07 54.2	-10
STIP	Stip	6.73	350	ePn	Pn	04 06 52.1	+2.0
PEHC	Pehcevo	6.74	355	ePn	Pn	04 06 55.1	+4.8
SEDI	Konya, Seydise	6.92	68	P	Pn	04 06 55.7	+2.9
GAZI	Gazipasa	7.10	78	P	Pn	04 06 54.0	-1.2
GAZI				S	Sn	04 08 07.1	-8.4
MATE	Matera	7.86	317	⇑P	Pn	04 06 56.5	-9.1
VAE	Valguarnera	7.89	291	Pn	Pn	04 07 06.6	+0.5
	5.6nm,0.7s,baz=30,slow=20,SNR=2.0						
VAE				Sn	Sn	04 08 31.1	-3.8
	1.2nm,0.3s,baz=231,slow=4.9,SNR=3.7						
CSS	Mathiatis	7.89	88	P	Pn	04 07 05.6	-0.5
CSS	Mathiatis	7.89	88	P	Pn	04 07 04.1	-2.0
DRME	Dracevica, Mon	7.95	335	ePn	Pn	04 07 04.2	-2.6
ELND	Elena	8.04	11	⇓P	Pn	04 07 12.1	+4.1
PLVB	Pleven	8.35	5	⇓P	Pn	04 07 15.8	+3.6
BLKB	Belogradchik	8.59	355	⇓P	Pn	04 07 17.0	+1.4
LOZB	Loznitsa	8.59	14	⇑P	Pn	04 07 19.1	+3.4
SJES	Sjenica	8.69	342	ePn	Pn	04 07 17.1	+0.1
BOVS	Bovan	8.70	350	⇓P	Pn	04 07 17.1	0.0
TREB	Trebinje	8.71	333	ePn	Pn	04 07 13.4	-3.9
STON	Ston	9.10	331	ePn	Pn	04 07 19.8	-2.7
BRTR	Keskin Array B	9.17	57	Pn	Pn	04 07 26.3	+2.7
	0.5nm,0.3s,baz=235,slow=15,SNR=19						
BRTR				LR	LR	04 11 32.3	
	comp=Z,120nm,21.9s,baz=246,slow=42						
	2.8nm,0.7s						
RUDO	Rudo	9.18	340	ePn	Pn	04 07 19.5	-4.2
NEVS	Nevesinje	9.31	334	ePn	Pn	04 07 23.4	-2.1
BBLS	Lazići	9.40	341	ePn	Pn	04 07 23.3	-3.5
HAPS	Han Pijesak,Bl	9.73	339	ePn	Pn	04 07 28.8	-2.6
MDVR	Moldovita	9.83	352	⇓P	Pn	04 07 33.2	+0.6
HERR	Herculane	9.86	355	⇑P	Pn	04 07 34.6	+1.6
KZIT	Kziot	9.88	112	P	Pn	04 07 33.5	+0.1
KZIT	Kziot	9.88	112	P	Pn	04 07 33.1	-0.2
MMAI	Mount Meron Ar	9.91	99	Pn	Pn	04 07 32.6	-1.2
	4.0nm,0.3s,baz=306,slow=13,SNR=19						
MMAI				Sn	Sn	04 09 24.7	+0.1
	2.0nm,0.3s,baz=282,slow=40,SNR=1.6						
	3.0nm,0.4s						
TEKS	Tekeris	10.01	343	ePn	Pn	04 07 34.3	-0.7
AMAZ	Amatzia	10.01	107	P	Pn	04 07 34.7	-0.5
AMAZ	Amatzia	10.01	107	P	Pn	04 07 33.6	-1.6
SALP	Salfit	10.03	104	P	Pn	04 07 32.9	-2.5
GEM	Giv'at Ha'Em	10.08	97	P	Pn	04 07 34.1	-1.9
HMDT	Nahal Hemdat	10.24	103	P	Pn	04 07 37.4	-0.8
HMDT	Nahal Hemdat	10.24	103	S	Sn	04 09 31.4	-1.1
HMDT	Nahal Hemdat	10.24	103	P	Pn	04 07 37.2	-0.9
YTIR	Yattir	10.24	108	P	Pn	04 07 37.9	-0.4
YTIR	Yattir	10.24	108	P	Pn	04 07 37.1	-1.2
QRNJ	Al-Qirein	10.25	102	P	Pn	04 07 37.6	-0.7
KSHT	Keshet	10.25	98	P	Pn	04 07 37.1	-1.4
SHMJ	Saham	10.28	100	P	Pn	04 07 37.6	-1.3
ARR	Arges	10.32	4	⇑P	Pn	04 07 41.5	+2.1
GZR	Gura Zlata	10.35	356	⇑P	Pn	04 07 40.7	+1.0
DSI	Dead Sea	10.36	106	P	Pn	04 07 39.1	-0.8
DSI	Dead Sea	10.36	106	S	Sn	04 09 34.6	-1.0
DSI	Dead Sea	10.36	106	P	Pn	04 07 38.6	-1.3
LOT	Lotru	10.38	0	⇑P	Pn	04 07 42.3	+2.1
VOIR		10.42	5	⇓P	Pn	04 07 44.0	+3.3
TPGR	Topolog	10.43	19	⇓P	Pn	04 07 45.8	+5.1
MSBI	Mazada	10.45	108	P	Pn	04 07 40.9	-0.1
MSBI	Mazada	10.45	108	P	Pn	04 07 39.9	-1.2
KRMI	Paran Flat	10.51	115	P	Pn	04 07 42.4	+0.4
FRGS	Fruska Gora	10.52	345	⇑P	Pn	04 07 41.5	-0.5
FRGS	Fruska Gora	10.52	345	ePn	Pn	04 07 37.6	-4.4
NEHR	Nehoiu	10.54	10	⇑P	Pn	04 07 45.3	+2.9
MLR	Muntele Rosu	10.56	9	⇑P	Pn	04 07 46.8	+4.1
MLR	Muntele Rosu	10.56	9	Pn	Pn	04 07 44.9	+2.3
	0.2nm,0.3s,baz=187,slow=11,SNR=7.0						
MLR				LR	LR	04 12 35.5	
	comp=Z,84nm,20.0s,baz=226,slow=42						
LISJ	El Lisan	10.57	108	P	Pn	04 07 42.7	-0.1
PRNI	Paran	10.61	113	P	Pn	04 07 43.4	+0.1
PRNI	Paran	10.61	113	S	Sn	04 09 39.9	-1.7
PRNI	Paran	10.61	113	P	Pn	04 07 42.1	-1.1
ZFRI	Zfri	10.64	112	P	Pn	04 07 43.3	-0.4
MGRS	Mrkonjic Grad	10.64	333	ePn	Pn	04 07 42.0	-1.7
BZS	Buzias	10.66	352	⇑P	Pn	04 07 44.4	+0.4
BISRR	Bisoca	10.72	11	⇑P	Pn	04 07 49.0	+4.2
SURR	Surduc	10.75	354	⇑P	Pn	04 07 45.8	+0.6
KARJ	KARJ	10.76	108	P	Pn	04 07 38.7	-6.6
HRFI	Mount Harif	10.79	115	P	Pn	04 07 46.4	+0.6
HRFI	Mount Harif	10.79	115	P	Pn	04 07 45.9	+0.1
MBRI	Mt Berech	10.82	116	P	Pn	04 07 46.6	+0.3
MBRI	Mt Berech	10.82	116	P	Pn	04 07 46.6	+0.3
BLY	Banja Luka	10.89	335	ePn	Pn	04 07 43.2	-3.9
A050A	Klekovaca	10.91	332	ePn	Pn	04 07 46.3	-1.1
EIL	Elat	10.91	116	Pn	Pn	04 07 48.0	+0.5
	1.3nm,0.3s,baz=325,slow=15,SNR=9.0						
EIL				Sn	Sn	04 09 47.2	-2.0
	1.0nm,0.3s,baz=349,slow=8.5,SNR=3.7						
	3.9nm,0.4s						
EIL	Elat	10.91	116	P	Pn	04 07 47.8	+0.3
EIL	Elat	10.91	116	P	Pn	04 07 47.1	-0.3
DOPR	Dopca	10.97	6	⇑P	Pn	04 07 51.1	+2.9
PLOR	Plostina	11.01	11	⇑P	Pn	04 07 52.1	+3.4
VRI	Vrincioaia	11.03	11	⇑P	Pn	04 07 53.3	+4.2
TURR	Turia	11.12	8	⇓P	Pn	04 07 54.1	+3.8
A051A	Mrakovica	11.22	334	ePn	Pn	04 07 48.8	-2.9
ASF	Jabal al Asfar	11.36	101	Pn	Pn	04 07 52.0	-1.7
	0.6nm,0.3s,baz=71,slow=22,SNR=8.3						
ASF				Sn	Sn	04 09 56.4	-3.9
	0.2nm,0.3s,baz=182,slow=22,SNR=1.5						
	1.1nm,0.3s						
ASF	Jabal al Asfar	11.36	101	P	Pn	04 07 51.7	-2.0
TESR	Tescani	11.65	10	⇑P	Pn	04 08 01.7	+4.2
MORH	Mrgy, Hungar	11.79	343	⇑P	Pn	04 07 57.1	-2.2
BOJS	Bojanci	12.26	331	ePn	Pn	04 08 02.9	-2.9
CRES	Cresnjev	12.45	332	ePn	Pn	04 08 04.8	-3.6
BURAR	Bucovina Array	12.59	5	⇓P	Pn	04 08 14.4	+3.9
CEY	Cerknica	12.79	329	ePn	Pn	04 08 09.4	-3.7
SKDS	Skadanscina	12.81	328	ePn	Pn	04 08 10.0	-3.4
OBKA	Obir	13.37	332	ePn	Pn	04 08 20.6	-0.4
	0.6nm,0.4s						
OBKA	Obir	13.37	332	ePn	Pn	04 08 18.8	-2.2
RONA	Rosalia, Austr	13.79	339	eP	P	04 08 35.5	+0.4
	1.6nm,0.5s						
VYHS	Vyhne	13.90	346	eP	P	04 08 38.2	+1.8
MODS	Modra-Piesok	14.14	342	eP	P	04 08 40.0	+1.0
KBA	Koelnbreinsper	14.31	330	ePn	Pn	04 08 33.6	-0.4
	0.4nm,0.4s						
ABTA	Abfaltersbach	14.40	328	ePn	Pn	04 08 35.1	-0.1
	1.2nm,0.7s						
ABTA				i P	P	04 08 44.4	+2.3
	3.6nm,0.7s						
MOA	Molln	14.59	334	i Pn	Pn	04 08 37.4	-0.3
	0.6nm,0.3s						
BIOA	Bad Ischl, Aus	14.69	332	i Pn	Pn	04 08 38.8	-0.3
	1.1nm,0.3s						
LESA	Schwarzleotal	14.86	330	ePn	Pn	04 08 41.7	+0.2
	1.0nm,0.5s						
LESA				eP	P	04 08 48.3	+1.2
	3.8nm,0.4s						
MAUC	Maruska	14.94	345	eP	P	04 08 49.4	+1.5
VRAC	Vranov	15.17	342	Pn	Pn	04 08 45.6	+0.1
	1.4nm,0.3s,baz=166,slow=8.3,SNR=4.6						
VRAC				LR	LR	04 16 36.0	
	comp=Z,242nm,18.4s,baz=194,slow=45						
	2.8nm,0.3s						
WTTA	Wattenberg	15.19	327	i Pn	Pn	04 08 45.4	-0.4
	2.1nm,0.6s						
WATA	Walderalm	15.27	327	i Pn	Pn	04 08 47.4	+0.5
	2.1nm,0.5s						
SQTA	Sankt Quirin	15.35	326	ePn	Pn	04 08 48.6	+0.7
	0.7nm,0.2s						
MORC	Moravsky Berou	15.39	345	⇑P	Pn	04 08 47.6	-0.7
CKRC	Cesky Krumlov	15.41	336	eP	P	04 08 53.9	+0.8
FETA	Feichten	15.43	325	eP	P	04 08 55.7	+2.3
	1.9nm,0.5s,SNR=6.6						
MOTA	Moosalm	15.49	326	i Pn	Pn	04 08 52.6	+2.9
	0.5nm,0.3s						
GERES	GERESS Array B	15.64	335	Pn	Pn	04 08 50.1	-1.6
	0.1nm,0.3s,baz=148,slow=11,SNR=2.9						
	0.6nm,0.7s						
DAVOX	Davos/Dischmat	15.67	323	Pn	Pn	04 08 52.0	-0.2
	0.4nm,0.3s,baz=141,slow=12,SNR=12						
DAVOX				LR	LR	04 16 31.3	
	comp=Z,128nm,19.0s,baz=258,slow=44						
	1.1nm,0.6s						
RETA	Reutte	15.75	326	eP	P	04 08 58.9	+2.0
	2.2nm,0.4s,SNR=4.3						
KRLC	Kraliky	15.84	343	eP	P	04 08 58.0	+0.1
KHC	Kasperske Hory	15.92	335	eP	P	04 08 59.7	+0.9
ZVC	Zvikov	15.98	337	eP	P	04 09 00.0	+0.6
DAVA	Damuels	16.02	324	i Pn	Pn	04 08 58.3	+1.6
	1.3nm,0.6s						
DAVA				i P	P	04 09 01.6	+1.5
	3.4nm,0.6s						
AKASG	Malin Array Be	16.14	13	Pn	Pn	04 08 56.1	-1.8
	1.0nm,0.3s,baz=204,slow=12,SNR=4.5						
	1.3nm,0.8s						
DPC	Dobruska-Polom	16.20	343	eP	P	04 09 02.6	+0.7
PRU	Pruhonice	16.36	339	eP	P	04 09 03.8	+0.2
OSTC	Ostas	16.42	343	eP	P	04 09 04.8	+0.5
PRA	Prague	16.46	338	eP	P	04 09 05.5	+0.8
PVCC	Panska Ves	16.83	339	eP	P	04 09 10.1	+1.3
KIV	Kislovodsk	17.10	53	⇓P	P	04 09 13.1	+1.2
KVAR	Kislovodsk Arr	17.10	53	P	Pn	04 09 09.8	-0.6
	baz=257,slow=19						
	1.0nm,0.5s						
KBZ	Khabaz	17.14	54	P	P	04 09 11.5	-0.8
	0.2nm,0.3s,baz=226,slow=8.2,SNR=12						
	4.4nm,0.7s						
CLL	Collm	17.99	338	eP	Pn	04 09 22.0	+0.9
CLL				ePPP	PPP	04 09 41.0	
NACGM	Naroch	19.96	5	eP	P	04 09 43.5	+0.4
ESDC	Sonseca Array	22.43	290	P	P	04 10 10.0	-0.1
	0.6nm,0.7s,baz=84,slow=9.3,SNR=8.4						
	0.6nm,0.7s						
BELG	Belogornoye	24.29	37	P	P	04 10 27.2	-1.1
	12nm,0.9s,baz=276,slow=12,SNR=2.6						
	12nm,0.9s						
HFS	Hagfors	25.92	349	P	P	04 10 41.9	-1.2
	2.6nm,0.5s,baz=141,slow=9.6,SNR=10						
	2.6nm,0.5s						
FINES	FINESS Array B	26.45	3	P	P	04 10 46.2	-1.5
	2.7nm,0.8s,baz=146,slow=14,SNR=3.7						
FINES				LR	LR	04 23 43.9	
	comp=Z,85nm,18.7s,baz=231,slow=42						
	2.7nm,0.8s						
NB2	NORSAR Subarra	27.21	347	P	P	04 10 56.1	+1.4
	comp=Z,0.2nm,0.4s,baz=151,slow=10						
NOA	NORSAR Array B	27.21	347	P	P	04 10 53.6	-1.1
	comp=Z,0.7nm,0.9s,baz=142,slow=10,SNR=5.1						
NOA				LR	LR	04 24 10.5	
	comp=Z,63nm,18.2s,baz=220,slow=42						
	comp=Z,0.7nm,0.9s						
EKA	Eskdalemuir Ar	27.45	326	P	P	04 10 56.9	+0.1
	comp=Z,1.4nm,0.5s,baz=124,slow=8.3,SNR=9.1						
	comp=Z,1.4nm,0.5s						
GEYT	Alibeck	27.71	74	P	P	04 10 58.5	-1.0
	comp=Z,1.0nm,0.3s,baz=260,slow=7.2,SNR=1.8						
	comp=Z,1.0nm,0.3s						
AKTO	Aktyubinsk	29.19	48	P	P	04 11 11.8	-0.7
	comp=Z,0.5nm,0.4s,baz=252,slow=3.1,SNR=2.0						
AKTO				LR	LR	04 25 47.0	
	comp=Z,42nm,18.6s,baz=205,slow=42						
	comp=Z,0.5nm,0.4s						
TORD	Torodi Ar. Bea	29.53	228	P	P	04 11 16.4	+0.6
	comp=Z,0.8nm,0.6s,baz=36,slow=8.8,SNR=8.1						
	comp=Z,0.8nm,0.6s						
BVAR	Borovoye Array	37.28	47	P	P	04 12 22.3	-0.5
	comp=Z,0.5nm,0.6s,baz=242,slow=6.9,SNR=4.7						
BVAR				LR	LR	04 31 26.3	
	comp=Z,36nm,18.3s,baz=300,slow=42						
	comp=Z,0.5nm,0.6s						
DBIC	Dimbokro	38.59	230	P	P	04 12 34.9	+0.7
	comp=Z,2.7nm,1.0s,baz=56,slow=7.3,SNR=1.7						
	comp=Z,2.7nm,1.0s						
KSH	Kashi	41.34	68	P	P	04 12 57.5	+0.4
KSH				sP	sP	04 13 05.4	+1.0
KURBB	Kurchatov Arra	42.11	51	P	P	04 13 02.8	-0.2
	comp=Z,2.9nm,0.6s,baz=273,slow=8.5,SNR=32						
	comp=Z,2.9nm,0.6s						
MKAR	Makanchi Array	44.82	56	P	P	04 13 24.6	-0.4
	comp=Z,2.1nm,0.7s,baz=282,slow=6.5,SNR=32						
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	45.93	46	P	P	04 13 32.9	-0.7
	comp=Z,1.4nm,0.5s,baz=279,slow=9.9,SNR=6.5						
	comp=Z,1.4nm,0.5s						
SONM	Songino Array	60.46	50	P	P	04 15 21.1	+0.1
	comp=Z,0.6nm,0.6s,baz=288,slow=7.8,SNR=5.1						
	comp=Z,0.6nm,0.6s						
BOSA	Boshof	63.35	178	P	P	04 15 41.2	+0.9
	comp=Z,2.3nm,0.9s,baz=337,slow=13,SNR=2.9						
	comp=Z,2.3nm,0.9s						
CMAR	Chiang Mai Arr	67.76	83	P	P	04 16 08.1	-1.1
	comp=Z,1.0nm,0.3s,baz=298,slow=7.9,SNR=5.1						
	comp=Z,1.0nm,0.3s						
YKA	Yellowknife Ar	77.17	342	P	P	04 17 04.9	+0.5
	comp=Z,0.2nm,0.6s,baz=30,slow=5.3,SNR=2.3						
	comp=Z,0.2nm,0.6s						
KSRS	Korea Array	79.28	52	P	P	04 17 16.7	+0.1
	comp=Z,0.6nm,0.4s,baz=307,slow=4.3,SNR=4.6						
	comp=Z,0.6nm,0.4s						
ILAR	Eielson Array	80.22	356	P	P	04 17 21.7	+0.5
	comp=Z,0.2nm,0.7s,baz=330,slow=3.3,SNR=1.4						
	comp=Z,0.2nm,0.7s						

IDC 07 04:14:03.8±0.7, 6°.85N×127°.42E, h0km, mb4.0/12, mbtmp4.0/12, MS2.6/1, Error ellipse: s-maj=29.5km s-min=15.2km az=62.0
NEIC 07 04:14:06.6±2.6, 6°.85N±0°.09×127°.5E±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=18.6km s-min=14.9km az=66.0
ISC 07 04:14:08.8±0.6, 6°.87N±0°.07×127°.47E±0°.09, h31km, n39, σ1s.07/40, mb4.2/19, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.88	276	Pn	Pn	04 14 39.2	+0.3
DAV	Davao City (W)	1.88	276	Pn	Pn	04 14 38.8	0.0
	49nm,0.3s,baz=184,slow=2.9,SNR=1.9						
DAV				Sn	Sn	04 15 00.2	-1.3
	52nm,0.3s,baz=89,slow=19,SNR=3.9						
TOLI2	Tolitoli	8.78	230	Pn	Pn	04 16 14.2	+0.5
LUWI	Luwuk	9.15	211	Pn	Pn	04 16 17.3	-1.4
KAPI	Kappang	14.09	213	LR	LR	04 23 04.7	
	comp=Z,22nm,19.4s,baz=227,slow=38						
SBUM	Sibu	15.81	255		P	04 17 55.1	+2.3
SBUM				IAmb	IAmb	04 17 55.8	
	comp=Z,5.9nm,0.6s						
MTN	Manton Dam	19.92	169	P	Pn	04 18 39.7	-0.2
MTN				IAmb	IAmb	04 19 01.5	
	comp=Z,22nm,1.2s						
KNRA	Kununurra	22.44	177	P	P	04 19 07.0	+1.8
KNRA				IAmb	IAmb	04 19 35.8	
	comp=Z,33nm,1.3s						
FITZ	Fitzroy Crossi	24.87	184	P	P	04 19 29.0	+0.1
WB0	Warramunga Arr	27.33	166	P	P	04 19 50.2	-0.9
WB0				IAmb	IAmb	04 20 06.6	
	comp=Z,9.6nm,1.4s						
WRA	Warramunga Arr	27.49	166	P	P	04 19 50.1	-2.4
WRA	Warramunga Arr	27.49	166	P	P	04 19 52.0	-0.6
	comp=Z,0.5nm,0.5s,baz=334,slow=11,SNR=8.4						
	comp=Z,0.5nm,0.5s						
ASAR	Alice Springs	30.99	168	P	P	04 20 22.7	-0.9
	comp=Z,0.2nm,0.4s,baz=342,slow=7.0,SNR=13						
ASAR				PcP	PcP	04 23 20.2	+0.8
	comp=Z,0.5nm,0.6s,baz=356,slow=2.1,SNR=7.2						
	comp=Z,0.2nm,0.4s						
FORT	Forrest	37.44	179	P	P	04 21 19.6	+0.2
FORT				IAmb	IAmb	04 21 22.7	
	comp=Z,18nm,0.9s						
BBOO	Buckleboo	40.30	169	P	P	04 21 43.6	+0.3
NWAO	Narrogin (SRO)	40.75	193	P	P	04 21 47.9	+0.9
STKA	Stephens Creek	40.82	161	P	P	04 21 46.8	-0.8
	comp=Z,1.3nm,0.6s,baz=343,slow=11,SNR=1.8						
	comp=Z,1.3nm,0.6s						
SONM	Songino Array	44.60	340	P	P	04 22 19.8	+1.5
SONM	Songino Array	44.60	340	P	P	04 22 16.0	-2.3
	comp=Z,0.4nm,0.4s,baz=155,slow=8.2,SNR=2.9						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	55.44	324	P	P	04 23 39.9	-0.6
MK31				IAmb	IAmb	04 23 41.3	
	comp=Z,1.3nm,0.8s						
MKAR	Makanchi Array	55.44	324	P	P	04 23 40.3	-0.2
MKAR	Makanchi Array	55.44	324	P	P	04 23 40.5	0.0
	comp=Z,1.4nm,0.4s,baz=116,slow=7.3,SNR=28						
	comp=Z,1.4nm,0.4s						
ZALV	Zalesovo Beam	58.16	332	P	P	04 23 59.1	-0.5
	comp=Z,0.6nm,0.4s,baz=131,slow=7.7,SNR=4.1						
	comp=Z,0.6nm,0.4s						
KURK	Kurchatov	59.53	326	P	P	04 24 09.1	-0.1
KURK				IAmb	IAmb	04 24 12.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.8nm,1.1s						
KURBB	Kurchatov Arra	59.53	326	P	P	04 24 09.0	-0.2
	comp=Z,1.1nm,0.5s,baz=123,slow=7.4,SNR=24						
	comp=Z,1.1nm,0.5s						
KKAR	Karatay Array	61.48	316	P	P	04 24 22.6	-0.1
BVAR	Borovoye Array	65.12	326	P	P	04 24 46.4	-0.2
	comp=Z,1.1nm,0.5s,baz=131,slow=7.8,SNR=10						
	comp=Z,1.1nm,0.5s						
BRVK	Borovoye	65.19	326	P	P	04 24 47.0	-0.1
BRVK				IAmb	IAmb	04 24 47.8	
	comp=Z,1.7nm,0.7s						
ABKAR	Akbulak array	70.22	320	P	P	04 25 18.1	-0.6
ARU	Arti	72.70	327	P	P	04 25 33.3	-0.3
J14K	Nanvaranak Lak	74.37	26	P	P	04 25 43.3	0.0
CCB	Clear Creek Bu	81.58	26	P	P	04 26 24.4	+1.2
ILAR	Eielson Array	81.97	26	P	P	04 26 26.5	+1.1
	comp=Z,0.4nm,0.5s,baz=235,slow=5.6,SNR=12						
	comp=Z,0.4nm,0.5s						
BMAR	Burnt Mountain	82.92	23	P	P	04 26 32.6	+2.2
I28M	Miner Creek	84.89	25	P	P	04 26 42.1	+1.6
I28M				IAmb	IAmb	04 26 49.9	
	comp=Z,5.5nm,1.2s						
BRTR	Keskin Array B	88.59	310	P	P	04 26 58.2	-1.0
	comp=Z,0.6nm,0.6s,baz=120,slow=3.6,SNR=6.2						
	comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	89.43	332	P	P	04 27 02.2	-0.2
	comp=Z,2.3nm,0.9s,baz=52,slow=3.1,SNR=8.2						
	comp=Z,2.3nm,0.9s						
AKASG	Malin Array Be	89.93	321	P	P	04 27 04.5	-0.5
	comp=Z,1.4nm,0.8s,baz=69,slow=4.0,SNR=4.4						
	comp=Z,1.4nm,0.8s						
TORD	Torodi Ar. Bea	122.58	290	PKP	PKPdf	04 33 02.1	-0.3
	comp=Z,0.3nm,0.6s,baz=61,slow=3.5,SNR=4.1						

CATAC ***07*** *04:49:09.5±0.3, 11°.80N×86°.55W, h88km±3km, ML4.1*
IDC ***07*** *04:49:10.0±1.4, 11°.70N×85°.82W, h168km±42km, mb3.1/2, mbtmp3.5/2, Error ellipse: s-maj=67.5km s-min=52.3km az=65.0*
ISC 07 04:49:07.6±0.9**, 11°.81N**±0°.05×**86°.54W**±0°.08**, h114**km±6km**, n43, σ0§90**/71**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ADRN	Diriamba	0.29	81	*i* P	Pn	04 49 24.1	+0.2
ADRN				*i* S	Sn	04 49 35.6	-0.5
ADRN				IAML		04 49 39.2	
	comp=Z,30µm,1.0s						
COPN	Copaltepe	0.37	352	*i* P	Pn	04 49 23.9	-0.3
COPN				IAML		04 49 37.5	
	comp=Z,17µm,1.0s						
SAPS	Ciudad Sandino	0.38	20	*i* P	Pn	04 49 24.5	+0.3
SAPS				*i* S	Sn	04 49 36.5	-0.2
SAPS				IAML		04 49 39.6	
	comp=Z,24µm,1.0s						
ABCN	Banco Central	0.38	36	*i* P	Pn	04 49 24.4	+0.2
ABCN				*i* S	Sn	04 49 36.7	0.0
ABCN				IAML		04 49 38.4	
	comp=Z,56µm,1.0s						
UNAN	Cigeo UNAN	0.40	41	*i* P	Pn	04 49 24.5	+0.2
UNAN				*i* S	Sn	04 49 36.8	-0.1
UNAN				IAML		04 49 39.8	
	comp=Z,64µm,1.0s						
USIM	UNAN	0.40	40	*i* P	Pn	04 49 24.7	+0.4
USIM				*i* S	Sn	04 49 36.8	-0.1
USIM				IAML		04 49 37.4	
	comp=Z,48µm,1.0s						
ENAN	Enatrel Managu	0.41	42	*i* P	Pn	04 49 24.6	+0.2
ENAN				*i* S	Sn	04 49 36.6	-0.3
ENAN				IAML		04 49 38.4	
	comp=Z,27µm,1.0s						
MAS3	Al N del Volca	0.41	59	*i* P	Pn	04 49 24.3	-0.1
MAS3				*i* S	Sn	04 49 37.0	-0.1
MAS3				IAML		04 49 37.7	
	comp=Z,20µm,1.0s						
MASN	Masaya	0.42	65	*i* P	Pn	04 49 24.7	+0.3
MASN				*i* S	Sn	04 49 37.6	+0.5
MASN				IAML		04 49 43.1	
	comp=Z,3µm,1.0s						
ALLN	Telcor Managua	0.43	37	*i* P	Pn	04 49 24.6	+0.1
ALLN				*i* S	Sn	04 49 37.1	-0.1
ALLN				IAML		04 49 39.5	
	comp=Z,15µm,1.0s						
AMTN	Mateare	0.44	14	*i* P	Pn	04 49 24.9	+0.4
AMTN				*i* S	Sn	04 49 37.6	+0.4
AMTN				IAML		04 49 42.3	
	comp=Z,26µm,1.0s						
APQ2	Apoyeque	0.44	28	*i* P	Pn	04 49 24.7	+0.2
APQ2				*i* S	Sn	04 49 37.2	0.0
APQ2				IAML		04 49 39.2	
	comp=Z,12µm,1.0s						
MGA1	Managua	0.44	40	*i* P	Pn	04 49 24.5	0.0
MGA1				*i* S	Sn	04 49 37.0	-0.2
MGA1				IAML		04 49 41.0	
	comp=Z,12µm,1.0s						
BC86	Nagarote	0.45	357	*i* P	Pn	04 49 24.7	+0.1
BC86				*i* S	Sn	04 49 37.0	-0.4
BC86				IAML		04 49 40.2	
	comp=Z,17µm,1.0s						
AMYN	Masaya	0.46	68	*i* P	Pn	04 49 24.5	-0.2
AMYN				*i* S	Sn	04 49 37.3	-0.2
AMYN				IAML		04 49 39.9	
	comp=Z,9µm,1.0s						
APQN	BB Volcan Apoy	0.47	30	*i* P	Pn	04 49 24.3	-0.4
APQN				*i* S	Sn	04 49 37.7	+0.1
WILN	Americas 2	0.49	44	*i* P	Pn	04 49 24.9	+0.1
WILN				*i* S	Sn	04 49 37.4	-0.3
WILN				IAML		04 49 42.0	
	comp=Z,4µm,1.0s						
AERN	Aeropuerto Man	0.49	47	*i* P	Pn	04 49 24.8	0.0
AERN				*i* S	Sn	04 49 37.5	-0.3
AERN				IAML		04 49 39.8	
	comp=Z,11µm,1.0s						
BC84	Volcan Momotom	0.58	360	*i* P	Pn	04 49 25.1	-0.4
BC84				*i* S	Sn	04 49 38.3	-0.6
BC84				IAML		04 49 39.1	
	comp=Z,10µm,1.0s						
GRNN	Granada	0.58	78	*i* P	Pn	04 49 25.7	+0.3
GRNN				IAML		04 49 27.8	
	comp=Z,8µm,1.0s						
GRNN				*i* S	Sn	04 49 39.4	+0.5
LEVN	Ruinas Leon Vi	0.59	352	*i* P	Pn	04 49 25.7	+0.2
LEVN				*i* S	Sn	04 49 39.4	+0.4
LEVN				IAML		04 49 44.3	
	comp=Z,15µm,1.0s						
MOMN	Momotombo	0.59	360	*i* P	Pn	04 49 25.6	0.0
MOMN				*i* S	Sn	04 49 38.4	-0.8
MOMN				IAML		04 49 39.7	
	comp=Z,640nm,1.0s						
MOM2	El Cardon	0.63	5	*i* P	Pn	04 49 25.9	+0.1
MOM2				*i* S	Sn	04 49 39.3	-0.2
MOM2				IAML		04 49 42.6	
	comp=Z,6µm,1.0s						
CNGN	Cerro Negro	0.70	347	*i* P	Pn	04 49 27.0	+0.5
CNGN				*i* S	Sn	04 49 40.6	-0.1
CNGN				IAML		04 49 42.5	
	comp=Z,11µm,1.0s						
BC87	San Francisco	0.73	19	*i* P	Pn	04 49 26.9	+0.2
BC87				*i* S	Sn	04 49 40.5	-0.5
BC87				IAML		04 49 45.4	
	comp=Z,6µm,1.0s						
HERN	Volcan Telica	0.84	340	*i* P	Pn	04 49 28.5	+0.8
HERN				*i* S	Sn	04 49 43.2	+0.3
HERN				IAML		04 49 46.8	
	comp=Z,9µm,1.0s						
BRAN	Las Pilas	0.92	11	*i* P	Pn	04 49 23.5	-4.9
BRAN				*i* S	Sn	04 49 35.6	-8.5
BRAN				IAML		04 49 37.6	
	comp=Z,31µm,1.0s						
CONN	Concepcion	0.93	105	*i* P	Pn	04 49 28.7	+0.3
CONN				*i* S	Sn	04 49 44.1	0.0
CONN				IAML		04 49 48.8	
	comp=Z,39µm,1.0s						
CRIN	San Cristobal	1.02	331	*i* P	Pn	04 49 30.2	+0.8
CRIN				*i* S	Sn	04 49 47.0	+1.2
CRIN				IAML		04 49 49.2	
	comp=Z,26µm,1.0s						
LIMN	Finca el Limon	1.26	8	*i* P	Pn	04 49 32.8	+0.8
LIMN				IAML		04 49 32.9	
	comp=Z,3µm,1.0s						
LIMN				*i* S	Sn	04 49 50.4	0.0
MATN	Matagalpa	1.26	28	*i* P	Pn	04 49 32.8	+0.8
MATN				IAML		04 49 33.0	
	comp=Z,1µm,1.0s						
MATN				*i* S	Sn	04 49 51.3	+0.7
ACON	Acoyapa	1.34	83	*i* P	Pn	04 49 33.4	+0.6
ACON				IAML		04 49 33.7	
	comp=Z,2µm,1.0s						
ACON				*i* S	Sn	04 49 52.3	+0.3
HZTE	Horizontes, Gu	1.43	140	*i* P	Pn	04 49 34.9	+1.1
HZTE				*i* S	Sn	04 49 54.9	+1.2
HZTE				IAML		04 49 58.5	
	comp=Z,2µm,1.0s						
CSGN	Cosiguina Volc	1.53	319	*i* P	Pn	04 49 35.3	+0.2
CSGN				IAML		04 49 57.9	
	comp=Z,15µm,1.0s						
VRLE	La Escondida,	1.53	131	*i* P	Pn	04 49 37.3	+2.1
VRLE				*i* S	Sn	04 49 56.2	+0.1
VRLE				IAML		04 50 01.4	
	comp=Z,580nm,1.0s						
RCPN	Sur Rio San Ju	1.76	14	*i* P	Pn	04 49 38.3	+0.4
RCPN				IAML		04 49 39.1	
	comp=Z,5.6nm,1.0s						
ORTG	Ortega, Santa	1.79	144	*i* P	Pn	04 49 39.5	+1.3
ORTG				*i* S	Sn	04 50 01.2	-0.3
ORTG				IAML		04 50 05.8	
	comp=Z,290nm,1.0s						
CNCH	Conchagua	1.93	319	*i* P	Pn	04 49 41.0	+1.0
CNCH				*i* S	Sn	04 50 04.9	+0.1
CNCH				IAML		04 50 10.0	
	comp=Z,3µm,1.0s						
JTS	Las Juntas de	2.17	134	P	Pn	04 49 43.9	+1.0
	comp=Z,20nm,0.3s,baz=334,slow=16,SNR=20						
JTS				S	Sn	04 50 07.2	-2.8
	comp=Z,155nm,0.4s,baz=322,slow=9.8,SNR=31						
TXAR	Lajitas Array	23.63	320	P	P	04 54 10.6	+2.0
	comp=Z,1.1nm,0.6s,baz=137,slow=10.0,SNR=18						
	comp=Z,1.1nm,0.6s						
PDAR	Pinedale Array	36.76	331	P	P	04 56 05.3	+1.0
	comp=Z,0.4nm,0.8s,baz=125,slow=9.1,SNR=2.1						
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	139.85	247	PKP	PKPdf	05 08 19.7	-3.5
	comp=Z,0.6nm,0.6s,baz=112,slow=2.0,SNR=4.5						
WRA	Warramunga Arr	139.94	253	PKP	PKPdf	05 08 20.0	-3.4
	comp=Z,0.7nm,0.6s,baz=91,slow=2.7,SNR=1.4						

CNRM ***07*** *04:50:00.2, 36°.78N×6°.87W, h0km*
SFS ***07*** *04:50:07.1, 36°.75N×7°.30W, h7km, ML1.7/7, ML2.4/7, MLv1.4/7*
INMG ***07*** *04:50:07.6±1.0, 36°.71N×7°.44W, h21km±2km, ML1.7, Error ellipse: s-maj=2.5km s-min=1.7km az=53.0*
IGIL ***07*** *04:50:07.6, 36°.72N×7°.42W, h22km, ML1.3*
MDD ***07*** *04:50:08.2±0.7, 36°.77N×7°.42W, h26km±6km, mb_Lg2.8/12, Error ellipse: s-maj=5.6km s-min=2.7km az=27.0*
ISC 07 04:50:04.8±1.2**, 36°.66N**±0°.04×**7°.43W**±0°.03**, h28**km±12km**, n47, σ1§26**/72**, 1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.71	325⇓	*e*P	Pn	04 50 20.0	+1.1
PBDV				*e*S	Sn	04 50 29.1	+0.2
PVAQ	Vaqueiros	0.78	343	*e*P	Pn	04 50 21.0	+1.1
PVAQ				*e*S	Sn	04 50 30.3	-0.2
PVAQ	Vaqueiros	0.78	343	Sg	Sn	04 50 30.2	-0.4
PVAQ				Pg	Pn	04 50 21.0	+1.1
PVAQ	Vaqueiros	0.78	343	P	Pn	04 50 19.8	0.0
PVAQ	Vaqueiros	0.78	343	S	Sb	04 50 29.0	-0.9
EGRO	El Granado	0.87	357	Sg	Sn	04 50 32.6	-0.3
EGRO				Pg	Pn	04 50 22.0	+0.8
EGRO	El Granado	0.87	357	P	Pn	04 50 22.5	+1.4
EGRO				S	Sn	04 50 32.9	0.0
EGRO				*i* Vmb_Lg		04 50 34.3	
PCVE	Castro Verde	1.08	333	*e*P	Pb	04 50 25.5	+0.6
PCVE				*e*S	Sn	04 50 38.6	+0.4
PCVE	Castro Verde	1.08	333	Pg	Pb	04 50 25.8	+0.8
MORF	Marmelete	1.17	303	*e*P	Pb	04 50 26.7	+0.3
MORF				*e*S	Sn	04 50 41.5	+1.1
MORF	Marmelete	1.17	303	*e*P	Pb	04 50 26.8	+0.3
MORF				*e*S	Sb	04 50 40.7	-0.6
MORF				IAML		04 50 42.7	
	comp=E,8.4nm,0.3s						
EMIN	Mina Concepcio	1.26	28	P	Pb	04 50 27.8	0.0
EMIN				S	Sn	04 50 41.6	-0.8
ESPR	Espera	1.28	80	Pn	Pb	04 50 28.6	+0.4
ESPR				Sn	Sb	04 50 43.5	-0.7
ESPR	Espera	1.28	80	P	Pb	04 50 28.9	+0.7
ESPR				S	Sb	04 50 44.3	+0.1
ESPR				*i* Vmb_Lg		04 50 45.8	
MESJ	Messejana	1.33	332	*e*P	Pb	04 50 28.9	-0.3
MESJ				*e*S	Sb	04 50 45.2	-0.7
MESJ				A	A	04 50 46.9	
	comp=E,4.0nm,0.5s						
MESJ	Messejana	1.33	332	*e*P	Pb	04 50 28.8	-0.3
MESJ				*e*S	Sn	04 50 44.3	0.0
MESJ				IAML		04 50 45.4	
	comp=E,2.1nm,0.1s						
PTEO	Sao Teotonio	1.36	311	*e*P	Pb	04 50 29.5	-0.1
PTEO				*e*S	Sn	04 50 45.6	+0.6
PBAR	Barrancos	1.54	11	*e*P	Pb	04 50 31.8	-0.9
PBAR				*e*S	Sn	04 50 49.9	+0.5
PBAR				A	A	04 50 56.3	
	comp=E,2.3nm,0.3s						
PBAR	Barrancos	1.54	11	Pn	Pb	04 50 33.3	+0.6
PNCL	Nicolau / Gran	1.69	329	*e*P	Pb	04 50 33.8	-1.4
PNCL				*e*S	Sn	04 50 53.0	-0.1
PNCL	Nicolau / Gran	1.69	329	Pn	Pb	04 50 35.2	-0.1
EBAD	Badajoz	2.11	9	Pn	Pb	04 50 40.4	-2.0
EBAD	Badajoz	2.11	9	P	Pn	04 50 39.6	+1.3
EBAD				S	Sn	04 51 03.8	+0.2
EBAD				*i* Vmb_Lg		04 51 06.9	
ECAB	El Cabril	2.13	48	P	Pn	04 50 39.6	+1.1
ECAB				S	Sn	04 51 02.2	-1.9
ECAB				*i* Vmb_Lg		04 51 11.8	
PESTR	Estremoz	2.20	357	*e*P	Pn	04 50 40.7	+1.2
PESTR				*e*S	Sn	04 51 05.6	-0.2
PESTR				A	A	04 51 09.2	
	comp=E,1.3nm,0.2s						
PESTR	Estremoz	2.20	357	P	Pn	04 50 38.2	-1.3
PESTR	Estremoz	2.20	357	S	Sn	04 51 04.7	-1.2
PMTG	Montargil	2.48	346	*e*P	Pn	04 50 44.7	+1.4
PMTG				*e*S	Sn	04 51 12.1	-0.6
PMTG				A	A	04 51 13.5	
	comp=E,1.6nm,0.1s						
EGOR	Sierra Gorda,	2.70	79	P	Pn	04 50 48.0	+1.6
EGOR				S	Sn	04 51 19.0	+0.8
EGOR				*i* Vmb_Lg		04 51 21.0	
EADA	Adamuz	2.72	56	P	Pn	04 50 48.2	+1.6
EADA				S	Sn	04 51 17.5	-1.1
EADA				*i* Vmb_Lg		04 51 20.1	
PMRV	Marv??o	2.76	1	*e*P	Pn	04 50 48.5	+1.3
PMRV				*e*S	Sn	04 51 18.6	-1.0
PSBE	So Bento	3.04	340	*e*P	Pn	04 50 53.0	+1.9
PCBR	Castelo Branco	3.17	359	*e*P	Pn	04 50 54.2	+1.4
PCBR				*e*S	Sn	04 51 28.9	-0.8
EQES	Quesada	3.66	71	P	Pn	04 51 01.3	+1.7
EQES				S	Sn	04 51 41.7	-0.2
EQES				*i* Vmb_Lg		04 51 45.5	
MTE	Manteigas	3.73	359	*e*S	Sn	04 51 42.9	-0.7
PAB	San Pablo	3.77	39	P	Pn	04 51 02.6	+1.6
PAB				S	Sn	04 51 40.8	-3.6
PAB				*i* Vmb_Lg		04 51 45.6	
EMEL	Melilla	3.87	109	S	Sn	04 51 50.6	+3.7
ESDC	Sonseca Array	4.06	41	P	Pn	04 51 06.6	+1.5
PVIS	Viseu	4.06	355	*e*S	Sn	04 51 51.5	-0.2
MD31	MD31	4.38	149	P	Pn	04 51 08.7	-0.7
MD31	MD31	4.38	149	S	Sn	04 51 57.1	-2.4
MDT	Midelt	4.49	148	P	Pn	04 51 09.0	-2.0
MDT	Midelt	4.49	148	S	Sn	04 51 59.8	-2.5
MVO	Moncorvo	4.50	4	*e*S	Sn	04 52 00.4	-2.3
MVO				A	A	04 52 01.7	
	comp=E,2.1nm,0.7s						
POLO	Lamas de Olo	4.71	357	*e*S	Sn	04 52 06.3	-1.5
ETOB	Tobarra	5.07	65	P	Pn	04 51 19.8	+0.9
ETOB				*i* Vmb_Lg		04 54 22.8	
ETOR	Torete	5.90	44	P	Pn	04 51 32.1	+1.7
ETOR				*i* Vmb_Lg		04 54 27.3	

NEIC ***07*** *05:16:00.9±0.9, 6°.75N±0°.09×127°.83E±0°.09, h10km±1km, mb4.3/17, Error ellipse: s-maj=18.6km s-min=12.3km az=45.0*
IDC ***07*** *05:16:11.1±2.6, 6°.77N×127°.28E, h81km±23km, mb3.7/15, mbtmp4.1/17, MS3.0/2, Error ellipse: s-maj=27.7km s-min=12.3km az=68.0*
ISC 07 05:16:01.7±0.6**, 6°.75N**±0°.07×**127°.64E**±0°.08**, h10**km**, n43, σ1§48**/45**, mb4.2**/22**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.07	279⇓	*i*P	Pn	05 16 36.0	-0.5
DAV	Davao City (W)	2.07	279		Pn	05 16 37.9	+1.4
DAV	Davao City (W)	2.07	279	P	Pn	05 16 38.1	+1.5
	238nm,0.5s,baz=82,slow=3.8,SNR=9.6						
DAV				S	Sn	05 17 01.2	-1.2
	393nm,0.6s,baz=262,slow=21,SNR=8.1						
TOLI2	Tolitoli	8.84	231		Pn	05 18 10.7	+1.0
LUWI	Luwuk	9.14	212	Pn	Pn	05 18 14.0	+0.2
MYLDM	Lahad Datu	9.22	261	Pn	Pn	05 18 15.4	+0.5
FAKI	Fak Fak	10.65	154	Pn	Pn	05 18 31.4	-3.1
KAPI	Kappang	14.10	214	Pn	Pn	05 19 21.2	-0.4
KAPI	Kappang	14.10	214	P	Pn	05 19 24.0	+2.4
	3.7nm,0.4s,baz=39,slow=14,SNR=1.7						
KAPI				LR	LR	05 25 00.9	
	comp=Z,32nm,20.1s,baz=63,slow=38						
SBUM	Sibu	15.95	255		Pn	05 19 47.7	+1.3
SBUM				IAmb	IAmb	05 19 52.4	
	comp=Z,8.4nm,0.6s						
KSM	Kuching	18.06	254		Pn	05 20 13.4	+0.4
JOW	Kunigami	19.98	2	P	P	05 20 38.0	+3.6
	comp=Z,7.0nm,0.4s,baz=194,slow=7.2,SNR=7.5						
KNRA	Kununurra	22.31	177	P	P	05 20 57.1	-2.4
KNRA				IAmb	IAmb	05 21 03.6	
	comp=Z,7.4nm,0.8s						
FITZ	Fitzroy Crossi	24.77	185	P	P	05 21 23.0	-0.8
PMG	Port Moresby	25.22	129	P	P	05 21 25.0	-2.9
COEN	Coen	25.71	143	P	P	05 21 29.7	-2.7
WB0	Warramunga Arr	27.18	166	P	P	05 21 44.8	-0.8
WB0				IAmb	IAmb	05 22 11.4	
	comp=Z,5.4nm,1.1s						
WRA	Warramunga Arr	27.34	166	P	P	05 21 49.0	+2.0
	comp=Z,1.1nm,0.7s,baz=348,slow=9.7,SNR=6.3						
WRA				PcP	PcP	05 25 07.1	+0.6
	comp=Z,0.4nm,0.7s,baz=330,slow=3.2,SNR=1.7						
	comp=Z,1.1nm,0.7s						
WB2	Warramunga Arr	27.34	166	P	P	05 21 45.7	-1.4
WB2				IAmb	IAmb	05 22 03.3	
	comp=Z,7.6nm,1.1s						
WR0	Warramunga Arr	27.40	166	P	P	05 21 45.4	-2.2
WR0				IAmb	IAmb	05 21 55.7	
	comp=Z,3.5nm,0.9s						
KSRS	Korea Array	30.56	0	P	P	05 22 16.9	+1.5
	comp=Z,0.3nm,0.4s,baz=187,slow=8.7,SNR=2.0						
	comp=Z,0.3nm,0.4s						
ASAR	Alice Springs	30.85	169	P	P	05 22 20.1	+1.9
	comp=Z,0.4nm,0.6s,baz=339,slow=7.1,SNR=15						
ASAR				PcP	PcP	05 25 15.7	+0.3
	comp=Z,0.4nm,0.4s,baz=345,slow=2.5,SNR=6.5						
	comp=Z,0.4nm,0.6s						
STKA	Stephens Creek	40.66	162	P	P	05 23 44.9	+2.7
	comp=Z,2.1nm,0.7s,baz=303,slow=7.1,SNR=3.7						
	comp=Z,2.1nm,0.7s						
ULN	Ulaanbaatar	44.57	340	P	P	05 24 13.1	-0.9
SONM	Songino Array	44.77	340	P	P	05 24 15.2	-0.4
SONM	Songino Array	44.77	340	P	P	05 24 15.9	+0.3
	comp=Z,0.3nm,0.3s,baz=152,slow=8.4,SNR=3.2						
	comp=Z,0.3nm,0.3s						
MK31	Makanchi Array	55.64	324	P	P	05 25 37.2	-0.7
MK31				IAmb	IAmb	05 25 38.7	
	comp=Z,1.7nm,0.8s						
MKAR	Makanchi Array	55.64	324	P	P	05 25 37.3	-0.6
MKAR	Makanchi Array	55.64	324	P	P	05 25 37.0	-1.0
	comp=Z,1.9nm,0.4s,baz=118,slow=7.6,SNR=37						
	comp=Z,1.9nm,0.4s						
ZALV	Zalesovo Beam	58.34	332	P	P	05 25 55.7	-1.2
	comp=Z,0.6nm,0.3s,baz=131,slow=7.4,SNR=3.9						
ZALV				LR	LR	05 55 41.0	
	comp=Z,20nm,19.4s,baz=340,slow=41						
	comp=Z,0.6nm,0.3s						
KURK	Kurchatov	59.72	326	P	P	05 26 05.8	-0.7
KURK				IAmb	IAmb	05 26 06.3	
	comp=Z,1.8nm,0.6s						
KURBB	Kurchatov Arra	59.72	326	P	P	05 26 05.6	-1.0
	comp=Z,1.7nm,0.6s,baz=124,slow=7.1,SNR=20						
	comp=Z,1.7nm,0.6s						
BVAR	Borovoye Array	65.31	326	P	P	05 26 43.2	-0.7
	comp=Z,2.6nm,0.8s,baz=127,slow=7.9,SNR=13						
	comp=Z,2.6nm,0.8s						
BRVK	Borovoye	65.39	326	P	P	05 26 44.2	-0.1
ABKAR	Akbulak array	70.42	320	P	P	05 27 15.5	-0.6
ABKAR				IAmb	IAmb	05 27 16.0	
	comp=Z,2.6nm,0.8s						
ARU	Arti	72.89	327	P	P	05 27 30.0	-0.9
KBZ	Khabaz	81.58	313	P	P	05 28 18.9	-1.1
	comp=Z,1.0nm,0.7s,baz=135,slow=4.3,SNR=2.3						
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	82.00	26	P	P	05 28 22.9	+1.2
	comp=Z,0.5nm,0.8s,baz=236,slow=5.2,SNR=9.9						
	comp=Z,0.5nm,0.8s						
ARCES	ARCESS Array B	87.94	340	P	P	05 28 50.4	-1.1
	comp=Z,1.9nm,0.8s,baz=68,slow=5.0,SNR=1.2						
	comp=Z,1.9nm,0.8s						
BRTR	Keskin Array B	88.80	310	P	P	05 28 55.0	-1.4
	comp=Z,0.8nm,0.6s,baz=135,slow=3.9,SNR=7.4						
	comp=Z,0.8nm,0.6s						
FINES	FINESS Array B	89.61	332	P	P	05 28 58.3	-1.1
	comp=Z,3.2nm,0.8s,baz=123,slow=7.0,SNR=9.1						
	comp=Z,3.2nm,0.8s						
AKASG	Malin Array Be	90.13	321	P	P	05 29 01.0	-1.1
	comp=Z,0.9nm,0.6s,baz=67,slow=4.4,SNR=5.2						
	comp=Z,0.9nm,0.6s						
TORD	Torodi Ar. Bea	122.79	290	PKP	PKPdf	05 34 58.5	-0.6
	comp=Z,0.3nm,0.5s,baz=50,slow=2.4,SNR=5.9						

ISN ***07*** *05:22:12.7±0.3, 34°.41N×45°.77E, h11km±999km, ML3.1*
TEH ***07*** *05:22:13.7, 34°.42N×45°.79E, h9km±27km, ML3.1*
ISC 07 05:22:13.9±1.0**, 34°.41N**±0°.03×**45°.78E**±0°.03**, h8**km±10km**, n22, σ1§38**/28**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.19	300	Pg	Pg	05 22 17.8	0.0
KGS1				Sg	Sg	05 22 21.7	+1.3
IDHR	Dehrash	0.57	60	Pg	Pg	05 22 24.4	-0.7
IGHG	Ghaleghazi	0.65	97	Pg	Pb	05 22 26.6	-1.1
IGHG				Sg	Sb	05 22 37.2	+0.2
ILBA	Ilam Banvizeh	0.86	156	Pg	Pg	05 22 30.0	-0.4
KCHF	Cheshme Sefid,	1.05	97	Pg	Pb	05 22 33.7	-0.7
ILIN	Lien	1.09	62	Pg	Pb	05 22 34.7	-0.6
ILIN				Sg	Sn	05 22 50.6	-0.6
IBDR	Badra	1.30	175	*e*Pn	Pg	05 22 38.5	-0.4
IBDR				*e*Sn	Sg	05 22 57.5	+1.6
IBDR				AML	AML	05 23 01.6	
	comp=E,275nm,0.4s						
IKOM	Komasi	1.45	99	Pg	Pg	05 22 41.8	+0.1
BHD	Baghdad	1.63	226	*e*Pn	Pb	05 22 43.0	-1.2
BHD				*e*Sn	Sg	05 23 05.0	-1.4
BHD				AML	AML	05 23 14.5	
	comp=E,292nm,0.5s						
IBZA	Bozab	1.72	88	Pg	Pg	05 22 46.2	-0.7
SDS1	Sardasht. Az.	1.75	352	Pg	Pg	05 22 46.6	-0.9
IKFM	Kafar-mosalman	1.93	117	Pn	Pb	05 22 48.8	-0.5
IALM	Almabolaq	2.02	77	Pn	Pb	05 22 50.9	0.0
HSAM	Samen	2.34	94	Pn	Pb	05 22 54.4	-2.1
MAHB	Mahabad	2.35	358	Pn	Pb	05 22 54.9	-1.7
RAFI	Al-Rafai	2.70	174	*e*Pn	Pn	05 22 58.0	+0.5
RAFI				*e*Sn	Sn	05 23 31.0	+0.7
RAFI				AML	AML	05 23 31.3	
	comp=E,139nm,0.2s						
RAFI				AML	AML	05 23 41.3	
	comp=N,149nm,0.2s						
HAGD	Aghdareh	2.80	81	Pn	Pb	05 23 00.9	-3.3
IHSH	Hashtrud	3.13	22	Pn	Pn	05 23 05.6	+1.9
ISRB	Sarab	3.73	24	Pn	Pn	05 23 14.5	+2.5
JHBN	Jahan bin	4.63	117	Pn	Pn	05 23 25.7	+1.3
GRMI	Germi	4.70	21	Pn	Pn	05 23 26.3	+1.0
ZNGN	Zangian	4.82	117	Pn	Pn	05 23 28.5	+1.4

IDC 07 05:29:11.2±3.5**, 20°.40S**×**175°.92W, h0**km**, mb4.1**/2**, mbtmp4.1**/2**, Error ellipse: s-maj=225.5km s-min=58.0km az=156.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.44	256	P	P	05 37 40.4	+0.3
	2.0nm,0.5s,baz=95,slow=8.1,SNR=45						
ASAR				PcP	PcP	05 39 13.7	-1.3
	0.3nm,0.6s,baz=115,slow=4.2,SNR=2.2						
	2.0nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.55**	**261**	P	P	05 37 40.6	-0.4
	1.7nm,0.7s,baz=97,slow=7.6,SNR=26						
	1.7nm,0.7s						
AKASG	**Malin Array Be**	**143.84**	**333**	PKP	PKPdf	05 48 47.9	-0.4
	0.7nm,0.4s,baz=41,slow=4.6,SNR=8.4						
MMAI	**Mount Meron Ar**	**149.45**	**301**	PKPbc	PKPbc	05 49 02.9	+0.1
	0.8nm,0.2s,baz=72,slow=0.5,SNR=2.0						

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*NEIC **07** 05:33:35.4±1.3, 6.°86N±0.°07×127.°6E±0.°1, h10km±2km, mb4.2/22, Error ellipse: s-maj=18.9km s-min=11.6km az=84.0*

*IDC **07** 05:33:42.9±2.9, 6.°75N×127.°36E, h75km±25km, mb3.8/15, mbtmp4.1/15, MS2.8/2, Error ellipse: s-maj=29.4km s-min=13.2km az=65.0*

ISC 07 05:33:38.0±0.5**, 6.°84N**±0.°07×**127.°47E**±0.°07**, h31**km**, n47, σ0.s77**/48**, mb4.2**/25**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.89**	**277**	⇑*i*P	**Pn**	**05 34 09.0**	**+0.8**
DAV	**Davao City (W)**	**1.89**	**277**		**Pn**	**05 34 09.5**	**+1.3**
DAV	**Davao City (W)**	**1.89**	**277**	P	**Pb**	**05 34 10.9**	**-1.0**
	157nm,0.4s,baz=91,slow=16,SNR=7.3						
DAV				S	**Sb**	**05 34 34.6**	**-0.5**
	181nm,0.3s,baz=91,slow=20,SNR=3.9						
TOLI2	**Tolitoli**	**8.77**	**230**		**Pn**	**05 35 44.0**	**+1.3**
KAPI	**Kappang**	**14.07**	**213**	LR	LR	05 42 32.6	
	comp=Z,45nm,21.3s,baz=58,slow=38						
SBUM	**Sibu**	**15.81**	**255**	P	**P**	**05 37 23.6**	**+1.6**
SOEI	**Soe**	**16.79**	**191**		**Pn**	**05 37 31.3**	**+0.2**
SOEI				IAmb	IAmb	05 37 39.2	
	comp=Z,23nm,1.1s						
SSLB	**Suanglung**	**17.98**	**340**		**Pn**	**05 37 45.3**	**-0.4**
MTN	**Manton Dam**	**19.89**	**169**	P	**P**	**05 38 06.1**	**-0.9**
QIZ	**Qiongzhong**	**21.00**	**307**	P	**P**	**05 38 19.4**	**+0.4**
QIZ				IAmb	IAmb	05 38 20.6	
	comp=Z,9.6nm,1.0s						
KNRA	**Kununurra**	**22.40**	**177**	P	**P**	**05 38 32.7**	**-1.4**
KNRA				IAmb	IAmb	05 38 51.0	
	comp=Z,7.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.84**	**184**	P	**P**	**05 38 57.8**	**0.0**
WB0	**Warramunga Arr**	**27.30**	**166**	P	**P**	**05 39 19.5**	**-0.6**
WB0				IAmb	IAmb	05 39 24.4	
	comp=Z,3.9nm,0.9s						
WRAB	**Tennant Creek**	**27.45**	**166**	P	**P**	**05 39 19.4**	**-2.0**
WRAB				IAmb	IAmb	05 39 29.8	
	comp=Z,3.7nm,0.9s						
WRA	**Warramunga Arr**	**27.45**	**166**	P	**P**	**05 39 21.3**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=341,slow=10,SNR=12						
	comp=Z,1.8nm,0.8s						
WB2	**Warramunga Arr**	**27.46**	**166**	P	**P**	**05 39 21.4**	**0.0**
WB2				IAmb	IAmb	05 39 29.8	
	comp=Z,4.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.08**	**295**	LR	LR	05 53 00.4	
	comp=Z,18nm,18.3s,baz=275,slow=39						
AS31	**Alice Springs**	**30.96**	**168**	P	**P**	**05 39 52.3**	**-0.2**
ASAR	**Alice Springs**	**30.96**	**168**	P	**P**	**05 39 51.8**	**-0.8**
ASAR	**Alice Springs**	**30.96**	**168**	P	**P**	**05 39 52.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=339,slow=7.0,SNR=7.9						
ASAR				PcP	**PcP**	**05 42 48.7**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=348,slow=2.3,SNR=6.7						
	comp=Z,0.4nm,0.6s						
MJAR	**Matsushiro Arr**	**31.16**	**17**	P	**P**	**05 39 55.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=197,slow=12,SNR=6.0						
	comp=Z,0.4nm,0.3s						
MJB9	**Matsu-Tunnel**	**31.16**	**17**	P	**P**	**05 39 54.4**	**+0.2**
JMM	**Marumori**	**33.17**	**19**	P	**P**	**05 40 11.3**	**-0.5**
MORW	**Morawa**	**37.35**	**197**	P	**P**	**05 40 48.4**	**+0.5**
MORW				IAmb	IAmb	05 41 04.1	
	comp=Z,7.4nm,1.1s						
FORT	**Forrest**	**37.41**	**179**	P	**P**	**05 40 47.3**	**-1.0**
ERM	**Erimo**	**37.70**	**19**	P	**P**	**05 40 50.3**	**-0.3**
STKA	**Stephens Creek**	**40.79**	**161**	P	**P**	**05 41 17.1**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=12,slow=6.2,SNR=3.8						
	comp=Z,2.2nm,0.8s						
SONM	**Songino Array**	**44.63**	**340**	P	**P**	**05 41 48.7**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=183,slow=7.2,SNR=2.6						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**55.47**	**324**	P	**P**	**05 43 10.2**	**+0.3**
MK31				IAmb	IAmb	05 43 10.6	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**55.47**	**324**	P	**P**	**05 43 10.0**	**+0.1**
MKAR	**Makanchi Array**	**55.47**	**324**	P	**P**	**05 43 09.8**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=120,slow=7.6,SNR=21						
MKAR				PcP	**PcP**	**05 44 09.3**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=123,slow=4.4,SNR=3.9						
	comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**55.66**	**324**	P	**P**	**05 43 11.2**	**-0.1**
MAKZ				IAmb	IAmb	05 43 12.7	
	comp=Z,4.3nm,1.1s						
NIL	**Nilore**	**56.67**	**306**	P	**P**	**05 43 18.3**	**-0.4**
ZALV	**Zalesovo Beam**	**58.19**	**332**	P	**P**	**05 43 28.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=134,slow=4.2,SNR=2.5						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**59.56**	**326**	P	**P**	**05 43 38.7**	**+0.1**
KURK				IAmb	IAmb	05 43 54.7	
	comp=Z,1.4nm,0.9s						
KURBB	**Kurchatov Arra**	**59.56**	**326**	P	**P**	**05 43 38.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=124,slow=6.2,SNR=18						
	comp=Z,1.2nm,0.6s						
KK31	**Karatay Array**	**61.51**	**316**	P	**P**	**05 43 51.7**	**-0.4**
KK31				IAmb	IAmb	05 43 57.6	
	comp=Z,2.2nm,1.1s						
KKAR	**Karatay Array**	**61.51**	**316**	P	**P**	**05 43 52.1**	**0.0**
BVAR	**Borovoye Array**	**65.15**	**326**	P	**P**	**05 44 15.8**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=128,slow=8.1,SNR=10.0						
	comp=Z,1.7nm,0.7s						
BRVK	**Borovoye**	**65.22**	**326**	IAmb	IAmb	05 44 16.7	
	comp=Z,2.2nm,0.8s						
BRVK				P	**P**	**05 44 17.2**	**+0.8**
ILAR	**Eielson Array**	**82.00**	**26**	P	**P**	**05 45 55.5**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=230,slow=5.0,SNR=12						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**87.81**	**340**	P	**P**	**05 46 23.5**	**-0.4**
	comp=Z,5.8nm,1.1s,baz=90,slow=5.4,SNR=1.8						
	comp=Z,5.8nm,1.1s						
BRTR	**Keskin Array B**	**88.62**	**310**	P	**P**	**05 46 27.7**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=98,slow=5.6,SNR=6.1						
	comp=Z,1.1nm,0.9s						
FINES	**FINESS Array B**	**89.46**	**332**	P	**P**	**05 46 31.3**	**-0.5**
	comp=Z,4.5nm,1.1s,baz=69,slow=7.6,SNR=6.0						
	comp=Z,4.5nm,1.1s						
AKASG	**Malin Array Be**	**89.96**	**321**	P	**P**	**05 46 33.9**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=73,slow=3.8,SNR=6.1						
	comp=Z,3.1nm,0.9s						
YKA	**Yellowknife Ar**	**96.38**	**24**	P	**P**	**05 47 04.4**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=300,slow=4.8,SNR=4.2						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.60**	**290**	PKP	**PKPdf**	**05 52 30.7**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=17,slow=2.4,SNR=2.5						

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*UPA **07** 05:33:40.3±0.3, 8.°90N×83.°63W, h7km±27km, MW3.1*

*UCR **07** 05:33:40.4±1.0, 8.°71N×83.°61W, h0km±4km, MW3.5*

*CATAC **07** 05:33:41.0±0.4, 8.°74N×83.°63W, h5km±2km, ML2.9*

ISC 07 05:33:39.7±1.3**, 8.°73N**±0.°04×**83.°65W**±0.°03**, h6**km±10km**, n48, σ0.s78**/71**, 1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.36**	**0**	*i* P	**Pb**	**05 33 48.5**	**-0.1**
OCHAL				*i* S	**Sb**	**05 33 53.8**	**-0.7**
OCHAL				IAML		05 33 55.5	
	comp=Z,26nm,1.0s						
PIRO	**Carate, Puerto**	**0.45**	**136**	*i* P	**Pb**	**05 33 50.3**	**+0.3**
PIRO				*i* S	**Sb**	**05 33 57.6**	**+0.7**
PIRO				IAML		05 34 02.2	
	comp=Z,2μm,1.0s						
POTG	**Potrero Grande**	**0.61**	**59**	*i* P	**Pb**	**05 33 52.3**	**-0.6**
POTG				*i* S	**Sb**	**05 34 02.3**	**+0.5**
POTG				IAML		05 34 05.0	
	comp=Z,400nm,1.0s						
CDITO	**Canoas**	**0.78**	**101**	*i* P	**Pg**	**05 33 54.9**	**+0.2**
CDITO				*i* S	**Sb**	**05 34 06.6**	**0.0**
CDITO				IAML		05 34 15.1	
	comp=Z,270nm,1.0s						
MLIR3	**Monte Lirio, C**	**0.82**	**86**	*e*P	**Pb**	**05 33 56.5**	**+0.1**
MLIR3				*e*S	**Sn**	**05 34 08.8**	**-1.5**
CDM	**Cerro de Muert**	**0.82**	**352**	*i* P	**Pb**	**05 33 56.4**	**-0.3**
CDM				*i* S	**Sb**	**05 34 08.5**	**+0.2**
CDM				IAML		05 34 14.1	
	comp=Z,93nm,1.0s						
PTPM	**Petroterminale**	**0.92**	**124**	*e*P	**Pn**	**05 33 59.5**	**+0.3**
PTPM				*e*S	**Sn**	**05 34 14.1**	**+1.3**
BRU2	**Volcan**	**0.95**	**86**	*e*P	**Pn**	**05 33 58.8**	**-0.9**
BRU2				*e*S	**Sn**	**05 34 12.4**	**-1.2**
BRU2	**Volcan**	**0.95**	**86**	*i* P	**Pg**	**05 33 57.8**	**-0.1**
BRU2				*i* S	**Sb**	**05 34 11.9**	**+0.4**
ABE2	**San Pablo**	**1.05**	**338**	*e*S	**Sn**	**05 34 17.9**	**+1.7**
RIMA	**Rio Macho**	**1.05**	**348**	*i* P	**Pn**	**05 34 00.4**	**-0.7**
RIMA				IAML		05 34 01.7	
	comp=Z,150nm,1.0s						
LCR2	**La Lucha 2**	**1.06**	**341**	*i* P	**Pn**	**05 34 00.8**	**-0.5**
LCR2				*i* S	**Sn**	**05 34 15.6**	**-1.0**
LCR2				IAML		05 34 20.5	
	comp=Z,110nm,1.0s						
BCO2	**Palmira**	**1.11**	**91**	*e*P	**Pn**	**05 34 01.2**	**-0.7**
BCO2				*e*S	**Sn**	**05 34 16.6**	**-1.0**
ACOS	**Acosta**	**1.17**	**334**	*e*P	**Pn**	**05 34 03.6**	**+0.8**
ACOS				*e*S	**Sn**	**05 34 20.5**	**+1.3**
PCAYA	**Pacayas**	**1.19**	**352**	*e*P	**Pn**	**05 34 04.2**	**+1.1**
VERB	**Verbena**	**1.21**	**358**	*e*P	**Pg**	**05 34 03.7**	**+0.9**
VERB				*e*S	**Sn**	**05 34 20.2**	**+0.3**
TRIO	**Tres Rios**	**1.22**	**344**	*e*P	**Pg**	**05 34 03.5**	**+0.5**
DVD	**David**	**1.22**	**104**	*e*P	**Pg**	**05 34 03.0**	**-0.1**
DVD				*e*S	**Sn**	**05 34 20.6**	**+0.5**
RVSTA	**Santa Teresita**	**1.24**	**0**	*e*P	**Pg**	**05 34 03.8**	**+0.3**
VTCV	**VTCV, Calle Va**	**1.25**	**356**	*e*P	**Pg**	**05 34 04.3**	**+0.7**
ICR3	**Volcano Irazu**	**1.25**	**352**	*e*P	**Pg**	**05 34 04.3**	**+0.5**
HAYA	**Volcan Irazu**	**1.26**	**351**	*i* P	**Pg**	**05 34 04.3**	**+0.5**
HAYA				IAML		05 34 04.9	
	comp=Z,320nm,1.0s						
VICA	**Volcano Irazu**	**1.26**	**351**	*e*P	**Pg**	**05 34 04.6**	**+0.7**
CVTV	**Tajo**	**1.27**	**356**	*e*P	**Pg**	**05 34 05.2**	**+1.1**
CVTV				*e*S	**Sn**	**05 34 23.6**	**+1.8**
VTLA	**Turrialba Volc**	**1.27**	**354**	⇓*i*P	**Pg**	**05 34 05.1**	**+1.0**
VTRT	**Volcan Turrial**	**1.27**	**354**	*e*P	**Pg**	**05 34 04.6**	**+0.5**
CVTR	**Volcan Turrial**	**1.29**	**355**	*e*P	**Pg**	**05 34 05.4**	**+1.0**
VTLO	**VTLO**	**1.31**	**357**	*e*P	**Pg**	**05 34 05.1**	**+0.3**
HDC3	**Heredia 3**	**1.34**	**340**	*e*P	**Pg**	**05 34 05.9**	**+0.4**
HDC3	**Heredia 3**	**1.34**	**340**	*i* P	**Pg**	**05 34 05.7**	**+0.2**
HDC3				IAML		05 34 07.6	
	comp=Z,200nm,1.0s						
HDC3				*i* S	**Sg**	**05 34 25.0**	**+2.1**
JACO	**JACO, Garabito**	**1.36**	**313**	*e*P	**Pb**	**05 34 04.8**	**-0.8**
JACO	**JACO, Garabito**	**1.36**	**313**	*i* P	**Pb**	**05 34 04.8**	**-0.8**
JACO				*i* S	**Sg**	**05 34 23.2**	**-0.3**
JACO				IAML		05 34 41.8	
	comp=Z,88nm,1.0s						
TRB2	**Turrubares**	**1.42**	**326**	*e*P	**Pg**	**05 34 06.6**	**-0.3**
TCS1	**Tacares**	**1.45**	**334**	*e*P	**Pg**	**05 34 07.5**	**-0.1**
RIFO	**Rio Frio, Sara**	**1.60**	**350**	*e*P	**Pb**	**05 34 09.4**	**-0.3**
RIFO	**Rio Frio, Sara**	**1.60**	**350**	*i* P	**Pg**	**05 34 09.8**	**-0.6**
RIFO				IAML		05 34 22.3	
	comp=Z,130nm,1.0s						
RIFO				*i* S	**Sg**	**05 34 31.3**	**+0.2**
CPMI	**Catarata Coope**	**1.70**	**335**	*e*P	**Pg**	**05 34 11.7**	**-0.7**
CPMI	**Catarata Coope**	**1.70**	**335**	*i* P	**Pb**	**05 34 11.0**	**-0.5**
CPMI				*i* S	**Sg**	**05 34 34.1**	**-0.4**
CPMI				IAML		05 34 37.7	
	comp=Z,99nm,1.0s						
TRT2	**Tortugero**	**1.82**	**357**	*i* P	**Pb**	**05 34 12.6**	**-0.8**
TRT2				*i* S	**Sb**	**05 34 36.6**	**+0.2**
TRT2				IAML		05 35 48.9	
	comp=Z,140nm,1.0s						
SOCE	**Pocosol**	**1.90**	**330**	*e*P	**Pb**	**05 34 14.9**	**+0.1**
SOCE	**Pocosol**	**1.90**	**330**	*i* P	**Pb**	**05 34 14.5**	**-0.3**
SOCE				*i* S	**Sg**	**05 34 40.2**	**-0.6**
SOCE				IAML		05 34 43.0	
	comp=Z,120nm,1.0s						
VACR	**Volcan Arenal**	**2.01**	**330**	*e*P	**Pg**	**05 34 17.6**	**-0.6**
VACR	**Volcan Arenal**	**2.01**	**330**	*i* P	**Pb**	**05 34 16.1**	**-0.5**
VACR				IAML		05 34 18.9	
	comp=Z,180nm,1.0s						
VACR				*i* S	**Sb**	**05 34 40.7**	**-1.2**
JTS	**Las Juntas de**	**2.01**	**320**	*e*P	**Pb**	**05 34 17.0**	**+0.3**
ARE1	**Arenal 1**	**2.02**	**329**	*e*P	**Pg**	**05 34 17.2**	**-1.2**
COVE	**Coope Vega, Sa**	**2.11**	**339**	*e*P	**Pb**	**05 34 17.9**	**-0.4**
ORTG	**Ortega, Santa**	**2.41**	**312**	*i* P	**Pb**	**05 34 23.7**	**+0.1**
ORTG				*i* S	**Sn**	**05 34 50.4**	**+0.7**
CUI	**Cuipilapa**	**2.43**	**322**	*e*P	**Pg**	**05 34 25.6**	**-0.7**

IDC 07 06:01:44.1±5.5**, 6.°02S**×**133.°32E, h0**km**, mb3.3**/1**, mbtmp3.3**/3**, ML3.7**/2**, Error ellipse: s-maj=318.8km s-min=33.8km az=77.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.87**	**176**	Pn	Pn	06 05 02.1	-0.1
	0.4nm,0.3s,baz=357,slow=13,SNR=18						
WRA				Sn	Sn	06 07 26.5	-11
	1.5nm,0.3s,baz=350,slow=24,SNR=12						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.55**	**178**	P	Pn	06 05 50.3	-0.1
	0.2nm,0.3s,baz=351,slow=11,SNR=11						
ASAR				S	Sn	06 08 54.8	-12
	1.8nm,0.6s,baz=358,slow=28,SNR=9.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**69.27**	**325**	P	P	06 12 53.2	+0.1
	0.1nm,0.3s,baz=121,slow=7.9,SNR=2.3						
	0.1nm,0.3s						

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*IDC **07** 06:06:06.8±1.5, 21.°17S×179.°16W, h597km±17km, mb3.7/17, mbtmp4.6/18, Error ellipse: s-maj=14.1km s-min=11.5km az=66.0*

*NOU **07** 06:06:07.6, 21.°29S×179.°08W, h635km, mb4.6/12, Fiji Islands Region*

*NEIC **07** 06:06:07.3±1.7, 21.°26S±0.°06×179.°1W±0.°1, h598km±6km, mb4.7/82, Error ellipse: s-maj=16.4km s-min=7.1km az=107.0*

ISC 07 06:06:07.0±0.3**, 21.°29S**±0.°05×**179.°14W**±0.°06**, h602**km**, n251, σ1.s31**/263**, mb4.7**/63**, 29C-16D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.06**	**6**	P	**P**	**06 07 29.9**	**+3.1**
TAVE	**Taveuni**	**4.62**	**351**	P	**P**	**06 07 40.1**	**+2.8**
DGTI	**Dogotuki**	**5.08**	**348**	P	**P**	**06 07 43.2**	**+2.4**
YSA	**Yasawairara**	**5.53**	**325**	P	**P**	**06 07 46.5**	**+2.1**
RAO	**Raoul Island**	**8.00**	**172**	P	**P**	**06 08 05.2**	**-1.1**
RAO	**Raoul Island**	**8.00**	**172**	P	**P**	**06 08 08.2**	**+1.9**
RAO	**Raoul Island**	**8.00**	**172**	P	**P**	**06 08 05.5**	**-0.8**
	351nm,0.3s,baz=80,slow=20,SNR=6.5						
GLKZ	**Green Lake**	**8.01**	**172**	P	**P**	**06 08 05.8**	**-0.6**
GLKZ				S	**S**	**06 09 43.2**	**-1.1**
NIUE	**Niue**	**8.93**	**77**	P	**P**	**06 08 16.8**	**+1.3**
NIUE	**Niue**	**8.93**	**77**	P	**P**	**06 08 16.7**	**+1.3**
AFI	**Afiamalu**	**10.16**	**45**	P	**P**	**06 08 26.6**	**-1.0**
MARNC	**Mare, Loyalty**	**11.95**	**267**	P	**P**	**06 08 45.7**	**+0.3**
PINNC	**Pines Island,**	**12.52**	**262**	P	**P**	**06 08 52.0**	**+1.0**
LIFNC	**LIFOU**	**12.73**	**270**	P	**P**	**06 08 53.0**	**-0.2**
FUNA	**Funafuti**	**12.79**	**353**	P	**P**	**06 08 54.1**	**+0.2**
DZM	**Mont Dzumac**	**13.43**	**264**	P	**P**	**06 09 01.0**	**+0.7**
DZM	**Mont Dzumac**	**13.43**	**264**	P	**P**	**06 09 01.7**	**+1.4**
DZM	**Mont Dzumac**	**13.43**	**264**	P	**P**	**06 08 59.0**	**-1.3**
	9.3nm,0.5s,baz=86,slow=19,SNR=2.8						
OUZ	**Omahuta**	**15.27**	**203**	P	**P**	**06 09 18.2**	**+0.8**
KOUNC	**Koumac, New Ca**	**15.50**	**270**	P	**P**	**06 09 22.1**	**+2.3**
KOUNC				IAmb	IAmb	06 09 27.4	
	comp=Z,35nm,0.9s						
KUZ	**Kuaotunu**	**16.03**	**195**	P	**P**	**06 09 27.0**	**+2.6**
KUZ				S	**S**	**06 12 11.5**	**+6.3**
WIAZ	**Waiheke Island**	**16.23**	**197**	P	**P**	**06 09 28.9**	**+2.7**
MXZ	**Matakaoa Point**	**16.36**	**187**	P	**P**	**06 09 27.2**	**-0.3**
MXZ	**Matakaoa Point**	**16.36**	**187**	P	**P**	**06 09 28.0**	**+0.6**
MXZ	**Matakaoa Point**	**16.36**	**187**	P	**P**	**06 09 26.9**	**-0.5**
ETAZ	**East Tamaki Re**	**16.43**	**197**	P	**P**	**06 09 31.0**	**+2.9**
MKAZ	**Moumakai**	**16.52**	**196**	P	**P**	**06 09 31.3**	**+2.5**
WMGZ	**Waiomatatini S**	**16.60**	**187**	P	**P**	**06 09 30.1**	**+0.4**
HAZ	**Te Kaha**	**16.62**	**189**	P	**P**	**06 09 29.8**	**+0.1**
PKGZ	**Pakihiroa**	**16.71**	**188**	P	**P**	**06 09 30.1**	**-0.6**
PKGZ				S	**S**	**06 12 10.6**	**-5.8**
RUGZ	**Raukumara Rang**	**16.84**	**189**	P	**P**	**06 09 31.2**	**-0.7**
TGRZ	**Tauranga**	**16.86**	**193**	P	**P**	**06 09 34.4**	**+2.4**
PUZ	**Puketiti**	**16.87**	**187**	P	**P**	**06 09 33.0**	**+0.9**
PUZ				S	**S**	**06 12 15.6**	**-3.4**
TWGZ	**Tauwhareparae**	**17.01**	**188**	P	**P**	**06 09 34.1**	**+0.7**
TOZ	**Tahuroa Road**	**17.02**	**195**	P	**P**	**06 09 35.5**	**+2.0**
TOZ				IAmb	IAmb	06 09 36.7	
	comp=Z,52nm,1.4s						
TOZ	**Tahuroa Road**	**17.02**	**195**	P	**P**	**06 09 35.7**	**+2.2**
KMRZ	**Kaimai**	**17.04**	**193**	P	**P**	**06 09 36.1**	**+2.5**
URZ	**Urewera**	**17.21**	**190**	P	**P**	**06 09 35.0**	**-0.2**
URZ	**Urewera**	**17.21**	**190**	P	**P**	**06 09 33.3**	**-1.9**
	comp=Z,41nm,0.3s,baz=339,slow=2.7,SNR=37						
URZ				S	**S**	**06 12 18.1**	**-6.3**
	comp=Z,12nm,0.5s,baz=143,slow=20,SNR=5.6						
URZ	**Urewera**	**17.21**	**190**	P	**P**	**06 09 33.3**	**-1.9**
MWZ	**Matawai**	**17.23**	**189**	P	**P**	**06 09 34.5**	**-0.9**
CNGZ	**Carnagh Statio**	**17.28**	**187**	P	**P**	**06 09 35.8**	**-0.1**
TKGZ	**Te Karaka**	**17.28**	**188**	P	**P**	**06 09 36.0**	**+0.2**
TARZ	**Mount Tarawera**	**17.30**	**192**	P	**P**	**06 09 36.7**	**+0.6**
RRRZ	**Republican Roa**	**17.40**	**191**	P	**P**	**06 09 37.7**	**+0.8**
MUGZ	**Murupara**	**17.48**	**191**	P	**P**	**06 09 37.8**	**+0.1**
RIGZ	**Rimuhau**	**17.56**	**188**	P	**P**	**06 09 37.9**	**-0.5**
RTZ	**Ruatahuna**	**17.58**	**190**	P	**P**	**06 09 38.1**	**-0.6**
RTZ				IAmb	IAmb	06 09 58.5	
	comp=Z,14nm,0.9s						
RTZ	**Ruatahuna**	**17.58**	**190**	P	**P**	**06 09 37.9**	**-0.7**
BKZ	**Black Stump Fm**	**18.20**	**191**	P	**P**	**06 09 43.2**	**-1.1**
BFZ	**Birch Farm**	**19.72**	**190**	P	**P**	**06 09 57.8**	**-0.2**
SNZO	**South Karori**	**20.62**	**193**	P	**P**	**06 10 05.7**	**-0.4**
TKNZ	**Takaka Hill**	**20.79**	**197**	P	**P**	**06 10 07.8**	**+0.2**
THZ	**Tophouse**	**21.48**	**196**	P	**P**	**06 10 13.5**	**-0.3**
LTZ	**Lake Taylor**	**22.60**	**197**	P	**P**	**06 10 23.3**	**-0.5**
LTZ				IAmb	IAmb	06 10 25.7	
	comp=Z,28nm,0.9s						
OXZ	**Oxford**	**23.17**	**197**	P	**P**	**06 10 28.5**	**-0.3**
OXZ				IAmb	IAmb	06 10 28.7	
	comp=Z,19nm,0.8s						
MLZ	**Mavora Lakes**	**26.20**	**201**	P	**P**	**06 10 56.2**	**+0.7**
MLZ				IAmb	IAmb	06 11 13.3	
	comp=Z,29nm,1.3s						
WHZ	**Wether Hill Ro**	**26.72**	**200**	P	**P**	**06 11 00.3**	**+0.3**
EIDS	**Eidsvold**	**27.61**	**256**	P	**P**	**06 11 08.6**	**+0.5**
EIDS				IAmb	IAmb	06 11 09.4	
	comp=Z,10nm,0.6s						
ARMA	**Armidale**	**27.76**	**245**	P	**P**	**06 11 11.4**	**+1.9**
CTA	**Charters Tower**	**32.36**	**266**	P	**P**	**06 11 49.2**	**+0.2**
	comp=Z,23nm,0.4s,baz=91,slow=10,SNR=79						
	comp=Z,23nm,0.4s						
CTAO	**Charters Tower**	**32.36**	**266**	P	**P**	**06 11 49.5**	**+0.5**
RABL	**Rabaul**	**32.64**	**297**	P	**P**	**06 11 51.2**	**-0.2**
PMG	**Port Moresby**	**34.50**	**285**	P	**P**	**06 12 07.3**	**+0.5**
PMG	**Port Moresby**	**34.50**	**285**	P	**P**	**06 12 06.7**	**-0.1**
	comp=Z,33nm,0.7s,baz=78,slow=4.8,SNR=10						
	comp=Z,33nm,0.7s						
TOO	**Toolangi**	**34.57**	**234**	P	**P**	**06 12 08.5**	**+1.3**
TAU	**Tasmania Unive**	**35.31**	**225**	P	**P**	**06 12 14.2**	**+1.0**
PATS	**Pohnpei**	**35.66**	**319**	P	**P**	**06 12 17.0**	**+0.6**
STKA	**Stephens Creek**	**36.49**	**245**	P	**P**	**06 12 24.0**	**+0.9**
STKA	**Stephens Creek**	**36.49**	**245**	P	**P**	**06 12 23.3**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=107,slow=7.9,SNR=3.2						
	comp=Z,2.1nm,0.5s						
COEN	**Coen**	**36.58**	**275**	P	**P**	**06 12 24.8**	**+0.7**
COEN				IAmb	IAmb	06 12 25.5	
	comp=Z,21nm,0.7s						
MANU	**Manus Island**	**37.81**	**296**	P	**P**	**06 12 34.5**	**+0.4**
BBOO	**Buckleboo**	**41.24**	**244**	P	**P**	**06 13 01.7**	**+0.4**
BBOO				IAmb	IAmb	06 13 19.0	
	comp=Z,34nm,1.4s						
WAKE	**Wake Island**	**42.66**	**340**	P	**P**	**06 13 12.3**	**-0.1**
WR0	**Warramunga Arr**	**43.25**	**263**	P	**P**	**06 13 16.7**	**-0.4**
AS31	**Alice Springs**	**43.30**	**258**	P	**P**	**06 13 17.6**	**0.0**
ASAR	**Alice Springs**	**43.30**	**258**	P	**P**	**06 13 17.9**	**+0.4**
ASAR	**Alice Springs**	**43.30**	**258**	P	**P**	**06 13 17.2**	**-0.3**
	comp=Z,18nm,0.6s,baz=96,slow=7.7,SNR=134						
ASAR				ScP	**ScP**	**06 17 46.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=107,slow=4.2,SNR=6.2						
ASAR				S	**S**	**06 18 58.5**	**-4.3**
	comp=Z,4.1nm,0.7s,baz=94,slow=16,SNR=17						
	comp=Z,18nm,0.6s						
WB0	**Warramunga Arr**	**43.42**	**263**	P	**P**	**06 13 18.1**	**-0.3**
WB2	**Warramunga Arr**	**43.43**	**263**	P	**P**	**06 13 18.2**	**-0.3**
WB2				IAmb	IAmb	06 13 18.7	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**43.44**	**263**	P	**P**	**06 13 18.4**	**-0.2**
WRA	**Warramunga Arr**	**43.44**	**263**	P	**P**	**06 13 18.1**	**-0.6**
	comp=Z,7.5nm,0.3s,baz=97,slow=7.6,SNR=288						
WRA				S	**S**	**06 18 59.6**	**-5.2**
	comp=Z,1.2nm,0.8s,baz=98,slow=13,SNR=2.1						
	comp=Z,7.5nm,0.3s						
FORT	**Forrest**	**48.00**	**247**	P	**P**	**06 13 52.4**	**-0.6**
FORT				IAmb	IAmb	06 14 07.6	
	comp=Z,45nm,1.4s						
MTN	**Manton Dam**	**48.11**	**272**	P	**P**	**06 13 53.6**	**-0.4**
MTN				IAmb	IAmb	06 13 53.9	
	comp=Z,28nm,0.7s						
KNRA	**Kununurra**	**49.55**	**267**	P	**P**	**06 14 04.2**	**-0.3**
KNRA				IAmb	IAmb	06 14 04.7	
	comp=Z,15nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.87**	**263**	P	**P**	**06 14 21.7**	**+0.3**
SOEI	**Soe**	**55.47**	**273**		**P**	**06 14 48.0**	**+1.2**
SOEI				IAmb	IAmb	06 14 48.9	
	comp=Z,47nm,0.8s						
PSA00	**Pilbara Seismi**	**56.45**	**258**	P	**P**	**06 14 53.1**	**-0.3**
MBWA	**Marble Bar**	**56.64**	**258**	P	**P**	**06 14 54.2**	**-0.5**
SBA	**Scott Base**	**57.02**	**184**	P	**P**	**06 14 59.6**	**+3.4**
VNDA	**Vanda**	**57.03**	**185**	P	**P**	**06 14 58.7**	**+2.3**
VNDA	**Vanda**	**57.03**	**185**	P	**P**	**06 14 58.1**	**+1.7**
	comp=Z,4.0nm,0.5s,baz=2.6,slow=6.7,SNR=42						
	comp=Z,4.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**57.06**	**244**	P	**P**	**06 14 56.5**	**-0.9**
NWAO				IAmb	IAmb	06 15 21.4	
	comp=Z,45nm,1.4s						
MORW	**Morawa**	**58.54**	**248**	P	**P**	**06 15 07.2**	**-0.2**
JCJ	**Chichijima**	**60.96**	**320**	P	**P**	**06 15 23.0**	**-0.3**
GIRL	**Giralia**	**61.31**	**255**	P	**P**	**06 15 26.8**	**+0.9**
TOLI2	**Tolitoli**	**62.73**	**283**	P	**P**	**06 15 35.2**	**+0.1**
CASY	**Casey**	**62.79**	**205**	P	**P**	**06 15 35.2**	**+0.6**
CASY				IAmb	IAmb	06 15 36.1	
	comp=Z,23nm,1.2s						
QSPA	**South Pole Qui**	**68.78**	**180**	P	**P**	**06 16 13.4**	**+1.5**
QSPA				IAmb	IAmb	06 16 14.0	
	comp=Z,22nm,0.9s						
QSPA	**South Pole Qui**	**68.78**	**180**	P	**P**	**06 16 12.8**	**+0.9**
	comp=Z,14nm,0.6s,baz=29,slow=1.1,SNR=51						
	comp=Z,14nm,0.6s						
UGM	**Wanagama**	**68.89**	**270**	P	**P**	**06 16 13.2**	**-0.2**
KKM	**Kota Kinabalu**	**68.94**	**286**	P	**P**	**06 16 13.9**	**+0.2**
KKM				IAmb	IAmb	06 16 21.9	
	comp=Z,14nm,1.0s						
JOW	**Kunigami**	**69.87**	**311**	P	**P**	**06 16 19.3**	**+0.4**
JOW				IAmb	IAmb	06 16 27.4	
	comp=Z,52nm,1.5s						
JMM	**Marumori**	**69.87**	**327**	P	**P**	**06 16 18.6**	**0.0**
JMM				IAmb	IAmb	06 16 31.7	
	comp=Z,62nm,1.5s						
MJAR	**Matsushiro Arr**	**70.22**	**325**	P	**P**	**06 16 19.7**	**-1.0**
	comp=Z,6.6nm,0.6s,baz=162,slow=5.5,SNR=33						
	comp=Z,6.6nm,0.6s						
MAJO	**Matsushiro**	**70.23**	**325**	P	**P**	**06 16 20.3**	**-0.5**
MAJO				IAmb	IAmb	06 16 21.2	
	comp=Z,19nm,1.1s						
MJB9	**Matsu-Tunnel**	**70.23**	**325**	P	**P**	**06 16 20.1**	**-0.7**
MJB9				IAmb	IAmb	06 16 21.2	
	comp=Z,19nm,1.1s						
JTM	**Tenmabayashi**	**71.99**	**329**	P	**P**	**06 16 31.3**	**+0.4**
JNU	**Nakatsue**	**72.13**	**318**	P	**P**	**06 16 31.6**	**-0.3**
YOJ	**Yonaguni jima**	**72.33**	**306**	P	**P**	**06 16 33.1**	**-0.2**
ADK	**Adak**	**72.89**	**2**	P	**P**	**06 16 35.7**	**-0.2**
YULB	**Yu-li**	**73.05**	**304**	P	**P**	**06 16 36.2**	**-1.2**
YULB				IAmb	IAmb	06 17 03.2	
	comp=Z,49nm,1.5s						
SSLB	**Suanglung**	**73.53**	**304**	IAmb	IAmb	06 16 39.9	
	comp=Z,18nm,0.8s						
PEA0B	**Petropavlovsk-**	**76.77**	**346**	P	**P**	**06 16 57.5**	**0.0**
PEA0B				IAmb	IAmb	06 17 17.0	
	comp=Z,30nm,1.2s						
PETK	**Petropavlovsk-**	**76.77**	**346**	P	**P**	**06 16 57.2**	**-0.2**
PETK	**Petropavlovsk-**	**76.77**	**346**	P	**P**	**06 16 57.1**	**-0.4**
	comp=Z,8.4nm,0.7s,baz=148,slow=3.7,SNR=26						
	comp=Z,8.4nm,0.7s						
KSRS	**Korea Array**	**76.78**	**319**	P	**P**	**06 16 57.6**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=125,slow=6.3,SNR=5.8						
	comp=Z,1.3nm,0.6s						
SMAI	**San Martin Ant**	**78.25**	**159**	P	**P**	**06 17 06.8**	**+1.5**
SMAI				IAmb	IAmb	06 17 07.7	
	comp=Z,27nm,0.8s						
BELA	**Belgrano 2**	**78.91**	**173**	P	**P**	**06 17 09.0**	**+0.3**
BELA				IAmb	IAmb	06 17 09.6	
	comp=Z,20nm,1.0s						
USA0B	**Ussuriysk Arra**	**79.03**	**327**	P	**P**	**06 17 11.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**79.03**	**327**	P	**P**	**06 17 10.6**	**+0.9**
USRK	**Ussuriysk Ar.**	**79.03**	**327**	P	**P**	**06 17 09.9**	**+0.2**
	comp=Z,7.5nm,0.9s,baz=111,slow=3.1,SNR=9.9						
	comp=Z,7.5nm,0.9s						
CHGN	**Chignik**	**79.26**	**12**	P	**P**	**06 17 10.9**	**+0.3**
NJ2	**Nanjing**	**79.57**	**310**	*e*P	**P**	**06 17 15.2**	**+2.3**
NJ2				pP	**PcP**	**06 17 17.6**	**-0.8**

NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,140nm,4.0s						
R17K	**Ugashik Creek**	**80.90**	**12**	P	**P**	**06 17 19.1**	**-0.1**
R17K				IAmb	IAmb	06 17 26.2	
	comp=Z,47nm,1.2s						
OHAK	**Old Harbor**	**81.17**	**14**	P	**P**	**06 17 20.8**	**+0.3**
OHAK				IAmb	IAmb	06 17 35.1	
	comp=Z,39nm,1.3s						
CN2	**Changchun**	**82.28**	**323**	P	**P**	**06 17 26.6**	**0.0**
NVAR	**Mina Array Bea**	**82.33**	**44**	P	**P**	**06 17 27.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=226,slow=7.4,SNR=6.9						
	comp=Z,0.5nm,0.6s						
M13K	**Dall Lake**	**82.42**	**8**	P	**P**	**06 17 27.9**	**+1.1**
O16K	**Kokwok River B**	**82.42**	**11**	P	**P**	**06 17 26.2**	**-0.7**
BNX	**BinXian**	**82.46**	**325**	⇑P	**P**	**06 17 27.2**	**-0.2**
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
BNX				pmax	pmax		
	comp=Z,160nm,5.4s						
N15K	**Kwethluk River**	**82.64**	**9**	P	**P**	**06 17 28.9**	**+0.9**
N15K				IAmb	IAmb	06 17 29.4	
	comp=Z,21nm,0.7s						
M16K	**Timber Creek**	**83.63**	**10**	P	**P**	**06 17 33.6**	**+0.8**
M16K				IAmb	IAmb	06 17 34.7	
	comp=Z,18nm,1.4s						
O19K	**Port Alsworth**	**83.68**	**12**	IAmb	IAmb	06 17 33.0	
	comp=Z,16nm,0.5s						
GSI	**Gunungsitoli**	**84.21**	**274**	P	**P**	**06 17 37.2**	**+0.4**
K15K	**Wolf Creek Mou**	**84.48**	**8**	P	**P**	**06 17 37.8**	**+0.8**
L18K	**Granite Mounta**	**85.13**	**10**	P	**P**	**06 17 40.5**	**+0.4**
L19K	**White Mountain**	**85.42**	**11**	P	**P**	**06 17 42.2**	**+0.6**
HEH	**HeiHe**	**85.43**	**329**	*e*P	**P**	**06 17 41.9**	**0.0**
ELIB	**Princess Elisa**	**85.73**	**187**	*d*P	**P**	**06 17 43.1**	**-0.2**
	comp=Z,14nm,0.8s						
GHO	**Glory Hole Cre**	**86.24**	**14**	IAmb	IAmb	06 17 46.0	
	comp=Z,12nm,0.7s						
TROLL	**Troll, Antarti**	**86.93**	**181**	⇑P	**P**	**06 17 48.7**	**-0.3**
	comp=Z,290nm,0.5s						
CAST	**Castle Rocks**	**87.07**	**12**	P	**P**	**06 17 48.1**	**-1.2**
CAST				IAmb	IAmb	06 17 48.5	
	comp=Z,7.3nm,0.7s						
VRDI	**Verde Repeater**	**87.11**	**16**	P	**P**	**06 17 49.9**	**+0.1**
VRDI				IAmb	IAmb	06 17 58.4	
	comp=Z,18nm,1.4s						
VNA3	**Neumayer Olymp**	**87.42**	**177**	⇓P	**P**	**06 17 50.7**	**-0.4**
	comp=Z,9.9nm,0.4s						
TRF	**Thorofare Moun**	**87.45**	**13**	P	**P**	**06 17 50.7**	**-0.6**
TRF				IAmb	IAmb	06 17 51.4	
	comp=Z,14nm,0.8s						
RND	**Reindeer**	**87.71**	**13**	IAmb	IAmb	06 17 52.7	
	comp=Z,14nm,0.8s						
XLT	**XiLinHaoTe**	**87.83**	**319**	*e*P	P	06 17 48.2	-5.3
XLT				pP	pP	06 20 00.4	-1.6
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,5.1s						
VNA2	**Neumayer--Watz**	**87.85**	**177**	⇓P	**P**	**06 17 53.0**	**-0.1**
	comp=Z,0.4nm,0.2s,baz=193,slow=6.0						
TXAR	**Lajitas Array**	**88.38**	**58**	P	**P**	**06 17 56.4**	**0.0**
	comp=Z,0.3nm,0.7s,baz=212,slow=4.4,SNR=3.9						
	comp=Z,0.3nm,0.7s						
HDA	**Harding Lake**	**89.00**	**13**	P	**P**	**06 17 58.0**	**-0.3**
HDA				IAmb	IAmb	06 17 58.2	
	comp=Z,4.9nm,0.6s						
CCB	**Clear Creek Bu**	**89.02**	**13**	P	**P**	**06 17 57.8**	**-0.5**
CCB				IAmb	IAmb	06 17 58.0	
	comp=Z,4.8nm,0.5s						
HHC	**Hu-ho-hao-te**	**89.15**	**315**	*e*P	**P**	**06 17 59.0**	**-0.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
IL31		**89.32**	**13**	IAmb	IAmb	06 18 00.3	
	comp=Z,8.9nm,1.4s						
ILAR	**Eielson Array**	**89.32**	**13**	P	**P**	**06 17 58.8**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=215,slow=5.1,SNR=50						
	comp=Z,1.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**06 18 01.9**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=127,slow=3.0,SNR=22						
	comp=Z,2.8nm,0.7s						
PLCA	**Paso Flores**	**89.50**	**134**	P	**P**	**06 18 02.3**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=238,slow=4.2,SNR=11						
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**89.51**	**290**	P	**P**	**06 18 02.5**	**+0.8**
CHTO				IAmb	IAmb	06 18 03.2	
	comp=Z,4.2nm,0.6s						
E19K	**Redstone River**	**89.97**	**8**	IAmb	IAmb	06 18 03.4	
	comp=Z,8.0nm,1.1s						
PZH	**PanZhiHua**	**90.14**	**298**	P	**P**	**06 18 05.2**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
PDAR	**Pinedale Array**	**90.27**	**44**	P	**P**	**06 18 04.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=211,slow=2.4,SNR=3.7						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**110.97**	**313**	PKiKP	**PKiKP**	**06 23 31.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=174,slow=1.0,SNR=7.0						
BVAR	**Borovoye Array**	**119.00**	**320**	PKP	**PKPdf**	**06 23 46.7**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=118,slow=2.5,SNR=21						
SPITS	**Spitsbergen Ar**	**122.59**	**356**	PKP	**PKPdf**	**06 23 53.2**	**-1.1**
	comp=Z,13nm,0.9s,baz=99,slow=5.2,SNR=5.9						
ARCES	**ARCESS Array B**	**129.50**	**349**	PKP	**PKPdf**	**06 24 06.8**	**-0.9**
	comp=Z,3.8nm,1.0s,baz=328,slow=4.3,SNR=3.8						
FINES	**FINESS Array B**	**136.22**	**343**	PKhKP	PKPpre	06 24 08.2	
	comp=Z,4.5nm,1.0s,baz=29,slow=3.2,SNR=4.7						
FINES				PKP	**PKPdf**	**06 24 20.8**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=90,slow=1.4,SNR=1.7						
FINES				SKPbc	**SKPbc**	**06 26 56.0**	**-0.8**
	comp=Z,5.3nm,1.1s,baz=32,slow=3.4,SNR=5.4						
NOA	**NORSAR Array B**	**139.63**	**352**	PKhKP	PKPpre	06 24 16.6	
	comp=Z,1.0nm,0.9s,baz=17,slow=1.6,SNR=5.7						
HFS	**Hagfors**	**140.14**	**350**	PKhKP	PKPpre	06 24 20.1	
	comp=Z,1.5nm,0.3s,baz=64,slow=3.4,SNR=18						
STRU	**Stroemstad**	**141.57**	**351**	*i* P	**PKPdf**	**06 24 25.0**	**-5.3**
TJOU	**Tjoern**	**142.48**	**351**	*i* P	**PKPdf**	**06 24 27.8**	**-4.0**
SNART	**Snartemo**	**142.71**	**354**	*i* P	**PKPdf**	**06 24 29.1**	**-3.2**
ONAU	**Onsala**	**143.04**	**350**	*i* P	PKPab	06 24 29.7	-1.1
AKASG	**Malin Array Be**	**143.17**	**330**		PKPab	06 24 30.8	-0.7
AKASG	**Malin Array Be**	**143.17**	**330**	PKhKP	PKPpre	06 24 30.2	
	comp=Z,8.4nm,0.4s,baz=42,slow=4.2,SNR=105						
AKBB	**Malin Array Si**	**143.17**	**330**	PKPdf	PKPab	06 24 30.9	-0.6
KIEV	**Kiev**	**143.19**	**330**	⇑P	PKPab	06 24 31.6	+0.1
KIEV	**Kiev**	**143.19**	**330**	PKPdf	PKPab	06 24 30.8	-0.8
ARPR	**Arapgir-MALATY**	**143.38**	**307**		**PKPdf**	**06 24 33.9**	**-0.4**
LUNU	**Lund**	**144.44**	**348**	*i* P	**PKPdf**	**06 24 34.9**	**-0.5**
BNN	**Bunyan**	**145.30**	**308**		**PKPbc**	**06 24 38.9**	**0.0**
SORM	**Soroca**	**145.31**	**327**	⇑P	**PKPdf**	**06 24 37.4**	**+0.3**
MILM	**Milestii Mici**	**145.85**	**325**	⇑P	**PKPbc**	**06 24 39.2**	**-0.7**
EKA	**Eskdalemuir Ar**	**145.88**	**4**	PKPbc	**PKPbc**	**06 24 39.0**	**-0.8**
	comp=Z,3.5nm,0.6s,baz=358,slow=3.2,SNR=13						
BR131	**Keskin Array S**	**146.56**	**311**		**PKPbc**	**06 24 41.4**	**-1.0**
BRTR	**Keskin Array B**	**146.56**	**311**	PKPdf	**PKPdf**	**06 24 38.5**	**-1.2**
BRTR				PKPbc	**PKPbc**	**06 24 41.7**	**-0.7**
BRTR	**Keskin Array B**	**146.56**	**311**	PKPbc	**PKPbc**	**06 24 41.5**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=144,slow=3.0,SNR=19						
TLCR		**146.91**	**323**	⇓P	**PKPbc**	**06 24 42.8**	**-0.1**
GHRR		**147.14**	**325**	⇑P	**PKPbc**	**06 24 44.0**	**+0.5**
MMAI	**Mount Meron Ar**	**147.26**	**298**	PKPbc	**PKPbc**	**06 24 44.0**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=73,slow=2.8,SNR=6.1						
TPGR	**Topolog**	**147.33**	**322**	⇓P	**PKPbc**	**06 24 44.4**	**+0.4**
KOLS	**Kolonicke sedl**	**147.56**	**333**	*e*PKP	**PKPbc**	**06 24 44.8**	**+0.3**
VRI	**Vrincioaia**	**147.63**	**325**	⇓P	**PKPbc**	**06 24 44.6**	**-0.2**
TURR	**Turia**	**147.88**	**326**	⇑P	**PKPab**	**06 24 50.9**	**+0.6**
DOPR	**Dopca**	**148.26**	**327**	⇑P	**PKPbc**	**06 24 45.9**	**-0.5**
MLR	**Muntele Rosu**	**148.29**	**325**	⇑P	**PKPbc**	**06 24 46.8**	**+0.1**
OSTC	**Ostas**	**148.39**	**341**	⇑*e*PKP	**PKPbc**	**06 24 46.9**	**+0.3**
OSTC				*e*PKPAB	**PKPab**	**06 24 52.1**	**-0.1**
CHVC	**Chvalec**	**148.41**	**341**	⇑*e*PKP	**PKPab**	**06 24 51.7**	**-0.6**
LANS	**Liptovska Anna**	**148.50**	**336**	*e*PKP	**PKiKP**	**06 24 47.7**	**-0.3**
UPC	**Upice**	**148.50**	**341**	*e*PKPAB	**PKPab**	**06 24 52.6**	**0.0**
DPC	**Dobruska-Polom**	**148.54**	**341**	⇑*e*PKP	**PKPbc**	**06 24 46.7**	**-0.3**
DPC				*e*PKPAB	**PKPab**	**06 24 52.9**	**0.0**
KRLC	**Kraliky**	**148.64**	**340**	⇑*e*PKP	**PKPbc**	**06 24 46.2**	**-1.0**
KRLC				*e*PKPAB	**PKPab**	**06 24 51.8**	**-1.5**
MORC	**Moravsky Berou**	**148.65**	**339**	⇑P	**PKPbc**	**06 24 47.4**	**+0.1**
MORC	**Moravsky Berou**	**148.65**	**339**	*e*PKP	**PKPbc**	**06 24 47.2**	**-0.1**
VOIR		**148.79**	**326**	⇑P	**PKPbc**	**06 24 47.8**	**0.0**
MARR	**Marisel-Cluj**	**148.88**	**330**	⇓P	**PKPbc**	**06 24 48.1**	**+0.1**
PVCC	**Panska Ves**	**148.89**	**343**	*e*PKPAB	**PKPab**	**06 24 54.6**	**+0.4**
MAUC	**Maruska**	**148.91**	**338**	⇑*e*PKP	**PKPbc**	**06 24 47.9**	**0.0**
VYHS	**Vyhne**	**149.27**	**336**	*e*PKP	**PKPbc**	**06 24 48.7**	**-0.1**
LOZB	**Loznitsa**	**149.28**	**322**	⇑P	**PKPdf**	**06 24 45.4**	**+1.5**
VRAC	**Vranov**	**149.37**	**340**	⇑P	**PKPbc**	**06 24 48.9**	**-0.1**
VRAC	**Vranov**	**149.37**	**340**	*e*PKP	**PKPbc**	**06 24 48.7**	**-0.3**
PRU	**Pruhonice**	**149.38**	**343**	⇑*e*PKP	**PKPbc**	**06 24 48.5**	**-0.5**
JAVC	**Velka Javorina**	**149.39**	**338**	*e*PKP	**PKiKP**	**06 24 49.9**	**0.0**
LOT	**Lotru**	**149.44**	**327**	⇓P	**PKPbc**	**06 24 48.8**	**-0.6**
KRUC	**Moravsky**	**149.65**	**340**	*e*PKP	**PKPbc**	**06 24 49.4**	**-0.2**
NKC	**Novy Kostel**	**149.70**	**345**	⇑*e*PKP	**PKPbc**	**06 24 49.3**	**-0.5**
TREC	**Trest**	**149.73**	**341**	⇑*e*PKP	**PKPbc**	**06 24 49.5**	**-0.3**
MODS	**Modra-Piesok**	**149.94**	**338**	*e*PKP	**PKiKP**	**06 24 50.8**	**-0.2**
ELND	**Elena**	**149.96**	**322**	⇑P	**PKPbc**	**06 24 50.9**	**+0.3**
GZR	**Gura Zlata**	**149.97**	**328**	⇑P	**PKPbc**	**06 24 49.9**	**-0.7**
ZVC	**Zvikov**	**149.98**	**342**	⇑*e*PKP	**PKPbc**	**06 24 49.7**	**-0.7**
ZVC				*e*PKPAB	**PKPab**	**06 24 58.2**	**-0.6**
SURR	**Surduc**	**150.03**	**329**	⇓P	**PKPbc**	**06 24 49.9**	**-0.7**
KHC	**Kasperske Hory**	**150.43**	**343**	⇑*e*PKP	**PKPbc**	**06 24 50.9**	**-0.6**
KHC				*e*PKPAB	**PKPab**	**06 25 00.6**	**-0.2**
MEM	**Membach**	**150.46**	**353**	*d*PKP	**PKPab**	**06 25 00.1**	**-0.7**
BTNL	**Ternell**	**150.47**	**353**	*d*PKiKP	**PKPbc**	**06 24 51.2**	**-0.3**
CKRC	**Cesky Krumlov**	**150.50**	**342**	⇑*e*PKP	**PKPbc**	**06 24 51.1**	**-0.6**
HERR	**Herculane**	**150.52**	**328**	⇑P	**PKPbc**	**06 24 51.2**	**-0.6**
BSTI	**Sart Tilman**	**150.53**	**354**	*d*PKP	**PKPab**	**06 24 59.5**	**-1.6**
GERES	**GERESS Array B**	**150.65**	**343**	PKPbc	**PKPbc**	**06 24 51.1**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=45,slow=2.1,SNR=11						
GERES				PKPab	**PKPab**	**06 25 01.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=99,slow=6.1,SNR=4.6						
BCLA	**Clavier**	**150.72**	**354**	*d*PcP	**PKPab**	**06 25 00.8**	**-1.1**
BGES	**Gesves**	**150.78**	**354**	*d*PKP	**PKPab**	**06 25 01.7**	**-0.4**
BGES				*d*pPKP	**pPKPdf**	**06 27 03.5**	**-1.4**
CONA	**Conrad Observa**	**150.81**	**339**	*i* PKP	**PKPbc**	**06 24 52.1**	**-0.4**
	comp=Z,3.2nm,0.7s						
CONA				*i* PKP	**PKPab**	**06 25 02.7**	**+0.3**
	comp=Z,2.6nm,0.6s						
RONA	**Rosalia, Austr**	**150.86**	**338**	*e*PKP	**PKPbc**	**06 24 52.2**	**-0.3**
	comp=Z,2.3nm,0.4s						
RONA				*i* PKP	**PKPab**	**06 25 03.0**	**+0.3**
	comp=Z,1.5nm,0.5s						
MDVR	**Moldovita**	**150.94**	**329**	⇓P	**PKPbc**	**06 24 51.7**	**-1.1**
MORH	**Mrgy, Hungar**	**151.21**	**334**	⇑P	**PKPbc**	**06 24 52.8**	**-0.5**
MOA	**Molln**	**151.39**	**341**	*e*PKP	**PKPbc**	**06 24 53.0**	**-0.7**
	comp=Z,0.9nm,0.4s						
MOA				*e*PKP	**PKPab**	**06 25 04.9**	**+0.1**
	comp=Z,1.1nm,0.5s						
FRGS	**Fruska Gora**	**151.54**	**331**	⇑P	**PKPbc**	**06 24 53.7**	**-0.4**
LESA	**Schwarzleotal**	**152.23**	**343**	*e*PKP	**PKPbc**	**06 24 54.7**	**-0.9**
	comp=Z,1.1nm,0.4s						
KBA	**Koelnbreinsper**	**152.35**	**341**	*e*PKP	**PKPbc**	**06 24 55.4**	**-0.6**
	comp=Z,1.0nm,0.4s						
KBA				*i* PKP	**PKPab**	**06 25 09.6**	**+0.4**
	comp=Z,1.2nm,0.4s						
WATA	**Walderalm**	**152.61**	**344**	*i* PKP	**PKPbc**	**06 24 55.6**	**-1.0**
	comp=Z,1.1nm,0.4s						
WATA				*i* PKP	**PKPab**	**06 25 10.4**	**+0.2**
	comp=Z,1.2nm,0.4s						
WTTA	**Wattenberg**	**152.66**	**344**	*e*PKP	**PKPbc**	**06 24 56.1**	**-0.6**
	comp=Z,1.3nm,0.3s						
MYKA	**Terra Mystica**	**152.67**	**341**	*i* PKP	**PKPbc**	**06 24 55.2**	**-1.4**
	comp=Z,1.4nm,0.3s						
MYKA				*e*PKP	**PKPab**	**06 25 09.6**	**-0.8**
	comp=Z,2.6nm,0.5s						
RETA	**Reutte**	**152.67**	**345**	*i* PKP	**PKPab**	**06 25 10.0**	**-0.3**
	comp=Z,0.8nm,0.3s						
MOTA	**Moosalm**	**152.72**	**345**	*i* PKP	**PKPbc**	**06 24 56.0**	**-0.8**
	comp=Z,0.6nm,0.3s						
MOTA				*e*PKP	**PKPab**	**06 25 10.2**	**-0.4**
	comp=Z,1.0nm,0.4s						
SQTA	**Sankt Quirin**	**152.81**	**344**	*e*PKP	**PKPab**	**06 25 10.8**	**-0.2**
	comp=Z,1.4nm,0.6s						
PRED	**Cave del Predi**	**152.86**	**341**		**PKPab**	**06 25 10.4**	**-0.8**
ABTA	**Abfaltersbach**	**152.90**	**342**	*i* PKP	**PKPbc**	**06 24 55.9**	**-1.2**
	comp=Z,1.2nm,0.5s						
ABTA				*e*PKP	**PKPab**	**06 25 10.8**	**-0.5**
	comp=Z,1.4nm,0.4s						
DAVA	**Damuels**	**153.06**	**346**	*e*PKP	**PKPab**	**06 25 11.9**	**-0.2**
	comp=Z,1.1nm,0.4s						
ESDC	**Sonseca Array**	**161.22**	**12**	PKPab	**PKPab**	**06 25 47.2**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=348,slow=3.7,SNR=2.8						
DBIC	**Dimbokro**	**164.45**	**158**	PKPab	**PKPab**	**06 26 02.0**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=180,slow=5.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**171.86**	**186**	PKPab	**PKPab**	**06 26 34.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=156,slow=2.1,SNR=6.4						
TORD				PP	**PP**	**06 30 25.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=154,slow=2.4,SNR=3.7						

NEIC ***07*** *06:07:47.4±1.6, 21°.2S±0°.1×179°.0W±0°.1, h564km±8km, mb4.5/50, Error ellipse: s-maj=20.4km s-min=17.2km az=72.0*

IDC ***07*** *06:07:49.8±1.8, 21°.18S×179°.14W, h595km±20km, mb3.7/16, mbtmp4.6/18, Error ellipse: s-maj=15.6km s-min=12.8km az=73.0*

ISC 07 06:07:50.5±0.4**, 21°.33S**±0°.07×**179°.22W**±0°.08**, h602**km**, n126,** σ1.09/144**, mb4.5**/41**, 12C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.98**	**172**	P	P	06 09 44.6	-5.0
	302nm,0.3s,baz=259,slow=23,SNR=8.1						
RAO				S	**S**	**06 11 25.2**	**-2.0**
	176nm,0.3s,baz=90,slow=20,SNR=1.7						
MARNC	**Mare, Loyalty**	**11.88**	**267**	P	**P**	**06 10 26.9**	**-1.2**
DZM	**Mont Dzumac**	**13.35**	**264**	P	**P**	**06 10 43.1**	**0.0**
DZM	**Mont Dzumac**	**13.35**	**264**	P	**P**	**06 10 42.6**	**-0.5**
	4.6nm,0.5s,baz=94,slow=16,SNR=2.2						
KOUNC	**Koumac, New Ca**	**15.43**	**270**	P	**P**	**06 11 05.9**	**+3.3**
KOUNC				IAmb	IAmb	06 11 06.6	
	comp=Z,19nm,0.7s						
MXZ	**Matakaoa Point**	**16.32**	**187**	P	**P**	**06 11 10.6**	**+0.1**
URZ	**Urewera**	**17.17**	**190**	P	**P**	**06 11 18.1**	**-0.2**
	comp=Z,10nm,0.3s,baz=18,slow=3.5,SNR=6.4						
URZ				S	**S**	**06 14 00.7**	**-6.5**
	comp=Z,7.7nm,0.9s,baz=217,slow=20,SNR=1.3						
BFZ	**Birch Farm**	**19.67**	**190**	P	**P**	**06 11 41.1**	**0.0**
EIDS	**Eidsvold**	**27.54**	**256**	P	**P**	**06 12 52.1**	**+1.1**
EIDS				IAmb	IAmb	06 12 52.7	
	comp=Z,5.8nm,0.6s						
ARMA	**Armidale**	**27.68**	**245**	P	**P**	**06 12 54.5**	**+2.1**
CTA	**Charters Tower**	**32.29**	**266**	P	**P**	**06 13 32.7**	**+0.9**
	comp=Z,16nm,0.4s,baz=91,slow=10,SNR=24						
	comp=Z,16nm,0.4s						
CTAO	**Charters Tower**	**32.29**	**266**	P	**P**	**06 13 32.8**	**+0.9**
PMG	**Port Moresby**	**34.44**	**285**	P	**P**	**06 13 50.5**	**+0.6**
PMG	**Port Moresby**	**34.44**	**285**	P	**P**	**06 13 50.1**	**+0.2**
	comp=Z,30nm,0.8s,baz=121,slow=3.8,SNR=7.0						
	comp=Z,30nm,0.8s						
STKA	**Stephens Creek**	**36.41**	**245**	P	**P**	**06 14 07.3**	**+1.4**
STKA	**Stephens Creek**	**36.41**	**245**	P	**P**	**06 14 07.0**	**+1.0**
	comp=Z,3.1nm,0.4s,baz=85,slow=12,SNR=6.6						
	comp=Z,3.1nm,0.4s						
COEN	**Coen**	**36.51**	**275**	P	**P**	**06 14 08.0**	**+1.0**
COEN				IAmb	IAmb	06 14 08.8	
	comp=Z,16nm,0.8s						
BBOO	**Buckleboo**	**41.16**	**244**	P	**P**	**06 14 44.7**	**+0.6**
WR0	**Warramunga Arr**	**43.18**	**263**	P	**P**	**06 15 00.3**	**+0.2**
WR0				IAmb	IAmb	06 15 00.6	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**43.23**	**258**	P	**P**	**06 15 01.1**	**+0.6**
ASAR	**Alice Springs**	**43.23**	**258**	P	**P**	**06 15 01.2**	**+0.8**
ASAR	**Alice Springs**	**43.23**	**258**	P	**P**	**06 15 00.8**	**+0.4**
	comp=Z,17nm,0.6s,baz=86,slow=8.6,SNR=28						
ASAR				PcP	**PcP**	**06 16 35.5**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=103,slow=5.7,SNR=2.9						
ASAR				ScP	**ScP**	**06 19 31.5**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=98,slow=4.7,SNR=7.1						
ASAR				S	**S**	**06 20 42.5**	**-2.7**
	comp=Z,2.5nm,0.7s,baz=93,slow=16,SNR=9.7						
	comp=Z,17nm,0.6s						
WB0	**Warramunga Arr**	**43.35**	**263**	P	**P**	**06 15 01.6**	**+0.2**
WB2	**Warramunga Arr**	**43.35**	**263**	P	**P**	**06 15 01.3**	**-0.1**
WB2				IAmb	IAmb	06 15 02.0	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**43.37**	**263**	P	**P**	**06 15 01.7**	**+0.2**
WRA	**Warramunga Arr**	**43.37**	**263**	P	**P**	**06 15 01.2**	**-0.3**
	comp=Z,9.2nm,0.5s,baz=97,slow=7.6,SNR=26						
WRA				S	**S**	**06 20 42.6**	**-4.5**
	comp=Z,1.0nm,0.9s,baz=97,slow=13,SNR=2.6						
	comp=Z,9.2nm,0.5s						
FORT	**Forrest**	**47.92**	**247**	P	**P**	**06 15 36.3**	**+0.4**
FORT				IAmb	IAmb	06 15 55.7	
	comp=Z,19nm,0.9s						
MTN	**Manton Dam**	**48.04**	**272**	P	**P**	**06 15 37.1**	**+0.2**
MTN				IAmb	IAmb	06 15 37.5	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**49.48**	**267**	P	**P**	**06 15 47.6**	**+0.1**
KNRA				IAmb	IAmb	06 15 48.0	
	comp=Z,13nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.80**	**263**	P	**P**	**06 16 04.9**	**+0.6**
SOEI	**Soe**	**55.40**	**273**		**P**	**06 16 31.3**	**+1.4**
PSA00	**Pilbara Seismi**	**56.38**	**258**	P	**P**	**06 16 36.4**	**+0.1**
PSA00				IAmb	IAmb	06 16 37.4	
	comp=Z,22nm,1.1s						
MBWA	**Marble Bar**	**56.57**	**258**	P	**P**	**06 16 37.6**	**-0.1**
MBWA				IAmb	IAmb	06 16 38.2	
	comp=Z,14nm,0.7s						
SBA	**Scott Base**	**56.98**	**184**	P	**P**	**06 16 41.1**	**+1.6**
VNDA	**Vanda**	**56.99**	**185**		**P**	**06 16 40.6**	**+1.0**
VNDA	**Vanda**	**56.99**	**185**	P	**P**	**06 16 41.0**	**+1.4**
	comp=Z,2.2nm,0.5s,baz=6.9,slow=6.2,SNR=7.3						
	comp=Z,2.2nm,0.5s						
MMRI	**Maumere**	**57.66**	**273**	P	**P**	**06 16 45.1**	**-0.1**
MORW	**Morawa**	**58.47**	**248**	P	**P**	**06 16 50.9**	**+0.5**
GIRL	**Giralia**	**61.24**	**255**	P	**P**	**06 17 10.2**	**+1.4**
TOLI2	**Tolitoli**	**62.67**	**283**	P	**P**	**06 17 18.9**	**+0.7**
TOLI2				IAmb	IAmb	06 17 20.2	
	comp=Z,10nm,0.6s						
CASY	**Casey**	**62.73**	**205**	P	**P**	**06 17 18.5**	**+0.9**
JAGI	**Jajag, Banyuwa**	**65.25**	**270**	P	**P**	**06 17 33.6**	**-0.9**
JAGI				IAmb	IAmb	06 17 34.1	
	comp=Z,21nm,1.0s						
MYLDM	**Lahad Datu**	**66.46**	**286**	P	**P**	**06 17 42.0**	**0.0**
MYLDM				IAmb	IAmb	06 17 57.1	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**68.74**	**180**	P	**P**	**06 17 56.9**	**+1.7**
QSPA				IAmb	IAmb	06 17 57.4	
	comp=Z,15nm,0.9s						
QSPA	**South Pole Qui**	**68.74**	**180**	P	**P**	**06 17 55.9**	**+0.7**
	comp=Z,11nm,0.7s,baz=22,slow=2.5,SNR=11						
	comp=Z,11nm,0.7s						
UGM	**Wanagama**	**68.81**	**270**	P	**P**	**06 17 56.6**	**+0.1**
KKM	**Kota Kinabalu**	**68.88**	**286**	P	**P**	**06 17 57.5**	**+0.6**
KKM				IAmb	IAmb	06 18 09.3	
	comp=Z,12nm,1.1s						
JOW	**Kunigami**	**69.84**	**311**	P	**P**	**06 18 02.7**	**+0.5**
JOW				IAmb	IAmb	06 18 03.2	
	comp=Z,25nm,1.0s						
MJAR	**Matsushiro Arr**	**70.21**	**325**	P	**P**	**06 18 03.5**	**-0.7**
	comp=Z,4.9nm,0.6s,baz=162,slow=5.5,SNR=21						
	comp=Z,4.9nm,0.6s						
MAJO	**Matsushiro**	**70.21**	**325**	P	**P**	**06 18 04.1**	**-0.1**
MAJO				IAmb	IAmb	06 18 04.1	
	comp=Z,6.5nm,0.5s						
MJB9	**Matsu-Tunnel**	**70.22**	**325**	P	**P**	**06 18 04.0**	**-0.3**
MJB9				IAmb	IAmb	06 18 06.6	
	comp=Z,11nm,1.2s						
JTM	**Tenmabayashi**	**71.99**	**329**	P	**P**	**06 18 14.7**	**+0.3**
ADK	**Adak**	**72.93**	**2**	P	**P**	**06 18 18.8**	**-0.7**
YULB	**Yu-li**	**73.01**	**304**	P	**P**	**06 18 20.0**	**-0.7**
YULB				IAmb	IAmb	06 18 21.4	
	comp=Z,12nm,0.8s						
KSRS	**Korea Array**	**76.76**	**319**	P	**P**	**06 18 41.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=134,slow=7.2,SNR=4.1						
	comp=Z,1.1nm,0.7s						
PEA0B	**Petropavlovsk-**	**76.79**	**346**	P	**P**	**06 18 40.9**	**-0.2**
PEA0B				IAmb	IAmb	06 18 41.5	
	comp=Z,22nm,0.9s						
PETK	**Petropavlovsk-**	**76.79**	**346**	P	**P**	**06 18 40.5**	**-0.6**
PETK	**Petropavlovsk-**	**76.79**	**346**	P	**P**	**06 18 40.3**	**-0.8**
	comp=Z,6.8nm,0.7s,baz=177,slow=3.7,SNR=13						
	comp=Z,6.8nm,0.7s						
SMAI	**San Martin Ant**	**78.24**	**159**	P	**P**	**06 18 50.4**	**+1.7**
SMAI				IAmb	IAmb	06 18 51.5	
	comp=Z,19nm,0.9s						
BELA	**Belgrano 2**	**78.88**	**173**	P	**P**	**06 18 52.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**79.02**	**327**	P	**P**	**06 18 53.1**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=108,slow=6.2,SNR=5.5						
	comp=Z,3.5nm,0.7s						
R17K	**Ugashik Creek**	**80.95**	**12**	P	**P**	**06 19 02.6**	**-0.3**
NVAR	**Mina Array Bea**	**82.41**	**44**	P	**P**	**06 19 11.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=226,slow=7.9,SNR=3.7						
	comp=Z,0.2nm,0.5s						
O16K	**Kokwok River B**	**82.47**	**11**	P	**P**	**06 19 09.2**	**-1.4**
GSI	**Gunungsitoli**	**84.14**	**274**	P	**P**	**06 19 21.2**	**+1.2**
ELIB	**Princess Elisa**	**85.69**	**187**	P	**P**	**06 19 26.2**	**-0.3**
TROLL	**Troll, Antarti**	**86.90**	**181**	⇓P	**P**	**06 19 32.1**	**-0.2**
	comp=Z,194nm,0.5s						
VNA3	**Neumayer Olymp**	**87.39**	**177**	⇓P	**P**	**06 19 34.1**	**-0.3**
	comp=Z,13nm,0.7s						
TRF	**Thorofare Moun**	**87.50**	**13**	P	**P**	**06 19 33.8**	**-1.2**
TRF				IAmb	IAmb	06 19 34.8	
	comp=Z,7.4nm,0.7s						
RND	**Reindeer**	**87.76**	**13**	P	**P**	**06 19 35.4**	**-0.7**
RND				IAmb	IAmb	06 19 36.1	
	comp=Z,8.4nm,0.8s						
VNA2	**Neumayer--Watz**	**87.82**	**177**	⇓P	**P**	**06 19 36.5**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=193,slow=6.0						
TXAR	**Lajitas Array**	**88.46**	**58**	P	**P**	**06 19 40.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=216,slow=6.2,SNR=11						
	comp=Z,1.0nm,0.8s						
CCB	**Clear Creek Bu**	**89.07**	**13**	P	**P**	**06 19 41.0**	**-1.1**
CCB				IAmb	IAmb	06 19 41.2	
	comp=Z,4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.32**	**290**	P	**P**	**06 19 45.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**89.32**	**290**	P	**P**	**06 19 44.6**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=126,slow=3.3,SNR=16						
	comp=Z,3.1nm,0.6s						
ILAR	**Eielson Array**	**89.37**	**13**	P	**P**	**06 19 42.1**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=216,slow=5.1,SNR=18						
	comp=Z,1.1nm,0.5s						
CHTO	**Chiang Mai**	**89.46**	**290**	P	**P**	**06 19 46.4**	**+1.4**
CHTO				IAmb	IAmb	06 19 46.5	
	comp=Z,4.1nm,0.7s						
PLCA	**Paso Flores**	**89.52**	**134**	P	**P**	**06 19 46.2**	**+1.2**
PLCA				IAmb	IAmb	06 19 47.0	
	comp=Z,6.4nm,1.1s						
PLCA	**Paso Flores**	**89.52**	**134**	P	**P**	**06 19 45.7**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=225,slow=5.0,SNR=9.5						
	comp=Z,2.3nm,0.7s						
MKAR	**Makanchi Array**	**110.94**	**313**	PKiKP	**PKiKP**	**06 25 15.5**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=140,slow=0.9,SNR=4.1						
BVAR	**Borovoye Array**	**118.98**	**320**	PKP	**PKPdf**	**06 25 30.1**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=114,slow=2.1,SNR=14						
SPITS	**Spitsbergen Ar**	**122.62**	**356**	PKP	**PKPdf**	**06 25 36.2**	**-1.6**
	comp=Z,5.6nm,0.9s,baz=224,slow=4.0,SNR=1.2						
ARCES	**ARCESS Array B**	**129.52**	**349**	PKP	**PKPdf**	**06 25 49.9**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=71,slow=1.5,SNR=8.1						
FINES	**FINESS Array B**	**136.23**	**343**	PKP	**PKPdf**	**06 26 04.3**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=98,slow=3.9,SNR=5.7						
FINES				SKPbc	**SKPbc**	**06 28 40.1**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=28,slow=3.3,SNR=4.6						
NOA	**NORSAR Array B**	**139.65**	**352**	PKhKP	PKPpre	06 26 01.1	
	comp=Z,0.9nm,0.9s,baz=25,slow=3.0,SNR=3.8						
HFS	**Hagfors**	**140.16**	**350**	PKhKP	PKPpre	06 26 03.3	
	comp=Z,1.1nm,0.4s,baz=106,slow=4.7,SNR=9.2						
AKASG	**Malin Array Be**	**143.17**	**330**	PKhKP	PKPpre	06 26 13.7	
	comp=Z,7.2nm,0.4s,baz=42,slow=4.2,SNR=50						
ARPR	**Arapgir-MALATY**	**143.35**	**307**		**PKPdf**	**06 26 17.1**	**-0.6**
BNN	**Bunyan**	**145.26**	**308**		**PKPbc**	**06 26 22.0**	**-0.3**
EKA	**Eskdalemuir Ar**	**145.92**	**4**	PKPbc	**PKPdf**	**06 26 21.1**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=352,slow=2.9,SNR=8.0						
BR131	**Keskin Array S**	**146.53**	**311**		**PKPbc**	**06 26 25.0**	**-0.8**
BRTR	**Keskin Array B**	**146.53**	**311**		**PKPbc**	**06 26 25.2**	**-0.6**
BRTR	**Keskin Array B**	**146.53**	**311**	PKPbc	**PKPbc**	**06 26 24.8**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=130,slow=4.2,SNR=13						
BUR08	**Bucovina Ar. S**	**147.19**	**329**		**PKPbc**	**06 26 27.8**	**+0.6**
MMAI	**Mount Meron Ar**	**147.22**	**298**	PKPbc	**PKPbc**	**06 26 27.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=88,slow=4.6,SNR=4.2						
OSTC	**Ostas**	**148.40**	**341**	⇑*e*PKP	**PKPbc**	**06 26 29.9**	**-0.2**
OSTC				*e*PKPAB	**PKPab**	**06 26 34.7**	**-1.1**
CHVC	**Chvalec**	**148.42**	**341**	⇑*e*PKP	**PKPbc**	**06 26 30.3**	**+0.1**
CHVC				*e*PKPAB	**PKPab**	**06 26 35.2**	**-0.7**
UPC	**Upice**	**148.51**	**341**	⇑*e*PKP	**PKPbc**	**06 26 29.8**	**-0.5**
UPC				*e*PKPAB	**PKPab**	**06 26 36.2**	**0.0**
DPC	**Dobruska-Polom**	**148.55**	**341**	⇑*e*PKP	**PKPbc**	**06 26 29.4**	**-1.1**
DPC				*e*PKPAB	**PKPab**	**06 26 36.2**	**-0.2**
KRLC	**Kraliky**	**148.65**	**340**	⇑*e*PKP	**PKPbc**	**06 26 30.4**	**-0.4**
KRLC				*e*PKPAB	**PKPab**	**06 26 35.8**	**-1.0**
MORC	**Moravsky Berou**	**148.66**	**339**	*e*PKP	**PKPbc**	**06 26 30.6**	**-0.2**
PVCC	**Panska Ves**	**148.90**	**343**	⇑*e*PKP	**PKPbc**	**06 26 30.8**	**-0.5**
MAUC	**Maruska**	**148.91**	**338**	⇑*e*PKP	**PKPbc**	**06 26 31.1**	**-0.3**
VRAC	**Vranov**	**149.38**	**340**	*e*PKP	**PKiKP**	**06 26 33.1**	**-0.1**
JAVC	**Velka Javorina**	**149.40**	**338**	*e*PKP	**PKiKP**	**06 26 33.6**	**+0.2**
PRU	**Pruhonice**	**149.40**	**342**	⇑*e*PKP	**PKPbc**	**06 26 31.0**	**-1.5**
KRUC	**Moravsky**	**149.66**	**339**	*e*PKP	**PKPbc**	**06 26 32.8**	**-0.3**
TREC	**Trest**	**149.74**	**341**	⇑*e*PKP	**PKPbc**	**06 26 32.2**	**-1.2**
TREC				*e*PKPAB	**PKPab**	**06 26 40.4**	**-1.0**
ZVC	**Zvikov**	**149.99**	**342**	⇑*e*PKP	**PKPbc**	**06 26 33.2**	**-0.7**
ZVC				*e*PKPAB	**PKPab**	**06 26 42.2**	**-0.2**
KHC	**Kasperske Hory**	**150.44**	**343**	⇑*e*PKP	**PKPbc**	**06 26 34.5**	**-0.5**
KHC				*e*PKPAB	**PKPab**	**06 26 44.0**	**-0.3**
CKRC	**Cesky Krumlov**	**150.51**	**342**	⇑*e*PKP	**PKPbc**	**06 26 34.7**	**-0.5**

GERES GERESS Array B 150.67 342 PKPbc PKPbc 06 26 34.9 -0.7
comp=Z,2.0nm,0.7s,baz=354,slow=4.7,SNR=7.4
CONA Conrad Observa 150.81 339 *i* PKP PKPbc 06 26 35.6 -0.4
comp=Z,2.4nm,0.6s
CONA *e*PKP PKPab 06 26 46.2 +0.2
comp=Z,2.3nm,0.5s
RONA Rosalia, Austr 150.87 338 *e*PKP PKPbc 06 26 35.6 -0.4
comp=Z,4.1nm,0.5s
RONA *i* PKP PKPab 06 26 46.4 +0.3
comp=Z,1.4nm,0.5s
MOA Molln 151.40 341 *e*PKP PKPbc 06 26 36.4 -0.8
comp=Z,0.4nm,0.3s
MOA *i* PKP PKPab 06 26 47.9 -0.4
comp=Z,0.9nm,0.5s
LESA Schwarzleotal 152.25 343 *i* PKP PKPbc 06 26 38.4 -0.7
comp=Z,1.5nm,0.5s
KBA Koelnbreinsper 152.37 341 *i* PKP PKPbc 06 26 38.9 -0.7
comp=Z,0.7nm,0.4s
KBA *i* PKP PKPab 06 26 52.5 -0.2
comp=Z,0.6nm,0.4s
OBKA Obir 152.49 339 *i* PKiKP PKiKP 06 26 40.3 +0.5
comp=Z,0.7nm,0.5s
OBKA *i* PKP PKPab 06 26 52.9 -0.3
comp=Z,1.3nm,0.5s
WTTA Wattenberg 152.67 344 *e*PKP PKPbc 06 26 39.4 -0.8
comp=Z,1.9nm,0.3s
WTTA *e*PKP PKPab 06 26 53.7 -0.3
comp=Z,1.2nm,0.4s
MYKA Terra Mystica 152.68 340 *i* PKP PKPab 06 26 52.9 -1.0
comp=Z,1.8nm,0.4s
RETA Reutte 152.68 345 *e*PKP PKPab 06 26 53.4 -0.5
comp=Z,0.5nm,0.3s
MOTA Moosalm 152.73 345 *e*PKP PKPab 06 26 53.7 -0.6
comp=Z,0.9nm,0.4s
SQTA Sankt Quirin 152.82 344 *e*PKP PKPbc 06 26 39.8 -0.7
comp=Z,1.1nm,0.5s
ABTA Abfaltersbach 152.91 342 *i* PKP PKPbc 06 26 39.6 -1.0
comp=Z,1.8nm,0.7s
ABTA *i* PKP PKPab 06 26 54.3 -0.6
comp=Z,1.3nm,0.6s
DAVA Damuels 153.08 346 *i* PKP PKPab 06 26 55.4 -0.3
comp=Z,2.8nm,0.6s
TORD Torodi Ar. Bea 171.82 186 PKPab PKPab 06 28 17.7 -0.6
comp=Z,0.5nm,0.5s,baz=173,slow=2.9,SNR=2.7

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*IDC **07** 06:08:11.9±4.3, 6°.33N×127°.78E, h0km, mb3.9/7, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=123.6km s-min=33.7km az=4.0*
ISC 07 06:08:16.3±3.1, **6°.1N**±0°.7×**127°.7E**±0°.2, **h35**km, **n8,** σ**1s.22**/9, **mb4.0**/7, **Philippine Islands region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
DAV Davao City (W) 2.35 294 Pn Pn 06 08 50.3 -2.1
48nm,0.3s,baz=358,slow=2.5,SNR=4.9
DAV Sn Sn 06 09 21.7 +1.6
62nm,0.3s,baz=274,slow=22,SNR=3.9
135nm,0.4s
MKAR Makanchi Array 56.21 324 P P 06 17 52.9 -0.1
1.1nm,0.5s,baz=118,slow=7.8,SNR=20
1.1nm,0.5s
ZALV Zalesovo Beam 58.96 332 P P 06 18 11.6 -0.5
0.4nm,0.4s,baz=128,slow=7.4,SNR=1.8
0.4nm,0.4s
KURBB Kurchatov Arra 60.31 326 P P 06 18 20.9 -0.6
1.7nm,0.2s,baz=117,slow=7.1,SNR=5.5
1.7nm,0.2s
BVAR Borovoye Array 65.90 326 P P 06 18 59.1 +0.5
1.0nm,0.5s,baz=126,slow=7.4,SNR=9.9
1.0nm,0.5s
ILAR Eielson Array 82.54 26 P P 06 20 35.0 -0.4
0.4nm,0.9s,baz=244,slow=5.5,SNR=1.7
0.4nm,0.9s
BRTR Keskin Array B 89.29 310 P P 06 21 10.3 +0.9
0.3nm,0.5s,baz=80,slow=5.7,SNR=2.4
0.3nm,0.5s
AKASG Malin Array Be 90.69 321 P P 06 21 16.0 +0.5
0.3nm,0.4s,baz=65,slow=5.3,SNR=1.2
0.3nm,0.4s

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*BJI **07** 06:47:11.4±0.0, 24°.41N×94°.67E, h30km, mb5.2/73, mB5.6/61, ML5.5/6, Ms5.5/91, Ms7 5.5/86*
*BGR **07** 06:47:11.3, 23°.56N×94°.80E, h33km, mb6.1, Ms5.2*
*NEIC **07** 06:47:14.5, 24°.75N×94°.91E, h24km*
*MOS **07** 06:47:14.2±1.0, 24°.67N×94°.92E, h42km, mb6.1/71, MS5.3/65, Error ellipse: s-maj=6.1km s-min=2.9km az=123.7*
*NDI **07** 06:47:14.6±4.5, 24°.71N×94°.54E, h10km±12km, mb5.8, MW5.6, mb5.9(NEIC)*
*IPGP **07** 06:47:14.0, 24°.76N×94°.91E, h34km, Mw5.6, Fault plane solution: NP1:φs16.00000°, δ63.00000°, λ90.00000°. NP2:φs196.00000°, δ27.00000°, λ90.00000°.*
*NEIC **07** 06:47:15.8±1.3, 24°.74N±0°.06×94°.91E±0°.06, h33km±1km, mb5.9/323, Ms_20 5.5/529, Mwb5.5/79, Mww5.6/33, Error ellipse: s-maj=10.2km s-min=8.7km az=140.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.11; Mθθ0.27; Mφφ-1.37; Mrθ0.87; Mθφ-0.14; Mφr1.53; Fault plane solution: M0 2.17000×10^17 NP1: φs162.27000°, δ22.07000°, λ49.09000°. NP2:φs25.35000°, δ73.50000°, λ104.87000°. Principal axes: T 2.1241, Plg59.0000°, Azm316.0000°; N 0.0879, Plg14.0000°, Azm201.0000°; P -2.2120, Plg27.0000°, Azm104.0000°;*
*NEIC **07** 06:47:15.8, 24°.84N×94°.69E, h40km, Moment Tensor Solution. Duration: 2s.9 Moment tensor: Scale 10^17Nm; Mrr2.98; Mθθ-0.85; Mφφ-2.13; Mrθ0.16; Mθφ-0.88; Mφr0.84; Fault plane solution: M0 2.91000×10^17 NP1:φs22.70000°, δ53.37000°, λ85.43000°. NP2:φs210.33000°, δ36.87000°, λ96.11000°. Principal axes: T 3.1152, Plg81.0000°, Azm272.0000°; N -0.4189, Plg4.0000°, Azm25.0000°; P -2.6963, Plg8.0000°, Azm116.0000°;*
*NEIC **07** 06:47:15.8, 24°.74N×94°.91E, h40km*
*IDC **07** 06:47:16.5±0.9, 24°.69N×94°.99E, h49km±7km, mb5.2/42, mbtmp5.4/43, MS5.3/77, Error ellipse: s-maj=9.5km s-min=8.0km az=41.0*
*GCMT **07** 06:47:16.8±0.1, 24°.56N±0°.01×95°.16E±0°.01, h36km, MW5.7/138, Moment Tensor Solution. s138,c241; s138,c256; Duration: 1s.7 Moment tensor: Scale 10^17 Nm; Mrr3.12±.06; Mθθ-0.46±.04; Mφφ-2.66±.04; Mrθ0.71±.06; Mθφ-1.57±.04; Mφr2.22±.06; Best double couple: M0 4.04100×10^17 NP1:φs21.00000°, δ63.00000°, λ84.00000°. NP2:φs214.00000°, δ28.00000°, λ102.00000°. Principal axes: T 3.8810, Plg72.0000°, Azm278.0000°; N 0.3200, Plg5.0000°, Azm24.0000°; P -4.2010, Plg17.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 06:47:14.9±0.3, **24°.68N**±0°.02×**94°.86E**±0°.02, **h34**km, **h34**km**:pP-P, n2018,** σ**1s.51**/1919, **mb5.8**/475, **MS5.5**/388, **195C-57D, Myanmar-India border region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
IMP Imphal 0.84 281 *e*P Pb 06 47 31.6 +0.4
IMP *e*S Sb 06 47 42.2 -0.1
IMP *e*x x 06 47 49.2
KOHI KOHIMA 1.24 327 *e*P Pn 06 47 36.1 +0.1
MOKO MOKOCHONG 1.67 349 *e*P Pb 06 47 44.9 -0.2
SILR SILCHAR 1.87 274 *e*x x 06 47 47.0
JORH JORHAT 2.13 345 *e*P Pb 06 47 50.7 -2.2
ITAN ITANAGAR 2.66 338 *e*P Pn 06 47 57.0 +1.6
TEZP TEZPUR 2.68 317 *e*P Pn 06 47 56.0 +0.3
SAIH SAIHA 2.77 219 *e*P Pn 06 47 59.3 +2.2
SAIH *e*x x 06 48 37.2
DIBR DIBRUGARH 2.78 1 *e*P Pn 06 47 58.8 +1.7
LKP Lekhapani 2.79 18 *e*P Pb 06 48 00.9 -3.2
SHL Shillong 2.84 289 *e*P Pn 06 47 58.5 +0.4
MND Mandalay 2.89 156 Pn 06 47 59.4 +0.9
MND Mandalay 2.89 156 P Pn 06 48 00.3 +1.7
ZIRO ZIRO 2.98 343 *e*P Pn 06 48 01.0 +1.0
TNCH TengChong 3.35 83 Pn Pn 06 48 07.4 +2.4
TNCH Pg Pb 06 48 16.4 +2.7
TNCH Sg Sb 06 49 02.1 +8.1
TNCH smax smax
comp=N,29µm,1.6s
TNCH smax smax
comp=E,18µm,2.6s
TNCH LR LR
comp=Z,107µm,13.6s
AGT Agartala 3.38 257 *e*P Pn 06 48 07.0 +1.6
SLGI Shiliguri 6.15 291 *e*P Pn 06 48 44.2 +0.8
GTK Tadong 6.21 296 *e*P Pn 06 48 45.0 +0.6
PZH PanZhiHua 6.48 72 Pn Pn 06 48 51.7 +3.7
PZH Sg Sb 06 50 41.9 +18
PZH smax smax
comp=N,790nm,1.9s
PZH smax smax
comp=E,570nm,1.9s
PZH LR LR
comp=N,26µm,13.5s
PZH LR LR
comp=E,36µm,14.5s
PZH LR LR
comp=Z,50µm,19.0s
CRAI Chiangrai 6.75 130 Pn Pn 06 48 53.1 +1.3
CHTO Chiang Mai 6.96 146 Pn Pn 06 48 56.1 +1.5
CHTO Chiang Mai 6.96 146 P Pn 06 48 56.3 +1.7
CHTO Chiang Mai 6.96 146 P Pn 06 48 56.1 +1.5
CHTO Chiang Mai 6.96 146 P Pn 06 48 56.5 +2.0
CHTO P Pn 06 48 56.5 +2.0
CHTO Chiang Mai 6.96 146 P Pn 06 48 56.1 +1.5
524nm,0.7s,6µm25µm12nm
CMMT Chiang Mai 6.96 146 P Pn 06 48 55.7 +1.1
1µm,0.7s,17µm87µm31nm
KMI Kunming 7.17 85 ⇓Pn Pn 06 49 01.0 +3.3
KMI Sn Sn 06 50 24.5 +6.4
KMI smax smax
comp=N,790nm,1.9s
KMI smax smax
comp=E,1µm,2.0s
KMI LR LR
comp=N,18µm,4.8s
KMI LR LR
comp=E,40µm,7.1s
KMI LR LR
comp=Z,92µm,18.2s
CM31 Chiang Mai Arr 7.26 148 Pn 06 48 60.0 +1.3
CM31 Chiang Mai Arr 7.26 148 P Pn 06 49 00.6 +1.9
SNR=229
CMAR Chiang Mai Arr 7.26 148 Pn Pn 06 48 59.9 +1.1
CMAR Chiang Mai Arr 7.26 148 P Pn 06 49 00.1 +1.4
163nm,0.7s,baz=323,slow=13,SNR=702
CMAR S Sn 06 50 14.8 -5.2
52nm,0.7s,baz=189,slow=11,SNR=1.0
CMAR LR LR 06 52 23.7
comp=Z,35µm,20.0s,baz=325,slow=43
CMAR ScP ScP 06 59 12.7 -0.6
6.5nm,0.8s,baz=285,slow=2.0,SNR=8.3
PHRA Phrae 7.92 140 Pn Pn 06 49 09.5 +1.7
BOK Bokaro 8.23 266 *e*P Pn 06 49 12.0 -0.1
BOK IAmb IAmb 06 49 13.9
comp=Z,611nm,0.7s
SLVN Son La 8.97 110 Pn Pn 06 49 22.7 +0.5
CD2 Chengdu 10.03 50 P Pn 06 49 39.5 +2.8
CD2 S Sn 06 51 31.5 +3.4
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,600nm,4.7s
CD2 LR LR
comp=Z,13µm,12.6s
CD2 LR LR
comp=Z,19µm,13.5s
CD2 LR LR
comp=Z,38µm,15.1s
NONG Nongkai 10.14 129 P Pn 06 49 43.2 +5.0
JHSG JHARSUGUGA 10.60 256 *e*P Pn 06 49 43.5 -0.9
JHSG IAmb IAmb 06 49 47.2
comp=Z,1µm,0.7s
VAR Varanasi 10.76 276 *e*P Pn 06 49 43.8 -2.8
GYA Guiyang 10.81 78⇓*i*P Pn 06 49 50.0 +2.6
GYA pP 06 49 55.9
GYA PP PnPn 06 49 59.8 +4.7
GYA S Sn 06 51 53.7 +6.4
GYA sS 06 51 59.8
GYA ScS ScS 07 02 49.5 -3.1
GYA pmax pmax
comp=Z,64nm,2.3s
GYA pmax pmax
comp=Z,2µm,5.0s
GYA LR LR
comp=Z,14µm,8.0s
GYA LR LR
comp=Z,48µm,16.9s
GYA LR LR
comp=Z,64µm,16.7s
SRDT SRDT 11.03 158 P Pn 06 49 52.5 +2.1
SRDT SRDT 11.03 158 P Pn 06 49 50.8 +0.4
comp=Z,473nm,1.2s,comp=Z,11µm
GOMU GeErMu 11.49 360 P Pn 06 49 56.7 -0.2
GOMU pmax pmax
comp=Z,86nm,1.1s
GOMU LR LR
comp=Z,25µm,14.0s
GOMU LR LR
comp=Z,7µm,13.3s
GOMU LR LR
comp=Z,38µm,14.8s
DGPR DIGLIPUR 11.58 189 *e*P Pn 06 49 57.9 0.0
ALBI Allahabad 11.85 276 *e*P Pn 06 49 58.9 -2.7
MYB Mayabunder 11.88 189 *e*P Pn 06 50 01.3 -0.7
NAYO Nakonayok 11.97 148 P Pn 06 50 06.2 +3.0
VIS Vishakhapatnam 12.78 239 *e*P Pn 06 50 12.0 -2.4
PBA Port Blair 13.10 189 *e*P Pn 06 50 21.4 +2.7
PBA IAmb IAmb 06 50 28.3
comp=Z,90nm,0.6s
UBPT Khong Chiam 13.66 131 Pn Pn 06 50 27.3 +0.9
UBPT Khong Chiam 13.66 131 P Pn 06 50 27.9 +1.5
LZH Lanzhou 13.76 32 *e*P Pn 06 50 28.0 +0.3
LZH pP P 06 50 35.2 -0.7
LZH sP 06 50 37.7
LZH S Sn 06 52 57.2 -2.2
LZH SS S 06 53 20.3 -0.9
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,1µm,4.5s
LZH LR LR
comp=Z,14µm,15.5s
LZH LR LR
comp=Z,17µm,14.4s
LZH LR LR
comp=Z,19µm,17.8s
ENH Enshi 14.13 64 Pn Pn 06 50 31.3 -1.4
ENH Enshi 14.13 64 P Pn 06 50 36.1 +3.4
QIZ Qiongzhong 15.00 109 P Pn 06 50 45.5 +0.9
QIZ S Sn 06 53 33.4 +3.7
QIZ pmax pmax
comp=Z,2µm,4.7s
QIZ LR LR
comp=Z,12µm,12.6s
QIZ LR LR
comp=Z,18µm,13.7s
QIZ LR LR
comp=Z,27µm,11.6s
QIZ Qiongzhong 15.00 109 Pn Pn 06 50 44.8 +0.2
QIZ Qiongzhong 15.00 109 P P 06 50 47.9 -1.7
GTA Gaotai 15.28 15 ⇓P Pn 06 50 46.8 -1.4
GTA S Sn 06 53 39.6 +3.2
GTA ScP ScP 06 59 23.0 -1.1
GTA ScS ScS 07 02 59.6 -2.7
GTA pmax pmax
comp=Z,17nm,1.7s
GTA LR LR
comp=Z,11µm,17.1s
GTA LR LR
comp=Z,10µm,20.7s
GTA LR LR
comp=Z,14µm,17.9s
XAN Xi'an 15.40 49 ⇑P Pn 06 50 49.1 -0.6
XAN S Sn 06 53 41.4 +2.2
XAN ScP ScP 06 59 21.6 -2.7
XAN ScS ScS 07 02 58.9 -3.8
XAN pmax pmax
comp=Z,98nm,1.2s
XAN pmax pmax
comp=Z,480nm,4.9s
XAN LR LR
comp=Z,18µm,16.2s
XAN LR LR
comp=Z,25µm,14.9s
XAN LR LR
comp=Z,39µm,17.1s
VJD Vijayawada 15.57 241 *e*P Pn 06 50 49.4 -2.6
VJD *i* x x 06 50 57.9
BHPL Bhopal 16.00 268 *e*P Pn 06 50 54.1 -3.4
BHPL *i* x x 06 51 02.4
SURA Surathani 16.08 163 P P 06 51 00.6 -1.0
NDI New Delhi 16.26 288 *e*P Pn 06 50 56.5 -4.4
SONA Sohna 16.31 286 *e*P Pn 06 50 57.8 -3.6
CNSH ChangSha 16.56 74 ⇓P Pn 06 50 58.1 -6.5
CNSH S Sn 06 54 01.6 -5.9
CNSH LR LR
comp=N,16µm,8.6s
CNSH LR LR
comp=E,20µm,19.0s
CNSH LR LR
comp=Z,24µm,19.6s
SRIT Nakonsritamara 16.62 163 P P 06 51 08.0 +0.4
SRIT Nakonsritamara 16.62 163 P P 06 51 07.7 +0.1
HYB Hyderabad 16.84 248 *e*P Pn 06 51 05.1 -3.1
HYB *e* 06 51 11.2
HYB IVmB_BB 06 51 11.9
comp=Z,5µm,2.1s
HYB *e*S Sn 06 54 13.6 -0.7
HYB *e* 06 54 16.6
HYB IVMs_BB IVMs_BB 06 59 46.9
comp=Z,6µm,6.4s
HYB Hyderabad 16.84 248 *e*P Pn 06 51 05.1 -3.1
HYB *e* 06 51 11.3
HYB *e* 06 54 00.3
HYB *e*Sn Sn 06 54 15.9 +1.6
HYB IVMs_BB IVMs_BB 06 59 46.9
comp=Z,6µm,6.4s
SMLA Simla 16.90 296 *e*P Pn 06 51 06.0 -2.8
AKL Akola 16.93 260 *e*P Pn 06 51 06.4 -2.9
AKL *i* pP P 06 51 13.0 +2.0
AKL IAmb IAmb 06 51 14.5
comp=Z,528nm,0.7s
GZH Guangzhou 16.98 92 P Pn 06 51 10.2 +0.2
GZH S Sn 06 54 20.6 +2.8
GZH pmax pmax
comp=Z,64nm,0.8s
GZH LR LR
comp=Z,18µm,7.5s
GZH LR LR
comp=Z,12µm,7.7s
MCO Taipa Grande 17.36 95 P Pn 06 51 15.0 +0.4
BHK Bhakra 17.60 297 *e*P Pn 06 51 14.2 -3.4
BHK IAmb IAmb 06 51 21.0
comp=Z,1µm,1.3s
HKPS Hong Kong Po S 17.85 94 P Pn 06 51 18.7 -2.1
HKPS Hong Kong Po S 17.85 94 P P 06 51 24.1 +2.9
HKC Hong Kong Obse 17.88 94 ⇑P P 06 51 23.0 +1.5
DHRM DHARAMSHALA 17.96 299 *e*P Pn 06 51 20.2 -2.1
MDRS Chennai 17.99 233 *e*P Pn 06 51 22.1 -0.4
LYN LuoYang 18.18 53 ⇓P Pn 06 51 23.0 -1.7
LYN sP pP 06 51 35.0 +1.4
LYN PP sP 06 51 37.7 -0.2
LYN S Sn 06 54 40.0 -6.6
LYN ScP ScP 06 59 27.4 -2.4
LYN pmax pmax
comp=Z,35nm,1.1s
LYN pmax pmax
comp=Z,1µm,5.6s
LYN LR LR
comp=Z,10µm,13.3s
LYN LR LR
comp=Z,22µm,16.3s
LYN LR LR
comp=Z,35µm,16.6s
WHN Wuhan 18.23 67 ⇓P Pn 06 51 25.8 +0.5
WHN S Sn 06 54 45.9 -2.0
WHN pmax pmax
comp=Z,600nm,1.2s
WHN pmax pmax
comp=Z,8µm,4.6s
WHN LR LR
comp=Z,8µm,9.5s
WHN LR LR
comp=Z,28µm,14.0s
WHN LR LR
comp=Z,56µm,19.8s
SKLT Songkhla 18.26 161 P Pn 06 51 27.8 +2.0
SKLT Songkhla 18.26 161 P Pn 06 51 27.3 +1.5
comp=Z,577nm,1.6s,comp=Z,12µm
AJM Ajmer 18.32 280 *e*P P 06 51 22.9 -3.5
AJM *i* pP Pn 06 51 28.8 +2.3
AJM IAmb IAmb 06 51 30.0
comp=Z,460nm,0.9s
THN Thein Dam 18.49 299 *e*P P 06 51 24.9 -3.3
THN IAmb IAmb 06 51 31.6
comp=Z,652nm,0.9s
JMU Jammu 19.23 299⇑*i*P Pn 06 51 38.0 +0.6
LHMI Lhok Sumawe 19.44 174 P Pn 06 51 39.9 -0.1
LHMI IAmb IAmb 06 51 54.2
comp=Z,638nm,1.2s
LHMI Lhok Sumawe 19.44 174 P Pn 06 51 41.3 +1.3
LHMI Lhok Sumawe 19.44 174 P Pn 06 51 42.0 +2.0
comp=Z,597nm,1.2s,comp=Z,13µmcomp=Z,8µm
TIY Taiyuan 19.83 45 *e*P P 06 51 42.4 -0.5
TIY pP sP 06 51 56.4 +0.2
TIY S S 06 55 16.4 -8.1
TIY sS sS 06 55 33.6 -5.1
TIY pmax pmax
comp=Z,59nm,0.6s
TIY pmax pmax
comp=Z,800nm,4.2s
TIY LR LR
comp=Z,7µm,14.7s
TIY LR LR
comp=Z,7µm,15.5s
TIY LR LR
comp=Z,9µm,19.2s
WMQ Urumqi 19.98 345 *e*P Pn 06 51 46.0 -0.3
WMQ sP pP 06 51 54.9 +1.4
WMQ S S 06 55 25.6 -1.8
WMQ sS sS 06 55 37.7 -4.5
WMQ SS SnSn 06 55 50.3 +5.5
WMQ pmax pmax
comp=Z,150nm,1.3s
WMQ pmax pmax
comp=Z,7µm,4.5s
WMQ LR LR
comp=Z,12µm,17.7s
WMQ LR LR
comp=Z,8µm,18.3s
WMQ LR LR
comp=Z,15µm,21.3s
KULM Kulim 20.06 163 P Pn 06 51 46.6 -0.8
KULM IAmb IAmb 06 52 00.9
comp=Z,884nm,1.8s
KULM Kulim 20.06 163 P P 06 51 46.0 +0.5
comp=Z,221nm,1.4s,comp=Z,5µmcomp=Z,7µm
LASI Langsa, Aceh 20.32 171 P Pn 06 51 50.1 -0.4
comp=Z,642nm,1.0s
BTO Baotou 20.33 35 *e*P P 06 51 47.8 -0.6
BTO pP pP 06 51 56.5 -0.8
BTO sP sP 06 52 00.8 -0.8
BTO PP PnPn 06 52 08.7 +2.9
BTO S S 06 55 32.9 -1.6
BTO SS SnSn 06 56 02.6 +9.1
BTO pmax pmax
comp=Z,520nm,1.0s
BTO pmax pmax
comp=Z,3µm,4.1s
BTO LR LR
comp=Z,29µm,16.1s
BTO LR LR
comp=Z,22µm,17.7s
BTO LR LR
comp=Z,47µm,18.2s
MLSI Meulaboh, Aceh 20.34 176 P P 06 51 47.6 -0.9
comp=Z,319nm,0.7s
SALM Salem 20.42 234⇑*i*P Pn 06 51 51.4 -0.2
SALM IAmb IAmb 06 51 54.1
comp=Z,726nm,1.7s
POO Poona 20.46 257 *e*P P 06 51 50.9 +1.1
KAD Karad 20.63 253⇑*i*P P 06 51 52.5 +0.8
NIL Nilore 20.85 300 P P 06 51 54.2 +0.3
NIL Nilore 20.85 300 P P 06 51 54.2 +0.3
NIL pmax pmax
comp=Z,2µm,1.2s
NIL Nilore 20.85 300 P P 06 51 54.5 +0.5
IPM Ipoh 20.94 163 P P 06 51 55.6 +0.6
comp=Z,4µm,0.8s,comp=Z,112µm
HNS HongShan 21.16 49 ⇓P P 06 51 56.7 -0.5

HNS sP **sP** 06 52 12.9 +2.4
HNS PP **PnPn** 06 52 22.8 +5.7
HNS S **S** 06 55 48.8 -2.0
HNS ScP **ScP** 06 59 34.2 -2.4
HNS pmax pmax
comp=Z,32nm,0.8s
HNS pmax pmax
comp=Z,570nm,7.1s
HNS LR LR
comp=Z,8μm,15.1s
HNS LR LR
comp=Z,10μm,17.1s
HNS LR LR
comp=Z,15μm,16.7s
KCSI Kotacane, Aceh 21.22 172 P **P** 06 51 57.4 -0.6
comp=Z,433nm,1.0s,comp=Z,5μm
HHC Hu-ho-hao-te 21.33 37 ⇑P **P** 06 51 59.0 -0.1
HHC S **S** 06 55 51.0 -3.3
HHC pmax pmax
comp=Z,120nm,1.1s
HHC LR LR
comp=Z,28μm,18.1s
HHC LR LR
comp=Z,15μm,17.7s
HHC LR LR
comp=Z,42μm,20.1s
KNMB Chin-men Tao 21.40 86 P **P** 06 51 59.3 -0.6
KNMB IAmb IAmb 06 52 18.0
KNMB IAMs_20 IAMs_20 07 01 43.9
comp=Z,18μm,19.0s
QZH Quanzhou 21.55 84 ⇓*i*P **P** 06 52 03.1 +1.7
QZH S **S** 06 56 02.2 +3.6
QZH pmax pmax
comp=Z,290nm,1.4s
QZH pmax pmax
comp=Z,3μm,4.5s
QZH LR LR
comp=Z,28μm,16.5s
QZH LR LR
comp=Z,37μm,15.8s
JASL Jaisalmer 21.68 281 ⇑*i*P **P** 06 52 03.0 +0.1
KSH Kashi 21.73 317 P **P** 06 52 04.2 +0.8
KSH pP pP 06 52 10.8 -1.8
KSH PP **PnPn** 06 52 29.3 +4.4
KSH S **S** 06 55 58.8 -3.4
KSH pmax pmax
comp=Z,500nm,1.2s
KSH LR LR
comp=Z,7μm,18.5s
KSH LR LR
comp=Z,8μm,17.2s
KSH LR LR
comp=Z,14μm,19.2s
GOA Goa 21.74 249 *e*P **P** 06 52 04.5 +0.9
GOA IAmb IAmb 06 52 08.4
comp=Z,254nm,1.0s
KOD Kodaikanal 21.90 232 ⇑*i*P **P** 06 52 07.2 +1.5
KOD IAmb IAmb 06 52 10.2
comp=Z,328nm,0.4s
PALK Pallekele 21.98 220 P **P** 06 52 07.3 +1.2
PALK IAmb IAmb 06 52 08.8
comp=Z,605nm,1.1s
PALK Pallekele 21.98 220 P **P** 06 52 07.5 +1.4
comp=Z,435nm,1.0s,baz=136,slow=12,SNR=120
PALK S **S** 06 56 04.9 -2.2
comp=Z,35nm,0.9s,baz=108,slow=1.5,SNR=5.0
PALK ScP **ScP** 06 59 37.1 -1.9
comp=Z,22nm,1.0s,baz=185,slow=3.5,SNR=3.8
PALK LR LR 07 02 57.2
comp=Z,5μm,19.7s,baz=145,slow=43
comp=Z,435nm,1.0s
PALK Pallekele 21.98 220 P **P** 06 52 07.8 +1.6
PALK P **P** 06 52 07.8 +1.6
PALK S **S** 06 56 09.1 +2.0
PALK S **S** 06 56 09.1 +2.0
PALK Pallekele 21.98 220 P **P** 06 52 06.9 +0.7
comp=Z,597nm,1.1s,comp=Z,6μmcomp=Z,5μm
PSI Prapat 22.10 169 P **P** 06 52 09.4 +1.9
PSI Prapat 22.10 169 P **P** 06 52 08.7 +1.2
PSI pmax pmax
comp=Z,205nm,0.9s
SNSI Sinabang, Aceh 22.18 176 P **P** 06 52 05.9 -2.4
comp=Z,452nm,0.8s,comp=Z,5μm
RPSI Rantau Prapat 22.20 169 P **P** 06 52 08.7 +0.1
RPSI IAmb IAmb 06 52 22.1
comp=Z,205nm,0.9s
MNGI Mangalore 22.23 242 ⇑*i*P **P** 06 52 09.1 +0.2
MNGI IAmb IAmb 06 52 14.3
comp=Z,383nm,1.1s
TIA Tai'an 22.32 54 ⇑P **P** 06 52 10.0 +0.3
TIA S **S** 06 56 10.8 -2.4
TIA pmax pmax
comp=Z,310nm,5.9s
TIA LR LR
comp=Z,4μm,17.1s
TIA LR LR
comp=Z,6μm,21.0s
TIA LR LR
comp=Z,10μm,16.7s
NJ2 Nanjing 22.33 65 ⇓P **P** 06 52 10.6 +0.8
NJ2 pP **pP** 06 52 16.2 -2.6
NJ2 sP **sP** 06 52 23.3 +0.2
NJ2 S **S** 06 56 12.5 -0.9
NJ2 pmax pmax
comp=Z,61nm,0.6s
NJ2 pmax pmax
comp=Z,1μm,3.8s
NJ2 LR LR
comp=Z,8μm,19.4s
NJ2 LR LR
comp=Z,17μm,16.1s
NJ2 LR LR
comp=Z,22μm,17.1s
SHLS Shalkode 22.36 329 ⇑*i*P **P** 06 52 08.6 -1.6
comp=Z,227nm,1.2s,baz=330
SHLS *e*S **S** 06 56 12.4 -1.7
baz=330
SHLS Shalkode 22.36 329*c i*P **P** 06 52 08.6 -1.6
SHLS *e*S **S** 06 56 12.3 -1.7
SHLS pmax pmax
comp=Z,227nm,1.2s
PRZ Przheval'sk 22.37 327 IAmb IAmb 06 52 29.4
comp=Z,672nm,1.2s
PRZ IAMs_20 IAMs_20 07 02 19.3
comp=Z,15μm,22.0s
PDGK Podgornoye 22.48 330 P **P** 06 52 11.8 +0.3
UZB Uzynbulak 22.56 329 ⇑*i*P **P** 06 52 12.8 +0.4
comp=Z,164nm,1.5s,baz=328
UZB *e*S **S** 06 56 19.4 +1.6
baz=328
UZB Uzynbulak 22.56 329*c i*P **P** 06 52 12.7 +0.4
UZB *e*S **S** 06 56 19.3 +1.6
UZB pmax pmax
comp=Z,164nm,1.5s
SATY Saty 22.79 328 ⇑*i*P **P** 06 52 15.5 +0.7
comp=Z,120nm,1.1s,baz=327
SATY *e*S **S** 06 56 23.7 +2.0
baz=327
SATY Saty 22.79 328*c i*P **P** 06 52 15.5 +0.7
SATY *e*S **S** 06 56 23.7 +2.0
SATY pmax pmax
comp=Z,120nm,1.1s
ZHN Zhinishke 22.86 328 ⇑*i*P **P** 06 52 15.6 +0.1
comp=Z,165nm,1.6s,baz=328
ZHN *e*S **S** 06 56 24.9 +2.1
baz=328
ZHN Zhinishke 22.86 328*c i*P **P** 06 52 15.6 +0.1
ZHN *e*S **S** 06 56 24.9 +2.1
ZHN pmax pmax
comp=Z,165nm,1.6s
TRSI Tarutung 22.86 169 P **P** 06 52 16.5 +0.8
comp=Z,387nm,1.1s
NRN Naryn 22.92 321 P **P** 06 52 17.0 +0.6
NRN IAmb IAmb 06 52 19.5
comp=Z,309nm,1.4s
NRN Naryn 22.92 321 P **P** 06 52 17.0 +0.6
NRN pmax pmax
comp=Z,309nm,1.4s
NRN MLR MLR
comp=Z,7μm,19.0s
ULHL Ulahol 23.33 323 P **P** 06 52 22.9 +2.6
SNR=6.5
GSI Gunungsitoli 23.38 173 P **P** 06 52 19.7 -1.1
GSI IAmb IAmb 06 52 40.7
comp=Z,1μm,1.7s
GSI IAMs_20 IAMs_20 07 03 06.3
comp=Z,13μm,21.0s
GSI Gunungsitoli 23.38 173 P **P** 06 52 20.8 0.0
GSI Gunungsitoli 23.38 173 P **P** 06 52 19.1 -1.7
comp=Z,329nm,1.3s,comp=Z,7μmcomp=Z,4μm
TRD Trivandrum 23.46 230 *e*P **P** 06 52 22.2 +0.7
TNSS Tian-Shan 23.51 326 ⇑*i*P **P** 06 52 22.7 +0.4
baz=325
TNSS Tian-Shan 23.51 326 ⇑*i*P **P** 06 52 22.6 +0.4
BJT Baijiatuau 23.54 44 P **P** 06 52 22.0 -0.2
BJT Baijiatuau 23.54 44 P **P** 06 52 23.9 +1.8
BJT Baijiatuau 23.54 44 P **P** 06 52 22.0 -0.2
BJT MLR MLR
comp=Z,6μm,18.0s
MDOK Medeo 23.55 326 ⇑*i*P **P** 06 52 23.4 +1.1
baz=326
MDOK *e*S **S** 06 56 36.6 +2.4
baz=326
MDOK LR LR 07 02 00.4
baz=326
MDOK Medeo 23.55 326*c i*P **P** 06 52 23.4 +1.1
MDOK *e*S **S** 06 56 36.6 +2.4
BJI Beijing 23.56 44 P **P** 06 52 21.2 -1.1
BJI PcP **PcP** 06 56 06.4 -0.5
BJI S **S** 06 56 32.2 -1.9
BJI pmax pmax
comp=Z,92nm,3.9s
BJI LR LR
comp=Z,3μm,17.7s
BJI LR LR
comp=Z,2μm,14.8s
BJI LR LR
comp=Z,4μm,16.1s
TPUB Ta-pu 23.58 88 P **P** 06 52 22.9 +0.1
TPUB IAmb IAmb 06 52 40.2
comp=Z,441nm,1.4s
TPUB Ta-pu 23.58 88 P **P** 06 52 27.1 +4.4
KNDC Almaty 23.62 326 P **P** 06 52 24.5 +1.5
AAA Alma-Ata 23.64 326 *e*P **P** 06 52 25.0 +1.8
baz=326
AAA LR LR 07 01 53.6
baz=326
AAA Alma-Ata 23.64 326 *e*P **P** 06 52 24.9 +1.7
BOOM Boomskoye usch 23.66 323 P **P** 06 52 24.0 +0.5
BOOM Boomskoye usch 23.66 323 P **P** 06 52 24.0 +0.5
BOOM pmax pmax
comp=Z,1μm,1.8s
KZA Kyzart 23.77 322 P **P** 06 52 26.0 +1.2
SNR=86
SSLB Suanglung 23.81 87 IAmb IAmb 06 52 40.4
comp=Z,353nm,1.3s
SSLB IAMs_20 IAMs_20 07 03 09.7
comp=Z,19μm,18.0s
SSLB Suanglung 23.81 87 P **P** 06 52 28.2 +3.3
ARXS Arharly 23.93 329 *e*P **P** 06 52 26.2 +0.2
TWG Pinlang 24.06 89 IAmb IAmb 06 52 44.0
comp=Z,267nm,1.0s
TWGBT **Beinan** 24.07 89 P **P** 06 52 30.4 +3.1
CHKK Chushkaly 24.07 327 ⇑*i*P **P** 06 52 27.6 +0.3
baz=327
CHKK Chushkaly 24.07 327 ⇑*i*P **P** 06 52 27.5 +0.3
ZSN Zaisan 24.08 343 ⇑*i*P **P** 06 52 28.5 +1.3
baz=343
ZSN Zaisan 24.08 343*c i*P **P** 06 52 28.5 +1.3
YHNB Yeheng 24.09 84 P **P** 06 52 27.1 -0.5
YHNB IAmb IAmb 06 52 43.0
comp=Z,384nm,1.2s
YHNB IAMs_20 IAMs_20 07 03 30.1
comp=Z,20μm,18.0s
YHNB Yeheng 24.09 84 P **P** 06 52 30.1 +2.5
SSE Sheshan 24.10 69 P **P** 06 52 28.8 +1.3
SSE S **S** 06 56 41.3 -1.8
SSE pmax pmax
comp=Z,160nm,1.2s
SSE pmax pmax
comp=Z,1μm,3.5s
SSE LR LR
comp=Z,3μm,18.4s
SSE LR LR
comp=Z,4μm,19.0s
TKM2 Tokmak 2 24.14 324 P **P** 06 52 29.2 +1.2
SNR=265
TATO Taipei 24.16 84 P **P** 06 52 30.6 +2.5
TATO Taipei 24.16 84 P **P** 06 52 27.1 -1.1
TATO P **P** 06 52 27.1 -1.1
TATO S **S** 06 56 39.3 -4.8
TATO S **S** 06 56 39.3 -4.8
YULB Yu-li 24.17 88 P **P** 06 52 29.3 +1.0
YULB IAmb IAmb 06 52 50.0
comp=Z,959nm,1.6s
YULB Yu-li 24.17 88 P **P** 06 52 30.8 +2.5
MK31 Makanchi Array 24.25 339 P **P** 06 52 29.4 +0.6
MK31 IAmb IAmb 06 52 31.6
comp=Z,780nm,1.5s
MK31 Makanchi Array 24.25 339*ce*P **P** 06 52 29.4 +0.6
MKAR Makanchi Array 24.25 339 P **P** 06 52 29.5 +0.7
MKAR Makanchi Array 24.25 339 P **P** 06 52 29.3 +0.5
comp=Z,104nm,0.9s,baz=146,slow=6.7,SNR=503
MKAR PcP **PcP** 06 56 07.6 -0.8
comp=Z,31nm,1.0s,baz=164,slow=2.6,SNR=4.1
MKAR S **S** 06 56 44.2 -1.0
comp=Z,5.7nm,1.0s,baz=145,slow=18,SNR=0.9
MKAR ScP **ScP** 06 59 42.8 -1.7
comp=Z,21nm,1.0s,baz=87,slow=3.2,SNR=9.3
MKAR LR LR 07 03 26.6
comp=Z,8μm,20.6s,baz=160,slow=40
MKAR SKKS SKKSdf 07 25 44.7 -11
comp=Z,0.3nm,0.7s,baz=327,slow=2.4,SNR=3.7
comp=Z,104nm,0.9s
TDK Taldyqorghan 24.27 331 ⇑*i*P **P** 06 52 29.6 +0.5
comp=Z,134nm,1.1s,baz=330
TDK LR LR 07 02 05.6
baz=330
TDK Taldyqorghan 24.27 331*c i*P **P** 06 52 29.5 +0.5
TDK pmax pmax
comp=Z,134nm,1.1s
UCH Uchtor 24.28 321 P **P** 06 52 30.7 +1.1
SNR=107
KBK Karagaybulak 24.32 322 P **P** 06 52 30.9 +1.3
SNR=86
NACB Ninganchiao 24.34 86 P **P** 06 52 32.4 +2.6
MYKOM **Kota Tinggi** 24.35 158 P **P** 06 52 32.6 +2.6
MYKOM IAmb IAmb 06 52 45.0
comp=Z,324nm,1.1s
MYKOM **Kota Tinggi** 24.35 158 P **P** 06 52 31.8 +1.9
comp=Z,330nm,1.3s,comp=Z,5μmcomp=Z,5μm
MAKZ Makanchi 24.37 338 P **P** 06 52 30.8 +0.9
MAKZ Makanchi 24.37 338 P **P** 06 52 30.8 +0.9
MAKZ pmax pmax
comp=Z,2μm,1.9s
MAKZ MLR MLR
comp=Z,10μm,22.0s
KUU Kurty 24.43 326 *e*P **P** 06 52 30.9 +0.5
baz=326
KUU LR LR 07 02 46.1
baz=326
KUU Kurty 24.43 326 *e*P **P** 06 52 30.9 +0.5
KBL Kabul 24.44 300 P **P** 06 52 31.7 +0.8
KBL Kabul 24.44 300 P **P** 06 52 31.7 +0.8
KBL pmax pmax
comp=Z,770nm,1.0s
KBL Kabul 24.44 300 P **P** 06 52 32.1 +1.3
SNR=474
KBL P **P** 06 52 32.1 +1.3
SNR=474
KBL S **S** 06 56 50.0 +1.1
KBL S **S** 06 56 50.0 +1.1
AAK Ala-Archa 24.56 322 P **P** 06 52 33.2 +1.4
SNR=153
AAK Ala-Archa 24.56 322 P **P** 06 52 33.3 +1.6
AAK IAmb IAmb 06 52 36.4
comp=Z,663nm,1.5s
AAK Ala-Archa 24.56 322 *i* P **P** 06 52 33.5 +1.6
SNR=181
AAK Ala-Archa 24.56 322*ce*P **P** 06 52 33.4 +1.6
AAK pmax pmax
comp=Z,189nm,1.3s
AAK MLR MLR
comp=Z,7μm,18.0s
AAK Ala-Archa 24.56 322 LR LR 07 03 37.0
comp=Z,9μm,21.9s,baz=140,slow=40
AAK Ala-Archa 24.56 322 P **P** 06 52 33.7 +1.9
AAK P **P** 06 52 33.7 +1.9
AAK S **S** 06 56 49.2 -1.3
AAK S **S** 06 56 49.2 -1.3
CHMS Chumysh 24.65 323 P **P** 06 52 33.1 +0.6
SNR=66
AML Almayashu 24.69 320 P **P** 06 52 34.6 +1.3
SNR=247
PBSI Pulau Batu 24.81 172 P **P** 06 52 33.7 -0.3
comp=Z,874nm,2.1s,comp=Z,16μmcomp=Z,5μm
SONM Songino Array 24.86 19 P **P** 06 52 35.0 +0.6
SONM Songino Array 24.86 19 P **P** 06 52 35.0 +0.6
comp=Z,93nm,0.9s,baz=197,slow=9.8,SNR=128
SONM ScP **ScP** 06 59 43.7 -2.7
comp=Z,14nm,1.0s,baz=190,slow=2.4,SNR=9.6
SONM LR LR 07 03 31.9
comp=Z,10μm,19.8s,baz=205,slow=39
comp=Z,93nm,0.9s
SZP Santa 24.89 102 P **P** 06 52 38.5 +3.7
BKNI Bangkinang 24.93 165 P **P** 06 52 35.9 +0.7
BKNI IAmb IAmb 06 52 52.5
comp=Z,340nm,1.2s
BKNI Bangkinang 24.93 165 P **P** 06 52 38.0 +2.8
BKNI Bangkinang 24.93 165 P **P** 06 52 34.5 -0.7
comp=Z,189nm,1.2s,comp=Z,3μmcomp=Z,3μm
USP Ospenovka 24.96 323 P **P** 06 52 36.4 +1.0
SNR=125
EKS2 Erkin-Say 24.98 321 P **P** 06 52 37.2 +1.7
SNR=319
SGDS Sogindy 25.02 323 ⇑*i*P **P** 06 52 36.8 +0.9
comp=Z,109nm,1.1s,baz=323
SGDS *e*S **S** 06 56 60.0 +2.2
baz=323
SGDS Sogindy 25.02 323*c i*P **P** 06 52 36.7 +0.9
SGDS *e*S **S** 06 56 59.9 +2.2
SGDS pmax pmax
comp=Z,109nm,1.1s
ULN Ulaanbaatar 25.08 20 P **P** 06 52 36.5 +0.1
ULN Ulaanbaatar 25.08 20*ce*P **P** 06 52 36.8 +0.3
ULN pmax pmax
comp=Z,129nm,1.0s
ULN MLR MLR
comp=Z,12μm,21.0s
ULN Ulaanbaatar 25.08 20 P **P** 06 52 37.0 +0.5
ULN P **P** 06 52 37.0 +0.5
ULN S **S** 06 56 57.8 -1.1
ULN S **S** 06 56 57.8 -1.1
ULN Ulaanbaatar 25.08 20 P **P** 06 52 35.8 -0.7
comp=Z,555nm,0.9s,comp=Z,11μmcomp=Z,9μm
TPRI Tanjung Pinang 25.40 157 P **P** 06 52 38.8 -0.6
YOJ Yonaguni jima 25.59 85 IAmb IAmb 06 52 58.8
comp=Z,729nm,1.4s
YOJ Yonaguni jima 25.59 85 P **P** 06 52 45.1 +4.0
DGZ Jazzator, Åita 25.64 349*c i*P **P** 06 52 42.4 +0.9
DGZ pmax pmax
comp=Z,187nm,1.1s
DGZ MLR MLR
comp=Z,7μm,19.0s
XLT XiLinHaoTe 25.86 37 *e*P **P** 06 52 43.0 -0.5
XLT pP pP 06 52 53.1 0.0
XLT sP sP 06 52 56.4 -0.8
XLT S **S** 06 57 09.1 -2.0
XLT sS sS 06 57 27.4 +0.3
XLT pmax pmax
comp=Z,28nm,1.0s
XLT pmax pmax
comp=Z,460nm,4.1s
XLT LR LR
comp=Z,6μm,18.7s
XLT LR LR
comp=Z,11μm,20.0s
SIMJ Simiganj 25.94 309 P **P** 06 52 44.4 +0.1
SIMJ IAmb IAmb 06 52 48.4
comp=Z,355nm,1.0s
PDSI Padang 26.01 167 P **P** 06 52 44.6 -0.4
comp=Z,88nm,1.7s,comp=Z,1μmcomp=Z,2μm
SISI Saibi 26.17 170 P **P** 06 52 48.4 +2.0
BTLS Baital 26.40 325 ⇑*i*P **P** 06 52 48.8 +0.5
baz=325
BTLS Baital 26.40 325*c i*P **P** 06 52 48.8 +0.5
ZAK Zakamensk 26.48 12 *e*P **P** 06 52 49.4 +0.3
ZAK pmax pmax
comp=Z,122nm,1.7s
DZA Taraz 26.55 319 *e*P **P** 06 52 50.2 +0.5
baz=319
DZA Taraz 26.55 319 *e*P **P** 06 52 50.2 +0.5
DL2 Dalian 26.70 51 P **P** 06 52 50.2 -0.8
DL2 PP **PnPn** 06 53 36.0 +3.3
DL2 S **S** 06 57 22.8 -1.4
DL2 pmax pmax
comp=Z,23nm,1.0s
DL2 LR LR
comp=Z,5μm,21.4s
DL2 LR LR
comp=Z,5μm,15.5s
DL2 LR LR
comp=Z,8μm,19.6s
TGY Tagaytay City 26.71 108 P **P** 06 52 51.7 +0.4
comp=Z,86nm,0.3s,baz=315,slow=16,SNR=1.2
TGY LR LR 07 04 29.7
comp=Z,7μm,18.5s,baz=282,slow=39
comp=Z,86nm,0.3s
DSRI Dabo 26.72 158 P **P** 06 52 51.0 -0.4
comp=Z,91nm,1.1s,comp=Z,2μm
KK31 Karatay Array 27.16 319 P **P** 06 52 55.6 +0.4
KK31 Karatay Array 27.16 319 *i* P **P** 06 52 55.8 +0.6
KKAR Karatay Array 27.16 319 P **P** 06 52 55.4 +0.2
KKAR Karatay Array 27.16 319 P **P** 06 52 55.4 +0.2
CHM Chimkent 27.29 316 *e*P **P** 06 52 57.9 +1.6
baz=316
CHM LR LR 07 04 02.1
baz=316
CHM Chimkent 27.29 316 *e*P **P** 06 52 57.9 +1.6
HMDM Hanimaadhoo 27.35 233 P **P** 06 52 59.0 +2.0
HMDM IAmb IAmb 06 53 00.9
comp=Z,574nm,1.7s
HMDM Hanimaadhoo 27.35 233 P **P** 06 52 57.1 +0.1
comp=Z,181nm,1.9s,comp=Z,5μm
MOY Mondy 27.36 8 *e*P **P** 06 52 58.0 +1.1
MOY pmax pmax
comp=Z,184nm,3.5s
KRJI Kerinci 27.37 166 P **P** 06 52 57.8 +0.5
KSM Kuching 27.48 145 P **P** 06 52 59.2 +1.0
KSM IAmb IAmb 06 53 14.3
comp=Z,232nm,1.3s
KSM Kuching 27.48 145 P **P** 06 53 00.1 +1.9
KSM Kuching 27.48 145 P **P** 06 52 59.7 +1.5
comp=Z,138nm,1.2s,comp=Z,3μmcomp=Z,3μm
JMBI JAMBI 27.51 161 P **P** 06 52 59.0 +0.6
comp=Z,193nm,1.2s
KKM Kota Kinabalu 27.62 129 P **P** 06 53 00.6 +1.0
KKM IAmb IAmb 06 53 15.1
comp=Z,691nm,1.9s
KKM IAMs_20 IAMs_20 07 05 13.9
comp=Z,17μm,19.0s
KKM Kota Kinabalu 27.62 129 P **P** 06 53 01.7 +2.1
KKM Kota Kinabalu 27.62 129 P **P** 06 53 00.2 +0.6
comp=Z,149nm,1.8s,comp=Z,3μm
PPSI Pulau Pagai 27.73 169 P **P** 06 53 01.0 +0.6
comp=Z,807nm,1.2s,comp=Z,9μm
SBUM Sibu 27.73 140 P **P** 06 53 00.8 +0.4
SBUM Sibu 27.73 140 P **P** 06 53 00.7 +0.2
comp=Z,26nm,1.7s,comp=Z,527nm
SEM Semipalatinsk 28.07 340 ⇑*i*P **P** 06 53 03.7 +0.2
comp=Z,192nm,1.6s,baz=340
SEM LR LR 07 04 47.5
baz=340
SEM Semipalatinsk 28.07 340*c i*P **P** 06 53 03.6 +0.2
SEM pmax pmax
comp=Z,192nm,1.6s
IRK Irkutsk 28.45 12 *e*P **P** 06 53 08.1 +1.6
IRK pmax pmax
comp=Z,335nm,2.3s
KURBB **Kurchatov Arra** 28.82 338 P **P** 06 53 10.6 +0.8
KURBB **Kurchatov Arra** 28.82 338 P **P** 06 53 10.4 +0.6
comp=Z,43nm,1.0s,baz=149,slow=8.9,SNR=234
KURBB PcP **PcP** 06 56 19.0 +0.1
comp=Z,51nm,0.8s,baz=165,slow=2.2,SNR=18
KURBB ScP **ScP** 06 59 56.5 -1.4
comp=Z,23nm,0.8s,baz=148,slow=2.7,SNR=18
KURBB ScS **ScS** 07 03 48.7 -2.5
comp=Z,2.4nm,0.7s,baz=149,slow=4.7,SNR=7.4
KURBB LR LR 07 06 39.8
comp=Z,5μm,19.5s,baz=145,slow=40
KURBB P3KPbc 07 25 19.9
comp=Z,1.0nm,0.8s,baz=323,slow=5.0,SNR=14
comp=Z,43nm,1.0s
PPBI Pangkal Pinang 28.84 156 P **P** 06 53 10.6 +0.3
comp=Z,69nm,1.1s
KURK Kurchatov 28.87 338 P **P** 06 53 10.9 +0.7

KURK Kurchatov 28.87 338 P **P** **06 53 10.4 +0.2**
KURK 06 56 19.0
KURK Kurchatov 28.87 338 P **P** **06 53 11.4 +1.2**
KURK P **P** **06 53 11.4 +1.2**
SUJ Sinuiju 29.20 51 P **P** **06 53 11.5 -1.9**
SUJ S **S** **06 58 02.8 -0.9**
SUJ AmB
comp=Z,255nm,1.9s
SUJ AMS AMS
comp=Z,7µm,16.8s
STKI Sintang 29.28 144 P **P** **06 53 15.5 +1.2**
comp=Z,91nm,1.7s
SNY Shenyang 29.30 47 ||P **P** **06 53 12.2 -2.0**
SNY pmax pmax
comp=Z,7.0nm,0.4s
SNY LR LR
comp=Z,2µm,15.3s
SNY LR LR
comp=Z,6µm,17.7s
SNY LR LR
comp=Z,6µm,16.5s
OTUK Ortayu 29.48 329 P **P** **06 53 16.2 +0.4**
PYAG Pyongyang 29.74 54 P **P** **06 53 16.7 -1.4**
PYAG S **S** **06 58 11.3 -0.7**
PYAG AmB
comp=Z,278nm,2.3s
PYAG AMS AMS
comp=Z,8µm,16.3s
MYLDM Lahad Datu 29.86 127 IAmb IAmb 06 53 41.6
comp=Z,292nm,1.3s
MYLDM IAMs_20 IAMs_20 07 06 40.2
comp=Z,8µm,20.0s
HRA Herat 29.87 297 P **P** **06 53 19.9 +0.3**
HRA IAmb IAmb 06 53 20.8
comp=Z,165nm,1.6s
INCN Inchon 29.91 57 IAMs_20 IAMs_20 07 06 50.6
comp=Z,10µm,18.0s
JOW Kunigami 30.13 79 P **P** **06 53 21.2 -0.4**
JOW IAmb IAmb 06 53 27.8
comp=Z,77nm,0.5s
JOW Kunigami 30.13 79 P **P** **06 53 22.2 +0.5**
JOW Kunigami 30.13 79 P **P** **06 53 21.4 -0.4**
comp=Z,23nm,0.3s,baz=164,slow=11,SNR=28
JOW LR LR 07 07 11.3
comp=Z,17µm,19.4s,baz=274,slow=40
comp=Z,23nm,0.3s
ZAA0 Zalesovo Array 30.19 348 P **P** **06 53 22.5 +0.6**
ZAA0 IAmb IAmb 06 53 24.4
comp=Z,260nm,1.2s
ZALV Zalesovo Beam 30.19 348 P **P** **06 53 22.5 +0.6**
ZALV Zalesovo Beam 30.19 348 P **P** **06 53 22.5 +0.6**
ZALV Zalesovo Beam 30.19 348 P **P** **06 53 22.8 +0.9**
comp=Z,212nm,1.1s,baz=165,slow=7.7,SNR=226
ZALV PcP **PcP** **06 56 20.9 -1.5**
comp=Z,8.3nm,0.5s,baz=185,slow=4.2,SNR=2.7
ZALV ScP **ScP** **06 59 59.0 -3.2**
comp=Z,5.3nm,0.6s,baz=162,slow=2.5,SNR=5.1
ZALV ScS **ScS** **07 03 53.6 -4.0**
comp=Z,5.7nm,1.0s,baz=142,slow=5.6,SNR=5.3
ZALV LR LR 07 06 47.3
comp=Z,4µm,19.3s,baz=162,slow=39
ZALV P3KPbc 07 25 13.3
comp=Z,2.6nm,0.9s,baz=331,slow=5.1,SNR=8.7
comp=Z,212nm,1.1s
TJN Taejon 30.20 60 IAmb IAmb 06 53 59.0
comp=Z,476nm,1.8s
TJN IAMs_20 IAMs_20 07 06 59.4
comp=Z,15µm,19.0s
TJN Taejon 30.20 60 P **P** **06 53 25.6 +3.4**
TJN Taejon 30.20 60 *i* P **P** **06 53 22.7 +0.5**
NGCH Negor - Chabah 30.52 279 P **P** **06 53 26.0 +0.8**
SNR=11
BRZS Berezniki 30.58 331 ⇑*i* P **P** **06 53 26.6 +1.0**
comp=Z,122nm,1.2s,baz=331
BRZS Berezniki 30.58 331*c i* P **P** **06 53 26.5 +1.0**
BRZS pmax pmax
comp=Z,122nm,1.2s
EGSI Enggano, Bengk 30.71 165 P **P** **06 53 26.8 0.0**
comp=Z,314nm,0.8s,comp=Z,4µm
CIT Chita 30.80 23 *e* P **P** **06 53 27.8 +0.3**
CIT *e* 06 53 38.7
CIT *e* 06 53 48.7
CIT *e* 06 54 22.9
CIT *e* 06 54 51.0
CIT *e* 06 58 29.5
CIT pmax pmax
comp=Z,137nm,1.3s
LWLI Liwa 30.84 162 P **P** **06 53 26.9 -1.3**
comp=Z,257nm,0.8s
KSRS Korea Array 30.89 58 P **P** **06 53 25.8 -2.5**
comp=Z,3.2nm,0.6s,baz=247,slow=8.4,SNR=17
KSRS ScP **ScP** **07 00 01.3 -3.5**
comp=Z,5.2nm,0.9s,baz=253,slow=3.0,SNR=11
KSRS LR LR 07 05 52.2
comp=Z,2µm,20.2s,baz=250,slow=36
KSRS P3KPbc 07 25 10.9
comp=Z,0.4nm,0.5s,baz=125,slow=3.4,SNR=1.9
comp=Z,3.2nm,0.6s
HIA Hailar 31.32 32 P **P** **06 53 31.7 -0.3**
HIA Hailar 31.32 32 P **P** **06 53 32.0 0.0**
HIA Hailar 31.32 32 P **P** **06 53 31.7 -0.3**
HIA pmax pmax
comp=Z,78nm,1.6s
HIA MLR MLR
comp=Z,18µm,19.0s
HHU Hamhung 31.32 53 P **P** **06 53 30.7 -1.4**
HHU AmB
comp=Z,371nm,2.6s
HHU AMS AMS
comp=Z,7µm,15.7s
CN2 Changchun 31.42 45 P **P** **06 53 30.9 -2.0**
CN2 pP sP 06 53 45.6 -1.2
CN2 ScP **ScP** **07 00 03.2 -3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,400nm,8.0s
CN2 LR LR
comp=Z,3µm,17.0s
CN2 LR LR
comp=Z,5µm,17.0s
CN2 LR LR
comp=Z,7µm,17.0s
KASI Kota Agung 31.45 161 P **P** **06 53 31.7 -1.7**
comp=Z,96nm,0.9s
MTKI Muara Teweh, K 32.03 140 P **P** **06 53 38.9 +0.4**
JNU Nakatsue 32.52 67 P **P** **06 53 41.9 -0.8**
JNU IAMs_20 IAMs_20 07 07 59.2
comp=Z,7µm,20.0s
JNU Nakatsue 32.52 67 P **P** **06 53 45.3 +2.6**
JNU Nakatsue 32.52 67 LR LR 07 08 30.2
comp=Z,7µm,19.3s,baz=264,slow=39
SBJI Serang 32.52 159 P **P** **06 53 42.7 -0.1**
comp=Z,102nm,0.8s,comp=Z,9µm
JLN Jalan Bani Buh 32.57 273 P **P** **06 53 44.1 +0.8**
SNR=32
JMZ Minamidaito 2 32.85 80 IAMs_20 IAMs_20 07 05 19.6
comp=Z,11µm,22.0s
WBK Wadi Bani Khal 32.88 274 P **P** **06 53 47.1 +1.1**
SNR=15
WBK P **P** **06 53 47.1 +1.1**
SNR=15
WSAR Wadi Sarin 33.08 275 LR LR 07 10 23.4
comp=Z,7µm,18.5s,baz=114,slow=42
WSAR Wadi Sarin 33.08 275 P **P** **06 53 48.5 +0.8**
SNR=16
DBJI Dramaga 33.13 158 P **P** **06 53 48.7 +0.5**
comp=Z,120nm,1.1s,comp=Z,9µm
JASK Jask - Hormozg 33.40 280 P **P** **06 53 51.6 +1.1**
SNR=12
BIDO Bidbid 33.49 276 P **P** **06 53 52.1 +0.9**
SNR=32
BKB Balikpapan 33.49 137 P **P** **06 53 52.7 +1.4**
BKB Balikpapan 33.49 137 P **P** **06 53 51.1 -0.2**
comp=Z,171nm,1.5s,comp=Z,3µm
BNX BinXian 33.55 43 ||P **P** **06 53 50.6 -1.0**
BNX pP **pP** **06 53 59.5 -1.8**
BNX sP **sP** **06 54 03.6 -1.8**
BNX PP **PP** **06 55 08.6 +0.9**
BNX S **S** **06 59 10.8 -0.7**
BNX sS **sS** **06 59 26.3 -1.4**
BNX pmax pmax
comp=Z,18nm,0.9s
BNX pmax pmax
comp=Z,410nm,4.1s
BNX LR LR
comp=Z,2µm,15.2s
BNX LR LR
comp=Z,3µm,17.3s
BNX LR LR
comp=Z,4µm,15.2s
SMDO Samad 33.64 275 P **P** **06 53 53.6 +0.9**
SNR=28
LEM Lembang 33.69 157 LR LR 07 08 34.2
comp=Z,3µm,21.6s,baz=310,slow=38
LEM Lembang 33.69 157 P **P** **06 53 54.5 +1.3**
comp=Z,65nm,1.0s
JMDO Jabal Madar 33.72 274 P **P** **06 53 54.0 +0.7**
SNR=20
JMDO P **P** **06 53 54.0 +0.7**
SNR=20
BVAO Borovoye Array 33.80 333 *i* P **P** **06 53 53.6 0.0**
BVAR Borovoye Array 33.80 333 P **P** **06 53 54.1 +0.5**
comp=Z,42nm,0.9s,baz=136,slow=9.5,SNR=168
BVAR PcP **PcP** **06 56 32.1 -0.1**
comp=Z,39nm,0.8s,baz=151,slow=3.3,SNR=11
BVAR ScP **ScP** **07 00 13.5 -1.0**
comp=Z,23nm,0.7s,baz=148,slow=4.0,SNR=19
BVAR ScS **ScS** **07 04 11.7 -4.1**
comp=Z,4.1nm,0.7s,baz=191,slow=6.8,SNR=7.8
BVAR LR LR 07 09 26.7
comp=Z,12µm,19.6s,baz=133,slow=39
comp=Z,42nm,0.9s
GEYT Alibeck 33.84 302 P **P** **06 53 55.8 +1.6**
GEYT Alibeck 33.84 302 P **P** **06 53 55.8 +1.6**
comp=Z,74nm,1.0s,baz=111,slow=8.1,SNR=155
GEYT PcP **PcP** **06 56 33.5 +0.8**
comp=Z,56nm,0.7s,baz=217,slow=2.9,SNR=17
GEYT ScP **ScP** **07 00 14.2 -0.8**
comp=Z,138nm,1.1s,baz=214,slow=1.1,SNR=28
GEYT LR LR 07 10 41.2
comp=Z,6µm,19.0s,baz=102,slow=41
comp=Z,74nm,1.0s
GYA0B ALIBECK ARRAY 33.84 302 P **P** **06 53 55.4 +1.2**
BRVK Borovoye 33.86 333 P **P** **06 53 54.6 +0.5**
BRVK IAmb IAmb 06 53 56.4
comp=Z,113nm,1.1s
BRVK Borovoye 33.86 333 IAMs_20 IAMs_20 07 09 16.3
comp=Z,13µm,19.0s
BRVK Borovoye 33.86 333*ce* P **P** **06 53 54.4 +0.2**
BRVK pmax pmax
comp=Z,130nm,1.2s
BRVK MLR MLR
comp=Z,12µm,17.0s
BRVK Borovoye 33.86 333 P **P** **06 53 55.0 +0.8**
BRVK S **S** **06 59 15.6 -0.5**
BRVK Borovoye 33.86 333 P **P** **06 53 54.7 +0.5**
BRVK PcP **PcP** **06 56 32.7 +0.3**
BRVK ScP **ScP** **07 00 14.7 0.0**
MHTO MHTO 34.13 271 P **P** **06 53 57.7 +0.8**
SNR=22
MHTO S **S** **06 59 24.0 +3.1**
DAV Davao City (W) 34.21 116 IAMs_20 IAMs_20 07 08 56.2
comp=Z,8µm,19.0s
DAV Davao City (W) 34.21 116 LR LR 07 09 17.1
comp=Z,7µm,19.2s,baz=300,slow=39
MPSI Mapaga 34.24 131 P **P** **06 53 57.6 -0.3**
comp=Z,26nm,1.4s
BBJI Bungbulang 34.29 157 P **P** **06 54 00.0 +1.7**
BBJI Bungbulang 34.29 157 P **P** **06 53 57.6 -0.7**
comp=Z,57nm,1.2s,comp=Z,850nm
TOLI2 Tolitoli 34.31 129 P **P** **06 53 58.0 -0.4**
TOLI2 IAmb IAmb 06 54 11.1
comp=Z,178nm,1.4s
TOLI2 Tolitoli 34.31 129 P **P** **06 54 00.0 +1.6**
MDJ Mudanjiang 34.46 46 P **P** **06 53 58.5 -1.0**
MDJ S **S** **06 59 28.6 +3.0**
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,270nm,4.6s
MDJ LR LR
comp=Z,3µm,21.3s
MDJ LR LR
comp=Z,5µm,17.9s
MDJ LR LR
comp=Z,6µm,16.9s
BSY Bisya 34.46 275 P **P** **06 54 00.8 +1.0**
SNR=27
KPJI Karang Pucung 34.65 155 P **P** **06 54 01.9 +0.6**
comp=Z,196nm,1.2s,comp=Z,3µm
MSHR Mys Shultsa 34.77 50 *i* P **P** **06 54 01.8 -0.4**
MSHR MLR MLR
comp=Z,6µm,19.0s
DQM DQM 34.78 270 P **P** **06 54 03.4 +1.0**
SNR=7.0
SOHO SOHO 34.83 277 *i* P **P** **06 54 03.4 +0.5**
SNR=11
SOHO SOHO 34.83 277 P **P** **06 54 02.4 -0.4**
SOHO P **P** **06 54 02.4 -0.4**
SHME Shamm 34.93 281 *i* P **P** **06 54 03.1 -0.6**
SNR=8.0
SHME Shamm 34.93 281 P **P** **06 54 04.1 +0.4**
SNR=5.1
SHME S **S** **06 59 36.2 +3.0**
ARQ Araqi 34.97 276 P **P** **06 54 04.9 +0.7**
SNR=13
MASF Masafi 34.99 279 P **P** **06 54 05.0 +0.7**
SNR=9.0
MSFE Esma-Masafi 34.99 279 *i* P **P** **06 54 04.2 -0.1**
SNR=7.7
SMRI Semarang 35.00 152 IAMs_20 IAMs_20 07 09 09.5
comp=Z,6µm,20.0s
SMRI Semarang 35.00 152 P **P** **06 54 07.0 +2.6**
SMRI Semarang 35.00 152 P **P** **06 54 05.7 +1.3**
comp=Z,420nm,1.1s,comp=Z,8µm
JMN Monobe 35.07 66 P **P** **06 54 07.8 +2.9**
HATD Hatta, Dubai 35.09 279 *i* P **P** **06 54 05.6 +0.4**
SNR=14
HATD Hatta, Dubai 35.09 279 P **P** **06 54 05.7 +0.6**
SNR=18
HATD P **P** **06 54 05.7 +0.6**
SNR=18
ASHO Ashiyiah 35.17 278 *i* P **P** **06 54 06.3 +0.3**
SNR=39
ASHO Ashiyiah 35.17 278 P **P** **06 54 07.3 +1.4**
SNR=31
UMQ Umm Al-Quwin 35.42 280 P **P** **06 54 09.7 +1.8**
NAZ Nazwa, Dubai 35.49 279 *i* P **P** **06 54 08.5 -0.1**
SNR=8.0
NAZ Nazwa, Dubai 35.49 279 P **P** **06 54 09.3 +0.7**
ALNE Al Ain 35.55 277 *i* P **P** **06 54 10.3 +1.2**
SNR=12
ALNE Al Ain 35.55 277 P **P** **06 54 09.9 +0.8**
SNR=12
ALNE P **P** **06 54 09.9 +0.8**
SNR=12
MRSI Marisa 35.57 128 P **P** **06 54 10.2 +0.9**
comp=Z,47nm,1.5s,comp=Z,1µm
FAQ Al Faqa, Dubai 35.59 279 *i* P **P** **06 54 08.8 -0.6**
SNR=9.7
FAQ Al Faqa, Dubai 35.59 279 P **P** **06 54 10.0 +0.6**
SNR=10.0
NGJI Ngawi 35.73 151 P **P** **06 54 12.1 +1.5**
comp=Z,197nm,1.5s,comp=Z,4µm
ASUD Al Ashush, Dub 35.84 278 P **P** **06 54 11.1 -0.5**
ASUD Al Ashush, Dub 35.84 278 P **P** **06 54 12.8 +1.2**
BOD Bodaibo 35.84 17 *eP* **P** **06 54 11.7 +0.5**
BOD pmax pmax
comp=Z,176nm,1.8s
HEH HeiHe 35.85 36 *eP* **P** **06 54 10.6 -0.8**
HEH S **S** **06 59 45.7 -1.1**
HEH ScP **ScP** **07 00 19.5 -2.4**
HEH SS **SnSn** **07 02 10.4 -0.9**
HEH pmax pmax
comp=Z,21nm,1.0s
HEH pmax pmax
comp=Z,300nm,3.9s
HEH LR LR
comp=Z,5µm,19.4s
HEH LR LR
comp=Z,5µm,18.4s
HEH LR LR
comp=Z,10µm,19.2s
USA0B Ussuriysk Arra 35.90 48 P **P** **06 54 10.5 -1.3**
USA0B Ussuriysk Arra 35.90 48 P **P** **06 54 10.5 -1.3**
USA0B pmax pmax
comp=Z,50nm,1.3s
USA0B MLR MLR
comp=Z,3µm,18.0s
USRK Ussuriysk Ar. 35.90 48 P **P** **06 54 10.2 -1.7**
comp=Z,12nm,0.9s,baz=256,slow=7.8,SNR=12
USRK ScP **ScP** **07 00 18.0 -4.2**
comp=Z,3.6nm,0.9s,baz=249,slow=2.5,SNR=3.9
USRK LR LR 07 10 36.3
comp=Z,3µm,19.0s,baz=248,slow=39
comp=Z,12nm,0.9s
AJN Ajban 36.16 278 *i* P **P** **06 54 13.4 -0.9**
SNR=6.3
AJN Ajban 36.16 278 P **P** **06 54 14.7 +0.4**
SNR=5.7
AJN P **P** **06 54 14.7 +0.4**
SNR=5.7
SJI Sawahan 36.19 151 P **P** **06 54 15.3 +0.6**
comp=Z,253nm,1.4s,comp=Z,5µm
XMI Christmas Isla 36.48 162 P **P** **06 54 18.3 +1.3**
PMSI Majene 36.48 137 P **P** **06 54 18.1 +0.9**
comp=Z,192nm,1.1s,comp=Z,3µm
XMIS Christmas Isla 36.49 162 IAmb IAmb 06 54 31.1
comp=Z,185nm,1.1s
XMIS Christmas Isla 36.49 162 P **P** **06 54 19.7 +2.5**
KMMI Kalianget 36.62 147 P **P** **06 54 19.0 +0.7**
AB31 Akbulak array 36.64 321 *i* P **P** **06 54 19.2 +1.1**
ABKAR Akbulak array 36.64 321 P **P** **06 54 18.8 +0.7**
ABKAR IAmb IAmb 06 54 20.6
comp=Z,168nm,0.8s
TTSI Tana Toraja 36.71 135 P **P** **06 54 19.4 +0.4**
comp=Z,199nm,1.4s,comp=Z,3µm
KMSI Cibinong 36.98 126 P **P** **06 54 22.8 +1.4**
comp=Z,427nm,0.8s,comp=Z,7µm
SHAO Shalim 37.04 268 *i* P **P** **06 54 22.4 +0.4**
SNR=15
SHAO Shalim 37.04 268 P **P** **06 54 23.2 +1.3**
SNR=20
SHAO P **P** **06 54 23.2 +1.3**
SNR=20
SPSI Sidrap Palu 37.38 136 P **P** **06 54 25.3 +0.6**
comp=Z,202nm,1.4s,comp=Z,6µm
DMTO DMTO 37.75 267 P **P** **06 54 29.1 +1.2**
SNR=31
KLR Kul'dur 37.77 40*ce* P **P** **06 54 27.0 -0.7**
KLR MLR MLR
comp=Z,3µm,15.0s
KLR Kul'dur 37.77 40 ScP **ScP** **07 00 25.0 -4.1**
comp=Z,2.0nm,0.7s,baz=251,slow=4.3,SNR=3.8
KLR LR LR 07 11 45.6
comp=Z,3µm,18.4s,baz=238,slow=39
ZEA Zeya 37.79 31 *eP* **P** **06 54 23.0 -4.8**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=E,100nm,4.5s
ZEA pmax pmax
comp=Z,300nm,6.5s
ZEA MLR MLR
comp=N,4µm,18.0s
ZEA MLR MLR
comp=Z,6µm,18.0s
JAGI Jajag, Banyuwa 37.94 148 P **P** **06 54 31.5 +2.0**
JAGI Jajag, Banyuwa 37.94 148 P **P** **06 54 30.9 +1.4**
comp=Z,158nm,1.4s,comp=Z,3µmcomp=Z,2µm
JRN Qarnain Island 38.02 279 P **P** **06 54 29.8 -0.4**
SRBI Singaraja 38.13 146 P **P** **06 54 32.0 +0.9**
comp=Z,291nm,1.7s,comp=Z,5µmcomp=Z,3µm
KAPI Kappang 38.18 137 P **P** **06 54 31.3 -0.2**
KAPI Kappang 38.18 137 P **P** **06 54 31.3 -0.2**
KAPI pmax pmax
comp=Z,48nm,1.1s
KAPI MLR MLR
comp=Z,4µm,22.0s
KAPI Kappang 38.18 137 P **P** **06 54 33.0 +1.5**
comp=Z,6.8nm,0.5s,baz=313,slow=2.2,SNR=1.8
KAPI ScP **ScP** **07 00 28.1 -3.1**
comp=Z,22nm,0.8s,baz=296,slow=4.8,SNR=5.6
KAPI LR LR 07 14 01.2
comp=Z,4µm,18.8s,baz=300,slow=42
AKTO Aktyubinsk 38.30 322 LR LR 07 12 22.6
comp=Z,4µm,18.2s,baz=116,slow=39
RBK Rabkut 38.49 267 P **P** **06 54 35.2 +1.0**
SNR=61
BKSI Bulukumba 38.65 137 P **P** **06 54 35.2 -0.3**
comp=Z,67nm,1.3s,comp=Z,995nm
WHFO Wadi Hawf 38.76 268 P **P** **06 54 36.8 +0.4**
SNR=39
MJB9 Matsu-Tunnel 38.84 62 IAmb IAmb 06 55 11.3
comp=Z,140nm,1.3s
MAJO Matsushiro 38.84 62 P **P** **06 54 35.8 -1.2**
MAJO IAmb IAmb 06 55 11.3
comp=Z,134nm,1.2s
MAJO Matsushiro 38.84 62 IAMs_20 IAMs_20 07 13 02.5
comp=Z,6µm,18.0s
MAJO Matsushiro 38.84 62 P **P** **06 54 38.0 +1.0**
MAJO Matsushiro 38.84 62*d* *i* P **P** **06 54 36.8 -0.2**
MAJO pmax pmax
comp=Z,60nm,1.1s
MAJO MLR MLR
comp=Z,6µm,17.0s
MAJO Matsushiro 38.84 62 P **P** **06 54 37.2 +0.3**
MAJO pP **pP** **06 54 47.8 +0.9**
MJAR Matsushiro Arr 38.84 62 P **P** **06 54 36.2 -0.8**
comp=Z,40nm,1.0s,baz=272,slow=8.2,SNR=63
MJAR ScP **S** **07 00 29.9 -2.8**
comp=Z,5.8nm,1.0s,baz=267,slow=2.5,SNR=6.6
MJAR LR LR 07 12 47.7
comp=Z,5µm,18.5s,baz=262,slow=40
MJAR P3KPbc 07 24 39.5
comp=Z,4.3nm,0.7s,baz=87,slow=2.9,SNR=19
comp=Z,40nm,1.0s
TEY Ternei 39.28 48 *eP* P 06 54 46.0 +5.5
ABTO Aybut 39.36 268 P **P** **06 54 41.8 +0.3**
SNR=34
ABTO P **P** **06 54 41.8 +0.3**
SNR=34
TNTI Ternate 39.41 122 P **P** **06 54 40.5 -1.3**
TNTI Ternate 39.41 122 P **P** **06 54 44.6 +2.8**
comp=Z,61nm,1.1s
TRNA Turayna 39.52 280 P **P** **06 54 42.6 -0.2**
TWSI Taliwang, Sumb 39.55 144 P **P** **06 54 40.4 -2.6**
SHMA Al-Shehemyia 39.57 281 P **P** **06 54 43.3 +0.2**
SMRA Abu-Samra 39.87 280 P **P** **06 54 45.9 +0.3**
SNR=6.5
SAKB Bahrain 39.94 282 P **P** **06 54 46.5 +0.3**
JHJ Hachijo jima 2 39.98 67 LR LR 07 13 30.8
comp=Z,3µm,19.5s,baz=274,slow=40
PLAI Plampang 40.11 143 P **P** **06 54 49.5 +1.9**
PLAI Plampang 40.11 143 P **P** **06 54 46.6 -1.0**
comp=Z,169nm,1.3s,comp=Z,2µm
DBNI Kabupaten Domp 40.13 142 P **P** **06 54 47.6 -0.2**
comp=Z,203nm,0.8s,comp=Z,6µm
SVE Sverdlovsk 40.51 332*d* *i* P **P** **06 54 51.7 +1.2**
SVE *eS* **S** **07 01 01.0 +4.0**
SVE pmax pmax
comp=Z,583nm,1.4s
SVE pmax pmax
comp=Z,339nm,6.3s
SVE MLR MLR
comp=E,6µm,20.0s
SVE MLR MLR
comp=Z,9µm,19.0s
SVE MLR MLR
comp=N,3µm,21.0s
JMM Marumori 41.02 60 P **P** **06 54 53.7 -1.3**
JMM IAmb IAmb 06 55 33.6
comp=Z,257nm,1.3s
JMM Marumori 41.02 60 P **P** **06 54 57.1 +2.1**
GRNR Gornyy 41.16 40 ||*i* P **P** **06 54 55.2 -0.7**
GRNR pmax pmax
comp=E,3.0nm,0.9s
GRNR MLR MLR
comp=E,1µm,16.0s
GRNR MLR MLR
comp=Z,2µm,17.0s
ARU Arti 41.19 330 P **P** **06 54 56.4 +0.3**
ARU IAmb IAmb 06 54 58.4
comp=Z,461nm,1.5s
ARU Arti 41.19 330 P **P** **06 54 56.6 +0.5**
ARU Arti 41.19 330 LR LR 07 14 21.5
comp=Z,10µm,18.5s,baz=118,slow=39
ARU Arti 41.19 330 P **P** **06 54 57.0 +1.0**
ARU PcP **PcP** **06 56 55.4 +0.6**
ARU ScP **ScP** **07 00 41.9 -0.3**
LKRN Lenkeran, Azer 41.21 301 P **P** **06 54 57.2 +0.7**
JTM Tenmabayashi 41.57 56 IAMs_20 IAMs_20 07 13 27.4
comp=Z,6µm,19.0s
NLAI Namlea 41.85 127 P **P** **06 55 03.1 +1.1**
comp=Z,39nm,0.9s,comp=Z,2µm
EDFI Ende, Flores 42.29 138 P P 06 54 57.5 -8.2
JCJ Chichijima 42.46 76 IAMs_20 IAMs_20 07 13 22.7
comp=Z,5µm,20.0s
JCJ Chichijima 42.46 76 LR LR 07 14 10.3

comp=Z,5µm,19.2s,baz=282,slow=38
MMRI Maumere 42.53 138 P **P** **06 55 07.4 -0.2**
MMRI Maumere 42.53 138 P **P** **06 55 09.0 +1.4**
MMRI Maumere 42.53 138 P **P** **06 55 05.8 -1.8**
comp=Z,197nm,1.2s,comp=Z,4µmcomp=Z,2µm
SEKA Sheki 42.71 305 P **P** **06 55 09.9 +1.1**
MNGR Mingechevir, A 42.74 304 P **P** **06 55 10.6 +1.6**
MAK Makhachkala 42.74 307 *e*P **P** **06 55 09.8 +0.8**
MAK *e* 06 56 44.6
MAK *e*S **S** **07 01 31.4 +0.9**
MAK *e*SS **SS** **07 04 40.4 -1.4**
MAK pmax pmax
comp=Z,345nm,1.2s
MAK MLR MLR
comp=Z,3µm,16.0s
ASAJ Asahikawa 43.23 51 P **P** **06 55 14.3 +1.4**
ASAJ pmax pmax
comp=Z,119nm,1.3s
ASAJ MLR MLR
comp=Z,2µm,20.0s
ASAJ Asahikawa 43.23 51 P **P** **06 55 12.0 -0.9**
comp=Z,15nm,0.7s,baz=187,slow=17,SNR=4.5
comp=Z,15nm,0.7s
JKA Kamikawa-asahi 43.23 51 P **P** **06 55 14.3 +1.4**
GANJ Ganja 43.30 304 P **P** **06 55 14.7 +1.1**
SWI Sorong 43.45 120 P **P** **06 55 13.8 -1.2**
comp=Z,55nm,1.3s,comp=Z,2µm
SIJI Sorong 43.46 120 P **P** **06 55 14.1 -1.0**
comp=Z,57nm,1.1s,comp=Z,841nm
NAX Nakhchivan 43.80 302 P **P** **06 55 19.0 +1.3**
YSS Yuzh-Sakhalins 43.92 47 P **P** **06 55 17.3 -1.1**
YSS IAMs_20 IAMs_20 07 15 34.7
comp=Z,5µm,20.0s
YSS Yuzh-Sakhalins 43.92 47 P **P** **06 55 19.8 +1.4**
YSS Yuzh-Sakhalins 43.92 47 *e*P **P** **06 55 18.0 -0.4**
YSS *e**SP **pP** **06 55 29.7 +1.3**
YSS *e*S **S** **07 01 47.7 0.0**
YSS *e*SS **ScS** **07 05 15.2 +0.4**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=E,3µm,18.0s
YAK Yakutsk 44.09 23 P **P** **06 55 19.4 -0.1**
YAK Yakutsk 44.09 23 IAMs_20 IAMs_20 07 15 34.6
comp=Z,6µm,20.0s
YAK Yakutsk 44.09 23*c i*P **P** **06 55 19.3 -0.3**
YAK *e**PP **pP** **06 55 30.2 +0.7**
YAK *e* 06 57 08.7
YAK *e*PPP PPP 06 57 38.0
YAK *e*S **S** **07 01 47.9 -1.8**
YAK *e**SS **sS** **07 02 08.6 +2.4**
YAK *e* 07 05 15.8
YAK pmax pmax
comp=Z,46nm,1.0s
YAK pmax pmax
comp=N,24nm,1.4s
YAK pmax pmax
comp=E,26nm,1.4s
YAK smax smax
comp=N,329nm,4.0s
YAK MLR MLR
comp=Z,5µm,19.0s
YAK MLR MLR
comp=E,2µm,17.0s
YAK MLR MLR
comp=N,2µm,19.0s
YAK Yakutsk 44.09 23 P **P** **06 55 19.1 -0.4**
comp=N,1.7nm,0.7s,baz=230,slow=2.2,SNR=3.9
YAK LR LR 07 15 42.7
comp=N,289nm,20.5s,baz=229,slow=39
GNI Garni 44.46 303 P **P** **06 55 25.0 +2.0**
GNI Garni 44.46 303*ce*P **P** **06 55 24.8 +1.8**
GNI pmax pmax
comp=Z,243nm,1.2s
GNI MLR MLR
comp=Z,2µm,19.0s
GNI Garni 44.46 303 LR LR 07 17 09.7
comp=Z,2µm,20.9s,baz=98,slow=40
GNI Garni 44.46 303 P **P** **06 55 25.5 +2.4**
GNI Garni 44.46 303 P **P** **06 55 25.2 +2.2**
SOEI Soe 44.66 136 P **P** **06 55 24.6 -0.2**
SOEI IAMs_20 IAMs_20 07 15 29.5
comp=Z,7µm,22.0s
SOEI Soe 44.66 136 P **P** **06 55 27.4 +2.6**
SOEI Soe 44.66 136 P **P** **06 55 23.3 -1.5**
comp=Z,382nm,1.1s,comp=Z,6µm
BNDI Bandanaira 44.77 126 P **P** **06 55 27.5 +1.9**
BNDI Bandanaira 44.77 126 P **P** **06 55 25.1 -0.5**
comp=Z,232nm,1.2s
KZRT Kazreti 44.83 305 P **P** **06 55 27.3 +1.5**
GUDG Gudauri 44.88 306 P **P** **06 55 28.1 +1.6**
TYV Tymovskoe 44.89 42 *e*P **P** **06 55 28.1 +2.0**
TYV *e*S **S** **07 02 07.9 +6.2**
TYV pmax pmax
comp=Z,300nm,4.1s
TYV smax smax
comp=N,10.0nm,1.5s
TYV smax smax
comp=N,900nm,8.3s
TYV smax smax
comp=E,500nm,8.3s
NRIK Noril'sk 44.90 356 P **P** **06 55 26.2 +0.3**
NRIK Noril'sk 44.90 356 P **P** **06 55 26.3 +0.4**
comp=E,13nm,0.5s,baz=162,slow=6.4,SNR=47
NRIK LR LR 07 16 10.6
comp=E,5µm,18.2s,baz=176,slow=39
comp=E,13nm,0.5s
BELG Belogornoye 45.04 321 *i* P **P** **06 55 27.8 +0.6**
BELG pmax pmax
comp=Z,75nm,1.1s
BELG MLR MLR
comp=Z,500nm,17.0s
BELG Belogornoye 45.04 321 LR LR 07 17 15.8
comp=Z,3µm,19.7s,baz=111,slow=40
ZEI Tsey 45.34 307 *e*P **P** **06 55 27.8 -2.3**
ZEI *e*S **S** **07 02 09.6 +0.7**
ZEI pmax pmax
comp=Z,429nm,0.9s
FAKI Fak Fak 45.50 122 P **P** **06 55 31.0 -0.4**
FAKI IAmb IAmb 06 55 51.1
comp=Z,96nm,1.0s
FAKI Fak Fak 45.50 122 P **P** **06 55 32.2 +0.8**
FAKI Fak Fak 45.50 122 P **P** **06 55 30.6 -0.8**
comp=Z,106nm,1.1s,comp=Z,3µmcomp=Z,2µm
AKH Akhalkalaki 45.51 305 P **P** **06 55 33.5 +2.1**
AKH Akhalkalaki 45.51 305 P **P** **06 55 33.5 +2.1**
ONI Oni 45.65 306 P **P** **06 55 34.5 +2.1**
ONI Oni 45.65 306 P **P** **06 55 34.5 +2.1**
ONI pmax pmax
comp=Z,563nm,1.3s
KBZ Khabaz 46.18 308*ce*P **P** **06 55 36.9 +0.5**
KBZ pmax pmax
comp=Z,84nm,1.1s
KBZ MLR MLR
comp=Z,3µm,19.0s
KBZ Khabaz 46.18 308 P **P** **06 55 36.8 +0.3**
comp=Z,55nm,1.0s,baz=92,slow=5.8,SNR=78
KBZ ScP **ScP** **07 01 01.1 -1.6**
comp=Z,16nm,0.9s,baz=176,slow=2.9,SNR=5.7
KBZ LR LR 07 18 21.7
comp=Z,3µm,19.8s,baz=90,slow=40
comp=Z,55nm,1.0s
GOF Gofitskoye 46.25 310*c i*P **P** **06 55 38.2 +1.2**
KIV Kislovodsk 46.36 308 ⇑P **P** **06 55 38.9 +0.9**
KIV Kislovodsk 46.36 308 P **P** **06 55 38.7 +0.7**
KIV Kislovodsk 46.36 308 *i* P **P** **06 55 39.0 +1.1**
SNR=105
KIV Kislovodsk 46.36 308 *e*P **P** **06 55 38.8 +0.9**
KIV *e*S **S** **07 02 25.8 +2.5**
KIV pmax pmax
comp=Z,460nm,1.1s
KIV pmax pmax
comp=Z,258nm,3.8s
KIV MLR MLR
comp=Z,1µm,16.0s
KIV Kislovodsk 46.36 308 P **P** **06 55 39.1 +1.1**
KIV Kislovodsk 46.36 308 P **P** **06 55 39.1 +1.1**
GURO Guroymak-BITLI 46.47 300 IAmb IAmb 06 55 42.2
comp=Z,286nm,1.2s
KIRV Kirov 46.53 329*ce*P **P** **06 55 39.7 +0.8**
KIRV Kirov 46.53 329 LR LR 07 17 29.5
comp=Z,5µm,19.3s,baz=119,slow=39
BATM Batumi 46.87 305 P **P** **06 55 43.8 +1.9**
LABN Labinsk 47.84 309 *e*P **P** **06 55 50.7 +1.3**
LABN *e* 06 57 40.6
LABN *e*S **S** **07 02 50.1 +6.0**
LABN pmax pmax
comp=Z,305nm,1.1s
LABN MLR MLR
comp=Z,3µm,15.0s
LABN MLR MLR
comp=E,2µm,16.0s
LABN MLR MLR
comp=N,3µm,10.0s
ERBR Yeremizino-Bor 48.12 310 *e*P **P** **06 55 52.0 +0.4**
ERBR *e*S **S** **07 02 52.5 +4.4**
ERBR pmax pmax
comp=Z,204nm,0.8s
ERBR MLR MLR
comp=E,9µm,18.0s
ERBR MLR MLR
comp=Z,5µm,17.0s
ERBR MLR MLR
comp=N,5µm,21.0s
MSEY Mahe Island 48.14 238 P **P** **06 55 52.9 +0.8**
MSEY IAmb IAmb 06 55 58.4
comp=Z,128nm,1.5s
MSEY Mahe Island 48.14 238 IAMs_20 IAMs_20 07 17 32.1
comp=Z,4µm,18.0s
MSEY Mahe Island 48.14 238 *i* P **P** **06 55 54.2 +2.1**
SNR=5.2
MSEY Mahe Island 48.14 238 *e*P **P** **06 55 53.4 +1.2**
MSEY Mahe Island 48.14 238 P **P** **06 55 52.9 +0.8**
MSEY pmax pmax
comp=Z,128nm,1.5s
MSEY MLR MLR
comp=Z,4µm,18.0s
MSEY Mahe Island 48.14 238 P **P** **06 55 53.2 +1.1**
MSEY *S* **S** **07 02 52.3 +3.2**
VRH Novokhopyorsk 48.23 318*c i*P **P** **06 55 52.2 -0.1**
VRH pmax pmax
comp=Z,553nm,0.9s
GUMO Guam 48.29 94 P **P** **06 55 51.4 -1.8**
comp=Z,28nm,0.6s,baz=14,slow=19,SNR=1.3
GUMO LR LR 07 17 28.2
comp=Z,3µm,19.5s,baz=262,slow=38
comp=Z,28nm,0.6s
KTUT Trabzon 48.29 304 ⇓P **P** **06 55 54.7 +1.8**
SOC Sochi 48.47 307 *e*P **P** **06 55 52.3 -1.9**
SOC *e* 06 57 44.5
SOC *e*PPP PPP 06 58 33.9
SOC *e*S **S** **07 02 53.9 +0.9**
SOC pmax pmax
comp=Z,303nm,1.1s
SOC MLR MLR
comp=Z,2µm,17.0s
VORD Divnogorie 49.69 317 *e*P **P** **06 56 01.2 -2.3**
VORD pmax pmax
comp=Z,190nm,1.0s
VSR Storozhevoye 49.81 317 *e*P **P** **06 56 03.5 -0.9**
VSR pmax pmax
comp=Z,390nm,1.6s
VSR pmax pmax
comp=Z,720nm,1.8s
VSR MLR MLR
comp=Z,4µm,19.0s
VORR Voronezh 49.87 318 *e*P **P** **06 56 04.9 +0.1**
VORR pmax pmax
comp=Z,559nm,0.8s
RSDY Resadiye-TOKAT 50.13 303 *e*P **P** **06 56 07.9 +0.8**
ANN Anapa 50.19 309 *e*P **P** **06 56 03.9 -3.4**
ANN *e* 06 57 59.1
ANN *e*S **S** **07 03 14.0 -3.1**
ANN pmax pmax
comp=Z,115nm,0.8s
LPSR Galich'ya Gora 50.22 319 *e*P **P** **06 56 07.4 -0.1**
LPSR pmax pmax
comp=Z,690nm,0.9s
LPSR pmax pmax
comp=Z,900nm,1.0s
LPSR MLR MLR
comp=Z,2µm,20.0s
GAZ Gaziantep 50.31 299 P **P** **06 56 09.4 +0.9**
SVSK Karacayir 50.39 302 *e*P **P** **06 56 10.6 +1.7**
GIRL Giralia 50.66 157 IAMs_20 IAMs_20 07 19 31.1
comp=Z,5µm,21.0s
TOKT Tokat 50.73 303 *e*P **P** **06 56 13.1 +1.5**
TIXI Tiksi 50.75 13 P **P** **06 56 10.9 -0.2**
TIXI Tiksi 50.75 13*ce*P **P** **06 56 10.6 -0.6**
TIXI pmax pmax
comp=Z,459nm,1.3s
TIXI MLR MLR
comp=Z,1µm,15.0s
TIXI Tiksi 50.75 13 P **P** **06 56 11.2 0.0**
comp=Z,5.8nm,0.3s,baz=233,slow=6.4,SNR=108
TIXI LR LR 07 21 28.4
comp=Z,88nm,19.1s,baz=244,slow=40
comp=Z,5.8nm,0.3s
TIXI Tiksi 50.75 13 P **P** **06 56 11.0 -0.2**
ATD Arta Tunnel 50.85 265 P **P** **06 56 14.4 +1.4**
ATD IAmb IAmb 06 56 15.9
comp=Z,229nm,1.2s
ATD Arta Tunnel 50.85 265 LR LR 07 17 43.6
comp=Z,137nm,21.2s,baz=72,slow=36
ATD Arta Tunnel 50.85 265 P **P** **06 56 14.7 +1.8**
SNR=41
ATD *S* **S** **07 03 30.9 +3.7**
ATD Arta Tunnel 50.85 265 *e*P **P** **06 56 14.3 +1.4**
ATD *e*S S 07 03 48.4 +21
ATD Arta Tunnel 50.85 265 *e*P **P** **06 56 11.2 -1.6**
ATD *e*S **S** **07 03 19.7 -7.5**
ATD Arta Tunnel 50.85 265 P **P** **06 56 14.7 +1.8**
ATD sP **sP** **06 56 30.0 +3.0**
SARI SarD1z-Kayseri 50.88 300 *e*P **P** **06 56 14.4 +1.5**
ASF Jabal al Asfar 51.00 292 LR LR 07 23 47.2
comp=Z,2µm,18.6s,baz=103,slow=43
KVT Kavak 51.10 304 *e*P **P** **06 56 15.9 +1.5**
BNN Bunyan 51.31 301 *e*P **P** **06 56 17.6 +1.5**
BNN Bunyan 51.31 301 IAMs_20 IAMs_20 07 21 38.3
comp=Z,5µm,22.0s
BEIL Beino 51.33 295 *e*P **P** **06 56 17.3 +1.0**
HARA HARA 51.35 262 *e*P **P** **06 56 21.0 +4.2**
HARA *e*S **S** **07 03 33.1 -1.2**
KOZT Kozan 51.39 299 *e*P **P** **06 56 17.6 +1.0**
HWQ Hawqa 51.55 295 *e*P **P** **06 56 19.2 +1.2**
MBWA Marble Bar 51.58 150 P **P** **06 56 18.4 +0.4**
MBWA IAmb IAmb 06 56 34.1
comp=Z,97nm,0.9s
MBWA Marble Bar 51.58 150 P **P** **06 56 18.4 +0.4**
MBWA Marble Bar 51.58 150 P **P** **06 56 20.6 +2.6**
MBWA *S* **S** **07 03 34.8 -1.9**
MBWA Marble Bar 51.58 150 P **P** **06 56 18.4 +0.4**
MBWA sP **sP** **06 56 32.4 +0.2**
MBWA ScP **ScP** **07 01 22.7 -3.2**
MOS Moscow 51.62 323 *e*P **P** **06 56 14.4 -3.5**
MOS *e* 06 57 27.6
MOS *e* 06 58 12.6
MOS *e*S **S** **07 03 32.9 -3.7**
MOS *e* 07 06 03.5
MOS pmax pmax
comp=Z,833nm,1.3s
MOS pmax pmax
comp=E,304nm,1.0s
MOS pmax pmax
comp=Z,2µm,1.7s
MOS pmax pmax
comp=E,300nm,1.2s
MOS MLR MLR
comp=Z,4µm,16.0s
GENI Genyem 51.65 115 P **P** **06 56 21.1 +2.4**
GENI Genyem 51.65 115 P **P** **06 56 17.8 -0.9**
comp=Z,240nm,1.2s,comp=Z,4µm
ZAHL Zahle 51.65 295 *e*P **P** **06 56 20.1 +1.4**
YOZ Yozgat 51.69 302 *e*P **P** **06 56 19.9 +1.0**
DIKM Dikmen 51.69 305 ⇑P **P** **06 56 19.3 +0.6**
DIKM Dikmen 51.69 305 *e*P **P** **06 56 19.8 +1.1**
SHBL Chebaa 51.83 294 *e*P **P** **06 56 21.1 +1.0**
BHL Bhannes 51.84 295 *e*P **P** **06 56 21.4 +1.3**
QRWL Qaraoun 51.85 294 *e*P **P** **06 56 21.2 +1.1**
MA2 Magadan 51.91 32 P **P** **06 56 19.1 -1.0**
MA2 IAMs_20 IAMs_20 07 20 47.5
comp=Z,6µm,19.0s
MA2 Magadan 51.91 32 P **P** **06 56 19.8 -0.3**
MA2 Magadan 51.91 32*ce*P **P** **06 56 19.3 -0.8**
MA2 pmax pmax
comp=Z,17nm,1.1s
MA2 MLR MLR
comp=Z,6µm,18.0s
MA2 Magadan 51.91 32 P **P** **06 56 18.8 -1.3**
comp=Z,8.0nm,0.7s,baz=241,slow=6.8,SNR=7.8
MA2 LR LR 07 20 59.4
comp=Z,5µm,18.5s,baz=253,slow=39
comp=Z,8.0nm,0.7s
PSAC1 Pilbara Seismi 51.94 150 IAMs_20 IAMs_20 07 19 34.9
comp=Z,4µm,22.0s
PSAB2 Pilbara Seismi 51.98 150 IAMs_20 IAMs_20 07 18 44.0
comp=Z,3µm,22.0s
KNRA Kununurra 51.99 137 P **P** **06 56 21.3 +0.2**
KNRA IAmb IAmb 06 56 36.0
comp=Z,195nm,1.1s
KNRA Kununurra 51.99 137 P **P** **06 56 22.0 +0.9**
PSA00 Pilbara Seismi 51.99 150 IAmb IAmb 06 56 35.9
comp=Z,79nm,0.9s
PSA00 Pilbara Seismi 51.99 150 P **P** **06 56 21.6 +0.5**
PSAA3 Pilbara Seismi 52.00 150 IAMs_20 IAMs_20 07 18 34.5
comp=Z,4µm,22.0s
KARA Karaisali 52.02 299 *e*P **P** **06 56 22.3 +1.0**
PSAD3 Pilbara Seismi 52.02 150 IAMs_20 IAMs_20 07 19 59.1
comp=Z,4µm,21.0s
KLMR Klimovskoe 52.03 329 *e*P **P** **06 56 18.1 -2.8**
KLMR *e* 06 57 29.8
KLMR S **S** **07 03 43.1 +1.1**
KLMR pmax pmax
comp=Z,996nm,1.4s
KLMR MLR MLR
comp=Z,4µm,15.0s
FITZ Fitzroy Crossi 52.03 142 P **P** **06 56 21.6 +0.1**
FITZ Fitzroy Crossi 52.03 142 P **P** **06 56 23.0 +1.6**
CMRD Camardi-Nigde 52.05 299 *e*P **P** **06 56 22.7 +1.1**
KOZK Kozakli-Nevseh 52.05 301 *e*P **P** **06 56 23.2 +1.6**
OBN Obninsk 52.08 322 P **P** **06 56 21.4 0.0**
OBN Obninsk 52.08 322*c i*P **P** **06 56 21.3 0.0**
OBN *e* 06 57 33.7
OBN *e* 06 58 20.6
OBN *i* S S 07 04 04.5 +22
OBN pmax pmax
comp=Z,419nm,1.3s
OBN MLR MLR
comp=Z,4µm,20.0s
OBN Obninsk 52.08 322 LR LR 07 21 09.7
comp=Z,3µm,20.8s,baz=98,slow=39
OBN Obninsk 52.08 322 P **P** **06 56 21.5 +0.1**
OBN PcP **PcP** **06 57 33.5 +0.4**
OBN ScP **ScP** **07 01 26.9 -0.7**
MMAI Mount Meron Ar 52.15 294 P **P** **06 56 23.4 +1.1**
comp=Z,92nm,0.9s,baz=92,slow=11,SNR=81
MMAI PcP **PcP** **06 57 34.6 +0.7**
comp=Z,10nm,0.7s,baz=106,slow=3.7,SNR=4.4
MMAI ScP **ScP** **07 01 26.7 -1.8**
comp=Z,4.4nm,0.6s,baz=79,slow=4.3,SNR=6.9
MMAI LR LR 07 22 31.2
comp=Z,3µm,20.7s,baz=58,slow=40
comp=Z,92nm,0.9s
CORM Corum 52.20 303 *e*P **P** **06 56 23.9 +1.2**
KDU Kakadu 52.22 131 P **P** **06 56 23.5 +0.6**
GHAJ Ghor Haditha 52.24 291 IAmb IAmb 06 56 25.6
comp=Z,279nm,1.1s
MERS Mersin 52.48 299 *e*P **P** **06 56 25.2 +0.5**
SIM Simferopol' 52.55 309 *e*P **P** **06 56 25.1 0.0**
SIM *e*S **S** **07 03 51.9 +2.2**
SIM pmax pmax
comp=Z,453nm,1.3s
GULA Gulagac 52.59 300 *e*P **P** **06 56 26.4 +0.7**
KIZK Mersin 52.81 298 *e*P **P** **06 56 27.4 +0.3**
YAYX Yaylak 52.89 301 *e*P **P** **06 56 28.7 +0.9**
BR131 Keskin Array S 52.98 302 *e*P **P** **06 56 28.9 +0.4**
BR131 Keskin Array S 52.98 302 P **P** **06 56 28.6 +0.1**
BR131 Keskin Array S 52.98 302*c i*P **P** **06 56 28.7 +0.2**
BR131 Keskin Array S 52.98 302 P **P** **06 56 29.1 +0.5**
SNR=106
BR131 S **S** **07 03 52.3 -3.7**
BRTR Keskin Array B 52.98 302 P **P** **06 56 28.8 +0.2**
comp=Z,80nm,0.9s,baz=122,slow=4.6,SNR=198
BRTR ScP **ScP** **07 01 29.6 -2.5**
comp=Z,15nm,1.0s,baz=119,slow=3.0,SNR=14
BRTR LR LR 07 23 01.1
comp=Z,1µm,20.2s,baz=91,slow=40
comp=Z,80nm,0.9s
SILI Silifke-Mersin 53.00 298 *e*P **P** **06 56 28.9 +0.4**
YESY Yesilyurt 53.02 300 *e*P **P** **06 56 29.8 +1.0**
EIL Elat 53.02 290 LR LR 07 23 29.3
comp=Z,3µm,20.1s,baz=74,slow=41
SERE Sereflikochisa 53.08 301 *e*P **P** **06 56 30.0 +0.7**
KEBE Keben-Mersin 53.16 298 *e*P **P** **06 56 30.5 +0.7**
SULT Sultanhani-AKS 53.17 300 *e*P **P** **06 56 31.2 +1.3**
IKL Isikli 53.20 298 *e*P **P** **06 56 30.0 0.0**
AKKU Akkuyu-Mersin 53.32 298 *e*P **P** **06 56 31.1 +0.2**
AFSR Afar-Bala (An 53.43 302 *e*P **P** **06 56 31.8 0.0**
KULU Kulu 53.51 301 *e*P **P** **06 56 33.0 +0.6**
BERE Bereket-Mersin 53.56 298 *e*P **P** **06 56 33.3 +0.4**
KURC Kurucasile-Bar 53.57 305 *e*P **P** **06 56 33.3 +0.7**
ANTO Ankara 53.62 302 ⇓P **P** **06 56 34.3 +1.1**
ANTO Ankara 53.62 302 P **P** **06 56 33.9 +0.7**
ANTO Ankara 53.62 302 P **P** **06 56 34.2 +1.1**
ANTO Ankara 53.62 302 P **P** **06 56 34.2 +1.1**
ANTO S **S** **07 04 01.9 -2.7**
ANTO Ankara 53.62 302 P **P** **06 56 34.0 +0.9**
ANTO pP **pP** **06 56 44.2 +0.8**
ANTO sP **sP** **06 56 49.1 +1.8**
CSS Mathiatis 53.62 296 P **P** **06 56 33.2 0.0**
CSS IAmb IAmb 06 56 36.0
comp=Z,165nm,1.1s
CHBY Cihanbeyli 53.63 301 *e*P **P** **06 56 33.8 +0.5**
BR231 Keskin MP Arra 53.64 302 P **P** **06 56 33.9 +0.6**
BR231 IAmb IAmb 06 56 35.3
comp=Z,160nm,0.8s
LOD Lodumlu 53.64 302 *e*P **P** **06 56 33.7 +0.4**
SEY Seymchan 53.66 29*ce*P **P** **06 56 32.8 -0.1**
SEY pmax pmax
comp=Z,24nm,1.7s
SEY MLR MLR
comp=Z,15µm,19.0s
SEY Seymchan 53.66 29 P **P** **06 56 32.3 -0.6**
comp=Z,2.3nm,0.4s,baz=286,slow=5.3,SNR=11
SEY LR LR 07 21 59.4
comp=Z,15µm,19.7s,baz=251,slow=39
DESE Dese 53.92 266 *e*P **P** **06 56 37.8 +1.8**
TABU Tabubil 54.04 117 P **P** **06 56 39.4 +3.0**
LADK Ladik-KONYA 54.08 300 *e*P **P** **06 56 36.1 -0.4**
HDMB Hadim 54.09 299 *e*P **P** **06 56 36.8 0.0**
KONT Konya--Tatoy 54.10 300 *e*P **P** **06 56 37.0 +0.4**
GAZI Gazipasa 54.30 298 *e*P **P** **06 56 37.7 -0.4**
KIZT Kizilcal 54.40 301 *e*P **P** **06 56 39.2 +0.3**
YUVA Yuva-Kibriscik 54.44 303 *e*P **P** **06 56 39.8 +0.7**
PEA0B Petropavlovsk- 54.44 41 IAMs_20 IAMs_20 07 23 03.6
comp=Z,3µm,19.0s
PETK Petropavlovsk- 54.44 41 P **P** **06 56 37.0 -1.8**
comp=Z,7.3nm,1.0s,baz=240,slow=4.4,SNR=10.0
comp=Z,7.3nm,1.0s
SEYD Seydisehir-KON 54.56 299 *e*P **P** **06 56 40.8 +0.7**
SVRH Sivrihisar-ESK 54.63 302 *e*P **P** **06 56 40.8 +0.3**
MDUB Mudurnu 54.80 303 *e*P **P** **06 56 42.5 +0.7**
CIFT Cifteler, Eski 54.99 302 *e*P **P** **06 56 43.4 +0.3**
PET Petropavlovsk 55.01 41 IAMs_20 IAMs_20 07 23 27.5
comp=Z,3µm,18.0s
PET Petropavlovsk 55.01 41 *e*P **P** **06 56 47.0 +4.1**
PET *e*S **S** **07 04 21.2 -1.4**
PET pmax pmax
comp=Z,200nm,10.4s
PET MLR MLR
comp=Z,4µm,15.0s
PET MLR MLR
comp=Z,4µm,15.0s
SRCK Saricakaya, Es 55.27 303 *e*P **P** **06 56 45.4 +0.3**
GULT Gulveren 55.33 303 *e*P **P** **06 56 47.1 +1.6**
SAUV Serdivan-Sakar 55.45 304 *e*P **P** **06 56 46.6 +0.3**
SHUT Suhut-Afyon 55.46 301 *e*P **P** **06 56 46.9 +0.3**
PURM Purcari 55.53 311 ⇑P **P** **06 56 47.1 +0.3**
WLRA Wolmera 55.56 264 *e*P **P** **06 56 50.0 +2.1**
WLRA Wolmera 55.56 264 *e*P P 06 56 41.8 -6.1
WLRA *e*S S 07 04 14.8 -17
ISP Isparta 55.56 300 *e*P **P** **06 56 46.2 -1.1**
ISP Isparta 55.56 300*ce*P **P** **06 56 46.7 -0.6**
ISP pmax pmax
comp=Z,256nm,1.0s
FURI Furi 55.66 264 P **P** **06 56 51.0 +2.4**
FURI Furi 55.66 264 *e*P **P** **06 56 50.6 +2.1**
FURI *e*S S 07 04 52.8 +20
FURI Furi 55.66 264 *e*P **P** **06 56 44.0 -4.5**
FURI *e*S S 07 04 16.8 -16
KORT Korkueli 55.79 299 *e*P **P** **06 56 48.8 -0.2**
CAVI Cavuskoy 55.86 303 *e*P **P** **06 56 49.5 +0.2**
ADVT Abdulvahap 55.92 303 *e*P **P** **06 56 49.5 -0.2**
SILT Sile 55.93 304 *e*P **P** **06 56 49.9 +0.2**

MEEK Meekatharra 55.93 154 P P 06 56 50.6 +0.7
HRT Hereke 55.94 304 eP P 06 56 49.9 0.0
AKASG Malin Array Be 56.01 316 P P 06 56 49.6 -0.5
comp=Z,226nm,0.9s,baz=80,slow=6.6,SNR=493
AKASG ScP ScP 07 01 43.1 -1.8
comp=Z,15nm,1.1s,baz=82,slow=3.9,SNR=9.4
AKASG LR LR 07 24 45.5
comp=Z,3µm,19.3s,baz=80,slow=40
comp=Z,226nm,0.9s
AKBB Malin Array Si 56.01 316 IAMs_20 IAMs_20 07 24 42.7
comp=Z,3µm,19.0s
AKBB Malin Array Si 56.01 316ceP P 06 56 49.3 -0.8
AKBB pmax pmax
comp=Z,421nm,0.9s
KIEV Kiev 56.02 316 ⇑P P 06 56 50.8 +0.5
KIEV Kiev 56.02 316 P P 06 56 49.6 -0.6
KIEV Kiev 56.02 316 IAMs_20 IAMs_20 07 24 35.7
comp=Z,3µm,19.0s
KIEV Kiev 56.02 316 i P P 06 56 50.4 +0.2
SNR=9.6
KIEV Kiev 56.02 316 P P 06 56 50.7 +0.5
KIEV Kiev 56.02 316 P P 06 56 50.7 +0.5
KIEV PcP PcP 06 57 49.4 +1.1
KIEV ScP ScP 07 01 45.1 +0.1
ELL Elmali 56.17 299 eP P 06 56 51.9 +0.2
ELL Elmali 56.17 299 P P 06 56 51.7 0.0
ELL Elmali 56.17 299 P P 06 56 51.7 0.0
ELL MLR MLR
comp=Z,3µm,22.0s
TVSB Tavsanli 56.22 302 eP P 06 56 52.4 +0.4
KIS Kishinev 56.25 311 ⇑iP P 06 56 51.3 -0.6
comp=Z,330nm,1.3s
KIS LQM 07 19 32.0
comp=Z,650nm,14.4s
KIS LRM MLR 07 26 56.0
comp=Z,600nm,16.4s
KIS Kishinev 56.25 311c iP P 06 56 51.0 -0.9
KIS pmax pmax
comp=Z,330nm,1.3s
KIS pmax pmax
comp=E,240nm,1.1s
MILM Milestii Mici 56.26 311 ⇑iP P 06 56 51.3 -0.6
comp=E,1µm,1.9s
MILM eL L 07 17 49.0
MILM LQM 07 19 40.0
comp=E,1µm,24.6s
MILM LRM MLR 07 26 47.0
comp=E,2µm,16.5s
MILM Milestii Mici 56.26 311 ⇑P P 06 56 51.4 -0.6
MILM Milestii Mici 56.26 311c iP P 06 56 51.0 -1.0
MILM i 06 56 59.0
MILM pmax pmax
comp=Z,1µm,1.9s
LVZ Lovozero 56.27 337 P P 06 56 51.6 -0.1
LVZ IAmb IAmb 06 56 53.3
comp=Z,172nm,1.0s
LVZ Lovozero 56.27 337ceP P 06 56 51.9 +0.2
LVZ pmax pmax
comp=Z,250nm,1.3s
LVZ MLR MLR
comp=Z,3µm,16.0s
LVZ Lovozero 56.27 337 P P 06 56 51.9 +0.2
LVZ pP pP 06 57 02.8 +0.8
GEDZ Gediz 56.30 302 eP P 06 56 53.2 +0.7
TLCR 56.30 309 ⇑P P 06 56 52.2 -0.1
TLCR 56.30 309 P P 06 56 52.2 -0.1
KLYT Kilyos 56.38 304 eP P 06 56 53.3 +0.4
KAVV Kandilli-Istan 56.38 304 eP P 06 56 53.5 +0.6
ISK Istanbul-Kandi 56.38 304 eP P 06 56 53.2 +0.3
ISK Istanbul-Kandi 56.38 304 P P 06 56 50.9 -2.0
EFOR EFORIE 56.49 308 ⇑P P 06 56 54.6 +1.0
KSL Kastellorizon 56.51 298 P P 06 56 52.5 -1.4
SORM Soroca 56.55 313 ⇑P P 06 56 53.5 -0.5
SORM Soroca 56.55 313 P P 06 56 53.4 -0.6
APMY Acipayam-Deniz 56.56 300 eP P 06 56 53.3 -1.1
ARMT Armutlu 56.57 304 eP P 06 56 54.4 0.0
BGKT Bogazkoy 56.58 304 eP P 06 56 54.9 +0.5
TPGR Topolog 56.60 309 ⇑P P 06 56 54.6 +0.1
APA Apatity 56.62 336 ⇓iP P 06 56 53.1 -1.1
APA pmax pmax
comp=Z,53nm,0.9s
APA MLR MLR
comp=Z,4µm,15.0s
TIRR Tirgusor 56.62 308 ⇑P P 06 56 54.6 -0.1
TIRR Tirgusor 56.62 308 IAMs_20 IAMs_20 07 25 33.5
comp=Z,5µm,18.0s
TIRR Tirgusor 56.62 308 P P 06 56 54.5 -0.1
SIMA Simav-Kutahya 56.63 302 eP P 06 56 55.2 +0.3
CAME Cameli-Denizli 56.63 299 eP P 06 56 54.4 -0.6
MFTR Murfatlar 56.63 308 ⇓P P 06 56 55.4 +0.7
LEOM Leova 56.66 311 ⇑P P 06 56 55.6 +0.7
LEOM Leova 56.66 311 P P 06 56 55.5 +0.7
GIUM Giurgiulesti 56.72 309 ⇓P P 06 56 57.0 +1.7
CFR Carcaliu 56.78 309 ⇓P P 06 56 55.7 0.0
CFR Carcaliu 56.78 309 P P 06 56 55.7 0.0
VLDR Vladesti 56.79 310 ⇑P P 06 56 56.3 +0.5
FETY Fethiye 56.84 299 eP P 06 56 55.5 -0.9
SCTR Scanteiesti 56.86 310 ⇑P P 06 56 56.8 +0.5
CTYL Yalikoy Yolu 56.92 305 eP P 06 56 56.9 +0.1
KULA Kula-Manisa 56.94 301 eP P 06 56 56.9 -0.2
KULA Kula-Manisa 56.94 301 P P 06 56 55.5 -1.6
NEGRR Negrea 56.95 309 ⇑P P 06 56 57.3 +0.3
VARL Varlezi 56.95 310 ⇑P P 06 56 57.6 +0.7
HARR Harsova 56.95 308 ⇑P P 06 56 57.2 +0.2
HARR Harsova 56.95 308 P P 06 56 57.2 +0.2
VASR Vaslui 56.97 311 ⇑P P 06 56 57.0 0.0
MNK Minsk 56.99 320 iP P 06 56 56.0 -1.0
MNK i 06 59 03.4
MNK i PPP PPP 07 00 20.1
MNK i S S 07 04 49.2 +0.2
MNK i SS SS 07 08 41.1 +3.6
MNK pmax pmax
comp=Z,435nm,0.9s
MNK pmax pmax
comp=N,55nm,1.3s
MNK pmax pmax
comp=E,236nm,1.7s
MNK MLR MLR
comp=Z,2µm,16.0s
MNK MLR MLR
comp=N,782nm,14.0s
SLCR Slobozia Conac 57.02 310 ⇓P P 06 56 58.5 +1.1
DILA Dilla 57.02 261 eP P 06 56 59.4 +1.3
DILA Dilla 57.02 261 eP P 06 56 57.2 -0.9
DILA eS S 07 04 41.2 -10
IZVR Izvoarele 57.03 310 ⇑P P 06 56 58.7 +1.3
ICOR Ion Corvin 57.08 308 ⇓P P 06 56 59.2 +1.3
BIR Birlad 57.09 310 ⇑P P 06 56 59.0 +1.1
BIR Birlad 57.09 310 P P 06 56 59.0 +1.1
TUDR 57.09 310 ⇓P P 06 56 59.3 +1.4
IAS Iasi 57.11 311 ⇑P P 06 56 57.8 -0.2
IAS Iasi 57.11 311 P P 06 56 57.8 -0.2
DALY Dalyan (Mula) 57.16 299 eP P 06 56 58.2 -0.3
MORW Morawa 57.19 158 IAmb IAmb 06 57 12.8
comp=Z,84nm,1.2s
MORW Morawa 57.19 158 P P 06 57 00.1 +1.4
GHRR 57.25 310 ⇑P P 06 57 00.1 +1.0
AMRR Amara 57.38 308 ⇓P P 06 57 01.5 +1.5
AMRR Amara 57.38 308 P P 06 57 01.5 +1.5
MANU Manus Island 57.41 110 P P 06 57 03.3 +2.7
YER Yerkesik 57.41 300 eP P 06 56 59.4 -1.0
YER Yerkesik 57.41 300 P P 06 56 59.6 -0.8
BALB Balikesir 57.41 302 eP P 06 57 00.4 +0.1
BALB Balikesir 57.41 302 P P 06 57 00.5 +0.2
PRD Provadia 57.43 307 P P 06 57 00.6 +0.2
PANC Panciu 57.44 310 ⇑P P 06 57 01.6 +1.2
ODBI Odobesti 57.51 310 ⇑P P 06 57 02.8 +1.9
NEF NEVSHA 57.52 307 P P 06 57 01.7 +0.7
GRER 57.59 309 ⇑P P 06 57 03.7 +2.2
DRBR Darabani 57.72 313 ⇑P P 06 57 02.5 +0.2
VRI Vrincioaia 57.74 310 ⇑P P 06 57 03.7 +1.1
VRI Vrincioaia 57.74 310 P P 06 57 03.6 +1.1
TESR Tescani 57.76 311 ⇑P P 06 57 02.7 0.0
BISRR Bisoca 57.77 310 ⇑P P 06 57 04.7 +1.9
KRBG Karabiga-Canak 57.78 303 eP P 06 57 02.9 +0.1
MLSB Milas 57.79 300 eP P 06 57 03.2 +0.1
PLOR Plostina 57.79 310 ⇑P P 06 57 04.1 +1.1
PLOR Plostina 57.79 310 P P 06 57 04.0 +1.1
PLOR Plostina 57.79 310 ⇑P P 06 57 04.1 +1.1
VSU Vasula 57.90 325ceP P 06 57 03.8 +0.4
VSU pmax pmax
comp=Z,830nm,1.7s
VSU MLR MLR
comp=Z,3µm,13.0s
VSU Vasula 57.90 325 eP P 06 57 02.5 -0.9
ISR Istrita 57.91 309 ⇓P P 06 57 06.0 +2.2
ISR Istrita 57.91 309 P P 06 57 06.0 +2.2
PRAR RASCA 58.01 312 ⇓P P 06 57 04.7 +0.3
LOZB Loznitsa 58.01 307 ⇑P P 06 57 04.7 +0.2
DAT Datca 58.03 299 P P 06 57 04.7 -0.1
EDRB Edirne 58.04 305 eP P 06 57 04.7 0.0
EDRB Edirne 58.04 305 P P 06 57 04.4 -0.3
ISAL Salakas 58.05 321 eP P 06 57 06.0 +1.4
NEHR Nehoiu 58.07 309 ⇑P P 06 57 06.4 +1.5
GRD1 Great Renaissa 58.08 268 eP P 06 57 05.4 0.0
GRD1 Great Renaissa 58.08 268 eP P 06 56 52.6 -13
GRD1 eS PKiKP 07 04 31.1 +10
COVR Voineasa-Covas 58.10 310 ⇓P P 06 57 06.3 +1.2
JMB Yambol 58.14 306 P P 06 57 05.8 +0.5
SULR 58.15 309 ⇑P P 06 57 06.4 +1.1
GCAM G?zelcaml? 58.16 300 eP P 06 57 06.2 +0.6
LPK Lapseki 58.19 303 eP P 06 57 05.1 -0.6
BODT Bodrum 58.19 300 P P 06 57 04.1 -1.7
UKOP Uzunkopru-Edir 58.20 304 eP P 06 57 06.9 +1.1
TURR Turia 58.22 310 ⇑P P 06 57 06.8 +0.8
DKL Dikili 58.23 302 eP P 06 57 06.2 +0.1
RFT7 Candarli 58.24 302 eP P 06 57 06.0 -0.1
MLR Muntele Rosu 58.31 310 ⇑P P 06 57 07.8 +1.1
MLR Muntele Rosu 58.31 310 IAMs_20 IAMs_20 07 26 22.0
comp=Z,3µm,21.0s
MLR Muntele Rosu 58.31 310 P P 06 57 07.8 +1.1
MLR Muntele Rosu 58.31 310 LR LR 07 26 43.3
comp=Z,3µm,20.4s,baz=74,slow=40
ERIK Erikli-Kesan 58.34 304 eP P 06 57 07.4 +0.6
OZUR 58.38 310 ⇑P P 06 57 07.5 +0.5
GELI Tayfur-Gelibol 58.40 304 eP P 06 57 06.5 -0.7
NISR Nisiros 58.40 299 P P 06 57 03.0 -4.3
COMU Canakkale 58.44 303 eP P 06 57 08.9 +1.4
BOSR Bodos 58.47 310 ⇑P P 06 57 08.8 +1.2
SZH Strazhitsa 58.47 307 P P 06 57 08.7 +1.0
SMG Samos 58.47 300 P P 06 57 07.0 -0.8
FIA1 FINESS Array S 58.51 328 P P 06 57 07.8 +0.2
FINES FINESS Array B 58.51 328 P P 06 57 07.9 +0.3
FINES FINESS Array B 58.51 328ceP P 06 57 08.5 +0.9
FINES pmax pmax
comp=Z,74nm,0.8s
FINES FINESS Array B 58.51 328 P P 06 57 08.0 +0.4
comp=Z,74nm,0.8s,baz=92,slow=5.7,SNR=106
FINES LR LR 07 24 52.4
comp=Z,6µm,18.0s,baz=95,slow=38
comp=Z,74nm,0.8s
KARP Karpathos 58.54 298 P P 06 57 08.2 -0.2
KARP Karpathos 58.54 298 P P 06 57 07.7 -0.7
ELND Elena 58.57 307 ⇑P P 06 57 08.7 +0.3
EZN Ezine 58.58 303 P P 06 57 08.0 -0.5
EZN Ezine 58.58 303 P P 06 57 09.3 +0.8
WB9 Warramunga Arr 58.60 135 IAMs_20 IAMs_20 07 24 22.9
comp=Z,3µm,22.0s
ENEZ Enez 58.60 304 eP P 06 57 09.2 +0.6
ENEZ Enez 58.60 304 P P 06 57 08.0 -0.6
WB8 Warramunga Arr 58.61 135 IAMs_20 IAMs_20 07 24 00.2
comp=Z,3µm,22.0s
DOPR Dopca 58.66 310 ⇑P P 06 57 09.5 +0.5
ALN Alexandroupoli 58.67 304 eP P 06 57 09.2 +0.2
ALN Alexandroupoli 58.67 304 P P 06 57 09.0 -0.1
ALN Alexandroupoli 58.67 304 P P 06 57 07.7 -1.3
ALN Alexandroupoli 58.67 304 P P 06 57 09.0 -0.1
ALN pmax pmax
comp=Z,267nm,1.2s
BURAR Bucovina Array 58.68 312 ⇑P P 06 57 09.2 +0.1
BURAR Bucovina Array 58.68 312 IAmb IAmb 06 57 10.5
comp=Z,66nm,0.9s
BURAR Bucovina Array 58.68 312 P P 06 57 09.2 +0.1
WB3 Warramunga Arr 58.68 136 IAMs_20 IAMs_20 07 24 01.9
comp=Z,3µm,22.0s
WRA Warramunga Arr 58.68 136 P P 06 57 08.3 -1.0
comp=Z,42nm,0.8s,baz=323,slow=7.3,SNR=124
WRA ScP ScP 07 01 53.6 -3.5
comp=Z,14nm,1.0s,baz=321,slow=4.4,SNR=9.5
WRA LR LR 07 24 46.8
comp=Z,2µm,21.7s,baz=305,slow=38
WRA PKPPKP P'P'df 07 26 43.8 +0.7
comp=Z,6.7nm,1.0s,baz=171,slow=1.9,SNR=10.0
WRA PKP2bc 07 26 54.9
comp=Z,23nm,1.1s,baz=145,slow=1.6,SNR=13
comp=Z,42nm,0.8s
BUR08 Bucovina Ar. S 58.69 312 IAmb IAmb 06 57 10.8
comp=Z,127nm,1.2s
WB2 Warramunga Arr 58.69 136 IAmb IAmb 06 57 24.2
comp=Z,102nm,0.9s
PRK Paraskevi 58.70 302 P P 06 57 08.3 -1.0
VADS Vadso 58.72 339 eP P 06 57 09.8 +0.9
VADS IAmb IAmb 06 57 10.8
comp=Z,153nm,0.9s
VADS eS S 07 05 17.5 +6.3
WR0 Warramunga Arr 58.82 135 IAmb IAmb 06 57 25.1
comp=Z,108nm,0.9s
GADA Gvkgeada 58.86 303 eP P 06 57 10.1 -0.3
DIM Dimitrovgrad 58.88 306 P P 06 57 11.4 +0.8
COPA Copaceanca 58.94 308 ⇑P P 06 57 10.1 -0.8
VOIR 58.94 310 ⇑P P 06 57 10.7 -0.3
VOIR 58.94 310 P P 06 57 10.7 -0.3
MTUR Matau 58.95 309 ⇓P P 06 57 11.5 +0.4
MTUR Matau 58.95 309 P P 06 57 11.5 +0.4
CHOS Chios island 58.98 301 P P 06 57 11.1 -0.3
RDO Rodhopi 59.02 304 P P 06 57 09.3 -2.2
SIGR SIGRI 59.02 302 P P 06 57 10.7 -0.9
STFAR Stefanesti-Arg 59.05 309 ⇑P P 06 57 13.3 +1.6
HUMR Humele 59.07 308 ⇓P P 06 57 12.3 +0.5
WRKA Warakurna 59.08 144 P P 06 57 13.4 +1.4
SMTH Samothraki Isl 59.11 304 P P 06 57 11.6 -0.6
MEF Metsahovi 59.23 327 eP P 06 57 12.2 -0.3
ARR Arges 59.24 309 ⇑P P 06 57 13.3 +0.2
PABE Paberze 59.28 321 IAMs_20 IAMs_20 07 25 22.8
comp=Z,3µm,21.0s
PABE Paberze 59.28 321 eP P 06 57 13.2 +0.2
ARCR ARCALIA 59.30 311 ⇑P P 06 57 14.8 +1.4
VSVD Vaisvydziai 59.30 322 eP P 06 57 13.2 0.0
LVV L'vov 59.35 315 eP P 06 57 13.7 +0.1
LVV eS S 07 05 16.5 -3.4
LVV MLR MLR
comp=E,2µm,20.0s
LVV MLR MLR
comp=N,700nm,19.0s
LVV MLR MLR
comp=Z,3µm,19.0s
ZKR Zakros 59.38 297 P P 06 57 13.3 -0.8
KEV Kevo 59.43 338 P P 06 57 14.2 +0.3
KEV IAmb IAmb 06 57 15.9
comp=Z,180nm,1.1s
KEV IAMs_20 IAMs_20 07 25 10.9
comp=Z,5µm,22.0s
KEV Kevo 59.43 338 P P 06 57 14.2 +0.3
KEV pmax pmax
comp=Z,181nm,1.1s
KEV MLR MLR
comp=Z,5µm,22.0s
KEV Kevo 59.43 338 P P 06 57 14.8 +1.0
KEV pP pP 06 57 25.3 +1.1
KEV PcP PcP 06 58 02.3 +1.0
PLVB Pleven 59.44 307 ⇑P P 06 57 14.7 +0.3
MTSE Matsula 59.44 325 eP P 06 57 14.1 0.0
LIA Limnos Island 59.45 303 P P 06 57 13.3 -1.2
PLD Plovdiv 59.49 306 P P 06 57 15.2 +0.5
VLAD Vladila 59.53 308 ⇑P P 06 57 15.2 +0.2
RZN Rozhen 59.55 305 P P 06 57 15.9 +0.5
APE Apeiranthos 59.60 300 ⇑P P 06 57 15.2 -0.4
APE Apeiranthos 59.60 300 P P 06 57 14.8 -0.8
APE Apeiranthos 59.60 300c iP P 06 57 14.2 -1.4
APE pmax pmax
comp=Z,72nm,1.0s
THAS Thassos island 59.70 304 P P 06 57 15.8 -0.4
SUW Suwalki 59.74 320 iP P 06 57 14.8 -1.4
SUW eL L 07 25 54.6
comp=Z,4µm,21.5s
SUW Suwalki 59.74 320 eP P 06 57 14.5 -1.7
CMBO Columbo, Santo 59.79 299 P P 06 57 15.8 -1.1
KAVA Kavala 59.80 304 P P 06 57 16.3 -0.6
BMR Baia Mare 59.83 312 ⇓P P 06 57 18.3 +1.2
BMR Baia Mare 59.83 312 P P 06 57 18.2 +1.2
LOT Lotru 59.84 310 ⇓P P 06 57 17.8 +0.6
CJR Cluj-Napoca 59.84 311 ⇑P P 06 57 18.6 +1.4
CJR Cluj-Napoca 59.84 311 P P 06 57 18.6 +1.4
PGB Panagyurishte 59.87 306 P P 06 57 18.2 +0.8
CBBR Cluj-Babes-Bol 59.87 311 ⇑P P 06 57 15.5 -1.8
ARA0 ARCESS Array S 59.90 338 eP P 06 57 18.0 +0.9
ARA0 eS S 07 05 29.4 +2.9
ARCES ARCESS Array B 59.90 338 IAmb IAmb 06 58 05.0
comp=Z,102nm,1.1s
ARCES ARCESS Array B 59.90 338 P P 06 57 17.9 +0.8
comp=Z,45nm,0.9s,baz=89,slow=6.2,SNR=38
ARCES ScP ScP 07 02 00.7 -1.1
comp=Z,5.1nm,0.9s,baz=99,slow=5.8,SNR=4.5
ARCES LR LR 07 26 24.0
comp=Z,5µm,18.1s,baz=100,slow=39
comp=Z,45nm,0.9s
MPEP Malo Peshtene 60.08 307 P P 06 57 19.8 +1.0
MARR Marisel-Cluj 60.17 311 ⇑P P 06 57 20.1 +0.6
KOKK Kokkinochori, 60.22 304 P P 06 57 17.6 -2.2
KWP Kalwaria Pacla 60.22 315 iP P 06 57 20.1 +0.4
KWP eL L 07 25 56.5
comp=Z,4µm,23.8s
KWP Kalwaria Pacla 60.22 315 IAMs_20 IAMs_20 07 27 18.1
comp=Z,4µm,19.0s
NVR Nevrokopi 60.24 305 P P 06 57 20.2 +0.2
MESR Mesekeni 60.25 312 ⇓P P 06 57 21.3 +1.4
VALD Valchedram 60.26 308 P P 06 57 21.2 +1.2
BAIL Bailesti 60.29 308 ⇑P P 06 57 21.6 +1.4
OUR Ouranopolis 60.30 304 P P 06 57 19.6 -0.7
MMB Musomishta 60.30 305 P P 06 57 20.4 0.0
SRE Strehaia 60.32 309 ⇓P P 06 57 20.8 +0.4
SRE Strehaia 60.32 309 P P 06 57 20.8 +0.4
DEV Deva 60.40 310 ⇓P P 06 57 22.3 +1.3
DEV Deva 60.40 310 P P 06 57 22.2 +1.3
BILL Bilibino 60.41 24 P P 06 57 20.3 -0.4
BILL IAmb IAmb 06 57 32.4
comp=Z,61nm,1.1s
BILL IAMs_20 IAMs_20 07 25 47.9
comp=Z,4µm,20.0s
BILL Bilibino 60.41 24 P P 06 57 19.2 -1.5
IDI Anoyia 60.41 298 P P 06 57 20.6 -0.7
PBUR Paburge 60.43 322 eP P 06 57 20.0 -1.0
KYMI Kymi, Euboea I 60.46 302 P P 06 57 20.2 -1.3
SRS Serrai 60.48 305 P P 06 57 21.2 -0.4
GZR Gura Zlata 60.54 310 ⇑P P 06 57 22.0 0.0
VTS Vitosha 60.54 306 P P 06 57 22.5 +0.3
KOLS Kolonicke sedl 60.55 314 eP P 06 57 22.4 +0.5
KOLS pmax pmax
comp=Z,95nm,1.4s
KOLS Kolonicke sedl 60.55 314 eP P 06 57 22.4 +0.5
MHLO Agia Marina, M 60.55 300 P P 06 57 21.5 -0.6
PUNG Punghina 60.55 308 ⇑P P 06 57 22.3 +0.3
RAF Rauma 60.56 328 eP P 06 57 21.5 -0.3
PAIG Paliouri 60.59 303 P P 06 57 22.5 +0.2
KTK1 Kautokeino 60.62 337 eP P 06 57 22.6 +0.6
KTK1 IAmb IAmb 06 57 23.5
comp=Z,159nm,1.0s
KTK1 eS S 07 05 44.0 +8.3
KAVG Kavieng 60.64 108 P P 06 57 26.6 +3.6
DION Dionisos Attik 60.68 301 P P 06 57 22.9 -0.2
HAMF Hammerfest 60.71 339 eP P 06 57 23.9 +1.3
HAMF IAmb IAmb 06 57 24.4
comp=Z,206nm,1.0s
HAMF eS S 07 05 40.2 +3.5
KKB Krupnik 60.72 306 P P 06 57 23.2 0.0
PTL Penteli 60.74 301 P P 06 57 22.5 -1.0
DJES Djerdap 60.80 309 ⇑P P 06 57 25.0 +1.3
ATHU Athens Univers 60.82 301 P P 06 57 23.2 -0.7
BLKB Belogradchik 60.82 308 ⇑P P 06 57 24.2 +0.3
VLY Voula,Athens 60.83 301 P P 06 57 22.2 -1.8
HERR Herculane 60.85 309 ⇑P P 06 57 24.3 +0.3
ATH Athens Observa 60.87 301 P P 06 57 21.2 -3.1
PEHC Pehcevo 60.90 306 ⇓iP P 06 57 24.0 -0.5
HORT Hortiatis 60.92 304 P P 06 57 24.5 -0.2
LODK Lodwar 60.95 260 IAmb IAmb 06 57 27.6
comp=Z,100nm,1.0s
LODK IAMs_20 IAMs_20 07 24 56.0
comp=Z,3µm,20.0s
LODK Lodwar 60.95 260 P P 06 57 26.3 +1.1
SNR=53
LODK Lodwar 60.95 260 eP P 06 57 26.1 +0.9
LODK Lodwar 60.95 260 eP P 06 57 23.1 -2.1
LODK eS S 07 05 29.4 -12
SURR Surduc 60.95 310 ⇑P P 06 57 25.4 +0.7
KNT Kendrikon 60.99 305 P P 06 57 24.5 -0.6
THE Thessaloniki 61.02 304 P P 06 57 24.2 -1.0
BORR Bors 61.04 312 ⇓P P 06 57 27.0 +1.7
XOR Xorichti 61.05 303 P P 06 57 24.5 -1.0
CRVS Cervenica-Dubn 61.09 314 eP P 06 57 25.9 +0.3
CRVS pmax pmax
comp=Z,256nm,1.0s
CRVS Cervenica-Dubn 61.09 314 eP P 06 57 25.9 +0.3
IMMV Iera Moni Meta 61.11 298 P P 06 57 24.5 -1.5
NWAO Narrogin (SRO) 61.12 159 P P 06 57 25.8 -0.1
NWAO IAmb IAmb 06 57 34.4
comp=Z,46nm,0.7s
NWAO Narrogin (SRO) 61.12 159 IAmb IAmb 06 57 34.4
comp=Z,150nm,0.7s
NWAO Narrogin (SRO) 61.12 159 P P 06 57 26.1 +0.2
NWAO Narrogin (SRO) 61.12 159 P P 06 57 27.7 +1.8
NWAO Narrogin (SRO) 61.12 159 P P 06 57 25.8 -0.1
NWAO pmax pmax
comp=Z,46nm,0.7s
NWAO MLR MLR
comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 61.12 159 LR LR 07 23 05.7
comp=Z,1µm,21.2s,baz=330,slow=35
NWAO Narrogin (SRO) 61.12 159 P P 06 57 25.5 -0.4
GVDS Gavdos 61.14 298 P P 06 57 24.2 -2.0
GVD Gavdhos 61.15 298 P P 06 57 26.1 -0.1
VILL Villia 61.15 301 P P 06 57 24.5 -1.8
AS31 Alice Springs 61.18 139 P P 06 57 26.9 +0.4
ASAR Alice Springs 61.18 139 P P 06 57 26.1 -0.4
comp=Z,32nm,0.7s,baz=315,slow=6.3,SNR=20
ASAR ScP ScP 07 02 04.8 -3.3
comp=Z,16nm,0.9s,baz=327,slow=4.7,SNR=12
ASAR PKPPKP P'P'df 07 26 28.4 -10
comp=Z,3.0nm,1.0s,baz=156,slow=3.9,SNR=7.3
ASAR PKP2bc 07 26 50.1
comp=Z,39nm,1.1s,baz=137,slow=2.9,SNR=20
ASAR LR LR 07 27 44.3
comp=Z,2µm,20.1s,baz=321,slow=40
comp=Z,32nm,0.7s
STHS Stebnicka Huta 61.18 314 eP P 06 57 25.8 -0.4
STHS pmax pmax
comp=Z,85nm,1.5s
STHS Stebnicka Huta 61.18 314 eP P 06 57 25.8 -0.4
VAY Valandovo 61.21 305 ⇑iP P 06 57 25.9 -0.6
PMG Port Moresby 61.22 117 P P 06 57 27.1 +0.3
PMG IAmb IAmb 06 57 33.7
comp=Z,72nm,0.8s
PMG Port Moresby 61.22 117 P P 06 57 28.6 +1.7
comp=Z,105nm,0.9s
PMG Port Moresby 61.22 117ceP P 06 57 28.1 +1.2
PMG pmax pmax
comp=Z,98nm,1.0s
PMG Port Moresby 61.22 117 P P 06 57 26.2 -0.7
comp=Z,42nm,0.9s,baz=74,slow=3.2,SNR=10
PMG LR LR 07 28 13.4
comp=Z,576nm,18.0s,baz=274,slow=40
comp=Z,42nm,0.9s
PMG Port Moresby 61.22 117 P P 06 57 25.2 -1.7
comp=Z,102nm,0.9s,comp=Z,1µm
SIRR Siria 61.22 311 ⇓P P 06 57 27.7 +1.2
KIBK Kibwezi 61.27 252 P P 06 57 27.4 0.0
KIBK IAmb IAmb 06 57 28.4
comp=Z,46nm,0.9s
KIBK Kibwezi 61.27 252 P P 06 57 27.6 +0.2
SNR=13
RODP Rodopos 61.27 298 P P 06 57 26.8 -0.3
BEL Belsk 61.28 317 eP P 06 57 27.4 +0.6
BEL eL L 07 28 30.1
comp=Z,3µm,18.7s
BZS Buzias 61.32 310 ⇑P P 06 57 27.3 0.0
BZS Buzias 61.32 310 P P 06 57 27.5 +0.3
MDVR Moldovita 61.36 309 ⇑P P 06 57 28.1 +0.6
KMBO Kilima Mbogo 61.37 254 P P 06 57 28.7 +0.5
KMBO IAmb IAmb 06 57 30.6
comp=Z,135nm,1.2s
KMBO Kilima Mbogo 61.37 254 iP P 06 57 29.1 +0.8
SNR=48
KMBO Kilima Mbogo 61.37 254 ⇑iP P 06 57 28.4 +0.2
KMBO IAmb IAmb 06 57 31.0
comp=Z,2µm,9.1s
KMBO Kilima Mbogo 61.37 254c iP P 06 57 26.9 -1.4
KMBO Kilima Mbogo 61.37 254 P P 06 57 27.2 -1.1
comp=Z,58nm,1.0s,baz=50,slow=9.5,SNR=74
KMBO LR LR 07 25 10.3
comp=Z,2µm,19.6s,baz=79,slow=37
comp=Z,58nm,1.0s

KMBO Kilima Mbogo 61.37 254 P P 06 57 29.2 +1.0
KMBO Kilima Mbogo 61.37 254 eP P 06 57 29.0 +0.8
KMBO Kilima Mbogo 61.37 254 eP P 06 57 29.9 +1.7
KMBO eS S 07 05 46.7 -0.6
KMBO Kilima Mbogo 61.37 254 P P 06 57 29.1 +0.8
KMBO PcP PcP 06 58 10.9 +0.6
GRG Griva 61.39 305 P P 06 57 25.5 -2.3
KRND KRANIDI 61.41 301 P P 06 57 25.2 -2.8
KMBL Kambalda 61.43 154 P P 06 57 28.9 +0.9
comp=Z,134nm,1.7s
LOUT Loutraki 61.45 301 P P 06 57 25.5 -2.7
HOPEN Hopen 61.50 345 eS S 07 05 50.5 +3.8
BOVS Bovan 61.52 308 ⇓P P 06 57 28.6 0.0
AXAR Agios Charalam 61.55 302 P P 06 57 26.5 -2.4
ANKY Antikythira Is 61.58 299 P P 06 57 27.8 -1.3
JETT Jettan, Norway 61.68 337 eP P 06 57 29.9 +0.6
VLI Veliai 61.70 300 P P 06 57 28.8 -1.2
TYRN Tyrnavos 61.72 303 P P 06 57 28.5 -1.5
AGG Agios Georgios 61.76 303 IAmb IAmb 06 57 30.2
comp=Z,145nm,1.0s
AGG Agios Georgios 61.76 303 P P 06 57 28.5 -1.9
KECS Kecovo 61.77 313 eP P 06 57 31.0 +0.8
KECS pmax pmax
comp=Z,80nm,1.0s
KECS Kecovo 61.77 313 eP P 06 57 31.0 +0.8
NIE Niedzica 61.80 314 i P P 06 57 31.4 +1.0
NIE eL L 07 27 36.0
comp=Z,2µm,24.1s
AMBH Ambrzfalva 61.85 311 ⇑P P 06 57 31.6 +0.8
THL Klokotos Trika 61.91 303 P P 06 57 29.1 -2.2
MAKR Makrakomi, Fth 61.92 303 P P 06 57 29.9 -1.5
GUR Goura 61.95 301 P P 06 57 27.5 -4.2
SKO Skopje 61.95 306 ⇑iP P 06 57 31.1 -0.4
OJC Ojcow 62.04 315 i P P 06 57 32.1 +0.1
OJC eL L 07 28 01.3
comp=Z,3µm,21.4s
OJC Ojcow 62.04 315 IAmb IAmb 06 57 34.6
comp=Z,107nm,1.0s
KLV Kalavryta, Ach 62.08 301 P P 06 57 30.8 -1.7
ANX Ano Chora 62.15 302 P P 06 57 31.8 -1.3
EVR Evrytania 62.18 302 P P 06 57 32.1 -1.2
FNA Florina 62.19 305 IAmb IAmb 06 57 33.5
comp=Z,52nm,1.1s
FNA Florina 62.19 305 P P 06 57 31.1 -2.1
TRO Tromso 62.20 337 eP P 06 57 32.8 +0.1
TRO IAmb IAmb 06 57 34.0
comp=Z,154nm,0.9s
PSZ Piszkesteto 62.23 313 ⇑P P 06 57 32.7 -0.7
PSZ Piszkesteto 62.23 313 IAmb IAmb 06 57 34.9
comp=Z,136nm,1.1s
PSZ Piszkesteto 62.23 313 P P 06 57 32.7 -0.7
KPRO Kipourio 62.34 304 P P 06 57 32.1 -2.2
LANS Liptovska Anna 62.37 314 eP P 06 57 35.4 +1.2
LANS pmax pmax
comp=Z,40nm,1.2s
LANS Liptovska Anna 62.37 314 eP P 06 57 35.4 +1.2
PVO Paravola 62.45 302 P P 06 57 32.4 -2.5
NEST Nestorio 62.50 304 P P 06 57 33.7 -1.6
OHR Ohrid 62.56 305 i P P 06 57 34.6 -1.1
QIS Mount Isa 62.58 132 P P 06 57 37.5 +1.6
RKGY Rocky Gully 62.59 160 P P 06 57 35.2 -0.5
RLS Riolos of Patr 62.60 302 P P 06 57 34.1 -1.8
PYL PYLOS 62.61 300 P P 06 57 33.9 -2.1
RABL Rabaul 62.62 109 P P 06 57 38.8 +2.4
BJO1 Bjornoya 62.64 343 eP P 06 57 36.6 +1.0
FRGS Fruska Gora 62.65 310 ⇑P P 06 57 36.2 0.0
FRGS Fruska Gora 62.65 310 ⇑iP P 06 57 35.9 -0.3
KBN Korca 62.66 305 P P 06 57 34.8 -1.6
KBN Korca 62.66 305 P P 06 57 34.1 -2.3
KBN Korca 62.66 305 P P 06 57 34.8 -1.6
KBN pmax pmax
comp=Z,230nm,1.1s
PHP Peshkopia 62.73 306 P P 06 57 34.5 -2.3
JAN Janina 62.78 303 P P 06 57 36.7 -0.5
SJES Sjenica 62.82 308 ⇑iP P 06 57 37.7 +0.3
VYHS Vyhne 62.86 314 eP P 06 57 37.6 +0.1
VYHS pmax pmax
comp=Z,126nm,1.3s
VYHS Vyhne 62.86 314 eP P 06 57 37.6 +0.1
LSK Leskovik 62.88 304 P P 06 57 35.7 -2.2
TEKS Tekeris 62.94 309 ⇑iP P 06 57 37.5 -0.6
PVY Plav 62.94 307 ⇑iP P 06 57 37.2 -1.1
NYDR Nydri-Lefkada 63.07 302 P P 06 57 37.7 -1.3
LKD2 Lefkada island 63.09 303 P P 06 57 36.7 -2.5
EVGI Lefkada island 63.12 302 P P 06 57 36.9 -2.5
BBLS Lazići 63.13 308 ⇑iP P 06 57 39.7 +0.2
OKC Ostrava-Krasne 63.14 315 eP P 06 57 39.8 +0.5
OKC eS S 07 06 10.3 +2.1
OKC AMS AMS 07 27 30.0
comp=Z,2µm,19.7s
OKC Ostrava-Krasne 63.14 315 eP P 06 57 39.8 +0.5
OKC eS S 07 06 10.3 +2.1
OKC MLR MLR
comp=Z,2µm,19.7s
LTHK Lithakia 63.16 301 P P 06 57 38.0 -1.6
RUDO Rudo 63.19 308 eP P 06 57 39.3 -0.5
IGT Igoumenitsa 63.20 303 P P 06 57 36.7 -3.2
KOME Kolasin 63.22 307 ⇑iP P 06 57 39.8 -0.3
TIR Tirane 63.22 305 IAmb IAmb 06 57 40.1
comp=Z,86nm,0.8s
FSK Fiskardo 63.23 302 P P 06 57 38.1 -2.0
PLE Pljevlja 63.23 308 ⇑iP P 06 57 40.1 -0.1
PSDA Pessada-Kefalo 63.28 302 P P 06 57 38.4 -2.0
SRO Srobarova 63.30 313 eP P 06 57 41.3 +0.9
SRO pmax pmax
comp=Z,200nm,1.1s
SRO Srobarova 63.30 313 eP P 06 57 41.3 +0.9
MORH Mrgy, Hungar 63.30 311 ⇑P P 06 57 40.1 -0.3
GKP Gorka Klasztor 63.31 319 i P P 06 57 40.6 +0.2
GKP eL L 07 26 50.6
comp=Z,3µm,27.9s
GKP Gorka Klasztor 63.31 319 eP P 06 57 40.3 -0.1
KEF4 Livadi, Kephal 63.37 302 P P 06 57 39.3 -1.7
MAUC Maruska 63.41 315 eP P 06 57 41.7 +0.5
DMLN Damoulianata-K 63.41 302 P P 06 57 39.7 -1.7
HAPS Han Pijesak,Bl 63.42 309 ⇑iP P 06 57 41.3 -0.1
KEF3 Kipouria, Keph 63.44 302 P P 06 57 39.0 -2.5
FAUS Fauske 63.48 335 eP P 06 57 41.6 +0.4
FAUS IAmb IAmb 06 57 42.3
comp=Z,139nm,1.0s
FAUS eS S 07 06 17.5 +5.7
STEI Steigen 63.49 335 eP P 06 57 42.0 +0.8
STEI IAmb IAmb 06 57 42.4
comp=Z,433nm,1.6s
STEI eS S 07 06 18.5 +6.6
MORC Moravsky Berou 63.54 315 ⇑P P 06 57 42.5 +0.5
MORC Moravsky Berou 63.54 315 P P 06 57 42.5 +0.5
MORC IAmb IAmb 06 57 43.9
comp=Z,172nm,1.0s
MORC Moravsky Berou 63.54 315 eP P 06 57 42.4 +0.4
MORC Moravsky Berou 63.54 315 P P 06 57 42.5 +0.4
ABPO Ambohimpanom 63.54 231 ⇓iP P 06 57 43.3 +0.7
comp=Z,108nm,0.8s
ABPO IAmb IAmb 06 57 43.8
comp=Z,108nm,0.8s
ABPO Ambohimpanom 63.54 231 P P 06 57 43.0 +0.5
ABPO sP sP 06 57 57.2 +0.4
ULC Ulcinj 63.57 306 ⇑iP P 06 57 41.4 -0.9
KEK Kerkira 63.57 304 P P 06 57 37.4 -4.9
DRME Dracevica, Mon 63.57 306 ⇑iP P 06 57 41.7 -0.6
DRME Dracevica, Mon 63.57 306 ⇑iP P 06 57 41.7 -0.6
JAVC Velka Javorina 63.58 314 eP P 06 57 43.3 +1.0
UPM Unac-Piva 63.60 308 ⇑iP P 06 57 41.5 -1.2
UPM Unac-Piva 63.60 308 eP P 06 57 42.0 -0.7
NKME Niksic 63.64 307 ⇑iP P 06 57 42.3 -0.5
FORT Forrest 63.66 148 P P 06 57 43.4 +0.5
FORT IAmb IAmb 06 57 59.0
comp=Z,148nm,1.3s
FORT Forrest 63.66 148 P P 06 57 43.5 +0.7
SPA0 Spitsbergen Ar 63.66 347 eP P 06 57 42.9 +0.6
SPITS Spitsbergen Ar 63.66 347 P P 06 57 41.9 -0.4
comp=Z,4.4nm,0.4s,baz=105,slow=9.6,SNR=16
SPITS LR LR 07 31 15.8
comp=Z,3µm,20.0s,baz=64,slow=42
comp=Z,4.4nm,0.4s
CEME Cevo 63.70 307 ⇑iP P 06 57 42.7 -0.6
BUM Brajici-Budva 63.76 307 ⇑iP P 06 57 42.9 -0.8
SMOL Smolenice 63.78 314 eP P 06 57 43.9 +0.3
SMOL pmax pmax
comp=Z,36nm,1.1s
BLEU Blekinge 63.83 322 i P P 06 57 43.6 -0.1
MOR8 Moi Rana 63.84 333 eP P 06 57 43.2 -0.4
MOR8 IAmb IAmb 06 57 44.0
comp=Z,214nm,1.0s
MODS Modra-Piesok 63.90 314 eP P 06 57 44.7 +0.3
MODS pmax pmax
comp=Z,250nm,1.1s
MODS Modra-Piesok 63.90 314 eP P 06 57 44.7 +0.3
BRY Bratogost 63.91 307 ⇑iP P 06 57 44.2 -0.5
BRY Bratogost 63.91 307 eP P 06 57 44.1 -0.6
KRLC Kraliky 63.98 315 eP P 06 57 44.9 -0.1
KRLC eS S 07 06 21.2 +2.4
KRLC AMS AMS 07 27 40.0
comp=Z,2µm,17.2s
KRLC Kraliky 63.98 315 eP P 06 57 44.9 -0.1
KRLC eS S 07 06 21.2 +2.4
KRLC MLR MLR
comp=Z,2µm,17.2s
HCY Herceg Novi 64.03 307 ⇑iP P 06 57 44.8 -0.5
HCY Herceg Novi 64.03 307 eP P 06 57 44.3 -1.0
ZST Bratislava 64.05 313 eP P 06 57 45.9 +0.6
ZST pmax pmax
comp=Z,222nm,1.0s
ZST Bratislava 64.05 313 eP P 06 57 45.9 +0.6
TREB Trebinje 64.08 307 ⇑iP P 06 57 44.6 -1.1
LOF Lofoten 64.13 336 eP P 06 57 45.6 +0.1
NEVS Nevesinje 64.16 308 eP P 06 57 46.0 -0.3
KSP Ksiaz 64.19 316 i P P 06 57 46.9 +0.7
KSP eL L 07 28 17.9
comp=Z,3µm,22.6s
VRAC Vranov 64.21 315 ⇑P P 06 57 47.3 +0.8
VRAC Vranov 64.21 315 eP P 06 57 47.1 +0.7
VRAC Vranov 64.21 315 P P 06 57 47.5 +1.1
VRAC Vranov 64.21 315 LR LR 07 29 34.3
comp=Z,3µm,21.9s,baz=80,slow=40
AIS Amsterdam Isla 64.23 195 P P 06 57 47.0 +0.5
AIS IAmb IAmb 06 57 48.6
comp=Z,156nm,1.1s
DPC Dobruska-Polom 64.24 316 eP P 06 57 46.9 +0.3
DPC eS S 07 06 24.8 +2.9
DPC AMS AMS 07 27 50.0
comp=Z,3µm,27.4s
DPC Dobruska-Polom 64.24 316 eP P 06 57 46.9 +0.3
DPC eS S 07 06 24.8 +2.9
OSTC Ostas 64.28 316 eP P 06 57 47.3 +0.5
OSTC eS S 07 06 18.3 -4.0
OSTC AMS AMS 07 27 30.0
comp=Z,4µm,27.3s
OSTC Ostas 64.28 316 eP P 06 57 47.3 +0.5
OSTC eS S 07 06 18.3 -4.0
MTSU Mount Surprise 64.29 127 P P 06 57 49.2 +1.9
comp=Z,20nm,0.8s
SHEM Shemya Is, Ala 64.35 42 LR LR 07 28 27.9
comp=Z,1µm,20.2s,baz=297,slow=38
KONS Konsvik 64.36 334 eP P 06 57 47.2 +0.2
CHVC Chvalec 64.37 316 eP P 06 57 47.8 +0.3
CHVC AMS AMS 07 28 00.0
comp=Z,3µm,22.5s
CHVC Chvalec 64.37 316 eP P 06 57 47.8 +0.3
CHVC MLR MLR
comp=Z,3µm,22.5s
KRUC Moravsky 64.38 314 eP P 06 57 47.9 +0.4
STOK Stokkvaagen 64.41 334 eP P 06 57 47.9 +0.5
UPC Upice 64.41 316 eP P 06 57 48.4 +0.7
UPC AMS AMS 07 27 50.0
comp=Z,3µm,19.6s
UPC Upice 64.41 316 eP P 06 57 48.4 +0.7
UPC MLR MLR
comp=Z,3µm,19.6s
BSD Bornholm Skovb 64.46 321 eP P 06 57 47.0 -0.9
BSD Bornholm Skovb 64.46 321 i P P 06 57 46.8 -1.1
BSD IAmb IAmb 06 57 49.2
comp=Z,90nm,0.8s
STON Ston 64.53 307 ⇑iP P 06 57 47.6 -0.9
BLY Banja Luka 64.55 310 ⇑iP P 06 57 48.7 0.0
HFS Hagfors 64.57 327 P P 06 57 48.7 +0.2
comp=Z,158nm,0.9s,baz=74,slow=5.3,SNR=151
HFS LR LR 07 28 31.6
comp=Z,5µm,19.4s,baz=82,slow=38
comp=Z,158nm,0.9s
KBS Kingsbay 64.59 348 IAMs_20 IAMs_20 07 31 17.8
comp=Z,4µm,21.0s
KBS Kingsbay 64.59 348 eP P 06 57 48.9 +0.5
RONA Rosalia, Austr 64.66 313 eP P 06 57 49.2 -0.2
comp=Z,28nm,0.9s,SNR=35
MGRS Mrkonjic Grad 64.68 309 eP P 06 57 49.8 +0.2
A051A Mrakovica 64.70 310 ⇑iP P 06 57 49.3 -0.5
DEL Delary 64.88 323 i P P 06 57 51.1 +0.5
KOGS Kog 64.90 312 i P P 06 57 50.8 -0.2
CONA Conrad Observa 64.91 313 eP P 06 57 51.1 0.0
comp=Z,79nm,0.9s,SNR=88
TREC Trest 64.93 315 eP P 06 57 50.6 -0.5
TREC eS S 07 06 35.9 +5.4
TREC AMS AMS 07 28 20.0
comp=Z,3µm,19.6s
TREC Trest 64.93 315 eP P 06 57 50.6 -0.5
TREC eS S 07 06 35.9 +5.4
TREC MLR MLR
comp=Z,3µm,19.6s
NSS Namsos 64.97 332 eP P 06 57 51.0 0.0
NSS IAmb IAmb 06 57 52.6
comp=Z,140nm,1.1s
A050A Klekovaca 65.06 309 eP P 06 57 51.7 -0.4
LUNU Lund 65.23 322 i P P 06 57 53.3 +0.5
GOPC GO Pecny, Ondr 65.28 315 eP P 06 57 53.6 +0.2
GOPC eS S 07 06 43.7 +9.0
GOPC AMS AMS 07 28 00.0
comp=Z,3µm,20.7s
GOPC GO Pecny, Ondr 65.28 315 eP P 06 57 53.6 +0.2
GOPC MLR MLR
comp=Z,3µm,20.7s
PVCC Panska Ves 65.32 316 eP P 06 57 54.3 +0.7
PVCC AMS AMS 07 28 30.0
comp=Z,3µm,19.8s
PVCC Panska Ves 65.32 316 eP P 06 57 54.3 +0.7
PVCC MLR MLR
comp=Z,3µm,19.8s
BORU Boraas 65.33 324 i P P 06 57 53.7 +0.1
OOD Oodnadatta 65.34 140 P P 06 57 54.8 +0.9
BJUU Bjuv 65.40 322 i P P 06 57 54.5 +0.6
PRU Pruhonice 65.42 316 eP P 06 57 54.7 +0.4
PRU eS S 07 06 36.5 +0.1
PRU AMS AMS 07 28 00.0
comp=Z,3µm,20.8s
PRU Pruhonice 65.42 316 eP P 06 57 54.7 +0.4
PRU eS S 07 06 36.5 +0.1
PRU MLR MLR
comp=Z,3µm,20.8s
NC405 NORSAR Array S 65.44 328 P P 06 57 54.7 +0.5
FABU Falkenberg 65.44 323 i P P 06 57 55.0 +0.8
RGN Rugen 65.45 321 eP P 06 57 54.9 +0.5
RGN Rugen 65.45 321 eP P 06 57 55.4 +1.0
comp=Z,197nm,0.8s,baz=79,slow=6.3
PRA Prague 65.48 316 eP P 06 57 55.3 +0.7
PRA eS S 07 06 47.0 +10
PRA AMS AMS 07 28 10.0
comp=Z,3µm,27.0s
PRA Prague 65.48 316 eP P 06 57 55.3 +0.7
PRA MLR MLR
comp=Z,3µm,27.0s
RUE Ruedersdorf 65.50 318 eP P 06 57 54.8 +0.2
RUE Ruedersdorf 65.50 318 eP P 06 57 55.0 +0.4
comp=Z,259nm,0.9s,baz=79,slow=6.3
CRES Cresnjev 65.56 311 ⇑iP P 06 57 55.2 0.0
NC602 NORSAR Array S 65.57 328 i P P 06 57 55.0 0.0
NC602 eS S 07 06 43.2 +5.4
NC303 NORSAR Array S 65.59 328 IAmb IAmb 06 57 56.7
comp=Z,217nm,1.1s
RICC Richard 65.61 316 eP P 06 57 56.2 +0.7
RICC AMS AMS 07 28 30.0
comp=Z,2µm,21.0s
NB201 NORSAR Array S 65.65 328 IAmb IAmb 06 57 57.0
comp=Z,177nm,1.2s
BRG Berggiesshubel 65.66 317 i P P 06 57 56.1 +0.4
BRG Amp 06 57 57.7
comp=Z,188nm,1.0s
BRG Berggiesshubel 65.66 317 S S 07 06 45.0 +5.8
BRG Berggiesshubel 65.66 317 i P P 06 57 56.1 +0.4
BRG e 06 58 13.3
BRG e 06 58 26.4
BRG pmax pmax
comp=Z,188nm,1.0s
BRG Berggiesshubel 65.66 317 eP P 06 57 56.2 +0.4
comp=Z,95nm,0.8s,baz=79,slow=6.3
SOKA Soboth 65.69 312 i P P 06 57 56.0 -0.2
comp=Z,27nm,0.7s,SNR=28
NB2 NORSAR Subarra 65.69 328 P P 06 57 55.3 -0.5
comp=Z,294nm,1.2s,baz=83,slow=6.5
NB2 NORSAR Subarra 65.69 328 P P 06 57 55.3 -0.5
baz=83,slow=6.5
NOA NORSAR Array B 65.69 328 P P 06 57 55.5 -0.4
comp=Z,46nm,0.8s,baz=83,slow=6.4,SNR=90
NOA LR LR 07 29 04.9
comp=Z,5µm,19.6s,baz=85,slow=38
comp=Z,46nm,0.8s
ZVC Zvikov 65.74 315 eP P 06 57 57.0 +0.6
ZVC AMS AMS 07 28 40.0
comp=Z,4µm,29.1s
VOI Vohitsoka 65.76 229 P P 06 57 57.2 +0.3
VOI Vohitsoka 65.76 229 P P 06 57 56.9 0.0
VOI Vohitsoka 65.76 229 ⇑iP P 06 57 56.9 0.0
BOJS Bojanci 65.76 311 i P P 06 57 56.4 -0.2
BOJS Bojanci 65.76 311 ⇑iP P 06 57 56.3 -0.2
CKRC Cesky Krumlov 65.78 314 eP P 06 57 57.0 +0.4
CKRC eS S 07 06 48.5 +7.7
CKRC Cesky Krumlov 65.78 314 eP P 06 57 57.0 +0.4
CKRC eS S 07 06 48.5 +7.7
ONAU Onsala 65.82 324 i P P 06 57 56.9 +0.2
TBLU Trondheim 65.86 330 eP P 06 57 56.3 -0.5
TBLU IAmb IAmb 06 57 57.6
comp=Z,236nm,1.1s
NAO01 NORSAR Array S 65.87 328 IAmb IAmb 06 57 58.1
comp=Z,234nm,1.3s
NC204 NORSAR Array S 65.88 328 P P 06 57 57.3 +0.3
NC204 IAmb IAmb 06 57 58.5
comp=Z,175nm,1.1s
TJOU Tjoern 65.89 325 i P P 06 57 57.4 +0.4
NBO00 NORSAR Array S 65.90 328 IAmb IAmb 06 57 59.4
comp=Z,183nm,1.2s
STRU Stroemstad 65.97 326 i P P 06 57 58.0 +0.4
MOA Molln 65.98 313 eP P 06 57 57.8 -0.2
comp=Z,88nm,0.9s,SNR=38
FBE Freiberg 66.02 317 eP P 06 57 58.8 +0.7
baz=79,slow=6.3
HSKC Hora Svate Kat 66.02 316 eP P 06 57 58.5 +0.3
HSKC AMS AMS 07 30 10.0
comp=Z,3µm,20.1s
OBKA Obir 66.05 312 i P P 06 57 58.2 -0.2
comp=Z,34nm,0.9s
OBKA Obir 66.05 312 ⇑iP P 06 57 58.1 -0.4
OSL Oslo 66.08 327 eP P 06 57 58.7 +0.5
LJU Ljubljana 66.15 311 i P P 06 57 59.1 0.0
CLL Collm 66.17 317 IAmb IAmb 06 58 00.4
comp=Z,167nm,1.1s
CLL IAMs_20 IAMs_20 07 30 18.3
comp=Z,2µm,20.0s
CLL Collm 66.17 317 ⇑iP P 06 57 59.0 0.0
CLL i *PP pP 06 58 07.8 -1.6
CLL pmax pmax
comp=Z,175nm,1.1s
CLL MLR MLR
comp=Z,2µm,20.0s
CLL Collm 66.17 317 eP P 06 57 59.0 0.0
comp=Z,68nm,0.8s,baz=79,slow=6.3
GEC2 GERESS Array S 66.17 314 P P 06 57 59.5 +0.3
GEC2 GERESS Array S 66.17 314 eP P 06 57 59.5 +0.3
comp=Z,107nm,0.8s,baz=79,slow=6.3
GERES GERESS Array B 66.17 314 P P 06 57 59.6 +0.3
GERES GERESS Array B 66.17 314 P P 06 57 59.6 +0.3
GERES GERESS Array B 66.17 314 P P 06 57 59.5 +0.3
comp=Z,124nm,0.8s,baz=76,slow=5.9,SNR=396
GERES PKP2bc 07 26 37.1
comp=Z,2.2nm,1.1s,baz=303,slow=7.3,SNR=3.5
GERES LR LR 07 30 44.2
comp=Z,3µm,21.4s,baz=80,slow=39
comp=Z,124nm,0.8s
KHC Kasperske Hory 66.19 315 IAmb IAmb 06 58 01.1
comp=Z,102nm,1.1s
KHC IAMs_20 IAMs_20 07 30 21.3
comp=Z,3µm,22.0s
KHC Kasperske Hory 66.19 315 eP P 06 57 59.1 -0.2
KHC epP pP 06 58 10.0 +0.3
KHC eS S 07 06 46.2 +0.3
KHC AMS AMS 07 28 30.0
comp=Z,3µm,23.6s
KHC Kasperske Hory 66.19 315 eP P 06 57 59.1 -0.2
KHC e 06 58 10.0
KHC eS S 07 06 46.2 +0.3
KHC MLR MLR
comp=Z,3µm,23.6s
CEY Cerknica 66.28 311 ⇑iP P 06 57 59.7 -0.2
MULG Mulgathing 66.33 143 P P 06 58 00.6 +0.4
BIOA Bad Ischl, Aus 66.43 313 eP P 06 58 00.3 -0.5
comp=Z,31nm,0.8s,SNR=26
CUC Castrocucco 66.51 305 IAmb IAmb 06 58 02.9
comp=Z,112nm,1.1s
DOMB Dombas 66.57 329 eP P 06 58 01.8 +0.4
DOMB IAmb IAmb 06 58 02.6
comp=Z,152nm,1.0s
SKDS Skadanscina 66.60 311 ⇑iP P 06 58 00.9 -1.1
MYKA Terra Mystica 66.64 312 eP P 06 58 01.4 -0.8
comp=Z,13nm,0.8s,SNR=9.4
WET Wettzell 66.64 315 eP P 06 58 02.6 +0.4
comp=Z,82nm,0.8s,baz=79,slow=6.3
TANN Tannenbergstha 66.67 316 eP P 06 58 02.6 +0.3
comp=Z,77nm,0.8s,baz=79,slow=6.3
KONO Kongsberg 66.68 327 P P 06 58 02.3 +0.1
KONO IAmb IAmb 06 58 03.7
comp=Z,264nm,1.4s
KONO Kongsberg 66.68 327 eP P 06 58 02.3 +0.1
KONO Kongsberg 66.68 327 i P P 06 58 02.4 +0.2
KONO pmax pmax
comp=Z,122nm,1.3s
KONO Kongsberg 66.68 327 P P 06 58 02.1 -0.1
KONO pP pP 06 58 12.6 0.0
NKC Novy Kostel 66.71 316 eP P 06 58 03.0 +0.4
NKC AMS AMS 07 29 10.0
comp=Z,3µm,27.4s
NKC Novy Kostel 66.71 316 eP P 06 58 03.0 +0.4
PRED Cave del Predi 66.72 312 IAmb IAmb 06 58 03.6
comp=Z,62nm,0.9s
WERN Wernitzgruen 66.74 316 eP P 06 58 03.2 +0.4
baz=79,slow=6.3
KBA Koelnbreinsper 66.74 313 eP P 06 58 02.2 -0.8
comp=Z,36nm,0.9s
GUNZ Gunzen 66.76 316 eP P 06 58 03.3 +0.4
baz=79,slow=6.3
WERD Werda 66.76 316 eP P 06 58 03.1 +0.2
baz=79,slow=6.3
SABO M.te Sabotino 66.80 311 IAmb IAmb 06 58 04.2
comp=Z,511nm,1.8s
SABO IAMs_20 IAMs_20 07 30 52.9
comp=Z,2µm,22.0s
PLN Plauen 66.84 316 eP P 06 58 03.7 +0.3
baz=79,slow=6.3
MBAR Mbarara 66.87 258 P P 06 58 04.9 +0.6
MBAR IAmb IAmb 06 58 06.5
comp=Z,161nm,1.1s
MBAR Mbarara 66.87 258 ⇑iP P 06 58 05.0 +0.6
MBAR IAmb IAmb 06 58 06.2
comp=Z,176nm,1.1s
MBAR Mbarara 66.87 258 ceP P 06 58 05.4 +1.1
MBAR pmax pmax
comp=Z,197nm,1.3s
MBAR Mbarara 66.87 258 P P 06 58 05.2 +0.8
MBAR Mbarara 66.87 258 P P 06 58 05.1 +0.8
MBAR sP sP 06 58 19.5 +0.8
GORT1 Trebel 66.89 319 eP P 06 58 04.3 +0.7
baz=79,slow=6.3
CTA Charters Tower 66.94 127 P P 06 58 06.3 +1.9
CTA Charters Tower 66.94 127 LR LR 07 30 59.4
comp=Z,930nm,19.4s,baz=289,slow=39
CTAO Charters Tower 66.94 127 P P 06 58 04.6 +0.2
CTAO IAmb IAmb 06 58 19.5
comp=Z,88nm,1.1s
CTAO Charters Tower 66.94 127 P P 06 58 06.3 +1.9
CTAO Charters Tower 66.94 127 P P 06 58 04.6 +0.2
CTAO pmax pmax
comp=Z,88nm,1.1s
CTAO Charters Tower 66.94 127 P P 06 58 05.4 +1.1
CTAO pP pP 06 58 15.8 +1.0
NEUB Neuenburg 66.94 317 eP P 06 58 04.2 +0.2
comp=Z,169nm,0.8s,baz=79,slow=6.3
ROTZ Rotzenmuhle 66.95 316 eP P 06 58 04.9 +0.8
comp=Z,66nm,0.9s,baz=79,slow=6.3
MANZ Manzenberg 66.97 316 eP P 06 58 05.0 +0.7
comp=Z,33nm,1.1s,baz=79,slow=6.3
RJOB Jochberg 66.97 313 eP P 06 58 04.4 0.0
comp=Z,76nm,0.8s,baz=79,slow=6.3
FLTG Flechtingen 67.06 319 eP P 06 58 04.5 -0.2
comp=Z,169nm,1.2s,baz=79,slow=6.3

LESA Schwarzleotal 67.12 313 *i* P P 06 58 04.9 -0.5
comp=Z,51nm,0.5s
MOX Moxa 67.15 317 *e*P P 06 58 05.7 +0.3
comp=Z,113nm,1.0s,baz=79,slow=6.3
SKAR Skarslia 67.15 328 *e*P P 06 58 06.2 +1.0
SKAR IAmb IAmb 06 58 07.2
comp=Z,235nm,1.2s
CLUD Cludinico 67.18 312 IAmb IAmb 06 58 06.1
comp=Z,136nm,1.3s
MOL Molde 67.19 330 *e*P P 06 58 05.9 +0.6
MOL IAmb IAmb 06 58 07.0
comp=Z,106nm,0.8s
BSEG Bad Segeberg 67.29 320 *e*P P 06 58 07.0 +0.9
comp=Z,270nm,0.8s,baz=79,slow=6.3
STAL STALIGIAL 67.34 312 IAmb IAmb 06 58 07.1
comp=Z,182nm,1.0s
ABTA Abfaltersbach 67.37 312 *i* P P 06 58 05.6 -1.4
comp=Z,42nm,1.0s,SNR=29
SSRD Sdr. Stenderup 67.39 322 *i* P P 06 58 07.1 +0.4
SSRD IAmb IAmb 06 58 09.5
comp=Z,125nm,0.8s
ASSE Asse, Remlinge 67.44 318 *e*P P 06 58 07.1 +0.1
comp=Z,54nm,0.9s,baz=79,slow=6.3
INTR Introdacqua 67.45 307 IAmb IAmb 06 58 12.5
comp=Z,104nm,0.9s
MUD Monsted U'grnd 67.46 323 *i* P P 06 58 07.4 +0.2
MUD IAmb IAmb 06 58 09.7
comp=Z,48nm,0.9s
HOMB Homborsund 67.48 325 *e*P P 06 58 07.8 +0.6
HOMB Homborsund 67.48 325 *i* P P 06 58 07.8 +0.6
AKN Aaknes 67.51 330 *e*P P 06 58 08.6 +1.1
AKN IAmb IAmb 06 58 09.0
comp=Z,265nm,1.4s
GRF Grafenberg Arr 67.59 316 *e*P P 06 58 09.0 +0.8
comp=Z,104nm,0.9s,baz=79,slow=6.3
GRF *e*L L 07 31 34.8
comp=Z,2µm,20.6s
GRFO Grafenberg 67.59 316 P P 06 58 08.7 +0.5
GRFO Grafenberg 67.59 316 P P 06 58 08.7 +0.5
GRFO pmax pmax
comp=Z,533nm,1.6s
GRFO MLR MLR
comp=Z,2µm,20.0s
GUMA Gualdo di Mace 67.62 308 IAmb IAmb 06 58 23.7
comp=Z,156nm,1.1s
GUMA IAMs_20 IAMs_20 07 32 25.5
comp=Z,778nm,22.0s
CLZ Clausthal 67.67 318 *e*P P 06 58 09.2 +0.5
comp=Z,167nm,0.8s,baz=79,slow=6.3
FOMA Nahampoana Res 67.70 227 P P 06 58 09.3 +0.2
NRDL Niedersach Rie 67.70 319 *e*P P 06 58 09.7 +1.0
comp=Z,237nm,1.0s,baz=79,slow=6.3
WTTA Wattenberg 67.84 313 *i* P P 06 58 09.1 -0.9
comp=Z,121nm,1.0s,SNR=45
WATA Walderalm 67.87 313 *i* P P 06 58 09.1 -1.1
comp=Z,76nm,0.9s,SNR=30
FUR Furstenfeldbru 67.88 314 *e*P P 06 58 10.4 +0.3
comp=Z,125nm,0.9s,baz=79,slow=6.3
GTTG Gottingen 67.88 318 *e*P P 06 58 11.0 +0.4
comp=Z,126nm,0.9s,baz=79,slow=6.3
HYA Hoyanger 68.08 329 *e*P P 06 58 11.6 +0.7
HYA IAmb IAmb 06 58 15.5
comp=Z,1µm,3.1s
RETH Rethem/Aller, 68.10 319 *e*P P 06 58 11.6 +0.4
baz=79,slow=6.3
CTI Castel Tesino 68.11 312 IAmb IAmb 06 58 12.2
comp=Z,66nm,0.9s
CTI IAMs_20 IAMs_20 07 32 43.2
comp=Z,2µm,21.0s
ODD1 Odda 68.11 327 *e*P P 06 58 11.7 +0.4
UBBA Unterbreizbach 68.12 317 *e*P P 06 58 11.9 +0.6
comp=Z,65nm,1.1s,baz=79,slow=6.3
SNART Snartemo 68.14 325 *e*P P 06 58 12.3 +0.9
SNART Snartemo 68.14 325 *i* P P 06 58 12.5 +1.1
SQTA Sankt Quirin 68.14 313 *i* P P 06 58 10.9 -0.9
comp=Z,122nm,0.9s,SNR=38
MOTA Moosalm 68.18 313 *i* P P 06 58 11.1 -1.0
comp=Z,124nm,0.9s,SNR=42
VAE Valguarnera 68.18 302 LR LR 07 33 00.1
comp=Z,719nm,20.9s,baz=100,slow=40
TEOL Teolo 68.25 311 IAmb IAmb 06 58 13.4
comp=Z,137nm,0.9s
CESX Cesi 68.27 308 IAmb IAmb 06 58 14.0
comp=Z,115nm,1.2s
BLS5 Blasjo 68.30 327 *e*P P 06 58 13.3 +0.9
BLS5 IAmb IAmb 06 58 14.1
comp=Z,139nm,1.2s
INKA Innaminka 68.34 137 P P 06 58 15.9 +2.8
RETA Reutte 68.37 313 *i* P P 06 58 12.7 -0.5
comp=Z,139nm,0.9s,SNR=34
FETA Feichten 68.50 313 *i* P P 06 58 13.3 -0.8
comp=Z,90nm,1.0s,SNR=37
FOO Floro 68.53 329 *e*P P 06 58 14.9 +1.2
BER Bergen 68.65 328 *e*P P 06 58 15.4 +0.9
BER IAmb IAmb 06 58 16.1
comp=Z,124nm,1.0s
ASK Askoy 68.69 328 *e*P P 06 58 16.6 +1.8
UBR Ueberruh 68.76 314 *e*P P 06 58 15.1 -0.5
comp=Z,85nm,0.9s,baz=79,slow=6.3
SUE Sulen 68.78 329 *e*P P 06 58 16.6 +1.2
KMY Karmoy 68.95 327 *e*P P 06 58 17.6 +1.2
ZCCA Zocca 68.97 310 IAmb IAmb 06 58 23.2
comp=Z,177nm,1.1s
OSSC Osservatorio P 68.99 309 IAmb IAmb 06 58 17.6
comp=Z,97nm,1.0s
DAVA Damuels 69.00 313 *i* P P 06 58 16.6 -0.6
comp=Z,138nm,1.0s
KASTN Kahler Asten 69.01 318 *e*P P 06 58 17.3 +0.3
comp=Z,44nm,1.0s,baz=79,slow=6.3
STU Stuttgart 69.09 315 *e*P P 06 58 17.8 +0.3
comp=Z,506nm,0.9s,baz=79,slow=6.3
DAVOX Davos/Dischmat 69.12 313 LR LR 07 32 59.2
comp=Z,3µm,21.8s,baz=60,slow=40
IBBN Ibbenburen 69.15 319 *e*P P 06 58 18.3 +0.5
comp=Z,103nm,0.9s,baz=79,slow=6.3
TNS Taunus Mts 69.22 317 *e*P P 06 58 18.7 +0.3
comp=Z,140nm,0.9s,baz=79,slow=6.3
PRMA PARMA 69.33 311 IAmb IAmb 06 58 21.1
comp=Z,338nm,1.7s
BBOO Buckleboo 69.36 144 P P 06 58 18.4 -0.9
BBOO IAmb IAmb 06 58 19.7
comp=Z,54nm,0.8s
BBOO IAMs_20 IAMs_20 07 29 39.9
comp=Z,4µm,22.0s
BBOO Buckleboo 69.36 144 P P 06 58 18.8 -0.5
TUE Stuetta 69.56 313 P P 06 58 20.1 -0.7
TUE IAMs_20 IAMs_20 07 33 03.4
comp=Z,4µm,21.0s
BUG Bochum-Univer 69.65 318 *e*P P 06 58 21.3 +0.4
comp=Z,132nm,1.0s,baz=79,slow=6.3
BFO Black Forest 69.76 315 P P 06 58 21.2 -0.5
BFO IAmb IAmb 06 58 22.9
comp=Z,82nm,1.1s
BFO Black Forest 69.76 315 P P 06 58 21.2 -0.5
BFO pmax pmax
comp=Z,82nm,1.1s
BFO MLR MLR
comp=Z,2µm,22.0s
BFO Black Forest 69.76 315 *e*P P 06 58 21.4 -0.3
comp=Z,45nm,0.9s,baz=79,slow=6.3
BFO Black Forest 69.76 315 P P 06 58 21.6 -0.1
QLP Quilpie 69.78 134 P P 06 58 24.2 +2.2
MSSA Maissana 70.00 310 IAmb IAmb 06 58 23.9
comp=Z,218nm,1.5s
ECH Echery 70.54 315 IAmb IAmb 06 58 27.6
comp=Z,56nm,1.0s
ECH Echery 70.54 315 P P 06 58 26.3 -0.2
ECH pP pP 06 58 36.7 -0.3
BTNL Ternell 70.56 317 *d*P P 06 58 27.3 +0.7
comp=Z,68nm,1.0s
MEM Membach 70.63 318 *d*P P 06 58 27.4 +0.4
comp=Z,61nm,1.0s
BHOU Houvegnez 70.70 317 *d*P P 06 58 28.0 +0.6
comp=Z,46nm,1.2s
TNA Tin City 70.73 26 P P 06 58 27.4 +0.1
baz=287
BEBN Eben Emael 70.78 318 *d*P P 06 58 28.0 +0.1
WLF Walferdange 70.80 317 IAMs_20 IAMs_20 07 33 18.9
comp=Z,3µm,19.0s
WLF Walferdange 70.80 317 *d*P P 06 58 28.0 0.0
comp=Z,307nm,1.0s
WLF Walferdange 70.80 317 *e*P P 06 58 29.0 +1.0
comp=Z,353nm,0.9s,baz=79,slow=6.3
C16K Lisburne Hills 70.87 23 IAmb IAmb 06 58 40.2
comp=Z,222nm,1.4s
C16K IAMs_20 IAMs_20 07 32 43.5
comp=Z,3µm,19.0s
C16K Lisburne Hills 70.87 23 P P 06 58 27.8 -0.3
baz=288
BSTI Sart Tilman 70.91 318 *d*P P 06 58 29.0 +0.3
comp=Z,16nm,1.1s
BCLA Clavier 71.12 317 *d*P P 06 58 30.2 +0.3
comp=Z,50nm,1.1s
JMIC Jan Mayen 71.14 340 LR LR 07 34 36.8
comp=Z,1µm,18.8s,baz=74,slow=40
RCHB Rochefort 71.24 317 *d*P P 06 58 30.6 -0.1
comp=Z,42nm,1.0s
BGES Gesves 71.26 317 *d*P P 06 58 30.2 -0.6
comp=Z,49nm,1.1s
DAG Danmarks Havn 71.31 347 *i* P P 06 58 29.9 -0.7
DAG IAmb IAmb 06 59 08.9
comp=Z,26nm,0.9s
F14K Arctic Creek 71.39 26 P P 06 58 31.8 +0.5
baz=288
HTT Hallett 71.40 142 P P 06 58 32.4 +0.6
VSL Villasalto 71.43 306 P P 06 58 32.2 +0.2
VSL IAmb IAmb 06 58 33.4
comp=Z,256nm,1.4s
BMRD Maredsous 71.48 317 *d*P P 06 58 32.4 +0.3
comp=Z,53nm,1.0s
C17K DeLong Mountai 71.56 22 P P 06 58 32.7 +0.4
baz=290
A19K Wainwright 71.64 20 P P 06 58 33.5 +0.8
baz=292
DOU Dourbes 71.64 317 *d*P P 06 58 32.7 -0.4
comp=Z,38nm,1.3s
B18K Kokolik River 71.71 21 P P 06 58 33.9 +0.7
baz=291
BNI Bardonecchia 71.74 312 IAmb IAmb 06 58 34.9
comp=Z,177nm,1.4s
BNI IAMs_20 IAMs_20 07 34 43.2
comp=Z,2µm,22.0s
STKA Stephens Creek 71.81 139 P P 06 58 34.3 +0.1
STKA Stephens Creek 71.81 139 P P 06 58 34.9 +0.7
STKA Stephens Creek 71.81 139 P P 06 58 34.3 +0.1
STKA MLR MLR
comp=Z,400nm,22.0s
STKA Stephens Creek 71.81 139 P P 06 58 33.7 -0.6
comp=Z,23nm,0.9s,baz=322,slow=7.6,SNR=33
STKA LR LR 07 36 28.5
comp=Z,1µm,19.1s,baz=312,slow=41
comp=Z,23nm,0.9s
RDOG Red Dog Mine 71.81 23 IAMs_20 IAMs_20 07 33 32.8
comp=Z,2µm,18.0s
D17K Nonatak River 71.87 23 P P 06 58 34.9 +0.8
baz=291
HNR Honiara 71.91 110 P P 06 58 37.5 +2.3
HNR Honiara 71.91 110 LR LR 07 28 14.5
comp=Z,16µm,21.6s,baz=291,slow=34
F15K North Star Dit 71.98 25 P P 06 58 35.5 +0.7
baz=290
RK1H Rockhampton Ha 72.07 127 P P 06 58 37.1 +1.2
C18K Utukok River 72.18 22 IAmb IAmb 06 58 51.1
comp=Z,79nm,1.2s
C18K IAMs_20 IAMs_20 07 33 39.0
comp=Z,3µm,20.0s
C18K Utukok River 72.18 22 P P 06 58 36.4 +0.3
baz=292
G15K Niukluk 72.46 26 P P 06 58 38.8 +1.1
baz=291
C19K Lookout Ridge 72.54 21 P P 06 58 39.3 +1.1
baz=293
E17K Hotham Inlet 72.55 24 P P 06 58 39.1 +0.9
baz=292,SNR=15
KEST Kesra 72.58 302 P P 06 58 39.3 +0.2
comp=Z,202nm,1.0s,baz=312,slow=1.5,SNR=72
KEST LR LR 07 37 40.0
comp=Z,1µm,20.2s,baz=357,slow=42
comp=Z,202nm,1.0s
KEST Kesra 72.58 302 P P 06 58 39.7 +0.5
SNR=28
E18K Tukpahlearik C 72.86 23 IAmb IAmb 06 58 52.4
comp=Z,123nm,1.2s
E18K IAMs_20 IAMs_20 07 34 41.8
comp=Z,2µm,19.0s
E18K Tukpahlearik C 72.86 23 P P 06 58 40.7 +0.7
baz=293,SNR=20
B20K Meade River 72.95 20 IAMs_20 IAMs_20 07 34 08.1
comp=Z,2µm,20.0s
B20K Meade River 72.95 20 P P 06 58 40.8 +0.3
baz=295
G16K Koyuk River 72.98 25 P P 06 58 41.5 +0.7
baz=292
F17K Baldwin Pennin 73.00 24 IAmb IAmb 06 58 55.5
comp=Z,55nm,0.7s
F17K Baldwin Pennin 73.00 24 P P 06 58 41.6 +0.7
baz=293
SSB Saint Sauveur 73.11 312 IAmb IAmb 06 58 43.1
comp=Z,124nm,1.1s
A22K Sinclair Lake 73.17 19 P P 06 58 42.5 +0.7
baz=297
WACR West Acre 73.22 321 *e*P P 06 58 43.3 +0.9
D19K Kuna River 73.28 22 IAMs_20 IAMs_20 07 35 51.0
comp=Z,3µm,18.0s
D19K Kuna River 73.28 22 P P 06 58 42.3 -0.3
baz=295
D19K S S 07 08 06.7 -1.8
baz=295
H16K Elim 73.31 26 P P 06 58 43.3 +0.5
baz=292
LMK Market Rasen 73.53 322 *e*P P 06 58 44.3 +0.1
LMK IAmb IAmb 06 58 47.2
comp=Z,418nm,0.9s
DRUM Mains of Drumt 73.54 325 *e*P P 06 58 44.8 +0.6
DRUM IAmb IAmb 06 58 45.7
comp=Z,207nm,1.1s
MCD Coleburn Disti 73.70 326 *e*P P 06 58 45.9 +0.7
MCD IAmb IAmb 06 58 46.9
comp=Z,335nm,1.0s
BIGH Upper Bighouse 73.71 327 *e*P P 06 58 46.2 +1.0
BIGH IAmb IAmb 06 58 46.6
comp=Z,96nm,1.1s
B21K Ikpikpuk River 73.91 20 IAMs_20 IAMs_20 07 34 02.6
comp=Z,2µm,21.0s
B21K Ikpikpuk River 73.91 20 P P 06 58 46.6 +0.4
baz=298
B22K Teshekpuk Lake 73.94 19 IAmb IAmb 06 59 00.9
comp=Z,90nm,0.6s
B22K IAMs_20 IAMs_20 07 34 49.2
comp=Z,2µm,21.0s
B22K Teshekpuk Lake 73.94 19 P P 06 58 46.6 +0.3
baz=298,SNR=18
EDMD Edmundbyers 73.97 323 *e*P P 06 58 47.3 +0.4
EDMD IAmb IAmb 06 58 48.0
comp=Z,172nm,1.0s
E19K Redstone River 74.03 22 IAMs_20 IAMs_20 07 34 57.8
comp=Z,3µm,18.0s
E19K Redstone River 74.03 22 P P 06 58 47.7 +0.8
baz=296,SNR=33
E19K S S 07 08 15.1 -1.9
baz=296
E20K Nigu River 74.03 22 P P 06 58 47.3 +0.3
baz=296
E20K S SKiKP 07 08 13.5 +0.9
baz=296
C21K Knifeblade Rid 74.08 20 P P 06 58 47.8 +0.6
baz=298
HPK Haverah Park 74.08 322 *e*P P 06 58 47.8 +0.3
HPK IAmb IAmb 06 58 49.0
comp=Z,177nm,1.1s
F19K Shaleruckik Mo 74.11 23 IAMs_20 IAMs_20 07 35 36.6
comp=Z,2µm,18.0s
F19K Shaleruckik Mo 74.11 23 P P 06 58 47.8 +0.5
baz=296
H17K Granite Mounta 74.11 25 P P 06 58 47.1 -0.4
baz=294
AULRC Lightning Ridg 74.14 133 P P 06 58 50.0 +1.9
G18K Tagagawik 74.19 24 P P 06 58 48.0 0.0
baz=295
EDI Edinburgh 74.25 325 *e*P P 06 58 48.7 +0.3
EDI IAmb IAmb 06 58 49.9
comp=Z,190nm,1.0s
CWF Charnwood Fore 74.32 321 *e*P P 06 58 49.0 +0.1
CWF IAmb IAmb 06 58 49.3
comp=Z,48nm,0.9s
LBWR Ladybower, Pea 74.33 322 *e*P P 06 58 49.0 0.0
LBWR IAmb IAmb 06 58 50.4
comp=Z,265nm,1.1s
L14K Kuka Creek 74.39 29 IAMs_20 IAMs_20 07 34 49.5
comp=Z,3µm,18.0s
L14K Kuka Creek 74.39 29 P P 06 58 49.1 0.0
baz=293
EKA Eskdalemuir Ar 74.44 324 P P 06 58 49.8 +0.2
comp=Z,94nm,0.9s,baz=78,slow=6.0,SNR=99
comp=Z,94nm,0.9s
ESK Eskdalemuir 74.47 324 P P 06 58 49.5 -0.2
ESK IAmb IAmb 06 58 51.4
comp=Z,159nm,1.0s
ESK Eskdalemuir 74.47 324 *e*P P 06 58 50.3 +0.6
ESK IAmb IAmb 06 58 51.1
comp=Z,152nm,1.0s
ESK Eskdalemuir 74.47 324 P P 06 58 49.5 -0.2
ESK pmax pmax
comp=Z,159nm,1.0s
ESK MLR MLR
comp=Z,2µm,20.0s
J16K Anvik River 74.51 27 P P 06 58 50.1 +0.3
baz=294
INVG Invergeldie, C 74.52 325 *e*P P 06 58 50.4 +0.4
INVG IAmb IAmb 06 58 51.3
comp=Z,179nm,1.6s
K15K Wolf Creek Mou 74.52 28 P P 06 58 49.7 -0.2
baz=294
H18K Honhosa River 74.61 25 P P 06 58 50.4 -0.1
baz=295
G19K Purcell Mounta 74.66 24 IAMs_20 IAMs_20 07 34 45.2
comp=Z,4µm,21.0s
G19K Purcell Mounta 74.66 24 P P 06 58 50.7 +0.1
baz=296
KESW Keswick, Cumbr 74.68 323 *e*P P 06 58 51.7 +0.8
KESW IAmb IAmb 06 58 52.5
comp=Z,156nm,1.1s
F20K Avaraart Lake 74.73 23 IAMs_20 IAMs_20 07 36 21.4
comp=Z,3µm,19.0s
F20K Avaraart Lake 74.73 23 P P 06 58 50.8 -0.2
baz=297,SNR=11
WOL Wolverton 74.77 320 *e*P P 06 58 51.4 -0.2
L15K Ungalak Mounta 74.78 29 P P 06 58 51.2 -0.2
baz=294
D22K Ayikyak River 74.87 20 IAMs_20 IAMs_20 07 35 21.3
comp=Z,3µm,21.0s
D22K Ayikyak River 74.87 20 P P 06 58 52.2 +0.3
baz=299
M14K Bethel 74.94 30 IAmb IAmb 06 59 17.6
comp=Z,78nm,0.9s
M14K IAMs_20 IAMs_20 07 34 57.0
comp=Z,4µm,20.0s
PGBU Glenifferbraes 74.97 325 *e*P P 06 58 53.1 +0.6
PGBU IAmb IAmb 06 58 54.3
comp=Z,180nm,1.0s
KPL Plockton 75.00 326 *e*P P 06 58 52.8 0.0
C23K Itkillik River 75.02 19 IAMs_20 IAMs_20 07 35 33.7
comp=Z,2µm,20.0s
C23K Itkillik River 75.02 19 P P 06 58 53.1 +0.5
baz=301
SWN1 Swindon 75.04 320 *e*P P 06 58 53.5 +0.5
SWN1 IAmb IAmb 06 58 54.2
comp=Z,191nm,1.2s
NEWG New Galloway 75.09 324 *e*P P 06 58 54.1 +0.8
NEWG IAmb IAmb 06 58 55.0
comp=Z,144nm,1.2s
STRD Stroud 75.15 320 *e*P P 06 58 53.9 +0.1
STRD IAmb IAmb 06 58 54.9
comp=Z,167nm,1.0s
H19K Roundabout Mou 75.17 24 P P 06 58 53.4 -0.2
baz=297
LAWE Loch Awe, Argy 75.28 325 *e*P P 06 58 55.2 +0.8
LAWE IAmb IAmb 06 58 56.0
comp=Z,110nm,1.0s
SCO Scoresbysund 75.34 342 IAmb IAmb 06 58 57.1
comp=Z,79nm,1.1s
SCO Scoresbysund 75.34 342 *i* P P 06 58 54.1 -0.3
SCO IAmb IAmb 06 58 57.4
comp=Z,21nm,0.9s
FOEL Foel Wylfa 75.34 322 *e*P P 06 58 54.8 0.0
FOEL IAmb IAmb 06 58 56.5
comp=Z,140nm,1.1s
GCSA Galena City Sc 75.36 25 P P 06 58 55.1 +0.4
baz=297
F21K Alatna River 75.43 22 IAMs_20 IAMs_20 07 36 11.6
comp=Z,3µm,18.0s
F21K Alatna River 75.43 22 P P 06 58 54.9 -0.2
baz=299
F21K S S 07 08 30.7 -1.9
baz=299
GAL1 Galloway 75.44 324 *e*P P 06 58 55.3 0.0
GAL1 IAmb IAmb 06 58 56.9
comp=Z,134nm,1.1s
D23K Nanushuk River 75.45 20 P P 06 58 56.3 +1.1
baz=301,SNR=30
D23K S S 07 08 32.0 -0.8
baz=301
ARPS Mount Arapiles 75.47 143 P P 06 58 57.3 +1.7
E22K Anaktuvuk Pass 75.53 21 IAMs_20 IAMs_20 07 35 52.0
comp=Z,2µm,21.0s
E22K Anaktuvuk Pass 75.53 21 P P 06 58 55.8 +0.2
baz=300
M15K Kasigluk River 75.54 29 P P 06 58 55.0 -0.7
baz=295
MCH1 Michaelchurch 75.56 321 *e*P P 06 58 56.1 +0.1
MCH1 IAmb IAmb 06 58 57.3
comp=Z,130nm,1.2s
IOMK Kirk Michael 75.59 323 *e*P P 06 58 56.9 +0.7
IOMK IAmb IAmb 06 58 58.0
comp=Z,368nm,1.1s
C24K Franklin Bluff 75.65 19 P P 06 58 56.7 +0.5
baz=303
WIM Isle of Man 75.69 323 *e*P P 06 58 57.8 +0.9
F22K John River 75.72 21 P P 06 58 57.0 +0.3
baz=300
G21K Allakaket 75.76 23 IAMs_20 IAMs_20 07 36 49.7
comp=Z,2µm,20.0s
G21K Allakaket 75.76 23 P P 06 58 57.1 +0.1
baz=299
H20K Anotleneega Mo 75.77 24 P P 06 58 57.5 +0.4
baz=298
WLF1 Llynfaes 75.87 322 *e*P P 06 58 58.7 +0.9
WLF1 IAmb IAmb 06 58 59.5
comp=Z,378nm,1.1s
O14K Tigyukauivet M 75.88 31 IAMs_20 IAMs_20 07 35 50.9
comp=Z,3µm,20.0s
WPS Cemaes, Angles 75.88 322 *e*P P 06 58 58.7 +0.8
WPS IAmb IAmb 06 58 59.5
comp=Z,142nm,1.2s
D24K Happy Valley 75.92 19 IAMs_20 IAMs_20 07 36 22.7
comp=Z,2µm,20.0s
D24K Happy Valley 75.92 19 P P 06 58 58.0 +0.1
baz=303
L17K Donlin 75.96 28 P P 06 58 57.4 -0.8
baz=296
TOLK Toolik Lake Re 75.97 20 IAmb IAmb 06 59 10.1
comp=Z,177nm,1.6s
TOLK IAMs_20 IAMs_20 07 35 44.7
comp=Z,3µm,22.0s
TOLK Toolik Lake Re 75.97 20 P P 06 58 58.1 -0.1
baz=302,SNR=25
J18K Innoko River 76.01 26 P P 06 58 58.3 -0.2
baz=297
N15K Kwethluk River 76.03 30 P P 06 58 58.7 +0.1
baz=295
JSA Saint Aubin 76.10 318 *e*P P 06 58 59.2 +0.1
JSA IAmb IAmb 06 59 00.1
comp=Z,185nm,1.2s
NEEM North Greenlan 76.10 353 *i* P P 06 58 59.2 +0.1
NEEM IAmb IAmb 06 59 02.6
comp=Z,132nm,0.8s
M16K Timber Creek 76.17 29 IAMs_20 IAMs_20 07 36 20.4
comp=Z,4µm,18.0s
LSZ Lusaka 76.17 246 P P 06 59 00.5 +0.3
LSZ IAmb IAmb 06 59 02.1
comp=Z,163nm,0.8s
LSZ IAMs_20 IAMs_20 07 34 05.0
comp=Z,3µm,18.0s
LSZ Lusaka 76.17 246 P P 06 59 00.5 +0.3
LSZ pmax pmax
comp=Z,163nm,0.8s
LSZ MLR MLR
comp=Z,3µm,18.0s
LSZ Lusaka 76.17 246 LR LR 07 30 59.6
comp=Z,3µm,21.1s,baz=53,slow=34
LSZ Lusaka 76.17 246 P P 06 59 00.7 +0.5
J19K Poorman 76.20 25 IAmb IAmb 06 59 11.8
comp=Z,82nm,1.1s
J19K Poorman 76.20 25 P P 06 58 59.2 -0.3
baz=298,SNR=8.7
G22K Bettles 76.25 22 P P 06 58 60.0 +0.3
baz=301
E23K Chandalar 76.27 20 P P 06 59 01.0 +1.0
baz=302
H21K Melozitna Rive 76.44 23 IAmb IAmb 06 59 13.2
comp=Z,98nm,1.1s
H21K IAMs_20 IAMs_20 07 35 51.6

comp=Z,3µm,21.0s
H21K Melozitna Rive 76.44 23 P **P** 06 59 00.9 0.0
baz=300,SNR=18
COLD Coldfoot 76.52 21 P **P** 06 59 02.0 +0.7
baz=302,SNR=8.0
TTA Tatalina 76.54 26 P **P** 06 59 03.1 +1.5
D25K Kavik River 76.55 19 IAmb IAmb 06 59 13.4
comp=Z,298nm,1.6s
D25K IAMs_20 IAMs_20 07 39 23.5
comp=Z,2µm,19.0s
D25K Kavik River 76.55 19 P **P** 06 59 02.1 +0.6
baz=305
L18K Granite Mounta 76.59 27 P **P** 06 59 01.8 0.0
baz=298
E24K Your Creek 76.62 20 IAMs_20 IAMs_20 07 36 17.0
comp=Z,3µm,22.0s
E24K Your Creek 76.62 20 P **P** 06 59 02.0 +0.2
baz=303
C26K Camden Bay 76.62 18 P **P** 06 59 02.5 +0.7
baz=306
M17K Holitna River 76.66 28 IAmb IAmb 06 59 14.7
comp=Z,124nm,1.4s
M17K Holitna River 76.66 28 P **P** 06 59 02.6 +0.5
baz=297
J20K Nowinta River 76.68 25 P **P** 06 59 02.8 +0.6
baz=299
H22K Ishtalitna Cre 76.82 23 P **P** 06 59 02.8 -0.2
baz=301
G23K Bananza Creek 76.86 22 IAMs_20 IAMs_20 07 37 15.7
comp=Z,2µm,18.0s
G23K Bananza Creek 76.86 22 P **P** 06 59 02.9 -0.4
baz=302
I21K Tanana 76.98 23 IAMs_20 IAMs_20 07 36 06.7
comp=Z,3µm,20.0s
I21K Tanana 76.98 23 P **P** 06 59 04.7 +0.8
baz=301
K20K Telida 77.11 26 P **P** 06 59 04.8 +0.1
baz=300
F24K Squaw Lake 77.11 21 IAMs_20 IAMs_20 07 38 30.0
comp=Z,3µm,19.0s
F24K Squaw Lake 77.11 21 P **P** 06 59 05.2 +0.5
baz=304
F24K S **S** 07 08 47.4 -3.8
baz=304
N17K Nushagak Hills 77.17 29 IAMs_20 IAMs_20 07 36 26.6
comp=Z,3µm,19.0s
N17K Nushagak Hills 77.17 29 P **P** 06 59 05.4 +0.4
baz=298
ARMA Armidale 77.20 132 P **P** 06 59 05.1 -0.7
ARMA IAMs_20 IAMs_20 07 35 54.4
comp=Z,2µm,22.0s
ARMA Armidale 77.20 132 P **P** 06 59 07.3 +1.5
comp=Z,49nm,1.2s
L19K White Mountain 77.37 27 P **P** 06 59 06.3 +0.1
baz=299
E25K Arctic Village 77.49 20 IAmb IAmb 06 59 18.7
comp=Z,110nm,1.5s
E25K IAMs_20 IAMs_20 07 39 56.9
comp=Z,2µm,18.0s
E25K Arctic Village 77.49 20 P **P** 06 59 07.0 +0.2
baz=306,SNR=11
MLY Manley 77.51 23 IAMs_20 IAMs_20 07 36 24.4
comp=Z,3µm,20.0s
MLY Manley 77.51 23 P **P** 06 59 07.7 +0.7
baz=302,SNR=11
CHUM Lake Minchumin 77.52 25 P **P** 06 59 07.4 +0.5
baz=301
IWEX Carrickbyrne, 77.55 322 *e*P **P** 06 59 08.7 +1.3
SVW2 Sparrevohn 77.59 28 P **P** 06 59 09.9 +2.5
L20K Farewell, AK 77.62 26 P **P** 06 59 07.5 -0.1
baz=300
N18K Kilae Creek 77.66 28 IAMs_20 IAMs_20 07 37 00.9
comp=Z,3µm,18.0s
G24K Hadweenzic Riv 77.71 21 IAMs_20 IAMs_20 07 37 22.0
comp=Z,3µm,20.0s
G24K Hadweenzic Riv 77.71 21 P **P** 06 59 09.0 +1.0
baz=304
F25K Christian Rive 77.78 20 P **P** 06 59 09.4 +0.9
baz=306
CAST Castle Rocks 77.85 25 IAmb IAmb 06 59 21.0
comp=Z,103nm,1.2s
CAST Castle Rocks 77.85 25 P **P** 06 59 08.9 +0.1
baz=301,SNR=12
BPAW Bear Paw Mtn. 77.91 24 P **P** 06 59 09.8 +0.6
baz=302
I23K Minto, Yukon-K 77.94 23 IAMs_20 IAMs_20 07 37 21.7
comp=Z,2µm,20.0s
I23K Minto, Yukon-K 77.94 23 P **P** 06 59 09.0 -0.3
baz=303
SUMG Summit 78.00 347 P **P** 06 59 09.9 -0.1
SUMG IAmb IAmb 06 59 11.6
comp=Z,210nm,1.1s
SUMG Summit 78.00 347 P **P** 06 59 09.9 -0.1
SUMG pmax pmax
comp=Z,210nm,1.1s
SUMG Summit 78.00 347 *i* P **P** 06 59 09.0 -1.0
SUMG IAmb IAmb 06 59 11.9
comp=Z,75nm,0.9s
H24K Noodor Dome 78.06 22 P **P** 06 59 10.3 +0.2
baz=304
PPLA Purkeypile 78.08 26 P **P** 06 59 10.0 -0.3
baz=301,SNR=6.4
TOO Toolangi 78.09 141 IAMs_20 IAMs_20 07 34 33.9
comp=Z,3µm,22.0s
TOO Toolangi 78.09 141 P **P** 06 59 11.4 +0.9
comp=Z,35nm,1.5s
G25K Bearman Lake 78.12 21 P **P** 06 59 11.4 +1.2
baz=306
D27M Malcolm River 78.13 18 IAmb IAmb 06 59 23.4
comp=Z,187nm,1.7s
D27M IAMs_20 IAMs_20 07 39 52.2
comp=Z,2µm,21.0s
D27M Malcolm River 78.13 18 S **S** 07 09 01.2 -0.9
baz=310
F26K Sheenjek River 78.18 20 P **P** 06 59 11.0 +0.4
baz=307
N19K Bonanza Creek 78.20 28 P **P** 06 59 10.8 -0.1
baz=300
M20K Styx River 78.22 27 P **P** 06 59 11.0 0.0
baz=300
BORG Borgarnes 78.30 337 LR LR 07 36 03.0
comp=Z,2µm,19.0s,baz=53,slow=37
NEA2 Nenana 78.34 23 IAMs_20 IAMs_20 07 36 59.6
comp=Z,2µm,20.0s
NEA2 Nenana 78.34 23 P **P** 06 59 11.6 0.0
baz=304,SNR=17
O18K Koktuh Hills 78.36 29 IAmb IAmb 06 59 37.0
comp=Z,88nm,1.4s
O18K IAMs_20 IAMs_20 07 37 14.1
comp=Z,3µm,20.0s
BWN Browne 78.43 24 IAMs_20 IAMs_20 07 37 03.5
comp=Z,3µm,21.0s
MDM Murphy Dome 78.44 23 P **P** 06 59 11.8 -0.3
MDM IAmb IAmb 06 59 23.4
comp=Z,120nm,1.1s
MDM IAMs_20 IAMs_20 07 37 05.0
comp=Z,2µm,20.0s
FYU Fort Yukon 78.52 21 IAmb IAmb 06 59 24.7
comp=Z,171nm,1.5s
FYU IAMs_20 IAMs_20 07 37 26.1
comp=Z,3µm,20.0s
TULEG Thule 78.52 356 IAmb IAmb 06 59 13.6
comp=Z,173nm,1.1s
IGLA Glengowla, Co 78.54 324 *e*P **P** 06 59 13.6 +0.8
P18K Big Mountain, 78.57 29 IAMs_20 IAMs_20 07 37 30.9
comp=Z,3µm,19.0s
O19K Port Alsworth 78.58 28 IAMs_20 IAMs_20 07 37 29.9
comp=Z,2µm,19.0s
COLA College 78.62 23 P **P** 06 59 12.6 -0.4
COLA IAmb IAmb 06 59 31.0
comp=Z,119nm,1.4s
COLA College 78.62 23 IAMs_20 IAMs_20 07 37 53.8
comp=Z,2µm,20.0s
COLA College 78.62 23 P **P** 06 59 14.2 +1.2
COLA College 78.62 23 P **P** 06 59 13.6 +0.6
baz=304
COLA College 78.62 23 P **P** 06 59 12.6 -0.4
COLA pmax pmax
comp=Z,119nm,1.4s
COLA MLR MLR
comp=Z,2µm,20.0s
POKR Poker Plat Res 78.63 22 IAmb IAmb 06 59 31.5
comp=Z,60nm,0.9s
POKR Poker Plat Res 78.63 22 IAMs_20 IAMs_20 07 37 55.0
comp=Z,2µm,20.0s
POKR Poker Plat Res 78.63 22 P **P** 06 59 13.8 +0.7
baz=305,SNR=21
E27K Coleen River 78.63 19 IAMs_20 IAMs_20 07 39 22.2
comp=Z,2µm,21.0s
E27K Coleen River 78.63 19 P **P** 06 59 13.3 +0.2
baz=309
E27K S **S** 07 09 07.1 -0.3
baz=309
CAN Canberra 78.65 137 P **P** 06 59 14.0 +0.4
CAN IAmb IAmb 06 59 52.7
comp=Z,102nm,1.4s
CAN IAMs_20 IAMs_20 07 37 23.6
comp=Z,2µm,21.0s
CAN Canberra 78.65 137 P **P** 06 59 14.0 +0.4
CAN pmax pmax
comp=Z,102nm,1.4s
CAN MLR MLR
comp=Z,2µm,21.0s
D28M Stokes Point 78.67 17 P **P** 06 59 13.9 +0.7
baz=312
G26K Porcupine Rive 78.74 20 P **P** 06 59 14.4 +0.7
baz=308
CCB Clear Creek Bu 78.77 23 IAMs_20 IAMs_20 07 37 13.7
comp=Z,2µm,19.0s
SKT Skwentna 78.82 26 P **P** 06 59 13.1 -1.1
baz=302
Q17K Contact Creek 78.82 31 P **P** 06 59 13.7 -0.8
baz=299
MCK McKinley 78.87 24 P **P** 06 59 14.2 -0.3
baz=304
E28M Babbage River 78.94 18 IAMs_20 IAMs_20 07 39 17.6
comp=Z,2µm,21.0s
E28M Babbage River 78.94 18 P **P** 06 59 15.3 +0.5
baz=311
E28M S **S** 07 09 08.3 -2.4
baz=311
ILAR Eielson Array 79.02 23 P **P** 06 59 14.3 -0.9
comp=Z,5.0nm,0.8s,baz=302,slow=3.4,SNR=36
ILAR PP **PP** 07 02 15.3 +1.4
comp=Z,3.5nm,0.9s,baz=293,slow=6.0,SNR=4.2
ILAR PKKPbc **PKKPbc** 07 18 06.1 -2.6
comp=Z,1.7nm,0.7s,baz=159,slow=2.6,SNR=14
ILAR PKPPKP **P'P'df** 07 26 10.4 -4.7
comp=Z,3.2nm,1.0s,baz=192,slow=1.5,SNR=12
comp=Z,5.0nm,0.8s
PRP Porcupine Dome 79.05 22 IAmb IAmb 06 59 34.1
comp=Z,76nm,1.2s
PRP IAMs_20 IAMs_20 07 38 15.1
comp=Z,2µm,22.0s
PRP Porcupine Dome 79.05 22 P **P** 06 59 15.5 -0.1
baz=306,SNR=15
ILSW Iliamna Southw 79.19 28 IAMs_20 IAMs_20 07 37 50.7
comp=Z,3µm,20.0s
HDA Harding Lake 79.21 23 IAMs_20 IAMs_20 07 37 37.4
comp=Z,2µm,20.0s
PILG Pilgrimsrest, 79.27 236 ⇑*i* P **P** 06 59 17.9 +0.4
PILG IAmb IAmb 06 59 18.7
comp=Z,161nm,0.9s
SOEG Soedalen 79.38 342 *i* P **P** 06 59 16.9 -0.2
SOEG IAmb IAmb 06 59 19.5
comp=Z,43nm,0.8s
G27K Doyon Strip 79.49 20 IAMs_20 IAMs_20 07 41 01.0
comp=Z,3µm,19.0s
G27K Doyon Strip 79.49 20 P **P** 06 59 17.8 0.0
baz=310
F28M Old Crow 79.50 19 IAMs_20 IAMs_20 07 40 33.0
comp=Z,2µm,20.0s
F28M Old Crow 79.50 19 P **P** 06 59 18.2 +0.4
baz=311,SNR=25
E29M Blow River 79.53 17 P **P** 06 59 18.4 +0.4
baz=313
E29M S **S** 07 09 14.4 -2.6
baz=313
J25K Salcha River, 79.64 22 IAMs_20 IAMs_20 07 37 55.0
comp=Z,2µm,19.0s
J25K Salcha River, 79.64 22 P **P** 06 59 18.3 -0.4
baz=312
CART Cartagena 79.72 307 IAmb IAmb 06 59 20.7
comp=Z,217nm,1.2s
A36M Sachs Harbour 79.74 12 P **P** 06 59 19.3 +0.3
baz=323,SNR=120
R18K Karluk 79.83 31 P **P** 06 59 19.4 -0.3
baz=300
H27K Steamboat Moun 79.90 20 P **P** 06 59 20.2 +0.1
baz=310,SNR=76
I26K Coal Creek Min 79.96 21 IAMs_20 IAMs_20 07 37 47.5
comp=Z,2µm,21.0s
I26K Coal Creek Min 79.96 21 P **P** 06 59 20.1 -0.3
baz=308,SNR=10
K24K Donnelly Dome 79.98 23 P **P** 06 59 20.3 -0.2
baz=306,SNR=18
PMR Palmer 79.99 26 IAmb IAmb 06 59 47.5
comp=Z,110nm,1.5s
PMR Palmer 79.99 26 P **P** 06 59 22.3 +1.8
RC01 Rabbit Creek A 80.03 26 P **P** 06 59 19.9 -0.8
baz=304
SML Sawmill 80.19 25 IAmb IAmb 06 59 36.8
comp=Z,74nm,0.9s
TAM Tamanrasset 80.23 291 IAMs_20 IAMs_20 07 41 21.0
comp=Z,2µm,18.0s
I27K Kandik River 80.27 21 P **P** 06 59 22.6 +0.5
baz=310
BRLK Bradley Lake 80.28 28 IAmb IAmb 06 59 35.5
comp=Z,197nm,1.6s
J26L Joseph Creek 80.33 22 IAMs_20 IAMs_20 07 38 28.9
comp=Z,2µm,21.0s
J26L Joseph Creek 80.33 22 P **P** 06 59 23.1 +0.6
baz=308
RIDG Independent Ri 80.35 23 IAMs_20 IAMs_20 07 38 55.6
comp=Z,2µm,21.0s
KNK Knik Glacier 80.36 26 P **P** 06 59 22.2 -0.4
baz=304,SNR=5.1
CRLN Carolina, Mapu 80.37 236 ⇑*i* P **P** 06 59 24.0 +0.6
CRLN IAmb IAmb 06 59 25.1
comp=Z,80nm,0.8s
G29M Pine Creek 80.50 19 IAmb IAmb 06 59 37.2
comp=Z,144nm,1.4s
G29M IAMs_20 IAMs_20 07 40 10.9
comp=Z,2µm,20.0s
G29M Pine Creek 80.50 19 P **P** 06 59 23.4 +0.1
baz=313
G29M S **S** 07 09 26.4 -0.9
baz=313
SCRK Sand Creek 80.51 23 IAMs_20 IAMs_20 07 39 10.7
comp=Z,2µm,19.0s
SCRK Sand Creek 80.51 23 P **P** 06 59 23.6 +0.2
baz=308,SNR=14
OHAK Old Harbor 80.55 31 P **P** 06 59 24.7 +1.1
KDAK Kodiak Island 80.58 30 LR LR 07 39 07.3
comp=Z,2µm,18.6s,baz=323,slow=39
F30M Barrier River 80.65 17 P **P** 06 59 23.8 -0.2
baz=314
F30M S **S** 07 09 28.5 -0.2
baz=314
RES Resolute Bay 80.68 3 IAmb IAmb 06 59 36.7
comp=Z,108nm,1.1s
RES Resolute Bay 80.68 3 LR LR 07 37 57.3
comp=Z,1µm,18.6s,baz=352,slow=38
INK Inuvik 80.75 16 IAmb IAmb 06 59 36.9
comp=Z,193nm,1.4s
INK Inuvik 80.75 16 P **P** 06 59 24.6 +0.1
baz=316,SNR=28
INK Inuvik 80.75 16 LR LR 07 41 17.7
comp=Z,2µm,20.3s,baz=303,slow=40
UPNV Upernavik 80.83 352 *i* P **P** 06 59 24.2 -0.6
UPNV IAmb IAmb 06 59 27.5
comp=Z,110nm,0.7s
H29M Whitestone 80.87 19 P **P** 06 59 24.7 -0.5
baz=312
ICESG Greenland Ices 80.88 345 *i* P **P** 06 59 25.4 -0.3
ICESG IAmb IAmb 06 59 28.1
comp=Z,186nm,0.9s
I28M Miner Creek 80.91 20 P **P** 06 59 24.7 -0.8
baz=311
LEPH Lephalale, Lim 80.93 239 ⇑*i* P **P** 06 59 26.7 +0.4
LEPH IAmb IAmb 06 59 27.7
comp=Z,411nm,1.0s
EGAK Eagle 80.95 21 IAMs_20 IAMs_20 07 39 13.5
comp=Z,2µm,20.0s
EGAK Eagle 80.95 21 P **P** 06 59 25.9 +0.2
baz=310,SNR=15
G30M tAoh Zraii Nji 80.97 18 IAmb IAmb 06 59 37.7
comp=Z,105nm,1.0s
G30M IAMs_20 IAMs_20 07 41 31.3
comp=Z,2µm,20.0s
G30M tAoh Zraii Nji 80.97 18 P **P** 06 59 24.9 -0.9
baz=314,SNR=38
G30M S **S** 07 09 29.4 -2.8
baz=314
ESBB Sonseca Array 81.00 309 IAmb IAmb 06 59 28.0
comp=Z,135nm,1.4s
ESDC Sonseca Array 81.01 309 IAmb IAmb 06 59 27.9
comp=Z,118nm,1.3s
ESDC Sonseca Array 81.01 309 P **P** 06 59 26.4 -0.2
comp=Z,50nm,1.1s,baz=52,slow=5.4,SNR=86
ESDC PP **PP** 07 02 32.0 +0.8
comp=Z,12nm,1.1s,baz=57,slow=8.0,SNR=5.5
ESDC LR LR 07 41 50.2
comp=Z,974nm,18.2s,baz=50,slow=40
comp=Z,50nm,1.1s
KOUNC Koumac, New Ca 81.10 117 P **P** 06 59 26.6 -0.6
KOUNC IAmb IAmb 06 59 44.0
comp=Z,84nm,1.1s
KOUNC Koumac, New Ca 81.10 117 P **P** 06 59 29.7 +2.6
comp=Z,88nm,1.2s
K27K Chicken 81.13 22 IAMs_20 IAMs_20 07 39 25.4
comp=Z,2µm,19.0s
K27K Chicken 81.13 22 P **P** 06 59 26.9 +0.3
baz=310
MENT Mentasta 81.24 23 IAMs_20 IAMs_20 07 39 56.2
comp=Z,3µm,20.0s
MENT Mentasta 81.24 23 P **P** 06 59 30.3 +3.0
EPYK Eagle Plains 81.26 19 IAmb IAmb 06 59 40.4
comp=Z,100nm,1.4s
EPYK Eagle Plains 81.26 19 P **P** 06 59 26.3 -1.0
baz=314,SNR=11
KLU Klutina 81.30 25 IAmb IAmb 06 59 56.2
comp=Z,120nm,1.3s
L26K Log Cabin Wild 81.32 23 IAMs_20 IAMs_20 07 40 09.3
comp=Z,3µm,20.0s
L26K Log Cabin Wild 81.32 23 P **P** 06 59 28.1 +0.4
baz=309
F31M Tsiigehtchic 81.32 17 IAmb IAmb 06 59 39.8
comp=Z,200nm,1.4s
F31M Tsiigehtchic 81.32 17 P **P** 06 59 27.3 -0.2
baz=316,SNR=18
PAB San Pablo 81.33 309 P **P** 06 59 27.9 -0.4
PAB IAmb IAmb 06 59 29.6
comp=Z,155nm,1.6s
PAB San Pablo 81.33 309 P **P** 06 59 27.9 -0.4
PAB pmax pmax
comp=Z,155nm,1.6s
NWCL Newcastle 81.43 234 ⇑*i* P **P** 06 59 29.2 +0.3
NWCL IAmb IAmb 06 59 30.3
comp=Z,268nm,1.0s
I29M Ogilvie Camp, 81.47 20 P **P** 06 59 28.4 -0.1
baz=313
G31M Satah River 81.56 18 IAmb IAmb 06 59 40.8
comp=Z,400nm,1.8s
G31M IAMs_20 IAMs_20 07 40 51.5
comp=Z,2µm,19.0s
G31M Satah River 81.56 18 P **P** 06 59 28.2 -0.6
baz=316,SNR=14
L27K Beaver Creek, 81.84 23 P **P** 06 59 30.9 +0.4
baz=310
M26K Nabesna, AK 81.84 23 P **P** 06 59 30.5 0.0
baz=309,SNR=10
EYAK Cordova Ski Ar 81.94 26 P **P** 06 59 33.1 +2.2
DAWY Dawson 82.00 21 P **P** 06 59 31.8 +0.5
baz=312,SNR=6.8
PBRG Braganca 82.01 312 *e*P **P** 06 59 32.2 +0.4
comp=Z,83nm,1.8s
HRAO HartRAO 82.09 237 ⇑*i* P **P** 06 59 33.0 +0.6
UMMG Uummannaq 82.09 349 *i* P **P** 06 59 30.4 -1.1
UMMG IAmb IAmb 06 59 33.1
comp=Z,64nm,0.9s
C36M Paulatuk 82.12 13 P **P** 06 59 31.4 -0.3
baz=325,SNR=42
BMRM Bremner River 82.13 25 P **P** 06 59 31.7 -0.3
baz=308
I30M Mount Dempster 82.16 19 IAMs_20 IAMs_20 07 40 05.5
comp=Z,2µm,19.0s
I30M Mount Dempster 82.16 19 P **P** 06 59 31.8 -0.4
baz=314
M27K Edge Creek, AK 82.27 23 P **P** 06 59 33.1 +0.2
baz=310
MCARA McCarthy VSAT 82.47 24 IAmb IAmb 06 59 48.1
comp=Z,82nm,1.0s
MVO Moncorvo 82.49 312 *e*P **P** 06 59 35.0 +0.7
comp=Z,163nm,1.3s
BVCY Beaver Creek 82.60 23 P **P** 06 59 35.4 +0.9
baz=311
J30M Hart River 82.63 20 IAMs_20 IAMs_20 07 40 06.2
comp=Z,2µm,21.0s
J30M Hart River 82.63 20 P **P** 06 59 34.9 +0.2
baz=314
KSR Koster 82.67 237 ⇓*i* P **P** 06 59 36.0 +0.4
KSR IAmb IAmb 06 59 37.3
comp=Z,90nm,0.8s
K29M Barlow Dome 82.76 21 IAMs_20 IAMs_20 07 40 22.6
comp=Z,2µm,22.0s
K29M Barlow Dome 82.76 21 P **P** 06 59 35.6 +0.2
baz=313
PRYS Parys 82.88 236 ⇑*i* P **P** 06 59 37.0 +0.4
PRYS IAmb IAmb 06 59 37.8
comp=Z,142nm,0.6s
PVRL Vila Real 82.90 312 *e*P **P** 06 59 36.9 +0.4
comp=Z,108nm,1.4s
POLO Lamas de Olo 82.91 312 *e*P **P** 06 59 37.2 +0.6
comp=Z,41nm,1.6s
ANGG Ammassalik, Gr 82.96 342 *i* P **P** 06 59 36.6 +0.5
ANGG IAmb IAmb 06 59 40.8
comp=Z,36nm,0.8s
PGAV Gavieira, Arco 82.96 313 *e*P **P** 06 59 35.9 -0.9
comp=Z,144nm,1.4s
L29M L29M 83.07 21 IAMs_20 IAMs_20 07 39 53.6
comp=Z,2µm,22.0s
L29M L29M 83.07 21 P **P** 06 59 37.4 +0.5
baz=313,SNR=12
MTE Manteigas 83.18 311 *e*P **P** 06 59 38.7 +0.8
comp=Z,196nm,1.4s
MTE Manteigas 83.18 311 IAmb IAmb 06 59 39.9
comp=Z,134nm,1.0s
ILULI Ilulissat 83.19 348 *i* P **P** 06 59 37.2 -0.1
ILULI IAmb IAmb 06 59 39.2
comp=Z,71nm,0.9s
BARN Barnard Glacie 83.19 24 IAmb IAmb 07 00 08.8
comp=Z,200nm,1.8s
LBTB Lobatse 83.24 239 P **P** 06 59 38.9 +0.5
LBTB IAMs_20 IAMs_20 07 33 19.4
comp=Z,3µm,22.0s
LBTB Lobatse 83.24 239 ⇑*i* P **P** 06 59 39.2 +0.8
LBTB IAmb IAmb 06 59 40.1
comp=Z,387nm,0.7s
LBTB Lobatse 83.24 239 P **P** 06 59 38.9 +0.5
LBTB pmax pmax
comp=Z,373nm,0.7s
LBTB Lobatse 83.24 239 LR LR 07 36 56.6
comp=Z,680nm,19.2s,baz=52,slow=36
PVIS Viseu 83.27 312 *e*P **P** 06 59 39.3 +0.9
SNKL Senekal, Frees 83.29 235 ⇑*i* P **P** 06 59 39.0 +0.3
SNKL IAmb IAmb 06 59 40.1
comp=Z,348nm,0.8s
PCBR Castelo Branco 83.38 311 *e*P **P** 06 59 39.7 +0.8
comp=Z,145nm,1.5s
ISOG Isortoq, Green 83.38 342 *i* P **P** 06 59 37.2 -1.2
ISOG IAmb IAmb 06 59 39.2
comp=Z,26nm,0.8s
M29M Somme Creek 83.41 22 IAMs_20 IAMs_20 07 41 29.8
comp=Z,2µm,20.0s
M29M Somme Creek 83.41 22 P **P** 06 59 39.4 +0.7
baz=313
KSTD Kokstad 83.44 232 ⇑*i* P **P** 06 59 40.0 +0.6
KSTD IAmb IAmb 06 59 41.2
comp=Z,130nm,1.2s
MAYO Mayo, Yukon 83.45 20 IAMs_20 IAMs_20 07 41 05.6
comp=Z,2µm,21.0s
NOUC Port Laguerre 83.50 118 P **P** 06 59 40.3 +0.6
PMRV Marv??o 83.50 310 *e*P **P** 06 59 40.0 +0.4
comp=Z,116nm,1.4s
PTO Porto 83.56 312 *e*P **P** 06 59 40.6 +0.8
comp=Z,152nm,1.3s
LOGN Logan Glacier 83.58 24 IAmb IAmb 06 59 54.0
comp=Z,80nm,1.3s
DZM Mont Dzumac 83.60 118 P **P** 06 59 39.8 -0.5
DZM IAmb IAmb 06 59 56.6
comp=Z,84nm,1.4s
DZM Mont Dzumac 83.60 118 P **P** 06 59 42.2 +1.9
DZM Mont Dzumac 83.60 118 *e*P **P** 06 59 41.3 +1.0
comp=Z,124nm,1.4s
DZM Mont Dzumac 83.60 118 *e*PP PP 07 02 45.0 -8.4
comp=Z,72nm,23.2s
DZM *e*S S 07 09 50.0 -11
comp=Z,555nm,27.1s
DZM *e*SS **SS** 07 15 19.5 -8.4
comp=Z,636nm,35.9s
DZM Mont Dzumac 83.60 118 *e*LR LR 07 25 59.4
comp=Z,2µm,26.4s

DZM Mont Dzumac 83.60 118 LR LR 07 38 58.6
comp=Z,208nm,19.9s,baz=271,slow=37

YUK8 Steele Glacier 83.73 23 P **P** **06 59 40.9 +0.3**
baz=312

PBAR Barrancos 83.81 309 *eP* **P** **06 59 41.9 +0.7**
comp=Z,193nm,1.7s

COI Coimbra 83.86 311 *eP* **P** **06 59 42.5 +1.2**
comp=Z,156nm,1.2s

M30M Minto, Yukon 83.88 21 IAMs_20 IAMs_20 07 44 20.8
comp=Z,2μm,19.0s

PESTR Estremoz 83.89 310 *eP* **P** **06 59 41.9 +0.3**
comp=Z,84nm,1.6s

PESTR Estremoz 83.89 310 IAmb IAmb 06 59 43.0
comp=Z,104nm,1.4s

YATNC Mamie plateau, 83.96 117 P **P** **06 59 44.1 +2.1**

PCAS Casmilo, Conde 83.98 311 *eP* **P** **06 59 42.9 +0.9**

PMTG Montargil 84.24 310 *eP* **P** **06 59 44.0 +0.7**
comp=Z,135nm,1.3s

EVO Evora 84.34 310 *eP* **P** **06 59 44.7 +0.9**
comp=Z,156nm,1.6s

MDT Midelt 84.38 303 LR LR 07 44 15.0
comp=Z,485nm,18.1s,baz=88,slow=40

PSBE So Bento 84.43 311 *eP* **P** **06 59 45.4 +1.1**
comp=Z,226nm,1.7s

PBEJ Beja 84.47 309 *eP* **P** **06 59 45.3 +0.8**
comp=Z,140nm,1.4s

DY2G Dye2 84.49 345 *i* P **P** **06 59 44.5 +0.1**
DY2G IAmb IAmb 06 59 46.1
comp=Z,60nm,0.9s

SWZ Schweizer 84.56 237⇓ *iP* **P** **06 59 45.4 +0.2**
SWZ IAmb IAmb 06 59 46.5
comp=Z,395nm,0.9s

N30M Aishikik Lake 84.56 22 IAMs_20 IAMs_20 07 41 53.2
comp=Z,2μm,21.0s

PVAQ Vaqueiros 84.64 309 *eP* **P** **06 59 46.4 +1.0**

PCVE Castro Verde 84.77 309 *eP* **P** **06 59 46.5 +0.5**
comp=Z,75nm,1.5s

MESJ Messejana 84.80 309 *eP* **P** **06 59 47.1 +0.9**
comp=Z,186nm,1.3s

MESJ Messejana 84.80 309 IAmb IAmb 06 59 48.0
comp=Z,164nm,1.2s

MESJ Messejana 84.80 309 *eP* **P** **06 59 46.6 +0.4**
MESJ IAmb IAmb 06 59 48.3
comp=Z,129nm,1.1s

MESJ Messejana 84.80 309 *eP* **P** **06 59 46.6 +0.4**
MESJ pmax pmax
comp=Z,129nm,1.1s

HYT Haines Junctio 84.86 23 IAMs_20 IAMs_20 07 41 13.7
comp=Z,2μm,22.0s

HYT Haines Junctio 84.86 23 P **P** **06 59 46.5 +0.3**
baz=314,SNR=7.6

PBDV Barranco-do-Ve 84.87 309 *eP* **P** **06 59 47.7 +1.2**
comp=Z,293nm,1.3s

PNCL Nicolau / Gran 84.89 310 *eP* **P** **06 59 47.7 +1.1**
comp=Z,91nm,1.6s

M31M Drury Creek, Y 84.94 21 IAmb IAmb 06 59 58.8
comp=Z,145nm,1.9s
M31M IAMs_20 IAMs_20 07 41 47.7
comp=Z,2μm,20.0s

N31M Braeburn, Yuko 84.99 22 IAmb IAmb 06 59 55.3
comp=Z,45nm,0.8s

N31M Braeburn, Yuko 84.99 22 P **P** **06 59 47.2 +0.5**
baz=315,SNR=6.1

SFJD Kangerlussuaq 85.00 347 P **P** **06 59 46.4 -0.1**

SFJD Kangerlussuaq 85.00 347 P **P** **06 59 46.4 -0.1**
SFJD pmax pmax
comp=Z,224nm,1.2s

SFJD Kangerlussuaq 85.00 347 LR LR 07 41 41.0
comp=Z,3μm,18.8s,baz=30,slow=38

SFJD Kangerlussuaq 85.00 347 *i* P **P** **06 59 45.9 -0.6**
SFJD IAmb IAmb 06 59 48.4
comp=Z,63nm,0.8s

PMAFR Mafra 85.03 311 *eP* **P** **06 59 48.0 +0.7**

FARO Faro, Yukon 85.25 21 IAMs_20 IAMs_20 07 42 09.0
comp=Z,2μm,20.0s

PTEO Sao Teotonio 85.29 309 *eP* **P** **06 59 49.6 +1.0**
comp=Z,180nm,1.5s

MORF Marmelete 85.35 309 *eP* **P** **06 59 50.4 +1.4**
comp=Z,178nm,1.2s

MORF Marmelete 85.35 309 *eP* **P** **06 59 49.5 +0.5**
MORF IAmb IAmb 06 59 50.7
comp=Z,167nm,1.2s

MORF Marmelete 85.35 309 *eP* **P** **06 59 49.5 +0.5**
MORF pmax pmax
comp=Z,167nm,1.2s

BOSA Boshof 85.35 236 P **P** **06 59 49.3 +0.2**
BOSA IAMs_20 IAMs_20 07 34 56.3
comp=Z,2μm,22.0s

BOSA Boshof 85.35 236⇑ *iP* **P** **06 59 49.3 +0.2**
BOSA IAmb IAmb 06 59 50.4
comp=Z,445nm,0.8s

BOSA Boshof 85.35 236 P **P** **06 59 49.2 +0.2**
comp=Z,361nm,0.8s,baz=57,slow=3.8,SNR=587
BOSA LR LR 07 35 28.9
comp=Z,1μm,21.4s,baz=58,slow=34

O30N Mendenhall 85.39 22 IAmb IAmb 06 59 57.5
comp=Z,52nm,0.9s
O30N IAMs_20 IAMs_20 07 42 05.0
comp=Z,2μm,19.0s

O30N Mendenhall 85.39 22 P **P** **06 59 49.2 +0.4**
baz=315,SNR=7.5

PFVI Vila Bisbo 85.55 309 *eP* **P** **06 59 50.6 +0.7**
comp=Z,272nm,1.2s

WHY Whitehorse 85.89 22 P **P** **06 59 51.1 -0.1**
baz=316

N32M Quiet Lake 86.13 21 P **P** **06 59 51.5 -0.9**
baz=317

HVD Gariep Dam 86.20 234⇑ *iP* **P** **06 59 53.5 +0.2**
HVD IAmb IAmb 06 59 54.8
comp=Z,349nm,1.0s

SKAG Skagway 86.59 23 P **P** **06 59 56.3 +1.7**

P33M Teslin, Yukon 86.92 22 IAmb IAmb 07 00 08.0
comp=Z,79nm,1.6s
P33M IAMs_20 IAMs_20 07 43 24.1
comp=Z,2μm,18.0s

GRHM Grahamstown, E 86.97 231 IAmb IAmb 06 59 58.7
comp=Z,325nm,1.8s

GRHM Grahamstown, E 86.97 231 *eP* **P** **06 59 57.5 +0.7**
GRHM IAmb IAmb 06 59 58.3
comp=Z,326nm,1.8s

P32M Atlin 87.07 22 IAMs_20 IAMs_20 07 42 53.3
comp=Z,2μm,20.0s

WRGLY Wrigley 87.31 16 IAmb IAmb 07 00 10.3
comp=Z,109nm,1.3s

WRGLY Wrigley 87.31 16 P **P** **06 59 58.4 +0.4**
baz=326

TOA0 Torodi Ar. Sit 87.42 283 P **P** **06 59 59.4 -0.1**
TOA0 IAmb IAmb 07 00 01.3
comp=Z,94nm,1.1s

TOA0 Torodi Ar. Sit 87.42 283 P **P** **07 00 00.0 +0.6**
SNR=25

TORD Torodi Ar. Bea 87.42 283 P **P** **06 59 59.5 +0.1**
TORD IAmb IAmb 07 00 01.2
comp=Z,88nm,1.1s
TORD IAMs_20 IAMs_20 07 43 25.2
comp=Z,3μm,19.0s

TORD Torodi Ar. Bea 87.42 283 P **P** **06 59 59.6 +0.1**
comp=Z,44nm,0.9s,baz=48,slow=6.3,SNR=188
TORD PP **PP** **07 03 23.2 -1.0**
comp=Z,13nm,0.9s,baz=56,slow=7.5,SNR=7.2
TORD LR LR 07 43 36.2
comp=Z,3μm,19.9s,baz=72,slow=39
comp=Z,44nm,0.9s

NUUK Nuuk 87.67 346 *i* P **P** **06 59 59.4 -0.3**
NUUK IAmb IAmb 07 00 01.7
comp=Z,64nm,0.8s

PKA Prieska 87.77 236 *eP* **P** **07 00 00.3 -0.6**
PKA IAmb IAmb 07 00 00.7
comp=Z,118nm,2.0s

JIS Juneau Island 87.79 24 P **P** **07 00 01.9 +1.5**

GRAF Camdeboo Natio 87.81 233⇑ *iP* **P** **07 00 01.4 +0.4**
GRAF IAmb IAmb 07 00 02.5
comp=Z,136nm,0.9s

Q32M Nakina River 88.03 22 IAMs_20 IAMs_20 07 43 32.2
comp=Z,3μm,20.0s

BFON Badsfontein, M 88.15 234⇑ *iP* **P** **07 00 02.7 +0.1**
BFON IAmb IAmb 07 00 03.7
comp=Z,96nm,0.8s

R33M Jennings River 88.15 22 IAMs_20 IAMs_20 07 43 04.2
comp=Z,3μm,22.0s

UPI Upington 88.27 238⇑ *iP* **P** **07 00 03.1 -0.1**
UPI IAmb IAmb 07 00 03.8
comp=Z,62nm,1.1s

WTLY Watson Lake, Y 88.30 20 IAmb IAmb 07 00 14.9
comp=Z,51nm,1.3s
WTLY IAMs_20 IAMs_20 07 46 05.6
comp=E,2μm,20.0s

WTLY Watson Lake, Y 88.30 20 P **P** **07 00 02.6 -0.3**
baz=321

BUFB Buffelsbos 88.59 231 *eP* **P** **07 00 05.0 +0.5**
BUFB IAmb IAmb 07 00 05.6
comp=Z,4.9nm,0.8s

ROOI Rooidraai Farm 88.60 233 *eP* **P** **07 00 04.3 -0.4**
ROOI IAmb IAmb 07 00 06.3
comp=Z,291nm,1.4s

NRS Narsarsuaq 88.64 342 *i* P **P** **07 00 03.6 -0.7**
NRS IAmb IAmb 07 00 05.7
comp=Z,43nm,0.8s

KEIM Keimoes 88.66 238⇑ *iP* **P** **07 00 05.3 +0.2**
KEIM IAmb IAmb 07 00 06.3
comp=Z,51nm,0.9s

BRAK Brakfontein 88.72 234⇑ *iP* **P** **07 00 05.8 +0.5**
BRAK IAmb IAmb 07 00 06.8
comp=Z,49nm,0.8s

DLBC Dease Lake 89.20 22 IAmb IAmb 07 00 20.4
comp=Z,76nm,1.6s

IVI Ivigtut 89.35 343 IAmb IAmb 07 00 09.5
comp=Z,345nm,1.5s

IVI Ivigtut 89.35 343 *i* P **P** **07 00 06.7 -1.0**
IVI IAmb IAmb 07 00 09.1
comp=Z,31nm,0.7s

FLDN Fort Liard 89.78 18 IAmb IAmb 07 00 22.9
comp=Z,73nm,1.1s

FRAZ Fraserburg 89.89 235⇑ *iP* **P** **07 00 11.3 +0.4**
FRAZ IAmb IAmb 07 00 12.4
comp=Z,106nm,0.7s

YKA Yellowknife Ar 90.00 13 P **P** **07 00 10.2 -0.6**
comp=Z,2.8nm,0.9s,baz=333,slow=5.0,SNR=26
YKA PP **PP** **07 03 41.5 -1.7**
comp=Z,6.2nm,0.9s,baz=335,slow=8.1,SNR=11
YKA PKKPbc **PKKPdf** **07 17 39.8 +2.5**
comp=Z,0.4nm,0.4s,baz=156,slow=8.5,SNR=22
YKA SKKPbc SKKPbc 07 21 15.2 -0.8
comp=Z,0.4nm,0.8s,baz=166,slow=2.0,SNR=8.1
YKA PKPPKP P'P'df 07 25 44.7 -10
comp=Z,0.9nm,1.0s,baz=136,slow=2.2,SNR=6.3
comp=Z,2.8nm,0.9s

MERW Merweville 90.17 234⇑ *iP* **P** **07 00 12.4 +0.3**
MERW IAmb IAmb 07 00 13.5
comp=Z,98nm,0.8s

T35M Bob Quinn 90.24 23 IAmb IAmb 07 00 26.1
comp=Z,94nm,1.8s

SUR Sutherland 90.55 234 P **P** **07 00 14.6 +0.5**
SUR IAmb IAmb 07 00 15.9
comp=Z,102nm,0.9s

SUR Sutherland 90.55 234⇑ *iP* **P** **07 00 14.8 +0.8**
SUR IAmb IAmb 07 00 15.7
comp=Z,104nm,0.9s

SUR Sutherland 90.55 234 LR LR 07 42 06.2
comp=Z,2μm,18.1s,baz=56,slow=36

CVNA Calvinia 90.91 236⇑ *iP* **P** **07 00 15.6 0.0**
CVNA IAmb IAmb 07 00 16.6
comp=Z,52nm,0.9s

FRB Frobisher Bay 90.91 353 LR LR 07 46 27.1
comp=Z,1μm,20.4s,baz=19,slow=39

MATJ Matjiesfontein 91.15 234 *eP* **P** **07 00 16.9 +0.2**
MATJ IAmb IAmb 07 00 18.1
comp=Z,156nm,1.0s

CASY Casey 91.45 174 P **P** **07 00 16.4 -0.7**

KOMG Komaggas 91.86 238⇑ *iP* **P** **07 00 20.0 +0.1**
KOMG IAmb IAmb 07 00 21.0
comp=Z,71nm,0.9s

CER Ceres 92.14 234 *eP* **P** **07 00 21.1 0.0**

PRTV Porterville,We 92.15 235⇑ *eP* **P** **07 00 21.9 +0.6**
PRTV IAmb IAmb 07 00 23.0
comp=Z,116nm,1.0s

TAVE Taveuni 92.65 107 P **P** **07 00 25.5 +1.7**

BBB Bella Bella 94.75 25 LR LR 07 47 10.7
comp=Z,1μm,18.7s,baz=324,slow=38

MAW Mawson 95.04 192 P **P** **07 00 34.3 +0.7**

MAW Mawson 95.04 192 P **P** **07 00 33.6 +0.1**
comp=Z,45nm,1.1s,baz=35,slow=8.2,SNR=6.7
comp=Z,45nm,1.1s

DBIC Dimbokro 96.00 280 P **P** **07 00 38.8 -0.5**
DBIC IAmb IAmb 07 00 40.4
comp=Z,38nm,1.0s
DBIC IAMs_20 IAMs_20 07 47 35.8
comp=Z,3μm,21.0s

DBIC Dimbokro 96.00 280⇑ *iP* **P** **07 00 39.1 -0.2**
DBIC IAmb IAmb 07 00 40.1
comp=Z,38nm,1.0s

DBIC Dimbokro 96.00 280 P **P** **07 00 38.8 -0.5**
DBIC pmax pmax
comp=Z,38nm,1.0s
DBIC MLR MLR
comp=Z,3μm,21.0s

DBIC Dimbokro 96.00 280 P **P** **07 00 39.5 +0.2**
comp=Z,35nm,1.0s,baz=63,slow=5.6,SNR=19
DBIC LR LR 07 47 56.3
comp=Z,2μm,19.9s,baz=53,slow=38
comp=Z,35nm,1.0s

KIC Kosan Boka 96.03 280⇑ *i*PKP1 **P** **07 00 39.5 0.0**
comp=Z,59nm,0.9s

TIC Toumodi 96.16 280⇑ *i*PKP1 **P** **07 00 40.0 -0.1**
comp=Z,15nm,0.3s

LIC Lamto 96.35 280⇑ *i*PKP1 **P** **07 00 40.6 -0.3**
comp=Z,96nm,1.3s

FCC Fort Churchill 96.55 5 IAmb IAmb 07 00 51.5
comp=Z,39nm,1.2s

RPZ Rata Peaks 97.38 135 LR LR 07 49 03.2
comp=Z,2μm,20.5s,baz=281,slow=38

TOZ Tahuroa Road 97.80 128 IAMs_20 IAMs_20 07 48 41.2
comp=Z,1μm,20.0s

EDM Edmonton 98.65 17 IAmb IAmb 07 01 48.3
comp=Z,69nm,2.0s

SCHQ Schefferville 99.27 349 P **Pdif** **07 00 52.8 -0.5**
comp=Z,17nm,1.0s,baz=294,slow=5.7,SNR=6.8
SCHQ LR LR 07 49 49.8
comp=Z,2μm,20.5s,baz=43,slow=38
comp=Z,17nm,1.0s

FFC Flin Flon 99.61 10 **Pdif** **07 00 53.7 -1.1**
FFC IAmb IAmb 07 01 05.4
comp=Z,35nm,1.4s

FFC Flin Flon 99.61 10 P **Pdif** **07 00 53.7 -1.1**
FFC pmax pmax
comp=Z,35nm,1.4s

NEW Newport 101.93 21 IAMs_20 IAMs_20 07 52 24.4
comp=Z,2μm,19.0s

NEW Newport 101.93 21 PKKPbc PKKPbc 07 17 08.0 -2.8
comp=Z,3.2nm,0.7s,baz=159,slow=2.9,SNR=8.9

HAWA Hanford 102.71 24 IAMs_20 IAMs_20 07 49 42.1
comp=Z,1μm,21.0s

MBO M'Bour 103.00 293 IAMs_20 IAMs_20 07 55 54.0
comp=Z,2μm,19.0s

ULM Lac du Bonnet 104.80 7 PKiKP **PKiKP** **07 05 33.3 +0.2**
comp=Z,3.8nm,0.9s,baz=325,slow=3.9,SNR=4.2
ULM PKKPbc **PKKPbc** **07 16 58.8 -3.5**
comp=Z,4.0nm,0.6s,baz=169,slow=1.9,SNR=6.5

BMO Blue Mountains 104.83 23 IAMs_20 IAMs_20 07 52 17.3
comp=Z,1μm,21.0s

PLID Pearl Lake 105.08 22 IAMs_20 IAMs_20 07 50 57.9
comp=Z,1μm,22.0s

YBH Yreka Blue Hor 105.33 28 IAMs_20 IAMs_20 07 52 06.9
comp=Z,1μm,20.0s

YBH Yreka Blue Hor 105.33 28 PKKPbc PKKPbc 07 16 57.9 -2.7
comp=Z,1.9nm,0.8s,baz=88,slow=3.5,SNR=6.1

BOZ Bozeman (W) 106.03 19 IAMs_20 IAMs_20 07 54 19.6
comp=Z,2μm,20.0s

AGMN Agassiz Nation 106.73 7 IAMs_20 IAMs_20 07 58 54.9
comp=Z,2μm,20.0s

YHL Hebgen Lake 106.84 19 IAMs_20 IAMs_20 07 54 54.2
comp=Z,2μm,21.0s

HLID Hailey 106.97 22 IAMs_20 IAMs_20 07 54 20.7
comp=Z,2μm,21.0s

EYMN Ely 107.49 4 IAMs_20 IAMs_20 07 53 23.4
comp=Z,2μm,20.0s

FLWY Flagg Ranch 107.68 19 IAMs_20 IAMs_20 07 56 28.5
comp=Z,2μm,20.0s

ELIB Princess Elisa 107.73 198 *d*PKiKP **PKiKP** **07 05 37.6 -0.3**
ELIB *dp*PKiKP **pPKiKP** **07 05 45.8 -3.3**

IMW Indian Meadow 107.78 19 IAMs_20 IAMs_20 07 56 09.0
comp=Z,2μm,21.0s

LOHW Long Hollow 108.14 19 IAMs_20 IAMs_20 07 56 41.5
comp=Z,2μm,20.0s

AHID Auburn Hatcher 108.75 20 IAMs_20 IAMs_20 07 55 56.0
comp=Z,1μm,22.0s

VNDA Vanda 109.14 168 PKKPbc PKKPbc 07 16 47.7 -2.0
comp=Z,2.0nm,0.7s,baz=131,slow=0.4,SNR=9.3

ELK Elko 109.15 24 PKKPbc PKKPbc 07 16 47.7 -1.3
comp=Z,3.7nm,0.9s,baz=187,slow=2.3,SNR=10

BW06 Boulder Array 109.22 19 IAMs_20 IAMs_20 07 57 08.3
comp=Z,2μm,21.0s

PDAR Pinedale Array 109.22 19 PKiKP **PKiKP** **07 05 40.5 -1.4**
comp=Z,0.7nm,0.6s,baz=48,slow=2.7,SNR=5.8

PDAR PKKPbc **PKKPbc** **07 16 46.0 -2.8**
comp=Z,1.0nm,0.8s,baz=174,slow=3.0,SNR=6.5

PDAR PKKP **PKKPdf** **07 16 58.2 -4.8**
comp=Z,5.7nm,0.8s,baz=140,slow=5.8,SNR=24

RSSD Black Hills 109.38 14 IAMs_20 IAMs_20 07 57 16.3
comp=Z,2μm,20.0s

CMB Columbia Colle 109.39 29 IAMs_20 IAMs_20 07 54 11.3
comp=Z,1μm,20.0s

HWUT Hardware Ranch 109.66 21 IAMs_20 IAMs_20 07 58 22.8
comp=Z,1μm,20.0s

NVAR Mina Array Bea 109.95 27 PKiKP **PKiKP** **07 05 44.2 +0.9**
comp=Z,0.7nm,0.7s,baz=321,slow=2.3,SNR=5.9
NVAR PKKPbc **PKKPbc** **07 16 44.9 -1.4**
comp=Z,3.2nm,0.9s,baz=158,slow=4.6,SNR=9.3
NVAR PKKP **PKKPab** **07 16 56.8 -3.1**
comp=Z,1.6nm,0.8s,baz=151,slow=4.8,SNR=4.9

SPMN Marine on St. 110.09 6 IAMs_20 IAMs_20 07 54 45.9
comp=Z,2μm,20.0s

G40A Rib Lake 110.24 4 IAMs_20 IAMs_20 08 00 10.0
comp=Z,2μm,19.0s

DUG Dugway, Tooele 110.50 22 IAMs_20 IAMs_20 07 55 58.5
comp=Z,1μm,22.0s

RDMU Red Mountain 111.22 20 IAMs_20 IAMs_20 07 57 04.4
comp=Z,2μm,22.0s

GRAC Grapevine Rang 111.56 27 IAMs_20 IAMs_20 07 55 14.6
comp=Z,1μm,20.0s

P17A Butcher Ranch, 111.85 21 IAMs_20 IAMs_20 07 59 44.1
comp=Z,1μm,19.0s

O20A White River Ci 112.03 19 IAMs_20 IAMs_20 07 57 53.6
comp=Z,2μm,21.0s

Q16A Castle Valley 112.21 22 IAMs_20 IAMs_20 07 57 15.6
comp=Z,994nm,22.0s

SRU San Rafael Swe 112.25 21 IAMs_20 IAMs_20 07 59 55.6
comp=Z,1μm,20.0s

GWY Greenwater Val 112.54 27 IAMs_20 IAMs_20 07 56 09.6
comp=Z,2μm,22.0s

LCMT Little Creek M 113.17 24 IAMs_20 IAMs_20 07 57 54.3
comp=Z,891nm,18.0s

SMCO Snowmass 113.28 18 IAMs_20 IAMs_20 07 59 50.7
comp=Z,2μm,20.0s

SCIA State Center 113.33 7 IAMs_20 IAMs_20 07 57 47.0
comp=Z,2μm,20.0s

TROLL Troll, Antarti 113.96 200⇓ PKPdf **PKiKP** **07 05 49.8 +0.1**
comp=Z,992nm,1.0s
TROLL ⇑SKPdf **SKPdf** **07 09 21.7 -1.0**
comp=Z,71nm,0.5s

QSPA South Pole Qui 114.48 180 IAMs_20 IAMs_20 07 52 21.9
comp=Z,960nm,20.0s

QSPA South Pole Qui 114.48 180 PKiKP PKPdf 07 05 49.7 -1.1
comp=Z,22nm,1.0s,baz=308,slow=2.0,SNR=19
QSPA PKKPbc **PKKPbc** **07 16 30.9 -1.4**
comp=Z,4.9nm,1.0s,baz=218,slow=0.9,SNR=7.8

MVCO Mesa Verde 114.63 20 IAMs_20 IAMs_20 08 01 44.0
comp=Z,2μm,22.0s

PFO Pinyon Flats O 114.83 29 PKKPbc PKKPbc 07 16 28.5 -1.4
comp=Z,5.4nm,1.0s,baz=122,slow=1.3,SNR=6.6

SDCO Great Sand Dun 115.03 18 IAMs_20 IAMs_20 07 59 03.0
comp=Z,1μm,20.0s

BLYC Blythe 115.53 27 IAMs_20 IAMs_20 08 02 49.7
comp=Z,1μm,21.0s

KSU1 Kansas State U 115.66 10 IAMs_20 IAMs_20 08 03 44.4
comp=Z,2μm,20.0s

W18A Petrified Fore 116.13 22 IAMs_20 IAMs_20 07 59 18.4
comp=Z,1μm,20.0s

Q44A Meyer Farm, Va 116.65 3 IAMs_20 IAMs_20 08 05 55.8
comp=Z,2μm,18.0s

SLM Saint Louis 116.84 4 IAMs_20 IAMs_20 07 58 32.8
comp=Z,2μm,19.0s

OLIL Olney 116.86 3 IAMs_20 IAMs_20 08 05 21.4
comp=Z,1μm,20.0s

R40A Maddies Statio 117.01 6 PKPdf **PKPdf** **07 05 56.2 -0.4**

VNA2 Neumayer--Watz 117.10 201⇓ PKPdf **PKPdf** **07 05 55.3 -0.3**
comp=Z,21nm,0.8s,baz=59,slow=2.0
VNA2 ⇑SKPdf **SKPdf** **07 09 28.0 -0.6**
comp=Z,2.0nm,0.4s,baz=82,slow=1.0

R55A Marlinton 117.20 356 IAMs_20 IAMs_20 07 58 44.5
comp=Z,2μm,20.0s

CCM Cathedral Cave 117.34 5 P **PKPdf** **07 05 56.6 -0.6**
baz=354

ANMO Albuquerque 117.36 20 **PKiKP** **07 05 58.8 +1.2**

ANMO Albuquerque 117.36 20 PKiKP **PKiKP** **07 05 58.8 +1.2**

ANMO Albuquerque 117.36 20 PKKPbc PKKPbc 07 16 18.9 -2.4
comp=Z,4.4nm,0.7s,baz=263,slow=4.8,SNR=9.0

R50A Paris 117.37 359 IAMs_20 IAMs_20 07 59 01.9
comp=Z,1μm,20.0s

VNA1 Neumayer--Stat 117.40 201⇓ PKPdf **PKPdf** **07 05 55.9 -0.3**
comp=Z,27nm,1.0s
VNA1 ⇑SKPdf **SKPdf** **07 09 28.7 -0.4**
comp=Z,1.5nm,0.3s

WCI Wyandotte Cave 117.42 1 P **PKPdf** **07 05 57.1 -0.3**
baz=359

VNA3 Neumayer Olymp 117.82 201⇑ PKPdf **PKPdf** **07 05 56.1 -0.9**
comp=Z,23nm,0.7s
VNA3 ⇓SKPdf **SKPdf** **07 09 28.8 -1.2**
comp=Z,1.4nm,0.5s

SIUC Southern Illin 117.82 4 IAMs_20 IAMs_20 08 03 34.8
comp=Z,2μm,22.0s

S44A Carbondale 117.84 4 IAMs_20 IAMs_20 08 03 36.3
comp=Z,2μm,22.0s

S51A Beattyville 118.00 359 IAMs_20 IAMs_20 07 59 49.6
comp=Z,2μm,20.0s

T60A Surry 118.01 352 IAMs_20 IAMs_20 08 00 18.1
comp=Z,2μm,22.0s

ELIS Ellis County 118.10 13 IAMs_20 IAMs_20 07 50 51.2
comp=Z,910nm,19.0s

OK048 Pawnee Station 118.22 11 IAMs_20 IAMs_20 08 04 09.4
comp=Z,2μm,20.0s

TUC Tucson 118.27 25 PKPdf **PKiKP** **07 06 00.1 +0.8**

TUC Tucson 118.27 25 PKiKP **PKiKP** **07 06 00.1 +0.8**

BLA Blacksburg 118.28 356 IAMs_20 IAMs_20 08 00 48.2
comp=Z,2μm,20.0s

HHAR Hobbs 118.81 8 PKPdf **PKPdf** **07 05 59.1 -1.0**

DEOK Depew 118.86 11 IAMs_20 IAMs_20 07 48 10.2
comp=Z,2μm,22.0s

U59A Littleton 118.91 353 IAMs_20 IAMs_20 08 01 41.8
comp=Z,2μm,21.0s

FNO Franklin 119.27 11 IAMs_20 IAMs_20 08 05 53.2
comp=Z,2μm,20.0s

LCAR Lake Charles 119.32 6 **PKPdf** **07 05 59.9 -1.1**

MSTX Muleshoe 119.32 17 IAMs_20 IAMs_20 08 02 46.5
comp=Z,2μm,21.0s

V61A Roper 119.32 352 IAMs_20 IAMs_20 07 59 55.8
comp=Z,1μm,21.0s

WVT Waverly 119.47 2 PKPdf **PKPdf** **07 06 00.4 -1.0**

WVT Waverly 119.47 2 P **PKPdf** **07 06 00.7 -0.7**
baz=357

WVT Waverly 119.47 2 PKIKP **PKPdf** **07 06 00.4 -1.0**

V58A Windy Hill, Pi 119.59 354 IAMs_20 IAMs_20 08 00 11.9
comp=Z,2μm,20.0s

PPT2 Papeete2 119.95 97 *e*LR LR 07 42 37.3
comp=Z,869nm,24.5s
PPT2 *e*LR LR 07 42 56.2
comp=Z,1μm,23.8s

W59A Clinton 120.15 354 IAMs_20 IAMs_20 08 00 39.7
comp=Z,2μm,21.0s

EPT El Paso 120.27 21 IAMs_20 IAMs_20 07 58 49.0
comp=Z,921nm,20.0s

HDBT Hernando Brdge 120.32 5 IAMs_20 IAMs_20 07 54 22.8
comp=Z,1μm,20.0s

MET Memphis--Engin 120.36 5 IAMs_20 IAMs_20 08 06 12.8
comp=Z,2μm,21.0s

KMSC Kings Mountain 120.40 356 IAMs_20 IAMs_20 08 01 43.2
comp=Z,2μm,19.0s

BG3 Lake Jocassee 120.62 358 IAMs_20 IAMs_20 08 00 37.0
comp=Z,2μm,20.0s

MNTX Cornudas Mount 120.70 20 IAMs_20 IAMs_20 08 04 52.1
comp=Z,827nm,20.0s

MNTX Cornudas Mount 120.70 20 P **PKPdf** **07 06 03.6 -0.2**
baz=339

X58A Rowland 120.84 354 IAMs_20 IAMs_20 08 00 59.9
comp=Z,2μm,21.0s

Z35A Perchaven, San 121.17 12 IAMs_20 IAMs_20 08 06 38.6
comp=Z,2μm,20.0s

JSC Jenkinsville 121.25 356 IAMs_20 IAMs_20 08 01 26.8
comp=Z,2μm,21.0s

Y60A Bolivia 121.27 353 IAMs_20 IAMs_20 08 01 46.5
comp=Z,2μm,20.0s

ABTX Abilene, Hawle 121.37 14 IAMs_20 IAMs_20 08 02 40.7
comp=Z,2μm,20.0s

Y52A Lilburn 121.78 359 **PKiKP** **07 06 06.3 +0.3**

BELA Belgrano 2 121.87 191 PKPdf **PKPdf** **07 06 03.4 -1.2**
BELA IAMs_20 IAMs_20 07 58 19.7
comp=Z,1μm,21.0s

Z47A Carrollton 122.38 3 IAMs_20 IAMs_20 08 07 08.5
comp=Z,1μm,20.0s

WHTX Lake Whitney, 122.44 12 IAMs_20 IAMs_20 08 03 48.0
comp=Z,1μm,20.0s

143A Socs Landing, 122.63 6 IAMs_20 IAMs_20 08 03 01.1

comp=Z,2µm,19.0s
146A Union 122.89 4 IAMs_20 IAMs_20 08 02 19.9
comp=Z,2µm,22.0s
154A Montrose 123.00 358 IAMs_20 IAMs_20 08 02 11.0
comp=Z,2µm,20.0s
JCT Junction City 123.39 15 P PKPdf 07 06 09.1 0.0
baz=344
TXAR Lajitas Array 123.43 19 PKP PKPdf 07 06 08.0 -1.3
comp=Z,1.7nm,0.6s,baz=130,slow=0.3,SNR=19
TXAR PKKPbc PKKPbc 07 15 57.7 -0.8
comp=Z,2.5nm,0.9s,baz=154,slow=6.8,SNR=13
TXAR SKKPbc SKKPbc 07 19 34.0 -10
comp=Z,1.4nm,1.1s,baz=201,slow=4.8,SNR=3.9
257A Skidaway Islan 123.53 356 IAMs_20 IAMs_20 08 03 16.2
comp=Z,2µm,20.0s
255A Hazlehurst 123.66 357 IAMs_20 IAMs_20 08 02 39.5
comp=Z,1µm,20.0s
TIGA Tifton 124.18 358 IAMs_20 IAMs_20 08 11 01.3
comp=Z,2µm,20.0s
HPIG 125.00 22 IAMs_20 IAMs_20 08 06 56.3
comp=Z,1µm,20.0s
TAOE Nuku Hiva Isla 125.39 83 *e*LR LR 07 45 02.9
comp=Z,581nm,22.4s
735A Kenedy 125.40 14 IAMs_20 IAMs_20 08 07 50.5
comp=Z,2µm,20.0s
833A Chaparral WMA, 125.55 15 IAMs_20 IAMs_20 08 06 44.5
comp=Z,2µm,20.0s
833A Chaparral WMA, 125.55 15 P PKiKP 07 06 13.8 +0.2
baz=344
DWPF Disney Wildern 127.40 356 IAMs_20 IAMs_20 08 05 25.6
comp=Z,1µm,20.0s
RCBR Riachuelo 129.26 283 IAMs_20 IAMs_20 08 05 27.9
comp=Z,1µm,21.0s
ZAIG Zacatecas 129.90 21 IAMs_20 IAMs_20 08 09 32.9
comp=Z,1µm,22.0s
MOIG Morelia 133.23 21 IAMs_20 IAMs_20 08 11 04.6
comp=Z,1µm,20.0s
SJG San Juan 133.62 335 PKP PKPdf 07 06 28.4 -0.4
comp=Z,8.6nm,0.5s,baz=5.7,slow=4.6,SNR=3.1
SJG SKPab SKPbc 07 09 54.9 -0.1
comp=Z,14nm,0.7s,baz=19,slow=1.2,SNR=4.6
UNM Universidad Na 134.18 19 IAMs_20 IAMs_20 08 14 01.1
comp=Z,899nm,20.0s
TEIG Tepich 135.26 4 IAMs_20 IAMs_20 08 12 31.7
comp=Z,1µm,22.0s
GDU01 Guandu, BA 135.79 276 *e*P PKPdf 07 06 31.5 -1.4
TLIG Tlapa 136.03 19 IAMs_20 IAMs_20 08 13 54.2
comp=Z,817nm,19.0s
MDP Montagnes des 136.69 309 PKP PKPdf 07 06 33.9 -0.7
comp=Z,34nm,0.9s,baz=26,slow=1.3,SNR=3.9
PETF Flores 138.41 7 IAMs_20 IAMs_20 08 16 32.9
comp=Z,1µm,20.0s
PCRV Puerto La Cruz 140.00 328 PKhKP PKPpre 07 06 30.9
comp=Z,7.7nm,0.8s,baz=70,slow=5.4,SNR=2.1
PCRV SKPbc SKPbc 07 10 12.0 -2.3
comp=Z,10.0nm,0.5s,baz=73,slow=3.4,SNR=9.2
ESQI Esquipulas 140.79 6 IAMs_20 IAMs_20 08 12 17.1
comp=Z,796nm,22.0s
MTO3 Montecristo 140.95 6 IAMs_20 IAMs_20 08 10 56.3
comp=Z,1µm,22.0s
SNET Serv Nac Est T 141.66 6 IAMs_20 IAMs_20 08 24 00.3
comp=Z,699nm,20.0s
SDV Santo Domingo 143.76 335 PKPdf PKPab 07 06 44.6 +0.1
SDV IAMs_20 IAMs_20 08 25 21.1
comp=Z,681nm,22.0s
SDV Santo Domingo 143.76 335 PKP PKPab 07 06 44.7 +0.2
comp=Z,360nm,0.9s,baz=38,slow=2.4,SNR=273
SDV SKPbc SKPbc 07 10 21.7 -2.2
comp=Z,24nm,0.8s,baz=24,slow=2.6,SNR=4.5
SDV Santo Domingo 143.76 335 *e*P PKPab 07 06 44.5 0.0
PARB Paraibuna 143.96 264 *e*P PKPbc 07 06 46.1 +0.7
BOAV Boa Vista 144.01 315 *e*P PKPab 07 06 45.1 -0.1
BDFB Brasilia 144.10 277 PKPdf PKPbc 07 06 46.6 +0.5
BDFB IAMs_20 IAMs_20 08 10 30.8
comp=Z,1µm,21.0s
BDFB Brasilia 144.10 277 PKP PKPbc 07 06 46.2 +0.1
comp=Z,107nm,1.0s,baz=60,slow=4.0,SNR=86
SJCC San Jacinto, C 144.29 343 *e*P PKPab 07 06 46.0 -0.2
VERA Finca Concepci 144.69 360 *e*P PKPab 07 06 46.4 -1.3
COVE Coope Vega, Sa 144.81 359 IAMs_20 IAMs_20 08 20 01.9
comp=Z,755nm,20.0s
COVE Coope Vega, Sa 144.81 359 *e*P PKPab 07 06 46.5 -1.6
IPMB Ipameri, GO 145.04 274 *e*P PKPbc 07 06 48.7 -0.2
VACR Volcan Arenal 145.06 359 *e*P PKPab 07 06 49.1 +0.1
SARA Sarapiqu 145.07 358 *e*P PKPbc 07 06 48.2 -0.9
ARE1 Arenal 1 145.08 359 *e*P PKPbc 07 06 47.6 -1.5
ITAL Pital 145.08 359 *e*P PKPbc 07 06 48.6 -0.5
VAO Valinhos 145.11 265 *e*P PKPdf 07 06 49.4 -0.1
ORTG Ortega, Santa 145.18 1 PKPbc 07 06 47.9 -1.6
ORTG IAMs_20 IAMs_20 08 17 35.4
comp=Z,613nm,20.0s
RIFO Rio Frio, Sara 145.20 358 *e*P PKPbc 07 06 48.0 -1.5
JTS Las Juntas de 145.25 360 PKPbc 07 06 47.7 -2.0
JTS Las Juntas de 145.25 360 PKP2 PKPbc 07 06 47.7 -2.0
JTS Las Juntas de 145.25 360 PKPbc PKPbc 07 06 47.9 -1.7
comp=Z,10nm,0.4s,baz=28,slow=9.8,SNR=4.5
JTS Las Juntas de 145.25 360 *e*P PKPbc 07 06 48.2 -1.4
ITTB Itaituba 145.25 301 *e*P PKPdf 07 06 50.0 0.0
OCAC Ocana 145.31 339 *e*P PKPbc 07 06 49.0 -1.0
CVTR Volcan Turrial 145.49 358 *e*P PKPbc 07 06 49.2 -1.7
CVTV Tajo 145.51 358 *e*P PKPbc 07 06 49.4 -1.5
VTRT Volcan Turrial 145.51 358 *e*P PKPdf 07 06 49.9 -1.0
RCLB Rio Claro- Sao 145.51 266 *e*P PKPab 07 06 50.9 +0.3
HDC3 Heredia 3 145.52 358 *e*P PKPdf 07 06 50.0 -0.6
HDC Heredia 145.52 358 *e*P PKPdf 07 06 49.9 -0.7
VICA Volcano Irazu 145.53 358 *e*P PKPdf 07 06 49.9 -1.2
ICR3 Volcano Irazu 145.53 358 *e*P PKPdf 07 06 50.1 -1.0
NYURE Nandayure 145.54 0 *e*P PKPdf 07 06 49.2 -1.3
LUPE Guadalupe 145.57 358 *e*P PKPdf 07 06 49.5 -1.2
SNDB Serra Nova Dou 145.58 285 *e*P PKPdf 07 06 50.2 -0.3
LCBC Los crdobas, 145.59 345 *e*P PKPbc 07 06 50.8 +0.1
LUJA Lujan 145.59 358 *e*P PKPab 07 06 51.2 0.0
PCAYA Pacayas 145.59 358 *e*P PKPab 07 06 51.8 +0.5
PET01 Itanhaem-SP 145.60 263 *e*P PKPab 07 06 51.1 +0.2
TRB2 Turrubares 145.62 359 *e*P PKPdf 07 06 50.2 -0.4
SPB Sao Paulo 145.64 264 IAMs_20 IAMs_20 08 14 51.9
comp=Z,964nm,19.0s
SPB Sao Paulo 145.64 264 *e*P PKPab 07 06 51.0 0.0
REPA Paraso 145.69 358 *e*P PKPdf 07 06 50.8 -0.2
ACOS Acosta 145.73 358 *e*P PKPbc 07 06 51.2 -0.1
RIMA Rio Macho 145.75 358 IAMs_20 IAMs_20 08 16 39.6
comp=Z,869nm,21.0s
RIMA Rio Macho 145.75 358 *e*P PKPdf 07 06 50.3 -0.8
LCR2 La Lucha 2 145.78 358 IAMs_20 IAMs_20 08 17 40.4
comp=Z,816nm,21.0s
LCR2 La Lucha 2 145.78 358 *e*P PKPdf 07 06 50.8 -0.4
ABE2 San Pablo 145.81 358 *e*P PKPdf 07 06 51.3 0.0
JACO JACO, Garabito 145.87 359 IAMs_20 IAMs_20 08 16 03.8
comp=Z,839nm,21.0s
PAMC Pamplona, Colo 145.95 338 *e*P PKPdf 07 06 51.0 -0.8
BUS1 Rivas 145.95 358 *e*P PKPdf 07 06 51.7 -0.1
CDM Cerro de Muert 145.95 358 *e*P PKPdf 07 06 51.0 -0.8
EFI East Falkland 146.02 210 PKPdf PKPdf 07 06 50.3 +0.2
EFI East Falkland 146.02 210 PKP2 PKPdf 07 06 50.3 +0.2
CAPC Capurgana 146.03 346 *e*P PKPdf 07 06 51.3 -0.1
TAMC Tame, Arauca 146.45 335 *e*P PKPdf 07 06 52.7 +0.6
ZARC Zaragoza, Cauc 146.49 341 *e*P PKPdf 07 06 52.3 +0.2
APAC Apartado, Choc 146.56 344 *e*P PKPbc 07 06 53.6 -0.1
BRU2 Volcan 146.65 356 IAMs_20 IAMs_20 08 19 56.6
comp=Z,999nm,20.0s
BARC Barichara 146.81 338 *e*P PKPdf 07 06 52.6 -0.3
PTBC PUERTO BERRIO,147.27 340 *e*P PKPdf 07 06 52.9 -0.6
DBBC Dabeiba 147.32 343 *e*P PKPbc 07 06 55.8 -0.2
AZU Azuero 147.38 351 *e*P PKPdf 07 06 51.9 -1.7
ITRB Iturama 147.47 272 *e*P PKPdf 07 06 52.6 -1.0
FRTB Fartura 147.53 265 *e*P PKPdf 07 06 52.8 -0.8
PTAC Punta Ardita, 147.57 346 *e*P PKPdf 07 06 54.1 +0.1
TER01 Tubaro-SC 147.65 255 *e*P PKPdf 07 06 54.7 +1.1
SPBC San Pablo de B 147.99 339 *e*P PKPdf 07 06 55.3 +0.6
MACA Manacapuru-AM 148.17 308 *e*P PKPdf 07 06 55.0 +0.1
CBOC Ciudad Bolivar 148.37 342 *e*P PKPbc 07 06 58.8 -0.1
SOLC Bahia Solano 148.38 345 *e*P PKPbc 07 06 57.4 -1.3
PTGC Puerto Gaitan, 148.63 334 *e*P PKPbc 07 06 58.2 -1.2
PCMB Pacaembu 148.74 269 *e*P PKPdf 07 06 56.3 +0.7
GUY2C Guyana, Caldas 148.79 341 *e*P PKPbc 07 06 59.9 -0.5
ROSC El Rosal 148.83 339 PKPbc PKPbc 07 06 59.0 -1.3
comp=Z,418nm,0.8s,baz=47,slow=3.0,SNR=31
ROSC El Rosal 148.83 339 *e*P PKPbc 07 07 00.4 0.0
LDASE Londrina, Braz 148.94 265 *e*P PKPdf 07 06 57.0 +1.1
CLDB Colider 148.95 291 *e*P PKPdf 07 06 56.9 +0.7
CNLB Canela 149.16 254 *e*P PKPdf 07 06 57.1 +0.9
PLMC San Jos del P 149.36 342 *e*P PKPbc 07 06 59.7 -1.6
C2SB Chapadao do Su 149.46 275 *e*P PKPdf 07 06 57.8 +1.0
PIZC Pizarro, Choco 149.58 345 *e*P PKiKP 07 07 02.5 -0.3
GO10 Punta Arenas 149.63 197 PKPdf PKPdf 07 06 57.0 +0.9
GO10 PKPbc PKiKP 07 07 01.9 +0.1
PTGB Pitanga 149.99 263 *e*P PKPdf 07 06 58.2 +0.6
ORTC Ortega, Tolima 150.00 340 *e*P PKPbc 07 07 01.4 -1.5
PRAC Prado 150.07 339 *e*P PKPbc 07 07 02.2 -0.8
PDRB Porto dos Gac 150.11 291 *e*P PKPdf 07 06 57.8 -0.2
ITAB Concordia 150.25 258 PKPdf PKPdf 07 06 57.8 -0.1
ITAB Concordia 150.25 258 *e*P PKPdf 07 06 58.1 +0.3
YOTC Yotoco, Valle 150.26 342 *e*P PKPbc 07 07 01.2 -2.4
MALC Bahia Malaga 150.49 344 *e*P PKPbc 07 07 04.3 +0.3
RPRD Ribas do Rio P 150.70 272 *e*P PKPdf 07 06 59.4 +0.6
PP1B Ponte de Pedra 150.95 278 *e*P PKPdf 07 06 59.6 +0.4
FRBT Francisco Belt 151.01 261 *e*P PKPdf 07 06 59.7 +0.5
ALGR Alto Alegre (B 151.07 255 *e*P PKPdf 07 06 59.9 +0.7
JAMC Jamundi, Valle 151.08 342 *e*P PKPbc 07 07 04.7 -1.0
SALV Santo Antonio 151.08 282 *e*P PKPdf 07 06 60.0 +0.6
TEFE Tefe 151.13 314 *e*P PKPdf 07 06 59.9 +0.2
BETC Betania 151.22 340 *e*P PKPdf 07 06 56.9 -2.9
CPSB Cacapava Do Su 151.37 251 *e*P PKPdf 07 07 00.2 +0.7
PLTB Pedras Altas 151.39 249 *e*P PKPdf 07 07 00.1 +0.5
GARC Garzon, Huila 151.70 339 *e*P PKPbc 07 07 05.8 -1.3
MCR1 Marechal Candi 151.74 264 *e*P PKPdf 07 07 00.2 0.0
CRSM Crissiumal (Br 151.96 257 *e*P PKPdf 07 07 00.5 0.0
BBAC Balboa, Cauca 152.38 343 *e*P PKPdf 07 06 59.9 -1.9
AQDB Aquidauana 152.52 273 IAMs_20 IAMs_20 08 16 36.1
comp=Z,1µm,20.0s
AQDB Aquidauana 152.52 273 *e*P PKPdf 07 07 00.8 -0.7
UNIS Unistalda (Bra 152.86 254 *e*P PKPdf 07 07 02.6 +0.9
RODS Rosario do Sul 152.89 251 *e*P PKPdf 07 07 02.5 +0.7
TUMC Tumaco 152.93 346 *e*P PKPdf 07 07 01.2 -1.1
PANT Pantanal (Braz 152.95 276 *e*P PKPdf 07 07 01.6 -0.6
GCUF Volcan Galeras 153.16 343 *e*P PKPdf 07 07 04.2 +0.8
BDQN Bodoquena, MS 153.47 273 *e*P PKPdf 07 07 01.8 -1.1
VILB Vilhena 153.72 292 *e*P PKPdf 07 07 03.7 +0.2
SAML Samuel 153.87 303 PKPdf PKPdf 07 07 03.7 +0.1
SAML Samuel 153.87 303 PKIKP PKPdf 07 07 03.7 +0.1
SAML Samuel 153.87 303 *e*P PKPdf 07 07 03.3 -0.3
PTLB Pontes e Lacer 153.94 286 *e*P PKPdf 07 07 03.0 -0.6
ITQB Itaqui 154.18 253 PKPdf PKPdf 07 07 04.4 +0.7
ITQB IAMs_20 IAMs_20 08 13 02.2
comp=Z,1µm,20.0s
ITQB Itaqui 154.18 253 *e*P PKPdf 07 07 03.2 -0.4
GO08 Villa O'Higgin 154.26 200 PKPdf PKPdf 07 07 03.9 +0.7
OTAV Otavalo 154.40 344 IAMs_20 IAMs_20 08 26 57.9
comp=Z,658nm,22.0s
OTAV Otavalo 154.40 344 *e*P PKPdf 07 07 03.9 -1.1
OTAV Otavalo 154.40 344 *e*P PKPdf 07 07 03.2 -1.9
CPUP Villa Florida 154.86 260 PKP PKPdf 07 07 04.3 -0.4
comp=Z,31nm,1.1s,baz=80,slow=2.2,SNR=23
CPUP PKPbc PKPbc 07 07 12.6 -0.8
comp=Z,49nm,0.9s,baz=76,slow=2.7,SNR=42
TBTG Tabatinga, AM 154.90 322 *e*P PKPdf 07 07 03.5 -1.6
BBRB Robore, Bolivi 155.60 280 *e*P PKPdf 07 07 04.6 -1.3
SIV San Ignacio 155.86 286 PKP PKPdf 07 07 05.9 -0.5
comp=Z,16nm,1.1s,baz=90,slow=1.0,SNR=32
SIV PKPbc pPKPdf 07 07 15.5 -2.0
comp=Z,25nm,1.0s,baz=116,slow=2.6,SNR=28
SIV PKPab PKPab 07 07 33.2 0.0
comp=Z,16nm,0.8s,baz=80,slow=4.3,SNR=7.1
BBSD Serra de San D 155.93 283 *e*P PKPdf 07 07 05.6 -0.8
CHSH Refugio Sur-Vo 156.17 344 IAMs_20 IAMs_20 08 31 02.8
comp=Z,1µm,20.0s
TRQA Tornquist 156.22 230 PKPdf PKPdf 07 07 06.5 +0.3
TRQA PKPab PKPab 07 07 35.3 +1.1
TRQA IAMs_20 IAMs_20 08 14 12.5
comp=Z,1µm,21.0s
TRQA Tornquist 156.22 230 PKP2 PKPab 07 07 35.3 +1.1
TRQA 08 07 06.5
COYC Coyhaique 156.63 204 IAMs_20 IAMs_20 08 16 56.5
comp=Z,905nm,20.0s
ETMB Extrema 156.70 306 PKPab PKPab 07 07 36.4 -0.4
ETMB Extrema 156.70 306 *e*P PKPdf 07 07 07.5 0.0
SALI Salinas 157.28 349 IAMs_20 IAMs_20 08 33 10.0
comp=Z,823nm,21.0s
ARNL Arenillas 158.43 346 IAMs_20 IAMs_20 08 29 10.6
comp=Z,968nm,21.0s
CZSB Cruzeiro do Su 159.37 323 IAMs_20 IAMs_20 08 26 27.4
comp=Z,998nm,20.0s
CZSB Cruzeiro do Su 159.37 323 *e*P PKPdf 07 07 09.3 -1.5
LL01 San Ignacio de 159.44 208 IAMs_20 IAMs_20 08 14 07.3
comp=Z,854nm,22.0s
PLCA Paso Flores 159.87 214 IAMs_20 IAMs_20 08 26 41.2
comp=Z,910nm,20.0s
PLCA Paso Flores 159.87 214 PKP PKPdf 07 07 09.8 -0.8
comp=Z,26nm,1.0s,baz=177,slow=1.5,SNR=29
PLCA PKPab PKPab 07 07 48.9 -1.0
comp=Z,32nm,1.0s,baz=130,slow=4.2,SNR=13
PLCA Paso Flores 159.87 214 *e*P PKPdf 07 07 11.2 +0.6
GO06 Curarrehue 161.19 215 PKPab PKPab 07 07 55.1 -0.6
ATAH Atahualpa 161.40 339 PKP PKPdf 07 07 13.6 0.0
comp=Z,19nm,1.0s,baz=44,slow=3.3,SNR=18
ATAH PKPab PKPab 07 07 57.6 +0.2
comp=Z,46nm,0.8s,baz=41,slow=1.4,SNR=17
CFA Coronel Fontan 163.58 241 PKP PKPdf 07 07 14.7 0.0
comp=Z,47nm,1.0s,baz=221,slow=2.0,SNR=58
CFA PKPab PKPab 07 08 06.7 +0.3
comp=Z,97nm,0.7s,baz=92,slow=3.8,SNR=63
BO04 La Punta 164.31 230 PKPab 07 08 10.0 +0.5
LVC Limon Verde 164.98 275 PKPab PKPab 07 08 14.0 +0.7
LVC Limon Verde 164.98 275 PKP PKPdf 07 07 16.6 0.0
comp=Z,14nm,1.0s,baz=85,slow=2.8,SNR=16
LVC PKPab PKPab 07 08 13.7 +0.4
comp=Z,26nm,0.9s,baz=83,slow=5.8,SNR=8.6
LVC PP PP 07 11 59.7 -0.6
comp=Z,12nm,1.1s,baz=101,slow=3.8,SNR=7.3
LVC Limon Verde 164.98 275 *e*P PKPdf 07 07 16.1 -0.5
NNA Nana 165.13 327 PKPab PKPab 07 08 14.2 +0.8
NNA Nana 165.13 327 PKP PKPdf 07 07 16.6 0.0
comp=Z,16nm,1.0s,baz=311,slow=2.0,SNR=7.3
NNA PKPab PKPab 07 08 13.8 +0.3
comp=Z,31nm,1.0s,baz=346,slow=3.9,SNR=8.4
CO03 El Pedregal 165.81 241 PKPab PKPab 07 08 16.6 +0.2

*DJA **07** 06:51:03.9±1.3, 7°N±8°×12°7E±1°1, h10km, M4.7/9, mb4.8/9, mB5.2/9, MLv4.8/7, Mw(mB)4.6/9, MwMwp4.7/1, Mwp5.0/1*
*IDC **07** 06:51:05.4±2.2, 6°.68N×127°.19E, h85km±19km, mb4.1/20, mbtmp4.4/20, MS4.6/1, Error ellipse: s-maj=23.0km s-min=13.6km az=73.0*
ISC 07 06:51:00.3±0.5**, 6°.81N**±0°.07×**127°.52E**±0°.09**, h35km, n38, σ1s.25**/38**, mb4.5**/20**, 1D, Philippine Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DAV Davao City (W) 1.94 278 ⇓*i*P Pn 06 51 32.0 +1.2
DAV Davao City (W) 1.94 278 P Pn 06 51 32.3 +1.4
268nm,0.4s,baz=257,slow=3.4,SNR=14
DAV LR LR 06 51 49.7
comp=Z,264nm,19.8s,baz=6.5,slow=27
DAV S Sn 06 51 53.9 -0.1
305nm,0.4s,baz=271,slow=21,SNR=5.6
DAV Davao City (W) 1.94 278 P Pn 06 51 30.2 -0.6
SGSI Sangihe 3.69 213 P Pn 06 51 54.2 -0.6
LBMI Labuha 7.40 180 P Pn 06 52 53.6 +7.7
68nm,0.7s,0.5nm
GTOI Gorontalo 7.61 216 P Pn 06 52 50.3 +1.5
30nm,1.1s,302nm0.2nm
MRSI Marisa 8.40 222 P Pn 06 53 00.6 +0.9
53nm,0.8s,1µm
SANI Sanana 8.94 190 P Pn 06 53 06.7 -0.3
LUWI Luwuk 9.13 211 P Pn 06 53 09.7 +0.1
TTSI Tana Toraja 12.45 218 P Pn 06 53 58.0 +2.9
142nm,1.8s,3µm
EDFI Ende, Flores 16.52 201 P P 06 54 53.9 +2.1
76nm,1.6s,1µm
BASI Baing, Sumba 18.28 202 P Pn 06 55 19.9 +8.6
JOW Kunigami 19.92 2 P Pn 06 55 32.8 +1.8
19nm,0.4s,baz=189,slow=8.5,SNR=5.5
19nm,0.4s
WRA Warramunga Arr 27.42 166 P P 06 56 42.6 -0.3
1.4nm,0.7s,baz=350,slow=9.6,SNR=10
1.4nm,0.7s
KSRS Korea Array 30.50 1 P P 06 57 11.2 +1.1
1.0nm,0.6s,baz=183,slow=7.9,SNR=2.3
1.0nm,0.6s
ASAR Alice Springs 30.93 169 P P 06 57 13.7 -0.4
0.6nm,0.4s,baz=343,slow=7.6,SNR=14
ASAR PcP PcP 07 00 10.4 +0.2
3.0nm,0.8s,baz=356,slow=2.7,SNR=1.8
0.6nm,0.4s
USRK Ussuriysk Ar. 37.44 5 P P 06 58 11.9 +1.7
4.4nm,0.8s,baz=187,slow=8.3,SNR=6.9
4.4nm,0.8s
LCRK Leigh Creek 38.44 165 P P 06 58 17.9 -0.9
CMSA Cobar Meteorol 41.90 157 P P 06 58 48.5 +1.0
KLR Kul'dur 42.42 4 P P 06 58 53.1 +1.5
2.2nm,0.7s,baz=217,slow=7.4,SNR=2.1
2.2nm,0.7s
AUDCS Dubbo College 43.73 154 P P 06 59 02.6 +0.2
48nm,1.4s
SONM Songino Array 44.67 340 P P 06 59 10.0 +0.2
1.6nm,0.5s,baz=153,slow=8.2,SNR=4.6
1.6nm,0.5s
PETK Petropavlovsk- 52.30 23 P P 07 00 10.6 +2.2
4.4nm,1.0s,baz=194,slow=5.6,SNR=4.7
4.4nm,1.0s
MKAR Makanchi Array 55.52 324 P P 07 00 31.4 -0.6
3.3nm,0.5s,baz=118,slow=8.1,SNR=9.6
MKAR PcP PcP 07 01 31.2 -0.5
1.8nm,0.6s,baz=112,slow=4.7,SNR=2.3
3.3nm,0.5s
ZALV Zalesovo Beam 58.23 332 P P 07 00 50.0 -1.1
1.8nm,0.4s,baz=124,slow=6.4,SNR=4.6
1.8nm,0.4s
KURBB Kurchatov Arra 59.61 326 P P 07 00 59.9 -0.8
3.6nm,0.5s,baz=127,slow=7.3,SNR=17
3.6nm,0.5s
BVAR Borovoye Array 65.20 326 P P 07 01 37.8 -0.3
4.2nm,0.5s,baz=124,slow=6.8,SNR=7.6
4.2nm,0.5s
NRIK Noril'sk 67.65 346 P P 07 01 53.2 -0.2
3.0nm,0.6s,baz=141,slow=6.5,SNR=1.5
3.0nm,0.6s
KBZ Khabaz 81.45 313 P P 07 03 12.4 -1.6
3.1nm,1.1s,baz=0.0,slow=4.0,SNR=1.4
3.1nm,1.1s
ILAR Eielson Array 82.00 26 P P 07 03 16.8 +0.3
1.3nm,0.8s,baz=233,slow=5.7,SNR=11
1.3nm,0.8s
ARCES ARCESS Array B 87.84 340 P P 07 03 44.4 -1.4
5.5nm,1.0s,baz=84,slow=5.4,SNR=5.2
5.5nm,1.0s
BRTR Keskin Array B 88.67 310 P P 07 03 48.6 -1.9
1.8nm,0.8s,baz=145,slow=4.4,SNR=5.8
1.8nm,0.8s
FINES FINESS Array B 89.50 332 P P 07 03 52.5 -1.2
1.9nm,0.4s,baz=93,slow=4.4,SNR=11
1.9nm,0.4s
AKASG Malin Array Be 90.01 321 P P 07 03 55.2 -1.1
2.2nm,0.7s,baz=65,slow=5.3,SNR=4.5
2.2nm,0.7s
HFS Hagfors 95.67 333 P P 07 04 20.8 -1.4
1.7nm,0.7s,baz=107,slow=14,SNR=1.2
1.7nm,0.7s
QSPA South Pole Qui 96.70 180 LR LR 07 48 49.3
comp=Z,288nm,21.8s,baz=302,slow=36
TXAR Lajitas Array 119.08 51 PKP PKiKP 07 09 46.3 -0.1
1.2nm,0.9s,baz=132,slow=1.3,SNR=2.3
TORD Torodi Ar. Bea 122.65 290 PKP PKPdf 07 09 51.9 -1.5
0.6nm,0.6s,baz=67,slow=2.0,SNR=2.2

*IDC **07** 07:16:01.5±1.2, 67°.73N×27°.27E, h0km, mbtmp3.7/4, ML2.2/4, Error ellipse: s-maj=25.2km s-min=8.5km az=90.0*
*HEL **07** 07:16:01.2±0.1, 67°.70N×26°.98E, h0km, ML2.0, Explosion*
*UPP **07** 07:16:02.3±1.0, 67°.71N×26°.69E, h0km, ML2.4*
ISC 07 07:16:00.9±0.8**, 67°.69N**±0°.02×**26°.94E**±0°.03**, h0km, n39, σ0s.78**/64**, Finland**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SGF Sodankyl 0.30 212 PG Pg 07 16 06.4 -0.1
baz=35
SGF SG Sg 07 16 11.2 +0.9
VRF Varrio 1.02 86 PG Pg 07 16 19.5 -0.9
VRF MSG 07 16 32.1
comp=Z,19nm,0.2s
VRF SG Sg 07 16 32.4 -1.2
RNF Rovaniemi 1.15 199 PG Pg 07 16 22.2 -0.6
RNF SN Sn 07 16 40.3 -0.2
KLF Kolari 1.24 250 PG Pg 07 16 23.7 -0.8
baz=66
KLF MSG 07 16 39.0
comp=Z,18nm,0.2s
KLF SN Sb 07 16 41.6 +0.1
HEF Hetta 1.43 302 *e*P Pn 07 16 27.3 -0.7
HEF Hetta 1.43 302 PG Pn 07 16 27.1 -0.9
baz=117
HEF MSG 07 16 44.2
comp=Z,22nm,0.2s
HEF SG Sg 07 16 46.9 +0.2
PAJU Pajala 1.63 247 PG Pn 07 16 30.6 -0.2
baz=65
PAJU SN Sn 07 16 52.2 -0.2
PAJU Pajala 1.63 247 P Pn 07 16 30.7 0.0
PAJU S Sn 07 16 52.2 -0.2
OLKF Oulanka, Finla 1.68 144 PG Pn 07 16 31.4 -0.2
OLKF MSG 07 16 51.5
comp=Z,19nm,0.2s
OLKF SN Sg 07 16 55.4 +0.6
LANU Lannavaara 1.91 283 PG Pn 07 16 34.4 -0.2
LANU SG Sb 07 17 01.3 +0.5
LANU Lannavaara 1.91 283 P Pn 07 16 34.6 0.0
LANU S Sn 07 16 59.6 +0.3
KTK1 Kautokeino 1.91 316 PG Pn 07 16 35.5 +0.9
KTK1 SG Sn 07 17 00.1 +0.8
MASU Masugnsbyn 1.91 265 P Pn 07 16 35.0 +0.4
TOF Tornio 1.92 214 PG Pn 07 16 35.5 +0.7
baz=31
TOF MSG 07 16 58.7
comp=Z,10.0nm,0.2s
TOF SG Sb 07 17 01.2 +0.1
ARA0 ARCESS Array S 1.93 345 *e*P Pn 07 16 35.3 +0.5
ARA0 ARCESS Array S 1.93 345 PG Pn 07 16 35.4 +0.5
baz=165
ARA0 SG Sn 07 17 01.1 +1.4
ARCES ARCESS Array B 1.93 345 Pn Pn 07 16 35.4 +0.5
comp=Z,1.6nm,0.3s,baz=162,slow=18,SNR=224
ARCES Sn Sn 07 17 00.8 +1.1
comp=Z,3.0nm,0.3s,baz=158,slow=30,SNR=29
MSF Maaselka 1.97 154 PG Pn 07 16 36.4 +0.9
baz=337
MSF SG Sb 07 17 02.4 -0.3
KU6 Riekki 2.04 144 PG Pn 07 16 37.4 +1.0
KU6 MSG 07 17 01.8
comp=Z,7.7nm,0.2s
KU6 SG Sb 07 17 04.8 +0.1
KEV Kevo 2.07 1 PB Pn 07 16 37.0 +0.1
KEV MSG 07 17 02.6
comp=Z,15nm,0.2s
KEV SG Sn 07 17 04.3 +1.0
KALU Kalix 2.33 219 PG Pn 07 16 41.3 +1.0
baz=35
KALU SG Sb 07 17 13.3 +0.5
KALU Kalix 2.33 219 P Pn 07 16 41.4 +1.1
KALU S Sn 07 17 11.2 +1.6
KUA Kurravaara 2.52 279 P Pn 07 16 43.9 +0.9
DUNU Dundret 2.53 260 P Pn 07 16 43.7 +0.6
KIF Kilpisjarvi 2.63 303 PN Pn 07 16 44.9 +0.5
KIF MSG 07 17 19.4
comp=Z,7.4nm,0.2s
KIF SG Sb 07 17 22.0 +0.5
OUL Oulu 2.65 190 PB Pn 07 16 45.4 +0.6
OUL SG Sb 07 17 22.7 +0.5
RATU Laukkuluspa 2.80 276 P Pn 07 16 47.5 +0.6
HARU Harads 2.81 240 P Pn 07 16 47.4 +0.5
LVZ Lovozero 2.94 82 PB Pn 07 16 49.4 +0.6
LVZ SB Sn 07 17 25.6 +0.9
OBF4 Vikkela, Lumij 2.99 195 PN Pn 07 16 50.2 +0.8
OBF4 MSG 07 17 29.3
comp=Z,2.6nm,0.2s
OBF0 Syolatti, Pyha 3.39 200 PN Pn 07 16 56.1 +1.1
OUF Merijarvi 3.46 196 PN Pn 07 16 56.7 +0.8
TRO Tromso 3.52 307 PN Pn 07 16 57.5 +0.8
TRO SN Sn 07 17 39.4 +0.5
NIF Nilsia 4.34 175 PN Pn 07 17 09.2 +1.2
UMAU Umeaa 4.61 217 PN Pn 07 17 12.1 +0.4
UMAU SN Sn 07 18 05.5 -0.4
FINES FINESS Array B 6.29 184 Pn Pn 07 17 35.5 +0.8
comp=Z,0.1nm,0.3s,baz=15,slow=12,SNR=8.6
FINES Sn Sn 07 18 45.9 -1.2
comp=Z,0.1nm,0.3s,baz=14,slow=24,SNR=1.6
comp=Z,7.1nm,1.1s
NOA NORSAR Array B 9.51 233 Pn Pn 07 18 18.4 -0.5
baz=42,slow=11,SNR=1.2
comp=Z,0.8nm,0.9s
HFS Hagfors 9.54 224 Pn Pn 07 18 17.8 -1.5
comp=Z,0.1nm,0.3s,baz=39,slow=12,SNR=1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**10.95**	**349**	Pn	**Pn**	**07 18 36.7**	**-1.8**
	baz=141,slow=16						
	comp=Z,31nm,1.2s						

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*SJA **07** 07:29:15.6±1.3, 31.°78S×72.°55W, h10km, ML3.7, MW3.5*
*GUC **07** 07:29:21.7±0.9, 31.°77S×72.°11W, h37km±3km, ML3.6*
ISC 07 07:29:19.2±1.7**, 31.°77S**±0.°02×**72.°19W**±0.°07**, h9**km±11km**,**
n48, σ1§**33**/74**, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.09**	**137**	*e*P	**Pg**	**07 29 40.6**	**+0.4**
VA06				*e*S	**Sb**	**07 29 54.9**	**+0.2**
VA06				IAML		07 29 57.4	
	comp=E,3μm,0.3s						
CO02	**Combarbal**	**1.16**	**61**	*i* P	**Pn**	**07 29 42.0**	**+0.3**
CO02				*e*S	**Sn**	**07 29 56.9**	**-0.9**
CO02				IAML		07 29 58.6	
	comp=Z,5μm,0.7s						
CO02	**Combarbal**	**1.16**	**61**⇑	*e*P	**Pb**	**07 29 41.7**	**+0.2**
CO02				*e*S	**Sn**	**07 29 56.7**	**-1.1**
CO06	**Fray Jorge**	**1.19**	**24**	*e*P	**Pb**	**07 29 41.9**	**0.0**
CO06				*e*S	**Sb**	**07 29 57.3**	**-0.2**
CO06				IAML		07 30 07.0	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**1.56**	**141**	*e*P	**Pn**	**07 29 47.8**	**+0.5**
ROCH				*e*P	**Pn**	**07 29 47.8**	**+0.5**
ROCH				*e*S	**Sn**	**07 30 06.9**	**-1.0**
ROCH				*e*S	**Sg**	**07 30 09.0**	**-0.4**
ROCH				IAML		07 30 12.3	
	comp=N,1μm,0.4s						
ROCH				IAML		07 30 15.9	
	comp=N,985nm,0.1s						
CO03	**El Pedregal**	**1.58**	**54**	*e*P	**Pb**	**07 29 48.9**	**+0.2**
CO03				*e*S	**Sg**	**07 30 09.2**	**-0.8**
CO03				IAML		07 30 10.1	
	comp=Z,1μm,0.3s						
CO03	**El Pedregal**	**1.58**	**54**	*e*P	**Pb**	**07 29 48.5**	**-0.2**
CO03				*e*S	**Sb**	**07 30 08.6**	**-0.3**
CO03				IAML		07 30 10.4	
	comp=N,2μm,0.4s						
VA03	**San Esteban**	**1.70**	**126**	*i* P	**Pb**	**07 29 50.5**	**-0.3**
VA03				*e*S	**Sb**	**07 30 11.2**	**-1.2**
VA03				IAML		07 30 16.1	
	comp=Z,779nm,0.8s						
VA03	**San Esteban**	**1.70**	**126**	*e*P	**Pn**	**07 29 50.2**	**+0.9**
VA03				*e*S	**Sn**	**07 30 11.0**	**-0.3**
VA03				IAML		07 30 17.2	
	comp=E,2μm,0.5s						
MT02	**Curacav**	**1.73**	**149**	*i* P	**Pn**	**07 29 50.2**	**+0.7**
MT02				IAML		07 30 18.4	
	comp=Z,294nm,0.8s						
MT02	**Curacav**	**1.73**	**149**	*e*P	**Pn**	**07 29 50.0**	**+0.5**
MT02				*e*S	**Sn**	**07 30 10.7**	**-1.1**
PEL	**Peldehue**	**1.87**	**138**	*e*S	**Sg**	**07 30 20.0**	**+0.7**
PEL				IAML		07 30 25.8	
	comp=Z,360nm,0.6s						
PEL	**Peldehue**	**1.87**	**138**	*e*P	**Pn**	**07 29 52.3**	**+0.8**
PEL				*e*S	**Sn**	**07 30 15.1**	**-0.1**
PEL				IAML		07 30 28.9	
	comp=N,549nm,0.4s						
VA05	**Santo Domingo**	**1.94**	**166**	*e*P	**Pn**	**07 29 52.6**	**+0.2**
VA05				*e*S	**Sg**	**07 30 22.6**	**+0.9**
VA05				IAML		07 30 30.1	
	comp=E,908nm,0.5s						
GO04	**Tololo Observa**	**1.99**	**37**	*i* P	**Pn**	**07 29 55.0**	**+1.7**
GO04				*e*S	**Sg**	**07 30 23.0**	**-0.1**
GO04				IAML		07 30 27.6	
	comp=Z,1μm,0.5s						
GO04	**Tololo Observa**	**1.99**	**37**	*e*P	**Pn**	**07 29 54.3**	**+1.0**
GO04				*e*S	**Sn**	**07 30 18.7**	**+0.2**
CO05	**La Serena**	**2.02**	**24**	*e*P	**Pn**	**07 29 54.9**	**+1.4**
CO05				*e*S	**Sn**	**07 30 18.4**	**-0.4**
CO05				IAML		07 30 34.0	
	comp=E,522nm,0.6s						
MT05	**Renca**	**2.03**	**143**	*i* P	**Pb**	**07 29 56.0**	**-0.3**
MT05				*e*S	**Sg**	**07 30 23.9**	**-0.4**
MT05				IAML		07 30 30.7	
	comp=Z,400nm,0.7s						
MT05	**Renca**	**2.03**	**143**	*e*P	**Pb**	**07 29 56.6**	**+0.3**
MT05				*e*S	**Sn**	**07 30 19.3**	**+0.1**
MT05				IAML		07 30 27.1	
	comp=E,1μm,0.2s						
MT10	**Hacienda Santa**	**2.05**	**138**	*e*P	**Pn**	**07 29 55.0**	**+0.9**
MT10				*e*S	**Sn**	**07 30 18.4**	**-1.4**
MT10				IAML		07 30 37.4	
	comp=E,1μm,0.5s						
MT14	**Cerro Cal¡n**	**2.14**	**140**	*e*P	**Pn**	**07 29 56.8**	**+1.6**
MT14				*e*S	**Sb**	**07 30 24.1**	**-0.8**
MT16	**CCHEN**	**2.17**	**140**	*e*P	**Pn**	**07 29 57.6**	**+2.0**
MT16				*i* S	**Sn**	**07 30 23.4**	**+0.7**
MT16				IAML		07 30 31.0	
	comp=N,375nm,0.6s						
MT03	**Universidad Ad**	**2.23**	**141**	*e*S	**Sg**	**07 30 30.7**	**-0.1**
MT03				IAML		07 30 33.0	
	comp=Z,487nm,0.4s						
MT03	**Universidad Ad**	**2.23**	**141**	*e*P	**Pn**	**07 29 57.5**	**+1.1**
MT03				*e*S	**Sn**	**07 30 24.3**	**+0.2**
MT03				IAML		07 30 33.2	
	comp=N,675nm,0.5s						
FCH	**Farellones**	**2.23**	**135**	*e*P	**Pn**	**07 29 57.9**	**+1.1**
FCH				*e*S	**Sb**	**07 30 27.7**	**-0.1**
FCH				IAML		07 30 33.5	
	comp=E,317nm,0.3s						
MT01	**Popeta**	**2.23**	**160**	*i* P	**Pn**	**07 29 56.3**	**-0.2**
MT01				IAML		07 30 38.7	
	comp=Z,149nm,0.9s						
MT01	**Popeta**	**2.23**	**160**	*e*P	**Pn**	**07 29 57.0**	**+0.6**
MT01				*e*S	**Sn**	**07 30 25.9**	**+1.7**
MT01				IAML		07 30 40.4	
	comp=E,240nm,0.6s						
MT09	**Talagante**	**2.24**	**154**	*e*P	**Pn**	**07 29 57.8**	**+1.1**
MT09				IAML		07 30 39.9	
	comp=N,381nm,0.4s						
MT04	**Ro Olivares**	**2.38**	**134**	*e*P	**Pb**	**07 30 00.9**	**-1.5**
MT04				*e*S	**Sb**	**07 30 30.6**	**-1.3**
MT04				IAML		07 30 40.6	
	comp=E,253nm,0.2s						
MT12	**Pirque**	**2.40**	**145**	*e*P	**Pn**	**07 29 59.9**	**+1.2**
MT12				*e*S	**Sn**	**07 30 30.0**	**+1.7**
MT12				IAML		07 30 41.4	
	comp=N,788nm,0.4s						
RTLS	**Leoncito**	**2.46**	**91**	*i* P	**Pb**	**07 30 03.5**	**-0.3**
RTLS				IAML		07 30 40.2	
	comp=Z,494nm,0.7s						
CO01	**Juntas del Tor**	**2.54**	**46**	*i* P	**Pn**	**07 30 02.5**	**+1.6**
CO01				IAML		07 30 39.0	
	comp=Z,197nm,0.3s						
BO01	**Tunca**	**2.77**	**161**	*i* P	**Pn**	**07 30 03.7**	**-0.2**
BO01				IAML		07 30 59.4	
	comp=Z,99nm,1.4s						
DOCA	**Reserva Natura**	**2.78**	**74**	*i* P	**Pb**	**07 30 07.4**	**-1.8**
DOCA				IAML		07 30 49.0	
	comp=Z,306nm,1.0s						
AROD	**Rodeo**	**2.83**	**56**	*i* P	**Pb**	**07 30 08.9**	**-1.1**
ACCO	**Cerro Coronel**	**2.92**	**67**	*i* P	**Pb**	**07 30 10.5**	**-1.3**
ASAL	**Salagasta**	**2.96**	**107**	*i* P	**Pb**	**07 30 12.3**	**+0.1**
ASAL				IAML		07 31 07.8	
	comp=Z,76nm,0.8s						
LCO	**Las Campanas**	**3.03**	**25**	*i* P	**Pn**	**07 30 08.2**	**+0.5**
LCO				IAML		07 31 02.4	
	comp=Z,824nm,0.5s						
ACDV	**Cuesta del Vie**	**3.08**	**60**	*i* P	**Pb**	**07 30 15.5**	**+1.2**
ACDV				IAML		07 31 00.7	
	comp=Z,89nm,0.4s						
AAGR	**Agrelo**	**3.13**	**116**	*i* P	**Pb**	**07 30 14.7**	**-0.4**
AAGR				IAML		07 31 10.0	
	comp=Z,126nm,1.0s						
BO02	**Sierra Bellavi**	**3.24**	**159**	*i* P	**Pn**	**07 30 11.0**	**+0.7**
BO02				IAML		07 31 03.1	
	comp=Z,135nm,0.8s						
GO05	**Huala**	**3.24**	**176**	*i* P	**Pn**	**07 30 09.4**	**-0.9**
GO05				IAML		07 31 16.1	
	comp=Z,29nm,0.7s						
CFA	**Coronel Fontan**	**3.37**	**88**	*i* P	**Pb**	**07 30 16.0**	**-3.2**
AC04	**Llanos de Chal**	**3.68**	**15**	*i* P	**Pn**	**07 30 15.8**	**-0.5**
AC04				IAML		07 31 22.4	
	comp=Z,79nm,0.4s						
AGUA	**GUANDACOL**	**3.91**	**55**	*i* P	**Pn**	**07 30 24.4**	**+4.7**
AGUA				IAML		07 31 29.2	
	comp=Z,130nm,0.5s						
AVFE	**Valle Fertil**	**4.20**	**76**	*i* P	**Pb**	**07 30 28.6**	**-4.7**
AVFE				IAML		07 31 34.0	
	comp=Z,133nm,0.6s						
RFA	**San Rafael**	**4.32**	**135**	*i* P	**Pn**	**07 30 28.7**	**+3.5**
RFA				IAML		07 31 43.1	
	comp=Z,28nm,0.9s						
VCA	**Vinchina**	**4.58**	**50**	*i* P	Pn	07 30 34.2	+5.4
VCA				IAML		07 31 50.6	
	comp=Z,146nm,0.4s						

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*IDC **07** 07:30:02.4±0.9, 67.°22N×20.°61E, h0km, mbtmp3.5/5, ML2.3/5, Error ellipse: s-maj=14.8km s-min=7.3km az=111.0*
*UPP **07** 07:30:02.9±0.1, 67.°19N×20.°68E, h0km, ML2.6, Confirmed Induced event*
*HEL **07** 07:30:03.6±0.0, 67.°18N×20.°66E, h1km, ML2.3, ML2.6(UPP), Confirmed Induced event*
*BER **07** 07:30:04.3±1.3, 67.°02N×20.°88E, h1km, ML2.0, Confirmed Induced event*
ISC 07 07:30:01.7±0.7**, 67.°19N**±0.°02×**20.°74E**±0.°02**, h0**km**, n39,**
σ1§**22**/65**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**225**	*i* P	**Pg**	**07 30 04.8**	**+1.3**
DUNU				*i* S	**Sg**	**07 30 05.9**	**+1.3**
DUNU	**Dundret**	**0.09**	**225**	P	**Pg**	**07 30 04.8**	**+1.3**
DUNU				S	**Sg**	**07 30 05.9**	**+1.3**
RATU	**Laukkuluspa**	**0.78**	**326**	*i* P	**Pg**	**07 30 17.2**	**+0.6**
RATU				*i* S	**Sg**	**07 30 27.4**	**+0.7**
RATU	**Laukkuluspa**	**0.78**	**326**	P	**Pg**	**07 30 17.2**	**+0.6**
RATU				S	**Sg**	**07 30 27.4**	**+0.7**
KUA	**Kurravaara**	**0.79**	**349**	*i* P	**Pg**	**07 30 17.4**	**+0.7**
KUA	**Kurravaara**	**0.79**	**349**	P	**Pg**	**07 30 17.4**	**+0.7**
SALU	**Saltoluokta**	**0.89**	**284**	*i* P	**Pg**	**07 30 19.1**	**+0.4**
SALU				*i* S	**Sg**	**07 30 30.7**	**+0.6**
SALU	**Saltoluokta**	**0.89**	**284**	P	**Pg**	**07 30 19.1**	**+0.4**
SALU				S	**Sg**	**07 30 30.7**	**+0.6**
PAJU	**Pajala**	**0.94**	**99**	*e*P	**Pb**	**07 30 21.0**	**+0.1**
PAJU				*e*S	**Sb**	**07 30 33.9**	**0.0**
PAJU	**Pajala**	**0.94**	**99**	P	**Pb**	**07 30 21.1**	**+0.1**
PAJU				S	**Sb**	**07 30 34.4**	**+0.4**
LANU	**Lannavaara**	**0.99**	**29**	*e*P	**Pb**	**07 30 21.6**	**-0.1**
LANU	**Lannavaara**	**0.99**	**29**	P	**Pb**	**07 30 21.6**	**-0.1**
HARU	**Harads**	**1.03**	**175**	*e*P	**Pg**	**07 30 21.9**	**+0.5**
HARU				*e*S	**Sb**	**07 30 36.4**	**0.0**
HARU	**Harads**	**1.03**	**175**	P	**Pg**	**07 30 21.9**	**+0.5**
HARU				S	**Sb**	**07 30 36.4**	**0.0**
KLF	**Kolari**	**1.26**	**86**	*e*P	**Pb**	**07 30 26.5**	**+0.2**
KLF				*e*S	**Sb**	**07 30 43.0**	**0.0**
HEF	**Hetta**	**1.65**	**41**	*e*P	**Pb**	**07 30 33.2**	**+0.2**
HEF				*e*S	**Sg**	**07 30 55.6**	**+0.8**
HEF	**Hetta**	**1.65**	**41**	*e*P	**Pb**	**07 30 33.2**	**+0.2**
HEF				*e*S	**Sg**	**07 30 55.1**	**+0.4**
HEF				MSG		07 30 58.8	
	comp=Z,12nm,0.1s						
KALU	**Kalix**	**1.70**	**141**	*e*P	**Pb**	**07 30 34.0**	**+0.3**
KALU	**Kalix**	**1.70**	**141**	P	**Pb**	**07 30 34.0**	**+0.3**
SJUU	**Sjulsmark**	**1.72**	**168**	*e*P	**Pb**	**07 30 34.2**	**0.0**
SJUU	**Sjulsmark**	**1.72**	**168**	P	**Pb**	**07 30 34.2**	**0.0**
TOF	**Tornio**	**1.81**	**126**	*e*PN	**Pg**	**07 30 36.3**	**0.0**
TOF				*e*SG	**Sg**	**07 31 00.5**	**+0.7**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	**Pg**	**07 30 37.1**	**+0.4**
KIF				*i* S	**Sg**	**07 31 01.9**	**+1.6**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	**Pb**	**07 30 36.5**	**+0.6**
KIF				*e*SG	**Sg**	**07 31 01.5**	**+1.2**
KIF				MSG		07 31 03.6	
	comp=Z,35nm,0.2s						
KTK1	**Kautokeino**	**2.06**	**26**	*e*P	**Pb**	**07 30 40.2**	**+0.3**
KTK1				*e*S	**Sg**	**07 31 07.3**	**-0.4**
KTK1				IAML		07 31 09.6	
	comp=Z,22nm,0.4s						
KTK1	**Kautokeino**	**2.06**	**26**	*e*PG	**Pb**	**07 30 40.6**	**+0.7**
KTK1				*e*SG	**Sg**	**07 31 07.9**	**+0.1**
FAUS	**Fauske**	**2.12**	**278**	*e*P	**Pb**	**07 30 40.5**	**-0.5**
FAUS				IAML		07 31 12.7	
	comp=Z,32nm,0.4s						
RNF	**Rovaniemi**	**2.16**	**103**	*e*PB	**Pb**	**07 30 41.5**	**-0.1**
RNF				MSG		07 31 13.1	
	comp=Z,23nm,0.2s						
STEI	**Steigen**	**2.24**	**292**	*e*P	**Pn**	**07 30 41.2**	**+1.3**
STEI				*e*PG	**Pb**	**07 30 42.9**	**-0.1**
STEI				*e*SG	**Sb**	**07 31 12.6**	**+1.5**
SGF	**Sodankyl**	**2.26**	**81**	*e*PB	**Pb**	**07 30 43.6**	**+0.3**
SGF				*e*SG	**Sg**	**07 31 13.9**	**-0.2**
SGF				MSG		07 31 15.2	
	comp=Z,15nm,0.2s						
JETT	**Jettan, Norway**	**2.38**	**357**	*e*P	**Pb**	**07 30 45.4**	**-0.1**
JETT				IAML		07 31 22.5	
	comp=Z,20nm,0.5s						
TRO	**Tromso**	**2.55**	**346**	*e*SG	**Sb**	**07 31 22.0**	**+2.0**
BURU	**Burvik**	**2.63**	**174**	*e*P	**Pn**	**07 30 47.4**	**+2.1**
BURU				*e*S	**Sn**	**07 31 19.8**	**+2.0**
ARA0	**ARCESS Array S**	**2.95**	**35**	*e*P	**Pn**	**07 30 51.8**	**+2.1**
ARA0				IAML		07 31 44.5	
	comp=Z,4.9nm,0.6s						
ARCES	**ARCESS Array B**	**2.95**	**35**	Pn	**Pn**	**07 30 51.4**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=214,slow=13,SNR=81						
ARCES				Sn	**Sn**	**07 31 26.9**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=214,slow=24,SNR=8.1						
	comp=Z,1.3nm,0.3s						
FINES	**FINESS Array B**	**6.21**	**156**	Pn	**Pn**	**07 31 36.9**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=8.8						
FINES				Sn	**Sn**	**07 32 46.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=343,slow=22,SNR=5.9						
FINES				Lg	Lg	07 33 17.3	
	comp=Z,0.8nm,0.3s,baz=344,slow=28,SNR=7.4						
	comp=Z,6.4nm,1.1s						
NOA	**NORSAR Array B**	**7.44**	**218**	Pn	**Pn**	**07 31 51.0**	**-0.3**
	baz=28,slow=11,SNR=1.2						
NOA				Sn	**Sn**	**07 33 12.3**	**-4.1**
	baz=51,slow=5.7,SNR=2.1						
NOA				Lg	Lg	07 33 54.8	
	baz=116,slow=20,SNR=3.8						
	comp=Z,0.6nm,0.8s						
HFS	**Hagfors**	**7.74**	**207**	Pn	**Pn**	**07 31 54.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=17,slow=12,SNR=1.9						
HFS				Sn	**Sn**	**07 33 20.7**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=32,slow=19,SNR=4.7						
	comp=Z,1.1nm,0.5s						
SPITS	**Spitsbergen Ar**	**11.12**	**355**	Pn	**Pn**	**07 32 37.4**	**-4.2**
	baz=182,slow=12						
	comp=Z,17nm,1.0s						

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*NEIC **07** 07:30:17.9±0.2, 36.°91N±0.°01×97.°66W±0.°01, h4km±6km, Error ellipse: s-maj=1.7km s-min=1.2km az=161.0*
*ANF **07** 07:30:18.4±0.4, 36.°90N×97.°67W, h7km, ML3.2/7, Error ellipse: s-maj=4.8km s-min=3.0km az=5.0*
TUL 07 07:30:18.1±0.3**, 36.°911N**±0.°009×**97.°66W**±0.°01**, h7**km±3km**,**
ML2.8, mb_Lg2.8/39(NEIC)**, ML3.0**/46(NEIC)**, Error ellipse: s-maj=1.7km s-min=0.9km az=52.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.16**	**327**	Pg	Pg	07 30 21.8	+0.4
KAN17				Sg	Sg	07 30 24.3	+0.7
KAN17				IAML		07 30 24.5	
	comp=E,6μm,0.3s						
KAN17				IAML		07 30 26.4	
	comp=N,4μm,0.3s						
GC02	**Grant County #**	**0.17**	**250**	Pg	Pg	07 30 21.9	+0.2
KAN13	**South Haven SW**	**0.17**	**54**	Pg	Pg	07 30 22.1	+0.5
KAN13				Sg	Sg	07 30 24.8	+0.8
KAN13				IAML		07 30 26.4	
	comp=E,3μm,0.3s						
KAN09	**Caldwell North**	**0.23**	**7**	Pg	Pg	07 30 23.1	+0.4
KAN09				Sg	Sg	07 30 26.6	+0.9
KAN09				IAML		07 30 28.4	
	comp=N,2μm,0.2s						
KAN09				IAML		07 30 28.6	
	comp=E,3μm,0.3s						
KAN14	**Manchester OK**	**0.25**	**281**	Pg	Pg	07 30 23.4	+0.3
KAN14				Sg	Sg	07 30 27.0	+0.6
KAN14				IAML		07 30 27.1	
	comp=E,2μm,0.2s						
KAN14				IAML		07 30 27.1	
	comp=N,4μm,0.2s						
KAN01	**Argonia South**	**0.26**	**341**	Pg	Pg	07 30 23.6	+0.4
KAN01				IAML		07 30 27.6	
	comp=E,2μm,0.2s						
KAN06	**Argonia West S**	**0.37**	**334**		Pg	07 30 25.8	+0.4
KS21	**Milan North St**	**0.38**	**359**	Pg	Pg	07 30 25.8	+0.3
BLOK	**Blackwell**	**0.38**	**113**	Pg	Pg	07 30 25.8	+0.2
BLOK				IAML		07 30 32.6	
	comp=E,1μm,0.2s						
BLOK				IAML		07 30 32.8	
	comp=N,1μm,0.3s						
KAN08	**Anthony NE Sta**	**0.40**	**321**	Pg	Pg	07 30 26.4	+0.5
KAN08				IAML		07 30 33.9	
	comp=E,2μm,0.4s						
KAN08				IAML		07 30 33.9	
	comp=N,2μm,0.4s						
KAN10	**Anthony SW Sta**	**0.41**	**301**	Pg	Pg	07 30 26.5	+0.4
KAN10				IAML		07 30 33.9	
	comp=N,1μm,0.3s						
OK032	**Salt Plains WL**	**0.46**	**257**	Pg	Pg	07 30 27.1	+0.2
OK032				IAML		07 30 35.4	
	comp=N,1μm,0.2s						
OK032				IAML		07 30 36.9	
	comp=N,979nm,0.1s						
KAN12	**Harper NE Stat**	**0.47**	**325**	Pg	Pg	07 30 27.6	+0.4
CROK	**Carrier**	**0.48**	**213**	Pg	Pg	07 30 27.6	+0.1
OK048	**Pawnee Station**	**0.76**	**131**	Pg	Pg	07 30 32.6	0.0
OK048				IAML		07 30 44.7	
	comp=N,490nm,0.4s						
OK048				IAML		07 30 44.7	
	comp=N,722nm,0.4s						
OK051	**E0350 and S346**	**0.77**	**121**		Pg	07 30 32.9	-0.1
OK051				IAML		07 30 47.9	
	comp=N,491nm,0.4s						
OK051				IAML		07 30 54.8	
	comp=N,469nm,0.2s						
T35A	**Sooner Cattle**	**0.92**	**89**		Pg	07 30 35.5	-0.2
T35B	**Sooner Cattle**	**0.92**	**89**	P	Pg	07 30 35.5	-0.2
	baz=270						
T35B				S	Sg	07 30 47.6	0.0
	baz=270						
OK038	**West end E0370**	**0.97**	**244**		Pg	07 30 36.4	-0.4
QUOK	**Quay**	**1.06**	**134**		Pg	07 30 38.2	-0.3
OK029	**Liberty Lake**	**1.12**	**172**		Pg	07 30 39.2	-0.4
OK029				IAML		07 31 01.0	
	comp=N,250nm,0.5s						
OK052	**Battle Ridge R**	**1.15**	**143**	Pg	Pg	07 30 39.6	-0.4
U32A	**Winter Ranch,**	**1.21**	**244**		Pg	07 30 40.5	-0.7
U32A				IAML		07 31 05.9	
	comp=E,203nm,0.3s						
U32A				IAML		07 31 08.5	
	comp=N,201nm,0.5s						
U32A	**Winter Ranch,**	**1.21**	**244**	P	Pg	07 30 40.6	-0.7
	baz=63						
U32A				S	Sn	07 30 57.6	-0.5
	baz=63						
ADOK	**Arcadia Dam**	**1.28**	**170**		Pn	07 30 42.0	-0.4
DEOK	**Depew**	**1.42**	**138**	Pg	Pn	07 30 44.2	-0.1
CSTR	**Hydro, Custer**	**1.51**	**214**		Pn	07 30 45.7	0.0
R32A	**Long Quarter,**	**1.73**	**331**	P	Pb	07 30 50.0	-0.2
	baz=151						
R32A				S	Sb	07 31 12.7	+0.5
	baz=151						
TUL3	**Leonard**	**1.80**	**123**	IAmb_Lg		07 31 16.8	
	comp=Z,72nm,0.9s						
TUL3	**Leonard**	**1.80**	**123**	P	Pn	07 30 50.3	+0.6
	baz=304						
TUL3				S	Sb	07 31 14.6	+0.3
	baz=304						
RLO	**Rose Lookout**	**2.25**	**109**	Pn	Pn	07 30 55.4	-0.4
KSU1	**Kansas State U**	**2.34**	**20**	IAmb_Lg		07 31 37.7	
	comp=Z,26nm,0.8s						
KSU1	**Kansas State U**	**2.34**	**20**	S	Sn	07 31 27.1	+1.1
	baz=201						
CBKS	**Cedar Bluff**	**2.52**	**320**	Sb	Sb	07 31 36.1	+1.3
	baz=138						
HHAR	**Hobbs**	**3.06**	**101**	P	Pn	07 31 08.2	+1.3
	baz=283						
S39A	**Bolivar**	**3.54**	**76**	P	Pn	07 31 14.7	+1.2
	baz=259						
DKNS	**Dickens**	**4.20**	**221**	IAmb_Lg		07 32 40.3	
	comp=Z,14nm,0.8s						
P38A	**Dawn**	**4.23**	**49**	IAmb_Lg		07 32 38.9	
	comp=Z,26nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.45**	**300**	IAmb_Lg		07 32 45.3	
	comp=Z,21nm,0.8s						
R40A	**Maddies Statio**	**4.49**	**71**	IAmb_Lg		07 32 45.5	
	comp=Z,16nm,0.8s						
BGNE	**Belgrade**	**4.51**	**355**	IAmb_Lg		07 32 44.6	
	comp=Z,31nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.58**	**101**	IAmb_Lg		07 32 42.2	
	comp=Z,23nm,0.7s						
ABTX	**Abilene, Hawle**	**4.58**	**202**	IAmb_Lg		07 32 54.7	
	comp=Z,12nm,1.0s						
X40A	**Basin Creek Fa**	**4.61**	**120**	Pn	Pn	07 31 28.8	+0.6
MSTX	**Muleshoe**	**5.11**	**236**	IAmb_Lg		07 33 09.1	
	comp=Z,14nm,1.0s						
237A	**Washetta, Mont**	**5.13**	**162**	Pn	Pn	07 31 35.4	0.0
CCM	**Cathedral Cave**	**5.22**	**75**	IAmb_Lg		07 33 08.4	
	comp=Z,18nm,0.9s						
OGNE	**Ogallala**	**5.28**	**321**	IAmb_Lg		07 33 11.2	
	comp=Z,20nm,0.7s						
LCAR	**Lake Charles**	**5.30**	**97**	IAmb_Lg		07 33 14.7	
	comp=Z,13nm,1.1s						
T25A	**Trinidad**	**5.41**	**274**	IAmb_Lg		07 33 11.8	
	comp=Z,14nm,1.1s						
BRDY	**Brady**	**5.72**	**192**	Pn	Pn	07 31 43.2	-0.4
PBMO	**Poplar Bluff**	**5.80**	**89**	IAmb_Lg		07 33 31.1	
	comp=Z,9.5nm,0.8s						
435B	**Jarrell**	**6.11**	**179**	IAmb_Lg		07 33 44.6	
	comp=Z,9.4nm,0.8s						
SLM	**Saint Louis**	**6.12**	**71**	IAmb_Lg		07 33 32.2	
	comp=Z,22nm,0.9s						
CGM3	**Cape Girardeau**	**6.40**	**84**	IAmb_Lg		07 33 39.8	
	comp=Z,15nm,0.7s						
PHWY	**Pilot Hill**	**7.48**	**308**	IAmb_Lg		07 34 16.0	
	comp=Z,9.5nm,0.8s						
ALPN	**Alpine**	**8.21**	**219**	IAmb_Lg		07 34 50.9	
	comp=Z,8.0nm,1.2s						

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*NEIC **07** 07:32:56.1±0.9, 23.°4S±0.°1×179.°8W±0.°2, h467km±9km, mb4.1/26, Error ellipse: s-maj=20.7km s-min=17.4km az=108.0*
*IDC **07** 07:32:57.0±3.2, 23.°30S×179.°86W, h492km±34km, mb3.4/4, mbtmp4.2/5, Error ellipse: s-maj=41.1km s-min=25.4km az=165.0*
ISC 07 07:32:59.5±0.7**, 23.°42S**±0.°10×**179.°79W**±0.°10**, h532**km**,**
n38, σ1§**38**/39**, mb4.1**/17**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.16**	**67**	P	**P**	**07 35 16.6**	**-2.3**
MARNC	**Mare, Loyalty**	**11.43**	**277**	P	**P**	**07 35 29.0**	**-3.1**
URZ	**Urewera**	**15.03**	**189**	P	**P**	**07 36 08.3**	**-1.1**
	2.3nm,0.4s,baz=52,slow=19,SNR=1.1						
URZ				S	**S**	**07 38 42.9**	**-3.0**
	5.5nm,0.8s,baz=90,slow=20,SNR=1.5						
MRZ	**Mangatainoka R**	**17.63**	**192**	P	**P**	**07 36 32.6**	**-2.1**
QRZ	**Quartz Range**	**18.52**	**199**	P	**P**	**07 36 42.2**	**-0.6**
TKNZ	**Takaka Hill**	**18.59**	**197**	P	**P**	**07 36 42.7**	**-0.8**
MRNZ	**Matariki Terra**	**18.99**	**197**	P	**P**	**07 36 46.3**	**-0.7**
THZ	**Tophouse**	**19.29**	**197**	P	**P**	**07 36 49.3**	**-0.5**
THZ				IAmb	IAmb	07 37 11.6	
	comp=Z,15nm,1.1s						
HNR	**Honiara**	**23.85**	**302**	P	**P**	**07 37 29.6**	**-1.6**
ARMA	**Armidale**	**26.38**	**248**	P	**P**	**07 37 55.0**	**+1.5**
ARMA				IAmb	IAmb	07 38 20.1	
	comp=Z,5.7nm,1.1s						
EIDS	**Eidsvold**	**26.58**	**260**	P	**P**	**07 37 56.7**	**+1.5**
EIDS				IAmb	IAmb	07 37 57.0	
	comp=Z,4.7nm,0.5s						
CAN	**Canberra**	**29.55**	**239**	P	**P**	**07 38 22.0**	**+0.9**
CAN				IAmb	IAmb	07 38 22.9	
	comp=Z,6.8nm,0.8s						
CTAO	**Charters Tower**	**31.67**	**269**	P	**P**	**07 38 39.8**	**+0.3**
TOO	**Toolangi**	**32.87**	**236**	P	**P**	**07 38 49.8**	**+0.3**
TOO				IAmb	IAmb	07 39 17.4	
	comp=Z,3.7nm,0.9s						
TAU	**Tasmania Unive**	**33.40**	**226**	P	**P**	**07 38 54.0**	**+0.1**
PMG	**Port Moresby**	**34.52**	**288**	P	**P**	**07 39 03.3**	**-0.4**
PMG				IAmb	IAmb	07 39 19.9	
	comp=Z,13nm,1.0s						
STKA	**Stephens Creek**	**35.08**	**247**	P	**P**	**07 39 08.2**	**+0.1**
STKA	**Stephens Creek**	**35.08**	**247**	P	**P**	**07 39 08.4**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=87,slow=7.3,SNR=6.1						
	comp=Z,2.2nm,0.6s						
BBOO	**Buckleboo**	**39.81**	**246**	P	**P**	**07 39 46.3**	**-0.5**
BBOO				IAmb	IAmb	07 39 52.5	
	comp=Z,9.4nm,1.1s						
AS31	**Alice Springs**	**42.30**	**260**	P	**P**	**07 40 07.4**	**+0.6**

AS31				IAmb	IAmb	07 40 08.3	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**07 40 07.3**	**+0.5**
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**07 40 06.8**	**0.0**
	comp=Z,4.5nm,0.8s,baz=96,slow=7.4,SNR=61						
ASAR				ScP	**ScP**	**07 44 52.3**	**+4.0**
	comp=Z,0.7nm,0.8s,baz=104,slow=3.9,SNR=5.1						
	comp=Z,4.5nm,0.8s						
WR0	**Warramunga Arr**	**42.45**	**266**	P	**P**	**07 40 07.9**	**+0.1**
WB2	**Warramunga Arr**	**42.62**	**266**	P	**P**	**07 40 09.4**	**+0.2**
WB2				IAmb	IAmb	07 40 10.1	
	comp=Z,5.7nm,0.8s						
WB0	**Warramunga Arr**	**42.62**	**266**	P	**P**	**07 40 09.2**	**-0.1**
WB0				IAmb	IAmb	07 40 10.0	
	comp=Z,6.7nm,0.7s						
WRA	**Warramunga Arr**	**42.63**	**266**	P	**P**	**07 40 09.7**	**+0.3**
WRA	**Warramunga Arr**	**42.63**	**266**	P	**P**	**07 40 08.9**	**-0.4**
	comp=Z,4.0nm,0.4s,baz=92,slow=8.4,SNR=91						
	comp=Z,4.0nm,0.4s						
FORT	**Forrest**	**46.66**	**249**	P	**P**	**07 40 40.5**	**+0.3**
MTN	**Manton Dam**	**47.61**	**274**	P	**P**	**07 40 48.1**	**+0.6**
MTN				IAmb	IAmb	07 40 53.0	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.06**	**265**	P	**P**	**07 41 14.1**	**+1.2**
VNDA	**Vanda**	**54.87**	**185**	P	**P**	**07 41 41.4**	**+2.3**
PSA00	**Pilbara Seismi**	**55.44**	**259**	P	**P**	**07 41 44.7**	**+0.6**
MBWA	**Marble Bar**	**55.65**	**260**	P	**P**	**07 41 46.0**	**+0.5**
MBWA				IAmb	IAmb	07 41 48.8	
	comp=Z,6.9nm,1.0s						
MORW	**Morawa**	**57.22**	**250**	P	**P**	**07 41 56.6**	**+0.4**
MORW				IAmb	IAmb	07 41 57.0	
	comp=Z,8.3nm,0.8s						
CASY	**Casey**	**60.63**	**206**	P	**P**	**07 42 19.7**	**+1.3**
CASY				IAmb	IAmb	07 42 20.6	
	comp=Z,2.7nm,0.8s						
TXAR	**Lajitas Array**	**90.01**	**58**	P	**P**	**07 45 04.2**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=216,slow=5.6,SNR=5.1						
	comp=Z,0.4nm,0.8s						
HFS	**Hagfors**	**142.11**	**349**	PKhKP	PKPpre	07 51 27.6	
	comp=Z,2.2nm,0.9s,baz=127,slow=2.2,SNR=5.4						
EKA	**Eskdalemuir Ar**	**148.03**	**4**	PKPbc	**PKPbc**	**07 51 45.1**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=348,slow=5.8,SNR=2.3						

IDC 07 07:49:22.5±2.1**, 18°.57S×177°.60W, h0**km**, mb3.9**/5**, mbtmp4.0**/5**, Error ellipse: s-maj=57.0km s-min=35.0km az=126.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.15**	**192**	P	P	07 53 59.0	+0.7
	2.6nm,0.3s,baz=37,slow=20,SNR=1.4						
	2.6nm,0.3s						
STKA	**Stephens Creek**	**38.99**	**242**	P	P	07 56 49.9	-0.9
	0.9nm,0.5s,baz=92,slow=12,SNR=3.4						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**45.27**	**260**	P	P	07 57 42.5	+0.3
	0.5nm,0.3s,baz=97,slow=7.0,SNR=21						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**45.35**	**255**	P	P	07 57 42.5	-0.3
	0.8nm,0.5s,baz=94,slow=7.5,SNR=21						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**86.36**	**13**	P	P	08 02 06.0	0.0
	1.2nm,1.1s,baz=207,slow=6.2,SNR=4.0						
	1.2nm,1.1s						

IDC 07 08:02:46.3±3.4**, 5°.64S×129°.38E, h480**km±44km**, mb2.7**/2**, mbtmp3.8**/4**, Error ellipse: s-maj=58.5km s-min=19.0km az=69.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.01**	**162**	P	P	08 05 56.5	-0.6
	3.5nm,0.7s,baz=342,slow=11,SNR=23						
WRA				S	S	08 08 35.5	+1.0
	0.5nm,0.5s,baz=340,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**18.44**	**167**	P	P	08 06 31.6	-0.3
	3.3nm,0.4s,baz=339,slow=10.0,SNR=76						
ASAR				S	S	08 09 36.9	+0.9
	0.5nm,0.7s,baz=348,slow=22,SNR=1.6						
CTA	**Charters Tower**	**21.80**	**133**	P	P	08 07 03.0	+0.5
	1.1nm,0.4s,baz=301,slow=12,SNR=1.8						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**66.76**	**327**	P	P	08 12 49.2	0.0
	0.1nm,0.5s,baz=116,slow=8.2,SNR=2.0						
	0.1nm,0.5s						

IDC 07 08:06:34.0±2.2**, 1°.30N×124°.16E, h0**km**, mb3.2**/3**, mbtmp3.2**/3**, Error ellipse: s-maj=257.5km s-min=28.9km az=63.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.35**	**155**	P	P	08 11 42.5	-1.8
	0.3nm,0.3s,baz=331,slow=10,SNR=4.9						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.56**	**160**	P	P	08 12 15.7	+1.8
	0.2nm,0.8s,baz=346,slow=14,SNR=1.5						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**58.14**	**327**	P	P	08 16 29.4	-0.1
	0.1nm,0.4s,baz=130,slow=8.0,SNR=2.6						
	0.1nm,0.4s						

*IDC **07** 08:22:31.3±1.3, 3°.43S×146°.86E, h0km, mb3.8/8, mbtmp3.8/10, ML3.0/2, MS3.4/5, Error ellipse: s-maj=42.4km s-min=19.0km az=87.0*

ISC 07 08:22:34.8±0.8**, 3°.45S**±0°.08×**146°.9E**±0°.1**, h25**km**, n14,** σ**0s.87**/12**, mb3.7**/7**, MS3.3**/3**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.92**	**178**	Pn	**Pn**	**08 24 02.4**	**+1.5**
	3.3nm,0.3s,baz=69,slow=4.7,SNR=9.0						
PMG				Sn	**Sn**	**08 25 07.5**	**-0.5**
	0.5nm,0.3s,baz=86,slow=22,SNR=1.1						
PMG				LR	LR	08 26 35.1	
	comp=Z,190nm,18.2s,baz=358,slow=41						
	18nm,0.5s						
HNR	**Honiara**	**14.22**	**115**	Pn	**Pn**	**08 25 54.2**	**-0.4**
	338nm,0.3s,baz=208,slow=15,SNR=4.4						
CTA	**Charters Tower**	**16.55**	**182**	Pn	**Pn**	**08 26 25.0**	**-0.3**
	0.3nm,0.3s,baz=330,slow=20,SNR=1.8						
	1.8nm,0.8s						
GUMO	**Guam**	**17.05**	**353**	LR	LR	08 31 01.8	
	comp=Z,114nm,19.8s,baz=92,slow=30						
WRA	**Warramunga Arr**	**20.49**	**216**	P	**P**	**08 27 09.6**	**-1.5**
	3.5nm,0.9s,baz=39,slow=11,SNR=11						
	3.5nm,0.9s						
ASAR	**Alice Springs**	**23.72**	**211**	P	**P**	**08 27 45.4**	**+0.3**
	1.3nm,0.7s,baz=42,slow=8.4,SNR=15						
ASAR				LR	LR	08 36 48.1	
	comp=Z,99nm,18.3s,baz=326,slow=36						
	1.3nm,0.7s						
DAV	**Davao City (W)**	**23.75**	**296**	LR	LR	08 35 33.8	
	comp=Z,203nm,20.8s,baz=147,slow=33						
TGY	**Tagaytay City**	**31.13**	**305**	LR	LR	08 38 57.6	
	comp=Z,73nm,20.5s,baz=232,slow=32						
KSRS	**Korea Array**	**44.37**	**338**	P	**P**	**08 30 43.8**	**+0.6**
	1.0nm,0.8s,baz=160,slow=10,SNR=2.7						
	1.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**49.30**	**346**	P	**P**	**08 31 22.3**	**+0.6**
	1.3nm,0.7s,baz=124,slow=18,SNR=2.2						
	1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**52.03**	**297**	P	**P**	**08 31 43.0**	**+0.2**
	0.7nm,0.3s,baz=94,slow=4.6,SNR=4.9						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**75.51**	**320**	P	**P**	**08 34 16.4**	**-0.7**
	0.3nm,0.5s,baz=121,slow=6.9,SNR=2.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**79.17**	**323**	P	**P**	**08 34 37.6**	**+0.1**
	0.5nm,0.8s,baz=107,slow=5.6,SNR=2.9						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**84.69**	**324**	P	**P**	**08 35 05.8**	**-0.6**
	0.6nm,0.7s,baz=101,slow=4.7,SNR=3.3						
	0.6nm,0.7s						

IDC 07 08:23:47.3±63.0**, 15°.53S×173°.37W, h0**km**, mb3.7**/3**, mbtmp3.7**/3**, Error ellipse: s-maj=1219.0km s-min=204.1km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.99**	**240**	P	P	08 31 57.8	+1.0
	0.6nm,0.4s,baz=111,slow=14,SNR=1.8						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	08 32 42.6	0.0
	0.2nm,0.4s,baz=96,slow=8.1,SNR=7.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**50.09**	**252**	P	P	08 32 43.7	-0.9
	0.9nm,0.6s,baz=89,slow=8.2,SNR=17						
	0.9nm,0.6s						

*IDC **07** 08:24:60.0±1.4, 33°.45N×5°.97E, h0km, mb3.5/4, mbtmp3.5/8, ML3.4/4, MS3.4/1, Error ellipse: s-maj=35.8km s-min=17.8km az=141.0*

*CRAAG **07** 08:25:02.7, 33°.62N×5°.83E, Ml4.0, Algerie 17km NW Djamaa*

*CNRM **07** 08:25:15.7, 34°.69N×4°.25E, h0km, ML4.4*

ISC 07 08:25:01.5±1.0**, 33°.51N**±0°.08×**5°.79E**±0°.06**, h10**km**, n28,** σ**1s.79**/26**, mb3.7**/3**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCN	**Doucen**	**1.21**	**333**	P	**Pn**	**08 25 26.1**	**+1.6**
AFRS	**Ain Fares**	**1.64**	**318**	P	**Pb**	**08 25 32.4**	**+0.5**
CKTS	**El Kantara**	**1.71**	**357**	P	**Pg**	**08 25 35.0**	**+0.7**
CNGR	**Negrine**	**1.72**	**56**	P	**Pn**	**08 25 33.3**	**+1.8**
CBBAR	**Babar**	**2.00**	**35**	P	**Pn**	**08 25 37.1**	**+1.7**
CTGD	**Timgad**	**2.10**	**17**	P	**Pn**	**08 25 37.8**	**+0.9**
CJSR	**Ain Djasser**	**2.35**	**3**	P	**Pn**	**08 25 42.2**	**+2.0**
ADJF	**Tadmit**	**2.35**	**288**	P	**Pn**	**08 25 44.0**	**+3.8**
CAZD	**Ain Tagrout**	**2.71**	**349**	P	**Pg**	**08 25 53.0**	**-0.4**
AKET	**Djebel Ketaf**	**2.98**	**329**	P	**Pg**	**08 25 57.5**	**-1.0**
ABRIN	**Birine**	**3.05**	**314**	P	**Pg**	**08 26 01.2**	**+1.3**
AFDJ	**Sidi Ladjel**	**3.26**	**306**	P	Pg	08 26 09.7	+5.8
KEST	**Kesra**	**3.67**	**52**	Pn	**Pn**	**08 25 59.1**	**+0.7**
	6.8nm,0.3s,baz=198,slow=6.6,SNR=56						
KEST				Sn	**Sn**	**08 26 40.1**	**-1.7**
	10.0nm,0.3s,baz=307,slow=20,SNR=18						
KEST				Lg	Lg	08 26 55.4	
	2.7nm,0.3s,baz=208,slow=22,SNR=4.0						
	14nm,0.4s						
FIGM	**Figuig**	**6.10**	**259**	P	**Pn**	**08 26 34.4**	**+2.6**
FIGM	**Figuig**	**6.10**	**259**	S	**Sn**	**08 27 39.0**	**-2.6**
TAF	**Taforalt**	**6.93**	**283**	P	Pn	08 26 39.1	-4.0
TAF	**Taforalt**	**6.93**	**283**	S	Sn	08 27 42.9	-19
AKLM	**AKL**	**8.08**	**280**	P	**Pn**	**08 26 56.9**	**-2.1**
MDT	**Midelt**	**8.75**	**268**	Pn	**Pn**	**08 27 10.7**	**+2.6**
	0.4nm,0.3s,baz=47,slow=6.1,SNR=10.0						
MDT				Sn	**Sn**	**08 28 45.0**	**-1.9**
	0.4nm,0.3s,baz=102,slow=9.3,SNR=1.7						
MDT				Lg	Lg	08 29 49.0	
	0.6nm,0.3s,baz=353,slow=19,SNR=1.8						
	1.0nm,0.3s						
MDT	**Midelt**	**8.75**	**268**	P	**Pn**	**08 27 07.6**	**-0.5**
MD31	**MD31**	**8.87**	**269**	P	**Pn**	**08 27 09.8**	**+0.1**
ESDC	**Sonseca Array**	**9.96**	**311**	Pn	**Pn**	**08 27 26.1**	**+1.4**
	baz=109,slow=13,SNR=2.0						
	0.6nm,0.9s						
GERES	**GERESS Array B**	**16.42**	**19**	Pn	**Pn**	**08 28 53.5**	**+1.5**
	0.1nm,0.3s,baz=180,slow=14,SNR=1.0						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**20.61**	**191**	P	**P**	**08 29 40.8**	**-0.2**
	1.0nm,0.7s,baz=6.0,slow=11,SNR=5.5						
	1.0nm,0.7s						
AKASG	**Malin Array Be**	**24.27**	**38**	P	**P**	**08 30 16.4**	**-2.3**
	0.5nm,0.4s,baz=234,slow=8.8,SNR=4.2						
	0.5nm,0.4s						
HFS	**Hagfors**	**27.13**	**9**	LR	LR	08 41 11.3	
	comp=Z,81nm,20.6s,baz=258,slow=36						
KURBB	**Kurchatov Arra**	**54.44**	**48**	P	**P**	**08 34 28.3**	**-0.4**
	0.3nm,0.4s,baz=285,slow=8.4,SNR=4.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**57.77**	**52**	P	**P**	**08 34 52.2**	**-0.6**
	0.6nm,0.5s,baz=283,slow=6.1,SNR=6.9						
	0.6nm,0.5s						

*IDC **07** 08:32:43.7±0.9, 4°.33N×127°.03E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=61.4km s-min=16.9km az=65.0*

*DJA **07** 08:32:49.3±1.6, 4°N±11°×12°7E±°, h14km±5km, M4.2/7, mb4.3/6, mB5.1/2, MLv4.1/7, Mw(mB)4.4/2*

ISC 07 08:32:49.1±0.9**, 4°.2N**±0°.1×**126°.82E**±0°.09**, h36**km**, n13,** σ**1s.27**/14**, mb3.7**/8**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.39**	**248**	P	**Pn**	**08 33 11.6**	**-0.3**
SGSI				S	**Sn**	**08 33 26.5**	**-2.5**
GTOI	**Gorontalo**	**5.20**	**227**	P	**Pn**	**08 34 06.3**	**+1.9**
	8.2nm,0.8s,0.0nm						
MRSI	**Marisa**	**6.12**	**233**	P	**Pn**	**08 34 18.7**	**+1.6**
	37nm,0.5s,0.2nm						
SANI	**Sanana**	**6.27**	**188**	P	**Pn**	**08 34 18.8**	**-0.3**
	18nm,0.5s,717nm0.1nm						
NLAI	**Namlea**	**7.41**	**178**	P	**Pn**	**08 34 34.6**	**-0.1**
WRA	**Warramunga Arr**	**25.12**	**163**	P	**P**	**08 38 10.3**	**-0.4**
	2.4nm,0.7s,baz=340,slow=11,SNR=21						
	2.4nm,0.7s						
ASAR	**Alice Springs**	**28.56**	**166**	P	**P**	**08 38 42.0**	**+0.2**
	0.3nm,0.5s,baz=346,slow=7.1,SNR=8.8						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**08 39 00.8**	**-0.1**
	0.5nm,0.3s,baz=98,slow=6.5,SNR=1.2						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**38.55**	**160**	P	**P**	**08 40 09.4**	**+1.0**
	1.2nm,0.6s,baz=347,slow=8.6,SNR=4.3						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**57.21**	**325**	P	**P**	**08 42 32.9**	**+0.1**
	0.3nm,0.4s,baz=112,slow=8.1,SNR=10						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**61.38**	**327**	P	**P**	**08 43 02.0**	**+0.5**
	0.5nm,0.5s,baz=124,slow=6.1,SNR=12						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**66.97**	**327**	P	**P**	**08 43 39.1**	**+1.1**
	0.5nm,0.7s,baz=96,slow=4.3,SNR=2.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**84.63**	**25**	P	**P**	**08 45 17.2**	**-1.5**
	0.4nm,1.0s,baz=265,slow=6.0,SNR=2.3						
	0.4nm,1.0s						

IDC 07 08:38:50.1±5.9**, 3°.56S×146°.60E, h0**km**, mb3.6**/5**, mbtmp3.6**/5**, Error ellipse: s-maj=212.9km s-min=27.1km az=100.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.21**	**215**	P	P	08 43 25.9	-0.9
	1.6nm,0.8s,baz=37,slow=11,SNR=7.7						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**23.46**	**210**	P	P	08 44 02.0	+0.6
	1.0nm,0.9s,baz=41,slow=8.6,SNR=11						
	1.0nm,0.9s						
MKAR	**Makanchi Array**	**75.38**	**320**	P	P	08 50 35.8	0.0
	0.3nm,0.7s,baz=115,slow=4.3,SNR=3.8						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**76.75**	**328**	P	P	08 50 43.2	-0.2
	0.3nm,0.3s,baz=101,slow=6.2,SNR=1.9						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**84.58**	**324**	P	P	08 51 25.5	+0.2
	0.7nm,0.7s,baz=103,slow=4.7,SNR=4.5						
	0.7nm,0.7s						

KRSC 07 08:55:18.2±1.8**, 54°.52N×167°.93E, h28**km±21km**, Ml3.5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.32**	**302**	*e*P	Pb	08 55 42.0	-0.4
BKI				*e*S	Sb	08 55 59.8	+0.9
KBTR	**Krutoberegovo**	**3.37**	**302**	*e*P	Pn	08 56 10.9	+2.0
KBTR				*e*S	Sn	08 56 51.2	+3.2
KBG	**Krutoberegovo**	**3.45**	**302**	*e*S	Sn	08 56 53.6	+3.7
SMKR	**Semkarok**	**4.21**	**302**	*e*P	Pn	08 56 25.4	+4.8
TUMD	**Tumrok D**	**4.41**	**282**	*e*P	Pn	08 56 27.8	+4.7
TUMD				*e*S	Sn	08 57 20.1	+6.6
TUMR	**Tumrok**	**4.56**	**283**	*e*P	Pn	08 56 30.5	+5.2
KMNR	**Kamenistaya**	**4.59**	**289**	*e*P	Pn	08 56 30.9	+5.2
KII	**Karymskiy**	**5.00**	**268**	*e*P	Pn	08 56 36.4	+5.1
SRDR	**Sredinnyy**	**5.01**	**294**	*e*P	Pn	08 56 37.1	+5.6
SMAR	**Somma**	**5.55**	**261**	*e*P	Pn	08 56 43.9	+4.9
UGLR	**Uglovaya**	**5.55**	**260**	*e*P	Pn	08 56 43.5	+4.5
AVH	**Avacha**	**5.58**	**261**	*e*P	Pn	08 56 44.3	+4.9
KRX	**Arik**	**5.61**	**262**	*e*P	Pn	08 56 44.3	+4.6
KOK	**Koryaka**	**5.63**	**261**	*e*P	Pn	08 56 44.7	+4.7
GRL	**Gorelyy**	**6.20**	**255**	*e*P	Pn	08 56 52.9	+5.0
ASAK	**Asacha**	**6.37**	**254**	*e*P	Pn	08 56 54.4	+4.3

*SNET **07** 08:55:28.0±0.8, 12°.60N×88°.26W, h31km±4km, ML5.5*

*IDC **07** 08:55:28.2±0.6, 12°.87N×87°.76W, h56km±3km, mb4.3/21, mbtmp4.5/22, MS4.3/63, Error ellipse: s-maj=19.0km s-min=11.4km az=51.0*

*GCMT **07** 08:55:29.7±0.1, 12°.53N±0°.01×88°.41W±0°.01, h51km, MW5.2/120, Moment Tensor Solution. s120,c184; s120,c201; Duration: 1s.0 Moment tensor: Scale 10^{17} Nm; Mrr0.87±.02; Mθθ-0.75±.01; Mφφ-0.11±.01; Mrθ0.24±.01; Mθφ0.43±.01; Mφr-0.06±.01; Best double couple: M0 0.95100×10^{17} NP1:φs113.00000°, δ53.00000°, λ85.00000°. NP2:φs301.00000°, δ38.00000°, λ97.00000°. Principal axes: T 0.9040, Plg82.0000°, Azm358.0000°; N 0.0940, Plg4.0000°, Azm116.0000°; P -0.9980, Plg7.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 08:55:29.7±1.7, 12°.71N±0°.06×88°.15W±0°.03, h52km±4km, mb5.0/561, Mww5.3/33 Error ellipse: s-maj=9.9km s-min=1.7km az=205.0*

*NEIC **07** 08:55:30.1, 12°.63N×88°.13W, h46km, Moment Tensor Solution. Duration: 2s.2 Moment tensor: Scale 10^{17}Nm; Mrr0.99; Mθθ-0.78; Mφφ-0.22; Mrθ0.22; Mθφ0.53; Mφr-0.10; Fault plane solution: M0 1.07000×10^{17} NP1: φs119.54000°, δ51.44000°, λ87.93000°. NP2: φs302.85000°, δ38.61000°, λ92.59000°. Principal axes: T 1.0203, Plg83.0000°, Azm17.0000°; N 0.1050, Plg2.0000°, Azm121.0000°; P -1.1253, Plg6.0000°, Azm211.0000°;*

*NEIC **07** 08:55:30.1, 12°.73N×88°.13W, h46km*

*GCG **07** 08:55:33.4±0.6, 14°.05N×88°.17W, h176km±36km, MD4.7*

ISC 07 08:55:28.5±0.4**, 12°.66N**±0°.04×**88°.19W**±0°.03**, h57**km±3km**, h58**km**:pP-P, n862,** σ**1s.13**/645**, mb5.0**/274**, MS4.3**/67**, 6C-31D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.70**	**29**	⇓*i*P	**Pn**	**08 55 43.0**	**+0.2**
LCND	**La Caada**	**0.70**	**24**	⇓*i*P	**Pn**	**08 55 42.9**	**+0.2**
LCND				*e*S	**Sn**	**08 55 55.1**	**+2.0**
ALJI	**Alcalda de J**	**0.76**	**331**	⇓*i*P	**Pn**	**08 55 42.4**	**-1.0**
ALJI				*e*S	**Sn**	**08 55 53.4**	**-0.9**
LCY	**Lacayo**	**0.76**	**352**	⇓*i*P	**Pn**	**08 55 43.8**	**+0.2**
RANC	**El Ranchito**	**0.77**	**353**	⇑*i*P	**Pn**	**08 55 43.9**	**+0.2**
AMPH	**Amapala**	**0.81**	**40**	⇓*i*P	**Pn**	**08 55 44.6**	**+0.7**
CNRM	**Centro Naciona**	**0.81**	**1**	⇓*i*P	**Pn**	**08 55 44.3**	**+0.3**
PACA	**Pacayal**	**0.81**	**351**	⇑*e*P	**Pn**	**08 55 44.5**	**+0.3**
TECA	**Tecapa**	**0.88**	**340**	⇓*i*P	**Pn**	**08 55 45.2**	**0.0**
COEB	**Comit de Eme**	**0.90**	**338**	⇓*i*P	**Pn**	**08 55 45.2**	**-0.1**
PQSS	**Presa 15 de Se**	**1.02**	**339**	⇑*e*P	**Pn**	**08 55 47.1**	**+0.3**
TECO	**Alcaldia de Te**	**1.04**	**326**	*e*P	**Pn**	**08 55 46.6**	**-0.6**
CAHU	**Cacacuatique**	**1.10**	**359**	⇑*i*P	**Pn**	**08 55 48.9**	**+0.8**
CRIN	**San Cristobal**	**1.11**	**88**		**Pn**	**08 55 48.5**	**+0.5**
CRIN				Sn	**Sn**	**08 56 02.7**	**+0.2**
UESV	**Universidad de**	**1.13**	**329**	⇓*e*P	**Pn**	**08 55 48.2**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.16**	**333**	⇓*i*P	**Pn**	**08 55 49.2**	**+0.5**
COEG	**Centro de Oper**	**1.17**	**325**	⇓*i*P	**Pn**	**08 55 48.5**	**-0.3**
SJTE	**Alcalda de S**	**1.24**	**320**	⇓*e*P	**Pn**	**08 55 49.3**	**-0.4**
SJTE				*e*S	**Sn**	**08 56 05.7**	**+0.2**
PAVA	**Las Pavas**	**1.27**	**325**	⇓*i*P	**Pn**	**08 55 50.4**	**+0.1**
LFRS	**El Faro**	**1.28**	**318**	⇓*i*P	**Pn**	**08 55 50.0**	**-0.3**
PANCS	**Alcalda de**	**1.35**	**314**	⇓*e*P	**Pn**	**08 55 50.6**	**-0.7**
LBRS	**Las Brisas**	**1.36**	**322**	*e*P	**Pn**	**08 55 51.6**	**+0.3**
LOMA	**Loma Larga**	**1.37**	**316**	⇓*i*P	**Pn**	**08 55 51.2**	**-0.3**
AEIL	**Aeropuerto Ilo**	**1.37**	**319**	⇓*i*P	**Pn**	**08 55 51.5**	**+0.1**
LFU	**La Fuente**	**1.41**	**320**	⇓*i*P	**Pn**	**08 55 52.2**	**+0.2**
UDBS	**Universidad Do**	**1.41**	**318**	*e*P	**Pn**	**08 55 51.9**	**-0.1**
IGN	**Direccin Gen**	**1.42**	**318**	⇓*e*P	**Pn**	**08 55 52.0**	**-0.1**
UTEC	**Universidad Te**	**1.43**	**316**	*e*P	**Pn**	**08 55 52.1**	**-0.2**
SNET	**Serv Nac Est T**	**1.44**	**315**		**Pn**	**08 55 52.0**	**-0.4**
SNET	**Serv Nac Est T**	**1.44**	**315**	⇓*i*P	**Pn**	**08 55 52.0**	**-0.4**
UESS	**Universidad de**	**1.44**	**317**	⇓*e*P	**Pn**	**08 55 52.4**	**-0.1**
CNGN	**Cerro Negro**	**1.46**	**96**		**Pn**	**08 55 52.6**	**-0.1**
CNGN				Sn	**Sn**	**08 56 10.6**	**-0.3**
UEES	**Universidad Ev**	**1.47**	**316**	⇓*e*P	**Pn**	**08 55 52.5**	**-0.3**
PIC2	**El Picacho**	**1.50**	**316**	⇓*e*P	**Pn**	**08 55 53.6**	**+0.2**
BOQS	**Boqueron**	**1.51**	**315**	⇓*i*P	**Pn**	**08 55 53.5**	**0.0**
PMON	**Piamonte**	**1.52**	**314**	⇓*e*P	**Pn**	**08 55 53.4**	**-0.1**
QUEZ	**Alcaldia de Qu**	**1.57**	**318**	⇓*i*P	**Pn**	**08 55 54.5**	**+0.3**
JAYA	**Jayaque - finc**	**1.58**	**309**	*e*P	**Pn**	**08 55 53.6**	**-0.8**
CEDA	**San Andres**	**1.63**	**314**	⇓*i*P	**Pn**	**08 55 54.8**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.65**	**33**		**Pn**	**08 55 56.7**	**+1.4**
LLGN	**La Laguna**	**1.66**	**334**	⇓*i*P	**Pn**	**08 55 56.0**	**+0.5**
CEVE	**Cerro Verde**	**1.82**	**310**	*e*P	**Pn**	**08 55 57.6**	**-0.1**
SBLS	**San Blas**	**1.82**	**310**	*e*P	**Pn**	**08 55 57.7**	**0.0**
UNIC	**Universidad Ca**	**1.86**	**315**	*e*P	**Pn**	**08 55 58.3**	**+0.1**
RTR	**El Retiro**	**1.88**	**311**	*e*P	**Pn**	**08 55 58.6**	**+0.2**
NUBE	**Las Nubes**	**1.98**	**309**	⇓*i*P	**Pn**	**08 55 59.6**	**-0.2**
SLOZ	**Alcaldia de Sa**	**2.06**	**311**	⇓*e*P	**Pn**	**08 56 01.0**	**+0.2**
MTO3	**Montecristo**	**2.07**	**327**		**Pn**	**08 56 01.6**	**+0.5**
MTO3	**Montecristo**	**2.07**	**327**	⇓*i*P	**Pn**	**08 56 01.6**	**+0.5**
ESQI	**Esquipulas**	**2.19**	**329**	Pn	**Pn**	**08 56 04.0**	**+1.3**
MATN	**Matagalpa**	**2.22**	**83**	Pn	**Pn**	**08 56 03.1**	**0.0**
NBG	**Las Nubes**	**2.84**	**313**	*e*P	**Pn**	**08 56 13.6**	**+1.9**
PCG	**Pacaya**	**2.92**	**306**	*e*P	**Pn**	**08 56 16.7**	**+3.9**
ACON	**Acoyapa**	**3.02**	**103**		**Pn**	**08 56 13.9**	**-0.1**
FUG	**Fuego 3**	**3.13**	**305**	*e*P	**Pn**	**08 56 18.3**	**+2.7**
HZTE	**Horizontes, Gu**	**3.19**	**127**	Pn	**Pn**	**08 56 17.7**	**+1.4**
ORTG	**Ortega, Santa**	**3.52**	**130**		**Pn**	**08 56 21.7**	**+0.8**
SULM	**Suchitepequez,**	**3.67**	**297**	*e*P	**Pn**	**08 56 26.5**	**+3.7**
DUNO	**Dulce Nombre,**	**3.68**	**134**		**Pn**	**08 56 23.8**	**+0.8**
STG3	**Santiaguito 3,**	**3.87**	**302**	*e*P	**Pn**	**08 56 28.1**	**+2.4**
STG3				*e*S	**Sn**	**08 57 10.5**	**+0.5**
RTAL	**Retalhuleu**	**3.88**	**299**	Pn	**Pn**	**08 56 27.2**	**+1.5**
JTS	**Las Juntas de**	**3.95**	**126**	P	**Pn**	**08 56 28.2**	**+1.5**
	60nm,0.3s,baz=296,slow=13,SNR=50						
JTS				S	**Sn**	**08 57 10.4**	**-1.4**
	427nm,0.4s,baz=261,slow=21,SNR=1.8						
ARE1	**Arenal 1**	**4.04**	**122**	Pn	**Pn**	**08 56 30.3**	**+2.3**
HUEH	**Huehuetenango**	**4.16**	**310**		**Pn**	**08 56 31.2**	**+1.5**
SOCE	**Pocosol**	**4.17**	**123**		**Pn**	**08 56 32.0**	**+2.3**
COVE	**Coope Vega, Sa**	**4.18**	**117**		**Pn**	**08 56 30.3**	**+0.4**
PETF	**Flores**	**4.53**	**339**		**Pn**	**08 56 36.6**	**+2.0**
JACO	**JACO, Garabito**	**4.57**	**130**		**Pn**	**08 56 36.9**	**+1.8**
HDC	**Heredia**	**4.79**	**123**		**Pn**	**08 56 39.3**	**+1.0**
LCR2	**La Lucha 2**	**5.03**	**125**		**Pn**	**08 56 44.3**	**+2.7**
RIMA	**Rio Macho**	**5.13**	**124**	Pn	**Pn**	**08 56 43.8**	**+0.8**
CCIG	**Comitan**	**5.25**	**314**		**Pn**	**08 56 45.8**	**+1.1**
DRK0	**Durika**	**5.91**	**124**		**Pn**	**08 56 56.1**	**+2.4**
CDITO	**Canoas**	**6.62**	**127**		**Pn**	**08 57 05.7**	**+2.5**
BRU2	**Volcan**	**6.63**	**125**	Pn	**Pn**	**08 57 04.3**	**+0.8**
TEIG	**Tepich**	**7.52**	**359**	Pn	**Pn**	**08 57 17.4**	**+1.8**
TEIG	**Tepich**	**7.52**	**359**	P	**Pn**	**08 57 18.2**	**+2.6**
	2μm,0.6s,baz=180,slow=2.3,SNR=145						
TEIG				LR	LR	09 00 58.1	
	comp=Z,29μm,18.0s,baz=330,slow=45						
CMIG	**Matias Romero**	**7.83**	**305**	P	**Pn**	**08 57 21.3**	**+1.4**
	51nm,0.7s,baz=137,slow=8.8,SNR=45						
CMIG				S	**Sn**	**08 58 44.8**	**-2.2**
	80nm,0.7s,baz=120,slow=17,SNR=3.7						
TLIG	**Tlapa**	**11.14**	**297**		**Pn**	**08 58 07.5**	**+2.2**
SOR	**Soroa**	**11.21**	**25**	Pn	**Pn**	**08 58 07.3**	**+1.1**
MTDJ	**Mount Denham**	**11.66**	**60**	Pn	**Pn**	**08 58 15.9**	**+3.5**
APAC	**Apartado, Choc**	**12.36**	**111**	*e*P	P	08 58 27.4	-4.7
UNM	**Universidad Na**	**12.47**	**304**	Pn	**Pn**	**08 58 23.5**	**-0.1**
SJCC	**San Jacinto, C**	**13.05**	**101**	*e*P	**Pn**	**08 58 34.2**	**+2.9**
PAYG	**Puerto Ayora**	**13.41**	**189**	Pn	**Pn**	**08 58 36.5**	**+0.3**
CBOC	**Ciudad Bolivar**	**13.78**	**118**	*e*P	**P**	**08 58 46.3**	**-1.8**
ZARC	**Zaragoza, Cauc**	**14.09**	**110**	*e*P	**Pn**	**08 58 47.8**	**+2.5**
MOIG	**Morelia**	**14.30**	**301**		**Pn**	**08 58 49.9**	**+1.6**
YOTC	**Yotoco, Valle**	**14.54**	**125**	*e*P	**Pn**	**08 58 52.1**	**+0.7**
GUY2C	**Guyana, Caldas**	**14.66**	**119**	*e*P	**P**	**08 58 57.3**	**-0.9**
JAMC	**Jamundi, Valle**	**14.76**	**129**	*e*P	**Pn**	**08 58 56.9**	**+2.6**
PTBC	**PUERTO BERRIO,**	**14.84**	**113**	*e*P	**P**	**08 58 59.1**	**-0.6**
CRJC	**Cerrejon, Guaj**	**15.07**	**95**	*e*P	**P**	**08 59 02.6**	**+0.3**
BBAC	**Balboa, Cauca**	**15.14**	**133**	*e*P	**P**	**08 59 05.7**	**+2.5**
OCAC	**Ocana**	**15.27**	**105**	*e*P	**P**	**08 59 03.4**	**-1.2**
ORTC	**Ortega, Tolima**	**15.47**	**123**	*e*P	**P**	**08 59 05.4**	**-1.3**
SPBC	**San Pablo de B**	**15.57**	**115**	*e*P	**P**	**08 59 08.1**	**+0.2**
GCUF	**Volcan Galeras**	**15.64**	**136**	*e*P	**P**	**08 59 13.8**	**+4.7**
CRUC	**La Cruz**	**15.67**	**134**	*e*P	**P**	**08 59 11.9**	**+2.6**
OTAV	**Otavalo**	**15.67**	**141**		**P**	**08 59 08.3**	**-1.1**
TULM	**Tulcn-Chalpat**	**15.72**	**138**		**Pn**	**08 59 07.8**	**+0.8**
ROSC	**El Rosal**	**15.75**	**118**		**Pn**	**08 59 08.3**	**+1.1**
ROSC	**El Rosal**	**15.75**	**118**	P	**P**	**08 59 09.8**	**-0.4**
	6.4nm,0.5s,baz=322,slow=19,SNR=5.1						
ROSC				LR	LR	09 05 45.2	
	comp=Z,841nm,19.7s,baz=301,slow=40						

IMBA Imbabura, San 15.80 140 Pn 08 59 08.2 +0.4
PULU Pululahua 15.81 142 Pn 08 59 09.6 +1.6
BARC Barichara 15.97 111 eP P 08 59 14.6 +2.1
PAMC Pamplona, Colo 16.14 108 eP P 08 59 14.1 -0.6
PAPH Port-au-Prince 16.37 67 P P 08 59 16.0 -0.7
ZAIG Zacatecas 16.98 308 P P 08 59 24.2 +0.5
HBVL Hebbronville 17.38 327 P P 08 59 27.7 0.0
SDV Santo Domingo 17.65 101 P Pn 08 59 31.0 +0.2
SDV Santo Domingo 17.65 101 P Pn 08 59 30.4 -0.3
18nm,0.7s,baz=297,slow=6.5,SNR=20
SDV PcP PcP 09 04 08.4 +1.1
7.3nm,0.8s,baz=204,slow=3.0,SNR=5.5
SDV LR LR 09 08 19.1
comp=Z,557nm,18.8s,baz=292,slow=45
735A Kenedy 18.44 332 IAmb IAmb 08 59 49.0
comp=Z,80nm,0.8s
HKT Hockley 18.61 339 Pn 08 59 43.2 +1.2
346A Big Creek Wild 18.67 357 P P 08 59 42.6 +0.6
346A IAmb IAmb 08 59 47.4
comp=Z,172nm,1.4s
833A Chaparral WMA, 18.77 328 P Pn 08 59 44.2 +0.1
833A IAmb IAmb 08 59 46.9
comp=Z,97nm,0.7s
833A Chaparral WMA, 18.77 328 P Pn 08 59 44.9 +0.9
baz=144,SNR=22
833A Chaparral WMA, 18.77 328 P Pn 08 59 45.2 +1.2
baz=144,SNR=22
MCRA Macar, Loja 18.80 154 P Pn 08 59 44.6 +0.1
EF01 Eagle Ford 01 18.93 331 P Pn 08 59 46.0 0.0
352A Blakely 18.97 9 P Pn 08 59 46.3 -0.1
352A IAmb IAmb 08 59 51.1
comp=Z,92nm,0.7s
352A Blakely 18.97 9 P Pn 08 59 49.0 +2.6
baz=190,SNR=16
TIGA Tifton 19.16 12 IAmb IAmb 08 59 55.2
comp=Z,158nm,0.9s
TIGA Tifton 19.16 12 P Pn 08 59 51.0 +2.3
baz=194,SNR=14
TIGA Tifton 19.16 12 P Pn 08 59 51.0 +2.3
baz=194,SNR=14
HNVL Huntsville, TX 19.22 341 P Pn 08 59 49.1 -0.3
250A Grady 19.31 5 P Pn 08 59 53.2 +2.7
baz=186,SNR=10
VBMS Vicksburg 19.58 354 P Pn 08 59 55.2 +1.6
baz=173,SNR=23
VBMS Vicksburg 19.58 354 P Pn 08 59 55.4 +1.7
baz=173,SNR=23
HNDO Hondo 19.69 330 P P 08 59 54.1 +0.9
HNDO IAmb IAmb 08 59 59.7
comp=Z,87nm,0.6s
255A Hazlehurst 19.88 14 P Pn 08 59 56.5 -0.6
255A IAmb IAmb 09 00 07.1
comp=Z,63nm,1.1s
255A Hazlehurst 19.88 14 P Pn 08 59 58.1 +1.0
baz=196
146A Union 19.90 358 IAmb IAmb 09 00 14.6
comp=Z,75nm,0.8s
146A Union 19.90 358 P Pn 08 59 58.0 +0.6
baz=177,SNR=11
NATX Nacogdoches 19.92 344 P Pn 08 59 58.8 +1.1
baz=161,SNR=8.3
NATX Nacogdoches 19.92 344 P Pn 08 59 58.8 +1.1
baz=161,SNR=8.3
435B Jarrell 20.02 336 P P 08 59 57.6 +0.9
435B IAmb IAmb 09 00 03.4
comp=Z,58nm,0.6s
435B Jarrell 20.02 336 P Pn 08 59 58.3 -0.5
baz=152
435B Jarrell 20.02 336 P P 08 59 57.9 +1.3
baz=152,SNR=13
BAUV El Baul 20.13 99 P P 08 59 56.5 -1.5
BAUV IAmb IAmb 09 00 03.2
comp=Z,48nm,0.5s
143A Socs Landing, 20.16 352 IAmb IAmb 09 00 17.5
comp=Z,138nm,1.2s
152A Waverly Hall 20.17 9 IAmb IAmb 09 00 03.5
comp=Z,81nm,0.7s
152A Waverly Hall 20.17 9 P Pn 09 00 01.2 +0.6
baz=190,SNR=38
DRIO Del Rio 20.29 327 P P 09 00 00.5 +0.8
DRIO IAmb IAmb 09 00 05.4
comp=Z,61nm,0.7s
LRAL Lakeview Retre 20.31 3 P Pn 09 00 04.1 +1.8
baz=183,SNR=13
LRAL Lakeview Retre 20.31 3 P Pn 09 00 03.3 +1.0
baz=183,SNR=13
154A Montrose 20.40 12 P Pn 09 00 03.4 +0.2
baz=194,SNR=14
Z47A Carrollton 20.44 0 IAmb IAmb 09 00 21.3
comp=Z,66nm,0.8s
Z47A Carrollton 20.44 0 P Pn 09 00 03.9 +0.1
baz=180,SNR=11
237A Washetta, Mont 20.48 341 P Pn 09 00 05.4 +1.0
baz=158
JCT Junction City 20.73 331 P P 09 00 05.5 +1.1
JCT Junction City 20.73 331 P P 09 00 06.1 +1.6
baz=146,SNR=23
JCT Junction City 20.73 331 P Pn 09 00 06.4 -0.9
baz=146,SNR=23
Z51A Franklin 20.74 7 IAmb IAmb 09 00 12.5
comp=Z,40nm,0.7s
Z51A Franklin 20.74 7 P Pn 09 00 07.2 -0.2
baz=188,SNR=14
Z41A Richland Creek 20.93 349 IAmb IAmb 09 00 28.4
comp=Z,70nm,0.8s
WHTX Lake Whitney, 21.04 338 P P 09 00 09.5 +1.8
baz=154
BRDY Brady 21.05 333 P P 09 00 08.8 +0.9
BRDY IAmb IAmb 09 00 12.3
comp=Z,48nm,0.6s
GOGA Godfrey 21.10 11 IAmb IAmb 09 00 28.3
comp=Z,48nm,0.8s
GOGA Godfrey 21.10 11 P P 09 00 10.5 +2.2
baz=193,SNR=23
GOGA Godfrey 21.10 11 P P 09 00 10.6 +2.2
baz=193,SNR=23
Y45A Yeager Farm, C 21.14 357 IAmb IAmb 09 00 28.5
comp=Z,88nm,0.9s
Y49A Blount Mountai 21.16 4 IAmb IAmb 09 00 27.9
comp=Z,45nm,0.8s
Y49A Blount Mountai 21.16 4 P P 09 00 11.0 +2.0
baz=185,SNR=9.1
TREL Terrell 21.25 341 IAmb IAmb 09 00 15.7
comp=Z,94nm,0.8s
WLAR White Oak Lake 21.41 349 IAmb IAmb 09 00 34.5
comp=Z,84nm,1.0s
CCAR Cane Creek 21.41 352 IAmb IAmb 09 00 32.1
comp=Z,91nm,0.8s
Z38A Mt. Pleasant 21.42 344 IAmb IAmb 09 00 32.5
comp=Z,76nm,0.9s
Y52A Lilburn 21.44 9 P P 09 00 14.2 +2.3
baz=191,SNR=18
Y52A P P 09 00 14.2 +2.3
baz=191,SNR=18
HAW Hawthorne Fire 21.46 15 P P 09 00 14.9 +2.7
baz=198,SNR=11
NHSC New Hope 21.63 18 IAmb IAmb 09 00 38.0
comp=Z,104nm,1.2s
X48A Hartselle 21.72 3 P P 09 00 15.9 +1.0
baz=183,SNR=7.5
OXF Oxford 21.78 357 IAmb IAmb 09 00 38.0
comp=Z,74nm,0.8s
SJG San Juan 21.92 73 P P 09 00 14.0 -3.3
comp=Z,5.2nm,0.4s,baz=249,slow=13,SNR=2.2
SJG LR LR 09 08 52.1
comp=Z,904nm,21.6s,baz=267,slow=38
comp=Z,5.2nm,0.4s
ATAH Atahualpa 21.94 153 LR LR 09 07 53.1
comp=Z,1µm,21.0s,baz=340,slow=34
TX31 Lajitas Ar. Si 21.96 321 P P 09 00 19.5 +1.8
baz=136,SNR=17
TXAR Lajitas Array 21.96 321 P P 09 00 19.2 +1.6
comp=Z,36nm,0.6s,baz=140,slow=11,SNR=65
TXAR PcP PcP 09 04 15.8 +1.1
comp=Z,2.1nm,0.8s,baz=164,slow=6.5,SNR=4.0
TXAR ScP ScP 09 07 49.1 +1.7
comp=Z,1.8nm,0.6s,baz=156,slow=5.8,SNR=14
TXAR LR LR 09 11 33.3
comp=Z,75nm,18.1s,baz=128,slow=44
comp=Z,36nm,0.6s
HODGE Hodges 22.14 13 IAmb IAmb 09 00 23.0
comp=Z,66nm,0.7s
HODGE Hodges 22.14 13 P P 09 00 21.2 +1.7
baz=195,SNR=28
PLAL Pickwick Lake 22.22 0 IAmb IAmb 09 00 40.2
comp=Z,62nm,1.4s
UALR University of 22.34 351 IAmb IAmb 09 00 25.4
comp=Z,56nm,0.6s
Y57A Sumter 22.41 17 P P 09 00 24.9 +2.5
baz=200,SNR=15
Y57A P P 09 00 24.9 +2.5
baz=200,SNR=15
JSC Jenkinsville 22.43 15 IAmb IAmb 09 00 45.3
comp=Z,80nm,1.0s
JSC Jenkinsville 22.43 15 P P 09 00 24.4 +1.8
baz=198,SNR=15
ABTX Abilene, Hawle 22.47 334 IAmb IAmb 09 00 27.2
comp=Z,54nm,0.8s
ABTX Abilene, Hawle 22.47 334 P P 09 00 25.0 +1.9
baz=150,SNR=12
ABTX Abilene, Hawle 22.47 334 P P 09 00 24.8 +1.7
baz=150,SNR=12
Y58A Scranton 22.53 19 IAmb IAmb 09 00 42.8
comp=Z,72nm,0.9s
Y58A Scranton 22.53 19 P P 09 00 25.2 +1.6
baz=202,SNR=6.2
Y58A P P 09 00 25.2 +1.6
baz=202,SNR=6.2
SGCY Sterling City 22.55 330 IAmb IAmb 09 00 42.0
comp=Z,78nm,0.8s
W50A Signal Mountai 22.59 6 P P 09 00 24.8 +0.4
baz=187,SNR=12
W52A Murphy 22.66 9 P P 09 00 26.3 +1.2
baz=197,SNR=8.9
BG3 Lake Jocassee 22.74 11 IAmb IAmb 09 00 49.2
comp=Z,75nm,1.2s
CASEE Lake Jocassee 22.74 11 P P 09 00 27.7 +1.8
baz=193,SNR=7.8
PAULI Pauline 22.81 14 IAmb IAmb 09 00 29.4
comp=Z,40nm,0.6s
PAULI Pauline 22.81 14 P P 09 00 28.6 +2.0
baz=196,SNR=13
WHAR Wooly Hollow 22.83 351 IAmb IAmb 09 00 30.7
comp=Z,47nm,0.7s
BIRD Birdtown, Kers 22.98 16 IAmb IAmb 09 00 30.6
comp=Z,50nm,0.6s
BIRD Birdtown, Kers 22.98 16 P P 09 00 29.6 +1.3
baz=200,SNR=17
WTFS Witchita Falls 23.00 338 IAmb IAmb 09 00 32.2
comp=Z,109nm,1.4s
V48A Smith Brothers 23.01 3 IAmb IAmb 09 00 47.8
comp=Z,135nm,1.9s
V48A Smith Brothers 23.01 3 P P 09 00 29.1 +0.5
baz=183
PCRV Puerto La Cruz 23.21 94 LR LR 09 11 38.5
comp=Z,285nm,20.5s,slow=42
KMSC Kings Mountain 23.23 14 P P 09 00 32.2 +1.4
baz=197
KMSC Kings Mountain 23.23 14 P P 09 00 32.1 +1.4
baz=197,SNR=16
X58A Rowland 23.23 19 IAmb IAmb 09 00 33.9
comp=Z,48nm,0.5s
X58A Rowland 23.23 19 P P 09 00 32.3 +1.6
baz=202
X58A P P 09 00 32.3 +1.6
baz=202
TKL Tuckaleechee C 23.24 9 IAmb IAmb 09 00 35.0
comp=Z,49nm,0.8s
TKL Tuckaleechee C 23.24 9 P P 09 00 32.0 +1.1
baz=191,SNR=15
TKL Tuckaleechee C 23.24 9 LR LR 09 10 19.0
comp=Z,310nm,21.2s,baz=202,slow=39
V51A Loudon 23.30 8 IAmb IAmb 09 00 56.6
comp=Z,51nm,1.0s
V51A Loudon 23.30 8 P P 09 00 32.4 +1.0
baz=189
SLBS Sierra La Lagu 23.36 301 P P 09 00 35.7 +3.5
SLBS IAmb IAmb 09 00 39.4
comp=Z,34nm,0.8s
WVT Waverly 23.37 1 P P 09 00 31.5 -0.6
CLTN Cedars of Leba 23.39 4 P P 09 00 32.5 +0.2
CLTN IAmb IAmb 09 00 57.3
comp=Z,67nm,1.5s
FCAR Ozark Folk Cen 23.40 352 IAmb IAmb 09 00 53.7
comp=Z,66nm,0.8s
V53A Saluda 23.42 11 P P 09 00 33.2 +0.6
V53A IAmb IAmb 09 00 59.1
comp=Z,39nm,0.8s
V53A Saluda 23.42 11 P P 09 00 33.9 +1.3
baz=193,SNR=16
V53A P P 09 00 33.9 +1.3
baz=193,SNR=16
V52A Sevierville 23.45 9 IAmb IAmb 09 00 53.9
comp=Z,116nm,1.4s
LCAR Lake Charles 23.46 354 P P 09 00 32.9 -0.1
baz=173,SNR=14
W57A Gilead 23.59 17 IAmb IAmb 09 00 36.6
comp=Z,46nm,0.7s
W57A Gilead 23.59 17 P P 09 00 35.1 +0.9
baz=200,SNR=18
W57A P P 09 00 35.1 +0.9
baz=200,SNR=18
LPIG La Paz 23.84 302 LR LR 09 10 52.2
comp=Z,314nm,20.8s,baz=114,slow=38
U49A Red Boiling Sp 23.85 5 IAmb IAmb 09 00 57.7
comp=Z,51nm,1.1s
U49A Red Boiling Sp 23.85 5 P P 09 00 36.4 -0.1
baz=188,SNR=9.0
V55A Taylorsville 23.93 14 IAmb IAmb 09 00 42.5
comp=Z,37nm,0.7s
V55A Taylorsville 23.93 14 P P 09 00 38.5 +1.2
baz=197,SNR=12
V55A P P 09 00 38.5 +1.2
baz=197,SNR=12
PARMO Parma 23.94 357 IAmb IAmb 09 00 58.3
comp=Z,57nm,0.8s
U40A Yellville 23.96 351 P P 09 00 38.2 +0.6
baz=169,SNR=51
U40A P P 09 00 38.2 +0.6
baz=169,SNR=51
WMOK Wichita Mounta 23.99 338 IAmb IAmb 09 00 41.1
comp=Z,146nm,1.8s
HHAR Hobbs 24.08 349 IAmb IAmb 09 00 42.8
comp=Z,41nm,0.6s
PBMO Poplar Bluff 24.10 356 IAmb IAmb 09 00 58.1
comp=Z,77nm,0.9s
PBMO Poplar Bluff 24.10 356 P P 09 00 39.1 +0.3
baz=175,SNR=11
TUL3 Leonard 24.14 345 IAmb IAmb 09 01 03.4
comp=Z,83nm,1.1s
TUL3 Leonard 24.14 345 P P 09 00 39.4 +0.2
baz=162,SNR=14
TZTN Tazewell 24.14 9 IAmb IAmb 09 01 01.4
comp=Z,42nm,0.9s
T47A Sharon Grove 24.24 2 IAmb IAmb 09 00 58.4
comp=Z,55nm,0.8s
T47A Sharon Grove 24.24 2 P P 09 00 40.1 0.0
baz=182,SNR=23
T45B Paducah 24.25 359 P P 09 00 40.4 +0.2
baz=179,SNR=19
DEOK Depew 24.27 343 IAmb IAmb 09 01 01.0
comp=Z,157nm,1.8s
U38A Gravette 24.32 348 P P 09 00 40.9 +0.1
U38A IAmb IAmb 09 01 04.6
comp=Z,39nm,1.0s
U38A Gravette 24.32 348 P P 09 00 41.8 +0.9
baz=165,SNR=14
CNNC Cliffs of the 24.33 21 IAmb IAmb 09 00 42.5
comp=Z,25nm,0.6s
CNNC Cliffs of the 24.33 21 P P 09 00 41.8 +0.9
baz=205
U54A Nelsons Funny 24.44 12 P P 09 00 43.2 +1.2
baz=195,SNR=20
U54A P P 09 00 43.2 +1.2
baz=195,SNR=20
T50A Nancy 24.44 6 P P 09 00 42.2 +0.3
baz=188
T50A P P 09 00 42.2 +0.3
baz=188
V58A Windy Hill, Pi 24.44 18 P P 09 00 43.0 +1.1
baz=202,SNR=34
V58A P P 09 00 43.0 +1.1
baz=202,SNR=34
OK033 Mehan 24.58 343 IAmb IAmb 09 00 45.4
comp=Z,34nm,0.7s
U56A King 24.61 15 IAmb IAmb 09 01 03.3
comp=Z,123nm,1.6s
U56A King 24.61 15 P P 09 00 44.9 +1.4
baz=198,SNR=8.2
U56A P P 09 00 44.9 +1.4
baz=198,SNR=8.2
MGMO Mountain Grove 24.66 352 IAmb IAmb 09 01 02.8
comp=Z,37nm,0.8s
MNTX Cornudas Mount 24.68 323 P P 09 00 44.6 +0.4
baz=136,SNR=6.8
MNTX Cornudas Mount 24.68 323 P P 09 00 44.8 +0.6
baz=136,SNR=6.8
S44A Carbondale 24.95 358 IAmb IAmb 09 01 04.3
comp=Z,47nm,0.9s
S44A Carbondale 24.95 358 P P 09 00 46.9 +0.4
baz=177,SNR=6.2
SIUC Southern Illin 24.97 358 IAmb IAmb 09 01 04.4
comp=Z,41nm,0.9s
MSTX Muleshoe 25.03 330 P P 09 00 47.8 +0.4
MSTX Muleshoe 25.03 330 P P 09 00 47.7 +0.4
baz=144,SNR=20
MSTX Muleshoe 25.03 330 P P 09 00 47.9 +0.4
baz=144,SNR=20
USIN University of 25.20 1 IAmb IAmb 09 01 12.0
comp=Z,52nm,1.1s
S51A Beattyville 25.21 9 IAmb IAmb 09 01 11.9
comp=Z,66nm,1.4s
AMTX Amarillo 25.28 333 P P 09 00 51.2 +1.5
baz=148
AMTX Amarillo 25.28 333 P P 09 00 51.0 +1.3
baz=148,SNR=5.7
BLOK Blackwell 25.33 343 IAmb IAmb 09 00 54.2
comp=Z,53nm,0.7s
S39A Bolivar 25.34 350 P P 09 00 50.3 +0.2
S39A Bolivar 25.34 350 P P 09 00 50.4 +0.3
baz=168,SNR=86
U59A Littleton 25.38 20 P P 09 00 51.0 +0.6
baz=204
U59A P P 09 00 51.0 +0.6
baz=204
ELIS Ellis County 25.41 338 IAmb IAmb 09 01 08.7
comp=Z,55nm,1.0s
BLA Blacksburg 25.42 15 IAmb IAmb 09 01 07.9
comp=Z,56nm,0.8s
BLA Blacksburg 25.42 15 P P 09 00 51.9 +1.1
baz=198,SNR=7.9
BLA Blacksburg 25.42 15 P P 09 00 52.0 +1.2
baz=198,SNR=7.9
CCM Cathedral Cave 25.44 354 P P 09 00 51.1 +0.2
CCM IAmb IAmb 09 01 09.6
comp=Z,32nm,0.8s
CCM Cathedral Cave 25.44 354 P P 09 00 51.1 +0.2
baz=173
CCM Cathedral Cave 25.44 354 P P 09 00 50.8 -0.2
baz=173,SNR=22
CZSB Cruzeiro do Su 25.44 142 P P 09 00 51.4 +0.2
CZSB IAmb IAmb 09 01 16.7
comp=Z,43nm,1.0s
WCI Wyandotte Cave 25.52 3 P P 09 00 51.4 -0.3
WCI IAmb IAmb 09 01 07.2
comp=Z,31nm,0.8s
WCI Wyandotte Cave 25.52 3 P P 09 00 51.8 +0.1
baz=184
WCI Wyandotte Cave 25.52 3 P P 09 00 51.9 +0.2
baz=184,SNR=10
T57A Hurt 25.52 17 IAmb IAmb 09 01 13.4
comp=Z,48nm,1.1s
T57A Hurt 25.52 17 P P 09 00 52.2 +0.4
baz=200,SNR=6.7
T57A P P 09 00 52.2 +0.4
baz=200,SNR=6.7
U32A Winter Ranch, 25.54 339 IAmb IAmb 09 00 54.5
comp=Z,39nm,0.7s
U32A Winter Ranch, 25.54 339 P P 09 00 53.7 +1.7
baz=155
R49A Shelbyville 25.67 5 P P 09 00 52.8 -0.3
baz=187,SNR=5.4
R49A P P 09 00 52.8 -0.3
baz=187,SNR=5.4
R50A Paris 25.75 7 P P 09 00 53.7 0.0
baz=189
R50A P P 09 00 53.7 0.0
baz=189
S54A Dingess, Beckl 25.78 13 P P 09 00 55.0 +0.9
S54A IAmb IAmb 09 01 18.2
comp=Z,111nm,1.6s
R40A Maddies Statio 25.78 353 IAmb IAmb 09 01 14.5
comp=Z,28nm,0.8s
R40A Maddies Statio 25.78 353 P P 09 00 53.8 -0.3
baz=171,SNR=14
KAN01 Argonia South 25.85 342 IAmb IAmb 09 00 58.7
comp=Z,40nm,0.5s
OLIL Olney 25.97 0 IAmb IAmb 09 01 14.7
comp=Z,103nm,1.7s
KAN08 Anthony NE Sta 25.98 342 IAmb IAmb 09 01 00.4
comp=Z,45nm,0.5s
T59A Double "B" Far 26.02 20 IAmb IAmb 09 01 18.0
comp=Z,50nm,1.2s
T59A Double "B" Far 26.02 20 P P 09 00 57.4 +1.2
baz=204,SNR=5.0
T59A P P 09 00 57.4 +1.2
baz=204,SNR=5.0
Q44A Meyer Farm, Va 26.15 359 IAmb IAmb 09 01 14.7
comp=Z,44nm,0.9s
Q44A Meyer Farm, Va 26.15 359 P P 09 00 57.4 0.0
baz=178,SNR=7.1
R53A Hurricane 26.16 11 IAmb IAmb 09 01 18.9
comp=Z,36nm,1.1s
R53A Hurricane 26.16 11 P P 09 00 58.2 +0.7
baz=194
R53A P P 09 00 58.2 +0.7
baz=194
BLO Bloomington 26.45 3 IAmb IAmb 09 01 39.4
comp=Z,89nm,1.6s
T60A Surry 26.45 21 IAmb IAmb 09 01 03.9
comp=Z,61nm,0.8s
R55A Marlinton 26.51 14 IAmb IAmb 09 01 24.2
comp=Z,43nm,0.9s
R55A Marlinton 26.51 14 P P 09 01 01.7 +0.9
baz=198,SNR=7.8
R55A P P 09 01 01.7 +0.9
baz=198,SNR=7.8
Q51A Peebles 26.61 8 IAmb IAmb 09 01 17.8
comp=Z,37nm,0.7s
Q51A Peebles 26.61 8 P P 09 01 02.1 +0.5
baz=190,SNR=11
Q51A P P 09 01 02.1 +0.5
baz=190,SNR=11
121A Cookes Peak, D 26.71 321 IAmb IAmb 09 01 10.9
comp=Z,28nm,0.7s
121A Cookes Peak, D 26.71 321 P P 09 01 04.4 +1.6
baz=133,SNR=16
121A Cookes Peak, D 26.71 321 P P 09 01 04.7 +1.9
baz=133,SNR=16
Q52A Bidwell 26.72 10 IAmb IAmb 09 01 20.9
comp=Z,78nm,1.4s
Q52A Bidwell 26.72 10 P P 09 01 02.9 +0.4
baz=193,SNR=5.3
Q52A P P 09 01 02.9 +0.4
baz=193,SNR=5.3
P48A Milroy 26.80 5 IAmb IAmb 09 01 18.2
comp=Z,82nm,1.9s
P48A Milroy 26.80 5 P P 09 01 02.6 -0.7
baz=186,SNR=5.3
P48A P P 09 01 02.6 -0.7
baz=186,SNR=5.3
SRIG Santa Rosalia 26.83 307 IAmb IAmb 09 01 07.0
comp=Z,38nm,0.7s
P46A Rosedale 26.86 2 IAmb IAmb 09 01 45.0
comp=Z,26nm,0.8s
P49A Miami Univ. Ec 26.94 6 P P 09 01 03.7 -0.8
baz=187,SNR=5.3
P49A Miami Univ. Ec 26.94 6 P P 09 01 03.7 -0.8
baz=187,SNR=5.3
NNA Nana 26.95 155 LR LR 09 10 38.9
comp=Z,170nm,19.9s,baz=323,slow=34
P40A Paris 26.98 353 IAmb IAmb 09 01 22.2
comp=Z,58nm,1.1s
Q54A Coxs Mills 27.02 13 IAmb IAmb 09 01 23.9
comp=Z,77nm,1.2s
Q54A Coxs Mills 27.02 13 P P 09 01 06.1 +0.9
baz=196,SNR=10
Q54A P P 09 01 06.1 +0.9
baz=196,SNR=10
RTBA Rita Blanca 27.05 334 IAmb IAmb 09 01 11.0
comp=Z,38nm,0.6s
P51A Williamsport 27.10 9 IAmb IAmb 09 01 49.8
comp=Z,44nm,1.3s
P51A Williamsport 27.10 9 P P 09 01 06.1 +0.2
baz=191,SNR=5.3
P51A P P 09 01 06.1 +0.2
baz=191,SNR=5.3
CBN Corbin Frederi 27.20 19 IAmb IAmb 09 01 09.0
comp=Z,48nm,0.8s
CBN Corbin Frederi 27.20 19 P P 09 01 08.2 +1.3
baz=204,SNR=7.3
CBN Corbin Frederi 27.20 19 P P 09 01 08.2 +1.3
baz=204,SNR=7.3

Y22A Socorro 27.22 324 P P 09 01 08.9 +1.6
baz=137,SNR=17
P38A Dawn 27.27 351 IAmb IAmb 09 01 24.9
comp=Z,43nm,0.8s
P38A Dawn 27.27 351 P P 09 01 07.4 -0.1
baz=168,SNR=16
R32A Long Quarter, 27.31 342 IAmb IAmb 09 01 10.1
comp=Z,18nm,0.6s
R32A Long Quarter, 27.31 342 P P 09 01 07.9 0.0
baz=157,SNR=6.8
KSU1 Kansas State U 27.37 346 IAmb IAmb 09 01 25.3
comp=Z,34nm,0.8s
KSU1 Kansas State U 27.37 346 P P 09 01 08.3 -0.1
baz=162,SNR=11
KSU1 Kansas State U 27.37 346 P P 09 01 08.4 0.0
baz=162,SNR=11
P53A Whipple 27.39 11 IAmb IAmb 09 01 27.4
comp=Z,56nm,1.0s
P53A Whipple 27.39 11 P P 09 01 09.5 +1.0
baz=194,SNR=8.0
P53A P P 09 01 09.5 +1.0
baz=194,SNR=8.0
P52A Corning 27.39 10 IAmb IAmb 09 01 27.4
comp=Z,37nm,1.1s
P52A Corning 27.39 10 P P 09 01 08.6 +0.1
baz=193,SNR=8.9
Q56A Snyder Ridge, 27.46 15 IAmb IAmb 09 01 26.6
comp=Z,28nm,0.8s
O48B Farmland 27.62 5 P P 09 01 09.7 -0.9
baz=186
SFIN Lafayette 27.63 2 P P 09 01 10.0 -0.7
baz=182
SFIN Lafayette 27.63 2 P P 09 01 10.1 -0.6
baz=182
O49A Covington 27.63 6 P P 09 01 10.6 -0.1
baz=188
O49A P P 09 01 10.6 -0.1
baz=188
ANMO Albuquerque 27.68 326 P P 09 01 11.4 -0.1
ANMO Albuquerque 27.68 326 LR LR 09 13 46.0
comp=Z,359nm,21.8s,baz=216,slow=40
ACSO Alum Creek Sta 27.84 9 IAmb IAmb 09 01 14.3
comp=Z,24nm,0.7s
ACSO Alum Creek Sta 27.84 9 P P 09 01 13.2 +0.6
baz=191
ACSO Alum Creek Sta 27.84 9 P P 09 01 13.2 +0.6
baz=191
MCWV Mont Chateau 27.88 14 IAmb IAmb 09 01 14.8
comp=Z,26nm,0.6s
MCWV Mont Chateau 27.88 14 P P 09 01 13.3 +0.3
baz=198,SNR=8.9
MCWV Mont Chateau 27.88 14 P P 09 01 13.3 +0.3
baz=198
O52A Adamsville 27.91 10 IAmb IAmb 09 01 31.5
comp=Z,52nm,1.2s
O52A Adamsville 27.91 10 P P 09 01 13.6 +0.4
baz=193,SNR=7.0
O52A P P 09 01 13.6 +0.4
baz=193,SNR=7.0
CBKS Cedar Bluff 27.99 341 IAmb IAmb 09 01 17.2
comp=Z,20nm,0.7s
CBKS Cedar Bluff 27.99 341 P P 09 01 14.4 +0.4
baz=155,SNR=7.1
CBKS Cedar Bluff 27.99 341 P P 09 01 14.4 +0.4
baz=155,SNR=7.1
N41A Harden Midland 28.04 356 IAmb IAmb 09 01 16.3
comp=Z,22nm,0.8s
N41A Harden Midland 28.04 356 P P 09 01 13.8 -0.5
baz=174
O53A New Philadelph 28.16 11 IAmb IAmb 09 01 33.9
comp=Z,41nm,1.0s
O53A New Philadelph 28.16 11 P P 09 01 15.7 +0.3
baz=194,SNR=7.0
P57A Homestead Farm 28.19 17 IAmb IAmb 09 01 18.4
comp=Z,40nm,0.7s
P57A Homestead Farm 28.19 17 P P 09 01 17.2 +1.5
baz=201,SNR=12
P57A P P 09 01 17.2 +1.5
baz=201,SNR=12
O54A Avella 28.26 13 IAmb IAmb 09 01 17.9
comp=Z,25nm,0.8s
O54A Avella 28.26 13 P P 09 01 16.9 +0.6
baz=196,SNR=8.2
O54A P P 09 01 16.9 +0.6
baz=196,SNR=8.2
N49A Columbus Grove 28.37 6 P P 09 01 17.1 -0.2
baz=188,SNR=6.2
N49A P P 09 01 17.1 -0.2
baz=188,SNR=6.2
N38A Joes South For 28.37 352 IAmb IAmb 09 01 34.7
comp=Z,38nm,0.6s
T25A Trinidad 28.38 332 IAmb IAmb 09 01 21.1
comp=Z,34nm,0.8s
T25A Trinidad 28.38 332 P P 09 01 19.3 +1.6
baz=145,SNR=20
SDMD Soldier's Deli 28.47 19 P P 09 01 19.2 +1.0
baz=204,SNR=6.4
TUC Tucson 28.49 317 P P 09 01 19.6 +1.0
N53A Lisbon 28.77 12 IAmb IAmb 09 01 39.1
comp=Z,65nm,1.3s
N53A Lisbon 28.77 12 P P 09 01 21.2 +0.4
baz=195,SNR=7.2
N53A P P 09 01 21.2 +0.4
baz=195,SNR=7.2
N35A Tabor 28.84 348 IAmb IAmb 09 01 27.7
comp=Z,25nm,0.6s
M50A Fremont 28.98 8 IAmb IAmb 09 01 23.8
comp=Z,31nm,0.7s
M50A Fremont 28.98 8 P P 09 01 22.8 +0.1
baz=190,SNR=7.6
M50A P P 09 01 22.8 +0.1
baz=190,SNR=7.6
KSCO Kaye Shedlock' 29.20 337 IAmb IAmb 09 01 27.6
comp=Z,38nm,0.7s
KSCO Kaye Shedlock' 29.20 337 P P 09 01 26.1 +1.3
baz=150,SNR=12
KSCO Kaye Shedlock' 29.20 337 P P 09 01 25.9 +1.0
baz=150,SNR=12
GEDE Greenville 29.23 20 P P 09 01 25.8 +1.0
baz=206,SNR=6.8
L48A N Adams 29.36 6 IAmb IAmb 09 01 26.4
comp=Z,20nm,0.6s
SDCO Great Sand Dun 29.38 331 IAmb IAmb 09 01 29.9
comp=Z,33nm,1.2s
SDCO Great Sand Dun 29.38 331 P P 09 01 28.0 +1.4
baz=144,SNR=29
SDCO Great Sand Dun 29.38 331 P P 09 01 28.0 +1.4
baz=144,SNR=29
L40A Anamosa 29.41 355 IAmb IAmb 09 01 43.5
comp=Z,29nm,1.1s
M53A WI Miller and 29.41 12 IAmb IAmb 09 01 29.1
comp=Z,22nm,0.6s
M53A WI Miller and 29.41 12 P P 09 01 26.9 +0.4
baz=195
214A Organ Pipe Nat 29.67 314 P P 09 01 30.0 +1.1
baz=125
PAOC Oil Creek Stat 29.69 13 P P 09 01 29.4 +0.4
baz=197
TUPA Temple Univers 29.70 20 P P 09 01 30.1 +1.1
baz=206,SNR=21
AAM Ann Arbor 29.79 7 IAmb IAmb 09 01 30.3
comp=Z,24nm,0.7s
AAM Ann Arbor 29.79 7 P P 09 01 29.9 +0.1
baz=189,SNR=7.3
AAM Ann Arbor 29.79 7 P P 09 01 29.6 -0.3
baz=189,SNR=7.3
N58A Sunbury 29.82 18 IAmb IAmb 09 01 50.9
comp=Z,25nm,0.9s
M55A Ridgway 29.86 14 IAmb IAmb 09 02 07.9
comp=Z,121nm,2.0s
S22A 4UR Ranch, Cre 30.02 330 IAmb IAmb 09 01 36.5
comp=Z,28nm,0.7s
S22A 4UR Ranch, Cre 30.02 330 P P 09 01 33.9 +1.6
baz=141,SNR=45
LUPA Lehigh Univers 30.02 20 IAmb IAmb 09 01 35.7
comp=Z,29nm,0.7s
PANJ Princeton 30.05 21 P P 09 01 33.2 +1.1
baz=207,SNR=11
M57A Sunshine Farm, 30.16 17 IAmb IAmb 09 01 35.1
comp=Z,29nm,0.7s
M57A Sunshine Farm, 30.16 17 P P 09 01 34.0 +0.8
baz=202,SNR=7.9
M57A P P 09 01 34.0 +0.8
baz=202,SNR=7.9
JFWS Jewell Farm 30.20 357 IAmb IAmb 09 02 09.0
comp=Z,16nm,0.8s
ERPA Erie 30.20 12 P P 09 01 33.9 +0.4
ERPA IAmb IAmb 09 01 51.8
comp=Z,67nm,1.4s
ERPA Erie 30.20 12 P P 09 01 33.5 0.0
baz=196
Q24A Divide 30.21 333 P P 09 01 35.3 +1.3
baz=146
BRNJ Basking Ridge 30.37 21 P P 09 01 36.2 +1.2
baz=207,SNR=6.3
MVCO Mesa Verde 30.47 327 IAmb IAmb 09 01 39.6
comp=Z,43nm,1.5s
MVCO Mesa Verde 30.47 327 P P 09 01 37.5 +1.3
baz=138,SNR=12
J47A Sunmer 30.61 5 IAmb IAmb 09 01 36.5
comp=Z,32nm,1.0s
OGNE Ogallala 30.68 339 IAmb IAmb 09 02 36.6
comp=Z,24nm,0.8s
OGNE Ogallala 30.68 339 P P 09 01 39.0 +1.2
baz=153
ODNJ Ogdensburg 30.71 20 IAmb IAmb 09 01 56.0
comp=Z,33nm,1.2s
WVNY West Valley, N 30.78 14 IAmb IAmb 09 01 40.4
comp=Z,23nm,0.7s
WVNY West Valley, N 30.78 14 P P 09 01 38.9 +0.2
baz=198,SNR=5.1
PAL Palisades 30.89 21 IAmb IAmb 09 01 41.7
comp=Z,28nm,0.7s
PAL Palisades 30.89 21 P P 09 01 40.3 +0.7
baz=208
WUAZ Wupatki 30.92 321 P P 09 01 42.6 +2.4
baz=132,SNR=6.9
ISCO Idaho Springs 31.10 333 IAmb IAmb 09 01 44.9
comp=Z,23nm,1.1s
ISCO Idaho Springs 31.10 333 P P 09 01 42.8 +1.0
baz=146,SNR=20
ISCO Idaho Springs 31.10 333 P P 09 01 42.9 +1.0
baz=146,SNR=20
I42A Draeger Farm, 31.12 359 IAmb IAmb 09 01 43.2
comp=Z,25nm,0.6s
I40A Norwalk 31.19 357 IAmb IAmb 09 02 01.9
comp=Z,19nm,0.9s
SMCO Snowmass 31.21 331 IAmb IAmb 09 01 46.8
comp=Z,22nm,0.7s
ETMB Extrema 31.23 135 P P 09 01 43.0 +0.2
ETMB IAmb IAmb 09 01 45.8
comp=Z,30nm,0.7s
BINY Binghamton 31.29 18 IAmb IAmb 09 01 59.7
comp=Z,24nm,0.8s
PV02 Paradox Valley 31.34 328 P P 09 01 44.1 +0.2
NPNY Mohonk Preserv 31.47 20 P P 09 01 45.5 +0.8
baz=207,SNR=6.5
K30B Basset 31.50 344 P P 09 01 46.3 +1.2
baz=158,SNR=16
MACA Manacapuru-AM 31.52 118 P P 09 01 45.3 -0.2
L59A Walton 31.57 19 IAmb IAmb 09 01 47.7
comp=Z,28nm,0.8s
L59A Walton 31.57 19 P P 09 01 46.5 +0.9
baz=205
L59A P P 09 01 46.5 +0.9
baz=205
ECSD EROS Data Cent 31.80 348 P P 09 01 47.1 -0.5
baz=164,SNR=8.9
ECSD EROS Data Cent 31.80 348 P P 09 01 47.0 -0.5
baz=164,SNR=8.9
PDMCI Parker Dam,Lak 31.93 317 P P 09 01 50.3 +1.5
baz=126,SNR=15
J56A Wolcott 32.04 16 P P 09 01 49.9 +0.3
baz=201,SNR=6.4
J56A P P 09 01 49.9 +0.3
baz=201,SNR=6.4
N23A Red Feather La 32.15 334 IAmb IAmb 09 01 53.5
comp=Z,12nm,0.7s
N23A Red Feather La 32.15 334 P P 09 01 52.0 +1.0
baz=146,SNR=11
YUH Yuha Desert 32.25 313 P P 09 01 54.3 +2.7
PHWY Pilot Hill 32.28 335 IAmb IAmb 09 01 55.2
comp=Z,16nm,0.8s
BC3 Big Chuckawall 32.46 315 P P 09 01 55.3 +1.7
baz=124,SNR=6.6
NEE2 Needles Airpor 32.53 317 P P 09 01 55.0 +1.0
baz=126,SNR=6.4
J58A Remsen 32.55 18 IAmb IAmb 09 01 56.4
comp=Z,14nm,0.6s
O20A White River Ci 32.57 331 P P 09 01 56.1 +1.5
baz=142,SNR=56
CBX Cerro Bola 32.62 311 IAmb IAmb 09 02 00.1
comp=Z,12nm,0.7s
SPMN Marine on St. 32.69 354 P P 09 01 54.7 -0.7
baz=172,SNR=18
SPMN Marine on St. 32.69 354 P P 09 01 54.7 -0.7
baz=172,SNR=18
PKCU Pink Cliffs 32.77 323 IAmb IAmb 09 02 14.4
comp=Z,18nm,1.0s
SAML Samuel 32.84 130 P P 09 01 56.6 -0.4
SAML IAmb IAmb 09 01 58.1
comp=Z,13nm,0.6s
SAML Samuel 32.84 130 P P 09 01 56.1 -0.8
SAML PcP PcP 09 04 41.2 +0.3
SADO Sadowa 32.92 12 P P 09 01 57.1 -0.3
SADO Sadowa 32.92 12 LR LR 09 15 17.0
comp=Z,448nm,19.4s,baz=226,slow=36
SRU San Rafael Swe 32.95 327 IAmb IAmb 09 02 01.1
comp=Z,14nm,0.7s
HRV Adam Dziewonsk 33.05 23 P P 09 01 59.0 +0.5
PFO Pinyon Flats O 33.14 314 P P 09 02 00.3 +0.7
PFO Pinyon Flats O 33.14 314 LR LR 09 16 42.1
comp=Z,415nm,21.3s,baz=128,slow=38
PFO Pinyon Flats O 33.14 314 P P 09 02 01.2 +1.6
PFO PcP PcP 09 04 43.2 +1.6
Q16A Castle Valley 33.15 326 P P 09 02 00.9 +1.2
GMRC Granite Mounta 33.23 316 P P 09 02 02.1 +1.7
baz=125,SNR=6.0
P17A Butcher Ranch, 33.33 327 IAmb IAmb 09 02 03.7
comp=Z,20nm,0.7s
COWI Conover 33.34 359 IAmb IAmb 09 02 04.7
comp=Z,22nm,0.8s
F36A Milaca 33.40 353 IAmb IAmb 09 02 18.3
comp=Z,30nm,1.1s
MVU Marysvale 33.44 325 IAmb IAmb 09 02 08.2
comp=Z,18nm,0.8s
RDMU Red Mountain 33.55 330 IAmb IAmb 09 02 06.9
comp=Z,72nm,1.9s
F33A 5 Mile Ranch, 33.78 350 P P 09 02 04.0 -0.8
baz=166,SNR=45
TUQ Turquoise Moun 33.78 317 P P 09 02 06.9 +1.7
baz=125,SNR=5.8
K22A Casper 33.85 335 IAmb IAmb 09 02 08.5
comp=Z,41nm,1.2s
K22A Casper 33.85 335 P P 09 02 07.0 +1.3
baz=146,SNR=14
K22A Casper 33.85 335 P P 09 02 07.0 +1.3
baz=146,SNR=14
LONY Lake Ozonia 33.91 18 IAmb IAmb 09 02 24.9
comp=Z,25nm,1.2s
BSUT Blindstream Ca 34.12 329 IAmb IAmb 09 02 13.7
comp=Z,12nm,0.8s
RSSD Black Hills 34.18 340 P P 09 02 09.3 +0.7
RSSD IAmb IAmb 09 02 12.0
comp=Z,14nm,0.6s
RSSD Black Hills 34.18 340 P P 09 02 10.1 +1.4
baz=152
RSSD Black Hills 34.18 340 P P 09 02 10.0 +1.4
baz=152,SNR=19
RSSD Black Hills 34.18 340 P P 09 02 09.9 +1.3
RSSD pP pP 09 02 24.7 +1.6
MPU Maple Canyon 34.19 327 IAmb IAmb 09 02 27.0
comp=Z,14nm,0.9s
NLU North Lily Min 34.38 327 IAmb IAmb 09 02 15.0
comp=Z,36nm,1.8s
TPNV Topopah Spring 34.88 319 P P 09 02 16.4 +1.7
baz=127,SNR=11
DUG Dugway, Tooele 34.95 326 P P 09 02 16.3 +1.0
baz=135,SNR=9.9
S11A Rachel 34.99 320 IAmb IAmb 09 02 33.5
comp=Z,19nm,0.9s
LRMC Laurel Mtn Rad 35.00 316 P P 09 02 17.4 +1.7
baz=123,SNR=8.3
FURC Furnace Creek, 35.00 318 P P 09 02 17.0 +1.5
baz=125
MPMC Manual Prospec 35.19 317 P P 09 02 18.3 +0.9
baz=124,SNR=9.1
BW06 Boulder Array 35.25 332 IAmb IAmb 09 02 23.0
comp=Z,12nm,0.7s
BW06 Boulder Array 35.25 332 P P 09 02 18.5 +0.6
baz=142,SNR=21
PD31 Pinedale Array 35.25 332 IAmb IAmb 09 02 23.0
comp=Z,11nm,0.7s
PDAR Pinedale Array 35.25 332 P P 09 02 18.3 +0.4
comp=Z,11nm,0.5s,baz=126,slow=11,SNR=165
PDAR PcP PcP 09 04 47.1 -0.6
comp=Z,2.4nm,0.5s,baz=134,slow=5.4,SNR=8.8
PDAR LR LR 09 21 37.6
comp=Z,339nm,18.7s,baz=146,slow=44
comp=Z,11nm,0.5s
PB18 Visviri 35.28 148 IAmb IAmb 09 02 58.2
comp=Z,18nm,1.0s
R11B Troy Canyon, C 35.32 321 P P 09 02 19.8 +1.2
baz=129,SNR=6.7
E28A Huff 35.41 345 P P 09 02 19.0 0.0
baz=159,SNR=12
SPUT South Promonto 35.55 328 IAmb IAmb 09 02 24.8
comp=Z,15nm,0.9s
CWC Cottonwood Cre 35.79 317 P P 09 02 23.6 +1.0
baz=124
MDP Montagnes des 35.88 99 LR LR 09 20 17.7
comp=Z,310nm,18.2s,baz=293,slow=42
AHID Auburn Hatcher 35.97 331 P P 09 02 24.9 +0.9
AGMN Agassiz Nation 36.10 351 P P 09 02 24.3 -0.5
AGMN Agassiz Nation 36.10 351 P P 09 02 24.2 -0.5
baz=167,SNR=17
AGMN Agassiz Nation 36.10 351 P P 09 02 24.1 -0.7
baz=167,SNR=17
ELK Elko 36.68 325 P P 09 02 31.4 +1.3
ELK Elko 36.68 325 LR LR 09 21 48.6
comp=Z,251nm,18.9s,baz=144,slow=43
H17A Grant Village 36.99 333 IAmb IAmb 09 02 36.8
comp=Z,22nm,0.8s
H17A Grant Village 36.99 333 P P 09 02 34.2 +1.5
baz=142,SNR=21
RLMT Red Lodge 37.01 335 IAmb IAmb 09 02 37.5
comp=Z,17nm,0.6s
NVAR Mina Array Bea 37.07 319 P P 09 02 35.8 +2.3
comp=Z,8.0nm,0.6s,baz=129,slow=7.8,SNR=33
NVAR pP pP 09 02 49.5 +1.4
comp=Z,8.2nm,0.7s,baz=134,slow=7.1,SNR=8.9
NVAR PcP PcP 09 04 54.6 +1.4
comp=Z,8.5nm,0.5s,baz=141,slow=3.2,SNR=19
NVAR ScP ScP 09 08 35.8 +0.3
comp=Z,1.0nm,0.6s,baz=134,slow=4.0,SNR=4.2
NVAR LR LR 09 19 48.2
comp=Z,462nm,19.2s,baz=132,slow=39
comp=Z,8.0nm,0.6s
LHV Little Huntoon 37.10 319 IAmb IAmb 09 02 51.5
comp=Z,17nm,0.8s
BMN Battle Mountai 37.62 323 IAmb IAmb 09 02 55.1
comp=Z,12nm,0.8s
WAKR Walker 37.84 318 IAmb IAmb 09 02 43.7
comp=Z,24nm,1.6s
YERR Yerington 37.99 319 IAmb IAmb 09 02 44.8
comp=Z,39nm,1.9s
ULM Lac du Bonnet 38.01 352 IAmb IAmb 09 02 56.7
comp=Z,33nm,1.0s
ULM Lac du Bonnet 38.01 352 P P 09 02 39.8 -1.2
comp=Z,22nm,0.5s,baz=169,slow=8.9,SNR=80
ULM pP pP 09 02 53.8 -1.8
comp=Z,34nm,1.0s,baz=156,slow=9.5,SNR=7.1
ULM PcP PcP 09 04 54.0 -1.5
comp=Z,7.7nm,0.9s,baz=190,slow=5.1,SNR=3.2
ULM LR LR 09 20 37.5
comp=Z,334nm,21.2s,baz=162,slow=40
comp=Z,22nm,0.5s
DGMT Dagmar 38.10 343 P P 09 02 42.7 +0.8
baz=154,SNR=35
DGMT Dagmar 38.10 343 P P 09 02 42.7 +0.8
baz=154,SNR=35
HLID Hailey 38.19 329 IAmb IAmb 09 02 46.7
comp=Z,11nm,0.7s
HLID Hailey 38.19 329 P P 09 02 43.7 +0.9
baz=136,SNR=30
BOZ Bozeman (W) 38.39 333 P P 09 02 45.9 +1.4
baz=141,SNR=63
PB09 IPOC Station P 38.97 151 IAmb IAmb 09 03 19.5
comp=Z,26nm,1.2s
SIV San Ignacio 39.11 136 LR LR 09 19 31.6
comp=Z,525nm,18.8s,baz=296,slow=37
EGMT Eagleton 39.58 337 P P 09 02 55.2 +0.9
baz=146,SNR=23
WVOR Wild Horse Val 39.71 324 IAmb IAmb 09 02 59.2
comp=Z,14nm,0.8s
LVC Limon Verde 39.82 152 LR LR 09 19 02.6
comp=Z,400nm,21.0s,baz=306,slow=36
PLID Pearl Lake 40.07 329 IAmb IAmb 09 03 00.6
comp=Z,24nm,1.2s
PTLB Pontes e Lacer 40.08 133 P P 09 02 58.1 -0.6
MSO Missoula 40.37 333 IAmb IAmb 09 03 03.9
comp=Z,20nm,0.8s
MSO Missoula 40.37 333 P P 09 03 01.6 +0.8
baz=139,SNR=15
F10A Beach Ranch, E 41.31 329 IAmb IAmb 09 03 11.9
comp=Z,27nm,0.8s
YBH Yreka Blue Hor 41.73 320 LR LR 09 22 26.1
comp=Z,620nm,21.7s,baz=140,slow=39
I05D Terrebonne, OR 42.44 324 IAmb IAmb 09 03 43.6
comp=Z,48nm,1.8s
NEW Newport 42.88 332 P P 09 03 21.2 -0.1
baz=136,SNR=15
NEW Newport 42.88 332 LR LR 09 25 03.4
comp=Z,252nm,19.2s,baz=120,slow=41
D08A Wollman Farm, 42.90 329 IAmb IAmb 09 03 23.0
comp=Z,17nm,0.7s
E07A Sunnyside 43.04 328 IAmb IAmb 09 03 24.9
comp=Z,18nm,0.8s
C09A Chrisman Ranch 43.10 330 IAmb IAmb 09 03 26.1
comp=Z,25nm,0.6s
H04A Detroit Lake 43.13 324 IAmb IAmb 09 03 25.0
comp=Z,48nm,1.5s
HOOD Mount Hood Mea 43.22 325 IAmb IAmb 09 03 43.1
comp=Z,48nm,0.9s
MXC Moxie City 43.28 328 IAmb IAmb 09 03 27.9
comp=Z,36nm,1.3s
FFC Flin Flon 43.34 348 P P 09 03 24.8 0.0
FFC IAmb IAmb 09 03 40.8
comp=Z,18nm,0.7s
FFC Flin Flon 43.34 348 ⇑P P 09 03 24.9 0.0
FFC pP pP 09 03 40.0 +0.3
LTY Liberty 43.92 328 IAmb IAmb 09 03 31.7
comp=Z,40nm,1.6s
G03D McMinnville, O 44.06 324 IAmb IAmb 09 03 32.8
comp=Z,48nm,1.3s
F04D Rainier, OR 44.43 325 IAmb IAmb 09 03 37.2
comp=Z,28nm,0.7s
RPN Rapa Nui 44.56 207 LR LR 09 17 26.5
comp=Z,631nm,21.2s,baz=39,slow=29
EDM Edmonton 45.15 339 P P 09 03 39.7 +0.3
GNW Green Mountain 45.24 327 P P 09 03 39.8 -0.4
SCHQ Schefferville 45.29 17 P P 09 03 39.6 -0.8
SCHQ IAmb IAmb 09 03 56.8
comp=Z,25nm,0.8s
SCHQ Schefferville 45.29 17 P P 09 03 39.0 -1.4
comp=Z,23nm,0.5s,baz=220,slow=6.3,SNR=47
SCHQ pP pP 09 03 53.2 -2.1
comp=Z,21nm,0.7s,baz=208,slow=7.0,SNR=5.8
SCHQ LR LR 09 23 15.3
comp=Z,998nm,19.9s,baz=220,slow=37
comp=Z,23nm,0.5s
NLWA Neilton Lookou 45.70 326 P P 09 03 44.8 +1.0
NLWA IAmb IAmb 09 04 05.5
comp=Z,66nm,1.7s
AQDB Aquidauana 45.88 135 P P 09 03 45.9 +0.3
AQDB IAmb IAmb 09 03 47.6
comp=Z,12nm,0.7s
FCC Fort Churchill 46.23 356 P P 09 03 47.3 -0.4
PGC Sidney 46.25 328 IAmb IAmb 09 03 49.3
comp=Z,13nm,0.8s
BDFB Brasilia 48.69 124 P P 09 04 07.5 -0.2
BDFB IAmb IAmb 09 05 34.4
comp=Z,13nm,1.1s
BDFB Brasilia 48.69 124 P P 09 04 06.9 -0.7
comp=Z,5.5nm,0.5s,baz=288,slow=7.8,SNR=24
BDFB PcP PcP 09 05 32.0 -0.2
comp=Z,4.7nm,0.6s,baz=282,slow=1.9,SNR=5.6
BDFB LR LR 09 25 14.9
comp=Z,546nm,21.4s,baz=329,slow=37
comp=Z,5.5nm,0.5s
CPUP Villa Florida 49.02 142 P P 09 04 09.8 0.0
CPUP IAmb IAmb 09 04 18.0
comp=Z,15nm,1.4s
CPUP Villa Florida 49.02 142 P P 09 04 08.8 -1.0
comp=Z,2.9nm,0.6s,baz=345,slow=11,SNR=7.4
CPUP LR LR 09 26 20.7
comp=Z,336nm,19.7s,baz=318,slow=38
comp=Z,2.9nm,0.6s
CPUP Villa Florida 49.02 142 P P 09 04 09.0 -0.9
BBB Bella Bella 50.77 329 LR LR 09 28 56.5
comp=Z,347nm,21.0s,baz=170,slow=40
ITQB Itaqui 51.94 145 P P 09 04 32.3 +0.5
FRB Frobisher Bay 52.85 11 LR LR 09 28 01.4
comp=Z,755nm,21.6s,baz=210,slow=37

ITAB Concordia 52.89 139 P P 09 04 38.9 +0.1
YKA Yellowknife Ar 53.22 345 P P 09 04 40.2 -0.6
comp=Z,7.3nm,0.7s,baz=131,slow=8.2,SNR=252
YKA pP pP 09 04 54.5 -1.5
comp=Z,44nm,1.0s,baz=148,slow=6.7,SNR=28
YKA PcP PcP 09 05 47.2 -0.9
comp=Z,2.4nm,0.5s,baz=166,slow=7.9,SNR=8.3
YKA ScP ScP 09 09 40.0 -1.0
comp=Z,0.2nm,0.6s,baz=146,slow=4.5,SNR=2.1
YKA LR LR 09 29 28.5
comp=Z,272nm,21.6s,baz=122,slow=38
comp=Z,7.3nm,0.7s
FLDN Fort Liard 54.11 339 P P 09 04 47.6 +0.3
baz=136
KOTAN Kotaneelee Air 54.23 339 P P 09 04 48.0 -0.3
baz=135,SNR=8.7
T35M Bob Quinn 54.62 333 IAmb IAmb 09 04 53.9
comp=Z,16nm,0.8s
WRAK Wrangell Islan 55.24 332 P P 09 04 56.1 +0.5
baz=124
DLBC Dease Lake 55.41 335 P P 09 04 58.0 +1.1
baz=128,SNR=25
DLBC Dease Lake 55.41 335 LR LR 09 32 19.6
comp=Z,563nm,20.8s,baz=121,slow=40
S34M Telegraph Cree 55.56 334 IAmb IAmb 09 05 15.6
comp=Z,23nm,1.1s
S34M Telegraph Cree 55.56 334 P P 09 04 59.0 +1.1
baz=126
PLCA Paso Flores 55.58 164 P P 09 04 59.3 +1.0
PLCA IAmb IAmb 09 05 11.9
comp=Z,14nm,1.2s
PLCA Paso Flores 55.58 164 P P 09 04 58.8 +0.4
comp=Z,3.3nm,0.6s,baz=330,slow=6.6,SNR=16
PLCA LR LR 09 24 58.3
comp=Z,220nm,18.2s,baz=9.5,slow=32
comp=Z,3.3nm,0.6s
PLCA Paso Flores 55.58 164 P P 09 04 59.1 +0.8
PLCA pP pP 09 05 15.5 +1.9
WTLY Watson Lake, Y 55.97 337 P P 09 05 01.0 +0.1
baz=130,SNR=13
R33M Jennings River 56.38 335 IAmb IAmb 09 05 20.9
comp=Z,21nm,1.0s
R33M Jennings River 56.38 335 P P 09 05 04.5 +0.6
baz=127
Q32M Nakina River 56.66 334 P P 09 05 06.9 +0.9
baz=126
P33M Teslin, Yukon 57.62 335 IAmb IAmb 09 05 28.7
comp=Z,10nm,0.8s
P33M Teslin, Yukon 57.62 335 P P 09 05 12.8 +0.2
baz=126
P32M Atlin 57.63 335 P P 09 05 13.1 +0.4
baz=124
N32M Quiet Lake 58.28 336 P P 09 05 17.5 +0.4
baz=126
WHY Whitehorse 58.72 335 IAmb IAmb 09 05 35.9
comp=Z,11nm,0.9s
FARO Faro, Yukon 59.02 337 P P 09 05 22.1 -0.2
baz=126
O30N Mendenhall 59.28 335 P P 09 05 24.5 +0.4
baz=123,SNR=6.4
M31M Drury Creek, Y 59.40 337 IAmb IAmb 09 05 42.9
comp=Z,12nm,1.1s
N31M Braeburn, Yuko 59.54 336 P P 09 05 26.1 +0.2
baz=123
SFJD Kangerlussuaq 59.71 16 LR LR 09 30 33.8
comp=Z,259nm,21.6s,baz=204,slow=35
COYC Coyhaique 59.76 167 P P 09 05 30.0 +2.5
HYT Haines Junctio 59.89 335 P P 09 05 29.2 +0.7
baz=121
N30M Aishikik Lake 60.05 335 IAmb IAmb 09 05 45.8
comp=Z,18nm,0.8s
N30M Aishikik Lake 60.05 335 P P 09 05 30.0 +0.6
baz=122
M30M Minto, Yukon 60.54 336 IAmb IAmb 09 05 50.2
comp=Z,11nm,0.9s
YUK4 Talbot Arm 60.64 335 P P 09 05 34.2 +0.6
baz=120
MAYO Mayo, Yukon 60.76 338 P P 09 05 34.6 +0.4
baz=124,SNR=14
YUK8 Steele Glacier 61.08 334 P P 09 05 37.2 +0.6
baz=119
M29M Somme Creek 61.12 336 P P 09 05 37.2 +0.4
baz=121
ILULI Ilulissat 61.22 14 *i* P P 09 05 40.9 +3.8
ILULI IAmb IAmb 09 05 45.2
comp=Z,27nm,0.4s
L29M L29M 61.34 337 P P 09 05 38.0 -0.2
baz=122
J30M Hart River 61.47 339 IAmb IAmb 09 06 00.9
comp=Z,7.6nm,0.8s
J30M Hart River 61.47 339 P P 09 05 38.9 -0.2
baz=124
K29M Barlow Dome 61.50 338 IAmb IAmb 09 05 55.3
comp=Z,9.5nm,0.9s
K29M Barlow Dome 61.50 338 P P 09 05 38.9 -0.4
baz=123
CTGM Chitina Glacie 61.59 334 P P 09 05 41.0 +0.9
CTG Chitina Glacier 61.60 334 P P 09 05 40.9 +0.8
baz=117
YUK3 Moose Creek 61.61 335 P P 09 05 39.9 -0.2
baz=119
BARN Barnard Glacie 61.78 334 IAmb IAmb 09 05 57.7
comp=Z,14nm,0.7s
I30M Mount Dempster 61.85 339 P P 09 05 41.5 -0.2
baz=124
BVCY Beaver Creek 62.08 335 P P 09 05 43.2 0.0
baz=118
RES Resolute Bay 62.12 358 LR LR 09 35 19.0
comp=Z,203nm,19.9s,baz=180,slow=39
G31M Satah River 62.16 341 P P 09 05 43.3 -0.2
baz=127,SNR=23
F31M Tsiigehtchic 62.31 342 P P 09 05 44.2 -0.3
baz=128,SNR=8.4
DAWY Dawson 62.32 337 P P 09 05 44.3 -0.4
DAWY IAmb IAmb 09 06 00.2
comp=Z,12nm,0.9s
DAWY Dawson 62.32 337 P P 09 05 43.8 -0.9
baz=121,SNR=5.7
ISOG Isortoq, Green 62.39 21 *i* P P 09 05 43.0 -2.1
ISOG IAmb IAmb 09 05 44.0
comp=Z,18nm,0.6s
M27K Edge Creek, AK 62.47 335 IAmb IAmb 09 06 03.4
comp=Z,16nm,1.0s
MCARA McCarthy VSAT 62.52 334 P P 09 05 46.6 +0.6
baz=116
I29M Ogilvie Camp, 62.61 339 IAmb IAmb 09 06 02.4
comp=Z,14nm,0.8s
I29M Ogilvie Camp, 62.61 339 P P 09 05 45.8 -0.8
baz=122,SNR=7.4
EPYK Eagle Plains 62.62 340 P P 09 05 46.3 -0.3
baz=124,SNR=6.2
L27K Beaver Creek, 62.78 336 P P 09 05 47.9 +0.2
baz=118
INK Inuvik 62.79 343 P P 09 05 47.2 -0.5
baz=129,SNR=11
INK Inuvik 62.79 343 LR LR 09 36 23.7
comp=Z,303nm,21.6s,baz=176,slow=39
G30M tAoh Zraii Nji 62.81 341 IAmb IAmb 09 06 05.7
comp=Z,11nm,0.8s
G30M tAoh Zraii Nji 62.81 341 P P 09 05 47.2 -0.7
baz=125,SNR=7.8
ANGG Ammassalik, Gr 62.90 21 *i* P P 09 05 46.5 -1.9
ANGG IAmb IAmb 09 05 48.6
comp=Z,22nm,0.6s
M26K Nabesna, AK 62.95 335 P P 09 05 49.1 +0.1
baz=116
F30M Barrier River 63.04 341 P P 09 05 49.3 -0.1
baz=126
H29M Whitestone 63.09 340 P P 09 05 49.5 -0.2
baz=123,SNR=12
Q23K Middleton Isla 63.23 331 P P 09 05 51.0 +0.3
baz=112
I28M Miner Creek 63.23 338 IAmb IAmb 09 06 10.7
comp=Z,9.3nm,1.0s
I28M Miner Creek 63.23 338 P P 09 05 49.0 -1.8
baz=121
N25K Chitina, Valde 63.29 334 P P 09 05 51.8 +0.5
baz=114,SNR=8.1
A36M Sachs Harbour 63.30 348 P P 09 05 49.5 -1.5
baz=139,SNR=9.7
K27K Chicken 63.33 337 IAmb IAmb 09 06 07.9
comp=Z,13nm,0.8s
K27K Chicken 63.33 337 P P 09 05 51.4 0.0
baz=118,SNR=16
EGAK Eagle 63.34 337 IAmb IAmb 09 06 07.5
comp=Z,21nm,1.1s
EGAK Eagle 63.34 337 P P 09 05 50.6 -0.8
baz=119,SNR=5.9
G29M Pine Creek 63.36 340 P P 09 05 51.6 +0.1
baz=123
L26K Log Cabin Wild 63.38 335 IAmb IAmb 09 06 07.7
comp=Z,7.6nm,0.8s
L26K Log Cabin Wild 63.38 335 P P 09 05 51.8 0.0
baz=116
EYAK Cordova Ski Ar 63.38 332 P P 09 05 52.1 +0.4
baz=113
MENT Mentasta 63.49 335 IAmb IAmb 09 05 53.1
comp=Z,10nm,0.6s
KLU Klutina 63.83 333 P P 09 05 55.0 +0.2
baz=113,SNR=5.3
HARP HAARP 63.86 334 P P 09 05 55.0 +0.1
baz=114
I27K Kandik River 63.92 338 P P 09 05 55.2 0.0
baz=119
SCRK Sand Creek 64.06 336 P P 09 05 56.0 -0.3
baz=116,SNR=7.8
J26L Joseph Creek 64.13 337 IAmb IAmb 09 06 13.4
comp=Z,20nm,0.8s
J26L Joseph Creek 64.13 337 P P 09 05 56.9 +0.2
baz=117
E29M Blow River 64.14 342 IAmb IAmb 09 06 15.2
comp=Z,25nm,1.0s
E29M Blow River 64.14 342 P P 09 05 56.6 -0.1
baz=124
M24K Tolsona, Glenn 64.18 334 P P 09 05 57.6 +0.5
baz=113
H27K Steamboat Moun 64.19 339 P P 09 05 57.3 +0.2
baz=120
PAX Paxson 64.23 335 P P 09 05 57.1 -0.3
baz=114,SNR=7.4
RIDG Independent Ri 64.30 336 P P 09 05 57.4 -0.4
baz=115,SNR=7.8
I26K Coal Creek Min 64.34 338 IAmb IAmb 09 06 14.6
comp=Z,22nm,0.8s
I26K Coal Creek Min 64.34 338 P P 09 05 57.7 -0.3
baz=118
F28M Old Crow 64.34 341 P P 09 05 58.0 0.0
baz=122,SNR=34
G27K Doyon Strip 64.53 339 IAmb IAmb 09 06 15.4
comp=Z,11nm,0.8s
G27K Doyon Strip 64.53 339 P P 09 05 58.7 -0.5
baz=120
SCM Sheep Creek Mo 64.58 333 P P 09 05 59.5 -0.2
baz=112
K24K Donnelly Dome 64.70 336 P P 09 06 00.3 -0.1
baz=114,SNR=7.9
M23K Glacier View 64.74 333 P P 09 06 00.2 -0.5
baz=112
E28M Babbage River 64.77 342 IAmb IAmb 09 06 17.2
comp=Z,26nm,0.9s
E28M Babbage River 64.77 342 P P 09 06 00.2 -0.6
baz=122
J25K Salcha River, 64.88 336 IAmb IAmb 09 06 17.9
comp=Z,21nm,0.8s
J25K Salcha River, 64.88 336 P P 09 06 01.4 -0.2
baz=115
D28M Stokes Point 64.92 342 P P 09 06 01.8 +0.1
baz=124
KNK Knik Glacier 64.93 333 IAmb IAmb 09 06 18.0
comp=Z,23nm,0.8s
KNK Knik Glacier 64.93 333 P P 09 06 01.8 -0.1
baz=111
SML Sawmill 65.01 333 IAmb IAmb 09 06 19.1
comp=Z,28nm,1.0s
WAT6 Susitna Watana 65.04 334 P P 09 06 02.2 -0.6
baz=112,SNR=6.2
E27K Coleen River 65.20 341 IAmb IAmb 09 06 21.1
comp=Z,26nm,0.9s
E27K Coleen River 65.20 341 P P 09 06 03.5 0.0
baz=120
PMR Palmer 65.29 333 IAmb IAmb 09 06 05.0
comp=Z,14nm,0.6s
PMR Palmer 65.29 333 P P 09 06 03.8 -0.4
baz=110
PRP Porcupine Dome 65.32 337 IAmb IAmb 09 06 20.6
comp=Z,21nm,0.8s
PRP Porcupine Dome 65.32 337 P P 09 06 04.4 -0.2
baz=115,SNR=13
G26K Porcupine Rive 65.33 339 P P 09 06 04.2 -0.2
baz=118
HDA Harding Lake 65.42 336 P P 09 06 04.2 -0.8
baz=113,SNR=13
ILAR Eielson Array 65.54 336 P P 09 06 04.9 -0.9
comp=Z,5.4nm,0.7s,baz=166,slow=4.9,SNR=121
ILAR pP pP 09 06 20.1 -1.4
comp=Z,26nm,1.0s,baz=164,slow=3.8,SNR=24
ILAR LR LR 09 37 34.2
comp=Z,450nm,21.9s,baz=104,slow=39
comp=Z,5.4nm,0.7s
D27M Malcolm River 65.55 342 P P 09 06 06.0 +0.2
baz=121
F26K Sheenjek River 65.80 340 P P 09 06 07.7 +0.3
baz=118
KDAK Kodiak Island 65.80 328 LR LR 09 37 12.5
comp=Z,156nm,19.1s,baz=98,slow=38
CCB Clear Creek Bu 65.85 336 IAmb IAmb 09 06 24.3
comp=Z,11nm,1.0s
POKR Poker Plat Res 65.89 337 IAmb IAmb 09 06 24.3
comp=Z,21nm,0.8s
POKR Poker Plat Res 65.89 337 P P 09 06 07.2 -0.8
baz=113,SNR=9.4
COLA College 65.96 336 P P 09 06 08.4 0.0
COLA IAmb IAmb 09 06 24.0
comp=Z,19nm,0.8s
COLA College 65.96 336 P P 09 06 07.8 -0.6
baz=113
COLA College 65.96 336 P P 09 06 07.6 -0.8
COLA pP pP 09 06 23.0 -1.2
COLA PcP PcP 09 06 38.0 -0.7
MCK McKinley 65.97 335 P P 09 06 08.0 -0.6
baz=111,SNR=6.9
SUA Susitna One 65.98 332 P P 09 06 08.5 -0.3
baz=108,SNR=9.1
G25K Bearman Lake 66.07 338 P P 09 06 09.4 +0.3
baz=115
CUT Chulitna 66.08 333 P P 09 06 09.0 -0.2
baz=109
MDM Murphy Dome 66.14 336 IAmb IAmb 09 06 26.9
comp=Z,13nm,0.9s
F25K Christian Rive 66.27 339 P P 09 06 10.9 +0.4
baz=116
NEA2 Nenana 66.34 336 IAmb IAmb 09 06 27.0
comp=Z,21nm,0.9s
NEA2 Nenana 66.34 336 P P 09 06 10.3 -0.6
baz=111,SNR=7.7
H24K Noodor Dome 66.34 337 IAmb IAmb 09 06 27.2
comp=Z,18nm,0.8s
H24K Noodor Dome 66.34 337 P P 09 06 10.8 -0.2
baz=113
TRF Thorofare Moun 66.44 334 P P 09 06 11.2 -0.5
baz=110,SNR=8.2
E25K Arctic Village 66.48 340 IAmb IAmb 09 06 28.6
comp=Z,18nm,0.8s
E25K Arctic Village 66.48 340 P P 09 06 11.9 +0.1
baz=116,SNR=17
SKT Skwentna 66.50 333 IAmb IAmb 09 06 27.4
comp=Z,18nm,0.8s
SKT Skwentna 66.50 333 P P 09 06 11.4 -0.7
baz=108,SNR=7.1
G24K Hadweenzic Riv 66.54 338 IAmb IAmb 09 06 29.3
comp=Z,29nm,1.0s
G24K Hadweenzic Riv 66.54 338 P P 09 06 12.5 +0.3
baz=114
SUMG Summit 66.56 15 P P 09 06 11.5 -1.1
SUMG Summit 66.56 15 *i* P P 09 06 11.6 -1.1
SUMG IAmb IAmb 09 06 15.2
comp=Z,4.8nm,0.5s
I23K Minto, Yukon-K 66.66 336 P P 09 06 12.7 -0.2
baz=111,SNR=14
KTH Kantishna Hill 66.74 334 IAmb IAmb 09 06 29.1
comp=Z,23nm,0.8s
BPAW Bear Paw Mtn. 66.95 335 P P 09 06 14.1 -0.7
baz=109
F24K Squaw Lake 67.02 339 IAmb IAmb 09 06 32.2
comp=Z,13nm,0.8s
F24K Squaw Lake 67.02 339 P P 09 06 15.7 +0.4
baz=114
PPLA Purkeypile 67.07 333 P P 09 06 15.0 -0.8
baz=108
C26K Camden Bay 67.08 342 P P 09 06 15.6 0.0
baz=118
MLY Manley 67.16 336 P P 09 06 15.5 -0.7
baz=110,SNR=17
CAST Castle Rocks 67.19 334 IAmb IAmb 09 06 31.2
comp=Z,14nm,0.8s
CAST Castle Rocks 67.19 334 P P 09 06 15.3 -1.1
baz=108,SNR=6.4
M20K Styx River 67.19 332 IAmb IAmb 09 06 32.2
comp=Z,14nm,0.7s
M20K Styx River 67.19 332 P P 09 06 15.6 -0.9
baz=106
D25K Kavik River 67.27 341 P P 09 06 16.9 +0.1
baz=116
O19K Port Alsworth 67.30 330 IAmb IAmb 09 06 16.5
comp=Z,12nm,0.8s
G23K Bananza Creek 67.48 338 IAmb IAmb 09 06 35.3
comp=Z,23nm,0.9s
G23K Bananza Creek 67.48 338 P P 09 06 18.4 +0.2
baz=111
NEEM North Greenlan 67.49 8 *i* P P 09 06 20.1 +1.7
NEEM IAmb IAmb 09 06 36.0
comp=Z,11nm,0.7s
N19K Bonanza Creek 67.53 331 IAmb IAmb 09 06 33.8
comp=Z,15nm,0.8s
N19K Bonanza Creek 67.53 331 P P 09 06 17.8 -0.9
baz=105
PPT Papeete 67.64 245 LR LR 09 28 07.0
comp=Z,453nm,18.1s,baz=87,slow=29
O18K Koktuh Hills 67.64 330 IAmb IAmb 09 06 35.2
comp=Z,22nm,0.8s
O18K Koktuh Hills 67.64 330 P P 09 06 18.9 -0.5
baz=104
L20K Farewell, AK 67.70 333 P P 09 06 18.9 -0.8
baz=106
H22K Ishtalitna Cre 67.70 337 P P 09 06 18.9 -0.7
baz=110
COLD Coldfoot 67.73 338 P P 09 06 20.4 +0.7
baz=111,SNR=11
E23K Chandalar 67.84 339 P P 09 06 20.8 +0.3
baz=112,SNR=24
D24K Happy Valley 68.00 340 IAmb IAmb 09 06 37.7
comp=Z,12nm,0.9s
K20K Telida 68.03 334 IAmb IAmb 09 06 37.0
comp=Z,15nm,0.8s
K20K Telida 68.03 334 P P 09 06 20.8 -0.9
baz=106
TOLK Toolik Lake Re 68.04 340 P P 09 06 21.3 -0.4
baz=112,SNR=6.9
L19K White Mountain 68.06 332 IAmb IAmb 09 06 37.5
comp=Z,11nm,1.0s
G22K Bettles 68.10 338 P P 09 06 22.4 +0.3
baz=110
SVW2 Sparrevohn 68.12 331 IAmb IAmb 09 07 02.2
comp=Z,54nm,1.9s
C24K Franklin Bluff 68.18 341 P P 09 06 22.5 0.0
baz=114
H21K Melozitna Rive 68.18 336 P P 09 06 21.4 -1.2
baz=108,SNR=5.3
J20K Nowinta River 68.29 334 P P 09 06 22.4 -0.9
baz=106
M18K Stony River 68.33 331 P P 09 06 22.5 -1.1
baz=104
D23K Nanushuk River 68.54 340 P P 09 06 24.6 -0.1
baz=112
F22K John River 68.55 338 P P 09 06 24.9 +0.1
baz=110
O17K Koliganek Bris 68.56 330 P P 09 06 24.4 -0.6
baz=102,SNR=7.3
E22K Anaktuvuk Pass 68.63 339 IAmb IAmb 09 06 41.8
comp=Z,13nm,0.8s
E22K Anaktuvuk Pass 68.63 339 P P 09 06 25.0 -0.4
baz=110
G21K Allakaket 68.72 337 IAmb IAmb 09 06 42.3
comp=Z,16nm,0.8s
G21K Allakaket 68.72 337 P P 09 06 25.9 -0.1
baz=108
N17K Nushagak Hills 68.76 330 IAmb IAmb 09 06 42.4
comp=Z,17nm,1.0s
N17K Nushagak Hills 68.76 330 P P 09 06 25.7 -0.6
baz=102
BORG Borgarnes 68.82 25 LR LR 09 35 17.2
comp=Z,114nm,21.8s,baz=216,slow=35
C23K Itkillik River 68.84 341 P P 09 06 26.6 0.0
baz=112
J19K Poorman 68.86 334 IAmb IAmb 09 06 42.6
comp=Z,14nm,0.9s
J19K Poorman 68.86 334 P P 09 06 25.7 -1.1
baz=105
F21K Alatna River 68.93 338 P P 09 06 27.7 +0.5
baz=108
D22K Ayikyak River 69.19 340 IAmb IAmb 09 06 45.0
comp=Z,11nm,0.8s
D22K Ayikyak River 69.19 340 P P 09 06 28.8 0.0
baz=110
H19K Roundabout Mou 69.60 336 IAmb IAmb 09 06 47.2
comp=Z,20nm,0.9s
H19K Roundabout Mou 69.60 336 P P 09 06 30.6 -0.7
baz=105
F20K Avaraart Lake 69.72 337 P P 09 06 31.8 -0.2
baz=106
K17K Iditarod 69.74 332 P P 09 06 31.2 -1.1
baz=102
B22K Teshekpuk Lake 69.92 341 IAmb IAmb 09 06 49.9
comp=Z,16nm,0.8s
B22K Teshekpuk Lake 69.92 341 P P 09 06 32.7 -0.5
baz=109
C21K Knifeblade Rid 69.99 340 P P 09 06 33.6 -0.1
baz=108
G19K Purcell Mounta 70.01 336 IAmb IAmb 09 06 50.1
comp=Z,12nm,0.9s
G19K Purcell Mounta 70.01 336 P P 09 06 33.5 -0.4
baz=104
B21K Ikpikpuk River 70.08 340 IAmb IAmb 09 06 50.3
comp=Z,17nm,0.8s
B21K Ikpikpuk River 70.08 340 P P 09 06 33.7 -0.5
baz=108
L16K Owhat River 70.08 331 IAmb IAmb 09 06 50.5
comp=Z,12nm,0.8s
L16K Owhat River 70.08 331 P P 09 06 34.4 0.0
baz=100
E20K Nigu River 70.22 338 P P 09 06 35.2 0.0
baz=106
H18K Honhosa River 70.29 335 P P 09 06 35.4 -0.2
baz=105
E19K Redstone River 70.39 338 P P 09 06 35.6 -0.6
baz=105
F19K Shaleruckik Mo 70.44 337 P P 09 06 36.1 -0.4
baz=104
G18K Tagagawik 70.57 336 IAmb IAmb 09 06 54.9
comp=Z,20nm,1.1s
G18K Tagagawik 70.57 336 P P 09 06 37.3 0.0
baz=103
A22K Sinclair Lake 70.62 341 P P 09 06 37.2 -0.3
baz=108
J16K Anvik River 70.88 333 IAmb IAmb 09 06 56.0
comp=Z,15nm,0.8s
J16K Anvik River 70.88 333 P P 09 06 39.5 +0.3
baz=100
D19K Kuna River 70.98 339 IAmb IAmb 09 06 56.1
comp=Z,19nm,1.2s
D19K Kuna River 70.98 339 P P 09 06 39.5 -0.3
baz=104
L15K Ungalak Mounta 71.02 331 P P 09 06 40.0 -0.1
baz=99
I17K Unalakleet 71.03 333 IAmb IAmb 09 06 44.5
comp=Z,63nm,1.9s
B20K Meade River 71.04 340 IAmb IAmb 09 06 57.4
comp=Z,26nm,1.0s
B20K Meade River 71.04 340 P P 09 06 39.8 -0.2
baz=106
M14K Bethel 71.11 330 IAmb IAmb 09 06 56.7
comp=Z,29nm,0.8s
M14K Bethel 71.11 330 P P 09 06 40.7 0.0
baz=98,SNR=5.2
K15K Wolf Creek Mou 71.14 332 IAmb IAmb 09 06 57.6
comp=Z,19nm,0.8s
G17K Kiwalik Mounta 71.30 335 P P 09 06 41.8 +0.1
baz=101
C19K Lookout Ridge 71.64 339 IAmb IAmb 09 07 01.8
comp=Z,19nm,1.1s
C19K Lookout Ridge 71.64 339 P P 09 06 44.2 +0.4
baz=103
H16K Elim 71.82 334 P P 09 06 44.9 +0.1
baz=99
E17K Hotham Inlet 72.06 337 P P 09 06 45.7 -0.5
baz=100,SNR=13
C18K Utukok River 72.11 338 P P 09 06 46.2 -0.5
baz=101
J14K Nanvaranak Lak 72.13 332 IAmb IAmb 09 07 03.7
comp=Z,19nm,0.8s
J14K Nanvaranak Lak 72.13 332 P P 09 06 47.4 +0.6
baz=97
A19K Wainwright 72.38 340 P P 09 06 48.0 -0.1
baz=102

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
B18K	**Kokolik River**	**72.47**	**339**	P	**P**	**09 06 49.0**	**+0.4**
	baz=101						
RDOG	**Red Dog Mine**	**72.63**	**338**	P	**P**	**09 06 49.2**	**-0.4**
	baz=99						
D17K	**Noatak River**	**72.64**	**337**	P	**P**	**09 06 49.0**	**-0.7**
	baz=99						
C17K	**DeLong Mountai**	**72.80**	**338**	P	**P**	**09 06 50.3**	**-0.4**
	baz=99						
F15K	**North Star Dit**	**72.97**	**335**	IAmb	IAmb	09 07 08.6	
	comp=Z,23nm,0.8s						
F15K	**North Star Dit**	**72.97**	**335**	P	**P**	**09 06 52.3**	**+0.6**
	baz=97						
DAG	**Danmarks Havn**	**73.11**	**13**	*i* P	P	09 06 47.6	-4.7
DAG				IAmb	IAmb	09 06 55.0	
	comp=Z,4.9nm,0.6s						
C16K	**Lisburne Hills**	**73.56**	**338**	IAmb	IAmb	09 07 11.9	
	comp=Z,14nm,0.9s						
C16K	**Lisburne Hills**	**73.56**	**338**	P	**P**	**09 06 55.0**	**-0.2**
	baz=97						
F14K	**Arctic Creek**	**73.64**	**335**	P	**P**	**09 06 56.1**	**+0.4**
	baz=95						
JMIC	**Jan Mayen**	**74.75**	**20**	LR	LR	09 39 08.3	
	comp=Z,269nm,20.3s,baz=260,slow=35						
EKA	**Eskdalemuir Ar**	**76.88**	**36**	P	**P**	**09 07 10.9**	**-3.6**
	comp=Z,1.7nm,0.7s,baz=258,slow=5.9,SNR=6.0						
EKA				pP	**PcP**	**09 07 27.2**	**+1.9**
	comp=Z,2.1nm,0.6s,baz=265,slow=6.1,SNR=5.5						
	comp=Z,1.7nm,0.7s						
ESDC	**Sonseca Array**	**77.62**	**52**	P	**P**	**09 07 16.1**	**-3.0**
	comp=Z,0.7nm,0.6s,baz=284,slow=5.2,SNR=9.1						
ESDC				pP	**pP**	**09 07 33.6**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=285,slow=5.2,SNR=3.6						
ESDC				LR	LR	09 37 10.1	
	comp=Z,161nm,18.4s,baz=268,slow=32						
	comp=Z,0.7nm,0.6s						
MDT	**Midelt**	**77.92**	**59**	LR	LR	09 36 08.0	
	comp=Z,440nm,19.5s,baz=292,slow=32						
RAR	**Rarotonga**	**77.92**	**245**	LR	LR	09 32 51.9	
	comp=Z,243nm,18.6s,baz=32,slow=29						
PMSA	**Palmer Station**	**79.35**	**170**	LR	LR	09 36 26.6	
	comp=Z,203nm,19.6s,baz=316,slow=31						
SPITS	**Spitsbergen Ar**	**80.65**	**12**	P	**P**	**09 07 33.6**	**-1.1**
	comp=Z,5.3nm,0.8s,baz=198,slow=2.4,SNR=8.9						
SPITS				LR	LR	09 43 41.1	
	comp=Z,344nm,21.9s,baz=250,slow=36						
	comp=Z,5.3nm,0.8s						
DBIC	**Dimbokro**	**82.08**	**85**	LR	LR	09 41 10.5	
	comp=Z,178nm,19.6s,baz=290,slow=34						
NB2	**NORSAR Subarra**	**83.53**	**29**	P	**P**	**09 07 50.1**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=284,slow=5.1						
NOA	**NORSAR Array B**	**83.53**	**29**	P	**P**	**09 07 49.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=286,slow=5.0,SNR=4.0						
NOA				pP	**pP**	**09 08 05.4**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=287,slow=4.9,SNR=4.1						
NOA				LR	LR	09 41 00.6	
	comp=Z,156nm,21.9s,baz=285,slow=33						
	comp=Z,1.2nm,0.8s						
SHEM	**Shemya Is, Ala**	**84.65**	**323**	LR	LR	09 44 55.0	
	comp=Z,46nm,20.4s,baz=126,slow=35						
HFS	**Hagfors**	**84.95**	**29**	P	**P**	**09 07 54.5**	**-2.9**
	comp=Z,2.0nm,0.7s,baz=274,slow=2.4,SNR=4.6						
HFS				LR	LR	09 41 29.9	
	comp=Z,145nm,21.6s,baz=286,slow=33						
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**86.22**	**19**	P	**P**	**09 08 00.7**	**-2.8**
	comp=Z,1.4nm,0.5s,baz=302,slow=2.7,SNR=11						
ARCES				LR	LR	09 45 11.1	
	comp=Z,159nm,21.6s,baz=288,slow=35						
	comp=Z,1.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**86.33**	**43**	LR	LR	09 39 55.9	
	comp=Z,312nm,21.6s,baz=261,slow=31						
TORD	**Torodi Ar. Bea**	**87.07**	**77**	P	**P**	**09 08 04.9**	**-3.8**
	comp=Z,0.4nm,0.5s,baz=304,slow=5.1,SNR=6.7						
TORD				LR	LR	09 45 51.6	
	comp=Z,86nm,18.9s,baz=311,slow=35						
	comp=Z,0.4nm,0.5s						
CLL	**Collm**	**87.10**	**38**	*e*P	**P**	**09 08 09.0**	**+0.9**
CLL				*i* pP	**pP**	**09 08 24.4**	**0.0**
CLL				*e*SS	SS	09 24 24.0	-2.6
KHC	**Kasperske Hory**	**88.08**	**40**	*e*P	**P**	**09 08 12.0**	**-1.0**
GERES	**GERESS Array B**	**88.24**	**40**	P	**P**	**09 08 10.8**	**-3.0**
	comp=Z,0.4nm,0.5s,baz=304,slow=16,SNR=1.5						
GERES				LR	LR	09 41 55.4	
	comp=Z,271nm,21.0s,baz=283,slow=32						
	comp=Z,0.4nm,0.5s						
KEST	**Kesra**	**88.71**	**54**	LR	LR	09 43 25.1	
	comp=Z,84nm,19.1s,baz=262,slow=33						
VRAC	**Vranov**	**89.90**	**39**	LR	LR	09 45 04.7	
	comp=Z,306nm,20.1s,baz=286,slow=33						
FINES	**FINESS Array B**	**90.10**	**26**	P	**P**	**09 08 19.5**	**-2.6**
	comp=Z,6.3nm,1.0s,baz=312,slow=15,SNR=3.5						
FINES				LR	LR	09 46 41.6	
	comp=Z,92nm,21.1s,baz=266,slow=34						
	comp=Z,6.3nm,1.0s						
SEY	**Seymchan**	**91.47**	**337**	LR	LR	09 56 33.4	
	comp=Z,79nm,19.1s,baz=44,slow=40						
VAE	**Valguarnera**	**92.14**	**51**	LR	LR	09 44 14.2	
	comp=Z,374nm,19.2s,baz=333,slow=32						
PETK	**Petropavlovsk-**	**93.82**	**327**	P	**P**	**09 08 39.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=92,slow=8.7,SNR=1.6						
PETK				LR	LR	09 51 39.4	
	comp=Z,58nm,21.8s,baz=58,slow=36						
	comp=Z,1.0nm,0.6s						
MA2	**Magadan**	**93.94**	**334**	LR	LR	09 55 34.3	
	comp=Z,137nm,21.4s,baz=47,slow=38						
RAO	**Raoul Island**	**95.85**	**241**	LR	LR	09 41 20.0	
	comp=Z,194nm,20.8s,baz=110,slow=29						
AKASG	**Malin Array Be**	**96.76**	**35**	LR	LR	09 49 46.9	
	comp=Z,249nm,19.0s,baz=316,slow=34						
MLR	**Muntele Rosu**	**97.23**	**40**	LR	LR	09 49 53.7	
	comp=Z,203nm,19.2s,baz=307,slow=34						
OBN	**Obninsk**	**98.13**	**28**	LR	LR	09 52 17.3	
	comp=Z,114nm,20.8s,baz=350,slow=35						
NRIK	**Noril'sk**	**98.15**	**2**	LR	LR	09 55 28.2	
	comp=Z,222nm,21.2s,baz=346,slow=37						
YAK	**Yakutsk**	**99.86**	**343**	LR	LR	09 58 41.9	
	comp=Z,6.4nm,21.9s,baz=14,slow=38						
ZALV	**Zalesovo Beam**	**113.39**	**4**	PKiKP	**PKiKP**	**09 13 58.5**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=318,slow=4.1,SNR=6.4						
KURBB	**Kurchatov Arra**	**115.92**	**9**	PKP	**PKiKP**	**09 14 03.4**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=343,slow=2.3,SNR=6.4						
KURBB				pPKP	**pPKiKP**	**09 14 19.8**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=0.1,slow=1.9,SNR=4.2						
BOSA	**Boshof**	**116.43**	**116**	PKP	**PKPdf**	**09 14 06.6**	**0.0**
	comp=Z,1.4nm,0.5s,baz=229,slow=7.2,SNR=7.7						
SONM	**Songino Array**	**118.39**	**349**	PKP	**PKPdf**	**09 14 09.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=324,slow=2.0,SNR=4.0						
XLT	**XiLinHaoTe**	**119.52**	**340**	*e*PKP	**PKPdf**	**09 14 11.9**	**-0.3**
XLT				AMB	AMB		
	comp=Z,180nm,5.4s						
KS19	**Wonju Array Si**	**119.70**	**327**		**PKiKP**	**09 14 13.2**	**+0.5**
KSRS	**Korea Array**	**119.71**	**327**	PKP	**PKPdf**	**09 14 12.8**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=353,slow=2.1,SNR=30						
KSRS				pPKP	**pPKPdf**	**09 14 28.6**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=9.5,slow=1.8,SNR=9.1						
KSAR	**Wonju Array Be**	**119.74**	**327**	PKPdf	**PKiKP**	**09 14 13.1**	**+0.4**
MKAR	**Makanchi Array**	**120.20**	**8**	PKP	**PKPdf**	**09 14 11.3**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=298,slow=3.1,SNR=7.5						
MKAR				pPKP	**pPKPdf**	**09 14 28.5**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=300,slow=1.6,SNR=4.1						
BJI	**Beijing**	**122.89**	**338**	PKP	**PKPdf**	**09 14 17.9**	**-0.7**
BJI				LR	LR		
	comp=Z,150nm,16.6s						
BJI				LR	LR		
	comp=Z,110nm,17.0s						
BJI				LR	LR		
	comp=Z,140nm,18.0s						
WMQ	**Urumqi**	**123.67**	**4**	*e*PKP	**PKPdf**	**09 14 20.5**	**+0.4**
WMQ				LR	LR		
	comp=Z,420nm,24.0s						
HHC	**Hu-ho-hao-te**	**123.70**	**342**	*e*PKP	**PKiKP**	**09 14 24.3**	**+3.7**
BTO	**Baotou**	**124.38**	**343**	*e*PKP	**PKiKP**	**09 14 24.7**	**+2.8**
BTO				AMB	AMB		
	comp=Z,320nm,4.5s						
BTO				LR	LR		
	comp=Z,360nm,5.4s						
BTO				LR	LR		
	comp=Z,240nm,6.4s						
BTO				LR	LR		
	comp=Z,550nm,16.3s						
HNS	**HongShan**	**125.75**	**338**	⇑PKP	**PKiKP**	**09 14 24.8**	**+0.2**
HNS				LR	LR		
	comp=Z,340nm,24.5s						
NJ2	**Nanjing**	**128.55**	**330**	*e*PKP	**PKPdf**	**09 14 30.1**	**+0.4**
LZH	**Lanzhou**	**130.20**	**347**	*e*PKP	PKiKP	09 14 43.1	+9.3
LZH				sPKP		09 14 59.8	
STKA	**Stephens Creek**	**130.59**	**239**	PKP	**PKPdf**	**09 14 34.1**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=107,slow=4.7,SNR=13						
XAN	**Xi'an**	**130.79**	**341**	PKP	**PKiKP**	**09 14 35.0**	**+0.1**
XAN				LR	LR		
	comp=Z,420nm,18.1s						
XAN				LR	LR		
	comp=Z,400nm,19.0s						
XAN				LR	LR		
	comp=Z,510nm,19.7s						
WRAB	**Tennant Creek**	**138.62**	**254**		**PKPdf**	**09 14 49.0**	**+0.1**
WRA	**Warramunga Arr**	**138.63**	**254**	PKhKP	PKPpre	09 14 40.2	
	comp=Z,1.0nm,0.5s,baz=95,slow=3.0,SNR=16						
WRA				PKP	**PKPdf**	**09 14 50.2**	**+1.3**
	comp=Z,5.2nm,0.5s,baz=89,slow=2.6,SNR=13						
ASAR	**Alice Springs**	**138.68**	**249**	PKPdf	**PKPdf**	**09 14 49.8**	**+0.9**
ASAR	**Alice Springs**	**138.68**	**249**	PKhKP	PKPpre	09 14 39.0	
	comp=Z,0.9nm,0.5s,baz=96,slow=2.0,SNR=10						
ASAR				PKP	**PKPdf**	**09 14 50.0**	**+1.1**
	comp=Z,3.8nm,0.6s,baz=96,slow=2.1,SNR=17						
ASAR				SKPbc	**SKiKP**	**09 18 23.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=103,slow=2.6,SNR=3.8						
PZH	**PanZhiHua**	**139.89**	**346**	PKP	**PKPdf**	**09 14 51.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**146.97**	**256**		**PKPab**	**09 15 07.2**	**0.0**
HYB	**Hyderabad**	**147.37**	**24**	*e*PKPdf	**PKPdf**	**09 15 03.8**	**-0.6**
HYB				*e*PKPbc	**PKPbc**	**09 15 07.4**	**+0.6**
HYB				*e*PKiKP	**PKiKP**	**09 15 09.4**	**+0.4**
CHTO	**Chiang Mai**	**147.94**	**347**		**PKPdf**	**09 15 05.9**	**+0.6**
TOLI2	**Tolitoli**	**148.16**	**293**	PKPab	**PKPab**	**09 15 13.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**148.29**	**347**	PKPbc	**PKPdf**	**09 15 06.4**	**+0.5**
	comp=Z,13nm,0.8s,baz=326,slow=2.7,SNR=29						
CMAR				pPKPbc	**pPKPdf**	**09 15 23.7**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=347,slow=3.9,SNR=2.6						
UBPT	**Khong Chiam**	**149.12**	**334**		**PKPbc**	**09 15 11.6**	**+0.2**

NEIC 07 08:56:56.4±0.9**, 28°.89N**±0°.02×**98°.20W**±0°.03**, h5**km±2km**,**
mb_Lg3.1/47**, ML2.7**/8**, Error ellipse: s-maj=4.5km**
s-min=3.2km az=91.0, Southern Texas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EF01	**Eagle Ford 01**	**0.28**	**327**		Pg	08 57 02.4	+0.5
735A	**Kenedy**	**0.35**	**96**	Pg	Pg	08 57 02.1	-1.0
735A				Sg	Sg	08 57 08.3	+0.6
735A				IAML		08 57 09.7	
	comp=N,925nm,0.5s						
735A				IAML		08 57 09.8	
	comp=E,1μm,0.7s						
HNDO	**Hondo**	**1.14**	**304**		Pg	08 57 17.1	-1.0
833A	**Chaparral WMA,**	**1.19**	**242**		Pg	08 57 17.6	-1.6
833A				IAML		08 57 36.4	
	comp=E,102nm,0.7s						
833A				IAML		08 57 36.4	
	comp=N,109nm,0.6s						
KVTX	**Kingsville**	**1.37**	**168**		Pn	08 57 20.8	-1.3
HBVL	**Hebbronville**	**1.86**	**193**		Pn	08 57 27.4	-1.6
435B	**Jarrell**	**1.96**	**16**		Pn	08 57 28.1	-2.2
JCT	**Junction City**	**2.11**	**319**		Pn	08 57 32.3	0.0
DRIO	**Del Rio**	**2.18**	**285**		Pn	08 57 32.9	-0.4
DRIO				IAmb_Lg		08 58 09.7	
	comp=Z,40nm,1.0s						
HKT	**Hockley**	**2.32**	**62**	Pn	Pn	08 57 33.1	-2.1
BRDY	**Brady**	**2.48**	**344**		Pn	08 57 37.1	-0.5
HNVL	**Huntsville, TX**	**3.02**	**51**	Pn	Pn	08 57 44.1	-0.7
PLPT	**Palo Pinto**	**3.91**	**359**		Pn	08 57 56.9	-0.2
ABTX	**Abilene, Hawle**	**3.92**	**342**		Pn	08 57 57.1	-0.2
SGCY	**Sterling City**	**3.93**	**321**	IAmb_Lg		08 59 05.0	
	comp=Z,27nm,0.9s						
MNHN	**Monahans**	**4.64**	**303**	IAmb_Lg		08 59 22.8	
	comp=Z,18nm,0.7s						
APMT	**Aspermont**	**4.72**	**340**	Pn	Pn	08 58 07.5	-0.7
APMT				IAmb_Lg		08 59 37.5	
	comp=Z,22nm,0.9s						
TX31	**Lajitas Ar. Si**	**4.80**	**277**	Pn	Pn	08 58 08.4	-1.1
ALPN	**Alpine**	**4.96**	**289**		Pn	08 58 10.9	-0.8
POST	**Post**	**5.03**	**327**	Pn	Pn	08 58 12.9	+0.3
POST				IAmb_Lg		08 59 40.5	
	comp=Z,21nm,1.2s						
DKNS	**Dickens**	**5.30**	**335**	IAmb_Lg		08 59 56.9	
	comp=Z,23nm,1.1s						
PECS	**Pecos**	**5.49**	**298**		Pg	08 58 39.5	-2.1
WMOK	**Wichita Mounta**	**5.85**	**355**		Pn	08 58 23.3	-0.5
HPIG		**6.88**	**255**	IAmb_Lg		09 00 34.7	
	comp=Z,18nm,0.9s						
OK029	**Liberty Lake**	**6.92**	**5**	IAmb_Lg		09 00 45.4	
	comp=Z,32nm,0.7s						
143A	**Socs Landing,**	**6.97**	**55**	IAmb_Lg		09 00 52.0	
	comp=Z,41nm,0.9s						
DEOK	**Depew**	**7.08**	**11**	IAmb_Lg		09 00 55.2	
	comp=Z,30nm,0.9s						
OK033	**Mehan**	**7.21**	**8**	IAmb_Lg		09 01 00.5	
	comp=Z,27nm,0.9s						
X40A	**Basin Creek Fa**	**7.21**	**38**	IAmb_Lg		09 00 55.3	
	comp=Z,11nm,0.8s						
TUL3	**Leonard**	**7.29**	**16**	IAmb_Lg		09 01 06.1	
	comp=Z,43nm,0.9s						
OK038	**West end E0370**	**7.58**	**357**	IAmb_Lg		09 00 56.1	
	comp=Z,64nm,0.7s						
OK051	**E0350 and S346**	**7.68**	**8**	IAmb_Lg		09 01 22.2	
	comp=Z,48nm,1.0s						
UALR	**University of**	**7.70**	**39**	IAmb_Lg		09 01 02.5	
	comp=Z,38nm,0.9s						
RLO	**Rose Lookout**	**7.73**	**19**	IAmb_Lg		09 00 57.1	
	comp=Z,22nm,0.7s						
WHAR	**Wooly Hollow**	**8.12**	**37**	IAmb_Lg		09 01 36.6	
	comp=Z,32nm,1.1s						
HHAR	**Hobbs**	**8.20**	**25**	IAmb_Lg		09 01 12.7	
	comp=Z,24nm,1.0s						
121A	**Cookes Peak, D**	**9.01**	**296**	IAmb_Lg		09 01 53.9	
	comp=Z,9.2nm,0.8s						
R32A	**Long Quarter,**	**9.52**	**358**	IAmb_Lg		09 02 23.6	
	comp=Z,18nm,1.0s						
T25A	**Trinidad**	**9.73**	**329**	IAmb_Lg		09 02 18.4	
	comp=Z,21nm,1.2s						
CBKS	**Cedar Bluff**	**9.98**	**353**	IAmb_Lg		09 02 24.1	
	comp=Z,19nm,0.9s						

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*DJA **07** 08:59:08.2±0.6, 6°S±5°×12°9E±°, h354km±12km, M4.2/5, mb4.1/5, mB5.0/2, MLv4.3/4, Mw(mB)4.3/2*
*IDC **07** 08:59:09.4±1.9, 7°.22S×127°.55E, h0km, mb3.6/2, mbtmp3.6/4, ML3.9/2, Error ellipse: s-maj=272.1km s-min=29.3km az=64.0*
ISC 07 08:59:11.2±1.3**, 6°.7S**±0°.1×**128°.53E**±0°.08**, h10**km**, n8,**
σ**2s.86**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.03**	**115**	P	**Pb**	**09 00 07.9**	**+2.7**
SOEI	**Soe**	**5.19**	**234**	P	**Pb**	**09 00 44.6**	**+2.4**
	15nm,0.6s,0.3nm						
FAKI	**Fak Fak**	**5.28**	**45**	P	Pn	09 00 19.2	-11
BASI	**Baing, Sumba**	**8.60**	**246**	P	Pn	09 01 23.7	+7.8
	76nm,1.3s,3μm						
WRA	**Warramunga Arr**	**14.31**	**157**	Pn	**Pn**	**09 02 31.8**	**-2.3**
	0.6nm,0.3s,baz=330,slow=13,SNR=20						
WRA				Sn	Sn	09 04 58.4	-15
	1.6nm,0.3s,baz=331,slow=22,SNR=14						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**17.64**	**164**	P	**Pn**	**09 03 15.2**	**-1.9**
	0.3nm,0.3s,baz=334,slow=10,SNR=24						
ASAR				S	Sn	09 06 18.1	-16
	0.9nm,0.5s,baz=346,slow=26,SNR=7.7						
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**67.19**	**327**	P	**P**	**09 10 05.8**	**+0.3**
	0.3nm,0.5s,baz=117,slow=7.6,SNR=6.8						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**71.50**	**329**	P	**P**	**09 10 30.7**	**-1.5**
	0.2nm,0.3s,baz=135,slow=4.2,SNR=5.9						
	0.2nm,0.3s						

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*SJA **07** 09:03:17.9±0.8, 30°.01S×71°.24W, h60km±4km, ML3.8, MW3.9*
*GUC **07** 09:03:19.2±0.7, 30°.03S×71°.13W, h59km±2km, ML4.0*
ISC 07 09:03:20.2±1.2**, 30°.03S**±0°.02×**71°.28W**±0°.04**, h52**km±7km**,**
n55, σ**1s.87**/87**, 2C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.11**	**17**	*e*P	**Pn**	**09 03 28.5**	**+0.2**
CO05				*e*S	**Sn**	**09 03 35.7**	**+1.7**
GO04	**Tololo Observa**	**0.44**	**110**	*e*P	**Pn**	**09 03 30.4**	**-0.7**
GO04				*e*S	**Sn**	**09 03 38.9**	**-0.1**
GO04	**Tololo Observa**	**0.44**	**110**	*e*P	**Pn**	**09 03 30.4**	**-0.7**
GO04				*e*S	**Sn**	**09 03 38.6**	**-0.4**
GO04				IAML		09 03 39.9	
	comp=E,20μm,0.4s						
CO06	**Fray Jorge**	**0.72**	**206**	*i* P	**Pn**	**09 03 34.4**	**+0.2**
CO06				*e*S	**Sn**	**09 03 46.0**	**+1.5**
CO03	**El Pedregal**	**0.96**	**148**	*e*P	**Pn**	**09 03 36.4**	**-1.1**
CO03				*e*S	**Sn**	**09 03 50.2**	**0.0**
CO03	**El Pedregal**	**0.96**	**148**	*e*P	**Pn**	**09 03 36.4**	**-1.1**
CO03				*e*S	**Sn**	**09 03 48.8**	**-1.4**
CO03				IAML		09 03 52.6	
	comp=N,12μm,0.1s						
CO01	**Juntas del Tor**	**1.03**	**88**	*e*P	**Pn**	**09 03 37.0**	**-1.6**
CO01				*e*S	**Sn**	**09 03 50.4**	**-1.7**
CO01				IAML		09 03 51.5	
	comp=Z,3μm,0.2s						
CO01	**Juntas del Tor**	**1.03**	**88**	⇑*i*P	**Pn**	**09 03 37.2**	**-1.4**
CO01				*e*S	**Sn**	**09 03 50.0**	**-2.1**
LCO	**Las Campanas**	**1.13**	**27**	*e*P	**Pn**	**09 03 38.7**	**-1.3**
LCO				*e*S	**Sn**	**09 03 53.6**	**-0.9**
LCO	**Las Campanas**	**1.13**	**27**	*e*P	**Pn**	**09 03 38.9**	**-1.0**
LCO				*e*S	**Sn**	**09 03 53.0**	**-1.5**
LCO	**Las Campanas**	**1.13**	**27**	P	**Pn**	**09 03 39.0**	**-1.0**
CO02	**Combarbal**	**1.20**	**169**	*e*P	**Pn**	**09 03 39.9**	**-0.8**
CO02				*e*S	**Sn**	**09 03 57.0**	**+0.9**
CO02				IAML		09 03 59.1	
	comp=Z,1μm,0.2s						
CO02	**Combarbal**	**1.20**	**169**	*i* P	**Pn**	**09 03 40.0**	**-0.8**
CO02				*e*S	**Sn**	**09 03 56.1**	**0.0**
CO02				IAML		09 03 58.8	
	comp=E,5μm,0.3s						
AROD	**Rodeo**	**1.57**	**96**	*e*P	**Pn**	**09 03 45.7**	**-0.3**
AROD				*e*S	**Sn**	**09 04 05.8**	**+0.5**
AC04	**Llanos de Chal**	**1.82**	**6**	*e*P	**Pn**	**09 03 48.6**	**-0.5**
AC04				*e*S	**Sn**	**09 04 14.4**	**+3.3**
AC04				IAML		09 04 16.3	
	comp=Z,934nm,0.5s						
AC04	**Llanos de Chal**	**1.82**	**6**	*e*P	**Pn**	**09 03 48.7**	**-0.5**
AC04				*e*S	**Sn**	**09 04 10.5**	**-0.5**
AC04				IAML		09 04 18.3	
	comp=N,1μm,0.3s						
ACDV	**Cuesta del Vie**	**1.88**	**95**	*e*P	**Pn**	**09 03 50.1**	**+0.1**
ACCO	**Cerro Coronel**	**1.99**	**107**	*e*P	**Pn**	**09 03 52.5**	**+0.7**
ACCO				*e*S	**Sn**	**09 04 09.4**	**-6.3**
DOCA	**Reserva Natura**	**2.11**	**117**	*e*P	**Pn**	**09 03 53.8**	**+0.5**
DOCA				*e*S	**Sn**	**09 04 20.6**	**+2.0**
RTLS	**Leoncito**	**2.45**	**137**	*e*P	**Pn**	**09 03 59.1**	**+1.1**
RTLS				*e*S	**Sn**	**09 04 30.9**	**+3.9**
RTLS				IAML		09 04 38.9	
	comp=Z,543nm,0.2s						
AGUA	**GUANDACOL**	**2.48**	**78**	*e*P	Pn	09 03 50.1	-8.1
AGUA				*e*P		09 03 59.4	
AGUA				IAML		09 04 42.1	
	comp=Z,330nm,0.3s						
VA06	**Catapilco**	**2.53**	**180**	*e*P	**Pn**	**09 03 58.4**	**-0.4**
VA06				*e*S	**Sn**	**09 04 28.1**	**-0.2**
GO03	**Copiap**	**2.59**	**21**	*e*P	**Pn**	**09 03 59.5**	**-0.2**
GO03				*e*S	Sn	09 04 17.0	-13
GO03	**Copiap**	**2.59**	**21**	*e*P	**Pn**	**09 03 58.9**	**-0.8**
GO03				*e*S	**Sn**	**09 04 29.3**	**-0.7**
GO03				IAML		09 04 37.5	
	comp=N,519nm,0.3s						
RTLL	**Cerro Villicun**	**2.74**	**119**	*e*P	**Pn**	**09 04 01.9**	**+0.1**
RTLL				*e*S	**Sn**	**09 04 26.9**	**-6.8**
AC06	**Mina Casimiro**	**2.78**	**17**	*e*P	**Pn**	**09 04 01.2**	**-1.0**
AC06				*e*S	**Sn**	**09 04 34.0**	**-0.6**
AC06				IAML		09 04 42.8	
	comp=N,444nm,0.5s						
ROCH	**El Roble**	**2.95**	**176**	*e*P	**Pn**	**09 04 04.3**	**-0.4**
ROCH				*e*P		09 04 04.7	
ROCH				*e*S	**Sn**	**09 04 39.0**	**0.0**
ROCH				*e*S		09 04 39.6	
ROCH				IAML		09 04 50.4	
	comp=N,909nm,0.2s						
ROCH				IAML		09 04 50.6	
	comp=N,564nm,0.4s						
VCA	**Vinchina**	**2.97**	**65**	*e*P	**Pn**	**09 04 06.3**	**+1.2**
VCA				*e*S	Sn	09 04 46.9	+7.4
VCA	**Vinchina**	**2.97**	**65**	⇑*i*P	**Pn**	**09 04 06.2**	**+1.2**
VCA				*e*S	**Sn**	**09 04 45.2**	**+5.6**
RTCV	**Cerro Valdivia**	**2.98**	**129**	*e*P	**Pn**	**09 04 06.8**	**+1.8**
RTCV				*e*S	Sn	09 04 46.5	+7.0
VA01	**Torpederas**	**3.01**	**186**	*e*S	Sn	09 04 48.7	+8.6
VA01				IAML		09 04 52.5	
	comp=Z,177nm,0.6s						
CFA	**Coronel Fontan**	**3.05**	**122**	*e*P	**Pn**	**09 04 06.2**	**+0.1**
CFA				*e*S	**Sn**	**09 04 46.9**	**+5.5**
CFA				IAML		09 04 50.3	
	comp=Z,226nm,0.3s						
PEL	**Peldehue**	**3.15**	**171**	*e*P	**Pn**	**09 04 07.7**	**+0.3**
PEL				*e*S	Sn	09 04 54.2	+10
PEL	**Peldehue**	**3.15**	**171**	*e*P	**Pn**	**09 04 07.4**	**+0.1**
PEL				*e*S	**Sn**	**09 04 43.3**	**-0.5**
PEL				IAML		09 04 56.4	
	comp=E,377nm,0.4s						
MT02	**Curacav**	**3.23**	**178**	*e*P	**Pn**	**09 04 07.6**	**-0.8**
MT02				IAML		09 04 57.5	
	comp=Z,367nm,0.3s						
MT10	**Hacienda Santa**	**3.30**	**169**	*i* P	**Pn**	**09 04 09.7**	**+0.2**
MT10				*e*S	**Sn**	**09 04 48.6**	**+1.1**
ASAL	**Salagasta**	**3.30**	**141**	*e*P	**Pn**	**09 04 10.8**	**+1.3**
AVFE	**Valle Fertil**	**3.36**	**102**	*e*P	**Pn**	**09 04 09.8**	**-0.5**
AVFE				IAML		09 04 58.1	
	comp=Z,144nm,0.4s						
MT05	**Renca**	**3.39**	**172**	*e*P	**Pn**	**09 04 10.8**	**+0.2**
MT05				IAML		09 05 04.1	
	comp=Z,204nm,0.2s						
MT05	**Renca**	**3.39**	**172**	*e*P	**Pn**	**09 04 10.4**	**-0.2**
MT05				*e*S	**Sn**	**09 04 49.2**	**-0.5**
FCH	**Farellones**	**3.40**	**166**	*e*P	**Pn**	**09 04 11.7**	**+0.7**
FCH				*e*S	**Sn**	**09 04 52.1**	**+1.9**
FCH				IAML		09 05 03.0	
	comp=E,270nm,0.2s						
ARCO	**CERRO ARCO**	**3.45**	**145**	*e*P	Pn	09 03 57.8	-14
MT03	**Universidad Ad**	**3.52**	**170**	*e*P	**Pn**	**09 04 12.4**	**0.0**
MT03				IAML		09 05 08.9	
	comp=Z,283nm,0.1s						
MT03	**Universidad Ad**	**3.52**	**170**	*e*P	**Pn**	**09 04 12.9**	**+0.5**
MT15	**Las Vizcachas**	**3.62**	**170**	*e*P	**Pn**	**09 04 13.8**	**-0.1**
MT15				*e*S	**Sn**	**09 04 55.0**	**-0.4**
VA05	**Santo Domingo**	**3.63**	**184**	*e*P	**Pn**	**09 04 12.4**	**-1.5**
VA05				*e*S	**Sn**	**09 04 55.8**	**+0.3**
MT09	**Talagante**	**3.75**	**176**	*e*P	**Pn**	**09 04 15.1**	**-0.5**
MT09				*e*S	**Sn**	**09 04 57.1**	**-1.4**
MT13	**San Alfonso**	**3.80**	**167**	*e*P	**Pn**	**09 04 17.7**	**+1.4**
MT13				*e*S	**Sn**	**09 05 01.8**	**+1.9**
ACLC	**CERRO LA CRUZ**	**3.81**	**82**	*e*P	**Pn**	**09 04 15.9**	**-0.6**
ACLC				*e*S	**Sn**	**09 05 06.0**	**+5.9**
ACLC				IAML		09 05 07.3	
	comp=Z,345nm,0.3s						
MT01	**Popeta**	**3.83**	**180**	*e*P	**Pn**	**09 04 15.4**	**-1.2**
MT01				IAML		09 05 15.1	
	comp=Z,212nm,0.2s						
MT01	**Popeta**	**3.83**	**180**	*e*P	**Pn**	**09 04 16.0**	**-0.6**
MT01				*e*S	**Sn**	**09 04 58.2**	**-2.2**
ACHE	**Chepes**	**4.13**	**107**	*e*P	**Pn**	**09 04 20.1**	**-0.8**
ACHE				*e*S	**Sn**	**09 05 05.7**	**-2.4**
BO01	**Tunca**	**4.36**	**178**	IAML		09 05 26.6	
	comp=Z,117nm,0.9s						
BO02	**Sierra Bellavi**	**4.77**	**175**	*e*P	**Pn**	**09 04 29.1**	**-0.5**
RFA	**San Rafael**	**5.29**	**154**	*e*P	**Pn**	**09 04 36.7**	**-0.1**

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*NEIC **07** 09:19:57.0±2.5, 36°.33N±0°.05×141°.26E±0°.09, h28km±3km, mb4.7/60, Mwr4.2/18, Error ellipse: s-maj=10.5km s-min=7.3km az=103.0*
*NIED **07** 09:19:57.1, 36°.29N×141°.07E, h47km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.73; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$4.29; $M_{r\theta}$2.66; $M_{\theta\phi}$0.03; $M_{\phi r}$-1.41; Fault plane solution: $M_0$4.99000×10^{15} NP1: ϕ_s332.00000°, δ62.00000°, λ-121.00000°. NP2: ϕ_s204.00000°, δ41.00000°, λ-46.00000°.*
*JMA **07** 09:19:57.1±0.1, 36°.3N±0°.3×141°.1E±1°.0, h47km±1km, MD4.4/36, MV4.5/36, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*IDC **07** 09:19:58.5±0.4, 36°.29N×141°.07E, h44km±3km, mb4.2/26, mbtmp4.4/31, MS3.6/10, Error ellipse: s-maj=9.5km s-min=8.4km az=139.0*
ISC 07 09:19:58.1±0.5**, 36°.28N**±0°.04×**141°.14E**±0°.05**, h40**km±3km**,**
h40km**:pP-P, n212,** σ**1s.30**/207**, mb4.6**/75**, MS3.8**/5**, 1C-4D,**
Near east coast of eastern Honshu

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

JHYU Hitachinakayam 0.45 278 *i* P **Pn 09 20 07.1 -1.1**
JHYU S **Sn 09 20 13.8 -1.4**
JHYU Hitachinakayam 0.45 278 A A 09 20 07.1
comp=E,193nm,0.7s,comp=N,125nm,0.4s
JHO Hitachi 0.56 306 *i* P **Pn 09 20 08.1 -1.6**
JHO S **Sn 09 20 15.8 -2.2**
JHO Hitachi 0.56 306 A A 09 20 08.1
comp=E,32nm,1.0s,comp=N,33nm,0.5s
JIHU Itakohorinouch 0.59 238 *i* P **Pn 09 20 09.5 -0.5**
JIHU S **Sn 09 20 18.2 -0.3**
JIHU Itakohorinouch 0.59 238 A A 09 20 09.5
comp=E,77nm,0.9s,comp=N,128nm,0.8s
JYT Yasato 0.77 266 *i* P **Pn 09 20 10.8 -1.6**
JYT S **Sn 09 20 20.5 -2.2**
JYT Yasato 0.77 266 A A 09 20 10.8
comp=E,50nm,0.4s,comp=N,29nm,0.4s
JSMT Sammumatsuo 0.85 221 *i* P **Pn 09 20 12.8 -0.7**
JSMT Sammumatsuo 0.85 221 A A 09 20 12.8
comp=E,41nm,0.7s,comp=N,33nm,1.0s
ONAJ Iwakimizuishiy 0.86 342 ⇓P **Pn 09 20 12.3 -1.6**
ONAJ ⇓S **Sn 09 20 22.9 -2.4**
ONAJ Iwakimizuishiy 0.86 342 A A 09 20 12.3
comp=E,28nm,0.3s,comp=N,32nm,0.4s
JFFD Fukushimafurud 0.93 330 A A 09 20 13.5
comp=E,17nm,0.7s,comp=N,17nm,0.4s
JFK Kawauchi 1.10 349 ⇓P **Pn 09 20 15.6 -1.5**
JFK Kawauchi 1.10 349 A A 09 20 15.6
comp=E,5.0nm,0.6s,comp=N,7.0nm,0.3s
JCN Nagara 1.15 222 A A 09 20 16.7
comp=E,28nm,1.6s,comp=N,25nm,0.9s
JSB Shiboa 1.20 305 A A 09 20 17.1
comp=E,25nm,1.0s,comp=N,29nm,3.1s
TOK Tokyo 1.27 242 A A 09 20 18.2
comp=E,30nm,2.0s,comp=N,31nm,2.1s
JKUC kamogawauchiur 1.36 215 A A 09 20 19.8
comp=E,8.0nm,1.3s,comp=N,9.0nm,2.0s
JAG Ashikaga 1.37 276 *i* P **Pn 09 20 19.4 -1.3**
JAG S **Sn 09 20 35.7 -1.9**
JAG Ashikaga 1.37 276 A A 09 20 19.4
comp=E,5.0nm,1.2s,comp=N,6.0nm,0.4s
JOTO OTAMA OYAMA 1.43 333 *i* P **Pn 09 20 21.6 0.0**
JOTO S **Sn 09 20 38.8 -0.4**
JOTO OTAMA OYAMA 1.43 333 A A 09 20 21.6
comp=E,74nm,0.4s,comp=N,53nm,0.4s
JMST Minamisoumatoc 1.45 352 A A 09 20 21.2
comp=E,11nm,0.5s,comp=N,8.0nm,0.4s
JHU Hanno 1.56 255 A A 09 20 22.4
comp=E,4.0nm,0.9s,comp=N,4.0nm,1.4s
JKT Katashina 1.60 288 A A 09 20 22.8
comp=E,18nm,0.5s,comp=N,15nm,2.1s
JYO Yokosk 1.60 229 A A 09 20 23.1
comp=E,13nm,1.8s,comp=N,12nm,1.9s
JMM Marumori 1.60 350 Pn **Pn 09 20 23.0 -1.0**
JMM Marumori 1.60 350 ‖ *i*P **Pn 09 20 23.0 -1.0**
JMM Marumori 1.60 350 A A 09 20 23.0
comp=E,5.0nm,1.4s,comp=N,10.0nm,0.4s
JFY Yanaizu 1.61 315 A A 09 20 23.1
comp=E,5.0nm,0.5s,comp=N,4.0nm,4.2s
TATJ Tateyama 2 1.61 220 A A 09 20 23.4
comp=E,17nm,2.7s,comp=N,15nm,3.4s
JSGW Sagamiharawaka 1.71 247 A A 09 20 24.5
comp=E,6.0nm,1.7s,comp=N,5.0nm,3.0s
JYAR Yonezawaarcadi 1.81 334 A A 09 20 26.2
comp=E,12nm,0.8s,comp=N,12nm,1.0s
JUON Uonuma 1.91 300 A A 09 20 27.3
comp=E,4.0nm,1.6s,comp=N,5.0nm,1.3s
JOD2 Odawara 2 1.95 239 A A 09 20 28.1
comp=E,5.0nm,3.1s,comp=N,5.0nm,1.7s
JGK Kuni 2.04 279 A A 09 20 29.1
comp=E,6.0nm,1.8s,comp=N,4.0nm,1.4s
JIM2 Oshima 3 2.09 222 A A 09 20 30.2
comp=E,6.0nm,4.6s,comp=N,6.0nm,0.9s
JOU Okura 2.11 350 A A 09 20 30.7
comp=E,8.0nm,0.6s,comp=N,9.0nm,2.1s
JNS Sasagawa 2.12 317 A A 09 20 30.4
comp=E,3.0nm,1.0s,comp=N,5.0nm,2.1s
JYS Shirataka 2.12 336 A A 09 20 30.6
comp=E,9.0nm,0.8s,comp=N,9.0nm,1.9s
JHTM Izuhatsuma 2.18 233 A A 09 20 31.4
comp=E,11nm,0.7s,comp=N,14nm,2.9s
JIZZ Izumozaki 2.31 303 A A 09 20 33.1
comp=E,12nm,5.1s,comp=N,12nm,4.4s
JOFO Osakifurukawao 2.32 356 A A 09 20 33.7
comp=E,17nm,1.9s,comp=N,18nm,1.7s
MJAR Matsushiro Arr 2.38 277 P **Pn 09 20 34.2 -0.4**
comp=N,116nm,0.3s,baz=114,slow=9.0,SNR=1404
MJAR S **Sn 09 21 02.0 -0.6**
comp=N,192nm,0.4s,baz=96,slow=13,SNR=3.1
MJAR LR LR 09 21 45.2
comp=N,1µm,19.5s,baz=166,slow=46
MAJO Matsushiro 2.38 277 Pn **Pn 09 20 34.7 +0.1**
MJB9 Matsu-Tunnel 2.38 277 **Pn 09 20 34.7 0.0**
JYA Atsumi 2.57 334 A A 09 20 37.0
comp=E,8.0nm,0.9s,comp=N,9.0nm,1.4s
SHZ3 Shizuoka 3 2.67 244 A A 09 20 38.3
comp=E,4.0nm,0.9s,comp=N,6.0nm,1.1s
JSG Sagara 2.90 237 **Pn 09 20 43.7 +2.0**
JHJ2 Mitsune 3.34 199 Pn **Pn 09 20 48.6 +0.7**
JHJ Hachijo jima 2 3.35 200 P **Pn 09 20 48.2 +0.3**
comp=N,184nm,0.3s,baz=102,slow=22,SNR=30
JHJ S **Sn 09 21 26.9 +0.5**
comp=N,314nm,0.5s,baz=69,slow=18,SNR=2.3
JTM Tenmabayashi 4.50 359 Pn **Pn 09 21 03.7 0.0**
ERM Erimo 5.94 15 **Pn 09 21 22.1 -1.3**
JMN Monobe 6.48 249 Pn **Pn 09 21 33.2 +2.3**
ASAJ Asahikawa 7.90 8 P **Pn 09 21 48.8 -1.6**
comp=N,12nm,0.4s,baz=217,slow=10,SNR=46
ASAJ S **Sn 09 23 15.6 -2.9**
comp=N,10.0nm,0.5s,baz=102,slow=26,SNR=1.5
JKA Kamikawa-asahi 7.90 8 **Pn 09 21 49.2 -1.2**
JNU Nakatsue 9.02 253 Pn **Pn 09 22 08.7 +3.0**
JNU Nakatsue 9.02 253 P **Pn 09 22 06.0 +0.2**
comp=N,7.9nm,0.7s,baz=145,slow=19,SNR=2.0
JNU LR LR 09 25 57.1
comp=N,499nm,18.1s,baz=80,slow=40
JCJ Chichijima 9.20 174 Pn **Pn 09 22 05.1 -3.2**
JCJ Chichijima 9.20 174 P Pn 09 22 00.4 -7.9
comp=N,93nm,0.5s,baz=298,slow=22,SNR=9.6
JCJ S Sn 09 23 35.8 -15
comp=N,49nm,0.5s,baz=316,slow=20,SNR=1.6
USRK Ussuriysk Ar. 10.55 321 P **Pn 09 22 28.3 +1.7**
comp=N,12nm,0.7s,baz=133,slow=13,SNR=10
USRK LR LR 09 26 27.6
comp=N,206nm,18.4s,baz=133,slow=37
USA0B Ussuriysk Arra 10.55 321 **Pn 09 22 28.3 +1.7**
KSRS Korea Array 10.65 280 P **Pn 09 22 31.3 +3.2**
comp=N,6.0nm,0.7s,baz=90,slow=14,SNR=18
KSRS LR LR 09 26 27.6
comp=N,258nm,19.2s,baz=90,slow=37
KSAR Wonju Array Be 10.68 280 Pn **Pn 09 22 29.6 +1.1**
KS19 Wonju Array Si 10.70 280 **Pn 09 22 30.0 +1.2**
MDJ Mudanjiang 12.10 317 P P 09 22 53.2 -6.6
MDJ pmax pmax
comp=Z,14nm,1.2s
MDJ pmax pmax
comp=Z,110nm,6.3s
CN2 Changchun 14.16 307 P **P 09 23 22.9 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
JOW Kunigami 14.44 233 P **P 09 23 25.2 -0.8**
comp=Z,15nm,0.6s,baz=0.0,slow=20,SNR=2.5
KLR Kul'dur 14.65 335 P **Pn 09 23 20.1 -2.4**
comp=Z,0.8nm,0.6s,baz=113,slow=12,SNR=4.9
KLR LR LR 09 28 48.2
comp=Z,192nm,20.1s,baz=142,slow=36
DL2 Dalian 15.69 285 P **P 09 23 39.7 0.0**
DL2 pmax pmax
comp=Z,18nm,0.7s
HEH HeiHe 17.13 329 *e*P **P 09 23 59.7 +4.1**
NJ2 Nanjing 18.91 264 *e*P **Pn 09 24 15.9 -0.3**
NJ2 pP **pP 09 24 25.0 -0.2**
NJ2 pmax pmax
comp=Z,11nm,0.7s
NJ2 pmax pmax
comp=Z,150nm,3.5s
TIA Tai'an 19.36 277 *e*P **P 09 24 18.3 -2.0**
TIA pmax pmax
comp=Z,7.0nm,1.3s
BJI Beijing 19.96 288 P **P 09 24 26.6 -0.2**
BJI pP **pP 09 24 35.3 -1.4**
BJI sP **sP 09 24 39.4 -2.4**
BJI LR LR
comp=N,110nm,15.3s
BJI LR LR
comp=E,61nm,17.6s
BJI LR LR
comp=Z,130nm,15.9s
PETK Petropavlovsk- 20.45 29 P **P 09 24 32.4 +0.5**
comp=Z,2.5nm,0.9s,baz=248,slow=7.9,SNR=2.6
comp=Z,2.5nm,0.9s
XLT XiLinHaoTe 20.57 299 *e*P **P 09 24 31.5 -2.0**
XLT pP pP 09 24 40.2 -3.3
XLT sP sP 09 24 47.3 -1.2
XLT PP **PnPn 09 24 56.2 +4.3**
XLT pmax pmax
comp=Z,8.0nm,1.1s
XLT pmax pmax
comp=Z,140nm,4.8s
HNS HongShan 21.16 281 ⇑P **P 09 24 40.1 +0.3**
GUMO Guam 22.84 171 LR LR 09 35 18.2
comp=Z,58nm,19.0s,baz=44,slow=40
LYN LuoYang 23.40 274 *e*P **P 09 25 01.1 -2.2**
LYN pmax pmax
comp=Z,17nm,0.5s
HHC Hu-ho-hao-te 23.51 290 *e*P **P 09 25 07.0 +2.5**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,330nm,5.3s
MA2 Magadan 24.13 12 P **P 09 25 09.2 -0.8**
MA2 IAmb IAmb 09 25 22.1
comp=Z,13nm,0.7s
BTO Baotou 24.68 290 *e*P **P 09 25 16.8 +1.5**
BTO pP **sP 09 25 28.1 -2.9**
BTO sP pP 09 25 35.8 +10
BTO PP **PnPn 09 25 54.1 +6.0**
BTO S **S 09 29 38.9 +4.5**
BTO SS **SnSn 09 30 25.3 +2.8**
BTO pmax pmax
comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,410nm,6.0s
BTO LR LR
comp=N,230nm,4.8s
BTO LR LR
comp=E,300nm,5.6s
BTO LR LR
comp=Z,350nm,5.8s
XAN Xi'an 26.37 275 P **P 09 25 30.5 -0.1**
XAN pmax pmax
comp=Z,16nm,0.8s
ENH Enshi 27.06 266 P **P 09 25 35.9 -0.9**
ENH IAmb IAmb 09 25 51.4
comp=Z,14nm,0.8s
ULN Ulaanbaatar 27.60 305 P **P 09 25 41.8 +0.2**
SONM Songino Array 28.03 305 P **P 09 25 45.0 -0.4**
SONM Songino Array 28.03 305 P **P 09 25 44.3 -1.2**
comp=Z,3.8nm,0.8s,baz=108,slow=9.8,SNR=8.4
SONM LR LR 09 38 08.8
comp=Z,97nm,19.4s,baz=138,slow=39
comp=Z,3.8nm,0.8s
LZH Lanzhou 29.98 281 *e*P **P 09 26 06.9 +3.9**
LZH pP sP 09 26 16.6 -2.1
LZH pmax pmax
comp=Z,13nm,1.1s
GTA Gaotai 32.58 288 *e*P **P 09 26 25.4 -0.4**
GTA sP pP 09 26 33.5 -3.3
GTA pmax pmax
comp=Z,3.0nm,0.9s
PZH PanZhiHua 34.81 265 P **P 09 26 48.5 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.6s
GOMU GeErMu 37.08 284 P **P 09 27 05.1 +0.2**
GOMU pP pP 09 27 09.5 -6.5
GOMU sP sP 09 27 11.6 -9.2
GOMU pmax pmax
comp=Z,5.0nm,0.5s
WMQ Urumqi 40.99 298 *e*P **P 09 27 39.2 +2.1**
WMQ pmax pmax
comp=Z,24nm,0.8s
CMAR Chiang Mai Arr 41.10 256 P **P 09 27 37.6 -0.6**
comp=Z,0.8nm,0.3s,baz=47,slow=5.9,SNR=6.9
CMAR PcP **PcP 09 29 37.9 +0.6**
comp=Z,0.7nm,0.3s,baz=35,slow=2.1,SNR=4.1
comp=Z,0.8nm,0.3s
ZAA0 Zalesovo Array 42.26 313 P **P 09 27 46.5 -0.8**
ZAA0 IAmb IAmb 09 27 47.7
comp=Z,7.6nm,0.7s
ZALV Zalesovo Beam 42.26 313 P **P 09 27 46.9 -0.3**
ZALV Zalesovo Beam 42.26 313 P **P 09 27 46.8 -0.5**
comp=Z,7.0nm,0.5s,baz=90,slow=7.2,SNR=44
ZALV pP **pP 09 27 58.5 +0.1**
comp=Z,7.0nm,0.5s,baz=93,slow=7.1,SNR=12
ZALV PcP **PcP 09 29 39.8 -0.7**
comp=Z,2.2nm,0.6s,baz=101,slow=3.1,SNR=4.6
comp=Z,7.0nm,0.5s
C16K Lisburne Hills 43.47 26 P **P 09 27 57.8 +0.8**
MK31 Makanchi Array 44.33 303 P **P 09 28 04.2 0.0**
MKAR Makanchi Array 44.33 303 P **P 09 28 04.6 +0.4**
MKAR Makanchi Array 44.33 303 P **P 09 28 03.7 -0.5**
comp=Z,1.8nm,0.5s,baz=88,slow=9.7,SNR=7.1
MKAR PcP **PP 09 29 46.9 -1.0**
comp=Z,1.6nm,0.7s,baz=66,slow=4.1,SNR=3.8
comp=Z,1.8nm,0.5s
C18K Utukok River 45.05 26 P **P 09 28 09.7 +0.1**
C18K IAmb IAmb 09 28 23.9
comp=Z,9.0nm,0.8s
K17K Iditarod 45.10 35 P **P 09 28 10.6 +0.7**
D19K Kuna River 46.11 27 P **P 09 28 19.0 +1.1**
D19K IAmb IAmb 09 28 32.1
comp=Z,7.4nm,1.1s
KURK Kurchatov 46.22 309 P **P 09 28 18.0 -1.0**
E19K Redstone River 46.24 28 P **P 09 28 19.2 +0.2**
E19K IAmb IAmb 09 28 21.8
comp=Z,8.5nm,0.7s
H19K Roundabout Mou 46.25 31 P **P 09 28 18.9 -0.1**
H19K IAmb IAmb 09 28 21.1
comp=Z,6.8nm,0.8s
KURBB Kurchatov Arra 46.29 309 P **P 09 28 19.1 -0.4**
comp=Z,17nm,0.6s,baz=84,slow=7.7,SNR=70
KURBB pP **pP 09 28 32.4 +1.6**
comp=Z,3.7nm,0.5s,baz=84,slow=8.4,SNR=2.9
KURBB PcP **PcP 09 29 53.4 -0.9**
comp=Z,0.6nm,0.3s,baz=87,slow=3.9,SNR=0.7
comp=Z,17nm,0.6s
B20K Meade River 46.77 25 P **P 09 28 23.5 +0.5**
TARG Taragay, Kyrgy 48.54 297 P **P 09 28 37.3 -0.4**
TARG IAmb IAmb 09 28 39.3
comp=Z,7.8nm,0.7s
SUA Susitna One 48.59 36 P **P 09 28 37.7 +0.3**
SUA IAmb IAmb 09 29 01.2
comp=Z,12nm,1.3s
MLY Manley 48.60 32 P **P 09 28 36.4 -1.1**
MLY IAmb IAmb 09 28 40.1
comp=Z,4.7nm,0.8s
RC01 Rabbit Creek A 49.09 37 P **P 09 28 41.3 +0.2**
RC01 IAmb IAmb 09 29 01.3
comp=Z,9.4nm,1.0s
MDM Murphy Dome 49.67 32 P **P 09 28 46.9 +1.4**
NRN Naryn 49.92 297 P **P 09 28 48.0 -0.2**
NRN IAmb IAmb 09 28 53.2
comp=Z,3.0nm,0.5s
IL31 50.25 32 P **P 09 28 49.9 +0.1**
IL31 IAmb IAmb 09 28 51.6
comp=Z,4.0nm,0.8s
ILAR Eielson Array 50.25 32 P **P 09 28 49.1 -0.8**
ILAR Eielson Array 50.25 32 P **P 09 28 50.6 +0.7**
comp=Z,3.9nm,0.7s,baz=266,slow=5.8,SNR=52
ILAR pP **pP 09 29 02.4 +1.3**
comp=Z,2.6nm,0.7s,baz=266,slow=5.1,SNR=9.3
comp=Z,3.9nm,0.7s
D25K Kavik River 50.42 26 P **P 09 28 52.4 +1.2**
D25K IAmb IAmb 09 29 06.2
comp=Z,3.9nm,0.7s
KSH Kashi 50.51 295 P P 09 28 56.9 +4.5
BVAR Borovoye Array 50.92 313 P **P 09 28 54.8 -0.3**
comp=Z,3.9nm,0.5s,baz=79,slow=7.6,SNR=20
comp=Z,3.9nm,0.5s
BRVK Borovoye 50.97 313 P **P 09 28 55.6 +0.1**
BRVK IAmb IAmb 09 28 56.6
comp=Z,5.7nm,0.6s
SCRK Sand Creek 51.56 33 P **P 09 29 00.6 +0.7**
SCRK IAmb IAmb 09 29 13.4
comp=Z,7.8nm,1.0s
ARSB Arslanbob 52.12 298 P **P 09 29 04.8 +0.3**
BCAR Beaver Creek A 52.64 34 P **P 09 29 07.7 -0.2**
EGAK Eagle 52.69 32 P **P 09 29 08.4 +0.2**
KNRA Kunununra 52.98 195 P **P 09 29 10.1 -0.7**
I28M Miner Creek 53.12 31 P **P 09 29 12.1 +0.7**
I28M IAmb IAmb 09 29 14.0
comp=Z,5.0nm,0.6s
GSI Gunungsitoli 53.23 239 P **P 09 29 12.3 -0.5**
KK31 Karatay Array 53.31 300 P **P 09 29 12.9 -0.2**
KK31 IAmb IAmb 09 29 14.5
comp=Z,7.9nm,1.1s
KKAR Karatay Array 53.31 300 P **P 09 29 12.7 -0.4**
KKAR IAmb IAmb 09 29 14.5
comp=Z,7.9nm,1.1s
KKAR Karatay Array 53.31 300 P **P 09 29 12.7 -0.4**
E29M Blow River 53.54 27 P **P 09 29 14.8 +0.5**
E29M IAmb IAmb 09 29 17.4
comp=Z,6.8nm,1.0s
G29M Pine Creek 53.69 29 P **P 09 29 15.9 +0.5**
G29M IAmb IAmb 09 29 18.6
comp=Z,9.7nm,0.8s
EPYK Eagle Plains 54.29 29 P **P 09 29 20.9 +1.1**
G30M tAoh Zraii Nji 54.38 29 P **P 09 29 21.2 +0.7**
G30M IAmb IAmb 09 29 34.4
comp=Z,8.7nm,1.1s
I30M Mount Dempster 54.63 31 P **P 09 29 23.6 +1.1**
G31M Satah River 55.15 29 P **P 09 29 27.2 +1.2**
INK Inuvik 55.15 27 P **P 09 29 26.6 +0.6**
INK IAmb IAmb 09 29 27.9
comp=Z,3.8nm,0.7s
FITZ Fitzroy Crossi 56.04 198 P **P 09 29 32.8 -0.1**
WB0 Warramunga Arr 56.11 188 P **P 09 29 32.7 -0.7**
WRAB Tennant Creek 56.28 188 P **P 09 29 33.9 -0.7**
WRAB IAmb IAmb 09 29 34.7
comp=Z,8.4nm,0.9s
WR0 Warramunga Arr 56.28 187 P **P 09 29 34.0 -0.6**
WB2 Warramunga Arr 56.29 188 P **P 09 29 34.2 -0.4**
WRA Warramunga Arr 56.29 188 P **P 09 29 33.9 -0.8**
WRA Warramunga Arr 56.29 188 P **P 09 29 33.7 -1.0**
comp=Z,6.9nm,0.6s,baz=4.4,slow=7.5,SNR=61
WRA PcP **PcP 09 30 32.2 +0.5**
comp=Z,2.0nm,0.6s,baz=1.6,slow=4.5,SNR=0.9
comp=Z,6.9nm,0.6s
ARU Arti 56.78 319 P **P 09 29 37.3 -0.5**
ARU Arti 56.78 319 LR LR 09 55 41.8
comp=Z,143nm,19.4s,baz=324,slow=38
A36M Sachs Harbour 57.04 22 P **P 09 29 40.8 +1.3**
C36M Paulatuk 58.20 25 P **P 09 29 47.8 +0.1**
C36M IAmb IAmb 09 30 02.6
comp=Z,9.0nm,1.1s
ABKAR Akbulak array 58.26 310 P **P 09 29 47.9 -0.5**
ABKAR IAmb IAmb 09 29 48.7
comp=Z,4.8nm,0.8s
ABKAR Akbulak array 58.26 310 P **P 09 29 47.8 -0.5**
AS31 Alice Springs 60.01 188 P **P 09 30 00.4 -0.3**
ASAR Alice Springs 60.02 188 P **P 09 29 59.9 -0.8**
ASAR Alice Springs 60.02 188 P **P 09 30 00.5 -0.3**
comp=Z,5.6nm,0.8s,baz=16,slow=9.1,SNR=61
ASAR PcP **PcP 09 30 46.7 +0.3**
comp=Z,2.2nm,0.8s,baz=355,slow=5.3,SNR=1.7
comp=Z,5.6nm,0.8s
RES Resolute Bay 63.38 14 P **P 09 30 22.3 -0.4**
RES IAmb IAmb 09 30 35.4
comp=Z,3.9nm,0.9s
GEYT Alibeck 64.01 299 P **P 09 30 27.2 -0.4**
comp=Z,2.0nm,0.6s,baz=73,slow=9.9,SNR=4.0
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 64.57 30 P **P 09 30 30.9 +0.2**
comp=Z,1.5nm,0.8s,baz=301,slow=6.9,SNR=23
YKA pP **pP 09 30 43.6 +1.3**
comp=Z,1.6nm,0.9s,baz=299,slow=6.6,SNR=9.1
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 64.62 339 P **P 09 30 30.6 -0.5**
comp=Z,4.4nm,0.9s,baz=29,slow=2.8,SNR=3.7
comp=Z,4.4nm,0.9s
NEEM North Greenlan 66.29 3 *e*P **P 09 30 42.5 +0.4**
NEEM IAmb IAmb 09 30 44.2
comp=Z,7.9nm,0.9s
DAG Danmarks Havn 66.50 355 *i* P **P 09 30 42.0 -1.0**
DAG IAmb IAmb 09 30 44.0
comp=Z,5.0nm,1.0s
STKA Stephens Creek 67.81 180 P **P 09 30 51.7 -0.1**
comp=Z,3.5nm,0.8s,baz=352,slow=9.6,SNR=4.9
STKA LR LR 09 59 56.6
comp=Z,147nm,21.9s,baz=46,slow=35
comp=Z,3.5nm,0.8s
FORT Forrest 67.83 192 P **P 09 30 51.9 0.0**
FINES FINESS Array B 69.38 332 P **P 09 31 00.9 -0.4**
comp=Z,7.2nm,0.9s,baz=53,slow=7.4,SNR=6.1
comp=Z,7.2nm,0.9s
PINE Pine Mountain 70.99 49 P **P 09 31 12.6 +0.8**
KBZ Khabaz 71.22 311 P **P 09 31 12.2 -0.7**
comp=Z,2.8nm,0.8s,baz=56,slow=5.7,SNR=6.8
comp=Z,2.8nm,0.8s
SUMG Summit 71.44 360 *e*P **P 09 31 15.4 +1.2**
SUMG IAmb IAmb 09 31 15.9
comp=Z,7.3nm,0.9s
CMB Columbia Colle 74.49 54 P **P 09 31 32.9 +0.4**
HFS Hagfors 74.68 336 P **P 09 31 32.9 -0.2**
comp=Z,3.1nm,0.8s,baz=91,slow=7.4,SNR=7.6
HFS pP **PcP 09 31 45.8 -1.5**
comp=Z,3.3nm,0.8s,baz=74,slow=7.9,SNR=2.6
comp=Z,3.1nm,0.8s
AKASG Malin Array Be 74.75 322 P **P 09 31 32.9 -0.8**
comp=Z,3.9nm,0.6s,baz=47,slow=6.0,SNR=24
AKASG pP **pP 09 31 45.4 -0.2**
comp=Z,2.0nm,0.4s,baz=44,slow=5.5,SNR=6.5
comp=Z,3.9nm,0.6s
AKBB Malin Array Si 74.75 322 P **P 09 31 32.5 -1.2**
AKBB IAmb IAmb 09 31 33.9
comp=Z,8.5nm,0.9s
KIEV Kiev 74.77 322 P **P 09 31 32.9 -0.8**
KIEV IAmb IAmb 09 31 33.9
comp=Z,7.2nm,0.8s
NB2 NORSAR Subarra 74.79 337 P **P 09 31 33.7 -0.1**
comp=Z,10nm,0.9s,baz=36,slow=6.2
NOA NORSAR Array B 74.79 337 P **P 09 31 33.6 -0.1**
comp=Z,3.3nm,0.8s,baz=39,slow=5.8,SNR=7.5
NOA pP **pP 09 31 46.0 +0.4**
comp=Z,0.5nm,0.5s,baz=45,slow=5.0,SNR=2.2
comp=Z,3.3nm,0.8s
NVAR Mina Array Bea 75.62 53 P **P 09 31 40.3 +1.1**
comp=Z,2.1nm,0.6s,baz=294,slow=5.6,SNR=24
NVAR pP **PcP 09 31 53.1 +1.2**
comp=Z,1.7nm,0.7s,baz=284,slow=5.6,SNR=7.9
comp=Z,2.1nm,0.6s
FRB Frobisher Bay 77.55 13 P **P 09 31 49.4 +0.1**
comp=Z,5.6nm,0.6s,baz=333,slow=5.4,SNR=13
comp=Z,5.6nm,0.6s
BW06 Boulder Array 78.35 45 P **P 09 31 53.7 -0.8**
PD31 Pinedale Array 78.35 45 P **P 09 31 52.7 -1.9**
PDAR Pinedale Array 78.35 45 P **P 09 31 54.8 +0.2**
comp=Z,1.5nm,0.6s,baz=276,slow=1.6,SNR=26
PDAR pP **pP 09 32 07.7 +1.3**
comp=Z,0.9nm,0.5s,baz=266,slow=0.9,SNR=5.8
comp=Z,1.5nm,0.6s
BUR08 Bucovina Ar. S 78.75 322 P **P 09 31 56.2 -0.3**
BURAR Bucovina Array 78.76 322 P **P 09 31 56.3 -0.2**
BRTR Keskin Array B 79.18 312 P **P 09 31 59.3 +0.3**
comp=Z,1.6nm,0.8s,baz=89,slow=5.1,SNR=8.6
BRTR pP **pP 09 32 11.4 +0.4**
comp=Z,2.9nm,1.0s,baz=72,slow=4.0,SNR=6.3
comp=Z,1.6nm,0.8s
KOLS Kolonicke sedl 79.30 324 *e*P **P 09 32 00.2 +0.9**
STHS Stebnicka Huta 79.44 325 *e*P **P 09 31 59.6 -0.5**
PFO Pinyon Flats O 79.64 56 LR LR 10 00 44.8
comp=Z,44nm,20.7s,baz=354,slow=31
CHVC Chvalec 80.91 328 *e*P **P 09 32 08.3 +0.3**
DPC Dobruska-Polom 80.97 328 *e*P **P 09 32 08.3 -0.1**
DPC *ex* x 09 32 21.1
KRLC Kraliky 80.98 327 *e*P **P 09 32 08.3 -0.1**
KRLC *e*pP **pP 09 32 19.5 -0.9**
VYHS Vyhne 81.22 325 *e*P **P 09 32 10.4 +0.7**
PVCC Panska Ves 81.59 329 *e*P **P 09 32 12.5 +1.0**
CLL Collm 81.64 330 *i* P **P 09 32 11.7 -0.1**
comp=Z,10.0nm,0.9s
CLL *i* (pP) **pP 09 32 23.8 0.0**
CLL *i* x x 09 32 29.8
PRU Pruhonice 82.01 328 *e*P **P 09 32 14.2 +0.4**
MODS Modra-Piesok 82.02 326 *e*P **P 09 32 14.8 +0.9**
RONA Rosalia, Austr 82.96 326 *e*P **P 09 32 19.1 +0.3**
comp=Z,5.6nm,1.4s
CKRC Cesky Krumlov 82.99 328 *e*P **P 09 32 18.9 -0.1**
CKRC *ex* x 09 32 31.8
KHC Kasperske Hory 83.07 328 *e*P **P 09 32 19.1 -0.3**
KHC *ex* x 09 32 30.1
GERES GERESS Array B 83.23 328 P **P 09 32 19.6 -0.8**
comp=Z,1.7nm,0.7s,baz=72,slow=4.3,SNR=7.0
GERES pP **pP 09 32 32.0 -0.3**
comp=Z,1.0nm,0.6s,baz=104,slow=5.6,SNR=4.0
comp=Z,1.7nm,0.7s
GRF Grafenberg Arr 83.61 330 *e*P **P 09 32 22.8 +0.7**

	comp=Z,5.1nm,0.8s,baz=38,slow=4.5						
GRF				epP	pP	09 32 34.8	+0.6
EKA	Eskdalemuir Ar	83.77	340	P	P	09 32 22.7	0.0
	comp=Z,1.5nm,0.7s,baz=31,slow=5.3,SNR=6.0						
	comp=Z,1.5nm,0.7s						
BIOA	Bad Ischl, Aus	84.14	327	eP	P	09 32 25.1	+0.2
	comp=Z,8.3nm,1.4s						
SOKA	Soboth	84.29	326	eP	P	09 32 25.8	+0.1
	comp=Z,2.3nm,0.6s						
KBA	Koelnbreinsper	84.74	327	eP	P	09 32 27.8	-0.3
	comp=Z,2.9nm,0.7s						
ABTA	Abfaltersbach	85.36	327	eP	P	09 32 30.2	-0.9
	comp=Z,14nm,1.9s						
MOTA	Moosalm	85.50	329	eP	P	09 32 31.4	-0.5
	comp=Z,0.6nm,0.3s						
RETA	Reutte	85.53	329	eP	P	09 32 31.7	-0.2
	comp=Z,4.9nm,0.9s						
TXAR	Lajitas Array	90.75	52	P	P	09 32 57.6	+0.4
	comp=Z,1.2nm,0.8s,baz=290,slow=3.4,SNR=15						
TXAR				pP	pP	09 33 11.0	+1.7
	comp=Z,0.9nm,0.6s,baz=305,slow=3.1,SNR=6.5						
	comp=Z,1.2nm,0.8s						
TORD	Torodi Ar. Bea	117.70	314	PKP	PKPdf	09 38 39.1	-1.4
	comp=Z,0.6nm,0.7s,baz=34,slow=1.7,SNR=3.1						
QSPA	South Pole Qui	126.03	180	PKP	PKPdf	09 38 53.8	-1.1
	comp=Z,2.1nm,0.8s,baz=330,slow=2.9,SNR=5.9						
BOSA	Boshof	126.22	259	PKP	PKPdf	09 38 55.6	-1.0
	comp=Z,3.2nm,1.0s,baz=52,slow=6.6,SNR=3.5						
H03N2	Juan Fernandez	147.16	97	T	T	12 24 14.6	
	baz=291,slow=76,SNR=20						
H03N3	Juan Fernandez	147.17	97	T	T	12 24 20.9	
	baz=291,slow=76,SNR=29						
H03N1	Juan Fernandez	147.18	97	T	T	12 24 37.9	
	baz=291,slow=76,SNR=28						

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*CATAC **07** 09:20:57.3±0.7, 13°.80N×91°.12W, h15km±5km, ML3.1*
*SNET **07** 09:20:58.9±1.1, 13°.82N×91°.04W, h18km±7km, ML3.2*
*GCG **07** 09:20:59.8±0.5, 14°.06N×91°.11W, h74km±7km, MD3.4*
ISC 07 09:20:56.8±1.7**, 13°.79N**±0°.07×**91°.12W**±0°.05**, h13**km±10km**, n37, σ0s68**/62**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.67	320	eP	Pn	09 21 13.1	+1.1
FUG	Fuego 3	0.71	23	eP	Pn	09 21 13.1	+0.4
FUG				eS	Sn	09 21 23.7	0.0
PCG	Pacaya	0.78	40	eP	Pn	09 21 14.3	+0.5
PCG				eS	Sn	09 21 26.6	+1.1
GUMI	Mixco	0.97	31	i P	Pb	09 21 15.7	0.0
GUMI				IAML		09 21 31.4	
	comp=Z,480nm,1.0s						
STG3	Santiaguito 3,	1.01	335	eP	Pg	09 21 16.9	+0.4
STG3				eS	Sb	09 21 29.7	0.0
NBG	Las Nubes	1.09	43	eP	Pg	09 21 18.4	+0.5
GUNB	GUNB	1.10	43	i P	Pb	09 21 17.2	-0.7
GUNB				i S	Sb	09 21 32.4	+0.1
GUNB				IAML		09 21 37.6	
	comp=Z,190nm,1.0s						
QUEO	Labor Ovalle	1.14	341	i P	Pg	09 21 19.3	+0.4
QUEO				i S	Sn	09 21 34.7	+0.3
NUBE	Las Nubes	1.31	85	eP	Pn	09 21 20.8	-0.2
NUBE				eS	Sb	09 21 37.4	-0.7
NUBE	Las Nubes	1.31	85	i P	Pn	09 21 20.7	-0.2
NUBE				IAML		09 21 21.2	
	comp=Z,220nm,1.0s						
NUBE				i S	Sb	09 21 37.6	-0.6
LOAL	Lomas de Alarc	1.32	81	eP	Pn	09 21 21.2	+0.2
LOAL				eS	Sb	09 21 37.5	-0.9
LOAL	Lomas de Alarc	1.32	81	i P	Pn	09 21 20.7	-0.3
LOAL				i S	Sg	09 21 39.4	0.0
LOAL				IAML		09 21 47.7	
	comp=Z,2µm,1.0s						
SLOZ	Alcaldia de Sa	1.32	80	eP	Pn	09 21 20.7	-0.3
SLOZ				eS	Sb	09 21 38.5	0.0
SMSP	San Marcos	1.34	332	i P	Pn	09 21 20.4	-1.1
SMSP				i S	Sb	09 21 37.5	-1.7
RTR	El Retiro	1.44	86	eP	Pn	09 21 22.7	0.0
RTR				eS	Sg	09 21 43.0	-0.3
CEVE	Cerro Verde	1.46	88	eP	Pb	09 21 23.8	-0.2
CEVE				eS	Sg	09 21 43.6	-0.3
CEVE	Cerro Verde	1.46	88	i P	Pn	09 21 23.3	+0.2
CEVE				i S	Sb	09 21 43.2	+0.7
CEVE				IAML		09 21 45.0	
	comp=Z,360nm,1.0s						
SBLS	San Blas	1.46	88	eP	Pn	09 21 23.5	+0.5
SNJE	San Jose	1.48	87	eP	Pn	09 21 23.9	+0.6
UNIC	Universidad Ca	1.54	83	eP	Pn	09 21 24.2	+0.2
UNIC	Universidad Ca	1.54	83	i P	Pn	09 21 22.6	-1.5
UNIC				i S	Sg	09 21 45.9	-0.6
UNIC				IAML		09 21 54.7	
	comp=Z,150nm,1.0s						
JAYA	Jayaque - finc	1.63	95	eP	Pn	09 21 25.1	-0.3
JAYA				eS	Sn	09 21 45.8	-0.6
JAYA				IAML		09 21 47.3	
	comp=Z,330nm,0.2s						
JAYA	Jayaque - finc	1.63	95	i P	Pn	09 21 25.2	-0.2
JAYA				i S	Sn	09 21 46.3	-0.1
JAYA				IAML		09 21 47.2	
	comp=Z,760nm,1.0s						
PMON	Piamonte	1.76	92	eP	Pn	09 21 27.6	+0.5
PMON				eS	Sn	09 21 49.7	+0.2
PMON	Piamonte	1.76	92	i P	Pn	09 21 27.6	+0.5
PMON				i S	Sn	09 21 50.1	+0.6
PMON				IAML		09 21 59.6	
	comp=Z,280nm,1.0s						
MAGS	Ministerio de	1.79	93	i S	Sn	09 21 50.4	+0.2
QUEZ	Alcaldia de Qu	1.80	88	i P	Pn	09 21 27.7	+0.1
QUEZ				i S	Sn	09 21 50.3	0.0
QUEZ				IAML		09 22 20.2	
	comp=Z,1µm,1.0s						
UEES	Universidad Ev	1.83	92	i P	Pn	09 21 28.0	-0.1
UEES				i S	Sn	09 21 52.2	+1.0
UEES				IAML		09 21 57.2	
	comp=Z,92nm,1.0s						
SNET	Serv Nac Est T	1.84	93	i S	Sn	09 21 52.2	+0.8
PANCS	Alcalda de	1.90	95	i P	Pn	09 21 29.6	+0.6
PANCS				i S	Sn	09 21 52.4	-0.4
PANCS				IAML		09 22 40.6	
	comp=Z,1µm,1.0s						
LOMA	Loma Larga	1.90	94	i S	Sn	09 21 53.4	+0.4
UDBS	Universidad Do	1.91	92	i P	Pn	09 21 29.0	-0.2
UDBS				i S	Sb	09 21 54.5	-1.0
UDBS				IAML		09 21 59.2	
	comp=Z,170nm,1.0s						
SJTE	Alcalda de S	2.06	95	i P	Pn	09 21 31.7	+0.4
SJTE				i S	Sn	09 21 56.6	-0.4
SJTE				IAML		09 22 03.1	
	comp=Z,47nm,1.0s						
COEG	Centro de Oper	2.19	94	eP	Pn	09 21 34.3	+1.4
COEG	Centro de Oper	2.19	94	i P	Pn	09 21 33.9	+0.9
COEG				i S	Sb	09 22 02.0	-1.4
COEG				IAML		09 22 03.5	
	comp=Z,45nm,1.0s						
PQSS	Presa 15 de Se	2.50	93	i P	Pn	09 21 37.7	+0.5
PQSS				i S	Sn	09 22 09.3	+1.8
PQSS				IAML		09 22 12.9	
	comp=Z,33nm,1.0s						
CDITO	Canoas	9.61	122	i P	Pn	09 23 29.3	+14

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*SDD **07** 09:30:48.1±1.5, 18°.49N×71°.39W, h12km±12km, MD2.5, ML2.3, MW2.6*
*OSPL **07** 09:30:49.0±1.7, 18°.51N×71°.27W, h22km±6km, ML2.0*
ISC 07 09:30:47.7±0.9**, 18°.51N**±0°.03×**71°.34W**±0°.04**, h12**km±7km**, n10, σ1s04**/18**, 2C-7D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEDR	Neiba UASD	0.08	255	⇑ePg	Pg	09 30 50.0	-0.3
NEDR				⇓eSg	Sg	09 30 52.2	+0.1
NEDR				IAML		09 30 53.3	
	comp=N,1µm,0.2s						
PODR	Polo	0.34	171	⇓ePg	Pg	09 30 54.5	-0.1
PODR				⇓eSg	Sg	09 30 59.8	+0.5
PODR				IAML		09 31 05.7	
	comp=N,217nm,0.2s						
PODR	Polo	0.34	171	i P	Pg	09 30 54.8	+0.1
PODR				eS	Sb	09 31 01.0	-0.3
SDDR	Presa de Saban	0.48	5	⇓ePg	Pb	09 30 58.1	0.0
SDDR				⇓eSg	Sg	09 31 03.8	+0.3
SDDR				IAML		09 31 08.4	
	comp=N,136nm,0.4s						
SDDR	Presa de Saban	0.48	5	i P	Pb	09 30 58.2	+0.1
SDDR				eS	Sb	09 31 04.5	-0.6
SDDR				IAML		09 31 05.3	
	comp=Z,103nm,0.6s						
LOPE2	Hotel El Peder	0.61	220	i P	Pb	09 31 00.5	+0.2
LOPE2				IAML		09 31 16.7	
	comp=Z,70nm,0.8s						
ABDR	Alto Bandera	0.74	65	⇓ePg	Pg	09 31 02.1	0.0
ABDR				eSg	Sb	09 31 13.6	+0.6
ABDR				IAML		09 31 14.4	
	comp=N,162nm,0.3s						
PAPH	Port-au-Prince	0.91	271	i P	Pg	09 31 05.1	-0.2
PAPH				eS	Sn	09 31 19.2	-0.3
PAPH				IAML		09 31 21.8	
	comp=Z,24nm,0.3s						
LOSC1	San Cristbal	1.17	95	eS	Sb	09 31 21.4	-3.6
LOSC1				IAML		09 31 29.3	
	comp=Z,161nm,0.7s						
HATOM	Hato Mayor del	1.88	81	⇓ePg	Pn	09 31 20.5	+0.8
HATOM				⇑eSg	Sb	09 31 45.1	-0.2
HATOM				IAML		09 31 56.6	
	comp=N,32nm,4.3s						

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*IDC **07** 09:47:40.0±0.7, 57°.01S×26°.25W, h0km, mb4.5/7, mbtmp4.5/7, MS3.3/2, Error ellipse: s-maj=30.8km s-min=20.4km az=99.0*
*NEIC **07** 09:47:50.0±1.5, 57°.2S±0°.1×26°.1W±0°.2, h75km±8km, mb4.6/20, Error ellipse: s-maj=16.8km s-min=14.5km az=70.0*
ISC 07 09:47:48.3±0.5**, 57°.06S**±0°.09×**26°.08W**±0°.10**, h61**km**, n46, σ0s83**/38**, mb4.6**/12**, 4D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.51	291	Pn	Pn	09 49 23.2	+1.8
VNA1	Neumayer--Stat	15.62	158	⇓P	Pn	09 51 26.2	+1.9
	comp=Z,25nm,0.8s						
VNA3	Neumayer Olymp	15.83	160	⇓P	Pn	09 51 27.8	+0.8
	comp=Z,3.3nm,0.3s						
VNA2	Neumayer--Watz	16.02	158	⇓P	Pn	09 51 29.7	+0.3
	comp=Z,5.4nm,0.4s,baz=321,slow=14						
TROLL	Troll, Antarti	19.06	153	⇓P	Pn	09 52 07.0	+0.2
	comp=Z,183nm,0.6s						
EFI	East Falkland	19.28	273	P	P	09 52 07.5	-0.3
EFI				IAmb	IAmb	09 52 12.2	
	comp=Z,51nm,1.2s						
PMSA	Palmer Station	19.73	231	LR	LR	09 57 33.5	
	comp=Z,55nm,19.9s,baz=314,slow=30						
BELA	Belgrano 2	21.12	185	P	P	09 52 26.1	-1.3
BELA				IAmb	IAmb	09 52 32.1	
	comp=Z,38nm,1.3s						
MG02	Cerro Sombrero	24.84	261	P	P	09 53 04.9	+0.3
GO09	Cerro Castillo	27.26	262	P	P	09 53 25.8	-0.6
GO09				IAmb	IAmb	09 53 49.2	
	comp=Z,28nm,1.4s						
PLTB	Pedras Altas	31.63	311	P	P	09 54 05.1	-0.3
QSPA	South Pole Qui	33.19	180	P	P	09 54 18.9	+0.1
QSPA	South Pole Qui	33.19	180	P	P	09 54 19.0	+0.1
	comp=Z,9.2nm,0.5s,baz=224,slow=1.3,SNR=52						
	comp=Z,9.2nm,0.5s						
CPUP	Villa Florida	37.94	311	P	P	09 54 58.9	-0.8
	comp=Z,2.5nm,0.9s,baz=90,slow=7.1,SNR=2.6						
	comp=Z,2.5nm,0.9s						
AC04	Llanos de Chal	42.71	293	P	P	09 55 39.7	+0.6
VNDA	Vanda	45.59	182	P	P	09 56 01.4	-0.1
VNDA	Vanda	45.59	182	P	P	09 56 01.8	+0.3
	comp=Z,3.3nm,0.8s,baz=193,slow=6.3,SNR=9.8						
	comp=Z,3.3nm,0.8s						
BOSA	Boshof	45.64	74	P	P	09 56 03.0	+0.3
BOSA				IAmb	IAmb	09 56 04.0	
	comp=Z,5.5nm,0.8s						
BOSA	Boshof	45.64	74	P	P	09 56 02.7	0.0
	comp=Z,7.6nm,0.9s,baz=216,slow=8.1,SNR=13						
	comp=Z,7.6nm,0.9s						
LVC	Limon Verde	46.34	300	P	P	09 56 10.1	+1.6
LVC				IAmb	IAmb	09 56 40.2	
	comp=Z,5.1nm,0.9s						
PB01	IPOC Station P	47.95	300	P	P	09 56 21.0	+0.2
PB01				IAmb	IAmb	09 57 04.1	
	comp=Z,8.9nm,1.4s						
LBTB	Lobatse	48.73	71	P	P	09 56 26.8	0.0
LBTB				IAmb	IAmb	09 56 27.9	
	comp=Z,4.4nm,0.8s						
H10S2	ASCENSION HYDR	48.80	15	T	T	10 49 16.2	
	baz=32,slow=74,SNR=15						
H10S3	ASCENSION HYDR	48.81	15	T	T	10 49 04.8	
	baz=188,slow=74,SNR=21						
GO01	Chusmiza	49.00	301	P	P	09 56 30.1	+0.8
H10N1	ASCENSION HYDR	49.92	15	T	T	10 50 30.3	
	baz=188,slow=75,SNR=9.2						
H10N3	ASCENSION HYDR	49.92	15	T	T	10 50 35.2	
	baz=188,slow=75,SNR=20						
H10N2	ASCENSION HYDR	49.94	15	T	T	10 50 45.5	
	baz=188,slow=75,SNR=15						
LPAZ	La Paz	51.46	305		P	09 56 48.2	+0.2
SAML	Samuel	55.95	314	P	P	09 57 19.5	-0.6
RPN	Rapa Nui	64.08	260	LR	LR	10 23 04.9	
	comp=Z,34nm,18.1s,baz=308,slow=33						
BOAV	Boa Vista	65.46	322	P	P	09 58 24.0	-0.8
BOAV				IAmb	IAmb	09 58 53.3	
	comp=Z,9.1nm,1.3s						
DBIC	Dimbokro	65.84	23	P	P	09 58 27.4	+0.2
DBIC	Dimbokro	65.84	23	P	P	09 58 27.5	+0.3
	comp=Z,2.5nm,0.5s,baz=180,slow=5.5,SNR=5.4						
	comp=Z,2.5nm,0.5s						
MCRA	Macar, Loja	67.39	299	P	P	09 58 36.0	-1.2
TOA0	Torodi Ar. Sit	73.64	28	P	P	09 59 16.2	+1.2
TORD	Torodi Ar. Bea	73.64	28	P	P	09 59 15.9	+0.8
TORD				IAmb	IAmb	09 59 16.7	
	comp=Z,5.1nm,0.7s						
TORD	Torodi Ar. Bea	73.64	28	P	P	09 59 15.8	+0.8
	comp=Z,5.5nm,0.6s,baz=199,slow=6.1,SNR=36						
	comp=Z,5.5nm,0.6s						
ASAR	Alice Springs	97.83	162	P	Pdif	10 01 17.6	+0.6
	comp=Z,0.3nm,0.6s,baz=183,slow=3.8,SNR=5.4						
	comp=Z,0.3nm,0.6s						
PDAR	Pinedale Array	121.40	301	PKP	PKPdf	10 06 32.7	-1.3
	comp=Z,0.2nm,0.3s,baz=115,slow=4.3,SNR=2.7						
NVAR	Mina Array Bea	122.35	292	PKP	PKiKP	10 06 36.5	+0.4
	comp=Z,0.2nm,0.5s,baz=123,slow=3.3,SNR=2.7						
FINES	FINESS Array B	124.99	28	PKP	PKPdf	10 06 39.0	-0.9
	comp=Z,4.4nm,1.1s,baz=170,slow=0.8,SNR=3.6						
MKAR	Makanchi Array	136.62	72	PKP	PKPdf	10 07 03.4	+0.9
	comp=Z,0.2nm,0.6s,baz=237,slow=2.4,SNR=2.2						
YKA	Yellowknife Ar	137.33	317	PKP	PKPdf	10 07 02.6	-0.6
	comp=Z,0.6nm,0.6s,baz=123,slow=2.5,SNR=16						
SONM	Songino Array	150.17	87	PKPbc	PKPbc	10 07 30.9	-0.4
	comp=Z,1.6nm,0.5s,baz=229,slow=3.7,SNR=6.5						
ILAR	Eielson Array	151.25	310	PKPbc	PKPbc	10 07 32.8	-0.4
	comp=Z,2.9nm,0.7s,baz=75,slow=0.7,SNR=14						

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*JMA **07** 10:12:55.7±0.2, 43°.5N±0°.5×145°.9E±0°.8, h68km±1km, MV2.5/36, NEMURO REGION*
*SKHL **07** 10:12:56.2±0.4, 43°.50N×145°.90E, h65km±4km, mb4.1/2*
ISC 07 10:12:55.3±1.9**, 43°.48N**±0°.06×**145°.91E**±0°.06**, h68**km±12km**, n13, σ0s52**/25**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.17	228	eP	Pn	10 13 05.7	+0.3
NEM2				eS	Sn	10 13 13.0	+0.2
NMR	Nemuro--Hokkai	0.17	232	eP	Pn	10 13 05.7	+0.3
NMR				eS	Sn	10 13 13.1	+0.3
YUK	Yuzh-Kuril'sk	0.56	356	i P	Pn	10 13 08.4	-0.1
YUK				AMB	AMB	10 13 09.2	
	270nm,0.2s						
YUK				i S	Sn	10 13 17.8	-0.3
YUK				A	A	10 13 19.5	
	210nm,0.3s						
YUK				A	A	10 13 19.5	
	440nm,0.3s						
JKHN	Kushirohamanak	0.67	235	eP	Pn	10 13 09.8	+0.1
JKHN				eS	Sn	10 13 20.3	0.0
JNSB	Nemuroshibetsu	0.72	295	eP	Pn	10 13 10.4	+0.1
JNSB				eS	Sn	10 13 21.4	+0.1
JRA	Rausu	0.74	309	eP	Pn	10 13 10.5	+0.1
JRA				S	Sn	10 13 21.9	+0.3
SHO	Shikotan	0.77	59	eP	Pn	10 13 11.3	+0.5
SHO				AMB	AMB	10 13 12.1	
	20nm,0.2s						
SHO				eS	Sn	10 13 21.4	-0.9
SHO				A	A	10 13 23.0	
	280nm,0.2s						
SHO				A	A	10 13 23.0	
	230nm,0.2s						
JNK	Nakash	0.87	278	eP	Pn	10 13 11.6	-0.5
JNK				eS	Sn	10 13 23.1	-1.4
AKK	Akkeshi	0.91	240	eS	Sn	10 13 24.5	-0.7
JAK	Akkeshi	1.01	242	P	Pn	10 13 13.6	-0.1
JAK				S	Sn	10 13 26.8	-0.7
JTKR	Abashiri--Toko	1.53	290	eP	Pn	10 13 21.0	+0.4
JTKR				eS	Sn	10 13 40.2	+0.5
JAR	Ashorobuto	1.57	264	eP	Pn	10 13 21.6	+0.5
JAR				eS	Sn	10 13 40.4	-0.2
JOB	Onbets	1.62	250	eP	Pn	10 13 22.3	+0.6
JOB				eS	Sn	10 13 41.6	-0.1

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*IDC **07** 10:27:12.9±3.2, 27°.46N×52°.47E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=93.1km s-min=32.3km az=153.0*
*TEH **07** 10:27:19.4, 27°.82N×52°.11E, h18km±27km, ML3.2*
ISC 07 10:27:17.9±0.9**, 27°.75N**±0°.05×**52°.08E**±0°.05**, h10**km**, n25, σ1s56**/26**, mb3.4**/5**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.94	310	Pg	Pb	10 27 36.9	+0.5
LMD1	Lamerd	1.05	113	Pg	Pn	10 27 40.1	+1.5
QIR1	Qir	1.12	50	Pg	Pg	10 27 39.6	+0.2
QIR1				Sg	Sb	10 27 54.5	+0.6
AHBU	AHRAM	1.30	328	Pg	Pb	10 27 43.2	+0.7
AHBU				Sg	Sg	10 28 01.7	+1.8
JHRM	Jahrom	1.52	60	Pg	Pb	10 27 46.4	+0.1
SHI	Shiraz	1.92	11	Pn	Pb	10 27 53.8	+0.7
KLNJ	Kolanjah	3.27	353	Pn	Pn	10 28 11.1	+1.5
SHME	Shamm	4.00	114	Pn	Pn	10 28 20.2	+0.9
IRAM	Ramesheh	4.05	4	Pn	Pn	10 28 20.9	+0.7
BANOM	Banah	4.19	115	Pn	Pn	10 28 22.9	+1.0
NAZ	Nazwa, Dubai	4.23	130	Pn	Pn	10 28 24.3	+1.8
IMEH	Mehriz	4.24	31	Pn	Pn	10 28 24.7	+1.9
ASUD	Al Ashush, Dub	4.27	136	Pn	Pn	10 28 25.6	+2.6
FAQ	Al Faqa, Dubai	4.35	133	Pn	Pn	10 28 26.9	+2.8
MSFE	Esma-Masafi	4.36	122	Pn	Pn	10 28 25.3	+1.0
NGRK	Negar Kerman	4.50	64	Pn	Pn	10 28 27.8	+1.4
KHGB	Koh Gabri	4.65	55	Pn	Pn	10 28 29.8	+1.4
ASHO	Ashiyiah	4.70	130	Pn	Pn	10 28 30.6	+1.6
SOHO	SOHO	5.39	131	Pn	Pn	10 28 39.3	+0.9
UMZA	Um Al Zommool	5.74	150	Pn	Pn	10 28 45.8	+2.6
MKAR	Makanchi Array	30.37	43	P	P	10 33 25.1	-4.9
	0.2nm,0.7s,baz=226,slow=8.6,SNR=1.8						
	0.2nm,0.7s						
ZALV	Zalesovo Beam	35.48	33	P	P	10 34 12.1	-2.4
	0.8nm,0.4s,baz=237,slow=9.5,SNR=3.4						
	0.8nm,0.4s						
HFS	Hagfors	41.52	332	P	P	10 35 04.5	-0.6
	13nm,1.3s,baz=134,slow=10,SNR=1.7						
	13nm,1.3s						
TORD	Torodi Ar. Bea	49.07	263	P	P	10 36 04.2	-1.4
	0.2nm,0.5s,baz=69,slow=7.7,SNR=2.0						
	0.2nm,0.5s						
YKA	Yellowknife Ar	89.44	354	P	P	10 40 13.9	-0.8
	0.2nm,0.8s,baz=4.8,slow=5.0,SNR=4.8						
	0.2nm,0.8s						

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*NEIC **07** 10:54:05.2±1.5, 6°.95N±0°.06×127°.70E±0°.09, h10km±1km, mb4.4/24, Error ellipse: s-maj=14.6km s-min=10.1km az=85.0*
*DJA **07** 10:54:10.0±0.7, 7°N±5°×12°7E±°, h10km, M4.5/10, mB5.5/1, mb4.4/10, MLv4.5/7, Mw(mB)5.0/1*
*IDC **07** 10:54:14.1±2.6, 6°.70N×127°.18E, h82km±23km, mb3.8/19, mbtmp4.1/19, Error ellipse: s-maj=31.0km s-min=12.8km az=69.0*
ISC 07 10:54:08.5±0.5**, 6°.87N**±0°.06×**127°.56E**±0°.07**, h31**km**, n64, σ1s38**/68**, mb4.3**/32**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.98	276		Pn	10 54 39.7	-0.2
DAV	Davao City (W)	1.98	276	P	Pn	10 54 41.0	+1.1
	258nm,0.6s,baz=38,slow=3.9,SNR=6.5						
DAV				LR	LR	10 54 59.0	
	comp=Z,72nm,21.3s,baz=358,slow=28						
DAV				S	Sb	10 55 07.6	-0.6
	270nm,0.4s,baz=290,slow=19,SNR=7.7						
DAV	Davao City (W)	1.98	276	P	Pn	10 54 40.8	+0.9
DAV				S	Sn	10 55 04.4	+0.7
SGSI	Sangihe	3.75	213	P	Pn	10 55 05.8	+1.4
SGSI				S	Sn	10 55 49.2	+1.7
KMSI	Cibinong	7.20	210	P	Pn	10 55 53.4	+1.7
	204nm,0.5s,0.8nm						
LBMI	Labuha	7.46	180	P	Pn	10 55 58.7	+3.4
	24nm,0.7s,0.1nm						
GTOI	Gorontalo	7.68	216	P	Pn	10 55 59.2	+0.9
	13nm,0.7s,0.1nm						
MRSI	Marisa	8.47	222	P	Pn	10 56 10.9	+1.7
	47nm,0.7s						
SIJI	Sorong	8.53	154	P	Pn	10 56 14.3	+4.3
	5.6nm,0.6s,2µm						
TOLI2	Tolitoli	8.86	230	Pn	Pn	10 56 14.2	-0.2
SANI	Sanana	9.00	190	P	Pn	10 56 18.4	+2.0
	8.6nm,0.6s						
MYLDM	Lahad Datu	9.17	260		Pn	10 56 20.5	+1.8
MYLDM	Lahad Datu	9.17	260	P	Pn	10 56 20.7	+2.0
	15nm,1.0s						
FAKI	Fak Fak	10.79	154	Pn	Pn	10 56 39.2	-1.8
SBUM	Sibu	15.91	255		P	10 57 54.4	+0.7
JOW	Kunigami	19.86	2	P	Pn	10 58 42.3	+3.3
	12nm,0.6s,baz=130,slow=11,SNR=2.4						
	12nm,0.6s						
MTN	Manton Dam	19.90	170	P	P	10 58 36.9	-0.8
MTN				IAmb	IAmb	10 59 06.1	
	comp=Z,31nm,1.4s						
KNRA	Kununurra	22.43	177	P	P	10 59 04.8	-0.2
KNRA				IAmb	IAmb	10 59 11.5	
	comp=Z,31nm,1.3s						
FITZ	Fitzroy Crossi	24.88	184	P	P	10 59 29.1	+0.5
WB0	Warramunga Arr	27.31	166	P	P	10 59 48.7	-1.9
WB0				IAmb	IAmb	10 59 56.3	
	comp=Z,3.6nm,0.7s						
WRAB	Tennant Creek	27.46	166	P	P	10 59 55.3	+3.3
WRAB				IAmb	IAmb	11 00 21.7	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	27.46	166	P	P	10 59 50.1	-1.9
WRA	Warramunga Arr	27.46	166	P	P	10 59 51.5	-0.6
	comp=Z,0.5nm,0.5s,baz=348,slow=9.7,SNR=7.2						
	comp=Z,0.5nm,0.5s						
WB2	Warramunga Arr	27.47	166	P	P	10 59 50.6	-1.5
WB2				IAmb	IAmb	11 00 33.9	
	comp=Z,12nm,1.4s						
WR0	Warramunga Arr	27.53	166	P	P	10 59 52.0	-0.6
WR0				IAmb	IAmb	11 00 32.4	
	comp=Z,8.8nm,1.3s						
CMAR	Chiang Mai Arr	30.15	295	P	P	11 00 14.3	-1.8
	comp=Z,0.5nm,0.3s,baz=115,slow=6.1,SNR=2.0						
	comp=Z,0.5nm,0.3s						
KSRS	Korea Array	30.45	1	P	P	11 00 20.6	+2.3
	comp=Z,0.4nm,0.5s,baz=184,slow=10.0,SNR=2.4						
	comp=Z,0.4nm,0.5s						
AS31	Alice Springs	30.97	169	P	P	11 00 22.0	-1.2
ASAR	Alice Springs	30.98	169	P	P	11 00 21.5	-1.7
ASAR	Alice Springs	30.98	169	P	P	11 00 23.1	-0.1
	comp=Z,0.5nm,0.6s,baz=342,slow=7.1,SNR=24						
ASAR				PcP	PcP	11 03 18.4	-0.7
	comp=Z,0.6nm,0.5s,baz=348,slow=2.2,SNR=11						
	comp=Z,0.5nm,0.6s						
PZH	PanZhiHua	31.39	311	P	P	11 00 29.1	+2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,4.9s						
HHC	Hu-ho-hao-te	36.73	340	eP	P	11 01 14.8	+1.7
HHC				pmax	pmax		
	comp=Z,26nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,6.1s						
MORW	Morawa	37.41	197	P	P	11 01 19.1	+0.1
FORT	Forrest	37.44	179	P	P	11 01 18.5	-0.6
BBOO	Buckleboo	40.28	169	P	P	11 01 42.7	-0.1
NWAO	Narrogin (SRO)	40.78	193	P	P	11 01 46.3	-0.7
NWAO	Narrogin (SRO)	40.78	193	P	P	11 01 47.4	+0.4
NWAO				IAmb	IAmb	11 02 19.6	
	comp=Z,136nm,1.4s						
STKA	Stephens Creek	40.79	162	P	P	11 01 46.3	-0.9
STKA	Stephens Creek	40.79	162	P	P	11 01 46.8	-0.3
	comp=Z,1.2nm,0.5s,baz=0.2,slow=7.4,SNR=3.8						
	comp=Z,1.2nm,0.5s						

SONM Songino Array 44.63 340 P P 11 02 18.8 +0.5
comp=Z,0.4nm,0.4s,baz=155,slow=8.4,SNR=1.8
comp=Z,0.4nm,0.4s
WMQ Urumqi 50.68 323 *e*P P 11 03 05.3 0.0
WMQ sP pwP 11 03 23.3 +0.4
WMQ pmax pmax
comp=Z,11nm,0.9s
MK31 Makanchi Array 55.50 324 P P 11 03 40.0 -0.6
MK31 IAmb IAmb 11 03 40.8
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 55.50 324 P P 11 03 40.1 -0.6
comp=Z,1.8nm,0.5s,baz=121,slow=7.8,SNR=23
MKAR PcP PcP 11 04 40.4 -0.1
comp=Z,0.7nm,0.7s,baz=103,slow=5.2,SNR=3.8
comp=Z,1.8nm,0.5s
ZALV Zalesovo Beam 58.21 332 P P 11 03 57.8 -1.8
ZALV Zalesovo Beam 58.21 332 P P 11 03 58.1 -1.5
comp=Z,0.7nm,0.4s,baz=120,slow=7.2,SNR=4.6
comp=Z,0.7nm,0.4s
KURK Kurchatov 59.58 326 P P 11 04 08.8 -0.5
KURK IAmb IAmb 11 04 09.1
comp=Z,2.9nm,0.7s
KURBB Kurchatov Arra 59.59 326 P P 11 04 08.5 -0.8
comp=Z,1.5nm,0.5s,baz=123,slow=7.3,SNR=29
comp=Z,1.5nm,0.5s
KK31 Karatay Array 61.55 316 P P 11 04 21.2 -1.7
KK31 IAmb IAmb 11 04 22.6
comp=Z,1.7nm,0.8s
KKAR Karatay Array 61.55 316 P P 11 04 21.2 -1.7
KKAR IAmb IAmb 11 04 22.6
comp=Z,1.7nm,0.8s
BVAR Borovoye Array 65.18 326 P P 11 04 46.4 -0.3
comp=Z,1.6nm,0.5s,baz=107,slow=8.2,SNR=7.6
comp=Z,1.6nm,0.5s
NRIK Noril'sk 67.61 346 P P 11 05 01.9 0.0
comp=Z,2.1nm,0.7s,baz=145,slow=6.4,SNR=2.3
comp=Z,2.1nm,0.7s
ABKAR Akbulak array 70.28 320 P P 11 05 18.0 -0.9
ARU Arti 72.75 327 P P 11 05 32.7 -0.9
C18K Utukok River 76.85 21 P P 11 05 57.9 +0.6
C18K IAmb IAmb 11 06 02.8
comp=Z,3.3nm,1.4s
IMAR Indian Mountai 79.16 24 P P 11 06 10.1 0.0
KBZ Khabaz 81.44 313 P P 11 06 21.3 -1.5
comp=Z,1.0nm,0.6s,baz=23,slow=14,SNR=2.2
comp=Z,1.0nm,0.6s
ILAR Eielson Array 81.93 26 P P 11 06 25.6 +0.7
comp=Z,0.7nm,0.7s,baz=237,slow=5.6,SNR=11
comp=Z,0.7nm,0.7s
VNDA Vanda 86.42 173 P P 11 06 48.5 +1.1
VNDA IAmb IAmb 11 07 00.7
comp=Z,2.4nm,1.1s
ARCES ARCESS Array B 87.81 340 P P 11 06 53.5 -0.9
comp=Z,5.5nm,1.0s,baz=78,slow=4.7,SNR=3.7
comp=Z,5.5nm,1.0s
BRTR Keskin Array B 88.67 310 P P 11 06 57.6 -1.7
comp=Z,0.6nm,0.5s,baz=88,slow=3.9,SNR=5.5
comp=Z,0.6nm,0.5s
FINES FINESS Array B 89.47 332 P P 11 07 01.2 -1.1
comp=Z,4.7nm,1.0s,baz=64,slow=4.4,SNR=9.5
comp=Z,4.7nm,1.0s
AKASG Malin Array Be 89.99 321 P P 11 07 04.1 -0.9
comp=Z,0.8nm,0.6s,baz=68,slow=4.7,SNR=4.4
comp=Z,0.8nm,0.6s
YKA Yellowknife Ar 96.32 24 P P 11 07 34.5 +0.6
comp=Z,0.3nm,0.8s,baz=294,slow=4.7,SNR=3.9
comp=Z,0.3nm,0.8s
TORD Torodi Ar. Bea 122.67 290 PKP PKPdf 11 13 01.2 -1.1
comp=Z,0.4nm,0.6s,baz=69,slow=1.9,SNR=3.9

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*DJA **07** 11:15:47.4±0.6, 4°N±3°×12°7E±°, h11km±3km, M4.4/12, mb4.4/7, mB5.1/2, MLv4.4/12, Mw(mB)4.5/2*
*NEIC **07** 11:15:49.1±2.2, 4°.39N±0°.07×126°.88E±0°.08, h37km±7km, mb4.4/20, Error ellipse: s-maj=13.8km s-min=8.1km az=52.0*
*IDC **07** 11:15:58.3±2.5, 3°.99N×126°.45E, h116km±23km, mb3.6/12, mbtmp4.0/13, MS3.5/3, Error ellipse: s-maj=35.1km s-min=11.1km az=69.0*
ISC 07 11:15:49.4±0.6**, 4°.22N**±0°.06×**126°.74E**±0°.07**, h35**km**, n55,** σ**1s.53**/54**, mb4.2**/18**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.32	246	P	Pn	11 16 09.1	-2.3
SGSI				S	Sn	11 16 27.4	-0.4
DAV	Davao City (W)	3.06	338	Pn	Pn	11 16 33.5	-1.8
DAV	Davao City (W)	3.06	338	P	Pn	11 16 48.3	+13
	77nm,0.3s,baz=68,slow=8.5,SNR=1.8						
DAV				S	Sn	11 17 33.2	+22
	158nm,0.6s,baz=110,slow=19,SNR=6.4						
DAV	Davao City (W)	3.06	338	P	Pn	11 16 34.6	-0.7
TNTI	Ternate	3.48	170		Pn	11 16 42.5	+1.4
TNTI	Ternate	3.48	170	P	Pn	11 16 42.5	+1.4
TNTI				S	Sn	11 17 23.1	+2.0
KMSI	Cibinong	4.55	217	P	Pn	11 16 56.7	+0.9
LBMI	Labuha	4.88	171	P	Pn	11 17 01.4	+1.0
GTOI	Gorontalo	5.16	226	P	Pn	11 17 04.7	+0.6
	14nm,0.6s,0.1nm						
MRSI	Marisa	6.07	232	P	Pn	11 17 17.8	+1.1
	73nm,0.4s,1μm0.3nm						
SANI	Sanana	6.27	187	P	Pn	11 17 20.6	+1.1
	14nm,0.5s,0.1nm						
LUWI	Luwuk	6.56	217	Pn	Pn	11 17 27.6	+4.1
LUWI	Luwuk	6.56	217	P	Pn	11 17 25.0	+1.5
	150nm,1.1s,2μm0.5nm						
TOLI2	Tolitoli	6.71	243	Pn	Pn	11 17 27.3	+1.8
SWI	Sorong	6.77	138	P	Pn	11 17 26.8	+0.4
	23nm,1.1s,0.1nm						
SIJI	Sorong	6.78	138	P	Pn	11 17 26.9	+0.4
MYLDM	Lahad Datu	8.27	277	Pn	Pn	11 17 48.1	+1.2
FAKI	Fak Fak	8.97	142	Pn	Pn	11 17 55.8	-0.8
KAPI	Kappang	11.53	217	LR	LR	11 23 36.6	
	comp=Z,60nm,18.0s,baz=41,slow=41						
MTN	Manton Dam	17.50	166	Pn	Pn	11 19 47.2	-3.6
MTN				IAmb	IAmb	11 19 48.2	
	comp=Z,19nm,1.1s						
JAGI	Jajag, Banyuwa	17.79	225		P	11 19 56.3	+1.4
JAGI				IAmb	IAmb	11 20 01.0	
	comp=Z,46nm,1.5s						
KNRA	Kununurra	19.87	174	P	P	11 20 15.9	-1.8
KNRA				IAmb	IAmb	11 20 20.3	
	comp=Z,18nm,1.0s						
FITZ	Fitzroy Crossi	22.20	183	P	P	11 20 41.4	-1.5
WB0	Warramunga Arr	25.00	163	P	P	11 21 08.6	-1.5
WB0				IAmb	IAmb	11 21 22.2	
	comp=Z,10nm,0.9s						
WRAB	Tennant Creek	25.14	163	P	P	11 21 10.0	-1.4
WRAB				IAmb	IAmb	11 21 12.5	
	comp=Z,6.4nm,0.7s						
WRA	Warramunga Arr	25.14	163	P	P	11 21 10.0	-1.4
WRA	Warramunga Arr	25.14	163	P	P	11 21 10.8	-0.7
	comp=Z,2.6nm,0.4s,baz=336,slow=12,SNR=35						
WRA				S	S	11 25 29.1	-5.2
	comp=Z,0.2nm,0.6s,baz=337,slow=16,SNR=0.8						
	comp=Z,2.6nm,0.4s						
WB2	Warramunga Arr	25.15	163	P	P	11 21 10.1	-1.4
WB2				IAmb	IAmb	11 21 26.6	
	comp=Z,6.6nm,0.6s						
WR0	Warramunga Arr	25.22	163	P	P	11 21 11.6	-0.6
WR0				IAmb	IAmb	11 21 30.9	
	comp=Z,17nm,1.2s						
MBWA	Marble Bar	26.14	195	P	P	11 21 20.4	-0.1
PSA00	Pilbara Seismi	26.51	195	P	P	11 21 22.7	-1.1
AS31	Alice Springs	28.58	166	P	P	11 21 42.5	+0.1
ASAR	Alice Springs	28.58	166	P	P	11 21 42.9	+0.5
ASAR	Alice Springs	28.58	166	P	P	11 21 42.2	-0.2
	comp=Z,0.5nm,0.4s,baz=345,slow=7.4,SNR=18						
ASAR				PcP	PcP	11 24 52.1	-1.2
	comp=Z,0.5nm,1.0s,baz=346,slow=1.9,SNR=2.0						
	comp=Z,0.5nm,0.4s						
CMAR	Chiang Mai Arr	30.64	300	P	P	11 22 01.1	+0.4
	comp=Z,0.5nm,0.3s,baz=114,slow=6.8,SNR=6.4						
	comp=Z,0.5nm,0.3s						
KSRS	Korea Array	33.09	2	P	P	11 22 26.1	+4.2
	comp=Z,1.2nm,0.8s,baz=189,slow=12,SNR=1.6						
	comp=Z,1.2nm,0.8s						
MJAR	Matsushiro Arr	33.85	17	P	P	11 22 30.9	+2.2
	comp=Z,0.7nm,0.8s,baz=185,slow=9.8,SNR=1.6						
	comp=Z,0.7nm,0.8s						
FORT	Forrest	34.82	178	P	P	11 22 37.0	-0.1
HNR	Honiara	35.76	112	LR	LR	11 38 12.1	
	comp=Z,528nm,18.1s,baz=1.5,slow=37						
BBOO	Buckleboo	37.87	167	P	P	11 23 03.0	-0.1
STKA	Stephens Creek	38.58	160	P	P	11 23 09.1	0.0
STKA	Stephens Creek	38.58	160	P	P	11 23 09.5	+0.4
	comp=Z,2.3nm,0.5s,baz=327,slow=8.7,SNR=7.1						
	comp=Z,2.3nm,0.5s						
ARMA	Armidale	41.87	147	P	P	11 23 37.5	+1.0
ARMA				IAmb	IAmb	11 23 39.8	
	comp=Z,13nm,1.2s						
PALK	Pallekele	45.89	276	LR	LR	11 42 45.2	
	comp=Z,22nm,19.9s,baz=170,slow=35						
MK31	Makanchi Array	57.16	325	P	P	11 25 33.2	+0.4
MKAR	Makanchi Array	57.16	325	P	P	11 25 32.5	-0.3
MKAR	Makanchi Array	57.16	325	P	P	11 25 32.9	+0.1
	comp=Z,1.0nm,0.6s,baz=126,slow=8.2,SNR=15						
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	60.16	333	P	P	11 25 52.8	-0.7
	comp=Z,0.3nm,0.3s,baz=117,slow=8.3,SNR=2.1						
	comp=Z,0.3nm,0.3s						
KURBB	Kurchatov Arra	61.34	327	P	P	11 26 01.7	+0.1
	comp=Z,1.7nm,0.6s,baz=127,slow=6.2,SNR=22						
	comp=Z,1.7nm,0.6s						
KURK	Kurchatov	61.34	327	P	P	11 26 01.7	+0.1
BVAR	Borovoye Array	66.92	327	P	P	11 26 39.0	+0.8
	comp=Z,0.7nm,0.5s,baz=108,slow=9.3,SNR=3.0						
	comp=Z,0.7nm,0.5s						
ABKAR	Akbulak array	71.78	321		P	11 27 07.0	-1.3
VNDA	Vanda	83.91	173	P	P	11 28 15.4	+0.2
VNDA				IAmb	IAmb	11 28 55.8	
	comp=Z,3.7nm,1.4s						
ILAR	Eielson Array	84.66	25	P	P	11 28 21.5	+2.2
	comp=Z,0.3nm,0.7s,baz=256,slow=5.1,SNR=2.2						
	comp=Z,0.3nm,0.7s						
ARCES	ARCESS Array B	90.00	340	P	P	11 28 45.1	+0.1
	comp=Z,3.8nm,1.0s,baz=63,slow=8.2,SNR=1.6						
	comp=Z,3.8nm,1.0s						

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*NEIC **07** 11:23:17.6±1.4, 17°.8S±0°.1×178°.8W±0°.2, h535km±22km, mb4.4/21, Error ellipse: s-maj=28.9km s-min=7.3km az=123.0*
*IDC **07** 11:23:20.7±2.9, 17°.97S×178°.93W, h568km±31km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=27.8km s-min=17.2km az=155.0*
ISC 07 11:23:19.0±0.6**, 17°.9S**±0°.1×**178°.79W**±0°.09**, h562**km**, n38,** σ**1s.05**/41**, mb4.2**/18**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.85	60	P	P	11 25 12.9	-2.9
NIUE	Niue	8.48	99	P	P	11 25 19.2	-2.8
DZM	Mont Dzumac	14.47	251	P	P	11 26 21.1	-2.0
DZM	Mont Dzumac	14.47	251	P	P	11 26 21.7	-1.4
	4.0nm,0.6s,baz=133,slow=15,SNR=6.7						
KOUNC	Koumac, New Ca	16.19	258	P	P	11 26 39.5	-0.4
TOZ	Tahuroa Road	20.34	193	P	P	11 27 19.1	+1.7
TOZ				IAmb	IAmb	11 27 41.0	
	comp=Z,19nm,1.3s						
ARMA	Armidale	29.61	240	P	P	11 28 39.9	+0.3
ARMA				IAmb	IAmb	11 29 06.6	
	comp=Z,9.3nm,1.1s						
CTAO	Charters Tower	33.08	261	P	P	11 29 08.7	-0.6
COEN	Coen	36.74	271	P	P	11 29 39.9	+0.1
COEN				IAmb	IAmb	11 30 11.1	
	comp=Z,17nm,1.2s						
TOO	Toolangi	36.87	231	P	P	11 29 41.0	+0.5
TOO				IAmb	IAmb	11 29 42.1	
	comp=Z,8.1nm,0.8s						
STKA	Stephens Creek	38.30	241	P	P	11 29 52.7	+0.5
STKA	Stephens Creek	38.30	241	P	P	11 29 53.1	+0.9
	comp=Z,3.0nm,0.5s,baz=90,slow=9.5,SNR=11						
	comp=Z,3.0nm,0.5s						
BBOO	Buckleboo	43.07	241	P	P	11 30 29.9	-0.2
WR0	Warramunga Arr	44.08	260	P	P	11 30 37.0	-1.1
WR0				IAmb	IAmb	11 31 05.8	
	comp=Z,8.2nm,1.2s						
WB0	Warramunga Arr	44.23	260	P	P	11 30 38.9	-0.5
WB0				IAmb	IAmb	11 31 04.7	
	comp=Z,15nm,1.5s						
WB2	Warramunga Arr	44.26	260		P	11 30 38.9	-0.7
WB2				IAmb	IAmb	11 30 43.3	
	comp=Z,4.5nm,0.8s						
WRAB	Tennant Creek	44.26	260	P	P	11 30 39.7	+0.2
WRA	Warramunga Arr	44.27	260		P	11 30 39.7	+0.1
WRA	Warramunga Arr	44.27	260	P	P	11 30 39.1	-0.5
	comp=Z,1.6nm,0.3s,baz=97,slow=7.7,SNR=78						
WRA				PcP	PcP	11 32 11.7	0.0
	comp=Z,0.8nm,0.7s,baz=93,slow=3.5,SNR=2.9						
	comp=Z,1.6nm,0.3s						
AS31	Alice Springs	44.43	254	P	P	11 30 41.1	+0.3
AS31				IAmb	IAmb	11 30 41.7	
	comp=Z,6.8nm,0.7s						
ASAR	Alice Springs	44.43	254	P	P	11 30 41.1	+0.2
	comp=Z,23nm,0.6s,baz=89,slow=8.0,SNR=654						
ASAR				PcP	PcP	11 32 12.7	+0.4
	comp=Z,1.2nm,0.6s,baz=101,slow=3.9,SNR=5.8						
ASAR				S	S	11 36 34.2	-1.2
	comp=Z,0.3nm,0.8s,baz=86,slow=16,SNR=4.3						
MTN	Manton Dam	48.43	269	P	P	11 31 10.4	-0.8
FORT	Forrest	49.66	245	P	P	11 31 19.6	-0.5
KNRA	Kununurra	50.12	264	P	P	11 31 23.6	0.0
KNRA				IAmb	IAmb	11 31 24.1	
	comp=Z,19nm,0.9s						
FITZ	Fitzroy Crossi	52.66	261	P	P	11 31 42.7	+0.8
PSA00	Pilbara Seismi	57.55	255	P	P	11 32 15.3	-0.6
MBWA	Marble Bar	57.71	256	P	P	11 32 17.1	+0.1
MBWA				IAmb	IAmb	11 32 36.3	
	comp=Z,17nm,1.1s						
MORW	Morawa	60.13	246	P	P	11 32 33.0	-0.1
MORW				IAmb	IAmb	11 32 58.4	
	comp=Z,28nm,1.3s						
MJAR	Matsushiro Arr	67.72	324	P	P	11 33 21.0	0.0
	comp=Z,1.0nm,0.6s,baz=110,slow=10,SNR=2.5						
	comp=Z,1.0nm,0.6s						
QSPA	South Pole Qui	72.11	180	P	P	11 33 47.4	+0.6
	comp=Z,2.0nm,0.5s,baz=330,slow=1.5,SNR=6.8						
	comp=Z,2.0nm,0.5s						
TXAR	Lajitas Array	86.32	58	P	P	11 35 03.7	+1.4
	comp=Z,0.3nm,0.8s,baz=257,slow=3.6,SNR=2.8						
	comp=Z,0.3nm,0.8s						
PDAR	Pinedale Array	87.63	44	P	P	11 35 10.1	+1.7
	comp=Z,0.1nm,0.3s,baz=236,slow=6.4,SNR=1.3						
	comp=Z,0.1nm,0.3s						
CMAR	Chiang Mai Arr	88.55	290	P	P	11 35 13.8	+0.9
	comp=Z,0.6nm,0.7s,baz=94,slow=2.8,SNR=4.7						
	comp=Z,0.6nm,0.7s						
MKAR	Makanchi Array	108.90	314	PKiKP	PKiKP	11 40 44.5	-0.4
	comp=Z,0.3nm,0.6s,baz=114,slow=2.0,SNR=4.2						
BVAR	Borovoye Array	116.64	321	PKP	PKPdf	11 40 59.1	-0.4
	comp=Z,0.7nm,0.6s,baz=101,slow=1.5,SNR=4.5						
BRTR	Keskin Array B	144.55	315	PKP	PKPdf	11 41 52.7	+0.3
	comp=Z,1.0nm,0.6s,baz=128,slow=2.0,SNR=6.6						
MMAI	Mount Meron Ar	145.85	303	PKPbc	PKPbc	11 41 57.9	+1.4
	comp=Z,1.7nm,0.5s,baz=64,slow=6.6,SNR=3.1						
GERES	GERESS Array B	147.55	345	PKPbc	PKPbc	11 42 01.4	+0.8
	comp=Z,1.4nm,0.5s,baz=13,slow=4.7,SNR=7.1						

IDC 07 11:47:20.5±2.5**, 4°.13N**×**126°.63E, h0**km**, mb3.1**/3**, mbtmp3.1/3, Error ellipse: s-maj=199.7km s-min=29.4km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.10	163	P	P	11 52 47.6	+0.5
	0.3nm,0.6s,baz=343,slow=9.6,SNR=5.5						
	0.3nm,0.6s						
ASAR	Alice Springs	28.53	166	P	P	11 53 17.6	-0.5
	0.2nm,0.8s,baz=337,slow=6.5,SNR=5.5						
	0.2nm,0.8s						
MKAR	Makanchi Array	57.17	325	P	P	11 57 09.2	-0.1
	0.1nm,0.4s,baz=140,slow=7.8,SNR=1.7						
	0.1nm,0.4s						

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*IDC **07** 12:04:30.7±1.0, 30°.69N×57°.31E, h0km, mb3.7/9, mbtmp3.7/13, ML3.6/4, Error ellipse: s-maj=19.9km s-min=17.4km az=114.0*
*TEH **07** 12:04:31.4, 30°.75N×57°.31E, h12km±43km, ML3.9*
ISC 07 12:04:32.9±0.6**, 30°.69N**±0°.03×**57°.31E**±0°.04**, h15**km**, n46,** σ**1s.26**/50**, mb3.6**/9**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	Kerman Provinc	0.19	191	Pg	Pg	12 04 36.8	-0.8
ZRDN	Zarand Kerman	0.72	292	Pg	Pg	12 04 45.2	-1.9
KHGB	Koh Gabri	0.79	247	Pg	Pg	12 04 46.9	-1.3
KHGB				Sg	Sg	12 04 58.0	-0.7
CHMN	Cheshme madani	0.85	167	Pg	Pg	12 04 48.5	-1.0
TVBK	TV Kerman	0.85	214	Pg	Pg	12 04 48.8	-0.6
NGRK	Negar Kerman	1.16	206	Pg	Pg	12 04 55.1	-0.2
NGRK				Sg	Sn	12 05 11.8	+1.1
IBAF	Bafgh	1.75	301	Pg	Pb	12 05 03.5	-1.2
KBAM	BAM	1.84	147	Pn	Pb	12 05 05.0	-1.3
BSRN	Basiran	2.00	50	Pn	Pn	12 05 06.4	+0.1
IKOO	Kooshah	2.25	39	Pn	Pn	12 05 09.6	-0.2
TPRV	Parvadeh(Tabas	2.39	347	Pn	Pn	12 05 11.3	-0.2
IMEH	Mehriz	2.42	287	Pn	Pn	12 05 13.1	+0.9
NHDN	Nehbandan	2.45	73	Pn	Pn	12 05 12.9	+0.4
ITEG	Tejag	2.51	29	Pn	Pn	12 05 13.1	-0.3
KHNJ	Kahnooj	2.76	173	Pn	Pb	12 05 19.0	-2.9
TKDS	Koohdasht(Taba	2.92	357	Pn	Pn	12 05 18.5	-0.3
ICHK	Chekchek	2.93	303	Pn	Pn	12 05 19.8	+0.7
IDAH	Dahanechah	2.98	46	Pn	Pn	12 05 20.4	+0.5
AFRZ	Afriz	3.08	27	Pn	Pn	12 05 20.3	-0.9
ZHDN	Zahedan	3.29	112	Pn	Pn	12 05 25.3	+1.2
ISAD	Sadrabad	3.34	292	Pn	Pn	12 05 26.4	+1.6
GENO	Geno	3.43	197	Pn	Pn	12 05 27.6	+1.7
SHRT	Shahrakht	3.88	40	Pn	Pn	12 05 32.2	+0.2
ANAR	Anarak	3.94	310	Pn	Pn	12 05 34.7	+1.8
IRAM	Ramesheh	4.37	286	Pn	Pn	12 05 40.5	+1.6
IZEF	Zefreh	4.78	299	Pn	Pn	12 05 46.1	+1.5
TBJM	Torbat-e-JAM	5.22	28	Pn	Pn	12 05 51.5	+0.9
KRSH	Karshahi	5.47	308	Pn	Pn	12 05 55.8	+1.8
SRVN	Saravan	5.53	125	Pn	Pn	12 05 56.9	+2.1
ISFB	Sefidab	5.63	312	Pn	Pn	12 05 56.5	+0.4
SBZV	Sabzevar	5.69	2	Pn	Pn	12 05 58.3	+1.2
JRKH	Jarkhoshk	5.79	25	Pn	Pn	12 05 59.0	+0.7
ISFR	Sfrayin	6.37	5	Pn	Pn	12 06 07.0	+0.5
GEYT	Alibeck	7.25	5	Pn	Pn	12 06 18.5	+0.2
	0.3nm,0.3s,baz=185,slow=14,SNR=2.1						
GEYT				Sn	Sn	12 07 44.3	+3.9
	0.1nm,0.3s,baz=208,slow=24,SNR=1.2						
GEYT				Lg	Lg	12 08 18.9	
	0.3nm,0.3s,baz=202,slow=34,SNR=1.7						
	0.9nm,0.4s						
WSAR	Wadi Sarin	7.52	171	Pn	Pn	12 06 22.8	+0.8
	1.2nm,0.3s,baz=9.4,slow=8.8,SNR=7.0						
WSAR				Sn	Sn	12 07 49.2	+2.2
	baz=138,slow=16						
	7.5nm,0.5s						
ASF	Jabal al Asfar	17.49	280	P	P	12 08 36.1	-1.4
	0.6nm,0.3s,baz=70,slow=1.0,SNR=1.9						
	2.4nm,0.2s						
AKTO	Aktyubinsk	19.73	1	P	Pn	12 09 03.1	-0.3
	0.1nm,0.3s,baz=158,slow=16,SNR=2.2						
	0.6nm,0.4s						
BRTR	Keskin Array B	21.29	301	P	P	12 09 19.4	+0.3
	0.7nm,0.5s,baz=129,slow=9.7,SNR=6.7						
	0.7nm,0.5s						
BVAR	Borovoye Array	24.27	19	P	P	12 09 49.8	+0.4
	1.3nm,0.7s,baz=192,slow=7.2,SNR=7.0						
	1.3nm,0.7s						
MKAR	Makanchi Array	25.10	43	P	P	12 09 57.0	+0.1
	0.4nm,0.7s,baz=226,slow=8.3,SNR=4.9						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	25.44	32	P	P	12 09 59.9	-0.1
	0.7nm,0.6s,baz=232,slow=9.4,SNR=7.7						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	30.54	32	P	P	12 10 45.0	-0.5
	1.3nm,0.5s,baz=238,slow=10,SNR=7.9						
	1.3nm,0.5s						
FINES	FINESS Array B	36.93	336	P	P	12 11 41.5	+0.6
	2.3nm,0.8s,baz=125,slow=10.0,SNR=5.4						
	2.3nm,0.8s						
GERES	GERESS Array B	37.51	312	P	P	12 11 46.5	+0.4
	1.0nm,0.8s,baz=67,slow=8.6,SNR=3.3						
	1.0nm,0.8s						
CMAR	Chiang Mai Arr	39.56	98	P	P	12 12 03.7	+0.1
	0.3nm,0.4s,baz=303,slow=8.5,SNR=2.3						
	0.3nm,0.4s						
TORD	Torodi Ar. Bea	53.94	264	P	P	12 13 55.4	-0.9
	0.8nm,0.7s,baz=58,slow=8.3,SNR=6.8						
	0.8nm,0.7s						

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*IDC **07** 12:20:11.4±1.0, 24°.28S×174°.82W, h0km, mb4.0/7, mbtmp4.0/7, MS3.5/3, Error ellipse: s-maj=51.9km s-min=25.9km az=168.0*
*NEIC **07** 12:20:12.1±1.2, 23°.5S±0°.1×174°.7W±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=22.1km s-min=19.9km az=99.0*
ISC 07 12:20:12.2±0.6**, 23°.6S**±0°.1×**174°.67W**±0°.09**, h10**km**, n33,** σ**1s.33**/29**, mb4.4**/15**, MS3.6**/3**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.33	45	Pn	Pn	12 21 44.7	-1.0
AFI	Afiamalu	10.05	16	Pn	Pn	12 22 35.4	-1.4
RAR	Rarotonga	13.99	83	Pn	Pn	12 23 28.7	-1.9
RAR	Rarotonga	13.99	83	Pn	Pn	12 23 30.6	+0.1
	1.9nm,0.3s,baz=272,slow=11,SNR=9.6						
RAR				Sn	Sn	12 25 52.7	-13
	1.2nm,0.3s,baz=19,slow=16,SNR=1.9						
DZM	Mont Dzumac	17.48	271	P	Pn	12 24 15.7	-0.6
LTZ	Lake Taylor	21.95	206	P	P	12 25 06.5	+0.5
LTZ				IAmb	IAmb	12 25 30.4	
	comp=Z,18nm,1.1s						
INZ	Inchbonnie	22.25	208	P	P	12 25 08.0	-1.2
INZ				IAmb	IAmb	12 25 19.5	
	comp=Z,32nm,1.3s						
RPZ	Rata Peaks	23.22	207	P	P	12 25 19.8	+0.3
RPZ				IAmb	IAmb	12 25 48.8	
	comp=Z,47nm,1.4s						
FOZ	Fox Glacier	23.61	209	P	P	12 25 24.1	+0.8
PPT	Papeete	24.23	80	LR	LR	12 33 42.6	
	comp=Z,42nm,19.0s,baz=296,slow=33						
DCZ	Deep Cove	26.31	210	P	P	12 25 47.5	-0.5
EIDS	Eidsvold	31.16	260	P	P	12 26 30.4	-1.1
EIDS				IAmb	IAmb	12 26 44.2	
	comp=Z,8.1nm,1.1s						
CTAO	Charters Tower	36.36	268	P	P	12 27 16.4	-0.4
CTAO				IAmb	IAmb	12 27 34.9	
	comp=Z,20nm,1.4s						
AS31	Alice Springs	46.88	259	P	P	12 28 42.0	-1.1
ASAR	Alice Springs	46.89	259		P	12 28 42.8	-0.2
ASAR	Alice Springs	46.89	259	P	P	12 28 42.4	-0.7
	comp=Z,2.4nm,0.8s,baz=90,slow=6.4,SNR=25						
	comp=Z,2.4nm,0.8s						
WR0	Warramunga Arr	47.10	264	P	P	12 28 43.9	-0.9
WR0				IAmb	IAmb	12 29 05.5	
	comp=Z,4.8nm,1.1s						
WB2	Warramunga Arr	47.28	264	P	P	12 28 44.2	-2.0
WB2				IAmb	IAmb	12 28 58.0	
	comp=Z,9.5nm,1.2s						
WB0	Warramunga Arr	47.29	264	P	P	12 28 44.4	-1.8
WRA	Warramunga Arr	47.29	264	P	P	12 28 44.7	-1.6
WRA	Warramunga Arr	47.29	264	P	P	12 28 44.9	-1.4
	comp=Z,3.4nm,0.9s,baz=102,slow=8.1,SNR=10						
	comp=Z,3.4nm,0.9s						
KNRA	Kununurra	53.57	268	P	P	12 29 32.7	-1.1
VNDA	Vanda	55.10	186	P	P	12 29 43.7	-0.3
DAV	Davao City (W)	65.81	290	LR	LR	12 56 25.3	
	comp=Z,81nm,21.0s,baz=328,slow=33						
QSPA	South Pole Qui	66.45	180	P	P	12 31 03.0	+1.3
QSPA				IAmb	IAmb	12 31 18.3	
	comp=Z,5.9nm,1.4s						
MJAR	Matsushiro Arr	74.56	322	P	P	12 31 53.5	+2.1
	comp=Z,1.4nm,1.1s,baz=152,slow=7.2,SNR=2.5						
	comp=Z,1.4nm,1.1s						
ASAJ	Asahikawa	77.96	330	LR	LR	13 00 49.7	
	comp=Z,29nm,20.4s,baz=118,slow=31						
NVAR	Mina Array Bea	81.25	41	P	P	12 32 33.5	+4.7
	comp=Z,0.2nm,0.5s,baz=230,slow=7.0,SNR=2.2						
	comp=Z,0.2nm,0.5s						
PLCA	Paso Flores	84.89	132	P	P	12 32 46.3	-1.3
	comp=Z,3.0nm,1.3s,baz=23,slow=5.6,SNR=1.6						
	comp=Z,3.0nm,1.3s						
TXAR	Lajitas Array	86.20	56	P	P	12 32 57.1	+2.9
	comp=Z,0.5nm,0.9s,baz=201,slow=6.7,SNR=5.1						
	comp=Z,0.5nm,0.9s						
CMAR	Chiang Mai Arr	94.05	288	P	P	12 33 32.6	+1.3
	comp=Z,0.5nm,0.3s,baz=130,slow=3.6,SNR=5.6						
	comp=Z,0.5nm,0.3s						
AKASG	Malin Array Be	147.23	332	PKPbc	PKiKP	12 39 57.4	-0.5
	comp=Z,2.0nm,0.6s,baz=40,slow=4.0,SNR=11						
BRTR	Keskin Array B	151.22	311	PKPbc	PKiKP	12 40 08.0	+1.2
	comp=Z,0.2nm,0.4s,baz=116,slow=3.0,SNR=3.8						

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*IDC **07** 12:39:05.9±1.0, 53°.91N×163°.48W, h0km, mb3.9/22, mbtmp3.9/25, ML3.3/3, MS3.5/6, Error ellipse: s-maj=25.7km s-min=13.1km az=172.0*
*NEIC **07** 12:39:06.0±2.9, 53°.55N±0°.05×163°.23W±0°.07, h10km±2km, mb3.8/20, ML3.9/10, ML3.7(AEIC), Error ellipse:*

s-maj=8.9km s-min=6.3km az=147.0
*AEIC **07** 12:39:08.3±2.8, 53.°57N±0.°07×163.°27W±0.°05, h37km±8km, Error ellipse: s-maj=9.9km s-min=3.9km az=164.0*
ISC 07 12:39:05.6±1.7**, 53.°54N**±0.°06×**163.°21W**±0.°04**, h11**km±10km**, n199, σ1.s35**/195**, mb4.1**/26**, MS3.5**/6**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRPK	Brown Peak	1.15	344		Pn	12 39 27.7	0.0
BRPK					Sb	12 39 42.0	-0.4
ISLZ	Isanotski Laza	1.22	346		Pn	12 39 28.8	+0.1
ISLZ					Sb	12 39 43.4	-1.1
WESE	West Dahl East	1.24	319		Pg	12 39 29.2	-0.1
WESE					Sb	12 39 44.2	-0.8
SSLS	Shishaldin Sou	1.26	339		Pg	12 39 29.7	-0.1
SSLS					Sn	12 39 45.7	-0.5
FALS	False Pass	1.32	355		Pb	12 39 30.5	+0.1
FALS					Sn	12 39 47.4	-0.1
FALS	False Pass	1.32	355	P	Pb	12 39 30.5	+0.1
	baz=176						
FALS				S	Sn	12 39 47.4	-0.1
	baz=176						
ISNN	Isanotski Nort	1.33	346		Pg	12 39 31.1	-0.1
ISNN					Sg	12 39 49.2	+0.7
SSBA	Shishaldin	1.34	337		Pb	12 39 30.8	-0.1
SSBA					Sg	12 39 49.5	+0.7
SSLN	Shishaldin Nor	1.35	340		Pg	12 39 31.5	-0.1
WEBT	Westdahl Beart	1.39	320		Pb	12 39 31.2	-0.3
AKSA	Akutan Strait	1.59	293		Pn	12 39 33.6	-0.1
AKSA					Sb	12 39 54.6	-0.4
AKUT	Akutan	1.63	292		Pb	12 39 34.9	-0.8
AKUT	Akutan	1.63	292		Sb	12 39 55.9	-0.3
AHB	Akutan Harbor	1.65	291		Pb	12 39 35.2	-0.8
DT1	Dutton Round H	1.66	19		Pn	12 39 34.9	+0.2
AKBBA	Akutan Broad B	1.71	290		Pn	12 39 35.7	+0.4
ZRO	Akutan Zero	1.73	290		Pn	12 39 36.2	+0.6
AKV	Akutan Volcano	1.73	291		Pn	12 39 36.2	+0.5
AKLV	Akutan Long Va	1.74	292		Pn	12 39 36.0	+0.3
AKGG	Akutan Green G	1.77	293		Pn	12 39 36.6	+0.4
LVA	Lava Point	1.79	291		Pn	12 39 36.8	+0.4
AKRB	Akutan Reef Bi	1.79	290		Pn	12 39 37.0	+0.5
UNV	Unalaska Valle	1.98	280		Pn	12 39 38.6	-0.4
UNV	Unalaska Valle	1.98	280	P	Pn	12 39 38.6	-0.4
	baz=97						
PVV	Pavlof Volcano	2.01	24		Pn	12 39 40.4	+1.0
PN7A	Pavlof North-7	2.02	20		Pn	12 39 41.2	+1.6
PS1A	Pavlof South-1	2.07	24		Pn	12 39 41.7	+1.5
MNAT	Makushin Natee	2.09	281		Pn	12 39 40.6	0.0
MSW	Makushin Switc	2.16	281		Pn	12 39 41.6	+0.2
MGOD	Makushin Gods	2.19	278		Pn	12 39 42.5	+0.4
MAPS	Pakushin South	2.24	278		Pn	12 39 42.8	+0.3
SDPT	Sand Point	2.41	40		Pn	12 39 45.7	+0.8
SDPT				IAML		12 40 25.3	
	comp=N,536nm,1.3s						
SDPT				IAML		12 40 27.4	
	comp=E,666nm,0.7s						
SDPT	Sand Point	2.41	40	P	Pn	12 39 46.1	+1.2
	baz=224						
CNBA	Chernabura Isl	2.48	58	Pn	Pn	12 39 46.0	+0.1
OKFG	Magazine Ridge	2.81	269		Pn	12 39 51.1	+0.6
OKER	Okmok East Rim	2.89	270		Pn	12 39 52.2	+0.5
OKNC	Okmok New Cone	2.94	270		Pn	12 39 53.0	+0.8
OKCE	Okmok Cone E	2.96	270		Pn	12 39 54.0	+1.5
NIKH	Nikolski High	3.44	263		Pn	12 39 59.3	+0.3
NIKH	Nikolski High	3.44	263	P	Pn	12 39 59.3	+0.3
	baz=78						
S14K	Fog Glacier	3.46	36	P	Pn	12 40 01.5	+2.0
	baz=220						
VNFG	Fog Glacier, M	3.46	36		Pn	12 40 01.5	+2.0
VNFG	Fog Glacier, M	3.46	36	IAML		12 41 12.4	
	comp=N,242nm,1.1s						
VNFG				IAML		12 41 20.6	
	comp=E,363nm,1.4s						
CHGN	Chignik	3.91	43		Pn	12 40 07.1	+1.6
CHGN	Chignik	3.91	43	IAML		12 41 23.2	
	comp=N,89nm,1.2s						
CHGN				IAML		12 41 25.2	
	comp=E,122nm,1.2s						
CHGN	Chignik	3.91	43	P	Pn	12 40 07.1	+1.6
	baz=228						
CLCO	Concord Point,	3.99	262		Pn	12 40 07.9	+1.3
ANPB	Aniakchak Plen	4.32	39		Pn	12 40 12.7	+1.5
ANNW	Aniakchak Nort	4.46	38		Pn	12 40 15.0	+1.8
P08K	Saint George I	4.76	313		Pn	12 40 18.2	+1.0
P08K	Saint George I	4.76	313	P	Pn	12 40 18.2	+1.0
	baz=128						
CHIR	Chirikof Islan	4.96	60	Pn	Pn	12 40 19.4	-0.5
CHIR	Chirikof Islan	4.96	60	P	Pn	12 40 21.2	+1.3
	baz=246						
R17K	Ugashik Creek	5.64	41		Pn	12 40 30.7	+1.5
R17K	Ugashik Creek	5.64	41	P	Pn	12 40 30.7	+1.5
	baz=227						
O14K	Tigyukauivet M	5.83	10		Pn	12 40 33.3	+1.5
O14K	Tigyukauivet M	5.83	10	P	Pn	12 40 33.3	+1.5
	baz=192						
O15K	Ungalikthiuk R	5.95	17		Pn	12 40 34.6	+1.1
O15K	Ungalikthiuk R	5.95	17	P	Pn	12 40 34.6	+1.1
	baz=200						
SII	Sitkinak Islan	6.00	56	Pn	Pn	12 40 34.6	+0.3
P16K	Nushagak River	6.22	26		Pn	12 40 38.6	+1.4
P16K	Nushagak River	6.22	26	P	Pn	12 40 38.6	+1.4
	baz=210						
Q17K	Contact Creek	6.27	38	P	Pn	12 40 39.3	+1.3
	baz=224						
CNTC	Contact Creek	6.27	38		Pn	12 40 39.3	+1.3
ANCK	Angle Creek	6.37	40		Pn	12 40 40.7	+1.3
ACHA	Angle Creek He	6.45	40		Pn	12 40 41.6	+1.2
N14K	Kuskokwak Cree	6.45	7		Pn	12 40 42.1	+1.7
N14K	Kuskokwak Cree	6.45	7	P	Pn	12 40 42.1	+1.7
	baz=188						
O16K	Kokwok River B	6.69	23		Pn	12 40 44.6	+0.9
O16K	Kokwok River B	6.69	23	P	Pn	12 40 44.6	+0.9
	baz=208						
OHAK	Old Harbor	6.75	53	Pn	Pn	12 40 44.9	+0.5
ATKA	Atka Island	6.79	263		Pn	12 40 46.1	+1.1
N15K	Kwethluk River	6.86	13		Pn	12 40 47.4	+1.4
N15K	Kwethluk River	6.86	13	P	Pn	12 40 47.4	+1.4
	baz=196						
KAHC	Katmai Hardscr	6.87	39		Pn	12 40 47.7	+1.4
Q18K	Katmai Hardscr	6.87	39	P	Pn	12 40 47.7	+1.4
	baz=226						
M13K	Dall Lake	6.89	359		Pn	12 40 49.0	+2.7
M13K	Dall Lake	6.89	359	P	Pn	12 40 48.6	+2.2
	baz=180						
O17K	Koliganek Bris	7.09	26		Pn	12 40 50.2	+1.0
O17K	Koliganek Bris	7.09	26	P	Pn	12 40 50.2	+1.0
	baz=211						
M14K	Bethel	7.26	5	Pn	Pn	12 40 54.2	+2.7
M14K	Bethel	7.26	5	P	Pn	12 40 52.5	+1.0
	baz=186						
M15K	Kasigluk River	7.30	10		Pn	12 40 53.0	+0.9
M15K	Kasigluk River	7.30	10	P	Pn	12 40 53.0	+0.9
	baz=192						
P18K	Big Mountain,	7.34	34	Pn	Pn	12 40 54.8	+2.2
P18K	Big Mountain,	7.34	34	P	Pn	12 40 54.5	+1.9
	baz=221						
KDAK	Kodiak Island	7.36	50	Pn	Pn	12 40 53.1	+0.3
KDAK	Kodiak Island	7.36	50	Pn	Pn	12 40 52.5	-0.3
	comp=E,0.7nm,0.3s,baz=188,slow=4.4,SNR=27						
KDAK				Sn	Sn	12 42 10.8	-5.4
	comp=E,0.5nm,0.3s,baz=54,slow=9.9,SNR=1.8						
	comp=E,2.4nm,0.3s						
N16K	Nishlik Lake	7.36	17		Pn	12 40 54.8	+2.0
N16K	Nishlik Lake	7.36	17	P	Pn	12 40 54.8	+2.0
	baz=202						
Q19K	Cape Douglas,	7.58	41	Pn	Pn	12 40 57.0	+1.1
Q19K	Cape Douglas,	7.58	41	P	Pn	12 40 57.6	+1.7
	baz=229						
O18K	Koktuh Hills	7.70	32	Pn	Pn	12 40 59.8	+2.2
O18K	Koktuh Hills	7.70	32	P	Pn	12 40 59.4	+1.8
	baz=219						
N17K	Nushagak Hills	7.73	23		Pn	12 40 59.6	+1.7
N17K	Nushagak Hills	7.73	23	P	Pn	12 40 59.2	+1.2
	baz=208						
L14K	Kuka Creek	7.83	2		Pn	12 41 00.4	+1.2
L14K	Kuka Creek	7.83	2	P	Pn	12 41 00.4	+1.2
	baz=183						
M16K	Timber Creek	7.84	15		Pn	12 41 00.7	+1.2
M16K	Timber Creek	7.84	15	P	Pn	12 41 00.8	+1.3
	baz=199						
O19K	Port Alsworth	8.25	33	Pn	Pn	12 41 07.0	+1.9
L16K	Owhat River	8.43	12	Pn	Pn	12 41 08.2	+0.7
ILSW	Iliamna Southw	8.49	37	Pn	Pn	12 41 09.7	+1.2
SVW2	Sparrevohn	8.62	25		Pn	12 41 12.9	+2.8
K15K	Wolf Creek Mou	8.82	5		Pn	12 41 14.8	+1.9
CNPM	China Poot	8.92	43	Pn	Pn	12 41 14.9	+0.7
BRLK	Bradley Lake	9.21	42	Pn	Pn	12 41 17.6	-0.6
J14K	Nanvaranak Lak	9.24	359		Pn	12 41 19.9	+1.4
K17K	Iditarod	9.55	14	Pn	Pn	12 41 24.8	+1.9
J16K	Anvik River	9.87	7		Pn	12 41 28.4	+1.2
O22K	Cooper Landing	10.11	41	Pn	Pn	12 41 30.0	-0.4
TTA	Tatalina	10.14	19	Pn	Pn	12 41 30.3	-0.8
RC01	Rabbit Creek A	10.48	38	Pn	Pn	12 41 35.7	0.0
K20K	Telida	10.93	22		Pn	12 41 42.5	+0.7
PMR	Palmer	11.03	37	Pn	Pn	12 41 41.1	-2.0
KNK	Knik Glacier	11.17	39	Pn	Pn	12 41 44.5	-0.5
GHO	Glory Hole Cre	11.22	37	Pn	Pn	12 41 44.0	-1.8
HIN	Hinchinbrook I	11.39	46	Pn	Pn	12 41 47.7	-0.4
CAST	Castle Rocks	11.46	26	Pn	Pn	12 41 51.2	+2.1
SCM	Sheep Creek Mo	11.85	39	Pn	Pn	12 41 53.2	-1.2
TRF	Thorofare Moun	11.98	29	Pn	Pn	12 41 55.9	-0.4
KLU	Klutina	12.20	42		Pn	12 41 58.2	-1.0
RND	Reindeer	12.38	31	Pn	Pn	12 41 58.6	-3.1
M24K	Tolsona, Glenn	12.45	40	Pn	Pn	12 42 01.6	-1.0
BERG	Berg Lake	12.63	49	Pn	Pn	12 42 03.0	-2.0
N25K	Chitina, Valde	12.80	44	Pn	Pn	12 42 07.1	-0.3
CRQM	Cirque	13.03	48	Pn	Pn	12 42 09.9	-0.7
GLB	Gilahina Butte	13.05	45	Pn	Pn	12 42 09.6	-1.1
VRDI	Verde Repeater	13.10	46	Pn	Pn	12 42 10.4	-1.2
IMAR	Indian Mountai	13.33	17	Pn	Pn	12 42 15.8	+1.3
MCARA	McCarthy VSAT	13.36	46	Pn	Pn	12 42 14.0	-0.9
SHEM	Shemya Is, Ala	13.64	276	LR	LR	12 47 51.6	
	comp=E,79nm,18.6s,baz=101,slow=39						
GRNC	Granite Creek	13.65	50	Pn	Pn	12 42 18.2	-0.9
CTGM	Chitina Glacie	13.93	49	Pn	Pn	12 42 21.8	-1.0
ILAR	Eielson Array	13.97	30	Pn	Pn	12 42 18.2	-5.0
	comp=E,0.1nm,0.3s,baz=216,slow=13,SNR=5.4						
	comp=E,0.2nm,0.7s						
LOGN	Logan Glacier	14.02	50	Pn	Pn	12 42 24.1	-0.1
M27K	Edge Creek, AK	14.29	43		Pn	12 42 25.8	-2.0
SCRK	Sand Creek	14.38	36	Pn	Pn	12 42 25.8	-3.2
BCAR	Beaver Creek A	14.68	41	Pn	Pn	12 42 31.7	-1.3
J26L	Joseph Creek	14.85	35		Pn	12 42 34.3	-1.0
C18K	Utukok River	15.19	3		Pn	12 42 39.9	+0.1
C18K				IAmb	IAmb	12 42 42.6	
	comp=Z,8.2nm,1.4s						
P29M	Windy Craggy	15.23	56	Pn	Pn	12 42 39.1	-1.3
I26K	Coal Creek Min	15.49	33		Pn	12 42 41.3	-2.4
E22K	Anaktuvuk Pass	15.61	16		Pn	12 42 43.7	-1.6
E22K				IAmb	IAmb	12 42 54.8	
	comp=Z,4.0nm,0.8s						
F24K	Squaw Lake	15.84	22	Pn	Pn	12 42 46.9	-1.4
EGAK	Eagle	15.84	36		Pn	12 42 45.7	-2.6
EGAK				IAmb	IAmb	12 43 19.8	
	comp=Z,6.8nm,1.3s						
DAWY	Dawson	16.11	40	Pn	Pn	12 42 50.3	-1.5
DAWY				IAmb	IAmb	12 43 21.0	
	comp=Z,9.8nm,1.3s						
O30N	Mendenhall	16.30	53	Pn	Pn	12 42 52.3	-1.9
O30N				IAmb	IAmb	12 43 24.0	
	comp=Z,12nm,1.3s						
BMAR	Burnt Mountain	16.56	26	P	Pn	12 42 57.8	+0.2
I28M	Miner Creek	16.65	35		Pn	12 42 57.7	-1.0
WHY	Whitehorse	16.85	54	P	Pn	12 43 01.3	-0.1
MAYO	Mayo, Yukon	17.29	44	P	Pn	12 43 06.6	-0.1
M31M	Drury Creek, Y	17.47	49	P	Pn	12 43 07.5	-1.4
M31M				IAmb	IAmb	12 43 18.5	
	comp=Z,5.7nm,0.9s						
P33M	Teslin, Yukon	17.78	56	P	Pn	12 43 09.5	-3.4
P33M				IAmb	IAmb	12 43 18.8	
	comp=Z,5.0nm,0.8s						
I30M	Mount Dempster	17.81	38	P	Pn	12 43 11.6	-1.6
FARO	Faro, Yukon	17.95	49		Pn	12 43 13.6	-1.3
DLBC	Dease Lake	19.07	62	P	P	12 43 28.2	+0.5
	baz=283,slow=24,SNR=2.1						
	comp=Z,1.2nm,0.7s						
G31M	Satah River	19.39	35	P	P	12 43 29.7	-1.4
G31M				IAmb	IAmb	12 43 42.3	
	comp=Z,9.8nm,1.2s						
F31M	Tsiigehtchic	19.82	34	P	P	12 43 34.3	-1.6
F31M				IAmb	IAmb	12 44 03.9	
	comp=Z,7.2nm,1.5s						
INK	Inuvik	20.34	32	P	P	12 43 40.2	-1.3
INK				IAmb	IAmb	12 43 43.9	
	comp=Z,8.2nm,1.4s						
INK	Inuvik	20.34	32	P	P	12 43 39.9	-1.6
	comp=Z,0.9nm,0.4s,baz=238,slow=11,SNR=12						
	comp=Z,0.9nm,0.4s						
PEA0B	Petropavlovsk-	23.16	285	P	P	12 44 09.8	-1.9
PETK	Petropavlovsk-	23.16	285	P	P	12 44 09.0	-2.8
PETK	Petropavlovsk-	23.16	285	P	P	12 44 10.9	-0.8
	comp=Z,3.0nm,0.5s,baz=81,slow=13,SNR=14						
	comp=Z,3.0nm,0.5s						
A36M	Sachs Harbour	24.64	27	P	P	12 44 24.0	-1.6
YKA	Yellowknife Ar	26.63	51	P	P	12 44 46.0	+2.2
	comp=Z,0.6nm,0.6s,baz=274,slow=9.8,SNR=14						
	comp=Z,0.6nm,0.6s						
YBH	Yreka Blue Hor	29.33	97	LR	LR	12 53 00.5	
	comp=Z,44nm,21.7s,baz=337,slow=28						
RES	Resolute Bay	33.68	26	LR	LR	13 00 55.6	
	comp=Z,79nm,18.6s,baz=12,slow=39						
TIXI	Tiksi	33.68	328	LR	LR	13 01 22.8	
	comp=Z,5.1nm,18.1s,baz=54,slow=40						
NVAR	Mina Array Bea	34.04	98	P	P	12 45 55.1	+5.4
	comp=Z,0.4nm,0.8s,baz=303,slow=7.2,SNR=2.3						
	comp=Z,0.4nm,0.8s						
PDAR	Pinedale Array	36.55	85	P	P	12 46 14.7	+3.4
	comp=Z,0.3nm,0.8s,baz=318,slow=4.9,SNR=1.8						
	comp=Z,0.3nm,0.8s						
MJAR	Matsushiro Arr	43.43	271	P	P	12 47 08.1	-0.2
	comp=Z,1.2nm,0.7s,baz=34,slow=8.8,SNR=6.5						
	comp=Z,1.2nm,0.7s						
FRB	Frobisher Bay	45.81	38	LR	LR	13 09 33.6	
	comp=Z,210nm,18.6s,baz=313,slow=40						
NRIK	Noril'sk	47.13	333	P	P	12 47 35.8	-1.3
	comp=Z,1.1nm,0.3s,baz=35,slow=4.6,SNR=1.9						
NRIK				LR	LR	13 08 27.4	
	comp=Z,93nm,18.3s,baz=326,slow=38						
	comp=Z,1.1nm,0.3s						
DAG	Danmarks Havn	48.02	10	*i* P	P	12 47 44.0	0.0
KSRS	Korea Array	48.92	280	P	P	12 47 51.9	+0.5
	comp=Z,0.9nm,0.5s,baz=52,slow=7.4,SNR=5.2						
	comp=Z,0.9nm,0.5s						
TXAR	Lajitas Array	49.06	95	P	P	12 47 54.4	+1.6
	comp=Z,0.1nm,0.5s,baz=307,slow=5.2,SNR=5.3						
	comp=Z,0.1nm,0.5s						
KURBB	Kurchatov Arra	63.99	321	P	P	12 49 38.4	-0.2
	comp=Z,1.3nm,0.5s,baz=36,slow=6.7,SNR=14						
	comp=Z,1.3nm,0.5s						
BVAR	Borovoye Array	64.82	328	P	P	12 49 44.3	+0.4
	comp=Z,3.7nm,0.6s,baz=48,slow=6.7,SNR=22						
	comp=Z,3.7nm,0.6s						
FINES	FINESS Array B	65.12	355	P	P	12 49 45.1	-0.7
	comp=Z,2.5nm,0.9s,baz=1.4,slow=7.6,SNR=5.1						
	comp=Z,2.5nm,0.9s						
MKAR	Makanchi Array	65.61	317	P	P	12 49 48.6	-0.6
	comp=Z,0.5nm,0.4s,baz=36,slow=6.0,SNR=13						
	comp=Z,0.5nm,0.4s						
NOA	NORSAR Array B	65.68	3	P	P	12 49 49.8	+0.3
	comp=Z,1.0nm,0.8s,baz=340,slow=6.6,SNR=2.7						
	comp=Z,1.0nm,0.8s						
HFS	Hagfors	66.65	2	P	P	12 49 55.4	-0.2
	comp=Z,2.7nm,0.5s,baz=30,slow=3.6,SNR=14						
	comp=Z,2.7nm,0.5s						
EKA	Eskdalemuir Ar	70.25	12	P	P	12 50 18.8	+0.6
	comp=Z,1.9nm,0.6s,baz=336,slow=4.1,SNR=12						
	comp=Z,1.9nm,0.6s						
AKTO	Aktyubinsk	70.74	333	LR	LR	13 23 21.7	
	comp=Z,34nm,21.2s,baz=88,slow=38						
AKASG	Malin Array Be	75.60	352	P	P	12 50 49.5	-0.5
	comp=Z,0.8nm,0.3s,baz=8.6,slow=5.6,SNR=6.1						
	comp=Z,0.8nm,0.3s						
GERES	GERESS Array B	77.95	2	P	P	12 51 03.3	-0.2
	comp=Z,0.6nm,0.5s,baz=338,slow=4.2,SNR=3.0						
	comp=Z,0.6nm,0.5s						
MOA	Molln	78.96	2	*e*pP	pP	12 51 10.7	-0.7
	comp=Z,1.6nm,0.8s						
WTTA	Wattenberg	79.47	4	*e*pP	P	12 51 12.9	+1.0
	comp=Z,2.0nm,0.5s						
FETA	Feichten	79.68	4	*e*pP	P	12 51 13.7	+0.6
	comp=Z,1.2nm,0.6s						
KBA	Koelnbreinsper	79.71	2	*e*pP	P	12 51 14.7	+1.5
	comp=Z,1.9nm,0.5s						
DAVOX	Davos/Dischmat	79.88	5	P	P	12 51 15.2	+1.0
	comp=Z,1.9nm,0.5s,baz=13,slow=20,SNR=3.9						
	comp=Z,1.9nm,0.5s						
CMAR	Chiang Mai Arr	79.91	287	P	P	12 51 14.8	+0.3
	comp=Z,0.7nm,0.5s,baz=12,slow=4.7,SNR=8.3						
	comp=Z,0.7nm,0.5s						
OBKA	Obir	80.31	2	*e*pP	P	12 51 17.6	+1.3
	comp=Z,2.4nm,0.5s						
ESDC	Sonseca Array	85.44	16	P	P	12 51 43.6	+0.5
	comp=Z,0.6nm,0.8s,baz=339,slow=3.3,SNR=1.4						
	comp=Z,0.6nm,0.8s						
BRTR	Keskin Array B	85.97	347	P	P	12 51 46.6	+0.8
	comp=Z,0.8nm,0.6s,baz=54,slow=3.2,SNR=4.9						
	comp=Z,0.8nm,0.6s						
H03N2	Juan Fernandez	112.97	115	T	T	15 01 13.8	
	baz=325,slow=77,SNR=5.9						
H03N1	Juan Fernandez	112.99	115	T	T	15 01 15.3	
	baz=325,slow=77,SNR=9.8						
H03N3	Juan Fernandez	112.99	115	T	T	15 01 14.3	
	baz=325,slow=77,SNR=7.4						

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*THE **07** 12:43:20.7, 34.°81N×23.°06E, h7km±2km, ML3.2/6, Error ellipse: s-maj=2.3km s-min=1.3km az=63.0*
*ATH **07** 12:43:21.8, 34.°82N×23.°14E, h14km±3km, ML3.3/5, Error ellipse: s-maj=3.8km s-min=1.3km az=150.0*
*IDC **07** 12:43:24.1±3.2, 35.°01N×23.°22E, h59km±30km, mb3.7/7, mbtmp3.7/13, ML3.7/6, Error ellipse: s-maj=26.2km s-min=23.6km az=158.0*
ISC 07 12:43:18.5±1.0**, 34.°78N**±0.°06×**23.°10E**±0.°05**, h10**km**, n36, σ1.s54**/46**, mb4.0**/7**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.81	85	P	Pn	12 43 36.8	+0.8
GVD				S	Sn	12 43 49.5	+1.4
	6µm,0.3s						
GVD	Gavdhos	0.81	85	P	Pn	12 43 36.7	+0.7
GVD				S	Sb	12 43 47.5	+1.8
GVD				AML	AML	12 43 50.7	
	comp=N,12084µm,0.3s						
GVD				AML	AML	12 43 52.6	
	comp=E,10159µm,0.4s						
GVDS	Gavdos	0.81	85	P	Pb	12 43 35.9	+1.2
GVDS				S	Sn	12 43 48.3	+0.2
	comp=E,3µm,0.3s						
RODP	Rodopos	0.95	34	P	Pn	12 43 38.7	+0.8
RODP				S	Sn	12 43 51.8	+0.4
	comp=E,398nm,0.5s						
IMMV	Iera Moni Meta	0.99	46	P	Pb	12 43 38.9	+1.2
IMMV				S	Sn	12 43 53.3	+0.8
	comp=E,2µm,0.6s						
IMMV	Iera Moni Meta	0.99	46	P	Pb	12 43 39.1	+1.4
IMMV				S	Sb	12 43 52.2	+1.3
IMMV				AML	AML	12 43 56.7	
	comp=N,3576µm,0.7s						
IMMV				AML	AML	12 43 57.6	
	comp=E,3193µm,0.6s						
CHAN	Chania	1.07	46	P	Pn	12 43 40.5	+1.0
CHAN				S	Sb	12 43 53.9	+0.9
CHAN				AML	AML	12 43 59.1	
	comp=N,3611µm,0.8s						
CHAN				AML	AML	12 44 05.1	
	comp=E,3123µm,0.7s						
ANKY	Antikythira Is	1.10	8	P	Pn	12 43 41.2	+1.3
ANKY	Antikythira Is	1.10	8	P	Pn	12 43 41.0	+1.1
ANKY				S	Sn	12 43 55.8	+0.7
ANKY				AML	AML	12 44 00.6	
	comp=E,2174µm,0.6s						
ANKY				AML	AML	12 44 01.5	
	comp=N,3256µm,0.7s						
PRNS	Prines Rethymn	1.29	63	P	Pn	12 43 42.6	+0.1
PRNS				S	Sn	12 44 01.7	+1.9
	comp=N,422nm,0.7s						
TMBK	Timbaki Herakl	1.40	77	P	Pn	12 43 45.5	+1.5
IDI	Anoyia	1.55	70	P	Pn	12 43 47.4	+1.2
IDI	Anoyia	1.55	70	P	Pn	12 43 47.2	+1.0
IACM	Heraklion	1.70	71	P	Pb	12 43 50.1	+0.4
MNVA	Monemvasia	1.91	358	P	Pn	12 43 52.3	+1.3
VLI	Veliai	1.94	356	P	Pn	12 43 53.4	+1.9
VLI				S	Sn	12 44 16.8	+0.8
	comp=N,445nm,0.8s						
VLI	Veliai	1.94	356	P	Pn	12 43 53.3	+1.8
VLI				AML	AML	12 44 33.2	
	comp=E,630µm,1.0s						
VLI				AML	AML	12 44 33.9	
	comp=N,511µm,0.7s						
MHLO	Agia Marina, M	2.18	29	P	Pn	12 43 56.0	+1.2
PYL	PYLOS	2.38	333	P	Pn	12 44 00.0	+2.4
ZKR	Zakros	2.58	82	P	Pn	12 44 02.1	+1.8
ZKR	Zakros	2.58	82	P	Pn	12 44 02.3	+2.0
KRND	KRANIDI	2.60	1	P	Pn	12 44 02.2	+1.6
GUR	Goura	3.21	349	P	Pn	12 44 11.1	+2.0
BRTR	Keskin Array B	9.74	56	P	Pn	12 45 39.8	+1.0
	comp=N,0.1nm,0.3s,baz=233,slow=15,SNR=3.4						
	comp=N,0.4nm,0.5s						
MMAI	Mount Meron Ar	10.37	96	P	Pn	12 45 47.5	+0.1
	comp=N,0.9nm,0.3s,baz=303,slow=13,SNR=2.6						
	comp=N,0.8nm,0.3s						
MLR	Muntele Rosu	10.92	11	P	Pn	12 45 54.7	-0.2
	comp=N,0.2nm,0.3s,baz=175,slow=16,SNR=1.9						
	comp=N,1.4nm,0.5s						
GERES	GERESS Array B	15.69	336	P	Pn	12 46 60.0	+0.4
	comp=N,0.2nm,0.3s,baz=144,slow=17,SNR=1.7						
	comp=N,0.2nm,0.3s						
AKASG	Malin Array Be	16.53	14	P	Pn	12 47 08.7	-1.5
	comp=N,0.7nm,0.3s,baz=211,slow=9.8,SNR=1.8						
	comp=N,0.4nm,0.2s						
KBZ	Khabaz	17.71	54	P	Pn	12 47 24.7	-0.4
	comp=N,0.1nm,0.3s,baz=249,slow=13,SNR=4.2						
	comp=N,1.1nm,0.7s						
HFS	Hagfors	26.10	349	P	P	12 48 50.0	-2.2
	comp=N,2.8nm,0.8s,baz=155,slow=11,SNR=6.2						
	comp=N,2.8nm,0.8s						
FINES	FINESS Array B	26.75	3	P	P	12 48 55.4	-2.6
	comp=N,1.3nm,0.8s,baz=187,slow=9.8,SNR=0.7						
	comp=N,1.3nm,0.8s						
TORD	Torodi Ar. Bea	28.97	227	P	P	12 49 20.4	+2.2
	comp=N,0.3nm,0.6s,baz=34,slow=9.6,SNR=3.2						
	comp=N,0.3nm,0.6s						
ARCES	ARCESS Array B	34.84	1	P	P	12 50 06.3	-2.9
	comp=N,5.3nm,1.1s,baz=184,slow=8.0,SNR=1.9						
	comp=N,5.3nm,1.1s						
KURBB	Kurchatov Arra	42.67	51	P	P	12 51 12.7	-2.4
	comp=N,1.1nm,0.6s,baz=279,slow=8.3,SNR=9.6						
	comp=N,1.1nm,0.6s						
MKAR	Makanchi Array	45.39	56	P	P	12 51 35.4	-1.7
	comp=N,1.1nm,0.5s,baz=278,slow=7.0,SNR=13						
	comp=N,1.1nm,0.5s						
ZALV	Zalesovo Beam	46.48	46	P	P	12 51 43.0	-2.5
	comp=N,1.1nm,0.4s,baz=263,slow=11,SNR=6.1						
	comp=N,1.1nm,0.4s						

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*NEIC **07** 13:15:07.8±0.9, 63.°86N±0.°03×148.°90W±0.°07, h118km±5km, Error ellipse: s-maj=4.6km s-min=4.3km az=212.0*
*IDC **07** 13:15:07.1±1.4, 64.°00N×149.°33W, h119km±9km, mb3.5/14, mbtmp4.0/18, MS3.3/1, Error ellipse: s-maj=18.6km s-min=12.8km az=59.0*
*AEIC **07** 13:15:08.1±0.9, 63.°84N±0.°03×148.°86W±0.°08, h119km±4km, ML3.7, mb4.1/14(NEIC), ML3.9/218(NEIC), Error ellipse: s-maj=4.8km s-min=4.7km az=123.0*
ISC 07 13:15:07.8±0.6**, 63.°86N**±0.°03×**148.°92W**±0.°04**, h120**km±5km**, n437, σ0.s78**/447**, mb4.0**/23**, 1C, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCK	McKinley	0.12	184		Pn	13 15 24.3	0.0
MCK					Sn	13 15 36.1	-0.6
MCK	McKinley	0.12	184	P	Pn	13 15 24.3	0.0
	baz=19						
MCK				S	Sn	13 15 36.1	-0.6
	baz=19						
BWN	Browne	0.40	323		Pn	13 15 25.2	+0.1
BWN				IAML		13 15 39.0	
	comp=N,2µm,0.8s						
BWN	Browne	0.40	323		Sn	13 15 38.3	0.0
RND	Reindeer	0.45	176		Pn	13 15 25.3	-0.3
RND					Sn	13 15 38.1	-0.8
RND				IAML		13 15 39.0	
	comp=E,1µm,0.8s						
WRH	Wood River Hil	0.72	30		Pn	13 15 26.8	-0.4
WRH	Wood River Hil	0.72	30		Sn	13 15 41.7	-0.2
WRH	Wood River Hil	0.72	30	IAML		13 15 41.7	
	comp=E,10nm,0.6s						
WRH				IAML		13 15 45.6	
	comp=N,376nm,0.9s						
TRF	Thorofare Moun	0.73	237	Pn	Pn	13 15 27.6	0.0
TRF					Sn	13 15 42.1	-0.4

TRF IAML 13 15 44.5
comp=N,2µm,0.7s
TRF IAML 13 15 44.5
comp=E,1µm,0.6s
TRF Thorofare Moun 0.73 237 P **Pn 13 15 27.9 +0.3**
baz=58
TRF S **Sn 13 15 42.9 +0.4**
baz=58
NEA2 Nenana 0.74 355 Pn 13 15 27.4 -0.1
NEA2 **Sn 13 15 41.4 -1.0**
NEA2 IAML 13 15 42.2
comp=E,1µm,1.1s
NEA2 Nenana 0.74 355 P **Pn 13 15 27.5 0.0**
baz=173
NEA2 S **Sn 13 15 41.9 -0.5**
baz=173
CCB Clear Creek Bu 0.93 31 Pn **Pn 13 15 29.1 0.0**
CCB IAML 13 15 45.2
comp=E,1µm,0.8s
KTH Kantishna Hill 0.94 252 Pn **Pn 13 15 29.6 +0.2**
KTH IAML 13 15 46.3
comp=N,2µm,0.8s
KTH IAML 13 15 46.8
comp=E,2µm,0.9s
KTH Kantishna Hill 0.94 252 Sn 13 15 45.2 -0.4
BPAW Bear Paw Mtn. 0.95 286 Pn **Pn 13 15 29.3 0.0**
BPAW **Sn 13 15 44.6 -0.9**
BPAW IAML 13 15 45.6
comp=N,2µm,0.9s
BPAW IAML 13 15 45.8
comp=E,2µm,0.6s
BPAW Bear Paw Mtn. 0.95 286 P **Pn 13 15 29.5 +0.2**
baz=105
BPAW S **Sn 13 15 45.2 -0.4**
baz=105
WAT7 Susitna Watana 1.03 178 Pn 13 15 29.9 -0.3
WAT7 **Sn 13 15 46.6 -0.5**
HDA Harding Lake 1.03 56 Pn 13 15 29.9 -0.1
HDA **Sn 13 15 45.5 -1.4**
HDA IAML 13 15 49.6
comp=N,1µm,0.7s
HDA IAML 13 15 53.6
comp=E,1µm,0.6s
HDA Harding Lake 1.03 56 P **Pn 13 15 30.0 0.0**
baz=236
HDA S **Sn 13 15 46.7 -0.3**
baz=236
HDA S **Sn 13 15 46.7 -0.3**
baz=236
WAT1 Susitna Watana 1.04 171 Pn 13 15 30.0 -0.3
WAT1 Susitna Watana 1.04 171 P **Pn 13 15 30.0 -0.3**
baz=352
DHY Denali Highway 1.04 138 Pn 13 15 30.4 0.0
DHY Denali Highway 1.04 138 Sn 13 15 48.0 +0.5
DHY Denali Highway 1.04 138 IAML 13 15 48.7
comp=E,2µm,0.5s
DHY IAML 13 15 49.4
comp=N,2µm,0.7s
DHY Denali Highway 1.04 138 P **Pn 13 15 30.5 +0.1**
baz=320
COLA College 1.12 24 Pn 13 15 31.0 0.0
COLA College 1.12 24 P **Pn 13 15 31.2 +0.2**
MDM Murphy Dome 1.15 15 Pn **Pn 13 15 31.4 +0.1**
MDM IAML 13 15 49.5
comp=N,1µm,0.7s
MDM IAML 13 15 49.7
comp=E,2µm,1.0s
IL31 1.28 43 Pn 13 15 32.2 -0.4
ILAR Eielson Array 1.28 43 P **Pn 13 15 32.3 -0.3**
comp=E,144nm,0.3s,baz=227,slow=11,SNR=3620
ILAR S **Sn 13 15 51.4 -0.2**
comp=E,256nm,0.7s,baz=236,slow=20,SNR=6.2
I23K Minto, Yukon-K 1.31 352 Pn 13 15 33.3 +0.3
I23K IAML 13 15 53.0
comp=N,1µm,1.1s
I23K Minto, Yukon-K 1.31 352 P **Pn 13 15 33.4 +0.4**
baz=170
WAT6 Susitna Watana 1.39 157 Pn 13 15 34.1 0.0
WAT6 Susitna Watana 1.39 157 P **Pn 13 15 34.1 0.0**
baz=339
K24K Donnelly Dome 1.39 91 Pn 13 15 34.0 +0.1
K24K Donnelly Dome 1.39 91 P **Pn 13 15 34.1 +0.1**
baz=273
MLY Manley 1.42 327 Pn **Pn 13 15 34.4 +0.1**
MLY IAML 13 15 54.9
comp=N,706nm,0.9s
MLY Manley 1.42 327 P **Pn 13 15 34.5 +0.2**
baz=145
POKR Poker Plat Res 1.42 26 Pn 13 15 34.3 +0.1
POKR IAML 13 15 54.5
comp=E,1µm,1.0s
POKR IAML 13 15 54.9
comp=N,2µm,0.7s
POKR Poker Plat Res 1.42 26 P **Pn 13 15 34.5 +0.3**
baz=206
CAST Castle Rocks 1.48 254 Pn **Pn 13 15 35.0 0.0**
CAST IAML 13 15 56.4
comp=N,860nm,0.7s
CAST Castle Rocks 1.48 254 P **Pn 13 15 34.9 0.0**
baz=72
CHUM Lake Minchumin 1.50 273 Pn 13 15 35.4 +0.3
CUT Chuilitna 1.58 203 Pn 13 15 36.1 0.0
CUT Chuilitna 1.58 203 P **Pn 13 15 36.2 +0.1**
baz=23
J25K Salcha River, 1.73 62 Pn **Pn 13 15 37.7 -0.2**
J25K IAML 13 16 01.4
comp=N,2µm,0.7s
J25K IAML 13 16 01.7
comp=E,1µm,0.9s
PPLA Purkeypile 1.76 238 Pn 13 15 38.6 +0.3
PPLA Purkeypile 1.76 238 P **Pn 13 15 38.7 +0.3**
baz=56
PAX Paxson 1.79 118 Pn 13 15 38.8 +0.1
PAX Paxson 1.79 118 P **Pn 13 15 38.6 -0.1**
baz=301
RIDG Independent Ri 1.81 92 Pn 13 15 38.8 -0.1
RIDG Independent Ri 1.81 92 P **Pn 13 15 38.9 0.0**
baz=275
H24K Noodor Dome 2.04 12 Pn 13 15 42.0 +0.2
H24K IAML 13 16 07.8
comp=N,704nm,1.4s
H24K IAML 13 16 09.2
comp=E,443nm,1.2s
SML Sawmill 2.07 172 Pn 13 15 42.1 -0.1
SML IAML 13 16 16.5
comp=E,1µm,0.8s
SML Sawmill 2.07 172 P **Pn 13 15 42.1 -0.1**
baz=354
GHO Glory Hole Cre 2.09 180 Pn **Pn 13 15 42.6 +0.2**
M23K Glacier View 2.14 165 Pn 13 15 42.8 -0.2
M23K Glacier View 2.14 165 P **Pn 13 15 42.8 -0.2**
baz=346
M24K Tolsona, Glenn 2.16 143 Pn 13 15 43.2 0.0
M24K IAML 13 16 22.6
comp=N,1µm,1.1s
M24K Tolsona, Glenn 2.16 143 P **Pn 13 15 43.2 0.0**
baz=326
SCM Sheep Creek Mo 2.16 160 Pn 13 15 42.9 -0.4
SCM Sheep Creek Mo 2.16 160 P **Pn 13 15 43.1 -0.2**
baz=342
SCRK Sand Creek 2.18 85 Pn **Pn 13 15 43.3 -0.3**
SCRK IAML 13 16 12.4
comp=E,1µm,0.7s
SCRK Sand Creek 2.18 85 P **Pn 13 15 43.3 -0.3**
baz=268
PRP Porcupine Dome 2.22 40 Pn **Pn 13 15 43.8 -0.3**
PRP IAML 13 16 14.3
comp=N,561nm,0.5s
PRP IAML 13 16 14.4
comp=E,382nm,0.9s
PRP Porcupine Dome 2.22 40 P **Pn 13 15 43.9 -0.1**
baz=222
SKT Skwentna 2.23 214 Pn 13 15 43.8 -0.3
SKT IAML 13 16 17.7
comp=E,989nm,0.3s
SKT Skwentna 2.23 214 P **Pn 13 15 43.9 -0.2**
baz=32
HARP HAARP 2.25 129 Pn 13 15 44.3 0.0
HARP HAARP 2.25 129 P **Pn 13 15 44.3 0.0**
baz=312
PMR Palmer 2.27 183 Pn **Pn 13 15 45.0 +0.3**
PMR IAML 13 16 20.8
comp=N,746nm,0.5s
PMR Palmer 2.27 183 P **Pn 13 15 46.7 +2.1**
PMR Palmer 2.27 183 P **Pn 13 15 44.8 +0.2**
baz=3.1

H22K Ishtalitna Cre 2.30 334 Pn 13 15 45.4 +0.4
J20K Nowinta River 2.33 280 Pn **Pn 13 15 45.3 +0.1**
J20K IAML 13 16 14.8
comp=E,748nm,0.8s
J20K IAML 13 16 15.1
comp=N,668nm,0.7s
K20K Telida 2.36 260 Pn **Pn 13 15 45.8 +0.1**
K20K IAML 13 16 16.0
comp=E,294nm,0.8s
J26L Joseph Creek 2.43 72 Pn 13 15 46.8 0.0
H21K Melozitna Rive 2.46 319 Pn **Pn 13 15 47.0 +0.1**
H21K IAML 13 16 20.7
comp=E,258nm,0.9s
KNK Knik Glacier 2.46 175 Pn 13 15 47.2 +0.1
KNK Knik Glacier 2.46 175 P **Pn 13 15 47.0 0.0**
baz=356
MENT Mentasta 2.51 109 Pn 13 15 47.8 +0.1
MENT IAML 13 16 35.6
comp=N,588nm,0.8s
MENT Mentasta 2.51 109 P **Pn 13 15 48.3 +0.6**
SUA Susitna One 2.54 200 P **Pn 13 15 48.9 +0.7**
baz=19
I20K Naaghedeneel 2.60 294 Pn 13 15 49.3 +0.6
L26K Log Cabin Wild 2.64 106 Pn 13 15 49.0 -0.3
L20K Farewell, AK 2.64 241 Pn 13 15 49.6 +0.2
STLK Strandline Lak 2.72 211 Pn 13 15 50.5 0.0
KLU Klutina 2.74 148 Pn 13 15 50.1 -0.6
KLU IAML 13 16 33.9
comp=E,381nm,0.4s
KLU IAML 13 16 35.5
comp=N,431nm,0.7s
KLU Klutina 2.74 148 P **Pn 13 15 50.2 -0.6**
baz=331
M20K Styx River 2.77 226 Pn **Pn 13 15 50.6 -0.5**
M20K IAML 13 16 28.9
comp=N,294nm,0.7s
M20K IAML 13 16 32.1
comp=E,359nm,0.5s
FIS Fire Island 2.79 193 Pn **Pn 13 15 51.5 +0.3**
RC01 Rabbit Creek A 2.80 188 Pn **Pn 13 15 51.5 0.0**
RC01 Rabbit Creek A 2.80 188 P **Pn 13 15 51.8 +0.3**
baz=8.1
WACK Wrangell Chich 2.81 130 Pn 13 15 51.3 -0.5
I26K Coal Creek Min 2.88 57 Pn 13 15 52.1 -0.3
I26K IAML 13 16 28.7
comp=N,440nm,0.8s
I26K IAML 13 16 46.3
comp=E,406nm,0.8s
I26K Coal Creek Min 2.88 57 P **Pn 13 15 52.3 -0.1**
baz=242
G23K Bananza Creek 2.91 351 Pn **Pn 13 15 53.0 +0.2**
G23K IAML 13 16 28.1
comp=E,213nm,1.1s
G23K IAML 13 16 29.3
comp=N,196nm,0.9s
WASW Wrangell South 2.91 130 Pn 13 15 52.8 -0.2
G24K Hadweenzic Riv 2.92 11 Pn **Pn 13 15 53.0 +0.1**
G24K IAML 13 16 29.6
comp=E,281nm,0.9s
G24K IAML 13 16 30.4
comp=N,345nm,1.0s
SPCG Spurr Capps Gl 2.95 211 Pn 13 15 53.7 +0.2
J19K Poorman 2.96 276 Pn **Pn 13 15 53.6 0.0**
J19K IAML 13 16 29.0
comp=N,386nm,1.1s
J19K IAML 13 16 29.8
comp=E,293nm,0.8s
IMAR Indian Mountai 2.97 318 Pn 13 15 53.5 -0.1
SPCP Crater Peak Br 3.00 211 Pn 13 15 54.1 0.0
N25K Chitina, Valde 3.01 137 Pn 13 15 53.6 -0.6
N25K Chitina, Valde 3.01 137 P **Pn 13 15 54.1 -0.1**
baz=321
K27K Chicken 3.02 84 Pn 13 15 54.0 -0.3
K27K Chicken 3.02 84 IAML 13 16 29.7
comp=N,602nm,0.7s
K27K IAML 13 16 29.9
comp=E,597nm,0.8s
SPCN Chakachatna No 3.04 211 Pn 13 15 55.4 +0.8
H20K Anotleneega Mo 3.04 305 Pn 13 15 54.6 0.0
SPNN North Nagishla 3.05 217 Pn 13 15 55.0 +0.2
N20K Mount Spurr 3.07 211 P **Pn 13 15 55.4 +0.3**
baz=29
SPCR Spurr Chakacha 3.07 211 Pn 13 15 55.1 +0.1
DIV Divide 3.10 151 Pn 13 15 54.1 -1.3
FYU Fort Yukon 3.13 28 Pn **Pn 13 15 55.5 -0.1**
FYU IAML 13 16 34.6
comp=N,179nm,0.9s
FYU IAML 13 16 47.0
comp=E,241nm,1.0s
G25K Bearman Lake 3.15 21 Pn 13 15 56.1 +0.1
L19K White Mountain 3.19 241 Pn 13 15 56.2 -0.2
G22K Bettles 3.27 342 Pn 13 15 57.2 -0.2
L27K Beaver Creek, 3.28 101 Pn **Pn 13 15 57.1 -0.7**
L27K IAML 13 16 37.5
comp=N,361nm,0.8s
L27K IAML 13 16 39.5
comp=E,246nm,0.8s
BCAR Beaver Creek A 3.30 101 Pn **Pn 13 15 57.2 -0.8**
G21K Allakaket 3.30 326 Pn 13 15 58.2 +0.3
FID Port Hidalgo 3.32 159 Pn 13 15 57.7 -0.5
TTA Tatalina 3.33 257 Pn **Pn 13 15 57.8 -0.6**
TTA Tatalina 3.33 257 P **Pn 13 15 58.2 -0.1**
TTA Tatalina 3.33 257 P **Pn 13 15 58.2 -0.1**
baz=71
GLB Gilahina Butte 3.38 133 Pn **Pn 13 15 58.5 -0.6**
GLB IAML 13 16 40.8
comp=N,137nm,0.5s
O22K Cooper Landing 3.41 187 Pn 13 15 58.8 -0.5
O22K Cooper Landing 3.41 187 P **Pn 13 15 59.6 +0.3**
baz=6.5
SLKM Skilak Lake 3.42 191 Pn 13 15 59.7 +0.2
COLD Coldfoot 3.43 352 Pn 13 15 59.7 +0.1
COLD Coldfoot 3.43 352 P **Pn 13 15 59.9 +0.3**
baz=170
J18K Innoko River 3.50 267 Pn **Pn 13 16 00.5 0.0**
J18K IAML 13 16 42.1
comp=N,163nm,1.3s
EGAK Eagle 3.50 71 Pn 13 15 60.0 -0.6
EGAK IAML 13 17 01.5
comp=N,353nm,1.0s
EGAK Eagle 3.50 71 P **Pn 13 16 00.1 -0.4**
baz=258
BMRM Bremner River 3.52 143 Pn 13 15 59.8 -1.1
BMRM Bremner River 3.52 143 P **Pn 13 16 00.2 -0.8**
baz=327
M27K Edge Creek, AK 3.53 112 Pn **Pn 13 16 01.0 -0.2**
M27K IAML 13 17 08.1
comp=N,307nm,1.0s
M27K IAML 13 17 13.7
comp=E,166nm,1.3s
GCSA Galena City Sc 3.58 288 Pn 13 16 02.0 +0.4
GCSA Galena City Sc 3.58 288 P **Pn 13 16 02.2 +0.6**
baz=101
I27K Kandik River 3.59 57 Pn 13 16 01.6 -0.2
I27K Kandik River 3.59 57 P **Pn 13 16 01.6 -0.2**
baz=244
EYAK Cordova Ski Ar 3.63 154 Pn 13 16 01.7 -0.6
EYAK Cordova Ski Ar 3.63 154 P **Pn 13 16 02.1 -0.3**
EYAK Cordova Ski Ar 3.63 154 P **Pn 13 16 01.7 -0.6**
baz=338
H19K Roundabout Mou 3.65 301 Pn 13 16 02.6 +0.2
H19K Roundabout Mou 3.65 301 IAML 13 16 49.5
comp=N,168nm,1.1s
HIN Hinchinbrook I 3.65 161 Pn 13 16 01.9 -0.8
VRDI Verde Repeater 3.65 134 Pn 13 16 02.3 -0.5
RDT Redoubt 3.68 208 Pn 13 16 03.4 +0.4
MCARA McCarthy VSAT 3.68 130 P **Pn 13 16 03.8 +0.8**
baz=315
F24K Squaw Lake 3.70 6 Pn **Pn 13 16 03.4 +0.1**
F24K IAML 13 16 48.6
comp=N,124nm,0.8s
DFR Drift River 3.72 210 Pn 13 16 04.4 +0.8
RDJH Redoubt Jeurge 3.75 211 Pn 13 16 05.1 +1.1
SEW Seward 3.77 184 Pn 13 16 03.5 -0.6
SEW Seward 3.77 184 P **Pn 13 16 04.5 +0.3**
baz=4.0
G26K Porcupine Rive 3.78 32 Pn 13 16 04.0 -0.2
NCT North Crescent 3.80 211 Pn 13 16 05.6 +0.9
GOAT Goat Mountain 3.83 147 Pn 13 16 04.3 -0.6
RDWB Redoubt West 3.85 210 Pn 13 16 06.1 +0.8
RSO Redoubt South 3.85 210 Pn 13 16 05.2 -0.3
F21K Alatna River 3.88 333 Pn 13 16 05.5 -0.1
RED Redoubt Volcan 3.89 209 Pn 13 16 06.5 +0.6
L18K Granite Mounta 3.90 249 Pn **Pn 13 16 05.9 0.0**

L18K IAML 13 16 51.9
comp=E,90nm,1.3s
F22K John River 3.91 341 Pn 13 16 06.3 +0.3
BVCY Beaver Creek 3.93 108 Pn 13 16 05.8 -0.5
BVCY Beaver Creek 3.93 108 P **Pn 13 16 05.8 -0.5**
baz=295
H27K Steamboat Moun 3.94 49 Pn 13 16 06.1 -0.3
P23K Montague Islan 3.94 169 Pn 13 16 05.7 -0.7
M18K Stony River 3.97 236 Pn 13 16 06.6 -0.2
F25K Christian Rive 3.99 18 Pn 13 16 07.1 0.0
N19K Bonanza Creek 4.01 223 Pn 13 16 07.3 -0.1
N19K IAML 13 17 16.8
comp=N,97nm,1.6s
RAGM Ragged Mountai 4.01 148 Pn 13 16 06.8 -0.6
PTPK Patty Peak 4.01 129 Pn 13 16 07.4 -0.2
BMAR Burnt Mountain 4.01 25 Pn **Pn 13 16 07.3 -0.1**
CRQM Cirque 4.12 136 Pn 13 16 08.4 -0.6
CRQM IAML 13 17 24.2
comp=E,233nm,1.0s
CRQM IAML 13 17 33.8
comp=N,184nm,1.6s
CRQE Cirque 4.13 136 P **Pn 13 16 08.5 -0.6**
baz=322
SVW2 Sparrevohn 4.15 231 Pn **Pn 13 16 09.1 -0.2**
SVW2 IAML 13 17 18.0
comp=N,104nm,0.6s
SVW2 IAML 13 17 19.0
comp=E,82nm,1.1s
SVW2 Sparrevohn 4.15 231 P **Pn 13 16 09.4 +0.2**
G19K Purcell Mounta 4.16 307 Pn 13 16 09.0 -0.3
G19K IAML 13 17 11.1
comp=E,75nm,1.2s
O20K Slope Mountain 4.17 206 Pn 13 16 10.1 +0.5
O20K Slope Mountain 4.17 206 P **Pn 13 16 10.7 +1.1**
baz=24
I28M Miner Creek 4.18 64 Pn **Pn 13 16 09.2 -0.5**
I28M IAML 13 17 30.5
comp=E,125nm,0.9s
I28M IAML 13 17 36.5
comp=N,162nm,0.8s
DAWY Dawson 4.21 83 Pn **Pn 13 16 09.3 -0.7**
BRLK Bradley Lake 4.21 194 Pn 13 16 10.1 0.0
TGL Tana Glacier 4.21 135 Pn 13 16 08.8 -1.4
TGL IAML 13 17 30.4
comp=N,144nm,1.0s
TGL IAML 13 17 38.0
comp=E,121nm,0.6s
BRSE Bradley Lake S 4.22 193 Pn 13 16 10.1 -0.1
BRSE Bradley Lake S 4.22 193 P **Pn 13 16 10.5 +0.3**
baz=12
E23K Chandalar 4.23 356 Pn 13 16 10.7 +0.4
E23K Chandalar 4.23 356 P **Pn 13 16 10.8 +0.5**
baz=175
KIAG Kiagna River 4.24 131 Pn 13 16 09.6 -1.0
YUP2 White River 4.25 116 Pn 13 16 10.8 +0.2
G27K Doyon Strip 4.25 43 Pn 13 16 10.2 -0.3
BERG Berg Lake 4.25 142 Pn 13 16 09.9 -0.7
F20K Avaraart Lake 4.28 321 Pn **Pn 13 16 11.4 +0.5**
H18K Honhosa River 4.29 292 Pn 13 16 11.4 +0.4
H18K IAML 13 17 00.3
comp=E,94nm,1.1s
H18K IAML 13 17 02.5
comp=N,90nm,1.0s
IVE Iliamna Volcan 4.31 209 Pn 13 16 11.8 +0.3
F26K Sheenjek River 4.33 25 Pn 13 16 11.6 0.0
ILSW Iliamna Southw 4.37 209 Pn 13 16 12.6 +0.3
ILSW IAML 13 17 17.4
comp=E,122nm,1.1s
ILSW IAML 13 17 37.0
comp=N,162nm,1.1s
BARN Barnard Glacie 4.38 126 Pn 13 16 12.6 +0.1
BARN IAML 13 17 31.7
comp=N,82nm,1.7s
K17K Iditarod 4.39 259 Pn **Pn 13 16 12.5 +0.1**
K17K IAML 13 17 04.0
comp=E,94nm,1.8s
K17K IAML 13 17 17.0
comp=N,75nm,2.4s
YUK3 Moose Creek 4.41 114 Pn 13 16 12.7 -0.1
YUK3 Moose Creek 4.41 114 P **Pn 13 16 13.5 +0.7**
baz=302
HOM Homer 4.41 198 Pn 13 16 13.1 +0.4
HOM Homer 4.41 198 P **Pn 13 16 14.5 +1.8**
baz=16
E22K Anaktuvuk Pass 4.46 346 Pn **Pn 13 16 13.7 +0.3**
O19K Port Alsworth 4.47 217 Pn **Pn 13 16 12.8 -0.7**
O19K Port Alsworth 4.47 217 P **Pn 13 16 13.8 +0.3**
baz=33
KAIM Kayak Island 4.48 150 Pn **Pn 13 16 12.4 -1.2**
CNPM China Poot 4.48 195 Pn **Pn 13 16 13.8 +0.1**
E25K Arctic Village 4.50 16 Pn **Pn 13 16 13.8 0.0**
E25K IAML 13 17 06.0
comp=E,60nm,0.8s
E25K Arctic Village 4.50 16 P **Pn 13 16 14.1 +0.2**
baz=199
N18K Kilae Creek 4.56 229 Pn 13 16 14.5 -0.2
N18K IAML 13 17 10.2
comp=E,64nm,0.9s
N18K Kilae Creek 4.56 229 P **Pn 13 16 14.7 0.0**
baz=43
CTG Chitina Glacier 4.56 126 P **Pn 13 16 15.5 +0.6**
baz=313
CTGM Chitina Glacie 4.56 126 Pn **Pn 13 16 14.3 -0.6**
GRNC Granite Creek 4.58 130 Pn 13 16 14.6 -0.6
GRNC IAML 13 17 48.6
comp=N,58nm,1.4s
BARK Barkley Ridge 4.59 136 Pn 13 16 14.8 -0.5
L17K Donlin 4.61 252 Pn 13 16 15.3 -0.1
G18K Tagagawik 4.63 301 Pn **Pn 13 16 15.7 +0.1**
G18K IAML 13 17 08.1
comp=N,60nm,1.5s
G18K Tagagawik 4.63 301 P **Pn 13 16 15.9 +0.3**
baz=112
M17K Holitna River 4.64 242 Pn **Pn 13 16 15.3 -0.5**
M17K IAML 13 17 28.3
comp=N,85nm,0.9s
M17K IAML 13 17 37.3
comp=E,115nm,0.8s
SNH Sunshine Point 4.67 139 Pn **Pn 13 16 15.7 -0.5**
SNH IAML 13 17 57.5
comp=N,178nm,3.2s
SNH IAML 13 18 02.4
comp=E,159nm,2.5s
P19K Oil Pt 4.69 208 Pn 13 16 16.6 +0.2
P19K Oil Pt 4.69 208 P **Pn 13 16 17.3 +0.8**
baz=24
F19K Shaleruckik Mo 4.76 313 Pn **Pn 13 16 17.3 -0.1**
I29M Ogilvie Camp, 4.81 67 Pn 13 16 17.4 -0.7
I29M IAML 13 17 45.8
comp=N,80nm,0.8s
I29M IAML 13 17 55.0
comp=E,73nm,0.8s
TOLK Toolik Lake Re 4.81 357 Pn **Pn 13 16 18.9 +0.8**
TOLK IAML 13 17 19.0
comp=N,68nm,1.2s
TOLK IAML 13 17 30.5
comp=E,54nm,2.4s
TOLK Toolik Lake Re 4.81 357 P **Pn 13 16 19.5 +1.4**
baz=176
H17K Granite Mounta 4.89 288 Pn **Pn 13 16 19.8 +0.6**
H17K IAML 13 17 15.2
comp=N,126nm,1.3s
L29M L29M 4.89 94 Pn **Pn 13 16 18.4 -0.8**
M29M Somme Creek 4.95 102 Pn 13 16 18.9 -0.2
M29M IAML 13 17 42.7
comp=N,91nm,0.7s
M29M IAML 13 17 47.3
comp=E,102nm,0.9s
YUK8 Steele Glacier 4.96 117 Pn 13 16 21.1 +0.8
YUK8 Steele Glacier 4.96 117 P **Pn 13 16 21.1 +0.8**
baz=305
E19K Redstone River 4.99 320 Pn **Pn 13 16 20.7 +0.2**
E19K IAML 13 17 20.7
comp=N,43nm,0.8s
O18K Koktuh Hills 5.00 219 Pn **Pn 13 16 21.0 +0.4**
O18K IAML 13 18 08.9
comp=E,47nm,1.4s
O18K IAML 13 18 17.7
comp=N,57nm,1.1s
O18K Koktuh Hills 5.00 219 P **Pn 13 16 21.2 +0.6**
baz=34
AUCH Augustine Cone 5.00 208 Pn 13 16 21.2 +0.5
K29M Barlow Dome 5.04 85 Pn **Pn 13 16 20.4 -0.9**
K29M IAML 13 17 49.8
comp=N,90nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
K29M				IAML		13 17 49.9	
	comp=E,89nm,0.8s						
K29M	**Barlow Dome**	**5.04**	**85**	P	**Pn**	**13 16 20.6**	**-0.7**
	baz=275						
H29M	**Whitestone**	**5.06**	**57**		**Pn**	**13 16 21.3**	**-0.1**
H29M	**Whitestone**	**5.06**	**57**	IAML		13 17 45.7	
	comp=E,59nm,0.9s						
H29M				IAML		13 18 08.8	
	comp=N,71nm,1.0s						
N17K	**Nushagak Hills**	**5.11**	**233**	Pn	**Pn**	**13 16 22.0**	**-0.1**
N17K				IAML		13 17 37.0	
	comp=N,41nm,1.6s						
D23K	**Nanushuk River**	**5.18**	**353**		**Pn**	**13 16 24.0**	**+1.0**
D23K	**Nanushuk River**	**5.18**	**353**	P	**Pn**	**13 16 24.5**	**+1.5**
	baz=171						
I17K	**Unalakleet**	**5.21**	**276**	Pn	**Pn**	**13 16 23.9**	**+0.5**
I17K				IAML		13 17 25.3	
	comp=E,71nm,0.8s						
I17K	**Unalakleet**	**5.21**	**276**	P	**Pn**	**13 16 24.2**	**+0.8**
	baz=85						
J16K	**Anvik River**	**5.25**	**269**	Pn	**Pn**	**13 16 23.8**	**-0.2**
J16K				IAML		13 17 47.8	
	comp=N,34nm,2.2s						
E27K	**Coleen River**	**5.27**	**31**	Pn	**Pn**	**13 16 23.9**	**-0.4**
E27K	**Coleen River**	**5.27**	**31**	P	**Pn**	**13 16 24.0**	**-0.2**
	baz=218						
G17K	**Kiwalik Mounta**	**5.30**	**293**		**Pn**	**13 16 25.2**	**+0.6**
F28M	**Old Crow**	**5.30**	**41**	Pn	**Pn**	**13 16 24.4**	**-0.3**
F28M				IAML		13 17 26.1	
	comp=E,34nm,1.4s						
F28M	**Old Crow**	**5.30**	**41**	P	**Pn**	**13 16 24.4**	**-0.3**
	baz=228						
L16K	**Owhat River**	**5.30**	**251**	Pn	**Pn**	**13 16 24.8**	**+0.2**
L16K	**Owhat River**	**5.30**	**251**	P	**Pn**	**13 16 25.0**	**+0.4**
	baz=62						
E20K	**Nigu River**	**5.32**	**329**		**Pn**	**13 16 26.0**	**+1.1**
D24K	**Happy Valley**	**5.32**	**0**		**Pn**	**13 16 26.1**	**+1.2**
D24K	**Happy Valley**	**5.32**	**0**	IAML		13 17 58.6	
	comp=N,55nm,1.2s						
D24K				IAML		13 18 02.3	
	comp=E,47nm,1.1s						
SAMH	**Samovar Hills**	**5.35**	**131**		**Pn**	**13 16 25.5**	**0.0**
YUK4	**Talbot Arm**	**5.37**	**113**	P	**Pn**	**13 16 25.8**	**0.0**
	baz=301						
P18K	**Big Mountain,**	**5.39**	**217**	Pn	**Pn**	**13 16 26.1**	**+0.1**
P18K				IAML		13 17 29.6	
	comp=N,68nm,1.2s						
P18K				IAML		13 18 25.5	
	comp=E,40nm,2.3s						
P18K	**Big Mountain,**	**5.39**	**217**	P	**Pn**	**13 16 26.6**	**+0.6**
	baz=32						
Q19K	**Cape Douglas,**	**5.44**	**207**		**Pn**	**13 16 26.8**	**+0.2**
Q19K	**Cape Douglas,**	**5.44**	**207**	P	**Pn**	**13 16 26.8**	**+0.2**
	baz=23						
M16K	**Timber Creek**	**5.46**	**243**	Pn	**Pn**	**13 16 26.7**	**-0.1**
G29M	**Pine Creek**	**5.49**	**51**		**Pn**	**13 16 27.1**	**0.0**
Q20K	**Shuyak Island**	**5.52**	**199**	P	**Pn**	**13 16 28.4**	**+0.7**
	baz=16						
SYI	**Shuyak Island**	**5.52**	**199**	Pn	**Pn**	**13 16 27.8**	**+0.1**
J30M	**Hart River**	**5.54**	**77**	Pn	**Pn**	**13 16 27.9**	**-0.2**
PCA	**Pinnacle**	**5.55**	**129**		**Pn**	**13 16 27.3**	**-0.9**
I30M	**Mount Dempster**	**5.58**	**70**	Pn	**Pn**	**13 16 27.6**	**-0.9**
D25K	**Kavik River**	**5.58**	**9**		**Pn**	**13 16 28.6**	**+0.1**
M30M	**Minto, Yukon**	**5.63**	**98**	Pn	**Pn**	**13 16 28.7**	**-0.4**
M30M	**Minto, Yukon**	**5.63**	**98**	P	**Pn**	**13 16 29.1**	**0.0**
	baz=288						
O17K	**Koliganek Bris**	**5.64**	**227**		**Pn**	**13 16 29.1**	**-0.1**
O17K	**Koliganek Bris**	**5.64**	**227**	P	**Pn**	**13 16 29.4**	**+0.2**
	baz=40						
N16K	**Nishlik Lake**	**5.73**	**238**		**Pn**	**13 16 30.2**	**-0.2**
EPYK	**Eagle Plains**	**5.73**	**58**	Pn	**Pn**	**13 16 29.8**	**-0.7**
EPYK	**Eagle Plains**	**5.73**	**58**	P	**Pn**	**13 16 30.3**	**-0.2**
	baz=249						
YUK5	**Granite Creek**	**5.81**	**113**		**Pn**	**13 16 31.2**	**-0.4**
F17K	**Baldwin Pennin**	**5.81**	**302**	Pn	**Pn**	**13 16 31.7**	**+0.3**
F17K	**Baldwin Pennin**	**5.81**	**302**	P	**Pn**	**13 16 32.2**	**+0.8**
	baz=111						
C21K	**Knifeblade Rid**	**5.82**	**339**		**Pn**	**13 16 32.4**	**+0.9**
C21K	**Knifeblade Rid**	**5.82**	**339**	P	**Pn**	**13 16 33.0**	**+1.4**
	baz=153						
H16K	**Elim**	**5.86**	**284**		**Pn**	**13 16 32.5**	**+0.4**
H16K	**Elim**	**5.86**	**284**	P	**Pn**	**13 16 32.9**	**+0.7**
	baz=92						
BCPM	**Bancas Point**	**5.88**	**128**	Pn	**Pn**	**13 16 31.8**	**-0.6**
KAPH	**Katmai Pasha**	**5.89**	**209**		**Pn**	**13 16 32.9**	**+0.2**
C24K	**Franklin Bluff**	**5.89**	**1**		**Pn**	**13 16 33.4**	**+0.9**
C24K	**Franklin Bluff**	**5.89**	**1**	P	**Pn**	**13 16 33.6**	**+1.1**
	baz=181						
P17K	**Kvichak River**	**5.90**	**221**		**Pn**	**13 16 33.0**	**+0.3**
K15K	**Wolf Creek Mou**	**5.94**	**260**	Pn	**Pn**	**13 16 33.7**	**+0.4**
N30M	**Aishikik Lake**	**5.96**	**108**		**Pn**	**13 16 33.4**	**-0.2**
D19K	**Kuna River**	**5.96**	**325**		**Pn**	**13 16 33.9**	**+0.4**
G16K	**Koyuk River**	**5.98**	**291**	Pn	**Pn**	**13 16 33.8**	**+0.1**
KAHC	**Katmai Hardscr**	**5.99**	**212**		**Pn**	**13 16 34.1**	**0.0**
KAHC	**Katmai Hardscr**	**5.99**	**212**		**Pn**	**13 16 33.9**	**-0.2**
KAHC	**Katmai Hardscr**	**5.99**	**212**	P	**Pn**	**13 16 34.1**	**0.0**
	baz=27						
Q18K	**Katmai Hardscr**	**5.99**	**212**	P	**Pn**	**13 16 33.8**	**-0.3**
	baz=27						
E18K	**Tukpahlearik C**	**6.01**	**312**		**Pn**	**13 16 34.5**	**+0.3**
O29M	**Mount Kennedy**	**6.02**	**122**		**Pn**	**13 16 35.1**	**+0.6**
O29M	**Mount Kennedy**	**6.02**	**122**	P	**Pn**	**13 16 35.4**	**+0.8**
	baz=311						
KAHG	**Katmai Hook Gl**	**6.03**	**209**		**Pn**	**13 16 34.7**	**+0.1**
YUK7	**Dusty Glacier**	**6.04**	**119**		**Pn**	**13 16 35.1**	**+0.3**
C23K	**Itkillik River**	**6.04**	**354**		**Pn**	**13 16 35.4**	**+0.8**
E28M	**Babbage River**	**6.09**	**34**	Pn	**Pn**	**13 16 34.8**	**-0.4**
O16K	**Kokwok River B**	**6.10**	**230**	Pn	**Pn**	**13 16 35.3**	**-0.2**
HYT	**Haines Junctio**	**6.12**	**115**	Pn	**Pn**	**13 16 37.0**	**+1.1**
G30M	**tAoh Zraii Nji**	**6.15**	**54**	Pn	**Pn**	**13 16 35.2**	**-0.9**
PNL	**Peninsula**	**6.17**	**129**		**Pn**	**13 16 35.2**	**-1.2**
PNL	**Peninsula**	**6.17**	**129**	P	**Pn**	**13 16 36.9**	**+0.6**
L15K	**Ungalak Mounta**	**6.17**	**255**		**Pn**	**13 16 36.7**	**+0.4**
L15K	**Ungalak Mounta**	**6.17**	**255**	P	**Pn**	**13 16 36.6**	**+0.3**
	baz=64						
B21K	**Ikpikpuk River**	**6.21**	**341**		**Pn**	**13 16 37.3**	**+0.5**
D27M	**Malcolm River**	**6.27**	**27**	Pn	**Pn**	**13 16 37.9**	**+0.2**
E17K	**Hotham Inlet**	**6.27**	**307**		**Pn**	**13 16 38.9**	**+1.2**
E17K	**Hotham Inlet**	**6.27**	**307**	P	**Pn**	**13 16 38.9**	**+1.2**
	baz=115						
C26K	**Camden Bay**	**6.29**	**13**		**Pn**	**13 16 38.8**	**+0.9**
KVTA	**Katmai Vly 10**	**6.30**	**212**		**Pn**	**13 16 38.2**	**+0.1**
KAKN	**Katmai Knife C**	**6.32**	**211**		**Pn**	**13 16 38.3**	**-0.2**
M15K	**Kasigluk River**	**6.34**	**245**		**Pn**	**13 16 38.8**	**+0.1**
KDAK	**Kodiak Island**	**6.35**	**198**	Pn	**Pn**	**13 16 38.4**	**-0.4**
KDAK	**Kodiak Island**	**6.35**	**198**	P	**Pn**	**13 16 38.0**	**-0.8**
	comp=E,13nm,0.3s,baz=59,slow=10,SNR=94						
KDAK				S	**Sn**	**13 17 44.4**	**-5.5**
	comp=E,35nm,0.4s,baz=9.8,slow=21,SNR=3.0						
E29M	**Blow River**	**6.38**	**40**		**Pn**	**13 16 39.4**	**+0.3**
Q16K	**King Salmon**	**6.39**	**219**		**Pn**	**13 16 40.1**	**+0.8**
Q16K	**King Salmon**	**6.39**	**219**	P	**Pn**	**13 16 40.8**	**+1.4**
	baz=33						
KCE	**Katmai Mt Cerb**	**6.40**	**211**		**Pn**	**13 16 39.8**	**+0.3**
N15K	**Kwethluk River**	**6.43**	**240**		**Pn**	**13 16 39.5**	**-0.3**
ACHA	**Angle Creek He**	**6.46**	**212**		**Pn**	**13 16 40.3**	**-0.1**
N31M	**Braeburn, Yuko**	**6.50**	**105**		**Pn**	**13 16 40.7**	**-0.2**
P16K	**Nushagak River**	**6.50**	**226**		**Pn**	**13 16 40.9**	**+0.1**
P16K	**Nushagak River**	**6.50**	**226**	P	**Pn**	**13 16 42.0**	**+1.1**
	baz=38						
ANCK	**Angle Creek**	**6.51**	**212**		**Pn**	**13 16 41.0**	**0.0**
CNTC	**Contact Creek**	**6.55**	**214**		**Pn**	**13 16 41.6**	**0.0**
Q17K	**Contact Creek**	**6.55**	**214**	P	**Pn**	**13 16 41.6**	**0.0**
	baz=28						
F30M	**Barrier River**	**6.59**	**49**		**Pn**	**13 16 41.8**	**-0.2**
G15K	**Niukluk**	**6.65**	**287**		**Pn**	**13 16 43.2**	**+0.5**
O30N	**Mendenhall**	**6.73**	**112**		**Pn**	**13 16 43.2**	**-0.7**
O30N	**Mendenhall**	**6.73**	**112**	P	**Pn**	**13 16 44.6**	**+0.6**
	baz=303						
B22K	**Teshekpuk Lake**	**6.75**	**347**	Pn	**Pn**	**13 16 44.2**	**+0.2**
P30M	**Million Dollar**	**6.76**	**118**		**Pn**	**13 16 44.3**	**0.0**
C19K	**Lookout Ridge**	**6.78**	**326**		**Pn**	**13 16 44.8**	**+0.3**
P29M	**Windy Craggy**	**6.79**	**124**		**Pn**	**13 16 44.6**	**-0.2**
M31M	**Drury Creek, Y**	**6.81**	**98**		**Pn**	**13 16 45.4**	**+0.3**
M31M	**Drury Creek, Y**	**6.81**	**98**	P	**Pn**	**13 16 45.8**	**+0.8**
	baz=290						
D28M	**Stokes Point**	**6.82**	**32**		**Pn**	**13 16 46.2**	**+1.1**
D28M	**Stokes Point**	**6.82**	**32**	P	**Pn**	**13 16 46.6**	**+1.6**
	baz=221						
M14K	**Bethel**	**6.83**	**249**	Pn	**Pn**	**13 16 45.9**	**+0.7**
M14K	**Bethel**	**6.83**	**249**	P	**Pn**	**13 16 46.2**	**+1.0**
	baz=58						
L14K	**Kuka Creek**	**6.83**	**255**	Pn	**Pn**	**13 16 45.9**	**+0.6**
G31M	**Satah River**	**6.84**	**57**	Pn	**Pn**	**13 16 44.2**	**-1.1**
G31M	**Satah River**	**6.84**	**57**	P	**Pn**	**13 16 44.0**	**-1.3**
	baz=250						
R18K	**Karluk**	**6.87**	**206**		**Pn**	**13 16 45.7**	**0.0**
C18K	**Utukok River**	**6.90**	**320**	Pn	**Pn**	**13 16 46.5**	**+0.3**
B20K	**Meade River**	**6.97**	**336**		**Pn**	**13 16 46.9**	**-0.2**
D17K	**Noatak River**	**6.98**	**310**		**Pn**	**13 16 48.0**	**+0.8**
OHAK	**Old Harbor**	**6.99**	**200**		**Pn**	**13 16 46.0**	**-1.4**
OHAK	**Old Harbor**	**6.99**	**200**	P	**Pn**	**13 16 46.4**	**-1.1**
O15K	**Ungalikthiuk R**	**7.01**	**233**		**Pn**	**13 16 48.1**	**+0.4**
RDOG	**Red Dog Mine**	**7.09**	**313**	Pn	**Pn**	**13 16 49.2**	**+0.5**
RDOG	**Red Dog Mine**	**7.09**	**313**	P	**Pn**	**13 16 50.0**	**+1.2**
	baz=120						
N14K	**Kuskokwak Cree**	**7.20**	**243**		**Pn**	**13 16 50.4**	**+0.1**
ANM	**Nome**	**7.21**	**283**	Pn	**Pn**	**13 16 50.1**	**-0.3**
F31M	**Tsiigehtchic**	**7.22**	**53**	Pn	**Pn**	**13 16 49.1**	**-1.4**
F31M	**Tsiigehtchic**	**7.22**	**53**	P	**Pn**	**13 16 49.1**	**-1.4**
	baz=247						
R17K	**Ugashik Creek**	**7.23**	**214**		**Pn**	**13 16 50.7**	**+0.1**
FARO	**Faro, Yukon**	**7.26**	**96**		**Pn**	**13 16 51.5**	**+0.4**
WHY	**Whitehorse**	**7.29**	**110**		**Pn**	**13 16 51.3**	**-0.3**
C17K	**DeLong Mountai**	**7.39**	**315**		**Pn**	**13 16 53.1**	**+0.2**
O14K	**Tigyukauivet M**	**7.48**	**238**	Pn	**Pn**	**13 16 54.1**	**+0.1**
B18K	**Kokolik River**	**7.53**	**323**		**Pn**	**13 16 55.0**	**+0.4**
A22K	**Sinclair Lake**	**7.54**	**345**		**Pn**	**13 16 54.5**	**-0.3**
M13K	**Dall Lake**	**7.59**	**250**	Pn	**Pn**	**13 16 55.7**	**+0.3**
INK	**Inuvik**	**7.67**	**48**	Pn	**Pn**	**13 16 56.2**	**-0.4**
INK	**Inuvik**	**7.67**	**48**	P	**Pn**	**13 16 56.5**	**0.0**
	baz=242						
INK	**Inuvik**	**7.67**	**48**	P	**Pn**	**13 16 56.7**	**+0.2**
	comp=E,50nm,0.7s,baz=245,slow=17,SNR=189						
SII	**Sitkinak Islan**	**7.77**	**202**	Pn	**Pn**	**13 16 58.0**	**0.0**
SII	**Sitkinak Islan**	**7.77**	**202**	P	**Pn**	**13 16 58.7**	**+0.7**
SKAG	**Skagway**	**7.82**	**118**	P	**Pn**	**13 16 59.3**	**+0.7**
A19K	**Wainwright**	**7.94**	**329**		**Pn**	**13 16 59.6**	**-0.5**
C16K	**Lisburne Hills**	**8.00**	**311**	Pn	**Pn**	**13 17 01.4**	**+0.4**
A21K	**Barrow**	**8.05**	**342**		**Pn**	**13 17 01.1**	**-0.5**
P32M	**Atlin**	**8.38**	**114**	Pn	**Pn**	**13 17 05.2**	**-1.1**
P33M	**Teslin, Yukon**	**8.39**	**108**	Pn	**Pn**	**13 17 06.1**	**-0.3**
S31K	**Pelican**	**8.54**	**128**	Pn	**Pn**	**13 17 08.0**	**-0.4**
BESE	**Bessie Mountai**	**8.59**	**122**		**Pn**	**13 17 08.3**	**-0.9**
CHGN	**Chignik**	**8.93**	**216**	Pn	**Pn**	**13 17 13.1**	**-0.5**
R32K	**Eaglecrest**	**8.93**	**122**	Pn	**Pn**	**13 17 12.5**	**-1.2**
JIS	**Juneau Island**	**8.98**	**122**	Pn	**Pn**	**13 17 13.3**	**-1.0**
JIS	**Juneau Island**	**8.98**	**122**	P	**Pn**	**13 17 13.4**	**-0.9**
Q32M	**Nakina River**	**9.35**	**114**	Pn	**Pn**	**13 17 18.8**	**-0.8**
S32K	**Killisnoo**	**9.50**	**126**	Pn	**Pn**	**13 17 20.7**	**-0.5**
SIT	**Sitka**	**9.55**	**129**	Pn	**Pn**	**13 17 22.2**	**+0.3**
SIT	**Sitka**	**9.55**	**129**	P	**Pn**	**13 17 23.0**	**+1.0**
R33M	**Jennings River**	**9.63**	**109**	Pn	**Pn**	**13 17 23.3**	**+0.1**
S34M	**Telegraph Cree**	**10.49**	**116**	Pn	**Pn**	**13 17 34.5**	**-0.1**
DLBC	**Dease Lake**	**10.60**	**112**	P	**Pn**	**13 17 38.9**	**+2.7**
	comp=E,1.6nm,0.7s,baz=309,slow=11,SNR=1.7						
DLBC				LR	LR	13 22 33.2	
	comp=E,162nm,19.6s,baz=160,slow=41						
C36M	**Paulatuk**	**11.24**	**50**	Pn	**Pn**	**13 17 41.1**	**-3.5**
WRGLY	**Wrigley**	**11.35**	**82**		**Pn**	**13 17 43.4**	**-2.6**
A36M	**Sachs Harbour**	**11.97**	**37**	Pn	**Pn**	**13 17 51.3**	**-2.9**
A36M	**Sachs Harbour**	**11.97**	**37**	P	**Pn**	**13 17 53.0**	**-1.2**
	baz=239						
YKA	**Yellowknife Ar**	**15.44**	**79**	Pn	**Pn**	**13 18 37.1**	**-1.6**
YKA	**Yellowknife Ar**	**15.44**	**79**	P	**Pn**	**13 18 37.6**	**-1.1**
	comp=E,3.3nm,0.7s,baz=291,slow=13,SNR=44						
BBB	**Bella Bella**	**15.97**	**127**	P	**Pn**	**13 18 45.8**	**+0.5**
	comp=E,28nm,1.1s,baz=36,slow=17,SNR=1.7						
ATKA	**Atka Island**	**17.61**	**240**	P	**P**	**13 19 04.9**	**+0.4**
BILL	**Bilibino**	**18.40**	**303**	P	**P**	**13 19 12.9**	**-0.2**
BILL				IAmb	IAmb	13 19 14.1	
	comp=Z,4.2nm,0.6s						
RES	**Resolute Bay**	**21.02**	**37**	P	**P**	**13 19 40.4**	**-0.9**
RES	**Resolute Bay**	**21.02**	**37**	P	**P**	**13 19 40.3**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=244,slow=14,SNR=22						
	comp=Z,1.5nm,0.3s						
EDM	**Edmonton**	**21.09**	**104**	P	**P**	**13 19 41.9**	**-0.4**
EDM				IAmb	IAmb	13 19 46.6	
	comp=Z,5.1nm,0.6s						
FCC	**Fort Churchill**	**26.09**	**76**	P	**P**	**13 20 29.9**	**+0.1**
FCC				IAmb	IAmb	13 21 06.7	
	comp=Z,9.0nm,1.4s						
YMP	**Mirror Lake Pl**	**28.94**	**113**	P	**P**	**13 20 55.2**	**-0.5**
YMP				IAmb	IAmb	13 21 05.8	
	comp=Z,8.1nm,0.7s						
PDAR	**Pinedale Array**	**30.82**	**114**	P	**P**	**13 21 13.9**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=0.0,slow=3.0,SNR=4.8						
	comp=Z,0.4nm,0.7s						
ULM	**Lac du Bonnet**	**30.87**	**91**	P	**P**	**13 21 12.9**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=306,slow=8.6,SNR=3.6						
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**31.31**	**130**	P	**P**	**13 21 18.8**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=319,slow=8.3,SNR=6.4						
	comp=Z,0.6nm,0.7s						
NV11	**Mina Array Sit**	**31.36**	**129**	P	**P**	**13 21 18.5**	**+1.6**
NV11				IAmb	IAmb	13 21 42.0	
	comp=Z,2.3nm,1.1s						
EYMN	**Ely**	**34.51**	**90**	P	**P**	**13 21 44.8**	**+0.7**
SUMG	**Summit**	**36.08**	**29**	P	**P**	**13 21 60.0**	**+2.4**
TXAR	**Lajitas Array**	**44.82**	**118**	P	**P**	**13 23 11.1**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=306,slow=7.7,SNR=2.5						
TXAR				ScP	**ScP**	**13 28 28.4**	**-1.7**
	comp=Z,0.4nm,0.9s,baz=15,slow=3.7,SNR=2.0						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**46.83**	**3**	P	**P**	**13 23 23.6**	**-1.2**
	comp=Z,7.9nm,1.1s,baz=356,slow=8.4,SNR=1.1						
	comp=Z,7.9nm,1.1s						
TKL	**Tuckaleechee C**	**47.78**	**94**	P	**P**	**13 23 34.3**	**+1.7**
TKL				IAmb	IAmb	13 24 11.8	
	comp=Z,24nm,1.5s						
FINES	**FINESS Array B**	**54.96**	**3**	P	**P**	**13 24 24.4**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=348,slow=4.6,SNR=4.4						
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**55.37**	**325**	P	**P**	**13 24 25.7**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=38,slow=7.5,SNR=6.3						
	comp=Z,0.6nm,0.3s						
HFS	**Hagfors**	**55.63**	**10**	P	**P**	**13 24 27.9**	**-2.6**
	comp=Z,2.4nm,0.9s,baz=7.1,slow=3.5,SNR=1.2						
	comp=Z,2.4nm,0.9s						
JCJ	**Chichijima**	**56.75**	**264**	P	**P**	**13 24 41.3**	**+2.5**
HHC	**Hu-ho-hao-te**	**58.09**	**298**	*e*P	**P**	**13 24 50.2**	**+1.9**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,5.2s						
EKA	**Eskdalemuir Ar**	**58.23**	**22**	P	**P**	**13 24 47.7**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=334,slow=5.7,SNR=6.6						
	comp=Z,0.7nm,0.5s						
BVAR	**Borovoye Array**	**59.51**	**334**	P	**P**	**13 24 55.6**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=16,slow=6.7,SNR=4.6						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**59.98**	**327**	P	**P**	**13 24 59.0**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=30,slow=6.5,SNR=4.5						
	comp=Z,0.3nm,0.3s						
MK31	**Makanchi Array**	**62.57**	**323**	P	**P**	**13 25 17.3**	**-1.2**
MK31				IAmb	IAmb	13 25 22.2	
	comp=Z,2.3nm,1.4s						
MKAR	**Makanchi Array**	**62.57**	**323**	P	**P**	**13 25 17.6**	**-0.9**
MKAR	**Makanchi Array**	**62.57**	**323**	P	**P**	**13 25 17.2**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=51,slow=7.1,SNR=12						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**62.64**	**323**	P	**P**	**13 25 18.4**	**-0.6**
MAKZ				IAmb	IAmb	13 25 34.0	
	comp=Z,2.7nm,1.5s						
ABKAR	**Akbulak array**	**64.97**	**340**	P	**P**	**13 25 32.7**	**-1.4**
AKASG	**Malin Array Be**	**65.78**	**1**	P	**P**	**13 25 37.4**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=0.1,slow=6.3,SNR=5.3						
	comp=Z,1.3nm,0.6s						
BUR08	**Bucovina Ar. S**	**68.75**	**4**	P	**P**	**13 25 58.9**	**+0.7**
BURAR	**Bucovina Array**	**68.78**	**4**	P	**P**	**13 25 59.0**	**+0.6**
KMI	**Kunming**	**75.40**	**297**	⇑P	**P**	**13 26 39.3**	**+1.0**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
BOSA	**Boshof**	**144.55**	**9**	PKP	**PKPab**	**13 34 28.0**	**-0.3**
	comp=Z,4.4nm,1.2s,baz=354,slow=4.9,SNR=3.2						

IDC 07 13:41:06.4±2.5**, 4°.48S×135°.84E, h0^{km}, mb3.7**/1**, mbtmp3.6**/3**, ML3.3**/2**, Error ellipse: s-maj=92.4km s-min=26.7km az=83.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.44**	**185**	Pn	Pn	13 44 44.5	-1.3
	0.1nm,0.3s,baz=8.2,slow=13,SNR=5.6						
WRA				Sn	Sn	13 47 33.3	-4.5
	0.1nm,0.3s,baz=15,slow=23,SNR=2.0						
WRA				Lg	Lg	13 49 15.2	
	0.1nm,0.3s,baz=2.1,slow=29,SNR=4.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.17**	**185**	P	Pn	13 45 32.6	+0.1
	0.1nm,0.3s,baz=15,slow=10,SNR=23						
ASAR				S	Sn	13 49 01.4	-6.8
	0.2nm,0.8s,baz=358,slow=30,SNR=0.9						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**69.47**	**324**	P	P	13 52 16.7	-0.1
	0.4nm,0.5s,baz=116,slow=8.0,SNR=6.8						
	0.4nm,0.5s						

ATH 07 13:56:18.8, 38°.48N×23°.67E, h24^{km}±3^{km}, ML1.4/3**, Manual Solution by A.Moschou This location: 2020/05/05 16:58:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYMI	**Kymi, Euboea I**	**0.37**	**65**	P	Pb	13 56 26.9	0.0
KYMI				S	Sb	13 56 32.4	+0.1
VIL2	**Platees**	**0.41**	**230**	P	Pb	13 56 27.9	+0.3
VIL2				S	Sb	13 56 33.7	+0.2
DION	**Dionisos Attik**	**0.45**	**153**	P	Pb	13 56 28.8	+0.6
DION				S	Sb	13 56 34.7	+0.2
ATHU	**Athens Univers**	**0.52**	**170**	P	Pb	13 56 29.3	0.0
VLY	**Voula,Athens**	**0.63**	**171**	P	Pb	13 56 31.1	-0.1

ATH ***07*** *13:56:27.0, 36°.60N×23°.11E, h22^{km}±2^{km}, ML2.0/3, Error ellipse: s-maj=4.3km s-min=1.3km az=260.0*

THE 07 13:56:26.1, 36°.60N×23°.19E, h15^{km}, ML1.8/5**, Error ellipse: s-maj=1.6km s-min=0.6km az=247.0, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVA	**Monemvasia**	**0.15**	**306**	P	Pb	13 56 31.6	+0.9
MNVA				S	Sb	13 56 34.4	+0.6
MNVA				AML	AML	13 56 34.4	
	comp=N,1926µm,0.1s						
MNVA				AML	AML	13 56 34.5	
	comp=E,3524µm,0.3s						
VLI	**Veliai**	**0.24**	**301**	P	Pg	13 56 31.3	-0.1
VLI				S	Sg	13 56 34.7	-0.3
	comp=E,295nm,0.2s						
VLI	**Veliai**	**0.24**	**301**	P	Pg	13 56 31.4	0.0
VLI				S	Sg	13 56 34.7	-0.3
VLI				AML	AML	13 56 35.0	
	comp=N,444µm,0.2s						
VLI				AML	AML	13 56 35.2	
	comp=E,543µm,0.2s						
ANKY	**Antikythira Is**	**0.73**	**173**	P	Pb	13 56 40.7	+0.2
ANKY	**Antikythira Is**	**0.73**	**173**	P	Pb	13 56 40.8	+0.3
ANKY				S	Sb	13 56 51.1	+0.7
KRND	**KRANIDI**	**0.79**	**357**	P	Pg	13 56 41.2	-0.2
KRND				S	Sb	13 56 52.5	+0.6
	comp=E,140nm,0.5s						
KRND	**KRANIDI**	**0.79**	**357**	P	Pb	13 56 41.6	+0.1
KRND				S	Sb	13 56 51.9	0.0
KRND				AML	AML	13 56 53.9	
	comp=E,216µm,0.3s						
KRND				AML	AML	13 56 55.3	
	comp=N,330µm,0.4s						
RODP	**Rodopos**	**1.13**	**156**	P	Pb	13 56 46.5	-0.8
RODP				S	Sb	13 57 01.9	+0.1
	comp=N,18nm,0.3s						
PYL	**PYLOS**	**1.20**	**285**	P	Pn	13 56 47.3	-1.1
PYL				S	Sn	13 57 04.5	+0.1
	comp=N,32nm,0.5s						
PYL	**PYLOS**	**1.20**	**285**	P	Pn	13 56 47.5	-0.9
IMMV	**Iera Moni Meta**	**1.30**	**150**	P	Pn	13 56 49.1	-0.6
IMMV				S	Sb	13 57 06.2	-0.5
	comp=N,50nm,0.3s						
IMMV	**Iera Moni Meta**	**1.30**	**150**	P	Pn	13 56 49.3	-0.4
KLV	**Kalavryta, Ach**	**1.67**	**330**	P	Pn	13 56 54.1	-0.8

PRE 07 14:06:56.1±3.0**, 33°.64S×11°.23E, h10^{km}, ML3.7, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOMG	**Komaggas**	**6.56**	**56**	*e*P	Pn	14 08 34.9	+2.2
KOMG				*e*S	Sn	14 09 47.0	-0.6
KOMG				IAML		14 09 56.5	
	comp=Z,36nm,0.7s						
PRTV	**Porterville,We**	**6.61**	**87**	*e*P	Pn	14 08 34.7	+1.3
PRTV				IAML		14 09 51.8	
	comp=Z,144nm,0.4s						
CVNA	**Calvinia**	**7.52**	**76**	*e*P	Pn	14 08 48.9	+3.0
CVNA				IAML		14 10 16.3	
	comp=Z,82nm,0.3s						
MATJ	**Matjiesfontein**	**7.83**	**90**	*e*P	Pn	14 08 51.0	+0.9
MATJ				IAML		14 10 19.4	
	comp=Z,380nm,0.3s						
SUR	**Sutherland**	**8.15**	**84**	*e*P	Pn	14 08 56.4	+1.7
SUR				*e*S	Sn	14 10 21.4	-5.5
SUR				IAML		14 10 30.2	
	comp=Z,142nm,0.3s						
MERW	**Merweville**	**8.69**	**86**	*e*P	Pn	14 09 04.2	+2.3
MERW				IAML		14 10 36.8	
	comp=Z,108nm,0.4s						
FRAZ	**Fraserburg**	**8.74**	**82**	*e*P	Pn	14 09 04.4	+1.7
FRAZ				IAML		14 10 45.7	
	comp=Z,39nm,0.3s						
KEIM	**Keimoes**	**9.68**	**62**	*e*P	Pn	14 09 17.6	+2.0
KEIM				IAML		14 11 33.8	
	comp=Z,22nm,0.4s						
BRAK	**Brakfontein**	**10.00**	**83**	*e*P	Pn	14 09 23.4	+3.5
UPI	**Upington**	**10.08**	**61**	*e*P	Pn	14 09 24.0	+3.0
ROOI	**Rooidraai Farm**	**10.41**	**87**	*e*P	Pn	14 09 28.7	+3.2
PKA	**Prieska**	**10.59**	**71**	*e*P	Pn	14 09 28.1	+0.1
BFON	**Badsfontein, M**	**10.66**	**84**	*e*P	Pn	14 09 32.1	+3.1
BFON				IAML		14 11 58.7	
	comp=Z,45nm,0.6s						
GRAF	**Camdeboo Natio**	**11.23**	**87**	*e*P	Pn	14 09 39.9	+3.2
GRAF				IAML		14 11 58.5	
	comp=Z,57nm,0.4s						
BUFB	**Buffelsbos**	**11.25**	**96**	*e*P	Pn	14 09 37.9	+1.0
NMMU	**Nelson Mandela**	**12.02**	**96**	*e*P	Pn	14 09 47.5	+0.1
HVD	**Gariep Dam**	**12.47**	**80**	*e*P	Pn	14 09 56.8	+3.0
HVD				IAML		14 12 47.3	
	comp=Z,24nm,0.4s						
GRHM	**Grahamstown, E**	**12.66**	**93**	*e*P	Pn	14 09 58.1	+1.8
GRHM				IAML		14 12 17.3	
	comp=Z,15nm,0.4s						
BOSA	**Boshof**	**13.02**	**71**	*i* P	Pn	14 09 59.0	-2.2
BOSA				*i* S	Sn	14 11 59.9	-26
BOSA	**Boshof**	**13.02**	**71**	*e*P	Pn	14 10 03.3	+2.0
BOSA				IAML		14 13 14.9	
	comp=Z,8.7nm,0.6s						
SWZ	**Schweizer**	**13.76**	**66**	*e*P	Pn	14 10 11.9	+0.4
SNKL	**Senekal, Frees**	**15.16**	**74**	*e*P	Pn	14 10 31.9	+1.3
LBTB	**Lobatse**	**15.18**	**59**	*i* P	Pn	14 10 20.2	-11
LBTB				*i* S	Sn	14 12 36.6	-42
LBTB	**Lobatse**	**15.18**	**59**	*e*P	Pn	14 10 32.9	+2.2
LBTB				IAML		14 13 29.2	
	comp=Z,2.5nm,0.6s						
PRYS	**Parys**	**15.45**	**69**	*e*P	Pn	14 10 36.2	+1.8
MRCO	**Marico , North**	**15.50**	**62**	*e*P	Pn	14 10 36.1	+1.2
KSTD	**Kokstad**	**15.62**	**84**	*e*P	P	14 10 39.1	-1.6
HRAO	**HartRAO**	**16.23**	**66**	*e*P	Pn	14 10 45.9	+1.5
TSWA	**Tswaing Meteor**	**16.78**	**65**	*e*P	P	14 10 54.4	+0.7
NWCL	**Newcastle**	**17.09**	**75**	*e*P	P	14 10 59.0	+1.9
RUST	**Rust De Winter**	**17.22**	**65**	*e*P	P	14 11 00.1	+1.7
LEPH	**Lephalale, Lim**	**17.48**	**60**	*e*P	P	14 11 03.2	+2.0
WTBG	**Waterberg Wild**	**18.06**	**63**	*e*P	P	14 11 11.0	+3.1
DULL	**Dullstroom, Mp**	**18.42**	**68**	*e*P	Pn	14 11 16.4	+4.5
PILG	**Pilgrimsrest,**	**19.06**	**68**	*e*P	Pn	14 11 20.9	+1.3
HOED	**Hoedspruit, Li**	**19.50**	**67**	*e*P	Pn	14 11 25.3	+0.5

IDC 07 14:38:44.2±6.1**, 30°.58S×178°.83W, h0^{km}, mb3.2**/2**, mbtmp3.2**/2**, Error ellipse: s-maj=236.6km s-min=63.8km az=155.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.39**	**268**	P	P	14 46 40.2	-0.4
	0.2nm,0.8s,baz=109,slow=7.7,SNR=2.1						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**43.39**	**273**	P	P	14 46 48.8	0.0
	0.2nm,0.3s,baz=112,slow=8.0,SNR=5.6						

	0.2nm,0.3s						
FINES	**FINESS Array B**	**145.07**	**339**	PKPbc	PKPbc	14 58 21.5	-0.7
	4.1nm,0.9s,baz=46,slow=4.0,SNR=3.5						

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*IDC **07** 14:50:58.7±1.9, 4°.32N×126°.80E, h0km, mb3.4/4, mbtmp3.4/4, MS3.5/1, Error ellipse: s-maj=163.3km s-min=23.1km az=66.0*
*DJA **07** 14:51:04.8±0.8, 4°N±6°×12°7E±°, h10km, M4.0/10, mb4.1/4, mB5.7/1, MLv4.0/10, Mw(mB)5.2/1*
ISC 07 14:51:00.7±1.4**, 4°.3N**±0°.1×**126°.73E**±0°.09**, h10km, n12,** σ1s.**46**/14**, mb3.3**/4**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.35**	**242**	P	**Pn**	**14 51 26.2**	**+0.5**
SGSI				S	**Sn**	**14 51 41.7**	**-2.0**
KMSI	**Cibinong**	**4.62**	**216**	P	**Pn**	**14 52 11.5**	**+0.8**
LBMI	**Labuha**	**4.99**	**171**	P	**Pn**	**14 52 17.4**	**+1.7**
LBMI				S	**Sn**	**14 53 14.4**	**+0.9**
GTOI	**Gorontalo**	**5.21**	**225**	P	**Pn**	**14 52 21.0**	**+2.2**
GTOI				S	**Sn**	**14 53 18.7**	**-0.4**
MRSI	**Marisa**	**6.12**	**232**	P	**Pn**	**14 52 33.7**	**+2.4**
SANI	**Sanana**	**6.37**	**187**	P	**Pn**	**14 52 33.3**	**-1.5**
LUWI	**Luwuk**	**6.63**	**217**	P	**Pn**	**14 52 39.3**	**+0.9**
JOW	**Kunigami**	**22.43**	**4**	LR	LR	15 03 55.4	
	comp=Z,150nm,21.9s,baz=40,slow=35						
WRA	**Warramunga Arr**	**25.25**	**163**	P	**P**	**14 56 26.7**	**-0.5**
	0.7nm,0.7s,baz=344,slow=11,SNR=12						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**28.69**	**166**	P	**P**	**14 56 57.1**	**-1.1**
	0.1nm,0.3s,baz=343,slow=7.1,SNR=9.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**57.07**	**325**	P	**P**	**15 00 47.2**	**0.0**
	0.1nm,0.4s,baz=130,slow=8.7,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**61.24**	**327**	P	**P**	**15 01 15.8**	**-0.2**
	0.2nm,0.4s,baz=122,slow=5.9,SNR=2.3						
	0.2nm,0.4s						

IDC 07 15:16:42.7±1.8**, 56°.10S**×**143°.26W, h0km, mb3.8**/3**, mbtmp3.8**/3**, MS3.6**/11**, Error ellipse: s-maj=59.1km s-min=38.4km az=47.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.33**	**274**	LR	LR	15 33 10.4	
	comp=Z,70nm,18.7s,baz=118,slow=32						
QSPA	**South Pole Qui**	**34.06**	**180**	P	P	15 23 28.3	-0.1
	1.7nm,0.6s,baz=75,slow=2.4,SNR=23						
QSPA				LR	LR	15 35 30.5	
	comp=Z,66nm,18.9s,baz=50,slow=33						
	1.7nm,0.6s						
RAR	**Rarotonga**	**36.94**	**334**	LR	LR	15 33 59.6	
	comp=Z,74nm,20.1s,baz=168,slow=28						
PMSA	**Palmer Station**	**37.51**	**136**	LR	LR	15 35 08.8	
	comp=Z,84nm,20.1s,baz=306,slow=30						
PPT2	**Papeete2**	**38.74**	**350**	*e*LR	LR	15 34 06.1	
	142nm,26.2s						
PPT	**Papeete**	**38.76**	**350**	LR	LR	15 35 58.4	
	comp=Z,95nm,20.8s,baz=196,slow=30						
H03S2	**Juan Fernandez**	**48.62**	**91**	T	T	16 17 29.5	
	baz=220,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**48.62**	**91**	T	T	16 17 27.7	
	baz=220,slow=74,SNR=20						
H03S3	**Juan Fernandez**	**48.64**	**91**	T	T	16 17 29.9	
	baz=220,slow=74,SNR=18						
H03N3	**Juan Fernandez**	**48.90**	**91**	T	T	16 17 48.3	
	baz=223,slow=72,SNR=44						
H03N2	**Juan Fernandez**	**48.91**	**91**	T	T	16 17 46.2	
	baz=223,slow=72,SNR=48						
H03N1	**Juan Fernandez**	**48.92**	**91**	T	T	16 17 54.5	
	baz=223,slow=72,SNR=58						
DZM	**Mont Dzumac**	**50.10**	**292**	*e*LR	LR	15 40 22.4	
MAW	**Mawson**	**55.09**	**192**	LR	LR	15 47 55.4	
	comp=Z,44nm,18.2s,baz=72,slow=34						
ASAR	**Alice Springs**	**66.75**	**262**	P	P	15 27 35.8	0.0
	0.6nm,0.9s,baz=137,slow=6.7,SNR=6.2						
ASAR				LR	LR	15 53 53.1	
	comp=Z,39nm,19.4s,baz=122,slow=33						
	0.6nm,0.9s						
NNA	**Nana**	**67.03**	**77**	LR	LR	15 49 28.4	
	comp=Z,56nm,19.6s,baz=231,slow=29						
WRA	**Warramunga Arr**	**69.48**	**265**	P	P	15 27 53.2	+0.3
	0.9nm,1.1s,baz=152,slow=5.4,SNR=2.6						
	0.9nm,1.1s						
ATAH	**Atahualpa**	**70.22**	**73**	LR	LR	15 51 00.3	
	comp=Z,50nm,19.4s,baz=6.6,slow=29						
LBTB	**Lobatse**	**98.66**	**170**	LR	LR	16 10 41.4	
	comp=Z,30nm,18.5s,baz=140,slow=33						
YBH	**Yreka Blue Hor**	**99.00**	**15**	LR	LR	16 06 13.2	
	comp=Z,49nm,19.1s,baz=9.5,slow=30						
H10N3	**ASCENSION HYDR**	**103.61**	**127**	T	T	17 26 56.8	
	baz=206,slow=75,SNR=7.4						
H10N1	**ASCENSION HYDR**	**103.62**	**127**	T	T	17 26 58.9	
	baz=206,slow=75,SNR=6.0						
H10N2	**ASCENSION HYDR**	**103.63**	**127**	T	T	17 26 55.7	
	baz=206,slow=75,SNR=7.5						
ESDC	**Sonseca Array**	**148.71**	**104**	PKPbc	PKPbc	15 36 30.8	-0.4
	1.0nm,0.9s,baz=227,slow=2.3,SNR=2.9						
MKAR	**Makanchi Array**	**150.62**	**271**	PKPbc	PKPbc	15 36 35.0	-0.6
	1.3nm,0.7s,baz=103,slow=2.6,SNR=13						

IDC 07 15:21:19.4±9.0**, 7°.04S**×**154°.69E, h0km, mb3.3**/3**, mbtmp3.3**/3**, MS3.7**/1**, Error ellipse: s-maj=277.2km s-min=45.0km az=112.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.55**	**235**	P	P	15 26 32.5	+0.8
	0.4nm,0.5s,baz=61,slow=10,SNR=2.5						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.92**	**228**	P	P	15 26 53.0	-0.6
	0.2nm,0.6s,baz=59,slow=9.6,SNR=6.6						
	0.2nm,0.6s						
MJAR	**Matsushiro Arr**	**46.03**	**341**	LR	LR	15 46 08.8	
	comp=Z,90nm,21.8s,baz=222,slow=32						
MKAR	**Makanchi Array**	**83.24**	**319**	P	P	15 33 48.0	0.0
	0.3nm,0.7s,baz=92,slow=4.3,SNR=3.0						
	0.3nm,0.7s						

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*NOU **07** 15:32:32.0, 24°.99S×178°.09W, h478km, mb4.2/15, South of Fiji Islands*
*IDC **07** 15:32:49.2±1.1, 25°.40S×179°.73E, h500km±11km, mb3.4/13, mbtmp4.3/17, Error ellipse: s-maj=16.1km s-min=12.8km az=25.0*
*NEIC **07** 15:32:51.4±1.2, 25°.6S±0°.1×179°.6E±0°.1, h521km±8km, mb4.4/53, Error ellipse: s-maj=17.2km s-min=15.8km az=159.0*
ISC 07 15:32:50.1±0.4**, 25°.50S**±0°.08×**179°.61E**±0°.07**, h507km, n133,** σ1s.**29**/131**, mb4.3**/38**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.34**	**150**	P	**P**	**15 34 13.0**	**+1.3**
RAO	**Raoul Island**	**4.34**	**150**	P	**P**	**15 34 10.6**	**-1.1**
	179nm,0.3s,baz=48,slow=23,SNR=2.9						
RAO				S	**S**	**15 35 17.9**	**-0.4**
	257nm,0.5s,baz=83,slow=20,SNR=1.7						
MARNC	**Mare, Loyalty**	**11.35**	**288**	P	**P**	**15 35 23.5**	**+1.6**
PINNC	**Pines Island,**	**11.48**	**282**	P	**P**	**15 35 25.1**	**+1.9**
NIUE	**Niue**	**11.60**	**59**	P	**P**	**15 35 26.7**	**+2.2**
KUZ	**Kuaotunu**	**11.69**	**196**	P	**P**	**15 35 27.6**	**+2.4**
WIAZ	**Waiheke Island**	**11.89**	**198**	P	**P**	**15 35 30.1**	**+2.7**
OUENC	**Ouen Island, N**	**12.07**	**282**	P	**P**	**15 35 31.8**	**+2.3**
MXZ	**Matakaoa Point**	**12.08**	**185**	P	**P**	**15 35 29.7**	**+0.5**
MXZ	**Matakaoa Point**	**12.08**	**185**	P	**P**	**15 35 30.7**	**+1.4**
MYRZ	**Mayor Island**	**12.09**	**193**	P	**P**	**15 35 29.2**	**-0.2**
YATNC	**Mamie plateau,**	**12.14**	**284**	P	**P**	**15 35 33.0**	**+2.8**
AWAZ	**Awhitu Peninsu**	**12.28**	**199**	P	**P**	**15 35 34.0**	**+2.6**
LIFNC	**LIFOU**	**12.31**	**290**	P	**P**	**15 35 33.3**	**+1.4**
LIFNC	**LIFOU**	**12.31**	**290**	P	**P**	**15 35 33.4**	**+1.4**
HAZ	**Te Kaha**	**12.32**	**187**	P	**P**	**15 35 32.9**	**+1.0**
WHRZ	**Whale Island**	**12.52**	**190**	P	**P**	**15 35 36.1**	**+2.1**
DZM	**Mont Dzumac**	**12.53**	**283**	P	**P**	**15 35 36.3**	**+2.0**
DZM	**Mont Dzumac**	**12.53**	**283**	P	**P**	**15 35 37.0**	**+2.6**
DZM	**Mont Dzumac**	**12.53**	**283**	P	**P**	**15 35 36.1**	**+1.7**
	14nm,0.9s,baz=118,slow=23,SNR=11						
NOUC	**Port Laguerre**	**12.64**	**283**	P	**P**	**15 35 38.1**	**+2.6**
TOZ	**Tahuroa Road**	**12.69**	**195**	P	**P**	**15 35 37.0**	**+1.3**
URZ	**Urewera**	**12.90**	**189**	P	**P**	**15 35 36.6**	**-1.3**
	7.7nm,0.5s,baz=85,slow=0.7,SNR=12						
URZ	**Urewera**	**12.90**	**189**	P	**P**	**15 35 37.4**	**-0.5**
SNGZ	**Shannon Statio**	**13.38**	**188**	P	P	15 35 34.7	-8.3
MTHZ	**Maungataniwha**	**13.52**	**189**	P	P	15 35 36.6	-8.0
RAHZ	**Arahi**	**13.55**	**188**	P	P	15 35 34.4	-10
NMHZ	**Naumai**	**13.76**	**189**	P	P	15 35 35.7	-11
BKZ	**Black Stump Fm**	**13.88**	**190**	P	P	15 35 38.7	-10
MTVZ	**Mangateitei**	**14.28**	**193**	P	P	15 36 12.2	+20
KOUNC	**Koumac, New Ca**	**14.94**	**286**	P	**P**	**15 36 02.9**	**+3.3**
BFZ	**Birch Farm**	**15.40**	**190**	P	**P**	**15 36 02.9**	**-1.3**
MRZ	**Mangatainoka R**	**15.49**	**192**	P	**P**	**15 36 03.4**	**-1.8**
OGWZ	**Otaki Gorge**	**15.72**	**193**	P	**P**	**15 36 07.1**	**-0.4**
CAW	**Cannon Point**	**16.02**	**193**	P	**P**	**15 36 10.4**	**-0.2**
TCW	**Tory Channel**	**16.29**	**194**	P	**P**	**15 36 09.5**	**-3.9**
QRZ	**Quartz Range**	**16.39**	**199**	P	**P**	**15 36 14.2**	**-0.2**
PLWZ	**Palliser**	**16.43**	**192**	P	**P**	**15 36 12.8**	**-2.2**
TKNZ	**Takaka Hill**	**16.45**	**198**	P	**P**	**15 36 15.5**	**+0.4**
NNZ	**Nelson**	**16.51**	**197**	P	**P**	**15 36 14.9**	**-0.8**
NNZ	**Nelson**	**16.51**	**197**	P	**P**	**15 36 15.1**	**-0.6**
TUWZ	**Tuamarina**	**16.57**	**195**	P	**P**	**15 36 15.3**	**-0.9**
MRNZ	**Matariki Terra**	**16.85**	**198**	P	**P**	**15 36 18.5**	**-0.6**
MRNZ	**Matariki Terra**	**16.85**	**198**	P	**P**	**15 36 19.0**	**-0.2**
THZ	**Tophouse**	**17.14**	**197**	P	**P**	**15 36 20.8**	**-1.3**
THZ	**Tophouse**	**17.14**	**197**	P	**P**	**15 36 21.1**	**-1.0**
DSZ	**Denniston Nort**	**17.45**	**200**	P	**P**	**15 36 24.8**	**-0.1**
GVZ	**Greta Valley S**	**18.24**	**196**	P	**P**	**15 36 31.0**	**-1.1**
INZ	**Inchbonnie**	**18.45**	**199**	P	**P**	**15 36 33.4**	**-0.6**
RPZ	**Rata Peaks**	**19.47**	**199**	P	**P**	**15 36 43.4**	**+0.1**
	3.1nm,0.5s,baz=147,slow=8.7,SNR=1.2						
MGCD	**Mangrove Creek**	**25.95**	**246**	P	**P**	**15 37 44.3**	**+2.8**
MILA	**Mila**	**28.34**	**239**	P	**P**	**15 38 04.4**	**+1.7**
CMSA	**Cobar Meteorol**	**30.32**	**251**	P	**P**	**15 38 21.0**	**+1.1**
CTA	**Charters Tower**	**31.16**	**273**	P	**P**	**15 38 28.4**	**+1.2**
CTA	**Charters Tower**	**31.16**	**273**	P	**P**	**15 38 28.4**	**+1.2**
	8.2nm,0.5s,baz=95,slow=10,SNR=26						
	8.2nm,0.5s						
CTAO	**Charters Tower**	**31.16**	**273**	P	**P**	**15 38 28.2**	**+1.0**
CTAO	**Charters Tower**	**31.16**	**273**	P	**P**	**15 38 28.3**	**+1.0**
TOO	**Toolangi**	**31.30**	**239**	P	**P**	**15 38 29.3**	**+1.0**
TOO				IAmb	IAmb	15 38 44.0	
	comp=Z,14nm,1.4s						
MTSU	**Mount Surprise**	**33.50**	**275**	P	**P**	**15 38 48.5**	**+1.3**
STKA	**Stephens Creek**	**33.82**	**250**	P	**P**	**15 38 50.2**	**+0.5**
STKA	**Stephens Creek**	**33.82**	**250**	P	**P**	**15 38 50.0**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=124,slow=23,SNR=2.9						
	comp=Z,2.3nm,0.7s						
INKA	**Innaminka**	**34.72**	**258**	P	**P**	**15 38 58.9**	**+1.6**
COEN	**Coen**	**36.05**	**282**	P	**P**	**15 39 09.5**	**+0.9**
COEN				IAmb	IAmb	15 39 10.3	
	comp=Z,16nm,1.1s						
HTT	**Hallett**	**36.12**	**248**	P	**P**	**15 39 09.5**	**+0.6**
LCRK	**Leigh Creek**	**36.74**	**253**	P	**P**	**15 39 14.8**	**+0.7**
QIS	**Mount Isa**	**37.05**	**269**	P	**P**	**15 39 17.2**	**+0.5**
BBOO	**Buckleboo**	**38.51**	**249**	P	**P**	**15 39 28.3**	**-0.3**
BBOO				IAmb	IAmb	15 39 35.7	
	comp=Z,22nm,1.2s						
AS31	**Alice Springs**	**41.45**	**262**	P	**P**	**15 39 52.4**	**+0.1**
ASAR	**Alice Springs**	**41.45**	**262**	P	**P**	**15 39 52.0**	**-0.3**
ASAR	**Alice Springs**	**41.45**	**262**	P	**P**	**15 39 52.6**	**+0.3**
	comp=Z,3.3nm,0.4s,baz=91,slow=7.7,SNR=196						
ASAR				ScP	**ScP**	**15 44 41.9**	**+1.9**
	comp=Z,1.2nm,1.1s,baz=109,slow=4.2,SNR=3.8						
ASAR				S	**S**	**15 45 28.6**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=95,slow=16,SNR=4.1						
ASAR				ScS	**ScS**	**15 48 58.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=106,slow=6.8,SNR=4.3						
	comp=Z,3.3nm,0.4s						
WR0	**Warramunga Arr**	**41.78**	**268**	P	**P**	**15 39 54.8**	**-0.2**
WR0				IAmb	IAmb	15 39 55.1	
	comp=Z,4.2nm,0.6s						
WB2	**Warramunga Arr**	**41.96**	**268**	P	**P**	**15 39 56.1**	**-0.3**
WB2				IAmb	IAmb	15 39 56.6	
	comp=Z,7.2nm,0.6s						
WRAB	**Tennant Creek**	**41.96**	**268**	P	**P**	**15 39 55.9**	**-0.5**
WRAB				IAmb	IAmb	15 39 57.9	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**41.97**	**268**	P	**P**	**15 39 56.1**	**-0.4**
WB0				IAmb	IAmb	15 39 57.0	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**41.97**	**268**	P	**P**	**15 39 56.2**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=100,slow=7.1,SNR=77						
WRA				ScP	**ScP**	**15 44 43.2**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=96,slow=3.8,SNR=3.8						
WRA				S	**S**	**15 45 33.2**	**-5.0**
	comp=Z,1.0nm,1.1s,baz=102,slow=15,SNR=2.5						
	comp=Z,6.1nm,0.6s						
FORT	**Forrest**	**45.44**	**251**	P	**P**	**15 40 22.7**	**-0.6**
KNRA	**Kununurra**	**48.35**	**271**	P	**P**	**15 40 45.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**50.37**	**267**	P	**P**	**15 41 00.7**	**+0.3**
VNDA	**Vanda**	**52.76**	**185**	P	**P**	**15 41 16.6**	**-0.2**
VNDA	**Vanda**	**52.76**	**185**	P	**P**	**15 41 17.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=74,slow=10,SNR=1.8						
	comp=Z,0.7nm,0.6s						
PSA00	**Pilbara Seismi**	**54.54**	**261**	P	**P**	**15 41 29.4**	**-0.9**
MBWA	**Marble Bar**	**54.76**	**261**	P	**P**	**15 41 30.6**	**-1.3**
MBWA				IAmb	IAmb	15 42 05.2	
	comp=Z,38nm,1.4s						
MORW	**Morawa**	**56.01**	**251**	P	**P**	**15 41 40.0**	**-0.4**
MORW				IAmb	IAmb	15 42 17.3	
	comp=Z,27nm,1.3s						
JAGI	**Jajag, Banyuwa**	**64.28**	**273**	P	**P**	**15 42 34.5**	**-1.2**
JAGI				IAmb	IAmb	15 43 11.1	
	comp=Z,26nm,1.4s						
QSPA	**South Pole Qui**	**64.59**	**180**	P	**P**	**15 42 37.2**	**+0.3**
QSPA				IAmb	IAmb	15 42 38.7	
	comp=Z,8.4nm,0.9s						
QSPA	**South Pole Qui**	**64.59**	**180**	P	**P**	**15 42 37.4**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=15,slow=0.5,SNR=42						
	comp=Z,5.1nm,0.6s						
JHJ2	**Mitsune**	**69.51**	**325**	P	**P**	**15 43 08.2**	**+0.8**
MJAR	**Matsushiro Arr**	**73.01**	**326**	P	**P**	**15 43 27.0**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=164,slow=6.5,SNR=7.9						
	comp=Z,2.3nm,0.9s						
MAJO	**Matsushiro**	**73.02**	**326**	P	**P**	**15 43 26.5**	**-1.5**
MAJO				IAmb	IAmb	15 43 58.3	
	comp=Z,8.6nm,1.3s						
MJB9	**Matsu-Tunnel**	**73.02**	**326**	P	**P**	**15 43 26.3**	**-1.7**
MJB9				IAmb	IAmb	15 43 58.3	
	comp=Z,8.3nm,1.3s						
JNU	**Nakatsue**	**74.49**	**319**	P	**P**	**15 43 35.7**	**-0.8**
JNU				IAmb	IAmb	15 43 54.5	
	comp=Z,17nm,1.2s						
KSRS	**Korea Array**	**79.24**	**321**	P	**P**	**15 44 02.3**	**0.0**
	comp=Z,1.2nm,0.7s,baz=138,slow=5.7,SNR=5.5						
	comp=Z,1.2nm,0.7s						
KMPM	**Mount Pierce**	**83.88**	**40**	P	**P**	**15 44 26.8**	**+0.6**
SLBS	**Sierra La Lagu**	**83.90**	**60**	P	**P**	**15 44 27.1**	**+0.4**
SLBS				IAmb	IAmb	15 45 00.3	
	comp=Z,16nm,1.4s						
ISA	**Isabella, Lake**	**84.38**	**46**	P	**P**	**15 44 29.0**	**+0.2**
ISA				IAmb	IAmb	15 44 29.8	
	comp=Z,3.9nm,0.8s						
PNTR	**Pine Nut**	**85.74**	**43**	P	**P**	**15 44 35.3**	**-0.2**
PNTR				IAmb	IAmb	15 44 36.2	
	comp=Z,4.1nm,0.9s						
GWY	**Greenwater Val**	**85.87**	**47**	P	**P**	**15 44 35.8**	**-0.3**
YERR	**Yerington**	**85.89**	**43**	P	**P**	**15 44 35.8**	**-0.4**
L04D	**Klamath Falls**	**86.09**	**39**	P	**P**	**15 44 37.2**	**+0.2**
L04D				IAmb	IAmb	15 45 02.4	
	comp=Z,19nm,1.4s						
RYN	**Ryan**	**86.12**	**44**	P	**P**	**15 44 37.1**	**-0.2**
GMN	**Gold Mountain**	**86.14**	**45**	P	**P**	**15 44 37.1**	**-0.4**
NVAR	**Mina Array Bea**	**86.14**	**44**	P	**P**	**15 44 37.4**	**-0.1**
NVAR	**Mina Array Bea**	**86.14**	**44**	P	**P**	**15 44 37.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=226,slow=9.0,SNR=11						
	comp=Z,1.4nm,0.7s						
PAHR	**Pah Rah Range**	**86.25**	**43**	P	**P**	**15 44 37.8**	**0.0**
I03D	**Drain, OR**	**86.45**	**38**	P	**P**	**15 44 38.8**	**+0.3**
TPNV	**Topopah Spring**	**86.59**	**46**	P	**P**	**15 44 39.2**	**-0.3**
KVN	**Kaiserville**	**86.64**	**44**	P	**P**	**15 44 39.4**	**-0.4**
K05A	**Summer Lake**	**87.22**	**39**	P	**P**	**15 44 42.5**	**+0.2**
K05A				IAmb	IAmb	15 45 11.6	
	comp=Z,16nm,1.5s						
J05D	**Fort Rock, OR**	**87.37**	**39**	P	**P**	**15 44 43.0**	**0.0**
J05D				IAmb	IAmb	15 44 44.4	
	comp=Z,5.1nm,1.0s						
PLCA	**Paso Flores**	**87.41**	**134**	P	**P**	**15 44 43.4**	**0.0**
PLCA	**Paso Flores**	**87.41**	**134**	P	**P**	**15 44 43.4**	**0.0**
	comp=Z,2.1nm,1.0s,baz=240,slow=5.3,SNR=4.7						
	comp=Z,2.1nm,1.0s						
TUC	**Tucson**	**87.77**	**53**	P	**P**	**15 44 45.6**	**+0.5**
TUC				IAmb	IAmb	15 44 47.0	
	comp=Z,2.8nm,0.8s						
M17K	**Holitna River**	**88.56**	**11**	P	**P**	**15 44 48.3**	**+0.3**
I07A	**Izee**	**88.85**	**39**	P	**P**	**15 44 50.1**	**+0.3**
I07A				IAmb	IAmb	15 44 50.9	
	comp=Z,4.1nm,0.8s						
G06A	**Carlson Farm,**	**88.93**	**38**	P	**P**	**15 44 49.8**	**-0.3**
G06A				IAmb	IAmb	15 44 51.0	
	comp=Z,12nm,1.3s						
L19K	**White Mountain**	**89.75**	**12**	P	**P**	**15 44 53.6**	**+0.2**
L19K				IAmb	IAmb	15 45 01.5	
	comp=Z,12nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.75**	**291**	P	**P**	**15 44 54.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=136,slow=3.4,SNR=5.5						
	comp=Z,0.3nm,0.4s						
TMUT	**Trail Mountain**	**91.19**	**47**	P	**P**	**15 45 01.4**	**+0.3**
TMUT				IAmb	IAmb	15 45 02.3	
	comp=Z,4.2nm,0.7s						
TXAR	**Lajitas Array**	**91.57**	**58**	P	**P**	**15 45 02.3**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=213,slow=6.8,SNR=12						
TXAR				PKKP	**PKKPdf**	**16 02 17.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=108,slow=2.9,SNR=4.3						
	comp=Z,1.1nm,0.8s						
BSUT	**Blindstream Ca**	**92.14**	**46**	P	**P**	**15 45 05.3**	**-0.2**
BSUT				IAmb	IAmb	15 45 06.0	
	comp=Z,3.8nm,0.7s						
PDAR	**Pinedale Array**	**94.08**	**44**	P	**P**	**15 45 13.2**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=244,slow=3.9,SNR=2.2						
	comp=Z,0.3nm,0.7s						
SONM	**Songino Array**	**98.08**	**319**	PKKP		16 02 05.4	
	comp=Z,1.9nm,0.7s,baz=251,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**112.96**	**312**	SKP		15 53 14.2	
	comp=Z,0.5nm,0.8s,baz=120,slow=0.6,SNR=4.0						
MKAR				PKKPbc	PKKPbc	16 01 14.2	-4.1
	comp=Z,0.1nm,0.4s,baz=298,slow=3.1,SNR=3.6						
BVAR	**Borovoye Array**	**121.39**	**318**	PKP	**PKPdf**	**15 50 44.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=127,slow=3.3,SNR=5.0						
ARCES	**ARCESS Array B**	**133.37**	**348**	PKP	**PKPdf**	**15 51 05.5**	**-1.9**
	comp=Z,7.9nm,1.1s,baz=75,slow=2.9,SNR=5.1						
ARCES				SKPbc	**SKPbc**	**15 53 47.1**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=338,slow=2.9,SNR=6.6						
FINES	**FINESS Array B**	**139.83**	**341**	PKhKP	PKPpre	15 51 13.5	
	comp=Z,8.8nm,1.2s,baz=349,slow=4.3,SNR=1.5						
FINES				SKPbc	**SKPbc**	**15 54 06.3**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=71,slow=2.9,SNR=11						
NOA	**NORSAR Array B**	**143.59**	**351**	PKP	PKPab	15 51 23.9	-1.0
	comp=Z,1.0nm,0.7s,baz=22,slow=3.9,SNR=2.0						
HFS	**Hagfors**	**144.03**	**348**	PKP	PKPbc	15 51 25.0	-1.4
	comp=Z,3.7nm,0.8s,baz=39,slow=2.7,SNR=11						
MMAI	**Mount Meron Ar**	**148.00**	**292**	PKPbc	**PKPbc**	**15 51 38.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=104,slow=6.1,SNR=1.9						
BR131	**Keskin Array S**	**148.23**	**305**	PKPab	**PKPab**	**15 51 43.4**	**-0.6**
BRTR	**Keskin Array B**	**148.23**	**305**	PKPbc	**PKiKP**	**15 51 40.3**	**0.0**
	comp=Z,0.9nm,0.8s,baz=88,slow=4.0,SNR=5.4						
EKA	**Eskdalemuir Ar**	**150.13**	**3**	PKPbc	**PKPbc**	**15 51 41.1**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=344,slow=2.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**167.56**	**189**	PKPab	**PKPab**	**15 53 06.7**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=143,slow=3.3,SNR=4.8						

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*IDC **07** 16:01:32.7±4.2, 5°.30S×152°.52E, h48km±35km, mb3.9/3, mbtmp4.1/4, ML2.2/1, Error ellipse: s-maj=54.8km s-min=16.0km az=105.0*
*NEIC **07** 16:01:37.6±1.3, 4°.9S±0°.1×151°.8E±0°.1, h64km±10km, mb4.3/40, Error ellipse: s-maj=22.6km s-min=10.4km az=123.0*
ISC 07 16:01:36.8±1.3**, 5°.1S**±0°.1×**152°.0E**±0°.2**, h70km, n53,** σ0s.**83**/54**, mb4.3**/23**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.79**	**2**	P	**Pn**	**16 01 51.5**	**-1.2**
KRVT				S	**Sn**	**16 02 06.2**	**+1.7**
I40PG	**Keravat**	**0.80**	**1**	P	**Pn**	**16 01 52.4**	**-0.5**
	baz=160,slow=24,SNR=0.1						
RABL	**Rabaul**	**0.92**	**10**	Pn	**Pn**	**16 01 52.7**	**-1.6**
PMG	**Port Moresby**	**6.43**	**228**	Pn	**Pn**	**16 03 09.3**	**+0.4**
PMG	**Port Moresby**	**6.43**	**228**	P	**Pn**	**16 03 10.1**	**+1.2**
	3.0nm,0.3s,baz=44,slow=14,SNR=14						
PMG				S	**Sn**	**16 04 18.6**	**-2.4**
	8.3nm,0.4s,baz=216,slow=20,SNR=2.1						
	6.1nm,0.3s						
HNR	**Honiara**	**8.98**	**119**	Pn	Pn	16 03 49.3	+5.5
MTN	**Manton Dam**	**21.99**	**248**	P	**P**	**16 06 25.2**	**-0.1**
MTN				IAmb	IAmb	16 06 43.7	
	comp=Z,20nm,1.3s						
WB0	**Warramunga Arr**	**22.50**	**228**	P	**P**	**16 06 30.4**	**-0.4**
WR0	**Warramunga Arr**	**22.51**	**227**	P	**P**	**16 06 30.8**	**-0.2**
WR0				IAmb	IAmb	16 06 33.0	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**22.64**	**228**	P	**P**	**16 06 31.7**	**-0.6**
WRAB				IAmb	IAmb	16 06 34.2	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**22.64**	**228**	P	**P**	**16 06 31.7**	**-0.6**
WB2				IAmb	IAmb	16 06 34.0	
	comp=Z,5.7nm,0.6s						
WRA	**Warramunga Arr**	**22.65**	**228**	P	**P**	**16 06 31.5**	**-0.9**
WRA	**Warramunga Arr**	**22.65**	**228**	P	**P**	**16 06 32.0**	**-0.4**
	comp=Z,4.3nm,0.4s,baz=53,slow=9.9,SNR=35						
	comp=Z,4.3nm,0.4s						
KNRA	**Kununurra**	**25.12**	**244**	P	**P**	**16 06 56.1**	**+0.6**
AS31	**Alice Springs**	**25.39**	**222**	P	**P**	**16 06 57.6**	**-0.3**
ASAR	**Alice Springs**	**25.39**	**222**	P	**P**	**16 06 57.1**	**-0.8**
ASAR	**Alice Springs**	**25.39**	**222**	P	**P**	**16 06 57.4**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=61,slow=8.8,SNR=47						
	comp=Z,2.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.82**	**241**	P	**P**	**16 07 28.5**	**0.0**
MBWA	**Marble Bar**	**35.13**	**240**	P	**P**	**16 08 24.2**	**+0.2**
PSA00	**Pilbara Seismi**	**35.19**	**239**	P	**P**	**16 08 24.1**	**-0.3**
PSA00	**Pilbara Seismi**	**35.19**	**239**	P	**P**	**16 08 24.1**	**-0.3**
PSA00				IAmb	IAmb	16 08 36.4	
	comp=Z,8.3nm,1.4s						
K15K	**Wolf Creek Mou**	**75.96**	**20**	P	**P**	**16 13 16.6**	**+0.7**
K15K				IAmb	IAmb	16 13 47.4	
	comp=Z,9.1nm,1.2s						
N17K	**Nushagak Hills**	**76.44**	**23**	P	**P**	**16 13 19.3**	**+0.7**
J16K	**Anvik River**	**76.94**	**20**	P	**P**	**16 13 22.6**	**+1.2**
J16K				IAmb	IAmb	16 13 37.9	
	comp=Z,10nm,1.5s						
N18K	**Kilae Creek**	**77.04**	**23**	P	**P**	**16 13 23.3**	**+1.2**
L18K	**Granite Mounta**	**77.66**	**22**	P	**P**	**16 13 26.2**	**+0.8**
L18K				IAmb	IAmb	16 13 39.7	
	comp=Z,3.8nm,1.4s						
CNPM	**China Poot**	**78.33**	**26**	P	**P**	**16 13 29.4**	**+0.2**
L19K	**White Mountain**	**78.33**	**23**	P	**P**	**16 13 29.9**	**+0.7**
TTA	**Tatalina**	**78.34**	**22**	P	**P**	**16 13 29.5**	**+0.2**
TTA				IAmb	IAmb	16 13 30.3	
	comp=Z,3.4nm,1.2s						
J18K	**Innoko River**	**78.41**	**21**	P	**P**	**16 13 30.6**	**+1.0**
J18K				IAmb	IAmb	16 13 31.1	
	comp=Z,2.4nm,0.9s						
J20K	**Nowinta River**	**79.75**	**21**	P	**P**	**16 13 37.6**	**+0.7**
J20K				IAmb	IAmb	16 13 59.4	
	comp=Z,7.7nm,1.4s						
E19K	**Redstone River**	**80.71**	**18**	P	**P**	**16 13 42.6**	**+0.6**
E19K				IAmb	IAmb	16 14 16.7	
	comp=Z,5.3nm,1.4s						
F20K	**Avaraart Lake**	**80.92**	**18**	P	**P**	**16 13 43.6**	**+0.5**
F20K				IAmb	IAmb	16 14 06.9	
	comp=Z,5.7nm,1.5s						
IMAR	**Indian Mountai**	**80.93**	**20**	P	**P**	**16 13 43.4**	**+0.2**
H21K	**Melozitna Rive**	**81.06**	**20**	P	**P**	**16 13 44.0**	**+0.1**
H21K				IAmb	IAmb	16 14 07.7	
	comp=Z,4.4nm,1.4s						
D19K	**Kuna River**	**81.11**	**17**	P	**P**	**16 13 44.0**	**-0.2**
MLY	**Manley**	**81.45**	**21**	P	**P**	**16 13 46.2**	**+0.1**
IL31		**82.73**	**22**	P	**P**	**16 13 52.0**	**-0.6**
IL31				IAmb	IAmb	16 13 57.5	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**16 13 51.7**	**-1.0**
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**16 13 51.5**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=240,slow=5.4,SNR=9.7						
	comp=Z,0.7nm,0.7s						
H24K	**Noodor Dome**	**82.89**	**21**	P	**P**	**16 13 53.5**	**-0.1**
J25K	**Salcha River,**	**83.24**	**23**	P	**P**	**16 13 55.0**	**-0.4**
J25K				IAmb	IAmb	16 14 07.2	
	comp=Z,4.5nm,1.4s						
F24K	**Squaw Lake**	**83.72**	**20**	P	**P**	**16 13 58.5**	**+0.7**
BMAR	**Burnt Mountain**	**84.80**	**20**	P	**P**	**16 14 04.3**	**+1.1**
EGAK	**Eagle**	**84.95**	**23**	P	**P**	**16 14 05.1**	**+1.1**
EGAK				IAmb	IAmb	16 14 28.3	
	comp=Z,6.6nm,1.4s						
K29M	**Barlow Dome**	**86.08**	**25**	P	**P**	**16 14 10.6**	**+0.8**
K29M				IAmb	IAmb	16 14 31.9	
	comp=Z,6.6nm,1.4s						
E27K	**Coleen River**	**86.15**	**20**	P	**P**	**16 14 10.8**	**+0.8**
E27K				IAmb	IAmb	16 14 11.6	
	comp=Z,1.9nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
G29M	**Pine Creek**	**86.94**	**22**	P	**P**	**16 14 13.7**	**-0.1**
G29M				IAmb	IAmb	16 14 36.8	
	comp=Z,5.5nm,1.4s						
I30M	**Mount Dempster**	**87.00**	**24**	P	**P**	**16 14 15.1**	**+0.8**
E28M	**Babbage River**	**87.02**	**20**	P	**P**	**16 14 15.0**	**+0.9**
E29M	**Blow River**	**87.50**	**20**	P	**P**	**16 14 17.4**	**+0.9**
G31M	**Satah River**	**88.35**	**22**	P	**P**	**16 14 20.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**149.64**	**287**	PKPbc	**PKPbc**	**16 21 19.5**	**0.0**
	comp=Z,0.2nm,0.4s,baz=61,slow=4.5,SNR=2.2						

*NEIC **07** 16:10:39.0±0.7, 19.°37N±0.°05×156.°00W±0.°06, h29km±10km, Error ellipse: s-maj=8.8km s-min=6.6km az=62.0*

HVO 07 16:10:41.0±1.9**, 19.°37N**±0.°01×**155.°94W**±0.°02**, h0**km±9km**, ML2.2**/8**, ML2.4**/34(NEIC)**, Error ellipse: s-maj=3.5km s-min=1.5km az=70.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.12**	**11**		Pg	16 10 44.2	+0.8
KHLU	**Kahalu`u**	**0.23**	**12**		Pg	16 10 45.8	+0.3
KHLU					Sg	16 10 49.4	+0.9
KHLU	**Kahalu`u**	**0.23**	**12**	IAML		16 10 50.8	
	comp=E,176nm,0.2s						
KHLU				IAML		16 10 51.0	
	comp=N,177nm,0.3s						
ALEP	**Alea Permanent**	**0.33**	**58**		Pg	16 10 48.4	+1.0
ALEP					Sb	16 10 54.4	-1.5
KHU	**Kahuku**	**0.33**	**111**		Pg	16 10 47.7	+0.3
KHU					Sg	16 10 53.2	+1.5
KHU	**Kahuku**	**0.33**	**111**	IAML		16 10 53.9	
	comp=N,244nm,0.5s						
KHU				IAML		16 10 54.1	
	comp=E,204nm,0.2s						
HUH	**Hualalai**	**0.33**	**18**	Pg	Pg	16 10 48.1	+0.8
MWH	**Moku'aweowe**	**0.35**	**70**		Pg	16 10 48.5	+0.8
MWH	**Moku'aweowe**	**0.35**	**70**	IAML		16 10 54.7	
	comp=E,219nm,0.2s						
MWH				IAML		16 10 55.0	
	comp=N,264nm,0.2s						
MLOA	**Mauna Loa Obse**	**0.38**	**64**		Pg	16 10 48.9	+0.5
MLOA					Sg	16 10 55.2	+1.8
MLOA	**Mauna Loa Obse**	**0.38**	**64**	IAML		16 10 55.3	
	comp=E,403nm,1.2s						
MLOA				IAML		16 10 55.4	
	comp=N,877nm,0.1s						
AIN	**Ainahou**	**0.46**	**89**		Pg	16 10 49.8	0.0
AIN					Sg	16 10 56.9	+1.1
AIN	**Ainahou**	**0.46**	**89**	IAML		16 10 57.0	
	comp=E,464nm,0.6s						
AIN				IAML		16 10 57.7	
	comp=N,324nm,0.8s						
HMH	**Humu'ula Sheep**	**0.49**	**61**		Pg	16 10 50.7	+0.2
HMH					Sg	16 10 58.3	+1.4
HMH	**Humu'ula Sheep**	**0.49**	**61**	IAML		16 10 59.9	
	comp=E,372nm,0.3s						
HMH				IAML		16 10 60.0	
	comp=N,233nm,0.2s						
HTC	**Hot Caves**	**0.53**	**104**		Pg	16 10 51.2	0.0
MLH	**Mauna Loa**	**0.54**	**76**		Pg	16 10 51.3	-0.1
MLH				IAML		16 11 01.0	
	comp=N,176nm,0.2s						
MLH				IAML		16 11 02.1	
	comp=E,186nm,0.8s						
MLH	**Mauna Loa**	**0.54**	**76**		Sg	16 10 59.2	+0.8
POHA	**Pohakuloa**	**0.55**	**45**		Pg	16 10 51.6	+0.1
POHA					Sg	16 11 00.1	+1.5
POHA	**Pohakuloa**	**0.55**	**45**	IAML		16 11 00.3	
	comp=E,340nm,0.2s						
POHA				IAML		16 11 00.4	
	comp=E,681nm,0.2s						
WRMHI	**West Rim**	**0.61**	**86**		Pg	16 10 51.6	-1.0
SDHHI	**Sand Hill**	**0.61**	**88**		Pg	16 10 52.3	-0.4
UWE	**Uwekahuna**	**0.61**	**85**		Pg	16 10 52.4	-0.5
UWB	**Uwekahuna B**	**0.63**	**85**		Pg	16 10 52.4	-0.7
UWB				IAML		16 11 04.3	
	comp=E,118nm,1.2s						
UWB				IAML		16 11 11.9	
	comp=N,176nm,1.5s						
KKO	**Keanakako`i**	**0.64**	**87**		Pg	16 10 52.8	-0.5
KKO				IAML		16 11 10.0	
	comp=E,432nm,1.5s						
HATHI	**Halema'uma'u T**	**0.65**	**85**		Pg	16 10 52.6	-0.8
HATHI				IAML		16 10 55.0	
	comp=N,300nm,1.2s						
HATHI				IAML		16 11 09.2	
	comp=E,340nm,1.0s						
PUH	**Pauahi**	**0.69**	**89**	IAML		16 10 56.7	
	comp=E,125nm,1.2s						
PUH				IAML		16 11 17.7	
	comp=N,138nm,1.1s						
PUH	**Pauahi**	**0.69**	**89**		Pg	16 10 53.2	-0.9
PUH	**Pauahi**	**0.69**	**89**		Sg	16 11 03.2	+0.1
PUH					Sn	16 11 11.0	+1.6
HPAH	**Hawaii Prepara**	**0.70**	**19**	Pg	Pg	16 10 53.5	-1.0
HPAH				IAML		16 11 03.9	
	comp=N,90nm,1.1s						

*NOU **07** 16:39:29.1, 20.°95S×169.°98E, h0km, MLv4.4/10, Vanuatu Islands*
*NEIC **07** 16:39:32.9±0.8, 20.°83S±0.°09×169.°9E±0.°1, h84km±4km, mb4.3/10, Error ellipse: s-maj=17.8km s-min=11.7km az=70.0*
*IDC **07** 16:39:33.7±4.5, 20.°94S×169.°78E, h90km±36km, mb3.5/5, mbtmp3.8/6, Error ellipse: s-maj=41.8km s-min=32.9km az=172.0*

ISC 07 16:39:33.3±0.8**, 20.°89S**±0.°08×**169.°82E**±0.°09**, h90**km**, n35, σ0.s87**/36**, mb4.0**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.76**	**250**		**Pn**	**16 40 02.1**	**-0.3**
MARNC	**Mare, Loyalty**	**1.76**	**250**	P	**Pn**	**16 40 02.4**	**0.0**
LIFNC	**LIFOU**	**2.41**	**272**		**Pn**	**16 40 10.8**	**-0.1**
LIFNC	**LIFOU**	**2.41**	**272**	P	**Pn**	**16 40 10.9**	**0.0**
PINNC	**Pines Island,**	**2.79**	**232**		**Pn**	**16 40 16.1**	**+0.2**
PINNC	**Pines Island,**	**2.79**	**232**	P	**Pn**	**16 40 16.1**	**+0.2**
YATNC	**Mamie plateau,**	**2.96**	**246**	P	**Pn**	**16 40 17.8**	**-0.4**
OUENC	**Ouen Island, N**	**3.15**	**241**		**Pn**	**16 40 21.5**	**+0.6**
OUENC	**Ouen Island, N**	**3.15**	**241**	P	**Pn**	**16 40 21.6**	**+0.7**
DZM	**Mont Dzumac**	**3.35**	**249**	P	**Pn**	**16 40 24.7**	**+1.1**
DZM	**Mont Dzumac**	**3.35**	**249**	P	**Pn**	**16 40 24.1**	**+0.5**
	24nm,0.3s,baz=78,slow=15,SNR=181						
DZM				S	**Sn**	**16 41 02.0**	**-0.5**
	158nm,0.3s,baz=268,slow=22,SNR=23						
ONTNC	**Ouen Toro**	**3.43**	**245**		**Pn**	**16 40 24.9**	**+0.4**
ONTNC	**Ouen Toro**	**3.43**	**245**	P	**Pn**	**16 40 25.5**	**+0.9**
NOUC	**Port Laguerre**	**3.48**	**249**	P	**Pn**	**16 40 26.3**	**+1.0**
KOUNC	**Koumac, New Ca**	**5.19**	**273**	Pn	**Pn**	**16 40 50.6**	**+2.2**
KOUNC	**Koumac, New Ca**	**5.19**	**273**	P	**Pn**	**16 40 51.0**	**+2.6**
HNR	**Honiara**	**14.84**	**319**	Pn	**Pn**	**16 42 57.4**	**-1.1**
HIZ	**Hauiti**	**18.09**	**167**	P	**P**	**16 43 37.5**	**-0.3**
RTZ	**Ruatahuna**	**18.71**	**162**	Pn	**Pn**	**16 43 46.9**	**+0.8**
RTZ				IAmb	IAmb	16 44 21.9	
	comp=Z,24nm,1.4s						
MRZ	**Mangatainoka R**	**20.31**	**167**	P	**P**	**16 44 02.2**	**+0.3**
MRZ				IAmb	IAmb	16 44 06.0	
	comp=Z,22nm,1.1s						
WB0	**Warramunga Arr**	**33.20**	**266**	P	**P**	**16 46 01.3**	**-0.4**
WB0				IAmb	IAmb	16 46 23.0	
	comp=Z,9.9nm,1.3s						
WRAB	**Tennant Creek**	**33.21**	**265**	P	**P**	**16 46 00.5**	**-1.3**
WRAB				IAmb	IAmb	16 46 20.0	
	comp=Z,3.7nm,1.0s						
WRA	**Warramunga Arr**	**33.22**	**265**	P	**P**	**16 46 01.1**	**-0.8**
WRA	**Warramunga Arr**	**33.22**	**265**	P	**P**	**16 46 02.0**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=90,slow=8.2,SNR=5.5						
	comp=Z,0.7nm,0.8s						
AS31	**Alice Springs**	**33.29**	**258**	P	**P**	**16 46 03.0**	**+0.5**
ASAR	**Alice Springs**	**33.29**	**258**	P	**P**	**16 46 02.4**	**-0.1**
ASAR	**Alice Springs**	**33.29**	**258**	P	**P**	**16 46 02.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=88,slow=8.7,SNR=34						
	comp=Z,1.3nm,0.8s						
MTN	**Manton Dam**	**37.80**	**276**	P	**P**	**16 46 41.6**	**+0.4**
QSPA	**South Pole Qui**	**69.17**	**180**	P	**P**	**16 50 29.9**	**-0.1**
QSPA				IAmb	IAmb	16 51 04.6	
	comp=Z,6.9nm,1.5s						
QSPA	**South Pole Qui**	**69.17**	**180**	P	**P**	**16 50 29.8**	**-0.1**
	comp=Z,2.5nm,1.1s,baz=350,slow=4.5,SNR=3.6						
	comp=Z,2.5nm,1.1s						
AMKA	**Amchitka**	**72.44**	**6**	P	**P**	**16 50 49.1**	**-0.4**
USA0B	**Ussuriysk Arra**	**73.45**	**333**	P	**P**	**16 50 55.4**	**-0.4**
USA0B				IAmb	IAmb	16 51 39.2	
	comp=Z,5.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**79.67**	**294**	P	**P**	**16 51 32.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=134,slow=3.9,SNR=2.3						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**89.49**	**48**	P	**P**	**16 52 21.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=224,slow=8.8,SNR=4.1						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**145.21**	**353**	PKPbc	**PKPbc**	**16 58 58.7**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=8.7,slow=2.1,SNR=5.8						

*ATH **07** 16:55:58.5, 37.°18N×20.°19E, h7km±1km, ML3.7/6, Error ellipse: s-maj=3.2km s-min=1.3km az=65.0*
*PDG **07** 16:55:58.4±0.5, 37.°19N×20.°12E, h40km±11km, ML4.4/10, Error ellipse: s-maj=2.0km s-min=2.0km az=0.0*
*THE **07** 16:55:59.4, 37.°16N×20.°26E, h18km±1km, ML3.7/14, Error ellipse: s-maj=2.0km s-min=0.8km az=227.0*
*NEIC **07** 16:55:59.1±1.6, 37.°17N±0.°08×20.°21E±0.°08, h28km±6km, mb4.3/30, Error ellipse: s-maj=11.6km s-min=8.9km az=189.0*
*IDC **07** 16:56:00.0±2.6, 37.°24N×20.°24E, h36km±22km, mb3.8/14, mbtmp3.9/26, ML3.8/11, MS2.7/1, Error ellipse: s-maj=18.4km s-min=13.5km az=167.0*
*AFAD **07** 16:56:05.0±0.0, 37.°64N×20.°94E, h156km±30km, MW4.0*
*GII **07** 16:56:07.9±0.5, 36.°379N±0.°004×21.°047E±0.°001, h40km, mB4.4, Md4.3/3, confirmed*
*NAO **07** 16:56:38.6, 40.°94N×19.°42E, h33km, mb3.5*

ISC 07 16:55:56.2±0.8**, 37.°17N**±0.°03×**20.°20E**±0.°03**, h14**km±5km**, n312, σ2.s06**/371**, mb4.2**/24**, 15C-22D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.69**	**45**	P	**Pn**	**16 56 12.2**	**+0.6**
KRI1				S	**Sn**	**16 56 21.4**	**-0.8**
	10μm,0.5s						
LTHK	**Lithakia**	**0.74**	**43**	P	**Pn**	**16 56 13.1**	**+0.9**
LTHK				S	**Sn**	**16 56 23.4**	**+0.1**
	8μm,0.3s						
LTHK	**Lithakia**	**0.74**	**43**	P	**Pn**	**16 56 12.9**	**+0.7**
LTHK				AML	AML	16 56 24.0	
	comp=N,17651μm,0.4s						
LTHK				AML	AML	16 56 24.6	
	comp=E,19104μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.99**	**18**	P	**Pn**	**16 56 16.9**	**+1.2**
PSDA				S	**Sn**	**16 56 31.5**	**+2.0**
	comp=E,5μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.99**	**18**	P	**Pn**	**16 56 16.8**	**+1.2**
KEF3	**Kipouria, Keph**	**1.04**	**6**	P	**Pn**	**16 56 17.9**	**+1.6**
KEF3				S	**Sn**	**16 56 33.0**	**+2.3**
	comp=E,12μm,0.3s						
KEF3	**Kipouria, Keph**	**1.04**	**6**	P	**Pn**	**16 56 18.0**	**+1.6**
KEF3				S	**Sn**	**16 56 32.7**	**+2.0**
LXR1	**Lixouri, Cepha**	**1.05**	**10**	P	**Pn**	**16 56 18.2**	**+1.8**
LXR1				S	**Sn**	**16 56 32.8**	**+1.9**
	comp=E,23μm,0.4s						
LXRA	**Lixouri, Kepha**	**1.05**	**10**	P	**Pn**	**16 56 18.1**	**+1.7**
LXRA				S	**Sn**	**16 56 31.8**	**+0.9**
VLS	**Valsamata**	**1.05**	**17**	P	**Pn**	**16 56 17.7**	**+1.1**
VLS				S	**Sn**	**16 56 32.8**	**+1.7**
	comp=E,4μm,0.1s						
VLS	**Valsamata**	**1.05**	**17**	P	**Pn**	**16 56 17.7**	**+1.1**
VLS				S	**Sn**	**16 56 32.0**	**+0.9**
VLS				AML	AML	16 56 32.9	
	comp=N,8261μm,0.1s						
VLS				AML	AML	16 56 33.5	
	comp=E,6698μm,0.1s						
DMLN	**Damoulianata-K**	**1.08**	**7**	P	**Pn**	**16 56 18.4**	**+1.5**
DMLN				S	**Sn**	**16 56 33.9**	**+2.2**
	comp=E,6μm,0.4s						
DMLN	**Damoulianata-K**	**1.08**	**7**	P	**Pn**	**16 56 18.3**	**+1.4**
DMLN				S	**Sn**	**16 56 33.3**	**+1.6**
KEF4	**Livadi, Kephal**	**1.10**	**9**	P	**Pn**	**16 56 18.7**	**+1.5**
KEF4				S	**Sn**	**16 56 34.2**	**+2.0**
KEF4	**Livadi, Kephal**	**1.10**	**9**	P	**Pn**	**16 56 18.8**	**+1.6**
KEF4				S	**Sn**	**16 56 33.6**	**+1.4**
PYL	**PYLOS**	**1.26**	**102**	P	**Pg**	**16 56 20.0**	**-0.4**
PYL				S	**Sn**	**16 56 37.0**	**+0.9**
	comp=E,2μm,0.5s						
PYL	**PYLOS**	**1.26**	**102**	P	**Pg**	**16 56 20.0**	**-0.4**
PYL				AML	AML	16 56 36.7	
	comp=N,3357μm,0.7s						
PYL				AML	AML	16 56 39.0	
	comp=E,4146μm,0.4s						
FSK	**Fiskardo**	**1.32**	**12**	P	**Pg**	**16 56 22.1**	**+0.5**
FSK				S	**Sg**	**16 56 39.4**	**+0.6**
	comp=E,3μm,0.4s						
FSK	**Fiskardo**	**1.32**	**12**	P	**Pg**	**16 56 21.9**	**+0.3**
FSK				S	**Sg**	**16 56 39.3**	**+0.5**
FSK				AML	AML	16 56 39.7	
	comp=E,8368μm,0.4s						
FSK				AML	AML	16 56 40.0	
	comp=N,4918μm,0.3s						
RLS	**Riolos of Patr**	**1.34**	**48**	P	**Pg**	**16 56 22.3**	**+0.3**
RLS				S	**Sg**	**16 56 40.2**	**+0.8**
	comp=N,2μm,0.4s						
RLS	**Riolos of Patr**	**1.34**	**48**	P	**Pg**	**16 56 22.4**	**+0.5**
RLS				S	**Sg**	**16 56 40.0**	**+0.6**
RLS				AML	AML	16 56 41.6	
	comp=N,4482μm,0.4s						
RLS				AML	AML	16 56 43.4	
	comp=E,2710μm,0.5s						
KLMT	**Kalamata**	**1.49**	**94**	P	**Pg**	**16 56 24.1**	**-0.7**
KLMT				S	**Sb**	**16 56 42.9**	**+0.6**
	comp=E,1μm,0.6s						
EVGI	**Lefkada island**	**1.50**	**14**	P	**Pg**	**16 56 25.1**	**+0.2**
EVGI				S	**Sg**	**16 56 44.5**	**+0.1**
	comp=E,3μm,0.1s						
EVGI	**Lefkada island**	**1.50**	**14**	P	**Pg**	**16 56 24.8**	**-0.1**
EVGI				S	**Sb**	**16 56 43.6**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.54**	**11**	P	**Pg**	**16 56 25.6**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.54**	**11**	P	**Pg**	**16 56 25.7**	**-0.1**
DRAG				S	**Sb**	**16 56 44.9**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.59**	**14**	P	**Pg**	**16 56 26.6**	**-0.2**
NYDR				S	**Sg**	**16 56 46.7**	**-0.8**
	comp=E,1μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.59**	**14**	P	**Pg**	**16 56 26.3**	**-0.5**
NYDR				S	**Sb**	**16 56 46.0**	**+0.7**
LKD2	**Lefkada island**	**1.66**	**12**	P	**Pg**	**16 56 27.5**	**-0.5**
LKD2				S	**Sb**	**16 56 48.4**	**+1.1**
	comp=E,1μm,0.3s						
LKD2	**Lefkada island**	**1.66**	**12**	P	**Pg**	**16 56 27.3**	**-0.8**
TSLK	**Tsoukalades, L**	**1.69**	**12**	P	**Pb**	**16 56 27.8**	**+0.7**
TSLK	**Tsoukalades, L**	**1.69**	**12**	P	**Pg**	**16 56 27.9**	**-0.8**
LAKA	**Lakka**	**1.77**	**52**	P	**Pg**	**16 56 29.4**	**-0.7**
KLV	**Kalavryta, Ach**	**1.78**	**60**	P	**Pb**	**16 56 28.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.78**	**60**	P	**Pb**	**16 56 28.7**	**+0.2**
PVO	**Paravola**	**1.79**	**35**	P	**Pg**	**16 56 30.1**	**-0.4**
EFP	**Efpalio**	**1.84**	**46**	P	**Pg**	**16 56 30.6**	**-0.9**
GUR	**Goura**	**1.87**	**65**	P	**Pb**	**16 56 29.7**	**-0.4**
GUR				AML	AML	16 56 56.8	
	comp=E,2022μm,0.6s						
GUR				AML	AML	16 56 57.0	
	comp=N,3527μm,0.5s						
TRIZ	**Trizonia**	**1.91**	**51**	P	**Pb**	**16 56 31.4**	**+0.7**
ANX	**Ano Chora**	**1.97**	**43**	P	**Pb**	**16 56 32.5**	**+0.7**
VLI	**Veliai**	**2.24**	**101**	P	**Pb**	**16 56 34.7**	**-1.6**
DLFA	**Delphi**	**2.24**	**54**	P	**Pb**	**16 56 35.8**	**-0.6**
MNVA	**Monemvasia**	**2.32**	**101**	P	**Pb**	**16 56 37.4**	**-0.4**
KRND	**KRANIDI**	**2.36**	**84**	P	**Pn**	**16 56 35.8**	**+1.3**
IGT	**Igoumenitsa**	**2.36**	**2**	P	**Pn**	**16 56 36.1**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.39**	**39**	P	**Pb**	**16 56 38.5**	**-0.5**
AGG	**Agios Georgios**	**2.50**	**42**	*e*P	**Pn**	**16 56 37.4**	**+0.9**
AGG	**Agios Georgios**	**2.50**	**42**	Pn	**Pb**	**16 56 39.2**	**-1.7**
AGG	**Agios Georgios**	**2.50**	**42**	P	**Pn**	**16 56 38.3**	**+1.8**
AXAR	**Agios Charalam**	**2.51**	**50**	P	**Pb**	**16 56 39.4**	**-1.7**
JAN	**Janina**	**2.54**	**11**	P	**Pb**	**16 56 40.2**	**-1.3**
KEK	**Kerkira**	**2.56**	**353**	*e*P	**Pn**	**16 56 37.5**	**+0.2**
KEK	**Kerkira**	**2.56**	**353**	Pn	**Pn**	**16 56 37.4**	**+0.1**
KASA	**Kassiopi**	**2.58**	**355**	P	**Pn**	**16 56 39.4**	**+1.9**
VIL2	**Platees**	**2.65**	**66**	P	**Pn**	**16 56 39.8**	**+1.4**
ANKY	**Antikythira Is**	**2.81**	**117**	P	**Pn**	**16 56 42.0**	**+1.3**
KPRO	**Kipourio**	**2.93**	**18**	P	**Pb**	**16 56 45.9**	**-2.4**
ATHU	**Athens Univers**	**2.96**	**73**	P	**Pn**	**16 56 43.8**	**+1.1**
DION	**Dionisos Attik**	**3.10**	**72**	P	**Pn**	**16 56 46.8**	**+2.1**
PENT	**Pentalofos**	**3.11**	**13**	P	**Pb**	**16 56 48.5**	**-2.8**
NEO	**Neokhori**	**3.20**	**47**	P	**Pn**	**16 56 47.7**	**+1.7**
SCTE	**Santa Cesarea**	**3.20**	**335**	Pn	**Pn**	**16 56 47.6**	**+1.5**
RODP	**Rodopos**	**3.29**	**118**	*e*P	**Pn**	**16 56 48.9**	**+1.6**
IMMV	**Iera Moni Meta**	**3.50**	**118**	*e*P	**Pn**	**16 56 51.5**	**+1.4**
CEL	**Celeste**	**3.59**	**289**		**Pn**	**16 56 52.8**	**+1.4**
FNA	**Florina**	**3.73**	**14**	*e*P	**Pn**	**16 56 55.1**	**+1.8**
FNA	**Florina**	**3.73**	**14**	Pn	**Pn**	**16 56 55.1**	**+1.8**
FNA	**Florina**	**3.73**	**14**	P	**Pn**	**16 56 54.8**	**+1.4**
FNA				S	**Sn**	**16 57 33.0**	**-4.0**
FNA				*i* AML	AML	16 57 43.0	
	comp=N,125nm,0.5s						
PAIG	**Paliouri**	**3.88**	**44**	*e*P	**Pn**	**16 56 56.2**	**+0.9**
GVDS	**Gavdos**	**3.91**	**125**	*e*P	**Pn**	**16 56 57.2**	**+1.4**
GVD	**Gavdhos**	**3.91**	**125**	*e*P	**Pn**	**16 56 57.8**	**+1.9**
OHR	**Ohrid**	**3.97**	**7**	⇓*i*Pn	**Pn**	**16 57 00.0**	**+3.4**
OHR				*i* Sg	**Sn**	**16 57 44.1**	**+1.2**
HORT	**Hortiatis**	**4.10**	**33**	*e*P	**Pn**	**16 57 00.1**	**+1.5**
GRG	**Griva**	**4.15**	**24**	*e*P	**Pn**	**16 57 00.5**	**+1.3**
TIR	**Tirane**	**4.18**	**357**		**Pn**	**16 57 00.8**	**+1.2**
IDI	**Anoyia**	**4.23**	**115**	*e*P	**Pn**	**16 57 01.9**	**+1.7**
APE	**Apeiranthos**	**4.26**	**90**	⇑P	**Pn**	**16 57 00.8**	**+0.2**
APE	**Apeiranthos**	**4.26**	**90**	*e*P	**Pn**	**16 57 00.9**	**+0.2**
APE	**Apeiranthos**	**4.26**	**90**	P	**Pn**	**16 56 57.8**	**-2.8**
OUR	**Ouranopolis**	**4.33**	**42**	*e*P	**Pn**	**16 57 02.7**	**+1.2**
MATE	**Matera**	**4.42**	**323**	⇑P	**Pn**	**16 57 01.8**	**-0.9**
MATE	**Matera**	**4.42**	**323**	*e*P	**Pn**	**16 57 04.2**	**+1.4**
CUC	**Castrocucco**	**4.45**	**311**	Pn	**Pn**	**16 57 04.9**	**+1.6**
KNT	**Kendrikon**	**4.50**	**27**	*e*P	**Pn**	**16 57 05.9**	**+1.9**
VAY	**Valandovo**	**4.54**	**23**	*i* Pn	**Pn**	**16 57 06.0**	**+1.6**
VAY				*i* Sg	**Sn**	**16 57 56.4**	**-0.6**
VAE	**Valguarnera**	**4.63**	**276**	Pn	**Pn**	**16 57 08.3**	**+2.6**
	comp=N,4.6nm,0.3s,baz=153,slow=5.8,SNR=7.9						
VAE				Sn	**Sn**	**16 58 00.5**	**+1.2**
	comp=N,3.9nm,0.3s,baz=346,slow=21,SNR=1.9						
	comp=N,20nm,0.6s						
RAFF	**Raffo Rosso**	**4.66**	**272**	Pn	**Pn**	**16 57 07.2**	**+1.0**
WDD	**Wied Dalam**	**4.76**	**256**	Pn	**Pn**	**16 57 08.4**	**+0.9**
CHOS	**Chios island**	**4.79**	**74**	*e*P	**Pn**	**16 57 09.1**	**+1.1**
ULC	**Ulcinj**	**4.85**	**352**	⇑*i*Pn	**Pn**	**16 57 09.1**	**+0.4**
ULC				*i* Sn	**Sn**	**16 58 02.1**	**-2.5**
SKO	**Skopje**	**4.89**	**11**	*i* Pn	**Pn**	**16 57 11.3**	**+2.0**
SKO				*i* Sg	**Sn**	**16 58 04.1**	**-1.6**
SIGR	**SIGRI**	**4.90**	**64**	*e*P	**Pn**	**16 57 10.9**	**+1.5**
PEHC	**Pehcevo**	**5.06**	**24**	*i* Pn	**Pn**	**16 57 13.1**	**+1.4**
PEHC				*i* Sg	**Sn**	**16 58 09.0**	**-0.9**
DRME	**Dracevica, Mon**	**5.07**	**351**	⇓*i*Pn	**Pn**	**16 57 12.5**	**+0.7**
DRME				*i* Sn	**Sn**	**16 58 08.0**	**-2.2**
DRME	**Dracevica, Mon**	**5.07**	**351**	⇓*i*Pn	**Pn**	**16 57 11.8**	**0.0**
BUM	**Brajici-Budva**	**5.22**	**349**	⇓*i*Pn	**Pn**	**16 57 14.5**	**+0.6**
BUM				*i* Sn	**Sn**	**16 58 11.9**	**-2.1**
ZKR	**Zakros**	**5.28**	**111**	*e*P	**Pn**	**16 57 17.1**	**+2.4**
GADA	**Gvkgeada**	**5.38**	**54**	*e*P	**Pn**	**16 57 17.9**	**+1.9**
PVY	**Plav**	**5.42**	**358**	⇓*i*Pn	**Pn**	**16 57 18.5**	**+1.8**
PVY				*i* Sn	**Sn**	**16 58 16.8**	**-2.2**
HCY	**Herceg Novi**	**5.43**	**347**	⇓*i*Pn	**Pn**	**16 57 16.8**	**0.0**
HCY				*i* Sn	**Sn**	**16 58 16.7**	**-2.4**
HCY	**Herceg Novi**	**5.43**	**347**	*e*Pn	**Pn**	**16 57 17.0**	**+0.2**
CEME	**Cevo**	**5.46**	**350**	⇓*i*Pn	**Pn**	**16 57 17.3**	**+0.1**
CEME				*i* Sn	**Sn**	**16 58 16.7**	**-3.2**
BAYC	**CANAKKALE_Bayr**	**5.60**	**61**	P	**Pn**	**16 57 16.9**	**-2.1**
NKME	**Niksic**	**5.67**	**351**	⇓*i*Pn	**Pn**	**16 57 20.9**	**+0.8**
NKME				*i* Sn	**Sn**	**16 58 22.0**	**-3.1**
KOME	**Kolasin**	**5.70**	**355**	⇑*i*Pn	**Pn**	**16 57 21.4**	**+0.9**
KOME				*i* Sn	**Sn**	**16 58 23.2**	**-2.6**
TREB	**Trebinje**	**5.72**	**346**	*e*Pn	**Pn**	**16 57 20.5**	**-0.2**
SGRT	**San Giovanni R**	**5.73**	**324**	Pn	**Pn**	**16 57 21.8**	**+0.9**
RDO	**Rodhopi**	**5.74**	**45**	*e*P	**Pn**	**16 57 22.9**	**+1.9**
RDO	**Rodhopi**	**5.74**	**45**		**Pn**	**16 57 21.5**	**+0.5**
YAZI	**Mula-Dat§a-**	**5.83**	**93**	P	**Pn**	**16 57 21.7**	**-0.4**
KARP	**Karpathos**	**5.84**	**104**	Pn	**Pn**	**16 57 23.1**	**+0.7**
KARP	**Karpathos**	**5.84**	**104**	P	**Pn**	**16 57 25.1**	**+2.7**
GELI	**Tayfur-Gelibol**	**5.87**	**55**	*e*P	**Pn**	**16 57 24.8**	**+2.1**
BRY	**Bratogost**	**5.87**	**348**	*e*Pn	**Pn**	**16 57 22.7**	**-0.1**
ALN	**Alexandroupoli**	**5.88**	**49**	*e*P	**Pn**	**16 57 25.2**	**+2.4**
ALN	**Alexandroupoli**	**5.88**	**49**		**Pn**	**16 57 23.8**	**+1.0**
ALN	**Alexandroupoli**	**5.88**	**49**	P	**Pn**	**16 57 20.0**	**-2.8**
STON	**Ston**	**6.01**	**342**	⇓*i*Pn	**Pn**	**16 57 24.9**	**+0.3**
SJES	**Sjenica**	**6.09**	**358**	*e*Pn	**Pn**	**16 57 27.3**	**+1.4**
UPM	**Unac-Piva**	**6.11**	**351**	⇓*i*Pn	**Pn**	**16 57 27.0**	**+0.8**
UPM				*i* Sn	**Sn**	**16 58 33.0**	**-3.0**
UPM	**Unac-Piva**	**6.11**	**351**	*e*Pn	**Pn**	**16 57 26.8**	**+0.6**
PLE	**Pljevlja**	**6.19**	**354**	⇑*i*Pn	**Pn**	**16 57 28.9**	**+1.7**
PLE				*i* Sn	**Sn**	**16 58 34.8**	**-3.0**
STEP	**BALIKESIR_Sava**	**6.31**	**67**	P	Pn	16 57 20.9	-8.0
NEVS	**Nevesinje**	**6.33**	**346**	*e*Pn	**Pn**	**16 57 30.2**	**+1.1**
ARG	**Arkhangelos**	**6.44**	**96**	Pn	**Pn**	**16 57 32.2**	**+1.6**
YER	**Yerkesik**	**6.45**	**88**	P	**Pn**	**16 57 33.5**	**+2.6**
RUDO	**Rudo**	**6.47**	**355**	*e*Pn	**Pn**	**16 57 27.3**	**-3.7**
BALB	**Balikesir**	**6.51**	**65**	Pn	**Pn**	**16 57 33.7**	**+2.1**
BOVS	**Bovan**	**6.56**	**10**	⇑P	**Pn**	**16 57 32.6**	**+0.4**
BLKB	**Belogradchik**	**6.72**	**16**	⇑P	**Pn**	**16 57 35.6**	**+1.2**
BBLS	**Lazići**	**6.72**	**355**	⇓*i*Pn	**Pn**	**16 57 34.6**	**+0.1**
INTR	**Introdacqua**	**6.86**	**317**	Pn	**Pn**	**16 57 38.0**	**+1.6**
BAND	**Balkesir-Ban**	**6.94**	**60**	P	**Pn**	**16 57 37.4**	**-0.1**
HAPS	**Han Pijesak,Bl**	**6.98**	**353**	*e*Pn	**Pn**	**16 57 38.6**	**+0.6**
PLVB	**Pleven**	**7.07**	**27**	⇑P	**Pn**	**16 57 40.6**	**+1.4**
ELND	**Elena**	**7.21**	**35**	⇑P	**Pn**	**16 57 42.9**	**+1.8**
TEKS	**Tekeris**	**7.39**	**356**	*e*Pn	**Pn**	**16 57 43.1**	**-0.5**
CAMP	**Campotosto**	**7.49**	**318**	Pn	**Pn**	**16 57 46.2**	**+1.2**
MGRS	**Mrkonjic Grad**	**7.62**	**343**	*e*Pn	**Pn**	**16 57 48.2**	**+1.4**
MDVR	**Moldovita**	**7.69**	**8**	⇓P	**Pn**	**16 57 48.1**	**+0.3**
ELL	**Elmali**	**7.78**	**90**		**Pn**	**16 57 51.0**	**+1.9**
A050A	**Klekovaca**	**7.82**	**340**	⇓*i*Pn	**Pn**	**16 57 51.2**	**+1.7**
NRCA	**Norcia**	**7.85**	**318**		**Pn**	**16 57 51.3**	**+1.4**
GUMA	**Gualdo di Mace**	**7.89**	**320**		**Pn**	**16 57 52.3**	**+1.8**
BLY	**Banja Luka**	**7.91**	**344**	⇓*i*Pn	**Pn**	**16 57 51.9**	**+1.2**
FRGS	**Fruska Gora**	**7.99**	**358**	⇑P	**Pn**	**16 57 51.7**	**-0.1**
FRGS	**Fruska Gora**	**7.99**	**358**	⇓*i*Pn	**Pn**	**16 57 51.2**	**-0.6**
FDMO	**Fiordimonte**	**8.00**	**319**		**Pn**	**16 57 53.5**	**+1.4**
A051A	**Mrakovica**	**8.22**	**343**	⇓*i*Pn	**Pn**	**16 57 55.5**	**+0.4**
GZR	**Gura Zlata**	**8.44**	**12**	⇑P	**Pn**	**16 57 58.8**	**+0.7**
MURB	**Monte Urbino**	**8.46**	**318**	Pn	**Pn**	**16 58 00.6**	**+2.3**
BZS	**Buzias**	**8.51**	**7**	⇓P	**Pn**	**16 57 59.1**	**+0.2**
SURR	**Surduc**	**8.70**	**9**	⇓P	**Pn**	**16 58 01.4**	**-0.1**
ARR	**Arges**	**8.84**	**21**	⇑P	**Pn**	**16 58 04.2**	**+0.6**
KEST	**Kesra**	**8.87**	**264**	Pn	**Pn**	**16 58 06.8**	**+2.8**
	comp=N,0.2nm,0.3s,baz=52,slow=18,SNR=2.6						
KEST				Sn	**Sn**	**16 59 41.3**	**-2.3**
	comp=N,0.1nm,0.3s,baz=318,slow=14,SNR=1.5						
	comp=N,7.0nm,1.0s						
VOIR		**9.03**	**22**	⇑P	**Pn**	**16 58 07.6**	**+1.4**
MORH	**Mrgy, Hungar**	**9.12**	**353**	⇑P	**Pn**	**16 58 06.5**	**-0.7**
BOJS	**Bojanci**	**9.12**	**337**	⇓*i*Pn	**Pn**	**16 58 08.2**	**+0.9**
SIRR	**Siria**	**9.16**	**6**	⇓P	**Pn**	**16 58 08.8**	**+1.0**
CRES	**Cresnjev**	**9.35**	**339**	⇓*i*Pn	**Pn**	**16 58 10.9**	**+0.4**
MLR	**Muntele Rosu**	**9.37**	**26**	Pn	**Pn**	**16 58 13.6**	**+2.8**
	comp=N,0.4nm,0.3s,baz=214,slow=11,SNR=5.0						
MLR				Sn	**Sn**	**16 59 51.9**	**-4.1**
	comp=N,0.2nm,0.3s,baz=114,slow=18,SNR=1.1						
	comp=N,2.5nm,0.5s						
SKDS	**Skadanscina**	**9.57**	**333**	*e*Pn	**Pn**	**16 58 13.4**	**-0.2**
CEY	**Cerknica**	**9.60**	**335**	*e*Pn	**Pn**	**16 58 13.1**	**-0.8**
MARR	**Marisel-Cluj**	**9.75**	**12**	⇑P	**Pn**	**16 58 16.8**	**+0.8**
VRI	**Vrincioaia**	**9.97**	**27**	⇓P	**Pn**	**16 58 19.6**	**+0.6**
ZCCA	**Zocca**	**10.02**	**319**	Pn	**Pn**	**16 58 20.8**	**+1.1**
SABO	**M.te Sabotino**	**10.10**	**333**	Pn	**Pn**	**16 58 21.0**	**+0.3**
OBKA	**Obir**	**10.24**	**337**	*i* Pn	**Pn**	**16 58 23.7**	**+1.0**
	comp=N,5.0nm,0.2s						
OBKA				*e*Sn	**Sn**	**17 00 13.0**	**-4.3**
	comp=N,6.1nm,0.4s						
OBKA	**Obir**	**10.24**	**337**	*e*Pn	**Pn**	**16 58 23.8**	**+1.0**
SOKA	**Soboth**	**10.25**	**340**	*i* Pn	**Pn**	**16 58 23.0**	**+0.1**
	comp=N,32nm,0.5s,SNR=83						
SOKA				*e*Sn	**Sn**	**17 00 09.7**	**-8.0**
	comp=N,3.1nm,0.5s						
TEOL	**Teolo**	**10.40**	**325**		**Pn**	**16 58 24.9**	**+0.1**
PRED	**Cave del Predi**	**10.50**	**334**		**Pn**	**16 58 26.7**	**+0.3**
MYKA	**Terra Mystica**	**10.64**	**335**	*i* Pn	**Pn**	**16 58 28.2**	**0.0**
	comp=N,0.5nm,0.2s						
MYKA				*e*Sn	**Sn**	**17 00 19.7**	**-7.4**
	comp=N,2.8nm,0.5s						
STAL	**STALIGIAL**	**10.67**	**331**	Pn	**Pn**	**16 58 28.4**	**-0.1**
PSZ	**Piszkesteto**	**10.75**	**359**	Pn	**Pn**	**16 58 29.1**	**-0.6**
CLUD	**Cludinico**	**10.77**	**332**		**Pn**	**16 58 29.3**	**-0.6**
BRTR	**Keskin Array B**	**10.84**	**72**	Pn	**Pn**	**16 58 34.4**	**+3.3**
	comp=N,0.5nm,0.6s,baz=269,slow=12,SNR=5.7						
BRTR				LR	LR	17 02 58.7	
	comp=N,38nm,19.6s,baz=302,slow=39						
CSS	**Mathiatis**	**10.85**	**98**	Pn	**Pn**	**16 58 30.2**	**-0.9**
CSS	**Mathiatis**	**10.85**	**98**	P	**Pn**	**16 58 30.5**	**-0.6**
CSS	**Mathiatis**	**10.85**	**98**	P	**Pn**	**16 58 30.2**	**-0.9**
RONA	**Rosalia, Austr**	**10.91**	**346**	*e*Pn	**Pn**	**16 58 31.7**	**-0.2**
	comp=N,2.0nm,0.3s						
CTI	**Castel Tesino**	**10.94**	**327**		**Pn**	**16 58 32.3**	**0.0**
BUR08	**Bucovina Ar. S**	**11.10**	**18**	Pn	**Pn**	**16 58 36.4**	**+1.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KBA	**Koelnbreinsper**	**11.13**	**335**	*e*Pn	**Pn**	**16 58 36.4**	**+1.4**
	comp=N,3.9nm,0.7s						
SALO	**Salr**	**11.13**	**322**	Pn	**Pn**	**16 58 35.5**	**+0.6**
ABTA	**Abfaltersbach**	**11.15**	**332**	*e*Pn	**Pn**	**16 58 35.7**	**+0.5**
	comp=N,2.5nm,0.3s,SNR=8.8						
ABTA				Sn	**Sn**	**17 00 31.7**	**-7.9**
	comp=N,12nm,0.6s						
CONA	**Conrad Observa**	**11.22**	**345**	*e*Pn	**Pn**	**16 58 36.8**	**+0.7**
	comp=N,1.0nm,0.5s						
KECS	**Kecovo**	**11.31**	**1**	*e*PN	**Pn**	**16 58 38.7**	**+1.4**
KECS				*e*SN	**Sn**	**17 00 37.7**	**-5.8**
VYHS	**Vyhne**	**11.37**	**355**	*e*PN	**Pn**	**16 58 38.9**	**+0.8**
VYHS				*e*SN	**Sn**	**17 00 37.2**	**-7.6**
MODS	**Modra-Piesok**	**11.40**	**350**	*e*SN	**Sn**	**17 00 39.3**	**-6.4**
MOA	**Molln**	**11.53**	**340**	*e*Pn	**Pn**	**16 58 41.6**	**+1.2**
	comp=N,17nm,0.3s,SNR=9.9						
MOA				*e*Sn	**Sn**	**17 00 42.3**	**-6.7**
	comp=N,1.7nm,0.4s						
BIOA	**Bad Ischl, Aus**	**11.57**	**337**	*e*Pn	**Pn**	**16 58 42.3**	**+1.3**
	comp=N,9.2nm,0.3s,SNR=17						
BIOA				*e*Sn	**Sn**	**17 00 45.4**	**-4.6**
	comp=N,3.8nm,0.4s						
LESA	**Schwarzleotal**	**11.66**	**334**	*e*Pn	**Pn**	**16 58 43.8**	**+1.6**
	comp=N,4.9nm,0.3s						
LESA				*e*Sn	**Sn**	**17 00 45.3**	**-6.8**
	comp=N,4.2nm,0.5s						
KOLS	**Kolonicke sedl**	**11.86**	**7**	*e*PN	**Pn**	**16 58 46.3**	**+1.5**
WTTA	**Wattenberg**	**11.91**	**331**	*e*Pn	**Pn**	**16 58 47.6**	**+1.9**
	comp=N,1.3nm,0.3s						
WTTA				*e*Sn	**Sn**	**17 00 53.8**	**-4.7**
	comp=N,7.9nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**11.99**	**325**		**Pn**	**16 58 48.6**	**+1.7**
WATA	**Walderalm**	**11.99**	**331**	*e*Pn	**Pn**	**16 58 48.3**	**+1.6**
	comp=N,3.7nm,0.4s						
SQTA	**Sankt Quirin**	**12.05**	**329**	*e*Pn	**Pn**	**16 58 49.2**	**+1.6**
	comp=N,3.3nm,0.3s						
FETA	**Feichten**	**12.09**	**327**	*e*Pn	**Pn**	**16 58 49.6**	**+1.5**
	comp=N,3.8nm,0.7s						
FETA				*e*Sn	**Sn**	**17 01 00.2**	**-2.6**
	comp=N,4.1nm,0.7s						
MOTA	**Moosalm**	**12.19**	**329**	*i* Pn	**Pn**	**16 58 51.0**	**+1.5**
	comp=N,2.5nm,0.4s						
MOTA				*e*Sn	**Sn**	**17 01 01.1**	**-4.1**
	comp=N,5.9nm,0.8s						
DAVOX	**Davos/Dischmat**	**12.29**	**325**	Pn	**Pn**	**16 58 53.5**	**+2.6**
	comp=N,0.6nm,0.3s,baz=150,slow=18,SNR=8.6						
DAVOX				Sn	**Sn**	**17 01 03.3**	**-4.3**
	comp=N,0.2nm,0.3s,baz=315,slow=19,SNR=1.6						
	comp=N,3.0nm,0.5s						
TUE	**Stuetta**	**12.32**	**322**		**Pn**	**16 58 52.3**	**+1.1**
CKRC	**Cesky Krumlov**	**12.41**	**342**	*e*PN	**Pn**	**16 58 52.3**	**-0.1**
CKRC				*e*SN	Sn	17 01 02.0	-8.5
VRAC	**Vranov**	**12.41**	**349**	Pn	**Pn**	**16 58 52.9**	**+0.5**
	comp=N,0.4nm,0.3s,baz=182,slow=10,SNR=3.9						
	comp=N,1.9nm,0.5s						
RETA	**Reutte**	**12.44**	**329**	*e*Pn	**Pn**	**16 58 54.0**	**+1.2**
	comp=N,2.1nm,0.4s						
RETA				*e*Sn	**Sn**	**17 01 06.7**	**-4.6**
	comp=N,4.5nm,0.9s						
GEC2	**GERESS Array S**	**12.60**	**340**	Pn	**Pn**	**16 58 54.7**	**-0.3**
GERES	**GERESS Array B**	**12.60**	**340**	Pn	**Pn**	**16 58 54.8**	**-0.2**
	comp=N,0.8nm,0.3s,baz=157,slow=14,SNR=12						
GERES				Sn	**Sn**	**17 01 08.0**	**-7.1**
	comp=N,0.7nm,0.3s,baz=182,slow=9.1,SNR=5.0						
	comp=N,2.6nm,0.6s						
KHC	**Kasperske Hory**	**12.89**	**340**		**Pn**	**16 58 59.1**	**+0.1**
KHC	**Kasperske Hory**	**12.89**	**340**	*e*PN	**Pn**	**16 58 59.0**	**+0.1**
KHC				*e*SN	**Sn**	**17 01 13.8**	**-8.3**
MMC7	**Mount Meron ar**	**13.11**	**104**	P	**Pn**	**16 59 01.4**	**-0.6**
MMA0	**Mount Meron ar**	**13.12**	**104**	P	**Pn**	**16 58 59.6**	**-2.5**
MMAI	**Mount Meron Ar**	**13.12**	**104**	Pn	**Pn**	**16 58 58.9**	**-3.3**
	comp=N,1.9nm,0.3s,baz=301,slow=13,SNR=12						
MMAI				Sn	Sn	17 01 16.5	-11
	comp=N,0.9nm,0.3s,baz=325,slow=9.8,SNR=1.1						
GEM	**Giv'at Ha'Em**	**13.25**	**103**	P	**Pn**	**16 59 01.6**	**-2.3**
NATI	**Neve Ativ**	**13.29**	**102**	P	**Pn**	**16 59 01.3**	**-3.0**
SENIN	**Lac Senin/Sane**	**13.29**	**318**	Pn	**Pn**	**16 59 05.3**	**+0.7**
KZIT	**Kziot**	**13.32**	**114**	P	**Pn**	**16 59 02.5**	**-2.3**
KZIT	**Kziot**	**13.32**	**114**	P	**Pn**	**16 59 01.8**	**-3.0**
KZIT	**Kziot**	**13.32**	**114**	S	Sn	17 01 18.9	-14
AMAZ	**Amatzia**	**13.39**	**111**	P	**Pn**	**16 59 04.2**	**-1.6**
AMAZ	**Amatzia**	**13.39**	**111**	S	Sn	17 01 21.7	-13
AMAZ	**Amatzia**	**13.39**	**111**	P	**Pn**	**16 59 03.4**	**-2.4**
SHMJ	**Saham**	**13.51**	**105**	P	**Pn**	**16 59 05.4**	**-2.0**
HMDT	**Nahal Hemdat**	**13.52**	**107**	P	**Pn**	**16 59 05.9**	**-1.7**
HMDT	**Nahal Hemdat**	**13.52**	**107**	P	**Pn**	**16 59 05.7**	**-1.9**
HMDT	**Nahal Hemdat**	**13.52**	**107**	S	Sn	17 01 26.5	-11
QRNJ	**Al-Qirein**	**13.53**	**106**	P	**Pn**	**16 59 07.0**	**-0.6**
YTIR	**Yattir**	**13.62**	**111**	P	**Pn**	**16 59 07.0**	**-2.0**
YTIR	**Yattir**	**13.62**	**111**	P	**Pn**	**16 59 06.1**	**-2.9**
YTIR	**Yattir**	**13.62**	**111**	S	Sn	17 01 26.7	-13
DSI	**Dead Sea**	**13.72**	**110**	P	**Pn**	**16 59 08.4**	**-1.9**
DSI	**Dead Sea**	**13.72**	**110**	P	**Pn**	**16 59 08.2**	**-2.0**
DSI	**Dead Sea**	**13.72**	**110**	S	Sn	17 01 29.8	-13
MSBI	**Mazada**	**13.82**	**111**	P	**Pn**	**16 59 09.5**	**-2.2**
MSBI	**Mazada**	**13.82**	**111**	P	**Pn**	**16 59 09.2**	**-2.4**
LISJ	**El Lisan**	**13.95**	**111**	P	**Pn**	**16 59 11.2**	**-2.2**
KRMI	**Paran Flat**	**13.98**	**116**	P	**Pn**	**16 59 10.6**	**-3.3**
GHAJ	**Ghor Haditha**	**13.99**	**110**	P	**Pn**	**16 59 12.0**	**-1.9**
GHAJ	**Ghor Haditha**	**13.99**	**110**	P	**Pn**	**16 59 11.7**	**-2.2**
GHAJ	**Ghor Haditha**	**13.99**	**110**	S	Sn	17 01 35.3	-14
PRNI	**Paran**	**14.06**	**115**	P	**Pn**	**16 59 12.8**	**-2.1**
PRNI	**Paran**	**14.06**	**115**	S	Sn	17 01 37.7	-13
PRNI	**Paran**	**14.06**	**115**	P	**Pn**	**16 59 12.1**	**-2.8**
ZFRI	**Zfri**	**14.08**	**114**	P	**Pn**	**16 59 12.9**	**-2.2**
KARJ	**KARJ**	**14.14**	**111**	P	Pn	16 59 08.3	-7.7
HRFI	**Mount Harif**	**14.25**	**116**	P	**Pn**	**16 59 15.1**	**-2.5**
HRFI	**Mount Harif**	**14.25**	**116**	P	**Pn**	**16 59 14.8**	**-2.8**
HRFI	**Mount Harif**	**14.25**	**116**	S	Sn	17 01 40.7	-15
MBRI	**Mt Berech**	**14.30**	**117**	P	**Pn**	**16 59 15.9**	**-2.4**
MBRI	**Mt Berech**	**14.30**	**117**	P	**Pn**	**16 59 15.3**	**-3.0**
EIL	**Elat**	**14.40**	**117**	Pn	**Pn**	**16 59 17.5**	**-2.1**
	comp=N,1.1nm,0.3s,baz=308,slow=10,SNR=12						
EIL				Sn	Sn	17 01 44.2	-15
	comp=N,1.2nm,0.3s,baz=267,slow=22,SNR=2.7						
EIL	**Elat**	**14.40**	**117**	P	**Pn**	**16 59 17.6**	**-2.0**
EIL	**Elat**	**14.40**	**117**	P	**Pn**	**16 59 16.3**	**-3.3**
ARPR	**Arapgir-MALATY**	**14.40**	**77**	Pn	**Pn**	**16 59 21.7**	**+1.9**
ASF	**Jabal al Asfar**	**14.61**	**105**	Pn	**Pn**	**16 59 22.6**	**+0.1**
	comp=N,0.6nm,0.3s,baz=224,slow=12,SNR=4.1						
ASF				Sn	**Sn**	**17 02 01.4**	**-2.9**
	comp=N,0.4nm,0.3s,baz=241,slow=20,SNR=1.7						
	comp=N,1.7nm,0.3s						
KIEV	**Kiev**	**14.98**	**23**	Pn	**Pn**	**16 59 28.9**	**+1.6**
AKASG	**Malin Array Be**	**14.99**	**23**	Pn	**Pn**	**16 59 28.9**	**+1.4**
	comp=N,0.2nm,0.3s,baz=211,slow=11,SNR=2.3						
AKASG				Sn	**Sn**	**17 02 21.4**	**+8.1**
	comp=N,0.1nm,0.3s,baz=206,slow=20,SNR=6.7						
	comp=N,0.2nm,0.4s						
AKBB	**Malin Array Si**	**14.99**	**23**	Pn	**Pn**	**16 59 29.3**	**+1.8**
CLL	**Collm**	**15.04**	**342**	*e*P	**Pn**	**16 59 29.0**	**+0.9**
CLL				*e*pP	**P**	**16 59 33.0**	**-0.5**
CLL				*e*PP	**sP**	**16 59 37.0**	**-1.0**
SUW	**Suwalki**	**16.97**	**6**	Pn	**Pn**	**16 59 53.9**	**+0.9**
SUW				IAmb	IAmb	16 59 55.7	
	comp=Z,30nm,1.0s						
MNK	**Minsk**	**18.12**	**15**	*i* P	**Pn**	**17 00 06.8**	**-0.5**
	comp=E,6.0nm,1.0s						
MNK				*i* P	**Pn**	**17 00 06.8**	**-0.5**
	comp=N,25nm,1.3s						
MNK				*i* P	**Pn**	**17 00 06.8**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=200						
MNK				*i* PP	**PnPn**	**17 00 18.4**	**0.0**
MNK				*i* PPP	PPP	17 00 26.4	
MNK				*i* S	**Sn**	**17 03 31.4**	**+2.2**
MNK				*i* SS	**SnSn**	**17 03 47.6**	**+4.8**
MNK				*i* SSS	SSS	17 04 00.9	
MNK				*i* LQ	LQ	17 05 33.0	
MNK				*i* LR	LR	17 07 08.5	
MNK				*i* LRM	MLR	17 08 35.2	
	comp=E,51nm,13.6s						
MNK				*i* LRM	MLR	17 08 49.0	
	comp=Z,147nm,11.0s						
MNK				*i* LRM	MLR	17 08 52.6	
	comp=N,127nm,11.4s						
KBZ	**Khabaz**	**18.45**	**62**	P	**Pn**	**17 00 13.7**	**+2.4**
	comp=N,0.5nm,0.3s,baz=265,slow=18,SNR=22						
KBZ				S	**Sn**	**17 03 30.6**	**-6.5**
	comp=N,0.5nm,0.7s,baz=199,slow=8.4,SNR=1.3						
	comp=N,8.0nm,0.8s						
AKH	**Akhalkalaki**	**18.50**	**70**	P	**Pn**	**17 00 13.6**	**+1.4**
PABE	**Paberze**	**18.52**	**7**	P	**Pn**	**17 00 13.0**	**+0.8**
PABE				IAmb	IAmb	17 00 27.8	
	comp=Z,32nm,1.2s						
ONI	**Oni**	**18.62**	**66**	P	**Pn**	**17 00 13.9**	**+0.3**
ESDC	**Sonseca Array**	**19.09**	**285**	P	**Pn**	**17 00 19.9**	**+0.7**
	baz=86,slow=12,SNR=2.0						
	comp=Z,0.6nm,0.9s						
GNI	**Garni**	**19.38**	**74**	P	**P**	**17 00 22.4**	**+0.7**
GNI				IAmb	IAmb	17 00 24.2	
	comp=Z,18nm,0.8s						
GNI	**Garni**	**19.38**	**74**	P	**Pn**	**17 00 22.7**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=292,slow=2.1,SNR=12						
	comp=Z,15nm,0.9s						
HFS	**Hagfors**	**23.36**	**352**	P	**P**	**17 01 04.0**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=161,slow=9.2,SNR=21						
	comp=Z,3.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.12**	**326**	P	**P**	**17 01 12.6**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=127,slow=7.9,SNR=6.6						
	comp=Z,2.8nm,0.8s						
NC602	**NORSAR Array S**	**24.22**	**350**	P	**P**	**17 01 13.0**	**+0.8**
NC602				IAmb	IAmb	17 01 30.9	
	comp=Z,7.6nm,1.1s						
NAO01	**NORSAR Array S**	**24.42**	**349**	P	**P**	**17 01 14.9**	**+0.8**
DSB	**Dublin**	**24.47**	**320**	P	**P**	**17 01 15.9**	**+1.3**
NB201	**NORSAR Array S**	**24.56**	**350**	P	**P**	**17 01 16.3**	**+1.0**
NC405	**NORSAR Array S**	**24.56**	**350**	P	**P**	**17 01 16.3**	**+1.0**
NB2	**NORSAR Subarra**	**24.56**	**349**	P	**P**	**17 01 16.2**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=162,slow=11						
NOA	**NORSAR Array B**	**24.56**	**349**	P	**P**	**17 01 16.1**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=162,slow=8.9,SNR=5.0						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**24.58**	**7**	P	**P**	**17 01 14.5**	**-0.9**
FINES	**FINESS Array B**	**24.58**	**7**	P	**P**	**17 01 15.6**	**+0.2**
	comp=Z,12nm,1.2s,baz=177,slow=9.7,SNR=13						
	comp=Z,12nm,1.2s						
FIA1	**FINESS Array S**	**24.58**	**7**	P	**P**	**17 01 16.4**	**+0.9**
NBO00	**NORSAR Array S**	**24.62**	**349**	P	**P**	**17 01 16.6**	**+0.8**
NC303	**NORSAR Array S**	**24.72**	**350**	P	**P**	**17 01 17.3**	**+0.6**
NC204	**NORSAR Array S**	**24.85**	**349**	P	**P**	**17 01 17.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**29.09**	**219**	P	**P**	**17 01 57.6**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=28,slow=10,SNR=4.6						
	comp=Z,0.8nm,0.8s						
GEYT	**Alibeck**	**29.94**	**77**	P	**P**	**17 02 04.2**	**+0.4**
GEYT				IAmb	IAmb	17 02 05.2	
	comp=Z,2.1nm,0.5s						
GEYT	**Alibeck**	**29.94**	**77**	P	**P**	**17 02 04.4**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=264,slow=11,SNR=7.5						
	comp=Z,2.0nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**29.94**	**77**	P	**P**	**17 02 04.5**	**+0.7**
GYA0B				IAmb	IAmb	17 02 27.4	
	comp=Z,4.4nm,1.1s						
ABKAR	**Akbulak array**	**31.03**	**54**	P	**P**	**17 02 12.3**	**-0.9**
MACI	**Morro de la Ar**	**31.98**	**265**	P	**P**	**17 02 21.4**	**-0.7**
ARU	**Arti**	**31.99**	**41**	P	**P**	**17 02 21.2**	**-0.4**
ARU				IAmb	IAmb	17 02 23.9	
	comp=Z,1.9nm,0.6s						
BRVK	**Borovoye**	**37.91**	**49**	P	**P**	**17 03 12.3**	**-0.4**
BVAR	**Borovoye Array**	**37.97**	**49**	P	**P**	**17 03 13.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=289,slow=4.4,SNR=4.6						
	comp=Z,0.6nm,0.6s						
SIMJ	**Simiganj**	**38.17**	**72**	P	**P**	**17 03 15.0**	**-0.4**
SIMJ				IAmb	IAmb	17 03 16.7	
	comp=Z,5.0nm,0.9s						
KK31	**Karatay Array**	**38.44**	**65**	P	**P**	**17 03 17.7**	**+0.2**
KKAR	**Karatay Array**	**38.44**	**65**	P	**P**	**17 03 17.1**	**-0.3**
ARSB	**Arslanbob**	**40.57**	**67**	P	**P**	**17 03 35.9**	**+0.6**
KURBB	**Kurchatov Arra**	**43.04**	**53**	P	**P**	**17 03 54.5**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=278,slow=8.6,SNR=12						
	comp=Z,1.2nm,0.5s						
MK31	**Makanchi Array**	**46.05**	**57**	P	**P**	**17 04 18.7**	**-0.7**
MKAR	**Makanchi Array**	**46.05**	**57**	P	**P**	**17 04 18.7**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=277,slow=7.9,SNR=14						
	comp=Z,0.7nm,0.5s						
ZAA0	**Zalesovo Array**	**46.56**	**47**	P	**P**	**17 04 22.3**	**-0.8**
ZAA0				IAmb	IAmb	17 04 44.5	
	comp=Z,2.4nm,1.1s						
ZALV	**Zalesovo Beam**	**46.56**	**47**	P	**P**	**17 04 22.6**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=290,slow=8.6,SNR=7.3						
	comp=Z,1.4nm,0.4s						
WMQ	**Urumqi**	**50.48**	**60**	*e*P	**P**	**17 04 56.7**	**+3.1**
SONM	**Songino Array**	**61.30**	**50**	P	**P**	**17 06 11.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=284,slow=5.8,SNR=2.9						
	comp=Z,0.5nm,0.6s						
HHC	**Hu-ho-hao-te**	**67.82**	**55**	*e*P	**P**	**17 06 55.1**	**+1.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,280nm,7.0s						
PZH	**PanZhiHua**	**68.14**	**73**	P	**P**	**17 06 56.1**	**-0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
CHTO	**Chiang Mai**	**70.09**	**81**	P	**P**	**17 07 08.1**	**-0.1**
CHTO				IAmb	IAmb	17 07 09.2	
	comp=Z,1.6nm,0.8s						
CM31	**Chiang Mai Arr**	**70.28**	**81**	P	**P**	**17 07 09.0**	**-0.4**
CM31				IAmb	IAmb	17 07 16.3	
	comp=Z,1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**70.28**	**81**	P	**P**	**17 07 09.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**70.28**	**81**	P	**P**	**17 07 09.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=299,slow=7.6,SNR=12						
	comp=Z,0.9nm,0.6s						
CRAI	**Chiangrai**	**70.44**	**79**	P	**P**	**17 07 10.7**	**+0.4**
CRAI				IAmb	IAmb	17 07 11.6	
	comp=Z,3.3nm,0.6s						
KSRS	**Korea Array**	**80.17**	**50**	P	**P**	**17 08 06.8**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=308,slow=4.4,SNR=7.0						
	comp=Z,1.6nm,0.8s						
MJAR	**Matsushiro Arr**	**86.87**	**45**	P	**P**	**17 08 41.6**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=332,slow=3.8,SNR=2.6						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**122.31**	**97**	PKP	**PKPdf**	**17 14 50.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=253,slow=1.0,SNR=2.1						

*IDC **07** 17:04:46.3±0.8, 6.°78N×73.°03W, h160km±12km, mb2.7/2, mbtmp3.4/4, Error ellipse: s-maj=41.5km s-min=8.2km az=131.0*

*RSNC **07** 17:04:47.6±1.0, 6.°84N×73.°15W, h150km±4km, ML3.1, Mw3.5*

ISC 07 17:04:46.1±0.9**, 6.°85N**±0.°03×**73.°11W**±0.°03**, h156**km±6km**, n38,** σ**1.s41**/71**, 4C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**196**	⇑*i*P	**Pn**	**17 05 07.7**	**0.0**
BARC				*e*S	**Sn**	**17 05 23.0**	**-1.1**
BARC				*i*		17 05 24.3	
	comp=Z,380nm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**40**	⇑*e*P	**Pn**	**17 05 10.5**	**+1.0**
PAMC				*e*S	**Sn**	**17 05 27.6**	**+0.3**
PAMC				*i*		17 05 29.8	
	comp=Z,211nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*P	**Pn**	**17 05 14.1**	**-0.8**
PTBC				*e*S	**Sn**	**17 05 35.4**	**-1.5**
PTBC				*i*		17 05 42.7	
	comp=Z,148nm,0.3s						
TAMC	**Tame, Arauca**	**1.37**	**107**	⇑*e*P	**Pn**	**17 05 16.1**	**+1.2**
TAMC				*e*S	**Sn**	**17 05 37.8**	**+0.8**
TAMC				*i*		17 05 38.4	
	comp=Z,105nm,0.3s						
OCAC	**Ocana**	**1.40**	**351**	*e*P	**Pn**	**17 05 15.8**	**+0.5**
OCAC				*e*S	**Sn**	**17 05 38.6**	**+0.8**
OCAC				*i*		17 05 41.0	
	comp=Z,360nm,0.4s						
SPBC	**San Pablo de B**	**1.52**	**219**	*e*P	**Pn**	**17 05 16.6**	**0.0**
SPBC				*e*S	**Sn**	**17 05 39.1**	**-0.8**
SPBC				*i*		17 05 45.7	
	comp=Z,264nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*e*P	**Pn**	**17 05 20.1**	**+0.2**
ZARC				*e*S	**Sn**	**17 05 45.6**	**-0.3**
ZARC				*i*		17 05 51.8	
	comp=Z,154nm,0.2s						
NORC	**Norcasia**	**2.17**	**234**	*e*P	**Pn**	**17 05 24.3**	**+0.7**
NORC				*e*S	**Sn**	**17 05 52.3**	**-0.2**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**17 05 27.6**	**+1.7**
	comp=Z,56nm,0.3s,baz=74,slow=20,SNR=93						
ROSC				S	**Sn**	**17 05 57.0**	**+0.4**
	comp=Z,180nm,0.4s,baz=109,slow=16,SNR=13						
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**17 05 27.6**	**+1.7**
ROSC				*e*S	**Sn**	**17 05 56.9**	**+0.3**
ROSC				*i*		17 06 02.9	
	comp=Z,149nm,0.4s						
CVER	**Cruz Verde, Cu**	**2.50**	**203**	⇑*e*P	**Pn**	**17 05 29.1**	**+1.0**
CVER				*e*S	**Sn**	**17 06 00.6**	**+0.2**
CVER				*i*		17 06 04.8	
	comp=Z,78nm,0.5s						
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**	**17 05 27.4**	**-1.0**
UREC				*e*S	**Sn**	**17 06 05.1**	**+4.1**
UREC				*i*		17 06 10.8	
	comp=Z,109nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.76**	**234**	*e*P	**Pn**	**17 05 32.6**	**+1.4**
GUY2C				*e*S	**Sn**	**17 06 09.9**	**+3.8**
GUY2C				*i*		17 06 15.7	
	comp=Z,81nm,0.7s						
VILC	**Villavicencio,**	**2.78**	**192**	*e*P	**Pn**	**17 05 31.4**	**+0.2**
VILC				*e*S	**Sn**	**17 06 05.5**	**-0.5**
VILC				*i*		17 06 15.2	
	comp=Z,112nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.81**	**160**	*e*P	**Pn**	**17 05 30.9**	**-0.5**
PTGC				*e*S	**Sn**	**17 06 04.4**	**-2.0**
PTGC				*i*		17 06 07.0	
	comp=Z,84nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.87**	**357**	*e*P	**Pn**	**17 05 33.0**	**+0.8**
LL6C				*e*S	**Sn**	**17 06 07.3**	**-0.6**
LL6C				*i*		17 06 14.4	
	comp=Z,26nm,0.4s						
NIZA	**Niza - Manizal**	**2.94**	**233**	*e*S	**Sn**	**17 06 12.4**	**+2.5**
CBOC	**Ciudad Bolivar**	**3.04**	**251**	*e*P	**Pn**	**17 05 35.3**	**+0.8**
CBOC				*e*S	**Sn**	**17 06 12.0**	**+0.1**
CBOC				*i*		17 06 28.8	
	comp=Z,31nm,0.7s						
DBBC	**Dabeiba**	**3.08**	**273**	*e*P	**Pn**	**17 05 34.9**	**0.0**
DBBC				*e*S	**Sn**	**17 06 11.4**	**-1.1**
DBBC				*i*		17 06 15.8	
	comp=Z,31nm,0.3s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**17 05 37.6**	**+1.4**
	comp=Z,16nm,0.3s,baz=246,slow=10.0,SNR=12						
SDV				S	**Sn**	**17 06 15.0**	**0.0**
	comp=Z,13nm,0.4s,baz=278,slow=19,SNR=6.5						
SDV	**Santo Domingo**	**3.18**	**50**	*e*P	**Pn**	**17 05 36.9**	**+0.7**
SDV				*e*S	**Sn**	**17 06 14.2**	**-0.9**
ARGC	**Ariguani, Magd**	**3.19**	**339**	*e*P	**Pn**	**17 05 38.2**	**+2.0**
ARGC				*e*S	**Sn**	**17 06 16.9**	**+1.7**
ARGC				*i*		17 06 21.0	
	comp=Z,23nm,0.3s						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**17 05 41.3**	**+0.1**
PRAC				*e*S	**Sn**	**17 06 23.2**	**-0.8**
PRAC				*i*		17 06 28.8	
	comp=Z,56nm,0.3s						
APAC	**Apartado, Choc**	**3.60**	**287**	*e*P	**Pn**	**17 05 41.5**	**+0.2**
APAC				*e*S	**Sn**	**17 06 23.8**	**-0.5**
APAC				*i*		17 06 32.7	
	comp=Z,30nm,0.3s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	*e*P	**Pn**	**17 05 42.0**	**+0.3**
ORTC				*e*S	**Sn**	**17 06 25.2**	**+0.5**
ORTC				*i*		17 06 28.5	
	comp=Z,37nm,0.4s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P	**Pn**	**17 05 41.4**	**-0.8**
SJCC				*e*S	**Sn**	**17 06 22.9**	**-2.8**
SJCC				*i*		17 06 30.5	
	comp=Z,24nm,0.3s						
PLMC	**San Jos del P**	**3.70**	**239**	*e*P	**Pn**	**17 05 43.3**	**+0.5**
PLMC				*e*S	**Sn**	**17 06 25.2**	**-1.5**
PLMC				*i*		17 06 30.2	
	comp=Z,18nm,0.3s						
LCBC	**Los crdobas,**	**3.79**	**302**	*e*P	**Pn**	**17 05 44.4**	**+0.5**
LCBC				*e*S	**Sn**	**17 06 28.5**	**-0.4**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	*e*P	**Pn**	**17 05 48.6**	**-0.1**
CRJC				*e*S	**Sn**	**17 06 35.8**	**-1.5**
CRJC				*i*		17 06 44.7	
	comp=Z,32nm,0.2s						
YOTC	**Yotoco, Valle**	**4.30**	**229**	*e*P	**Pn**	**17 05 52.3**	**+1.7**
YOTC				*e*S	**Sn**	**17 06 41.3**	**+0.5**
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**17 05 53.2**	**+1.1**
SMRC				*e*S	**Sn**	**17 06 40.2**	**-3.5**
SMRC				*i*		17 06 45.0	
	comp=Z,12nm,0.1s						
PTAC	**Punta Ardita,**	**4.67**	**274**	*e*P	**Pn**	**17 05 54.6**	**-0.8**
PTAC				*e*S	**Sn**	**17 06 49.8**	**+0.5**
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P	**Pn**	**17 05 58.4**	**-0.6**
URIC				*e*S	**Sn**	**17 06 54.7**	**-1.2**
GARC	**Garzon, Huila**	**5.20**	**207**	*e*P	**Pn**	**17 06 01.1**	**-1.5**
GARC				*e*S	**Sn**	**17 06 57.8**	**-4.5**
GARC				*i*		17 07 04.8	
	comp=Z,14nm,0.3s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**17 11 36.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=127,slow=10,SNR=1.6						
	comp=Z,0.1nm,0.3s						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**17 14 58.0**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=130,slow=6.0,SNR=7.0						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**17 24 16.1**	**-0.8**
	comp=Z,0.7nm,1.1s,baz=116,slow=3.4,SNR=6.2						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**17 24 19.1**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=109,slow=2.7,SNR=4.7						

*WEL **07** 17:12:13.9±0.6, 40°S±3°×17°3E±°, h8km±8km, M3.6/15, ML3.9/15, MLv3.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=112.3, confirmed*

*NOU **07** 17:12:14.5, 40.°00S×172.°83E, h13km, MLv3.7/11, Off W. Coast of N. Island, N.Z.*

ISC 07 17:12:14.4±1.2**, 40.°04S**±0.°02×**173.°03E**±0.°04**, h19**km±3km**, n104,** σ**0.s95**/116**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.87**	**206**	P	**Pb**	**17 12 31.0**	**0.0**
QRZ	**Quartz Range**	**0.87**	**206**	P	**Pb**	**17 12 30.6**	**-0.3**
QRZ				S	**Sg**	**17 12 43.1**	**+0.1**
NMEZ	**Namu Road**	**0.90**	**46**	P	**Pb**	**17 12 31.2**	**-0.2**
NMEZ				S	**Sg**	**17 12 44.1**	**+0.2**
TKNZ	**Takaka Hill**	**0.99**	**183**	P	**Pb**	**17 12 32.6**	**-0.4**
TKNZ				S	**Sg**	**17 12 46.5**	**-0.3**
NBEZ	**Newall Road No**	**1.00**	**40**	P	**Pb**	**17 12 32.9**	**-0.3**
NBEZ				S	**Sn**	**17 12 46.9**	**-0.2**
DUWZ	**D'Urville Isla**	**1.02**	**139**	P	**Pb**	**17 12 32.2**	**-1.3**
DUWZ				S	**Sn**	**17 12 47.2**	**-0.4**
KHEZ	**Kahui Hut**	**1.06**	**46**	P	**Pg**	**17 12 36.2**	**+1.2**
KHEZ	**Kahui Hut**	**1.06**	**46**	P	**Pb**	**17 12 33.9**	**-0.4**
KHEZ				S	**Sn**	**17 12 48.9**	**+0.2**
PREZ	**Palmer Road**	**1.11**	**52**	P	**Pn**	**17 12 34.8**	**-0.2**
PREZ				S	**Sg**	**17 12 50.6**	**0.0**
PKE	**Pukeiti**	**1.12**	**41**	P	**Pn**	**17 12 34.7**	**-0.4**
PKE				S	**Sb**	**17 12 49.9**	**+0.4**
NEZ	**North Egmont**	**1.12**	**47**	P	**Pn**	**17 12 34.7**	**-0.5**
LREZ	**Lake Rotokare**	**1.21**	**62**	P	**Pg**	**17 12 37.7**	**0.0**
NNZ	**Nelson**	**1.21**	**167**	P	**Pn**	**17 12 35.6**	**-0.6**
NNZ				S	**Sb**	**17 12 51.9**	**+0.1**
DREZ	**Durham Road**	**1.24**	**47**	P	**Pn**	**17 12 36.8**	**+0.1**
DREZ				S	**Sg**	**17 12 54.1**	**-0.5**
MRNZ	**Matariki Terra**	**1.37**	**189**	P	**Pn**	**17 12 38.7**	**+0.1**
MRNZ				S	**Sb**	**17 12 57.7**	**+1.0**
MHEZ	**Mangahewa**	**1.39**	**46**	P	**Pn**	**17 12 39.2**	**+0.4**
TCW	**Tory Channel**	**1.50**	**141**	P	**Pn**	**17 12 40.6**	**+0.3**
TCW				S	**Sb**	**17 13 00.1**	**-0.3**
WAZ	**Wanganui**	**1.53**	**80**	P	**Pn**	**17 12 40.7**	**0.0**
TUWZ	**Tuamarina**	**1.55**	**154**	P	**Pn**	**17 12 40.9**	**-0.1**
VRZ	**Vera Road**	**1.62**	**56**	P	**Pn**	**17 12 41.6**	**-0.3**
KIW	**Kapiti Island**	**1.65**	**120**	P	**Pn**	**17 12 42.4**	**0.0**
THZ	**Tophouse**	**1.72**	**183**	P	**Pn**	**17 12 43.7**	**+0.3**
OHWZ	**Ohakea**	**1.76**	**96**	P	**Pb**	**17 12 45.6**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.79**	**159**	P	**Pn**	**17 12 45.4**	**+1.1**
SNZO	**South Karori**	**1.80**	**135**	P	**Pb**	**17 12 46.2**	**-0.5**
OGWZ	**Otaki Gorge**	**1.81**	**116**	P	**Pn**	**17 12 45.6**	**+1.1**
WEL	**Wellington**	**1.81**	**134**	P	**Pb**	**17 12 46.5**	**-0.5**
CAW	**Cannon Point**	**1.88**	**125**	P	**Pn**	**17 12 46.8**	**+1.2**
CMWZ	**Cape Campbell**	**1.93**	**153**	P	**Pb**	**17 12 48.5**	**-0.5**
PKVZ	**Pokaka**	**1.94**	**68**	P	**Pn**	**17 12 46.3**	**0.0**
DSZ	**Denniston Nort**	**1.94**	**208**	P	**Pn**	**17 12 46.4**	**0.0**
BHW	**Baring Head**	**1.96**	**135**	P	**Pb**	**17 12 48.8**	**-0.5**
MRZ	**Mangatainoka R**	**2.04**	**108**	P	**Pn**	**17 12 49.2**	**+1.4**
TRVZ	**Turoa**	**2.08**	**70**	P	**Pn**	**17 12 48.7**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.08**	**115**	P	**Pb**	**17 12 50.3**	**-1.3**
HIZ	**Hauiti**	**2.08**	**43**	P	**Pn**	**17 12 49.5**	**+1.2**
HIZ	**Hauiti**	**2.08**	**43**	P	**Pn**	**17 12 47.5**	**-0.7**
TWVZ	**Taurewa**	**2.10**	**63**	P	**Pn**	**17 12 48.4**	**-0.2**
FWVZ	**Far West T-bar**	**2.10**	**69**	P	**Pn**	**17 12 48.9**	**+0.1**
MAVZ	**Matarangi**	**2.10**	**69**	P	**Pb**	**17 12 51.4**	**-0.6**
WNVZ	**Wahianoa**	**2.10**	**71**	P	**Pn**	**17 12 48.9**	**+0.1**
COVZ	**Chateau Observ**	**2.11**	**67**	P	**Pn**	**17 12 48.9**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.11**	**70**	P	**Pn**	**17 12 50.3**	**+1.4**
POWZ	**Post Office Ro**	**2.12**	**100**	P	**Pb**	**17 12 52.0**	**-0.2**
NGZ	**Ngauruhoe**	**2.16**	**67**	P	**Pn**	**17 12 49.6**	**0.0**
TUVZ	**Tukino**	**2.17**	**70**	P	**Pn**	**17 12 49.9**	**+0.3**
WTVZ	**West Tongariro**	**2.18**	**66**	P	**Pn**	**17 12 49.7**	**-0.1**
MTW	**Mount Morrison**	**2.19**	**122**	P	**Pn**	**17 12 50.9**	**+1.2**
SNVZ	**South Ngauruho**	**2.19**	**68**	P	**Pn**	**17 12 50.1**	**+0.2**
MOVZ	**Moawhango**	**2.19**	**74**	P	**Pn**	**17 12 50.0**	**+0.1**
NNVZ	**North Ngauruho**	**2.19**	**66**	P	**Pn**	**17 12 49.9**	**-0.1**

OTVZ	Oturere	2.21	68	P	Pn	17 12 50.3	0.0
KRVZ	Karewarewa	2.23	66	P	Pn	17 12 50.3	-0.1
TSZ	Takapari Road	2.25	91	P	Pb	17 12 53.0	-1.4
NTVZ	North Tongarir	2.25	66	P	Pn	17 12 51.0	+0.3
ETVZ	East Tongariro	2.26	67	P	Pn	17 12 51.4	+0.5
PAWZ	Paruwai Farm	2.26	127	P	Pb	17 12 53.5	-1.2
TMVZ	Te Maari	2.26	67	P	Pn	17 12 51.4	+0.5
PLWZ	Palliser	2.28	133	P	Pn	17 12 52.5	+1.5
TIWZ	Tintock	2.30	110	P	Pb	17 12 53.9	-1.4
PRWZ	Pori Road	2.31	104	P	Pb	17 12 55.1	-0.2
KATZ	Kakaramea	2.32	64	P	Pn	17 12 52.5	+0.8
BHHZ	Black Hill Sta	2.40	78	P	Pn	17 12 53.6	+0.9
KHZ	Kahutara	2.40	171	P	Pn	17 12 54.5	+1.8
KHZ	Kahutara	2.40	171	P	Pn	17 12 54.8	+2.1
DVHZ	Dannevirke	2.42	97	P	Pb	17 12 57.3	0.0
RATZ	Rangitukua	2.42	62	P	Pb	17 12 55.6	-1.8
TMWZ	Te Maipa	2.42	117	P	Pb	17 12 55.9	-1.5
TRWZ	Traveller	2.43	125	P	Pg	17 12 59.6	-1.4
PNHZ	Pukenui	2.44	88	P	Pb	17 12 57.2	-0.4
WATZ	Wairara	2.48	58	P	Pb	17 12 58.3	-0.1
BFZ	Birch Farm	2.54	106	P	Pb	17 12 58.0	-1.3
BFZ	Birch Farm	2.54	106	P	Pb	17 12 58.0	-1.3
TLZ	Tolley Road	2.59	50	P	Pn	17 12 55.4	+0.1
KRHZ	Kereru	2.60	82	P	Pn	17 12 58.0	+2.5
WPHZ	Waipukurau	2.62	92	P	Pb	17 13 01.0	+0.4
KWHZ	Kaweka Forest	2.69	78	P	Pb	17 13 00.6	-1.3
LTZ	Lake Taylor	2.80	192	P	Pn	17 12 59.9	+1.7
BKZ	Black Stump Fm	2.81	73	P	Pb	17 13 01.6	-2.4
BKZ	Black Stump Fm	2.81	73	P	Pn	17 13 00.5	+2.1
GVZ	Greta Valley S	2.92	180	P	Pn	17 13 01.3	+1.4
INZ	Inchbonnie	2.94	203	P	Pn	17 13 00.4	+0.3
KAHZ	Kahuranaki	2.97	86	P	Pb	17 13 05.1	-1.5
TOZ	Tahuroa Road	3.00	41	P	Pn	17 13 01.0	+0.1
MTHZ	Maungataniwha	3.18	69	P	Pn	17 13 05.6	+2.1
KARZ	Kaharoa	3.21	52	P	Pn	17 13 02.7	-1.2
AWAZ	Awhitu Peninsu	3.23	24	P	Pn	17 13 04.1	+0.1
WTAZ	Waiatarua	3.33	22	P	Pn	17 13 05.8	+0.3
OXZ	Oxford	3.37	192	P	Pn	17 13 06.9	+0.9
MKAZ	Moumakai	3.37	30	P	Pn	17 13 06.1	+0.1
ETAZ	East Tamaki Re	3.42	26	P	Pn	17 13 06.7	0.0
WVZ	Waitaha Valley	3.49	209	P	Pn	17 13 07.8	+0.2
URZ	Urewera	3.64	62	P	Pn	17 13 12.9	+3.3
WIAZ	Waiheke Island	3.64	28	P	Pn	17 13 09.8	+0.2
KUZ	Kuaotunu	3.91	34	P	Pn	17 13 14.8	+1.4
KUZ	Kuaotunu	3.91	34	P	Pn	17 13 11.7	-1.7
WCZ	Waipu Caves	4.22	15	P	Pn	17 13 17.5	-0.3
FOZ	Fox Glacier	4.24	214	P	Pn	17 13 17.6	-0.3
TMZ	Timaru	4.59	198	P	Pn	17 13 22.4	-0.5
LBZ	Lake Benmore	4.83	205	P	Pn	17 13 27.4	+1.4
OUZ	Omahuta	4.83	5	P	Pn	17 13 26.6	+0.5
OUZ	Omahuta	4.83	5	P	Pn	17 13 26.5	+0.3
JCZ	Jackson Bay	5.12	217	P	Pn	17 13 30.5	+0.3
JCZ	Jackson Bay	5.12	217	P	Pn	17 13 30.0	-0.2

*IDC **07** 17:38:38.4±0.7, 67°.78N×33°.84E, h0^{km}, mb3.5/5, mbtmp3.7/12, ML2.7/7, MS3.7/2, Error ellipse: s-maj=10.8km s-min=7.6km az=42.0*
*NAO **07** 17:38:38.8±1.2, 67°.67N×33°.68E, ML2.9*
*HEL **07** 17:38:38.1±0.2, 67°.66N×33°.78E, h0^{km}, ML2.1, Suspected explosion*
*BER **07** 17:38:38.4±2.2, 67°.65N×34°.01E, h0^{km}, ML2.6, Suspected explosion*
ISC 07 17:38:36.3±0.7**, 67°.61N**±0°.04×**33°.78E**±0°.03**, h0^{km}, n53, σ1^{s}58**/78**, mb3.4**/5**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.30	271	Pg	Pg	17 38 43.7	+1.7
	baz=80,slow=16						
APA0	Apatity Array	0.30	271	Pg	Pg	17 38 43.7	+1.7
	baz=80,slow=16						
APA0				Lg	Lg	17 38 47.7	
	baz=70,slow=28						
APA0				Rg	Rg	17 38 49.0	
	baz=67,slow=37						
LVZ	Lovozero	0.45	48	PG	Pg	17 38 44.9	+0.1
LVZ				SG	Sg	17 38 51.9	+1.4
VRF	Varrio	1.60	277	PG	Pn	17 39 06.5	+0.7
VRF				MSG		17 39 25.8	
	comp=Z,20nm,0.2s						
VRF				SN	Sn	17 39 26.9	-0.2
OLKF	Oulanka, Finla	2.15	235	PB	Pb	17 39 16.1	0.0
OLKF				MSG		17 39 42.9	
	comp=Z,9.9nm,0.2s						
OLKF				SG	Sg	17 39 46.2	+0.9
KU6	Riekki	2.21	226	PN	Pb	17 39 16.8	-0.2
	baz=45						
KU6				MSG		17 39 44.7	
	comp=Z,5.5nm,0.2s						
KU6				SG	Sg	17 39 47.6	+0.5
MSF	Maaselka	2.53	230	PN	Pb	17 39 21.7	-0.9
MSF				SB	Sg	17 39 57.0	-0.6
SGF	Sodankyl	2.79	270	PN	Pn	17 39 23.6	+1.4
SGF				SB	Sb	17 40 01.2	-0.4
VADS	Vadso	2.99	330	eP	Pn	17 39 25.5	+0.6
VADS				eS	Sn	17 40 01.1	-0.3
VADS				IAML		17 40 07.4	
	comp=Z,38nm,0.4s						
RNF	Rovaniemi	3.19	255	PN	Pn	17 39 29.2	+1.6
	baz=71						
RNF				SN	Sn	17 40 08.4	+2.0
KEV	Kevo	3.28	314	Pn	Pn	17 39 30.7	+1.8
KEV				Sn	Sn	17 40 08.9	+0.4
KEV	Kevo	3.28	314	PN	Pn	17 39 30.2	+1.4
	baz=128						
KEV				SN	Sn	17 40 09.0	+0.4
KEV	Kevo	3.28	314	Pn	Pn	17 39 30.7	+1.8
KEV				Sn	Sn	17 40 08.9	+0.4
ARA0	ARCESS Array S	3.60	306	Pn	Pn	17 39 34.3	+1.0
	baz=122,slow=16						
ARA0				Pg	Pb	17 39 42.7	+2.0
	baz=113,slow=16						
ARA0				Sn	Sn	17 40 16.0	-0.4
	baz=117,slow=28						
ARA0	ARCESS Array S	3.60	306	PN	Pn	17 39 34.3	+1.0
	baz=122						
ARA0				SN	Sn	17 40 16.0	-0.4
ARA0	ARCESS Array S	3.60	306	Pn	Pn	17 39 34.3	+1.0
	baz=122,slow=16						
ARA0				Pg	Pb	17 39 42.7	+2.0
	baz=113,slow=16						
ARA0				Sn	Sn	17 40 16.0	-0.4
	baz=117,slow=28						
ARA0				Lg	Lg	17 40 29.8	
	baz=122,slow=28						
ARCES	ARCESS Array B	3.60	306	Pn	Pn	17 39 34.6	+1.3
	comp=Z,1.7nm,0.3s,baz=123,slow=15,SNR=223						
ARCES				Pg	Pb	17 39 41.3	+0.6
	comp=Z,1.5nm,0.3s,baz=115,slow=15,SNR=4.8						
ARCES				Sn	Sn	17 40 15.8	-0.6
	comp=Z,2.3nm,0.3s,baz=116,slow=25,SNR=17						
ARCES				Lg	Lg	17 40 26.3	
	comp=Z,2.7nm,0.3s,baz=123,slow=25,SNR=5.9						
	comp=Z,4.3nm,0.3s						
RMF	Romuvaara	3.75	207	PN	Pn	17 39 37.0	+1.7
HEF	Hetta	3.89	287	Pn	Pn	17 39 38.2	+1.0
HEF	Hetta	3.89	287	PN	Pn	17 39 38.2	+1.0
HEF	Hetta	3.89	287	Pn	Pn	17 39 38.2	+1.0
TOF	Tornio	4.04	252	PN	Pn	17 39 40.3	+1.1
TOF				SB	Sb	17 40 39.5	+2.1
OUL	Oulu	4.06	235	PB	Pb	17 39 47.0	-1.5
	baz=47						
OUL				SG	Sg	17 40 46.6	+0.1
KTK1	Kautokeino	4.16	295	eP	Pn	17 39 42.1	+1.2
KTK1				IAML		17 40 52.6	
	comp=Z,28nm,0.5s						
KTK1	Kautokeino	4.16	295	PN	Pn	17 39 43.0	+2.1
KTK1	Kautokeino	4.16	295	Pn	Pn	17 39 42.0	+1.0
PAJU	Pajala	4.17	267	PN	Pn	17 39 41.9	+0.8
	baz=74						
LANU	Lannavaara	4.49	281	PN	Pn	17 39 45.0	-0.4
KALU	Kalix	4.49	252	PN	Pn	17 39 47.1	+1.7
KALU				SN	Sn	17 40 37.3	-0.9
OBF4	Vikkela, Lumij	4.49	235	PN	Pn	17 39 48.2	+2.7
HAMF	Hammerfest	4.72	315	eP	Pn	17 39 49.3	+0.7
HAMF				eS	Sn	17 40 40.4	-3.6
HAMF				IAML		17 41 15.3	
	comp=Z,26nm,0.8s						
HAMF	Hammerfest	4.72	315	Pn	Pn	17 39 49.5	+0.9
HAMF				Sn	Sn	17 40 41.1	-2.9
JETT	Jettan, Norway	5.27	298	Pn	Pn	17 39 56.6	+0.4
JETT	Jettan, Norway	5.27	298	Pn	Pn	17 39 56.6	+0.4
FIA0	FINESS Array S	7.01	212	Pn	Pn	17 40 20.9	+0.8
	baz=20,slow=11						
FIA0				Sn	Sn	17 41 39.8	-0.6
	baz=28,slow=28						
FIA0	FINESS Array S	7.01	212	Pn	Pn	17 40 20.9	+0.8
	baz=20,slow=11						
FIA0				Sn	Sn	17 41 39.8	-0.6
	baz=28,slow=28						
FIA0				Lg	Lg	17 42 15.4	
FINES	FINESS Array B	7.01	212	Pn	Pn	17 40 21.9	+1.8
	comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=6.3						
FINES				Sn	Sn	17 41 41.8	+1.3
	comp=Z,0.4nm,0.3s,baz=34,slow=23,SNR=6.5						
FINES				Lg	Lg	17 42 12.9	
	comp=Z,1.0nm,0.3s,baz=27,slow=25,SNR=7.3						
	comp=Z,2.6nm,0.8s						
HFS	Hagfors	11.54	239	Pn	Pn	17 41 21.7	-0.4
	baz=50,slow=14						
HFS	Hagfors	11.54	239	Pn	Pn	17 41 22.0	-0.1
	comp=Z,0.1nm,0.3s,baz=59,slow=12,SNR=2.7						
HFS				Lg	Lg	17 44 35.1	
	comp=Z,0.4nm,0.3s,baz=62,slow=28,SNR=1.9						
	comp=Z,3.5nm,0.7s						
HFS	Hagfors	11.54	239	Pn	Pn	17 41 21.7	-0.4
	baz=50,slow=14						
SPA0	Spitsbergen Ar	11.70	342	Pn	Pn	17 41 22.0	-2.2
	baz=140,slow=16						
SPA0	Spitsbergen Ar	11.70	342	Pn	Pn	17 41 22.0	-2.2
	baz=140,slow=16						
SPITS	Spitsbergen Ar	11.70	342	Pn	Pn	17 41 20.9	-3.4
	baz=137,slow=18						
	comp=Z,23nm,1.1s						
NOA	NORSAR Array B	11.73	247	Pn	Pn	17 41 23.1	-1.6
	baz=45,slow=11,SNR=3.0						
NOA				Sn	Sn	17 43 32.8	-3.4
	baz=20,slow=10,SNR=1.6						
NOA				Lg	Lg	17 44 40.7	
	baz=14,slow=13,SNR=4.3						
	comp=Z,1.2nm,1.0s						
OBN	Obninsk	12.61	173	LR	LR	17 47 00.8	
	comp=Z,91nm,18.1s,baz=85,slow=39						
ARU	Arti	15.99	122	Pn	Pn	17 42 19.8	-2.5
	comp=Z,0.2nm,0.3s,baz=298,slow=14,SNR=5.9						
	comp=Z,1.5nm,0.4s						
AKASG	Malin Array Be	17.11	190	Pn	Pn	17 42 32.8	-3.7
	comp=Z,0.2nm,0.3s,baz=7.5,slow=12,SNR=7.2						
	comp=Z,1.3nm,0.7s						
AKTO	Aktyubinsk	21.00	133	P	P	17 43 22.8	+1.8
	comp=Z,1.4nm,0.6s,baz=326,slow=11,SNR=5.6						
	comp=Z,1.4nm,0.6s						
BVAR	Borovoye Array	22.79	112	P	P	17 43 43.0	+2.9
	comp=Z,0.7nm,0.6s,baz=317,slow=12,SNR=4.3						
	comp=Z,0.7nm,0.6s						
ZALV	Zalesovo Beam	27.45	94	P	P	17 44 26.3	+2.9
	comp=Z,0.2nm,0.4s,baz=316,slow=10,SNR=2.0						
	comp=Z,0.2nm,0.4s						
KURBB	Kurchatov Arra	27.70	105	P	P	17 44 26.8	+1.0
	comp=Z,0.5nm,0.2s,baz=312,slow=9.8,SNR=1.8						
	comp=Z,0.5nm,0.2s						
MKAR	Makanchi Array	32.27	105	P	P	17 45 08.4	+2.1
	comp=Z,0.2nm,0.7s,baz=346,slow=5.4,SNR=2.3						
	comp=Z,0.2nm,0.7s						
JOW	Kunigami	67.18	75	LR	LR	18 22 50.4	
	comp=Z,173nm,18.4s,baz=108,slow=40						

TUN 07 17:47:47.8, 34°.18N×9°.75E, h26^{km}±5^{km}, MD3.2, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEDT	Meda	0.15	115	*i* P	Pb	17 47 53.3	+0.2
MEDT	Meda	0.15	115	*i* P	Pb	17 47 52.8	-0.2
SGNT	Sidi Gnaou	0.52	169	*i* P	Pn	17 48 01.6	+2.1
SGNT	Sidi Gnaou	0.52	169	*i* P	Pn	17 48 01.1	+1.5
BERT	Berda	0.62	276	*i* P	Pb	17 47 60.0	-0.1
BERT	Berda	0.62	276	*i* P	Pb	17 48 00.1	0.0
BTHT	Jabal bu Thady	1.05	25	*i* P	Pn	17 48 06.0	-0.9
TROT	Trozza	1.39	355	*i* P	Pn	17 48 12.1	+0.5
TROT	Trozza	1.39	355	*i* P	Pn	17 48 12.3	+0.7
THTN	Thala	1.64	328	*i* P	Pb	17 48 17.2	-0.2
TATN	Tataouine	1.72	158	*i* P	Pn	17 48 14.9	-1.2
KRIT	Krib	2.23	346	*i* P	Pb	17 48 28.6	+1.2
KRIT	Krib	2.23	346	*i* P	Pb	17 48 28.6	+1.2

*ISN **07** 18:23:05.5±0.4, 34°.83N×45°.71E, h14^{km}±4^{km}, ML3.0*
*TEH **07** 18:23:06.3, 34°.80N×45°.74E, h7^{km}±45^{km}, ML3.1*
ISC 07 18:23:06.4±0.9**, 34°.80N**±0°.03×**45°.72E**±0°.04**, h10^{km}, n18, σ1^{s}12**/23**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.31	200	Pg	Pg	18 23 12.8	+0.2
IDHR	Dehrash	0.56	100	Pg	Pg	18 23 16.8	-0.5
IDHR				Sg	Sb	18 23 25.6	-1.0
IGHG	Ghaleghazi	0.84	123	Pg	Pg	18 23 22.6	-0.1
KCHF	Cheshme Sefid,	1.21	115	Pg	Pg	18 23 29.7	0.0
ILBA	Ilam Banvizeh	1.24	161	Pg	Pg	18 23 30.0	-0.2
IKRK	Kirkuk	1.28	299	*e*Pn	Pn	18 23 30.5	+0.1
IKRK				*e*Sn	Sg	18 23 49.0	+1.3
IKRK				AML	AML	18 23 51.1	
	comp=N,268nm,0.2s						
IKRK				AML	AML	18 23 51.2	
	comp=E,410nm,0.3s						
IKOM	Komasi	1.60	112	Pg	Pg	18 23 37.2	-0.1
IBDR	Badra	1.69	174	*e*Pn	Pb	18 23 37.0	-0.6
IBDR				*e*Sn	Sg	18 24 00.0	-0.8
IBZA	Bozab	1.80	100	Pg	Pb	18 23 39.5	-0.1
BHD	Baghdad	1.88	217	*e*Pn	Pn	18 23 39.5	+0.8
BHD				*e*Sn	Sb	18 24 04.0	-0.5
MAHB	Mahabad	1.97	360	Pn	Pb	18 23 41.7	-0.7
IALM	Almabolaq	2.02	87	Pn	Pb	18 23 42.7	-0.7
IKFM	Kafar-mosalman	2.17	125	Pn	Pb	18 23 44.6	-1.2
HSAM	Samen	2.45	103	Pn	Pn	18 23 47.9	+1.1
IAZR	Azarshahr	2.88	4	Pn	Pb	18 23 55.5	-2.7
RAFI	Al-Rafai	3.08	174	*e*Pn	Pn	18 23 56.0	+0.8
RAFI				*e*Sn	Sn	18 24 33.0	+0.9
ISRB	Sarab	3.41	27	Pn	Pn	18 24 01.6	+1.7
IHRS	Heris	3.67	16	Pn	Pn	18 24 05.7	+2.1

*ISN **07** 18:23:57.0±0.7, 34°.85N×45°.66E, h6^{km}±27^{km}, ML3.0*
*TEH **07** 18:23:58.3, 34°.83N×45°.72E, h16^{km}±265^{km}, ML3.0*
ISC 07 18:23:57.9±1.7**, 34°.86N**±0°.05×**45°.72E**±0°.05**, h3^{km}**±13^{km}**, n13, σ0^{s}57**/19**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.37	197	Pg	Pg	18 24 05.2	+0.2
IDHR	Dehrash	0.57	106	Pg	Pg	18 24 09.4	+0.5
IGHG	Ghaleghazi	0.88	127	Pg	Pg	18 24 14.7	0.0
IGHG				Sg	Sb	18 24 28.2	-0.1
ILIN	Lien	1.03	86	Pg	Pb	18 24 18.2	-0.3
KCHF	Cheshme Sefid,	1.24	118	Pg	Pg	18 24 22.0	+0.4
KCHF				Sg	Sg	18 24 38.1	+0.4
IKRK	Kirkuk	1.25	296	*e*Pg	Pn	18 24 22.0	-0.3
IKRK				*e*Sg	Sn	18 24 40.0	+0.3
IKRK				AML	AML	18 24 44.0	
	comp=E,347nm,0.4s						
IKRK				AML	AML	18 24 51.7	
	comp=N,192nm,0.6s						
ILBA	Ilam Banvizeh	1.30	162	Pg	Pn	18 24 22.4	-0.6
IKOM	Komasi	1.63	114	Pg	Pg	18 24 29.3	+0.1
IBDR	Badra	1.76	174	*e*Pn	Pn	18 24 29.5	+0.3
IBDR				*e*Sn	Sb	18 24 53.0	-0.2
IBZA	Bozab	1.81	102	Pg	Pb	18 24 31.7	-0.1
BHD	Baghdad	1.94	215	*e*Pn	Pn	18 24 32.0	+0.3
BHD				*e*Sn	Sn	18 24 57.0	+0.4
BHD				AML	AML	18 25 00.3	
	comp=E,248nm,0.4s						
IKFM	Kafar-mosalman	2.21	126	Pn	Pb	18 24 36.9	-1.6
RAFI	Al-Rafai	3.15	174	*e*Pn	Pn	18 24 49.0	+0.6
RAFI				*e*Sn	Sn	18 25 27.0	+0.5

*NEIC **07** 19:00:57.8, 40°.41N×125°.25W, h11^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.03; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-0.16; $M_{r\theta}$0.37; $M_{\theta\phi}$-7.47; $M_{\phi r}$-1.08; Fault plane solution: $M_0$7.56000×10^{15} NP1:ϕ_s179.52000°, δ87.42000°, λ8.25000°. NP2:ϕ_s89.15000°, δ81.76000°, λ177.39000°. Principal axes: T 7.6185, Plg8.0000°, Azm45.0000°; N -0.1275, Plg81.0000°, Azm197.0000°; P -7.4911, Plg4.0000°, Azm314.0000°;*
*NEIC **07** 19:00:57.8, 40°.41N×125°.25W, h0^{km}*
*NEIC **07** 19:00:58.7±2.8, 40°.40N±0°.04×125°.24W±0°.04, h10^{km}±1^{km}, Error ellipse: s-maj=7.2km s-min=5.4km az=341.0*
*IDC **07** 19:00:59.4±0.7, 40°.44N×124°.86W, h0^{km}, mb3.9/14, mbtmp3.9/22, ML3.8/7, MS3.7/30, Error ellipse: s-maj=10.3km s-min=8.0km az=25.0*
*NCEDC **07** 19:01:00.5±3.0, 40°.40N±0°.04×125°.25W±0°.07, h29^{km}±5^{km}, Mwr4.5/8, mb4.6/30(NEIC), ML3.9/94(NEIC), Error ellipse: s-maj=8.3km s-min=6.1km az=67.0*
ISC 07 19:01:00.2±0.5**, 40°.40N**±0°.05×**125°.05W**±0°.05**, h13^{km}, n247, σ1^{s}45**/225**, mb4.6**/29**, MS3.7**/24**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.55	82		Pn	19 01 13.2	-0.7
KCTM					Sn	19 01 23.4	+0.5
FER	Ferndale	0.63	74		Pn	19 01 14.3	-0.5
KSMM	Slide Mountain	0.71	108		Pb	19 01 14.6	+0.1
KMPM	Mount Pierce	0.71	88	Pn	Pb	19 01 15.2	+0.7
JCC	Jacoby Creek,	0.88	62		Pg	19 01 17.1	-0.2
JCC				IAML		19 01 30.0	
	comp=E,2µm,0.6s						
KCRM	Chalk Rock	0.94	88		Pb	19 01 18.7	+0.3
KMRM	Mail Ridge	1.04	99		Pb	19 01 20.4	+0.2
KRPM	Rodgers	1.09	46		Pb	19 01 20.0	-1.0
KHMM	Horse Mountain	1.11	64		Pb	19 01 21.1	-0.3
KHMM				IAML		19 01 36.8	
	comp=E,3µm,0.8s						
KPPM	Pickett Peak	1.29	92		Pn	19 01 24.1	0.0
KCPM	Cahto Peak	1.34	122		Pn	19 01 24.1	-0.6
KIPM	Iron Peak	1.34	116		Pn	19 01 24.3	-0.5
KRMB	Red Mountain	1.42	37		Pn	19 01 24.2	-1.6
KHBM	Hayfork Bally	1.42	79		Pn	19 01 25.4	-0.5
KFPM	Farley Peak	1.47	121		Pn	19 01 25.9	-0.5
KOMM	Orleans Mounta	1.50	54		Pn	19 01 26.0	-0.9
KBNM	Bluenose Ridge	1.51	109		Pn	19 01 27.0	-0.2
DCMP	DeCamp, Califo	1.61	125		Pn	19 01 27.6	-0.8
LBPM	Beegum Peak	1.66	92		Pn	19 01 28.8	-0.3
KSXB	Camp Six Broad	1.68	32		Pn	19 01 27.8	-1.6
KSXB				IAML		19 01 51.5	
	comp=N,1µm,0.6s						
O02D	Mt. Diablo Mer	1.75	97		Pn	19 01 30.2	-0.1
GHOM	Hamilton Openi	1.79	139		Pb	19 01 34.1	+1.2
GWRM	Wonder Ranch	1.80	131		Pn	19 01 30.1	-0.9
GHMM	Hull Mountain	1.87	118		Pn	19 01 31.5	-0.5
N02D	Trinity Center	1.88	72		Pn	19 01 31.6	-0.4
GROM	Round Mountain	1.89	104		Pn	19 01 32.4	+0.1
KBO	Bosley Butte	1.91	19		Pn	19 01 30.8	-1.8
KBO				IAML		19 01 53.6	
	comp=E,1µm,0.4s						
GVV	Valley View	1.93	108		Pn	19 01 32.7	-0.2
M02C	Callahan	1.94	59		Pn	19 01 32.1	-0.9
KTRM	Thompson Ridge	1.97	40		Pn	19 01 32.6	-0.8
L02F	Cave Junction	2.05	33		Pn	19 01 33.0	-1.4
L02F				IAML		19 01 59.3	
	comp=N,1µm,0.4s						
L02F				IAML		19 02 00.4	
	comp=E,821nm,0.5s						
GHLM	Highland Sprin	2.08	130		Pn	19 01 33.5	-1.4
HOPS	Hopland Field	2.08	132		Pn	19 01 34.2	-0.5
HOPS				IAML		19 02 33.4	
	comp=E,590nm,1.9s						
HOPS				IAML		19 02 38.7	
	comp=N,679nm,1.6s						
GTSM	Trough Springs	2.18	119		Pn	19 01 36.0	-0.2
GCK	Clark Valley	2.19	112		Pn	19 01 36.9	+0.6
LAMM	Antelope Mount	2.20	56		Pn	19 01 36.1	-0.5
YBH	Yreka Blue Hor	2.21	52		Pn	19 01 36.3	-0.4
YBH				IAML		19 02 14.8	
	comp=N,406nm,0.6s						
YBH	Yreka Blue Hor	2.21	52	Pn	Pn	19 01 36.2	-0.5
	comp=N,28nm,0.3s,baz=252,slow=14,SNR=176						
YBH				Lg	Lg	19 02 04.1	
	comp=N,32nm,0.3s,baz=101,slow=12,SNR=9.7						
YBH				LR	LR	19 02 24.0	
	comp=N,575nm,19.3s,baz=141,slow=41						
	comp=N,67nm,0.3s						
GPMM	Pine Mountain	2.25	133		Pn	19 01 36.8	-0.4
LTCM	Tuscan Springs	2.25	94		Pn	19 01 37.2	+0.1
LCSM	College of the	2.26	62		Pn	19 01 37.7	+0.3
GCVM	Cloverdale	2.27	135		Pn	19 01 36.8	-0.5
GHCM	House Creek	2.30	141		Pn	19 01 36.0	-1.9
LSHM	Sage Hen Hill	2.33	79		Pn	19 01 38.5	+0.2
GBMM	Baldy Mountain	2.34	122		Pn	19 01 38.5	0.0
GRTM	Round Top Moun	2.35	128		Pn	19 01 38.1	-0.5
GDXM	Geysers	2.36	132		Pn	19 01 38.5	-0.2
GGPM	Geyser Peak	2.36	133		Pn	19 01 38.1	-0.7
LGBM	Gray Butte	2.36	66		Pn	19 01 39.6	+0.7
GFC	Funks Creek	2.38	116		Pn	19 01 39.6	+0.6
M03C	McCloud	2.39	68		Pn	19 01 39.4	+0.3
GWKM	Walker Ridge	2.39	123		Pn	19 01 39.4	+0.3
GBGM	Boggs Mountain	2.42	130		Pn	19 01 39.8	+0.2
GCRM	Castle Rock Sp	2.43	131		Pn	19 01 38.8	-0.9
LMPM	Military Pass	2.44	63		Pn	19 01 40.9	+0.9
B040	Montague	2.45	53		Pn	19 01 39.9	0.0
LHEM	Herd Peak	2.47	59		Pn	19 01 40.6	+0.2
O03E	Paynes Creek	2.49	91		Pn	19 01 40.1	-0.4
LDBM	Digger Butte	2.50	88		Pn	19 01 40.3	-0.3
K02D	Willamette Mer	2.52	24		Pn	19 01 39.9	-1.0
K02D				IAML		19 02 14.4	
	comp=E,389nm,0.9s						
MNRC	McLaughlin Min	2.52	126		Pn	19 01 40.6	-0.4
KEBM	Edson Butte	2.53	12		Pn	19 01 39.9	-1.1
KEBM				IAML		19 02 12.7	
	comp=N,510nm,0.9s						
KEBM				IAML		19 02 19.1	
	comp=E,458nm,1.1s						
NHSM	Mount Saint He	2.57	132		Pn	19 01 41.3	-0.4
NMTM	Middletown	2.57	128		Pn	19 01 42.2	+0.7
LBFM	Black Fox Moun	2.58	67		Pn	19 01 42.4	+0.5
HUMO	Hull Mountain	2.71	35		Pn	19 01 42.6	-0.9
HUMO				IAML		19 02 24.6	
	comp=E,310nm,1.0s						
L04D	Klamath Falls	2.75	48		Pn	19 01 45.0	+0.8
L04D				IAML		19 02 30.0	
	comp=E,637nm,0.7s						
MCCM	Marconi Confer	2.81	143		Pn	19 01 43.6	-1.2
MCCM				IAML		19 02 27.3	
	comp=E,290nm,1.2s						
ORV	Oroville	2.86	106	Pn	Pn	19 01 44.6	-0.9
ORV				IAML		19 02 22.3	
	comp=N,206nm,0.7s						
J01E	Myrtle Point	2.88	17		Pn	19 01 45.1	-0.7
J01E				IAML		19 02 21.3	
	comp=N,417nm,0.6s						
DBO	Dodson Butte	3.03	26	Pn	Pn	19 01 46.9	-1.1
DBO				IAML		19 02 32.4	
	comp=E,190nm,1.0s						
K04D	Chiloquin, OR	3.33	47		Pn	19 01 52.7	+0.7
I03D	Drain, OR	3.53	21		Pn	19 01 54.9	+0.2
I03D				IAML		19 02 37.3	
	comp=E,153nm,0.4s						
I03D				IAML		19 02 38.9	
	comp=N,184nm,0.4s						
K05A	Summer Lake	3.89	52	Pn	Pn	19 02 01.0	+1.1
K05A				IAML		19 03 33.1	
	comp=N,121nm,1.6s						
I04A	Tendick Farm,	3.92	29	Pn	Pn	19 02 00.3	+0.2
I04A				IAML		19 02 47.9	
	comp=N,109nm,1.0s						
I04A				IAML		19 02 50.3	
	comp=E,120nm,0.7s						
MPK	Martis Peak	4.02	104	Pn	Pn	19 02 01.4	-0.3
J05D	Fort Rock, OR	4.05	43		Pn	19 02 03.1	+1.1
J05D				IAML		19 03 44.1	
	comp=N,108nm,1.8s						
EMB	Emerald Bay	4.08	109		Pn	19 02 04.1	+1.7
EMB				IAML		19 02 55.9	
	comp=N,164nm,0.8s						
EMB				IAML		19 02 57.2	
	comp=E,160nm,0.8s						
BUCK	Buck Mountain	4.09	21	Pn	Pn	19 02 03.4	+0.9
BUCK				IAML		19 02 52.0	
	comp=E,201nm,1.5s						
CMB	Columbia Colle	4.33	122	Pn	Pn	19 02 06.6	+0.9
COR	Corvallis	4.38	17	Pn	Pn	19 02 06.9	+0.6
COR				IAML		19 03 00.9	
	comp=E,112nm,0.9s						
COR				IAML		19 03 02.0	
	comp=E,160nm,1.2s						

PNTR Pine Nut 4.40 106 Pn Pn 19 02 08.4 +1.4
PNTR IAML 19 03 09.5
comp=N,169nm,1.3s
PNTR IAML 19 03 16.1
comp=E,158nm,1.1s
PAHR Pah Rah Range 4.41 97 Pn Pn 19 02 06.7 -0.2
PAHR IAML 19 03 14.4
comp=N,120nm,2.1s
PAHR IAML 19 03 59.5
comp=E,63nm,2.8s
H04D Lebanon 4.46 22 Pn Pn 19 02 07.5 0.0
H04D IAML 19 03 01.9
comp=N,156nm,0.9s
H04D IAML 19 03 11.5
comp=E,158nm,0.8s
PINE Pine Mountain 4.56 41 Pn Pn 19 02 08.8 -0.3
SAO San Andreas Ge 4.60 141 Pn Pn 19 02 07.4 -2.1
YERR Yerington 4.70 106 Pn Pn 19 02 12.1 +1.0
YERR IAML 19 03 18.2
comp=E,100nm,0.9s
YERR IAML 19 03 34.1
comp=N,65nm,1.9s
WAKR Walker 4.74 112 Pn Pn 19 02 13.6 +2.0
WAKR IAML 19 03 23.8
comp=E,58nm,1.0s
H04A Detroit Lake 4.77 25 Pn Pn 19 02 13.3 +1.4
H04A IAML 19 03 09.2
comp=E,128nm,0.5s
I05D Terrebonne, OR 4.80 34 Pn Pn 19 02 11.9 -0.3
I05D IAML 19 03 51.4
comp=E,88nm,4.0s
I05D IAML 19 04 12.8
comp=N,68nm,4.7s
BBGB Big Mountain B 4.95 139 Pn Pn 19 02 13.4 -0.9
G03D McMinnville, O 4.98 15 Pn Pn 19 02 16.1 +1.4
G03D IAML 19 03 11.7
comp=N,113nm,0.9s
G03D IAML 19 03 13.3
comp=E,78nm,0.4s
WVOR Wild Horse Val 5.23 65 Pn Pn 19 02 17.9 -0.4
PMPB Monarch Peak 5.35 140 Pn Pn 19 02 19.2 -0.7
RYN Ryan 5.35 107 Pn Pn 19 02 20.6 +0.6
OMMB Old Mammoth Mi 5.47 119 Pn Pn 19 02 22.4 +0.6
LHV Little Huntoon 5.51 111 Pn Pn 19 02 22.8 +0.8
HOOD Mount Hood Mea 5.51 26 Pn Pn 19 02 22.7 +0.6
I07A Izee 5.52 46 Pn Pn 19 02 23.2 +1.0
KVN Kaiserville 5.53 102 Pn Pn 19 02 22.6 +0.3
G05A Wamic 5.56 28 Pn Pn 19 02 23.5 +0.8
NVAR Mina Array Bea 5.59 108 Pn Pn 19 02 23.5 +0.3
comp=E,2.3nm,0.3s,baz=284,slow=15,SNR=23
NVAR Lg Lg 19 03 47.3
comp=E,0.5nm,0.3s,baz=128,slow=23,SNR=1.4
NVAR LR LR 19 04 28.1
comp=E,582nm,18.1s,baz=274,slow=38
comp=E,3.6nm,0.5s
F03A Seaside 5.63 11 Pn Pn 19 02 22.3 -1.3
J08A Circle Bar Ran 5.73 57 Pn Pn 19 02 24.6 -0.5
G06A Carlson Farm, 5.82 32 Pn Pn 19 02 25.2 -1.1
BMN Battle Mountai 5.98 87 Pn Pn 19 02 27.5 -1.1
VOG Valley Oaks Go 6.04 131 P Pn 19 02 30.3 +1.2
baz=313,SNR=7.3
TIN Tinemaha, Big 6.29 120 P Pn 19 02 37.4 +4.6
baz=304,SNR=15
VES Vestal, Richgr 6.55 132 P Pn 19 02 37.5 +1.3
baz=315,SNR=46
G08A Pilot Rock 6.63 40 Pn Pn 19 02 40.0 +2.7
F07A Phinny Hill Vi 6.65 33 Pn Pn 19 02 39.8 +2.2
CWC Cottonwood Cre 6.75 124 P Pn 19 02 42.2 +3.0
baz=307
PKM Mcpherson Peak 6.90 141 P Pn 19 02 41.0 -0.2
baz=324
GRAC Grapevine Rang 6.91 117 Pn Pn 19 02 42.7 +1.5
ISA Isabella, Lake 7.02 130 Pn Pn 19 02 44.0 +1.2
ISA Isabella, Lake 7.02 130 P Pn 19 02 44.5 +1.7
baz=314,SNR=75
BCW Bitter Crk WRg 7.05 139 Pn Pn 19 02 43.0 -0.3
HAWA Hanford 7.21 32 Pn Pn 19 02 45.6 +0.4
ARVC Arvin 7.21 135 P Pn 19 02 46.5 +1.2
baz=318,SNR=5.4
BMO Blue Mountains 7.24 50 Pn Pn 19 02 44.9 -0.9
GNW Green Mountain 7.34 12 Pn Pn 19 02 47.9 +0.9
MPMC Manual Prospec 7.36 124 P Pn 19 02 50.4 +2.8
baz=308,SNR=28
ELK Elko 7.48 84 Pn Pn 19 02 48.9 -0.3
ELK Elko 7.48 84 Pn Pn 19 02 50.1 +0.8
comp=E,0.2nm,0.3s,baz=290,slow=11,SNR=8.2
ELK Lg Lg 19 04 47.0
comp=E,0.2nm,0.3s,baz=51,slow=14,SNR=4.3
comp=E,1.6nm,0.6s
E08A Dider Farm, El 7.49 34 Pn Pn 19 02 49.4 +0.4
MFID Camas Ranch 7.51 63 Pn Pn 19 02 49.8 +0.3
LTY Liberty 7.55 23 Pn Pn 19 02 50.0 +0.1
R11B Troy Canyon, C 7.62 103 Pn Pn 19 02 52.5 +1.5
LRMC Laurel Mtn Rad 7.62 128 P Pn 19 02 52.9 +1.9
baz=312,SNR=27
CCAC Calif City Air 7.65 131 Pn Pn 19 02 52.7 +1.3
EDW2 Edwards Air Fo 7.86 132 P Pn 19 02 56.0 +1.8
baz=316,SNR=15
E09A Wood Farm, Sta 7.91 37 Pn Pn 19 02 56.6 +1.8
F10A Beach Ranch, E 7.98 43 Pn Pn 19 02 56.7 +0.8
D08A Wollman Farm, 8.00 32 Pn Pn 19 02 57.3 +1.3
Q12A Willow Creek R 8.00 97 Pn Pn 19 02 56.6 +0.4
PLID Pearl Lake 8.14 52 Pn Pn 19 03 00.7 +2.4
GSC Goldstone, Bar 8.27 125 Pn Pn 19 03 01.6 +1.6
GSC Goldstone, Bar 8.27 125 P Pn 19 03 01.8 +1.8
baz=310,SNR=22
BFSC Mount Baldy Ra 8.52 134 P Pn 19 03 04.0 +0.7
baz=318,SNR=6.8
HLID Hailey 8.53 65 Pn Pn 19 03 05.5 +1.9
HLID Hailey 8.53 65 P Pn 19 03 06.5 +2.9
baz=252,SNR=67
TUQ Turquoise Moun 8.75 122 P Pn 19 03 09.8 +3.2
baz=307,SNR=21
HEC Hector,Ludlow 8.87 126 P Pn 19 03 10.0 +1.8
baz=311,SNR=48
GMRC Granite Mounta 9.32 124 P Pn 19 03 16.5 +2.1
baz=309,SNR=7.0
DUG Dugway, Tooele 9.36 87 Pn Pn 19 03 16.4 +1.5
DUG Dugway, Tooele 9.36 87 P Pn 19 03 17.3 +2.5
baz=275,SNR=13
BELC Belle Mtn. Jos 9.64 129 P Pn 19 03 19.9 +1.2
baz=314,SNR=25
PFO Pinyon Flats O 9.65 132 P Pn 19 03 19.9 +1.0
baz=317,SNR=7.1
PFO Pinyon Flats O 9.65 132 Pn Pn 19 03 19.9 +1.0
comp=E,1.5nm,0.3s,baz=326,slow=11,SNR=18
PFO Sn Sn 19 05 07.0 -0.1
comp=E,0.1nm,0.3s,baz=211,slow=14,SNR=1.7
PFO LR LR 19 07 22.1
comp=E,279nm,18.4s,baz=297,slow=40
comp=E,4.7nm,0.3s
TPFO Pinon Flats 9.65 132 P Pn 19 03 20.0 +1.1
baz=317,SNR=6.7
PMD Palm Desert 9.67 131 Pn Pn 19 03 19.6 +0.5
NEW Newport 9.69 33 Pn Pn 19 03 21.5 +2.1
comp=E,0.5nm,0.3s,baz=206,slow=13,SNR=6.0
NEW LR LR 19 07 11.4
comp=E,466nm,18.4s,baz=224,slow=39
comp=E,3.9nm,0.6s
TCRU Three Creeks R 9.91 96 Pn Pn 19 03 23.7 +1.2
IRM Iron Mountain 10.05 125 P Pn 19 03 26.0 +1.7
baz=311,SNR=19
BC3 Big Chuckawall 10.21 128 P Pn 19 03 27.4 +1.0
baz=314,SNR=9.3
BAR Barrett 10.23 136 Pn Pn 19 03 25.9 -0.9
PDMCI Parker Dam,Lak 10.60 122 P Pn 19 03 34.6 +2.8
baz=308,SNR=7.1
BLYC Blythe 10.71 125 Pn Pn 19 03 33.5 +0.2
GLA Glamis 11.00 129 Pn Pn 19 03 37.1 -0.2
YHL Hebgen Lake 11.14 62 Pn Pn 19 03 42.1 +2.6
ESJX Sierra Juarez 11.14 136 Pn Pn 19 03 40.5 +1.2
MOOW Moose Ponds 11.15 68 Pn Pn 19 03 42.0 +2.5
YHH Holmes Hill 11.35 63 Pn Pn 19 03 41.8 -0.5
H17A Grant Village 11.42 65 P Pn 19 03 48.5 +5.3
baz=255,SNR=7.5
PDAR Pinedale Array 11.84 73 Pn Pn 19 03 52.1 +3.1
PDAR Pinedale Array 11.84 73 Pn Pn 19 03 51.4 +2.4
comp=E,0.1nm,0.3s,baz=235,slow=12,SNR=17
PDAR LR LR 19 08 55.1
comp=E,135nm,18.4s,baz=261,slow=41
comp=E,1.3nm,0.8s
EGMT Eagleton 13.34 50 Pn Pn 19 04 10.3 +1.0
EGMT Eagleton 13.34 50 P Pn 19 04 10.0 +0.7
baz=241
K22A Casper 14.06 75 P Pn 19 04 21.1 +1.8
baz=267,SNR=8.9
S22A 4UR Ranch, Cre 14.40 95 P Pn 19 04 27.8 +3.7
baz=286,SNR=8.6
EDM Edmonton 15.09 28 Pn Pn 19 04 29.2 -3.9
EDM IAmb IAmb 19 04 41.9
comp=E,80nm,1.5s
Q24A Divide 15.39 89 Pn Pn 19 04 34.6 -2.7
SDCO Great Sand Dun 15.42 94 Pn Pn 19 04 35.9 -1.7
SDCO Great Sand Dun 15.42 94 P P 19 04 41.2 -1.0
baz=286,SNR=26
ANMO Albuquerque 15.69 104 Pn Pn 19 04 41.7 +0.5
comp=Z,0.1nm,0.3s,baz=31,slow=9.8,SNR=4.6
ANMO LR LR 19 10 25.8
comp=Z,132nm,19.4s,baz=22,slow=36
comp=Z,1.2nm,0.8s
T25A Trinidad 16.42 95 P P 19 04 53.8 +0.5
baz=288,SNR=5.9
KSCO Kaye Shedlock' 17.31 87 P Pn 19 05 01.8 +0.1
DLBC Dease Lake 18.33 352 P P 19 05 16.1 +2.0
comp=E,5.6nm,1.1s,baz=160,slow=13,SNR=4.2
CBKS Cedar Bluff 19.55 86 P P 19 05 25.2 -2.5
CBKS IAmb IAmb 19 05 30.9
comp=E,27nm,0.8s
R32A Long Quarter, 20.43 87 P P 19 05 36.1 -1.0
LPIG La Paz 20.44 138 LR LR 19 12 50.9
comp=E,174nm,18.9s,baz=343,slow=35
TX31 Lajitas Ar. Si 20.68 116 P Pn 19 05 42.1 -0.2
TX31 IAmb IAmb 19 06 05.1
comp=Z,24nm,1.1s
TXAR Lajitas Array 20.68 116 P P 19 05 35.7 -4.3
TXAR Lajitas Array 20.68 116 P P 19 05 40.5 +0.5
comp=Z,2.2nm,0.8s,baz=294,slow=8.6,SNR=20
comp=Z,2.2nm,0.8s
FFC Flin Flon 21.02 39 P P 19 05 43.2 -0.2
FFC IAmb IAmb 19 05 45.3
comp=E,35nm,0.9s
ECSD EROS Data Cent 21.33 72 P P 19 05 45.0 -1.8
ECSD EROS Data Cent 21.33 72 P P 19 05 45.4 -1.4
baz=271
KAN14 Manchester OK 21.39 91 P 19 05 48.5 +0.9
OZNA Ozona 21.56 109 P P 19 05 47.0 -2.5
KSU1 Kansas State U 21.87 84 P P 19 05 54.4 +1.8
AGMN Agassiz Nation 22.22 59 P P 19 05 55.9 -0.4
AGMN Agassiz Nation 22.22 59 P P 19 05 56.2 -0.1
baz=260,SNR=16
OK052 Battle Ridge R 22.59 92 P 19 06 02.1 +1.7
OK052 IAmb IAmb 19 06 04.2
comp=Z,22nm,0.7s
ULM Lac du Bonnet 22.62 54 P P 19 05 58.3 -2.3
ULM IAmb IAmb 19 06 03.4
comp=Z,20nm,0.8s
ULM Lac du Bonnet 22.62 54 P P 19 05 59.9 -0.7
comp=Z,16nm,0.7s,baz=261,slow=10.0,SNR=23
ULM LR LR 19 15 41.1
comp=Z,299nm,19.4s,baz=262,slow=39
comp=Z,16nm,0.7s
PLPT Palo Pinto 22.70 101 P P 19 05 59.2 -2.4
PLPT IAmb IAmb 19 06 05.6
comp=E,17nm,0.8s
YKA Yellowknife Ar 23.00 12 P P 19 06 05.6 +1.2
comp=Z,1.0nm,0.7s,baz=201,slow=9.6,SNR=17
comp=Z,1.0nm,0.7s
F36A Milaca 23.55 66 P P 19 06 06.9 -3.3
F36A IAmb IAmb 19 06 12.5
comp=E,28nm,1.4s
U38A Gravette 24.29 89 P P 19 06 13.3 -4.0
U38A IAmb IAmb 19 06 19.9
comp=Z,20nm,0.8s
KDAK Kodiak Island 24.78 324 LR LR 19 12 40.3
comp=Z,39nm,18.2s,baz=125,slow=28
P40A Paris 25.23 81 P P 19 06 22.5 -3.3
P40A IAmb IAmb 19 06 29.4
comp=Z,9.5nm,0.8s
G40A Rib Lake 25.89 68 P P 19 06 33.0 +1.3
G40A IAmb IAmb 19 07 03.5
comp=Z,27nm,1.4s
JFWS Jewell Farm 26.02 73 P P 19 06 33.3 +0.5
JFWS IAmb IAmb 19 06 35.6
comp=Z,16nm,0.8s
CCM Cathedral Cave 26.20 84 P P 19 06 34.1 -0.5
CCM IAmb IAmb 19 06 43.8
comp=Z,18nm,0.7s
FCC Fort Churchill 26.84 36 P P 19 06 41.0 +0.9
FCC IAmb IAmb 19 06 52.6
comp=Z,13nm,0.9s
FVM French Village 26.85 84 P P 19 06 41.8 +1.4
I42A Draeger Farm, 26.89 71 P P 19 06 42.4 +1.7
G31M Satah River 27.07 352 P P 19 06 42.8 +0.8
ILAR Eielson Array 27.48 340 P P 19 06 47.6 +1.8
comp=Z,1.4nm,0.9s,baz=148,slow=7.8,SNR=10.0
ILAR LR LR 19 15 49.8
comp=Z,119nm,20.6s,baz=89,slow=32
comp=Z,1.4nm,0.9s
INK Inuvik 28.34 353 LR LR 19 17 48.3
comp=Z,106nm,18.5s,baz=176,slow=36
IMAR Indian Mountai 30.32 337 P P 19 07 10.6 -0.4
D19K Kuna River 33.27 338 P P 19 07 36.5 -0.4
D19K IAmb IAmb 19 07 40.1
comp=Z,6.0nm,1.0s
CMIG Matias Romero 34.91 123 LR LR 19 22 24.3
comp=Z,74nm,19.2s,baz=210,slow=37
TEIG Tepich 37.22 112 LR LR 19 26 17.9
comp=Z,907nm,18.2s,baz=182,slow=41
FRB Frobisher Bay 40.03 35 LR LR 19 25 27.3
comp=Z,281nm,20.7s,baz=202,slow=37
SCHQ Schefferville 40.60 49 P P 19 08 39.7 +0.3
comp=Z,5.8nm,0.8s,baz=285,slow=11,SNR=4.4
comp=Z,5.8nm,0.8s
PETK Petropavlovsk- 51.92 312 P P 19 10 10.1 +1.7
comp=Z,4.7nm,0.9s,baz=84,slow=14,SNR=7.4
comp=Z,4.7nm,0.9s
SDV Santo Domingo 57.44 108 LR LR 19 39 10.6
comp=Z,36nm,18.5s,baz=316,slow=40
ROSC El Rosal 57.60 114 LR LR 19 38 30.0
comp=Z,46nm,18.5s,baz=68,slow=39
BORG Borgarnes 59.64 29 LR LR 19 35 44.7
comp=Z,139nm,20.4s,baz=289,slow=35
JMIC Jan Mayen 60.13 20 LR LR 19 35 52.3
comp=Z,54nm,20.1s,baz=246,slow=35
PPT Papeete 62.02 207 LR LR 19 31 14.0
comp=Z,44nm,21.5s,baz=2.0,slow=29
BBGH Gun Hill 62.97 96 P P 19 11 25.5 -1.3
USA0B Ussuriysk Arra 71.01 312 P P 19 12 13.4 -4.2
USA0B IAmb IAmb 19 12 29.0
comp=Z,8.7nm,1.1s
USRK Ussuriysk Ar. 71.01 312 P P 19 12 12.9 -4.6
USRK Ussuriysk Ar. 71.01 312 P P 19 12 18.7 +1.1
comp=Z,2.3nm,0.8s,baz=60,slow=7.3,SNR=3.0
comp=Z,2.3nm,0.8s
MJAR Matsushiro Arr 71.91 303 P P 19 12 23.6 +0.4
comp=Z,1.2nm,0.9s,baz=20,slow=7.9,SNR=3.2
MJAR LR LR 19 38 12.4
comp=Z,37nm,21.7s,baz=339,slow=31
comp=Z,1.2nm,0.9s
NOA NORSAR Array B 72.82 21 P P 19 12 28.8 +0.6
comp=Z,0.5nm,0.6s,baz=308,slow=5.1,SNR=1.7
NOA LR LR 19 42 41.9
comp=Z,68nm,21.4s,baz=300,slow=34
comp=Z,0.5nm,0.6s
JHJ2 Mitsune 72.92 299 P P 19 12 26.1 -3.1
JHJ Hachijo jima 2 72.94 299 LR LR 19 35 32.9
comp=Z,35nm,21.9s,baz=40,slow=28
HFS Hagfors 74.24 20 LR LR 19 43 47.6
comp=Z,82nm,18.6s,baz=280,slow=35
KSRS Korea Array 77.70 309 P P 19 12 58.3 +1.7
comp=Z,1.2nm,0.8s,baz=330,slow=5.0,SNR=3.6
comp=Z,1.2nm,0.8s
XLT XiLinHaoTe 79.65 320 eP P 19 13 03.1 -4.3
XLT pmax pmax
comp=Z,8.0nm,0.6s
XLT pmax pmax
comp=Z,170nm,5.1s
SONM Songino Array 81.00 328 P P 19 13 15.9 +1.3
comp=Z,0.4nm,0.9s,baz=72,slow=4.7,SNR=3.0
SONM LR LR 19 50 07.2
comp=Z,54nm,18.5s,baz=326,slow=36
comp=Z,0.4nm,0.9s
ZALV Zalesovo Beam 82.57 343 LR LR 19 51 58.6
comp=Z,40nm,18.6s,baz=26,slow=37
ESDC Sonseca Array 83.90 42 LR LR 19 46 27.7
comp=Z,46nm,21.6s,baz=296,slow=33
HHC Hu-ho-hao-te 84.15 320 eP P 19 13 29.9 -1.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.9s
BVAR Borovoye Array 85.99 351 P P 19 13 42.4 +2.3
comp=Z,0.7nm,0.7s,baz=66,slow=3.6,SNR=3.3
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 86.52 16 P P 19 13 42.8 +0.2
comp=Z,0.3nm,0.5s,baz=340,slow=4.1,SNR=2.2
AKASG LR LR 19 51 22.0
comp=Z,51nm,18.4s,baz=346,slow=35
comp=Z,0.3nm,0.5s
NJ2 Nanjing 86.80 310 eP P 19 13 40.5 -3.9
NJ2 pmax pmax
comp=Z,18nm,0.6s
NJ2 pmax pmax
comp=Z,300nm,3.7s
KURBB Kurchatov Arra 87.03 345 P P 19 13 46.7 +1.6
comp=Z,0.5nm,0.9s,baz=11,slow=4.7,SNR=4.4
comp=Z,0.5nm,0.9s
WMQ Urumqi 91.11 337 eP P 19 14 03.1 -1.5
CPUP Villa Florida 91.44 124 LR LR 19 57 28.4
comp=Z,18nm,18.3s,baz=40,slow=37
LZH Lanzhou 91.61 322 eP P 19 14 11.4 +4.2
LZH sP pwP 19 14 23.4 +9.3
LZH pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 97.92 16 LR LR 20 01 20.5
comp=Z,56nm,18.1s,baz=324,slow=37
IDI Anoyia 99.75 25 LR LR 20 05 26.0
comp=Z,22nm,18.3s,baz=314,slow=39
PZH PanZhiHua 100.48 318 P Pdif 19 14 45.0 -2.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.6s

IDC ***07*** *19:01:23.4±1.3,13°.82N×90°.77W,h0km,mb4.2/13, mbtmp4.1/17,ML3.5/4,MS3.6/6,Error ellipse: s-maj=43.8km s-min=13.5km az=36.0*
SNET ***07*** *19:01:24.0±1.6,13°.16N×91°.52W,h34km±999km*
CATAC ***07*** *19:01:28.5±0.3,13°.67N×90°.96W,h165km±4km,MB6.0, mb4.4,ML4.2*
NEIC ***07*** *19:01:28.7±2.2,13°.48N±0°.09×91°.26W±0°.07,h49km±11km, mb4.5/54,Error ellipse: s-maj=13.7km s-min=9.8km az=201.0*
GCG ***07*** *19:01:35.6±0.5,14°.14N×91°.28W,h57km±8km,MD4.0*
ISC 07 19:01:26.3±1.4,13°.23N±0°.07×91°.39W±0°.06,h46km±12km, n163,σ1°68/200,mb4.5/38,MS3.4/4,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.08**	**351**	*eP*		**Pn**	**19 01 45.6**	**+0.5**
SULM				*eS*		**Sn**	**19 01 53.3**	**-5.7**
FUG	**Fuego 3**	**1.32**	**24**	*eP*		**Pn**	**19 01 48.4**	**-0.1**
PCG	**Pacaya**	**1.38**	**33**	*eP*		**Pn**	**19 01 50.3**	**+0.8**
STG3	**Santiaguito 3,**	**1.48**	**353**	*eP*		**Pn**	**19 01 49.5**	**-1.3**
NBG	**Las Nubes**	**1.69**	**37**	*eP*		Pn	19 01 54.7	+1.0
NUBE	**Las Nubes**	**1.70**	**67**	*eP*		**Pn**	**19 01 52.8**	**-0.9**
NUBE	**Las Nubes**	**1.70**	**67**	*i P*		**Pn**	**19 01 52.2**	**-1.5**
NUBE				*i S*		**Sn**	**19 02 14.6**	**+0.2**
NUBE					IAML		19 02 24.2	
	comp=Z,920nm,1.0s							
LOAL	**Lomas de Alarc**	**1.74**	**64**	*i P*		**Pn**	**19 01 54.3**	**+0.1**
LOAL				*i S*		**Sn**	**19 02 16.6**	**+1.4**
LOAL					IAML		19 02 21.6	
	comp=Z,3μm,1.0s							
CEVE	**Cerro Verde**	**1.82**	**71**	*eP*		**Pn**	**19 01 54.9**	**-0.5**
CEVE	**Cerro Verde**	**1.82**	**71**	*i P*		**Pn**	**19 01 55.0**	**-0.4**
CEVE					IAML		19 02 38.6	
	comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**1.94**	**77**	*e*		**Pn**	**19 01 56.2**	**-0.7**
JAYA				*eP*		**Pn**	**19 01 56.2**	**-0.7**
JAYA				*eS*		**Sn**	**19 02 21.7**	**+1.6**
JAYA	**Jayaque - finc**	**1.94**	**77**	*i P*		**Pn**	**19 01 56.3**	**-0.6**
JAYA					IAML		19 02 22.2	
	comp=Z,3μm,1.0s							
JAYA				*i S*		**Sn**	**19 02 22.6**	**+2.5**
UNIC	**Universidad Ca**	**1.94**	**67**	*i P*		**Pn**	**19 01 57.8**	**+0.9**
UNIC				*i S*		**Sn**	**19 02 21.9**	**+1.8**
UNIC					IAML		19 02 24.3	
	comp=Z,460nm,1.0s							
CEDA	**San Andres**	**2.02**	**73**	*i P*		**Pn**	**19 01 59.6**	**+1.6**
CEDA					IAML		19 02 37.8	
	comp=Z,4μm,1.0s							
PMON	**Piamonte**	**2.08**	**76**	*i P*		**Pn**	**19 01 58.6**	**-0.2**
PMON				*i S*		**Sn**	**19 02 26.1**	**+2.6**
PMON					IAML		19 02 37.6	
	comp=Z,2μm,1.0s							
MAGS	**Ministerio de**	**2.10**	**77**	*i P*		**Pn**	**19 02 00.2**	**+1.1**
MAGS				*i S*		**Sn**	**19 02 25.8**	**+1.8**
MAGS					IAML		19 02 35.3	
	comp=Z,2μm,1.0s							
ITCA	**Escuela Especi**	**2.10**	**78**	*i P*		**Pn**	**19 01 59.0**	**-0.1**
ITCA				*i S*		**Sn**	**19 02 25.8**	**+1.7**
ITCA					IAML		19 02 38.6	
	comp=Z,5μm,1.0s							
QUEZ	**Alcaldia de Qu**	**2.15**	**73**	*i P*		**Pn**	**19 02 00.2**	**+0.5**
QUEZ				*i S*		**Sn**	**19 02 28.3**	**+3.2**
QUEZ					IAML		19 02 41.6	
	comp=Z,4μm,1.0s							
UEES	**Universidad Ev**	**2.15**	**77**	*i P*		**Pn**	**19 02 00.0**	**+0.2**
UEES				*i S*		**Sn**	**19 02 28.3**	**+0.3**
UEES					IAML		19 02 38.0	
	comp=Z,630nm,1.0s							
SNET	**Serv Nac Est T**	**2.15**	**78**			**Pn**	**19 01 59.5**	**-0.2**
SNET	**Serv Nac Est T**	**2.15**	**78**	*i P*		**Pn**	**19 02 00.2**	**+0.4**
SNET				*i S*		**Sn**	**19 02 28.9**	**+3.6**
SNET					IAML		19 02 33.6	
	comp=Z,2μm,1.0s							
SEMO	**Seminario San**	**2.16**	**77**	*i P*		**Pn**	**19 01 59.2**	**-0.7**
SEMO				*i S*		**Sn**	**19 02 28.5**	**+3.0**
SEMO					IAML		19 02 29.1	
	comp=Z,4μm,1.0s							
UTEC	**Universidad Te**	**2.18**	**77**	*i P*		**Pn**	**19 02 00.6**	**+0.4**
UTEC				*i S*		**Sn**	**19 02 27.3**	**+1.3**
UTEC					IAML		19 02 41.9	
	comp=Z,1μm,1.0s							
PANCS	**Alcalda de**	**2.18**	**80**	*i P*		**Pn**	**19 01 59.8**	**-0.4**
PANCS					IAML		19 02 11.1	
	comp=Z,4μm,1.0s							
PANCS				*i S*		**Sn**	**19 02 28.1**	**+2.0**
LOMA	**Loma Larga**	**2.20**	**79**	*i P*		**Pn**	**19 01 59.9**	**-0.6**
LOMA				*i S*		**Sn**	**19 02 29.0**	**+2.4**
LOMA					IAML		19 02 38.2	
	comp=Z,1μm,1.0s							
IGN	**Direccin Gen**	**2.21**	**77**	*i P*		**Pn**	**19 01 59.8**	**-0.8**
IGN				*i S*		**Sn**	**19 02 29.3**	**+2.5**
IGN					IAML		19 02 33.4	
	comp=Z,4μm,1.0s							
UDBS	**Universidad Do**	**2.23**	**77**	*i P*		**Pn**	**19 02 00.6**	**-0.2**
UDBS				*i S*		**Sn**	**19 02 30.8**	**+3.6**
UDBS					IAML		19 02 37.5	
	comp=Z,1μm,1.0s							
MTO3	**Montecristo**	**2.29**	**59**			**Pn**	**19 02 01.9**	**+0.1**
MTO3					Sn	Sn	19 02 19.3	-10
MTO3	**Montecristo**	**2.29**	**59**	*i P*		**Pn**	**19 02 01.9**	**+0.1**
MTO3					IAML		19 02 19.1	
	comp=Z,570nm,1.0s							
SJTE	**Alcalda de S**	**2.35**	**80**	*eP*		**Pn**	**19 02 02.9**	**+0.4**
SJTE				*eS*		**Sn**	**19 02 34.0**	**+3.7**
SJTE	**Alcalda de S**	**2.35**	**80**	*i P*		**Pn**	**19 02 02.7**	**+0.2**
SJTE					IAML		19 02 13.9	
	comp=Z,650nm,1.0s							
SJTE				*i S*		**Sn**	**19 02 32.7**	**+2.5**
PAVA	**Las Pavas**	**2.43**	**78**	*i P*		**Pn**	**19 02 04.2**	**+0.5**
PAVA					IAML		19 02 37.9	
	comp=Z,2μm,1.0s							
COEG	**Centro de Oper**	**2.47**	**81**	*eP*		**Pn**	**19 02 04.5**	**+0.3**
COEG				*eS*		**Sn**	**19 02 35.4**	**+2.1**
COEG	**Centro de Oper**	**2.47**	**81**	*i P*		**Pn**	**19 02 04.5**	**+0.3**
COEG				*i S*		**Sn**	**19 02 35.5**	**+2.3**
COEG					IAML		19 02 43.5	
	comp=Z,670nm,1.0s							
LLGN	**La Laguna**	**2.55**	**68**	*i P*		**Pn**	**19 02 04.6**	**-0.7**
LLGN				*i S*		Sn	19 02 38.5	+3.3
LLGN					IAML		19 02 43.4	
	comp=Z,440nm,1.0s							
TECO	**Alcaldia de Te**	**2.56**	**83**	*i P*		**Pn**	**19 02 06.0**	**+0.7**
TECO				*i S*		**Sn**	**19 02 36.4**	**+1.1**
TECO					IAML		19 02 40.6	
	comp=Z,330nm,1.0s							
UESV	**Universidad de**	**2.56**	**81**	*i P*		**Pn**	**19 02 06.5**	**+1.1**
UESV				*i S*		**Sn**	**19 02 37.9**	**+2.5**
UESV					IAML		19 02 49.0	
	comp=Z,610nm,1.0s							

SCLA Alcaldia de Sa 2.63 79 *i* P **Pn** 19 02 06.6 +0.2
SCLA IAML 19 02 24.6
comp=Z,380nm,1.0s
PQSS Presa 15 de Se 2.78 82 *e*P **Pn** 19 02 08.9 +0.5
PQSS Presa 15 de Se 2.78 82 *i* P **Pn** 19 02 08.6 +0.2
PQSS *i* S **Sn** 19 02 43.4 +2.7
PQSS IAML 19 02 47.7
comp=Z,200nm,1.0s
SARH Santa Rosa de 2.98 59 *i* P **Pn** 19 02 11.7 +0.5
PACA Pacayal 3.00 85 *i* P **Pn** 19 02 12.1 +0.7
PACA *i* S **Sn** 19 02 47.5 +1.3
PACA IAML 19 02 55.6
comp=Z,5µm,1.0s
CCIG Comitan 3.12 347 Pn **Pn** 19 02 14.5 +1.3
CCIG Comitan 3.12 347 *i* P **Pn** 19 02 14.9 +1.7
CCIG *i* S Sn 19 02 54.0 +4.7
CCIG IAML 19 03 02.4
comp=Z,500nm,1.0s
CNRM Centro Naciona 3.14 85 *i* P **Pn** 19 02 13.2 -0.1
CNRM *i* S **Sn** 19 02 51.9 +2.2
CNRM IAML 19 03 18.1
comp=Z,4µm,1.0s
INTHN La Esperanza I 3.37 71 *i* P Pn 19 02 21.5 +4.8
LCND La Caada 3.41 88 *e*P **Pn** 19 02 17.1 +0.1
LCND *e*S **Sn** 19 02 56.8 +0.6
LCND La Caada 3.41 88 *i* P **Pn** 19 02 16.8 -0.2
LCND *i* S **Sn** 19 02 56.5 +0.3
LCND IAML 19 03 02.1
comp=Z,670nm,1.0s
CNCH Conchagua 3.46 89 *i* P **Pn** 19 02 17.8 0.0
CNCH *i* S **Sn** 19 03 00.0 +2.3
CNCH IAML 19 03 03.5
comp=Z,1µm,1.0s
AMPH Amapala 3.63 89 *e*P **Pn** 19 02 20.0 -0.1
AMPH *e*S **Sn** 19 03 03.3 +1.6
AMPH Amapala 3.63 89 *i* P **Pn** 19 02 19.9 -0.1
AMPH *i* S **Sn** 19 03 02.1 +0.4
CSGN Cosiguina Volc 3.74 93 *i* P **Pn** 19 02 20.0 -1.6
CSGN IAML 19 03 08.0
comp=Z,1µm,1.0s
COMHN El Horno 3.92 72 *i* P **Pn** 19 02 23.5 -0.6
TGUH Tegucigalpa,Un 4.09 78 Pn **Pn** 19 02 26.8 +0.3
TGUH Tegucigalpa,Un 4.09 78 *i* P **Pn** 19 02 26.9 +0.5
TGUH IAML 19 03 18.8
comp=Z,200nm,1.0s
NISHN Nisperales Com 4.24 53 *i* P **Pn** 19 02 29.2 +0.8
CRIN San Cristobal 4.26 97 **Pn** 19 02 28.9 +0.1
CRIN San Cristobal 4.26 97 *i* P **Pn** 19 02 28.4 -0.4
CRIN *i* S **Sn** 19 03 15.8 -1.6
CRIN IAML 19 03 27.3
comp=Z,840nm,1.0s
YUSH Yuscaran 4.48 80 *i* P **Pn** 19 02 31.9 +0.1
CNGN Cerro Negro 4.63 98 Pn **Pn** 19 02 35.0 +1.2
CNGN Cerro Negro 4.63 98 *i* P **Pn** 19 02 33.8 0.0
CNGN *i* S **Sn** 19 03 23.5 -2.9
CNGN IAML 19 03 50.5
comp=Z,220nm,1.0s
COPN Copaltepe 4.80 102 *i* P **Pn** 19 02 35.7 -0.4
COPN IAML 19 03 27.0
comp=Z,230nm,1.0s
MOMN Momotombo 4.80 99 *i* P **Pn** 19 02 36.1 -0.1
MOMN *i* S **Sn** 19 03 25.6 -5.0
MOMN IAML 19 03 29.1
comp=Z,8.3nm,1.0s
MOM2 El Cardon 4.85 99 *i* P **Pn** 19 02 36.5 -0.3
MOM2 *i* S **Sn** 19 03 27.7 -4.0
MOM2 IAML 19 04 12.5
comp=Z,230nm,1.0s
LIMN Finca el Limon 4.90 91 *i* P **Pn** 19 02 36.7 -0.8
LIMN IAML 19 02 37.3
comp=Z,130nm,1.0s
LIMN *i* S **Sn** 19 03 30.0 -3.0
SAPS Ciudad Sandino 4.98 102 *i* P **Pn** 19 02 39.4 +0.9
SAPS *i* S **Sn** 19 03 31.4 -3.5
SAPS IAML 19 03 40.8
comp=Z,260nm,1.0s
CMIG Matias Romero 5.11 319 Pn **Pn** 19 02 41.3 +0.9
comp=Z,2.3nm,0.3s,baz=132,slow=8.0,SNR=7.7
CMIG Sn **Sn** 19 03 42.5 +4.4
comp=Z,1.7nm,0.3s,baz=247,slow=22,SNR=1.2
CMIG Lg Lg 19 03 60.0
comp=Z,3.3nm,0.3s,baz=67,slow=19,SNR=4.4
CMIG LR LR 19 04 57.8
comp=Z,277nm,19.4s,baz=172,slow=42
comp=Z,5.2nm,0.3s
MATN Matagalpa 5.33 93 Pn **Pn** 19 02 42.8 -0.7
MATN Matagalpa 5.33 93 *i* P **Pn** 19 02 41.9 -1.6
MATN IAML 19 02 43.0
comp=Z,66nm,1.0s
MATN *i* S **Sn** 19 03 40.8 -3.0
HZTE Horizontes, Gu 6.20 113 Pn **Pn** 19 02 56.9 +1.6
HZTE Horizontes, Gu 6.20 113 *i* P **Pn** 19 02 56.9 +1.6
HZTE IAML 19 03 09.7
comp=Z,150nm,1.0s
HZTE IAmb IAmb 19 03 20.3
comp=Z,88nm,0.8s
ORTG Ortega, Santa 6.47 116 *i* P **Pn** 19 03 00.4 +1.3
ORTG IAmb IAmb 19 03 09.6
comp=Z,51nm,0.9s
ORTG IAML 19 03 33.1
comp=Z,61nm,1.0s
INDI Punta indio, G 6.67 119 *i* P **Pn** 19 03 02.5 +0.8
INDI IAmb IAmb 19 03 31.5
comp=Z,31nm,0.9s
INDI IAML 19 05 15.4
comp=Z,87nm,1.0s
JTS Las Juntas de 6.95 114 Pn Pn 19 03 02.8 -2.8
comp=Z,0.6nm,0.3s,baz=44,slow=17,SNR=2.7
JTS Sn **Sn** **19 04 20.9 -2.5**
comp=Z,1.6nm,0.3s,baz=249,slow=24,SNR=1.4
JTS Lg Lg 19 04 58.3
comp=Z,0.3nm,0.3s,baz=209,slow=17,SNR=2.0
comp=Z,15nm,1.1s
TEIG Tepich 7.57 23 Pn **Pn** **19 03 14.3 +0.2**
TEIG Tepich 7.57 23 Pn **Pn** **19 03 14.2 +0.1**
comp=Z,42nm,0.3s,baz=311,slow=3.3,SNR=29
TEIG Sn Sn 19 04 24.3 -14
baz=337,slow=14
TEIG LR LR 19 06 32.2
comp=Z,4µm,19.8s,baz=1.5,slow=45
LCR2 La Lucha 2 8.03 115 **Pn** **19 03 22.4 +1.8**
TLIG Tlapa 8.15 303 Pn **Pn** **19 03 23.0 +0.8**
CDM Cerro de Muert 8.32 115 *i* P **Pn** **19 03 26.9 +2.0**
CDM IAmb IAmb 19 03 43.0
comp=Z,32nm,0.9s
CDM *i* S **Sn** **19 04 53.8 -4.0**
SRBA San Rafael, Bu 8.82 116 **Pn** **19 03 34.0 +2.6**
SRBA San Rafael, Bu 8.82 116 *i* P **Pn** **19 03 32.9 +1.5**
SRBA IAmb IAmb 19 03 44.7
comp=Z,34nm,1.1s
SRBA *i* S Sn 19 05 02.3 -7.3
DRK0 Durika 8.91 115 Pn **Pn** **19 03 34.9 +2.2**
HNDO Hondo 17.80 337 Pn **Pn** **19 05 29.1 -1.6**
ROSC El Rosal 18.79 115 P **P** **19 05 41.2 -1.2**
comp=Z,1.0nm,0.3s,baz=48,slow=22,SNR=1.4
comp=Z,3.0nm,0.3s
BRDY Brady 19.29 340 P **Pn** **19 05 48.8 +0.1**
TXAR Lajitas Array 19.66 327 P P 19 05 43.8 -7.7
TXAR Lajitas Array 19.66 327 P **P** **19 05 51.1 -0.4**
comp=Z,0.1nm,0.3s,baz=161,slow=8.6,SNR=9.0
comp=Z,3.2nm,0.9s
OZNA Ozona 19.77 335 P **P** **19 05 51.5 -1.2**
OZNA IAmb IAmb 19 06 03.6
comp=Z,8.3nm,0.8s
Y45A Yeager Farm, C 20.61 4 P **P** **19 06 00.3 -1.4**
Y45A IAmb IAmb 19 06 04.6
comp=Z,21nm,0.7s
SDV Santo Domingo 20.82 100 P **P** **19 06 02.9 -1.4**
comp=Z,2.7nm,0.3s,baz=346,slow=12,SNR=1.6
comp=Z,2.7nm,0.3s
MNHN Monahans 20.84 332 P **P** **19 06 04.9 +0.6**
PECS Pecos 21.40 330 P **P** **19 06 10.5 +0.2**
PECS IAmb IAmb 19 06 13.9
comp=Z,25nm,0.8s
VHRN Van Horn 21.51 327 P **P** **19 06 11.6 0.0**
APMT Aspermont 21.53 340 P **P** **19 06 10.4 -1.2**
APMT IAmb IAmb 19 06 13.2
comp=Z,16nm,0.8s
POST Post 21.80 337 P **P** **19 06 13.5 -1.1**
POST IAmb IAmb 19 06 15.5
comp=Z,14nm,0.7s
WHAR Wooly Hollow 21.98 358 P **P** **19 06 15.8 -0.5**
FCAR Ozark Folk Cen 22.57 358 P **P** **19 06 21.8 -1.0**
LCAR Lake Charles 22.74 0 P **P** **19 06 22.9 -1.6**

CPCT Cooper Cave 22.98 14 P **P** **19 06 25.1 -1.9**
Y58A Scranton 23.18 25 P **P** **19 06 25.9 -3.0**
Y58A IAmb IAmb 19 07 02.6
comp=Z,37nm,1.0s
CLTN Cedars of Leba 23.22 10 P **P** **19 06 27.8 -1.5**
TKL Tuckaleechee C 23.36 16 P **P** **19 06 30.7 -0.1**
TKL IAmb IAmb 19 06 32.5
comp=Z,16nm,1.0s
U49A Red Boiling Sp 23.73 11 P **P** **19 06 33.8 -0.4**
U49A IAmb IAmb 19 06 35.0
comp=Z,13nm,0.8s
MGMO Mountain Grove 23.84 358 P **P** **19 06 31.8 -3.5**
MGMO IAmb IAmb 19 06 36.2
comp=Z,17nm,0.9s
T47A Sharon Grove 23.97 8 P **P** **19 06 35.6 -0.9**
T47A IAmb IAmb 19 06 36.9
comp=Z,17nm,0.7s
TZTN Tazewell 24.26 16 P **P** **19 06 37.9 -1.2**
TZTN IAmb IAmb 19 07 03.8
comp=Z,11nm,1.1s
T50A Nancy 24.41 13 P **P** **19 06 40.1 -0.4**
WCI Wyandotte Cave 25.31 9 P **P** **19 06 47.7 -0.9**
WCI IAmb IAmb 19 06 49.3
comp=Z,19nm,0.9s
ANMO Albuquerque 25.56 330 P **P** **19 06 52.2 +1.0**
ANMO Albuquerque 25.56 330 P **P** **19 06 52.3 +1.2**
comp=Z,1.6nm,0.7s,baz=248,slow=9.0,SNR=4.2
comp=Z,1.6nm,0.7s
S54A Dingess, Beckl 26.07 18 P **P** **19 06 54.5 -1.0**
S54A IAmb IAmb 19 07 02.5
comp=Z,30nm,1.4s
P40A Paris 26.20 359 P **P** **19 06 55.3 -1.4**
P40A IAmb IAmb 19 07 05.7
comp=Z,7.6nm,0.8s
P48A Milroy 26.66 10 P **P** **19 06 58.8 -1.9**
P48A IAmb IAmb 19 07 00.4
comp=Z,8.1nm,0.7s
Q51A Peebles 26.66 14 P **P** **19 06 59.2 -1.6**
Q54A Coxs Mills 27.30 18 P **P** **19 07 06.9 +0.3**
ACSO Alum Creek Sta 27.90 14 P **P** **19 07 10.8 -1.1**
ACSO IAmb IAmb 19 07 12.6
comp=Z,12nm,0.8s
NNA Nana 28.91 149 LR LR 19 17 11.0
comp=Z,21nm,19.0s,baz=344,slow=32
HMU Henry Mountain 30.04 328 P **P** **19 07 31.4 +0.1**
LCMT Little Creek M 30.71 324 P **P** **19 07 37.4 +0.3**
PDAR Pinedale Array 33.36 335 P **P** **19 07 58.5 -1.9**
ELK Elko 34.46 327 P **P** **19 08 11.6 +1.7**
comp=Z,1.3nm,0.6s,baz=139,slow=8.2,SNR=4.6
comp=Z,1.3nm,0.6s
NVAR Mina Array Bea 34.64 321 P **P** **19 08 15.3 +3.8**
comp=Z,2.4nm,0.6s,baz=133,slow=8.2,SNR=12
NVAR LR LR 19 24 53.3
comp=Z,95nm,21.8s,baz=92,slow=41
comp=Z,2.4nm,0.6s
ULM Lac du Bonnet 37.10 355 P **P** **19 08 30.9 -1.2**
comp=Z,3.4nm,0.6s,baz=162,slow=5.6,SNR=6.1
comp=Z,3.4nm,0.6s
PLID Pearl Lake 38.03 331 P **P** **19 08 41.5 +1.1**
PLID IAmb IAmb 19 08 43.3
comp=Z,10nm,1.4s
H04A Detroit Lake 40.88 326 P **P** **19 09 05.0 +1.0**
H04A IAmb IAmb 19 09 07.5
comp=Z,19nm,1.4s
RPN Rapa Nui 43.73 203 LR LR 19 24 30.2
comp=Z,32nm,20.2s,baz=180,slow=31
SCHQ Schefferville 45.74 20 P **P** **19 09 40.1 -2.8**
comp=Z,8.7nm,0.9s,baz=230,slow=6.9,SNR=3.7
comp=Z,8.7nm,0.9s
YKA Yellowknife Ar 51.91 347 P **P** **19 10 30.4 +0.3**
comp=Z,1.6nm,0.7s,baz=148,slow=7.3,SNR=21
YKA PcP **PcP** **19 11 44.3 +2.1**
comp=Z,1.2nm,0.9s,baz=144,slow=3.4,SNR=7.5
comp=Z,1.6nm,0.7s
DLBC Dease Lake 53.59 336 P **P** **19 10 43.8 +1.1**
DLBC IAmb IAmb 19 10 46.8
comp=Z,7.8nm,0.9s
DLBC Dease Lake 53.59 336 P **P** **19 10 45.7 +3.0**
comp=Z,7.1nm,0.9s,baz=142,slow=5.6,SNR=9.4
comp=Z,7.1nm,0.9s
G31M Satah River 60.64 342 P **P** **19 11 32.8 +0.5**
G31M IAmb IAmb 19 11 35.1
comp=Z,3.3nm,0.9s
BCAR Beaver Creek A 60.98 336 P **P** **19 11 34.7 0.0**
HATHI Halema'uma'u T 61.32 285 P **P** **19 11 37.2 -0.6**
INK Inuvik 61.34 343 P **P** **19 11 38.0 +1.0**
INK IAmb IAmb 19 11 38.6
comp=Z,2.6nm,0.8s
N25K Chitina, Valde 61.41 334 P **P** **19 11 39.8 +2.1**
RES Resolute Bay 61.48 359 LR LR 19 40 37.4
comp=Z,95nm,19.9s,baz=56,slow=39
EGAK Eagle 61.64 338 P **P** **19 11 39.0 0.0**
EGAK IAmb IAmb 19 11 59.1
comp=Z,9.2nm,1.4s
KLU Klutina 61.93 334 P **P** **19 11 41.1 -0.1**
I26K Coal Creek Min 62.64 338 P **P** **19 11 47.2 +1.4**
I26K IAmb IAmb 19 12 12.6
comp=Z,3.4nm,1.2s
F28M Old Crow 62.79 341 P **P** **19 11 48.8 +2.0**
GHO Glory Hole Cre 63.35 333 P **P** **19 11 52.5 +1.9**
ILAR Eielson Array 63.78 337 P **P** **19 11 53.9 +0.6**
ILAR Eielson Array 63.78 337 P **P** **19 11 55.0 +1.6**
comp=Z,4.5nm,1.0s,baz=143,slow=4.6,SNR=36
comp=Z,4.5nm,1.0s
RND Reindeer 63.97 335 P **P** **19 11 57.1 +2.4**
CCB Clear Creek Bu 64.08 336 P **P** **19 11 55.8 +0.6**
CCB IAmb IAmb 19 12 31.6
comp=Z,4.7nm,1.3s
BMAR Burnt Mountain 64.22 340 P **P** **19 11 58.3 +2.1**
MDM Murphy Dome 64.38 337 P **P** **19 11 56.8 -0.5**
MDM IAmb IAmb 19 12 39.2
comp=Z,6.7nm,1.3s
NEA2 Nenana 64.55 336 P **P** **19 11 59.9 +1.5**
NEA2 IAmb IAmb 19 12 00.8
comp=Z,3.5nm,0.9s
SKT Skwentna 64.57 333 P **P** **19 12 00.5 +1.9**
TRF Thorofare Moun 64.58 335 P **P** **19 12 00.6 +1.8**
RSO Redoubt South 64.61 331 P **P** **19 11 59.4 +0.3**
E25K Arctic Village 64.89 340 P **P** **19 12 03.0 +2.4**
E25K IAmb IAmb 19 12 13.3
comp=Z,5.3nm,1.4s
KTH Kantishna Hill 64.89 335 P **P** **19 12 01.8 +1.1**
KTH IAmb IAmb 19 12 11.0
comp=Z,6.0nm,0.9s
I23K Minto, Yukon-K 64.89 337 P **P** **19 12 00.3 -0.3**
CAST Castle Rocks 65.32 334 P **P** **19 12 04.0 +0.6**
CAST IAmb IAmb 19 12 04.9
comp=Z,5.6nm,0.8s
MLY Manley 65.38 336 P **P** **19 12 04.8 +1.0**
EKA Eskdalemuir Ar 78.24 36 P **P** **19 13 19.3 -1.8**
comp=Z,1.7nm,0.8s,baz=264,slow=5.8,SNR=3.4
comp=Z,1.7nm,0.8s
ESDC Sonseca Array 79.73 52 P **P** **19 13 29.5 -0.2**
comp=Z,0.8nm,0.8s,baz=298,slow=5.1,SNR=2.5
comp=Z,0.8nm,0.8s
ARCES ARCESS Array B 86.68 18 P **P** **19 14 04.4 -0.5**
comp=Z,1.9nm,0.9s,baz=265,slow=5.4,SNR=3.7
comp=Z,1.9nm,0.9s
TORD Torodi Ar. Bea 89.98 77 P **P** **19 14 20.9 -0.6**
comp=Z,0.3nm,0.8s,baz=316,slow=4.0,SNR=1.3
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 135.77 255 PKP **PKiKP** **19 20 47.1 +2.8**
comp=Z,0.4nm,0.3s,baz=90,slow=3.2,SNR=12
ASAR Alice Springs 135.96 250 PKP **PKiKP** **19 20 47.4 +2.7**
comp=Z,0.3nm,0.9s,baz=108,slow=2.1,SNR=1.9
CMAR Chiang Mai Arr 146.91 342 PKPbc **PKPab** **19 21 06.8 +0.9**
comp=Z,3.6nm,0.9s,baz=345,slow=4.9,SNR=24

*BUT **07** 19:29:41.7±1.8, 46°.93N±0°.05×112°.76W±0°.04, h13km±5km, Error ellipse: s-maj=7.0km s-min=3.9km az=175.0*
NEIC 07 19:29:41.3±1.6, 46°.84N±0°.03×112°.74W±0°.04, h9km±8km, ML3.6/64, ML3.9/23(BUT), Error ellipse: s-maj=4.8km s-min=3.1km az=149.0, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVMT	**Ovando**	**0.28**	**322**	Pg	Pg	19 29 46.5	-0.5
LYMT	**Lyon Mountain**	**0.34**	**68**		Pg	19 29 48.1	+0.1
BPMT	**Black Pine Rid**	**0.63**	**230**		Pb	19 29 54.5	-0.1
MSO	**Missoula**	**0.82**	**270**		Pg	19 29 57.4	+0.3
MSO				Sg	Sg	19 30 07.5	-0.3
MSO				IAML		19 30 12.6	
	2µm,0.5s						
MSO				IAML		19 30 12.8	
	2µm,0.4s						

BOZ Bozeman (W) 1.47 148 Pn Pb 19 30 08.6 -0.2
BOZ IAML 19 30 30.6
732nm,0.4s
BOZ IAML 19 30 31.3
706nm,0.5s
YHL Hebgen Lake 2.27 151 Pn 19 30 20.4 +1.1
YHL IAML 19 30 56.7
comp=N,633nm,0.8s
YHL IAML 19 30 58.3
comp=E,454nm,0.5s
GCR Grayling Creek 2.34 150 Pg 19 30 26.5 +0.3
EGMT Eagleton 2.35 59 Pn Pn 19 30 20.1 0.0
YHB Horse Butte 2.35 152 Pn 19 30 22.1 +1.8
YPDC Denny Creek 2.38 153 Pn 19 30 22.0 +1.4
MKRVA Milk River, Al 2.39 15 Pn 19 30 22.1 +1.4
YMC Maple Creek 2.41 149 Pn 19 30 22.5 +1.4
YHH Holmes Hill 2.44 147 Pn Pn 19 30 22.3 +0.7
CMI Centennial Mou 2.45 161 Pn 19 30 23.0 +1.4
YMR Madison River 2.50 150 Pn 19 30 23.1 +0.7
YMR IAML 19 31 12.5
comp=N,410nm,0.6s
YMR IAML 19 31 12.6
comp=E,342nm,0.8s
YPWB West Boundary 2.52 152 Pg 19 30 30.0 +0.5
YPM Purple Mountai 2.55 148 Pg 19 30 30.3 +0.2
YNR Norris Junctio 2.57 145 Pn Pn 19 30 24.9 +1.5
YNR IAML 19 31 06.3
comp=E,148nm,0.4s
HSPGA Hill Springs, 2.59 347 Pb 19 30 25.8 -2.2
YFT Old Faithful 2.74 150 Pn 19 30 25.1 -0.6
YMP Mirror Lake Pl 2.77 138 Pn 19 30 26.3 +0.1
YMP IAML 19 31 14.0
comp=E,184nm,0.6s
YMP IAML 19 31 15.8
comp=N,147nm,0.6s
PLID Pearl Lake 2.87 233 Pn 19 30 26.8 -0.6
PLID IAML 19 31 20.3
comp=N,142nm,0.4s
H17A Grant Village 2.88 147 Pn Pn 19 30 29.8 +2.2
FLWY Flagg Ranch 3.11 152 Pn 19 30 32.8 +2.0
IMW Indian Meadow 3.21 156 Pn Pn 19 30 34.4 +2.3
IMW IAML 19 31 27.2
comp=N,281nm,0.4s
F10A Beach Ranch, E 3.22 256 Pn 19 30 32.5 +0.4
NEW Newport 3.29 297 Pn Pn 19 30 32.0 -1.0
NEW IAML 19 31 24.6
comp=N,142nm,0.6s
NEW IAML 19 31 25.0
comp=N,182nm,0.5s
MOOW Moose Ponds 3.40 155 Pn Pn 19 30 37.3 +2.6
HLID Hailey 3.49 200 Pn Pn 19 30 36.4 +0.6
HLID IAML 19 31 35.4
comp=N,268nm,0.4s
HLID IAML 19 31 37.4
comp=N,104nm,0.5s
LOHW Long Hollow 3.57 154 Pg Pg 19 30 48.3 -1.3
LOHW IAML 19 31 37.4
comp=N,78nm,0.8s
TPAW Teton Pass 3.58 159 Pn 19 30 40.5 +3.2
TPAW IAML 19 31 41.2
comp=N,88nm,0.8s
TPAW IAML 19 31 42.0
comp=N,68nm,0.6s
SNOW Snow King Moun 3.66 157 Pn 19 30 41.2 +2.9
SNOW IAML 19 31 41.7
comp=N,71nm,1.0s
SNOW IAML 19 31 43.3
comp=N,75nm,1.0s
REDW Red Top Meadow 3.73 158 Pn 19 30 40.4 +1.1
E09A Wood Farm, Sta 3.73 267 Pn 19 30 39.7 +0.6
E09A IAML 19 31 44.9
comp=E,144nm,0.7s
BMO Blue Mountains 3.76 240 Pn Pn 19 30 39.7 +0.2
BMO IAML 19 31 46.3
comp=E,62nm,0.5s
C09A Chrisman Ranch 3.88 286 Pn 19 30 40.1 -1.0
MFID Camas Ranch 4.06 214 Pn Pn 19 30 44.3 +0.6
MFID IAML 19 31 56.4
comp=E,151nm,0.3s
MFID IAML 19 31 57.1
comp=E,114nm,0.4s
LAO LASA Array 4.48 90 Pn 19 30 49.1 -0.3
G08A Pilot Rock 4.60 253 Pn 19 30 49.1 -1.9
G08A IAML 19 32 19.0
comp=N,32nm,1.0s
G08A IAML 19 32 41.3
comp=E,33nm,0.8s
BW06 Boulder Array 4.66 150 Pn 19 30 54.8 +2.7
PD31 Pinedale Array 4.66 150 Pn 19 30 55.1 +3.0
HAWA Hanford 4.70 267 Pn 19 30 51.7 -0.6
HAWA IAML 19 32 17.1
comp=E,76nm,0.5s
HAWA IAML 19 32 20.4
comp=E,108nm,0.7s
E07A Sunnyside 4.90 269 Pn 19 30 55.2 +0.1
F07A Phinny Hill Vi 5.06 262 Pn Pn 19 30 55.9 -1.4
MXC Moxie City 5.20 270 Pn Pn 19 30 58.9 -0.4
MXC IAML 19 32 30.7
comp=N,77nm,1.4s
MXC IAML 19 32 40.3
comp=E,66nm,0.7s
HWUT Hardware Ranch 5.30 170 Pn Pn 19 31 01.4 +0.6
LTY Liberty 5.43 277 Pn Pn 19 31 03.0 +0.5
I07A Izee 5.50 242 Pn Pn 19 31 03.9 +0.5
G06A Carlson Farm, 5.72 257 Pn Pn 19 31 06.5 0.0
TCUT Toone Canyon 5.80 170 Pn Pn 19 31 07.5 -0.2
K22A Casper 6.10 131 Pn 19 31 12.7 +1.0
G05A Wamic 6.18 258 Pn Pn 19 31 12.6 -0.1
EDM Edmonton 6.40 357 Pn Pn 19 31 16.1 +0.4
BSUT Blindstream Ca 6.46 166 Pn Pn 19 31 15.0 -2.0
RWWY Rawlins 6.50 140 Pn Pn 19 31 20.1 +2.8
I05D Terrebonne, OR 6.53 251 Pn 19 31 18.8 +1.3
PINE Pine Mountain 6.53 245 Pn 19 31 20.0 +2.3
H04A Detroit Lake 6.95 255 Pn Pn 19 31 24.0 +0.7
J05D Fort Rock, OR 6.99 242 Pn Pn 19 31 24.5 +0.7
TMUT Trail Mountain 7.62 171 Pn Pn 19 31 33.2 +0.4
BUCK Buck Mountain 7.67 254 Pn Pn 19 31 33.1 0.0

*MEX **07** 19:30:20.7±1.4, 31°.48N×115°.96W, h10km, MD3.5*
*ANF **07** 19:30:21.5±1.3, 31°.64N×115°.80W, h16km±10km, ML3.8/20, Error ellipse: s-maj=8.6km s-min=4.9km az=21.0*
*ECX **07** 19:30:21.8±0.6, 31°.62N×115°.82W, h5km±4km, MD3.7, ML4.0*
*PAS **07** 19:30:21.3±2.8, 31°.62N±0°.04×115°.82W±0°.03, h14km±6km, ML3.9/270, ML3.7/54(NEIC), Error ellipse: s-maj=5.8km s-min=3.1km az=195.0*
*NEIC **07** 19:30:21.3±2.9, 31°.61N±0°.04×115°.86W±0°.04, h20km±10km, Error ellipse: s-maj=6.8km s-min=4.8km az=203.0*
ISC 07 19:30:20.9±1.0, 31°.63N±0°.02×115°.80W±0°.02, h18km±3km, n120, σ1°63/161, 16C-15D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJX	**San Joaquin**	**0.20**	**314**	⇓*i*	P	19 30 29.0	+3.2
SJX				*i*	S	**19 30 34.7**	**+5.5**
SJX				⇑*e*		19 30 35.2	
SJX				IAML		19 30 35.2	
	comp=E,22µm,0.1s						
VTX	**Valle De La Tr**	**0.23**	**178**	Pg	**Pg**	**19 30 26.3**	**-0.2**
VTX				IAML		19 30 30.5	
	comp=N,26µm,0.1s						
VTX	**Valle De La Tr**	**0.23**	**178**	⇑*i*	P	**19 30 26.3**	**-0.2**
VTX				*e*	S	**19 30 29.4**	**-0.8**
VTX				⇑*e*		19 30 30.3	
VTX				IAML		19 30 30.3	
	comp=E,51µm,0.1s						
VTX				⇑*e*		19 30 30.5	
VTX				IAML		19 30 30.5	
	comp=N,35µm,0.1s						
ESJX	**Sierra Juarez**	**0.40**	**341**		**Pb**	**19 30 29.0**	**-0.7**
ESJX	**Sierra Juarez**	**0.40**	**341**		**Sb**	**19 30 34.6**	**-0.9**
SV2X	**San Vicente**	**0.47**	**233**	⇑*i*	P	**19 30 29.9**	**-0.7**
SV2X				*e*	S	**19 30 36.3**	**-0.7**
SPIG	**San Pedro Mart**	**0.64**	**154**	⇓*i*	P	**19 30 33.6**	**-0.2**
	baz=313,slow=16						
SPIG				*e*	S	**19 30 41.8**	**-0.7**
SPIG	**San Pedro Mart**	**0.64**	**154**	⇓*i*	P	**19 30 33.6**	**-0.2**
SPIG				*e*	S	**19 30 42.2**	**-0.2**
ECBX	**El Chinero**	**0.65**	**103**	⇓*i*	P	**19 30 34.2**	**+0.4**
ECBX				*e*	S	**19 30 42.8**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ECBX				⇑e		19 30 45.2	
ECBX				IAML		19 30 45.2	
	comp=N,6µm,0.3s						
RHX	**Rio Hardy**	**0.67**	**41**	⇑iP	**Pb**	**19 30 34.1**	**+0.1**
CCX	**Cicese**	**0.78**	**288**		**Pg**	**19 30 35.4**	**-0.7**
CCX	**Cicese**	**0.78**	**288**		**Sg**	**19 30 45.8**	**-0.7**
CCX	**Cicese**	**0.78**	**288**	⇓iP	**Pg**	**19 30 35.5**	**-0.7**
CCX				eS	**Sg**	**19 30 45.8**	**-0.7**
PBX	**Punta Banda**	**0.80**	**278**	⇑eP	**Pg**	**19 30 35.7**	**-0.9**
PBX				eS	**Sg**	**19 30 46.2**	**-1.1**
PBX				IAML		19 30 46.7	
	comp=N,5µm,0.4s						
PBX				⇑e		19 30 46.7	
AGSX	**Ej. Aguas Cali**	**0.83**	**40**	⇑iP	**Pb**	**19 30 37.1**	**+0.2**
CPBX	**Cerro Prieto**	**0.89**	**28**		**Pb**	**19 30 38.1**	**+0.2**
CPBX					**Sn**	**19 30 52.1**	**+1.0**
JARAX	**Ej. Heriberto**	**0.93**	**11**	⇑iP	**Pb**	**19 30 38.5**	**+0.1**
MBIG	**Mexicali**	**0.93**	**33**	⇑iP	**Pg**	**19 30 38.1**	**-0.9**
MBIG				eP	**Pb**	**19 30 39.2**	**+0.7**
MBIG				eS	**Sg**	**19 30 50.2**	**-1.0**
MBIG				eS	**Sn**	**19 30 53.5**	**+1.6**
SFX	**San Felipe**	**1.00**	**126**		**Pg**	**19 30 39.3**	**-1.0**
SFX					**Sg**	**19 30 53.8**	**+0.3**
SFX	**San Felipe**	**1.00**	**126**	IAML		19 30 55.4	
	comp=E,1µm,0.6s						
SFX				IAML		19 30 58.3	
	comp=N,1µm,0.9s						
SFX	**San Felipe**	**1.00**	**126**	iP	**Pg**	**19 30 39.4**	**-1.0**
SFX				eS	**Sg**	**19 30 51.6**	**-1.9**
SFX	**San Felipe**	**1.00**	**126**	⇓iP	**Pg**	**19 30 39.3**	**-1.0**
RMX	**La Rumorosa**	**1.00**	**346**		**Pg**	**19 30 38.6**	**-1.9**
RMX				IAML		19 30 53.8	
	comp=E,4µm,0.5s						
RMX	**La Rumorosa**	**1.00**	**346**		**Sg**	**19 30 50.6**	**-3.0**
RMX	**La Rumorosa**	**1.00**	**346**	⇓eP	**Pg**	**19 30 38.5**	**-1.9**
RMX				eS	**Sg**	**19 30 50.7**	**-3.0**
RMX				IAML		19 30 53.8	
	comp=N,5µm,0.2s						
RMX				⇑e		19 30 53.8	
CBX	**Cerro Bola**	**1.01**	**313**		**Pg**	**19 30 39.3**	**-1.2**
CBX				IAML		19 30 56.1	
	comp=N,2µm,0.3s						
CBX				IAML		19 30 58.2	
	comp=E,3µm,0.5s						
CBX	**Cerro Bola**	**1.01**	**313**	eP	**Pg**	**19 30 39.2**	**-1.4**
CBX				iS	**Sg**	**19 30 52.0**	**-1.8**
CBX	**Cerro Bola**	**1.01**	**313**	⇓iP	**Pg**	**19 30 39.3**	**-1.2**
CBX				eS	**Sg**	**19 30 52.5**	**-1.3**
SGL	**Mount Signal**	**1.02**	**3**		**Pg**	**19 30 40.0**	**-0.8**
SGL					**Sb**	**19 30 53.5**	**+0.4**
YUH	**Yuha Desert**	**1.02**	**354**	Pn	**Pg**	**19 30 39.8**	**-1.0**
YUH				IAML		19 30 53.8	
	comp=E,3µm,0.2s						
YUH				IAML		19 30 53.8	
	comp=N,2µm,0.1s						
YUH2	**Yuha Desert**	**1.02**	**354**	⇓eP	**Pg**	**19 30 39.8**	**-1.0**
UABX	**UABC, Campus M**	**1.05**	**17**		**Pb**	**19 30 40.8**	**+0.3**
UABX					**Sn**	**19 30 56.8**	**+2.0**
UABX	**UABC, Campus M**	**1.05**	**17**		**Pb**	**19 30 40.6**	**+0.1**
SQX	**San Quintin**	**1.05**	**184**	⇑eP	**Pg**	**19 30 39.7**	**-1.6**
SQX				eS	**Sg**	**19 30 53.3**	**-1.8**
IKP	**In-Ko-Pah, Jac**	**1.05**	**345**		**Pg**	**19 30 40.5**	**-0.9**
IKP					**Sg**	**19 30 53.9**	**-1.4**
IKP	**In-Ko-Pah, Jac**	**1.05**	**345**	P	**Pg**	**19 30 40.5**	**-0.9**
	baz=166,SNR=423						
IKP				S	**Sg**	**19 30 53.8**	**-1.5**
	baz=166						
IKP	**In-Ko-Pah, Jac**	**1.05**	**345**	⇓eP	**Pg**	**19 30 40.5**	**-0.9**
5053	**Calexico**	**1.07**	**14**		**Pg**	**19 30 40.9**	**-0.9**
5053					**Sn**	**19 30 57.1**	**+1.7**
TJIG	**Tijuana**	**1.10**	**317**	eP	**Pg**	**19 30 40.7**	**-1.6**
TJIG				eS	**Sg**	**19 30 54.4**	**-2.2**
TJIG	**Tijuana**	**1.10**	**317**	⇓iP	**Pg**	**19 30 40.7**	**-1.6**
TJIG				eS	**Sg**	**19 30 54.9**	**-1.7**
WESC	**Westside Schoo**	**1.13**	**3**		**Pn**	**19 30 42.6**	**+0.8**
WESC					**Sn**	**19 30 58.0**	**+1.1**
TKX	**Tecate**	**1.17**	**324**	Pn	**Pg**	**19 30 41.9**	**-1.6**
TKX	**Tecate**	**1.17**	**324**		**Sg**	**19 30 56.8**	**-2.0**
TKX	**Tecate**	**1.17**	**324**	⇓eP	**Pg**	**19 30 41.9**	**-1.6**
TKX				eS	**Sg**	**19 30 56.8**	**-2.0**
DREC	**Desert Rsrch C**	**1.21**	**14**		**Pg**	**19 30 43.0**	**-1.4**
DREC					**Sn**	**19 31 00.2**	**+1.3**
BAR	**Barrett**	**1.29**	**325**		**Pb**	**19 30 43.8**	**-0.8**
BAR				IAML		19 31 01.6	
	comp=N,2µm,0.2s						
BAR	**Barrett**	**1.29**	**325**		**Sg**	**19 30 60.0**	**-2.7**
BAR	**Barrett**	**1.29**	**325**	⇓iP	**Pb**	**19 30 43.9**	**-0.8**
BAR				⇑e		19 31 01.6	
BAR				IAML		19 31 01.6	
	comp=N,2µm,0.3s						
BAR				IAML		19 31 01.9	
	comp=E,3µm,0.2s						
BAR				⇑e		19 31 01.9	
EMSC	**East Mesa**	**1.30**	**32**		**Pn**	**19 30 44.0**	**-0.2**
SWSC	**Sam W. Stewart**	**1.31**	**360**		**Pg**	**19 30 45.4**	**-0.9**
SWSC					**Sn**	**19 31 02.9**	**+1.5**
SWSC	**Sam W. Stewart**	**1.31**	**360**	P	**Pg**	**19 30 45.4**	**-0.9**
	baz=181,SNR=194						
SWSC				S	**Sn**	**19 31 03.4**	**+2.0**
	baz=181						
MONP2	**Monument Peak**	**1.37**	**337**	P	**Pn**	**19 30 46.0**	**+0.6**
	baz=158,SNR=479						
MONP2				S	**Sg**	**19 31 03.3**	**-2.1**
	baz=158						
MONP2	**Monument Peak**	**1.37**	**337**	⇓iP	**Pn**	**19 30 45.9**	**+0.6**
OLP	**Otay Lakes Par**	**1.37**	**316**	⇓iP	**Pn**	**19 30 45.2**	**0.0**
TJX	**Tijuana**	**1.39**	**310**		**Pn**	**19 30 46.3**	**+1.0**
TJX				IAML		19 31 09.8	
	comp=E,2µm,1.1s						
TJX				IAML		19 31 24.7	
	comp=N,2µm,0.7s						
TJX	**Tijuana**	**1.39**	**310**	eP	**Pn**	**19 30 45.8**	**+0.5**
GLA	**Glamis**	**1.64**	**30**	Pn	**Pn**	**19 30 48.7**	**-0.2**
109C	**Camp Elliot, M**	**1.68**	**319**	Pn	**Pn**	**19 30 50.1**	**+0.7**
109C				IAML		19 31 12.2	
	comp=N,1µm,0.3s						
109C				IAML		19 31 12.3	
	comp=E,1µm,0.2s						
109C	**Camp Elliot, M**	**1.68**	**319**	P	**Pn**	**19 30 49.8**	**+0.5**
	baz=139,SNR=44						
109C				S	**Sn**	**19 31 11.6**	**+1.1**
	baz=139						
PIX	**Pinacate**	**1.99**	**91**		**Pn**	**19 30 52.9**	**-0.8**
BC3	**Big Chuckawall**	**2.04**	**8**	P	**Pn**	**19 30 54.8**	**+0.3**
	baz=189,SNR=31						
BC3				S	**Sn**	**19 31 18.4**	**-1.2**
	baz=189						
TPFO	**Pinon Flats**	**2.05**	**344**	P	**Pn**	**19 30 54.6**	**0.0**
	baz=165,SNR=81						
TPFO				S	**Sn**	**19 31 21.9**	**+2.1**
	baz=165						
PFO	**Pinyon Flats O**	**2.06**	**344**		**Pn**	**19 30 54.8**	**0.0**
PFO				IAML		19 31 25.4	
	comp=E,561nm,0.5s						
PFO	**Pinyon Flats O**	**2.06**	**344**	P	**Pn**	**19 30 54.7**	**0.0**
	baz=165,SNR=102						
PFO				S	**Sb**	**19 31 24.3**	**+1.2**
	baz=165						
113A	**Mohawk Valley,**	**2.06**	**56**	Pn	**Pn**	**19 30 54.8**	**+0.1**
PMD	**Palm Desert**	**2.07**	**346**		**Pn**	**19 30 54.9**	**+0.1**
PMD				IAML		19 31 25.7	
	comp=E,790nm,0.4s						
PMD				IAML		19 31 26.1	
	comp=N,441nm,0.5s						
MURC	**Murrieta**	**2.29**	**329**	P	**Pn**	**19 30 59.4**	**+1.5**
	baz=149,SNR=84						
MURC				S	**Sb**	**19 31 29.5**	**-0.3**
	baz=149						
BELC	**Belle Mtn. Jos**	**2.37**	**356**	P	**Pn**	**19 30 59.6**	**+0.5**
	baz=176,SNR=28						
BLYC	**Blythe**	**2.37**	**27**		**Pn**	**19 30 59.2**	**+0.3**
214A	**Organ Pipe Nat**	**2.56**	**82**		**Pn**	**19 31 01.4**	**-0.2**
214A				IAML		19 31 32.9	
	comp=E,279nm,0.4s						
214A	**Organ Pipe Nat**	**2.56**	**82**	P	**Pn**	**19 31 01.4**	**-0.2**
	baz=263,SNR=24						
214A				S	**Sn**	**19 31 31.3**	**-1.0**
	baz=263						
214A	**Organ Pipe Nat**	**2.56**	**82**	eP	**Pn**	**19 31 01.4**	**-0.2**
214A				iS	**Sn**	**19 31 29.3**	**-3.0**
IRM	**Iron Mountain**	**2.58**	**12**	P	**Pn**	**19 31 02.6**	**+0.7**
	baz=193,SNR=15						
SCI2	**San Clemente I**	**2.69**	**301**	P	**Pn**	**19 31 03.3**	**0.0**
	baz=120,SNR=11						
SCI2				S	**Sn**	**19 31 36.7**	**+1.3**
	baz=120						
BBRC	**Big Bear Solar**	**2.79**	**340**	P	**Pn**	**19 31 06.3**	**+1.4**
	baz=160,SNR=13						
BBRC				Sb	**Sg**	**19 31 47.4**	**-3.4**
	baz=160						
CIS	**Catalina Islan**	**2.83**	**309**	P	**Pn**	**19 31 04.9**	**-0.4**
	baz=128,SNR=9.8						
GMRC	**Granite Mounta**	**3.15**	**2**	P	**Pn**	**19 31 10.5**	**+0.8**
	baz=182						
LAPR	**La Primavera**	**3.19**	**110**	eP	**Pn**	**19 31 10.9**	**+0.8**
HEC	**Hector,Ludlow**	**3.23**	**352**	S	**Sn**	**19 31 51.2**	**+2.4**
	baz=172						
PASC	**Pasadena Art C**	**3.24**	**322**	Pn	**Pn**	**19 31 11.9**	**+1.0**
PASC				IAML		19 32 00.7	
	comp=E,88nm,0.9s						
PASC				IAML		19 32 00.9	
	comp=N,151nm,0.7s						
NEE2	**Needles Airpor**	**3.28**	**17**	P	**Pn**	**19 31 12.9**	**+1.5**
	baz=198						
Y14A	**Wickenburg**	**3.29**	**45**	Pn	**Pn**	**19 31 12.4**	**+0.8**
BAHB	**Baha de los**	**3.30**	**144**	iP	**Pg**	**19 31 22.9**	**-1.2**
BAHB				eS	**Sb**	**19 32 00.2**	**+1.5**
SNCC	**San Nicolas Is**	**3.54**	**298**	Pn	**Pn**	**19 31 13.5**	**-1.5**
SNCC	**San Nicolas Is**	**3.54**	**298**	S	**Sn**	**19 31 56.5**	**0.0**
	baz=116						
EDW2	**Edwards Air Fo**	**3.73**	**331**	P	**Pn**	**19 31 19.7**	**+2.1**
	baz=150,SNR=22						
EDW2				Sb	**Sb**	**19 32 15.1**	**+3.8**
	baz=150						
TUQ	**Turquoise Moun**	**3.80**	**358**	P	**Pn**	**19 31 20.2**	**+1.5**
	baz=179						
W13A	**Hualapai Mount**	**3.81**	**24**	Pn	**Pn**	**19 31 20.5**	**+1.6**
CCAC	**Calif City Air**	**3.98**	**333**	Pn	**Pn**	**19 31 23.0**	**+1.9**
CCAC				IAML		19 32 31.2	
	comp=E,189nm,1.6s						
CCAC				IAML		19 32 39.2	
	comp=N,190nm,1.1s						
V12A	**Nelson**	**4.16**	**11**		**Pn**	**19 31 25.4**	**+1.8**
TUC	**Tucson**	**4.31**	**80**		**Pn**	**19 31 25.6**	**-0.1**
TUC	**Tucson**	**4.31**	**80**	eP	**Pn**	**19 31 25.6**	**-0.1**
TUC				iS	**Sn**	**19 32 09.5**	**-6.0**
BCW	**Bitter Crk WRg**	**4.48**	**318**		**Pn**	**19 31 30.2**	**+2.1**
BCW				IAML		19 32 43.2	
	comp=N,81nm,1.9s						
BCW				IAML		19 32 45.9	
	comp=E,74nm,0.6s						
X16A	**Lo Mia Camp, P**	**4.59**	**52**	Pn	**Pn**	**19 31 31.0**	**+1.3**
GWY	**Greenwater Val**	**4.61**	**351**		**Pn**	**19 31 31.6**	**+1.8**
SHPR	**Sheep Range**	**4.89**	**6**		**Pn**	**19 31 36.1**	**+2.3**
TPNV	**Topopah Spring**	**5.32**	**356**		**Pn**	**19 31 41.5**	**+1.9**
TPNV				IAML		19 33 16.8	
	comp=E,17nm,0.7s						
TPNV				IAML		19 33 27.6	
	comp=E,18nm,1.2s						
WUAZ	**Wupatki**	**5.35**	**42**		**Pn**	**19 31 42.1**	**+2.1**
WUAZ				IAML		19 33 31.9	
	comp=E,17nm,3.0s						
WUAZ	**Wupatki**	**5.35**	**42**	P	**Pn**	**19 31 42.4**	**+2.3**
	baz=225,SNR=17						
U15A	**North Rim**	**5.60**	**30**	Pn	**Pn**	**19 31 46.4**	**+2.8**
X18A	**Snowflake**	**5.70**	**58**		**Pn**	**19 31 46.3**	**+1.5**
DUN6	**Lazy B Ranch**	**5.76**	**79**	Pn	**Pn**	**19 31 46.5**	**+0.8**
LCMT	**Little Creek M**	**5.77**	**21**		**Pn**	**19 31 48.4**	**+2.6**
PRN	**Pahroc Range**	**5.80**	**6**	Pn	**Pn**	**19 31 49.0**	**+2.8**
KNB	**Kanab**	**5.91**	**24**	Pn	**Pn**	**19 31 50.0**	**+2.3**
W18A	**Petrified Fore**	**6.15**	**54**		**Pn**	**19 31 53.6**	**+2.6**
W18A	**Petrified Fore**	**6.15**	**54**	P	**Pn**	**19 31 53.7**	**+2.6**
	baz=237,SNR=12						
PMPB	**Monarch Peak**	**6.18**	**319**	Pn	**Pn**	**19 31 52.0**	**+0.6**
SZCU	**Shurtz Canyon**	**6.36**	**20**		**Pn**	**19 31 57.1**	**+3.2**
PKCU	**Pink Cliffs**	**6.47**	**25**		**Pn**	**19 31 59.1**	**+3.5**
121A	**Cookes Peak, D**	**6.86**	**80**	Pn	**Pn**	**19 32 02.0**	**+1.3**
121A	**Cookes Peak, D**	**6.86**	**80**	P	**Pn**	**19 32 02.3**	**+1.6**
	baz=264,SNR=6.8						
121A	**Cookes Peak, D**	**6.86**	**80**	eP	**Pn**	**19 32 02.4**	**+1.7**
SAO	**San Andreas Ge**	**6.94**	**319**	Pn	**Pn**	**19 32 03.4**	**+1.7**
MTPU	**Mount Pierson**	**7.05**	**24**	Pn	**Pn**	**19 32 07.5**	**+3.9**
SPR3	**Spring Creek 3**	**7.45**	**9**	Pn	**Pn**	**19 32 10.0**	**+1.0**
HMU	**Henry Mountain**	**7.54**	**32**	Pn	**Pn**	**19 32 10.2**	**-0.1**
MVCO	**Mesa Verde**	**8.21**	**45**	Pn	**Pn**	**19 32 21.9**	**+2.6**
ANMO	**Albuquerque**	**8.49**	**65**	Pn	**Pn**	**19 32 23.1**	**-0.1**
ODSA	**Odessa**	**11.27**	**84**	Pn	**Pn**	**19 33 03.1**	**+1.9**

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*ANF **07** 19:37:33.9±0.3, 36°.15N×97°.67W, h2km±2km, ML3.7/8, Error ellipse: s-maj=2.7km s-min=1.8km az=163.0*
*NEIC **07** 19:37:34.0±0.9, 36°.136N±0°.008×97°.69W±0°.01, h4km±5km, Error ellipse: s-maj=1.6km s-min=0.7km az=221.0*
*TUL **07** 19:37:34.5±0.9, 36°.153N±0°.008×97°.67W±0°.01, h6km±5km, ML2.8, mb_Lg3.1/95(NEIC), ML3.2/60(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=223.0*
ISC 07 19:37:34.1±1.3**, 36°.14N**±0°.02×**97°.68W**±0°.02**, h3**km±12km**, n89, σ0.s71**/57**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.39**	**152**		**Pg**	**19 37 41.0**	**-0.6**
OK029				Sg	**Sg**	**19 37 48.3**	**+1.6**
CROK	**Carrier**	**0.43**	**326**	Pg	**Pg**	**19 37 42.1**	**-0.3**
CROK				IAML		19 37 56.3	
	comp=N,1µm,0.2s						
CROK				IAML		19 37 57.8	
	comp=E,1µm,0.4s						
ADOK	**Arcadia Dam**	**0.55**	**153**		**Pg**	**19 37 44.7**	**0.0**
OK033	**Mehan**	**0.61**	**99**	Pg	**Pg**	**19 37 45.1**	**-0.7**
OK033				Sg	**Sb**	**19 37 54.8**	**-1.6**
OK033				IAML		19 37 56.8	
	comp=E,861nm,0.3s						
OK048	**Pawnee Station**	**0.66**	**65**	Pg	**Pg**	**19 37 46.8**	**+0.2**
GC02	**Grant County #**	**0.72**	**349**	Pg	**Pg**	**19 37 46.8**	**-1.1**
BLOK	**Blackwell**	**0.72**	**31**	Sg	**Sb**	**19 37 58.3**	**-1.3**
OK052	**Battle Ridge R**	**0.73**	**102**		**Pg**	**19 37 48.1**	**+0.1**
OK052				IAML		19 38 00.7	
	comp=E,2µm,0.5s						
OKCSW	**OKLAHOMA CITY**	**0.76**	**165**		**Pg**	**19 37 48.1**	**-0.6**
OKCSW				IAmb_Lg		19 37 59.3	
	comp=Z,284nm,1.0s						
OKCSW				IAML		19 38 09.3	
	comp=E,1µm,0.5s						
OK051	**E0350 and S346**	**0.77**	**62**		**Pg**	**19 37 49.1**	**+0.2**
OK051				IAML		19 38 08.6	
	comp=E,906nm,0.2s						
OK051				IAML		19 38 11.2	
	comp=E,1µm,0.2s						
OK032	**Salt Plains WL**	**0.78**	**327**		**Pg**	**19 37 47.6**	**-1.5**
OK032				IAML		19 38 05.5	
	comp=E,921nm,0.2s						
OK032				IAML		19 38 11.0	
	comp=E,679nm,0.1s						
QUOK	**Quay**	**0.79**	**88**		**Pg**	**19 37 49.5**	**+0.3**
QUOK				IAML		19 38 04.0	
	comp=E,720nm,0.2s						
KAN14	**Manchester OK**	**0.84**	**344**	Pg	**Pg**	**19 37 50.1**	**-0.1**
KAN14				IAML		19 38 06.3	
	comp=E,812nm,0.5s						
KAN14				IAML		19 38 06.8	
	comp=N,614nm,0.2s						
KAN13	**South Haven SW**	**0.88**	**11**	Pg	**Pg**	**19 37 51.3**	**+0.3**
KAN13				IAML		19 38 11.8	
	comp=N,1µm,0.3s						
KAN17	**Caldwell West**	**0.90**	**356**	Pg	**Pg**	**19 37 51.7**	**+0.3**
FNO	**Franklin**	**0.91**	**165**		**Pg**	**19 37 51.7**	**+0.1**
FNO				IAML		19 38 14.4	
	comp=E,668nm,0.7s						
OK038	**West end E0370**	**0.92**	**292**		**Pg**	**19 37 51.8**	**+0.1**
CSTR	**Hydro, Custer**	**0.96**	**239**		**Pg**	**19 37 52.7**	**+0.3**
KAN05	**Bluff City Nor**	**0.97**	**351**		**Pg**	**19 37 52.8**	**+0.1**
KAN05				IAML		19 38 06.9	
	comp=E,1µm,0.2s						
KAN05				IAML		19 38 07.5	
	comp=N,781nm,0.2s						
KAN09	**Caldwell North**	**0.99**	**3**	Pg	**Pg**	**19 37 53.2**	**+0.2**
OK035	**E0210 Rd and N**	**1.00**	**304**		**Pg**	**19 37 51.8**	**-1.4**
DEOK	**Depew**	**1.01**	**107**		**Pb**	**19 37 53.6**	**-0.6**
DEOK				IAML		19 38 07.7	
	comp=N,890nm,0.2s						
DEOK				IAML		19 38 08.8	
	comp=E,586nm,0.2s						
KAN01	**Argonia South**	**1.01**	**357**		**Pg**	**19 37 53.5**	**+0.1**
KAN01				IAML		19 38 09.4	
	comp=N,554nm,0.4s						
KAN01				IAML		19 38 12.4	
	comp=E,652nm,0.3s						
KAN10	**Anthony SW Sta**	**1.03**	**341**	Pg	**Pg**	**19 37 53.7**	**-0.2**
U32A	**Winter Ranch,**	**1.09**	**283**		**Pg**	**19 37 53.9**	**-1.1**
U32A				IAML		19 38 13.7	
	comp=E,361nm,0.1s						
U32A				IAML		19 38 27.8	
	comp=N,856nm,0.8s						
U32A	**Winter Ranch,**	**1.09**	**283**	P	**Pg**	**19 37 55.2**	**+0.2**
	baz=102						
U32A				S	**Sb**	**19 38 10.2**	**-0.1**
	baz=102						
KAN08	**Anthony NE Sta**	**1.10**	**348**	Pg	**Pg**	**19 37 55.1**	**-0.1**
KAN08				IAML		19 38 12.8	
	comp=E,487nm,0.6s						
KAN06	**Argonia West S**	**1.11**	**353**		**Pg**	**19 37 54.4**	**-1.0**
KAN06				IAML		19 38 13.7	
	comp=N,490nm,0.2s						
KAN06				IAML		19 38 13.7	
	comp=E,704nm,0.2s						
KS21	**Milan North St**	**1.14**	**1**		**Pg**	**19 37 55.9**	**0.0**
KAN12	**Harper NE Stat**	**1.18**	**348**		**Pg**	**19 37 56.3**	**-0.3**
T35A	**Sooner Cattle**	**1.22**	**50**		**Pg**	**19 37 56.9**	**-0.5**
T35A				IAML		19 38 17.4	
	comp=N,736nm,0.4s						
T35B	**Sooner Cattle**	**1.22**	**50**	P	**Pg**	**19 37 56.8**	**-0.6**
	baz=231						
T35B				S	**Sb**	**19 38 13.3**	**-0.6**
	baz=231						
ELIS	**Ellis County**	**1.41**	**267**		**Pn**	**19 38 00.6**	**0.0**
TUL3	**Leonard**	**1.55**	**98**	Pg	**Pn**	**19 38 02.4**	**-0.2**
TUL3	**Leonard**	**1.55**	**98**	P	**Pn**	**19 38 02.3**	**-0.3**
	baz=280						
TUL3				S	**Sb**	**19 38 23.3**	**-0.2**
	baz=280						
WMOK	**Wichita Mounta**	**1.67**	**213**	Pg	**Pn**	**19 38 04.2**	**+0.1**
WMOK				IAmb_Lg		19 38 31.2	
	comp=Z,83nm,0.9s						
WMOK	**Wichita Mounta**	**1.67**	**213**	P	**Pn**	**19 38 04.1**	**-0.1**
	baz=32						
WMOK				S	**Sb**	**19 38 27.0**	**+0.2**
	baz=32						
RLO	**Rose Lookout**	**2.15**	**89**		**Pn**	**19 38 11.8**	**+0.9**
LOOK	**Love County**	**2.19**	**169**		**Pn**	**19 38 09.7**	**-1.6**
LOOK				IAmb_Lg		19 38 44.3	
	comp=Z,68nm,0.8s						
SMWD	**Samnorwood**	**2.33**	**244**		**Pn**	**19 38 14.1**	**+0.7**
SMWD				IAmb_Lg		19 38 51.3	
	comp=Z,77nm,0.8s						
R32A	**Long Quarter,**	**2.42**	**340**		**Pn**	**19 38 15.2**	**+0.6**
R32A	**Long Quarter,**	**2.42**	**340**	S	**Sn**	**19 38 45.4**	**+0.7**
	baz=160						
X37A	**Clayton**	**2.44**	**129**	Pn	**Pn**	**19 38 14.6**	**-0.3**
WTFS	**Witchita Falls**	**2.46**	**195**		**Pn**	**19 38 14.8**	**-0.3**
U38A	**Gravette**	**2.68**	**83**		**Pn**	**19 38 18.3**	**+0.2**
KSU1	**Kansas State U**	**3.07**	**16**	IAmb_Lg		19 39 17.8	
	comp=Z,49nm,0.8s						
KSU1	**Kansas State U**	**3.07**	**16**	S	**Sn**	**19 39 01.7**	**+0.9**
	baz=196						
PLPT	**Palo Pinto**	**3.36**	**189**	IAmb_Lg		19 39 26.8	
	comp=Z,34nm,0.8s						
Z38A	**Mt. Pleasant**	**3.63**	**142**	IAmb_Lg		19 39 38.2	
	comp=Z,44nm,0.9s						
TREL	**Terrell**	**3.65**	**158**	IAmb_Lg		19 39 35.4	
	comp=Z,36nm,0.9s						
S39A	**Bolivar**	**3.82**	**65**	IAmb_Lg		19 39 38.9	
	comp=Z,29nm,0.8s						
S39A	**Bolivar**	**3.82**	**65**	P	**Pn**	**19 38 34.3**	**+0.5**
	baz=247						
ABTX	**Abilene, Hawle**	**3.87**	**205**	IAmb_Lg		19 39 39.4	
	comp=Z,43nm,1.1s						
RTBA	**Rita Blanca**	**4.09**	**276**	Pn	**Pn**	**19 38 38.3**	**+0.6**
RTBA				IAmb_Lg		19 39 48.0	
	comp=Z,29nm,0.7s						
SN01	**Snyder 1**	**4.21**	**220**	IAmb_Lg		19 39 55.4	
	comp=Z,31nm,0.8s						
237A	**Washetta, Mont**	**4.42**	**159**	IAmb_Lg		19 40 03.3	
	comp=Z,24nm,0.8s						
MGMO	**Mountain Grove**	**4.47**	**75**	IAmb_Lg		19 39 55.5	
	comp=Z,48nm,0.9s						
WHAR	**Wooly Hollow**	**4.47**	**99**	Pn	**Pn**	**19 38 43.9**	**+1.1**
WHAR				IAmb_Lg		19 40 08.3	
	comp=Z,48nm,0.8s						
WLAR	**White Oak Lake**	**4.48**	**122**	IAmb_Lg		19 40 06.0	
	comp=Z,27nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.51**	**92**	IAmb_Lg		19 40 02.1	
	comp=Z,44nm,0.7s						
N33A	**J Bar K, Exete**	**4.59**	**2**	IAmb_Lg		19 40 11.3	
	comp=Z,45nm,0.9s						
P38A	**Dawn**	**4.78**	**42**	IAmb_Lg		19 40 12.5	
	comp=Z,26nm,0.7s						
R40A	**Maddies Statio**	**4.82**	**62**	Pn	**Pn**	**19 38 46.8**	**-0.7**
R40A				IAmb_Lg		19 40 04.0	
	comp=Z,36nm,0.9s						
R40A	**Maddies Statio**	**4.82**	**62**	P	**Pn**	**19 38 47.8**	**+0.2**
	baz=245						
BRDY	**Brady**	**4.97**	**193**	IAmb_Lg		19 40 13.4	
	comp=Z,29nm,0.9s						
LCAR	**Lake Charles**	**5.29**	**89**	IAmb_Lg		19 40 28.7	
	comp=Z,20nm,0.8s						
CCAR	**Cane Creek**	**5.33**	**113**	IAmb_Lg		19 40 36.0	
	comp=Z,41nm,0.8s						
435B	**Jarrell**	**5.35**	**179**	IAmb_Lg		19 40 29.0	
	comp=Z,42nm,0.8s						
T42A	**Van Buren**	**5.38**	**79**	IAmb_Lg		19 40 28.8	
	comp=Z,31nm,0.8s						
CCM	**Cathedral Cave**	**5.49**	**68**	IAmb_Lg		19 40 34.5	
	comp=Z,32nm,0.8s						
T25A	**Trinidad**	**5.50**	**282**	IAmb_Lg		19 40 35.0	
	comp=Z,38nm,0.8s						
P40A	**Paris**	**5.59**	**51**	IAmb_Lg		19 40 38.2	
	comp=Z,33nm,0.9s						
PBMO	**Poplar Bluff**	**5.88**	**82**	IAmb_Lg		19 40 43.4	
	comp=Z,29nm,0.9s						
FVM	**French Village**	**6.09**	**70**	IAmb_Lg		19 40 47.7	
	comp=Z,31nm,0.9s						
SLM	**Saint Louis**	**6.43**	**65**	IAmb_Lg		19 40 56.6	
	comp=Z,32nm,0.9s						
CGM3	**Cape Girardeau**	**6.55**	**78**	IAmb_Lg		19 41 14.5	
	comp=Z,21nm,0.8s						
Q24A	**Divide**	**6.56**	**298**	IAmb_Lg		19 41 08.6	
	comp=Z,14nm,0.8s						
K30B	**Basset**	**6.69**	**348**	IAmb_Lg		19 41 09.2	
	comp=Z,23nm,0.9s						
BRIGG	**Briggsdale**	**6.84**	**312**	IAmb_Lg		19 41 29.7	
	comp=Z,17nm,0.8s						
S44A	**Carbondale**	**6.93**	**75**	IAmb_Lg		19 41 30.7	
	comp=Z,33nm,0.7s						
OXF	**Oxford**	**6.96**	**101**	IAmb_Lg		19 41 25.3	
	comp=Z,30nm,0.8s						
EF01	**Eagle Ford 01**	**7.02**	**185**	IAmb_Lg		19 41 20.8	
	comp=Z,24nm,0.8s						
Y45A	**Yeager Farm, C**	**7.05**	**106**	IAmb_Lg		19 41 23.2	
	comp=Z,21nm,0.7s						
DRIO	**Del Rio**	**7.14**	**201**	IAmb_Lg		19 41 30.3	
	comp=Z,13nm,0.8s						
S22A	**4UR Ranch, Cre**	**7.50**	**285**	IAmb_Lg		19 41 52.3	
	comp=Z,18nm,0.7s						
PLAL	**Pickwick Lake**	**7.91**	**96**	IAmb_Lg		19 41 50.4	
	comp=Z,13nm,0.8s						
833A	**Chaparral WMA,**	**7.93**	**191**	IAmb_Lg		19 41 53.2	
	comp=Z,18nm,1.0s						
O44A	**Mansfield**	**8.29**	**58**	IAmb_Lg		19 41 59.1	
	comp=Z,20nm,0.8s						
SUSD	**Miller**	**8.35**	**354**	IAmb_Lg		19 42 12.1	
	comp=Z,25nm,0.9s						

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*IDC **07** 19:53:29.9±5.5, 23°.14N×121°.86E, h0km, mb3.3/3, mbtmp3.3/3, MS2.8/2, Error ellipse: s-maj=396.7km s-min=29.5km az=60.0*
*JMA **07** 19:53:32.1±0.1, 23°.2N±0°.4×12°1E±°, h23km±1km, MV3.5/17, TAIWAN REGION*
*ASIES **07** 19:53:32.8, 23°.21N×121°.37E, h19km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^21 Nm; Mrr1.60; Mθθ-0.12; Mφφ-1.48; Mrθ-0.82; Mθφ-0.45; Mφr1.95; Fault plane solution: M0 2.65507×10^21 NP1: φs348.01000°, δ72.56000°, λ72.86000°. NP2: φs213.83000°, δ24.27000°, λ133.17000°. Principal axes: T Plg58.9360°, Azm234.1850°; N Plg16.3330°, Azm353.2940°; P Plg25.6350°, Azm91.3780°;*
*TAP **07** 19:53:32.8, 23°.21N×121°.37E, h19km, ML3.8, C*
ISC 07 19:53:32.4±0.8**, 23°.20N**±0°.01×**121°.46E**±0°.02**, h19**km±1km**, n141, σ0.s89**/214**, mb3.4**/3**, 9C-11D, Taiwan**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHKH	Chenggong baz=136	0.06	266	⇑iP	Pg	19 53 36.2	+0.3
CHKH	baz=136			iS	Sg	19 53 38.9	+0.6
ECBN	Changbin baz=43	0.12	355	⇑iP	Pg	19 53 37.1	+0.7
ECBN	baz=43			iS	Sg	19 53 40.5	+1.3
CHKT	Chengkung baz=181	0.13	223	⇓iP	Pg	19 53 37.1	+0.6
CHKT	baz=181			iS	Sg	19 53 40.4	+1.0
FULB	Fuli baz=258	0.15	271	⇑iP	Pg	19 53 36.7	-0.2
FULB	baz=258			S	Sg	19 53 40.2	+0.3
EYUL	Yuli baz=332	0.20	319	⇑iP	Pg	19 53 37.8	+0.3
EYUL	baz=332			iS	Sg	19 53 41.7	+0.7
TWF1	Yuli baz=328	0.22	316	⇑iP	Pg	19 53 37.7	-0.1
TWF1	baz=328			iS	Sg	19 53 41.5	+0.1
EHD	Haiduan baz=259	0.24	259	⇓iP	Pb	19 53 37.8	-0.1
EHD	baz=259			iS	Sb	19 53 41.5	0.0
ECS	Chishang baz=241	0.24	246	⇓iP	Pg	19 53 38.6	+0.5
ECS	baz=241			S	Sg	19 53 43.6	+1.5
YULB	Yu-li baz=328	0.25	322	⇓iP	Pb	19 53 38.1	0.0
YULB	baz=328			iS	Sg	19 53 42.0	-0.1
EDH	Donghe baz=190	0.27	213	P	Pg	19 53 38.7	+0.2
EDH	baz=190			eS	Sb	19 53 43.1	+0.7
HGSD	Ruisui baz=18	0.30	353	eP	Pg	19 53 39.0	0.0
HGSD	baz=18			eS	Sn	19 53 46.5	-1.2
EHY	Hungye baz=340	0.33	337	P	Pg	19 53 39.3	-0.3
EHY	baz=340			S	Sb	19 53 44.7	-0.1
ELDTW	Lidau baz=266	0.41	269	⇓iP	Pg	19 53 39.9	-1.2
ELDTW	baz=266			S	Sg	19 53 44.9	-1.9
LONT	Longtian baz=217	0.42	227	P	Pg	19 53 40.9	-0.3
LONT	baz=217			S	Sg	19 53 47.1	+0.1
EGFH	Guangfu baz=351	0.47	356	eP	Pb	19 53 42.3	+0.1
TEGC	Jichi Village baz=23	0.52	8	eP	Pg	19 53 43.0	+0.1
TWGBT	Beinan baz=226	0.52	223	⇑iP	Pg	19 53 42.0	-0.8
TWGBT	baz=226			iS	Sg	19 53 49.0	-0.9
TWG	Pinlang baz=226	0.52	224	⇑iP	Pg	19 53 42.0	-0.9
TWG	baz=226			S	Sg	19 53 49.1	-0.9
LDUT	Ludao baz=171	0.52	179	P	Pb	19 53 43.0	+0.1
LDUT	baz=171			eS	Sb	19 53 51.2	+1.2
WARBT	Fenglin Townsh baz=359	0.52	352	P	Pg	19 53 41.9	-1.2
TTN	Taitung baz=206	0.53	213	⇑iP	Pb	19 53 43.5	+0.4
TTN	baz=206			S	Sb	19 53 51.8	+1.6
SHUL	Shoufeng baz=1.0	0.60	9	eP	Pg	19 53 44.6	+0.2
SHUL	baz=1.0			eS	Sn	19 53 54.4	-0.7
ESL	Shilin baz=353	0.61	358	P	Pb	19 53 43.5	-1.1
VWDT	VWDT baz=350	0.63	332	P	Pb	19 53 44.2	-0.6
VWDT	baz=350			eS	Sb	19 53 52.4	-0.7
STYH	Taoyuan baz=265	0.63	268	eP	Pb	19 53 43.8	-1.0
STYH	baz=265			eS	Sb	19 53 51.6	-1.6
ALS	Alishan baz=292	0.68	297	⇓iP	Pb	19 53 45.2	-0.6
ALS	baz=292			S	Sb	19 53 53.5	-1.4
WHYT	Xinyi Township baz=319	0.75	312	eP	Pb	19 53 46.6	-0.3
WHYT	baz=319			eS	Sb	19 53 55.8	-1.0
SSLB	Suanglung baz=334	0.75	322	eP	Pb	19 53 46.0	-1.0
SSLB	baz=334			eS	Sb	19 53 54.8	-2.0
ECL	Taimali baz=214	0.76	218	P	Pb	19 53 45.2	-1.9
ETM	Tongmen baz=6.0	0.77	2	eP	Pb	19 53 46.1	-1.1
TPUB	Ta-pu baz=277	0.77	278	⇓iP	Pb	19 53 46.8	-0.5
TPUB	baz=277			S	Sb	19 53 56.8	-0.6
SLGT	Liugui baz=256	0.78	255	P	Pb	19 53 46.8	-0.6
SLGT	baz=256			eS	Sb	19 53 55.8	-1.7
WTP	Ta-pu baz=272	0.78	274	⇓iP	Pb	19 53 47.0	-0.4
WTP	baz=272			S	Sb	19 53 57.1	-0.6
HWA	Hwalien baz=1.0	0.79	10	eP	Pg	19 53 48.4	+0.5
HWA	baz=1.0			eS	Sn	19 54 02.0	+2.2
OWD	Renai baz=344	0.80	341	eP	Pb	19 53 46.7	-1.1
SGST	Jiashian baz=257	0.82	262	⇓iP	Pb	19 53 46.6	-1.4
SGST	baz=257			S	Sb	19 53 57.5	-1.2
LXIB	Xiulin Townshi baz=2.0	0.82	357	P	Pb	19 53 46.7	-1.5
LXIB	baz=2.0			eS	Sb	19 53 57.4	-1.6
CHN5	Tsauling baz=300	0.82	299	⇓iP	Pb	19 53 48.1	-0.1
CHN5	baz=300			S	Sb	19 53 59.0	+0.1
WCKO	Fanlu baz=287	0.82	287	eP	Pb	19 53 48.1	0.0
WCKO	baz=287			eS	Sb	19 53 59.0	+0.1
WUSB	Renai baz=342	0.85	338	P	Pb	19 53 47.6	-1.2
WUSB	baz=342			eS	Sb	19 53 58.3	-1.5
SMLT	Sun Moon Lake baz=332	0.86	323	P	Pb	19 53 48.0	-0.8
SMLT	baz=332			eS	Sb	19 53 58.9	-1.0
CHN1	Nanshi baz=268	0.86	269	⇓iP	Pb	19 53 48.7	-0.1
CHN1	baz=268			iS	Sg	19 54 00.4	-0.2
SNST	Tainan City baz=270	0.89	272	P	Pb	19 53 49.0	-0.2
SNST	baz=270			S	Sg	19 54 01.4	-0.2
TWD	Chiawan baz=360	0.89	8	eP	Pb	19 53 49.3	+0.1
TWD	baz=360			eS	Sn	19 54 02.7	+0.4
TYC	Yuchr baz=336	0.90	322	P	Pb	19 53 48.8	-0.6
TYC	baz=336			eS	Sg	19 54 01.9	+0.1
TSMG	Majia baz=236	0.90	237	eP	Pb	19 53 48.4	-1.0
TWK	Hsinying baz=273	0.90	275	P	Pb	19 53 49.2	-0.3
TWK	baz=273			eS	Sb	19 54 01.3	+0.2
CHGB	Renai baz=347	0.90	343	eP	Pb	19 53 48.6	-1.0
CHGB	baz=347			eS	Sb	19 54 01.1	-0.2
WJS	Zhushan baz=325	0.92	313	eP	Pg	19 53 50.3	-0.1
WJS	baz=325			eS	Sn	19 54 02.8	-0.3
SCST	Cishan baz=248	0.94	251	P	Pb	19 53 50.5	+0.3
SCST	baz=248			eS	Sg	19 54 03.0	-0.3
WGK	Gukeng baz=302	0.96	301	eP	Pn	19 53 50.9	0.0
WGK	baz=302			eS	Sg	19 54 03.5	-0.3
MASBT	Mashibuluo baz=229	0.96	233	eP	Pb	19 53 49.1	-1.4
MASBT	baz=229			eS	Sb	19 54 00.6	-2.2
WHF	Hehuan Shan baz=5.0	0.96	349	eP	Pb	19 53 50.1	-0.7
WHF	baz=5.0			eS	Sn	19 54 04.4	-0.4
ETL	Fush Village	0.97	9	eP	Pb	19 53 50.0	-0.7
ETL				eS	Sn	19 54 05.7	+1.3
WDLH	Douliu baz=301	0.98	300	eP	Pg	19 53 51.6	0.0
WDLH	baz=301			S	Sn	19 54 05.6	+1.0
NACB	Ninganchiao baz=10.0	0.98	7	P	Pb	19 53 49.1	-1.7
NACB	baz=10.0			eS	Sb	19 54 03.9	+0.5
TAW	Tawu baz=211	0.98	212	eP	Pb	19 53 48.8	-2.0
WNT	Mingjian baz=315	0.98	314	eP	Pn	19 53 51.3	+0.1
WNT	baz=315			eS	Sn	19 54 04.7	0.0
EAST	Anshuo baz=214	0.99	215	⇑iP	Pb	19 53 49.1	-1.9
WCS	Beigang Elemen baz=338	0.99	330	eP	Pb	19 53 50.6	-0.5
CHY	Chiayi baz=278	1.00	288	eP	Pb	19 53 50.9	-0.3
CHY	baz=278			S	Sb	19 54 04.3	+0.4
TAWH	Dawu Township baz=211	1.00	212	eP	Pb	19 53 49.3	-1.9
ETLH	Xiulin Townshi baz=2.0	1.01	1	eP	Pb	19 53 49.6	-1.7
SGLT	Jiouru baz=240	1.01	243	eP	Pn	19 53 51.9	+0.3
CHN3	Shinhua baz=263	1.02	263	eP	Pg	19 53 52.8	+0.5
TWM1	Shoushan baz=248	1.03	249	P	Pb	19 53 51.7	+0.1
SHHT	Tainan City baz=259	1.04	261	eP	Pg	19 53 53.2	+0.6
SHHT	baz=259			eS	Sg	19 54 08.3	+1.9
SSHA	Shanhua baz=274	1.08	267	eP	Pg	19 53 53.5	0.0
SSHA	baz=274			eS	Sg	19 54 09.6	+1.9
TWT	Tachien baz=347	1.08	346	eP	Pb	19 53 52.0	-0.7
TDCB	Techi baz=346	1.09	345	eP	Pb	19 53 52.5	-0.3
ICHU	Yijhu baz=278	1.10	279	eP	Pb	19 53 52.9	0.0
ICHU	baz=278			eS	Sg	19 54 08.0	-0.3
WTK	Tuku baz=297	1.10	297	eP	Pn	19 53 53.0	+0.1
WTK	baz=297			eS	Sg	19 54 07.8	-0.4
SNJT	Kaohsiung City baz=248	1.13	247	eP	Pg	19 53 54.9	+0.5
SCZT	Fangliau baz=218	1.13	224	eP	Pn	19 53 52.0	-1.2
EAHA	Aohua baz=359	1.16	13	eP	Pn	19 53 53.1	-0.5
CHN8	Yiju baz=278	1.16	278	eP	Pn	19 53 53.7	+0.1
SCLT	Jiali baz=269	1.17	269	eP	Pn	19 53 54.0	+0.3
WHP	Taichung City baz=343	1.18	336	eP	Pg	19 53 54.9	-0.3
WSL	Shuilin Townsh baz=286	1.18	286	eP	Pn	19 53 53.7	-0.3
WSL	baz=286			eS	Sg	19 54 10.6	-0.2
LYUB	Lan-yu baz=161	1.19	175	eP	Pn	19 53 51.5	-2.6
WCHH	Zhanghua baz=317	1.21	317	eP	Pn	19 53 54.5	+0.2
WCHH	baz=317			eS	Sn	19 54 10.7	+0.5
EOS4	EOS4 baz=43	1.21	40	eP	Pn	19 53 53.2	-0.8
EOS4	baz=43			eS	Sb	19 54 08.4	-1.2
WRL	Guolierlin Hig baz=305	1.22	305	P	Pn	19 53 54.7	+0.3
WRL	baz=305			eS	Sn	19 54 10.6	+0.2
WSF	Szhu baz=291	1.22	291	eP	Pn	19 53 54.4	-0.1
WSF	baz=291			S	Sn	19 54 10.6	+0.1
NNSB	Datong baz=8.0	1.23	357	eP	Pn	19 53 53.7	-1.1
WSSB	Gushan baz=244	1.24	244	eP	Pg	19 53 56.3	-0.1
WSSB	baz=244			eS	Sg	19 54 15.3	+2.7
NNS	Nan Shan baz=10.0	1.24	356	eP	Pn	19 53 54.0	-1.0
NNS	baz=10.0			eS	Sb	19 54 10.5	-0.5
ENA	Nanau baz=2.0	1.25	12	eP	Pn	19 53 53.9	-1.0
ENA	baz=2.0			eS	Sb	19 54 11.1	-0.1
TSCK	Chigu Township baz=267	1.27	268	eP	Pn	19 53 55.4	+0.2
TSCK	baz=267			eS	Sg	19 54 13.1	-0.5
EWUT	Wuta baz=360	1.28	13	eP	Pn	19 53 55.0	-0.3
TWQ1	Liyutan baz=332	1.31	331	P	Pb	19 53 56.9	+0.4
TWQ1	baz=332			S	Sg	19 54 15.3	+0.4
LATG	Datong baz=2.0	1.33	3	eP	Pn	19 53 55.2	-1.0
EOS3	EOS3 baz=31	1.34	36	eP	Pn	19 53 56.2	+0.2
HEN	Hengchun baz=202	1.36	210	eP	Pb	19 53 58.4	+1.0
WDJ	Dajia District baz=327	1.37	327	eP	Pb	19 53 58.0	+0.5
NSY	Sanyi baz=335	1.37	332	eP	Pn	19 53 56.9	+0.3
TWKBT	Hengchun baz=198	1.39	206	eP	Pn	19 53 56.7	-0.1
TSEB	Hengchuen, Pin baz=194	1.39	202	eP	Pb	19 53 59.0	+1.2
NDT	Datong Townshi baz=14	1.40	2	eP	Pb	19 53 57.7	-0.3
EOS2	EOS2 baz=39	1.41	30	eP	Pb	19 53 58.0	0.0
ESAO	Su ao	1.42	14	eP	Pb	19 53 58.5	+0.2
ENTT	Nioudou baz=5.0	1.44	4	eP	Pn	19 53 57.0	-0.6
ENTT	baz=5.0			eS	Sn	19 54 16.3	+0.4
NDS	Dongshan baz=7.0	1.45	9	eP	Pn	19 53 58.5	+0.8
TWC	Suao baz=2.0	1.45	14	eP	Pn	19 53 57.8	+0.1
NFF	Wufeng Townshi baz=347	1.46	348	eP	Pb	19 53 59.3	+0.2
YHNB	Yeheng baz=9.0	1.47	357	eP	Pn	19 53 58.0	-0.1
NSK	Sanguang baz=11	1.48	356	P	Pn	19 53 58.2	+0.1
NSK	baz=11			eS	Sb	19 54 17.4	-0.3
NSTT	Nanjuang baz=343	1.49	344	eP	Pb	19 53 59.1	-0.4
LIOB	Emei baz=343	1.50	344	eP	Pb	19 53 60.0	+0.3
TWE	Neicheng baz=8.0	1.53	7	eP	Pn	19 53 59.5	+0.8
TWE	baz=8.0			eS	Sb	19 54 19.3	+0.1
FUSB	Fushanzhiwuyua baz=16	1.56	4	eP	Pn	19 53 59.1	-0.2
NWLT	Wulai baz=14	1.57	1	eP	Pn	19 53 59.9	+0.5
WDGT	Dungji baz=273	1.66	273	eP	Pn	19 53 60.0	-0.5
NHDH	Xindian Distri baz=11	1.76	2	eP	Pb	19 54 03.4	-0.8
PHUB	P'eng-hu baz=281	1.77	281	eP	Pn	19 54 01.4	-0.6
TWA	Mucha baz=13	1.78	4	eP	Pn	19 54 02.5	+0.3
PNG	Penghu baz=282	1.79	282	eP	Pn	19 54 02.0	-0.4
TIPB	Shuangxi baz=8.0	1.80	11	eP	Pn	19 54 03.8	+1.3
JYNG	Yonagunijimaku	1.84	47	eP	Pn	19 54 03.3	+0.2
JYNG				eS	Sn	19 54 25.8	-0.2
TWB1	Santiao Chiao baz=1.0	1.87	15	eP	Pn	19 54 04.7	+1.3
VCHM	Qimei baz=271	1.87	271	eP	Pn	19 54 03.1	-0.3
TWS1	Kuangyinshan baz=13	1.90	359	eP	Pg	19 54 07.8	-1.1
YOJ	Yonaguni jima	1.90	48	P	Pn	19 54 04.1	+0.3
YOJ				eS	Sn	19 54 27.0	-0.2
SXI1	Grass Mountain baz=8.0	1.93	11	eP	Pn	19 54 05.2	+0.9
YM01	YM01 baz=359	1.94	3	eP	Pn	19 54 05.8	+1.3
HATJ	Hateruma jima	2.31	68	eS	Sn	19 54 36.2	-1.3
IRIF	Iriomote-Funau	2.37	61	P	Pn	19 54 10.5	+0.2
IRIF				eS	Sn	19 54 39.1	+0.4
JKRS	Kuro-shima	2.55	66	P	Pn	19 54 13.2	+0.4
JKRS				eS	Sn	19 54 43.6	+0.2
JIJ	Ishigaki jima	2.72	64	P	Pn	19 54 15.1	0.0
JIJ				eS	Sn	19 54 45.8	-1.6
JISG	Ishigakijimahi	2.95	61	eP	Pn	19 54 18.0	-0.3
JISG				S	Sn	19 54 51.6	-1.6
KNMB	Chin-men Tao baz=295	3.08	295	eP	Pn	19 54 19.2	-0.9
JTJ	Tarama	3.29	63	eP	Pn	19 54 24.1	+1.1
JTJ				eS	Sn	19 55 01.7	0.0
ZPLA	Ao Xicun baz=282	3.48	283	eP	Pn	19 54 25.5	-0.1
AXDP	Jialang baz=299	3.62	299	eP	Pn	19 54 26.7	-0.8
JIRB	Irabujima	3.76	64	eP	Pn	19 54 29.0	-0.4
JMJ2	Miyako jima3	3.86	66	eP	Pn	19 54 30.8	+0.1
JMJ2				eS	Sn	19 55 15.4	-0.1
JOW	Kunigami comp=Z,193nm,19.5s,baz=107,slow=34	7.16	58	LR	LR	19 57 25.7	
KSRS	Korea Array comp=Z,12nm,18.4s,baz=20,slow=40	15.26	20	LR	LR	20 03 34.7	
MKAR	Makanchi Array 0.3nm,0.7s,baz=103,slow=10,SNR=3.8 0.3nm,0.7s	39.23	317	P	P	20 01 02.3	+2.7
WRA	Warramunga Arr 0.3nm,0.5s,baz=346,slow=8.7,SNR=2.0 0.3nm,0.5s	44.68	163	P	P	20 01 42.8	-1.5
ASAR	Alice Springs 0.1nm,0.3s,baz=338,slow=7.1,SNR=7.2 0.1nm,0.3s	48.13	165	P	P	20 02 10.9	-0.4

IDC ***07*** *20:05:21.1±1.4, 47°.89S×165°.41E, h0km, mb4.0/4, mbtmp3.9/5, ML3.5/1, MS3.7/18, Error ellipse: s-maj=31.4km s-min=27.0km az=68.0*

NOU ***07*** *20:05:44.8, 46°.82S×167°.10E, h0km, MLv3.9/6, Off W. Coast of S. Island, N.Z.*

ISC 07 20:05:23.2±1.1**, 48°.0S**±0°.1×**165°.4E**±0°.1**, h10km, n37, σ1.49/12, mb4.0/4, MS3.7/17, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYZ	Puysegur Point	2.02	26	P	Pn	20 05 57.2	-0.1
SYZ	Scrubby Hill	2.92	62	P	Pn	20 06 11.1	+1.4
JCZ	Jackson Bay	4.56	32	P	Pn	20 06 34.7	+2.3
ODZ	Otahua Downs	4.66	53	P	Pn	20 06 33.4	-0.2
RPZ	Rata Peaks	5.81	45	P	Pn	20 06 48.1	-1.3
RPZ	Rata Peaks 1.2nm,0.3s,baz=220,slow=7.9,SNR=2.6	5.81	45	Pn	Pn	20 06 47.8	-1.6
RPZ	2.5nm,0.3s,baz=251,slow=22,SNR=1.3			Sn	Sn	20 07 55.2	-0.9
RPZ	comp=Z,968nm,20.5s,baz=222,slow=41 4.4nm,0.4s			LR	LR	20 09 15.1	
QRZ	Quartz Range	8.78	38	P	Pn	20 07 32.0	+1.8
URZ	Urewera comp=Z,1μm,19.4s,baz=314,slow=42	12.93	45	LR	LR	20 14 25.5	
STKA	Stephens Creek 2.7nm,1.0s,baz=126,slow=16,SNR=4.0	24.20	303	P	P	20 10 40.6	+0.8
STKA	comp=Z,125nm,19.6s,baz=145,slow=33 2.7nm,1.0s			LR	LR	20 18 30.9	
DZM	Mont Dzumac comp=Z,240nm,18.9s,baz=234,slow=33	25.87	2	LR	LR	20 19 20.4	
VNDA	Vanda comp=Z,86nm,18.8s,baz=15,slow=31	29.67	182	LR	LR	20 20 42.3	
CTA	Charters Tower comp=Z,144nm,18.6s,baz=142,slow=35	31.86	324	LR	LR	20 24 03.8	
ASAR	Alice Springs 3.3nm,1.1s,baz=142,slow=8.3,SNR=12 3.3nm,1.1s	34.84	303	P	P	20 12 12.9	-1.5
WRA	Warramunga Arr 0.9nm,0.9s,baz=141,slow=8.3,SNR=2.8 0.9nm,0.9s	37.59	307	P	P	20 12 34.9	-3.1
RAR	Rarotonga comp=Z,93nm,19.1s,baz=297,slow=35	38.64	59	LR	LR	20 27 55.0	
HNR	Honiara comp=Z,1μm,19.7s,baz=180,slow=32	38.71	351	LR	LR	20 26 16.6	
NWAO	Narrogin (SRO) comp=Z,101nm,21.1s,baz=273,slow=30	38.98	275	LR	LR	20 24 38.3	
H01W1	Cape Leeuwin H baz=126,slow=76,SNR=8.1	39.88	270	T	T	20 55 02.5	
H01W2	Cape Leeuwin H baz=126,slow=76,SNR=7.1	39.89	270	T	T	20 54 59.9	
H01W3	Cape Leeuwin H baz=126,slow=76,SNR=7.6	39.90	270	T	T	20 54 59.3	
PMG	Port Moresby comp=Z,102nm,20.1s,baz=102,slow=31	41.43	332	LR	LR	20 26 55.9	
QSPA	South Pole Qui 4.0nm,0.9s,baz=22,slow=3.5,SNR=6.7	42.13	180	P	P	20 13 15.2	-0.2
QSPA	comp=Z,61nm,19.2s,baz=26,slow=32 4.0nm,0.9s			LR	LR	20 27 55.0	
PPT	Papeete comp=Z,85nm,21.2s,baz=204,slow=32	47.52	66	LR	LR	20 30 28.4	
PMSA	Palmer Station comp=Z,56nm,21.8s,baz=232,slow=31	61.17	158	LR	LR	20 36 56.5	
LEM	Lembang comp=Z,34nm,21.7s,baz=198,slow=33	63.71	290	LR	LR	20 40 21.0	
H04S2	CROZET ISLANDS baz=139,slow=75,SNR=7.0	69.22	222	T	T	21 32 27.4	
H04S1	CROZET ISLANDS baz=139,slow=75,SNR=7.5	69.22	222	T	T	21 32 24.8	
H04S3	CROZET ISLANDS baz=139,slow=75,SNR=5.9	69.24	222	T	T	21 32 20.9	
PLCA	Paso Flores comp=Z,26nm,18.5s,baz=176,slow=30	78.71	140	LR	LR	20 44 36.3	
H08S2	Diego Garcia H baz=139,slow=76,SNR=42	86.34	263	T	T	21 52 47.1	
H08S1	Diego Carcia H baz=139,slow=76,SNR=42	86.35	263	T	T	21 52 46.4	
H08S3	Diego Garcia H baz=139,slow=76,SNR=49	86.36	263	T	T	21 52 45.8	
PALK	Pallekele comp=Z,28nm,18.4s,baz=207,slow=34	91.82	279	LR	LR	20 58 10.2	
ASAJ	Asahikawa comp=Z,52nm,19.9s,baz=87,slow=32	93.89	344	LR	LR	20 55 55.0	
BOSA	Boshof	95.77	214	LR	LR	20 56 49.3	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,26nm,20.5s,baz=193,slow=32						
CPUP	Villa Florida	96.66	142	LR	LR	20 54 27.4	
	comp=Z,29nm,20.9s,baz=212,slow=30						
BRTR	Keskin Array B	144.76	275	PKP	PKPab	20 24 60.0	+1.1
	1.4nm,0.8s,baz=108,slow=3.2,SNR=6.8						

PLV 07 20:14:18.9±1.6, 21°.39N×103°.26E, h20km±6km, ML4.0
IDC 07 20:14:20.1±0.8, 21°.29N×103°.25E, h0km, mb3.8/12, mbtmp3.8/13, ML3.5/1, MS3.4/4, Error ellipse: s-maj=19.0km s-min=16.1km az=106.0
NEIC 07 20:14:20.7±1.6, 21°.38N±0°.09×103°.37E±0°.04, h10km±5km, mb4.3/12, Error ellipse: s-maj=12.5km s-min=4.8km az=188.0
ISC 07 20:14:20.7±0.5, 21°.36N±0°.03×103°.33E±0°.02, h10km, n56, σ1s51/67, mb4.1/17, MS3.5/4, 1C-1D, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBV	Dienbien	0.28	276	*i* Pg	Pg	20 14 25.0	-1.5
DBV				*e*Sg	Sg	20 14 28.7	-1.7
DBV				IAML		20 14 29.1	
	comp=E,329µm,0.5s						
DBV				IAML		20 14 29.3	
	comp=N,424µm,0.3s						
SLVN	Son La	0.54	93	Pg	Pg	20 14 30.1	-1.2
SLVN				Sg	Sg	20 14 36.6	-1.8
SLVN	Son La	0.54	93	*i* Pg	Pg	20 14 30.4	-0.9
SLVN				IAML		20 14 42.4	
	comp=N,3µm,0.7s						
SLVN				IAML		20 14 45.8	
	comp=E,3µm,0.2s						
MLVB	It Ong	0.67	77	*i* Pg	Pg	20 14 31.9	-1.8
MLVB				IAML		20 14 43.6	
	comp=N,5µm,0.6s						
MLVB				IAML		20 14 44.1	
	comp=E,9µm,0.8s						
MLAV	Muong La stati	0.70	347	*i* Pg	Pg	20 14 32.0	-2.2
MLAV				*e*Sg	Sg	20 14 42.0	-1.3
MCVV	Moc Chau	1.35	114	*e*Pg	Pg	20 14 46.5	-0.2
MCVV				IAML		20 15 24.0	
	comp=E,357nm,0.6s						
HBVN	Hoa-Binh	1.96	105	*e*Pg	Pg	20 14 57.4	-1.0
HBVN				IAML		20 15 31.6	
	comp=E,9µm,0.3s						
BGV	Bac-Giang	2.71	91	*e*Pn	Pn	20 15 04.8	+0.5
BGV				*e*Pg	Pg	20 15 11.4	-1.2
BGV				*e*Sg	Sg	20 15 48.7	+1.0
THV	Thanh Hoa	2.75	123	*e*Pg	Pg	20 15 12.4	-0.9
THV				IAML		20 15 58.6	
	comp=N,370nm,0.6s						
CBVB	Cao Bang	2.96	64	*e*Pg	Pg	20 15 17.9	+0.5
CBVB				IAML		20 16 03.7	
	comp=E,279nm,0.7s						
CBVB				IAML		20 16 05.7	
	comp=N,280nm,0.6s						
CRAI	Chiangrai	2.98	248	Pn	Pn	20 15 06.8	-1.3
CRAI				Sn	Sn	20 15 43.4	-0.6
KMI	Kunming	3.79	352	⇓Pn	Pn	20 15 20.1	+0.7
KMI				P*	Pb	20 15 29.3	+1.5
KMI				Sn	Sn	20 16 06.9	+2.8
KMI				S*	Sg	20 16 19.4	-3.0
KMI				smax	smax		
	comp=N,140nm,1.0s						
KMI				smax	smax		
	comp=E,140nm,1.5s						
KMI				LR	LR		
	comp=N,680nm,7.4s						
KMI				LR	LR		
	comp=E,960nm,8.4s						
KMI				LR	LR		
	comp=Z,590nm,7.3s						
PHRA	Phrae	4.07	226	Pn	Pn	20 15 23.2	+0.1
CMMT	Chiang Mai	4.83	239	*e*Pn	Pn	20 15 35.2	+1.6
CMMT				*e*Pg	Pg	20 15 50.8	-2.6
CHTO	Chiang Mai	4.83	239	Pn	Pn	20 15 34.0	+0.4
CM31	Chiang Mai Arr	5.03	236		Pn	20 15 37.1	+0.7
CMAR	Chiang Mai Arr	5.03	236	Pn	Pn	20 15 37.1	+0.7
CMAR	Chiang Mai Arr	5.03	236	Pn	Pn	20 15 36.5	+0.1
	comp=Z,0.5nm,0.3s,baz=47,slow=12,SNR=31						
CMAR				Pg	Pb	20 15 51.4	+2.4
	comp=Z,1.7nm,0.3s,baz=61,slow=17,SNR=49						
CMAR				Sn	Sn	20 16 33.8	-0.8
	comp=Z,1.3nm,0.3s,baz=46,slow=16,SNR=5.6						
CMAR				Lg	Lg	20 16 57.0	
	comp=Z,1.7nm,0.3s,baz=59,slow=32,SNR=5.5						
	comp=Z,2.6nm,0.6s						
PZH	PanZhiHua	5.32	345	Pn	Pn	20 15 40.8	+0.4
PZH				P*	Pb	20 15 51.3	-2.7
PZH				Pg	Pg	20 16 00.3	-2.4
PZH				Sg	Sg	20 17 11.2	-0.5
PZH				smax	smax		
	comp=N,30nm,1.0s						
PZH				smax	smax		
	comp=E,30nm,1.2s						
TNCH	TengChong	5.74	310	Pn	Pn	20 15 46.2	0.0
TNCH				Pg	Pg	20 16 11.1	+0.5
TNCH				Sg	Sg	20 17 27.3	+2.3
TNCH				smax	smax		
	comp=N,140nm,1.0s						
TNCH				smax	smax		
	comp=E,120nm,1.2s						
TNCH				LR	LR		
	comp=N,680nm,3.4s						
TNCH				LR	LR		
	comp=E,710nm,4.4s						
TNCH				LR	LR		
	comp=Z,360nm,5.1s						
UBPT	Khong Chiam	6.38	161	Pn	Pn	20 15 56.2	+1.4
QIZ	Qiongzhong	6.54	110	Pn	Pn	20 15 56.8	-0.3
GULI	GuiLin	7.56	57	⇑P	Pb	20 16 27.6	-4.4
GULI				pP	Pg	20 16 29.6	-16
GULI				sP	Pn	20 16 31.2	+20
GULI				Pg	Pg	20 17 00.7	+15
GULI				pmax	pmax		
	comp=Z,20nm,0.8s						
GULI				pmax	pmax		
	comp=Z,710nm,3.5s						
GULI				smax	smax		
	comp=N,80nm,1.0s						
GULI				smax	smax		
	comp=E,80nm,1.1s						
GULI				LR	LR		
	comp=N,810nm,4.6s						
GULI				LR	LR		
	comp=E,440nm,5.3s						
GULI				LR	LR		
	comp=Z,1µm,3.3s						
GOMU	GeErMu	16.55	335	P	P	20 18 18.5	+2.6
GOMU				pP	sP	20 18 21.6	+1.3
GOMU				sP	pP	20 18 23.6	+4.7
YOJ	Yonaguni jima	18.39	77		Pn	20 18 34.2	-1.8
HHC	Hu-ho-hao-te	20.65	18	*e*P	Pn	20 19 02.6	-0.4
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.8s						
GSI	Gunungsitoli	20.71	196	P	P	20 18 59.2	-2.2
GSI				IAmb	IAmb	20 19 31.5	
	comp=Z,10nm,1.2s						
XLT	XiLinHaoTe	24.85	22	*e*P	P	20 19 32.6	-11
XLT				pP	pP	20 19 37.1	-10
XLT				sP	sP	20 19 39.6	-8.5
XLT				pmax	pmax		
	comp=Z,11nm,0.8s						
XLT				pmax	pmax		
	comp=Z,140nm,5.0s						
WMQ	Urumqi	25.90	333	*e*P	P	20 19 54.7	+1.8
PALK	Pallekele	25.96	241	LR	LR	20 31 14.9	
	comp=Z,18nm,20.2s,baz=124,slow=39						
TOLI2	Tolitoli	26.36	138	P	P	20 19 57.0	-0.3
TOLI2				IAmb	IAmb	20 20 35.8	
	comp=Z,21nm,1.4s						
SONM	Songino Array	26.53	5	P	P	20 20 00.0	+1.3
	comp=Z,0.7nm,0.7s,baz=180,slow=12,SNR=5.9						
	comp=Z,0.7nm,0.7s						
ULN	Ulaanbaatar	26.61	6	P	P	20 19 58.7	-0.8
KSRS	Korea Array	26.65	48	LR	LR	20 31 43.4	
	comp=Z,73nm,18.0s,baz=230,slow=39						
MK31	Makanchi Array	30.59	331	P	P	20 20 35.5	+0.8
MKAR	Makanchi Array	30.59	331	P	P	20 20 34.9	+0.1
MKAR	Makanchi Array	30.59	331	P	P	20 20 36.5	+1.8
	comp=Z,1.7nm,0.8s,baz=138,slow=9.7,SNR=16						
	comp=Z,1.7nm,0.8s						
KURBB	Kurchatov Arra	35.10	332	P	P	20 21 15.6	+1.5
	comp=Z,1.3nm,0.8s,baz=142,slow=8.7,SNR=16						
	comp=Z,1.3nm,0.8s						
KURK	Kurchatov	35.13	332	P	P	20 21 14.9	+0.6
KURK				IAmb	IAmb	20 21 16.7	
	comp=Z,2.3nm,0.7s						
ZAA0	Zalesovo Array	35.46	341	P	P	20 21 16.7	-0.4
ZAA0				IAmb	IAmb	20 21 18.9	
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	35.46	341	P	P	20 21 17.7	+0.6
ZALV	Zalesovo Beam	35.46	341	P	P	20 21 18.2	+1.1
	comp=Z,2.3nm,0.7s,baz=147,slow=8.4,SNR=12						
	comp=Z,2.3nm,0.7s						
BVAR	Borovoye Array	40.44	330	P	P	20 22 00.5	+1.3
	comp=Z,0.3nm,0.5s,baz=110,slow=13,SNR=2.4						
	comp=Z,0.3nm,0.5s						
GEYT	Alibeck	42.19	303	P	P	20 22 15.5	+1.6
	comp=Z,3.6nm,0.7s,baz=132,slow=6.6,SNR=11						
	comp=Z,3.6nm,0.7s						
ABKAR	Akbulak array	44.16	320	P	P	20 22 28.9	-0.7
WB0	Warramunga Arr	50.93	141	P	P	20 23 23.4	+0.8
WRA	Warramunga Arr	51.04	141	P	P	20 23 24.3	+0.9
	comp=Z,1.9nm,0.9s,baz=328,slow=8.2,SNR=6.8						
	comp=Z,1.9nm,0.9s						
WB2	Warramunga Arr	51.05	141	P	P	20 23 22.0	-1.4
WB2				IAmb	IAmb	20 23 51.9	
	comp=Z,10.0nm,1.4s						
ASAR	Alice Springs	53.75	145	P	P	20 23 44.7	+1.2
	comp=Z,0.5nm,0.8s,baz=334,slow=7.5,SNR=4.5						
	comp=Z,0.5nm,0.8s						
KIV	Kislovodsk	54.51	309	P	P	20 23 48.1	-0.8
ASF	Jabal al Asfar	59.47	296	LR	LR	20 55 27.8	
	comp=Z,118nm,19.3s,baz=300,slow=42						
BRTR	Keskin Array B	61.31	304	P	P	20 24 37.1	+0.3
	comp=Z,0.5nm,0.8s,baz=54,slow=2.5,SNR=2.7						
	comp=Z,0.5nm,0.8s						
AKASG	Malin Array Be	63.78	317	P	P	20 24 52.8	-0.2
	comp=Z,1.0nm,0.7s,baz=77,slow=5.9,SNR=5.0						
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	68.23	260	P	P	20 25 21.9	-0.6
	comp=Z,1.9nm,0.9s,baz=52,slow=13,SNR=4.2						
	comp=Z,1.9nm,0.9s						
ILAR	Eielson Array	78.94	24	P	P	20 26 25.8	+1.5
	comp=Z,0.1nm,0.5s,baz=288,slow=5.1,SNR=5.5						
	comp=Z,0.1nm,0.5s						
LSZ	Lusaka	82.19	250	LR	LR	20 59 30.3	
	comp=Z,34nm,19.2s,baz=352,slow=33						

CATAC 07 20:20:21.1±0.6, 8°.81N×84°.10W, h6km±6km, ML2.6
UPA 07 20:20:22.1±0.9, 8°.78N×84°.01W, h0km±5km, MW3.2
ISC 07 20:20:21.6±1.4, 8°.81N±0°.05×84°.07W±0°.05, h7km±11km, n18, σ0s83/31, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCHAL	Ojochal	0.50	56	*i* P	Pg	20 20 32.2	+0.9
OCHAL				IAML		20 20 32.3	
	comp=Z,5.4nm,1.0s						
OCHAL				*i* S	Sb	20 20 40.5	+0.1
CDM	Cerro de Muert	0.79	22	*i* P	Pg	20 20 36.8	-0.1
CDM				*i* S	Sb	20 20 49.0	-0.2
CDM				IAML		20 20 51.7	
	comp=Z,110nm,1.0s						
SRBA	San Rafael, Bu	0.81	59	*i* P	Pg	20 20 37.1	-0.1
SRBA				IAML		20 20 38.6	
	comp=Z,80nm,1.0s						
PIRO	Carate, Puerto	0.83	119	*i* P	Pg	20 20 37.4	-0.1
PIRO				*i* S	Sb	20 20 49.9	+0.2
PIRO				IAML		20 20 51.4	
	comp=Z,370nm,1.0s						
LCR2	La Lucha 2	0.93	4	*i* P	Pg	20 20 38.6	-0.8
LCR2				*i* S	Sg	20 20 52.3	+0.9
LCR2				IAML		20 20 56.1	
	comp=Z,170nm,1.0s						
POTG	Potrero Grande	0.97	76	*i* P	Pg	20 20 40.1	0.0
POTG				*i* S	Sn	20 20 55.5	-0.2
POTG				IAML		20 20 59.9	
	comp=Z,320nm,1.0s						
RIMA	Rio Macho	0.97	12	*i* P	Pg	20 20 39.3	-0.9
RIMA				IAML		20 20 40.5	
	comp=Z,82nm,1.0s						
TBLN	Tablon, Guarco	1.01	4	*i* P	Pg	20 20 39.8	-1.1
TBLN				*i* S	Sg	20 20 53.5	-0.5
TBLN				IAML		20 20 58.3	
	comp=Z,110nm,1.0s						
JACO	JACO, Garabito	1.03	325	*i* P	Pg	20 20 40.7	-0.6
JACO				IAML		20 20 48.5	
	comp=Z,85nm,1.0s						
JACO				*i* S	Sg	20 20 55.8	+1.1
OCM	Ochomogo	1.08	6	*i* P	Pg	20 20 39.9	-2.4
OCM				IAML		20 20 42.7	
	comp=Z,87nm,1.0s						
HAYA	Volcan Irazu	1.18	11	*i* P	Pg	20 20 43.2	-1.1
HAYA				*i* S	Sg	20 21 00.5	+0.9
HAYA				IAML		20 21 07.1	
	comp=Z,280nm,1.0s						
PTPM	Petroterminale	1.32	117	*e*P	Pg	20 20 46.1	-0.8
PTPM				*e*S	Sn	20 21 04.6	+0.2
BRU2	Volcan	1.36	91	*i* P	Pg	20 20 46.8	-0.9
BRU2				*e*S	Sb	20 21 05.5	+0.3
BCO2	Palmira	1.52	93	*e*P	Pn	20 20 49.2	-0.2
BCO2				*e*S	Sg	20 21 10.4	-0.2
SOCE	Pocosol	1.65	341	*i* P	Pn	20 20 52.2	+1.1
SOCE				IAML		20 20 54.8	
	comp=Z,100nm,1.0s						
CNI2	El Empalme, Bo	1.69	69	*i* P	Pn	20 20 51.4	-0.1
JTS	Las Juntas de	1.71	329	*e*P	Pb	20 20 53.4	0.0
JTS				*e*S	Sg	20 21 17.4	+0.8
CHGR2	Aguacate	1.90	86	*e*P	Pn	20 20 53.9	-0.6
CHGR2				*e*S	Sn	20 21 19.3	+0.5

TAP 07 20:25:28.8, 23°.24N×121°.26E, h24km, ML1.0, 2C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FULB	Fuli	0.05	145	P	Pb	20 25 33.2	+0.2
	baz=145						
FULB				*i* S	Sb	20 25 36.5	+0.7
	baz=145						
EHD	Haiduan	0.10	210	⇓*i*P	Pb	20 25 33.7	+0.3
	baz=210						
EHD				*e*S	Sb	20 25 37.5	+1.2
	baz=210						
TWF1	Yuli	0.12	15	⇓*i*P	Pb	20 25 33.9	+0.4
	baz=19						
TWF1				*i* S	Sb	20 25 37.4	+0.8
	baz=19						
EYUL	Yuli	0.12	26	⇑*i*P	Pb	20 25 33.9	+0.4
	baz=25						
EYUL				*e*S	Sb	20 25 37.7	+1.1
	baz=25						
YULB	Yu-li	0.16	12	⇓P	Pb	20 25 34.1	+0.2
	baz=11						
YULB				*i* S	Sb	20 25 38.2	+1.0
	baz=11						
CHKT	Chengkung	0.17	146	*i* P	Pb	20 25 34.5	+0.6
	baz=144						
CHKT				*e*S	Sb	20 25 38.5	+1.1
	baz=144						
ELDTW	Lidau	0.23	258	⇑*e*P	Pb	20 25 35.7	+0.8
	baz=256						
ELDTW				*i* S	Sb	20 25 39.9	+0.9
	baz=256						
EHY	Hungye	0.27	12	*i* P	Pb	20 25 35.8	+0.5
	baz=13						
EHY				S	Sb	20 25 41.2	+1.4
	baz=13						
LONT	Longtian	0.35	200	*e*P	Pn	20 25 37.8	-0.7
	baz=200						
STYH	Taoyuan	0.45	261	P	Pb	20 25 39.0	+0.8
	baz=262						
TPUB	Ta-pu	0.59	276	*i* P	Pb	20 25 41.0	+0.5
	baz=275						
TPUB				*e*S	Sn	20 25 49.6	-1.0
	baz=275						
WTP	Ta-pu	0.60	271	⇓*e*P	Pn	20 25 41.6	-0.3
	baz=270						
SLGT	Liugui	0.62	247	*e*P	Pb	20 25 41.1	+0.1
	baz=246						
SGST	Jiashian	0.65	256	P	Pb	20 25 41.6	+0.1
	baz=255						

IDC 07 20:29:14.1±5.7, 36°.40N×71°.12E, h78km±38km, mb3.4/5, mbtmp3.6/9, ML3.0/4, MS3.0/1, Error ellipse: s-maj=60.6km s-min=21.8km az=154.0
NNC 07 20:29:21.2±2.6, 36°.83N×71°.28E, h122km±45km, mb2.9, mpv3.5, Error ellipse: s-maj=26.1km s-min=20.7km az=128.0
ISC 07 20:29:20.3±3.0, 36°.8N±0°.2×71°.3E±0°.2, h100km, n23, σ0s67/19, mb3.6/5, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.67	18	P	Pn	20 30 43.0	+0.6
	SNR=86						
AML	Almayashu	5.67	18	⇑P	Pn	20 30 42.9	+0.4
	0.2nm,0.2s						
AML				⇓S	Sn	20 31 47.0	+0.5
	7.0nm,0.7s						
UCH	Uchtor	6.00	23	P	Pn	20 30 47.4	+0.5
	SNR=8.1						
KZA	Kyzart	6.12	28	P	Pn	20 30 48.9	+0.4
	SNR=5.2						
EKS2	Erkin-Say	6.20	17	P	Pn	20 30 50.2	+1.0
	SNR=9.4						
AAK	Ala-Archa	6.36	22	P	Pn	20 30 52.6	+1.0
	SNR=19						
KK31	Karatay Array	6.38	355	P	Pn	20 30 51.6	0.0
	5.2nm,0.3s,baz=180,slow=12,SNR=125						
KK31				⇓S	Sn	20 32 02.7	-0.3
	3.6nm,0.5s,baz=183,slow=24,SNR=6.7						
CHMS	Chumysh	6.77	22	P	Pn	20 30 57.9	+0.9
	SNR=6.5						
USP	Ospenovka	6.95	19	P	Pn	20 30 59.9	+0.5
	SNR=10						
TKM2	Tokmak 2	6.98	27	P	Pn	20 31 00.3	+0.3
	SNR=6.0						
TKM2	Tokmak 2	6.98	27	⇓P	Pn	20 31 00.2	+0.2
	2.3nm,0.5s						
TKM2				⇓S	Sn	20 32 18.1	+0.2
	2.2nm,0.8s						
GEYT	Alibeck	10.59	280	P	Pn	20 31 43.3	-5.8
	0.4nm,0.3s,baz=90,slow=4.3,SNR=2.2						
GEYT				S	Sn	20 33 34.5	-11
	1.2nm,0.2s,baz=113,slow=24,SNR=6.3						
	0.6nm,0.3s						
MKAR	Makanchi Array	12.93	36	P	Pn	20 32 20.3	+0.2
	baz=216,slow=12,SNR=2.8						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	14.80	18	P	Pn	20 32 45.1	+0.8
	baz=206,slow=11,SNR=4.8						
KURBB				S	Sn	20 35 26.6	-0.7
	0.3nm,0.5s,baz=148,slow=12,SNR=4.3						
	0.4nm,0.6s						
AB31	Akbulak array	15.00	330	⇓P	Pn	20 32 43.8	-3.0
	0.5nm,0.3s,baz=137,slow=13,SNR=48						
AKTO	Aktyubinsk	16.70	329	⇑P	Pn	20 33 08.1	+0.1
	0.3nm,0.3s						
WSAR	Wadi Sarin	17.37	223	LR	LR	20 40 31.1	
	comp=Z,57nm,20.8s,baz=341,slow=40						
ZALV	Zalesovo Beam	19.57	24	P	P	20 33 38.9	-1.2
	0.4nm,0.3s,baz=222,slow=9.9,SNR=8.2						
	1.0nm,0.5s						
FINES	FINESS Array B	37.43	326	P	P	20 36 21.7	-1.7
	3.7nm,0.9s,baz=146,slow=10,SNR=4.2						
	3.7nm,0.9s						
HFS	Hagfors	43.04	322	P	P	20 37 08.0	-1.7
	2.6nm,0.8s,baz=81,slow=9.6,SNR=1.8						
	2.6nm,0.8s						
NOA	NORSAR Array B	44.34	323	P	P	20 37 17.6	-2.6
	0.9nm,0.9s,baz=98,slow=7.2,SNR=2.3						
	0.9nm,0.9s						
TORD	Torodi Ar. Bea	65.99	269	P	P	20 39 50.4	-5.9
	0.2nm,0.4s,baz=55,slow=5.6,SNR=1.7						
	0.2nm,0.4s						
YKA	Yellowknife Ar	80.98	3	P	P	20 41 21.4	-2.0
	0.1nm,0.3s,baz=354,slow=6.5,SNR=2.1						
	0.1nm,0.3s						

EAF 07 20:36:58.3±2.1, 13°.90N×41°.03E, h0km±60km, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	Arta Tunnel	2.95	143	*e*P	Pn	20 37 40.5	-6.0
ATD				*e*S	Sn	20 38 18.3	-4.4
ATD	Arta Tunnel	2.95	143	*e*P	Pn	20 37 46.4	-0.1
ATD				*e*S	Sn	20 38 20.6	-2.0
DESE	Dese	3.08	206	*e*P	Pn	20 37 42.2	-6.3
DESE				*e*S	Sn	20 38 17.5	-8.7
DESE				*e*S	Sn	20 38 17.5	-8.7
DESE	Dese	3.08	206	*e*P	Pn	20 37 47.5	-0.9
DESE				*e*S	Sn	20 38 22.3	-3.9
WLRA	Wolmera	5.28	206	*e*P	Pn	20 38 13.4	-5.5
WLRA	Wolmera	5.28	206	*e*P	Pn	20 38 17.5	-1.4
WLRA				*e*S	Sn	20 39 17.8	-3.0
FURI	Furi	5.48	205	*e*S	Sn	20 39 17.5	-7.9
FURI	Furi	5.48	205	*e*P	Pn	20 38 20.3	-1.2
FURI				*e*S	Sn	20 39 22.0	-3.4
GRD1	Great Renaissa	6.44	245	*e*P	Pn	20 38 31.6	-2.9
GRD1				*e*S	Sn	20 39 46.2	-2.7
GRD1	Great Renaissa	6.44	245	*e*P	Pn	20 38 34.0	-0.5
GRD1				*e*S	Sn	20 39 48.1	-0.8

IDC 07 20:59:40.3±2.4, 3°.74N×127°.56E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=187.4km s-min=26.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.46	164	P	P	21 05 01.5	+0.3
	0.3nm,0.3s,baz=344,slow=9.7,SNR=7.3						
	0.3nm,0.3s						
ASAR	Alice Springs	27.94	168	P	P	21 05 32.3	-0.3
	0.2nm,0.5s,baz=356,slow=8.3,SNR=5.7						
	0.2nm,0.5s						
MKAR	Makanchi Array	58.02	325	P	P	21 09 35.0	-0.1
	0.3nm,0.5s,baz=123,slow=7.9,SNR=6.2						
	0.3nm,0.5s						

IDC 07 21:08:34.6±3.4, 38°.09N×144°.70E, h0km, mb3.2/2, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=75.4km s-min=44.3km az=56.0
JMA 07 21:08:41.6±0.2, 38°.1N±0°.9×14°4E±°, h32km, MV3.0/13, FAR E OFF NORTH HONSHU
ISC 07 21:08:40.9±1.9, 38°.2N±0°.2×144°.3E±0°.1, h35km, n6, σ1s33/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.25	274	P	Pn	21 09 15.4	-0.3
JIKH				S	Sn	21 09 40.5	-1.7
OFUJ	Ofunato	2.27	294	P	Pn	21 09 16.5	+0.6
JIO	Ouri	2.36	278	*e*P	Pn	21 09 17.6	+0.5
JIO				S	Sn	21 09 43.5	-1.3
MJAR	Matsushiro Arr	5.13	253	Pn	Pn	21 09 56.2	+0.9
	0.2nm,0.3s,baz=82,slow=14,SNR=15						
MJAR				Sn	Sn	21 10 54.7	+1.3
	baz=81,slow=36						
	2.9nm,0.7s						
MKAR	Makanchi Array	45.48	302	P	P	21 16 57.7	+1.1
	0.2nm,0.7s,baz=93,slow=8.7,SNR=2.3						
	0.2nm,0.7s						
WRA	Warramunga Arr	58.56	191	P	P	21 18 32.8	-1.3
	0.3nm,0.5s,baz=7.4,slow=6.9,SNR=1.1						
	0.3nm,0.5s						

TAP 07 21:29:58.9, 24°.77N×122°.26E, h4km±1km, ML3.2, D
JMA 07 21:29:59.4±0.1, 24°.8N±0°.9×122°.4E±0°.3, h46km±2km, MV2.6/12, TAIWAN REGION
ISC 07 21:29:58.5±1.0, 24°.77N±0°.02×122°.34E±0°.02, h12km±8km, n96, σ0s62/144, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS2	EOS2	0.36	196	*i* P	Pb	21 30 07.3	+0.6
	baz=184						
EOS2				S	Sb	21 30 13.6	+1.3
	baz=184						
EGS		0.38	282	*i* P	Pg	21 30 06.3	+0.2
	baz=283						
TWB1	Santiao Chiao	0.40	307	⇑*i*P	Pg	21 30 06.4	0.0
	baz=313						
TWB1				*i* S	Sg	21 30 11.2	-0.6
	baz=313						

TWC	**Suao**	**0.47 251**	*i* P	**Pg**	**21 30 07.8 0.0**
	baz=245				
TWC			*i* S	**Sb**	**21 30 16.5 +0.8**
	baz=245				
EOS3	**EOS3**	**0.48 182**	P	**Pb**	**21 30 09.5 +0.7**
	baz=174				
ESAO	**Su ao**	**0.49 247**	*e*P	**Pg**	**21 30 07.5 -0.6**
	baz=242				
ESAO			*e*S	**Sg**	**21 30 14.3 -0.3**
	baz=242				
TIPB	**Shuangxi**	**0.51 294**	*i* P	**Pg**	**21 30 08.8 +0.3**
	baz=296				
TIPB			*i* S	**Sb**	**21 30 16.8 0.0**
	baz=296				
SXI1	**Grass Mountain**	**0.53 308**⇑	*i*P	**Pg**	**21 30 09.3 +0.3**
	baz=312				
SXI1			*i* S	**Sg**	**21 30 16.1 0.0**
	baz=312				
ILA	**Ilan**	**0.54 270**	*e*P	**Pb**	**21 30 10.4 +0.5**
	baz=268				
ILA			S	**Sb**	**21 30 18.7 +1.1**
	baz=268				
NDS	**Dongshan**	**0.58 257**	*e*P	**Pg**	**21 30 10.2 +0.3**
	baz=254				
NDS			*e*S	**Sb**	**21 30 18.8 -0.1**
	baz=254				
NWF	**Wu-fen Shan**	**0.59 301**	*i* P	**Pb**	**21 30 10.9 +0.1**
	baz=304				
NWF			*i* S	**Sb**	**21 30 19.3 +0.1**
	baz=304				
WFSB	**Wu-fen Shan**	**0.59 301**	*i* P	**Pg**	**21 30 10.8 +0.8**
	baz=304				
WFSB			*i* S	**Sb**	**21 30 19.0 -0.1**
	baz=304				
EWUT	**Wuta**	**0.60 238**	P	**Pg**	**21 30 10.6 +0.3**
	baz=233				
EWUT			S	**Sg**	**21 30 18.3 +0.1**
	baz=233				
TWE	**Neicheng**	**0.61 266**	*i* P	**Pg**	**21 30 10.5 0.0**
	baz=263				
TWE			S	**Sb**	**21 30 19.8 0.0**
	baz=263				
JYNG	**Yonagunijimaku**	**0.64 119**	P	**Pb**	**21 30 11.9 +0.3**
JYNG			S	**Sb**	**21 30 21.4 +1.1**
ENA	**Nanau**	**0.64 238**	*i* P	**Pg**	**21 30 11.3 +0.3**
	baz=233				
ENA			*i* S	**Sb**	**21 30 19.7 -0.8**
	baz=233				
TNOU	**National Taiwa**	**0.64 307**	P	**Pg**	**21 30 11.3 +0.3**
	baz=310				
TNOU			S	**Sg**	**21 30 19.9 +0.5**
	baz=310				
EOS4	**EOS4**	**0.64 182**	P	**Pn**	**21 30 12.5 -0.6**
	baz=175				
EOS4			*e*S	**Sn**	**21 30 23.3 +0.3**
	baz=175				
YOJ	**Yonaguni jima**	**0.68 116**	P	**Pg**	**21 30 12.5 +0.7**
YOJ			*e*S	**Sb**	**21 30 22.5 +0.8**
FUSB	**Fushanzhiwuyua**	**0.68 270**	P	**Pg**	**21 30 12.0 +0.2**
	baz=268				
FUSB			S	**Sb**	**21 30 22.1 +0.3**
	baz=268				
EAHA	**Aohua**	**0.70 232**	P	**Pb**	**21 30 12.7 +0.1**
	baz=227				
EAHA			*e*S	**Sb**	**21 30 21.9 -0.2**
	baz=227				
ENTT	**Nioudou**	**0.71 260**	*i* P	**Pg**	**21 30 12.7 +0.3**
	baz=257				
ENTT			*i* S	**Sb**	**21 30 22.9 +0.2**
	baz=257				
TWA	**Mucha**	**0.72 287**	*i* P	**Pb**	**21 30 13.3 +0.3**
	baz=288				
TWA			*i* S	**Sb**	**21 30 23.0 +0.2**
	baz=288				
NWLT	**Wulai**	**0.76 271**	P	**Pg**	**21 30 13.6 +0.3**
	baz=270				
NWLT			*e*S	**Sg**	**21 30 23.1 -0.1**
	baz=270				
NHDH	**Xindian Distri**	**0.77 285**	*e*P	**Pb**	**21 30 14.4 +0.7**
	baz=285				
NHDH			*e*S	**Sb**	**21 30 24.4 +0.3**
	baz=285				
NDT	**Datong Townshi**	**0.77 258**	P	**Pg**	**21 30 13.7 +0.3**
	baz=255				
NDT			S	**Sb**	**21 30 24.9 +0.6**
	baz=255				
LATG	**Datong**	**0.77 253**	P	**Pg**	**21 30 13.8 +0.3**
	baz=250				
LATG			*e*S	**Sb**	**21 30 24.1 -0.4**
	baz=250				
YM01	**YM01**	**0.79 299**	P	**Pg**	**21 30 14.1 +0.2**
	baz=300				
YM01			S	**Sg**	**21 30 24.7 +0.4**
	baz=300				
YM08	**YM08**	**0.80 302**	P	**Pg**	**21 30 14.1 +0.1**
	baz=303				
YM08			S	**Sg**	**21 30 24.0 -0.5**
	baz=303				
TAP	**Taipei**	**0.80 290**	*i* P	**Pn**	**21 30 15.6 0.0**
	baz=291				
TAP			*i* S	**Sb**	**21 30 25.6 +0.3**
	baz=291				
TWY	**Chenhua**	**0.84 307**	*i* P	**Pg**	**21 30 15.2 +0.4**
	baz=309				
TWY			*i* S	**Sb**	**21 30 26.6 +0.3**
	baz=309				
ANP	**Anpu**	**0.85 300**	P	**Pb**	**21 30 15.6 +0.3**
	baz=301				
ANP			S	**Sb**	**21 30 27.3 +0.5**
	baz=301				
YHNB	**Yeheng**	**0.88 264**	P	**Pb**	**21 30 15.9 +0.2**
	baz=262				
YHNB			S	**Sg**	**21 30 27.0 -0.1**
	baz=262				
ETL	**Fush Village**	**0.89 227**	P	**Pb**	**21 30 16.0 +0.1**
	baz=223				
ETL			*e*S	**Sb**	**21 30 27.7 0.0**
	baz=223				
PCYT	**Pengchaiyu**	**0.89 344**	P	**Pg**	**21 30 14.8 -1.0**
	baz=348				
NSK	**Sanguang**	**0.90 264**	P	**Pg**	**21 30 16.0 +0.1**
	baz=263				
NSK			S	**Sb**	**21 30 28.0 +0.1**
	baz=263				
NACB	**Ninganchiao**	**0.90 229**	P	**Pg**	**21 30 15.9 0.0**
	baz=225				
NACB			S	**Sb**	**21 30 28.6 +0.6**
	baz=225				
NTST	**Danshui**	**0.90 296**	*e*P	**Pn**	**21 30 17.0 0.0**
	baz=297				
NTST			S	**Sb**	**21 30 28.4 +0.4**
	baz=297				
TWS1	**Kuangyinshan**	**0.90 292**	*i* P	**Pn**	**21 30 17.4 +0.4**
	baz=293				
TWS1			*i* S	**Sb**	**21 30 28.5 +0.5**
	baz=293				
NNSB	**Datong**	**0.93 249**	*e*P	**Pg**	**21 30 16.6 0.0**
	baz=246				
NNSB			*e*S	**Sn**	**21 30 29.8 -1.1**
	baz=246				
NNS	**Nan Shan**	**0.94 250**	*i* P	**Pb**	**21 30 17.1 +0.3**
	baz=247				
NNS			*i* S	**Sb**	**21 30 29.3 +0.1**
	baz=247				
ETLH	**Xiulin Townshi**	**0.96 235**	*e*P	**Pn**	**21 30 17.6 -0.3**
	baz=231				
ETLH			S	**Sn**	**21 30 30.3 -1.2**
	baz=231				
TWD	**Chiawan**	**0.96 225**	P	**Pb**	**21 30 17.1 0.0**
	baz=221				
TWD			*e*S	**Sn**	**21 30 31.4 0.0**
	baz=221				
ETM	**Tongmen**	**1.11 224**	*e*P	**Pn**	**21 30 20.0 +0.1**
	baz=221				
NFF	**Wufeng Townshi**	**1.12 263**	P	**Pn**	**21 30 20.2 +0.2**
	baz=262				
NFF			S	**Sn**	**21 30 35.7 +0.3**
	baz=262				
LXIB	**Xiulin Townshi**	**1.12 229**	P	**Pb**	**21 30 19.8 -0.1**
	baz=225				
LXIB			S	**Sn**	**21 30 35.4 -0.2**
	baz=225				
WHF	**Hehuan Shan**	**1.16 238**	P	**Pn**	**21 30 21.1 +0.2**
	baz=235				
WHF			S	**Sb**	**21 30 35.2 -0.6**
	baz=235				
TWT	**Tachien**	**1.18 245**	*e*P	**Pg**	**21 30 21.8 +0.6**
	baz=242				
TWT			S	**Sn**	**21 30 37.0 0.0**
	baz=242				
TDCB	**Techi**	**1.19 245**	P	**Pg**	**21 30 22.1 +0.6**
	baz=242				
TDCB			*e*S	**Sn**	**21 30 38.1 +0.8**
	baz=242				
SHUL	**Shoufeng**	**1.20 216**	*e*P	**Pg**	**21 30 22.9 +1.2**
	baz=213				
LIOB	**Emei**	**1.21 265**	*e*P	**Pg**	**21 30 21.9 +0.1**
	baz=263				
NSTT	**Nanjuang**	**1.22 264**	*e*P	**Pn**	**21 30 21.5 0.0**
	baz=262				
NSTT			S	**Sg**	**21 30 38.6 +0.6**
	baz=262				
ESL	**Shilin**	**1.26 221**	*e*P	**Pg**	**21 30 22.8 +0.1**
	baz=218				
CHGB	**Renai**	**1.27 237**	*e*P	**Pg**	**21 30 23.2 +0.2**
	baz=234				
CHGB			*e*S	**Sg**	**21 30 39.7 0.0**
	baz=234				
OWD	**Renai**	**1.33 233**	*e*P	**Pg**	**21 30 24.1 -0.1**
	baz=230				
IRIF	**Iriomote-Funau**	**1.34 108**	P	**Pn**	**21 30 21.7 -1.2**
IRIF			S	**Sb**	**21 30 40.9 +0.3**
WUSB	**Renai**	**1.35 236**	*e*P	**Pg**	**21 30 24.3 -0.3**
	baz=233				
WARBT	**Fenglin Townsh**	**1.36 220**	*e*P	**Pn**	**21 30 23.3 0.0**
	baz=217				
WHP	**Taichung City**	**1.36 249**	*e*P	**Pg**	**21 30 25.6 +0.9**
	baz=247				
EGFH	**Guangfu**	**1.37 217**	*e*P	**Pg**	**21 30 24.8 -0.1**
	baz=214				
WCS	**Beigang Elemen**	**1.48 242**	*e*P	**Pg**	**21 30 27.1 +0.1**
	baz=239				
VWDT	**VWDT**	**1.49 228**	*e*P	**Pg**	**21 30 26.8 -0.3**
	baz=225				
HGSD	**Ruisui**	**1.52 214**	*e*P	**Pb**	**21 30 26.6 -0.1**
	baz=211				
EHY	**Hungye**	**1.56 217**	*e*P	**Pn**	**21 30 25.7 -0.4**
	baz=214				
SMLT	**Sun Moon Lake**	**1.58 236**	*e*P	**Pg**	**21 30 29.1 +0.3**
	baz=234				
SSLB	**Suanglung**	**1.59 233**	*e*P	**Pb**	**21 30 28.4 +0.5**
	baz=230				
TYC	**Yuchr**	**1.60 238**	*e*P	**Pg**	**21 30 29.3 +0.1**
	baz=235				
JKRS	**Kuro-shima**	**1.61 109**	P	**Pn**	**21 30 26.2 -0.5**
YULB	**Yu-li**	**1.67 215**	*e*P	**Pn**	**21 30 27.5 -0.1**
	baz=212				
JIJ	**Ishigaki jima**	**1.69 103**	*e*P	**Pn**	**21 30 27.5 -0.4**
EYUL	**Yuli**	**1.69 214**	*e*P	**Pb**	**21 30 29.6 +0.1**
	baz=211				
TWF1	**Yuli**	**1.70 214**	*e*P	**Pn**	**21 30 27.8 -0.2**
	baz=211				
WHYT	**Xinyi Township**	**1.72 232**	*e*P	**Pb**	**21 30 30.6 +0.5**
	baz=230				
JISG	**Ishigakijimahi**	**1.80 95**	*e*P	**Pn**	**21 30 29.1 -0.3**
FULB	**Fuli**	**1.83 212**	*e*P	**Pn**	**21 30 30.1 +0.3**
	baz=209				
ALS	**Alishan**	**1.88 229**	*e*P	**Pb**	**21 30 32.7 -0.2**
	baz=226				
CHN5	**Tsauling**	**1.91 233**	*e*P	**Pb**	**21 30 33.8 +0.4**
	baz=231				
EHD	**Haiduan**	**1.91 213**	*e*P	**Pn**	**21 30 30.7 -0.2**
	baz=210				
WDLH	**Douliu**	**1.96 237**	*e*P	**Pb**	**21 30 33.7 -0.5**
	baz=235				
ELDTW	**Lidau**	**1.98 218**	*e*P	**Pn**	**21 30 32.4 +0.5**
	baz=215				
WCKO	**Fanlu**	**2.06 231**	*e*P	**Pb**	**21 30 36.0 +0.1**
	baz=228				
CHN4	**Tsaushan**	**2.13 229**	*e*P	**Pb**	**21 30 36.5 -0.5**
	baz=227				
STYH	**Taoyuan**	**2.14 222**	*e*P	**Pb**	**21 30 35.9 -1.3**
	baz=220				
TPUB	**Ta-pu**	**2.14 227**	*e*P	**Pb**	**21 30 36.3 -0.9**
	baz=225				
LONT	**Longtian**	**2.16 211**	*e*P	**Pn**	**21 30 35.1 +0.8**
	baz=209				
WTP	**Ta-pu**	**2.19 227**	*e*P	**Pb**	**21 30 36.6 -1.4**
	baz=224				
TWK	**Hsinying**	**2.26 229**	*e*P	**Pb**	**21 30 38.4 -0.9**
	baz=227				
SNST	**Tainan City**	**2.28 228**	*e*P	**Pb**	**21 30 38.5 -1.1**
	baz=226				
CHN1	**Nanshi**	**2.29 227**	*e*P	**Pb**	**21 30 38.8 -0.9**
	baz=225				
SGST	**Jiashian**	**2.32 224**	*e*P	**Pb**	**21 30 38.6 -1.7**
	baz=222				
SLGT	**Liugui**	**2.35 222**	*e*P	**Pb**	**21 30 39.6 -1.2**
	baz=219				
TSCK	**Chigu Township**	**2.62 232**	*e*P	**Pb**	**21 30 43.3 -2.0**
	baz=230				
MASBT	**Mashibuluo**	**2.65 216**	*e*P	**Pn**	**21 30 42.8 +1.6**
	baz=214				
EAST	**Anshuo**	**2.74 210**	*e*P	**Pb**	**21 30 45.7 -1.7**
	baz=208				
TAWH	**Dawu Township**	**2.76 209**	*e*P	**Pb**	**21 30 45.8 -1.9**
	baz=207				
PHUB	**P'eng-hu**	**2.82 244**	*e*P	**Pn**	**21 30 43.5 +0.2**
	baz=242				

*IDC **07** 21:31:28.1±1.2,24.°53N×121.°82E,h0km,mb3.7/4, mbtmp3.6/5,ML3.4/1,MS2.6/2,Error ellipse: s-maj=72.3km s-min=21.0km az=70.0*

*JMA **07** 21:31:29.5±0.1,24.°8N±0.°9×122.°4E±0.°3,h46km±2km, MV3.3/14,TAIWAN REGION*

*ASIES **07** 21:31:29.1,24.°82N×122.°30E,h13km,ML3.8,Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}0.29; $M_{\theta\theta}$7.56; $M_{\phi\phi}$-8.17; $M_{r\theta}$-1.23; $M_{\theta\phi}$0.20; $M_{\phi r}$-1.30; Fault plane solution: M_o8.07462×10^{20} NP1: ϕ_s224.16000°,δ89.31000°,λ167.14000°. NP2: ϕ_s314.31000°,δ77.15000°,λ0.71000°. Principal axes: T Plg9.5440°, Azm178.5050°; N Plg77.1310°, Azm41.1210°; P Plg8.5530°, Azm269.9530°;*

*TAP **07** 21:31:29.1,24.°82N×122.°30E,h13km,ML3.8,C*

ISC 07 21:31:28.2±1.1,24°81N±0.°02×122°37E±0.°02,h10km±8km, n122,$_{n0}$6°69/166,mb3.7/4,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGS		**0.40**	**276**	*i* P		**Pg**	**21 31 36.8**	**+0.7**
	baz=274							
TWB1	**Santiao Chiao**	**0.40**	**300**	*i* P		**Pg**	**21 31 36.6**	**+0.6**
	baz=304							
TWB1				*i* S		**Sg**	**21 31 41.5**	**+0.1**
	baz=304							
EOS2	**EOS2**	**0.40**	**198**	*i* P		**Pb**	**21 31 37.7**	**+0.3**
	baz=191							
EOS2				S		**Sb**	**21 31 44.0**	**+0.4**
	baz=191							
TWC	**Suao**	**0.51**	**248**⇓	*i*P		**Pg**	**21 31 38.2**	**0.0**
	baz=243							
EOS3	**EOS3**	**0.52**	**185**	*i* P		**Pb**	**21 31 39.8**	**+0.4**
	baz=178							
EOS3				*i* S		**Sb**	**21 31 48.3**	**+1.5**
	baz=178							
TIPB	**Shuangxi**	**0.52**	**289**	P		**Pb**	**21 31 39.7**	**+0.2**
	baz=289							
TIPB				S		**Sb**	**21 31 47.0**	**-0.2**
	baz=289							
ESAO	**Su ao**	**0.53**	**245**	P		**Pg**	**21 31 38.8**	**+0.3**
	baz=248							
ESAO				S		**Sg**	**21 31 44.5**	**-1.0**
	baz=248							
SXI1	**Grass Mountain**	**0.53**	**303**⇑	*i*P		**Pb**	**21 31 39.4**	**-0.3**
	baz=305							
SXI1				*i* S		**Sb**	**21 31 47.2**	**-0.3**
	baz=305							
ILA	**Ilan**	**0.57**	**266**	P		**Pb**	**21 31 40.0**	**-0.3**
	baz=265							
NWF	**Wu-fen Shan**	**0.60**	**297**	*i* P		**Pb**	**21 31 41.2**	**+0.4**
	baz=297							
NWF				*i* S		**Sb**	**21 31 48.9**	**-0.5**
	baz=297							
WFSB	**Wu-fen Shan**	**0.60**	**297**	*i* P		**Pb**	**21 31 41.2**	**+0.4**
	baz=298							
WFSB				*i* S		**Sb**	**21 31 49.5**	**+0.2**
	baz=298							
NDS	**Dongshan**	**0.62**	**254**	*i* P		**Pg**	**21 31 40.6**	**+0.4**
	baz=243							
NDS				S		**Sb**	**21 31 49.2**	**-0.7**
	baz=243							
JYNG	**Yonagunijimaku**	**0.63**	**124**	P		**Pb**	**21 31 42.1**	**+0.8**
JYNG				S		**Sb**	**21 31 51.7**	**+1.4**
TNOU	**National Taiwa**	**0.64**	**303**	P		**Pb**	**21 31 41.7**	**+0.2**
	baz=304							
TNOU				S		**Sb**	**21 31 50.3**	**-0.3**
	baz=304							
TWE	**Neicheng**	**0.64**	**263**	*i* P		**Pg**	**21 31 40.9**	**+0.2**
	baz=260							
TWE				*i* S		**Sb**	**21 31 50.0**	**-0.7**
	baz=260							
EWUT	**Wuta**	**0.65**	**236**	P		**Pg**	**21 31 41.0**	**+0.3**
	baz=232							
EWUT				S		**Sg**	**21 31 49.0**	**-0.2**
	baz=232							
YOJ	**Yonaguni jima**	**0.68**	**120**	P		**Pb**	**21 31 42.7**	**+0.5**
YOJ				S		**Sb**	**21 31 52.4**	**+0.8**
ENA	**Nanau**	**0.68**	**237**	*i* P		**Pg**	**21 31 41.6**	**+0.2**
	baz=232							
ENA				S		**Sg**	**21 31 49.5**	**-0.9**
	baz=232							
EOS4	**EOS4**	**0.68**	**184**	P		**Pb**	**21 31 42.8**	**+0.8**
	baz=164							
EOS4				S		**Sb**	**21 31 53.2**	**+1.8**
	baz=164							
FUSB	**Fushanzhiwuyua**	**0.71**	**267**	*i* P		**Pg**	**21 31 42.4**	**+0.4**
	baz=265							
FUSB				*i* S		**Sg**	**21 31 51.3**	**0.0**
	baz=265							
TWA	**Mucha**	**0.73**	**284**	*i* P		**Pb**	**21 31 43.4**	**+0.2**
	baz=283							
TWA				*i* S		**Sb**	**21 31 53.0**	**-0.3**
	baz=283							
EAHA	**Aohua**	**0.74**	**231**	P		**Pb**	**21 31 43.1**	**-0.2**
	baz=235							
EAHA				S		**Sb**	**21 31 53.2**	**-0.3**
	baz=235							
ENTT	**Nioudou**	**0.75**	**257**	*i* P		**Pg**	**21 31 42.8**	**+0.1**
	baz=254							
ENTT				*i* S		**Sb**	**21 31 53.4**	**-0.3**
	baz=254							
NHY	**Taipei**	**0.76**	**288**	P		**Pn**	**21 31 45.2**	**+0.1**
	baz=288							
NHY				S		**Sb**	**21 31 54.7**	**+0.7**
	baz=288							
NHDH	**Xindian Distri**	**0.78**	**282**	*i* P		**Pb**	**21 31 44.4**	**+0.5**
	baz=281							
NHDH				*i* S		**Sb**	**21 31 54.6**	**-0.1**
	baz=281							
NWLT	**Wulai**	**0.79**	**268**	P		**Pb**	**21 31 44.0**	**-0.1**
	baz=266							
NWLT				S		**Sg**	**21 31 54.2**	**+0.5**
	baz=266							
YM01	**YM01**	**0.80**	**295**	*i* P		**Pb**	**21 31 44.4**	**+0.1**
	baz=296							
YM01				*i* S		**Sb**	**21 31 54.9**	**-0.3**
	baz=296							
YM08	**YM08**	**0.80**	**299**	P		**Pg**	**21 31 44.1**	**+0.4**
	baz=299							
YM08				*i* S		**Sg**	**21 31 54.5**	**+0.3**
	baz=299							
NDT	**Datong Townshi**	**0.80**	**256**	P		**Pg**	**21 31 44.0**	**+0.3**
	baz=261							
NDT				*e*S		**Sb**	**21 31 55.6**	**+0.3**
	baz=261							
LATG	**Datong**	**0.81**	**251**	*i* P		**Pg**	**21 31 43.9**	**0.0**
	baz=248							
LATG				*i* S		**Sb**	**21 31 55.9**	**+0.3**
	baz=248							
TAP	**Taipei**	**0.82**	**287**	*i* P		**Pn**	**21 31 46.0**	**+0.1**
	baz=287							
TAP				*i* S		**Sb**	**21 31 55.9**	**+0.2**
	baz=287							
TATO	**Taipei**	**0.82**	**282**	P		**Pb**	**21 31 44.9**	**+0.3**
TWY	**Chenhua**	**0.84**	**304**	*i* P		**Pb**	**21 31 45.0**	**0.0**
	baz=305							
TWY				S		**Sb**	**21 31 56.5**	**+0.2**
	baz=305							
ANP	**Anpu**	**0.86**	**296**	P		**Pb**	**21 31 45.5**	**+0.2**
	baz=297							
ANP				*e*S		**Sg**	**21 31 55.5**	**-0.5**
	baz=297							
PCYT	**Pengchaiyu**	**0.86**	**342**	*i* P		**Pg**	**21 31 45.3**	**+0.4**
	baz=346							
NTST	**Danshui**	**0.91**	**293**	*e*P		**Pg**	**21 31 45.3**	**-0.4**
	baz=304							
NTST				S		**Sb**	**21 31 59.0**	**+0.8**
	baz=304							
TWS1	**Kuangyinshan**	**0.91**	**289**	P		**Pb**	**21 31 46.7**	**+0.5**
	baz=289							
TWS1				*i* S		**Sb**	**21 31 58.7**	**+0.3**
	baz=289							
YHNB	**Yeheng**	**0.91**	**262**	P		**Pb**	**21 31 46.7**	**+0.4**
YHNB	**Yeheng**	**0.91**	**262**	*i* P		**Pb**	**21 31 46.6**	**+0.4**
	baz=260							
YHNB				*i* S		**Sg**	**21 31 57.5**	**-0.2**
	baz=260							
NSK	**Sanguang**	**0.93**	**262**	*i* P		**Pg**	**21 31 46.4**	**+0.3**
	baz=260							
NSK				*i* S		**Sg**	**21 31 58.1**	**-0.1**
	baz=260							
ETL	**Fush Village**	**0.94**	**227**	P		**Pg**	**21 31 46.2**	**-0.1**
	baz=234							
ETL				S		**Sb**	**21 31 58.8**	**-0.3**
	baz=234							
NACB	**Ninganchiao**	**0.94**	**228**	P		**Pg**	**21 31 46.2**	**-0.2**
NACB	**Ninganchiao**	**0.94**	**228**	*i* P		**Pg**	**21 31 45.7**	**-0.7**
	baz=224							
NACB				*i* S		**Sg**	**21 31 57.9**	**-0.8**
	baz=224							
NNSB	**Datong**	**0.97**	**248**	*i* P		**Pg**	**21 31 47.1**	**+0.1**
	baz=233							
NNSB				*i* S		**Sg**	**21 31 59.6**	**0.0**
	baz=233							
NNS	**Nan Shan**	**0.98**	**248**	*i* P		**Pg**	**21 31 47.1**	**+0.1**
	baz=234							
NNS				*i* S		**Sb**	**21 32 00.1**	**-0.3**
	baz=234							
ETLH	**Xiulin Townshi**	**1.00**	**234**	*e*P		**Pg**	**21 31 47.5**	**0.0**
	baz=230							
ETLH				S		**Sg**	**21 31 59.5**	**-1.1**
	baz=230							
TWD	**Chiawan**	**1.01**	**224**	*i* P		**Pg**	**21 31 46.9**	**-0.7**
	baz=230							
TWD				S		**Sb**	**21 32 01.0**	**-0.1**
	baz=230							
HWA	**Hwalien**	**1.08**	**220**	*e*P		**Pg**	**21 31 48.8**	**-0.1**
	baz=216							
NCUH	**Zhongli**	**1.09**	**279**	*e*P		**Pn**	**21 31 50.8**	**+1.2**
	baz=279							
NFF	**Wufeng Townshi**	**1.15**	**262**	P		**Pb**	**21 31 50.5**	**+0.3**
	baz=260							
NFF				S		**Sn**	**21 32 06.2**	**-0.2**
	baz=260							
ETM	**Tongmen**	**1.16**	**224**	P		**Pg**	**21 31 50.0**	**-0.4**
	baz=220							
LXIB	**Xiulin Townshi**	**1.17**	**228**	P		**Pg**	**21 31 50.0**	**-0.7**
	baz=225							
WHF	**Hehuan Shan**	**1.20**	**237**	*i* P		**Pg**	**21 31 51.3**	**-0.1**
	baz=234							
WHF				*i* S		**Sg**	**21 32 06.3**	**-0.6**
	baz=234							
TWT	**Tachien**	**1.22**	**243**	*i* P		**Pn**	**21 31 51.9**	**+0.4**
	baz=242							
TDCB	**Techi**	**1.23**	**244**	P		**Pg**	**21 31 51.4**	**-0.5**
	baz=231							
TDCB				S		**Sn**	**21 32 09.1**	**+0.6**
	baz=231							
LIOB	**Emei**	**1.24**	**263**	*e*P		**Pb**	**21 31 52.0**	**+0.2**
	baz=282							
SHUL	**Shoufeng**	**1.25**	**216**	*e*P		**Pb**	**21 31 51.5**	**-0.4**
	baz=195							
NSTT	**Nanjuang**	**1.26**	**262**	P		**Pg**	**21 31 52.3**	**0.0**
	baz=281							
SBCB	**Hsinchu**	**1.26**	**270**	*e*P		**Pn**	**21 31 51.5**	**-0.4**
	baz=286							
SBCB				*i* S		**Sg**	**21 32 07.9**	**-0.8**
	baz=286							
HSN	**Hsinchu**	**1.27**	**270**	*e*P		**Pg**	**21 31 52.8**	**+0.1**
	baz=271							
ESL	**Shilin**	**1.30**	**221**	P		**Pg**	**21 31 53.2**	**0.0**
	baz=200							
CHGB	**Renai**	**1.32**	**236**	P		**Pn**	**21 31 53.2**	**+0.3**
	baz=233							
IRIF	**Iriomote-Funau**	**1.32**	**110**	P		**Pn**	**21 31 51.9**	**-0.9**
TEGC	**Jichi Village**	**1.33**	**215**	*e*P		**Pg**	**21 31 55.4**	**+1.7**
	baz=194							
OWD	**Renai**	**1.38**	**232**	P		**Pn**	**21 31 54.1**	**+0.4**
	baz=213							
WHP	**Taichung City**	**1.40**	**248**	P		**Pg**	**21 31 55.5**	**+0.4**
	baz=247							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WUSB	Renai	1.40	235	P	Pb	21 31 54.6	+0.1
	baz=215						
WARBT	Fenglin Townsh	1.41	220	eP	Pn	21 31 53.2	-0.7
	baz=199						
EGFH	Guangfu	1.42	217	eP	Pn	21 31 54.7	+0.6
	baz=197						
HATJ	Hateruma jima	1.51	119	P	Pn	21 31 55.0	-0.3
WCS	Beigang Elemen	1.52	241	eP	Pn	21 31 55.6	+0.1
	baz=240						
VWDT	VWDT	1.53	227	P	Pb	21 31 57.0	+0.2
	baz=208						
HGSD	Ruisui	1.57	214	eP	Pn	21 31 56.9	+0.7
	baz=196						
JKRS	Kuro-shima	1.60	110	P	Pn	21 31 56.3	-0.3
JKRS				eS	Sn	21 32 16.8	-0.5
EHY	Hungye	1.61	217	eP	Pn	21 31 55.6	-1.1
	baz=213						
SMLT	Sun Moon Lake	1.62	236	P	Pb	21 31 58.7	+0.3
	baz=216						
SSLB	Suanglung	1.64	232	P	Pb	21 31 58.9	+0.3
SSLB	Suanglung	1.64	232	P	Pn	21 31 58.0	+0.8
	baz=230						
TYC	Yuchr	1.65	237	P	Pb	21 31 59.3	+0.6
	baz=217						
JIJ	Ishigaki jima	1.67	105	P	Pn	21 31 57.0	-0.7
YULB	Yu-li	1.71	215	eP	Pn	21 31 57.9	-0.3
	baz=212						
TWF1	Yuli	1.75	214	eP	Pn	21 31 58.4	-0.3
	baz=211						
WHYT	Xinyi Township	1.77	232	eP	Pb	21 32 00.3	-0.6
	baz=214						
JISG	Ishigakijimahi	1.78	97	P	Pn	21 31 58.6	-0.5
WJS	Zhushan	1.79	237	eP	Pb	21 32 01.4	+0.3
	baz=235						
WNT	Mingjian	1.79	239	eP	Pb	21 32 01.4	+0.2
	baz=237						
FULB	Fuli	1.88	212	eP	Pn	21 32 00.5	0.0
	baz=192						
ALS	Alishan	1.92	228	eP	Pb	21 32 03.1	-0.5
	baz=208						
CHN5	Tsauling	1.96	232	eP	Pb	21 32 03.9	-0.1
	baz=230						
EHD	Haiduan	1.96	213	eP	Pn	21 32 02.4	+0.8
	baz=210						
WGK	Gukeng	1.99	236	eP	Pn	21 32 03.2	+1.2
	baz=234						
WDLH	Douliu	2.01	237	eP	Pn	21 32 03.6	+1.4
	baz=234						
WRL	Guolierlin Hig	2.03	244	eP	Pn	21 32 03.9	+1.4
	baz=243						
ELDTW	Lidau	2.03	218	eP	Pn	21 32 02.1	-0.5
	baz=201						
WCKO	Fanlu	2.11	230	eP	Pb	21 32 05.8	-0.8
	baz=228						
WTK	Tuku	2.12	239	eP	Pn	21 32 05.2	+1.4
	baz=237						
JTJ	Tarama	2.13	94	eS	Sn	21 32 29.2	-1.2
CHN4	Tsaushan	2.17	229	eP	Pb	21 32 07.0	-0.7
	baz=226						
STYH	Taoyuan	2.18	222	eP	Pn	21 32 06.2	+1.5
	baz=203						
TPUB	Ta-pu	2.18	227	P	Pb	21 32 07.2	-0.7
TPUB	Ta-pu	2.18	227	eP	Pb	21 32 07.2	-0.7
	baz=208						
CHY	Chiayi	2.20	234	eP	Pb	21 32 07.3	-0.9
	baz=231						
LONT	Longtian	2.20	211	eP	Pn	21 32 04.8	-0.1
	baz=208						
WTP	Ta-pu	2.23	226	eP	Pb	21 32 07.5	-1.2
	baz=207						
TWK	Hsinying	2.30	229	eP	Pb	21 32 08.7	-1.3
	baz=226						
TWGBT	Beinan	2.30	211	eP	Pn	21 32 07.3	+1.0
	baz=208						
TWG	Pinlang	2.31	211	eP	Pn	21 32 07.2	+0.9
	baz=208						
SNST	Tainan City	2.33	228	eP	Pb	21 32 09.2	-1.1
	baz=225						
CHN1	Nanshi	2.33	227	eP	Pb	21 32 09.1	-1.3
	baz=224						
SGST	Jiashian	2.37	224	eP	Pn	21 32 08.4	+1.2
	baz=205						
ICHU	Yijhu	2.39	233	eP	Pn	21 32 09.2	+1.8
	baz=231						
SLGT	Liugui	2.40	222	eP	Pb	21 32 10.3	-1.2
	baz=219						
ECL	Taimali	2.55	211	eP	Pn	21 32 09.2	-0.5
	baz=208						
SCST	Cishan	2.57	222	eP	Pn	21 32 11.6	+1.7
	baz=219						
MASBT	Mashibuluo	2.70	216	eP	Pn	21 32 13.2	+1.4
	baz=214						
EAST	Anshuo	2.79	210	eP	Pn	21 32 14.1	+1.1
	baz=195						
JNU	Nakatsue	11.14	40	LR	LR	21 39 20.3	
	comp=Z,44nm,19.7s,baz=262,slow=40						
KSRS	Korea Array	13.47	19	Pn	P	21 34 47.0	-1.9
	0.2nm,0.3s,baz=199,slow=11,SNR=1.8						
KSRS				LR	LR	21 40 32.7	
	comp=Z,19nm,21.2s,baz=75,slow=39						
	0.4nm,0.5s						
SONM	Songino Array	26.24	335	P	P	21 37 04.8	+1.2
	0.9nm,0.9s,baz=156,slow=9.1,SNR=5.8						
	0.9nm,0.9s						
MKAR	Makanchi Array	38.66	315	P	P	21 38 52.5	+0.5
	0.1nm,0.4s,baz=110,slow=9.3,SNR=1.4						
	0.1nm,0.4s						
WRA	Warramunga Arr	45.98	164	P	P	21 39 52.0	+0.1
	2.7nm,0.7s,baz=346,slow=8.6,SNR=15						
	2.7nm,0.7s						
ASAR	Alice Springs	49.47	166	P	P	21 40 19.3	+0.4
	0.9nm,0.7s,baz=345,slow=9.3,SNR=11						
	0.9nm,0.7s						

*IDC **07** 21:32:36.4±1.0, 29°.13N×142°.79E, h0km, mb3.7/9, mbtmp3.7/11, ML3.1/2, Error ellipse: s-maj=33.6km s-min=17.4km az=83.0*
*NIED **07** 21:32:37.7, 29°.26N×142°.84E, h44km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.81; $M_{\theta\theta}$1.87; $M_{\phi\phi}$0.94; $M_{r\theta}$1.80; $M_{\theta\phi}$-3.45; $M_{\phi r}$3.48; Fault plane solution: $M_0$5.67000×10^{14} NP1: ϕ_s167.00000°, δ66.00000°, λ-44.00000°. NP2: ϕ_s279.00000°, δ50.00000°, λ-148.00000°.*
ISC 07 21:32:37.5±0.9**, 29°.04N**±0°.07×**142°.6E**±0°.2**, h10km, n12, σ1^s.42**/13**, mb3.7**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.98	192	Pn	Pn	21 33 11.1	0.0
	10nm,0.3s,baz=94,slow=23,SNR=4.8						
JCJ				Sn	Sn	21 33 33.7	-2.3
	24nm,0.3s,baz=285,slow=23,SNR=6.4						
	65nm,0.7s						
MJAR	Matsushiro Arr	8.35	335	Pn	Pn	21 34 37.8	-0.9
	0.1nm,0.3s,baz=161,slow=10,SNR=22						
	1.6nm,0.6s						
KSRS	Korea Array	14.88	308	Pn	P	21 36 12.5	-1.2
	0.1nm,0.3s,baz=113,slow=13,SNR=4.1						
SONM	Songino Array	33.62	314	P	P	21 39 19.7	+1.5
	0.8nm,0.8s,baz=106,slow=8.5,SNR=5.4						
	0.8nm,0.8s						
ZALV	Zalesovo Beam	48.30	318	P	P	21 41 20.5	+1.7
	0.5nm,0.4s,baz=99,slow=8.0,SNR=4.0						
	0.5nm,0.4s						
WRA	Warramunga Arr	49.35	190	P	P	21 41 29.1	+1.9
	2.1nm,0.8s,baz=7.9,slow=7.9,SNR=12						
	2.1nm,0.8s						
MKAR	Makanchi Array	49.56	308	P	P	21 41 28.4	-0.3
	0.4nm,0.7s,baz=95,slow=8.6,SNR=4.9						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	51.98	313	P	P	21 41 47.0	+0.2
	1.6nm,0.5s,baz=90,slow=6.8,SNR=15						
	1.6nm,0.5s						
ASAR	Alice Springs	53.07	190	P	P	21 41 56.6	+1.4
	0.3nm,0.4s,baz=7.2,slow=5.0,SNR=4.4						
	0.3nm,0.4s						
ILAR	Eielson Array	55.82	29	P	P	21 42 13.5	-1.2
	0.2nm,0.6s,baz=270,slow=6.5,SNR=1.5						
	0.2nm,0.6s						
BVAR	Borovoye Array	56.89	317	P	P	21 42 23.0	+0.5
	1.0nm,0.4s,baz=90,slow=6.2,SNR=6.1						
	1.0nm,0.4s						
YKA	Yellowknife Ar	70.25	29	P	P	21 43 50.3	-0.3
	0.4nm,0.9s,baz=292,slow=5.2,SNR=3.9						
	0.4nm,0.9s						

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*IDC **07** 22:26:25.2±3.1, 13°.22N×143°.90E, h140km±64km, mb3.2/6, mbtmp3.6/6, MS3.3/1, Error ellipse: s-maj=147.2km s-min=16.9km az=85.0*
ISC 07 22:26:25.2±1.0**, 13°.2N**±0°.2×**143°.8E**±0°.1**, h138km, n8, σ0^s.50**/8**, mb3.5**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.09	69	P	Pn	22 26 50.3	+0.6
	107nm,0.3s,baz=202,slow=11,SNR=13						
GUMO				S	Sn	22 27 07.5	-0.8
	230nm,0.3s,baz=192,slow=23,SNR=20						
WRA	Warramunga Arr	34.23	196	P	P	22 32 57.7	-0.3
	2.2nm,0.7s,baz=17,slow=9.3,SNR=25						
	2.2nm,0.7s						
ASAR	Alice Springs	37.90	195	P	P	22 33 29.4	+0.2
	0.4nm,0.6s,baz=17,slow=13,SNR=15						
	0.4nm,0.6s						
CMAR	Chiang Mai Arr	43.41	283	LR	LR	22 52 28.0	
	comp=Z,35nm,18.1s,baz=70,slow=36						
SONM	Songino Array	46.47	326	P	P	22 34 38.7	+0.2
	0.3nm,0.4s,baz=141,slow=6.3,SNR=2.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	61.06	316	P	P	22 36 24.2	-0.4
	0.2nm,0.6s,baz=90,slow=7.8,SNR=1.9						
	0.2nm,0.6s						
ZALV	Zalesovo Beam	61.35	325	P	P	22 36 26.3	0.0
	0.3nm,0.4s,baz=124,slow=7.8,SNR=2.0						
	0.3nm,0.4s						
BVAR	Borovoye Array	69.60	322	P	P	22 37 19.3	-0.1
	0.3nm,0.3s,baz=109,slow=6.6,SNR=6.7						
	0.3nm,0.3s						

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*IDC **07** 23:09:41.5±2.6, 1°.81N×97°.04E, h0km, mb3.9/7, mbtmp3.9/7, MS3.5/3, Error ellipse: s-maj=113.4km s-min=21.8km az=56.0*
*DJA **07** 23:09:46.4±0.4, 2°N±3°×9°7E±°, h41km±14km, M4.1/10, mb4.2/2, MLv4.1/10*
ISC 07 23:09:46.0±1.5**, 1°.82N**±0°.05×**96°.98E**±0°.08**, h30km**±14km**, n33, σ0^s.79**/25**, mb4.0**/7**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.78	131	P	Pn	23 10 01.6	+0.7
GSI				S	Sn	23 10 13.4	+1.8
SNSI	Sinabang, Aceh	0.88	312	P	Pb	23 10 02.8	0.0
SNSI				S	Sb	23 10 14.1	-0.1
KCSI	Kotacane, Aceh	1.87	25	P	Pn	23 10 16.0	0.0
KCSI				S	Sn	23 10 38.8	+0.2
TRSI	Tarutung	1.98	84	P	Pn	23 10 17.4	-0.2
TRSI				S	Sn	23 10 42.0	+0.4
PBSI	Pulau Batu	2.27	145	P	Pn	23 10 21.7	+0.3
PBSI				S	Sn	23 10 48.6	+0.3
MLSI	Meulaboh, Aceh	2.50	347	P	Pn	23 10 25.3	+0.6
MLSI				S	Sn	23 10 55.6	+1.4
LHMI	Lhok Sumawe	3.39	359	P	Pn	23 10 37.0	+0.1
LHMI				S	Sn	23 11 15.5	-0.6
IPM	Ipoh	4.83	57	P	Pn	23 10 56.9	+0.3
KULM	Kulim	5.03	47	P	Pn	23 10 59.6	+0.2
	17nm,1.0s,0.1nm						
PPSI	Pulau Pagai	5.46	146	P	Pn	23 11 03.5	-1.9
SKLT	Songkhla	6.44	34	P	Pn	23 11 19.4	+0.6
CMAR	Chiang Mai Arr	16.65	7	LR	LR	23 21 03.6	
	comp=Z,28nm,18.4s,baz=190,slow=41						
H08S2	Diego Garcia H	26.18	249	T	T	23 42 29.1	
	baz=70,slow=76,SNR=175						
H08S3	Diego Garcia H	26.18	249	T	T	23 42 30.4	
	baz=70,slow=76,SNR=303						
H08S1	Diego Carcia H	26.19	249	T	T	23 42 31.5	
	baz=70,slow=76,SNR=108						
H01W3	Cape Leeuwin H	39.89	158	T	T	23 59 49.3	
	baz=333						
H01W2	Cape Leeuwin H	39.91	158	T	T	23 59 49.9	
	baz=333						
H01W1	Cape Leeuwin H	39.91	158	T	T	23 59 52.1	
	baz=333						
WRA	Warramunga Arr	42.54	122	P	P	23 17 39.2	-0.1
	0.5nm,0.6s,baz=300,slow=9.2,SNR=3.2						
	0.5nm,0.6s						
ASAR	Alice Springs	43.94	127	P	P	23 17 49.7	-0.9
	0.5nm,0.8s,baz=294,slow=7.6,SNR=2.7						
	0.5nm,0.8s						
SONM	Songino Array	46.56	9	P	P	23 18 10.5	-0.6
	0.6nm,0.3s,baz=190,slow=7.8,SNR=9.9						
	0.6nm,0.3s						
MKAR	Makanchi Array	46.60	346	P	P	23 18 12.1	+0.8
	0.8nm,0.4s,baz=161,slow=8.8,SNR=27						
	0.8nm,0.4s						
KURBB	Kurchatov Arra	51.09	345	P	P	23 18 45.8	+0.2
	1.5nm,0.6s,baz=166,slow=7.0,SNR=12						
	1.5nm,0.6s						
ZALV	Zalesovo Beam	52.92	351	P	P	23 18 59.5	+0.3
	5.6nm,0.6s,baz=176,slow=7.0,SNR=28						
	5.6nm,0.6s						
BVAR	Borovoye Array	55.60	341	P	P	23 19 18.3	-0.5
	1.6nm,0.7s,baz=145,slow=7.4,SNR=13						
	1.6nm,0.7s						
H04N2	CROZET ISLANDS	62.16	214	T	T	00 27 38.7	
	baz=54,slow=75,SNR=800						
H04N1	CROZET ISLANDS	62.17	214	T	T	00 27 37.9	
	baz=54,slow=75,SNR=639						
H04N3	CROZET ISLANDS	62.18	214	T	T	00 27 37.9	
	baz=54,slow=75,SNR=1028						
H04S1	CROZET ISLANDS	62.50	213	T	T	00 28 00.9	
	baz=53,slow=75,SNR=65						
H04S3	CROZET ISLANDS	62.52	213	T	T	00 28 00.2	
	baz=53,slow=75,SNR=112						
H04S2	CROZET ISLANDS	62.52	213	T	T	00 28 01.6	
	baz=53,slow=75,SNR=64						
GERES	GERESS Array B	84.21	319	LR	LR	00 04 59.4	
	comp=Z,57nm,18.1s,baz=300,slow=39						
QSPA	South Pole Qui	91.75	180	LR	LR	23 56 22.4	
	comp=Z,56nm,20.6s,baz=68,slow=30						

IDC 07 23:33:08.6±4.0**, 24°.06N**×**143°.24E, h0km, mb3.7**/3**, mbtmp3.7**/4**, ML2.8**/1**, Error ellipse: s-maj=217.6km s-min=39.6km az=82.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	13.18	342	Pn	Pn	23 36 16.7	-0.4
	baz=163,slow=13,SNR=2.4						
	0.6nm,0.2s						
WRA	Warramunga Arr	44.59	192	P	P	23 41 22.4	-0.3
	0.4nm,0.3s,baz=13,slow=8.4,SNR=14						
	0.4nm,0.3s						
ASAR	Alice Springs	48.30	191	P	P	23 41 51.8	-0.1
	0.4nm,0.9s,baz=15,slow=7.1,SNR=2.9						
	0.4nm,0.9s						
STKA	Stephens Creek	55.64	182	P	P	23 42 46.5	0.0
	1.1nm,0.6s,baz=349,slow=5.2,SNR=2.9						
	1.1nm,0.6s						

IDC 07 23:44:12.4±2.1**, 0°.94N**×**125°.33E, h0km, mb3.1**/3**, mbtmp3.2**/3**, Error ellipse: s-maj=208.7km s-min=27.0km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.55	157	P	P	23 49 13.8	-0.5
	0.3nm,0.3s,baz=335,slow=11,SNR=13						
	0.3nm,0.3s						
ASAR	Alice Springs	25.84	162	P	P	23 49 46.2	+0.5
	0.1nm,0.4s,baz=344,slow=12,SNR=4.8						
	0.1nm,0.4s						
MKAR	Makanchi Array	59.07	327	P	P	23 54 14.4	-0.1
	0.1nm,0.4s,baz=114,slow=7.6,SNR=4.0						
	0.1nm,0.4s						

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*TRN **07** 23:45:20.8, 18°.87N×65°.04W, h76km*
*RSPR **07** 23:45:23.2, 18°.97N×64°.96W, h17km±3km, MD3.7/15*
*NEIC **07** 23:45:23.8±0.8, 18°.8N±0°.1×64°.97W±0°.02, h35km±2km, mb4.2/44, ML3.9/32, Error ellipse: s-maj=23.4km s-min=3.1km az=3.0*
ISC 07 23:45:21.7±1.1**, 17°.46N**±0°.06×**65°.06W**±0°.02**, h19km**±3km**, n111, σ2^s.71**/110**, mb4.3**/20**, 4C-10D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGPR	InterUniversit	1.12	297	⇓iP	Pg	23 45 46.2	+2.8
IGPR	InterUniversit	1.12	297	eS	Sg	23 46 04.8	+6.6
SJG	San Juan	1.23	302	⇓iP	Pg	23 45 45.1	-0.3
SJG	San Juan	1.23	302		Pg	23 45 45.3	-0.2
SJG				Sn	Sg	23 46 02.0	+0.4
SJG	San Juan	1.23	302	eP	Pg	23 45 45.1	-0.3
SJG				eS	Sg	23 46 01.4	-0.2
GCPR	Guaynabo City	1.29	311	⇓iP	Pn	23 45 42.8	-1.9
GCPR	Guaynabo City	1.29	311	eS	Sn	23 45 57.9	-3.6
GCPR	Guaynabo City	1.29	311	Pn	Pn	23 45 42.8	-1.9
CELP	Cerrillos	1.57	293	⇓iP	Pg	23 45 50.7	-1.4
CELP	Cerrillos	1.57	293	eS	Sg	23 46 11.4	-1.3
CELP	Cerrillos	1.57	293	Pn	Pb	23 45 50.5	+0.3
CELP				Sn	Sg	23 46 11.8	-0.9
OBIP	Obispado Ponce	1.59	292	⇓iP	Pg	23 45 51.2	-1.1
OBIP	Obispado Ponce	1.59	292	eS	Sg	23 46 12.6	-0.4
OBIP	Obispado Ponce	1.59	292	Pn	Pg	23 45 50.9	-1.4
OBIP				IAML		23 46 14.2	
	comp=E,858nm,0.4s						
OBIP				IAML		23 46 14.2	
	comp=N,669nm,0.5s						
SABA	Saba	1.74	85	⇓eP	Pg	23 45 55.1	0.0
SABA	Saba	1.74	85	eS	Sg	23 46 19.7	+2.0
SABA	Saba	1.74	85	Pn	Pg	23 45 54.9	-0.2
SABA				IAML		23 46 30.4	
	comp=N,722nm,0.4s						
SABA				IAML		23 46 34.0	
	comp=E,862nm,0.5s						
GBPR	Guanica, Bosqu	1.81	287	⇑eP	Pg	23 45 55.6	-0.9
AOPR	Arecibo Observ	1.84	299	⇑eP	Pn	23 45 51.1	-1.1
AOPR	Arecibo Observ	1.84	299	eS	Sn	23 46 11.8	-3.3
AOPR	Arecibo Observ	1.84	299	Pn	Pn	23 45 51.2	-1.1
AOPR				IAML		23 46 20.6	
	comp=N,1µm,0.4s						
AOPR	Arecibo Observ	1.84	299	eP	Pn	23 45 51.1	-1.1
MLPR	Magueyes Islan	1.96	285	⇓eP	Pb	23 45 56.1	-0.7
MLPR	Magueyes Islan	1.96	285	eS	Sb	23 46 21.7	+0.8
MLPR	Magueyes Islan	1.96	285	Pn	Pb	23 45 55.9	-0.9
SMRT	St. Maarten	1.98	72	⇓eP	Pn	23 45 53.8	-0.3
SMRT	St. Maarten	1.98	72	eS	Sn	23 46 17.8	-0.6
SMRT	St. Maarten	1.98	72		Pn	23 45 53.7	-0.3
SMRT				Sn	Sn	23 46 18.3	-0.1
SMRT				IAML		23 46 19.3	
	comp=E,1µm,0.4s						
SMRT				IAML		23 46 24.8	
	comp=N,1µm,0.2s						
CRPR	Cabo Rojo, PR	2.03	286	⇓iP	Pb	23 45 57.6	-0.4
CRPR	Cabo Rojo, PR	2.03	286	eS	Sb	23 46 23.8	+0.9
CRPR	Cabo Rojo, PR	2.03	286	Pn	Pb	23 45 57.5	-0.4
LSP	Las Mesas	2.06	290	⇑eP	Pb	23 45 56.4	-2.1
LSP	Las Mesas	2.06	290	eS	Sb	23 46 21.7	-2.0
PRSN	Puerto Rico Se	2.13	291	⇑eP	Pn	23 45 56.8	+0.7
PRSN	Puerto Rico Se	2.13	291	eS	Sn	23 46 23.0	+1.0
PRSN	Puerto Rico Se	2.13	291	Pn	Pn	23 45 56.5	+0.4
PRSN				IAML		23 46 23.7	
	comp=N,1µm,0.3s						
PRSN				IAML		23 46 24.5	
	comp=E,912nm,0.3s						
IDE	Isla Desecheo	2.48	292	⇓eP	Pn	23 45 60.0	-1.0
IDE	Isla Desecheo	2.48	292	eS	Sn	23 46 28.6	-2.2
MBFL	Flemmings, Mon	2.81	104	eP	Pg	23 46 13.5	-2.1
MBFL				eS	Sg	23 46 52.2	+0.1
MLYT	Lee's Yard	2.84	105	eP	Pg	23 46 14.3	-1.8
MLYT				eS	Sg	23 46 53.3	+0.3
ANBD	Bethesda, Anti	3.17	97	eP	Pb	23 46 15.5	-1.9
ANBD				eS	Sb	23 46 55.6	-0.1
GDHS	Morne Mazeau,	3.37	110	Pn	Pb	23 46 21.6	+0.8
GDHS				IAML		23 47 26.5	
	comp=E,241nm,0.4s						
GDHS				IAML		23 47 43.8	
	comp=N,192nm,0.6s						
ABD	La Joyeuse, An	3.55	106	Pn	Pb	23 46 22.7	-1.2
ABD				IAML		23 47 13.8	
	comp=E,264nm,2.1s						
ABD				IAML		23 47 53.8	
	comp=N,240nm,2.4s						
ABD	La Joyeuse, An	3.55	106	eP	Pb	23 46 23.5	-0.4
ABD	La Joyeuse, An	3.55	106	eS	Sb	23 47 09.7	+3.1
CBE	Ff, Capester	3.58	112	Pn	Pb	23 46 25.2	+0.7
CBE	Ff, Capester	3.58	112	eP	Pb	23 46 26.0	+1.6
CBE	Ff, Capester	3.58	112	eS	Sg	23 47 12.8	-4.0
MAGL	Barre de l'ile	3.92	112	Pn	Pb	23 46 29.4	-0.7
GDSD	La Dsirade Is	3.99	106	Pn	Pb	23 46 28.8	-2.5
GDSD				IAML		23 47 16.2	
	comp=E,104nm,3.2s						
GDSD				IAML		23 48 07.2	
	comp=N,97nm,3.3s						
SVN	Savane Anatole	4.55	124	Pn	Pb	23 46 40.1	-0.9
SVN	Savane Anatole	4.55	124	eP	Pb	23 46 41.2	+0.1
FDF	Fort de France	4.63	125	Pn	Pb	23 46 42.4	+0.1
FDF	Fort de France	4.63	125	eP	Pb	23 46 42.9	+0.5
BIM	Bigot	4.82	127	Pn	Pb	23 46 44.7	-0.9
BIM	Bigot	4.82	127	eP	Pb	23 46 45.1	-0.5
ILAM	Ilet Lapin Mar	4.83	123	eP	Pb	23 46 43.8	-1.8
MPOM	Morne Pois Mar	5.03	126	Pn	Pb	23 46 48.1	-1.0
MPOM	Morne Pois Mar	5.03	126	eP	Pb	23 46 48.3	-0.8
SLBI	Saint Lucia, B	5.21	130	eP	Pb	23 46 51.0	-1.1
SDDR	Presa de Saban	6.11	285		Pn	23 46 50.6	-0.5
HATO	Hato, Curacao	6.47	216	Pn	Pb	23 47 13.6	0.0
AUA1	Aruba	6.87	225	Pn	Pb	23 47 14.9	-5.5
BAUV	El Baul	8.95	199	Pn	Pn	23 47 49.4	+19
BOAV	Boa Vista	15.62	163	Pn	P	23 49 14.0	+9.0
Y60A	Bolivia	20.26	327	P	P	23 49 51.0	-5.0
Y60A				IAmb	IAmb	23 49 51.8	
	comp=Z,31nm,1.0s						
456A	Hilliard	20.32	314	P	P	23 49 53.3	-3.3
257A	Skidaway Islan	20.44	318	P	P	23 49 55.0	-2.9
NHSC	New Hope	20.69	322	P	P	23 49 57.2	-3.4
X58A	Rowland	21.28	326	P	P	23 50 04.1	-2.8
255A	Hazlehurst	21.35	316	P	P	23 50 06.0	-1.8
U59A	Littleton	21.94	332	P	P	23 50 12.2	-1.8
BIRD	Birdtown, Kers	21.96	324	P	P	23 50 13.0	-1.3
W57A	Gilead	22.08	326	P	P	23 50 14.6	-1.0
W57A				IAmb	IAmb	23 50 29.3	
	comp=Z,9.8nm,1.1s						
V58A	Windy Hill, Pi	22.12	328	P	P	23 50 14.9	-1.1
V58A				IAmb	IAmb	23 50 23.2	
	comp=Z,11nm,0.9s						
JSC	Jenkinsville	22.16	322	P	P	23 50 16.2	-0.2
JSC				IAmb	IAmb	23 50 20.6	
	comp=Z,16nm,1.2s						
154A	Montrose	22.20	316	P	P	23 50 17.6	+0.7
R61A	Willards	22.66	339	P	P	23 50 17.1	-4.6
HODGE	Hodges	22.71	321	P	P	23 50 24.2	+1.8
HODGE				IAmb	IAmb	23 50 25.2	
	comp=Z,13nm,1.2s						
KMSC	Kings Mountain	22.81	324	P	P	23 50 24.9	+1.5
KMSC				IAmb	IAmb	23 50 26.7	
	comp=Z,5.9nm,0.4s						
PAULI	Pauline	22.86	322	P	P	23 50 26.0	+2.1
PAULI				IAmb	IAmb	23 50 27.7	
	comp=Z,16nm,1.2s						
GOGA	Godfrey	22.93	317	P	P	23 50 27.6	+2.9
GOGA				IAmb	IAmb	23 50 37.8	
	comp=Z,6.2nm,0.8s						
JSRW	J. Sargeant Re	23.09	333	P	P	23 50 26.6	+0.4
T57A	Hurt	23.14	330	P	P	23 50 27.1	+0.3
U56A	King	23.20	327	P	P	23 50 30.4	+3.1
V55A	Taylorsville	23.27	325	P	P	23 50 31.5	+3.5
V55A				IAmb	IAmb	23 50 40.7	
	comp=Z,9.5nm,1.1s						
152A	Waverly Hall	23.32	314	P	P	23 50 34.2	+5.6
R58B	Mineral	23.32	334	P	P	23 50 30.0	+1.4
R58B				IAmb	IAmb	23 50 30.5	
	comp=Z,5.6nm,0.3s						
RCRC	Randolf Colleg	23.50	331	P	P	23 50 33.0	+2.6
Y52A	Lilburn	23.60	317	P	P	23 50 36.5	+5.1
S57A	Dark Hollow, R	23.62	332	P	P	23 50 34.3	+2.7
S57A				IAmb	IAmb	23 50 37.8	
	comp=Z,12nm,1.1s						
BG3	Lake Jocassee	23.64	321	P	P	23 50 37.0	+5.2
BLA	Blacksburg	23.88	328	P	P	23 50 39.4	+5.3
BLA				IAmb	IAmb	23 50 40.9	
	comp=Z,7.0nm,0.7s						
V53A	Saluda	24.04	322	P	P	23 50 42.0	+6.5
V53A				IAmb	IAmb	23 50 52.1	
	comp=Z,8.6nm,1.1s						
U54A	Nelsons Funny	24.09	325	P	P	23 50 42.9	+6.8
U54A				IAmb	IAmb	23 51 02.2	
	comp=Z,12nm,1.1s						
SDMD	Soldier's Deli	24.16	337	P	P	23 50 38.9	+2.3
WUPA	West Chester U	24.19	340	P	P	23 50 39.1	+2.2
MVL	Millersville	24.50	339	P	P	23 50 42.5	+2.8
MVL				IAmb	IAmb	23 50 55.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,8.9nm,1.1s						
BRNJ	Basking Ridge	24.55	342	P	P	23 50 44.7	+4.5
X51A	Calhoun	24.56	318	P	P	23 50 50.9	+11
X51A				IAmb	IAmb	23 51 04.1	
	comp=Z,9.9nm,1.1s						
P57A	Homestead Farm	24.67	335	P	P	23 50 46.2	+5.0
P57A				IAmb	IAmb	23 51 04.0	
	comp=Z,8.9nm,1.1s						
PAL	Palisades	24.67	344	P	P	23 50 47.3	+6.0
PAL				IAmb	IAmb	23 50 58.7	
	comp=Z,9.8nm,0.9s						
WSPT	Westport, CT	24.68	345	P	P	23 50 47.4	+6.1
WSPT				IAmb	IAmb	23 50 53.1	
	comp=Z,10nm,0.9s						
LUPA	Lehigh Univers	24.72	341	P	P	23 50 46.7	+5.0
LUPA				IAmb	IAmb	23 50 50.0	
	comp=Z,5.2nm,0.9s						
TRNY	Table Rock, Ra	24.89	343	P	P	23 50 49.3	+6.1
ODNJ	Ogdensburg	24.94	343	P	P	23 50 50.5	+6.9
TZTN	Tazewell	25.07	323	P	P	23 50 56.1	+11
LRAL	Lakeview Retre	25.11	312	P	P	23 50 58.6	+13
N58A	Sunbury	25.38	339	P	P	23 50 55.8	+8.2
N58A				IAmb	IAmb	23 51 08.9	
	comp=Z,9.2nm,1.0s						
CGM3	Cape Girardeau	29.31	317	P	P	23 51 25.4	+2.4
KAN06	Argonia West S	34.92	311		pP	23 52 14.9	-2.7

*JMA **07** 23:52:52.9±0.2, 34°N±1°×13°7E±°, h365km±2km, MV4.2/33, SE OFF KII PENINSULA*

*NIED **07** 23:52:52.9, 34°.08N×136°.88E, h365km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.65; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-1.95; $M_{r\theta}$1.49; $M_{\theta\phi}$-3.95; $M_{\phi r}$-1.93; Fault plane solution: $M_0$4.98000×10^{15} NP1: ϕ_s178.00000°, δ70.00000°, λ31.00000°. NP2:ϕ_s76.00000°, δ61.00000°, λ157.00000°.*

*IDC **07** 23:52:53.5±0.6, 34°.05N×136°.86E, h364km±6km, mb3.6/25, mbtmp4.4/33 Error ellipse: s-maj=9.8km s-min=9.3km az=43.0*

*NEIC **07** 23:52:53.1±1.4, 33°.96N±0°.08×136°.85E±0°.09, h355km±7km, mb4.3/259, Error ellipse: s-maj=12.1km s-min=10.7km az=145.0*

ISC 07 23:52:52.9±0.5, **34°.04N**±0°.05×**136°.88E**±0°.05, **h359**km±4km, **n507**, σ1^s**23**/529, **mb4.3**/155, **3C-5D**, **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.33	158	P	Pn	23 53 38.9	+1.3
JIE	Ise	0.38	338	P	Pn	23 53 38.8	+0.9
JIE				eS	S	23 54 14.6	+0.5
TTO1	TONANKAI O.B.S	0.42	191	P	Pn	23 53 39.0	+1.2
JKN2	Miekihoku	0.54	292	P	Pn	23 53 38.9	+0.7
JKN2				eS	S	23 54 14.2	-0.4
JTNC	Tanabenakahech	1.08	259	P	Pn	23 53 40.6	+0.6
JTNC				eS	S	23 54 17.5	-0.3
JWY	Kouya	1.08	280	P	Pn	23 53 40.9	+0.8
JWY				eS	S	23 54 17.7	-0.2
JYTA	Yamagatataniai	1.56	356	P	Pn	23 53 43.0	+0.8
JYTA				eS	S	23 54 22.8	+1.0
JWT	Wachi	1.74	316	P	Pn	23 53 44.0	+0.7
JWT				S	S	23 54 23.2	-0.6
JYN	Shimob	2.00	43	P	Pn	23 53 46.3	+1.2
JAI	Aioi	2.03	264	P	Pn	23 53 45.8	+0.5
JAI				eS	S	23 54 27.2	-0.2
JOD2	Odawara 2	2.19	55	P	Pn	23 53 46.8	+0.4
JKG	Kaga	2.28	349	⇓P	Pn	23 53 47.4	+0.5
JKG				⇓eS	S	23 54 29.0	-1.4
JMN	Monobe	2.52	264	Pn	Pn	23 53 48.9	0.0
JMN	Monobe	2.52	264	P	Pn	23 53 49.7	+0.7
JMN	Monobe	2.52	264	P	Pn	23 53 49.6	+0.7
JMN				S	S	23 54 34.1	+0.1
JRY	Ryogami san	2.58	39	P	Pn	23 53 50.0	+0.7
JRY				eS	S	23 54 36.0	+1.2
JHJ	Hachijo jima 2	2.59	110	P	Pn	23 53 49.9	+0.4
	273nm,0.5s,baz=61,slow=19,SNR=16						
JHJ				S	S	23 54 37.4	+2.4
	153nm,0.3s,baz=244,slow=21,SNR=1.9						
JHJ2	Mitsune	2.62	110	Pn	Pn	23 53 49.0	-0.7
JHJ2	Mitsune	2.62	110	P	Pn	23 53 49.9	+0.2
MJAR	Matsushiro Arr	2.73	23	P	Pn	23 53 50.8	+0.3
	22nm,0.5s,baz=188,slow=6.6,SNR=62						
MJAR				S	S	23 54 34.8	-2.1
	14nm,0.7s,baz=180,slow=15,SNR=3.1						
MAJO	Matsushiro	2.73	23	Pn	Pn	23 53 50.3	-0.2
MAJO	Matsushiro	2.73	23	P	Pn	23 53 51.1	+0.6
MAT	Matsushiro	2.73	23	P	Pn	23 53 50.9	+0.4
MJB9	Matsu-Tunnel	2.73	23		Pn	23 53 49.9	-0.7
JAG	Ashikaga	3.18	41	P	Pn	23 53 53.5	-0.9
JAG				S	S	23 54 41.3	-2.9
JHS	Saijyo	3.25	288	⇓P	Pn	23 53 56.0	+0.8
JHS				⇓S	S	23 54 45.8	+0.4
JMM	Marumori	4.97	39	Pn	Pn	23 54 11.2	-1.2
JMM	Marumori	4.97	39	P	Pn	23 54 11.3	-1.2
JNU	Nakatsue	5.09	261	Pn	Pn	23 54 12.7	-1.3
JNU	Nakatsue	5.09	261	P	Pn	23 54 14.8	+0.8
JNU	Nakatsue	5.09	261	P	Pn	23 54 14.8	+0.8
	51nm,0.8s,baz=83,slow=8.6,SNR=18						
JNU				S	S	23 55 18.2	-1.4
	43nm,1.0s,baz=118,slow=12,SNR=4.3						
JTM	Tenmabayashi	7.52	25	Pn	Pn	23 54 40.2	-1.1
JTM	Tenmabayashi	7.52	25	P	Pn	23 54 40.6	-0.7
KSRS	Korea Array	8.04	298	P	Pn	23 54 48.6	+1.1
	110nm,0.7s,baz=111,slow=12,SNR=294						
KSAR	Wonju Array Be	8.06	297	Pn	Pn	23 54 48.5	+0.6
KS19	Wonju Array Si	8.10	298		Pn	23 54 48.5	+0.3
TJN	Taejon	8.13	289	Pn	Pn	23 54 47.7	-1.0
TJN	Taejon	8.13	289	P	Pn	23 54 49.5	+0.9
JCJ	Chichijima	8.29	145	Pn	Pn	23 54 46.7	-4.0
JCJ	Chichijima	8.29	145	S	S	23 56 11.8	-15
	88nm,0.3s,baz=287,slow=19,SNR=7.6						
INCN	Inchon	9.01	295		P	23 55 00.0	-0.8
INCN	Inchon	9.01	295	P	P	23 55 00.6	-0.2
ERM	Erimo	9.38	30		Pn	23 55 02.7	-0.6
JOW	Kunigami	10.33	228	P	P	23 55 15.2	-0.4
	38nm,0.5s,baz=23,slow=16,SNR=4.9						
USRK	Ussuriysk Ar.	10.83	341		P	23 55 20.9	0.0
USRK	Ussuriysk Ar.	10.83	341	P	P	23 55 21.0	0.0
	50nm,0.6s,baz=150,slow=11,SNR=156						
USA0B	Ussuriysk Arra	10.83	341	P	P	23 55 21.1	+0.1
ASAJ	Asahikawa	11.00	22	P	P	23 55 23.6	+0.7
	49nm,0.4s,baz=221,slow=10,SNR=29						
ASAJ				S	S	23 57 17.0	-8.4
	9.8nm,0.4s,baz=290,slow=19,SNR=2.4						
JKA	Kamikawa-asahi	11.00	22		Pn	23 55 22.2	-0.2
MDJ	Mudanjiang	11.97	334	P	P	23 55 33.6	0.0
MDJ				pmax	pmax		
	comp=Z,25nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,240nm,4.7s						
MDJ	Mudanjiang	11.97	334	P	Pn	23 55 34.2	+0.3
CN2	Changchun	13.19	321	P	P	23 55 47.6	+0.6
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	Yuzh-Sakhalins	13.65	17		Pn	23 55 54.0	+0.4
YSS	Yuzh-Sakhalins	13.65	17	P	Pn	23 55 54.9	+1.3
BNX	BinXian	13.75	331	⇓P	P	23 55 52.9	-0.3
BNX				pmax	pmax		
	comp=Z,46nm,0.8s						
BNX				pmax	pmax		
	comp=Z,160nm,5.2s						
KLR	Kul'dur	15.65	347	P	P	23 56 13.8	-0.1
	comp=Z,9.7nm,0.5s,baz=149,slow=11,SNR=9.3						
BJT	Baijiatuau	17.57	296	P	P	23 56 34.0	-0.7
BJT				IAmb	IAmb	23 56 35.7	
	comp=Z,15nm,0.7s						
HNS	HongShan	18.31	287	⇑P	P	23 56 42.3	-0.2
HNS				pmax	pmax		
	comp=Z,40nm,0.8s						
WHN	Wuhan	19.36	266	⇑P	P	23 56 53.6	-0.1
HIA	Hailar	19.82	325	P	P	23 56 59.3	+1.0
LYN	LuoYang	20.17	278	⇑P	P	23 56 59.9	-1.9
LYN				pmax	pmax		
	comp=Z,17nm,1.1s						
ENH	Enshi	23.46	268	P	P	23 57 30.7	-1.1
PETK	Petropavlovsk-	24.15	32	P	P	23 57 37.9	+0.3
PETK	Petropavlovsk-	24.15	32	P	P	23 57 38.2	+0.6
	comp=Z,6.9nm,0.8s,baz=227,slow=7.9,SNR=5.4						
	comp=Z,6.9nm,0.8s						
ULN	Ulaanbaatar	26.23	311	P	P	23 57 56.8	+0.3
ULN				IAmb	IAmb	23 57 59.5	
	comp=Z,18nm,0.8s						
SONM	Songino Array	26.64	310	P	P	23 58 00.2	+0.2
SONM				IAmb	IAmb	23 58 03.6	
	comp=Z,13nm,0.9s						
SONM	Songino Array	26.64	310	P	P	23 58 00.9	+0.9
	comp=Z,12nm,0.9s,baz=115,slow=7.3,SNR=52						
	comp=Z,12nm,0.9s						
MA2	Magadan	27.14	16	P	P	23 58 04.4	+0.3
MA2				IAmb	IAmb	23 58 05.5	
	comp=Z,14nm,0.9s						
GTA	Gaotai	30.05	291	eP	P	23 58 29.6	-0.5
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH	PanZhiHua	31.15	266	P	P	23 58 41.2	+1.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,210nm,5.1s						
GOMU	GeErMu	34.28	286	P	P	23 59 07.5	+0.5
GOMU				pmax	pmax		
	comp=Z,14nm,0.9s						
CRAI	Chiangrai	35.08	256	P	P	23 59 13.3	-0.2
PHRA	Phrae	36.10	254	P	P	23 59 21.9	-0.2
CHTO	Chiang Mai	36.97	256	P	P	23 59 28.7	-0.7
CMAR	Chiang Mai Arr	37.16	255	P	P	23 59 30.4	-0.6
CMAR	Chiang Mai Arr	37.16	255	P	P	23 59 30.8	-0.2
	comp=Z,1.6nm,0.6s,baz=52,slow=6.5,SNR=8.5						
	comp=Z,1.6nm,0.6s						
MANU	Manus Island	37.22	163	P	P	23 59 28.3	-3.1
TIXI	Tiksi	37.91	356	P	P	23 59 35.6	-0.8
BILL	Bilibino	37.97	17	P	P	23 59 37.9	+0.9
WMQ	Urumqi	38.99	299	eP	P	23 59 46.7	+0.9
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAA0	Zalesovo Array	41.31	315	P	P	00 00 04.2	-0.3
ZALV	Zalesovo Beam	41.31	315	P	P	00 00 04.2	-0.3
ZALV	Zalesovo Beam	41.31	315	P	P	00 00 04.4	0.0
	comp=Z,0.9nm,0.3s,baz=99,slow=7.7,SNR=8.1						
ZALV				PcP	PcP	00 01 53.5	-1.5
	comp=Z,1.7nm,0.5s,baz=108,slow=2.6,SNR=7.2						
ZALV				ScP	ScP	00 05 08.7	-1.3
	comp=Z,0.4nm,0.4s,baz=111,slow=3.3,SNR=4.1						
	comp=Z,0.9nm,0.3s						
MK31	Makanchi Array	42.66	304	P	P	00 00 15.4	0.0
MKAR	Makanchi Array	42.66	304	P	P	00 00 15.6	+0.1
MKAR	Makanchi Array	42.66	304	P	P	00 00 15.8	+0.3
	comp=Z,7.2nm,0.6s,baz=89,slow=10,SNR=110						
MKAR				ScP	ScP	00 05 14.3	-1.4
	comp=Z,0.2nm,0.5s,baz=86,slow=3.7,SNR=3.2						
	comp=Z,7.2nm,0.6s						
MAKZ	Makanchi	42.87	304	P	P	00 00 17.1	0.0
NRIK	Noril'sk	44.52	337	P	P	00 00 29.7	+0.1
NRIK	Noril'sk	44.52	337	P	P	00 00 29.8	+0.1
	comp=Z,2.2nm,0.5s,baz=107,slow=9.9,SNR=6.5						
	comp=Z,2.2nm,0.5s						
KURK	Kurchatov	44.95	310	P	P	00 00 33.6	+0.3
KURBB	Kurchatov Arra	45.00	310	P	P	00 00 33.5	-0.3
	comp=Z,2.0nm,0.3s,baz=90,slow=7.3,SNR=19						
	comp=Z,2.0nm,0.3s						
K13K	Kusilvak Mount	45.87	34	P	P	00 00 41.8	+1.5
K13K	Kusilvak Mount	45.87	34	P	P	00 00 41.9	+1.6
	baz=260						
F14K	Arctic Creek	45.88	29	P	P	00 00 42.4	+2.1
	baz=255						
ANM	Nome	46.06	30	P	P	00 00 43.7	+2.0
ANM	Nome	46.06	30	P	P	00 00 44.0	+2.2
	baz=257						
M13K	Dall Lake	46.28	36	P	P	00 00 44.8	+1.4
M13K	Dall Lake	46.28	36	P	P	00 00 45.0	+1.6
	baz=263						
J14K	Nanvaranak Lak	46.51	33	P	P	00 00 46.8	+1.6
J14K	Nanvaranak Lak	46.51	33	P	P	00 00 46.7	+1.6
	baz=261						
F15K	North Star Dit	46.62	29	P	P	00 00 47.4	+1.4
F15K				IAmb	IAmb	00 00 48.8	
	comp=Z,14nm,0.8s						
F15K	North Star Dit	46.62	29	P	P	00 00 47.2	+1.3
	baz=257						
L14K	Kuka Creek	46.71	35	P	P	00 00 48.1	+1.4
L14K				IAmb	IAmb	00 00 50.3	
	comp=Z,34nm,1.4s						
L14K	Kuka Creek	46.71	35	P	P	00 00 48.9	+2.2
	baz=263						
M14K	Bethel	47.00	36	P	P	00 00 50.4	+1.5
M14K				IAmb	IAmb	00 00 52.0	
	comp=Z,27nm,1.0s						
M14K	Bethel	47.00	36	P	P	00 00 50.5	+1.6
	baz=264,SNR=6.0						
C16K	Lisburne Hills	47.00	26	P	P	00 00 50.0	+1.1
C16K				IAmb	IAmb	00 00 50.8	
	comp=Z,13nm,0.8s						
C16K	Lisburne Hills	47.00	26	P	P	00 00 49.7	+0.9
	baz=254,SNR=9.3						
O14K	Tigyukauivet M	47.22	38	P	P	00 00 51.7	+1.1
O14K				IAmb	IAmb	00 01 03.3	
	comp=Z,32nm,1.5s						
K15K	Wolf Creek Mou	47.37	34	P	P	00 00 53.1	+1.3
K15K				IAmb	IAmb	00 01 33.5	
	comp=Z,24nm,1.5s						
K15K	Wolf Creek Mou	47.37	34	P	P	00 00 53.6	+1.8
	baz=263						
H16K	Elim	47.40	31	P	P	00 00 52.8	+0.9
	baz=260						
SDPT	Sand Point	47.52	43	P	P	00 00 52.1	-0.9
M15K	Kasigluk River	47.61	36	P	P	00 00 52.8	-0.8
	baz=265						
RDOG	Red Dog Mine	47.83	26	P	P	00 00 56.3	+1.1
C17K	DeLong Mountai	47.83	26	P	P	00 00 56.3	+1.1
	baz=256						
N15K	Kwethluk River	47.87	37	P	P	00 00 56.9	+1.2
	baz=266						
J16K	Anvik River	47.92	33	P	P	00 00 57.1	+1.1
J16K	Anvik River	47.92	33	P	P	00 00 57.6	+1.7
	baz=263						
O15K	Ungalikthiuk R	47.95	38	P	P	00 00 57.5	+1.3
	baz=267,SNR=5.2						
I17K	Unalakleet	47.95	32	P	P	00 00 57.7	+1.5
I17K	Unalakleet	47.95	32	P	P	00 00 57.9	+1.7
	baz=262						
E17K	Hotham Inlet	48.02	28	P	P	00 00 58.2	+1.6
	baz=258,SNR=9.3						
CHNA	Chernabura Isl	48.04	44	P	P	00 00 56.3	-0.6
	baz=272						
CNBA	Chernabura Isl	48.04	44	P	P	00 00 57.1	+0.1
CNBA				IAmb	IAmb	00 01 36.4	
	comp=Z,35nm,1.1s						
F17K	Baldwin Pennin	48.12	28	P	P	00 00 59.1	+1.7
F17K				IAmb	IAmb	00 00 59.8	
	comp=Z,16nm,1.1s						
F17K	Baldwin Pennin	48.12	28	P	P	00 00 58.7	+1.3
	baz=260						
G17K	Kiwalik Mounta	48.21	30	P	P	00 00 59.5	+1.5
	baz=261						
L16K	Owhat River	48.28	35	P	P	00 00 59.8	+1.1
H17K	Granite Mounta	48.43	31	P	P	00 01 01.1	+1.3
H17K	Granite Mounta	48.43	31	P	P	00 01 01.3	+1.5
	baz=262						
M16K	Timber Creek	48.48	36	P	P	00 01 01.3	+1.1
M16K				IAmb	IAmb	00 01 03.0	
	comp=Z,13nm,1.1s						
M16K	Timber Creek	48.48	36	P	P	00 01 01.2	+0.9
	baz=266						
B18K	Kokolik River	48.53	25	P	P	00 01 02.0	+1.6
	baz=256						
N16K	Nishlik Lake	48.54	37	P	P	00 01 02.5	+1.8
	baz=267						
E18K	Tukpahlearik C	48.55	27	P	P	00 01 02.5	+1.8
E18K				IAmb	IAmb	00 01 03.3	
	comp=Z,12nm,0.7s						
E18K	Tukpahlearik C	48.55	27	P	P	00 01 02.2	+1.5
	baz=259						
C18K	Utukok River	48.58	26	P	P	00 01 02.0	+1.0
C18K				IAmb	IAmb	00 01 02.6	
	comp=Z,13nm,0.6s						
C18K	Utukok River	48.58	26	P	P	00 01 01.8	+0.8
	baz=258						
CHGN	Chignik	48.67	42	P	P	00 01 01.6	-0.1
CHGN				IAmb	IAmb	00 01 26.8	
	comp=Z,24nm,1.1s						
O16K	Kokwok River B	48.85	38	P	P	00 01 04.4	+1.4
O16K				IAmb	IAmb	00 01 05.3	
	comp=Z,12nm,0.9s						
O16K	Kokwok River B	48.85	38	P	P	00 01 03.6	+0.6
	baz=269						
K17K	Iditarod	48.91	34	P	P	00 01 05.2	+1.8
K17K				IAmb	IAmb	00 01 06.1	
	comp=Z,12nm,0.8s						
K17K	Iditarod	48.91	34	P	P	00 01 04.9	+1.5
	baz=266						
A19K	Wainwright	48.97	24	P	P	00 01 05.7	+1.9
	baz=256						
G18K	Tagagawik	49.08	29	P	P	00 01 05.8	+1.1
G18K				IAmb	IAmb	00 01 06.8	
	comp=Z,15nm,1.1s						
G18K	Tagagawik	49.08	29	P	P	00 01 06.0	+1.4
	baz=263						
H18K	Honhosa River	49.11	30	P	P	00 01 06.2	+1.3
	baz=264						
M17K	Holitna River	49.24	35	P	P	00 01 07.4	+1.6
M17K	Holitna River	49.24	35	P	P	00 01 07.5	+1.6
	baz=268						
C19K	Lookout Ridge	49.24	25	P	P	00 01 07.6	+1.7
C19K				IAmb	IAmb	00 01 08.5	
	comp=Z,13nm,0.8s						
C19K	Lookout Ridge	49.24	25	P	P	00 01 07.5	+1.6
	baz=259						
N17K	Nushagak Hills	49.33	37	P	P	00 01 08.3	+1.7
N17K				IAmb	IAmb	00 01 09.3	
	comp=Z,14nm,1.1s						
N17K	Nushagak Hills	49.33	37	P	P	00 01 08.5	+1.9
	baz=269						
Q16K	King Salmon	49.59	39	P	P	00 01 09.9	+1.4
	baz=271						
L18K	Granite Mounta	49.63	34	P	P	00 01 10.6	+1.8
L18K	Granite Mounta	49.63	34	P	P	00 01 10.7	+1.9
	baz=268						
D19K	Kuna River	49.66	26	P	P	00 01 10.3	+1.3
D19K				IAmb	IAmb	00 01 11.2	
	comp=Z,19nm,1.1s						
D19K	Kuna River	49.66	26	P	P	00 01 10.4	+1.3
	baz=261						
J18K	Innoko River	49.68	33	P	P	00 01 09.6	+0.4
G19K	Purcell Mounta	49.75	29	P	P	00 01 10.8	+1.1
G19K	Purcell Mounta	49.75	29	P	P	00 01 10.2	+0.6
	baz=264						
R17K	Ugashik Creek	49.75	40	P	P	00 01 10.2	+0.4
E19K	Redstone River	49.84	27	P	P	00 01 11.8	+1.4
E19K	Redstone River	49.84	27	P	P	00 01 11.8	+1.4
	baz=263						
BVAR	Borovoye Array	49.90	314	P	P	00 01 11.2	+0.2
	comp=Z,1.5nm,0.6s,baz=110,slow=8.7,SNR=12						
BVAR				PcP	pP	00 02 24.9	+0.4
	comp=Z,0.7nm,0.4s,baz=48,slow=2.2,SNR=3.6						
BVAR				ScP	ScP	00 05 44.8	-1.0
	comp=Z,1.2nm,0.7s,baz=92,slow=4.5,SNR=5.7						
	comp=Z,1.5nm,0.6s						
H19K	Roundabout Mou	49.95	30	P	P	00 01 12.6	+1.5
BRVK	Borovoye	49.96	314	P	P	00 01 11.9	+0.5
TTA	Tatalina	49.97	33	P	P	00 01 12.4	+1.0
N18K	Kilae Creek	49.97	36	P	P	00 01 13.2	+1.8
SVW2	Sparrevohn	50.12	36	P	P	00 01 13.8	+1.3
J19K	Poorman	50.19	32	P	P	00 01 14.3	+1.3
J19K	Poorman	50.19	32	P	P	00 01 14.0	+1.0
	baz=267,SNR=7.1						
D20K	Etivluk River	50.24	26	P	P	00 01 14.7	+1.4
	baz=262						
B20K	Meade River	50.24	24	P	P	00 01 14.7	+1.4
B20K				IAmb	IAmb	00 01 15.4	
	comp=Z,19nm,0.9s						
B20K	Meade River	50.24	24	P	P	00 01 14.4	+1.1
	baz=261,SNR=7.7						
CHIR	Chirikof Islan	50.26	43	P	P	00 01 14.3	+0.7
P18K	Big Mountain,	50.31	38	P	P	00 01 15.2	+1.2
P18K				IAmb	IAmb	00 01 16.1	
	comp=Z,17nm,0.9s						
P18K	Big Mountain,	50.31	38	P	P	00 01 15.2	+1.2
	baz=271,SNR=6.2						
O18K	Koktuh Hills	50.31	37	P	P	00 01 15.8	+1.8
O18K				IAmb	IAmb	00 01 17.2	
	comp=Z,14nm,1.1s						
O18K	Koktuh Hills	50.31	37	P	P	00 01 15.3	+1.3
	baz=271						
E20K	Nigu River	50.34	26	P	P	00 01 15.2	+1.1
	baz=263						
F20K	Avaraart Lake	50.38	28	P	P	00 01 15.5	+1.2
F20K	Avaraart Lake	50.38	28	P	P	00 01 15.0	+0.7
	baz=264						
L19K	White Mountain	50.48	34	P	P	00 01 16.7	+1.5
	baz=269						
H20K	Anotleneega Mo	50.60	30	P	P	00 01 17.2	+1.2
	baz=266						
I20K	Naaghedeneel	50.73	31	P	P	00 01 18.7	+1.8
	baz=267						
O19K	Port Alsworth	50.75	37	P	P	00 01 18.5	+1.3
O19K				IAmb	IAmb	00 01 19.4	
	comp=Z,16nm,0.7s						
O19K	Port Alsworth	50.75	37	P	P	00 01 18.9	+1.7
	baz=271						
J20K	Nowinta River	50.85	32	P	P	00 01 19.2	+1.3
J20K				IAmb	IAmb	00 01 20.4	
	comp=Z,9.0nm,0.8s						
J20K	Nowinta River	50.85	32	P	P	00 01 19.1	+1.3
	baz=268						
K20K	Telida	50.86	33	P	P	00 01 19.9	+1.9
K20K				IAmb	IAmb	00 01 20.6	
	comp=Z,14nm,0.8s						
K20K	Telida	50.86	33	P	P	00 01 19.6	+1.6
	baz=269,SNR=13						
L20K	Farewell, AK	50.94	34	P	P	00 01 20.3	+1.7
	baz=270						
C21K	Knifeblade Rid	50.95	25	P	P	00 01 20.2	+1.6
	baz=264						
B21K	Ikpikpuk River	51.07	25	P	P	00 01 20.9	+1.6
B21K	Ikpikpuk River	51.07	25	P	P	00 01 21.0	+1.6
	baz=263						
IMAR	Indian Mountai	51.09	29	P	P	00 01 20.5	+0.9
A22K	Sinclair Lake	51.12	23	P	P	00 01 21.0	+1.3
	baz=262						
Q19K	Cape Douglas,	51.15	39	P	P	00 01 20.2	0.0
G21K	Allakaket	51.22	29	P	P	00 01 21.9	+1.3
G21K	Allakaket	51.22	29	P	P	00 01 21.8	+1.3
	baz=267						
F21K	Alatna River	51.27	28	P	P	00 01 22.3	+1.4
F21K	Alatna River	51.27	28	P	P	00 01 21.8	+0.9
	baz=266						
M20K	Styx River	51.30	35	P	P	00 01 23.2	+1.9
M20K				IAmb	IAmb	00 01 23.7	
	comp=Z,5.9nm,0.6s						
M20K	Styx River	51.30	35	P	P	00 01 22.9	+1.6
	baz=271						
P19K	Oil Pt	51.32	38	P	P	00 01 22.5	+1.1
H21K	Melozitna Rive	51.47	30	P	P	00 01 23.8	+1.4
H21K	Melozitna Rive	51.47	30	P	P	00 01 23.8	+1.4
	baz=268,SNR=9.8						
B22K	Teshekpuk Lake	51.55	24	P	P	00 01 24.3	+1.4
B22K				IAmb	IAmb	00 01 24.9	
	comp=Z,22nm,1.0s						
B22K	Teshekpuk Lake	51.55	24	P	P	00 01 23.9	+1.0
	baz=264						
CHUM	Lake Minchumin	51.65	32	P	P	00 01 25.5	+1.8
	baz=270						
D22K	Ayikyak River	51.68	26	P	P	00 01 25.6	+1.7
D22K				IAmb	IAmb	00 01 26.3	
	comp=Z,20nm,0.8s						
D22K	Ayikyak River	51.68	26	P	P	00 01 25.6	+1.7
	baz=266						
PPLA	Purkeypile	51.72	33	P	P	00 01 26.0	+1.6
	baz=271						
CAST	Castle Rocks	51.76	33	P	P	00 01 26.0	+1.5
CAST	Castle Rocks	51.76	33	P	P	00 01 26.0	+1.5
	baz=271,SNR=6.3						
N20K	Mount Spurr	51.76	36	P	P	00 01 25.9	+1.3
	baz=272,SNR=6.7						
KDAK	Kodiak Island	51.78	40	P	P	00 01 25.2	+0.5
F22K	John River	51.79	28	P	P	00 01 26.3	+1.6
	baz=267						
SYI	Shuyak Island	51.82	39	P	P	00 01 24.7	-0.3
E22K	Anaktuvuk Pass	51.95	27	P	P	00 01 27.3	+1.3
E22K				IAmb	IAmb	00 01 28.2	
	comp=Z,12nm,0.7s						
E22K	Anaktuvuk Pass	51.95	27	P	P	00 01 27.4	+1.4
	baz=267,SNR=29						
G22K	Bettles	52.03	28	P	P	00 01 27.6	+1.2
	baz=268						
SKT	Skwentna	52.05	35	P	P	00 01 27.7	+1.0
H22K	Ishtalitna Cre	52.06	30	P	P	00 01 28.3	+1.6
	baz=269						
KTH	Kantishna Hill	52.28	33	P	P	00 01 29.6	+1.2
MLY	Manley	52.33	31	P	P	00 01 30.2	+1.5
MLY				IAmb	IAmb	00 01 31.2	
	comp=Z,12nm,1.1s						
MLY	Manley	52.33	31	P	P	00 01 30.3	+1.5
	baz=271,SNR=9.2						
CNPM	China Poot	52.34	38	P	P	00 01 28.9	0.0

CNPM IAmb IAmb 00 01 30.9
comp=Z,12nm,0.6s
SUA Susitna One 52.45 35 P P 00 01 30.4 +0.6
SUA IAmb IAmb 00 01 32.6
comp=Z,15nm,0.8s
SUA Susitna One 52.45 35 P P 00 01 29.8 +0.1
baz=273,SNR=7.6
C23K Itkillik River 52.47 25 P P 00 01 31.0 +1.4
C23K IAmb IAmb 00 01 31.9
comp=Z,11nm,0.9s
C23K Itkillik River 52.47 25 P P 00 01 30.8 +1.2
baz=267,SNR=6.5
BRLK Bradley Lake 52.50 37 P P 00 01 29.9 -0.2
COLD Coldfoot 52.54 28 P P 00 01 31.6 +1.4
baz=269
TRF Thorofare Moun 52.56 33 P P 00 01 32.5 +1.9
G23K Bananza Creek 52.61 29 P P 00 01 31.7 +1.0
baz=270
E23K Chandalar 52.78 27 P P 00 01 33.7 +1.7
baz=269
BWN Browne 52.90 32 P P 00 01 35.1 +2.3
I23K Minto, Yukon-K 52.91 31 P P 00 01 34.3 +1.5
I23K Minto, Yukon-K 52.91 31 P P 00 01 34.2 +1.4
baz=272
RC01 Rabbit Creek A 52.96 36 P P 00 01 33.9 +0.6
RC01 IAmb IAmb 00 01 35.0
comp=Z,23nm,1.2s
NEA2 Nenana 53.05 31 P P 00 01 35.1 +1.2
NEA2 IAmb IAmb 00 01 36.1
comp=Z,15nm,0.8s
NEA2 Nenana 53.05 31 P P 00 01 35.0 +1.2
baz=272,SNR=16
D24K Happy Valley 53.08 26 P P 00 01 35.4 +1.4
D24K Happy Valley 53.08 26 P P 00 01 35.5 +1.4
baz=269
C24K Franklin Bluff 53.13 25 P P 00 01 35.8 +1.4
baz=269
E24K Your Creek 53.20 27 P P 00 01 36.5 +1.5
E24K IAmb IAmb 00 01 37.5
comp=Z,9.0nm,0.9s
E24K Your Creek 53.20 27 P P 00 01 36.4 +1.4
baz=270
RND Reindeer 53.21 33 P P 00 01 35.8 +0.6
RND IAmb IAmb 00 01 36.4
comp=Z,12nm,0.8s
PMR Palmer 53.21 35 P P 00 01 35.5 +0.4
PMR IAmb IAmb 00 01 36.8
comp=Z,14nm,1.0s
PMR Palmer 53.21 35 P P 00 01 35.5 +0.4
baz=275
GHO Glory Hole Cre 53.30 35 P P 00 01 36.5 +0.7
GHO IAmb IAmb 00 01 38.8
comp=Z,21nm,1.0s
MDM Murphy Dome 53.40 31 P P 00 01 37.6 +1.2
F24K Squaw Lake 53.44 28 P P 00 01 38.1 +1.4
F24K IAmb IAmb 00 01 39.1
comp=Z,10nm,0.7s
F24K Squaw Lake 53.44 28 P P 00 01 38.2 +1.5
baz=271
H24K Noodor Dome 53.50 30 P P 00 01 39.1 +1.9
H24K IAmb IAmb 00 01 39.8
comp=Z,9.8nm,0.7s
H24K Noodor Dome 53.50 30 P P 00 01 38.9 +1.8
baz=273,SNR=13
KNK Knik Glacier 53.55 35 P P 00 01 38.3 +0.8
KNK IAmb IAmb 00 01 39.5
comp=Z,23nm,1.0s
WB0 Warramunga Arr 53.56 183 P P 00 01 37.3 -0.8
SML Sawmill 53.57 35 P P 00 01 38.3 +0.5
CCB Clear Creek Bu 53.59 31 P P 00 01 38.8 +1.1
G24K Hadweenzic Riv 53.62 29 P P 00 01 38.2 +0.1
G24K IAmb IAmb 00 01 40.9
comp=Z,9.6nm,0.8s
POKR Poker Plat Res 53.72 31 P P 00 01 40.1 +1.4
POKR Poker Plat Res 53.72 31 P P 00 01 40.1 +1.4
baz=274,SNR=14
WB2 Warramunga Arr 53.73 183 P P 00 01 38.5 -0.8
WRA Warramunga Arr 53.73 183 P P 00 01 38.4 -0.8
WRA Warramunga Arr 53.73 183 P P 00 01 38.5 -0.8
comp=Z,2.3nm,0.6s,baz=358,slow=7.7,SNR=21
comp=Z,2.3nm,0.6s
WR0 Warramunga Arr 53.74 183 P P 00 01 38.7 -0.6
M23K Glacier View 53.86 35 P P 00 01 40.2 +0.4
baz=276
DHY Denali Highway 53.90 33 P P 00 01 40.9 +0.6
D25K Kavik River 53.95 25 P P 00 01 41.7 +1.3
D25K IAmb IAmb 00 01 42.5
comp=Z,16nm,0.7s
D25K Kavik River 53.95 25 P P 00 01 41.5 +1.1
baz=271,SNR=19
IL31 53.98 31 P P 00 01 40.5 0.0
ILAR Eielson Array 53.98 31 P P 00 01 40.7 +0.1
ILAR Eielson Array 53.98 31 P P 00 01 40.5 0.0
comp=Z,2.8nm,0.6s,baz=267,slow=5.2,SNR=60
ILAR PcP **PcP 00 02 39.8 -0.8**
comp=Z,0.5nm,0.6s,baz=287,slow=4.4,SNR=2.4
comp=Z,2.8nm,0.6s
HDA Harding Lake 53.98 31 P P 00 01 40.9 +0.3
HDA IAmb IAmb 00 01 42.1
comp=Z,14nm,1.0s
HDA Harding Lake 53.98 31 P P 00 01 41.0 +0.4
baz=274,SNR=7.4
SCM Sheep Creek Mo 54.05 35 P P 00 01 42.3 +1.1
SCM Sheep Creek Mo 54.05 35 P P 00 01 42.1 +0.9
baz=276,SNR=5.5
E25K Arctic Village 54.30 27 P P 00 01 44.5 +1.8
E25K IAmb IAmb 00 01 45.6
comp=Z,14nm,1.0s
E25K Arctic Village 54.30 27 P P 00 01 44.6 +1.8
baz=273,SNR=10
F25K Christian River 54.30 27 P P 00 01 45.0 +2.1
baz=273
C26K Camden Bay 54.45 25 P P 00 01 45.5 +1.7
baz=272
PRP Porcupine Dome 54.49 30 P P 00 01 43.3 -1.1
M24K Tolsona, Glenn 54.56 34 P P 00 01 46.1 +1.3
FID Port Fidalgo 54.58 36 P P 00 01 45.8 +0.9
HIN Hinchinbrook I 54.62 36 P P 00 01 46.2 +1.0
J25K Salcha River, 54.64 31 P P 00 01 45.4 0.0
BMAR Burnt Mountain 54.71 28 P P 00 01 47.9 +2.1
KLU Klutina 54.75 35 P P 00 01 47.2 +1.0
KLU IAmb IAmb 00 01 49.0
comp=Z,23nm,1.3s
F26K Sheenjek River 54.86 27 P P 00 01 49.0 +2.1
baz=275
G26K Porcupine Rive 55.06 28 P P 00 01 50.2 +2.0
baz=276
SCRK Sand Creek 55.31 32 P P 00 01 50.6 +0.4
SCRK IAmb IAmb 00 01 51.6
comp=Z,8.9nm,0.8s
SCRK Sand Creek 55.31 32 P P 00 01 50.6 +0.4
baz=277,SNR=8.2
N25K Chitina, Valde 55.36 35 P P 00 01 51.7 +1.1
N25K IAmb IAmb 00 02 07.1
comp=Z,13nm,1.3s
J26L Joseph Creek 55.43 31 P P 00 01 51.1 +0.1
J26L IAmb IAmb 00 01 52.4
comp=Z,6.7nm,0.8s
J26L Joseph Creek 55.43 31 P P 00 01 51.5 +0.5
baz=277
BMRM Bremner River 55.46 35 P P 00 01 52.3 +1.2
baz=279
I26K Coal Creek Min 55.50 30 P P 00 01 51.3 -0.1
MENT Mentasta 55.58 33 P P 00 01 53.4 +1.5
MENT IAmb IAmb 00 01 54.4
comp=Z,13nm,0.8s
KAIM Kayak Island 55.72 37 P P 00 01 53.8 +0.8
L26K Log Cabin Wild 55.73 33 P P 00 01 54.4 +1.3
L26K IAmb IAmb 00 01 55.4
comp=Z,9.5nm,0.8s
L26K Log Cabin Wild 55.73 33 P P 00 01 54.4 +1.3
baz=278,SNR=7.7
GLB Gilahina Butte 55.76 35 P 00 01 54.7 +1.4
GLB IAmb IAmb 00 02 35.6
comp=Z,16nm,1.4s
E27K Coleen River 55.77 27 P P 00 01 54.8 +1.6
E27K IAmb IAmb 00 01 55.9
comp=Z,11nm,0.8s
E27K Coleen River 55.77 27 P P 00 01 54.5 +1.3
baz=277
D27M Malcolm River 55.88 25 P P 00 01 55.6 +1.6
D27M IAmb IAmb 00 01 56.5
comp=Z,16nm,1.1s
D27M Malcolm River 55.88 25 P P 00 01 55.5 +1.4
baz=276
G27K Doyon Strip 55.92 28 P P 00 01 55.9 +1.6
baz=277
VRDI Verde Repeater 55.97 35 P P 00 01 56.2 +1.2
VRDI IAmb IAmb 00 01 57.0
comp=Z,19nm,1.2s
M26K Nabesna, AK 55.99 34 P P 00 01 56.0 +1.2
M26K IAmb IAmb 00 01 57.6
comp=Z,12nm,1.1s
M26K Nabesna, AK 55.99 34 P P 00 01 56.1 +1.2
baz=279,SNR=6.9
BERG Berg Lake 55.99 36 P P 00 01 56.5 +1.6
H27K Steamboat Moun 56.05 29 P P 00 01 57.0 +1.8
baz=278,SNR=5.5
I27K Kandik River 56.10 30 P P 00 01 56.9 +1.3
baz=278
K27K Chicken 56.14 32 P P 00 01 57.2 +1.3
K27K IAmb IAmb 00 01 58.1
comp=Z,8.4nm,0.8s
K27K Chicken 56.14 32 P P 00 01 57.1 +1.3
baz=279
MCARA McCarthy VSAT 56.15 35 P P 00 01 57.6 +1.6
MCARA McCarthy VSAT 56.15 35 P P 00 01 57.3 +1.4
baz=280,SNR=5.2
CRQM Cirque 56.20 36 P P 00 01 57.4 +0.9
TGL Tana Glacier 56.35 36 P P 00 01 58.1 +0.6
TGL IAmb IAmb 00 02 01.6
comp=Z,13nm,1.0s
L27K Beaver Creek, 56.41 33 P P 00 01 59.3 +1.4
L27K Beaver Creek, 56.41 33 P P 00 01 59.2 +1.4
baz=280,SNR=5.6
EGAK Eagle 56.42 31 P P 00 01 58.5 +0.7
EGAK Eagle 56.42 31 P P 00 01 58.4 +0.7
baz=279,SNR=5.7
BCAR Beaver Creek A 56.43 33 P P 00 01 59.5 +1.5
SNH Sunshine Point 56.45 36 P P 00 01 59.2 +1.1
E28M Babbage River 56.47 26 P P 00 01 59.7 +1.5
E28M Babbage River 56.47 26 P P 00 01 59.9 +1.7
baz=278
F28M Old Crow 56.49 27 P P 00 01 59.8 +1.5
F28M IAmb IAmb 00 02 01.1
comp=Z,10nm,1.1s
F28M Old Crow 56.49 27 P P 00 01 59.9 +1.6
baz=278,SNR=6.9
M27K Edge Creek, AK 56.51 34 P P 00 01 58.9 +0.3
M27K IAmb IAmb 00 02 00.8
comp=Z,12nm,0.9s
M27K Edge Creek, AK 56.51 34 P P 00 01 59.8 +1.2
baz=280,SNR=6.5
I28M Miner Creek 56.81 30 P P 00 02 02.4 +1.8
I28M IAmb IAmb 00 02 03.1
comp=Z,13nm,0.8s
I28M Miner Creek 56.81 30 P P 00 02 02.1 +1.5
baz=280
BARN Barnard Glacie 56.85 35 P P 00 02 01.9 +0.8
BARN IAmb IAmb 00 02 02.7
comp=Z,6.5nm,0.6s
GRNC Granite Creek 56.87 35 P P 00 02 02.3 +1.0
GRNC IAmb IAmb 00 02 30.2
comp=Z,24nm,1.3s
CTGM Chitina Glacie 57.03 35 P P 00 02 03.1 +0.8
CTGM IAmb IAmb 00 02 35.2
comp=Z,20nm,1.5s
ABKAR Akbulak array 57.05 310 P P 00 02 02.4 -0.1
ABKAR Akbulak array 57.05 310 P P 00 02 02.5 +0.1
E29M Blow River 57.10 26 P P 00 02 04.1 +1.6
DAWY Dawson 57.30 31 P P 00 02 04.8 +0.9
H29M Whitestone 57.31 29 P P 00 02 05.6 +1.6
H29M IAmb IAmb 00 02 06.2
comp=Z,6.5nm,0.8s
G29M Pine Creek 57.32 28 P P 00 02 05.8 +1.8
G29M Pine Creek 57.32 28 P P 00 02 06.0 +2.0
baz=281
ASAR Alice Springs 57.45 183 P P 00 02 07.7 +2.2
ASAR Alice Springs 57.45 183 P P 00 02 06.8 +1.3
comp=Z,1.3nm,0.7s,baz=10,slow=13,SNR=15
ASAR pP **pP 00 03 19.2 -1.0**
comp=Z,0.4nm,0.6s,baz=9.0,slow=14,SNR=2.2
comp=Z,1.3nm,0.7s
EPYK Eagle Plains 57.94 28 P P 00 02 09.7 +1.4
EPYK Eagle Plains 57.94 28 P P 00 02 09.7 +1.4
baz=282,SNR=17
G30M tAoh Zraii Nji 58.00 28 P P 00 02 09.9 +1.1
G30M IAmb IAmb 00 02 10.6
comp=Z,25nm,1.2s
G30M tAoh Zraii Nji 58.00 28 P P 00 02 09.7 +0.9
baz=282
F30M Barrier River 58.03 27 P P 00 02 10.4 +1.4
baz=282
L29M L29M 58.05 32 P P 00 02 11.3 +2.2
L29M IAmb IAmb 00 02 12.3
comp=Z,9.0nm,0.8s
L29M L29M 58.05 32 P P 00 02 11.0 +1.8
baz=283,SNR=7.5
M29M Somme Creek 58.05 33 P P 00 02 11.0 +1.8
M29M IAmb IAmb 00 02 12.0
comp=Z,8.1nm,0.8s
M29M Somme Creek 58.05 33 P P 00 02 11.1 +1.8
baz=283
K29M Barlow Dome 58.15 31 P P 00 02 11.3 +1.4
K29M IAmb IAmb 00 02 12.3
comp=Z,7.9nm,0.8s
K29M Barlow Dome 58.15 31 P P 00 02 11.4 +1.4
baz=283,SNR=6.7
I30M Mount Dempster 58.32 30 P P 00 02 12.5 +1.4
I30M Mount Dempster 58.32 30 P P 00 02 12.0 +0.9
baz=283
J30M Hart River 58.49 30 P P 00 02 13.6 +1.4
J30M Hart River 58.49 30 P P 00 02 13.5 +1.3
baz=284
O29M Mount Kennedy 58.50 36 P P 00 02 14.2 +1.8
O29M IAmb IAmb 00 02 57.8
comp=Z,15nm,1.3s
INK Inuvik 58.71 26 P P 00 02 14.2 +0.7
INK IAmb IAmb 00 02 14.5
comp=Z,5.1nm,0.6s
INK Inuvik 58.71 26 P P 00 02 14.2 +0.7
baz=284,SNR=6.1
G31M Satah River 58.76 27 P P 00 02 14.5 +0.7
G31M IAmb IAmb 00 02 15.3
comp=Z,6.6nm,0.8s
G31M Satah River 58.76 27 P P 00 02 14.3 +0.5
baz=284,SNR=5.5
M30M Minto, Yukon 58.77 33 P 00 02 15.8 +1.7
M30M IAmb IAmb 00 02 16.6
comp=Z,14nm,1.5s
F31M Tsiigehtchic 58.84 27 P P 00 02 15.0 +0.6
HYT Haines Junctio 58.88 35 P P 00 02 16.5 +1.5
P29M Windy Craggy 59.08 36 P P 00 02 18.1 +1.8
P29M IAmb IAmb 00 02 18.7
comp=Z,6.4nm,0.7s
N31M Braeburn, Yuko 59.52 34 P P 00 02 20.5 +1.3
N31M IAmb IAmb 00 02 22.0
comp=Z,11nm,1.1s
M31M Drury Creek, Y 59.95 33 P P 00 02 23.3 +1.2
M31M IAmb IAmb 00 02 24.4
comp=Z,6.7nm,0.9s
M31M Drury Creek, Y 59.95 33 P P 00 02 23.3 +1.2
baz=286
WHY Whitehorse 60.17 35 P 00 02 24.9 +1.2
WHY IAmb IAmb 00 02 25.6
comp=Z,11nm,1.2s
A36M Sachs Harbour 60.39 21 P P 00 02 25.9 +1.1
A36M Sachs Harbour 60.39 21 P P 00 02 25.7 +0.9
baz=289,SNR=21
FARO Faro, Yukon 60.41 33 P P 00 02 26.7 +1.5
FARO IAmb IAmb 00 02 27.9
comp=Z,9.5nm,1.1s
FARO Faro, Yukon 60.41 33 P P 00 02 26.5 +1.4
baz=287,SNR=5.5
N32M Quiet Lake 60.86 34 P P 00 02 29.4 +1.2
C36M Paulatuk 61.67 23 P P 00 02 34.0 +0.7
C36M Paulatuk 61.67 23 P P 00 02 34.0 +0.7
baz=291,SNR=11
Q32M Nakina River 61.96 36 P P 00 02 37.1 +1.4
Q32M IAmb IAmb 00 02 57.5
comp=Z,14nm,1.4s
ARCES ARCESS Array B 65.47 339 P P 00 02 57.0 -1.0
comp=Z,1.4nm,0.5s,baz=64,slow=8.7,SNR=8.6
comp=Z,1.4nm,0.5s
RES Resolute Bay 66.39 13 P P 00 03 04.0 +0.4
YKA Yellowknife Ar 68.22 28 P P 00 03 15.4 +0.2
YKA Yellowknife Ar 68.22 28 P P 00 03 15.2 0.0
comp=Z,1.8nm,0.8s,baz=295,slow=6.0,SNR=19
comp=Z,1.8nm,0.8s
FINES FINESS Array B 69.70 331 P P 00 03 24.2 0.0
FINES FINESS Array B 69.70 331 P P 00 03 24.1 -0.2
comp=Z,4.0nm,0.6s,baz=54,slow=5.5,SNR=25
comp=Z,4.0nm,0.6s
KBZ Khabaz 70.00 310 P P 00 03 27.1 +0.7
comp=Z,2.0nm,0.9s,baz=154,slow=3.5,SNR=4.9
comp=Z,2.0nm,0.9s
NLWA Neilton Lookou 71.45 45 P P 00 03 37.1 +2.0
BUCK Buck Mountain 73.62 48 P P 00 03 49.4 +1.5
SUMG Summit 73.63 359 P P 00 03 48.9 +1.1
I03D Drain, OR 73.66 48 P P 00 03 49.4 +1.4
KBO Bosley Butte 73.89 50 P P 00 03 49.8 +0.4
K02D Willamette Mer 73.99 49 P P 00 03 51.4 +1.3
K02D IAmb IAmb 00 04 35.3
comp=Z,10nm,1.3s
DBO Dodson Butte 74.03 49 P P 00 03 51.8 +1.6
I04A Tendick Farm, 74.19 48 P P 00 03 52.3 +1.2
I04A IAmb IAmb 00 03 54.2
comp=Z,8.0nm,0.8s
KSXB Camp Six Broad 74.31 50 P P 00 03 52.9 +1.0
AKASG Malin Array Be 74.35 321 P P 00 03 51.4 -0.4
comp=Z,0.5nm,0.4s,baz=51,slow=5.7,SNR=8.7
comp=Z,0.5nm,0.4s
HUMO Hull Mountain 74.48 49 P P 00 03 54.4 +1.6
HUMO IAmb IAmb 00 04 05.2
comp=Z,7.8nm,1.3s
G06A Carlson Farm, 74.49 46 P P 00 03 53.7 +0.9
G06A IAmb IAmb 00 03 57.8
comp=Z,5.3nm,1.2s
JCC Jacoby Creek, 74.74 51 P P 00 03 56.1 +1.9
NEW Newport 74.83 42 P P 00 03 55.6 +0.9
NEW IAmb IAmb 00 03 56.6
comp=Z,9.4nm,1.1s
PINE Pine Mountain 75.09 47 P P 00 03 58.2 +1.8
L04D Klamath Falls 75.09 49 P P 00 03 57.7 +1.3
L04D IAmb IAmb 00 03 58.1
comp=Z,6.0nm,0.6s
YBH Yreka Blue Hor 75.10 50 P P 00 03 57.9 +1.5
J05D Fort Rock, OR 75.18 48 P P 00 03 58.5 +1.6
HFS Hagfors 75.23 334 P P 00 03 56.2 -0.4
comp=Z,2.5nm,0.4s,baz=66,slow=3.6,SNR=21
comp=Z,2.5nm,0.4s
NB201 NORSAR Array S 75.43 336 P P 00 03 57.7 -0.1
NC204 NORSAR Array S 75.44 336 P P 00 03 57.7 -0.2
NB2 NORSAR Subarra 75.46 336 P P 00 03 57.7 -0.3
comp=Z,1.2nm,0.5s,baz=44,slow=5.9
NOA NORSAR Array B 75.46 336 P P 00 03 57.7 -0.3
comp=Z,1.4nm,0.5s,baz=54,slow=6.7,SNR=8.6
comp=Z,1.4nm,0.5s
K05A Summer Lake 75.70 48 P P 00 04 01.2 +1.4
I07A Izee 75.80 46 P P 00 04 01.3 +1.0
I07A IAmb IAmb 00 04 02.2
comp=Z,5.5nm,1.1s
BMO Blue Mountains 76.67 45 P P 00 04 05.8 +0.7
ORV Oroville 77.05 51 P P 00 04 06.3 -0.9
ORV IAmb IAmb 00 04 08.4
comp=Z,5.5nm,1.1s
WVOR Wild Horse Val 77.24 47 P P 00 04 09.3 +0.9
PLID Pearl Lake 77.29 44 P P 00 04 09.3 +0.6
PLID IAmb IAmb 00 04 10.6
comp=Z,3.3nm,1.0s
OVMT Ovando 77.80 41 P P 00 04 11.9 +0.5
BRTR Keskin Array B 78.00 310 P P 00 04 13.3 +0.7
comp=Z,0.6nm,0.8s,baz=38,slow=7.3,SNR=2.3
comp=Z,0.6nm,0.8s
FFC Flin Flon 78.19 30 P P 00 04 13.3 +0.2
EMB Emerald Bay 78.28 51 P P 00 04 15.4 +1.2
FCC Fort Churchill 78.29 24 P P 00 04 13.9 +0.4
FCC IAmb IAmb 00 04 14.1
comp=Z,4.5nm,0.8s
BURAR Bucovina Array 78.30 320 P P 00 04 14.4 +0.4
PAHR Pah Rah Range 78.32 50 P P 00 04 14.7 +0.3
PAHR IAmb IAmb 00 04 16.1
comp=Z,4.4nm,0.7s
MFID Camas Ranch 78.36 45 P P 00 04 14.2 -0.3
MFID IAmb IAmb 00 04 16.7
comp=Z,3.6nm,0.8s
CMB Columbia Colle 78.62 52 P P 00 04 16.4 +0.5
CMB IAmb IAmb 00 04 17.1
comp=Z,3.7nm,0.6s
YERR Yerington 78.82 50 P P 00 04 18.1 +1.0
YERR IAmb IAmb 00 04 18.9
comp=Z,5.3nm,0.6s
LRM Limekiln Ridge 78.86 42 P P 00 04 18.6 +1.3
WAKR Walker 78.97 51 P P 00 04 19.2 +1.3
WAKR IAmb IAmb 00 04 19.7
comp=Z,3.7nm,0.5s
HLID Hailey 79.11 45 P P 00 04 19.9 +1.4
HLID IAmb IAmb 00 04 20.4
comp=Z,3.1nm,0.9s
HLID Hailey 79.11 45 P P 00 04 19.6 +1.0
baz=307
BMN Battle Mountai 79.26 48 P P 00 04 20.8 +1.3
BMN IAmb IAmb 00 04 21.2
comp=Z,3.6nm,0.7s
RYN Ryan 79.49 50 P P 00 04 21.5 +0.8
RYN IAmb IAmb 00 04 22.6
comp=Z,5.3nm,1.0s
KVN Kaiserville 79.51 50 P P 00 04 22.0 +1.2
KVN IAmb IAmb 00 04 22.8
comp=Z,5.0nm,0.7s
NVAR Mina Array Bea 79.74 50 P P 00 04 23.2 +1.1
comp=Z,3.1nm,0.7s,baz=295,slow=5.1,SNR=20
comp=Z,3.1nm,0.7s
YHL Hebgen Lake 80.16 42 P P 00 04 25.7 +1.4
YHL IAmb IAmb 00 04 26.1
comp=Z,3.6nm,0.8s
ELK Elko 80.30 47 P P 00 04 26.1 +1.1
H17A Grant Village 80.78 42 P P 00 04 30.5 +3.0
baz=309,SNR=6.4
IMW Indian Meadow 80.89 43 P P 00 04 29.0 +0.9
IMW IAmb IAmb 00 04 30.8
comp=Z,5.6nm,0.8s
GMN Gold Mountain 81.07 51 P P 00 04 30.2 +1.1
GMN IAmb IAmb 00 04 31.0
comp=Z,2.9nm,0.7s
MOOW Moose Ponds 81.09 43 P P 00 04 30.7 +1.5
MOOW IAmb IAmb 00 04 31.2
comp=Z,3.4nm,0.9s
TPAW Teton Pass 81.14 43 P P 00 04 30.5 +1.0
TPAW IAmb IAmb 00 04 31.9
comp=Z,5.8nm,0.8s
REDW Red Top Meadow 81.28 43 P P 00 04 29.4 -0.7
R11B Troy Canyon, C 81.52 49 P P 00 04 32.0 +0.7
R11B IAmb IAmb 00 04 32.8
comp=Z,3.4nm,0.6s
R11B Troy Canyon, C 81.52 49 P P 00 04 32.6 +1.2
baz=307,SNR=6.7
BGU Big Grassy Mou 81.52 46 P P 00 04 31.9 +0.6
MPMC Manual Prospec 81.65 52 P P 00 04 32.9 +0.7
baz=306,SNR=7.4
CLL Collm 81.77 328 i P P 00 04 32.3 +0.1
WCT Wildcat Mounta 81.78 51 P P 00 04 33.2 +0.6
WCT IAmb IAmb 00 04 33.9
comp=Z,3.0nm,0.6s
FURC Furnace Creek, 81.82 51 P P 00 04 33.9 +1.3
baz=306,SNR=5.9
SPR3 Spring Creek 3 81.91 48 P P 00 04 34.6 +1.1
TPNV Topopah Spring 81.93 51 P P 00 04 34.2 +0.7
TPNV Topopah Spring 81.93 51 P P 00 04 34.4 +0.9
baz=307,SNR=8.7
HWUT Hardware Ranch 81.97 45 P P 00 04 33.5 -0.2
EDW2 Edwards Air Fo 82.01 53 P P 00 04 34.2 +0.4
baz=306
DUG Dugway, Tooele 82.10 46 P P 00 04 34.4 +0.1
DUG IAmb IAmb 00 04 36.1
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 82.10 46 P P 00 04 35.3 +0.9
baz=308
GWY Greenwater Val 82.11 52 P P 00 04 34.4 -0.1
GWY IAmb IAmb 00 04 36.0
comp=Z,5.7nm,0.7s
BW06 Boulder Array 82.39 43 P P 00 04 36.4 +0.5
BW06 IAmb IAmb 00 04 37.2
comp=Z,4.0nm,0.8s
BW06 Boulder Array 82.39 43 P P 00 04 36.2 +0.4
baz=310,SNR=6.1
PD31 Pinedale Array 82.39 43 P P 00 04 36.1 +0.2
PD31 IAmb IAmb 00 04 37.2
comp=Z,3.5nm,0.8s
PDAR Pinedale Array 82.39 43 P P 00 04 36.1 +0.2
PDAR Pinedale Array 82.39 43 P P 00 04 36.3 +0.4
comp=Z,3.3nm,0.7s,baz=298,slow=2.4,SNR=33
comp=Z,3.3nm,0.7s
PRN Pahroc Range 82.42 50 P P 00 04 37.2 +1.2
PRN IAmb IAmb 00 04 38.3
comp=Z,6.2nm,1.3s

GSC	**Goldstone, Bar**	**82.55**	**52**	P	**P**	**00 04 35.7**	**-0.9**
GSC				IAmb	IAmb	00 04 38.3	
	comp=Z,4.8nm,1.0s						
NLU	**North Lily Min**	**82.69**	**46**	P	**P**	**00 04 37.4**	**0.0**
NLU				IAmb	IAmb	00 04 39.8	
	comp=Z,3.9nm,1.0s						
SHPR	**Sheep Range**	**82.89**	**51**	P	**P**	**00 04 38.7**	**+0.3**
MPU	**Maple Canyon**	**82.92**	**46**	P	**P**	**00 04 38.1**	**-0.5**
MPU				IAmb	IAmb	00 04 40.8	
	comp=Z,6.6nm,1.0s						
TUQ	**Turquoise Moun**	**83.04**	**52**	P	**P**	**00 04 40.1**	**+0.8**
	baz=307,SNR=6.4						
HEC	**Hector,Ludlow**	**83.14**	**52**	P	**P**	**00 04 40.6**	**+0.9**
	baz=307,SNR=5.0						
GERES	**GERESS Array B**	**83.22**	**326**	P	**P**	**00 04 39.4**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=46,slow=2.8,SNR=2.9						
	comp=Z,0.5nm,0.4s						
TCRU	**Three Creeks R**	**83.31**	**48**	P	**P**	**00 04 40.8**	**+0.2**
TCRU				IAmb	IAmb	00 04 43.1	
	comp=Z,5.1nm,0.8s						
MVU	**Marysvale**	**83.52**	**48**	P	**P**	**00 04 42.2**	**+0.5**
MSU	**Marysvale**	**83.53**	**48**	P	**P**	**00 04 41.8**	**+0.1**
V12A	**Nelson**	**83.56**	**51**	P	**P**	**00 04 41.8**	**0.0**
V12A				IAmb	IAmb	00 04 43.6	
	comp=Z,3.6nm,0.8s						
TMUT	**Trail Mountain**	**83.63**	**46**	P	**P**	**00 04 41.7**	**-0.6**
TMUT				IAmb	IAmb	00 04 56.5	
	comp=Z,4.9nm,1.3s						
PFO	**Pinyon Flats O**	**83.78**	**54**	P	**P**	**00 04 42.9**	**-0.1**
PFO	**Pinyon Flats O**	**83.78**	**54**	P	**P**	**00 04 43.7**	**+0.8**
	baz=307,SNR=8.4						
RDMU	**Red Mountain**	**83.79**	**45**	P	**P**	**00 04 43.0**	**0.0**
TPFO	**Pinon Flats**	**83.79**	**54**	P	**P**	**00 04 43.6**	**+0.6**
	baz=307,SNR=8.1						
P17A	**Butcher Ranch,**	**83.80**	**46**	P	**P**	**00 04 42.9**	**-0.1**
LCMT	**Little Creek M**	**83.80**	**49**	P	**P**	**00 04 42.5**	**-0.5**
LCMT				IAmb	IAmb	00 04 45.2	
	comp=Z,4.8nm,1.0s						
PMD	**Palm Desert**	**83.82**	**53**	P	**P**	**00 04 42.0**	**-1.0**
MTPU	**Mount Pierson**	**83.82**	**48**	P	**P**	**00 04 43.9**	**+0.5**
MTPU				IAmb	IAmb	00 04 46.0	
	comp=Z,6.6nm,0.9s						
BELC	**Belle Mtn. Jos**	**83.86**	**53**	P	**P**	**00 04 43.7**	**+0.3**
	baz=307,SNR=8.2						
ULM	**Lac du Bonnet**	**84.00**	**31**	P	**P**	**00 04 43.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=225,slow=7.7,SNR=4.1						
	comp=Z,1.9nm,0.7s						
KNB	**Kanab**	**84.06**	**49**	P	**P**	**00 04 44.9**	**+0.6**
KNB				IAmb	IAmb	00 04 46.9	
	comp=Z,7.9nm,1.0s						
K22A	**Casper**	**84.16**	**42**	P	**P**	**00 04 44.2**	**-0.5**
K22A				IAmb	IAmb	00 04 46.2	
	comp=Z,5.0nm,1.1s						
SRU	**San Rafael Swe**	**84.16**	**46**	P	**P**	**00 04 45.3**	**+0.5**
IRM	**Iron Mountain**	**84.33**	**52**	P	**P**	**00 04 46.2**	**+0.7**
	baz=308						
BC3	**Big Chuckawall**	**84.43**	**53**	P	**P**	**00 04 46.7**	**+0.5**
	baz=307,SNR=5.8						
W13A	**Hualapai Mount**	**84.57**	**51**	P	**P**	**00 04 47.1**	**+0.1**
EKA	**Eskdalemuir Ar**	**84.63**	**338**	P	**P**	**00 04 46.4**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=37,slow=4.3,SNR=7.5						
	comp=Z,0.9nm,0.5s						
RMX	**La Rumorosa**	**84.64**	**54**	P	**P**	**00 04 46.7**	**-0.6**
RMX				IAmb	IAmb	00 04 49.0	
	comp=Z,6.4nm,0.9s						
HMU	**Henry Mountain**	**84.77**	**47**	P	**P**	**00 04 48.1**	**+0.2**
HMU				IAmb	IAmb	00 04 50.6	
	comp=Z,4.1nm,0.7s						
O20A	**White River Ci**	**84.84**	**44**	P	**P**	**00 04 48.4**	**+0.1**
O20A	**White River Ci**	**84.84**	**44**	P	**P**	**00 04 49.1**	**+0.9**
	baz=311						
SMCO	**Snowmass**	**86.21**	**44**	P	**P**	**00 04 55.5**	**+0.3**
SMCO				IAmb	IAmb	00 04 57.3	
	comp=Z,5.3nm,0.8s						
S22A	**4UR Ranch, Cre**	**87.25**	**45**	P	**P**	**00 04 60.0**	**0.0**
S22A				IAmb	IAmb	00 05 02.0	
	comp=Z,3.8nm,1.1s						
T25A	**Trinidad**	**89.07**	**45**	P	**P**	**00 05 08.8**	**+0.4**
T25A				IAmb	IAmb	00 05 10.0	
	comp=Z,4.9nm,0.9s						
TX31	**Lajitas Ar. Si**	**94.88**	**50**	P	**P**	**00 05 34.3**	**-0.9**
TXAR	**Lajitas Array**	**94.88**	**50**	P	**P**	**00 05 36.0**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=294,slow=3.1,SNR=26						
	comp=Z,1.9nm,0.7s						

IDC 07 23:55:08.1±2.9, 3°48S×135°98E, h0km, mb3.3/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=110.4km s-min=32.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.44**	**185**	Pn	Pn	23 58 59.7	-0.7
	0.2nm,0.3s,baz=7.1,slow=12,SNR=12						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**20.17**	**186**	P	P	23 59 44.7	+0.3
	1.1nm,0.6s,baz=9.6,slow=10.0,SNR=11						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**68.75**	**324**	P	P	00 06 14.0	0.0
	0.1nm,0.5s,baz=114,slow=5.1,SNR=2.1						
	0.1nm,0.5s						

*SJA **07** 23:56:54.0±0.7, 24°.16S×66°.97W, h217km±4km, ML4.0, MW3.9*
*IDC **07** 23:56:56.0±1.2, 24°.10S×66°.84W, h186km±11km, mb3.4/6, mbtmp3.9/11, MS3.7/1, Error ellipse: s-maj=19.2km s-min=15.4km az=71.0*
*GUC **07** 23:56:56.7±0.7, 24°.12S×67°.27W, h230km±6km, ML4.3*
*NEIC **07** 23:56:56.1±1.2, 24°.13S±0°.07×67°.4W±0°.1, h248km±10km, mb4.6/4, Error ellipse: s-maj=18.9km s-min=9.9km az=97.0*

ISC 07 23:56:56.0±0.7, 24°.18S±0°.04×67°.02W±0°.04, h196km±6km, n81, σ1°34/114, mb3.8/7, 12C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**111**	*i* P	**Pn**	**23 57 29.9**	**+0.5**
SLA				*i* S	**Sn**	**23 57 55.2**	**0.0**
AF01	**San Pedro de A**	**1.62**	**319**		**Pn**	**23 57 32.3**	**+1.4**
AF01	**San Pedro de A**	**1.62**	**319**	⇑*i* P	**Pn**	**23 57 32.2**	**+1.4**
AF01				*i* S	**Sn**	**23 57 59.8**	**+1.9**
AF01				IAML		23 58 05.8	
	comp=E,397nm,0.5s						
FSA	**Cafayete**	**2.14**	**154**	*i* P	**Pn**	**23 57 36.0**	**+0.1**
FSA				*i* S	**Sn**	**23 58 07.1**	**0.0**
LVC	**Limon Verde**	**2.34**	**312**		**Pn**	**23 57 39.0**	**+0.8**
LVC				Sn	**Sn**	**23 58 12.1**	**+1.0**
LVC	**Limon Verde**	**2.34**	**312**	*i* P	**Pn**	**23 57 38.3**	**+0.1**
LVC				*i* S	**Sn**	**23 58 11.8**	**+0.7**
LVC				IAML		23 58 12.6	
	comp=Z,205nm,0.5s						
LVC	**Limon Verde**	**2.34**	**312**	P	**Pn**	**23 57 39.0**	**+0.8**
	comp=Z,104nm,0.4s,baz=158,slow=6.6,SNR=654						
LVC				S	**Sn**	**23 58 11.4**	**+0.3**
	comp=Z,145nm,0.4s,baz=90,slow=20,SNR=33						
LVC	**Limon Verde**	**2.34**	**312**	⇑*i* P	**Pn**	**23 57 38.7**	**+0.4**
LVC				*i* S	**Sn**	**23 58 11.2**	**+0.1**
LVC				IAML		23 58 12.5	
	comp=Z,2μm,0.5s						
PB15	**IPOC Station P**	**2.45**	**293**		**Pn**	**23 57 40.1**	**+0.8**
PB15				Sn	**Sn**	**23 58 13.7**	**+0.8**
PB15	**IPOC Station P**	**2.45**	**293**	*i* P	**Pn**	**23 57 39.7**	**+0.4**
PB15				*i* S	**Sn**	**23 58 13.1**	**+0.1**
PB15	**IPOC Station P**	**2.45**	**293**	⇑*i* P	**Pn**	**23 57 40.4**	**+1.1**
PB15				*i* S	**Sn**	**23 58 13.1**	**+0.1**
GO02	**Mina Guanaco**	**2.53**	**247**		**Pn**	**23 57 41.5**	**+1.2**
GO02				Sn	**Sn**	**23 58 16.2**	**+1.4**
GO02	**Mina Guanaco**	**2.53**	**247**	*i* P	**Pn**	**23 57 41.0**	**+0.6**
GO02				*i* S	**Sn**	**23 58 15.1**	**+0.3**
GO02	**Mina Guanaco**	**2.53**	**247**	⇑*i* P	**Pn**	**23 57 41.5**	**+1.2**
GO02				*e*S	**Sn**	**23 58 15.8**	**+1.0**
GO02				IAML		23 58 16.6	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**2.77**	**302**		**Pn**	**23 57 43.6**	**+0.7**
PB06				Sn	**Sn**	**23 58 19.8**	**+0.3**
PB06	**IPOC Station P**	**2.77**	**302**	*i* P	**Pn**	**23 57 43.0**	**+0.1**
PB06				*i* S	**Sn**	**23 58 18.9**	**-0.5**
PB06				IAML		23 58 22.9	
	comp=Z,444nm,0.1s						
PB06	**IPOC Station P**	**2.77**	**302**	⇑*i* P	**Pn**	**23 57 43.7**	**+0.7**
PB06				*e*S	**Sn**	**23 58 18.4**	**-1.0**
PB06				IAML		23 58 20.7	
	comp=N,1μm,0.1s						
AHML	**Horco Molle**	**3.00**	**150**	*i* P	**Pn**	**23 57 45.8**	**+0.2**
AHML				*i* S	**Sn**	**23 58 23.1**	**-1.3**
PB14	**IPOC Station P**	**3.12**	**261**		**Pn**	**23 57 47.6**	**+0.4**
PB14				Sn	**Sn**	**23 58 26.5**	**-0.5**
PB14	**IPOC Station P**	**3.12**	**261**	*i* P	**Pn**	**23 57 47.1**	**0.0**
PB14				*i* S	**Sn**	**23 58 27.1**	**0.0**
PB14				IAML		23 58 29.1	
	comp=Z,173nm,0.3s						
PB09	**IPOC Station P**	**3.14**	**319**		**Pn**	**23 57 47.9**	**+0.6**
PB09				Sn	**Sn**	**23 58 26.9**	**-0.5**
PB09	**IPOC Station P**	**3.14**	**319**	*i* P	**Pn**	**23 57 47.0**	**-0.3**
PB09				*i* S	**Sn**	**23 58 26.0**	**-1.3**
PB09				IAML		23 58 33.4	
	comp=Z,254nm,0.4s						
PB09	**IPOC Station P**	**3.14**	**319**	⇑*i* P	**Pn**	**23 57 48.0**	**+0.7**
PB09				*i* S	**Sn**	**23 58 26.4**	**-1.0**
PB09				IAML		23 58 33.2	
	comp=N,253nm,0.5s						
PB05	**IPOC Station P**	**3.21**	**294**		**Pn**	**23 57 48.0**	**0.0**
PB05	**IPOC Station P**	**3.21**	**294**	*i* P	**Pn**	**23 57 47.8**	**-0.2**
PB05				*i* S	**Sn**	**23 58 28.1**	**-0.6**
PB05	**IPOC Station P**	**3.21**	**294**	⇑*i* P	**Pn**	**23 57 48.3**	**+0.3**
PB05				*e*S	**Sn**	**23 58 26.6**	**-2.1**
PB04	**IPOC Station P**	**3.42**	**302**		**Pn**	**23 57 50.3**	**-0.3**
PB04	**IPOC Station P**	**3.42**	**302**	*i* P	**Pn**	**23 57 50.6**	**0.0**
PB04				*i* S	**Sn**	**23 58 32.6**	**-0.8**
PB04				IAML		23 58 34.4	
	comp=Z,308nm,0.2s						
PB04	**IPOC Station P**	**3.42**	**302**	⇑*i* P	**Pn**	**23 57 50.8**	**+0.1**
PB04				*e*S	**Sn**	**23 58 31.3**	**-2.1**
PB07	**IPOC Station P**	**3.60**	**312**		**Pn**	**23 57 52.6**	**-0.3**
PB07	**IPOC Station P**	**3.60**	**312**	*i* P	**Pn**	**23 57 52.2**	**-0.7**
PB07				*i* S	**Sn**	**23 58 35.7**	**-1.7**
PB07				IAML		23 58 38.5	
	comp=Z,196nm,0.2s						
PB07	**IPOC Station P**	**3.60**	**312**	⇑*i* P	**Pn**	**23 57 52.9**	**0.0**
PB07				*i* S	**Sn**	**23 58 34.8**	**-2.7**
AC01	**Pan de Azucar**	**3.79**	**238**	Pn	**Pn**	**23 57 55.0**	**0.0**
AC01	**Pan de Azucar**	**3.79**	**238**	*i* P	**Pn**	**23 57 54.9**	**0.0**
AC01				*i* S	**Sn**	**23 58 40.4**	**-0.8**
AC01				IAML		23 58 43.6	
	comp=Z,147nm,0.5s						
AC01	**Pan de Azucar**	**3.79**	**238**	*e*P	**Pn**	**23 57 54.9**	**0.0**
AC01				*e*S	**Sn**	**23 58 40.0**	**-1.2**
PB01	**IPOC Station P**	**3.87**	**323**		**Pn**	**23 57 55.8**	**-0.3**
PB01	**IPOC Station P**	**3.87**	**323**	*i* P	**Pn**	**23 57 55.2**	**-1.0**
PB01				*i* S	**Sn**	**23 58 41.0**	**-2.3**
PB01				IAML		23 58 45.6	
	comp=Z,175nm,0.1s						
PB01	**IPOC Station P**	**3.87**	**323**	⇑*i* P	**Pn**	**23 57 55.6**	**-0.5**
PB01				*i* S	**Sn**	**23 58 40.9**	**-2.4**
PB02	**IPOC Station P**	**3.90**	**316**		**Pn**	**23 57 56.1**	**-0.5**
PB02	**IPOC Station P**	**3.90**	**316**	*i* P	**Pn**	**23 57 56.0**	**-0.5**
PB02				*i* S	**Sn**	**23 58 41.8**	**-2.1**
PB02	**IPOC Station P**	**3.90**	**316**	⇑*i* P	**Pn**	**23 57 56.0**	**-0.5**
PB02				*i* S	**Sn**	**23 58 41.0**	**-2.9**
AC06	**Mina Casimiro**	**4.36**	**223**		**Pn**	**23 58 02.2**	**0.0**
CYA	**Choya**	**4.38**	**166**	*i* P	**Pn**	**23 58 02.0**	**-0.5**
PATCX	**Punta Patache**	**4.43**	**319**		**Pn**	**23 58 02.1**	**-1.0**
GO03	**Copiap**	**4.46**	**220**		**Pn**	**23 58 03.4**	**-0.1**
GO03	**Copiap**	**4.46**	**220**	*i* P	**Pn**	**23 58 03.1**	**-0.4**
PB08	**IPOC Station P**	**4.48**	**333**		**Pn**	**23 58 03.6**	**-0.6**
PB08	**IPOC Station P**	**4.48**	**333**	*i* P	**Pn**	**23 58 03.6**	**-0.6**
PB08				*i* S	**Sn**	**23 58 55.2**	**-2.5**
PB08				IAML		23 59 00.7	
	comp=Z,79nm,0.5s						
PB08	**IPOC Station P**	**4.48**	**333**	⇑*i* P	**Pn**	**23 58 04.2**	**0.0**
TA01	**Diego Aracena**	**4.64**	**320**	Pn	**Pn**	**23 58 04.3**	**-1.4**
TA01	**Diego Aracena**	**4.64**	**320**	*i* P	**Pn**	**23 58 04.8**	**-0.9**
TA01				IAML		23 59 07.0	
	comp=Z,65nm,0.4s						
TA02	**Huaiquique**	**4.84**	**323**		**Pn**	**23 58 07.0**	**-1.4**
GO01	**Chusmiza**	**4.93**	**335**		**Pn**	**23 58 09.2**	**-0.8**
PB11	**IPOC Station P**	**5.04**	**330**	Pn	**Pn**	**23 58 09.6**	**-1.4**
PB11	**IPOC Station P**	**5.04**	**330**	*i* P	**Pn**	**23 58 09.9**	**-1.1**
PB11				*i* S	**Sn**	**23 59 06.3**	**-3.7**
PB11				IAML		23 59 09.3	
	comp=Z,86nm,0.3s						
AC04	**Llanos de Chal**	**5.41**	**221**	Pn	**Pn**	**23 58 12.9**	**-2.7**
LCO	**Las Campanas**	**5.83**	**214**	Pn	**Pn**	**23 58 20.6**	**-0.6**
PB16	**IPOC Station P**	**6.26**	**338**		**Pn**	**23 58 26.4**	**-0.9**
PB12	**IPOC Station P**	**6.34**	**330**	Pn	**Pn**	**23 58 25.6**	**-2.2**
CFA	**Coronel Fontan**	**7.47**	**188**	P	**Pn**	**23 58 42.2**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=31,slow=12,SNR=9.7						
CFA				S	**Sn**	**00 00 02.7**	**-4.2**
	comp=Z,7.1nm,0.4s,baz=340,slow=12,SNR=14						
LPAZ	**La Paz**	**7.92**	**352**	Pn	**Pn**	**23 58 48.5**	**-0.5**
SIV	**San Ignacio**	**9.88**	**36**	P	**Pn**	**23 59 11.7**	**-2.2**
	comp=Z,1.2nm,0.5s,baz=209,slow=11,SNR=11						
TRQA	**Tornquist**	**14.48**	**164**	P	**Pn**	**00 00 11.3**	**-0.7**
GO06	**Curarrehue**	**15.81**	**193**	P	**P**	**00 00 22.2**	**-5.9**
GO06				IAmb	IAmb	00 00 23.8	
	comp=Z,4.9nm,0.6s						
PLCA	**Paso Flores**	**16.77**	**189**	P	**Pn**	**00 00 41.6**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=0,0,slow=4.0,SNR=1.9						
BDFB	**Brasilia**	**19.77**	**68**	P	**P**	**00 01 10.7**	**-0.8**
BDFB	**Brasilia**	**19.77**	**68**	P	**P**	**00 01 10.8**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=260,slow=5.2,SNR=6.0						
JTS	**Las Juntas de**	**38.48**	**331**	LR	LR	00 19 34.4	
	comp=Z,115nm,20.7s,baz=244,slow=35						
061Z	**Ochoppi**	**51.54**	**344**	P	P	00 05 34.1	-7.8
TXAR	**Lajitas Array**	**63.82**	**324**	P	**P**	**00 07 09.2**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=154,slow=6.9,SNR=4.6						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**66.02**	**180**	P	**P**	**00 07 23.5**	**+2.1**
	comp=Z,1.6nm,0.5s,baz=146,slow=2.1,SNR=4.0						
	comp=Z,1.6nm,0.5s						
LONY	**Lake Ozonia**	**68.82**	**354**	P	P	00 07 32.5	-6.4
LONY				IAmb	IAmb	00 07 35.8	
	comp=Z,28nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P	**P**	**00 08 25.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=243,slow=3.1,SNR=2.6						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**77.30**	**329**	P	**P**	**00 08 30.0**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=126,slow=8.4,SNR=3.6						
	comp=Z,0.2nm,0.5s						
ULM	**Lac du Bonnet**	**78.39**	**342**	P	**P**	**00 08 34.9**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=152,slow=6.0,SNR=5.6						
	comp=Z,1.6nm,0.4s						
YKA	**Yellowknife Ar**	**94.29**	**340**	P	**P**	**00 09 53.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=134,slow=4.5,SNR=11						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**128.28**	**205**	PKP	**PKPdf**	**00 15 41.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=136,slow=2.0,SNR=6.8						
WRA	**Warramunga Arr**	**131.45**	**207**	PKP	**PKPdf**	**00 15 47.1**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=159,slow=1.7,SNR=10						
BVAR	**Borovoye Array**	**136.95**	**37**	PKP	**PKPdf**	**00 15 56.3**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=343,slow=1.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**143.56**	**28**	PKP	PKPbc	00 16 06.2	+1.2
	comp=Z,1.2nm,0.6s,baz=299,slow=5.0,SNR=7.4						
MKAR	**Makanchi Array**	**146.68**	**40**	PKPbc	**PKPbc**	**00 16 14.4**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=310,slow=3.0,SNR=27						

IDC 08 00:11:03.9±2.5, 10°.86S×162°.62E, h0km, mb3.6/3, mbtmp3.6/3, ML5.5/1, MS3.6/1, Error ellipse: s-maj=49.2km s-min=46.0km az=71.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.99**	**298**	Pn	Pn	00 11 52.7	+0.2
	624nm,0.3s,baz=172,slow=5.4,SNR=2.6						
HNR				Sn	Sn	00 12 29.5	+0.4
	176nm,0.3s,baz=185,slow=18,SNR=1.3						
HNR				LR	LR	00 13 01.4	
	comp=Z,1μm,21.4s,baz=134,slow=39						
CTA	**Charters Tower**	**18.23**	**238**	P	P	00 15 24.7	+5.8
	1.9nm,0.5s,baz=72,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**30.16**	**241**	P	P	00 17 16.0	+0.1
	0.2nm,0.5s,baz=64,slow=10,SNR=5.8						
	0.2nm,0.5s						
SONM	**Songino Array**	**76.72**	**325**	P	P	00 22 58.0	+0.8
	0.6nm,0.7s,baz=141,slow=4.8,SNR=3.6						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**91.30**	**317**	P	P	00 24 10.4	-1.1
	0.2nm,0.6s,baz=96,slow=5.9,SNR=4.1						
	0.2nm,0.6s						

*MDD **08** 00:35:35.7±1.1, 43°.45N×15°.90W, h0km, Mb4.5/11, M_mb3.9/9, Error ellipse: s-maj=9.4km s-min=8.4km az=29.0*

*INMG **08** 00:35:37.4±1.8, 43°.58N×16°.33W, h16km, ML2.5, Error ellipse: s-maj=9.9km s-min=7.0km az=53.0*

ISC 08 00:35:40.0±4.0, 43°.3N±0°.1×15°.5W±0°.2, h10km, n34, σ0s99/63, 11C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZAM	**Zamans**	**5.12**	**101**	Pn	**Pn**	**00 36 57.2**	**+0.5**
EZAM				⇑*i*Vmb_V		00 36 58.1	
	403nm,SNR=1.2						
EZAM				Sn	**Sn**	**00 37 57.1**	**+1.1**
EAGO	**Agolada(Pontev**	**5.43**	**93**	Pn	**Pn**	**00 37 00.7**	**-0.3**
EAGO				⇑*i*Vmb_V		00 37 01.1	
	325nm,SNR=0.9						
EAGO				Sn	**Sn**	**00 38 03.2**	**-0.4**
PGAV	**Gavieira, Arco**	**5.48**	**102**	*e*P	**Pn**	**00 37 00.9**	**-0.8**
PGAV				*e*S	**Sn**	**00 38 04.3**	**-0.6**
PGAV				A	A	00 38 09.5	
	4.7nm,0.9s						
ELOB	**Lobios**	**5.66**	**102**	Pn	**Pn**	**00 37 05.1**	**+0.9**
ELOB				⇑*i*Vmb_V		00 37 05.8	
	382nm,SNR=1.3						
ELOB				Sn	**Sn**	**00 38 10.3**	**+1.1**
PCAB	**Cabril**	**5.73**	**104**	*e*P	**Pn**	**00 37 06.0**	**+0.9**
POLO	**Lamas de Olo**	**6.01**	**106**	*e*P	**Pn**	**00 37 10.1**	**+1.1**
POLO				*e*S	**Sn**	**00 38 19.4**	**+1.5**
EPON	**Pontenova**	**6.07**	**87**	Pn	**Pn**	**00 37 09.0**	**-0.7**
EPON				⇑*i*Vmb_V		00 37 11.6	
	454nm,SNR=0.7						
EPON				Sn	**Sn**	**00 38 16.6**	**-2.6**
PVRL	**Vila Real**	**6.10**	**107**	*e*P	**Pn**	**00 37 10.9**	**+0.7**
PCAS	**Casmilo, Conde**	**6.15**	**120**	*e*P	**Pn**	**00 37 11.2**	**+0.3**
PCAS				*e*S	**Sn**	**00 38 21.6**	**+0.3**
PVIS	**Viseu**	**6.21**	**112**	*e*P	**Pn**	**00 37 11.7**	**0.0**
PVIS				*e*S	**Sn**	**00 38 23.6**	**+0.8**
PVIS				A	A	00 38 30.5	
	2.7nm,0.6s						
PSBE	**So Bento**	**6.29**	**125**	*e*P	**Pn**	**00 37 13.0**	**+0.2**
PSBE				*e*S	**Sn**	**00 38 26.3**	**+1.5**
PSBE				A	A	00 38 39.4	
	6.0nm,0.6s						
PMAFR	**Mafra**	**6.39**	**131**	*e*P	**Pn**	**00 37 14.1**	**0.0**
PMAFR				*e*S	**Sn**	**00 38 27.1**	**0.0**
ECAL	**Calabor**	**6.59**	**99**	Pn	**Pn**	**00 37 17.8**	**+0.9**
ECAL				⇑*i*Vmb_V		00 37 19.3	
	130nm,SNR=0.7						
MTE	**Manteigas**	**6.59**	**114**	*e*P	**Pn**	**00 37 16.7**	**-0.3**
MTE				*e*S	**Sn**	**00 38 32.4**	**+0.1**
PBRG	**Braganca**	**6.62**	**100**	*e*P	**Pn**	**00 37 18.3**	**+1.0**
PBRG				*e*S	**Sn**	**00 38 35.5**	**+2.6**
MVO	**Moncorvo**	**6.62**	**106**	*e*P	**Pn**	**00 37 17.8**	**+0.4**
MVO				*e*S	**Sn**	**00 38 33.0**	**0.0**
MVO				A	A	00 38 36.2	
	3.5nm,1.0s						
PACT	**Alcochete**	**6.77**	**130**	*e*P	**Pn**	**00 37 19.5**	**+0.2**
PACT				*e*S	**Sn**	**00 38 38.6**	**+2.2**
PMTG	**Montargil**	**6.92**	**125**	*e*P	**Pn**	**00 37 21.3**	**-0.1**
PMTG				*e*S	**Sn**	**00 38 39.5**	**-0.6**
PCBR	**Castelo Branco**	**6.92**	**117**	*e*P	**Pn**	**00 37 21.5**	**-0.2**
PCBR				*e*S	**Sn**	**00 38 40.6**	**+0.3**
PMRV	**Marv??o**	**7.21**	**120**	*e*P	**Pn**	**00 37 24.7**	**-0.7**
PMRV				*e*S	**Sn**	**00 38 47.3**	**-0.1**
EVO	**Evora**	**7.40**	**128**	*e*P	**Pn**	**00 37 27.8**	**-0.1**
EVO				*e*S	**Sn**	**00 38 51.2**	**-0.7**
PNCL	**Nicolau / Gran**	**7.40**	**132**	*e*P	**Pn**	**00 37 28.1**	**+0.1**
PNCL				*e*S	**Sn**	**00 38 51.3**	**-0.7**
PESTR	**Estremoz**	**7.43**	**124**	*e*P	**Pn**	**00 37 27.9**	**-0.5**
PESTR				*e*S	**Sn**	**00 38 51.5**	**-1.2**
EPLA	**Plasencia**	**7.74**	**112**	Pn	**Pn**	**00 37 33.1**	**+0.4**
EPLA				⇑*i*Vmb_V		00 37 34.2	
	138nm,SNR=0.8						
EPLA				Sn	**Sn**	**00 38 59.4**	**-1.1**
MESJ	**Messejana**	**7.77**	**132**	*e*P	**Pn**	**00 37 33.3**	**+0.2**
MESJ				*e*S	**Sn**	**00 39 02.1**	**+1.1**
EBAD	**Badajoz**	**7.85**	**123**	Pn	**Pn**	**00 37 34.1**	**0.0**
EBAD				⇑*i*Vmb_V		00 37 35.2	
	133nm,SNR=1.0						
EBAD				Sn	**Sn**	**00 39 01.2**	**-1.8**
MORF	**Marmelete**	**7.95**	**137**	*e*P	**

		27nm,0.5s						
MDOK	**Medeo**		**3.31**	**294**	Pg	**Pb**	**00 56 33.4**	**+1.4**
	3.4nm,0.5s							
MDOK					⇓Pg	**Pb**	**00 56 33.4**	**+1.4**
	3.4nm,0.5s							
MDOK					Lg	Lg	00 57 20.3	
	6.7nm,0.7s							
MDOK					⇑Lg	Lg	00 57 20.8	
	11nm,0.6s							
MDOK	**Medeo**		**3.31**	**294**	*eP*	**Pb**	**00 56 33.4**	**+1.4**
	3.4nm,0.5s							
MDOK					*eS*	**Sg**	**00 57 20.4**	**+1.0**
	6.7nm,0.7s							
TNSS	**Tian-Shan**		**3.33**	**291**	Pg	**Pb**	**00 56 33.5**	**+0.9**
	2.0nm,0.3s							
TNSS					Lg	Lg	00 57 20.4	
	7.2nm,0.8s							
TNSS	**Tian-Shan**		**3.33**	**291**	*eP*	**Pb**	**00 56 33.5**	**+0.9**
	2.0nm,0.3s							
TNSS					*eS*	**Sg**	**00 57 20.4**	**+0.1**
	7.2nm,0.8s							
ARXS	**Arharly**		**3.37**	**314**	Pg	**Pb**	**00 56 34.5**	**+1.5**
	7.3nm,0.5s							
ARXS					Lg	Lg	00 57 22.3	
	24nm,1.5s							
ARXS	**Arharly**		**3.37**	**314**	*eP*	**Pb**	**00 56 34.5**	**+1.5**
	7.3nm,0.5s							
ARXS					*eS*	**Sg**	**00 57 22.3**	**+0.9**
	24nm,1.5s							
IZV	**Izvestkoviy**		**3.57**	**290**	Pg	**Pb**	**00 56 38.0**	**+1.5**
	1.1nm,0.2s							
IZV					Lg	Lg	00 57 27.8	
	11nm,0.6s							
IZV	**Izvestkoviy**		**3.57**	**290**	*eP*	**Pb**	**00 56 38.0**	**+1.5**
	1.1nm,0.2s							
IZV					*eS*	**Sg**	**00 57 27.9**	**+0.1**
	11nm,0.6s							
CHKK	**Chushkaly**		**3.65**	**304**	Pg	**Pb**	**00 56 39.4**	**+1.7**
	1.3nm,0.2s							
CHKK					Lg	Lg	00 57 30.4	
	9.1nm,0.5s							
CHKK	**Chushkaly**		**3.65**	**304**	*eP*	**Pb**	**00 56 39.4**	**+1.7**
	1.3nm,0.2s							
CHKK					*eS*	**Sg**	**00 57 30.4**	**+0.1**
	9.1nm,0.5s							
MTBS	**Maitube**		**3.72**	**291**	Pg	**Pb**	**00 56 38.6**	**-0.5**
	3.0nm,0.8s							
MTBS					Lg	Lg	00 57 28.8	
	5.3nm,0.6s							
MTBS	**Maitube**		**3.72**	**291**	*eP*	**Pb**	**00 56 39.8**	**+0.7**
	2.4nm,0.3s							
MTBS					*eS*	**Sg**	**00 57 31.3**	**-1.5**
	10nm,0.2s							
KTBS	**Karatobe**		**3.77**	**300**	Pg	**Pb**	**00 56 40.8**	**+0.9**
	1.6nm,0.4s							
KTBS					Lg	Lg	00 57 33.0	
	10nm,0.6s							
KTBS	**Karatobe**		**3.77**	**300**	*eP*	**Pb**	**00 56 40.8**	**+0.9**
	1.6nm,0.4s							
KTBS					*eS*	**Sg**	**00 57 33.0**	**-1.4**
	10nm,0.6s							
KST	**Kastek**		**4.03**	**288**	Pg	**Pb**	**00 56 45.4**	**+1.1**
	2.5nm,0.5s							
KST					Lg	Lg	00 57 41.1	
	7.6nm,0.6s							
KST	**Kastek**		**4.03**	**288**	*eP*	**Pb**	**00 56 45.4**	**+1.1**
	2.5nm,0.5s							
KST					*eS*	**Sg**	**00 57 41.1**	**-1.5**
	7.6nm,0.6s							
KUU	**Kurty**		**4.08**	**301**	Pg	**Pg**	**00 56 48.0**	**-3.3**
	2.8nm,0.7s							
KUU					Lg	Lg	00 57 45.5	
	7.5nm,0.7s							
KUU	**Kurty**		**4.08**	**301**	*eP*	**Pg**	**00 56 48.0**	**-3.3**
	2.8nm,0.7s							
KUU					*eS*	**Sg**	**00 57 45.5**	**+1.5**
	7.5nm,0.7s							
DGS	**Degeres**		**4.22**	**290**	Pg	**Pg**	**00 56 50.2**	**-3.7**
	1.8nm,0.5s							
DGS					Lg	Lg	00 57 49.4	
	9.2nm,0.8s							
DGS	**Degeres**		**4.22**	**290**	*eP*	**Pg**	**00 56 50.2**	**-3.7**
	1.8nm,0.5s							
DGS					*eS*	**Sg**	**00 57 49.4**	**+0.8**
	9.2nm,0.8s							
TKM2	**Tokmak 2**		**4.26**	**286**	⇓Pn	**Pn**	**00 56 41.7**	**+3.3**
	3.8nm,0.7s							
TKM2					⇑Lg	Lg	00 57 52.0	
	5.0nm,0.6s							
KRBS	**Karabastau**		**4.43**	**296**	Pg	**Pb**	**00 56 53.0**	**+1.8**
	1.8nm,0.5s							
KRBS					Lg	Lg	00 57 54.0	
	2.8nm,0.4s							
KRBS	**Karabastau**		**4.43**	**296**	*eP*	**Pb**	**00 56 53.0**	**+1.8**
	1.8nm,0.5s							
KRBS					*eS*	**Sg**	**00 57 54.0**	**-1.5**
	2.8nm,0.4s							
MAKZ	**Makanchi**		**4.93**	**6**	⇑Pn	**Pn**	**00 56 46.8**	**-0.4**
	2.8nm,0.8s							
MAKZ					⇑Sn	**Sn**	**00 57 46.1**	**+1.8**
	1.8nm,0.5s							
MAKZ					⇓Lg	Lg	00 58 05.7	
	2.9nm,0.7s							
MK31	**Makanchi Array**		**4.94**	**9**	⇓Pn	**Pn**	**00 56 47.1**	**-0.4**
	0.2nm,0.2s,baz=186,slow=13,SNR=23							
MK31					⇓Sn	**Sn**	**00 57 46.5**	**+1.8**
	2.2nm,0.7s,baz=161,slow=14,SNR=5.8							
MK31					Lg	Lg	00 58 07.7	
	5.2nm,0.7s,baz=188,slow=31,SNR=4.6							
AML	**Almayashu**		**5.59**	**275**	⇑Pg	**Pg**	**00 57 18.8**	**-1.4**
	0.8nm,0.9s							
AML					⇓Lg	Lg	00 58 33.0	
	2.1nm,1.2s							

*IDC **08** 00:57:10.8±2.5,3˚.83S×130˚.40E, h0km, mb3.9/3, mbtmp3.8/4, ML2.8/1, Error ellipse: s-maj=191.6km s-min=28.2km az=71.0*

*DJA **08** 00:57:15.4±1.4,3˚S±4˚×13˚1E±˚, h28km±16km, M3.6/8, MLv3.6/8*

ISC 08 00:57:12.9±1.0,**3˚.52S**±0˚.06×**131˚.0E**±0˚.1,**h30**km,**n11,**
σ4**816**/10,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.41**	**65**	P	Pn	00 57 35.5	-1.0
BNDI	**Bandanaira**	**1.46**	**227**	P	Pb	00 57 43.5	+4.1
KRAI	**Karang Ratu**	**2.58**	**274**	P	**Pb**	**00 57 59.1**	**+0.6**
SIJI	**Sorong**	**2.65**	**6**	P	**Pn**	**00 57 54.0**	**+0.4**
SWI	**Sorong**	**2.66**	**6**	P	**Pn**	**00 57 54.4**	**+0.7**
NLAI	**Namlea**	**3.88**	**274**	P	**Pb**	**00 58 17.4**	**-3.2**
SAUI	**Saumlaki**	**4.45**	**176**	P	**Pn**	**00 58 22.9**	**+4.6**
WRA	**Warramunga Arr**	**16.65**	**169**	Pn	**Pn**	**01 01 02.7**	**-1.5**
	baz=350,slow=13,SNR=1.3						
WRA					Sn	**Sn**	**01 03 59.6**	**-8.7**
	0.1nm,0.3s,baz=342,slow=18,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**20.23**	**172**	P	**P**	**01 01 45.7**	**0.0**
	13nm,0.4s,baz=352,slow=11,SNR=4.1						
	13nm,0.4s						
MKAR	**Makanchi Array**	**65.89**	**326**	P	**P**	**01 07 58.8**	**+2.8**
	0.4nm,0.6s,baz=108,slow=7.9,SNR=4.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**70.09**	**328**	P	**P**	**01 08 24.0**	**+1.8**
	0.4nm,0.6s,baz=122,slow=5.8,SNR=6.0						
	0.4nm,0.6s						

*IDC **08** 00:57:54.4±0.7,27˚.80N×142˚.07E, h0km, mb3.9/10, mbtmp3.8/11, ML2.7/1, MS2.7/2, Error ellipse: s-maj=30.9km s-min=13.6km az=85.0*

*JMA **08** 00:58:01.7±0.2,28˚N±1˚×14˚3E±˚, h30km, MV3.8/7, NEAR CHICHIJIMA ISLAND*

ISC 08 00:58:00.0±0.7,**27.81N**±0.05×**142˚.1E**±0.2,**h35**km,**n20,**
σ1**49**/20,**mb3.8**/11,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.71**	**176**	P	**Pn**	**00 58 15.0**	**+1.4**
CBIJ				S	**Sn**	**00 58 24.5**	**+1.2**
JCJ	**Chichijima**	**0.71**	**176**	Pn	**Pn**	**00 58 10.5**	**-3.1**
	214nm,0.3s,baz=337,slow=4.8,SNR=102						
JCJ				Sn	**Sn**	**00 58 20.6**	**-2.6**
	1μm,0.3s,baz=2.7,slow=23,SNR=33						
JHH2	**Haha-jima-NKT2**	**1.17**	**178**	P	**Pn**	**00 58 21.6**	**+1.7**
JHH2				S	**Sn**	**00 58 36.7**	**+2.1**
BSO1	**Boso 1**	**6.90**	**352**	P	**Pn**	**00 59 38.7**	**+0.6**
BSO3	**Boso 3**	**7.11**	**349**	P	**Pn**	**00 59 42.0**	**+0.7**
MJAR	**Matsushiro Arr**	**9.32**	**340**	Pn	Pn	01 00 09.6	-2.3
	0.1nm,0.3s,baz=164,slow=12,SNR=2.4						
	0.4nm,0.4s						
KSRS	**Korea Array**	**15.34**	**312**	LR	LR	01 06 53.6	
	comp=Z,15nm,18.2s,baz=0.0,slow=35						
CMAR	**Chiang Mai Arr**	**40.62**	**266**	LR	LR	01 22 52.7	
	comp=Z,13nm,18.1s,baz=5.0,slow=37						
WRA	**Warramunga Arr**	**48.06**	**190**	P	**P**	**01 06 36.5**	**+0.3**
	1.8nm,0.6s,baz=10,slow=8.1,SNR=17						
WRA					PcP	**PcP**	**01 08 04.3**	**+0.6**
	0.5nm,0.9s,baz=359,slow=3.2,SNR=1.3						
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**48.92**	**319**	PcP	**PcP**	**01 08 05.6**	**-0.7**
	0.3nm,0.4s,baz=114,slow=3.5,SNR=4.0						
ASAR	**Alice Springs**	**51.78**	**190**	P	**P**	**01 07 04.9**	**+0.5**
	0.3nm,0.6s,baz=10,slow=8.6,SNR=2.2						
KURBB	**Kurchatov Arra**	**52.51**	**314**	P	P	01 07 07.9	-1.7
	0.4nm,0.7s,baz=91,slow=8.0,SNR=5.0						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**57.12**	**29**	P	**P**	**01 07 42.3**	**-0.4**
	0.3nm,0.7s,baz=281,slow=6.0,SNR=4.1						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**57.49**	**317**	P	**P**	**01 07 44.9**	**-0.7**
	0.7nm,0.6s,baz=105,slow=6.1,SNR=5.4						
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**71.54**	**28**	P	**P**	**01 09 16.1**	**-1.1**
	0.3nm,0.6s,baz=297,slow=6.5,SNR=7.0						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**77.29**	**334**	P	**P**	**01 09 51.5**	**+0.9**
	8.1nm,1.1s,baz=68,slow=5.0,SNR=8.5						
	8.1nm,1.1s						
NVAR	**Mina Array Bea**	**80.12**	**52**	P	**P**	**01 10 09.0**	**+2.1**
	0.7nm,0.7s,baz=282,slow=5.1,SNR=4.2						
	0.7nm,0.7s						
HFS	**Hagfors**	**82.75**	**337**	P	**P**	**01 10 19.0**	**-1.1**
	3.7nm,0.9s,baz=25,slow=11,SNR=2.4						
	3.7nm,0.9s						
NOA	**NORSAR Array B**	**82.94**	**338**	P	**P**	**01 10 20.3**	**-0.8**
	1.4nm,1.0s,baz=52,slow=6.4,SNR=1.7						
	1.4nm,1.0s						
PDAR	**Pinedale Array**	**83.74**	**45**	P	**P**	**01 10 25.8**	**-0.1**
	0.2nm,0.6s,baz=252,slow=1.8,SNR=2.3						
	0.2nm,0.6s						

*AEIC **08** 01:53:32.2±2.2,50˚.4N±0˚.1×173˚.4W±0˚.1, h8km±7km, Error ellipse: s-maj=14.7km s-min=9.5km az=170.0*

NEIC 08 01:53:27.1±2.7,**50˚.37N**±0˚.08×**173˚.4W**±0˚.1,**h10**km±2km,
mb3.8/66,**ML3.5**(AEIC),**Error ellipse: s-maj=13.3km**
s-min=11.0km az=166.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.91**	**344**		Pn	01 53 59.4	-0.3
ATKA					Sn	01 54 22.2	-1.5
KOFP	**Korovin Flat P**	**1.96**	**347**		Pn	01 54 00.9	+0.4
KOSE	**Korovin Southe**	**2.02**	**348**		Pn	01 54 01.9	+0.6
KOKL	**Mount Kliuchef**	**2.02**	**345**		Pn	01 54 01.6	+0.2
KONE	**Korovin Northe**	**2.08**	**347**		Pn	01 54 02.5	+0.5
GSMY	**Great Sitkin M**	**2.38**	**316**		Pn	01 54 06.5	+0.2
GSCK	**Great Sitkin C**	**2.41**	**314**		Pn	01 54 07.0	+0.4
GSTR	**Great Sitkin T**	**2.42**	**316**	Pn	Pn	01 54 05.4	-1.4
ADK	**Adak**	**2.58**	**307**	Pn	Pn	01 54 08.3	-0.7
ADK				Sn	Sn	01 54 36.9	-3.6
KIWB	**Kanaga Island**	**2.81**	**303**	Pn	Pn	01 54 10.1	-2.0
TAFP	**Tanaga Falls P**	**3.29**	**299**		Pn	01 54 19.9	+1.2
TAFP					Sn	01 54 57.3	-0.5
OKTU	**Okmok Mt. Tuli**	**4.46**	**45**		Pn	01 54 35.3	+0.5
OKFG	**Magazine Ridge**	**4.54**	**46**		Pn	01 54 36.5	+0.6
OKFG					Sn	01 55 25.2	-3.5
MAPS	**Pakushin South**	**5.24**	**47**		Pn	01 54 45.7	+0.2
MAPS					Sn	01 55 42.3	-3.7
MNAT	**Makushin Natee**	**5.41**	**47**		Pn	01 54 48.2	+0.4
UNV	**Unalaska Valle**	**5.47**	**48**		Sn	01 55 47.3	-4.2
UNV	**Unalaska Valle**	**5.47**	**48**	Pn	Pn	01 54 47.3	-1.3
SDPT	**Sand Point**	**9.24**	**52**	Pn	Pn	01 55 40.1	-0.3
CHGN	**Chignik**	**10.72**	**51**	Pn	Pn	01 55 59.3	-1.2
O14K	**Tigyukauivet M**	**11.29**	**33**	Pn	Pn	01 56 10.8	+2.5
M13K	**Dall Lake**	**11.54**	**26**	Pn	Pn	01 56 07.4	-4.4
CHIR	**Chirikof Islan**	**11.96**	**56**	Pn	Pn	01 56 14.8	-2.7
R17K	**Ugashik Creek**	**12.33**	**47**	Pn	Pn	01 56 21.6	-1.0
N15K	**Kwethluk River**	**12.36**	**32**	Pn	Pn	01 56 23.3	+0.3
O16K	**Kokwok River B**	**12.70**	**38**	Pn	Pn	01 56 29.6	+2.0
N17K	**Nushagak Hills**	**13.65**	**36**	Pn	Pn	01 56 39.9	-0.8
OHAK	**Old Harbor**	**13.67**	**52**	Pn	Pn	01 56 36.9	-3.9
L16K	**Owhat River**	**13.72**	**29**	Pn	Pn	01 56 41.2	-0.2
P18K	**Big Mountain,**	**13.76**	**42**	Pn	Pn	01 56 43.3	+1.3
O18K	**Koktuh Hills**	**14.02**	**40**	Pn	Pn	01 56 47.0	+1.3
M17K	**Holitna River**	**14.16**	**33**	Pn	Pn	01 56 48.5	+1.1
Q19K	**Cape Douglas,**	**14.22**	**45**	Pn	Pn	01 56 47.1	-1.3
KDAK	**Kodiak Island**	**14.23**	**51**	Pn	Pn	01 56 45.5	-3.0
N18K	**Kilae Creek**	**14.24**	**37**	Pn	Pn	01 56 50.1	+1.4
SVW2	**Sparrevohn**	**14.63**	**36**	Pn	Pn	01 56 52.6	-1.3
J16K	**Anvik River**	**14.66**	**23**	Pn	Pn	01 56 54.6	+0.3
K17K	**Iditarod**	**14.84**	**28**	Pn	Pn	01 56 56.7	-0.1
N19K	**Bonanza Creek**	**14.88**	**38**	Pn	Pn	01 56 55.9	-1.5
ILSW	**Iliamna Southw**	**14.97**	**42**	Pn	Pn	01 56 58.4	-0.2
L18K	**Granite Mounta**	**14.99**	**31**	Pn	Pn	01 56 59.0	+0.2
M19K	**Big River Lodg**	**15.58**	**35**	Pn	Pn	01 57 07.8	+1.2
M19K					IAmb	01 57 18.8	
	comp=Z,13nm,1.4s						
CNPM	**China Poot**	**15.60**	**46**	Pn	Pn	01 57 03.5	-3.3
BRLK	**Bradley Lake**	**15.86**	**45**	Pn	Pn	01 57 07.4	-2.9
M20K	**Styx River**	**16.04**	**36**	Pn	Pn	01 57 13.0	+0.4
M20K					IAmb	01 57 21.2	
	comp=Z,12nm,1.5s						
J19K	**Poorman**	**16.60**	**28**	Pn	Pn	01 57 20.1	+0.3
J19K					IAmb	01 57 20.7	
	comp=Z,7.9nm,1.4s						
K20K	**Telida**	**16.65**	**31**	Pn	Pn	01 57 20.3	0.0
SKT	**Skwentna**	**16.71**	**38**	Pn	Pn	01 57 20.8	-0.4
H18K	**Honhosa River**	**16.76**	**22**	P	P	01 57 25.1	+1.1
RC01	**Rabbit Creek A**	**16.98**	**42**	Pn	Pn	01 57 23.1	-1.4
RC01					IAmb	01 57 35.6	
	comp=Z,8.7nm,1.2s						
J20K	**Nowinta River**	**17.19**	**29**	Pn	Pn	01 57 25.4	-1.6
CAST	**Castle Rocks**	**17.36**	**33**	Pn	Pn	01 57 28.8	-0.5
CAST					IAmb	01 58 11.8	
	comp=Z,8.5nm,1.5s						
GHO	**Glory Hole Cre**	**17.65**	**40**	Pn	Pn	01 57 31.2	-1.7
GHO					IAmb	01 57 41.8	
	comp=Z,14nm,1.5s						
KNK	**Knik Glacier**	**17.68**	**42**		Pn	01 57 32.7	-0.5
KTH	**Kantishna Hill**	**17.86**	**34**		P	01 57 36.1	0.0
SML	**Sawmill**	**17.92**	**41**		Pn	01 57 35.6	-0.6
SML					IAmb	01 57 46.5	
	comp=Z,9.2nm,1.1s						
TRF	**Thorofare Moun**	**18.03**	**35**		Pn	01 57 36.8	-0.9
PEA0B	**Petropavlovsk-**	**18.08**	**290**		Pn	01 57 37.5	-0.6
HIN	**Hinchinbrook I**	**18.13**	**46**	Pn	Pn	01 57 36.3	-2.4
FID	**Port Fidalgo**	**18.27**	**45**	Pn	Pn	01 57 37.6	-2.9
SCM	**Sheep Creek Mo**	**18.35**	**41**	P	Pn	01 57 39.2	-2.4
SCM					IAmb	01 57 44.7	
	comp=Z,17nm,1.3s						
C16K	**Lisburne Hills**	**18.39**	**9**	P	Pn	01 57 39.7	-2.1
RND	**Reindeer**	**18.53**	**36**	P	P	01 57 40.8	-2.7
RND					IAmb	01 57 55.9	
	comp=Z,9.4nm,1.4s						
H21K	**Melozitna Rive**	**18.64**	**27**	P	Pn	01 57 45.7	+0.7
KLU	**Klutina**	**18.81**	**43**	P	P	01 57 44.0	-2.7
KLU					IAmb	01 57 48.8	
	comp=Z,12nm,1.3s						
DHY	**Denali Highway**	**18.93**	**38**	P	P	01 57 47.7	-0.3
F20K	**Avaraart Lake**	**18.93**	**21**	P	P	01 57 44.2	-3.6
E19K	**Redstone River**	**18.93**	**19**	P	Pn	01 57 48.5	0.0
E19K					IAmb	01 57 50.2	
	comp=Z,2.6nm,0.6s						
M24K	**Tolsona, Glenn**	**18.96**	**41**	P	P	01 57 48.1	-0.2
G21K	**Allakaket**	**19.08**	**25**	P	Pn	01 57 50.5	+0.2
G21K					IAmb	01 58 22.7	
	comp=Z,6.5nm,1.4s						
C18K	**Utukok River**	**19.27**	**14**	P	Pn	01 57 53.1	+0.5
I23K	**Minto, Yukon-K**	**19.38**	**31**	P	P	01 57 51.6	-1.1
I23K					IAmb	01 58 05.5	
	comp=Z,4.6nm,0.8s						
N25K	**Chitina, Valde**	**19.44**	**44**	P	P	01 57 53.3	-0.2
N25K					IAmb	01 58 17.6	
	comp=Z,11nm,1.2s						
CCB	**Clear Creek Bu**	**19.61**	**34**	P	P	01 57 55.5	+0.3
MDM	**Murphy Dome**	**19.64**	**33**	P	P	01 57 55.4	-0.3
D19K	**Kuna River**	**19.65**	**17**	P	P	01 57 56.3	+0.6
GLB	**Gilahina Butte**	**19.73**	**45**	P	Pn	01 57 57.6	-0.6
GLB					IAmb	01 58 23.9	
	comp=Z,14nm,1.5s						
CRQM	**Cirque**	**19.81**	**47**	P	P	01 57 57.9	+0.2
VRDI	**Verde Repeater**	**19.82**	**45**	P	P	01 57 57.0	-0.8
TGL	**Tana Glacier**	**19.95**	**47**	P	P	01 57 59.5	+0.3
IL31		**20.01**	**34**	P	P	01 57 57.8	-1.7
ILAR	**Eielson Array**	**20.01**	**34**	P	P	01 57 58.4	-1.3
H24K	**Noodor Dome**	**20.29**	**31**	P	P	01 58 02.9	+0.2
H24K					IAmb	01 58 24.1	
	comp=Z,8.7nm,1.5s						
M26K	**Nabesna, AK**	**20.44**	**42**	P	P	01 58 04.8	+0.4
M26K					IAmb	01 58 11.5	
	comp=Z,5.6nm,1.3s						
GRNC	**Granite Creek**	**20.45**	**47**	P	P	01 58 05.1	+0.3
J25K	**Salcha River,**	**20.48**	**35**	P	P	01 58 03.3	-1.5
J25K					IAmb	01 58 07.2	
	comp=Z,5.3nm,0.6s						
BARN	**Barnard Glacie**	**20.59**	**47**	P	Pn	01 58 08.5	0.0
SCRK	**Sand Creek**	**20.69**	**38**	P	P	01 58 06.9	-0.3
SCRK					IAmb	01 58 11.7	
	comp=Z,3.6nm,1.1s						
CTGM	**Chitina Glacie**	**20.72**	**47**	P	P	01 58 04.2	-3.3
LOGN	**Logan Glacier**	**20.83**	**48**	P	P	01 58 06.7	-2.1
M27K	**Edge Creek, AK**	**20.91**	**43**	P	P	01 58 07.1	-2.5
M27K					IAmb	01 58 13.9	
	comp=Z,5.7nm,1.1s						
J26L	**Joseph Creek**	**21.10**	**37**	P	P	01 58 10.8	-0.8
J26L					IAmb	01 58 13.6	
	comp=Z,3.2nm,0.8s						
K27K	**Chicken**	**21.47**	**39**	P	P	01 58 17.0	+1.5
K27K					IAmb	01 58 22.3	
	comp=Z,6.1nm,1.1s						
E24K	**Your Creek**	**21.56**	**25**	P	P	01 58 17.8	+1.4
E24K					IAmb	01 58 33.7	
	comp=Z,3.4nm,1.2s						
I26K	**Coal Creek Min**	**21.64**	**35**	P	P	01 58 16.2	-1.1
I26K					IAmb	01 58 20.5	
	comp=Z,3.7nm,0.6s						
EGAK	**Eagle**	**22.15**	**37**	P	P	01 58 22.9	+0.1
BMAR	**Burnt Mountain**	**22.30**	**29**	P	P	01 58 26.3	+2.0
C23K	**Itkillik River**	**22.30**	**21**	P	P	01 58 24.0	-0.3
C23K					IAmb	01 58 25.8	
	comp=Z,4.9nm,0.8s						
M29M	**Somme Creek**	**22.45**	**44**	P	P	01 58 28.0	+1.9
M29M					IAmb	01 59 05.7	
	comp=Z,4.3nm,1.3s						
I28M	**Miner Creek**	**22.91**	**36**	P	P	01 58 30.3	-0.5
I28M					IAmb	01 59 02.4	
	comp=Z,2.9nm,1.1s						
K29M	**Barlow Dome**	**23.28**	**41**	P	P	01 58 36.5	+1.8
K29M					IAmb	01 58 37.4	
	comp=Z,3.0nm,1.0s						
H29M	**Whitestone**	**23.82**	**35**	P	P	01 58 39.6	-0.3
J30M	**Hart River**	**24.00**	**40**	P	P	01 58 43.8	+2.0
J30M					IAmb	01 59 02.0	
	comp=Z,2.9nm,1.1s						
I30M	**Mount Dempster**	**24.20**	**38**	P	P	01 58 43.3	-0.3
I30M					IAmb	01 58 53.7	
	comp=Z,6.2nm,1.4s						
G29M	**Pine Creek**	**24.24**	**34**	P	P	01 58 43.9	0.0
G29M					IAmb	01 59 01.3	
	comp=Z,2.3nm,1.0s						
G30M	**tAoh Zrail Nji**	**24.91**	**34**	P	P	01 58 51.9	+2.0
G30M					IAmb	01 58 55.2	
	comp=Z,2.7nm,1.4s						
E29M	**Blow River**	**24.95**	**31**	P	P	01 58 51.5	+1.2
E29M					IAmb	01 59 21.1	
	comp=Z,3.9nm,1.4s						
G31M	**Satah River**	**25.60**	**35**	P	P	01 58 57.5	+1.4
INK	**Inuvik**	**26.38**	**32**	P	P	01 59 03.9	+0.7
INK					IAmb	01 59 06.1	
	comp=Z,2.1nm,0.9s						

IDC 08 01:58:15.5±5.0,**17˚.16S**×**174˚.13W**,**h0**km,**mb3.8**/4,
mbtmp3.8/4,**MS3.3**/1,**Error ellipse: s-maj=223.6km**
s-min=35.6km az=138.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.53**	**195**	LR	LR	02 05 18.8	
	comp=Z,140nm,21.4s,baz=144,slow=34						
STKA	**Stephens Creek**	**42.57**	**241**	P	P	02 06 13.5	+0.1
	1.1nm,0.5s,baz=79,slow=10,SNR=3.4						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**48.78**	**258**	P	P	02 07 02.4	-0.4
	0.3nm,0.6s,baz=95,slow=6.5,SNR=4.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**48.92**	**253**	P	P	02 07 04.0	+0.1
	2.5nm,0.6s,baz=88,slow=8.5,SNR=37						
	2.5nm,0.6s						
ILAR	**Eielson Array**	**84.30**	**11**	P	P	02 10 49.7	+0.8
	0.2nm,0.6s,baz=213,slow=5.9,SNR=1.8						
	0.2nm,0.6s						
BRTR	**Keskin Array B**	**147.05**	**319**	PKPbc	PKPdf	02 17 58.9	+0.1
	0.4nm,0.9s,baz=70,slow=2.1,SNR=4.2						

*DJA **08** 02:30:12.2±0.5,4˚.N±4˚×9˚.5E±˚, h10km, M4.7/10, mB5.8/5, mb4.6/7, MLv4.5/10, Mw(mB)5.4/5*

*NEIC **08** 02:30:14.1±1.4,4˚.23N±0˚.03×94

KKAR	**Karatay Array**	**44.33**	**334**	P		**P**	**02 38 21.9**	**+0.8**
SONM	**Songino Array**	**44.49**	**11**	P		**P**	**02 38 21.8**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=187,slow=10,SNR=1.8							
SONM				PcP		**PcP**	**02 40 05.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=231,slow=2.4,SNR=2.3							
	comp=Z,0.2nm,0.4s							
WB0	**Warramunga Arr**	**45.53**	**123**	P		**P**	**02 38 30.4**	**-0.5**
WB0				IAmb		IAmb	02 38 31.4	
	comp=Z,4.2nm,0.6s							
WRA	**Warramunga Arr**	**45.57**	**123**	P		**P**	**02 38 30.6**	**-0.7**
WRA	**Warramunga Arr**	**45.57**	**123**	P		**P**	**02 38 31.3**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=302,slow=9.0,SNR=21							
	comp=Z,2.9nm,0.7s							
WRAB	**Tennant Creek**	**45.57**	**123**	P		**P**	**02 38 31.1**	**-0.2**
WB2	**Warramunga Arr**	**45.58**	**123**	P		**P**	**02 38 30.5**	**-0.8**
WR0	**Warramunga Arr**	**45.74**	**123**	P		**P**	**02 38 32.6**	**0.0**
AS31	**Alice Springs**	**47.03**	**128**	P		**P**	**02 38 42.6**	**-0.1**
AS31				IAmb		IAmb	02 38 43.4	
	comp=Z,1.3nm,0.5s							
ASAR	**Alice Springs**	**47.03**	**128**	P		**P**	**02 38 42.7**	**0.0**
ASAR	**Alice Springs**	**47.03**	**128**	P		**P**	**02 38 43.0**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=298,slow=8.1,SNR=59							
ASAR				PcP		**PcP**	**02 40 15.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=316,slow=3.9,SNR=2.5							
	comp=Z,2.7nm,0.5s							
FORT	**Forrest**	**47.06**	**140**	P		**P**	**02 38 43.5**	**+0.7**
GEYT	**Alibeck**	**47.43**	**320**	P		**P**	**02 38 45.7**	**0.0**
GEYT				IAmb		IAmb	02 38 48.2	
	comp=Z,2.7nm,0.8s							
GEYT	**Alibeck**	**47.43**	**320**	P		**P**	**02 38 46.9**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=137,slow=9.3,SNR=5.8							
	comp=Z,2.6nm,0.6s							
KURBB	**Kurchatov Arra**	**48.21**	**346**	P		**P**	**02 38 51.9**	**+0.6**
KURBB				PcP		**PcP**	**02 40 18.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=169,slow=6.8,SNR=5.1							
	comp=Z,0.2nm,0.3s,baz=142,slow=3.2,SNR=1.9							
	comp=Z,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**50.20**	**352**	P		**P**	**02 39 06.4**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=177,slow=8.4,SNR=4.8							
	comp=Z,0.6nm,0.4s							
BVAR	**Borovoye Array**	**52.63**	**342**	P		**P**	**02 39 24.8**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=144,slow=9.5,SNR=10							
	comp=Z,3.4nm,0.6s							
BRVK	**Borovoye**	**52.70**	**342**	P		**P**	**02 39 25.3**	**+0.1**
BRVK				IAmb		IAmb	02 39 33.1	
	comp=Z,2.8nm,1.1s							
ABKAR	**Akbulak array**	**53.76**	**332**	P		**P**	**02 39 34.0**	**+0.9**
H04N2	**CROZET ISLANDS**	**63.11**	**212**	T		T	03 49 54.0	
	baz=50,slow=75,SNR=34							
H04N1	**CROZET ISLANDS**	**63.12**	**212**	T		T	03 49 51.8	
	baz=50,slow=75,SNR=30							
H04N3	**CROZET ISLANDS**	**63.13**	**212**	T		T	03 49 49.5	
	baz=50,slow=75,SNR=36							
BRTR	**Keskin Array B**	**65.40**	**312**	P		**P**	**02 40 54.0**	**+0.3**
BRTR	**Keskin Array B**	**65.40**	**312**	P		**P**	**02 40 53.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=103,slow=4.6,SNR=8.4							
	comp=Z,0.8nm,0.6s							
AKASG	**Malin Array Be**	**71.47**	**322**	P		**P**	**02 41 31.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=90,slow=5.7,SNR=5.7							
	comp=Z,0.3nm,0.4s							
MLR	**Muntele Rosu**	**72.31**	**316**	P		**P**	**02 41 38.2**	**+1.7**
MLR				IAmb		IAmb	02 42 08.6	
	comp=Z,4.1nm,1.2s							
BURAR	**Bucovina Array**	**73.25**	**318**	P		**P**	**02 41 42.9**	**+0.8**
FINES	**FINESS Array B**	**76.25**	**333**	P		**P**	**02 41 58.9**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=123,slow=7.0,SNR=6.7							
	comp=Z,4.4nm,0.9s							
ARCES	**ARCESS Array B**	**78.90**	**340**	P		**P**	**02 42 14.1**	**+0.5**
	comp=Z,5.5nm,1.0s,baz=98,slow=6.5,SNR=4.9							
	comp=Z,5.5nm,1.0s							
GERES	**GERESS Array B**	**81.04**	**319**	P		**P**	**02 42 26.7**	**+0.9**
GERES	**GERESS Array B**	**81.04**	**319**	P		**P**	**02 42 26.2**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=116,slow=4.5,SNR=2.6							
	comp=Z,0.8nm,0.6s							
SPITS	**Spitsbergen Ar**	**83.50**	**348**	P		**P**	**02 42 37.4**	**-0.5**
	comp=Z,7.9nm,1.0s,baz=102,slow=12,SNR=5.1							
	comp=Z,7.9nm,1.0s							

*IDC **08** 02:43:52.5±2.6, 14°.26N×91°.90W, h64km±21km, mb3.2/5, mbtmp3.5/8, MS2.8/1, Error ellipse: s-maj=29.8km s-min=14.6km az=26.0*
*MEX **08** 02:43:52.8±0.7, 14°.13N×92°.19W, h10km, MD4.0*
*CATAC **08** 02:43:52.0±0.6, 14°.14N×92°.09W, h26km±5km, ML4.4*
*GCG **08** 02:43:53.8±0.3, 14°.43N×91°.93W, h70km±7km, MD4.0*
*SNET **08** 02:43:53.9±0.7, 14°.61N×91°.83W, h61km±41km, ML3.8*

ISC 08 02:43:51.0±1.0, 14°.12N±0°.05×92°.16W±0°.03, h53km±10km, n66, σ1°77/112, mb3.4/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.61**	**48**	*e*P		**Pn**	**02 44 03.6**	**-0.2**
RTAL				*e*S		**Sn**	**02 44 11.8**	**-1.2**
RTAL	**Retalhuleu**	**0.61**	**48**	*i* P		**Pn**	**02 44 04.0**	**+0.2**
RTAL				*i* S		**Sn**	**02 44 13.4**	**+0.4**
RTAL				IAML			02 44 13.9	
	comp=Z,11μm,1.0s							
SULM	**Suchitepequez,**	**0.61**	**72**	*e*P		**Pn**	**02 44 05.5**	**+1.8**
SMCA	**Catarina**	**0.74**	**6**	*i* P		**Pn**	**02 44 05.7**	**+0.2**
SMCA				*i* S		**Sn**	**02 44 15.5**	**-0.5**
SMCA				IAML			02 44 15.5	
	comp=Z,5μm,1.0s							
THIG		**0.80**	**353**	*i* P		**Pn**	**02 44 06.6**	**+0.4**
THIG				*e*S		**Sn**	**02 44 17.8**	**+0.6**
STG3	**Santiaguito 3,**	**0.82**	**44**	*e*P		**Pn**	**02 44 06.8**	**+0.1**
SMSP	**San Marcos**	**0.93**	**23**	*e*P		**Pn**	**02 44 08.0**	**-0.2**
SMSP				*e*S		**Sn**	**02 44 20.2**	**-0.6**
SMSP	**San Marcos**	**0.93**	**23**	*i* P		**Pn**	**02 44 08.7**	**+0.5**
SMSP				*i* S		**Sn**	**02 44 20.2**	**-0.6**
SMSP				IAML			02 44 23.5	
	comp=Z,36μm,1.0s							
CHUJ	**Union Juarez**	**0.97**	**3**	*e*P		**Pn**	**02 44 08.4**	**-0.3**
CHUJ				*e*S		**Sn**	**02 44 20.6**	**-1.2**
QUEO	**Labor Ovalle**	**0.98**	**40**	*i* P		**Pn**	**02 44 09.0**	**+0.1**
QUEO				*i* S		**Sn**	**02 44 21.3**	**-0.6**
QUEO				IAML			02 44 22.2	
	comp=Z,36μm,1.0s							
PATR	**El Naranjo**	**1.00**	**356**	*e*P		**Pn**	**02 44 08.3**	**-0.8**
PATR				*i* S		**Sn**	**02 44 21.0**	**-1.4**
SOKI	**Kika Raxquin**	**1.01**	**46**	*i* P		**Pn**	**02 44 09.0**	**-0.4**
SOKI				*i* S		**Sn**	**02 44 22.3**	**-0.7**
SOKI				IAML			02 44 26.5	
	comp=Z,11μm,1.0s							
PAVE	**Pavencul**	**1.07**	**359**	*i* P		**Pn**	**02 44 09.7**	**-0.3**
PAVE				*i* S		**Sn**	**02 44 23.2**	**-0.9**
FUG	**Fuego 3**	**1.32**	**75**	*e*P		**Pn**	**02 44 13.6**	**+0.3**
HUEH	**Huehuetenango**	**1.35**	**28**	*e*P		**Pn**	**02 44 14.6**	**+0.7**
HUEH				*e*S		**Sn**	**02 44 31.1**	**+0.2**
HUEH	**Huehuetenango**	**1.35**	**28**	*i* P		**Pn**	**02 44 14.8**	**+0.9**
HUEH				*i* S		**Sn**	**02 44 31.8**	**+0.9**
HUEH				IAML			02 44 38.9	
	comp=Z,9μm,1.0s							
PCG	**Pacaya**	**1.53**	**79**	*e*P		**Pn**	**02 44 16.9**	**+0.7**
QUIS	**Sacapulas**	**1.56**	**41**	*i* P		**Pn**	**02 44 17.7**	**+1.1**
QUIS				IAML			02 44 17.8	
	comp=Z,4μm,1.0s							
QUIS				*i* S		**Sn**	**02 44 36.9**	**+1.1**
GUMI	**Mixco**	**1.58**	**71**	*i* P		**Pn**	**02 44 17.5**	**+0.5**
GUMI				*i* S		**Sn**	**02 44 37.5**	**+1.0**
GUMI				IAML			02 44 39.1	
	comp=Z,7μm,1.0s							
GCG4	**OSOP**	**1.65**	**73**	*i* P		**Pn**	**02 44 18.7**	**+0.9**
GCG4				*i* S		**Sn**	**02 44 38.6**	**+0.7**
GCG4				IAML			02 44 40.0	
	comp=Z,7μm,1.0s							
NBG	**Las Nubes**	**1.82**	**75**	*e*P		**Pn**	**02 44 22.0**	**+1.7**
NBG				*e*S		**Sn**	**02 44 41.1**	**-1.2**
GUNB	**GUNB**	**1.82**	**75**	*i* P		**Pn**	**02 44 21.3**	**+1.0**
GUNB				*i* S		**Sn**	**02 44 43.2**	**+0.8**
GUNB				IAML			02 44 46.7	
	comp=Z,2μm,1.0s							
PCIG		**1.88**	**327**	*e*P		**Pn**	**02 44 21.8**	**+1.0**
PCIG				*i* S		**Sn**	**02 44 43.7**	**+0.3**
CCIG	**Comitan**	**2.15**	**1**	*e*P		**Pn**	**02 44 26.9**	**+2.1**
CCIG				*e*S		**Sn**	**02 44 53.1**	**+2.7**
SLOZ	**Alcaldia de Sa**	**2.31**	**92**	*e*P		**Pn**	**02 44 26.8**	**+0.1**
SLOZ				*e*S		**Sn**	**02 44 51.5**	**-2.4**
SLOZ				IAML			02 45 02.3	
	comp=Z,311nm,0.5s							
LOAL	**Lomas de Alarc**	**2.31**	**93**	IAML			02 44 27.8	
	comp=Z,3μm,1.0s							
LOAL				*i* P		**Pn**	**02 44 28.0**	**+1.2**
LOAL				*i* S		**Sn**	**02 44 54.4**	**+0.3**
NUBE	**Las Nubes**	**2.32**	**95**	*e*P		**Pn**	**02 44 27.0**	**0.0**
NUBE				*e*S		**Sn**	**02 44 53.2**	**-1.2**
NUBE				IAML			02 44 56.2	
	comp=Z,383nm,0.4s							
NUBE	**Las Nubes**	**2.32**	**95**	*i* P		**Pn**	**02 44 27.4**	**+0.5**
NUBE				*i* S		**Sn**	**02 44 53.9**	**-0.5**
NUBE				IAML			02 44 55.9	
	comp=Z,1μm,1.0s							
CEVE	**Cerro Verde**	**2.48**	**96**	*e*P		**Pn**	**02 44 30.1**	**+0.9**
CEVE				*e*S		**Sn**	**02 44 58.8**	**+0.3**
CEVE	**Cerro Verde**	**2.48**	**96**	*i* P		**Pn**	**02 44 30.5**	**+1.3**
CEVE				IAML			02 45 09.3	
	comp=Z,1μm,1.0s							
SNJE	**San Jose**	**2.49**	**95**	*e*P		**Pn**	**02 44 30.0**	**+0.6**
SNJE				*e*S		**Sn**	**02 44 58.4**	**-0.3**
UNIC	**Universidad Ca**	**2.54**	**93**	*i* P		**Pn**	**02 44 30.3**	**+0.4**
UNIC				IAML			02 44 31.4	
	comp=Z,280nm,1.0s							
UNIC				*i* S		**Sn**	**02 44 58.6**	**-1.0**
JAYA	**Jayaque - finc**	**2.67**	**100**	*e*P		**Pn**	**02 44 31.9**	**+0.1**
JAYA				IAML			02 45 03.6	
	comp=Z,638nm,0.3s							
JAYA	**Jayaque - finc**	**2.67**	**100**	*i* P		**Pn**	**02 44 32.7**	**+0.9**
JAYA				*i* S		**Sn**	**02 45 02.0**	**-1.1**
JAYA				IAML			02 45 05.4	
	comp=Z,2μm,1.0s							
CARR	**Arriaga**	**2.71**	**322**	*e*P		**Pn**	**02 44 34.3**	**+2.1**
CARR				*e*S		**Sn**	**02 45 04.6**	**+0.8**
MTO3	**Montecristo**	**2.73**	**84**	*i* P		**Pn**	**02 44 32.7**	**+0.1**
MTO3				IAML			02 45 07.8	
	comp=Z,210nm,1.0s							
PMON	**Piamonte**	**2.79**	**98**	*i* P		**Pn**	**02 44 34.2**	**+0.8**
PMON				IAML			02 45 12.7	
	comp=Z,1μm,1.0s							
TGIG		**2.81**	**341**	*e*P		**Pn**	**02 44 35.3**	**+1.8**
TGIG				*i* S		**Sn**	**02 45 09.0**	**+2.8**
LOMA	**Loma Larga**	**2.94**	**99**	*e*P		**Pn**	**02 44 36.1**	**+0.7**
LOMA				*e*S		**Sn**	**02 45 09.1**	**-0.6**
LOMA				IAML			02 45 11.8	
	comp=Z,465nm,0.3s							
LOMA	**Loma Larga**	**2.94**	**99**	*i* P		**Pn**	**02 44 36.3**	**+0.9**
LOMA				IAML			02 45 12.7	
	comp=Z,570nm,1.0s							
SJTE	**Alcalda de S**	**3.10**	**99**	*e*P		**Pn**	**02 44 38.4**	**+0.7**
SJTE				*e*S		**Sn**	**02 45 12.8**	**-0.7**
PAVA	**Las Pavas**	**3.15**	**97**	*e*P		**Pn**	**02 44 39.0**	**+0.6**
PAVA	**Las Pavas**	**3.15**	**97**	*i* P		**Pn**	**02 44 39.0**	**+0.6**
PAVA				IAML			02 45 23.5	
	comp=Z,530nm,1.0s							
COEG	**Centro de Oper**	**3.22**	**98**	*e*P		**Pn**	**02 44 40.3**	**+1.1**
COEG				*e*S		**Sn**	**02 45 15.9**	**-0.6**
SCLA	**Alcaldia de Sa**	**3.36**	**97**	*e*P		**Pn**	**02 44 41.7**	**+0.6**
NILT	**Santiago Nilte**	**3.40**	**316**	*e*P		**Pn**	**02 44 43.3**	**+1.7**
NILT				*e*S		**Sn**	**02 45 20.4**	**-0.3**
PETF	**Flores**	**3.56**	**38**	*e*P		**Pn**	**02 44 44.1**	**+0.4**
PETF				*i* S		**Sn**	**02 45 26.9**	**+2.3**
COEB	**Comit de Eme**	**3.58**	**99**	*e*P		**Pn**	**02 44 45.2**	**+1.0**
UXUV	**UXUV**	**3.71**	**329**	*e*P		**Pn**	**02 44 48.2**	**+2.2**
UXUV				*i* S		**Sn**	**02 45 33.8**	**+5.3**
CMIG	**Matias Romero**	**3.96**	**319**	P		**Pn**	**02 44 51.4**	**+2.1**
	comp=Z,7.3nm,0.3s,baz=129,slow=11,SNR=19							
CMIG				S		**Sn**	**02 45 37.9**	**+3.5**
	comp=Z,33nm,0.4s,baz=104,slow=22,SNR=7.0							
CMIG				LR		LR	02 46 43.1	
	comp=Z,112nm,20.3s,baz=118,slow=42							
CMIG	**Matias Romero**	**3.96**	**319**	*e*P		**Pn**	**02 44 50.8**	**+1.5**
CMIG				*i* S		**Sn**	**02 45 27.2**	**-7.2**
HUIG	**Huatulco**	**4.16**	**294**	*e*P		**Pn**	**02 44 53.0**	**+1.0**
HUIG				*e*S		**Sn**	**02 45 34.5**	**-4.8**
LCND	**La Caada**	**4.23**	**100**	*e*P		**Pn**	**02 44 53.9**	**+0.9**
LCND				*e*S		**Sn**	**02 45 40.6**	**-0.5**
SCIG	**Sabancuy**	**4.92**	**11**	*e*P		**Pn**	**02 45 01.6**	**-0.8**
SCIG				*e*S		**Sn**	**02 45 52.9**	**-5.1**
NEUV	**Arroyo Zacate**	**5.01**	**316**	*e*P		**Pn**	**02 45 05.3**	**+1.6**
NEUV				*e*S		**Sn**	**02 45 56.3**	**-4.0**
PEIG	**Puerto Escondi**	**5.17**	**292**	*e*P		**Pn**	**02 45 07.6**	**+1.7**
PEIG				*e*S		**Sn**	**02 45 59.0**	**-5.3**
YOIG	**Yosondua**	**5.86**	**298**	*e*P		**Pn**	**02 45 19.3**	**+3.6**
YOIG				*e*S		**Sn**	**02 46 23.1**	**+1.3**
JAUV	**Jalcomulco**	**6.86**	**320**	*e*P		**Pn**	**02 45 28.8**	**-0.3**
JAUV				*e*S		**Sn**	**02 46 44.1**	**-1.8**
TEIG	**Tepich**	**7.12**	**31**	P		**Pn**	**02 45 30.7**	**-2.0**
	comp=Z,401nm,0.6s,baz=8.9,slow=1.2,SNR=53							
TEIG				S		**Sn**	**02 46 48.8**	**-3.4**
	comp=Z,294nm,0.7s,baz=166,slow=23,SNR=1.9							
JTS	**Las Juntas de**	**8.01**	**118**	P		**Pn**	**02 45 44.5**	**-0.3**
	comp=Z,4.8nm,0.7s,baz=300,slow=20,SNR=2.0							
TXAR	**Lajitas Array**	**18.52**	**327**	P		**Pn**	**02 48 04.5**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=146,slow=13,SNR=5.3							
SDV	**Santo Domingo**	**21.72**	**102**	P		**P**	**02 48 36.0**	**-2.2**
	comp=Z,1.5nm,0.7s,baz=297,slow=16,SNR=2.5							
	comp=Z,1.5nm,0.7s							
ANMO	**Albuquerque**	**24.43**	**331**	P		**P**	**02 49 05.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=117,slow=11,SNR=4.4							
	comp=Z,0.6nm,0.5s							
NVAR	**Mina Array Bea**	**33.48**	**321**	P		**P**	**02 50 28.3**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=147,slow=8.9,SNR=4.7							
	comp=Z,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**50.88**	**347**	P		**P**	**02 52 44.8**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=151,slow=12,SNR=16							
	comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**62.67**	**337**	P		**P**	**02 54 10.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=166,slow=4.8,SNR=4.1							
	comp=Z,0.2nm,0.6s							

IDC 08 03:08:37.9±6.3, 21°.33S×170°.29E, h189km±30km, mb3.1/3, mbtmp3.5/4, Error ellipse: s-maj=172.9km s-min=38.8km az=153.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.65**	**258**	P		Pn	03 09 34.9	-0.1
	2.7nm,0.4s,baz=313,slow=23,SNR=8.9							
DZM				S		Sn	03 10 20.0	+0.3
	6.8nm,0.8s,baz=166,slow=20,SNR=1.7							
WRA	**Warramunga Arr**	**33.63**	**266**	P		P	03 15 00.2	-0.5
	0.6nm,0.6s,baz=97,slow=8.5,SNR=8.3							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**33.64**	**259**	P		P	03 15 01.2	+0.4
	0.5nm,0.7s,baz=94,slow=8.9,SNR=7.2							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**91.92**	**17**	P		P	03 21 24.2	0.0
	0.2nm,0.8s,baz=203,slow=6.6,SNR=1.5							
	0.2nm,0.8s							

IDC 08 03:20:44.3±1.7, 7°.26S×129°.27E, h0km, mb3.6/2, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=78.7km s-min=33.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.54**	**159**	Pn		Pn	03 23 57.5	-0.3
	0.1nm,0.3s,baz=339,slow=13,SNR=7.5							
WRA				Sn		Sn	03 26 17.9	-11
	0.2nm,0.3s,baz=333,slow=22,SNR=6.4							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**16.91**	**165**	Pn		Pn	03 24 42.6	0.0
	0.1nm,0.7s,baz=353,slow=14,SNR=1.3							
ASAR				Sn		Sn	03 27 41.0	-10
	baz=23,slow=40,SNR=1.8							
MKAR	**Makanchi Array**	**68.05**	**327**	P		P	03 31 45.4	-0.3
	0.1nm,0.4s,baz=131,slow=6.3,SNR=4.2							
	0.1nm,0.4s							
ILAR	**Eielson Array**	**93.89**	**25**	P		P	03 34 04.0	+0.5
	0.3nm,0.8s,baz=260,slow=5.4,SNR=1.6							
	0.3nm,0.8s							

*SOME **08** 03:25:23.0, 38°.77N×72°.97E, h0km*
*NNC **08** 03:25:27.6±3.5, 38°.84N×70°.31E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=26.0km s-min=20.6km az=21.0*

ISC 08 03:25:29.6±4.5, 38°.9N±0°.2×70°.3E±0°.2, h10km, n14, σ1°98/17, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**4.16**	**37**	P		**Pn**	**03 26 33.1**	**-0.5**
	SNR=14							
AML	**Almayashu**	**4.16**	**37**	⇑Pn		**Pn**	**03 26 33.0**	**-0.6**
	2.1nm,0.9s							
AML				⇓Sn		**Sn**	**03 27 24.5**	**+2.1**
	1.7nm,0.7s							
KK31	**Karatay Array**	**4.26**	**2**	⇓Pn		**Pn**	**03 26 33.3**	**-1.2**
	1.1nm,0.3s,baz=178,slow=14,SNR=7.4							
KK31				⇓Sn		**Sn**	**03 27 25.6**	**+1.4**
	1.7nm,0.3s							
KK31				⇑Lg		Lg	03 27 40.0	
	8.0nm,0.5s							
MRKS	**Merke**	**4.47**	**28**	*e*P		**Pn**	**03 26 37.3**	**-0.2**
	4.3nm,0.2s							
MRKS				*e*S		**Sn**	**03 27 30.9**	**+1.3**
	6.5nm,0.2s							
EKS2	**Erkin-Say**	**4.62**	**33**	P		**Pn**	**03 26 41.1**	**+1.5**
	SNR=5.5							
UCH	**Uchtor**	**4.64**	**42**	P		**Pn**	**03 26 40.5**	**+0.4**
	SNR=9.3							
AAK	**Ala-Archa**	**4.93**	**38**	P		**Pn**	**03 26 44.3**	**+0.4**
	SNR=9.0							
KZA	**Kyzart**	**4.95**	**48**	P		**Pn**	**03 26 45.2**	**+0.9**
	SNR=8.2							
KBK	**Karagaybulak**	**5.17**	**41**	P		**Pn**	**03 26 48.7**	**+1.5**
	SNR=5.7							
USP	**Ospenovka**	**5.42**	**34**	P		**Pn**	**03 26 50.5**	**0.0**
	SNR=8.2							
TKM2	**Tokmak 2**	**5.70**	**43**	P		**Pn**	**03 26 54.9**	**+0.4**
	SNR=21							
TKM2	**Tokmak 2**	**5.70**	**43**	⇓Pn		**Pn**	**03 26 54.0**	**-0.4**
	6.7nm,0.5s							
TKM2				⇓Sn		**Sn**	**03 28 01.0**	**+1.0**
	6.3nm,1.2s							
KST	**Kastek**	**5.98**	**44**	*e*P		Pn	03 26 53.1	-5.2
	1.1nm,0.1s							
KST				*e*S		Sn	03 27 57.8	-9.0
	2.3nm,0.2s							
DGS	**Degeres**	**6.01**	**41**	*e*P		Pn	03 26 55.1	-3.6
	0.6nm,3.9s							
DGS				*e*S		**Sn**	**03 28 01.4**	**-6.2**
	2.9nm,0.3s							

DJA 08 03:44:40.8±0.4, 10°S±3°×12°4E±°, h10km, M3.5/7, mb3.6/4, MLv3.4/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**0.20**	**19**	P		Pg	03 44 45.1	-0.1
SOEI				S		Sg	03 44 48.6	+0.5
EDFI	**Ende, Flores**	**2.75**	**296**	P		Pn	03 45 26.0	+0.9
PLAI	**Plampang**	**6.44**	**279**	P		Pn	03 46 15.3	-0.4
	9.0nm,1.5s,0.1nm							

*SFS **08** 03:55:40.2, 36°.82N×3°.06W, h6km, ML2.2/12, ML2.6/10, MLv2.1/12*
*MDD **08** 03:55:40.1±0.4, 36°.84N×3°.05W, h11km, mb_Lg2.5/16, Error ellipse: s-maj=3.4km s-min=2.2km az=167.0*
*CNRM **08** 03:55:42.8, 36°.55N×3°.12W, h5km, ML2.2*

ISC 08 03:55:39.0±0.9, 36°.84N±0°.02×3°.02W±0°.02, h13km±6km, n40, σ1°16/59, 3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EBER	**Berja**	**0.12**	**61**	Pg		**Pb**	**03 55 43.0**	**-0.3**
EBER	**Berja**	**0.12**	**61**	⇓Pg		**Pg**	**03 55 42.9**	**+0.4**
EBER				Sg		**Sg**	**03 55 43.9**	**-1.0**
EBER				*i* Vmb_Lg			03 55 45.5	
ELGU	**Los Guajares,**	**0.48**	**274**	Pg		**Pg**	**03 55 48.6**	**-0.1**
ELGU	**Los Guajares,**	**0.48**	**274**	Pg		**Pg**	**03 55 49.1**	**+0.4**
ELGU				Sg		**Sg**	**03 55 55.9**	**+0.8**
ELGU				*i* Vmb_Lg			03 55 59.0	
EQUE	**Quentar**	**0.49**	**318**	⇓Pg		**Pb**	**03 55 49.4**	**-0.3**
EQUE				Sg		**Sg**	**03 55 55.0**	**-0.4**
EQUE				*i* Vmb_Lg			03 55 56.8	
EQTA	**Presa de Quent**	**0.50**	**318**	Pg		**Pg**	**03 55 49.1**	**+0.3**
ENIJ	**Nijar**	**0.67**	**78**	Pg		**Pg**	**03 55 52.1**	**+0.1**
ENIJ	**Nijar**	**0.67**	**78**	⇓Pg		**Pg**	**03 55 52.1**	**+0.1**
ENIJ				Sg		**Sg**	**03 56 00.4**	**-0.4**
ENIJ				*i* Vmb_Lg			03 56 04.6	
EALB	**Alboran**	**0.90**	**181**	Pg		**Pg**	**03 55 56.9**	**+0.6**
EALB				Sg		**Sg**	**03 56 08.9**	**+0.7**
EALB	**Alboran**	**0.90**	**181**	Pg		**Pg**	**03 55 57.0**	**+0.6**
EALB				Sg		**Sg**	**03 56 08.5**	**+0.4**
EALB				*i* Vmb_Lg			03 56 10.1

KS21	**Milan North St**	**0.15**	**55**	Pg	Pg	04 00 30.1	+0.3		
KS21				Sg	Sg	04 00 32.4	+0.6		
KAN17	**Caldwell West**	**0.16**	**166**	Pg	Pg	04 00 30.5	+0.4		
KAN17				Sg	Sg	04 00 33.0	+0.7		
KAN17				IAML		04 00 33.9			
	comp=E,1μm,0.2s								
KAN09	**Caldwell North**	**0.17**	**113**	Pg	Pg	04 00 30.4	+0.2		
KAN09				Sg	Sg	04 00 33.1	+0.6		
KAN09				IAML		04 00 33.4			
	comp=N,2μm,0.3s								
KAN12	**Harper NE Stat**	**0.17**	**303**	Pg	Pg	04 00 30.6	+0.2		
KAN12				Sg	Sg	04 00 33.2	+0.6		
KAN12				IAML		04 00 35.0			
	comp=N,1μm,0.3s								
KAN12				IAML		04 00 35.4			
	comp=E,1μm,0.4s								
KAN10	**Anthony SW Sta**	**0.24**	**251**	Pg	Pg	04 00 31.7	+0.2		
KAN10				Sg	Sg	04 00 35.0	+0.4		
KAN14	**Manchester OK**	**0.27**	**206**	Pg	Pg	04 00 32.4	+0.3		
KAN14				Sg	Sg	04 00 36.3	+0.6		
KAN14				IAML		04 00 36.5			
	comp=E,916nm,0.2s								
KAN13	**South Haven SW**	**0.33**	**125**	Pg	Pg	04 00 33.2	0.0		
KAN13				Sg	Sg	04 00 38.1	+0.5		
KAN13				IAML		04 00 44.3			
	comp=E,550nm,0.3s								
GC02	**Grant County #**	**0.35**	**186**	Pg	Pg	04 00 33.6	0.0		
GC02				Sg	Sg	04 00 38.9	+0.6		
OK032	**Salt Plains WL**	**0.51**	**219**	Pg	Pg	04 00 36.8	+0.1		
OK032				Sg	Sg	04 00 43.9	+0.7		
OK032				IAML		04 00 45.7			
	comp=E,426nm,0.3s								
OK032				IAML		04 00 47.9			
	comp=E,286nm,0.2s								
BLOK	**Blackwell**	**0.65**	**132**	Pg	Pg	04 00 39.3	-0.1		
BLOK				Sg	Sg	04 00 48.2	+0.4		
BLOK				IAML		04 00 50.2			
	comp=E,210nm,0.2s								
BLOK				IAML		04 01 00.0			
	comp=N,170nm,0.2s								
CROK	**Carrier**	**0.71**	**191**	Pg	Pg	04 00 40.5	+0.1		
CROK				Sg	Sg	04 00 50.1	+0.5		
CROK				IAML		04 00 52.5			
	comp=N,240nm,0.2s								
OK038	**West end E0370**	**1.04**	**226**	Pg	Pg	04 00 46.4	-0.4		
OK038				Sg	Sg	04 01 00.1	-0.1		
OK051	**E0350 and S346**	**1.05**	**131**	Pg	Pg	04 00 46.5	-0.5		
OK051				Sg	Sg	04 01 01.1	+0.5		
OK051				IAML		04 01 03.3			
	comp=N,124nm,0.2s								
OK051				IAML		04 01 08.1			
	comp=N,142nm,0.2s								
OK048	**Pawnee Station**	**1.05**	**138**	Pg	Pg	04 00 46.4	-0.6		
OK048				Sg	Sg	04 01 00.4	-0.2		
T35A	**Sooner Cattle**	**1.08**	**105**	Pg	Pg	04 00 47.1	-0.5		
U32A	**Winter Ranch,**	**1.26**	**230**	Pg	Pg	04 00 49.9	-1.1		
OK033	**Mehan**	**1.35**	**148**		Pn	04 00 51.8	-0.7		
QUOK	**Quay**	**1.36**	**139**		Pn	04 00 51.6	-1.0		
R32A	**Long Quarter,**	**1.41**	**330**		Pn	04 00 52.4	-0.9		
OK029	**Liberty Lake**	**1.43**	**168**		Pn	04 00 52.8	-0.7		
OK029				IAmb_Lg		04 01 12.0			
	comp=Z,4.4nm,0.8s								
OK052	**Battle Ridge R**	**1.46**	**146**		Pn	04 00 53.4	-0.5		
ADOK	**Arcadia Dam**	**1.59**	**167**		Pn	04 00 55.3	-0.4		
CSTR	**Hydro, Custer**	**1.71**	**205**		Pn	04 00 57.2	-0.2		
ELIS	**Ellis County**	**1.72**	**229**		Pn	04 00 58.0	+0.5		
DEOK	**Depew**	**1.72**	**142**		Pn	04 00 57.0	-0.5		
TUL3	**Leonard**	**2.08**	**128**	Pn	Pn	04 01 01.8	-0.7		
KSU1	**Kansas State U**	**2.12**	**26**	IAmb_Lg		04 01 37.9			
	comp=Z,10.0nm,0.7s								
WMOK	**Wichita Mounta**	**2.58**	**198**	Pn	Pn	04 01 08.4	-1.0		
S39A	**Bolivar**	**3.61**	**81**	Pn	Pn	04 01 23.6	+0.1		
RTBA	**Rita Blanca**	**4.02**	**261**	Pn	Pn	04 01 28.7	-0.6		
R40A	**Maddies Statio**	**4.53**	**74**	Pn	Pn	04 01 34.1	-2.0		

IDC ***08*** *04:18:42.9±0.9,39°.41N×73°.55E,h0km,mb3.7/16, mbtmp3.8/21,ML3.2/5,MS2.3/1,Error ellipse: s-maj=17.9km s-min=16.0km az=118.0*

SOME ***08*** *04:18:42.7,39°.48N×73°.58E,h0km*

KRNET ***08*** *04:18:44.8±0.1,39°.55N×73°.40E,h12km,mb3.8*

ISU ***08*** *04:18:44.2,39°.61N×73°.71E,h25km*

NNC ***08*** *04:18:46.6±1.4,39°.51N×73°.60E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=10.7km s-min=6.5km az=171.0*

MOS ***08*** *04:18:49.6±1.0,39°.56N×73°.37E,h55km,mb4.3/7,Error ellipse: s-maj=8.9km s-min=4.4km az=85.0*

NEIC ***08*** *04:18:51.9±2.0,39°.60N±0°.06×73°.29E±0°.09,h46km±8km, mb4.2/12,Error ellipse: s-maj=10.2km s-min=8.7km az=115.0*

ISC 08 04:18:46.7±1.1,39°.57N±0°.03×73°.34E±0°.02,h5km±7km, n189,σ2s05/252,mb4.0/26,37C-23D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.46**	**16**	⇑	*e*	P	**Pg**	**04 18 54.0**	**-1.5**
	baz=9.0								
SFK				⇑	*e*	S	**Sg**	**04 19 01.0**	**-0.5**
	baz=9.0								
OHH	**Osh**	**1.04**	**336**	⇑	*i*	P	**Pg**	**04 19 05.5**	**-1.1**
	baz=34								
OHH				⇑	*i*	S	**Sb**	**04 19 20.8**	**-0.4**
	baz=34								
DRK	**Karamyk**	**1.20**	**266**	⇑	*e*	P	**Pg**	**04 19 08.4**	**-1.2**
	baz=68								
DRK				⇑	*e*	S	**Sg**	**04 19 25.8**	**+0.6**
	baz=68								
TSTA	**Tashata**	**1.20**	**327**			P	**Pg**	**04 19 09.5**	**-0.2**
TSTA						S	**Sn**	**04 19 29.0**	**+2.1**
FRG	**Fergana**	**1.44**	**304**			P	**Pb**	**04 19 14.9**	**+0.9**
FRG						S	**Sn**	**04 19 37.5**	**+4.8**
ARSB	**Arslanbob**	**1.77**	**351**		Pn		**Pn**	**04 19 18.6**	**+0.6**
ARSB	**Arslanbob**	**1.77**	**351**		PN		**Pn**	**04 19 18.6**	**+0.6**
ARSB	**Arslanbob**	**1.77**	**351**	⇑	*e*	P	**Pn**	**04 19 18.7**	**+0.6**
	baz=50								
ARSB				⇑	*e*	S	**Sg**	**04 19 43.1**	**-0.4**
	baz=50								
NAM	**Namangan**	**1.91**	**318**			P	**Pb**	**04 19 21.4**	**-0.6**
NAM						S	**Sg**	**04 19 49.9**	**+1.7**
BTK	**Batken**	**2.00**	**285**				**Pn**	**04 19 22.1**	**+0.9**
BTK	**Batken**	**2.00**	**285**		PN		**Pn**	**04 19 22.1**	**+0.9**
BTK	**Batken**	**2.00**	**285**	⇑	*i*	P	**Pn**	**04 19 22.2**	**+0.9**
	baz=85								
BTK				⇑	*i*	S	**Sg**	**04 19 50.2**	**-0.9**
	baz=85								
KSH	**Kashi**	**2.03**	**91**		Pn		Pn	04 19 15.3	-6.4
KSH					Sn		**Sn**	**04 19 43.8**	**-3.7**
KSH					smax		smax		
	comp=N,490nm,0.8s								
KSH					smax		smax		
	comp=E,370nm,0.8s								
KSNS	**Kasansay**	**2.11**	**319**			P	**Pn**	**04 19 24.0**	**+1.4**
KSNS						S	**Sg**	**04 19 55.1**	**+0.7**
ARLS	**Aral**	**2.40**	**18**	⇓	*e*	P	**Pn**	**04 19 27.2**	**+0.4**
	baz=17								
ARLS				⇓	*e*	S	**Sn**	**04 19 58.2**	**+1.6**
	baz=17								
ARK	**Arkit**	**2.46**	**335**	*i*	PN		**Pn**	**04 19 28.6**	**+1.1**
ARK					S		**Sb**	**04 20 00.6**	**-1.4**
ARK	**Arkit**	**2.46**	**335**	⇑	*i*	P	**Pn**	**04 19 28.6**	**+1.1**
	baz=35								
ARK				⇑	*i*	S	**Sb**	**04 20 00.6**	**-1.4**
	baz=35								
AML	**Almayashu**	**2.57**	**6**			P	**Pn**	**04 19 31.2**	**+2.0**
	SNR=141								
AML	**Almayashu**	**2.57**	**6**	⇑	Pn		**Pn**	**04 19 31.2**	**+2.0**
	comp=E,3.3nm,0.4s								
AML				⇑	Lg		Lg	04 20 07.8	
	comp=E,9.5nm,0.6s								
AML	**Almayashu**	**2.57**	**6**	*i*	PN		**Pn**	**04 19 31.3**	**+2.0**
AML					pmax		pmax		
	comp=Z,3.0nm,0.4s								
AML	**Almayashu**	**2.57**	**6**	⇑	*i*	P	**Pn**	**04 19 29.9**	**+0.6**
	baz=5.0								
AML				⇑	*i*	S	**Sn**	**04 20 03.0**	**+2.0**
	baz=5.0								
TRKS	**Terek-Say**	**2.58**	**320**	*i*	PN		**Pn**	**04 19 29.5**	**+0.4**
TRKS					S		**Sn**	**04 20 02.3**	**+1.4**
TRKS	**Terek-Say**	**2.58**	**320**	⇑	*i*	P	**Pn**	**04 19 29.5**	**+0.4**
	baz=19								
TRKS				⇑	*i*	S	**Sn**	**04 20 02.3**	**+1.4**
	baz=19								
NRN	**Naryn**	**2.75**	**47**		Pn		**Pn**	**04 19 33.5**	**+1.8**
NRN	**Naryn**	**2.75**	**47**		PN		**Pn**	**04 19 33.5**	**+1.8**
NRN	**Naryn**	**2.75**	**47**	⇑	*i*	P	**Pn**	**04 19 31.7**	**0.0**
	baz=45								
NRN				⇑	*i*	S	**Sn**	**04 20 05.9**	**+0.5**
	baz=45								
UCH	**Uchtor**	**2.79**	**18**		P		**Pn**	**04 19 34.5**	**+2.1**
	SNR=85								
UCH	**Uchtor**	**2.79**	**18**	*e*	PN		**Pn**	**04 19 33.2**	**+0.8**
UCH	**Uchtor**	**2.79**	**18**	⇓	*i*	P	**Pn**	**04 19 33.2**	**+0.8**
	baz=17								
UCH				⇓	*i*	S	**Sn**	**04 20 08.4**	**+1.7**
	baz=17								
KZA	**Kyzart**	**2.89**	**29**		P		**Pn**	**04 19 36.4**	**+2.7**
	SNR=21								
KZA	**Kyzart**	**2.89**	**29**	*i*	PN		**Pn**	**04 19 34.4**	**+0.7**
KZA					S		**Sn**	**04 20 10.3**	**+1.3**
KZA	**Kyzart**	**2.89**	**29**	⇑	*i*	P	**Pn**	**04 19 34.4**	**+0.7**
	baz=28								
KZA				⇑	*i*	S	**Sn**	**04 20 10.3**	**+1.3**
	baz=28								
EKS2	**Erkin-Say**	**3.10**	**6**		P		**Pn**	**04 19 39.0**	**+2.6**
	SNR=20								
EKS2	**Erkin-Say**	**3.10**	**6**	*e*	PN		**Pn**	**04 19 37.5**	**+1.2**
EKS2	**Erkin-Say**	**3.10**	**6**	⇑	*i*	P	**Pn**	**04 19 37.5**	**+1.2**
	baz=5.0								
EKS2				⇑	*i*	S	**Sn**	**04 20 15.9**	**+2.1**
	baz=5.0								
MRKS	**Merke**	**3.17**	**358**	*e*	P		**Pb**	**04 19 43.7**	**+0.2**
	comp=Z,48nm,0.2s								
MRKS					*e*	S	**Sg**	**04 20 27.9**	**-0.6**
	comp=Z,86nm,0.3s								
AAK	**Ala-Archa**	**3.18**	**15**		P		**Pn**	**04 19 40.2**	**+2.7**
	SNR=46								
AAK	**Ala-Archa**	**3.18**	**15**		Pn		**Pn**	**04 19 39.9**	**+2.4**
AAK	**Ala-Archa**	**3.18**	**15**		Pn		**Pn**	**04 19 40.1**	**+2.7**
	comp=Z,11nm,0.3s,baz=184,slow=5.6,SNR=47								
AAK					Lg		Lg	04 20 22.1	
	comp=Z,4.8nm,0.3s,baz=136,slow=7.4,SNR=2.1								
AAK					LR		LR	04 20 46.9	
	comp=Z,43nm,20.0s,baz=228,slow=38								
	comp=Z,30nm,0.4s								
AAK	**Ala-Archa**	**3.18**	**15**	⇑	*i*	P	**Pn**	**04 19 38.4**	**+0.9**
	baz=15								
AAK				⇑	*i*	S	**Sn**	**04 20 17.4**	**+1.6**
	baz=15								
CHMG	**Chimgan**	**3.22**	**309**			P	**Pn**	**04 19 40.2**	**+2.3**
CHMG						S	**Sb**	**04 20 25.8**	**+2.0**
CHRV	**Charvak**	**3.31**	**310**			P	**Pn**	**04 19 41.5**	**+2.4**
CHRV						S	**Sb**	**04 20 28.0**	**+1.7**
KBK	**Karagaybulak**	**3.31**	**21**		P		**Pn**	**04 19 42.1**	**+2.9**
	SNR=37								
KBK	**Karagaybulak**	**3.31**	**21**	*i*	PN		**Pn**	**04 19 40.2**	**+1.0**
KBK					S		**Sn**	**04 20 20.6**	**+1.6**
KBK	**Karagaybulak**	**3.31**	**21**	⇑	*i*	P	**Pn**	**04 19 40.2**	**+1.0**
	baz=20								
KBK				⇑	*i*	S	**Sn**	**04 20 20.6**	**+1.6**
	baz=20								
FRU1	**Bishkek**	**3.38**	**16**				**Pn**	**04 19 42.2**	**+2.1**
FRU1	**Bishkek**	**3.38**	**16**	*e*	PN		**Pn**	**04 19 41.1**	**+1.1**
FRU1					S		**Sn**	**04 20 22.5**	**+2.0**
FRU1	**Bishkek**	**3.38**	**16**	⇓	*e*	P	**Pn**	**04 19 41.1**	**+1.1**
	baz=15								
FRU1				⇓	*i*	S	**Sn**	**04 20 22.5**	**+2.0**
	baz=15								
ULHL	**Ulahol**	**3.46**	**39**		P		**Pb**	**04 19 48.2**	**-0.2**
	SNR=15								
ULHL	**Ulahol**	**3.46**	**39**	*e*	PN		**Pn**	**04 19 42.1**	**+0.8**
ULHL					S		**Sn**	**04 20 23.8**	**+1.1**
ULHL	**Ulahol**	**3.46**	**39**	⇓	*e*	P	**Pn**	**04 19 42.1**	**+0.8**
	baz=38								
ULHL				⇓	*i*	S	**Sn**	**04 20 23.8**	**+1.1**
	baz=38								
SIMJ	**Simiganj**	**3.49**	**256**		Pn		**Pn**	**04 19 42.4**	**+0.6**
BOOM	**Boomskoye usch**	**3.51**	**33**				**Pn**	**04 19 43.7**	**+1.7**
BOOM	**Boomskoye usch**	**3.51**	**33**	*i*	PN		**Pn**	**04 19 42.7**	**+0.7**
BOOM					S		**Sn**	**04 20 25.1**	**+1.1**
BOOM	**Boomskoye usch**	**3.51**	**33**	⇓	*i*	P	**Pn**	**04 19 42.7**	**+0.7**
	baz=32								
BOOM				⇓	*i*	S	**Sn**	**04 20 25.1**	**+1.1**
	baz=32								
CHMS	**Chumysh**	**3.58**	**17**		P		**Pn**	**04 19 45.4**	**+2.5**
	SNR=16								
CHMS	**Chumysh**	**3.58**	**17**	⇑	Pn		**Pn**	**04 19 45.2**	**+2.4**
	comp=Z,31nm,0.7s								
CHMS				⇑	Lg		Lg	04 20 41.2	
	comp=Z,54nm,0.7s								
CHMS	**Chumysh**	**3.58**	**17**	*e*	PN		**Pn**	**04 19 43.8**	**+0.9**
CHMS	**Chumysh**	**3.58**	**17**	⇓	*i*	P	**Pn**	**04 19 43.8**	**+0.9**
	baz=16								
CHMS				⇓	*i*	S	**Sn**	**04 20 27.0**	**+1.5**
	baz=16								
TKM2	**Tokmak 2**	**3.75**	**26**		P		**Pn**	**04 19 48.4**	**+3.0**
	SNR=8.7								
TKM2	**Tokmak 2**	**3.75**	**26**	⇑	Pg		**Pb**	**04 19 54.0**	**+0.6**
	comp=Z,15nm,0.5s								
TKM2				⇑	Lg		Lg	04 20 45.7	
	comp=Z,110nm,1.3s								
TKM2	**Tokmak 2**	**3.75**	**26**	*e*	PN		**Pn**	**04 19 46.2**	**+0.9**
TKM2	**Tokmak 2**	**3.75**	**26**	⇓	*i*	P	**Pn**	**04 19 46.2**	**+0.9**
	baz=25								
TKM2				⇓	*i*	S	**Sn**	**04 20 30.9**	**+1.0**
	baz=25								
USP	**Ospenovka**	**3.79**	**13**		P		**Pn**	**04 19 48.2**	**+2.4**
	SNR=12								
USP	**Ospenovka**	**3.79**	**13**	*e*	PN		**Pn**	**04 19 46.6**	**+0.9**
USP	**Ospenovka**	**3.79**	**13**	⇓	*i*	P	**Pn**	**04 19 46.6**	**+0.9**
	baz=12								
USP				⇓	*i*	S	**Sn**	**04 20 32.0**	**+1.3**
	baz=12								
CHM	**Chimkent**	**3.94**	**315**	*e*	P		**Pg**	**04 20 01.2**	**-1.0**
	comp=Z,46nm,0.2s								
CHM					*e*	S	**Sg**	**04 20 57.2**	**+4.0**
	comp=Z,185nm,0.5s								
KST	**Kastek**	**3.99**	**29**		Pg		**Pb**	**04 19 57.0**	**-0.4**
	comp=Z,8.4nm,1.1s								
KST					Lg		Lg	04 20 50.4	
	comp=Z,87nm,0.5s								
KST	**Kastek**	**3.99**	**29**	*e*	P		**Pb**	**04 19 57.0**	**-0.4**
	comp=Z,8.4nm,1.1s								
KST					*e*	S	**Sb**	**04 20 50.5**	**+4.4**
	comp=Z,87nm,0.5s								
SGDS	**Sogindy**	**3.99**	**14**		Pg		**Pb**	**04 19 57.9**	**+0.4**
	comp=Z,14nm,0.7s								
SGDS					Lg		Lg	04 20 52.1	
	comp=Z,41nm,0.8s								
DGS	**Degeres**	**4.09**	**26**		Pg		**Pb**	**04 20 00.8**	**+1.6**
	comp=Z,24nm,0.5s								
DGS					Lg		Lg	04 20 57.0	
	comp=Z,78nm,0.5s								
DGS	**Degeres**	**4.09**	**26**	*e*	P		**Pb**	**04 20 00.8**	**+1.6**
	comp=Z,24nm,0.5s								
DGS					*e*	S	**Sg**	**04 20 57.0**	**-1.1**
	comp=Z,78nm,0.5s								
KK31	**Karatay Array**	**4.12**	**330**	⇑	Pn		**Pn**	**04 19 52.1**	**+1.9**
	comp=Z,3.9nm,0.3s,baz=156,slow=14,SNR=110								
KK31				⇑	Pg		**Pb**	**04 20 02.1**	**+2.5**
	comp=Z,19nm,0.6s,baz=167,slow=19,SNR=21								
KK31				⇑	Sn		**Sb**	**04 20 46.5**	**-3.2**
	comp=Z,26nm,0.6s,baz=161,slow=27,SNR=3.7								
KK31				⇓	Lg		Lg	04 21 01.2	
	comp=Z,16nm,0.4s								
KK31	**Karatay Array**	**4.12**	**330**		Pn		**Pn**	**04 19 51.6**	**+1.4**
KK31	**Karatay Array**	**4.12**	**330**		PN		**Pn**	**04 19 51.6**	**+1.4**
KKAR	**Karatay Array**	**4.12**	**330**				**Pn**	**04 19 51.5**	**+1.3**
KKAR	**Karatay Array**	**4.12**	**330**		Pn		**Pn**	**04 19 51.3**	**+1.1**
KKAR	**Karatay Array**	**4.12**	**330**	*e*	PN		**Pn**	**04 19 51.3**	**+1.1**
MTBS	**Maitube**	**4.24**	**32**		Pg		**Pb**	**04 20 02.5**	**+0.7**
	comp=Z,21nm,0.7s								
MTBS					Lg		Lg	04 21 00.3	
	comp=Z,31nm,0.5s								
MTBS	**Maitube**	**4.24**	**32**	*e*	P		**Pb**	**04 20 02.5**	**+0.7**
	comp=Z,21nm,0.7s								
MTBS					*e*	S	**Sg**	**04 21 00.3**	**-2.6**
	comp=Z,31nm,0.5s								
IZV	**Izvestkoviy**	**4.25**	**34**		Pg		**Pb**	**04 20 02.9**	**+1.1**
	comp=Z,7.3nm,0.8s								
IZV					Lg		Lg	04 21 01.0	
	comp=Z,87nm,0.8s								
IZV	**Izvestkoviy**	**4.25**	**34**	*e*	P		**Pb**	**04 20 02.9**	**+1.1**
	comp=Z,7.3nm,0.8s								
IZV					*e*	S	**Sg**	**04 21 01.0**	**-2.0**
	comp=Z,87nm,0.8s								
TNSS	**Tian-Shan**	**4.40**	**37**		Pg		**Pb**	**04 20 05.4**	**+0.8**
	comp=Z,13nm,0.5s								
TNSS					Lg		Lg	04 21 05.3	
	comp=Z,18nm,0.8s								
TNSS	**Tian-Shan**	**4.40**	**37**	*e*	P		**Pb**	**04 20 05.4**	**+0.8**
	comp=Z,13nm,0.5s								
TNSS					*e*	S	**Sg**	**04 21 05.3**	**-2.6**
	comp=Z,18nm,0.8s								
KRBS	**Karabastau**	**4.47**	**22**		Pg		**Pb**	**04 20 07.3**	**+1.6**
	comp=Z,12nm,0.6s								
KRBS					Lg		Lg	04 21 08.0	
	comp=Z,39nm,0.8s								
KRBS	**Karabastau**	**4.47**	**22**	*e*	P		**Pb**	**04 20 07.3**	**+1.6**
	comp=Z,12nm,0.1s								
KRBS					*e*	S	**Sg**	**04 21 08.0**	**-2.3**
	comp=Z,39nm,0.8s								
MDOK	**Medeo**	**4.54**	**37**		Pg		**Pb**	**04 20 08.1**	**+1.2**
	comp=Z,12nm,0.7s								
MDOK					Pg		Pg	04 20 08.3	-5.4
	comp=Z,22nm,1.0s								
MDOK					Lg		Lg	04 21 09.1	
	comp=Z,58nm,0.9s								
MDOK					Lg		Lg	04 21 09.3	
	comp=Z,38nm,1.2s								
MDOK	**Medeo**	**4.54**	**37**	*e*	P		**Pb**	**04 20 08.1**	**+1.2**
	comp=Z,12nm,0.7s								
MDOK					*e*	S	**Sg**	**04 21 09.3**	**-3.2**
	comp=Z,38nm,1.2s								
MDOK	**Medeo**	**4.54**	**37**		PN		**Pb**	**04 20 08.2**	**+1.3**
KNDC	**Almaty**	**4.55**	**36**	⇓	Pg		**Pb**	**04 20 10.3**	**+3.4**
	comp=Z,70nm,0.8s								
KNDC				⇓	Lg		Lg	04 21 10.0	
	comp=Z,144nm,0.9s								
KNDC	**Almaty**	**4.55**	**36**		PN		**Pb**	**04 20 10.3**	**+3.4**
ANVS	**Anan'yevo**	**4.57**	**44**	⇓	*e*	P	**Pn**	**04 19 57.5**	**+0.9**
	baz=43								
ANVS				⇓	*e*	S	**Sn**	**04 20 50.3**	**+0.1**
	baz=43								
KOTS	**Kotyrbulak**	**4.63**	**37**		Pg		**Pb**	**04 20 10.0**	**+1.7**
	comp=Z,17nm,2.4s								
KOTS					Lg		Lg	04 21 12.4	
	comp=Z,118nm,1.1s								
KOTS	**Kotyrbulak**	**4.63**	**37**	*e*	P		**Pb**	**04 20 10.0**	**+1.7**
	comp=Z,17nm,2.4s								
KOTS					*e*	S	**Sg**	**04 21 12.4**	**-2.8**
	comp=Z,118nm,1.1s								
PRZ	**Przheval'sk**	**4.80**	**51**		Pn		**Pn**	**04 20 02.9**	**+3.1**
PRZ	**Przheval'sk**	**4.80**	**51**		PN		**Pn**	**04 20 02.9**	**+3.1**
KTBS	**Karatobe**	**4.83**	**30**		Pg		**Pb**	**04 20 13.7**	**+1.9**
	comp=Z,9.0nm,1.1s								
KTBS					Lg		Lg	04 21 18.8	
	comp=Z,88nm,0.9s								
KTBS	**Karatobe**	**4.83**	**30**	*e*	P		**Pb**	**04 20 13.7**	**+1.9**
	comp=Z,9.0nm,1.1s								
KTBS					*e*	S	**Sg**	**04 21 18.8**	**-3.0**
	comp=Z,88nm,0.9s								
KUU	**Kurty**	**4.86**	**26**		Pg		**Pb**	**04 20 13.7**	**+1.4**
	comp=Z,19nm,1.0s								
KUU					Lg		Lg	04 21 19.4	
	comp=Z,35nm,0.5s								
KUU	**Kurty**	**4.86**	**26**	*e*	P		**Pb**	**04 20 13.7**	**+1.4**
	comp=Z,19nm,1.0s								
KUU					*e*	S	**Sg**	**04 21 19.4**	**-3.3**
	comp=Z,35nm,0.5s								
CHKK	**Chushkaly**	**5.07**	**31**		Pg		**Pb**	**04 20 17.7**	**+1.9**
	comp=Z,4.2nm,0.7s								
CHKK					Lg		Lg	04 21 26.1	
	comp=Z,24nm,0.8s								
CHKK	**Chushkaly**	**5.07**	**31**	*e*	P		**Pb**	**04 20 17.7**	**+1.9**
	comp=Z,4.2nm,0.7s								
CHKK					*e*	S	**Sg**	**04 21 26.1**	**-3.4**
	comp=Z,24nm,0.8s								
SATY	**Saty**	**5.16**	**46**		Pg		**Pb**	**04 20 18.7**	**+1.3**
	comp=Z,13nm,1.1s								
SATY					Lg		Lg	04 21 28.3	
	comp=Z,40nm,2.2s								
SATY	**Saty**	**5.16**	**46**	*e*	P		**Pb**	**04 20 18.8**	**+1.3**
	comp=Z,13nm,1.1s								
SATY					*e*	S	**Sg**	**04 21 28.4**	**-4.1**
	comp=Z,40nm,2.2s								
ZHN	**Zhinishke**	**5.25**	**45**		Pg		**Pb**	**04 20 19.4**	**+0.4**
	comp=Z,8.9nm,0.5s								
ZHN					Lg		Lg	04 21 28.8	
	comp=Z,17nm,0.9s								
ZHN	**Zhinishke**	**5.25**	**45**	*e*	P		**Pb**	**04 20 19.4**	**+0.4**
	comp=Z,8.9nm,0.5s								
ZHN					*e*	S	**Sb**	**04 21 28.8**	**+6.5**
	comp=Z,17nm,0.9s								
BTLS	**Baital**	**5.49**	**5**		Pg		**Pb**	**04 20 27.2**	**+4.3**
	comp=Z,11nm,0.6s								
BTLS					Lg		Lg	04 21 42.3	
	comp=Z,9.7nm,0.8s								
BTLS	**Baital**	**5.49**	**5**	*e*	P		**Pb**	**04 20 27.2**	**+4.3**

ABKAR	**Akbulak array**	**13.60**	**320**	Pn	**Pn**	04 21 58.9	**-1.1**
BVAR	**Borovoye Array**	**13.61**	**352**	Pn	**Pn**	04 21 57.3	**-2.9**
	baz=153,slow=13,SNR=7.2						
	comp=Z,1.8nm,0.7s						
DGZ	**Jazzator, Alta**	**14.23**	**40**	*i* P	**Pn**	04 22 07.7	**-1.1**
DGZ				pmax	pmax		
	comp=Z,14nm,3.8s						
AKTO	**Aktyubinsk**	**15.31**	**320**	Pn	**Pn**	04 22 20.9	**-2.4**
	comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=3.3						
	comp=Z,1.3nm,0.5s						
ZAA0	**Zalesovo Array**	**16.35**	**25**	Pn	**Pn**	04 22 38.1	**+1.3**
ZALV	**Zalesovo Beam**	**16.35**	**25**	Pn	**Pn**	04 22 37.9	**+1.2**
ZALV	**Zalesovo Beam**	**16.35**	**25**	*i* P	**Pn**	04 22 39.2	**+2.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**16.35**	**25**	Pn	**Pn**	04 22 34.1	**-2.7**
	comp=Z,0.2nm,0.3s,baz=209,slow=14,SNR=4.2						
ZALV				Lg	Lg	04 27 22.4	
	comp=Z,0.1nm,0.3s,baz=286,slow=26,SNR=1.5						
	comp=Z,0.9nm,0.6s						
ARU	**Arti**	**19.48**	**335**	P	**P**	04 23 15.5	**+1.4**
ARU	**Arti**	**19.48**	**335**	P	**P**	04 23 12.5	**-1.7**
	comp=Z,0.8nm,0.3s,baz=291,slow=16,SNR=1.7						
	comp=Z,4.3nm,0.2s						
WSAR	**Wadi Sarin**	**20.52**	**222**	P	**P**	04 23 23.2	**-2.5**
	comp=Z,4.7nm,1.0s,baz=62,slow=6.7,SNR=3.1						
	comp=Z,4.7nm,1.0s						
BELG	**Belogornoye**	**21.85**	**314**	P	**P**	04 23 39.1	**-0.7**
	comp=Z,12nm,0.9s,baz=322,slow=5.2,SNR=3.6						
	comp=Z,12nm,0.9s						
ONI	**Oni**	**22.68**	**287**	P	**P**	04 23 49.4	**+0.5**
ONI				IAmb	IAmb	04 23 52.5	
	comp=Z,7.9nm,0.7s						
ONI	**Oni**	**22.68**	**287**	P	**P**	04 23 49.4	**+0.5**
ONI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KBZ	**Khabaz**	**23.06**	**290**	P	**P**	04 23 52.5	**-0.2**
	comp=Z,0.5nm,0.7s,baz=97,slow=17,SNR=1.8						
	comp=Z,0.5nm,0.7s						
KIV	**Kislovodsk**	**23.21**	**291**	*e*P	**P**	04 23 56.0	**+1.6**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**25.13**	**60**	P	**P**	04 24 09.5	**-3.0**
	comp=Z,0.6nm,0.8s,baz=263,slow=10,SNR=1.4						
	comp=Z,0.6nm,0.8s						
ANN	**Anapa**	**26.97**	**293**	*e*P	**P**	04 24 27.5	**-1.5**
ANN				pmax	pmax		
	comp=Z,45nm,0.8s						
PZH	**PanZhiHua**	**27.02**	**110**	P	**P**	04 24 33.3	**+3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,210nm,6.2s						
OBN	**Obninsk**	**28.95**	**315**	*i* P	**P**	04 24 45.5	**-1.1**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**29.07**	**75**	*e*P	**P**	04 24 49.7	**+1.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,390nm,5.4s						
BRTR	**Keskin Array B**	**30.40**	**283**	P	**P**	04 25 00.1	**+0.3**
BRTR	**Keskin Array B**	**30.40**	**283**	*i* P	**P**	04 24 59.7	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**30.40**	**283**	P	**P**	04 24 59.1	**-0.7**
	comp=Z,0.9nm,0.7s,baz=95,slow=7.3,SNR=8.5						
	comp=Z,0.9nm,0.7s						
AKASG	**Malin Array Be**	**32.59**	**305**	P	**P**	04 25 17.3	**-1.4**
	comp=Z,0.1nm,0.3s,baz=80,slow=6.9,SNR=4.9						
	comp=Z,0.1nm,0.3s						
MNK	**Minsk**	**33.73**	**312**	*i* P	**P**	04 25 27.1	**-1.7**
	comp=E,3.0nm,0.9s						
MNK				*i* P	**P**	04 25 27.1	**-1.7**
	comp=N,14nm,0.8s						
MNK				*i* P	**P**	04 25 27.1	**-1.7**
	comp=Z,12nm,1.0s,baz=97						
MNK				*i* PP	**PnPn**	04 26 39.6	**-0.9**
MNK				*i* PPP	PPP	04 26 50.8	
MNK				*i* S	**S**	04 30 50.7	**-1.7**
MNK				*i* SS	**SnSn**	04 32 57.3	**+1.3**
MNK				*i* SSS	SSS	04 33 12.9	
MNK				*i* LQ	LQ	04 37 10.2	
MNK				*i* LR	LR	04 39 14.4	
MNK				*i* LRM	MLR	04 41 17.7	
	comp=Z,81nm,13.5s						
MNK				*i* LRM	MLR	04 41 35.8	
	comp=N,239nm,16.1s						
MNK				*i* LRM	MLR	04 41 39.6	
	comp=E,124nm,16.8s						
MNK	**Minsk**	**33.73**	**312**	*i* P	**P**	04 25 27.0	**-1.7**
MNK				*i*		04 26 39.6	
MNK				*i*		04 28 05.7	
MNK				*i* S	**S**	04 30 50.6	**-1.7**
MNK				*i* SS	**SnSn**	04 32 57.3	**+1.3**
MNK				*i*		04 35 50.9	
MNK				pmax	pmax		
	comp=N,14nm,0.9s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,12nm,1.0s						
MNK				MLR	MLR		
	comp=Z,81nm,14.0s						
MNK				MLR	MLR		
	comp=N,239nm,16.0s						
MNK				MLR	MLR		
	comp=E,124nm,17.0s						
MLR	**Muntele Rosu**	**35.01**	**296**	P	**P**	04 25 42.1	**+2.0**
MLR				IAmb	IAmb	04 25 47.1	
	comp=Z,2.1nm,0.7s						
MLR	**Muntele Rosu**	**35.01**	**296**	P	**P**	04 25 42.1	**+2.0**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BURAR	**Bucovina Array**	**35.28**	**299**	P	**P**	04 25 42.2	**-0.2**
BUR08	**Bucovina Ar. S**	**35.29**	**299**	P	**P**	04 25 42.6	**+0.2**
BUR08				IAmb	IAmb	04 26 01.3	
	comp=Z,1.9nm,1.1s						
FINES	**FINESS Array B**	**36.05**	**323**	P	**P**	04 25 47.9	**-0.7**
FINES	**FINESS Array B**	**36.05**	**323**	*i* P	**P**	04 25 48.2	**-0.4**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**36.05**	**323**	P	**P**	04 25 48.1	**-0.5**
	comp=Z,4.8nm,0.9s,baz=117,slow=8.0,SNR=6.9						
	comp=Z,4.8nm,0.9s						
KARP	**Karpathos**	**36.52**	**279**	P	**P**	04 25 52.9	**-0.1**
QIZ	**Qiongzhong**	**37.49**	**112**	P	**P**	04 26 04.5	**+3.1**
QIZ				S	**S**	04 31 51.0	**+0.3**
QIZ				LR	LR		
	comp=N,350nm,10.2s						
QIZ				LR	LR		
	comp=E,210nm,11.4s						
QIZ				LR	LR		
	comp=Z,210nm,8.4s						
ARCES	**ARCESS Array B**	**39.06**	**336**	P	**P**	04 26 12.7	**-1.3**
	comp=Z,3.5nm,1.0s,baz=318,slow=1.6,SNR=1.5						
	comp=Z,3.5nm,1.0s						
HFS	**Hagfors**	**41.86**	**320**	P	**P**	04 26 36.4	**-0.9**
	comp=Z,1.2nm,0.4s,baz=162,slow=25,SNR=7.9						
	comp=Z,1.2nm,0.4s						
NOA	**NORSAR Array B**	**43.10**	**321**	P	**P**	04 26 46.1	**-1.3**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.7,SNR=2.3						
	comp=Z,0.4nm,0.5s						
EKA	**Eskdalemuir Ar**	**51.40**	**315**	P	**P**	04 27 51.1	**-1.1**
	comp=Z,0.6nm,0.5s,baz=83,slow=7.9,SNR=4.2						
	comp=Z,0.6nm,0.5s						
ESDC	**Sonseca Array**	**57.69**	**297**	P	**P**	04 28 36.2	**-1.9**
	comp=Z,0.4nm,0.7s,baz=60,slow=6.5,SNR=6.3						
	comp=Z,0.4nm,0.7s						
TOA0	**Torodi Ar. Sit**	**67.64**	**269**	P	**P**	04 29 42.0	**-2.8**
TORD	**Torodi Ar. Bea**	**67.64**	**269**	P	**P**	04 29 41.9	**-2.9**
TORD				IAmb	IAmb	04 29 42.7	
	comp=Z,5.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**67.64**	**269**	P	**P**	04 29 42.2	**-2.6**
	comp=Z,0.6nm,0.5s,baz=49,slow=5.9,SNR=9.1						
	comp=Z,0.6nm,0.5s						
IMAR	**Indian Mountai**	**68.68**	**19**	P	**P**	04 29 51.6	**+1.1**
I23K	**Minto, Yukon-K**	**70.42**	**18**	P	**P**	04 30 00.1	**-1.2**
I23K				IAmb	IAmb	04 30 01.9	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**71.31**	**17**	P	**P**	04 30 06.6	**-0.2**
ILAR	**Eielson Array**	**71.31**	**17**	P	**P**	04 30 06.6	**-0.2**
BCAR	**Beaver Creek A**	**73.92**	**16**	P	**P**	04 30 20.6	**-1.8**
FITZ	**Fitzroy Crossi**	**75.31**	**129**	P	**P**	04 30 29.4	**-1.4**
FITZ				IAmb	IAmb	04 30 38.4	
	comp=Z,7.5nm,1.5s						
YKA	**Yellowknife Ar**	**78.08**	**4**	*i* P	**P**	04 30 47.0	**+1.0**
YKA	**Yellowknife Ar**	**78.08**	**4**	P	**P**	04 30 43.6	**-2.4**
	comp=Z,0.2nm,0.4s,baz=352,slow=5.8,SNR=5.2						
	comp=Z,0.2nm,0.4s						
WB0	**Warramunga Arr**	**82.01**	**124**	P	**P**	04 31 07.1	**-0.7**
WRA	**Warramunga Arr**	**82.10**	**124**	P	P	04 31 04.4	-3.9
	comp=Z,0.9nm,0.9s,baz=327,slow=5.0,SNR=2.8						
	comp=Z,0.9nm,0.9s						
WB2	**Warramunga Arr**	**82.11**	**124**	P	**P**	04 31 07.5	**-0.9**
ASAR	**Alice Springs**	**84.55**	**127**	P	P	04 31 16.8	-4.1
	comp=Z,0.4nm,0.8s,baz=309,slow=4.7,SNR=2.8						
	comp=Z,0.4nm,0.8s						

*IDC **08** 04:38:09.7±1.0, 19.02N×119.83E, h0km, mb3.9/9, mbtmp3.8/11, ML4.1/2, MS3.2/10, Error ellipse: s-maj=35.2km s-min=19.7km az=66.0*
ISC 08 04:38:13.7±1.0, 19.0N±0.1×119.8E±0.2, h27km, n18, σ0.85/11, mb3.9/9, MS3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**5.01**	**168**	LR	LR	04 42 09.3	
	comp=Z,243nm,20.0s,baz=304,slow=48						
JOW	**Kunigami**	**10.98**	**43**	LR	LR	04 44 52.7	
	comp=Z,43nm,20.3s,baz=324,slow=37						
DAV	**Davao City (W)**	**13.13**	**154**	LR	LR	04 47 30.9	
	comp=Z,128nm,19.7s,baz=338,slow=43						
JNU	**Nakatsue**	**17.16**	**33**	LR	LR	04 48 45.6	
	comp=Z,46nm,18.1s,baz=188,slow=37						
KSRS	**Korea Array**	**19.67**	**19**	P	**P**	04 42 39.2	**-1.4**
	0.1nm,0.3s,baz=207,slow=11,SNR=3.3						
	1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.80**	**272**	P	**P**	04 42 41.8	**-0.4**
	0.6nm,0.3s,baz=70,slow=7.8,SNR=5.0						
CMAR				LR	LR	04 49 18.6	
	comp=Z,23nm,21.5s,baz=25,slow=34						
SONM	**Songino Array**	**30.75**	**342**	P	**P**	04 44 26.8	**-0.1**
	0.3nm,0.8s,baz=155,slow=7.6,SNR=3.5						
SONM				LR	LR	04 59 00.7	
	comp=Z,80nm,18.8s,baz=52,slow=41						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**41.26**	**159**	P	**P**	04 45 56.5	**-0.2**
	1.6nm,0.7s,baz=342,slow=8.7,SNR=3.3						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**41.34**	**321**	P	**P**	04 45 57.7	**+0.4**
	2.1nm,1.0s,baz=113,slow=9.3,SNR=12						
	2.1nm,1.0s						
ZALV	**Zalesovo Beam**	**44.00**	**331**	P	**P**	04 46 18.5	**-0.1**
	1.0nm,0.6s,baz=120,slow=5.7,SNR=6.2						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**44.60**	**162**	P	**P**	04 46 24.0	**+0.2**
	0.3nm,0.7s,baz=333,slow=7.2,SNR=3.2						
ASAR				LR	LR	05 09 58.4	
	comp=Z,31nm,18.4s,baz=274,slow=43						
	0.3nm,0.7s						
AAK	**Ala-Archa**	**44.82**	**312**	LR	LR	05 07 41.4	
	comp=Z,74nm,18.5s,baz=55,slow=40						
KURBB	**Kurchatov Arra**	**45.38**	**324**	P	**P**	04 46 29.2	**-0.6**
	2.6nm,0.8s,baz=123,slow=7.8,SNR=18						
	2.6nm,0.8s						
NRIK	**Noril'sk**	**54.07**	**346**	P	**P**	04 47 37.2	**+1.6**
	1.9nm,0.8s,baz=152,slow=10.0,SNR=2.0						
	1.9nm,0.8s						
DZM	**Mont Dzumac**	**61.19**	**130**	LR	LR	05 11 21.5	
	comp=Z,23nm,20.0s,baz=52,slow=32						
KBZ	**Khabaz**	**67.78**	**310**	P	**P**	04 49 08.8	**-0.5**
	2.1nm,0.9s,baz=231,slow=18,SNR=2.7						
	2.1nm,0.9s						
NOA	**NORSAR Array B**	**82.18**	**332**	LR	LR	05 31 38.5	
	comp=Z,51nm,19.6s,baz=305,slow=39						
YKA	**Yellowknife Ar**	**88.19**	**22**	P	**P**	04 51 02.5	**+0.4**
	0.8nm,0.9s,baz=319,slow=4.7,SNR=10						
	0.8nm,0.9s						

*SDD **08** 04:41:47.8±2.3, 19.21N×69.86W, h20km±13km, MD3.3, ML2.9, MW3.6*
*OSPL **08** 04:41:47.4±1.7, 19.21N×69.72W, h11km±9km, ML3.0*
ISC 08 04:41:47.0±1.0, 19.19N±0.03×69.80W±0.03, h18km±3km, n28, σ0.92/43, 23C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NAG1	**Nagua**	**0.17**	**340**	⇓*e*Pg	**Pb**	**04 41 50.9**	**-0.2**
NAG1				⇓*e*Sg	**Sg**	**04 41 54.9**	**+0.3**
LONA1	**Toro Cenizo, N**	**0.20**	**342**	*i* P	**Pb**	**04 41 51.2**	**-0.6**
LONA1				*e*S	**Sg**	**04 41 55.5**	**+0.2**
LONA1				IAML		04 41 55.5	
	comp=Z,4μm,0.1s						
DR08	**Loma La Naviza**	**0.31**	**222**	⇓*e*Pg	**Pg**	**04 41 53.4**	**-0.4**
DR08				⇓*e*Sg	**Sg**	**04 41 58.5**	**+0.2**
DR08				IAML		04 41 59.3	
	comp=N,9μm,0.1s						
CADR	**Cabrera**	**0.49**	**345**	⇑*e*Sg	**Sg**	**04 42 03.3**	**-0.3**
CADR				IAML		04 42 03.8	
	comp=N,4μm,0.5s						
CADR				IAML		04 42 03.9	
	comp=N,4μm,0.5s						
HATOM	**Hato Mayor del**	**0.57**	**135**	⇑*e*Pg	**Pg**	**04 41 58.5**	**+0.2**
HATOM				⇑*e*Sg	**Sn**	**04 42 07.8**	**-1.4**
HATOM				IAML		04 42 07.9	
	comp=Z,321nm,0.5s						
HATOM				IAML		04 42 08.0	
	comp=N,672nm,0.2s						
HATOM				IAML		04 42 08.0	
	comp=N,649nm,0.2s						
SMDR	**Samana, DR**	**0.59**	**81**	⇑*e*Pg	**Pg**	**04 41 58.4**	**-0.3**
SMDR				⇑*e*Sg	**Sn**	**04 42 09.6**	**0.0**
SMDR				IAML		04 42 10.7	
	comp=E,354nm,0.9s						
SMDR				IAML		04 42 10.9	
	comp=N,406nm,0.3s						
SMDR				IAML		04 42 10.9	
	comp=N,406nm,0.3s						
SD01	**Santo Domingo**	**0.73**	**188**	⇑*e*Pg	**Pb**	**04 42 01.0**	**-0.3**
SD01				⇑*e*Sg	**Sg**	**04 42 11.8**	**+0.6**
SDD	**Santo Domingo**	**0.74**	**188**	⇓*e*Pg	**Pb**	**04 42 00.9**	**-0.5**
SDD				⇑*e*Sg	**Sb**	**04 42 11.6**	**+0.5**
SDD				IAML		04 42 11.9	
	comp=E,77nm,0.1s						
SDD				IAML		04 42 12.4	
	comp=N,80nm,0.2s						
SDD				IAML		04 42 12.4	
	comp=N,80nm,0.2s						
SDD	**Santo Domingo**	**0.74**	**188**	*i* P	**Pb**	**04 42 00.9**	**-0.5**
SDD				*e*S	**Sb**	**04 42 11.6**	**+0.5**
MIDR	**Miches**	**0.74**	**106**	⇑*e*Pg	**Pg**	**04 42 01.3**	**-0.3**
MIDR				⇑*e*Sg	**Sn**	**04 42 12.1**	**-1.4**
MIDR				IAML		04 42 15.2	
	comp=N,47nm,0.3s						
LOSC1	**San Cristbal**	**0.83**	**200**	*i* P	**Pb**	**04 42 02.3**	**-0.7**
LOSC1				*e*S	**Sb**	**04 42 14.1**	**+0.2**
LOSC1				IAML		04 42 16.1	
	comp=Z,588nm,0.5s						
ABDR	**Alto Bandera**	**0.87**	**244**	⇓*e*Pg	**Pb**	**04 42 01.7**	**-2.1**
ABDR				⇑*e*Sg	**Sb**	**04 42 12.7**	**-2.5**
ABDR				IAML		04 42 13.5	
	comp=E,635nm,0.6s						
ABDR				IAML		04 42 14.5	
	comp=N,625nm,0.2s						
ABDR				IAML		04 42 14.5	
	comp=N,625nm,0.2s						
SC01	**Santiago de lo**	**0.90**	**285**	⇑*e*Pg	**Pb**	**04 42 04.0**	**-0.2**
HIDR	**Higuey Centro**	**1.19**	**120**	⇑*e*Pg	**Pb**	**04 42 09.2**	**+0.2**
SADR	**Isla Saona**	**1.39**	**136**	⇓*e*Pg	**Pg**	**04 42 13.6**	**-0.3**
SADR				IAML		04 42 42.7	
	comp=E,89nm,1.8s						
SDDR	**Presa de Saban**	**1.42**	**262**	⇑*e*Pg	**Pn**	**04 42 12.2**	**+0.2**
SDDR				⇑*e*		04 42 12.2	
SDDR				IAML		04 42 32.9	
	comp=N,137nm,0.8s						
SDDR				IAML		04 42 33.2	
	comp=N,128nm,0.4s						
SDDR				IAML		04 42 38.2	
	comp=E,95nm,0.5s						
SDDR	**Presa de Saban**	**1.42**	**262**	*i* P	**Pn**	**04 42 11.6**	**-0.4**
SDDR				*e*S	**Sn**	**04 42 30.3**	**+0.1**
SDDR				IAML		04 42 36.0	
	comp=Z,92nm,0.4s						
LOPP1	**Punta Rusia, P**	**1.47**	**297**	*e*S	**Sb**	**04 42 32.5**	**+0.2**
LOPP1				IAML		04 42 35.2	
	comp=Z,1μm,2.4s						
LOBA2	**Hotel Casa Bon**	**1.65**	**228**	⇑*e*Pg	**Pn**	**04 42 15.7**	**+0.6**
LOBA2				IAML		04 42 42.4	
	comp=N,17nm,0.5s						
LOBA2				IAML		04 42 43.5	
	comp=E,19nm,0.3s						
NEDR	**Neiba UASD**	**1.69**	**245**	⇑*e*Pg	**Pn**	**04 42 16.4**	**+0.8**
NEDR				⇑*e*Sg	**Sn**	**04 42 38.1**	**+1.4**
NEDR				IAML		04 42 39.7	
	comp=N,85nm,1.3s						
NEDR				IAML		04 42 39.8	
	comp=N,73nm,1.2s						
PODR	**Polo**	**1.73**	**234**	⇑*e*Pg	**Pn**	**04 42 16.8**	**+0.4**
PODR				IAML		04 42 42.6	
	comp=N,74nm,2.6s						
PODR				IAML		04 42 43.0	
	comp=N,110nm,1.8s						
PODR				IAML		04 42 51.2	
	comp=E,79nm,0.3s						
PODR	**Polo**	**1.73**	**234**	*i* P	**Pn**	**04 42 16.8**	**+0.4**
LODA1	**ITESIL, Dajabo**	**1.83**	**281**	*i* P	**Pn**	**04 42 18.3**	**+0.7**
LODA1				*e*S	**Sn**	**04 42 39.5**	**-0.7**
LODA1				IAML		04 42 41.7	
	comp=Z,1μm,2.5s						
LOPE2	**Hotel El Peder**	**2.17**	**238**	*i* P	**Pn**	**04 42 23.6**	**+1.3**
LOPE2				IAML		04 43 02.0	
	comp=Z,66nm,1.2s						
PAPH	**Port-au-Prince**	**2.46**	**255**	⇑*e*Pg	**Pn**	**04 42 28.4**	**+2.2**
PAPH				⇑*e*Sg	**Sb**	**04 43 02.5**	**+1.8**
PAPH				IAML		04 43 02.7	
	comp=N,74nm,0.5s						
PAPH				IAML		04 43 03.2	
	comp=E,113nm,0.3s						
PAPH				IAML		04 43 26.3	
	comp=N,110nm,2.6s						
PAPH	**Port-au-Prince**	**2.46**	**255**	*i* P	**Pn**	**04 42 26.9**	**+0.7**
PAPH				IAML		04 43 07.0	
	comp=Z,22nm,1.4s						
AGPR	**Aguadilla, PR**	**2.65**	**105**	⇑*e*Pg	**Pb**	**04 42 33.7**	**-0.3**
AGPR				IAML		04 43 14.8	
	comp=N,134nm,2.5s						
AGPR				IAML		04 43 14.8	
	comp=N,134nm,2.5s						
AGPR				IAML		04 43 15.1	
	comp=E,76nm,1.0s						
AOPR	**Arecibo Observ**	**3.01**	**106**	⇑*e*Pg	**Pb**	**04 42 39.5**	**-0.6**
AOPR				IAML		04 43 25.5	
	comp=N,80nm,0.2s						
AOPR				IAML		04 43 28.0	
	comp=E,139nm,0.3s						
AOPR				IAML		04 43 29.9	
	comp=N,142nm,0.3s						

IDC 08 05:32:43.7±2.6, 6.13S×148.03E, h152km±27km, mb3.5/2, mbtmp4.0/4, Error ellipse: s-maj=103.5km s-min=20.2km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.37**	**195**	P	Pn	05 33 36.7	**+0.8**
	95nm,0.5s,baz=9.3,slow=9.6,SNR=28						
PMG				S	Sn	05 34 11.2	-5.3
	67nm,0.4s,baz=6.0,slow=22,SNR=12						
WRA	**Warramunga Arr**	**19.12**	**223**	P	P	05 36 53.6	-1.6
	1.3nm,0.3s,baz=42,slow=12,SNR=26						
WRA				S	S	05 40 14.8	-9.3
	0.5nm,0.9s,baz=43,slow=22,SNR=2.1						
ASAR	**Alice Springs**	**22.11**	**216**	P	P	05 37 26.9	-0.1
	5.4nm,0.5s,baz=54,slow=8.9,SNR=155						
ASAR				S	S	05 41 21.2	+1.1
	0.1nm,0.3s,baz=34,slow=25,SNR=1.6						
	5.4nm,0.5s						
ILAR	**Eielson Array**	**85.19**	**23**	P	P	05 45 02.3	-0.3
	0.3nm,0.7s,baz=249,slow=4.9,SNR=2.5						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.12**	**284**	PKPbc	PKPbc	05 52 07.4	+0.4
	0.3nm,0.5s,baz=74,slow=3.1,SNR=4.0						

IDC 08 05:48:56.6±1.9, 26.36S×68.56E, h0km, mb3.5/3, mbtmp3.5/3, MS3.2/5, Error ellipse: s-maj=80.4km s-min=39.0km az=23.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**18.98**	**12**	T	T	06 12 31.5	
	baz=192,slow=76,SNR=4.4						
H08S2	**Diego Garcia H**	**18.98**	**12**	T	T	06 12 33.0	
	baz=192,slow=76,SNR=4.7						
H08S3	**Diego Garcia H**	**19.00**	**12**	T	T	06 12 34.0	
	baz=192,slow=76,SNR=7.2						
H04N2	**CROZET ISLANDS**	**23.85**	**210**	T	T	06 19 17.4	
	baz=40,slow=73,SNR=637						
H04N1	**CROZET ISLANDS**	**23.86**	**210**	T	T	06 19 15.3	
	baz=40,slow=73,SNR=356						
H04N3	**CROZET ISLANDS**	**23.87**	**210**	T	T	06 19 19.7	
	baz=40,slow=73,SNR=762						
PALK	**Pallekele**	**35.45**	**21**	LR	LR	06 06 25.1	
	comp=Z,42nm,20.5s,baz=345,slow=30						
BOSA	**Boshof**	**38.33**	**256**	LR	LR	06 09 34.4	
	comp=Z,53nm,18.2s,baz=20,slow=32						
MAW	**Mawson**	**41.41**	**183**	LR	LR	06 09 31.0	
	comp=Z,41nm,19.2s,baz=66,slow=30						
CMAR	**Chiang Mai Arr**	**53.44**	**37**	LR	LR	06 17 42.7	
	comp=Z,13nm,19.8s,baz=125,slow=32						
ASAR	**Alice Springs**	**58.71**	**103**	P	P	05 58 56.4	0.0
	0.7nm,0.8s,baz=250,slow=6.7,SNR=4.7						
	0.7nm,0.8s						
MMAI	**Mount Meron Ar**	**66.94**	**330**	LR	LR	06 25 34.5	
	comp=Z,21nm,20.8s,baz=234,slow=33						
MKAR	**Makanchi Array**	**73.86**	**10**	P	P	06 00 33.0	0.0
	0.3nm,0.6s,baz=190,slow=6.0,SNR=4.4						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.90**	**293**	P	P	06 00 45.5	+0.1
	0.3nm,0.8s,baz=128,slow=7.3,SNR=1.9						
	0.3nm,0.8s						

*MEX **08** 06:12:16.6±0.6, 14.89N×93.95W, h9km±12km, MD4.1*
*CATAC **08** 06:12:17.0±1.2, 14.78N×93.81W, h10km, ML4.2*
ISC 08 06:12:14.4±2.4, 14.94N±0.08×93.94W±0.07, h14km±12km, n38, σ1.962/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.03**	**42**	*i* P	**Pg**	**06 12

comp=Z,300nm,1.0s
QUIS **Sacapulas** **2.77** **82** *i* P **Pn** **06 13 01.3 +2.8**
QUIS IAML 06 13 39.2

comp=Z,800nm,1.0s
PEIG **Puerto Escondi** **3.27** **289** *e*P Pn 06 13 02.2 -3.1
PEIG *e*S Sn 06 13 34.0 -10
NEUV **Arroyo Zacate** **3.29** **327** *e*P Pn 06 13 03.5 -1.9
NEUV *e*S Sn 06 13 39.5 -4.8
VHO **Vista Hermosa** **3.42** **309** *e*P Pn 06 13 05.3 -2.3
VHO *i* S Sn 06 13 42.0 -6.0
PMUV **Sontecomapan** **3.76** **343** *e*P Pn 06 13 09.3 -2.7
PMUV *e*S Sn 06 13 49.7 -6.4
YOIG **Yosondua** **3.96** **299** *e*P Pn 06 13 14.5 -0.5
YOIG *e*S Sn 06 13 53.9 -7.5
NUBE **Las Nubes** **4.16** **104** *i* P **Pn** **06 13 18.3 +0.7**
NUBE IAML 06 14 10.6

comp=Z,110nm,1.0s
PNIG **Pinotepa** **4.29** **290** *e*P Pn 06 13 17.1 -2.1
PNIG *e*S Sn 06 13 59.6 -9.4
TOIG **Toxpalan** **4.34** **317** *e*P Pn 06 13 19.5 -0.6
TOIG *e*S Sn 06 14 04.2 -6.3
TXIG **Tlaxiaco** **4.34** **302** *e*P Pn 06 13 18.0 -2.2
TXIG *e*S Sn 06 14 04.1 -6.7
PETF **Flores** **4.38** **63** *e*P **Pn** **06 13 21.4 +0.9**
PETF *i* S **Sn** **06 14 06.5 -4.9**
PETF **Flores** **4.38** **63** *i* P **Pn** **06 13 22.0 +1.5**
PETF IAML 06 14 17.4

comp=Z,140nm,1.0s
MGIG **Malinaltepec** **5.06** **297** *e*P **Pn** **06 13 29.8 -0.2**
MGIG *e*S Sn 06 14 20.8 -7.6
JAUV **Jalcomulco** **5.18** **329** *e*P Pn 06 13 28.8 -2.8
JAUV *i* S Sn 06 14 25.3 -5.9
MEIG **Mezcala** **6.21** **299** *e*P **Pn** **06 13 46.3 +0.6**
MEIG *i* S Sn 06 14 52.2 -4.4
YAIG **Yautepec** **6.27** **309** *e*P **Pn** **06 13 47.7 +1.1**
CAIG **El Cayaco** **6.44** **290** *e*P Pn 06 13 47.9 -0.9
ARIG **Puente Sto Nin** **6.98** **299** *e*P **Pn** **06 13 57.2 +0.9**

TAP ***08*** *06:28:59.8, 24˚.34N×120˚.93E, h7km, ML4.1, B*
ASIES ***08*** *06:28:59.8, 24˚.34N×120˚.93E, h7km, ML4.1, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr-1.84; Mθθ0.91; Mφφ0.92; Mrθ1.48; Mθφ-2.00; Mφr0.81; Fault plane solution: M₀3.06153×10²¹ NP1: φs282.99000°, δ61.63000°, λ-133.75000°. NP2: φs166.58000°, δ50.53000°, λ-37.99000°. Principal axes: T Plg6.5170°, Azm42.4610°; N Plg37.4730°, Azm307.4370°; P Plg51.7650°, Azm140.7980°;*
JMA ***08*** *06:29:00.6±0.3, 24˚.4N±0˚.5×12˚1E±˚, h2km, MV3.9/14, TAIWAN REGION*
NIED ***08*** *06:29:00.6, 24˚.36N×120˚.96E, h2km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr0.33; Mθθ-0.56; Mφφ0.23; Mrθ1.65; Mθφ-0.06; Mφr0.07; Fault plane solution: M₀1.71000×10¹⁵ NP1:φs88.00000°, δ82.00000°, λ.91.00000°. NP2:φs261.00000°, δ8.00000°, λ.84.00000°.*
IDC ***08*** *06:29:14.3±10.0, 24˚.59N×121˚.75E, h156km±115km, mb3.2/4, mbtmp3.7/6 Error ellipse: s-maj=89.9km s-min=20.0km az=56.0*
ISC 08 06:29:00.4±0.8**, 24˚.35N**±0˚.01×**120˚.94E**±0˚.01**, h10**km±5km**, n194**, σ1$00/320**, mb3.7**/4**, 41C-19D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WHP	**Taichung City**	**0.08**	**176**	**⇑***i*P			**Pg**	**06 29 02.4**	**-0.5**
	baz=167								
WHP				*i* S			**Sg**	**06 29 04.0**	**-0.6**
	baz=167								
TWQ1	**Liyutan**	**0.15**	**268**	**⇓***i*P			**Pg**	**06 29 03.7**	**-0.2**
	baz=274								
TWQ1				*i* S			**Sg**	**06 29 06.2**	**-0.1**
	baz=274								
NSY	**Sanyi**	**0.17**	**291**	**⇓***i*P			**Pg**	**06 29 04.6**	**+0.4**
	baz=298								
NSY				*i* S			**Sg**	**06 29 08.1**	**+1.2**
	baz=298								
TDCB	**Techi**	**0.22**	**117**	**⇓***i*P			**Pg**	**06 29 05.2**	**+0.1**
	baz=112								
TDCB				*i* S			**Sg**	**06 29 08.2**	**-0.1**
	baz=112								
TWT	**Tachien**	**0.24**	**115**	**⇓***i*P			**Pg**	**06 29 05.3**	**-0.1**
	baz=112								
TWT				*i* S			**Sg**	**06 29 08.5**	**-0.3**
	baz=112								
WDJ	**Dajia District**	**0.27**	**269**	*e*P			**Pg**	**06 29 06.7**	**+0.7**
	baz=273								
WDJ				S			**Sg**	**06 29 11.5**	**+1.8**
	baz=273								
NSTT	**Nanjuang**	**0.28**	**11**	**⇑***i*P			**Pg**	**06 29 06.7**	**+0.5**
	baz=14								
NSTT				*i* S			**Sg**	**06 29 10.9**	**+0.9**
	baz=14								
FUSS	**Fushou**	**0.30**	**111**	**⇓**P			**Pg**	**06 29 06.8**	**+0.3**
	baz=107								
FUSS				S			**Sg**	**06 29 10.6**	**0.0**
	baz=107								
WCS	**Beigang Elemen**	**0.30**	**185**	**⇑**P			**Pg**	**06 29 06.3**	**-0.1**
	baz=170								
WCS				*i* S			**Sg**	**06 29 10.7**	**+0.3**
	baz=170								
LIOB	**Emei**	**0.30**	**13**	**⇑***i*P			**Pg**	**06 29 07.1**	**+0.6**
	baz=15								
LIOB				*i* S			**Sg**	**06 29 11.5**	**+1.0**
	baz=15								
DPDB	**Guoxing**	**0.32**	**182**	**⇑**P			**Pg**	**06 29 06.9**	**0.0**
	baz=167								
DPDB				*e*S			**Sg**	**06 29 11.4**	**+0.3**
	baz=167								
NFF	**Wufeng Townshi**	**0.32**	**30**	**⇑***i*P			**Pg**	**06 29 07.2**	**+0.3**
	baz=31								
NFF				S			**Sg**	**06 29 11.9**	**+0.7**
	baz=31								
NJN	**Zhunan**	**0.33**	**349**	P			**Pb**	**06 29 08.3**	**-0.2**
	baz=3.0								
NJN				S			**Sb**	**06 29 14.0**	**+0.1**
	baz=3.0								
WPL	**Puli Township**	**0.34**	**177**	P			**Pg**	**06 29 07.2**	**-0.1**
	baz=163								
WPL				S			**Sg**	**06 29 11.1**	**-0.7**
	baz=163								
CHGB	**Renai**	**0.36**	**144**	**⇓***i*P			**Pg**	**06 29 07.9**	**+0.2**
	baz=140								
CHGB				*i* S			**Sg**	**06 29 12.7**	**+0.1**
	baz=140								
WHF	**Hehuan Shan**	**0.36**	**125**	**⇑***i*P			**Pg**	**06 29 08.5**	**+0.7**
	baz=121								
WHF				*i* S			**Sg**	**06 29 13.6**	**+1.0**
	baz=121								
WWF	**Wufeng**	**0.38**	**216**	*i* P			**Pg**	**06 29 09.0**	**+1.0**
	baz=233								
WWF				*i* S			**Sb**	**06 29 15.9**	**+0.7**
	baz=233								
WUSB	**Renai**	**0.40**	**156**	**⇓***i*P			**Pg**	**06 29 08.4**	**+0.1**
	baz=142								
WUSB				*i* S			**Sg**	**06 29 13.2**	**-0.3**
	baz=142								
NJD	**Zhudong**	**0.40**	**19**	P			**Pb**	**06 29 09.6**	**0.0**
	baz=20								
NJD				S			**Sb**	**06 29 16.0**	**+0.1**
	baz=20								
NNS	**Nan Shan**	**0.40**	**78**	**⇑***i*P			**Pg**	**06 29 09.0**	**+0.5**
	baz=76								
NNS				*i* S			**Sg**	**06 29 14.2**	**+0.4**
	baz=76								
NNSB	**Datong**	**0.41**	**80**	**⇑***i*P			**Pg**	**06 29 08.9**	**+0.4**
	baz=78								
NNSB				*i* S			**Sg**	**06 29 13.9**	**-0.1**
	baz=78								
NNSH	**Datong**	**0.41**	**80**	*i* P			**Pg**	**06 29 08.9**	**+0.3**
	baz=77								
NNSH				S			**Sg**	**06 29 13.9**	**-0.2**
	baz=77								
HSN1	**Hsinchu**	**0.43**	**10**	**⇑***i*P			**Pb**	**06 29 10.1**	**0.0**
	baz=20								
HSN1				S			**Sb**	**06 29 17.3**	**+0.7**
	baz=20								
SBCB	**Hsinchu**	**0.44**	**5**	**⇑***i*P			**Pb**	**06 29 10.3**	**0.0**
	baz=7.0								
SBCB				*i* S			**Sb**	**06 29 18.1**	**+1.2**
	baz=7.0								
WCHH	**Zhanghua**	**0.44**	**232**	*e*P			**Pb**	**06 29 10.3**	**0.0**
	baz=232								
WCHH				*e*S			**Sb**	**06 29 17.9**	**+0.9**
	baz=232								
HSN	**Hsinchu**	**0.45**	**3**	**⇑**P			**Pb**	**06 29 11.3**	**+0.9**
	baz=10.0								
HSN				*i* S			**Sb**	**06 29 19.1**	**+2.0**
	baz=10.0								
OWD	**Renai**	**0.45**	**152**	*i* P			**Pg**	**06 29 09.6**	**+0.2**
	baz=149								
OWD				S			**Sg**	**06 29 15.1**	**-0.2**
	baz=149								
TYC	**Yuchr**	**0.45**	**190**	**⇑***i*P			**Pg**	**06 29 09.5**	**+0.1**
	baz=177								
TYC				*i* S			**Sg**	**06 29 15.7**	**+0.4**
	baz=177								
SMLT	**Sun Moon Lake**	**0.47**	**185**	**⇑***i*P			**Pg**	**06 29 09.8**	**+0.2**
	baz=172								
SMLT				S			**Sg**	**06 29 16.0**	**+0.1**
	baz=172								
NSK	**Sanguang**	**0.50**	**50**	**⇑***i*P			**Pg**	**06 29 10.4**	**+0.2**
	baz=51								
WNT1	**Nantou City**	**0.51**	**208**	P			**Pb**	**06 29 11.5**	**+0.1**
	baz=207								
WNT1				S			**Sb**	**06 29 19.6**	**+0.8**
	baz=207								
YHNB	**Yeheng**	**0.51**	**52**	P			**Pg**	**06 29 10.5**	**+0.1**
YHNB	**Yeheng**	**0.51**	**52**	**⇑***i*P			**Pg**	**06 29 10.4**	**+0.1**
	baz=51								
YHNB				*e*S			**Sb**	**06 29 18.2**	**-0.7**
	baz=51								
WYL	**Yuanlin Townsh**	**0.51**	**220**	P			**Pb**	**06 29 11.5**	**0.0**
	baz=235								
WYL				S			**Sb**	**06 29 19.8**	**+0.8**
	baz=235								
ETLH	**Xiulin Townshi**	**0.52**	**106**	**⇓***e*P			**Pb**	**06 29 11.1**	**-0.5**
	baz=104								
ETLH				*e*S			**Sg**	**06 29 18.1**	**+0.7**
	baz=104								
WNT	**Mingjian**	**0.53**	**206**	**⇑***i*P			**Pb**	**06 29 11.8**	**0.0**
	baz=204								
WNT				*i* S			**Sb**	**06 29 19.9**	**+0.5**
	baz=204								
LXIB	**Xiulin Townshi**	**0.54**	**127**	**⇓***i*P			**Pg**	**06 29 11.6**	**+0.5**
	baz=125								
LXIB				*i* S			**Sg**	**06 29 18.8**	**+0.5**
	baz=125								
LATG	**Datong**	**0.56**	**71**	**⇑***i*P			**Pg**	**06 29 11.9**	**+0.4**
	baz=70								
LATG				*i* S			**Sg**	**06 29 19.3**	**+0.4**
	baz=70								
SSLB	**Suanglung**	**0.56**	**179**	P			**Pg**	**06 29 11.1**	**-0.3**
SSLB	**Suanglung**	**0.56**	**179**	**⇓**P			**Pg**	**06 29 11.1**	**-0.3**
	baz=169								
SSLB				S			**Sg**	**06 29 17.9**	**-0.9**
	baz=169								
WJS	**Zhushan**	**0.56**	**200**	**⇑**P			**Pb**	**06 29 12.4**	**0.0**
	baz=198								
WJS				S			**Sb**	**06 29 21.1**	**+0.6**
	baz=198								
NDT	**Datong Townshi**	**0.58**	**65**	**⇑***i*P			**Pg**	**06 29 12.0**	**+0.3**
	baz=74								
NDT				*i* S			**Sg**	**06 29 19.5**	**+0.2**
	baz=74								
NACB	**Ninganchiao**	**0.62**	**107**	P			**Pb**	**06 29 13.2**	**-0.2**
NACB	**Ninganchiao**	**0.62**	**107**	**⇓***i*P			**Pg**	**06 29 13.0**	**+0.5**
	baz=105								
NACB				*i* S			**Sg**	**06 29 21.0**	**+0.2**
	baz=105								
VWDT	**VWDT**	**0.62**	**163**	**⇓***i*P			**Pg**	**06 29 12.6**	**0.0**
	baz=153								
VWDT				*i* S			**Sg**	**06 29 20.1**	**-0.7**
	baz=153								
ETM	**Tongmen**	**0.64**	**127**	**⇑**P			**Pg**	**06 29 13.3**	**+0.5**
	baz=133								
ENTT	**Nioudou**	**0.64**	**63**	**⇑***i*P			**Pg**	**06 29 13.2**	**+0.4**
	baz=72								
ENTT				*i* S			**Sg**	**06 29 21.3**	**+0.1**
	baz=72								
NCUH	**Zhongli**	**0.65**	**20**	**⇑**P			**Pb**	**06 29 14.6**	**+0.7**
	baz=21								
ETL	**Fush Village**	**0.65**	**107**	*e*P			**Pb**	**06 29 13.7**	**-0.2**
	baz=106								
NCU	**National Centr**	**0.65**	**20**	P			**Pb**	**06 29 14.6**	**+0.7**
	baz=22								
NCU				*e*S			**Sb**	**06 29 25.0**	**+2.0**
	baz=22								
NHW	**Xinwu Township**	**0.66**	**9**	**⇑***e*P			**Pb**	**06 29 14.9**	**+0.9**
	baz=10.0								
NHW				*e*S			**Sb**	**06 29 25.2**	**+2.0**
	baz=10.0								
TWD	**Chiawan**	**0.66**	**114**	**⇓***i*P			**Pb**	**06 29 13.7**	**-0.3**
	baz=105								
TWD				*e*S			**Sg**	**06 29 21.7**	**-0.1**
	baz=105								
WHYT	**Xinyi Township**	**0.66**	**187**	*e*P			**Pb**	**06 29 14.3**	**+0.2**
	baz=178								
WHYT				S			**Sb**	**06 29 23.7**	**+0.4**
	baz=178								
NWLT	**Wulai**	**0.66**	**50**	**⇑**P			**Pg**	**06 29 13.4**	**+0.1**
	baz=51								
WRL	**Guolierlin Hig**	**0.68**	**229**	**⇑***e*P			**Pg**	**06 29 14.1**	**+0.4**
	baz=229								
WRL				*e*S			**Sb**	**06 29 24.1**	**+0.2**
	baz=229								
ESL	**Shilin**	**0.70**	**140**	**⇓***i*P			**Pg**	**06 29 14.2**	**+0.2**
	baz=138								
ESL				S			**Sg**	**06 29 22.3**	**-0.9**
	baz=138								
RLNB	**Erlin**	**0.70**	**229**	*e*P			**Pg**	**06 29 14.7**	**+0.6**
	baz=229								
RLNB				S			**Sb**	**06 29 25.0**	**+0.6**
	baz=229								
HWA	**Hwalien**	**0.71**	**122**	P			**Pb**	**06 29 15.0**	**+0.1**
	baz=130								
HWA				*e*S			**Sb**	**06 29 25.6**	**+0.8**
	baz=130								
FUSB	**Fushanzhiwuyua**	**0.71**	**55**	**⇑***i*P			**Pg**	**06 29 14.4**	**+0.1**
	baz=68								
NTY	**Taoyuan**	**0.72**	**27**	P			**Pb**	**06 29 16.1**	**+1.0**
	baz=29								
EAHA	**Aohua**	**0.73**	**92**	*e*P			**Pb**	**06 29 15.0**	**-0.2**
	baz=91								
EHP	**Heping Village**	**0.73**	**93**	*e*P			**Pn**	**06 29 17.3**	**+0.5**
	baz=92								
ENA	**Nanau**	**0.73**	**84**	P			**Pg**	**06 29 14.9**	**+0.3**
	baz=93								
ENA				*e*S			**Sg**	**06 29 24.6**	**+0.3**
	baz=93								
WGK	**Gukeng**	**0.75**	**208**	*e*P			**Pg**	**06 29 15.4**	**+0.5**
	baz=206								
WGK				*i* S			**Sb**	**06 29 26.6**	**+0.7**
	baz=206								
WARBT	**Fenglin Townsh**	**0.75**	**147**	**⇓***i*P			**Pg**	**06 29 14.9**	**0.0**
	baz=135								
TWE	**Neicheng**	**0.76**	**61**	**⇑***i*P			**Pb**	**06 29 15.5**	**-0.2**
	baz=61								
TWE				S			**Sg**	**06 29 25.3**	**+0.3**
	baz=61								
WDLH	**Douliu**	**0.76**	**209**	*e*P			**Pg**	**06 29 15.6**	**+0.5**
	baz=208								
WDLH				*e*S			**Sb**	**06 29 26.7**	**+0.7**
	baz=208								
NDS	**Dongshan**	**0.76**	**68**	*e*P			**Pg**	**06 29 15.4**	**+0.3**
	baz=60								
EWUT	**Wuta**	**0.77**	**83**	P			**Pg**	**06 29 15.4**	**+0.1**
	baz=92								
EWUT				*e*S			**Sg**	**06 29 24.9**	**-0.5**
	baz=92								
WTCT	**Ta-ch'eng**	**0.78**	**231**	P			**Pg**	**06 29 15.7**	**+0.3**
	baz=231								
WTCT				*i* S			**Sb**	**06 29 27.2**	**+0.6**
	baz=231								
BACT	**New Taipei Cit**	**0.79**	**35**	*e*P			**Pb**	**06 29 17.1**	**+0.9**
	baz=46								
CHN5	**Tsauling**	**0.79**	**198**	**⇑***i*P			**Pg**	**06 29 16.1**	**+0.4**
	baz=196								
CHN5				*i* S			**Sb**	**06 29 27.2**	**+0.1**
	baz=196								
TATO	**Taipei**	**0.79**	**39**	P			**Pb**	**06 29 17.0**	**+0.7**
SHUL	**Shoufeng**	**0.80**	**135**	**⇓***e*P			**Pb**	**06 29 16.8**	**+0.4**
	baz=133								
SHUL				*e*S			**Sb**	**06 29 27.5**	**+0.2**
	baz=133								
NHDH	**Xindian Distri**	**0.81**	**41**	*e*P			**Pb**	**06 29 16.8**	**+0.2**
	baz=48								
EGFH	**Guangfu**	**0.81**	**147**	*e*P			**Pb**	**06 29 16.7**	**+0.1**
	baz=135								
WTK	**Tuku**	**0.83**	**217**	*e*P			**Pg**	**06 29 16.7**	**+0.1**
	baz=217								
WTK				S			**Sb**	**06 29 29.2**	**+1.0**
	baz=217								
ILA	**Ilan**	**0.84**	**61**	*e*P			**Pg**	**06 29 16.9**	**+0.2**
	baz=73								
TEGC	**Jichi Village**	**0.84**	**139**	*e*P			**Pb**	**06 29 17.8**	**+0.7**
	baz=145								
ALS	**Alishan**	**0.85**	**188**	**⇑***i*P			**Pg**	**06 29 17.4**	**+0.5**
	baz=186								
ALS				S			**Sb**	**06 29 30.0**	**+1.0**
	baz=186								
ESAO	**Su ao**	**0.85**	**75**	*e*P			**Pg**	**06 29 16.9**	**0.0**
	baz=75								
WMLT	**Mailiao**	**0.85**	**230**	*e*P			**Pn**	**06 29 19.4**	**+0.9**
	baz=230								
TAP	**Taipei**	**0.85**	**37**	**⇑***i*P			**Pb**	**06 29 18.1**	**+0.8**
	baz=38								
TAP				*i* S			**Sn**	**06 29 31.3**	**+0.3**
	baz=38								
TWA	**Mucha**	**0.85**	**43**	**⇑***i*P			**Pb**	**06 29 17.7**	**+0.3**
	baz=54								
TWA				*e*S			**Sn**	**06 29 31.6**	**+0.5**
	baz=54								
TWS1	**Kuangyinshan**	**0.86**	**30**	**⇑***i*P			**Pn**	**06 29 18.5**	**-0.1**
	baz=31								
TWS1				*i* S			**Sn**	**06 29 31.3**	**+0.1**
	baz=31								
TWC	**Suao**	**0.87**	**73**	**⇑**P			**Pg**	**06 29 17.3**	**+0.1**
	baz=72								
TWC				S			**Sg**	**06 29 27.9**	**-0.5**
	baz=72								
NHY	**Taipei**	**0.89**	**40**	*e*P			**Pb**	**06 29 18.7**	**+0.7**
	baz=41								
EHY	**Hungye**	**0.91**	**157**	*e*P			**Pg**	**06 29 17.9**	**-0.2**
	baz=145								
CHN2	**Minshiung**	**0.92**	**208**	*e*P			**Pb**	**06 29 18.8**	**+0.3**
	baz=206								
CHN2				*i* S			**Sb**	**06 29 31.8**	**+1.0**
	baz=206								
NTST	**Danshui**	**0.93**	**30**	*e*P			**Pb**	**06 29 19.3**	**+0.6**
	baz=31								
WCKO	**Fanlu**	**0.96**	**199**	*e*P			**Pg**	**06 29 18.9**	**0.0**
	baz=197								
WCKO				S			**Sg**	**06 29 31.9**	**+0.4**
	baz=197								
HGSD	**Ruisui**	**0.96**	**153**	*e*P			**Pb**	**06 29 19.6**	**+0.4**
	baz=151								
HGSD				*e*S			**Sn**	**06 29 34.2**	**+0.4**
	baz=151								
WSF	**Szhu**	**0.97**	**223**	P			**Pg**	**06 29 18.8**	**-0.3**
	baz=222								
WSF				*i* S			**Sg**	**06 29 32.6**	**+0.9**
	baz=222								
CHY	**Chiayi**	**0.97**	**209**	*e*P			**Pg**	**06 29 19.0**	**-0.2**
	baz=207								
CHY				*e*S			**Sb**	**06 29 32.9**	**+0.6**
	baz=207								
YM01	**YM01**	**0.97**	**36**	**⇑***i*P			**Pb**	**06 29 19.8**	**+0.3**
	baz=23								
YM01				S			**Sn**	**06 29 34.1**	**0.0**
	baz=23								
ANP	**Anpu**	**0.98**	**32**	**⇑***i*P			**Pb**	**06 29 19.9**	**+0.3**
	baz=33								
ANP				*e*S			**Sb**	**06 29 33.5**	**+0.9**
	baz=33								
YULB	**Yu-li**	**1.01**	**161**	P			**Pg**	**06 29 19.5**	**-0.4**
YULB	**Yu-li**	**1.01**	**161**	*e*P			**Pg**	**06 29 19.4**	**-0.6**
	baz=153								
YULB				*e*S			**Sb**	**06 29 34.6**	**+1.2**
	baz=153								
TIPB	**Shuangxi**	**1.01**	**52**	**⇑***i*P			**Pb**	**06 29 20.2**	**+0.1**
	baz=63								
TIPB				*e*S			**Sn**	**06 29 35.1**	**+0.1**
	baz=63								
YM08	**YM08**	**1.02**	**35**	**⇑***i*P			**Pg**	**06 29 20.1**	**0.0**
	baz=22								
EGS		**1.03**	**61**	**⇑***i*P			**Pb**	**06 29 20.6**	**+0.3**
	baz=72								
EGS				*e*S			**Sn**	**06 29 36.5**	**+1.2**
	baz=72								
NWF	**Wu-fen Shan**	**1.05**	**47**	**⇑**P			**Pb**	**06 29 21.1**	**+0.4**
	baz=61								
NWF				S			**Sn**	**06 29 36.1**	**+0.2**
	baz=61								
WFSB	**Wu-fen Shan**	**1.05**	**47**	P			**Pb**	**06 29 21.1**	**+0.5**
	baz=61								
WFSB				*e*S			**Sn**	**06 29 36.5**	**+0.8**
	baz=61								
CHN4	**Tsaushan**	**1.05**	**198**	*e*P			**Pg**	**06 29 21.0**	**+0.4**
	baz=196								
CHN4				*e*S			**Sb**	**06 29 35.6**	**+1.2**
	baz=196								
TWF1	**Yuli**	**1.05**	**162**	*e*P			**Pg**	**06 29 20.1**	**-0.5**
	baz=154								
TWF1				*e*S			**Sn**	**06 29 36.3**	**+0.4**
	baz=154								
WSL	**Shuilin Townsh**	**1.05**	**218**	*e*P			**Pg**	**06 29 20.6**	**-0.1**
	baz=217								
WSL				*e*S			**Sb**	**06 29 35.7**	**+1.2**
	baz=217								
EYUL	**Yuli**	**1.06**	**161**	*e*P			**Pg**	**06 29 20.9**	**+0.1**
	baz=152								
NWRT	**Kuosheng**	**1.07**	**38**	*e*P			**Pg**	**06 29 21.1**	**+0.1**
	baz=39								
TPUB	**Ta-pu**	**1.09**	**195**	P			**Pg**	**06 29 21.6**	**+0.3**
TPUB	**Ta-pu**	**1.09**	**195**	*e*P			**Pg**	**06 29 21.0**	**-0.4**
	baz=193								
TPUB				*e*S			**Sg**	**06 29 35.6**	**+0.1**
	baz=193								
TNOU	**National Taiwa**	**1.10**	**44**	*e*P			**Pb**	**06 29 21.9**	**+0.4**
	baz=44								
TNOU				*e*S			**Sn**	**06 29 37.6**	**+0.6**
	baz=44								
TWY	**Chenhua**	**1.10**	**33**	*e*P			**Pb**	**06 29 21.7**	**+0.2**
	baz=34								
NSM	**Shimen**	**1.10**	**32**	*e*P			**Pn**	**06 29 22.1**	**+0.3**
	baz=33								
NSM				*e*S			**Sn**	**06 29 38.3**	**+1.1**
	baz=33								
SXI1	**Grass Mountain**	**1.12**	**49**	*e*P			**Pn**	**06 29 22.6**	**+0.3**
	baz=60								
SXI1				*e*S			**Sn**	**06 29 39.6**	**+1.7**
	baz=60								
ECBN	**Changbin**	**1.13**	**156**	*e*P			**Pn**	**06 29 23.4**	**+1.1**
	baz=139								
WTP	**Ta-pu**	**1.14**	**195**	*e*P			**Pg**	**06 29 22.0**	**-0.4**
	baz=193								
WTP				*e*S			**Sb**	**06 29 38.5**	**+1.3**
	baz=193								
TWB1	**Santiao Chiao**	**1.16**	**55**	*e*P			**Pb**	**06 29 22.6**	**+0.2**
	baz=56								
TWB1				*e*S			**Sn**	**06 29 39.2**	**+0.7**
	baz=56								
ICHU	**Yijhu**	**1.16**	**212**	*e*P			**Pg**	**06 29 21.9**	**-0.8**
	baz=210								
ICHU				*e*S			**Sg**	**06 29 38.3**	**+0.5**
	baz=210								
TWK	**Hsinying**	**1.16**	**201**	*e*P			**Pg**	**06 29 21.9**	**-0.8**
	baz=199								
TWK				*e*S			**Sb**	**06 29 38.6**	**+0.9**
	baz=199								
ELDTW	**Lidau**	**1.16**	**177**	**⇓**P			**Pg**	**06 29 22.7**	**-0.1**
	baz=169								
EOS2	**EOS2**	**1.18**	**87**	*e*P			**Pn**	**06 29 24.0**	**+1.1**
	baz=86								
STYH	**Taoyuan**	**1.19**	**187**	*e*P			**

baz=166
ECS eS Sn 06 29 43.0 +1.4
baz=166
EOS4 EOS4 1.28 100 eP Pg 06 29 25.4 +0.4
baz=117
CHKT Chengkung 1.31 163 eP Pb 06 29 25.5 +0.4
baz=143
SGST Jiashian 1.31 195 P Pn 06 29 24.1 -0.7
baz=192
SGST S Sb 06 29 42.3 +0.3
baz=192
SSHA Shanhua 1.35 206 eP Pn 06 29 25.4 +0.1
baz=205
SSHA eS Sg 06 29 44.8 +0.8
baz=205
SCLT Jiali 1.36 210 eP Pn 06 29 25.8 +0.4
baz=208
SCLT eS Sg 06 29 45.0 +0.8
baz=208
SLGT Liugui 1.38 191 eP Pn 06 29 26.6 +0.9
baz=189
SLGT eS Sg 06 29 45.4 +0.5
baz=189
EDH Donghe 1.42 166 eP Pn 06 29 26.8 +0.6
baz=147
EDH eS Sg 06 29 47.7 +1.7
baz=147
SHHT Tainan City 1.43 202 eP Pb 06 29 27.6 +0.3
baz=212
SHHT eS Sg 06 29 48.1 +1.6
baz=212
TSCK Chigu Township 1.43 213 eP Pn 06 29 26.7 +0.2
baz=212
TSCK eS Sg 06 29 47.0 +0.5
baz=212
LONT Longtian 1.45 173 eP Pb 06 29 28.0 +0.5
baz=171
LONT eS Sg 06 29 47.6 +0.5
baz=171
PNG Penghu 1.49 239 eP Pn 06 29 26.9 -0.3
baz=238
PNG S Sn 06 29 47.0 +0.3
baz=238
VWUC VWUC 1.50 295 eP Pn 06 29 25.7 -1.7
baz=297
PHUB P'eng-hu 1.51 237 eP Pn 06 29 25.6 -1.8
baz=237
PHUB S Sn 06 29 47.4 +0.3
baz=237
SCST Cishan 1.52 196 eP Pn 06 29 28.4 +0.8
baz=194
SCST eS Sg 06 29 50.4 +1.1
baz=194
TWG Pinlang 1.53 175 ⇑P Pb 06 29 29.2 +0.3
baz=165
TWG S Sg 06 29 50.1 +0.4
baz=165
TWGBT **Beinan 1.54 175** P Pb 06 29 29.3 +0.3
TWGBT **Beinan 1.54 175** ⇓*i*P Pn 06 29 28.9 +1.0
baz=165
TWGBT *i* S Sg 06 29 49.7 -0.2
baz=165
TWM1 Shoushan 1.60 197 eP Pb 06 29 30.3 +0.3
baz=195
TWM1 eS Sg 06 29 55.6 +3.8
baz=195
TTN Taitung 1.60 173 eP Pb 06 29 30.8 +0.6
baz=171
SSD Sandimen 1.62 190 eP Pn 06 29 29.3 +0.2
baz=187
SSD eS Sn 06 29 51.1 +1.1
baz=187
PCYT Pengchaiyu 1.63 39 eP Pn 06 29 29.1 -0.1
baz=40
TSMG Majia 1.66 189 eP Pn 06 29 30.7 +1.1
baz=187
SNJT Kaohsiung City 1.69 199 eP Pb 06 29 31.7 +0.2
baz=216
LDUT Ludao 1.74 164 eP Pn 06 29 31.4 +0.7
baz=146
LDUT eS Sg 06 29 56.0 -0.5
baz=146
ECL Taimali 1.75 180 eP Pb 06 29 32.7 +0.1
baz=177
ECL eS Sg 06 29 56.3 -0.4
baz=177
MASBT **Mashibuluo 1.76 189** eP Pn 06 29 31.5 +0.6
baz=187
MASBT eS Sb 06 29 55.1 +0.2
baz=187
VCHM Qimei 1.79 231 eP Pn 06 29 31.8 +0.4
baz=230
VCHM eS Sn 06 29 55.2 +1.0
baz=230
WSSB Gushan 1.81 200 eP Pn 06 29 32.8 +1.1
baz=216
JYNG Yonaguni jima 1.83 87 P Pb 06 29 34.0 +0.1
JYNG S Sb 06 29 57.9 +1.0
YOJ Yonaguni jima 1.89 86 P Pb 06 29 34.9 -0.1
YOJ Yonaguni jima 1.89 86 P Pb 06 29 34.9 -0.1
YOJ eS Sb 06 29 59.4 +0.7
EAST Anshuo 1.96 182 P Pn 06 29 35.1 +1.3
baz=179
EAST eS Sn 06 30 00.4 +1.9
baz=179
TAW Tawu 1.99 181 eP Pn 06 29 35.5 +1.4
baz=178
TAW eS Sb 06 30 01.7 +0.2
baz=178
SCZT Fangliau 2.00 189 eP Pn 06 29 35.0 +0.8
baz=203
SCZT eS Sn 06 30 01.1 +1.9
baz=203
MATB Ma-tsu 2.00 333 eP Pn 06 29 32.8 -1.6
baz=336
MATB eS Sn 06 30 01.3 +1.9
baz=336
TAWH Dawu Township 2.01 181 eP Pn 06 29 35.8 +1.5
baz=179
TAWH eS Sb 06 30 02.3 +0.3
baz=179
MSUT Lienchiang 2.03 333 eP Pn 06 29 33.6 -1.1
baz=336
TWP Hsiaoliuchiu 2.07 195 eP Pn 06 29 35.8 +0.6
baz=213
SLIU Shizi 2.13 184 eP Pn 06 29 37.0 +0.9
baz=199
KNM Kinmen 2.29 272 eP Pn 06 29 40.6 +2.4
baz=273
SMST Manzhou Townsh 2.33 182 eP Pn 06 29 39.4 +0.7
baz=199
KNMB Chin-men Tao 2.33 273 eP Pn 06 29 37.4 -1.4
baz=275
LAY Lan-yu 2.37 166 eP Pn 06 29 40.1 +0.7
baz=153
LAY eS Sn 06 30 10.9 +2.4
baz=153
TWKBT **Hengchun 2.41 183** eP Pn 06 29 40.5 +0.7
baz=196
LYUB Lan-yu 2.42 166 eP Pn 06 29 39.4 -0.5
baz=153
LYUB eS Sn 06 30 09.4 -0.2
baz=153
LYJJ Jianjiangzhen 2.43 334 eP Pn 06 29 39.6 -0.6
baz=336
TSEB Hengchuen, Pin 2.44 181 eP Pn 06 29 41.0 +0.6
baz=196
MHZQ Yeshan 2.45 316 eP Pn 06 29 40.6 +0.1
baz=317
IRIF Iriomote-Funau 2.54 90 eP Pn 06 29 43.3 +1.5
IRIF eS Sn 06 30 14.5 +1.7
HATJ Hateruma jima 2.63 96 eP Pb 06 29 45.9 -1.8
HATJ eS Sn 06 30 17.8 +2.8
XPSS Dashiqiu 2.65 345 eP Pn 06 29 41.7 -1.5
baz=347
AXDP Jialang 2.76 282 eP Pn 06 29 44.1 -0.5
baz=284
JKRS Kuro-shima 2.80 92 eP Pn 06 29 48.1 +2.8
JKRS S Sn 06 30 21.9 +2.8
JJ Ishigaki jima 2.92 89 P Pn 06 29 48.7 +1.8
JJ eS Sn 06 30 23.1 +1.0
ZPLA Ao Xicun 2.94 262 eP Pn 06 29 46.5 -0.8
baz=264
JISG Ishigakijimahi 3.08 85 eP Pn 06 29 51.6 +2.5
JISG eS Sn 06 30 28.3 +2.4
DSXP Dongshan 3.28 259 eP Pn 06 29 51.1 -0.8
baz=261
SXFK Yanhouchang 3.61 305 eP Pn 06 29 55.9 -0.6
baz=306
JOW Kunigami 7.07 68 P Pn 06 30 45.6 +1.7
9.1nm,0.6s,baz=174,slow=25,SNR=1.7
JOW S Sn 06 31 55.9 -8.4
13nm,0.8s,baz=250,slow=16,SNR=1.4
KSRS Korea Array 14.36 23 P Pn 06 32 24.2 +0.4
0.9nm,0.5s,baz=207,slow=14,SNR=3.1
MKAR Makanchi Array 38.06 316 P P 06 36 20.4 +1.3
0.4nm,0.7s,baz=108,slow=9.3,SNR=5.6
0.4nm,0.7s
WRA Warramunga Arr 45.92 162 P P 06 37 21.0 -2.5
0.3nm,0.4s,baz=345,slow=8.3,SNR=14
0.3nm,0.4s
ASAR Alice Springs 49.36 164 P P 06 37 48.4 -1.9
0.3nm,0.4s,baz=341,slow=6.7,SNR=7.5
0.3nm,0.4s
STKA Stephens Creek 59.30 160 P P 06 38 59.8 -2.6
0.8nm,0.5s,baz=350,slow=6.1,SNR=1.5
0.8nm,0.5s

*TRN **08** 06:38:43.1, 10.27N×62.30W, h12km, MD4.0*
*FUNV **08** 06:38:46.6, 10.25N×62.36W, h5km, MW4.0*
ISC 08 06:38:45.4±1.0, 10.22N±0.07×62.31W±0.06, h51km±36km, n43, σ1.957/58, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.99**	**65**	eP		Pn	06 39 01.2	-1.8
TRN				eS		Sn	06 39 16.0	+0.1
CRUV	**Carupano**	**1.01**	**296**	eP		Pn	06 39 02.6	-0.7
CRUV				eS		Sn	06 39 15.3	-1.3
CUMV	**Cumana_UDO**	**1.86**	**276**	eP		Pn	06 39 17.4	+2.6
CUMV				eS		Sn	06 39 41.0	+3.7
GRGR	**Grenville**	**2.00**	**19**	eP		Pn	06 39 16.9	+0.1
GRGR				eS		Sn	06 39 41.1	+0.4
GRHS	**Sauteurs**	**2.09**	**18**	eP		Pn	06 39 18.2	+0.1
GRHS				eS		Sn	06 39 42.2	-0.7
PCRV	**Puerto La Cruz**	**2.29**	**269**	eP		Pn	06 39 23.1	+2.2
PCRV				eS		Sn	06 39 50.3	+2.5
GCMP	**Grenada, Carri**	**2.41**	**21**	eP		Pn	06 39 22.5	+0.1
GCMP				eS		Sn	06 39 51.1	+0.4
SVB	**Belmont**	**3.20**	**19**	eP		Pn	06 39 33.9	+0.7
SVB				eS		Sn	06 40 09.1	-1.1
SLB	**Belfond**	**3.79**	**19**	eP		Pn	06 39 41.7	+0.3
SLB				eS		Sn	06 40 24.9	+0.1
SLBI	**Saint Lucia, B**	**4.00**	**19**	eP		Pn	06 39 44.3	+0.2
SLBI				eS		Sn	06 40 28.8	-0.9
MPOM	**Morne Pois Mar**	**4.43**	**19**	eP		Pn	06 39 49.9	-0.1
MPOM	**Morne Pois Mar**	**4.43**	**19**	eS		Sn	06 40 39.5	-0.8
FUNV	**FUNVISIS**	**4.43**	**274**	eP		Pn	06 39 53.4	+3.2
FUNV				eS		Sn	06 40 41.5	+0.9
TACV	**Tcata**	**4.64**	**269**	eP		Pn	06 39 55.9	+2.8
TACV				eS		Sn	06 40 47.2	+1.4
SVN	**Savane Anatole**	**4.72**	**14**	eP		Pn	06 39 53.5	-0.7
CACV	**CAICARA DEL OR**	**4.94**	**238**	eP		Pn	06 39 53.6	-3.5
CACV				eS		Sn	06 40 43.0	-9.2
BENV	**Beln**	**5.21**	**268**	eP		Pn	06 40 03.6	+2.7
BENV				eS		Sn	06 41 00.2	+0.3
BAUV	**El Baul**	**5.79**	**258**	eP		Pn	06 40 10.7	+1.8
BAUV				eS		Sn	06 41 12.4	-1.6
BAUV	**El Baul**	**5.79**	**258**	eP		Pn	06 40 10.3	+1.5
CBE	**Ff, Capester**	**5.85**	**7**	eP		Pn	06 40 10.1	+0.4
CBE	**Ff, Capester**	**5.85**	**7**	eS		Sn	06 41 14.3	-1.2
TEPV	**Terepaima**	**6.78**	**268**	eP		Pn	06 40 23.9	+1.5
TEPV				eS		Sn	06 41 36.1	-2.2
ANBD	**Bethesda, Anti**	**6.80**	**4**	eP		Pn	06 40 23.1	+0.4
CURV	**Curarigua**	**7.54**	**269**	eP		Pn	06 40 34.5	+1.7
BOAV	**Boa Vista**	**7.98**	**167**	eP		Pn	06 40 38.3	-0.5
SDV	**Santo Domingo**	**8.31**	**262**	eP		Pn	06 40 43.7	+0.2
SOCV	**Socops**	**8.65**	**258**	eP		Pn	06 40 48.9	+0.8
SOCV				eS		Sn	06 42 19.7	-4.6
TAMC	**Tame, Arauca**	**10.11**	**249**	eP		Pn	06 41 08.6	+0.6
CAPV	**Capacho**	**10.15**	**257**	eP		Pn	06 41 10.1	+1.3
PAMC	**Pamplona, Colo**	**10.66**	**255**	eP		Pn	06 41 15.7	-0.3
OCAC	**Ocana**	**11.04**	**261**	eP		Pn	06 41 22.3	+1.4
BARC	**Barichara**	**11.34**	**252**	eP		Pn	06 41 25.3	+0.2
PTGC	**Puerto Gaitan,**	**11.43**	**239**	eP		Pn	06 41 26.7	+0.5
ARGC	**Ariguani, Magd**	**11.76**	**269**	eP		Pn	06 41 30.1	-0.5
SPBC	**San Pablo de B**	**12.50**	**250**	eP		Pn	06 41 40.6	-0.2
PTBC	**PUERTO BERRIO,**	**12.56**	**254**	eP		Pn	06 41 40.1	-1.4
ZARC	**Zaragoza, Cauc**	**12.69**	**259**	eP		Pn	06 41 43.4	+0.1
VILC	**Villavicencio,**	**12.82**	**243**	eP		Pn	06 41 47.5	+2.4
ROSC	**El Rosal**	**13.05**	**247**	eP		Pn	06 41 51.0	+2.4
GUY2C	**Guyana, Caldas**	**13.85**	**250**	eP		Pn	06 42 00.0	+0.4
PRAC	**Prado**	**14.05**	**243**	eP		Pn	06 42 02.3	+0.4
CBOC	**Ciudad Bolivar**	**14.24**	**253**	eP		Pn	06 42 05.2	+0.7
ORTC	**Ortega, Tolima**	**14.28**	**245**	eP		Pn	06 42 06.7	+1.7

*NEIC **08** 06:52:13.5±1.1, 46.99N±0.02×122.42W±0.04, h68km±3km,*
Error ellipse: s-maj=3.6km s-min=3.5km az=92.0
SEA 08 06:52:13.8±0.8, 46.98N±0.02×122.43W±0.04, h64km±2km, ML2.8/39, ML2.8/68(NEIC), Error ellipse: s-maj=3.6km s-min=3.4km az=74.0, Washington

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCFR	**Pierce County**	**0.02**	**329**			Pn	06 52 22.9	-0.2
PCFR						Sn	06 52 30.2	+0.3
GHW	**Garrison Hill**	**0.13**	**58**			Pn	06 52 22.9	-0.5
GHW						Sn	06 52 30.3	-0.1
B941	**Kapowsin**	**0.14**	**85**			Pn	06 52 22.8	-0.6
B941						Sn	06 52 29.9	-0.5
PCEP	**Pierce County**	**0.17**	**35**			Pn	06 52 23.4	-0.1
PCEP						Sn	06 52 31.3	+0.8
PAYL	**Puyallup Schoo**	**0.23**	**20**			Pn	06 52 23.9	+0.1
SMNR	**Sumner High Sc**	**0.27**	**30**			Pn	06 52 24.2	+0.1
TBPA	**Tacoma Substat**	**0.29**	**8**			Pn	06 52 24.4	+0.2
RVC	**Mount Rainier-**	**0.32**	**96**			Pn	06 52 24.3	-0.2
LCW	**Lucas Creek**	**0.36**	**212**			Pn	06 52 24.7	0.0
D05A	**Enumclaw**	**0.37**	**55**			Pn	06 52 25.0	+0.2
D05A					Sn	Sn	06 52 33.4	+0.5
D05A					IAML		06 52 34.2	
	comp=E,668nm,0.5s							
EGRN	**Evergreen Coll**	**0.39**	**285**			Pn	06 52 24.9	0.0
OBSR	**Observation Ro**	**0.43**	**100**			Pn	06 52 25.4	-0.2
OBSR						Sn	06 52 34.9	+0.6
REMR	**Mount Rainier-**	**0.43**	**111**			Pn	06 52 25.0	-0.6
VVHS	**Vashon High Sc**	**0.45**	**358**			Pn	06 52 25.6	+0.1
RRHS	**Rochester High**	**0.46**	**247**			Pn	06 52 25.7	+0.1
LON	**Longmire**	**0.48**	**118**			Pn	06 52 25.3	-0.6
CPW	**Capitol Peak**	**0.48**	**270**			Pn	06 52 25.8	-0.2
RCS	**Mount Rainier-**	**0.49**	**102**			Pn	06 52 26.1	-0.2
GSM	**Grass Mountain**	**0.49**	**62**			Pn	06 52 26.0	-0.1
RAW	**Raver**	**0.50**	**43**			Pn	06 52 26.3	+0.3
RAW						Sn	06 52 36.0	+1.0
FMW	**Mount Fremont**	**0.52**	**95**			Pn	06 52 26.4	-0.1
MPL	**Maple valley S**	**0.52**	**18**			Pn	06 52 26.7	+0.4
MPL						Sn	06 52 36.6	+1.3
BSFP	**Boeing Fire Pr**	**0.55**	**9**			Sn	06 52 38.4	+2.5
MNWA	**Manchester**	**0.59**	**353**			Pn	06 52 27.4	+0.1
SP2	**Seward Park 2**	**0.59**	**12**			Pn	06 52 27.6	+0.6
SR41	**SR410 Landslid**	**0.62**	**98**			Pn	06 52 27.3	-0.1
RATT	**Rattlesnake La**	**0.62**	**43**			Pn	06 52 27.2	-0.2
GMW	**Gold Mountain**	**0.62**	**337**			Pn	06 52 27.1	-0.3
CDMR	**Cedar Moraine**	**0.64**	**45**			Pn	06 52 27.6	0.0
TDL	**Tradedollar La**	**0.64**	**167**			Pn	06 52 27.3	-0.5
GNW	**Green Mountain**	**0.65**	**335**		Sn	Sn	06 52 37.8	0.0
ERK	**Elk Rock**	**0.67**	**175**			Pn	06 52 27.6	-0.5
B201	**Coldwater, Mou**	**0.68**	**170**			Pn	06 52 27.6	-0.5
SMW	**South Mountain**	**0.71**	**299**			Pn	06 52 28.6	+0.1
JRO	**Jston Ridge Ob**	**0.72**	**168**			Pn	06 52 28.2	-0.4
JRO						Sn	06 52 39.9	+0.4
NOWS	**NOAA--Sand Poi**	**0.72**	**9**			Pn	06 52 29.6	+1.2
BMW	**Boistfort Moun**	**0.74**	**228**			Pn	06 52 28.7	-0.2
STD	**Studebaker Rid**	**0.75**	**169**			Pn	06 52 28.8	-0.2
STD						Sn	06 52 40.3	+0.1
B202	**Windy Ridge, M**	**0.76**	**165**			Pn	06 52 28.6	-0.4
SOSW	**Source of Smit**	**0.76**	**165**			Pn	06 52 28.8	-0.3
B017	**Montesano**	**0.77**	**272**			Pn	06 52 29.3	+0.3
VALT	**Mount Saint He**	**0.78**	**168**			Pn	06 52 29.4	0.0
BOLM	**Sugar Bowl**	**0.78**	**167**			Pn	06 52 29.5	+0.1
FL2	**Flat Top 2**	**0.78**	**176**			Pn	06 52 29.1	-0.3
SHW	**Mount Saint He**	**0.79**	**170**			Pn	06 52 29.5	0.0
HDW	**Hoodsport**	**0.80**	**328**			Pn	06 52 29.2	-0.3
ESD	**East Dome**	**0.80**	**166**			Pn	06 52 29.8	+0.1
B203	**Quarry, Mount**	**0.81**	**175**			Pn	06 52 29.4	-0.2
B203						Sn	06 52 41.3	0.0
SWF2	**Southwest Flan**	**0.81**	**170**			Pn	06 52 29.8	0.0
HSR	**South Ridge**	**0.82**	**168**			Pn	06 52 30.0	+0.1
C04A	**Brinnon**	**0.83**	**334**			Pn	06 52 29.4	-0.4
JLK	**June Lake**	**0.85**	**167**			Pn	06 52 30.2	0.0
RVW	**Rose Valley**	**0.85**	**195**			Pn	06 52 29.8	-0.4
C05A	**Tolt Reservoir**	**0.88**	**35**			Pn	06 52 30.7	+0.2
E03A	**Lebam**	**0.89**	**242**			Pn	06 52 30.3	-0.2
E03A					Sn	Sn	06 52 43.1	+0.1
E03A					IAML		06 52 52.5	
	comp=E,216nm,0.6s							
CDFW	**Cedar Flats**	**0.90**	**163**			Pn	06 52 30.8	0.0
B013	**Quilcene**	**0.90**	**339**			Pn	06 52 30.3	-0.3
B013						Sn	06 52 43.1	0.0
B013	**Quilcene**	**0.90**	**339**			Pn	06 52 30.4	-0.3
B019	**Raymond**	**0.90**	**249**			Pn	06 52 30.6	0.0
BLH	**Bald Hill**	**0.90**	**17**			Pn	06 52 30.9	+0.2
MTMW	**Mount Mitchell**	**0.96**	**171**			Pn	06 52 31.7	+0.1
B023	**Clatskanie**	**0.97**	**208**			Pn	06 52 31.6	0.0
F04D	**Rainier, OR**	**0.98**	**204**			Pn	06 52 31.9	+0.2
F04D					Sn	Sn	06 52 46.0	+1.0
F04A	**Amboy**	**1.04**	**180**	Pn		Pn	06 52 32.7	+0.2
NLWA	**Neilton Lookou**	**1.07**	**293**			Pn	06 52 32.4	-0.5
NLWA					Sn	Sn	06 52 46.8	-0.2
NLWA					IAML		06 52 47.8	
	comp=E,183nm,0.3s							
OLQ	**Olympics--Lake**	**1.08**	**300**			Pn	06 52 32.8	-0.2
RADR	**Rader Ridge**	**1.09**	**240**	Pn		Pn	06 52 32.7	-0.5
RADR					IAML		06 52 53.4	
	comp=N,130nm,1.5s							
RADR					IAML		06 52 54.7	
	comp=E,208nm,0.8s							
NAC	**Naches**	**1.13**	**102**			Pn	06 52 33.7	0.0
OSD	**Olympics--Snow**	**1.21**	**315**			Pn	06 52 35.0	+0.1
LTY	**Liberty**	**1.23**	**76**			Pn	06 52 35.0	0.0
LTY					IAML		06 52 51.8	
	comp=E,223nm,0.7s							
LTY					IAML		06 52 51.8	
	comp=N,112nm,0.6s							
JCW	**Jim Creek**	**1.27**	**15**			Pn	06 52 35.7	+0.2
TBM	**Table Mountain**	**1.27**	**81**			Pn	06 52 36.0	+0.5
EBG	**Ellensburg**	**1.28**	**92**			Pn	06 52 35.8	+0.1
B04A	**Port Angeles**	**1.30**	**326**			Pn	06 52 36.1	+0.2
B04A	**Port Angeles**	**1.30**	**326**	Pn		Pn	06 52 36.2	+0.3
B04A					IAML		06 52 53.0	
	comp=E,100nm,0.5s							
B04A					IAML		06 52 53.9	
	comp=N,75nm,0.4s							
APM	**Augspurger Mou**	**1.34**	**157**			Pn	06 52 37.2	+0.6
WRW	**Wenatchee Ridg**	**1.37**	**49**			Pn	06 52 37.4	+0.4
YA2	**Yakima**	**1.38**	**108**			Pn	06 52 36.8	-0.1
B022	**Seaside**	**1.46**	**226**			Pn	06 52 37.2	-0.7
TRW	**Toppenish Ridg**	**1.47**	**117**			Pn	06 52 38.2	+0.1
MXC	**Moxie City**	**1.52**	**104**			Pn	06 52 38.9	0.0
MXC					IAML		06 52 59.1	
	comp=E,89nm,0.7s							
OBC	**Olympics--Boni**	**1.54**	**314**			Pn	06 52 39.0	-0.2
ETW	**Entiat**	**1.56**	**65**			Pn	06 52 39.9	+0.4
VGZ	**Gonzales**	**1.56**	**338**			Pn	06 52 39.1	-0.2
P403	**Sandy Floe Qua**	**1.59**	**314**			Pn	06 52 39.4	-0.3
RPW	**Rockport**	**1.60**	**22**			Pn	06 52 40.6	+0.7
B06A	**Marblemount**	**1.67**	**22**	Pn		Pn	06 52 41.5	+0.7
B06A					IAML		06 53 06.6	
	comp=N,67nm,0.3s							
PALME	**Palmer Lift, M**	**1.69**	**162**			Pn	06 52 45.2	+3.8
MCW	**Mount Constitu**	**1.73**	**351**			Pn	06 52 42.2	+0.6
HOOD	**Mount Hood Mea**	**1.74**	**162**	Pn		Pn	06 52 42.2	+0.3
TDH	**Tom, Dick, Har**	**1.74**	**165**			Pn	06 52 42.1	+0.2
C03A	**Quillayute Air**	**1.75**	**305**	Pn		Pn	06 52 41.1	-0.8
BVW	**Beverly**	**1.75**	**94**			Pn	06 52 42.1	+0.2
B011	**North Saanich**	**1.81**	**338**			Pn	06 52 42.5	-0.2
PGC	**Sidney**	**1.81**	**338**	Pn		Pn	06 52 42.6	0.0
PGC					IAML		06 53 04.8	
	comp=E,90nm,0.4s							
E07A	**Sunnyside**	**1.82**	**102**			Pn	06 52 42.7	-0.1
MBW	**Mount Baker**	**1.84**	**11**			Pn	06 52 44.4	+1.1
G03D	**McMinnville, O**	**1.86**	**199**	Pn		Pn	06 52 44.4	+1.1
G03D					IAML		06 53 25.3	
	comp=N,73nm,2.2s							
G03D					IAML		06 53 33.2	
	comp=E,67nm,3.1s							
MDW	**Midway**	**1.87**	**100**			Pn	06 52 43.5	0.0
BLTW	**Bickleton**	**1.88**	**123**			Pn	06 52 43.5	-0.2
G05A	**Wamic**	**1.90**	**156**			Pn	06 52 44.8	+0.9
G05A					IAML		06 53 24.1	
	comp=E,57nm,4.4s							
BENWA	**Benson Ranch**	**1.92**	**103**			Pn	06 52 44.2	0.0
GBB	**Gable Butte**	**1.96**	**100**			Pn	06 52 44.8	+0.1
SNIWA	**Snively Ranch**	**1.97**	**104**			Pn	06 52 44.9	0.0
WAH2	**Wahluke Slope**	**1.98**	**95**			Pn	06 52 45.3	+0.4
FHE	**Frenchman Hill**	**2.01**	**90**			Pn	06 52 45.6	+0.2
RSW	**Rattlesnake Hi**	**2.04**	**106**			Pn	06 52 45.9	+0.1
F07A	**Phinny Hill Vi**	**2.04**	**121**			Pn	06 52 46.0	+0.2
F07A					IAML		06 53 12.3	
	comp=N,51nm,0.4s							
GBL	**Gable Mountain**	**2.07**	**99**			Pn	06 52 46.3	+0.1
GBL	**Gable Mountain**	**2.07**	**99**			Pn	06 52 46.3	+0.1
LOCW	**Locke Island**	**2.07**	**96**			Pn	06 52 46.4	+0.2
HAWA	**Hanford**	**2.08**	**105**	Pn		Pn	06 52 46.3	0.0
G06A	**Carlson Farm,**	**2.14**	**144**	Pn		Pn	06 52 46.9	-0.4
H2OWA	**Water**	**2.15**	**105**			Pn	06 52 47.2	0.0
B926	**Mesachie Lake**	**2.17**	**329**			Pn	06 52 47.0	-0.6
CLRS	**Cowichan Lake**	**2.17**	**329**	Pn		Pn	06 52 47.1	-0.4
CLRS					IAML		06 53 04.1	
	comp=E,58nm,3.7s							
CLRS					IAML		06 53 18.9	
	comp=N,54nm,2.7s							
H04A	**Detroit Lake**	**2.30**	**176**			Pn	06 52 49.7	+0.3
H04A					IAML		06 53 23.2	
	comp=E,49nm,0.4s							
H04A					IAML		06 53 24.1	
	comp=N,38nm,0.3s							
D08A	**Wollman Farm,**	**2.40**	**87**	Pn		Pn	06 52 50.3	-0.4
H04D	**Lebanon**	**2.46**	**185**	Pn		Pn	06 52 51.7	+0.1
H04D					IAML		06 53 40.4	
	comp=E,42nm,1.1s							
H04D					IAML		06 53 41.8	
	comp=N,56nm,4.1s							
COR	**Corvallis**	**2.47**	**195**	Pn		Pn	06 52 52.2	+0.6
COR					IAML		06 53 41.4	
	comp=N,50nm,2.8s							
COR					IAML		06 54 28.8	
	comp=N,60nm,2.5s							
BIB	**Bowen Island**	**2.50**	**347**			Pn	06 52 52.4	+0.4
B928	**Bamfield**	**2.60**	**317**			Pn	06 52 52.9	-0.5
I05D	**Terrebonne, OR**	**2.75**	**163**	Pn		Pn	06 52 56.3	+0.8
B927	**Port Alberni**	**2.75**	**325**			Pn	06 52 55.5	0.0
BUCK	**Buck Mountain**	**2.81**	**188**	Pn		Pn	06 52 57.9	+1.6
C09A	**Chrisman Ranch**	**2.94**	**72**	Pn		Pn	06 52 57.5	-0.5
C09A					IAML		06 53 33.2	
	comp=N,33nm,0.5s							
E09A	**Wood Farm, Sta**	**2.98**	**97**	Pn		Pn	06 52 58.4	-0.2
I04A	**Tendick Farm,**	**3.18**	**180**	Pn		Pn	06 53 01.4	0.0
RNO	**Roman Nose**	**3.20**	**197**			Pn	06 53 03.7	+2.1
I03D	**Drain, OR**	**3.34**	**192**	Pn		Pn	06 53 03.6	+0.1
PINE	**Pine Mountain**	**3.35**	**161**	Pn		Pn	06 53 05.1	+1.3
PINE					IAML		06 54 00.5	
	comp=E,19nm,4.8s							
PINE					IAML		06 54 28.5	
	comp=N,20nm,5.0s							
I07A	**Izee**	**3.55**	**144**	Pn		Pn	06 53 07.5	+1.0
F10A	**Beach Ranch, E**	**3.73**	**104**	Pn		Pn	06 53 09.2	+0.3
F10A					IAML		06 53 52.5	
	comp=N,22nm,3.0s							
F10A					IAML		06 53 59.1	
	comp=E,20nm,2.9s							
J05D	**Fort Rock, OR**	**3.79**	**167**	Pn		Pn	06 53 09.1	-0.7
NEW	**Newport**	**3.81**	**68**	Pn		Pn	06 53 09.4	-0.6
NEW					IAML		06 54 05.2	
	comp=E,11nm,4.2s							
NEW					IAML		06 54 18.4	
	comp=E,12nm,4.6s							
DBO	**Dodson Butte**	**3.90**	**189**	Pn		Pn	06 53 12.1	+0.9
J01E	**Myrtle Point**	**3.96**	**196**	Pn		Pn	06 53 12.2	+

comp=N,7.6nm,4.3s

MSO	**Missoula**	**5.82**	**88**	Pn	Pn	06 53 36.7	-0.8
YHL	**Hebgen Lake**	**8.12**	**101**	Pn	Pn	06 54 09.2	-0.1
NVAR	**Mina Array Bea**	**9.06**	**159**	Pn	Pn	06 54 20.9	-1.1

*IDC **08** 06:54:33.9±4.7, 15°.47S×167°.70E, h111^{km}±39^{km}, mb3.9/8, mbtmp4.2/9, Error ellipse: s-maj=27.7km s-min=25.0km az=40.0*
*NEIC **08** 06:54:35.1±2.0, 15°.45S±0°.08×167°.8E±0°.1, h128^{km}±9^{km}, mb4.5/19, Error ellipse: s-maj=20.6km s-min=8.6km az=112.0*
*NOU **08** 06:54:37.8, 15°.68S×167°.81E, h111^{km}, MLv4.5/13, Vanuatu Islands*

ISC 08 06:54:32.2±0.7, 15°.40S±0°.08×167°.8E±0°.1, h100^{km}, n50, σ1^{s}51/51, mb4.3/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**5.37**	**185**	Pn	**Pn**	**06 55 51.7**	**+1.8**
LIFNC	**LIFOU**	**5.37**	**185**	P	**Pn**	**06 55 50.8**	**+0.9**
MARNC	**Mare, Loyalty**	**6.05**	**178**	Pn	**Pn**	**06 56 01.4**	**+2.2**
MARNC	**Mare, Loyalty**	**6.05**	**178**	P	**Pn**	**06 56 00.6**	**+1.4**
KOUNC	**Koumac, New Ca**	**6.09**	**212**		**Pn**	**06 56 01.3**	**+1.5**
KOUNC	**Koumac, New Ca**	**6.09**	**212**	P	**Pn**	**06 56 02.2**	**+2.4**
YATNC	**Mamie plateau,**	**6.67**	**187**	P	**Pn**	**06 56 09.7**	**+2.1**
DZM	**Mont Dzumac**	**6.75**	**190**		**Pn**	**06 56 11.1**	**+2.3**
DZM	**Mont Dzumac**	**6.75**	**190**	P	**Pn**	**06 56 11.0**	**+2.3**
DZM	**Mont Dzumac**	**6.75**	**190**	P	**Pn**	**06 56 10.5**	**+1.7**
	7.6nm,0.3s,baz=62,slow=8.6,SNR=175						
DZM				S	**Sn**	**06 57 21.3**	**-2.9**
	22nm,0.5s,baz=139,slow=21,SNR=8.8						
NOUC	**Port Laguerre**	**6.80**	**191**	P	**Pn**	**06 56 11.9**	**+2.5**
ONTNC	**Ouen Toro**	**6.98**	**190**	Pn	**Pn**	**06 56 13.4**	**+1.6**
ONTNC	**Ouen Toro**	**6.98**	**190**	P	**Pn**	**06 56 14.9**	**+3.1**
	0.1nm,0.5s						
OUENC	**Ouen Island, N**	**7.03**	**187**	Pn	**Pn**	**06 56 15.6**	**+3.1**
OUENC	**Ouen Island, N**	**7.03**	**187**	P	**Pn**	**06 56 14.3**	**+1.8**
PINNC	**Pines Island,**	**7.18**	**182**	Pn	**Pn**	**06 56 18.1**	**+3.6**
EIDS	**Eidsvold**	**18.49**	**235**	P	**Pn**	**06 58 42.2**	**+0.3**
EIDS				IAmb	IAmb	06 58 43.8	
	comp=Z,12nm,0.7s						
CTA	**Charters Tower**	**21.00**	**254**	P	**P**	**06 59 07.7**	**-0.1**
	comp=Z,8.4nm,0.9s,baz=81,slow=8.6,SNR=6.4						
	comp=Z,8.4nm,0.9s						
CTAO	**Charters Tower**	**21.00**	**254**	P	**P**	**06 59 09.2**	**+1.4**
COEN	**Coen**	**23.82**	**270**	P	**P**	**06 59 36.4**	**+0.2**
COEN				IAmb	IAmb	06 59 39.6	
	comp=Z,8.6nm,0.8s						
RTZ	**Ruatahuna**	**24.51**	**162**	P	**P**	**06 59 43.0**	**+0.7**
RTZ				IAmb	IAmb	06 59 48.1	
	comp=Z,18nm,1.2s						
BKZ	**Black Stump Fm**	**24.89**	**164**	P	**P**	**06 59 45.8**	**+0.1**
BKZ				IAmb	IAmb	07 00 14.8	
	comp=Z,14nm,1.3s						
STKA	**Stephens Creek**	**28.93**	**231**	P	**P**	**07 00 22.4**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=48,slow=8.5,SNR=9.2						
	comp=Z,2.8nm,0.6s						
WB0	**Warramunga Arr**	**32.07**	**257**	P	**P**	**07 00 49.0**	**-0.8**
WB0				IAmb	IAmb	07 00 50.1	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**32.13**	**257**	P	**P**	**07 00 49.4**	**-1.0**
WRA	**Warramunga Arr**	**32.13**	**257**	P	**P**	**07 00 49.5**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=80,slow=6.1,SNR=30						
	comp=Z,2.6nm,0.6s						
AS31	**Alice Springs**	**32.88**	**250**	P	**P**	**07 00 56.0**	**-0.9**
ASAR	**Alice Springs**	**32.88**	**250**	P	**P**	**07 00 56.1**	**-0.8**
ASAR	**Alice Springs**	**32.88**	**250**	P	**P**	**07 00 56.7**	**-0.3**
	comp=Z,4.6nm,0.4s,baz=80,slow=8.8,SNR=96						
	comp=Z,4.6nm,0.4s						
BBOO	**Buckleboo**	**33.55**	**233**	P	**P**	**07 01 02.7**	**+0.1**
BBOO				IAmb	IAmb	07 01 21.1	
	comp=Z,26nm,1.5s						
MTN	**Manton Dam**	**35.58**	**269**	P	**P**	**07 01 21.1**	**+0.7**
KNRA	**Kununurra**	**37.53**	**264**	P	**P**	**07 01 35.7**	**-1.2**
FORT	**Forrest**	**39.37**	**240**	P	**P**	**07 01 51.4**	**-0.7**
FORT				IAmb	IAmb	07 02 27.3	
	comp=Z,18nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.36**	**260**	P	**P**	**07 02 00.5**	**0.0**
FITZ				IAmb	IAmb	07 02 01.7	
	comp=Z,3.3nm,0.6s						
MIDW	**Midway**	**45.69**	**18**	P	**P**	**07 02 42.8**	**-0.4**
MBWA	**Marble Bar**	**45.83**	**255**	P	**P**	**07 02 43.4**	**-1.1**
MORW	**Morawa**	**49.41**	**245**	P	**P**	**07 03 11.6**	**-0.5**
MORW				IAmb	IAmb	07 03 15.5	
	comp=Z,25nm,1.4s						
VNDA	**Vanda**	**62.20**	**181**	P	**P**	**07 04 42.6**	**-0.1**
VNDA				IAmb	IAmb	07 05 25.0	
	comp=Z,8.6nm,1.4s						
VNDA	**Vanda**	**62.20**	**181**	P	**P**	**07 04 42.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=22,slow=7.0,SNR=2.2						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**74.63**	**180**	P	**P**	**07 06 00.1**	**-0.4**
QSPA	**South Pole Qui**	**74.63**	**180**	P	**P**	**07 06 00.3**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=14,slow=2.0,SNR=12						
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**83.32**	**323**	P	**P**	**07 06 48.9**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=151,slow=6.5,SNR=6.1						
	comp=Z,0.5nm,0.4s						
BELA	**Belgrano 2**	**86.02**	**175**	P	**P**	**07 06 59.4**	**-1.7**
BELA				IAmb	IAmb	07 07 00.5	
	comp=Z,8.6nm,1.3s						
ILAR	**Eielson Array**	**87.02**	**18**	P	**P**	**07 07 05.2**	**-0.8**
	comp=Z,0.6nm,1.1s,baz=238,slow=5.5,SNR=6.9						
	comp=Z,0.6nm,1.1s						
ARCES	**ARCESS Array B**	**121.02**	**345**	PKP	**PKPdf**	**07 13 12.8**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=69,slow=3.0,SNR=6.0						
FINES	**FINESS Array B**	**126.52**	**338**	PKP	**PKPdf**	**07 13 24.0**	**+0.8**
	comp=Z,3.9nm,1.1s,baz=336,slow=3.0,SNR=4.8						
NOA	**NORSAR Array B**	**131.39**	**345**	PKP	**PKPdf**	**07 13 33.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=32,slow=2.1,SNR=1.5						
AKASG	**Malin Array Be**	**131.55**	**326**	PKP	**PKPdf**	**07 13 33.9**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=47,slow=2.7,SNR=4.8						
KEST	**Kesra**	**152.03**	**320**	PKPbc	**PKiKP**	**07 14 18.0**	**+1.4**
	comp=Z,3.7nm,0.5s,baz=176,slow=2.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**166.31**	**262**	PKP	**PKPdf**	**07 14 25.5**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=42,slow=2.3,SNR=1.5						

*MDD **08** 06:55:39.9±0.4, 35°.48N×3°.81W, h0^{km}, mb_Lg2.2/8, Error ellipse: s-maj=3.2km s-min=3.0km az=131.0*
*CNRM **08** 06:55:39.3, 35°.55N×3°.79W, h12^{km}, ML2.2*
*INMG **08** 06:55:40.5±1.0, 35°.50N×3°.81W, h0^{km}, ML1.7, Error ellipse: s-maj=2.3km s-min=2.0km az=73.0*
*SFS **08** 06:55:40.6, 35°.36N×3°.74W, h25^{km}, ML2.1/7, ML2.6/7, MLv1.9/7*

ISC 08 06:55:40.0±1.0, 35°.48N±0°.03×3°.76W±0°.03, h13^{km}±9^{km}, n39, σ0^{s}90/55, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.30**	**210**	P	**Pg**	**06 55 46.3**	**+0.1**
PALE	**Palemas**	**0.30**	**210**	S	**Sg**	**06 55 50.7**	**+0.2**
PVLZ	**Peæn de**	**0.54**	**235**	Sg	**Sg**	**06 55 57.8**	**0.0**
PVLZ				Pg	**Pg**	**06 55 50.0**	**-0.6**
GOG	**Mont Gurugu**	**0.67**	**113**	P	**Pg**	**06 55 52.7**	**-0.4**
GOG	**Mont Gurugu**	**0.67**	**113**	S	**Sb**	**06 56 02.7**	**-0.2**
EMEL	**Melilla**	**0.68**	**105**	Pg	**Pb**	**06 55 53.3**	**-0.3**
EMEL				Sg	**Sb**	**06 56 02.7**	**-0.3**
EALB	**Alboran**	**0.74**	**52**	Pg	**Pb**	**06 55 54.5**	**-0.2**
EALB				Sg	**Sb**	**06 56 05.0**	**+0.1**
AKLM	**AKL**	**0.97**	**185**	P	**Pg**	**06 55 59.0**	**+0.2**
AKLM	**AKL**	**0.97**	**185**	S	**Sn**	**06 56 12.6**	**-0.5**
CHAS	**Isla Isabel II**	**1.12**	**105**	Sg	**Sb**	**06 56 14.0**	**-1.8**
CHAS				Pg	**Pb**	**06 55 59.6**	**-1.6**
TAF	**Taforalt**	**1.28**	**121**	P	**Pg**	**06 56 04.5**	**-0.3**
TAF	**Taforalt**	**1.28**	**121**	S	**Sg**	**06 56 23.5**	**+2.0**
SMIR	**Smir Dam**	**1.34**	**279**	P	**Sn**	**06 56 03.9**	**-0.5**
SMIR	**Smir Dam**	**1.34**	**279**	S	**Sn**	**06 56 22.0**	**-0.1**
EMIJ	**Mijas**	**1.36**	**323**	Pn	**Pn**	**06 56 04.3**	**-0.4**
EMIJ	**Mijas**	**1.36**	**323**	Pg	**Pn**	**06 56 04.1**	**-0.6**
EMIJ				Sg	**Sn**	**06 56 21.7**	**-0.9**
EMIJ				*i* Vmb_Lg		06 56 26.9	
ELGU	**Los Guajares,**	**1.39**	**4**	Pn	**Pn**	**06 56 04.7**	**-0.4**
ELGU				Sn	**Sn**	**06 56 23.1**	**-0.2**
ELGU	**Los Guajares,**	**1.39**	**4**	Pg	**Pn**	**06 56 05.2**	**+0.1**
ELGU				Sg	**Sn**	**06 56 22.8**	**-0.5**
ELGU				*i* Vmb_Lg		06 56 27.3	
EMAL	**Malaga-Limoner**	**1.39**	**337**	Pn	**Pn**	**06 56 04.6**	**-0.4**
EBER	**Berja**	**1.58**	**26**	Pn	**Pn**	**06 56 07.3**	**-0.5**
EBER				Sn	**Sn**	**06 56 27.9**	**-0.3**
EBER	**Berja**	**1.58**	**26**	Pn	**Pn**	**06 56 08.1**	**+0.2**
EBER				Sn	**Sn**	**06 56 28.4**	**+0.2**
EBER				*i* Vmb_Lg		06 56 31.5	
EGOR	**Sierra Gorda,**	**1.65**	**350**	Pn	**Pn**	**06 56 08.9**	**+0.1**
EGOR	**Sierra Gorda,**	**1.65**	**350**	Pg	**Pb**	**06 56 09.9**	**-0.5**
EGOR				Sg	**Sb**	**06 56 32.2**	**+1.1**
EGOR				*i* Vmb_Lg		06 56 39.4	
EQES	**Quesada**	**2.38**	**13**	Pn	**Pn**	**06 56 19.0**	**+0.2**
EQES				Pg	**Pb**	**06 56 21.6**	**-1.1**
EQES				Sn	**Sn**	**06 56 49.2**	**+1.2**
EQES				*i* Vmb_Lg		06 56 55.8	
MD31	**MD31**	**2.74**	**198**	P	**Pn**	**06 56 24.1**	**+0.4**
MD31	**MD31**	**2.74**	**198**	S	**Sn**	**06 56 57.5**	**+0.7**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**06 56 24.7**	**+0.8**
MDT	**Midelt**	**2.75**	**195**	S	**Sn**	**06 56 58.1**	**+1.0**
EADA	**Adamuz**	**2.76**	**346**	Pn	**Pn**	**06 56 23.4**	**-0.5**
EADA				Sn	**Sn**	**06 56 57.5**	**+0.3**
EADA				*i* Vmb_Lg		06 57 06.7	
ECAB	**El Cabril**	**2.91**	**333**	Sn	**Sn**	**06 57 01.5**	**+0.6**
ETOB	**Tobarra**	**3.62**	**29**	Pn	**Pn**	**06 56 36.6**	**+0.8**
ETOB				Sn	**Sn**	**06 57 18.5**	**+0.1**
EGRO	**El Granado**	**3.63**	**305**	Pn	**Pn**	**06 56 35.7**	**-0.2**
EGRO				*i* Vmb_Lg		06 57 20.3	
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn	**Pn**	**06 56 37.6**	**+0.4**
PVAQ				*e*Sn	**Sn**	**06 57 20.4**	**-0.5**
PBAR	**Barrancos**	**3.76**	**317**	*e*Pn	**Pn**	**06 56 40.3**	**+2.6**
PBDV	**Barranco-do-Ve**	**3.80**	**299**	*e*Sn	**Sn**	**06 57 21.7**	**-1.1**
MESJ	**Messejana**	**4.29**	**305**	*e*Pn	**Pn**	**06 56 45.5**	**+0.5**
PESTR	**Estremoz**	**4.56**	**319**	*e*Pn	**Pn**	**06 56 51.8**	**+3.1**
PESTR				*e*Sn	**Sn**	**06 57 42.2**	**+0.7**
PNCL	**Nicolau / Gran**	**4.64**	**306**	*e*Pn	**Pn**	**06 56 50.2**	**+0.4**
PMTG	**Montargil**	**5.05**	**316**	*e*Pn	**Pn**	**06 56 56.3**	**+0.9**

*CNRM **08** 06:59:18.6, 35°.60N×3°.83W, h17^{km}, ML2.6*
*MDD **08** 06:59:20.9±0.3, 35°.46N×3°.76W, h0^{km}, mb_Lg2.5/13, Error ellipse: s-maj=2.7km s-min=2.4km az=0.0*
*IGIL **08** 06:59:20.7, 35°.42N×3°.75W, h2^{km}, ML1.4*
*INMG **08** 06:59:21.0±1.2, 35°.43N×3°.78W, h2^{km}, ML2.2, Error ellipse: s-maj=2.5km s-min=2.4km az=16.0*
*SFS **08** 06:59:21.3, 35°.39N×3°.73W, h20^{km}, ML2.6/9, ML2.8/7, MLv2.4/9*

ISC 08 06:59:20.2±1.3, 35°.46N±0°.02×3°.78W±0°.02, h11^{km}±10^{km}, n52, σ1^{s}29/83, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.28**	**208**	P	**Pb**	**06 59 27.0**	**-0.2**
PALE	**Palemas**	**0.28**	**208**	S	**Sb**	**06 59 31.3**	**-0.5**
PVLZ	**Peæn de**	**0.51**	**236**	Sg	**Sb**	**06 59 38.5**	**-0.2**
PVLZ				Pg	**Pb**	**06 59 31.3**	**+0.1**
GOG	**Mont Gurugu**	**0.68**	**110**	P	**Pb**	**06 59 33.9**	**-0.3**
GOG	**Mont Gurugu**	**0.68**	**110**	S	**Sb**	**06 59 43.3**	**-0.3**
EMEL	**Melilla**	**0.69**	**103**	Pg	**Pb**	**06 59 34.1**	**-0.1**
EMEL				Sg	**Sg**	**06 59 42.6**	**-0.1**
EALB	**Alboran**	**0.77**	**52**	Pg	**Pg**	**06 59 35.3**	**+0.1**
EALB				Sg	**Sb**	**06 59 46.3**	**+0.3**
EALB	**Alboran**	**0.77**	**52**	Pg	**Pg**	**06 59 35.6**	**+0.5**
EALB				Sg	**Sb**	**06 59 46.4**	**+0.3**
EALB				*i* Vmb_Lg		06 59 47.8	
AKLM	**AKL**	**0.95**	**184**	P	**Pg**	**06 59 38.4**	**-0.1**
AKLM	**AKL**	**0.95**	**184**	S	**Sb**	**06 59 51.8**	**+0.5**
CHAS	**Isla Isabel II**	**1.14**	**104**	Pn	**Pb**	**06 59 39.5**	**-2.3**
CHAS				Sn	**Sb**	**06 59 54.3**	**-2.2**
TAF	**Taforalt**	**1.29**	**120**	P	**Pn**	**06 59 43.2**	**-1.0**
TAF	**Taforalt**	**1.29**	**120**	S	**Sn**	**07 00 02.4**	**+0.9**
SMIR	**Smir Dam**	**1.32**	**280**	P	**Pn**	**06 59 42.4**	**-2.2**
SMIR	**Smir Dam**	**1.32**	**280**	S	**Sb**	**06 59 58.1**	**-3.9**
EMIJ	**Mijas**	**1.36**	**324**	Pn	**Pn**	**06 59 44.5**	**-0.6**
EMIJ				Sn	**Sn**	**07 00 02.7**	**-0.6**
EMIJ	**Mijas**	**1.36**	**324**	Pg	**Pn**	**06 59 46.0**	**+0.8**
EMIJ				Sg	**Sn**	**07 00 04.2**	**+1.0**
EMIJ				*i* Vmb_Lg		07 00 08.0	
EMAL	**Malaga-Limoner**	**1.40**	**338**	Pn	**Pn**	**06 59 46.1**	**+0.5**
ELGU	**Los Guajares,**	**1.41**	**5**	Pn	**Pn**	**06 59 45.4**	**-0.4**
ELGU				Sn	**Sn**	**07 00 03.8**	**-0.6**
ELGU	**Los Guajares,**	**1.41**	**5**	Pg	**Pn**	**06 59 45.5**	**-0.3**
ELGU				Sg	**Sn**	**07 00 04.9**	**+0.5**
ELGU				*i* Vmb_Lg		07 00 08.2	
EBER	**Berja**	**1.60**	**26**	Pn	**Pn**	**06 59 47.4**	**-1.2**
EBER				Sn	**Sn**	**07 00 09.2**	**-0.3**
EBER	**Berja**	**1.60**	**26**	Pn	**Pn**	**06 59 48.2**	**-0.4**
EBER				Sn	**Sn**	**07 00 09.3**	**-0.1**
EBER				*i* Vmb_Lg		07 00 13.6	
EGOR	**Sierra Gorda,**	**1.67**	**351**	Pn	**Pn**	**06 59 50.4**	**+1.0**
EGOR				Sn	**Sn**	**07 00 10.0**	**-0.9**
EGOR	**Sierra Gorda,**	**1.67**	**351**	Pn	**Pn**	**06 59 50.2**	**+0.7**
EGOR				Sn	**Sn**	**07 00 11.4**	**+0.5**
EGOR				Sg	**Sb**	**07 00 13.6**	**+1.5**
EGOR				*i* Vmb_Lg		07 00 24.1	
EQTA	**Presa de Quent**	**1.76**	**9**	Pn	**Pn**	**06 59 51.1**	**+0.4**
EQTA				Sn	**Sn**	**07 00 12.9**	**-0.3**
ENIJ	**Nijar**	**1.97**	**40**	Sn	**Sn**	**07 00 16.8**	**-1.4**
ENIJ				*i* Vmb_Lg		07 00 22.2	
ESPR	**Espera**	**2.19**	**311**	Pn	**Pn**	**06 59 57.8**	**+1.3**
ESPR				Sn	**Sn**	**07 00 25.5**	**+1.9**
EQES	**Quesada**	**2.41**	**13**	Pn	**Pn**	**07 00 01.4**	**+1.9**
EQES				Sn	**Sn**	**07 00 30.1**	**+1.1**
EQES				*i* Vmb_Lg		07 00 34.2	
MD31	**MD31**	**2.71**	**198**	P	**Pn**	**07 00 05.0**	**+1.2**
MD31	**MD31**	**2.71**	**198**	S	**Sn**	**07 00 37.8**	**+1.2**
MDT	**Midelt**	**2.73**	**195**	P	**Pn**	**07 00 05.3**	**+1.3**
MDT	**Midelt**	**2.73**	**195**	S	**Sn**	**07 00 38.2**	**+1.2**
EADA	**Adamuz**	**2.78**	**347**	Pn	**Pn**	**07 00 05.9**	**+1.3**
EADA				Sn	**Sn**	**07 00 39.8**	**+1.7**
EADA				*i* Vmb_Lg		07 00 54.4	
ECAB	**El Cabril**	**2.92**	**334**	Pn	**Pn**	**07 00 07.2**	**+0.6**
ECAB				Sn	**Sn**	**07 00 42.7**	**+1.0**
ECAB				*i* Vmb_Lg		07 00 52.3	
EZAR	**Zarzadilla de**	**2.94**	**34**	Pn	**Pn**	**07 00 07.7**	**+0.8**
ZHG	**ZHG**	**3.10**	**230**	P	**Pn**	**07 00 09.9**	**+0.7**
EGRO	**El Granado**	**3.63**	**306**	Pn	**Pn**	**07 00 16.5**	**+0.2**
EGRO				Sn	**Sn**	**07 00 58.0**	**-1.1**
EGRO				*i* Vmb_Lg		07 01 10.8	
ETOB	**Tobarra**	**3.65**	**29**	Pn	**Pn**	**07 00 18.5**	**+1.9**
ETOB				Sn	**Sn**	**07 00 59.4**	**-0.1**
ETOB				*i* Vmb_Lg		07 01 06.4	
PVAQ	**Vaqueiros**	**3.72**	**303**	*e*Pn	**Pn**	**07 00 18.1**	**+0.6**
PVAQ				*e*Sn	**Sn**	**07 01 01.2**	**-0.1**
PBAR	**Barrancos**	**3.77**	**317**	*e*Pn	**Pn**	**07 00 21.1**	**+3.0**
PBAR				*e*Sn	**Sn**	**07 01 02.9**	**+0.5**
PBAR				A	A	07 01 14.4	
	6.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.79**	**299**	*e*Pn	**Pn**	**07 00 18.9**	**+0.3**
PBDV				*e*Sn	**Sn**	**07 01 01.8**	**-1.4**
PBDV				A	A	07 01 08.3	
	4.5nm,0.6s						
PCVE	**Castro Verde**	**4.06**	**304**	*e*Pn	**Pn**	**07 00 23.4**	**+1.2**
PCVE				*e*Sn	**Sn**	**07 01 08.3**	**-1.3**
PCVE				A	A	07 01 12.0	
	5.3nm,0.7s						
EBAD	**Badajoz**	**4.18**	**323**	Pn	**Pn**	**07 00 24.6**	**+0.7**
EBAD				Sn	**Sn**	**07 01 11.6**	**-1.1**
EBAD				*i* Vmb_Lg		07 01 18.1	
MESJ	**Messejana**	**4.29**	**305**	*e*Pn	**Pn**	**07 00 26.8**	**+1.5**
MESJ				*e*Sn	**Sn**	**07 01 15.1**	**-0.2**
MESJ	**Messejana**	**4.29**	**305**	*e*P	**Pn**	**07 00 25.5**	**+0.2**
MESJ				*e*S	**Sn**	**07 01 13.0**	**-2.3**
MESJ				IAML		07 01 19.1	
	comp=E,0.7nm,0.2s						
PESTR	**Estremoz**	**4.56**	**319**	*e*Pn	**Pn**	**07 00 31.0**	**+1.9**
PESTR				*e*Sn	**Sn**	**07 01 24.3**	**+2.2**
EVO	**Evora**	**4.57**	**313**	*e*Pn	**Pn**	**07 00 29.8**	**+0.6**
EVO				*e*Sn	**Sn**	**07 01 20.4**	**-1.8**
PNCL	**Nicolau / Gran**	**4.64**	**306**	*e*Pn	**Pn**	**07 00 30.9**	**+0.7**
PNCL				*e*Sn	**Sn**	**07 01 20.4**	**-3.6**
PNCL				A	A	07 01 30.2	
	comp=E,2.9nm,0.6s						
PMRV	**Marv??o**	**4.89**	**325**	*e*Pn	**Pn**	**07 00 34.9**	**+1.2**
PMTG	**Montargil**	**5.05**	**317**	*e*Pn	**Pn**	**07 00 37.5**	**+1.7**
OUZM	**OUZ**	**5.18**	**210**	P	**Pn**	**07 00 39.3**	**+1.5**
PSBE	**So Bento**	**5.68**	**317**	*e*Pn	**Pn**	**07 00 46.1**	**+1.6**

DJA 08 07:03:06.2±0.5, 7°.5E±6°.×10°.5E±°, h10^{km}, M4.0/7, mb4.8/1, MLv3.7/7, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.92**	**96**	P	Pg	07 03 22.7	-1.3
KASI	**Kota Agung**	**1.02**	**344**	P	Pn	07 03 26.8	+0.3
SKJI	**Sukabumi**	**1.84**	**106**	P	Pn	07 03 38.6	+0.7
BBJI	**Bungbulang**	**3.01**	**108**	P	Pn	07 03 54.3	+0.2
CMJI	**Cimerak**	**3.86**	**109**	P	Pn	07 04 05.4	-0.3
PPSI	**Pulau Pagai**	**6.03**	**308**	P	Pn	07 04 34.1	-1.4

*NNC **08** 07:11:53.8±1.2, 49°.64N×81°.79E, h0^{km}, mb3.0, mpv2.6, Error ellipse: s-maj=16.6km s-min=3.4km az=54.0*
*IDC **08** 07:11:54.5±1.3, 49°.79N×81°.56E, h0^{km}, mbtmp2.4/2, ML2.0/2, Error ellipse: s-maj=17.1km s-min=8.4km az=57.0*

ISC 08 07:11:57.8±1.4, 49°.78N±0°.07×81°.58E±0°.08, h10^{km}, n8, σ0^{s}61/10, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.11**	**297**	⇑Pn	**Pn**	**07 12 32.9**	**-0.3**
	6.1nm,0.8s						
KURK				⇑Sn	**Sb**	**07 13 03.0**	**+0.6**
	9.4nm,0.5s						
KURBB	**Kurchatov Arra**	**2.13**	**294**	⇑Pn	**Pn**	**07 12 33.7**	**+0.3**
	8.3nm,0.8s						
KURBB				⇑Sn	**Sb**	**07 13 03.2**	**+0.3**
	29nm,0.8s						
KURBB	**Kurchatov Arra**	**2.13**	**294**	Pg	**Pn**	**07 12 32.2**	**-1.2**
	0.3nm,0.3s,baz=112,slow=19,SNR=29						
KURBB				Lg	Lg	07 13 03.4	
	0.7nm,0.3s,baz=109,slow=31,SNR=27						
MAKZ	**Makanchi**	**2.99**	**175**	⇑Pg	**Pn**	**07 12 45.0**	**-0.3**
	0.5nm,0.3s						
MAKZ				⇑Lg	Lg	07 13 23.5	
	3.9nm,0.7s						
MK31	**Makanchi Array**	**3.03**	**171**	⇓Pg	**Pn**	**07 12 46.0**	**+0.2**
	0.3nm,0.3s,baz=354,slow=14,SNR=26						
MK31				⇓Lg	Lg	07 13 26.8	
	7.1nm,0.8s,baz=357,slow=26,SNR=11						
MKAR	**Makanchi Array**	**3.03**	**171**	Pn	**Pn**	**07 12 45.2**	**-0.6**
	0.6nm,0.3s,baz=352,slow=14,SNR=22						
MKAR				Sn	**Sn**	**07 13 22.4**	**+0.2**
	0.9nm,0.3s,baz=354,slow=23,SNR=12						
MKAR				Lg	Lg	07 13 28.2	
	0.9nm,0.3s,baz=0.7,slow=29,SNR=12						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**4.63**	**24**	Pn	**Pn**	**07 13 07.6**	**-0.2**
	0.1nm,0.3s,baz=206,slow=13,SNR=2.0						
ZALV				Lg	Lg	07 14 21.4	
	0.3nm,0.3s,baz=202,slow=27,SNR=7.0						
	0.2nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.63**	**24**	I	I	07 39 55.0	
	baz=205,slow=336,SNR=18						

*PDG **08** 07:13:10.4±0.1, 43°.02N×18°.03E, h12^{km}, ML2.5/12, Error ellipse: s-maj=0.2km s-min=0.1km az=90.0*
*BEO **08** 07:13:10.3±0.4, 43°.04N×17°.92E, h5^{km}±2^{km}, ML2.2/8*
*RHSSO **08** 07:13:10.8±0.2, 43°.03N×18°.03E, h5^{km}±1^{km}, ML2.3/14*

ISC 08 07:13:10.6±1.0, 43°.04N±0°.02×18°.03E±0°.02, h5^{km}±9^{km}, n55, σ0^{s}82/104, 14C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEVS	**Nevesinje**	**0.27**	**11**	*e*Pg	**Pg**	**07 13 16.0**	**+0.1**
NEVS				*e*Sg	**Sg**	**07 13 20.4**	**+1.0**
STON	**Ston**	**0.29**	**236**	*e*Pg	**Pg**	**07 13 16.2**	**-0.2**
STON				Sg	**Sg**	**07 13 21.1**	**+0.9**

CRES	**Cresnjev**	**3.34**	**327**	⇑*i*	Pn	**Pn**	**07 14 04.2**	**+0.7**
CRES				*e*	Sn	**Sn**	**07 14 43.4**	**-0.2**
ZAPS	**Zavoj**	**3.37**	**84**	*e*	Pn	**Pn**	**07 14 04.5**	**+0.6**

*IDC **08** 07:22:08.3±1.4, 38°.44N×70°.51E, h0km, mb3.7/9, mbtmp3.7/16, ML3.3/7, MS3.7/1, Error ellipse: s-maj=24.9km s-min=11.4km az=149.0*
*SOME **08** 07:22:09.0, 38°.78N×72°.08E, h0km*
*NNC **08** 07:22:12.6±2.5, 38°.71N×70°.30E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=19.4km s-min=13.3km az=178.0*
*MOS **08** 07:22:15.1±0.9, 38°.88N×70°.28E, h45km, mb4.3/4, Error ellipse: s-maj=8.3km s-min=4.2km az=68.6*
*NEIC **08** 07:22:17.3±2.4, 38°.90N±0°.04×70°.28E±0°.05, h40km±9km, mb4.4/23, Error ellipse: s-maj=6.6km s-min=4.9km az=123.0*

ISC 08 07:22:12.8±3.4, 38°.72N±0°.05×70°.30E±0°.04, h14km±22km**, n122, σ2°14/137, mb4.3/30, 13C-6D,**
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIMJ	**Simiganj**	**1.01**	**267**	Pn		**Pn**	**07 22 33.7**	**+1.0**
SIMJ				Sn		**Sn**	**07 22 47.6**	**+0.8**
BTK	**Batken**	**1.40**	**17**			**Pn**	**07 22 36.3**	**-1.6**
BTK				Sn		**Sb**	**07 22 52.3**	**-4.1**
BTK	**Batken**	**1.40**	**17**	*i*	P	**Pn**	**07 22 36.1**	**-1.8**
BTK				S		**Sb**	**07 22 53.2**	**-3.2**
OHH	**Osh**	**2.63**	**46**	*e*	PN	**Pn**	**07 22 55.1**	**+0.2**
SFK	**Sufi-Kurgan**	**2.80**	**62**	*i*	PN	**Pn**	**07 22 57.8**	**+0.4**
SFK				S		**Sn**	**07 23 30.5**	**-0.5**
TRKS	**Terek-Say**	**2.88**	**13**	*i*	PN	**Pn**	**07 22 57.5**	**-0.9**
TRKS				S		**Sn**	**07 23 29.7**	**-3.3**
ARSB	**Arslanbob**	**3.32**	**38**			**Pn**	**07 23 05.6**	**+1.2**
ARSB	**Arslanbob**	**3.32**	**38**		PN	**Pn**	**07 23 05.6**	**+1.2**
ARK	**Arkit**	**3.33**	**22**	*i*	PN	**Pn**	**07 23 04.4**	**-0.1**
ARK				S		**Sn**	**07 23 41.8**	**-2.1**
AML	**Almayashu**	**4.28**	**36**		P	**Pn**	**07 23 18.5**	**+0.7**
	SNR=65							
AML	**Almayashu**	**4.28**	**36**	⇑	Pn	**Pn**	**07 23 19.6**	**+1.7**
	12nm,0.6s							
AML				⇑	Sn	**Sn**	**07 24 11.3**	**+3.5**
	16nm,0.8s							
AML	**Almayashu**	**4.28**	**36**	*e*	PN	**Pn**	**07 23 17.9**	**0.0**
KBL	**Kabul**	**4.29**	**194**		Pn	Pn	07 23 23.6	+5.8
KBL	**Kabul**	**4.29**	**194**		PN	Pn	07 23 23.6	+5.8
KK31	**Karatay Array**	**4.38**	**2**	⇑	Pn	**Pn**	**07 23 21.0**	**+2.1**
	5.7nm,0.3s,baz=188,slow=14,SNR=98							
KK31				⇑	Sn	**Sn**	**07 24 15.0**	**+5.2**
	6.5nm,0.3s							
KK31				⇓	Lg	Lg	07 24 28.1	
	34nm,0.6s,baz=185,slow=36,SNR=5.4							
KK31	**Karatay Array**	**4.38**	**2**		Pn	**Pn**	**07 23 21.0**	**+2.1**
KK31	**Karatay Array**	**4.38**	**2**		PN	**Pn**	**07 23 21.0**	**+2.1**
KKAR	**Karatay Array**	**4.38**	**2**			**Pn**	**07 23 21.0**	**+2.1**
KKAR	**Karatay Array**	**4.38**	**2**		PN	**Pn**	**07 23 21.0**	**+2.1**
KSH	**Kashi**	**4.49**	**78**		Pn	**Pn**	**07 23 20.6**	**+0.2**
KSH					Sn	**Sn**	**07 24 05.0**	**-7.4**
KSH					smax	smax		
	comp=N,260nm,0.7s							
KSH					smax	smax		
	comp=E,110nm,0.8s							
MRKS	**Merke**	**4.59**	**28**	*e*	P	**Pn**	**07 23 24.2**	**+2.3**
	comp=E,14nm,0.2s							
MRKS				*e*	S	**Sn**	**07 24 17.9**	**+2.8**
	comp=E,45nm,0.3s							
EKS2	**Erkin-Say**	**4.74**	**33**		P	**Pn**	**07 23 27.6**	**+3.6**
	SNR=18							
EKS2	**Erkin-Say**	**4.74**	**33**	*e*	PN	**Pn**	**07 23 24.1**	**+0.1**
UCH	**Uchtor**	**4.75**	**41**		P	**Pn**	**07 23 25.4**	**+1.0**
	SNR=34							
UCH	**Uchtor**	**4.75**	**41**	*e*	PN	**Pn**	**07 23 24.7**	**+0.3**
AAK	**Ala-Archa**	**5.05**	**38**		P	**Pn**	**07 23 31.7**	**+3.5**
	SNR=14							
AAK	**Ala-Archa**	**5.05**	**38**		Pn	**Pn**	**07 23 29.7**	**+1.5**
	comp=E,6.7nm,0.3s,baz=215,slow=5.5,SNR=50							
AAK					Sn	**Sn**	**07 24 30.7**	**+4.3**
	comp=E,3.6nm,0.3s,baz=340,slow=22,SNR=5.5							
AAK					Lg	Lg	07 24 54.7	
	comp=E,3.9nm,0.3s,baz=4.0,slow=19,SNR=2.0							
	comp=E,16nm,0.4s							
KZA	**Kyzart**	**5.05**	**47**		P	Pn	07 23 32.9	+4.4
	SNR=8.0							
KZA	**Kyzart**	**5.05**	**47**	*i*	PN	**Pn**	**07 23 28.8**	**+0.3**
NRN	**Naryn**	**5.14**	**56**		Pn	**Pn**	**07 23 30.6**	**+0.9**
NRN	**Naryn**	**5.14**	**56**		PN	**Pn**	**07 23 30.6**	**+0.9**
KBK	**Karagaybulak**	**5.29**	**40**		P	Pn	07 23 35.9	+4.4
	SNR=19							
KBK	**Karagaybulak**	**5.29**	**40**	*e*	PN	**Pn**	**07 23 31.5**	**0.0**
CHMS	**Chumysh**	**5.45**	**37**		P	**Pn**	**07 23 36.8**	**+3.3**
	SNR=16							
CHMS	**Chumysh**	**5.45**	**37**	⇓	Pn	**Pn**	**07 23 36.1**	**+2.6**
	comp=E,16nm,0.5s							
CHMS				⇓	Sn	**Sn**	**07 24 39.6**	**+3.6**
	comp=E,26nm,0.6s							
CHMS	**Chumysh**	**5.45**	**37**	*e*	PN	**Pn**	**07 23 33.7**	**+0.2**
USP	**Ospenovka**	**5.54**	**34**		P	**Pn**	**07 23 38.0**	**+3.2**
	SNR=22							
USP	**Ospenovka**	**5.54**	**34**	*i*	PN	**Pn**	**07 23 35.0**	**+0.1**
NIL	**Nilore**	**5.59**	**154**			**Pn**	**07 23 39.7**	**+4.1**
NIL	**Nilore**	**5.59**	**154**		PN	**Pn**	**07 23 39.7**	**+4.1**
BOOM	**Boomskoye usch**	**5.71**	**47**			**Pn**	**07 23 39.1**	**+1.8**
BOOM	**Boomskoye usch**	**5.71**	**47**		PN	**Pn**	**07 23 39.1**	**+1.8**
ULHL	**Ulahol**	**5.74**	**50**	*i*	PN	**Pn**	**07 23 38.0**	**+0.3**
TKM2	**Tokmak 2**	**5.81**	**42**		P	**Pn**	**07 23 42.3**	**+3.6**
	SNR=12							
TKM2	**Tokmak 2**	**5.81**	**42**	⇑	Pn	**Pn**	**07 23 40.4**	**+1.7**
	comp=E,20nm,0.6s							
TKM2				⇑	Sn	**Sn**	**07 24 48.6**	**+3.4**
	comp=E,14nm,0.6s							
TKM2				⇓	Lg	Lg	07 25 18.1	
	comp=E,19nm,0.6s							
TKM2	**Tokmak 2**	**5.81**	**42**	*e*	PN	**Pn**	**07 23 38.9**	**+0.2**
KST	**Kastek**	**6.09**	**43**	*e*	P	**Pn**	**07 23 45.8**	**+3.4**
	comp=E,6.6nm,0.3s							
KST				*e*	S	**Sn**	**07 24 55.1**	**+3.2**
	comp=E,12nm,0.3s							
DGS	**Degeres**	**6.13**	**41**	*e*	P	**Pn**	**07 23 46.0**	**+3.1**
	comp=E,2.6nm,0.2s							
DGS				*e*	S	**Sn**	**07 24 55.6**	**+2.7**
	comp=E,14nm,0.3s							
KRBS	**Karabastau**	**6.41**	**37**	*e*	P	Pn	07 23 53.9	+7.0
	comp=E,3.9nm,0.2s							
KRBS				*e*	S	Sn	07 25 09.1	+9.2
	comp=E,4.9nm,0.2s							
TARG	**Taragay, Kyrgy**	**6.48**	**60**		Pn	**Pn**	**07 23 49.6**	**+1.6**
TARG	**Taragay, Kyrgy**	**6.48**	**60**		PN	**Pn**	**07 23 49.7**	**+1.6**
KOTS	**Kotyrbulak**	**6.85**	**47**	*e*	P	Pn	07 23 58.4	+5.5
	comp=E,7.0nm,0.4s							
KOTS				*e*	S	**Sn**	**07 25 16.9**	**+6.1**
	comp=E,17nm,0.4s							
HRA	**Herat**	**7.79**	**239**		Pn	**Pn**	**07 24 08.4**	**+2.5**
GEYT	**Alibeck**	**9.61**	**269**		Pn	**Pn**	**07 24 32.4**	**+1.8**
GEYT	**Alibeck**	**9.61**	**269**		P	**Pn**	**07 24 32.4**	**+1.8**
GEYT	**Alibeck**	**9.61**	**269**		Pn	**Pn**	**07 24 31.5**	**+0.8**
	comp=E,2.0nm,0.3s,baz=92,slow=13,SNR=4.8							
GEYT					Sn	**Sn**	**07 26 16.7**	**-1.7**
	comp=E,1.0nm,0.3s,baz=85,slow=17,SNR=1.8							
GEYT					Lg	Lg	07 27 24.2	
	baz=126,slow=50							
	comp=E,2.4nm,0.2s							
MAKZ	**Makanchi**	**11.78**	**43**		Pn	**Pn**	**07 25 03.2**	**+2.9**
MAKZ	**Makanchi**	**11.78**	**43**		P	**Pn**	**07 25 03.3**	**+2.9**
MK31	**Makanchi Array**	**11.94**	**44**		Pn	**Pn**	**07 25 03.7**	**+1.2**
MK31	**Makanchi Array**	**11.94**	**44**	⇑	*e*P	**Pn**	**07 25 01.7**	**-0.8**
MKAR	**Makanchi Array**	**11.94**	**44**		Pn	**Pn**	**07 25 02.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=229,slow=14,SNR=9.5							
MKAR					Lg	Lg	07 28 17.1	
	comp=E,0.1nm,0.3s,baz=228,slow=31,SNR=2.5							
	comp=E,0.9nm,0.7s							
AB31	**Akbulak array**	**12.89**	**328**		Pn	**Pn**	**07 25 13.9**	**-1.5**
	comp=E,4.7nm,0.6s,baz=153,slow=11,SNR=88							
AB31					Sn	**Sn**	**07 27 40.3**	**+1.7**
	comp=E,3.3nm,0.6s,baz=150,slow=24,SNR=8.6							
AB31	**Akbulak array**	**12.89**	**328**		P	**Pn**	**07 25 13.9**	**-1.5**
AB31					S	**Sn**	**07 27 40.3**	**+1.7**
ABKAR	**Akbulak array**	**12.89**	**328**		Pn	**Pn**	**07 25 14.2**	**-1.3**
KURBB	**Kurchatov Arra**	**13.25**	**23**		Pn	**Pn**	**07 25 17.6**	**-2.8**
	comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=7.1							
KURBB					Lg	Lg	07 29 01.4	
	baz=215,slow=12,SNR=1.9							
	comp=E,0.5nm,0.6s							
KURK	**Kurchatov**	**13.36**	**23**	⇑	*e*P	**Pn**	**07 25 21.9**	**0.0**
WMQ	**Urumqi**	**14.04**	**63**	*e*	P	**Pn**	**07 25 35.6**	**+4.4**

BVAR	**Borovoye Array**	**14.31**	**0**		Pn	**Pn**	**07 25 33.2**	**-1.6**
	comp=E,0.1nm,0.3s,baz=152,slow=11,SNR=6.6							
BVAR					Lg	Lg	07 29 44.5	
	baz=148,slow=32,SNR=1.1							
	comp=E,0.9nm,0.6s							
BRVK	**Borovoye**	**14.34**	**360**		Pn	**Pn**	**07 25 34.5**	**-0.8**
BRVK	**Borovoye**	**14.34**	**360**	⇑	*e*P	**Pn**	**07 25 35.2**	**-0.1**
AKTO	**Aktyubinsk**	**14.60**	**327**	⇑	Pn	**Pn**	**07 25 41.7**	**+3.0**
	comp=E,3.9nm,0.5s							
AKTO				⇑	Sn	**Sn**	**07 28 23.9**	**+3.6**
	comp=E,6.5nm,1.2s							
AKTO	**Aktyubinsk**	**14.60**	**327**		Pn	**Pn**	**07 25 39.1**	**+0.4**
	comp=E,0.3nm,0.3s,baz=119,slow=9.7,SNR=3.8							
AKTO					Sn	**Sn**	**07 28 16.1**	**-4.1**
	comp=E,0.2nm,0.3s,baz=282,slow=14,SNR=3.3							
	comp=E,1.5nm,0.5s							
ZALV	**Zalesovo Beam**	**18.18**	**28**		Pn	**Pn**	**07 26 20.9**	**-3.6**
ZALV	**Zalesovo Beam**	**18.18**	**28**		P	**Pn**	**07 26 21.1**	**-3.5**
	comp=E,0.7nm,0.5s,baz=226,slow=12,SNR=4.6							
ARU	**Arti**	**19.36**	**340**		P	**Pn**	**07 26 38.8**	**0.0**
	comp=E,0.4nm,0.3s,baz=101,slow=22,SNR=1.5							
	comp=E,1.1nm,0.3s							
GNI	**Garni**	**19.78**	**282**	⇑	*e*P	**P**	**07 26 43.1**	**+0.5**
GNI					pmax	pmax		
	comp=E,14nm,2.2s							
ONI	**Oni**	**20.70**	**289**		P	**P**	**07 26 53.4**	**+0.9**
ONI	**Oni**	**20.70**	**289**		P	**P**	**07 26 53.4**	**+0.9**
ONI					pmax	pmax		
	comp=E,7.0nm,1.0s							
KBZ	**Khabaz**	**21.16**	**292**		P	**P**	**07 26 56.4**	**-1.0**
	comp=E,0.5nm,0.4s,baz=328,slow=3.2,SNR=2.2							
	comp=E,0.5nm,0.4s							
KIV	**Kislovodsk**	**21.33**	**293**	*e*	P	**P**	**07 26 59.8**	**+0.4**
KIV					pmax	pmax		
	comp=E,7.0nm,1.1s							
KIV					MLR	MLR		
	comp=E,21nm,14.0s							
KIRV	**Kirov**	**24.01**	**333**	⇓	*e*P	**P**	**07 27 24.7**	**-2.1**
ARPR	**Arapgir-MALATY**	**24.81**	**281**		P	**P**	**07 27 33.5**	**-1.1**
ARPR					IAmb	IAmb	07 27 44.7	
	comp=E,12nm,1.3s							
ULN	**Ulaanbaatar**	**28.04**	**59**	⇓	*e*P	**P**	**07 28 01.2**	**-2.4**
ULN					pmax	pmax		
	comp=E,5.0nm,2.1s							
PZH	**PanZhiHua**	**29.01**	**105**		P	**P**	**07 28 14.9**	**+2.5**
PZH					pmax	pmax		
	comp=E,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=E,140nm,5.9s							
MILM	**Milestii Mici**	**31.21**	**299**	*e*	P	**P**	**07 28 31.0**	**-0.5**
	comp=E,10.0nm,0.5s							
MILM	**Milestii Mici**	**31.21**	**299**	*e*	P	**P**	**07 28 31.0**	**-0.5**
MILM					pmax	pmax		
	comp=E,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**31.58**	**73**	*e*	P	**P**	**07 28 36.0**	**+1.1**
HHC					pmax	pmax		
	comp=E,17nm,0.7s							
HHC					pmax	pmax		
	comp=E,420nm,4.8s							
FIA1	**FINESS Array S**	**35.34**	**325**		P	**P**	**07 29 08.0**	**+0.6**
FINES	**FINESS Array B**	**35.34**	**325**		P	**P**	**07 29 07.7**	**+0.4**
FINES	**FINESS Array B**	**35.34**	**325**	*i*	P	**P**	**07 29 07.5**	**+0.2**
FINES					pmax	pmax		
	comp=E,3.0nm,0.9s							
FINES	**FINESS Array B**	**35.34**	**325**		P	**P**	**07 29 07.2**	**-0.1**
	comp=E,5.1nm,1.0s,baz=122,slow=7.2,SNR=6.6							
	comp=E,5.1nm,1.0s							
ARCES	**ARCESS Array B**	**38.89**	**337**		P	**P**	**07 29 37.1**	**-0.2**
	comp=E,1.3nm,0.5s,baz=42,slow=2.0,SNR=4.7							
	comp=E,1.3nm,0.5s							
VRAC	**Vranov**	**39.28**	**304**		LR	LR	07 49 32.7	
	comp=E,87nm,18.4s,baz=323,slow=42							
HFS	**Hagfors**	**40.99**	**320**		P	**P**	**07 29 54.5**	**-0.4**
	comp=E,1.3nm,0.4s,baz=104,slow=12,SNR=5.8							
	comp=E,1.3nm,0.4s							
ZEA	**Zeya**	**41.02**	**49**	*e*	P	P	07 30 01.9	+6.7
NC303	**NORSAR Array S**	**42.23**	**322**		P	**P**	**07 30 05.5**	**+0.4**
NOA	**NORSAR Array B**	**42.29**	**322**		P	**P**	**07 30 05.2**	**-0.3**
	comp=E,2.0nm,0.5s,baz=94,slow=8.4,SNR=1.6							
	comp=E,2.0nm,0.5s							
YAK	**Yakutsk**	**42.51**	**37**	⇑	*e*P	**P**	**07 30 06.1**	**-1.2**
YAK					pmax	pmax		
	comp=E,5.0nm,0.7s							
ESDC	**Sonseca Array**	**55.95**	**296**		P	**P**	**07 31 50.8**	**+0.3**
	comp=E,0.4nm,0.8s,baz=81,slow=7.0,SNR=1.5							
	comp=E,0.4nm,0.8s							
TOA0	**Torodi Ar. Sit**	**65.24**	**267**		P	**P**	**07 32 54.7**	**+0.5**
TOA0					IAmb	IAmb	07 33 18.7	
	comp=E,2.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**65.24**	**267**		P	**P**	**07 32 54.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**65.24**	**267**		P	**P**	**07 32 54.1**	**-0.1**
	comp=E,0.5nm,0.5s,baz=57,slow=5.6,SNR=5.9							
	comp=E,0.5nm,0.5s							
C18K	**Utukok River**	**66.34**	**18**		P	**P**	**07 33 00.3**	**-0.3**
C18K					IAmb	IAmb	07 33 15.5	
	comp=E,4.4nm,1.5s							
G19K	**Purcell Mounta**	**69.29**	**19**		P	**P**	**07 33 18.6**	**-0.5**
G19K					IAmb	IAmb	07 33 43.2	
	comp=E,5.7nm,1.5s							
IMAR	**Indian Mountai**	**70.23**	**18**		P	**P**	**07 33 24.0**	**-0.9**
J16K	**Anvik River**	**70.57**	**22**		P	**P**	**07 33 26.7**	**-0.2**
J16K					IAmb	IAmb	07 33 53.7	
	comp=E,9.2nm,1.4s							
E28M	**Babbage River**	**70.70**	**11**		P	**P**	**07 33 28.1**	**+0.3**
E28M					IAmb	IAmb	07 33 35.9	
	comp=E,2.7nm,1.5s							
BPAW	**Bear Paw Mtn.**	**72.45**	**18**		P	**P**	**07 33 39.1**	**+0.8**
L18K	**Granite Mounta**	**72.52**	**21**		P	**P**	**07 33 38.7**	**-0.1**
L18K					IAmb	IAmb	07 34 07.2	
	comp=E,7.0nm,1.4s							
F31M	**Tsiigehtchic**	**72.60**	**9**		P	**P**	**07 33 38.5**	**-0.6**
F31M					IAmb	IAmb	07 34 00.9	
	comp=E,5.7nm,1.4s							
ILAR	**Eielson Array**	**72.80**	**16**		P	**P**	**07 33 38.5**	**-1.8**
	comp=E,2.0nm,0.8s,baz=337,slow=4.3,SNR=2.1							
	comp=E,2.0nm,0.8s							
M17K	**Holitna River**	**72.97**	**22**		P	**P**	**07 33 42.6**	**+1.2**
M17K					IAmb	IAmb	07 33 43.2	
	comp=E,8.8nm,1.2s							
I28M	**Miner Creek**	**73.53**	**13**		P	**P**	**07 33 43.8**	**-1.0**
N19K	**Bonanza Creek**	**74.29**	**21**		P	**P**	**07 33 49.2**	**-0.1**
N19K					IAmb	IAmb	07 33 51.6	
	comp=E,6.7nm,1.5s							
SUA	**Susitna One**	**74.75**	**19**		P	**P**	**07 33 51.0**	**-0.9**
SUA					IAmb	IAmb	07 34 02.1	
	comp=E,5.5nm,1.4s							
DAWY	**Dawson**	**74.89**	**13**		P	**P**	**07 33 52.1**	**-0.6**
DAWY					IAmb	IAmb	07 34 00.9	
	comp=E,5.1nm,1.5s							
PMR	**Palmer**	**75.04**	**18**		P	**P**	**07 33 53.6**	**+0.1**
PMR	**Palmer**	**75.04**	**18**		P	**P**	**07 33 53.6**	**+0.1**
PMR					pmax	pmax		
	comp=E,1.0nm,0.8s							
SML	**Sawmill**	**75.05**	**18**		P	**P**	**07 33 52.6**	**-1.0**
SML					IAmb	IAmb	07 33 57.8	
	comp=E,11nm,1.3s							
SCM	**Sheep Creek Mo**	**75.26**	**17**		P	**P**	**07 33 53.5**	**-1.4**
SCM	**Sheep Creek Mo**	**75.26**	**17**		P	**P**	**07 33 53.5**	**-1.4**
SCM					pmax	pmax		
	comp=E,15nm,1.3s							
BCAR	**Beaver Creek A**	**75.36**	**14**		P	**P**	**07 33 55.3**	**-0.1**
YKA	**Yellowknife Ar**	**79.06**	**2**	*i*	P	**P**	**07 34 15.3**	**-0.8**
YKA	**Yellowknife Ar**	**79.06**	**2**		P	**P**	**07 34 15.4**	**-0.6**
	comp=E,0.3nm,0.7s,baz=352,slow=5.4,SNR=5.3							
	comp=E,0.3nm,0.7s							

*CATAC **08** 07:36:36.5±1.0, 8°.28N×82°.86W, h4km±2km, ML2.8*
*UPA **08** 07:36:37.8±1.4, 8°.36N×82°.80W, h18km±3km, MW2.5*

ISC 08 07:36:36.8±1.4, 8°.30N±0°.06×82°.83W±0°.03, h21km±1km**,**
n20, σ9°77/36, 3C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTPM	**Petroterminale**	**0.10**	**207**	⇑	*i*P	**Pb**	**07 36 42.0**	**-1.2**
PTPM					*e*S	**Sb**	**07 36 47.0**	**-0.8**
CDITO	**Canoas**	**0.28**	**351**	⇑	*i*P	**Pb**	**07 36 43.4**	**+0.2**
CDITO					*e*S	**Sb**	**07 36 47.6**	**-0.1**
CDITO	**Canoas**	**0.28**	**351**		*i* P	**Pb**	**07 36 43.5**	**+0.2**
CDITO					*i* S	**Sb**	**07 36 46.6**	**-1.1**
CDITO					IAML		07 36 49.8	
	comp=Z,820nm,1.0s							
DVD	**David**	**0.40**	**70**	⇓	*i*P	**Pb**	**07 36 45.3**	**+0.1**
DVD					*e*S	**Sb**	**07 36 51.8**	**+1.0**
PEDE3	**Pedregal, Chir**	**0.41**	**78**	⇓	*e*P	**Pb**	**07 36 45.4**	**0.0**
PEDE3					*e*S	**Sb**	**07 36 51.7**	**+0.6**

MLIR3	**Monte Lirio, C**	**0.49**	**1**	⇑	*i*P	**Pb**	**07 36 47.3**	**+0.4**
MLIR3					*e*S	**Sb**	**07 36 53.4**	**-0.2**
BRU2	**Volcan**	**0.51**	**16**	⇓	*i*P	**Pb**	**07 36 47.1**	**-0.1**
BRU2					*e*S	**Sb**	**07 36 55.3**	**+0.9**
BRU2	**Volcan**	**0.51**	**16**	*i*	P	**Pb**	**07 36 47.1**	**-0.1**
BRU2				*i*	S	**Sb**	**07 36 55.2**	**+0.9**
BRU2					IAML		07 36 58.7	
	comp=Z,530nm,1.0s							
PIRO	**Carate, Puerto**	**0.51**	**282**	*i*	P	**Pb**	**07 36 47.2**	**+0.1**
PIRO				*i*	S	**Sb**	**07 36 52.9**	**-1.3**
PIRO					IAML		07 37 02.2	
	comp=Z,660nm,1.0s							
BCO2	**Palmira**	**0.51**	**36**	⇓	*i*P	**Pb**	**07 36 47.2**	**-0.1**
BCO2				*i*	S	**Sb**	**07 36 55.3**	**+0.9**
PTAR3	**Potrerillos Ar**	**0.51**	**40**	⇓	*e*P	**Pb**	**07 36 47.1**	**-0.1**
PTAR3					*e*S	**Sb**	**07 36 54.7**	**+0.3**
BC3P	**Paso Ancho**	**0.56**	**23**	⇓	*i*P	**Pb**	**07 36 47.7**	**-0.5**
BC3P					*e*S	**Sn**	**07 36 57.1**	**-1.5**
POTG	**Potrero Grande**	**0.80**	**339**	*i*	P	**Pb**	**07 36 52.0**	**-0.1**
POTG				*i*	S	**Sn**	**07 37 03.7**	**-0.7**
POTG					IAML		07 37 06.7	
	comp=Z,1μm,1.0s							
CHGR2	**Aguacate**	**0.93**	**47**	⇓	*e*P	**Pb**	**07 36 52.9**	**-1.4**
CHGR2				*i*	S	**Sb**	**07 37 05.0**	**-1.2**
OCHAL	**Ojochal**	**1.13**	**315**	*i*	P	**Pn**	**07 36 56.9**	**-0.6**
OCHAL					IAML		07 36 59.1	
	comp=Z,5.1nm,1.0s							
CNI2	**El Empalme, Bo**	**1.17**	**18**	*e*	P	**Pn**	**07 36 57.3**	**-0.8**
CNI2				*e*	S	**Sn**	**07 37 12.9**	**-0.6**
CDM	**Cerro de Muert**	**1.55**	**324**	*i*	P	**Pb**	**07 37 05.0**	**-0.1**
CDM					IAML		07 37 29.1	
	comp=Z,130nm,1.0s							
RIMA	**Rio Macho**	**1.78**	**325**	*i*	P	**Pb**	**07 37 08.5**	**-0.4**
RIMA					IAML		07 37 37.7	
	comp=Z,67nm,1.0s							
LCR2	**La Lucha 2**	**1.84**	**321**	*i*	P	**Pn**	**07 37 08.7**	**+1.2**
LCR2				*i*	S	**Sb**	**07 37 33.5**	**+0.8**
LCR2					IAML		07 37 35.0	
	comp=Z,93nm,1.0s							
JACO	**JACO, Garabito**	**2.26**	**307**	*i*	P	**Pn**	**07 37 12.9**	**-0.1**
JACO					IAML		07 37 51.6	
	comp=Z,44nm,1.0s							

*IDC **08** 07:42:33.1±0.6, 6°.71N×127°.22E, h0km, mb4.1/16, mbtmp4.1/16, MS2.7/2, Error ellipse: s-maj=41.7km s-min=14.4km az=70.0*
*NEIC **08** 07:42:41.0±1.0, 6°.77N±0°.10×127°.1E±0°.1, h46km±8km, mb4.5/33, Error ellipse: s-maj=17.6km s-min=14.0km az=74.0*

ISC 08 07:42:43.0±0.5, 6°.73N±0°.07×127°.1E±0°.1, h74km**, n62,**
σ0°96/62, mb4.3/32, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**1.53**	**283**		Pn	**Pn**	**07 43 04.5**	**-4.0**
DAV	**Davao City (W)**	**1.53**	**283**		Pn	**Pn**	**07 43 09.3**	**+0.8**
	48nm,0.3s,baz=70,slow=3.0,SNR=5.2							
DAV					Sn	Sn	07 43 37.4	+10
	54nm,0.3s,baz=90,slow=21,SNR=6.6							
TOLI2	**Tolitoli**	**8.40**	**229**		Pn	**Pn**	**07 44 42.1**	**0.0**
KAPI	**Kappang**	**13.77**	**212**		LR	LR	07 51 33.5	
	comp=Z,27nm,21.2s,baz=48,slow=39							
MTN	**Manton Dam**	**19.86**	**168**		P	**P**	**07 47 07.7**	**-0.6**
MTN					IAmb	IAmb	07 47 39.0	
	comp=Z,15nm,1.0s							
KNRA	**Kununurra**	**22.32**	**176**		P	**P**	**07 47 34.9**	**+0.1**
KNRA					IAmb	IAmb	07 47 47.0	
	comp=Z,22nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.71**	**183**

comp=Z,0.6nm,0.7s
BMAR **Burnt Mountain** 83.20 23 P P 07 55 02.6 +1.6
I26K **Coal Creek Min** 83.84 25 P P 07 55 04.8 +0.5
I26K IAmb IAmb 07 55 23.6
comp=Z,9.0nm,1.4s
EGAK **Eagle** 84.72 25 P P 07 55 09.5 +0.8
EGAK IAmb IAmb 07 55 28.0
comp=Z,4.6nm,1.2s
F28M **Old Crow** 84.99 23 P P 07 55 11.2 +1.1
F28M IAmb IAmb 07 55 22.9
comp=Z,5.2nm,1.1s
E28M **Babbage River** 85.03 22 P P 07 55 11.6 +1.4
E28M IAmb IAmb 07 55 22.6
comp=Z,3.1nm,1.1s
BRTR **Keskin Array B** 88.39 310 P P 07 55 27.4 +0.1
comp=Z,1.4nm,0.9s,baz=100,slow=4.7,SNR=6.4
comp=Z,1.4nm,0.9s
FINES **FINESS Array B** 89.37 332 P P 07 55 31.1 -0.1
comp=Z,1.8nm,0.8s,baz=106,slow=4.8,SNR=5.3
comp=Z,1.8nm,0.8s
AKASG **Malin Array Be** 89.80 321 P P 07 55 33.6 +0.1
comp=Z,1.5nm,0.7s,baz=71,slow=4.1,SNR=6.2
comp=Z,1.5nm,0.7s
YKA **Yellowknife Ar** 96.64 24 P P 07 56 04.5 -0.3
comp=Z,0.3nm,0.8s,baz=300,slow=4.8,SNR=5.2
comp=Z,0.3nm,0.8s
TORD **Torodi Ar. Bea** 122.27 290 PKP PKiKP 08 01 31.4 +0.6
comp=Z,0.6nm,0.6s,baz=22,slow=2.2,SNR=3.6

ISC 08 07:58:34.8±1.2,**49°26N**±0°08×**18°91E**±0°04,**h10**km,**n5,**
σ0**$43**/8,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.38**	**106**	*e*P	G		**Pg**	**07 58 42.0**	**-0.4**
LANS				*e*S	G		**Sg**	**07 58 48.2**	**+0.8**
VYHS	**Vyhne**	**0.77**	**184**	*e*P	G		**Pb**	**07 58 50.1**	**-0.1**
JAVC	**Velka Javorina**	**0.91**	**244**	*e*P	G		**Pg**	**07 58 52.3**	**+0.1**
JAVC				*e*S	G		**Sb**	**07 59 04.7**	**-0.1**
MORC	**Moravsky Berou**	**1.03**	**301**	*e*P	G		**Pg**	**07 58 54.7**	**+0.1**
MORC				*e*S	G		**Sn**	**07 59 09.5**	**-0.4**
KECS	**Kecovo**	**1.30**	**126**	*e*P	G		**Pb**	**07 58 59.3**	**0.0**

IDC ***08*** *08:05:12.9±2.0,0.°31S×132.°94E,h0km,mb3.8/4, mbtmp3.7/5,ML3.6/1,MS3.3/1,Error ellipse: s-maj=123.4km s-min=20.9km az=72.0*
DJA ***08*** *08:05:13.8±1.9,0.°5S×12.°×13.°3E±1.°0,h24km±18km,M4.2/5, mb4.9/1,MLv3.9/5*
ISC 08 08:05:18.6±1.5,**0.°4S**±0.°2×**132.°5E**±0.°2,**h35**km,**n10,**
σ0**$89**/9,**mb3.8**/4,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.33**	**250**	P			**Pn**	**08 05 40.8**	**+0.1**
SWI	**Sorong**	**1.33**	**251**	P			**Pn**	**08 05 41.7**	**+1.0**
FAKI	**Fak Fak**	**2.50**	**186**	P			**Pn**	**08 05 57.5**	**+0.7**
LBMI	**Labuha**	**5.02**	**267**	P			**Pn**	**08 06 30.9**	**-0.6**
WRA	**Warramunga Arr**	**19.49**	**175**	P			**P**	**08 09 42.2**	**-0.5**
	0.2nm,0.3s,baz=355,slow=11,SNR=9.0								
WRA				S			S	08 13 08.3	-13
	0.4nm,0.7s,baz=352,slow=18,SNR=1.9								
	0.6nm,0.4s								
ASAR	**Alice Springs**	**23.15**	**177**	P			**P**	**08 10 22.5**	**+0.4**
	1.4nm,0.5s,baz=353,slow=11,SNR=35								
	1.4nm,0.5s								
STKA	**Stephens Creek**	**32.45**	**166**	P			**P**	**08 11 44.4**	**-1.2**
	1.0nm,0.7s,baz=313,slow=11,SNR=1.7								
	1.0nm,0.7s								
SONM	**Songino Array**	**53.16**	**338**	LR			LR	08 36 59.3	
	comp=Z,27nm,19.0s,baz=8.0,slow=36								
MKAR	**Makanchi Array**	**64.26**	**324**	P			**P**	**08 15 51.1**	**+0.8**
	0.8nm,0.6s,baz=111,slow=7.7,SNR=7.4								
	0.8nm,0.6s								
KURBB	**Kurchatov Arra**	**68.35**	**326**	P			**P**	**08 16 16.9**	**+0.5**
	0.3nm,0.4s,baz=122,slow=6.5,SNR=4.7								
	0.3nm,0.4s								

NEIC ***08*** *08:05:20.6±0.7,19.°5N±0.°2×68.°77W±0.°05,h35km±2km, ML2.8/14,Md3.2/6(RSPR),Error ellipse: s-maj=32.5km s-min=3.2km az=12.0*
RSPR ***08*** *08:05:21.5,19.°56N×68.°71W,h27km±19km,MD3.1/6*
ISC 08 08:05:18.5±1.5,**18.°9N**±0.°4×**69.°0W**±0.°1,**h10**km,**n19,**
σ0**$67**/23,**5C,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.81**	**102**	*e*S			**Sn**	**08 06 12.3**	**-0.4**
AGPR	**Aguadilla, PR**	**1.81**	**102**				**Sn**	**08 06 12.3**	**-0.4**
AGPR	**Aguadilla, PR**	**1.81**	**102**	Pn			**Pn**	**08 05 50.4**	**+0.7**
AGPR				IAML				08 06 05.2	
	comp=E,123nm,2.6s								
PRSN	**Puerto Rico Se**	**1.85**	**110**	Pn			**Pn**	**08 05 50.7**	**+0.5**
PRSN				IAML				08 06 22.5	
	comp=E,100nm,0.3s								
LSP	**Las Mesas**	**1.91**	**110**	*e*P			**Pb**	**08 05 53.0**	**-0.5**
LSP	**Las Mesas**	**1.91**	**110**	*e*S			**Sb**	**08 06 16.8**	**-0.7**
LSP	**Las Mesas**	**1.91**	**110**				**Pb**	**08 05 53.0**	**-0.5**
LSP							**Sb**	**08 06 16.8**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.96**	**115**	*e*P			**Pb**	**08 05 54.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.96**	**115**				**Pb**	**08 05 53.7**	**-0.6**
MLPR	**Magueyes Islan**	**2.03**	**115**	*e*P			**Pb**	**08 05 55.1**	**-0.4**
MLPR	**Magueyes Islan**	**2.03**	**115**	*e*S			**Sb**	**08 06 21.0**	**+0.1**
MLPR	**Magueyes Islan**	**2.03**	**115**				**Pb**	**08 05 55.3**	**-0.2**
MLPR							**Sb**	**08 06 20.8**	**-0.1**
MLPR				IAML				08 06 28.8	
	comp=N,44nm,2.1s								
MLPR				IAML				08 07 20.1	
	comp=E,42nm,3.4s								
SDDR	**Presa de Saban**	**2.19**	**274**	Pn			**Pb**	**08 05 57.9**	**-0.5**
SDDR				IAML				08 07 34.2	
	comp=E,46nm,4.2s								
OBIP	**Obispado Ponce**	**2.39**	**109**	*e*P			**Pn**	**08 05 58.5**	**+0.8**
OBIP	**Obispado Ponce**	**2.39**	**109**	*e*S			**Sn**	**08 06 26.5**	**-0.5**
OBIP	**Obispado Ponce**	**2.39**	**109**				**Pn**	**08 05 58.4**	**+0.7**
OBIP							**Sn**	**08 06 26.5**	**-0.5**
OBIP				IAML				08 06 59.3	
	comp=N,42nm,3.9s								
CELP	**Cerrillos**	**2.40**	**109**	*e*P			**Pn**	**08 05 59.0**	**+1.1**
CELP	**Cerrillos**	**2.40**	**109**	*e*S			**Sn**	**08 06 28.3**	**+0.9**
CELP	**Cerrillos**	**2.40**	**109**				**Pn**	**08 05 58.7**	**+0.8**
CELP							**Sn**	**08 06 28.4**	**+1.0**
CELP				IAML				08 06 36.1	
	comp=E,43nm,2.5s								
CELP				IAML				08 06 37.7	
	comp=N,31nm,0.5s								

NEIC ***08*** *08:09:27.1±0.8,0.°46N±0.°06×121.°34E±0.°02,h86km±8km, mb4.3/18,Error ellipse: s-maj=9.4km s-min=3.3km az=174.0*
DJA ***08*** *08:09:28.7±0.3,0.°N±3.°×12.°1E±.°,h65km±7km,M4.5/13, mb4.7/6,mB4.7/1,MLv4.4/13,Mw(mB)3.9/1*
IDC ***08*** *08:09:43.5±17.0,0.°52N×121.°66E,h256km±187km, mb3.4/8,mbtmp4.0/8,MS3.6/3,Error ellipse: s-maj=97.8km s-min=28.9km az=68.0*
ISC 08 08:09:28.0±0.6,**0.°42N**±0.°06×**121.°32E**±0.°05,**h100**km,**n51,**
σ1**$35**/53,**mb4.2**/15,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.63**	**85**	P			**Pn**	**08 09 43.7**	**-1.1**
MRSI				S			**Sn**	**08 09 55.7**	**-1.7**
TOLI2	**Tolitoli**	**0.87**	**322**				**Pn**	**08 09 44.8**	**-2.3**
MPSI	**Mapaga**	**1.42**	**267**	P			**Pn**	**08 09 52.7**	**-0.6**
GTOI	**Gorontalo**	**1.71**	**83**	P			**Pn**	**08 09 55.4**	**-1.5**
LUWI	**Luwuk**	**2.05**	**135**	Pn			**Pn**	**08 10 00.1**	**-1.2**
LUWI	**Luwuk**	**2.05**	**135**	P			**Pn**	**08 10 01.9**	**+0.6**
KMSI	**Cibinong**	**2.67**	**87**	P			**Pn**	**08 10 10.0**	**+0.6**
TTSI	**Tana Toraja**	**3.75**	**204**	P			**Pn**	**08 10 24.5**	**+0.6**
MMSI	**Mamuju**	**3.91**	**218**	P			**Pn**	**08 10 26.1**	**0.0**
SPSI	**Sidrap Palu**	**4.62**	**200**	P			**Pn**	**08 10 36.4**	**+0.8**
BKB	**Balikpapan**	**4.72**	**249**	Pn			**Pn**	**08 10 35.7**	**-1.4**
BKB	**Balikpapan**	**4.72**	**249**	P			**Pn**	**08 10 36.5**	**-0.5**
SANI	**Sanana**	**5.27**	**118**	P			**Pn**	**08 10 44.5**	**0.0**
	11nm,0.5s,0.2nm								
SGSI	**Sangihe**	**5.32**	**52**	P			**Pn**	**08 10 46.1**	**+1.0**
	222nm,0.8s,1.7nm								
MYLDM	**Lahad Datu**	**5.50**	**329**				**Pn**	**08 10 47.3**	**-0.4**
MYLDM	**Lahad Datu**	**5.50**	**329**	P			**Pn**	**08 10 48.3**	**+0.7**
	89nm,0.9s								
KKM	**Kota Kinabalu**	**7.56**	**318**	P			**Pn**	**08 11 15.3**	**-0.4**
	21nm,0.8s,547nm0.1nm								
DAV	**Davao City (W)**	**7.86**	**33**	P			**Pn**	**08 11 20.4**	**+0.7**
	216nm,0.6s,1.9nm								
MTN	**Manton Dam**	**16.38**	**144**	P			**P**	**08 13 14.6**	**+1.4**
MTN				IAmb			IAmb	08 13 38.0	
	comp=Z,28nm,1.4s								
KNRA	**Kununurra**	**17.60**	**156**	P			**P**	**08 13 25.2**	**-1.4**
KNRA				IAmb			IAmb	08 13 45.6	
	comp=Z,46nm,1.4s								
WB0	**Warramunga Arr**	**23.81**	**148**	P			**P**	**08 14 31.2**	**-0.7**
WB0				IAmb			IAmb	08 14 41.5	
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**23.92**	**148**	P			**P**	**08 14 32.6**	**-0.3**
WRA	**Warramunga Arr**	**23.92**	**148**	P			**P**	**08 14 33.2**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=326,slow=10,SNR=7.2								
	comp=Z,1.1nm,1.0s								
WB2	**Warramunga Arr**	**23.93**	**148**	P			**P**	**08 14 33.1**	**+0.1**
WR0	**Warramunga Arr**	**24.04**	**148**	P			**P**	**08 14 33.6**	**-0.4**
COEN	**Coen**	**25.93**	**124**	P			**P**	**08 14 50.8**	**-0.5**
COEN				IAmb			IAmb	08 15 15.3	
	comp=Z,18nm,1.4s								
ASAR	**Alice Springs**	**26.88**	**154**	P			**P**	**08 15 01.6**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=346,slow=15,SNR=6.6								
	comp=Z,0.4nm,0.7s								
CTA	**Charters Tower**	**31.81**	**131**	LR			LR	08 29 12.2	
	comp=Z,104nm,19.7s,baz=266,slow=37								
STKA	**Stephens Creek**	**37.42**	**151**	LR			LR	08 33 40.5	
	comp=Z,86nm,19.4s,baz=339,slow=38								
BTO	**Baotou**	**41.30**	**347**	*e*P			**P**	**08 17 06.6**	**+2.8**
BTO				pP			**pP**	**08 17 29.5**	**+2.3**
BTO				sP			**sP**	**08 17 40.9**	**+2.3**
BTO				S			**S**	**08 23 15.1**	**+4.3**
BTO				SS			**SS**	**08 26 14.7**	**-3.5**
BTO				pmax			pmax		
	comp=Z,17nm,0.8s								
BTO				pmax			pmax		
	comp=Z,540nm,6.6s								
BTO				LR			LR		
	comp=N,420nm,7.4s								
BTO				LR			LR		
	comp=E,360nm,4.9s								
BTO				LR			LR		
	comp=Z,430nm,7.8s								
ULN	**Ulaanbaatar**	**48.86**	**347**				**P**	**08 18 03.8**	**+0.1**
SONM	**Songino Array**	**48.98**	**347**	P			**P**	**08 18 03.9**	**-0.6**
SONM				IAmb			IAmb	08 18 05.7	
	comp=Z,4.4nm,0.8s								
SONM	**Songino Array**	**48.98**	**347**	P			**P**	**08 18 04.4**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=165,slow=8.5,SNR=21								
	comp=Z,4.0nm,0.7s								
DZM	**Mont Dzumac**	**49.33**	**120**	LR			LR	08 40 20.1	
	comp=Z,48nm,18.5s,baz=202,slow=37								
MK31	**Makanchi Array**	**57.38**	**329**	P			**P**	**08 19 06.0**	**-0.1**
MK31				IAmb			IAmb	08 19 06.9	
	comp=Z,2.4nm,0.9s								
MKAR	**Makanchi Array**	**57.38**	**329**	P			**P**	**08 19 05.7**	**-0.4**
MKAR	**Makanchi Array**	**57.38**	**329**	P			**P**	**08 19 06.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=126,slow=8.3,SNR=19								
	comp=Z,2.0nm,0.7s								
AAK	**Ala-Archa**	**59.35**	**321**	P			**P**	**08 19 20.7**	**+0.7**
KBL	**Kabul**	**59.39**	**311**	P			**P**	**08 19 18.8**	**-1.7**
ARSB	**Arslanbob**	**59.64**	**319**	P			**P**	**08 19 21.9**	**-0.1**
ZAA0	**Zalesovo Array**	**61.25**	**336**	P			**P**	**08 19 30.8**	**-1.6**
ZAA0				IAmb			IAmb	08 19 32.3	
	comp=Z,2.0nm,0.8s								
ZALV	**Zalesovo Beam**	**61.25**	**336**	P			**P**	**08 19 31.5**	**-0.9**
ZALV	**Zalesovo Beam**	**61.25**	**336**	P			**P**	**08 19 30.6**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=117,slow=5.0,SNR=8.4								
	comp=Z,1.3nm,0.6s								
KURBB	**Kurchatov Arra**	**61.77**	**331**	P			**P**	**08 19 35.7**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=135,slow=6.3,SNR=17								
	comp=Z,1.2nm,0.5s								
KURK	**Kurchatov**	**61.78**	**331**				**P**	**08 19 35.8**	**-0.3**
KKAR	**Karatay Array**	**62.11**	**320**	P			**P**	**08 19 38.6**	**+0.1**
BVAR	**Borovoye Array**	**67.27**	**329**	P			**P**	**08 20 11.0**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=133,slow=8.5,SNR=5.9								
	comp=Z,1.2nm,0.5s								
ABKAR	**Akbulak array**	**71.38**	**323**	P			**P**	**08 20 36.6**	**-0.6**
NRIK	**Noril'sk**	**72.43**	**348**	P			**P**	**08 20 42.1**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=132,slow=5.0,SNR=5.1								
	comp=Z,1.8nm,0.4s								
C19K	**Lookout Ridge**	**85.72**	**21**	P			**P**	**08 21 55.8**	**+0.1**
C19K				IAmb			IAmb	08 22 19.6	
	comp=Z,1.8nm,0.9s								
D19K	**Kuna River**	**86.15**	**21**	P			**P**	**08 21 57.8**	**+0.1**
D19K				IAmb			IAmb	08 22 22.8	
	comp=Z,8.2nm,1.5s								

IDC ***08*** *08:13:40.7±1.4,3.°31S×131.°31E,h0km,mb4.1/7, mbtmp4.1/7,MS3.5/1,Error ellipse: s-maj=94.9km s-min=21.2km az=69.0*
DJA ***08*** *08:13:45.2±1.1,3.°S±3.°×131.°1E±.°,h20km±10km,M4.2/12, mb4.3/7,mB4.7/1,MLv4.2/12,Mw(mB)4.0/1*
ISC 08 08:13:42.6±0.7,**3.75S**±0.°06×**131.°42E**±0.°06,**h29**km,**n21,**
σ2**$27**/21,**mb4.2/6,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.17**	**45**	P			**Pn**	**08 14 05.7**	**+2.6**
BNDI	**Bandanaira**	**1.70**	**243**	P			**Pb**	**08 14 15.2**	**+2.0**
KMPI	**Kaimana, Papua**	**2.28**	**88**	P			**Pb**	**08 14 24.9**	**+1.8**
SIJI	**Sorong**	**2.87**	**357**	P			**Pn**	**08 14 23.3**	**-3.2**
SWI	**Sorong**	**2.87**	**357**	P			**Pn**	**08 14 24.2**	**-2.3**
SAUI	**Saumlaki**	**4.21**	**182**	P			**Pb**	**08 14 54.9**	**-1.1**
NLAI	**Namlea**	**4.34**	**277**	P			**Pn**	**08 14 47.4**	**+0.6**
LBMI	**Labuha**	**4.99**	**308**	P			**Pn**	**08 14 52.9**	**-2.8**
SANI	**Sanana**	**5.69**	**287**	P			**Pn**	**08 15 03.9**	**-1.3**
	21nm,0.8s,750nm0.2nm								
TNTI	**Ternate**	**6.05**	**318**	P			**Pn**	**08 15 07.1**	**-3.2**
	20nm,0.5s,0.2nm								
GTOI	**Gorontalo**	**9.47**	**297**	P			**Pn**	**08 15 57.4**	**+0.2**
	7.8nm,1.3s								
EDFI	**Ende, Flores**	**10.87**	**242**	P			**Pn**	**08 16 18.7**	**+2.2**
WRA	**Warramunga Arr**	**16.34**	**170**	Pn			**P**	**08 17 31.3**	**-1.5**
	0.3nm,0.3s,baz=354,slow=13,SNR=12								
WRA				Sn			**Sn**	**08 20 27.5**	**-3.3**
	0.8nm,0.3s,baz=357,slow=24,SNR=6.1								
ASAR	**Alice Springs**	**19.94**	**173**	P			**Pn**	**08 18 19.0**	**+4.7**
	4.6nm,0.6s,baz=353,slow=11,SNR=48								
ASAR				S			**S**	**08 21 54.1**	**-1.4**
	0.8nm,0.7s,baz=352,slow=20,SNR=3.3								
	4.6nm,0.6s								
LEM	**Lembang**	**23.90**	**262**	LR			LR	08 30 00.6	
	comp=Z,117nm,19.1s,baz=128,slow=41								
STKA	**Stephens Creek**	**29.57**	**162**	P			P	08 19 51.6	+6.6
	0.6nm,0.5s,baz=330,slow=8.1,SNR=1.3								
	0.6nm,0.5s								
CMAR	**Chiang Mai Arr**	**38.87**	**306**	P			**P**	**08 21 05.5**	**-0.2**
	1.1nm,0.3s,baz=130,slow=8.4,SNR=5.0								
	1.1nm,0.3s								
SONM	**Songino Array**	**55.86**	**340**	P			**P**	**08 23 17.8**	**+0.1**
	0.6nm,0.6s,baz=157,slow=7.7,SNR=3.4								
	0.6nm,0.6s								
MKAR	**Makanchi Array**	**66.34**	**325**	P			**P**	**08 24 28.0**	**-0.7**
	2.3nm,0.6s,baz=115,slow=7.6,SNR=25								
	2.3nm,0.6s								
KURBB	**Kurchatov Arra**	**70.53**	**327**	P			**P**	**08 24 54.7**	**0.0**
	3.5nm,0.7s,baz=129,slow=5.7,SNR=34								
	3.5nm,0.7s								
BVAR	**Borovoye Array**	**76.11**	**327**	P			**P**	**08 25 27.7**	**0.0**
	2.3nm,0.7s,baz=120,slow=8.5,SNR=11								
	2.3nm,0.7s								

IDC ***08*** *08:16:45.4±1.0,21.°86N×121.°83E,h0km,mb3.7/9, mbtmp3.8/11,ML3.2/2,MS3.2/10,Error ellipse: s-maj=26.4km s-min=21.0km az=75.0*
ASIES ***08*** *08:16:46.8,22.°05N×121.°62E,h17km,ML3.9,Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}5.50; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$-4.77; $M_{r\theta}$0.37; $M_{\theta\phi}$-3.02; $M_{\phi r}$-1.11; Fault plane solution: $M_0$6.10160×10^{21} NP1: ϕ_s198.44000°,δ49.69000°,λ76.89000°. NP2:ϕ_s38.23000°, δ42.04000°,λ104.96000°. Principal axes: T Plg79.3010°, Azm48.7330°; N Plg9.9550°, Azm207.0060°; P Plg3.8810°, Azm297.6880°;*
TAP ***08*** *08:16:46.8,22.°05N×121.°62E,h17km,ML3.9,D*
JMA ***08*** *08:16:47.3±0.1,22.°2N±0.°5×121.°7E±0.°3,h5km,MV4.2/14, TAIWAN REGION*
NIED ***08*** *08:16:47.3,22.°15N×121.°74E,h5km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.98; $M_{\theta\theta}$0.46; $M_{\phi\phi}$0.51; $M_{r\theta}$0.94; $M_{\theta\phi}$-0.35; $M_{\phi r}$-0.73; Fault plane solution: $M_0$1.50000×10^{15} NP1:*
ϕ_s*310.00000°,δ71.00000°,λ-94.00000°. NP2:*
ϕ_s*141.00000°,δ19.00000°,λ-79.00000°.*

ISC 08 08:16:47.6±0.8,**22.°12N**±0.°03×**121.°63E**±0.°03,**h9**km±6km,
n155,σ1**$05**/171,**mb3.6**/8,**MS3.1/7,2C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.11**	**222**	⇑*i*P			**Pg**	**08 16 50.1**	**-0.2**
	baz=256								
LAY				*i* S			**Sg**	**08 16 52.9**	**+0.8**
	baz=256								
LYUB	**Lan-yu**	**0.12**	**200**	⇑*i*P			**Pg**	**08 16 50.3**	**-0.2**
	baz=212								
LYUB				*i* S			**Sg**	**08 16 52.9**	**+0.4**
	baz=212								
LDUT	**Ludao**	**0.57**	**345**	P			**Pb**	**08 16 59.7**	**-0.1**
	baz=347								
LDUT				*e*S			**Sb**	**08 17 08.4**	**+0.4**
	baz=347								
TSEB	**Hengchuen, Pin**	**0.71**	**252**	*i* P			**Pb**	**08 17 01.5**	**-0.6**
	baz=258								
TSEB				S			**Sb**	**08 17 11.0**	**-1.0**
	baz=258								
TAW	**Tawu**	**0.72**	**289**	*e*P			**Pg**	**08 17 01.1**	**-0.4**
	baz=294								
TAWH	**Dawu Township**	**0.72**	**288**	*e*P			**Pg**	**08 17 00.8**	**-0.7**
	baz=293								
SMST	**Manzhou Townsh**	**0.74**	**263**	*e*P			**Pg**	**08 17 01.0**	**-0.9**
	baz=267								
SMST				*e*S			**Sg**	**08 17 11.3**	**-0.3**
	baz=267								
EAST	**Anshuo**	**0.77**	**290**	*e*P			**Pg**	**08 17 01.9**	**-0.6**
	baz=295								
TTN	**Taitung**	**0.77**	**325**	*e*P			**Pb**	**08 17 03.1**	**-0.1**
	baz=328								
SLIU	**Shizi**	**0.78**	**277**	*e*P			**Pg**	**08 17 01.6**	**-1.0**
	baz=282								
SLIU				*e*S			**Sb**	**08 17 12.8**	**-1.1**
	baz=282								
TWKBT	**Hengchun**	**0.78**	**257**	P			**Pg**	**08 17 01.3**	**-1.3**
	baz=261								
TWKBT				*e*S			**Sg**	**08 17 10.6**	**-2.1**
	baz=261								
ECL	**Taimali**	**0.79**	**307**	*e*P			**Pg**	**08 17 02.5**	**-0.2**
	baz=311								
HEN	**Hengchun**	**0.83**	**262**	*e*P			**Pg**	**08 17 03.2**	**-0.4**
	baz=266								
HEN				*e*S			**Sg**	**08 17 12.7**	**-1.9**
	baz=266								
TWGBT	**Beinan**	**0.86**	**324**	P			**Pb**	**08 17 05.1**	**+0.3**
TWGBT	**Beinan**	**0.86**	**324**	*e*P			**Pb**	**08 17 04.2**	**-0.5**
	baz=326								
TWG	**Pinlang**	**0.87**	**324**	*e*P			**Pg**	**08 17 03.9**	**-0.5**
	baz=325								
EDH	**Donghe**	**0.90**	**341**	*e*P			**Pg**	**08 17 04.2**	**-0.8**
	baz=342								
LONT	**Longtian**	**0.91**	**330**	*e*P			**Pb**	**08 17 05.3**	**-0.2**
	baz=332								
SCZT	**Fangliau**	**0.97**	**285**	*e*P			**Pg**	**08 17 05.1**	**-1.2**
	baz=289								
CHKT	**Chengkung**	**1.01**	**346**	*e*P			**Pg**	**08 17 06.4**	**-0.6**
	baz=347								
ECS	**Chishang**	**1.04**	**339**	*e*P			**Pg**	**08 17 07.1**	**-0.6**
	baz=340								
MASBT	**Mashibuluo**	**1.04**	**298**	*e*P			**Pg**	**08 17 06.1**	**-1.6**
	baz=301								
TSMG	**Majia**	**1.08**	**303**	*e*P			**Pg**	**08 17 07.5**	**-1.0**
	baz=305								
CHKH	**Chenggong**	**1.09**	**349**	*e*P			**Pg**	**08 17 07.7**	**-0.9**
	baz=349								
EHD	**Haiduan**	**1.10**	**339**	*e*P			**Pg**	**08 17 08.2**	**-0.5**
	baz=340								
SSD	**Sandimen**	**1.11**	**304**	*e*P			**Pg**	**08 17 07.6**	**-1.4**
	baz=307								
FULB	**Fuli**	**1.12**	**344**	*e*P			**Pg**	**08 17 07.8**	**-1.3**
	baz=345								
FULB				*e*S			**Sg**	**08 17 22.5**	**-1.2**
	baz=345								
TWP	**Hsiaoliuchiu**	**1.20**	**281**	*e*P			**Pn**	**08 17 11.2**	**+0.8**
	baz=284								
ECBN	**Changbin**	**1.20**	**352**	*e*P			**Pg**	**08 17 09.0**	**-1.8**
	baz=353								
ELDTW	**Lidau**	**1.21**	**332**	*e*P			**Pg**	**08 17 09.3**	**-1.5**
	baz=334								
EYUL	**Yuli**	**1.26**	**347**	*e*P			**Pg**	**08 17 09.1**	**-2.6**
	baz=347								
SLGT	**Liugui**	**1.26**	**314**	*e*P			**Pn**	**08 17 11.6**	**+0.2**
	baz=316								
TWF1	**Yuli**	**1.27**	**346**	*e*P			**Pg**	**08 17 10.7**	**-1.3**
	baz=347								
SCST	**Cishan**	**1.30**	**306**	*e*P			**Pn**	**08 17 12.8**	**+0.9**
	baz=308								
YULB	**Yu-li**	**1.30**	**347**	P			**Pg**	**08 17 11.9**	**-0.8**
YULB	**Yu-li**	**1.30**	**347**	*e*P			**Pg**	**08 17 11.4**	**-1.3**
	baz=347								

baz=339
WUSB Renai 1.92 346 *eP* **Pn 08 17 21.2 +0.5**
baz=346
WTK Tuku 1.94 324 *eP* **Pn 08 17 21.4 +0.7**
baz=325
TWD Chiawan 1.95 359 *eP* **Pn 08 17 19.9 -1.0**
baz=359
CHGB Renai 1.98 348 *eP* **Pn 08 17 21.5 0.0**
baz=348
WCS Beigang Elemen 2.04 341 *eP* **Pb 08 17 23.9 -0.9**
baz=341
WHF Hehuan Shan 2.04 351 *eP* **Pn 08 17 22.6 0.0**
baz=351
NACB Ninganchiao 2.05 359 *eP* **Pn 08 17 21.3 -0.9**
baz=359
ETLH Xiulin Townshi 2.08 356 *eP* **Pn 08 17 22.1 -0.7**
baz=356
EOS4 EOS4 2.09 18 *eP* **Pn 08 17 21.6 -0.9**
baz=17
WWF Wufeng 2.10 336 *eP* **Pn 08 17 24.4 +1.4**
baz=336
FUSS Fushou 2.15 351 *eP* **Pn 08 17 24.3 +0.4**
baz=351
TWT Tachien 2.17 349 *eP* **Pn 08 17 25.0 +0.9**
baz=349
TDCB Techi 2.17 349 *eP* **Pn 08 17 25.3 +1.2**
baz=349
WHP Taichung City 2.24 344 *eP* **Pb 08 17 27.2 -1.1**
baz=344
EOS3 EOS3 2.25 16 *eP* **Pn 08 17 24.1 -0.7**
baz=16
VCHM Qimei 2.30 299 *eP* **Pn 08 17 25.1 -0.7**
baz=299
VCHM *eS* **Sn 08 17 53.1 -1.1**
baz=299
NNSB Datong 2.31 354 *eP* **Pn 08 17 25.8 -0.2**
baz=354
EWUT Wuta 2.32 3 *eP* **Pn 08 17 25.1 -0.8**
baz=3.0
NNS Nan Shan 2.32 354 *eP* **Pn 08 17 26.7 +0.5**
baz=354
PHUB P'eng-hu 2.35 307 *eP* **Pn 08 17 25.1 -1.3**
baz=307
TWQ1 Liyutan 2.35 341 *eP* **Pb 08 17 28.8 -1.4**
baz=341
EOS2 EOS2 2.36 14 *eP* **Pn 08 17 27.1 +0.8**
baz=13
PNG Penghu 2.40 307 *eP* **Pn 08 17 26.4 -0.6**
baz=308
LATG Datong 2.41 358 *eP* **Pn 08 17 27.0 -0.3**
baz=358
NSY Sanyi 2.42 341 *eP* **Pn 08 17 29.5 +2.1**
baz=341
NDT Datong Townshi 2.48 358 *eP* **Pn 08 17 29.5 +1.4**
baz=357
TWC Suao 2.49 5 *eP* **Pn 08 17 27.9 -0.3**
baz=4.0
ENTT Nioudou 2.51 359 *eP* **Pn 08 17 28.9 +0.3**
baz=359
NFF Wufeng Townshi 2.55 349 *eP* **Pn 08 17 30.6 +1.5**
baz=349
YHNB Yeheng 2.55 355 P **Pn 08 17 31.4 +2.2**
YHNB Yeheng 2.55 355 *eP* **Pn 08 17 30.4 +1.2**
baz=355
NSK Sanguang 2.56 354 *eP* **Pn 08 17 29.3 -0.1**
baz=354
NSTT Nanjuang 2.57 347 *eP* **Pn 08 17 30.6 +1.2**
baz=347
LIOB Emei 2.58 348 *eP* **Pn 08 17 30.7 +1.1**
baz=347
TWE Neicheng 2.59 1 *eP* **Pn 08 17 30.0 +0.3**
baz=1.0
JYNG Yonagunijimaku 2.62 27 P **Pn 08 17 30.3 +0.2**
JYNG S **Sn 08 18 02.2 +0.2**
FUSB Fushanzhiwuyua 2.63 359 *eP* **Pn 08 17 30.2 -0.1**
baz=359
NWLT Wulai 2.65 358 *eP* **Pn 08 17 31.6 +1.0**
baz=357
YOJ Yonaguni jima 2.66 28 P **Pn 08 17 31.3 +0.7**
YOJ S **Sn 08 18 03.0 +0.1**
HATJ Hateruma jima 2.78 46 P **Pn 08 17 32.0 -0.3**
HATJ *eS* **Sn 08 18 05.3 -0.7**
TIPB Shuangxi 2.85 4 *eP* **Pn 08 17 33.8 +0.5**
baz=3.0
TWB1 Santiao Chiao 2.90 6 *eP* **Pn 08 17 34.5 +0.6**
baz=6.0
IRIF Iriomote-Funau 2.93 41 P **Pn 08 17 34.4 0.0**
IRIF S **Sn 08 18 09.7 0.0**
NWF Wu-fen Shan 2.94 3 *eP* **Pn 08 17 35.7 +1.1**
baz=2.0
WFSB Wu-fen Shan 2.94 3 *eP* **Pn 08 17 34.9 +0.4**
baz=2.0
SXI1 Grass Mountain 2.97 4 *eP* **Pn 08 17 35.4 +0.4**
baz=4.0
YM01 YM01 3.02 359 *eP* **Pn 08 17 36.5 +1.0**
baz=359
JKRS Kuro-shima 3.04 46 P **Pn 08 17 35.8 -0.1**
JKRS *eS* **Sn 08 18 11.9 -0.5**
YM08 YM08 3.06 359 *eP* **Pn 08 17 37.5 +1.4**
baz=359
JIJ Ishigaki jima 3.22 45 P **Pn 08 17 37.6 -0.7**
JIJ *eS* **Sn 08 18 15.9 -0.8**
JISG Ishigakijimahi 3.48 45 P **Pn 08 17 41.6 -0.3**
JISG *eS* **Sn 08 18 22.1 -1.1**
VWUC VWUC 3.49 325 *eP* **Pn 08 17 41.5 -0.5**
baz=325
VWUC *eS* **Sn 08 18 23.5 0.0**
baz=325
KNM Kinmen 3.72 309 *eP* **Pn 08 17 46.8 +1.5**
baz=307
JTJ Tarama 3.78 48 P **Pn 08 17 45.9 -0.2**
JTJ *eS* **Sn 08 18 30.1 -0.6**
KNMB Chin-men Tao 3.79 309 *eP* **Pn 08 17 45.8 -0.3**
baz=308
ZPLA Ao Xicun 4.00 298 *eP* **Pn 08 17 48.6 -0.5**
baz=297
DSXP Dongshan 4.18 293 *eP* **Pn 08 17 51.7 +0.1**
baz=293
MATB Ma-tsu 4.30 339 *eP* **Pn 08 17 54.7 +1.5**
baz=339
AXDP Jialang 4.35 310 *eP* **Pn 08 17 53.6 -0.3**
baz=310
MHZQ Yeshan 4.62 330 *eP* **Pn 08 17 57.7 +0.1**
baz=329
MHZQ *eS* **Sn 08 18 51.3 -0.1**
baz=329
LYJJ Jianjiangzhen 4.73 339 *eP* **Pn 08 18 00.1 +1.0**
baz=339
LYJJ *eS* **Sn 08 18 53.1 -1.0**
baz=339
VDOS Pratas Island 4.78 254 *eP* **Pn 08 17 57.9 -1.9**
baz=253
XPSS Dashiqiu 4.97 345 *eP* **Pn 08 18 03.0 +0.6**
baz=345
SXFK Yanhouchang 5.60 320 *eP* **Pn 08 18 10.7 -0.4**
baz=320
SXFK *eS* **Sn 08 19 12.9 -2.7**
baz=320
JOW Kunigami 7.66 51 Pn **Pn 08 18 37.7 -1.7**
0.8nm,0.3s,baz=129,slow=18,SNR=2.1
24nm,0.8s
TGY Tagaytay City 8.00 185 LR LR 08 22 11.1
comp=Z,125nm,20.8s,baz=108,slow=42
JNU Nakatsue 13.68 35 LR LR 08 25 27.2
comp=Z,78nm,19.4s,baz=234,slow=38
KSRS Korea Array 16.22 18 Pn **Pn 08 20 36.5 +0.7**
0.1nm,0.3s,baz=209,slow=14,SNR=4.9
KSRS LR LR 08 27 42.1
comp=Z,68nm,18.7s,baz=195,slow=40
2.2nm,0.9s
MJAR Matsushiro Arr 20.34 41 P **P 08 21 25.1 +0.8**
1.9nm,0.8s,baz=196,slow=11,SNR=4.3
MJAR LR LR 08 30 10.4
comp=Z,57nm,18.3s,baz=228,slow=39
1.9nm,0.8s
CMAR Chiang Mai Arr 21.58 264 P **P 08 21 39.2 +1.4**
0.8nm,0.3s,baz=74,slow=10,SNR=6.8
CMAR LR LR 08 31 36.3
comp=Z,37nm,19.0s,baz=100,slow=41
0.8nm,0.3s
ASAJ Asahikawa 27.95 33 LR LR 08 33 55.7
comp=Z,70nm,20.3s,baz=229,slow=37
KLR Kul'dur 28.22 14 LR LR 08 36 06.9
comp=Z,50nm,19.0s,baz=241,slow=41
SONM Songino Array 28.43 338 P **P 08 22 45.8 +3.2**
0.7nm,0.8s,baz=171,slow=10,SNR=1.7
0.7nm,0.8s
MKAR Makanchi Array 40.12 317 P **P 08 24 24.6 +0.9**
2.3nm,0.6s,baz=110,slow=8.3,SNR=20
2.3nm,0.6s
PALK Pallekele 42.09 256 LR LR 08 43 06.8
comp=Z,27nm,19.0s,baz=190,slow=38
ZALV Zalesovo Beam 42.20 328 P **P 08 24 41.4 +0.8**
0.5nm,0.4s,baz=124,slow=7.9,SNR=3.1
0.5nm,0.4s
WRA Warramunga Arr 43.61 163 P **P 08 24 49.3 -3.1**
0.5nm,0.6s,baz=342,slow=8.9,SNR=2.9
0.5nm,0.6s
AAK Ala-Archa 44.10 309 LR LR 08 46 01.6
comp=Z,46nm,20.9s,baz=30,slow=40
ASAR Alice Springs 47.05 165 P **P 08 25 16.0 -3.7**
0.1nm,0.3s,baz=342,slow=7.0,SNR=2.0
0.1nm,0.3s
ILAR Eielson Array 70.86 27 LR LR 09 01 52.7
comp=Z,37nm,18.1s,baz=115,slow=38
FINES FINESS Array B 73.43 330 P **P 08 28 22.4 +2.4**
3.5nm,0.8s,baz=55,slow=7.3,SNR=3.8
3.5nm,0.8s
AKASG Malin Array Be 74.68 319 P **P 08 28 28.2 +0.8**
0.3nm,0.4s,baz=60,slow=5.0,SNR=1.9
0.3nm,0.4s

*IDC **08** 08:19:35.8±6.9, 25°.85S×70°.21W, h0km, mb3.8/2, mbtmp3.8/2, MS2.4/1, Error ellipse: s-maj=303.4km s-min=48.5km az=23.0*
*SJA **08** 08:19:35.0±1.0, 26°.28S×70°.87W, h6km±8km, ML3.7, MW3.3*
*GUC **08** 08:19:40.0±0.4, 26°.38S×70°.54W, h35km±6km, ML3.7*
ISC 08 08:19:36.5±1.5, 26°.39S±0°.03×70°.76W±0°.08, h17km±10km, n26, σ1°.42/29, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.28**	**31**	*i* P	**Pn**		**08 19 46.3**	**+0.4**
AC01				*eS*	**Sn**		**08 19 51.1**	**-0.6**
AC01				IAML			08 19 51.7	
	comp=E,14μm,0.2s							
AC06	**Mina Casimiro**	**1.03**	**160**	*eP*	**Pn**		**08 19 57.5**	**+1.2**
AC06				*eS*	**Sn**		**08 20 10.7**	**+0.3**
AC06				IAML			08 20 13.6	
	comp=E,4μm,0.1s							
GO03	**Copiap**	**1.29**	**159**	⇓*iP*	**Pg**		**08 20 01.7**	**+0.3**
GO03				*eS*	**Sg**		**08 20 17.8**	**-0.6**
GO03				IAML			08 20 20.5	
	comp=E,3μm,0.4s							
GO02	**Mina Guanaco**	**1.61**	**41**	*i* P	**Pb**		**08 20 05.9**	**-0.2**
GO02				*eS*	**Sg**		**08 20 28.3**	**-0.3**
GO02	**Mina Guanaco**	**1.61**	**41**	⇓*iP*	**Pb**		**08 20 05.8**	**-0.2**
GO02				*eS*	**Sb**		**08 20 25.8**	**-0.4**
GO02				IAML			08 20 28.8	
	comp=E,2μm,0.6s							
PB14	**IPOC Station P**	**1.78**	**10**	*i* P	**Pb**		**08 20 08.7**	**-0.2**
PB14				*eS*	**Sb**		**08 20 31.9**	**+0.8**
PB14				IAML			08 20 35.0	
	comp=Z,797nm,0.6s							
PB14	**IPOC Station P**	**1.78**	**10**	*eP*	**Pn**		**08 20 07.6**	**+0.7**
PB14				IAML			08 20 34.1	
	comp=E,948nm,0.5s							
AC04	**Llanos de Chal**	**1.83**	**189**	*i* P	**Pn**		**08 20 08.1**	**+0.8**
AC04				*eS*	**Sg**		**08 20 36.9**	**+1.2**
AC04				IAML			08 20 47.3	
	comp=Z,411nm,0.3s							
AC04	**Llanos de Chal**	**1.83**	**189**	*eP*	**Pn**		**08 20 07.9**	**+0.6**
AC04				IAML			08 20 41.8	
	comp=E,698nm,0.1s							
LCO	**Las Campanas**	**2.62**	**179**	*eP*	**Pn**		**08 20 20.0**	**+1.7**
VCA	**Vinchina**	**3.26**	**136**	*i* P	**Pb**		**08 20 32.1**	**-2.0**
VCA				IAML			08 21 29.0	
	comp=Z,124nm,0.3s							
PB15	**IPOC Station P**	**3.37**	**21**	*i* P	**Pn**		**08 20 30.7**	**+2.0**
PB05	**IPOC Station P**	**3.55**	**8**	*i* P	**Pn**		**08 20 30.5**	**-0.6**
PB05				IAML			08 21 39.6	
	comp=Z,146nm,0.4s							
AGUA	**GUANDACOL**	**3.68**	**148**	*i* P	**Pb**		**08 20 38.1**	**-3.2**
AGUA				IAML			08 21 40.7	
	comp=Z,75nm,0.4s							
PB06	**IPOC Station P**	**3.82**	**17**	*i* P	**Pn**		**08 20 34.9**	**+0.1**
PB06				IAML			08 21 39.1	
	comp=Z,280nm,0.5s							
LVC	**Limon Verde**	**4.12**	**25**	*i* P	**Pn**		**08 20 40.5**	**+1.4**
LVC				IAML			08 21 52.3	
	comp=Z,218nm,0.9s							
LVC	**Limon Verde**	**4.12**	**25**	LR	LR		08 21 57.6	
	comp=Z,56nm,18.3s,baz=255,slow=41							
ACLC	**CERRO LA CRUZ**	**4.53**	**133**	*i* P	**Pn**		**08 20 48.6**	**+4.1**
ACLC				IAML			08 21 49.7	
	comp=Z,46nm,0.9s							
H03N1	**Juan Fernandez**	**9.97**	**223**	T	T		08 32 12.3	
	baz=50,slow=71,SNR=601							
H03N2	**Juan Fernandez**	**9.98**	**223**	T	T		08 32 05.3	
	baz=50,slow=71,SNR=95							
H03N3	**Juan Fernandez**	**9.99**	**223**	T	T		08 32 02.3	
	baz=50,slow=71,SNR=208							
TXAR	**Lajitas Array**	**63.76**	**328**	P	**P**		**08 30 08.4**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=161,slow=9.3,SNR=2.3							
	comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**80.59**	**70**	P	**P**		**08 31 47.1**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=255,slow=3.8,SNR=16							
	comp=Z,1.4nm,0.6s							
KURBB	**Kurchatov Arra**	**146.30**	**36**	PKPbc	**PKPdf**		**08 39 15.7**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=283,slow=3.1,SNR=2.2							
ZALV	**Zalesovo Beam**	**147.07**	**27**	PKPbc	**PKPbc**		**08 39 17.6**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=321,slow=2.8,SNR=6.9							
MKAR	**Makanchi Array**	**150.52**	**39**	PKPbc	**PKPbc**		**08 39 27.1**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=318,slow=2.1,SNR=9.9							

*IDC **08** 08:27:40.7±2.2, 34°.89N×139°.91E, h104km±11km, mb3.6/7, mbtmp3.9/11, MS3.5/2, Error ellipse: s-maj=47.6km s-min=6.2km az=71.0*
*JMA **08** 08:27:41.6±0.2, 34°.9N±0°.7×139°.7E±0°.8, h92km±1km, MV3.3/40, SAGAMINADA*
ISC 08 08:27:41.1±0.8, 34°.88N±0°.04×139°.74E±0°.06, h99km±6km, n29, σ0°.91/38, mb3.9/7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.20**	**39**	*i* P		**Pn**	**08 27 55.7**	**+0.5**
TATJ				S		**Sn**	**08 28 06.6**	**+0.9**
JIM2	**Oshima 3**	**0.30**	**237**	*i* P		**Pn**	**08 27 55.1**	**-0.6**
JIM2				S		**Sn**	**08 28 05.3**	**-1.2**
BSO3	**Boso 3**	**0.64**	**97**	*i* P		**Pn**	**08 27 58.4**	**+0.8**
JOD2	**Odawara 2**	**0.66**	**306**	*i* P		**Pn**	**08 27 58.0**	**-0.1**
JOD2				S		**Sn**	**08 28 10.6**	**-0.2**
JIZS	**Izushimoda**	**0.73**	**257**	*i* P		**Pn**	**08 27 58.7**	**0.0**
JIZS				S		**Sn**	**08 28 11.7**	**-0.2**
JMYK	**Miyake Tsubota**	**0.83**	**191**	P		**Pn**	**08 28 00.6**	**+0.8**
JMYK				S		**Sn**	**08 28 13.9**	**+0.2**
JFNN	**Fujinakano**	**0.92**	**290**	*i* P		**Pn**	**08 28 01.0**	**+0.4**
JFNN				*eS*		**Sn**	**08 28 15.5**	**+0.3**
JMKN	**Mikurajimanish**	**0.99**	**187**	P		**Pn**	**08 28 01.6**	**+0.2**
JMKN				S		**Sn**	**08 28 17.0**	**+0.3**
BSO1	**Boso 1**	**1.04**	**102**	*i* P		**Pn**	**08 28 02.2**	**+0.8**
JYN	**Shimob**	**1.16**	**302**	*i* P		**Pn**	**08 28 04.0**	**+0.7**
JYN				S		**Sn**	**08 28 21.7**	**+1.7**
SHZ3	**Shizuoka 3**	**1.27**	**279**	P		**Pn**	**08 28 05.3**	**+0.7**
JRY	**Ryogami san**	**1.32**	**329**	*i* P		**Pn**	**08 28 05.9**	**+0.7**
JRY				*eS*		**Sn**	**08 28 24.0**	**+0.5**
JAG	**Ashikaga**	**1.56**	**351**	P		**Pn**	**08 28 08.3**	**+0.2**
JHJ	**Hachijo jima 2**	**1.76**	**179**	P		**Pn**	**08 28 11.5**	**+0.9**
	803nm,0.3s,baz=66,slow=3.0,SNR=112							
JHJ				S		**Sn**	**08 28 33.3**	**+0.4**
	393nm,0.3s,baz=249,slow=22,SNR=17							
JHJ2	**Mitsune**	**1.77**	**178**	P		**Pn**	**08 28 11.3**	**+0.6**
JHJ2				S		**Sn**	**08 28 33.6**	**+0.5**
MJAR	**Matsushiro Arr**	**2.07**	**324**	P		**Pn**	**08 28 15.5**	**+0.9**
	49nm,0.8s,baz=163,slow=11,SNR=144							
MJAR				S		**Sn**	**08 28 41.6**	**+1.3**
	18nm,0.4s,baz=84,slow=38,SNR=5.6							
JNU	**Nakatsue**	**7.56**	**259**	P		**Pn**	**08 29 30.7**	**+2.0**
	6.4nm,0.8s,baz=269,slow=1.9,SNR=5.3							
JCJ	**Chichijima**	**8.04**	**164**	P		Pn	08 29 24.7	-10
	58nm,0.9s,baz=296,slow=20,SNR=2.1							
JCJ				S		Sn	08 30 48.6	-16
	74nm,1.1s,baz=323,slow=23,SNR=1.6							
KSRS	**Korea Array**	**9.89**	**288**	P		**Pn**	**08 30 02.9**	**+2.6**
	5.6nm,1.1s,baz=99,slow=14,SNR=7.1							
KLR	**Kul'dur**	**15.50**	**340**	P		**Pn**	**08 31 13.0**	**-1.1**
	0.4nm,0.4s,baz=172,slow=15,SNR=1.9							
SHEM	**Shemya Is, Ala**	**30.16**	**43**	LR		LR	08 44 56.4	

comp=Z,91nm,18.6s,baz=100,slow=34
ZALV Zalesovo Beam 42.40 314 P **P 08 35 25.5 -0.1**
0.8nm,0.4s,baz=104,slow=7.7,SNR=4.3
0.8nm,0.4s
MKAR Makanchi Array 44.15 304 P **P 08 35 39.4 -0.4**
0.9nm,0.6s,baz=93,slow=9.5,SNR=11
0.9nm,0.6s
KURBB Kurchatov Arra 46.29 309 P **P 08 35 56.0 -0.6**
0.5nm,0.4s,baz=85,slow=7.5,SNR=7.2
0.5nm,0.4s
BVAR Borovoye Array 51.04 313 P **P 08 36 32.9 -0.1**
1.0nm,0.6s,baz=108,slow=4.8,SNR=4.5
1.0nm,0.6s
WRA Warramunga Arr 54.76 186 P **P 08 37 00.1 -0.5**
1.7nm,0.5s,baz=23,slow=7.2,SNR=33
1.7nm,0.5s
ASAR Alice Springs 58.49 186 P **P 08 37 26.0 -1.0**
0.7nm,0.7s,baz=17,slow=13,SNR=13
0.7nm,0.7s
FINES FINESS Array B 70.08 332 P **P 08 38 41.5 -0.6**
4.7nm,1.0s,baz=72,slow=8.9,SNR=1.9
4.7nm,1.0s
EIL Eilat 84.39 302 LR LR 09 20 23.9
comp=Z,25nm,19.1s,baz=246,slow=37

*DJA **08** 08:29:47.4±1.2, 8°.S±6°.×10°.8E±°, h21km±11km, **M4.0**/11, **mb4.6**/1, **MLv3.7**/11, **Jawa***

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.67**	**1**	P		Pb	08 30 01.0	+0.5
KPJI	**Karang Pucung**	**1.22**	**24**	P		Pn	08 30 09.4	+0.2
BBJI	**Bungbulang**	**1.26**	**322**	P		Pn	08 30 09.8	-0.1
CNJI	**Cibinong**	**1.73**	**311**	P		Pn	08 30 16.3	0.0
YOGI	**Yogyakarta**	**1.94**	**71**	P		Pn	08 30 18.9	-0.3
UGM	**Wanagama**	**2.13**	**75**	P		Pn	08 30 21.5	-0.3
SKJI	**Sukabumi**	**2.36**	**308**	P		Pn	08 30 25.0	+0.1
SMRI	**Semarang**	**2.43**	**55**	P		Pn	08 30 26.6	+0.7
UWJI	**Ujung Watu**	**3.21**	**51**	P		Pn	08 30 36.1	-0.5
SJI	**Sawahan**	**3.37**	**78**	P		Pn	08 30 39.1	+0.2
EGSI	**Enggano, Bengk**	**6.85**	**296**	P		Pn	08 31 26.7	0.0

IDC 08 08:55:18.9±2.6, 54°.27N×86°.10E, h0km, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=18.8km s-min=11.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**247**	I	I		08 59 50.0	
	baz=66,slow=339,SNR=19							
ZALV	**Zalesovo Beam**	**0.82**	**247**	Pg	Pg		08 55 33.2	-1.4
	1.4nm,0.3s,baz=65,slow=17,SNR=14							
ZALV				Lg	Lg		08 55 45.8	
	6.9nm,0.3s,baz=67,slow=29,SNR=6.5							
KURBB	**Kurchatov Arra**	**5.90**	**235**	Pn	Pn		08 56 48.7	+1.3
	0.1nm,0.3s,baz=52,slow=13,SNR=6.6							
KURBB				Sn	Sn		08 57 57.7	+2.1
	baz=115,slow=15							
KURBB				Lg	Lg		08 58 26.6	
	baz=178,slow=36,SNR=1.3							
	0.6nm,0.4s							
MKAR	**Makanchi Array**	**7.87**	**199**	Pn	Pn		08 57 15.1	+0.6
	0.3nm,0.3s,baz=23,slow=12,SNR=6.7							
MKAR				Lg	Lg		08 59 25.9	
	baz=18,slow=34							
	0.4nm,0.3s							

*IDC **08** 09:13:22.2±2.3, 8°.86N×126°.13E, h112km±24km, mb3.5/7, mbtmp3.6/7, Error ellipse: s-maj=46.0km s-min=18.1km az=82.0*
ISC 08 09:13:20.5±1.2, 8°.9N±0°.1×126°.3E±0°.3, h100km, n8, σ0°.84/7, mb3.6/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.98**	**201**	P		**Pn**	**09 13 51.8**	**-1.0**
	93nm,0.3s,baz=67,slow=3.2,SNR=2.0							
DAV				S		**Sn**	**09 14 18.3**	**+0.9**
	111nm,0.3s,baz=345,slow=20,SNR=1.9							
WRA	**Warramunga Arr**	**29.76**	**165**	P		**P**	**09 19 18.3**	**+0.6**
	0.4nm,0.5s,baz=344,slow=9.8,SNR=2.0							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**33.23**	**167**	P		**P**	**09 19 48.4**	**+0.2**
	0.2nm,0.4s,baz=349,slow=7.0,SNR=12							
ASAR				PcP		**PcP**	**09 22 28.3**	**-0.4**
	0.6nm,1.1s,baz=340,slow=3.1,SNR=2.7							
	0.2nm,0.4s							
USRK	**Ussuriysk Ar.**	**35.49**	**7**	P		P	09 20 07.8	+0.5
	2.2nm,0.6s,baz=174,slow=7.1,SNR=5.2							
	2.2nm,0.6s							
PETK	**Petropavlovsk-**	**50.85**	**24**	P		P	09 22 13.6	+2.7
	3.0nm,1.0s,baz=201,slow=7.7,SNR=1.3							
	3.0nm,1.0s							
MKAR	**Makanchi Array**	**53.11**	**323**	P		**P**	**09 22 28.4**	**+0.6**
	0.4nm,0.6s,baz=111,slow=7.1,SNR=5.3							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**80.63**	**26**	P		P	09 25 23.3	+1.4
	0.2nm,0.6s,baz=246,slow=4.8,SNR=4.1							
	0.2nm,0.6s							
FINES	**FINESS Array B**	**87.08**	**332**	P		**P**	**09 25 54.4**	**-0.4**
	3.6nm,0.9s,baz=35,slow=5.1,SNR=4.1							
	3.6nm,0.9s							

*NNC **08** 09:22:19.3±0.6, 51°.71N×75°.37E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=11.2km s-min=3.8km az=22.0, Suspected Mining explosion.*
*IDC **08** 09:22:22.2±1.4, 51°.48N×75°.45E, h0km, mbtmp2.7/3, ML1.7/3, Error ellipse: s-maj=29.0km s-min=11.2km az=26.0*
ISC 08 09:22:23.7±1.3, 51°.8N±0°.1×75°.86E±0°.07, h0km, n11, σ1°.98/9, 6C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.04**	**121**	⇑Pg		**Pn**	**09 23 00.0**	**+0.7**
	4.2nm,0.7s							
KURK				⇓Lg		Lg	09 23 31.8	
	10nm,0.7s							
KURBB	**Kurchatov Arra**	**2.05**	**124**	⇑Pg		**Pb**	**09 23 01.3**	**-0.5**
	5.8nm,0.7s							
KURBB				⇓Lg		Lg	09 23 32.3	
	40nm,0.7s							
KURBB	**Kurchatov Arra**	**2.05**	**124**	Pg		**Pn**	**09 22 59.5**	**+0.1**
	0.2nm,0.3s,baz=304,slow=18,SNR=38							
KURBB				Lg		Lg	09 23 31.9	
	0.3nm,0.3s,baz=230,slow=46,SNR=4.8							
BVA0	**Borovoye Array**	**3.57**	**292**	⇑Pg		**Pn**	**09 23 20.5**	**+0.2**
	1.7nm,0.6s,baz=113,slow=16,SNR=7.4							
BVA0				⇓Lg		Lg	09 24 06.1	
	7.4nm,1.1s,baz=106,slow=24,SNR=5.7							
BVAR	**Borovoye Array**	**3.57**	**292**	Pn		**Pn**	**09 23 17.5**	**-2.9**
	baz=229,slow=39,SNR=3.6							
BVAR				Lg		Lg	09 24 04.4	
	0.1nm,0.3s,baz=120,slow=24,SNR=3.3							
	1.7nm,0.6s							
BRVK	**Borovoye**	**3.64**	**293**	⇑Pg		**Pn**	**09 23 20.7**	**-0.6**
	3.5nm,0.8s							
BRVK				⇑Lg		Lg	09 24 06.2	
	9.6nm,1.1s							
OTUK	**Ortayu**	**4.22**	**214**	⇓Pg		**Pn**	**09 23 31.7**	**+2.4**
	2.7nm,0.9s							
OTUK				⇑Lg		Lg	09 24 26.5	
	6.2nm,0.9s							
I46RU	**ZALESOVO INFRA**	**5.84**	**65**	I		I	09 59 20.0	
	baz=252,slow=326,SNR=12							
ZALV	**Zalesovo Beam**	**5.84**	**65**	Pn		**Pn**	**09 23 53.9**	**+2.4**
	0.1nm,0.3s,baz=255,slow=15,SNR=6.0							
ZALV				Lg		Lg	09 25 43.3	
	0.1nm,0.3s,baz=163,slow=32,SNR=2.6							
	1.2nm,0.7s							
MK31	**Makanchi Array**	**6.54**	**137**	⇓Lg		Lg	09 25 49.7	
	1.7nm,0.7s,baz=322,slow=26,SNR=3.6							
MKAR	**Makanchi Array**	**6.54**	**137**	Pn		**Pn**	**09 23 59.4**	**-1.7**
	baz=312,slow=11,SNR=4.2							
MKAR				Lg		Lg	09 25 50.6	
	0.1nm,0.3s,baz=316,slow=24,SNR=7.2							
	0.4nm,0.6s							

*IDC **08** 09:22:59.5±5.9, 3°.14S×132°.18E, h0km, mb3.4/2, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=389.3km s-min=29.0km az=74.0*
*DJA **08** 09:23:06.6±0.6, 3°.S±6°.×13°.1E±°, h49km±13km, M3.4/6,*

MLv3.4/6

ISC 08 09:23:05.7±1.0,3°56'S±0°08×131°23E±0°08,h35km,n7,
σ3°27/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.20**	**58**	P	**Pn**	**09 23 26.6**	**+0.5**
FAKI				S	**Sn**	**09 23 43.3**	**+2.2**
BNDI	**Bandanaira**	**1.63**	**234**	P	**Pn**	**09 23 33.5**	**+1.5**
BNDI				S	**Sn**	**09 23 52.2**	**+0.4**
SIJI	**Sorong**	**2.67**	**1**	P	**Pn**	**09 23 45.3**	**-1.1**
SWI	**Sorong**	**2.68**	**1**	P	**Pn**	**09 23 45.3**	**-1.1**
WRA	**Warramunga Arr**	**16.56**	**170**	Pn	**Pn**	**09 26 55.1**	**-0.3**
	0.1nm,0.3s,baz=353,slow=13,SNR=2.3						
WRA				Sn	Sn	09 29 47.5	-11
	0.1nm,0.3s,baz=354,slow=24,SNR=2.9						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**20.15**	**173**	P	**P**	**09 27 39.8**	**+2.6**
	0.5nm,0.3s,baz=351,slow=10,SNR=16						
ASAR				S	**S**	**09 31 14.1**	**-7.6**
	0.3nm,0.8s,baz=356,slow=27,SNR=1.8						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**66.07**	**325**	P	**P**	**09 33 49.6**	**+0.4**
	0.4nm,0.5s,baz=116,slow=7.9,SNR=6.5						
	0.4nm,0.5s						

*IDC **08** 09:26:50.5±0.9,8°08N×127°11E,h0km,mb3.9/6, mbtmp3.9/6,MS3.1/2,Error ellipse: s-maj=27.8km s-min=18.3km az=97.0*

ISC 08 09:26:56.8±0.9,8°1N±0°1×127°1E±0°1,h46km,n9,
σ1°31/10,mb3.8/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.81**	**237**	**Pn**	**Pn**	**09 27 24.2**	**-1.4**
	65nm,0.3s,baz=70,slow=3.4,SNR=8.9						
DAV				Sn	**Sn**	**09 27 49.6**	**+2.2**
	124nm,0.3s,baz=102,slow=20,SNR=16						
DAV				LR	LR	09 28 00.9	
	comp=Z,237nm,20.5s,baz=342,slow=39						
WRA	**Warramunga Arr**	**28.72**	**166**	P	**P**	**09 32 50.5**	**+0.5**
	0.5nm,0.9s,baz=348,slow=10,SNR=1.7						
	0.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.25**	**294**	LR	LR	09 44 53.0	
	comp=Z,12nm,18.4s,baz=0.0,slow=37						
ASAR	**Alice Springs**	**32.23**	**168**	P	**P**	**09 33 20.4**	**-0.6**
	0.3nm,0.3s,baz=342,slow=7.1,SNR=16						
ASAR				PcP	**PcP**	**09 36 09.1**	**+0.2**
	0.2nm,0.8s,baz=340,slow=1.9,SNR=1.9						
	0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**36.25**	**6**	P	**P**	**09 33 56.4**	**+0.9**
	5.8nm,0.7s,baz=177,slow=9.2,SNR=7.8						
	5.8nm,0.7s						
MKAR	**Makanchi Array**	**54.28**	**323**	P	**P**	**09 36 17.7**	**-0.7**
	1.1nm,0.7s,baz=128,slow=7.8,SNR=6.3						
MKAR				LR	LR	10 00 39.7	
	comp=Z,56nm,18.9s,baz=358,slow=37						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**58.35**	**326**	P	**P**	**09 36 46.4**	**-0.9**
	0.8nm,0.3s,baz=124,slow=7.0,SNR=4.9						
	0.8nm,0.3s						
ILAR	**Eielson Array**	**81.06**	**26**	P	**P**	**09 39 07.8**	**+1.0**
	0.3nm,0.6s,baz=248,slow=4.6,SNR=6.3						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**121.84**	**291**	PKP	**PKPdf**	**09 45 45.8**	**-1.2**
	0.5nm,0.7s,baz=66,slow=3.5,SNR=2.7						

*IDC **08** 09:30:20.8±1.0,39°95N×53°06E,h0km,mb3.8/13, mbtmp3.9/21,ML3.6/7,Error ellipse: s-maj=19.6km s-min=8.9km az=172.0*

*MOS **08** 09:30:20.5±1.4,40°23N×53°28E,h10km,mb4.1/5,Error ellipse: s-maj=6.4km s-min=5.0km az=28.6*

*TEH **08** 09:30:21.1,40°06N×53°16E,h10km,ML4.2*

*NNC **08** 09:30:24.7±1.3,40°33N×53°74E,h0km,mb3.9,Error ellipse: s-maj=13.9km s-min=5.7km az=72.0*

ISC 08 09:30:22.4±0.5,40°21N±0°05×53°33E±0°04,h10km,n139,
σ1°90/157,mb3.8/15,33C-10D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOBA	**Gobu**	**2.76**	**275**	Pn	**Pn**	**09 31 06.1**	**-0.6**
ALIB	**Äli-Bayra**	**3.33**	**267**	Pn	**Pn**	**09 31 15.4**	**+0.9**
MRVT	**Maraveh tapeh**	**3.33**	**139**	Pn	**Pn**	**09 31 15.1**	**+0.5**
IMND	**Minoodasht**	**3.36**	**150**	Pn	**Pn**	**09 31 15.2**	**+0.2**
GBS	**Qobustan**	**3.37**	**277**	Pn	**Pn**	**09 31 17.1**	**+2.0**
PQL	**Pirkuli**	**3.66**	**281**	Pn	**Pn**	**09 31 20.5**	**+1.3**
IGLO	**Ghaloghah**	**3.72**	**174**	Pn	**Pn**	**09 31 18.6**	**-1.5**
LKRN	**Lenkeran, Azer**	**3.83**	**248**	P	**Pn**	**09 31 20.2**	**-1.2**
ASTR	**Astara**	**3.88**	**246**	Pn	**Pn**	**09 31 20.5**	**-1.6**
GAS1	**Astara - Iran**	**3.93**	**244**	Pn	**Pn**	**09 31 20.4**	**-2.3**
MZPU	**Pul - Mazandar**	**4.01**	**201**	Pn	**Pn**	**09 31 21.7**	**-2.4**
IPRN	**Peran**	**4.04**	**191**	Pn	**Pn**	**09 31 22.0**	**-2.4**
IALA	**Alasht**	**4.14**	**186**	Pn	**Pn**	**09 31 24.1**	**-1.9**
GEYT	**Alibeck**	**4.36**	**120**	Pn	**Pn**	**09 31 29.6**	**+0.8**
	7.0nm,0.3s,baz=289,slow=16,SNR=20						
GEYT				Sn	**Sn**	**09 32 21.4**	**+1.7**
	13nm,0.3s,baz=298,slow=13,SNR=4.5						
GEYT				Lg	Lg	09 32 40.3	
	25nm,0.3s,baz=29,slow=46,SNR=5.1						
	16nm,0.5s						
GYA0	**ALIBECK ARRAY**	**4.36**	**120**	P	**Pn**	**09 31 29.1**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**4.36**	**120**	⇑Pn	**Pn**	**09 31 29.2**	**+0.4**
GYA0B				⇑Lg	Lg	09 32 37.2	
GRMI	**Germi**	**4.43**	**253**	Pn	**Pn**	**09 31 28.3**	**-1.5**
JIR1	**Jirandeh**	**4.46**	**220**	Pn	**Pn**	**09 31 28.0**	**-2.2**
IFIR	**Firoozkooh**	**4.58**	**186**	Pn	**Pn**	**09 31 31.0**	**-0.9**
IDMV	**Damavand**	**4.74**	**193**	Pn	**Pn**	**09 31 32.8**	**-1.3**
IANJ	**Anjilo**	**4.75**	**174**	Pn	**Pn**	**09 31 34.0**	**-0.3**
SEKA	**Sheki**	**4.77**	**284**	P	**Pn**	**09 31 34.3**	**-0.1**
ISFR	**Sfrayin**	**4.82**	**129**	Pn	**Pn**	**09 31 36.3**	**+0.9**
ILAS	**Lasjerd**	**4.83**	**184**	Pn	**Pn**	**09 31 34.8**	**-0.5**
IMHD	**Mahdasht**	**4.98**	**206**	Pn	**Pn**	**09 31 36.4**	**-0.9**
IEMG	**Emamgholi**	**5.00**	**122**	Pn	**Pn**	**09 31 38.2**	**+0.4**
ISRB	**Sarab**	**5.01**	**243**	Pn	**Pn**	**09 31 36.0**	**-1.8**
IHSB	**Hasanabad**	**5.03**	**200**	Pn	**Pn**	**09 31 37.6**	**-0.5**
SBZV	**Sabzevar**	**5.08**	**137**	Pn	**Pn**	**09 31 39.8**	**+0.9**
MAK	**Makhachkala**	**5.16**	**304**	*eP*	**Pn**	**09 31 39.9**	**+0.2**
MAK				*eS*	**Sn**	**09 32 41.5**	**+2.2**
MAK				pmax	pmax		
	comp=Z,58nm,0.7s						
MAK				MLR	MLR		
	comp=Z,129nm,16.0s						
IHRS	**Heris**	**5.23**	**251**	Pn	**Pn**	**09 31 40.1**	**-0.8**
IVRN	**Varamin**	**5.36**	**194**	Pn	**Pn**	**09 31 41.8**	**-0.7**
VSHL	**Vashlovani**	**5.37**	**283**	P	**Pn**	**09 31 43.3**	**+0.7**
VSHL				S	**Sn**	**09 32 46.5**	**+2.1**
GANJ	**Ganja**	**5.37**	**277**	P	**Pn**	**09 31 41.3**	**-1.3**
IRAZ	**Razeghan**	**5.50**	**210**	Pn	**Pn**	**09 31 42.7**	**-1.8**
IHSH	**Hashtrud**	**5.56**	**241**	Pn	**Pn**	**09 31 43.5**	**-2.0**
IAKL	**Akhelmad**	**5.58**	**128**	Pn	**Pn**	**09 31 46.7**	**+1.0**
LGD	**Lagodekhi**	**5.60**	**289**	P	**Pn**	**09 31 47.8**	**+2.0**
LGD				S	**Sn**	**09 32 51.9**	**+1.7**
LGD	**Lagodekhi**	**5.60**	**289**	*eP*	**Pn**	**09 31 47.7**	**+2.0**
LGD				*eS*	**Sn**	**09 32 51.9**	**+1.7**
IQOM	**Qom**	**5.65**	**199**	Pn	**Pn**	**09 31 45.7**	**-1.0**
ISFB	**Sefidab**	**5.91**	**189**	Pn	**Pn**	**09 31 49.1**	**-0.5**
IKRD	**Kardeh**	**5.94**	**123**	Pn	**Pn**	**09 31 52.1**	**+1.5**
IMRD	**Marand**	**6.09**	**258**	Pn	**Pn**	**09 31 52.0**	**-0.6**
IMOG	**Moghan**	**6.26**	**129**	Pn	**Pn**	**09 31 55.7**	**+0.7**
IAZR	**Azarshahr**	**6.26**	**249**	Pn	**Pn**	**09 31 53.6**	**-1.5**
ISHB	**Shabestar**	**6.29**	**255**	Pn	**Pn**	**09 31 54.4**	**-1.0**
KRSH	**Karshahi**	**6.30**	**189**	Pn	**Pn**	**09 31 55.0**	**-0.5**
IMYA	**Miami**	**6.58**	**124**	Pn	**Pn**	**09 32 01.1**	**+1.8**
GNI	**Garni**	**6.58**	**272**	*ce*	**Pn**	**09 32 00.1**	**+0.7**
GNI				pmax	pmax		
	comp=Z,16nm,0.7s						
GNI	**Garni**	**6.58**	**272**	Pn	**Pn**	**09 32 00.0**	**+0.7**
	comp=Z,3.3nm,0.3s,baz=119,slow=4.4,SNR=8.4						
GNI				Sn	**Sn**	**09 33 17.3**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=116,slow=20,SNR=1.3						
	comp=Z,10nm,0.4s						
QAMS	**Qamsar**	**6.64**	**194**	Pn	**Pn**	**09 32 00.1**	**-0.2**
CHRG	**Chargali**	**6.68**	**291**	P	**Pn**	**09 32 01.1**	**+0.4**
CHRG				S	**Sn**	**09 33 14.8**	**-2.1**
MAKU	**Maku**	**6.72**	**265**	Pn	**Pn**	**09 32 00.4**	**-0.9**
IKLH	**Kolahrood**	**7.02**	**192**	Pn	**Pn**	**09 32 04.9**	**-0.6**
DMNI	**Dmanisi**	**7.03**	**282**	P	**Pn**	**09 32 05.2**	**-0.2**
DMNI				S	**Sn**	**09 33 22.7**	**-2.9**
DMNI	**Dmanisi**	**7.03**	**282**	*eP*	**Pn**	**09 32 05.2**	**-0.2**
DMNI				*eS*	**Sn**	**09 33 22.6**	**-2.9**
TKDS	**Koohdasht(Taba**	**7.25**	**154**	Pn	**Pn**	**09 32 08.8**	**+0.3**
IZEF	**Zefreh**	**7.34**	**187**	Pn	**Pn**	**09 32 08.4**	**-1.5**
ZEI	**Tsey**	**7.53**	**293**	*eP*	**Pn**	**09 32 13.3**	**+0.8**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ALIG	**Mtskhetisjvari**	**7.55**	**288**	P	**Pn**	**09 32 12.4**	**-0.2**
ALIG	**Mtskhetisjvari**	**7.55**	**288**	*eP*	**Pn**	**09 32 12.3**	**-0.2**
KBZ	**Khabaz**	**8.53**	**298**	Pn	**Pn**	**09 32 24.0**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=98,slow=6.0,SNR=17						
KBZ				Sn	**Sn**	**09 34 01.6**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=165,slow=24,SNR=2.1						
	comp=Z,1.8nm,0.3s						
SHRT	**Shahrakht**	**8.60**	**137**	Pn	**Pn**	**09 32 27.2**	**+0.3**
KIV	**Kislovodsk**	**8.76**	**299**	*eP*	**Pn**	**09 32 28.6**	**-0.5**
KIV				*eS*	**Sn**	**09 34 08.5**	**+0.6**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AB31	**Akbulak array**	**10.19**	**25**	⇑Pn	**Pn**	**09 32 49.5**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=57,slow=2.9,SNR=63						
AB31				⇑Sn	**Sn**	**09 34 42.2**	**-0.7**
	comp=Z,4.7nm,0.5s,baz=222,slow=15,SNR=4.8						
AB31	**Akbulak array**	**10.19**	**25**	P	**Pn**	**09 32 49.7**	**+1.0**
AB31				S	**Sn**	**09 34 42.2**	**-0.7**
SOC	**Sochi**	**10.70**	**293**	*eP*	**Pn**	**09 32 53.6**	**-2.0**
SOC				*e*		09 34 54.3	
SOC				MLR	MLR		
	comp=Z,69nm,12.0s						
AKTO	**Aktyubinsk**	**10.74**	**16**	⇑Pn	**Pn**	**09 32 57.0**	**+0.8**
	comp=Z,4.0nm,0.6s						
AKTO				⇑Sn	**Sn**	**09 34 55.6**	**-0.8**
	comp=Z,5.2nm,0.5s						
AKTO	**Aktyubinsk**	**10.74**	**16**	P	**Pn**	**09 32 57.0**	**+0.8**
AKTO				S	**Sn**	**09 34 51.1**	**-5.4**
AKTO	**Aktyubinsk**	**10.74**	**16**	Pn	**Pn**	**09 32 58.0**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=199,slow=12,SNR=24						
AKTO				Sn	**Sn**	**09 34 49.6**	**-6.8**
	comp=Z,3.2nm,0.3s,baz=108,slow=23,SNR=7.1						
	comp=Z,3.7nm,0.3s						
BELG	**Belogornoye**	**12.81**	**344**	⇑*eP*	**Pn**	**09 33 23.0**	**-1.3**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BELG	**Belogornoye**	**12.81**	**344**	Pn	**Pn**	**09 33 22.8**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=180,slow=13,SNR=4.1						
BELG				Sn	**Sn**	**09 35 40.1**	**-6.7**
	comp=Z,1.9nm,0.3s,baz=87,slow=24,SNR=2.0						
KK31	**Karatay Array**	**13.17**	**72**	⇑Pn	**Pn**	**09 33 29.1**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=267,slow=15,SNR=31						
KK31				⇑Sn	**Sn**	**09 35 52.8**	**-3.1**
	comp=Z,2.8nm,0.6s,baz=263,slow=26,SNR=4.2						
KK31	**Karatay Array**	**13.17**	**72**	P	**Pn**	**09 33 30.5**	**+1.1**
KKAR	**Karatay Array**	**13.17**	**72**	*eP*	**Pn**	**09 33 28.3**	**-1.1**
TRKS	**Terek-Say**	**13.54**	**79**	P	**Pn**	**09 33 33.1**	**-1.6**
ARK	**Arkit**	**14.16**	**78**	P	**Pn**	**09 33 41.9**	**-1.2**
OHH	**Osh**	**14.84**	**82**	*eP*	**Pn**	**09 33 51.4**	**-0.9**
BR131	**Keskin Array S**	**15.11**	**275**	*ce*	**Pn**	**09 33 55.6**	**-0.4**
BRTR	**Keskin Array B**	**15.11**	**275**	Pn	**Pn**	**09 33 56.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=98,slow=12,SNR=5.8						
	comp=Z,1.4nm,0.9s						
AML	**Almayashu**	**15.46**	**76**	⇓Pn	**Pn**	**09 34 01.3**	**+0.5**
	comp=Z,0.2nm,0.6s						
AML				⇑Sn	**Sn**	**09 36 49.7**	**-2.5**
	comp=Z,0.6nm,0.7s						
AML	**Almayashu**	**15.46**	**76**	P	**Pn**	**09 34 01.2**	**+0.5**
LPSR	**Galich'ya Gora**	**15.85**	**326**	*eP*	**Pn**	**09 34 01.9**	**-3.5**
LPSR				pmax	pmax		
	comp=Z,50nm,0.8s						
AAK	**Ala-Archa**	**16.06**	**74**	⇑*eP*	**Pn**	**09 34 07.3**	**-1.0**
AAK	**Ala-Archa**	**16.06**	**74**	Pn	**Pn**	**09 34 09.9**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=222,slow=18,SNR=3.1						
ARU	**Arti**	**16.59**	**10**	P	**Pn**	**09 34 16.3**	**+1.4**
ARU				S	**Sn**	**09 37 24.8**	**+5.8**
ARU	**Arti**	**16.59**	**10**	Pn	**Pn**	**09 34 14.2**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=208,slow=12,SNR=4.6						
ARU				Sn	Sn	09 37 04.0	-15
	comp=Z,0.5nm,0.3s,baz=93,slow=23,SNR=1.4						
	comp=Z,2.9nm,0.3s						
BOOM	**Boomskoye usch**	**17.12**	**75**	P	**Pn**	**09 34 23.1**	**+1.2**
BRVK	**Borovoye**	**17.28**	**36**	⇑*eP*	**Pn**	**09 34 23.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**17.31**	**37**	P	**P**	**09 34 26.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=219,slow=18,SNR=8.1						
BVAR				S	**Sn**	**09 37 29.3**	**-7.2**
	comp=Z,1.1nm,0.4s,baz=272,slow=40,SNR=4.3						
	comp=Z,1.1nm,0.4s						
KSH	**Kashi**	**17.39**	**85**	P	**Pn**	**09 34 26.7**	**+1.4**
KSH				S	**Sn**	**09 37 30.5**	**-8.4**
KIRV	**Kirov**	**18.57**	**354**	*i* P	**Pn**	**09 34 40.7**	**+1.4**
TPGR	**Topolog**	**18.91**	**292**	⇓P	**P**	**09 34 43.7**	**+0.5**
SORM	**Soroca**	**19.53**	**302**	⇓P	**P**	**09 34 48.4**	**-1.4**
SORM	**Soroca**	**19.53**	**302**	⇓P	**P**	**09 34 48.4**	**-1.4**
AKASG	**Malin Array Be**	**19.82**	**310**	P	**P**	**09 34 52.4**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=92,slow=9.4,SNR=19						
AKBB	**Malin Array Si**	**19.82**	**310**	*i* P	**P**	**09 34 52.2**	**-0.7**
KIEV	**Kiev**	**19.82**	**310**	⇑P	**P**	**09 34 53.4**	**+0.4**
KIEV	**Kiev**	**19.82**	**310**	⇑P	**P**	**09 34 53.4**	**+0.4**
VRI	**Vrincioaia**	**20.20**	**295**	⇑P	**P**	**09 34 58.6**	**+1.3**
VRI	**Vrincioaia**	**20.20**	**295**	⇑P	**P**	**09 34 58.6**	**+1.3**
PLOR	**Plostina**	**20.26**	**295**	⇑P	**P**	**09 34 59.2**	**+1.3**
PLOR	**Plostina**	**20.26**	**295**	⇑P	**P**	**09 34 59.2**	**+1.3**
KURBB	**Kurchatov Arra**	**20.43**	**51**	P	Pn	09 35 03.2	+1.5
	comp=Z,2.3nm,0.2s,baz=248,slow=13,SNR=3.2						
	comp=Z,2.3nm,0.2s						
KURK	**Kurchatov**	**20.52**	**51**	⇑*eP*	**P**	**09 35 00.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ELND	**Elena**	**20.69**	**287**	⇓P	Pn	09 35 06.3	+1.5
MLR	**Muntele Rosu**	**20.71**	**294**	⇑P	Pn	09 35 04.9	-0.3
MLR	**Muntele Rosu**	**20.71**	**294**	⇑P	Pn	09 35 04.9	-0.3
MLR	**Muntele Rosu**	**20.71**	**294**	P	**P**	**09 35 02.0**	**-0.9**
	comp=Z,4.1nm,0.8s,baz=140,slow=7.9,SNR=5.7						
	comp=Z,4.1nm,0.8s						
DOPR	**Dopca**	**21.14**	**295**	⇓P	**P**	**09 35 08.2**	**+0.8**
VOIR		**21.34**	**294**	⇑P	**P**	**09 35 09.8**	**+0.2**
VOIR		**21.34**	**294**	⇑P	**P**	**09 35 09.8**	**+0.2**
BURAR	**Bucovina Array**	**21.48**	**299**	⇑P	**P**	**09 35 11.1**	**-0.1**
BURAR	**Bucovina Array**	**21.48**	**299**	⇑P	**P**	**09 35 11.1**	**-0.1**
ARR	**Arges**	**21.62**	**293**	⇑P	**P**	**09 35 13.0**	**+0.4**
APE	**Apeiranthos**	**21.91**	**271**	⇑P	**P**	**09 35 16.3**	**+0.6**
APE	**Apeiranthos**	**21.91**	**271**	*de*P	**P**	**09 35 16.4**	**+0.7**
APE				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MK31	**Makanchi Array**	**21.93**	**63**	⇓*e*P	**P**	**09 35 17.7**	**+1.8**
MKAR	**Makanchi Array**	**21.93**	**63**	P	**P**	**09 35 18.5**	**+2.6**
	comp=Z,1.8nm,0.8s,baz=255,slow=9.9,SNR=14						
MKAR				S	Sn	09 39 25.6	-2.5
	comp=Z,0.1nm,0.5s,baz=240,slow=31,SNR=1.6						
	comp=Z,1.8nm,0.8s						
KLMR	**Klimovskoe**	**22.37**	**342**	*eP*	**P**	**09 35 18.4**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,31nm,2.0s						
MARR	**Marisel-Cluj**	**22.78**	**297**	⇑P	**P**	**09 35 24.7**	**-0.3**
GZR	**Gura Zlata**	**22.93**	**293**	⇓P	**P**	**09 35 23.4**	**-3.1**
BLKB	**Belogradchik**	**23.00**	**289**	⇑P	**P**	**09 35 27.9**	**+0.6**
SURR	**Surduc**	**23.40**	**294**	⇓P	**P**	**09 35 31.2**	**-0.2**
KOLS	**Kolonicke sedl**	**23.65**	**302**	*eP*	**P**	**09 35 36.8**	**+3.1**
KOLS	**Kolonicke sedl**	**23.65**	**302**	*eP*	**P**	**09 35 36.8**	**+3.1**
ZALV	**Zalesovo Beam**	**25.22**	**46**	P	**P**	**09 35 50.4**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=243,slow=12,SNR=2.9						
	comp=Z,0.7nm,0.5s						
DGZ	**Jazzator, Alta**	**25.73**	**57**	⇑*eP*	**P**	**09 35 53.4**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,6.0nm,2.3s						
FINES	**FINESS Array B**	**26.99**	**331**	P	**P**	**09 36 03.7**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=133,slow=9.7,SNR=12						
	comp=Z,1.1nm,0.3s						
HFS	**Hagfors**	**31.58**	**322**	P	**P**	**09 36 44.7**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=93,slow=12,SNR=5.6						
	comp=Z,2.6nm,0.7s						
NOA	**NORSAR Array B**	**33.05**	**323**	P	**P**	**09 36 57.5**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=113,slow=8.2,SNR=1.8						
	comp=Z,0.8nm,0.8s						
EKA	**Eskdalemuir Ar**	**39.71**	**312**	P	**P**	**09 37 54.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=95,slow=8.8,SNR=6.5						
	comp=Z,0.6nm,0.3s						
SPITS	**Spitsbergen Ar**	**40.94**	**349**	P	**P**	**09 38 06.8**	**+2.2**
	comp=Z,15nm,1.2s,baz=165,slow=7.4,SNR=1.5						
	comp=Z,15nm,1.2s						
ESDC	**Sonseca Array**	**43.26**	**289**	P	**P**	**09 38 23.9**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=59,slow=7.8,SNR=9.7						
	comp=Z,1.1nm,0.5s						
TIXI	**Tiksi**	**47.89**	**24**	⇑*eP*	**P**	**09 39 01.4**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WHN	**Wuhan**	**49.81**	**81**	P	**P**	**09 39 17.3**	**+1.9**
TORD	**Torodi Ar. Bea**	**52.53**	**254**	P	**P**	**09 39 34.9**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=27,slow=8.1,SNR=2.3						
	comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**74.16**	**9**	P	**P**	**09 41 59.9**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=335,slow=5.0,SNR=1.7						
	comp=Z,0.1nm,0.4s						
YKA	**Yellowknife Ar**	**77.19**	**354**	P	**P**	**09 42 17.7**	**+1.7**
	comp=Z,0.1nm,0.7s,baz=6.0,slow=6.0,SNR=2.3						
	comp=Z,0.1nm,0.7s						

*IDC **08** 09:31:12.9±7.8,3°22N×125°27E,h72km±88km,mb3.8/4, mbtmp4.2/5,ML4.7/1,MS3.1/1,Error ellipse: s-maj=169.0km s-min=19.7km az=67.0*

*DJA **08** 09:31:45.5±0.8,2°N±4°×12°4E±°,h297km±9km,M3.7/8, mb3.2/2,MLv4.0/8*

ISC 08 09:31:39.9±1.3,2°2N±0°1×123°93E±0°08,h323km,n14,
σ2°19/14,mb3.7/4,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.59**	**178**	P	**Pn**	**09 32 27.6**	**+1.6**
SGSI	**Sangihe**	**2.19**	**47**	P	Pn	09 32 35.8	+5.6
MRSI	**Marisa**	**2.61**	**230**	P	**Pn**	**09 32 35.9**	**+2.2**
LUWI	**Luwuk**	**3.40**	**200**	P	**Pn**	**09 32 42.0**	**+0.8**
TNTI	**Ternate**	**3.71**	**112**	P	Pn	09 32 48.2	+3.8
TNTI				S	**S**	**09 33 38.2**	**+2.1**
MPSI	**Mapaga**	**4.43**	**246**	P	**Pn**	**09 32 55.2**	**+3.2**
MPSI				S	**S**	**09 33 50.5**	**+0.5**
LBMI	**Labuha**	**4.54**	**128**	P	Pn	09 32 56.8	+3.6
LBMI				S	**S**	**09 33 54.1**	**+1.9**
SANI	**Sanana**	**4.68**	**154**	P	**Pn**	**09 32 56.2**	**+1.4**
SANI				S	**S**	**09 33 51.8**	**-3.3**
NLAI	**Namlea**	**6.25**	**150**	P	**Pn**	**09 33 15.4**	**+2.6**
WRA	**Warramunga Arr**	**24.24**	**156**	P	**P**	**09 36 28.0**	**-0.6**
	2.2nm,0.4s,baz=339,slow=9.9,SNR=32						
	2.2nm,0.4s						
JOW	**Kunigami**	**24.86**	**9**	LR	LR	09 45 20.3	
	comp=Z,53nm,20.9s,baz=271,slow=36						
ASAR	**Alice Springs**	**27.46**	**160**	P	**P**	**09 36 57.0**	**-0.4**
	0.6nm,0.3s,baz=337,slow=7.8,SNR=23						
	0.6nm,0.3s						
STKA	**Stephens Creek**	**37.79**	**155**	P	**P**	**09 38 25.2**	**-0.9**
	2.5nm,0.4s,baz=342,slow=6.4,SNR=7.0						
	2.5nm,0.4s						
MKAR	**Makanchi Array**	**57.28**	**327**	P	**P**	**09 40 52.2**	**-2.4**
	0.7nm,0.4s,baz=121,slow=7.1,SNR=6.8						
	0.7nm,0.4s						

IDC 08 09:42:57.7±3.8,22°40N×142°68E,h128km±32km,mb2.9/4, mbtmp3.4/5,Error ellipse: s-maj=54.9km s-min=25.2km az=100.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.69**	**355**	P	Pn	09 44 08.2	+1.5
	48nm,0.8s,baz=90,slow=20,SNR=6.9						
JCJ				S	Sn	09 45 00.0	-0.3
	24nm,0.5s,baz=122,slow=23,SNR=1.1						
WRA	**Warramunga Arr**	**42.87**	**192**	P	P	09 50 42.9	-0.5
	0.3nm,0.7s,baz=20,slow=8.6,SNR=1.5	

PDGK	**Podgornoye**	**9.56**	**41**	⇑P		**Pn**	**09 45 22.9**	**-0.1**
	comp=E,8.7nm,0.8s								
GEYT	**Alibeck**	**10.29**	**282**	Pn		**Pn**	**09 45 32.5**	**0.0**
GEYT						**Sn**	**09 47 26.0**	**-0.4**
GEYT	**Alibeck**	**10.29**	**282**	P		**Pn**	**09 45 32.3**	**-0.2**
	comp=E,5.9nm,0.3s,baz=94,slow=7.9,SNR=12								
GEYT				S		**Sn**	**09 47 22.3**	**-4.1**
	comp=E,8.9nm,0.5s,baz=115,slow=21,SNR=5.1								
GYA0B	**ALIBECK ARRAY**	**10.29**	**282**	⇑P		**Pn**	**09 45 32.1**	**-0.4**
GYA0B				⇓S		**Sn**	**09 47 24.2**	**-2.2**
GYA0B	**ALIBECK ARRAY**	**10.29**	**282**	Pn		**Pn**	**09 45 32.0**	**-0.5**
GYA0B						**Sn**	**09 47 25.0**	**-1.3**
LGTI	**Lohaghat**	**10.50**	**129**	*e*P		**Pn**	**09 45 34.2**	**-1.1**
MK31	**Makanchi Array**	**13.42**	**36**	Pn		**Pn**	**09 46 13.9**	**+0.8**
MKAR	**Makanchi Array**	**13.42**	**36**	Pn		**Pn**	**09 46 12.5**	**-0.6**
MKAR	**Makanchi Array**	**13.42**	**36**	P		**Pn**	**09 46 14.0**	**+0.9**
	comp=E,0.9nm,0.8s,baz=214,slow=12,SNR=6.6								
AB31	**Akbulak array**	**15.11**	**332**	⇓P		**Pn**	**09 46 35.4**	**+1.2**
	comp=E,0.6nm,0.2s,baz=142,slow=13,SNR=86								
AB31				S		**Sn**	**09 49 16.3**	**-5.7**
	comp=E,2.7nm,0.4s,baz=148,slow=24,SNR=11								
ABKAR	**Akbulak array**	**15.11**	**332**	Pn		**Pn**	**09 46 34.8**	**+0.6**
KURBB	**Kurchatov Arra**	**15.24**	**19**	P		**P**	**09 46 39.6**	**+2.3**
	comp=E,3.8nm,0.7s,baz=209,slow=10,SNR=9.8								
KURK	**Kurchatov**	**15.34**	**19**	Pn		**Pn**	**09 46 37.4**	**+0.3**
KURK				IAmb		IAmb	09 46 42.1		
	comp=Z,6.2nm,0.8s								
BVAR	**Borovoye Array**	**16.61**	**359**	P		**Pn**	**09 46 56.5**	**+3.9**
	comp=Z,3.3nm,0.6s,baz=172,slow=11,SNR=7.8								
BRVK	**Borovoye**	**16.65**	**359**	P		**P**	**09 46 52.0**	**-0.8**
BRVK				IAmb		IAmb	09 46 57.9		
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**	**16.80**	**331**	⇓P		**Pn**	**09 46 58.2**	**+3.2**
	comp=Z,3.4nm,0.7s								
AKTO				⇓S		**S**	**09 49 58.5**	**-3.1**
	comp=Z,6.4nm,0.8s								
AKTO	**Aktyubinsk**	**16.80**	**331**	P		**Pn**	**09 46 57.5**	**+2.5**
	comp=Z,7.0nm,0.8s,baz=147,slow=7.0,SNR=21								
AKTO				S		S	09 49 51.5	-10	
	comp=Z,1.6nm,0.5s,baz=195,slow=16,SNR=3.1								
ZAA0	**Zalesovo Array**	**20.04**	**25**	P		Pn	09 47 32.7	-0.4	
ZALV	**Zalesovo Beam**	**20.04**	**25**	P		Pn	09 47 32.5	-0.6	
	comp=Z,11nm,0.5s,baz=216,slow=10.0,SNR=44								
	comp=Z,11nm,0.5s								
KBZ	**Khabaz**	**22.55**	**298**	P		**P**	**09 47 57.3**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=147,slow=11,SNR=2.2								
	comp=Z,1.0nm,0.8s								
HFS	**Hagfors**	**43.07**	**322**	P		**P**	**09 50 56.2**	**+2.9**
	comp=Z,2.3nm,0.6s,baz=110,slow=12,SNR=2.1								
	comp=Z,2.3nm,0.6s								
NOA	**NORSAR Array B**	**44.38**	**323**	P		**P**	**09 51 04.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=96,slow=7.8,SNR=3.6								
	comp=Z,0.9nm,0.7s								
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P		**P**	**09 53 37.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=43,slow=6.5,SNR=1.9								
	comp=Z,0.3nm,0.6s								
YKA	**Yellowknife Ar**	**81.33**	**3**	P		**P**	**09 55 10.6**	**+2.7**
	comp=Z,0.2nm,0.7s,baz=348,slow=5.7,SNR=3.6								
	comp=Z,0.2nm,0.7s								
WRA	**Warramunga Arr**	**82.03**	**122**	P		**P**	**09 55 13.3**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=321,slow=5.1,SNR=2.9								
	comp=Z,0.6nm,0.8s								
ASAR	**Alice Springs**	**84.29**	**125**	P		**P**	**09 55 25.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=313,slow=4.7,SNR=4.7								
	comp=Z,0.2nm,0.6s								

*IDC **08** 09:47:16.6±1.3,51.78N×75.50E, h0km, mbtmp2.5/3, ML1.7/2, Error ellipse: s-maj=26.5km s-min=10.0km az=27.0*

ISC 08 09:47:13.7±1.4,**51.8N**±0.1×**74.80E**±0.08,**h10**km,**n7,** σ0**9**1/7,**3C-1D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.64**	**116**	⇓Pg		**Pn**	**09 47 56.9**	**+0.6**
	1.4nm,0.2s,baz=308,slow=18							
KURBB				⇑Lg		Lg	09 48 27.0	
	21nm,0.8s,baz=310,slow=28							
KURBB	**Kurchatov Arra**	**2.64**	**116**	Pg		**Pn**	**09 47 56.8**	**+0.6**
	0.2nm,0.3s,baz=306,slow=18,SNR=7.8							
KURBB				Lg		Lg	09 48 26.0	
	0.3nm,0.3s,baz=306,slow=30,SNR=6.5							
KURK	**Kurchatov**	**2.64**	**113**	⇑Pg		**Pn**	**09 47 55.2**	**-1.2**
	6.2nm,1.2s							
KURK				⇑Lg		Lg	09 48 26.4	
	16nm,0.9s							
BVAR	**Borovoye Array**	**2.96**	**296**	Pn		**Pg**	**09 48 10.5**	**+0.1**
	baz=120,slow=13,SNR=2.4							
BVAR				Lg		Lg	09 49 00.9	
	0.1nm,0.3s,baz=103,slow=27,SNR=5.5							
	0.4nm,0.3s							
I46RU	**ZALESOVO INFRA**	**6.43**	**67**	I		I	10 21 00.0	
	baz=251,slow=332,SNR=2.5							
ZALV	**Zalesovo Beam**	**6.43**	**67**	Pn		**Pn**	**09 48 47.7**	**-0.6**
	0.3nm,0.3s,baz=252,slow=13,SNR=1.2							
ZALV				Sn		**Sn**	**09 50 02.4**	**+0.7**
	0.1nm,0.3s,baz=289,slow=37,SNR=1.5							
ZALV				Lg		Lg	09 50 28.9	
	0.2nm,0.3s,baz=259,slow=23,SNR=2.1							
MKAR	**Makanchi Array**	**7.02**	**133**	Pn		**Pn**	**09 48 56.0**	**-0.5**
	baz=316,slow=12,SNR=1.7							
MKAR				Sn		Sn	09 50 04.0	-12
	baz=307,slow=27,SNR=2.4							
MKAR				Lg		Lg	09 50 45.2	
	0.1nm,0.3s,baz=309,slow=30,SNR=2.2							
	0.2nm,0.5s							

*RSNC **08** 09:50:08.6±1.7,5.30N×73.71W, h148km±7km, ML2.9*
*IDC **08** 09:50:09.1±4.1,4.72N×75.15W, h139km±107km, Error ellipse: s-maj=823.3km s-min=188.6km az=4.0*

ISC 08 09:50:06.8±1.1,**5.32N**±0.04×**73.71W**±0.04,**h160**km±7km, **n26,** σ1**31**/47,**4C-1D, Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.49**	**312**	⇑*i*P		**Pn**	**09 50 29.5**	**+0.2**
SPBC				*e*S		**Sn**	**09 50 45.7**	**-0.9**
SPBC				*i*			09 50 49.0	
	comp=Z,260nm,0.1s							
ROSC	**El Rosal**	**0.78**	**232**	P		**Pn**	**09 50 32.4**	**+1.1**
	comp=Z,255nm,0.3s,baz=145,slow=14,SNR=144							
ROSC				S		**Sn**	**09 50 49.8**	**-0.2**
	comp=Z,143nm,0.3s,baz=360,slow=23,SNR=16							
ROSC	**El Rosal**	**0.78**	**232**	⇑*i*P		**Pn**	**09 50 32.4**	**+1.1**
ROSC				*e*S		**Sn**	**09 50 50.0**	**-0.1**
ROSC				*i*			09 50 54.0	
	comp=Z,201nm,0.6s							
BOG	**Bogota**	**0.78**	**207**	*e*P		**Pn**	**09 50 32.3**	**+1.0**
BOG				*e*S		**Sn**	**09 50 49.9**	**-0.2**
VILC	**Villavicencio,**	**1.20**	**179**	*e*P		**Pn**	**09 50 34.3**	**-0.1**
VILC				*e*S		**Sn**	**09 50 54.1**	**-1.5**
BARC	**Barichara**	**1.37**	**22**	*e*P		**Pn**	**09 50 36.7**	**+0.6**
BARC				*e*S		**Sn**	**09 50 58.1**	**-0.5**
BARC				*i*			09 51 00.7	
	comp=Z,130nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.42**	**328**	*i* P		**Pn**	**09 50 36.1**	**-0.2**
PTBC				*e*S		**Sn**	**09 50 57.8**	**-1.4**
PTBC				*i*			09 51 01.0	
	comp=Z,67nm,0.3s							
GUY2C	**Guyana, Caldas**	**1.66**	**267**	*e*P		**Pn**	**09 50 39.3**	**+0.1**
GUY2C				*e*S		**Sn**	**09 51 03.4**	**-0.7**
GUY2C				*i*			09 51 10.9	
	comp=Z,35nm,0.3s							
PTGC	**Puerto Gaitan,**	**1.92**	**125**	⇓*i*P		**Pn**	**09 50 41.8**	**+0.2**
PTGC				*e*S		**Sn**	**09 51 07.1**	**-1.4**
PTGC				*i*			09 51 10.5	
	comp=Z,89nm,0.6s							
PRAC	**Prado**	**1.98**	**216**	⇑*i*P		**Pn**	**09 50 42.3**	**0.0**
PRAC				*e*S		**Sn**	**09 51 08.3**	**-1.5**
PRAC				*i*			09 51 10.8	
	comp=Z,124nm,0.4s							
ORTC	**Ortega, Tolima**	**2.08**	**228**	⇑*i*P		**Pn**	**09 50 43.1**	**-0.3**
ORTC				*e*S		**Sn**	**09 51 09.9**	**-1.9**
ORTC				*i*			09 51 14.6	
	comp=Z,54nm,0.3s							
TAMC	**Tame, Arauca**	**2.20**	**60**	*e*P		**Pn**	**09 50 46.4**	**+1.5**
TAMC				*e*S		**Sn**	**09 51 14.3**	**0.0**
TAMC				*i*			09 51 17.3	
	comp=Z,57nm,0.3s							
PAMC	**Pamplona, Colo**	**2.24**	**26**	*e*P		**Pn**	**09 50 47.9**	**+2.1**
PAMC				*e*S		**Sn**	**09 51 16.7**	**+0.7**
PAMC				*i*			09 51 20.5	
	comp=Z,19nm,0.2s							
CBOC	**Ciudad Bolivar**	**2.36**	**283**	*e*P		**Pn**	**09 50 47.7**	**+0.9**
CBOC				*e*S		**Sn**	**09 51 18.0**	**+0.2**
CBOC				*i*			09 51 20.6	
	comp=Z,17nm,0.5s							
ZARC	**Zaragoza, Cauc**	**2.44**	**332**	*e*P		**Pn**	**09 50 47.1**	**-0.6**
ZARC				*e*S		**Sn**	**09 51 18.5**	**-1.0**
ZARC				*i*			09 51 24.1	
	comp=Z,44nm,0.1s							
PLMC	**San Jos del P**	**2.60**	**261**	*e*P		**Pn**	**09 50 51.2**	**+1.5**
PLMC				*e*S		**Sn**	**09 51 25.4**	**+2.6**
OCAC	**Ocana**	**2.93**	**8**	*e*P		**Pn**	**09 50 55.5**	**+1.7**
OCAC				*e*S		**Sn**	**09 51 31.9**	**+1.7**
OCAC				*i*			09 51 36.0	
	comp=Z,78nm,0.4s							
DBBC	**Dabeiba**	**3.01**	**304**	*e*P		**Pn**	**09 50 55.8**	**+1.0**
DBBC				*e*S		**Sn**	**09 51 32.2**	**+0.3**
DBBC				*i*			09 51 35.6	
	comp=Z,36nm,0.4s							
UREC	**San Jos de Ur**	**3.02**	**323**	*e*P		**Pn**	**09 50 53.8**	**-1.0**
UREC				*e*S		**Sn**	**09 51 30.0**	**-2.2**
JAMC	**Jamundi, Valle**	**3.62**	**235**	*e*P		**Pn**	**09 51 03.8**	**+1.2**
APAC	**Apartado, Choc**	**3.84**	**312**	*e*P		**Pn**	**09 51 06.2**	**+1.0**
APAC				*e*S		**Sn**	**09 51 51.5**	**+0.7**
APAC				*i*			09 51 56.0	
	comp=Z,18nm,0.4s							
LCBC	**Los crdobas,**	**4.40**	**323**	*e*S		**Sn**	**09 52 04.7**	**+0.9**
SJCC	**San Jacinto, C**	**4.78**	**342**	*e*P		**Pn**	**09 51 16.2**	**-1.3**
SJCC				*e*S		**Sn**	**09 52 09.2**	**-3.6**
SJCC				*i*			09 52 12.4	
	comp=Z,14nm,0.5s							
CRJC	**Cerrejon, Guaj**	**5.72**	**8**	*e*S		**Sn**	**09 52 32.5**	**-2.7**
CRJC				*i*			09 52 38.3	
	comp=Z,9.3nm,0.2s							
ASAR	**Alice Springs**	**147.75**	**233**	PKPbc		**PKPbc**	**10 09 33.4**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=113,slow=3.4,SNR=1.4							
WRA	**Warramunga Arr**	**149.09**	**239**	PKPbc		**PKPbc**	**10 09 37.5**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=107,slow=3.3,SNR=1.8							

IDC 08 10:18:00.3±7.2,**20.23S×179.48W, h0**km,**mb3.7/3, mbtmp3.7/3, MS3.1/1, Error ellipse: s-maj=308.9km s-min=41.7km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.23**	**257**	P		P	10 26 02.1	-1.5
	0.4nm,0.6s,baz=99,slow=7.3,SNR=10							
	0.4nm,0.6s							
WRA	**Warramunga Arr**	**43.26**	**262**	P		P	10 26 05.0	+1.1
	0.7nm,0.3s,baz=94,slow=8.2,SNR=29							
	0.7nm,0.3s							
GUMO	**Guam**	**48.57**	**311**	LR		LR	10 45 10.5	
	comp=Z,19nm,20.2s,baz=102,slow=34							
ILAR	**Eielson Array**	**88.37**	**13**	P		P	10 30 53.6	0.0
	0.6nm,1.1s,baz=214,slow=6.3,SNR=2.1							
	0.6nm,1.1s							

*IDC **08** 10:30:00.1±3.6,8.50S×118.28E, h0km, mb3.2/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=319.8km s-min=28.3km az=51.0*
*DJA **08** 10:30:05.6±0.9, 10°S±4°×11°8E±°, h24km±8km, M3.7/9, MLv3.7/9*

ISC 08 10:30:03.2±1.1,**9.62S**±0.07×**117.53E**±0.04,**h10**km,**n14,** σ0**79**/19,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLAI	**Plampang**	**0.83**	**17**	P		**Pn**	**10 30 21.1**	**+0.1**
PLAI				S		**Sn**	**10 30 31.8**	**-1.5**
TWSI	**Taliwang, Sumb**	**1.09**	**324**	P		**Pn**	**10 30 25.0**	**+0.5**
TWSI				S		**Sb**	**10 30 38.3**	**-0.1**
DBNI	**Kabupaten Domp**	**1.36**	**35**	P		**Pg**	**10 30 29.1**	**-0.2**
DBNI				S		**Sn**	**10 30 46.3**	**-0.1**
IGBI	**Denpasar**	**2.48**	**289**	P		**Pn**	**10 30 44.6**	**+0.9**
IGBI				S		**Sn**	**10 31 13.9**	**-0.2**
SRBI	**Singaraja**	**2.75**	**304**	P		**Pn**	**10 30 49.0**	**+1.6**
SRBI				S		**Sn**	**10 31 20.5**	**-0.3**
BASI	**Baing, Sumba**	**3.06**	**101**	P		**Pn**	**10 30 51.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.52**	**289**	P		**Pn**	**10 30 57.8**	**-0.3**
JAGI				S		**Sn**	**10 31 39.1**	**-0.8**
ABJI	**Asem Bagus**	**3.73**	**299**	P		**Pn**	**10 31 01.0**	**+0.1**
EDFI	**Ende, Flores**	**4.20**	**78**	P		**Pn**	**10 31 08.5**	**+1.0**
BLJI	**Banyuglugur**	**4.31**	**295**	P		**Pn**	**10 31 09.6**	**+0.7**
BKSI	**Bulukumba**	**4.99**	**31**	P		**Pn**	**10 31 19.6**	**+1.4**
WRA	**Warramunga Arr**	**19.20**	**124**	P		**Pn**	**10 34 28.1**	**-0.3**
	0.1nm,0.3s,baz=313,slow=9.9,SNR=1.7							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**20.97**	**134**	P		**P**	**10 34 46.9**	**+0.1**
	0.4nm,0.6s,baz=321,slow=12,SNR=10							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**64.36**	**334**	P		P	10 40 33.4	-5.9
	0.2nm,0.4s,baz=159,slow=5.5,SNR=4.2							
	0.2nm,0.4s							

*KRSC **08** 10:35:06.2±1.2,51.19N×158.44E, h67km±18km, Ml3.9*
*IDC **08** 10:35:09.7±3.1,51.58N×157.45E, h109km±19km, mb3.5/11, mbtmp3.8/11, Error ellipse: s-maj=33.9km s-min=22.2km az=173.0*

ISC 08 10:35:06.8±1.3,**51.3N**±0.1×**157.8E**±0.1,**h96**km±7km,**n31,** σ1**57**/34,**mb3.8**/11, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.56**	**18**	*e*P		**Pn**	**10 35 22.3**	**-0.3**
KDTR				*e*S		**Sn**	**10 35 32.7**	**-1.7**
PAU	**Pauzhetka**	**0.65**	**287**	*e*P		**Pn**	**10 35 25.2**	**+1.8**
ASAK	**Asacha**	**1.11**	**3**	*e*P		**Pn**	**10 35 28.6**	**+0.4**
ASAK				*e*S		**Sn**	**10 35 45.1**	**+0.7**
GRL	**Gorelyy**	**1.29**	**7**	*e*P		**Pn**	**10 35 31.2**	**+0.8**
GRL				*e*S		**Sn**	**10 35 49.1**	**+0.9**
KRMR	**Karymshinskiy**	**1.57**	**7**	*e*P		**Pn**	**10 35 34.9**	**+1.2**
PET	**Petropavlovsk**	**1.83**	**16**	*e*P		**Pn**	**10 35 37.7**	**+0.8**
PET				*e*S		**Sn**	**10 35 60.0**	**+0.1**
PETK	**Petropavlovsk-**	**1.83**	**358**	P		**Pn**	**10 35 37.1**	**+0.1**
	5.6nm,0.3s,baz=166,slow=13,SNR=84							
PETK				S		**Sn**	**10 35 57.4**	**-2.7**
	17nm,0.5s,baz=166,slow=16,SNR=6.1							
DALK	**Dalny**	**1.85**	**18**	*e*P		**Pn**	**10 35 37.9**	**+0.7**
DALK				*e*S		**Sn**	**10 36 00.7**	**+0.3**
INSR	**Institute**	**1.86**	**15**	*e*S		**Sn**	**10 36 01.9**	**+1.3**
UGLR	**Uglovaya**	**2.04**	**18**	*e*P		**Pn**	**10 35 41.0**	**+1.3**
AVH	**Avacha**	**2.07**	**16**	*e*P		**Pn**	**10 35 42.0**	**+1.8**
SMAR	**Somma**	**2.08**	**17**	*e*P		**Pn**	**10 35 41.7**	**+1.3**
KOK	**Koryaka**	**2.08**	**14**	*e*P		**Pn**	**10 35 42.3**	**+2.0**
KRX	**Arik**	**2.15**	**14**	*e*P		**Pn**	**10 35 42.8**	**+1.5**
SPN	**Mys Shipunski**	**2.28**	**36**	*e*P		**Pn**	**10 35 40.1**	**-2.7**
KII	**Karymskiy**	**2.94**	**19**	*e*P		**Pn**	**10 35 53.9**	**+2.2**
TUMD	**Tumrok D**	**4.23**	**21**	*e*P		**Pn**	**10 36 10.7**	**+1.7**
KURBB	**Kurchatov Arra**	**47.60**	**302**	P		**P**	**10 43 29.5**	**-3.0**
	0.4nm,0.3s,baz=60,slow=7.5,SNR=1.7							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**47.67**	**296**	P		**P**	**10 43 32.0**	**-1.2**
	0.2nm,0.4s,baz=68,slow=7.2,SNR=5.5							
	0.2nm,0.4s							
SPITS	**Spitsbergen Ar**	**48.69**	**350**	P		**P**	**10 43 40.2**	**-0.4**
	0.6nm,0.3s,baz=68,slow=13,SNR=14							
	0.6nm,0.3s							
BVAR	**Borovoye Array**	**50.41**	**308**	P		**P**	**10 43 51.9**	**-2.1**
	0.5nm,0.4s,baz=70,slow=5.4,SNR=4.1							
	0.5nm,0.4s							
ARCES	**ARCESS Array B**	**54.57**	**341**	P		**P**	**10 44 24.2**	**-0.2**
	7.0nm,1.0s,baz=17,slow=9.4,SNR=2.0							
	7.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**56.41**	**257**	P		**P**	**10 44 39.8**	**+1.5**
	0.6nm,0.5s,baz=37,slow=6.8,SNR=2.2							
	0.6nm,0.5s							
NVAR	**Mina Array Bea**	**57.72**	**67**	P		**P**	**10 44 48.4**	**+0.8**
	0.2nm,0.5s,baz=309,slow=10,SNR=1.4							
	0.2nm,0.5s							
FINES	**FINESS Array B**	**61.21**	**336**	P		**P**	**10 45 09.5**	**-1.4**
	5.9nm,1.0s,baz=44,slow=6.2,SNR=3.8							
	5.9nm,1.0s							
NOA	**NORSAR Array B**	**64.88**	**343**	P		**P**	**10 45 34.3**	**-0.9**
	0.8nm,0.9s,baz=23,slow=7.0,SNR=2.0							
	0.8nm,0.9s							
EKA	**Eskdalemuir Ar**	**72.58**	**349**	P		**P**	**10 46 23.0**	**-0.1**
	0.4nm,0.3s,baz=18,slow=5.0,SNR=5.9							
	0.4nm,0.3s							
TXAR	**Lajitas Array**	**72.67**	**65**	P		**P**	**10 46 26.3**	**+2.1**
	0.1nm,0.5s,baz=316,slow=5.0,SNR=3.7							
	0.1nm,0.5s							
H03N2	**Juan Fernandez**	**135.63**	**89**	T		T	13 24 56.0	
	baz=314,slow=77,SNR=16							
H03N1	**Juan Fernandez**	**135.65**	**89**	T		T	13 24 57.1	
	baz=314,slow=77,SNR=22							
H03N3	**Juan Fernandez**	**135.65**	**89**	T		T	13 25 09.0	
	baz=314,slow=77,SNR=20							

*DJA **08** 10:41:05.3±0.3,4°S±3°×13°8E±°, h62km±6km, M4.5/19, mB5.1/2, mb4.4/19, MLv4.6/6, Mw(mB)4.4/2*
*NEIC **08** 10:41:05.8±2.9, 3.64S±0.09×138.4E±0.1, h93km±16km, mb4.2/11, Error ellipse: s-maj=18.6km s-min=8.6km az=53.0*
*IDC **08** 10:41:09.3±3.7, 3.75S×138.37E, h138km±37km, mb3.4/8, mbtmp4.0/11, MS2.8/1, Error ellipse: s-maj=27.9km s-min=12.2km az=93.0*

ISC 08 10:41:04.1±0.5,**3.63S**±0.06×**138.30E**±0.05,**h71**km,**n50,** σ1**84**/53,**mb3.8**/7,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**2.13**	**61**	P		**Pn**	**10 41 39.1**	**+1.6**
GENI	**Genyem**	**2.13**	**61**	P		**Pn**	**10 41 38.4**	**+0.9**
GENI				S		**Sn**	**10 42 04.3**	**+1.2**
TABU	**Tabubil**	**3.34**	**119**	P		**Pn**	**10 41 57.4**	**+3.3**
MMPI	**Merauke**	**5.24**	**157**	P		**Pn**	**10 42 20.1**	**+0.2**
	354nm,0.8s,3.9nm							
MMPI				S		**Sn**	**10 43 22.1**	**+3.1**
	354nm,0.8s,3.9nm							
FAKI	**Fak Fak**	**6.08**	**276**	Pn		**Pn**	**10 42 34.3**	**+2.9**
FAKI	**Fak Fak**	**6.08**	**276**	P		**Pn**	**10 42 33.5**	**+2.1**
	20nm,0.6s,0.1nm							
SIJI	**Sorong**	**7.54**	**291**	P		**Pn**	**10 42 54.0**	**+2.6**
	26nm,1.1s,0.1nm							
SWI	**Sorong**	**7.55**	**291**	P		**Pn**	**10 42 53.2**	**+1.7**
	42nm,0.8s,0.2nm							
PMG	**Port Moresby**	**10.51**	**124**	Pn		**Pn**	**10 43 31.9**	**-0.1**
PMG	**Port Moresby**	**10.51**	**124**	P		**Pn**	**10 43 34.6**	**+2.6**
PMG	**Port Moresby**	**10.51**	**124**	P		**Pn**	**10 43 34.0**	**+2.0**
	12nm,0.4s,baz=312,slow=11,SNR=10.0							
PMG				S		**Sn**	**10 45 25.7**	**-2.4**
	4.8nm,0.4s,baz=210,slow=20,SNR=1.5							
PMG	**Port Moresby**	**10.51**	**124**	P		**Pn**	**10 43 30.4**	**-1.6**
	23nm,0.7s							
KDU	**Kakadu**	**10.69**	**212**	P		**Pn**	**10 43 35.2**	**+0.8**
LBMI	**Labuha**	**11.19**	**285**	P		**Pn**	**10 43 42.8**	**+1.6**
	33nm,0.9s,2μm							
COEN	**Coen**	**11.34**	**155**			**Pn**	**10 43 43.9**	**+0.6**
MTN	**Manton Dam**	**11.58**	**217**			**Pn**	**10 43 47.6**	**+1.0**
MTN	**Manton Dam**	**11.58**	**217**	P		**Pn**	**10 43 47.5**	**+1.0**
SANI	**Sanana**	**12.39**	**277**	P		**Pn**	**10 43 58.7**	**+1.0**
	7.3nm,1.0s							
SOEI	**Soe**	**15.20**	**246**	P		**P**	**10 44 37.7**	**-0.7**
	16nm,0.6s							
KNRA	**Kununurra**	**15.21**	**217**	Pn		**Pn**	**10 44 36.0**	**+1.1**
KNRA	**Kununurra**	**15.21**	**217**	P		**Pn**	**10 44 35.6**	**+0.7**
MTSU	**Mount Surprise**	**15.58**	**158**	P		**P**	**10 44 42.4**	**-0.1**
GTOI	**Gorontalo**	**15.85**	**285**	P		**P**	**10 44 47.2**	**+1.7**
	7.7nm,1.0s							
WB0	**Warramunga Arr**	**16.49**	**193**	P		**Pn**	**10 44 50.9**	**-0.2**
WB0				IAmb		IAmb	10 45 13.9	
	comp=Z,9.1nm,0.8s							
DAV	**Davao City (W)**	**16.55**	**310**	LR		LR	10 51 15.6	
	comp=Z,31nm,21.0s,baz=104,slow=36							
WR0	**Warramunga Arr**	**16.64**	**192**	P		**Pn**	**10 44 52.5**	**-0.5**
WR0				IAmb		IAmb	10 45 36.3	
	comp=Z,16nm,1.1s							
WRAB	**Tennant Creek**	**16.66**	**193**	P		**P**	**10 44 53.7**	**-0.7**
WRAB				IAmb		IAmb	10 45 28.7	
	comp=Z,14nm,0.7s							
WB2	**Warramunga Arr**	**16.67**	**193**	P		**P**	**10 44 53.8**	**-0.7**
WB2				IAmb		IAmb	10 45 28.9	
	comp=Z,13nm,0.7s							
WRA	**Warramunga Arr**	**16.67**	**193**	P		**Pn**	**10 44 51.6**	**-1.6**
WRA	**Warramunga Arr**	**16.67**	**193**	P		**Pn**	**10 44 52.7**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=16,

WRA				Sn	Sn	11 41 48.2	-8.3	
	0.6nm,0.3s,baz=351,slow=24,SNR=11							
	0.6nm,0.8s							
ASAR	**Alice Springs**	**16.86**	**164**	Pn	P	11 40 10.7	-1.1	
	0.1nm,0.3s,baz=345,slow=10,SNR=11							
ASAR				Sn	Sn	11 43 14.2	-3.4	
	0.2nm,0.3s,baz=0.2,slow=28,SNR=7.7							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	11 47 12.8	0.0	
	0.1nm,0.4s,baz=139,slow=6.5,SNR=1.8							
	0.1nm,0.4s							

NNC 08 11:37:26.0±4.0, 44°.16N×76°.63E, h0km, mb2.7, mpv2.6, 3C-3D, Error ellipse: s-maj=30.9km s-min=13.8km az=119.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASK	**Kaskelen**	**0.94**	**180**	⇑P	Pg	11 37 43.4	-0.7
KASK				⇑S	Sg	11 37 56.9	+0.6
KNDC	**Almaty**	**0.97**	**166**	⇓P	Pg	11 37 44.7	0.0
	18nm,0.5s						
KNDC				⇓S	Sb	11 37 59.3	+0.1
	12nm,0.3s						
KNOS	**Konyrlen**	**1.84**	**83**	Pg	Pg	11 38 06.8	+5.6
	2.4nm,0.2s						
KNOS				Lg	Lg	11 38 32.0	
	1.8nm,0.3s						
PDGK	**Podgornoye**	**2.23**	**111**	P	Pb	11 38 06.6	-0.7
	0.7nm,0.4s						
PDGK				S	Sn	11 38 31.5	-1.2
	1.0nm,0.8s						
PDGK	**Podgornoye**	**2.23**	**111**	⇓P	Pg	11 38 08.1	-0.7
	1.7nm,1.0s						
PDGK				⇑S	Sn	11 38 31.8	-0.9
	1.5nm,0.4s						

*RSPR **08** 11:55:12.4, 18°.26N×68°.04W, h105km±3km, MD2.9/6*
*NEIC **08** 11:55:13.2±1.7, 18°.1N±0°.1×68°.00W±0°.05, h97km±10km, ML2.5/16, Md2.9/6(RSPR), Error ellipse: s-maj=21.6km s-min=4.2km az=196.0*
ISC 08 11:55:13.4±1.6, 18°.2N±0°.2×68°.00W±0°.07, h94km, n27, σ0s73/26, 2C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**0.86**	**101**	⇓*eP*	**Pn**	**11 55 32.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.86**	**101**	*eS*	**Sn**	**11 55 46.4**	**+0.6**
CRPR	**Cabo Rojo, PR**	**0.86**	**101**		**Pn**	**11 55 32.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.86**	**101**		**Sn**	**11 55 46.4**	**+0.6**
LSP	**Las Mesas**	**0.87**	**90**	⇓*eP*	**Pn**	**11 55 32.1**	**+0.1**
LSP	**Las Mesas**	**0.87**	**90**		**Pn**	**11 55 32.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.90**	**71**	⇓*eP*	**Pn**	**11 55 31.3**	**-0.9**
AGPR	**Aguadilla, PR**	**0.90**	**71**	*eS*	**Sn**	**11 55 47.2**	**+0.8**
AGPR	**Aguadilla, PR**	**0.90**	**71**		**Pn**	**11 55 31.3**	**-0.9**
AGPR				IAML		11 55 51.6	
	comp=E,118nm,2.2s						
AGPR	**Aguadilla, PR**	**0.90**	**71**	IAML		11 55 45.8	
	comp=N,157nm,2.6s						
AGPR	**Aguadilla, PR**	**0.90**	**71**		**Sn**	**11 55 47.2**	**+0.8**
MLPR	**Magueyes Islan**	**0.93**	**102**	⇓*eP*	**Pn**	**11 55 31.4**	**-1.2**
MLPR	**Magueyes Islan**	**0.93**	**102**	*eS*	**Sn**	**11 55 46.7**	**-0.3**
MLPR	**Magueyes Islan**	**0.93**	**102**		**Pn**	**11 55 31.4**	**-1.2**
MLPR					**Sn**	**11 55 46.7**	**-0.3**
MLPR	**Magueyes Islan**	**0.93**	**102**	IAML		11 55 49.0	
	comp=E,67nm,2.9s						
AOPR	**Arecibo Observ**	**1.20**	**82**	⇓*eP*	**Pn**	**11 55 35.2**	**-0.5**
AOPR	**Arecibo Observ**	**1.20**	**82**	*eS*	**Sn**	**11 55 53.3**	**+0.8**
AOPR	**Arecibo Observ**	**1.20**	**82**		**Pn**	**11 55 35.2**	**-0.5**
AOPR					**Sn**	**11 55 53.3**	**+0.8**
OBIP	**Obispado Ponce**	**1.33**	**95**	⇑*eP*	**Pn**	**11 55 37.7**	**+0.4**
OBIP	**Obispado Ponce**	**1.33**	**95**		**Pn**	**11 55 37.7**	**+0.4**
OBIP	**Obispado Ponce**	**1.33**	**95**	IAML		11 55 50.8	
	comp=E,37nm,3.1s						
OBIP				IAML		11 56 10.6	
	comp=N,44nm,3.9s						
CELP	**Cerrillos**	**1.36**	**94**	⇑*eP*	**Pn**	**11 55 37.1**	**-0.4**
CELP	**Cerrillos**	**1.36**	**94**	*eS*	**Sn**	**11 55 56.6**	**+0.7**
CELP	**Cerrillos**	**1.36**	**94**		**Pn**	**11 55 37.1**	**-0.4**
CELP					**Sn**	**11 55 56.6**	**+0.7**
CELP	**Cerrillos**	**1.36**	**94**	IAML		11 56 19.4	
	comp=E,34nm,3.5s						
GCPR	**Guaynabo City**	**1.83**	**85**	Pn	**Pn**	**11 55 42.3**	**-1.2**
GCPR				IAML		11 56 05.6	
	comp=E,36nm,3.5s						
GCPR				IAML		11 56 54.7	
	comp=N,33nm,3.7s						
SDDR	**Presa de Saban**	**3.22**	**285**	Pn	**Pn**	**11 56 01.8**	**-0.2**

*IDC **08** 12:13:47.5±1.5, 3°.09N×127°.82E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=137.9km s-min=19.0km az=67.0*
*DJA **08** 12:13:55.6±0.6, 3°.N±5°.×12°.8E±°, h128km±10km, M4.0/11, mb3.9/6, mB4.8/3, MLv4.1/11, Mw(mB)4.0/3*
ISC 08 12:13:58.4±1.1, 3°.17N±0°.09×128°.21E±0°.08, h100km, n13, σ1s71/14, mb3.7/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.53**	**200**	P	**Pn**	**12 14 38.0**	**0.0**
TNTI				S	**Sn**	**12 15 08.9**	**+0.6**
SGSI	**Sangihe**	**2.73**	**281**	P	**Pn**	**12 14 38.6**	**-1.9**
LBMI	**Labuha**	**3.85**	**191**	P	**Pn**	**12 14 53.7**	**-2.0**
KMSI	**Cibinong**	**4.95**	**239**	P	**Pn**	**12 15 09.0**	**-1.6**
SWI	**Sorong**	**5.04**	**143**	P	**Pn**	**12 15 09.7**	**-2.0**
	22nm,0.9s,1μm0.1nm						
SIJI	**Sorong**	**5.04**	**143**	P	**Pn**	**12 15 09.4**	**-2.4**
	11nm,1.1s,612nm0.1nm						
SANI	**Sanana**	**5.64**	**203**	P	**Pn**	**12 15 17.7**	**-2.2**
	11nm,1.2s,1μm0.2nm						
GTOI	**Gorontalo**	**5.78**	**244**	P	**Pn**	**12 15 20.0**	**-1.7**
	15nm,0.7s,0.1nm						
WRA	**Warramunga Arr**	**23.75**	**166**	P	**P**	**12 19 01.9**	**+0.2**
	1.3nm,0.6s,baz=344,slow=10.0,SNR=19						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**27.25**	**169**	P	**P**	**12 19 33.3**	**-0.1**
	0.2nm,0.5s,baz=343,slow=7.0,SNR=7.7						
ASAR				PcP	**PcP**	**12 22 52.3**	**+1.2**
	0.3nm,0.5s,baz=351,slow=1.8,SNR=7.1						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**37.11**	**161**	P	**P**	**12 21 00.8**	**+1.5**
	1.3nm,0.7s,baz=347,slow=10,SNR=2.9						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**58.86**	**325**	P	P	12 23 47.7	+0.9
	0.6nm,0.4s,baz=111,slow=7.7,SNR=11						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**63.01**	**327**	P	**P**	**12 24 15.3**	**+0.6**
	0.4nm,0.4s,baz=125,slow=6.2,SNR=7.2						
	0.4nm,0.4s						

IDC 08 12:19:10.2±14.0, 19°.59S×177°.73W, h602km±121km, mb3.2/3, mbtmp4.2/5, Error ellipse: s-maj=167.5km s-min=36.0km az=42.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.00**	**258**	P	P	12 22 19.4	+1.1
	6.0nm,0.9s,baz=36,slow=8.8,SNR=1.9						
URZ	**Urewera**	**19.13**	**192**	P	P	12 22 55.5	-0.2
	2.2nm,0.3s,baz=38,slow=12,SNR=6.0						
STKA	**Stephens Creek**	**38.41**	**243**	P	P	12 25 42.2	+0.4
	1.4nm,0.5s,baz=85,slow=8.3,SNR=3.9						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**44.98**	**256**	P	P	12 26 33.3	-0.1
	2.0nm,0.4s,baz=86,slow=8.3,SNR=109						
ASAR				PcP	PcP	12 28 01.4	0.0
	0.4nm,1.0s,baz=91,slow=4.6,SNR=1.9						
	2.0nm,0.4s						
WRA	**Warramunga Arr**	**44.98**	**261**	P	P	12 26 33.1	-0.4
	1.3nm,0.3s,baz=98,slow=7.7,SNR=26						
	1.3nm,0.3s						

*IDC **08** 12:25:22.4±3.9, 18°.93N×146°.21E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=151.2km s-min=22.3km az=82.0*
ISC 08 12:25:32.2±3.4, 18°.9N±0°.2×146°.4E±0°.9, h83km, n9, σ0s86/9, mb3.9/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**24.52**	**323**	P	**P**	**12 30 44.1**	**+0.3**
	1.1nm,0.6s,baz=150,slow=8.4,SNR=3.2						
	1.1nm,0.6s						
KLR	**Kul'dur**	**32.45**	**342**	P	**P**	**12 31 54.6**	**+0.2**
	1.2nm,0.6s,baz=175,slow=5.5,SNR=5.0						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**40.38**	**198**	P	**P**	**12 33 01.0**	**-1.2**
	0.3nm,0.9s,baz=20,slow=8.6,SNR=1.3						
	0.3nm,0.9s						
SONM	**Songino Array**	**43.37**	**321**	P	**P**	**12 33 26.3**	**-0.1**
	0.4nm,0.6s,baz=136,slow=6.3,SNR=2.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**44.04**	**197**	P	**P**	**12 33 33.1**	**+1.2**
	0.1nm,0.6s,baz=19,slow=7.6,SNR=1.7						
	0.1nm,0.6s						
ZALV	**Zalesovo Beam**	**58.23**	**322**	P	**P**	**12 35 16.7**	**-1.1**
	0.7nm,0.5s,baz=99,slow=9.6,SNR=4.1						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**58.77**	**314**	P	**P**	**12 35 21.9**	**+0.2**
	0.6nm,0.6s,baz=94,slow=8.4,SNR=11						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**61.58**	**318**	P	**P**	**12 35 40.2**	**-0.6**
	1.0nm,0.6s,baz=94,slow=7.5,SNR=12						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**66.71**	**320**	P	**P**	**12 36 14.0**	**-0.3**
	1.5nm,0.5s,baz=101,slow=7.1,SNR=9.6						
	1.5nm,0.5s						

*NEIC **08** 12:33:09.6±1.1, 19°.24N±0°.05×155°.38W±0°.04, h25km±10km, Error ellipse: s-maj=7.4km s-min=5.0km az=159.0*
HVO 08 12:33:11.2±1.4, 19°.248N±0°.010×155°.379W±0°.009, h6km±2km, ML2.6/10, ML2.2/50(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=150.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.02**	**241**		Sg	12 33 16.7	+3.6
HLP	**Hilina Pali**	**0.08**	**54**		Pg	12 33 13.9	+0.8
HLP	**Hilina Pali**	**0.08**	**54**	IAML		12 33 15.1	
	comp=E,465nm,1.6s						
HLP				IAML		12 33 15.9	
	comp=N,482nm,0.4s						
AIN	**Ainahou**	**0.14**	**329**		Pg	12 33 14.4	+0.2
AIN				IAML		12 33 18.3	
	comp=N,711nm,0.4s						
AIN				IAML		12 33 18.0	
	comp=E,817nm,0.3s						
AIN	**Ainahou**	**0.14**	**329**		Sg	12 33 20.9	+4.7
SDHHI	**Sand Hill**	**0.16**	**29**		Sg	12 33 18.4	+1.7
SDHHI	**Sand Hill**	**0.16**	**29**		Pg	12 33 14.9	+0.4
SDHHI				IAML		12 33 19.5	
	comp=E,985nm,0.7s						
SDHHI	**Sand Hill**	**0.16**	**29**	IAML		12 33 18.3	
	comp=N,965nm,1.2s						
WRMHI	**West Rim**	**0.17**	**25**		Pg	12 33 15.0	+0.3
WRMHI				IAML		12 33 18.8	
	comp=N,908nm,1.5s						
WRMHI	**West Rim**	**0.17**	**25**		Sg	12 33 18.4	+1.4
WRMHI	**West Rim**	**0.17**	**25**	IAML		12 33 15.8	
	comp=E,782nm,1.1s						
RIM	**Rim**	**0.18**	**34**		Pg	12 33 15.1	+0.3
RIM	**Rim**	**0.18**	**34**	IAML		12 33 16.3	
	comp=N,797nm,1.1s						
RIM				IAML		12 33 16.3	
	comp=E,570nm,1.1s						
KKO	**Keanakako'i**	**0.18**	**35**		Pg	12 33 15.2	+0.4
KKO	**Keanakako'i**	**0.18**	**35**	IAML		12 33 20.5	
	comp=E,582nm,1.2s						
KKO				IAML		12 33 20.7	
	comp=N,682nm,1.1s						
UWE	**Uwekahuna**	**0.19**	**25**		Pg	12 33 15.3	+0.3
UWE	**Uwekahuna**	**0.19**	**25**	IAML		12 33 16.7	
	comp=N,824nm,2.0s						
UWE				IAML		12 33 16.7	
	comp=E,1μm,1.5s						
OBL	**Observatory Le**	**0.19**	**28**		Pg	12 33 18.8	+3.8
BYL	**Byron's Ledge**	**0.20**	**34**	Pg	Pg	12 33 14.6	-0.6
BYL				IAML		12 33 16.4	
	comp=N,426nm,1.1s						
BYL				IAML		12 33 17.1	
	comp=E,376nm,1.8s						
PUH	**Pauahi**	**0.20**	**51**		Pg	12 33 15.4	+0.3
PUH					Sg	12 33 18.6	+0.8
UWB	**Uwekahuna B**	**0.20**	**28**		Sg	12 33 18.8	+0.9
UWB	**Uwekahuna B**	**0.20**	**28**		Pg	12 33 15.3	+0.2
UWB	**Uwekahuna B**	**0.20**	**28**	IAML		12 33 16.0	
	comp=N,293nm,2.0s						
UWB				IAML		12 33 16.9	
	comp=E,186nm,1.5s						
HATHI	**Halema'uma'u T**	**0.21**	**32**		Pg	12 33 15.6	+0.3
HATHI	**Halema'uma'u T**	**0.21**	**32**		Sg	12 33 19.1	+1.0
HATHI	**Halema'uma'u T**	**0.21**	**32**	IAML		12 33 16.2	
	comp=N,305nm,1.1s						
HATHI				IAML		12 33 16.9	
	comp=E,506nm,0.7s						
SBLHI	**Steaming Bluff**	**0.21**	**30**		Pg	12 33 15.5	+0.2
SBLHI	**Steaming Bluff**	**0.21**	**30**	IAML		12 33 16.0	
	comp=N,337nm,1.1s						
SBLHI				IAML		12 33 17.2	
	comp=E,304nm,1.4s						
KHU	**Kahuku**	**0.22**	**270**		Pg	12 33 15.9	+0.3
KHU	**Kahuku**	**0.22**	**270**	IAML		12 33 22.1	
	comp=E,174nm,0.9s						
KHU				IAML		12 33 22.6	
	comp=N,273nm,1.2s						
HPO	**Honuapo**	**0.23**	**226**		Pg	12 33 20.6	+4.9
RSD	**Rainshed**	**0.23**	**24**		Pg	12 33 15.9	0.0
RSD	**Rainshed**	**0.23**	**24**	IAML		12 33 20.0	
	comp=E,246nm,2.0s						
RSD				IAML		12 33 21.7	
	comp=N,218nm,2.4s						
KNHH	**Kane Nui o Ham**	**0.24**	**56**		Pg	12 33 17.0	+1.1
MLH	**Mauna Loa**	**0.24**	**358**		Pg	12 33 16.5	+0.4
MLH	**Mauna Loa**	**0.24**	**358**	IAML		12 33 20.6	
	comp=N,331nm,1.5s						
MLH				IAML		12 33 24.0	
	comp=E,234nm,0.4s						
STCH	**Steam Cracks**	**0.28**	**60**		Pb	12 33 17.8	-0.8
STCH	**Steam Cracks**	**0.28**	**60**	IAML		12 33 26.1	
	comp=E,289nm,0.3s						
STCH				IAML		12 33 26.3	
	comp=N,377nm,1.0s						
NPOC	**North of Pu'u**	**0.29**	**60**	Pg	Pg	12 33 17.2	+0.3
NPOC				IAML		12 33 27.1	
	comp=E,479nm,0.8s						
JCUZ	**Jacuzzi**	**0.29**	**63**	Pg	Pg	12 33 17.5	+0.5
JCUZ				IAML		12 33 27.3	
	comp=E,378nm,0.5s						
MWH	**Moku'aweowe**	**0.31**	**319**		Pg	12 33 17.2	-0.3
MWH				IAML		12 33 27.5	
	comp=E,429nm,1.1s						
MWH				IAML		12 33 27.9	
	comp=N,264nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.34**	**327**	Pg	Pg	12 33 17.7	-0.3
MLOA				IAML		12 33 29.0	
	comp=N,286nm,0.7s						
HMH	**Humu'ula Sheep**	**0.37**	**344**		Pg	12 33 18.0	-0.4
HMH				IAML		12 33 29.2	
	comp=N,329nm,0.3s						
HMH				IAML		12 33 29.4	
	comp=E,285nm,0.3s						
ALEP	**Alea Permanent**	**0.39**	**319**		Pg	12 33 19.1	+0.3
JOKA	**Jonika Flow**	**0.40**	**62**		Pg	12 33 19.2	+0.2
POHA	**Pohakuloa**	**0.53**	**344**		Pg	12 33 21.2	-0.2
POHA	**Pohakuloa**	**0.53**	**344**	Pg	Pg	12 33 20.8	-0.6
POHA				IAML		12 33 38.0	
	comp=E,288nm,0.5s						
POHA				IAML		12 33 38.7	
	comp=E,243nm,0.3s						
CPH	**Captain Cook**	**0.56**	**295**		Pg	12 33 21.6	-0.4
KHLU	**Kahalu`u**	**0.59**	**305**		Pg	12 33 21.9	-0.8
KHLU				IAML		12 33 35.9	
	comp=N,178nm,0.3s						
KHLU				IAML		12 33 39.9	
	comp=E,166nm,0.8s						
HUH	**Hualalai**	**0.61**	**315**	Pg	Pg	12 33 22.9	-0.1
HPAH	**Hawaii Prepara**	**0.83**	**339**	Pg	Pg	12 33 25.4	-1.8

*IDC **08** 12:58:26.8±0.4, 6°.76N×72°.96W, h160km±3km, mb4.4/22, mbtmp4.9/27, MS3.6/17, Error ellipse: s-maj=7.4km s-min=5.9km az=111.0*
*NEIC **08** 12:58:26.7, 6°.80N×73°.00W, h160km*
*NEIC **08** 12:58:26.7, 6°.90N×73°.10W, h160km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}1.45; $M_{\theta\theta}$-2.93; $M_{\phi\phi}$ 1.47; $M_{r\theta}$-0.28; $M_{r\phi}$-0.26; $M_{\theta\phi}$0.89; Fault plane solution: M_o2.67000×10^{16} NP1: ϕ_s301.68000°, δ62.68000°, λ143.13000°. NP2: ϕ_s50.67000°, δ57.78000°, λ32.85000°. Principal axes: T 2.3786, Plg45.0000°, Azm264.0000°; N 0.5744, Plg45.0000°, Azm90.0000°; P -2.9531, Plg3.0000°, Azm357.0000°;*
*UPA **08** 12:58:26.6±2.6, 6°.80N×73°.08W, h60km±58km, MW5.4*
*VAO **08** 12:58:27.1±0.2, 6°.68N×73°.09W, h154km, mb4.9*
*RSNC **08** 12:58:27.6±1.5, 6°.84N×73°.14W, h155km±5km, ML5.2, Mw5.5, Fault plane solution: NP1:ϕ_s68.00000°, δ73.00000°, λ15.00000°.*
*NEIC **08** 12:58:27.2±2.0, 6°.79N±0°.06×72°.98W±0°.07, h153km±4km, mb5.1/222, Mww4.9/14, Error ellipse: s-maj=10.3km s-min=7.6km az=125.0*
*GCMT **08** 12:58:29.2±0.3, 6°.89N±0°.02×73°.12W±0°.02, h157km±2km, MW5.0/85, Moment Tensor Solution. s32,c38; s85,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.14±.11; $M_{\theta\theta}$-3.86±.12; $M_{\phi\phi}$2.73±.14; $M_{r\theta}$-0.41±.09; $M_{\theta\phi}$1.13±.14; $M_{r\phi}$1.28±.11; Best double couple: M_o3.82600×10^{16} NP1:ϕ_s321.00000°, δ76.00000°, λ155.00000°. NP2: ϕ_s57.00000°, δ66.00000°, λ15.00000°. Principal axes: T 3.5290, Plg27.0000°, Azm277.0000°; N 0.6060, Plg62.0000°, Azm114.0000°; P -4.1240, Plg7.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 12:58:26.5±0.3, 6°.83N±0°.03×73°.05W±0°.03, h158km±2km, h158km:pP-P, n1055, σ1s77/1217, mb5.1/140, 20C-29D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**209**	⇑*iP*	**Pn**	**12 58 48.3**	**+0.1**
BARC				*eS*	**Sn**	**12 59 03.7**	**-1.1**
BARC				*i*		12 59 04.6	
	comp=Z,56μm,0.4s						
PAMC	**Pamplona, Colo**	**0.61**	**34**	⇑*iP*	**Pn**	**12 58 51.2**	**+1.3**
PAMC				*eS*	**Sn**	**12 59 08.3**	**+0.5**
PAMC				*i*		12 59 10.7	
	comp=Z,49μm,0.5s						
TAMC	**Tame, Arauca**	**1.31**	**107**	⇑*iP*	**Pn**	**12 58 56.8**	**+1.9**
TAMC				*eS*	**Sn**	**12 59 18.7**	**+2.2**
TAMC				*i*		12 59 28.7	
	comp=Z,7μm,0.6s						
OCAC	**Ocana**	**1.42**	**349**	⇓*iP*	**Pn**	**12 58 56.3**	**+0.2**
OCAC				*eS*	**Sn**	**12 59 18.3**	**-0.5**
OCAC				*i*		12 59 23.0	
	comp=Z,51μm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.43**	**258**	⇓*iP*	**Pn**	**12 58 54.7**	**-1.3**
PTBC				*eS*	**Sn**	**12 59 16.1**	**-2.5**
PTBC				*i*		12 59 20.7	
	comp=Z,8μm,0.5s						
SPBC	**San Pablo de B**	**1.55**	**221**	⇓*iP*	**Pn**	**12 58 57.0**	**-0.3**
SPBC				*eS*	**Sn**	**12 59 20.2**	**-0.8**
SPBC				*i*		12 59 24.3	
	comp=Z,19μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.91**	**290**	⇑*iP*	**Pn**	**12 59 00.2**	**-0.9**
ZARC				*eS*	**Sn**	**12 59 25.9**	**-1.8**
ZARC				*i*		12 59 31.9	
	comp=Z,29μm,0.4s						
ROSC	**El Rosal**	**2.35**	**213**	Pn	**Pn**	**12 59 07.9**	**+1.3**
ROSC				Sn	**Sn**	**12 59 34.6**	**-2.9**
ROSC	**El Rosal**	**2.35**	**213**	P	**Pn**	**12 59 08.0**	**+1.3**
	comp=Z,13μm,0.5s,baz=127,slow=22,SNR=2321						
ROSC				S	**Sn**	**12 59 37.4**	**-0.1**
	comp=Z,19μm,0.4s,baz=126,slow=18,SNR=7.6						
ROSC	**El Rosal**	**2.35**	**213**	⇓*iP*	**Pn**	**12 59 08.1**	**+1.4**
	comp=Z,33μm,0.5s						
ROSC				*eS*	**Sn**	**12 59 37.1**	**-0.4**
ROSC				*i*		12 59 43.7	
	comp=Z,33μm,0.5s						
BOG	**Bogota**	**2.42**	**205**	*eP*	**Pn**	**12 59 09.1**	**+1.7**
BOG				*eS*	**Sn**	**12 59 39.5**	**+0.6**
CVER	**Cruz Verde, Cu**	**2.51**	**204**	⇓*iP*	**Pn**	**12 59 09.7**	**+1.0**
CVER				*eS*	**Sn**	**12 59 41.2**	**+0.1**
CVER				*i*		12 59 47.9	
	comp=Z,12μm,0.4s						
MEDEC	**Medeln, Ant**	**2.58**	**258**	*eP*	**Pn**	**12 59 09.5**	**+0.3**
MEDEC				*eS*	**Sn**	**12 59 40.8**	**-1.4**
UREC	**San Jos de Ur**	**2.63**	**291**	⇑*iP*	**Pn**	**12 59 07.7**	**-1.9**
UREC				*eS*	**Sn**	**12 59 39.4**	**-3.5**
UREC				*i*		12 59 50.1	
	comp=Z,10μm,0.3s						
PTGC	**Puerto Gaitan,**	**2.77**	**161**	⇑*iP*	**Pn**	**12 59 11.4**	**+0.1**
PTGC				*eS*	**Sn**	**12 59 43.7**	**-2.4**
PTGC				*i*		12 59 47.7	
	comp=Z,15μm,0.5s						
VILC	**Villavicencio,**	**2.78**	**193**	⇓*iP*	**Pn**	**12 59 11.6**	**0.0**
VILC				*eS*	**Sn**	**12 59 45.8**	**-0.7**
VILC				*i*		12 59 49.1	
	comp=Z,23μm,0.5s						
GUY2C	**Guyana, Caldas**	**2.80**	**235**	⇓*eP*	**Pn**	**12 59 12.0**	**-0.2**
GUY2C				*eS*	**Sn**	**12 59 47.8**	**+0.3**
GUY2C				*i*		12 59 58.7	
	comp=Z,14μm,0.5s						
LL6C	**La Loma 6 Bece**	**2.89**	**356**	⇓*iP*	**Pn**	**12 59 12.8**	**-0.2**
LL6C				*eS*	**Sn**	**12 59 48.1**	**-0.8**
LL6C				*i*		13 00 02.3	
	comp=Z,5μm,0.5s						
RECRC	**Villamaria, Ca**	**2.95**	**231**	*eP*	**Pn**	**12 59 14.9**	**+0.7**
RECRC				*eS*	**Sn**	**12 59 51.4**	**+0.5**
LL5C	**La Loma 5 El P**	**2.98**	**347**	*eP*	**Pn**	**12 59 14.5**	**+0.6**
LL5C				*eS*	**Sn**	**12 59 51.6**	**+0.9**
LL5C				*i*		12 59 58.2	
	comp=Z,6μm,0.5s						
NIZA	**Niza - Manizal**	**2.98**	**234**	*eP*	**Pn**	**12 59 16.1**	**+1.9**
NIZA				*eS*	**Sn**	**12 59 52.7**	**+1.5**
CMAN1	**Manizales, Cal**	**3.02**	**235**	*eP*	**Pn**	**12 59 18.3**	**+3.6**
CMAN1				*eS*	**Sn**	**12 59 53.8**	**+1.7**
CBOC	**Ciudad Bolivar**	**3.10**	**252**	⇑*iP*	**Pn**	**12 59 15.5**	**-0.1**
CBOC				*eS*	**Sn**	**12 59 51.3**	**-2.3**
CBOC				*i*		13 00 03.4	
	comp=Z,5μm,0.5s						
DBBC	**Dabeiba**	**3.14**	**274**	⇑*iP*	**Pn**

comp=Z,3µm,0.6s
LCBC Los crdobas, 3.85 302 *e*P **Pn 12 59 23.8 -1.3**
LCBC eS **Sn 13 00 05.7 -5.0**
LCBC Los crdobas, 3.85 302 eP **Pn 12 59 22.9 -2.2**
LCBC eS **Sn 13 00 09.5 -1.2**
LCBC *i* 13 00 13.0
comp=Z,4µm,0.5s
CRJC Cerrejon, Guaj 4.17 2 ||*i*P **Pn 12 59 28.4 -0.8**
CRJC eS **Sn 13 00 16.1 -2.1**
CRJC *i* 13 00 19.6
comp=Z,4µm,0.4s
YOTC Yotoco, Valle 4.33 229 ||*i*P **Pn 12 59 30.4 -1.0**
YOTC eS **Sn 13 00 27.3 +5.2**
YOTC *i* 13 00 32.5
comp=Z,847nm,0.5s
SOLC Bahia Solano 4.37 262 *e*P **Pn 12 59 32.1 +0.2**
SMRC Santa Marta, M 4.46 345 ||*e*P **Pn 12 59 32.2 -0.8**
SMRC eS **Sn 13 00 21.3 -3.6**
SMRC *i* 13 00 29.2
comp=Z,2µm,0.7s
CAPC Capurgana 4.62 293 ||*e*P **Pn 12 59 31.7 -3.5**
CAPC eS **Sn 13 00 23.7 -5.1**
CAPC *i* 13 00 26.4
comp=Z,2µm,0.7s
PIZC Pizarro, Choco 4.67 247 *e*P **Pn 12 59 36.2 +0.4**
PIZC eS **Sn 13 00 28.8 -1.0**
PIZC *i* 13 00 43.3
comp=Z,2µm,0.6s
PTAC Punta Ardita, 4.74 274 *e*P **Pn 12 59 35.1 -1.6**
PTAC Punta Ardita, 4.74 274 *e*P **Pn 12 59 35.0 -1.6**
PTAC eS **Sn 13 00 27.6 -3.6**
PTAC *i* 13 00 28.4
comp=Z,800nm,0.4s
BETC Betania 4.76 210 ||*e*P **Pn 12 59 35.6 -1.5**
BETC eS **Sn 13 00 25.9 -6.1**
BETC *i* 13 00 33.8
comp=Z,2µm,0.5s
URIC Uribia, Colomb 4.95 12 Pn **Pn 12 59 38.4 -1.0**
URIC Uribia, Colomb 4.95 12 ||*i*P **Pn 12 59 38.5 -1.0**
URIC eS **Sn 13 00 33.1 -3.4**
URIC *i* 13 00 41.1
comp=Z,826nm,0.4s
JAMC Jamundi, Valle 5.09 225 ||*e*P **Pn 12 59 40.4 -1.1**
JAMC eS **Sn 13 00 39.2 -1.0**
JAMC *i* 13 01 03.0
comp=Z,628nm,0.5s
MALC Bahia Malaga 5.10 237 *e*P **Pn 12 59 42.4 +1.0**
MALC eS **Sn 13 00 40.7 +0.7**
MALC *i* 13 00 53.4
comp=Z,1µm,0.8s
UPD2 Meteti 5.21 289 *e*P **Pn 12 59 41.0 -1.9**
UPD2 eS **Sn 13 00 40.3 -2.2**
UPD2 Meteti 5.21 289 eP **Pn 12 59 40.3 -2.5**
UPD2 eS **Sn 13 00 38.8 -3.7**
UPD2 *i* 13 00 56.5
comp=Z,2µm,0.5s
GARC Garzon, Huila 5.22 208 ||*i*P **Pn 12 59 41.8 -1.4**
GARC eS **Sn 13 00 37.7 -5.4**
GARC *i* 13 00 44.9
comp=Z,2µm,0.6s
BAUV El Baul 5.39 67 **Pn 12 59 44.2 -1.0**
BAUV El Baul 5.39 67 *e*P **Pn 12 59 44.4 -0.8**
BAUV El Baul 5.39 67 eS **Sn 13 00 42.4 -4.4**
POPC Popayan, Colom 5.59 220 *e*P **Pn 12 59 48.5 +0.4**
POPC eS **Sn 13 00 52.2 +0.3**
TOTI Torti 5.61 292 *e*P **Pn 12 59 45.5 -2.7**
TOTI eS **Sn 13 00 48.0 -4.2**
CNTA3 Canitas, Panam 6.25 293 *e*P **Pn 12 59 54.7 -2.0**
CNTA3 eS **Sn 13 01 02.5 -4.8**
BBAC Balboa, Cauca 6.35 221 ||*e*P **Pn 12 59 57.1 -1.1**
BBAC eS **Sn 13 01 06.5 -3.6**
BBAC *i* 13 01 19.8
comp=Z,299nm,0.5s
GR1C Gorgona, Isla 6.36 234 *e*P **Pn 12 59 56.7 -1.5**
GR1C eS **Sn 13 01 06.1 -3.8**
AUA1 Aruba 6.38 28 Pn **Pn 12 59 59.6 +1.1**
CRUC La Cruz 6.52 217 ||*e*P **Pn 13 00 01.8 +1.2**
CRUC eS **Sn 13 01 17.4 +3.1**
HATO Hato, Curacao 6.67 37 Pn **Pn 13 00 01.9 -0.4**
UPA Univ. de Panam 6.77 289 *e*P **Pn 13 00 00.9 -2.7**
UPA eS **Sn 13 01 20.7 +1.0**
UPA Univ. de Panam 6.77 289 eP **Pn 13 00 00.8 -2.7**
UPA eS Sn 13 01 10.2 -10
ARRA3 Arraijan, Pana 6.88 288 *e*P **Pn 13 00 02.5 -2.5**
GCUF Volcan Galeras 7.03 218 ||*e*P **Pn 13 00 07.8 +0.3**
GCUF eS **Sn 13 01 25.8 -0.8**
GCUF *i* 13 01 33.5
comp=Z,270nm,0.5s
ACHO3 Achotines, Los 7.09 275 *e*P **Pn 13 00 06.5 -1.4**
BCIP Isla Barro Col 7.11 289 Pn **Pn 13 00 05.8 -2.3**
BCIP Isla Barro Col 7.11 289 *e*P **Pn 13 00 05.8 -2.3**
BCIP eS **Sn 13 01 23.7 -4.2**
BCIP Isla Barro Col 7.11 289 eP **Pn 13 00 05.8 -2.3**
BCIP *i* 13 01 19.7
comp=Z,111nm,0.7s
AZU Azuero 7.23 278 ||*e*P **Pn 13 00 08.3 -1.4**
AZU eS **Sn 13 01 24.0 -6.8**
AZU Azuero 7.23 278 eP **Pn 13 00 07.9 -1.8**
CHIT3 Chitre 7.39 279 *e*P **Pn 13 00 10.5 -1.4**
CHIT3 eS **Sn 13 01 28.0 -6.7**
TUMC Tumaco 7.54 229 *e*P **Pn 13 00 11.6 -2.1**
TUMC eS **Sn 13 01 31.7 -6.5**
TUMC *i* 13 01 46.0
comp=Z,334nm,0.7s
CMBC Cumbal 7.54 219 *e*P **Pn 13 00 15.2 +0.9**
TULM Tulcn-Chalpat 7.70 218 **Pn 13 00 16.9 +0.5**
TULM Tulcn-Chalpat 7.70 218 eP **Pn 13 00 16.6 +0.3**
TULM eS **Sn 13 01 41.5 -1.2**
BONI La Bonita 7.75 215 eP **Pn 13 00 17.4 +0.5**
MARI3 Mariato, Verag 7.92 276 *e*P **Pn 13 00 15.3 -3.6**
IMBA Imbabura, San 8.29 218 Pn **Pn 13 00 25.2 +0.9**
CUSE Cuicocha Este 8.40 220 *e*P **Pn 13 00 26.1 +0.4**
OTAV Otavalo 8.48 220 Pn **Pn 13 00 25.6 -1.2**
OTAV Otavalo 8.48 220 ||*i*P **Pn 13 00 25.5 -1.3**
OTAV eS **Sn 13 01 56.6 -5.0**
OTAV Otavalo 8.48 220 *e*P **Pn 13 00 25.6 -1.2**
PAC1 Pacto, Paraso 8.68 222 *e*P **Pn 13 00 26.2 -3.0**
PAC1 eS **Sn 13 02 01.6 -4.3**
PULU Pululahua 8.68 219 **Pn 13 00 28.5 -0.9**
NANC3 Nancito, Chiri 8.72 280 *e*P **Pn 13 00 29.3 -0.3**
PCRV Puerto La Cruz 8.96 68 P **Pn 13 00 31.9 -0.9**
comp=Z,57nm,0.4s,baz=313,slow=2.4,SNR=31
PCRV S **Sn 13 02 09.7 -2.8**
comp=Z,182nm,0.7s,baz=228,slow=16,SNR=1.8
PCRV LR LR 13 04 19.2
comp=Z,204nm,19.4s,slow=39
CHGR2 Aguacate 9.25 284 *e*P **Pn 13 00 35.7 -0.9**
SLOR San Lorenzo - 9.27 216 Pn **Pn 13 00 37.6 +0.3**
PIAT Ana Tenorio 9.36 214 *e*P **Pn 13 00 38.1 -0.2**
PEDE3 Pedregal, Chir 9.42 280 *e*P **Pn 13 00 39.1 +0.3**
PTAR3 Potrerillos Ar 9.54 282 *e*P **Pn 13 00 41.3 +0.7**
BCO2 Palmira 9.58 282 *e*P **Pn 13 00 41.5 +0.4**
BCO2 eS **Sn 13 02 26.0 -1.5**
CNI2 El Empalme, Bo 9.68 286 *e*P **Pn 13 00 42.4 +0.2**
BRU2 Volcan 9.75 282 Pn **Pn 13 00 43.9 +0.6**
BRU2 Volcan 9.75 282 eP **Pn 13 00 43.3 0.0**
MLIR3 Monte Lirio, C 9.88 282 *e*P **Pn 13 00 44.9 -0.1**
CDITO Canoas 9.89 281 **Pn 13 00 44.6 -0.4**
CHSH Refugio Sur-Vo 10.11 215 **Pn 13 00 47.0 -1.5**
DRK0 Durika 10.38 284 **Pn 13 00 51.4 -0.3**
PRVC Isla de Provid 10.45 309 *e*P **Pn 13 00 49.0 -3.5**
PRVC eS **Sn 13 02 40.4 -7.9**
RIMA Rio Macho 11.09 286 Pn **Pn 13 01 01.3 +0.3**
COHC Cochancay 11.12 214 Pn **Pn 13 01 00.7 -0.5**
COHC Cochancay 11.12 214 eP **Pn 13 01 02.9 +1.7**
LCR2 La Lucha 2 11.22 286 **Pn 13 01 03.0 +0.2**
BOSC San Juan Bosco 11.31 209 Pn **Pn 13 01 03.6 -0.3**
TBTG Tabatinga, AM 11.38 164 Pn **Pn 13 01 02.3 -2.4**
TBTG Tabatinga, AM 11.38 164 eP **Pn 13 01 02.4 -2.2**
TBTG Tabatinga, AM 11.38 164 eP **Pn 13 01 02.9 -1.7**
HDC Heredia 11.39 287 **Pn 13 01 05.6 +0.8**
HDC Heredia 11.39 287 eP **Pn 13 01 06.1 +1.3**
PAPH Port-au-Prince 11.64 4 Pn **Pn 13 01 09.0 +1.0**
PAPH Sn **Sn 13 03 11.2 -5.8**
PAPH Port-au-Prince 11.64 4 *e*P **Pn 13 01 10.7 +2.7**
PAPH eS **Sn 13 03 09.4 -7.5**
PAPH IAmb IAmb 13 03 13.5
comp=E,178nm,1.0s
PAPH IAmb IAmb 13 03 18.8
comp=N,273nm,1.3s
HOJ Hope 11.68 342 *i*P **Pn 13 01 11.6 +3.1**
GWJ Greenwich 11.74 343 *i*P **Pn 13 01 11.8 +2.5**

STH Stony Hill 11.76 342 *i*P **Pn 13 01 12.0 +2.4**
STH *i*S **Sn 13 03 11.1 -8.8**
STH Stony Hill 11.76 342 eP **Pn 13 01 11.7 +2.1**
STH eS Sn 13 03 09.0 -11
STH IAmb IAmb 13 03 14.8
comp=E,29µm,0.8s
STH IAmb IAmb 13 03 15.3
comp=N,59µm,0.3s
JACO JACO, Garabito 11.83 285 **Pn 13 01 12.6 +2.1**
COVE Coope Vega, Sa 11.87 290 **Pn 13 01 11.2 +0.3**
SOCE Pocosol 11.97 288 **Pn 13 01 13.4 +1.1**
ARE1 Arenal 1 12.09 288 **Pn 13 01 14.7 +0.9**
TRN Trinidad (W) 12.12 71 *e*P **Pn 13 01 10.9 -3.3**
MTDJ Mount Denham 12.14 339 Pn **Pn 13 01 16.4 +1.8**
MTDJ Sn Sn 13 03 19.7 -9.3
MTDJ Mount Denham 12.14 339 *i*P **Pn 13 01 16.8 +2.2**
MTDJ Mount Denham 12.14 339 *e*P **P 13 01 17.6 -3.0**
MTDJ eS **Sn 13 03 20.6 -8.5**
MTDJ IAmb IAmb 13 03 45.9
comp=N,4µm,1.5s
MTDJ IAmb IAmb 13 03 57.5
comp=N,1µm,0.9s
MTDJ Mount Denham 12.14 339 *e*P **Pn 13 01 16.7 +2.2**
MTDJ eS Sn 13 03 19.4 -10
SDDR Presa de Saban 12.20 8 Pn **Pn 13 01 16.2 +1.0**
SDDR Presa de Saban 12.20 8 eP **P 13 01 19.6 -1.6**
SDDR Presa de Saban 12.20 8 eP **Pn 13 01 15.6 +0.3**
JTS Las Juntas de 12.26 287 **Pn 13 01 16.7 +0.6**
JTS Las Juntas de 12.26 287 eP **Pn 13 01 15.9 -0.2**
JTS Las Juntas de 12.26 287 P **Pn 13 01 17.9 +1.8**
comp=N,70nm,0.9s,baz=67,slow=8.5,SNR=23
JTS S **Sn 13 03 34.8 +2.8**
comp=N,14nm,0.8s,baz=45,slow=20,SNR=1.5
JTS Las Juntas de 12.26 287 *e*P **Pn 13 01 15.9 -0.2**
ESPN Las Esperanzas 12.31 297 **Pn 13 01 15.6 -1.0**
GRGR Grenville 12.41 64 Pn **Pn 13 01 16.2 -1.7**
GRGR Grenville 12.41 64 eP **P 13 01 20.8 -2.7**
GRHS Sauteurs 12.46 64 eP **P 13 01 21.9 -2.1**
GCMP Grenada, Carri 12.76 63 eP **Pn 13 01 21.0 -0.8**
ORTG Ortega, Santa 12.76 287 **Pn 13 01 23.4 +0.8**
HZTE Horizontes, Gu 12.98 288 **Pn 13 01 26.3 +1.0**
ACON Acoyapa 13.00 294 **Pn 13 01 24.8 -0.8**
SJG San Juan 13.07 30 P **Pn 13 01 24.2 -2.2**
comp=N,127nm,0.4s,baz=206,slow=13,SNR=41
SJG S Sn 13 03 40.0 -11
comp=N,23nm,0.6s,baz=359,slow=23,SNR=1.7
SJG San Juan 13.07 30 *e*P **Pn 13 01 26.3 -0.2**
MCRA Macar, Loja 13.09 212 *e*P **Pn 13 01 24.2 -2.6**
MCRA eS **S 13 04 00.5 -2.5**
GTBY Guantanamo Bay 13.17 351 **Pn 13 01 27.6 -0.1**
GTBY Sn **Sn 13 03 45.0 -8.7**
GTBY Guantanamo Bay 13.17 351 *i*P **P 13 01 30.8 -1.1**
GTBY Guantanamo Bay 13.17 351 eP **P 13 01 30.8 -1.1**
GTBY eS **Sn 13 03 47.0 -6.7**
GTBY IAmb IAmb 13 04 15.4
comp=N,397nm,1.5s
GTBY IAmb IAmb 13 04 35.3
comp=N,1µm,2.3s
GTBY Guantanamo Bay 13.17 351 *e*P **P 13 01 31.2 -0.8**
BOAV Boa Vista 13.24 109 Pn **Pn 13 01 26.6 -2.0**
SVB Belmont 13.26 60 eP **Pn 13 01 24.9 -3.9**
TEFE Tefe 13.27 140 *e*P **Pn 13 01 28.7 -0.3**
MASC Masc 13.31 355 eP **P 13 01 32.3 -1.2**
MASC eS **Sn 13 03 50.7 -6.3**
MASC IAmb IAmb 13 04 04.7
comp=E,201nm,0.2s
MASC IAmb IAmb 13 04 04.8
comp=Z,258nm,1.6s
MASC IAmb IAmb 13 04 16.5
GTMO Guantanamo 13.33 351 *e*P **P 13 01 32.4 -1.2**
GTMO eS **Sn 13 03 48.6 -8.7**
GTMO IAmb IAmb 13 04 14.9
comp=N,6µm,1.0s
GTMO IAmb IAmb 13 04 21.2
RCC Rio Carpintero 13.34 349 *e*P **Pn 13 01 31.0 +1.2**
RCC eS **Sn 13 03 50.0 -7.6**
RCC IAmb IAmb 13 04 03.6
comp=N,53nm,0.9s
RCC IAmb IAmb 13 04 08.3
comp=E,258nm,0.1s
MARVS Santiago de Cu 13.38 348 *e*P **Pn 13 01 31.7 +1.4**
MARVS eS Sn 13 03 44.3 -14
MARVS IAmb IAmb 13 04 14.2
comp=E,95nm,1.0s
CHIV Chivirico 13.47 346 *e*P **P 13 01 34.9 -0.3**
CHIV eS Sn 13 03 49.2 -12
SABCS La Quijada 13.63 351 eP **P 13 01 36.8 -0.3**
SABCS eS **Sn 13 03 56.0 -8.7**
PILO Pilon 13.67 342 eP **P 13 01 36.3 -1.3**
PILO eS Sn 13 03 54.4 -11
PILO IAmb IAmb 13 04 03.5
comp=N,307nm,0.6s
PILO IAmb IAmb 13 04 03.6
comp=E,148nm,0.6s
SLB Belfond 13.70 59 *e*P **Pn 13 01 35.6 +1.1**
LMGC Las Mercedes 13.70 344 *e*P **P 13 01 36.6 -1.3**
LMGC eS Sn 13 03 52.6 -14
LMGC IAmb IAmb 13 04 00.9
comp=N,64nm,0.8s
LMGC IAmb IAmb 13 04 04.3
comp=E,70nm,0.5s
NMDO Nuevo Mundo 13.78 352 *e*P **P 13 01 38.8 +0.1**
NMDO eS Sn 13 03 58.5 -10
NMDO IAmb IAmb 13 04 16.8
NMDO IAmb IAmb 13 04 26.6
comp=N,382nm,1.9s
PINC Pinares de May 13.83 349 *e*P **P 13 01 40.0 +0.7**
SLBI Saint Lucia, B 13.86 58 *e*P **Pn 13 01 36.1 -0.3**
MOAC Moa 13.87 353 eP **P 13 01 41.1 +1.4**
MOAC eS Sn 13 03 59.6 -11
MOAC IAmb IAmb 13 04 12.2
comp=N,108nm,0.6s
MOAC IAmb IAmb 13 04 15.2
comp=E,166nm,1.0s
BIM Bigot 14.03 56 *e*P **Pn 13 01 34.0 -4.6**
MATN Matagalpa 14.05 297 Pn **Pn 13 01 38.9 -0.2**
FDF Fort de France 14.07 55 **Pn 13 01 38.5 -0.7**
FDF Fort de France 14.07 55 eP **Pn 13 01 34.8 -4.4**
MPOM Morne Pois Mar 14.16 57 *e*P **Pn 13 01 40.2 0.0**
HLGC Holguin 14.28 349 eP **P 13 01 48.6 +4.3**
HLGC eS **Sn 13 04 16.8 -3.5**
HLGC IAmb IAmb 13 04 25.5
comp=N,151nm,0.8s
HLGC IAmb IAmb 13 04 25.9
comp=E,482nm,1.3s
CZSB Cruzeiro do Su 14.47 179 Pn **Pn 13 01 43.7 -0.4**
CZSB Cruzeiro do Su 14.47 179 eP **Pn 13 01 43.0 -1.1**
CZSB Cruzeiro do Su 14.47 179 eP **Pn 13 01 43.6 -0.5**
CBE Ff, Capester 14.48 50 eP **Pn 13 01 42.8 -1.5**
CNGN Cerro Negro 14.58 294 **Pn 13 01 46.1 +0.6**
BBGH Gun Hill 14.69 64 eP **Pn 13 01 35.2 -12**
FSCY Frank Sound, G 14.71 328 eP **Pn 13 01 37.4 -10**
ATAH Atahualpa 14.86 201 P **Pn 13 01 48.1 -1.3**
comp=E,26nm,0.7s,baz=27,slow=6.1,SNR=26
ATAH S **S 13 04 41.2 +0.5**
comp=E,76nm,0.9s,baz=66,slow=20,SNR=6.1
ANBD Bethesda, Anti 14.99 46 *e*P **P 13 01 52.0 -0.1**
CCCC Cccc 15.00 343 *e*P **P 13 01 55.6 +3.4**
GDSD La Dsirade Is 15.04 50 P **Pn 13 01 51.0 -0.2**
MACA Manacapuru-AM 15.84 128 *e*P **P 13 02 01.5 -0.1**
ETMB Extrema 17.89 158 P **P 13 02 24.2 +0.1**
ETMB Extrema 17.89 158 eP **P 13 02 24.2 +0.1**
CAMR Camarioca 18.02 334 P **Pn 13 02 27.1 0.0**
SAML Samuel 18.50 148 P **P 13 02 30.9 +0.1**
SAML Samuel 18.50 148 eP **P 13 02 30.3 -0.5**
SOR Soroa 18.54 330 P **Pn 13 02 32.9 -0.5**
PAYG Puerto Ayora 18.75 247 **Pn 13 02 35.7 -0.1**
NNA Nana 19.07 191 P **P 13 02 37.0 0.0**
comp=E,31nm,0.7s,baz=352,slow=8.8,SNR=14
NNA S **S 13 06 07.1 +1.8**
comp=E,8.2nm,0.4s,baz=324,slow=20,SNR=1.7
TEIG Tepich 19.89 314 P **P 13 02 47.3 +1.5**
comp=E,2µm,0.7s,baz=58,slow=2.1,SNR=56
TEIG S **S 13 06 23.5 +2.4**
comp=E,107nm,0.9s,baz=166,slow=21,SNR=2.4
MDP Montagnes des 20.37 94 P **P 13 02 52.1 +1.0**
comp=E,102nm,0.9s,baz=259,slow=11,SNR=16
MDP pP **pP 13 03 17.5 -1.2**
comp=E,69nm,0.8s,baz=271,slow=14,SNR=4.2
MDP S **S 13 06 34.7 +3.8**
comp=E,21nm,1.0s,baz=352,slow=17,SNR=2.3
comp=E,102nm,0.9s
ITTB Itaituba 20.55 122 *e*P **P 13 02 54.5 +1.4**

MALB Monte Alegre 20.64 114 *e*P **P 13 02 55.4 +1.5**
CCIG Comitan 20.91 298 P **P 13 02 56.9 -0.1**
MCPB Macapa, AP 22.13 108 *e*P **P 13 03 10.4 +0.8**
NPGB Novo Progresso 22.39 128 *e*P **P 13 03 12.0 -0.1**
DWPF Disney Wildern 22.61 340 P **P 13 03 16.3 +2.3**
baz=158
VILB Vilhena 23.44 147 P **P 13 03 21.9 +0.2**
VILB Vilhena 23.44 147 *e*P **P 13 03 22.5 +0.7**
LPAZ La Paz 23.48 168 P **P 13 03 22.3 -0.5**
PDRB Porto dos Gac 24.48 138 *e*P **P 13 03 31.5 +0.3**
CLDB Colider 24.58 136 *e*P **P 13 03 32.4 +0.2**
SIV San Ignacio 25.59 152 P **P 13 03 41.0 -0.3**
comp=E,7.9nm,0.8s,baz=326,slow=8.8,SNR=33
comp=E,7.9nm,0.8s
PTLB Pontes e Lacer 26.08 148 *e*P **P 13 03 44.9 -0.8**
TIGA Tifton 26.39 339 P **P 13 03 50.9 +2.5**
baz=156
TIGA Tifton 26.39 339 P **P 13 03 51.1 +2.7**
baz=156
GO01 Chusmiza 26.61 172 P **P 13 03 49.5 -1.4**
GO01 IAmb IAmb 13 04 27.5
comp=Z,34nm,0.8s
PB11 IPOC Station P 26.64 173 P **P 13 03 49.5 -1.3**
PB11 IAmb IAmb 13 04 25.6
comp=Z,47nm,0.8s
BBSD Serra de San D 26.85 153 *e*P **P 13 03 51.2 -1.3**
352A Blakely 26.92 337 P **P 13 03 55.7 +2.6**
baz=153,SNR=5.9
TLIG Tlapa 27.09 296 P **P 13 03 57.0 +2.1**
TLIG IAmb IAmb 13 04 03.5
comp=Z,42nm,0.8s
Y60A Bolivia 27.46 351 P **P 13 03 59.6 +1.7**
Y60A Bolivia 27.46 351 P **P 13 04 00.1 +2.3**
baz=169,SNR=6.4
Y60A P **P 13 04 00.1 +2.3**
baz=169,SNR=6.4
HAW Hawthorne Fire 27.57 344 P **P 13 04 01.0 +2.2**
baz=161
250A Grady 27.89 335 P **P 13 04 03.5 +1.8**
250A Grady 27.89 335 P **P 13 04 04.2 +2.4**
baz=151,SNR=6.6
152A Waverly Hall 27.91 339 P **P 13 04 03.9 +2.0**
152A Waverly Hall 27.91 339 P **P 13 04 04.3 +2.4**
baz=155,SNR=13
GOGA Godfrey 28.16 341 P **P 13 04 06.0 +2.0**
GOGA IAmb IAmb 13 04 07.5
comp=Z,27nm,0.8s
GOGA Godfrey 28.16 341 P **P 13 04 06.3 +2.2**
baz=158,SNR=8.7
GOGA Godfrey 28.16 341 P **P 13 04 06.3 +2.2**
baz=158,SNR=8.7
BBRB Robore, Bolivi 28.16 153 *e*P **P 13 04 03.1 -1.1**
JSC Jenkinsville 28.35 346 P **P 13 04 07.5 +1.7**
JSC IAmb IAmb 13 04 09.0
comp=Z,35nm,0.9s
JSC Jenkinsville 28.35 346 P **P 13 04 07.8 +2.1**
baz=163,SNR=9.6
SALV Santo Antonio 28.38 143 *e*P **P 13 04 05.6 -0.6**
BIRD Birdtown, Kers 28.51 347 P **P 13 04 09.1 +2.0**
baz=164
HODGE Hodges 28.57 344 P **P 13 04 09.2 +1.5**
HODGE IAmb IAmb 13 04 10.9
comp=Z,28nm,0.8s
HODGE Hodges 28.57 344 P **P 13 04 09.6 +1.9**
baz=161,SNR=11
SNDB Serra Nova Dou 28.59 131 *e*P **P 13 04 08.7 +0.6**
W59A Clinton 28.64 351 P **P 13 04 09.6 +1.3**
W59A IAmb IAmb 13 04 11.4
comp=Z,26nm,0.8s
Z51A Franklin 28.66 338 P **P 13 04 11.3 +2.8**
baz=154
Y52A Lilburn 28.77 341 P **P 13 04 11.2 +1.8**
Y52A IAmb IAmb 13 04 12.5
comp=Z,26nm,0.7s
Y52A Lilburn 28.77 341 P **P 13 04 11.9 +2.5**
baz=157,SNR=6.7
Y52A P **P 13 04 11.9 +2.5**
baz=157,SNR=6.7
346A Big Creek Wild 28.86 330 P **P 13 04 11.7 +1.4**
346A Big Creek Wild 28.86 330 P **P 13 04 12.5 +2.2**
baz=144,SNR=7.5
PAULI Pauline 29.00 345 P **P 13 04 13.4 +1.9**
baz=162,SNR=6.5
LRAL Lakeview Retre 29.12 335 P **P 13 04 14.8 +2.2**
LRAL IAmb IAmb 13 04 16.1
comp=Z,31nm,0.8s
LRAL Lakeview Retre 29.12 335 P **P 13 04 14.7 +2.2**
baz=151,SNR=12
LRAL Lakeview Retre 29.12 335 P **P 13 04 14.5 +2.0**
baz=151,SNR=12
KMSC Kings Mountain 29.19 346 P **P 13 04 15.4 +2.3**
baz=163
KMSC Kings Mountain 29.19 346 P **P 13 04 15.4 +2.3**
baz=163
V58A Windy Hill, Pi 29.36 350 P **P 13 04 16.5 +1.9**
baz=168
V58A P **P 13 04 16.5 +1.9**
baz=168
BG3 Lake Jocassee 29.47 343 P **P 13 04 17.6 +1.9**
CASEE Lake Jocassee 29.47 343 P **P 13 04 18.1 +2.5**
baz=160,SNR=6.8
LVC Limon Verde 29.54 172 **P 13 04 15.6 -1.2**
LVC Limon Verde 29.54 172 LR LR 13 18 02.4
comp=Z,87nm,21.9s,baz=319,slow=40
LVC Limon Verde 29.54 172 *e*P **P 13 04 16.1 -0.7**
Y49A Blount Mountai 29.60 337 P **P 13 04 18.2 +1.3**
Y49A Blount Mountai 29.60 337 P **P 13 04 18.9 +2.0**
baz=152,SNR=16
X51A Calhoun 29.67 340 P **P 13 04 19.6 +2.1**
baz=156,SNR=6.1
X51A P **P 13 04 19.6 +2.1**
baz=156,SNR=6.1
146A Union 29.68 332 P **P 13 04 20.4 +2.8**
baz=146
Z47A Carrollton 29.71 334 P **P 13 04 19.8 +2.0**
Z47A Carrollton 29.71 334 P **P 13 04 20.2 +2.4**
baz=149,SNR=11
V55A Taylorsville 29.84 347 P **P 13 04 21.3 +2.4**
baz=164,SNR=7.4
V55A P **P 13 04 21.3 +2.4**
baz=164,SNR=7.4
W52A Murphy 29.86 342 P **P 13 04 21.4 +2.3**
baz=158,SNR=20
FPAL Fort Paine 29.91 339 P **P 13 04 21.1 +1.5**
FPAL IAmb IAmb 13 04 22.4
comp=Z,27nm,0.8s
VBMS Vicksburg 30.05 329 P **P 13 04 23.3 +2.5**
baz=144
VBMS Vicksburg 30.05 329 P **P 13 04 23.2 +2.4**
baz=144
V53A Saluda 30.07 344 P **P 13 04 22.9 +1.9**
V53A Saluda 30.07 344 P **P 13 04 23.5 +2.5**
baz=160,SNR=8.6
V53A P **P 13 04 23.5 +2.5**
baz=160,SNR=8.6
PP1B Ponte de Pedra 30.19 144 *e*P **P 13 04 22.6 +0.4**
T59A Double "B" Far 30.28 353 P **P 13 04 24.7 +1.9**
baz=171,SNR=12
T59A P **P 13 04 24.7 +1.9**
baz=171,SNR=12
TKL Tuckaleechee C 30.33 343 P **P 13 04 24.6 +1.3**
TKL IAmb IAmb 13 05 22.4
comp=Z,56nm,1.8s
TKL Tuckaleechee C 30.33 343 LR LR 13 16 28.4
comp=Z,116nm,20.9s,baz=154,slow=36
PANT Pantanal (Braz 30.34 148 *e*P **P 13 04 23.6 +0.1**
T60A Surry 30.36 354 P **P 13 04 25.7 +2.3**
baz=173
T60A P **P 13 04 25.7 +2.3**
baz=173
CPCT Cooper Cave 30.37 341 P **P 13 04 25.4 +1.8**
CPCT IAmb IAmb 13 04 27.2
comp=Z,36nm,0.9s
X48A Hartselle 30.37 337 P **P 13 04 25.7 +2.0**
baz=152,SNR=32
W50A Signal Mountai 30.41 340 P **P 13 04 25.3 +1.3**
W50A IAmb IAmb 13 04 27.5
comp=Z,42nm,0.8s
W50A Signal Mountai 30.41 340 P **P 13 04 26.6 +2.6**
baz=155,SNR=15
V52A Sevierville 30.45 343 P **P 13 04 26.5 +2.1**
baz=159,SNR=6.2
T57A Hurt 30.56 350 P **P 13 04 26.8 +1.6**
baz=168,SNR=16
T57A P **P 13 04 26.8 +1.6**
baz=168,SNR=16

U54A Nelsons Funny 30.62 346 P P 13 04 28.4 +2.5
baz=163,SNR=23
U54A P P 13 04 28.4 +2.5
baz=163,SNR=23
SWET Sewanee 30.64 339 P P 13 04 27.3 +1.3
V51A Loudon 30.64 342 P P 13 04 28.3 +2.3
baz=158,SNR=16
Y45A Yeager Farm, C 30.93 333 P P 13 04 30.9 +2.4
baz=147,SNR=13
BLA Blacksburg 30.98 349 P P 13 04 31.3 +2.4
baz=166
BLA Blacksburg 30.98 349 P P 13 04 31.4 +2.4
baz=166
TZTN Tazewell 31.09 343 P P 13 04 32.4 +2.4
TZTN IAmb IAmb 13 04 33.4
comp=Z,45nm,1.2s
TZTN Tazewell 31.09 343 P P 13 04 32.3 +2.4
baz=160,SNR=5.8
TZTN Tazewell 31.09 343 P P 13 04 32.1 +2.1
baz=160,SNR=5.8
S57A Dark Hollow, R 31.25 351 P P 13 04 33.4 +2.0
baz=169,SNR=12
S57A P P 13 04 33.4 +2.0
baz=169,SNR=12
OXF Oxford 31.41 333 P P 13 04 33.7 +1.0
OXF IAmb IAmb 13 05 35.7
comp=Z,35nm,1.0s
V48A Smith Brothers 31.43 338 P P 13 04 34.9 +2.0
V48A Smith Brothers 31.43 338 P P 13 04 35.1 +2.2
baz=153,SNR=47
HKT Hockley 31.43 320 P P 13 04 33.8 +0.8
HKT Hockley 31.43 320 P P 13 04 34.1 +1.1
baz=133
HKT Hockley 31.43 320 P P 13 04 34.4 +1.4
BDQN Bodoquena, MS 31.49 150 eP P 13 04 32.3 -1.3
CLTN Cedars of Leba 31.56 339 P P 13 04 35.8 +1.7
CLTN IAmb IAmb 13 04 37.0
comp=Z,26nm,0.7s
HBVL Hebbronville 31.58 313 P P 13 04 35.5 +1.1
S54A Dingess, Beckl 31.73 347 P P 13 04 38.1 +2.5
baz=164,SNR=5.9
S54A P P 13 04 38.1 +2.5
baz=164,SNR=5.9
U49A Red Boiling Sp 31.75 340 P P 13 04 36.8 +1.1
U49A IAmb IAmb 13 04 38.4
comp=Z,16nm,0.7s
U49A Red Boiling Sp 31.75 340 P P 13 04 37.4 +1.6
baz=155,SNR=8.1
T50A Nancy 31.92 342 P P 13 04 39.6 +2.3
T50A IAmb IAmb 13 04 40.6
comp=Z,30nm,0.9s
T50A Nancy 31.92 342 P P 13 04 39.5 +2.3
baz=157
T50A P P 13 04 39.5 +2.3
baz=157
R55A Marlinton 31.96 349 P P 13 04 40.0 +2.4
baz=167
R55A P P 13 04 40.0 +2.4
baz=167
NATX Nacogdoches 31.97 324 P P 13 04 39.4 +1.7
baz=136,SNR=5.9
NATX Nacogdoches 31.97 324 P P 13 04 39.3 +1.6
baz=136,SNR=5.9
GO02 Mina Guanaco 31.98 174 P P 13 04 37.7 -0.5
CCAR Cane Creek 32.04 330 P P 13 04 40.0 +1.8
baz=143,SNR=7.1
AQDB Aquidauana 32.05 148 P P 13 04 38.1 -0.4
AQDB IAmb IAmb 13 05 14.9
comp=Z,28nm,0.8s
AQDB Aquidauana 32.05 148 eP P 13 04 38.2 -0.3
MURT Porto Murtinho 32.11 152 eP P 13 04 37.3 -1.7
S51A Beattyville 32.13 344 P P 13 04 40.4 +1.4
baz=160,SNR=8.5
S51A P P 13 04 40.4 +1.4
baz=160,SNR=8.5
WVT Waverly 32.15 337 P P 13 04 40.7 +1.5
WVT Waverly 32.15 337 P P 13 04 41.0 +1.8
baz=152
WVT Waverly 32.15 337 P P 13 04 40.8 +1.5
baz=152,SNR=26
WVT Waverly 32.15 337 P P 13 04 40.8 +1.6
WVT pP **pP 13 05 16.3 +3.6**
WVT PcP **PcP 13 07 25.2 +0.8**
C2SB Chapadao do Su 32.31 142 eP P 13 04 42.1 +1.3
R53A Hurricane 32.38 347 P P 13 04 43.5 +2.3
baz=163,SNR=5.4
R53A P P 13 04 43.5 +2.3
baz=163,SNR=5.4
Q56A Snyder Ridge, 32.54 351 P P 13 04 45.1 +2.5
baz=169
Q56A P P 13 04 45.1 +2.5
baz=169
T47A Sharon Grove 32.64 339 P P 13 04 44.4 +0.9
T47A Sharon Grove 32.64 339 P P 13 04 45.1 +1.6
baz=153,SNR=30
Q54A Coxs Mills 32.77 349 P P 13 04 47.4 +2.8
Q54A IAmb IAmb 13 04 48.2
comp=Z,33nm,0.9s
Q54A Coxs Mills 32.77 349 P P 13 04 46.9 +2.3
baz=166,SNR=7.0
Q54A P P 13 04 46.9 +2.3
baz=166,SNR=7.0
P57A Homestead Farm 32.81 353 P P 13 04 47.7 +2.8
baz=171,SNR=5.5
P57A P P 13 04 47.7 +2.8
baz=171,SNR=5.5
237A Washetta, Mont 32.83 323 P P 13 04 46.8 +1.6
237A Washetta, Mont 32.83 323 P P 13 04 46.9 +1.7
baz=135,SNR=7.0
833A Chaparral WMA, 32.83 314 P P 13 04 45.1 -0.1
833A IAmb IAmb 13 04 46.1
comp=Z,28nm,0.8s
833A Chaparral WMA, 32.83 314 P P 13 04 45.1 -0.1
baz=126,SNR=10
833A Chaparral WMA, 32.83 314 P P 13 04 45.2 -0.1
baz=126,SNR=10
GEDE Greenville 32.92 356 P P 13 04 48.1 +2.3
baz=175,SNR=5.3
R50A Paris 32.94 344 P P 13 04 48.4 +2.4
baz=159,SNR=21
R50A P P 13 04 48.4 +2.4
baz=159,SNR=21
SSFO Shawnee State 33.02 345 P P 13 04 48.5 +1.7
X40A Basin Creek Fa 33.03 329 P P 13 04 47.2 +0.3
X40A IAmb IAmb 13 04 49.5
comp=Z,34nm,0.8s
Q52A Bidwell 33.05 347 P P 13 04 49.1 +2.0
baz=163,SNR=6.5
Q52A P P 13 04 49.1 +2.0
baz=163,SNR=6.5
435B Jarrell 33.11 319 P P 13 04 48.9 +1.2
baz=131
435B Jarrell 33.11 319 P P 13 04 48.8 +1.1
baz=131,SNR=6.8
RPRD Ribas do Rio P 33.14 145 eP P 13 04 48.0 -0.1
MVL Millersville 33.16 355 P P 13 04 49.8 +1.9
MVL IAmb IAmb 13 04 52.3
comp=Z,81nm,1.9s
R49A Shelbyville 33.19 342 P P 13 04 49.8 +1.5
R49A Shelbyville 33.19 342 P P 13 04 50.2 +1.9
baz=158,SNR=7.3
R49A P P 13 04 50.2 +1.9
baz=158,SNR=7.3
T45B Paducah 33.24 337 P P 13 04 50.2 +1.5
baz=151,SNR=6.3
T45A Paducah 33.24 337 P P 13 04 49.4 +0.7
TUPA Temple Univers 33.25 357 P P 13 04 50.4 +1.7
baz=176,SNR=7.5
MCWV Mont Chateau 33.25 350 P P 13 04 50.4 +1.7
baz=168,SNR=5.2
MCWV Mont Chateau 33.25 350 P P 13 04 50.5 +1.7
baz=168,SNR=5.2
Z38A Mt. Pleasant 33.25 325 P P 13 04 49.9 +1.1
baz=138,SNR=6.7
BDFB Brasilia 33.37 132 P P 13 04 50.6 +0.4
BDFB IAmb IAmb 13 04 51.6
comp=Z,51nm,1.2s
BDFB Brasilia 33.37 132 P P 13 04 50.2 0.0
comp=Z,20nm,0.6s,baz=296,slow=10,SNR=24
comp=Z,20nm,0.6s
P53A Whipple 33.37 348 P P 13 04 51.0 +1.3
P53A IAmb IAmb 13 04 53.8
comp=Z,32nm,0.9s
P53A Whipple 33.37 348 P P 13 04 51.9 +2.1
baz=165,SNR=9.1
P53A P P 13 04 51.9 +2.1
baz=165,SNR=9.1

Q51A Peebles 33.37 345 P P 13 04 51.5 +1.7
Q51A IAmb IAmb 13 04 53.4
comp=Z,43nm,0.8s
Q51A Peebles 33.37 345 P P 13 04 52.1 +2.2
baz=161,SNR=13
Q51A P P 13 04 52.1 +2.2
baz=161,SNR=13
WHAR Wooly Hollow 33.39 331 P P 13 04 51.2 +1.2
PANJ Princeton 33.43 358 P P 13 04 52.1 +1.8
baz=177,SNR=5.6
HNDO Hondo 33.46 316 P P 13 04 51.0 +0.2
HNDO IAmb IAmb 13 04 51.8
comp=Z,16nm,0.6s
WCI Wyandotte Cave 33.48 341 P P 13 04 52.7 +1.9
WCI Wyandotte Cave 33.48 341 P P 13 04 52.8 +2.1
baz=156
WCI Wyandotte Cave 33.48 341 P P 13 04 52.6 +1.9
baz=156,SNR=17
WCI Wyandotte Cave 33.48 341 P P 13 04 52.8 +1.9
LCAR Lake Charles 33.49 333 P P 13 04 52.3 +1.4
LCAR IAmb IAmb 13 04 53.1
comp=Z,35nm,0.7s
LCAR Lake Charles 33.49 333 P P 13 04 52.0 +1.1
baz=146,SNR=27
P52A Corning 33.67 347 P P 13 04 54.5 +2.1
P52A Corning 33.67 347 P P 13 04 54.6 +2.3
baz=164,SNR=22
BRNJ Basking Ridge 33.73 358 P P 13 04 55.6 +2.7
baz=177,SNR=8.1
P51A Williamsport 33.73 346 P P 13 04 55.1 +2.2
baz=162,SNR=9.5
P51A P P 13 04 55.1 +2.2
baz=162,SNR=9.5
PBMO Poplar Bluff 33.77 334 P P 13 04 54.6 +1.4
baz=148,SNR=45
FCAR Ozark Folk Cen 33.80 332 P P 13 04 54.4 +0.8
WHTX Lake Whitney, 33.83 321 P P 13 04 54.9 +1.0
baz=133,SNR=6.3
WHTX Lake Whitney, 33.83 321 P P 13 04 55.0 +1.1
baz=133,SNR=6.3
SDBA SAO DESIDERIO 33.88 124 eP P 13 04 54.5 -0.1
CGM3 Cape Girardeau 33.89 336 P P 13 04 55.4 +1.1
PAL Palisades 34.04 359 P P 13 04 57.5 +2.0
baz=178
PAL Palisades 34.04 359 P P 13 04 57.5 +2.0
baz=178
O52A Adamsville 34.07 348 P P 13 04 58.0 +2.2
baz=164,SNR=11
O52A P P 13 04 58.0 +2.2
baz=164,SNR=11
O53A New Philadelph 34.07 349 P P 13 04 58.2 +2.3
baz=165,SNR=9.9
S44A Carbondale 34.07 337 P P 13 04 56.9 +1.0
baz=150,SNR=9.3
ODNJ Ogdensburg 34.13 358 P P 13 04 57.8 +1.5
baz=177
P49A Miami Univ. Ec 34.21 344 P P 13 04 58.7 +1.6
baz=159
P49A Miami Univ. Ec 34.21 344 P P 13 04 58.6 +1.6
baz=159
P48A Milroy 34.34 343 P P 13 04 59.4 +1.2
baz=158
P48A P P 13 04 59.4 +1.2
baz=158
BRDY Brady 34.36 318 P P 13 04 58.6 0.0
BRDY IAmb IAmb 13 04 59.9
comp=Z,35nm,0.8s
JCT Junction City 34.40 317 P P 13 04 59.0 +0.1
baz=128
JCT Junction City 34.40 317 P P 13 04 59.1 +0.2
baz=128
ACSO Alum Creek Sta 34.43 346 P P 13 05 01.5 +2.6
baz=162,SNR=9.4
ACSO Alum Creek Sta 34.43 346 P P 13 05 01.1 +2.2
baz=162,SNR=9.4
M63A Gales Ferry 34.44 1 P P 13 05 01.2 +2.2
baz=182,SNR=5.7
M63A P P 13 05 01.2 +2.2
baz=182,SNR=5.7
U40A Yellville 34.52 331 P P 13 05 01.3 +1.5
baz=144,SNR=107
U40A P P 13 05 01.3 +1.5
baz=144,SNR=107
PSDB Penn State Uni 34.53 352 P P 13 05 03.2 +3.4
baz=170
PAMR Moraine State 34.54 351 P P 13 05 02.5 +2.6
baz=168
OLIL Olney 34.55 339 P P 13 05 00.9 +0.9
baz=153,SNR=14
M57A Sunshine Farm, 34.55 355 P P 13 05 01.7 +1.8
M57A IAmb IAmb 13 05 03.3
comp=Z,27nm,0.8s
M57A Sunshine Farm, 34.55 355 P P 13 05 02.7 +2.7
baz=173,SNR=6.8
M57A P P 13 05 02.7 +2.7
baz=173,SNR=6.8
ITRB Iturama 34.56 140 eP P 13 05 00.4 +0.1
Z35A Perchaven, San 34.63 323 P P 13 05 01.6 +0.8
baz=134,SNR=11
ESFA Espinillo Form 34.63 156 eP P 13 05 00.8 0.0
KSPA Keystone Colle 34.66 356 P P 13 05 02.7 +1.7
KSPA IAmb IAmb 13 05 04.9
comp=Z,31nm,0.7s
KSPA Keystone Colle 34.66 356 P P 13 05 03.0 +2.0
baz=175,SNR=12
O49A Covington 34.72 345 P P 13 05 03.3 +1.9
baz=160
O49A P P 13 05 03.3 +1.9
baz=160
IPMB Ipameri, GO 34.77 135 eP P 13 05 02.7 +0.5
FVM French Village 34.79 336 P P 13 05 03.5 +1.4
baz=149,SNR=42
NPNY Mohonk Preserv 34.79 359 P P 13 05 04.1 +2.2
baz=178,SNR=8.2
M55A Ridgway 34.87 352 P P 13 05 04.2 +1.6
baz=170,SNR=6.6
M55A P P 13 05 04.2 +1.6
baz=170,SNR=6.6
HHAR Hobbs 34.99 330 P P 13 05 04.3 +0.5
HHAR IAmb IAmb 13 05 05.1
comp=Z,35nm,0.7s
Q44A Meyer Farm, Va 35.03 338 P P 13 05 05.2 +1.0
baz=152,SNR=9.9
P46A Rosedale 35.04 341 P P 13 05 06.2 +2.0
baz=155,SNR=33
PAOC Oil Creek Stat 35.04 351 P P 13 05 06.4 +2.2
baz=168
CCM Cathedral Cave 35.19 335 P P 13 05 06.6 +1.1
CCM Cathedral Cave 35.19 335 P P 13 05 06.9 +1.4
baz=148
CCM Cathedral Cave 35.19 335 P P 13 05 06.9 +1.4
baz=148,SNR=88
CCM Cathedral Cave 35.19 335 ⇑P P 13 05 06.6 +1.1
CCM pP **pP 13 05 41.4 +2.2**
CCM sP **sP 13 05 57.4 +0.1**
TICA Tres Isletas 35.23 160 eP P 13 05 05.2 -0.7
ALLY Alegheny Colle 35.24 351 P P 13 05 08.4 +2.5
baz=168
L59A Walton 35.26 357 P P 13 05 08.6 +2.5
L59A IAmb IAmb 13 05 09.5
comp=Z,39nm,1.1s
SLM Saint Louis 35.27 336 P P 13 05 07.3 +1.1
baz=150
U38A Gravette 35.34 330 P P 13 05 07.0 +0.2
U38A IAmb IAmb 13 05 07.8
comp=Z,28nm,0.8s
U38A Gravette 35.34 330 P P 13 05 07.0 +0.2
baz=141,SNR=12
N49A Columbus Grove 35.37 345 P P 13 05 08.5 +1.5
N49A IAmb IAmb 13 05 09.8
comp=Z,31nm,1.0s
N49A Columbus Grove 35.37 345 P P 13 05 08.2 +1.2
baz=161,SNR=6.3
N49A P P 13 05 08.2 +1.2
baz=161,SNR=6.3
L56A Greenwood 35.39 354 P P 13 05 09.3 +2.2
baz=172,SNR=5.8
L56A P P 13 05 09.3 +2.2
baz=172,SNR=5.8
PCMB Pacaembu 35.43 143 eP P 13 05 07.5 -0.3
HRV Adam Dziewonsk 35.55 2 P P 13 05 10.7 +2.2
HRV IAmb IAmb 13 05 11.8
comp=Z,71nm,1.1s
M50A Fremont 35.56 347 P P 13 05 10.1 +1.5
M50A Fremont 35.56 347 P P 13 05 10.7 +2.2
baz=163,SNR=11
M50A P P 13 05 10.7 +2.2
baz=163,SNR=11

OZNA Ozona 35.58 316 P P 13 05 09.0 0.0
ABTX Abilene, Hawle 35.64 320 P P 13 05 10.3 +0.9
baz=130,SNR=19
ABTX Abilene, Hawle 35.64 320 P P 13 05 10.6 +1.2
baz=130,SNR=19
TUL3 Leonard 35.67 327 P P 13 05 10.0 +0.4
baz=139,SNR=12
TUL3 Leonard 35.67 327 P P 13 05 10.0 +0.4
baz=139,SNR=12
ERPA Erie 35.68 351 P P 13 05 11.8 +2.3
baz=168
SFIN Lafayette 35.70 341 P P 13 05 11.1 +1.4
baz=156,SNR=15
SFIN Lafayette 35.70 341 P P 13 05 11.3 +1.6
baz=156,SNR=15
LCO Las Campanas 35.70 176 P P 13 05 09.3 -1.0
N47A Urbana 35.74 343 P P 13 05 11.3 +1.2
baz=158,SNR=9.4
N47A P P 13 05 11.3 +1.2
baz=158,SNR=9.4
HCNY Howe Caverns 35.74 358 P P 13 05 12.3 +2.2
baz=178,SNR=8.0
TRY Troy 35.76 359 P P 13 05 13.1 +2.9
baz=179
WVNY West Valley, N 35.77 353 P P 13 05 11.9 +1.6
baz=170,SNR=5.1
S39A Bolivar 35.82 332 P P 13 05 11.4 +0.5
baz=144,SNR=40
R40A Maddies Statio 35.83 334 P P 13 05 11.5 +0.5
baz=146,SNR=31
JANB Januaria 35.84 128 eP P 13 05 11.2 -0.2
P43A Skaggs, Pawnee 35.87 338 P P 13 05 12.1 +0.8
baz=151,SNR=21
K57A Scipio Center 35.88 356 P P 13 05 13.4 +2.0
baz=174
UNH University of 36.17 3 P P 13 05 15.7 +2.1
baz=184
CPUP Villa Florida 36.32 156 P P 13 05 12.6 -2.6
comp=Z,2.7nm,0.7s,baz=338,slow=7.0,SNR=6.9
CPUP pP **pP 13 05 48.1 -1.9**
comp=Z,2.3nm,0.6s,baz=336,slow=11,SNR=2.7
CPUP ScP **ScP 13 11 06.0 -2.4**
comp=Z,3.6nm,0.6s,baz=322,slow=3.5,SNR=6.8
CPUP LR LR 13 22 17.0
comp=Z,125nm,20.0s,baz=358,slow=40
comp=Z,2.7nm,0.7s
CPUP Villa Florida 36.32 156 eP P 13 05 13.7 -1.6
J61A Chester 36.37 1 P P 13 05 17.6 +2.2
baz=181
J61A P P 13 05 17.6 +2.2
baz=181
PMNB Patos De Minas 36.39 134 eP P 13 05 16.1 +0.1
J58A Remsen 36.44 357 P P 13 05 17.8 +1.7
J58A IAmb IAmb 13 05 19.4
comp=Z,31nm,0.8s
J58A Remsen 36.44 357 P P 13 05 18.0 +1.9
baz=176,SNR=6.0
J58A P P 13 05 18.0 +1.9
baz=176,SNR=6.0
TX31 Lajitas Ar. Si 36.51 312 P P 13 05 17.8 +0.8
TX31 Lajitas Ar. Si 36.51 312 P P 13 05 17.6 +0.6
baz=122,SNR=100
TXAR Lajitas Array 36.51 312 P P 13 05 17.8 +0.8
comp=Z,25nm,0.6s,baz=127,slow=9.2,SNR=359
TXAR PcP **PcP 13 07 39.1 +1.7**
comp=Z,10nm,0.6s,baz=133,slow=6.1,SNR=13
TXAR LR LR 13 25 29.6
comp=Z,21nm,18.6s,baz=62,slow=44
comp=Z,25nm,0.6s
WMOK Wichita Mounta 36.51 323 P 13 05 16.8 0.0
WMOK IAmb IAmb 13 05 17.7
comp=Z,32nm,0.7s
WMOK Wichita Mounta 36.51 323 P P 13 05 16.9 0.0
baz=134,SNR=5.4
WMOK Wichita Mounta 36.51 323 P P 13 05 17.1 +0.2
baz=134
J57A Williamstown 36.52 356 P P 13 05 18.5 +1.7
baz=175,SNR=6.7
J57A P P 13 05 18.5 +1.7
baz=175,SNR=6.7
AAM Ann Arbor 36.55 347 P P 13 05 20.0 +3.0
baz=162
HDIL Hopedale 36.59 339 P P 13 05 17.8 +0.5
baz=152
HDIL Hopedale 36.59 339 P P 13 05 17.8 +0.5
baz=152
P40A Paris 36.77 335 P P 13 05 19.6 +0.7
P40A Paris 36.77 335 P P 13 05 19.5 +0.6
baz=147,SNR=38
K50A Casco 36.78 348 P P 13 05 21.2 +2.3
baz=164,SNR=6.1
K50A P P 13 05 21.2 +2.3
baz=164,SNR=6.1
T35B Sooner Cattle 36.80 328 P P 13 05 19.4 +0.2
baz=139,SNR=20
LDASE Londrina, Braz 36.90 145 eP P 13 05 18.8 -1.5
L46A Eue Claire 36.95 343 P P 13 05 21.8 +1.3
baz=158,SNR=6.0
L46A P P 13 05 21.8 +1.3
baz=158,SNR=6.0
MCVT Middlebury Col 36.98 0 P P 13 05 23.1 +2.5
baz=180,SNR=6.5
NCB Newcomb 37.01 359 P P 13 05 23.4 +2.5
NCB IAmb IAmb 13 05 24.2
comp=Z,61nm,1.3s
NCB Newcomb 37.01 359 P P 13 05 23.2 +2.3
baz=178,SNR=8.1
LBNH Lisbon 37.27 1 P P 13 05 25.1 +2.0
LBNH IAmb IAmb 13 05 26.5
comp=Z,46nm,0.8s
LBNH Lisbon 37.27 1 P P 13 05 25.1 +2.0
baz=182,SNR=6.8
LBNH Lisbon 37.27 1 P P 13 05 25.1 +2.0
baz=182,SNR=6.8
N41A Harden Midland 37.30 337 P P 13 05 23.0 -0.3
N41A Harden Midland 37.30 337 P P 13 05 23.6 +0.3
baz=150,SNR=12
P38A Dawn 37.49 334 P P 13 05 25.5 +0.5
P38A Dawn 37.49 334 P P 13 05 25.6 +0.7
baz=145,SNR=58
SMWD Samnorwood 37.64 322 P P 13 05 27.1 +0.7
LONY Lake Ozonia 37.67 358 P P 13 05 28.2 +1.8
baz=177,SNR=5.9
J47A Sunmer 37.71 346 P P 13 05 28.0 +1.2
J47A Sunmer 37.71 346 P P 13 05 28.0 +1.2
baz=161,SNR=8.0
J47A P P 13 05 28.0 +1.2
baz=161,SNR=8.0
FRTB Fartura 37.77 143 eP P 13 05 27.6 +0.1
U32A Winter Ranch, 37.78 325 P P 13 05 27.8 +0.3
baz=135,SNR=20
BMNY Brushton-Moira 37.88 358 P P 13 05 30.4 +2.2
baz=178,SNR=8.3
L42A Oliver, Polo 38.00 340 P P 13 05 29.6 +0.3
L42A IAmb IAmb 13 05 30.1
comp=Z,36nm,0.7s
L42A Oliver, Polo 38.00 340 P P 13 05 29.5 +0.3
baz=152,SNR=6.7
SADO Sadowa 38.16 353 P P 13 05 32.1 +1.6
SADO IAmb IAmb 13 05 33.2
comp=Z,28nm,0.8s
K43A Burlington 38.19 342 P P 13 05 31.3 +0.5
baz=158,SNR=5.7
DIAM Diamantina, MG 38.26 131 eP P 13 05 31.9 +0.1
G62A West of Eustis 38.30 3 P P 13 05 34.1 +2.4
baz=184,SNR=8.1
G62A P P 13 05 34.1 +2.4
baz=184,SNR=8.1
N38A Joes South For 38.33 335 P P 13 05 32.5 +0.6
baz=146,SNR=12
RCLB Rio Claro- Sao 38.34 140 eP P 13 05 33.6 +1.2
AMTX Amarillo 38.39 321 P P 13 05 33.7 +0.9
baz=130
AMTX Amarillo 38.39 321 P P 13 05 33.3 +0.6
baz=130,SNR=36
KSU1 Kansas State U 38.51 330 P P 13 05 33.4 -0.1
baz=140,SNR=24
KSU1 Kansas State U 38.51 330 P P 13 05 33.6 0.0
baz=140,SNR=24
GGN Saint George 38.52 7 P P 13 05 35.6 +2.1
MSTX Muleshoe 38.52 319 P P 13 05 34.3 +0.4
baz=128,SNR=22
MSTX Muleshoe 38.52 319 P P 13 05 34.0 +0.1
baz=128,SNR=22
L40A Anamosa 38.61 338 P P 13 05 34.3 0.0
baz=150,SNR=13

JFWS Jewell Farm 39.01 340 P P 13 05 38.2 +0.5
baz=152,SNR=25
JFWS Jewell Farm 39.01 340 P P 13 05 38.0 +0.3
baz=152,SNR=25
MNTX Cornudas Mount 39.02 314 P P 13 05 38.8 +0.9
baz=123,SNR=116
MNTX Cornudas Mount 39.02 314 P P 13 05 38.9 +0.9
baz=123,SNR=116
R32A Long Quarter, 39.09 327 P P 13 05 38.4 -0.1
baz=137,SNR=7.0
F64A Sherman 39.10 5 P P 13 05 40.0 +1.8
F64A IAmb IAmb 13 05 41.6
comp=Z,49nm,1.1s
F64A Sherman 39.10 5 P P 13 05 40.1 +1.8
baz=187,SNR=5.7
F64A P P 13 05 40.1 +1.8
baz=187,SNR=5.7
VAO Valinhos 39.12 140 eP P 13 05 38.9 0.0
RCBR Riachuelo 39.15 108 LR LR 13 21 45.7
comp=Z,81nm,18.7s,baz=143,slow=36
RCBR Riachuelo 39.15 108 eP P 13 05 40.3 +1.1
SLBS Sierra La Lagu 39.17 299 P P 13 05 41.8 +2.4
SLBS IAmb IAmb 13 05 42.9
comp=Z,50nm,1.1s
SLBS Sierra La Lagu 39.17 299 P P 13 05 41.6 +2.2
BSCB Bom Sucesso 39.19 136 eP P 13 05 39.9 +0.4
SCIA State Center 39.25 336 P P 13 05 40.5 +0.9
SCIA State Center 39.25 336 P P 13 05 40.4 +0.8
baz=147,SNR=9.6
SCIA State Center 39.25 336 P P 13 05 40.5 +0.8
baz=147,SNR=9.6
SPB Sao Paulo 39.25 141 eP P 13 05 43.0 +3.2
TRQ Mont Tremblant 39.27 358 P P 13 05 41.8 +2.0
TRQ IAmb IAmb 13 05 43.2
comp=Z,35nm,1.2s
N35A Tabor 39.43 333 P P 13 05 41.3 +0.1
baz=143
I42A Draeger Farm, 39.45 342 P P 13 05 42.0 +0.7
baz=155,SNR=8.7
LMN Caledonia Moun 39.52 9 P P 13 05 43.5 +1.7
ITQB Itaqui 39.58 157 eP P 13 05 39.3 -3.2
H43A Windswept, Lux 39.64 343 P P 13 05 43.2 +0.4
E63A Oxbow 39.65 5 P P 13 05 44.9 +2.1
baz=187,SNR=6.8
E63A P P 13 05 44.9 +2.1
baz=187,SNR=6.8
UNIS Unistalda (Bra 39.67 155 eP P 13 05 41.6 -1.7
K38A Parkersburg 39.70 337 P P 13 05 43.8 +0.5
baz=148
E62A Clayton Lake 39.76 4 P P 13 05 46.0 +2.2
baz=185,SNR=8.0
E62A P P 13 05 46.0 +2.2
baz=185,SNR=8.0
CBKS Cedar Bluff 39.93 327 P P 13 05 45.6 +0.3
baz=136,SNR=5.8
CBKS Cedar Bluff 39.93 327 P P 13 05 45.7 +0.3
baz=136,SNR=5.8
I40A Norwalk 40.00 340 P P 13 05 46.3 +0.5
baz=152,SNR=11
RTBA Rita Blanca 40.05 322 P P 13 05 47.5 +1.0
RTBA IAmb IAmb 13 05 48.3
comp=Z,38nm,0.7s
D62A Allapoint, All 40.25 4 P P 13 05 50.0 +2.2
D62A Allapoint, All 40.25 4 P P 13 05 49.4 +1.6
baz=186,SNR=13
D62A P P 13 05 49.4 +1.6
baz=186,SNR=13
GUA01 Guaratinga, BA 40.28 126 eP P 13 05 48.5 0.0
SJMB Sao Joao De Ma 40.38 129 eP P 13 05 49.2 -0.2
E46A Sault Ste Mari 40.57 348 P P 13 05 52.1 +1.7
E46A IAmb IAmb 13 05 53.0
comp=Z,73nm,1.0s
E46A Sault Ste Mari 40.57 348 P P 13 05 50.6 +0.2
baz=163,SNR=7.5
LMQ La Malbaie 40.64 3 P P 13 05 53.2 +2.2
LMQ IAmb IAmb 13 05 54.0
comp=Z,45nm,0.7s
L34A Svendsen Farm, 40.65 333 P P 13 05 51.3 +0.1
baz=143,SNR=14
BATG Bathurst New B 40.74 7 P P 13 05 53.8 +1.9
BATG IAmb IAmb 13 05 54.6
comp=Z,85nm,1.1s
F42A Maple Grove Fa 40.92 344 P P 13 05 54.6 +1.3
baz=157
LDAQ Lac Daran 41.02 2 P P 13 05 56.1 +1.9
LDAQ IAmb IAmb 13 05 57.0
comp=Z,43nm,0.6s
BGNE Belgrade 41.04 331 P P 13 05 54.6 +0.1
BGNE IAmb IAmb 13 05 56.6
comp=Z,62nm,0.8s
BGNE Belgrade 41.04 331 P P 13 05 54.6 +0.1
baz=140,SNR=6.2
BGNE Belgrade 41.04 331 P P 13 05 54.6 +0.1
baz=140,SNR=6.2
G40A Rib Lake 41.09 342 P P 13 05 55.7 +1.0
baz=154,SNR=7.0
I37B Waseca 41.10 338 P P 13 05 55.1 +0.2
baz=148
121A Cookes Peak, D 41.19 313 P P 13 05 57.6 +1.7
121A IAmb IAmb 13 05 59.0
comp=Z,44nm,1.0s
121A Cookes Peak, D 41.19 313 P P 13 05 57.9 +2.0
baz=121,SNR=28
121A Cookes Peak, D 41.19 313 P P 13 05 58.0 +2.0
baz=121,SNR=28
Y22A Socorro 41.34 315 P P 13 05 58.5 +1.2
baz=123,SNR=13
RIB01 Linhares ES 41.35 130 eP P 13 05 57.2 0.0
COWI Conover 41.52 343 P P 13 05 59.5 +1.2
COWI IAmb IAmb 13 06 01.1
comp=Z,47nm,0.9s
COWI Conover 41.52 343 P P 13 05 59.6 +1.3
baz=156
T25A Trinidad 41.53 321 P P 13 06 00.3 +1.6
T25A Trinidad 41.53 321 P P 13 06 00.5 +1.8
baz=129,SNR=18
ANMO Albuquerque 41.55 317 P P 13 06 00.2 +1.3
ANMO Albuquerque 41.55 317 P P 13 06 00.3 +1.3
baz=125,SNR=19
ANMO Albuquerque 41.55 317 P P 13 06 00.4 +1.5
ANMO pP pP 13 06 36.6 +3.0
ANMO PcP PcP 13 07 54.6 +1.3
DUB01 Friburgo-RJ 41.58 135 eP P 13 05 59.2 +0.1
KSCO Kaye Shedlock' 41.68 325 P P 13 06 01.4 +1.6
baz=133,SNR=6.3
KSCO Kaye Shedlock' 41.68 325 P P 13 06 01.4 +1.6
baz=133,SNR=6.3
319A Douglas 41.73 311 P P 13 06 01.9 +1.6
319A IAmb IAmb 13 06 03.1
comp=Z,49nm,0.8s
ALF01 Guarapari-ES 41.87 131 eP P 13 06 02.1 +0.7
SPMN Marine on St. 41.92 339 P P 13 06 02.0 +0.5
baz=150,SNR=6.6
SPMN Marine on St. 41.92 339 P P 13 06 01.8 +0.3
baz=150,SNR=6.6
DUN6 Lazy B Ranch 42.15 312 P P 13 06 05.6 +1.8
ECSD EROS Data Cent 42.17 334 P P 13 06 03.5 0.0
ECSD EROS Data Cent 42.17 334 P P 13 06 03.4 -0.2
baz=144,SNR=26
ECSD EROS Data Cent 42.17 334 P P 13 06 03.4 -0.2
baz=144,SNR=26
D41A Chassel 42.24 344 P P 13 06 04.7 +0.7
D41A IAmb IAmb 13 06 05.8
comp=Z,62nm,1.1s
SRIG Santa Rosalia 42.38 303 P P 13 06 06.5 +1.0
SRIG IAmb IAmb 13 06 07.8
comp=Z,25nm,0.7s
SDCO Great Sand Dun 42.59 321 P P 13 06 09.2 +1.8
SDCO IAmb IAmb 13 06 10.0
comp=Z,29nm,0.7s
SDCO Great Sand Dun 42.59 321 P P 13 06 09.1 +1.8
baz=128,SNR=61
SDCO Great Sand Dun 42.59 321 P P 13 06 09.2 +1.8
baz=128,SNR=61
OGNE Ogallala 42.68 327 P P 13 06 08.3 +0.4
OGNE IAmb IAmb 13 06 10.5
comp=Z,28nm,0.8s
OGNE Ogallala 42.68 327 P P 13 06 08.5 +0.7
baz=135,SNR=10
OGNE Ogallala 42.68 327 P P 13 06 08.2 +0.4
baz=135,SNR=10
E38A The Farm, Brul 42.71 341 P P 13 06 08.3 +0.5
baz=152,SNR=5.9
K30B Basset 42.71 331 P P 13 06 08.5 +0.6
K30B Basset 42.71 331 P P 13 06 08.3 +0.3
baz=139,SNR=72

F36A Milaca 42.73 339 P P 13 06 08.4 +0.4
baz=149,SNR=10.0
Q24A Divide 43.13 323 P P 13 06 13.2 +1.4
baz=130,SNR=5.5
TUC Tucson 43.30 311 P P 13 06 13.9 +1.1
TUC IAmb IAmb 13 06 15.2
comp=Z,33nm,0.8s
TUC Tucson 43.30 311 P P 13 06 14.3 +1.4
baz=118
TUC Tucson 43.30 311 P P 13 06 14.0 +1.1
TUC PcP PcP 13 08 00.2 +1.1
S22A 4UR Ranch, Cre 43.42 320 P P 13 06 15.9 +1.8
S22A IAmb IAmb 13 06 17.0
comp=Z,48nm,1.2s
S22A 4UR Ranch, Cre 43.42 320 P P 13 06 15.9 +1.8
baz=127,SNR=35
BRIGG Briggsdale 43.70 325 P 13 06 16.6 +0.6
BRIGG IAmb IAmb 13 06 18.1
comp=Z,30nm,0.7s
F33A 5 Mile Ranch, 43.75 336 P P 13 06 15.9 -0.3
baz=146,SNR=14
SUSD Miller 43.76 333 P P 13 06 16.4 +0.1
SUSD Miller 43.76 333 P P 13 06 16.5 +0.1
baz=141,SNR=45
SUSD Miller 43.76 333 P P 13 06 16.5 +0.1
baz=141,SNR=45
EYMN Ely 43.88 342 P P 13 06 17.9 +0.6
EYMN Ely 43.88 342 P P 13 06 17.8 +0.6
baz=153,SNR=22
EYMN Ely 43.88 342 P P 13 06 17.8 +0.6
baz=153,SNR=22
W18A Petrified Fore 43.91 315 P P 13 06 19.7 +1.8
baz=121,SNR=13
ISCO Idaho Springs 43.94 323 P 13 06 19.8 +1.6
ISCO IAmb IAmb 13 06 21.3
comp=Z,35nm,0.9s
ISCO Idaho Springs 43.94 323 P P 13 06 19.8 +1.6
baz=130,SNR=43
ISCO Idaho Springs 43.94 323 P P 13 06 19.7 +1.5
baz=130,SNR=43
MVCO Mesa Verde 44.20 318 P P 13 06 21.5 +1.2
MVCO IAmb IAmb 13 06 22.5
comp=Z,58nm,1.4s
MVCO Mesa Verde 44.20 318 P P 13 06 21.5 +1.2
baz=124,SNR=25
214A Organ Pipe Nat 44.68 309 P P 13 06 25.4 +1.5
214A IAmb IAmb 13 06 26.4
comp=Z,35nm,0.8s
214A Organ Pipe Nat 44.68 309 P P 13 06 25.4 +1.5
baz=116,SNR=31
N23A Red Feather La 44.84 324 P P 13 06 26.8 +1.6
N23A IAmb IAmb 13 06 29.0
comp=Z,34nm,0.9s
N23A Red Feather La 44.84 324 P P 13 06 26.7 +1.5
baz=130,SNR=19
B35A Bob, Littlefor 44.96 341 P P 13 06 26.2 +0.4
baz=150,SNR=26
PIX Pinacate 45.01 309 P P 13 06 27.5 +1.0
WUAZ Wupatki 45.26 315 P P 13 06 30.3 +1.7
baz=130,SNR=109
AGMN Agassiz Nation 45.64 339 P P 13 06 31.8 +0.7
AGMN IAmb IAmb 13 06 32.5
comp=Z,42nm,0.6s
AGMN Agassiz Nation 45.64 339 P P 13 06 31.7 +0.5
baz=147,SNR=32
AGMN Agassiz Nation 45.64 339 P P 13 06 31.8 +0.7
baz=147,SNR=32
O20A White River Ci 45.73 322 P P 13 06 33.8 +1.5
baz=127,SNR=23
113A Mohawk Valley, 45.75 310 P P 13 06 33.5 +1.2
RSSD Black Hills 45.97 329 P P 13 06 34.8 +0.8
RSSD Black Hills 45.97 329 P P 13 06 34.9 +0.8
baz=135
RSSD Black Hills 45.97 329 P P 13 06 34.6 +0.5
baz=135,SNR=14
RSSD Black Hills 45.97 329 P P 13 06 35.0 +1.0
RSSD PcP PcP 13 08 08.9 +0.7
HMU Henry Mountain 46.08 318 P P 13 06 35.8 +0.7
E28A Huff 46.18 334 P P 13 06 36.1 +0.7
baz=140,SNR=38
K22A Casper 46.30 326 P P 13 06 38.0 +1.3
baz=131,SNR=9.8
K22A Casper 46.30 326 P P 13 06 37.5 +0.9
baz=131,SNR=9.8
U15A North Rim 46.36 315 P P 13 06 39.0 +1.7
U15A IAmb IAmb 13 06 40.2
comp=Z,52nm,0.9s
GLA Glamis 46.68 310 P P 13 06 41.0 +1.4
baz=115
PDMCI Parker Dam,Lak 46.70 312 P P 13 06 40.8 +1.1
baz=116,SNR=8.7
MDND Maddock 46.72 336 P P 13 06 40.4 +0.8
baz=142,SNR=26
MDND Maddock 46.72 336 P P 13 06 40.4 +0.8
baz=142,SNR=26
KNB Kanab 47.02 316 P P 13 06 44.1 +1.7
KNB IAmb IAmb 13 06 45.3
comp=Z,66nm,0.8s
ULM Lac du Bonnet 47.30 340 P P 13 06 44.0 0.0
ULM Lac du Bonnet 47.30 340 P P 13 06 43.9 -0.1
comp=Z,64nm,0.7s,baz=149,slow=8.0,SNR=109
ULM LR LR 13 26 01.3
comp=Z,102nm,21.9s,baz=154,slow=35
comp=Z,64nm,0.7s
LCMT Little Creek M 47.31 315 P P 13 06 46.2 +1.6
LCMT IAmb IAmb 13 06 47.8
comp=Z,58nm,0.9s
MVU Marysvale 47.36 318 P P 13 06 46.9 +1.8
PLCA Paso Flores 47.38 177 P P 13 06 43.3 -1.6
PLCA Paso Flores 47.38 177 P P 13 06 43.0 -1.8
comp=Z,3.3nm,0.6s,baz=357,slow=7.7,SNR=11
PLCA ScP ScP 13 11 50.1 -2.2
comp=Z,3.7nm,0.8s,baz=8.8,slow=5.1,SNR=6.7
comp=Z,3.3nm,0.6s
PLCA Paso Flores 47.38 177 P P 13 06 43.1 -1.8
PLCA PcP PcP 13 08 12.4 -0.6
PLCA ScP ScP 13 11 50.7 -1.7
PLCA Paso Flores 47.38 177 eP P 13 06 44.4 -0.5
SWSC Sam W. Stewart 47.38 309 P P 13 06 46.4 +1.4
baz=114,SNR=22
IRM Iron Mountain 47.39 311 P P 13 06 46.4 +1.3
baz=115,SNR=26
BC3 Big Chuckawall 47.41 310 P P 13 06 46.4 +1.1
baz=115,SNR=23
IKP In-Ko-Pah, Jac 47.51 309 P P 13 06 47.5 +1.5
baz=113,SNR=5.3
MONP2 Monument Peak 47.84 309 P P 13 06 50.1 +1.3
baz=113,SNR=16
BELC Belle Mtn. Jos 47.96 310 P P 13 06 50.8 +1.1
baz=114,SNR=18
GMRC Granite Mounta 48.04 311 P P 13 06 51.2 +1.0
baz=115,SNR=15
PMD Palm Desert 48.11 310 P P 13 06 51.7 +1.1
BW06 Boulder Array 48.11 324 P P 13 06 51.3 +0.5
BW06 Boulder Array 48.11 324 P P 13 06 51.5 +0.7
baz=128,SNR=36
PD31 Pinedale Array 48.11 324 P P 13 06 51.3 +0.6
PDAR Pinedale Array 48.11 324 P P 13 06 51.4 +0.6
comp=Z,17nm,0.8s,baz=128,slow=8.5,SNR=148
PDAR pP pP 13 07 28.5 +2.3
comp=Z,2.1nm,0.5s,baz=136,slow=9.1,SNR=1.4
PDAR PcP PcP 13 08 15.5 -0.4
comp=Z,4.5nm,0.6s,baz=136,slow=5.4,SNR=4.3
PDAR ScP ScP 13 11 55.7 0.0
comp=Z,0.3nm,0.7s,baz=120,slow=5.3,SNR=3.4
PDAR LR LR 13 28 11.9
comp=Z,32nm,21.9s,baz=82,slow=37
comp=Z,17nm,0.8s
SCHQ Schefferville 48.12 5 P P 13 06 51.8 +1.5
SCHQ Schefferville 48.12 5 P P 13 06 51.3 +0.9
comp=Z,59nm,0.7s,baz=186,slow=5.9,SNR=30
SCHQ ScP ScP 13 11 55.4 +0.2
comp=Z,12nm,0.9s,baz=206,slow=4.9,SNR=6.4
comp=Z,59nm,0.7s
TPFO Pinon Flats 48.15 310 P P 13 06 52.1 +1.1
baz=114,SNR=11
PFO Pinyon Flats O 48.16 310 P P 13 06 52.2 +1.1
PFO Pinyon Flats O 48.16 310 P P 13 06 52.3 +1.2
baz=114,SNR=12
PFO Pinyon Flats O 48.16 310 P P 13 06 52.3 +1.2
PFO PcP PcP 13 08 17.0 +0.9
PFO ScP ScP 13 11 57.6 +1.6
WTNK Soaring Height 48.18 313 P P 13 06 52.7 +1.6
TUQ Turquoise Moun 48.51 312 P P 13 06 55.2 +1.4
baz=116,SNR=60
HEC Hector,Ludlow 48.56 311 P P 13 06 55.5 +1.4
baz=115,SNR=30

DUG Dugway, Tooele 48.65 319 P P 13 06 56.3 +1.5
DUG IAmb IAmb 13 06 57.2
comp=Z,26nm,0.8s
DUG Dugway, Tooele 48.65 319 P P 13 06 56.2 +1.5
baz=122,SNR=33
MURC Murrieta 48.72 309 P P 13 06 56.6 +1.3
baz=113,SNR=8.0
BBRC Big Bear Solar 48.77 310 P P 13 06 57.6 +1.7
baz=114,SNR=10
LAO LASA Array 48.86 330 P P 13 06 56.5 +0.3
LAO IAmb IAmb 13 06 57.7
comp=Z,22nm,0.7s
LAO LASA Array 48.86 330 P P 13 06 56.9 +0.7
baz=134,SNR=16
LAO LASA Array 48.86 330 P P 13 06 56.8 +0.6
baz=134,SNR=16
SHOC Shoshone, Teco 48.97 313 P P 13 06 58.8 +1.6
baz=116,SNR=13
AHID Auburn Hatcher 49.02 323 P P 13 06 58.3 +0.7
AHID IAmb IAmb 13 06 59.2
comp=Z,30nm,0.8s
GSC Goldstone, Bar 49.11 312 P P 13 06 59.8 +1.5
baz=115,SNR=56
DGMT Dagmar 49.17 333 P P 13 07 00.1 +1.6
DGMT Dagmar 49.17 333 P P 13 07 00.0 +1.6
baz=137,SNR=93
DGMT Dagmar 49.17 333 P P 13 07 00.0 +1.6
baz=137,SNR=93
BFSC Mount Baldy Ra 49.32 310 P P 13 07 00.5 +0.6
baz=113,SNR=9.5
TPAW Teton Pass 49.36 324 P P 13 07 01.4 +1.1
TPAW IAmb IAmb 13 07 02.6
comp=Z,33nm,0.7s
TPNV Topopah Spring 49.41 314 P P 13 07 02.5 +1.8
baz=116,SNR=43
CIS Catalina Islan 49.58 309 P P 13 07 02.9 +1.0
baz=112,SNR=6.5
R11B Troy Canyon, C 49.59 316 P P 13 07 03.4 +1.4
baz=116,SNR=42
FURC Furnace Creek, 49.65 313 P P 13 07 04.0 +1.8
baz=116,SNR=37
H17A Grant Village 49.69 325 P P 13 07 04.0 +1.3
baz=128,SNR=12
EDW2 Edwards Air Fo 49.83 311 P P 13 07 04.7 +1.0
baz=113,SNR=31
LRMC Laurel Mtn Rad 49.83 311 P P 13 07 05.1 +1.2
baz=114,SNR=33
MPMC Manual Prospec 49.93 312 P P 13 07 05.5 +0.8
baz=115,SNR=13
GRAC Grapevine Rang 50.24 313 P P 13 07 08.7 +2.0
baz=116,SNR=6.6
ISA Isabella, Lake 50.50 311 P P 13 07 10.3 +1.5
baz=114,SNR=7.5
ELK Elko 50.52 319 P P 13 07 09.8 +0.8
ELK Elko 50.52 319 LR LR 13 32 09.6
comp=Z,47nm,18.0s,baz=114,slow=40
CWC Cottonwood Cre 50.52 312 P P 13 07 10.3 +1.3
baz=114
ARVC Arvin 50.56 310 P P 13 07 10.8 +1.7
baz=113,SNR=12
TPH Tonopah 50.61 315 P P 13 07 10.2 +0.5
SCZ2 Santa Cruz Isl 50.75 309 P P 13 07 12.1 +1.5
baz=111,SNR=18
TIN Tinemaha, Big 50.89 313 P P 13 07 13.6 +1.9
baz=115,SNR=7.2
SBC Santa Barbara 50.97 309 P P 13 07 13.8 +1.6
baz=112
BOZ Bozeman (W) 51.01 326 P P 13 07 13.6 +1.0
BOZ IAmb IAmb 13 07 14.6
comp=Z,27nm,0.7s
BOZ Bozeman (W) 51.01 326 P P 13 07 13.7 +1.2
baz=127,SNR=13
VES Vestal, Richgr 51.02 311 P P 13 07 14.2 +1.6
baz=113,SNR=35
PKM Mcpherson Peak 51.21 310 P P 13 07 15.5 +1.2
baz=112,SNR=7.7
HLID Hailey 51.47 322 P P 13 07 17.2 +1.1
baz=123,SNR=50
SMMC Simmler 51.51 310 P P 13 07 18.2 +1.9
baz=112,SNR=8.3
NVAR Mina Array Bea 51.53 315 P P 13 07 17.9 +1.3
comp=Z,15nm,0.7s,baz=123,slow=7.2,SNR=113
NVAR PcP PcP 13 08 29.4 +0.9
comp=Z,7.0nm,0.6s,baz=138,slow=4.7,SNR=9.7
comp=Z,15nm,0.7s
EGMT Eagleton 51.54 329 P P 13 07 17.4 +1.0
EGMT IAmb IAmb 13 07 18.9
comp=Z,20nm,0.7s
EGMT Eagleton 51.54 329 P P 13 07 17.3 +1.0
baz=131,SNR=12
MLAC Mammoth, Mammo 51.57 313 P P 13 07 18.6 +1.7
baz=115
LYMT Lyon Mountain 52.21 327 P P 13 07 22.4 +0.9
BPMT Black Pine Rid 52.53 326 P P 13 07 24.9 +1.0
MSO Missoula 53.04 326 P P 13 07 28.6 +1.1
baz=126,SNR=13
FFC Flin Flon 53.10 339 P P 13 07 27.9 +0.3
FFC IAmb IAmb 13 07 28.7
comp=Z,16nm,0.7s
FFC Flin Flon 53.10 339 P P 13 07 27.9 +0.3
MPK Martis Peak 53.12 315 P P 13 07 30.0 +1.7
SAO San Andreas Ge 53.14 311 P P 13 07 29.1 +0.9
PLID Pearl Lake 53.25 323 P P 13 07 29.4 +0.2
PLID IAmb IAmb 13 07 30.5
comp=Z,27nm,0.8s
PLTX Planet X, Gerl 53.33 317 P P 13 07 29.9 +0.2
PLTX IAmb IAmb 13 07 30.8
comp=Z,25nm,0.7s
WVOR Wild Horse Val 53.57 319 P P 13 07 32.2 +0.8
WVOR IAmb IAmb 13 07 33.3
comp=Z,34nm,0.7s
AFDM Forest Hills D 53.64 314 P P 13 07 32.7 +0.8
BMO Blue Mountains 53.92 322 P P 13 07 33.6 -0.2
FCC Fort Churchill 54.28 347 P P 13 07 36.2 +0.1
FCC IAmb IAmb 13 07 38.1
comp=Z,26nm,0.9s
NEW Newport 55.63 326 P P 13 07 46.4 +0.4
baz=123,SNR=9.5
YBH Yreka Blue Hor 55.98 317 LR LR 13 38 17.6
comp=Z,39nm,18.9s,baz=72,slow=43
EDM Edmonton 56.65 332 P P 13 07 53.5 +0.3
FRB Frobisher Bay 56.90 2 LR LR 13 30 40.4
comp=Z,70nm,21.5s,baz=195,slow=34
COR Corvallis 57.57 319 P P 13 08 01.2 +1.5
D05A Enumclaw 57.91 323 P P 13 08 02.5 +0.4
NRS Narsarsuaq 58.00 15 i P P 13 08 03.6 +1.2
NRS IAmb IAmb 13 08 06.5
comp=Z,22nm,0.9s
B04A Port Angeles 59.22 323 P P 13 08 12.2 +1.0
NUUK Nuuk 59.25 11 i P P 13 08 11.9 +0.9
NUUK IAmb IAmb 13 08 15.5
comp=Z,26nm,0.8s
PGC Sidney 59.46 324 P P 13 08 13.6 +0.9
PGC IAmb IAmb 13 08 15.2
comp=Z,62nm,1.5s
DY2G Dye2 62.35 12 i P P 13 08 32.5 +0.3
DY2G IAmb IAmb 13 08 33.9
comp=Z,26nm,0.7s
ISOG Isortoq, Green 63.27 15 i P P 13 08 39.3 +1.3
ISOG IAmb IAmb 13 08 43.3
comp=Z,37nm,0.6s
YKA Yellowknife Ar 63.28 340 P P 13 08 38.6 +0.5
comp=Z,39nm,0.7s,baz=131,slow=6.7,SNR=809
YKA pP pP 13 09 16.4 +0.7
comp=Z,8.0nm,0.8s,baz=130,slow=6.2,SNR=2.9
YKA S S 13 16 57.0 -0.3
comp=Z,0.9nm,1.0s,baz=132,slow=14,SNR=5.3
YKA LR LR 13 35 48.6
comp=Z,66nm,20.0s,baz=315,slow=35
comp=Z,39nm,0.7s
ILULI Ilulissat 63.95 9 i P P 13 08 42.1 -0.3
ILULI IAmb IAmb 13 08 44.2
comp=Z,19nm,0.8s
FLDN Fort Liard 65.29 335 P P 13 08 52.7 +1.4
baz=123,SNR=6.7
KOTAN Kotaneelee Air 65.48 335 P P 13 08 53.6 +1.1
baz=122,SNR=6.9
RUBB Prince Rupert 65.74 327 P P 13 08 55.2 +1.0
ICESG Greenland Ices 65.93 12 i P P 13 08 55.6 0.0
ICESG IAmb IAmb 13 08 58.9
comp=Z,48nm,0.9s
T35M Bob Quinn 66.84 330 P P 13 09 03.1 +1.9
baz=115,SNR=6.7
WRGLY Wrigley 66.93 338 P P 13 09 02.3 +0.7
baz=124,SNR=28
DLBC Dease Lake 67.35 331 P P 13 09 05.4 +0.9
DLBC IAmb IAmb 13 09 07.0

comp=Z,25nm,0.9s
DLBC **Dease Lake** 67.35 331 P P 13 09 06.2 +1.7
baz=116,SNR=11
TIC **Toumodi** 67.50 86⇑*i* P pP 13 09 45.8 +1.1
comp=Z,6.1nm,0.3s
TIC **Toumodi** 67.50 86⇑*i* P P 13 09 05.3 -0.9
comp=Z,4.4nm,0.3s
LIC **Lamto** 67.53 86⇓*e* P pP 13 09 46.1 +1.3
comp=Z,72nm,0.8s
LIC **Lamto** 67.53 86⇑*i* P P 13 09 05.6 -0.8
comp=Z,119nm,0.7s
WTLY **Watson Lake, Y** 67.53 333 P P 13 09 06.6 +1.1
WTLY **Watson Lake, Y** 67.53 333 P P 13 09 06.7 +1.1
baz=117,SNR=9.5
S34M **Telegraph Cree** 67.66 331 P P 13 09 08.1 +1.8
S34M **Telegraph Cree** 67.66 331 P P 13 09 08.1 +1.8
baz=114,SNR=22
DBIC **Dimbokro** 67.66 86 P P 13 09 06.6 -0.6
DBIC IAmb IAmb 13 09 07.3
comp=Z,32nm,0.7s
DBIC **Dimbokro** 67.66 86 P P 13 09 06.6 -0.6
comp=Z,31nm,0.7s,baz=274,slow=6.1,SNR=51
DBIC pP pP 13 09 46.4 +0.8
comp=Z,22nm,0.7s,baz=274,slow=6.2,SNR=8.1
comp=Z,31nm,0.7s
DBIC **Dimbokro** 67.66 86⇑ P P 13 09 06.6 -0.6
DBIC pP pP 13 09 46.6 +1.0
KIC **Kosan Boka** 67.80 86⇓*i* P pP 13 09 47.5 +0.8
comp=Z,68nm,0.7s
KIC **Kosan Boka** 67.80 86⇑*e* P P 13 09 07.5 -0.6
comp=Z,38nm,0.6s
R33M **Jennings River** 68.20 332 P P 13 09 11.7 +1.8
baz=115
Q32M **Nakina River** 68.63 331 P P 13 09 14.1 +1.4
baz=114
SUMG **Summit** 68.97 11 P P 13 09 15.6 +0.9
SUMG **Summit** 68.97 11 *i* P P 13 09 15.2 +0.4
SUMG IAmb IAmb 13 09 18.1
comp=Z,65nm,1.0s
RES **Resolute Bay** 68.97 354 P P 13 09 14.9 +0.7
S32K **Killisnoo** 69.19 329 P P 13 09 16.7 +0.9
S32K IAmb IAmb 13 09 18.3
comp=Z,25nm,0.8s
S32K **Killisnoo** 69.19 329 P P 13 09 17.6 +1.7
baz=111
P33M **Teslin, Yukon** 69.39 333 P P 13 09 18.3 +1.1
P33M **Teslin, Yukon** 69.39 333 P P 13 09 18.5 +1.3
baz=114,SNR=8.8
R32K **Eaglecrest** 69.46 330 P P 13 09 18.0 +0.5
baz=111
P32M **Atlin** 69.56 332 P P 13 09 19.6 +1.4
baz=112,SNR=9.0
ESDC **Sonseca Array** 69.59 50 P P 13 09 17.4 -1.4
comp=Z,0.6nm,0.6s,baz=262,slow=7.1,SNR=4.9
ESDC PKP2bc 13 37 23.1
comp=Z,1.9nm,0.7s,baz=62,slow=2.5,SNR=10
N32M **Quiet Lake** 69.89 333 P P 13 09 21.7 +1.5
baz=114
SKAG **Skagway** 70.28 331 P P 13 09 24.1 +1.6
baz=111
FARO **Faro, Yukon** 70.44 334 P P 13 09 24.8 +1.4
baz=114,SNR=14
WHY **Whitehorse** 70.51 333 P P 13 09 25.2 +1.2
baz=112
C36M **Paulatuk** 70.61 343 P P 13 09 23.6 -0.6
C36M **Paulatuk** 70.61 343 P P 13 09 23.3 -0.9
baz=125,SNR=7.7
M31M **Drury Creek, Y** 70.88 334 P P 13 09 27.4 +1.3
M31M IAmb IAmb 13 09 28.7
comp=Z,19nm,0.8s
M31M **Drury Creek, Y** 70.88 334 P P 13 09 27.8 +1.7
baz=113,SNR=22
O30N **Mendenhall** 71.10 332 P P 13 09 29.2 +1.7
baz=111,SNR=17
N31M **Braeburn, Yuko** 71.22 333 P P 13 09 29.8 +1.6
N31M IAmb IAmb 13 09 31.4
comp=Z,55nm,1.1s
N31M **Braeburn, Yuko** 71.22 333 P P 13 09 29.9 +1.7
baz=111,SNR=22
P30M **Million Dollar** 71.28 332 P P 13 09 30.8 +2.2
baz=110
P29M **Windy Craggy** 71.49 331 P P 13 09 31.4 +1.6
P29M IAmb IAmb 13 09 32.5
comp=Z,26nm,0.8s
P29M **Windy Craggy** 71.49 331 P P 13 09 31.6 +1.8
baz=109
NEEM **North Greenlan** 71.53 5 *i* P P 13 09 30.4 +0.2
NEEM IAmb IAmb 13 09 36.7
comp=Z,75nm,0.6s
HYT **Haines Junctio** 71.77 332 P P 13 09 33.6 +2.0
baz=109,SNR=7.0
N30M **Aishikik Lake** 71.80 333 P P 13 09 33.8 +2.1
N30M IAmb IAmb 13 09 36.0
comp=Z,32nm,0.9s
N30M **Aishikik Lake** 71.80 333 P P 13 09 33.8 +2.1
baz=110
MAYO **Mayo, Yukon** 72.04 335 P P 13 09 35.1 +2.0
baz=112,SNR=14
M30M **Minto, Yukon** 72.05 334 P P 13 09 34.5 +1.3
baz=111,SNR=42
O29M **Mount Kennedy** 72.10 332 P P 13 09 35.6 +1.9
baz=108
YUK6 **Outpost Mounta** 72.21 332 P P 13 09 36.6 +2.2
baz=109,SNR=6.5
A36M **Sachs Harbour** 72.44 345 P P 13 09 35.8 +0.6
baz=125,SNR=162
YUK4 **Talbot Arm** 72.47 333 P P 13 09 37.7 +1.9
baz=109,SNR=13
J30M **Hart River** 72.58 336 P P 13 09 37.3 +0.9
G31M **Satah River** 72.72 339 P P 13 09 37.9 +1.0
baz=114,SNR=16
M29M **Somme Creek** 72.74 334 P P 13 09 38.6 +1.3
baz=109
F31M **Tsiigehtchic** 72.75 339 P P 13 09 38.1 +1.0
baz=115,SNR=28
K29M **Barlow Dome** 72.81 335 P P 13 09 38.9 +1.2
baz=110,SNR=19
PINM **Pinnacle** 72.84 331 P P 13 09 39.8 +1.9
baz=107,SNR=5.5
I30M **Mount Dempster** 72.84 337 P P 13 09 39.2 +1.3
baz=112
YUK8 **Steele Glacier** 72.96 332 P P 13 09 40.9 +2.0
baz=107,SNR=9.1
EKA **Eskdalemuir Ar** 73.02 34 P P 13 09 38.5 -0.5
comp=Z,1.3nm,0.5s,baz=288,slow=2.7,SNR=4.9
EKA pP pP 13 10 18.3 +0.1
comp=Z,1.1nm,0.7s,baz=277,slow=5.7,SNR=1.8
comp=Z,1.3nm,0.5s
INK **Inuvik** 73.05 340 P P 13 09 39.8 +0.9
INK IAmb IAmb 13 09 40.5
comp=Z,23nm,0.7s
INK **Inuvik** 73.05 340 P P 13 09 39.6 +0.8
baz=115,SNR=28
EPYK **Eagle Plains** 73.40 338 P P 13 09 42.1 +1.0
EPYK IAmb IAmb 13 09 42.6
comp=Z,19nm,0.5s
EPYK **Eagle Plains** 73.40 338 P P 13 09 41.9 +0.8
baz=112,SNR=13
YUK3 **Moose Creek** 73.42 333 P P 13 09 42.9 +1.3
baz=107,SNR=50
G30M **tAoh Zraii Nji** 73.45 339 P P 13 09 41.9 +0.6
baz=112
F30M **Barrier River** 73.54 339 P P 13 09 42.9 +1.1
baz=113
CTGM **Chitina Glacie** 73.60 332 P P 13 09 44.5 +2.1
CTGM IAmb IAmb 13 09 45.4
comp=Z,25nm,0.8s
CTG **Chitna Glacier** 73.60 332 P P 13 09 44.4 +1.9
baz=106,SNR=13
I29M **Ogilvie Camp,** 73.65 337 P P 13 09 43.4 +0.8
I29M **Ogilvie Camp,** 73.65 337 P P 13 09 43.3 +0.8
baz=110,SNR=8.7
DAWY **Dawson** 73.66 335 P P 13 09 43.4 +0.8
DAWY **Dawson** 73.66 335 P P 13 09 43.1 +0.5
baz=109,SNR=8.5
TOA0 **Torodi Ar. Sit** 73.67 78 P P 13 09 42.2 -1.3
TORD **Torodi Ar. Bea** 73.67 78 P P 13 09 42.5 -1.1
TORD **Torodi Ar. Bea** 73.67 78 P P 13 09 42.4 -1.1
comp=Z,1.7nm,0.5s,baz=288,slow=5.9,SNR=22
TORD pP pP 13 10 22.9 +0.5
comp=Z,2.0nm,0.6s,baz=302,slow=4.6,SNR=3.8
comp=Z,1.7nm,0.5s
GRNC **Granite Creek** 73.73 332 P P 13 09 45.0 +1.7
BARN **Barnard Glacie** 73.78 332 P P 13 09 45.0 +1.4
BVCY **Beaver Creek** 73.79 333 P P 13 09 45.3 +1.9
baz=107,SNR=15
H29M **Whitestone** 73.97 337 P P 13 09 45.5 +1.2
baz=110
G29M **Pine Creek** 74.08 338 P P 13 09 46.0 +1.0
baz=111
SNH **Sunshine Point** 74.11 331 P P 13 09 48.0 +2.7
M27K **Edge Creek, AK** 74.23 333 P P 13 09 47.7 +1.6
baz=106
TGL **Tana Glacier** 74.25 331 P P 13 09 47.3 +1.1
TGL IAmb IAmb 13 09 48.8
comp=Z,28nm,0.8s
I28M **Miner Creek** 74.32 336 P P 13 09 47.4 +0.9
baz=108
BCAR **Beaver Creek A** 74.38 334 P P 13 09 48.1 +1.2
CRQM **Cirque** 74.40 331 P P 13 09 48.2 +1.1
L27K **Beaver Creek,** 74.40 334 P P 13 09 48.6 +1.7
baz=106
E29M **Blow River** 74.57 340 P P 13 09 48.8 +1.0
baz=111
EGAK **Eagle** 74.61 336 P P 13 09 48.5 +0.5
baz=107,SNR=13
K27K **Chicken** 74.78 335 P P 13 09 51.0 +2.0
K27K **Chicken** 74.78 335 P P 13 09 50.8 +1.8
baz=106
F28M **Old Crow** 75.00 339 P P 13 09 51.0 +0.8
baz=109,SNR=21
I27K **Kandik River** 75.04 336 P P 13 09 51.6 +1.1
baz=107
L26K **Log Cabin Wild** 75.06 334 P P 13 09 52.5 +1.7
L26K IAmb IAmb 13 09 53.4
comp=Z,32nm,0.7s
L26K **Log Cabin Wild** 75.06 334 P P 13 09 52.3 +1.6
baz=105,SNR=24
BMRM **Bremner River** 75.14 331 P P 13 09 53.0 +1.7
baz=103,SNR=7.6
H27K **Steamboat Moun** 75.19 337 P P 13 09 51.8 +0.4
baz=107
D28M **Stokes Point** 75.19 340 P P 13 09 51.9 +0.7
baz=111
E28M **Babbage River** 75.21 340 P P 13 09 51.7 +0.3
baz=110
N25K **Chitina, Valde** 75.28 332 P P 13 09 53.8 +1.7
baz=103,SNR=6.8
G27K **Doyon Strip** 75.41 338 P P 13 09 53.3 +0.6
baz=107
J26L **Joseph Creek** 75.53 335 P P 13 09 54.5 +1.0
baz=105
I26K **Coal Creek Min** 75.57 336 P P 13 09 54.2 +0.7
baz=105,SNR=7.4
SCRK **Sand Creek** 75.58 335 P P 13 09 54.8 +1.0
SCRK **Sand Creek** 75.58 335 P P 13 09 55.3 +1.5
baz=104,SNR=14
EYAK **Cordova Ski Ar** 75.60 331 P P 13 09 55.4 +1.7
baz=102
DAG **Danmarks Havn** 75.63 11 *i* P P 13 09 53.0 -0.7
DAG IAmb IAmb 13 09 55.0
comp=Z,14nm,0.7s
E27K **Coleen River** 75.80 339 P P 13 09 55.7 +0.9
E27K IAmb IAmb 13 09 56.5
comp=Z,19nm,0.7s
E27K **Coleen River** 75.80 339 P P 13 09 55.7 +0.9
baz=108
KLU **Klutina** 75.88 332 P P 13 09 56.4 +0.9
KLU **Klutina** 75.88 332 P P 13 09 56.7 +1.2
baz=102
RIDG **Independent Ri** 75.89 334 P P 13 09 57.1 +1.6
baz=103,SNR=10.0
D27M **Malcolm River** 75.91 340 P P 13 09 56.4 +0.9
baz=108
HIN **Hinchinbrook I** 75.94 331 P P 13 09 57.2 +1.4
HIN IAmb IAmb 13 10 20.2
comp=Z,66nm,1.3s
PAX **Paxson** 75.99 333 P P 13 09 57.1 +1.0
baz=103,SNR=5.5
G26K **Porcupine Rive** 76.25 338 P P 13 09 58.2 +0.8
baz=105
K24K **Donnelly Dome** 76.31 334 P P 13 09 59.3 +1.5
baz=103,SNR=8.0
J25K **Salcha River,** 76.31 335 P P 13 09 59.1 +1.2
baz=103
F26K **Sheenjek River** 76.58 338 P P 13 10 00.6 +1.3
baz=105
PRP **Porcupine Dome** 76.58 336 P P 13 10 00.6 +1.1
baz=103,SNR=10
SCM **Sheep Creek Mo** 76.60 332 P P 13 10 00.8 +1.2
baz=101,SNR=14
BMAR **Burnt Mountain** 76.68 338 P P 13 10 01.1 +1.2
M23K **Glacier View** 76.78 332 P P 13 10 01.7 +1.2
baz=100,SNR=18
DHY **Denali Highway** 76.86 333 P P 13 10 01.9 +0.9
baz=101
WAT6 **Susitna Watana** 76.93 333 P P 13 10 02.5 +1.0
baz=100,SNR=6.5
HDA **Harding Lake** 76.94 335 P P 13 10 02.0 +0.7
baz=102,SNR=16
IL31 76.98 335 P P 13 10 01.7 +0.2
ILAR **Eielson Array** 76.98 335 P P 13 10 02.1 +0.6
comp=Z,8.2nm,0.7s,baz=112,slow=4.4,SNR=62
ILAR pP pP 13 10 41.6 +1.2
comp=Z,1.9nm,0.6s,baz=92,slow=4.5,SNR=1.7
ILAR PP PP 13 12 56.0 -0.8
comp=Z,0.8nm,0.7s,baz=96,slow=5.7,SNR=4.9
ILAR LR LR 13 44 51.2
comp=Z,69nm,20.7s,baz=80,slow=36
comp=Z,8.2nm,0.7s
KNK **Knik Glacier** 77.06 331 P P 13 10 03.4 +1.4
baz=100,SNR=12
SML **Sawmill** 77.07 332 P P 13 10 03.1 +1.0
SML IAmb IAmb 13 10 04.7
comp=Z,30nm,1.0s
SML **Sawmill** 77.07 332 P P 13 10 02.9 +0.8
baz=100,SNR=9.9
F25K **Christian Rive** 77.11 338 P P 13 10 03.7 +1.5
baz=104
E25K **Arctic Village** 77.21 338 P P 13 10 03.9 +1.1
baz=104,SNR=14
WAT1 **Susitna Watana** 77.34 333 P P 13 10 04.8 +1.1
baz=100
PMR **Palmer** 77.41 332 P P 13 10 05.1 +1.2
PMR IAmb IAmb 13 10 05.7
comp=Z,21nm,0.8s
PMR **Palmer** 77.41 332 P P 13 10 04.5 +0.6
baz=99,SNR=15
C26K **Camden Bay** 77.43 340 P P 13 10 05.2 +1.3
baz=105
RND **Reindeer** 77.58 333 P P 13 10 06.6 +1.7
MDM **Murphy Dome** 77.58 335 P P 13 10 05.5 +0.6
H24K **Noodor Dome** 77.61 336 P P 13 10 05.4 +0.4
H24K **Noodor Dome** 77.61 336 P P 13 10 05.9 +0.9
baz=101,SNR=12
G24K **Hadweenzic Riv** 77.62 337 P P 13 10 06.5 +1.5
baz=102,SNR=5.3
RC01 **Rabbit Creek A** 77.62 331 P P 13 10 06.1 +0.9
baz=98,SNR=7.0
MCK **McKinley** 77.67 334 P P 13 10 06.7 +1.3
baz=100,SNR=6.0
D25K **Kavik River** 77.78 340 P P 13 10 07.1 +1.2
D25K IAmb IAmb 13 10 07.8
comp=Z,22nm,0.7s
D25K **Kavik River** 77.78 340 P P 13 10 07.0 +1.0
baz=103,SNR=28
NEA2 **Nenana** 77.87 335 P P 13 10 07.3 +0.8
baz=100,SNR=8.2
BRSE **Bradley Lake S** 77.93 330 P P 13 10 07.9 +1.0
baz=97
F24K **Squaw Lake** 77.94 338 P P 13 10 08.4 +1.6
F24K **Squaw Lake** 77.94 338 P P 13 10 08.5 +1.6
baz=101
CUT **Chulitna** 78.06 332 P P 13 10 08.5 +1.0
baz=98,SNR=6.9
I23K **Minto, Yukon-K** 78.09 335 P P 13 10 08.9 +1.3
baz=100,SNR=6.3
SUA **Susitna One** 78.16 331 P P 13 10 09.6 +1.3
baz=98,SNR=31
TRF **Thorofare Moun** 78.22 333 P P 13 10 09.8 +1.1
TRF **Thorofare Moun** 78.22 333 P P 13 10 09.8 +1.1
baz=98,SNR=12
SKT **Skwentna** 78.59 332 P P 13 10 11.4 +0.9
baz=97,SNR=15
D24K **Happy Valley** 78.60 339 P P 13 10 11.5 +1.2
baz=101
G23K **Bananza Creek** 78.61 337 P P 13 10 12.0 +1.4
baz=99
MLY **Manley** 78.65 335 P P 13 10 11.6 +0.8
baz=98,SNR=9.6
KDAK **Kodiak Island** 78.67 328 P P 13 10 11.1 +0.1
KDAK **Kodiak Island** 78.67 328 LR LR 13 46 25.7
comp=Z,54nm,20.4s,baz=222,slow=36
E23K **Chandalar** 78.69 338 P P 13 10 12.4 +1.4
baz=100
COLD **Coldfoot** 78.77 337 P P 13 10 13.0 +1.7
baz=99,SNR=23
N20K **Mount Spurr** 78.83 331 P P 13 10 12.6 +0.7
baz=96,SNR=15
O20K **Slope Mountain** 78.91 330 P P 13 10 13.2 +0.9
baz=96,SNR=5.6
PPLA **Purkeypile** 79.00 333 P P 13 10 13.7 +0.8
baz=96,SNR=21
CAST **Castle Rocks** 79.02 333 P P 13 10 13.3 +0.5
baz=97,SNR=24
H22K **Ishtalitna Cre** 79.03 336 P P 13 10 14.0 +1.1
baz=98
CHUM **Lake Minchumin** 79.17 334 P P 13 10 14.3 +0.7
baz=97,SNR=15
P19K **Oil Pt** 79.18 329 P P 13 10 14.5 +0.7
baz=95,SNR=7.1
D23K **Nanushuk River** 79.22 339 P P 13 10 15.5 +1.7
baz=99
G22K **Bettles** 79.23 337 P P 13 10 15.1 +1.3
baz=98
PPT **Papeete** 79.32 251 LR LR 13 40 18.1
comp=Z,27nm,19.3s,baz=38,slow=32
M20K **Styx River** 79.33 332 P P 13 10 15.2 +0.6
baz=96
C23K **Itkillik River** 79.34 340 P P 13 10 15.5 +1.1
baz=99
E22K **Anaktuvuk Pass** 79.51 338 P P 13 10 16.2 +0.8
baz=98,SNR=7.0
F22K **John River** 79.57 337 P P 13 10 17.0 +1.3
baz=97
H21K **Melozitna Rive** 79.59 335 P P 13 10 16.6 +0.8
baz=96,SNR=7.8
L20K **Farewell, AK** 79.74 332 P P 13 10 17.3 +0.5
baz=95,SNR=16
O19K **Port Alsworth** 79.77 330 P P 13 10 17.1 +0.2
baz=94,SNR=11
N19K **Bonanza Creek** 79.89 331 P P 13 10 17.2 -0.5
N19K **Bonanza Creek** 79.89 331 P P 13 10 17.7 +0.1
baz=94
K20K **Telida** 79.90 333 P P 13 10 18.1 +0.5
baz=95
D22K **Ayikyak River** 79.93 339 P P 13 10 19.1 +1.5
baz=97
G21K **Allakaket** 79.97 336 P P 13 10 19.3 +1.4
baz=96
J20K **Nowinta River** 80.01 334 P P 13 10 18.8 +0.7
J20K IAmb IAmb 13 10 19.6
comp=Z,31nm,0.7s
IMAR **Indian Mountai** 80.01 336 P P 13 10 18.9 +0.8
Q18K **Katmai Hardscr** 80.02 328 P P 13 10 18.7 +0.2
baz=93,SNR=5.6
F21K **Alatna River** 80.03 337 P P 13 10 19.7 +1.5
baz=96
L19K **White Mountain** 80.17 332 P P 13 10 19.6 +0.5
L19K **White Mountain** 80.17 332 P P 13 10 19.4 +0.4
baz=94
P18K **Big Mountain,** 80.17 329 P P 13 10 19.0 -0.1
baz=93,SNR=5.9
O18K **Koktuh Hills** 80.19 330 P P 13 10 19.4 +0.2
baz=93,SNR=14
B22K **Teshekpuk Lake** 80.36 340 P P 13 10 21.3 +1.5
baz=97
H20K **Anotleneega Mo** 80.43 335 P P 13 10 21.0 +0.7
baz=94
SVW2 **Sparrevohn** 80.45 331 P P 13 10 20.5 0.0
SVW2 IAmb IAmb 13 10 21.4
comp=Z,27nm,0.7s
Q17K **Contact Creek** 80.46 328 P P 13 10 20.7 0.0
baz=92,SNR=5.2
N18K **Kilae Creek** 80.58 330 P P 13 10 21.5 +0.3
N18K IAmb IAmb 13 10 22.4
comp=Z,31nm,0.8s
N18K **Kilae Creek** 80.58 330 P P 13 10 21.2 0.0
baz=93
M18K **Stony River** 80.58 331 P P 13 10 21.5 +0.3
baz=93
J19K **Poorman** 80.64 334 P P 13 10 22.4 +0.9
baz=94,SNR=6.4
B21K **Ikpikpuk River** 80.69 339 P P 13 10 22.9 +1.3
baz=96
R17K **Ugashik Creek** 80.70 327 P P 13 10 22.3 +0.4
baz=92
C21K **Knifeblade Rid** 80.71 339 P P 13 10 23.1 +1.3
baz=95
TTA **Tatalina** 80.75 333 P P 13 10 22.7 +0.5
baz=93,SNR=7.3
P17K **Kvichak River** 80.79 329 P P 13 10 22.7 +0.3
baz=92
Q16K **King Salmon** 80.88 328 P P 13 10 23.4 +0.6
baz=92,SNR=10.0
F20K **Avaraart Lake** 80.89 337 P P 13 10 23.8 +1.1
F20K **Avaraart Lake** 80.89 337 P P 13 10 23.9 +1.2
baz=94,SNR=8.9
L18K **Granite Mounta** 81.03 332 P P 13 10 24.1 +0.5
L18K **Granite Mounta** 81.03 332 P P 13 10 24.2 +0.6
baz=92
H19K **Roundabout Mou** 81.09 335 P P 13 10 24.9 +1.1
baz=93
J18K **Innoko River** 81.10 333 P P 13 10 24.8 +0.8
baz=93
O17K **Koliganek Bris** 81.14 329 P P 13 10 24.5 +0.3
baz=92,SNR=8.1
E20K **Nigu River** 81.15 338 P P 13 10 26.0 +1.8
baz=94,SNR=50
N17K **Nushagak Hills** 81.21 330 P P 13 10 24.7 +0.1
GCSA **Galena City Sc** 81.23 334 P P 13 10 25.5 +1.0
baz=93,SNR=7.3
NB2 **NORSAR Subarra** 81.28 29 P P 13 10 25.7 +0.7
comp=Z,2.5nm,0.7s,baz=268,slow=5.3
NOA **NORSAR Array B** 81.28 29 P P 13 10 25.4 +0.4
comp=Z,3.6nm,0.8s,baz=268,slow=5.3,SNR=9.8
comp=Z,3.6nm,0.8s
M17K **Holitna River** 81.36 331 P P 13 10 26.0 +0.7
baz=92,SNR=5.3
G19K **Purcell Mounta** 81.38 336 P P 13 10 26.5 +1.2
baz=93
E19K **Redstone River** 81.50 337 P P 13 10 27.2 +1.2
baz=93,SNR=22
B20K **Meade River** 81.61 340 P P 13 10 27.9 +1.5
baz=93
F19K **Shaleruckik Mo** 81.68 337 P P 13 10 27.9 +1.0
baz=92
L17K **Donlin** 81.78 332 P P 13 10 28.6 +1.1
baz=91
K17K **Iditarod** 81.79 332 P P 13 10 28.6 +1.0
baz=91
H18K **Honhosa River** 81.87 335 P P 13 10 29.0 +1.0
D19K **Kuna River** 81.88 338 P P 13 10 29.6 +1.6
baz=92
G18K **Tagagawik** 82.01 336 P P 13 10 30.0 +1.3
baz=91,SNR=8.6
C19K **Lookout Ridge** 82.43 339 P P 13 10 32.6 +1.8
baz=91
HFS **Hagfors** 82.50 30 P P 13 10 31.1 -0.2
comp=Z,1.8nm,0.5s,baz=268,slow=8.7,SNR=6.9
comp=Z,1.8nm,0.5s
HSKC **Hora Svate Kat** 82.54 40 *e* P P 13 10 32.9 +1.1
GERES **GERESS Array B** 82.77 42 P P 13 10 33.0 -0.1
comp=Z,3.8nm,0.7s,baz=250,slow=3.8,SNR=4.9
comp=Z,3.8nm,0.7s
E18K **Tukpahlearik C** 82.80 337 P P 13 10 33.7 +1.0
baz=90
G17K **Kiwalik Mounta** 82.84 335 P P 13 10 34.4 +1.5
baz=89
J16K **Anvik River** 82.84 333 P P 13 10 34.0 +1.0
I17K **Unalakleet** 82.88 334 P P 13 10 34.5 +1.4
baz=89,SNR=18
C18K **Utukok River** 83.01 338 P P 13 10 35.0 +1.1
baz=89
F17K **Baldwin Pennin** 83.07 336 P P 13 10 35.3 +1.2
F17K IAmb IAmb 13 10 36.1
comp=Z,16nm,0.7s
F17K **Baldwin Pennin** 83.07 336 P P 13 10 35.3 +1.2
baz=89
B18K **Kokolik River** 83.22 339 P P 13 10 36.5 +1.7
baz=89,SNR=9.9
SPB4 **Spitsbergen Ar** 83.24 12 P P 13 10 36.0 +1.2
SPB4 IAmb IAmb 13 11 36.6
comp=Z,64nm,1.3s
SPA0 **Spitsbergen Ar** 83.24 12 P P 13 10 35.2 +0.4
SPITS **Spitsbergen Ar** 83.24 12 P P 13 10 35.9 +1.1
comp=Z,4.4nm,0.5s,baz=207,slow=0.6,SNR=23
comp=Z,4.4nm,0.5s
E17K **Hotham Inlet** 83.28 337 P P 13 10 36.2 +1.0
baz=88,SNR=47
K15K **Wolf Creek Mou** 83.30 332 P P 13 10 37.2 +1.8
baz=88

L15K	**Ungalak Mounta**	**83.30**	**331**	P		**P**	**13 10 36.7**	**+1.3**
	baz=88							
N14K	**Kuskokwak Cree**	**83.45**	**330**	P		**P**	**13 10 37.1**	**+0.9**
	baz=88							
H16K	**Elim**	**83.53**	**334**	P		**P**	**13 10 37.9**	**+1.4**
	baz=88,SNR=11							
G16K	**Koyuk River**	**83.55**	**335**	P		**P**	**13 10 38.3**	**+1.7**
G16K				IAmb		IAmb	13 10 39.1	
	comp=Z,17nm,0.8s							
G16K	**Koyuk River**	**83.55**	**335**	P		**P**	**13 10 38.2**	**+1.6**
	baz=88							
RDOG	**Red Dog Mine**	**83.66**	**338**	P		**P**	**13 10 38.5**	**+1.4**
	baz=88							
C17K	**DeLong Mountai**	**83.74**	**338**	P		**P**	**13 10 38.6**	**+1.0**
	baz=87							
L14K	**Kuka Creek**	**83.88**	**331**	P		**P**	**13 10 39.2**	**+0.8**
	baz=87							
J14K	**Nanvaranak Lak**	**84.21**	**332**	P		**P**	**13 10 42.0**	**+2.0**
	baz=86							
M13K	**Dall Lake**	**84.26**	**330**	P		**P**	**13 10 41.8**	**+1.5**
	baz=86							
OSTC	**Ostas**	**84.31**	**40**	*e*P		**P**	**13 10 42.9**	**+2.1**
DPC	**Dobruska-Polom**	**84.39**	**40**	*e*P		**P**	**13 10 42.3**	**+1.0**
F15K	**North Star Dit**	**84.48**	**335**	P		**P**	**13 10 43.2**	**+1.9**
F15K				IAmb		IAmb	13 10 44.1	
	comp=Z,16nm,0.7s							
F15K	**North Star Dit**	**84.48**	**335**	P		**P**	**13 10 43.5**	**+2.1**
	baz=86							
C16K	**Lisburne Hills**	**84.56**	**338**	P		**P**	**13 10 43.0**	**+1.4**
	baz=85							
KRLC	**Kraliky**	**84.71**	**40**	*e*P		**P**	**13 10 44.0**	**+1.1**
MODS	**Modra-Piesok**	**85.17**	**42**	*e*P		**P**	**13 10 45.9**	**+0.8**
MORC	**Moravsky Berou**	**85.22**	**41**	P		**P**	**13 10 45.9**	**+0.4**
ARCES	**ARCESS Array B**	**86.64**	**20**	P		**P**	**13 10 52.1**	**+0.2**
ARCES	**ARCESS Array B**	**86.64**	**20**	P		**P**	**13 10 52.5**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=257,slow=3.6,SNR=9.7							
	comp=Z,3.7nm,0.6s							
VNA3	**Neumayer Olymp**	**88.16**	**163**	⇓P		**P**	**13 10 58.2**	**-0.9**
	comp=Z,22nm,0.7s							
VNA1	**Neumayer--Stat**	**88.30**	**162**	⇓P		**P**	**13 10 58.2**	**-1.5**
	comp=Z,14nm,0.7s							
FINES	**FINESS Array B**	**88.40**	**28**	P		**P**	**13 11 00.0**	**-0.4**
FINES	**FINESS Array B**	**88.40**	**28**	P		**P**	**13 10 59.9**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=282,slow=9.0,SNR=1.6							
FINES				LR		LR	13 44 27.3	
	comp=Z,184nm,21.1s,baz=316,slow=31							
	comp=Z,3.0nm,0.9s							
VNA2	**Neumayer--Watz**	**88.68**	**163**	⇓P		**P**	**13 11 00.7**	**-0.8**
	comp=Z,11nm,0.6s,baz=306,slow=6.0							
TROLL	**Troll, Antarti**	**92.03**	**162**	⇓P		**P**	**13 11 16.8**	**-0.5**
	comp=Z,278nm,0.5s							
QSPA	**South Pole Qui**	**96.84**	**180**	P		**P**	**13 11 37.7**	**-1.6**
QSPA				IAmb		IAmb	13 11 39.8	
	comp=Z,8.9nm,1.0s							
QSPA	**South Pole Qui**	**96.84**	**180**	P		**P**	**13 11 37.3**	**-2.1**
	comp=Z,6.9nm,1.0s,baz=160,slow=2.0,SNR=14							
	comp=Z,6.9nm,1.0s							
SHEM	**Shemya Is, Ala**	**98.09**	**326**	LR		LR	13 57 31.1	
	comp=Z,88nm,21.7s,baz=128,slow=36							
BVAR	**Borovoye Array**	**112.81**	**23**	PKiKP		**PKiKP**	**13 16 45.1**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=293,slow=1.1,SNR=5.6							
GEYT	**Alibeck**	**116.39**	**42**	PKP		**PKiKP**	**13 16 52.0**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=274,slow=5.7,SNR=5.2							
ZAA0	**Zalesovo Array**	**116.64**	**14**	PKPdf		**PKPdf**	**13 16 51.2**	**-0.6**
ZALV	**Zalesovo Beam**	**116.64**	**14**	PKPdf		**PKPdf**	**13 16 51.8**	**-0.1**
ZALV	**Zalesovo Beam**	**116.64**	**14**	PKP		**PKiKP**	**13 16 52.1**	**+0.2**
	comp=Z,6.2nm,0.6s,baz=282,slow=1.6,SNR=30							
ZALV				SKP			13 20 13.0	
	comp=Z,1.7nm,0.8s,baz=254,slow=2.2,SNR=5.6							
KURK	**Kurchatov**	**117.67**	**20**	PKPdf		**PKiKP**	**13 16 54.4**	**+0.4**
KURBB	**Kurchatov Arra**	**117.72**	**20**	PKP		**PKiKP**	**13 16 54.1**	**0.0**
	comp=Z,4.2nm,0.7s,baz=322,slow=2.2,SNR=41							
KLR	**Kul'dur**	**120.11**	**341**	PKP		**PKPdf**	**13 16 58.6**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=85,slow=0.7,SNR=7.1							
MAKZ	**Makanchi**	**122.17**	**20**			**PKPdf**	**13 17 02.5**	**-0.3**
MK31	**Makanchi Array**	**122.29**	**20**	PKPdf		**PKPdf**	**13 17 02.8**	**-0.3**
MKAR	**Makanchi Array**	**122.29**	**20**	PKP		**PKPdf**	**13 17 02.8**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=302,slow=2.4,SNR=60							
MKAR				pPKP		**pPKPdf**	**13 17 46.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=349,slow=2.5,SNR=2.1							
MKAR				SKP			13 20 23.4	
	comp=Z,0.7nm,0.9s,baz=318,slow=1.6,SNR=3.6							
AAK	**Ala-Archa**	**122.58**	**28**	PKPdf		**PKiKP**	**13 17 04.8**	**+0.7**
BOOM	**Boomskoye usch**	**123.36**	**27**			**PKiKP**	**13 17 05.9**	**+0.2**
NRN	**Naryn**	**124.22**	**28**	PKPdf		**PKiKP**	**13 17 08.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**124.40**	**338**	PKP		**PKiKP**	**13 17 07.8**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=74,slow=1.1,SNR=6.7							
TARG	**Taragay, Kyrgy**	**124.81**	**26**			**PKPdf**	**13 17 08.7**	**+0.1**
MDJ	**Mudanjiang**	**124.88**	**340**	PKP		**PKiKP**	**13 17 09.0**	**+0.6**
SONM	**Songino Array**	**125.57**	**0**	PKP		**PKiKP**	**13 17 10.2**	**+0.4**
	comp=Z,4.0nm,0.6s,baz=331,slow=1.2,SNR=15							
KSH	**Kashi**	**125.71**	**29**	PKP		**PKiKP**	**13 17 11.6**	**+1.2**
MJAR	**Matsushiro Arr**	**127.85**	**328**	PKP		**PKiKP**	**13 17 14.4**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=45,slow=1.3,SNR=4.5							
KSRS	**Korea Array**	**131.78**	**338**	PKP		**PKiKP**	**13 17 22.6**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=24,slow=2.2,SNR=8.8							
KSRS				SKPbc		**SKPab**	**13 20 34.5**	**+1.1**
	comp=Z,2.7nm,0.9s,baz=7.2,slow=2.3,SNR=5.2							
HHC	**Hu-ho-hao-te**	**132.37**	**355**	*e*PKP		**PKPdf**	**13 17 22.2**	**-0.3**
BTO	**Baotou**	**132.71**	**357**	*e*PKP		**PKPdf**	**13 17 21.2**	**-2.0**
BTO				sPKP			13 18 20.4	
BTO				PP		**PP**	**13 19 54.1**	**+6.1**
BTO				SKS		**SKSdf**	**13 24 15.5**	**-4.6**
BTO				LR		LR		
	comp=Z,320nm,6.3s							
BTO				LR		LR		
	comp=Z,290nm,5.7s							
BTO				LR		LR		
	comp=Z,320nm,6.1s							
GTA	**Gaotai**	**133.52**	**8**	*e*PKP		**PKiKP**	**13 17 25.7**	**-0.4**
LZH	**Lanzhou**	**137.21**	**4**	*e*PKP		**PKiKP**	**13 17 33.2**	**-0.5**
STKA	**Stephens Creek**	**139.21**	**228**	PKhKP		PKPpre	13 17 29.6	
	comp=Z,1.2nm,0.4s,baz=87,slow=21,SNR=2.9							
STKA				PKP		**PKPdf**	**13 17 35.5**	**+0.1**
	comp=Z,8.1nm,0.7s,baz=79,slow=1.1,SNR=13							
XAN	**Xi'an**	**139.31**	**357**	⇑PKP		**PKPdf**	**13 17 30.6**	**-5.0**
CTA	**Charters Tower**	**139.69**	**247**	PKhKP		PKPpre	13 17 27.5	
	comp=Z,3.2nm,0.7s,baz=86,slow=3.2,SNR=2.4							
CTA				PKP		**PKPdf**	**13 17 36.8**	**+0.3**
	comp=Z,6.8nm,0.7s,baz=132,slow=3.2,SNR=7.7							
CTAO	**Charters Tower**	**139.69**	**247**	PKPdf		**PKPdf**	**13 17 35.4**	**-1.1**
NJ2	**Nanjing**	**139.70**	**344**	*e*PKP		**PKPdf**	**13 17 35.9**	**-0.3**
HYB	**Hyderabad**	**143.02**	**49**	*e*PKiKP		**PKiKP**	**13 17 46.2**	**+0.3**
COEN	**Coen**	**143.71**	**256**			PKPbc	13 17 41.8	0.0
YOJ	**Yonaguni jima**	**145.18**	**334**			**PKPbc**	**13 17 45.0**	**-1.0**
PZH	**PanZhiHua**	**146.48**	**8**	PKPbc		**PKPdf**	**13 17 49.0**	**+0.5**
GENI	**Genyem**	**146.64**	**276**	PKP		**PKPdf**	**13 17 49.1**	**+0.2**
GYA	**Guiyang**	**146.91**	**0**	PKPbc		**PKPab**	**13 17 52.4**	**-0.5**
KMI	**Kunming**	**147.97**	**7**	⇑PKPbc		**PKPdf**	**13 17 51.5**	**+0.3**
FORT	**Forrest**	**149.03**	**217**	PKPdf		**PKPdf**	**13 17 51.3**	**-1.1**
FORT						**PKPbc**	**13 17 56.9**	**+0.3**
AS31	**Alice Springs**	**149.17**	**234**	PKPdf		**PKPdf**	**13 17 53.0**	**+0.1**
ASAR	**Alice Springs**	**149.17**	**234**	PKPdf		**PKPdf**	**13 17 52.9**	**0.0**
ASAR				PKPbc		**PKPbc**	**13 17 57.0**	**-0.3**
ASAR				PKPab		**PKPab**	**13 18 02.5**	**+0.4**
ASAR	**Alice Springs**	**149.17**	**234**	PKP		**PKPdf**	**13 17 52.9**	**0.0**
	comp=Z,45nm,0.7s,baz=115,slow=1.5,SNR=156							
ASAR				PKPbc		**PKPbc**	**13 17 56.6**	**-0.6**
	comp=Z,50nm,0.6s,baz=118,slow=3.6,SNR=154							
WR0	**Warramunga Arr**	**150.22**	**241**			**PKPdf**	**13 17 54.3**	**-0.3**
WR0				PKPbc		**PKPbc**	**13 17 59.3**	**-0.6**
PALK	**Pallekele**	**150.31**	**62**	PKP		**PKPdf**	**13 17 54.0**	**-0.9**
WB2	**Warramunga Arr**	**150.39**	**241**	PKPdf		**PKPdf**	**13 17 55.1**	**+0.3**
WB2				PKPbc		**PKPbc**	**13 17 59.7**	**-0.5**
WRAB	**Tennant Creek**	**150.40**	**241**			**PKPdf**	**13 17 55.0**	**+0.2**
WRAB				PKPbc		**PKPbc**	**13 17 60.0**	**-0.3**
WRA	**Warramunga Arr**	**150.40**	**241**	PKP		**PKPdf**	**13 17 55.1**	**+0.2**
	comp=Z,34nm,0.5s,baz=109,slow=2.4,SNR=66							
WRA				PKPbc		**PKPbc**	**13 17 59.8**	**-0.5**
	comp=Z,34nm,0.5s,baz=108,slow=2.6,SNR=90							
WRA				pPKPbc		**pPKPbc**	**13 18 41.1**	**-1.2**
	comp=Z,13nm,0.7s,baz=108,slow=2.5,SNR=3.1							
WB0	**Warramunga Arr**	**150.42**	**242**	PKPdf		**PKPdf**	**13 17 55.4**	**+0.5**
WB0				PKPbc		**PKPbc**	**13 17 59.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**152.33**	**199**	PKPbc		**PKPbc**	**13 18 03.5**	**-0.9**
	comp=Z,5.7nm,0.8s,baz=116,slow=5.8,SNR=5.6							
CHTO	**Chiang Mai**	**153.32**	**17**	PKP		**PKPdf**	**13 17 59.8**	**+0.5**
CMMT	**Chiang Mai**	**153.32**	**17**	PKP		**PKPdf**	**13 17 59.3**	**0.0**
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKP		**PKPdf**	**13 18 01.1**	**+1.4**
	comp=Z,4.0nm,0.7s,baz=308,slow=2.2,SNR=32							
CMAR				PKPbc		**PKiKP**	**13 18 08.1**	**+0.4**
	comp=Z,11nm,0.6s,baz=325,slow=3.5,SNR=34							
FITZ	**Fitzroy Crossi**	**158.62**	**237**	PKPdf		**PKPdf**	**13 18 05.5**	**-0.7**
FITZ						**PKPab**	**13 18 41.6**	**-0.6**

IDC 08 13:19:37.7±2.1,6°40S×129°07E,h0km,mb3.7/1, mbtmp3.5/3,ML3.6/2,Error ellipse: s-maj=108.4km s-min=32.1km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**160**	Pn	Pn	13 23 02.8	-0.3
	0.4nm,0.3s,baz=338,slow=14,SNR=18						
WRA				Sn	Sn	13 25 33.7	-10
	0.2nm,0.3s,baz=330,slow=23,SNR=1.1						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**17.79**	**165**	P	Pn	13 23 47.2	+0.2
	0.1nm,0.3s,baz=348,slow=12,SNR=6.5						
ASAR				S	Sn	13 27 00.3	-5.7
	0.2nm,0.7s,baz=358,slow=29,SNR=2.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**67.22**	**327**	P	P	13 30 33.9	0.0
	0.5nm,0.7s,baz=115,slow=6.9,SNR=4.3						
	0.5nm,0.7s						

*ISK **08** 13:25:50.9,39°54N×26°87E,h5km,ML3.4/54*
*AFAD **08** 13:25:51.1±0.0,39°52N×26°89E,h14km±1km,MW3.5*
*ATH **08** 13:25:52.2,39°52N×26°91E,h6km±1km,ML3.3/4,Error ellipse: s-maj=2.8km s-min=1.2km az=271.0*
*THE **08** 13:25:52.2,39°52N×26°83E,h8km±1km,ML3.4/8,Error ellipse: s-maj=1.5km s-min=0.6km az=244.0*

ISC 08 13:25:51.7±0.9,39°53N±0°01×26°88E±0°01,h10km±7km, n124,σ0s75/162,7C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUHA	**Balikesir, Bur**	**0.16**	**99**	P	**Pg**	**13 25 55.0**	**-0.1**
BUHA				S	**Sg**	**13 25 57.6**	**0.0**
AYVA	**Ayvalik**	**0.26**	**214**	P	**Pg**	**13 25 57.2**	**+0.3**
AYVA				S	**Sg**	**13 26 01.4**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.33**	**310**	P	**Pg**	**13 25 58.1**	**-0.2**
BAYC				S	**Sg**	**13 26 02.4**	**-0.4**
DKL	**Dikili**	**0.45**	**177**	Pg	**Pg**	**13 26 00.6**	**+0.1**
LESV	**Lesvos island,**	**0.48**	**210**	P	**Pg**	**13 26 01.3**	**+0.2**
LESV				S	**Sg**	**13 26 07.8**	**+0.3**
EAG3	**Mitilini, Lesv**	**0.50**	**209**	P	**Pg**	**13 26 01.5**	**+0.1**
EAG3				S	**Sg**	**13 26 08.5**	**+0.5**
EAG3				AML	AML	13 26 10.7	
	comp=N,8559μm,0.3s						
EAG3				AML	AML	13 26 13.1	
	comp=E,9240μm,0.3s						
CANM	**Can-anakkale**	**0.50**	**16**	Pg	**Pg**	**13 26 00.4**	**-1.1**
EZN	**Ezine**	**0.52**	**305**	Pg	**Pg**	**13 26 02.3**	**+0.5**
EZN	**Ezine**	**0.52**	**305**	P	**Pg**	**13 26 01.5**	**-0.3**
EZN				S	**Sg**	**13 26 08.3**	**-0.4**
	comp=E,2μm,0.3s						
PRK	**Paraskevi**	**0.55**	**239**	P	**Pg**	**13 26 02.3**	**0.0**
PRK				S	**Sb**	**13 26 10.7**	**-0.4**
	comp=E,2μm,0.3s						
PRK	**Paraskevi**	**0.55**	**239**	P	**Pg**	**13 26 02.2**	**0.0**
PRK				S	**Sg**	**13 26 10.5**	**+1.0**
PRK				AML	AML	13 26 13.0	
	comp=E,5282μm,0.3s						
PRK				AML	AML	13 26 14.5	
	comp=N,4403μm,0.2s						
RFT7	**Candarli**	**0.57**	**177**	Pg	**Pg**	**13 26 02.7**	**0.0**
KOCA	**Canakkale, Ayv**	**0.57**	**268**	P	**Pg**	**13 26 02.6**	**-0.1**
KOCA				S	**Sg**	**13 26 10.1**	**-0.2**
CAND	**Candarli**	**0.57**	**186**	Pg	**Pg**	**13 26 02.6**	**-0.2**
CAND				Sg	**Sb**	**13 26 11.3**	**-0.6**
GPNR	**Gulpinar-Canak**	**0.58**	**263**	Pg	**Pg**	**13 26 02.4**	**-0.5**
ZEDA	**zmir-Bergama**	**0.58**	**164**	Pg	**Pg**	**13 26 02.9**	**0.0**
ZEDA				S	**Sb**	**13 26 11.3**	**-0.8**
BALY	**Balya**	**0.61**	**69**	P	**Pg**	**13 26 02.9**	**-0.6**
BALY				S	**Sg**	**13 26 11.1**	**-0.5**
COMU	**Canakkale**	**0.65**	**332**	Pg	**Pg**	**13 26 03.8**	**-0.5**
COMU				Sg	**Sg**	**13 26 12.8**	**-0.1**
CNKL	**anakkale-Mer**	**0.66**	**325**	P	**Pg**	**13 26 04.1**	**-0.3**
CNKL				P	**Pg**	**13 26 04.1**	**-0.3**
CNKL				S	**Sg**	**13 26 12.0**	**-1.1**
STEP	**BALIKESIR_Sava**	**0.67**	**103**	P	**Pg**	**13 26 03.7**	**-0.9**
STEP				S	**Sg**	**13 26 13.6**	**+0.2**
BOZC	**Bozcaada**	**0.71**	**297**	P	**Pg**	**13 26 05.0**	**-0.3**
BOZC				P	**Pb**	**13 26 05.3**	**-0.8**
ECEA	**Canakkale, Ece**	**0.75**	**314**	P	**Pg**	**13 26 06.4**	**+0.2**
BALB	**Balikesir**	**0.78**	**81**	Pg	**Pg**	**13 26 06.5**	**-0.3**
BALB				Sg	**Sb**	**13 26 17.4**	**-0.6**
GONE	**Gonen-Balikesi**	**0.81**	**50**	Pg	**Pg**	**13 26 06.6**	**-0.7**
FOCM	**Foa**	**0.82**	**188**	Pg	**Pg**	**13 26 07.2**	**-0.2**
FOCM				Sg	**Sb**	**13 26 18.9**	**-0.1**
BKES	**Balkesir-Mer**	**0.84**	**75**	P	**Pg**	**13 26 07.2**	**-0.7**
BKES				S	**Sg**	**13 26 18.7**	**-0.1**
LPK	**Lapseki**	**0.85**	**354**	Pg	**Pg**	**13 26 07.6**	**-0.5**
SIGR	**SIGRI**	**0.85**	**249**	Pg	**Pg**	**13 26 07.9**	**-0.2**
SIGR	**SIGRI**	**0.85**	**249**	P	**Pg**	**13 26 07.9**	**-0.2**
SIGR				S	**Sb**	**13 26 20.2**	**+0.3**
	comp=N,2μm,0.4s						
SIGR	**SIGRI**	**0.85**	**249**	P	**Pg**	**13 26 07.8**	**-0.3**
SIGR				S	**Sg**	**13 26 19.8**	**+0.6**
SIGR				AML	AML	13 26 22.6	
	comp=N,4491μm,0.4s						
SIGR				AML	AML	13 26 23.5	
	comp=E,5458μm,0.3s						
GELI	**Tayfur-Gelibol**	**0.93**	**341**	Pg	**Pg**	**13 26 08.8**	**-0.7**
KRBG	**Karabiga-Canak**	**0.93**	**20**	Pg	**Pg**	**13 26 08.5**	**-1.0**
KARB	**zmir-Karabur**	**0.93**	**203**	P	**Pg**	**13 26 09.0**	**-0.6**
KARB				S	**Sb**	**13 26 22.6**	**+0.3**
AKHS	**Akhisar**	**0.97**	**131**	P	**Pb**	**13 26 10.6**	**0.0**
AKS	**Akhisar**	**0.97**	**131**	Pg	**Pb**	**13 26 10.7**	**+0.1**
AKS				Sg	**Sb**	**13 26 24.1**	**+0.7**
GOAD	**anakkale-G¶**	**0.98**	**311**	P	**Pg**	**13 26 10.3**	**-0.2**
GOAD				S	**Sg**	**13 26 22.9**	**-0.4**
GOKC	**Gokceada-Canak**	**1.00**	**313**	Pg	**Pg**	**13 26 10.3**	**-0.6**
GADA	**Gvkgeada**	**1.00**	**312**	Pg	**Pg**	**13 26 11.0**	**0.0**
EDC	**Edincik**	**1.12**	**42**	Pn	**Pg**	**13 26 12.4**	**-0.7**
EAG2	**Marmaro, Chios**	**1.15**	**212**	P	**Pg**	**13 26 13.1**	**-0.6**
EAG2				S	**Sg**	**13 26 28.6**	**0.0**
GOMA	**Golmarmara-Man**	**1.15**	**135**	Pn	**Pn**	**13 26 13.9**	**+0.2**
ERIK	**Erikli-Kesan**	**1.18**	**346**	Pn	**Pg**	**13 26 13.2**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.18**	**11**	Pn	**Pg**	**13 26 13.2**	**-1.2**
SART	**Tekirdag**	**1.19**	**11**	P	**Pg**	**13 26 13.2**	**-1.2**
SART				S	**Sg**	**13 26 28.8**	**-1.0**
ENZZ	**Sultanice-Enez**	**1.22**	**333**	Pn	**Pb**	**13 26 14.3**	**-0.5**
DURS	**Dursunbey**	**1.24**	**86**	P	**Pb**	**13 26 14.5**	**-0.6**
BAND	**Balkesir-Ban**	**1.25**	**48**	P	**Pn**	**13 26 14.5**	**-0.7**
CESE	**eme**	**1.27**	**201**	Pn	**Pn**	**13 26 15.4**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.29**	**335**	P	**Pn**	**13 26 15.0**	**-0.6**
CHOS	**Chios island**	**1.30**	**210**	P	**Pn**	**13 26 15.3**	**-0.7**
CHOS				S	**Sb**	**13 26 32.7**	**-0.4**
	comp=E,822nm,0.3s						
CHOS	**Chios island**	**1.30**	**210**	P	**Pn**	**13 26 15.2**	**-0.7**
CHOS				S	**Sg**	**13 26 33.6**	**-0.1**
CHOS				AML	AML	13 26 39.1	
	comp=E,2273μm,0.4s						
CHOS				AML	AML	13 26 39.4	
	comp=N,1356μm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**1.32**	**193**	P	**Pn**	**13 26 14.5**	**-1.5**
ENEZ	**Enez**	**1.33**	**336**	Pn	**Pn**	**13 26 16.1**	**-0.2**
ENEZ	**Enez**	**1.33**	**336**	P	**Pn**	**13 26 16.0**	**-0.2**
ENEZ				S	**Sb**	**13 26 33.7**	**0.0**
	comp=N,4μm,0.5s						
DST	**Dursunbey**	**1.35**	**86**	Pn	**Pn**	**13 26 16.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.36**	**57**	Pn	**Pn**	**13 26 16.5**	**-0.1**
LIA	**Limnos Island**	**1.36**	**286**	P	**Pn**	**13 26 16.3**	**-0.3**
LIA				S	**Sb**	**13 26 34.5**	**0.0**
	comp=N,2μm,0.2s						
LIA	**Limnos Island**	**1.36**	**286**	P	**Pn**	**13 26 16.2**	**-0.3**
SMTH	**Samothraki Isl**	**1.40**	**313**	P	**Pn**	**13 26 16.9**	**-0.3**
SMTH				S	**Sb**	**13 26 35.5**	**-0.3**
	comp=N,2μm,0.4s						
SMTH	**Samothraki Isl**	**1.40**	**313**	P	**Pn**	**13 26 17.1**	**-0.2**
PSRA	**Psara**	**1.42**	**227**	P	**Pn**	**13 26 17.3**	**-0.1**
PSRA				S	**Sb**	**13 26 35.8**	**-0.5**
EFSA	**Agios Efstrati**	**1.46**	**271**	P	**Pn**	**13 26 17.8**	**-0.2**
DGB	**zmir**	**1.47**	**180**	P	**Pn**	**13 26 17.4**	**-0.7**
DEMI	**Demirci**	**1.51**	**108**	P	**Pb**	**13 26 19.7**	**0.0**
ALN	**Alexandroupoli**	**1.51**	**335**	Pn	**Pn**	**13 26 18.9**	**+0.2**
ALN	**Alexandroupoli**	**1.51**	**335**	P	**Pn**	**13 26 18.6**	**-0.1**
ALN				S	**Sb**	**13 26 39.4**	**+0.5**
	comp=N,1μm,0.5s						
ALN	**Alexandroupoli**	**1.51**	**335**	P	**Pn**	**13 26 19.0**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.61**	**353**	Pn	**Pb**	**13 26 21.3**	**-0.2**
ORLT	**Orhaneli**	**1.64**	**71**	Pn	**Pn**	**13 26 21.2**	**+0.6**
MANT	**Manisa**	**1.67**	**128**	P	**Pn**	**13 26 21.1**	**0.0**
SIMA	**Simav-Kutahya**	**1.69**	**104**	Pn	**Pb**	**13 26 22.2**	**-0.7**
KULA	**Kula-Manisa**	**1.72**	**125**	Pn	**Pb**	**13 26 22.6**	**-0.7**
KULA	**Kula-Manisa**	**1.72**	**125**	P	**Pn**	**13 26 21.8**	**+0.2**
KULA				S	**Sb**	**13 26 44.4**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.76**	**61**	Pn	**Pn**	**13 26 22.8**	**+0.7**
KIRA	**zmir-Kiraz**	**1.78**	**138**	P	**Pn**	**13 26 22.4**	**-0.2**
SMG	**Samos**	**1.81**	**181**	P	**Pn**	**13 26 22.1**	**-0.8**
ARMT	**Armutlu**	**1.84**	**55**	Pn	**Pn**	**13 26 23.9**	**+0.6**
GCAM	**G?zelcaml?**	**1.84**	**171**	Pn	**Pn**	**13 26 23.9**	**+0.6**
ULDT	**Uludag**	**1.85**	**70**	P	**Pb**	**13 26 25.1**	**-0.5**
USAK	**Uak-Merkez**	**1.85**	**115**	P	**Pn**	**13 26 24.4**	**+0.9**
EMET	**Ktahya-Emet**	**1.90**	**94**	P	**Pg**	**13 26 27.3**	**-0.8**
RDO	**Rodhopi**	**1.92**	**328**	Pn	**Pn**	**13 26 24.9**	**+0.6**
RDO	**Rodhopi**	**1.92**	**328**	P	**Pn**	**13 26 24.6**	**+0.4**
RDO	**Rodhopi**	**1.92**	**328**	P	**Pn**	**13 26 24.7**	**+0.4**
THAS	**Thassos island**	**1.98**	**304**	P	**Pn**	**13 26 24.3**	**-0.8**
SLVT	**Silivri**	**1.98**	**30**	Pn	**Pn**	**13 26 26.4**	**+1.2**
GEMT	**Gemlik**	**2.00**	**62**	Pn	**Pn**	**13 26 26.4**	**+1.0**
TVSB	**Tavsanli**	**2.00**	**91**	Pn	**Pn**	**13 26 26.6**	**+1.0**
GEDZ	**Gediz**	**2.02**	**103**	Pn	**Pb**	**13 26 27.4**	**-1.1**
GDZ	**Gediz**	**2.07**	**101**	P	**Pb**	**13 26 29.5**	**+0.2**
CTKS	**Kestanelik-??a**	**2.12**	**36**	Pn	**Pn**	**13 26 27.3**	**+0.3**
BGKT	**Bogazkoy**	**2.20**	**41**	Pn	**Pn**	**13 26 29.5**	**+1.3**
CTYL	**Yalikoy Yolu**	**2.23**	**28**	Pn	**Pn**	**13 26 29.3**	**+0.8**
KIYI	**Yalıkoy-Catalc**	**2.24**	**29**	Pn	**Pn**	**13 26 29.5**	**+0.8**
KAVV	**Kandilli-Istan**	**2.27**	**47**	Pn	**Pn**	**13 26 30.3**	**+1.2**
ISK	**Istanbul-Kandi**	**2.27**	**47**	Pn	**Pn**	**13 26 30.1**	**+1.0**
KAVA	**Kavala**	**2.33**	**310**	P	**Pn**	**13 26 29.9**	**-0.1**
OUR	**Ouranopolis**	**2.37**	**291**	Pn	**Pn**	**13 26 30.4**	**-0.1**
KLYT	**Kilyos**	**2.39**	**43**	Pn	**Pn**	**13 26 32.0**	**+1.2**
KDZ	**Kurdzhali**	**2.41**	**331**	Pn	**Pn**	**13 26 31.9**	**+0.9**
BODT	**Bodrum**	**2.48**	**172**	Pn	**Pn**	**13 26 32.6**	**+0.5**
PAIG	**Paliouri**	**2.50**	**280**	Pn	**Pn**	**13 26 32.6**	**+0.3**
PAIG	**Paliouri**	**2.50**	**280**	P

BVAR Borovoye Array 120.28 319 PKP **PKPdf 13 47 43.3 -0.8**
comp=Z,0.5nm,0.4s,baz=111,slow=3.2,SNR=2.5
AKASG Malin Array Be 144.36 330 PKP **PKPab 13 48 27.4 -1.1**
comp=Z,0.8nm,0.4s,baz=44,slow=4.2,SNR=7.7
BRTR Keskin Array B 147.90 311 PKPbc **PKPbc 13 48 38.2 -1.0**
comp=Z,0.4nm,0.4s,baz=156,slow=3.9,SNR=2.5
MMAI Mount Meron Ar 148.61 298 PKPbc **PKPbc 13 48 40.8 -0.3**
comp=Z,0.6nm,0.3s,baz=129,slow=4.1,SNR=1.7
TORD Torodi Ar. Bea 171.18 177 PKPab **PKPab 13 50 27.7 +3.9**
comp=Z,0.4nm,0.6s,baz=161,slow=3.6,SNR=2.6

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*NEIC **08** 13:39:14.5±0.4,36.92N±0.01×97.66W±0.01,h6km±5km,*
Error ellipse: s-maj=1.9km s-min=1.3km az=184.0
TUL 08 13:39:14.5±0.5,36.909N±0.008×97.66W±0.01,h6km±5km,
ML2.4,mb_Lg2.3/8(NEIC),**ML2.5**/44(NEIC),**Error ellipse:**
s-maj=1.5km s-min=0.9km az=59.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KAN17	**Caldwell West**	**0.16**	**327**	Pg	Pg			13 39 18.2	+0.5
KAN17				Sg	Sg			13 39 20.5	+0.5
KAN17				IAML				13 39 21.5	
	comp=N,1μm,0.2s								
GC02	**Grant County #**	**0.17**	**251**	Pg		Pg		13 39 18.3	+0.3
KAN13	**South Haven SW**	**0.18**	**54**	Pg		Pg		13 39 18.6	+0.6
KAN13				Sg		Sg		13 39 21.3	+0.9
KAN13				IAML				13 39 21.5	
	comp=E,1μm,0.3s								
KAN09	**Caldwell North**	**0.23**	**7**	Pg		Pg		13 39 19.5	+0.5
KAN09				Sg		Sg		13 39 22.9	+0.8
KAN09				IAML				13 39 25.0	
	comp=N,991nm,0.2s								
KAN09				IAML				13 39 25.1	
	comp=E,959nm,0.2s								
KAN14	**Manchester OK**	**0.25**	**281**	Pg		Pg		13 39 19.8	+0.4
KAN14				Sg		Sg		13 39 23.3	+0.5
KAN14				IAML				13 39 23.7	
	comp=N,1μm,0.2s								
KAN14				IAML				13 39 24.1	
	comp=E,1μm,0.1s								
KAN01	**Argonia South**	**0.26**	**341**			Pg		13 39 20.1	+0.5
KAN01				Sg		Sg		13 39 23.6	+0.6
KAN05	**Bluff City Nor**	**0.27**	**319**	Pg		Pg		13 39 19.7	0.0
KAN05				Sg		Sg		13 39 24.0	+0.8
KAN05				IAML				13 39 25.8	
	comp=N,1μm,0.2s								
KAN06	**Argonia West S**	**0.38**	**334**	Pg		Pg		13 39 22.2	+0.4
KAN06				IAML				13 39 27.9	
	comp=E,445nm,0.1s								
KS21	**Milan North St**	**0.38**	**359**	Pg		Pg		13 39 22.3	+0.4
BLOK	**Blackwell**	**0.38**	**113**			Pg		13 39 22.2	+0.3
BLOK				IAML				13 39 30.6	
	comp=N,391nm,0.2s								
BLOK				IAML				13 39 30.9	
	comp=E,486nm,0.2s								
KAN08	**Anthony NE Sta**	**0.41**	**322**	Pg		Pg		13 39 22.7	+0.4
KAN08				IAML				13 39 30.4	
	comp=N,562nm,0.4s								
KAN08				IAML				13 39 30.6	
	comp=E,642nm,0.4s								
KAN10	**Anthony SW Sta**	**0.41**	**301**	Pg		Pg		13 39 22.9	+0.4
KAN10				IAML				13 39 30.4	
	comp=N,379nm,0.2s								
OK032	**Salt Plains WL**	**0.46**	**257**	Pg		Pg		13 39 23.6	+0.3
OK032				IAML				13 39 31.8	
	comp=N,328nm,0.2s								
OK032				IAML				13 39 35.2	
	comp=N,344nm,0.2s								
KAN12	**Harper NE Stat**	**0.47**	**325**	Pg		Pg		13 39 24.1	+0.4
CROK	**Carrier**	**0.48**	**213**	Pg		Pg		13 39 24.1	+0.3
OK048	**Pawnee Station**	**0.75**	**130**	Pg		Pg		13 39 29.1	+0.2
OK048				IAML				13 39 41.1	
	comp=N,173nm,0.4s								
OK051	**E0350 and S346**	**0.77**	**121**			Pg		13 39 29.4	+0.1
OK051				IAML				13 39 43.3	
	comp=N,238nm,0.2s								
OK051				IAML				13 39 44.3	
	comp=N,240nm,0.2s								
T35A	**Sooner Cattle**	**0.92**	**89**			Pg		13 39 32.0	-0.1
OK033	**Mehan**	**1.04**	**146**	Pg		Pg		13 39 34.5	+0.1
QUOK	**Quay**	**1.06**	**134**	Pg		Pg		13 39 34.6	-0.2
QUOK				IAML				13 39 54.6	
	comp=E,173nm,0.1s								
U32A	**Winter Ranch,**	**1.21**	**244**	Pg		Pg		13 39 37.1	-0.5
U32A				IAML				13 39 57.8	
	comp=E,105nm,0.3s								
ADOK	**Arcadia Dam**	**1.27**	**170**			Pn		13 39 38.6	-0.3
DEOK	**Depew**	**1.42**	**138**			Pn		13 39 40.6	-0.2
OKCSW	**OKLAHOMA CITY**	**1.51**	**173**			Pb		13 39 42.7	-0.3
CSTR	**Hydro, Custer**	**1.51**	**214**			Pb		13 39 42.7	-0.3
ELIS	**Ellis County**	**1.65**	**240**			Pn		13 39 44.7	+0.5
FNO	**Franklin**	**1.66**	**173**			Pn		13 39 43.7	-0.5
R32A	**Long Quarter,**	**1.73**	**331**	Pn		Pn		13 39 45.0	-0.2
TUL3	**Leonard**	**1.80**	**123**	Pn		Pn		13 39 46.7	+0.5
TUL3				IAmb_Lg				13 40 15.0	
	comp=Z,13nm,0.8s								
RLO	**Rose Lookout**	**2.25**	**109**	Pn		Pn		13 39 52.0	-0.3
WMOK	**Wichita Mounta**	**2.35**	**203**			Pn		13 39 53.2	-0.5
CBKS	**Cedar Bluff**	**2.52**	**320**	Pn		Pn		13 39 55.7	-0.3
S39A	**Bolivar**	**3.54**	**76**	IAmb_Lg				13 41 12.7	
	comp=Z,11nm,1.1s								
AMTX	**Amarillo**	**3.84**	**239**	IAmb_Lg				13 41 20.7	
	comp=Z,7.0nm,0.7s								
P38A	**Dawn**	**4.23**	**49**	IAmb_Lg				13 41 34.1	
	comp=Z,6.5nm,0.8s								

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*BUG **08** 14:00:50.7,53.44N×6.56E,h5km,MD3.9/12,ML3.8/10*
*BGS **08** 14:00:51.2±4.4, 52.36N×6.75E, h3km, ML3.4, ML3.4*
*DNK **08** 14:00:51.9±2.7,53.40N×6.72E,h14km±9km,ML3.0,*
Probable volcanic
*IDC **08** 14:00:51.3±1.4,53.19N×6.38E,h0km, mbtmp3.6/10,*
ML3.4/9, Error ellipse: s-maj=20.0km s-min=11.5km
az=67.0.
*BGR **08** 14:00:52.2±0.7,53.39N×6.69E,h3km,ML3.2/7,Error*
ellipse: s-maj=13.3km s-min=4.4km az=106.0
*UCC **08** 14:00:53.0,53.37N×6.76E,h3km±1km, ML3.4*
*LDG **08** 14:00:52.3±0.0,53.36N×6.75E,h3km,ML3.4/13,Error*
ellipse: s-maj=9999.9km s-min=9999.9km az=99.0
*BNS **08** 14:00:52.0±0.3,53.41N×6.57E,h3km,ML3.1*
*BER **08** 14:00:53.7±3.5,53.29N×6.69E,h21km±16km, ML2.4,*
ML2.8(DNK), Confirmed Earthquake
*UPP **08** 14:00:55.0±2.8,53.52N×7.09E,h0km, ML2.9*
*NAO **08** 14:00:56.9±6.3,53.69N×6.35E,h17km±37km, ML3.2*
*PRU **08** 14:00:56.7,53.43N×7.29E, h0km*
ISC 08 14:00:49.1±0.6,53.42N±0.02×6.54E±0.04,h0km,n172,
σ2.9s38/256,2C-9D,The Netherlands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
HLG	**Helgoland**	**1.10**	**45**	*e*Pg			**Pn**	**14 01 13.6**	**+1.8**
HLG				*e*Sg			**Sn**	**14 01 27.8**	**+0.1**
IBBN	**Ibbenburen**	**1.33**	**146**	*e*Pg			**Pb**	**14 01 16.2**	**+1.3**
IBBN				*e*Sg			**Sn**	**14 01 33.7**	**+0.3**
IBBS	**Ibbenbueren So**	**1.35**	**147**	Pn			**Pb**	**14 01 16.5**	**+1.3**
IBBS				Pg			**Pn**	**14 01 17.2**	**+2.0**
IBBS				Sg			**Sn**	**14 01 34.2**	**+0.4**
IBBE	**Ibbenbueren Ea**	**1.35**	**145**	Pn			**Pb**	**14 01 16.6**	**+1.3**
IBBE				Pg			**Pn**	**14 01 17.1**	**+1.9**
IBBE				Sg			**Sn**	**14 01 33.7**	**-0.1**
WTSB	**Winterswijk**	**1.46**	**174**	*e*Pn			**Pb**	**14 01 17.6**	**+0.4**
BZER	**Hlnxe**	**1.81**	**174**	Pn			**Pb**	**14 01 22.8**	**-0.3**
BZER				Pg			**Pg**	**14 01 27.1**	**+3.3**
BZER				Sn			**Sg**	**14 01 48.4**	**+1.2**
BULI	**Ruhr-Universit**	**2.02**	**167**	Pn			**Pn**	**14 01 25.2**	**+0.9**
BULI				Pg			**Pg**	**14 01 29.9**	**+2.2**
BULI				Sn			**Sg**	**14 01 58.0**	**+4.2**
BTEZ	**Ruhr-Universit**	**2.02**	**167**	Pn			**Pn**	**14 01 25.3**	**+0.9**
BTEZ				Pg			**Pg**	**14 01 29.7**	**+1.9**
BUG	**Bochum--Univer**	**2.03**	**167**	Pn			**Pn**	**14 01 25.2**	**+0.7**
BUG				*e*Pg			**Pg**	**14 01 29.9**	**+2.0**
BUG				Sn			**Sg**	**14 01 55.2**	**+0.9**
BKLB	**Ruhr-Universit**	**2.03**	**167**	Pn			**Pn**	**14 01 25.3**	**+0.8**
LAUG	**Laupendahl**	**2.09**	**173**	*e*Pg			**Pn**	**14 01 26.0**	**+0.8**
NRDL	**Niedersach Rie**	**2.35**	**112**	*e*Pn			**Pn**	**14 01 29.3**	**+0.6**
BDSL	**Dessel**	**2.39**	**203**	*e*S			**Sb**	**14 02 01.4**	**-1.3**
HOBG	**Hohbusch**	**2.49**	**168**	*e*Pn			**Pn**	**14 01 31.7**	**+0.9**
BNS	**Bensberg**	**2.49**	**171**	*e*Pn			**Pn**	**14 01 32.0**	**+1.2**
KASTN	**Kahler Asten**	**2.50**	**152**	*e*Pn			**Pn**	**14 01 32.9**	**+1.9**
SSRD	**Sdr. Stenderup**	**2.74**	**40**	*e*P			**Pn**	**14 01 35.3**	**+1.1**
SSRD	**Sdr. Stenderup**	**2.74**	**40**	*e*P			**Pn**	**14 01 35.3**	**+1.1**
DREG	**Dreilaegerbach**	**2.77**	**184**	*e*Pn			**Pn**	**14 01 35.4**	**+0.8**
KLL	**Kalltalsperre**	**2.78**	**183**	*e*Pn			**Pn**	**14 01 35.8**	**+1.0**
CLZ	**Clausthal**	**2.82**	**123**	*e*Pn			**Pn**	**14 01 35.8**	**+0.5**
MEM	**Membach**	**2.83**	**187**	*d*P			**Pn**	**14 01 35.8**	**+0.3**
MEM	**Membach**	**2.83**	**187**	*e*Pn			**Pn**	**14 01 36.5**	**+0.9**
STB	**Steinbach**	**2.84**	**176**	*e*Pn			**Pn**	**14 01 36.0**	**+0.4**
KOE	**Koeppel**	**3.09**	**166**	*e*Pn			**Pn**	**14 01 40.1**	**+1.0**
BHOU	**Houvegnez**	**3.09**	**186**	*d*P			**Pn**	**14 01 40.3**	**+1.2**
BCLA	**Clavier**	**3.10**	**195**	*d*P			**Pn**	**14 01 40.9**	**+1.6**
HILG	**Hillesheim**	**3.13**	**178**	*e*Pn			**Pn**	**14 01 41.5**	**+1.8**
BGG	**Burgeitz**	**3.26**	**171**	*e*Pn			**Pn**	**14 01 42.1**	**+0.8**
BMRD	**Maredsous**	**3.31**	**200**	*d*P			**Pn**	**14 01 43.7**	**+1.6**
NAST	**IGS Nastaetten**	**3.33**	**165**	*e*Pn			**Pn**	**14 01 43.3**	**+0.9**
LKLB	**Kalborn**	**3.33**	**185**	*d*P			**Pn**	**14 01 43.7**	**+1.3**
MUD	**Monsted U'grnd**	**3.40**	**25**	Pn			**Pn**	**14 01 45.5**	**+2.2**
MUD				Sg			**Sg**	**14 02 38.9**	**+0.7**
MUD				IAML				14 02 52.5	
	comp=Z,20nm,0.4s								
MUD	**Monsted U'grnd**	**3.40**	**25**	Pn			**Pn**	**14 01 45.5**	**+2.2**
MUD				Sg			**Sg**	**14 02 38.9**	**+0.7**
MUD				IAML				14 02 52.5	
	comp=Z,20nm,0.4s								
MUD	**Monsted U'grnd**	**3.40**	**25**	Pn			**Pn**	**14 01 45.5**	**+2.2**
MUD				Lg			Lg	14 02 38.9	
TNS	**Taunus Mts**	**3.41**	**159**	*e*Pn			**Pn**	**14 01 45.0**	**+1.5**
GIVF	**Givet**	**3.49**	**199**	*e*Pn			**Pn**	**14 01 46.0**	**+1.4**
GIVF				*e*Sn			**Sn**	**14 02 23.9**	**-2.6**
	comp=Z,21nm,0.3s								
LVIA	**Vianden**	**3.50**	**184**	*d*P			**Pn**	**14 01 45.9**	**+1.2**
DOU	**Dourbes**	**3.54**	**201**	*d*P			**Pn**	**14 01 46.9**	**+1.7**
BAIF	**Baives**	**3.67**	**204**	*e*Pn			**Pn**	**14 01 48.0**	**+1.0**
BAIF	**Baives**	**3.67**	**204**	*e*P			**Pn**	**14 01 50.8**	**+3.8**
BAIF				*e*Sg			**Sg**	**14 02 46.3**	**-0.4**
	comp=Z,22nm,0.5s								
WLF	**Walferdange**	**3.77**	**184**	*d*P			**Pn**	**14 01 50.0**	**+1.6**
CLL	**Collm**	**4.49**	**116**	*i* Pn			**Pn**	**14 01 58.9**	**+0.6**
CLL				*ex*			x	14 02 06.0	
CLL				*e*Sn			**Sn**	**14 02 46.0**	**-5.1**
CLL				*ex*			x	14 03 03.0	
CLL				*e*Sg			**Sg**	**14 03 16.0**	**+2.9**
	comp=Z,12nm,1.0s								
LUNU	**Lund**	**4.59**	**58**	P			**Pn**	**14 02 00.4**	**+0.7**
LUNU				S			**Sn**	**14 02 50.6**	**-3.0**
LUNU	**Lund**	**4.59**	**58**	P			**Pn**	**14 02 00.4**	**+0.7**
LUNU				S			**Sn**	**14 02 50.6**	**-3.0**
BJUU	**Bjuv**	**4.60**	**52**	*i* P			**Pn**	**14 02 01.0**	**+1.2**
BJUU	**Bjuv**	**4.60**	**52**	P			**Pn**	**14 02 00.8**	**+1.0**
BJUU				S			**Sn**	**14 02 50.5**	**-3.4**
BJUU	**Bjuv**	**4.60**	**52**	P			**Pn**	**14 02 00.8**	**+1.0**
BJUU				S			**Sn**	**14 02 50.5**	**-3.4**
NKC	**Novy Kostel**	**4.86**	**129**	*e*PN			**Pn**	**14 02 05.3**	**+1.9**
NKC				*e*SN			**Sn**	**14 02 57.7**	**-2.6**
SNART	**Snartemo**	**4.95**	**4**	*e*P			**Pn**	**14 02 06.7**	**+2.1**
SNART				*e*S			**Sn**	**14 03 01.1**	**-1.3**
SNART				IAML				14 03 04.6	
	comp=Z,16nm,0.5s								
SNART	**Snartemo**	**4.95**	**4**	*e*P			**Pn**	**14 02 06.7**	**+2.1**
SNART				*i* P			Pb	14 02 07.0	-9.4
SNART				*e*S			**Sn**	**14 03 01.1**	**-1.3**
SNART				IAML				14 03 04.6	
	comp=Z,16nm,0.5s								
LBWR	**Ladybower, Pea**	**4.95**	**273**	*e*P			**Pn**	**14 02 08.0**	**+3.4**
HOMB	**Homborsund**	**4.99**	**12**	*e*P			**Pn**	**14 02 06.7**	**+1.6**
HOMB				*e*S			**Sn**	**14 03 00.8**	**-2.5**
HOMB				IAML				14 03 04.1	
	comp=Z,12nm,0.4s								
HOMB	**Homborsund**	**4.99**	**12**	*e*P			**Pn**	**14 02 06.7**	**+1.6**
HOMB				*e*S			**Sn**	**14 03 00.8**	**-2.5**
HOMB				IAML				14 03 04.1	
	comp=Z,12nm,0.4s								
MEZF	**Maizieres J'vi**	**5.01**	**191**	*e*Pn			**Pn**	**14 02 05.5**	**0.0**
MEZF				*e*Sg			**Sg**	**14 03 27.7**	**-2.3**
	comp=Z,11nm,0.3s								
ONAU	**Onsala**	**5.03**	**35**	*i* P			**Pn**	**14 02 06.8**	**+1.3**
ONAU				*e*S			**Sn**	**14 03 00.6**	**-3.7**
ONAU	**Onsala**	**5.03**	**35**	P			**Pn**	**14 02 06.7**	**+1.1**
ONAU				*i* P			**Pn**	**14 02 06.8**	**+1.3**
ONAU				*i* P			**Pn**	**14 02 06.8**	**+1.3**
ONAU				*e*S			**Sn**	**14 03 00.6**	**-3.7**
ONAU				*e*S			**Sn**	**14 03 00.6**	**-3.7**
ONAU	**Onsala**	**5.03**	**35**	P			**Pn**	**14 02 06.7**	**+1.1**
FABU	**Falkenberg**	**5.04**	**42**	*i* P			**Pn**	**14 02 06.9**	**+1.1**
FABU				*e*S			**Sn**	**14 03 03.0**	**-1.6**
FABU	**Falkenberg**	**5.04**	**42**	P			**Pn**	**14 02 06.8**	**+1.0**
FABU				*i* P			**Pn**	**14 02 06.9**	**+1.1**
FABU				*i* P			**Pn**	**14 02 06.9**	**+1.1**
FABU				S			**Sn**	**14 03 01.5**	**-3.1**
FABU				*e*S			**Sn**	**14 03 03.0**	**-1.6**
FABU				*e*S			**Sn**	**14 03 03.0**	**-1.6**
FABU	**Falkenberg**	**5.04**	**42**	P			**Pn**	**14 02 06.8**	**+1.0**
FABU				S			**Sn**	**14 03 01.5**	**-3.1**
HSKC	**Hora Svate Kat**	**5.10**	**121**	*e*PN			**Pn**	**14 02 07.4**	**+0.7**
HSKC				*e*SN			**Sn**	**14 03 03.7**	**-2.6**
BSD	**Bornholm Skovb**	**5.19**	**68**	*i* P			**Pn**	**14 02 07.8**	**-0.1**
BSD				*e*S			**Sn**	**14 03 03.8**	**-4.7**
BSD				IAML				14 03 07.4	
	comp=Z,3.2nm,0.4s								
BSD	**Bornholm Skovb**	**5.19**	**68**	*i* P			**Pn**	**14 02 07.8**	**-0.1**
BSD				*e*S			**Sn**	**14 03 03.8**	**-4.7**
BSD				IAML				14 03 07.4	
	comp=Z,3.2nm,0.4s								
DEL	**Delary**	**5.21**	**51**	*i* P			**Pn**	**14 02 09.0**	**+0.8**
DEL	**Delary**	**5.21**	**51**	P			**Pn**	**14 02 09.0**	**+0.8**
DEL	**Delary**	**5.21**	**51**	P			**Pn**	**14 02 09.0**	**+0.8**
BRG	**Berggiesshubel**	**5.22**	**116**	Pn			**Pn**	**14 02 09.6**	**+1.3**
BRG				Amp				14 02 11.9	
	comp=Z,11nm,0.4s								
BRG				r				14 03 20.8	
BRG				Amp				14 03 23.6	
	comp=Z,3.8nm,0.6s								
SFTF	**Sexfontaines**	**5.31**	**191**	*e*Pn			**Pn**	**14 02 10.5**	**+1.0**
SFTF				*e*Sn			**Sn**	**14 03 07.2**	**-4.2**
	comp=Z,7.9nm,0.4s								
HAU	**Haudompre**	**5.42**	**181**	*e*Pn			**Pn**	**14 02 11.3**	**+0.2**
HAU	**Haudompre**	**5.42**	**181**	*e*P			**Pn**	**14 02 14.5**	**+3.4**
HAU				*e*Sg			**Sg**	**14 03 39.8**	**-3.3**
	comp=Z,10nm,0.3s								
TJOU	**Tjoern**	**5.44**	**30**	*e*P			**Pn**	**14 02 13.0**	**+1.7**
TJOU	**Tjoern**	**5.44**	**30**	P			**Pn**	**14 02 12.7**	**+1.4**
TJOU	**Tjoern**	**5.44**	**30**	P			**Pn**	**14 02 12.7**	**+1.4**
BORU	**Boraas**	**5.51**	**37**	P			**Pn**	**14 02 13.5**	**+1.3**
BORU	**Boraas**	**5.51**	**37**	P			**Pn**	**14 02 13.5**	**+1.3**
STAV	**Stavanger**	**5.55**	**355**	*e*P			**Pn**	**14 02 14.4**	**+1.6**
STAV				*e*S			**Sn**	**14 03 14.5**	**-2.7**
STAV				IAML				14 03 16.6	
	comp=Z,20nm,0.4s								
HINF	**Hinteralfeld**	**5.61**	**178**	*e*Pn			**Pn**	**14 02 13.6**	**-0.2**
HINF	**Hinteralfeld**	**5.61**	**178**	*e*P			**Pn**	**14 02 17.0**	**+3.2**
GNOU	**Gnosjoe**	**5.65**	**44**	P			**Pn**	**14 02 15.9**	**+1.6**
GNOU	**Gnosjoe**	**5.65**	**44**	P			**Pn**	**14 02 15.9**	**+1.6**
KMY	**Karmoy**	**5.85**	**353**	*e*P			**Pn**	**14 02 18.2**	**+1.3**
KMY				*e*S			**Sn**	**14 03 22.5**	**-2.1**
KMY				IAML				14 03 24.8	
	comp=Z,5.6nm,0.4s								
KMY	**Karmoy**	**5.85**	**353**	*e*P			**Pn**	**14 02 18.2**	**+1.3**
KMY				*e*S			**Sn**	**14 03 22.5**	**-2.1**
KMY				IAML				14 03 24.8	
	comp=Z,5.6nm,0.4s								
KMY	**Karmoy**	**5.85**	**353**	Pn			**Pn**	**14 02 18.2**	**+1.3**
KMY				Sn			**Sn**	**14 03 24.3**	**-0.3**
FOEL	**Foel Wylfa**	**5.89**	**269**	*e*P			**Pn**	**14 02 21.1**	**+3.6**
MONM	**Monmouth**	**5.91**	**258**	*e*P			**Pn**	**14 02 21.2**	**+3.4**
MONM				*e*S			**Sn**	**14 03 27.1**	**+1.0**
MONM				IAML				14 03 30.7	
	comp=E,17nm,0.7s								
MONM				IAML				14 03 34.1	
	comp=N,22nm,0.5s								
MCH1	**Michaelchurch**	**5.97**	**260**	*e*P			**Pn**	**14 02 21.6**	**+3.0**
MCH1				*e*S			**Sn**	**14 03 28.5**	**+0.8**
MCH1				IAML				14 03 30.2	
	comp=E,16nm,0.4s								
MCH1				IAML				14 03 33.9	
	comp=N,22nm,0.4s								
EKA	**Eskdalemuir Ar**	**5.99**	**293**	Pn			**Pn**	**14 02 22.1**	**+3.3**
EKA				Sn			**Sn**	**14 03 27.1**	**-0.9**
EKA	**Eskdalemuir Ar**	**5.99**	**293**	Pn			**Pn**	**14 02 21.8**	**+3.0**
	comp=N,4.3nm,0.3s,baz=109,slow=14,SNR=35								
EKA				Sn			**Sn**	**14 03 29.2**	**+1.2**
	baz=108,slow=26								
EKA	**Eskdalemuir Ar**	**5.99**	**293**	Pn			**Pn**	**14 02 22.1**	**+3.3**
EKA				Sn			**Sn**	**14 03 27.1**	**-0.9**
EKA	**Eskdalemuir Ar**	**5.99**	**293**	Pn			**Pn**	**14 02 22.1**	**+3.3**
EKA				Sn			**Sn**	**14 03 27.1**	**-0.9**
ESK	**Eskdalemuir**	**6.01**	**292**	*e*P			**Pn**	**14 02 22.2**	**+3.1**
BLS5	**Blasjo**	**6.02**	**360**	*e*P			**Pn**	**14 02 22.1**	**+2.8**
BLS5				*e*S			**Sn**	**14 03 26.0**	**-2.9**
BLS5				IAML				14 03 33.1	
	comp=Z,4.4nm,0.4s								
BLS5	**Blasjo**	**6.02**	**360**	*e*P			**Pn**	**14 02 22.1**	**+2.8**
BLS5				*e*S			**Sn**	**14 03 26.0**	**-2.9**
BLS5				IAML				14 03 33.1	
	comp=Z,4.4nm,0.4s								
BLS5	**Blasjo**	**6.02**	**360**	Pn			**Pn**	**14 02 22.1**	**+2.8**
BLS5				Sn			**Sn**	**14 03 27.0**	**-1.9**
BLEU	**Blekinge**	**6.08**	**58**	*e*P			**Pn**	**14 02 20.9**	**+0.7**
BLEU	**Blekinge**	**6.08**	**58**	*e*P			**Pn**	**14 02 20.9**	**+0.7**
BLEU				*e*P			**Pn**	**14 02 20.9**	**+0.7**
KHC	**Kasperske Hory**	**6.16**	**131**	*e*PN			**Pn**	**14 02 24.5**	**+3.3**
KHC				*e*SN			**Sn**	**14 03 29.7**	**-2.6**
KHC				*ex*			x	14 04 03.5	
STRU	**Stroemstad**	**6.19**	**23**	*e*P			**Pn**	**14 02 22.1**	**+0.4**
STRU				*e*P			**Pn**	**14 02 23.4**	**+1.8**
STRU				*e*S			**Sn**	**14 03 28.0**	**-5.1**
STRU	**Stroemstad**	**6.19**	**23**	*e*P			**Pn**	**14 02 22.1**	**+0.4**
STRU				*e*S			**Sn**	**14 03 28.0**	**-5.1**
LOR	**Lormes**	**6.39**	**197**	*e*Pn			**Pn**	**14 02 25.3**	**+0.8**
LDF	**La Druitiere**	**6.41**	**224**	*e*Pn			**Pn**	**14 02 25.1**	**+0.5**
LDF				*e*Sn			**Sn**	**14 03 35.4**	**-3.0**
	comp=Z,7.1nm,0.4s								
GERES	**GERESS Array B**	**6.42**	**133**	Pn			**Pn**	**14 02 26.3**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=310,slow=12,SNR=4.5								
GERES				Sn			**Sn**	**14 03 39.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=286,slow=11,SNR=1.8								
GERES				Lg			Lg	14 04 12.8	
	comp=Z,0.2nm,0.3s,baz=320,slow=23,SNR=1.7								
	comp=Z,0.9nm,0.3s								
FLN	**La Foliniere**	**6.43**	**226**	*e*Pn			**Pn**	**14 02 25.5**	**+0.6**
FLN				*e*Sn			**Sn**	**14 03 36.5**	**-2.4**
	comp=Z,4.7nm,0.4s								
KONO	**Kongsberg**	**6.47**	**14**	*e*P			**Pn**	**14 02 26.3**	**+0.9**
KONO				*e*S			**Sn**	**14 03 35.4**	**-4.5**
KONO	**Kongsberg**	**6.47**	**14**	*e*P			**Pn**	**14 02 26.3**	**+0.9**
KONO				*e*S			**Sn**	**14 03 35.4**	**-4.5**
ODD1	**Odda**	**6.51**	**0**	*e*P			**Pn**	**14 02 28.5**	**+2.4**
ODD1				*e*S			**Sn**	**14 03 39.1**	**-1.9**
ODD1				IAML				14 03 52.6	
	comp=Z,4.4nm,0.6s								
ODD1	**Odda**	**6.51**	**0**	*e*P			**Pn**	**14 02 28.5**	**+2.4**
ODD1				*e*S			**Sn**	**14 03 39.1**	**-1.9**
ODD1				IAML				14 03 52.6	
	comp=Z,4.4nm,0.6s								
CHVC	**Chvalec**	**6.52**	**112**	*e*PN			**Pn**	**14 02 29.3**	**+3.1**
RETA	**Reutte**	**6.52**	**154**	*e*Pn			**Pn**	**14 02 27.0**	**+0.8**
	comp=Z,1.8nm,0.4s								
NEWG	**New Galloway**	**6.54**	**289**	*e*P			**Pn**	**14 02 29.4**	**+3.0**
NEWG				IAML				14 03 46.1	
	comp=N,4.8nm,0.3s								
NEWG				IAML				14 03 49.0	
	comp=E,5.5nm,0.5s								
UPC	**Upice**	**6.54**	**113**	*e*PN			**Pn**	**14 02 28.0**	**+1.6**
OSTC	**Ostas**	**6.62**	**112**	*e

baz=208,slow=28
NOA **NORSAR Array B** 8.05 16 Pn **Pn** 14 02 47.4 +0.3
comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=11
NOA Sn **Sn** 14 04 10.9 -7.8
comp=Z,0.1nm,0.3s,baz=178,slow=16,SNR=1.9
comp=Z,0.7nm,0.5s
MFF **Saint Martin d** 8.07 215 *e*Pn **Pn** 14 02 47.9 +0.5
MFF *e*Sn **Sn** 14 04 15.0 -4.3
comp=Z,3.1nm,0.4s
QUIF **Quistinic** 8.27 232 *e*Pn **Pn** 14 02 50.8 +0.7
QUIF *e*Sn **Sn** 14 04 20.1 -4.0
comp=Z,6.7nm,0.5s
ORIF **Oris-en-Rattie** 8.52 183 *e*Pn **Pn** 14 02 54.3 +0.6
VIVF **Saint-Julien-l** 8.66 189 *e*Pn **Pn** 14 02 56.3 +0.8
RJF **Les Rejaudoux** 8.76 204 *e*Pn **Pn** 14 02 56.6 -0.3
CAF **Calviac** 8.99 201 *e*Pn **Pn** 14 03 00.6 +0.5
LFF **La Frestale** 9.30 206 *e*Pn **Pn** 14 03 04.1 -0.1
LASF **Ste Croix** 9.52 192 *e*Pn **Pn** 14 03 07.2 -0.1
ETSF **Etsaut** 11.54 207 *e*Pn **Pn** 14 03 34.0 -1.0
FINES **FINESS Array B** 13.19 45 Pn **Pn** 14 03 58.1 +0.7
comp=Z,0.2nm,0.3s,baz=246,slow=9.6,SNR=5.0
comp=Z,2.1nm,0.7s
AKASG **Malin Array Be** 14.20 92 Pn **Pn** 14 04 10.8 -0.4
comp=Z,0.4nm,0.3s,baz=284,slow=13,SNR=1.9
comp=Z,0.1nm,0.3s
ESDC **Sonseca Array** 15.51 212 Pn **Pn** 14 04 28.1 -0.9
comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=4.3
comp=Z,0.4nm,0.5s
ARA0 **ARCESS Array S** 18.38 21 P **P** 14 05 05.7 +0.6
baz=207,slow=14
ARA0 **ARCESS Array S** 18.38 21 P **P** 14 05 05.7 +0.6
baz=207,slow=14
ARA0 **ARCESS Array S** 18.38 21 P **P** 14 05 05.7 +0.6
baz=207,slow=14
ARCES **ARCESS Array B** 18.38 21 Pn **Pn** 14 05 03.9 -1.1
comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=4.2
comp=Z,8.9nm,1.1s

BJI ***08*** *14:09:45.6±0.0,2˚.39N×126˚.63E,h44km,mb4.8/68, mB5.3/38,Ms4.6/24,Ms7 4.4/30*
NEIC ***08*** *14:09:47.9±1.7,2˚.68N±0˚.06×126˚.73E±0˚.08,h36km±6km, mb5.0/107,Error ellipse: s-maj=13.4km s-min=4.1km az=56.0*
IDC ***08*** *14:09:49.0±1.7,2˚.57N×126˚.56E,h46km±15km,mb4.5/29, mbtmp4.7/31,ML4.6/1,MS4.0/30,Error ellipse: s-maj=18.8km s-min=8.6km az=78.0*
DJA ***08*** *14:09:49.5±0.2,3˚N±2˚×12˚7E±˚,h50km±2km,M4.9/83, mb5.0/83,mB5.5/30,MLv4.8/18,Mw(mB)5.0/30, MwMwp4.7/7,Mwp5.1/7*
ISC 08 14:09:48.8±0.4,2˚.69N±0˚.03×126˚.71E±0˚.05,h40km±3km, h41km:pP-P,n363,σ1s81/341,mb4.9/123,MS4.2/40,5C-2D, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.54**	**310**	P	**Pn**	**14 10 13.2**	**-0.6**
SGSI				S	**Sn**	**14 10 33.6**	**+1.0**
TNTI	**Ternate**	**2.02**	**161**		**Pn**	**14 10 19.8**	**-0.6**
TNTI	**Ternate**	**2.02**	**161**	P	**Pn**	**14 10 22.0**	**+1.6**
TNTI	**Ternate**	**2.02**	**161**	P	**Pn**	**14 10 21.6**	**+1.2**
TNTI				S	**Sn**	**14 10 48.5**	**+4.2**
LBMI	**Labuha**	**3.40**	**167**	P	**Pn**	**14 10 41.6**	**+2.2**
LBMI				S	**Sn**	**14 11 22.8**	**+4.3**
KMSI	**Cibinong**	**3.45**	**232**	P	**Pn**	**14 10 42.4**	**+2.4**
GTOI	**Gorontalo**	**4.23**	**241**	P	**Pn**	**14 10 53.4**	**+2.6**
DAV	**Davao City (W)**	**4.49**	**345**	P	**Pn**	**14 10 55.3**	**+0.9**
	163nm,0.3s,baz=188,slow=7.1,SNR=0.9						
DAV				S	**Sn**	**14 11 49.3**	**+3.8**
	263nm,0.4s,baz=81,slow=19,SNR=4.6						
SANI	**Sanana**	**4.77**	**189**	P	**Pn**	**14 10 59.4**	**+1.2**
SANI	**Sanana**	**4.77**	**189**	P	**Pn**	**14 11 00.3**	**+2.1**
MRSI	**Marisa**	**5.25**	**245**	P	**Pn**	**14 11 07.7**	**+2.8**
	575nm,0.8s,5μm4μm1.9nm						
LUWI	**Luwuk**	**5.41**	**227**	Pn	**Pn**	**14 11 05.3**	**-1.7**
LUWI	**Luwuk**	**5.41**	**227**	P	Pn	14 11 12.0	+5.0
LUWI	**Luwuk**	**5.41**	**227**	P	**Pn**	**14 11 10.7**	**+3.7**
	657nm,1.0s,6μm4.0nm						
SWI	**Sorong**	**5.75**	**128**	P	**Pn**	**14 11 13.7**	**+1.9**
	99nm,0.9s,1μm4μm0.4nm						
SIJI	**Sorong**	**5.76**	**128**	P	**Pn**	**14 11 13.9**	**+2.0**
	78nm,1.1s,1μm0.3nm						
NLAI	**Namlea**	**5.90**	**176**	P	**Pn**	**14 11 15.8**	**+2.0**
	29nm,0.9s,5μm0.2nm						
TOLI2	**Tolitoli**	**6.13**	**255**	Pn	**Pn**	**14 11 17.4**	**+0.5**
TOLI2	**Tolitoli**	**6.13**	**255**	P	**Pn**	**14 11 18.2**	**+1.2**
MPSI	**Mapaga**	**7.20**	**251**	P	**Pn**	**14 11 34.9**	**+3.2**
	138nm,1.1s,1μm3μm0.4nm						
BNDI	**Bandanaira**	**7.84**	**156**	P	**Pn**	**14 11 41.0**	**+0.6**
	103nm,1.4s,1.2nm						
FAKI	**Fak Fak**	**7.85**	**135**		**Pn**	**14 11 37.7**	**-2.9**
FAKI	**Fak Fak**	**7.85**	**135**	P	**Pn**	**14 11 42.3**	**+1.7**
	45nm,0.9s,792nm3μm0.2nm						
TTSI	**Tana Toraja**	**8.94**	**230**	P	**Pn**	**14 11 58.2**	**+2.7**
	142nm,1.1s,2μm						
BBSI	**Bau Bau**	**9.12**	**207**	P	**Pn**	**14 12 01.2**	**+3.3**
	53nm,0.9s						
MMSI	**Mamuju**	**9.46**	**236**	P	**Pn**	**14 12 04.7**	**+2.1**
	17nm,0.7s,350nm						
SPSI	**Sidrap Palu**	**9.59**	**226**	P	**Pn**	**14 12 06.8**	**+2.5**
	41nm,0.9s						
PMSI	**Majene**	**9.93**	**232**	P	**Pn**	**14 12 10.3**	**+1.2**
	72nm,1.3s,1μm						
BKSI	**Bulukumba**	**10.33**	**220**	P	**Pn**	**14 12 17.4**	**+2.9**
	32nm,1.1s						
KAPI	**Kappang**	**10.34**	**222**	P	**Pn**	**14 12 12.4**	**-2.3**
	4.9nm,0.3s,baz=87,slow=15,SNR=2.0						
	9.3nm,0.4s						
MKS	**Makassar**	**10.68**	**223**	P	**Pn**	**14 12 22.3**	**+2.9**
	50nm,1.1s						
KKM	**Kota Kinabalu**	**10.98**	**288**	P	Pn	14 12 29.1	+5.5
KKM	**Kota Kinabalu**	**10.98**	**288**	P	**Pn**	**14 12 24.6**	**+1.0**
	96nm,1.3s,1μm2μm						
MTKI	**Muara Teweh, K**	**12.35**	**253**	P	**Pn**	**14 12 45.6**	**+3.3**
	62nm,0.9s						
EDFI	**Ende, Flores**	**12.42**	**204**	P	Pn	14 12 47.2	+4.0
	30nm,1.0s						
SOEI	**Soe**	**12.60**	**191**	Pn	**Pn**	**14 12 46.2**	**+0.5**
SOEI	**Soe**	**12.60**	**191**	P	**Pn**	**14 12 49.1**	**+3.3**
	59nm,1.0s						
TGY	**Tagaytay City**	**12.69**	**334**	LR	LR	14 18 52.5	
	comp=Z,1μm,19.7s,baz=150,slow=43						
BBKI	**Banjar Baru**	**13.35**	**243**	P	**Pn**	**14 12 57.2**	**+1.3**
PKKI	**Palangkaraya**	**13.65**	**249**	P	**Pn**	**14 13 02.6**	**+2.7**
	73nm,1.1s,2μm						
DBNI	**Kabupaten Domp**	**13.92**	**217**	P	**Pn**	**14 13 06.0**	**+2.3**
	70nm,0.8s						
BASI	**Baing, Sumba**	**14.21**	**205**	P	**P**	**14 13 10.3**	**-3.9**
	120nm,1.4s						
GENI	**Genyem**	**14.44**	**111**	P	**Pn**	**14 13 10.2**	**-0.5**
	117nm,0.9s						
PLAI	**Plampang**	**14.50**	**218**	P	**P**	**14 13 15.0**	**-2.5**
	252nm,0.8s,2μm						
TWSI	**Taliwang, Sumb**	**15.00**	**221**	P	**P**	**14 13 21.3**	**-1.7**
	193nm,1.0s,2μm						
STKI	**Sintang**	**15.45**	**261**	P	**P**	**14 13 27.0**	**-1.0**
	62nm,1.0s,8μm						
SRBI	**Singaraja**	**15.69**	**227**	P	**P**	**14 13 30.2**	**-0.5**
	106nm,0.9s						
KMMI	**Kalianget**	**15.98**	**233**	P	**P**	**14 13 35.2**	**+1.3**
	93nm,0.9s						
MTN	**Manton Dam**	**16.05**	**164**	P	**Pn**	**14 13 30.9**	**-0.7**
	baz=16,SNR=40						
MTN	**Manton Dam**	**16.05**	**164**	Pn	**Pn**	**14 13 31.0**	**-0.7**
DNP	**Denpasar**	**16.10**	**225**	P	**P**	**14 13 35.4**	**+0.2**
	276nm,0.8s,22μm						
ABJI	**Asem Bagus**	**16.23**	**230**	P	**P**	**14 13 38.3**	**+1.6**
	73nm,1.2s						
IGBI	**Denpasar**	**16.24**	**225**	P	**P**	**14 13 38.1**	**+1.3**
	110nm,0.7s						
KDU	**Kakadu**	**16.31**	**160**	P	**Pn**	**14 13 32.9**	**-2.2**
	baz=16,SNR=9.8						
KDU	**Kakadu**	**16.31**	**160**	P	**P**	**14 13 37.3**	**-0.3**
KSM	**Kuching**	**16.44**	**266**		**Pn**	**14 13 37.0**	**+0.3**
KSM	**Kuching**	**16.44**	**266**	P	**P**	**14 13 42.2**	**+3.2**
	58nm,1.1s						
KSM	**Kuching**	**16.44**	**266**	P	**P**	**14 13 40.3**	**+1.3**
	58nm,1.1s,755nm						
TABU	**Tabubil**	**16.51**	**119**	P	**P**	**14 13 41.2**	**+1.4**
BLJI	**Banyuglugur**	**16.70**	**232**	P	**P**	**14 13 42.8**	**+1.0**
	95nm,0.7s						
JAGI	**Jajag, Banyuwa**	**16.73**	**228**		**Pn**	**14 13 39.8**	**-0.6**
JAGI				IAmb	IAmb	14 13 47.9	
	comp=Z,76nm,0.9s						
JAGI	**Jajag, Banyuwa**	**16.73**	**228**	P	**P**	**14 13 42.7**	**+0.5**
	comp=Z,92nm,1.0s						
SJI	**Sawahan**	**18.16**	**235**	P	**Pn**	**14 13 59.1**	**+1.0**
	comp=Z,31nm,0.8s						
NGJI	**Ngawi**	**18.21**	**237**	P	**Pn**	**14 13 59.8**	**+1.2**
	comp=Z,59nm,0.7s						
PWJI	**Pagerwojo**	**18.29**	**234**	P	**Pn**	**14 14 01.3**	**+1.7**
	comp=Z,19nm,0.9s						
KNRA	**Kunumurra**	**18.36**	**174**	P	**Pn**	**14 14 00.1**	**-0.4**
	baz=18,SNR=7.2						
KNRA	**Kunumurra**	**18.36**	**174**	P	**Pn**	**14 13 59.8**	**-0.7**
SMRI	**Semarang**	**18.91**	**239**	P	**Pn**	**14 14 07.7**	**+0.6**
	comp=Z,74nm,0.4s						
UGM	**Wanagama**	**19.28**	**237**	P	**Pn**	**14 14 11.4**	**-0.3**
	comp=Z,58nm,1.3s						
KPJI	**Karang Pucung**	**20.35**	**241**	P	**P**	**14 14 22.4**	**+0.4**
	comp=Z,35nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.69**	**183**	P	**P**	**14 14 25.1**	**-0.5**
	baz=21,SNR=18						
FITZ	**Fitzroy Crossi**	**20.69**	**183**	P	**P**	**14 14 25.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.69**	**183**	P	**P**	**14 14 25.3**	**-0.3**
TWG	**Pinlang**	**20.74**	**345**	P	**P**	**14 14 22.9**	**-3.2**
TWG				IAmb	IAmb	14 14 32.0	
	comp=Z,28nm,0.4s						
PPBI	**Pangkal Pinang**	**21.13**	**257**	P	**P**	**14 14 31.5**	**+1.1**
YULB	**Yu-li**	**21.24**	**346**	P	**P**	**14 14 27.1**	**-4.4**
YULB				IAmb	IAmb	14 14 33.8	
	comp=Z,102nm,1.6s						
YULB	**Yu-li**	**21.24**	**346**	P	**P**	**14 14 30.5**	**-1.0**
LEM	**Lembang**	**21.28**	**244**	P	**P**	**14 14 30.9**	**-1.3**
	comp=Z,8.5nm,0.3s,baz=61,slow=13,SNR=1.6						
LEM				LR	LR	14 24 23.8	
	comp=Z,443nm,19.0s,baz=60,slow=42						
	comp=Z,8.5nm,0.3s						
LEM	**Lembang**	**21.28**	**244**	P	**P**	**14 14 33.4**	**+1.2**
	comp=Z,66nm,0.9s,comp=Z,2μm						
TPUB	**Ta-pu**	**21.32**	**344**	P	**P**	**14 14 28.5**	**-3.9**
TPUB				IAmb	IAmb	14 14 30.7	
	comp=Z,110nm,1.2s						
TPUB	**Ta-pu**	**21.32**	**344**	P	**P**	**14 14 30.3**	**-2.1**
BBJI	**Bungbulang**	**21.53**	**242**	P	**P**	**14 14 38.5**	**+3.7**
BBJI	**Bungbulang**	**21.53**	**242**	P	**P**	**14 14 37.1**	**+2.3**
	comp=Z,49nm,1.0s						
SSLB	**Suanglung**	**21.70**	**346**	P	**P**	**14 14 32.8**	**-3.7**
SSLB				IAmb	IAmb	14 14 36.2	
	comp=Z,69nm,1.2s						
SSLB	**Suanglung**	**21.70**	**346**	P	**P**	**14 14 34.9**	**-1.6**
CBJI	**Citeko**	**21.80**	**245**	P	**P**	**14 14 39.5**	**+1.9**
	comp=Z,50nm,1.1s						
CNJI	**Cibinong**	**21.92**	**243**	P	**P**	**14 14 41.0**	**+2.1**
	comp=Z,28nm,1.0s						
DBJI	**Dramaga**	**21.95**	**245**	P	**P**	**14 14 42.2**	**+3.0**
	comp=Z,62nm,0.6s,comp=Z,25μm						
SBJI	**Serang**	**22.34**	**247**	P	**P**	**14 14 46.0**	**+2.6**
	comp=Z,168nm,1.0s						
YHNB	**Yeheng**	**22.45**	**347**	P	**P**	**14 14 40.3**	**-4.3**
YHNB				IAmb	IAmb	14 14 46.5	
	comp=Z,97nm,1.3s						
MYKOM	**Kota Tinggi**	**22.86**	**268**	P	**P**	**14 14 47.7**	**-1.3**
MYKOM	**Kota Tinggi**	**22.86**	**268**	P	**P**	**14 14 49.4**	**+0.4**
	comp=Z,28nm,1.2s						
CGJI	**Cibinong**	**22.93**	**246**	P	**P**	**14 14 50.3**	**+0.6**
	comp=Z,120nm,0.9s,comp=Z,1μm						
QIZ	**Qiongzhong**	**23.16**	**316**	P	**P**	**14 14 50.8**	**-1.1**
QIZ				S	**S**	**14 19 00.6**	**-0.1**
QIZ				LR	LR		
	comp=Z,460nm,25.2s						
QIZ				LR	LR		
	comp=Z,450nm,32.8s						
QIZ				LR	LR		
	comp=Z,760nm,32.8s						
WB0	**Warramunga Arr**	**23.56**	**162**	P	**P**	**14 14 53.8**	**-2.0**
WB0				IAmb	IAmb	14 15 00.3	
	comp=Z,80nm,1.1s						
KASI	**Kota Agung**	**23.64**	**250**	P	**P**	**14 14 58.1**	**+1.4**
	comp=Z,93nm,1.1s,comp=Z,942nm						
PMG	**Port Moresby**	**23.65**	**121**	LR	LR	14 27 13.5	
	comp=Z,375nm,20.4s,baz=310,slow=44						
PMG	**Port Moresby**	**23.65**	**121**	P	**P**	**14 14 58.1**	**+1.4**
	comp=Z,24nm,1.8s						
WRAB	**Tennant Creek**	**23.70**	**162**	P	**P**	**14 14 55.2**	**-1.9**
WRAB				IAmb	IAmb	14 15 01.8	
	comp=Z,58nm,0.8s						
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**	**14 14 55.4**	**-1.8**
	comp=Z,28nm,0.7s,baz=342,slow=10,SNR=104						
WRA				PcP	**PcP**	**14 18 40.0**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=334,slow=1.9,SNR=1.6						
WRA				S	**S**	**14 19 07.6**	**-2.1**
	comp=Z,3.2nm,1.0s,baz=342,slow=17,SNR=4.2						
	comp=Z,28nm,0.7s						
WB2	**Warramunga Arr**	**23.71**	**162**	P	**P**	**14 14 55.4**	**-1.9**
WB2				IAmb	IAmb	14 15 01.9	
	comp=Z,62nm,0.8s						
WR0	**Warramunga Arr**	**23.79**	**161**	P	**P**	**14 14 56.0**	**-1.9**
WR0				IAmb	IAmb	14 14 59.3	
	comp=Z,40nm,1.0s						
LWLI	**Liwa**	**23.89**	**251**	P	**P**	**14 15 00.9**	**+1.7**
	comp=Z,94nm,0.7s,comp=Z,3μm						
UBPT	**Khong Chiam**	**24.39**	**302**	P	**P**	**14 15 02.6**	**-0.9**
UBPT				IAmb	IAmb	14 15 18.9	
	comp=Z,79nm,1.5s						
UBPT	**Khong Chiam**	**24.39**	**302**	P	**P**	**14 15 03.2**	**-0.3**
	comp=Z,48nm,1.8s						
PSA00	**Pilbara Seismi**	**25.04**	**195**	P	**P**	**14 15 06.6**	**-2.7**
PSA00				IAmb	IAmb	14 15 13.8	
	comp=Z,86nm,1.5s						
PSA00	**Pilbara Seismi**	**25.04**	**195**	IAmb	IAmb	14 15 13.0	
	comp=Z,27nm,1.1s						
PSA00	**Pilbara Seismi**	**25.04**	**195**	P	**P**	**14 15 13.5**	**+4.2**
	comp=Z,36nm,1.1s						
KULM	**Kulim**	**26.13**	**276**	P	**P**	**14 15 18.2**	**-1.2**
	comp=Z,17nm,1.3s						
RABL	**Rabaul**	**26.34**	**105**	P	**P**	**14 15 20.8**	**-0.5**
RABL				IAmb	IAmb	14 15 31.0	
	comp=Z,52nm,1.1s						
RABL	**Rabaul**	**26.34**	**105**	P	**P**	**14 15 22.2**	**+0.9**
	comp=Z,42nm,1.0s						
QIS	**Mount Isa**	**26.34**	**152**	P	**P**	**14 15 21.1**	**-0.1**
	baz=26,SNR=22						
QIS	**Mount Isa**	**26.34**	**152**	P	**P**	**14 15 21.1**	**-0.1**
SKLT	**Songkhla**	**26.37**	**281**	P	**P**	**14 15 22.2**	**+0.7**
	comp=Z,43nm,1.1s,comp=Z,2μm						
MTSU	**Mount Surprise**	**27.00**	**141**	P	**P**	**14 15 25.8**	**-1.4**
	baz=27,SNR=18						
MTSU	**Mount Surprise**	**27.00**	**141**	P	**P**	**14 15 28.6**	**+1.4**
ASAR	**Alice Springs**	**27.12**	**165**	P	**P**	**14 15 26.9**	**-1.4**
	comp=Z,4.4nm,0.6s,baz=337,slow=6.1,SNR=59						
ASAR				PcP	**PcP**	**14 18 48.1**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=346,slow=2.3,SNR=4.3						
ASAR				S	**S**	**14 20 03.4**	**-0.6**
	comp=Z,2.1nm,1.0s,baz=350,slow=20,SNR=5.3						
	comp=Z,4.4nm,0.6s						
NAYO	**Nakonayok**	**27.60**	**296**	P	**P**	**14 15 34.0**	**+1.4**
	comp=Z,218nm,0.8s						
WRKA	**Warakurna**	**27.61**	**177**	P	**P**	**14 15 32.1**	**-0.4**
	baz=28,SNR=63						
WRKA	**Warakurna**	**27.61**	**177**	P	**P**	**14 15 32.7**	**+0.1**
GSI	**Gunungsitoli**	**29.15**	**268**	P	P	14 15 51.5	+5.0
	comp=Z,17nm,1.2s						
GSI	**Gunungsitoli**	**29.15**	**268**	P	**P**	**14 15 45.8**	**-0.7**
	comp=Z,17nm,1.4s						
NJ2	**Nanjing**	**30.13**	**347**	*e*P	**P**	**14 15 55.3**	**+0.5**
NJ2				pP	**pP**	**14 16 05.3**	**-0.2**
NJ2				sP	**sP**	**14 16 09.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,270nm,4.7s						
MEEK	**Meekatharra**	**30.19**	**195**	P	**P**	**14 15 55.3**	**-0.2**
	baz=30,SNR=12						
MEEK	**Meekatharra**	**30.19**	**195**	P	**P**	**14 15 56.5**	**+1.0**
PHRA	**Phrae**	**30.33**	**303**	P	**P**	**14 15 54.1**	**-2.7**
JNU	**Nakatsue**	**30.52**	**7**	P	**P**	**14 15 59.3**	**+0.9**
	comp=Z,9.9nm,0.7s,baz=107,slow=5.1,SNR=6.2						
	comp=Z,9.9nm,0.7s						
CRAI	**Chiangrai**	**31.05**	**306**	P	**P**	**14 15 59.0**	**-4.2**
CMAR	**Chiang Mai Arr**	**31.39**	**302**	P	**P**	**14 16 05.0**	**-1.2**
	comp=Z,8.4nm,1.0s,baz=120,slow=7.2,SNR=43						
CMAR				PcP	**PcP**	**14 19 00.1**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=137,slow=1.4,SNR=6.4						
CMAR				LR	LR	14 30 18.4	
	comp=Z,133nm,18.2s,baz=110,slow=39						
	comp=Z,8.4nm,1.0s						
OOD	**Oodnadatta**	**31.52**	**165**	P	**P**	**14 16 10.6**	**+3.5**
	comp=Z,16nm,1.1s						
CMMT	**Chiang Mai**	**31.55**	**302**	P	**P**	**14 16 06.1**	**-1.5**
	comp=Z,37nm,1.1s						
CHTO	**Chiang Mai**	**31.55**	**302**	P	**P**	**14 16 06.3**	**-1.3**
CHTO	**Chiang Mai**	**31.55**	**302**	P	**P**	**14 16 07.2**	**-0.4**
CHTO	**Chiang Mai**	**31.55**	**302**	P	**P**	**14 16 07.0**	**-0.7**
CHTO	**Chiang Mai**	**31.55**	**302**	P	**P**	**14 16 06.9**	**-0.7**
	comp=Z,14nm,1.1s						
ENH	**Enshi**	**31.92**	**331**	P	**P**	**14 16 09.5**	**-1.2**
ENH				IAmb	IAmb	14 16 12.0	
	comp=Z,46nm,1.1s						
ENH	**Enshi**	**31.92**	**331**	P	**P**	**14 16 10.8**	**+0.1**
ENH	**Enshi**	**31.92**	**331**	P	**P**	**14 16 10.0**	**-0.7**
KMI	**Kunming**	**32.10**	**316**	⇑P	**P**	**14 16 11.0**	**-1.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KMI				LR	LR		
	comp=Z,310nm,24.5s						
KMI				LR	LR		
	comp=Z,190nm,19.4s						
KMI				LR	LR		
	comp=Z,790nm,34.2s						
INKA	**Innaminka**	**33.14**	**157**	P	**P**	**14 16 23.8**	**+2.4**
FORT	**Forrest**	**33.31**	**178**	P	**P**	**14 16 22.3**	**-0.5**
	baz=34,SNR=14						
FORT	**Forrest**	**33.31**	**178**	P	**P**	**14 16 22.6**	**-0.2**
	comp=Z,115nm,0.8s						
MULG	**Mulgathing**	**33.53**	**168**	P	**P**	**14 16 28.0**	**+3.2**
QLP	**Quilpie**	**33.67**	**151**	P	**P**	**14 16 24.6**	**-1.4**
	baz=34,SNR=4.4						
QLP	**Quilpie**	**33.67**	**151**	P	**P**	**14 16 26.1**	**+0.1**
	comp=Z,19nm,1.2s						
PZH	**PanZhiHua**	**33.68**	**317**	P	**P**	**14 16 25.5**	**-0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,5.1s						
KMBL	**Kambalda**	**34.18**	**187**	P	**P**	**14 16 30.5**	**+0.1**
	baz=34,SNR=13						
KMBL	**Kambalda**	**34.18**	**187**	P	**P**	**14 16 31.6**	**+1.2**
	comp=Z,38nm,0.6s						
LYN	**LuoYang**	**34.36**	**339**	⇑P	**P**	**14 16 32.8**	**+0.8**
LYN				pmax	pmax		
	comp=Z,22nm,0.6s						
LYN				LR	LR		
	comp=Z,1μm,30.2s						
KSAR	**Wonju Array Be**	**34.60**	**2**	P	**P**	**14 16 32.3**	**-1.6**
KSRS	**Korea Array**	**34.61**	**2**	P	**P**	**14 16 35.0**	**+1.0**
	comp=Z,9.2nm,0.7s,baz=178,slow=9.5,SNR=23						
KSRS				PcP	**PcP**	**14 19 08.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=172,slow=2.3,SNR=2.6						
	comp=Z,9.2nm,0.7s						
LCRK	**Leigh Creek**	**34.74**	**162**	P	**P**	**14 16 39.0**	**+3.8**
RK1H	**Rockhampton Ha**	**34.77**	**139**	P	**P**	**14 16 35.4**	**-0.2**
	comp=Z,32nm,0.9s						
TNCH	**TengChong**	**35.09**	**312**	*e*P	**P**	**14 16 39.4**	**+0.8**
TNCH				pP	pP	14 16 49.8	+0.5
TNCH				S	**S**	**14 22 09.1**	**+0.3**
TNCH				pmax	pmax		
	comp=Z,16nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,140nm,4.9s						
TNCH				LR	LR		
	comp=Z,310nm,19.7s						
TNCH				LR	LR		
	comp=Z,270nm,21.2s						
TNCH				LR	LR		
	comp=Z,480nm,26.8s						
KLBR	**Kellerberrin**	**35.14**	**193**	P	**P**	**14 16 38.9**	**+0.2**
	baz=35,SNR=8.8						
HNR	**Honiara**	**35.23**	**110**	LR	LR	14 32 46.8	
	comp=Z,2μm,19.2s,baz=279,slow=39						
MJAR	**Matsushiro Arr**	**35.32**	**16**	P	**P**	**14 16 40.0**	**-0.1**
	comp=Z,5.4nm,0.9s,baz=200,slow=8.8,SNR=7.6						
MJAR				LR	LR	14 30 01.3	
	comp=Z,363nm,21.3s,baz=212,slow=34						
	comp=Z,5.4nm,0.9s						
XAN	**Xi'an**	**35.33**	**334**	⇑P	**P**	**14 16 39.4**	**-1.0**
XAN				pmax	pmax		
	comp=Z,20nm,0.8s						
MND	**Mandalay**	**35.39**	**305**	P	**P**	**14 16 42.2**	**+1.2**
	comp=Z,6.9nm,0.8s						
MUN	**Mundaring**	**35.90**	**195**	P	**P**	**14 16 46.6**	**+1.5**
	baz=36,SNR=5.4						
HNS	**HongShan**	**36.26**	**344**	⇓P	**P**	**14 16 47.7**	**-0.5**
HNS				S	**S**	**14 22 25.6**	**-0.4**
HNS				pmax	pmax		
	comp=Z,15nm,1.1s						
HNS				LR	LR		
	comp=Z,710nm,17.9s						
HNS				LR	LR		
	comp=Z,790nm,22.6s						
BBOO	**Buckleboo**	**36.40**	**167**	P	**P**	**14 16 48.7**	**-0.8**
	baz=36,SNR=8.7						
BBOO	**Buckleboo**	**36.40**	**167**	P	**P**	**14 16 52.5**	**+3.0**
NWAO	**Narrogin (SRO)**	**36.55**	**193**	P	**P**	**14 16 51.4**	**+0.6**
	baz=37,SNR=12						
NWAO				P	**P**	**14 16 51.4**	**+0.6**
	baz=37,SNR=12						
EIDS	**Eidsvold**	**36.55**	**141**	P	**P**	**14 16 49.8**	**-1.1**
	baz=37,SNR=5.0						
EIDS	**Eidsvold**	**36.55**	**141**	P	**P**	**14 16 48.2**	**-2.7**
EIDS				IAmb	IAmb	14 16 56.3	
	comp=Z,20nm,1.1s						
EIDS	**Eidsvold**	**36.55**	**141**	P	**P**	**14 16 50.0**	**-0.9**
WHYH	**Whyalla**	**36.99**	**165**	P	P	14 16 59.2	+4.8
	comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**37.17**	**159**	P	**P**	**14 16 55.6**	**-0.5**
	baz=37,SNR=28						
STKA	**Stephens Creek**	**37.17**	**159**	P	**P**	**14 16 55.0**	**-1.1**
STKA	**Stephens Creek**	**37.17**	**159**	P	**P**	**14 16 57.4**	**+1.3**
STKA	**Stephens Creek**	**37.17**	**159**	P	**P**	**14 16 55.4**	**-0.7**
	comp=Z,15nm,0.5s,baz=336,slow=9.8,SNR=33						
STKA				PcP	**PcP**	**14 19 15.4**	**-0.2**
	comp=Z,5.2

comp=Z,260nm,4.8s
BTO LR LR
comp=Z,910nm,17.9s
BTO LR LR
comp=Z,420nm,12.3s
BTO LR LR
comp=Z,810nm,20.4s
CN2 Changchun 40.95 359 P **P** **14 17 26.1 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 41.60 6 IAmb IAmb 14 17 44.2
comp=Z,27nm,0.9s
USRK Ussuriysk Ar. 41.60 6 P **P** **14 17 32.9 +0.1**
USRK Ussuriysk Ar. 41.60 6 P **P** **14 17 34.0 +1.2**
comp=Z,20nm,0.9s,baz=192,slow=7.2,SNR=16
comp=Z,20nm,0.9s
ARPS Mount Arapiles 41.71 162 P **P** **14 17 34.3 +0.4**
baz=42,SNR=6.0
ARPS Mount Arapiles 41.71 162 P P 14 17 38.2 +4.4
MDJ Mudanjiang 41.83 3 P **P** **14 17 36.1 +1.4**
MDJ PP **PP** **14 19 13.0 +1.0**
MDJ S **S** **14 23 52.3 +2.7**
MDJ SS **SS** **14 26 58.5 +1.5**
MDJ pmax pmax
comp=Z,20nm,0.9s
MDJ pmax pmax
comp=Z,200nm,3.9s
MDJ LR LR
comp=Z,210nm,6.8s
MDJ LR LR
comp=Z,140nm,10.1s
MDJ LR LR
comp=Z,250nm,6.0s
MDJ Mudanjiang 41.83 3 IAmb IAmb 14 17 41.2
comp=Z,24nm,1.0s
MDJ Mudanjiang 41.83 3 P **P** **14 17 36.7 +2.0**
comp=Z,29nm,1.1s
MDJ Mudanjiang 41.83 3 P **P** **14 17 35.8 +1.2**
YNG Young 42.07 153 P P 14 17 43.1 +6.2
comp=Z,41nm,1.2s
XLT XiLinHaoTe 42.10 349 *e*P **P** **14 17 37.5 +0.4**
XLT pmax pmax
comp=Z,35nm,1.4s
XLT pmax pmax
comp=Z,160nm,3.8s
BNX BinXian 42.88 1 ⇓P **P** **14 17 42.7 -0.5**
BNX pmax pmax
comp=Z,13nm,1.5s
BNX pmax pmax
comp=Z,190nm,3.7s
BRAT Ballarat 43.11 160 P P 14 17 50.9 +5.7
comp=Z,6.6nm,1.0s
LSA Lhasa 43.11 312 P **P** **14 17 44.6 -1.4**
LSA IAmb IAmb 14 17 47.3
comp=Z,64nm,2.0s
CAN Canberra 43.20 153 P **P** **14 17 43.6 -2.4**
CAN IAmb IAmb 14 17 51.6
comp=Z,46nm,1.2s
CAN Canberra 43.20 153 P **P** **14 17 49.6 +3.6**
CAN Canberra 43.20 153 P **P** **14 17 46.5 +0.4**
ASAJ Asahikawa 43.58 17 LR LR 14 33 59.7
comp=Z,234nm,21.7s,baz=176,slow=33
JKA Kamikawa-asahi 43.58 17 P **P** **14 17 47.3 -1.7**
JKA IAmb IAmb 14 17 53.5
comp=Z,24nm,0.9s
TOO Toolangi 43.69 158 P **P** **14 17 49.8 -0.1**
baz=44,SNR=5.2
TOO Toolangi 43.69 158 P P 14 17 56.0 +6.1
AUSMG Snowy Mountain 43.95 154 P **P** **14 17 54.5 +2.4**
comp=Z,45nm,1.2s
GTA Gaotai 43.98 330 *e*P **P** **14 17 51.5 -0.9**
GTA sP pwP 14 18 04.9 -0.6
GTA pmax pmax
comp=Z,9.0nm,1.4s
GTA LR LR
comp=Z,290nm,17.5s
GTA LR LR
comp=Z,280nm,18.7s
GTA LR LR
comp=Z,350nm,19.9s
DZM Mont Dzumac 45.96 124 *e*S **S** **14 24 45.9 -4.8**
comp=Z,192nm,31.8s
DZM *e*LR LR 14 31 02.3
comp=Z,771nm,31.3s
PALK Pallekele 46.04 277 LR LR 14 39 02.1
comp=Z,256nm,19.9s,baz=203,slow=38
YSS Yuzh-Sakhalins 46.24 15 P **P** **14 18 14.2 +4.2**
comp=Z,24nm,1.2s
HIA Hailar 46.78 354 IAmb IAmb 14 18 17.8
comp=Z,38nm,1.4s
HIA Hailar 46.78 354 P **P** **14 18 17.5 +3.2**
HEH HeiHe 47.39 1 *e*P **P** **14 18 19.1 +0.1**
HEH pmax pmax
comp=Z,16nm,1.0s
HEH pmax pmax
comp=Z,250nm,4.4s
ULN Ulaanbaatar 48.09 342 P **P** **14 18 23.3 -1.4**
ULN IAmb IAmb 14 18 28.4
comp=Z,26nm,1.3s
ULN Ulaanbaatar 48.09 342 P **P** **14 18 25.0 +0.3**
ULN pP **pP** **14 18 35.0 -0.7**
ULN sP **sP** **14 18 39.8 -0.5**
ULN Ulaanbaatar 48.09 342 P **P** **14 18 24.5 -0.2**
comp=Z,55nm,0.8s
SONM Songino Array 48.27 342 IAmb IAmb 14 18 28.8
comp=Z,13nm,1.0s
SONM Songino Array 48.27 342 P **P** **14 18 25.8 -0.2**
comp=Z,8.3nm,0.8s,baz=158,slow=6.7,SNR=31
SONM PcP **PcP** **14 19 52.9 +0.4**
comp=Z,3.0nm,0.8s,baz=142,slow=4.9,SNR=3.6
SONM ScP **ScP** **14 23 43.5 -0.7**
comp=Z,0.3nm,0.4s,baz=132,slow=2.1,SNR=2.7
SONM LR LR 14 42 16.7
comp=Z,165nm,19.8s,baz=153,slow=40
comp=Z,8.3nm,0.8s
HYB Hyderabad 49.46 291 *e*P **P** **14 18 34.7 -0.8**
WMQ Urumqi 53.56 325 *e*P **P** **14 19 06.0 +0.2**
WMQ sP sP 14 19 22.6 +1.1
WMQ pmax pmax
comp=Z,11nm,1.5s
WMQ LR LR
comp=Z,270nm,24.1s
PETK Petropavlovsk- 56.39 22 P **P** **14 19 27.3 +1.3**
comp=Z,6.0nm,0.8s,baz=199,slow=4.6,SNR=13
PETK LR LR 14 43 01.9
comp=Z,76nm,21.9s,baz=226,slow=35
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 58.40 326 P **P** **14 19 39.5 -0.8**
MKAR Makanchi Array 58.40 326 P **P** **14 19 39.9 -0.4**
comp=Z,7.2nm,0.5s,baz=123,slow=8.2,SNR=74
MKAR LR LR 14 46 55.3
comp=Z,175nm,21.1s,baz=94,slow=38
comp=Z,7.2nm,0.5s
MAKZ Makanchi 58.58 325 P **P** **14 19 40.8 -0.8**
MAKZ IAmb IAmb 14 19 43.1
comp=Z,14nm,1.1s
MAKZ Makanchi 58.58 325 P **P** **14 19 41.1 -0.5**
MAKZ pP **pP** **14 19 51.6 -1.2**
KSH Kashi 58.77 316 P **P** **14 19 44.0 +0.9**
KSH pmax pmax
comp=Z,12nm,1.0s
YAK Yakutsk 59.24 2 P **P** **14 19 45.0 -0.8**
YAK Yakutsk 59.24 2 P **P** **14 19 46.7 +1.0**
YAK pP **pP** **14 19 57.2 +0.2**
NRN Naryn 59.58 318 P **P** **14 19 47.2 -1.8**
MA2 Magadan 59.71 14 LR LR 14 47 42.4
comp=Z,37nm,20.1s,baz=216,slow=38
KZA Kyzart 60.37 318 P **P** **14 19 55.7 +1.2**
SNR=5.6
TKM2 Tokmak 2 60.51 319 P **P** **14 19 54.9 -0.3**
SNR=7.5
UCH Uchtor 60.92 318 P **P** **14 19 59.8 +1.4**
SNR=9.1
AAK Ala-Archa 61.11 318 LR LR 14 50 27.2
comp=Z,90nm,20.1s,baz=96,slow=40
AAK Ala-Archa 61.11 318 P **P** **14 20 00.4 +1.1**
AAK sP **sP** **14 20 15.0 -0.1**
USP Ospenovka 61.38 319 P **P** **14 20 01.9 +0.9**
SNR=8.9
AML Almayashu 61.44 317 P **P** **14 20 03.0 +1.2**
SNR=11
ZAA0 Zalesovo Array 61.50 333 IAmb IAmb 14 20 02.9
comp=Z,8.6nm,1.1s
ZALV Zalesovo Beam 61.50 333 P **P** **14 20 00.1 -1.4**
comp=Z,2.8nm,0.4s,baz=132,slow=6.7,SNR=14
ZALV LR LR 14 49 45.8
comp=Z,97nm,18.9s,baz=131,slow=39
comp=Z,2.8nm,0.4s
RTZ Ruatahuna 61.89 137 P **P** **14 20 02.2 -2.2**
RTZ IAmb IAmb 14 20 08.6
comp=Z,17nm,1.0s
KBL Kabul 62.14 308 P **P** **14 20 05.4 -1.0**
KBL IAmb IAmb 14 20 11.2
comp=Z,8.9nm,1.0s
KURBB Kurchatov Arra 62.60 328 P **P** **14 20 08.3 -0.6**
comp=Z,14nm,0.7s,baz=130,slow=6.2,SNR=91
KURBB LR LR 14 49 50.2
comp=Z,161nm,20.0s,baz=173,slow=38
comp=Z,14nm,0.7s
KURK Kurchatov 62.60 328 P **P** **14 20 08.3 -0.6**
KURK Kurchatov 62.60 328 P **P** **14 20 08.2 -0.7**
KURK pP **pP** **14 20 18.8 -1.5**
KURK sP **pwP** **14 20 23.2 +0.7**
BTK Batken 62.63 314 IAmb IAmb 14 20 22.2
comp=Z,12nm,1.0s
SEY Seymchan 63.04 13 LR LR 14 47 37.4
comp=Z,65nm,22.0s,baz=228,slow=36
SHEM Shemya Is, Ala 63.36 30 LR LR 14 43 11.8
comp=Z,158nm,20.5s,baz=255,slow=32
SIMJ Simiganj 63.46 312 P **P** **14 20 13.7 -1.3**
SIMJ IAmb IAmb 14 20 41.3
comp=Z,13nm,1.2s
BVAR Borovoye Array 68.18 327 P **P** **14 20 44.5 -0.4**
comp=Z,3.2nm,0.4s,baz=60,slow=5.2,SNR=21
BVAR LR LR 14 52 22.6
comp=Z,104nm,20.2s,baz=118,slow=37
comp=Z,3.2nm,0.4s
BRVK Borovoye 68.25 327 P **P** **14 20 44.9 -0.5**
BRVK IAmb IAmb 14 21 15.6
comp=Z,11nm,1.1s
BRVK Borovoye 68.25 327 P **P** **14 20 44.7 -0.6**
WSAR Wadi Sarin 68.82 294 LR LR 14 52 29.8
comp=Z,49nm,21.0s,baz=66,slow=37
NRIK Noril'sk 71.43 346 IAmb IAmb 14 21 07.2
comp=Z,9.0nm,0.7s
NRIK Noril'sk 71.43 346 P **P** **14 21 03.9 -0.7**
comp=Z,4.8nm,0.4s,baz=115,slow=5.5,SNR=13
NRIK LR LR 14 55 49.6
comp=Z,142nm,18.9s,baz=158,slow=39
comp=Z,4.8nm,0.4s
GEYT Alibeck 71.53 309 P **P** **14 21 04.6 -1.4**
GEYT Alibeck 71.53 309 P **P** **14 21 04.8 -1.1**
comp=Z,2.6nm,0.7s,baz=104,slow=6.1,SNR=5.7
comp=Z,2.6nm,0.7s
ABKAR Akbulak array 72.94 321 IAmb IAmb 14 21 16.3
comp=Z,25nm,1.7s
AKTO Aktyubinsk 74.46 322 LR LR 14 57 47.1
comp=Z,181nm,20.6s,baz=106,slow=39
ARU Arti 75.80 328 P **P** **14 21 29.3 -1.2**
ARU IAmb IAmb 14 21 32.6
comp=Z,16nm,0.8s
ARU Arti 75.80 328 LR LR 14 57 22.9
comp=Z,132nm,18.9s,baz=144,slow=38
C16K Lisburne Hills 79.46 21 IAmb IAmb 14 21 60.0
comp=Z,15nm,1.1s
C16K Lisburne Hills 79.46 21 P **P** **14 21 52.4 +1.7**
baz=250
L16K Owhat River 80.00 28 IAmb IAmb 14 21 58.7
comp=Z,12nm,0.9s
C17K DeLong Mountai 80.28 21 P **P** **14 21 57.1 +1.9**
baz=252
E17K Hotham Inlet 80.37 22 P **P** **14 21 57.1 +1.4**
baz=254
G17K Kiwalik Mounta 80.40 24 P **P** **14 21 57.5 +1.6**
baz=255
E18K Tukpahlearik C 80.92 22 P **P** **14 22 00.0 +1.5**
baz=255
KIRV Kirov 81.09 329 LR LR 15 01 28.7
comp=Z,125nm,19.3s,baz=93,slow=38
H18K Honhosa River 81.25 24 IAmb IAmb 14 23 10.0
comp=Z,22nm,1.6s
C19K Lookout Ridge 81.71 20 P **P** **14 22 04.8 +2.0**
baz=256
TTA Tatalina 81.83 27 IAmb IAmb 14 22 09.7
comp=Z,16nm,1.3s
TTA Tatalina 81.83 27 P **P** **14 22 04.9 +1.3**
baz=260,SNR=6.1
G19K Purcell Mounta 81.98 24 P **P** **14 22 05.9 +1.7**
baz=258
D19K Kuna River 82.09 21 P **P** **14 22 06.3 +1.5**
baz=257
E19K Redstone River 82.19 22 P **P** **14 22 06.8 +1.5**
baz=258
L19K White Mountain 82.23 28 IAmb IAmb 14 22 18.3
comp=Z,18nm,1.2s
L19K White Mountain 82.23 28 P **P** **14 22 06.9 +1.3**
baz=261
VNDA Vanda 82.41 173 P **P** **14 22 05.6 -0.6**
VNDA Vanda 82.41 173 P **P** **14 22 05.5 -0.7**
comp=Z,4.0nm,0.8s,baz=312,slow=7.6,SNR=14
VNDA LR LR 14 58 36.9
comp=Z,71nm,20.8s,baz=341,slow=36
comp=Z,4.0nm,0.8s
F20K Avaraart Lake 82.69 23 P **P** **14 22 08.8 +0.9**
baz=260
E20K Nigu River 82.74 21 P **P** **14 22 09.1 +0.9**
baz=259
B20K Meade River 82.75 20 P **P** **14 22 09.9 +1.7**
baz=258
H20K Anotlenseega Mo 82.75 24 P **P** **14 22 10.2 +1.9**
baz=260
M20K Styx River 82.99 28 P **P** **14 22 11.6 +1.9**
baz=262
N20K Mount Spurr 83.35 29 P **P** **14 22 13.6 +2.0**
baz=263,SNR=7.6
C21K Knifeblade Rid 83.41 21 P **P** **14 22 13.5 +1.9**
baz=260
G21K Allakaket 83.47 23 P **P** **14 22 14.4 +2.5**
baz=262
B21K Ikpikpuk River 83.55 20 P **P** **14 22 14.3 +2.0**
baz=260
CHUM Lake Minchumin 83.61 26 P **P** **14 22 15.1 +2.3**
baz=263
H21K Melozitna Rive 83.63 24 P **P** **14 22 15.3 +2.4**
baz=262
CAST Castle Rocks 83.66 27 IAmb IAmb 14 22 17.6
comp=Z,9.4nm,1.0s
CAST Castle Rocks 83.66 27 P **P** **14 22 15.5 +2.4**
baz=263,SNR=6.7
A22K Sinclair Lake 83.66 19 P **P** **14 22 15.9 +3.1**
baz=260,SNR=7.4
KBZ Khabaz 83.68 314 P **P** **14 22 12.2 -1.3**
comp=Z,3.9nm,0.8s,baz=128,slow=4.5,SNR=11
comp=Z,3.9nm,0.8s
SKT Skwentna 83.75 28 P **P** **14 22 13.9 +0.4**
baz=264,SNR=7.9
B22K Teshekpuk Lake 84.07 20 P **P** **14 22 16.9 +2.0**
baz=261,SNR=8.1
SUA Susitna One 84.08 29 P **P** **14 22 15.3 0.0**
SUA Susitna One 84.08 29 P **P** **14 22 16.0 +0.7**
baz=265,SNR=15
D22K Ayikyak River 84.11 21 IAmb IAmb 14 22 22.7
comp=Z,17nm,1.2s
F22K John River 84.12 22 P **P** **14 22 18.0 +2.7**
baz=263
GURO Guroymak-BITLI 84.17 308 IAmb IAmb 14 22 19.7
comp=Z,19nm,1.1s
H22K Ishtalitna Cre 84.24 24 P **P** **14 22 18.6 +2.6**
baz=264
G22K Bettles 84.31 23 P **P** **14 22 18.2 +2.0**
baz=264
E22K Anaktuvuk Pass 84.33 22 P **P** **14 22 17.6 +1.2**
E22K IAmb IAmb 14 22 22.9
comp=Z,20nm,1.1s
E22K Anaktuvuk Pass 84.33 22 P **P** **14 22 18.1 +1.7**
baz=263,SNR=22
CUT Chulitna 84.39 28 P **P** **14 22 18.3 +1.6**
baz=265
TRF Thorofare Moun 84.47 27 IAmb IAmb 14 22 41.5
comp=Z,22nm,1.3s
TRF Thorofare Moun 84.47 27 P **P** **14 22 19.0 +1.7**
baz=265,SNR=6.9
RC01 Rabbit Creek A 84.53 29 P **P** **14 22 18.0 +0.5**
baz=266,SNR=7.7
PPT2 Papeete2 84.81 108 *e*P P 14 22 13.5 -6.4
comp=Z,40nm,28.8s
PPT2 Papeete2 84.81 108 *e*S S 14 32 55.4 +10
PPT2 *e*SS **SS** **14 38 21.5 +2.7**
comp=Z,63nm,26.0s
PPT2 *e*LR LR 14 49 02.4
comp=Z,68nm,28.5s
PPT2 Papeete2 84.81 108 *e*LR LR 14 49 03.6
comp=Z,219nm,31.2s
PPT2 *e*LR LR 14 49 03.6
comp=Z,396nm,31.8s
D23K Nanushuk River 84.84 21 P **P** **14 22 21.6 +2.7**
baz=264
COLD Coldfoot 84.85 23 P **P** **14 22 21.3 +2.4**
baz=265,SNR=14
PMR Palmer 84.86 29 P **P** **14 22 20.4 +1.4**
baz=266,SNR=5.6
G23K Bananza Creek 84.87 23 P **P** **14 22 22.5 +3.3**
baz=265
C23K Itkillik River 84.95 20 P **P** **14 22 21.8 +2.4**
baz=264
I23K Minto, Yukon-K 85.01 25 P **P** **14 22 21.8 +2.0**
baz=266,SNR=5.3
MCK McKinley 85.09 26 P **P** **14 22 21.9 +1.6**
baz=266
E23K Chandalar 85.14 22 P **P** **14 22 23.8 +3.3**
baz=265,SNR=12
KNK Knik Glacier 85.17 29 P **P** **14 22 21.9 +1.2**
baz=267,SNR=6.6
SML Sawmill 85.25 28 P **P** **14 22 21.8 +0.6**
SML Sawmill 85.25 28 P **P** **14 22 23.1 +1.9**
baz=267
D24K Happy Valley 85.52 21 P **P** **14 22 24.3 +2.1**
baz=266
M23K Glacier View 85.54 28 P **P** **14 22 23.2 +0.7**
baz=267
CCB Clear Creek Bu 85.64 25 IAmb IAmb 14 22 27.4
comp=Z,8.7nm,1.2s
F24K Squaw Lake 85.76 23 IAmb IAmb 14 22 30.8
comp=Z,10nm,1.2s
ILAR Eielson Array 86.04 25 P **P** **14 22 24.2 -0.8**
comp=Z,0.3nm,0.4s,baz=248,slow=5.2,SNR=6.9
comp=Z,0.3nm,0.4s
E25K Arctic Village 86.67 22 P **P** **14 22 29.2 +1.2**
baz=269,SNR=5.9
F28M Old Crow 88.84 22 IAmb IAmb 14 22 47.6
comp=Z,7.6nm,1.1s
E28M Babbage River 88.89 21 IAmb IAmb 14 22 45.5
comp=Z,14nm,1.2s
I28M Miner Creek 88.97 25 IAmb IAmb 14 22 45.4
comp=Z,13nm,1.4s
KMBO Kilima Mbogo 89.51 269 P **P** **14 22 41.8 -1.2**
comp=Z,8.1nm,1.1s,baz=58,slow=5.0,SNR=7.7
comp=Z,8.1nm,1.1s
G29M Pine Creek 89.61 23 IAmb IAmb 14 22 48.8
comp=Z,20nm,1.3s
MMAI Mount Meron Ar 89.65 303 P **P** **14 22 42.6 -0.4**
comp=Z,5.6nm,0.8s,baz=72,slow=8.1,SNR=6.7
MMAI LR LR 15 07 53.2
comp=Z,30nm,21.0s,baz=84,slow=39
comp=Z,5.6nm,0.8s
BR131 Keskin Array S 90.67 310 IAmb IAmb 14 22 50.5
comp=Z,8.1nm,0.9s
BRTR Keskin Array B 90.67 310 P **P** **14 22 46.9 -0.9**
comp=Z,6.3nm,1.0s,baz=123,slow=4.6,SNR=16
comp=Z,6.3nm,1.0s
INK Inuvik 91.13 21 IAmb IAmb 14 22 54.4
comp=Z,13nm,1.4s
ARCES ARCESS Array B 91.41 340 P **P** **14 22 50.9 +0.5**
comp=Z,2.3nm,0.6s,baz=63,slow=3.3,SNR=9.2
ARCES LR LR 15 07 25.3
comp=Z,57nm,20.6s,baz=62,slow=38
comp=Z,2.3nm,0.6s
SPITS Spitsbergen Ar 91.49 349 P **P** **14 22 49.1 -1.4**
comp=Z,6.8nm,0.9s,baz=76,slow=6.1,SNR=2.2
SPITS LR LR 15 09 47.9
comp=Z,83nm,19.7s,baz=29,slow=39
comp=Z,6.8nm,0.9s
AKASG Malin Array Be 92.68 321 P **P** **14 22 55.3 -1.2**
comp=Z,0.9nm,0.6s,baz=62,slow=5.1,SNR=2.1
AKASG LR LR 15 08 48.0
comp=Z,39nm,21.3s,baz=26,slow=38
comp=Z,0.9nm,0.6s
FINES FINESS Array B 92.73 332 P **P** **14 22 55.9 -0.6**
comp=Z,1.8nm,0.7s,baz=78,slow=2.8,SNR=8.1
comp=Z,1.8nm,0.7s
TAOE Nuku Hiva Isla 93.51 99 *e*LR LR 14 53 03.6
comp=Z,301nm,26.8s
C36M Paulatuk 94.19 20 IAmb IAmb 14 23 07.2
comp=Z,11nm,1.2s
MLR Muntele Rosu 95.63 316 LR LR 15 11 18.6
comp=Z,189nm,21.9s,baz=68,slow=39
CRVS Cervenica-Dubn 97.95 320 *e*PDIFF Pdif 14 23 29.4 +8.6
DAG Danmarks Havn 98.27 352 *i* P **P** **14 23 19.0 -2.5**
HFS Hagfors 98.92 332 P **P** **14 23 24.4 -0.4**
comp=Z,2.6nm,0.8s,baz=111,slow=6.3,SNR=1.8
comp=Z,2.6nm,0.8s
NOA NORSAR Array B 99.70 334 P **Pdif** **14 23 27.5 -0.8**
comp=Z,1.1nm,0.7s,baz=68,slow=4.5,SNR=2.6
NOA LR LR 15 14 29.2
comp=Z,135nm,18.4s,baz=65,slow=39
comp=Z,1.1nm,0.7s
VYHS Vyhne 99.74 320 *e*PDIFF **Pdif** **14 23 33.3 +4.6**
YKA Yellowknife Ar 100.44 24 P **Pdif** **14 23 31.3 -0.2**
comp=Z,0.9nm,1.0s,baz=302,slow=5.0,SNR=7.2
TXAR Lajitas Array 122.24 53 PKP **PKiKP** **14 28 40.5 0.0**
comp=Z,0.8nm,0.8s,baz=196,slow=1.4,SNR=8.0
TORD Torodi Ar. Bea 123.22 288 PKP **PKPdf** **14 28 41.6 -0.7**
comp=Z,2.5nm,0.9s,baz=42,slow=3.5,SNR=12
PLCA Paso Flores 139.04 160 PKP **PKPdf** **14 29 11.9 +0.2**
comp=Z,1.4nm,0.8s,baz=225,slow=1.4,SNR=4.0
LCO Las Campanas 149.02 149 PKPab **PKiKP** **14 29 34.9 0.0**
AC04 Llanos de Chal 149.47 148 PKPab **PKiKP** **14 29 36.5 +1.0**
PB14 IPOC Station P 152.65 144 PKPdf **PKPdf** **14 29 31.7 -3.7**

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*IDC **08** 14:19:17.2±17.0, 19°.99S×177°.67W, h444$^{km}_{\pm}$160^{km}, mb3.2/4, mbtmp4.0/4, Error ellipse: s-maj=172.4km s-min=56.3km az=135.0*

*NEIC **08** 14:19:17.8±0.6, 19°.9S±0°.2×177°.7W±0°.2, h450$^{km}_{\pm}$11^{km}, mb4.1/16, Error ellipse: s-maj=27.7km s-min=20.7km az=143.0*

ISC 08 14:19:18.2±1.0, 20°.0S±0°.2×177°.7W±0°.2, h450^{km}, n23, σ08°70/24, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**14.05**	**257**	P	**P**	**14 22 19.3**	**0.0**
RTZ	**Ruatahuna**	**19.10**	**193**	P	**P**	**14 23 11.5**	**+0.1**
CTAO	**Charters Tower**	**33.79**	**264**	P	**P**	**14 25 22.4**	**+1.0**
CTAO				IAmb	IAmb	14 26 02.2	
	comp=Z,21nm,1.5s						
BBOO	**Buckleboo**	**42.99**	**243**	P	**P**	**14 26 36.3**	**-0.2**
BBOO				IAmb	IAmb	14 27 10.1	
	comp=Z,22nm,1.5s						
WR0	**Warramunga Arr**	**44.73**	**262**	P	**P**	**14 26 49.6**	**-0.6**
WR0				IAmb	IAmb	14 27 32.2	
	comp=Z,8.0nm,1.4s						
AS31	**Alice Springs**	**44.87**	**256**	P	**P**	**14 26 50.9**	**-0.5**
ASAR	**Alice Springs**	**44.87**	**256**	P	**P**	**14 26 50.7**	**-0.7**
ASAR	**Alice Springs**	**44.87**	**256**	P	**P**	**14 26 51.3**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=87,slow=8.4,SNR=47						
ASAR				PcP	**PcP**	**14 28 22.4**	**-1.5**
	comp=Z,0.3nm,1.0s,baz=88,slow=3.1,SNR=1.6						
	comp=Z,2.1nm,0.8s						
WB0	**Warramunga Arr**	**44.89**	**262**	P	**P**	**14 26 51.0**	**-0.5**
WB0				IAmb	IAmb	14 27 09.3	
	comp=Z,9.2nm,1.4s						
WB2	**Warramunga Arr**	**44.90**	**261**	P	**P**	**14 26 51.1**	**-0.6**
WB2				IAmb	IAmb	14 27 19.8	
	comp=Z,6.2nm,1.3s						
WRAB	**Tennant Creek**	**44.91**	**262**	P	**P**	**14 26 50.8**	**-0.9**
WRA	**Warramunga Arr**	**44.91**	**261**	P	**P**	**14 26 51.2**	**-0.5**
WRA	**Warramunga Arr**	**44.91**	**261**	P	**P**	**14 26 51.4**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=97,slow=7.6,SNR=39						
	comp=Z,1.0nm,0.3s						
MTN	**Manton Dam**	**49.41**	**270**	P	**P**	**14 27 24.9**	**-0.9**
QSPA	**South Pole Qui**	**70.06**	**180**	P	**P**	**14 29 43.8**	**+0.2**
M16K	**Timber Creek**	**82.16**	**9**	P	**P**	**14 30 51.5**	**+1.1**
M16K				IAmb	IAmb	14 31 34.5	
	comp=Z,9.2nm,1.3s						
CCB	**Clear Creek Bu**	**87.48**	**12**	P	**P**	**14 31 15.5**	**-0.8**
IMAR	**Indian Mountai**	**87.63**	**10**	P	**P**	**14 31 16.7**	**-0.3**
ILAR	**Eielson Array**	**87.78**	**13**	P	**P**	**14 31 17.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=214,slow=5.3,SNR=2.4						
	comp=Z,0.2nm,0.5s						
P33M	**Teslin, Yukon**	**87.83**	**21**		**P**	**14 31 18.9**	**+0.7**
M29M	**Somme Creek**	**87.85**	**17**		**P**	**14 31 18.7**	**+0.4**
M29M				IAmb	IAmb	14 31 24.6	
	comp=Z,3.0nm,1.4s						
M30M	**Minto, Yukon**	**88.43**	**18**	P	**P**	**14 31 21.0**	**+0.1**
M30M				IAmb	IAmb	14 31 28.3	
	comp=Z,4.6nm,1.5s						
CMAR	**Chiang Mai Arr**	**90.18**	**289**	P	**P**	**14 31 30.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=125,slow=4.5,SNR=1.6						
	comp=Z,0.3nm,0.4s						

IDC ***08*** *14:31:24.7±0.4,44˚.12N×142˚.33E,h207km±3km,mb3.2/12, mbtmp3.7/17,Error ellipse: s-maj=14.5km s-min=12.5km az=141.0*

JMA ***08*** *14:31:24.7±0.2,44˚.1N±0˚.7×14˚2E±˚, h212km±1km, MV3.0/38,KAMIKAWA-SORACHI REGION*

SKHL ***08*** *14:31:24.6±0.3,44˚.20N×142˚.60E,h180km±5km,mb4.1/2, msha4.7/3*

ISC 08 14:31:24.7±0.7,44°09'N±0'.05×142°44'E±0'.05,h212km±5km, n39,σ1°§06/57,mb3.4/12,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.12**	**77**	*eP*		**Pn**	**14 31 52.5**	**+0.3**
ASAJ				*eS*		**S**	**14 32 13.6**	**-0.2**
ASAJ	**Asahikawa**	**0.12**	**77**	P		**Pn**	**14 31 52.5**	**+0.3**
	24nm,0.4s,baz=257,slow=3.9,SNR=150							
ASAJ				S		**S**	**14 32 13.6**	**-0.2**
	41nm,0.4s,baz=222,slow=16,SNR=51							
JKK2	**Kamakawa 2**	**0.31**	**134**	*eP*		**Pn**	**14 31 53.0**	**+0.4**
JKK2				*eS*		**S**	**14 32 14.7**	**+0.4**
JSS	**Shosan**	**0.52**	**306**	*eP*		**Pn**	**14 31 53.2**	**+0.1**
JSS				*eS*		**S**	**14 32 15.2**	**-0.2**
JAB	**Ashibetsu**	**0.61**	**195**	*eP*		**Pn**	**14 31 53.8**	**+0.2**
JAB				*eS*		**S**	**14 32 16.2**	**+0.2**
JHR	**Hokuryu**	**0.62**	**236**	*eP*		**Pn**	**14 31 54.0**	**+0.4**
JHR				*eS*		**S**	**14 32 16.4**	**+0.3**
JMP	**Maruseppu**	**0.67**	**97**	*eP*		**Pn**	**14 31 54.2**	**+0.4**
JMP				*eS*		**S**	**14 32 16.9**	**+0.5**
JYG	**Yagishiri**	**0.80**	**295**	*eS*		**S**	**14 32 16.8**	**-0.7**
JSE	**Soyaes**	**0.87**	**7**	*eP*		**Pn**	**14 31 55.0**	**+0.3**
JSE				*eS*		**S**	**14 32 17.9**	**-0.5**
JTKR	**Abashiri--Toko**	**1.07**	**96**	*eP*		**Pn**	**14 31 56.8**	**+0.8**
JTKR				*eS*		**S**	**14 32 21.4**	**+1.2**
JAR	**Ashorobuto**	**1.25**	**129**	*eP*		**Pn**	**14 31 58.0**	**+0.6**
JAR				*eS*		**S**	**14 32 23.5**	**+0.9**
JWK2	**Keihoku**	**1.28**	**343**	*eP*		**Pn**	**14 31 57.7**	**+0.1**
JWK2				*eS*		**S**	**14 32 23.2**	**+0.1**
JEW	**Eniwo**	**1.44**	**210**	*eP*		**Pn**	**14 31 59.2**	**+0.3**
JEW				*eS*		**S**	**14 32 25.8**	**+0.5**
JCH	**Churui**	**1.62**	**155**	*eP*		**Pn**	**14 31 59.4**	**-1.0**
JCH				*eS*		**S**	**14 32 26.2**	**-1.9**
JNBK	**Urakawa-nobuka**	**1.82**	**173**	*eP*		**Pn**	**14 32 01.8**	**-0.6**
JRA	**Rausu**	**1.94**	**94**	*eP*		**Pn**	**14 32 04.5**	**+1.1**
AKK	**Akkeshi**	**2.05**	**121**	*eP*		**Pn**	**14 32 03.9**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**2.47**	**90**	*eP*		**Pn**	**14 32 06.8**	**-2.0**
YUK					AMB	AMB	14 32 10.3	
	110nm,0.6s							
YUK				*eS*		**S**	**14 32 40.2**	**-2.8**
YUK				A		A	14 32 52.3	
	50nm,0.6s							
YUK				A		A	14 32 52.3	
	150nm,0.6s							
NMR	**Nemuro--Hokkai**	**2.49**	**106**	*eP*		**Pn**	**14 32 08.0**	**-1.1**
NMR				*eS*		**S**	**14 32 41.8**	**-1.6**
NEM2	**Nemuro 2**	**2.50**	**106**	*eP*		**Pn**	**14 32 08.5**	**-0.8**
YSS	**Yuzh-Sakhalins**	**2.87**	**4**	*eP*		**Pn**	**14 32 12.5**	**-0.8**
YSS					AMB	AMB	14 32 15.0	
	10.0nm,0.5s							
YSS				*eS*		**S**	**14 32 50.1**	**-1.1**
YSS				A		A	14 32 53.0	
	40nm,0.5s							
YSS				A		A	14 32 53.0	
	30nm,0.5s							
SHO	**Shikotan**	**3.18**	**92**	*eP*		**Pn**	**14 32 15.7**	**-1.2**
SHO				*eS*		**S**	**14 32 55.3**	**-2.1**
SHO				A		A	14 32 56.8	
	60nm,0.4s							
SHO				A		A	14 32 56.8	
	50nm,0.4s							
USRK	**Ussuriysk Ar.**	**7.52**	**274**	P		**Pn**	**14 33 11.2**	**-0.4**
	9.5nm,0.7s,baz=91,slow=14,SNR=7.4							
USRK				S		**S**	**14 34 32.7**	**-4.1**
	1.4nm,0.6s,baz=96,slow=22,SNR=1.6							
MJAR	**Matsushiro Arr**	**8.20**	**205**	P		**Pn**	**14 33 19.2**	**-1.4**
	1.0nm,0.4s,baz=7.3,slow=12,SNR=5.6							
KLR	**Kul'dur**	**8.97**	**309**	P		**Pn**	**14 33 30.0**	**-0.2**
	1.1nm,0.7s,baz=110,slow=18,SNR=2.7							
MA2	**Magadan**	**16.32**	**15**	P		**P**	**14 35 01.3**	**+0.3**
	4.0nm,0.7s,baz=186,slow=9.2,SNR=4.2							
SEY	**Seymchan**	**19.74**	**14**	P		**P**	**14 35 37.4**	**-0.7**
	1.7nm,0.4s,baz=197,slow=10,SNR=15							
SONM	**Songino Array**	**25.19**	**291**	P		**P**	**14 36 30.9**	**+0.2**
	0.4nm,0.5s,baz=87,slow=8.4,SNR=3.2							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**38.06**	**306**	P		**P**	**14 38 22.7**	**+0.2**
	0.4nm,0.3s,baz=72,slow=10,SNR=2.4							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**41.39**	**296**	P		**P**	**14 38 50.0**	**0.0**
	0.4nm,0.7s,baz=78,slow=11,SNR=4.6							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**42.58**	**302**	P		**P**	**14 38 59.9**	**+0.4**
	0.8nm,0.5s,baz=70,slow=8.8,SNR=4.1							
	0.8nm,0.5s							
ILAR	**Eielson Array**	**43.22**	**36**	P		**P**	**14 39 05.9**	**+1.4**
	0.3nm,0.7s,baz=280,slow=9.5,SNR=6.2							
	0.3nm,0.7s							
BVAR	**Borovoye Array**	**46.63**	**308**	P		**P**	**14 39 31.7**	**+0.2**
	1.0nm,0.5s,baz=67,slow=11,SNR=5.2							
	1.0nm,0.5s							
YKA	**Yellowknife Ar**	**57.38**	**32**	P		**P**	**14 40 51.0**	**+0.5**
	0.3nm,0.7s,baz=306,slow=6.8,SNR=6.6							
	0.3nm,0.7s							
FINES	**FINESS Array B**	**62.98**	**331**	P		**P**	**14 41 27.7**	**-0.6**
	5.7nm,1.0s,baz=52,slow=9.0,SNR=7.1							
	5.7nm,1.0s							
WRA	**Warramunga Arr**	**64.15**	**188**	P		**P**	**14 41 36.4**	**-0.1**
	0.4nm,0.9s,baz=6.3,slow=6.5,SNR=2.3							
	0.4nm,0.9s							
ASAR	**Alice Springs**	**67.88**	**188**	P		**P**	**14 42 01.1**	**+0.9**
	0.3nm,0.7s,baz=4.4,slow=7.3,SNR=6.8							
	0.3nm,0.7s							
HFS	**Hagfors**	**68.00**	**335**	P		**P**	**14 42 00.5**	**-0.1**
	1.1nm,0.4s,baz=51,slow=7.6,SNR=8.5							
	1.1nm,0.4s							
AKASG	**Malin Array Be**	**69.24**	**321**	P		**P**	**14 42 07.9**	**-0.4**
	0.8nm,0.5s,baz=40,slow=6.3,SNR=4.3							
	0.8nm,0.5s							

IDC ***08*** *14:41:53.8±0.5,4˚.36S×151˚.07E,h0km,mb4.3/16, mbtmp4.3/16,MS4.1/42,Error ellipse: s-maj=14.0km s-min=8.7km az=157.0*

NEIC ***08*** *14:41:55.8±1.5,4˚.17S±0˚.08×151˚.20E±0˚.05,h10km±1km, mb4.7/26,Error ellipse: s-maj=13.4km s-min=8.2km az=169.0*

DJA ***08*** *14:41:57.3±1.4,4˚S±4˚×15˚1E±˚,h20km±11km,M5.0/21, mB5.4/6,mb4.9/21,MLv5.1/3,Mw(mB)4.9/6*

GCMT ***08*** *14:41:58.8±0.2,4˚.15S±0˚.01×151˚.08E±0˚.01,h14km±1km, MW5.0/114,Moment Tensor Solution. s29,c31; s114,c168; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.75±.13; Mθθ3.85±.12; Mϕϕ-3.10±.09; Mrθ-0.36±.21; Mθϕ0.90±.09; Mϕr-1.23±.27; Best double couple: Mo3.85600×10¹⁶ NP1:ϕs40.00000°,δ79.00000°, λ-160.00000°. NP2:ϕs306.00000°,δ70.00000°, λ-11.00000°. Principal axes: T 4.0210, Plg6.0000°, Azm172.0000°; N -0.3310, Plg67.0000°, Azm67.0000°; P -3.6900, Plg22.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 14:41:56.2±0.4,4°19S±0'.05×151°16E±0'.05,h10km,n127, σ1°§85/107,mb4.6/41,MS4.1/41,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
I40PG	**Keravat**	**0.86**	**97**	Pg		**Pg**	**14 42 10.0**	**-2.7**
	baz=263,slow=13							
KRVT	**Keravat (AS076**	**0.87**	**97**	Pg		**Pg**	**14 42 12.1**	**-1.0**
KRVT				Lg		Lg	14 42 25.7	
RABL	**Rabaul**	**1.00**	**90**			**Pg**	**14 42 14.5**	**-1.0**
MANU	**Manus Island**	**4.35**	**299**			**Pn**	**14 43 02.1**	**-0.2**
PMG	**Port Moresby**	**6.53**	**217**	Pn		**Pn**	**14 43 31.9**	**-0.3**
PMG	**Port Moresby**	**6.53**	**217**	Pn		**Pn**	**14 43 33.1**	**+0.8**
	5.3nm,0.3s,baz=46,slow=5.0,SNR=22							
PMG						Sn	**14 44 45.0**	**-1.9**
	baz=61,slow=21							
PMG						LR	LR	14 46 01.5
	comp=Z,2μm,21.8s,baz=30,slow=39							
PMG	**Port Moresby**	**6.53**	**217**	P		**Pn**	**14 43 31.7**	**-0.6**
	129nm,0.9s,2μm0.5nm							
HNR	**Honiara**	**10.16**	**121**	Pn		**Pn**	**14 44 25.2**	**+3.0**
	64nm,0.3s,baz=288,slow=6.4,SNR=2.1							
HNR						LR	LR	14 48 46.4
	comp=Z,24μm,18.7s,baz=307,slow=41							
GENI	**Genyem**	**11.08**	**278**		P	**Pn**	**14 44 35.8**	**+0.9**
	74nm,1.4s							
MTSU	**Mount Surprise**	**15.39**	**205**		P	**P**	**14 45 40.3**	**+2.1**
TV1H	**Townsville Har**	**15.57**	**196**		P	**P**	**14 45 41.7**	**+1.5**
	63nm,1.0s							
AUAYR	**Ayr State High**	**15.72**	**193**		P	**P**	**14 45 43.4**	**+1.5**
CTA	**Charters Tower**	**16.51**	**196**		Pn	**P**	**14 45 49.9**	**-0.7**
	0.4nm,0.3s,baz=22,slow=13,SNR=22							
CTA					LR	LR	14 51 51.2	
	comp=Z,484nm,19.3s,baz=18,slow=37							
CTAO	**Charters Tower**	**16.51**	**196**		Pn	**Pn**	**14 45 47.3**	**-0.7**
CTAO					IAmb	IAmb	14 45 53.5	
	comp=Z,105nm,1.1s							
CTAO	**Charters Tower**	**16.51**	**196**		P	**P**	**14 45 52.0**	**+1.4**
GUMO	**Guam**	**18.74**	**341**		LR	LR	14 53 24.7	
	comp=Z,256nm,19.0s,baz=156,slow=37							
FAKI	**Fak Fak**	**18.91**	**273**		P	**P**	**14 46 16.9**	**-0.4**
FAKI					IAmb	IAmb	14 46 18.0	
	comp=Z,39nm,1.2s							
FAKI	**Fak Fak**	**18.91**	**273**		P	**P**	**14 46 16.2**	**-1.1**
	comp=Z,30nm,1.7s							
RK1H	**Rockhampton Ha**	**19.09**	**182**		P	**Pn**	**14 46 20.9**	**+1.0**
	comp=Z,27nm,1.1s							
QIS	**Mount Isa**	**19.77**	**214**		P	**Pn**	**14 46 31.2**	**+3.0**
SAUI	**Saumlaki**	**20.10**	**258**		P	**P**	**14 46 30.7**	**+0.5**
	comp=Z,126nm,0.9s							
SIJI	**Sorong**	**20.14**	**279**		P	**P**	**14 46 31.3**	**+0.6**
	comp=Z,20nm,1.0s							
SWI	**Sorong**	**20.15**	**279**		P	**P**	**14 46 31.7**	**+0.9**
	comp=Z,31nm,1.0s							
EIDS	**Eidsvold**	**21.06**	**180**		P	**P**	**14 46 40.2**	**-0.3**
EIDS	**Eidsvold**	**21.06**	**180**		P	**P**	**14 46 41.6**	**+1.1**
BNDI	**Bandanaira**	**21.19**	**268**		P	**P**	**14 46 42.6**	**+0.5**
	comp=Z,94nm,1.2s,comp=Z,6μm							
MTN	**Manton Dam**	**21.57**	**245**		P	**P**	**14 46 45.5**	**-0.7**
MTN					IAmb	IAmb	14 46 48.6	
	comp=Z,66nm,1.4s							
WB0	**Warramunga Arr**	**22.51**	**225**		P	**P**	**14 46 54.2**	**-2.0**
WB0					IAmb	IAmb	14 47 38.4	
	comp=Z,38nm,1.1s							
WR0	**Warramunga Arr**	**22.54**	**225**		P	**P**	**14 46 53.3**	**-3.2**
WR0					IAmb	IAmb	14 47 37.1	
	comp=Z,37nm,1.2s							
WRAB	**Tennant Creek**	**22.65**	**225**		P	**P**	**14 46 54.9**	**-2.8**
WRAB					IAmb	IAmb	14 47 39.2	
	comp=Z,32nm,1.1s							
WB2	**Warramunga Arr**	**22.66**	**225**		P	**P**	**14 46 55.0**	**-2.8**
WB2					IAmb	IAmb	14 47 03.6	
	comp=Z,16nm,0.8s							
WRA	**Warramunga Arr**	**22.66**	**225**		P	**P**	**14 46 55.1**	**-2.7**
	comp=Z,6.7nm,0.7s,baz=50,slow=10,SNR=24							
WRA					S	**S**	**14 51 03.1**	**-3.1**
	comp=Z,4.7nm,1.2s,baz=45,slow=20,SNR=7.0							
	comp=Z,6.7nm,0.7s							
DZM	**Mont Dzumac**	**23.14**	**142**		P	**P**	**14 47 02.7**	**-0.2**
DZM	**Mont Dzumac**	**23.14**	**142**		*eP*	**P**	**14 47 02.0**	**-0.9**
	comp=Z,88nm,1.5s							
DZM					*eS*	**S**	**14 51 09.3**	**-5.3**
	comp=Z,292nm,24.9s							
DZM					*e*LR	LR	14 52 33.9	
	comp=Z,2μm,27.1s							
DZM	**Mont Dzumac**	**23.14**	**142**	LR		LR	14 55 34.4	
	comp=Z,644nm,19.1s,baz=318,slow=36							
QLP	**Quilpie**	**23.23**	**196**		P	**P**	**14 47 04.4**	**+0.8**
ONTNC	**Ouen Toro**	**23.32**	**142**		P	**P**	**14 47 04.6**	**0.0**
YATNC	**Mamie plateau,**	**23.41**	**141**		P	**P**	**14 47 10.1**	**+4.6**
LBMI	**Labuha**	**23.89**	**278**		P	**P**	**14 47 09.7**	**-0.6**
	comp=Z,66nm,1.6s,comp=Z,3μm							
KNRA	**Kununurra**	**24.80**	**241**		P	**P**	**14 47 18.4**	**-0.3**
SANI	**Sanana**	**25.22**	**274**		P	**P**	**14 47 22.1**	**-0.4**
	comp=Z,39nm,1.4s,comp=Z,823nm							
INKA	**Inminka**	**25.43**	**202**		P	**P**	**14 47 25.4**	**+1.2**
AS31	**Alice Springs**	**25.54**	**219**		P	**P**	**14 47 24.0**	**-1.3**
ASAR	**Alice Springs**	**25.54**	**219**		P	**P**	**14 47 24.1**	**-1.2**
ASAR	**Alice Springs**	**25.54**	**219**		P	**P**	**14 47 23.9**	**-1.4**
	comp=Z,8.9nm,1.0s,baz=55,slow=9.2,SNR=47							
ASAR					S	**S**	**14 51 52.0**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=40,slow=21,SNR=1.2							
ASAR					LR	LR	14 57 05.9	
	comp=Z,341nm,21.1s,baz=46,slow=36							
	comp=Z,8.9nm,1.0s							
ARMA	**Armidale**	**26.09**	**179**		P	**P**	**14 47 30.0**	**-0.3**
CMSA	**Cobar Meteorol**	**27.68**	**190**		P	**P**	**14 47 43.3**	**-1.2**
DAV	**Davao City (W)**	**27.87**	**294**		LR	LR	14 58 29.6	
	comp=Z,394nm,18.0s,baz=109,slow=36							
FITZ	**Fitzroy Crossi**	**28.54**	**239**		P	**P**	**14 47 51.4**	**-0.9**
STKA	**Stephens Creek**	**28.97**	**197**		P	**P**	**14 47 54.6**	**-1.4**
STKA	**Stephens Creek**	**28.97**	**197**		P	**P**	**14 47 55.0**	**-1.0**
STKA	**Stephens Creek**	**28.97**	**197**		P	**P**	**14 47 54.2**	**-1.7**
	comp=Z,7.9nm,1.0s,baz=9.1,slow=11,SNR=8.3							
STKA					LR	LR	14 58 57.4	
	comp=Z,654nm,21.6s,baz=11,slow=36							
	comp=Z,7.9nm,1.0s							
WRKA	**Warakurna**	**30.21**	**224**		P	P	14 48 14.1	+7.0
KAPI	**Kappang**	**31.31**	**267**		LR	LR	15 02 31.9	
	comp=Z,116nm,21.8s,baz=90,slow=40							
JCJ	**Chichijima**	**32.29**	**345**		LR	LR	15 00 28.9	
	comp=Z,231nm,19.7s,baz=143,slow=34							
ARPS	**Mount Arapiles**	**33.53**	**194**		P	**P**	**14 48 36.7**	**+0.6**
	comp=Z,29nm,1.0s							
TOO	**Toolangi**	**33.62**	**188**		P	**P**	**14 48 37.3**	**+0.3**
BRAT	**Ballarat**	**33.85**	**190**		P	**P**	**14 48 40.3**	**+1.4**
	comp=Z,6.2nm,0.8s							
JOW	**Kunigami**	**37.96**	**326**		LR	LR	15 01 43.7	
	comp=Z,316nm,21.2s,baz=322,slow=31							
RAO	**Raoul Island**	**38.47**	**134**		LR	LR	15 01 46.8	
	comp=Z,368nm,21.7s,baz=289,slow=31							
URZ	**Urewera**	**41.34**	**149**		LR	LR	15 05 00.3	
	comp=Z,282nm,18.9s,baz=38,slow=34							
RTZ	**Ruatahuna**	**41.55**	**149**		P	**P**	**14 49 44.0**	**-0.1**
RTZ					IAmb	IAmb	14 49 46.6	
	comp=Z,18nm,0.9s							
JNU	**Nakatsue**	**41.79**	**334**		LR	LR	15 05 11.7	
	comp=Z,197nm,21.8s,baz=156,slow=33							
MJAR	**Matsushiro Arr**	**42.29**	**344**		LR	LR	15 06 05.6	
	comp=Z,221nm,18.6s,baz=160,slow=34							
TCW	**Tory Channel**	**42.29**	**154**		P	**P**	**14 49 50.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**42.67**	**224**		LR	LR	15 07 20.0	
	comp=Z,508nm,21.4s,baz=56,slow=36							
RPZ	**Rata Peaks**	**43.11**	**159**		LR	LR	15 05 21.6	
	comp=Z,784nm,21.8s,baz=324,slow=33							
LEM	**Lembang**	**43.41**	**265**		LR	LR	15 12 23.1	
	comp=Z,91nm,19.4s,baz=102,slow=42							
KSRS	**Korea Array**	**46.74**	**334**		LR	LR	15 08 19.4	
	comp=Z,153nm,21.5s,baz=135,slow=34							
QIZ	**Qiongzhong**	**46.75**	**301**		P	**P**	**14 50 25.4**	**-0.6**
QIZ					S	**S**	**14 57 17.0**	**+0.7**
QIZ					LR	LR		
	comp=N,420nm,20.2s							
QIZ					LR	LR		
	comp=E,390nm,27.8s							
QIZ					LR	LR		
	comp=Z,310nm,16.8s							
NJ2	**Nanjing**	**47.35**	**322**	*eP*		**P**	**14 50 31.0**	**+0.5**
NJ2					pP	**sP**	**14 50 34.7**	**+0.8**
NJ2					sP	**pwP**	**14 50 36.8**	**+1.0**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
NJ2					pmax	pmax		
	comp=Z,480nm,4.3s							
ASAJ	**Asahikawa**	**48.70**	**352**		LR	LR	15 09 46.2	
	comp=Z,162nm,20.6s,baz=174,slow=34							
RAR	**Rarotonga**	**50.52**	**114**		LR	LR	15 08 41.2	
	comp=Z,82nm,21.7s,baz=320,slow=32							
USRK	**Ussuriysk Ar.**	**51.16**	**342**		LR	LR	15 11 18.9	
	comp=Z,135nm,20.2s,baz=158,slow=34							
MDJ	**Mudanjiang**	**52.30**	**341**		P	**P**	**14 51 05.5**	**-2.4**
MDJ					pP	pwP	14 51 12.6	-0.6
MDJ					sP	sP	14 51 15.6	+4.2
MDJ					PcP	**PcP**	**14 52 19.3**	**+0.2**
MDJ					PP	PP	14 52 52.3	-14
MDJ					ScP	**ScP**	**14 56 13.9**	**-2.6**
MDJ					PcS	**PcS**	**14 56 21.8**	**+4.5**
MDJ					S	**S**	**14 58 26.0**	**-7.2**
MDJ					ScS	**ScS**	**15 00 54.3**	**-3.8**
GSI	**Gunungsitoli**	**53.82**	**275**		P	**P**	**14 51 17.8**	**-2.0**
GSI	**Gunungsitoli**	**53.82**	**275**		P	**P**	**14 51 19.3**	**-0.5**
XAN	**Xi'an**	**55.06**	**317**		P	**P**	**14 51 32.7**	**+4.2**
XAN					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MLSI	**Meulaboh, Aceh**	**55.34**	**278**		P	**P**	**14 51 30.3**	**-0.5**
	comp=Z,14nm,0.5s							
CRAI	**Chiangrai**	**55.45**	**298**		P	**P**	**14 51 31.5**	**+0.1**
CRAI					IAmb	IAmb	14 51 38.1	
	comp=Z,8.9nm,1.0s							
KLR	**Kul'dur**	**55.82**	**345**		LR	LR	15 12 31.8	
	comp=Z,134nm,21.9s,baz=166,slow=33							
CMAR	**Chiang Mai Arr**	**56.14**	**295**		P	**P**	**14 51 35.8**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=111,slow=5.4,SNR=7.1							
CMAR					LR	LR	15 16 03.6	
	comp=Z,52nm,18.6s,baz=105,slow=36							
	comp=Z,2.7nm,0.9s							
CHTO	**Chiang Mai**	**56.25**	**296**		P	**P**	**14 51 40.7**	**+3.5**
PZH	**PanZhiHua**	**56.69**	**305**		P	**P**	**14 51 41.8**	**+1.4**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=Z,220nm,5.2s							
PETK	**Petropavlovsk-**	**57.35**	**5**	P		P	**14 51 44.8**	**+0.4**
	comp=Z,5.5nm,1.0s,baz=194,slow=5.5,SNR=2.9							
PETK					LR	LR	15 11 50.0	
	comp=Z,181nm,20.8s,baz=185,slow=31							
	comp=Z,5.5nm,1.0s							
HHC	**Hu-ho-hao-te**	**57.61**	**325**	*eP*		**P**	**14 51 46.8**	**+0.2**
HHC					pmax	pmax		
	comp=Z,49nm,0.5s							
HHC					pmax	pmax		
	comp=Z,340nm,4.5s							
HEH	**HeiHe**	**57.97**	**342**	*eP*		**P**	**14 51 52.5**	**+3.7**
HEH					pmax	pmax		
	comp=Z,5.0nm,0.8s							
PPT	**Papeete**	**59.47**	**108**	LR		LR	15 16 16.2	
	comp=Z,34nm,18.0s,baz=299,slow=35							
PPT2	**Papeete2**	**59.47**	**108**	*e*LR		LR	15 09 29.2	
	comp=Z,311nm,34.0s							
PPT2				*e*LR		LR	15 09 35.3	
	comp=Z,170nm,38.0s							
LZH	**Lanzhou**	**59.66**	**316**	*eP*		**P**	**14 52 03.7**	**+2.6**
LZH					pP	pwP	14 52 07.9	+1.4
LZH					pmax	pmax		
	comp=Z,6.0nm,1.2s							
SHEM	**Shemya Is, Ala**	**59.94**	**16**	LR		LR	15 11 07.8	
	comp=Z,185nm,21.3s,baz=294,slow=29							
MA2	**Magadan**	**63.57**	**360**	LR		LR	15 16 03.3	
	comp=Z,203nm,21.9s,baz=160,slow=32							
GTA	**Gaotai**	**64.11**	**318**	*eP*		**P**	**14 52 31.9**	**+1.0**
GTA					pP	pwP	14 52 37.2	+0.9
GTA					pmax	pmax		
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**64.95**	**328**	P		**P**	**14 52 36.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=116,slow=3.4,SNR=3.6							
SONM					LR	LR	15 20 34.3	
	comp=Z,155nm,21.4s,baz=70,slow=36							
	comp=Z,0.7nm,0.6s							
SEY	**Seymchan**	**66.95**	**1**	LR		LR	15 17 27.3	
	comp=Z,159nm,21.6s,baz=160,slow=32							
YAK	**Yakutsk**	**68.07**	**349**	LR		LR	15 20 26.9	
	comp=Z,6.1nm,21.8s,baz=116,slow=34							
TAOE	**Nuku Hiva Isla**	**68.33**	**98**	*e*LR		LR	15 13 50.0	
	comp=Z,221nm,24.8s							
VNDA	**Vanda**	**73.50**	**178**	P		**P**	**14 53 26.4**	**-2.2**
	comp=Z,1.9nm,0.9s,baz=335,slow=5.7,SNR=3.9							
VNDA					LR	LR	15 21 31.6	
	comp=Z,80nm,21.8s,baz=358,slow=32							
	comp=Z,1.9nm,0.9s							
WMQ	**Urumqi**	**74.19**	**318**	*eP*		**P**	**14 53 34.8**	**+1.4**
KDAK	**Kodiak Island**	**76.38**	**27**	LR		LR	15 23 48.5	
	comp=Z,94nm,19.5s,baz=256,slow=33							
TTA	**Tatalina**	**77.81**	**22**	P		**P**	**14 53 54.1**	**+0.5**
TTA					IAmb	IAmb	14 53 59.8	
	comp=Z,11nm,1.1s							
CNPM	**China Poot**	**77.89**	**26**	P		**P**	**14 53 54.9**	**+0.8**
MK31	**Makanchi Array**	**78.80**	**319**	P		**P**	**14 53 58.5**	**-0.8**
MKAR	**Makanchi Array**	**78.80**	**319**	P		**P**	**14 53 58.8**	**-0.6**
MKAR	**Makanchi Array**	**78.80**	**319**	P		**P**	**14 53 59.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=104,slow=5.8,SNR=12							
	comp=Z,0.5nm,0.6s							
MAKZ	**Makanchi**	**79.00**	**319**	P		**P**	**14 54 00.6**	**+0.1**
ZALV	**Zalesovo Beam**	**79.75**	**327**	P		**P**	**14 54 02.7**	**-1.6**
ZALV	**Zalesovo Beam**	**79.75**	**327**	P		**P**	**14 54 04.3**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=105,slow=3.5,SNR=4.5							
ZALV					LR	LR	15 28 41.3	
	comp=Z,93nm,20.5s,baz=102,slow=35							
	comp=Z,3.3nm,0.6s							
E19K	**Redstone River**	**80.11**	**18**	P		**P**	**14 54 05.0**	**-1.0**
E19K					IAmb	IAmb	14 54 12.2	
	comp=Z,6.9nm,0.9s							
KSH	**Kashi**	**81.30**	**311**	P		P	14 54 18.4	+

ASAR	**Alice Springs**	**48.62**	**259**	P	**P**	**14 57 48.2**	**-0.2**
ASAR	**Alice Springs**	**48.62**	**259**	P	**P**	**14 57 48.8**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=91,slow=7.4,SNR=76						
	comp=Z,0.8nm,0.4s						
WR0	**Warramunga Arr**	**48.86**	**264**	P	**P**	**14 57 50.4**	**+0.2**
WR0				IAmb	IAmb	14 58 28.0	
	comp=Z,8.8nm,1.4s						
WB2	**Warramunga Arr**	**49.04**	**264**	P	**P**	**14 57 52.2**	**+0.6**
WB2				IAmb	IAmb	14 58 35.8	
	comp=Z,6.0nm,1.3s						
WRAB	**Tennant Creek**	**49.04**	**264**	P	**P**	**14 57 52.6**	**+1.0**
WRAB				IAmb	IAmb	14 58 06.7	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**49.04**	**264**	P	**P**	**14 57 52.5**	**+0.9**
WB0				IAmb	IAmb	14 58 29.2	
	comp=Z,6.6nm,1.3s						
WRA	**Warramunga Arr**	**49.05**	**264**	P	**P**	**14 57 52.7**	**+1.0**
WRA	**Warramunga Arr**	**49.05**	**264**	P	**P**	**14 57 52.9**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=98,slow=7.3,SNR=52						
	comp=Z,1.0nm,0.3s						
BELA	**Belgrano 2**	**75.80**	**172**	P	**P**	**15 00 49.5**	**-0.3**

*IDC **08** 15:07:51.9±1.2, 17°.76N×40°.00E, h0km, mb3.9/16, mbtmp3.9/17, ML3.0/2, MS3.7/17, Error ellipse: s-maj=25.1km s-min=19.7km az=5.0*
*SGS **08** 15:07:55.3, 17°.86N×40°.29E, h18km, Ml2.7*
*NEIC **08** 15:07:55.3±2.0, 17°.9N±0°.1×40°.1E±0°.2, h10km±2km, mb4.4/8, Error ellipse: s-maj=33.4km s-min=17.2km az=253.0*

ISC 08 15:07:54.3±0.6, 17°.93N±0°.04×40°.38E±0°.04, h10km, n70, σ1§61/59, mb4.0/18, MS3.8/13, Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRK01	**Al Birk**	**1.17**	**73**	P		**Pb**	**15 08 15.9**	**-0.7**
AMGES	**AMGES**	**1.22**	**64**	P		**Pb**	**15 08 15.8**	**-1.6**
BRK02	**Al Birk**	**1.37**	**88**	S		**Sg**	**15 08 38.4**	**-0.1**
BRK02	**Al Birk**	**1.37**	**88**	P		**Pb**	**15 08 19.4**	**-0.7**
BRK03	**Al Birk**	**1.46**	**80**	P		**Pn**	**15 08 20.3**	**-0.4**
BRK03	**Al Birk**	**1.46**	**80**	S		**Sg**	**15 08 40.3**	**-1.0**
BRK04	**Al Birk**	**1.53**	**63**	P		**Pn**	**15 08 20.8**	**-0.8**
BRK04	**Al Birk**	**1.53**	**63**	S		**Sb**	**15 08 41.0**	**-1.2**
QNF01	**Al Qunfudhah**	**1.69**	**30**	P		**Pn**	**15 08 24.1**	**+0.3**
FRSS2	**Sair Farasan I**	**1.72**	**128**	S		**Sn**	**15 08 44.9**	**-1.4**
FRSS2	**Sair Farasan I**	**1.72**	**128**	P		**Pn**	**15 08 23.6**	**-0.7**
DRBS	**Ad Darb**	**1.83**	**93**	P		**Pn**	**15 08 25.9**	**+0.1**
DRBS	**Ad Darb**	**1.83**	**93**	S		**Sb**	**15 08 49.5**	**-1.3**
QNFDS	**Al Qunfudhah**	**1.94**	**16**	P		**Pn**	**15 08 27.6**	**+0.3**
FRSS	**Farasan al Kab**	**2.03**	**125**	P		**Pn**	**15 08 28.0**	**-0.6**
FRSS	**Farasan al Kab**	**2.03**	**125**	S		**Sn**	**15 08 52.3**	**-1.8**
ASIR3	**ASIR3**	**2.04**	**68**	S		**Sn**	**15 08 54.6**	**0.0**
ASIR3	**ASIR3**	**2.04**	**68**	P		**Pn**	**15 08 28.7**	**-0.2**
NAMS	**An Nimas**	**2.12**	**54**	P		**Pn**	**15 08 30.2**	**+0.1**
NAMS	**An Nimas**	**2.12**	**54**	S		**Sn**	**15 08 56.1**	**-0.6**
MKHL	**Mahalah**	**2.20**	**104**	P		**Pn**	**15 08 31.1**	**-0.6**
MKHL	**Mahalah**	**2.26**	**104**	S		**Sn**	**15 08 58.5**	**-1.2**
AKWA	**Algayed**	**2.31**	**106**	S		**Sn**	**15 08 59.3**	**-1.5**
AKWA	**Algayed**	**2.31**	**106**	P		**Pn**	**15 08 31.8**	**-0.6**
BAHS	**BAHS**	**2.34**	**29**	P		**Pn**	**15 08 33.5**	**+0.5**
ENMS	**ENMS**	**2.37**	**61**	S		**Sn**	**15 09 01.9**	**-0.8**
ENMS	**ENMS**	**2.37**	**61**	P		**Pn**	**15 08 34.0**	**+0.6**
ASIR1	**ASIR1**	**2.51**	**74**	P		**Pn**	**15 08 35.6**	**+0.2**
ASIR2	**ASIR2**	**2.75**	**86**	P		**Pn**	**15 08 39.6**	**+0.8**
KNGHS	**KNGHS**	**2.98**	**82**	P		**Pn**	**15 08 43.7**	**+1.8**
DJNS	**Zahran al Janu**	**3.02**	**94**	P		**Pn**	**15 08 42.3**	**-0.2**
ATD	**Arta Tunnel**	**6.79**	**159**	Pn		**Pn**	**15 09 36.5**	**+2.4**
ATD	**Arta Tunnel**	**6.79**	**159**	Pn		**Pn**	**15 09 32.9**	**-1.2**
	0.1nm,0.3s,baz=274,slow=22,SNR=2.0							
ATD				Sn		**Sn**	**15 10 56.1**	**+4.5**
	0.2nm,0.3s,baz=249,slow=23,SNR=2.0							
EIL	**Elat**	**12.70**	**338**	LR		LR	15 15 01.4	
	comp=Z,112nm,18.3s,baz=64,slow=34							
ASF	**Jabal al Asfar**	**14.53**	**348**	P		**Pn**	**15 11 20.6**	**+0.5**
	0.2nm,0.3s,baz=110,slow=8.8,SNR=3.9							
	1.4nm,0.5s							
MMAI	**Mount Meron Ar**	**15.68**	**344**	LR		LR	15 17 11.2	
	comp=Z,104nm,19.0s,baz=123,slow=36							
WSAR	**Wadi Sarin**	**17.88**	**70**	LR		LR	15 20 23.1	
	comp=Z,255nm,21.7s,baz=245,slow=41							
KMBO	**Kilima Mbogo**	**19.18**	**190**	LR		LR	15 19 26.8	
	comp=Z,237nm,19.8s,baz=82,slow=37							
GNI	**Garni**	**22.46**	**9**	P		**P**	**15 12 55.6**	**+1.8**
GNI				IAmb		IAmb	15 13 02.3	
	comp=Z,12nm,1.0s							
GNI	**Garni**	**22.46**	**9**	LR		LR	15 22 45.5	
	comp=Z,86nm,21.8s,baz=206,slow=39							
BR131	**Keskin Array S**	**22.50**	**346**	P		**P**	**15 12 53.0**	**-1.2**
BR131				IAmb		IAmb	15 13 08.7	
	comp=Z,21nm,1.5s							
BRTR	**Keskin Array B**	**22.50**	**346**	P		**P**	**15 12 54.7**	**+0.6**
	comp=Z,5.4nm,1.1s,baz=160,slow=7.8,SNR=12							
BRTR				LR		LR	15 22 14.4	
	comp=Z,89nm,18.8s,baz=136,slow=38							
	comp=Z,5.4nm,1.1s							
GEYT	**Alibeck**	**25.27**	**34**	P		**P**	**15 13 24.2**	**+3.5**
	comp=Z,2.6nm,0.7s,baz=236,slow=1.0,SNR=2.1							
GEYT				LR		LR	15 24 25.4	
	comp=Z,481nm,18.1s,baz=266,slow=39							
	comp=Z,2.6nm,0.7s							
KBZ	**Khabaz**	**25.81**	**4**	P		**P**	**15 13 28.0**	**+2.5**
	comp=Z,2.7nm,1.1s,baz=137,slow=5.6,SNR=4.4							
KBZ				LR		LR	15 24 10.2	
	comp=Z,94nm,18.3s,baz=228,slow=38							
	comp=Z,2.7nm,1.1s							
KEST	**Kesra**	**32.69**	**309**	LR		LR	15 28 15.9	
	comp=Z,117nm,18.2s,baz=235,slow=38							
AKASG	**Malin Array Be**	**33.89**	**347**	P		**P**	**15 14 36.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=163,slow=8.0,SNR=4.9							
	comp=Z,0.1nm,0.3s							
ABKAR	**Akbulak array**	**35.02**	**22**	P		**P**	**15 14 48.5**	**+1.5**
TORD	**Torodi Ar. Bea**	**37.53**	**268**	P		**P**	**15 15 05.7**	**-3.1**
	comp=Z,1.1nm,0.6s,baz=66,slow=9.9,SNR=7.5							
TORD				LR		LR	15 31 25.5	
	comp=Z,137nm,19.2s,baz=350,slow=38							
	comp=Z,1.1nm,0.6s							
GERES	**GERESS Array B**	**37.66**	**331**	P		**P**	**15 15 06.6**	**-3.1**
	comp=Z,0.8nm,0.7s,baz=161,slow=8.5,SNR=4.3							
	comp=Z,0.8nm,0.7s							
AAK	**Ala-Archa**	**37.99**	**42**	LR		LR	15 33 27.3	
	comp=Z,172nm,18.8s,baz=202,slow=40							
BVAR	**Borovoye Array**	**42.11**	**27**	P		**P**	**15 15 48.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=206,slow=9.6,SNR=3.6							
	comp=Z,1.0nm,0.8s							
ESDC	**Sonseca Array**	**43.95**	**309**	P		**P**	**15 15 58.8**	**-2.9**
	comp=Z,2.6nm,1.2s,baz=106,slow=11,SNR=4.6							
	comp=Z,2.6nm,1.2s							
KURBB	**Kurchatov Array**	**44.54**	**34**	P		**P**	**15 16 08.2**	**+2.1**
	comp=Z,1.1nm,0.9s,baz=239,slow=8.1,SNR=8.3							
	comp=Z,1.1nm,0.9s							
MAKZ	**Makanchi**	**44.65**	**40**	P		**P**	**15 16 10.3**	**+3.1**
MK31	**Makanchi Array**	**44.84**	**41**	P		**P**	**15 16 11.2**	**+2.5**
MKAR	**Makanchi Array**	**44.84**	**41**	P		**P**	**15 16 10.8**	**+2.1**
MKAR	**Makanchi Array**	**44.84**	**41**	P		**P**	**15 16 10.5**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=238,slow=7.1,SNR=6.4							
	comp=Z,0.7nm,0.8s							
DBIC	**Dimbokro**	**45.48**	**262**	LR		LR	15 35 42.1	
	comp=Z,203nm,18.6s,baz=18,slow=37							
HFS	**Hagfors**	**46.32**	**342**	P		**P**	**15 16 19.7**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=141,slow=7.4,SNR=4.3							
	comp=Z,2.4nm,0.9s							
NOA	**NORSAR Array B**	**47.79**	**341**	P		**P**	**15 16 31.3**	**-0.3**
	comp=Z,5.2nm,1.3s,baz=136,slow=7.9,SNR=2.3							
	comp=Z,5.2nm,1.3s							
ZAA0	**Zalesovo Array**	**49.56**	**33**	P		**P**	**15 16 46.5**	**+1.2**
ZAA0				IAmb		IAmb	15 16 52.7	
	comp=Z,4.0nm,0.9s							
ZALV	**Zalesovo Beam**	**49.56**	**33**	P		**P**	**15 16 46.3**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=241,slow=7.3,SNR=8.5							
	comp=Z,1.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**55.41**	**80**	P		**P**	**15 17 30.5**	**+1.2**
	comp=Z,1.2nm,1.1s,baz=302,slow=8.4,SNR=2.7							
CMAR				LR		LR	15 41 27.2	
	comp=Z,22nm,21.8s,baz=195,slow=36							
	comp=Z,1.2nm,1.1s							
SONM	**Songino Array**	**60.87**	**45**	P		**P**	**15 18 09.3**	**+2.1**
	comp=Z,2.0nm,1.1s,baz=241,slow=4.9,SNR=6.7							
	comp=Z,2.0nm,1.1s							
SPB2	**Spitsbergen Ar**	**61.40**	**355**	P		**P**	**15 18 10.5**	**+0.4**
SPITS	**Spitsbergen Ar**	**61.40**	**355**	P		**P**	**15 18 10.2**	**0.0**
	comp=Z,3.7nm,0.7s,baz=131,slow=8.9,SNR=4.7							
	comp=Z,3.7nm,0.7s							
BORG	**Borgarnes**	**61.97**	**335**	LR		LR	15 48 37.0	
	comp=Z,50nm,18.4s,baz=3.1,slow=40							
KLR	**Kul'dur**	**77.52**	**42**	LR		LR	15 56 32.5	
	comp=Z,62nm,18.5s,baz=339,slow=38							
JNU	**Nakatsue**	**80.82**	**58**	LR		LR	16 00 20.8	
	comp=Z,42nm,18.4s,baz=1.0,slow=39							
ASAJ	**Asahikawa**	**86.15**	**45**	LR		LR	16 04 56.7	
	comp=Z,50nm,18.2s,baz=232,slow=40							

*SNET **08** 15:11:29.3±1.8, 13°.13N×89°.23W, h26km, ML4.1*
*CATAC **08** 15:11:29.2±0.5, 13°.17N×89°.18W, h26km±3km, ML4.1*

ISC 08 15:11:28.3±1.5, 13°.10N±0°.06×89°.23W±0°.04, h28km±11km, n87, σ0§58/115, 2C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PANCS	**Alcalda de**	**0.52**	**5**	*e*P		**Pn**	**15 11 40.0**	**+0.1**
PANCS				*e*S		**Sn**	**15 11 48.2**	**+0.4**
PANCS	**Alcalda de**	**0.52**	**5**	*i* P		**Pn**	**15 11 40.1**	**+0.2**
PANCS				*i* S		**Sn**	**15 11 47.2**	**-0.6**
PANCS				IAML			15 11 48.9	
	comp=Z,28μm,1.0s							
LOMA	**Loma Larga**	**0.55**	**6**	*e*P		**Pn**	**15 11 40.8**	**+0.3**
LOMA				*e*S		**Sn**	**15 11 50.0**	**+1.2**
LOMA	**Loma Larga**	**0.55**	**6**	*i* P		**Pn**	**15 11 40.7**	**+0.3**
LOMA				*i* S		**Sn**	**15 11 48.1**	**-0.6**
LOMA				IAML			15 11 52.4	
	comp=Z,13μm,1.0s							
LFRS	**El Faro**	**0.55**	**17**	*e*P		**Pn**	**15 11 40.6**	**+0.1**
SJTE	**Alcalda de S**	**0.56**	**23**	*e*P		**Pn**	**15 11 40.5**	**0.0**
SJTE	**Alcalda de S**	**0.56**	**23**	*i* P		**Pn**	**15 11 40.5**	**0.0**
SJTE				*i* S		**Sn**	**15 11 48.3**	**-0.6**
SJTE				IAML			15 11 50.0	
	comp=Z,10μm,1.0s							
ITCA	**Escuela Especi**	**0.58**	**355**	*e*P		**Pn**	**15 11 40.9**	**+0.1**
ITCA	**Escuela Especi**	**0.58**	**355**	*i* P		**Pb**	**15 11 39.9**	**-0.1**
ITCA				*i* S		**Sn**	**15 11 49.1**	**-0.3**
ITCA				IAML			15 11 55.9	
	comp=Z,22μm,1.0s							
MAGS	**Ministerio de**	**0.59**	**355**	*i* P		**Pb**	**15 11 39.9**	**-0.3**
MAGS				*i* S		**Sn**	**15 11 49.4**	**-0.3**
MAGS				IAML			15 11 54.8	
	comp=Z,7μm,1.0s							
SNET	**Serv Nac Est T**	**0.59**	**360**	*e*P		**Pn**	**15 11 40.8**	**-0.1**
SNET				*e*S		**Sn**	**15 11 50.0**	**+0.4**
SNET	**Serv Nac Est T**	**0.59**	**360**	*i* P		**Pn**	**15 11 41.1**	**+0.2**
SNET				*i* S		**Sn**	**15 11 49.3**	**-0.3**
SNET				IAML			15 11 51.4	
	comp=Z,17μm,1.0s							
JAYA	**Jayaque - finc**	**0.59**	**339**	*e*P		**Pb**	**15 11 41.0**	**+0.6**
JAYA				*e*S		**Sn**	**15 11 49.5**	**-0.4**
JAYA	**Jayaque - finc**	**0.59**	**339**	*i* P		**Pb**	**15 11 41.1**	**+0.7**
JAYA				*i* S		**Sn**	**15 11 49.8**	**-0.1**
JAYA				IAML			15 11 51.0	
	comp=Z,52μm,1.0s							
UTEC	**Universidad Te**	**0.60**	**3**	*e*P		**Pn**	**15 11 41.5**	**+0.3**
UTEC	**Universidad Te**	**0.60**	**3**	*i* P		Pn	15 11 46.8	+5.7
AEIL	**Aeropuerto Ilo**	**0.61**	**10**	*e*P		**Pn**	**15 11 41.6**	**+0.4**
IGN	**Direccin Gen**	**0.62**	**5**	*e*P		**Pn**	**15 11 41.6**	**+0.3**
IGN	**Direccin Gen**	**0.62**	**5**	*i* P		**Pn**	**15 11 41.6**	**+0.3**
IGN				*i* S		**Sn**	**15 11 50.1**	**-0.2**
IGN				IAML			15 11 54.4	
	comp=Z,28μm,1.0s							
UEES	**Universidad Ev**	**0.62**	**359**	*e*P		**Pn**	**15 11 41.5**	**+0.1**
UEES	**Universidad Ev**	**0.62**	**359**	*i* P		**Pn**	**15 11 41.5**	**+0.2**
UEES				*i* S		**Sn**	**15 11 50.2**	**-0.2**
UEES				IAML			15 11 52.1	
	comp=Z,6μm,1.0s							
PMON	**Piamonte**	**0.62**	**352**	*e*P		**Pn**	**15 11 41.5**	**+0.1**
PMON	**Piamonte**	**0.62**	**352**	*i* P		**Pn**	**15 11 41.5**	**+0.1**
PMON				*i* S		**Sn**	**15 11 50.5**	**+0.1**
PMON				IAML			15 11 52.8	
	comp=Z,23μm,1.0s							
TECO	**Alcaldia de Te**	**0.62**	**45**	*e*P		**Pb**	**15 11 41.2**	**+0.5**
TECO	**Alcaldia de Te**	**0.62**	**45**	*i* P		**Pn**	**15 11 41.2**	**-0.1**
TECO				IAML			15 11 41.4	
	comp=Z,5μm,1.0s							
TECO				*i* S		**Sn**	**15 11 49.9**	**-0.4**
UDBS	**Universidad Do**	**0.62**	**7**	*e*P		**Pn**	**15 11 41.3**	**0.0**
UDBS	**Universidad Do**	**0.62**	**7**	*i* P		**Pn**	**15 11 41.6**	**+0.2**
UDBS				*i* S		**Sn**	**15 11 50.2**	**-0.2**
UDBS				IAML			15 11 54.1	
	comp=Z,10μm,1.0s							
UESS	**Universidad de**	**0.62**	**3**	*e*P		**Pn**	**15 11 41.7**	**+0.3**
BOQS	**Boqueron**	**0.64**	**356**	*e*P		**Pn**	**15 11 41.9**	**+0.2**
BOQS				*e*S		**Sn**	**15 11 51.5**	**+0.5**
SNVI	**San Vicente**	**0.64**	**36**	*e*P		**Pn**	**15 11 41.7**	**0.0**
PIC2	**El Picacho**	**0.65**	**358**	*e*P		**Pn**	**15 11 42.2**	**+0.3**
LFU	**La Fuente**	**0.66**	**10**	*e*P		**Pn**	**15 11 42.2**	**+0.3**
LFU				*e*S		**Sn**	**15 11 52.1**	**+0.7**
PAVA	**Las Pavas**	**0.68**	**25**	*e*P		**Pn**	**15 11 42.2**	**+0.1**
PAVA	**Las Pavas**	**0.68**	**25**	*i* P		**Pn**	**15 11 42.3**	**+0.1**
PAVA				*i* S		**Sb**	**15 11 50.2**	**-0.6**
PAVA				IAML			15 11 53.8	
	comp=Z,27μm,1.0s							
ALJI	**Alcalda de J**	**0.68**	**70**	*e*P		**Pb**	**15 11 41.9**	**+0.2**
ALJI	**Alcalda de J**	**0.68**	**70**	*i* P		**Pb**	**15 11 42.0**	**+0.3**
ALJI				IAML			15 11 42.5	
	comp=Z,7μm,1.0s							
ALJI				*i* S		**Sb**	**15 11 51.1**	**+0.3**
UESV	**Universidad de**	**0.69**	**39**	*e*P		**Pn**	**15 11 42.3**	**0.0**
UESV	**Universidad de**	**0.69**	**39**	*i* P		**Pn**	**15 11 42.3**	**0.0**
UESV				IAML			15 11 53.6	
	comp=Z,4μm,1.0s							
CEDA	**San Andres**	**0.72**	**347**	*e*P		**Pb**	**15 11 42.6**	**+0.2**
CEDA	**San Andres**	**0.72**	**347**	*i* P		**Pb**	**15 11 42.8**	**+0.4**
CEDA				*i* S		**Sb**	**15 11 52.0**	**0.0**
CEDA				IAML			15 11 58.8	
	comp=Z,16μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.74**	**357**	*e*P		**Pn**	**15 11 43.0**	**+0.1**
QUEZ	**Alcaldia de Qu**	**0.74**	**357**	*i* P		**Pn**	**15 11 47.7**	**+4.8**
SCLA	**Alcaldia de Sa**	**0.78**	**39**	*e*P		**Pn**	**15 11 43.8**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.78**	**39**	*i* P		**Pn**	**15 11 43.9**	**+0.4**
SCLA				*i* S		**Sb**	**15 11 52.9**	**-0.6**
SCLA				IAML			15 11 57.3	
	comp=Z,2μm,1.0s							
COEB	**Comit de Eme**	**0.79**	**59**	*e*P		**Pb**	**15 11 43.9**	**+0.3**
TECA	**Tecapa**	**0.81**	**61**	*e*P		**Pb**	**15 11 44.1**	**+0.1**
CEVE	**Cerro Verde**	**0.82**	**332**	*e*P		**Pb**	**15 11 44.2**	**0.0**
CEVE	**Cerro Verde**	**0.82**	**332**	*i* P		**Pb**	**15 11 44.3**	**0.0**
CEVE				*i* S		**Sb**	**15 11 55.3**	**+0.2**
CEVE				IAML			15 11 59.8	
	comp=Z,9μm,1.0s							
SBLS	**San Blas**	**0.83**	**333**	*e*P		**Pb**	**15 11 44.3**	**-0.1**
SBLS				*e*S		**Sn**	**15 11 56.6**	**+0.7**
PQSS	**Presa 15 de Se**	**0.84**	**51**	*e*P		**Pb**	**15 11 44.3**	**0.0**
PQSS	**Presa 15 de Se**	**0.84**	**51**	*i* S		**Sb**	**15 11 54.9**	**-0.3**
SNJE	**San Jose**	**0.85**	**335**	*e*P		**Pb**	**15 11 44.5**	**-0.2**
RTR	**El Retiro**	**0.89**	**333**	*e*P		**Pb**	**15 11 45.3**	**-0.1**
RTR				*e*S		**Sn**	**15 11 57.4**	**0.0**
UNIC	**Universidad Ca**	**0.93**	**341**	*e*P		**Pb**	**15 11 45.9**	**-0.1**
UNIC	**Universidad Ca**	**0.93**	**341**	*i* P		**Pb**	**15 11 46.1**	**+0.1**
UNIC				*i* S		**Sn**	**15 11 58.4**	**+0.2**
UNIC				IAML			15 12 00.1	
	comp=Z,1μm,1.0s							
PACA	**Pacayal**	**0.96**	**67**	*e*P		**Pn**	**15 11 46.8**	**+0.7**
PACA	**Pacayal**	**0.96**	**67**	*i* P		**Pb**	**15 11 46.6**	**+0.2**
PACA				*i* S		**Sb**	**15 11 58.5**	**-0.3**
PACA				IAML			15 12 01.4	
	comp=Z,56μm,1.0s							
NUBE	**Las Nubes**	**0.96**	**326**	*e*P		**Pn**	**15 11 45.8**	**-0.4**
NUBE	**Las Nubes**	**0.96**	**326**	*i* P		**Pn**	**15 11 45.8**	**-0.4**
NUBE				*i* S		**Sb**	**15 11 58.5**	**-0.5**
NUBE				IAML			15 12 01.3	
	comp=Z,4μm,1.0s							
LCY	**Lacayo**	**0.97**	**70**	*e*P		**Pn**	**15 11 46.8**	**+0.6**
LCY				*e*S		**Sn**	**15 11 60.0**	**+0.9**
JUCU	**Jucuarn**	**0.97**	**81**	*e*P		**Pn**	**15 11 45.9**	**-0.3**
JUCU				*e*S		**Sn**	**15 11 59.5**	**+0.5**
RANC	**El Ranchito**	**0.98**	**70**	*e*P		**Pn**	**15 11 46.8**	**+0.5**
LOAL	**Lomas de Alarc**	**1.04**	**329**	*i* P		**Pn**	**15 11 47.4**	**+0.2**
LOAL				IAML			15 12 08.7	
	comp=Z,6μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.07**	**330**	*e*P		**Pn**	**15 11 47.5**	**-0.1**
LLGN	**La Laguna**	**1.10**	**15**	*e*P		**Pn**	**15 11 47.7**	**-0.2**
LLGN	**La Laguna**	**1.10**	**15**	*i* P		**Pn**	**15 11 47.8**	**-0.1**
LLGN				IAML			15 11 47.8	
	comp=Z,750nm,1.0s							
CAHU	**Cacacuatique**	**1.20**	**56**	*e*P		**Pn**	**15 11 49.4**	**-0.1**
MTO3	**Montecristo**	**1.30**	**354**	*e*P		**Pn**	**15 11 50.6**	**-0.3**
MTO3	**Montecristo**	**1.30**	**354**	*i* P		**Pn**	**15 11 50.6**	**-0.3**
MTO3				IAML			15 12 11.1	
	comp=Z,600nm,1.0s							
LCND	**La Caada**	**1.32**	**81**	*e*P		**Pn**	**15 11 51.4**	**+0.5**
LCND				*e*P		**Pb**	**15 11 51.8**	**-0.7**
LCND	**La Caada**	**1.32**	**81**	*i* P		**Pn**	**15 11 51.4**	**+0.5**
LCND				IAML			15 12 11.4	
	comp=Z,3μm,1.0s							
CNCH	**Conchagua**	**1.37**	**82**	*e*P		**Pn**	**15 11 51.9**	**+0.2**
CNCH	**Conchagua**	**1.37**	**82**	*i* P		**Pn**	**15 11 52.0**	**+0.3**
CNCH				IAML			15 12 16.7	
	comp=Z,5μm,1.0s							
ESQI	**Esquipulas**	**1.46**	**356**	*i* P		**Pn**	**15 11 53.1**	**+0.1**
ESQI				IAML			15 12 13.6	
	comp=Z,950nm,1.0s							
AMPH	**Amapala**	**1.54**	**83**	*e*P		**Pn**	**15 11 54.2**	**+0.3**
AMPH	**Amapala**	**1.54**	**83**	*i* P		**Pn**	**15 11 54.3**	**+0.3**
CSGN	**Cosiguina Volc**	**1.63**	**94**	*i* PA			15 11 55.9	
CSGN				IAML			15 12 21.2	
	comp=Z,6μm,1.0s							
INTHN	**La Esperanza I**	**1.63**	**42**	*i* P		**Pn**	**15 11 55.5**	**+0.1**
SARH	**Santa Rosa de**	**1.73**	**15**	*i* P		**Pn**	**15 11 57.1**	**+0.4**
GUNB	**GUNB**	**1.84**	**324**	*i* PA			15 12 00.3	
GUNB				IAML			15 12 25.8	
	comp=Z,290nm,1.0s							
COMHN	**El Horno**	**2.11**	**50**	*i* P		**Pn**	**15 12 01.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.13**	**63**	*i* P		**Pn**	**15 12 02.2**	**0.0**
TGUH				IAML			15 12 10.3	
	comp=Z,440nm,1.0s							
CRIN	**San Cristobal**	**2.16**	**100**	*i* P		**Pn**	**15 12 03.0**	**+0.4**
CRIN				IAML			15 12 42.8	
	comp=Z,2μm,1.0s							
HERN	**Volcan Telica**	**2.39**	**101**	*i* P		**Pn**	**15 12 05.4**	**-0.3**
HERN				IAML			15 12 40.2	
	comp=Z,1μm,1.0s							
YUSH	**Yuscaran**	**2.47**	**70**	*i* P		**Pn**	**15 12 07.0**	**+0.1**
CNGN	**Cerro Negro**	**2.54**	**103**	*i* P		**Pn**	**15 12 07.5**	**-0.2**
CNGN				IAML			15 12 46.1	
	comp=Z,550nm,1.0s							
MOMN	**Momotombo**	**2.71**	**104**	*i* P		**Pn**	**15 12 09.9**	**-0.2**
MOMN				IAML			15 12 48.0	
	comp=Z,21nm,1.0s							

AUST 08 15:19:39.3±1.9, 17°.22S×146°.22E, h10km, Error ellipse: s-maj=23.6km s-min=6.3km az=47.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MTSU	**Mount Surprise**	**2.03**	**243**	P		Pn	15 20 14.1	+0.5
	baz=2.0							
MTSU				S		Sn	15 20 39.6	+0.6
	baz=2.0							
CTA	**Charters Tower**	**2.85**	**179**	P		Pn	15 20 24.6	-0.4
	baz=2.9							

IDC 08 15:23:22.6±2.0, 2°.38N×127°.23E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=172.8km s-min=23.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**163**	P		P	15 28 31.6	-0.2
	0.7nm,0.8s,baz=342,slow=10,SNR=7.4							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**26.70**

MK31	**Makanchi Array**	**39.85**	**311**	P	**P**	**15 38 36.9**	**-0.4**
MK31				IAmb	IAmb	15 38 37.8	
	comp=Z,2.4nm,0.5s						
MKAR	**Makanchi Array**	**39.85**	**311**	P	**P**	**15 38 36.9**	**-0.4**
MKAR	**Makanchi Array**	**39.85**	**311**	P	**P**	**15 38 37.2**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=89,slow=9.9,SNR=57						
MKAR				PcP	**PcP**	**15 40 40.5**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=76,slow=3.0,SNR=6.2						
MKAR				ScP	**ScP**	**15 44 14.0**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=98,slow=4.4,SNR=3.5						
	comp=Z,2.1nm,0.3s						
MTN	**Manton Dam**	**40.03**	**173**	P	**P**	**15 38 37.9**	**-1.1**
MAKZ	**Makanchi**	**40.07**	**311**	P	**P**	**15 38 38.8**	**-0.2**
ZAA0	**Zalesovo Array**	**40.64**	**323**	P	**P**	**15 38 42.6**	**-0.9**
ZAA0				IAmb	IAmb	15 38 44.2	
	comp=Z,5.6nm,0.6s						
ZALV	**Zalesovo Beam**	**40.64**	**323**	P	**P**	**15 38 42.2**	**-1.3**
ZALV	**Zalesovo Beam**	**40.64**	**323**	P	**P**	**15 38 43.5**	**-0.1**
	comp=Z,6.2nm,0.4s,baz=115,slow=8.9,SNR=39						
ZALV				PcP	**PcP**	**15 40 42.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=113,slow=3.4,SNR=2.4						
	comp=Z,6.2nm,0.4s						
KURK	**Kurchatov**	**43.16**	**316**	P	**P**	**15 39 03.2**	**-0.9**
KURBB	**Kurchatov Arra**	**43.20**	**316**	P	**P**	**15 39 04.1**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=106,slow=9.1,SNR=14						
	comp=Z,0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**45.04**	**181**	P	**P**	**15 39 19.4**	**+0.1**
WB0	**Warramunga Arr**	**47.28**	**170**	P	**P**	**15 39 36.1**	**-0.8**
WB0				IAmb	IAmb	15 39 44.8	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**47.45**	**170**	P	**P**	**15 39 38.8**	**+0.7**
WRA	**Warramunga Arr**	**47.45**	**170**	P	**P**	**15 39 38.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=349,slow=8.6,SNR=6.0						
	comp=Z,1.3nm,0.7s						
WB2	**Warramunga Arr**	**47.45**	**170**	P	**P**	**15 39 38.7**	**+0.6**
WB2				IAmb	IAmb	15 39 59.7	
	comp=Z,7.0nm,1.3s						
WR0	**Warramunga Arr**	**47.49**	**170**	P	**P**	**15 39 39.2**	**+0.7**
WR0				IAmb	IAmb	15 40 16.3	
	comp=Z,11nm,1.4s						
BVAR	**Borovoye Array**	**48.63**	**318**	P	**P**	**15 39 46.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=95,slow=10,SNR=7.0						
	comp=Z,0.7nm,0.3s						
BRVK	**Borovoye**	**48.70**	**318**	P	**P**	**15 39 47.2**	**-0.1**
BRVK				IAmb	IAmb	15 39 48.3	
	comp=Z,5.7nm,1.3s						
COCO	**West Island**	**48.70**	**220**	P	**P**	**15 39 46.8**	**-1.0**
AS31	**Alice Springs**	**51.05**	**171**	P	**P**	**15 40 05.9**	**+0.5**
ASAR	**Alice Springs**	**51.05**	**171**	P	**P**	**15 40 05.6**	**+0.1**
ASAR	**Alice Springs**	**51.05**	**171**	P	**P**	**15 40 06.7**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=359,slow=14,SNR=28						
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**54.97**	**313**	P	**P**	**15 40 33.6**	**-0.3**
F15K	**North Star Dit**	**56.78**	**27**	P	**P**	**15 40 47.5**	**+1.0**
F15K				IAmb	IAmb	15 41 25.1	
	comp=Z,12nm,1.4s						
L14K	**Kuka Creek**	**57.27**	**33**	P	**P**	**15 40 51.0**	**+1.0**
K15K	**Wolf Creek Mou**	**57.86**	**32**	P	**P**	**15 40 55.0**	**+0.9**
J16K	**Anvik River**	**58.33**	**30**	P	**P**	**15 40 57.9**	**+0.6**
J16K				IAmb	IAmb	15 41 02.4	
	comp=Z,12nm,1.4s						
C18K	**Utukok River**	**58.46**	**24**	P	**P**	**15 40 58.7**	**+0.5**
L16K	**Owhat River**	**58.82**	**32**	P	**P**	**15 41 01.1**	**+0.4**
L16K				IAmb	IAmb	15 41 41.0	
	comp=Z,14nm,1.5s						
K17K	**Iditarod**	**59.37**	**31**	P	**P**	**15 41 05.6**	**+1.1**
CHGN	**Chignik**	**59.56**	**39**	P	**P**	**15 41 05.4**	**-0.5**
M17K	**Holitna River**	**59.80**	**33**	P	**P**	**15 41 08.8**	**+1.2**
N17K	**Nushagak Hills**	**59.96**	**34**	P	**P**	**15 41 09.6**	**+1.0**
L18K	**Granite Mounta**	**60.13**	**32**	P	**P**	**15 41 10.7**	**+0.9**
L18K				IAmb	IAmb	15 41 40.6	
	comp=Z,7.6nm,1.5s						
TTA	**Tatalina**	**60.41**	**31**	P	**P**	**15 41 12.4**	**+0.6**
TTA				IAmb	IAmb	15 41 13.2	
	comp=Z,5.6nm,1.3s						
STKA	**Stephens Creek**	**60.44**	**165**	P	**P**	**15 41 12.7**	**+0.6**
STKA	**Stephens Creek**	**60.44**	**165**	P	**P**	**15 41 13.3**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=312,slow=5.4,SNR=3.9						
	comp=Z,1.0nm,0.6s						
J19K	**Poorman**	**60.55**	**30**	P	**P**	**15 41 13.5**	**+0.9**
J19K				IAmb	IAmb	15 41 14.3	
	comp=Z,4.2nm,1.1s						
SVW2	**Sparrevohn**	**60.71**	**33**	P	**P**	**15 41 14.9**	**+1.2**
SVW2				IAmb	IAmb	15 41 29.7	
	comp=Z,12nm,1.4s						
IMAR	**Indian Mountai**	**61.27**	**27**	P	**P**	**15 41 18.2**	**+0.8**
D22K	**Ayikyak River**	**61.56**	**24**	P	**P**	**15 41 20.6**	**+1.2**
H21K	**Melozitna Rive**	**61.67**	**28**	P	**P**	**15 41 21.1**	**+1.0**
P19K	**Oil Pt**	**62.00**	**35**	P	**P**	**15 41 22.6**	**+0.1**
ILSW	**Iliamna Southw**	**62.01**	**34**	P	**P**	**15 41 22.4**	**-0.2**
RSO	**Redoubt South**	**62.15**	**34**	P	**P**	**15 41 24.2**	**+0.6**
OHAK	**Old Harbor**	**62.27**	**37**	P	**P**	**15 41 24.3**	**+0.1**
SKT	**Skwentna**	**62.56**	**32**	P	**P**	**15 41 26.1**	**0.0**
SKT				IAmb	IAmb	15 41 43.4	
	comp=Z,5.0nm,1.3s						
KDAK	**Kodiak Island**	**62.57**	**37**	P	**P**	**15 41 26.2**	**0.0**
KTH	**Kantishna Hill**	**62.66**	**30**	P	**P**	**15 41 27.3**	**+0.5**
KTH				IAmb	IAmb	15 41 37.7	
	comp=Z,3.8nm,1.2s						
D24K	**Happy Valley**	**62.93**	**24**	P	**P**	**15 41 29.8**	**+1.4**
D24K				IAmb	IAmb	15 41 44.3	
	comp=Z,6.6nm,1.4s						
SUA	**Susitna One**	**63.00**	**32**	P	**P**	**15 41 29.2**	**0.0**
SUA				IAmb	IAmb	15 41 31.1	
	comp=Z,7.4nm,0.9s						
NEA2	**Nenana**	**63.35**	**29**	P	**P**	**15 41 31.9**	**+0.7**
NEA2				IAmb	IAmb	15 41 32.7	
	comp=Z,5.1nm,0.7s						
F24K	**Squaw Lake**	**63.46**	**25**	P	**P**	**15 41 33.2**	**+1.3**
F24K				IAmb	IAmb	15 42 06.2	
	comp=Z,3.9nm,1.4s						
RC01	**Rabbit Creek A**	**63.53**	**33**	P	**P**	**15 41 32.2**	**-0.3**
RND	**Reindeer**	**63.60**	**30**	P	**P**	**15 41 32.9**	**-0.1**
CCB	**Clear Creek Bu**	**63.88**	**29**	P	**P**	**15 41 35.0**	**+0.3**
ILAR	**Eielson Array**	**64.25**	**28**	P	**P**	**15 41 36.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=245,slow=4.7,SNR=13						
	comp=Z,0.4nm,0.5s						
SCM	**Sheep Creek Mo**	**64.55**	**32**	P	**P**	**15 41 39.0**	**-0.3**
BMAR	**Burnt Mountain**	**64.73**	**25**	P	**P**	**15 41 41.7**	**+1.4**
M24K	**Tolsona, Glenn**	**65.04**	**31**	P	**P**	**15 41 43.0**	**+0.6**
KLU	**Klutina**	**65.28**	**32**	P	**P**	**15 41 44.3**	**+0.3**
KLU				IAmb	IAmb	15 41 56.9	
	comp=Z,7.1nm,1.4s						
SCRK	**Sand Creek**	**65.64**	**29**	P	**P**	**15 41 46.0**	**-0.3**
SCRK				IAmb	IAmb	15 41 50.2	
	comp=Z,4.8nm,1.4s						
J26L	**Joseph Creek**	**65.71**	**28**	P	**P**	**15 41 46.4**	**-0.3**
N25K	**Chitina, Valde**	**65.87**	**32**	P	**P**	**15 41 48.3**	**+0.5**
N25K				IAmb	IAmb	15 41 53.7	
	comp=Z,9.6nm,1.4s						
GLB	**Gilahina Butte**	**66.28**	**32**	P	**P**	**15 41 50.7**	**+0.4**
GLB				IAmb	IAmb	15 42 19.1	
	comp=Z,9.2nm,1.4s						
E28M	**Babbage River**	**66.34**	**24**	P	**P**	**15 41 51.4**	**+0.9**
M26K	**Nabesna, AK**	**66.43**	**31**	P	**P**	**15 41 51.9**	**+0.6**
M26K				IAmb	IAmb	15 41 52.8	
	comp=Z,4.2nm,0.8s						
VRDI	**Verde Repeater**	**66.50**	**32**	P	**P**	**15 41 52.0**	**+0.2**
VRDI				IAmb	IAmb	15 42 21.1	
	comp=Z,6.5nm,1.2s						
EGAK	**Eagle**	**66.65**	**28**	P	**P**	**15 41 53.2**	**+0.6**
EGAK				IAmb	IAmb	15 41 53.5	
	comp=Z,3.0nm,0.9s						
CRQM	**Cirque**	**66.76**	**32**	P	**P**	**15 41 53.8**	**+0.2**
BCAR	**Beaver Creek A**	**66.81**	**30**	P	**P**	**15 41 54.6**	**+0.9**
TGL	**Tana Glacier**	**66.91**	**32**	P	**P**	**15 41 54.5**	**+0.1**
CTGM	**Chitina Glacie**	**67.56**	**32**	P	**P**	**15 41 59.2**	**+0.6**
CTGM				IAmb	IAmb	15 42 02.6	
	comp=Z,12nm,1.3s						
SPITS	**Spitsbergen Ar**	**67.60**	**348**	P	**P**	**15 41 58.0**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=49,slow=4.6,SNR=7.6						
	comp=Z,4.6nm,0.9s						
EPYK	**Eagle Plains**	**67.99**	**26**	P	**P**	**15 42 01.7**	**+0.7**
EPYK				IAmb	IAmb	15 42 02.2	
	comp=Z,7.4nm,0.8s						
G30M	**tAoh Zraii Nji**	**68.00**	**25**	P	**P**	**15 42 01.4**	**+0.3**
G30M				IAmb	IAmb	15 42 02.1	
	comp=Z,3.5nm,0.8s						
L29M	**L29M**	**68.39**	**29**	P	**P**	**15 42 05.2**	**+1.5**
L29M				IAmb	IAmb	15 42 06.4	
	comp=Z,4.6nm,1.0s						
M29M	**Somme Creek**	**68.45**	**30**	P	**P**	**15 42 04.9**	**+0.8**
M29M				IAmb	IAmb	15 42 29.9	
	comp=Z,7.1nm,1.4s						
I30M	**Mount Dempster**	**68.48**	**27**	P	**P**	**15 42 05.0**	**+0.8**
I30M				IAmb	IAmb	15 42 05.9	
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**68.55**	**23**	P	**P**	**15 42 05.0**	**+0.6**
J30M	**Hart River**	**68.70**	**27**	P	**P**	**15 42 06.6**	**+1.0**
M30M	**Minto, Yukon**	**69.14**	**29**	P	**P**	**15 42 09.4**	**+1.1**
HYT	**Haines Junctio**	**69.39**	**31**	P	**P**	**15 42 11.2**	**+1.3**
HYT				IAmb	IAmb	15 42 39.5	
	comp=Z,11nm,1.5s						
P29M	**Windy Craggy**	**69.67**	**33**	P	**P**	**15 42 12.8**	**+1.3**
P29M				IAmb	IAmb	15 42 54.5	
	comp=Z,17nm,1.5s						
A36M	**Sachs Harbour**	**69.75**	**18**	P	**P**	**15 42 12.2**	**+0.5**
M31M	**Drury Creek, Y**	**70.32**	**29**	P	**P**	**15 42 16.3**	**+0.9**
M31M				IAmb	IAmb	15 42 20.0	
	comp=Z,8.9nm,1.5s						
WHY	**Whitehorse**	**70.66**	**31**	P	**P**	**15 42 18.2**	**+0.6**
WHY				IAmb	IAmb	15 42 24.3	
	comp=Z,8.7nm,1.5s						
C36M	**Paulatuk**	**71.29**	**21**	P	**P**	**15 42 21.1**	**+0.1**
C36M				IAmb	IAmb	15 42 21.8	
	comp=Z,3.2nm,0.6s						
FIA1	**FINESS Array S**	**71.34**	**330**	P	**P**	**15 42 19.8**	**-1.7**
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**15 42 19.7**	**-1.8**
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**15 42 20.5**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=76,slow=5.9,SNR=6.8						
	comp=Z,0.7nm,0.4s						
P33M	**Teslin, Yukon**	**71.77**	**31**	P	**P**	**15 42 25.2**	**+0.9**
AKASG	**Malin Array Be**	**73.89**	**319**	P	**P**	**15 42 36.8**	**0.0**
	comp=Z,0.5nm,0.4s,baz=67,slow=5.9,SNR=4.0						
	comp=Z,0.5nm,0.4s						
BRTR	**Keskin Array B**	**75.34**	**307**	P	**P**	**15 42 45.5**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=54,slow=7.3,SNR=2.6						
	comp=Z,0.7nm,0.9s						
BURAR	**Bucovina Array**	**77.58**	**317**	P	**P**	**15 42 58.2**	**+0.3**
YKA	**Yellowknife Ar**	**78.23**	**25**	P	**P**	**15 43 01.5**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=302,slow=5.7,SNR=26						
	comp=Z,1.9nm,0.8s						
G08A	**Pilot Rock**	**86.41**	**40**	P	**P**	**15 43 45.0**	**+0.9**
FCC	**Fort Churchill**	**87.91**	**20**	P	**P**	**15 43 50.9**	**0.0**
FCC				IAmb	IAmb	15 43 51.5	
	comp=Z,3.5nm,0.8s						
FFC	**Flin Flon**	**88.34**	**26**	P	**P**	**15 43 53.3**	**+0.3**
FFC				IAmb	IAmb	15 43 54.0	
	comp=Z,4.4nm,0.8s						
PDAR	**Pinedale Array**	**93.27**	**38**	P	**P**	**15 44 17.1**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=311,slow=4.4,SNR=3.7						
	comp=Z,0.4nm,0.8s						

KRSC 08 15:34:24.4±1.2, 48.88N×156.98E, h41km±22km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SKR	**Severo-Kuril's**	**1.89**	**343**	*e*P		Pn	15 34 55.1	+1.0
SKR				*e*S		Sn	15 35 18.1	+1.4
PAU	**Pauzhetka**	**2.59**	**358**	*e*P		Pn	15 35 06.8	+3.0
PAU				*e*S		Sn	15 35 39.0	+5.0
KDTR	**Khodutka, Kamc**	**3.01**	**13**	*e*P		Pn	15 35 12.7	+3.1
KDTR				*e*S		Sn	15 35 49.1	+4.6
ASAK	**Asacha**	**3.56**	**9**	*e*P		Pn	15 35 20.9	+3.8
GRL	**Gorelyy**	**3.74**	**10**	*e*P		Pn	15 35 23.6	+3.9
GRL				*e*S		Sn	15 36 07.9	+5.4
KRMR	**Karymshinskiy**	**4.02**	**10**	*e*P		Pn	15 35 27.1	+3.6
PET	**Petropavlovsk**	**4.28**	**14**	*e*P		Pn	15 35 30.8	+3.8
PET				*e*S		Sn	15 36 20.3	+4.7
DALK	**Dalny**	**4.30**	**14**	*e*P		Pn	15 35 31.5	+4.2
DALK				*e*S		Sn	15 36 21.2	+5.0
UGLR	**Uglovaya**	**4.49**	**14**	*e*P		Pn	15 35 34.7	+4.8
AVH	**Avacha**	**4.53**	**14**	*e*P		Pn	15 35 35.5	+5.1
SMAR	**Somma**	**4.54**	**14**	*e*P		Pn	15 35 35.0	+4.3
KOK	**Koryaka**	**4.54**	**13**	*e*P		Pn	15 35 35.9	+5.2
KRX	**Arik**	**4.61**	**13**	*e*P		Pn	15 35 36.5	+4.9
SPN	**Mys Shipunski**	**4.64**	**23**	*e*P		Pn	15 35 36.5	+4.6
SPN				*e*S		Sn	15 36 29.2	+4.8
KBTR	**Krutoberegovo**	**8.15**	**24**	*e*P		Pn	15 36 25.5	+5.4

*IDC **08** 15:51:02.1±0.9, 2.6°60N×95.5°85E, h0km, mb4.1/17, mbtmp4.1/18, ML4.7/1, MS3.5/13, Error ellipse: s-maj=31.9km s-min=15.4km az=51.0*
*DJA **08** 15:51:04.8±0.7, 3.7°N±2.1×9.6°E±1.1°, h16km±4km, M4.7/14, mB5.3/3, mb4.6/14, MLv4.7/14, Mw(mB)4.7/3*
*NEIC **08** 15:51:06.2±1.5, 2.5°3N±0.8°0×95.8°E±0.1°, h27km±6km, mb4.4/36, Error ellipse: s-maj=18.0km s-min=8.8km az=62.0*

ISC 08 15:51:05.6±0.5, 2.5°5N±0.1°05×95.3°83E±0.1°06, h25km, n118, σθ92/103, mb4.5/36, MS3.6/11, 1C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SNSI	**Sinabang, Aceh**	**0.52**	**105**	P		**Pn**	**15 51 16.8**	**-0.6**
SNSI				S		**Sn**	**15 51 25.5**	**0.0**
MLSI	**Meulaboh, Aceh**	**1.80**	**19**	P		**Pn**	**15 51 35.1**	**0.0**
MLSI				S		**Sb**	**15 51 59.6**	**-0.5**
GSI	**Gunungsitoli**	**2.14**	**125**	Pn		**Pn**	**15 51 39.9**	**+0.1**
GSI	**Gunungsitoli**	**2.14**	**125**	P		**Pn**	**15 51 40.7**	**+0.9**
GSI	**Gunungsitoli**	**2.14**	**125**	P		**Pn**	**15 51 40.5**	**+0.7**
GSI				S		**Sn**	**15 52 05.5**	**-0.1**
KCSI	**Kotacane, Aceh**	**2.17**	**63**	P		**Pn**	**15 51 40.6**	**+0.4**
KCSI				S		**Sb**	**15 52 10.4**	**-0.3**
LHMI	**Lhok Sumawe**	**2.89**	**23**	Pn		**Pn**	**15 51 50.2**	**+0.2**
LHMI	**Lhok Sumawe**	**2.89**	**23**	P		**Pn**	**15 51 51.6**	**+1.5**
LHMI	**Lhok Sumawe**	**2.89**	**23**	P		**Pn**	**15 51 50.5**	**+0.4**
RPSI	**Rantau Prapat**	**3.10**	**87**	Pn		**Pn**	**15 51 53.5**	**+0.6**
PSI	**Prapat**	**3.10**	**85**	P		**Pn**	**15 51 54.4**	**+1.2**
TRSI	**Tarutung**	**3.17**	**99**	P		**Pn**	**15 51 55.8**	**+1.7**
PBSI	**Pulau Batu**	**3.56**	**136**	P		**Pn**	**15 52 00.8**	**+1.4**
KULM	**Kulim**	**5.53**	**60**	Pn		**Pn**	**15 52 26.5**	**+0.1**
KULM	**Kulim**	**5.53**	**60**	P		**Pn**	**15 52 26.7**	**+0.3**
	115nm,0.9s,894nm0.3nm							
BKNI	**Bangkinang**	**5.66**	**113**	P		**Pn**	**15 52 29.4**	**+1.2**
	71nm,0.5s,0.4nm							
PDSI	**Padang**	**5.77**	**127**	P		**Pn**	**15 52 30.7**	**+1.0**
	27nm,2.6s,0.2nm							
SKLT	**Songkhla**	**6.62**	**46**	P		**Pn**	**15 52 42.3**	**+0.8**
SKLT	**Songkhla**	**6.62**	**46**	P		**Pn**	**15 52 41.3**	**-0.2**
	71nm,1.1s,2μm0.3nm							
PPSI	**Pulau Pagai**	**6.73**	**142**	P		**Pn**	**15 52 44.2**	**+1.3**
	151nm,1.2s,0.6nm							
SRIT	**Nakonsritamara**	**7.08**	**32**	P		**Pn**	**15 52 50.4**	**+2.6**
KRJI	**Kerinci**	**7.28**	**129**	P		**Pn**	**15 52 52.6**	**+2.1**
	132nm,0.5s,0.7nm							
SURA	**Surathani**	**7.58**	**30**	P		**Pn**	**15 52 54.4**	**-0.2**
MYKOM	**Kota Tinggi**	**8.05**	**95**			**Pn**	**15 53 00.7**	**-0.4**
MYKOM	**Kota Tinggi**	**8.05**	**95**	P		**Pn**	**15 53 02.3**	**+1.2**
	21nm,0.7s							
EGSI	**Enggano, Bengk**	**10.15**	**141**	P		**Pn**	**15 53 30.3**	**+0.4**
	87nm,0.7s							
KASI	**Kota Agung**	**11.80**	**133**	P		**Pn**	**15 53 51.6**	**-0.9**
	23nm,1.1s							
COCO	**West Island**	**14.68**	**176**	P		**Pn**	**15 54 31.5**	**-0.3**
LEM	**Lembang**	**15.01**	**128**	LR		LR	16 00 56.1	
	comp=Z,201nm,21.1s,baz=270,slow=40							
PALK	**Pallekele**	**15.78**	**288**	LR		LR	16 00 17.9	
	comp=Z,140nm,20.5s,baz=220,slow=35							
UBPT	**Khong Chiam**	**15.82**	**36**	P		**Pn**	**15 54 44.5**	**-2.4**
UBPT				IAmb		IAmb	15 54 47.8	
	comp=Z,37nm,1.4s							
CM31	**Chiang Mai Arr**	**16.10**	**11**	Pn		**Pn**	**15 54 49.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.10**	**11**	Pn		**Pn**	**15 54 49.2**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=197,slow=11,SNR=28							
CMAR				LR		LR	16 00 40.5	
	comp=Z,102nm,21.8s,baz=200,slow=36							
	comp=Z,3.5nm,0.6s							
PHRA	**Phrae**	**16.43**	**15**	Pn		**Pn**	**15 54 53.2**	**-1.4**
CHTO	**Chiang Mai**	**16.45**	**10**	Pn		**Pn**	**15 54 53.3**	**-1.6**
CHTO	**Chiang Mai**	**16.45**	**10**	P		**Pn**	**15 54 53.7**	**-1.2**
	comp=Z,7.0nm,1.0s							
SLVN	**Son La**	**20.26**	**22**	P		**P**	**15 55 39.2**	**-0.2**
KKM	**Kota Kinabalu**	**20.62**	**80**	P		**P**	**15 55 43.8**	**+0.3**
KKM				IAmb		IAmb	15 56 11.9	
	comp=Z,22nm,1.1s							
QIZ	**Qiongzhong**	**21.37**	**39**	P		**P**	**15 55 52.8**	**+1.5**
QIZ				S		**S**	**15 59 48.5**	**+1.0**
QIZ				LR		LR		
	comp=N,340nm,13.5s							
QIZ				LR		LR		
	comp=E,400nm,17.5s							
QIZ				LR		LR		
	comp=Z,320nm,16.1s							
BOK	**Bokaro**	**23.21**	**336**	*e*P		**P**	**15 56 11.5**	**+0.7**

PZH	**PanZhiHua**	**24.49**	**13**	P		**P**	**15 56 22.5**	**-0.6**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,140nm,4.4s								
TOLI2	**Tolitoli**	**24.98**	**93**	P		**P**	**15 56 28.0**	**+0.4**
TOLI2				IAmb		IAmb	15 56 28.9		
	comp=Z,7.6nm,0.7s								
H08S2	**Diego Garcia H**	**25.39**	**246**	T		T	16 22 43.7		
	baz=67,slow=76,SNR=806								
H08S3	**Diego Garcia H**	**25.39**	**246**	T		T	16 22 43.9		
	baz=67,slow=76,SNR=1419								
H08S1	**Diego Carcia H**	**25.40**	**246**	T		T	16 22 45.0		
	baz=67,slow=76,SNR=187								
BKSI	**Bulukumba**	**25.50**	**108**	P		**P**	**15 56 33.5**	**+1.2**
	comp=Z,19nm,1.0s								
LSA	**Lhasa**	**27.37**	**351**	P		**P**	**15 56 47.9**	**-1.6**
LSA				IAmb		IAmb	15 56 51.7		
	comp=Z,9.8nm,0.8s								
DAV	**Davao City (W)**	**29.98**	**80**	LR		LR	16 12 34.3		
	comp=Z,64nm,18.0s,baz=8.5,slow=43								
LZH	**Lanzhou**	**34.19**	**12**	*e*P		**P**	**15 57 48.9**	**-0.4**
LZH				pP		pP	15 57 57.8	+1.0	
LZH				pmax		pmax			
	comp=Z,19nm,1.3s								
LYN	**LuoYang**	**35.41**	**24**	*i*P		**P**	**15 58 00.1**	**+0.4**
LYN				pP		pP	15 58 06.7	-0.5	
LYN				pmax		pmax			
	comp=Z,32nm,0.8s								
GTA	**Gaotai**	**36.87**	**5**	P		**P**	**15 58 11.8**	**-0.5**
GTA				pP		pP	15 58 18.6	-1.2	
GTA				pmax		pmax			
	comp=Z,12nm,0.8s								
NWAO	**Narrogin (SRO)**	**40.68**	**152**	LR		LR	16 13 16.8		
	comp=Z,47nm,19.8s,baz=291,slow=33								
HHC	**Hu-ho-hao-te**	**40.69**	**18**	*e*P		**P**	**15 58 47.5**	**+3.2**
HHC				pmax		pmax			
	comp=Z,16nm,0.6s								
HHC				pmax		pmax			
	comp=Z,220nm,4.6s								
KSH	**Kashi**	**40.99**	**336**	P		**P**	**15 58 46.1**	**-0.7**
KSH				pP		sP	15 58 57.5	+0.1	
H01W3	**Cape Leeuwin H**	**41.01**	**157**	T		T	16 42 21.5		
	baz=332,slow=76,SNR=265								
H01W2	**Cape Leeuwin H**	**41.03**	**157**	T		T	16 42 22.4		
	baz=332,slow=76,SNR=324								
H01W1	**Cape Leeuwin H**	**41.03**	**157**	T		T	16 42 25.2		
	baz=332,slow=76,SNR=361								
BJT	**Baijiatuau**	**41.61**	**24**	P		**P**	**15 58 51.9**	**+0.2**
WMQ	**Urumqi**	**41.73**	**351**	*e*P		**P**	**15 58 53.8**	**+1.1**
NRN	**Naryn**	**42.63**	**338**	P		**P**	**15 59 00.9**	**+0.6**
SIMJ	**Simiganj**	**43.49**	**329**	P		**P**	**15 59 05.5**	**-1.7**
SIMJ				IAmb		IAmb	15 59 19.4		
	comp=Z,7.2nm,1.1s								
BTK	**Batken**	**43.68**	**332**	P		**P**	**15 59 10.0**	**+1.4**
BTK				IAmb		IAmb	15 59 24.4		
	comp=Z,10nm,1.1s								
ARSB	**Arslanbob**	**43.74**	**335**	P		**P**	**15 59 09.6**	**+0.4**
WB0	**Warramunga Arr**	**43.88**	**122**	P		**P**	**15 59 10.5**	**+0.1**
WB0				IAmb		IAmb	15 59 41.4		
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**43.91**	**122**	P		**P**	**15 59 11.0**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=299,slow=9.3,SNR=7.6								
	comp=Z,2.1nm,1.0s								
WB2	**Warramunga Arr**	**43.92**	**122**	P		**P**	**15 59 10.8**	**0.0**
WB2				IAmb		IAmb	15 59 35.8		
	comp=Z,11nm,1.4s								
WR0	**Warramunga Arr**	**44.09**	**122**	P		**P**	**15 59 12.0**	**-0.1**
WR0				IAmb		IAmb	15 59 44.7		
	comp=Z,8.3nm,1.1s								
TJN	**Taejon**	**44.50**	**37**	P		**P**

comp=Z,0.6nm,0.3s,baz=138,slow=4.3,SNR=1.9
comp=Z,0.6nm,0.3s
BRTR Keskin Array B 67.19 312 P **P** **16 01 58.2 +0.2**
comp=Z,0.1nm,0.3s,baz=65,slow=8.3,SNR=3.6
comp=Z,0.1nm,0.3s
MA2 Magadan 70.73 26 LR LR 16 36 51.7
comp=Z,61nm,19.7s,baz=45,slow=39
AKASG Malin Array Be 73.36 322 P **P** **16 02 35.3 0.0**
comp=Z,0.3nm,0.5s,baz=100,slow=5.0,SNR=4.2
comp=Z,0.3nm,0.5s
LVZ Lovozero 77.11 340 P **P** **16 02 56.9 +0.3**
FIA1 FINESS Array S 78.18 333 P **P** **16 03 02.9 +0.3**
FINES FINESS Array B 78.18 333 P **P** **16 03 02.5 -0.1**
comp=Z,2.6nm,0.8s,baz=90,slow=4.2,SNR=4.6
comp=Z,2.6nm,0.8s
ARCES ARCESS Array B 80.81 340 P **P** **16 03 17.4 +0.6**
comp=Z,4.8nm,1.0s,baz=83,slow=3.7,SNR=3.9
comp=Z,4.8nm,1.0s
RPZ Rata Peaks 81.12 135 LR LR 16 38 50.2
comp=Z,35nm,19.9s,baz=270,slow=35
URZ Urewera 84.72 129 LR LR 16 42 07.1
comp=Z,29nm,20.8s,baz=285,slow=36
TXAR Lajitas Array 143.21 29 PKP **PKPdf** **16 10 37.7 -0.8**
comp=Z,0.2nm,0.7s,baz=236,slow=1.0,SNR=2.3

*NEIC **08** 16:00:46.9±0.6, 19°.295N±0°.007×155°.380W±0°.008, h10km±1km, Error ellipse: s-maj=1.1km s-min=0.9km az=214.0*

HVO 08 16:00:46.9±0.9, 19°.296N±0°.010×155°.387W±0°.008, h4km±3km, ML2.7/34, ML2.6/52(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=171.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.06**	**190**		Pg	16 00 48.9	+0.6
HLP	**Hilina Pali**	**0.07**	**90**		Sg	16 00 51.0	+1.3
HLP	**Hilina Pali**	**0.07**	**90**	Pg	Pg	16 00 49.2	+0.6
HLP	**Hilina Pali**	**0.07**	**90**	IAML		16 00 51.2	
HLP	comp=E,11μm,0.3s			IAML		16 00 51.4	
	comp=N,9μm,0.2s						
AIN	**Ainahou**	**0.10**	**319**		Pg	16 00 50.0	+0.9
AIN					Sg	16 00 52.4	+1.8
AIN	**Ainahou**	**0.10**	**319**	IAML		16 00 52.7	
AIN	comp=N,12μm,0.4s			IAML		16 00 52.8	
	comp=E,4μm,0.2s						
SDHHI	**Sand Hill**	**0.13**	**43**		Pg	16 00 50.0	+0.5
SDHHI	**Sand Hill**	**0.13**	**43**	IAML		16 00 53.6	
SDHHI	comp=E,8μm,0.5s			IAML		16 00 53.9	
	comp=N,6μm,0.4s						
WRMHI	**West Rim**	**0.14**	**37**		Pg	16 00 50.1	+0.4
WRMHI					Sg	16 00 52.5	+0.9
WRMHI	**West Rim**	**0.14**	**37**	IAML		16 00 54.0	
WRMHI	comp=E,4μm,0.3s			IAML		16 00 54.3	
	comp=N,4μm,0.4s						
RIM	**Rim**	**0.15**	**47**		Pg	16 00 50.5	+0.6
RIM					Sg	16 00 52.7	+0.9
RIM	**Rim**	**0.15**	**47**	IAML		16 00 53.7	
RIM	comp=E,4μm,0.6s			IAML		16 00 54.9	
	comp=N,5μm,0.6s						
KKO	**Keanakako`i**	**0.15**	**48**		Pg	16 00 50.5	+0.5
KKO					Sg	16 00 53.2	+1.1
KKO	**Keanakako`i**	**0.15**	**48**	IAML		16 00 54.7	
KKO	comp=N,4μm,0.5s			IAML		16 00 55.0	
	comp=E,4μm,0.5s						
NPH	**North Pit**	**0.15**	**41**		Pg	16 00 50.1	+0.1
NPH				IAML		16 00 54.5	
	comp=N,1μm,0.3s						
UWE	**Uwekahuna**	**0.15**	**35**	Pg	Pg	16 00 50.1	0.0
UWE				IAML		16 00 54.1	
UWE	comp=N,1μm,0.6s			IAML		16 00 54.9	
	comp=E,2μm,0.7s						
OBL	**Observatory Le**	**0.15**	**39**	Pg	Pg	16 00 49.8	-0.3
OBL				IAML		16 00 54.0	
OBL	comp=E,3μm,0.7s			IAML		16 00 54.0	
	comp=N,3μm,0.5s						
UWB	**Uwekahuna B**	**0.16**	**39**		Pg	16 00 50.5	+0.2
BYL	**Byron's Ledge**	**0.17**	**46**	Pg	Pg	16 00 50.4	+0.2
BYL				IAML		16 00 54.7	
BYL	comp=N,2μm,0.6s			IAML		16 00 56.2	
	comp=E,2μm,0.6s						
SBLHI	**Steaming Bluff**	**0.17**	**41**		Pg	16 00 50.6	+0.2
SBLHI				IAML		16 00 55.0	
SBLHI	comp=E,1μm,0.6s			IAML		16 00 56.5	
	comp=N,1μm,0.4s						
HATHI	**Halema'uma'u T**	**0.17**	**43**		Pg	16 00 50.7	+0.3
HATHI				IAML		16 00 55.8	
HATHI	comp=E,3μm,0.7s			IAML		16 00 56.1	
	comp=N,1μm,0.7s						
PUH	**Pauahi**	**0.18**	**64**		Pg	16 00 50.7	+0.2
PUH				IAML		16 00 56.8	
PUH	comp=E,2μm,0.8s			IAML		16 00 57.3	
	comp=N,1μm,0.4s						
RSD	**Rainshed**	**0.20**	**32**		Pg	16 00 51.0	+0.2
MLH	**Mauna Loa**	**0.20**	**0**		Pg	16 00 51.5	+0.6
MLH				IAML		16 00 55.7	
MLH	comp=E,1μm,0.4s			IAML		16 00 56.1	
	comp=N,1μm,0.1s						
KHU	**Kahuku**	**0.22**	**257**		Pg	16 00 51.7	+0.4
KNHH	**Kane Nui o Ham**	**0.22**	**68**		Pg	16 00 51.4	+0.1
STCH	**Steam Cracks**	**0.26**	**70**	Pg	Pg	16 00 52.0	-0.1
MWH	**Moku'aweowe**	**0.27**	**314**		Pg	16 00 52.6	+0.2
MWH				IAML		16 01 02.6	
MWH	comp=N,865nm,0.4s			IAML		16 01 02.8	
	comp=E,2μm,0.8s						
NPOC	**North of Pu'u**	**0.28**	**70**	Pg	Pg	16 00 52.3	-0.1
JCUZ	**Jacuzzi**	**0.28**	**72**	Pg	Pg	16 00 52.5	0.0
MLOA	**Mauna Loa Obse**	**0.30**	**323**		Pg	16 00 52.8	-0.1
MLOA				IAML		16 00 57.7	
MLOA	comp=N,963nm,0.5s			IAML		16 01 02.1	
	comp=E,897nm,0.7s						
HMH	**Humu'ula Sheep**	**0.32**	**343**		Pg	16 00 53.3	+0.1
HMH				IAML		16 01 03.1	
HMH	comp=N,600nm,0.6s			IAML		16 01 05.4	
	comp=E,492nm,0.6s						
HMH	**Humu'ula Sheep**	**0.32**	**343**		Sg	16 00 58.4	+0.9
ALEP	**Alea Permanent**	**0.34**	**315**		Pg	16 00 53.7	0.0
JOKA	**Jonika Flow**	**0.39**	**69**		Pg	16 00 54.0	-0.4
POHA	**Pohakuloa**	**0.48**	**343**		Pg	16 00 56.4	+0.1
POHA				IAML		16 01 08.0	
	comp=E,852nm,0.2s						
CPH	**Captain Cook**	**0.54**	**291**		Pg	16 00 57.0	-0.3
KHLU	**Kahalu`u**	**0.56**	**302**		Pg	16 00 57.5	-0.3
KHLU	**Kahalu`u**	**0.56**	**302**	IAML		16 01 06.0	
KHLU	comp=N,457nm,0.6s			IAML		16 01 09.3	
	comp=E,506nm,1.0s						
HUH	**Hualalai**	**0.57**	**313**		Pg	16 00 58.0	0.0

*IDC **08** 16:19:13.2±0.9, 51°.35N×178°.87E, h47km±6km, mb3.6/15, mbtmp3.9/18, MS3.3/2, Error ellipse: s-maj=21.9km s-min=9.5km az=10.0*

*NEIC **08** 16:19:13.9±1.3, 51°.38N±0°.08×179°.0E±0°.1, h58km±5km, mb4.0/47, ML3.8(AEIC), Error ellipse: s-maj=11.6km s-min=9.2km az=162.0*

*AEIC **08** 16:19:14.6±1.4, 51°.6N±0°.1×178°.9E±0°.1, h62km±5km, Error ellipse: s-maj=16.4km s-min=9.4km az=152.0*

ISC 08 16:19:12.6±0.5, 51°.36N±0°.09×178°.84E±0°.04, h45km, n94, σ1s25/102, mb4.1/32, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSPA	**Little Sitkin**	**0.62**	**345**		**Pn**	**16 19 26.0**	**+0.8**
LSSA	**Little Sitkin**	**0.62**	**341**		**Pn**	**16 19 25.8**	**+0.5**
CERB	**Semis' Cerberu**	**0.76**	**40**		**Pn**	**16 19 27.9**	**+0.9**
CERB					**Sn**	**16 19 38.7**	**+1.4**
CEPE	**Semis' Perret**	**0.79**	**39**		**Pn**	**16 19 28.4**	**+1.0**
GANO	**Gareloi North**	**1.54**	**72**		**Pn**	**16 19 39.5**	**+1.8**
TASE	**Tanaga Southea**	**2.01**	**75**		**Pn**	**16 19 46.1**	**+2.1**
TAFP	**Tanaga Falls P**	**2.06**	**73**		**Pn**	**16 19 46.2**	**+1.6**
TAFP					**Sn**	**16 20 10.3**	**+1.3**
KICM	**Kanaga Island**	**2.54**	**76**		**Pn**	**16 19 53.5**	**+2.2**
KIWB	**Kanaga Island**	**2.55**	**77**	Pn	**Pn**	**16 19 53.0**	**+1.6**
ADK	**Adak**	**2.84**	**78**	Pn	**Pn**	**16 19 57.0**	**+1.6**
SHEM	**Shemya Is, Ala**	**3.23**	**297**	P	**Pn**	**16 20 02.9**	**+2.1**
SHEM	230nm,0.3s,baz=226,slow=2.0,SNR=19			S	**Sn**	**16 20 40.9**	**+3.0**
	104nm,0.4s,baz=264,slow=21,SNR=1.4						
SMY	**Shemya**	**3.23**	**297**		**Sn**	**16 20 40.9**	**+3.0**
GSMY	**Great Sitkin M**	**3.25**	**76**		**Pn**	**16 20 03.1**	**+2.0**
PETK	**Petropavlovsk-**	**13.07**	**286**	Pn	**Pn**	**16 22 16.4**	**+1.0**
PETK	**Petropavlovsk-**	**13.07**	**286**	P	**Pn**	**16 22 16.6**	**+1.2**
	6.8nm,1.0s,baz=89,slow=16,SNR=6.8						
L14K	**Kuka Creek**	**14.26**	**38**		**P**	**16 22 35.1**	**-2.7**
CHGN	**Chignik**	**14.29**	**61**	Pn	**Pn**	**16 22 32.1**	**+0.2**
N15K	**Kwethluk River**	**14.72**	**45**	Pn	**Pn**	**16 22 39.5**	**+1.9**
J14K	**Nanvaranak Lak**	**14.83**	**33**		**P**	**16 22 42.4**	**-1.8**
K15K	**Wolf Creek Mou**	**15.27**	**37**		**P**	**16 22 47.6**	**-1.4**
M16K	**Timber Creek**	**15.61**	**43**		**P**	**16 22 52.1**	**-0.7**
M16K	comp=Z,12nm,1.3s			IAmb	IAmb	16 23 25.2	
N17K	**Nushagak Hills**	**16.18**	**46**		**P**	**16 22 57.6**	**-1.4**
N17K				IAmb	IAmb	16 23 03.6	
	comp=Z,12nm,1.2s						
OHAK	**Old Harbor**	**17.22**	**59**	Pn	**Pn**	**16 23 08.3**	**-1.2**
OHAK				IAmb	IAmb	16 23 30.8	
	comp=Z,26nm,1.4s						
Q19K	**Cape Douglas,**	**17.36**	**53**	P	**P**	**16 23 11.4**	**-0.8**
KDAK	**Kodiak Island**	**17.68**	**58**	P	**Pn**	**16 23 14.2**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=334,slow=2.2,SNR=24						
BILL	**Bilibino**	**17.82**	**344**	P	**P**	**16 23 17.0**	**-0.3**
SEY	**Seymchan**	**18.28**	**319**	P	**Pn**	**16 23 23.3**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=148,slow=22,SNR=1.6						
SEY				LR	LR	16 29 17.4	
	comp=Z,36nm,20.5s,baz=356,slow=33						
CNPM	**China Poot**	**18.70**	**52**	P	**Pn**	**16 23 27.5**	**-0.2**
BRLK	**Bradley Lake**	**18.93**	**52**	P	**P**	**16 23 27.6**	**-1.9**
BRLK				IAmb	IAmb	16 23 54.8	
	comp=Z,18nm,1.3s						
SUA	**Susitna One**	**19.44**	**47**		**P**	**16 23 35.0**	**-0.2**
SUA				IAmb	IAmb	16 23 52.9	
	comp=Z,10.0nm,1.2s						
C18K	**Utukok River**	**19.83**	**22**		**P**	**16 23 38.9**	**-0.3**
C18K				IAmb	IAmb	16 23 45.4	
	comp=Z,4.2nm,0.6s						
E19K	**Redstone River**	**19.99**	**27**		**P**	**16 23 41.4**	**+0.5**
KTH	**Kantishna Hill**	**20.10**	**41**	Pn	Pn	16 23 43.1	-1.2
KTH				IAmb	IAmb	16 23 59.7	
	comp=Z,7.9nm,0.8s						
TRF	**Thorofare Moun**	**20.32**	**42**		**P**	**16 23 45.2**	**+0.5**
TRF				IAmb	IAmb	16 24 01.8	
	comp=Z,11nm,1.3s						
KNK	**Knik Glacier**	**20.49**	**48**	P	**P**	**16 23 45.4**	**-1.0**
KNK				IAmb	IAmb	16 23 51.1	
	comp=Z,7.3nm,0.8s						
SML	**Sawmill**	**20.65**	**47**	Pn	**P**	**16 23 48.9**	**+0.7**
SML				IAmb	IAmb	16 24 32.4	
	comp=Z,15nm,1.4s						
SCM	**Sheep Creek Mo**	**21.11**	**47**	P	**P**	**16 23 52.6**	**-0.7**
SCM				IAmb	IAmb	16 24 09.2	
	comp=Z,16nm,1.2s						
NEA2	**Nenana**	**21.26**	**39**	P	**P**	**16 23 52.4**	**-2.3**
NEA2				IAmb	IAmb	16 24 10.7	
	comp=Z,7.8nm,0.9s						
DHY	**Denali Highway**	**21.43**	**44**	P	**P**	**16 23 55.3**	**-1.4**
DHY				IAmb	IAmb	16 24 01.4	
	comp=Z,6.3nm,0.8s						
M24K	**Tolsona, Glenn**	**21.71**	**47**	P	**P**	**16 23 57.2**	**-2.4**
IL31		**22.20**	**40**	P	**P**	**16 24 02.3**	**-2.3**
ILAR	**Eielson Array**	**22.20**	**40**	P	**P**	**16 24 05.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=236,slow=8.2,SNR=28						
	comp=Z,0.7nm,0.6s						
H24K	**Noodor Dome**	**22.22**	**37**	P	**P**	**16 24 04.3**	**-0.8**
J25K	**Salcha River,**	**22.76**	**41**	P	**P**	**16 24 10.0**	**-0.8**
VRDI	**Verde Repeater**	**22.82**	**50**	P	**P**	**16 24 10.2**	**-1.3**
MENT	**Mentasta**	**23.01**	**45**	P	**P**	**16 24 12.6**	**-0.7**
SCRK	**Sand Creek**	**23.15**	**43**	P	**P**	**16 24 13.8**	**-1.0**
J26L	**Joseph Creek**	**23.47**	**42**	P	**P**	**16 24 17.4**	**-0.4**
J26L	comp=Z,3.6nm,0.6s			IAmb	IAmb	16 24 30.5	
GRNC	**Granite Creek**	**23.58**	**51**	P	**P**	**16 24 18.9**	**-0.1**
GRNC				IAmb	IAmb	16 24 36.4	
	comp=Z,12nm,1.2s						
BARN	**Barnard Glacie**	**23.66**	**50**	P	**P**	**16 24 19.0**	**-0.7**
BARN				IAmb	IAmb	16 24 23.4	
	comp=Z,4.9nm,1.0s						
L27K	**Beaver Creek,**	**23.88**	**45**	P	**P**	**16 24 21.4**	**-0.3**
K27K	**Chicken**	**23.98**	**43**	P	**P**	**16 24 22.1**	**-0.3**
K27K				IAmb	IAmb	16 24 37.4	
	comp=Z,7.4nm,1.3s						
BMAR	**Burnt Mountain**	**24.08**	**34**	P	**P**	**16 24 23.5**	**+0.1**
I28M	**Miner Creek**	**25.20**	**40**	P	**P**	**16 24 33.4**	**-0.4**
I28M				IAmb	IAmb	16 24 48.5	
	comp=Z,3.8nm,1.0s						
M29M	**Somme Creek**	**25.32**	**48**	P	**P**	**16 24 34.2**	**-0.6**
M29M				IAmb	IAmb	16 25 07.2	
	comp=Z,6.1nm,1.2s						
L29M	**L29M**	**25.55**	**46**	P	**P**	**16 24 36.5**	**-0.4**
L29M				IAmb	IAmb	16 25 19.5	
	comp=Z,6.4nm,1.4s						
HYT	**Haines Junctio**	**25.66**	**51**	P	**P**	**16 24 37.3**	**-0.7**
HYT				IAmb	IAmb	16 24 59.9	
	comp=Z,7.8nm,1.4s						
N30M	**Aishikik Lake**	**25.89**	**50**	P	**P**	**16 24 39.9**	**-0.1**
J30M	**Hart River**	**26.54**	**43**	P	**P**	**16 24 44.9**	**-0.9**
E29M	**Blow River**	**26.78**	**34**	P	**P**	**16 24 47.4**	**-0.4**
G31M	**Satah River**	**27.77**	**38**	P	**P**	**16 24 56.0**	**-0.7**
G31M				IAmb	IAmb	16 25 02.0	
	comp=Z,6.6nm,1.4s						
INK	**Inuvik**	**28.33**	**35**	P	**P**	**16 25 00.5**	**-1.1**
INK				IAmb	IAmb	16 25 07.2	
	comp=Z,5.6nm,1.5s						
A36M	**Sachs Harbour**	**31.82**	**29**	P	**P**	**16 25 31.8**	**-0.7**
A36M				IAmb	IAmb	16 25 35.0	
	comp=Z,2.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**31.82**	**276**	P	**P**	**16 25 33.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=68,slow=13,SNR=4.5						
	comp=Z,0.6nm,0.6s						
YKA	**Yellowknife Ar**	**36.31**	**46**	P	**P**	**16 26 11.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=282,slow=8.6,SNR=10						
YKA				pP	**pP**	**16 26 23.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=282,slow=8.5,SNR=8.2						
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**45.02**	**81**	P	**P**	**16 27 24.9**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=289,slow=8.4,SNR=2.1						
NVAR				pP	**pP**	**16 27 37.2**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=290,slow=8.1,SNR=3.6						
	comp=Z,0.6nm,0.7s						
SONM	**Songino Array**	**45.32**	**295**	P	**P**	**16 27 26.7**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=69,slow=8.6,SNR=5.1						
SONM				PcP	**PcP**	**16 29 05.5**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=102,slow=6.6,SNR=2.2						
	comp=Z,0.9nm,0.6s						
HHC	**Hu-ho-hao-te**	**46.26**	**284**	*eP*	**P**	**16 27 29.2**	**-4.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,4.7s						
FCC	**Fort Churchill**	**47.04**	**45**	P	**P**	**16 27 38.7**	**-0.4**
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**16 27 45.4**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=315,slow=3.4,SNR=12						
PDAR				pP	**pP**	**16 27 57.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=311,slow=3.8,SNR=9.8						
	comp=Z,0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.28**	**355**	P	**P**	**16 28 03.4**	**-0.5**
	comp=Z,2.7nm,0.4s,baz=40,slow=6.6,SNR=28						
	comp=Z,2.7nm,0.4s						
ZALV	**Zalesovo Beam**	**52.96**	**312**	P	**P**	**16 28 23.6**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=51,slow=7.5,SNR=4.5						
	comp=Z,0.6nm,0.4s						
KURK	**Kurchatov**	**57.95**	**312**	P	**P**	**16 29 00.3**	**+0.3**
KURBB	**Kurchatov Arra**	**58.06**	**312**	P	**P**	**16 29 01.3**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=41,slow=6.4,SNR=9.3						
	comp=Z,2.5nm,0.5s						
WMQ	**Urumqi**	**58.10**	**302**	*eP*	**P**	**16 29 01.8**	**+0.6**
MKAR	**Makanchi Array**	**58.87**	**307**	P	**P**	**16 29 06.5**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=51,slow=5.7,SNR=16						
MKAR				PcP	**PcP**	**16 29 56.6**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=39,slow=4.9,SNR=1.9						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**59.93**	**319**	P	**P**	**16 29 14.4**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=50,slow=6.9,SNR=22						
BVAR				PcP	**PcP**	**16 30 00.6**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=60,slow=3.8,SNR=1.8						
	comp=Z,2.5nm,0.3s						
BRVK	**Borovoye**	**59.95**	**319**	P	**P**	**16 29 14.0**	**+0.2**
TXAR	**Lajitas Array**	**60.12**	**79**	P	**P**	**16 29 16.8**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=301,slow=4.9,SNR=18						
TXAR				pP	**pP**	**16 29 29.0**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=293,slow=5.7,SNR=6.9						
	comp=Z,0.8nm,0.5s						
ARU	**Arti**	**61.83**	**327**	P	**P**	**16 29 25.7**	**-0.8**
PZH	**PanZhiHua**	**61.88**	**278**	P	**P**	**16 29 24.9**	**-2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,5.2s						
KIRV	**Kirov**	**62.93**	**333**	LR	LR	16 59 10.4	
	comp=Z,46nm,18.0s,baz=308,slow=38						
LDAQ	**Lac Daran**	**64.32**	**45**	P	**P**	**16 29 42.4**	**-0.9**
H62A	**Milan**	**66.95**	**47**	P	**P**	**16 29 59.2**	**-1.0**
ABKAR	**Akbulak array**	**67.04**	**321**	P	**P**	**16 30 00.3**	**-0.4**
KKAR	**Karatay Array**	**67.29**	**311**	P	**P**	**16 30 02.2**	**-0.2**
NC204	**NORSAR Array S**	**67.31**	**354**	P	**P**	**16 30 01.9**	**-0.4**
NC204				IAmb	IAmb	16 30 14.6	
	comp=Z,1.8nm,0.8s						
AKASG	**Malin Array Be**	**75.09**	**341**	P	**P**	**16 30 48.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=22,slow=6.7,SNR=5.6						
	comp=Z,0.4nm,0.4s						
BURAR	**Bucovina Array**	**78.84**	**342**	P	**P**	**16 31 10.0**	**-0.7**
WRA	**Warramunga Arr**	**80.99**	**222**	P	**P**	**16 31 20.9**	**-1.5**
	comp=Z,0.7nm,1.0s,baz=33,slow=6.0,SNR=1.9						
	comp=Z,0.7nm,1.0s						
ASAR	**Alice Springs**	**84.49**	**221**	P	**P**	**16 31 41.2**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=25,slow=5.5,SNR=1.7						
	comp=Z,0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**115.72**	**357**	PKP	**PKiKP**	**16 37 49.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=332,slow=5.7,SNR=2.4						
PLCA	**Paso Flores**	**132.38**	**106**	PKP	**PKiKP**	**16 38 22.0**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=351,slow=6.8,SNR=3.1						
BOSA	**Boshof**	**149.86**	**309**	PKPbc	**PKPbc**	**16 38 57.4**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=24,slow=5.7,SNR=4.5						

*IDC **08** 16:20:09.8±0.7, 36°.41N×2°.51E, h0km, mb3.8/14, mbtmp3.8/19, ML4.1/5, MS3.0/1, Error ellipse: s-maj=20.2km s-min=14.8km az=153.0*

*LDG **08** 16:20:09.1±0.4, 36°.35N×2°.56E, h10km, Ml3.7/8, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*CRAAG **08** 16:20:10.5, 36°.31N×2°.58E, Ml4.3, Algerie 12km SE Oued-Djer*

*NEIC **08** 16:20:11.6±2.2, 36°.50N±0°.09×2°.49E±0°.07, h10km±1km, mb4.5/16, Error ellipse: s-maj=16.1km s-min=9.2km az=170.0*

*INMG **08** 16:20:12.3±1.9, 36°.34N×2°.55E, h11km, ML2.9, Error ellipse: s-maj=6.5km s-min=4.6km az=124.0*

*MDD **08** 16:20:12.2±0.5, 36°.32N×2°.61E, h11km±5km, Mb4.5/45, M_mb4.0/45, Error ellipse: s-maj=7.0km s-min=2.2km az=141.0*

*CNRM **08** 16:20:16.6, 36°.49N×2°.24E, h70km, ML4.2*

ISC 08 16:20:12.0±0.4, 36°.43N±0°.04×2°.56E±0°.03, h18km, n193, σ1s97/248, mb4.3/27, 39C-3D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABKD	**Sidi Amar**	**0.23**	**298**	P	**Pg**	**16 20 17.0**	**-0.4**
ACHR	**Chrea**	**0.26**	**91**	P	**Pg**	**16 20 17.2**	**-0.8**
ADOR	**Douera**	**0.37**	**51**	P	**Pg**	**16 20 20.4**	**+0.5**
ADJB	**Djebel Djouab**	**0.76**	**111**	P	**Pb**	**16 20 26.0**	**-0.8**
ABRIN	**Birine**	**0.93**	**150**	P	**Pb**	**16 20 27.3**	**-2.3**
OKGL	**Djebel Kef Gue**	**1.60**	**256**	P	**Pb**	**16 20 41.0**	**0.0**
OJGS	**Djebel Guires**	**1.73**	**238**	P	**Pg**	**16 20 44.0**	**-1.4**
OJBR	**Djebel Berber**	**1.98**	**245**	P	Pn	16 20 39.0	-5.8
SET	**Setif**	**2.31**	**95**	P	**Pg**	**16 21 00.0**	**+3.7**
ODJA	**Bouhanifia**	**2.46**	**244**	P	**Pg**	**16 21 03.0**	**+3.8**
USTO	**Oran**	**2.61**	**255**	P	**Pg**	**16 21 05.0**	**+2.9**
EIBI	**Ibiza**	**2.77**	**340**	Pn	**Pn**	**16 20 56.5**	**+1.0**
EIBI				Sn	**Sn**	**16 21 26.4**	**-2.0**
EIBI	**Ibiza**	**2.77**	**340**	||P	**Pn**	**16 20 56.5**	**+1.0**
EIBI	3μm,SNR=7.9			↑↑iVmb_V		16 20 56.9	
EIBI				S	**Sn**	**16 21 26.6**	**-1.8**
CART	**Cartagena**	**3.07**	**293**	Pn	**Pn**	**16 20 59.0**	**-0.6**
CART	**Cartagena**	**3.07**	**293**	Pn	**Pn**	**16 20 59.3**	**-0.4**
CART				Sn	**Sn**	**16 21 32.0**	**-4.0**
CART	**Cartagena**	**3.07**	**293**	P	**Pn**	**16 21 01.3**	**+1.6**
ETRV	**Los Montesinos**	**3.09**	**302**	↑↑iVmb_V		16 21 03.9	
ETRV	2μm,SNR=1.5			S	**Sn**	**16 21 35.6**	**-0.8**
EBEN2	**Beniarda presa**	**3.13**	**317**	P	**Pn**	**16 21 00.7**	**+0.3**
EBEN2				↑↑iVmb_V		16 21 02.8	
EBEN2	1μm,SNR=3.5			S	**Sn**	**16 21 35.0**	**-2.4**
AFON	**Font Roja**	**3.32**	**313**	P	**Pn**	**16 21 04.3**	**+1.1**
AFON				↑↑iVmb_V		16 21 11.7	
AFON	500nm,SNR=3.3			S	**Sn**	**16 21 41.3**	**-1.0**
ETOS	**Mallorca**	**3.34**	**3**	Pn	**Pn**	**16 21 04.0**	**+0.6**
ETOS	**Mallorca**	**3.34**	**3**	P	**Pn**	**16 21 04.2**	**+0.8**
ETOS				↑↑iVmb_V		16 21 05.8	
ETOS	2μm,SNR=3.5			S	**Sn**	**16 21 40.0**	**-2.5**
EMUR	**La Murta**	**3.35**	**296**	Pn	**Pn**	**16 21 02.7**	**-0.8**
EMUR				Sn	**Sn**	**16 21 40.7**	**-2.1**
EMUR	**La Murta**	**3.35**	**296**	P	**Pn**	**16 21 03.1**	**-0.4**
EMUR				↑↑iVmb_V		16 21 08.4	
EMUR	415nm,SNR=4.5			S	**Sn**	**16 21 41.7**	**-1.1**
**

EPOB **Poblet** 5.05 347 P Pn 16 21 27.7 +0.8
EPOB ⇑iVmb_V 16 21 35.4
270nm,SNR=1.3
EPOB S Sn 16 22 24.2 -0.6
FIGM Figuig 5.33 218 P Pn 16 21 31.6 +0.8
EGOR Sierra Gorda, 5.40 279 P Pn 16 21 33.9 +2.1
EGOR ⇑iVmb_V 16 21 41.3
188nm,SNR=2.3
EGOR S Sn 16 22 37.4 +4.0
EMIR Miracle 5.54 352 P Pn 16 21 35.9 +2.3
EMIR ⇑iVmb_V 16 21 38.2
891nm,SNR=2.9
EMIR S Sn 16 22 35.6 -1.2
KEST Kesra 5.54 95 16 21 34.7 +1.0
KEST Kesra 5.54 95 Pn Pn 16 21 35.0 +1.3
5.3nm,0.3s,baz=212,slow=6.3,SNR=45
KEST Sn Sn 16 22 34.6 -2.4
baz=338,slow=3.4
26nm,0.5s
AKLM AKL 5.58 252 P Pn 16 21 34.7 +0.5
ETOR Torete 5.68 322 P Pn 16 21 39.2 +3.6
ETOR ⇑iVmb_V 16 21 46.8
337nm,SNR=2.4
ETOR S Sn 16 22 38.2 -2.1
ESAC San Caprasio 5.79 337 P Pn 16 21 38.3 +1.3
ESAC S Sn 16 22 45.1 +2.2
EMIJ Mijas 5.91 273 Pn Pn 16 21 37.0 -1.7
EMIJ Mijas 5.91 273 P Pn 16 21 37.0 -1.7
EMIJ ⇑iVmb_V 16 21 43.7
179nm,SNR=1.0
EMIJ S Sn 16 22 41.1 -4.8
EADA Adamuz 5.95 289 Pn Pn 16 21 39.0 -0.2
EADA Sn Sn 16 22 41.9 -5.0
EADA Adamuz 5.95 289 P Pn 16 21 39.2 0.0
EADA ⇑iVmb_V 16 21 43.3
117nm,SNR=1.4
EADA S Sn 16 22 45.9 -1.0
EJON La Jonquera 6.02 2 Pn Pn 16 21 41.6 +1.5
EJON La Jonquera 6.02 2 P Pn 16 21 41.7 +1.5
EJON ⇑iVmb_V 16 21 45.0
539nm,SNR=1.4
EJON S Sn 16 22 44.9 -3.7
ESBB Sonseca Array 6.08 304 Pn Pn 16 21 41.6 +0.6
ESDC Sonseca Array 6.08 304 Pn Pn 16 21 42.2 +1.1
ESDC Sonseca Array 6.08 304 P Pn 16 21 42.2 +1.1
ESDC ⇑iVmb_V 16 21 48.4
172nm,SNR=2.2
ESDC S Sn 16 22 48.1 -2.1
ESDC Sonseca Array 6.08 304 Pn Pn 16 21 41.8 +0.7
0.9nm,0.3s,baz=117,slow=13,SNR=30
ESDC Sn Sn 16 22 49.0 -1.1
0.6nm,0.3s,baz=115,slow=22,SNR=4.7
ESDC LR LR 16 24 03.7
comp=Z,136nm,18.7s,baz=113,slow=39
6.1nm,0.7s
VSL Villasalto 6.20 58 Pn 16 21 42.4 -0.2
PAB San Pablo 6.28 302 Pn Pn 16 21 44.5 +0.6
PAB San Pablo 6.28 302 P Pn 16 21 44.5 +0.6
PAB ⇑iVmb_V 16 21 49.4
193nm,SNR=3.1
PAB S Sn 16 22 53.8 -1.3
SMIR Smir Dam 6.47 266 P Pn 16 21 44.8 -1.7
ECHI Chisagues Biel 6.49 344 P Pn 16 21 48.4 +1.7
ECHI ⇑iVmb_V 16 21 52.5
155nm,SNR=1.4
ECAB El Cabril 6.57 287 Pn Pn 16 21 47.4 -0.4
ECAB El Cabril 6.57 287 P Pn 16 21 47.5 -0.3
ECAB ⇑iVmb_V 16 21 55.4
92nm,SNR=0.9
ECAB S Sn 16 23 00.8 -1.4
LCRM LCR 6.67 248 P Pn 16 21 52.4 +3.1
GUD Guadarrama 6.74 311 P Pn 16 21 52.0 +1.9
GUD ⇑iVmb_V 16 21 52.3
205nm,SNR=2.7
GUD S Sn 16 23 05.4 -1.1
EPF Esparros 6.81 346 eP Pn 16 21 53.4 +2.3
EPF eSn Sn 16 23 01.9 -6.2
14nm,0.6s
ETSF Etsaut 6.89 341 eP Pn 16 21 54.3 +2.1
MTLF Montolieu 6.91 358 eP Pn 16 21 54.3 +1.9
MTLF eSn Sn 16 23 07.1 -3.4
4.7nm,0.5s
MDT Midelt 6.92 241 Pn Pn 16 21 53.6 +0.9
0.5nm,0.3s,baz=78,slow=16,SNR=34
MDT Lg Lg 16 23 48.0
1.3nm,0.3s,baz=56,slow=14,SNR=1.3
3.2nm,0.6s
MDT Midelt 6.92 241 P Pn 16 21 54.0 +1.4
MD31 MD31 7.00 242 P Pn 16 21 54.7 +1.0
SJPF Ste Jean 7.28 338 eP Pn 16 21 59.0 +1.5
EALK Alkurruntz 7.47 336 P Pn 16 22 02.2 +2.1
EALK ⇑iVmb_V 16 22 08.5
303nm,SNR=2.3
EALK S Sn 16 23 23.3 -1.0
EMIN Mina Concepcio 7.50 283 Pn Pn 16 22 00.2 -0.3
EMIN Mina Concepcio 7.50 283 P Pn 16 22 00.7 +0.3
EMIN ⇑iVmb_V 16 22 02.4
110nm,SNR=1.3
EMIN S Sn 16 23 22.9 -2.1
LMR La Mourre 7.53 23 eP Pn 16 22 01.8 +0.9
LMR eSn Sn 16 23 20.4 -5.4
4.8nm,0.2s
LASF Ste Croix 7.70 7 eP Pn 16 22 04.8 +1.5
LASF eSn Sn 16 23 27.0 -3.0
6.9nm,0.4s
PBAR Barrancos 7.84 286 eP Pn 16 22 05.8 +0.6
PBAR eS Sn 16 23 30.4 -3.1
PGF Pioggiola 7.88 37 eSn Sn 16 23 29.3 -5.3
19nm,0.5s
SMRF Simiane la Rot 7.88 16 eP Pn 16 22 09.1 +3.3
EBAD Badajoz 7.95 290 P Pn 16 22 06.1 -0.5
EBAD ⇑iVmb_V 16 22 11.7
89nm,SNR=0.8
EBAD S Sn 16 23 32.2 -3.9
EGRO El Granado 8.11 281 P Pn 16 22 09.0 +0.1
ZHG ZHG 8.12 251 P Pn 16 22 10.7 +1.6
ELAN Lanestosa 8.21 328 P Pn 16 22 13.2 +2.9
ELAN ⇑iVmb_V 16 22 13.5
388nm,SNR=2.3
PVAQ Vaqueiros 8.29 280 eP Pn 16 22 11.2 -0.1
PVAQ eS Sn 16 23 40.5 -4.0
PVAQ Vaqueiros 8.29 280 Pn Pn 16 22 11.3 -0.1
SBF Sospel 8.31 25 eSn Sn 16 23 39.0 -6.0
4.6nm,0.2s
PESTR Estremoz 8.41 290 eP Pn 16 22 13.8 +0.8
PESTR eS Sn 16 23 44.9 -2.6
PMRV Marv??o 8.41 294 eP Pn 16 22 13.7 +0.7
PMRV eS Sn 16 23 44.1 -3.4
CAF Calviac 8.49 358 eP Pn 16 22 17.4 +3.2
VIVF Saint-Julien-l 8.57 10 eP Pn 16 22 17.2 +2.0
VIVF eSn Sn 16 23 48.2 -3.2
7.2nm,0.5s
PCBR Castelo Branco 8.61 296 eP Pn 16 22 17.9 +2.2
LFF La Frestale 8.61 351 eP Pn 16 22 18.5 +2.8
MESJ Messejana 8.72 282 eP Pn 16 22 17.1 -0.2
MESJ eS Sn 16 23 54.4 -0.7
MESJ Messejana 8.72 282 Pn Pn 16 22 16.2 -1.1
AVE Averroes 8.77 252 Pn Pn 16 22 16.8 -1.1
ORIF Oris-en-Rattie 8.85 16 eP Pn 16 22 21.6 +2.6
MVO Moncorvo 8.85 305 eP Pn 16 22 20.8 +1.7
MVO eS Sn 16 23 53.9 -4.5
MBDF Montbardon 8.88 20 eP Pn 16 22 22.6 +3.0
RJF Les Rejaudoux 8.90 355 eP Pn 16 22 22.4 +2.7
PMTG Montargil 8.94 290 eP Pn 16 22 20.4 +0.2
PMTG S Sn 16 23 56.5 -3.9
SSB Saint Sauveur 8.97 9 Pn Pn 16 22 20.9 +0.2
PNCL Nicolau / Gran 9.00 284 eP Pn 16 22 22.1 +0.1
PBRG Braganca 9.00 309 eP Pn 16 22 22.6 +1.5
ECAL Calabor 9.07 310 Pn Pn 16 22 22.7 +0.5
EARI Arriondas 9.09 321 P Pn 16 22 24.9 +2.5
EARI ⇑iVmb_V 16 22 30.1
441nm,SNR=1.5
EARI S Sn 16 24 03.8 -0.4
PVIS Viseu 9.23 301 eP Pn 16 22 25.7 +1.4
PVRL Vila Real 9.36 304 eP Pn 16 22 27.3 +1.3
POLO Lamas de Olo 9.46 305 eP Pn 16 22 28.7 +1.3
MSSA Maissana 9.50 32 Pn Pn 16 22 27.1 -0.8
LPG La Plagne 9.60 18 eP Pn 16 22 34.0 +4.5
CESX Cesi 9.90 48 Pn Pn 16 22 32.9 -0.5
PGAV Gavieira, Arco 10.05 307 eP Pn 16 22 36.7 +1.1
PGAV eS Sn 16 24 26.8 -1.2
BGF Bois d'Agland 10.12 1 eP Pn 16 22 38.8 +2.4
SMF Signal de Mont 10.25 5 ePn Pn 16 22 36.6 -1.6

SMF Signal de Mont 10.25 5 eP Pn 16 22 40.7 +2.5
MFF Saint Martin d 10.36 350 eP Pn 16 22 41.6 +1.9
AVF Avril sur Loir 10.37 3 eP Pn 16 22 41.9 +2.1
CABF La Chapelle 10.51 13 eP Pn 16 22 44.4 +2.6
SENIN Lac Senin/Sane 10.54 18 Pn 16 22 42.4 0.0
TUE Stuetta 11.25 25 Pn Pn 16 22 51.8 -0.2
FUORN Ofenpass-Fuorn 11.70 27 Pn Pn 16 22 58.8 +0.5
HINF Hinteralfeld 11.81 14 eP Pn 16 23 01.2 +1.6
HAU Haudompre 11.90 12 eP Pn 16 23 03.2 +2.4
MEZF Maizieres J'vi 12.20 8 eP Pn 16 23 07.1 +2.2
ECH Echery 12.26 15 Pn Pn 16 23 06.0 +0.4
BFO Black Forest 12.63 18 Pn Pn 16 23 11.3 +0.6
ROSF Rostrenen 12.65 342 eP Pn 16 23 11.6 +0.6
GERES GERESS Array B 14.85 30 Pn Pn 16 23 41.6 +0.5
0.1nm,0.3s,baz=261,slow=8.0,SNR=3.5
1.2nm,0.7s
PMOZ Porto Moniz, M 16.65 263 Pn Pn 16 24 03.1 -1.5
VYHS Vyhne 16.97 40 eP P 16 24 11.5 +1.2
LANS Liptovska Anna 17.71 39 eP P 16 24 23.6 +5.1
APE Apeiranthos 18.42 81 ⇑P Pn 16 24 27.3 +0.9
CRVS Cervenica-Dubn 18.61 42 eP Pn 16 24 32.7 +4.1
STHS Stebnicka Huta 18.79 41 eP Pn 16 24 34.2 +3.3
ARR Arges 18.88 55 ⇓P Pn 16 24 34.1 +2.1
VOIR 19.18 55 ⇓P Pn 16 24 38.7 +3.1
DOPR Dopca 19.59 54 ⇑P Pn 16 24 41.3 +0.9
MLR Muntele Rosu 19.79 56 P P 16 24 41.0 -0.4
MLR Muntele Rosu 19.79 56 P P 16 24 40.9 -0.4
0.9nm,0.3s,baz=205,slow=6.2,SNR=6.5
4.0nm,0.6s
KARP Karpathos 19.92 85 P P 16 24 42.4 -0.4
KARP IAmb IAmb 16 24 50.5
comp=Z,11nm,0.7s
BURAR Bucovina Array 20.13 49 ⇑P Pn 16 24 48.7 +1.7
BURAR Bucovina Array 20.13 49 P P 16 24 44.9 -0.2
BUR08 Bucovina Ar. S 20.13 49 P P 16 24 45.3 +0.2
TPGR Topolog 21.29 59 ⇑P P 16 24 57.6 +0.1
MILM Milestii Mici 22.14 54 eP P 16 25 07.0 +0.4
comp=Z,28nm,0.8s
SORM Soroca 22.27 50 ⇑P P 16 25 08.1 +0.1
SUW Suwalki 22.66 33 P P 16 25 09.8 -2.3
TORD Torodi Ar. Bea 23.20 182 P P 16 25 17.0 -1.0
comp=Z,1.0nm,0.5s,baz=3.0,slow=11,SNR=7.5
comp=Z,1.0nm,0.5s
KIEV Kiev 23.84 45 P P 16 25 22.6 -1.3
KIEV IAmb IAmb 16 25 24.3
comp=Z,10nm,1.1s
AKASG Malin Array Be 23.85 45 P P 16 25 23.0 -1.1
comp=Z,2.9nm,0.7s,baz=243,slow=10,SNR=7.3
comp=Z,2.9nm,0.7s
AKBB Malin Array Si 23.85 45 P P 16 25 22.7 -1.3
AKBB IAmb IAmb 16 25 24.3
comp=Z,12nm,1.1s
PABE Paberze 24.02 31 P P 16 25 26.2 +0.6
PABE IAmb IAmb 16 25 40.1
comp=Z,38nm,1.3s
BRTR Keskin Array B 24.62 73 P P 16 25 32.6 +1.1
comp=Z,0.6nm,0.6s,baz=283,slow=8.7,SNR=3.8
comp=Z,0.6nm,0.6s
HFS Hagfors 24.78 13 P P 16 25 32.1 -0.4
comp=Z,1.9nm,0.8s,baz=161,slow=9.2,SNR=1.6
comp=Z,1.9nm,0.8s
NACGM Naroch 24.85 34 eP P 16 25 31.9 -1.3
comp=Z,15nm,1.0s,baz=232
NOA NORSAR Array B 25.24 10 P P 16 25 38.0 +1.3
comp=Z,1.5nm,1.0s,baz=196,slow=9.9,SNR=2.3
comp=Z,1.5nm,1.0s
MMAI Mount Meron Ar 27.14 87 P P 16 25 56.7 +2.4
comp=Z,3.5nm,0.5s,baz=298,slow=9.7,SNR=6.2
comp=Z,3.5nm,0.5s
NRS Narsarsuaq 38.84 325 P P 16 27 33.9 -1.8
ARU Arti 42.09 43 P P 16 28 03.5 +0.9
ARU IAmb IAmb 16 28 04.6
comp=Z,4.2nm,0.7s
SPB2 Spitsbergen Ar 42.26 4 P P 16 28 03.2 -0.6
ABKAR Akbulak array 42.99 54 P P 16 28 09.5 -0.6
ILULI Ilulissat 43.71 335 P P 16 28 17.0 +1.5
BVAR Borovoye Array 49.08 48 P P 16 28 59.2 +1.2
comp=Z,0.6nm,0.7s,baz=312,slow=9.4,SNR=2.8
comp=Z,0.6nm,0.7s
KURK Kurchatov 54.56 49 P P 16 29 39.3 +0.5
KURK IAmb IAmb 16 29 58.0
comp=Z,3.6nm,1.2s
LONY Lake Ozonia 57.18 304 P P 16 29 56.8 -1.0
ZALV Zalesovo Beam 57.24 44 P P 16 29 59.2 +1.1
ZALV Zalesovo Beam 57.24 44 P P 16 29 59.4 +1.4
comp=Z,2.3nm,0.7s,baz=282,slow=7.3,SNR=8.8
comp=Z,2.3nm,0.7s
MK31 Makanchi Array 58.10 53 P P 16 30 04.9 +0.6
MKAR Makanchi Array 58.10 53 P P 16 30 05.2 +0.9
MKAR Makanchi Array 58.10 53 P P 16 30 05.4 +1.1
comp=Z,0.9nm,0.6s,baz=286,slow=5.9,SNR=11
comp=Z,0.9nm,0.6s
WMQ Urumqi 62.78 54 eP P 16 30 39.1 +2.8
ULM Lac du Bonnet 67.83 317 P P 16 31 09.0 +0.1
comp=Z,2.0nm,0.8s,baz=102,slow=2.6,SNR=3.3
comp=Z,2.0nm,0.8s
SONM Songino Array 72.12 43 P P 16 31 36.5 +1.1
comp=Z,0.3nm,0.5s,baz=301,slow=9.6,SNR=2.6
comp=Z,0.3nm,0.5s
ILAR Eielson Array 76.32 347 P P 16 32 01.0 +1.6
comp=Z,0.2nm,0.8s,baz=40,slow=4.7,SNR=2.1
comp=Z,0.2nm,0.8s
RIDG Independent Ri 76.86 346 P P 16 32 01.8 -0.8
RIDG IAmb IAmb 16 32 03.1
comp=Z,13nm,1.1s
LZH Lanzhou 77.36 54 eP P 16 32 11.8 +5.8
LZH sP PcP 16 32 22.6 +6.0
LZH pmax pmax
comp=Z,5.0nm,1.0s
HHC Hu-ho-hao-te 79.28 47 ⇑P P 16 32 15.2 -1.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,450nm,5.3s
PDAR Pinedale Array 79.84 316 P P 16 32 20.2 +0.5
comp=Z,0.6nm,0.8s,baz=68,slow=5.9,SNR=4.4
comp=Z,0.6nm,0.8s
PZH PanZhiHua 81.54 63 P P 16 32 27.6 -1.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,50nm,3.9s
CMAR Chiang Mai Arr 84.21 71 P P 16 32 43.2 +0.5
comp=Z,0.3nm,0.2s,baz=304,slow=5.0,SNR=4.2
comp=Z,0.3nm,0.2s
MDJ Mudanjiang 86.16 35 P P 16 32 49.5 -2.6
MDJ pmax pmax
comp=Z,10.0nm,1.9s
MDJ pmax pmax
comp=Z,220nm,7.3s
NJ2 Nanjing 89.49 50 eP P 16 33 07.2 -1.0
NJ2 pP PcP 16 33 09.8 +0.2
NJ2 sP pP 16 33 12.6 -1.7
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,560nm,3.6s
QSPA South Pole Qui 126.30 180 PKP PKPdf 16 39 12.8 +0.1
comp=Z,1.0nm,0.7s,baz=259,slow=1.9,SNR=5.7
ASAR Alice Springs 136.43 87 PKP PKPdf 16 39 32.3 -0.8
comp=Z,0.3nm,0.7s,baz=285,slow=1.8,SNR=2.6
STKA Stephens Creek 145.98 95 PKPbc PKPbc 16 39 51.1 +0.4
comp=Z,1.4nm,0.5s,baz=301,slow=10,SNR=5.9

*NEIC **08** 16:44:43.4±1.2,23.8°S±0.1×179.6°W±0.1,h482km±9km, mb4.6/57, Error ellipse: s-maj=17.0km s-min=14.6km az=76.0*
*IDC **08** 16:44:46.3±1.9,23.81°S×179.75°W,h507km±19km, mb3.5/13, mbtmp4.4/14, Error ellipse: s-maj=18.5km s-min=14.8km az=38.0*
*NOU **08** 16:44:49.8,23.725°S×179.53°W,h581km, mb4.4/24, South of Fiji Islands*
ISC 08 16:44:46.0±0.5, 23.78°S±0.07°×179.69°W±0.08, h512km, n161,σ1s59/162, mb4.5/38, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.68**	**164**	P	**P**	**16 46 22.5**	**+2.8**
RAO	**Raoul Island**	**5.68**	**164**	P	**P**	**16 46 19.8**	**+0.1**
	568nm,0.3s,baz=335,slow=4.6,SNR=8.3						
MARNC	**Mare, Loyalty**	**11.57**	**279**	P	**P**	**16 47 19.4**	**-0.6**
PINNC	**Pines Island,**	**11.89**	**273**	P	**P**	**16 47 26.3**	**+2.9**
AFI	**Afiamalu**	**12.35**	**39**		**P**	**16 47 25.7**	**-2.7**
ONTNC	**Ouen Toro**	**12.84**	**274**	P	**P**	**16 47 31.7**	**-1.7**

DZM Mont Dzumac 12.89 275 P P 16 47 32.5 -1.5
7.7nm,1.1s,baz=148,slow=19,SNR=1.6
MXZ Matakaoa Point 13.85 187 P P 16 47 43.6 -0.2
MXZ Matakaoa Point 13.85 187 P P 16 47 45.5 +1.8
WMGZ Waiomatatini S 14.09 186 P P 16 47 48.5 +2.2
HAZ Te Kaha 14.10 188 P P 16 47 46.6 +0.2
PKGZ Pakihiroa 14.19 187 P P 16 47 51.2 +3.8
RUGZ Raukumara Rang 14.32 188 P P 16 47 50.7 +1.9
PUZ Puketiti 14.36 187 P P 16 47 52.5 +3.4
TWGZ Tauwhareparae 14.49 187 P P 16 47 52.7 +2.2
TOZ Tahuroa Road 14.50 195 P P 16 47 49.9 -0.8
TOZ Tahuroa Road 14.50 195 P P 16 47 54.8 +4.2
KMRZ Kaimai 14.51 194 P P 16 47 53.6 +2.8
URZ Urewera 14.69 190 P P 16 47 49.7 -2.8
12nm,0.4s,baz=78,slow=3.1,SNR=19
URZ S S 16 50 20.4 -6.1
9.4nm,0.5s,baz=282,slow=19,SNR=10
URZ Urewera 14.69 190 P P 16 47 49.8 -2.8
MWZ Matawai 14.70 189 P P 16 47 51.5 -1.3
CNGZ Carnagh Statio 14.77 186 P P 16 47 55.8 +2.4
RIGZ Rimuhau 15.04 188 P P 16 47 57.4 +1.1
RTZ Ruatahuna 15.06 190 P P 16 47 54.5 -2.0
RTZ IAmb IAmb 16 48 02.2
comp=Z,8.9nm,0.7s
RTZ Ruatahuna 15.06 190 P P 16 47 53.1 -3.5
TLZ Tolley Road 15.06 195 P P 16 47 59.8 +3.2
SNGZ Shannon Statio 15.17 189 P P 16 47 57.3 -0.4
MTHZ Maungatapiwha 15.31 190 P P 16 47 59.7 +0.6
HIZ Hauiti 15.41 196 P P 16 48 04.7 +4.6
RATZ Rangitukua 15.53 193 P P 16 48 02.1 +0.7
NMHZ Naumai 15.56 190 P P 16 48 02.6 +0.9
TMVZ Te Maari 15.78 193 P P 16 48 04.8 +0.7
ETVZ East Tongariro 15.80 193 P P 16 48 04.6 +0.3
NNVZ North Ngauruho 15.82 193 P P 16 48 05.8 +1.2
OTVZ Oturere 15.84 193 P P 16 48 04.6 -0.1
NGZ Ngauruhoe 15.86 193 P P 16 48 05.3 +0.4
KWHZ Kaweka Forest 15.94 191 P P 16 48 05.4 -0.3
TRVZ Turoa 15.99 194 P P 16 48 06.7 +0.3
WNVZ Wahianoa 16.01 193 P P 16 48 06.1 -0.4
VRZ Vera Road 16.01 196 P P 16 48 08.7 +2.4
KRHZ Kereru 16.16 191 P P 16 48 06.8 -1.1
KAHZ Kahuranaki 16.23 189 P P 16 48 07.9 -0.7
NEZ North Egmont 16.32 197 P P 16 48 13.3 +3.6
KHEZ Kahui Hut 16.36 198 P P 16 48 13.7 +3.6
LREZ Lake Rotokare 16.41 196 P P 16 48 13.6 +3.1
NMEZ Namu Road 16.51 198 P P 16 48 15.6 +4.1
TSZ Takapari Road 16.64 192 P P 16 48 12.1 -0.7
DVHZ Dannevirke 16.84 191 P P 16 48 14.4 -0.4
ANWZ Angora Road 16.94 190 P P 16 48 14.3 -1.5
BFZ Birch Farm 17.20 190 P P 16 48 15.6 -2.6
BFZ Birch Farm 17.20 190 P P 16 48 18.3 +0.1
MRZ Mangatainoka R 17.30 192 P P 16 48 15.3 -3.9
OGWZ Otaki Gorge 17.53 193 P P 16 48 18.7 -2.6
HOWZ Holdsworth Sta 17.54 192 P P 16 48 20.4 -1.0
DUWZ D'Urville Isla 17.80 196 P P 16 48 22.0 -1.8
CAW Cannon Point 17.83 193 P P 16 48 22.5 -1.5
TRWZ Traveller 17.99 191 P P 16 48 24.4 -1.1
TCW Tory Channel 18.10 195 P P 16 48 25.9 -0.6
BHW Baring Head 18.16 193 P P 16 48 24.0 -3.0
QRZ Quartz Range 18.21 199 P P 16 48 27.1 -0.4
PLWZ Palliser 18.24 192 P P 16 48 25.3 -2.5
PLWZ Palliser 18.24 192 P P 16 48 28.1 +0.3
NNZ Nelson 18.33 197 P P 16 48 25.2 -3.4
TUWZ Tuamarina 18.39 195 P P 16 48 27.8 -1.3
TUWZ Tuamarina 18.39 195 P P 16 48 28.2 -0.9
THZ Tophouse 18.97 197 P P 16 48 33.3 -1.2
THZ IAmb IAmb 16 48 38.2
comp=Z,20nm,1.1s
LTZ Lake Taylor 20.09 197 P P 16 48 42.4 -2.3
OXZ Oxford 20.66 197 P P 16 48 48.0 -1.8
OXZ IAmb IAmb 16 48 54.4
comp=Z,22nm,0.9s
RPZ Rata Peaks 21.29 199 P P 16 48 55.3 -0.2
comp=Z,9.3nm,0.5s,baz=9.3,slow=2.3,SNR=9.1
comp=Z,9.3nm,0.5s
ARMA Armidale 26.33 249 P P 16 49 41.6 +0.9
ARMA Armidale 26.33 249 P P 16 49 42.1 +1.4
EIDS Eidsvold 26.60 261 P P 16 49 43.8 +0.8
EIDS IAmb IAmb 16 49 44.5
comp=Z,13nm,0.6s
EIDS Eidsvold 26.60 261 P P 16 49 43.9 +0.8
MGCD Mangrove Creek 27.25 243 P P 16 49 50.2 +1.5
CNB Canberra Magne 29.16 240 P P 16 50 06.7 +1.3
CAN Canberra 29.45 240 P P 16 50 08.5 +0.6
CAN Canberra 29.45 240 P P 16 50 08.8 +0.9
MILA Mila 29.80 236 P P 16 50 11.6 +0.7
TYTH Townsville Har 31.45 272 P P 16 50 26.3 +1.0
CTA Charters Tower 31.76 270 P P 16 50 28.8 +0.8
CTA Charters Tower 31.76 270 P P 16 50 28.9 +0.9
comp=Z,24nm,0.5s,baz=94,slow=10,SNR=40
comp=Z,24nm,0.5s
CTAO Charters Tower 31.76 270 P P 16 50 28.7 +0.8
CTAO IAmb IAmb 16 50 29.5
comp=Z,19nm,0.7s
CTAO Charters Tower 31.76 270 P P 16 50 28.8 +0.8
TOO Toolangi 32.75 237 P P 16 50 36.5 +0.4
TOO IAmb IAmb 16 50 37.1
comp=Z,19nm,1.4s
TOO Toolangi 32.75 237 P P 16 50 36.8 +0.6
TAU Tasmania Unive 33.22 227 P P 16 50 40.4 +0.4
TAU Tasmania Unive 33.22 227 P P 16 50 40.7 +0.7
BRAT Ballarat 33.95 238 P P 16 50 47.7 +1.5
MTSU Mount Surprise 34.01 273 P P 16 50 48.1 +1.0
PMG Port Moresby 34.72 289 P P 16 50 52.7 -0.4
PMG IAmb IAmb 16 50 54.4
comp=Z,16nm,0.9s
STKA Stephens Creek 35.03 248 P P 16 50 55.5 +0.1
STKA Stephens Creek 35.03 248 P P 16 50 55.8 +0.3
comp=Z,2.5nm,0.4s,baz=95,slow=7.2,SNR=12
comp=Z,2.5nm,0.4s
INKA Innaminka 35.74 255 P P 16 51 02.5 +1.1
COEN Coen 36.37 279 P P 16 51 07.4 +0.6
QIS Mount Isa 37.74 267 P P 16 51 18.1 +0.1
LCRK Leigh Creek 37.88 251 P P 16 51 19.2 +0.2
BBOO Buckleboo 39.75 247 P P 16 51 33.4 -0.7
BBOO IAmb IAmb 16 51 34.1
comp=Z,13nm,1.1s
OOD Oodnadatta 40.21 255 P P 16 51 38.8 +0.9
MULG Mulgathing 41.48 251 P P 16 51 47.4 -0.6
AS31 Alice Springs 42.33 260 P P 16 51 54.6 -0.3
ASAR Alice Springs 42.33 260 P P 16 51 54.2 -0.7
ASAR Alice Springs 42.33 260 P P 16 51 54.9 0.0
comp=Z,11nm,0.8s,baz=92,slow=7.4,SNR=188
ASAR ScP **ScP** 16 56 38.7 +0.1
comp=Z,0.8nm,1.1s,baz=126,slow=4.7,SNR=2.7
comp=Z,11nm,0.8s
WR0 Warramunga Arr 42.51 266 P P 16 51 55.6 -0.6
WB2 Warramunga Arr 42.68 266 P P 16 51 57.1 -0.6
WB2 IAmb IAmb 16 51 57.9
comp=Z,15nm,0.7s
WRAB Tennant Creek 42.69 266 P P 16 51 57.0 -0.6
WRAB IAmb IAmb 16 51 57.8
comp=Z,15nm,0.9s
WB0 Warramunga Arr 42.69 266 P P 16 51 57.0 -0.6
WRA Warramunga Arr 42.70 266 P P 16 51 57.3 -0.5
comp=Z,19nm,0.6s,baz=96,slow=8.4,SNR=402
comp=Z,19nm,0.6s
KDU Kakadu 46.56 275 P P 16 52 27.2 -0.3
FORT Forrest 46.62 249 P P 16 52 27.1 -0.7
WRKA Warakurna 47.14 257 P P 16 52 31.5 -0.4
MTN Manton Dam 47.73 274 P P 16 52 35.6 -0.8
MTN IAmb IAmb 16 53 12.3
comp=Z,28nm,1.3s
MTN Manton Dam 47.73 274 P P 16 52 35.8 -0.6
KNRA Kununurra 48.97 270 P P 16 52 45.6 0.0
KNRA IAmb IAmb 16 52 46.5
comp=Z,20nm,0.9s
KNRA Kununurra 48.97 270 P P 16 52 45.8 +0.2
FITZ Fitzroy Crossi 51.12 265 P P 16 53 00.9 -0.4
FITZ Fitzroy Crossi 51.12 265 P P 16 53 01.8 +0.4
SBA Scott Base 54.52 183 P P 16 53 27.2 +2.5
VNDA Vanda 54.52 185 P P 16 53 25.9 +1.1
VNDA Vanda 54.52 185 P P 16 53 25.2 +0.4
comp=Z,1.0nm,0.6s,baz=31,slow=7.2,SNR=7.4
comp=Z,1.0nm,0.6s
SOEI Soe 55.11 275 P P 16 53 29.8 -0.3
SOEI IAmb IAmb 16 53 47.3
comp=Z,23nm,0.8s
MEEK Meekatharra 55.42 253 P P 16 53 31.3 -0.7
PSA00 Pilbara Seismi 55.46 259 P P 16 53 31.3 -1.0
NWAO Narrogin (SRO) 55.54 245 P P 16 53 32.0 -0.7
NWAO Narrogin (SRO) 55.54 245 P P 16 53 31.7 -1.0

comp=Z,6.9nm,0.9s,baz=101,slow=10,SNR=1.8
comp=Z,6.9nm,0.9s
TNTI **Ternate** **56.86 288** P **P** **16 53 40.9 -1.1**
TNTI IAmb IAmb 16 54 06.9
comp=Z,28nm,1.4s
MORW **Morawa** **57.18 250** P **P** **16 53 43.5 -0.5**
MORW IAmb IAmb 16 54 10.1
comp=Z,50nm,1.5s
GIRL **Giralia** **60.22 257** P **P** **16 54 05.2 +0.6**
CASY **Casey** **60.34 206** P **P** **16 54 03.9 -0.8**
CASY IAmb IAmb 16 54 24.1
comp=Z,20nm,1.4s
TOLI2 **Tolitoli** **62.82 284** P **P** **16 54 21.1 -0.7**
JAGI **Jajag, Banyuwa** **64.85 272** P **P** **16 54 33.0 -1.7**
JAGI IAmb IAmb 16 54 45.0
comp=Z,6.2nm,0.7s
QSPA **South Pole Qui** **66.30 180** P **P** **16 54 43.5 +0.4**
QSPA **South Pole Qui** **66.30 180** P **P** **16 54 43.9 +0.8**
comp=Z,5.5nm,0.6s,baz=342,slow=0.6,SNR=48
comp=Z,5.5nm,0.6s
UGM **Wanagama** **68.38 271** P **P** **16 54 56.2 -0.5**
YHNB **Yeheng** **74.71 306** P **P** **16 55 33.6 +0.1**
SMAI **San Martin Ant** **76.12 159** P **P** **16 55 40.9 +0.5**
BELA **Belgrano 2** **76.52 173** P **P** **16 55 42.3 -0.3**
PETK **Petropavlovsk-** **79.05 346** P **P** **16 55 56.6 +0.2**
comp=Z,1.1nm,0.6s,baz=100,slow=7.0,SNR=4.2
comp=Z,1.1nm,0.6s
R17K **Ugashik Creek** **83.43 12** P **P** **16 56 19.6 +0.7**
R17K IAmb IAmb 16 56 45.2
comp=Z,12nm,1.2s
OHAK **Old Harbor** **83.69 14** P **P** **16 56 20.7 +0.5**
OHAK IAmb IAmb 16 56 37.5
comp=Z,24nm,1.3s
N15K **Kwethluk River** **85.17 10** P **P** **16 56 28.3 +0.9**
N15K IAmb IAmb 16 56 41.6
comp=Z,25nm,1.2s
O18K **Koktuh Hills** **85.72 12** P **P** **16 56 30.2 +0.2**
O18K IAmb IAmb 16 56 31.6
comp=Z,19nm,1.1s
P19K **Oil Pt** **85.93 13** P **P** **16 56 31.6 +0.5**
CNPM **China Poot** **86.24 14** P **P** **16 56 33.1 +0.5**
CNPM IAmb IAmb 16 57 16.3
comp=Z,23nm,1.3s
ILSW **Iliamna Southw** **86.25 13** P **P** **16 56 32.6 -0.1**
ILSW IAmb IAmb 16 56 38.2
comp=Z,12nm,1.2s
BRLK **Bradley Lake** **86.53 14** P **P** **16 56 33.9 0.0**
BRLK IAmb IAmb 16 56 48.7
comp=Z,19nm,1.3s
L19K **White Mountain** **87.94 11** **P** **16 56 41.6 +1.1**
L19K IAmb IAmb 16 57 08.1
comp=Z,8.2nm,1.3s
SUA **Susitna One** **88.09 13** P **P** **16 56 41.6 +0.2**
SUA IAmb IAmb 16 56 55.7
comp=Z,11nm,1.5s
G08A **Pilot Rock** **88.16 38** P **P** **16 56 41.6 -0.5**
KNK **Knik Glacier** **88.55 14** P **P** **16 56 43.4 0.0**
KNK IAmb IAmb 16 57 12.8
comp=Z,16nm,1.4s
GHO **Glory Hole Cre** **88.77 14** P **P** **16 56 44.5 +0.1**
EFI **East Falkland** **89.17 148** **P** **16 56 47.8 +1.2**
CMAR **Chiang Mai Arr** **89.75 290** P **P** **16 56 51.5 +1.6**
comp=Z,0.5nm,0.3s,baz=124,slow=2.7,SNR=5.1
comp=Z,0.5nm,0.3s
TRF **Thorofare Moun** **89.97 13** P **P** **16 56 50.0 -0.1**
TRF IAmb IAmb 16 56 54.6
comp=Z,8.3nm,1.2s
TXAR **Lajitas Array** **90.13 58** P **P** **16 56 53.3 +1.7**
comp=Z,0.3nm,0.8s,baz=198,slow=5.4,SNR=3.9
comp=Z,0.3nm,0.8s
ILAR **Eielson Array** **91.85 13** P **P** **16 56 58.2 -0.3**
comp=Z,0.5nm,0.9s,baz=211,slow=4.9,SNR=2.6
comp=Z,0.5nm,0.9s
RDOG **Red Dog Mine** **92.40 6** **P** **16 57 00.8 -0.2**
RDOG IAmb IAmb 16 57 02.6
comp=Z,5.2nm,0.6s
PDAR **Pinedale Array** **92.41 44** P **P** **16 57 02.9 +0.9**
comp=Z,0.2nm,0.5s,baz=249,slow=4.7,SNR=1.8
comp=Z,0.2nm,0.5s
GO03 **Copiap** **94.94 123** pP 16 58 58.5 -8.6
AKASG **Malin Array Be** **145.02 328** SKPbc **SKiKP** **17 06 15.8 -0.1**
comp=Z,0.8nm,0.6s,baz=50,slow=2.1,SNR=4.3
MMAI **Mount Meron Ar** **147.91 295** PKPbc **PKiKP** **17 03 34.9 -0.3**
comp=Z,1.6nm,0.4s,baz=76,slow=6.1,SNR=3.2
TORD **Torodi Ar. Bea** **169.34 187** PKPab **PKPab** **17 05 10.6 -0.4**
comp=Z,1.0nm,0.6s,baz=159,slow=3.0,SNR=6.9

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*IDC **08** 16:56:27.3±2.4, 30°.44N×57°.55E, h0km, mb3.4/5, mbtmp3.4/6, ML2.8/1, Error ellipse: s-maj=60.6km s-min=24.0km az=154.0*
*TEH **08** 16:56:30.4, 30°.73N×57°.32E, h7km±43km, ML3.6*
ISC 08 16:56:31.4±1.3, **30°.67N**±0°.05×**57°.34E**±0°.04, **h16**km±10km, **n32**, σ1§**77**/32, **mb3.4**/5, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.17**	**199**	Pg		**Pg**	**16 56 36.0**	**+0.1**
ZRDN	**Zarand Kerman**	**0.75**	**294**	Pg		**Pg**	**16 56 44.6**	**-1.5**
KHGB	**Koh Gabri**	**0.80**	**249**	Pg		**Pg**	**16 56 46.2**	**-0.7**
CHMN	**Cheshme madani**	**0.82**	**168**	Pg		**Pb**	**16 56 47.6**	**+0.1**
TVBK	**TV Kerman**	**0.84**	**216**	Pg		**Pb**	**16 56 48.8**	**+1.0**
NGRK	**Negar Kerman**	**1.15**	**207**	Pg		**Pn**	**16 56 53.9**	**+0.9**
IBAF	**Bafgh**	**1.78**	**302**	Pg		**Pn**	**16 57 03.1**	**+1.5**
KBAM	**BAM**	**1.81**	**147**	Pn		**Pg**	**16 57 04.4**	**-1.7**
BSRN	**Basiran**	**2.01**	**49**	Pn		**Pn**	**16 57 06.3**	**+1.5**
IKOO	**Kooshah**	**2.26**	**39**	Pn		**Pn**	**16 57 09.8**	**+1.5**
NHDN	**Nehbandan**	**2.44**	**72**	Pn		**Pn**	**16 57 12.7**	**+2.0**
IMEH	**Mehriz**	**2.45**	**288**	Pn		**Pn**	**16 57 12.8**	**+1.9**
ITEG	**Tejag**	**2.53**	**28**	Pn		**Pn**	**16 57 12.7**	**+0.8**
KHNJ	**Kahnooj**	**2.73**	**173**	Pn		**Pn**	**16 57 17.5**	**-2.3**
ICHK	**Chekchek**	**2.96**	**303**	Pn		**Pn**	**16 57 19.2**	**+1.4**
IDAH	**Dahanechah**	**2.99**	**46**	Pn		**Pn**	**16 57 20.5**	**+2.1**
AFRZ	**Afriz**	**3.10**	**27**	Pn		**Pn**	**16 57 20.9**	**+1.2**
ZHDN	**Zahedan**	**3.27**	**112**	Pn		**Pn**	**16 57 25.0**	**+2.9**
ISAD	**Sadrabad**	**3.37**	**293**	Pn		**Pn**	**16 57 25.0**	**+1.5**
SHRT	**Shahrakht**	**3.89**	**39**	Pn		**Pn**	**16 57 32.7**	**+2.2**
ANAR	**Anarak**	**3.97**	**310**	Pn		**Pn**	**16 57 33.1**	**+1.4**
IRAM	**Ramesheh**	**4.39**	**286**	Pn		**Pn**	**16 57 39.6**	**+2.0**
IZEF	**Zefreh**	**4.81**	**299**	Pn		**Pn**	**16 57 45.8**	**+2.4**
SRVN	**Saravan**	**5.50**	**125**	Pn		**Pn**	**16 57 55.5**	**+2.8**
SBZV	**Sabzevar**	**5.71**	**2**	Pn		**Pn**	**16 57 57.2**	**+1.4**
IPAY	**Payeh**	**5.93**	**13**	Pn		**Pn**	**16 58 00.9**	**+2.1**
GEYT	**Alibeck**	**7.28**	**5**	Pn		**Pn**	**16 58 19.2**	**+2.2**
	0.2nm,0.3s,baz=184,slow=16,SNR=2.1							
	1.0nm,0.5s							
BRTR	**Keskin Array B**	**21.32**	**302**	P		**P**	**17 01 18.1**	**+0.4**
	1.3nm,0.8s,baz=120,slow=12,SNR=5.7							
	1.3nm,0.8s							
MKAR	**Makanchi Array**	**25.11**	**43**	P		**P**	**17 01 54.0**	**-1.4**
	0.2nm,0.7s,baz=239,slow=8.3,SNR=1.7							
	0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**25.45**	**32**	P		**P**	**17 01 58.2**	**-0.1**
	0.7nm,0.9s,baz=233,slow=9.2,SNR=6.5							
	0.7nm,0.9s							
ZALV	**Zalesovo Beam**	**30.55**	**32**	P		**P**	**17 02 42.1**	**-1.8**
	0.7nm,0.6s,baz=246,slow=10,SNR=4.0							
	0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**53.96**	**264**	P		**P**	**17 05 54.6**	**-0.1**
	0.8nm,0.7s,baz=54,slow=7.9,SNR=5.8							
	0.8nm,0.7s							

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*IDC **08** 17:00:59.8±3.5, 16°.39N×99°.20W, h0km, mb3.9/4, mbtmp3.9/8, ML3.3/3, MS3.5/4, Error ellipse: s-maj=62.6km s-min=17.9km az=13.0*
*NEIC **08** 17:01:00.9±3.0, 16°.45N±0°.04×99°.18W±0°.04, h10km±1km, mb4.1/24, Md4.7/22(MEX), Error ellipse: s-maj=7.7km s-min=5.2km az=42.0*
*MEX **08** 17:01:04.0±0.6, 16°.58N×99°.26W, h5km, MD4.7*
ISC 08 17:01:01.8±1.0, **16°.54N**±0°.03×**99°.17W**±0°.02, **h13**km±6km, **n119**, σ2§**16**/162, **mb4.1**/10, **MS3.6**/3, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIG	**Cruz Grande**	**0.20**	**10**			**Pb**	**17 01 07.7**	**+0.3**
CRIG						**Sg**	**17 01 10.5**	**+1.2**
CRIG	**Cruz Grande**	**0.20**	**10**	*eP*		**Pb**	**17 01 07.7**	**+0.3**
CRIG				*eS*		**Sg**	**17 01 10.5**	**+1.2**
DAIG	**Los Arroyos**	**0.67**	**316**			**Pg**	**17 01 14.3**	**-0.5**
DAIG						**Sg**	**17 01 22.5**	**-1.1**
DAIG	**Los Arroyos**	**0.67**	**316**	*eP*		**Pg**	**17 01 14.3**	**-0.5**
DAIG				*eS*		**Sg**	**17 01 22.5**	**-1.1**
ACP2	**Acapulco**	**0.77**	**296**			**Pg**	**17 01 16.2**	**-0.5**
ACP2						**Sg**	**17 01 25.8**	**-1.0**
ACP2	**Acapulco**	**0.77**	**296**	*i* P		**Pg**	**17 01 16.2**	**-0.5**
ACP2				*eS*		**Sg**	**17 01 25.8**	**-1.0**
PNIG	**Pinotepa**	**1.01**	**98**			**Pn**	**17 01 21.9**	**+0.1**
PNIG	**Pinotepa**	**1.01**	**98**	*eP*		**Pn**	**17 01 21.9**	**+0.1**
TLIG	**Tlapa**	**1.17**	**29**			**Pb**	**17 01 23.5**	**-0.5**
TLIG					Sn	**Sb**	**17 01 39.1**	**0.0**
TLIG	**Tlapa**	**1.17**	**29**	*eP*		**Pb**	**17 01 23.9**	**-0.1**
TLIG				*eS*		**Sb**	**17 01 39.1**	**0.0**
CAIG	**El Cayaco**	**1.17**	**296**			**Pb**	**17 01 23.8**	**-0.2**
CAIG						**Sb**	**17 01 37.6**	**-1.5**
CAIG	**El Cayaco**	**1.17**	**296**	*eP*		**Pb**	**17 01 22.4**	**-1.6**
CAIG				*eS*		**Sb**	**17 01 37.6**	**-1.5**
HMTT	**Tlapaneco**	**1.38**	**25**			**Pn**	**17 01 27.0**	**0.0**
HMTT						**Sn**	**17 01 44.9**	**-0.2**
HMTT	**Tlapaneco**	**1.38**	**25**	*i* P		**Pn**	**17 01 27.0**	**0.0**
HMTT				*eS*		**Sn**	**17 01 44.9**	**-0.2**
ATYC	**Atoyac**	**1.39**	**299**	*i* P		**Pn**	**17 01 26.2**	**-0.7**
ATYC				*eS*		**Sn**	**17 01 43.9**	**-1.2**
MEIG	**Mezcala**	**1.45**	**343**			**Pn**	**17 01 27.4**	**-0.4**
MEIG						**Sn**	**17 01 45.7**	**-1.1**
MEIG	**Mezcala**	**1.45**	**343**	*i* P		**Pn**	**17 01 27.4**	**-0.4**
MEIG				*i* S		**Sn**	**17 01 45.7**	**-1.1**
TXIG	**Tlaxiaco**	**1.52**	**62**	*eP*		**Pn**	**17 01 29.6**	**+0.6**
TXIG				*eS*		**Sg**	**17 01 50.6**	**-0.1**
YOIG	**Yosondua**	**1.58**	**78**	*eP*		**Pn**	**17 01 30.5**	**+0.6**
YOIG				*eS*		**Sg**	**17 01 52.6**	**-0.4**
FTIG	**Fresnillo de T**	**1.68**	**36**	*eP*		**Pn**	**17 01 31.3**	**+0.2**
FTIG				*eS*		**Sb**	**17 01 54.2**	**+0.3**
HLIG	**Huajuapan de L**	**1.83**	**45**			**Pn**	**17 01 32.9**	**-0.4**
HLIG	**Huajuapan de L**	**1.83**	**45**	*eP*		**Pn**	**17 01 32.9**	**-0.4**
HLIG						**Sn**	**17 01 56.5**	**+0.1**
PLIG	**Platanillo**	**1.87**	**350**	*eP*		**Pn**	**17 01 34.0**	**+0.3**
PLIG				*eS*		**Sb**	**17 01 58.7**	**-0.6**
PEIG	**Puerto Escondi**	**2.01**	**105**	*eP*		**Pb**	**17 01 37.2**	**-1.1**
PEIG				*eS*		**Sg**	**17 02 09.9**	**+3.3**
ARIG	**Puente Sto Nin**	**2.07**	**327**	*eP*		**Pn**	**17 01 36.5**	**+0.2**
ARIG				*eS*		**Sn**	**17 02 01.1**	**-0.9**
YAIG	**Yautepec**	**2.31**	**2**			**Pn**	**17 01 40.9**	**+1.1**
YAIG	**Yautepec**	**2.31**	**2**	*eP*		**Pn**	**17 01 40.9**	**+1.1**
YAIG				*i* S		**Sb**	**17 02 10.8**	**-1.3**
VHO	**Vista Hermosa**	**2.39**	**77**	*eP*		**Pn**	**17 01 42.7**	**+1.8**
VHO				*eS*		**Sg**	**17 02 18.2**	**-0.5**
OXIG	**Oaxaca**	**2.39**	**77**			**Pn**	**17 01 42.7**	**+1.8**
OXIG						**Sg**	**17 02 18.2**	**-0.5**
OXLC	**Oaxaca**	**2.42**	**77**	*eP*		**Pn**	**17 01 42.6**	**+1.4**
OXLC				*i* S		**Sb**	**17 02 17.3**	**+2.2**
ZIIG	**Zihuatanejo**	**2.44**	**296**	*eP*		**Pn**	**17 01 40.9**	**-0.5**
ZIIG				*eS*		**Sb**	**17 02 14.2**	**-1.5**
TPIG	**Tehuac#an**	**2.54**	**42**	*eP*		**Pb**	**17 01 47.9**	**+0.5**
TPIG				*i* S		**Sb**	**17 02 19.9**	**+1.2**
PPIG	**Popocatepetl**	**2.56**	**11**			**Pn**	**17 01 43.9**	**+0.3**
PPM	**Popocatepetl**	**2.56**	**11**	*eP*		**Pn**	**17 01 43.9**	**+0.3**
PPM				*eS*		**Sb**	**17 02 21.9**	**+2.2**
AMVM	**AMECAMECA**	**2.60**	**8**	*eP*		**Pb**	**17 01 47.7**	**-0.8**
MPVM	**San Francisco**	**2.65**	**3**	*eP*		**Pn**	**17 01 46.0**	**+1.5**
TLVM	**San Miguel Top**	**2.66**	**0**	*eP*		**Pn**	**17 01 47.0**	**+2.3**
XCVM	**Xochimilco**	**2.70**	**1**	*eP*		**Pn**	**17 01 47.7**	**+2.5**
AOVM	**Tlapan**	**2.72**	**357**	*eP*		**Pn**	**17 01 46.6**	**+1.0**
INVM	**La Marquesa**	**2.74**	**356**	*eP*		**Pn**	**17 01 48.4**	**+2.4**
CNCY	**Coyocacan**	**2.76**	**360**	*eP*		**Pn**	**17 01 50.3**	**-0.9**
CNCY				*i* S		**Sb**	**17 02 26.5**	**+1.4**
THVM	**De Xico**	**2.76**	**4**	*i* P		**Pb**	**17 01 49.1**	**-2.2**
UNM	**Universidad Na**	**2.77**	**360**	Pn		**Pn**	**17 01 47.1**	**+0.8**
UNM	**Universidad Na**	**2.77**	**360**	*eP*		**Pb**	**17 01 49.2**	**-2.2**
UNM				*eS*		**Sb**	**17 02 22.8**	**+2.7**
CJVM	**Cuajimalpa**	**2.81**	**358**	*i* P		**Pn**	**17 01 49.2**	**+2.5**
BJVM	**Benito Juarez**	**2.82**	**360**	*eP*		**Pn**	**17 01 47.4**	**+0.5**
PBVM	**Pinon**	**2.89**	**2**	*eP*		**Pn**	**17 01 50.1**	**+2.5**
TXVM	**Universitario**	**2.89**	**5**	*eP*		**Pb**	**17 01 52.8**	**-0.6**
AZVM	**Cuida Lopez Ma**	**3.03**	**358**	*i* P		**Pb**	**17 01 53.5**	**-2.4**
HUIG	**Huatulco**	**3.04**	**104**	*eP*		**Pb**	**17 01 57.0**	**+1.2**
PTVM	**Pico Tres Padr**	**3.04**	**1**	*eP*		**Pn**	**17 01 52.5**	**+2.6**
VTVM	**Tizayuca**	**3.23**	**7**	*eP*		**Pb**	**17 01 59.2**	**-0.1**
ATVM	**ATLACOMULCO**	**3.27**	**349**	*i* P		**Pn**	**17 01 56.5**	**+3.4**
ZUVM	**ZUMPANGO**	**3.27**	**1**	*i* P		**Pb**	**17 01 59.2**	**-0.7**
NEUV	**Arroyo Zacate**	**3.42**	**70**	*eP*		**Pn**	**17 01 56.4**	**+1.5**
NEUV				*eS*		**Sn**	**17 02 39.6**	**+4.2**
ACIG	**Acambay**	**3.49**	**349**	*eP*		**Pb**	**17 02 01.9**	**-1.7**
JAUV	**Jalcomulco**	**3.60**	**38**	*eP*		**Pn**	**17 01 56.7**	**-0.7**
JAUV				*i* S		**Sb**	**17 02 50.1**	**+1.0**
MOIG	**Morelia**	**3.67**	**329**	Pn		**Pn**	**17 02 00.8**	**+2.2**
MOIG	**Morelia**	**3.67**	**329**	*eP*		**Pb**	**17 02 05.1**	**-1.5**
DEIG	**Demacu**	**3.74**	**2**	*eP*		**Pb**	**17 02 05.9**	**-2.7**
DEIG				*eS*		**Sb**	**17 02 55.5**	**+2.1**
LVIG	**Laguna Verde**	**4.11**	**39**	*eP*		**Pn**	**17 02 01.1**	**-3.3**
LVIG				*eS*		**Sb**	**17 02 54.8**	**-5.1**
CMIG	**Matias Romero**	**4.14**	**82**	Pn		**Pn**	**17 02 04.9**	**+0.1**
	1.0nm,0.3s,baz=260,slow=8.3,SNR=3.4							
CMIG					Pg	**Pb**	**17 02 16.6**	**+2.0**
	5.3nm,0.3s,baz=282,slow=13,SNR=15							
CMIG					Lg	Lg	17 03 14.7	
	35nm,0.3s,baz=353,slow=23,SNR=13							
	6.3nm,0.5s							
CMIG	**Matias Romero**	**4.14**	**82**	*eP*		**Pn**	**17 02 06.8**	**+2.0**
CMIG				*eS*		**Sb**	**17 03 06.1**	**+1.5**
JRQG	**Juriquilla Cam**	**4.32**	**344**	*eP*		**Pb**	**17 02 20.5**	**+2.8**
JRQG				*eS*		**Sb**	**17 03 14.1**	**+4.2**
PMUV	**Sontecomapan**	**4.34**	**62**	*eP*		**Pn**	**17 02 09.3**	**+1.6**
PMUV				*eS*		**Sb**	**17 03 06.5**	**-4.0**
MMIG	**Aquila**	**4.35**	**294**	*eP*		**Pn**	**17 02 06.5**	**-1.2**
MMIG				*i* S		**Sn**	**17 03 03.4**	**+5.0**
COIG	**Colima**	**5.05**	**302**	*eP*		**Pn**	**17 02 20.3**	**+3.0**
COIG				*eS*		**Sn**	**17 03 18.4**	**+2.8**
JUBC	**Volcan de Coli**	**5.13**	**306**	*eP*		**Pn**	**17 02 22.4**	**+3.7**
EZ5V		**5.13**	**305**	*i* P		**Pn**	**17 02 22.1**	**+3.4**
EZ5V				*eS*		**Sn**	**17 03 22.1**	**+4.1**
MNGA	**Volcan de Coli**	**5.14**	**305**	*eP*		**Pn**	**17 02 22.0**	**+3.1**
INCO	**Volcan de Coli**	**5.16**	**306**	*eP*		**Pn**	**17 02 23.7**	**+4.4**
INCO				*eS*		**Sn**	**17 03 22.7**	**+3.8**
SOMAC	**Volcano de Col**	**5.18**	**306**	*eP*		Pn	17 02 25.1	+5.7
CDAR	**Ciudad de Arme**	**5.20**	**298**	*i* P		**Pn**	**17 02 20.6**	**+1.3**
CDAR				*eS*		**Sn**	**17 03 18.4**	**-0.8**
CEGR	**Campo Tres**	**5.29**	**303**	*eP*		**Pn**	**17 02 23.7**	**+2.9**
CEGR				*i* S		**Sn**	**17 03 28.1**	**+6.4**
RPIG	**Rio Verde**	**5.37**	**352**	*eP*		**Pb**	**17 02 40.3**	**+4.6**
RPIG				*eS*		**Sb**	**17 03 47.3**	**+7.2**
CIHU	**Emiliano Zapat**	**5.96**	**298**	*eP*		**Pn**	**17 02 31.1**	**+1.3**
AAIG	**Aguscalientes**	**6.20**	**331**	*eP*		**Pb**	**17 02 47.7**	**-2.1**
AAIG				*eS*		**Sb**	**17 04 03.9**	**0.0**
CJM	**Chamela**	**6.32**	**299**	*eP*		**Pn**	**17 02 36.5**	**+1.7**
CJM				*eS*		**Sn**	**17 03 55.6**	**+8.7**
ZAIG	**Zacatecas**	**6.98**	**333**			**Pn**	**17 02 42.2**	**-1.8**
ESQI	**Esquipulas**	**9.67**	**100**	Pn		**Pn**	**17 03 17.5**	**-3.4**
TEIG	**Tepich**	**10.97**	**69**	Pn		**Pn**	**17 03 39.6**	**+1.1**
	23nm,0.4s,baz=286,slow=14,SNR=1.5							
TEIG					Sn	**Sn**	**17 05 39.1**	**-2.1**
	3.8nm,0.3s,baz=320,slow=23,SNR=2.0							
TXAR	**Lajitas Array**	**13.39**	**343**	Pn		**Pn**	**17 04 14.2**	**+2.4**
	baz=162,slow=15,SNR=3.4							
TXAR					Lg	Lg	17 08 09.6	
	baz=161,slow=23,SNR=2.5							
	0.3nm,0.8s							
OZNA	**Ozona**	**14.43**	**353**	Pn		**Pn**	**17 04 25.6**	**-0.3**
BRDY	**Brady**	**14.68**	**1**	Pn		**Pn**	**17 04 29.0**	**-0.3**
MNHN	**Monahans**	**15.09**	**348**			**Pn**	**17 04 34.2**	**-0.8**
VHRN	**Van Horn**	**15.15**	**340**	Pn		**Pn**	**17 04 34.5**	**-1.2**
SGCY	**Sterling City**	**15.41**	**354**			**Pn**	**17 04 37.6**	**-1.5**
SGCY					IAmb	IAmb	17 04 46.4	
	comp=Z,7.7nm,0.9s							
PLPT	**Palo Pinto**	**16.22**	**3**			**Pn**	**17 04 47.2**	**-2.4**
PLPT					IAmb	IAmb	17 04 55.3	
	comp=Z,11nm,0.8s							
POST	**Post**	**16.59**	**353**			**Pn**	**17 04 53.9**	**-0.4**
POST					IAmb	IAmb	17 05 00.1	
	comp=Z,8.6nm,0.6s							
DKNS	**Dickens**	**17.13**	**355**			**Pn**	**17 04 59.6**	**-1.5**
DKNS					IAmb	IAmb	17 05 05.9	
	comp=Z,8.9nm,0.7s							
AMTX	**Amarillo**	**18.41**	**353**	P		**P**	**17 05 15.3**	**-1.6**
AMTX					IAmb	IAmb	17 05 21.8	
	comp=Z,13nm,1.1s							
ANMO	**Albuquerque**	**19.46**	**342**	P		**Pn**	**17 05 29.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=176,slow=19,SNR=3.6							
ANMO					LR	LR	17 12 33.3	
	comp=Z,50nm,18.2s,baz=234,slow=35							
	comp=Z,1.9nm,0.7s							
T35A	**Sooner Cattle**	**20.43**	**6**	P		**P**	**17 05 38.2**	**-0.8**
T35A					IAmb	IAmb	17 05 46.8	
	comp=Z,9.7nm,1.0s							
WUAZ	**Wupatki**	**21.82**	**332**	P		**P**	**17 05 55.6**	**+1.5**
WUAZ					IAmb	IAmb	17 05 59.9	
	comp=Z,6.3nm,0.8s							
MVCO	**Mesa Verde**	**22.18**	**340**	P		**P**	**17 05 58.0**	**0.0**
MVCO					IAmb	IAmb	17 06 02.1	
	comp=Z,8.4nm,1.1s							
ISCO	**Idaho Springs**	**23.85**	**348**	P		**P**	**17 06 17.5**	**+2.2**
SRU	**San Rafael Swe**	**24.59**	**338**	P		**P**	**17 06 22.3**	**+0.4**
SRU					IAmb	IAmb	17 06 25.1	
	comp=Z,4.9nm,0.8s							
TPNV	**Topopah Spring**	**25.34**	**327**	P		**P**	**17 06 32.6**	**+3.9**
TPNV					IAmb	IAmb	17 06 34.4	
	comp=Z,6.0nm,1.1s							
BSUT	**Blindstream Ca**	**25.94**	**340**	P		**P**	**17 06 35.9**	**+1.5**
BSUT					IAmb	IAmb	17 06 39.2	
	comp=Z,5.4nm,1.0s							
GMN	**Gold Mountain**	**26.14**	**326**	P		**P**	**17 06 40.1**	**+4.0**
P49A	**Miami Univ. Ec**	**26.15**	**26**	P		**P**	**17 06 35.5**	**-0.3**
O48B	**Farmland**	**26.58**	**24**	P		**P**	**17 06 36.7**	**-3.1**
URIC	**Uribia, Colomb**	**26.77**	**97**	P		**P**	**17 06 37.7**	**-4.0**
NVAR	**Mina Array Bea**	**27.53**	**326**	P		**P**	**17 06 51.2**	**+2.6**
	comp=Z,1.0nm,0.7s,baz=140,slow=11,SNR=8.0							
	comp=Z,1.0nm,0.7s							
BW06	**Boulder Array**	**27.61**	**343**	P		**P**	**17 06 49.5**	**+0.2**
PD31	**Pinedale Array**	**27.61**	**343**	P		**P**	**17 06 48.6**	**-0.7**
PDAR	**Pinedale Array**	**27.61**	**343**	P		**P**	**17 06 50.9**	**+1.7**
PDAR	**Pinedale Array**	**27.61**	**343**	P		**P**	**17 06 50.5**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=142,slow=12,SNR=13							
PDAR					LR	LR	17 18 53.3	
	comp=Z,226nm,18.8s,baz=126,slow=39							
	comp=Z,1.4nm,0.7s							
ELK	**Elko**	**27.85**	**333**	LR		LR	17 20 00.9	
	comp=Z,117nm,18.4s,baz=140,slow=41							
LOHW	**Long Hollow**	**28.68**	**343**	P		**P**	**17 06 59.4**	**+0.6**
PNTR	**Pine Nut**	**28.70**	**326**	P		**P**	**17 06 59.2**	**+0.2**
PNTR					IAmb	IAmb	17 07 30.6	
	comp=Z,2.9nm,0.9s							
HLID	**Hailey**	**29.89**	**337**	P		**P**	**17 07 10.2**	**+0.7**
SCHQ	**Schefferville**	**45.60**	**26**	P		**P**	**17 09 21.2**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=241,slow=7.0,SNR=2.1							
	comp=Z,1.7nm,0.5s							
YKA	**Yellowknife Ar**	**47.17**	**350**	P		**P**	**17 09 34.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=159,slow=7.0,SNR=8.9							
	comp=Z,0.5nm,0.7s							
H03N2	**Juan Fernandez**	**53.32**	**159**	T		T	18 07 47.8	
	baz=337,slow=77,SNR=116							
H03N1	**Juan Fernandez**	**53.33**	**159**	T		T	18 07 46.6	
	baz=337,slow=77,SNR=118							
H03N3	**Juan Fernandez**	**53.34**	**159**	T		T	18 07 48.3	
	baz=337,slow=77,SNR=191							
SPITS	**Spitsbergen Ar**	**78.95**	**11**	LR		LR	17 48 23.2	
	comp=Z,32nm,21.7s,baz=250,slow=36							
PZH	**PanZhiHua**	**132.63**	**334**	PKP		**PKPdf**	**17 20 16.0**	**-1.3**

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*IDC **08** 17:10:21.3±1.5, 53°.80N×170°.63E, h0km, mb3.3/4, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=69.5km s-min=20.7km az=12.0*
*NEIC **08** 17:10:25.6±1.0, 53°.7N±0°.5×170°.8E±0°.3, h35km±2km, ML3.6/2, Error ellipse: s-maj=96.2km s-min=10.5km az=20.0*
ISC 08 17:10:24.2±0.8, **53°.6N**±0°.2×**170°.59E**±0°.07, **h24**km, **n10**, σ1§**23**/13, **mb3.3**/4, **Near Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**

CACAO **El Cacao, Vera** 11.40 61 *eP* **Pn** 17 41 13.5 +1.3
CNGN Cerro Negro 11.41 21 *eP* Pn 17 41 03.0 -9.5
ACON Acoyapa 11.58 29 **Pn** 17 41 16.6 +1.9
ACON Acoyapa 11.58 29 *eP* **Pn** 17 41 14.1 -0.6
SNET Serv Nac Est T 11.93 8 Pn **Pn** 17 41 19.3 -0.3
ARNL Arenillas 12.03 116 Pn **Pn** 17 41 22.8 +1.9
MATN Matagalpa 12.10 24 Pn **Pn** 17 41 23.0 +1.1
AZU Azuero 12.12 60 *eP* **Pn** 17 41 24.0 +1.9
ESPN Las Esperanzas 12.21 32 **Pn** 17 41 26.9 +3.5
COHC Cochancay 12.36 110 **Pn** 17 41 23.1 -2.4
COHC Cochancay 12.36 110 *eP* **Pn** 17 41 28.2 +2.8
CHSH Refugio Sur-Vo 12.44 105 Pn **Pn** 17 41 26.6 -0.4
MCRA Macar, Loja 12.51 119 Pn **Pn** 17 41 30.6 +3.0
MCRA Macar, Loja 12.51 119 *eP* **Pn** 17 41 30.9 +3.4
OTAV Otavalo 12.51 97 Pn **Pn** 17 41 29.3 +1.3
OTAV Otavalo 12.51 97 *eP* **Pn** 17 41 27.9 0.0
TULM Tulcn-Chalpat 13.12 95 **Pn** 17 41 37.9 +1.6
APG El Apazote 13.13 2 LR LR 17 45 32.8
comp=Z,36nm,20.1s,baz=225,slow=33
UPD2 Meteti 14.45 62 *eP* **Pn** 17 41 55.6 +1.6
YOTC Yotoco, Valle 14.67 81 *eP* **P** 17 42 01.8 -1.5
PLMC San Jos del P 14.88 78 *eP* **Pn** 17 42 00.3 +0.3
ATAH Atahualpa 15.29 126 Pn **Pn** 17 42 08.4 +2.7
0.3nm,0.3s,baz=299,slow=16,SNR=15
ATAH LR LR 17 47 00.7
comp=Z,2µm,18.1s,baz=301,slow=33
7.8nm,0.9s
CBOC Ciudad Bolivar 15.36 74 *eP* **Pn** 17 42 06.2 -0.3
APAC Apartado, Choc 15.47 66 *eP* **Pn** 17 42 09.4 +1.7
DBBC Dabeiba 15.51 70 *eP* **Pn** 17 42 10.0 +1.7
CMIG Matias Romero 15.70 346 Pn **Pn** 17 42 08.8 -1.9
0.4nm,0.3s,baz=146,slow=7.3,SNR=1.9
CMIG LR LR 17 46 50.8
comp=Z,684nm,20.1s,baz=181,slow=32
0.9nm,0.3s
ORTC Ortega, Tolima 15.74 82 *eP* **Pn** 17 42 07.1 -4.2
GUY2C Guyana, Caldas 15.84 77 *eP* **Pn** 17 42 13.3 +0.3
UREC San Jos de Ur 16.38 68 *eP* **Pn** 17 42 19.6 +0.1
ROSC El Rosal 16.80 79 Pn **Pn** 17 42 25.4 +0.3
ROSC IAmb IAmb 17 42 32.9
comp=Z,86nm,1.4s
ROSC El Rosal 16.80 79 Pn **Pn** 17 42 25.6 +0.5
comp=Z,14nm,0.7s,baz=214,slow=21,SNR=2.6
ROSC LR LR 17 47 50.0
comp=Z,1µm,21.4s,baz=262,slow=34
ROSC El Rosal 16.80 79 *eP* **P** 17 42 28.3 +1.1
PTBC PUERTO BERRIO, 17.03 73 *eP* **Pn** 17 42 28.3 +0.6
SPBC San Pablo de B 17.19 77 *eP* **Pn** 17 42 28.3 -1.4
SJCC San Jacinto, C 17.55 62 *eP* **Pn** 17 42 32.6 -1.6
BARC Barichara 18.27 74 *eP* **P** 17 42 44.2 +0.8
TEIG Tepich 18.49 8 P **P** 17 42 44.1 -1.4
comp=Z,3.1nm,0.3s,baz=318,slow=22,SNR=4.2
TEIG LR LR 17 48 53.5
comp=Z,3µm,20.3s,baz=350,slow=34
comp=Z,87nm,0.7s
TEIG Tepich 18.49 8 *eP* **P** 17 42 45.1 -0.3
PAMC Pamplona, Colo 18.93 73 *eP* **P** 17 42 50.7 -0.1
NNA Nana 19.54 135 P **P** 17 42 54.9 -2.2
NNA Nana 19.54 135 P **Pn** 17 43 00.5 +2.1
comp=Z,0.7nm,0.3s,baz=284,slow=8.8,SNR=4.6
NNA LR LR 17 49 09.1
comp=Z,781nm,20.0s,baz=323,slow=33
comp=Z,7.6nm,0.6s
TAMC Tame, Arauca 19.57 76 *eP* **P** 17 42 55.5 -2.0
CZSB Cruzeiro do Su 20.44 118 P **P** 17 43 07.1 +0.1
CZSB IAmb IAmb 17 43 13.9
comp=Z,46nm,1.0s
MTDJ Mount Denham 20.93 38 *eP* **P** 17 43 12.0 -0.2
SDV Santo Domingo 21.33 70 P **P** 17 43 15.5 -1.2
SDV Santo Domingo 21.33 70 P **P** 17 43 16.5 -0.3
comp=Z,12nm,0.9s,baz=273,slow=8.9,SNR=12
SDV LR LR 17 50 31.4
comp=Z,566nm,20.4s,baz=256,slow=34
comp=Z,12nm,0.9s
SDV Santo Domingo 21.33 70 *eP* **P** 17 43 17.4 +0.6
TBTG Tabatinga, AM 21.77 106 P **P** 17 43 19.2 -2.1
TBTG Tabatinga, AM 21.77 106 *eP* **P** 17 43 18.2 -3.1
BAUV El Baul 23.80 72 P **P** 17 43 40.6 -1.7
ETMB Extrema 27.13 116 IAmb IAmb 17 44 17.3
comp=Z,19nm,1.2s
PCRV Puerto La Cruz 27.36 71 LR LR 17 56 01.4
comp=Z,346nm,18.4s,slow=38
SLBS Sierra La Lagu 28.55 321 P **P** 17 44 25.4 +0.1
SLBS IAmb IAmb 17 44 31.8
comp=Z,15nm,1.3s
PB18 Visviri 28.56 133 P **P** 17 44 21.8 -4.1
LPAZ La Paz 28.76 130 P **P** 17 44 26.5 -1.4
DRIO Del Rio 29.00 342 IAmb IAmb 17 44 45.2
comp=Z,18nm,1.4s
PB16 IPOC Station P 29.02 135 P **P** 17 44 28.2 -1.9
PB16 IAmb IAmb 17 44 37.4
comp=Z,11nm,0.8s
LPIG La Paz 29.08 321 LR LR 17 53 22.0
comp=Z,279nm,20.1s,baz=177,slow=31
SJG San Juan 29.18 55 LR LR 17 55 53.8
comp=Z,532nm,18.8s,baz=238,slow=36
SAML Samuel 29.59 112 P **P** 17 44 33.0 -1.5
SAML Samuel 29.59 112 *eP* **P** 17 44 31.0 -3.5
TXAR Lajitas Array 29.97 337 P **P** 17 44 34.9 -3.0
comp=Z,0.5nm,0.7s,baz=154,slow=12,SNR=5.1
TXAR LR LR 17 55 41.7
comp=Z,483nm,18.7s,baz=140,slow=35
comp=Z,0.5nm,0.7s
SAND Sanderson 29.98 340 P **P** 17 44 38.1 +0.2
GO01 Chusmiza 30.13 136 IAmb IAmb 17 44 50.2
comp=Z,16nm,1.1s
BOAV Boa Vista 30.33 88 P **P** 17 44 40.4 -0.8
BOAV IAmb IAmb 17 44 57.5
comp=Z,24nm,1.4s
BOAV Boa Vista 30.33 88 *eP* **P** 17 44 41.5 +0.3
PB08 IPOC Station P 30.48 137 IAmb IAmb 17 44 50.1
comp=Z,15nm,1.2s
PB07 IPOC Station P 31.10 140 IAmb IAmb 17 44 54.6
comp=Z,16nm,1.1s
PB09 IPOC Station P 31.57 139 IAmb IAmb 17 45 02.2
comp=Z,21nm,1.1s
PLPT Palo Pinto 31.64 348 P **P** 17 44 54.2 +1.8
PB05 IPOC Station P 31.72 142 IAmb IAmb 17 44 60.0
comp=Z,18nm,1.0s
LVC Limon Verde 32.36 140 P **P** 17 44 59.8 +0.4
LVC IAmb IAmb 17 45 06.7
comp=Z,21nm,1.1s
LVC Limon Verde 32.36 140 P **P** 17 44 59.4 +0.1
comp=Z,9.0nm,0.8s,baz=300,slow=5.4,SNR=8.9
LVC LR LR 17 55 28.6
comp=Z,313nm,21.9s,baz=327,slow=31
comp=Z,9.0nm,0.8s
DKNS Dickens 33.07 345 P **P** 17 45 05.6 +0.5
WMOK Wichita Mounta 33.59 348 P **P** 17 45 12.0 +2.4
WMOK IAmb IAmb 17 45 19.7
comp=Z,16nm,1.3s
VILB Vilhena 33.78 117 P **P** 17 45 11.5 0.0
VILB IAmb IAmb 17 45 17.3
comp=Z,17nm,1.1s
GO02 Mina Guanaco 33.81 144 IAmb IAmb 17 45 19.4
comp=Z,21nm,1.4s
RPN Rapa Nui 33.82 210 LR LR 17 55 19.0
comp=Z,811nm,19.6s,baz=32,slow=30
PAULI Pauline 33.92 13 P **P** 17 45 12.8 +0.4
PAULI IAmb IAmb 17 45 15.5
comp=Z,12nm,0.9s
FCAR Ozark Folk Cen 33.94 358 IAmb IAmb 17 45 15.9
comp=Z,17nm,1.4s
V48A Smith Brothers 33.98 6 P **P** 17 45 13.8 +0.9
V48A IAmb IAmb 17 45 15.6
comp=Z,17nm,1.1s
DEOK Depew 34.28 352 P **P** 17 45 16.3 +0.9
DEOK IAmb IAmb 17 45 18.9
comp=Z,18nm,1.1s
TKL Tuckaleechee C 34.33 10 LR LR 17 58 41.2
comp=Z,154nm,20.3s,baz=181,slow=36
SIV San Ignacio 34.34 122 LR LR 17 58 56.1
comp=Z,564nm,18.4s,baz=2.5,slow=36
KMSC Kings Mountain 34.34 14 IAmb IAmb 17 45 18.7
comp=Z,16nm,0.9s
OK029 Liberty Lake 34.38 350 P **P** 17 45 15.7 -0.6
OK029 IAmb IAmb 17 45 19.3
comp=Z,28nm,1.4s
AMTX Amarillo 34.43 344 P **P** 17 45 16.0 -0.9
OK052 Battle Ridge R 34.47 351 P **P** 17 45 18.1 +1.0
U38A Gravette 34.62 355 P **P** 17 45 20.8 +2.4
U49A Red Boiling Sp 34.87 7 P **P** 17 45 21.5 +1.0
OK048 Pawnee Station 34.90 351 P **P** 17 45 22.1 +1.2
OK048 IAmb IAmb 17 45 30.1
comp=Z,16nm,1.1s
OK051 E0350 and S346 34.98 352 P **P** 17 45 22.7 +1.2
OK051 IAmb IAmb 17 45 30.6
comp=Z,12nm,0.9s
T47A Sharon Grove 35.19 5 P **P** 17 45 23.8 +0.5
T47A IAmb IAmb 17 45 25.9
comp=Z,18nm,0.9s
MGMO Mountain Grove 35.21 358 IAmb IAmb 17 45 27.9
comp=Z,18nm,1.3s
BLOK Blackwell 35.28 351 P **P** 17 45 24.6 +0.5
BLOK IAmb IAmb 17 45 43.3
comp=Z,21nm,1.3s
OK035 E0210 Rd and N 35.49 349 P **P** 17 45 27.7 +1.7
OK032 Salt Plains WL 35.49 350 P **P** 17 45 27.8 +1.9
OK032 IAmb IAmb 17 45 35.1
comp=Z,30nm,1.5s
V58A Windy Hill, Pi 35.54 17 P **P** 17 45 27.5 +1.1
U54A Nelsons Funny 35.55 13 P **P** 17 45 27.9 +1.4
U54A IAmb IAmb 17 45 29.2
comp=Z,14nm,0.9s
TUC Tucson 35.68 330 P **P** 17 45 28.8 +1.1
S44A Carbondale 35.75 2 P **P** 17 45 29.9 +1.7
S44A IAmb IAmb 17 45 36.5
comp=Z,32nm,1.5s
PTLB Pontes e Lacer 35.76 120 P **P** 17 45 29.0 +0.6
PTLB IAmb IAmb 17 45 34.5
comp=Z,29nm,1.6s
S39A Bolivar 35.79 357 P **P** 17 45 30.4 +1.9
S39A IAmb IAmb 17 45 48.4
comp=Z,14nm,1.1s
ANMO Albuquerque 36.04 338 P **P** 17 45 32.5 +1.7
ANMO Albuquerque 36.04 338 LR LR 17 59 30.7
comp=Z,500nm,19.8s,baz=249,slow=35
CCM Cathedral Cave 36.09 359 P **P** 17 45 31.8 +0.8
RTBA Rita Blanca 36.18 344 IAmb IAmb 17 45 43.2
comp=Z,21nm,1.1s
S51A Beattyville 36.29 10 P **P** 17 45 34.0 +1.2
S51A IAmb IAmb 17 45 35.2
comp=Z,12nm,0.8s
R40A Maddies Statio 36.34 358 P **P** 17 45 33.6 +0.4
214A Organ Pipe Nat 36.44 328 P **P** 17 45 34.6 +0.5
WCI Wyandotte Cave 36.50 6 P **P** 17 45 35.9 +1.3
WCI IAmb IAmb 17 45 37.2
comp=Z,22nm,1.1s
T57A Hurt 36.63 16 P **P** 17 45 37.2 +1.5
T57A IAmb IAmb 17 45 38.1
comp=Z,15nm,0.9s
R50A Paris 36.80 9 P **P** 17 45 38.4 +1.3
R50A IAmb IAmb 17 45 39.8
comp=Z,16nm,1.2s
Q44A Meyer Farm, Va 36.97 2 P **P** 17 45 39.5 +1.0
X18A Snowflake 37.11 333 P **P** 17 45 41.0 +0.9
R32A Long Quarter, 37.15 350 P **P** 17 45 41.0 +0.9
R32A IAmb IAmb 17 45 46.7
comp=Z,12nm,0.8s
R53A Hurricane 37.27 12 P **P** 17 45 42.1 +1.1
R53A IAmb IAmb 17 45 43.5
comp=Z,16nm,0.9s
T25A Trinidad 37.32 342 P **P** 17 45 42.3 +0.5
T25A IAmb IAmb 17 46 05.4
comp=Z,20nm,1.2s
BLO Bloomington 37.41 6 P **P** 17 45 43.0 +0.8
BLO IAmb IAmb 17 45 44.9
comp=Z,18nm,0.7s
KSU1 Kansas State U 37.50 353 P **P** 17 45 43.9 +0.9
KSU1 IAmb IAmb 17 45 52.8
comp=Z,15nm,0.8s
P40A Paris 37.57 359 P **P** 17 45 45.1 +1.5
P40A IAmb IAmb 17 45 47.5
comp=Z,24nm,1.1s
113A Mohawk Valley, 37.58 327 **P** 17 45 43.8 0.0
Q51A Peebles 37.69 10 P **P** 17 45 45.2 +0.5
P43A Skaggs, Pawnee 37.69 2 P **P** 17 45 46.2 +1.6
P43A IAmb IAmb 17 45 47.4
comp=Z,21nm,1.1s
CBKS Cedar Bluff 37.73 349 P **P** 17 45 47.0 +2.0
CBKS IAmb IAmb 17 45 55.0
comp=Z,13nm,0.9s
P46A Rosedale 37.79 5 P **P** 17 45 47.3 +1.8
P48A Milroy 37.81 7 P **P** 17 45 47.0 +1.3
P48A IAmb IAmb 17 45 47.8
comp=Z,19nm,1.0s
Q52A Bidwell 37.82 11 P **P** 17 45 46.2 +0.5
Y14A Wickenburg 38.09 329 P **P** 17 45 50.0 +1.8
P51A Williamsport 38.18 10 IAmb IAmb 17 45 51.2
comp=Z,16nm,0.9s
MDP Montagnes des 38.29 84 LR LR 18 00 17.9
comp=Z,231nm,18.7s,baz=269,slow=34
P52A Corning 38.49 11 IAmb IAmb 17 45 54.2
comp=Z,18nm,1.1s
P53A Whipple 38.50 12 IAmb IAmb 17 45 54.2
comp=Z,30nm,1.1s
CFA Coronel Fontan 39.56 149 P **P** 17 46 01.6 +1.0
comp=Z,8.6nm,0.9s,baz=322,slow=10,SNR=5.3
CFA LR LR 17 58 43.4
comp=Z,466nm,21.2s,baz=358,slow=31
comp=Z,8.6nm,0.9s
PFO Pinyon Flats O 39.70 326 LR LR 17 59 44.1
comp=Z,272nm,18.9s,baz=128,slow=32
U15A North Rim 39.75 333 P **P** 17 46 04.1 +1.7
MT09 Talagante 40.03 154 P **P** 17 46 04.7 +0.1
MT09 IAmb IAmb 17 46 10.5
comp=Z,16nm,0.8s
L40A Anamosa 40.09 360 IAmb IAmb 17 46 07.8
comp=Z,29nm,1.3s
L34A Svendsen Farm, 40.30 354 IAmb IAmb 17 46 25.1
comp=Z,28nm,1.0s
V12A Nelson 40.43 329 P **P** 17 46 09.7 +1.9
LMEL Las Melosas 40.44 153 IAmb IAmb 17 46 15.2
comp=Z,20nm,0.9s
BO01 Tunca 40.51 154 P **P** 17 46 10.0 +1.6
PKCU Pink Cliffs 40.59 333 P **P** 17 46 13.2 +3.8
PKCU IAmb IAmb 17 46 23.8
comp=Z,26nm,1.3s
K38A Parkersburg 40.71 358 P **P** 17 46 10.1 +0.3
K38A IAmb IAmb 17 46 18.8
comp=Z,29nm,0.9s
AQDB Aquidauana 40.95 125 P **P** 17 46 12.1 -0.1
BO02 Sierra Bellavi 40.98 154 P **P** 17 46 14.4 +2.0
BO02 IAmb IAmb 17 46 18.5
comp=Z,20nm,1.0s
GWY Greenwater Val 41.73 328 P **P** 17 46 19.1 +0.6
ECSD EROS Data Cent 42.07 354 P **P** 17 46 20.4 -0.7
ECSD IAmb IAmb 17 46 29.7
comp=Z,13nm,0.9s
BCW Bitter Crk WRg 42.34 324 IAmb IAmb 17 46 29.4
comp=Z,13nm,0.8s
BSUT Blindstream Ca 42.57 337 P **P** 17 46 27.7 +2.1
BSUT IAmb IAmb 17 46 39.6
comp=Z,18nm,1.1s
NLU North Lily Min 42.59 336 P **P** 17 46 26.2 +0.6
CPUP Villa Florida 42.79 133 P **P** 17 46 26.9 -0.2
CPUP Villa Florida 42.79 133 P **P** 17 46 28.8 +1.7
comp=Z,11nm,1.1s,baz=319,slow=10,SNR=5.6
CPUP LR LR 18 05 52.4
comp=Z,241nm,18.1s,baz=330,slow=38
comp=Z,11nm,1.1s
R11B Troy Canyon, C 42.85 331 P **P** 17 46 27.3 -0.4
GMN Gold Mountain 42.88 329 P **P** 17 46 27.3 -0.7
RSSD Black Hills 43.74 346 P **P** 17 46 36.6 +1.8
HWUT Hardware Ranch 43.80 337 IAmb IAmb 17 46 57.9
comp=Z,33nm,1.8s
SPUT South Promonto 43.89 336 P **P** 17 46 36.1 +0.1
F36A Milaca 43.95 357 P **P** 17 46 36.5 +0.3
SADO Sadowa 44.03 12 LR LR 18 04 50.1
comp=Z,101nm,18.9s,baz=193,slow=36
BW06 Boulder Array 44.09 340 P **P** 17 46 39.9 +2.3
PD31 Pinedale Array 44.09 340 P **P** 17 46 38.3 +0.6
PDAR Pinedale Array 44.09 340 P **P** 17 46 38.6 +0.9
PDAR Pinedale Array 44.09 340 P **P** 17 46 37.5 -0.2
comp=Z,0.5nm,0.8s,baz=168,slow=7.6,SNR=6.3
PDAR LR LR 18 04 49.5
comp=Z,568nm,18.7s,baz=170,slow=36
comp=Z,0.5nm,0.8s
F33A 5 Mile Ranch, 44.12 355 P **P** 17 46 37.6 +0.1
F33A IAmb IAmb 17 46 40.5
comp=Z,20nm,1.2s
NV11 Mina Array Sit 44.20 329 IAmb IAmb 17 47 01.7
comp=Z,16nm,1.5s
NVAR Mina Array Bea 44.27 329 P **P** 17 46 37.6 -1.6
comp=Z,1.5nm,0.8s,baz=164,slow=9.0,SNR=8.0
NVAR PcP **PP** 17 48 23.4 +0.8
comp=Z,0.8nm,0.8s,baz=131,slow=5.0,SNR=1.7
comp=Z,1.5nm,0.8s
ELK Elko 44.60 333 IAmb IAmb 17 46 54.6
comp=Z,20nm,1.9s
ELK Elko 44.60 333 LR LR 18 04 31.8
comp=Z,352nm,19.7s,baz=151,slow=35
KVN Kaiserville 44.64 330 IAmb IAmb 17 46 57.8
comp=Z,20nm,1.5s
REDW Red Top Meadow 45.06 339 P **P** 17 46 46.1 +0.7
LOHW Long Hollow 45.19 340 P **P** 17 46 47.2 +0.8
LOHW IAmb IAmb 17 46 56.3
comp=Z,14nm,1.4s
TPAW Teton Pass 45.20 339 P **P** 17 46 47.1 +0.5
TPAW IAmb IAmb 17 47 05.4
comp=Z,12nm,1.1s
MOOW Moose Ponds 45.36 340 P **P** 17 46 48.5 +0.8
MOOW IAmb IAmb 17 47 09.8
comp=Z,12nm,1.3s
BDFB Brasilia 45.77 114 P **P** 17 46 52.0 +0.7
comp=Z,6.4nm,0.9s,baz=256,slow=5.5,SNR=6.8
BDFB LR LR 18 06 41.3
comp=Z,475nm,18.9s,baz=309,slow=37
comp=Z,6.4nm,0.9s
PLCA Paso Flores 46.21 159 IAmb IAmb 17 47 01.1
comp=Z,16nm,1.0s
PLCA Paso Flores 46.21 159 P **P** 17 46 56.5 +2.1
comp=Z,10.0nm,0.9s,baz=336,slow=9.6,SNR=8.5
PLCA LR LR 18 02 18.1
comp=Z,254nm,18.7s,baz=345,slow=31
comp=Z,10.0nm,0.9s
HLID Hailey 46.57 336 IAmb IAmb 17 47 10.3
comp=Z,9.5nm,1.1s
TRQA Tornquist 47.80 149 P **P** 17 47 08.2 +1.4
TRQA IAmb IAmb 17 47 12.4
comp=Z,12nm,1.1s
ULM Lac du Bonnet 48.46 356 P **P** 17 47 10.0 -1.6
comp=Z,12nm,1.0s,baz=164,slow=7.0,SNR=10
ULM LR LR 18 08 51.6
comp=Z,159nm,18.1s,baz=122,slow=38
comp=Z,12nm,1.0s
K05A Summer Lake 48.80 331 P **P** 17 47 17.5 +2.9
YBH Yreka Blue Hor 48.99 328 LR LR 18 07 21.6
comp=Z,133nm,19.0s,baz=148,slow=36
NEW Newport 51.53 338 LR LR 18 09 20.3
comp=Z,421nm,19.0s,baz=150,slow=36
FFC Flin Flon 53.54 352 P **P** 17 47 49.9 +0.2
FFC IAmb IAmb 17 47 52.8
comp=Z,28nm,1.7s
RCBR Riachuelo 55.41 98 LR LR 18 12 40.5
comp=Z,229nm,18.2s,baz=278,slow=37
SCHQ Schefferville 56.39 16 LR LR 18 10 59.6
comp=Z,245nm,21.6s,baz=203,slow=35
FCC Fort Churchill 56.86 358 IAmb IAmb 17 48 22.2
comp=Z,10nm,0.9s
BBB Bella Bella 59.04 334 LR LR 18 11 45.4
comp=Z,111nm,21.5s,baz=166,slow=34
PPT Papeete 60.93 249 LR LR 18 08 26.9
comp=Z,191nm,20.6s,baz=62,slow=30
YKA Yellowknife Ar 63.10 348 P **P** 17 48 56.4 0.0
YKA Yellowknife Ar 63.10 348 P **P** 17 48 56.2 -0.3
comp=Z,3.4nm,1.0s,baz=148,slow=6.5,SNR=20
YKA LR LR 18 17 13.7
comp=Z,220nm,18.7s,baz=181,slow=37
comp=Z,3.4nm,1.0s
FRB Frobisher Bay 63.95 11 LR LR 18 16 46.4
comp=Z,163nm,19.8s,baz=196,slow=36
DLBC Dease Lake 64.27 338 LR LR 18 17 29.4
comp=Z,359nm,18.1s,baz=123,slow=36
P33M Teslin, Yukon 66.54 339 P **P** 17 49 19.9 +0.9
M30M Minto, Yukon 69.54 339 P **P** 17 49 38.4 +0.5
SFJD Kangerlussuaq 70.83 16 LR LR 18 20 03.9
comp=Z,103nm,19.7s,baz=210,slow=35
RAR Rarotonga 71.06 247 LR LR 18 13 25.5
comp=Z,196nm,18.1s,baz=104,slow=30
I30M Mount Dempster 71.13 341 IAmb IAmb 17 50 04.0
comp=Z,20nm,1.7s
INK Inuvik 72.41 345 IAmb IAmb 17 50 13.4
comp=Z,21nm,1.8s
INK Inuvik 72.41 345 LR LR 18 22 36.6
comp=Z,164nm,19.1s,baz=185,slow=37
RES Resolute Bay 72.84 359 IAmb IAmb 17 50 11.2
comp=Z,9.2nm,1.1s
RES Resolute Bay 72.84 359 LR LR 18 24 31.0
comp=Z,226nm,18.1s,baz=250,slow=38
A36M Sachs Harbour 73.37 349 IAmb IAmb 17 50 11.6
comp=Z,8.7nm,1.1s
KDAK Kodiak Island 73.74 331 LR LR 18 19 13.3
comp=Z,190nm,20.9s,baz=260,slow=33
F28M Old Crow 73.74 342 P **P** 17 50 03.4 +0.4
F28M IAmb IAmb 17 50 22.1
comp=Z,9.4nm,1.1s
HDA Harding Lake 74.32 338 P **P** 17 50 08.5 +2.1
HDA IAmb IAmb 17 50 21.2
comp=Z,19nm,1.4s
SUA Susitna One 74.44 334 P **P** 17 50 06.9 -0.4
IL03 Eielson Array 74.47 338 P **P** 17 50 06.8 -0.5
ILAR Eielson Array 74.48 338 P **P** 17 50 07.3 0.0
comp=Z,3.0nm,0.7s,baz=137,slow=4.3,SNR=23
ILAR PP **PP** 17 52 48.9 -5.0
comp=Z,0.7nm,0.7s,baz=135,slow=4.4,SNR=2.8
ILAR LR LR 18 23 36.7
comp=Z,264nm,18.5s,baz=114,slow=36
comp=Z,3.0nm,0.7s
E25K Arctic Village 75.80 342 IAmb IAmb 17 50 33.4
comp=Z,9.0nm,1.1s
E22K Anaktuvuk Pass 77.84 340 IAmb IAmb 17 50 35.4
comp=Z,8.7nm,1.2s
G19K Purcell Mounta 78.91 338 IAmb IAmb 17 50 44.9
comp=Z,15nm,1.2s
BORG Borgarnes 79.75 24 LR LR 18 23 23.4
comp=Z,121nm,20.2s,baz=244,slow=34
TIC Toumodi 85.67 84⇓*iP* **P** 17 51 08.5 -0.3
comp=Z,2.9nm,0.3s
LIC Lamto 85.68 84⇑*iP* **P** 17 51 08.9 +0.1
comp=Z,11nm,0.5s
JMIC Jan Mayen 85.82 19 LR LR 18 29 10.6
comp=Z,30nm,18.6s,baz=258,slow=36
DBIC Dimbokro 85.84 83 P **P** 17 51 09.3 -0.3
comp=Z,6.1nm,0.7s,baz=284,slow=4.7,SNR=7.9
DBIC LR LR 18 26 13.2
comp=Z,70nm,21.4s,baz=280,slow=33
comp=Z,6.1nm,0.7s
MDT Midelt 85.89 57 LR LR 18 23 36.2
comp=Z,91nm,20.9s,baz=343,slow=32
KIC Kosan Boka 85.96 84⇑*iP* **P** 17 51 10.4 +0.2
comp=Z,13nm,0.8s
ESDC Sonseca Array 86.48 51 P **P** 17 51 12.6 +0.3
comp=Z,1.6nm,0.7s,baz=291,slow=4.7,SNR=8.0
ESDC LR LR 18 26 11.1
comp=Z,77nm,18.9s,baz=274,slow=33
comp=Z,1.6nm,0.7s
EKA Eskdalemuir Ar 87.23 35 P **P** 17 51 15.0 -0.6
comp=Z,2.9nm,0.9s,baz=212,slow=2.2,SNR=2.9
comp=Z,2.9nm,0.8s
SPITS Spitsbergen Ar 91.75 11 LR LR 18 33 15.1
comp=Z,125nm,18.1s,baz=252,slow=36
QSPA South Pole Qui 91.83 180 P **P** 17 51 39.3 +2.2
comp=Z,2.9nm,1.1s,baz=192,slow=5.1,SNR=3.7
comp=Z,2.9nm,1.1s
TORD Torodi Ar. Bea 92.09 77 P **P** 17 51 39.3 +0.1
comp=Z,0.4nm,0.7s,baz=311,slow=5.5,SNR=2.3
TORD LR LR 18 29 33.5
comp=Z,74nm,22.0s,baz=315,slow=33
comp=Z,0.4nm,0.7s
URZ Urewera 92.69 232 LR LR 18 23 50.1
comp=Z,109nm,19.2s,baz=232,slow=29
VNDA Vanda 95.45 192 LR LR 18 25 18.4
comp=Z,61nm,21.6s,baz=116,slow=29
HFS Hagfors 95.67 29 LR LR 18 27 59.2
comp=Z,64nm,22.0s,baz=262,slow=31
DAVOX **Davos/Dischmat** 96.06 43 LR LR 18 30 27.3
comp=Z,106nm,18.3s,baz=261,slow=32
RPZ Rata Peaks 97.08 226 LR LR 18 27 09.1
comp=Z,167nm,19.4s,baz=88,slow=30
KEST Kesra 97.25 54 LR LR 18 35 07.1
comp=Z,52nm,18.6s,baz=226,slow=35
ARCES **ARCESS Array B** 97.30 19 LR LR 18 34 27.7
comp=Z,47nm,18.1s,baz=298,slow=35
GERES **GERESS Array B** 98.21 40 LR LR 18 30 48.9
comp=Z,153nm,20.3s,baz=259,slow=32
VRAC Vranov 99.95 39 LR LR 18 31 55.6
comp=Z,172nm,20.8s,baz=280,slow=32
ZALV Zalesovo Beam 124.33 3 PKP **PKPdf** 17 57 28.5 +0.4
comp=Z,0.5nm,0.5s,baz=304,slow=1.5,SNR=1.9
KURBB **Kurchatov Arra** 127.00 8 PKP **PKPdf** 17 57 33.9 +0.5
comp=Z,0.7nm,0.6s,baz=348,slow=2.3,SNR=8.7
GEYT Alibeck 131.17 33 PKP **PKPdf** 17 57 41.4 -0.3
comp=Z,0.8nm,0.7s,baz=281,slow=2.1,SNR=1.5
ASAR Alice Springs 131.53 240 PKP **PKPdf** 17 57 43.1 +0.3
comp=Z,0.7nm,0.6s,baz=105,slow=2.1,SNR=16
WRA Warramunga Arr 132.30 245 PKP **PKPdf** 17 57 44.9 +0.6
comp=Z,1.0nm,0.8s,baz=101,slow=2.2,SNR=9.9

CMAR Chiang Mai Arr 157.68 335 PKPab **PKPab 17 58 58.0 -0.8**
comp=Z,1.1nm,0.8s,baz=2.0,slow=6.7,SNR=5.5

*ISN **08** 17:45:07.6±1.2,33.98N×47.06E,h14km±7km, ML3.4*
*TEH **08** 17:45:08.3,33.97N×47.02E,h8km±33km, ML3.3*
ISC 08 17:45:08.4±1.2,**33.97N**±0.03×**46.97E**±0.03,**h2**km±11km,
n31,σ1**23**/38,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCHF	**Cheshme Sefid,**	**0.31**	**11**	Pg	**Pg**	**17 45 15.0**	**+0.6**
KCHF				Sg	**Sg**	**17 45 19.0**	**+0.6**
IGHG	**Ghaleghazi**	**0.49**	**317**	Pg	**Pb**	**17 45 18.5**	**-1.3**
IGHG				Sg	**Sb**	**17 45 27.5**	**0.0**
IKOM	**Komasi**	**0.49**	**66**	Pg	**Pg**	**17 45 17.9**	**0.0**
IKOM				Sg	**Sg**	**17 45 25.2**	**+0.9**
ILBA	**Ilam Banvizeh**	**0.72**	**242**	Pg	**Pg**	**17 45 22.7**	**+0.4**
IDHR	**Dehrash**	**0.87**	**327**	Pg	**Pb**	**17 45 25.8**	**-0.6**
IDHR				Sg	**Sn**	**17 45 38.9**	**-2.3**
IBZA	**Bozab**	**0.89**	**56**	Pg	**Pg**	**17 45 24.7**	**-0.7**
ILIN	**Lien**	**0.94**	**360**	Pg	**Pb**	**17 45 26.9**	**-0.7**
IBDR	**Badra**	**1.22**	**226**	*e*Pg	**Pg**	**17 45 32.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**17 45 48.0**	**+0.3**
IBDR				AML	AML	17 45 54.3	
	comp=E,967nm,0.7s						
IBDR				AML	AML	17 45 55.1	
	comp=N,1μm,0.6s						
KGS1	**Ghasr-e-Shirin**	**1.26**	**295**	Pg	**Pn**	**17 45 33.5**	**+0.4**
IALM	**Almabolaq**	**1.33**	**48**	Pg	**Pg**	**17 45 33.3**	**-0.5**
HSAM	**Samen**	**1.38**	**80**	Pg	**Pg**	**17 45 33.9**	**-0.9**
HAGD	**Aghdareh**	**1.98**	**64**	Pn	**Pn**	**17 45 44.2**	**+1.0**
BHD	**Baghdad**	**2.27**	**253**	*e*Pn	**Pn**	**17 45 47.0**	**+0.1**
BHD				*e*Sn	**Sn**	**17 46 17.0**	**+1.6**
BHD				AML	AML	17 46 26.8	
	comp=E,363nm,0.5s						
RAFI	**Al-Rafai**	**2.36**	**198**	*e*Pn	**Pn**	**17 45 48.0**	**0.0**
RAFI				*e*Sn	**Sn**	**17 46 18.0**	**+0.5**
RAFI				AML	AML	17 46 24.5	
	comp=N,253nm,0.3s						
RAFI				AML	AML	17 46 32.0	
	comp=E,238nm,0.5s						
KHMZ	**Khomeyn**	**2.50**	**95**	Pn	**Pn**	**17 45 51.7**	**+1.4**
ASAO	**Ashtian**	**2.59**	**76**	Pn	**Pn**	**17 45 53.2**	**+1.6**
IRAZ	**Razeghan**	**2.83**	**59**	Pn	**Pn**	**17 45 56.3**	**+1.5**
MAHB	**Mahabad**	**2.97**	**340**	Pn	**Pb**	**17 45 59.2**	**-2.9**
QSDN	**Sirdan**	**3.10**	**35**	Pn	**Pn**	**17 46 00.1**	**+1.5**
IQOM	**Qom**	**3.50**	**74**	Pn	**Pn**	**17 46 04.2**	**+0.2**
GHVR	**GHOM**	**3.62**	**81**	Pn	**Pn**	**17 46 06.7**	**+1.2**
QAMS	**Qamsar**	**3.69**	**92**	Pn	**Pn**	**17 46 07.1**	**+0.5**
ZNGN	**Zangian**	**3.75**	**118**	Pn	**Pn**	**17 46 08.7**	**+1.2**
ISRB	**Sarab**	**3.89**	**8**	Pn	**Pn**	**17 46 10.8**	**+1.5**
IKLH	**Kolahrood**	**3.90**	**98**	Pn	**Pn**	**17 46 10.6**	**+1.0**
IVRN	**Varamin**	**4.06**	**74**	Pn	**Pn**	**17 46 11.7**	**+0.1**
KLST	**Kelardasht - M**	**4.20**	**52**	Pn	**Pn**	**17 46 15.1**	**+1.4**
IHRS	**Heris**	**4.34**	**1**	Pn	**Pn**	**17 46 17.7**	**+2.2**
ISFB	**Sefidab**	**4.39**	**84**	Pn	**Pn**	**17 46 16.8**	**+0.7**
IDMV	**Damavand**	**4.46**	**68**	Pn	**Pn**	**17 46 17.5**	**+0.2**
GRMI	**Germi**	**4.88**	**9**	Pn	**Pn**	**17 46 25.1**	**+2.2**

*IDC **08** 18:31:45.3±3.1,43.18N×127.13W,h0km,mb2.8/2,*
mbtmp2.9/4,ML2.8/2,MS3.0/3,Error ellipse: s-maj=73.5km
s-min=17.6km az=45.0
*NEIC **08** 18:31:47.4±1.7,43.22N±0.07×126.9W±0.1,h10km±2km,*
ML3.1/72,Error ellipse: s-maj=15.6km s-min=11.8km
az=246.0
ISC 08 18:31:47.3±1.7,**43.24N**±0.07×**127.0W**±0.1,**h10**km,**n54,**
σ0**82**/54,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.96**	**100**	Pn	**Pn**	**18 32 19.3**	**-1.3**
KEBM				IAML		18 32 46.6	
	comp=E,103nm,0.7s						
J01E	**Myrtle Point**	**2.21**	**91**	Pn	**Pn**	**18 32 22.9**	**-1.2**
J01E				IAML		18 32 54.4	
	comp=E,101nm,0.3s						
KBO	**Bosley Butte**	**2.26**	**116**	Pn	**Pn**	**18 32 23.4**	**-1.3**
KBO				IAML		18 32 50.1	
	comp=N,77nm,2.8s						
KBO				IAML		18 33 05.9	
	comp=E,77nm,3.3s						
K02D	**Willamette Mer**	**2.48**	**102**	Pn	**Pn**	**18 32 26.9**	**-0.8**
K02D				Sn	**Sn**	**18 32 56.2**	**-1.9**
I03D	**Drain, OR**	**2.67**	**79**		**Pn**	**18 32 29.2**	**-1.0**
I03D				Sn	**Sn**	**18 33 01.9**	**-0.7**
KSXB	**Camp Six Broad**	**2.68**	**121**		**Pn**	**18 32 30.3**	**-0.2**
DBO	**Dodson Butte**	**2.72**	**91**		**Pn**	**18 32 30.7**	**-0.4**
L02F	**Cave Junction**	**2.74**	**113**	Pn	**Pn**	**18 32 30.6**	**-0.7**
KRMB	**Red Mountain**	**2.84**	**126**	Pn	**Pn**	**18 32 32.8**	**0.0**
COR	**Corvallis**	**2.96**	**62**		**Pn**	**18 32 34.0**	**-0.3**
COR				IAML		18 32 54.2	
	comp=E,61nm,2.4s						
COR				IAML		18 32 56.3	
	comp=E,56nm,2.9s						
HUMO	**Hull Mountain**	**3.01**	**101**		**Pn**	**18 32 34.6**	**-0.3**
HEBO	**Mount Hebo**	**3.03**	**48**	Pn	**Pn**	**18 32 34.4**	**-1.0**
BUCK	**Buck Mountain**	**3.03**	**70**	Pn	**Pn**	**18 32 35.6**	**+0.2**
BUCK				IAML		18 34 19.7	
	comp=E,74nm,4.0s						
BUCK				IAML		18 34 24.9	
	comp=N,43nm,4.8s						
G03D	**McMinnville, O**	**3.31**	**52**	Pn	**Pn**	**18 32 38.5**	**-0.6**
G03D				IAML		18 33 19.3	
	comp=N,59nm,0.6s						
G03D				IAML		18 33 29.1	
	comp=E,62nm,2.0s						
H04D	**Lebanon**	**3.31**	**66**		**Pn**	**18 32 39.7**	**+0.6**
H04D				IAML		18 33 43.8	
	comp=E,45nm,2.4s						
H04D				IAML		18 33 57.7	
	comp=N,47nm,3.8s						
I04A	**Tendick Farm,**	**3.35**	**79**		**Pn**	**18 32 40.2**	**+0.4**
I04A				IAML		18 33 47.8	
	comp=E,36nm,0.2s						
I04A				IAML		18 33 48.9	
	comp=N,32nm,0.2s						
YBH	**Yreka Blue Hor**	**3.48**	**114**	Pn	**Pn**	**18 32 41.5**	**-0.1**
YBH	**Yreka Blue Hor**	**3.48**	**114**	Pn	**Pn**	**18 32 43.2**	**+1.6**
	comp=N,0.9nm,0.3s,baz=300,slow=13,SNR=12						
YBH				Sn	**Sn**	**18 33 25.3**	**+2.4**
	comp=N,0.6nm,0.3s,baz=296,slow=18,SNR=2.1 comp=N,2.5nm,0.3s						
L04D	**Klamath Falls**	**3.58**	**105**	Pn	**Pn**	**18 32 43.1**	**+0.1**
L04D				IAML		18 33 12.0	
	comp=E,33nm,4.2s						
L04D				IAML		18 33 53.3	
	comp=N,25nm,4.5s						
F03A	**Seaside**	**3.62**	**41**	Pn	**Pn**	**18 32 43.5**	**+0.1**
H04A	**Detroit Lake**	**3.73**	**66**	Pn	**Pn**	**18 32 45.8**	**+0.8**
H04A				IAML		18 35 12.1	
	comp=N,48nm,0.2s						
K04D	**Chiloquin, OR**	**3.87**	**97**	Pn	**Pn**	**18 32 46.7**	**-0.2**
K04D				IAML		18 34 56.9	
	comp=E,46nm,4.6s						
K04D				IAML		18 35 02.6	
	comp=N,42nm,2.6s						
RADR	**Rader Ridge**	**3.89**	**34**	Pn	**Pn**	**18 32 47.2**	**0.0**
E03A	**Lebam**	**4.09**	**35**	Pn	**Pn**	**18 32 49.7**	**-0.1**
J05D	**Fort Rock, OR**	**4.18**	**87**	Pn	**Pn**	**18 32 50.6**	**-0.6**
J05D				IAML		18 33 47.0	
	comp=E,31nm,4.8s						
J05D				IAML		18 34 11.3	
	comp=N,27nm,4.9s						
F04A	**Amboy**	**4.21**	**49**	Pn	**Pn**	**18 32 52.2**	**+0.7**
F04A				IAML		18 33 43.9	
	comp=E,28nm,0.1s						
F04A				IAML		18 33 44.0	
	comp=N,31nm,0.2s						
I05D	**Terrebonne, OR**	**4.21**	**73**	Pn	**Pn**	**18 32 52.2**	**+0.6**
I05D				IAML		18 35 32.9	
	comp=N,40nm,4.7s						
HOOD	**Mount Hood Mea**	**4.34**	**60**		**Pn**	**18 32 54.5**	**+1.1**
HOOD				IAML		18 33 25.9	
	comp=N,29nm,3.2s						
PINE	**Pine Mountain**	**4.41**	**81**		**Pn**	**18 32 55.0**	**+0.6**
PINE				IAML		18 34 10.6	
	comp=E,27nm,4.9s						
PINE				IAML		18 34 36.6	
	comp=N,19nm,4.6s						
K05A	**Summer Lake**	**4.48**	**95**	Pn	**Pn**	**18 32 56.0**	**+0.6**
K05A				IAML		18 33 30.2	
	comp=E,21nm,4.8s						
K05A				IAML		18 33 39.5	
	comp=N,28nm,4.8s						
NLWA	**Neilton Lookou**	**4.69**	**27**	Pn	**Pn**	**18 32 57.6**	**-0.4**
G06A	**Carlson Farm,**	**4.96**	**64**		**Pn**	**18 33 02.0**	**+0.2**
G06A				IAML		18 34 20.9	
	comp=N,18nm,4.9s						
G06A				IAML		18 34 29.8	
	comp=E,19nm,4.3s						
LON	**Longmire**	**5.06**	**44**		**Pn**	**18 33 03.9**	**+0.6**
LON				IAML		18 34 29.3	
	comp=E,15nm,4.7s						
LON				IAML		18 35 20.8	
	comp=N,15nm,5.0s						
GNW	**Green Mountain**	**5.21**	**32**	Pn	**Pn**	**18 33 05.0**	**-0.2**
D05A	**Enumclaw**	**5.28**	**40**	Pn	**Pn**	**18 33 06.1**	**-0.1**
B04A	**Port Angeles**	**5.39**	**25**	Pn	**Pn**	**18 33 07.6**	**-0.1**
I07A	**Izee**	**5.47**	**79**		**Pn**	**18 33 09.6**	**+0.6**
MXC	**Moxie City**	**5.79**	**53**	Pn	**Pn**	**18 33 13.8**	**+0.6**
CLRS	**Cowichan Lake**	**5.92**	**18**	Pn	**Pn**	**18 33 14.4**	**-0.5**
PGC	**Sidney**	**5.94**	**23**	Pn	**Pn**	**18 33 15.0**	**-0.2**
E07A	**Sunnyside**	**6.04**	**54**		**Pn**	**18 33 16.2**	**-0.4**
G08A	**Pilot Rock**	**6.10**	**68**		**Pn**	**18 33 17.9**	**+0.4**
HAWA	**Hanford**	**6.15**	**57**		**Pn**	**18 33 17.1**	**-1.1**
WVOR	**Wild Horse Val**	**6.17**	**95**	Pn	**Pn**	**18 33 18.3**	**-0.2**
E08A	**Dider Farm, El**	**6.49**	**57**		**Pn**	**18 33 22.9**	**+0.2**
B06A	**Marblemount**	**6.51**	**34**	Pn	**Pn**	**18 33 24.8**	**+1.7**
BMO	**Blue Mountains**	**7.14**	**74**		**Pn**	**18 33 31.5**	**-0.3**
C09A	**Chrisman Ranch**	**7.61**	**50**	Pn	**Pn**	**18 33 38.9**	**+0.7**
NVAR	**Mina Array Bea**	**8.13**	**123**	Pn	**Pn**	**18 33 47.0**	**+1.5**
	comp=N,0.1nm,0.3s,baz=303,slow=15,SNR=1.7 comp=N,0.3nm,0.5s						
NEW	**Newport**	**8.51**	**50**	LR	LR	18 37 11.7	
	comp=N,132nm,21.9s,baz=330,slow=38						
ELK	**Elko**	**9.08**	**102**	LR	LR	18 36 39.9	
	comp=N,65nm,20.9s,baz=234,slow=32						
PDAR	**Pinedale Array**	**12.75**	**86**	LR	LR	18 38 59.8	
	comp=N,82nm,20.1s,baz=308,slow=34						
YKA	**Yellowknife Ar**	**20.61**	**16**	P	**P**	**18 36 26.7**	**+0.4**
	comp=N,0.2nm,0.7s,baz=207,slow=10,SNR=2.6 comp=N,0.2nm,0.7s						
ILAR	**Eielson Array**	**24.33**	**339**	P	**P**	**18 37 04.5**	**-0.3**
	comp=N,0.4nm,0.8s,baz=157,slow=8.2,SNR=5.1 comp=N,0.4nm,0.8s						

*IDC **08** 18:45:20.9±7.0,18.02S×175.01W,h144km±60km,*
mb3.9/13,mbtmp4.2/14,MS2.9/1,Error ellipse:
s-maj=24.1km s-min=18.1km az=132.0
ISC 08 18:45:30.3±0.7,**18.05S**±0.2×**175.2W**±0.1,**h228**km,**n41,**
σ0**75**/42,**mb4.1**/14,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.74**	**254**	P	**P**	**18 49 20.6**	**-1.0**
	5.2nm,0.8s,baz=97,slow=19,SNR=3.0						
PPT	**Papeete**	**24.38**	**93**	LR	LR	18 58 04.3	
	comp=Z,32nm,20.6s,baz=177,slow=32						
CTA	**Charters Tower**	**36.46**	**260**	P	**P**	**18 52 12.9**	**-0.9**
	2.2nm,0.4s,baz=77,slow=11,SNR=7.9 2.2nm,0.4s						
STKA	**Stephens Creek**	**41.30**	**242**	P	**P**	**18 52 53.4**	**-0.3**
	6.3nm,1.1s,baz=80,slow=12,SNR=5.6 6.3nm,1.1s						
WRA	**Warramunga Arr**	**47.64**	**259**	P	**P**	**18 53 43.6**	**-0.3**
	5.6nm,0.4s,baz=98,slow=7.4,SNR=57						
WRA				PcP	**PcP**	**18 55 10.4**	**+0.6**
	1.7nm,0.8s,baz=96,slow=3.4,SNR=2.9 5.6nm,0.4s						
ASAR	**Alice Springs**	**47.73**	**254**	P	**P**	**18 53 44.5**	**-0.1**
	36nm,0.7s,baz=91,slow=8.0,SNR=379						
ASAR				PcP	**PcP**	**18 55 10.8**	**+0.6**
	1.3nm,0.4s,baz=109,slow=4.1,SNR=5.2						
MJAR	**Matsushiro Arr**	**69.84**	**321**	P	**P**	**18 56 16.1**	**-0.2**
	4.0nm,0.8s,baz=156,slow=5.7,SNR=8.4 4.0nm,0.8s						
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**18 56 29.4**	**-0.1**
	3.8nm,0.8s,baz=342,slow=2.6,SNR=11 3.8nm,0.8s						
PETK	**Petropavlovsk-**	**74.58**	**343**	P	**P**	**18 56 44.3**	**+0.3**
	4.8nm,0.8s,baz=110,slow=7.1,SNR=4.8						
PETK				PP	**PP**	**18 59 32.0**	**-2.2**
	5.9nm,0.9s,baz=268,slow=8.9,SNR=4.0 4.8nm,0.8s						
KSRS	**Korea Array**	**76.83**	**317**	P	**P**	**18 56 59.3**	**+2.3**
	4.0nm,0.9s,baz=138,slow=6.8,SNR=5.9 4.0nm,0.9s						
NVAR	**Mina Array Bea**	**77.38**	**42**	P	**P**	**18 57 00.2**	**-0.1**
	1.1nm,0.7s,baz=241,slow=9.7,SNR=6.7 1.1nm,0.7s						
TXAR	**Lajitas Array**	**83.46**	**56**	P	**P**	**18 57 32.3**	**-0.5**
	0.4nm,0.7s,baz=236,slow=5.9,SNR=5.1 0.4nm,0.7s						
ILAR	**Eielson Array**	**85.30**	**12**	P	**P**	**18 57 40.8**	**-0.3**
	1.8nm,0.5s,baz=225,slow=5.7,SNR=52 1.8nm,0.5s						
PDAR	**Pinedale Array**	**85.31**	**42**	P	**P**	**18 57 41.5**	**-0.5**
	0.3nm,0.7s,baz=203,slow=6.5,SNR=2.9 0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.81**	**289**	P	**P**	**18 58 14.9**	**+2.0**
	0.9nm,0.9s,baz=88,slow=2.8,SNR=6.9 0.9nm,0.9s						
YKA	**Yellowknife Ar**	**93.13**	**24**	P	**P**	**18 58 17.6**	**-0.3**
	0.4nm,0.8s,baz=236,slow=4.4,SNR=6.0 0.4nm,0.8s						
MKAR	**Makanchi Array**	**111.39**	**314**	PKiKP	**PKiKP**	**19 03 36.9**	**-0.3**
	0.5nm,0.5s,baz=213,slow=0.9,SNR=12						
KURBB	**Kurchatov Arra**	**113.99**	**318**	PKiKP	**PKiKP**	**19 03 41.4**	**-0.6**
	0.4nm,0.3s,baz=81,slow=2.2,SNR=4.9						
BVAR	**Borovoye Array**	**118.83**	**321**	PKP	**PKPdf**	**19 03 51.3**	**+0.1**
	1.5nm,0.5s,baz=354,slow=1.6,SNR=7.4						
ARCES	**ARCESS Array B**	**126.86**	**351**	PKP	**PKPdf**	**19 04 05.7**	**-0.6**
	4.3nm,1.0s,baz=325,slow=1.5,SNR=5.2						
FINES	**FINESS Array B**	**134.05**	**346**	PKP	**PKiKP**	**19 04 21.1**	**-0.2**
	0.7nm,0.5s,baz=72,slow=6.2,SNR=6.8						
AKASG	**Malin Array Be**	**141.99**	**335**	PKhKP	PKPpre	19 04 29.5	
	0.3nm,0.3s,baz=40,slow=4.1,SNR=8.3						
BRTR	**Keskin Array B**	**146.97**	**317**	PKPbc	**PKPbc**	**19 04 47.0**	**+0.7**
	3.3nm,0.7s,baz=124,slow=3.2,SNR=17						
GERES	**GERESS Array B**	**148.38**	**349**	PKPbc	**PKPbc**	**19 04 50.2**	**+0.5**
	1.4nm,0.6s,baz=57,slow=4.9,SNR=4.1						
MMAI	**Mount Meron Ar**	**148.74**	**305**	PKPbc	**PKiKP**	**19 04 52.6**	**+0.1**
	4.2nm,0.6s,baz=62,slow=3.4,SNR=5.2						
CONA	**Conrad Observa**	**148.79**	**346**	*i* PKP	**PKiKP**	**19 04 52.3**	**+0.2**
	5.3nm,1.1s						
RONA	**Rosalia, Austr**	**148.90**	**345**	*i* PKP	**PKiKP**	**19 04 52.4**	**+0.1**
	3.3nm,0.7s						
MOA	**Molln**	**149.22**	**348**	*e*PKP	**PKiKP**	**19 04 53.7**	**+0.8**
	4.1nm,1.2s						
KBA	**Koelnbreinsper**	**150.14**	**348**	*e*pPKP	**PKiKP**	**19 04 54.8**	**-0.3**
	2.3nm,0.5s						
SOKA	**Soboth**	**150.16**	**346**	*e*pPKP	**PKPbc**	**19 04 54.6**	**+0.4**
	8.1nm,1.5s						
RETA	**Reutte**	**150.17**	**352**	*i* PKP	**PKiKP**	**19 04 56.0**	**+1.1**
	2.1nm,0.7s						
WATA	**Walderalm**	**150.20**	**351**	*i* pPKP	**PKiKP**	**19 04 54.9**	**-0.2**
	2.6nm,0.6s						
MOTA	**Moosalm**	**150.26**	**351**	*i* pPKP	**PKiKP**	**19 04 55.2**	**-0.1**
	7.2nm,1.0s						
WTTA	**Wattenberg**	**150.26**	**351**	*i* pPKP	**PKiKP**	**19 04 55.4**	**+0.2**
	9.3nm,0.5s						
SQTA	**Sankt Quirin**	**150.37**	**351**	*i* pPKP	**PKiKP**	**19 04 55.6**	**+0.2**
	5.8nm,0.8s						
OBKA	**Obir**	**150.43**	**346**	*i* pPKP	**PKiKP**	**19 04 55.7**	**+0.2**
	10nm,1.8s						
DAVA	**Damuels**	**150.48**	**353**	*i* PKP	**PKiKP**	**19 04 56.2**	**+0.5**
	9.0nm,1.0s						
ABTA	**Abfaltersbach**	**150.62**	**349**	*i* pPKP	**PKPbc**	**19 04 55.6**	**+0.3**
	6.3nm,0.6s						
FETA	**Feichten**	**150.63**	**352**	*i* PKP	**PKiKP**	**19 04 56.4**	**+0.4**
	7.3nm,1.1s						
DAVOX	**Davos/Dischmat**	**150.97**	**353**	PKPbc	**PKiKP**	**19 04 57.0**	**+0.2**
	6.6nm,0.6s,baz=250,slow=3.7,SNR=18						
ESDC	**Sonseca Array**	**157.08**	**18**	PKPab	**PKPab**	**19 05 30.7**	**+0.2**
	1.1nm,0.8s,baz=330,slow=4.0,SNR=6.0						

*IDC **08** 19:05:02.7±1.8,28.77N×139.58E,h460km±20km,*
mb2.9/11,mbtmp3.7/15,Error ellipse: s-maj=18.7km
s-min=12.7km az=88.0
*JMA **08** 19:05:04.2±0.2,29.1N±2.1×14.0E±.1,h451km,MV3.4/20,*
NEAR TORISHIMA IS
ISC 08 19:05:01.7±0.6,**28.77N**±0.08×**139.71E**±0.10,**h450**km,**n24,**
σ1**69**/30,**mb3.1**/11,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.75**	**127**	*e*P	**P**	**19 06 08.8**	**+1.8**
CBIJ				*e*S	**S**	**19 07 00.2**	**+0.3**
JCJ	**Chichijima**	**2.75**	**127**	P	**P**	**19 06 04.3**	**-2.7**
	46nm,0.4s,baz=282,slow=14,SNR=2.2						
JCJ				S	**S**	**19 06 56.1**	**-3.8**
	305nm,0.5s,baz=275,slow=22,SNR=20						
JHH2	**Haha-jima-NKT2**	**3.05**	**134**	*e*S	**S**	**19 07 05.2**	**+1.4**
JHJ2	**Mitsune**	**4.33**	**1**	*e*P	**P**	**19 06 20.3**	**+0.7**
JIE	**Ise**	**6.16**	**336**	*e*P	**P**	**19 06 41.2**	**+3.7**
JAO	**Obara**	**6.80**	**343**	*e*P	**P**	**19 06 46.2**	**+1.9**
JRY	**Ryogami san**	**7.26**	**355**	*e*P	**P**	**19 06 50.8**	**+1.8**
JAG	**Ashikaga**	**7.64**	**358**	*e*P	**P**	**19 06 54.1**	**+1.0**
JAG				*e*S	**S**	**19 08 21.5**	**-2.9**
JHO	**Hitachi**	**7.85**	**5**	P	**P**	**19 06 57.2**	**+1.9**
JHO				*e*S	**S**	**19 08 27.1**	**-1.6**
MJAR	**Matsushiro Arr**	**7.85**	**351**	P	**P**	**19 06 55.0**	**-0.4**
	1.2nm,0.7s,baz=158,slow=9.7,SNR=4.7						
JNU	**Nakatsue**	**8.73**	**302**	P	**P**	**19 07 05.8**	**+0.8**
	13nm,1.1s,baz=201,slow=8.6,SNR=1.6						
KSRS	**Korea Array**	**13.13**	**314**	P	**P**	**19 07 52.9**	**+0.3**
	1.9nm,0.5s,baz=128,slow=10,SNR=8.1						
USRK	**Ussuriysk Ar.**	**16.59**	**340**	P	**P**	**19 08 30.8**	**+1.4**
	1.3nm,0.5s,baz=139,slow=12,SNR=3.5						
SONM	**Songino Array**	**31.99**	**316**	P	**P**	**19 10 49.0**	**-0.2**
	0.5nm,0.4s,baz=128,slow=7.9,SNR=5.2 0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**38.57**	**264**	P	**P**	**19 11 44.8**	**+0.2**
	0.2nm,0.5s,baz=79,slow=4.8,SNR=1.8 0.2nm,0.5s						
MKAR	**Makanchi Array**	**47.72**	**309**	P	**P**	**19 12 55.6**	**-0.6**
	0.4nm,0.5s,baz=87,slow=10,SNR=8.3						
MKAR				ScP	**ScP**	**19 17 25.5**	**-2.2**
	0.2nm,0.9s,baz=82,slow=5.1,SNR=4.8 0.4nm,0.5s						
WRA	**Warramunga Arr**	**48.70**	**187**	P	**P**	**19 13 03.1**	**-0.7**
	0.9nm,0.5s,baz=3.6,slow=7.8,SNR=14						
WRA				PcP	**PcP**	**19 14 20.4**	**-0.4**
	0.3nm,0.8s,baz=27,slow=2.1,SNR=1.4 0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**50.31**	**314**	P	**P**	**19 13 14.7**	**-0.6**
	0.9nm,0.4s,baz=92,slow=8.3,SNR=13 0.9nm,0.4s						
ASAR	**Alice Springs**	**52.43**	**187**	P	**P**	**19 13 31.8**	**+0.6**
	0.2nm,0.5s,baz=15,slow=13,SNR=9.9 0.2nm,0.5s						
ILAR	**Eielson Array**	**57.31**	**29**	P	**P**	**19 14 05.1**	**+0.2**
	0.3nm,0.5s,baz=257,slow=6.3,SNR=5.9 0.3nm,0.5s						
YKA	**Yellowknife Ar**	**71.71**	**28**	P	**P**	**19 15 37.2**	**+0.6**
	0.2nm,0.4s,baz=298,slow=5.4,SNR=6.9 0.2nm,0.4s						
FINES	**FINESS Array B**	**75.47**	**333**	P	**P**	**19 15 57.3**	**-0.9**
	1.6nm,0.8s,baz=48,slow=4.5,SNR=4.3 1.6nm,0.8s						
NVAR	**Mina Array Bea**	**81.19**	**51**	P	**P**	**19 16 31.6**	**+1.8**
	0.7nm,0.6s,baz=317,slow=6.1,SNR=4.5 0.7nm,0.6s						
PDAR	**Pinedale Array**	**84.55**	**44**	P	**P**	**19 16 47.2**	**+0.5**
	0.3nm,0.8s,baz=323,slow=2.3,SNR=2.5 0.3nm,0.8s						

IDC 08 19:13:41.5±2.5,**5.07S**×**153.69E**,**h0**km,**mb3.3**/3,
mbtmp3.4/4,**ML1.8**/1,**Error ellipse: s-maj=96.3km**
s-min=34.2km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.78**	**236**	Pn	Pn	**19 15 38.0**	**+1.9**
	0.7nm,0.3s,baz=90,slow=4.0,SNR=1.3						
PMG				Sn	Sn	19 17 03.5	-1.5
	1.1nm,0.3s,baz=90,slow=20,SNR=2.8 3.4nm,0.5s						
WRA	**Warramunga Arr**	**23.94**	**230**	P	P	19 18 57.0	-0.7
	0.4nm,0.7s,baz=57,slow=10,SNR=2.5						
WRA				PcP	PcP	19 22 40.4	-0.1
	0.3nm,0.7s,baz=46,slow=2.5,SNR=0.9 0.4nm,0.7s						
ASAR	**Alice Springs**	**26.56**	**224**	P	P	19 19 21.6	+0.1
	0.1nm,0.4s,baz=58,slow=8.8,SNR=1.0 0.1nm,0.4s						
MKAR	**Makanchi Array**	**81.11**	**319**	P	P	19 25 59.0	+0.1
	0.6nm,0.8s,baz=113,slow=5.4,SNR=5.1 0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.23**	**288**	PKPbc	PKPbc	19 33 37.5	-0.6
	0.4nm,0.3s,baz=65,slow=2.9,SNR=11						

*MEX **08** 19:21:08.7±0.4,14.72N×92.92W,h60km±10km,MD4.1*
*CATAC **08** 19:21:09.9±1.1,14.85N×92.80W,h18km±7km,MLS.7*
ISC 08 19:21:10.2±6.2,**14.85N**±0.09×**92.85W**±0.07,**h39**km±11km,
n16,σ1**27**/22,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	**El Naranjo**	**0.65**	**65**	*e*P	**Pn**	**19 21 22.4**	**-0.9**
PATR				*i* S	**Sn**	**19 21 33.5**	**+1.1**
PAVE	**Pavencul**	**0.73**	**62**	*e*P

JRA	**Rausu**	**0.34**	**0**	*eS*	**Sn**	**19 35 49.3**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.50**	**118**	*eP*	**Pn**	**19 35 35.6**	**+0.3**
NMR				*eS*	**Sn**	**19 35 50.4**	**-0.4**
NEM2	**Nemuro 2**	**0.51**	**117**	*eP*	**Pn**	**19 35 35.6**	**+0.2**
NEM2				*eS*	**Sn**	**19 35 50.3**	**-0.6**
JKHN	**Kushirohamanak**	**0.52**	**177**	*eP*	**Pn**	**19 35 36.0**	**+0.5**
AKK	**Akkeshi**	**0.62**	**199**	*eP*	**Pn**	**19 35 36.4**	**+0.4**
AKK				*eS*	**Sn**	**19 35 51.3**	**-0.8**
JAK	**Akkeshi**	**0.68**	**207**	*eP*	**Pn**	**19 35 36.9**	**+0.5**
JAK				*eS*	**Sn**	**19 35 52.5**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**0.69**	**51**	*eP*	**Pn**	**19 35 37.3**	**+0.9**
YUK				AMB	AMB	19 35 38.3	
	40nm,0.2s						
YUK				*eS*	**Sn**	**19 35 51.7**	**-1.2**
YUK				A	A	19 35 57.2	
	170nm,0.7s						
YUK				A	A	19 35 57.2	
	160nm,0.7s						
JTKR	**Abashiri--Toko**	**0.95**	**293**	*eP*	**Pn**	**19 35 38.7**	**+0.2**
JTKR				*eS*	**Sn**	**19 35 55.6**	**-0.8**
JAR	**Ashorobuto**	**1.03**	**253**	*eP*	**Pn**	**19 35 40.0**	**+0.8**
JAR				*eS*	**Sn**	**19 35 57.8**	**+0.2**
JOB	**Onbets**	**1.17**	**234**	*eP*	**Pn**	**19 35 41.2**	**+0.8**
JOB				*eS*	**Sn**	**19 35 59.9**	**-0.1**
SHO	**Shikotan**	**1.27**	**77**	*eP*	**Pn**	**19 35 41.8**	**+0.4**
SHO				AMB	AMB	19 35 42.4	
	20nm,0.3s						
SHO				*eS*	**Sn**	**19 36 01.1**	**-0.5**
SHO				A	A	19 36 01.8	
	120nm,0.3s						
SHO				A	A	19 36 01.8	
	220nm,0.3s						
JMP	**Maruseppu**	**1.34**	**288**	*eP*	**Pn**	**19 35 42.2**	**+0.1**
JMP				*eS*	**Sn**	**19 36 01.9**	**-1.0**
JCH	**Churui**	**1.62**	**233**	*eP*	**Pn**	**19 35 45.7**	**+0.5**
JCH				*eS*	**Sn**	**19 36 07.4**	**-0.9**
JKK2	**Kamakawa 2**	**1.74**	**280**	*eP*	**Pn**	**19 35 46.9**	**+0.4**
ASAJ	**Asahikawa**	**1.90**	**287**	*eP*	**Pn**	**19 35 49.1**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.18**	**234**	*eP*	**Pn**	**19 35 51.6**	**-0.1**

*ISK **08** 19:45:36.3, 38°.76N×26°.37E, h12km, ML2.9/23*
*AFAD **08** 19:45:37.0±0.0, 38°.76N×26°.40E, h7km±1km, ML3.0*
*ATH **08** 19:45:37.2, 38°.77N×26°.39E, h12km±1km, ML2.8/5, Error ellipse: s-maj=2.4km s-min=1.0km az=279.0*
*THE **08** 19:45:37.0, 38°.78N×26°.42E, h4km±2km, ML2.8/6, Error ellipse: s-maj=2.5km s-min=0.4km az=320.0*
ISC 08 19:45:36.9±0.8, 38°.77N±0°.02×26°.39E±0°.02, h13km±6km, n52, σ0s39/85, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.11**	**172**	P	**Pg**	**19 45 40.0**	**+0.1**
KARB				S	**Sg**	**19 45 41.8**	**-0.4**
KARB				*i* AML	AML	19 45 43.0	
	comp=E,7μm,0.3s						
FOCM	**Foa**	**0.27**	**102**	Pg	**Pg**	**19 45 42.6**	**+0.1**
FOCM				Sg	**Sb**	**19 45 47.2**	**-0.9**
EAG2	**Marmaro, Chios**	**0.32**	**225**	P	**Pg**	**19 45 43.6**	**+0.2**
EAG2				S	**Sg**	**19 45 48.2**	**+0.5**
EAG2				AML	AML	19 45 48.3	
	comp=E,25917μm,0.5s						
EAG2				AML	AML	19 45 49.9	
	comp=N,34095μm,0.3s						
EAG3	**Mitilini, Lesv**	**0.34**	**24**	P	**Pg**	**19 45 44.0**	**+0.1**
LESV	**Lesvos island,**	**0.36**	**21**	P	**Pg**	**19 45 44.2**	**0.0**
LESV				S	**Sg**	**19 45 48.5**	**-0.6**
	comp=N,5μm,0.3s						
CAND	**Candarli**	**0.37**	**60**	Pg	**Pg**	**19 45 44.6**	**+0.3**
CAND				Sg	**Sb**	**19 45 50.7**	**-0.3**
CESE	**eme**	**0.45**	**189**	Pg	**Pg**	**19 45 45.4**	**-0.3**
CESE				Sg	**Sg**	**19 45 51.6**	**-0.1**
RFT7	**Candarli**	**0.45**	**66**	Pg	**Pg**	**19 45 46.1**	**+0.3**
RFT7				Sg	**Sb**	**19 45 52.9**	**-0.5**
CHOS	**Chios island**	**0.47**	**215**	P	**Pg**	**19 45 46.2**	**+0.1**
CHOS				S	**Sb**	**19 45 53.6**	**-0.2**
	comp=N,775nm,0.3s						
CHOS	**Chios island**	**0.47**	**215**	P	**Pg**	**19 45 46.3**	**+0.1**
CHOS				S	**Sb**	**19 45 53.6**	**-0.2**
CHOS				AML	AML	19 45 57.2	
	comp=N,1297μm,0.2s						
CHOS				AML	AML	19 45 58.3	
	comp=E,2114μm,0.2s						
PRK	**Paraskevi**	**0.48**	**349**	P	**Pg**	**19 45 46.6**	**+0.1**
PRK				S	**Sg**	**19 45 53.5**	**+0.6**
	comp=E,2μm,0.4s						
PRK	**Paraskevi**	**0.48**	**349**	P	**Pg**	**19 45 46.5**	**+0.1**
PRK				S	**Sg**	**19 45 52.5**	**-0.4**
PRK				AML	AML	19 45 54.7	
	comp=E,2773μm,0.2s						
PRK				AML	AML	19 45 55.0	
	comp=N,3904μm,0.2s						
DKL	**Dikili**	**0.50**	**53**	Pg	**Pg**	**19 45 46.9**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**0.54**	**171**	P	**Pg**	**19 45 47.5**	**+0.1**
ZEYE				S	**Sg**	**19 45 55.0**	**+0.4**
ZEDA	**zmir-Bergama**	**0.57**	**70**	P	**Pb**	**19 45 48.5**	**-0.2**
ZEDA				S	**Sb**	**19 45 56.1**	**-0.6**
AYVA	**Ayvalik**	**0.58**	**23**	P	**Pg**	**19 45 48.3**	**0.0**
AYVA				S	**Sb**	**19 45 57.1**	**-0.1**
SIGR	**SIGRI**	**0.61**	**317**	Pg	**Pg**	**19 45 48.7**	**0.0**
SIGR				Sg	**Sg**	**19 45 57.5**	**+0.7**
SIGR	**SIGRI**	**0.61**	**317**	P	**Pg**	**19 45 48.8**	**0.0**
SIGR				S	**Sb**	**19 45 57.9**	**+0.1**
	comp=N,420nm,0.3s						
SIGR	**SIGRI**	**0.61**	**317**	P	**Pg**	**19 45 48.9**	**+0.1**
SIGR				S	**Sg**	**19 45 57.2**	**+0.3**
SIGR				AML	AML	19 46 01.2	
	comp=N,840μm,0.2s						
SIGR				AML	AML	19 46 01.7	
	comp=E,848μm,0.4s						
PSRA	**Psara**	**0.69**	**251**	P	**Pg**	**19 45 50.0**	**-0.2**
PSRA				S	**Sg**	**19 45 59.6**	**+0.3**
PSRA				AML	AML	19 46 02.1	
	comp=E,4157μm,0.2s						
PSRA				AML	AML	19 46 02.5	
	comp=N,2324μm,0.2s						
GPNR	**Gulpinar-Canak**	**0.71**	**344**	Pg	**Pg**	**19 45 50.5**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.76**	**345**	P	**Pb**	**19 45 52.2**	**+0.2**
KOCA				S	**Sb**	**19 46 02.4**	**+0.2**
GMLD	**Gumuldur**	**0.81**	**149**	Pg	**Pg**	**19 45 52.3**	**-0.2**
GMLD				Sg	**Sg**	**19 46 03.1**	**+0.1**
DGB	**zmir**	**0.81**	**152**	P	**Pg**	**19 45 52.4**	**-0.3**
DGB				S	**Sg**	**19 46 02.8**	**-0.5**
BUHA	**Balikesir, Bur**	**0.90**	**36**	P	**Pg**	**19 45 54.2**	**-0.1**
BUHA				S	**Sn**	**19 46 07.5**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**0.98**	**7**	P	**Pg**	**19 45 55.6**	**-0.2**
BAYC				S	**Sg**	**19 46 07.8**	**-0.8**
BAYC				*i* AML	AML	19 46 10.0	
	comp=N,335nm,0.2s						
EZN	**Ezine**	**1.05**	**357**	Pg	**Pb**	**19 45 56.7**	**-0.3**
EZN	**Ezine**	**1.05**	**357**	P	**Pb**	**19 45 56.9**	**-0.1**
EZN				S	**Sn**	**19 46 11.8**	**-0.1**
	comp=N,592nm,0.3s						
BOZC	**Bozcaada**	**1.10**	**346**	P	**Pb**	**19 45 58.0**	**+0.2**
BOZC				P	**Pn**	**19 45 58.3**	**+0.2**
BOZC				S	**Sb**	**19 46 11.6**	**-0.5**
BOZC				S	**Sg**	**19 46 11.8**	**-0.7**
BOZC				*i* AML	AML	19 46 14.0	
	comp=N,387nm,0.2s						
BOZC				*i* AML	AML	19 46 14.0	
	comp=N,514nm,0.5s						
BOZC				*i* AML	AML	19 46 14.0	
	comp=N,372nm,0.3s						
BOZC				*i* AML	AML	19 46 14.0	
	comp=N,537nm,0.6s						
AKS	**Akhisar**	**1.11**	**84**	Pn	**Pn**	**19 45 58.6**	**+0.4**
AKHS	**Akhisar**	**1.11**	**84**	P	**Pn**	**19 45 59.0**	**+0.8**
AKHS				S	**Sb**	**19 46 12.5**	**+0.1**
SMG	**Samos**	**1.12**	**162**	P	**Pb**	**19 45 57.9**	**-0.2**
SMG				S	**Sn**	**19 46 13.9**	**+0.4**
	comp=N,1μm,0.4s						
SMG	**Samos**	**1.12**	**162**	P	**Pb**	**19 45 57.6**	**-0.4**
GOMA	**Golmarmara-Man**	**1.19**	**93**	Pn	**Pg**	**19 45 59.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.20**	**59**	P	**Pb**	**19 45 59.5**	**+0.1**
STEP				S	**Sn**	**19 46 15.7**	**+0.2**
STEP				*i* AML	AML	19 46 18.0	
	comp=N,344nm,0.4s						
STEP				*i* AML	AML	19 46 19.0	
	comp=N,286nm,0.3s						
GCAM	**G?zelcaml?**	**1.26**	**148**	Pn	**Pn**	**19 46 00.4**	**+0.3**
GCAM				Sn	**Sg**	**19 46 17.4**	**-0.1**
GCAM	**G?zelcaml?**	**1.26**	**148**	P	**Pn**	**19 46 00.4**	**+0.3**
GCAM				S	**Sg**	**19 46 17.3**	**-0.1**
COMU	**Canakkale**	**1.33**	**3**	Pn	**Pn**	**19 46 01.4**	**+0.2**
CANM	**Can-anakkale**	**1.34**	**22**	Pn	**Pb**	**19 46 01.9**	**0.0**
CANM				Sn	**Sn**	**19 46 19.5**	**+0.5**
BALB	**Balikesir**	**1.45**	**53**	Pn	**Pn**	**19 46 03.3**	**+0.6**
LIA	**Limnos Island**	**1.47**	**321**	P	**Pn**	**19 46 03.0**	**0.0**
LIA	**Limnos Island**	**1.47**	**321**	P	**Pn**	**19 46 03.1**	**0.0**
GADA	**Gvkgeada**	**1.47**	**345**	Pn	**Pn**	**19 46 03.3**	**+0.2**
GONE	**Gonen-Balikesi**	**1.62**	**38**	Pn	**Pn**	**19 46 05.5**	**+0.3**
LPK	**Lapseki**	**1.62**	**10**	Pn	**Pn**	**19 46 06.0**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.63**	**2**	Pn	**Pn**	**19 46 05.9**	**+0.7**
KRBG	**Karabiga-Canak**	**1.76**	**23**	Pn	**Pn**	**19 46 07.2**	**+0.1**
KULA	**Kula-Manisa**	**1.79**	**98**	Pn	**Pn**	**19 46 08.4**	**+0.8**
SMTH	**Samothraki Isl**	**1.82**	**339**	P	**Pn**	**19 46 07.9**	**-0.1**
BODT	**Bodrum**	**1.85**	**157**	Pn	**Pn**	**19 46 08.7**	**+0.3**
SIMA	**Simav-Kutahya**	**2.04**	**80**	Pn	**Pn**	**19 46 12.2**	**+1.1**
THAS	**Thassos island**	**2.24**	**325**	P	**Pn**	**19 46 13.1**	**-0.6**

*IDC **08** 19:46:04.9±2.0, 2°.27S×128°.37E, h0km, mb3.3/2, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=56.6km s-min=27.6km az=63.0*
*DJA **08** 19:46:10.4±0.3, 2°.5S×12°.8E±°, h65km±11km, M3.8/13, mb4.0/4, MLv3.7/13*
ISC 08 19:46:07.8±1.3, 2°.24S±0°.04×128°.22E±0°.04, h26km±12km, n16, σ2s74/24, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**1.09**	**171**	P	**Pb**	**19 46 29.2**	**+1.2**
KRAI				S	**Sb**	**19 46 44.2**	**+2.4**
NLAI	**Namlea**	**1.50**	**228**	P	**Pb**	**19 46 33.7**	**-1.3**
NLAI				S	**Sn**	**19 46 51.4**	**-0.5**
LBMI	**Labuha**	**1.74**	**336**	P	**Pb**	**19 46 38.9**	**-0.3**
LBMI				S	**Sb**	**19 47 01.1**	**+0.4**
SANI	**Sanana**	**2.24**	**275**	P	**Pn**	**19 46 43.2**	**-0.1**
SANI				S	**Sn**	**19 47 07.0**	**-3.2**
BNDI	**Bandanaira**	**2.82**	**144**	P	**Pn**	**19 46 52.6**	**+1.3**
BNDI				S	**Sn**	**19 47 26.1**	**+1.5**
TNTI	**Ternate**	**3.11**	**344**	P	**Pn**	**19 46 58.5**	**+3.2**
SWI	**Sorong**	**3.33**	**66**	P	**Pn**	**19 47 01.8**	**+3.5**
SWI				S	**Sb**	**19 47 42.1**	**-4.2**
SIJI	**Sorong**	**3.33**	**66**	P	**Pn**	**19 47 01.9**	**+3.5**
SIJI				S	**Sb**	**19 47 42.3**	**-4.1**
FAKI	**Fak Fak**	**4.08**	**100**	P	**Pn**	**19 47 11.1**	**+2.5**
KMSI	**Cibinong**	**5.08**	**303**	P	**Pn**	**19 47 23.8**	**+1.5**
	114nm,1.6s,0.5nm						
LUWI	**Luwuk**	**5.58**	**282**	P	**Pn**	**19 47 29.6**	**+0.4**
MRSI	**Marisa**	**6.83**	**293**	P	**Pn**	**19 47 47.8**	**+1.3**
	15nm,1.3s,0.1nm						
KAPI	**Kappang**	**8.89**	**252**	Pn	**Pn**	**19 48 16.8**	**+2.0**
	0.8nm,0.3s,baz=229,slow=9.0,SNR=1.3						
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**18.59**	**162**	P	**Pn**	**19 50 22.3**	**-1.3**
	0.2nm,0.3s,baz=340,slow=12,SNR=12						
WRA				S	**Sn**	**19 53 44.7**	**-6.1**
	0.8nm,1.0s,baz=339,slow=22,SNR=1.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**22.00**	**166**	P	**P**	**19 51 00.3**	**0.0**
	2.3nm,0.7s,baz=347,slow=12,SNR=39						
	2.3nm,0.7s						
MKAR	**Makanchi Array**	**63.30**	**326**	P	**P**	**19 56 36.5**	**+2.0**
	0.1nm,0.6s,baz=131,slow=6.6,SNR=1.3						
	0.1nm,0.6s						

*AFAD **08** 19:52:09.3±0.0, 35°.17N×26°.71E, h9km±2km, ML2.4*
*THE **08** 19:52:11.4, 35°.06N×26°.88E, h1km±9km, ML2.8/2, Error ellipse: s-maj=18.1km s-min=1.0km az=149.0*
*ATH **08** 19:52:12.5, 35°.06N×26°.89E, h12km±3km, ML2.8/2, Error ellipse: s-maj=9.9km s-min=2.5km az=146.0*
ISC 08 19:52:11.2±1.4, 35°.06N±0°.08×26°.87E±0°.04, h12km±10km, n30, σ0s97/42, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.54**	**276**	P	**Pg**	**19 52 21.7**	**0.0**
ZKR				S	**Sb**	**19 52 30.9**	**+0.5**
	748nm,0.3s						
ZKR	**Zakros**	**0.54**	**276**	P	**Pg**	**19 52 21.8**	**+0.1**
ZKR				S	**Sg**	**19 52 29.8**	**+1.0**
ZKR				AML	AML	19 52 31.9	
	comp=N,1179μm,0.3s						
ZKR				AML	AML	19 52 32.0	
	comp=E,1802μm,0.3s						
KARP	**Karpathos**	**0.54**	**26**	P	**Pg**	**19 52 22.0**	**+0.1**
KARP				S	**Sb**	**19 52 30.3**	**-0.4**
	comp=E,2μm,0.2s						
KARP	**Karpathos**	**0.54**	**26**	P	**Pg**	**19 52 21.7**	**-0.2**
KARP				S	**Sb**	**19 52 30.3**	**-0.4**
KARP				AML	AML	19 52 30.9	
	comp=N,4027μm,0.2s						
KARP				AML	AML	19 52 33.0	
	comp=E,3944μm,0.2s						
FRMA	**Ierapetra Chan**	**0.93**	**268**	P	**Pg**	**19 52 27.9**	**-1.3**
FRMA	**Ierapetra Chan**	**0.93**	**268**	P	**Pg**	**19 52 27.9**	**-1.3**
NISR	**Nisiros**	**1.56**	**8**	P	**Pn**	**19 52 39.3**	**+0.4**
IDI	**Anoyia**	**1.64**	**279**	P	**Pb**	**19 52 42.0**	**+0.6**
YAZI	**Mula-Dat§a-**	**1.69**	**16**	P	**Pn**	**19 52 40.0**	**-0.6**
YAZI				S	**Sn**	**19 53 02.2**	**0.0**
THR6	**Thira Island,**	**1.76**	**318**	P	**Pn**	**19 52 42.3**	**+0.6**
THR6	**Thira Island,**	**1.76**	**318**	P	**Pn**	**19 52 42.0**	**+0.3**
THR9	**Santorini-Faro**	**1.79**	**317**	P	**Pn**	**19 52 42.4**	**+0.4**
THR9	**Santorini-Faro**	**1.79**	**317**	P	**Pn**	**19 52 42.3**	**+0.4**
SNT5	**Nea Kammeni, S**	**1.80**	**319**	P	**Pn**	**19 52 42.3**	**+0.2**
THR3	**Thira Island,**	**1.80**	**319**	P	**Pn**	**19 52 42.2**	**+0.1**
THR3	**Thira Island,**	**1.80**	**319**	P	**Pn**	**19 52 42.2**	**+0.1**
CMBO	**Columbo, Santo**	**1.84**	**320**	P	**Pn**	**19 52 43.0**	**+0.2**
TURN	**Turunc**	**2.05**	**33**	P	**Pn**	**19 52 47.1**	**+1.6**
TURN				S	**Sb**	**19 53 13.4**	**-0.4**
BDRM	**Kayabasi**	**2.06**	**13**	P	**Pn**	**19 52 46.0**	**+0.2**
APE	**Apeiranthos**	**2.28**	**332**	P	**Pn**	**19 52 48.8**	**0.0**
APE	**Apeiranthos**	**2.28**	**332**	P	**Pn**	**19 52 48.8**	**0.0**
APE				S	**Sn**	**19 53 15.9**	**-1.1**
IZZE	**Mula-Seydike**	**2.36**	**54**	P	**Pn**	**19 52 50.3**	**+0.4**
IZZE				S	**Sb**	**19 53 24.1**	**+1.2**
IZZE				*i* AML	AML	19 53 38.0	
	comp=E,24nm,0.4s						
FETY	**Fethiye**	**2.39**	**48**	P	**Pb**	**19 52 53.9**	**-0.4**
FETY				S	**Sg**	**19 53 28.5**	**+0.4**
SABU	**Mula-Dalaman**	**2.45**	**43**	P	**Pn**	**19 52 51.5**	**+0.4**
SABU				S	**Sg**	**19 53 29.5**	**-0.5**
KNIK	**Mula-Seydike**	**2.83**	**50**	P	**Pn**	**19 52 57.5**	**+1.0**
CAEL	**Denizli, Camel**	**2.86**	**43**	P	**Pn**	**19 52 59.1**	**+2.2**
CAEL				*i* AML	AML	19 53 57.0	
	comp=E,28nm,0.6s						
CAEL				*i* AML	AML	19 54 00.0	
	comp=E,24nm,0.8s						
CAEL				*i* AML	AML	19 54 06.0	
	comp=E,25nm,0.9s						
TAVA	**DENIZLI_Tavas**	**2.92**	**34**	P	**Pn**	**19 52 58.8**	**+1.2**
TAVA				S	**Sb**	**19 53 36.2**	**-2.7**
TAVA				*i* AML	AML	19 53 46.0	
	comp=E,11nm,0.6s						
ESEN	**Aydn-Nazilli**	**2.98**	**23**	P	**Pn**	**19 52 58.5**	**+0.1**
ESEN				S	**Sn**	**19 53 35.5**	**+1.3**
GOLH	**Golhisar**	**3.08**	**44**	P	**Pn**	**19 53 01.7**	**+1.8**
GOLH				*i* AML	AML	19 54 13.0	
	comp=E,9.2nm,0.8s						
AKUM	**Antalya-Kumluc**	**3.10**	**65**	P	**Pn**	**19 52 58.3**	**-1.7**

*IDC **08** 19:53:15.8±1.6, 21°.72N×121°.93E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=57.1km s-min=23.8km az=58.0*
*JMA **08** 19:53:17.5±0.6, 22°N±3°×121°.7E±0°.6, h5km, MV3.7/11, TAIWAN REGION*
*TAP **08** 19:53:17.8, 22°.01N×121°.63E, h18km, ML3.3, D*
ISC 08 19:53:17.5±1.0, 22°.02N±0°.04×121°.71E±0°.04, h18km±4km, n66, σ1s37/73, mb3.3/5, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.12**	**260⇓**	*i* P	**Pg**	**19 53 21.8**	**+0.4**
	baz=264						
LYUB				*i* S	**Sg**	**19 53 24.0**	**0.0**
	baz=264						
LAY	**Lan-yu**	**0.15**	**276⇑**	*i* P	**Pg**	**19 53 21.6**	**-0.1**
	baz=295						
LAY				*i* S	**Sg**	**19 53 24.3**	**-0.3**
	baz=295						
LDUT	**Ludao**	**0.68**	**341**	*i* P	**Pn**	**19 53 31.3**	**-1.0**
	baz=347						
LDUT				*i* S	**Sn**	**19 53 41.8**	**-0.7**
	baz=347						
SMST	**Manzhou Townsh**	**0.81**	**270**	S	**Sg**	**19 53 43.3**	**-0.8**
	baz=271						
TAW	**Tawu**	**0.82**	**294**	P	**Pn**	**19 53 33.2**	**-1.0**
	baz=297						
TAWH	**Dawu Township**	**0.82**	**293**	*eP*	**Pn**	**19 53 33.2**	**-1.0**
	baz=295						
TAWH				S	**Sg**	**19 53 44.3**	**-0.3**
	baz=295						
TWKBT	**Hengchun**	**0.84**	**265**	*eP*	**Pg**	**19 53 32.5**	**-1.3**
	baz=265						
EAST	**Anshuo**	**0.88**	**294**	P	**Pb**	**19 53 33.3**	**-0.9**
	baz=297						
HEN	**Hengchun**	**0.90**	**269**	*eP*	**Pg**	**19 53 33.8**	**-1.3**
	baz=269						
ECL	**Taimali**	**0.90**	**309**	P	**Pn**	**19 53 34.5**	**-0.8**
	baz=313						
TWGBT	**Beinan**	**0.98**	**324**	P	**Pg**	**19 53 36.0**	**-0.6**
TWGBT	**Beinan**	**0.98**	**324**	P	**Pn**	**19 53 35.6**	**-0.9**
	baz=327						
TWGBT				S	**Sn**	**19 53 50.9**	**+1.0**
	baz=327						
TWG	**Pinlang**	**0.99**	**324**	P	**Pg**	**19 53 35.9**	**-0.8**
	baz=327						
EDH	**Donghe**	**1.02**	**338**	P	**Pb**	**19 53 35.9**	**-0.7**
	baz=342						
LONT	**Longtian**	**1.03**	**329**	*eP*	**Pn**	**19 53 36.4**	**-0.7**
	baz=332						
SCZT	**Fangliau**	**1.07**	**289**	*eP*	**Pn**	**19 53 36.6**	**-0.9**
	baz=291						
CHKT	**Chengkung**	**1.12**	**344**	*i* P	**Pg**	**19 53 38.1**	**-1.1**
	baz=347						
MASBT	**Mashibuluo**	**1.16**	**301**	*eP*	**Pg**	**19 53 39.3**	**-0.6**
	baz=303						
ECS	**Chishang**	**1.16**	**337**	*eP*	**Pg**	**19 53 39.5**	**-0.4**
	baz=340						
TSMG	**Majia**	**1.20**	**305**	*eP*	**Pn**	**19 53 38.1**	**-1.3**
	baz=307						
CHKH	**Chenggong**	**1.20**	**346**	P	**Pg**	**19 53 39.7**	**-1.1**
	baz=349						
CHKH				S	**Sg**	**19 53 55.8**	**-0.6**
	baz=349						
EHD	**Haiduan**	**1.21**	**338**	P	**Pb**	**19 53 39.8**	**-0.2**
	baz=341						
FULB	**Fuli**	**1.23**	**342**	*eP*	**Pg**	**19 53 40.5**	**-0.8**
	baz=345						
ECBN	**Changbin**	**1.31**	**350**	*eP*	**Pb**	**19 53 41.2**	**-0.3**
	baz=352						
ELDTW	**Lidau**	**1.32**	**331**	*eP*	**Pb**	**19 53 41.5**	**-0.5**
	baz=334						
EYUL	**Yuli**	**1.37**	**345**	*eP*	**Pg**	**19 53 42.7**	**-1.2**
	baz=347						
TWF1	**Yuli**	**1.38**	**344**	*eP*	**Pb**	**19 53 42.7**	**-0.1**
	baz=347						
YULB	**Yu-li**	**1.42**	**344**	P	**Pb**	**19 53 43.4**	**0.0**
YULB	**Yu-li**	**1.42**	**344**	P	**Pb**	**19 53 43.0**	**-0.4**
	baz=347						
STYH	**Taoyuan**	**1.43**	**323**	*eP*	**Pg**	**19 53 44.5**	**-0.6**
	baz=326						
SGST	**Jiashian**	**1.48**	**316**	P	**Pg**	**19 53 45.1**	**-1.0**
	baz=318						
HGSD	**Ruisui**	**1.48**	**350**	*eP*	**Pb**	**19 53 43.3**	**-1.3**
	baz=352						
EHY	**Hungye**	**1.52**	**346**	P	**Pb**	**19 53 45.2**	**0.0**
	baz=349						
TPUB	**Ta-pu**	**1.62**	**322**	P	**Pg**	**19 53 48.3**	**-0.4**
TPUB	**Ta-pu**	**1.62**	**322**	*eP*	**Pb**	**19 53 46.8**	**-0.1**
	baz=324						
EGFH	**Guangfu**	**1.66**	**351**	*eP*	**Pb**	**19 53 46.8**	**-0.8**
	baz=353						
ALS	**Alishan**	**1.70**	**331**	*eP*	**Pb**	**19 53 47.7**	**-0.7**
	baz=333						
WARBT	**Fenglin Townsh**	**1.71**	**350**	*eP*	**Pb**	**19 53 47.3**	**-1.2**
	baz=352						
SHUL	**Shoufeng**	**1.76**	**356**	*eP*	**Pb**	**19 53 47.7**	**-1.6**
	baz=358						
ESL	**Shilin**	**1.80**	**352**	*eP*	**Pb**	**19 53 49.1**	**-0.9**
	baz=354						
VWDT	**VWDT**	**1.80**	**343**	*eP*	**Pb**	**19 53 49.5**	**-0.4**
	baz=345						
SSLB	**Suanglung**	**1.89**	**339**	P	**Pg**	**19 53 52.7**	**-1.2**
ETM	**Tongmen**	**1.94**	**354**	*eP*	**Pb**	**19 53 51.1**	**-1.3**
	baz=356						
HWA	**Hwalien**	**1.95**	**357**	*eP*	**Pb**	**19 53 52.0**	**-0.5**
	baz=359						
OWD	**Renai**	**1.98**	**346**	*eP*	**Pb**	**19 53 52.3**	**-0.9**
	baz=347						
WJS	**Zhushan**	**2.01**	**333**	*eP*	**Pb**	**19 53 53.2**	**-0.3**
	baz=335						
LXIB	**Xiulin Townshi**	**2.01**	**352**	*eP*	**Pn**	**19 53 51.1**	**+0.5**
	baz=354						
WUSB	**Renai**	**2.03**	**345**	*eP*	**Pb**	**19 53 52.3**	**-1.7**
	baz=346						
WTK	**Tuku**	**2.06**	**324**	*eP*	**Pb**	**19 53 53.6**	**-0.7**
	baz=325						
CHGB	**Renai**	**2.09**	**346**	*eP*	**Pb**	**19 53 54.6**	**-0.4**
	baz=348						
NACB	**Ninganchiao**	**2.14**	**357**	P	**Pb**	**19 53 54.3**	**-1.5**
NACB	**Ninganchiao**	**2.14**	**357**	*eP*	**Pb**	**19 53 53.8**	**-2.0**
	baz=359						
WHF	**Hehuan Shan**	**2.15**	**349**	*eP*	**Pb**	**19 53 55.3**	**-0.9**
	baz=351						
EOS4	**EOS4**	**2.16**	**15**	*eP*	**Pb**	**19 53 54.0**	**-1.9**
	baz=16						
ETLH	**Xiulin Townshi**	**2.18**

	comp=N,220nm,0.2s							
ADCV				*i* AML	AML	19 56 30.0		
	comp=E,338nm,0.4s							
SIRN	**Sirnak**	**0.67**	**192**	P	**Pb**	**19 56 19.9**	**-0.3**	
SIRN				S	**Sb**	**19 56 28.9**	**-0.5**	
SIRN				*i* AML	AML	19 56 34.0		
	comp=E,216nm,0.5s							
TVAN	**Van**	**0.75**	**60**	P	**Pb**	**19 56 21.4**	**-0.2**	
TVAN				S	**Sb**	**19 56 32.1**	**+0.3**	
VANB	**Van**	**0.77**	**55**	Pg	**Pg**	**19 56 21.2**	**-0.5**	
MLAZ	**Malazgirt-MUS**	**0.99**	**358**	Pg	**Pb**	**19 56 25.5**	**-0.2**	
MLAZ				Sg	**Sn**	**19 56 39.5**	**-0.7**	
HAKT	**HAKKARI**	**1.07**	**123**	P	**Pn**	**19 56 27.5**	**0.0**	
HAKT				S	**Sn**	**19 56 43.1**	**+0.9**	
BTMN	**Batman**	**1.07**	**256**	P	**Pg**	**19 56 27.8**	**+0.4**	
BTMN				S	**Sn**	**19 56 42.9**	**+0.8**	
BTMN				*i* AML	AML	19 56 44.0		
	comp=N,157nm,0.3s							
BTMN				*i* AML	AML	19 56 44.0		
	comp=E,134nm,0.9s							
SVAN	**Silvan-Diyarba**	**1.09**	**270**	Pg	**Pn**	**19 56 27.6**	**-0.1**	
SVAN				Sg	**Sn**	**19 56 42.9**	**+0.2**	
CUKT	**Cukurca**	**1.21**	**138**	Pn	**Pg**	**19 56 29.9**	**-0.2**	
VRTB	**Varto-Mus**	**1.34**	**319**	Pn	**Pn**	**19 56 31.1**	**-0.1**	
CLDR	**Caldiran**	**1.44**	**46**	Pn	**Pb**	**19 56 32.9**	**-0.5**	
AGRB	**Hanur-Agry**	**1.46**	**12**	Pn	**Pb**	**19 56 33.5**	**-0.2**	
BNGB	**Bingl**	**1.71**	**300**	Pn	**Pb**	**19 56 37.2**	**-0.9**	
MAZI	**Mazidag**	**1.83**	**248**	Pn	**Pb**	**19 56 38.9**	**-1.2**	
DYBB	**Diyarbakir**	**1.94**	**265**	Pn	**Pn**	**19 56 40.0**	**+0.6**	
PTK	**Pertek**	**2.61**	**287**	Pn	**Pn**	**19 56 50.0**	**+1.3**	

*IDC **08** 19:59:43.1±1.2,42˚.08S×172˚.96E,h48km±11km,mb3.8/5, mbtmp4.1/7,ML3.9/2,MS3.2/8,Error ellipse: s-maj=26.6km s-min=9.0km az=130.0*

*NOU **08** 19:59:45.1,42˚.20S×172˚.98E,h80km,MLv4.7/16,South Island, New Zealand*

*NEIC **08** 19:59:45.9±1.1,42˚.14S±0˚.03×172˚.83E±0˚.04,h76km±6km, mb4.5/13,Error ellipse: s-maj=5.0km s-min=4.7km az=173.0*

*WEL **08** 19:59:46.6±0.4,42˚S±3˚×17˚3E±˚,h47km±7km,M4.5/18, ML4.8/18,MLv4.5/18,Error ellipse: s-maj=0.0km s-min=0.0km az=107.9,confirmed*

*WEL **08** 19:59:46.8,42˚.17S×172˚.84E,h64km,ML4.8,Mw4.3, Moment Tensor Solution. s7 Moment tensor: Mrr=187.62; Mθθ296.40; Mϕϕ-108.78; Mrθ237.71; Mθϕ-80.04; Mϕr-212.41; Fault plane solution: NP1: ϕs112.00000°,δ29.00000°,λ-34.00000°. NP2: ϕs232.00000°,δ74.00000°,λ-115.00000°. Principal axes: T 440.3300, Plg25.0000°, Azm341.0000°; N -46.8000, Plg24.0000°, Azm239.0000°; P -393.5300, Plg54.0000°, Azm112.0000°; SOUTH ISLAND*

ISC 08 19:59:45.6±0.6,42˚.16S±0˚.03×172˚.88E±0˚.03,h80km±5km, n234,σ1s20/245,mb4.4/14,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOLW	**Molesworth Sta**	**0.29**	**76**	P	**Pn**	**19 59 57.9**	**0.0**
MOLW				S	**Sn**	**20 00 06.0**	**-1.0**
THZ	**Tophouse**	**0.40**	**3**		**Pn**	**19 59 58.0**	**-0.6**
THZ	**Tophouse**	**0.40**	**3**	P	**Pn**	**19 59 58.0**	**-0.6**
THZ				S	**Sn**	**20 00 06.1**	**-2.1**
WIGC	**Waiau Gorge**	**0.55**	**186**	P	**Pn**	**19 59 58.8**	**-1.0**
WIGC				S	**Sn**	**20 00 08.6**	**-1.7**
KHZ	**Kahutara**	**0.55**	**118**		**Pn**	**20 00 00.1**	**+0.3**
KHZ	**Kahutara**	**0.55**	**118**	P	**Pn**	**19 59 59.9**	**+0.1**
KHZ	**Kahutara**	**0.55**	**118**	P	**Pn**	**20 00 00.1**	**+0.3**
KHZ				S	**Sn**	**20 00 01.1**	**0.0**
CULC	**Culverden Airl**	**0.60**	**186**	P	**Pn**	**19 59 59.9**	**-0.5**
CULC				S	**Sn**	**20 00 10.6**	**-0.6**
KIKS	**Kaikoura**	**0.65**	**115**	P	**Pn**	**20 00 01.4**	**+0.6**
KIKS				S	**Sn**	**20 00 12.7**	**+0.8**
MRNZ	**Matariki Terra**	**0.76**	**353**		**Pn**	**20 00 01.5**	**-0.5**
MRNZ				Sn	**Sn**	**20 00 12.8**	**-1.2**
MRNZ	**Matariki Terra**	**0.76**	**353**	P	**Pn**	**20 00 01.6**	**-0.4**
MRNZ				S	**Sn**	**20 00 13.3**	**-0.8**
LTZ	**Lake Taylor**	**0.77**	**216**		**Pn**	**20 00 02.1**	**0.0**
LTZ	**Lake Taylor**	**0.77**	**216**	P	**Pn**	**20 00 02.1**	**0.0**
LTZ				S	**Sn**	**20 00 13.6**	**-0.8**
GVZ	**Greta Valley S**	**0.82**	**172**		**Pn**	**20 00 03.2**	**+0.6**
GVZ	**Greta Valley S**	**0.82**	**172**	P	**Pn**	**20 00 03.3**	**+0.6**
GVZ				S	**Sn**	**20 00 15.6**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.86**	**60**		**Pn**	**20 00 03.5**	**+0.5**
BSWZ				Sn	**Sn**	**20 00 17.0**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.86**	**60**	P	**Pn**	**20 00 03.7**	**+0.6**
BSWZ				S	**Sn**	**20 00 16.9**	**+0.8**
DSZ	**Denniston Nort**	**0.90**	**297**		**Pn**	**20 00 02.7**	**+0.8**
DSZ	**Denniston Nort**	**0.90**	**297**	P	**Pn**	**20 00 02.8**	**-0.8**
NNZ	**Nelson**	**1.01**	**22**		**Pn**	**20 00 04.8**	**0.0**
NNZ				Sn	**Sn**	**20 00 18.2**	**-0.9**
NNZ	**Nelson**	**1.01**	**22**	P	**Pn**	**20 00 04.9**	**+0.2**
AMCZ	**Amberley**	**1.03**	**189**		**Pn**	**20 00 05.3**	**+0.3**
AMCZ	**Amberley**	**1.03**	**189**	P	**Pn**	**20 00 05.4**	**+0.3**
AMCZ				S	**Sn**	**20 00 19.7**	**+0.1**
CMWZ	**Cape Campbell**	**1.07**	**68**		**Pn**	**20 00 06.4**	**+0.8**
CMWZ	**Cape Campbell**	**1.07**	**68**	P	**Pn**	**20 00 06.5**	**+1.0**
TUWZ	**Tuamarina**	**1.08**	**48**		**Pn**	**20 00 05.8**	**+0.3**
TUWZ	**Tuamarina**	**1.08**	**48**	P	**Pn**	**20 00 05.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.12**	**3**		**Pn**	**20 00 06.1**	**-0.1**
TKNZ	**Takaka Hill**	**1.12**	**3**	P	**Pn**	**20 00 06.4**	**+0.2**
INZ	**Inchbonnie**	**1.21**	**241**	Pn	**Pn**	**20 00 07.1**	**-0.1**
INZ	**Inchbonnie**	**1.21**	**241**	P	**Pn**	**20 00 07.1**	**-0.1**
OXZ	**Oxford**	**1.32**	**208**		**Pn**	**20 00 08.2**	**-0.5**
OXZ	**Oxford**	**1.32**	**208**	P	**Pn**	**20 00 08.3**	**-0.5**
QRZ	**Quartz Range**	**1.36**	**349**		**Pn**	**20 00 08.7**	**-0.4**
QRZ	**Quartz Range**	**1.36**	**349**	P	**Pn**	**20 00 08.5**	**-0.6**
QRZ	**Quartz Range**	**1.36**	**349**	P	**Pn**	**20 00 08.6**	**-0.6**
TCW	**Tory Channel**	**1.41**	**48**		**Pn**	**20 00 10.0**	**+0.2**
TCW	**Tory Channel**	**1.41**	**48**	P	**Pn**	**20 00 09.9**	**+0.1**
MQZ	**McQueen's Vall**	**1.56**	**186**		**Pn**	**20 00 11.0**	**-0.6**
MQZ	**McQueen's Vall**	**1.56**	**186**	P	**Pn**	**20 00 11.0**	**-0.6**
DUWZ	**D'Urville Isla**	**1.56**	**30**	P	**Pn**	**20 00 12.7**	**+0.9**
OKCZ	**Okains Bay**	**1.57**	**175**	P	**Pn**	**20 00 12.0**	**+0.1**
SNZO	**South Karori**	**1.61**	**59**		**Pn**	**20 00 12.2**	**-0.1**
SNZO	**South Karori**	**1.61**	**59**	P	**Pn**	**20 00 12.3**	**0.0**
WEL	**Wellington**	**1.66**	**59**	P	**Pn**	**20 00 13.0**	**0.0**
RACZ	**Rakaia**	**1.66**	**199**	P	**Pn**	**20 00 12.6**	**-0.4**
BHW	**Baring Head**	**1.67**	**64**	Pn	**Pn**	**20 00 12.6**	**-0.5**
BHW	**Baring Head**	**1.67**	**64**	P	**Pn**	**20 00 12.8**	**-0.3**
MHCZ	**Mount Hutt**	**1.68**	**215**	P	**Pn**	**20 00 12.7**	**-0.6**
AKXZ	**Akaroa Harbour**	**1.71**	**179**	P	**Pn**	**20 00 13.5**	**-0.2**
WVZ	**Waitaha Valley**	**1.83**	**239**	P	**Pn**	**20 00 15.1**	**-0.2**
PLWZ	**Palliser**	**1.87**	**72**	Pn	**Pn**	**20 00 14.8**	**-1.0**
PLWZ	**Palliser**	**1.87**	**72**	P	**Pn**	**20 00 15.1**	**-0.7**
MSWZ	**Moikau Station**	**1.92**	**68**	Pn	**Pn**	**20 00 15.1**	**-1.3**
WACZ	**Wakanui South**	**1.94**	**203**	P	**Pn**	**20 00 16.1**	**-0.7**
CAW	**Cannon Point**	**1.94**	**58**	P	**Pn**	**20 00 16.5**	**-0.3**
KIW	**Kapiti Island**	**2.00**	**50**	P	**Pn**	**20 00 17.7**	**+0.2**
PAWZ	**Paruwai Farm**	**2.06**	**69**	P	**Pn**	**20 00 17.4**	**-0.9**
RPZ	**Rata Peaks**	**2.06**	**220**	Pn	**Pn**	**20 00 17.6**	**-0.7**
RPZ	**Rata Peaks**	**2.06**	**220**	P	**Pn**	**20 00 17.8**	**-0.5**
RPZ	**Rata Peaks**	**2.06**	**220**	P	**Pn**	**20 00 17.7**	**-0.5**
	42nm,0.3s,baz=240,slow=1.3,SNR=154						
RPZ				S	**Sn**	**20 00 42.3**	**-0.8**
	873nm,0.4s,baz=337,slow=21,SNR=9.9						
RPZ				LR	LR	20 01 26.2	
	comp=Z,261nm,21.2s,baz=64,slow=48						
	114nm,0.3s						
RPZ	**Rata Peaks**	**2.06**	**220**	P	**Pn**	**20 00 17.7**	**-0.5**
OGWZ	**Otaki Gorge**	**2.18**	**53**	P	**Pn**	**20 00 19.7**	**-0.2**
ARCZ	**Arundel**	**2.18**	**214**	P	**Pn**	**20 00 19.2**	**-0.8**
MTW	**Mount Morrison**	**2.20**	**64**	P	**Pn**	**20 00 19.2**	**-1.1**
TRWZ	**Traveller**	**2.23**	**71**	P	**Pn**	**20 00 19.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**2.34**	**58**	P	**Pn**	**20 00 21.2**	**-0.9**
TMWZ	**Te Maipa**	**2.49**	**66**	P	**Pn**	**20 00 22.8**	**-1.2**
MRZ	**Mangatainoka R**	**2.52**	**54**	Pn	**Pn**	**20 00 23.6**	**-0.9**
MRZ	**Mangatainoka R**	**2.52**	**54**	P	**Pn**	**20 00 23.6**	**-0.9**
TMZ	**Timaru**	**2.61**	**211**	P	**Pn**	**20 00 25.1**	**-0.7**
FOZ	**Fox Glacier**	**2.64**	**238**	Pn	**Pn**	**20 00 25.6**	**-0.4**
FOZ	**Fox Glacier**	**2.64**	**238**	P	**Pn**	**20 00 25.7**	**-0.4**
TIWZ	**Tintock**	**2.65**	**60**	P	**Pn**	**20 00 25.2**	**-1.0**
OHWZ	**Ohakea**	**2.68**	**44**	P	**Pn**	**20 00 27.6**	**+1.0**
CPWZ	**Castlepoint**	**2.79**	**65**	P	**Pn**	**20 00 27.2**	**-0.8**
POWZ	**Post Office Ro**	**2.80**	**52**	P	**Pn**	**20 00 27.4**	**-0.9**
PRWZ	**Pori Road**	**2.82**	**56**	P	**Pn**	**20 00 27.5**	**-1.1**
NMEZ	**Namu Road**	**2.84**	**16**	P	**Pn**	**20 00 30.2**	**+1.3**
WAZ	**Wanganui**	**2.88**	**34**	P	**Pn**	**20 00 31.0**	**+1.6**
BFZ	**Birch Farm**	**2.93**	**61**		**Pn**	**20 00 28.2**	**-1.8**
BFZ	**Birch Farm**	**2.93**	**61**	P	**Pn**	**20 00 28.4**	**-1.6**
BFZ	**Birch Farm**	**2.93**	**61**	P	**Pn**	**20 00 28.3**	**-1.8**
LREZ	**Lake Rotokare**	**2.93**	**24**	P	**Pn**	**20 00 31.9**	**+1.9**
LBZ	**Lake Benmore**	**2.97**	**221**	Pn	**Pn**	**20 00 29.9**	**-0.6**
LBZ	**Lake Benmore**	**2.97**	**221**	P	**Pn**	**20 00 30.0**	**-0.6**
PREZ	**Palmer Road**	**2.98**	**19**	P	**Pn**	**20 00 32.0**	**+1.3**
NBEZ	**Newall Road No**	**2.98**	**15**	P	**Pn**	**20 00 32.2**	**+1.5**
KHEZ	**Kahui Hut**	**2.99**	**17**	P	**Pn**	**20 00 32.0**	**+1.1**
KHEZ	**Kahui Hut**	**2.99**	**17**	P	**Pn**	**20 00 32.0**	**+1.1**
NEZ	**North Egmont**	**3.03**	**18**	P	**Pn**	**20 00 32.3**	**+0.9**
PKE	**Pukeiti**	**3.08**	**16**	P	**Pn**	**20 00 33.3**	**+1.2**
DVHZ	**Dannevirke**	**3.10**	**54**	P	**Pn**	**20 00 30.7**	**-1.6**
DREZ	**Durham Road**	**3.13**	**19**	P	**Pn**	**20 00 33.8**	**+1.1**
TSZ	**Takapari Road**	**3.13**	**49**	P	**Pn**	**20 00 31.7**	**-1.1**
ANWZ	**Angora Road**	**3.19**	**59**	P	**Pn**	**20 00 31.9**	**-1.6**
ODZ	**Otahua Downs**	**3.31**	**209**		**Pn**	**20 00 34.2**	**-0.9**
ODZ	**Otahua Downs**	**3.31**	**209**	P	**Pn**	**20 00 34.8**	**-0.4**
ODZ	**Otahua Downs**	**3.31**	**209**	P	**Pn**	**20 00 34.4**	**-0.8**
VRZ	**Vera Road**	**3.35**	**26**	P	**Pn**	**20 00 36.9**	**+1.2**
PNHZ	**Pukenui**	**3.37**	**49**	P	**Pn**	**20 00 34.5**	**-1.4**
MTVZ	**Mangateitei**	**3.40**	**36**	P	**Pn**	**20 00 36.9**	**+0.5**
PRHZ	**Porangahau**	**3.40**	**58**	P	**Pn**	**20 00 34.4**	**-2.0**
WPHZ	**Waipukurau**	**3.41**	**53**	P	**Pn**	**20 00 35.4**	**-1.1**
PKVZ	**Pokaka**	**3.42**	**34**	P	**Pn**	**20 00 36.9**	**+0.1**
WNVZ	**Wahianoa**	**3.50**	**37**	P	**Pn**	**20 00 38.2**	**+0.3**
TRVZ	**Turoa**	**3.50**	**36**	P	**Pn**	**20 00 38.3**	**+0.3**
MOVZ	**Moawhango**	**3.51**	**39**	P	**Pn**	**20 00 37.5**	**-0.4**
MAVZ	**Matarangi**	**3.53**	**36**	P	**Pn**	**20 00 38.6**	**+0.1**
WHVZ	**Whangaehu Hut**	**3.53**	**37**	P	**Pn**	**20 00 38.7**	**+0.3**
FWVZ	**Far West T-bar**	**3.54**	**36**	P	**Pn**	**20 00 38.9**	**+0.4**
JCZ	**Jackson Bay**	**3.56**	**236**	P	**Pn**	**20 00 37.7**	**-0.9**
JCZ	**Jackson Bay**	**3.56**	**236**	P	**Pn**	**20 00 37.6**	**-1.4**
TUVZ	**Tukino**	**3.57**	**37**	P	**Pn**	**20 00 39.2**	**+0.3**
COVZ	**Chateau Observ**	**3.58**	**35**	P	**Pn**	**20 00 39.2**	**+0.3**
BHHZ	**Black Hill Sta**	**3.59**	**43**	P	**Pn**	**20 00 38.5**	**-0.6**
NGZ	**Ngauruhoe**	**3.63**	**36**	P	**Pn**	**20 00 39.7**	**+0.1**
SNVZ	**South Ngauruho**	**3.63**	**36**	P	**Pn**	**20 00 39.9**	**+0.2**
TWVZ	**Taurewa**	**3.65**	**33**	P	**Pn**	**20 00 39.9**	**+0.1**
KRHZ	**Kereru**	**3.65**	**48**	P	**Pn**	**20 00 38.4**	**-1.4**
OTVZ	**Oturere**	**3.66**	**36**	P	**Pn**	**20 00 40.2**	**+0.1**
NNVZ	**North Ngauruho**	**3.67**	**35**	P	**Pn**	**20 00 40.2**	**0.0**
WTVZ	**West Tongariro**	**3.67**	**35**	P	**Pn**	**20 00 40.2**	**0.0**
PXZ	**Pawanui**	**3.68**	**56**	P	**Pn**	**20 00 38.1**	**-2.1**
ETVZ	**East Tongariro**	**3.71**	**36**	P	**Pn**	**20 00 40.9**	**+0.3**
KRVZ	**Karewarewa**	**3.71**	**35**	P	**Pn**	**20 00 40.5**	**-0.2**
TMVZ	**Te Maari**	**3.72**	**36**	P	**Pn**	**20 00 41.0**	**+0.1**
NTVZ	**North Tongariro**	**3.72**	**36**	P	**Pn**	**20 00 41.1**	**+0.2**
KWHZ	**Kaweka Forest**	**3.83**	**46**	P	**Pn**	**20 00 41.4**	**-0.9**
KATZ	**Kakaramea**	**3.83**	**35**	P	**Pn**	**20 00 42.7**	**+0.3**
KAHZ	**Kahuranaki**	**3.84**	**53**	P	**Pn**	**20 00 40.3**	**-2.1**
WKZ	**Wanaka**	**3.88**	**225**		**Pn**	**20 00 40.6**	**-2.2**
WKZ	**Wanaka**	**3.88**	**225**	P	**Pn**	**20 00 40.6**	**-2.2**
RITZ	**Rihia Road**	**3.90**	**36**	P	**Pn**	**20 00 43.1**	**-0.1**
HIZ	**Hauiti**	**3.94**	**23**	Pn	**Pn**	**20 00 44.0**	**+0.3**
HIZ	**Hauiti**	**3.94**	**23**	P	**Pn**	**20 00 44.3**	**+0.6**
HIZ	**Hauiti**	**3.94**	**23**	P	**Pn**	**20 00 44.2**	**+0.4**
RATZ	**Rangitukua**	**3.96**	**35**	P	**Pn**	**20 00 45.2**	**+1.1**
MCHZ	**McNeill Hill**	**3.97**	**48**	P	**Pn**	**20 00 43.2**	**-0.9**
EAZ	**Earnscleugh**	**4.02**	**219**	P	**Pn**	**20 00 43.4**	**-1.4**
CKHZ	**Cape Kidnapper**	**4.04**	**53**	P	**Pn**	**20 00 42.7**	**-2.4**
BKZ	**Black Stump Fm**	**4.06**	**44**	Pn	**Pn**	**20 00 43.8**	**-1.6**
BKZ	**Black Stump Fm**	**4.06**	**44**	P	**Pn**	**20 00 44.5**	**-0.9**
BKZ	**Black Stump Fm**	**4.06**	**44**	P	**Pn**	**20 00 44.0**	**-1.4**
HHSZ	**Highcliff Hill**	**4.07**	**203**	P	**Pn**	**20 00 44.8**	**-0.7**
WATZ	**Wairara**	**4.08**	**33**	P	**Pn**	**20 00 46.9**	**+1.3**
ARHZ	**Aropaoanui**	**4.26**	**49**	P	**Pn**	**20 00 47.4**	**-0.7**
NMHZ	**Naumai**	**4.27**	**46**	P	**Pn**	**20 00 47.0**	**-1.3**
MRHZ	**Matea Rd**	**4.28**	**40**	P	**Pn**	**20 00 46.7**	**-1.6**
TLZ	**Tolley Road**	**4.33**	**29**	P	**Pn**	**20 00 49.7**	**+0.6**
MSZ	**Milford Sound**	**4.40**	**233**	P	**Pn**	**20 00 48.6**	**-1.3**
TUZ	**Tuapeka**	**4.46**	**211**	P	**Pn**	**20 00 50.4**	**-0.4**
MTHZ	**Maungataniwha**	**4.47**	**44**	P	**Pn**	**20 00 49.3**	**-1.8**
RAHZ	**Arahi**	**4.55**	**46**	P	**Pn**	**20 00 50.8**	**-1.3**
MLZ	**Mavora Lakes**	**4.71**	**225**	Pn	**Pn**	**20 00 51.7**	**-2.5**
MLZ	**Mavora Lakes**	**4.71**	**225**	P	**Pn**	**20 00 52.6**	**-1.6**
RTZ	**Ruatahuna**	**4.72**	**43**	Pn	**Pn**	**20 00 52.3**	**-2.2**
RTZ	**Ruatahuna**	**4.72**	**43**	P	**Pn**	**20 00 53.4**	**-1.1**
MUGZ	**Murupara**	**4.73**	**40**	P	**Pn**	**20 00 52.3**	**-2.2**
NGRZ	**Ngongotaha**	**4.78**	**33**	P	**Pn**	**20 00 56.2**	**+1.0**
SNGZ	**Shannon Statio**	**4.79**	**47**	P	**Pn**	**20 00 53.2**	**-2.1**
TARZ	**Mount Tarawera**	**4.80**	**37**	P	**Pn**	**20 00 57.5**	**+2.0**
KNZ	**Kokohu**	**4.81**	**51**	P	**Pn**	**20 00 52.8**	**-2.7**
TOZ	**Tahuroa Road**	**4.86**	**25**	Pn	**Pn**	**20 00 56.1**	**-0.1**
TOZ	**Tahuroa Road**	**4.86**	**25**	P	**Pn**	**20 00 56.4**	**+0.2**
MHGZ	**Mahia Peninsul**	**4.86**	**54**	P	**Pn**	**20 00 53.5**	**-2.7**
KARZ	**Karioi**	**4.87**	**33**	P	**Pn**	**20 01 00.8**	**+4.4**
PRGZ	**Paritu Road**	**5.00**	**51**	P	**Pn**	**20 00 55.3**	**-2.9**
RAGZ	**Rawiri**	**5.04**	**45**	P	**Pn**	**20 00 57.0**	**-1.8**
URZ	**Urewera**	**5.06**	**41**	P	**Pn**	**20 00 56.7**	**-2.3**
URZ	**Urewera**	**5.06**	**41**	P	**Pn**	**20 00 56.1**	**-2.9**
	3.8nm,0.3s,baz=29,slow=23,SNR=24						
URZ				S	**Sn**	**20 01 51.1**	**-5.1**
	204nm,0.4s,baz=160,slow=18,SNR=25						
	14nm,0.5s						
RIGZ	**Rimuhau**	**5.07**	**49**	P	**Pn**	**20 00 57.0**	**-2.2**
SYZ	**Scrubby Hill**	**5.13**	**210**	P	**Pn**	**20 01 00.0**	**+0.1**
SYZ	**Scrubby Hill**	**5.13**	**210**	P	**Pn**	**20 00 59.7**	**-0.2**
WHZ	**Wether Hill Ro**	**5.16**	**222**		**Pn**	**20 00 58.0**	**-2.3**
WHZ	**Wether Hill Ro**	**5.16**	**222**	P	**Pn**	**20 00 58.2**	**-2.1**
MWZ	**Matawai**	**5.22**	**44**	P	**Pn**	**20 00 58.6**	**-2.6**
AWAZ	**Awhitu Peninsu**	**5.26**	**16**	P	**Pn**	**20 01 02.6**	**+0.8**
DCZ	**Deep Cove**	**5.30**	**229**		**Pn**	**20 00 59.3**	**-2.9**
DCZ	**Deep Cove**	**5.30**	**229**	P	**Pn**	**20 01 01.5**	**-0.8**
TKGZ	**Te Karaka**	**5.31**	**47**	P	**Pn**	**20 01 01.0**	**-1.4**
MKAZ	**Moumakai**	**5.34**	**20**	P	**Pn**	**20 01 03.4**	**+0.6**
WTAZ	**Waiatarua**	**5.38**	**15**	P	**Pn**	**20 01 04.9**	**+1.5**
ETAZ	**East Tamaki Re**	**5.43**	**18**	P	**Pn**	**20 01 04.8**	**+0.8**
RVAZ	**Riverhead Bore**	**5.54**	**14**	P	**Pn**	**20 01 07.8**	**+2.3**
TWGZ	**Tauwhareparae**	**5.57**	**46**	P	**Pn**	**20 01 03.7**	**-2.4**
MBAZ	**Motutapu North**	**5.60**	**17**	P	**Pn**	**20 01 07.0**	**+0.6**
WIAZ	**Waiheke Island**	**5.63**	**19**	P	**Pn**	**20 01 07.4**	**+0.6**
ABAZ	**Army Bay**	**5.75**	**16**	P	**Pn**	**20 01 09.3**	**+0.8**
KUZ	**Kuaotunu**	**5.83**	**23**	P	**Pn**	**20 01 09.3**	**-0.2**
KUZ	**Kuaotunu**	**5.83**	**23**	P	**Pn**	**20 01 09.5**	**0.0**
APZ	**The Paps**	**5.84**	**215**	P	**Pn**	**20 01 07.7**	**-1.9**
MXZ	**Matakaoa Point**	**6.20**	**44**	Pn	**Pn**	**20 01 12.0**	**-2.5**
MXZ	**Matakaoa Point**	**6.20**	**44**	P	**Pn**	**20 01 12.5**	**-2.1**
MXZ	**Matakaoa Point**	**6.20**	**44**	P	**Pn**	**20 01 12.0**	**-2.5**
GRZ	**Great Barrier**	**6.23**	**20**	P	**Pn**	**20 01 14.7**	**-0.3**
WCZ	**Waipu Caves**	**6.31**	**11**	P	**Pn**	**20 01 16.8**	**+0.7**
OUZ	**Omahuta**	**6.95**	**5**	P	**Pn**	**20 01 24.9**	**+0.1**
OUZ	**Omahuta**	**6.95**	**5**	P	**Pn**	**20 01 26.4**	**+1.6**
CTZ	**Chatham Island**	**7.87**	**105**	Pn	**Pn**	**20 01 35.9**	**-1.3**
CTZ	**Chatham Island**	**7.87**	**105**	P	**Pn**	**20 01 35.9**	**-1.3**
CTZ	**Chatham Island**	**7.87**	**105**	P	**Pn**	**20 01 35.8**	**-1.3**
DZM	**Mont Dzumac**	**20.74**	**343**	LR	LR	20 10 47.2	
	comp=Z,99nm,20.7s,baz=119,slow=32						
KOUNC	**Koumac, New Ca**	**22.73**	**339**	P	**P**	**20 04 39.6**	**-1.4**
KOUNC				IAmb	IAmb	20 04 53.0	
	comp=Z,19nm,1.1s						
EIDS	**Eidsvold**	**24.57**	**306**	P	**P**	**20 05 00.3**	**+2.3**
STKA	**Stephens Creek**	**26.87**	**282**	LR	LR	20 13 47.4	
	comp=Z,64nm,21.3s,baz=28,slow=31						
BBOO	**Buckleboo**	**30.48**	**276**	P	**P**	**20 05 51.6**	**+0.7**
BBOO				IAmb	IAmb	20 06 08.0	
	comp=Z,16nm,1.2s						
CTA	**Charters Tower**	**31.45**	**306**	LR	LR	20 17 10.7	
	comp=Z,28nm,21.3s,baz=110,slow=33						
CTAO	**Charters Tower**	**31.45**	**306**	P	**P**	**20 05 58.1**	**-1.5**
CTAO				IAmb	IAmb	20 06 02.9	
	comp=Z,9.0nm,0.9s						
VNDA	**Vanda**	**35.76**	**184**	P	**P**	**20 06 35.4**	**-1.0**
VNDA				IAmb	IAmb	20 06 56.7	
	comp=Z,3.5nm,1.4s						
AS31	**Alice Springs**	**37.17**	**287**	P	**P**	**20 06 49.5**	**+0.5**
ASAR	**Alice Springs**	**37.17**	**287**	P	**P**	**20 06 48.5**	**-0.5**
ASAR	**Alice Springs**	**37.17**	**287**	P	**P**	**20 06 50.0**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=127,slow=7.0,SNR=26						
ASAR				PcP	**PcP**	**20 09 07.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=117,slow=4.0,SNR=4.6						
ASAR				LR	LR	20 22 54.2	
	comp=Z,33nm,18.3s,baz=140,slow=37						
	comp=Z,0.9nm,0.5s						
WR0	**Warramunga Arr**	**39.15**	**292**	P	**P**	**20 07 06.2**	**+0.5**
WR0				IAmb	IAmb	20 07 21.2	
	comp=Z,9.1nm,1.4s						
WB2	**Warramunga Arr**	**39.29**	**292**	P	**P**	**20 07 07.9**	**+1.1**
WRAB	**Tennant Creek**	**39.30**	**292**	P	**P**	**20 07 06.8**	**-0.1**
WRAB				IAmb	IAmb	20 07 22.7	
	comp=Z,7.1nm,1.3s						
WRA	**Warramunga Arr**	**39.30**	**292**	P	**P**	**20 07 06.2**	**-0.7**
WRA	**Warramunga Arr**	**39.30**	**292**	P	**P**	**20 07 08.2**	**+1.3**
	comp=Z,1.8nm,0.4s,baz=128,slow=8.5,SNR=50						
WRA				PcP	**PcP**	**20 09 14.2**	**0.0**
	comp=Z,0.3nm,0.8s,baz=116,slow=2.0,SNR=1.5						
	comp=Z,1.8nm,0.4s						
WB0	**Warramunga Arr**	**39.38**	**293**	P	**P**	**20 07 08.5**	**+0.9**
WB0				IAmb	IAmb	20 07 20.6	
	comp=Z,8.2nm,1.2s						
QSPA	**South Pole Qui**	**47.97**	**180**	P	**P**	**20 08 17.9**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=87,slow=4.4,SNR=2.4						
	comp=Z,0.8nm,0.3s						
BELA	**Belgrano 2**	**59.06**	**173**	P	**P**	**20 09 38.1**	**+1.3**
KAPI	**Kappang**	**59.84**	**293**	LR	LR	20 36 09.9	
	comp=Z,18nm,18.8s,baz=122,slow=36						
DAV	**Davao City (W)**	**65.25**	**307**	LR	LR	20 37 18.3	
	comp=Z,38nm,20.6s,baz=348,slow=35						
LEM	**Lembang**	**67.19**	**282**	LR	LR	20 38 13.0	
	comp=Z,19nm,21.9s,baz=298,slow=34						
BYL	**Byron's Ledge**	**67.97**	**33**	P	**P**	**20 10 34.7**	**-1.5**
**

CCAC	**Calif City Air**	**1.64**	**188**			**Pb**	**20 00 47.0**	**-0.3**
CCAC				IAML			20 01 13.6	
	comp=E,33nm,0.6s							
GSC	**Goldstone, Bar**	**1.66**	**152**			**Pn**	**20 00 46.6**	**+0.6**
GSC	**Goldstone, Bar**	**1.66**	**152**			**Pn**	**20 00 46.3**	**+0.3**
GSC	**Goldstone, Bar**	**1.66**	**152**	IAML			20 01 15.4	
	comp=E,36nm,0.9s							
NV11	**Mina Array Sit**	**1.69**	**349**	Pg		**Pb**	**20 00 47.3**	**-0.8**
NV08	**Mina Array Sit**	**1.69**	**344**			**Pb**	**20 00 47.4**	**-0.8**
NVAR	**Mina Array Bea**	**1.71**	**345**			**Pb**	**20 00 47.8**	**-0.8**
NV09	**Mina Array Sit**	**1.72**	**344**			**Pg**	**20 00 49.5**	**-0.8**
S11A	**Rachel**	**1.81**	**61**			**Pb**	**20 00 50.2**	**-0.2**
RYN	**Ryan**	**1.95**	**342**			**Pn**	**20 00 50.5**	**+0.4**
RYN				IAML			20 01 23.8	
	comp=N,23nm,0.4s							
RYN				IAML			20 01 29.2	
	comp=E,31nm,0.6s							
TUQ	**Turquoise Moun**	**1.99**	**132**			**Pn**	**20 00 51.1**	**+0.5**
TUQ	**Turquoise Moun**	**1.99**	**132**	P		**Pn**	**20 00 51.2**	**+0.5**
	baz=313,SNR=11							
SHPR	**Sheep Range**	**2.10**	**97**			**Pb**	**20 00 54.6**	**-0.5**
Q09A	**Carvers**	**2.10**	**12**	Pn		**Pn**	**20 00 53.3**	**+1.1**
WAKR	**Walker**	**2.19**	**323**			**Pn**	**20 00 54.1**	**+0.7**
PRN	**Pahroc Range**	**2.24**	**73**			**Pn**	**20 00 55.6**	**+1.5**
KVN	**Kaiserville**	**2.29**	**353**			**Pn**	**20 00 55.4**	**+0.6**
KVN				IAML			20 01 32.1	
	comp=N,14nm,1.0s							
R11B	**Troy Canyon, C**	**2.33**	**47**			**Pn**	**20 00 56.9**	**+1.6**
R11B	**Troy Canyon, C**	**2.33**	**47**	IAML			20 01 33.2	
	comp=N,21nm,0.2s							
R11B				IAML			20 01 33.8	
	comp=E,23nm,0.6s							
R11B	**Troy Canyon, C**	**2.33**	**47**	P		**Pn**	**20 00 55.7**	**+0.4**
	baz=228							
R11B				Sb		**Sg**	**20 01 30.7**	**-1.2**
	baz=228							
SMMC	**Simmler**	**2.34**	**232**	Sb		**Sg**	**20 01 30.4**	**-1.9**
	baz=50							
CMB	**Columbia Colle**	**2.45**	**302**			**Pb**	**20 01 00.9**	**-0.2**
YERR	**Yerington**	**2.50**	**332**			**Pn**	**20 00 59.1**	**+1.4**
YERR	**Yerington**	**2.50**	**332**	IAML			20 01 37.8	
	comp=N,14nm,0.5s							
YERR				IAML			20 01 38.2	
	comp=E,16nm,0.6s							
GMRC	**Granite Mounta**	**2.61**	**139**			**Pn**	**20 00 59.3**	**+0.1**
GMRC	**Granite Mounta**	**2.61**	**139**	P		**Pn**	**20 00 59.1**	**-0.1**
	baz=320,SNR=6.2							
PNTR	**Pine Nut**	**2.74**	**328**			**Pn**	**20 01 02.0**	**+1.0**
PNTR				IAML			20 01 47.3	
	comp=E,15nm,1.9s							
PNTR				IAML			20 01 47.7	
	comp=N,14nm,0.8s							
BELC	**Belle Mtn. Jos**	**3.12**	**152**	P		**Pn**	**20 01 06.9**	**+0.8**
	baz=334							
AFDM	**Forest Hills D**	**3.35**	**311**	Pg		**Pb**	**20 01 17.4**	**+0.9**
AFDM				IAML			20 02 03.7	
	comp=E,15nm,0.4s							
AFDM				IAML			20 02 11.2	
	comp=N,9.2nm,1.6s							
SPR3	**Spring Creek 3**	**3.49**	**50**			**Pn**	**20 01 11.5**	**0.0**
SPR3				IAML			20 02 09.4	
	comp=N,11nm,0.5s							
BMN	**Battle Mountai**	**3.67**	**6**	Pn		**Pn**	**20 01 15.0**	**+1.1**
BMN				IAML			20 01 48.9	
	comp=N,6.6nm,2.4s							
BMN				IAML			20 02 01.2	
	comp=E,6.6nm,4.8s							
ELK	**Elko**	**4.42**	**26**			**Pn**	**20 01 25.7**	**+1.6**
ELK				IAML			20 01 56.8	
	comp=E,3.2nm,4.8s							
ELK				IAML			20 02 54.1	
	comp=E,3.4nm,4.4s							

NEIC ***08*** *20:04:42.4±0.2,36.˚15N±0.˚01×97.˚68W±0.˚01, h2km±2km, Error ellipse: s-maj=1.8km s-min=1.4km az=209.0*

TUL 08 20:04:42.9±0.3, 36.˚16N±0.˚01×97.˚67W±0.˚01, h5km±5km, ML2.6, mb_Lg2.3/17(NEIC), ML2.7/61(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=184.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**154**	Pg	Pg	20 04 50.9	+0.3
CROK	**Carrier**	**0.43**	**324**	Pg	Pg	20 04 51.6	+0.3
CROK				IAML		20 05 02.6	
	comp=N,684nm,0.2s						
CROK				IAML		20 05 04.0	
	comp=E,519nm,0.2s						
ADOK	**Arcadia Dam**	**0.56**	**154**	Pg	Pg	20 04 53.9	+0.3
OK033	**Mehan**	**0.60**	**100**	Pg	Pg	20 04 54.6	+0.1
OK033				IAML		20 05 07.5	
	comp=E,478nm,0.5s						
OK048	**Pawnee Station**	**0.64**	**66**	Pg	Pg	20 04 55.4	+0.2
BLOK	**Blackwell**	**0.71**	**31**	Pg	Pg	20 04 56.1	-0.4
GC02	**Grant County #**	**0.71**	**348**	Pg	Pg	20 04 56.4	-0.1
OK052	**Battle Ridge R**	**0.72**	**103**	Pg	Pg	20 04 56.6	-0.2
OK052				IAML		20 05 09.3	
	comp=E,345nm,0.5s						
OK051	**E0350 and S346**	**0.76**	**62**		Pg	20 04 57.5	0.0
OK051				IAML		20 05 15.7	
	comp=E,352nm,0.2s						
OK051				IAML		20 05 20.9	
	comp=E,382nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	Pg	20 04 57.5	-0.2
OKCSW				IAML		20 05 11.3	
	comp=N,346nm,0.3s						
OKCSW				IAML		20 05 13.2	
	comp=E,304nm,0.1s						
OK032	**Salt Plains WL**	**0.78**	**326**	Pg	Pg	20 04 57.6	-0.2
OK032				IAML		20 05 10.8	
	comp=E,328nm,0.2s						
OK032				IAML		20 05 13.1	
	comp=E,366nm,0.2s						
QUOK	**Quay**	**0.78**	**88**	Pg	Pg	20 04 57.9	0.0
QUOK				IAML		20 05 12.1	
	comp=E,213nm,0.1s						
KAN14	**Manchester OK**	**0.83**	**344**	Pg	Pg	20 04 58.8	-0.1
KAN14				IAML		20 05 14.4	
	comp=N,251nm,0.2s						
KAN14				IAML		20 05 15.8	
	comp=E,314nm,0.1s						
KAN13	**South Haven SW**	**0.87**	**10**	Pg	Pg	20 04 59.4	-0.2
KAN13				IAML		20 05 19.3	
	comp=N,297nm,0.2s						
KAN17	**Caldwell West**	**0.89**	**355**	Pg	Pg	20 04 59.4	-0.6
KAN17				IAML		20 05 16.2	
	comp=E,287nm,0.2s						
KAN17				IAML		20 05 18.4	
	comp=N,365nm,0.2s						
FNO	**Franklin**	**0.92**	**166**	Pg	Pg	20 05 00.4	-0.2
FNO				IAmb_Lg		20 05 11.6	
	comp=E,718nm,0.7s						
OK038	**West end E0370**	**0.92**	**291**		Pg	20 05 00.3	-0.3
KAN05	**Bluff City Nor**	**0.97**	**350**		Pg	20 05 01.2	-0.3
KAN05				IAML		20 05 18.4	
	comp=E,281nm,0.2s						
KAN05				IAML		20 05 18.7	
	comp=N,278nm,0.2s						
CSTR	**Hydro, Custer**	**0.97**	**239**	Pg	Pg	20 05 00.9	-0.6
KAN09	**Caldwell North**	**0.98**	**2**	Pg	Pg	20 05 01.4	-0.3
KAN01	**Argonia South**	**1.00**	**356**		Pg	20 05 01.6	-0.4
KAN01				IAML		20 05 18.3	
	comp=N,158nm,0.1s						
KAN01				IAML		20 05 21.1	
	comp=E,187nm,0.1s						
DEOK	**Depew**	**1.00**	**108**	Pg	Pg	20 05 01.5	-0.6
DEOK				IAML		20 05 16.2	
	comp=N,242nm,0.3s						
DEOK				IAML		20 05 21.8	
	comp=E,179nm,0.2s						
OK035	**E0210 Rd and N**	**1.00**	**304**	Pg	Pg	20 05 01.5	-0.7
KAN10	**Anthony SW Sta**	**1.02**	**341**	Pg	Pg	20 05 01.9	-0.7
KAN10				IAML		20 05 19.5	
	comp=N,161nm,0.2s						
KAN10				IAML		20 05 23.1	
	comp=E,209nm,0.1s						
KAN08	**Anthony NE Sta**	**1.10**	**347**	Pg	Pg	20 05 03.5	-0.5
KAN06	**Argonia West S**	**1.10**	**352**		Pg	20 05 03.5	-0.5
KAN06				IAML		20 05 21.1	
	comp=E,216nm,0.1s						
KAN06				IAML		20 05 23.5	
	comp=N,204nm,0.1s						
KS21	**Milan North St**	**1.13**	**0**	IAML		20 05 22.1	
	comp=N,238nm,0.3s						
KS21	**Milan North St**	**1.13**	**0**		Pg	20 05 04.1	-0.5
KAN12	**Harper NE Stat**	**1.17**	**347**	Pg	Pg	20 05 04.9	-0.5
T35A	**Sooner Cattle**	**1.20**	**51**	Pg	Pg	20 05 05.6	-0.4
ELIS	**Ellis County**	**1.42**	**267**		Pn	20 05 09.0	-0.4
TUL3	**Leonard**	**1.54**	**99**		Pn	20 05 10.6	-0.4
TUL3					Sn	20 05 30.8	-0.7
WMOK	**Wichita Mounta**	**1.68**	**213**		Pn	20 05 12.6	-0.4
WMOK				IAmb_Lg		20 05 36.3	
	comp=Z,15nm,0.7s						
RLO	**Rose Lookout**	**2.14**	**89**		Pn	20 05 19.3	0.0
LOOK	**Love County**	**2.19**	**169**		Pb	20 05 22.1	-1.0
SMWD	**Samnorwood**	**2.34**	**244**		Pn	20 05 22.4	+0.2
SMWD				IAmb_Lg		20 06 01.9	
	comp=Z,14nm,0.7s						
R32A	**Long Quarter,**	**2.41**	**340**	Pn	Pn	20 05 22.6	-0.5
KSU1	**Kansas State U**	**3.06**	**16**	IAmb_Lg		20 06 22.6	
	comp=Z,9.9nm,0.9s						
S39A	**Bolivar**	**3.81**	**65**	Pn	Pn	20 05 42.5	+0.3
X40A	**Basin Creek Fa**	**4.29**	**111**	IAmb_Lg		20 07 01.5	
	comp=Z,10nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.50**	**92**	IAmb_Lg		20 07 11.1	
	comp=Z,7.6nm,0.9s						
R40A	**Maddies Statio**	**4.81**	**62**	Pn	Pn	20 05 56.0	0.0
KSCO	**Kaye Shedlock'**	**4.86**	**307**	IAmb_Lg		20 07 26.2	
	comp=Z,5.2nm,0.8s						
DRIO	**Del Rio**	**7.16**	**201**	IAmb_Lg		20 08 27.5	
	comp=Z,3.4nm,0.8s						

IDC ***08*** *20:11:18.9±0.7,50.˚23N×90.˚20E, h0km, mb4.0/17, mbtmp4.0/25, ML3.7/8, MS3.3/11, Error ellipse: s-maj=12.1km s-min=9.3km az=162.0*

MOS ***08*** *20:11:19.6±1.2,50.˚23N×90.˚08E, h14km, mb4.4/11, Error ellipse: s-maj=7.0km s-min=6.7km az=14.1*

NNC ***08*** *20:11:20.1±1.6,50.˚24N×90.˚18E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=15.5km s-min=8.3km az=94.0*

ASRS ***08*** *20:11:21.7±0.4,50.˚N±2.˚×9.˚0E±.˚, h10km, MLh4.9/19, Error ellipse: s-maj=5.9km s-min=3.1km az=135.5, confirmed*

NEIC ***08*** *20:11:22.5±1.4,50.˚29N±0.˚09×90.˚1E±0.˚2, h16km±6km, mb4.3/30, Error ellipse: s-maj=15.7km s-min=12.8km az=98.0*

ISC 08 20:11:20.3±0.9, 50.˚13N±0.˚03×90.˚21E±0.˚03, h9km±5km, n235, σ1§59/268, mb4.2/31, MS3.4/8, 67C-32D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.20**	**269**	PG	Pn	**20 11 43.9**	**+0.5**
CUR						20 12 00.8	
CUR	**Chagan-Uzun**	**1.20**	**269**	⇑P	Pb	**20 11 43.2**	**-0.1**
CUR				Sg	Sn	**20 12 00.8**	**+1.0**
ULGR	**Ulagan, Altay**	**1.52**	**290**	PG	Pg	**20 11 53.2**	**+3.7**
ULGR						20 12 13.3	
ULGR	**Ulagan, Altay**	**1.52**	**290**	P	Pg	**20 11 50.1**	**+1.1**
ULGR				Sg	Sg	**20 12 12.8**	**+3.5**
AKAR	**Aktash**	**1.68**	**277**	PN	Pb	**20 11 52.1**	**+0.7**
AKAR						20 12 15.6	
AKAR	**Aktash**	**1.68**	**277**	⇑P	Pb	**20 11 51.5**	**+0.1**
AKAR				Sg	Sg	**20 12 15.7**	**+1.5**
CHBI	**Chibit, Altay**	**1.75**	**277**	PN	Pg	**20 11 54.1**	**+0.3**
CHBI						20 12 18.6	
CHBI	**Chibit, Altay**	**1.75**	**277**	⇑P	Pb	**20 11 52.8**	**+0.2**
CHBI				Sg	Sg	**20 12 18.6**	**+2.1**
DGZ	**Jazzator, Alta**	**1.85**	**258**	*ć* PN	Pb	**20 11 55.5**	**+1.2**
DGZ	**Jazzator, Alta**	**1.85**	**258**	⇑P	Pb	**20 11 55.5**	**+1.2**
DGZ				S	Sg	**20 12 20.4**	**+0.8**
YALR	**Yailyu, Altay**	**2.32**	**316**	⇑P	Pb	**20 12 01.1**	**-1.3**
YALR				Sg	Sg	**20 12 33.9**	**-1.0**
ARTR	**Artybash**	**2.49**	**313**	PN	Pg	**20 12 09.5**	**+1.4**
ARTR						20 12 39.4	
ARTR	**Artybash**	**2.49**	**313**	⇑P	Pb	**20 12 04.9**	**-0.3**
ARTR				S	Sb	**20 12 36.8**	**+0.8**
DJO	**Djoy, Khakassi**	**2.73**	**13**	⇓P	Pn	**20 12 04.8**	**+0.5**
DJO				S	Sn	**20 12 39.4**	**+2.0**
DJOS	**Djoyskaya Sosn**	**2.77**	**15**	⇓P	Pn	**20 12 05.1**	**+0.3**
DJOS				S	Sn	**20 12 39.4**	**+1.1**
CERR	**Cheremushki**	**2.83**	**15**	⇓P	Pn	**20 12 07.2**	**+1.5**
CERR				S	Sn	**20 12 38.9**	**-0.9**
ELDR	**Elanda**	**2.84**	**294**	PN	Pb	**20 12 13.2**	**+2.1**
ELDR						20 12 51.8	
ELDR	**Elanda**	**2.84**	**294**	⇑P	Pn	**20 12 08.3**	**+2.5**
TASR	**Tashtagol**	**3.01**	**332**	PN	Pb	**20 12 14.6**	**+0.6**
TASR						20 12 54.1	
TASR	**Tashtagol**	**3.01**	**332**	P	Pn	**20 12 08.5**	**+0.4**
GALT	**Gorno-Altaysk,**	**3.25**	**306**	PN	Pg	**20 12 21.6**	**-1.0**
GALT						20 13 01.7	
GALT	**Gorno-Altaysk,**	**3.25**	**306**	P	Pn	**20 12 13.4**	**+2.0**
UKR	**Ust'-Kan**	**3.56**	**285**	PN	Pg	**20 12 27.1**	**-1.4**
UKR						20 13 14.4	
UKR	**Ust'-Kan**	**3.56**	**285**	⇑P	Pn	**20 12 18.3**	**+2.5**
LUZB	**Luzhba, Kemero**	**3.63**	**348**	⇓P	Pn	**20 12 17.5**	**+0.9**
MALIN	**Malinovka, Kuz**	**3.77**	**332**	PN	Pb	**20 12 27.3**	**+0.4**
MALIN						20 13 15.3	
MALIN	**Malinovka, Kuz**	**3.77**	**332**	P	Pb	**20 12 27.0**	**+0.1**
TAIL	**Tailep, Kuzbas**	**3.81**	**332**	PN	Pb	**20 12 30.0**	**+2.3**
TAIL						20 13 20.9	
TAIL	**Tailep, Kuzbas**	**3.81**	**332**	Pg	Pb	**20 12 29.8**	**+2.1**
ELT	**Eltsovka**	**3.99**	**323**	PN	Pb	**20 12 31.7**	**+1.0**
ELT						20 13 21.8	
ELT	**Eltsovka**	**3.99**	**323**	⇑P	Pn	**20 12 22.6**	**+1.0**
ERU	**Erunakovo, Kuz**	**4.38**	**338**	P	Pn	**20 12 29.0**	**+2.1**
ERU				S	Sn	**20 13 20.2**	**+2.2**
VCHU	**Verkh-Chumysh,**	**4.48**	**330**	P	Pn	**20 12 29.5**	**+1.2**
VCHU				S	Sn	**20 13 21.2**	**+0.6**
KOTO	**Kotino, Kuzbas**	**4.54**	**335**	P	Pn	**20 12 30.9**	**+1.8**
BJR3	**Bachatsky-3 (S**	**4.80**	**330**	S	Sn	**20 13 30.8**	**+2.4**
BJR1	**Bachatsky 1, K**	**4.85**	**330**	P	Pn	**20 12 35.0**	**+1.6**
BJR1				S	Sn	**20 13 30.8**	**+1.2**
BJR2	**Bachatsky-2, K**	**4.86**	**330**	P	Pn	**20 12 35.8**	**+2.3**
BJR2				S	Sn	**20 13 31.9**	**+2.1**
ZAA0	**Zalesovo Array**	**5.07**	**321**	⇑Pn	Pn	**20 12 36.3**	**0.0**
	1.0nm,0.4s						
ZAA0				⇓Pg	Pb	**20 12 51.2**	**+2.1**
	5.3nm,0.6s						
ZAA0				⇑Lg	Lg	20 13 59.1	
	106nm,0.9s						
ZAA0	**Zalesovo Array**	**5.07**	**321**	Pn	Pn	**20 12 35.6**	**-0.8**
ZALV	**Zalesovo Beam**	**5.07**	**321**	Pn	Pn	**20 12 36.1**	**-0.3**
ZALV				Pg	Pb	**20 12 51.1**	**+2.0**
ZALV	**Zalesovo Beam**	**5.07**	**321**	Pn	Pn	**20 12 36.6**	**+0.2**
	3.2nm,0.3s,baz=143,slow=13,SNR=41						
ZALV				Pg	Pb	**20 12 50.0**	**+0.9**
	7.0nm,0.3s,baz=140,slow=12,SNR=17						
ZALV				Sn	Sn	**20 13 32.8**	**-2.2**
	16nm,0.3s,baz=147,slow=20,SNR=4.4						
ZALV				Lg	Lg	20 13 59.3	
	42nm,0.3s,baz=133,slow=27,SNR=15						
ZALV				LR	LR	20 14 48.0	
	comp=Z,149nm,19.5s,baz=108,slow=42 7.9nm,0.3s						
SALR	**Pechorkino, Sa**	**5.11**	**329**	P	Pn	**20 12 38.8**	**+1.9**
MINR	**Mina**	**5.36**	**25**	Pn	Pn	**20 12 43.6**	**+3.1**
BRCR	**Berchikul'**	**5.64**	**349**	⇓P	Pn	**20 12 44.6**	**+0.5**
BALAH	**Balakhonka, Ku**	**6.05**	**337**	P	Pn	**20 12 51.8**	**+2.0**
KHAR	**Kharino, NSO,**	**6.05**	**320**	S	Sn	**20 13 55.8**	**-3.3**
MK31	**Makanchi Array**	**6.24**	**241**	⇑Pn	Pn	**20 12 54.9**	**+2.4**
	5.3nm,0.3s,baz=49,slow=15,SNR=359						
MK31				⇑Pg	Pg	20 13 15.4	-4.3
	48nm,0.5s,baz=60,slow=16,SNR=13						
MK31				⇑Lg	Lg	20 14 40.4	
	235nm,0.8s,baz=58,slow=32,SNR=5.0						
MK31	**Makanchi Array**	**6.24**	**241**		Pn	**20 12 54.7**	**+2.2**
MK31	**Makanchi Array**	**6.24**	**241**	*ce*	Pn	**20 12 54.8**	**+2.4**
MKAR	**Makanchi Array**	**6.24**	**241**		Pn	**20 12 54.6**	**+2.2**
MKAR				Pg	Pg	**20 13 16.9**	**-2.8**
MKAR	**Makanchi Array**	**6.24**	**241**	Pn	Pn	**20 12 54.7**	**+2.2**
	5.3nm,0.3s,baz=46,slow=15,SNR=246						
MKAR				Sn	Sn	**20 14 03.4**	**-0.5**
	9.9nm,0.3s,baz=53,slow=22,SNR=2.0						
MKAR				Lg	Lg	20 14 38.9	
	14nm,0.3s,baz=62,slow=31,SNR=3.9 8.8nm,0.4s						
MKAR	**Makanchi Array**	**6.24**	**241**	⇑P	Pn	**20 12 54.8**	**+2.3**
MKAR				S	Sn	**20 14 07.3**	**+3.4**
NVSII	**Novosibirsk**	**6.35**	**321**	P	Pn	**20 12 53.3**	**-0.8**
NVSII				S	Sn	**20 14 06.3**	**-0.3**
NVS	**Novosibirsk**	**6.36**	**321**	P	Pn	**20 12 54.0**	**0.0**
MAKZ	**Makanchi**	**6.41**	**242**	⇑Pn	Pn	**20 12 56.8**	**+2.0**
	14nm,0.5s						
MAKZ				⇓Pg	Pg	**20 13 18.9**	**-4.0**
	36nm,0.6s						
MAKZ				⇓Lg	Lg	20 14 44.4	
	112nm,0.6s						
MAKZ	**Makanchi**	**6.41**	**242**		Pn	**20 12 56.9**	**+2.1**
MAKZ	**Makanchi**	**6.41**	**242**	PN	Pn	**20 12 56.9**	**+2.1**
MAKZ	**Makanchi**	**6.41**	**242**	⇑P	Pn	**20 12 57.0**	**+2.2**
BSTK	**Bystrovka, Nov**	**6.42**	**317**	⇑P	Pn	**20 12 55.4**	**+0.5**
GZL	**Zheleznogorsk**	**6.46**	**17**	S	Sn	**20 14 11.3**	**+2.1**
NHES	**Novosibirsk, N**	**6.47**	**320**	P	Pn	**20 12 59.4**	**+3.9**
SHTK	**Zheleznogorsk-**	**6.54**	**17**	P	Pn	20 12 51.9	-4.6
SHTK				S	Sn	**20 14 06.1**	**-5.1**
WMQ	**Urumqi**	**6.54**	**196**	Pn	Pn	20 13 03.0	+6.3
WMQ				Sn	Sn	**20 14 19.6**	**+8.1**
WMQ				Sg	Sg	**20 14 48.7**	**-1.5**
WMQ				smax	smax		
	comp=N,290nm,0.9s						
WMQ				smax	smax		
	comp=E,290nm,1.1s						
GZLN	**Zheleznogorsk**	**6.61**	**17**	P	Pn	**20 12 57.7**	**+0.1**
KURK	**Kurchatov**	**7.43**	**279**	⇑Pn	Pn	**20 13 09.6**	**+0.8**
	comp=E,42nm,0.7s						
KURK				⇑Lg	Lg	20 15 16.0	
	comp=E,266nm,0.9s						
KURK	**Kurchatov**	**7.43**	**279**		Pn	**20 13 09.4**	**+0.6**
KURK	**Kurchatov**	**7.43**	**279**	*ce*	Pn	**20 13 09.6**	**+0.8**
KURK				pmax	pmax		
	comp=Z,26nm,1.0s						
KURK	**Kurchatov**	**7.43**	**279**	⇑P	Pn	**20 13 09.6**	**+0.8**
KURBB	**Kurchatov Arra**	**7.49**	**278**	⇑Pn	Pn	**20 13 10.2**	**+0.6**
	comp=Z,74nm,0.8s						
KURBB				⇑Lg	Lg	20 15 16.3	
	comp=Z,413nm,0.6s						
KURBB	**Kurchatov Arra**	**7.49**	**278**	Pn	Pn	**20 13 10.6**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=91,slow=14,SNR=157						
KURBB				Sn	Sn	**20 14 33.0**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=296,slow=28,SNR=5.0						
KURBB				Lg	Lg	20 15 13.1	
	comp=Z,2.0nm,0.3s,baz=89,slow=32,SNR=5.5						
KURBB				LR	LR	20 16 21.0	
	comp=Z,142nm,20.2s,baz=214,slow=40 comp=Z,18nm,0.5s						
PDGK	**Podgornoye**	**10.02**	**231**	⇓Pn	Pn	**20 13 44.3**	**-0.1**
	comp=Z,14nm,1.2s						
PDGK				⇓Lg	Lg	20 16 38.5	
	comp=Z,150nm,1.1s						
PDGK	**Podgornoye**	**10.02**	**231**	P	Pn	**20 13 44.3**	**-0.1**
SONM	**Songino Array**	**10.88**	**96**	Pn	Pn	**20 13 54.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=287,slow=14,SNR=2.5						
SONM				Pg		20 14 36.3	
	comp=Z,0.4nm,0.3s,baz=278,slow=20,SNR=6.6						
SONM				Sn	Sn	**20 15 58.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=277,slow=24,SNR=1.8						
SONM				Lg	Lg	20 16 58.0	
	comp=Z,1.0nm,0.3s,baz=288,slow=29,SNR=5.7						
SONM				LR	LR	20 18 10.0	
	comp=Z,157nm,21.0s,baz=253,slow=38 comp=Z,0.3nm,0.4s						
OTUK	**Ortayu**	**11.85**	**268**	⇓Pn	Pn	**20 14 08.2**	**-1.2**
	comp=Z,5.7nm,0.8s						
OTUK				⇓Lg	Lg	20 17 34.9	
	comp=Z,76nm,0.8s						
OTUK	**Ortayu**	**11.85**	**268**	P	Pn	**20 14 08.2**	**-1.2**
BVA0	**Borovoye Array**	**12.66**	**291**	⇑Pn	Pn	**20 14 18.8**	**-1.6**
	comp=Z,8.2nm,0.9s,baz=90,slow=14,SNR=3.0						
BVA0				Sn	Sn	**20 16 41.9**	**+0.5**
	comp=Z,31nm,1.0s,baz=110,slow=26,SNR=5.6						
BVA0	**Borovoye Array**	**12.66**	**291**	P	Pn	**20 14 18.8**	**-1.6**
BVA0				S	Sn	**20 16 41.9**	**+0.5**
BVAR	**Borovoye Array**	**12.66**	**291**	Pn	Pn	**20 14 18.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=88,slow=13,SNR=36						
BVAR				Sn	Sn	20 16 29.8	-12
	comp=Z,0.1nm,0.3s,baz=97,slow=22,SNR=1.7						
BVAR				LR	LR	20 19 27.2	
	comp=Z,125nm,20.0s,baz=83,slow=39 comp=Z,4.3nm,0.4s						
BRVK	**Borovoye**	**12.73**	**291**	⇑Pn	Pn	**20 14 19.7**	**-1.6**
	comp=Z,5.7nm,0.6s						
BRVK				⇑Sn	Sn	**20 16 44.0**	**+1.0**
	comp=Z,20nm,1.3s						
BRVK	**Borovoye**	**12.73**	**291**	Pn	Pn	**20 14 19.8**	**-1.6**
BRVK	**Borovoye**	**12.73**	**291**	*ce*	Pn	**20 14 20.8**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**13.17**	**241**	Pn	Pn	**20 14 28.7**	**+1.1**
AAK	**Ala-Archa**	**13.17**	**241**	*de*	Pn	**20 14 28.9**	**+1.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
AAK	**Ala-Archa**	**13.17**	**241**	Pn	Pn	**20 14 26.0**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=94,slow=5.2,SNR=8.6						
AAK				Lg	Lg	20 18 16.3	
	comp=Z,0.3nm,0.3s,baz=296,slow=22,SNR=4.7						
AAK				LR	LR	20 19 58.1	
	comp=Z,110nm,19.5s,baz=38,slow=39 comp=Z,1.0nm,0.4s						
NRN	**Naryn**	**13.17**	**234**	Pn	Pn	**20 14 26.8**	**-1.0**
NRN	**Naryn**	**13.17**	**234**	P	Pn	**20 14 26.8**	**-1.0**
KSH	**Kashi**	**14.62**	**229**	P	P	**20 14 54.6**	**+0.7**
KSH				pP	Pn	20

comp=Z,11nm,0.6s
ARU Arti 19.82 301 *d* iP **Pn 20 15 52.5 0.0**
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 19.82 301 P **Pn 20 15 52.1 -0.4**
comp=Z,2.3nm,0.3s,baz=96,slow=7.4,SNR=28
ARU S **S 20 19 31.3 -2.7**
comp=Z,1.7nm,0.5s,baz=270,slow=22,SNR=2.1
comp=Z,11nm,0.6s
LSA Lhasa 20.42 178 Pn 20 16 01.2 +1.0
LSA Lhasa 20.42 178 P Pn 20 16 01.2 +1.0
LSA pmax pmax
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 20.50 283 P Pn 20 16 00.6 +0.1
comp=Z,7.1nm,0.5s,baz=90,slow=10,SNR=24
NIL Nilore 20.67 224 P **P 20 16 01.0 +0.6**
NIL IAmb IAmb 20 16 07.6
comp=Z,7.5nm,0.7s
NIL Nilore 20.67 224 P **P 20 16 01.0 +0.6**
NIL pmax pmax
comp=Z,7.0nm,0.7s
BJT Baijiatuau 20.84 109 P Pn 20 16 04.4 -0.1
BJT IAmb IAmb 20 16 05.3
comp=Z,6.0nm,0.7s
BJT Baijiatuau 20.84 109 P Pn 20 16 04.4 -0.1
BJT pmax pmax
comp=Z,6.0nm,0.7s
KBL Kabul 21.97 233 P **P 20 16 16.4 +1.9**
KBL Kabul 21.97 233 P **P 20 16 16.4 +1.9**
KBL pmax pmax
comp=Z,6.0nm,1.0s
SHL Shillong 24.56 176 P **P 20 16 41.5 +0.9**
SHL IAmb IAmb 20 16 47.1
comp=Z,9.3nm,1.2s
SHL Shillong 24.56 176 P **P 20 16 41.5 +0.9**
SHL pmax pmax
comp=Z,9.0nm,1.2s
YAK Yakutsk 24.60 46 P **P 20 16 40.0 -0.5**
YAK IAmb IAmb 20 16 50.7
comp=Z,6.4nm,0.7s
YAK Yakutsk 24.60 46⇑ *e*P **P 20 16 39.8 -0.6**
YAK pmax pmax
comp=Z,4.0nm,0.5s
YAK Yakutsk 24.60 46 LR LR 20 26 27.3
comp=Z,4.3nm,18.2s,baz=106,slow=37
KIRV Kirov 24.88 306 *ce*P **P 20 16 42.8 -0.1**
KIRV Kirov 24.88 306 LR LR 20 27 40.4
comp=Z,123nm,19.9s,baz=10,slow=40
PZH PanZhiHua 25.21 155 P **P 20 16 49.8 +3.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,180nm,5.0s
GEYT Alibeck 25.89 254 P **P 20 16 52.2 -0.2**
GEYT IAmb IAmb 20 16 55.6
comp=Z,5.0nm,0.8s
GEYT Alibeck 25.89 254 P **P 20 16 53.3 +0.9**
comp=Z,5.8nm,1.0s,baz=316,slow=4.1,SNR=12
comp=Z,5.8nm,1.0s
GYA0B ALIBECK ARRAY 25.89 254 P **P 20 16 52.9 +0.5**
GYA0B IAmb IAmb 20 16 59.7
comp=Z,4.6nm,0.8s
BELG Belogornoye 26.47 291⇓ *e*P **P 20 16 56.8 -0.6**
BELG pmax pmax
comp=Z,3.0nm,0.9s
KLR Kul'dur 26.65 76 LR LR 20 27 58.1
comp=Z,95nm,19.5s,baz=238,slow=38
USRK Ussuriysk Ar. 28.72 86 LR LR 20 29 18.2
comp=Z,83nm,18.0s,baz=335,slow=38
KSRS Korea Array 29.70 101 LR LR 20 30 14.1
comp=Z,37nm,21.6s,baz=330,slow=38
SEKA Sheki 30.98 270 P **P 20 17 36.5 -1.3**
ZKTA Zakatala 31.13 271 P **P 20 17 38.0 -1.0**
LKRN Lenkeran, Azer 31.33 265 P **P 20 17 40.3 -0.5**
GANJ Ganja 31.84 270 P **P 20 17 44.5 -0.8**
OBN Obninsk 32.26 300 *i* P **P 20 17 47.9 -0.8**
OBN *i* 20 17 53.6
OBN pmax pmax
comp=Z,12nm,0.5s
CMAR Chiang Mai Arr 32.37 164 P **P 20 17 51.8 +1.8**
comp=Z,0.2nm,0.4s,baz=327,slow=8.3,SNR=2.0
comp=Z,0.2nm,0.4s
KBZ Khabaz 32.49 277 P **P 20 17 49.9 -0.9**
comp=Z,0.7nm,0.6s,baz=95,slow=11,SNR=1.7
comp=Z,0.7nm,0.6s
GNI Garni 33.12 270⇑ *e*P **P 20 17 57.9 +1.2**
GNI pmax pmax
comp=Z,11nm,2.5s
NAX Nakhchivan 33.17 268 P **P 20 17 56.3 -0.8**
ASAJ Asahikawa 35.52 79 LR LR 20 32 57.0
comp=Z,28nm,21.3s,baz=196,slow=37
GURO Guroymak-BITLI 35.76 270 P **P 20 18 21.0 +1.5**
GURO IAmb IAmb 20 18 22.3
comp=Z,3.0nm,0.8s
FINES FINESS Array B 36.28 313 P **P 20 18 23.3 -0.2**
comp=Z,1.8nm,0.6s,baz=199,slow=11,SNR=12
comp=Z,1.8nm,0.6s
MNK Minsk 37.25 301 *i* P **P 20 18 30.9 -1.0**
MNK *i* P **P 20 18 30.9 -1.0**
comp=N,14nm,1.1s
MNK *i* P **P 20 18 30.9 -1.0**
comp=Z,23nm,0.8s,baz=70
MNK *i* PP **PP 20 19 55.9 -0.6**
MNK *i* PPP PPP 20 20 12.1
MNK *i* S **S 20 24 18.9 +0.2**
MNK *i* SS **SnSn 20 26 55.6 +2.0**
MNK *i* SSS SSS 20 27 12.4
MNK *i* LR LR 20 32 51.2
MNK *i* LRM MLR 20 34 46.0
comp=Z,73nm,12.2s
MNK *i* LRM MLR 20 35 23.2
comp=E,66nm,16.8s
MNK *i* LRM MLR 20 35 32.4
comp=N,148nm,14.2s
MNK Minsk 37.25 301 *i* P **P 20 18 30.9 -1.0**
MNK *i* 20 19 55.9
MNK *i* PPP PPP 20 20 12.0
MNK *i* 20 20 50.2
MNK *i* S **S 20 24 18.9 +0.2**
MNK *i* SSS SSS 20 27 12.4
MNK *i* 20 28 45.2
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=Z,73nm,12.0s
MNK MLR MLR
comp=E,66nm,17.0s
MNK MLR MLR
comp=N,148nm,14.0s
NACGM Naroch 37.71 302 *e*P **P 20 18 35.5 -0.3**
AKASG Malin Array Be 37.89 295 P **P 20 18 37.2 -0.1**
AKASG IAmb IAmb 20 18 38.1
comp=Z,2.2nm,0.5s
AKASG Malin Array Be 37.89 295 *i* P **P 20 18 37.0 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG Malin Array Be 37.89 295 P **P 20 18 37.1 -0.3**
comp=Z,3.6nm,0.4s,baz=59,slow=9.0,SNR=32
AKASG LR LR 20 33 39.5
comp=Z,93nm,19.0s,baz=294,slow=35
comp=Z,3.6nm,0.4s
AKBB Malin Array Si 37.89 295 P **P 20 18 36.6 -0.7**
AKBB Malin Array Si 37.89 295 *ce*P **P 20 18 38.0 +0.7**
KIEV Kiev 37.90 295 ⇓P **P 20 18 37.0 -0.5**
KIEV Kiev 37.90 295 P **P 20 18 36.8 -0.6**
KIEV Kiev 37.90 295 P **P 20 18 36.8 -0.6**
KIEV pmax pmax
comp=Z,7.0nm,0.5s
SPITS Spitsbergen Ar 38.20 341 P **P 20 18 39.3 -0.4**
comp=Z,3.7nm,0.9s,baz=100,slow=8.9,SNR=4.4
comp=Z,3.7nm,0.9s
SORM Soroca 39.50 292 ⇓P **P 20 18 50.3 -0.6**
MILM Milestii Mici 39.78 290 ⇑P **P 20 18 53.0 -0.3**
BR131 Keskin Array S 40.48 277 P **P 20 18 59.7 +0.4**
BR131 Keskin Array S 40.48 277 P **P 20 18 59.7 +0.4**
BR131 pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 40.48 277 P **P 20 18 59.6 +0.3**
BRTR Keskin Array B 40.48 277 P **P 20 18 59.6 +0.3**
BRTR Keskin Array B 40.48 277 P **P 20 19 00.3 +1.0**
comp=Z,4.4nm,0.7s,baz=83,slow=8.0,SNR=30
comp=Z,4.4nm,0.7s
PETK Petropavlovsk- 40.60 59 P **P 20 19 00.1 +0.1**
comp=Z,3.7nm,0.9s,baz=268,slow=9.9,SNR=2.6
comp=Z,3.7nm,0.9s
VLDR Vladesti 40.74 289⇓ P **P 20 19 01.6 +0.4**
JURR Jurilovca 40.79 287⇑ P **P 20 19 01.4 -0.2**
SCTR Scanteiesti 40.88 289⇑ P **P 20 19 03.4 +1.1**
ANTO Ankara 40.94 278 P **P 20 19 03.2 +0.2**
ANTO Ankara 40.94 278 P **P 20 19 03.2 +0.2**
ANTO pmax pmax
comp=Z,8.0nm,0.8s
TPGR Topolog 41.03 287⇓ P **P 20 19 03.7 +0.1**
CFR Carcaliu 41.04 288⇓ P **P 20 19 03.7 0.0**
PRAR RASCA 41.13 292⇑ P **P 20 19 05.0 +0.6**
TESR Tescani 41.29 290⇓ P **P 20 19 06.4 +0.7**
PANC Panciu 41.30 289⇑ P **P 20 19 06.7 +0.9**
ODBI Odobesti 41.41 289⇑ P **P 20 19 08.9 +2.2**
HARR Harsova 41.41 287⇑ P **P 20 19 05.2 -1.5**
HARR Harsova 41.41 287⇑ P **P 20 19 05.2 -1.5**
MANR Mangalia 41.46 286⇑ P **P 20 19 06.5 -0.6**
VRI Vrincioaia 41.56 290⇑ P **P 20 19 09.1 +1.1**
VRI Vrincioaia 41.56 290⇑ P **P 20 19 09.1 +1.1**
BUR08 Bucovina Ar. S 41.61 293 P **P 20 19 08.9 +0.4**
BUR08 IAmb IAmb 20 19 09.5
comp=Z,4.6nm,0.7s
BURAR Bucovina Array 41.61 293⇓ P **P 20 19 09.0 +0.5**
BURAR Bucovina Array 41.61 293 P **P 20 19 08.9 +0.5**
BURAR IAmb IAmb 20 19 10.1
comp=Z,5.3nm,0.9s
BURAR Bucovina Array 41.61 293⇓ P **P 20 19 09.0 +0.5**
MDUB Mudurnu 41.62 280 P **P 20 19 09.3 +0.7**
BISRR Bisoca 41.73 289⇑ P **P 20 19 14.0 +4.6**
ICOR Ion Corvin 41.79 287⇑ P **P 20 19 10.7 +0.9**
PGOR Pogoanele 41.88 288⇓ P **P 20 19 11.0 +0.4**
ISR Istrita 42.04 289⇑ P **P 20 19 13.4 +1.4**
ISR Istrita 42.04 289⇑ P **P 20 19 13.4 +1.4**
MLR Muntele Rosu 42.22 289⇑ P **P 20 19 13.8 +0.3**
MLR Muntele Rosu 42.22 289 P **P 20 19 13.4 -0.1**
MLR IAmb IAmb 20 19 34.0
comp=Z,6.6nm,1.2s
MLR Muntele Rosu 42.22 289⇑ P **P 20 19 13.8 +0.3**
MLR Muntele Rosu 42.22 289 P **P 20 19 14.3 +0.8**
comp=Z,1.5nm,0.5s,baz=95,slow=12,SNR=5.0
comp=Z,1.5nm,0.5s
DOPR Dopca 42.32 290⇓ P **P 20 19 15.5 +1.4**
ARCR ARCALIA 42.38 292⇓ P **P 20 19 16.2 +1.5**
HFS Hagfors 42.46 314 P **P 20 19 15.0 -0.1**
HFS Hagfors 42.46 314 P **P 20 19 15.0 -0.1**
comp=Z,6.1nm,0.7s,baz=78,slow=8.0,SNR=13
comp=Z,6.1nm,0.7s
KOLS Kolonicke sedl 42.71 296 *e*P **P 20 19 18.1 +0.8**
KOLS Kolonicke sedl 42.71 296 *e*P **P 20 19 18.1 +0.8**
VOIR 42.79 290⇑ P **P 20 19 18.9 +0.8**
VOIR 42.79 290⇑ P **P 20 19 18.9 +0.8**
LOZB Loznitsa 42.92 286⇓ P **P 20 19 19.7 +0.6**
ARR Arges 43.08 290⇓ P **P 20 19 21.6 +1.2**
MESR Meseseni 43.18 293⇓ P **P 20 19 21.7 +0.5**
NB2 NORSAR Subarra 43.25 316 P **P 20 19 20.6 -0.9**
comp=Z,2.0nm,0.7s,baz=62,slow=7.9
NOA NORSAR Array B 43.25 316 P **P 20 19 20.3 -1.2**
comp=Z,1.4nm,0.8s,baz=62,slow=7.6,SNR=6.7
comp=Z,1.4nm,0.8s
HUMR Humele 43.30 289⇑ P **P 20 19 21.7 -0.5**
MARR Marisel-Cluj 43.32 292⇑ P **P 20 19 23.6 +1.2**
OJC Ojcow 43.52 298 P **P 20 19 23.1 -0.7**
OJC Ojcow 43.52 298 P **P 20 19 23.1 -0.7**
OJC pmax pmax
comp=Z,6.0nm,0.7s
ELND Elena 43.60 286⇓ P **P 20 19 24.6 0.0**
VLAD Vladila 43.93 288⇓ P **P 20 19 27.7 +0.5**
GZR Gura Zlata 44.18 291⇑ P **P 20 19 30.3 +1.0**
GZR Gura Zlata 44.18 291⇑ P **P 20 19 30.3 +1.0**
SURR Surduc 44.38 292⇓ P **P 20 19 31.4 +0.6**
SIRR Siria 44.40 293⇑ P **P 20 19 32.2 +1.3**
HERR Herculane 44.67 291⇑ P **P 20 19 33.6 +0.5**
BZS Buzias 44.76 292⇑ P **P 20 19 32.8 -1.0**
BZS Buzias 44.76 292⇑ P **P 20 19 32.8 -1.0**
VYHS Vyhne 44.91 297 *e*P **P 20 19 35.9 +0.9**
VYHS Vyhne 44.91 297 *e*P **P 20 19 35.8 +0.8**
BLKB Belogradchik 45.19 289⇑ P **P 20 19 37.5 +0.1**
BOVS Bovan 45.77 289⇑ P **P 20 19 41.8 -0.1**
MORH Mrgy, Hungar 46.20 294⇑ P **P 20 19 43.3 -1.9**
CLL Collm 46.74 303 *e*P **P 20 19 49.0 -0.4**
CLL Collm 46.74 303 *e*P **P 20 19 49.0 -0.4**
APE Apeiranthos 47.19 280⇑ P **P 20 19 51.8 -1.4**
APE Apeiranthos 47.19 280⇑ P **P 20 19 51.8 -1.4**
EKA Eskdalemuir Ar 52.66 314 P **P 20 20 32.4 -2.0**
comp=Z,0.9nm,0.5s,baz=64,slow=7.3,SNR=5.4
comp=Z,0.9nm,0.5s
ILAR Eielson Array 57.20 25 P **P 20 21 06.8 -0.3**
comp=Z,0.2nm,0.5s,baz=313,slow=5.1,SNR=2.0
comp=Z,0.2nm,0.5s
KEST Kesra 58.12 289 P **P 20 21 12.7 -1.4**
comp=Z,2.8nm,0.8s,baz=112,slow=5.4,SNR=1.6
comp=Z,2.8nm,0.8s
ESDC Sonseca Array 63.22 300 P **P 20 21 48.3 -0.5**
comp=Z,1.2nm,0.8s,baz=38,slow=7.0,SNR=8.7
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 66.00 12 P **P 20 22 04.1 -2.4**
comp=Z,0.3nm,0.8s,baz=336,slow=7.2,SNR=3.0
comp=Z,0.3nm,0.8s
TORD Torodi Ar. Bea 79.09 277 P **P 20 23 24.4 -0.8**
comp=Z,1.0nm,0.8s,baz=26,slow=7.0,SNR=5.4
comp=Z,1.0nm,0.8s

*NEIC **08** 20:17:22.8±2.4, 6°.74S±0°.08×129°.46E±0°.09, h151km±7km, mb4.2/15, Error ellipse: s-maj=13.4km s-min=10.0km az=118.0*
*IDC **08** 20:17:23.9±6.0, 6°.89S×129°.43E, h158km±61km, mb3.7/8, mbtmp4.3/11, Error ellipse: s-maj=42.6km s-min=20.9km az=58.0*
*DJA **08** 20:17:23.4±0.3, 7°S±2°×13°0E±°, h201km±6km, M4.5/13, mB5.0/8, mb4.6/13, MLv4.8/13, Mw(mB)4.3/8*
ISC 08 20:17:23.3±0.4, **6°.99S**±0°.04×**129°.54E**±0°.05, **h150**km, **n84,** σ**2**s**48**/88, **mb4.0**/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.01**	**120**	Pn	**Pn**	**20 18 01.0**	**+2.4**
SAUI	**Saumlaki**	**2.01**	**120**	P	**Pn**	**20 18 01.3**	**+2.7**
SAUI	**Saumlaki**	**2.01**	**120**	P	**Pn**	**20 18 01.4**	**+2.8**
SAUI				S	**Sn**	**20 18 30.1**	**+4.5**
BNDI	**Bandanaira**	**2.48**	**8**	P	**Pn**	**20 18 04.5**	**+0.3**
BNDI	**Bandanaira**	**2.48**	**8**	P	**Pn**	**20 18 04.2**	**0.0**
BNDI				S	**Sn**	**20 18 40.1**	**+4.3**
KRAI	**Karang Ratu**	**3.82**	**343**	P	**Pn**	**20 18 24.8**	**+3.5**
NLAI	**Namlea**	**4.45**	**327**	P	**Pn**	**20 18 33.4**	**+3.9**
FAKI	**Fak Fak**	**4.86**	**34**	Pn	**Pn**	**20 18 30.9**	**-4.1**
FAKI				Sn	Sn	20 19 16.9	-14
FAKI	**Fak Fak**	**4.86**	**34**	P	**Pn**	**20 18 31.9**	**-3.1**
SOEI	**Soe**	**5.89**	**242**	Pn	**Pn**	**20 18 52.6**	**+3.8**
SOEI				Sn	**Sn**	**20 19 55.8**	**+0.2**
SOEI	**Soe**	**5.89**	**242**	P	Pn	20 18 53.4	+4.6
SOEI	**Soe**	**5.89**	**242**	P	**Pn**	**20 18 53.0**	**+4.2**
174nm,0.6s,2μm0.8nm							
MTN	**Manton Dam**	**6.03**	**165**	Pn	**Pn**	**20 18 52.8**	**+2.3**
MTN				Sn	**Sn**	**20 19 55.6**	**-3.0**
MTN	**Manton Dam**	**6.03**	**165**	P	**Pn**	**20 18 52.8**	**+2.3**
SANI	**Sanana**	**6.05**	**324**	P	**Pn**	**20 18 52.6**	**+1.8**
SANI	**Sanana**	**6.05**	**324**	P	**Pn**	**20 18 52.1**	**+1.3**
77nm,0.8s,687nm0.3nm							
SIJI	**Sorong**	**6.32**	**16**	P	**Pn**	**20 18 51.6**	**-2.8**
SWI	**Sorong**	**6.32**	**16**	P	**Pn**	**20 18 52.1**	**-2.3**
KDU	**Kakadu**	**6.36**	**153**	P	**Pn**	**20 18 56.4**	**+1.6**
LBMI	**Labuha**	**6.63**	**342**	P	**Pn**	**20 18 58.6**	**+0.1**
379nm,0.7s,3μm1.2nm							
MMRI	**Maumere**	**7.42**	**257**	P	Pn	20 19 13.9	+4.9
TNTI	**Ternate**	**8.01**	**344**	Pn	Pn	20 19 12.1	-4.9
KNRA	**Kununurra**	**8.67**	**185**	Pn	**Pn**	**20 19 27.4**	**+1.7**
KNRA				Sn	**Sn**	**20 20 57.6**	**-4.5**
KNRA	**Kununurra**	**8.67**	**185**	P	**Pn**	**20 19 27.5**	**+1.8**
SPSI	**Sidrap Palu**	**10.18**	**287**	P	Pn	20 19 59.3	+14
MRSI	**Marisa**	**10.60**	**314**	P	**Pn**	**20 19 54.1**	**+2.7**
90nm,0.8s,717nm							
FITZ	**Fitzroy Crossi**	**11.68**	**199**	Pn	**Pn**	**20 20 06.2**	**+0.7**
FITZ				Sn	**Sn**	**20 22 08.3**	**-6.4**
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	P	**20 20 09.2**	**-3.5**
TABU	**Tabubil**	**11.74**	**82**	P	**Pn**	**20 20 06.4**	**0.0**
PLAI	**Plampang**	**11.79**	**260**	P	**Pn**	**20 20 09.0**	**+2.0**
PLAI	**Plampang**	**11.79**	**260**	P	**Pn**	**20 20 09.9**	**+2.9**
18nm,0.4s							
TOLI2 Tolitoli 11.88 312 P **Pn 20 20 10.3 +2.2**
MPSI Mapaga 12.06 307 P **Pn 20 20 12.0 +1.5**
WB0 Warramunga Arr 13.55 160 Pn **Pn 20 20 28.1 -1.6**
WRAB Tennant Creek 13.69 161 Pn **Pn 20 20 29.8 -1.6**
WRA Warramunga Arr 13.69 161 Pn **Pn 20 20 29.5 -1.9**
WRA Warramunga Arr 13.69 161 P **Pn 20 20 31.5 0.0**
7.0nm,0.4s,baz=346,slow=13,SNR=94
WRA S **Sn 20 22 55.7 -7.5**
16nm,0.6s,baz=336,slow=22,SNR=6.8
WB2 Warramunga Arr 13.70 161 Pn **Pn 20 20 30.1 -1.4**
WR0 Warramunga Arr 13.78 160 Pn **Pn 20 20 31.1 -1.5**
JAGI Jajag, Banyuwa 15.32 263 Pn **Pn 20 20 49.3 -2.6**
JAGI IAmb IAmb 20 21 20.5
comp=Z,14nm,1.2s
JAGI Jajag, Banyuwa 15.32 263 P **P 20 20 53.3 +0.1**
QIS Mount Isa 16.65 145 P **Pn 20 21 09.2 +1.1**
AS31 Alice Springs 17.10 166 **Pn 20 21 14.4 +0.9**
AS31 IAmb IAmb 20 21 20.8
comp=Z,5.0nm,0.5s
ASAR Alice Springs 17.11 166 **Pn 20 21 13.6 0.0**
ASAR Alice Springs 17.11 166 P **Pn 20 21 14.6 +1.1**
comp=Z,4.5nm,0.4s,baz=333,slow=9.5,SNR=90
ASAR S **S 20 24 19.5 -4.2**
comp=Z,2.8nm,0.5s,baz=346,slow=25,SNR=5.1
PSA00 Pilbara Seismi 17.26 212 P **Pn 20 21 18.3 +2.9**
PMG Port Moresby 17.61 99 P **P 20 21 17.9 -0.5**
PMG IAmb IAmb 20 21 21.9
comp=Z,17nm,0.8s
PMG Port Moresby 17.61 99 P **Pn 20 21 20.4 +0.8**
comp=Z,11nm,0.5s,baz=275,slow=5.4,SNR=5.3
WRKA Warakurna 17.99 184 P **Pn 20 21 26.1 +2.0**
MANU Manus Island 18.43 75 P **P 20 21 26.8 -0.7**
TV1H Townsville Har 20.74 128 P **P 20 21 54.0 +1.7**
CTA Charters Tower 20.80 130 P **P 20 21 54.5 +1.5**
comp=Z,6.7nm,1.0s,baz=290,slow=12,SNR=2.6
comp=Z,6.7nm,1.0s
OOD Oodnadatta 21.50 165 P **P 20 22 02.1 +1.7**
BBJI Bungbulang 21.72 267 P **P 20 22 05.4 +2.4**
INKA Innaminka 23.21 154 P **P 20 22 20.9 +3.8**
MULG Mulgathing 23.56 170 P **P 20 22 22.5 +2.3**
FORT Forrest 23.71 183 P **P 20 22 25.4 +3.8**
KMBL Kambalda 25.29 195 P **P 20 22 38.4 +2.5**
BBOO Buckleboo 26.40 168 P **P 20 22 47.4 +1.5**
STKA Stephens Creek 27.20 157 P **P 20 22 54.4 +1.3**
comp=Z,1.5nm,0.3s,baz=339,slow=8.1,SNR=7.6
comp=Z,1.5nm,0.3s
CMSA Cobar Meteorol 28.71 150 P **P 20 23 08.5 +2.0**
ARPS Mount Arapiles 31.70 161 P **P 20 23 35.5 +2.7**
GSI Gunungsitoli 32.94 283 P **P 20 23 45.8 +1.8**
CMAR Chiang Mai Arr 39.37 310 P **P 20 24 37.7 -0.8**
comp=Z,1.2nm,0.7s,baz=138,slow=7.5,SNR=5.7
comp=Z,1.2nm,0.7s
ULN Ulaanbaatar 58.11 342 P **P 20 26 59.7 -1.5**
ULN IAmb IAmb 20 27 01.2
comp=Z,3.3nm,0.7s
SONM Songino Array 58.29 342 P **P 20 27 00.9 -1.5**
SONM IAmb IAmb 20 27 31.5
comp=Z,4.9nm,1.4s
SONM Songino Array 58.29 342 P **P 20 27 01.2 -1.2**
comp=Z,0.9nm,0.4s,baz=158,slow=6.8,SNR=5.6
comp=Z,0.9nm,0.4s
MKAR Makanchi Array 67.97 327 P **P 20 28 05.5 -0.7**
comp=Z,1.8nm,0.3s,baz=115,slow=8.4,SNR=88
comp=Z,1.8nm,0.3s
MAKZ Makanchi 68.14 327 P **P 20 28 05.9 -1.3**
MAKZ IAmb IAmb 20 28 07.8
comp=Z,3.9nm,1.1s
YAK Yakutsk 68.81 0 P **P 20 28 09.3 -1.7**
AAK Ala-Archa 70.24 320 P **P 20 28 18.2 -2.2**
ZAA0 Zalesovo Array 71.37 334 P **P 20 28 24.2 -2.6**
ZAA0 IAmb IAmb 20 28 25.7
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 71.37 334 P **P 20 28 24.4 -2.4**
ZALV Zalesovo Beam 71.37 334 P **P 20 28 25.1 -1.7**
comp=Z,1.5nm,0.5s,baz=128,slow=5.8,SNR=8.8
comp=Z,1.5nm,0.5s
KURBB Kurchatov Arra 72.26 329 P **P 20 28 31.0 -1.2**
comp=Z,1.9nm,0.6s,baz=127,slow=5.0,SNR=18
comp=Z,1.9nm,0.6s
KURK Kurchatov 72.27 329 P **P 20 28 30.6 -1.6**
KURK IAmb IAmb 20 28 33.8
comp=Z,2.4nm,0.8s
VNDA Vanda 72.51 173 P **P 20 28 32.6 -0.6**
VNDA IAmb IAmb 20 29 08.6
comp=Z,4.4nm,1.3s
KKAR Karatay Array 73.03 319 P **P 20 28 35.4 -1.6**
SBA Scott Base 73.41 172 P **P 20 28 38.6 +0.1**
BVAR Borovoye Array 77.81 328 P **P 20 29 02.4 -1.6**
comp=Z,1.1nm,0.5s,baz=122,slow=7.0,SNR=5.9
comp=Z,1.1nm,0.5s
BRVK Borovoye 77.88 328 P **P 20 29 03.7 -0.6**
ABKAR Akbulak array 82.22 322 P **P 20 29 26.7 -1.0**
ABKAR Akbulak array 82.22 322 P **P 20 29 26.3 -1.4**
TORD Torodi Ar. Bea 128.36 281 PKP **PKPdf 20 36 11.9 -1.2**
comp=Z,0.3nm,0.9s,baz=130,slow=2.3,SNR=1.6

*TEH **08** 20:24:54.8, 34°.38N×45°.87E, h10km±79km, ML2.9*
*ISN **08** 20:24:55.6±1.1, 34°.40N×45°.85E, h18km±9km, ML2.9*
ISC 08 20:24:55.1±1.0, **34°.39N**±0°.05×**45°.90E**±0°.04, **h10**km, **n10,** σ**0**s**56**/13, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.28**	**295**	Pg	**Pg**	**20 25 00.8**	**0.0**
KGS1				Sg	**Sg**	**20 25 04.6**	**-0.1**
IDHR	**Dehrash**	**0.51**	**52**	Pg	**Pg**	**20 25 05.0**	**0.0**
IGHG	**Ghaleghazi**	**0.56**	**96**	Pg	**Pb**	**20 25 06.6**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.80**	**161**	Pg	**Pg**	**20 25 10.0**	**-0.6**
KCHF	**Cheshme Sefid,**	**0.95**	**96**	Pg	**Pb**	**20 25 13.5**	**-0.2**
ILIN	**Lien**	**1.02**	**58**	Pg	**Pb**	**20 25 14.8**	**-0.2**
IBDR	**Badra**	**1.27**	**179**	*e*Pg	**Pn**	**20 25 18.5**	**-0.4**
baz=357							
IBDR				*e*Sg	**Sn**	**20 25 37.0**	**+1.0**
IBDR				AML	AML	20 25 43.0	
comp=E,251nm,0.4s							
IBDR				AML	AML	20 25 54.0	
comp=N,119nm,0.5s							
IKOM	**Komasi**	**1.35**	**99**	Pg	**Pg**	**20 25 21.9**	**+1.0**
IBZA	**Bozab**	**1.62**	**87**	Pg	**Pg**	**20 25 25.8**	**-0.4**
BHD	**Baghdad**	**1.69**	**229**	*e*Pn	**Pb**	**20 25 26.0**	**-0.2**
BHD				*e*Sn	**Sb**	**20 25 48.0**	**+0.6**
BHD				AML	AML	20 25 54.7	
comp=E,287nm,0.4s							

IDC 08 20:36:08.1±5.0, **1°.90N×91°.32W, h0**km, **mb3.5**/4, **mbtmp3.6**/5, **ML3.8**/1, **MS3.8**/19, **Error ellipse: s-maj=238.0km s-min=43.8km az=46.0, Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**10.46**	**37**	LR	LR	20 41 33.9	
comp=Z,891nm,18.5s,baz=204,slow=31							
CMIG	**Matias Romero**	**15.50**	**347**	LR	LR	20 44 27.8	
comp=Z,120nm,20.6s,baz=190,slow=32							
ATAH	**Atahualpa**	**15.71**	**125**	Pn	Pn	20 39 52.2	+0.9
0.3nm,0.3s,baz=295,slow=14,SNR=2.1							
ATAH				LR	LR	20 44 37.9	
comp=Z,861nm,18.9s,baz=311,slow=32							
3.3nm,0.6s							
TEIG	**Tepich**	**18.45**	**9**	LR	LR	20 46 50.8	
comp=Z,1μm,19.2s,baz=9.5,slow=35							
PCRV	**Puerto La Cruz**	**27.75**	**72**	LR	LR	20 53 59.0	
comp=Z,121nm,18.1s,slow=38							
LPIG	**La Paz**	**28.72**	**322**	LR	LR	20 50 59.8	
comp=Z,127nm,19.7s,baz=181,slow=31							
SJG	**San Juan**	**29.48**	**55**	LR	LR	20 52 23.7	
comp=Z,136nm,19.2s,baz=248,slow=33							
TXAR	**Lajitas Array**	**29.71**	**338**	LR	LR	20 53 29.8	
comp=Z,138nm,18.1s,baz=111,slow=35							
LVC	**Limon Verde**	**32.73**	**139**	LR	LR	20 53 15.7	
comp=Z,100nm,20.5s,baz=312,slow=31							
SIV	**San Ignacio**	**34.77**	**122**	LR	LR	20 56 42.1	
comp=Z,282nm,18.1s,baz=298,slow=36							
ANMO	**Albuquerque**	**35.77**	**338**	LR	LR	20 57 18.2	
comp=Z,171nm,19.2s,baz=244,slow=36							
MDP	**Montagnes des**	**38.73**	**84**	LR	LR	20 59 42.3	
comp=Z,81nm,18.7s,baz=204,slow=36							
PFO	**Pinyon Flats O**	**39.36**	**326**	LR	LR	20 57 50.2	
comp=Z,70nm,18.9s,baz=107,slow=33							
CFA	**Coronel Fontan**	**39.88**	**149**	LR	LR	20 56 58.2	
comp=Z,184nm,18.2s,baz=301,slow=31							
CPUP	**Villa Florida**	**43.18**	**133**	LR	LR	21 02 33.6	
comp=Z,122nm,20.6s,baz=344,slow=37							

PDAR **Pinedale Array** 43.84 341 P P 20 44 17.4 +1.1
0.3nm,0.6s,baz=154,slow=9.0,SNR=3.0
0.3nm,0.6s
NVAR **Mina Array Bea** 43.95 329 P P 20 44 17.7 +0.4
0.2nm,0.3s,baz=151,slow=8.2,SNR=2.3
0.2nm,0.3s
SADO **Sadowa** 44.02 12 LR LR 21 02 22.8
comp=Z,68nm,18.4s,baz=180,slow=36
ELK **Elko** 44.31 334 LR LR 21 02 19.6
comp=Z,124nm,18.6s,baz=125,slow=36
BDFB **Brasilia** 46.22 114 LR LR 21 04 48.3
comp=Z,192nm,19.3s,baz=166,slow=37
PLCA **Paso Flores** 46.47 158 LR LR 21 00 05.0
comp=Z,86nm,18.2s,baz=0.5,slow=31
YKA **Yellowknife Ar** 62.91 348 P P 20 46 35.8 -0.1
1.1nm,1.1s,baz=151,slow=6.8,SNR=6.3
1.1nm,1.1s
ILAR **Eielson Array** 74.22 338 P P 20 47 45.3 -1.3
0.3nm,0.7s,baz=126,slow=4.6,SNR=3.2
0.3nm,0.7s

*IDC **08** 20:39:41.5±0.7,36˚54N×137˚95E,h185km±6km,mb3.5/3, mbtmp3.8/6,Error ellipse: s-maj=30.0km s-min=17.9km az=78.0*
*JMA **08** 20:39:42.2±0.2,36˚5N±0˚7×138˚2E±0˚9,h189km±1km, MV3.1/37,NEAR MATSUSHIRO*
ISC 08 20:39:41.6±0.9,36˚50N±0˚06×138˚10E±0˚07,h194km±7km, n20,σ90/27,mb3.7/3,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	0.09	179	P	**Pn**	20 40 07.2	0.0
JNG				*e*S	**Sn**	20 40 26.1	-0.7
MAT	**Matsushiro**	0.10	65	P	**Pn**	20 40 06.9	-0.1
MJAR	**Matsushiro Arr**	0.10	65	P	**Pn**	20 40 06.7	-0.3
	99nm,0.6s,baz=215,slow=0.7,SNR=276						
MJAR				S	**Sn**	20 40 26.1	-0.5
	37nm,0.7s,baz=16,slow=13,SNR=21						
JRY	**Ryogami san**	0.81	126	P	**Pn**	20 40 09.1	-0.4
JYN	**Shimob**	1.06	160	P	**Pn**	20 40 11.2	-0.1
JYN				*e*S	**Sn**	20 40 34.0	-0.2
JAG	**Ashikaga**	1.09	94	P	**Pn**	20 40 10.9	-0.4
JAG				*e*S	**Sn**	20 40 32.6	-1.7
JSZ	**Suzu**	1.11	328	P	**Pn**	20 40 11.7	+0.3
JYTA	**Yamagatataniai**	1.43	231	P	**Pn**	20 40 15.0	+1.0
JYTA				*e*S	**Sn**	20 40 39.7	+0.5
JKG	**Kaga**	1.44	262	P	**Pn**	20 40 15.3	+1.2
JOD2	**Odawara 2**	1.47	147	P	**Pn**	20 40 14.8	+0.3
JOD2				S	**Sn**	20 40 40.4	+0.3
JSD	**Sado**	1.54	5	P	**Pn**	20 40 15.4	+0.4
JSD				*e*S	**Sn**	20 40 40.9	-0.3
JNS	**Sasagawa**	1.64	36	P	**Pn**	20 40 16.3	+0.4
JOTO	**OTAMA OYAMA**	2.08	59	P	**Pn**	20 40 21.5	+1.1
JIE	**Ise**	2.39	209	P	**Pn**	20 40 24.6	+0.7
JNU	**Nakatsue**	6.83	243	P	**Pn**	20 41 17.2	-2.3
	7.9nm,1.0s,baz=308,slow=14,SNR=5.1						
ASAJ	**Asahikawa**	8.35	23	P	**Pn**	20 41 37.9	-1.3
	1.6nm,0.4s,baz=219,slow=13,SNR=5.4						
KLR	**Kul'dur**	13.54	342	P	**Pn**	20 42 45.7	-0.1
	1.2nm,0.8s,baz=141,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	42.15	302	P	**P**	20 47 15.7	+0.9
	0.3nm,0.7s,baz=89,slow=10,SNR=4.8						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	44.23	308	P	**P**	20 47 30.7	-0.7
	2.9nm,0.2s,baz=86,slow=7.7,SNR=6.4						
	2.9nm,0.2s						
WRA	**Warramunga Arr**	56.25	184	P	**P**	20 49 02.7	+0.9
	0.5nm,0.3s,baz=0.1,slow=7.5,SNR=17						
	0.5nm,0.3s						

*IDC **08** 20:46:19.7±1.9,53˚66N×165˚09W,h0km,mb3.8/5, mbtmp3.6/7,ML3.1/2,MS3.5/1,Error ellipse: s-maj=40.9km s-min=25.3km az=175.0*
*NEIC **08** 20:46:23.6±1.6,53˚50N±0˚06×164˚72W±0˚06, h24km±10km,mb3.6/10,ML3.3(AEIC), Error ellipse: s-maj=9.0km s-min=4.3km az=197.0*
*AEIC **08** 20:46:25.1±2.3,53˚56N±0˚08×164˚78W±0˚07,h32km±8km, Error ellipse: s-maj=12.1km s-min=5.1km az=161.0*
ISC 08 20:46:22.4±1.6,53˚47N±0˚08×164˚70W±0˚04, h23km±12km,n93,σ1s46/101,mb3.8/5,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	0.89	319		**Pn**	20 46 40.0	+0.4
AKSA					**Sn**	20 46 51.4	-0.4
AKSA	**Akutan Strait**	0.89	319		**Pn**	20 46 39.8	+0.3
AKSA					**Sn**	20 46 51.3	-0.4
AKUT	**Akutan**	0.92	317		**Pn**	20 46 40.5	+0.5
AKUT	**Akutan**	0.92	317	P	**Pn**	20 46 40.7	+0.8
AHB	**Akutan Harbor**	0.93	315		**Pn**	20 46 40.8	+0.7
AKBBA	**Akutan Broad B**	0.97	311		**Pb**	20 46 40.2	-0.3
AKBBA					**Sn**	20 46 53.2	-0.4
ZRO	**Akutan Zero**	0.98	310		**Pn**	20 46 41.5	+0.7
WESE	**West Dahl East**	1.01	4		**Pn**	20 46 41.8	+0.6
AKLV	**Akutan Long Va**	1.02	314		**Pn**	20 46 41.9	+0.5
AKRB	**Akutan Reef Bi**	1.05	310		**Pn**	20 46 42.5	+0.8
AKRB					**Sn**	20 46 56.1	+0.5
AKGG	**Akutan Green G**	1.06	314		**Pn**	20 46 42.6	+0.7
UNV	**Unalaska Valle**	1.14	290		**Pb**	20 46 43.5	+0.1
UNV					**Sn**	20 46 58.0	+0.2
UNV	**Unalaska Valle**	1.14	290	P	**Pb**	20 46 43.7	+0.3
MNAT	**Makushin Natee**	1.25	290		**Pb**	20 46 45.4	0.0
MSW	**Makushin Switc**	1.32	291		**Pb**	20 46 46.5	0.0
MSW					**Sb**	20 47 03.5	+0.6
MGOD	**Makushin Gods**	1.33	285		**Pb**	20 46 46.8	0.0
MGOD					**Sb**	20 47 03.4	-0.1
SSBA	**Shishaldin**	1.35	14		**Pb**	20 46 46.7	-0.4
SSBA					**Sn**	20 47 02.1	-1.0
ISNN	**Isanotski Nort**	1.47	21		**Pb**	20 46 48.7	-0.4
FALS	**False Pass**	1.58	28	P	**Pb**	20 46 51.2	+0.2
OKFG	**Magazine Ridge**	1.92	270		**Pb**	20 46 55.8	-1.0
PN7A	**Pavlof North-7**	2.52	38		**Pn**	20 47 04.9	+2.9
NIKH	**Nikolski High**	2.55	260	P	**Pb**	20 47 06.2	-1.2
SDPT	**Sand Point**	3.10	51		**Pn**	20 47 11.1	+1.2
SDPT	**Sand Point**	3.10	51	P	**Pn**	20 47 12.5	+2.6
R17K	**Ugashik Creek**	6.30	45	Pn	**Pn**	20 47 54.8	+1.0
SII	**Sitkinak Islan**	6.79	59	Pn	**Pn**	20 48 01.5	+0.9
SII	**Sitkinak Islan**	6.79	59	P	**Pn**	20 48 03.8	+3.2
M13K	**Dall Lake**	7.00	5	Pn	**Pn**	20 48 04.0	+0.6
O16K	**Kokwok River B**	7.14	28	Pn	**Pn**	20 48 06.7	+1.4
N15K	**Kwethluk River**	7.18	19	Pn	**Pn**	20 48 07.4	+1.6
M14K	**Bethel**	7.45	10	Pn	**Pn**	20 48 12.0	+2.5
OHAK	**Old Harbor**	7.51	55	Pn	**Pn**	20 48 11.7	+1.3
OHAK	**Old Harbor**	7.51	55	P	**Pn**	20 48 12.7	+2.3
L14K	**Kuka Creek**	7.97	7	Pn	**Pn**	20 48 19.7	+3.0
KDAK	**Kodiak Island**	8.10	53	Pn	**Pn**	20 48 20.2	+1.7
KDAK	**Kodiak Island**	8.10	53	Pn	**Pn**	20 48 19.2	+0.7
	0.5nm,0.3s,baz=188,slow=4.8,SNR=16						
KDAK					Sn	**Sn**	20 49 44.6	-4.6
	0.6nm,0.3s,baz=140,slow=18,SNR=1.9						
	2.4nm,0.8s						
N17K	**Nushagak Hills**	8.17	27	Pn	**Pn**	20 48 20.7	+1.3
M16K	**Timber Creek**	8.19	20	Pn	**Pn**	20 48 21.7	+2.0
Q19K	**Cape Douglas,**	8.24	44	Pn	**Pn**	20 48 22.3	+2.0
O18K	**Koktuh Hills**	8.26	35	Pn	**Pn**	20 48 23.7	+3.0
N18K	**Kilae Creek**	8.67	30	Pn	**Pn**	20 48 25.9	-0.4
L16K	**Owhat River**	8.72	17	Pn	**Pn**	20 48 27.0	0.0
M17K	**Holitna River**	8.86	23	Pn	**Pn**	20 48 30.8	+1.9
K15K	**Wolf Creek Mou**	9.01	9	Pn	**Pn**	20 48 31.8	+0.9
SVW2	**Sparrevohn**	9.10	29	Pn	**Pn**	20 48 31.5	-0.6
SVW2	**Sparrevohn**	9.10	29	P	**Pn**	20 48 35.2	+3.1
ILSW	**Iliamna Southw**	9.10	40	Pn	**Pn**	20 48 35.4	+3.1
N19K	**Bonanza Creek**	9.21	33	Pn	**Pn**	20 48 36.4	+2.6
RSO	**Redoubt South**	9.56	38	Pn	**Pn**	20 48 42.1	+3.4
CNPM	**China Poot**	9.59	45	Pn	**Pn**	20 48 39.1	+0.2
L18K	**Granite Mounta**	9.75	23	Pn	**Pn**	20 48 41.8	+0.7
K17K	**Iditarod**	9.87	17	Pn	**Pn**	20 48 42.6	+0.9
J16K	**Anvik River**	10.07	11	Pn	**Pn**	20 48 46.5	+1.1
M19K	**Big River Lodg**	10.08	29	Pn	**Pn**	20 48 47.2	+1.6
L19K	**White Mountain**	10.18	27	Pn	**Pn**	20 48 49.3	+2.4
M20K	**Styx River**	10.45	32	Pn	**Pn**	20 48 54.5	+3.8
TTA	**Tatalina**	10.53	22	Pn	**Pn**	20 48 52.9	+1.2
SUA	**Susitna One**	10.96	38	Pn	**Pn**	20 48 59.0	+1.3
SKT	**Skwentna**	11.04	34	Pn	**Pn**	20 48 59.4	+0.6
KNK	**Knik Glacier**	11.80	41	Pn	**Pn**	20 49 09.1	0.0
J20K	**Nowinta River**	12.03	23	Pn	**Pn**	20 49 12.1	-0.1
HIN	**Hinchinbrook I**	12.09	48	Pn	**Pn**	20 49 13.3	+0.2
SCM	**Sheep Creek Mo**	12.48	41	Pn	**Pn**	20 49 18.2	-0.3
KLU	**Klutina**	12.87	44	Pn	**Pn**	20 49 23.6	-0.1
M24K	**Tolsona, Glenn**	13.09	41	Pn	**Pn**	20 49 27.2	+0.4
N25K	**Chitina, Valde**	13.48	45	Pn	**Pn**	20 49 31.7	-0.4
VRDI	**Verde Repeater**	13.80	47	Pn	**Pn**	20 49 36.5	0.0
GRNC	**Granite Creek**	14.38	50	Pn	**Pn**	20 49 44.1	-0.4
ILAR	**Eielson Array**	14.49	32	Pn	**Pn**	20 49 43.9	-1.8
	baz=323,slow=33,SNR=1.9						
	0.2nm,0.5s						
M26K	**Nabesna, AK**	14.52	43	Pn	**Pn**	20 49 46.4	+0.2
BARN	**Barnard Glacie**	14.54	49	Pn	**Pn**	20 49 47.2	+0.6
CTGM	**Chitina Glacie**	14.65	50	Pn	**Pn**	20 49 48.8	+0.6
C16K	**Lisburne Hills**	14.86	359	Pn	**Pn**	20 49 51.4	+0.6
J25K	**Salcha River,**	14.87	34	Pn	**Pn**	20 49 50.5	-0.5
M27K	**Edge Creek, AK**	14.96	44	Pn	**Pn**	20 49 53.3	+1.0
SCRK	**Sand Creek**	14.97	37	Pn	**Pn**	20 49 51.0	-1.3
L27K	**Beaver Creek,**	15.31	42	Pn	**Pn**	20 49 57.0	+0.2
L27K				IAmb	IAmb	20 50 07.8	
	comp=Z,5.3nm,1.4s						
BCAR	**Beaver Creek A**	15.33	42	Pn	**Pn**	20 49 57.8	+0.7
J26L	**Joseph Creek**	15.42	36	Pn	**Pn**	20 49 58.2	-0.1
E22K	**Anaktuvuk Pass**	15.94	18	Pn	**Pn**	20 50 04.4	-0.6
I26K	**Coal Creek Min**	16.05	34	Pn	**Pn**	20 50 06.5	+0.2
I26K				IAmb	IAmb	20 50 31.6	
	comp=Z,8.8nm,1.4s						
M29M	**Somme Creek**	16.46	47	Pn	**Pn**	20 50 11.9	+0.2
M29M				IAmb	IAmb	20 50 30.1	
	comp=Z,4.8nm,1.1s						
L29M	**L29M**	16.85	45	Pn	**Pn**	20 50 17.0	+0.5
L29M				IAmb	IAmb	20 50 37.2	
	comp=Z,5.6nm,1.3s						
J30M	**Hart River**	18.17	41		**Pn**	20 50 32.7	-0.2
J30M				IAmb	IAmb	20 50 48.8	
	comp=Z,7.2nm,1.5s						
H29M	**Whitestone**	18.19	35		**Pn**	20 50 32.8	-0.3
H29M				IAmb	IAmb	20 51 11.0	
	comp=Z,4.9nm,1.2s						
E29M	**Blow River**	19.57	30	P	**P**	20 50 48.2	0.0
G31M	**Satah River**	19.96	36	P	**P**	20 50 51.6	-0.9
PETK	**Petropavlovsk-**	22.32	284	P	**P**	20 51 15.3	-2.8
	comp=Z,3.7nm,1.0s,baz=81,slow=12,SNR=2.0						
	comp=Z,3.7nm,1.0s						
YKA	**Yellowknife Ar**	27.37	51	P	**P**	20 52 06.8	+1.3
	comp=Z,0.1nm,0.5s,baz=281,slow=9.1,SNR=3.7						
	comp=Z,0.1nm,0.5s						
LPIG	**La Paz**	49.94	104	LR	LR	21 11 45.5	
	comp=Z,44nm,19.4s,baz=21,slow=30						
TXAR	**Lajitas Array**	49.94	94	P	**P**	20 55 17.1	+2.7
	comp=Z,0.7nm,0.7s,baz=298,slow=5.3,SNR=9.9						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	65.11	354	P	**P**	20 57 01.0	+0.3
	comp=Z,1.3nm,0.8s,baz=352,slow=5.6,SNR=1.4						
	comp=Z,1.3nm,0.8s						
HFS	**Hagfors**	66.74	1	P	**P**	20 57 10.2	-0.9
	comp=Z,3.1nm,1.0s,baz=0.0,slow=7.2,SNR=2.2						
	comp=Z,3.1nm,1.0s						

*IDC **08** 20:52:08.7±0.5,33˚77N×132˚02E,h60km±4km,mb3.9/24, mbtmp4.2/28,MS3.6/24,Error ellipse: s-maj=9.9km s-min=6.5km az=129.0*
*NEIC **08** 20:52:08.1±2.0,33˚72N±0˚06×132˚15E±0˚06,h59km±6km, mb4.6/56,Error ellipse: s-maj=9.5km s-min=6.6km az=166.0*
*NIED **08** 20:52:08.6,33˚78N×132˚21E,h57km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=2.55; Mθθ-1.00; Mϕϕ3.54; Mrθ1.15; Mθϕ-1.13; Mϕr4.68; Fault plane solution: M₀5.86000×10¹⁵ NP1: ϕs191.00000°,δ75.00000°,λ-71.00000°. NP2: ϕs317.00000°,δ24.00000°,λ-141.00000°.*
*JMA **08** 20:52:08.6±0.1,33˚8N±0˚1×132˚2E±0˚2,h57km,MD4.3/40, MW4.5/40,IYONADA SETONAIKAI*
JMA Felt III J1 at IYONADA SETONAIKAI .
ISC 08 20:52:08.1±0.4,33˚75N±0˚03×132˚18E±0˚03,h58km±3km, h58km:pP-P,n196,σ1s29/173,mb4.5/63,MS3.7/20,3C-3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	0.31	127	*i* P	**Pn**	20 52 18.2	+0.1
JNA				S	**Sn**	20 52 25.6	+0.2
JNA	**Nagahama**	0.31	127	A	A	20 52 18.2	
	comp=E,52nm,1.4s,comp=N,34nm,0.5s						
JKD	**Kudamatsu**	0.40	320	⇓P	**Pn**	20 52 19.2	+0.2
JKD				⇓S	**Sn**	20 52 26.8	0.0
JKD	**Kudamatsu**	0.40	320	A	A	20 52 19.2	
	comp=E,44nm,1.2s,comp=N,33nm,0.4s						
JHM	**Kurahashi**	0.49	36	*i* P	**Pn**	20 52 19.8	0.0
JHM				S	**Sn**	20 52 27.9	-0.4
JHM	**Kurahashi**	0.49	36	A	A	20 52 19.8	
	comp=E,93nm,1.2s,comp=N,81nm,0.5s						
JKI	**Kunimi**	0.53	258	A	A	20 52 20.9	
	comp=E,164nm,0.6s,comp=N,136nm,0.8s						
UWA2	**Uwa jima 2**	0.65	145	*i* P	**Pn**	20 52 22.3	+0.6
UWA2				S	**Sn**	20 52 32.0	+0.5
UWA2	**Uwa jima 2**	0.65	145	A	A	20 52 22.3	
	comp=E,50nm,1.5s,comp=N,29nm,1.1s						
JET	**Tanbara**	0.72	87	*i* P	**Pn**	20 52 22.7	+0.1
JET				S	**Sn**	20 52 33.2	+0.1
JET	**Tanbara**	0.72	87	A	A	20 52 22.7	
	comp=E,22nm,0.3s,comp=N,23nm,0.7s						
JBEP	**Beppuamama**	0.77	238	A	A	20 52 24.0	
	comp=E,90nm,0.5s,comp=N,84nm,0.6s						
JUS	**Usuki**	0.77	208	A	A	20 52 24.0	
	comp=E,44nm,0.5s,comp=N,38nm,0.8s						
JHIK	**Hikimi**	0.81	345	A	A	20 52 23.9	
	comp=E,17nm,1.3s,comp=N,20nm,1.3s						
JKU	**Kubokawa**	0.85	120	*i* P	**Pn**	20 52 24.4	+0.1
JKU				S	**Sn**	20 52 36.3	+0.2
JKU	**Kubokawa**	0.85	120	A	A	20 52 24.4	
	comp=E,45nm,1.5s,comp=N,40nm,3.3s						
JHT	**Toyohira**	0.94	12	*i* P	**Pn**	20 52 25.5	+0.2
JHT				S	**Sn**	20 52 38.4	+0.4
JHT	**Toyohira**	0.94	12	A	A	20 52 25.5	
	comp=E,14nm,0.6s,comp=N,20nm,0.6s						
JSKE	**Saikikamae**	0.97	194	A	A	20 52 26.8	
	comp=E,9.0nm,0.6s,comp=N,6.0nm,0.6s						
JTO	**Tosashimizu**	1.02	149	*i* P	**Pn**	20 52 27.1	+0.6
JTO				S	**Sn**	20 52 39.8	-0.1
JTO	**Tosashimizu**	1.02	149	A	A	20 52 27.1	
	comp=E,35nm,1.3s,comp=N,27nm,0.7s						
JTY	**Toyota**	1.06	299	A	A	20 52 27.6	
	comp=E,31nm,0.5s,comp=N,13nm,0.4s						
JKHR	**Kochiharuno**	1.12	102	A	A	20 52 28.2	
	comp=E,22nm,1.6s,comp=N,14nm,1.4s						
JFA	**Akaike**	1.16	269	A	A	20 52 29.2	
	comp=E,15nm,1.1s,comp=N,12nm,0.8s						
JNU	**Nakatsue**	1.26	241	A	A	20 52 30.7	
	comp=E,6.0nm,3.0s,comp=N,8.0nm,3.8s						
JNU	**Nakatsue**	1.26	241	P	**Pn**	20 52 30.6	+1.0
	comp=N,2μm,0.3s,baz=39,slow=5.5,SNR=3849						
JNU				S	**Sn**	20 52 43.7	-1.9
	comp=N,4μm,0.5s,baz=239,slow=13,SNR=12						
JKIT	**Kitakata**	1.27	209	A	A	20 52 31.0	
	comp=N,10.0nm,1.2s						
JGT2	**ShimaneMisato**	1.34	11	*i* P	**Pn**	20 52 30.8	+0.1
JGT2				S	**Sn**	20 52 46.9	-0.6
JGT2	**ShimaneMisato**	1.34	11	A	A	20 52 30.8	
	comp=E,6.0nm,2.8s,comp=N,5.0nm,0.5s						
JHGM	**Hagimishima**	1.35	320	*i* P	**Pn**	20 52 31.5	+0.8
JHGM	**Hagimishima**	1.35	320	A	A	20 52 31.5	
	comp=E,13nm,3.5s,comp=N,13nm,3.0s						
JHHC	**Hyugahichiya**	1.38	200	A	A	20 52 32.5	
	comp=E,7.0nm,2.5s,comp=N,7.0nm,2.8s						
JMN	**Monobe**	1.41	90		**Pn**	20 52 31.0	-0.7
JMN				Sn	**Sn**	20 52 46.6	-2.7
JMN	**Monobe**	1.41	90	*i* P	**Pn**	20 52 31.2	-0.4
JMN				*e*S	**Sn**	20 52 48.2	-1.1
JMN	**Monobe**	1.41	90	A	A	20 52 31.2	
	comp=E,9.0nm,5.3s,comp=N,8.0nm,1.1s						
JHS	**Saijyo**	1.47	31	*i* P	**Pn**	20 52 32.5	+0.1
JHS	**Saijyo**	1.47	31	A	A	20 52 32.5	
	comp=E,7.0nm,0.9s,comp=N,6.0nm,2.0s						
JFI	**Itaya**	1.53	259	A	A	20 52 34.5	
	comp=E,6.0nm,3.4s,comp=N,3.0nm,4.8s						
JJS	**Sakaide**	1.58	66	A	A	20 52 34.4	
	comp=E,6.0nm,5.4s,comp=N,6.0nm,2.6s						
JTA	**Tamana**	1.59	241	A	A	20 52 35.3	
	comp=E,10.0nm,1.5s,comp=N,7.0nm,1.0s						
JTSN	**Tsuno**	1.60	201	A	A	20 52 35.6	
	comp=E,8.0nm,2.3s,comp=N,6.0nm,0.6s						
JIU3	**Izumi3**	1.66	224	A	A	20 52 36.4	
	comp=E,5.0nm,3.7s,comp=N,6.0nm,1.6s						
JMAF	**Mimaanabuki**	1.66	79	A	A	20 52 35.7	
	comp=E,8.0nm,3.4s,comp=N,5.0nm,2.7s						
MRT2	**Murotomisaki 2**	1.67	102	A	A	20 52 36.0	
	comp=E,6.0nm,4.1s,comp=N,6.0nm,5.8s						
JISK	**Izumosakaura**	1.83	17	A	A	20 52 37.9	
	comp=E,6.0nm,1.2s,comp=N,6.0nm,0.8s						
JNM	**Ikuma**	1.88	22	A	A	20 52 38.6	
	comp=E,11nm,4.0s,comp=N,10.0nm,5.0s						
JUR	**Ureshino**	1.98	251	A	A	20 52 40.8	
	comp=E,4.0nm,3.0s						
JII	**Iki**	2.04	272	A	A	20 52 41.6	
	comp=E,7.0nm,1.3s,comp=N,7.0nm,3.0s						
JTZ	**Takazaki**	2.06	207	A	A	20 52 42.0	
	comp=E,5.0nm,1.6s,comp=N,6.0nm,1.8s						
JZO	**Okuchi**	2.08	220	A	A	20 52 42.4	
	comp=E,5.0nm,3.5s,comp=N,4.0nm,0.9s						
JKR	**Kurayoshi**	2.12	39	A	A	20 52 41.9	
	comp=E,5.0nm,4.6s,comp=N,4.0nm,9.9s						
JNKG	**Nichinankitago**	2.19	198	A	A	20 52 43.9	
	comp=E,6.0nm,3.1s,comp=N,4.0nm,3.5s						
JNAR	**Kushima-Naru**	2.34	199	A	A	20 52 46.1	
	comp=E,5.0nm,3.6s,comp=N,6.0nm,3.3s						
JTU	**Tsushima**	2.44	289		**Pn**	20 52 45.2	-0.3
JMIK	**Miki**	2.60	65	A	A	20 52 48.8	
	comp=E,3.0nm,1.5s,comp=N,3.0nm,1.3s						
JTNC	**Tanabenakahech**	2.85	88	A	A	20 52 52.6	
	comp=E,4.0nm,1.5s,comp=N,4.0nm,0.5s						
JKY	**Yasaka**	3.05	51	A	A	20 52 55.2	
	comp=E,3.0nm,1.4s,comp=N,3.0nm,4.0s						
TJN	**Taejon**	4.75	305		**Pn**	20 53 16.5	-0.6
JSG	**Sagara**	5.06	78		**Pn**	20 53 25.7	+4.3
KSRS	**Korea Array**	5.07	318	P	**Pn**	20 53 22.2	+0.7
	comp=N,6.9nm,0.4s,baz=141,slow=14,SNR=30						
KSRS				S	**Sn**	20 54 18.4	-0.4
	comp=N,14nm,0.4s,baz=137,slow=24,SNR=8.1						
KSRS				LR	LR	20 55 37.6	
	comp=N,419nm,20.9s,baz=135,slow=42						
KSAR	**Wonju Array Be**	5.09	318	Pn	**Pn**	20 53 22.2	+0.4
KS19	**Wonju Array Si**	5.14	318		**Pn**	20 53 22.5	0.0
MJB9	**Matsu-Tunnel**	5.67	59		**Pn**	20 53 32.1	+2.3
MAJO	**Matsushiro**	5.67	59	Pn	**Pn**	20 53 31.4	+1.6
MJAR	**Matsushiro Arr**	5.67	59	P	**Pn**	20 53 32.0	+2.2
	comp=N,111nm,0.4s,baz=242,slow=14,SNR=428						
MJAR				LR	LR	20 56 17.8	
	comp=N,117nm,19.1s,baz=284,slow=43						
JHJ	**Hachijo jima 2**	6.38	94	P	**Pn**	20 53 39.6	+0.1
	comp=N,169nm,0.3s,baz=71,slow=18,SNR=10						
JHJ				S	**Sn**	20 54 48.5	-2.6
	comp=N,302nm,0.8s,baz=65,slow=15,SNR=5.4						
JHJ2	**Mitsune**	6.41	94	Pn	**Pn**	20 53 39.2	-0.8
JTM	**Tenmabayashi**	9.97	43	Pn	**Pn**	20 54 32.1	+3.5
USRK	**Ussuriysk Ar.**	10.44	359	P	**Pn**	20 54 35.5	+0.4
	comp=N,3.2nm,0.8s,baz=186,slow=15,SNR=2.1						
USRK				LR	LR	20 58 22.7	
	comp=N,109nm,18.0s,baz=192,slow=36						
SNY	**Shenyang**	10.55	322	⇑P	Pn	20 54 42.1	+5.6
SNY				pmax	pmax		
	comp=Z,20nm,1.6s						
MDJ	**Mudanjiang**	11.04	350	P	**Pn**	20 54 43.1	-0.1
MDJ				pmax	pmax		
	comp=Z,14nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.9s						
NJ2	**Nanjing**	11.33	265	*e*P	**Pn**	20 54 47.4	+0.1
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,460nm,3.6s						
ASAJ	**Asahikawa**	13.14	35	P	**Pn**	20 55 13.5	+1.6
	comp=Z,8.2nm,1.1s,baz=224,slow=17,SNR=2.2						
ASAJ				LR	LR	20 59 46.7	
	comp=Z,138nm,21.5s,baz=218,slow=35						
BJT	**Baijiatuan**	14.26	301	Pn	**Pn**	20 55 25.6	-1.4
BJI	**Beijing**	14.26	301	P	**Pn**	20 55 26.5	-0.4
BJI				pP	**P**	20 55 35.5	+2.9
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HNS	**HongShan**	14.68	289	⇑P	**Pn**	20 55 33.9	+1.4
HNS		

ZALV PcP **PcP** **21 01 36.2 -1.0**
ZALV Zalesovo Beam 38.78 316 P **P** **20 59 25.8 -1.0**
comp=Z,0.3nm,0.4s,baz=92,slow=4.3,SNR=3.8
ZALV PcP **PcP** **21 01 36.9 -0.3**
comp=Z,2.4nm,0.8s,baz=101,slow=3.2,SNR=9.5
ZALV LR LR 21 16 39.3
comp=Z,92nm,18.3s,baz=74,slow=38
comp=Z,0.3nm,0.4s
BILL Bilibino 39.48 19 P **P** **20 59 32.4 -0.1**
BILL IAmb IAmb 20 59 55.9
comp=Z,10nm,1.2s
MK31 Makanchi Array 39.60 304 P **P** **20 59 32.5 -1.3**
MK31 PcP **PcP** **21 01 39.0 -1.0**
MKAR Makanchi Array 39.60 304 P **P** **20 59 32.9 -0.9**
comp=Z,0.4nm,0.6s,baz=91,slow=8.6,SNR=5.7
MKAR PcP **PcP** **21 01 39.5 -0.4**
comp=Z,2.0nm,0.9s,baz=72,slow=5.2,SNR=9.7
MKAR LR LR 21 17 03.8
comp=Z,116nm,20.2s,baz=90,slow=38
comp=Z,0.4nm,0.6s
MAKZ Makanchi 39.81 304 P **P** **20 59 34.4 -1.2**
MAKZ PcP **PcP** **21 01 39.0 -1.7**
KURK Kurchatov 42.15 310 P **P** **20 59 53.9 -0.8**
KURBB Kurchatov Arra 42.20 310 P **P** **20 59 54.1 -1.0**
KURBB pP **pP** **21 00 09.2 -0.9**
comp=Z,1.7nm,0.7s,baz=94,slow=9.4,SNR=3.2
KURBB PcP **PcP** **21 01 47.3 -1.0**
comp=Z,1.6nm,0.6s,baz=90,slow=3.6,SNR=7.6
KURBB LR LR 21 18 41.5
comp=Z,134nm,21.1s,baz=147,slow=38
comp=Z,1.5nm,0.2s
TARG Taragay, Kyrgy 43.12 297 P **P** **21 00 02.4 -0.8**
NRIK Noril'sk 43.33 339 P **P** **21 00 02.8 -1.3**
NRIK IAmb IAmb 21 00 18.8
comp=Z,14nm,1.4s
NRIK Noril'sk 43.33 339 P **P** **21 00 02.9 -1.1**
comp=Z,2.5nm,0.8s,baz=81,slow=12,SNR=3.8
NRIK LR LR 21 19 14.3
comp=Z,62nm,20.6s,baz=227,slow=38
comp=Z,2.5nm,0.8s
KSH Kashi 44.86 294 P **P** **21 00 20.3 +3.5**
AAK Ala-Archa 45.43 299 LR LR 21 20 00.2
comp=Z,99nm,20.8s,baz=62,slow=37
ARSB Arslanbob 46.76 297 P **P** **21 00 31.3 -0.5**
BVAR Borovoye Array 47.27 314 P **P** **21 00 35.2 -0.2**
comp=Z,2.2nm,0.4s,baz=94,slow=8.9,SNR=17
BVAR PcP **PcP** **21 02 04.9 -0.8**
comp=Z,2.4nm,0.8s,baz=72,slow=4.8,SNR=5.2
BVAR LR LR 21 22 06.3
comp=Z,129nm,18.0s,baz=68,slow=38
comp=Z,2.2nm,0.4s
BRVK Borovoye 47.34 314 P **P** **21 00 35.1 -0.8**
BRVK IAmb IAmb 21 00 36.5
comp=Z,4.8nm,0.7s
KK31 Karatay Array 48.24 300 P **P** **21 00 41.8 -1.3**
KKAR Karatay Array 48.24 300 P **P** **21 00 42.0 -1.1**
KKAR Karatay Array 48.24 300 P **P** **21 00 41.3 -1.8**
KKAR IAmb IAmb 21 01 09.7
comp=Z,2.7nm,0.9s
NIL Nilore 48.42 287 P **P** **21 00 43.7 -1.0**
C16K Lisburne Hills 48.96 26 P **P** **21 00 46.4 -1.9**
SIMJ Simiganj 50.33 295 P **P** **21 00 58.3 -1.0**
KBL Kabul 51.48 290 P **P** **21 01 06.7 -1.4**
KBL IAmb IAmb 21 01 08.4
comp=Z,5.0nm,1.0s
D19K Kuna River 51.64 26 P **P** **21 01 08.1 -0.5**
E19K Redstone River 51.91 28 P **P** **21 01 08.4 -2.0**
E19K IAmb IAmb 21 01 34.0
comp=Z,4.3nm,0.8s
H19K Roundabout Mou 52.15 30 P **P** **21 01 11.5 -0.8**
H19K IAmb IAmb 21 01 35.7
comp=Z,7.8nm,0.9s
SVW2 Sparrevohn 52.64 36 P **P** **21 01 14.9 -1.2**
B21K Ikpikpuk River 52.97 25 P **P** **21 01 15.8 -2.5**
B21K IAmb IAmb 21 01 23.6
comp=Z,3.9nm,0.8s
WRAB Tennant Creek 53.42 177 P **P** **21 01 22.8 +0.6**
WRAB IAmb IAmb 21 01 23.5
comp=Z,6.8nm,0.8s
WB2 Warramunga Arr 53.43 177 P **P** **21 01 22.7 +0.5**
WRA Warramunga Arr 53.43 177 P **P** **21 01 22.7 +0.4**
WRA Warramunga Arr 53.43 177 P **P** **21 01 22.6 +0.4**
comp=Z,4.3nm,0.7s,baz=353,slow=8.1,SNR=35
WRA pP **pP** **21 01 38.4 +0.8**
comp=Z,1.2nm,0.5s,baz=354,slow=8.4,SNR=4.6
comp=Z,4.3nm,0.7s
WR0 Warramunga Arr 53.45 177 P **P** **21 01 22.7 +0.4**
ARU Arti 53.82 319 P **P** **21 01 23.6 -1.1**
ARU IAmb IAmb 21 01 25.2
comp=Z,5.6nm,0.7s
PALK Pallekele 54.24 253 LR LR 21 27 49.9
comp=Z,24nm,18.4s,baz=136,slow=40
ABKAR Akbulak array 54.25 310 P **P** **21 01 26.8 -1.1**
ABKAR IAmb IAmb 21 01 28.5
comp=Z,5.7nm,1.1s
SUA Susitna One 54.93 35 P **P** **21 01 34.4 +1.5**
SUA IAmb IAmb 21 01 36.0
comp=Z,4.6nm,0.7s
AKTO Aktyubinsk 55.22 311 LR LR 21 26 07.6
comp=Z,98nm,19.5s,baz=30,slow=37
NEA2 Nenana 55.32 31 P **P** **21 01 36.2 +0.7**
NEA2 IAmb IAmb 21 01 54.3
comp=Z,7.2nm,1.0s
MDM Murphy Dome 55.64 30 P **P** **21 01 39.1 +1.3**
IL31 56.23 31 P **P** **21 01 42.0 +0.1**
IL31 IAmb IAmb 21 01 59.9
comp=Z,4.8nm,0.9s
ILAR Eielson Array 56.23 31 P **P** **21 01 42.3 +0.3**
comp=Z,0.7nm,0.8s,baz=286,slow=9.2,SNR=9.6
ILAR pP **pP** **21 01 58.5 +1.0**
comp=Z,1.5nm,0.7s,baz=282,slow=6.2,SNR=8.8
comp=Z,0.7nm,0.8s
PSA00 Pilbara Seismi 56.25 194 P **P** **21 01 41.9 -0.6**
HDA Harding Lake 56.26 31 P **P** **21 01 43.0 +0.9**
HRA Herat 56.83 292 IAmb IAmb 21 01 48.3
comp=Z,4.8nm,1.1s
AS31 Alice Springs 57.12 178 P **P** **21 01 47.9 -0.8**
ASAR Alice Springs 57.12 178 P **P** **21 01 47.8 -0.9**
ASAR Alice Springs 57.12 178 P **P** **21 01 49.7 +1.0**
comp=Z,3.2nm,0.8s,baz=9.8,slow=13,SNR=57
ASAR pP **pP** **21 02 05.5 +1.2**
comp=Z,1.4nm,0.5s,baz=9.9,slow=13,SNR=5.3
comp=Z,3.2nm,0.8s
KIRV Kirov 58.27 322 LR LR 21 30 19.7
comp=Z,101nm,19.5s,baz=343,slow=39
M26K Nabesna, AK 58.38 33 P **P** **21 01 58.8 +1.6**
GEYT Alibeck 58.71 297 P **P** **21 02 00.1 +0.1**
comp=Z,1.8nm,0.8s,baz=73,slow=9.7,SNR=4.8
GEYT LR LR 21 28 36.4
comp=Z,74nm,20.4s,baz=55,slow=37
comp=Z,1.8nm,0.8s
L27K Beaver Creek, 58.75 32 P **P** **21 02 01.5 +1.7**
L27K IAmb IAmb 21 02 03.2
comp=Z,4.4nm,1.1s
BCAR Beaver Creek A 58.77 32 P **P** **21 02 01.0 +1.0**
G30M tAoh Zraii Nji 60.05 27 P **P** **21 02 09.6 +0.9**
SPITS Spitsbergen Ar 62.21 348 P **P** **21 02 22.2 -1.0**
comp=Z,2.6nm,0.8s,baz=86,slow=5.9,SNR=1.2
comp=Z,2.6nm,0.8s
ARCES ARCESS Array B 64.31 338 P **P** **21 02 36.8 -0.3**
comp=Z,2.1nm,0.7s,baz=7.1,slow=4.9,SNR=9.1
ARCES LR LR 21 36 40.3
comp=Z,30nm,19.5s,baz=0.5,slow=42
comp=Z,2.1nm,0.7s
DZM Mont Dzumac 64.39 145 *e*LR LR 21 22 00.3
comp=Z,144nm,29.1s
STKA Stephens Creek 65.87 171 P **P** **21 02 47.5 0.0**
comp=Z,2.5nm,0.6s,baz=345,slow=6.5,SNR=7.1
comp=Z,2.5nm,0.6s
KBZ Khabaz 67.15 308 P **P** **21 02 55.0 -0.8**
comp=Z,2.7nm,0.8s,baz=63,slow=3.4,SNR=9.0
comp=Z,2.7nm,0.8s
FINES FINESS Array B 68.05 330 P **P** **21 03 00.9 -0.2**
comp=Z,16nm,0.8s,baz=71,slow=6.5,SNR=57
comp=Z,16nm,0.8s
DAG Danmarks Havn 68.25 353 *i* P **P** **21 03 02.5 +0.3**
DAG *e*pP **pP** **21 03 17.9 -0.2**
NEEM North Greenlan 69.05 1 *e*pP pP 21 03 23.9 +0.4
YKA Yellowknife Ar 70.29 27 P **P** **21 03 15.9 +0.9**
comp=Z,0.4nm,0.8s,baz=309,slow=5.5,SNR=6.0
YKA pP **pP** **21 03 31.5 +0.5**
comp=Z,1.0nm,0.9s,baz=306,slow=6.1,SNR=7.5
comp=Z,0.4nm,0.8s
AKASG Malin Array Be 72.07 319 P **P** **21 03 25.4 -0.6**
comp=Z,3.8nm,0.6s,baz=53,slow=6.2,SNR=24
AKASG pP **pP** **21 03 41.9 -0.1**
comp=Z,0.8nm,0.5s,baz=53,slow=6.3,SNR=2.9
comp=Z,3.8nm,0.6s
AKBB Malin Array Si 72.07 319 IAmb IAmb 21 03 26.1
comp=Z,5.5nm,0.7s
KIEV Kiev 72.08 319 P **P** **21 03 25.2 -0.8**
KIEV IAmb IAmb 21 03 26.1
comp=Z,4.9nm,0.7s
HFS Hagfors 73.75 333 P **P** **21 03 35.4 -0.4**
comp=Z,9.1nm,0.7s,baz=69,slow=5.1,SNR=30
HFS LR LR 21 37 54.0
comp=Z,108nm,19.4s,baz=274,slow=37
comp=Z,9.1nm,0.7s
SUMG Summit 73.77 357 *i* pP pP 21 03 53.1 +0.8
NB2 NORSAR Subarra 74.08 334 P **P** **21 03 37.1 -0.6**
comp=Z,14nm,1.0s,baz=50,slow=6.2
NOA NORSAR Array B 74.08 334 P **P** **21 03 37.4 -0.3**
comp=Z,6.4nm,0.8s,baz=48,slow=5.8,SNR=20
comp=Z,6.4nm,0.8s
BRTR Keskin Array B 75.14 308 P **P** **21 03 43.3 -1.1**
BRTR Keskin Array B 75.14 308 P **P** **21 03 43.9 -0.5**
comp=Z,2.3nm,0.9s,baz=96,slow=5.1,SNR=14
BRTR LR LR 21 38 46.3
comp=Z,34nm,19.6s,baz=324,slow=37
comp=Z,2.3nm,0.9s
BUR08 Bucovina Ar. S 75.95 318 P **P** **21 03 48.0 -0.9**
BUR08 IAmb IAmb 21 04 19.1
comp=Z,7.7nm,1.1s
BURAR Bucovina Array 75.96 318 P **P** **21 03 48.3 -0.6**
BURAR IAmb IAmb 21 03 50.0
comp=Z,3.4nm,0.8s
KWP Kalwaria Pacla 76.15 321 P **P** **21 03 49.5 -0.3**
KWP IAmb IAmb 21 03 51.2
comp=Z,8.5nm,0.8s
MLR Muntele Rosu 76.76 316 LR LR 21 41 32.1
comp=Z,102nm,20.5s,baz=13,slow=39
OJC Ojcow 77.30 322 IAmb IAmb 21 03 57.7
comp=Z,7.1nm,0.8s
NEW Newport 77.61 40 LR LR 21 39 47.8
comp=Z,28nm,18.9s,baz=23,slow=37
CLL Collm 79.90 326 *e*P **P** **21 04 11.0 +0.5**
CLL *e*pP **pP** **21 04 29.0 +2.2**
RONA Rosalia, Austr 80.68 322 *i* P **P** **21 04 16.1 +1.2**
comp=Z,2.7nm,0.7s
CONA Conrad Observa 80.75 322 *i* P **P** **21 04 15.7 +0.4**
comp=Z,4.2nm,1.1s
GERES GERESS Array B 81.22 324 P **P** **21 04 16.9 -0.9**
comp=Z,1.3nm,0.7s,baz=338,slow=2.9,SNR=5.0
comp=Z,1.3nm,0.7s
SOKA Soboth 82.00 322 *i* P **P** **21 04 22.1 +0.1**
comp=Z,7.2nm,1.0s
BOZ Bozeman (W) 82.21 39 P **P** **21 04 23.8 +0.6**
LESA Schwarzleotal 82.69 323 *i* P **P** **21 04 25.7 +0.2**
comp=Z,4.9nm,1.0s
MYKA Terra Mystica 82.75 322 *e*P **P** **21 04 25.1 -0.7**
comp=Z,6.3nm,1.3s
NVAR Mina Array Bea 82.90 48 P **P** **21 04 28.9 +2.0**
comp=Z,0.5nm,0.6s,baz=306,slow=5.6,SNR=4.6
comp=Z,0.5nm,0.6s
ABTA Abfaltersbach 83.23 323 *i* P **P** **21 04 28.2 -0.2**
comp=Z,4.8nm,1.0s
WATA Walderalm 83.29 324 *e*PcP **P** **21 04 29.2 +0.5**
comp=Z,8.1nm,1.4s
WTTA Wattenberg 83.31 324 *i* P **P** **21 04 27.8 -1.1**
comp=Z,3.7nm,0.9s
MOTA Moosalm 83.52 324 *i* P **P** **21 04 28.8 -1.1**
comp=Z,4.3nm,0.8s
BFO Black Forest 84.14 326 P **P** **21 04 32.4 -0.5**
DAVA Damuels 84.15 325 *e*P **P** **21 04 33.1 0.0**
comp=Z,6.8nm,0.6s
GMN Gold Mountain 84.24 49 P **P** **21 04 34.4 +0.6**
FUORN Ofenpass-Fuorn 84.44 324 P **P** **21 04 34.6 -0.1**
FUORN IAmb IAmb 21 04 35.8
comp=Z,6.8nm,0.8s
R11B Troy Canyon, C 84.62 47 P **P** **21 04 37.0 +1.3**
R11B IAmb IAmb 21 04 39.3
comp=Z,6.7nm,1.4s
TUE Stuetta 84.99 324 IAmb IAmb 21 04 38.6
comp=Z,4.6nm,0.8s
PDAR Pinedale Array 85.20 41 P **P** **21 04 39.9 +1.3**
comp=Z,0.9nm,0.9s,baz=318,slow=2.0,SNR=5.9
comp=Z,0.9nm,0.9s
PPT2 Papeete2 90.23 111 *e*LR LR 21 33 51.9
comp=Z,78nm,25.8s
KMBO Kilima Mbogo 94.73 272 LR LR 21 52 22.1
comp=Z,32nm,18.1s,baz=88,slow=38

NOU 08 20:54:28.9, 21.71S×168.29E, h0km, MLv2.2/6, Loyalty Islands, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.33	313	P	Pg	20 54 35.4	+0.1
PINNC	Pines Island,	1.19	221	P	Pg	20 54 51.0	-0.8
PINNC	Pines Island,	1.19	221	P	Pg	20 54 50.9	-0.9
YATNC	Mamie plateau,	1.34	255	P	Pg	20 54 53.6	-1.1
YATNC	Mamie plateau,	1.34	255	P	Pg	20 54 52.9	-1.8
LIFNC	LIFOU	1.35	313	P	Pb	20 55 11.0	+16
OUENC	Ouen Island, N	1.52	242	P	Pn	20 54 56.6	-0.7
OUENC	Ouen Island, N	1.52	242	P	Pn	20 54 56.9	-0.4
DZM	Mont Dzumac	1.75	258	P	Pn	20 55 00.0	-0.6
ONTNC	Ouen Toro	1.80	250	P	Pb	20 55 02.3	-0.5
ONTNC	Ouen Toro	1.80	250	P	Pb	20 55 02.2	-0.6
NOUC	Port Laguerre	1.89	258	P	Pn	20 55 03.3	+0.9
NOUC	Port Laguerre	1.89	258	P	Pn	20 55 01.8	-0.6

*JMA **08** 20:59:33.4±0.5, 22.12N×121.8E±0.6, h3km, TAIWAN REGION*
*TAP **08** 20:59:33.6, 22.12N×121.64E, h1km±1km, ML3.1, D*
ISC 08 20:59:33.9±1.3, 22.12N±0.04×121.69E±0.04, h2km±11km, n80, σ0°76/90, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu baz=222	0.15	238	*i* P	Pg	20 59 37.2	+0.2
LAY	baz=222			*i* S	Sg	20 59 39.2	+0.3
LYUB	Lan-yu baz=204	0.15	220	⇓*i* P	Pg	20 59 37.3	+0.4
LYUB	baz=204			*i* S	Sg	20 59 40.0	+1.1
LDUT	Ludao baz=343	0.59	340	*i* P	Pb	20 59 47.4	+0.5
LDUT	baz=343			S	Sb	20 59 56.8	+1.1
TSEB	Hengchuen, Pin baz=253	0.77	253	*e*P	Pn	20 59 50.9	-0.9
TAW	Tawu baz=288	0.77	288	P	Pb	20 59 49.6	-0.5
TAWH	Dawu Township baz=287	0.78	286	P	Pg	20 59 49.0	+0.2
SMST	Manzhou Townsh baz=262	0.80	263	P	Pb	20 59 50.1	-0.4
TTN	Taitung baz=324	0.81	321	*e*P	Pn	20 59 51.8	-0.6
EAST	Anshuo baz=289	0.82	289	P	Pg	20 59 48.3	-1.4
ECL	Taimali baz=306	0.83	305	P	Pg	20 59 49.4	-0.5
HEN	Hengchun baz=262	0.89	263	*e*P	Pg	20 59 49.8	-1.3
TWGBT	Beinan	0.89	321	P	Pb	20 59 51.7	-0.5
TWGBT	Beinan baz=323	0.89	321	P	Pg	20 59 51.3	+0.2
TWG	Pinlang baz=323	0.90	321	P	Pg	20 59 51.4	+0.1
EDH	Donghe baz=339	0.92	337	*e*P	Pg	20 59 51.3	-0.3
LONT	Longtian baz=328	0.94	327	*e*P	Pg	20 59 52.2	+0.2
CHKT	Chengkung baz=345	1.02	343	*i* P	Pb	20 59 53.8	-0.6
CHKT	baz=345			*i* S	Sn	21 00 09.4	-0.8
SCZT	Fangliau baz=284	1.02	284	*e*P	Pg	20 59 52.0	-1.6
ECS	Chishang baz=338	1.06	336	*e*P	Pn	20 59 55.7	-0.2
MASBT	Mashibuluo baz=297	1.09	297	P	Pg	20 59 54.5	-0.4
MASBT	baz=297			*e*S	Sn	21 00 12.3	+0.2
CHKH	Chenggong baz=347	1.10	346	P	Pg	20 59 55.0	-0.1
CHKH				S	Sb	21 00 10.9	+0.4
	baz=347						
EHD	Haiduan baz=338	1.12	336	P	Pb	20 59 55.7	-0.3
EHD	baz=338			*e*S	Sn	21 00 12.1	-0.5
FULB	Fuli baz=343	1.13	341	P	Pg	20 59 55.5	-0.1
FULB	baz=343			*e*S	Sn	21 00 13.0	-0.1
ECBN	Changbin baz=351	1.21	350	*e*P	Pg	20 59 56.1	-1.0
ELDTW	Lidau baz=331	1.23	330	*e*P	Pn	20 59 57.9	-0.4
EYUL	Yuli baz=346	1.27	344	*e*P	Pg	20 59 58.0	-0.2
TWF1	Yuli baz=345	1.28	344	*e*P	Pg	20 59 57.9	-0.5
SLGT	Liugui baz=313	1.30	312	*e*P	Pg	20 59 58.4	-0.4
YULB	Yu-li	1.32	344	P	Pg	20 59 58.8	-0.4
YULB	Yu-li baz=345	1.32	344	P	Pg	20 59 58.8	-0.4
SCST	Cishan baz=305	1.34	305	*e*P	Pn	20 59 59.2	-0.5
STYH	Taoyuan baz=322	1.34	321	*e*P	Pb	21 00 00.3	+0.4
HGSD	Ruisui baz=351	1.39	350	*e*P	Pn	20 59 59.5	-0.9
SGST	Jiashian baz=314	1.40	313	P	Pn	21 00 00.4	-0.2
SGST	baz=314			S	Sn	21 00 21.6	+2.0
EHY	Hungye baz=348	1.42	346	P	Pn	21 00 00.6	-0.2
WTP	Ta-pu baz=319	1.50	319	*e*P	Pg	21 00 02.9	+0.2
CHN1	Nanshi baz=315	1.51	315	P	Pg	21 00 03.0	+0.1
TPUB	Ta-pu	1.53	320	P	Pg	21 00 03.6	+0.3
TPUB	Ta-pu baz=321	1.53	320	*e*P	Pg	21 00 03.2	-0.1
SNST	Tainan City baz=315	1.55	315	*e*P	Pg	21 00 03.4	-0.3
CHN4	Tsaushan baz=321	1.59	321	*e*P	Pg	21 00 04.1	-0.3
TWK	Hsinying baz=317	1.59	316	*e*P	Pb	21 00 03.7	-0.5
ALS	Alishan baz=331	1.61	330	*e*P	Pb	21 00 04.1	-0.5
WARBT	Fenglin Townsh baz=351	1.61	350	*e*P	Pn	21 00 02.6	-0.9
WCKO	Fanlu baz=323	1.65	323	*e*P	Pg	21 00 05.6	0.0
ESL	Shilin baz=353	1.70	352	*e*P	Pb	21 00 05.2	-0.8
VWDT	VWDT baz=344	1.70	343	*e*P	Pb	21 00 05.3	-0.7
SSLB	Suanglung	1.79	338	P	Pb	21 00 07.1	-0.5
SSLB	Suanglung baz=339	1.79	338	*e*P	Pg	21 00 07.8	-0.5
TSCK	Chigu Township baz=305	1.80	305	*e*P	Pn	21 00 06.6	+0.5
ETM	Tongmen baz=355	1.84	354	*e*P	Pn	21 00 05.8	-0.9
OWD	Renai baz=346	1.89	346	*e*P	Pn	21 00 07.8	+0.4
SMLT	Sun Moon Lake baz=338	1.90	338	*e*P	Pb	21 00 09.3	-0.1
LXIB	Xiulin Townshi baz=353	1.91	352	*e*P	Pn	21 00 07.5	-0.2
WJS	Zhushan baz=333	1.91	333	*e*P	Pb	21 00 09.0	-0.5
TYC	Yuchr baz=338	1.93	337	*e*P	Pb	21 00 09.8	-0.1
WUSB	Renai baz=345	1.94	344	*e*P	Pb	21 00 08.8	-1.2
WTK	Tuku baz=323	1.97	323	*e*P	Pn	21 00 08.8	+0.5
CHGB	Renai baz=347	1.99	346	*e*P	Pn	21 00 10.3	-0.7
NACB	Ninganchiao	2.04	358	P	Pn	21 00 09.2	-0.3
NACB	Ninganchiao baz=358	2.04	358	*e*P	Pn	21 00 09.1	-0.3
WHF	Hehuan Shan baz=350	2.05	349	*e*P	Pb	21 00 11.4	-0.8
WCS	Beigang Elemen baz=340	2.06	340	*e*P	Pb	21 00 11.4	-0.6
EOS4	EOS4 baz=17	2.07	16	*e*P	Pn	21 00 09.5	+0.1
ETLH	Xiulin Townshi baz=355	2.08	355	*e*P	Pn	21 00 10.4	+0.4
EOS3	EOS3 baz=16	2.23	15	*e*P	Pn	21 00 12.0	+0.2
ENA	Nanau baz=2.0	2.30	1	*e*P	Pn	21 00 13.6	+0.7
NNS	Nan Shan baz=354	2.33	353	*e*P	Pn	21 00 14.1	+0.7
LATG	Datong baz=357	2.41	356	*e*P	Pn	21 00 15.0	+0.5
NDT	Datong Townshi baz=357	2.48	356	*e*P	Pn	21 00 16.4	+1.0
YHNB	Yeheng	2.55	354	P	Pb	21 00 18.2	-2.4
YHNB	Yeheng baz=354	2.55	354	*e*P	Pn	21 00 17.4	+0.9
NFF	Wufeng Townshi baz=349	2.55	348	*e*P	Pn	21 00 18.2	+1.7
NSK	Sanguang baz=354	2.56	353	*e*P	Pn	21 00 17.8	+1.2
FUSB	Fushanzhiwuyua baz=358	2.63	358	*e*P	Pn	21 00 19.1	+1.6
TIPB	Shuangxi baz=3.0	2.84	2	*e*P	Pn	21 00 22.4	+2.1
JKRS	Kuro-shima	3.00	45	*e*P	Pn	21 00 23.1	+0.6
JIJ	Ishigaki jima	3.17	45	P	Pn	21 00 24.7	-0.2
JISG	Ishigakijimahi	3.44	44	*e*P	Pn	21 00 28.8	+0.3
JISG				*e*S	Sn	21 01 09.5	-0.5
JTJ	Tarama	3.73	47	P	Pn	21 00 33.2	+0.5

*IDC **08** 21:14:38.3±4.5, 5.57S×147.43E, h209km±45km, mb3.3/2, mbtmp4.0/5, Error ellipse: s-maj=79.1km s-min=28.9km az=130.0*
*NEIC **08** 21:14:39.4±0.8, 5.53S±0.08×147.1E±0.1, h198km±13km, mb4.2/11, Error ellipse: s-maj=16.7km s-min=12.1km az=93.0*
ISC 08 21:14:37.6±0.9, 5.44S±0.09×147.1E±0.1, h195km, n29, σ0°99/28, mb4.1/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.38	4	Pn	Pn	21 15 34.7	+3.0
PMG	Port Moresby	3.94	180	Pn	Pn	21 15 39.0	+0.5
PMG	Port Moresby	3.94	180	P	Pn	21 15 39.2	+0.7
PMG	Port Moresby 52nm,0.3s,baz=14,slow=8.3,SNR=48	3.94	180	P	Pn	21 15 39.4	+0.9
PMG	37nm,0.5s,baz=195,slow=23,SNR=8.8			S	Sn	21 16 25.5	-0.9
RABL	Rabaul	5.15	76	Pn	Pn	21 15 55.4	+1.4
COEN	Coen	9.32	205	Pn	Pn	21 16 48.3	+0.1
CTA	Charters Tower 1.3nm,0.4s,baz=13,slow=11,SNR=2.5	14.59	183	P	Pn	21 17 52.6	-2.5
KDU	Kakadu	16.17	243	P	P	21 18 14.2	+0.3
WB0	Warramunga Arr	18.89	220	P	P	21 18 43.5	-0.1
WB0	comp=Z,6.0nm,1.1s			IAmb	IAmb	21 19 06.6	
WR0	Warramunga Arr	18.94	219	P	P	21 18 44.4	+0.3
WR0	comp=Z,6.7nm,0.6s			IAmb	IAmb	21 18 45.3	
WRAB	Tennant Creek	19.04	220	P	P	21 18 45.5	+0.3
WRAB	comp=Z,8.8nm,0.8s			IAmb	IAmb	21 18 49.6	
WB2	Warramunga Arr	19.05	220	P	P	21 18 45.2	-0.1
WB2	comp=Z,8.5nm,0.7s			IAmb	IAmb	21 18 49.8	
WRA	Warramunga Arr	19.05	220	P	P	21 18 44.2	-1.2
WRA	Warramunga Arr comp=Z,2.3nm,0.3s,baz=45,slow=11,SNR=84	19.05	220	P	P	21 18 45.6	+0.3
AS31	Alice Springs	22.16	214	P	P	21 19 18.4	+0.5
AS31	comp=Z,3.3nm,0.4s			IAmb	IAmb	21 19 27.9	
ASAR	Alice Springs	22.16	214	P	P	21 19 18.0	0.0
ASAR	Alice Springs comp=Z,3.9nm,0.8s,baz=44,slow=7.5,SNR=35	22.16	214	P	P	21 19 18.4	+0.5
INKA	Innaminka comp=Z,3.9nm,0.8s	23.00	195	P	P	21 19 26.3	+0.9
SOEI	Soe	23.07	258	P	P	21 19 27.2	+0.8

FITZ	**Fitzroy Crossi**	**24.48 237**	P	**P**	**21 19 39.6**	**+0.5**
FITZ			IAmb	IAmb	21 19 41.4	
	comp=Z,1.8nm,0.3s					
FITZ	**Fitzroy Crossi**	**24.48 237**	P	**P**	**21 19 41.2**	**+2.1**
OOD	**Oodnadatta**	**24.76 205**	P	**P**	**21 19 42.7**	**+1.3**
	comp=Z,15nm,0.9s					
WRKA	**Warakurna**	**26.58 221**	P	**P**	**21 19 57.7**	**-0.3**
TOLI2	**Tolitoli**	**27.12 283**	P	P	21 20 12.1	+9.3
FORT	**Forrest**	**30.94 213**	P	**P**	**21 20 36.3**	**-0.1**
RTZ	**Ruatahuna**	**42.69 145**	P	**P**	**21 22 16.3**	**+0.9**
RTZ			IAmb	IAmb	21 22 42.6	
	comp=Z,7.0nm,1.2s					
CM31	**Chiang Mai Arr**	**53.11 298**	P	**P**	**21 23 36.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**53.11 298**	P	**P**	**21 23 34.9**	**-0.7**
ILAR	**Eielson Array**	**84.91 23**	P	**P**	**21 26 48.9**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=263,slow=5.3,SNR=2.9					
	comp=Z,0.6nm,1.0s					

IDC 08 21:18:03.0±2.0, 9.°60S×128.°40E, h0km, mb3.5/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=258.3km s-min=32.2km az=63.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.77**	**151**	Pn	Pn	21 20 52.0	-0.4
	0.2nm,0.3s,baz=331,slow=12,SNR=2.7						
WRA				Sn	Sn	21 22 56.0	-8.7
	0.2nm,0.3s,baz=330,slow=23,SNR=1.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**14.94**	**160**	Pn	Pn	21 21 36.3	+0.6
	0.1nm,0.3s,baz=333,slow=10.0,SNR=2.2						
ASAR				Sn	Sn	21 24 20.3	-1.9
	0.1nm,0.3s,baz=328,slow=15,SNR=2.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**69.55**	**328**	P	P	21 29 13.8	0.0
	0.2nm,0.4s,baz=119,slow=7.2,SNR=8.6						
	0.2nm,0.4s						

*TAP **08** 21:49:37.0, 25.°12N×122.°28E, h179km, ML3.7, D*
*JMA **08** 21:49:38.3±0.2, 25.°1N±1.°×122.°2E±0.°6, h170km±2km, MV3.3/17, TAIWAN REGION*

ISC 08 21:49:36.8±1.4, 25.°10N±0.°04×122.°19E±0.°03, h181km±6km, n149, σ0°93/273, 15C-23D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.20**	**243**	*i* P	**Pn**	**21 50 00.9**	**+0.2**
	baz=249						
SXI1	**Grass Mountain**	**0.28**	**269**	⇓P	**Pn**	**21 50 01.0**	**0.0**
	baz=266						
SXI1				*e*S	**Sn**	**21 50 22.4**	**+2.8**
	baz=266						
TIPB	**Shuangxi**	**0.35**	**249**	P	**Pn**	**21 50 01.2**	**0.0**
	baz=262						
TIPB				*e*S	**Sn**	**21 50 21.2**	**+1.3**
	baz=262						
NWF	**Wu-fen Shan**	**0.37**	**265**	⇑*i*P	**Pn**	**21 50 01.3**	**+0.1**
	baz=255						
NWF				*e*S	**Sn**	**21 50 22.0**	**+2.0**
	baz=255						
WFSB	**Wu-fen Shan**	**0.37**	**265**	⇓P	**Pn**	**21 50 01.3**	**+0.1**
	baz=265						
NTC	**Toucheng**	**0.41**	**233**	*e*P	**Pn**	**21 50 03.1**	**+1.8**
	baz=231						
ILA	**Ilan**	**0.52**	**230**	*e*P	**Pn**	**21 50 03.0**	**+1.3**
	baz=230						
ILA				*e*S	**Sn**	**21 50 22.5**	**+1.6**
	baz=230						
YM08	**YM08**	**0.55**	**279**	P	**Pn**	**21 50 01.8**	**-0.1**
	baz=276						
YM08				S	**Sn**	**21 50 21.1**	**-0.1**
	baz=276						
TWA	**Mucha**	**0.56**	**258**	*e*P	**Pn**	**21 50 02.6**	**+0.6**
	baz=255						
TWA				S	**Sn**	**21 50 20.6**	**-0.6**
	baz=255						
TWY	**Chenhua**	**0.56**	**288**	⇓P	**Pn**	**21 50 02.0**	**+0.2**
	baz=283						
TWY				*i* S	**Sn**	**21 50 20.7**	**-0.5**
	baz=283						
YM01	**YM01**	**0.56**	**275**	*e*P	**Pn**	**21 50 02.0**	**0.0**
	baz=281						
YM01				*e*S	**Sn**	**21 50 21.9**	**+0.6**
	baz=281						
NHY	**Taipei**	**0.56**	**264**	P	**Pn**	**21 50 02.8**	**+0.9**
	baz=261						
NHY				S	**Sn**	**21 50 21.6**	**+0.4**
	baz=261						
TWC	**Suao**	**0.58**	**212**	P	**Pn**	**21 50 02.1**	**+0.1**
	baz=223						
TWC				*e*S	**Sn**	**21 50 19.6**	**-1.8**
	baz=223						
TWE	**Neicheng**	**0.61**	**231**	*e*P	**Pn**	**21 50 02.3**	**+0.1**
	baz=235						
TWE				S	**Sn**	**21 50 21.9**	**+0.4**
	baz=235						
ANP	**Anpu**	**0.61**	**278**	*i* P	**Pn**	**21 50 02.2**	**0.0**
	baz=271						
ANP				*e*S	**Sn**	**21 50 22.7**	**+0.8**
	baz=271						
NHDH	**Xindian Distri**	**0.62**	**257**	⇑P	**Pn**	**21 50 02.6**	**+0.4**
	baz=257						
NHDH				*i* S	**Sn**	**21 50 21.0**	**-0.6**
	baz=257						
TAP	**Taipei**	**0.62**	**264**	*e*P	**Pn**	**21 50 02.7**	**+0.6**
	baz=263						
TAP				S	**Sn**	**21 50 21.3**	**-0.4**
	baz=263						
NDS	**Dongshan**	**0.63**	**223**	*e*P	**Pn**	**21 50 02.8**	**+0.5**
	baz=228						
NDS				*e*S	**Sn**	**21 50 22.1**	**+0.2**
	baz=228						
FUSB	**Fushanzhiwuyua**	**0.64**	**238**	*e*P	**Pn**	**21 50 02.3**	**-0.1**
	baz=242						
FUSB				*i* S	**Sn**	**21 50 21.6**	**-0.5**
	baz=242						
TATO	**Taipei**	**0.65**	**259**	P	**Pn**	**21 50 02.7**	**+0.4**
NTST	**Danshui**	**0.67**	**275**	*e*P	**Pn**	**21 50 03.2**	**+0.8**
	baz=273						
NTST				S	**Sn**	**21 50 22.4**	**+0.3**
	baz=273						
EOS2	**EOS2**	**0.68**	**177**	*e*P	**Pn**	**21 50 03.0**	**+0.7**
	baz=198						
EOS2				*e*S	**Sn**	**21 50 21.7**	**-0.5**
	baz=198						
TWS1	**Kuangyinshan**	**0.70**	**270**	*e*P	**Pn**	**21 50 02.7**	**+0.1**
	baz=268						
TWS1				S	**Sn**	**21 50 22.5**	**+0.1**
	baz=268						
NWLT	**Wulai**	**0.70**	**243**	*i* P	**Pn**	**21 50 02.6**	**-0.1**
	baz=245						
NWLT				S	**Sn**	**21 50 21.1**	**-1.5**
	baz=245						
ENTT	**Nioudou**	**0.73**	**231**	*e*P	**Pn**	**21 50 03.2**	**+0.4**
	baz=235						
ENTT				*e*S	**Sn**	**21 50 20.8**	**-2.0**
	baz=235						
EWUT	**Wuta**	**0.75**	**210**	*e*P	**Pn**	**21 50 03.4**	**+0.4**
	baz=216						
EWUT				S	**Sn**	**21 50 22.1**	**-1.0**
	baz=216						
ENA	**Nanau**	**0.78**	**211**	*i* P	**Pn**	**21 50 03.6**	**+0.5**
	baz=220						
ENA				S	**Sn**	**21 50 22.5**	**-0.9**
	baz=220						
NDT	**Datong Townshi**	**0.79**	**231**	*i* P	**Pn**	**21 50 03.5**	**+0.3**
	baz=244						
NDT				*e*S	**Sn**	**21 50 22.2**	**-1.3**
	baz=244						
NTY	**Taoyuan**	**0.81**	**263**	P	**Pn**	**21 50 03.2**	**0.0**
	baz=266						
NTY				S	**Sn**	**21 50 23.1**	**-0.6**
	baz=266						
EOS3	**EOS3**	**0.82**	**172**	⇑*e*P	**Pn**	**21 50 04.1**	**+1.0**
	baz=188						
EOS3				*e*S	**Sn**	**21 50 23.5**	**-0.1**
	baz=188						
LATG	**Datong**	**0.82**	**227**	*e*P	**Pn**	**21 50 04.0**	**+0.5**
	baz=239						
LATG				S	**Sn**	**21 50 23.9**	**-0.2**
	baz=239						
YHNB	**Yeheng**	**0.85**	**240**	P	**Pn**	**21 50 03.6**	**0.0**
YHNB	**Yeheng**	**0.85**	**240**	*e*P	**Pn**	**21 50 03.6**	**0.0**
	baz=234						
YHNB				S	**Sn**	**21 50 22.4**	**-1.9**
	baz=234						
NSK	**Sanguang**	**0.86**	**241**	⇑P	**Pn**	**21 50 03.7**	**0.0**
	baz=236						
NSK				S	**Sn**	**21 50 22.8**	**-1.7**
	baz=236						
EAHA	**Aohua**	**0.87**	**208**	*i* P	**Pn**	**21 50 04.0**	**+0.4**
	baz=218						
EAHA				S	**Sn**	**21 50 23.8**	**-0.7**
	baz=218						
NCU	**National Centr**	**0.92**	**262**	⇓*e*P	**Pn**	**21 50 04.4**	**+0.4**
	baz=268						
NCU				*e*S	**Sn**	**21 50 23.9**	**-1.0**
	baz=268						
NCUH	**Zhongli**	**0.92**	**262**	⇓*e*P	**Pn**	**21 50 04.3**	**+0.3**
	baz=267						
NCUH				*e*S	**Sn**	**21 50 23.9**	**-1.0**
	baz=267						
JYNG	**Yonagunijimaku**	**0.94**	**133**	*e*P	**Pn**	**21 50 04.5**	**+0.3**
JYNG				*e*S	**Sn**	**21 50 24.1**	**-1.2**
YOJ	**Yonaguni jima**	**0.98**	**130**	*e*P	**Pn**	**21 50 04.8**	**+0.3**
EOS4	**EOS4**	**0.98**	**173**	*e*P	**Pn**	**21 50 04.5**	**+0.5**
	baz=180						
EOS4				*e*S	**Sn**	**21 50 24.7**	**-0.5**
	baz=180						
NNS	**Nan Shan**	**0.99**	**229**	P	**Pn**	**21 50 05.1**	**+0.4**
	baz=232						
NNS				*i* S	**Sn**	**21 50 25.5**	**-0.6**
	baz=232						
NNSB	**Datong**	**0.99**	**228**	P	**Pn**	**21 50 05.1**	**+0.4**
	baz=231						
NNSB				S	**Sn**	**21 50 25.3**	**-0.9**
	baz=231						
NNSH	**Datong**	**0.99**	**228**	P	**Pn**	**21 50 05.0**	**+0.3**
	baz=236						
NNSH				S	**Sn**	**21 50 25.7**	**-0.4**
	baz=236						
NHW	**Xinwu Township**	**1.04**	**265**	*e*P	**Pn**	**21 50 05.5**	**+0.6**
	baz=266						
NHW				S	**Sn**	**21 50 26.4**	**0.0**
	baz=266						
NJD	**Zhudong**	**1.06**	**250**	*e*P	**Pn**	**21 50 05.5**	**+0.5**
	baz=251						
NJD				*e*S	**Sn**	**21 50 25.9**	**-0.9**
	baz=251						
ETL	**Fush Village**	**1.07**	**209**	*i* P	**Pn**	**21 50 05.2**	**0.0**
	baz=214						
ETL				*i* S	**Sn**	**21 50 25.9**	**-1.2**
	baz=214						
NACB	**Ninganchiao**	**1.07**	**210**	P	**Pn**	**21 50 04.9**	**-0.2**
NACB	**Ninganchiao**	**1.07**	**210**	⇓P	**Pn**	**21 50 04.9**	**-0.2**
	baz=215						
NACB				S	**Sn**	**21 50 25.4**	**-1.6**
	baz=215						
NFF	**Wufeng Townshi**	**1.08**	**245**	*e*P	**Pn**	**21 50 05.2**	**0.0**
	baz=241						
NFF				S	**Sn**	**21 50 25.4**	**-1.8**
	baz=241						
ETLH	**Xiulin Townshi**	**1.10**	**216**	⇑P	**Pn**	**21 50 05.6**	**+0.2**
	baz=213						
ETLH				S	**Sn**	**21 50 26.0**	**-1.5**
	baz=213						
HSN1	**Hsinchu**	**1.11**	**253**	P	**Pn**	**21 50 06.0**	**+0.7**
	baz=253						
HSN1				S	**Sn**	**21 50 26.9**	**-0.5**
	baz=253						
SBCB	**Hsinchu**	**1.13**	**254**	*e*P	**Pn**	**21 50 06.1**	**+0.5**
	baz=250						
SBCB				*e*S	**Sn**	**21 50 27.7**	**-0.1**
	baz=250						
HSN	**Hsinchu**	**1.15**	**255**	*i* P	**Pn**	**21 50 05.8**	**+0.1**
	baz=250						
HSN				*e*S	**Sn**	**21 50 27.0**	**-0.9**
	baz=250						
TWD	**Chiawan**	**1.15**	**208**	⇑P	**Pn**	**21 50 05.8**	**+0.1**
	baz=219						
TWD				S	**Sn**	**21 50 26.9**	**-1.2**
	baz=219						
LIOB	**Emei**	**1.16**	**247**	*i* P	**Pn**	**21 50 06.2**	**+0.4**
	baz=252						
LIOB				S	**Sn**	**21 50 27.1**	**-1.1**
	baz=252						
NSTT	**Nanjuang**	**1.18**	**247**	⇓P	**Pn**	**21 50 06.2**	**+0.2**
	baz=243						
NSTT				S	**Sn**	**21 50 27.2**	**-1.2**
	baz=243						
FUSS	**Fushou**	**1.21**	**225**	⇓P	**Pn**	**21 50 07.3**	**+0.8**
	baz=233						
FUSS				*e*S	**Sn**	**21 50 28.9**	**-0.5**
	baz=233						
HWA	**Hwalien**	**1.24**	**205**	P	**Pn**	**21 50 06.7**	**+0.3**
	baz=210						
HWA				*e*S	**Sn**	**21 50 29.5**	**+0.1**
	baz=210						
TWT	**Tachien**	**1.25**	**228**	*i* P	**Pn**	**21 50 08.0**	**+1.2**
	baz=236						
TWT				S	**Sn**	**21 50 30.0**	**+0.1**
	baz=236						
TDCB	**Techi**	**1.26**	**228**	*e*P	**Pn**	**21 50 07.9**	**+1.0**
	baz=236						
TDCB				S	**Sn**	**21 50 30.0**	**0.0**
	baz=236						
WHF	**Hehuan Shan**	**1.27**	**222**	⇓P	**Pn**	**21 50 08.2**	**+1.0**
	baz=219						
WHF				S	**Sn**	**21 50 29.9**	**-0.8**
	baz=219						
LXIB	**Xiulin Townshi**	**1.29**	**213**	⇓*i*P	**Pn**	**21 50 06.8**	**-0.3**
	baz=213						
LXIB				S	**Sn**	**21 50 29.8**	**-0.7**
	baz=213						
ETM	**Tongmen**	**1.30**	**209**	⇓P	**Pn**	**21 50 06.7**	**-0.3**
	baz=214						
ETM				S	**Sn**	**21 50 27.4**	**-2.9**
	baz=214						
CHGB	**Renai**	**1.39**	**222**	*e*P	**Pn**	**21 50 09.3**	**+1.3**
	baz=220						
CHGB				*e*S	**Sn**	**21 50 31.7**	**-0.5**
	baz=220						
WHP	**Taichung City**	**1.40**	**234**	⇓P	**Pn**	**21 50 08.9**	**+0.9**
	baz=236						
WHP				*e*S	**Sn**	**21 50 31.2**	**-0.8**
	baz=236						
SHUL	**Shoufeng**	**1.43**	**204**	⇓P	**Pn**	**21 50 08.6**	**+0.5**
	baz=212						
SHUL				*e*S	**Sn**	**21 50 32.3**	**-0.1**
	baz=212						
ESL	**Shilin**	**1.46**	**208**	⇑P	**Pn**	**21 50 08.0**	**-0.5**
	baz=215						
ESL				S	**Sn**	**21 50 29.4**	**-3.5**
	baz=215						
NSY	**Sanyi**	**1.47**	**243**	⇓P	**Pn**	**21 50 09.3**	**+0.8**
	baz=243						
NSY				S	**Sn**	**21 50 33.3**	**+0.2**
	baz=243						
OWD	**Renai**	**1.47**	**219**	⇑P	**Pn**	**21 50 09.6**	**+1.0**
	baz=220						
OWD				S	**Sn**	**21 50 32.6**	**-0.7**
	baz=220						
WUSB	**Renai**	**1.47**	**222**	*e*P	**Pn**	**21 50 09.9**	**+1.2**
	baz=220						
WUSB				S	**Sn**	**21 50 33.3**	**-0.1**
	baz=220						
TWQ1	**Liyutan**	**1.49**	**240**	⇑P	**Pn**	**21 50 09.2**	**+0.5**
	baz=235						
TWQ1				S	**Sn**	**21 50 32.5**	**-1.0**
	baz=235						
TEGC	**Jichi Village**	**1.51**	**203**	P	**Pn**	**21 50 08.7**	**-0.2**
	baz=215						
TEGC				*e*S	**Sn**	**21 50 34.6**	**+0.8**
	baz=215						
WARBT	**Fenglin Townsh**	**1.56**	**208**	⇓P	**Pn**	**21 50 08.7**	**-0.8**
	baz=212						
WARBT				*e*S	**Sn**	**21 50 33.0**	**-1.7**
	baz=212						
WCS	**Beigang Elemen**	**1.56**	**228**	⇓*i*P	**Pn**	**21 50 10.1**	**+0.7**
	baz=235						
WCS				*e*S	**Sn**	**21 50 33.6**	**-1.0**
	baz=235						
WPL	**Puli Township**	**1.56**	**226**	*e*P	**Pn**	**21 50 10.4**	**+1.0**
	baz=229						
WPL				*i* S	**Sn**	**21 50 34.5**	**-0.2**
	baz=229						
DPDB	**Guoxing**	**1.57**	**227**	⇓P	**Pn**	**21 50 10.3**	**+0.8**
	baz=234						
DPDB				S	**Sn**	**21 50 34.4**	**-0.4**
	baz=234						
EGFH	**Guangfu**	**1.59**	**206**	P	**Pn**	**21 50 09.4**	**-0.2**
	baz=210						
EGFH				*e*S	**Sn**	**21 50 33.9**	**-1.3**
	baz=210						
WDJ	**Dajia District**	**1.59**	**242**	S	**Sn**	**21 50 34.5**	**-0.7**
	baz=238						
IRIF	**Iriomote-Funau**	**1.60**	**118**	P	**Pn**	**21 50 10.0**	**+0.3**
IRIF				*e*S	**Sn**	**21 50 34.3**	**-0.9**
VWDT	**VWDT**	**1.65**	**216**	⇑*e*P	**Pn**	**21 50 11.7**	**+1.4**
	baz=217						
VWDT				*e*S	**Sn**	**21 50 37.6**	**+1.5**
	baz=217						
TCU	**Taichung**	**1.67**	**236**	*e*P	**Pn**	**21 50 11.5**	**+1.0**
	baz=237						
TCU				*e*S	**Sn**	**21 50 36.2**	**-0.3**
	baz=237						
SMLT	**Sun Moon Lake**	**1.69**	**224**	*i* P	**Pn**	**21 50 11.7**	**+0.9**
	baz=227						
SMLT				S	**Sn**	**21 50 37.6**	**+0.5**
	baz=227						
TYC	**Yuchr**	**1.70**	**226**	⇑P	**Pn**	**21 50 11.5**	**+0.7**
	baz=221						
TYC				S	**Sn**	**21 50 37.0**	**-0.1**
	baz=221						
WWF	**Wufeng**	**1.72**	**232**	*e*P	**Pn**	**21 50 11.5**	**+0.6**
	baz=234						
WWF				*e*S	**Sn**	**21 50 37.7**	**+0.3**
	baz=234						
SSLB	**Suanglung**	**1.73**	**221**	P	**Pn**	**21 50 11.8**	**+0.7**
SSLB	**Suanglung**	**1.73**	**221**	⇑P	**Pn**	**21 50 11.8**	**+0.7**
	baz=224						
SSLB				S	**Sn**	**21 50 37.1**	**-0.5**
	baz=224						
HGSD	**Ruisui**	**1.75**	**204**	*e*P	**Pn**	**21 50 12.0**	**+0.7**
	baz=213						
HGSD				*e*S	**Sn**	**21 50 37.7**	**-0.3**
	baz=213						
EHY	**Hungye**	**1.77**	**207**	*e*P	**Pn**	**21 50 11.2**	**-0.3**
	baz=210						
EHY				*e*S	**Sn**	**21 50 36.3**	**-2.2**
	baz=210						
WCHH	**Zhanghua**	**1.80**	**236**	P	**Pn**	**21 50 12.3**	**+0.5**
	baz=237						
WCHH				S	**Sn**	**21 50 39.0**	**+0.1**
	baz=237						
HATJ	**Hateruma jima**	**1.80**	**125**	S	**Sn**	**21 50 38.1**	**-0.8**
WNT	**Mingjian**	**1.83**	**229**	⇑*i*P	**Pn**	**21 50 13.1**	**+0.9**
	baz=236						
WNT				*i* S	**Sn**	**21 50 39.6**	**+0.1**
	baz=236						
WJS	**Zhushan**	**1.84**	**227**	P	**Pn**	**21 50 12.9**	**+0.7**
	baz=235						
WJS				S	**Sn**	**21 50 39.7**	**0.0**
	baz=235						
WYL	**Yuanlin Townsh**	**1.85**	**233**	*e*P	**Pn**	**21 50 13.7**	**+1.3**
	baz=238						
WYL				*e*S	**Sn**	**21 50 40.3**	**+0.4**
	baz=238						
WHYT	**Xinyi Township**	**1.85**	**221**	⇓P	**Pn**	**21 50 13.1**	**+0.7**
	baz=224						
WHYT				S	**Sn**	**21 50 40.0**	**-0.1**
	baz=224						
JKRS	**Kuro-shima**	**1.87**	**117**	P	**Pn**	**21 50 13.3**	**+0.9**
JKRS				*e*S	**Sn**	**21 50 39.7**	**-0.4**
YULB	**Yu-li**	**1.89**	**206**	P	**Pn**	**21 50 12.2**	**-0.5**
YULB	**Yu-li**	**1.89**	**206**	*e*P	**Pn**	**21 50 12.3**	**-0.5**
	baz=211						
ECBN	**Changbin**	**1.90**	**201**	*e*P	**Pn**	**21 50 13.3**	**+0.4**
	baz=211						
ECBN				*e*S	**Sn**	**21 50 38.5**	**-2.4**
	baz=211						
EYUL	**Yuli**	**1.92**	**205**	*e*P	**Pn**	**21 50 14.7**	**+1.6**
	baz=213						
TWF1	**Yuli**	**1.92**	**205**	*e*P	**Pn**	**21 50 12.8**	**-0.3**
	baz=212						
TWF1				*e*S	**Sn**	**21 50 40.2**	**-1.1**
	baz=212						
JIJ	**Ishigaki jima**	**1.92**	**112**	P	**Pn**	**21 50 13.5**	**+0.4**
JIJ				S	**Sn**	**21 50 39.1**	**-2.1**
JISG	**Ishigakijimahi**	**2.00**	**104**	P	**Pn**	**21 50 14.3**	**+0.5**
JISG				*e*S	**Sn**	**21 50 41.3**	**-1.2**
ALS	**Alishan**	**2.02**	**219**	⇓*i*P	**Pn**	**21 50 15.2**	**+0.7**
	baz=227						
ALS				*e*S	**Sn**	**21 50 44.3**	**+0.6**
	baz=227						
CHKH	**Chenggong**	**2.04**	**201**	*e*P	**Pn**	**21 50 14.8**	**+0.5**
	baz=210						
CHKH				*e*S	**Sn**	**21 50 43.6**	**+0.2**
	baz=210						
CHN5	**Tsauling**	**2.04**	**223**	⇓P	**Pn**	**21 50 15.1**	**+0.7**
	baz=225						
CHN5				S	**Sn**	**21 50 43.4**	**-0.2**
	baz=225						
WRL	**Guolierlin Hig**	**2.04**	**234**	⇑P	**Pn**	**21 50 14.5**	**+0.2**
	baz=231						
WRL				S	**Sn**	**21 50 42.2**	**-1.2**
	baz=231						
WGK	**Gukeng**	**2.05**	**227**	P	**Pn**	**21 50 15.4**	**+1.0**
	baz=234						
WGK				S	**Sn**	**21 50 43.9**	**+0.3**
	baz=234						
RLNB	**Erlin**	**2.06**	**234**	*e*P	**Pn**	**21 50 14.8**	**+0.3**
	baz=231						
RLNB				*e*S	**Sn**	**21 50 44.0**	**+0.2**
	baz=231						
WDLH	**Douliu**	**2.06**	**227**	⇑P	**Pn**	**21 50 15.2**	**+0.6**
	baz=234						
WDLH				S	**Sn**	**21 50 43.8**	**-0.1**
	baz=234						
FULB	**Fuli**	**2.06**	**204**	P	**Pn**	**21 50 14.8**	**+0.2**
	baz=212						
FULB				*e*S	**Sn**	**21 50 45.3**	**+1.2**
	baz=212						
CHKT	**Chengkung**	**2.13**	**201**	*e*P	**Pn**	**21 50 16.6**	**+1.3**
	baz=210						
CHKT				*e*S	**Sn**	**21 50 45.6**	**+0.3**
	baz=210						
EHD	**Haiduan**	**2.14**	**205**	*e*P	**Pn**	**21 50 14.5**	**-1.0**
	baz=211						
WTK	**Tuku**	**2.16**	**230**	⇓*i*P	**Pn**	**21 50 16.2**	**+0.5**
	baz=230						
WTK				*i* S	**Sn**	**21 50 45.3**	**-0.6**
	baz=230						
ELDTW	**Lidau**	**2.18**	**210**	*i* P	**Pn**	**21 50 16.5**	**+0.4**
	baz=210						
ELDTW				*e*S	**Sn**	**21 50 45.9**	**-0.7**
	baz=210						
ECS	**Chishang**	**2.19**	**204**	*e*P	**Pn**	**21 50 18.4**	**+2.4**
	baz=210						
WCKO	**Fanlu**	**2.20**	**221**	P	**Pn**	**21 50 16.6**	**+0.5**
	baz=218						
WCKO				S	**Sn**	**21 50 46.6**	**-0.1**
	baz=218						
CHY	**Chiayi**	**2.27**	**226**	*e*P	**Pn**	**21 50 17.6**	**+0.8**
	baz=224						
CHY				*e*S	**Sn**	**21 50 47.7**	**-0.3**
	baz=224						
EDH	**Donghe**	**2.27**	**201**	*e*P	**Pn**	**21 50 15.4**	**-1.5**
	baz=208						
EDH				*e*S	**Sn**	**21 50 46.6**	**-1.5**
	baz=208						
CHN4	**Tsaushan**	**2.27**	**220**	*e*P	**Pn**	**21 50 17.8**	**+0.9**
	baz=223						
CHN4				*e*S	**Sn**	**21 50 48.1**	**0.0**
	baz=223						
MATB	**Ma-tsu**	**2.28**	**298**	*e*P	**Pn**	**21 50 17.0**	**0.0**
	baz=295						
TPUB	**Ta-pu**	**2.29**	**219**	P	Pb	21 50 17.8	0.0
TPUB	**Ta-pu**	**2.29**	**219**	⇓P	**Pn**	**21 50 17.7**	**+0.6**
	baz=221						
TPUB				*e*S	**Sn**	**21 50 48.0**	**-0.5**
	baz=221						
STYH	**Taoyuan**	**2.32**	**214**	P	**Pn**	**21 50 18.4**	**+1.0**
	baz=223						
STYH				S	**Sn**	**21 50 49.1**	**+0.2**
	baz=223						
JTJ	**Tarama**	**2.33**	**101**	P	**Pn**	**21 50 18.4**	**+0.9**
JTJ				S	**Sn**	**21 50 48.1**	**-1.0**
WTP	**Ta-pu**	**2.34**	**218**	P	**Pn**	**21 50 18.4**	**+0.7**
	baz=221						
WTP				S	**Sn**	**21 50 48.6**	**-1.0**
	baz=221						
LONT	**Longtian**	**2.39**	**204**	P	**Pn**	**21 50 17.6**	**-0.7**
	baz=206						
LONT				*e*S	**Sn**	**21 50 49.2**	**-1.3**
	baz=206						
TWK	**Hsinying**	**2.40**	**221**	P	**Pn**	**21 50 19.7**	**+1.3**
	baz=218						
TWK				S	**Sn**	**21 50 50.6**	**-0.1**
	baz=218						
CHN1	**Nanshi**	**2.44**	**219**	P	**Pn**	**21 50 20.0**	**+1.2**
	baz=222						

CHN1				S		Sn	21 50 51.3	-0.3
	baz=222							
ICHU	**Yijhu**	**2.46**	**226**	S		Sn	21 50 51.8	0.0
	baz=223							
SGST	**Jiashian**	**2.49**	**216**	⇓P		Pn	21 50 19.6	+0.2
	baz=223							
SGST				*e*S		Sn	21 50 51.5	-1.0
	baz=223							
TWG	**Pinlang**	**2.49**	**204**	P		Pn	21 50 19.0	-0.4
	baz=206							
TWG				S		Sn	21 50 50.9	-1.7
	baz=206							
TWGBT	**Beinan**	**2.49**	**204**	*e*P		Pn	21 50 19.4	-0.1
	baz=206							
TWGBT				*e*S		Sn	21 50 50.7	-1.9
	baz=206							
SLGT	**Liugui**	**2.53**	**214**	P		Pn	21 50 20.8	+0.9
	baz=213							
SLGT				S		Sn	21 50 53.6	+0.2
	baz=213							
XPSS	**Dashiqiu**	**2.56**	**316**	*e*P		Pn	21 50 20.2	+0.1
	baz=314							
XPSS				*e*S		Sn	21 50 52.3	-1.7
	baz=314							
LYJJ	**Jianjiangzhen**	**2.62**	**304**	*e*P		Pn	21 50 21.0	+0.2
	baz=302							
LYJJ				*e*S		Sn	21 50 53.9	-1.3
	baz=302							
SCST	**Cishan**	**2.70**	**215**	P		Pn	21 50 23.4	+1.6
	baz=212							
SCST				*e*S		Sn	21 50 58.8	+1.9
	baz=212							
JIRB	**Irabujima**	**2.72**	**95**	P		Pn	21 50 23.4	+1.3
JIRB				*e*S		Sn	21 50 56.4	-1.0
ECL	**Taimali**	**2.74**	**205**	*e*P		Pn	21 50 24.3	+2.0
	baz=210							
SSD	**Sandimen**	**2.74**	**212**	*e*P		Pn	21 50 23.2	+0.8
	baz=217							
MASBT	**Mashibuluo**	**2.86**	**210**	*e*P		Pn	21 50 24.8	+1.0
	baz=214							
MASBT				*e*S		Sn	21 50 59.5	-0.9
	baz=214							
PHUB	**P'eng-hu**	**2.86**	**237**	*e*P		Pn	21 50 24.2	+0.4
	baz=232							
PHUB				*e*S		Sn	21 50 59.3	-1.1
	baz=232							
JMJ2	**Miyako jima3**	**2.87**	**97**	P		Pn	21 50 25.3	+1.4
JMJ2				*e*S		Sn	21 51 00.1	-0.5
JOGS	**Gusukube**	**2.94**	**96**	P		Pn	21 50 26.3	+1.6
EAST	**Anshuo**	**2.97**	**205**	*e*P		Pn	21 50 26.8	+1.6
	baz=216							
EAST				*e*S		Sn	21 51 00.7	-2.3
	baz=216							
MHZQ	**Yeshan**	**3.02**	**290**	*e*P		Pn	21 50 26.0	+0.4
	baz=288							
MHZQ				*e*S		Sn	21 51 02.3	-1.4
	baz=288							
SCZT	**Fangliau**	**3.07**	**208**	*e*P		Pn	21 50 27.3	+0.9
	baz=219							
KNMB	**Chin-men Tao**	**3.51**	**260**	*e*P		Pn	21 50 32.0	+0.3
	baz=259							
KNMB				*e*S		Sn	21 51 14.2	-0.4
	baz=259							
AXDP	**Jialang**	**3.83**	**268**	*e*P		Pn	21 50 36.7	+0.9
	baz=268							
DSXP	**Dongshan**	**4.56**	**253**	*e*P		Pn	21 50 45.6	+0.6
	baz=254							

TAP 08 21:50:06.7, 22°.74N×120°.61E, h19km, ML0.6, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.02**	**78**	*e*P	Pg	21 50 10.3	+0.2
	baz=86						
SSD				*e*S	Sg	21 50 13.1	+0.8
	baz=86						
TSMG	**Majia**	**0.05**	**140**	*i* P	Pg	21 50 10.4	+0.3
	baz=141						
SGLT	**Jiouru**	**0.11**	**261**	*e*P	Pg	21 50 11.4	+0.8
	baz=260						
SGLT				*i* S	Sg	21 50 15.1	+1.8
	baz=260						
TSPT	**Pingtung City**	**0.12**	**239**	*e*P	Pg	21 50 11.8	+1.0
	baz=239						
TSPT				*e*S	Sg	21 50 16.2	+2.7
	baz=239						
MASBT	**Mashibuluo**	**0.13**	**172**	⇑*e*P	Pg	21 50 11.6	+0.7
	baz=164						
MASBT				S	Sg	21 50 14.4	+0.8
	baz=164						

*IDC **08** 21:55:14.7±3.5, 36°.09N×71°.06E, h62km±30km, mb3.7/11, mbtmp4.0/17, ML3.7/6, MS4.4/1, Error ellipse: s-maj=25.5km s-min=18.8km az=11.0*
*NEIC **08** 21:55:20.6±2.5, 36°.46N±0°.06×71°.12E±0°.09, h107km±8km, mb4.0/20, Error ellipse: s-maj=10.3km s-min=8.6km az=87.0*
*NNC **08** 21:55:21.2±3.4, 36°.96N×70°.77E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=27.2km s-min=20.2km az=159.0*
ISC 08 21:55:18.5±0.5, 36°.37N±0°.05×71°.07E±0°.05, h100km, n87, σ2s08/105, mb4.1/17, 6C-5b, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.46**	**223**	Pn	**Pn**	**21 56 01.1**	**+3.7**
SIMJ	**Simiganj**	**2.81**	**325**	Pn	**Pn**	**21 56 02.8**	**+0.9**
NIL	**Nilore**	**3.26**	**146**	Pn	**Pn**	**21 56 11.4**	**+3.7**
BTK	**Batken**	**3.68**	**357**	Pn	**Pn**	**21 56 15.6**	**+2.1**
KSH	**Kashi**	**4.99**	**50**	Pn	**Pn**	**21 56 29.1**	**-2.1**
KSH				Sn	Sn	21 57 17.0	-11
KSH				pmax	pmax		
	comp=Z,53nm,0.6s						
KSH				smax	smax		
	comp=N,180nm,0.5s						
KSH				smax	smax		
	comp=E,100nm,0.4s						
ARSB	**Arslanbob**	**5.16**	**16**		**Pn**	**21 56 34.2**	**+0.7**
DHRM	**DHARAMSHALA**	**5.97**	**132**	*e*P	**Pn**	**21 56 46.4**	**+1.8**
DHRM				*e*S	**Sn**	**21 57 50.0**	**-1.7**
DHRM				IAML		21 57 54.8	
	comp=E,137nm,0.2s						
DHRM				IAML		21 57 55.2	
	comp=N,139nm,0.1s						
AML	**Almayashu**	**6.10**	**19**	P	**Pn**	**21 56 47.3**	**+0.9**
	SNR=50						
AML	**Almayashu**	**6.10**	**19**	⇓P	**Pn**	**21 56 47.0**	**+0.6**
	comp=N,2.3nm,0.6s						
AML				⇑S	**Sn**	**21 57 53.9**	**-1.1**
	comp=N,21nm,0.7s						
NRN	**Naryn**	**6.35**	**36**	Pn	**Pn**	**21 56 49.9**	**0.0**
UCH	**Uchtor**	**6.43**	**24**	P	**Pn**	**21 56 51.9**	**+0.9**
	SNR=17						
KZA	**Kyzart**	**6.56**	**28**	P	**Pn**	**21 56 53.4**	**+0.7**
	SNR=13						
EKS2	**Erkin-Say**	**6.62**	**18**	P	**Pn**	**21 56 54.7**	**+1.4**
	SNR=12						
BHK	**Bhakra**	**6.65**	**136**	*e*S	**Sn**	**21 58 06.9**	**-1.1**
KK31	**Karatay Array**	**6.74**	**357**	⇓P	**Pn**	**21 56 55.3**	**+0.5**
	comp=N,8.2nm,0.3s,baz=176,slow=12,SNR=140						
KK31				⇑S	**Sn**	**21 58 06.5**	**-3.4**
	comp=N,7.4nm,0.5s,baz=186,slow=25,SNR=4.8						
KK31	**Karatay Array**	**6.74**	**357**	Pn	**Pn**	**21 56 55.4**	**+0.7**
KKAR	**Karatay Array**	**6.74**	**357**		**Pn**	**21 56 55.3**	**+0.6**
KKAR	**Karatay Array**	**6.74**	**357**	Pn	**Pn**	**21 56 55.4**	**+0.6**
AAK	**Ala-Archa**	**6.79**	**22**	P	**Pn**	**21 56 57.0**	**+1.3**
	SNR=23						
AAK	**Ala-Archa**	**6.79**	**22**	Pn	**Pn**	**21 56 56.5**	**+0.8**
AAK	**Ala-Archa**	**6.79**	**22**	P	**Pn**	**21 56 57.1**	**+1.4**
	comp=N,5.9nm,0.3s,baz=176,slow=6.3,SNR=100						
AAK				S	**Sn**	**21 58 08.8**	**-2.8**
	comp=N,14nm,0.6s,baz=166,slow=22,SNR=8.9 comp=N,16nm,0.3s						
KBK	**Karagaybulak**	**6.95**	**24**	P	**Pn**	**21 56 59.5**	**+1.6**
	SNR=8.5						
FRU1	**Bishkek**	**6.99**	**22**	Pn	**Pn**	**21 56 58.5**	**+0.2**
ULHL	**Ulahol**	**7.10**	**33**	P	**Pn**	**21 57 00.7**	**+0.8**
	SNR=6.4						
CHMS	**Chumysh**	**7.20**	**22**	P	**Pn**	**21 57 02.6**	**+1.5**
	SNR=17						
CHMS	**Chumysh**	**7.20**	**22**	⇑P	**Pn**	**21 57 01.8**	**+0.7**
	comp=N,14nm,0.6s						
CHMS				⇑S	**Sn**	**21 58 18.8**	**-2.4**
	comp=N,13nm,0.6s						
SMLA	**Simla**	**7.29**	**134**	*e*P	**Pn**	**21 57 03.0**	**+0.7**
SMLA				*e*S	**Sn**	**21 58 21.2**	**-2.3**
SMLA				IAML		21 58 27.1	
	comp=E,58nm,0.2s						
SMLA				IAML		21 58 27.4	
	comp=N,37nm,0.7s						
USP	**Ospenovka**	**7.37**	**20**	P	**Pn**	**21 57 04.5**	**+1.1**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.41**	**27**	P	**Pn**	**21 57 05.5**	**+1.4**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.41**	**27**	⇓P	**Pn**	**21 57 04.9**	**+0.8**
	comp=N,7.9nm,0.6s						
TKM2				⇑S	**Sn**	**21 58 26.6**	**-0.1**
	comp=N,8.4nm,1.0s						
HRA	**Herat**	**7.47**	**257**	Pn	**Pn**	**21 57 08.1**	**+3.1**
TARG	**Taragay, Kyrgy**	**7.49**	**42**	Pn	**Pn**	**21 57 04.7**	**-0.6**
PRZ	**Przheval'sk**	**8.33**	**41**	Pn	**Pn**	**21 57 18.2**	**+1.6**
KHET	**Khetri**	**9.20**	**153**	*e*P	**Pn**	**21 57 27.2**	**-1.1**
KHET				*e*S	**Sn**	**21 59 04.4**	**-5.6**
KUDL	**Kundal**	**9.40**	**149**	*e*P	**Pn**	**21 57 31.3**	**+0.3**
KUDL				*e*S	**Sn**	**21 59 08.6**	**-6.3**
LGTI	**Lohaghat**	**10.35**	**129**	*e*P	**Pn**	**21 57 42.4**	**-1.6**
GEYT	**Alibeck**	**10.45**	**282**		**Pn**	**21 57 44.1**	**-1.3**
GEYT	**Alibeck**	**10.45**	**282**	P	**Pn**	**21 57 44.0**	**-1.4**
	comp=N,1.5nm,0.3s,baz=109,slow=10,SNR=22						
GEYT				S	**Sn**	**21 59 36.3**	**-4.2**
	comp=N,3.5nm,0.5s,baz=66,slow=44,SNR=3.1 comp=N,2.2nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**10.45**	**282**	Pn	**Pn**	**21 57 44.2**	**-1.2**
MAKZ	**Makanchi**	**13.23**	**35**		**Pn**	**21 58 21.6**	**-0.7**
MK31	**Makanchi Array**	**13.36**	**35**	Pn	**Pn**	**21 58 22.9**	**-1.2**
MKAR	**Makanchi Array**	**13.36**	**35**	Pn	**Pn**	**21 58 25.1**	**+1.1**
MKAR	**Makanchi Array**	**13.36**	**35**	P	**Pn**	**21 58 23.9**	**-0.1**
	comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=9.1 comp=N,0.7nm,0.7s						
WMQ	**Urumqi**	**14.73**	**55**	*e*P	**P**	**21 58 44.7**	**-0.5**
AB31	**Akbulak array**	**15.22**	**331**	P	**Pn**	**21 58 47.0**	**-0.8**
	comp=N,2.2nm,0.3s,baz=144,slow=12,SNR=109						
AB31				⇓S	**Sn**	**22 01 32.3**	**-3.5**
	comp=N,1.2nm,0.6s,baz=154,slow=23,SNR=4.9						
ABKAR	**Akbulak array**	**15.22**	**331**	Pn	**Pn**	**21 58 46.8**	**-1.1**
KURBB	**Kurchatov Arra**	**15.22**	**18**	P	**P**	**21 58 50.0**	**-0.5**
	comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=11 comp=N,0.9nm,0.7s						
KURK	**Kurchatov**	**15.33**	**18**	P	**P**	**21 58 51.6**	**-0.1**
BVAR	**Borovoye Array**	**16.66**	**359**	P	**P**	**21 59 06.3**	**-0.1**
	comp=N,0.1nm,0.3s,baz=156,slow=9.2,SNR=10 comp=N,1.7nm,0.6s						
BRVK	**Borovoye**	**16.69**	**358**		**Pn**	**21 59 05.4**	**-0.7**
AKTO	**Aktyubinsk**	**16.92**	**330**	⇑P	**Pn**	**21 59 09.1**	**+0.2**
	comp=N,2.3nm,0.6s						
AKTO				⇓S	**Sn**	**22 02 10.0**	**-6.7**
	comp=N,2.1nm,1.1s						
AKTO	**Aktyubinsk**	**16.92**	**330**	P	**Pn**	**21 59 09.3**	**+0.4**
	comp=N,0.8nm,0.3s,baz=145,slow=13,SNR=16 comp=N,2.9nm,0.5s						
ZAA0	**Zalesovo Array**	**20.01**	**24**	P	**P**	**21 59 42.5**	**-0.5**
ZAA0				IAmb	IAmb	21 59 51.5	
	comp=Z,3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**20.01**	**24**		**P**	**21 59 42.4**	**-0.6**
ZALV	**Zalesovo Beam**	**20.01**	**24**	P	**P**	**21 59 43.0**	**0.0**
	comp=Z,2.2nm,0.4s,baz=225,slow=10,SNR=17 comp=Z,2.2nm,0.4s						
GNI	**Garni**	**20.98**	**288**	P	**P**	**21 59 52.0**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=104,slow=4.2,SNR=1.4 comp=Z,0.9nm,0.5s						
ARU	**Arti**	**21.77**	**341**	P	**P**	**22 00 03.3**	**+1.4**
ARU	**Arti**	**21.77**	**341**	P	**P**	**22 00 02.0**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=136,slow=12,SNR=2.6 comp=Z,2.2nm,0.4s						
ONI	**Oni**	**22.14**	**295**	P	**P**	**22 00 08.3**	**+2.3**
ONI				IAmb	IAmb	22 00 12.9	
	comp=Z,6.2nm,1.4s						
PZH	**PanZhiHua**	**27.86**	**102**	P	**P**	**22 01 02.4**	**+3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,7.1s						
ULN	**Ulaanbaatar**	**28.80**	**55**	P	**P**	**22 01 06.2**	**-0.9**
HHC	**Hu-ho-hao-te**	**31.76**	**69**	*e*P	**P**	**22 01 35.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,350nm,5.6s						
AKASG	**Malin Array Be**	**33.07**	**309**	P	**P**	**22 01 46.0**	**+1.6**
AKASG				IAmb	IAmb	22 01 49.5	
	comp=Z,3.4nm,1.4s						
AKASG	**Malin Array Be**	**33.07**	**309**	P	**P**	**22 01 46.5**	**+2.2**
	comp=Z,0.6nm,0.5s,baz=81,slow=7.3,SNR=11 comp=Z,0.6nm,0.5s						
AKBB	**Malin Array Si**	**33.07**	**309**	P	**P**	**22 01 44.0**	**-0.3**
AKBB				IAmb	IAmb	22 01 46.9	
	comp=Z,0.5nm,0.4s						
KIEV	**Kiev**	**33.08**	**309**	P	**P**	**22 01 44.0**	**-0.4**
ARG	**Arkhangelos**	**34.40**	**283**	P	**P**	**22 01 55.8**	**-0.3**
MNK	**Minsk**	**34.63**	**315**	*i* P	**P**	**22 02 00.8**	**+2.9**
	comp=E,10.0nm,1.1s						
MNK				*i* P	**P**	**22 02 00.8**	**+2.9**
	comp=N,8.0nm,0.9s						
MNK				*i* P	**P**	**22 02 00.8**	**+2.9**
	comp=Z,6.0nm,0.8s,baz=103						
MNK				*i* pP	**pP**	**22 02 23.4**	**+2.3**
MNK				*i* PP	**PP**	**22 03 20.1**	**+2.1**
MNK				*i* S	**S**	**22 07 24.0**	**+4.3**
MNK				*i* sS	**ScP**	**22 08 04.0**	**-2.0**
MNK				*i* SS	**SS**	**22 09 48.6**	**-5.1**
MNK				*i* LR	LR	22 16 55.5	
BURAR	**Bucovina Array**	**35.40**	**303**	P	**P**	**22 02 06.3**	**+1.6**
BURAR				IAmb	IAmb	22 02 12.5	
	comp=Z,1.6nm,1.4s						
FIA1	**FINESS Array S**	**37.62**	**326**	P	**P**	**22 02 25.0**	**+1.8**
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**22 02 25.5**	**+2.2**
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**22 02 25.7**	**+2.5**
	comp=Z,2.0nm,0.5s,baz=117,slow=9.0,SNR=12 comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.28**	**338**	P	**P**	**22 02 55.8**	**+2.3**
ARCES	**ARCESS Array B**	**41.28**	**338**	P	**P**	**22 02 56.1**	**+2.5**
	comp=Z,1.3nm,0.5s,baz=114,slow=8.5,SNR=12 comp=Z,1.3nm,0.5s						
HFS	**Hagfors**	**43.20**	**322**	P	**P**	**22 03 11.4**	**+2.2**
	comp=Z,4.2nm,0.5s,baz=102,slow=12,SNR=25 comp=Z,4.2nm,0.5s						
CLL	**Collm**	**43.31**	**309**	*e*P	**P**	**22 03 12.0**	**+1.8**
NC602	**NORSAR Array S**	**44.33**	**323**	P	**P**	**22 03 19.6**	**+1.4**
NB2	**NORSAR Subarra**	**44.51**	**323**	P	**P**	**22 03 21.5**	**+1.7**
	comp=Z,2.3nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**22 03 21.6**	**+1.8**
	comp=Z,2.2nm,0.6s,baz=96,slow=7.8,SNR=10 comp=Z,2.2nm,0.6s						
NC204	**NORSAR Array S**	**44.75**	**323**	P	**P**	**22 03 23.9**	**+2.2**
JOW	**Kunigami**	**49.03**	**84**	LR	LR	22 25 02.9	
	comp=Z,342nm,18.4s,baz=44,slow=36						
TOA0	**Torodi Ar. Sit**	**65.77**	**269**	P	**P**	**22 05 51.8**	**-1.4**
TOA0				IAmb	IAmb	22 06 09.2	
	comp=Z,4.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**22 05 51.9**	**-1.2**
TORD				IAmb	IAmb	22 05 55.1	
	comp=Z,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**22 05 52.6**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=45,slow=5.3,SNR=12 comp=Z,1.2nm,0.5s						
D19K	**Kuna River**	**69.25**	**17**	P	**P**	**22 06 15.0**	**+0.7**
D19K				IAmb	IAmb	22 06 16.5	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**22 07 26.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=321,slow=5.2,SNR=2.0 comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**22 07 38.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=318,slow=4.7,SNR=6.2 comp=Z,0.5nm,0.7s						

*AEIC **08** 22:00:20.4±1.9, 67°.19N±0°.02×143°.27W±0°.05, h6km±5km, ML3.4, ML3.6/134(NEIC), Error ellipse: s-maj=2.7km s-min=2.4km az=49.0*
*NEIC **08** 22:00:21.1±1.9, 67°.16N±0°.02×143°.28W±0°.06, h13km±4km, Error ellipse: s-maj=3.2km s-min=3.0km az=54.0*
ISC 08 22:00:20.5±1.0, 67°.17N±0°.02×143°.27W±0°.02, h12km±8km, n160, σ0s99/175, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G26K	**Porcupine Rive**	**0.30**	**223**		**Pg**	**22 00 26.6**	**0.0**
G26K					**Sg**	**22 00 30.5**	**-0.1**
BMAR	**Burnt Mountain**	**0.57**	**298**	Pg	**Pg**	**22 00 31.8**	**+0.1**
F26K	**Sheenjek River**	**0.63**	**328**		**Pg**	**22 00 33.0**	**+0.2**
F26K					**Sg**	**22 00 40.3**	**-0.8**
G27K	**Doyon Strip**	**0.73**	**119**	Pg	**Pg**	**22 00 34.1**	**-0.5**
G27K					**Sg**	**22 00 43.9**	**-0.2**
FYU	**Fort Yukon**	**0.98**	**233**	Pg	**Pg**	**22 00 39.1**	**-0.3**
FYU					**Sg**	**22 00 52.5**	**+0.4**
F25K	**Christian Rive**	**1.01**	**296**		**Pg**	**22 00 40.1**	**0.0**
F25K					**Sg**	**22 00 53.5**	**+0.2**
F25K	**Christian Rive**	**1.01**	**296**	P	**Pg**	**22 00 40.2**	**+0.1**
	baz=113						
F25K				S	**Sg**	**22 00 53.4**	**+0.2**
	baz=113						
H27K	**Steamboat Moun**	**1.17**	**143**		**Pb**	**22 00 43.0**	**+0.4**
H27K					**Sn**	**22 00 59.7**	**+1.1**
G25K	**Bearman Lake**	**1.19**	**251**		**Pb**	**22 00 42.9**	**0.0**
E27K	**Coleen River**	**1.21**	**31**	Pn	**Pb**	**22 00 43.5**	**+0.2**
E27K				Sg	**Sb**	**22 00 58.3**	**-0.6**
E25K	**Arctic Village**	**1.30**	**319**	Pn	**Pb**	**22 00 45.3**	**+0.4**
E25K				Sn	**Sb**	**22 01 02.0**	**+0.4**
E25K				IAML		22 01 04.0	
	comp=N,888nm,0.4s						
E25K	**Arctic Village**	**1.30**	**319**	P	**Pn**	**22 00 45.0**	**+0.4**
	baz=136						
E25K				S	**Sn**	**22 01 02.7**	**+0.8**
	baz=136						
F28M	**Old Crow**	**1.39**	**69**	Pn	**Pn**	**22 00 45.6**	**-0.1**
F28M				Sn	**Sg**	**22 01 05.3**	**+0.2**
F28M				IAML		22 01 09.3	
	comp=N,1μm,0.9s						
F28M	**Old Crow**	**1.39**	**69**	P	**Pn**	**22 00 46.1**	**+0.4**
	baz=254						
F28M				S	**Sg**	**22 01 06.2**	**+1.1**
	baz=254						
I27K	**Kandik River**	**1.70**	**156**		**Pn**	**22 00 50.6**	**+0.5**
G24K	**Hadweenzic Riv**	**1.72**	**256**	Pn	**Pn**	**22 00 48.8**	**-1.5**
G24K					**Sn**	**22 01 12.5**	**+0.3**
G24K				IAML		22 01 15.3	
	comp=N,505nm,0.4s						
G24K				IAML		22 01 15.6	
	comp=E,457nm,0.4s						
F24K	**Squaw Lake**	**1.82**	**283**	Pn	**Pn**	**22 00 51.1**	**-0.6**
I26K	**Coal Creek Min**	**1.87**	**179**	Pn	**Pn**	**22 00 50.9**	**-1.4**
I26K				IAML		22 01 26.8	
	comp=E,432nm,0.6s						
I26K				IAML		22 01 27.8	
	comp=N,469nm,0.6s						
PRP	**Porcupine Dome**	**1.89**	**210**	Pn	**Pn**	**22 00 52.8**	**+0.1**
PRP				Sn	**Sn**	**22 01 14.7**	**-1.8**
PRP				IAML		22 01 23.8	
	comp=N,479nm,0.4s						
PRP	**Porcupine Dome**	**1.89**	**210**	P	**Pn**	**22 00 53.1**	**+0.4**
	baz=27						
PRP				S	**Sb**	**22 01 19.4**	**+0.9**
	baz=27						
E28M	**Babbage River**	**2.02**	**43**	Pn	**Pn**	**22 00 54.1**	**-0.3**
E28M				IAML		22 01 32.5	
	comp=N,345nm,0.8s						
E28M				IAML		22 01 32.9	
	comp=E,506nm,0.9s						
G29M	**Pine Creek**	**2.07**	**95**	Pn	**Pn**	**22 00 54.8**	**-0.3**
H29M	**Whitestone**	**2.17**	**114**	Pn	**Pn**	**22 00 57.3**	**+0.9**
I28M	**Miner Creek**	**2.19**	**141**	Pn	**Pn**	**22 00 56.9**	**+0.1**
I28M				IAML		22 01 38.8	
	comp=N,286nm,0.6s						
E24K	**Your Creek**	**2.20**	**297**	Pn	**Pn**	**22 00 57.2**	**+0.3**
D27M	**Malcolm River**	**2.26**	**21**	Pn	**Pn**	**22 00 58.8**	**+1.1**
D27M				IAML		22 01 38.1	
	comp=E,279nm,0.6s						
D27M	**Malcolm River**	**2.26**	**21**	P	**Pn**	**22 00 59.3**	**+1.6**
	baz=204						
H24K	**Noodor Dome**	**2.28**	**236**	Pn	**Pn**	**22 00 57.4**	**-0.6**
H24K				IAML		22 01 31.2	
	comp=N,313nm,0.7s						
H24K				IAML		22 01 42.7	
	comp=E,344nm,0.7s						
E29M	**Blow River**	**2.38**	**56**	Pn	**Pn**	**22 00 59.4**	**+0.1**
E29M				IAML		22 01 44.8	
	comp=N,248nm,0.6s						
E29M				IAML		22 01 45.0	
	comp=E,355nm,0.7s						
D25K	**Kavik River**	**2.46**	**333**	Pn	**Pn**	**22 01 01.6**	**+1.2**
D25K				IAML		22 01 39.8	
	comp=N,354nm,0.6s						
D25K				IAML		22 01 40.0	
	comp=E,371nm,0.7s						
D25K	**Kavik River**	**2.46**	**333**	P	**Pn**	**22 01 02.4**	**+2.0**
	baz=150						
EGAK	**Eagle**	**2.55**	**159**	Pn	**Pn**	**22 01 01.8**	**+0.2**
E23K	**Chandalar**	**2.59**	**293**		**Pn**	**22 01 03.1**	**+0.8**
POKR	**Poker Plat Res**	**2.67**	**221**	Pn	**Pn**	**22 01 03.7**	**+0.4**
POKR				IAML		22 01 44.9	
	comp=N,194nm,0.6s						
POKR				IAML		22 01 47.6	
	comp=E,298nm,0.5s						
POKR	**Poker Plat Res**	**2.67**	**221**		**Pn**	**22 01 04.3**	**+1.1**
POKR	**Poker Plat Res**	**2.67**	**221**	P	**Pn**	**22 01 04.0**	**+0.8**
	baz=37						
J26L	**Joseph Creek**	**2.68**	**183**	Pn	**Pn**	**22 01 03.8**	**+0.3**
J26L				IAML		22 01 50.7	
	comp=E,185nm,0.5s						
G23K	**Bananza Creek**	**2.70**	**263**	Pn	**Pn**	**22 01 03.2**	**-0.6**
G23K				IAML		22 01 46.4	
	comp=E,221nm,0.3s						
G23K				IAML		22 01 47.1	
	comp=N,177nm,0.6s						
COLD	**Coldfoot**	**2.70**	**275**	Pn	**Pn**	**22 01 03.3**	**-0.4**
COLD	**Coldfoot**	**2.70**	**275**	P	**Pn**	**22 01 03.9**	**+0.2**
	baz=88						
I29M	**Ogilvie Camp,**	**2.70**	**130**	Pn	**Pn**	**22 01 04.2**	**+0.4**
I29M				IAML		22 01 52.1	
	comp=E,266nm,0.9s						
J25K	**Salcha River,**	**2.71**	**200**	Pn	**Pn**	**22 01 04.2**	**+0.3**
J25K				IAML		22 01 47.4	
	comp=N,200nm,0.7s						
J25K				IAML		22 01 47.7	
	comp=E,249nm,0.7s						
EPYK	**Eagle Plains**	**2.72**	**104**	Pn	**Pn**	**22 01 04.2**	**+0.3**
EPYK	**Eagle Plains**	**2.72**	**104**	P	**Pn**	**22 01 04.9**	**+0.9**
	baz=291						
D28M	**Stokes Point**	**2.75**	**36**		**Pn**	**22

G31M	**Satah River**	**3.53**	**90**	Pn	**Pn**	**22 01 15.0**	**-0.1**
G31M				IAML		22 02 24.5	
	comp=E,142nm,1.0s						
G31M	**Satah River**	**3.53**	**90**	P	**Pn**	**22 01 15.3**	**+0.2**
	baz=278						
K24K	**Donnelly Dome**	**3.54**	**198**		**Pn**	**22 01 15.9**	**+0.7**
F31M	**Tsiigehtchic**	**3.70**	**81**	Pn	**Pn**	**22 01 17.7**	**+0.3**
F31M				IAML		22 02 27.1	
	comp=E,95nm,0.7s						
F31M				IAML		22 02 32.3	
	comp=N,84nm,0.6s						
MLY	**Manley**	**3.72**	**238**	Pn	**Pn**	**22 01 17.3**	**-0.4**
C23K	**Itkillik River**	**3.81**	**318**	Pn	**Pn**	**22 01 19.4**	**+0.5**
J30M	**Hart River**	**3.86**	**129**	Pn	**Pn**	**22 01 21.6**	**+2.0**
J30M				IAML		22 02 24.2	
	comp=N,99nm,0.9s						
J30M				IAML		22 02 31.2	
	comp=E,104nm,0.8s						
INK	**Inuvik**	**3.88**	**68**	Pn	**Pn**	**22 01 21.1**	**+1.3**
D22K	**Ayikyak River**	**3.94**	**300**	Pn	**Pn**	**22 01 21.9**	**+1.2**
D22K				IAML		22 02 34.4	
	comp=N,100nm,1.0s						
F21K	**Alatna River**	**3.98**	**276**	Pn	**Pn**	**22 01 21.2**	**0.0**
I21K	**Tanana**	**4.06**	**245**	Pn	**Pn**	**22 01 22.6**	**+0.2**
I21K				IAML		22 02 27.1	
	comp=E,88nm,0.7s						
I21K				IAML		22 02 33.4	
	comp=N,93nm,0.6s						
G21K	**Allakaket**	**4.10**	**266**	Pn	**Pn**	**22 01 22.9**	**0.0**
K29M	**Barlow Dome**	**4.10**	**142**	Pn	**Pn**	**22 01 24.6**	**+1.5**
K29M				IAML		22 02 36.6	
	comp=N,58nm,0.8s						
K29M				IAML		22 02 39.9	
	comp=E,69nm,0.8s						
H21K	**Melozitna Rive**	**4.12**	**253**	Pn	**Pn**	**22 01 23.3**	**+0.1**
H21K				IAML		22 02 30.1	
	comp=N,57nm,0.8s						
H21K				IAML		22 02 32.0	
	comp=E,84nm,0.5s						
L26K	**Log Cabin Wild**	**4.16**	**181**	Pn	**Pn**	**22 01 24.3**	**+0.5**
BCAR	**Beaver Creek A**	**4.17**	**171**	Pn	**Pn**	**22 01 24.8**	**+0.9**
L27K	**Beaver Creek,**	**4.17**	**171**	Pn	**Pn**	**22 01 24.5**	**+0.7**
MCK	**McKinley**	**4.18**	**217**	Pn	**Pn**	**22 01 24.9**	**+0.9**
MENT	**Mentasta**	**4.25**	**183**	Pn	**Pn**	**22 01 25.4**	**+0.4**
PAX	**Paxson**	**4.32**	**194**	Pn	**Pn**	**22 01 27.6**	**+1.6**
IMAR	**Indian Mountai**	**4.35**	**259**	Pn	**Pn**	**22 01 26.2**	**-0.1**
RND	**Reindeer**	**4.44**	**214**	Pn	**Pn**	**22 01 27.7**	**0.0**
RND				IAML		22 02 45.9	
	comp=E,48nm,0.8s						
DHY	**Denali Highway**	**4.46**	**205**	Pn	**Pn**	**22 01 29.1**	**+1.1**
DHY				IAML		22 02 46.6	
	comp=N,50nm,0.7s						
DHY				IAML		22 02 55.9	
	comp=E,56nm,1.5s						
L29M	**L29M**	**4.61**	**150**	Pn	**Pn**	**22 01 30.6**	**+0.6**
L29M				IAML		22 02 58.1	
	comp=E,55nm,0.6s						
L29M				IAML		22 03 05.6	
	comp=N,63nm,1.1s						
C21K	**Knifeblade Rid**	**4.74**	**300**		**Pn**	**22 01 32.7**	**+1.0**
TRF	**Thorofare Moun**	**4.75**	**222**	Pn	**Pn**	**22 01 32.4**	**+0.3**
TRF				IAML		22 02 53.2	
	comp=N,48nm,1.3s						
M26K	**Nabesna, AK**	**4.79**	**178**	Pn	**Pn**	**22 01 34.3**	**+1.9**
M26K				IAML		22 02 59.6	
	comp=E,45nm,0.5s						
KTH	**Kantishna Hill**	**4.84**	**225**	Pn	**Pn**	**22 01 33.0**	**-0.1**
KTH				IAML		22 02 58.6	
	comp=E,44nm,1.3s						
KTH				IAML		22 03 13.7	
	comp=N,45nm,0.9s						
HARP	**HAARP**	**4.86**	**190**		**Pn**	**22 01 35.4**	**+2.1**
B21K	**Ikpikpuk River**	**4.86**	**306**	Pn	**Pn**	**22 01 34.0**	**+0.7**
B21K				IAML		22 03 16.3	
	comp=N,42nm,1.2s						
B21K				IAML		22 03 28.7	
	comp=E,47nm,2.2s						
M27K	**Edge Creek, AK**	**4.86**	**172**	Pn	**Pn**	**22 01 34.4**	**+0.8**
M27K				IAML		22 03 11.9	
	comp=E,53nm,1.1s						
F20K	**Avaraart Lake**	**4.87**	**274**	Pn	**Pn**	**22 01 32.9**	**-0.5**
F20K				IAML		22 02 56.4	
	comp=N,53nm,0.7s						
F20K				IAML		22 03 02.9	
	comp=E,35nm,0.8s						
B22K	**Teshekpuk Lake**	**4.88**	**315**	Pn	**Pn**	**22 01 34.2**	**+0.7**
BVCY	**Beaver Creek**	**4.88**	**167**		**Pn**	**22 01 35.5**	**+1.8**
WAT6	**Susitna Watana**	**4.98**	**205**		**Pn**	**22 01 36.6**	**+1.4**
E20K	**Nigu River**	**5.04**	**288**		**Pn**	**22 01 37.0**	**+1.2**
M29M	**Somme Creek**	**5.17**	**154**	Pn	**Pn**	**22 01 39.2**	**+1.6**
M29M				IAML		22 03 16.9	
	comp=E,26nm,0.8s						
WACK	**Wrangell Chich**	**5.22**	**186**		**Pn**	**22 01 40.3**	**+1.7**
M24K	**Tolsona, Glenn**	**5.23**	**195**	Pn	**Pn**	**22 01 40.2**	**+1.7**
CAST	**Castle Rocks**	**5.27**	**229**	Pn	**Pn**	**22 01 39.1**	**+0.1**
CAST				IAML		22 03 15.4	
	comp=E,28nm,0.7s						
CAST				IAML		22 03 17.2	
	comp=N,27nm,0.8s						
WASW	**Wrangell South**	**5.27**	**185**		**Pn**	**22 01 41.0**	**+1.7**
M30M	**Minto, Yukon**	**5.37**	**146**	Pn	**Pn**	**22 01 40.3**	**-0.1**
M30M				IAML		22 03 19.1	
	comp=N,23nm,1.4s						
M30M				IAML		22 03 24.0	
	comp=E,29nm,1.0s						
J20K	**Nowinta River**	**5.41**	**241**	Pn	**Pn**	**22 01 40.6**	**-0.2**
E19K	**Redstone River**	**5.41**	**280**	Pn	**Pn**	**22 01 41.8**	**+0.9**
YUK2	**White River**	**5.50**	**168**		**Pn**	**22 01 43.9**	**+1.6**
YUK3	**Moose Creek**	**5.55**	**166**		**Pn**	**22 01 44.5**	**+1.5**
H19K	**Roundabout Mou**	**5.56**	**259**	Pn	**Pn**	**22 01 42.4**	**-0.5**
G19K	**Purcell Mounta**	**5.59**	**266**	Pn	**Pn**	**22 01 42.8**	**-0.6**
N25K	**Chitina, Valde**	**5.61**	**187**	Pn	**Pn**	**22 01 45.1**	**+1.3**
CUT	**Chulitna**	**5.64**	**215**	Pn	**Pn**	**22 01 43.6**	**-0.3**
A22K	**Sinclair Lake**	**5.69**	**318**		**Pn**	**22 01 45.4**	**+0.7**
GLB	**Gilahina Butte**	**5.75**	**183**	Pn	**Pn**	**22 01 47.7**	**+2.0**
D19K	**Kuna River**	**5.78**	**290**	Pn	**Pn**	**22 01 45.8**	**-0.2**
SML	**Sawmill**	**5.81**	**204**	Pn	**Pn**	**22 01 48.7**	**+2.3**
KLU	**Klutina**	**5.81**	**193**	Pn	**Pn**	**22 01 46.3**	**-0.2**
B20K	**Meade River**	**5.83**	**306**	Pn	**Pn**	**22 01 45.8**	**-0.8**
K20K	**Telida**	**5.93**	**235**	Pn	**Pn**	**22 01 47.6**	**-0.4**
VRDI	**Verde Repeater**	**5.96**	**181**	Pn	**Pn**	**22 01 49.9**	**+1.2**
J19K	**Poorman**	**6.03**	**244**	Pn	**Pn**	**22 01 50.3**	**+0.9**
BARN	**Barnard Glacie**	**6.17**	**173**	Pn	**Pn**	**22 01 52.2**	**+0.7**
BMRM	**Bremner River**	**6.25**	**186**		**Pn**	**22 01 54.2**	**+1.7**
KIAG	**Kiagna River**	**6.28**	**176**		**Pn**	**22 01 54.8**	**+1.8**
CTGM	**Chitina Glacie**	**6.28**	**171**	Pn	**Pn**	**22 01 54.1**	**+1.1**
N30M	**Aishikik Lake**	**6.32**	**152**	Pn	**Pn**	**22 01 53.4**	**-0.1**
C19K	**Lookout Ridge**	**6.39**	**295**	Pn	**Pn**	**22 01 54.7**	**+0.3**
CRQM	**Cirque**	**6.43**	**179**	Pn	**Pn**	**22 01 56.4**	**+1.3**
TGL	**Tana Glacier**	**6.44**	**178**	Pn	**Pn**	**22 01 56.7**	**+1.6**
H18K	**Honhosa River**	**6.44**	**259**	Pn	**Pn**	**22 01 55.6**	**+0.6**
GRNC	**Granite Creek**	**6.49**	**173**	Pn	**Pn**	**22 01 56.9**	**+0.9**
SUA	**Susitna One**	**6.58**	**213**	Pn	**Pn**	**22 02 00.0**	**+3.0**
GOAT	**Goat Mountain**	**6.64**	**186**		**Pn**	**22 01 60.0**	**+2.1**
E18K	**Tukpahlearik C**	**6.71**	**280**	Pn	**Pn**	**22 01 59.7**	**+0.9**
J18K	**Innoko River**	**6.74**	**243**		**Pg**	**22 02 29.8**	**+0.4**
BARK	**Barkley Ridge**	**6.80**	**177**		**Pn**	**22 02 01.4**	**+1.4**
HYT	**Haines Junctio**	**6.85**	**156**	Pn	**Pn**	**22 01 59.5**	**-1.3**
TTA	**Tatalina**	**6.86**	**238**	Pn	**Pn**	**22 01 59.7**	**-1.1**
C18K	**Utukok River**	**6.92**	**291**	Pn	**Pn**	**22 02 02.0**	**+0.4**
YUK7	**Dusty Glacier**	**7.03**	**159**		**Pn**	**22 02 05.8**	**+2.5**
L19K	**White Mountain**	**7.04**	**230**	Pn	**Pn**	**22 02 02.2**	**-1.1**
M19K	**Big River Lodg**	**7.12**	**227**	Pn	**Pn**	**22 02 04.4**	**0.0**
H17K	**Granite Mounta**	**7.13**	**259**	Pn	**Pn**	**22 02 04.5**	**+0.1**
F17K	**Baldwin Pennin**	**7.14**	**272**	Pn	**Pn**	**22 02 03.8**	**-0.8**
O30N	**Mendenhall**	**7.15**	**150**	Pn	**Pn**	**22 02 06.1**	**+1.3**
O29M	**Mount Kennedy**	**7.20**	**161**	Pn	**Pn**	**22 02 07.4**	**+1.9**
C36M	**Paulatuk**	**7.45**	**64**	Pn	**Pn**	**22 02 07.5**	**-1.2**
WHY	**Whitehorse**	**7.50**	**147**	Pn	**Pn**	**22 02 09.7**	**0.0**
RDOG	**Red Dog Mine**	**7.54**	**286**	Pn	**Pn**	**22 02 08.8**	**-1.4**
K17K	**Iditarod**	**7.78**	**242**	Pn	**Pn**	**22 02 14.0**	**+0.7**
A36M	**Sachs Harbour**	**7.92**	**44**	Pn	**Pn**	**22 02 14.5**	**-0.7**
BRLK	**Bradley Lake**	**8.17**	**208**	Pn	**Pn**	**22 02 18.9**	**+0.1**
J16K	**Anvik River**	**8.24**	**250**	Pn	**Pn**	**22 02 18.1**	**-1.6**
C16K	**Lisburne Hills**	**8.45**	**288**	Pn	**Pn**	**22 02 22.0**	**-0.5**
L16K	**Owhat River**	**8.87**	**240**	Pn	**Pn**	**22 02 29.0**	**+0.7**
M16K	**Timber Creek**	**9.20**	**235**	Pn	**Pn**	**22 02 32.3**	**-0.6**
YKA	**Yellowknife Ar**	**12.98**	**98**	Pn	**Pn**	**22 03 23.2**	**-1.2**

IDC 08 22:11:57.6±12.0,**19°10S**×**177°94W,h380**km±126km,
mb2.6/3,**mbtmp3.6**/4,**Error ellipse: s-maj=308.1km**

s-min=45.7km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.92**	**256**	P	P	22 15 10.1	0.0
	5.1nm,0.8s,baz=143,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**44.87**	**261**	P	P	22 19 36.2	0.0
	0.3nm,0.6s,baz=96,slow=7.0,SNR=6.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**44.91**	**255**	P	P	22 19 36.2	-0.3
	0.2nm,0.5s,baz=92,slow=7.3,SNR=4.2						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**86.25**	**57**	P	P	22 23 57.8	0.0
	0.3nm,0.7s,baz=202,slow=4.6,SNR=3.6						
	0.3nm,0.7s						

*ISK **08** 22:22:57.4,38°.81N×26°.43E,h10km,ML2.5/35*
*AFAD **08** 22:22:57.7±0.0,38°.83N×26°.46E,h7km±2km,ML2.6*
*THE **08** 22:22:58.3,38°.83N×26°.46E,h8km±1km,ML2.4/6,Error ellipse: s-maj=1.6km s-min=0.6km az=297.0*
*ATH **08** 22:22:58.3,38°.83N×26°.47E,h12km±3km,ML2.3/3,Error ellipse: s-maj=3.8km s-min=1.1km az=292.0*

ISC 08 22:22:58.2±0.8,**38°82N**±0°02×**26°47E**±0°02,**h14**km±6km,
n63,σ0s63/92,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.17**	**195**	P	**Pg**	**22 23 02.2**	**+0.1**
KARB				S	**Sg**	**22 23 04.8**	**0.0**
KARB				*i* AML	AML	22 23 05.0	
	comp=E,1μm,0.4s						
FOCM	**Foa**	**0.23**	**118**	Pg	**Pg**	**22 23 02.9**	**-0.3**
EAG3	**Mitilini, Lesv**	**0.27**	**17**	P	**Pg**	**22 23 03.7**	**-0.2**
EAG3				S	**Sg**	**22 23 07.1**	**-0.8**
LESV	**Lesvos island,**	**0.29**	**15**	P	**Pg**	**22 23 04.0**	**-0.3**
LESV				S	**Sg**	**22 23 07.9**	**-0.5**
	4μm,0.5s						
CAND	**Candarli**	**0.29**	**63**	Pg	**Pg**	**22 23 04.3**	**0.0**
RFT7	**Candarli**	**0.38**	**69**	Pg	**Pg**	**22 23 05.7**	**-0.1**
EAG2	**Marmaro, Chios**	**0.40**	**225**	P	**Pg**	**22 23 06.3**	**+0.2**
EAG2				S	**Sg**	**22 23 12.3**	**+0.9**
DKL	**Dikili**	**0.42**	**54**	Pg	**Pg**	**22 23 06.7**	**+0.1**
PRK	**Paraskevi**	**0.45**	**340**	P	**Pg**	**22 23 06.9**	**-0.1**
PRK				S	**Sb**	**22 23 14.1**	**-0.4**
	680nm,0.4s						
PRK	**Paraskevi**	**0.45**	**340**	P	**Pg**	**22 23 07.0**	**-0.1**
PRK				S	**Sb**	**22 23 13.9**	**-0.5**
PRK				AML	AML	22 23 14.0	
	comp=E,1640μm,0.3s						
PRK				AML	AML	22 23 16.1	
	comp=N,998μm,0.2s						
ZEDA	**zmir-Bergama**	**0.50**	**73**	P	**Pg**	**22 23 07.7**	**-0.3**
ZEDA				S	**Sg**	**22 23 14.5**	**-0.1**
CESE	**eme**	**0.51**	**195**	Pg	**Pg**	**22 23 08.3**	**+0.1**
AYVA	**Ayvalik**	**0.52**	**20**	P	**Pg**	**22 23 07.9**	**-0.4**
AYVA				S	**Sg**	**22 23 14.8**	**-0.4**
CHOS	**Chios island**	**0.54**	**217**	P	**Pg**	**22 23 09.0**	**+0.2**
CHOS				S	**Sg**	**22 23 16.6**	**+0.6**
	comp=N,395nm,0.4s						
CHOS	**Chios island**	**0.54**	**217**	P	**Pg**	**22 23 09.1**	**+0.3**
CHOS				S	**Sg**	**22 23 15.6**	**-0.5**
CHOS				AML	AML	22 23 18.2	
	comp=E,911μm,0.3s						
CHOS				AML	AML	22 23 21.0	
	comp=N,818μm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.58**	**177**	P	**Pg**	**22 23 09.3**	**-0.2**
ZEYE				S	**Sg**	**22 23 18.3**	**+0.9**
ZEYE				*i* AML	AML	22 23 22.0	
	comp=N,275nm,0.6s						
SIGR	**SIGRI**	**0.61**	**309**	Pg	**Pg**	**22 23 09.9**	**-0.3**
SIGR				Sg	**Sg**	**22 23 18.2**	**-0.1**
SIGR	**SIGRI**	**0.61**	**309**	P	**Pg**	**22 23 10.2**	**0.0**
SIGR				S	**Sg**	**22 23 18.6**	**+0.3**
	comp=N,365nm,0.3s						
SIGR	**SIGRI**	**0.61**	**309**	P	**Pg**	**22 23 10.2**	**0.0**
SIGR				S	**Sg**	**22 23 17.6**	**-0.7**
SIGR				AML	AML	22 23 20.9	
	comp=N,726μm,0.3s						
SIGR				AML	AML	22 23 21.5	
	comp=E,721μm,0.4s						
GPNR	**Gulpinar-Canak**	**0.68**	**338**	Pg	**Pg**	**22 23 10.8**	**-0.7**
KOCA	**Canakkale, Ayv**	**0.72**	**340**	P	**Pg**	**22 23 12.1**	**-0.1**
KOCA				S	**Sg**	**22 23 22.1**	**+0.3**
GMLD	**Gumuldur**	**0.82**	**155**	Pg	**Pg**	**22 23 13.4**	**-0.7**
BUHA	**Balikesir, Bur**	**0.83**	**35**	P	**Pg**	**22 23 13.7**	**-0.5**
BUHA				S	**Sg**	**22 23 25.2**	**+0.2**
BUHA				*i* AML	AML	22 23 29.0	
	comp=E,222nm,0.5s						
DGB	**zmir**	**0.84**	**157**	P	**Pg**	**22 23 13.7**	**-0.7**
DGB				S	**Sg**	**22 23 24.0**	**-1.4**
BAYC	**CANAKKALE_Bayr**	**0.92**	**4**	P	**Pg**	**22 23 15.4**	**-0.5**
BAYC				S	**Sg**	**22 23 27.9**	**-0.1**
EZN	**Ezine**	**1.01**	**354**	Pg	**Pg**	**22 23 17.2**	**-0.4**
EZN				Sg	**Sn**	**22 23 31.9**	**0.0**
EZN	**Ezine**	**1.01**	**354**	P	**Pb**	**22 23 17.8**	**+0.4**
EZN				S	**Sb**	**22 23 31.4**	**+0.9**
	comp=E,192nm,0.3s						
AKHS	**Akhisar**	**1.05**	**87**	P	**Pg**	**22 23 18.2**	**-0.3**
AKHS				S	**Sg**	**22 23 32.4**	**+0.1**
BOZC	**Bozcaada**	**1.07**	**343**	P	**Pg**	**22 23 17.5**	**-1.2**
BOZC				P	**Pb**	**22 23 18.0**	**-0.4**
BOZC				S	**Sg**	**22 23 32.3**	**-0.4**
BOZC				S	**Sg**	**22 23 32.3**	**-0.4**
BOZC				*i* AML	AML	22 23 33.0	
	comp=E,188nm,0.7s						
BOZC				*i* AML	AML	22 23 34.0	
	comp=E,202nm,0.5s						
BOZC				*i* AML	AML	22 23 35.0	
	comp=E,200nm,0.3s						
BOZC				*i* AML	AML	22 23 53.0	
	comp=E,111nm,0.9s						
BOZC				*i* AML	AML	22 24 00.0	
	comp=E,108nm,1.0s						
STEP	**BALIKESIR_Sava**	**1.12**	**60**	P	**Pb**	**22 23 19.5**	**+0.1**
STEP				S	**Sb**	**22 23 34.8**	**+0.9**
STEP				*i* AML	AML	22 23 37.0	
	comp=E,230nm,0.5s						
STEP				*i* AML	AML	22 23 37.0	
	comp=E,163nm,0.4s						
STEP				*i* AML	AML	22 23 38.0	
	comp=E,117nm,0.4s						
SMG	**Samos**	**1.15**	**165**	P	**Pb**	**22 23 19.4**	**-0.4**
SMG				S	**Sg**	**22 23 35.9**	**+0.6**
	comp=E,182nm,0.5s						
SMG	**Samos**	**1.15**	**165**	P	**Pb**	**22 23 19.5**	**-0.4**
CANM	**Can-anakkale**	**1.27**	**21**	Pn	**Pn**	**22 23 21.6**	**+0.1**
COMU	**Canakkale**	**1.27**	**0**	Pn	**Pb**	**22 23 22.2**	**+0.2**
GCAM	**G?zelcaml?**	**1.27**	**151**	Pn	**Pn**	**22 23 21.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.27**	**151**	P	**Pn**	**22 23 21.3**	**-0.3**
GCAM				S	**Sb**	**22 23 38.0**	**-0.2**
IZMR	**zmir-demi**	**1.35**	**120**	P	**Pn**	**22 23 23.1**	**+0.4**
IZMR				S	**Sb**	**22 23 38.8**	**-1.7**
BALB	**Balikesir**	**1.37**	**53**	Pn	**Pn**	**22 23 23.6**	**+0.7**
GADA	**Gvkgeada**	**1.44**	**342**	Pn	**Pn**	**22 23 24.1**	**+0.3**
LIA	**Limnos Island**	**1.46**	**318**	P	**Pn**	**22 23 24.2**	**0.0**
LIA				S	**Sn**	**22 23 42.7**	**-0.4**
GONE	**Gonen-Balikesi**	**1.54**	**37**	Pn	**Pn**	**22 23 26.1**	**+0.8**
LPK	**Lapseki**	**1.56**	**8**	Pn	**Pn**	**22 23 26.1**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.57**	**0**	Pn	**Pn**	**22 23 26.4**	**+0.7**
KRBG	**Karabiga-Canak**	**1.59**	**22**	Pn	**Pn**	**22 23 28.3**	**+0.9**
KULA	**Kula-Manisa**	**1.75**	**99**	Pn	**Pn**	**22 23 28.7**	**+0.6**
SMTH	**Samothraki Isl**	**1.80**	**337**	P	**Pn**	**22 23 28.7**	**-0.1**
SMTH	**Samothraki Isl**	**1.80**	**337**	P	**Pn**	**22 23 28.3**	**-0.5**
ERIK	**Erikli-Kesan**	**1.85**	**1**	Pn	**Pn**	**22 23 30.0**	**+0.6**
EDC	**Edincik**	**1.87**	**35**	Pn	**Pn**	**22 23 30.3**	**+0.6**
ENEZ	**Enez**	**1.93**	**353**	Pn	**Pn**	**22 23 30.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.94**	**16**	Pn	**Pn**	**22 23 31.8**	**+1.0**
SIMA	**Simav-Kutahya**	**1.98**	**82**	Pn	**Pn**	**22 23 32.4**	**+1.0**
KCTX	**Karacabey (Bur**	**2.05**	**45**	Pn	**Pn**	**22 23 33.1**	**+0.8**
ALN	**Alexandroupoli**	**2.10**	**351**	Pn	**Pn**	**22 23 33.3**	**+0.4**
UKOP	**Uzunkopru-Edir**	**2.31**	**3**	Pn	**Pn**	**22 23 36.4**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.42**	**50**	Pn	**Pn**	**22 23 38.5**	**+1.1**
RDO	**Rodhopi**	**2.43**	**343**	Pn	**Pn**	**22 23 37.9**	**+0.5**
OUR	**Ouranopolis**	**2.44**	**309**	Pn	**Pn**	**22 23 37.9**	**+0.3**
ARMT	**Armutlu**	**2.54**	**46**	Pn	**Pn**	**22 23 40.2**	**+1.2**
CTKS	**Kestanelik-??a**	**2.88**	**32**	Pn	**Pn**	**22 23 45.2**	**+1.6**
KDZ	**Kurdzhali**	**2.93**	**343**	Pn	**Pn**	**22 23 45.4**	**+1.0**
CTYL	**Yalikoy Yolu**	**3.00**	**27**	Pn	**Pn**	**22 23 46.7**	**+1.5**
EDRB	**Edirne**	**3.03**	**4**	Pn	**Pn**	**22 23 46.7**	**+1.0**

*IDC **08** 22:38:51.5±0.9,38°.51N×112°.37W,h0km,mb3.4/1,*
mbtmp2.9/6,ML2.9/5,MS3.0/1,Error ellipse: s-maj=9.6km s-min=8.7km az=138.0
*NEIC **08** 22:38:51.5±2.2,38°.44N±0°.01×112°.46W±0°.02,h13km±7km, Error ellipse: s-maj=2.8km s-min=1.2km az=127.0*
*UUSS **08** 22:38:52.0±2.1,38°.45N±0°.02×112°.48W±0°.03,h12km±5km, ML3.5/22,ML3.5/112(NEIC),Mwr3.7/24(SLM),Error ellipse: s-maj=3.0km s-min=2.1km az=115.0*
*NEIC **08** 22:38:51,38°.45N×112°.48W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=3.41; $M_{\theta\theta}$0.16; $M_{\phi\phi}$3.25; $M_{r\theta}$0.84; $M_{\theta\phi}$-0.74; $M_{\phi r}$-2.76; Fault plane solution: $M_0$4.47000×10^{14} NP1:ϕ_s170.00000°, δ25.00000°,λ-85.00000°. NP2:ϕ_s344.00000°,δ65.00000°, λ-92.00000°. Principal axes: T 4.4702, Plg20.0000°, Azm76.0000°; N 0.0000, Plg2.0000°, Azm345.0000°; P -4.4702, Plg70.0000°, Azm250.0000°;*

ISC 08 22:38:52.1±0.8,**38°46N**±0°02×**112°48W**±0°02,**h13**km±6km,
n117,σ1s08/131,**Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCRU	**Three Creeks R**	**0.15**	**9**		**Pg**	**22 38 56.0**	**-0.1**
TCRU				Sg	**Sg**	**22 38 58.9**	**0.0**
TCRU				IAML		22 38 59.3	
	comp=E,12μm,0.5s						
TCRU				IAML		22 38 59.9	
	comp=N,9μm,0.4s						
MVU	**Marysvale**	**0.21**	**77**		**Pg**	**22 38 56.6**	**-0.4**
BHUT	**Beaver**	**0.22**	**215**		**Pg**	**22 38 56.8**	**-0.2**
BHUT					**Sg**	**22 39 00.8**	**+0.3**
MSU	**Marysvale**	**0.24**	**77**	Pg	**Pg**	**22 38 57.0**	**-0.4**
NMUT	**North Mineral**	**0.30**	**282**		**Pb**	**22 38 58.4**	**-1.0**
NMUT					**Sb**	**22 39 03.0**	**-1.3**
MTPU	**Mount Pierson**	**0.47**	**151**		**Pg**	**22 39 00.7**	**-0.9**
MTPU				Sg	**Sg**	**22 39 07.3**	**-0.7**
DWU	**Dry Willow Pea**	**0.54**	**230**		**Pg**	**22 39 02.6**	**-0.2**
IMU	**Iron Mountain**	**0.56**	**288**		**Pb**	**22 39 03.1**	**-0.8**
WCU	**Willow Creek**	**0.59**	**31**		**Pg**	**22 39 03.2**	**-0.6**
BTU	**Barney Top**	**0.85**	**146**		**Pg**	**22 39 08.3**	**-0.3**
OWUT	**Old Woman Plat**	**0.89**	**68**		**Pg**	**22 39 08.9**	**-0.5**
FLU	**Fool Peak**	**0.95**	**15**		**Pg**	**22 39 09.6**	**-0.9**
SGU	**Sterling**	**0.97**	**42**		**Pb**	**22 39 11.0**	**0.0**
SZCU	**Shurtz Canyon**	**0.99**	**209**		**Pg**	**22 39 10.2**	**-0.9**
SZCU				Sg	**Sg**	**22 39 22.8**	**-1.3**
SZCU				IAML		22 39 27.3	
	comp=E,907nm,0.5s						
ARUT	**Antelope Range**	**1.01**	**229**		**Pb**	**22 39 11.2**	**-0.4**
PKCU	**Pink Cliffs**	**1.02**	**173**	Pg	**Pg**	**22 39 10.3**	**-1.5**
PKCU				Sg	**Sg**	**22 39 24.2**	**-0.9**
PKCU				IAML		22 39 27.1	
	comp=E,1μm,0.4s						
PKCU				IAML		22 39 30.1	
	comp=N,999nm,0.7s						
Q16A	**Castle Valley**	**1.12**	**65**	Pg	**Pg**	**22 39 12.5**	**-1.3**
Q16A				IAML		22 39 28.0	
	comp=E,1μm,0.3s						
Q16A				IAML		22 39 28.1	
	comp=N,1μm,0.5s						
SNO	**Snow College**	**1.13**	**40**		**Pb**	**22 39 13.5**	**-0.1**
LEVU	**Levan**	**1.17**	**26**		**Pb**	**22 39 14.0**	**-0.3**
TMUT	**Trail Mountain**	**1.30**	**49**		**Pg**	**22 39 16.1**	**-1.0**
TMUT				Sg	**Sg**	**22 39 32.4**	**-1.7**
DBD	**Des Bee Dove**	**1.38**	**51**		**Pn**	**22 39 17.4**	**+0.1**
EKU	**East Kanab**	**1.38**	**181**		**Pn**	**22 39 17.5**	**+0.2**
FSU	**Fish Springs**	**1.45**	**331**		**Pn**	**22 39 17.9**	**-0.2**
HMU	**Henry Mountain**	**1.46**	**110**		**Pn**	**22 39 18.4**	**-0.1**
KNB	**Kanab**	**1.46**	**191**	Pn	**Pn**	**22 39 18.8**	**+0.5**
KNB				Sg	**Sb**	**22 39 37.2**	**-0.6**
SUU	**Santaquin Cany**	**1.53**	**20**		**Pb**	**22 39 19.9**	**-0.5**
NLU	**North Lily Min**	**1.53**	**12**	Pn	**Pn**	**22 39 19.2**	**-0.1**
NLU				IAML		22 39 42.4	
	comp=E,902nm,0.4s						
NLU				IAML		22 39 42.5

comp=N,138nm,0.8s
SHPR Sheep Range 2.89 228 Pn Pn 22 39 38.8 +0.9
WTNK Soaring Height 3.03 223 Pn Pn 22 39 39.7 -0.1
WUAZ Wupatki 3.06 163 Pb Pb 22 39 46.1 -0.5
baz=344
WUAZ S Sb **22 40 24.9 +0.9**
baz=344
RDMU Red Mountain 3.08 46 Pn Pn 22 39 41.0 +0.3
RDMU IAML 22 40 27.7
comp=E,131nm,0.6s
RDMU IAML 22 40 28.0
comp=N,124nm,0.8s
ELK Elko 3.13 318 Pn Pn 22 39 41.0 -0.3
ELK Elko 3.13 318 Pn Pn 22 39 41.7 +0.4
comp=N,0.6nm,0.3s,baz=134,slow=9.4,SNR=11
ELK Pg **Pb 22 39 48.4 +0.7**
comp=N,2.0nm,0.3s,baz=345,slow=21,SNR=28
ELK Lg Lg 22 40 29.6
comp=N,4.2nm,0.3s,baz=34,slow=21,SNR=3.7
comp=N,1.4nm,0.3s
HWUT Hardware Ranch 3.22 12 Pn Pn 22 39 43.5 +0.9
HWUT IAML 22 40 35.7
comp=N,94nm,0.5s
HWUT IAML 22 40 37.0
comp=N,114nm,0.8s
V12A Nelson 3.32 216 Pn Pn 22 39 43.3 -0.5
TPNV Topopah Spring 3.35 244 Pn Pn 22 39 44.1 -0.2
TPNV IAML 22 40 42.3
comp=N,98nm,0.8s
TPNV IAML 22 40 42.7
comp=N,81nm,0.6s
TPNV Topopah Spring 3.35 244 P Pn 22 39 45.0 +0.7
baz=62
MVCO Mesa Verde 3.39 110 Pn Pn 22 39 45.8 +0.9
MVCO Mesa Verde 3.39 110 Sb Sb 22 40 35.4 +2.1
baz=293
WCT Wildcat Mounta 3.69 245 Pn Pn 22 39 48.8 -0.1
O20A White River Ci 3.69 62 Sb Sb 22 40 44.9 +3.0
baz=244
Q09A Carvers 3.70 277 Pn Pn 22 39 47.5 -1.6
TPH Tonopah 3.75 266 Pn Pn 22 39 49.9 0.0
GMN Gold Mountain 3.96 255 Pn 22 39 53.2 +0.5
GMN IAML 22 41 03.7
comp=N,64nm,0.7s
W18A Petrified Fore 3.99 146 Pn Pn 22 39 53.8 +0.6
GWY Greenwater Val 4.04 237 Pn Pn 22 39 53.2 -0.6
GWY IAML 22 41 06.4
comp=E,60nm,0.8s
GWY IAML 22 41 09.9
comp=N,45nm,0.9s
NEE2 Needles Airpor 4.07 206 Sb Sb 22 40 56.7 +4.1
baz=24
BMN Battle Mountai 4.17 300 Pn Pn 22 39 56.0 +0.4
BMN IAML 22 41 06.6
comp=E,40nm,1.3s
BMN IAML 22 41 10.4
comp=N,43nm,1.1s
SMCO Snowmass 4.36 79 Pn Pn 22 40 00.1 +1.7
X18A Snowflake 4.42 152 Pn Pn 22 40 00.3 +1.3
AHID Auburn Hatcher 4.43 13 Pn Pn 22 39 59.5 +0.3
AHID IAML 22 41 12.4
comp=N,80nm,0.7s
AHID IAML 22 41 14.3
comp=N,96nm,1.0s
KVN Kaiserville 4.43 279 Pn Pn 22 40 00.3 +1.1
KVN IAML 22 41 14.7
comp=E,74nm,1.1s
KVN IAML 22 41 15.1
comp=N,57nm,1.1s
S22A 4UR Ranch, Cre 4.51 97 Pn Pn 22 39 59.8 -0.6
S22A IAML 22 41 17.0
comp=E,46nm,0.8s
Y14A Wickenburg 4.53 186 Pn Pn 22 40 00.5 +0.1
Y14A IAML 22 41 20.0
comp=N,50nm,0.8s
Y14A IAML 22 41 23.0
comp=E,40nm,1.0s
NVAR Mina Array Bea 4.57 271 Pn Pn 22 40 03.3 +2.2
comp=E,0.2nm,0.3s,baz=92,slow=14,SNR=1.6
NVAR Pg **Pb 22 40 14.8 +2.5**
comp=E,6.0nm,0.3s,baz=86,slow=18,SNR=63
NVAR Lg Lg 22 41 18.2
comp=E,5.6nm,0.3s,baz=78,slow=34,SNR=2.8
comp=E,0.2nm,0.3s
LHV Little Huntoon 4.74 269 Pn Pn 22 40 02.6 -0.6
LHV IAML 22 41 31.4
comp=E,72nm,0.8s
LHV IAML 22 41 45.0
comp=N,56nm,1.0s
RYN Ryan 4.74 274 Pn Pn 22 40 04.8 +1.4
RYN IAML 22 41 25.2
comp=N,72nm,0.9s
RYN IAML 22 41 26.8
comp=E,72nm,0.6s
PD31 Pinedale Array 4.84 26 Pn Pn 22 40 05.1 +0.2
PDAR Pinedale Array 4.84 26 Pn Pn 22 40 05.2 +0.3
PDAR Pinedale Array 4.84 26 Pn Pn 22 40 05.9 +1.0
comp=E,0.2nm,0.3s,baz=196,slow=12,SNR=4.6
PDAR Pg **Pb 22 40 16.1 -0.9**
comp=E,0.6nm,0.3s,baz=197,slow=15,SNR=7.9
PDAR Lg Lg 22 41 22.3
comp=E,3.8nm,0.3s,baz=207,slow=32,SNR=9.2
comp=E,0.3nm,0.4s
REDW Red Top Meadow 5.05 14 Pn Pn 22 40 08.6 +0.9
RWWY Rawlins 5.17 50 Pn Pn 22 40 08.2 -1.2
HLID Hailey 5.31 345 Pn Pn 22 40 10.7 -0.5
WAKR Walker 5.46 273 Pn Pn 22 40 14.0 +0.7
ISCO Idaho Springs 5.50 74 Pn Pn 22 40 13.6 -0.5
PNTR Pine Nut 5.60 279 Pn Pn 22 40 16.5 +1.2
PFO Pinyon Flats O 5.81 215 Pn Pn 22 40 21.3 +3.2
comp=E,0.1nm,0.3s,baz=108,slow=21,SNR=1.4
PFO Pg **Pb 22 40 32.2 -1.2**
comp=E,0.1nm,0.3s,baz=124,slow=22,SNR=2.1
PFO Lg Lg 22 41 52.6
comp=E,0.2nm,0.3s,baz=144,slow=7.4,SNR=2.4
comp=E,0.8nm,0.5s
MPK Martis Peak 5.95 280 Pn Pn 22 40 18.7 -1.5
ANMO Albuquerque 5.97 124 Pn Pn 22 40 20.4 +0.1
comp=E,0.2nm,0.3s,baz=347,slow=6.0,SNR=1.9
ANMO Pg **Pg 22 40 42.8 -3.7**
comp=E,0.9nm,0.3s,baz=63,slow=14,SNR=14
ANMO Lg Lg 22 41 54.4
comp=E,3.2nm,0.3s,baz=328,slow=13,SNR=8.8
ANMO LR LR 22 42 46.0
comp=E,134nm,21.7s,baz=67,slow=40
comp=E,0.5nm,0.3s
EMB Emerald Bay 5.99 277 Pn Pn 22 40 20.3 -0.3
ELS Elsinore Mount 6.25 221 Pn Pn 22 40 24.1 0.0
214A Organ Pipe Nat 6.49 183 Pn Pn 22 40 25.1 -2.3
AFDM Forest Hills D 6.66 277 Pn Pn 22 40 31.7 +2.0
E03A Lebam 11.49 318 Pn Pn 22 41 34.8 -0.9
TXAR Lajitas Array 11.67 139 Pn Pn 22 41 45.3 +6.8
baz=313,slow=16,SNR=2.9
TXAR Pg 22 42 22.4
baz=315,slow=15,SNR=2.1
TXAR Lg Lg 22 45 00.2
comp=E,0.1nm,0.3s,baz=316,slow=30,SNR=6.9
YKA Yellowknife Ar 24.10 358 P P 22 44 08.3 +1.2
comp=E,0.9nm,0.7s,baz=176,slow=9.8,SNR=20
comp=E,0.9nm,0.7s

SJA 08 22:41:57.9±0.7, 31°64S×68°35W, h110km±2km, ML3.3, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	**0.10**	**68**	*eP*	Pn	22 42 13.7	+0.5
CFA				*eS*	Sn	22 42 25.1	+0.5
CFA				IAML		22 42 27.2	
	comp=Z,429nm,0.4s						
SJA	**San Juan**	**0.22**	**302**	*eP*	Pn	22 42 14.2	+0.7
SJA				*eS*	Sn	22 42 26.1	+1.0
SJA				IAML		22 42 29.3	
	comp=Z,535nm,0.7s						
RTCV	**Cerro Valdivia**	**0.28**	**217**	*eP*	Pn	22 42 14.5	+0.8
RTCV				*eS*	Sn	22 42 26.1	+0.6
RTCV				IAML		22 42 28.9	
	comp=Z,105nm,0.9s						
RTLL	**Cerro Villicun**	**0.33**	**341**	*eP*	Pn	22 42 14.4	+0.4
RTLL				*eS*	Sn	22 42 26.8	+0.8
RTLL				IAML		22 42 27.6	
	comp=Z,839nm,0.2s						
RTLS	**Leoncito**	**0.82**	**259**	*eP*	Pn	22 42 18.6	+0.9
RTLS				*eS*	Sn	22 42 34.4	+1.8
RTLS				IAML		22 42 35.7	
	comp=Z,1μm,0.3s						
DOCA	**Reserva Natura**	**0.94**	**317**	*eP*	Pn	22 42 19.6	+0.8
DOCA				*eS*	Sn	22 42 35.9	+1.2
ASAL	**Salagasta**	**1.03**	**204**	*eP*	Pn	22 42 20.6	+1.1
ASAL				*eS*	Sn	22 42 37.5	+1.6
ASAL				IAML		22 42 38.1	
	comp=Z,864nm,0.4s						
ACCO	**Cerro Coronel**	**1.22**	**329**	*eP*	Pn	22 42 23.2	+1.4
ACCO				*eS*	Sn	22 42 42.3	+2.4
ACCO				IAML		22 42 44.3	
	comp=Z,726nm,0.5s						
AVFE	**Valle Fertil**	**1.24**	**38**	*eP*	Pn	22 42 23.0	+1.2
AVFE				*eS*	Sn	22 42 40.8	+0.9
AVFE				IAML		22 42 41.6	
	comp=Z,383nm,0.2s						
ARCO	**CERRO ARCO**	**1.29**	**202**	*eP*	Pn	22 42 23.5	+1.0
ARCO				*eS*	Sn	22 42 42.6	+1.4
ARCO				IAML		22 42 44.9	
	comp=Z,339nm,0.4s						
AAGR	**Agrelo**	**1.50**	**196**	*eP*	Pn	22 42 26.3	+1.5
AAGR				*eS*	Sn	22 42 46.7	+1.5
AAGR				IAML		22 42 48.7	
	comp=Z,373nm,0.4s						
ACDV	**Cuesta del Vie**	**1.61**	**335**	*eP*	Pn	22 42 27.7	+1.4
ACDV				*eS*	Sn	22 42 49.5	+1.8
ACDV				IAML		22 42 49.8	
	comp=Z,280nm,0.3s						
AROD	**Rodeo**	**1.76**	**326**	*eP*	Pn	22 42 29.9	+1.6
AROD				*eS*	Sn	22 42 53.1	+1.9
AVIZ	**Vizcacheras**	**1.83**	**184**	*eP*	Pn	22 42 30.2	+1.4
AVIZ				*eS*	Sn	22 42 51.9	-0.6
AGUA	**GUANDACOL**	**2.15**	**357**	*eP*	Pn	22 42 34.8	+1.9
AGUA				*eS*	Sn	22 43 02.6	+2.9
AGUA				IAML		22 43 06.1	
	comp=Z,186nm,0.2s						
CO03	**El Pedregal**	**2.16**	**291**	*eP*	Pn	22 42 34.1	+1.1
CO03				IAML		22 43 06.5	
	comp=Z,204nm,0.6s						
VA03	**San Esteban**	**2.18**	**239**	*eP*	Pn	22 42 35.4	+2.1
VA03				IAML		22 43 06.4	
	comp=Z,99nm,0.4s						
CO01	**Juntas del Tor**	**2.24**	**317**	*eP*	Pn	22 42 36.6	+2.4
CO01				IAML		22 43 07.2	
	comp=Z,41nm,0.5s						
CO02	**Combarbal**	**2.31**	**280**	*eP*	Pn	22 42 36.1	+1.1
CO02				*eS*	Sn	22 43 06.2	+2.8
CO02				IAML		22 43 06.8	
	comp=Z,248nm,0.5s						
MRA	**San Martin**	**2.36**	**110**	*eP*	Pn	22 42 37.1	+1.4
MRA				*eS*	Sn	22 43 05.5	+0.9
MRA				IAML		22 43 05.8	
	comp=Z,619nm,0.3s						
PEL	**Peldehue**	**2.48**	**232**	*eP*	Pn	22 42 39.4	+2.3
ACLC	**CERRO LA CRUZ**	**2.52**	**29**	*eP*	Pn	22 42 39.0	+1.3
ACLC				*eS*	Sn	22 43 09.7	+1.4
ACLC				IAML		22 43 09.8	
	comp=Z,148nm,0.5s						
GO04	**Tololo Observa**	**2.57**	**304**	*eP*	Pn	22 42 39.5	+1.0
MT03	**Universidad Ad**	**2.60**	**224**	*eP*	Pn	22 42 41.9	+3.1
MT03				IAML		22 43 27.2	
	comp=Z,37nm,0.3s						
ROC1	**El Roble**	**2.62**	**239**	*eP*	Pn	22 42 39.8	+0.7
ROC1				*eS*	Sn	22 43 11.2	+0.4
MT05	**Renca**	**2.67**	**229**	*eP*	Pn	22 42 41.9	+2.3
MT05				IAML		22 43 57.7	
	comp=Z,36nm,0.6s						
MT02	**Curacav**	**2.86**	**235**	*eP*	Pn	22 42 42.4	+0.4
MT02				*eS*	Sn	22 43 18.3	+2.3
MT02				IAML		22 43 23.1	
	comp=Z,20nm,0.6s						
VCA	**Vinchina**	**2.90**	**2**	*eP*	Pn	22 42 45.0	+2.3
VCA				IAML		22 43 25.1	
	comp=Z,155nm,0.2s						
RFA	**San Rafael**	**3.12**	**182**	*eP*	Pn	22 42 46.1	+0.5
RFA				*eS*	Sn	22 43 16.6	-5.7
RFA				IAML		22 43 43.8	
	comp=Z,73nm,0.4s						
MT01	**Popeta**	**3.30**	**227**	*eP*	Pn	22 42 47.5	-0.4
MT01				*eS*	Sn	22 43 25.8	-0.7
MT01				IAML		22 43 28.6	
	comp=Z,21nm,0.2s						
LCO	**Las Campanas**	**3.32**	**322**	IAML		22 43 30.0	
	comp=Z,447nm,0.6s						
BO01	**Tunca**	**3.58**	**219**	*eP*	Pn	22 42 51.8	+0.2
CYA	**Choya**	**3.88**	**35**	*eP*	Pn	22 42 56.2	+0.5
CYA				IAML		22 43 41.4	
	comp=Z,38nm,0.3s						
AC04	**Llanos de Chal**	**4.16**	**325**	*eP*	Pn	22 42 59.3	-0.2

*TEH **08** 22:43:40.6, 27°.81N×57°.13E, h8km±67km, ML3.5*
*DSN **08** 22:43:40.7±1.6, 27°.94N×57°.55E, h15km, ML3.1/6, Error ellipse: s-maj=62.7km s-min=14.5km az=121.0*
*OMAN **08** 22:43:41.5±1.1, 27°.84N×57°.38E, h10km, mb4.2/1, ml3.3/14, Error ellipse: s-maj=10.5km s-min=6.6km az=51.0*
ISC 08 22:43:40.7±1.3, 27°.80N±0°.03×57°.15E±0°.04, h0km±11km, n66, σ1°93/80, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.52**	**74**	Pg	**Pg**	**22 43 51.3**	**+0.7**
KBAM	**BAM**	**1.76**	**41**	Pg	**Pb**	**22 44 12.8**	**-1.1**
NGRK	**Negar Kerman**	**1.87**	**349**	Pn	**Pb**	**22 44 15.0**	**-1.0**
SHME	**Shamm**	**1.96**	**207**	P	**Pb**	**22 44 16.6**	**-0.7**
SHME	**Shamm**	**1.96**	**207**	Pn	**Pb**	**22 44 16.8**	**-0.5**
SHME	**Shamm**	**1.96**	**207**	P	**Pb**	**22 44 16.8**	**-0.5**
	SNR=9.3						
SHME				S	**Sg**	**22 44 45.6**	**+1.7**
BANOM	**Banah**	**2.02**	**202**	P	**Pg**	**22 44 19.2**	**-0.2**
BANOM				S	**Sg**	**22 44 47.1**	**+1.4**
BANOM	**Banah**	**2.02**	**202**	Pn	**Pb**	**22 44 18.4**	**+0.1**
BANOM	**Banah**	**2.02**	**202**	P	**Pg**	**22 44 19.4**	**0.0**
BANOM				S	**Sg**	**22 44 45.6**	**0.0**
JASK	**Jask - Hormozg**	**2.03**	**161**	Pn	**Pb**	**22 44 17.9**	**-0.7**
JASK	**Jask - Hormozg**	**2.03**	**161**	P	**Pb**	**22 44 17.2**	**-1.3**
JASK				S	**Sb**	**22 44 43.8**	**-0.5**
CHMN	**Cheshme madani**	**2.08**	**10**	Pn	**Pb**	**22 44 17.8**	**-1.7**
TVBK	**TV Kerman**	**2.20**	**351**	Pn	**Pb**	**22 44 20.6**	**-1.0**
LAR1	**LAR**	**2.46**	**268**	Pn	**Pn**	**22 44 22.5**	**+0.4**
MASF	**Masafi**	**2.58**	**200**	P	**Pb**	**22 44 26.1**	**-1.7**
MASF				S	**Sb**	**22 44 59.4**	**-0.7**
MSFE	**Esma-Masafi**	**2.59**	**200**	P	**Pb**	**22 44 26.1**	**-1.9**
MSFE	**Esma-Masafi**	**2.59**	**200**	Pn	**Pb**	**22 44 27.1**	**-0.9**
KHGB	**Koh Gabri**	**2.63**	**347**	Pn	**Pb**	**22 44 26.1**	**-2.7**
KRM1	**Kerman Provinc**	**2.69**	**2**	Pn	**Pb**	**22 44 27.8**	**-2.1**
HATD	**Hatta, Dubai**	**3.10**	**197**	P	**Pn**	**22 44 32.2**	**+1.3**
HATD	**Hatta, Dubai**	**3.10**	**197**	Pn	**Pb**	**22 44 34.8**	**-2.0**
HATD	**Hatta, Dubai**	**3.10**	**197**	P	**Pn**	**22 44 32.5**	**+1.7**
NAZ	**Nazwa, Dubai**	**3.10**	**206**	Pn	**Pb**	**22 44 34.9**	**-1.9**
ZRDN	**Zarand Kerman**	**3.20**	**351**	Pn	**Pb**	**22 44 34.9**	**-3.6**
ASHO	**Ashiyiah**	**3.26**	**198**	P	**Pn**	**22 44 34.5**	**+1.4**
ASHO	**Ashiyiah**	**3.26**	**198**	Pn	**Pb**	**22 44 35.9**	**-3.5**
ASHO	**Ashiyiah**	**3.26**	**198**	P	**Pn**	**22 44 35.1**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.35**	**205**	P	**Pb**	**22 44 37.3**	**-3.6**
FAQ	**Al Faqa, Dubai**	**3.35**	**205**	Pn	**Pb**	**22 44 37.5**	**-3.5**
FAQ	**Al Faqa, Dubai**	**3.35**	**205**	P	**Pb**	**22 44 37.3**	**-3.6**
ASUD	**Al Ashush, Dub**	**3.56**	**208**	P	**Pb**	**22 44 40.0**	**-4.5**
	SNR=12						
ASUD				S	**Sn**	**22 45 22.1**	**+2.1**
ZHDN	**Zahedan**	**3.59**	**63**	Pn	**Pn**	**22 44 39.7**	**+1.9**
ESRB	**Sir Abu**	**3.66**	**226**	Pn	**Pn**	**22 44 40.0**	**+1.5**
SOHO	**SOHO**	**3.70**	**189**	Pn	**Pn**	**22 44 39.4**	**+0.4**
SOHO	**SOHO**	**3.70**	**189**	P	**Pn**	**22 44 39.4**	**+0.4**
SOHO				S	**Sn**	**22 45 23.0**	**-0.3**
CHBR	**Chabahar**	**3.71**	**126**	Pn	**Pn**	**22 44 40.3**	**+1.1**
AJN	**Ajban**	**3.77**	**211**	P	**Pn**	**22 44 42.2**	**+2.2**
AJN				S	**Sn**	**22 45 26.7**	**+1.7**
ALNE	**Al Ain**	**3.94**	**199**	P	**Pn**	**22 44 46.4**	**-4.6**
IBAF	**Bafgh**	**4.01**	**340**	Pn	**Pn**	**22 44 45.0**	**+1.4**
IMEH	**Mehriz**	**4.20**	**329**	Pn	**Pn**	**22 44 47.4**	**+1.2**
NGCH	**Negor - Chabah**	**4.33**	**123**	Pn	**Pn**	**22 44 48.8**	**+1.1**
BIDO	**Bidbid**	**4.36**	**168**	P	**Pn**	**22 44 48.5**	**+0.3**
BIDO				S	**Sn**	**22 45 37.4**	**-2.2**
ARQ	**Araqi**	**4.48**	**187**	P	**Pn**	**22 44 52.8**	**+2.9**
ARQ				S	**Sn**	**22 45 46.4**	**+3.6**
BSRN	**Basiran**	**4.49**	**22**	Pn	**Pn**	**22 44 52.3**	**+2.2**
SRVN	**Saravan**	**4.68**	**94**	Pn	**Pn**	**22 44 54.0**	**+1.3**
SMDO	**Samad**	**4.79**	**170**	P	**Pn**	**22 44 56.1**	**+1.8**
SMDO				S	**Sn**	**22 45 49.0**	**-1.6**
IKOO	**Kooshah**	**4.88**	**19**	Pn	**Pn**	**22 44 57.7**	**+2.1**
BSY	**Bisya**	**5.04**	**179**	P	**Pn**	**22 45 00.4**	**+2.9**
BSY				S	**Sn**	**22 45 56.8**	**+0.3**
ITEG	**Tejag**	**5.26**	**15**	Pn	**Pn**	**22 45 03.0**	**+2.3**
WBK	**Wadi Bani Khal**	**5.43**	**162**	Pn	**Pn**	**22 45 03.4**	**+0.4**
WBK	**Wadi Bani Khal**	**5.43**	**162**	P	**Pn**	**22 45 03.7**	**+0.8**
	SNR=10.0						
WBK				S	**Sn**	**22 46 02.9**	**-3.2**
JMDO	**Jabal Madar**	**5.48**	**171**	P	**Pn**	**22 45 05.6**	**+2.0**
JMDO				S	**Sn**	**22 46 06.9**	**-0.5**
IRAM	**Ramesheh**	**5.75**	**315**	Pn	**Pn**	**22 45 08.4**	**+0.9**
KLNJ	**Kolanjah**	**5.80**	**305**	Pn	**Pn**	**22 45 08.9**	**+0.6**
MZR	**Muzera**	**5.82**	**216**	P	**Pn**	**22 45 11.7**	**+3.5**
SHMA	**Al-Shehemyia**	**5.85**	**252**	P	**Pn**	**22 45 11.0**	**+2.3**
	SNR=9.3						
JLN	**Jalan Bani Buh**	**5.99**	**159**	P	**Pn**	**22 45 11.1**	**+0.5**
TRNA	**Turayna**	**6.14**	**241**	P	**Pn**	**22 45 13.8**	**+1.2**
	SNR=32						
SAKB	**Bahrain**	**6.17**	**254**	P	**Pn**	**22 45 14.3**	**+1.2**
SMRA	**Abu-Samra**	**6.44**	**243**	P	**Pn**	**22 45 18.2**	**+1.4**
IBRJ	**Brojen**	**6.54**	**310**	Pn	**Pn**	**22 45 19.3**	**+0.8**
MHTO	**MHTO**	**6.83**	**174**	P	**Pn**	**22 45 23.7**	**+1.6**
JHBN	**Jahan bin**	**7.14**	**310**	Pn	**Pn**	**22 45 26.8**	**+0.1**
IPIR	**Pirpir**	**7.27**	**313**	Pn	**Pn**	**22 45 28.8**	**+0.3**
DQM	**DQM**	**7.85**	**177**	P	**Pn**	**22 45 37.1**	**+1.0**
DMTO	**DMTO**	**10.24**	**192**	P	**Pn**	**22 46 09.1**	**+0.1**

*IDC **08** 22:46:51.7±0.7, 54°.87N×168°.22E, h0km, mb4.0/25, mbtmp4.1/27, ML4.1/2, MS3.4/15, Error ellipse: s-maj=18.7km s-min=12.0km az=174.0*
*NEIC **08** 22:46:52.6±2.0, 54°.55N±0°.10×168°.3E±0°.1, h10km±1km, mb4.3/113, Error ellipse: s-maj=16.5km s-min=10.1km az=16.0*
*KRSC **08** 22:46:52.1±1.7, 54°.57N×168°.21E, h60km±23km, Ml4.6*
*MOS **08** 22:46:53.8±0.9, 54°.55N×168°.19E, h40km, mb4.4/18, Error ellipse: s-maj=6.6km s-min=5.3km az=37.8*
ISC 08 22:46:54.4±0.4, 54°.65N±0°.07×168°.21E±0°.04, h23km, n269, σ1°05/251, mb4.2/85, MS3.5/12, 8C-5D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.40**	**294**	PN	**Pn**	**22 47 16.9**	**-1.6**
BKI				S	**Sn**	**22 47 34.8**	**-1.5**
BKI	**Bering**	**1.40**	**294**	*eP*	**Pn**	**22 47 16.9**	**-1.6**
BKI				*eS*	**Sn**	**22 47 34.8**	**-1.5**
KBTR	**Krutoberegovo**	**3.44**	**299**	PN	**Pn**	**22 47 45.5**	**-1.0**
KBTR				S	**Sn**	**22 48 25.4**	**-1.2**
KBTR	**Krutoberegovo**	**3.44**	**299**	*eP*	**Pn**	**22 47 45.5**	**-1.0**
KBTR				*eS*	**Sn**	**22 48 25.4**	**-1.2**
KBG	**Krutoberegovo**	**3.52**	**299**	PN	**Pn**	**22 47 47.9**	**+0.3**
KBG				S	**Sn**	**22 48 29.2**	**+0.8**
KBG	**Krutoberegovo**	**3.52**	**299**	*eP*	**Pn**	**22 47 47.9**	**+0.3**
KBG				*eS*	**Sn**	**22 48 29.2**	**+0.8**
SHEM	**Shemya Is, Ala**	**4.00**	**116**	Pn	**Pn**	**22 47 53.3**	**-0.8**
	59nm,0.3s,baz=293,slow=1.2,SNR=12						
SHEM				Sn	**Sn**	**22 48 38.8**	**-1.4**
	29nm,0.3s,baz=312,slow=20,SNR=2.8						
SHEM				LR	LR	22 49 26.6	
	comp=Z,256nm,21.1s,baz=8.0,slow=38						
	120nm,0.3s						
SMY	**Shemya**	**4.00**	**116**	Pn	**Pn**	**22 47 52.7**	**-1.4**
SMY	**Shemya**	**4.00**	**116**	PN	**Pn**	**22 47 52.7**	**-1.4**
SMKR	**Semkarok**	**4.28**	**300**	PN	**Pn**	**22 47 59.1**	**+1.0**
SMKR	**Semkarok**	**4.28**	**300**	*eP*	**Pn**	**22 47 59.1**	**+1.0**
BDR	**Baidarnaya**	**4.41**	**299**	PN	**Pn**	**22 48 00.6**	**+0.7**
BDR	**Baidarnaya**	**4.41**	**299**	*eP*	**Pn**	**22 48 00.6**	**+0.7**
SRKR	**Sorokina**	**4.46**	**300**	PN	**Pn**	**22 48 02.2**	**+1.6**
SRKR	**Sorokina**	**4.46**	**300**	*eP*	**Pn**	**22 48 02.2**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**4.48**	**290**	PN	**Pn**	**22 48 02.4**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**4.48**	**290**	*eP*	**Pn**	**22 48 02.4**	**+1.5**
CIRR	**Tsirk**	**4.50**	**292**	PN	**Pn**	**22 48 02.8**	**+1.6**
CIRR	**Tsirk**	**4.50**	**292**	*eP*	**Pn**	**22 48 02.8**	**+1.6**
TUMD	**Tumrok D**	**4.54**	**280**	*eP*	**Pn**	**22 48 02.0**	**+0.4**
TUMD				*eS*	**Sn**	**22 48 54.4**	**+0.8**
BZP	**Bezymyannyi-Pe**	**4.56**	**289**	*eP*	**Pn**	**22 48 03.4**	**+1.3**
BZMR	**Bezymyannaya**	**4.59**	**289**	PN	**Pn**	**22 48 03.6**	**+1.1**
BZMR	**Bezymyannaya**	**4.59**	**289**	*eP*	**Pn**	**22 48 03.6**	**+1.1**
BZWR	**Bezymyannyi-We**	**4.60**	**290**	PN	**Pn**	**22 48 04.5**	**+1.9**
BZWR	**Bezymyannyi-We**	**4.60**	**290**	*eP*	**Pn**	**22 48 04.5**	**+1.9**
KLY	**Klyuchi**	**4.61**	**294**	PN	**Pn**	**22 48 02.4**	**-0.1**
KLY				S	**Sn**	**22 48 53.4**	**-1.8**
KLY	**Klyuchi**	**4.61**	**294**	*eP*	**Pn**	**22 48 02.4**	**-0.1**
KLY				*eS*	**Sn**	**22 48 53.4**	**-1.8**
KIRR	**Kirishev**	**4.68**	**289**	PN	**Pn**	**22 48 05.5**	**+1.8**
KIRR	**Kirishev**	**4.68**	**289**	*eP*	**Pn**	**22 48 05.5**	**+1.8**
TUMR	**Tumrok**	**4.69**	**281**	PN	**Pn**	**22 48 02.0**	**-1.7**
TUMR	**Tumrok**	**4.69**	**281**	*eP*	**Pn**	**22 48 04.5**	**+0.8**
KMNR	**Kamenistaya**	**4.70**	**287**	PN	**Pn**	**22 48 05.3**	**+1.5**
KMNR	**Kamenistaya**	**4.70**	**287**	*eP*	**Pn**	**22 48 05.3**	**+1.5**
KPT	**Kopyto**	**4.75**	**289**	PN	**Pn**	**22 48 06.3**	**+1.8**
KPT	**Kopyto**	**4.75**	**289**	*eP*	**Pn**	**22 48 06.3**	**+1.8**
SPN	**Mys Shipunski**	**5.09**	**256**	PN	**Pn**	**22 48 08.4**	**-0.7**
SPN	**Mys Shipunski**	**5.09**	**256**	*eP*	**Pn**	**22 48 08.4**	**-0.7**
SRDR	**Sredinnyy**	**5.11**	**293**	PN	**Pn**	**22 48 11.3**	**+1.8**
SRDR	**Sredinnyy**	**5.11**	**293**	*eP*	**Pn**	**22 48 11.3**	**+1.8**
OSSR	**Ossora**	**5.40**	**331**	PN	**Pn**	**22 48 13.2**	**-0.2**
OSSR	**Ossora**	**5.40**	**331**	*eP*	**Pn**	**22 48 13.2**	**-0.2**
ESO	**Esso**	**5.58**	**287**	PN	**Pn**	**22 48 17.0**	**+1.1**
ESO	**Esso**	**5.58**	**287**	*eP*	**Pn**	**22 48 17.0**	**+1.1**
SMAR	**Somma**	**5.73**	**260**	PN	**Pn**	**22 48 18.1**	**0.0**
SMAR	**Somma**	**5.73**	**260**	*eP*	**Pn**	**22 48 18.1**	**0.0**
UGLR	**Uglovaya**	**5.73**	**259**	PN	**Pn**	**22 48 18.2**	**+0.2**
UGLR	**Uglovaya**	**5.73**	**259**	*eP*	**Pn**	**22 48 18.2**	**+0.2**
AVH	**Avacha**	**5.76**	**260**	PN	**Pn**	**22 48 19.0**	**+0.5**
AVH	**Avacha**	**5.76**	**260**	*eP*	**Pn**	**22 48 19.0**	**+0.5**
KRX	**Arik**	**5.78**	**261**	PN	**Pn**	**22 48 19.0**	**+0.2**
KRX	**Arik**	**5.78**	**261**	*eP*	**Pn**	**22 48 19.0**	**+0.2**
KOK	**Koryaka**	**5.81**	**260**	PN	**Pn**	**22 48 19.4**	**+0.3**
KOK	**Koryaka**	**5.81**	**260**	*eP*	**Pn**	**22 48 19.4**	**+0.3**
DALK	**Dalny**	**5.83**	**258**	PN	**Pn**	**22 48 19.4**	**+0.1**
**D

comp=Z,26nm,1.1s
O14K Tigyukauivet M 17.18 62 P 22 50 53.7 -0.4
K15K Wolf Creek Mou 17.44 52 P 22 50 57.8 +0.9
K15K IAmb IAmb 22 51 22.7
comp=Z,20nm,1.1s
N15K Kwethluk River 17.82 59 P 22 51 02.5 +1.4
L16K Owhat River 18.29 54 P 22 51 07.5 +1.3
O16K Kokwok River B 18.81 61 P Pn 22 51 12.7 +0.2
O16K IAmb IAmb 22 51 26.0
comp=Z,28nm,1.5s
K17K Iditarod 18.99 51 P Pn 22 51 14.6 -0.1
N17K Nushagak Hills 19.29 58 P Pn 22 51 18.4 0.0
N17K IAmb IAmb 22 51 21.8
comp=Z,16nm,1.2s
R17K Ugashik Creek 19.81 67 P Pn 22 51 24.0 -0.6
J18K Innoko River 19.83 50 P Pn 22 51 24.5 -0.3
J18K IAmb IAmb 22 51 25.9
comp=Z,12nm,0.8s
C18K Utukok River 19.87 33 P Pn 22 51 24.9 -0.4
TTA Tatalina 20.06 51 P Pn 22 51 27.4 -0.1
TTA Tatalina 20.06 51 P Pn 22 51 27.4 -0.2
TTA pmax pmax
comp=Z,6.0nm,0.8s
SVW2 Sparrevohn 20.10 57 P Pn 22 51 27.5 -0.4
O18K Koktuh Hills 20.27 60 P Pn 22 51 29.6 -0.5
O18K IAmb IAmb 22 51 30.2
comp=Z,11nm,0.7s
P18K Big Mountain, 20.27 62 P Pn 22 51 29.5 -0.5
J19K Poorman 20.40 48 IAmb IAmb 22 51 35.1
comp=Z,9.4nm,0.8s
L19K White Mountain 20.51 54 IAmb IAmb 22 51 33.1
comp=Z,9.0nm,0.7s
CHIR Chirikof Islan 20.52 72 P P 22 51 30.5 -0.1
C19K Lookout Ridge 20.60 33 IAmb IAmb 22 51 43.4
comp=Z,9.2nm,0.7s
N19K Bonanza Creek 20.62 58 P P 22 51 33.0 +1.1
N19K IAmb IAmb 22 51 34.2
comp=Z,8.9nm,0.7s
M19K Big River Lodg 20.71 54 P Pn 22 51 34.3 -0.8
M19K IAmb IAmb 22 51 56.0
comp=Z,24nm,1.5s
ERM Erimo 20.77 243 P P 22 51 32.1 -1.4
ERM Erimo 20.77 243 P P 22 51 32.1 -1.4
ERM pmax pmax
comp=Z,89nm,1.5s
D19K Kuna River 20.81 35 IAmb IAmb 22 51 58.0
comp=Z,14nm,1.1s
Q19K Cape Douglas, 21.12 63 P P 22 51 37.2 0.0
SII Sitkinak Islan 21.16 69 P P 22 51 36.6 -1.0
YAK Yakutsk 21.25 306⇑ eP P 22 51 37.4 -1.0
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK Yakutsk 21.25 306 P P 22 51 38.0 -0.4
comp=Z,0.3nm,0.4s,baz=338,slow=1.8,SNR=1.3
P19K Oil Pt 21.28 61 P P 22 51 40.5 +1.7
OHAK Old Harbor 21.53 67 P P 22 51 40.1 -1.4
OHAK IAmb IAmb 22 51 41.5
comp=Z,10nm,0.8s
IMAR Indian Mountai 21.59 43 P P 22 51 43.5 +1.5
B20K Meade River 21.78 32 IAmb IAmb 22 51 58.0
comp=Z,7.5nm,0.7s
SYI Shuyak Island 21.80 63 P P 22 51 44.7 +0.3
KDAK Kodiak Island 21.81 66 P P 22 51 43.3 -1.2
KDAK IAmb IAmb 22 51 46.9
comp=Z,11nm,0.6s
KDAK Kodiak Island 21.81 66 P P 22 51 43.3 -1.2
KDAK pmax pmax
comp=Z,11nm,0.6s
KDAK Kodiak Island 21.81 66 P P 22 51 43.8 -0.7
comp=Z,8.1nm,0.5s,baz=293,slow=5.1,SNR=32
comp=Z,8.1nm,0.5s
CAST Castle Rocks 21.89 50 P P 22 51 47.3 +2.0
CAST IAmb IAmb 22 52 03.9
comp=Z,14nm,1.4s
F21K Alatna River 22.01 40 P P 22 51 46.3 -0.3
SKT Skwentna 22.06 54 P P 22 51 47.0 -0.2
SKT IAmb IAmb 22 52 03.6
comp=Z,14nm,1.3s
CNPM China Poot 22.30 61 P P 22 51 49.3 -0.5
KTH Kantishna Hill 22.42 50 P P 22 51 50.4 -0.6
KTH IAmb IAmb 22 52 06.9
comp=Z,17nm,1.4s
SUA Susitna One 22.44 56 P P 22 51 50.9 -0.4
SUA IAmb IAmb 22 51 53.4
comp=Z,12nm,1.0s
BRLK Bradley Lake 22.46 60 P P 22 51 51.0 -0.4
BRLK IAmb IAmb 22 51 51.9
comp=Z,12nm,1.2s
TRF Thorofare Moun 22.69 51 P P 22 51 55.4 +1.3
TRF IAmb IAmb 22 51 56.4
comp=Z,8.8nm,0.7s
KLR Kul'dur 22.93 271⇓ eP P 22 51 56.0 -0.6
KLR pmax pmax
comp=Z,22nm,2.8s
KLR Kul'dur 22.93 271 LR LR 23 01 01.1
comp=Z,83nm,19.2s,baz=58,slow=37
B22K Teshekpuk Lake 23.08 32 IAmb IAmb 22 52 08.8
comp=Z,8.5nm,0.8s
PMR Palmer 23.21 55 P P 22 52 00.0 +0.8
PMR Palmer 23.21 55 P P 22 52 00.0 +0.8
PMR pmax pmax
comp=Z,4.0nm,0.9s
NEA2 Nenana 23.31 48 P P 22 52 00.4 +0.1
RND Reindeer 23.34 51 P P 22 52 00.4 -0.2
RND IAmb IAmb 22 52 01.0
comp=Z,7.1nm,0.8s
RND Reindeer 23.34 51 P P 22 52 00.4 -0.2
RND pmax pmax
comp=Z,7.0nm,0.8s
KNK Knik Glacier 23.54 56 P P 22 52 03.1 +0.6
KNK IAmb IAmb 22 52 03.4
comp=Z,20nm,1.4s
SML Sawmill 23.58 55 P P 22 52 02.9 -0.1
SML IAmb IAmb 22 52 04.1
comp=Z,13nm,1.2s
CCB Clear Creek Bu 23.86 48 P P 22 52 05.7 +0.1
TIXI Tiksi 23.90 330 P P 22 52 05.3 -0.5
TIXI IAmb IAmb 22 52 10.8
comp=Z,6.3nm,0.7s
TIXI Tiksi 23.90 330⇓ eP P 22 52 05.7 -0.1
TIXI pmax pmax
comp=Z,13nm,1.4s
DHY Denali Highway 24.00 52 P P 22 52 06.7 -0.4
DHY IAmb IAmb 22 52 25.7
comp=Z,10nm,1.2s
POKR Poker Plat Res 24.05 47 P P 22 52 08.3 +1.0
POKR IAmb IAmb 22 52 09.8
comp=Z,5.5nm,0.7s
SCM Sheep Creek Mo 24.05 55 P P 22 52 07.4 -0.1
SCM IAmb IAmb 22 52 17.8
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 24.05 55 P P 22 52 07.4 -0.1
SCM pmax pmax
comp=Z,16nm,1.1s
E24K Your Creek 24.07 39 IAmb IAmb 22 52 09.9
comp=Z,6.1nm,0.6s
F24K Squaw Lake 24.18 41 P P 22 52 08.1 -0.6
D24K Happy Valley 24.20 37 IAmb IAmb 22 52 27.6
comp=Z,5.6nm,0.8s
HDA Harding Lake 24.22 48 P P 22 52 08.7 -0.2
IL31 24.26 47 P P 22 52 09.0 -0.3
IL31 IAmb IAmb 22 52 10.6
comp=Z,4.4nm,0.7s
ILAR Eielson Array 24.26 47 P P 22 52 09.3 0.0
ILAR Eielson Array 24.26 47 P P 22 52 09.3 0.0
ILAR Eielson Array 24.26 47 P P 22 52 08.9 -0.4
comp=Z,2.9nm,0.6s,baz=252,slow=8.0,SNR=43
comp=Z,2.9nm,0.6s
HIN Hinchinbrook I 24.58 58 P P 22 52 12.5 +0.3
M24K Tolsona, Glenn 24.58 54 P P 22 52 12.9 +0.6
KLU Klutina 24.75 55 P P 22 52 14.6 +0.7
KLU IAmb IAmb 22 52 15.5
comp=Z,15nm,1.2s
J25K Salcha River, 24.91 48 IAmb IAmb 22 52 20.3
comp=Z,4.6nm,0.9s
HEH HeiHe 24.98 277 eP P 22 52 16.0 0.0
HEH pmax pmax
comp=Z,8.0nm,1.0s
HEH pmax pmax
comp=Z,290nm,4.3s
E25K Arctic Village 25.15 40 P P 22 52 18.0 +0.6
N25K Chitina, Valde 25.37 55 P 22 52 19.6 +0.1
N25K IAmb IAmb 22 52 41.2
comp=Z,14nm,1.5s
BMAR Burnt Mountain 25.43 41 P P 22 52 20.6 +0.7

USRK Ussuriysk Ar. 25.50 261 LR LR 23 01 52.2
comp=Z,76nm,21.7s,baz=80,slow=35
VRDI Verde Repeater 25.96 56 P P 22 52 24.9 -0.1
VRDI IAmb IAmb 22 53 07.2
comp=Z,12nm,1.4s
K27K Chicken 26.35 49 IAmb IAmb 22 52 50.5
comp=Z,6.9nm,1.1s
L27K Beaver Creek, 26.52 51 IAmb IAmb 22 52 31.5
comp=Z,6.9nm,0.7s
BCAR Beaver Creek A 26.54 51 P P 22 52 30.3 +0.3
EGAK Eagle 26.71 47 IAmb IAmb 22 52 31.9
comp=Z,5.3nm,0.9s
MJAR Matsushiro Arr 27.41 241 P P 22 52 40.2 +2.2
comp=Z,1.1nm,0.5s,baz=32,slow=7.7,SNR=2.2
comp=Z,1.1nm,0.5s
DAWY Dawson 27.52 49 P P 22 52 39.1 +0.2
DAWY IAmb IAmb 22 52 43.5
comp=Z,5.2nm,0.7s
L29M L29M 28.19 51 P P 22 52 45.1 +0.3
L29M IAmb IAmb 22 52 46.7
comp=Z,3.7nm,0.8s
EPYK Eagle Plains 28.49 44 IAmb IAmb 22 53 22.6
comp=Z,3.9nm,0.9s
I30M Mount Dempster 28.71 46 P P 22 52 48.4 -1.2
I30M IAmb IAmb 22 53 19.4
comp=Z,8.2nm,1.5s
M31M Drury Creek, Y 30.05 52 IAmb IAmb 22 53 03.3
comp=Z,5.5nm,0.8s
KSRS Korea Array 32.27 255 LR LR 23 05 29.1
comp=Z,28nm,19.7s,baz=15,slow=34
XLT XiLinHaoTe 34.89 274 eP P 22 53 50.4 +6.5
XLT pmax pmax
comp=Z,10.0nm,2.5s
XLT pmax pmax
comp=Z,130nm,5.1s
NRIK Noril'sk 37.41 325⇑ eP P 22 54 05.3 +0.3
NRIK pmax pmax
comp=Z,7.0nm,2.3s
ULN Ulaanbaatar 37.77 286⇑ eP P 22 54 07.3 -1.2
ULN pmax pmax
comp=Z,5.0nm,1.4s
SONM Songino Array 38.16 286 P P 22 54 12.3 +0.6
SONM Songino Array 38.16 286 P P 22 54 12.3 +0.6
comp=Z,1.3nm,0.5s,baz=58,slow=8.0,SNR=7.9
SONM LR LR 23 11 25.0
comp=Z,98nm,19.2s,baz=66,slow=39
comp=Z,1.3nm,0.5s
YKA Yellowknife Ar 38.68 46 i P P 22 54 16.3 +0.5
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 38.68 46 P P 22 54 16.0 +0.2
comp=Z,0.6nm,0.6s,baz=296,slow=7.8,SNR=7.7
comp=Z,0.6nm,0.6s
HHC Hu-ho-hao-te 39.41 274 eP P 22 54 20.4 -1.9
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,320nm,5.0s
LON Longmire 43.31 70 P P 22 54 53.8 -0.4
LON IAmb IAmb 22 55 04.8
comp=Z,6.4nm,1.2s
LON Longmire 43.31 70 P P 22 54 53.8 -0.4
LON pmax pmax
comp=Z,6.0nm,1.2s
EDM Edmonton 43.92 58 P P 22 54 59.1 +0.1
EDM IAmb IAmb 22 54 59.9
comp=Z,4.4nm,0.5s
EDM Edmonton 43.92 58 P P 22 54 59.1 +0.1
EDM pmax pmax
comp=Z,4.0nm,0.5s
DBO Dodson Butte 44.78 75 P P 22 55 07.0 +1.0
NEW Newport 44.92 66 LR LR 23 11 21.7
comp=Z,54nm,21.6s,baz=336,slow=33
J05D Fort Rock, OR 45.79 74 P P 22 55 15.1 +0.9
L04D Klamath Falls 45.89 76 P P 22 55 15.6 +0.7
ZALV Zalesovo Beam 45.90 305 P P 22 55 17.1 +2.5
comp=Z,0.7nm,0.6s,baz=42,slow=7.2,SNR=4.2
ZALV LR LR 23 16 17.0
comp=Z,73nm,18.3s,baz=55,slow=39
YBH Yreka Blue Hor 45.97 76 LR LR 23 13 51.7
comp=Z,47nm,18.1s,baz=280,slow=35
SPITS Spitsbergen Ar 46.31 352 P P 22 55 17.6 0.0
SPITS pmax pmax
comp=Z,52nm,1.4s
SPITS Spitsbergen Ar 46.31 352 P P 22 55 17.2 -0.5
comp=Z,1.7nm,0.4s,baz=56,slow=6.2,SNR=18
comp=Z,1.7nm,0.4s
K05A Summer Lake 46.35 74 P P 22 55 19.6 +1.0
K05A IAmb IAmb 22 55 35.2
comp=Z,4.8nm,1.2s
DGZ Jazzator, Alta 47.20 299⇑ eP P 22 55 24.3 -0.8
DGZ pmax pmax
comp=Z,3.0nm,1.3s
PLID Pearl Lake 47.51 69 P P 22 55 27.9 +0.3
OVMT Ovando 47.84 65 P P 22 55 29.5 -0.6
LYMT Lyon Mountain 48.28 64 P P 22 55 34.0 +0.4
FCC Fort Churchill 49.16 43 P P 22 55 40.3 +0.5
FCC IAmb IAmb 22 55 54.3
comp=Z,4.6nm,0.9s
FCC Fort Churchill 49.16 43 P P 22 55 40.3 +0.5
FCC pmax pmax
comp=Z,5.0nm,0.9s
YHL Hebgen Lake 50.25 66 P P 22 55 48.6 -0.2
YHL IAmb IAmb 22 56 20.8
comp=Z,4.3nm,1.3s
NVAR Mina Array Bea 50.69 77 P P 22 55 52.8 +0.7
comp=Z,0.3nm,0.5s,baz=306,slow=9.9,SNR=2.8
comp=Z,0.3nm,0.5s
ELK Elko 50.82 72 LR LR 23 16 20.2
comp=Z,45nm,18.5s,baz=340,slow=35
KURK Kurchatov 50.89 305⇑ eP P 22 55 52.8 -0.3
KURK pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 50.89 293 eP P 22 55 56.0 +2.7
KURBB Kurchatov Arra 50.99 305 P P 22 55 52.6 -1.3
comp=Z,1.9nm,0.8s,baz=53,slow=7.7,SNR=12
comp=Z,1.9nm,0.8s
MOOW Moose Ponds 51.22 67 P P 22 55 55.5 -0.5
MK31 Makanchi Array 51.70 299 deP P 22 55 58.2 -1.1
MKAR Makanchi Array 51.70 299 i P P 22 55 58.4 -0.9
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 51.70 299 P P 22 55 58.1 -1.2
comp=Z,0.9nm,0.6s,baz=52,slow=6.4,SNR=12
comp=Z,0.9nm,0.6s
MAKZ Makanchi 51.85 299 P P 22 55 58.8 -1.6
MAKZ Makanchi 51.85 299 P P 22 55 58.8 -1.6
MAKZ pmax pmax
comp=Z,3.0nm,1.3s
BW06 Boulder Array 52.52 67 P P 22 56 05.9 +0.2
PD31 Pinedale Array 52.52 67 P P 22 56 06.0 +0.3
PDAR Pinedale Array 52.52 67 P P 22 56 05.8 0.0
PDAR Pinedale Array 52.52 67 P P 22 56 06.2 +0.4
comp=Z,0.8nm,0.5s,baz=328,slow=1.2,SNR=16
comp=Z,0.8nm,0.5s
BVAR Borovoye Array 53.07 312 P P 22 56 09.3 0.0
comp=Z,5.4nm,0.4s,baz=63,slow=7.8,SNR=62
comp=Z,5.4nm,0.4s
BRVK Borovoye 53.09 312 P P 22 56 09.7 +0.2
BRVK Borovoye 53.09 312 di P P 22 56 09.4 -0.1
BRVK pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 53.18 345 P P 22 56 08.2 -1.8
comp=Z,3.2nm,0.8s,baz=9.3,slow=9.0,SNR=6.2
comp=Z,3.2nm,0.8s
GWY Greenwater Val 53.20 78 P P 22 56 10.6 0.0
GWY IAmb IAmb 22 56 24.8
comp=Z,6.5nm,1.5s
ULM Lac du Bonnet 54.16 52 P P 22 56 16.9 -0.5
comp=Z,2.5nm,0.7s,baz=357,slow=7.0,SNR=4.0
comp=Z,2.5nm,0.7s
RSSD Black Hills 54.48 62 P P 22 56 20.6 +0.6
RSSD Black Hills 54.48 62 P P 22 56 20.6 +0.6
RSSD pmax pmax
comp=Z,5.0nm,0.5s
SRU San Rafael Swe 54.55 71 P P 22 56 21.1 +0.5
SRU San Rafael Swe 54.55 71 P P 22 56 21.1 +0.5
SRU pmax pmax
comp=Z,4.0nm,0.6s
HMU Henry Mountain 55.27 72 P P 22 56 26.9 +1.0
PZH PanZhiHua 55.31 268 P P 22 56 27.7 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,6.0s
ARU Arti 55.38 321 P P 22 56 26.3 +0.3
ARU IAmb IAmb 22 56 26.9
comp=Z,5.9nm,1.2s
U15A North Rim 55.49 74 P P 22 56 28.6 +1.1
U15A IAmb IAmb 22 56 33.3
comp=Z,6.6nm,1.5s
S22A 4UR Ranch, Cre 57.55 69 P P 22 56 43.1 +0.9
S22A IAmb IAmb 22 57 06.0
comp=Z,2.8nm,1.1s
EYMN Ely 57.82 51 P P 22 56 44.1 +0.5
SDCO Great Sand Dun 58.27 68 P P 22 56 48.4 +1.2
AAK Ala-Archa 58.57 300⇓ eP P 22 56 47.9 -1.2
AAK pmax pmax
comp=Z,7.0nm,2.7s
ANMO Albuquerque 59.81 71 LR LR 23 20 31.7
comp=Z,44nm,19.6s,baz=82,slow=34
AKTO Aktyubinsk 60.17 316 LR LR 23 25 39.6
comp=Z,74nm,20.6s,baz=346,slow=39
KKAR Karatay Array 60.19 303 P P 22 57 00.0 -0.1
KKAR Karatay Array 60.19 303 P P 22 57 00.0 -0.1
ABKAR Akbulak array 60.30 314 P P 22 56 59.9 -0.8
FINES FINESS Array B 60.44 340 P P 22 56 59.2 -2.2
comp=Z,3.1nm,0.9s,baz=46,slow=8.0,SNR=1.2
comp=Z,3.1nm,0.9s
CMAR Chiang Mai Arr 63.17 264 P P 22 57 23.3 +2.9
comp=Z,0.3nm,0.3s,baz=17,slow=6.1,SNR=4.0
comp=Z,0.3nm,0.3s
NB2 NORSAR Subarra 63.22 348 P P 22 57 20.4 +0.2
comp=Z,0.7nm,0.6s,baz=16,slow=6.9
NOA NORSAR Array B 63.22 348 P P 22 57 19.5 -0.7
comp=Z,0.8nm,0.7s,baz=2.3,slow=5.9,SNR=3.9
NOA LR LR 23 27 08.2
comp=Z,28nm,18.6s,baz=290,slow=38
comp=Z,0.8nm,0.7s
VHRN Van Horn 63.75 73 P P 22 57 25.1 +0.8
VHRN IAmb IAmb 22 57 25.6
comp=Z,1.5nm,0.7s
HFS Hagfors 63.77 346 P P 22 57 23.4 -0.4
comp=Z,1.2nm,0.6s,baz=72,slow=4.8,SNR=6.6
comp=Z,1.2nm,0.6s
TX31 Lajitas Ar. Si 65.59 73 P P 22 57 37.0 +0.7
TXAR Lajitas Array 65.59 73 P P 22 57 36.6 +0.3
TXAR Lajitas Array 65.59 73 P P 22 57 36.6 +0.3
TXAR Lajitas Array 65.59 73 P P 22 57 36.9 +0.6
comp=Z,2.8nm,0.5s,baz=304,slow=4.7,SNR=45
comp=Z,2.8nm,0.5s
BRDY Brady 66.65 69 P P 22 57 41.5 -1.5
BRDY IAmb IAmb 22 58 11.1
comp=Z,2.5nm,1.1s
M57A Sunshine Farm, 69.34 47 P P 22 57 58.6 -1.0
AKASG Malin Array Be 69.56 334 P P 22 58 00.9 0.0
comp=Z,0.9nm,0.4s,baz=26,slow=6.5,SNR=8.0
comp=Z,0.9nm,0.4s
R53A Hurricane 69.66 52 P P 22 58 00.9 -0.9
GEYT Alibeck 70.10 308 P P 22 58 06.2 +1.7
comp=Z,1.4nm,0.7s,baz=81,slow=9.1,SNR=2.9
comp=Z,1.4nm,0.7s
EKA Eskdalemuir Ar 70.15 355 P P 22 58 03.4 -1.0
comp=Z,0.8nm,0.6s,baz=7.8,slow=5.7,SNR=1.2
comp=Z,0.8nm,0.6s
Z47A Carrollton 70.86 60 P P 22 58 08.4 -0.7
HODGE Hodges 72.86 55 P P 22 58 21.3 +0.2
LANS Liptovska Anna 73.28 339 eP P 22 58 21.8 -1.7
LANS Liptovska Anna 73.28 339 eP P 22 58 21.8 -1.7
BUR08 Bucovina Ar. S 73.40 335 P P 22 58 23.4 -0.9
BUR08 IAmb IAmb 22 59 07.4
comp=Z,6.2nm,1.4s
BURAR Bucovina Array 73.42 335 P P 22 58 24.3 0.0
BRTR Keskin Array B 78.26 326 P P 22 58 52.7 +0.5
BRTR Keskin Array B 78.26 326 P P 22 58 52.7 +0.5
BRTR Keskin Array B 78.26 326 P P 22 58 52.4 +0.3
comp=Z,0.3nm,0.4s,baz=103,slow=3.1,SNR=1.5
comp=Z,0.3nm,0.4s
WRA Warramunga Arr 79.75 212 P P 22 59 01.2 +1.0
comp=Z,0.6nm,0.7s,baz=23,slow=6.2,SNR=3.3
comp=Z,0.6nm,0.7s
PALK Pallekele 82.68 272 LR LR 23 40 53.7
comp=Z,28nm,19.0s,baz=113,slow=39
ASAR Alice Springs 83.38 211 P P 22 59 21.5 +2.1
comp=Z,1.0nm,0.7s,baz=17,slow=5.6,SNR=8.8
comp=Z,1.0nm,0.7s
ESDC Sonseca Array 85.80 354 P P 22 59 32.5 +0.8
comp=Z,0.7nm,1.0s,baz=357,slow=5.4,SNR=2.8
comp=Z,0.7nm,1.0s

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*AFAD **08** 22:51:54.8±0.0, 36°.92N×44°.33E, h4km±1km, ML2.6*
*TEH **08** 22:51:59.7, 36°.82N×44°.66E, h10km±59km, ML2.9*
*ISN **08** 22:52:00.6±1.2, 36°.73N×44°.61E, h2km±98km, ML3.1*
ISC 08 22:51:53.4±1.3, 36°.78N±0°.03×44°.32E±0°.03, h1km±13km, n21, σ1§24/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.73**	**309**	P	**Pg**	**22 52 08.1**	**+0.6**
CUKT				S	**Sg**	**22 52 17.7**	**+0.7**
CUKT				*i* AML	AML	22 52 24.0	
	comp=N,429nm,0.3s						
HAKT	**HAKKARI**	**0.92**	**328**	P	**Pg**	**22 52 10.5**	**-0.5**
HAKT				S	**Sg**	**22 52 22.4**	**-0.5**
MAHB	**Mahabad**	**1.11**	**90**	Pg	**Pn**	**22 52 15.8**	**-0.5**
SDS1	**Sardasht. Az.**	**1.13**	**124**	Pg	**Pn**	**22 52 17.9**	**+1.3**
SDS1				Sg	**Sn**	**22 52 35.1**	**+2.2**
IAZR	**Azarshahr**	**1.60**	**55**	Pg	**Pg**	**22 52 25.6**	**+1.5**
SIRN	**Sirnak**	**1.68**	**296**	P	**Pb**	**22 52 25.0**	**-0.2**
SIRN				S	**Sb**	**22 52 46.7**	**-0.3**
SIRN				*i* AML	AML	22 52 50.0	
	comp=N,111nm,0.7s						
SIRN				*i* AML	AML	22 52 54.0	
	comp=E,130nm,0.6s						
GEVA	**Gevas**	**1.83**	**327**	P	**Pg**	**22 52 28.7**	**+0.3**
GEVA				S	**Sg**	**22 52 52.8**	**+0.6**
PERV	**Siirt/Pervari-**	**1.83**	**310**	P	**Pb**	**22 52 27.7**	**-0.2**
PERV				S	**Sg**	**22 52 52.2**	**-0.1**
PERV				*i* AML	AML	22 52 56.0	
	comp=E,63nm,0.5s						
PERV				*i* AML	AML	22 52 59.0	
	comp=N,70nm,0.5s						
IMRD	**Marand**	**2.22**	**29**	Pn	**Pg**	**22 52 36.0**	**+0.1**
BLIS	**Bitlis-Merkez**	**2.39**	**314**	P	**Pg**	**22 52 38.7**	**-0.6**
BLIS				S	**Sb**	**22 53 07.6**	**+0.1**
IHSH	**Hashtrud**	**2.41**	**77**	Pn	**Pb**	**22 52 38.3**	**+0.5**
MIDY	**Mardin/Midyat-**	**2.42**	**286**	P	**Pb**	**22 52 37.5**	**-0.3**
MIDY				S	**Sb**	**22 53 08.1**	**0.0**
MIDY				*i* AML	AML	22 53 16.0	
	comp=N,34nm,0.8s						
MIDY				*i* AML	AML	22 53 20.0	
	comp=E,39nm,0.8s						
KGS1	**Ghasr-e-Shirin**	**2.50**	**155**	Pn	**Pg**	**22 52 42.1**	**+0.9**
IHRS	**Heris**	**2.65**	**54**	Pn	**Pb**	**22 52 41.9**	**0.0**
IDHR	**Dehrash**	**2.67**	**140**	Pn	**Pb**	**22 52 42.5**	**+0.3**
ISRB	**Sarab**	**2.87**	**68**	Pn	**Pb**	**22 52 43.9**	**-1.6**
MARD	**Mardin**	**2.88**	**282**	P	**Pb**	**22 52 46.0**	**+0.2**
MARD				S	**Sb**	**22 53 21.0**	**-0.6**
MUSM	**Mu-Merkez**	**2.95**	**312**	P	**Pb**	**22 52 46.1**	**-0.8**
MUSM				S	**Sb**	**22 53 21.3**	**-2.2**
BHD	**Baghdad**	**3.50**	**179**	*e*Pn	**Pb**	**22 52 57.0**	**+0.8**
	baz=3.0						
BHD				*e*Sn	**Sb**	**22 53 38.0**	**-1.3**
BHD				AML	AML	22 53 49.8	
	comp=E,157nm,0.4s						
IKOM	**Komasi**	**3.68**	**134**	Pn	**Pb**	**22 52 56.6**	**-2.7**
IBDR	**Badra**	**3.89**	**160**	*e*Pn	**Pb**	**22 53 02.0**	**-0.9**
IBDR				*e*Sn	**Sb**	**22 53 47.0**	**-3.5**
IBDR				AML	AML	22 53 55.0	
	comp=N,27nm,0.3s						
IBDR				AML	AML	22 53 55.3	
	comp=E,56nm,0.5s						

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*ATH **08** 22:55:16.8, 38°.38N×21°.88E, h11km±1km, ML3.5/31, Manual Solution by A.Fokaefs This location: 2020/05/06 10:50:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*IDC **08** 22:55:16.3±0.8, 38°.48N×21°.93E, h0km, mb3.6/13, mbtmp3.6/16, ML3.2/3, MS3.2/1, Error ellipse: s-maj=19.6km s-min=13.1km az=122.0*
*THE **08** 22:55:17.5, 38°.39N×21°.92E, h6km±1km, ML3.5/13, Error ellipse: s-maj=1.2km s-min=0.5km az=51.0*
*NAO **08** 22:55:25.1, 40°.37N×28°.53E, h33km, mb3.4*
ISC 08 22:55:17.4±0.7, 38°.39N±0°.02×21°.91E±0°.02, h8km±4km, n121, σ1§14/151, mb3.7/12, 8C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**354**	P	**Pg**	**22 55 18.4**	**-0.6**
EFP				S	**Sg**	**22 55 19.4**	**-0.8**
	220μm,0.5s						
EFP	**Efpalio**	**0.04**	**354**	P	**Pg**	**22 55 18.4**	**-0.6**
TRIZ	**Trizonia**	**0.13**	**100**	P	**Pg**	**22 55 20.2**	**0.0**
TRIZ				S	**Sg**	**22 55 22.6**	**+0.5**
	33μm,0.5s						
UPR	**University Cam**	**0.14**	**224**	P	**Pg**	**22 55 20.6**	**+0.2**
UPR				S	**Sg**	**22 55 23.6**	**+1.1**
LAKA	**Lakka**	**0.16**	**160**	P	**Pg**	**22 55 20.7**	**0.0**
LAKA				S	**Sg**	**22 55 23.7**	**+0.8**
LAKA	**Lakka**	**0.16**	**160**	P	**Pg**	**22 55 20.7**	**0.0**
LAKA				S	**Sg**	**22 55 23.4**	**+0.5**
ALIK	**Aliki, Aigiali**	**0.20**	**129**	P	**Pg**	**22 55 21.8**	**+0.3**
ANX	**Ano Chora**	**0.21**	**2**	P	**Pg**	**22 55 21.4**	**-0.3**
ANX				S	**Sg**	**22 55 24.9**	**+0.3**
	47μm,0.4s						
ANX	**Ano Chora**	**0.21**	**2**	P	**Pg**	**22 55 21.4**	**-0.3**
ANX				S	**Sg**	**22 55 24.8**	**+0.3**
PVO	**Paravola**	**0.38**	**307**	P	**Pg**	**22 55 24.6**	**-0.2**
PVO				S	**Sb**	**22 55 31.4**	**-1.0**
	23μm,0.4s						
PVO	**Paravola**	**0.38**	**307**	P	**Pg**	**22 55 24.9**	**+0.1**
PVO				S	**Sg**	**22 55 30.6**	**+0.8**
MSL1	**Messolongi**	**0.38**	**268**	P	**Pg**	**22 55 24.4**	**-0.5**
MSL1				S	**Sg**	**22 55 30.8**	**+0.9**
KLV1	**Kalavrita**	**0.39**	**156**	P	**Pg**	**22 55 24.7**	**-0.2**
KLV1				S	**Sg**	**22 55 29.4**	**-0.7**
KLV	**Kalavryta, Ach**	**0.39**	**151**	P	**Pg**	**22 55 24.7**	**-0.3**
KLV				S	**Sg**	**22 55 31.2**	**+1.0**
KLV	**Kalavryta, Ach**	**0.39**	**151**	P	**Pg**	**22 55 24.7**	**-0.3**
KLV				S	**Sg**	**22 55 30.4**	**+0.2**
RLS	**Riolos of Patr**	**0.48**	**227**	P	**Pg**	**22 55 26.7**	**0.0**
RLS				S	**Sb**	**22 55 34.5**	**-0.8**
	5μm,0.3s						
RLS	**Riolos of Patr**	**0.48**	**227**	P	**Pg**	**22 55 26.7**	**0.0**
RLS				S	**Sg**	**22 55 34.0**	**+1.0**
EVR	**Evrytania**	**0.54**	**351**	P	**Pg**	**22 55 28.1**	**+0.3**
EVR				S	**Sg**	**22 55 35.9**	**+1.1**
	5μm,0.5s						
EVR	**Evrytania**	**0.54**	**351**	P	**Pg**	**22 55 28.2**	**+0.4**
EVR				S	**Sb**	**22 55 37.1**	**0.0**
GUR	**Goura**	**0.56**	**143**	P	**Pg**	**22 55 27.4**	**-0.9**
GUR				S	**Sg**	**22 55 36.2**	**+0.5**
	7μm,0.3s						
GUR	**Goura**	**0.56**	**143**	P	**Pg**	**22 55 27.6**	**-0.7**
GUR				S	**Sg**	**22 55 36.3**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.65**	**15**	P	**Pg**	**22 55 29.7**	**-0.2**
MAKR				S	**Sb**	**22 55 39.5**	**-0.7**
	6μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.65**	**15**	P	**Pg**	**22 55 29.8**	**-0.2**
MAKR				S	**Sb**	**22 55 39.5**	**-0.7**
LAM2	**Lamia**	**0.66**	**38**	P	**Pg**	**22 55 28.9**	**-1.1**
LAM2				S	**Sg**	**22 55 38.5**	**-0.2**
AST1	**Astakos**	**0.66**	**284**	P	**Pg**	**22 55 29.9**	**-0.3**
LCHA	**Lechaina**	**0.68**	**229**	P	**Pg**	**22 55 30.6**	**+0.1**
THAL	**Thalero**	**0.69**	**120**	P	**Pg**	**22 55 30.1**	**-0.6**
THAL	**Thalero**	**0.69**	**120**	P	**Pg**	**22 55 30.1**	**-0.6**
AXAR	**Agios Charalam**	**0.70**	**57**	P	**Pg**	**22 55 30.0**	**-0.9**
AXAR				S	**Sb**	**22 55 41.1**	**-0.5**
	8μm,0.4s						
AXAR	**Agios Charalam**	**0.70**	**57**	P	**Pg**	**22 55 30.0**	**-0.9**
AXAR				S	**Sb**	**22 55 41.4**	**-0.2**
AGG	**Agios Georgios**	**0.71**	**27**	P	**Pg**	**22 55 30.2**	**-0.9**
AGG				S	**Sg**	**22 55 40.8**	**+0.3**
	3μm,0.6s						
AGG	**Agios Georgios**	**0.71**	**27**	P	**Pg**	**22 55 30.3**	**-0.9**
AGG				S	**Sg**	**22 55 41.0**	**+0.5**
LOUT	**Loutraki**	**0.93**	**115**	P	**Pb**	**22 55 35.6**	**-0.1**
LOUT	**Loutraki**	**0.93**	**115**	P	**Pb**	**22 55 35.6**	**-0.1**
ARS1	**Argos**	**0.99**	**139**	P	**Pb**	**22 55 36.6**	**-0.2**
SMHA	**Samh**	**1.00**	**263**	P	**Pg**	**22 55 33.5**	**-3.2**
NYDR	**Nydri-Lefkada**	**1.00**	**289**	P	**Pg**	**22 55 35.7**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.00**	**289**	P	**Pg**	**22 55 35.8**	**-1.0**
EVGI	**Lefkada island**	**1.01**	**284**	P	**Pg**	**22 55 36.1**	**-0.7**
EVGI	**Lefkada island**	**1.01**	**284**	P	**Pg**	**22 55 35.9**	**-0.9**
VAS2	**Vassiliki, Lef**	**1.05**	**284**	P	**Pg**	**22 55 37.2**	**-0.3**
VSK1	**VASILIKIADES**	**1.06**	**272**	P	**Pg**	**22 55 36.9**	**-0.8**
VSK1				S	**Sn**	**22 55 53.8**	**+0.3**
LKD2	**Lefkada island**	**1.06**	**293**	P	**Pg**	**22 55 36.8**	**-1.0**
LKD2	**Lefkada island**	**1.06**	**293**	P	**Pg**	**22 55 36.7**	**-1.1**
VLS	**Valsamata**	**1.06**	**259**	P	**Pg**	**22 55 36.7**	**-1.1**
VLS				S	**Sn**	**22 55 54.0**	**+0.4**
	975nm,0.2s						
VLS	**Valsamata**	**1.06**	**259**	P	**Pg**	**22 55 36.4**	**-1.4**
FSK	**Fiskardo**	**1.06**	**274**	P	**Pg**	**22 55 37.0**	**-0.8**
FSK				S	**Sn**	**22 55 54.4**	**+0.9**
	1μm,0.6s						
FSK	**Fiskardo**	**1.06**	**274**	P	**Pg**	**22 55 36.3**	**-1.5**
TSLK	**Tsoukalades, L**	**1.08**	**294**	P	**Pg**	**22 55 37.6**	**-0.5**
TSLK	**Tsoukalades, L**	**1.08**	**294**	P	**Pg**	**22 55 37.4**	**-0.7**
PSDA	**Pessada-Kefalo**	**1.08**	**256**	P	**Pg**	**22 55 36.9**	**-1.2**
PSDA	**Pessada-Kefalo**	**1.08**	**256**	P	**Pg**	**22 55 36.8**	**-1.3**
VIL2	**Platees**	**1.08**	**99**	P	**Pn**	**22 55 38.8**	**-0.1**
LTHK	**Lithakia**	**1.08**	**232**	P	**Pg**	**22 55 37.6**	**-0.6**
LTHK				S	**Sn**	**22 55 55.3**	**+1.2**
	2μm,0.4s						
LTHK	**Lithakia**	**1.08**	**232**	P	**Pg**	**22 55 37.1**	**-1.2**
DRAG	**Dragano-Lefkad**	**1.09**	**286**	P	**Pg**	**22 55 37.2**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.09**	**286**	P	**Pg**	**22 55 36.8**	**-1.5**
VILL	**Villia**	**1.12**	**101**	P	**Pg**	**22 55 38.6**	**-0.4**
KRI1	**kERI**	**1.13**	**230**	P	**Pg**	**22 55 38.1**	**-0.9**
KRI1	**kERI**	**1.13**	**230**	P	**Pg**	**22 55 38.0**	**-1.0**
ARG2	**Argostoli**	**1.14**	**260**	P	**Pb**	**22 55 38.1**	**-1.3**
KEF4	**Livadi, Kephal**	**1.18**	**264**	P	**Pb**	**22 55 38.7**	**-1.3**
KEF4	**Livadi, Kephal**	**1.18**	**264**	P	**Pb**	**22 55 38.4**	**-1.6**
THL	**Klokotos Trika**	**1.18**	**4**	P	**Pb**	**22 55 39.2**	**-0.8**
DMLN	**Damoulianata-K**	**1.22**	**263**	P	**Pb**	**22 55 40.4**	**-0.3**
DMLN	**Damoulianata-K**	**1.22**	**263**	P	**Pb**	**22 55 39.5**	**-1.2**
KEF3	**Kipouria, Keph**	**1.24**	**262**	P	**Pn**	**22 55 39.8**	**-1.3**
KLMT	**Kalamata**	**1.33**	**175**	P	**Pn**	**22 55 41.8**	**-0.4**
KLMT	**Kalamata**	**1.33**	**175**	P	**Pn**	**22 55 41.2**	**-1.1**
LRSO	**Larissa Observ**	**1.34**	**16**	P	**Pn**	**22 55 42.2**	**-0.1**
TYRN	**Tyrnavos**	**1.34**	**11**	P	**Pn**	**22 55 42.3**	**-0.2**
TYRN	**Tyrnavos**	**1.34**	**11**	P	**Pn**	**22 55 42.1**	**-0.4**
NEO	**Neokhori**	**1.38**	**48**	P	**Pn**	**22 55 42.5**	**-0.4**
NEO	**Neokhori**	**1.38**	**48**	P	**Pn**	**22 55 42.5**	**-0.4**
XOR	**Xorichti**	**1.40**	**45**	P	**Pn**	**22 55 43.4**	**+0.1**
XOR	**Xorichti**	**1.40**	**45**	P	**Pn**	**22 55 42.3**	**-1.0**
KRND	**KRANIDI**	**1.40**	**135**	P	**Pn**	**22 55 43.0**	**-0.3**
PYL1	**Pylos**	**1.48**	**187**	P	**Pn**	**22 55 44.6**	**+0.3**
PYL	**PYLOS**	**1.50**	**185**	P	**Pn**	**22 55 44.4**	**-0.1**
ATHU	**Athens Univers**	**1.54**	**105**	P	**Pn**	**22 55 44.9**	**-0.2**
OHR	**Ohrid**	**2.85**	**343**	*i* Pn	**Pb**	**22 56 07.6**	**-1.0**
VAY	**Valandovo**	**2.97**	**10**	*i* Pn	**Pn**	**22 56 05.7**	**+0.8**
APE	**Apeiranthos**	**3.16**	**114**	⇑P	**Pn**	**22 56 07.4**	**-0.1**
APE				⇑S	**Sn**	**22 56 43.8**	**-1.5**
STIP	**Stip**	**3.31**	**4**	*i* Pn	**Pn**	**22 56 12.2**	**+2.6**
TIR	**Tirane**	**3.35**	**333**	⇑P	**Pb**	**22 56 18.0**	**+1.0**
MMB	**Musomishta**	**3.46**	**24**	P	**Pn**	**22 56 12.3**	**+0.7**
PEHC	**Pehcevo**	**3.47**	**12**	*i* Pn	**Pn**	**22 56 13.1**	**+1.3**
KKB	**Krupnik**	**3.57**	**15**	P	**Pn**	**22 56 13.8**	**+0.6**
RZN	**Rozhen**	**3.95**	**32**	P	**Pn**	**22 56 20.0**	**+1.5**
PLNA	**Plana**	**4.25**	**15**	P	**Pn**	**22 56 25.2**	**+2.7**
VTS	**Vitosha**	**4.34**	**13**	P	**Pn**	**22 56 24.7**	**+0.8**
MPEP	**Malo Peshtene**	**5.15**	**15**	P	**Pn**	**22 56 37.0**	**+2.2**
BLKB	**Belogradchik**	**5.26**	**6**	⇓P	**Pn**	**22 56 38.5**	**+2.1**
ELND	**Elena**	**5.45**	**32**	⇑P	**Pn**	**22 56 40.1**	**+1.3**
VAE	**Valguarnera**	**6.00**	**264**	Pn	Pn	22 56 53.0	+6.6
	0.4nm,0.3s,baz=48,slow=23,SNR=1.3						
VAE					Sn	**Sn**	**22 57 56.5**	**+1.2**
	0.4nm,0.3s,baz=162,slow=19,SNR=2.1						
FRGS	**Fruska Gora**	**6.95**	**348**	⇓P	**Pn**	**22 57 00.6**	**+1.2**
GZR	**Gura Zlata**	**7.03**	**5**	⇓P	**Pn**	**22 57 03.7**	**+3.1**
VOIR		**7.42**	**17**	⇑P	**Pn**	**22 57 08.5**	**+2.4**
MLR	**Muntele Rosu**	**7.71**	**22**	⇑P	**Pn**	**22 57 13.4**	**+3.4**
MLR	**Muntele Rosu**	**7.71**	**22**	Pn	Pn	**22 57 11.8**	**+1.8**
	0.1nm,0.3s,baz=201,slow=3.4,SNR=3.0						
MLR					Sn	**Sn**	**22 58 35.9**	**-1.6**
	0.1nm,0.3s,baz=109,slow=19,SNR=1.5						
MLR					Lg	Lg	22 59 18.7	
	0.1nm,0.3s,baz=200,slow=19,SNR=1.2 1.1nm,0.7s						
MORH	**Mrgy, Hungar**	**8.19**	**344**	⇑P	**Pn**	**22 57 19.4**	**+3.0**
PLOR	**Plostina**	**8.25**	**24**	⇓P	**Pn**	**22 57 20.6**	**+3.2**
VRI	**Vrincioaia**	**8.28**	**24**	⇑P	**Pn**	**22 57 21.1**	**+3.3**
BRTR	**Keskin Array B**	**9.22**	**78**	Pn	**Pn**	**22 57 32.8**	**+2.0**
	0.2nm,0.3s,baz=261,slow=13,SNR=6.7 0.6nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**12.02**	**333**	LR	LR	23 02 51.0	
	comp=Z,102nm,19.3s,baz=148,slow=38						
MMAI	**Mount Meron Ar**	**12.20**	**112**	Pn	**Pn**	**22 58 11.6**	**0.0**
	0.2nm,0.3s,baz=301,slow=11,SNR=2.0 1.2nm,0.7s						
ESDC	**Sonseca Array**	**20.12**	**282**	P	Pn	22 59 52.7	-0.9
	1.1nm,1.0s,baz=75,slow=11,SNR=6.3 1.1nm,1.0s						
HFS	**Hagfors**	**22.38**	**349**	P	**P**	**23 00 14.5**	**-1.3**
	2.4nm,0.7s,baz=163,slow=11,SNR=1.7 2.4nm,0.7s						
FINES	**FINESS Array B**	**23.23**	**5**	P	**P**	**23 00 22.6**	**-2.1**
	3.7nm,1.0s,baz=190,slow=9.1,SNR=6.6 3.7nm,1.0s						
NB2	**NORSAR Subarra**	**23.64**	**347**	P	**P**	**23 00 28.7**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=145,slow=10						
NOA	**NORSAR Array B**	**23.64**	**347**	P	**P**	**23 00 27.0**	**-1.9**
	comp=Z,1.3nm,0.9s,baz=156,slow=8.4,SNR=3.6 comp=Z,1.3nm,0.9s						
EKA	**Eskdalemuir Ar**	**23.90**	**323**	P	**P**	**23 00 31.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=112,slow=11,SNR=1.3 comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.89**	**221**	P	**P**	**23 01 35.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=32,slow=10,SNR=8.0 comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**36.15**	**50**	P	**P**	**23 02 19.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=266,slow=6.8,SNR=2.1 comp=Z,0.3nm,0.5s						
DBIC	**Dimbokro**	**39.80**	**224**	P	**P**	**23 02 51.6**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=137,slow=12,SNR=3.1 comp=Z,2.7nm,0.8s						
KURBB	**Kurchatov Arra**	**41.22**	**54**	P	**P**	**23 03 01.6**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=278,slow=9.2,SNR=4.4 comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**44.26**	**59**	P	**P**	**23 03 26.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=275,slow=7.2,SNR=24 comp=Z,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**44.74**	**48**	P	**P**	**23 03 29.9**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=270,slow=7.4,SNR=3.5 comp=Z,1.0nm,0.6s						
BOSA	**Boshof**	**66.73**	**177**	PKHKP	**P**	**23 06 10.3**	**+1.2**
BOSA	**Boshof**	**66.73**	**177**	P	**P**	**23 06 10.3**	**+1.2**
	comp=Z,2.4nm,1.0s,baz=135,slow=21,SNR=1.1 comp=Z,2.4nm,1.0s						
YKA	**Yellowknife Ar**	**73.56**	**341**	P	**P**	**23 06 50.5**	**0.0**
	comp=Z,0.1nm,0.4s,baz=38,slow=6.3,SNR=2.9 comp=Z,0.1nm,0.4s						

*NEIC **08** 22:55:40.7±1.4, 12.°8S±0.°1×167.°1E±0.°1, h94km±8km, mb4.5/22, Error ellipse: s-maj=18.8km s-min=15.0km az=88.0*
*IDC **08** 22:55:43.3±3.3, 13.°08S×166.°82E, h98km±27km, mb4.0/15, mbtmp4.3/16, MS3.9/2, Error ellipse: s-maj=23.7km s-min=15.6km az=87.0*
*NOU **08** 22:57:32.8, 21.°14S×166.°80E, h0km, MLv2.3/4, New Caledonia*
ISC 08 22:55:42.9±0.5, 12.°99S±0.°06×166.°81E±0.°09, h100km±nan, n55, σ1§51/58, mb4.3/23, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.61**	**297**	Pn	**Pn**	**22 57 30.8**	**-0.2**
HNR	**Honiara**	**7.61**	**297**	P	**Pn**	**22 57 32.5**	**+1.4**
	783nm,0.3s,baz=321,slow=19,SNR=1.8						
HNR				S	**Sn**	**22 58 50.4**	**-5.3**
	814nm,0.4s,baz=171,slow=18,SNR=1.2						
HNR				LR	LR	23 01 11.3	
	comp=Z,2μm,18.0s,baz=103,slow=43						
LIFNC	**LIFOU**	**7.76**	**177**	Pn	**Pn**	**22 57 32.8**	**-0.3**
KOUNC	**Koumac, New Ca**	**7.90**	**197**	Pn	**Pn**	**22 57 34.4**	**-0.7**
YATNC	**Mamie plateau,**	**9.02**	**180**	P	**Pn**	**22 57 50.2**	**-0.1**
DZM	**Mont Dzumac**	**9.04**	**182**	Pn	**Pn**	**22 57 50.5**	**-0.2**
DZM	**Mont Dzumac**	**9.04**	**182**	P	**Pn**	**22 57 51.8**	**+1.2**
DZM	**Mont Dzumac**	**9.04**	**182**	P	**Pn**	**22 57 51.0**	**+0.4**
	11nm,0.3s,baz=130,slow=23,SNR=28						
DZM				S	**Sn**	**22 59 27.4**	**-3.4**
	9.7nm,0.4s,baz=153,slow=20,SNR=6.2						
NOUC	**Port Laguerre**	**9.08**	**183**	P	**Pn**	**22 57 52.8**	**+1.8**
ONTNC	**Ouen Toro**	**9.28**	**182**	Pn	**Pn**	**22 57 53.9**	**+0.2**
OUENC	**Ouen Island, N**	**9.38**	**180**	P	**Pn**	**22 57 56.6**	**+1.4**
EIDS	**Eidsvold**	**19.28**	**228**	P	**Pn**	**23 00 01.5**	**-0.3**
CTA	**Charters Tower**	**20.92**	**248**	P	**P**	**23 00 16.8**	**-0.8**
	7.4nm,0.6s,baz=80,slow=11,SNR=13 7.4nm,0.6s						
CTAO	**Charters Tower**	**20.92**	**248**	P	**P**	**23 00 18.9**	**+1.3**
CTAO				IAmb	IAmb	23 00 24.0	
	comp=Z,25nm,1.2s						
ARMA	**Armidale**	**22.32**	**217**	P	**P**	**23 00 34.2**	**+1.7**
ARMA				IAmb	IAmb	23 00 35.4	
	comp=Z,30nm,1.1s						
RTZ	**Ruatahuna**	**27.08**	**162**	P	**P**	**23 01 16.1**	**-0.1**
RTZ				IAmb	IAmb	23 01 19.6	
	comp=Z,6.4nm,0.7s						
BKZ	**Black Stump Fm**	**27.45**	**164**	P	**P**	**23 01 19.0**	**-0.4**
STKA	**Stephens Creek**	**29.82**	**227**	P	**P**	**23 01 41.6**	**+1.0**
STKA	**Stephens Creek**	**29.82**	**227**	P	**P**	**23 01 41.6**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=63,slow=9.5,SNR=7.5 comp=Z,1.9nm,0.4s						
TOO	**Toolangi**	**31.01**	**214**	P	**P**	**23 01 52.1**	**+1.0**
TOO				IAmb	IAmb	23 01 55.7	
	comp=Z,12nm,1.2s						
WB0	**Warramunga Arr**	**31.79**	**253**	P	**P**	**23 01 58.0**	**0.0**
WB2	**Warramunga Arr**	**31.85**	**253**	P	**P**	**23 01 59.1**	**+0.5**
WB2				IAmb	IAmb	23 02 00.5	
	comp=Z,5.8nm,1.1s						
WRA	**Warramunga Arr**	**31.86**	**253**	P	**P**	**23 01 58.7**	**0.0**
WRA	**Warramunga Arr**	**31.86**	**253**	P	**P**	**23 01 58.5**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=85,slow=8.9,SNR=8.4 comp=Z,0.8nm,0.7s						
MLZ	**Mavora Lakes**	**32.29**	**178**	P	**P**	**23 02 02.7**	**+0.5**
MLZ				IAmb	IAmb	23 02 07.1	
	comp=Z,12nm,1.2s						
ASAR	**Alice Springs**	**32.92**	**246**	P	**P**	**23 02 07.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=75,slow=9.4,SNR=21						
ASAR				LR	LR	23 14 35.4	
	comp=Z,87nm,18.6s,baz=58,slow=34 comp=Z,1.4nm,0.6s						
BBOO	**Buckleboo**	**34.33**	**230**	P	**P**	**23 02 20.6**	**+0.5**
BBOO				IAmb	IAmb	23 02 21.4	
	comp=Z,5.6nm,0.8s						
MTN	**Manton Dam**	**34.76**	**266**	P	**P**	**23 02 25.6**	**+1.6**
MTN				IAmb	IAmb	23 02 28.0	
	comp=Z,7.6nm,0.9s						
NWAO	**Narrogin (SRO)**	**49.28**	**238**	P	**P**	**23 04 20.4**	**-1.4**
MORW	**Morawa**	**49.64**	**243**	P	**P**	**23 04 24.7**	**+0.1**
MJAR	**Matsushiro Arr**	**56.16**	**332**	P	**P**	**23 05 12.6**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=169,slow=8.1,SNR=4.1 comp=Z,1.5nm,0.6s						
KSRS	**Korea Array**	**62.06**	**326**	P	**P**	**23 05 54.5**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=156,slow=6.1,SNR=4.1 comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**64.58**	**181**	P	**P**	**23 06 08.8**	**-0.2**
VNDA				IAmb	IAmb	23 06 11.0	
	comp=Z,3.3nm,0.9s						
VNDA	**Vanda**	**64.58**	**181**	P	**P**	**23 06 09.0**	**0.0**
	comp=Z,2.1nm,0.8s,baz=343,slow=13,SNR=3.2 comp=Z,2.1nm,0.8s						
CASY	**Casey**	**64.97**	**202**	P	**P**	**23 06 11.5**	**-0.2**
CASY				IAmb	IAmb	23 06 21.9	
	comp=Z,7.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**65.14**	**333**	P	**P**	**23 06 14.0**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=132,slow=5.5,SNR=5.2 comp=Z,3.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.84**	**294**	P	**P**	**23 07 08.9**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=122,slow=4.0,SNR=13 comp=Z,1.9nm,0.7s						
QSPA	**South Pole Qui**	**77.03**	**180**	P	**P**	**23 07 24.6**	**-0.2**
QSPA				IAmb	IAmb	23 07 25.5	
	comp=Z,8.1nm,0.6s						
QSPA	**South Pole Qui**	**77.03**	**180**	P	**P**	**23 07 24.8**	**+0.1**
	comp=Z,5.6nm,0.5s,baz=227,slow=1.2,SNR=30 comp=Z,5.6nm,0.5s						
M17K	**Holitna River**	**79.34**	**17**	P	**P**	**23 07 33.3**	**-4.0**
M17K				IAmb	IAmb	23 07 46.2	
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**80.84**	**324**	P	**P**	**23 07 47.2**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=138,slow=7.3,SNR=5.5 comp=Z,1.1nm,0.7s						
KRMB	**Red Mountain**	**83.60**	**45**	P	**P**	**23 07 55.9**	**-4.4**
KSXB	**Camp Six Broad**	**83.74**	**45**	P	P	23 07 56.4	-4.7
J01E	**Myrtle Point**	**84.23**	**43**	P	**P**	**23 08 00.6**	**-2.8**
ILAR	**Eielson Array**	**85.02**	**18**	P	**P**	**23 08 07.5**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=229,slow=6.3,SNR=16 comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**95.64**	**317**	P	**P**	**23 08 58.9**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=93,slow=6.5,SNR=34 comp=Z,2.7nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**95.73**	**324**	P	**P**	**23 08 58.1**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=128,slow=4.2,SNR=9.2 comp=Z,1.9nm,0.6s						
YKA	**Yellowknife Ar**	**96.21**	**27**	P	**P**	**23 08 59.6**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=54,slow=6.2,SNR=3.5 comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**104.11**	**322**	Pdiff	**Pdif**	**23 09 36.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=87,slow=10,SNR=2.1						
ARCES	**ARCESS Array B**	**118.46**	**346**	PKP	**PKiKP**	**23 14 18.8**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=12,slow=1.5,SNR=6.5						
FINES	**FINESS Array B**	**123.95**	**338**	PKP	**PKiKP**	**23 14 30.1**	**+0.9**
	comp=Z,2.6nm,1.0s,baz=354,slow=2.8,SNR=3.6						
BOSA	**Boshof**	**124.39**	**221**	PKP	**PKPdf**	**23 14 31.3**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=49,slow=16,SNR=1.7						
KEST	**Kesra**	**149.58**	**322**	PKPbc	**PKiKP**	**23 15 22.6**	**+0.3**
	comp=Z,5.6nm,1.1s,baz=43,slow=9.8,SNR=2.2						
ESDC	**Sonseca Array**	**152.20**	**345**	PKPbc	**PKPbc**	**23 15 26.5**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=3.8,slow=4.5,SNR=4.5						
ESDC				PKPab	**PKPab**	**23 15 38.6**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=12,slow=4.5,SNR=14						
TORD	**Torodi Ar. Bea**	**165.50**	**272**	PKP	**PKPdf**	**23 15 37.6**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=81,slow=1.6,SNR=4.0						
TORD				PKPab	**PKPab**	**23 16 36.4**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=80,slow=5.6,SNR=10						

*NEIC **08** 22:56:20.9±1.6, 23.°9S±0.°1×179.°8W±0.°1, h491km±6km, mb4.8/194, Error ellipse: s-maj=16.4km s-min=13.8km az=136.0*
*IDC **08** 22:56:22.1±0.9, 23.°77S×179.°84W, h505km±8km, mb4.1/27, mbtmp4.9/29, Error ellipse: s-maj=10.5km s-min=9.4km az=152.0*
*NOU **08** 22:56:31.1, 23.°81S×179.°92E, h618km, mb5.1/31, South of Fiji Islands*
ISC 08 22:56:22.9±0.3, 23.°83S±0.°04×179.°83W±0.°05, h518km, n523, σ1§20/495, mb4.8/169, 34C-13D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.65**	**10**	P	**P**	**22 57 57.2**	**+0.3**
RAO	**Raoul Island**	**5.67**	**163**	P	**P**	**22 57 55.6**	**-1.1**
	172nm,0.3s,baz=99,slow=20,SNR=1.9						
RAO				S	**S**	**22 59 08.9**	**-4.7**
	235nm,0.3s,baz=79,slow=22,SNR=2.0						
GLKZ	**Green Lake**	**5.67**	**163**	P	**P**	**22 57 56.6**	**-0.2**
GLKZ				S	**S**	**22 59 11.7**	**-2.0**
TAVE	**Taveuni**	**7.09**	**359**	P	**P**	**22 58 11.7**	**+1.0**
YSA	**Yasawairara**	**7.50**	**341**	P	**P**	**22 58 15.4**	**+0.6**
DGTI	**Dogotuki**	**7.50**	**357**	P	**P**	**22 58 15.6**	**+0.7**
NIUE	**Niue**	**10.36**	**65**	P	**P**	**22 58 42.8**	**-1.6**
NIUE	**Niue**	**10.36**	**65**	P	**P**	**22 58 43.6**	**-0.7**
AFI	**Afiamalu**	**12.46**	**39**	P	**P**	**22 59 03.2**	**-3.3**
AFI	**Afiamalu**	**12.46**	**39**	P	**P**	**22 59 04.2**	**-2.3**
OUZ	**Omahuta**	**12.71**	**205**	P	**P**	**22 59 10.8**	**

CTAO	**Charters Tower**	**31.63**	**270**	P		**P**		**23 02 04.2**	**+0.8**
CTAO				ScP		**ScP**		**23 07 37.1**	**+3.1**
QLP	**Quilpie**	**32.56**	**258**	P		**P**		**23 02 11.8**	**+0.5**
QLP	**Quilpie**	**32.56**	**258**	P		**P**		**23 02 11.7**	**+0.5**
TOO	**Toolangi**	**32.62**	**237**	P		**P**		**23 02 12.0**	**+0.5**
TOO	**Toolangi**	**32.62**	**237**	P		**P**		**23 02 12.4**	**+0.9**
TOO	**Toolangi**	**32.62**	**237**	P		**P**		**23 02 12.5**	**+0.9**
CORO	**Coronation Par**	**32.63**	**229**	P		**P**		**23 02 11.2**	**-0.4**
TAU	**Tasmania Unive**	**33.09**	**227**	P		**P**		**23 02 16.3**	**+0.8**
TAU	comp=Z,27nm,0.6s			IAmb		IAmb		23 02 17.5	
TAU	**Tasmania Unive**	**33.09**	**227**	P		**P**		**23 02 16.5**	**+1.0**
TAU	**Tasmania Unive**	**33.09**	**227**	P		**P**		**23 02 16.3**	**+0.8**
GEXS	**Deakin Univers**	**33.69**	**236**	P		**P**		**23 02 22.2**	**+1.6**
BRAT	**Ballarat**	**33.81**	**238**	P		**P**		**23 02 23.1**	**+1.5**
BRAT	**Ballarat**	**33.81**	**238**	P		**P**		**23 02 22.8**	**+1.2**
MTSU	**Mount Surprise**	**33.89**	**273**	P		**P**		**23 02 23.4**	**+0.8**
PMG	**Port Moresby**	**34.62**	**289**	P		**P**		**23 02 27.7**	**-1.0**
PMG	**Port Moresby**	**34.62**	**289**	P		**P**		**23 02 28.9**	**+0.2**
PMG	**Port Moresby**	**34.62**	**289**	P		**P**		**23 02 28.7**	**0.0**
	comp=Z,125nm,0.8s,baz=109,slow=5.3,SNR=38 comp=Z,125nm,0.8s								
PMG	**Port Moresby**	**34.62**	**289**	P		**P**		**23 02 29.1**	**+0.4**
PMG	**Port Moresby**	**34.62**	**289**	P		**P**		**23 02 28.7**	**0.0**
	comp=Z,220nm,0.9s,comp=Z,2µm								
STKA	**Stephens Creek**	**34.89**	**248**	P		**P**		**23 02 30.2**	**-0.6**
STKA	**Stephens Creek**	**34.89**	**248**	P		**P**		**23 02 31.5**	**+0.7**
STKA	**Stephens Creek**	**34.89**	**248**	P		**P**		**23 02 31.4**	**+0.7**
STKA	**Stephens Creek**	**34.89**	**248**	P		**P**		**23 02 31.1**	**+0.4**
	comp=Z,22nm,0.7s,baz=86,slow=10,SNR=24 comp=Z,22nm,0.7s								
ARPS	**Mount Arapiles**	**35.29**	**240**	P		**P**		**23 02 34.8**	**+0.8**
ARPS	**Mount Arapiles**	**35.29**	**240**	P		**P**		**23 02 34.6**	**+0.6**
KAVG	**Kavieng**	**35.38**	**302**	P		**P**		**23 02 33.9**	**-1.2**
INKA	**Innaminka**	**35.61**	**255**	P		**P**		**23 02 38.1**	**+1.3**
INKA	**Innaminka**	**35.61**	**255**	P		**P**		**23 02 38.0**	**+1.3**
COEN	**Coen**	**36.26**	**279**	P		**P**		**23 02 42.7**	**+0.4**
HTT	**Hallett**	**37.24**	**246**	P		**P**		**23 02 50.5**	**+0.2**
HTT	**Hallett**	**37.24**	**246**	P		**P**		**23 02 50.8**	**+0.5**
QIS	**Mount Isa**	**37.61**	**267**	P		**P**		**23 02 53.3**	**-0.2**
QIS	**Mount Isa**	**37.61**	**267**	P		**P**		**23 02 53.2**	**-0.2**
LCRK	**Leigh Creek**	**37.75**	**251**	P		**P**		**23 02 54.8**	**+0.4**
WHYH	**Whyalla**	**38.35**	**246**	P		**P**		**23 03 00.1**	**+0.9**
MANU	**Manus Island**	**38.42**	**299**	P		**P**		**23 02 59.6**	**-0.4**
MANU	**Manus Island**	**38.42**	**299**	P		**P**		**23 02 59.7**	**-0.4**
BBOO	**Buckleboo**	**39.61**	**247**	P		**P**		**23 03 09.0**	**-0.5**
BBOO	**Buckleboo**	**39.61**	**247**	P		**P**		**23 03 09.1**	**-0.4**
OOD	**Oodnadatta**	**40.08**	**255**	P		**P**		**23 03 14.2**	**+1.0**
OOD	**Oodnadatta**	**40.08**	**255**	P		**P**		**23 03 14.3**	**+1.0**
MULG	**Mulgathing**	**41.34**	**251**	P		**P**		**23 03 23.4**	**0.0**
MULG	**Mulgathing**	**41.34**	**251**	P		**P**		**23 03 23.3**	**-0.1**
TABU	**Tabubil**	**41.76**	**290**	P		**P**		**23 03 27.8**	**+0.8**
AS31	**Alice Springs**	**42.20**	**261**	P		**P**		**23 03 29.9**	**-0.3**
AS31	comp=Z,26nm,1.1s			IAmb		IAmb		23 03 31.7	
ASAR	**Alice Springs**	**42.20**	**260**	P		**P**		**23 03 29.8**	**-0.5**
ASAR	**Alice Springs**	**42.20**	**260**	P		**P**		**23 03 30.1**	**-0.1**
	comp=Z,51nm,0.7s,baz=92,slow=8.2,SNR=176								
ASAR				ScP		**ScP**		**23 08 15.6**	**+1.8**
	comp=Z,13nm,0.9s,baz=109,slow=4.1,SNR=27								
ASAR				S		**S**		**23 09 09.2**	**-3.7**
	comp=Z,1.0nm,0.9s,baz=93,slow=18,SNR=3.3								
ASAR				ScS		**ScS**		**23 12 35.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=94,slow=6.9,SNR=6.7 comp=Z,51nm,0.7s								
WR0	**Warramunga Arr**	**42.38**	**266**	P		**P**		**23 03 30.7**	**-1.0**
WB2	**Warramunga Arr**	**42.55**	**266**	P		**P**		**23 03 32.4**	**-0.7**
WB0	**Warramunga Arr**	**42.56**	**266**	P		**P**		**23 03 32.3**	**-0.9**
WRAB	**Tennant Creek**	**42.56**	**266**	P		**P**		**23 03 32.4**	**-0.7**
WRA	**Warramunga Arr**	**42.56**	**266**	P		**P**		**23 03 32.6**	**-0.6**
WRA	**Warramunga Arr**	**42.56**	**266**	P		**P**		**23 03 32.6**	**-0.6**
	comp=Z,61nm,0.6s,baz=95,slow=8.4,SNR=460								
WRA				PcP		**PcP**		**23 05 12.8**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=94,slow=5.9,SNR=5.2								
WRA				ScP		**ScP**		**23 08 18.0**	**+2.7**
	comp=Z,11nm,1.0s,baz=99,slow=4.3,SNR=17								
WRA				S		**S**		**23 09 14.0**	**-4.2**
	comp=Z,1.7nm,0.9s,baz=101,slow=14,SNR=4.2 comp=Z,61nm,0.6s								
GENI	**Genyem**	**44.04**	**293**	P		**P**		**23 03 44.9**	**+0.2**
GENI	**Genyem**	**44.04**	**293**	P		**P**		**23 03 44.1**	**-0.6**
	comp=Z,195nm,0.9s								
KDU	**Kakadu**	**46.44**	**275**	P		**P**		**23 04 02.4**	**-0.7**
KDU	**Kakadu**	**46.44**	**275**	P		**P**		**23 04 02.6**	**-0.5**
FORT	**Forrest**	**46.48**	**250**	P		**P**		**23 04 02.7**	**-0.5**
FORT	**Forrest**	**46.48**	**250**	P		**P**		**23 04 02.5**	**-0.7**
FORT	**Forrest**	**46.48**	**250**	P		**P**		**23 04 02.8**	**-0.4**
WRKA	**Warakurna**	**47.00**	**257**	P		**P**		**23 04 07.1**	**-0.2**
WRKA	**Warakurna**	**47.00**	**257**	P		**P**		**23 04 07.2**	**-0.1**
MTN	**Manton Dam**	**47.60**	**274**	P		**P**		**23 04 11.3**	**-0.6**
KNRA	**Kununurra**	**48.84**	**270**	P		**P**		**23 04 21.1**	**0.0**
KNRA	**Kununurra**	**48.84**	**270**	P		**P**		**23 04 21.2**	**+0.1**
DRV	**Dumont d'Urvil**	**49.66**	**200**	P		**P**		**23 04 26.4**	**+0.1**
FAKI	**Fak Fak**	**50.71**	**287**	P		**P**		**23 04 33.4**	**-1.5**
FAKI	comp=Z,58nm,1.0s			IAmb		IAmb		23 04 35.2	
FAKI	**Fak Fak**	**50.71**	**287**	P		**P**		**23 04 34.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**50.99**	**265**	P		**P**		**23 04 36.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.99**	**265**	P		**P**		**23 04 37.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**50.99**	**265**	P		**P**		**23 04 37.2**	**+0.4**
KMBL	**Kambalda**	**51.69**	**248**	P		**P**		**23 04 41.2**	**-0.7**
KMBL	**Kambalda**	**51.69**	**248**	P		**P**		**23 04 42.0**	**+0.1**
SIJI	**Sorong**	**52.56**	**288**	P		**P**		**23 04 47.8**	**-0.5**
SWI	comp=Z,214nm,0.9s,comp=Z,2µm **Sorong**	**52.57**	**288**	P		**P**		**23 04 48.0**	**-0.3**
	comp=Z,294nm,0.8s,comp=Z,3µm								
VNDA	**Vanda**	**54.46**	**185**	P		**P**		**23 05 01.5**	**+0.7**
VNDA	**Vanda**	**54.46**	**185**	P		**P**		**23 05 01.9**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=6.2,slow=5.2,SNR=9.2 comp=Z,1.5nm,0.5s								
VNDA	**Vanda**	**54.46**	**185**	P		**P**		**23 05 02.5**	**+1.8**
SOEI	**Soe**	**54.99**	**275**	P		**P**		**23 05 07.1**	**+1.4**
SOEI	**Soe**	**54.99**	**275**	P		**P**		**23 05 07.0**	**+1.4**
	comp=Z,217nm,1.4s,comp=Z,2µm								
NLAI	**Namlea**	**55.12**	**283**	P		**P**		**23 05 05.5**	**-0.9**
	comp=Z,42nm,1.3s,comp=Z,2µm								
KLBR	**Kellerberrin**	**55.16**	**247**	P		**P**		**23 05 06.1**	**-0.4**
MEEK	**Meekatharra**	**55.28**	**253**	P		**P**		**23 05 06.7**	**-0.7**
PSA00	**Pilbara Seismi**	**55.33**	**260**	IAmb		IAmb		23 05 08.4	
	comp=Z,55nm,1.4s								
PSA00	**Pilbara Seismi**	**55.33**	**260**	P		**P**		**23 05 07.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**55.40**	**245**	P		**P**		**23 05 07.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**55.40**	**245**	P		**P**		**23 05 07.9**	**-0.2**
LBMI	**Labuha**	**55.96**	**286**	P		**P**		**23 05 12.6**	**+0.3**
	comp=Z,113nm,1.0s,comp=Z,2µm								
SANI	**Sanana**	**56.64**	**284**	P		**P**		**23 05 16.2**	**-0.7**
SANI	**Sanana**	**56.64**	**284**	P		**P**		**23 05 16.3**	**-0.7**
	comp=Z,55nm,1.1s								
TNTI	**Ternate**	**56.76**	**288**	P		**P**		**23 05 17.6**	**-0.1**
TNTI	**Ternate**	**56.76**	**288**	P		**P**		**23 05 18.1**	**+0.4**
	comp=Z,81nm,1.0s,comp=Z,2µm								
MORW	**Morawa**	**57.04**	**250**	IAmb		IAmb		23 05 20.3	
	comp=Z,41nm,0.7s								
MORW	**Morawa**	**57.04**	**250**	P		**P**		**23 05 19.4**	**-0.1**
MMRI	**Maumere**	**57.27**	**275**	P		**P**		**23 05 21.1**	**-0.1**
MMRI	**Maumere**	**57.27**	**275**	P		**P**		**23 05 21.0**	**-0.3**
MMRI	**Maumere**	**57.27**	**275**	P		**P**		**23 05 21.6**	**+0.3**
	comp=Z,107nm,1.0s								
EDFI	**Ende, Flores**	**57.72**	**275**	P		**P**		**23 05 23.8**	**-0.7**
	comp=Z,123nm,0.9s,comp=Z,862nm								
BASI	**Baing, Sumba**	**58.19**	**273**	P		**P**		**23 05 29.9**	**+2.4**
	comp=Z,214nm,1.4s,comp=Z,3µm								
CCD	**Concordia, Ant**	**58.83**	**195**	P		**P**		**23 05 31.5**	**+0.2**
CCD				PcP		**PcP**		**23 06 14.4**	**+0.3**
LUWI	**Luwuk**	**59.96**	**283**	P		**P**		**23 05 39.5**	**+0.1**
LUWI	**Luwuk**	**59.96**	**283**	P		**P**		**23 05 40.1**	**+0.7**
LUWI	**Luwuk**	**59.96**	**283**	P		**P**		**23 05 40.4**	**+1.0**
	comp=Z,95nm,0.9s,comp=Z,3µm								
CASY	**Casey**	**60.24**	**206**	P		**P**		**23 05 39.8**	**-0.6**
CASY	**Casey**	**60.24**	**206**	P		**P**		**23 05 40.4**	**0.0**
BKSI	**Bulukumba**	**60.51**	**278**	P		**P**		**23 05 42.3**	**-0.7**
	comp=Z,77nm,0.9s,comp=Z,612nm								
DBNI	**Kabupaten Domp**	**60.90**	**273**	P		**P**		**23 05 44.9**	**-0.8**
	comp=Z,131nm,0.8s,comp=Z,1µm								
PLAI	**Plampang**	**61.27**	**273**	P		**P**		**23 05 47.7**	**-0.4**
PLAI	**Plampang**	**61.27**	**273**	P		**P**		**23 05 47.5**	**-0.6**
	comp=Z,173nm,1.1s,comp=Z,2µm								
SPSI	**Sidrap Palu**	**61.39**	**279**	P		**P**		**23 05 47.8**	**-1.0**
	comp=Z,29nm,1.0s,comp=Z,2µm								
MRSI	**Marisa**	**61.39**	**284**	P		**P**		**23 05 48.3**	**-0.5**
	comp=Z,35nm,0.9s								
TTSI	**Tana Toraja**	**61.73**	**280**	P		**P**		**23 05 51.4**	**+0.3**
	comp=Z,130nm,0.6s,comp=Z,9µm								
TWSI	**Taliwang, Sumb**	**62.12**	**273**	P		**P**		**23 05 53.2**	**-0.4**
	comp=Z,87nm,1.1s,comp=Z,1µm								
TOLI2	**Tolitoli**	**62.71**	**284**	P		**P**		**23 05 56.0**	**-1.4**
TOLI2	**Tolitoli**	**62.71**	**284**	P		**P**		**23 05 56.6**	**-0.8**
MPSI	**Mapaga**	**63.14**	**283**	P		**P**		**23 05 59.3**	**-0.9**
	comp=Z,90nm,1.0s								
SRBI	**Singaraja**	**63.90**	**273**	P		**P**		**23 06 04.9**	**-0.2**
	comp=Z,73nm,1.0s								
JAGI	**Jajag, Banyuwa**	**64.72**	**272**	P		**P**		**23 06 08.7**	**-1.6**
JAGI	**Jajag, Banyuwa**	**64.72**	**272**	P		**P**		**23 06 09.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**64.72**	**272**	P		**P**		**23 06 09.2**	**-1.1**
	comp=Z,52nm,1.2s,comp=Z,1µm								
ABJI	**Asem Bagus**	**64.90**	**272**	P		**P**		**23 06 11.6**	**+0.2**
	comp=Z,56nm,1.2s								
KMMI	**Kalianget**	**65.43**	**273**	P		**P**		**23 06 15.1**	**+0.3**
	comp=Z,97nm,1.1s								
BLJI	**Banyuglugur**	**65.51**	**272**	P		**P**		**23 06 16.8**	**+1.6**
	comp=Z,54nm,0.6s,comp=Z,2µm								
QSPA	**South Pole Qui**	**66.25**	**180**	P		**P**		**23 06 20.1**	**+1.0**
QSPA	**South Pole Qui**	**66.25**	**180**	P		**P**		**23 06 20.2**	**+1.0**
	comp=Z,7.3nm,0.7s,baz=340,slow=0.9,SNR=48 comp=Z,7.3nm,0.7s								
QSPA	**South Pole Qui**	**66.25**	**180**	P		**P**		**23 06 20.0**	**+0.8**
GRJI	**Gresik**	**66.85**	**273**	P		**P**		**23 06 22.7**	**-0.9**
	comp=Z,392nm,0.9s,comp=Z,3µm								
SJI	**Sawahan**	**67.18**	**272**	P		**P**		**23 06 25.4**	**-0.4**
	comp=Z,73nm,0.9s								
PKKI	**Palangkaraya**	**67.36**	**278**	P		**P**		**23 06 27.3**	**+0.5**
	comp=Z,199nm,1.0s,comp=Z,2µm								
NGJI	**Ngawi**	**67.60**	**272**	P		**P**		**23 06 27.3**	**-0.9**
	comp=Z,53nm,1.1s								
KKM	**Kota Kinabalu**	**69.03**	**287**	P		**P**		**23 06 36.6**	**-0.4**
KKM				IAmb		IAmb		23 06 37.9	
	comp=Z,26nm,0.8s								
KKM	**Kota Kinabalu**	**69.03**	**287**	P		**P**		**23 06 36.6**	**-0.4**
	comp=Z,44nm,1.0s								
KPJI	**Karang Pucung**	**69.93**	**271**	P		**P**		**23 06 42.7**	**+0.4**
	comp=Z,40nm,1.3s								
CMJI	**Cimerak**	**70.20**	**270**	P		**P**		**23 06 42.3**	**-1.6**
	comp=Z,60nm,1.0s								
STKI	**Sintang**	**70.59**	**279**	P		**P**		**23 06 46.2**	**0.0**
	comp=Z,71nm,1.0s,comp=Z,11µm								
BBJI	**Bungbulang**	**71.06**	**270**	P		**P**		**23 06 48.3**	**-0.8**
BBJI	**Bungbulang**	**71.06**	**270**	P		**P**		**23 06 47.5**	**-1.6**
	comp=Z,62nm,0.9s								
JOW	**Kunigami**	**71.06**	**312**	P		**P**		**23 06 48.8**	**+0.1**
MJAR	**Matsushiro Arr**	**71.93**	**326**	P		**P**		**23 06 52.8**	**-0.8**
	comp=Z,7.9nm,0.8s,baz=158,slow=5.5,SNR=13 comp=Z,7.9nm,0.8s								
DBJI	**Dramaga**	**72.23**	**271**	P		**P**		**23 06 55.2**	**-0.7**
KSM	**Kuching**	**72.25**	**280**	P		**P**		**23 06 55.8**	**-0.2**
KSM	**Kuching**	**72.25**	**280**	P		**P**		**23 06 56.2**	**+0.3**
KSM	**Kuching**	**72.25**	**280**	P		**P**		**23 06 55.9**	**0.0**
	comp=Z,73nm,0.9s,comp=Z,916nm								
CGJI	**Cibinong**	**73.17**	**270**	P		**P**		**23 07 00.0**	**-1.3**
	comp=Z,80nm,0.9s								
NACB	**Ninganchiao**	**74.19**	**306**	P		**P**		**23 07 06.5**	**-0.3**
SSLB	**Suanglung**	**74.44**	**305**	IAmb		IAmb		23 07 08.3	
	comp=Z,36nm,0.9s								
SSLB	**Suanglung**	**74.44**	**305**	P		**P**		**23 07 07.5**	**-0.8**
KASI	**Kota Agung**	**74.69**	**271**	P		**P**		**23 07 08.8**	**-1.1**
ADK	**Adak**	**75.44**	**2**	P		**P**		**23 07 12.6**	**-0.5**
BELA	**Belgrano 2**	**76.48**	**173**	P		**P**		**23 07 18.4**	**-0.4**
MAW	**Mawson**	**77.87**	**200**	P		**P**		**23 07 27.4**	**+1.0**
	comp=Z,7.2nm,0.6s,baz=105,slow=5.3,SNR=6.7 comp=Z,7.2nm,0.6s								
KSRS	**Korea Array**	**78.29**	**320**	P		**P**		**23 07 30.2**	**+1.1**
	comp=Z,5.4nm,0.7s,baz=139,slow=5.9,SNR=12 comp=Z,5.4nm,0.7s								
PEA0B	**Petropavlovsk-**	**79.07**	**346**	P		**P**		**23 07 32.5**	**-0.4**
PEA0B				IAmb		IAmb		23 09 07.0	
	comp=Z,57nm,1.4s								
PETK	**Petropavlovsk-**	**79.07**	**346**	P		**P**		**23 07 31.8**	**-1.1**
PETK	**Petropavlovsk-**	**79.07**	**346**	P		**P**		**23 07 33.0**	**+0.1**
	comp=Z,10.0nm,0.9s,baz=108,slow=7.0,SNR=6.9 comp=Z,10.0nm,0.9s								
USA0B	**Ussuriysk Arra**	**80.79**	**327**	P		**P**		**23 07 42.1**	**0.0**
USA0B				IAmb		IAmb		23 07 44.0	
	comp=Z,24nm,1.1s								
USRK	**Ussuriysk Ar.**	**80.79**	**327**	P		**P**		**23 07 41.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**80.79**	**327**	P		**P**		**23 07 42.5**	**+0.3**
	comp=Z,9.0nm,0.8s,baz=107,slow=4.2,SNR=11 comp=Z,9.0nm,0.8s								
KMPM	**Mount Pierce**	**82.28**	**40**	P		**P**		**23 07 50.0**	**+0.1**
MDJ	**Mudanjiang**	**82.29**	**326**	P		**P**		**23 07 50.9**	**+1.1**
MDJ				pP		PcP		23 07 58.3	+4.7
MDJ				PcP		PcP		23 08 08.6	+15
MDJ				PP		**sP**		**23 10 34.9**	**+1.5**
MDJ				S		**SKSac**		**23 17 20.9**	**+0.1**
MDJ	**Mudanjiang**	**82.29**	**326**	P		**P**		**23 07 50.8**	**+1.0**
TKX	**Tecate**	**82.35**	**50**	P		**P**		**23 07 50.0**	**-0.4**
BAR	**Barrett**	**82.37**	**49**	P		**P**		**23 07 49.9**	**-0.7**
LPIG	**La Paz**	**82.55**	**60**	P		**P**		**23 07 52.6**	**+1.0**
	comp=Z,14nm,0.3s,baz=259,slow=3.0,SNR=5.0 comp=Z,14nm,0.3s								
VES	**Vestal, Richgr**	**82.57**	**46**	P		**P**		**23 07 52.2**	**+0.7**
	baz=234,SNR=6.0								
BFSC	**Mount Baldy Ra**	**82.58**	**48**	P		**P**		**23 07 52.5**	**+0.7**
	baz=235								
SLBS	**Sierra La Lagu**	**82.64**	**60**	P		**P**		**23 07 53.1**	**+1.0**
SLBS				IAmb		IAmb		23 07 54.4	
	comp=Z,20nm,0.9s								
MONP2	**Monument Peak**	**82.66**	**49**	P		**P**		**23 07 53.4**	**+1.1**
	baz=236,SNR=17								
SRIG	**Santa Rosalia**	**82.69**	**56**	IAmb		IAmb		23 07 54.3	
	comp=Z,36nm,1.1s								
EDW2	**Edwards Air Fo**	**82.73**	**47**	P		**P**		**23 07 53.0**	**+0.6**
	baz=234,SNR=9.2								
RMX	**La Rumorosa**	**82.74**	**50**	IAmb		IAmb		23 07 54.9	
	comp=Z,24nm,1.1s								
IKP	**In-Ko-Pah, Jac**	**82.74**	**50**	P		**P**		**23 07 53.5**	**+1.0**
	baz=236,SNR=9.2								
ISA	**Isabella, Lake**	**82.86**	**46**	P		**P**		**23 07 53.2**	**+0.2**
ISA				IAmb		IAmb		23 07 55.0	
	comp=Z,20nm,0.8s								
ISA	**Isabella, Lake**	**82.86**	**46**	P		**P**		**23 07 53.8**	**+0.8**
	baz=234,SNR=15								
YUH	**Yuha Desert**	**82.87**	**50**	IAmb		IAmb		23 07 55.3	
	comp=Z,26nm,1.2s								
PFO	**Pinyon Flats O**	**83.04**	**49**	P		**P**		**23 07 54.3**	**+0.2**
PFO	**Pinyon Flats O**	**83.04**	**49**	P		**P**		**23 07 55.0**	**+1.0**
	baz=235,SNR=5.5								
PFO	**Pinyon Flats O**	**83.04**	**49**	P		**P**		**23 07 54.2**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=251,slow=5.3,SNR=6.3 comp=Z,4.7nm,0.9s								
TPFO	**Pinon Flats**	**83.04**	**49**	P		**P**		**23 07 54.8**	**+0.7**
	baz=235,SNR=5.8								
CMB	**Columbia Colle**	**83.05**	**43**	P		**P**		**23 07 54.1**	**+0.2**
CMB				IAmb		IAmb		23 07 55.5	
	comp=Z,21nm,0.9s								
WHN	**Wuhan**	**83.08**	**308**	⇑*i*P		**P**		**23 07 55.2**	**+1.1**
WHN				pmax		pmax			
	comp=Z,74nm,1.1s								
PSI	**Prapat**	**83.12**	**276**	P		**P**		**23 07 53.9**	**-1.0**
SWSC	**Sam W. Stewart**	**83.12**	**50**	P		**P**		**23 07 55.5**	**+1.2**
	baz=236,SNR=8.1								
ELIB	**Princess Elisa**	**83.15**	**187**	*d*P		**P**		**23 07 53.6**	**-0.4**
ELIB				*d*PcP		**PcP**		**23 07 55.2**	**-2.0**
AFDM	**Forest Hills D**	**83.24**	**42**	IAmb		IAmb		23 07 56.5	
	comp=Z,21nm,1.0s								
LRMC	**Laurel Mtn Rad**	**83.28**	**47**	P		**P**		**23 07 56.0**	**+0.8**
	baz=234,SNR=12								
ORV	**Oroville**	**83.29**	**41**	IAmb		IAmb		23 07 56.7	
	comp=Z,18nm,1.0s								
CWC	**Cottonwood Cre**	**83.58**	**46**	P		**P**		**23 07 57.6**	**+0.9**
	baz=234								
BELC	**Belle Mtn. Jos**	**83.58**	**49**	P		**P**		**23 07 57.7**	**+1.0**
	baz=236,SNR=13								
MDPB	**Devils Postpil**	**83.63**	**44**	IAmb		IAmb		23 07 58.9	
	comp=Z,18nm,1.1s								
MPMC	**Manual Prospec**	**83.74**	**46**	P		**P**		**23 07 58.3**	**+0.7**
	baz=234,SNR=13								
GSI	**Gunungsitoli**	**83.75**	**274**	P		**P**		**23 07 58.0**	**+0.1**
GSI	**Gunungsitoli**	**83.75**	**274**	P		**P**		**23 07 58.7**	**+0.8**
BC3	**Big Chuckawall**	**83.76**	**49**	P		**P**		**23 07 58.7**	**+1.1**
	baz=236,SNR=13								
GSC	**Goldstone, Bar**	**83.76**	**47**	IAmb		IAmb		23 07 59.4	
	comp=Z,17nm,1.0s								
GSC	**Goldstone, Bar**	**83.76**	**47**	P		**P**		**23 07 58.3**	**+0.7**
	baz=235,SNR=9.7								
EMB	**Emerald Bay**	**83.79**	**43**	IAmb		IAmb		23 07 59.5	
	comp=Z,18nm,1.1s								
HEC	**Hector,Ludlow**	**83.81**	**48**	P		**P**		**23 07 58.4**	**+0.6**
	baz=235,SNR=8.1								
GLA	**Glamis**	**83.86**	**50**	IAmb		IAmb		23 08 00.7	
	comp=Z,34nm,1.0s								
CN2	**Changchun**	**83.92**	**324**	P		**P**		**23 07 58.7**	**+0.7**
CN2				pmax		pmax			
	comp=Z,20nm,1.0s								
WAKR	**Walker**	**83.92**	**43**	IAmb		IAmb		23 08 00.5	
	comp=Z,22nm,1.1s								
YBH	**Yreka Blue Hor**	**83.94**	**39**	P		**P**		**23 07 59.3**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=114,slow=0.6,SNR=17 comp=Z,7.1nm,0.8s								
MPK	**Martis Peak**	**84.03**	**42**	IAmb		IAmb		23 08 01.0	
	comp=Z,31nm,1.0s								
PNTR	**Pine Nut**	**84.17**	**43**	IAmb		IAmb		23 08 02.1	
	comp=Z,27nm,0.9s								
BNX	**BinXian**	**84.19**	**326**	⇓P		**P**		**23 07 59.9**	**+0.6**
BNX				pmax		pmax			
	comp=Z,19nm,1.0s								
BNX				pmax		pmax			
	comp=Z,340nm,4.1s								
GMRC	**Granite Mounta**	**84.25**	**48**	P		**P**		**23 08 00.8**	**+0.8**
	baz=236,SNR=11								
IRM	**Iron Mountain**	**84.25**	**49**	P		**P**		**23 08 00.9**	**+0.9**
	baz=236,SNR=24								
YERR	**Yerington**	**84.33**	**43**	IAmb		IAmb		23 08 02.1	
	comp=Z,22nm,1.1s								
HUMO	**Hull Mountain**	**84.35**	**38**	IAmb		IAmb		23 08 11.6	
	comp=Z,26nm,1.4s								
LHV	**Little Huntoon**	**84.36**	**44**	P		**P**		**23 08 00.7**	**+0.4**
TROLL	**Troll, Antarti**	**84.40**	**181**	⇑P		**P**		**23 08 00.2**	**-0.1**
	comp=Z,165nm,0.3s								
TUQ	**Turquoise Moun**	**84.43**	**47**	P		**P**		**23 08 02.0**	**+1.1**
	baz=236								
113A	**Mohawk Valley,**	**84.46**	**51**	IAmb		IAmb		23 08 03.2	
	comp=Z,19nm,1.1s								
L04D	**Klamath Falls**	**84.48**	**39**	IAmb		IAmb		23 08 03.0	
	comp=Z,30nm,1.2s								
HSIG		**84.55**	**55**	IAmb		IAmb		23 08 03.4	
	comp=Z,23nm,0.8s								
NVAR	**Mina Array Bea**	**84.59**	**44**	P		**P**		**23 08 02.2**	**+0.5**
	comp=Z,6.3nm,0.9s,baz=222,slow=7.5,SNR=26 comp=Z,6.3nm,0.9s								
PAHR	**Pah Rah Range**	**84.68**	**42**	IAmb		IAmb		23 08 03.7	
	comp=Z,21nm,1.2s								
214A	**Organ Pipe Nat**	**84.70**	**52**	P		**P**		**23 08 02.9**	**+0.7**
214A	**Organ Pipe Nat**	**84.70**	**52**	P		**P**		**23 08 03.8**	**+1.6**
	baz=238,SNR=7.2								
SRIT	**Nakonsritamara**	**84.91**	**282**	P		**P**		**23 08 04.5**	**+1.0**
VNA3	**Neumayer Olymp**	**84.94**	**177**	⇑P		**P**		**23 08 05.4**	**+2.7**
	comp=Z,3.7nm,0.7s								
PDMCI	**Parker Dam,Lak**	**85.03**	**49**	P		**P**		**23 08 04.9**	**+1.2**
	ba

comp=Z,10.0nm,1.2s
XLT pmax pmax
comp=Z,160nm,4.4s
D08A Wollman Farm, 89.36 37 IAmb IAmb 23 08 25.7
comp=Z,16nm,1.0s
BGU Big Grassy Mou 89.36 44 IAmb IAmb 23 08 25.6
comp=Z,14nm,1.5s
KMI Kunming 89.37 298 ⇓P **P 23 08 25.7 +1.1**
KMI pmax pmax
comp=Z,16nm,1.0s
NLU North Lily Min 89.46 45 P **P 23 08 25.2 +0.5**
E09A Wood Farm, Sta 89.46 37 IAmb IAmb 23 08 25.7
comp=Z,10nm,1.0s
TGL Tana Glacier 89.48 17 IAmb IAmb 23 08 25.3
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 89.65 290 P **P 23 08 27.7 +1.9**
comp=Z,11nm,0.9s,baz=137,slow=3.2,SNR=43
CMAR PP **PP 23 12 06.7 -0.6**
comp=Z,1.1nm,0.5s,baz=128,slow=5.7,SNR=8.2
comp=Z,11nm,0.9s
F10A Beach Ranch, E 89.66 38 IAmb IAmb 23 08 26.5
comp=Z,11nm,0.9s
MPU Maple Canyon 89.78 45 IAmb IAmb 23 08 28.0
comp=Z,12nm,1.0s
CHTO Chiang Mai 89.80 291 P **P 23 08 27.4 +0.9**
CHTO Chiang Mai 89.80 291 P **P 23 08 28.0 +1.5**
PLID Pearl Lake 89.86 39 IAmb IAmb 23 08 27.8
comp=Z,16nm,1.4s
VHRN Van Horn 89.92 56 IAmb IAmb 23 08 29.2
comp=Z,17nm,1.1s
SPUT South Promonto 89.94 44 IAmb IAmb 23 08 28.6
comp=Z,16nm,1.0s
HLID Hailey 89.94 41 IAmb IAmb 23 08 28.8
comp=Z,11nm,0.9s
HLID Hailey 89.94 41 P **P 23 08 27.8 +1.0**
baz=236
MNTX Cornudas Mount 90.05 55 P **P 23 08 28.3 +0.9**
baz=242
BARN Barnard Glacie 90.05 17 P **P 23 08 26.8 -0.1**
BARN IAmb IAmb 23 08 28.2
comp=Z,12nm,1.0s
CTU Camp Tracy 90.06 45 IAmb IAmb 23 08 29.0
comp=Z,16nm,1.0s
P17A Butcher Ranch, 90.08 46 IAmb IAmb 23 08 30.1
comp=Z,19nm,1.2s
TXAR Lajitas Array 90.26 58 P **P 23 08 29.9 +1.3**
comp=Z,7.2nm,0.8s,baz=213,slow=6.5,SNR=79
TXAR PP **PP 23 12 12.6 +0.6**
comp=Z,0.2nm,0.8s,baz=220,slow=8.0,SNR=1.9
comp=Z,7.2nm,0.8s
RND Reindeer 90.31 13 IAmb IAmb 23 08 28.3
comp=Z,7.8nm,0.9s
HHC Hu-ho-hao-te 90.48 315 *e*P **P 23 08 30.7 +1.4**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,390nm,5.7s
P18A Preston Nutter 90.49 46 IAmb IAmb 23 08 31.2
comp=Z,8.4nm,0.9s
HWUT Hardware Ranch 90.66 44 IAmb IAmb 23 08 31.4
comp=Z,7.5nm,0.8s
ALPN Alpine 90.76 57 IAmb IAmb 23 08 32.6
comp=Z,10nm,0.9s
PZH PanZhiHua 90.78 299 P **P 23 08 31.6 +0.6**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,150nm,5.7s
ANMO Albuquerque 90.79 52 P **P 23 08 31.2 +0.2**
ANMO IAmb IAmb 23 08 33.2
comp=Z,12nm,1.2s
ANMO Albuquerque 90.79 52 P **P 23 08 31.4 +0.4**
baz=241
ANMO Albuquerque 90.79 52 P **P 23 08 31.3 +0.2**
comp=Z,6.6nm,1.0s,baz=303,slow=5.5,SNR=8.9
comp=Z,6.6nm,1.0s
YUK3 Moose Creek 90.97 18 P **P 23 08 31.5 +0.3**
baz=215
S34M Telegraph Cree 90.98 24 P **P 23 08 32.2 +1.2**
baz=223
CD2 Chengdu 91.17 303 P **P 23 08 34.3 +1.7**
CD2 pmax pmax
comp=Z,20nm,1.0s
RDMU Red Mountain 91.42 46 IAmb IAmb 23 08 35.0
comp=Z,8.8nm,0.8s
AHID Auburn Hatcher 91.56 43 IAmb IAmb 23 08 36.6
comp=Z,9.5nm,0.8s
SAND Sanderson 91.74 58 IAmb IAmb 23 08 36.5
comp=Z,8.5nm,0.9s
DLBC Dease Lake 91.77 24 P **P 23 08 35.0 +0.2**
comp=Z,1.8nm,0.6s,baz=248,slow=3.8,SNR=4.1
comp=Z,1.8nm,0.6s
S22A 4UR Ranch, Cre 91.87 49 IAmb IAmb 23 08 37.9
comp=Z,10nm,1.1s
S22A 4UR Ranch, Cre 91.87 49 P **P 23 08 37.0 +0.9**
baz=241
ILAR Eielson Array 91.93 13 P **P 23 08 34.2 -1.0**
comp=Z,0.8nm,0.8s,baz=219,slow=6.9,SNR=6.1
ILAR PP **PP 23 12 22.3 -1.8**
comp=Z,0.6nm,0.9s,baz=221,slow=7.5,SNR=2.5
comp=Z,0.8nm,0.8s
TPAW Teton Pass 92.03 43 IAmb IAmb 23 08 38.5
comp=Z,6.6nm,1.1s
M29M Somme Creek 92.07 18 P **P 23 08 36.4 +0.3**
baz=217
VA03 San Esteban 92.20 127 P **P 23 08 36.9 -0.7**
IMW Indian Meadow 92.25 42 IAmb IAmb 23 08 40.0
comp=Z,10nm,1.3s
K27K Chicken 92.40 16 P **P 23 08 38.0 +0.6**
baz=214
J26L Joseph Creek 92.44 15 IAmb IAmb 23 08 39.0
comp=Z,5.7nm,0.8s
J26L Joseph Creek 92.44 15 P **P 23 08 37.9 +0.2**
baz=213
SMCO Snowmass 92.46 48 IAmb IAmb 23 08 42.4
comp=Z,8.0nm,1.1s
BW06 Boulder Array 92.53 44 P **P 23 08 38.9 0.0**
baz=240
PD31 Pinedale Array 92.53 44 P **P 23 08 38.6 -0.2**
PDAR Pinedale Array 92.53 44 P **P 23 08 39.0 +0.1**
comp=Z,3.2nm,0.8s,baz=218,slow=4.1,SNR=21
PDAR PP **PP 23 12 32.2 +2.6**
comp=Z,0.8nm,0.9s,baz=248,slow=7.8,SNR=4.3
comp=Z,3.2nm,0.8s
YHL Hebgen Lake 92.59 42 IAmb IAmb 23 08 42.8
comp=Z,18nm,1.7s
L29M L29M 92.69 18 IAmb IAmb 23 08 40.3
comp=Z,6.2nm,0.9s
L29M L29M 92.69 18 P **P 23 08 39.5 +0.7**
baz=218
SDCO Great Sand Dun 92.80 50 P **P 23 08 40.7 +0.4**
baz=242
DAWY Dawson 93.12 17 P **P 23 08 40.9 +0.1**
baz=216
EGAK Eagle 93.25 16 P **P 23 08 41.3 0.0**
baz=215
LZH Lanzhou 93.45 308 *e*P **P 23 08 44.0 +0.8**
LZH pmax pmax
comp=Z,17nm,1.2s
HNDO Hondo 93.78 59 IAmb IAmb 23 08 46.2
comp=Z,15nm,1.2s
BRDY Brady 94.74 58 IAmb IAmb 23 08 49.8
comp=Z,8.1nm,1.3s
SONM Songino Array 97.15 319 P Pdif 23 08 59.6 0.0
comp=Z,1.2nm,0.9s,baz=90,slow=1.4,SNR=2.4
SONM PP **PP 23 13 05.2 +0.5**
comp=Z,1.3nm,0.9s,baz=101,slow=6.0,SNR=3.8
comp=Z,1.2nm,0.9s
YKA Yellowknife Ar 100.23 25 P **Pdif 23 09 13.6 +0.9**
comp=Z,0.1nm,0.5s,baz=256,slow=5.0,SNR=2.1
YKA PP **PP 23 13 24.9 -2.3**
comp=Z,0.3nm,0.8s,baz=241,slow=7.2,SNR=4.0
ZALV Zalesovo Beam 112.00 321 PP **PP 23 14 54.6 +1.9**
comp=Z,0.2nm,0.4s,baz=103,slow=6.4,SNR=1.5
MKAR Makanchi Array 112.22 313 PKiKP **PKiKP 23 13 58.5 -1.0**
comp=Z,0.3nm,0.5s,baz=224,slow=1.2,SNR=7.5
MKAR PP **PP 23 14 54.9 +0.3**
comp=Z,1.4nm,0.9s,baz=100,slow=5.0,SNR=5.6
MKAR SKP 23 16 46.0
comp=Z,0.6nm,0.7s,baz=64,slow=2.8,SNR=4.9
MKAR PKKPab **PKKPab 23 25 01.2 +0.2**
comp=Z,0.5nm,0.8s,baz=293,slow=4.7,SNR=4.1
KURBB Kurchatov Arra 115.30 316 PKP **PKPdf 23 14 03.8 -1.4**
comp=Z,0.6nm,0.6s,baz=106,slow=2.1,SNR=6.2
KURBB PP **PP 23 15 17.6 +1.7**
comp=Z,2.0nm,1.1s,baz=105,slow=7.0,SNR=5.5
KBL Kabul 119.95 297 PKPdf **PKPdf 23 14 13.5 -1.4**
BVAR Borovoye Array 120.49 319 PKP **PKPdf 23 14 14.1 -1.0**
comp=Z,0.9nm,0.3s,baz=108,slow=2.4,SNR=14
BVAR PP **PP 23 15 53.7 +2.5**
comp=Z,0.9nm,0.7s,baz=95,slow=9.2,SNR=4.2
BVAR SKP 23 17 02.6
comp=Z,0.3nm,0.5s,baz=31,slow=3.4,SNR=3.7
ARU Arti 126.92 324 PKP **PKPdf 23 14 27.1 -0.2**
comp=Z,1.6nm,0.3s,baz=186,slow=14,SNR=3.2
ARU PP **PP 23 16 31.1 -2.5**
comp=Z,0.9nm,0.4s,baz=256,slow=2.9,SNR=3.6
AKTO Aktyubinsk 128.35 316 PKP **PKPdf 23 14 30.0 -0.2**
comp=Z,0.4nm,0.4s,baz=121,slow=2.9,SNR=4.6
GEYT Alibeck 129.06 300 PKP **PKiKP 23 14 32.8 0.0**
comp=Z,1.2nm,0.6s,baz=95,slow=7.2,SNR=4.6
GEYT SKPbc SKPbc 23 17 06.1 +1.4
comp=Z,9.8nm,1.1s,baz=93,slow=5.9,SNR=12
KIRV Kirov 130.95 328 SKPbc **SKPbc 23 17 10.6 -0.3**
comp=Z,18nm,0.6s,baz=72,slow=3.2,SNR=10
ARCES ARCESS Array B 131.85 348 PKP **PKPdf 23 14 34.9 -1.4**
comp=Z,3.9nm,0.9s,baz=22,slow=2.9,SNR=6.2
ARCES SKPbc **SKPab 23 17 14.6 -0.5**
comp=Z,4.7nm,0.8s,baz=56,slow=4.5,SNR=5.3
BELG Belogornoye 134.18 321 SKPbc **SKPbc 23 17 22.8 +0.8**
comp=Z,23nm,0.8s,baz=233,slow=1.8,SNR=5.5
KMBO Kilima Mbogo 136.26 241 SKPbc **SKPbc 23 17 31.1 +1.1**
comp=Z,0.5nm,0.4s,baz=52,slow=3.8,SNR=3.4
FINES FINESS Array B 138.43 342 PKHKP PKPpre 23 14 39.1
comp=Z,6.0nm,1.2s,baz=54,slow=3.6,SNR=5.8
FINES PKP **PKPdf 23 14 49.1 +0.4**
comp=Z,1.5nm,0.5s,baz=85,slow=2.0,SNR=8.1
FINES SKP 23 17 34.8
comp=Z,10nm,0.7s,baz=64,slow=4.4,SNR=17
GNI Garni 139.29 304 SKPbc **SKPbc 23 17 38.9 +1.2**
comp=Z,5.7nm,1.0s,baz=353,slow=6.8,SNR=4.0
NB2 NORSAR Subarra 142.04 351 PKP **PKPdf 23 14 51.2 -4.1**
comp=Z,0.2nm,0.5s,baz=16,slow=3.2
NB2 SKPa **SKPbc 23 17 44.1 +0.2**
comp=Z,1.5nm,0.7s,baz=13,slow=2.6
NOA NORSAR Array B 142.04 351 PKhKP PKPpre 23 14 48.9
comp=Z,0.3nm,0.4s,baz=15,slow=1.6,SNR=4.8
NOA SKP 23 17 42.1
comp=Z,2.5nm,0.8s,baz=15,slow=4.2,SNR=7.9
HFS Hagfors 142.51 349 PKhKP PKPpre 23 14 52.3
comp=Z,3.4nm,0.3s,baz=66,slow=3.6,SNR=57
HFS SKPbc **SKPbc 23 17 45.4 +0.4**
comp=Z,5.0nm,0.8s,baz=29,slow=3.4,SNR=6.5
AKASG Malin Array Be 145.00 327 PKP **PKPdf 23 15 00.6 -0.1**
comp=Z,2.3nm,0.3s,baz=42,slow=4.3,SNR=34
AKASG SKPbc **SKiKP 23 17 52.0 +0.4**
comp=Z,6.6nm,0.7s,baz=44,slow=2.5,SNR=16
AKBB Malin Array Si 145.00 327 PKPdf **PKPdf 23 15 00.1 -0.6**
KIEV Kiev 145.01 327 ⇓P **PKPdf 23 14 59.9 -0.8**
KIEV Kiev 145.01 327 PKPdf **PKPdf 23 15 00.2 -0.5**
SORM Soroca 147.03 324 ⇑P **PKPbc 23 15 07.0 -0.1**
PURM Purcari 147.12 321 ⇑P **PKPbc 23 15 07.7 +0.3**
BR131 Keskin Array S 147.66 307 **PKPbc 23 15 08.6 -0.7**
BRTR Keskin Array B 147.66 307 PKPbc **PKPbc 23 15 08.2 -1.1**
BRTR Keskin Array B 147.66 307 PKPbc **PKPbc 23 15 08.8 -0.5**
comp=Z,1.6nm,0.4s,baz=131,slow=2.9,SNR=17
MMAI Mount Meron Ar 147.81 294 PKPbc **PKiKP 23 15 10.9 -0.4**
comp=Z,8.2nm,0.4s,baz=72,slow=4.7,SNR=35
ANTO Ankara 148.22 308 PKPbc **PKPbc 23 15 09.8 -0.8**
EKA Eskdalemuir Ar 148.44 4 PKPbc **PKPbc 23 15 10.0 -0.6**
comp=Z,0.6nm,0.4s,baz=347,slow=2.8,SNR=9.0
CFR Carcaliu 148.88 320 ⇑P **PKPbc 23 15 12.2 +0.3**
TPGR Topolog 148.89 319 ⇑P **PKPbc 23 15 12.5 +0.4**
BURAR Bucovina Array 149.00 326 ⇑P **PKiKP 23 15 13.6 +0.4**
MDUB Mudurnu 149.14 310 PKPbc **PKPbc 23 15 12.0 -1.0**
MFTR Murfatlar 149.23 310 P **PKPdf 23 15 09.6 +1.6**
HARR Harsova 149.27 319 ⇑P **PKPbc 23 15 12.5 -0.4**
TLBR Topalu 149.28 319 ⇓P **PKPbc 23 15 12.8 -0.2**
VRI Vrincioaia 149.29 322 ⇑P **PKPbc 23 15 11.8 -1.2**
MANR Mangalia 149.34 318 ⇑P **PKPbc 23 15 11.5 -1.6**
PLOR Plostina 149.34 322 ⇓P **PKPbc 23 15 12.3 -0.8**
KOLS Kolonicke sedl 149.49 331 *e*PKP **PKiKP 23 15 14.4 +0.3**
STHS Stebnicka Huta 149.57 332 *e*PKP **PKPbc 23 15 13.4 -0.2**
STHS *e* 23 15 21.2
ICOR Ion Corvin 149.66 319 ⇑P **PKPbc 23 15 13.0 -0.9**
BOSR Bodos 149.75 324 ⇑P **PKiKP 23 15 14.8 0.0**
ARCR ARCALIA 149.79 326 ⇑P **PKiKP 23 15 14.7 -0.1**
MLR Muntele Rosu 149.95 322 ⇑P **PKPbc 23 15 12.1 -2.6**
MLR Muntele Rosu 149.95 322 PKPbc **PKPbc 23 15 13.7 -1.1**
MLR Muntele Rosu 149.95 322 PKPbc **PKPbc 23 15 14.1 -0.6**
comp=Z,0.9nm,0.4s,baz=314,slow=6.5,SNR=6.3
DOPR Dopca 149.97 324 ⇓P **PKiKP 23 15 15.2 -0.1**
CBBR Cluj-Babes-Bol 150.41 326 ⇓P **PKPdf 23 15 12.5 +2.8**
OSTC Ostas 150.55 339 *e*PKP **PKiKP 23 15 16.4 +0.1**
MARR Marisel-Cluj 150.69 327 ⇓P **PKPbc 23 15 14.7 -1.7**
DPC Dobruska-Polom 150.69 339 *e*PKP **PKiKP 23 15 16.8 +0.2**
DPC *e*PKPAB **PKPab 23 15 26.4 +1.0**
MORC Moravsky Berou 150.75 337 ⇑P **PKPbc 23 15 14.1 -2.2**
MORC Moravsky Berou 150.75 337 *e*PKP **PKPab 23 15 25.5 -0.2**
ARR Arges 150.75 323 ⇑P **PKiKP 23 15 17.1 +0.2**
KRLC Kraliky 150.77 338 ⇑*e*PKP **PKiKP 23 15 16.9 +0.1**
KRLC *e*PKPAB **PKPab 23 15 26.1 +0.3**
CLL Collm 150.83 343 *e*PKPbc **PKiKP 23 15 17.0 +0.2**
CLL *e*PKPab **PKPab 23 15 25.0 -0.9**
comp=Z,6.0nm,1.0s
CLL *e*pPKPab **pPKPbc 23 17 17.0 0.0**
CLL *ex* x 23 17 26.0
HUMR Humele 151.08 322 ⇓P **PKPbc 23 15 15.1 -2.1**
VYHS Vyhne 151.29 334 *e*PKP **PKPab 23 15 28.4 +0.4**
JAVC Velka Javorina 151.46 335 *e*PKP **PKPab 23 15 29.8 +1.1**
VRAC Vranov 151.48 337 ⇑P **PKPbc 23 15 17.6 -0.3**
VRAC Vranov 151.48 337 *e*PKP **PKPab 23 15 29.2 +0.4**
VRAC Vranov 151.48 337 PKP **PKPdf 23 15 11.8 +0.5**
comp=Z,1.0nm,0.5s,baz=268,slow=22,SNR=2.0
VRAC PKPbc **PKiKP 23 15 18.7 +0.5**
comp=Z,0.9nm,0.5s,baz=316,slow=14,SNR=1.8
VRAC PKPab **PKPab 23 15 29.1 +0.4**
comp=Z,5.5nm,0.7s,baz=13,slow=3.4,SNR=9.9
ELND Elena 151.48 318 ⇑P **PKiKP 23 15 18.4 -0.1**
SIRR Siria 151.70 328 ⇓P **PKPbc 23 15 18.6 +0.1**
GZR Gura Zlata 151.73 325 ⇑P **PKPbc 23 15 16.7 -2.0**
KRUC Moravsky 151.76 337 *e*PKP **PKPab 23 15 30.4 +0.5**
SURR Surduc 151.82 326 ⇑P **PKiKP 23 15 19.2 +0.1**
PLVB Pleven 151.97 320 ⇑P **PKPbc 23 15 19.2 -0.1**
MODS Modra-Piesok 152.00 335 *e*PKP **PKiKP 23 15 20.6 +1.2**
MODS *e* 23 15 31.9
ZVC Zvikov 152.17 340 *e*PKPAB **PKPab 23 15 32.3 +0.7**
BZS Buzias 152.18 327 ⇑P **PKPbc 23 15 17.5 -2.1**
HERR Herculane 152.26 325 ⇑P **PKPbc 23 15 19.6 -0.2**
KHC Kasperske Hory 152.63 341 *e*PKPAB **PKPab 23 15 34.3 +0.6**
MDVR Moldovita 152.70 325 ⇓P **PKiKP 23 15 25.9 +5.0**
GERES GERESS Array B 152.84 340 PKPbc **PKPbc 23 15 19.6 -1.5**
comp=Z,0.9nm,0.9s,baz=347,slow=2.1,SNR=2.6
GERES PKPab **PKPab 23 15 33.6 -1.0**
comp=Z,0.7nm,0.6s,baz=345,slow=9.7,SNR=3.8
CONA Conrad Observa 152.90 336 *i* PKP **PKPab 23 15 35.6 +0.7**
comp=Z,5.7nm,0.8s
RONA Rosalia, Austr 152.93 336 *i* PKP **PKPab 23 15 35.8 +0.8**
comp=Z,6.1nm,0.8s
BLKB Belogradchik 152.94 322 ⇑P **PKPbc 23 15 19.7 -1.7**
MOA Molln 153.53 338 *i* PKP **PKPab 23 15 37.6 0.0**
comp=Z,1.0nm,0.5s
KARP Karpathos 153.89 303 **PKPab 23 15 39.1 -0.4**
SOKA Soboth 154.26 336 *i* PKP **PKPab 23 15 40.7 0.0**
comp=Z,1.3nm,0.6s
APE Apeiranthos 154.56 307 ⇑P **PKPab 23 15 40.3 -2.0**
OBKA Obir 154.58 336 *i* PKP **PKPab 23 15 41.9 -0.2**
comp=Z,2.3nm,0.6s
WTTA Wattenberg 154.88 341 *i* PKP **PKPab 23 15 43.9 +0.4**
comp=Z,1.2nm,0.3s
RETA Reutte 154.92 343 *i* PKP **PKPab 23 15 43.8 +0.3**
comp=Z,1.0nm,0.4s
SQTA Sankt Quirin 155.04 342 *i* PKP **PKPab 23 15 43.2 -0.9**
comp=Z,0.6nm,0.3s
DAVA Damuels 155.34 344 *i* PKP **PKPab 23 15 43.5 -2.0**
comp=Z,2.8nm,0.7s
ESDC Sonseca Array 163.82 12 PKPab **PKPab 23 16 22.1 -0.4**
TORD Torodi Ar. Bea 169.28 188 PKP **PKPdf 23 15 32.5 +1.1**
comp=Z,1.0nm,1.1s,baz=100,slow=3.1,SNR=1.7
TORD PKPab **PKPab 23 16 47.8 +0.7**
comp=Z,0.7nm,0.5s,baz=159,slow=3.3,SNR=10
TAM Tamanrasset 174.97 259 PKPab **PKPab 23 17 11.1 -1.7**

*DNK **08** 23:03:10.2±2.3, 81°.08N×3°.47W, h15km, ML1.4*
*FCIAR **08** 23:03:12.0, 80°.85N×3°.28W, h10km, station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.70*
*BER **08** 23:03:15.6±1.8, 80°.76N×3°.12W, h10km, mb(Pn)3.0, ML1.4(DNK), Confirmed Earthquake*
ISC 08 23:03:07.2±1.2**, 81°.17N**±0°.08×**3°.40W**±0°.06**, h10**km**, n15,**
σ3$10/26, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.48**	**122**	*e*P		**Pn**	**23 04 04.2**	**+3.0**
KBS				*e*S		**Sn**	**23 04 41.0**	**-1.4**
KBS				IAML			23 04 55.2	
	comp=Z,3.0nm,0.8s							
KBS	**Kingsbay**	**3.48**	**122**	*e*P		**Pn**	**23 04 03.7**	**+2.6**
KBS				*e*S		**Sn**	**23 04 40.9**	**-1.4**
KBS	**Kingsbay**	**3.48**	**122**	*e*P		**Pn**	**23 04 03.8**	**+2.6**
KBS				*i* S		**Sn**	**23 04 40.6**	**-1.7**
BRBB	**Barentsburg B**	**4.41**	**125**	*e*P		**Pn**	**23 04 18.5**	**+4.5**
BRBB				*e*S		**Sn**	**23 05 02.0**	**-3.3**
SPA0	**Spitsbergen Ar**	**4.62**	**120**	*e*P		**Pn**	**23 04 20.4**	**+3.4**
SPA0				*e*S		**Sn**	**23 05 07.8**	**-2.8**
SPA0				IAML			23 05 10.1	
	comp=Z,2.0nm,1.1s							
SPA0	**Spitsbergen Ar**	**4.62**	**120**	*e*P		**Pn**	**23 04 20.3**	**+3.3**
SPA0				*e*S		**Sn**	**23 05 09.5**	**-1.2**
DAG	**Danmarks Havn**	**5.27**	**221**	*i* P		**Pn**	**23 04 28.5**	**+2.7**
DAG				*i* S		**Sn**	**23 05 22.4**	**-4.1**
DAG				IAML			23 05 34.7	
	comp=Z,1.2nm,0.3s							
DAG	**Danmarks Havn**	**5.27**	**221**	*i* P		**Pn**	**23 04 28.5**	**+2.7**
DAG				*i* S		**Sn**	**23 05 22.4**	**-4.1**
DAG				IAML			23 05 34.7	
	comp=Z,1.2nm,0.3s							
HSPB	**Hornsund (broa**	**5.48**	**130**	*e*P		**Pn**	**23 04 31.5**	**+2.8**
HOPEN	**Hopen**	**7.12**	**116**	*e*P		**Pn**	**23 04 54.1**	**+3.0**
HOPEN				*e*			23 06 09.8	
HOPEN				IAML			23 06 23.6	
	comp=Z,4.8nm,0.9s							
HOPEN	**Hopen**	**7.12**	**116**	*e*P		**Pn**	**23 04 53.7**	**+2.5**
HOPEN				*e*S		**Sn**	**23 06 07.8**	**-4.1**
ZFI2	**Zemlya Franca-**	**7.80**	**67**	*e*P		**Pn**	**23 05 03.0**	**+2.5**
ZFI2				*e*S		**Sn**	**23 06 25.3**	**-3.3**
	comp=Z,20nm,3.7s							
OMEGA	**Omega**	**7.82**	**67**	*e*P		**Pn**	**23 05 03.3**	**+2.5**
OMEGA				*e*S		**Sn**	**23 06 25.2**	**-4.0**
	comp=Z,20nm,2.2s							
NEEM	**North Greenlan**	**9.31**	**272**	*e*P		**Pn**	**23 05 20.7**	**-0.8**
NEEM				*e*S		Sn	23 06 57.5	-8.7
NEEM				IAML			23 07 05.9	
	comp=Z,1.0nm,0.3s							
NEEM	**North Greenlan**	**9.31**	**272**	*e*P		**Pn**	**23 05 20.7**	**-0.8**
NEEM				*e*S		Sn	23 06 57.5	-8.7
NEEM				IAML			23 07 05.9	
	comp=Z,1.0nm,0.3s							

*TEH **08** 23:17:33.6, 30°.83N×57°.32E, h6km±55km, ML4.0*
*IDC **08** 23:17:34.7±1.0, 30°.78N×57°.16E, h0km, mb3.7/8, mbtmp3.7/12, ML3.2/4, MS3.3/4, Error ellipse: s-maj=22.8km s-min=17.3km az=113.0*
ISC 08 23:17:35.7±0.6**, 30°.79N**±0°.03×**57°.22E**±0°.03**, h10**km**, n50,**
σ1$51/52, mb3.7/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.28**	**171**	Pg		**Pb**	**23 17 41.8**	**-1.3**
KRM1				Sg		**Sb**	**23 17 47.5**	**-0.5**
ZRDN	**Zarand Kerman**	**0.62**	**287**	Pg		**Pb**	**23 17 48.5**	**-0.3**
ZRDN				Sg		**Sn**	**23 17 58.8**	**-2.2**
KHGB	**Koh Gabri**	**0.76**	**238**	Pg		**Pn**	**23 17 51.5**	**-1.3**
KHGB				Sg		**Sn**	**23 18 03.2**	**-1.2**
TVBK	**TV Kerman**	**0.89**	**207**	Pg		**Pn**	**23 17 54.4**	**-0.3**
CHMN	**Cheshme madani**	**0.96**	**163**	Pg		**Pg**	**23 17 53.3**	**-1.0**
NGRK	**Negar Kerman**	**1.22**	**201**	Pg		**Pg**	**23 18 00.0**	**+0.9**
IBAF	**Bafgh**	**1.63**	**300**	Pg		**Pg**	**23 18 06.6**	**-0.4**
KBAM	**BAM**	**1.96**	**147**	Pn		**Pb**	**23 18 09.8**	**-1.8**
BSRN	**Basiran**	**2.01**	**54**	Pn		**Pn**	**23 18 09.4**	**-0.5**
IKOO	**Kooshah**	**2.23**	**42**	Pn		**Pn**	**23 18 12.7**	**-0.3**
IMEH	**Mehriz**	**2.32**	**286**	Pn		**Pb**	**23 18 17.1**	**-0.7**
ITEG	**Tejag**	**2.47**	**31**	Pn		**Pn**	**23 18 16.0**	**-0.3**
NHDN	**Nehbandan**	**2.50**	**75**	Pn		**Pn**	**23 18 17.1**	**+0.5**
ICHK	**Chekchek**	**2.81**	**302**	Pn		**Pb**	**23 18 23.7**	**-2.5**
KHNJ	**Kahnooj**	**2.86**	**171**	Pn		**Pb**	**23 18 24.4**	**-2.5**
IDAH	**Dahanechah**	**2.98**	**48**	Pn		**Pn**	**23 18 24.1**	**+0.8**
AFRZ	**Afriz**	**3.04**	**30**	Pn		**Pn**	**23 18 24.0**	**0.0**
ISAD	**Sadrabad**	**3.23**	**291**	Pn		**Pb**	**23 18 30.3**	**-3.0**
ZHDN	**Zahedan**	**3.40**	**113**	Pn		**Pn**	**23 18 29.3**	**+0.2**
ANAR	**Anarak**	**3.81**	**310**	Pn		**Pn**	**23 18 36.6**	**+1.9**
SHRT	**Shahrakht**	**3.86**	**42**	Pn		**Pn**	**23 18 35.9**	**+0.7**
IRAM	**Ramesheh**	**4.27**	**285**	Pn		**Pn**	**23 18 44.0**	**+3.0**
IZEF	**Zefreh**	**4.67**	**298**	Pn		**Pn**	**23 18 49.7**	**+3.2**
TBJM	**Torbat-e-JAM**	**5.18**	**29**	Pn		**Pn**	**23 18 54.7**	**+1.2**
KRSH	**Karshahi**	**5.35**	**308**	Pn		**Pn**	**23 18 57.4**	**+1.6**
ISFB	**Sefidab**	**5.51**	**312**	Pn		**Pn**	**23 19 01.1**	**+3.1**
SBZV	**Sabzevar**	**5.60**	**3**	Pn		**Pn**	**23 19 00.1**	**+0.8**
SRVN	**Saravan**	**5.64**	**125**	Pn		**Pn**	**23 19 01.3**	**+1.5**
IPAY	**Payeh**	**5.84**	**14**	Pn		**Pn**	**23 19 04.7**	**+2.1**
IAKL	**Akhelmad**	**5.94**	**12**	Pn		**Pn**	**23 19 05.4**	**+1.4**
IVRN	**Varamin**	**6.24**	**314**	Pn		**Pn**	**23 19 09.3**	**+1.2**
ISFR	**Sfrayin**	**6.29**	**6**	Pn		**Pn**	**23 19 09.4**	**+0.7**
IGLO	**Ghaloghah**	**6.37**	**335**	Pn		**Pn**	**23 19 11.9**	**+2.1**
GEYT	**Alibeck**	**7.17**	**6**	Pn		**Pn**	**23 19 22.1**	**+1.4**
	0.1nm,0.3s,baz=189,slow=16,SNR=1.7							
GEYT						Sn	**23 20 41.5**	**-0.6**
	0.2nm,0.3s,baz=209,slow=26,SNR=1.7							
GEYT						Lg	Lg	23 21 23.4
	0.3nm,0.3s,baz=205,slow=24,SNR=1.3							
	0.9nm,0.7s							
WSAR	**Wadi Sarin**	**7.62**	**170**	Pn		**Pn**	**23 19 27.7**	**+0.8**
	0.7nm,0.3s,baz=348,slow=7.5,SNR=8.9							
WSAR						Sn	**23 20 56.3**	**+2.9**
	baz=191,slow=4.1							
	4.9nm,0.6s							
ASF	**Jabal al Asfar**	**17.39**	**280**	P		**P**	**23 21 39.5**	**-0.5**
	0.2nm,0.3s,baz=233,slow=22,SNR=2.3							
	0.9nm,0.4s							
AAK	**Ala-Archa**	**18.17**	**45**	LR		LR	23 30 02.4	
	comp=Z,66nm,18.4s,baz=318,slow=41							
EIL	**Elat**	**19.28**	**272**	LR		LR	23 29 37.9	
	comp=Z,42nm,18.9s,baz=10,slow=38							
AKTO	**Aktyubinsk**	**19.64**	**2**	P		**Pn**	**23 22 05.7**	**-0.1**
	0.1nm,0.3s,baz=191,slow=11,SNR=3.6							
	1.2nm,0.7s							
BRTR	**Keskin Array B**	**21.18**	**301**	P		**P**	**23 22 21.7**	**+0.3**
	1.1nm,0.9s,baz=120,slow=12,SNR=6.3							
	1.1nm,0.9s							
BVAR	**Borovoye Array**	**24.21**	**20**	P		**P**	**23 22 53.4**	**+1.0**
	1.1nm,0.8s,baz=189,slow=8.4,SNR=6.9							
	1.1nm,0.8s							
MKAR	**Makanchi Array**	**25.09**	**43**	P		**P**	**23 23 01.1**	**+0.5**
	0.5nm,0.8s,baz=215,slow=8.3,SNR=6.4							
MKAR						LR	LR	23 34 22.8
	comp=Z,50nm,19.3s,baz=334,slow=40							
	0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**25.40**	**33**	P		**P**	**23 23 05.3**	**+2.0**
	0.4nm,0.6s,baz=234,slow=8.6,SNR=4.2							
	0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**30.50**	**33**	P		**P**	**23 23 48.9**	**+0.1**
	1.5nm,0.9s,baz=251,slow=9.0,SNR=5.7							
	1.5nm,0.9s		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**0.28**	**265**	*i* Pg	**Pg**	**23 21 27.6**	**-1.1**
DBV				*i* Pg	**Pg**	**23 21 27.6**	**-1.1**
DBV				*e*Sg	**Sg**	**23 21 31.2**	**-1.1**
DBV				*e*Sg	**Sb**	**23 21 31.4**	**-4.5**
DBV				IAML		23 21 31.6	
	comp=E,854μm,0.4s						
DBV				IAML		23 21 31.8	
	comp=E,104μm,0.4s						
DBV				IAML		23 21 31.8	
	comp=N,981μm,0.4s						
DBV				IAML		23 21 31.8	
	comp=N,114μm,0.4s						
SLVN	**Son La**	**0.55**	**98**		**Pg**	**23 21 33.2**	**-0.6**
SLVN				Sg	**Sb**	**23 21 41.1**	**-2.7**
SLVN	**Son La**	**0.55**	**98**	*i* Pg	**Pg**	**23 21 33.3**	**-0.6**
SLVN				*i* Pg	**Pb**	**23 21 33.5**	**-2.1**
SLVN				*e*Sg	**Sb**	**23 21 41.2**	**-2.7**
SLVN				IAML		23 21 45.4	
	comp=N,6μm,1.8s						
SLVN				IAML		23 21 45.4	
	comp=N,6μm,1.8s						
SLVN				IAML		23 21 47.4	
	comp=E,3μm,1.0s						
SLVN				IAML		23 21 47.5	
	comp=E,3μm,1.0s						
MLAV	**Muong La stati**	**0.64**	**346**	*i* Pg	**Pg**	**23 21 34.7**	**-1.0**
MLAV				*e*Sg	**Sg**	**23 21 44.0**	**-0.1**
MLVB	**It Ong**	**0.67**	**82**	*e*Pg	**Pg**	**23 21 34.7**	**-1.5**
MLVB				*i* Pg	**Pg**	**23 21 34.7**	**-1.5**
MLVB				IAML		23 21 46.6	
	comp=E,77μm,0.7s						
MLVB				IAML		23 21 46.6	
	comp=E,13μm,0.7s						
MLVB				IAML		23 21 50.4	
	comp=N,35μm,0.4s						
MLVB				IAML		23 21 50.4	
	comp=N,6μm,0.4s						
SPV	**Sa-pa**	**1.04**	**27**	*i* Pg	**Pn**	**23 21 46.2**	**+1.5**
SPV				IAML		23 22 04.9	
	comp=E,15μm,0.9s						
SPV				IAML		23 22 04.9	
	comp=E,15μm,0.9s						
SPV				IAML		23 22 05.0	
	comp=N,17μm,0.7s						
SPV				IAML		23 22 06.4	
	comp=N,17μm,0.4s						
MCVV	**Moc Chau**	**1.38**	**116**	*e*Pg	**Pn**	**23 21 47.8**	**-1.6**
MCVV				*e*Pn	**Pb**	**23 21 48.0**	**-1.8**
MCVV				*e*Sg	**Sg**	**23 22 10.6**	**+2.8**
HBVN	**Hoa-Binh**	**1.99**	**107**	*e*Pg	**Pg**	**23 22 01.5**	**+0.1**
HBVN				*e*Pg	**Pg**	**23 22 01.6**	**+0.1**
BGV	**Bac-Giang**	**2.71**	**92**	*e*Pn	**Pn**	**23 22 07.8**	**+0.1**
BGV				*e*Pg	**Pg**	**23 22 14.3**	**-1.1**
BGV				*e*Pg	**Pb**	**23 22 14.4**	**+2.0**
BGV				*e*Sg	**Sg**	**23 22 51.3**	**+0.7**
BGV				*e*Sg	**Sb**	**23 22 51.4**	**+5.4**
THV	**Thanh Hoa**	**2.78**	**124**	*e*Pg	**Pg**	**23 22 16.7**	**+0.1**
THV				IAML		23 22 59.0	
	comp=N,3μm,0.7s						
CBVB	**Cao Bang**	**2.94**	**65**	*e*Pn	**Pn**	**23 22 11.9**	**+1.1**
CBVB				IAML		23 23 07.6	
	comp=E,2μm,0.9s						
CBVB				IAML		23 23 07.6	
	comp=E,554nm,0.9s						
CBVB				IAML		23 23 15.1	
	comp=N,476nm,0.7s						
CBVB				IAML		23 23 15.1	
	comp=N,2μm,0.7s						
CRAI	**Chiangrai**	**3.00**	**247**	Pn	**Pn**	**23 22 10.2**	**-1.4**
CRAI				Sn	**Sn**	**23 22 46.8**	**-1.2**
PLV	**Phu-Lien**	**3.15**	**100**	*e*Pg	**Pg**	**23 22 22.3**	**-1.4**
LSVB	**Lang Son stati**	**3.22**	**82**	*e*Pn	**Pn**	**23 22 14.9**	**+0.2**
LSVB				*e*Sg	**Sg**	**23 23 06.6**	**-0.3**
LSVB				IAML		23 23 13.0	
	comp=N,730nm,0.7s						
NONG	**Nongkai**	**3.34**	**183**	*e*Pn	**Pn**	**23 22 17.0**	**+0.8**
NONG				*e*Pg	**Pg**	**23 22 26.2**	**-1.1**
NONG				IAML		23 23 21.6	
	comp=E,9μm,0.8s						
KMI	**Kunming**	**3.73**	**352**	⇑Pn	**Pn**	**23 22 23.5**	**+1.6**
KMI				Pg	**Pg**	**23 22 33.4**	**-1.5**
KMI				Sg	**Sg**	**23 23 26.3**	**+3.0**
KMI				smax	smax		
	comp=E,230nm,0.9s						
KMI				smax	smax		
	comp=E,190nm,0.8s						
KMI				LR	LR		
	comp=E,1μm,6.9s						
KMI				LR	LR		
	comp=E,810nm,7.4s						
PHRA	**Phrae**	**4.11**	**226**	Pn	**Pn**	**23 22 25.7**	**-1.1**
CHTO	**Chiang Mai**	**4.86**	**239**	Pn	**Pn**	**23 22 37.1**	**0.0**
CM31	**Chiang Mai Arr**	**5.06**	**235**		**Pb**	**23 22 56.0**	**+3.6**
CMAR	**Chiang Mai Arr**	**5.06**	**235**		**Pb**	**23 22 55.9**	**+3.5**
CMAR	**Chiang Mai Arr**	**5.06**	**235**	Pn	**Pn**	**23 22 39.7**	**-0.2**
	comp=E,1.2nm,0.3s,baz=48,slow=12,SNR=28						
CMAR				Pg	**Pb**	**23 22 55.8**	**+3.4**
	comp=E,4.3nm,0.3s,baz=54,slow=16,SNR=38						
CMAR				Sn	**Sn**	**23 23 35.8**	**-3.1**
	comp=E,2.3nm,0.3s,baz=41,slow=16,SNR=5.9						
CMAR				Lg	Lg	23 24 04.0	
	comp=E,4.0nm,0.3s,baz=57,slow=28,SNR=8.5						
	comp=E,2.8nm,0.3s						
PZH	**PanZhiHua**	**5.27**	**344**	Pn	**Pn**	**23 22 43.4**	**+0.5**
PZH				Pg	**Pg**	**23 23 01.1**	**-3.2**
PZH				Sg	**Sg**	**23 24 10.7**	**-1.9**
PZH				LR	LR		
	comp=E,370nm,7.9s						
PZH				LR	LR		
	comp=E,350nm,7.0s						
PZH				LR	LR		
	comp=E,490nm,7.9s						
TNCH	**TengChong**	**5.70**	**310**	Pn	**Pn**	**23 22 52.6**	**+3.8**
TNCH				Sg	**Sg**	**23 24 29.0**	**+2.7**
TNCH				smax	smax		
	comp=E,190nm,1.1s						
TNCH				smax	smax		
	comp=E,190nm,0.9s						
TNCH				LR	LR		
	comp=E,430nm,5.5s						
UBPT	**Khong Chiam**	**6.43**	**161**		**Pn**	**23 23 00.1**	**+1.3**
QIZ	**Qiongzhong**	**6.57**	**110**	Pn	**Pn**	**23 22 58.4**	**-2.3**
QIZ				Sn	**Sn**	**23 24 17.0**	**+0.9**
QIZ				LR	LR		
	comp=E,610nm,6.3s						
QIZ				LR	LR		
	comp=E,670nm,9.3s						
QIZ	**Qiongzhong**	**6.57**	**110**	Pn	**Pn**	**23 23 00.1**	**-0.6**
MND	**Mandalay**	**6.72**	**276**		**Pg**	**23 23 31.1**	**-1.1**
GULI	**GuiLin**	**7.54**	**58**	⇓P	Pn	23 23 07.7	-6.3
ENH	**Enshi**	**10.42**	**31**	Pn	**Pn**	**23 23 53.0**	**-0.6**
LZH	**Lanzhou**	**14.63**	**2**	*e*P	**P**	**23 24 57.9**	**+0.2**
LZH				pP	Pn	23 25 03.7	+12
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
LZH				LR	LR		
	comp=N,310nm,11.9s						
LZH				LR	LR		
	comp=E,640nm,12.8s						
LZH				LR	LR		
	comp=Z,370nm,13.1s						
HHC	**Hu-ho-hao-te**	**20.60**	**18**	*e*P	Pn	23 26 05.5	-0.2
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,3.5s						
WMQ	**Urumqi**	**25.84**	**333**	*e*P	**P**	**23 26 58.9**	**+3.0**
SONM	**Songino Array**	**26.48**	**5**	P	**P**	**23 27 01.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=193,slow=12,SNR=2.4						
	comp=Z,0.4nm,0.4s						
KSRS	**Korea Array**	**26.62**	**48**	LR	LR	23 38 24.3	
	comp=Z,54nm,19.7s,baz=275,slow=38						
LEM	**Lembang**	**28.38**	**171**	LR	LR	23 38 59.5	
	comp=Z,57nm,19.5s,baz=217,slow=37						
MK31	**Makanchi Array**	**30.54**	**331**	P	**P**	**23 27 39.1**	**+1.4**
MK31				IAmb	IAmb	23 27 41.5	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**30.54**	**331**	P	**P**	**23 27 38.9**	**+1.2**
MKAR	**Makanchi Array**	**30.54**	**331**	P	**P**	**23 27 39.2**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=139,slow=9.3,SNR=23						
MKAR				PcP	**PcP**	**23 30 36.8**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=116,slow=3.4,SNR=2.6						
	comp=Z,2.2nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**32.08**	**318**	P	**P**	**23 27 53.7**	**+2.2**
AAK				IAmb	IAmb	23 27 54.4	
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**32.08**	**318**	P	**P**	**23 27 53.3**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=151,slow=7.8,SNR=9.7						
	comp=Z,2.2nm,0.7s						
BTK	**Batken**	**33.30**	**311**	P	**P**	**23 28 03.5**	**+1.3**
BTK				IAmb	IAmb	23 28 06.3	
	comp=Z,2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**35.05**	**332**	P	**P**	**23 28 18.1**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=139,slow=9.2,SNR=12						
	comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**35.08**	**332**	P	**P**	**23 28 18.4**	**+1.0**
KURK				IAmb	IAmb	23 28 19.2	
	comp=Z,2.5nm,0.7s						
ZAA0	**Zalesovo Array**	**35.40**	**341**	P	**P**	**23 28 20.9**	**+0.9**
ZAA0				IAmb	IAmb	23 28 21.6	
	comp=Z,4.2nm,0.8s						
ZALV	**Zalesovo Beam**	**35.40**	**341**	P	**P**	**23 28 20.9**	**+0.8**
ZALV	**Zalesovo Beam**	**35.40**	**341**	P	**P**	**23 28 20.4**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=146,slow=8.8,SNR=15						
ZALV				LR	LR	23 44 02.8	
	comp=Z,49nm,18.9s,baz=80,slow=38						
	comp=Z,3.1nm,0.6s						
BVAR	**Borovoye Array**	**40.39**	**330**	P	**P**	**23 29 02.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=124,slow=9.7,SNR=6.0						
BVAR				PcP	**PcP**	**23 31 05.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=114,slow=2.9,SNR=4.0						
	comp=Z,0.4nm,0.3s						
BRVK	**Borovoye**	**40.46**	**330**	P	**P**	**23 29 03.4**	**+0.6**
GEYT	**Alibeck**	**42.15**	**303**	P	**P**	**23 29 18.0**	**+1.0**
GEYT				IAmb	IAmb	23 29 19.9	
	comp=Z,4.7nm,0.8s						
GEYT	**Alibeck**	**42.15**	**303**	P	**P**	**23 29 17.5**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=139,slow=7.3,SNR=12						
	comp=Z,4.3nm,0.8s						
ABKAR	**Akbulak array**	**44.11**	**320**	P	**P**	**23 29 33.7**	**+1.1**
ABKAR	**Akbulak array**	**44.11**	**320**	P	**P**	**23 29 33.7**	**+1.1**
AKTO	**Aktyubinsk**	**45.72**	**321**	P	**P**	**23 29 45.7**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=102,slow=7.6,SNR=5.9						
	comp=Z,1.7nm,0.7s						
WB0	**Warramunga Arr**	**50.98**	**141**	P	**P**	**23 30 26.6**	**+0.3**
WRA	**Warramunga Arr**	**51.08**	**141**	P	**P**	**23 30 26.5**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=328,slow=8.3,SNR=10						
	comp=Z,2.3nm,0.9s						
WB2	**Warramunga Arr**	**51.09**	**141**	P	**P**	**23 30 27.6**	**+0.4**
ASAR	**Alice Springs**	**53.80**	**145**	P	**P**	**23 30 44.5**	**-2.8**
	comp=Z,0.8nm,0.7s,baz=325,slow=7.5,SNR=7.9						
	comp=Z,0.8nm,0.7s						
KBZ	**Khabaz**	**54.31**	**309**	P	**P**	**23 30 50.2**	**-0.5**
	comp=Z,1.4nm,1.0s,baz=222,slow=18,SNR=3.0						
	comp=Z,1.4nm,1.0s						
KIV	**Kislovodsk**	**54.47**	**309**	P	**P**	**23 30 52.7**	**+0.6**
GURO	**Guroymak-BITLI**	**54.81**	**303**	P	**P**	**23 30 56.6**	**+1.8**
GURO				IAmb	IAmb	23 30 57.8	
	comp=Z,3.6nm,0.8s						
BRTR	**Keskin Array B**	**61.27**	**304**	P	**P**	**23 31 38.2**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=116,slow=6.6,SNR=3.1						
	comp=Z,0.5nm,0.8s						
AKASG	**Malin Array Be**	**63.74**	**317**	P	**P**	**23 31 54.8**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=78,slow=6.0,SNR=7.7						
	comp=Z,1.8nm,0.7s						
FINES	**FINESS Array B**	**65.34**	**329**	P	**P**	**23 32 05.8**	**-0.6**
	comp=Z,3.6nm,1.0s,baz=251,slow=5.2,SNR=6.0						
	comp=Z,3.6nm,1.0s						
KMBO	**Kilima Mbogo**	**68.23**	**260**	P	**P**	**23 32 24.9**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=71,slow=5.0,SNR=4.7						
	comp=Z,1.9nm,0.8s						
HFS	**Hagfors**	**71.50**	**328**	P	**P**	**23 32 44.3**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=122,slow=5.4,SNR=5.3						
	comp=Z,2.2nm,0.8s						
NOA	**NORSAR Array B**	**72.52**	**329**	P	**P**	**23 32 50.1**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=78,slow=6.2,SNR=3.9						
	comp=Z,1.3nm,0.8s						
GERES	**GERESS Array B**	**73.94**	**317**	P	**P**	**23 32 59.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=76,slow=5.6,SNR=3.8						
	comp=Z,0.9nm,0.7s						

*SDD **08** 23:28:07.9±1.2, 20°.22N×70°.90W, h20^{km}±46^{km}, MD3.5, ML3.0, MWJ3.5*
*OSPL **08** 23:28:08.9±2.1, 20°.17N×70°.97W, h0^{km}±9^{km}, ML2.9*
ISC 08 23:28:05.3±2.0, 20°.19N±0°.07×70°.93W±0°.04, h5^{km}±12^{km}, n18, σ0°68/29, 14C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.42**	**217**	*i* P	**Pb**	**23 28 15.5**	**+0.3**
LOPP1				*e*S	**Sb**	**23 28 21.0**	**-0.9**
LOPP1				IAML		23 28 26.9	
	comp=Z,1μm,0.9s						
MCDR	**Montecristi**	**0.74**	**247**	*e*Pg	**Pn**	**23 28 22.5**	**0.0**
MCDR				*e*Sg	**Sn**	**23 28 32.6**	**-1.6**
MCDR				IAML		23 28 38.1	
	comp=N,389nm,0.2s						
MCDR				IAML		23 28 38.9	
	comp=Z,225nm,0.2s						
LODA1	**ITESIL, Dajabo**	**0.97**	**229**	⇑*e*Sg	**Sn**	**23 28 38.7**	**-1.1**
LODA1				IAML		23 28 42.5	
	comp=N,1μm,1.4s						
LODA1	**ITESIL, Dajabo**	**0.97**	**229**	*e*S	**Sb**	**23 28 37.6**	**-0.1**
LODA1				IAML		23 28 42.8	
	comp=Z,1μm,1.1s						
SDDR	**Presa de Saban**	**1.25**	**196**	⇑*e*Pg	**Pn**	**23 28 29.6**	**+0.1**
SDDR				⇑*e*Sg	**Sn**	**23 28 46.4**	**-0.4**
SDDR				IAML		23 28 49.4	
	comp=N,359nm,0.3s						
SDDR				IAML		23 28 50.7	
	comp=E,378nm,0.5s						
SDDR	**Presa de Saban**	**1.25**	**196**	*i* P	**Pn**	**23 28 29.6**	**+0.1**
SDDR				*e*S	**Sb**	**23 28 45.9**	**+0.1**
SDDR				IAML		23 28 47.9	
	comp=Z,258nm,0.3s						
ABDR	**Alto Bandera**	**1.40**	**168**	⇓*e*Sg	**Sn**	**23 28 51.4**	**+0.4**
ABDR				IAML		23 28 52.8	
	comp=N,236nm,0.6s						
ABDR				IAML		23 28 53.3	
	comp=E,220nm,0.5s						
DR08	**Loma La Naviza**	**1.49**	**145**	⇑*e*Pg	**Pg**	**23 28 34.0**	**0.0**
DR08				⇑*e*Sg	**Sg**	**23 28 53.4**	**0.0**
DR08				IAML		23 28 56.2	
	comp=N,458nm,0.2s						
NEDR	**Neiba UASD**	**1.76**	**195**	⇑*e*Pg	**Pg**	**23 28 39.6**	**+0.5**
NEDR				⇑*e*Sg	**Sg**	**23 29 02.0**	**+0.1**
NEDR				IAML		23 29 03.9	
	comp=E,80nm,0.6s						
NEDR				IAML		23 29 06.7	
	comp=N,88nm,0.5s						
HATOM	**Hato Mayor del**	**2.02**	**133**	⇑*e*Pg	**Pb**	**23 28 41.9**	**-0.7**
HATOM				⇑*e*Sg	**Sb**	**23 29 08.6**	**+0.5**
HATOM				IAML		23 29 09.2	
	comp=E,46nm,0.6s						
HATOM				IAML		23 29 18.6	
	comp=N,39nm,1.1s						
PODR	**Polo**	**2.04**	**189**	⇑*e*Pg	**Pb**	**23 28 43.6**	**+0.6**
PODR				*e*Sg	**Sg**	**23 29 10.6**	**-0.4**
PODR				IAML		23 29 13.2	
	comp=N,272nm,0.8s						
PODR				IAML		23 29 17.8	
	comp=E,125nm,0.8s						
PODR	**Polo**	**2.04**	**189**	*i* P	**Pb**	**23 28 43.6**	**+0.6**
PODR				*e*S	**Sb**	**23 29 08.5**	**-0.3**
PAPH	**Port-au-Prince**	**2.10**	**218**	⇑*e*Sg	**Sb**	**23 29 11.4**	**+1.0**
PAPH				IAML		23 29 17.6	
	comp=E,162nm,0.6s						
PAPH				IAML		23 29 49.2	
	comp=N,181nm,1.0s						
LOBA2	**Hotel Casa Bon**	**2.10**	**184**	⇑*e*Sg	**Sg**	**23 29 11.8**	**-1.2**
MIDR	**Miches**	**2.14**	**124**	⇑*e*Sg	**Sb**	**23 29 11.5**	**-0.1**
MIDR				IAML		23 29 13.9	
	comp=E,58nm,1.8s						
MIDR				IAML		23 29 25.1	
	comp=N,48nm,1.6s						
LOPE2	**Hotel El Peder**	**2.28**	**200**	⇑*e*Sg	**Sg**	**23 29 17.8**	**-0.9**
LOPE2	**Hotel El Peder**	**2.28**	**200**	*i* P	**Pb**	**23 28 47.0**	**-0.1**
LOPE2				*e*S	**Sn**	**23 29 13.2**	**+1.1**
LOPE2				IAML		23 29 18.8	
	comp=Z,83nm,1.2s						
MASC	**Masc**	**3.10**	**270**	*i* P	**Pn**	**23 28 55.6**	**+0.6**
MASC				*e*S	**Sn**	**23 29 32.4**	**0.0**
MASC				IAML		23 29 35.3	
	comp=Z,31nm,2.0s						

IDC 08 23:36:57.3±2.1, 7°.27S×127°.30E, h0^{km}, mb3.3/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=138.1km
s-min=33.0km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.33**	**152**	Pn	Pn	23 40 21.9	+0.3
	0.1nm,0.3s,baz=330,slow=11,SNR=10						
WRA				Sn	Sn	23 42 45.0	-16
	0.3nm,0.3s,baz=144,slow=10,SNR=7.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**17.50**	**159**	P	Pn	23 41 02.7	-0.2
	0.2nm,0.3s,baz=346,slow=9.5,SNR=9.9						
ASAR				S	Sn	23 44 07.0	-11
	0.2nm,0.5s,baz=347,slow=20,SNR=1.7						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**67.01**	**328**	P	P	23 47 52.1	0.0
	0.1nm,0.3s,baz=116,slow=7.2,SNR=1.9						
	0.1nm,0.3s						

*IDC **08** 23:59:40.9±1.2, 17°.54S×178°.51W, h528^{km}±13^{km}, mb4.4/21, mbtmp5.2/23, Error ellipse: s-maj=10.1km s-min=10.0km az=167.0*
*NEIC **08** 23:59:41.7±1.6, 17°.60S±0°.09×178°.48W±0°.10, h535^{km}±6^{km}, mb4.8/266, Error ellipse: s-maj=13.3km s-min=12.8km az=97.0*
*NOU **08** 23:59:42.9, 17°.61S×178°.42W, h555^{km}, ML5.0/87, Fiji Islands Region*
*BGR **08** 23:59:50.7, 15°.49S×177°.93W, h529^{km}*
ISC 08 23:59:42.6±0.4, 17°.67S±0°.05×178°.55W±0°.04, h550^{km}±4^{km}, h551^{km}:pP-P, n751, σ1^{s}06/784, mb5.0/211, 34C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.61**	**204**	P	**P**	**00 00 49.7**	**+1.7**
TAVE	**Taveuni**	**1.61**	**306**	P	**P**	**00 00 52.6**	**+1.8**
DGTI	**Dogotuki**	**2.13**	**309**	P	**P**	**00 00 54.2**	**+1.2**
YSA	**Yasawairara**	**3.83**	**284**	P	**P**	**00 01 04.9**	**+1.7**
AFI	**Afiamalu**	**7.51**	**61**		**P**	**00 01 32.1**	**-3.6**
AFI	**Afiamalu**	**7.51**	**61**	P	**P**	**00 01 34.3**	**-1.4**
NIUE	**Niue**	**8.30**	**101**	P	**P**	**00 01 43.0**	**-0.4**
	baz=8.2,SNR=28						
NIUE	**Niue**	**8.30**	**101**		**P**	**00 01 42.6**	**-0.7**
NIUE	**Niue**	**8.30**	**101**	P	**P**	**00 01 43.4**	**0.0**
FUNA	**Funafuti**	**9.35**	**346**		**P**	**00 01 52.6**	**-1.4**
FUNA	**Funafuti**	**9.35**	**346**	P	**P**	**00 01 53.6**	**-0.4**
MARNC	**Mare, Loyalty**	**13.20**	**251**	P	**P**	**00 02 32.9**	**-0.7**
MARNC	**Mare, Loyalty**	**13.20**	**251**	P	**P**	**00 02 34.6**	**+1.0**
LIFNC	**LIFOU**	**13.77**	**255**	P	**P**	**00 02 38.5**	**-1.0**
PINNC	**Pines Island,**	**14.04**	**247**	P	**P**	**00 02 42.5**	**+0.3**
OUENC	**Ouen Island, N**	**14.52**	**249**	P	**P**	**00 02 47.0**	**-0.1**
DZM	**Mont Dzumac**	**14.78**	**250**	P	**P**	**00 02 49.5**	**-0.5**
DZM	**Mont Dzumac**	**14.78**	**250**	*e*P	**P**	**00 02 47.9**	**-2.0**
	356nm,1.2s						
DZM				*e*S	**S**	**00 05 19.9**	**-4.4**
	454nm,24.6s						
DZM	**Mont Dzumac**	**14.78**	**250**	P	**P**	**00 02 49.6**	**-0.3**
	117nm,0.6s,baz=76,slow=20,SNR=58						
DZM				S	**S**	**00 05 23.3**	**-1.0**
	10nm,1.0s,baz=161,slow=22,SNR=1.4						
ONTNC	**Ouen Toro**	**14.83**	**249**	P	**P**	**00 02 50.2**	**-0.1**
KOUNC	**Koumac, New Ca**	**16.47**	**257**	P	**P**	**00 03 07.2**	**+0.6**
RAR	**Rarotonga**	**18.05**	**104**	P	**P**	**00 03 20.6**	**-0.4**
RAR	**Rarotonga**	**18.05**	**104**	P	**P**	**00 03 19.6**	**-1.4**
	60nm,0.8s,baz=227,slow=4.6,SNR=6.8						
OUZ	**Omahuta**	**18.82**	**200**	P	**P**	**00 03 29.5**	**+1.6**
KUZ	**Kuaotunu**	**19.66**	**194**	P	**P**	**00 03 37.2**	**+1.7**
MXZ	**Matakaoa Point**	**20.01**	**187**	P	**P**	**00 03 37.2**	**-1.4**
MXZ	**Matakaoa Point**	**20.01**	**187**	P	**P**	**00 03 38.9**	**+0.3**
MXZ	**Matakaoa Point**	**20.01**	**187**	P	**P**	**00 03 37.2**	**-1.4**
WMGZ	**Waiomatatini S**	**20.25**	**187**	P	**P**	**00 03 40.4**	**-0.3**
HAZ	**Te Kaha**	**20.27**	**188**	P	**P**	**00 03 40.1**	**-0.8**
PKGZ	**Pakihiroa**	**20.36**	**188**	P	**P**	**00 03 41.0**	**-0.8**
RUGZ	**Raukumara Rang**	**20.49**	**189**	P	**P**	**00 03 43.2**	**+0.1**
PUZ	**Puketiti**	**20.52**	**187**	P	**P**	**00 03 42.8**	**-0.4**
TWGZ	**Tauwhareparae**	**20.65**	**188**	P	**P**	**00 03 44.8**	**+0.3**
TOZ	**Tahuroa Road**	**20.66**	**193**	P	**P**	**00 03 46.6**	**+2.1**
TOZ	**Tahuroa Road**	**20.66**	**193**	P	**P**	**00 03 47.8**	**+3.3**
TARA	**Tarawa**	**20.69**	**335**	P	**P**	**00 03 43.9**	**-1.2**
URZ	**Urewera**	**20.86**	**190**	P	**P**	**00 03 46.3**	**0.0**
URZ	**Urewera**	**20.86**	**190**	P	**P**	**00 03 43.8**	**-2.5**
	55nm,0.6s,baz=90,slow=4.6,SNR=40						
URZ				S	**S**	**00 06 54.8**	**-8.6**
	1.8nm,0.5s,baz=238,slow=21,SNR=0.9						
URZ	**Urewera**	**20.86**	**190**	P	**P**	**00 03 44.4**	**-1.9**
MWZ	**Matawai**	**20.87**	**189**	P	**P**	**00 03 44.7**	**-1.8**
CNGZ	**Carnagh Statio**	**20.93**	**187**	P	**P**	**00 03 46.6**	**-0.3**
RAGZ	**Rawiri**	**21.05**	**189**	P	**P**	**00 03 48.3**	**+0.2**
RTZ	**Ruatahuna**	**21.23**	**190**	P	**P**	**00 03 48.7**	**-1.0**
SNGZ	**Shannon Statio**	**21.34**	**189**	P	**P**	**00 03 50.3**	**-0.4**
MTHZ	**Maungataniwha**	**21.48**	**190**	P	**P**	**00 03 50.9**	**-1.1**
RAHZ	**Arahi**	**21.51**	**189**	P	**P**	**00 03 51.9**	**-0.2**
HIZ	**Hauiti**	**21.55**	**194**	P	**P**	**00 03 55.2**	**+2.7**
BKZ	**Black Stump Fm**	**21.85**	**190**	P	**P**	**00 03 56.0**	**+0.8**
HNR	**Honiara**	**22.43**	**289**	P	**P**	**00 03 58.8**	**-1.9**
	2μm,0.6s,baz=143,slow=8.9,SNR=6.1						
BFZ	**Birch Farm**	**23.37**	**190**	P	**P**	**00 04 09.3**	**+0.6**
MRZ	**Mangatainoka R**	**23.46**	**191**	P	**P**	**00 04 08.2**	**-1.4**
TCW	**Tory Channel**	**24.26**	**193**	P	**

CNB	**Canberra Magne**	**33.47**	**232**	P	**P**	**00 05 38.3**	**+1.7**
CAN	**Canberra**	**33.74**	**232**	P	**P**	**00 05 39.9**	**+1.0**
CAN	**Canberra**	**33.74**	**232**	P	**P**	**00 05 40.0**	**+1.0**
CAN	**Canberra**	**33.74**	**232**	P	**P**	**00 05 39.9**	**+1.0**
CAN				ScP	**ScP**	**00 10 58.4**	**+3.2**
PMG	**Port Moresby**	**34.29**	**279**	P	**P**	**00 05 45.4**	**+1.7**
PMG	**Port Moresby**	**34.29**	**279**	P	**P**	**00 05 45.5**	**+1.7**
PMG	**Port Moresby**	**34.29**	**279**	P	**P**	**00 05 44.8**	**+1.1**
PMG	**Port Moresby**	**34.29**	**279**	P	**P**	**00 05 44.5**	**+0.8**
	comp=Z,543nm,0.9s,comp=Z,4µm						
MILA	**Mila**	**34.34**	**229**	P	**P**	**00 05 44.9**	**+1.0**
	baz=34,SNR=4.6						
MILA	**Mila**	**34.34**	**229**	P	**P**	**00 05 45.1**	**+1.2**
CMSA	**Cobar Meteorol**	**35.15**	**240**	P	**P**	**00 05 51.5**	**+0.8**
	baz=35,SNR=154						
CMSA	**Cobar Meteorol**	**35.15**	**240**	P	**P**	**00 05 51.6**	**+0.9**
MTSU	**Mount Surprise**	**35.30**	**263**	P	**P**	**00 05 52.2**	**0.0**
	baz=35,SNR=83						
MTSU	**Mount Surprise**	**35.30**	**263**	P	**P**	**00 05 52.6**	**+0.4**
QLP	**Quilpie**	**35.49**	**249**	P	**P**	**00 05 53.9**	**+0.3**
	baz=36,SNR=89						
QLP	**Quilpie**	**35.49**	**249**	P	**P**	**00 05 54.5**	**+0.9**
MANU	**Manus Island**	**36.89**	**291**	P	**P**	**00 06 06.5**	**+1.2**
GLAD	**Gladstone**	**36.93**	**224**	P	**P**	**00 06 06.3**	**+1.1**
TOO	**Toolangi**	**37.22**	**230**	P	**P**	**00 06 08.9**	**+1.3**
	baz=37,SNR=41						
TOO	**Toolangi**	**37.22**	**230**	P	**P**	**00 06 09.0**	**+1.3**
TOO	**Toolangi**	**37.22**	**230**	P	**P**	**00 06 09.2**	**+1.5**
MOO	**Moorlands**	**38.17**	**222**	P	**P**	**00 06 16.6**	**+1.2**
	baz=38,SNR=5.4						
MOO	**Moorlands**	**38.17**	**222**	P	**P**	**00 06 16.7**	**+1.3**
TAOE	**Nuku Hiva Isla**	**38.32**	**82**	*e*P	**P**	**00 06 15.8**	**-1.3**
	comp=Z,336nm,1.4s						
TAOE	**Nuku Hiva Isla**	**38.32**	**82**	P	**P**	**00 06 17.1**	**-0.1**
TAU	**Tasmania Unive**	**38.33**	**222**	P	**P**	**00 06 17.8**	**+1.2**
TAU	**Tasmania Unive**	**38.33**	**222**	P	**P**	**00 06 17.4**	**+0.8**
TAU				ScP	**ScP**	**00 11 15.4**	**+3.4**
BRAT	**Ballarat**	**38.36**	**231**	P	**P**	**00 06 17.8**	**+0.9**
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**00 06 20.4**	**+1.1**
	baz=39,SNR=68						
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**00 06 20.6**	**+1.4**
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**00 06 20.3**	**+1.1**
	comp=Z,75nm,0.5s,baz=92,slow=10,SNR=180						
STKA				ScP	**ScP**	**00 11 15.4**	**+2.0**
	comp=Z,6.2nm,0.7s,baz=66,slow=5.0,SNR=5.0						
	comp=Z,75nm,0.5s						
INKA	**Innaminka**	**38.71**	**248**	P	**P**	**00 06 21.1**	**+1.1**
WAKE	**Wake Island**	**39.50**	**338**	P	**P**	**00 06 25.6**	**-0.7**
QIS	**Mount Isa**	**39.57**	**259**	P	**P**	**00 06 26.1**	**-0.9**
	baz=40,SNR=17						
QIS	**Mount Isa**	**39.57**	**259**	P	**P**	**00 06 26.7**	**-0.3**
ARPS	**Mount Arapiles**	**39.68**	**233**	P	**P**	**00 06 28.4**	**+0.8**
	baz=40,SNR=25						
ARPS	**Mount Arapiles**	**39.68**	**233**	P	**P**	**00 06 28.6**	**+0.9**
HTT	**Hallett**	**41.15**	**239**	P	**P**	**00 06 40.4**	**+0.9**
	baz=41,SNR=78						
HTT	**Hallett**	**41.15**	**239**	P	**P**	**00 06 40.6**	**+1.1**
TABU	**Tabubil**	**41.20**	**282**	P	**P**	**00 06 41.6**	**+1.4**
LCRK	**Leigh Creek**	**41.24**	**244**	P	**P**	**00 06 40.5**	**+0.3**
WHYH	**Whyalla**	**42.18**	**240**	P	**P**	**00 06 48.5**	**+1.0**
GENI	**Genyem**	**43.18**	**286**	P	**P**	**00 06 56.4**	**+0.8**
GENI	**Genyem**	**43.18**	**286**	P	**P**	**00 06 56.8**	**+1.2**
	comp=Z,692nm,0.8s,comp=Z,5µm						
OOD	**Oodnadatta**	**43.18**	**248**	P	**P**	**00 06 56.6**	**+1.2**
BBOO	**Buckleboo**	**43.40**	**241**	P	**P**	**00 06 57.8**	**+0.6**
	baz=44,SNR=227						
BBOO	**Buckleboo**	**43.40**	**241**	P	**P**	**00 06 57.8**	**+0.6**
BBOO	**Buckleboo**	**43.40**	**241**	P	**P**	**00 06 57.7**	**+0.6**
WRAB	**Tennant Creek**	**44.53**	**259**	P	**P**	**00 07 05.5**	**-0.5**
WRA	**Warramunga Arr**	**44.54**	**259**	P	**P**	**00 07 05.3**	**-0.9**
	comp=Z,74nm,0.7s,baz=92,slow=6.8,SNR=417						
WRA				ScP	**ScP**	**00 11 39.5**	**+2.0**
	comp=Z,10nm,0.7s,baz=88,slow=4.2,SNR=17						
WRA				S	**S**	**00 12 56.4**	**-5.8**
	comp=Z,1.7nm,1.0s,baz=98,slow=14,SNR=1.9						
WRA				ScS	**ScS**	**00 16 03.2**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=95,slow=7.2,SNR=4.6						
	comp=Z,74nm,0.7s						
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**00 07 07.7**	**+0.2**
	comp=Z,512nm,0.6s,baz=88,slow=8.2,SNR=6483						
ASAR				PcP	**PcP**	**00 08 36.8**	**-1.2**
	comp=Z,7.2nm,0.5s,baz=99,slow=4.7,SNR=2.9						
ASAR				ScP	**ScP**	**00 11 40.4**	**+2.2**
	comp=Z,9.4nm,0.8s,baz=96,slow=3.9,SNR=13						
ASAR				S	**S**	**00 13 02.3**	**-2.4**
	comp=Z,7.4nm,0.9s,baz=90,slow=16,SNR=17						
ASAR				ScS	**ScS**	**00 16 05.3**	**+0.8**
	comp=Z,3.3nm,1.0s,baz=83,slow=6.5,SNR=8.5						
MULG	**Mulgathing**	**44.79**	**245**	P	**P**	**00 07 08.2**	**+0.3**
PTCN	**Pitcairn Islan**	**45.53**	**108**	P	**P**	**00 07 14.1**	**+0.5**
KDU	**Kakadu**	**47.43**	**269**	P	**P**	**00 07 27.9**	**-0.2**
	baz=48,SNR=68						
KDU	**Kakadu**	**47.43**	**269**	P	**P**	**00 07 28.2**	**+0.1**
GUMO	**Guam**	**47.63**	**308**	P	**P**	**00 07 29.7**	**+0.3**
GUMO	**Guam**	**47.63**	**308**	P	**P**	**00 07 30.4**	**+0.9**
GUMO	**Guam**	**47.63**	**308**	P	**P**	**00 07 29.8**	**+0.3**
MTN	**Manton Dam**	**48.67**	**268**	P	**P**	**00 07 36.9**	**-0.4**
	baz=49,SNR=6.7						
MTN	**Manton Dam**	**48.67**	**268**	P	**P**	**00 07 37.2**	**-0.1**
SAUI	**Saumlaki**	**49.71**	**275**	P	**P**	**00 07 45.6**	**+0.6**
WRKA	**Warakurna**	**49.79**	**252**	P	**P**	**00 07 45.8**	**+0.3**
	baz=50,SNR=276						
WRKA	**Warakurna**	**49.79**	**252**	P	**P**	**00 07 45.8**	**+0.3**
FORT	**Forrest**	**49.99**	**244**	P	**P**	**00 07 46.6**	**-0.2**
	baz=50,SNR=110						
FORT	**Forrest**	**49.99**	**244**	P	**P**	**00 07 46.9**	**+0.1**
FORT	**Forrest**	**49.99**	**244**	P	**P**	**00 07 47.0**	**+0.2**
KNRA	**Kununurra**	**50.38**	**264**	P	**P**	**00 07 49.7**	**-0.2**
	baz=50,SNR=47						
KNRA	**Kununurra**	**50.38**	**264**	P	**P**	**00 07 50.0**	**+0.1**
KNRA	**Kununurra**	**50.38**	**264**	P	**P**	**00 07 50.1**	**+0.2**
FAKI	**Fak Fak**	**50.40**	**281**	P	**P**	**00 07 50.2**	**+0.1**
FAKI				IAmb	IAmb	00 07 51.3	
	comp=Z,102nm,1.2s						
FAKI	**Fak Fak**	**50.40**	**281**	P	**P**	**00 07 50.3**	**+0.2**
SIJI	**Sorong**	**52.05**	**283**	P	**P**	**00 08 02.0**	**-0.1**
	comp=Z,486nm,0.9s,comp=Z,4µm						
SWI	**Sorong**	**52.06**	**283**	P	**P**	**00 08 02.2**	**+0.1**
	comp=Z,755nm,0.8s,comp=Z,6µm						
BNDI	**Bandanaira**	**52.07**	**278**	P	**P**	**00 08 02.9**	**+0.7**
	comp=Z,349nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.94**	**260**	P	**P**	**00 08 08.6**	**+0.3**
	baz=53,SNR=26						
FITZ	**Fitzroy Crossi**	**52.94**	**260**	P	**P**	**00 08 08.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.94**	**260**	P	**P**	**00 08 08.6**	**+0.3**
KRAI	**Karang Ratu**	**53.88**	**279**	P	**P**	**00 08 17.4**	**+2.3**
	comp=Z,160nm,0.7s						
NLAI	**Namlea**	**55.13**	**279**	P	**P**	**00 08 23.8**	**0.0**
	comp=Z,111nm,0.7s,comp=Z,2µm						
KMBL	**Kambalda**	**55.30**	**244**	P	**P**	**00 08 24.1**	**-0.7**
	baz=55,SNR=24						
LBMI	**Labuha**	**55.64**	**282**	P	**P**	**00 08 27.9**	**+0.5**
	comp=Z,269nm,1.0s,comp=Z,2µm						
DRV	**Dumont d'Urvil**	**55.84**	**199**	P	**P**	**00 08 28.6**	**+0.8**
SOEI	**Soe**	**55.94**	**270**	P	**P**	**00 08 31.4**	**+1.8**
SOEI	**Soe**	**55.94**	**270**	P	**P**	**00 08 31.3**	**+1.8**
SOEI	**Soe**	**55.94**	**270**	P	**P**	**00 08 30.9**	**+1.3**
	comp=Z,478nm,0.8s,comp=Z,4µm						
TNTI	**Ternate**	**56.28**	**283**	P	**P**	**00 08 32.5**	**+0.7**
TNTI	**Ternate**	**56.28**	**283**	P	**P**	**00 08 32.3**	**+0.5**
TNTI	**Ternate**	**56.28**	**283**	P	**P**	**00 08 32.3**	**+0.5**
SANI	**Sanana**	**56.57**	**279**	P	**P**	**00 08 33.4**	**-0.4**
	comp=Z,199nm,0.9s,comp=Z,2µm						
PSA00	**Pilbara Seismi**	**57.84**	**255**	P	**P**	**00 08 42.0**	**-0.3**
PSA00				IAmb	IAmb	00 08 43.0	
	comp=Z,60nm,0.9s						
PSA00	**Pilbara Seismi**	**57.84**	**255**	P	**P**	**00 08 42.2**	**-0.2**
MMRI	**Maumere**	**58.16**	**271**	P	**P**	**00 08 43.6**	**-1.0**
MMRI	**Maumere**	**58.16**	**271**	P	**P**	**00 08 44.0**	**-0.6**
	comp=Z,209nm,0.7s,comp=Z,3µm						
MEEK	**Meekatharra**	**58.39**	**249**	P	**P**	**00 08 45.6**	**-0.4**
	baz=58,SNR=22						
MEEK	**Meekatharra**	**58.39**	**249**	P	**P**	**00 08 45.5**	**-0.6**
EDFI	**Ende, Flores**	**58.65**	**270**	P	**P**	**00 08 47.4**	**-0.7**
	comp=Z,157nm,0.9s,comp=Z,1µm						
BBSI	**Bau Bau**	**58.72**	**274**	P	P	00 09 01.2	+13
KLBR	**Kellerberrin**	**58.81**	**243**	P	**P**	**00 08 48.4**	**-0.4**
	baz=59,SNR=16						
KLBR	**Kellerberrin**	**58.81**	**243**	P	**P**	**00 08 48.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**59.20**	**242**	P	**P**	**00 08 51.5**	**+0.2**
	baz=59,SNR=6.1						
NWAO				P	**P**	**00 08 51.5**	**+0.2**
	baz=59,SNR=6.1						
NWAO	**Narrogin (SRO)**	**59.20**	**242**	P	**P**	**00 08 51.5**	**+0.2**
NWAO				IAmb	IAmb	00 08 52.3	
	comp=Z,120nm,1.5s						
NWAO	**Narrogin (SRO)**	**59.20**	**242**	P	**P**	**00 08 51.9**	**+0.5**
NWAO	**Narrogin (SRO)**	**59.20**	**242**	P	**P**	**00 08 51.1**	**-0.2**
KMSI	**Cibinong**	**59.36**	**282**	P	**P**	**00 08 53.0**	**+0.3**
	comp=Z,394nm,0.8s						
LUWI	**Luwuk**	**59.94**	**279**	P	**P**	**00 08 57.6**	**+1.1**
	comp=Z,226nm,1.1s						
MUN	**Mundaring**	**60.11**	**243**	P	**P**	**00 08 57.5**	**+0.1**
	baz=60,SNR=6.7						
MUN	**Mundaring**	**60.11**	**243**	P	**P**	**00 08 57.8**	**+0.4**
GTOI	**Gorontalo**	**60.29**	**281**	P	**P**	**00 08 59.9**	**+1.1**
	comp=Z,47nm,0.9s,comp=Z,491nm						
MORW	**Morawa**	**60.45**	**246**	P	**P**	**00 08 59.4**	**-0.3**
	baz=60,SNR=10						
MORW	**Morawa**	**60.45**	**246**	P	**P**	**00 08 59.5**	**-0.3**
MORW				IAmb	IAmb	00 08 59.9	
	comp=Z,30nm,0.6s						
MORW	**Morawa**	**60.45**	**246**	P	**P**	**00 08 59.9**	**+0.2**
SBA	**Scott Base**	**60.65**	**184**	P	**P**	**00 09 02.5**	**+2.4**
VNDA	**Vanda**	**60.67**	**185**	P	**P**	**00 09 01.4**	**+1.2**
	comp=Z,8.6nm,0.8s,baz=346,slow=7.1,SNR=33						
	comp=Z,8.6nm,0.8s						
VNDA	**Vanda**	**60.67**	**185**	P	**P**	**00 09 01.4**	**+1.2**
VNDA				PcP	**PcP**	**00 09 39.0**	**+1.3**
BKSI	**Bulukumba**	**61.10**	**274**	P	**P**	**00 09 03.5**	**-0.7**
	comp=Z,52nm,0.7s,comp=Z,548nm						
MRSI	**Marisa**	**61.24**	**281**	P	**P**	**00 09 04.7**	**-0.4**
	comp=Z,91nm,0.9s,comp=Z,825nm						
KAPI	**Kappang**	**61.54**	**274**	P	**P**	**00 09 07.3**	**+0.2**
KAPI				IAmb	IAmb	00 09 08.0	
	comp=Z,36nm,0.7s						
SPSI	**Sidrap Palu**	**61.84**	**275**	P	**P**	**00 09 08.0**	**-1.0**
	comp=Z,101nm,1.0s,comp=Z,894nm						
DBNI	**Kabupaten Domp**	**61.94**	**270**	P	**P**	**00 09 08.7**	**-1.0**
	comp=Z,677nm,0.7s,comp=Z,7µm						
TTSI	**Tana Toraja**	**62.08**	**276**	P	**P**	**00 09 10.9**	**+0.3**
	comp=Z,56nm,0.7s						
PLAI	**Plampang**	**62.36**	**269**	P	**P**	**00 09 12.6**	**+0.2**
PLAI	**Plampang**	**62.36**	**269**	P	**P**	**00 09 11.8**	**-0.6**
	comp=Z,225nm,0.7s,comp=Z,2µm						
TOLI2	**Tolitoli**	**62.54**	**281**	P	**P**	**00 09 14.3**	**+0.7**
PMSI	**Majene**	**62.80**	**275**	P	**P**	**00 09 15.9**	**+0.6**
	comp=Z,292nm,0.8s,comp=Z,2µm						
GIRL	**Giralia**	**62.84**	**253**	P	**P**	**00 09 16.4**	**+1.1**
	baz=63,SNR=16						
GIRL	**Giralia**	**62.84**	**253**	P	**P**	**00 09 16.2**	**+0.9**
GIRL	**Giralia**	**62.84**	**253**	P	**P**	**00 09 16.6**	**+1.3**
MPSI	**Mapaga**	**63.10**	**280**	P	**P**	**00 09 16.9**	**-0.3**
	comp=Z,134nm,0.9s,comp=Z,1µm						
TWSI	**Taliwang, Sumb**	**63.24**	**269**	P	**P**	**00 09 17.6**	**-0.5**
	comp=Z,318nm,0.9s,comp=Z,3µm						
JHJ2	**Mitsune**	**64.28**	**322**	P	**P**	**00 09 24.9**	**+0.7**
SRBI	**Singaraja**	**65.01**	**269**	P	**P**	**00 09 28.6**	**-0.7**
	comp=Z,144nm,1.0s,comp=Z,2µm						
CCD	**Concordia, Ant**	**65.06**	**194**	P	**P**	**00 09 29.8**	**+0.7**
CCD				PcP	**PcP**	**00 09 56.1**	**-0.3**
JAGI	**Jajag, Banyuwa**	**65.91**	**268**	P	**P**	**00 09 33.8**	**-1.2**
JAGI	**Jajag, Banyuwa**	**65.91**	**268**	P	**P**	**00 09 34.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**65.91**	**268**	P	**P**	**00 09 33.4**	**-1.6**
	comp=Z,251nm,1.0s,comp=Z,2µm						
ABJI	**Asem Bagus**	**66.02**	**269**	P	**P**	**00 09 35.6**	**0.0**
	comp=Z,124nm,1.0s						
CASY	**Casey**	**66.29**	**205**	P	**P**	**00 09 37.1**	**+0.8**
CASY				IAmb	IAmb	00 09 38.0	
	comp=Z,26nm,1.1s						
CASY	**Casey**	**66.29**	**205**	P	**P**	**00 09 37.0**	**+0.6**
KMMI	**Kalianget**	**66.48**	**270**	P	**P**	**00 09 38.8**	**+0.4**
	comp=Z,128nm,0.8s						
BLJI	**Banyuglugur**	**66.64**	**269**	P	**P**	**00 09 39.1**	**-0.4**
	comp=Z,211nm,0.7s						
KRKI	**Karangkates**	**67.62**	**268**	P	**P**	**00 09 48.2**	**+2.7**
	comp=Z,234nm,0.6s,comp=Z,16µm						
MJAR	**Matsushiro Arr**	**67.64**	**323**	P	**P**	**00 09 44.3**	**-0.8**
	comp=Z,28nm,0.6s,baz=158,slow=6.1,SNR=45						
	comp=Z,28nm,0.6s						
MAJO	**Matsushiro**	**67.64**	**323**	P	**P**	**00 09 45.1**	**0.0**
MAJO	**Matsushiro**	**67.64**	**323**	P	**P**	**00 09 44.7**	**-0.4**
MAJO				PcP	**PcP**	**00 10 06.0**	**-1.3**
GRJI	**Gresik**	**67.93**	**270**	P	**P**	**00 09 49.2**	**+1.8**
	comp=Z,108nm,0.9s,comp=Z,2µm						
JMN	**Monobe**	**68.33**	**319**	P	**P**	**00 09 50.7**	**+1.3**
SJI	**Sawahan**	**68.39**	**269**	P	**P**	**00 09 50.3**	**+0.1**
	comp=Z,119nm,0.6s						
KKM	**Kota Kinabalu**	**68.56**	**284**	P	**P**	**00 09 51.4**	**+0.1**
KKM	**Kota Kinabalu**	**68.56**	**284**	P	**P**	**00 09 52.0**	**+0.7**
KKM	**Kota Kinabalu**	**68.56**	**284**	P	**P**	**00 09 51.3**	**+0.1**
	comp=Z,108nm,0.7s,comp=Z,1µm						
NGJI	**Ngawi**	**68.78**	**269**	P	P	00 10 04.9	+12
JTM	**Tenmabayashi**	**69.20**	**328**	P	**P**	**00 09 54.2**	**-0.3**
UGM	**Wanagama**	**69.52**	**268**	P	**P**	**00 09 57.1**	**+0.1**
UGM	**Wanagama**	**69.52**	**268**	P	**P**	**00 09 57.3**	**+0.3**
UGM	**Wanagama**	**69.52**	**268**	P	**P**	**00 09 56.8**	**-0.2**
	comp=Z,258nm,0.6s						
ATKA	**Atka Island**	**69.68**	**3**	P	**P**	**00 09 58.2**	**+1.2**
SMRI	**Semarang**	**69.84**	**269**	P	**P**	**00 09 58.8**	**-0.1**
SMRI	**Semarang**	**69.84**	**269**	P	**P**	**00 09 59.6**	**+0.7**
	comp=Z,149nm,1.2s						
JNU	**Nakatsue**	**69.88**	**316**	P	**P**	**00 09 58.5**	**-0.3**
JNU	**Nakatsue**	**69.88**	**316**	P	**P**	**00 09 58.7**	**0.0**
YOJ	**Yonaguni jima**	**70.70**	**305**	P	**P**	**00 10 03.3**	**-0.4**
STKI	**Sintang**	**70.97**	**276**	P	**P**	**00 10 06.5**	**+1.0**
	comp=Z,105nm,0.9s						
JKA	**Kamikawa-asahi**	**71.01**	**331**	P	**P**	**00 10 06.2**	**+1.2**
JKA				IAmb	IAmb	00 10 06.6	
	comp=Z,35nm,0.6s						
ASAJ	**Asahikawa**	**71.01**	**331**	P	**P**	**00 10 05.6**	**+0.5**
	comp=Z,42nm,0.7s,baz=211,slow=10,SNR=9.7						
	comp=Z,42nm,0.7s						
KPJI	**Karang Pucung**	**71.20**	**268**	P	**P**	**00 10 06.6**	**-0.3**
	comp=Z,121nm,0.8s						
YULB	**Yu-li**	**71.53**	**303**	P	**P**	**00 10 07.9**	**-0.7**
YULB				IAmb	IAmb	00 10 11.7	
	comp=Z,58nm,1.1s						
CMJI	**Cimerak**	**71.53**	**268**	P	**P**	**00 10 07.9**	**-0.9**
	comp=Z,123nm,1.0s						
NACB	**Ninganchiao**	**71.68**	**304**	P	**P**	**00 10 09.4**	**0.0**
NACB				IAmb	IAmb	00 10 09.8	
	comp=Z,77nm,1.0s						
NACB	**Ninganchiao**	**71.68**	**304**	P	**P**	**00 10 09.4**	**0.0**
SSLB	**Suanglung**	**72.00**	**303**	P	**P**	**00 10 11.1**	**-0.3**
TPUB	**Ta-pu**	**72.02**	**302**	P	**P**	**00 10 10.5**	**-1.0**
YHNB	**Yeheng**	**72.09**	**304**	P	**P**	**00 10 11.8**	**-0.2**
TATO	**Taipei**	**72.16**	**304**	P	**P**	**00 10 12.2**	**0.0**
QSPA	**South Pole Qui**	**72.38**	**180**	P	**P**	**00 10 14.0**	**+1.0**
	comp=Z,74nm,0.8s,baz=18,slow=1.1,SNR=168						
	comp=Z,74nm,0.8s						
BBJI	**Bungbulang**	**72.38**	**268**	P	**P**	**00 10 13.9**	**0.0**
BBJI	**Bungbulang**	**72.38**	**268**	P	**P**	**00 10 12.8**	**-1.1**
	comp=Z,214nm,0.8s,comp=Z,2µm						
KSM	**Kuching**	**72.52**	**277**	P	**P**	**00 10 15.1**	**+0.6**
KSM	**Kuching**	**72.52**	**277**	P	**P**	**00 10 15.2**	**+0.6**
	comp=Z,176nm,1.0s,comp=Z,2µm						
CNJI	**Cibinong**	**72.92**	**268**	P	**P**	**00 10 16.8**	**-0.1**
	comp=Z,79nm,1.0s						
YSS	**Yuzh-Sakhalins**	**73.15**	**333**	P	**P**	**00 10 16.8**	**-0.6**
YSS				IAmb	IAmb	00 11 34.9	
	comp=Z,107nm,1.5s						
PETK	**Petropavlovsk-**	**73.42**	**345**	P	**P**	**00 10 18.2**	**-0.6**
	comp=Z,20nm,0.8s,baz=132,slow=8.2,SNR=20						
	comp=Z,20nm,0.8s						
DBJI	**Dramaga**	**73.49**	**268**	P	**P**	**00 10 20.0**	**-0.2**
	comp=Z,235nm,0.9s						
SKJI	**Sukabumi**	**73.55**	**268**	P	**P**	**00 10 20.3**	**-0.2**
	comp=Z,620nm,0.6s						
KSRS	**Korea Array**	**74.44**	**318**	P	**P**	**00 10 25.7**	**+0.8**
	comp=Z,10nm,0.7s,baz=129,slow=6.3,SNR=24						
	comp=Z,10nm,0.7s						
CGJI	**Cibinong**	**74.48**	**268**	P	**P**	**00 10 24.7**	**-1.0**
	comp=Z,380nm,0.7s,comp=Z,4µm						
PPBI	**Pangkal Pinang**	**75.36**	**272**	P	**P**	**00 10 31.1**	**+0.5**
	comp=Z,75nm,0.9s,comp=Z,12µm						
KASI	**Kota Agung**	**75.93**	**269**	P	**P**	**00 10 32.7**	**-1.1**
	comp=Z,228nm,0.8s,comp=Z,2µm						
USRK	**Ussuriysk Ar.**	**76.35**	**326**	P	**P**	**00 10 35.6**	**+0.2**
	comp=Z,9.4nm,0.7s,baz=104,slow=4.0,SNR=13						
	comp=Z,9.4nm,0.7s						
SAO	**San Andreas Ge**	**76.35**	**44**	P	**P**	**00 10 36.0**	**+0.3**
SAO				IAmb	IAmb	00 10 37.0	
	comp=Z,27nm,0.8s						
PMPB	**Monarch Peak**	**76.47**	**45**	P	**P**	**00 10 36.1**	**-0.3**
PMPB				IAmb	IAmb	00 10 37.5	
	comp=Z,27nm,0.7s						
LWLI	**Liwa**	**76.50**	**269**	P	**P**	**00 10 36.2**	**-0.9**
	comp=Z,228nm,0.6s						
BBGB	**Big Mountain B**	**76.51**	**44**	P	**P**	**00 10 37.4**	**+0.7**
BBGB				IAmb	IAmb	00 10 40.3	
	comp=Z,29nm,0.8s						
CIS	**Catalina Islan**	**76.59**	**48**	P	**P**	**00 10 36.9**	**-0.1**
	baz=238						
BCW	**Bitter Crk WRg**	**76.71**	**46**	P	**P**	**00 10 35.9**	**-1.9**
BCW				IAmb	IAmb	00 10 39.4	
	comp=Z,28nm,0.8s						
KMRM	**Mail Ridge**	**76.92**	**40**	P	**P**	**00 10 38.8**	**0.0**
KMRM				IAmb	IAmb	00 10 40.4	
	comp=Z,47nm,0.8s						
CCX	**Cicese**	**77.07**	**50**	P	**P**	**00 10 39.1**	**-0.5**
PASC	**Pasadena Art C**	**77.16**	**48**	P	**P**	**00 10 39.4**	**-0.7**
PASC				IAmb	IAmb	00 10 40.9	
	comp=Z,22nm,0.8s						
109C	**Camp Elliot, M**	**77.27**	**49**	P	**P**	**00 10 39.7**	**-1.0**
CBX	**Cerro Bola**	**77.30**	**50**	P	**P**	**00 10 40.6**	**-0.4**
CBX				IAmb	IAmb	00 10 42.4	
	comp=Z,24nm,0.9s						
DSRI	**Dabo**	**77.35**	**274**	P	**P**	**00 10 43.2**	**+1.6**
	comp=Z,40nm,0.8s						
ELS	**Elsinore Mount**	**77.43**	**48**	P	**P**	**00 10 40.8**	**-0.8**
VES	**Vestal, Richgr**	**77.43**	**46**	P	**P**	**00 10 41.5**	**0.0**
	baz=237,SNR=14						
TKX	**Tecate**	**77.47**	**50**	P	**P**	**00 10 42.1**	**+0.2**
VTX	**Valle De La Tr**	**77.48**	**51**	P	**P**	**00 10 41.9**	**-0.1**
MURC	**Murrieta**	**77.57**	**49**	P	**P**	**00 10 42.5**	**+0.1**
	baz=239,SNR=7.6						
BFSC	**Mount Baldy Ra**	**77.57**	**48**	P	**P**	**00 10 42.3**	**-0.2**
	baz=238,SNR=14						
ESJX	**Sierra Juarez**	**77.67**	**51**	P	**P**	**00 10 41.9**	**-1.2**
EDW2	**Edwards Air Fo**	**77.67**	**47**	P	**P**	**00 10 43.2**	**+0.3**
	baz=238,SNR=31						
ISA	**Isabella, Lake**	**77.75**	**46**	P	**P**	**00 10 43.5**	**+0.1**
ISA				IAmb	IAmb	00 10 44.7	
	comp=Z,30nm,0.9s						
ISA	**Isabella, Lake**	**77.75**	**46**	P	**P**	**00 10 43.7**	**+0.3**
	baz=238,SNR=27						
CMB	**Columbia Colle**	**77.76**	**43**	P	**P**	**00 10 43.1**	**-0.2**
MONP2	**Monument Peak**	**77.76**	**50**	P	**P**	**00 10 44.0**	**+0.4**
	baz=240,SNR=37						
CCAC	**Calif City Air**	**77.80**	**47**	P	**P**	**00 10 43.9**	**+0.3**
CCAC				IAmb	IAmb	00 10 46.5	
	comp=Z,28nm,0.5s						
RMX	**La Rumorosa**	**77.87**	**50**	P	**P**	**00 10 44.1**	**-0.1**
RMX				IAmb	IAmb	00 10 45.7	
	comp=Z,32nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**77.87**	**50**	P	**P**	**00 10 44.6**	**+0.5**
	baz=240,SNR=24						
ORV	**Oroville**	**77.90**	**42**	P	**P**	**00 10 44.1**	**+0.1**
MDJ	**Mudanjiang**	**77.92**	**325**	P	**P**	**00 10 44.6**	**+0.7**
MDJ				PcP	**PcP**	**00 10 47.4**	**-3.8**
MDJ				pP	pP	00 12 33.6	-5.9
MDJ				sP	sP	00 13 34.4	-1.1
MDJ				PP	**PP**	**00 13 53.1**	**+2.9**
MDJ				S	**S**	**00 19 59.0

BNX pmax pmax
comp=Z,63nm,0.8s
BNX pmax pmax
comp=Z,330nm,3.8s
I04A Tendick Farm, 79.83 38 P **P** **00 10 53.3 -0.8**
I04A IAmb IAmb 00 13 30.6
comp=Z,74nm,2.0s
PLTX Planet X, Gerl 79.84 41 P **P** **00 10 54.7 +0.3**
PLTX IAmb IAmb 00 10 55.6
comp=Z,27nm,0.9s
KLR Kul'dur 79.84 329 P **P** **00 10 52.8 -1.2**
comp=Z,7.9nm,1.0s,baz=103,slow=3.5,SNR=11
comp=Z,7.9nm,1.0s
TPH Tonopah 79.88 45 P **P** **00 10 55.1 +0.3**
TPH IAmb IAmb 00 10 56.0
comp=Z,67nm,0.9s
TPNV Topopah Spring 79.95 46 P **P** **00 10 54.8 -0.3**
TPNV Topopah Spring 79.95 46 P **P** **00 10 55.5 +0.3**
baz=239,SNR=15
214A Organ Pipe Nat 79.97 52 P **P** **00 10 55.6 +0.4**
214A Organ Pipe Nat 79.97 52 P **P** **00 10 55.9 +0.7**
baz=242,SNR=9.0
HSIG 80.06 55 P **P** **00 10 55.0 -0.7**
K05A Summer Lake 80.10 39 P **P** **00 10 55.3 -0.6**
K05A IAmb IAmb 00 10 57.2
comp=Z,38nm,1.0s
PDMCI Parker Dam,Lak 80.11 49 P **P** **00 10 56.4 +0.6**
baz=241,SNR=5.2
J05D Fort Rock, OR 80.22 39 P **P** **00 10 56.4 0.0**
J05D IAmb IAmb 00 10 57.8
comp=Z,45nm,0.7s
Q09A Carvers 80.31 44 P **P** **00 10 56.2 -0.7**
Q09A IAmb IAmb 00 10 58.2
comp=Z,24nm,0.8s
V12A Nelson 80.31 48 P **P** **00 10 56.4 -0.6**
V12A IAmb IAmb 00 13 37.7
comp=Z,32nm,1.4s
WHN Wuhan 80.36 306 ⇑P **P** **00 10 58.2 +1.0**
WHN pP pP 00 13 04.6 +10
WHN pmax pmax
comp=Z,60nm,1.0s
CNSH ChangSha 80.42 304 ⇑P **P** **00 10 57.8 +0.2**
CNSH pmax pmax
comp=Z,23nm,1.1s
WTNK Soaring Height 80.43 47 P **P** **00 10 57.4 -0.1**
SHPR Sheep Range 80.48 47 P **P** **00 10 58.5 +0.6**
H04A Detroit Lake 80.49 37 P **P** **00 10 57.3 -0.3**
S11A Rachel 80.65 46 P **P** **00 10 58.2 -0.6**
S11A IAmb IAmb 00 11 00.0
comp=Z,38nm,1.2s
W13A Hualapai Mount 80.69 49 P **P** **00 10 59.6 +0.5**
PINE Pine Mountain 80.69 38 P **P** **00 10 58.6 -0.3**
PINE IAmb IAmb 00 11 00.4
comp=Z,28nm,0.8s
Y14A Wickenburg 80.77 50 P **P** **00 10 59.0 -0.3**
I05D Terrebonne, OR 80.77 38 P **P** **00 10 58.8 -0.3**
MA2 Magadan 80.94 345 P **P** **00 10 58.4 -1.1**
comp=Z,6.0nm,0.5s,baz=348,slow=23,SNR=3.6
comp=Z,6.0nm,0.5s
BKNI Bangkinang 80.96 273 P **P** **00 11 00.9 +0.1**
PRN Pahroc Range 81.01 46 P **P** **00 11 01.1 +0.5**
PRN IAmb IAmb 00 11 02.3
comp=Z,31nm,0.9s
SEW Seward 81.01 14 P **P** **00 10 59.8 0.0**
SEW IAmb IAmb 00 11 01.2
comp=Z,56nm,1.8s
F04A Amboy 81.10 36 P **P** **00 10 60.0 -0.7**
F04A IAmb IAmb 00 11 01.7
comp=Z,54nm,1.5s
R11B Troy Canyon, C 81.12 45 P **P** **00 10 59.8 -1.4**
R11B Troy Canyon, C 81.12 45 P **P** **00 11 01.1 -0.1**
baz=239
BMN Battle Mountai 81.12 43 P **P** **00 11 00.4 -0.7**
BMN IAmb IAmb 00 11 02.3
comp=Z,24nm,0.9s
PDSI Padang 81.14 272 P **P** **00 11 00.8 -0.9**
comp=Z,62nm,0.9s
HOOD Mount Hood Mea 81.17 37 P **P** **00 11 00.6 -0.7**
WVOR Wild Horse Val 81.31 40 P **P** **00 11 01.8 -0.2**
WVOR IAmb IAmb 00 11 03.3
comp=Z,31nm,0.9s
SMAI San Martin Ant 81.42 159 P **P** **00 11 02.7 +0.8**
SMAI IAmb IAmb 00 11 04.0
comp=Z,52nm,0.7s
TUC Tucson 81.66 52 P **P** **00 11 04.1 +0.1**
TUC IAmb IAmb 00 11 06.2
comp=Z,28nm,0.8s
TUC Tucson 81.66 52 P **P** **00 11 05.1 +1.1**
baz=243
G06A Carlson Farm, 81.70 37 P **P** **00 11 03.3 -0.6**
I07A Izee 81.71 39 P **P** **00 11 03.1 -0.9**
I07A IAmb IAmb 00 11 05.3
comp=Z,21nm,0.8s
UBPT Khong Chiam 81.73 289 P **P** **00 11 04.1 -0.4**
UBPT IAmb IAmb 00 11 06.1
comp=Z,82nm,1.5s
UBPT Khong Chiam 81.73 289 P **P** **00 11 05.1 +0.6**
M20K Styx River 81.82 12 P **P** **00 11 04.5 +0.3**
GNW Green Mountain 81.86 34 P **P** **00 11 04.1 -0.4**
J08A Circle Bar Ran 81.92 40 P **P** **00 11 04.1 -1.0**
J08A IAmb IAmb 00 11 06.3
comp=Z,28nm,1.0s
LON Longmire 81.92 36 P **P** **00 11 03.9 -1.0**
SUA Susitna One 81.93 13 P **P** **00 11 04.1 -0.7**
baz=207
Q12A Willow Creek R 81.98 45 P **P** **00 11 05.0 -0.6**
Q12A IAmb IAmb 00 11 06.8
comp=Z,21nm,0.9s
LCMT Little Creek M 82.07 47 P **P** **00 11 06.2 +0.2**
LCMT IAmb IAmb 00 11 07.4
comp=Z,21nm,0.9s
D05A Enumclaw 82.09 35 P **P** **00 11 06.0 +0.4**
D05A IAmb IAmb 00 11 07.2
comp=Z,26nm,1.1s
X16A Lo Mia Camp, P 82.14 50 P **P** **00 11 06.3 -0.2**
X16A IAmb IAmb 00 11 08.4
comp=Z,33nm,0.9s
SPR3 Spring Creek 3 82.30 45 P **P** **00 11 06.8 -0.5**
KNB Kanab 82.37 47 P **P** **00 11 08.0 +0.4**
KNB IAmb IAmb 00 11 09.2
comp=Z,22nm,0.9s
319A Douglas 82.39 54 P **P** **00 11 08.1 +0.3**
319A IAmb IAmb 00 11 10.0
comp=Z,47nm,1.0s
BELA Belgrano 2 82.41 173 P **P** **00 11 06.3 -0.7**
SZCU Shurtz Canyon 82.46 47 P **P** **00 11 08.2 +0.1**
U15A North Rim 82.46 48 P **P** **00 11 08.4 +0.2**
U15A IAmb IAmb 00 11 10.0
comp=Z,44nm,0.8s
F07A Phinny Hill Vi 82.49 37 P **P** **00 11 07.3 -0.4**
F07A IAmb IAmb 00 11 08.7
comp=Z,16nm,0.8s
ELK Elko 82.58 43 P **P** **00 11 07.7 -0.9**
ELK IAmb IAmb 00 11 09.7
comp=Z,19nm,0.9s
HEH HeiHe 82.64 328 *e*P **P** **00 11 08.2 -0.2**
HEH pmax pmax
comp=Z,19nm,0.7s
HEH pmax pmax
comp=Z,270nm,4.4s
MXC Moxie City 82.67 36 P **P** **00 11 06.4 -2.3**
WUAZ Wupatki 82.69 49 P **P** **00 11 09.5 +0.2**
WUAZ IAmb IAmb 00 11 11.5
comp=Z,28nm,0.9s
WUAZ Wupatki 82.69 49 P **P** **00 11 09.8 +0.5**
baz=242
G08A Pilot Rock 82.71 38 P **P** **00 11 08.8 -0.2**
G08A IAmb IAmb 00 11 10.1
comp=Z,24nm,1.1s
LTY Liberty 82.85 36 P **P** **00 11 08.6 -1.0**
KULM Kulim 82.87 278 P **P** **00 11 10.2 -0.2**
KULM IAmb IAmb 00 11 12.1
comp=Z,27nm,0.9s
KULM Kulim 82.87 278 P **P** **00 11 11.4 +1.0**
comp=Z,40nm,1.4s
E07A Sunnyside 82.91 36 P **P** **00 11 09.7 -0.2**
E07A IAmb IAmb 00 11 10.5
comp=Z,16nm,0.6s
PKCU Pink Cliffs 82.93 47 P **P** **00 11 11.3 +0.7**
PKCU IAmb IAmb 00 11 12.9
comp=Z,40nm,1.0s
BMRM Bremner River 82.97 16 P **P** **00 11 09.1 -0.8**
baz=212
HAWA Hanford 83.00 37 P **P** **00 11 09.6 -0.7**
HAWA IAmb IAmb 00 11 11.4
comp=Z,21nm,0.9s
SCM Sheep Creek Mo 83.03 14 P **P** **00 11 09.3 -0.9**
SCM IAmb IAmb 00 11 49.4
comp=Z,68nm,1.9s
SCM Sheep Creek Mo 83.03 14 P **P** **00 11 09.5 -0.8**
baz=210
DUN6 Lazy B Ranch 83.05 53 P **P** **00 11 10.8 -0.2**
DUN6 IAmb IAmb 00 11 13.2
comp=Z,59nm,1.1s
X18A Snowflake 83.28 51 P **P** **00 11 12.3 +0.1**
X18A IAmb IAmb 00 11 13.8
comp=Z,14nm,0.8s
MTPU Mount Pierson 83.30 47 P **P** **00 11 12.4 -0.1**
MTPU IAmb IAmb 00 11 14.6
comp=Z,26nm,1.0s
E08A Dider Farm, El 83.32 37 P **P** **00 11 11.5 -0.4**
E08A IAmb IAmb 00 11 12.9
comp=Z,14nm,0.7s
TCRU Three Creeks R 83.39 46 P **P** **00 11 12.6 -0.2**
TCRU IAmb IAmb 00 11 14.6
comp=Z,22nm,1.0s
HPIG 83.42 59 P **P** **00 11 12.8 -0.4**
CAST Castle Rocks 83.42 12 P **P** **00 11 11.5 -0.5**
BMO Blue Mountains 83.44 39 P **P** **00 11 12.1 -0.6**
SKLT Songkhla 83.49 280 P **P** **00 11 15.2 +1.7**
comp=Z,196nm,0.8s,comp=Z,2μm
MVU Marysvale 83.50 46 P **P** **00 11 13.4 +0.1**
MVU IAmb IAmb 00 11 15.3
comp=Z,64nm,1.0s
N25K Chitina, Valde 83.51 16 P **P** **00 11 11.9 -0.7**
N25K Chitina, Valde 83.51 16 P **P** **00 11 12.2 -0.4**
baz=212
SEY Seymchan 83.52 347 P **P** **00 11 11.7 -0.8**
comp=Z,29nm,0.7s,baz=1.0,slow=23,SNR=22
comp=Z,29nm,0.7s
BJI Beijing 83.53 315 P **P** **00 11 13.5 +0.5**
BJI pmax pmax
comp=Z,12nm,0.8s
MSU Marysvale 83.53 46 P **P** **00 11 13.6 +0.1**
GLB Gilahina Butte 83.58 16 P **P** **00 11 12.4 -0.5**
MFID Camas Ranch 83.58 41 P **P** **00 11 13.0 -0.4**
WAT6 Susitna Watana 83.59 14 P **P** **00 11 12.3 -0.8**
baz=209
RPSI Rantau Prapat 83.70 275 P **P** **00 11 13.9 -0.6**
RPSI IAmb IAmb 00 11 15.6
comp=Z,36nm,0.8s
W18A Petrified Fore 83.70 50 P **P** **00 11 14.0 -0.3**
W18A IAmb IAmb 00 13 14.4
comp=Z,96nm,1.8s
D08A Wollman Farm, 83.72 36 P **P** **00 11 13.9 +0.1**
PSI Prapat 83.73 275 P **P** **00 11 15.0 +0.1**
PSI Prapat 83.73 275 P **P** **00 11 14.1 -0.8**
comp=Z,56nm,0.9s,comp=Z,540nm
KTH Kantishna Hill 83.77 12 P **P** **00 11 12.1 -1.8**
TRF Thorofare Moun 83.81 12 P **P** **00 11 12.9 -1.2**
TRF IAmb IAmb 00 13 17.9
comp=Z,35nm,1.7s
TRF Thorofare Moun 83.81 12 P **P** **00 11 13.0 -1.2**
baz=207
BARN Barnard Glacie 83.84 17 P **P** **00 11 13.9 -0.5**
CTG Chitna Glacier 83.86 17 P **P** **00 11 13.8 -0.6**
baz=215
E09A Wood Farm, Sta 83.86 37 P **P** **00 11 14.1 -0.4**
E09A IAmb IAmb 00 11 17.0
comp=Z,37nm,1.9s
P29M Windy Craggy 83.87 20 P **P** **00 11 14.6 +0.2**
baz=219
DUG Dugway, Tooele 83.91 45 P **P** **00 11 13.6 -1.6**
DUG IAmb IAmb 00 14 12.6
comp=Z,27nm,1.4s
MAW Mawson 84.04 200 P **P** **00 11 13.2 -1.9**
baz=84,SNR=11
MAW Mawson 84.04 200 P **P** **00 11 15.9 +0.8**
comp=Z,15nm,0.7s,baz=138,slow=4.9,SNR=15
comp=Z,15nm,0.7s
121A Cookes Peak, D 84.04 53 P **P** **00 11 16.1 0.0**
121A Cookes Peak, D 84.04 53 P **P** **00 11 16.9 +0.9**
baz=245
RND Reindeer 84.07 13 P **P** **00 11 14.2 -1.1**
F10A Beach Ranch, E 84.10 38 P **P** **00 11 15.1 -0.8**
F10A IAmb IAmb 00 11 16.5
comp=Z,28nm,1.0s
BGU Big Grassy Mou 84.12 44 P **P** **00 11 15.7 -0.6**
MCK McKinley 84.34 13 P **P** **00 11 15.7 -0.9**
MCK IAmb IAmb 00 13 21.1
comp=Z,27nm,1.6s
MCK McKinley 84.34 13 P **P** **00 11 15.9 -0.7**
baz=208
PLID Pearl Lake 84.35 39 P **P** **00 11 17.2 -0.2**
C09A Chrisman Ranch 84.50 36 P **P** **00 11 17.8 +0.1**
P30M Million Dollar 84.50 20 P **P** **00 11 17.9 +0.4**
baz=219
HLID Hailey 84.54 41 P **P** **00 11 18.8 +0.5**
HLID IAmb IAmb 00 11 19.7
comp=Z,15nm,0.8s
HLID Hailey 84.54 41 P **P** **00 11 18.6 +0.3**
baz=239
GSI Gunungsitoli 84.56 273 P **P** **00 11 19.8 +1.0**
GSI Gunungsitoli 84.56 273 P **P** **00 11 19.4 +0.6**
GSI Gunungsitoli 84.56 273 P **P** **00 11 19.7 +1.0**
comp=Z,140nm,0.9s,comp=Z,3μm
YUK8 Steele Glacier 84.56 18 P **P** **00 11 17.6 -0.4**
baz=217
TMUT Trail Mountain 84.57 46 P **P** **00 11 19.2 +0.6**
M26K Nabesna, AK 84.59 16 P **P** **00 11 17.6 -0.3**
SPUT South Promonto 84.69 44 P **P** **00 11 19.5 +0.5**
SPUT IAmb IAmb 00 14 05.3
comp=Z,22nm,1.3s
YUK3 Moose Creek 84.76 17 P **P** **00 11 18.7 -0.2**
baz=216
S34M Telegraph Cree 84.88 23 P **P** **00 11 20.0 +0.7**
baz=225
SRIT Nakonsritamara 84.90 281 P **P** **00 11 20.1 -0.3**
SRU San Rafael Swe 84.95 46 P **P** **00 11 20.5 +0.1**
SRU IAmb IAmb 00 11 21.4
comp=Z,13nm,0.8s
P17A Butcher Ranch, 84.97 46 P **P** **00 11 20.3 -0.2**
P17A IAmb IAmb 00 13 52.1
comp=Z,26nm,1.3s
L26K Log Cabin Wild 85.02 15 P **P** **00 11 20.0 +0.1**
baz=213
BVCY Beaver Creek 85.17 17 P **P** **00 11 20.5 -0.2**
baz=216
Q32M Nakina River 85.22 22 P **P** **00 11 21.4 +0.2**
baz=224
SLVN Son La 85.27 294 P **P** **00 11 21.5 -0.6**
O30N Mendenhall 85.28 19 P **P** **00 11 21.3 0.0**
baz=220
TCUT Toone Canyon 85.29 44 P **P** **00 11 21.6 -0.4**
P18A Preston Nutter 85.38 46 P **P** **00 11 22.8 +0.2**
P18A IAmb IAmb 00 13 59.7
comp=Z,17nm,1.1s
NEW Newport 85.40 36 P **P** **00 11 21.4 -0.7**
NEW Newport 85.40 36 P **P** **00 11 21.8 -0.3**
baz=237
HWUT Hardware Ranch 85.41 44 P **P** **00 11 22.3 -0.3**
BSUT Blindstream Ca 85.45 45 P **P** **00 11 22.9 0.0**
MNTX Cornudas Mount 85.55 55 P **P** **00 11 23.9 +0.7**
baz=246
DLBC Dease Lake 85.67 23 P **P** **00 11 23.8 +0.6**
baz=226
ILAR Eielson Array 85.69 13 P **P** **00 11 21.7 -1.4**
comp=Z,0.7nm,0.5s,baz=223,slow=4.8,SNR=16
M29M Somme Creek 85.86 17 P **P** **00 11 23.9 -0.2**
baz=218
J25K Salcha River, 85.89 14 P **P** **00 11 23.4 -0.7**
baz=212
TXAR Lajitas Array 85.98 58 P **P** **00 11 26.4 +0.9**
comp=Z,23nm,0.8s,baz=218,slow=6.3,SNR=279
comp=Z,23nm,0.8s
R33M Jennings River 86.00 22 P **P** **00 11 25.2 +0.3**
baz=225
ANMO Albuquerque 86.06 52 P **P** **00 11 25.3 -0.4**
ANMO IAmb IAmb 00 13 00.6
comp=Z,14nm,1.1s
ANMO Albuquerque 86.06 52 P **P** **00 11 25.9 +0.1**
baz=245
SNSI Sinabang, Aceh 86.08 274 P **P** **00 11 27.7 +1.6**
comp=Z,77nm,1.2s
BILL Bilibino 86.19 354 P **P** **00 11 24.5 -0.8**
J26L Joseph Creek 86.21 14 P **P** **00 11 24.6 -1.1**
J26L IAmb IAmb 00 13 28.6
comp=Z,30nm,1.7s
J26L Joseph Creek 86.21 14 P **P** **00 11 25.7 0.0**
baz=213
AHID Auburn Hatcher 86.27 43 P **P** **00 11 25.8 -0.8**
AHID IAmb IAmb 00 14 39.2
comp=Z,16nm,1.2s
RDMU Red Mountain 86.27 45 P **P** **00 11 26.1 -0.6**
ALPN Alpine 86.41 57 P **P** **00 11 27.8 +0.3**
ALPN IAmb IAmb 00 11 29.3
comp=Z,54nm,1.5s
M30M Minto, Yukon 86.45 18 P **P** **00 11 25.9 -0.8**
M30M **pwP** **00 13 32.3 +3.9**
M30M Minto, Yukon 86.45 18 P **P** **00 11 26.1 -0.6**
baz=219
MSO Missoula 86.48 38 P **P** **00 11 27.1 -0.3**
baz=240
MLSI Meulaboh, Aceh 86.57 276 P **P** **00 11 28.5 +0.1**
comp=Z,97nm,0.7s
BPMT Black Pine Rid 86.58 39 P **P** **00 11 26.8 -1.3**
TPAW Teton Pass 86.70 42 P **P** **00 11 28.1 -0.6**
TPAW IAmb IAmb 00 11 30.0
comp=Z,14nm,0.9s
REDW Red Top Meadow 86.71 43 P **P** **00 11 27.9 -0.8**
SNOW Snow King Moun 86.81 42 P **P** **00 11 29.2 -0.1**
IMW Indian Meadow 86.90 42 P **P** **00 11 29.6 -0.1**
IMW IAmb IAmb 00 11 31.1
comp=Z,23nm,0.8s
S22A 4UR Ranch, Cre 86.95 49 P **P** **00 11 29.3 -0.8**
S22A IAmb IAmb 00 13 28.3
comp=Z,43nm,1.4s
S22A 4UR Ranch, Cre 86.95 49 P **P** **00 11 30.5 +0.5**
baz=245
MOOW Moose Ponds 86.95 42 P **P** **00 11 28.8 -1.0**
I26K Coal Creek Min 86.98 14 pwP 00 13 29.6 -1.2
LOHW Long Hollow 86.98 42 P **P** **00 11 28.9 -1.0**
O20A White River Ci 86.98 46 P **P** **00 11 28.9 -1.1**
O20A IAmb IAmb 00 13 52.7
comp=Z,15nm,0.8s
O20A White River Ci 86.98 46 P **P** **00 11 30.5 +0.4**
baz=244
FLWY Flagg Ranch 87.14 42 P **P** **00 11 29.9 -0.8**
FLWY IAmb IAmb 00 11 32.4
comp=Z,22nm,0.9s
OVMT Ovando 87.16 39 P **P** **00 11 29.0 -1.6**
SRDT SRDT 87.19 286 P **P** **00 11 32.9 +1.6**
SRDT SRDT 87.19 286 P **P** **00 11 32.6 +1.3**
comp=Z,77nm,1.0s,comp=Z,5μm
YFT Old Faithful 87.23 42 P **P** **00 11 30.6 -0.5**
YFT IAmb IAmb 00 11 33.6
comp=Z,13nm,0.7s
K29M Barlow Dome 87.23 17 P **P** **00 11 30.5 0.0**
baz=219
MG02 Cerro Sombrero 87.25 145 P **P** **00 11 32.0 +1.2**
YMR Madison River 87.25 41 P **P** **00 11 31.7 +0.5**
YMR IAmb IAmb 00 11 33.0
comp=Z,16nm,0.8s
BOZ Bozeman (W) 87.27 40 P **P** **00 11 30.3 -0.9**
BOZ Bozeman (W) 87.27 40 P **P** **00 11 31.5 +0.3**
baz=241
BW06 Boulder Array 87.27 43 P **P** **00 11 30.0 -1.3**
BW06 IAmb IAmb 00 11 31.9
comp=Z,34nm,1.4s
BW06 Boulder Array 87.27 43 P **P** **00 11 31.4 0.0**
baz=243
PDAR Pinedale Array 87.27 43 P **P** **00 11 30.9 -0.5**
comp=Z,7.3nm,0.5s,baz=211,slow=3.3,SNR=106
comp=Z,7.3nm,0.5s
H17A Grant Village 87.36 42 P **P** **00 11 32.3 +0.5**
H17A IAmb IAmb 00 11 34.2
comp=Z,16nm,0.8s
H17A Grant Village 87.36 42 P **P** **00 11 33.5 +1.7**
baz=242
YHH Holmes Hill 87.38 41 P **P** **00 11 32.1 +0.2**
SMCO Snowmass 87.46 48 P **P** **00 11 32.2 -0.4**
SMCO IAmb IAmb 00 13 40.7
comp=Z,22nm,1.3s
SAND Sanderson 87.46 58 P **P** **00 11 32.2 -0.1**
SAND IAmb IAmb 00 11 33.6
comp=Z,18nm,0.9s
MNHN Monahans 87.47 56 P **P** **00 11 31.7 -0.6**
MNHN IAmb IAmb 00 11 33.5
comp=Z,28nm,1.4s
LYMT Lyon Mountain 87.54 39 P **P** **00 11 32.0 -0.5**
PHRA Phrae 87.54 290 P **P** **00 11 32.2 -0.7**
AY03 Cochrane 87.57 139 P **P** **00 11 32.7 +0.2**
AY03 IAmb IAmb 00 11 34.9
comp=Z,21nm,0.8s
SDCO Great Sand Dun 87.91 49 P **P** **00 11 34.0 -0.5**
SDCO IAmb IAmb 00 13 19.2
comp=Z,24nm,1.2s
SDCO Great Sand Dun 87.91 49 P **P** **00 11 34.6 +0.1**
baz=246
ODSA Odessa 87.93 55 P **P** **00 11 34.4 -0.1**
CRAI Chiangrai 87.99 292 P **P** **00 11 35.3 +0.4**
CRAI IAmb IAmb 00 12 29.1
comp=Z,14nm,1.1s
MSTX Muleshoe 88.46 54 P **P** **00 11 37.0 0.0**
baz=248
T25A Trinidad 88.46 50 P **P** **00 11 37.4 +0.3**
baz=246
COYC Coyhaique 88.57 138 P **P** **00 11 37.9 +0.7**
OZNA Ozona 88.62 57 P **P** **00 11 37.1 -0.6**
Q24A Divide 88.66 48 P **P** **00 11 38.7 +0.7**
baz=246
ISCO Idaho Springs 88.67 47 P **P** **00 11 37.6 -0.5**
ISCO IAmb IAmb 00 13 41.6
comp=Z,27nm,1.0s
ISCO Idaho Springs 88.67 47 P **P** **00 11 38.6 +0.6**
baz=246
CMAR Chiang Mai Arr 88.68 290 P **P** **00 11 38.9 +0.7**
comp=Z,9.9nm,0.8s,baz=107,slow=2.8,SNR=66
CMAR PKKPbc **PKKPbc** **00 29 15.7 +0.4**
comp=Z,1.7nm,0.7s,baz=284,slow=4.1,SNR=1.8
comp=Z,9.9nm,0.8s
CMMT Chiang Mai 88.79 290 P **P** **00 11 39.4 +0.7**
comp=Z,67nm,1.2s
CHTO Chiang Mai 88.80 290 P **P** **00 11 38.0 -0.7**
CHTO IAmb IAmb 00 11 40.5
comp=Z,17nm,0.9s
CHTO Chiang Mai 88.80 290 P **P** **00 11 38.9 +0.2**
CHTO Chiang Mai 88.80 290 P **P** **00 11 39.4 +0.7**
N23A Red Feather La 88.89 46 P **P** **00 11 38.4 -0.7**
N23A Red Feather La 88.89 46 P **P** **00 11 39.8 +0.7**
baz=245
SGCY Sterling City 88.98 56 P **P** **00 11 39.0 -0.4**
KOTAN Kotaneelee Air 89.09 24 P **P** **00 11 39.9 +0.8**
baz=231
POST Post 89.11 55 P **P** **00 11 39.1 -0.9**
POST IAmb IAmb 00 11 40.4
comp=Z,22nm,0.8s
K22A Casper 89.23 45 P **P** **00 11 40.2 -0.2**
K22A Casper 89.23 45 P **P** **00 11 40.5 0.0**
baz=245
LL05 Los Muermos 89.30 133 P **P** **00 11 41.0 +0.3**
ELIB Princess Elisa 89.38 187 *d*P **P** **00 11 39.7 -0.9**
comp=Z,42nm,0.8s
ELIB *d*PcP **PcP** **00 11 40.5 -1.0**
PHWY Pilot Hill 89.40 46 P **P** **00 11 40.7 -0.7**
PHWY IAmb IAmb 00 11 42.1
comp=Z,9.4nm,0.9s
RTBA Rita Blanca 89.42 51 P **P** **00 11 40.8 -0.6**
JCT Junction City 89.52 58 P **P** **00 11 41.0 -0.9**
JCT IAmb IAmb 00 11 42.7
comp=Z,17nm,0.8s
JCT Junction City 89.52 58 P **P** **00 11 42.0 +0.1**
baz=249,SNR=8.5
AMTX Amarillo 89.64 53 P **P** **00 11 42.3 -0.1**
baz=248
LL02 Futaleuf 89.69 136 P **P** **00 11 41.8 -0.7**
ABTX Abilene, Hawle 90.41 56 P **P** **00 11 44.6 -1.3**
ABTX Abilene, Hawle 90.41 56 P **P** **00 11 46.0 +0.1**
baz=249
TROLL Troll, Antarti 90.54 180 ⇑P **P** **00 11 45.9 0.0**
comp=Z,2μm,0.8s
LR05 Currie 90.79 133 P **P** **00 11 48.5 +0.9**
VNA3 Neumayer Olymp 90.98 176 ⇑P **P** **00 11 48.1 +0.3**
comp=Z,90nm,0.7s
F31M Tsiigehtchic 91.00 16 P **P** **00 11 46.6 -1.2**
F31M IAmb IAmb 00 14 26.2
comp=Z,19nm,0.9s
F31M Tsiigehtchic 91.00 16 P **P** **00 11 47.2 -0.5**
baz=222
LAO LASA Array 91.12 41 P **P** **00 11 48.7 -0.3**
LAO LASA Array 91.12 41 P **P** **00 11 49.7 +0.8**
baz=245
VNA2 Neumayer--Watz 91.42 177 ⇑P **P** **00 11 50.0 +0.1**
comp=Z,35nm,0.7s,baz=185,slow=4.0
GO06 Currarehue 91.42 132 P **P** **00 11 51.0 +0.3**
RSSD Black Hills 91.49 44 P **P** **00 11 49.8 -1.1**

RSSD IAmb IAmb 00 11 51.4
comp=Z,13nm,0.9s
RSSD Black Hills 91.49 44 P **P** **00 11 50.4 -0.4**
baz=247
PLPT Palo Pinto 91.52 56 P **P** **00 11 50.5 -0.5**
PLCA Paso Flores 91.59 134 P **P** **00 11 52.1 +0.8**
comp=Z,7.6nm,0.9s,baz=237,slow=5.1,SNR=11
comp=Z,7.6nm,0.9s
VNA1 Neumayer–Stat 91.65 177 ⇑P **P** **00 11 51.7 +0.9**
comp=Z,78nm,0.9s
ELIS Ellis County 91.79 53 P **P** **00 11 50.7 -1.5**
WHTX Lake Whitney, 91.93 57 P **P** **00 11 53.1 +0.2**
baz=250
OK032 Salt Plains WL 92.95 52 P **P** **00 11 57.5 0.0**
DGMT Dagmar 93.10 40 P **P** **00 11 57.5 -0.4**
DGMT Dagmar 93.10 40 P **P** **00 11 58.0 +0.1**
baz=247
R32A Long Quarter, 93.13 51 P **P** **00 11 57.9 -0.4**
KAN08 Anthony NE Sta 93.28 52 **P** **00 11 58.3 -0.7**
KAN08 IAmb IAmb 00 13 04.7
comp=Z,17nm,0.8s
KAN06 Argonia West S 93.37 52 P **P** **00 11 58.7 -0.7**
KAN17 Caldwell West 93.37 52 **P** **00 11 58.5 -1.0**
BLOK Blackwell 93.69 53 **P** **00 11 59.7 -1.2**
MT01 Popeta 93.93 127 P **P** **00 12 02.0 -0.2**
K30B Basset 93.95 47 P **P** **00 12 01.1 -0.9**
YKA Yellowknife Ar 94.17 25 P **P** **00 12 01.0 -1.5**
comp=Z,2.0nm,0.8s,baz=247,slow=4.6,SNR=30
YKA PKKP **PKKPdf 00 28 59.5 -2.5**
comp=Z,0.2nm,0.7s,baz=66,slow=4.8,SNR=3.1
comp=Z,2.0nm,0.8s
BGNE Belgrade 94.54 48 P **P** **00 12 04.3 -0.4**
BGNE Belgrade 94.54 48 P **P** **00 12 05.3 +0.6**
baz=250
KSU1 Kansas State U 94.90 51 P **P** **00 12 05.5 -0.9**
KSU1 Kansas State U 94.90 51 P **P** **00 12 06.7 +0.3**
baz=251
ECSD EROS Data Cent 96.37 46 P **P** **00 12 12.1 -0.7**
baz=252
ULM Lac du Bonnet 98.82 40 P Pdif 00 12 23.3 -0.3
comp=Z,1.2nm,0.7s,baz=280,slow=22,SNR=1.8
comp=Z,1.2nm,0.7s
MKAR Makanchi Array 108.88 314 PKKPbc PKKPbc 00 28 19.0 -1.3
comp=Z,2.0nm,0.8s,baz=280,slow=4.1,SNR=11
KURBB Kurchatov Arra 111.62 318 PP **PP** **00 18 06.5 -0.9**
comp=Z,4.1nm,1.1s,baz=90,slow=7.6,SNR=2.5
KURBB PKKPbc **PKKPbc 00 28 10.2 -1.4**
comp=Z,1.7nm,0.7s,baz=271,slow=4.0,SNR=4.6
BVAR Borovoye Array 116.58 321 PKP **PKPdf** **00 17 23.4 -0.7**
comp=Z,2.1nm,0.8s,baz=18,slow=1.8,SNR=1.8
BVAR PP **PP** **00 18 41.7 -0.1**
comp=Z,3.4nm,0.8s,baz=97,slow=7.7,SNR=4.2
BVAR PKKPbc **PKKPbc 00 27 53.5 -1.5**
comp=Z,0.6nm,0.6s,baz=252,slow=2.9,SNR=3.1
BVAR PKKPab **PKKPab 00 27 59.2 +0.3**
comp=Z,0.2nm,0.3s,baz=260,slow=2.5,SNR=3.0
SPITS Spitsbergen Ar 119.03 357 PKP **PKPdf** **00 17 26.0 -2.2**
comp=Z,11nm,1.0s,baz=97,slow=6.8,SNR=4.2
ARCES ARCESS Array B 126.06 350 PKP **PKPdf** **00 17 41.3 -0.7**
comp=Z,1.4nm,0.7s,baz=90,slow=1.2,SNR=3.9
GEYT Alibeck 126.80 304 PP **PP** **00 19 49.8 -0.9**
comp=Z,2.4nm,0.9s,baz=234,slow=7.0,SNR=4.1
FINES FINESS Array B 132.93 344 PKhKP PKPpre 00 17 48.5
comp=Z,3.9nm,0.9s,baz=90,slow=2.9,SNR=1.9
FINES SKPbc **SKPbc 00 20 32.7 +1.0**
comp=Z,13nm,0.8s,baz=66,slow=6.5,SNR=17
NOA NORSAR Array B 136.13 353 PKhKP PKPpre 00 17 54.6
comp=Z,0.4nm,0.7s,baz=15,slow=3.8,SNR=1.4
NOA SKPbc **SKPbc 00 20 42.0 +0.2**
comp=Z,2.5nm,0.9s,baz=6.3,slow=4.0,SNR=5.6
KBZ Khabaz 136.54 316 SKPbc **SKPbc** **00 20 43.4 -0.2**
comp=Z,4.9nm,1.0s,baz=14,slow=4.4,SNR=4.7
KVAR Kislovodsk Arr 136.59 316 SKPbc **SKPbc** **00 20 45.9 +2.0**
comp=Z,7.3nm,1.0s,baz=273,slow=24,SNR=3.3
HFS Hagfors 136.68 351 PKhKP PKPpre 00 17 50.0
comp=Z,3.6nm,0.9s,baz=41,slow=4.6,SNR=2.1
HFS SKPbc **SKPbc 00 20 44.2 +0.8**
comp=Z,6.1nm,0.8s,baz=284,slow=0.6,SNR=4.9
AKASG Malin Array Be 140.29 332 PKhKP PKPpre 00 18 01.3
comp=Z,0.9nm,0.4s,baz=44,slow=4.1,SNR=8.2
AKASG SKPbc **SKPbc 00 20 54.1 +0.4**
comp=Z,5.4nm,0.7s,baz=38,slow=3.4,SNR=14
AKASG SKPab **SKPab 00 21 07.3 +0.3**
comp=Z,2.1nm,0.7s,baz=45,slow=4.2,SNR=4.2
EKA Eskdalemuir Ar 142.24 4 PKP **PKPdf** **00 18 10.1 -2.3**
comp=Z,0.5nm,0.4s,baz=329,slow=1.2,SNR=1.8
GAZ Gaziantep 143.08 309 PKPab 00 18 12.4 +0.1
BSEG Bad Segeberg 143.16 351 *e*PKPbc PKPab 00 18 11.2 -0.6
baz=16,slow=4.1
HLG Helgoland 143.22 354 *e*PKPbc PKPab 00 18 11.2 -0.9
baz=16,slow=4.1
BNN Bunyan 143.40 312 PKPab 00 18 13.2 -0.3
KWP Kalwaria Pacla 143.80 336 PKPbc 00 18 13.6 -0.8
RUE Ruedersdorf 143.94 347 *e*PKPbc PKPbc 00 18 14.4 -0.3
baz=16,slow=4.1
BURAR Bucovina Array 144.34 332 ⇑P **PKPab 00 18 16.8 0.0**
GHRR 144.44 328 ⇑P PKPbc 00 18 16.3 -0.2
TESR Tescani 144.49 330 ⇑P PKPbc 00 18 16.8 +0.1
BRTR Keskin Array B 144.52 315 PKP **PKPdf** **00 18 16.9 -0.2**
comp=Z,14nm,0.8s,baz=80,slow=2.7,SNR=55
BRTR SKPbc **SKiKP 00 21 05.5 +0.3**
comp=Z,2.9nm,0.9s,baz=155,slow=2.0,SNR=3.9
BRTR PP **PP** **00 21 39.5 -0.7**
comp=Z,0.6nm,0.8s,baz=90,slow=5.8,SNR=1.1
FLTG Flechtingen 144.57 350 *e*PKPbc **PKPdf** **00 18 16.2 -0.4**
baz=16,slow=4.1
KSP Ksiaz 144.85 344 *e*PKP PKPbc 00 18 17.9 +0.3
ASSE Asse, Remlinge 144.85 350 *e*PKPbc **PKPdf** **00 18 17.0 0.0**
baz=16,slow=4.1
NIE Niedzica 144.86 338 *e*PKP **PKPab** **00 18 18.2 -0.4**
VRI Vrincioaia 144.91 329 ⇑P PKPbc 00 18 18.0 0.0
PLOR Plostina 144.96 329 ⇑P PKPbc 00 18 18.1 -0.1
TIRR Tirgusor 145.00 326 ⇑P PKPbc 00 18 17.9 -0.3
TIRR Tirgusor 145.00 326 **PKPdf** **00 18 17.5 -0.1**
ANTO Ankara 145.02 316 **PKPdf** **00 18 18.0 +0.2**
BMR Baia Mare 145.05 334 ⇑P **PKPbc** **00 18 18.5 +0.2**
IBBN Ibbenburen 145.08 353 *e*PKPbc **PKPab** **00 18 19.1 -0.1**
baz=16,slow=4.1
TURR Turia 145.12 330 ⇑P **PKPab** **00 18 19.3 -0.4**
OSTC Ostas 145.13 343 *e*PKP **PKPbc** **00 18 18.5 0.0**
ARCR ARCALIA 145.13 332 ⇑P **PKPab** **00 18 19.3 -0.4**
CHVC Chvalec 145.14 344 *e*PKP **PKPbc** **00 18 18.9 +0.3**
MFTR Murfatlar 145.18 325 ⇑P **PKiKP** **00 18 21.1 -0.9**
COVR Voineasa-Covas 145.18 329 ⇑P **PKPdf** **00 18 18.3 +0.4**
OZUR 145.20 330 ⇓P **PKPbc** **00 18 19.4 +0.4**
CLL Collm 145.21 347 *i* PKPbc **PKPbc** **00 18 18.3 -0.4**
comp=Z,9.0nm,0.6s
CLL Collm 145.21 347 *e*PKPbc **PKPbc** **00 18 18.4 -0.2**
baz=16,slow=4.1
UPC Upice 145.23 344 *e*PKP **PKPbc** **00 18 19.1 +0.3**
BOSR Bodos 145.28 330 ⇑P **PKPab** **00 18 20.0 -0.3**
DPC Dobruska-Polom 145.28 343 *e*PKP **PKPbc** **00 18 18.9 -0.1**
KRLC Kraliky 145.40 343 *e*PKP **PKPbc** **00 18 19.4 0.0**
BRG Berggiesshubel 145.41 346 *i* PKP **PKPab** **00 18 20.3 -0.2**
BRG Amp 00 18 21.0
comp=Z,9.7nm,0.9s
BRG Berggiesshubel 145.41 346 P **PKiKP** **00 18 26.3 +4.0**
BRG Amp 00 18 26.9
comp=Z,2.8nm,0.6s
BRG Berggiesshubel 145.41 346 *e*PKPbc **PKPbc** **00 18 19.9 +0.6**
baz=16,slow=4.1
MORC Moravsky Berou 145.45 342 ⇑P **PKPdf** **00 18 18.8 +0.6**
MORC Moravsky Berou 145.45 342 PKPab **PKPab** **00 18 20.9 +0.1**
MORC Moravsky Berou 145.45 342 *e*PKP **PKPbc** **00 18 19.7 +0.2**
DOPR Dopca 145.49 330 ⇑P **PKPab** **00 18 20.5 -0.6**
GTTG Gottingen 145.53 351 *e*PKPbc **PKPab** **00 18 20.4 -0.6**
baz=16,slow=4.1
MLR Muntele Rosu 145.56 329 ⇑P **PKPab** **00 18 21.1 -0.5**
MLR Muntele Rosu 145.56 329 **PKPbc** **00 18 19.7 -0.4**
PVCC Panska Ves 145.58 345 *e*PKP **PKPbc** **00 18 19.9 +0.1**
CBBR Cluj-Babes-Bol 145.73 333 ⇑P **PKPdf** **00 18 17.2 -1.5**
CJR Cluj-Napoca 145.75 333 ⇑P **PKPbc** **00 18 21.0 +0.5**
MDUB Mudurnu 145.75 318 **PKPbc** **00 18 21.0 +0.2**
HSKC Hora Svate Kat 145.77 346 *e*PKP **PKPdf** **00 18 19.1 +0.4**
MMAI Mount Meron Ar 145.90 303 PKPbc **PKPbc** **00 18 21.9 +0.5**
comp=Z,28nm,0.6s,baz=74,slow=5.5,SNR=56
MMAI SKPbc **SKiKP 00 21 09.6 +1.4**
comp=Z,4.4nm,0.7s,baz=63,slow=2.7,SNR=6.2
MARR Marisel-Cluj 145.99 333 ⇑P **PKPbc** **00 18 21.4 +0.2**
BUG Bochum–Univer 145.99 353 *e*PKPbc **PKPbc** **00 18 21.9 +1.0**
baz=16,slow=4.1
PRA Prague 146.03 345 *e*PKP **PKPab** **00 18 22.5 -0.6**
VOIR 146.04 330 ⇑P **PKPbc** **00 18 22.0 +0.6**
PRU Pruhonice 146.08 345 *e*PKP **PKPbc** **00 18 22.2 +1.0**
VRAC Vranov 146.15 342 ⇑P **PKPab** **00 18 23.4 -0.1**
VRAC Vranov 146.15 342 *e*PKP **PKPab** **00 18 23.6 0.0**
PLN Plauen 146.16 348 *e*PKPbc **PKPab** **00 18 23.2 -0.3**
baz=16,slow=4.1
TANN Tannenbergstha 146.16 347 *e*PKPbc **PKPab** **00 18 23.1 -0.5**
baz=16,slow=4.1
TANN *es*PKPbc **pPKPdf 00 20 30.0 +1.7**
JAVC Velka Javorina 146.22 341 *e*PKP **PKiKP** **00 18 24.3 +0.2**
ARR Arges 146.29 330 ⇓P **PKPbc** **00 18 22.7 +0.7**
KRUC Moravsky 146.43 342 *e*PKP **PKiKP** **00 18 24.3 -0.1**
ZVC Zvikov 146.68 345 *e*PKP **PKiKP** **00 18 24.7 -0.3**
HUMR Humele 146.73 329 ⇑P **PKPbc** **00 18 22.5 -0.6**
CSS Matthiatis 146.83 308 **PKPbc** **00 18 23.3 -0.5**
SIRR Siria 146.93 334 ⇓P **PKPbc** **00 18 22.9 -0.8**
KHC Kasperske Hory 147.12 345 *e*PKP **PKiKP** **00 18 25.5 -0.4**
GZR Gura Zlata 147.13 332 ⇓P **PKPbc** **00 18 24.0 -0.4**
SURR Surduc 147.14 333 ⇑P **PKPbc** **00 18 24.2 -0.1**
CKRC Cesky Krumlov 147.22 344 *e*PKP **PKPbc** **00 18 24.2 -0.2**
WET Wettzell 147.27 346 *e*PKPbc **PKPab** **00 18 28.2 +0.1**
baz=16,slow=4.1
BMRD Maredsous 147.34 356 *d*PKiKP **PKiKP** **00 18 25.9 -0.3**
GEC2 GERESS Array S 147.35 345 *e*PKPbc **PKPab** **00 18 28.1 -0.4**
baz=16,slow=4.1
GEC2 *es*PKPbc **pPKPbc 00 20 34.8 +3.3**
GERES GERESS Array B 147.35 345 PKPbc **PKPbc** **00 18 24.7 -0.2**
comp=Z,1.0nm,0.4s,baz=15,slow=4.1,SNR=2.8
VLAD Vladila 147.40 329 ⇑P **PKPbc** **00 18 25.3 +0.4**
BZS Buzias 147.46 333 ⇑P **PKPbc** **00 18 25.0 -0.1**
CONA Conrad Observa 147.60 342 *i* PKP **PKPab** **00 18 30.1 +0.5**
comp=Z,8.3nm,0.7s
CONA *ep*PKiKP **pPKPab 00 20 33.7 +0.8**
comp=Z,12nm,1.5s
RONA Rosalia, Austr 147.67 341 *i* PKP **PKPbc** **00 18 26.0 +0.4**
comp=Z,4.1nm,0.6s
RONA *i* pPKiKP **pPKPab 00 20 33.8 +0.8**
comp=Z,10nm,1.3s
HERR Herculane 147.69 332 ⇑P **PKPbc** **00 18 25.6 -0.1**
PLVB Pleven 147.73 328 ⇓P **PKPbc** **00 18 25.0 -0.8**
WLF Walferdange 147.86 354 *es*PKPbc pPKPab 00 20 36.4 +3.4
MDVR Moldovita 148.08 332 ⇑P **PKPab** **00 18 31.1 -0.5**
MOA Molln 148.12 344 *i* PKP **PKPab** **00 18 32.2 +0.5**
comp=Z,12nm,1.3s
MOA *i* pPKiKP **pPKPab 00 20 34.7 +0.3**
comp=Z,7.4nm,1.1s
BALB Balikesir 148.32 319 **PKPbc** **00 18 27.3 -0.2**
BALB PKPab **PKPab** **00 18 33.1 +0.4**
BIOA Bad Ischl, Aus 148.44 344 *i* PKP **PKPab** **00 18 33.0 +0.1**
comp=Z,8.5nm,0.6s
BLKB Belogradchik 148.52 330 ⇓P **PKPbc** **00 18 27.6 -0.3**
RJOB Jochberg 148.60 345 *e*PKPbc **PKPab** **00 18 33.8 +0.2**
baz=16,slow=4.1
ALN Alexandroupoli 148.64 323 PKPab **PKPab** **00 18 33.9 -0.1**
RDO Rodhopi 148.77 324 **PKPbc** **00 18 27.9 -0.6**
RDO PKPab **PKPab** **00 18 35.0 +0.5**
LESA Schwarzleotal 148.93 345 *i* PKP **PKPbc** **00 18 28.3 -0.5**
comp=Z,5.4nm,0.7s
LESA *i* pPKiKP **pPKPab 00 20 37.1 -0.5**
comp=Z,7.0nm,1.2s
SOKA Soboth 148.97 342 *i* PKP **PKPab** **00 18 34.1 -1.1**
comp=Z,5.6nm,1.2s
SOKA *ep*PKP **pPKPdf 00 20 29.5 -3.7**
comp=Z,0.1nm,0.3s
KBA Koelnbreinsper 149.08 344 *i* PKP **PKPbc** **00 18 28.9 -0.4**
comp=Z,8.8nm,0.7s
KBA *i* pPKiKP **pPKPbc 00 20 36.2 -0.3**
comp=Z,6.7nm,1.2s
OBKA Obir 149.27 342 *i* PKP **PKPab** **00 18 34.8 -1.6**
comp=Z,3.9nm,0.7s
OBKA *ep*PKP **pPKPdf 00 20 26.2 -7.5**
comp=Z,13nm,1.3s
WATA Walderalm 149.27 346 *e*PKP **PKPbc** **00 18 29.5 -0.3**
comp=Z,2.5nm,0.4s
WATA *ep*PKP **pPKPbc 00 20 36.8 -0.1**
comp=Z,10nm,1.8s
RETA Reutte 149.30 348 *i* pPKP pPKPdf 00 20 40.8 +7.1
comp=Z,15nm,1.3s
WTTA Wattenberg 149.32 346 *i* PKP **PKPbc** **00 18 29.6 -0.3**
comp=Z,3.2nm,0.5s
WTTA *i* pPKiKP **pPKPbc 00 20 36.1 -1.1**
comp=Z,17nm,1.3s
MOTA Moosalm 149.36 347 *e*PKiKP **PKiKP** **00 18 30.6 -0.2**
comp=Z,11nm,1.4s
MOTA *ep*PKP **pPKPbc 00 20 37.2 -0.1**
comp=Z,12nm,1.1s
MYKA Terra Mystica 149.41 343 *i* PKP **PKPbc** **00 18 29.0 -1.0**
comp=Z,6.3nm,0.6s
MYKA *ep*PKP **pPKPbc 00 20 37.0 -0.2**
comp=Z,10nm,1.3s
SQTA Sankt Quirin 149.46 347 *e*PKP **PKPbc** **00 18 30.1 0.0**
comp=Z,3.4nm,0.7s
SQTA *ep*PKP **pPKPbc 00 20 37.2 -0.2**
comp=Z,8.5nm,1.4s
ABTA Abfaltersbach 149.60 345 *i* PKP **PKPbc** **00 18 29.7 -0.7**
comp=Z,4.8nm,0.7s
DAVA Damuels 149.66 349 *ep*PKP pPKPdf 00 20 42.6 +8.1
comp=Z,15nm,1.4s
FETA Feichten 149.75 347 *e*PKP **PKPbc** **00 18 30.9 0.0**
comp=Z,1.7nm,0.6s
FETA *ep*PKP **pPKPdf 00 20 35.8 +1.3**
comp=Z,6.2nm,1.9s
FUORN Ofenpass-Fuorn 150.23 348 **PKiKP** **00 18 32.6 -0.1**
KARP Karpathos 151.06 313 **PKPdf** **00 18 28.8 +1.1**
AGG Agios Georgios 152.02 324 PKPbc **PKPbc** **00 18 35.4 -0.8**
LIC Lamto 166.98 150 ⇓ *i*P **PKPab** **00 19 54.1 +0.2**
comp=Z,21nm,0.7s
KIC Kosan Boka 167.23 151 ⇑ *e*P **PKPab** **00 19 53.8 -1.2**
comp=Z,43nm,1.1s
TIC Toumodi 167.35 149 ⇓ *i*P **PKPab** **00 19 55.7 +0.2**
comp=Z,11nm,0.4s
DBIC Dimbokro 167.45 150 PKPab **PKPab** **00 19 56.0 +0.1**
comp=Z,7.2nm,0.8s,baz=233,slow=6.6,SNR=4.8
TORD Torodi Ar. Bea 175.50 183 PKP **PKPdf** **00 18 48.4 -2.2**
comp=Z,4.1nm,0.9s,baz=356,slow=2.2,SNR=5.7
TORD PKPab **PKPab** **00 20 31.3 -0.1**
comp=Z,3.2nm,0.8s,baz=187,slow=2.4,SNR=8.3
TORD PP **PP** **00 24 23.4 +0.4**
comp=Z,1.6nm,0.8s,baz=163,slow=2.8,SNR=6.3

*IDC **09** 00:05:48.9±1.5, 38.°09N×72.°77E, h112km±13km, mb4.4/36, mbtmp4.8/40, MS3.8/12, Error ellipse: s-maj=9.3km s-min=7.4km az=13.0*
*MOS **09** 00:05:48.6±0.9, 38.°16N×72.°76E, h117km, mb5.1/57, Error ellipse: s-maj=4.2km s-min=3.0km az=90.9*
*BGR **09** 00:05:48.6, 39.°21N×72.°66E, h33km, mb4.7*
*NEIC **09** 00:05:49.8±1.2, 38.°16N±0.°05×72.°69E±0.°07, h113km±5km, mb5.0/245, Mwr4.9/15, Error ellipse: s-maj=8.2km s-min=6.8km az=115.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.80; Mθθ-0.65; Mφφ-0.15; Mrθ-1.27; Mθφ-2.11; Mrφ0.73; Fault plane solution: Mo2.67000×10¹⁶ NP1:φ₀267.86000°, δ72.17000°, λ146.40000°. NP2:φ₀9.36000°, δ58.21000°, λ21.12000°. Principal axes: T 2.7382, Plg36.0000°, Azm225.0000°; N -0.1407, Plg52.0000°, Azm63.0000°; P -2.5975, Plg9.0000°, Azm321.0000°;*
*NEIC **09** 00:05:50, 38.°18N×72.°71E, h113km*
*GCMT **09** 00:05:50.8±0.2, 38.°14N±0.°01×72.°43E±0.°02, h119km±2km, MW5.1/121, Moment Tensor Solution. s35,c39; s121,c180; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.07±.14; Mθθ-1.03±.19; Mφφ-0.04±.16; Mrθ-3.56±.10; Mθφ-3.55±.14; Mφr-0.34±.09; Best double couple: Mo5.09700×10¹⁶ NP1:φ₀268.00000°, δ83.00000°, λ133.00000°. NP2:φ₀5.00000°, δ43.00000°, λ11.00000°. Principal axes: T 4.6840, Plg37.0000°, Azm214.0000°; N 0.8220, Plg42.0000°, Azm81.0000°; P -5.5110, Plg25.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NNC **09** 00:05:50.5±1.9, 38.°35N×72.°42E, h150km±24km, mb4.4, mpv4.8 Error ellipse: s-maj=18.3km s-min=9.8km az=171.0*
*BJI **09** 00:05:50.3±0.0, 38.°20N×72.°80E, h118km, mb4.6/50, mB5.1/23*
ISC 09 00:05:49.1±0.3, 38.°14N±0.°03×72.°61E±0.°03, h114km±2km, h114km:pP-P, n988, σ1°56/1053, mb5.0/253, 50C-50D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.99**	**20**	*i*	PN	**Pn**	**00 06 23.3**	**+0.9**
SFK					S	**Sn**	**00 06 44.5**	**-3.4**
BTK	**Batken**	**2.37**	**325**		Pn	**Pn**	**00 06 28.6**	**+1.6**
BTK					Sn	**Sn**	**00 06 58.0**	**+1.9**
BTK	**Batken**	**2.37**	**325**	*e*	PN	**Pn**	**00 06 27.7**	**+0.7**
OHH	**Osh**	**2.38**	**3**	*i*	PN	**Pn**	**00 06 28.0**	**+0.8**
SIMJ	**Simiganj**	**2.88**	**281**			**Pn**	**00 06 33.7**	**0.0**
SIMJ					Sn	**Sn**	**00 07 07.2**	**-0.7**
KSH	**Kashi**	**2.96**	**61**		P	**Pn**	**00 06 30.3**	**-4.5**
KSH					S	Sn	00 07 01.1	-9.0
KSH					smax	smax		
	comp=N,137μm,0.6s							
KSH					smax	smax		
	comp=E,64μm,0.6s							
ARSB	**Arslanbob**	**3.19**	**5**			**Pn**	**00 06 37.8**	**-0.1**
ARSB					Sn	**Sn**	**00 07 15.3**	**-0.2**
ARSB	**Arslanbob**	**3.19**	**5**	*e*	PN	**Pn**	**00 06 38.0**	**+0.1**
TRKS	**Terek-Say**	**3.57**	**342**	*i*	PN	**Pn**	**00 06 42.1**	**-0.8**
AML	**Almayashu**	**4.07**	**11**		P	**Pn**	**00 06 50.1**	**+0.3**
	SNR=798							
AML	**Almayashu**	**4.07**	**11**	⇓	P	**Pn**	**00 06 50.6**	**+0.8**
	9.3nm,0.2s							
AML				⇑	S	**Sn**	**00 07 35.7**	**-1.1**
	715nm,0.6s							
AML	**Almayashu**	**4.07**	**11**	*i*	PN	**Pn**	**00 06 50.6**	**+0.8**
AML					pmax	pmax		
	comp=Z,9.0nm,0.2s							
NRN	**Naryn**	**4.20**	**37**		Pn	**Pn**	**00 06 50.8**	**-0.7**
NRN	**Naryn**	**4.20**	**37**		PN	**Pn**	**00 06 50.8**	**-0.7**
UCH	**Uchtor**	**4.33**	**19**		P	**Pn**	**00 06 54.1**	**+0.7**
	SNR=444							
UCH	**Uchtor**	**4.33**	**19**	*i*	PN	**Pn**	**00 06 54.0**	**+0.6**
KZA	**Kyzart**	**4.42**	**26**		P	**Pn**	**00 06 54.4**	**-0.1**
	SNR=256							
NIL	**Nilore**	**4.51**	**173**		Pn	**Pn**	**00 06 56.3**	**+0.9**
NIL	**Nilore**	**4.51**	**173**		PN	**Pn**	**00 06 56.3**	**+0.9**
NIL	**Nilore**	**4.51**	**173**		P	**Pn**	**00 06 56.4**	**+0.9**
EKS2	**Erkin-Say**	**4.60**	**11**		P	**Pn**	**00 06 57.6**	**+0.9**
	SNR=438							
AAK	**Ala-Archa**	**4.72**	**17**		P	**Pn**	**00 06 59.4**	**+1.2**
	SNR=362							
AAK	**Ala-Archa**	**4.72**	**17**			**Pn**	**00 06 59.1**	**+0.8**
AAK	**Ala-Archa**	**4.72**	**17**	*i*	P	**Pn**	**00 06 59.4**	**+1.2**
	SNR=636							
AAK	**Ala-Archa**	**4.72**	**17**	*d*	PN	**Pn**	**00 06 59.2**	**+1.0**
AAK	**Ala-Archa**	**4.72**	**17**		P	**Pn**	**00 06 59.4**	**+1.2**
	comp=Z,607nm,0.4s,baz=182,slow=5.7,SNR=2916							
AAK					S	**Sn**	**00 07 51.3**	**-0.7**
	comp=Z,1μm,0.5s,baz=338,slow=17,SNR=26							
AAK					LR	LR	00 08 35.8	
	comp=Z,640nm,21.4s,baz=222,slow=35							
AAK	**Ala-Archa**	**4.72**	**17**		P	**Pn**	**00 06 59.4**	**+1.2**
AAK					S	**Sn**	**00 07 51.8**	**-0.2**
DZA	**Taraz**	**4.84**	**349**	*e*	P	**Pn**	**00 07 00.5**	**+0.7**
	baz=348							
DZA					S	**Sn**	**00 07 54.5**	**-0.4**
	baz=348							
DZA	**Taraz**	**4.84**	**349**	*e*	PN	**Pn**	**00 07 00.5**	**+0.7**
KBK	**Karagaybulak**	**4.85**	**21**		P	**Pn**	**00 07 00.9**	**+0.8**
	SNR=277							
FRU1	**Bishkek**	**4.91**	**18**			**Pn**	**00 07 02.3**	**+1.6**
FRU1	**Bishkek**	**4.91**	**18**		PN	**Pn**	**00 07 02.1**	**+1.3**
ULHL	**Ulahol**	**4.95**	**33**		P	**Pn**	**00 07 01.6**	**+0.1**
	SNR=38							
CHMS	**Chumysh**	**5.12**	**18**		P	**Pn**	**00 07 04.4**	**+0.9**
	SNR=289							
CHMS	**Chumysh**	**5.12**	**18**	⇓	P	**Pn**	**00 07 04.3**	**+0.8**
	comp=Z,237nm,0.5s							
CHMS				⇑	S	**Sn**	**00 07 59.9**	**-1.6**
	comp=Z,1μm,0.8s							
CHMS	**Chumysh**	**5.12**	**18**		PN	**Pn**	**00 07 04.3**	**+0.8**
KK31	**Karatay Array**	**5.21**	**343**		P	**Pn**	**00 07 05.2**	**+0.5**
	comp=Z,152nm,0.3s,baz=154,slow=12,SNR=3119							
KK31				⇑	S	**Sn**	**00 08 01.7**	**-1.9**
	comp=Z,2μm,0.9s,baz=170,slow=23,SNR=4.7							
KK31	**Karatay Array**	**5.21**	**343**		Pn	**Pn**	**00 07 05.3**	**+0.5**
KK31	**Karatay Array**	**5.21**	**343**	*i*	PN	**Pn**	**00 07 05.2**	**+0.5**
KKAR	**Karatay Array**	**5.21**	**343**			**Pn**	**00 07 05.0**	**+0.3**
KKAR	**Karatay Array**	**5.21**	**343**		PN	**Pn**	**00 07 05.0**	**+0.3**
TKM2	**Tokmak 2**	**5.29**	**25**		P	**Pn**	**00 07 06.5**	**+0.5**
	SNR=143							
TKM2	**Tokmak 2**	**5.29**	**25**	⇑	P	**Pn**	**00 07 06.3**	**+0.3**
	comp=Z,63nm,0.5s							
TKM2				⇓	S	**Sn**	**00 08 05.5**	**-0.4**
	comp=Z,572nm,0.6s							
TKM2	**Tokmak 2**	**5.29**	**25**	*i*	PN	**Pn**	**00 07 06.3**	**+0.3**
TKM2					pmax	pmax		
	comp=Z,70nm,0.5s							
USP	**Ospenovka**	**5.32**	**15**		P	**Pn**	**00 07 06.7**	**+0.5**
	SNR=302							
TARG	**Taragay, Kyrgy**	**5.37**	**46**			**Pn**	**00 07 06.9**	**-0.4**
TARG	**Taragay, Kyrgy**	**5.37**	**46**		PN	**Pn**	**00 07 06.9**	**-0.4**
SGDS	**Sogindy**	**5.52**	**15**	⇓	P	**Pn**	**00 07 09.3**	**+0.3**
	baz=15							
SGDS					S	**Sn**	**00 08 11.0**	**-0.3**
	baz=15							
SGDS	**Sogindy**	**5.52**	**15**	*d*	PN	**Pn**	**00 07 09.3**	**+0.3**
SGDS					S	**Sn**	**00 08 11.0**	**-0.3**
TNSS	**Tian-Shan**	**5.90**	**33**		P	**Pn**	**00 07 14.3**	**-0.2**
	baz=32							
TNSS	**Tian-Shan**	**5.90**	**33**		PN	**Pn**	**00 07 14.2**	**-0.2**
AAA	**Alma-Ata**	**6.03**	**32**		P	**Pn**	**00 07 16.3**	**+0.4**
	baz=31							
AAA	**Alma-Ata**	**6.03**	**32**		PN	**Pn**	**00 07 16.2**	**+0.4**
ANVS	**Anan'yevo**	**6.03**	**38**		PN	**Pn**	**00 07 18.1**	**+2.1**
MDOK	**Medeo**	**6.04**	**33**		P	**Pn**	**00 07 16.6**	**+0.4**
	comp=Z,30nm,0.4s							
MDOK					S	**Sn**	**00 08 25.9**	**+1.8**
	comp=Z,410nm,0.8s							
MDOK	**Medeo**	**6.04**	**33**	*e*	P	**Pn**	**00 07 16.2**	**0.0**
	baz=32							
MDOK	**Medeo**	**6.04**	**33**	*e*	PN	**Pn**	**00 07 16.1**	**0.0**
KNDC	**Almaty**	**6.05**	**32**	⇑	P	**Pn**	**00 07 17.2**	**+0.9**
	comp=Z,94nm,0.3s							
KNDC				⇑	S	**Sn**	**00 08 23.5**	**-0.7**
	comp=Z,682nm,0.9s							
KNDC	**Almaty**	**6.05**	**32**		PN	**Pn**	**00 07 17.1**	**+0.9**
PRZ	**Przheval'sk**	**6.20**	**44**		Pn	**Pn**	**00 07 18.9**	**+0.6**
PRZ	**Przheval'sk**	**6.20**	**44**		PN	**Pn**	**00 07 18.9**	**+0.6**
KUU	**Kurty**	**6.40**	**25**	⇓	P	**Pn**	**00 07 20.1**	**-0.7**
	comp=Z,32nm,0.4s,baz=25							
KUU	**Kurty**	**6.40**	**25**	*d*	PN	**Pn**	**00 07 20.1**	**-0.7**
KUU					pmax	pmax		
	comp=Z,32nm,0.4s							
CHKK	**Chushkaly**	**6.60**	**29**	*e*	P	**Pn**	**00 07 22.8**	**-0.8**
	baz=29					

comp=E,3µm,0.6s
SMLA IAML 00 09 04.7
comp=N,3µm,0.2s
TDK Taldyqorghan 8.11 31 *e*P **Pn 00 07 43.2 -0.8**
comp=N,31nm,0.6s,baz=30
TDK Taldyqorghan 8.11 31 *e*PN **Pn 00 07 43.2 -0.8**
TDK pmax pmax
comp=Z,31nm,0.6s
KKR Kurukshetra 8.88 156 *e*P **Pn 00 07 52.4 -2.0**
OTUK Ortayu 10.10 359 ⇑P **Pn 00 08 08.7 -2.2**
comp=Z,99nm,0.8s
OTUK Ortayu 10.10 359 P **Pn 00 08 08.7 -2.2**
NDI New Delhi 10.19 156 *e*P **Pn 00 08 08.5 -3.7**
KUDL Kundal 10.49 161 *e*P **Pn 00 08 11.5 -4.8**
SONA Sohna 10.55 158 *e*P **Pn 00 08 14.3 -2.8**
LGTI Lohaghat 10.74 142 *e*P Pn 00 08 13.5 -6.2
MAKZ Makanchi 11.08 36 ⇓P **Pn 00 08 23.0 -1.1**
comp=Z,69nm,0.9s
MAKZ Makanchi 11.08 36 Pn **Pn 00 08 22.7 -1.4**
MAKZ Makanchi 11.08 36 P **Pn 00 08 22.7 -1.4**
MK31 Makanchi Array 11.21 36 ⇓P **Pn 00 08 24.6 -1.4**
comp=Z,47nm,0.9s,baz=211,slow=9.3,SNR=177
MK31 Makanchi Array 11.21 36 Pn **Pn 00 08 25.1 -0.8**
MK31 Makanchi Array 11.21 36*d i*P **Pn 00 08 24.5 -1.4**
MKAR Makanchi Array 11.21 36 P **Pn 00 08 25.0 -0.9**
comp=Z,22nm,0.7s,baz=227,slow=14,SNR=208
JASL Jaisalmer 11.28 188 *e*P **Pn 00 08 24.1 -2.8**
GEYT Alibeck 11.43 273 P **Pn 00 08 25.5 -3.4**
comp=Z,15nm,0.4s,baz=110,slow=10,SNR=64
GEYT S **Sn 00 10 27.3 -7.4**
comp=Z,170nm,0.9s,baz=112,slow=16,SNR=15
GEYT LR LR 00 14 03.9
comp=Z,148nm,19.0s,baz=102,slow=43
GYA0B ALIBECK ARRAY 11.43 273 ⇑P **Pn 00 08 25.8 -3.1**
GYA0B ⇑S **Sn 00 10 28.0 -6.7**
GYA0B ALIBECK ARRAY 11.43 273 Pn **Pn 00 08 26.0 -3.0**
WMQ Urumqi 12.73 59 *e*P **Pn 00 08 45.0 -0.9**
WMQ sP P 00 09 16.0 +23
WMQ S **Sn 00 10 59.0 -7.0**
WMQ pmax pmax
comp=Z,50nm,0.7s
ZSN Zaisan 12.93 40 *e*P **Pn 00 08 49.1 +0.6**
baz=40
ZSN *e*S **Sn 00 11 10.9 +0.1**
baz=40
ZSN Zaisan 12.93 40 *e*P **Pn 00 08 49.1 +0.6**
ZSN *e*S **Sn 00 11 10.8 +0.1**
KURBB Kurchatov Arra 13.17 17 ⇓P **Pn 00 08 48.3 -3.2**
comp=Z,72nm,0.7s
KURBB Kurchatov Arra 13.17 17 P **Pn 00 08 48.2 -3.3**
comp=Z,30nm,0.7s,baz=205,slow=12,SNR=144
KURBB S **Sn 00 11 08.0 -8.5**
comp=Z,4.8nm,0.7s,baz=7.4,slow=9.3,SNR=1.7
KURBB LR LR 00 13 23.7
comp=Z,270nm,20.9s,baz=194,slow=34
KURK Kurchatov 13.28 17 ⇑P **Pn 00 08 49.6 -3.3**
comp=Z,67nm,0.7s
KURK Kurchatov 13.28 17 Pn **Pn 00 08 49.6 -3.3**
KURK Kurchatov 13.28 17*ce*P **Pn 00 08 50.0 -3.0**
KURK pmax pmax
comp=Z,55nm,1.0s
KURK Kurchatov 13.28 17 P **Pn 00 08 50.0 -3.0**
AB31 Akbulak array 14.38 325 ⇑P **Pn 00 09 05.2 -1.9**
comp=Z,118nm,0.6s,baz=140,slow=12,SNR=2366
AB31 S **Sn 00 11 37.8 -7.8**
comp=Z,161nm,0.9s,baz=136,slow=25,SNR=20
AB31 Akbulak array 14.38 325 *i* P **Pn 00 09 05.3 -1.8**
ABKAR Akbulak array 14.38 325 Pn **Pn 00 09 04.5 -2.6**
BVA0 Borovoye Array 14.96 355 P **Pn 00 09 12.9 -1.6**
comp=Z,152nm,0.7s,baz=161,slow=11,SNR=661
BVA0 Borovoye Array 14.96 355 P **Pn 00 09 12.9 -1.6**
BVAR Borovoye Array 14.96 355 P **Pn 00 09 12.5 -2.0**
comp=Z,43nm,0.6s,baz=160,slow=12,SNR=377
BVAR S **Sn 00 11 52.8 -7.0**
comp=Z,36nm,0.7s,baz=160,slow=22,SNR=6.7
BVAR LR LR 00 15 45.2
comp=Z,186nm,20.8s,baz=174,slow=40
BRVK Borovoye 15.01 355 ⇓P **Pn 00 09 12.9 -2.1**
comp=Z,248nm,0.8s
BRVK Borovoye 15.01 355 Pn **Pn 00 09 13.2 -1.8**
BRVK Borovoye 15.01 355*de*P **Pn 00 09 13.2 -1.8**
BRVK pmax pmax
comp=Z,218nm,1.7s
BRVK Borovoye 15.01 355 P **Pn 00 09 13.5 -1.5**
BRVK S **Sn 00 11 56.5 -4.2**
DGZ Jazzator, Alta 15.70 38*d i*P **Pn 00 09 21.4 -2.5**
DGZ pmax pmax
comp=Z,48nm,0.9s
NGCH Negor - Chabah 16.03 221 P **P 00 09 28.6 -0.6**
SNR=7.1
NGCH S **Sn 00 12 25.1 -0.7**
AKTO Aktyubinsk 16.09 324 ⇓P **Pn 00 09 26.4 -2.2**
comp=Z,15nm,0.5s
AKTO ⇑S **Sn 00 12 19.9 -7.1**
comp=Z,110nm,1.0s
AKTO Aktyubinsk 16.09 324 P **Pn 00 09 27.7 -0.9**
AKTO Aktyubinsk 16.09 324 P **Pn 00 09 27.6 -1.1**
comp=Z,79nm,0.5s,baz=137,slow=11,SNR=87
AKTO S **Sn 00 12 17.3 -10**
comp=Z,50nm,0.9s,baz=34,slow=16,SNR=4.7
AKTO LR LR 00 16 21.1
comp=Z,404nm,19.1s,baz=26,slow=39
JASK Jask - Hormozg 17.47 230 P **P 00 09 45.0 -0.1**
LSA Lhasa 17.52 113 P **P 00 09 44.9 -1.3**
LSA Lhasa 17.52 113 P **P 00 09 44.3 -1.9**
LSA Lhasa 17.52 113 P **P 00 09 44.9 -1.3**
LSA Lhasa 17.52 113 P **P 00 09 44.5 -1.7**
AKL Akola 17.79 166 *e*P **P 00 09 46.5 -2.2**
AKL IAmb IAmb 00 09 51.9
comp=Z,88nm,0.7s
GOMU GeErMu 17.80 89 P **P 00 09 48.7 -0.4**
GOMU sS Sn 00 13 25.1 +16
GOMU pmax pmax
comp=Z,35nm,0.9s
GOMU LR LR
comp=Z,260nm,5.7s
GOMU LR LR
comp=Z,260nm,5.5s
GOMU LR LR
comp=Z,260nm,6.3s
ZAA0 Zalesovo Array 17.89 24 ⇓P **P 00 09 48.6 -1.0**
comp=Z,10.0nm,0.6s
ZAA0 Zalesovo Array 17.89 24 **P 00 09 49.2 -0.4**
ZALV Zalesovo Beam 17.89 24 P **P 00 09 48.9 -0.6**
comp=Z,84nm,0.5s,baz=224,slow=10.0,SNR=325
ZALV S **S 00 13 02.1 -7.0**
comp=Z,8.0nm,0.9s,baz=202,slow=23,SNR=2.8
BOK Bokaro 18.25 138 *e*P **P 00 09 50.2 -3.5**
BANOM Banah 18.39 232 P **P 00 09 55.5 +0.2**
SHME Shamm 18.41 234 P **P 00 09 55.1 -0.2**
SHME Shamm 18.41 234 P **P 00 09 55.2 -0.2**
LKRN Lenkeran, Azer 18.67 279 P **Pn 00 10 00.8 +0.9**
MASF Masafi 18.88 232 P **Pn 00 10 02.0 -0.4**
MASF S **S 00 13 27.8 -1.4**
MSFE Esma-Masafi 18.89 232 *i* P **P 00 10 01.4 +0.7**
SNR=9.7
JHSG JHARSUGUGA 18.95 146 *e*P **P 00 09 59.3 -2.0**
JHSG IAmb IAmb 00 10 00.8
comp=Z,166nm,1.2s
WSAR Wadi Sarin 19.07 223 P **P 00 10 03.4 +0.6**
comp=Z,15nm,0.6s,baz=72,slow=4.3,SNR=30
BIDO Bidbid 19.12 224 P **Pn 00 10 05.8 +0.5**
UOSS Minazif 19.16 231 Pn **Pn 00 10 06.6 +0.9**
HATD Hatta, Dubai 19.29 231 *i* P **P 00 10 04.4 -0.7**
SNR=11
HATD Hatta, Dubai 19.29 231 P **P 00 10 04.6 -0.4**
WBK Wadi Bani Khal 19.41 221 P **P 00 10 07.2 +0.8**
SNR=14
ASHO Ashiyiah 19.44 231 *i* P **P 00 10 06.6 -0.1**
SNR=63
ASHO Ashiyiah 19.44 231 P **P 00 10 06.9 +0.2**
SNR=15
NAZ Nazwa, Dubai 19.46 233 P **P 00 10 06.5 -0.4**
NAZ Nazwa, Dubai 19.46 233 P **P 00 10 07.2 +0.2**
SMDO Samad 19.53 224 P **P 00 10 07.7 -0.1**
SOHO SOHO 19.56 229 P **P 00 10 05.6 -2.4**
SOHO SOHO 19.56 229 P **P 00 10 06.6 -1.3**
JLN Jalan Bani Buh 19.57 219 P **P 00 10 09.2 +1.1**
SNR=14
POO Poona 19.57 176 *e*P **P 00 10 08.4 +0.3**
MAK Makhachkala 19.64 292 *e*P **Pn 00 10 11.6 +0.4**
MAK *e*S **Sn 00 13 48.8 -3.4**
MAK pmax pmax
comp=Z,240nm,1.8s
MAK MLR MLR
comp=Z,282nm,17.0s
FAQ Al Faqa, Dubai 19.68 232 P **P 00 10 09.3 0.0**
FAQ Al Faqa, Dubai 19.68 232 P **P 00 10 09.2 -0.1**
SEKA Sheki 19.78 287 P **Pn 00 10 11.7 -1.2**
MNGR Mingechevir, A 19.86 286 P **Pn 00 10 13.6 -0.2**
ASUD Al Ashush, Dub 19.93 232 *i* P **P 00 10 12.3 +0.3**
SNR=8.2
ASUD Al Ashush, Dub 19.93 232 P **P 00 10 12.5 +0.5**
JMDO Jabal Madar 20.06 223 P **P 00 10 14.0 +0.6**
SNR=15
ALNE Al Ain 20.09 231 *i* P **P 00 10 13.2 -0.5**
SNR=28
ALNE Al Ain 20.09 231 P **P 00 10 13.8 +0.1**
SNR=8.8
ARQ Araqi 20.18 228 P **P 00 10 15.1 +0.5**
SNR=5.8
AJN Ajban 20.19 233 P **P 00 10 14.4 -0.4**
AJN Ajban 20.19 233 P **P 00 10 14.6 -0.2**
ZKTA Zakatala 20.22 288 P Pn 00 10 17.0 -0.9
BSY Bisya 20.25 225 P **P 00 10 16.3 +0.8**
SNR=7.2
SVE Sverdlovsk 20.31 341*c i*P **P 00 10 16.5 +0.7**
SVE *e*S **S 00 13 57.8 +0.7**
SVE pmax pmax
comp=Z,229nm,1.3s
GANJ Ganja 20.45 285 P Pn 00 10 19.4 -1.2
ARU Arti 20.55 337 P **P 00 10 18.5 +0.1**
ARU Arti 20.55 337*c i*P **P 00 10 19.0 +0.7**
ARU 00 10 46.6
ARU S **S 00 14 04.0 +2.2**
ARU pmax pmax
comp=Z,319nm,1.0s
ARU Arti 20.55 337 P **P 00 10 19.1 +0.7**
comp=Z,143nm,0.7s,baz=150,slow=6.4,SNR=175
ARU S **S 00 14 04.7 +2.9**
comp=Z,3.8nm,0.4s,baz=163,slow=19,SNR=2.0
ARU LR LR 00 18 41.2
comp=Z,573nm,18.2s,baz=148,slow=37
comp=Z,143nm,0.7s
SHL Shillong 20.57 122 P **P 00 10 17.7 -1.3**
SHL Shillong 20.57 122 *e*P **P 00 10 18.6 -0.4**
SHL Shillong 20.57 122 P **P 00 10 17.7 -1.3**
SHL Shillong 20.57 122 P **P 00 10 17.8 -1.3**
SNR=21
KAD Karad 20.80 176 *e*P **P 00 10 21.1 -0.3**
KAD IAmb IAmb 00 10 23.9
comp=Z,42nm,0.8s
NAX Nakhchivan 21.17 281 P **P 00 10 27.9 +2.6**
GTA Gaotai 21.22 78 *e*P **P 00 10 25.8 -0.1**
GTA pP pP 00 10 47.4 -1.0
GTA sS sS 00 14 52.3 -0.8
GTA ScS **ScS 00 21 34.8 -2.1**
GTA pmax pmax
comp=Z,12nm,1.4s
MHTO MHO 21.27 221 P **P 00 10 27.0 +0.6**
SNR=13
HYB Hyderabad 21.30 164 *e*P **P 00 10 27.9 +1.2**
HYB IVmB_BB 00 10 28.4
comp=Z,1µm,1.1s
HYB *ep*P **pP 00 10 47.9 -1.4**
HYB *e*S **S 00 14 16.3 -0.5**
HYB *es*S **sS 00 14 52.1 -2.5**
HYB IVMs_BB IVMs_BB 00 16 26.6
comp=Z,508nm,3.4s
GNI Garni 21.67 284 P **P 00 10 33.0 +2.3**
GNI Garni 21.67 284 P **P 00 10 33.4 +2.6**
GNI Garni 21.67 284 P **P 00 10 33.0 +2.3**
GNI Garni 21.67 284 P **P 00 10 33.6 +2.8**
comp=Z,48nm,1.2s,baz=155,slow=2.8,SNR=21
comp=Z,48nm,1.2s
GNI Garni 21.67 284 P **P 00 10 34.3 +3.6**
GUDG Gudauri 21.84 290 P **P 00 10 33.1 +0.6**
SHMA Al-Shehemyia 22.01 242 P **P 00 10 34.1 -0.1**
SAKB Bahrain 22.23 243 P **P 00 10 36.0 -0.5**
MZR Muzera 22.27 233 P **P 00 10 37.2 +0.3**
ZEI Tsey 22.27 291 *e*P **P 00 10 36.2 -0.8**
ZEI pmax pmax
comp=Z,39nm,1.1s
DQM DQM 22.37 220 P **P 00 10 38.0 +0.1**
VIS Vishakhapatnam 22.41 152 *e*P **P 00 10 38.8 +0.5**
BELG Belogornoye 22.48 317 P **P 00 10 39.1 +0.3**
comp=Z,296nm,1.1s,baz=301,slow=1.1,SNR=97
BELG S **S 00 14 39.5 +2.4**
comp=Z,14nm,0.9s,baz=156,slow=20,SNR=1.6
TRNA Turayna 22.56 240 P **P 00 10 39.2 -0.6**
SNR=21
AKH Akhalkalaki 22.57 288 P **P 00 10 43.0 +3.0**
AKH Akhalkalaki 22.57 288 P **P 00 10 43.0 +3.0**
ONI Oni 22.60 291 P **P 00 10 42.8 +2.6**
ONI Oni 22.60 291 P **P 00 10 42.8 +2.6**
VJD Vijayawada 22.68 160 *e*P **P 00 10 41.3 +0.3**
VJD IAmb IAmb 00 10 43.4
comp=Z,47nm,0.8s
SMRA Abu-Samra 22.82 240 P **P 00 10 41.8 -0.5**
KARS Kars 22.91 286 P **P 00 10 45.4 +2.1**
KARS Kars 22.91 286 P **P 00 10 45.4 +2.1**
KBZ Khabaz 23.06 293*de*P **P 00 10 45.0 +0.5**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 23.06 293 P **P 00 10 45.4 +1.0**
comp=Z,7.8nm,0.8s,baz=105,slow=9.3,SNR=19
comp=Z,7.8nm,0.8s
GOF Gofitskoye 23.08 297*ce*P **P 00 10 46.4 +1.7**
KVAR Kislovodsk Arr 23.22 294 P **P 00 10 47.6 +1.4**
comp=Z,3.7nm,0.7s,baz=270,slow=20,SNR=4.6
KVAR S **S 00 14 54.0 +4.7**
comp=Z,8.9nm,1.1s,baz=207,slow=18,SNR=1.3
comp=Z,3.7nm,0.7s
KIV Kislovodsk 23.23 294 P **P 00 10 46.7 +0.5**
KIV Kislovodsk 23.23 294 *i* P **P 00 10 47.1 +0.9**
SNR=12
KIV Kislovodsk 23.23 294 *e*P **P 00 10 47.2 +1.0**
KIV *e*S **S 00 14 51.8 +2.4**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,59nm,14.0s
KIV Kislovodsk 23.23 294 P **P 00 10 47.4 +1.2**
GURO Guroymak-BITLI 23.93 281 P **P 00 10 53.6 +0.9**
MOY Mondy 24.04 47 *e*P **P 00 10 54.7 +1.2**
MOY *e* 00 11 37.9
MOY pmax pmax
comp=Z,154nm,2.7s
LABN Labinsk 24.68 295 *e*P **P 00 11 02.8 +3.6**
LABN pmax pmax
comp=Z,179nm,1.6s
LZH Lanzhou 24.94 85 *e*P **P 00 11 04.1 +2.2**
LZH ScP **ScP 00 18 03.9 +1.1**
LZH pmax pmax
comp=Z,18nm,1.2s
ERBR Yeremizino-Bor 24.95 298 *e*P **P 00 11 01.3 -0.4**
ERBR pmax pmax
comp=Z,166nm,1.9s
SHAO Shalim 24.95 221 P **P 00 11 02.6 +0.7**
ZAK Zakamensk 24.95 51 *e*P **P 00 11 02.1 +0.3**
ZAK pmax pmax
comp=Z,41nm,0.9s
VRH Novokhopyorsk 25.34 311 *e*P **P 00 11 03.7 -1.4**
VRH pmax pmax
comp=Z,50nm,0.7s
SOC Sochi 25.36 293 *e*P **P 00 11 04.7 -0.7**
SOC *e* 00 11 46.1
SOC *e*S **S 00 15 23.1 -0.2**
SOC pmax pmax
comp=Z,19nm,0.6s
KIRV Kirov 25.37 331*ce*P **P 00 11 06.9 +1.6**
KIRV Kirov 25.37 331 P **P 00 11 06.3 +1.0**
comp=Z,64nm,0.6s,baz=130,slow=1.8,SNR=24
KIRV LR LR 00 22 12.6
comp=Z,290nm,18.1s,baz=148,slow=39
comp=Z,64nm,0.6s
DMTO DMTO 25.56 222 P **P 00 11 07.7 +0.3**
WHFO Wadi Hawf 26.03 224 P **P 00 11 11.7 0.0**
SNR=29
RBK Rabkut 26.13 223 P **P 00 11 12.7 +0.1**
IRK Irkutsk 26.14 47 *e*P **P 00 11 13.3 +0.9**
IRK pmax pmax
comp=Z,61nm,1.6s
SONM Songino Array 26.36 58 P **P 00 11 15.1 +0.5**
comp=Z,13nm,0.9s,baz=254,slow=9.3,SNR=31
SONM ScP **ScP 00 18 06.7 +0.1**
comp=Z,2.0nm,0.8s,baz=238,slow=2.7,SNR=5.0
SONM LR LR 00 23 02.5
comp=Z,126nm,19.8s,baz=267,slow=39
comp=Z,13nm,0.9s
CD2 Chengdu 26.57 96 P **P 00 11 21.5 +4.9**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
ARPR Arapgir-MALATY 26.71 283 P **P 00 11 19.6 +1.8**
VORD Divnogorie 26.73 309 *e*P **P 00 11 16.1 -1.6**
VORD pmax pmax
comp=Z,30nm,0.9s
ABTO Aybut 26.75 225 P **P 00 11 18.0 -0.1**
SNR=11
ULN Ulaanbaatar 26.80 58 P **P 00 11 17.6 -1.0**
ULN Ulaanbaatar 26.80 58*de*P **P 00 11 18.8 +0.2**
ULN pmax pmax
comp=Z,7.0nm,0.6s
ULN Ulaanbaatar 26.80 58 P **P 00 11 18.8 +0.2**
comp=Z,51nm,0.8s
VSR Storozhevoye 26.88 310 *e*P **P 00 11 17.6 -1.4**
VSR pmax pmax
comp=Z,40nm,1.5s
VORR Voronezh 26.98 311 *e*P **P 00 11 19.1 -0.8**
VORR pmax pmax
comp=Z,30nm,0.5s
ANN Anapa 27.03 296 *e*P **P 00 11 27.1 +6.7**
ANN *e* 00 11 53.2
ANN pmax pmax
comp=Z,20nm,1.0s
PZH PanZhiHua 27.11 107 P **P 00 11 28.2 +6.7**
PZH pP **pP 00 11 51.6 +4.1**
PZH sP **sP 00 12 05.0 +3.8**
PZH S **S 00 15 48.9 -2.5**
PZH ScP **ScP 00 18 09.6 +0.4**
PZH ScS **ScS 00 21 58.9 -1.9**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,180nm,6.1s
LPSR Galich'ya Gora 27.43 313 *e*P **P 00 11 21.5 -2.4**
LPSR pmax pmax
comp=Z,100nm,1.6s
GAZ Gaziantep 27.94 279 P **P 00 11 27.2 -1.6**
KOD Kodaikanal 28.13 170 *e*P **P 00 11 30.5 -0.3**
KMI Kunming 28.61 108 ⇓P **P 00 11 34.6 -0.4**
KMI pmax pmax
comp=Z,23nm,0.9s
BNN Bunyan 28.66 283 **P 00 11 35.7 +0.5**
BTO Baotou 28.89 73 *e*P **P 00 11 36.6 -0.5**
BTO pP **pP 00 12 03.5 -0.1**
BTO sP **sP 00 12 18.5 +1.1**
BTO PP **PnPn 00 12 34.4 0.0**
BTO pmax pmax
comp=Z,41nm,0.7s
BTO pmax pmax
comp=Z,190nm,4.3s
SIM Simferopol' 29.39 296 *e*P **P 00 11 43.6 +2.2**
SIM 00 12 37.5
SIM pmax pmax
comp=Z,39nm,1.1s
OBN Obninsk 29.57 317 P **P 00 11 41.5 -1.4**
OBN Obninsk 29.57 317*de*P **P 00 11 44.0 +1.1**
OBN *e* 00 12 44.3
OBN pmax pmax
comp=Z,58nm,1.3s
BR131 Keskin Array S 30.20 285 P **P 00 11 48.4 -0.4**
BR131 Keskin Array S 30.20 285*de*P **P 00 11 50.4 +1.6**
BRTR Keskin Array B 30.20 285 P **P 00 11 50.8 +2.0**
comp=Z,1.7nm,0.6s,baz=100,slow=7.4,SNR=16
comp=Z,1.7nm,0.6s
CMAR Chiang Mai Arr 30.20 123 ScP **ScP 00 18 18.2 -0.6**
comp=Z,1.9nm,0.4s,baz=305,slow=5.0,SNR=12
MMAI Mount Meron Ar 30.55 272 P **P 00 11 54.7 +2.9**
comp=Z,0.2nm,0.3s,baz=67,slow=11,SNR=1.7
MMAI PcP **PcP 00 14 48.4 +0.4**
comp=Z,1.8nm,0.7s,baz=67,slow=5.2,SNR=3.3
KLMR Klimovskoe 30.72 328 *e*P **P 00 11 50.2 -2.7**
KLMR pmax pmax
comp=Z,67nm,1.5s
ANTO Ankara 30.81 286 P **P 00 11 56.3 +2.2**
ANTO Ankara 30.81 286 P **P 00 11 56.3 +2.2**
ANTO pmax pmax
comp=Z,13nm,1.2s
BR231 Keskin MP Arra 30.83 286 P **P 00 11 56.8 +2.5**
TIY Taiyuan 31.25 78 *e*P **P 00 11 59.6 +1.6**
PALK Pallekele 31.59 165 P **P 00 12 01.7 +0.6**
PALK IAmb IAmb 00 12 02.2
comp=Z,39nm,0.9s
PALK Pallekele 31.59 165 P **P 00 12 00.6 -0.5**
comp=Z,27nm,0.8s,baz=82,slow=10.0,SNR=12
PALK LR LR 00 24 57.7
comp=Z,161nm,20.7s,baz=91,slow=36
comp=Z,27nm,0.8s
PALK Pallekele 31.59 165 P **P 00 12 01.1 0.0**
PALK Pallekele 31.59 165 P **P 00 12 01.3 +0.2**
PALK pP **pP 00 12 28.8 +1.1**
PALK Pallekele 31.59 165 P **P 00 12 01.7 +0.6**
comp=Z,46nm,1.0s
NRIK Noril'sk 32.29 10 P **P 00 12 07.7 +1.1**
NRIK IAmb IAmb 00 12 08.7
comp=Z,46nm,0.9s
NRIK Noril'sk 32.29 10*d i*P **P 00 12 07.5 +0.9**
NRIK pmax pmax
comp=Z,46nm,1.0s
NRIK Noril'sk 32.29 10 P **P 00 12 07.1 +0.5**
comp=Z,30nm,0.9s,baz=199,slow=5.9,SNR=75
NRIK LR LR 00 26 10.0
comp=Z,196nm,19.3s,baz=193,slow=38
comp=Z,30nm,0.9s
PURM Purcari 32.35 299 ⇑P **P 00 12 09.8 +2.4**
AKASG Malin Array Be 32.96 307 P **P 00 12 13.6 +0.9**
comp=Z,3.2nm,0.5s,baz=80,slow=7.2,SNR=51
comp=Z,3.2nm,0.5s
AKBB Malin Array Si 32.96 307 P **P 00 12 14.0 +1.3**
AKBB IAmb IAmb 00 12 15.8
comp=Z,26nm,1.1s
AKBB Malin Array Si 32.96 307 P **P 00 12 14.0 +1.3**
AKBB pmax pmax
comp=Z,27nm,1.1s
AK05 Malin Array Si 32.96 306 P **P 00 12 14.2 +1.5**
KIEV Kiev 32.97 307 ⇑P **P 00 12 14.2 +1.4**
KIEV Kiev 32.97 307 P **P 00 12 13.8 +1.1**
KIEV IAmb IAmb 00 12 15.8
comp=Z,22nm,1.0s
KIEV Kiev 32.97 307 *i* P **P 00 12 13.3 +0.5**
SNR=12
KIEV Kiev 32.97 307 P **P 00 12 13.8 +1.1**
KIEV pmax pmax
comp=Z,22nm,1.0s
KIEV Kiev 32.97 307 P **P 00 12 13.9 +1.2**
MILM Milestii Mici 33.08 300 ⇑P **P 00 12 15.4 +1.7**
MILM Milestii Mici 33.08 300 P **P 00 12 15.4 +1.7**
HNS HongShan 33.08 78 ⇑P **P 00 12 14.6 +0.7**
HNS pmax pmax
comp=Z,9.0nm,1.0s
BOD Bodaibo 33.27 40 *e*P **P 00 12 15.3 0.0**
BOD pmax pmax
comp=Z,47nm,1.4s
SORM Soroca 33.39 302 P **P 00 12 17.4 +1.0**
TPGR Topolog 33.44 296 ⇑P **P 00 12 19.2 +2.3**
CFR Carcaliu 33.62 296 ⇓P **P 00 12 20.6 +2.1**
CFR Carcaliu 33.62 296 P **P 00 12 20.5 +2.1**
BJI Beijing 33.62 73 P **P 00 12 19.6 +1.1**
BJI pmax pmax
comp=Z,4.0nm,0.8s
ELL Elmali 33.71 281 P **P 00 12 20.4 +0.8**
ELL Elmali 33.71 281 P **P 00 12 20.4 +0.8**
ELL pmax pmax
comp=Z,26nm,0.6s
MNK Minsk 34.27 313 *i* P **P 00 12 25.0 +1.0**
comp=E,8.0nm,0.8s
MNK *i* P **P 00 12 25.0 +1.0**
comp=N,3.0nm,0.8s
MNK *i* P **P 00 12 25.0 +1.0**
comp=Z,17nm,0.8s,baz=100
MNK *i* pP **pP 00 12 51.7 +1.4**
MNK *i* sP **sP 00 13 08.3 +4.6**
MNK *i* PP **PnPn 00 13 37.0 -5.2**
MNK *i* S **S 00 17 44.7 +2.2**
MNK *i* sS **sS 00 18 28.0 -0.7**
MNK *i* SS **SnSn 00 20 07.0 +3.0**
MNK *i* LRM MLR 00 28 29.2
comp=E,78nm,15.3s
MNK *i* LRM MLR 00 28 38.9
comp=N,119nm,15.3s
MNK *i* LRM MLR 00 28 44.6
comp=Z,160nm,15.2s
MNK Minsk 34.27 313 *e*P **P 00 12 25.0 +1.0**
VRI Vrincioaia 34.56 298 ⇑P **P 00 12 29.1 +2.4**

VRI Vrincioaia 34.56 298 P **P** 00 12 29.0 +2.4
BALB Balikesir 34.58 287 P **P** 00 12 27.3 +0.5
TESR Tescani 34.58 299 ⇑P **P** 00 12 29.1 +2.3
PLOR Plostina 34.62 298 ⇑P **P** 00 12 30.3 +3.2
PLOR Plostina 34.62 298 P **P** 00 12 29.9 +2.8
LOZB Loznitsa 34.90 293 ⇑P **P** 00 12 32.1 +2.5
COVR Voineasa-Covas 34.93 298 ⇑P **P** 00 12 32.7 +2.9
NACGM Naroch 34.97 314 *eP* **P** 00 12 31.7 +1.7
comp=Z,48nm,1.2s,baz=99
TURR Turia 35.04 298 ⇓P **P** 00 12 33.8 +3.0
MLR Muntele Rosu 35.13 297 ⇓P **P** 00 12 35.1 +3.4
MLR Muntele Rosu 35.13 297 P **P** 00 12 32.5 +0.8
MLR IAmb IAmb 00 12 37.7
comp=Z,33nm,1.1s
MLR Muntele Rosu 35.13 297 P **P** 00 12 35.0 +3.3
ELND Elena 35.48 293 ⇓P **P** 00 12 36.9 +2.3
DOPR Dopca 35.48 298 ⇑P **P** 00 12 37.5 +2.9
BURAR Bucovina Array 35.51 301 ⇓P **P** 00 12 36.8 +2.0
BURAR Bucovina Array 35.51 301 P **P** 00 12 36.7 +1.9
BUR08 Bucovina Ar. S 35.52 301 P **P** 00 12 35.5 +0.5
ALN Alexandroupoli 35.70 289 P **P** 00 12 35.3 -1.1
ALN Alexandroupoli 35.70 289 P **P** 00 12 35.3 -1.1
ALN pmax pmax
comp=Z,22nm,1.7s
VSU Vasula 35.73 320⇑ *eP* **P** 00 12 37.7 +1.2
VSU pmax pmax
comp=Z,29nm,1.0s
VSU Vasula 35.73 320 *eP* **P** 00 12 37.6 +1.2
VOIR 35.77 297 ⇑P **P** 00 12 39.5 +2.4
VOIR 35.77 297 P **P** 00 12 39.5 +2.4
HUMR Humele 35.91 296 ⇑P **P** 00 12 39.7 +1.5
RDO Rodhopi 36.03 290 P **P** 00 12 39.7 +0.5
ARR Arges 36.07 297 ⇓P **P** 00 12 42.3 +2.7
ARCR ARCALIA 36.12 300 ⇓P **P** 00 12 43.4 +3.4
KARP Karpathos 36.19 280 P **P** 00 12 41.1 +0.4
KARP IAmb IAmb 00 12 48.3
comp=Z,30nm,0.9s
LVV L'vov 36.25 305 *eP* **P** 00 12 42.7 +1.7
LVZ Lovozero 36.43 337⇓ *eP* **P** 00 12 43.2 +0.8
LVZ pmax pmax
comp=Z,90nm,1.8s
APA Apatity 36.64 336⇓ *iP* **P** 00 12 40.5 -3.6
APA *i* *PP **pP** 00 13 06.0 -4.9
APA pmax pmax
comp=Z,8.0nm,1.3s
APA MLR MLR
comp=Z,1μm,12.0s
PABE Paberze 36.66 314 P **P** 00 12 45.3 +0.9
PABE IAmb IAmb 00 14 09.4
comp=Z,33nm,1.0s
PABE Paberze 36.66 314 *eP* **P** 00 12 45.7 +1.3
CJR Cluj-Napoca 36.66 300 ⇑P **P** 00 12 47.6 +3.0
CJR Cluj-Napoca 36.66 300 P **P** 00 12 47.6 +3.0
LOT Lotru 36.66 297 ⇓P **P** 00 12 47.3 +2.6
VSVD Vaisvydziai 36.74 315 *eP* **P** 00 12 47.1 +2.0
FIA1 FINESS Array S 36.87 324 P **P** 00 12 45.7 -0.4
FINES FINESS Array B 36.87 324 P **P** 00 12 47.2 +1.1
comp=Z,26nm,0.4s,baz=114,slow=9.4,SNR=320
FINES LR LR 00 28 30.4
comp=Z,245nm,18.6s,baz=22,slow=37
comp=Z,26nm,0.4s
SUW Suwalki 36.95 312 P **P** 00 12 46.0 -0.9
SUW Suwalki 36.95 312 P **P** 00 12 46.0 -0.9
SUW pmax pmax
comp=Z,65nm,1.1s
MARR Marisel-Cluj 36.99 300 ⇑P **P** 00 12 50.4 +2.9
APE Apeiranthos 37.00 283 ⇓P **P** 00 12 49.5 +1.8
APE Apeiranthos 37.00 283 P **P** 00 12 49.4 +1.8
KWP Kalwaria Pacla 37.11 304 P **P** 00 12 48.2 -0.1
KWP Kalwaria Pacla 37.11 304 P **P** 00 12 48.2 -0.1
KWP pmax pmax
comp=Z,158nm,1.6s
MTSE Matsula 37.28 320 *eP* **P** 00 12 51.2 +1.7
MEF Metsahovi 37.32 322 *eP* **P** 00 12 51.6 +1.6
GZR Gura Zlata 37.36 297 ⇑P **P** 00 12 53.0 +2.4
KOLS Kolonicke sedl 37.41 303 *eP* **P** 00 12 52.9 +2.0
KOLS pmax pmax
comp=Z,12nm,0.8s
KOLS Kolonicke sedl 37.41 303 *eP* **P** 00 12 52.9 +2.0
HERR Herculane 37.68 297 ⇑P **P** 00 12 54.7 +1.5
BLKB Belogradchik 37.68 295 ⇑P **P** 00 12 55.9 +2.6
SURR Surduc 37.77 298 ⇑P **P** 00 12 57.1 +3.2
SLIT Slitere, Latvi 37.88 318 *eP* **P** 00 12 55.2 +0.6
CRVS Cervenica-Dubn 37.95 303 *eP* **P** 00 12 57.8 +2.4
CRVS Cervenica-Dubn 37.95 303 *eP* **P** 00 12 57.8 +2.4
NJ2 Nanjing 38.01 85 *eP* **P** 00 12 56.0 -0.1
NJ2 pP **pP** 00 13 20.5 -2.6
NJ2 sP **sP** 00 13 38.6 +1.9
NJ2 pmax pmax
comp=Z,16nm,0.7s
SIRR Siria 38.04 299 ⇑P **P** 00 12 58.5 +2.3
STHS Stebnicka Huta 38.07 304 *eP* **P** 00 12 57.0 +0.5
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS Stebnicka Huta 38.07 304 *eP* **P** 00 12 56.9 +0.5
BZS Buzias 38.15 298 ⇑P **P** 00 12 59.9 +2.8
BZS Buzias 38.15 298 P **P** 00 12 59.5 +2.4
MDVR Moldovita 38.19 297 ⇑P **P** 00 12 59.3 +1.8
BOVS Bovan 38.38 295 ⇑P **P** 00 13 01.2 +2.1
KECS Kecovo 38.62 303 *eP* PP 00 14 33.2 +1.7
NIE Niedzica 38.68 304 *eP* **P** 00 13 04.1 +2.5
RAF Rauma 38.77 323 *eP* **P** 00 13 03.0 +0.9
OJC Ojcow 38.97 306 *eP* **P** 00 13 05.4 +1.5
OJC Ojcow 38.97 306 P **P** 00 13 04.5 +0.7
OJC IAmb IAmb 00 13 06.5
comp=Z,23nm,0.8s
OJC Ojcow 38.97 306 P **P** 00 13 04.6 +0.7
OJC pmax pmax
comp=Z,23nm,0.8s
PSZ Piszkesteto 39.07 302 ⇓P **P** 00 13 07.3 +2.5
PSZ Piszkesteto 39.07 302 P **P** 00 13 05.7 +0.8
PSZ Piszkesteto 39.07 302 P **P** 00 13 07.3 +2.5
VADS Vadso 39.25 338 *eP* **P** 00 13 07.2 +1.3
VADS IAmb IAmb 00 13 07.7
comp=Z,22nm,0.8s
FRGS Fruska Gora 39.47 298 ⇑P **P** 00 13 10.8 +2.6
VYHS Vyhne 39.72 303 *eP* **P** 00 13 11.7 +1.5
VYHS *e* 00 14 44.9
VYHS Vyhne 39.72 303 *eP* **P** 00 13 11.7 +1.5
VYHS *ePP* **PP** 00 14 44.9 +1.5
CN2 Changchun 39.73 65 *eP* **P** 00 13 09.5 -0.8
CN2 *es*P sP 00 13 47.9 -3.3
CN2 *eS* **S** 00 19 03.9 -1.6
ZEA Zeya 40.02 49 *eP* **P** 00 13 13.1 +0.5
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
MORH Mrgy, Hungar 40.12 299 ⇑P **P** 00 13 15.8 +2.3
ARA0 ARCESS Array S 40.14 336 *eP* **P** 00 13 14.6 +1.2
ARCES ARCESS Array B 40.14 336 P **P** 00 13 14.2 +0.9
comp=Z,9.5nm,0.6s,baz=114,slow=8.8,SNR=77
comp=Z,9.5nm,0.6s
SRO Srobarova 40.14 302 *eP* **P** 00 13 16.0 +2.4
SRO pmax pmax
comp=Z,42nm,1.7s
SRO Srobarova 40.14 302 *eP* **P** 00 13 16.0 +2.4
HEH HeiHe 40.24 54 *eP* **P** 00 13 15.0 +0.6
HEH pmax pmax
comp=Z,250nm,4.7s
MORC Moravsky Berou 40.45 305 ⇑P **P** 00 13 18.5 +2.2
MORC Moravsky Berou 40.45 305 P **P** 00 13 17.4 +1.1
MORC IAmb IAmb 00 13 19.4
comp=Z,79nm,2.0s
MORC Moravsky Berou 40.45 305 *eP* **P** 00 13 18.0 +1.8
MORC Moravsky Berou 40.45 305 P **P** 00 13 18.4 +2.2
JAVC Velka Javorina 40.45 304 *eP* **P** 00 13 19.1 +2.8
SMOL Smolenice 40.65 303 *eP* **P** 00 13 20.9 +3.1
KTK1 Kautokeino 40.65 335 *eP* **P** 00 13 18.4 +0.8
MODS Modra-Piesok 40.76 303 *eP* **P** 00 13 21.0 +2.2
MODS *e* 00 14 56.8
MODS Modra-Piesok 40.76 303 *eP* **P** 00 13 20.9 +2.2
MODS *ePP* **PP** 00 14 56.8 +2.0
BNX BinXian 40.77 61 ⇑P **P** 00 13 18.7 -0.1
BNX pmax pmax
comp=Z,12nm,1.4s
BNX pmax pmax
comp=Z,170nm,3.6s
KRLC Kraliky 40.91 306 *eP* **P** 00 13 22.0 +2.0
KRLC Kraliky 40.91 306 *eP* **P** 00 13 22.0 +2.0

VRAC Vranov 41.11 304 ⇑P **P** 00 13 24.3 +2.6
VRAC Vranov 41.11 304 *eP* **P** 00 13 23.8 +2.2
VRAC Vranov 41.11 304 P **P** 00 13 24.2 +2.6
KSP Ksiaz 41.16 307 *eP* **P** 00 13 23.6 +1.6
DPC Dobruska-Polom 41.18 306 *eP* **P** 00 13 24.2 +2.0
DPC Dobruska-Polom 41.18 306 *eP* **P** 00 13 24.2 +2.0
HAMF Hammerfest 41.18 338 *eP* **P** 00 13 23.3 +1.4
HAMF IAmb IAmb 00 13 23.9
comp=Z,42nm,0.7s
OSTC Ostas 41.23 306 *eP* **P** 00 13 24.6 +2.0
OSTC Ostas 41.23 306 *eP* **P** 00 13 24.6 +2.0
KRUC Moravsky 41.26 304 *eP* **P** 00 13 24.9 +2.0
CHVC Chvalec 41.33 306 *eP* **P** 00 13 25.5 +2.1
CHVC Chvalec 41.33 306 *eP* **P** 00 13 25.5 +2.1
UPC Upice 41.37 306 *eP* **P** 00 13 25.7 +2.0
UPC Upice 41.37 306 *eP* **P** 00 13 25.7 +2.0
RONA Rosalia, Austr 41.50 302 *iP* **P** 00 13 26.8 +1.9
comp=Z,8.7nm,0.8s
CONA Conrad Observa 41.76 302 *iP* **P** 00 13 29.0 +2.0
comp=Z,47nm,1.9s,SNR=7.9
JETT Jettan, Norway 41.79 335 *eP* **P** 00 13 27.8 +0.9
BSD Bornholm Skovb 41.80 313 *eP* **P** 00 13 27.7 +0.7
BSD Bornholm Skovb 41.80 313 *iP* **P** 00 13 27.8 +0.7
YAK Yakutsk 41.89 36 P **P** 00 13 27.3 -0.4
YAK Yakutsk 41.89 36 *eP* **P** 00 13 27.2 -0.4
YAK *e*PP **pP** 00 13 56.4 +1.3
YAK *eS* **S** 00 19 36.6 -0.4
YAK *e*SS **sS** 00 20 22.3 -2.0
YAK pmax pmax
comp=Z,54nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK smax smax
comp=N,86nm,1.8s
YAK smax smax
comp=E,97nm,2.3s
YAK Yakutsk 41.89 36 P **P** 00 13 27.5 -0.2
comp=E,2.9nm,0.6s,baz=208,slow=0.9,SNR=16
comp=E,2.9nm,0.6s
YAK Yakutsk 41.89 36 P **P** 00 13 27.4 -0.4
YAK pP **pP** 00 13 56.6 +1.6
PVCC Panska Ves 42.28 306 *eP* **P** 00 13 33.8 +2.7
PVCC Panska Ves 42.28 306 *eP* **P** 00 13 33.8 +2.7
TRO Tromso 42.30 335 *eP* **P** 00 13 31.6 +0.7
PRU Pruhonice 42.36 306 *eP* **P** 00 13 33.9 +2.2
PRU Pruhonice 42.36 306 *eP* **P** 00 13 33.9 +2.2
DEL Delary 42.38 315 *iP* **P** 00 13 32.0 +0.2
PRA Prague 42.42 306 *eP* **P** 00 13 34.4 +2.2
PRA Prague 42.42 306 *eP* **P** 00 13 34.4 +2.2
PERS Pernice 42.46 301 *iP* **P** 00 13 34.6 +1.9
SOKA Soboth 42.51 301 *iP* **P** 00 13 34.9 +1.7
comp=E,14nm,0.9s,SNR=6.7
HFS Hagfors 42.59 321 P **P** 00 13 34.4 +0.9
comp=E,39nm,0.6s,baz=98,slow=11,SNR=122
comp=E,39nm,0.6s
LUNU Lund 42.62 314 *eP* **P** 00 13 35.1 +1.3
BRG Berggiesshubel 42.64 307 *iP* **P** 00 13 35.9 +1.9
BRG Amp 00 13 37.2
comp=Z,16nm,1.1s
BRG Berggiesshubel 42.64 307 *iP* **P** 00 13 35.9 +1.9
BRG *e* 00 14 19.0
BRG 00 15 18.3
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.1s
ZVC Zvikov 42.65 305 *eP* **P** 00 13 36.0 +1.9
CKRC Cesky Krumlov 42.66 304 *eP* **P** 00 13 36.3 +2.1
CKRC Cesky Krumlov 42.66 304 *eP* **P** 00 13 36.3 +2.1
MOA Molln 42.83 303 *iP* **P** 00 13 37.4 +1.7
comp=Z,14nm,1.2s
BJUU Bjuv 42.85 315 *eP* **P** 00 13 36.6 +1.0
OBKA Obir 42.87 301 *eP* **P** 00 13 34.5 -1.6
comp=Z,5.9nm,1.0s
FAUS Fauske 42.96 331 *eP* **P** 00 13 37.0 +0.7
BORU Boraas 42.98 317 *eP* **P** 00 13 37.2 +0.6
FABU Falkenberg 43.01 316 *eP* **P** 00 13 37.2 +0.4
MOR8 Moi Rana 43.03 330 *eP* **P** 00 13 37.3 +0.3
GEC2 GERESS Array S 43.05 304 P **P** 00 13 38.8 +1.3
GERES GERESS Array B 43.05 304 P **P** 00 13 38.6 +1.1
comp=Z,1.5nm,0.6s,baz=36,slow=9.8,SNR=9.8
comp=Z,1.5nm,0.6s
KHC Kasperske Hory 43.09 304 P **P** 00 13 38.2 +0.4
KHC Kasperske Hory 43.09 304 *eP* **P** 00 13 39.5 +1.8
KHC Kasperske Hory 43.09 304 *eP* **P** 00 13 39.5 +1.8
STEI Steigen 43.10 332 *eP* **P** 00 13 38.6 +1.2
STEI IAmb IAmb 00 13 39.0
comp=Z,5μm,4.6s
CRNS Crni Vrh 43.15 300 *iP* **P** 00 13 40.0 +1.7
KLR Kul'dur 43.15 55 *diP* **P** 00 13 38.2 +0.1
KLR pmax pmax
comp=Z,6.0nm,0.6s
KLR Kul'dur 43.15 55 P **P** 00 13 38.4 +0.2
comp=Z,9.1nm,0.6s,baz=283,slow=9.2,SNR=27
comp=Z,9.1nm,0.6s
KSRS Korea Array 43.15 73 P **P** 00 13 37.7 -0.6
comp=Z,5.1nm,0.9s,baz=281,slow=8.2,SNR=7.4
comp=Z,5.1nm,0.9s
CLL Collm 43.18 308 P **P** 00 13 38.3 -0.1
CLL Collm 43.18 308⇓ *iP* **P** 00 13 39.7 +1.3
CLL *e*SP **sP** 00 14 21.0 +2.0
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 43.18 308⇓ *iP* **P** 00 13 39.7 +1.3
comp=Z,11nm,0.8s
CLL *e*(sP) **sP** 00 14 21.0 +2.0
CLL *e*PP **PP** 00 15 22.0 +1.3
GSI Gunungsitoli 43.24 142 P **P** 00 13 38.9 -0.3
GSI IAmb IAmb 00 13 40.5
comp=Z,31nm,0.7s
BIOA Bad Ischl, Aus 43.28 302 *eP* **P** 00 13 40.8 +1.6
comp=Z,3.9nm,0.4s
MYKA Terra Mystica 43.46 301 *iP* **P** 00 13 42.6 +1.8
comp=Z,4.5nm,0.6s
CADS Cadrg 43.48 300 *iP* **P** 00 13 42.2 +1.4
CUC Castrocucco 43.49 291 P **P** 00 13 42.2 +1.1
CUC IAmb IAmb 00 14 25.7
comp=Z,28nm,1.1s
PRED Cave del Predi 43.55 301 P **P** 00 13 41.4 -0.1
KBA Koelnbreinsper 43.58 302 *eP* **P** 00 13 43.5 +1.6
comp=Z,3.2nm,0.5s
KONS Konsvik 43.62 330 *eP* **P** 00 13 42.7 +1.0
NC405 NORSAR Array S 43.62 322 P **P** 00 13 42.0 +0.2
NC405 IAmb IAmb 00 13 44.7
comp=Z,27nm,0.8s
STOK Stokkvagen 43.63 330 *eP* **P** 00 13 43.1 +1.4
NC602 NORSAR Array S 43.69 321 P **P** 00 13 42.0 -0.3
NC602 IAmb IAmb 00 13 43.4
comp=Z,21nm,0.9s
NC602 NORSAR Array S 43.69 321 *eP* **P** 00 13 43.0 +0.7
HOPEN Hopen 43.72 345 *eP* **P** 00 13 43.8 +1.4
TIXI Tiksi 43.77 22 P **P** 00 13 42.4 -0.4
TIXI Tiksi 43.77 22 *diP* **P** 00 13 42.9 +0.1
TIXI pmax pmax
comp=Z,74nm,0.8s
TIXI Tiksi 43.77 22 P **P** 00 13 43.0 +0.1
NC303 NORSAR Array S 43.80 322 P **P** 00 13 44.0 +0.9
NSS Namsos 43.80 327 *eP* **P** 00 13 44.2 +1.0
NB201 NORSAR Array S 43.82 322 P **P** 00 13 44.2 +0.8
STRU Stroemstad 43.83 319 *eP* **P** 00 13 44.1 +0.7
YULB Yu-li 43.86 95 P **P** 00 13 43.4 -0.8
YULB IAmb IAmb 00 13 50.7
comp=Z,37nm,1.0s
NB2 NORSAR Subarra 43.86 322 P **P** 00 13 44.3 +0.6
comp=Z,14nm,0.6s,baz=92,slow=7.9
NB2 NORSAR Subarra 43.86 322 P **P** 00 13 44.3 +0.6
baz=92,slow=7.9
NOA NORSAR Array B 43.86 322 P **P** 00 13 44.1 +0.4
comp=Z,19nm,0.7s,baz=92,slow=7.7,SNR=90
NOA LR LR 00 32 56.2
comp=Z,94nm,19.0s,baz=265,slow=37
comp=Z,19nm,0.7s
LESA Schwarzleotal 43.96 302 *iP* **P** 00 13 46.2 +1.4
comp=Z,13nm,1.0s
NAO01 NORSAR Array S 44.01 322 P **P** 00 13 44.6 -0.3
NAO01 IAmb IAmb 00 13 46.4
comp=Z,22nm,0.8s
NBO00 NORSAR Array S 44.07 322 P **P** 00 13 44.4 -1.0
NBO00 IAmb IAmb 00 13 46.9
comp=Z,29nm,0.7s

NC204 NORSAR Array S 44.09 322 P **P** 00 13 45.2 -0.3
NC204 IAmb IAmb 00 13 47.1
comp=Z,30nm,0.8s
BJO1 Bjornoya 44.10 342 *eP* **P** 00 13 46.3 +1.0
ABTA Abfaltersbach 44.20 301 *eP* **P** 00 13 46.3 -0.5
comp=Z,6.6nm,1.1s
USRK Ussuriysk Ar. 44.26 62 P **P** 00 13 46.4 -0.8
comp=Z,2.5nm,0.6s,baz=288,slow=7.1,SNR=5.1
comp=Z,2.5nm,0.6s
TBLU Trondheim 44.43 325 *eP* **P** 00 13 48.2 0.0
GRF Grafenberg Arr 44.53 306 *eP* **P** 00 13 51.6 +2.4
comp=Z,14nm,0.9s,baz=87,slow=6.8
KONO Kongsberg 44.64 320 P **P** 00 13 49.5 -0.4
KONO IAmb IAmb 00 13 51.6
comp=Z,27nm,0.8s
KONO Kongsberg 44.64 320 *eP* **P** 00 13 50.9 +1.0
KONO Kongsberg 44.64 320 P **P** 00 13 49.5 -0.4
KONO pmax pmax
comp=Z,27nm,0.8s
KONO Kongsberg 44.64 320 P **P** 00 13 50.9 +1.0
KONO pP **pP** 00 14 19.4 +2.0
WTTA Wattenberg 44.69 302 *iP* **P** 00 13 51.6 +0.9
comp=Z,9.7nm,0.9s
WATA Walderalm 44.72 302 *iP* **P** 00 13 51.7 +0.8
comp=Z,9.8nm,1.1s
DOMB Dombas 44.93 323 *eP* **P** 00 13 53.4 +1.2
DOMB IAmb IAmb 00 13 53.8
comp=Z,24nm,0.7s
CTI Castel Tesino 44.93 300 P **P** 00 13 52.8 +0.3
CTI Castel Tesino 44.93 300 P **P** 00 13 52.8 +0.3
CTI pmax pmax
comp=Z,8.0nm,0.8s
MUD Monsted U'grnd 44.98 315 *eP* **P** 00 13 54.6 +1.9
MUD IAmb IAmb 00 13 55.9
comp=Z,63nm,1.6s
SQTA Sankt Quirin 44.98 302 *iP* **P** 00 13 53.9 +1.0
comp=Z,3.9nm,0.7s
MOTA Moosalm 45.03 302 *iP* **P** 00 13 53.9 +0.5
comp=Z,7.7nm,0.9s,SNR=5.0
TEOL Teolo 45.07 299 P **P** 00 13 53.9 +0.4
TEOL IAmb IAmb 00 14 58.7
comp=Z,21nm,0.6s
RETA Reutte 45.23 303 *iP* **P** 00 13 56.2 +1.4
comp=Z,6.1nm,1.1s
HOMB Homborsund 45.24 318 *eP* **P** 00 13 55.7 +1.1
HOMB Homborsund 45.24 318 *eP* **P** 00 13 55.2 +0.6
SKAR Skarslia 45.28 321 *eP* **P** 00 13 56.3 +1.3
FETA Feichten 45.34 302 *eP* **P** 00 13 56.4 +0.6
comp=Z,5.9nm,1.0s
MOL Molde 45.65 324 *eP* **P** 00 13 58.9 +1.1
FUORN Ofenpass-Fuorn 45.74 302 P **P** 00 13 58.8 -0.3
DAVA Damuels 45.85 303 *iP* **P** 00 14 00.9 +1.0
comp=Z,3nm,0.7s
HSPB Hornsund (broa 45.89 345 *eP* **P** 00 14 01.0 +1.5
AKN Aaknes 45.90 323 *eP* **P** 00 14 01.0 +1.2
ODD1 Odda 46.13 320 *eP* **P** 00 14 02.3 +0.6
MYKOM Kota Tinggi 46.14 134 P **P** 00 13 59.9 -2.3
MYKOM IAmb IAmb 00 14 03.0
comp=Z,20nm,1.0s
SPB2 Spitsbergen Ar 46.19 346 P **P** 00 14 00.4 -1.5
SPB2 IAmb IAmb 00 14 04.0
comp=Z,28nm,0.8s
SPA0 Spitsbergen Ar 46.20 346 *eP* **P** 00 14 03.3 +1.3
SPITS Spitsbergen Ar 46.20 346 P **P** 00 14 02.9 +0.9
comp=Z,17nm,0.7s,baz=106,slow=11,SNR=28
comp=Z,17nm,0.7s
BLS5 Blasjo 46.24 320 *eP* **P** 00 14 04.1 +1.5
TUE Stuetta 46.39 302 P **P** 00 14 04.1 0.0
TUE IAmb IAmb 00 14 06.2
comp=Z,43nm,2.0s
PDSI Padang 46.58 140 P **P** 00 14 04.9 -0.8
comp=Z,39nm,0.9s,comp=Z,3μm
BFO Black Forest 46.65 304 P **P** 00 14 06.9 +0.9
BFO IAmb IAmb 00 14 15.6
comp=Z,43nm,1.9s
BFO Black Forest 46.65 304 P **P** 00 14 06.9 +0.9
BFO pmax pmax
comp=Z,43nm,1.9s
BER Bergen 46.76 321 *eP* **P** 00 14 07.5 +1.1
ASK Askoy 46.82 321 *eP* **P** 00 14 09.3 +2.3
JNU Nakatsue 46.96 78 P **P** 00 14 07.9 -0.7
comp=Z,21nm,0.9s,baz=30,slow=19,SNR=4.0
comp=Z,21nm,0.9s
KBS Kingsbay 47.30 347 P **P** 00 14 09.8 -0.8
KBS Kingsbay 47.30 347 *eP* **P** 00 14 11.6 +1.1
KBS IAmb IAmb 00 14 12.7
comp=Z,42nm,0.9s
KBS Kingsbay 47.30 347⇑ *eP* **P** 00 14 12.4 +1.9
KBS pmax pmax
comp=Z,50nm,1.3s
KBS Kingsbay 47.30 347 *iP* **P** 00 14 11.3 +0.7
KBS Kingsbay 47.30 347 P **P** 00 14 11.6 +1.1
WLF Walferdange 47.77 306 P **P** 00 14 16.2 +1.7
WLF Walferdange 47.77 306 *dP* **P** 00 14 16.7 +2.2
comp=Z,11nm,0.8s
WLF Walferdange 47.77 306 P **P** 00 14 16.2 +1.7
WLF pmax pmax
comp=Z,83nm,1.7s
SENIN Lac Senin/Sane 47.79 302 P **P** 00 14 16.0 +0.9
LODK Lodwar 48.47 234 P **P** 00 14 20.0 -0.4
BMRD Maredsous 48.50 308 *dP* **P** 00 14 22.2 +2.1
comp=Z,7.2nm,1.0s
BNI Bardonecchia 48.56 300 P **P** 00 14 22.2 +1.3
BNI IAmb IAmb 00 14 32.0
comp=Z,55nm,1.7s
BNI Bardonecchia 48.56 300 P **P** 00 14 22.2 +1.3
BNI pmax pmax
comp=Z,55nm,1.7s
DOU Dourbes 48.65 307 *dP* **P** 00 14 23.0 +1.7
KEST Kesra 49.74 288 P **P** 00 14 30.3 +0.4
comp=Z,4.1nm,0.9s,baz=43,slow=6.8,SNR=5.7
comp=Z,4.1nm,0.9s
CLF Chambon-Foret 50.66 305 P **P** 00 14 37.6 +1.1
YSS Yuzh-Sakhalins 50.84 56⇑ *eP* **P** 00 14 39.2 +1.3
YSS pmax pmax
comp=Z,86nm,2.5s
MJAR Matsushiro Arr 51.18 70 P **P** 00 14 39.5 -1.1
comp=Z,7.9nm,0.8s,baz=291,slow=10.0,SNR=11
comp=Z,7.9nm,0.8s
JTM Tenmabayashi 51.68 64 P **P** 00 14 43.6 -0.7
EKA Eskdalemuir Ar 52.01 315 P **P** 00 14 46.7 +0.2
comp=Z,5.7nm,0.7s,baz=89,slow=7.2,SNR=22
comp=Z,5.7nm,0.7s
EKB Eskdalemuir 52.03 315 P **P** 00 14 47.5 +0.9
SEY Seymchan 52.34 35⇑ *eP* **P** 00 14 49.4 +0.6
SEY pmax pmax
comp=Z,12nm,1.3s
SEY Seymchan 52.34 35 P **P** 00 14 48.9 +0.1
comp=Z,5.3nm,0.7s,baz=266,slow=8.4,SNR=9.4
comp=Z,5.3nm,0.7s
JMM Marumori 52.57 68 P **P** 00 14 50.5 -0.4
ERM Erimo 52.71 62 P **P** 00 14 52.9 +1.0
ERM Erimo 52.71 62 P **P** 00 14 52.9 +1.0
ERM pmax pmax
comp=Z,97nm,1.6s
DAG Danmarks Havn 53.52 343 *iP* **P** 00 14 57.8 +0.5
DAG IAmb IAmb 00 14 59.1
comp=Z,23nm,0.7s
MBAR Mbarara 54.50 235 P **P** 00 15 05.3 -0.1
SCO Scoresbysund 56.07 336 P **P** 00 15 17.6 +1.9
SCO Scoresbysund 56.07 336 P **P** 00 15 17.6 +1.9
SCO pmax pmax
comp=Z,66nm,1.8s
BILL Bilibino 56.57 27 P **P** 00 15 20.3 +1.0
BILL Bilibino 56.57 27 *iP* **P** 00 15 20.1 +0.8
BILL pmax pmax
comp=Z,20nm,0.9s
BILL Bilibino 56.57 27 P **P** 00 15 20.3 +1.0
CART Cartagena 56.61 294 P **P** 00 15 21.5 +1.4
CART IAmb IAmb 00 15 21.7
comp=Z,19nm,0.9s
ALE Alert 57.55 354 P **P** 00 15 27.2 +1.1
ESBB Sonseca Array 57.83 298 P **P** 00 15 29.4 +0.7
ESBB IAmb IAmb 00 16 03.9
comp=Z,25nm,1.6s
ESDC Sonseca Array 57.83 298 P **P** 00 15 29.7 +0.9
comp=Z,2.7nm,0.6s,baz=55,slow=7.1,SNR=43
comp=Z,2.7nm,0.6s
PEA0B Petropavlovsk- 57.90 45 P **P** 00 15 28.9 0.0
PEA0B Petropavlovsk- 57.90 45 P **P** 00 15 28.9 0.0
PEA0B pmax pmax
comp=Z,40nm,1.3s
PETK Petropavlovsk- 57.90 45 P **P** 00 15 27.9 -1.1
comp=Z,6.6nm,0.9s,baz=253,slow=4.5,SNR=5.5
comp=Z,6.6nm,0.9s

NEEM North Greenlan 59.70 348 *i* P **P** **00 15 41.3 -0.1**
NEEM IAmb IAmb 00 15 43.7
comp=Z,27nm,0.8s
SUMG Summit 59.93 341 P **P** **00 15 44.6 +1.6**
SUMG Summit 59.93 341 P **P** **00 15 44.7 +1.6**
SUMG pmax pmax
comp=Z,29nm,0.8s
SUMG Summit 59.93 341 *i* P **P** **00 15 44.0 +0.9**
SUMG IAmb IAmb 00 15 45.6
comp=Z,20nm,0.6s
SOEG Soedalen 60.04 335 *i* P **P** **00 15 45.2 +1.8**
SOEG IAmb IAmb 00 15 46.6
comp=Z,14nm,0.7s
ICESG Greenland Ices 62.17 338 *i* P **P** **00 15 59.1 +0.9**
ICESG IAmb IAmb 00 16 00.7
comp=Z,14nm,0.8s
AVE Averroes 63.22 292 P **P** **00 16 06.4 +1.0**
ANGG Ammassalik, Gr 63.50 334 P **P** **00 16 07.8 +1.2**
ANGG Ammassalik, Gr 63.50 334 *i* P **P** **00 16 07.8 +1.2**
ANGG IAmb IAmb 00 16 08.7
comp=Z,16nm,0.7s
ILULI Ilulissat 65.27 341 P **P** **00 16 18.9 +0.8**
ILULI Ilulissat 65.27 341 P **P** **00 16 18.9 +0.8**
ILULI pmax pmax
comp=Z,29nm,0.7s
ILULI Ilulissat 65.27 341 *i* P **P** **00 16 18.2 +0.1**
ILULI IAmb IAmb 00 16 20.0
comp=Z,23nm,0.7s
C16K Lisburne Hills 65.48 20 P **P** **00 16 19.9 +0.4**
C16K Lisburne Hills 65.48 20 P **P** **00 16 19.8 +0.4**
baz=313
B18K Kokolik River 65.64 18 P **P** **00 16 21.7 +1.2**
baz=315
DY2G Dye2 65.77 337 *i* P **P** **00 16 22.1 +0.4**
DY2G IAmb IAmb 00 16 23.9
comp=Z,19nm,0.7s
C17K DeLong Mountai 65.92 20 P **P** **00 16 23.0 +0.7**
baz=314
A22K Sinclair Lake 65.99 15 P **P** **00 16 23.5 +0.8**
baz=320
B20K Meade River 66.27 17 P **P** **00 16 25.6 +1.0**
B20K Meade River 66.27 17 P **P** **00 16 25.1 +0.6**
baz=319
RDOG Red Dog Mine 66.29 20 P **P** **00 16 24.8 +0.1**
baz=315
C18K Utukok River 66.31 19 P **P** **00 16 25.5 +0.6**
C18K Utukok River 66.31 19 P **P** **00 16 25.4 +0.5**
baz=316
C19K Lookout Ridge 66.38 18 P **P** **00 16 26.2 +0.9**
C19K Lookout Ridge 66.38 18 P **P** **00 16 26.3 +0.9**
baz=317
TNA Tin City 66.55 23 P **P** **00 16 27.6 +1.2**
baz=312
SFJD Kangerlussuaq 66.69 339 *i* P **P** **00 16 27.4 +0.2**
SFJD IAmb IAmb 00 16 29.1
comp=Z,5.1nm,0.8s
B22K Teshekpuk Lake 66.83 15 P **P** **00 16 28.8 +0.8**
B22K Teshekpuk Lake 66.83 15 P **P** **00 16 28.8 +0.8**
baz=322
TOA0 Torodi Ar. Sit 67.03 269 P **P** **00 16 30.6 +0.4**
TOA0 IAmb IAmb 00 16 31.8
comp=Z,23nm,1.4s
TORD Torodi Ar. Bea 67.03 269 P **P** **00 16 29.9 -0.3**
comp=Z,6.0nm,0.6s,baz=48,slow=5.9,SNR=83
comp=Z,6.0nm,0.6s
F14K Arctic Creek 67.10 23 P **P** **00 16 31.0 +1.2**
baz=313
B21K Ikpikpuk River 67.14 16 P **P** **00 16 30.7 +0.7**
B21K Ikpikpuk River 67.14 16 P **P** **00 16 30.9 +0.9**
baz=321
RES Resolute Bay 67.15 356 P **P** **00 16 30.9 +0.9**
RES Resolute Bay 67.15 356 P **P** **00 16 30.9 +0.9**
RES pmax pmax
comp=Z,11nm,1.1s
D19K Kuna River 67.19 18 P **P** **00 16 31.1 +0.7**
D19K Kuna River 67.19 18 P **P** **00 16 31.0 +0.5**
baz=318
E17K Hotham Inlet 67.28 20 P **P** **00 16 31.2 +0.3**
baz=316
E18K Tukpahlearik C 67.36 20 P **P** **00 16 32.2 +0.8**
E18K Tukpahlearik C 67.36 20 P **P** **00 16 32.0 +0.5**
baz=317
D20K Etivluk River 67.39 17 P **P** **00 16 32.2 +0.6**
baz=320
F15K North Star Dit 67.45 22 P **P** **00 16 33.1 +1.0**
F15K North Star Dit 67.45 22 P **P** **00 16 33.1 +1.0**
baz=314
C21K Knifeblade Rid 67.47 17 P **P** **00 16 33.0 +0.9**
baz=321
C23K Itkillik River 67.81 15 P **P** **00 16 35.5 +1.2**
C23K Itkillik River 67.81 15 P **P** **00 16 35.3 +1.1**
baz=324
E20K Nigu River 67.84 18 P **P** **00 16 35.0 +0.4**
baz=320
F17K Baldwin Pennin 67.90 21 P **P** **00 16 35.7 +0.9**
F17K Baldwin Pennin 67.90 21 P **P** **00 16 35.7 +0.9**
baz=317
ANM Nome 68.03 23 P **P** **00 16 36.6 +0.9**
ANM IAmb IAmb 00 16 38.0
comp=Z,26nm,0.8s
ANM Nome 68.03 23 P **P** **00 16 36.8 +1.1**
baz=314
ANM Nome 68.03 23 P **P** **00 16 36.6 +0.9**
ANM pmax pmax
comp=Z,26nm,0.8s
G15K Niukluk 68.13 22 P **P** **00 16 37.0 +0.7**
baz=315
D22K Ayikyak River 68.15 16 P **P** **00 16 37.2 +0.8**
D22K IAmb IAmb 00 16 38.3
comp=Z,22nm,0.8s
D22K Ayikyak River 68.15 16 P **P** **00 16 37.3 +0.8**
baz=323
E19K Redstone River 68.20 19 P **P** **00 16 37.0 +0.2**
E19K Redstone River 68.20 19 P **P** **00 16 37.0 +0.2**
baz=320
C24K Franklin Bluff 68.29 14 P **P** **00 16 38.3 +1.1**
baz=326
G16K Koyuk River 68.35 22 P **P** **00 16 38.5 +0.9**
G16K IAmb IAmb 00 16 39.6
comp=Z,20nm,0.8s
G16K Koyuk River 68.35 22 P **P** **00 16 38.9 +1.3**
baz=316
D23K Nanushuk River 68.51 15 P **P** **00 16 39.6 +0.9**
baz=324
F19K Shaleruckik Mo 68.54 19 P **P** **00 16 38.7 -0.1**
baz=319
D24K Happy Valley 68.74 15 P **P** **00 16 40.6 +0.6**
D24K Happy Valley 68.74 15 P **P** **00 16 40.6 +0.6**
baz=326
G17K Kiwalik Mounta 68.76 21 P **P** **00 16 40.8 +0.6**
baz=317
C26K Camden Bay 68.83 13 P **P** **00 16 41.9 +1.4**
baz=329
F20K Avaraart Lake 68.89 18 P **P** **00 16 40.9 -0.1**
F20K Avaraart Lake 68.89 18 P **P** **00 16 41.1 +0.1**
baz=321
H16K Elim 68.93 22 P **P** **00 16 42.0 +0.7**
baz=316
E22K Anaktuvuk Pass 68.94 16 P **P** **00 16 42.0 +0.6**
E22K IAmb IAmb 00 16 42.8
comp=Z,21nm,0.8s
E22K Anaktuvuk Pass 68.94 16 P **P** **00 16 41.7 +0.3**
baz=324
NRS Narsarsuaq 69.01 333 *i* P **P** **00 16 42.0 +0.2**
NRS IAmb IAmb 00 16 43.7
comp=Z,12nm,0.8s
G18K Tagagawik 69.01 20 P **P** **00 16 41.9 0.0**
baz=319
D25K Kavik River 69.07 14 P **P** **00 16 43.5 +1.3**
D25K IAmb IAmb 00 16 44.2
comp=Z,23nm,0.9s
D25K Kavik River 69.07 14 P **P** **00 16 43.2 +1.0**
baz=328
G19K Purcell Mounta 69.24 19 P **P** **00 16 43.8 +0.6**
G19K IAmb IAmb 00 16 44.6
comp=Z,28nm,0.8s
G19K Purcell Mounta 69.24 19 P **P** **00 16 43.6 +0.4**
baz=320
F21K Alatna River 69.29 17 P **P** **00 16 44.2 +0.6**
F21K IAmb IAmb 00 16 46.0
comp=Z,27nm,0.8s
F21K Alatna River 69.29 17 P **P** **00 16 44.0 +0.4**
baz=323
F22K John River 69.37 17 P **P** **00 16 44.8 +0.8**
baz=324
H17K Granite Mounta 69.39 21 P **P** **00 16 45.0 +0.9**
H17K IAmb IAmb 00 16 45.8
comp=Z,24nm,0.8s
H17K Granite Mounta 69.39 21 P **P** **00 16 44.9 +0.7**
baz=318
A36M Sachs Harbour 69.45 6 P **P** **00 16 45.1 +0.7**
A36M Sachs Harbour 69.45 6 P **P** **00 16 45.1 +0.7**
baz=345,SNR=9.3
E23K Chandalar 69.48 16 P **P** **00 16 45.3 +0.6**
baz=326
H18K Honhosa River 69.66 20 P **P** **00 16 46.5 +0.7**
H18K IAmb IAmb 00 16 47.1
comp=Z,14nm,0.8s
H18K Honhosa River 69.66 20 P **P** **00 16 46.1 +0.3**
baz=319
E24K Your Creek 69.70 15 P **P** **00 16 46.9 +0.8**
E24K IAmb IAmb 00 16 47.8
comp=Z,19nm,0.8s
E24K Your Creek 69.70 15 P **P** **00 16 46.9 +0.8**
baz=326
G21K Allakaket 69.85 18 P **P** **00 16 47.4 +0.4**
G21K IAmb IAmb 00 16 47.9
comp=Z,20nm,0.8s
G21K Allakaket 69.85 18 P **P** **00 16 47.2 +0.2**
baz=323
H19K Roundabout Mou 69.89 20 P **P** **00 16 47.8 +0.7**
baz=321
J14K Nanvaranak Lak 69.89 24 P **P** **00 16 48.3 +1.1**
J14K Nanvaranak Lak 69.89 24 P **P** **00 16 48.3 +1.1**
baz=316
I17K Unalakleet 69.94 22 P **P** **00 16 48.4 +0.9**
I17K IAmb IAmb 00 16 49.6
comp=Z,25nm,0.8s
I17K Unalakleet 69.94 22 P **P** **00 16 48.6 +1.1**
baz=318
IVI Ivigtut 69.95 334 P **P** **00 16 49.2 +1.6**
G22K Bettles 70.00 17 P **P** **00 16 48.1 +0.2**
baz=324
COLD Coldfoot 70.04 16 P **P** **00 16 48.8 +0.7**
baz=325,SNR=17
D27M Malcolm River 70.10 12 P **P** **00 16 49.7 +1.2**
D27M Malcolm River 70.10 12 P **P** **00 16 49.6 +1.1**
baz=332
E25K Arctic Village 70.25 14 P **P** **00 16 50.1 +0.7**
E25K Arctic Village 70.25 14 P **P** **00 16 49.9 +0.4**
baz=329,SNR=12
F24K Squaw Lake 70.30 15 P **P** **00 16 50.5 +0.8**
F24K Squaw Lake 70.30 15 P **P** **00 16 50.2 +0.5**
baz=327
H20K Anotleneega Mo 70.32 19 P **P** **00 16 50.2 +0.3**
baz=322
D28M Stokes Point 70.38 11 P **P** **00 16 51.5 +1.4**
baz=334
GCSA Galena City Sc 70.38 20 P **P** **00 16 50.9 +0.7**
baz=320
J16K Anvik River 70.42 23 P **P** **00 16 51.6 +1.1**
J16K Anvik River 70.42 23 P **P** **00 16 51.5 +1.1**
baz=318
G23K Bananza Creek 70.51 17 P **P** **00 16 51.7 +0.7**
G23K Bananza Creek 70.51 17 P **P** **00 16 51.2 +0.2**
baz=326
F25K Christian Rive 70.69 15 P **P** **00 16 53.3 +1.2**
baz=329
H21K Melozitna Rive 70.71 18 P **P** **00 16 52.8 +0.5**
H21K IAmb IAmb 00 16 53.7
comp=Z,26nm,1.1s
H21K Melozitna Rive 70.71 18 P **P** **00 16 52.6 +0.3**
baz=324
K15K Wolf Creek Mou 70.86 24 P **P** **00 16 54.5 +1.3**
K15K IAmb IAmb 00 16 55.1
comp=Z,15nm,0.8s
K15K Wolf Creek Mou 70.86 24 P **P** **00 16 54.5 +1.3**
baz=317
H22K Ishtalitna Cre 70.87 18 P **P** **00 16 54.0 +0.9**
baz=325
F26K Sheenjek River 70.89 14 P **P** **00 16 53.9 +0.6**
baz=330
E28M Babbage River 70.90 12 P **P** **00 16 54.4 +1.1**
E28M IAmb IAmb 00 16 55.5
comp=Z,12nm,0.7s
E28M Babbage River 70.90 12 P **P** **00 16 54.4 +1.1**
baz=334,SNR=20
E27K Coleen River 70.93 13 P **P** **00 16 54.5 +1.0**
E27K IAmb IAmb 00 16 55.1
comp=Z,14nm,0.7s
E27K Coleen River 70.93 13 P **P** **00 16 54.5 +1.0**
baz=332
G24K Hadweenzic Riv 71.08 16 P **P** **00 16 55.5 +1.1**
G24K IAmb IAmb 00 16 56.4
comp=Z,22nm,0.8s
G24K Hadweenzic Riv 71.08 16 P **P** **00 16 55.3 +0.9**
baz=326
L14K Kuka Creek 71.19 25 P **P** **00 16 56.5 +1.4**
L14K Kuka Creek 71.19 25 P **P** **00 16 56.5 +1.4**
baz=317,SNR=8.2
I21K Tanana 71.30 18 P **P** **00 16 56.3 +0.6**
baz=324
J19K Poorman 71.31 20 P **P** **00 16 56.4 +0.6**
J19K IAmb IAmb 00 16 57.7
comp=Z,22nm,0.8s
J19K Poorman 71.31 20 P **P** **00 16 56.6 +0.8**
baz=322
G25K Bearman Lake 71.31 15 P **P** **00 16 57.1 +1.3**
baz=329
E29M Blow River 71.36 11 P **P** **00 16 57.3 +1.2**
E29M IAmb IAmb 00 16 58.2
comp=Z,24nm,1.1s
E29M Blow River 71.36 11 P **P** **00 16 57.2 +1.1**
baz=335
J18K Innoko River 71.42 21 P **P** **00 16 57.2 +0.6**
J18K IAmb IAmb 00 16 58.1
comp=Z,21nm,0.8s
J18K Innoko River 71.42 21 P **P** **00 16 57.2 +0.6**
baz=321,SNR=11
K17K Iditarod 71.53 22 P **P** **00 16 58.1 +1.0**
K17K Iditarod 71.53 22 P **P** **00 16 58.2 +1.0**
baz=320
J20K Nowinta River 71.56 20 P **P** **00 16 58.2 +0.9**
J20K IAmb IAmb 00 16 59.1
comp=Z,28nm,0.8s
J20K Nowinta River 71.56 20 P **P** **00 16 58.1 +0.7**
baz=323
G26K Porcupine Rive 71.61 14 P **P** **00 16 58.6 +1.0**
baz=330
M13K Dall Lake 71.64 26 P **P** **00 16 59.2 +1.3**
M13K Dall Lake 71.64 26 P **P** **00 17 00.2 +2.3**
baz=316
FYU Fort Yukon 71.66 15 P **P** **00 16 58.8 +0.9**
FYU IAmb IAmb 00 17 00.3
comp=Z,24nm,1.0s
H24K Noodor Dome 71.72 16 P **P** **00 16 59.2 +0.8**
H24K IAmb IAmb 00 17 00.3
comp=Z,16nm,0.8s
H24K Noodor Dome 71.72 16 P **P** **00 16 59.3 +0.9**
baz=327
MLY Manley 71.73 18 P **P** **00 16 58.8 +0.4**
MLY Manley 71.73 18 P **P** **00 16 58.8 +0.4**
baz=325,SNR=10
F28M Old Crow 71.74 13 P **P** **00 16 59.2 +0.8**
F28M Old Crow 71.74 13 P **P** **00 16 59.3 +0.9**
baz=334,SNR=9.0
M14K Bethel 71.86 25 P **P** **00 17 00.6 +1.4**
M14K Bethel 71.86 25 P **P** **00 17 00.5 +1.3**
baz=318,SNR=9.9
L16K Owhat River 71.94 23 P **P** **00 17 01.1 +1.4**
L16K Owhat River 71.94 23 P **P** **00 17 01.0 +1.4**
baz=319,SNR=14
I23K Minto, Yukon-K 71.96 17 P **P** **00 17 00.5 +0.8**
baz=326,SNR=9.2
L17K Donlin 71.98 23 P **P** **00 17 01.1 +1.2**
baz=320
TTA Tatalina 72.03 21 P **P** **00 17 01.0 +0.7**
TTA IAmb IAmb 00 17 02.0
comp=Z,66nm,2.0s
TTA Tatalina 72.03 21 P **P** **00 17 00.9 +0.7**
baz=322,SNR=7.3
TTA Tatalina 72.03 21 P **P** **00 17 01.0 +0.7**
TTA pmax pmax
comp=Z,66nm,2.0s
INK Inuvik 72.08 10 P **P** **00 17 01.2 +0.9**
INK IAmb IAmb 00 17 02.1
comp=Z,23nm,0.8s
INK Inuvik 72.08 10 P **P** **00 17 01.1 +0.8**
baz=339,SNR=18
INK Inuvik 72.08 10 P **P** **00 17 01.2 +0.9**
INK pmax pmax
comp=Z,23nm,0.8s
C36M Paulatuk 72.12 6 P **P** **00 17 00.8 +0.2**
C36M IAmb IAmb 00 17 01.5
comp=Z,28nm,0.7s
C36M Paulatuk 72.12 6 P **P** **00 17 00.6 +0.1**
baz=346,SNR=26
G27K Doyon Strip 72.14 14 P **P** **00 17 02.0 +1.2**
G27K Doyon Strip 72.14 14 P **P** **00 17 01.8 +1.0**
baz=332
K20K Telida 72.24 20 P **P** **00 17 02.1 +0.7**
K20K IAmb IAmb 00 17 03.3
comp=Z,29nm,0.8s
K20K Telida 72.24 20 P **P** **00 17 02.2 +0.7**
baz=323
CHUM Lake Minchumin 72.28 19 P **P** **00 17 02.4 +0.7**
baz=324,SNR=7.2
M15K Kasigluk River 72.33 24 P **P** **00 17 03.1 +1.2**
baz=318
MDM Murphy Dome 72.38 17 P **P** **00 17 02.9 +0.6**
MDM IAmb IAmb 00 17 03.9
comp=Z,50nm,1.5s
L18K Granite Mounta 72.40 22 P **P** **00 17 03.0 +0.7**
L18K IAmb IAmb 00 17 04.2
comp=Z,19nm,0.9s
L18K Granite Mounta 72.40 22 P **P** **00 17 03.1 +0.7**
baz=321
F30M Barrier River 72.40 11 P **P** **00 17 03.0 +0.7**
baz=337
POKR Poker Plat Res 72.43 17 P **P** **00 17 03.4 +0.8**
POKR IAmb IAmb 00 17 04.5
comp=Z,35nm,0.8s
POKR Poker Plat Res 72.43 17 P **P** **00 17 03.3 +0.8**
baz=328,SNR=16
BPAW Bear Paw Mtn. 72.44 19 P **P** **00 17 03.1 +0.5**
baz=325
NEA2 Nenana 72.49 18 P **P** **00 17 03.3 +0.3**
NEA2 IAmb IAmb 00 17 04.2
comp=Z,33nm,0.8s
NEA2 Nenana 72.49 18 P **P** **00 17 03.1 +0.2**
baz=327,SNR=14
PRP Porcupine Dome 72.50 16 P **P** **00 17 03.2 +0.1**
COLA College 72.54 17 P **P** **00 17 03.3 +0.2**
COLA College 72.54 17 P **P** **00 17 03.7 +0.5**
baz=328
COLA College 72.54 17 P **P** **00 17 03.3 +0.2**
COLA pmax pmax
comp=Z,57nm,1.0s
M16K Timber Creek 72.63 24 P **P** **00 17 04.3 +0.5**
M16K IAmb IAmb 00 17 06.2
comp=Z,16nm,0.8s
H27K Steamboat Moun 72.68 14 P **P** **00 17 05.1 +1.1**
baz=332
G29M Pine Creek 72.69 12 P **P** **00 17 04.8 +0.8**
G29M IAmb IAmb 00 17 34.5
comp=Z,28nm,1.0s
G29M Pine Creek 72.69 12 P **P** **00 17 05.0 +1.0**
baz=335
CAST Castle Rocks 72.72 19 P **P** **00 17 04.9 +0.6**
CAST Castle Rocks 72.72 19 P **P** **00 17 05.0 +0.6**
baz=324,SNR=18
CCB Clear Creek Bu 72.74 17 P **P** **00 17 04.3 -0.1**
M17K Holitna River 72.81 23 P **P** **00 17 06.0 +1.2**
M17K IAmb IAmb 00 17 07.4
comp=Z,27nm,0.8s
M17K Holitna River 72.81 23 P **P** **00 17 06.4 +1.6**
baz=321
IL31 72.85 17 P **P** **00 17 05.1 +0.1**
IL31 IAmb IAmb 00 17 05.8
comp=Z,19nm,0.9s
ILAR Eielson Array 72.85 17 P **P** **00 17 04.7 -0.3**
comp=Z,13nm,0.9s,baz=319,slow=5.0,SNR=82
ILAR PP **PP** **00 19 44.1 -3.7**
comp=Z,1.2nm,0.8s,baz=326,slow=5.3,SNR=2.8
comp=Z,13nm,0.9s
F31M Tsiigehtchic 72.86 10 P **P** **00 17 05.7 +0.7**
F31M IAmb IAmb 00 17 06.0
comp=Z,19nm,0.8s
F31M Tsiigehtchic 72.86 10 P **P** **00 17 05.5 +0.6**
baz=338,SNR=11
IL03 Eielson Array 72.86 17 P **P** **00 17 04.7 -0.4**
KTH Kantishna Hill 72.91 19 P **P** **00 17 05.9 +0.4**
KTH IAmb IAmb 00 17 06.7
comp=Z,41nm,0.9s
G30M tAoh Zraii Nji 72.91 11 P **P** **00 17 05.6 +0.2**
baz=336
N15K Kwethluk River 72.92 25 P **P** **00 17 07.1 +1.6**
N15K IAmb IAmb 00 17 08.1
comp=Z,31nm,0.8s
L19K White Mountain 72.96 21 P **P** **00 17 06.6 +0.9**
L19K White Mountain 72.96 21 P **P** **00 17 06.5 +0.8**
baz=323
L20K Farewell, AK 72.99 21 P **P** **00 17 06.7 +0.8**
baz=323,SNR=9.7
N16K Nishlik Lake 73.11 24 P **P** **00 17 08.2 +1.5**
baz=320
PPLA Purkeypile 73.11 20 P **P** **00 17 07.1 +0.2**
PPLA IAmb IAmb 00 17 07.6
comp=Z,16nm,0.6s
PPLA Purkeypile 73.11 20 P **P** **00 17 07.0 +0.2**
baz=324,SNR=5.1
HDA Harding Lake 73.14 17 P **P** **00 17 06.2 -0.6**
baz=328,SNR=6.0
TRF Thorofare Moun 73.15 19 P **P** **00 17 07.2 +0.2**
I26K Coal Creek Min 73.18 15 P **P** **00 17 06.8 -0.1**
I26K Coal Creek Min 73.18 15 P **P** **00 17 07.5 +0.6**
baz=331
I26K Coal Creek Min 73.18 15 P P 00 17 24.6 +18
I26K Coal Creek Min 73.18 15 IAmb IAmb 00 18 28.9
comp=Z,20nm,1.3s
O14K Tigyukauivet M 73.21 26 P **P** **00 17 08.3 +1.1**
I27K Kandik River 73.22 14 P **P** **00 17 08.0 +0.7**
baz=332,SNR=12
M18K Stony River 73.22 22 P **P** **00 17 08.6 +1.3**
baz=322
MCK McKinley 73.25 18 P **P** **00 17 08.0 +0.6**
MCK McKinley 73.25 18 P **P** **00 17 07.6 +0.2**
baz=327,SNR=10
MCK McKinley 73.25 18 P **P** **00 17 08.0 +0.6**
MCK pmax pmax
comp=Z,11nm,0.8s
H29M Whitestone 73.26 13 P **P** **00 17 08.2 +0.8**
H29M IAmb IAmb 00 17 09.2
comp=Z,22nm,0.7s
H29M Whitestone 73.26 13 P **P** **00 17 08.3 +0.8**
baz=335
G31M Satah River 73.26 11 P **P** **00 17 07.1 -0.3**
G31M IAmb IAmb 00 17 08.7
comp=Z,16nm,0.8s
G31M Satah River 73.26 11 P **P** **00 17 07.7 +0.3**
baz=338,SNR=13
M19K Big River Lodg 73.31 21 P **P** **00 17 08.8 +1.0**
M19K IAmb IAmb 00 19 03.3
comp=Z,41nm,1.7s
J25K Salcha River, 73.32 16 P **P** **00 17 08.0 +0.1**
J25K Salcha River, 73.32 16 P **P** **00 17 07.7 -0.2**
baz=330
RND Reindeer 73.54 18 P **P** **00 17 09.1 -0.1**
RND IAmb IAmb 00 17 51.0
comp=Z,24nm,1.2s
RND Reindeer 73.54 18 P **P** **00 17 09.1 -0.1**
RND pmax pmax
comp=Z,24nm,1.2s
N17K Nushagak Hills 73.57 23 P **P** **00 17 10.7 +1.4**
SVW2 Sparrevohn 73.61 22 P **P** **00 17 10.4 +0.8**
I28M Miner Creek 73.68 14 P **P** **00 17 10.4 +0.5**
I28M IAmb IAmb 00 17 11.2
comp=Z,20nm,0.7s
I28M Miner Creek 73.68 14 P **P** **00 17 10.2 +0.2**
baz=334
M20K Styx River 73.68 21 P **P** **00 17 10.5 +0.4**
M20K Styx River 73.68 21 P **P** **00 17 10.3 +0.2**
baz=324
O15K Ungalikthiuk R 73.76 25 P **P** **00 17 11.6 +1.1**
baz=319
J26L Joseph Creek 73.80 15 P **P** **00 17 11.0 +0.3**
baz=331,SNR=18
J26L Joseph Creek 73.80 15 P **P** **00 17 11.1 +0.3**
J26L Joseph Creek 73.80 15 IAmb IAmb 00 17 12.0
comp=Z,17nm,0.8s
N18K Kilae Creek 73.85 23 P **P** **00 17 11.8 +0.8**
N18K IAmb IAmb 00 17 49.3
comp=Z,63nm,1.8s
N18K Kilae Creek 73.85 23 P **P** **00 17 12.3 +1.3**
baz=322
K24K Donnelly Dome 73.93 17 P **P** **00 17 11.1 -0.3**
baz=329,SNR=22
O16K Kokwok River B 74.01 24 P **P** **00 17 13.3 +1.4**

O16K IAmb IAmb 00 17 14.4
comp=Z,36nm,0.9s
O16K Kokwok River B 74.01 24 P P 00 17 13.5 +1.6
baz=321
CUT Chulitna 74.03 19 P P 00 17 11.9 0.0
CUT Chulitna 74.03 19 P P 00 17 11.4 -0.5
baz=326,SNR=7.1
SKT Skwentna 74.04 20 P P 00 17 10.7 -1.4
SKT Skwentna 74.04 20 P P 00 17 11.7 -0.4
baz=325,SNR=30
EGAK Eagle 74.05 14 P P 00 17 11.2 -0.9
EGAK Eagle 74.05 14 P P 00 17 12.3 +0.3
baz=333,SNR=7.4
I29M Ogilvie Camp, 74.05 13 P P 00 17 11.2 -0.9
I29M IAmb IAmb 00 17 13.1
comp=Z,17nm,0.8s
WAT1 Susitna Watana 74.11 18 P P 00 17 11.8 -0.7
baz=327
PSA00 Pilbara Seismi 74.13 135 P P 00 17 13.4 +0.3
PSA00 IAmb IAmb 00 17 13.5
comp=Z,25nm,1.1s
PSA00 Pilbara Seismi 74.13 135 P P 00 17 12.7 -0.4
PSA00 IAmb IAmb 00 17 13.5
comp=Z,18nm,1.1s
N19K Bonanza Creek 74.16 22 P P 00 17 13.0 +0.1
N19K IAmb IAmb 00 17 16.9
comp=Z,18nm,0.8s
N19K Bonanza Creek 74.16 22 P P 00 17 14.1 +1.3
baz=323
SCRK Sand Creek 74.17 16 P P 00 17 13.2 +0.3
baz=331,SNR=14
SCRK Sand Creek 74.17 16 P P 00 17 13.3 +0.3
SCRK Sand Creek 74.17 16 IAmb IAmb 00 17 14.3
comp=Z,17nm,0.8s
DHY Denali Highway 74.18 18 P P 00 17 13.3 +0.2
DHY IAmb IAmb 00 17 15.3
comp=Z,23nm,0.8s
DHY Denali Highway 74.18 18 P P 00 17 13.0 0.0
baz=328,SNR=23
O17K Koliganek Bris 74.19 24 P P 00 17 14.5 +1.7
baz=321
P16K Nushagak River 74.48 25 P P 00 17 16.1 +1.5
baz=321
N20K Mount Spurr 74.50 21 P P 00 17 15.5 +0.6
baz=325
I30M Mount Dempster 74.51 12 P P 00 17 14.5 -0.4
baz=337
WAT6 Susitna Watana 74.52 18 P P 00 17 14.3 -0.7
baz=328,SNR=13
K27K Chicken 74.53 15 P P 00 17 15.6 +0.8
baz=332
K27K Chicken 74.53 15 P P 00 17 15.6 +0.8
K27K Chicken 74.53 15 IAmb IAmb 00 17 16.8
comp=Z,20nm,1.0s
SUA Susitna One 74.68 20 P P 00 17 15.8 -0.1
SUA IAmb IAmb 00 17 16.8
comp=Z,32nm,1.0s
SUA Susitna One 74.68 20 P P 00 17 15.8 -0.1
baz=326
O18K Koktuh Hills 74.71 23 P P 00 17 17.4 +1.4
O18K Koktuh Hills 74.71 23 P P 00 17 17.2 +1.2
baz=323,SNR=10
PAX Paxson 74.72 17 P P 00 17 16.2 +0.1
PAX IAmb IAmb 00 17 17.1
comp=Z,20nm,0.8s
PAX Paxson 74.72 17 P P 00 17 16.0 -0.1
baz=330,SNR=16
PAX Paxson 74.72 17 P P 00 17 15.7 -0.4
PAX pmax pmax
comp=Z,20nm,0.8s
PAX Paxson 74.72 17 P P 00 17 15.7 -0.4
P17K Kvichak River 74.85 24 P P 00 17 17.9 +1.2
baz=322,SNR=8.6
GHO Glory Hole Cre 74.90 19 P P 00 17 17.4 +0.3
GHO IAmb IAmb 00 17 17.9
comp=Z,26nm,0.8s
RSO Redoubt South 74.95 21 P P 00 17 18.2 +0.6
PMR Palmer 75.00 19 P P 00 17 17.7 +0.2
PMR IAmb IAmb 00 17 18.4
comp=Z,21nm,0.8s
PMR Palmer 75.00 19 P P 00 17 17.4 -0.1
baz=327,SNR=7.0
PMR Palmer 75.00 19 P P 00 17 17.7 +0.2
PMR pmax pmax
comp=Z,21nm,0.8s
SML Sawmill 75.03 19 P P 00 17 18.0 +0.2
SML Sawmill 75.03 19 P P 00 17 17.7 -0.1
baz=328,SNR=27
DAWY Dawson 75.03 14 P P 00 17 17.7 -0.1
DAWY IAmb IAmb 00 17 19.1
comp=Z,19nm,0.9s
DAWY Dawson 75.03 14 P P 00 17 18.0 +0.3
baz=334,SNR=12
KNRA Kununurra 75.06 124 P P 00 17 18.9 +0.4
KNRA IAmb IAmb 00 17 19.8
comp=Z,39nm,0.9s
P18K Big Mountain, 75.07 23 P P 00 17 19.0 +0.9
P18K IAmb IAmb 00 17 19.9
comp=Z,33nm,0.8s
P18K Big Mountain, 75.07 23 P P 00 17 18.8 +0.7
baz=323,SNR=6.4
J30M Hart River 75.11 12 P P 00 17 19.0 +0.6
baz=337
Q16K King Salmon 75.19 24 P P 00 17 20.3 +1.6
baz=322
M23K Glacier View 75.19 19 P P 00 17 18.7 0.0
baz=328,SNR=34
ILSW Iliamna Southw 75.22 22 P P 00 17 19.1 0.0
ILSW IAmb IAmb 00 17 38.6
comp=Z,29nm,1.5s
SCM Sheep Creek Mo 75.25 18 P P 00 17 19.3 +0.2
baz=328,SNR=19
SCM Sheep Creek Mo 75.25 18 P P 00 17 19.5 +0.3
SCM pmax pmax
comp=Z,47nm,0.7s
SCM MLR MLR
comp=Z,2µm,22.0s
SCM Sheep Creek Mo 75.25 18 P P 00 17 19.5 +0.3
RC01 Rabbit Creek A 75.27 20 P P 00 17 19.2 +0.1
RC01 IAmb IAmb 00 17 19.9
comp=Z,30nm,0.7s
RC01 Rabbit Creek A 75.27 20 P P 00 17 19.0 -0.1
baz=327,SNR=14
HARP HAARP 75.29 17 P P 00 17 20.5 +1.2
baz=330,SNR=24
M24K Tolsona, Glenn 75.30 18 P P 00 17 20.3 +0.9
baz=329,SNR=14
M24K Tolsona, Glenn 75.30 18 P P 00 17 20.5 +1.1
KNK Knik Glacier 75.33 19 P P 00 17 19.8 +0.4
baz=328,SNR=16
KNK Knik Glacier 75.33 19 P P 00 17 19.9 +0.4
L27K Beaver Creek, 75.44 15 P P 00 17 20.9 +0.8
L27K Beaver Creek, 75.44 15 P P 00 17 21.5 +1.3
baz=332
K29M Barlow Dome 75.58 13 P P 00 17 21.7 +0.7
K29M IAmb IAmb 00 17 22.8
comp=Z,19nm,0.8s
K29M Barlow Dome 75.58 13 P P 00 17 21.8 +0.8
baz=336,SNR=8.8
Q18K Katmai Hardscr 75.74 23 P P 00 17 21.9 -0.1
baz=323
Q17K Contact Creek 75.76 24 P P 00 17 22.3 +0.1
baz=322,SNR=5.2
M26K Nabesna, AK 75.78 16 P P 00 17 22.8 +0.7
M26K Nabesna, AK 75.78 16 P P 00 17 22.9 +0.7
baz=332
KLU Klutina 75.89 18 IAMs_20 IAMs_20 00 46 43.2
comp=Z,2µm,22.0s
KLU Klutina 75.89 18 P P 00 17 23.3 +0.5
baz=330,SNR=8.9
KLU Klutina 75.89 18 P P 00 17 23.6 +0.8
KLU Klutina 75.89 18 IAmb IAmb 00 17 24.4
comp=Z,18nm,0.8s
BRLK Bradley Lake 76.06 21 P P 00 17 23.3 -0.4
BRLK IAmb IAmb 00 17 23.9
comp=Z,23nm,0.8s
DBIC Dimbokro 76.06 268 P P 00 17 24.9 +0.5
comp=Z,7.8nm,0.9s,baz=9.2,slow=5.8,SNR=7.0
comp=Z,7.8nm,0.9s
M27K Edge Creek, AK 76.06 16 P P 00 17 24.3 +0.5
M27K IAmb IAmb 00 17 25.9
comp=Z,20nm,0.9s
MAYO Mayo, Yukon 76.09 13 P P 00 17 22.7 -1.1
N25K Chitina, Valde 76.11 17 P P 00 17 24.9 +0.9
BRSE Bradley Lake S 76.11 21 P P 00 17 23.6 -0.4
baz=326

KIC Kosan Boka 76.15 267⇓ eP P 00 17 25.7 +0.8
comp=Z,15nm,0.7s
CNPM China Poot 76.15 21 P P 00 17 24.3 +0.1
CNPM IAmb IAmb 00 20 13.9
comp=Z,73nm,1.7s
SEW Seward 76.17 20 P P 00 17 24.5 +0.2
SEW Seward 76.17 20 P P 00 17 24.2 0.0
baz=327
TIC Tonmodi 76.20 268⇓ eP P 00 17 24.7 -0.5
comp=Z,3.9nm,0.3s
BVCY Beaver Creek 76.22 15 P P 00 17 25.5 +0.9
baz=333
DIV Divide 76.25 18 P P 00 17 25.6 +0.8
DIV IAmb IAmb 00 17 26.1
comp=Z,21nm,0.7s
LIC Lamto 76.46 267⇑ eP P 00 17 27.0 +0.3
comp=Z,4.6nm,0.3s
SYI Shuyak Island 76.57 22 P P 00 17 26.7 +0.2
SYI IAmb IAmb 00 17 27.8
comp=Z,20nm,0.8s
M29M Somme Creek 76.68 14 P P 00 17 28.1 +0.8
HIN Hinchinbrook I 76.70 19 P P 00 17 27.4 +0.1
VRDI Verde Repeater 76.71 17 P P 00 17 27.8 +0.3
EYAK Cordova Ski Ar 76.75 18 P P 00 17 28.2 +0.7
EYAK IAmb IAmb 00 17 29.3
comp=Z,20nm,0.7s
EYAK Cordova Ski Ar 76.75 18 P P 00 17 28.4 +0.8
baz=330
M30M Minto, Yukon 76.87 13 P P 00 17 29.0 +0.7
M30M Minto, Yukon 76.87 13 P P 00 17 29.2 +0.9
baz=337
RAGM Ragged Mountai 77.16 18 P P 00 17 30.9 +1.0
RAGM IAmb IAmb 00 17 34.3
comp=Z,36nm,1.2s
KDAK Kodiak Island 77.19 23 P P 00 17 30.7 +0.7
KDAK IAmb IAmb 00 17 31.4
comp=Z,33nm,0.8s
KDAK Kodiak Island 77.19 23 P P 00 17 30.9 +0.9
baz=325
KDAK Kodiak Island 77.19 23 P P 00 17 28.6 -1.4
KDAK pmax pmax
comp=Z,33nm,0.9s
KDAK Kodiak Island 77.19 23 P P 00 17 28.6 -1.4
CRQM Cirque 77.20 17 P P 00 17 30.9 +0.6
CRQM IAmb IAmb 00 17 31.9
comp=Z,15nm,0.7s
BARN Barnard Glacie 77.27 16 P P 00 17 31.0 +0.3
BARN IAmb IAmb 00 17 38.3
comp=Z,29nm,1.4s
TGL Tana Glacier 77.27 17 P P 00 17 31.5 +0.9
TGL IAmb IAmb 00 17 32.6
comp=Z,15nm,0.8s
BERG Berg Lake 77.39 18 P P 00 17 32.1 +1.0
CTG Chitna Glacier 77.42 16 P P 00 17 32.5 +1.0
baz=333
CTGM Chitina Glacie 77.42 16 P P 00 17 32.3 +0.8
CTGM IAmb IAmb 00 17 33.3
comp=Z,54nm,1.6s
OHAK Old Harbor 77.43 24 P P 00 17 32.1 +0.7
OHAK IAmb IAmb 00 17 33.4
comp=Z,32nm,1.0s
OHAK Old Harbor 77.43 24 P P 00 17 32.3 +1.0
baz=324,SNR=5.7
GRNC Granite Creek 77.54 17 P P 00 17 32.9 +0.7
GRNC IAmb IAmb 00 17 33.4
comp=Z,16nm,0.9s
LOGN Logan Glacier 77.62 16 P P 00 17 33.5 +0.9
LOGN IAmb IAmb 00 18 10.1
comp=Z,47nm,1.8s
YUK4 Talbot Arm 77.64 15 P P 00 17 33.8 +1.0
baz=335
M31M Drury Creek, Y 77.65 13 P P 00 17 32.9 +0.3
M31M Drury Creek, Y 77.65 13 P P 00 17 33.6 +1.0
baz=338
FARO Faro, Yukon 77.80 12 P P 00 17 34.0 +0.6
FARO Faro, Yukon 77.80 12 P P 00 17 34.4 +1.0
baz=339
N31M Braeburn, Yuko 78.07 13 P P 00 17 34.8 -0.2
N31M IAmb IAmb 00 17 36.6
comp=Z,24nm,1.0s
N31M Braeburn, Yuko 78.07 13 P P 00 17 35.9 +1.0
baz=337
YUK6 Outpost Mounta 78.07 15 P P 00 17 36.4 +1.2
baz=336
WRGLY Wrigley 78.16 7 P P 00 17 37.2 +1.9
baz=347
HYT Haines Junctio 78.35 15 P P 00 17 37.6 +1.0
HYT IAmb IAmb 00 17 38.7
comp=Z,31nm,0.8s
HYT Haines Junctio 78.35 15 P P 00 17 38.1 +1.5
baz=336,SNR=9.2
PCA Pinnacle 78.44 16 P P 00 17 37.9 +0.8
PCA IAmb IAmb 00 17 39.0
comp=Z,30nm,0.8s
PINM Pinnacle 78.44 16 P P 00 17 38.5 +1.5
baz=334
O30N Mendenhall 78.67 14 P P 00 17 39.4 +1.1
O30N Mendenhall 78.67 14 P P 00 17 38.8 +0.5
baz=337
WHY Whitehorse 79.00 13 P P 00 17 40.0 -0.2
WHY Whitehorse 79.00 13 P P 00 17 40.3 +0.2
baz=338
PNL Peninsula 79.01 16 P P 00 17 41.6 +1.5
baz=335
P29M Windy Craggy 79.40 15 P P 00 17 43.1 +0.9
P29M Windy Craggy 79.40 15 P P 00 17 43.0 +0.8
baz=336
YKA Yellowknife Ar 79.54 3 P P 00 17 43.4 +0.5
comp=Z,9.9nm,0.7s,baz=347,slow=5.5,SNR=57
comp=Z,9.9nm,0.7s
P33M Teslin, Yukon 79.79 13 P P 00 17 44.7 +0.3
P33M IAmb IAmb 00 17 45.7
comp=Z,21nm,0.9s
P33M Teslin, Yukon 79.79 13 P P 00 17 44.9 +0.6
baz=340
BOSA Boshof 79.83 221 P P 00 17 45.5 +0.6
BOSA IAmb IAmb 00 19 14.7
comp=Z,56nm,1.8s
BOSA Boshof 79.83 221 P P 00 17 45.5 +0.6
comp=Z,4.3nm,0.9s,baz=108,slow=16,SNR=2.6
comp=Z,4.3nm,0.9s
SKAG Skagway 80.03 14 P P 00 17 46.6 +1.0
R33M Jennings River 80.87 12 P P 00 17 51.0 +0.7
R33M Jennings River 80.87 12 P P 00 17 50.8 +0.5
baz=341
Q32M Nakina River 81.06 13 P P 00 17 52.1 +0.7
Q32M IAmb IAmb 00 17 53.1
comp=Z,15nm,0.8s
Q32M Nakina River 81.06 13 P P 00 17 52.4 +1.0
baz=340
SCHQ Schefferville 81.08 338 P P 00 17 52.1 +0.8
SCHQ IAmb IAmb 00 18 07.0
comp=Z,71nm,1.9s
SCHQ Schefferville 81.08 338 P P 00 17 51.3 0.0
comp=Z,8.0nm,0.7s,baz=32,slow=4.8,SNR=12
comp=Z,8.0nm,0.7s
WB0 Warramunga Arr 81.70 123 P P 00 17 55.1 +0.1
WRA Warramunga Arr 81.79 123 i P P 00 17 55.5 0.0
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 81.79 123 P P 00 17 54.1 -1.4
comp=Z,4.8nm,0.7s,baz=325,slow=5.0,SNR=36
comp=Z,4.8nm,0.7s
WB2 Warramunga Arr 81.80 123 P P 00 17 55.1 -0.4
DLBC Dease Lake 81.94 12 P P 00 17 57.0 +1.2
WR0 Warramunga Arr 81.94 123 P P 00 17 56.0 -0.3
S34M Telegraph Cree 82.25 13 P P 00 17 59.0 +1.6
S34M IAmb IAmb 00 17 59.8
comp=Z,33nm,0.8s
S34M Telegraph Cree 82.25 13 P P 00 17 58.7 +1.3
baz=341
FCC Fort Churchill 82.82 353 P P 00 18 01.1 +0.8
FCC Fort Churchill 82.82 353 P eP 00 18 01.1 +0.8
FCC pmax pmax
comp=Z,13nm,0.8s
T35M Bob Quinn 83.29 12 P P 00 18 04.3 +1.5
T35M IAmb IAmb 00 18 05.2
comp=Z,15nm,0.8s
T35M Bob Quinn 83.29 12 P P 00 18 04.3 +1.5
baz=342
WRAK Wrangell Islan 83.45 14 P P 00 18 05.0 +1.4
WRAK IAmb IAmb 00 18 05.7
comp=Z,25nm,0.9s
WRAK Wrangell Islan 83.45 14 P P 00 18 05.0 +1.4
baz=340
U33K Whale Pass 83.59 14 P P 00 18 05.5 +1.3

U33K Whale Pass 83.59 14 P P 00 18 05.6 +1.3
baz=340
ASAR Alice Springs 84.16 126 P P 00 18 06.4 -1.3
comp=Z,3.2nm,0.8s,baz=318,slow=5.3,SNR=18
comp=Z,3.2nm,0.8s
FFC Flin Flon 87.39 357 P P 00 18 24.1 +0.9
FFC IAmb IAmb 00 18 24.7
comp=Z,12nm,0.8s
FFC Flin Flon 87.39 357 P P 00 18 24.1 +0.9
FFC pmax pmax
comp=Z,12nm,0.9s
EDM Edmonton 88.86 4 P P 00 18 31.2 +1.0
EDM Edmonton 88.86 4 P P 00 18 31.2 +1.0
EDM pmax pmax
comp=Z,22nm,0.8s
VLDQ Val d'Or 90.08 340 P P 00 18 37.2 +1.2
VLDQ IAmb IAmb 00 18 38.2
comp=Z,13nm,0.9s
ULM Lac du Bonnet 91.40 353 P P 00 18 41.5 -0.5
comp=Z,4.6nm,0.9s,baz=327,slow=1.8,SNR=4.1
comp=Z,4.6nm,0.9s
AGMN Agassiz Nation 93.33 352 P P 00 18 52.0 +1.0
AGMN IAmb IAmb 00 18 52.3
comp=Z,7.0nm,0.8s
AGMN Agassiz Nation 93.33 352 P P 00 18 51.7 +0.7
baz=9.0
NEW Newport 93.54 6 P P 00 18 52.6 +0.6
NEW IAmb IAmb 00 18 53.7
comp=Z,6.0nm,0.8s
NEW Newport 93.54 6 P P 00 18 52.9 +0.9
baz=352
NEW Newport 93.54 6 P P 00 18 52.6 +0.6
NEW pmax pmax
comp=Z,6.0nm,0.8s
DGMT Dagmar 93.72 358 P P 00 18 52.7 -0.1
OVMT Ovando 95.02 4 P P 00 18 59.4 +0.4
LAO LASA Array 95.54 359 P P 00 19 01.3 +0.1
LAO IAmb IAmb 00 19 04.3
comp=Z,5.4nm,0.8s
LAO LASA Array 95.54 359 P P 00 19 03.2 +2.0
baz=0.9
ECSD EROS Data Cent 97.92 352 P Pdif 00 19 12.7 +0.7
baz=8.5
ROSC El Rosal 127.36 317 PKP PKiKP 00 24 42.1 +0.1
comp=Z,2.8nm,0.4s,baz=53,slow=22,SNR=4.1
QSPA South Pole Qui 127.93 180 PKP PKPdf 00 24 38.5 -1.9
comp=Z,1.0nm,0.3s,baz=295,slow=4.8,SNR=5.3
SIV San Ignacio 133.80 285 PKP PKPdf 00 24 52.8 -0.2
comp=Z,0.8nm,0.7s,baz=109,slow=8.4,SNR=4.8
CPUP Villa Florida 136.52 271 PKP PKPdf 00 24 57.5 -0.3
comp=Z,2.0nm,0.8s,baz=320,slow=0.9,SNR=4.6
CPUP SKPbc SKPbc 00 28 18.9 -0.9
comp=Z,2.3nm,0.8s,baz=9.2,slow=2.7,SNR=5.6
LVC Limon Verde 143.66 284 PKP PKPdf 00 25 11.4 +0.1
comp=Z,2.0nm,0.7s,baz=155,slow=14,SNR=3.1
TRQA Tornquist 144.54 256 PKPdf PKPbc 00 25 11.3 +0.5
TRQA Tornquist 144.54 256 PKiKP PKPbc 00 25 11.3 +0.4
CFA Coronel Fontan 147.40 270 PKPbc PKPbc 00 25 18.5 -1.1
comp=Z,11nm,0.9s,baz=53,slow=2.8,SNR=21
PLCA Paso Flores 151.56 253 PKPbc PKiKP 00 25 30.2 +0.1
comp=Z,8.1nm,1.1s,baz=83,slow=2.4,SNR=6.9

IDC ***09*** *00:05:50.6±0.6, 1.75N×90.92W, h0km, mb4.6/15, mbtmp4.6/20, ML3.2/3, MS5.4/56, Error ellipse: s-maj=19.9km s-min=11.3km az=77.0*

IGQ ***09*** *00:05:52.2±1.4, 2.1N±10.1×9.1W±1.0, h24km*

IPGP ***09*** *00:05:54.0, 1.65N×90.85W, h10km, Mw5.8, Fault plane solution: NP1:φs184.00000°, δ83.00000°, λ173.00000°. NP2:φs93.00000°, δ73.00000°, λ11.00000°.*

NEIC ***09*** *00:05:54.2±2.1, 1.68N±0.06×90.82W±0.10, h10km±1km, mb5.1/505, Ms_20 5.5/515, Mww5.8/25, Error ellipse: s-maj=16.7km s-min=10.2km az=258.0*

NEIC ***09*** *00:05:54.2, 1.77N×90.81W, h18km, Moment Tensor Solution. Duration: 42 Moment tensor: Scale 10^17 Nm; Mrr0.35; Mθθ-0.61; Mφφ0.26; Mrθ-3.98; Mθφ-5.94; Mφr0.90; Fault plane solution: M07.21000×10^17 NP1: φs271.17000°, δ85.54000°, λ146.28000°. NP2:φs4.14000°, δ56.40000°, λ5.36000°. Principal axes: T 7.4662, Plg27.0000°, Azm222.0000°; N -0.5172, Plg56.0000°, Azm85.0000°; P -6.9490, Plg20.0000°, Azm323.0000°;*

NEIC ***09*** *00:05:54.2, 1.67N×90.81W, h18km*

GCMT ***09*** *00:05:57.2±0.1, 1.81N×90.87W, h15km, MW5.8/156, Moment Tensor Solution. s142,c264; s156,c461; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr-0.59±.04; Mθθ-0.09±.04; Mφφ0.67±.05; Mrθ-1.42±.15; Mθφ-6.01±.04; Mφr-1.06±.14; Best double couple: M06.29800×10^17 NP1:φs93.00000°, δ79.00000°, λ-166.00000°. NP2:φs1.00000°, δ77.00000°, λ-11.00000°. Principal axes: T 6.3230, Plg2.0000°, Azm227.0000°; N -0.0510, Plg73.0000°, Azm131.0000°; P -6.2730, Plg17.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 09 00:05:53.0±0.3, 1.65N±0.04×90.82W±0.05, h10km, n969, σ1§67/772, mb5.1/243, MS5.5/314, 3C, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FER2	**Fernandina2, P**	**2.18**	**196**	P	**Pn**	**00 06 28.0**	**-1.4**
FER2				S	**Sn**	**00 06 54.0**	**-2.6**
I20EC	**Galapagos**	**2.28**	**169**	Sn	**Sg**	**00 07 10.9**	**+4.5**
baz=341,slow=33							
PAYG	**Puerto Ayora**	**2.37**	**167**	P	**Pn**	**00 06 32.3**	**+0.3**
PAYG	**Puerto Ayora**	**2.37**	**167**	*eP*	**Pn**	**00 06 30.2**	**-1.8**
PAYG	**Puerto Ayora**	**2.37**	**167**	P	**Pn**	**00 06 30.0**	**-2.0**
ALCE	**Alcedo, Punta**	**2.37**	**209**	P	Pn	00 06 25.0	-7.2
ALCE				S	Sn	00 06 52.0	-9.4
VCH1	**Volcn Chico**	**2.43**	**186**	P	**Pn**	**00 06 29.0**	**-4.0**
PVIL	**Puerto Villami**	**2.58**	**183**	P	**Pn**	**00 06 33.0**	**-1.9**
JACO	**JACO, Garabito**	**10.04**	**37**	Pn	**Pn**	**00 08 18.1**	**+0.6**
ORTG	**Ortega, Santa**	**10.16**	**31**	Pn	**Pn**	**00 08 20.1**	**+0.9**
ISPT	**Isla de la Pla**	**10.17**	**106**	P	**Pn**	**00 08 20.0**	**+0.8**
ISPT				S	Sn	00 10 28.0	+15
JTS	**Las Juntas de**	**10.38**	**34**	Pn	**Pn**	**00 08 22.7**	**+0.6**
JTS	**Las Juntas de**	**10.38**	**34**	Pn	**Pn**	**00 08 21.6**	**-0.5**
0.4nm,0.3s,baz=116,slow=4.4,SNR=5.2							
JTS				Sn	**Sn**	**00 10 20.5**	**+2.0**
0.3nm,0.3s,baz=53,slow=13,SNR=1.0							
JTS				LR	LR	00 11 23.2	
comp=Z,48µm,19.5s,baz=196,slow=32							
4.6nm,0.8s							
JTS	**Las Juntas de**	**10.38**	**34**	*eP*	**Pn**	**00 08 19.0**	**-3.1**
HZTE	**Horizontes, Gu**	**10.39**	**30**	Pn	**Pn**	**00 08 22.5**	**+0.2**
CDITO	**Canoas**	**10.48**	**49**		**Pn**	**00 08 23.2**	**-0.3**
LCR2	**La Lucha 2**	**10.51**	**40**		**Pn**	**00 08 25.6**	**+1.5**
SALI	**Salinas**	**10.54**	**111**	P	**Pn**	**00 08 23.0**	**-1.3**
SALI				S	Sn	00 10 40.0	+17
HDC	**Heredia**	**10.64**	**39**	Pn	**Pn**	**00 08 27.6**	**+1.8**
ARE1	**Arenal 1**	**10.65**	**34**	Pn	**Pn**	**00 08 26.6**	**+0.8**
DRK0	**Durika**	**10.68**	**45**	Pn	**Pn**	**00 08 27.9**	**+1.5**
BRU2	**Volcan**	**10.76**	**48**	Pn	**Pn**	**00 08 29.1**	**+1.6**
COVE	**Coope Vega, Sa**	**11.04**	**35**	Pn	**Pn**	**00 08 31.7**	**+0.6**
CACAO	**El Cacao, Vera**	**11.43**	**60**	*eP*	Pn	00 08 31.6	-4.8
RVRD	**Rio Verde**	**11.45**	**93**	P	**Pn**	**00 08 39.0**	**+2.3**
CNGN	**Cerro Negro**	**11.53**	**21**		**Pn**	**00 08 38.1**	**+0.2**
CNGN	**Cerro Negro**	**11.53**	**21**	*eP*	**Pn**	**00 08 40.5**	**+2.7**
ISPG	**Isla Puna-Puer**	**11.59**	**113**	P	Pn	00 08 46.0	+7.2
CRIN	**San Cristobal**	**11.60**	**19**		**Pn**	**00 08 39.3**	**+0.5**
ACON	**Acoyapa**	**11.68**	**28**		**Pn**	**00 08 39.9**	**0.0**
ACON	**Acoyapa**	**11.68**	**28**	*eP*	Pn	00 08 34.6	-5.3
MILO	**Milagro-Astudi**	**11.92**	**109**	P	**Pn**	**00 08 47.0**	**+3.8**
ARNL	**Arenillas**	**11.93**	**116**		**Pn**	**00 08 47.6**	**+4.3**
ARNL	**Arenillas**	**11.93**	**116**	P	**Pn**	**00 08 46.0**	**+2.8**
TUMC	**Tumaco**	**12.09**	**89**	P	**Pn**	**00 08 45.0**	**-0.5**
PAC1	**Pacto, Paraso**	**12.11**	**96**	*eP*	**Pn**	**00 08 46.7**	**+0.8**
PAC1	**Pacto, Paraso**	**12.11**	**96**	P	**Pn**	**00 08 47.0**	**+1.1**
MATN	**Matagalpa**	**12.21**	**23**	Pn	**Pn**	**00 08 50.0**	**+2.8**
COHC	**Cochancay**	**12.27**	**109**		**Pn**	**00 08 50.8**	**+2.9**
COHC	**Cochancay**	**12.27**	**109**	*eP*	**Pn**	**00 08 49.8**	**+1.9**
COHC	**Cochancay**	**12.27**	**109**	P	**Pn**	**00 08 48.0**	**+0.1**
ESPN	**Las Esperanzas**	**12.31**	**31**	Pn	**Pn**	**00 08 49.1**	**+0.6**
ILLI	**Illinizas Sur**	**12.32**	**101**	P	**Pn**	**00 08 50.0**	**+0.9**
GGPT	**Toaza - Volcan**	**12.34**	**99**	P	**Pn**	**00 08 49.0**	**-0.3**
PINO	**Pino**	**12.34**	**98**	P	**Pn**	**00 08 51.0**	**+1.5**
TERV	**Terraza Guagua**	**12.35**	**98**	P	**Pn**	**00 08 49.0**	**-0.6**
CHSH	**Refugio Sur-Vo**	**12.35**	**105**		**Pn**	**00 08 52.0**	**+2.4**
CHSH	**Refugio Sur-Vo**	**12.35**	**105**	P	**Pn**	**00 08 51.0**	**+1.4**

GGPC Guagua Pichinc 12.36 98 P Pn 00 08 51.0 +1.3
MCRA Macar, Loja 12.40 119 Pn Pn 00 08 51.2 +1.5
MCRA Macar, Loja 12.40 119 eP Pn 00 08 52.4 +2.7
MCRA Macar, Loja 12.40 119 P Pn 00 08 51.0 +1.2
PULU Pululahua 12.42 97 Pn Pn 00 08 51.9 +1.4
PORT Chimborazo Vol 12.44 104 P Pn 00 08 50.0 -0.8
OTAV Otavalo 12.45 96 Pn Pn 00 08 50.7 -0.1
OTAV Otavalo 12.45 96 eP Pn 00 08 49.8 -1.0
OTAV Otavalo 12.45 96 P Pn 00 08 51.0 +0.2
TAMH Tambohuasha Ch 12.45 105 P Pn 00 08 54.0 +3.1
PNME Penonome 12.46 57 eP Pn 00 08 48.3 -2.3
CUSE Cuicocha Este 12.49 96 eP Pn 00 08 52.9 +1.5
CUIC Cuicocha-Domo 12.53 96 P Pn 00 08 53.4 +2.1
SUCR Mariscal Sucre 12.53 100 P Pn 00 08 55.0 +3.0
CUSW Cuicocha Oeste 12.54 96 P Pn 00 08 48.0 -4.0
SLOR San Lorenzo - 12.55 101 Pn 00 08 53.4 +1.1
SLOR San Lorenzo - 12.55 101 P Pn 00 08 54.0 +1.8
COTA Cotacachi 12.55 96 P Pn 00 08 53.0 +0.7
BRRN Barrancas-Volc 12.58 101 P Pn 00 08 56.0 +3.4
PITA Cotopaxi Volc 12.58 100 P Pn 00 08 55.0 +2.4
BVC2 Cotopaxi Volca 12.62 100 P Pn 00 08 54.0 +0.7
URCU Urcuqui 12.62 95 P Pn 00 08 53.0 -0.2
VC1 Cotopaxi 1 12.62 100 P Pn 00 08 56.0 +2.7
BTAM Cotopaxi Volca 12.64 100 P Pn 00 08 54.0 +0.5
VCES Cotopaxi 12.66 101 P Pn 00 08 55.0 +1.2
TAMB Tambo 12.67 100 P Pn 00 08 58.0 +4.1
IMBA Imbabura, San 12.69 96 Pn 00 08 55.6 +1.4
IMBA Imbabura, San 12.69 96 P Pn 00 08 57.0 +2.8
PIS1 Pisayambo 12.72 102 P Pn 00 08 56.0 +1.4
BMAS Trigal station 12.73 104 P Pn 00 08 58.0 +3.4
TUYU Q. Yuibug Volc 12.73 104 P Pn 00 08 58.0 +3.3
POND Pondoa 12.73 104 P Pn 00 08 57.0 +2.3
ANTG Antisana-Guama 12.75 100 P Pn 00 08 56.0 +1.0
MTO3 Montecristo 12.75 6 Pn 00 08 56.7 +2.0
ARRY Arrayan 12.76 104 P Pn 00 08 57.0 +2.0
CHMA Chilma 12.78 93 P Pn 00 08 59.0 +3.8
ANTM Antisana-La Mi 12.78 100 P Pn 00 08 59.0 +3.5
TGUH Tegucigalpa,Un 12.82 16 Pn 00 08 55.5 -0.1
TGUH Tegucigalpa,Un 12.82 16 eP Pn 00 08 48.7 -6.9
ANTS Antisana-Sarah 12.83 99 P Pn 00 08 57.0 +0.8
ANTI Antisana 12.83 99 P Pn 00 08 58.0 +1.8
PIAT Ana Tenorio 12.83 102 eP Pn 00 08 54.3 -1.7
LNGL El Angel-Carch 12.85 94 P Pn 00 08 57.0 +0.7
ECEN Cerro Negro 12.87 94 P Pn 00 08 56.0 -0.7
CHL1 Volc¡n Chiles 12.90 94 P Pn 00 08 56.0 -1.1
ESQI Esquipulas 12.91 6 Pn Pn 00 08 58.7 +1.9
CAYA Cayambe 12.92 97 P Pn 00 08 58.0 +0.6
TULM Tulcn-Chalpat 13.06 94 Pn 00 09 00.6 +1.4
TULM Tulcn-Chalpat 13.06 94 eP Pn 00 08 52.3 -7.0
TULM Tulcn-Chalpat 13.06 94 P Pn 00 09 00.0 +0.7
BOSC San Juan Bosco 13.21 111 P 00 09 06.8 -4.2
BOSC San Juan Bosco 13.21 111 P Pn 00 09 03.0 +2.0
APG El Apazote 13.27 2 LR LR 00 13 08.3
comp=Z,563nm,18.6s,baz=199,slow=33
ZUMB Zumba 13.34 119 P Pn 00 09 05.0 +2.2
BONI La Bonita 13.34 95 eP Pn 00 09 02.4 -0.5
BONI La Bonita 13.34 95 P Pn 00 09 05.0 +2.1
UPA Univ. de Panam 13.39 57 eP Pn 00 08 58.3 -4.9
GCUF Volcan Galeras 13.48 92 eP Pn 00 09 05.5 +0.5
CASC Dorado de Casc 13.56 96 P Pn 00 09 07.0 +1.2
BBAC Balboa, Cauca 13.57 88 eP Pn 00 09 07.3 +1.4
PIZC Pizarro, Choco 13.83 76 eP Pn 00 08 60.0 -9.4
TAIS Taisha 13.91 107 P P 00 09 15.0 -3.7
PTAC Punta Ardita, 14.07 67 eP Pn 00 09 10.3 -2.3
JAMC Jamundi, Valle 14.22 84 eP Pn 00 09 09.5 -5.0
CCIG Comitan 14.60 355 P 00 09 23.6 -2.9
YOTC Yotoco, Valle 14.64 81 eP Pn 00 09 18.4 -2.2
PLMC San Jos del P 14.87 77 eP Pn 00 09 16.8 -6.7
PRVC Isla de Provid 14.95 38 eP Pn 00 09 21.5 -3.1
ATAH Atahualpa 15.16 125 Pn Pn 00 09 28.9 +1.1
0.3nm,0.3s,baz=304,slow=15,SNR=20
ATAH Sn Sn 00 12 23.4 +7.2
0.2nm,0.3s,baz=102,slow=21,SNR=1.1
ATAH LR LR 00 14 24.1
comp=Z,51µm,18.1s,baz=302,slow=34
9.1nm,1.0s
PETF Flores 15.20 3 P P 00 09 32.7 -0.3
GARC Garzon, Huila 15.33 88 eP Pn 00 09 28.9 -1.0
CBOC Ciudad Bolivar 15.36 74 eP Pn 00 09 29.9 -0.3
APAC Apartado, Choc 15.48 66 eP Pn 00 09 32.0 +0.4
DBBC Dabeiba 15.51 69 eP Pn 00 09 25.1 -7.0
ORTC Ortega, Tolima 15.72 81 eP Pn 00 09 27.7 -7.0
GUY2C Guyana, Caldas 15.83 77 eP Pn 00 09 30.1 -6.5
CMIG Matias Romero 15.86 346 Pn Pn 00 09 37.8 +1.3
0.3nm,0.3s,baz=176,slow=9.3,SNR=9.9
CMIG Sn Sn 00 12 31.6 -0.8
baz=168,slow=18
CMIG LR LR 00 14 18.1
comp=Z,12µm,20.8s,baz=172,slow=32
PRAC Prado 16.05 82 eP Pn 00 09 29.8 -9.2
LCBC Los crdobas, 16.07 63 eP Pn 00 09 33.1 -6.1
PTLC Puerto Leguiza 16.09 95 eP Pn 00 09 36.9 -2.7
PTLC Puerto Leguiza 16.09 95 P Pn 00 09 36.0 -3.5
UREC San Jos de Ur 16.39 68 eP Pn 00 09 40.2 -3.2
ROSC El Rosal 16.77 79 Pn Pn 00 09 49.6 +1.0
0.5nm,0.3s,baz=164,slow=19,SNR=6.6
ROSC Sn S 00 13 04.7 -1.7
0.6nm,0.3s,baz=125,slow=20,SNR=1.7
ROSC LR LR 00 15 27.2
comp=Z,13µm,21.8s,baz=268,slow=34
15nm,0.9s
ROSC El Rosal 16.77 79 eP Pn 00 09 45.6 -3.1
ZARC Zaragoza, Cauc 16.93 69 eP Pn 00 09 45.0 -5.2
CVER Cruz Verde, Cu 16.96 80 eP P 00 09 52.7 -0.4
PTBC PUERTO BERRIO, 17.03 73 eP Pn 00 09 46.3 -5.2
SPBC San Pablo de B 17.18 76 eP Pn 00 09 47.5 -6.0
VILC Villavicencio, 17.28 81 eP Pn 00 09 52.0 -2.8
TLIG Tlapa 17.55 335 P P 00 10 00.8 +1.7
SJCC San Jacinto, C 17.57 62 eP Pn 00 09 54.2 -4.2
BARC Barichara 18.26 74 eP Pn 00 10 05.4 -1.6
ARGC Ariguani, Magd 18.39 63 eP Pn 00 10 08.1 -0.2
OCAC Ocana 18.62 69 eP P 00 10 06.2 -4.8
TEIG Tepich 18.63 7 P Pn 00 10 12.5 +1.3
TEIG Tepich 18.63 7 P P 00 10 08.5 -2.4
73nm,0.7s,baz=302,slow=6.5,SNR=5.3
TEIG S Sn 00 13 38.6 -1.0
46nm,0.8s,baz=72,slow=15,SNR=1.7
TEIG LR LR 00 16 29.9
comp=Z,34µm,19.2s,baz=328,slow=34
TEIG Tepich 18.63 7 eP P 00 10 03.8 -7.1
LL5C La Loma 5 El P 18.81 64 eP P 00 10 12.0 -1.0
PTGC Puerto Gaitan, 18.83 82 eP P 00 10 06.8 -6.4
PAMC Pamplona, Colo 18.92 72 eP Pn 00 10 15.6 +0.3
SMRC Santa Marta, M 18.99 59 eP P 00 10 09.1 -5.9
LL6C La Loma 6 Bece 19.21 65 eP P 00 10 13.4 -4.0
UNM Universidad Na 19.38 336 P Pn 00 10 20.1 -0.5
NNA Nana 19.40 135 P P 00 10 20.1 +0.5
NNA Nana 19.40 135 P Pn 00 10 20.4 -0.2
12nm,0.7s,baz=315,slow=5.7,SNR=3.4
NNA LR LR 00 16 31.6
comp=Z,17µm,19.6s,baz=316,slow=33
NNA Nana 19.40 135 eP P 00 10 19.1 -0.4
TAMC Tame, Arauca 19.56 75 eP P 00 10 21.0 -0.3
CRJC Cerrejon, Guaj 20.10 62 eP P 00 10 28.0 +0.9
CZSB Cruzeiro do Su 20.33 118 P Pn 00 10 31.0 -0.7
CZSB IAmb IAmb 00 10 42.2
comp=Z,120nm,1.0s
CZSB Cruzeiro do Su 20.33 118 eP P 00 10 30.5 +0.9
MOIG Morelia 20.59 331 P Pn 00 10 33.9 -1.0
MOIG IAmb IAmb 00 10 42.0
comp=Z,201nm,1.7s
MOIG IAMs_20 IAMs_20 00 16 30.9
comp=Z,22µm,19.0s
MTDJ Mount Denham 21.01 38 IAMs_20 IAMs_20 00 17 31.2
comp=Z,21µm,20.0s
SDV Santo Domingo 21.34 70 P P 00 10 40.1 -0.6
SDV Santo Domingo 21.34 70 P P 00 10 41.2 +0.5
comp=Z,35nm,1.1s,baz=249,slow=8.7,SNR=25
SDV LR LR 00 19 00.2
comp=Z,8µm,21.0s,baz=252,slow=37
comp=Z,35nm,1.1s
SDV Santo Domingo 21.34 70 eP P 00 10 35.7 -5.0
TBTG Tabatinga, AM 21.69 106 P P 00 10 44.6 +0.3
TBTG Tabatinga, AM 21.69 106 eP P 00 10 42.7 -1.6
GTBY Guantanamo Bay 23.79 39 IAMs_20 IAMs_20 00 19 03.9
comp=Z,12µm,20.0s
BAUV El Baul 23.80 71 P P 00 11 05.1 -1.1
BAUV IAMs_20 IAMs_20 00 21 12.7
comp=Z,24µm,21.0s
ZAIG Zacatecas 23.89 332 P P 00 11 08.1 +0.7
ZAIG IAmb IAmb 00 11 14.5
comp=Z,116nm,1.9s
ZAIG IAMs_20 IAMs_20 00 18 42.7
comp=Z,20µm,20.0s
SDDR Presa de Saban 25.75 47 P P 00 11 26.4 +2.3
HBVL Hebbronville 26.37 344 P P 00 11 30.8 +1.3
HBVL IAmb IAmb 00 11 43.4
comp=Z,53nm,1.1s
ETMB Extrema 27.02 115 P P 00 11 35.9 +0.3
ETMB IAmb IAmb 00 11 39.4
comp=Z,85nm,1.7s
PCRV Puerto La Cruz 27.36 71 LR LR 00 23 18.1
comp=Z,3µm,20.9s,slow=38
833A Chaparral WMA, 27.76 344 P P 00 11 40.0 -2.1
EF01 Eagle Ford 01 28.26 346 P P 00 11 45.7 -0.8
PB18 Visviri 28.42 133 P P 00 11 51.0 +2.3
HKT Hockley 28.55 351 P P 00 11 50.5 +1.5
HKT IAmb IAmb 00 12 01.0
comp=Z,79nm,1.8s
SLBS Sierra La Lagu 28.69 321 P P 00 11 50.6 +0.1
PB16 IPOC Station P 28.89 134 P P 00 11 53.8 +0.9
PB16 IAmb IAmb 00 11 59.8
comp=Z,23nm,0.9s
HPIG 28.90 332 P P 00 11 53.2 +0.7
HPIG IAMs_20 IAMs_20 00 21 53.3
comp=Z,14µm,19.0s
LPIG La Paz 29.22 321 LR LR 00 20 48.8
comp=Z,5µm,19.5s,baz=139,slow=31
SJG San Juan 29.22 54 IAMs_20 IAMs_20 00 21 50.9
comp=Z,9µm,20.0s
SJG San Juan 29.22 54 LR LR 00 22 12.4
comp=Z,9µm,19.7s,baz=232,slow=34
HNVL Huntsville, TX 29.28 352 P P 00 11 56.5 +0.9
SAML Samuel 29.49 111 P P 00 11 57.0 -0.7
SAML Samuel 29.49 111 IAMs_20 IAMs_20 00 23 54.9
comp=Z,16µm,20.0s
SAML Samuel 29.49 111 eP P 00 11 52.7 -4.9
435B Jarrell 29.68 348 S S 00 16 58.5 +3.6
baz=166
PB11 IPOC Station P 29.73 137 P P 00 12 02.4 +2.5
JCT Junction City 29.91 344 P P 00 12 02.6 +1.3
JCT IAmb IAmb 00 12 07.1
comp=Z,67nm,1.7s
JCT Junction City 29.91 344 S S 00 17 03.8 +5.0
baz=162
TA01 Diego Aracena 29.94 139 P P 00 12 04.8 +3.2
TA01 IAmb IAmb 00 12 08.3
comp=Z,52nm,1.2s
TA01 IAMs_20 IAMs_20 00 24 01.1
comp=Z,8µm,18.0s
GO01 Chusmiza 29.99 136 P P 00 12 03.4 +0.8
GO01 IAmb IAmb 00 12 08.6
comp=Z,58nm,1.4s
TXAR Lajitas Array 30.13 337 LR LR 00 23 08.9
comp=Z,9µm,18.9s,baz=144,slow=35
SAND Sanderson 30.13 340 P P 00 12 04.3 +1.1
SAND IAmb IAmb 00 12 09.0
comp=Z,66nm,1.9s
NATX Nacogdoches 30.17 353 P P 00 12 05.6 +2.1
NATX IAmb IAmb 00 12 50.0
comp=Z,20nm,0.8s
BOAV Boa Vista 30.29 88 P P 00 12 04.8 0.0
BOAV Boa Vista 30.29 88 eP P 00 11 59.9 -4.9
PB08 IPOC Station P 30.34 137 P P 00 12 07.0 +1.4
PB08 IAmb IAmb 00 12 11.2
comp=Z,44nm,1.4s
MACA Manacapuru-AM 30.50 99 IAMs_20 IAMs_20 00 25 22.7
comp=Z,9µm,20.0s
237A Washetta, Mont 30.55 352 P P 00 12 08.2 +1.4
237A IAmb IAmb 00 13 13.8
comp=Z,45nm,1.4s
PB02 IPOC Station P 30.66 139 P P 00 12 10.1 +2.0
OZNA Ozona 30.71 342 P P 00 12 09.6 +1.3
OZNA IAmb IAmb 00 12 14.2
comp=Z,30nm,1.3s
PB01 IPOC Station P 30.73 138 P P 00 12 09.4 +0.7
PB01 IAmb IAmb 00 12 14.3
comp=Z,41nm,1.5s
WHTX Lake Whitney, 30.82 349 P P 00 12 10.1 +0.8
WHTX Lake Whitney, 30.82 349 P P 00 12 10.7 +1.5
baz=167
PB07 IPOC Station P 30.96 140 P P 00 12 10.4 -0.4
PB07 IAmb IAmb 00 12 15.7
comp=Z,36nm,1.1s
PB04 IPOC Station P 31.23 141 IAMs_20 IAMs_20 00 21 56.1
comp=Z,9µm,20.0s
SABA Saba 31.40 58 IAMs_20 IAMs_20 00 23 33.6
comp=Z,7µm,19.0s
PB09 IPOC Station P 31.43 139 P P 00 12 16.8 +1.9
PB05 IPOC Station P 31.58 142 P P 00 12 19.2 +3.1
PB05 IAMs_20 IAMs_20 00 22 06.3
comp=Z,8µm,21.0s
MNHN Monahans 31.61 340 P P 00 12 15.8 -0.5
SGCY Sterling City 31.63 343 P P 00 12 17.0 +0.5
SGCY IAmb IAmb 00 12 20.1
comp=Z,43nm,1.4s
Z38A Mt. Pleasant 31.69 353 P P 00 12 17.9 +1.1
Z38A IAmb IAmb 00 12 26.9
comp=Z,19nm,0.7s
PLPT Palo Pinto 31.79 348 P P 00 12 19.1 +1.4
PB06 IPOC Station P 31.86 141 P P 00 12 20.7 +2.0
PB06 IAmb IAmb 00 12 24.3
comp=Z,47nm,1.2s
ABTX Abilene, Hawle 31.91 346 P P 00 12 19.4 +0.6
ABTX IAmb IAmb 00 12 24.5
comp=Z,71nm,1.8s
VHRN Van Horn 31.93 337 P P 00 12 19.4 +0.2
VHRN IAmb IAmb 00 12 23.0
comp=Z,40nm,1.8s
WLAR White Oak Lake 31.94 356 P P 00 12 20.4 +1.4
Z51A Franklin 31.94 9 P P 00 12 19.1 0.0
PECS Pecos 32.03 339 P P 00 12 20.8 +0.8
PECS IAmb IAmb 00 12 48.6
comp=Z,34nm,1.9s
Z35A Perchaven, San 32.09 350 P P 00 12 20.2 -0.2
LVC Limon Verde 32.22 140 P P 00 12 22.5 +0.4
LVC Limon Verde 32.22 140 IAMs_20 IAMs_20 00 25 17.4
comp=Z,7µm,18.0s
LVC Limon Verde 32.22 140 LR LR 00 22 40.7
comp=Z,6µm,20.9s,baz=310,slow=31
ODSA Odessa 32.26 341 P P 00 12 22.3 +0.2
PB15 IPOC Station P 32.29 141 IAMs_20 IAMs_20 00 22 27.3
comp=Z,9µm,22.0s
GOGA Godfrey 32.34 12 P P 00 12 23.1 +0.5
baz=194
SN01 Snyder 1 32.46 344 P P 00 12 24.2 +0.5
SN01 IAmb IAmb 00 12 28.4
comp=Z,32nm,1.4s
Y52A Lilburn 32.67 10 P P 00 12 25.1 -0.3
LOOK Love County 32.72 350 P P 00 12 26.0 +0.1
X40A Basin Creek Fa 32.72 357 P P 00 12 25.2 -0.7
X40A IAmb IAmb 00 12 37.7
comp=Z,38nm,1.7s
WTFS Witchita Falls 32.74 348 P P 00 12 25.9 -0.2
SRIG Santa Rosalia 32.76 323 P P 00 12 26.0 -0.4
PB14 IPOC Station P 32.78 144 IAMs_20 IAMs_20 00 22 17.2
comp=Z,9µm,21.0s
POST Post 32.82 343 P P 00 12 27.7 +0.8
X48A Hartselle 32.82 6 P P 00 12 25.8 -1.0
X48A IAmb IAmb 00 12 29.4
comp=Z,41nm,1.6s
MNTX Cornudas Mount 32.90 337 P P 00 12 28.6 +1.1
baz=152
AF01 San Pedro de A 32.94 139 IAMs_20 IAMs_20 00 23 04.4
comp=Z,8µm,22.0s
UALR University of 32.99 358 P P 00 12 29.1 +0.9
UALR IAmb IAmb 00 12 37.3
comp=Z,33nm,1.2s
FPAL Fort Paine 33.08 8 P P 00 12 29.5 +0.4
FPAL IAmb IAmb 00 13 02.8
comp=Z,28nm,1.5s
DKNS Dickens 33.23 345 P P 00 12 29.6 -0.8
WHAR Wooly Hollow 33.50 358 P P 00 12 33.6 +1.0
Y57A Sumter 33.65 16 P P 00 12 34.4 +0.4
GO02 Mina Guanaco 33.67 144 P P 00 12 36.0 +1.3
GO02 IAmb IAmb 00 12 40.5
comp=Z,54nm,1.4s
GO02 IAMs_20 IAMs_20 00 22 35.7
comp=Z,8µm,20.0s
JSC Jenkinsville 33.67 14 P P 00 12 34.3 +0.1
VILB Vilhena 33.67 116 P P 00 12 33.6 -0.9
VILB IAmb IAmb 00 12 38.7
comp=Z,39nm,1.1s
SWET Sewanee 33.70 7 P P 00 12 34.9 +0.4
RPN Rapa Nui 33.72 211 LR LR 00 22 41.5
comp=Z,13µm,21.3s,baz=25,slow=30
WMOK Wichita Mounta 33.75 348 P P 00 12 33.8 -1.1
WMOK IAmb IAmb 00 12 39.0
comp=Z,43nm,1.3s
W35A Tecumseh 33.81 351 P 00 12 36.1 +0.7
AC01 Pan de Azucar 33.85 146 IAMs_20 IAMs_20 00 22 38.3
comp=Z,12µm,21.0s
BG3 Lake Jocassee 33.98 12 P P 00 12 38.1 +1.2
BG3 IAmb IAmb 00 12 47.0
comp=Z,39nm,1.5s
FNO Franklin 33.99 350 P P 00 12 37.5 +0.4
MSTX Muleshoe 34.04 342 P P 00 12 37.9 +0.3
MSTX Muleshoe 34.04 342 P P 00 12 39.1 +1.6
baz=158
FCAR Ozark Folk Cen 34.09 358 P P 00 12 38.5 +0.7
FCAR IAmb IAmb 00 12 49.2
comp=Z,56nm,1.6s
V48A Smith Brothers 34.12 6 P P 00 12 37.0 -1.1
V48A IAmb IAmb 00 12 46.2
comp=Z,23nm,1.1s
SIV San Ignacio 34.22 122 LR LR 00 26 19.3
comp=Z,13µm,18.3s,baz=318,slow=36
LCAR Lake Charles 34.25 360 P P 00 12 39.7 +0.5
LCAR IAmb IAmb 00 12 59.6
comp=Z,49nm,1.9s
TUL3 Leonard 34.40 353 P P 00 12 39.4 -1.1
TUL3 Leonard 34.40 353 P 00 12 39.7 -0.8
WVT Waverly 34.42 4 P P 00 12 39.6 -1.1
WVT IAmb IAmb 00 12 52.8
comp=Z,52nm,1.9s
SMWD Samnorwood 34.42 346 P P 00 12 41.7 +0.9
DEOK Depew 34.43 352 P P 00 12 40.2 -0.6
DEOK IAmb IAmb 00 12 49.4
comp=Z,45nm,1.3s
TKL Tuckaleechee C 34.47 10 LR LR 00 25 11.5
comp=Z,2µm,20.7s,baz=189,slow=34
KMSC Kings Mountain 34.47 14 P P 00 12 40.5 -0.6
KMSC IAmb IAmb 00 12 47.9
comp=Z,27nm,1.2s
V51A Loudon 34.51 9 P P 00 12 41.4 -0.1
V51A IAmb IAmb 00 12 45.1
comp=Z,47nm,1.6s
CLTN Cedars of Leba 34.52 6 P P 00 12 42.3 +0.7
CLTN IAmb IAmb 00 12 48.5
comp=Z,62nm,1.9s
OK029 Liberty Lake 34.53 350 P P 00 12 41.9 +0.2
OK029 IAmb IAmb 00 13 04.2
comp=Z,41nm,1.4s
RLO Rose Lookout 34.56 354 P P 00 12 41.1 -0.8
RLO IAmb IAmb 00 12 47.1
comp=Z,68nm,2.0s
AMTX Amarillo 34.58 344 P P 00 12 42.8 +0.6
AMTX Amarillo 34.58 344 P P 00 12 43.4 +1.2
baz=161
HHAR Hobbs 34.58 356 P P 00 12 42.3 +0.2
HHAR IAmb IAmb 00 12 46.2
comp=Z,41nm,1.7s
CSTR Hydro, Custer 34.61 349 P 00 12 43.3 +1.0
121A Cookes Peak, D 34.62 334 P P 00 12 43.7 +1.0
121A IAmb IAmb 00 12 56.2
comp=Z,36nm,1.2s
121A Cookes Peak, D 34.62 334 P P 00 12 44.8 +2.0
baz=149
121A S S 00 18 19.7 +7.3
baz=149
OK052 Battle Ridge R 34.62 351 P 00 12 43.4 +1.0
V53A Saluda 34.66 12 P P 00 12 44.5 +1.6
OK033 Mehan 34.69 351 P P 00 12 42.0 -1.1
U38A Gravette 34.77 355 P P 00 12 44.8 +1.0
U38A Gravette 34.77 355 P P 00 12 47.0 +3.2
baz=174
U38A S S 00 18 16.1 +1.8
baz=174
QUOK Quay 34.78 352 P 00 12 43.8 -0.1
QUOK IAmb IAmb 00 13 08.1
comp=Z,28nm,1.1s
W57A Gilead 34.82 16 P P 00 12 42.0 -2.2
W57A IAmb IAmb 00 12 54.6
comp=Z,51nm,1.7s
W57A Gilead 34.82 16 S S 00 18 17.5 +2.4
baz=199
W57A S S 00 18 17.5 +2.4
baz=199
AC06 Mina Casimiro 34.93 147 P P 00 12 46.6 +1.3
AC06 IAmb IAmb 00 12 51.6
comp=Z,28nm,1.1s
AC06 IAMs_20 IAMs_20 00 23 10.9
comp=Z,11µm,20.0s
PBMO Poplar Bluff 34.96 1 P P 00 12 47.1 +1.8
PBMO IAmb IAmb 00 12 57.5
comp=Z,46nm,1.6s
U49A Red Boiling Sp 35.00 7 P P 00 12 43.1 -2.7
U49A IAmb IAmb 00 13 34.9
comp=Z,33nm,1.5s
OK048 Pawnee Station 35.05 351 P 00 12 45.4 -0.8
OK048 IAmb IAmb 00 13 09.3
comp=Z,35nm,1.2s
OK051 E0350 and S346 35.13 352 P P 00 12 47.1 +0.3
ELIS Ellis County 35.16 348 P P 00 12 46.6 -0.5
V55A Taylorsville 35.18 14 P P 00 12 47.0 -0.3
V55A IAmb IAmb 00 12 53.4
comp=Z,48nm,1.7s
V55A Taylorsville 35.18 14 S S 00 18 25.9 +5.4
baz=197
V55A S S 00 18 25.9 +5.4
baz=197
GO03 Copiap 35.18 147 P P 00 12 49.8 +2.3
GO03 IAmb IAmb 00 12 59.5
comp=Z,74nm,1.7s
GO03 IAMs_20 IAMs_20 00 23 18.6
comp=Z,11µm,21.0s
DUN6 Lazy B Ranch 35.22 333 P P 00 12 49.1 +1.3
AC04 Llanos de Chal 35.23 149 P P 00 12 48.5 +0.7
AC04 IAmb IAmb 00 13 02.2
comp=Z,32nm,1.2s
AC04 IAMs_20 IAMs_20 00 23 54.7
comp=Z,12µm,20.0s
CROK Carrier 35.31 350 P 00 12 48.8 +0.4
CROK IAmb IAmb 00 13 11.5
comp=Z,58nm,1.5s
T47A Sharon Grove 35.33 5 P P 00 12 47.8 -0.8
T47A IAmb IAmb 00 13 09.4
comp=Z,23nm,1.0s
MGMO Mountain Grove 35.35 358 P P 00 12 49.3 +0.5
MGMO IAmb IAmb 00 13 00.3
comp=Z,57nm,1.5s
CRNM Carthage 35.42 337 P P 00 12 49.7 +0.1
OK038 West end E0370 35.42 349 P P 00 12 49.4 0.0
BLOK Blackwell 35.43 351 P 00 12 50.5 +1.1
BLOK IAmb IAmb 00 12 59.6
comp=Z,22nm,1.0s
T35A Sooner Cattle 35.48 352 P 00 12 51.7 +1.8
T35A IAmb IAmb 00 13 12.3
comp=Z,32nm,1.3s
CGM3 Cape Girardeau 35.49 2 P P 00 12 51.2 +1.3
CGM3 IAmb IAmb 00 13 10.5
comp=Z,34nm,1.4s
Y22A Socorro 35.49 337 P P 00 12 51.1 +0.9
baz=152,SNR=6.9
Y22A S S 00 18 31.6 +5.8
baz=152
BNM Barren Site 35.55 337 P P 00 12 51.4 +0.6
OK035 E0210 Rd and N 35.64 349 P P 00 12 51.8 +0.5
PTLB Pontes e Lacer 35.64 120 P P 00 12 51.2 -0.3
PTLB IAmb IAmb 00 12 55.9
comp=Z,53nm,1.4s
V58A Windy Hill, Pi 35.67 16 P P 00 12 50.4 -1.1
V58A IAmb IAmb 00 13 10.1
comp=Z,37nm,1.3s
U54A Nelsons Funny 35.68 12 P P 00 12 51.5 -0.1
U54A IAmb IAmb 00 12 55.0
comp=Z,29nm,1.2s
KAN13 South Haven SW 35.72 351 P 00 12 52.5 +0.6
KAN13 IAmb IAmb 00 13 02.0
comp=Z,20nm,0.9s
KAN14 Manchester OK 35.75 350 P P 00 12 53.5 +1.3
KAN17 Caldwell West 35.80 350 P 00 12 52.9 +0.3
KAN17 IAmb IAmb 00 13 02.7
comp=Z,27nm,1.0s
TUC Tucson 35.83 330 P P 00 12 53.2 +0.2
TUC IAmb IAmb 00 12 58.4
comp=Z,42nm,1.8s
TUC Tucson 35.83 330 IAMs_20 IAMs_20 00 26 16.8
comp=Z,10µm,20.0s
TUC Tucson 35.83 330 P P 00 12 54.3 +1.3
baz=144
U56A King 35.85 14 P P 00 12 53.8 +0.7

U56A IAmb IAmb 00 13 51.6
comp=Z,59nm,1.6s
KAN09 Caldwell North 35.87 351 P P 00 12 52.7 -0.5
S44A Carbondale 35.90 2 P P 00 12 53.7 +0.3
S44A IAmb IAmb 00 12 57.5
comp=Z,77nm,1.7s
S44A Carbondale 35.90 2 P P **00 12 54.5 +1.1**
baz=183
S44A S S **00 18 32.6 +1.1**
baz=183
KAN01 Argonia South 35.91 351 P 00 12 52.8 -0.7
KAN01 IAmb IAmb 00 12 56.6
comp=Z,48nm,1.4s
SLA San Lorenzo 35.92 138 *i* P P 00 12 58.9 +4.9
SIUC Southern Illin 35.92 2 P P **00 12 53.9 +0.3**
KAN10 Anthony SW Sta 35.93 350 P P **00 12 54.3 +0.6**
KAN10 IAmb IAmb 00 13 06.8
comp=Z,32nm,1.3s
S39A Bolivar 35.94 357 P P **00 12 54.1 +0.3**
S39A IAmb IAmb 00 13 05.4
comp=Z,49nm,1.4s
S39A Bolivar 35.94 357 P P **00 12 53.3 -0.5**
baz=176,SNR=11
KAN08 Anthony NE Sta 36.01 350 P 00 12 55.1 +0.7
KAN06 Argonia West S 36.01 350 P P **00 12 55.2 +0.8**
LCO Las Campanas 36.07 149 P P **00 12 55.6 +0.3**
LCO IAmb IAmb 00 13 00.1
comp=Z,39nm,1.4s
LCO Las Campanas 36.07 149 IAMs_20 IAMs_20 00 24 21.0
comp=Z,10µm,20.0s
KAN12 Harper NE Stat 36.09 350 P P **00 12 55.9 +0.8**
FVM French Village 36.16 1 P P **00 12 55.8 +0.1**
FVM IAmb IAmb 00 12 59.0
comp=Z,40nm,1.9s
ANMO Albuquerque 36.19 338 P P **00 12 56.4 +0.2**
ANMO Albuquerque 36.19 338 IAMs_20 IAMs_20 00 26 46.3
comp=Z,10µm,19.0s
ANMO Albuquerque 36.19 338 P P **00 12 57.7 +1.5**
baz=153
ANMO Albuquerque 36.19 338 P P **00 12 56.8 +0.6**
baz=153,SNR=7.8
ANMO S S **00 18 38.6 +2.2**
baz=153
ANMO Albuquerque 36.19 338 LR LR 00 26 57.7
comp=Z,10µm,19.7s,baz=250,slow=35
CCM Cathedral Cave 36.23 359 P P **00 12 56.2 -0.1**
CCM Cathedral Cave 36.23 359 P P **00 12 55.5 -0.7**
baz=179
CCM Cathedral Cave 36.23 359 P P **00 12 55.0 -1.3**
baz=179,SNR=26
CCM S S **00 18 39.4 +2.8**
baz=179
USIN University of 36.26 4 P P **00 12 56.6 +0.2**
USIN IAmb IAmb 00 13 02.6
comp=Z,36nm,1.1s
RTBA Rita Blanca 36.33 344 P P **00 12 58.6 +1.3**
S51A Beattyville 36.43 10 P P **00 12 59.4 +1.4**
S51A IAmb IAmb 00 13 04.6
comp=Z,36nm,1.4s
S51A Beattyville 36.43 10 S S **00 18 39.9 +0.3**
baz=192
S51A S S **00 18 39.9 +0.3**
baz=192
V61A Roper 36.45 20 P P **00 12 57.9 -0.3**
baz=204
V61A P P **00 12 57.9 -0.3**
baz=204
R40A Maddies Statio 36.49 358 P P **00 12 58.9 +0.4**
CO05 La Serena 36.54 151 P P **00 13 01.2 +2.2**
CO05 IAmb IAmb 00 13 10.8
comp=Z,55nm,1.3s
FSA Cafayete 36.58 141 *i* P P **00 13 01.3 +1.7**
U59A Littleton 36.58 18 P P **00 12 59.6 +0.4**
U59A IAmb IAmb 00 13 17.2
comp=Z,44nm,1.6s
214A Organ Pipe Nat 36.59 328 P P **00 12 58.5 -0.9**
PIX Pinacate 36.63 327 P P **00 12 59.5 -0.3**
WCI Wyandotte Cave 36.64 6 P P **00 12 58.9 -0.9**
BLA Blacksburg 36.66 14 P P **00 12 59.6 -0.4**
BLA IAmb IAmb 00 13 06.8
comp=Z,73nm,1.5s
BLA Blacksburg 36.66 14 P P **00 13 00.3 +0.2**
baz=198
BLA Blacksburg 36.66 14 P P **00 13 00.2 +0.2**
baz=198
T57A Hurt 36.76 16 P P **00 13 00.1 -0.7**
T57A IAmb IAmb 00 13 03.0
comp=Z,54nm,1.7s
SLM Saint Louis 36.81 1 P P **00 13 01.1 -0.1**
R49A Shelbyville 36.83 7 P P **00 13 01.3 -0.1**
R50A Paris 36.94 9 P P **00 13 00.9 -1.4**
GO04 Tololo Observa 36.97 150 IAMs_20 IAMs_20 00 24 49.7
comp=Z,7µm,19.0s
CO06 Fray Jorge 36.98 152 P P **00 13 02.9 +0.1**
CO06 IAmb IAmb 00 13 08.4
comp=Z,76nm,1.4s
OLIL Olney 36.99 4 P P **00 13 02.4 -0.3**
OLIL IAmb IAmb 00 13 11.9
comp=Z,65nm,1.2s
OLIL Olney 36.99 4 P P **00 13 03.0 +0.3**
baz=184
OLIL S S **00 18 52.0 +3.8**
baz=184
S54A Dingess, Beckl 37.02 13 P P **00 13 02.9 -0.2**
S54A IAmb IAmb 00 13 21.9
comp=Z,43nm,1.4s
SFX San Felipe 37.03 325 P P **00 13 04.1 +0.9**
Q44A Meyer Farm, Va 37.11 2 P P **00 13 03.4 -0.3**
Q44A IAmb IAmb 00 13 12.1
comp=Z,62nm,1.2s
CO01 Juntas del Tor 37.16 149 P P **00 13 04.4 -0.2**
RCRC Randolf Colleg 37.16 15 P P **00 13 03.1 -1.2**
VCA Vinchina 37.19 146 *i* P P 00 13 09.8 +5.0
T59A Double "B" Far 37.22 18 P P **00 13 02.3 -2.4**
T59A IAmb IAmb 00 13 10.2
comp=Z,81nm,2.0s
T59A Double "B" Far 37.22 18 S S **00 18 52.1 +0.3**
baz=202
T59A S S **00 18 52.1 +0.3**
baz=202
X18A Snowflake 37.27 333 P P **00 13 05.0 -0.3**
X18A IAmb IAmb 00 13 11.0
comp=Z,48nm,1.6s
X18A IAMs_20 IAMs_20 00 26 44.8
comp=Z,10µm,22.0s
R32A Long Quarter, 37.30 350 P P **00 13 05.8 +0.4**
R32A IAmb IAmb 00 13 09.2
comp=Z,80nm,1.5s
AHML Horco Molle 37.46 141 *i* P P **00 13 08.7 +1.7**
T25A Trinidad 37.48 342 P P **00 13 07.0 -0.1**
T25A Trinidad 37.48 342 P P **00 13 09.1 +2.0**
baz=157,SNR=13
SSFO Shawnee State 37.52 10 P P **00 13 06.9 -0.4**
BLO Bloomington 37.55 5 P P **00 13 07.7 +0.2**
CO03 El Pedregal 37.57 151 P P **00 13 09.4 +1.6**
CO03 IAmb IAmb 00 13 13.4
comp=Z,71nm,1.6s
AGUA GUANDACOL 37.61 147 *i* P P **00 13 12.6 +4.3**
AROD Rodeo 37.63 149 *i* P P **00 13 11.6 +3.0**
KSU1 Kansas State U 37.65 353 P P **00 13 07.2 -1.1**
KSU1 IAmb IAmb 00 13 19.0
comp=Z,42nm,0.9s
CO02 Combarbal 37.72 152 P P **00 13 11.5 +2.3**
CO02 IAmb IAmb 00 13 22.5
comp=Z,80nm,1.4s
P40A Paris 37.72 358 P P **00 13 08.8 -0.1**
P40A IAmb IAmb 00 13 18.0
comp=Z,65nm,1.4s
P40A Paris 37.72 358 P P **00 13 08.3 -0.6**
baz=178,SNR=8.5
113A Mohawk Valley, 37.73 328 P P **00 13 09.0 -0.1**
R55A Marlinton 37.76 14 P P **00 13 09.1 -0.2**
R55A IAmb IAmb 00 13 27.6
comp=Z,95nm,1.9s
Q51A Peebles 37.82 10 P P **00 13 08.4 -1.4**
Q51A IAmb IAmb 00 13 14.9
comp=Z,21nm,0.8s
Q51A Peebles 37.82 10 P P **00 13 09.0 -0.8**
baz=192
Q51A P P **00 13 09.0 -0.8**
baz=192
Q51A S S **00 19 01.8 +1.0**
baz=192
Q51A S S **00 19 01.8 +1.0**
baz=192

P43A Skaggs, Pawnee 37.83 2 P P **00 13 10.0 +0.2**
P43A IAmb IAmb 00 13 30.6
comp=Z,56nm,1.4s
P43A Skaggs, Pawnee 37.83 2 P P **00 13 11.2 +1.4**
baz=182
X16A Lo Mia Camp, P 37.86 332 P P **00 13 09.3 -1.1**
CBKS Cedar Bluff 37.88 349 P P **00 13 10.2 -0.1**
CBKS Cedar Bluff 37.88 349 P P **00 13 11.9 +1.5**
baz=165
P38A Dawn 37.88 357 P P **00 13 10.4 +0.2**
P38A IAmb IAmb 00 13 20.9
comp=Z,84nm,1.9s
P38A Dawn 37.88 357 P P **00 13 10.8 +0.6**
baz=176
P38A S S **00 19 04.6 +2.9**
baz=176
P46A Rosedale 37.93 5 P P **00 13 09.3 -1.4**
P46A IAmb IAmb 00 13 17.7
comp=Z,57nm,1.2s
Q52A Bidwell 37.95 11 P P **00 13 09.7 -1.1**
Q52A IAmb IAmb 00 13 17.6
comp=Z,68nm,1.4s
P48A Milroy 37.95 7 P P **00 13 10.5 -0.4**
P48A IAmb IAmb 00 13 28.3
comp=Z,32nm,1.2s
P48A Milroy 37.95 7 P P **00 13 11.0 +0.2**
baz=189
P48A P P **00 13 11.0 +0.2**
baz=189
R58B Mineral 38.05 17 P P **00 13 10.8 -0.9**
P49A Miami Univ. Ec 38.12 8 P P **00 13 12.4 +0.2**
P49A IAmb IAmb 00 13 23.6
comp=Z,57nm,1.6s
ACCO Cerro Coronel 38.18 149 *i* P P **00 13 15.3 +2.1**
Y14A Wickenburg 38.24 330 P P **00 13 13.8 +0.3**
MDP Montagnes des 38.26 84 LR LR 00 29 51.4
comp=Z,4µm,18.3s,baz=270,slow=38
Q54A Coxs Mills 38.26 13 P P **00 13 13.0 -0.5**
P51A Williamsport 38.31 10 P P **00 13 13.3 -0.6**
CYA Choya 38.36 143 *i* P P **00 13 15.9 +1.4**
ESJX Sierra Juarez 38.38 324 P P **00 13 16.5 +1.7**
SDCO Great Sand Dun 38.38 341 P P **00 13 14.1 -0.7**
SDCO Great Sand Dun 38.38 341 P P **00 13 16.2 +1.3**
baz=156,SNR=15
SDCO Great Sand Dun 38.38 341 P P **00 13 16.1 +1.3**
baz=156,SNR=15
SDCO S S **00 19 15.5 +5.7**
baz=156
O44A Mansfield 38.38 3 P P **00 13 14.7 +0.2**
CBN Corbin Frederi 38.42 17 P P **00 13 14.7 -0.1**
CBN IAmb IAmb 00 13 41.5
comp=Z,27nm,0.9s
P52A Corning 38.63 11 P P **00 13 17.6 +1.1**
baz=194
P53A Whipple 38.63 12 P P **00 13 15.4 -1.1**
P53A IAmb IAmb 00 13 20.1
comp=Z,67nm,1.6s
SFIN Lafayette 38.70 5 P P **00 13 17.9 +0.7**
VA06 Catapilco 38.72 153 P P **00 13 19.4 +2.0**
VA06 IAMs_20 IAMs_20 00 25 18.9
comp=Z,10µm,21.0s
KSCO Kaye Shedlock' 38.72 345 P P **00 13 18.8 +1.3**
WUAZ Wupatki 38.73 333 P P **00 13 19.0 +1.3**
WUAZ IAMs_20 IAMs_20 00 27 51.6
comp=Z,7µm,20.0s
WUAZ Wupatki 38.73 333 P P **00 13 20.3 +2.6**
baz=146,SNR=8.9
HDIL Hopedale 38.75 2 P P **00 13 17.5 -0.1**
HDIL IAmb IAmb 00 13 28.6
comp=Z,62nm,1.1s
HDIL Hopedale 38.75 2 P P **00 13 18.3 +0.7**
baz=182
HDIL Hopedale 38.75 2 P P **00 13 17.3 -0.3**
baz=182
O48B Farmland 38.77 7 P P **00 13 17.9 +0.2**
O48B IAmb IAmb 00 13 26.9
comp=Z,56nm,1.6s
O49A Covington 38.81 8 P P **00 13 17.0 -1.1**
O49A IAmb IAmb 00 13 24.5
comp=Z,47nm,1.4s
S22A 4UR Ranch, Cre 38.82 340 P P **00 13 19.2 +0.6**
S22A 4UR Ranch, Cre 38.82 340 P P **00 13 20.9 +2.3**
baz=154,SNR=18
YUH Yuha Desert 38.83 325 P P **00 13 19.3 +0.9**
YUH IAMs_20 IAMs_20 00 26 08.3
comp=Z,6µm,21.0s
N41A Harden Midland 38.88 360 P P **00 13 18.6 -0.1**
N41A IAmb IAmb 00 13 27.6
comp=Z,78nm,1.2s
N41A Harden Midland 38.88 360 P P **00 13 19.7 +1.1**
baz=180
BLYC Blythe 38.88 328 P P **00 13 20.6 +1.7**
RMX La Rumorosa 38.89 325 P P **00 13 18.2 -0.8**
RMX IAMs_20 IAMs_20 00 26 07.1
comp=Z,6µm,21.0s
VA01 Torpederas 38.95 154 P P **00 13 21.1 +1.8**
VA01 IAmb IAmb 00 13 25.0
comp=Z,68nm,1.2s
VA01 IAMs_20 IAMs_20 00 25 25.3
comp=Z,9µm,22.0s
MVCO Mesa Verde 38.96 337 P P **00 13 20.8 +1.1**
MVCO Mesa Verde 38.96 337 P P **00 13 21.8 +2.1**
baz=151
CBX Cerro Bola 39.02 324 P P **00 13 20.1 0.0**
CBX IAmb IAmb 00 13 24.9
comp=Z,64nm,1.5s
N38A Joes South For 39.02 357 P P **00 13 20.3 +0.4**
N38A IAmb IAmb 00 13 29.1
comp=Z,46nm,1.2s
ACSO Alum Creek Sta 39.06 10 P P **00 13 20.1 -0.1**
AVFE Valle Fertil 39.09 147 *i* P P **00 13 21.5 +0.8**
O52A Adamsville 39.15 11 P P **00 13 20.1 -0.9**
TKX Tecate 39.17 324 P P **00 13 21.4 +0.1**
ROC1 El Roble 39.19 153 P P **00 13 22.8 +1.1**
VA03 San Esteban 39.23 153 P P **00 13 22.6 +0.8**
VA03 IAMs_20 IAMs_20 00 25 35.5
comp=Z,11µm,21.0s
N35A Tabor 39.27 354 P P **00 13 21.7 -0.3**
N35A IAmb IAmb 00 13 32.5
comp=Z,95nm,1.5s
BAR Barrett 39.28 324 P P **00 13 21.6 -0.7**
MONP2 Monument Peak 39.30 325 P P **00 13 24.7 +2.2**
baz=137
BC3 Big Chuckawall 39.32 327 P P **00 13 24.6 +2.0**
baz=139,SNR=8.8
N47A Urbana 39.33 6 P P **00 13 20.0 -2.4**
N47A IAmb IAmb 00 13 39.6
comp=Z,130nm,1.9s
MT02 Curacav 39.38 154 P P **00 13 23.9 +0.9**
MT02 IAmb IAmb 00 13 28.2
comp=Z,64nm,1.4s
MT02 IAMs_20 IAMs_20 00 25 39.4
comp=Z,10µm,21.0s
Q24A Divide 39.38 342 P P **00 13 24.4 +1.1**
O53A New Philadelph 39.40 12 P P **00 13 21.9 -1.1**
CFA Coronel Fontan 39.41 149 LR LR 00 26 33.9
comp=Z,9µm,18.9s,baz=323,slow=31
P57A Homestead Farm 39.43 16 P P **00 13 23.2 -0.1**
P57A IAmb IAmb 00 13 30.5
comp=Z,101nm,1.9s
PEL Peldehue 39.48 153 P P **00 13 25.8 +1.9**
PEL IAMs_20 IAMs_20 00 25 53.4
comp=Z,10µm,20.0s
VA05 Santo Domingo 39.51 154 P P **00 13 25.5 +1.5**
VA05 IAMs_20 IAMs_20 00 25 40.8
comp=Z,8µm,21.0s
O54A Avella 39.51 13 P P **00 13 22.6 -1.4**
O54A IAmb IAmb 00 13 33.6
comp=Z,59nm,1.7s
N49A Columbus Grove 39.55 8 P P **00 13 23.4 -0.9**
N49A IAmb IAmb 00 13 26.6
comp=Z,57nm,1.7s
W13A Hualapai Mount 39.60 330 P P **00 13 25.2 +0.1**
M44A Midewin, Midew 39.64 3 P P **00 13 24.7 -0.3**
M44A IAmb IAmb 00 13 31.5
comp=Z,57nm,1.2s
MT05 Renca 39.67 153 P P **00 13 27.8 +2.4**
MT05 IAMs_20 IAMs_20 00 26 00.1
comp=Z,10µm,20.0s
109C Camp Elliot, M 39.69 324 P P **00 13 27.0 +1.5**
SDMD Soldier's Deli 39.69 17 P P **00 13 23.3 -2.2**
MT16 CCHEN 39.80 153 P P **00 13 28.1 +1.6**
MT16 IAmb IAmb 00 14 28.8
comp=Z,35nm,0.8s
PV01 Paradox Valley 39.80 338 P P **00 13 25.8 -0.9**

PV01 IAmb IAmb 00 13 33.0
comp=Z,68nm,1.9s
PMD Palm Desert 39.82 326 P P **00 13 27.1 +0.4**
PMD IAMs_20 IAMs_20 00 26 59.6
comp=Z,6µm,18.0s
MT01 Popeta 39.84 154 P P **00 13 28.8 +2.0**
MT01 IAMs_20 IAMs_20 00 26 38.7
comp=Z,7µm,19.0s
PFO Pinyon Flats O 39.84 326 P P **00 13 28.0 +1.0**
PFO Pinyon Flats O 39.84 326 IAMs_20 IAMs_20 00 26 58.1
comp=Z,5µm,19.0s
PFO Pinyon Flats O 39.84 326 LR LR 00 27 10.9
comp=Z,5µm,19.6s,baz=127,slow=32
MT03 Universidad Ad 39.86 153 P P **00 13 29.4 +2.3**
MT03 IAMs_20 IAMs_20 00 25 55.1
comp=Z,10µm,21.0s
BELC Belle Mtn. Jos 39.87 327 P P **00 13 28.8 +1.5**
baz=139,SNR=6.1
MT09 Talagante 39.88 154 P P **00 13 29.1 +1.8**
MT09 IAMs_20 IAMs_20 00 25 54.7
comp=Z,8µm,21.0s
U15A North Rim 39.90 333 P P **00 13 28.8 +1.2**
U15A IAmb IAmb 00 13 33.6
comp=Z,65nm,1.8s
U15A IAMs_20 IAMs_20 00 28 57.6
comp=Z,9µm,18.0s
PV02 Paradox Valley 39.92 338 P P **00 13 28.9 +1.2**
PV15 Paradox Valley 39.95 338 P P **00 13 27.8 -0.1**
PV15 IAmb IAmb 00 13 33.5
comp=Z,53nm,1.5s
PV05 Paradox Valley 39.95 337 P P **00 13 27.9 0.0**
N53A Lisbon 40.01 12 P P **00 13 27.5 -0.6**
N53A IAmb IAmb 00 13 31.2
comp=Z,93nm,1.9s
PV18 Skein Mesa, Pa 40.02 338 P P **00 13 28.2 -0.3**
PV12 Saucer Basin, 40.05 338 P P **00 13 30.4 +1.7**
PV12 IAmb IAmb 00 13 39.7
comp=Z,56nm,1.3s
PV11 David Mesa, Pa 40.05 338 P P **00 13 29.5 +0.7**
PV11 IAmb IAmb 00 13 33.9
comp=Z,56nm,1.4s
HQIL Hanson Quary C 40.06 3 P P **00 13 29.5 +1.0**
HQIL IAmb IAmb 00 13 49.1
comp=Z,78nm,1.2s
PV17 East Wray Mesa 40.07 338 P P **00 13 29.4 +0.4**
PV16 Nyswonger Mesa 40.08 338 P P **00 13 29.5 +0.4**
PV16 IAmb IAmb 00 13 34.1
comp=Z,89nm,1.9s
PV07 Paradox Valley 40.09 338 P P **00 13 29.8 +0.7**
PV19 Morning Glory 40.11 338 P P **00 13 28.9 -0.4**
PV20 West Nyswonger 40.13 338 P P **00 13 30.1 +0.7**
SCIA State Center 40.13 357 P P **00 13 28.8 -0.3**
PV04 Paradox Valley 40.15 338 P P **00 13 29.7 +0.2**
PV04 IAmb IAmb 00 13 34.7
comp=Z,98nm,1.8s
SMCO Snowmass 40.16 340 P P **00 13 29.8 0.0**
MT13 San Alfonso 40.17 153 P P **00 13 31.2 +1.5**
MT13 IAMs_20 IAMs_20 00 26 14.3
comp=Z,10µm,20.0s
PV14 Lion Creek, Pa 40.18 338 P P **00 13 30.0 +0.1**
PV10 Paradox Valley 40.19 338 P P **00 13 29.9 0.0**
L42A Oliver, Polo 40.19 1 P P **00 13 25.1 -4.5**
L42A IAmb IAmb 00 13 32.9
comp=Z,39nm,1.1s
L42A Oliver, Polo 40.19 1 P P **00 13 30.0 +0.4**
baz=182
M50A Fremont 40.19 9 P P **00 13 28.1 -1.5**
BO04 La Punta 40.23 154 P P **00 13 31.7 +1.6**
BO04 IAMs_20 IAMs_20 00 26 04.9
comp=Z,9µm,20.0s
PV22 Blue Mesa, Par 40.23 338 P P **00 13 31.1 +0.8**
L40A Anamosa 40.23 360 P P **00 13 29.5 -0.5**
L40A IAmb IAmb 00 13 37.0
comp=Z,33nm,1.0s
L40A Anamosa 40.23 360 P P **00 13 30.5 +0.6**
baz=179
ISCO Idaho Springs 40.29 342 P P **00 13 31.3 +0.4**
ISCO Idaho Springs 40.29 342 P P **00 13 31.5 +0.6**
baz=157,SNR=19
ISCO Idaho Springs 40.29 342 P P **00 13 31.2 +0.3**
baz=157,SNR=19
LMEL Las Melosas 40.29 153 P P **00 13 31.7 +0.9**
LMEL IAMs_20 IAMs_20 00 26 08.6
comp=Z,10µm,20.0s
PAMR Moraine State 40.30 13 P P **00 13 31.2 +0.7**
baz=197
PV21 Cone Mtn., Par 40.32 338 P P **00 13 31.1 0.0**
BO01 Tunca 40.36 154 P P **00 13 31.5 +0.4**
BO01 IAMs_20 IAMs_20 00 26 54.4
comp=Z,7µm,18.0s
MVL Millersville 40.38 17 P P **00 13 31.4 +0.3**
OGNE Ogallala 40.41 347 P P **00 13 31.7 +0.2**
OGNE IAmb IAmb 00 13 42.8
comp=Z,78nm,1.4s
ELS Elsinore Mount 40.42 325 P P **00 13 33.2 +1.5**
L34A Svendsen Farm, 40.45 354 P P **00 13 32.5 +0.8**
L34A IAmb IAmb 00 13 41.9
comp=Z,57nm,0.9s
HMU Henry Mountain 40.49 335 P P **00 13 32.7 +0.2**
L48A N Adams 40.52 7 P P **00 13 31.6 -0.8**
GO05 Huala 40.54 156 P P **00 13 32.8 +0.2**
GO05 IAMs_20 IAMs_20 00 26 40.0
comp=Z,9µm,20.0s
V12A Nelson 40.58 329 P P **00 13 34.5 +1.4**
KNB Kanab 40.63 333 P P **00 13 34.8 +1.3**
KNB IAmb IAmb 00 13 41.2
comp=Z,53nm,1.7s
KNB IAMs_20 IAMs_20 00 29 20.9
comp=Z,7µm,18.0s
BRIGG Briggsdale 40.64 344 P P **00 13 34.4 +0.8**
M53A WI Miller and 40.65 12 P P **00 13 32.4 -1.0**
M53A IAmb IAmb 00 13 35.1
comp=Z,41nm,1.2s
HEC Hector,Ludlow 40.68 327 P P **00 13 35.9 +2.0**
baz=139,SNR=5.4
PKCU Pink Cliffs 40.75 333 P P **00 13 36.3 +1.6**
PKCU IAmb IAmb 00 13 40.8
comp=Z,107nm,1.8s
PKCU IAMs_20 IAMs_20 00 29 19.0
comp=Z,7µm,20.0s
LCMT Little Creek M 40.82 332 P P **00 13 35.3 +0.3**
LCMT IAMs_20 IAMs_20 00 29 25.9
comp=Z,8µm,19.0s
AQDB Aquidauana 40.83 124 P P **00 13 34.0 -1.3**
AQDB IAmb IAmb 00 13 39.5
comp=Z,64nm,1.5s
BO02 Sierra Bellavi 40.83 154 IAMs_20 IAMs_20 00 26 03.9
comp=Z,7µm,21.0s
K38A Parkersburg 40.85 358 P P **00 13 33.8 -1.3**
K38A IAmb IAmb 00 13 45.1
comp=Z,51nm,0.9s
TUQ Turquoise Moun 40.92 328 P P **00 13 37.4 +1.5**
baz=140
K43A Burlington 40.94 3 P P **00 13 35.0 -0.7**
K43A IAmb IAmb 00 13 46.1
comp=Z,59nm,1.1s
ALLY Alegheny Colle 40.97 12 P P **00 13 34.0 -2.1**
ALLY IAmb IAmb 00 13 48.4
comp=Z,60nm,1.4s
AAM Ann Arbor 40.98 8 P P **00 13 35.1 -1.0**
WTNK Soaring Height 41.03 330 P P **00 13 36.5 -0.2**
N58A Sunbury 41.05 16 P P **00 13 34.6 -2.0**
N58A IAmb IAmb 00 13 42.4
comp=Z,53nm,1.6s
JFWS Jewell Farm 41.09 1 P P **00 13 37.0 0.0**
JFWS IAmb IAmb 00 13 43.6
comp=Z,35nm,0.9s
MTPU Mount Pierson 41.19 334 P P **00 13 39.4 +1.0**
SZCU Shurtz Canyon 41.22 333 P P **00 13 39.4 +0.9**
SZCU IAmb IAmb 00 13 44.5
comp=Z,63nm,1.8s
SZCU IAMs_20 IAMs_20 00 29 31.6
comp=Z,7µm,20.0s
PASC Pasadena Art C 41.23 325 P P **00 13 39.2 +0.9**
PASC IAmb IAmb 00 13 44.2
comp=Z,53nm,1.6s
GSC Goldstone, Bar 41.29 327 P P **00 13 38.9 0.0**
GSC IAMs_20 IAMs_20 00 28 12.4
comp=Z,6µm,19.0s
SHPR Sheep Range 41.35 330 P P **00 13 40.1 +0.7**
N23A Red Feather La 41.39 343 P P **00 13 39.5 -0.4**
N23A IAmb IAmb 00 13 51.1
comp=Z,68nm,1.8s
ML02 Panimavida 41.40 156 P P **00 13 41.2 +1.6**
ML02 IAMs_20 IAMs_20 00 27 06.8

comp=Z,8µm,20.0s
SRU San Rafael Swe 41.40 337 P **P** **00 13 39.0 -0.8**
SRU IAmb IAmb 00 13 50.3
comp=Z,62nm,2.0s
SRU IAMs_20 IAMs_20 00 29 55.3
comp=Z,8µm,19.0s
ERPA Erie 41.45 12 P **P** **00 13 39.2 -0.7**
ERPA IAmb IAmb 00 13 46.5
comp=Z,65nm,1.4s
O20A White River Ci 41.45 340 P **P** **00 13 40.5 +0.2**
O20A White River Ci 41.45 340 P **P** **00 13 42.0 +1.7**
baz=153
BI05 Punta Hualpn 41.57 158 P **P** **00 13 43.2 +2.1**
BI05 IAmb IAmb 00 14 09.3
comp=Z,45nm,0.8s
MSU Marysvale 41.58 334 P **P** **00 13 42.3 +1.0**
MVU Marysvale 41.58 334 P **P** **00 13 40.3 -1.1**
MVU IAmb IAmb 00 13 46.0
comp=Z,60nm,1.3s
K30B Basset 41.60 350 P **P** **00 13 42.0 +0.7**
K50A Casco 41.60 9 P **P** **00 13 41.8 +0.6**
K50A IAmb IAmb 00 13 51.4
comp=Z,32nm,0.9s
PHWY Pilot Hill 41.63 343 P **P** **00 13 41.2 -0.6**
EDW2 Edwards Air Fo 41.64 326 P **P** **00 13 43.5 +1.8**
baz=137
P18A Preston Nutter 41.74 337 P **P** **00 13 43.1 +0.3**
P18A IAMs_20 IAMs_20 00 30 09.2
comp=Z,6µm,19.0s
P17A Butcher Ranch, 41.80 337 P **P** **00 13 42.8 -0.3**
TMUT Trail Mountain 41.83 336 P **P** **00 13 42.9 -0.7**
CCAC Calif City Air 41.85 326 P **P** **00 13 44.0 +0.6**
GWY Greenwater Val 41.88 328 P **P** **00 13 44.5 +0.7**
LRMC Laurel Mtn Rad 41.90 326 P **P** **00 13 45.8 +1.8**
baz=138,SNR=12
PRN Pahroc Range 42.00 331 P **P** **00 13 45.5 +0.8**
PRN IAMs_20 IAMs_20 00 30 23.2
comp=Z,8µm,19.0s
I40A Norwalk 42.06 0 P **P** **00 13 44.5 -0.5**
I40A IAmb IAmb 00 13 51.3
comp=Z,72nm,1.8s
I42A Draeger Farm, 42.09 2 P **P** **00 13 42.2 -3.1**
I42A IAmb IAmb 00 13 46.9
comp=Z,62nm,1.4s
I42A Draeger Farm, 42.09 2 P **P** **00 13 46.2 +1.0**
baz=183
ECSD EROS Data Cent 42.22 354 P **P** **00 13 46.0 -0.2**
ECSD IAmb IAmb 00 13 53.3
comp=Z,39nm,1.2s
ECSD EROS Data Cent 42.22 354 P **P** **00 13 45.2 -1.1**
baz=171
ECSD EROS Data Cent 42.22 354 P **P** **00 13 44.9 -1.4**
baz=171,SNR=9.9
MPMC Manual Prospec 42.22 327 P **P** **00 13 48.7 +2.0**
baz=138,SNR=13
TPNV Topopah Spring 42.24 329 P **P** **00 13 48.0 +1.3**
I37A Lemond, Waseca 42.25 357 P **P** **00 13 46.0 -0.5**
I37A IAmb IAmb 00 13 53.2
comp=Z,41nm,1.1s
RDMU Red Mountain 42.30 339 P **P** **00 13 47.5 +0.2**
RDMU IAmb IAmb 00 13 53.2
comp=Z,63nm,1.7s
WCT Wildcat Mounta 42.32 329 P **P** **00 13 46.8 -0.5**
ISA Isabella, Lake 42.47 326 P **P** **00 13 48.4 -0.2**
BCW Bitter Crk WRg 42.49 324 P **P** **00 13 48.8 0.0**
RWWY Rawlins 42.51 342 P **P** **00 13 49.4 +0.4**
RWWY IAmb IAmb 00 13 53.9
comp=Z,117nm,1.9s
RWWY IAMs_20 IAMs_20 00 30 49.5
comp=Z,7µm,19.0s
BINY Binghamton 42.53 330 P **P** **00 13 51.1 +2.1**
comp=Z,5µm,21.0s
S11A Rachel 42.53 16 IAMs_20 IAMs_20 00 30 44.7
S11A IAmb IAmb 00 13 57.2
comp=Z,85nm,1.7s
S11A IAMs_20 IAMs_20 00 30 29.2
comp=Z,5µm,19.0s
MPU Maple Canyon 42.62 336 P **P** **00 13 49.5 -0.3**
CPUP Villa Florida 42.65 133 P **P** **00 13 49.7 -0.3**
comp=Z,20nm,1.1s,baz=312,slow=9.0,SNR=14
CPUP LR LR 00 33 15.6
comp=Z,6µm,18.9s,baz=326,slow=38
comp=Z,20nm,1.1s
BSUT Blindstream Ca 42.72 337 P **P** **00 13 51.4 +0.6**
BSUT IAmb IAmb 00 14 00.9
comp=Z,35nm,1.0s
NLU North Lily Min 42.74 336 P **P** **00 13 51.9 +1.0**
L59A Walton 42.78 17 P **P** **00 13 48.5 -2.3**
L59A IAmb IAmb 00 14 42.9
comp=Z,64nm,1.6s
SPR3 Spring Creek 3 42.93 333 P **P** **00 13 53.4 +0.8**
SPR3 IAMs_20 IAMs_20 00 30 33.8
comp=Z,6µm,19.0s
VES Vestal, Richgr 42.94 326 P **P** **00 13 54.2 +1.9**
baz=138,SNR=9.5
R11B Troy Canyon, C 43.00 331 P **P** **00 13 54.2 +1.2**
R11B IAMs_20 IAMs_20 00 30 55.7
comp=Z,7µm,19.0s
R11B Troy Canyon, C 43.00 331 P **P** **00 13 55.1 +2.1**
baz=142,SNR=10.0
GMN Gold Mountain 43.03 329 P **P** **00 13 55.0 +1.7**
K22A Casper 43.18 343 P **P** **00 13 55.1 +0.8**
K22A IAmb IAmb 00 13 58.7
comp=Z,79nm,2.0s
K22A IAMs_20 IAMs_20 00 31 38.3
comp=Z,6µm,18.0s
Q12A Willow Creek R 43.19 332 P **P** **00 13 54.5 0.0**
Q12A IAMs_20 IAMs_20 00 31 12.8
comp=Z,7µm,18.0s
SUSD Miller 43.22 351 P **P** **00 13 55.7 +1.3**
SUSD IAmb IAmb 00 14 01.6
comp=Z,48nm,0.9s
CTU Camp Tracy 43.24 337 P **P** **00 13 55.9 +1.0**
CTU IAMs_20 IAMs_20 00 31 16.0
comp=Z,8µm,19.0s
DUG Dugway, Tooele 43.25 335 P **P** **00 13 55.5 +0.6**
DUG Dugway, Tooele 43.25 335 P **P** **00 13 56.8 +1.9**
baz=147,SNR=7.1
SPMN Marine on St. 43.43 358 P **P** **00 13 55.8 -0.2**
TCUT Toone Canyon 43.47 337 P **P** **00 13 57.2 +0.4**
TPH Tonopah 43.60 329 P **P** **00 13 59.3 +1.5**
BRYW Bryant College 43.68 21 IAMs_20 IAMs_20 00 31 37.6
comp=Z,5µm,18.0s
RSSD Black Hills 43.89 346 P **P** **00 14 00.3 +0.3**
RSSD IAmb IAmb 00 14 04.9
comp=Z,54nm,1.8s
HWUT Hardware Ranch 43.95 337 P **P** **00 14 00.3 -0.3**
BGU Big Grassy Mou 43.95 336 P **P** **00 14 01.3 +0.8**
BGU IAmb IAmb 00 14 09.7
comp=Z,32nm,1.3s
SPUT South Promonto 44.04 336 P **P** **00 14 01.0 -0.2**
F36A Milaca 44.09 357 P **P** **00 14 00.7 -0.7**
Q09A Carvers 44.16 330 IAMs_20 IAMs_20 00 30 15.4
comp=Z,4µm,19.0s
SADO Sadowa 44.16 12 P **P** **00 14 01.3 -0.7**
SADO IAmb IAmb 00 14 09.3
comp=Z,44nm,1.1s
SADO Sadowa 44.16 12 LR LR 00 32 17.7
comp=Z,2µm,19.6s,baz=208,slow=36
WES Weston 44.17 21 IAMs_20 IAMs_20 00 32 01.5
comp=Z,5µm,20.0s
OMMB Old Mammoth Mi 44.19 327 P **P** **00 14 03.2 +0.6**
BW06 Boulder Array 44.24 340 P **P** **00 14 03.1 +0.2**
BW06 Boulder Array 44.24 340 P **P** **00 14 03.7 +0.8**
baz=153,SNR=6.0
PDAR Pinedale Array 44.24 340 P **P** **00 14 01.1 -1.8**
comp=Z,1.2nm,0.8s,baz=138,slow=6.8,SNR=6.0
PDAR LR LR 00 32 16.6
comp=Z,10µm,19.0s,baz=172,slow=36
comp=Z,1.2nm,0.8s
DELO Deloro Mine 44.26 14 P **P** **00 14 01.8 -1.0**
DELO IAmb IAmb 00 14 09.9
comp=Z,41nm,1.4s
F33A 5 Mile Ranch, 44.27 355 P **P** **00 14 00.8 -2.0**
LHV Little Huntoon 44.39 328 P **P** **00 14 03.6 -0.3**
NVAR Mina Array Bea 44.42 329 P **P** **00 14 03.5 -1.0**
comp=Z,5.7nm,0.8s,baz=156,slow=9.2,SNR=15
NVAR LR LR 00 30 48.6
comp=Z,3µm,20.7s,baz=134,slow=34
comp=Z,5.7nm,0.8s
BBGB Big Mountain B 44.58 325 IAMs_20 IAMs_20 00 29 37.6
comp=Z,4µm,18.0s
RYN Ryan 44.69 329 P **P** **00 14 07.7 +1.3**
RYN IAmb IAmb 00 14 11.9
comp=Z,70nm,1.9s
GO06 Curarrehue 44.71 159 P **P** **00 14 07.8 +1.2**
GO06 IAmb IAmb 00 14 30.3
comp=Z,51nm,1.3s
ELK Elko 44.75 334 P **P** **00 14 07.2 +0.2**
ELK IAMs_20 IAMs_20 00 31 48.1
comp=Z,5µm,20.0s
AHID Auburn Hatcher 44.78 339 P **P** **00 14 05.6 -1.6**
AHID IAMs_20 IAMs_20 00 32 25.7
comp=Z,5µm,18.0s
E38A The Farm, Brul 44.78 359 P **P** **00 14 07.5 +0.6**
KVN Kaiserville 44.79 330 P **P** **00 14 07.5 +0.2**
KVN IAMs_20 IAMs_20 00 29 59.0
comp=Z,5µm,21.0s
E46A Sault Ste Mari 44.90 6 P **P** **00 14 08.7 +0.9**
HNH Hanover 45.01 19 IAMs_20 IAMs_20 00 30 52.7
comp=Z,5µm,21.0s
WAKR Walker 45.07 328 P **P** **00 14 09.3 -0.3**
LR05 Currie 45.09 160 P **P** **00 14 11.3 +1.9**
ITQB Itaqui 45.13 136 P **P** **00 14 10.6 +0.6**
LONY Lake Ozonia 45.14 16 IAMs_20 IAMs_20 00 32 42.2
comp=Z,5µm,20.0s
REDW Red Top Meadow 45.21 339 P **P** **00 14 09.6 -1.1**
CMB Columbia Colle 45.24 327 P **P** **00 14 10.9 +0.1**
SNOW Snow King Moun 45.27 340 P **P** **00 14 11.6 +0.4**
SNOW IAmb IAmb 00 14 21.3
comp=Z,33nm,1.1s
SNOW IAMs_20 IAMs_20 00 32 25.5
comp=Z,7µm,21.0s
YERR Yerington 45.33 329 P **P** **00 14 11.8 +0.2**
YERR IAmb IAmb 00 14 17.1
comp=Z,51nm,1.6s
LOHW Long Hollow 45.34 340 P **P** **00 14 11.4 -0.3**
LOHW IAmb IAmb 00 14 16.0
comp=Z,36nm,1.5s
LOHW IAMs_20 IAMs_20 00 32 39.6
comp=Z,8µm,19.0s
TPAW Teton Pass 45.36 339 P **P** **00 14 10.2 -1.6**
TPAW IAmb IAmb 00 14 28.0
comp=Z,23nm,1.2s
TPAW IAMs_20 IAMs_20 00 32 05.0
comp=Z,6µm,21.0s
BMN Battle Mountai 45.42 332 P **P** **00 14 11.0 -1.3**
BMN IAmb IAmb 00 14 29.6
comp=Z,30nm,1.3s
BMN IAMs_20 IAMs_20 00 32 42.7
comp=Z,6µm,20.0s
VT1 Waterbury 45.42 18 IAMs_20 IAMs_20 00 30 58.4
comp=Z,4µm,21.0s
MOOW Moose Ponds 45.51 340 P **P** **00 14 13.0 0.0**
MOOW IAMs_20 IAMs_20 00 32 45.1
comp=Z,7µm,20.0s
E28A Huff 45.57 350 P **P** **00 14 12.4 -0.7**
PNTR Pine Nut 45.59 328 P **P** **00 14 15.2 +1.5**
PNTR IAmb IAmb 00 14 41.7
comp=Z,22nm,1.2s
LBNH Lisbon 45.60 19 IAMs_20 IAMs_20 00 31 00.4
comp=Z,4µm,22.0s
BDFB Brasilia 45.66 114 P **P** **00 14 13.6 -0.9**
comp=Z,10nm,1.0s,baz=292,slow=7.6,SNR=7.9
BDFB LR LR 00 34 13.8
comp=Z,9µm,19.8s,baz=291,slow=37
comp=Z,10nm,1.0s
IMW Indian Meadow 45.71 340 P **P** **00 14 13.5 -1.1**
IMW IAMs_20 IAMs_20 00 32 51.3
comp=Z,5µm,20.0s
EMB Emerald Bay 45.77 328 P **P** **00 14 16.4 +1.2**
EMB IAmb IAmb 00 14 40.0
comp=Z,34nm,1.3s
FLWY Flagg Ranch 45.79 340 P **P** **00 14 14.7 -0.5**
FLWY IAmb IAmb 00 14 41.0
comp=Z,20nm,1.1s
PAHR Pah Rah Range 45.94 329 P **P** **00 14 17.4 +1.1**
PAHR IAmb IAmb 00 14 20.8
comp=Z,28nm,1.7s
MPK Martis Peak 45.97 328 P **P** **00 14 18.4 +1.7**
MPK IAmb IAmb 00 14 21.4
comp=Z,23nm,1.3s
H17A Grant Village 46.02 340 P **P** **00 14 18.6 +1.5**
H17A IAmb IAmb 00 14 24.8
comp=Z,42nm,1.8s
PLCA Paso Flores 46.05 159 P **P** **00 14 17.2 +0.1**
comp=Z,17nm,1.0s,baz=330,slow=9.7,SNR=12
PLCA LR LR 00 29 50.9
comp=Z,6µm,19.2s,baz=340,slow=31
comp=Z,17nm,1.0s
EYMN Ely 46.12 359 P **P** **00 14 17.8 +0.3**
EYMN IAmb IAmb 00 14 26.7
comp=Z,25nm,1.1s
YFT Old Faithful 46.16 340 P **P** **00 14 18.9 +0.7**
YFT IAmb IAmb 00 14 30.1
comp=Z,26nm,1.4s
YMP Mirror Lake Pl 46.19 341 P **P** **00 14 19.1 +0.7**
YMP IAmb IAmb 00 15 05.1
comp=Z,35nm,1.5s
YMP IAMs_20 IAMs_20 00 33 01.0
comp=Z,7µm,20.0s
AFDM Forest Hills D 46.22 327 P **P** **00 14 17.0 -1.4**
AFDM IAmb IAmb 00 14 30.4
comp=Z,40nm,1.9s
MNTQ Montreal, Queb 46.22 17 P **P** **00 14 17.6 -0.7**
MNTQ IAmb IAmb 00 14 19.6
comp=Z,26nm,1.2s
RLMT Red Lodge 46.25 342 P **P** **00 14 18.8 0.0**
RLMT IAmb IAmb 00 14 28.4
comp=Z,21nm,1.2s
RLMT Red Lodge 46.25 342 P **P** **00 14 19.5 +0.7**
baz=154
YNR Norris Junctio 46.34 340 P **P** **00 14 20.0 +0.4**
YNR IAmb IAmb 00 14 29.4
comp=Z,21nm,1.4s
YMR Madison River 46.40 340 P **P** **00 14 20.2 +0.2**
YMR IAMs_20 IAMs_20 00 33 05.5
comp=Z,7µm,20.0s
YHH Holmes Hill 46.46 340 P **P** **00 14 21.5 +0.9**
B35A Bob, Littlefor 46.60 357 P **P** **00 14 21.8 +0.5**
B35A IAmb IAmb 00 14 30.4
comp=Z,17nm,1.0s
MDND Maddock 46.64 352 P **P** **00 14 21.3 -0.3**
WVL Waterville 46.66 21 IAMs_20 IAMs_20 00 34 43.4
comp=Z,3µm,18.0s
AGMN Agassiz Nation 46.67 355 P **P** **00 14 21.6 -0.2**
AGMN Agassiz Nation 46.67 355 P **P** **00 14 21.2 -0.6**
baz=173
AGMN Agassiz Nation 46.67 355 P **P** **00 14 20.5 -1.3**
baz=173,SNR=15
QLMT Earthquake Lak 46.70 340 P **P** **00 14 23.1 +0.8**
HLID Hailey 46.72 336 P **P** **00 14 22.8 +0.3**
HLID IAMs_20 IAMs_20 00 33 17.1
comp=Z,6µm,19.0s
HLID Hailey 46.72 336 P **P** **00 14 24.1 +1.6**
baz=147,SNR=14
LAO LASA Array 46.83 345 P **P** **00 14 23.1 -0.1**
LAO IAmb IAmb 00 14 33.2
comp=Z,24nm,1.2s
LL01 San Ignacio de 46.88 161 P **P** **00 14 26.4 +2.9**
ORV Oroville 46.94 327 P **P** **00 14 24.2 +0.2**
ORV IAmb IAmb 00 14 28.6
comp=Z,32nm,1.6s
GCMT Greycliff 46.97 342 P **P** **00 14 24.7 +0.3**
ITAB Concordia 47.02 130 P **P** **00 14 25.6 +0.7**
GDXM Geysers 47.13 326 IAMs_20 IAMs_20 00 29 57.0
comp=Z,5µm,22.0s
MFID Camas Ranch 47.18 335 P **P** **00 14 26.6 +0.6**
MFID IAmb IAmb 00 14 30.7
comp=Z,38nm,1.6s
MCMT McKenzie Canyo 47.20 339 P **P** **00 14 27.8 +1.5**
HOPS Hopland Field 47.41 326 IAMs_20 IAMs_20 00 30 04.6
comp=Z,4µm,22.0s
BOZ Bozeman (W) 47.44 340 P **P** **00 14 28.4 +0.3**
BOZ IAmb IAmb 00 14 38.7
comp=Z,16nm,1.1s
BOZ IAMs_20 IAMs_20 00 34 00.5
comp=Z,5µm,20.0s
BOZ Bozeman (W) 47.44 340 P **P** **00 14 29.3 +1.3**
baz=151
EMMW East Machias 47.59 23 IAMs_20 IAMs_20 00 35 14.2
comp=Z,4µm,18.0s
WVOR Wild Horse Val 47.65 332 P **P** **00 14 29.7 +0.1**
WVOR IAmb IAmb 00 14 33.9
comp=Z,33nm,1.6s
WVOR IAMs_20 IAMs_20 00 34 03.8
comp=Z,7µm,18.0s
TRQA Tornquist 47.65 149 P **P** **00 14 31.1 +1.4**
LL02 Futaleuf 47.79 161 P **P** **00 14 30.6 0.0**
F63A Nahmakanta, Br 47.84 20 P **P** **00 14 32.5 +1.5**
F63A IAmb IAmb 00 14 38.7
comp=Z,32nm,1.2s
DGMT Dagmar 48.05 348 P **P** **00 14 32.3 -0.3**
J08A Circle Bar Ran 48.29 333 P **P** **00 14 34.7 +0.1**
J08A IAMs_20 IAMs_20 00 33 14.6
comp=Z,4µm,20.0s
PLTB Pedras Altas 48.47 137 P **P** **00 14 37.1 +1.0**
ULM Lac du Bonnet 48.61 356 P **P** **00 14 34.1 -2.7**
comp=Z,5.6nm,0.6s,baz=180,slow=5.9,SNR=12
ULM LR LR 00 37 01.9
comp=Z,2µm,19.4s,baz=170,slow=39
comp=Z,5.6nm,0.6s
KMRM Mail Ridge 48.62 326 IAMs_20 IAMs_20 00 31 42.0
comp=Z,4µm,21.0s
PLID Pearl Lake 48.62 336 P **P** **00 14 36.8 -0.6**
PLID IAmb IAmb 00 14 40.9
comp=Z,47nm,1.9s
BPMT Black Pine Rid 48.80 339 P **P** **00 14 39.1 +0.5**
LYMT Lyon Mountain 48.86 341 P **P** **00 14 39.4 +0.2**
K05A Summer Lake 48.95 331 P **P** **00 14 39.0 -0.8**
K05A IAMs_20 IAMs_20 00 35 08.1
comp=Z,4µm,18.0s
BMO Blue Mountains 48.97 335 P **P** **00 14 39.7 -0.1**
KMPM Mount Pierce 48.98 326 IAMs_20 IAMs_20 00 33 18.0
comp=Z,3µm,18.0s
EGMT Eagleton 49.01 343 P **P** **00 14 40.0 -0.1**
EGMT IAMs_20 IAMs_20 00 34 54.6
comp=Z,5µm,21.0s
PQI Presque Isle 49.06 21 IAMs_20 IAMs_20 00 35 47.9
comp=Z,3µm,20.0s
KHMM Horse Mountain 49.08 327 IAMs_20 IAMs_20 00 32 00.7
comp=Z,4µm,20.0s
YBH Yreka Blue Hor 49.14 328 P **P** **00 14 41.3 +0.1**
YBH Yreka Blue Hor 49.14 328 LR LR 00 35 34.2
comp=Z,2µm,18.8s,baz=143,slow=36
OVMT Ovando 49.18 340 P **P** **00 14 40.2 -1.2**
JCC Jacoby Creek, 49.20 327 IAMs_20 IAMs_20 00 33 18.9
comp=Z,3µm,18.0s
L04D Klamath Falls 49.28 329 P **P** **00 14 41.0 -1.3**
K04D Chiloquin, OR 49.30 330 P **P** **00 14 43.0 +0.6**
K04D IAmb IAmb 00 15 35.6
comp=Z,16nm,0.9s
MSO Missoula 49.31 339 P **P** **00 14 42.3 -0.1**
MSO IAmb IAmb 00 15 05.6
comp=Z,28nm,1.6s
MSO IAMs_20 IAMs_20 00 35 16.7
comp=Z,4µm,18.0s
I07A Izee 49.32 333 P **P** **00 14 44.0 +1.4**
I07A IAMs_20 IAMs_20 00 33 36.0
comp=Z,4µm,22.0s
J05D Fort Rock, OR 49.53 331 P **P** **00 14 44.2 0.0**
J05D IAmb IAmb 00 15 07.5
comp=Z,36nm,1.4s
J05D IAMs_20 IAMs_20 00 35 27.5
comp=Z,5µm,18.0s
KRMB Red Mountain 49.63 327 P **P** **00 14 44.7 -0.2**
PINE Pine Mountain 49.77 332 P **P** **00 14 47.1 +1.0**
PINE IAmb IAmb 00 14 49.9
comp=Z,28nm,1.1s
KSXB Camp Six Broad 49.83 328 P **P** **00 14 46.6 +0.2**
KSXB IAMs_20 IAMs_20 00 32 06.3
comp=Z,4µm,22.0s
F10A Beach Ranch, E 49.84 336 P **P** **00 14 45.6 -0.9**
F10A IAMs_20 IAMs_20 00 35 15.7
comp=Z,4µm,18.0s
L02F Cave Junction 49.87 328 IAMs_20 IAMs_20 00 32 15.5
comp=Z,4µm,21.0s
COYC Coyhaique 49.87 163 P **P** **00 14 48.7 +2.2**
COYC IAmb IAmb 00 14 59.0
comp=Z,36nm,1.2s
G08A Pilot Rock 50.02 334 P **P** **00 14 49.5 +1.6**
G08A IAmb IAmb 00 14 52.0
comp=Z,61nm,2.0s
TAOE Nuku Hiva Isla 50.25 257 IAMs_20 IAMs_20 00 31 25.7
comp=Z,5µm,19.0s
K02D Willamette Mer 50.32 329 IAMs_20 IAMs_20 00 36 21.5
comp=Z,4µm,18.0s
I05D Terrebonne, OR 50.37 332 P **P** **00 14 52.1 +1.6**
I05D IAMs_20 IAMs_20 00 36 01.7
comp=Z,6µm,18.0s
E09A Wood Farm, Sta 50.66 336 P **P** **00 14 52.5 0.0**
E09A IAmb IAmb 00 15 08.4
comp=Z,29nm,1.3s
E09A IAMs_20 IAMs_20 00 35 50.2
comp=Z,6µm,18.0s
G06A Carlson Farm, 50.73 333 P **P** **00 14 53.3 +0.2**
G06A IAmb IAmb 00 15 17.2
comp=Z,26nm,1.2s
KEBM Edson Butte 50.80 328 IAMs_20 IAMs_20 00 36 54.1
comp=Z,4µm,18.0s
F07A Phinny Hill Vi 50.92 334 P **P** **00 14 54.3 -0.2**
F07A IAmb IAmb 00 14 59.3
comp=Z,50nm,1.6s
F07A IAMs_20 IAMs_20 00 35 01.2
comp=Z,6µm,21.0s
H04A Detroit Lake 51.03 331 IAMs_20 IAMs_20 00 36 34.2
comp=Z,5µm,18.0s
BUCK Buck Mountain 51.06 331 IAMs_20 IAMs_20 00 36 57.5
comp=Z,4µm,18.0s
AY03 Cochrane 51.26 164 P **P** **00 14 56.6 -0.4**
AY03 IAmb IAmb 00 15 10.3
comp=Z,27nm,1.1s
AY03 IAMs_20 IAMs_20 00 31 35.2
comp=Z,5µm,19.0s
HOOD Mount Hood Mea 51.26 332 IAMs_20 IAMs_20 00 33 57.4
comp=Z,4µm,22.0s
E07A Sunnyside 51.41 335 P **P** **00 14 58.8 +0.6**
D08A Wollman Farm, 51.41 336 P **P** **00 14 59.2 +1.1**
D08A IAmb IAmb 00 15 03.5
comp=Z,32nm,1.6s
D08A IAMs_20 IAMs_20 00 36 04.2
comp=Z,6µm,19.0s
COR Corvallis 51.50 331 IAMs_20 IAMs_20 00 36 51.6
comp=Z,4µm,20.0s
MXC Moxie City 51.61 334 P **P** **00 14 59.7 0.0**
NEW Newport 51.68 338 P **P** **00 14 59.4 -0.8**
NEW Newport 51.68 338 LR LR 00 36 47.4
comp=Z,9µm,18.7s,baz=156,slow=36
G03D McMinnville, O 51.94 331 IAMs_20 IAMs_20 00 36 55.4
comp=Z,5µm,18.0s
HEBO Mount Hebo 52.17 331 IAMs_20 IAMs_20 00 37 03.7
comp=Z,6µm,19.0s
LTY Liberty 52.30 335 P **P** **00 15 05.9 +0.9**
LTY IAmb IAmb 00 16 06.8
comp=Z,33nm,1.6s
GO08 Villa O'Higgin 52.38 165 IAMs_20 IAMs_20 00 31 56.7
comp=Z,4µm,20.0s
LON Longmire 52.41 333 P **P** **00 15 04.6 -1.1**
LON IAMs_20 IAMs_20 00 36 53.9
comp=Z,5µm,18.0s
F04D Rainier, OR 52.46 332 IAMs_20 IAMs_20 00 37 17.2
comp=Z,3µm,18.0s
B08A Colville Reser 52.62 336 IAMs_20 IAMs_20 00 36 53.3
comp=Z,3µm,20.0s
D05A Enumclaw 52.82 334 IAMs_20 IAMs_20 00 37 07.8
comp=Z,5µm,18.0s
E03A Lebam 53.06 332 IAMs_20 IAMs_20 00 37 52.0
comp=Z,3µm,19.0s
RADR Rader Ridge 53.08 332 IAMs_20 IAMs_20 00 37 48.6
comp=Z,4µm,18.0s
WISH Wishkah 53.58 333 IAMs_20 IAMs_20 00 35 45.7
comp=Z,4µm,21.0s
B06A Marblemount 53.63 335 P **P** **00 15 13.3 -1.2**
B06A IAmb IAmb 00 15 19.0
comp=Z,39nm,1.5s
B06A IAMs_20 IAMs_20 00 37 09.1
comp=Z,6µm,20.0s
FFC Flin Flon 53.69 352 P **P** **00 15 13.5 -1.4**
NLWA Neilton Lookou 53.82 333 IAMs_20 IAMs_20 00 35 42.3
comp=Z,5µm,21.0s
B04A Port Angeles 54.15 333 P **P** **00 15 18.1 -0.4**
B04A IAmb IAmb 00 15 25.5
comp=Z,32nm,1.2s
PGC Sidney 54.57 334 P **P** **00 15 19.6 -1.9**
PGC IAmb IAmb 00 16 14.2
comp=Z,33nm,1.2s
EDM Edmonton 54.69 344 P **P** **00 15 21.6 -0.7**
EDM IAMs_20 IAMs_20 00 38 51.1
comp=Z,4µm,19.0s
CLRS Cowichan Lake 55.00 334 IAMs_20 IAMs_20 00 36 45.4
comp=Z,5µm,22.0s
GO09 Cerro Castillo 55.02 166 IAMs_20 IAMs_20 00 33 26.6
comp=Z,3µm,19.0s
RCBR Riachuelo 55.34 98 LR LR 00 40 04.9
comp=Z,5µm,18.8s,baz=280,slow=37
OZB Mount Ozzard 55.71 333 IAMs_20 IAMs_20 00 38 30.3
comp=Z,5µm,22.0s
SCHQ Schefferville 56.52 16 P **P** **00 15 33.0 -2.4**

comp=Z,7.0nm,1.1s,baz=222,slow=8.2,SNR=6.2
SCHQ LR LR 00 40 12.1
comp=Z,2µm,19.1s,baz=207,slow=36
comp=Z,7.0nm,1.1s
FCC Fort Churchill 57.01 358 P **P** **00 15 37.3 -1.4**
FCC IAmb IAmb 00 15 45.1
comp=Z,22nm,1.1s
BBB Bella Bella 59.19 334 LR LR 00 41 46.7
comp=Z,2µm,18.1s,baz=144,slow=36
HILA High Level 60.36 345 P **P** **00 16 01.8 -0.3**
PPT Papeete 60.92 249 LR LR 00 35 50.8
comp=Z,4µm,20.1s,baz=74,slow=30
V35K Ketchikan 62.88 335 IAMs_20 IAMs_20 00 42 41.8
comp=Z,3µm,20.0s
YKA Yellowknife Ar 63.26 348 P **P** **00 16 20.1 -1.4**
comp=Z,5.7nm,1.1s,baz=148,slow=6.5,SNR=31
YKA LR LR 00 44 41.1
comp=Z,4µm,19.4s,baz=154,slow=37
comp=Z,5.7nm,1.1s
T35M Bob Quinn 63.47 337 IAMs_20 IAMs_20 00 43 25.5
comp=Z,4µm,20.0s
KOTAN Kotaneelee Air 63.69 342 P **P** **00 16 25.8 +1.3**
baz=142
WRAK Wrangell Islan 63.92 336 IAMs_20 IAMs_20 00 42 38.4
comp=Z,3µm,21.0s
FRB Frobisher Bay 64.09 11 LR LR 00 44 12.5
comp=Z,2µm,20.0s,baz=200,slow=36
DLBC Dease Lake 64.42 338 P **P** **00 16 30.1 +0.6**
DLBC Dease Lake 64.42 338 P **P** **00 16 30.3 +0.8**
baz=136
DLBC Dease Lake 64.42 338 LR LR 00 44 56.2
comp=Z,7µm,18.2s,baz=136,slow=36
R33M Jennings River 65.45 339 P **P** **00 16 37.8 +1.6**
R33M IAmb IAmb 00 17 51.9
comp=Z,10nm,0.8s
S32K Killisnoo 65.53 336 IAMs_20 IAMs_20 00 43 13.0
comp=Z,3µm,21.0s
Q32M Nakina River 65.62 338 P **P** **00 16 37.9 +0.5**
JIS Juneau Island 65.98 337 IAMs_20 IAMs_20 00 45 25.9
comp=Z,3µm,18.0s
R32K Eaglecrest 66.04 336 IAMs_20 IAMs_20 00 44 29.3
comp=Z,3µm,21.0s
S31K Pelican 66.53 336 IAMs_20 IAMs_20 00 45 20.5
comp=Z,3µm,19.0s
P32M Atlin 66.60 338 P **P** **00 16 46.0 +2.5**
P33M Teslin, Yukon 66.69 339 P **P** **00 16 45.8 +1.7**
P29M Windy Craggy 68.19 336 IAMs_20 IAMs_20 00 47 03.2
comp=Z,3µm,20.0s
O30N Mendenhall 68.27 338 P **P** **00 16 55.0 +1.0**
O30N IAmb IAmb 00 17 39.9
comp=Z,11nm,0.8s
HYT Haines Junctio 68.84 338 P **P** **00 16 57.5 -0.2**
O29M Mount Kennedy 68.94 337 P **P** **00 16 59.1 +0.9**
O29M IAMs_20 IAMs_20 00 45 13.0
comp=Z,3µm,22.0s
N30M Aishikik Lake 69.09 338 P **P** **00 17 00.1 +1.0**
N30M IAmb IAmb 00 17 35.3
comp=Z,13nm,1.1s
N30M Aishikik Lake 69.09 338 P **P** **00 17 01.0 +1.9**
baz=129
PMSA Palmer Station 69.11 168 LR LR 00 41 32.9
comp=Z,1µm,18.7s,baz=328,slow=31
BCPM Bancas Point 69.15 336 IAMs_20 IAMs_20 00 47 52.6
comp=Z,2µm,20.0s
M30M Minto, Yukon 69.69 339 P **P** **00 17 04.9 +2.0**
LOGN Logan Glacier 70.21 336 P **P** **00 17 07.8 +1.6**
LOGN IAMs_20 IAMs_20 00 48 26.7
comp=Z,2µm,18.0s
M29M Somme Creek 70.21 339 P **P** **00 17 06.8 +0.7**
M29M IAmb IAmb 00 17 34.2
comp=Z,16nm,0.9s
M29M Somme Creek 70.21 339 P **P** **00 17 07.4 +1.3**
baz=128
CTGM Chitina Glacie 70.42 336 IAMs_20 IAMs_20 00 48 25.4
comp=Z,2µm,19.0s
GRNC Granite Creek 70.46 336 P **P** **00 17 07.8 0.0**
GRNC IAMs_20 IAMs_20 00 48 35.3
comp=Z,2µm,20.0s
L29M L29M 70.51 339 P **P** **00 17 09.4 +1.6**
L29M IAmb IAmb 00 17 25.9
comp=Z,13nm,0.9s
L29M IAMs_20 IAMs_20 00 47 36.5
comp=Z,2µm,20.0s
L29M L29M 70.51 339 P **P** **00 17 09.2 +1.4**
baz=129
BARN Barnard Glacie 70.61 336 P **P** **00 17 10.2 +1.6**
BARN IAMs_20 IAMs_20 00 48 40.2
comp=Z,2µm,18.0s
K29M Barlow Dome 70.76 340 P **P** **00 17 10.4 +0.9**
K29M IAMs_20 IAMs_20 00 49 07.2
comp=Z,3µm,18.0s
K29M Barlow Dome 70.76 340 P **P** **00 17 11.1 +1.7**
baz=130
J30M Hart River 70.84 341 P **P** **00 17 12.7 +2.7**
J30M IAMs_20 IAMs_20 00 48 58.2
comp=Z,2µm,18.0s
TGL Tana Glacier 70.91 336 P **P** **00 17 12.1 +1.7**
TGL IAMs_20 IAMs_20 00 47 58.2
comp=Z,2µm,19.0s
CRQM Cirque 71.04 336 P **P** **00 17 10.6 -0.6**
CRQM IAMs_20 IAMs_20 00 46 33.0
comp=Z,2µm,21.0s
RAR Rarotonga 71.05 247 LR LR 00 40 59.7
comp=Z,3µm,18.7s,baz=110,slow=30
BERG Berg Lake 71.07 335 P **P** **00 17 11.8 +0.5**
BERG IAMs_20 IAMs_20 00 49 20.5
comp=Z,2µm,18.0s
C36M Paulatuk 71.14 348 IAMs_20 IAMs_20 00 48 25.8
comp=Z,3µm,21.0s
I30M Mount Dempster 71.28 341 P **P** **00 17 12.8 +0.2**
I30M IAmb IAmb 00 17 16.2
comp=Z,23nm,0.9s
I30M IAMs_20 IAMs_20 00 49 22.8
comp=Z,3µm,18.0s
VRDI Verde Repeater 71.42 336 P **P** **00 17 13.6 0.0**
VRDI IAmb IAmb 00 17 29.1
comp=Z,17nm,1.0s
VRDI IAMs_20 IAMs_20 00 48 04.8
comp=Z,2µm,21.0s
M27K Edge Creek, AK 71.44 338 P **P** **00 17 14.0 +0.4**
M27K IAMs_20 IAMs_20 00 48 15.1
comp=Z,4µm,20.0s
RAGM Ragged Mountai 71.48 335 IAMs_20 IAMs_20 00 45 18.3
comp=Z,2µm,20.0s
DAWY Dawson 71.55 340 P **P** **00 17 14.9 +0.8**
GLB Gilahina Butte 71.69 336 P **P** **00 17 14.7 -0.3**
GLB IAmb IAmb 00 17 23.2
comp=Z,19nm,1.2s
GLB IAMs_20 IAMs_20 00 48 44.7
comp=Z,2µm,20.0s
BMRM Bremner River 71.76 336 P **P** **00 17 16.6 +1.2**
BMRM IAmb IAmb 00 17 40.1
comp=Z,27nm,1.0s
G31M Satah River 71.80 343 P **P** **00 17 15.1 -0.4**
G31M IAmb IAmb 00 17 34.3
comp=Z,80nm,1.8s
G31M IAMs_20 IAMs_20 00 50 01.4
comp=Z,5µm,18.0s
L27K Beaver Creek, 71.83 338 P **P** **00 17 16.6 +0.8**
L27K IAmb IAmb 00 17 22.1
comp=Z,14nm,0.8s
L27K IAMs_20 IAMs_20 00 49 16.3
comp=Z,6µm,18.0s
M26K Nabesna, AK 71.89 337 P **P** **00 17 16.4 +0.2**
M26K IAmb IAmb 00 17 23.7
comp=Z,12nm,1.1s
M26K IAMs_20 IAMs_20 00 47 46.1
comp=Z,3µm,22.0s
I29M Ogilvie Camp, 71.99 341 IAMs_20 IAMs_20 00 49 44.6
comp=Z,2µm,19.0s
N25K Chitina, Valde 72.09 336 P **P** **00 17 17.1 -0.4**
N25K IAmb IAmb 00 17 26.3
comp=Z,14nm,0.9s
N25K IAMs_20 IAMs_20 00 46 09.5
comp=Z,3µm,22.0s
EPYK Eagle Plains 72.15 342 P **P** **00 17 17.2 -0.5**
EPYK IAmb IAmb 00 17 35.9
comp=Z,13nm,0.9s
HIN Hinchinbrook I 72.26 334 P **P** **00 17 17.1 -1.3**
HIN IAMs_20 IAMs_20 00 48 18.1
comp=Z,2µm,19.0s
DIV Divide 72.33 335 P **P** **00 17 18.8 -0.1**
L26K Log Cabin Wild 72.38 338 P **P** **00 17 19.4 +0.4**
L26K IAmb IAmb 00 17 47.5
comp=Z,19nm,1.3s
G30M tAoh Zraii Nji 72.40 343 IAMs_20 IAMs_20 00 49 59.4
comp=Z,3µm,18.0s

I28M Miner Creek 72.58 341 IAMs_20 IAMs_20 00 50 19.2
comp=Z,3µm,18.0s
EGAK Eagle 72.59 340 IAMs_20 IAMs_20 00 49 52.5
comp=Z,2µm,19.0s
G29M Pine Creek 72.89 342 IAMs_20 IAMs_20 00 50 13.4
comp=Z,4µm,20.0s
A36M Sachs Harbour 73.52 349 IAMs_20 IAMs_20 00 51 19.7
comp=Z,3µm,21.0s
KDAK Kodiak Island 73.89 331 LR LR 00 48 50.0
comp=Z,2µm,18.6s,baz=137,slow=35
F28M Old Crow 73.90 342 P **P** **00 17 29.5 +1.5**
F28M IAmb IAmb 00 17 46.9
comp=Z,29nm,1.4s
G27K Doyon Strip 73.96 341 IAMs_20 IAMs_20 00 51 01.7
comp=Z,3µm,18.0s
OHAK Old Harbor 74.02 330 P **P** **00 17 29.4 +0.6**
E28M Babbage River 74.42 343 IAMs_20 IAMs_20 00 51 16.6
comp=Z,2µm,18.0s
HDA Harding Lake 74.47 338 P **P** **00 17 31.0 -0.4**
PRP Porcupine Dome 74.53 339 P **P** **00 17 32.4 +0.5**
PRP IAmb IAmb 00 17 59.1
comp=Z,23nm,1.3s
PRP IAMs_20 IAMs_20 00 50 43.8
comp=Z,2µm,18.0s
ILAR Eielson Array 74.63 338 P **P** **00 17 30.1 -2.2**
comp=Z,3.6nm,0.9s,baz=138,slow=4.8,SNR=10
comp=Z,3.6nm,0.9s
RND Reindeer 74.71 337 IAMs_20 IAMs_20 00 51 28.7
comp=Z,2µm,19.0s
FYU Fort Yukon 75.00 340 IAMs_20 IAMs_20 00 51 39.1
comp=Z,2µm,18.0s
TRF Thorofare Moun 75.30 336 IAMs_20 IAMs_20 00 51 37.3
comp=Z,2µm,20.0s
KTH Kantishna Hill 75.60 336 IAMs_20 IAMs_20 00 51 46.2
comp=Z,2µm,20.0s
P18K Big Mountain, 75.79 332 IAMs_20 IAMs_20 00 49 33.4
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 75.87 337 IAMs_20 IAMs_20 00 51 16.3
comp=Z,3µm,20.0s
O18K Koktuh Hills 75.95 332 IAMs_20 IAMs_20 00 50 15.6
comp=Z,2µm,18.0s
E25K Arctic Village 75.95 342 P **P** **00 17 41.6 +1.8**
E25K IAmb IAmb 00 17 58.6
comp=Z,13nm,1.0s
E25K IAMs_20 IAMs_20 00 52 22.2
comp=Z,3µm,19.0s
CAST Castle Rocks 76.01 336 IAMs_20 IAMs_20 00 51 52.0
comp=Z,2µm,20.0s
F24K Squaw Lake 76.39 341 IAMs_20 IAMs_20 00 52 33.7
comp=Z,3µm,18.0s
N18K Kilae Creek 76.57 333 P **P** **00 17 42.0 -1.5**
G23K Bananza Creek 76.72 339 IAMs_20 IAMs_20 00 52 46.6
comp=Z,3µm,18.0s
D25K Kavik River 76.85 342 P **P** **00 17 45.4 +0.4**
D25K IAmb IAmb 00 18 03.2
comp=Z,22nm,1.0s
D25K IAMs_20 IAMs_20 00 52 53.9
comp=Z,2µm,18.0s
D25K Kavik River 76.85 342 P **P** **00 17 46.4 +1.4**
baz=122
E24K Your Creek 76.86 341 IAMs_20 IAMs_20 00 53 00.3
comp=Z,3µm,18.0s
J20K Nowinta River 77.16 336 IAMs_20 IAMs_20 00 48 30.4
comp=Z,2µm,21.0s
O16K Kokwok River B 77.23 331 IAMs_20 IAMs_20 00 50 47.5
comp=Z,2µm,19.0s
D24K Happy Valley 77.51 342 IAMs_20 IAMs_20 00 53 21.4
comp=Z,3µm,20.0s
I20K Naaghedeneel 77.54 337 IAMs_20 IAMs_20 00 52 57.4
comp=Z,3µm,19.0s
E22K Anaktuvuk Pass 77.99 340 IAMs_20 IAMs_20 00 53 02.1
comp=Z,2µm,20.0s
F21K Alatna River 78.17 339 IAMs_20 IAMs_20 00 53 23.9
comp=Z,3µm,18.0s
N15K Kwethluk River 78.37 331 IAMs_20 IAMs_20 00 51 13.6
comp=Z,2µm,19.0s
F20K Avaraart Lake 78.90 339 P **P** **00 17 56.0 -0.3**
G19K Purcell Mounta 79.06 338 P **P** **00 17 58.0 +0.7**
G19K IAmb IAmb 00 18 04.3
comp=Z,21nm,1.1s
G19K IAMs_20 IAMs_20 00 53 51.6
comp=Z,3µm,19.0s
H18K Honhosa River 79.21 337 IAMs_20 IAMs_20 00 54 00.5
comp=Z,2µm,18.0s
H18K Honhosa River 79.21 337 P **P** **00 18 00.0 +1.9**
baz=110
B22K Teshekpuk Lake 79.48 342 IAMs_20 IAMs_20 00 54 25.4
comp=Z,2µm,18.0s
B21K Ikpikpuk River 79.55 341 IAMs_20 IAMs_20 00 53 06.3
comp=Z,2µm,20.0s
G18K Tagagawik 79.57 337 P **P** **00 18 00.8 +0.7**
G18K IAmb IAmb 00 18 19.3
comp=Z,48nm,1.7s
G18K Tagagawik 79.57 337 P **P** **00 18 02.3 +2.2**
baz=110
BORG Borgarnes 79.86 24 LR LR 00 50 59.0
comp=Z,1µm,19.7s,baz=251,slow=34
A22K Sinclair Lake 80.23 343 P **P** **00 18 02.0 -1.4**
baz=114
D19K Kuna River 80.28 340 IAMs_20 IAMs_20 00 55 03.7
comp=Z,3µm,18.0s
B20K Meade River 80.51 341 P **P** **00 18 05.9 +0.9**
B20K IAmb IAmb 00 18 13.1
comp=Z,21nm,0.9s
B20K IAMs_20 IAMs_20 00 53 47.8
comp=Z,2µm,20.0s
G16K Koyuk River 80.88 336 IAMs_20 IAMs_20 00 55 03.7
comp=Z,2µm,20.0s
C19K Lookout Ridge 80.99 340 IAMs_20 IAMs_20 00 55 46.5
comp=Z,3µm,18.0s
C19K Lookout Ridge 80.99 340 P **P** **00 18 10.1 +2.4**
baz=109
E17K Hotham Inlet 81.16 338 P **P** **00 18 10.0 +1.4**
baz=107
AFI Afiamalu 81.62 256 IAMs_20 IAMs_20 00 47 18.9
comp=Z,2µm,19.0s
B18K Kokolik River 81.82 340 P **P** **00 18 13.5 +1.5**
baz=107
RDOG Red Dog Mine 81.83 339 P **P** **00 18 10.6 -1.5**
RDOG IAmb IAmb 00 18 26.9
comp=Z,24nm,1.4s
RDOG IAMs_20 IAMs_20 00 55 33.8
comp=Z,2µm,19.0s
F15K North Star Dit 81.88 336 IAMs_20 IAMs_20 00 55 43.2
comp=Z,2µm,19.0s
ANM Nome 81.91 335 IAMs_20 IAMs_20 00 55 26.0
comp=Z,2µm,19.0s
C16K Lisburne Hills 82.77 339 P **P** **00 18 16.2 -0.8**
C16K IAmb IAmb 00 18 25.2
comp=Z,14nm,0.9s
C16K IAMs_20 IAMs_20 00 56 22.6
comp=Z,2µm,19.0s
C16K Lisburne Hills 82.77 339 P **P** **00 18 18.6 +1.7**
baz=104
COI Coimbra 83.14 50 IAMs_20 IAMs_20 00 51 54.4
comp=Z,2µm,19.0s
BELA Belgrano 2 84.86 170 P **P** **00 18 29.5 +1.9**
BELA IAmb IAmb 00 18 37.0
comp=Z,13nm,0.7s
LIC Lamto 85.64 84 *e*P **P** **00 18 31.4 -1.4**
comp=Z,65nm,1.0s
TIC Toumodi 85.64 84⇑ *e*P **P** **00 18 33.1 +0.3**
comp=Z,2.4nm,0.2s
DBIC Dimbokro 85.80 83 P **P** **00 18 34.2 +0.7**
comp=Z,7.6nm,0.8s,baz=82,slow=2.3,SNR=5.0
comp=Z,7.6nm,0.8s
KIC Kosan Boka 85.92 84⇑ *i*P **P** **00 18 32.9 -1.3**
comp=Z,36nm,1.1s
MDT Midelt 85.93 57 LR LR 00 50 51.1
comp=Z,1µm,22.0s,baz=294,slow=31
JMIC Jan Mayen 85.94 19 LR LR 00 55 31.1
comp=Z,570nm,20.1s,baz=270,slow=35
PAB San Pablo 86.23 51 IAMs_20 IAMs_20 00 51 45.5
comp=Z,2µm,21.0s
ESDC Sonseca Array 86.53 51 P **P** **00 18 35.7 -1.1**
comp=Z,1.6nm,0.8s,baz=278,slow=5.5,SNR=8.6
ESDC LR LR 00 51 55.7
comp=Z,2µm,20.4s,baz=268,slow=32
comp=Z,1.6nm,0.8s
EKA Eskdalemuir Ar 87.32 35 P **P** **00 18 39.1 -1.0**
comp=Z,3.3nm,0.9s,baz=261,slow=3.5,SNR=2.8
comp=Z,3.3nm,0.9s
CTZ Chatham Island 88.08 226 IAMs_20 IAMs_20 00 48 17.8
comp=Z,2µm,22.0s
RAO Raoul Island 88.26 241 LR LR 00 48 33.9
comp=Z,2µm,21.6s,baz=100,slow=29
QSPA South Pole Qui 91.68 180 P **P** **00 19 01.8 +1.3**
comp=Z,4.4nm,0.7s,baz=125,slow=3.2,SNR=7.7

QSPA LR LR 00 54 40.7
comp=Z,691nm,18.1s,baz=137,slow=32
comp=Z,4.4nm,0.7s
SHEM Shemya Is, Ala 91.78 323 LR LR 00 51 23.1
comp=Z,1µm,21.5s,baz=106,slow=30
SPITS Spitsbergen Ar 91.89 11 LR LR 00 59 48.6
comp=Z,2µm,21.6s,baz=251,slow=35
TORD Torodi Ar. Bea 92.08 77 LR LR 00 56 59.3
comp=Z,970nm,21.9s,baz=266,slow=33
URZ Urewera 92.64 232 LR LR 00 52 50.9
comp=Z,2µm,19.6s,baz=258,slow=30
BFZ Birch Farm 93.29 230 IAMs_20 IAMs_20 00 55 26.9
comp=Z,2µm,18.0s
BILL Bilibino 93.30 338 IAMs_20 IAMs_20 01 03 07.8
comp=Z,1µm,19.0s
MRZ Mangatainoka R 93.80 230 IAMs_20 IAMs_20 00 52 29.3
comp=Z,2µm,20.0s
ECH Echery 94.10 42 IAMs_20 IAMs_20 00 54 50.1
comp=Z,2µm,20.0s
BNI Bardonecchia 94.15 45 IAMs_20 IAMs_20 00 53 36.5
comp=Z,2µm,21.0s
BHW Baring Head 94.32 229 IAMs_20 IAMs_20 00 54 15.9
comp=Z,1µm,19.0s
NOA NORSAR Array B 94.39 29 LR LR 00 59 51.4
comp=Z,423nm,19.5s,baz=290,slow=34
HIZ Hauiti 94.41 232 IAMs_20 IAMs_20 00 53 54.5
comp=Z,1µm,19.0s
SNZO South Karori 94.45 229 IAMs_20 IAMs_20 00 57 06.4
comp=Z,2µm,18.0s
TAM Tamanrasset 95.22 67 P **P** **00 19 17.1 -0.7**
TAM IAmb IAmb 00 19 31.2
comp=Z,9.3nm,1.4s
KHZ Kahutara 95.28 228 IAMs_20 IAMs_20 00 55 30.2
comp=Z,2µm,18.0s
VNDA Vanda 95.32 192 LR LR 00 52 06.3
comp=Z,718nm,21.2s,baz=117,slow=29
NNZ Nelson 95.45 229 IAMs_20 IAMs_20 00 54 51.9
comp=Z,2µm,19.0s
OUZ Omahuta 95.51 235 IAMs_20 IAMs_20 00 56 15.9
comp=Z,1µm,19.0s
HFS Hagfors 95.78 29 LR LR 01 01 17.5
comp=Z,953nm,18.1s,baz=282,slow=35
THZ Tophouse 95.78 228 IAMs_20 IAMs_20 00 54 29.5
comp=Z,2µm,19.0s
TUE Stuetta 95.81 43 IAMs_20 IAMs_20 00 57 23.4
comp=Z,2µm,19.0s
QRZ Quartz Range 96.11 229 IAMs_20 IAMs_20 00 54 21.4
comp=Z,2µm,20.0s
DAVOX Davos/Dischmat 96.13 43 LR LR 00 57 54.0
comp=Z,1µm,19.8s,baz=261,slow=32
LTZ Lake Taylor 96.19 227 IAMs_20 IAMs_20 00 52 14.4
comp=Z,2µm,21.0s
FUORN Ofenpass-Fuorn 96.42 43 IAMs_20 IAMs_20 00 57 53.4
comp=Z,2µm,20.0s
RPZ Rata Peaks 97.02 226 LR LR 00 55 10.5
comp=Z,3µm,19.1s,baz=69,slow=30
NKC Novy Kostel 97.20 39 AMS AMS 00 57 00.0
comp=Z,3µm,20.0s
KEST Kesra 97.29 54 P **P** **00 19 25.0 -1.9**
comp=Z,4.6nm,0.8s,baz=317,slow=3.1,SNR=6.2
KEST LR LR 00 58 43.7
comp=Z,616nm,20.4s,baz=234,slow=33
comp=Z,4.6nm,0.8s
ARCES ARCESS Array B 97.42 19 LR LR 01 02 15.8
comp=Z,510nm,18.8s,baz=296,slow=35
HSKC Hora Svate Kat 97.75 39 AMS AMS 00 56 50.0
comp=Z,2µm,22.9s
KHC Kasperske Hory 98.15 40 AMS AMS 00 57 30.0
comp=Z,4µm,20.8s
GERES GERESS Array B 98.29 40 LR LR 00 58 55.9
comp=Z,2µm,20.2s,baz=264,slow=32
PVCC Panska Ves 98.47 38 AMS AMS 00 57 30.0
comp=Z,2µm,21.7s
ZVC Zvikov 98.47 40 AMS AMS 00 57 30.0
comp=Z,3µm,20.1s
PRA Prague 98.49 39 AMS AMS 00 58 00.0
comp=Z,2µm,21.2s
PRU Pruhonice 98.57 39 AMS AMS 00 58 10.0
comp=Z,3µm,22.0s
GOPC GO Pecny, Ondr 98.75 39 AMS AMS 00 57 50.0
comp=Z,3µm,24.0s
TREC Trest 99.33 40 AMS AMS 00 58 20.0
comp=Z,3µm,23.3s
UPC Upice 99.37 38 AMS AMS 00 58 20.0
comp=Z,1µm,16.8s
OSTC Ostas 99.48 38 AMS AMS 00 58 10.0
comp=Z,2µm,25.3s
DPC Dobruska-Polom 99.60 38 AMS AMS 00 58 50.0
comp=Z,2µm,21.7s
KRLC Kraliky 99.96 39 AMS AMS 00 58 50.0
comp=Z,2µm,17.4s
MAUC Maruska 100.80 39 AMS AMS 00 59 30.0
comp=Z,6µm,19.4s
OKC Ostrava-Krasne 100.87 39 AMS AMS 00 59 10.0
comp=Z,2µm,19.0s
H11S2 WAKE ISLAND Hyl 01.30 289 T T 02 12 44.8
baz=86
H11S1 WAKE ISLAND Hyl 01.30 289 T T 02 12 48.4
baz=86
H11S3 WAKE ISLAND Hyl 01.31 289 T T 02 12 37.8
baz=86
CUC Castrocucco 101.63 49 IAMs_20 IAMs_20 01 03 36.8
comp=Z,984nm,19.0s
TIXI Tiksi 102.50 348 IAMs_20 IAMs_20 01 08 54.9
comp=Z,1µm,21.0s
TIP Timpagrande 102.51 49 IAMs_20 IAMs_20 01 02 12.3
comp=Z,2µm,20.0s
KOUNC Koumac, New Ca 104.52 249 IAMs_20 IAMs_20 00 59 41.5
comp=Z,1µm,19.0s
WIN Windhoek 107.17 113 IAMs_20 IAMs_20 01 05 49.5
comp=Z,2µm,20.0s
CASY Casey 113.75 189 IAMs_20 IAMs_20 01 12 45.0
comp=Z,1µm,18.0s
CAN Canberra 115.30 231 IAMs_20 IAMs_20 01 08 09.6
comp=Z,784nm,18.0s
CTAO Charters Tower 121.36 248 IAMs_20 IAMs_20 01 08 04.5
comp=Z,862nm,19.0s
PMG Port Moresby 121.84 260 IAMs_20 IAMs_20 01 06 40.9
comp=Z,1µm,20.0s
GNI Garni 121.92 39 IAMs_20 IAMs_20 01 15 41.8
comp=Z,767nm,20.0s
STKA Stephens Creek 122.26 233 PKP **PKPdf** **00 24 47.9 -1.1**
comp=Z,2.1nm,0.7s,baz=167,slow=19,SNR=2.4
HIA Hailar 122.83 337 IAMs_20 IAMs_20 01 22 38.8
comp=Z,844nm,20.0s
ZALV Zalesovo Beam 124.48 3 PKP **PKPdf** **00 24 50.5 -2.1**
comp=Z,0.5nm,0.5s,baz=248,slow=1.6,SNR=2.4
KURBB Kurchatova 127.14 8 PKP **PKPdf** **00 24 56.8 -0.9**
comp=Z,0.4nm,0.4s,baz=350,slow=1.9,SNR=4.8
ULN Ulaanbaatar 128.28 345 IAMs_20 IAMs_20 01 25 21.1
comp=Z,924nm,18.0s
SONM Songino Array 128.47 345 PKP **PKPdf** **00 24 57.9 -2.7**
comp=Z,0.5nm,0.5s,baz=300,slow=2.8,SNR=2.4
FURI Furi 128.60 77 IAMs_20 IAMs_20 01 26 38.7
comp=Z,957nm,19.0s
GEYT Alibeck 131.27 33 PKP **PKPdf** **00 25 06.5 +0.4**
comp=Z,1.3nm,0.8s,baz=261,slow=6.7,SNR=2.1
MAKZ Makanchi 131.33 7 IAMs_20 IAMs_20 01 29 51.4
comp=Z,909nm,19.0s
MKAR Makanchi Array 131.38 6 PKP **PKPdf** **00 25 05.9 -0.1**
comp=Z,0.2nm,0.8s,baz=304,slow=1.8,SNR=2.0
ASAR Alice Springs 131.50 239 PKP **PKPdf** **00 25 05.7 -1.3**
comp=Z,0.3nm,0.4s,baz=90,slow=1.9,SNR=2.2
BJT Baijiatuau 131.74 332 IAMs_20 IAMs_20 01 29 46.9
comp=Z,872nm,20.0s
ATD Arta Tunnel 132.13 73 IAMs_20 IAMs_20 01 27 16.9
comp=Z,739nm,19.0s
WRA Warramunga Arr 132.28 244 PKP **PKPdf** **00 25 07.9 -0.5**
comp=Z,1.2nm,0.7s,baz=101,slow=2.1,SNR=8.2
HHC Hu-ho-hao-te 133.04 337 *e*PKP **PKPdf** **00 25 05.7 -3.7**
WMQ Urumqi 134.71 2 *e*PKP **PKiKP** **00 25 13.2 -0.7**
WMQ LR LR
comp=Z,810nm,21.1s
NJ2 Nanjing 136.25 323 *e*PKP **PKPdf** **00 25 15.0 -0.5**
FAKI Fak Fak 136.95 268 IAMs_20 IAMs_20 01 16 29.4
comp=Z,1µm,20.0s
H01W1 Cape Leeuwin H 139.56 212 T T 03 00 55.4
baz=138,slow=75,SNR=7.6
H01W2 Cape Leeuwin H 139.57 212 T T 03 00 59.3
baz=138,slow=75,SNR=8.6
H01W3 Cape Leeuwin H 139.58 212 T T 03 00 51.3
baz=138,slow=75,SNR=7.4
KNMB Chin-men Tao 141.56 314 IAMs_20 IAMs_20 01 16 42.4
comp=Z,1µm,21.0s
ENH Enshi 142.81 330 IAMs_20 IAMs_20 01 36 24.2
comp=Z,917nm,20.0s
SOEI Soe 144.20 256 IAMs_20 IAMs_20 01 27 38.3
comp=Z,1µm,20.0s

CD2	**Chengdu**	**144.77**	**338**	PKP	**PKPdf**	**00 25 31.3**	**+0.3**
CD2				LR	LR		
	comp=Z,900nm,21.3s						
LSA	**Lhasa**	**148.77**	**357**	IAMs_20	IAMs_20	01 32 55.9	
	comp=Z,779nm,21.0s						
PZH	**PanZhiHua**	**149.50**	**337**	PKPbc	**PKPbc**	**00 25 41.7**	**-1.9**
PZH				PP	**PP**	**00 29 13.6**	**-1.0**
PZH				SS	SS	00 48 31.5	+3.3
PZH				AMB	AMB		
	comp=Z,230nm,8.4s						
PZH				LR	LR		
	comp=Z,510nm,23.0s						
PZH				LR	LR		
	comp=Z,410nm,21.1s						
PZH				LR	LR		
	comp=Z,720nm,24.5s						
KMI	**Kunming**	**150.32**	**335**	⇑PKPbc	**PKiKP**	**00 25 46.7**	**+0.1**
QIZ	**Qiongzhong**	**151.11**	**316**	PKPbc	**PKPdf**	**00 25 40.9**	**-0.8**
QIZ				PP	**PP**	**00 29 23.8**	**-0.8**
QIZ				SS	SS	00 48 50.7	+3.3
QIZ				LR	LR		
	comp=Z,910nm,21.9s						
KKM	**Kota Kinabalu**	**151.94**	**286**	IAMs_20	IAMs_20	01 31 16.0	
	comp=Z,739nm,20.0s						
TNCH	**TengChong**	**151.98**	**342**	ePKPbc	**PKPdf**	**00 25 41.3**	**-1.8**
TNCH				PP	**PP**	**00 29 31.1**	**+2.3**
TNCH				AMB	AMB		
	comp=Z,240nm,5.2s						
TNCH				LR	LR		
	comp=Z,780nm,21.5s						
SLVN	**Son La**	**153.00**	**329**	IAMs_20	IAMs_20	01 42 49.4	
	comp=Z,853nm,19.0s						
CHTO	**Chiang Mai**	**157.51**	**335**	IAMs_20	IAMs_20	01 46 06.1	
	comp=Z,673nm,20.0s						

GUC 09 00:13:06.2±0.7, 34°32S×73°72W, h23km±5km, ML3.3, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.46**	**97**	*eP*	Pn	00 13 31.2	+0.1
BO03				*eS*	Sn	00 13 49.2	-0.3
BO03				IAML		00 13 50.4	
	comp=N,342nm,0.4s						
GO05	**Huala**	**1.62**	**116**	*eS*	Sn	00 13 51.9	-1.7
GO05				IAML		00 13 53.6	
	comp=E,396nm,0.3s						
VA05	**Santo Domingo**	**1.87**	**70**	*eP*	Pn	00 13 36.8	+0.1
VA05				*i* S	Sn	00 14 00.2	+0.6
VA05				IAML		00 14 06.7	
	comp=E,321nm,0.3s						
MT01	**Popeta**	**2.10**	**78⇑**	*i*P	Pn	00 13 39.8	-0.1
MT01				*i* S	Sn	00 14 05.0	-0.3
MT01				IAML		00 14 05.8	
	comp=N,128nm,0.2s						
BO01	**Tunca**	**2.18**	**93**	*eP*	Pn	00 13 41.3	+0.3
MT09	**Talagante**	**2.33**	**77⇑**	*i*P	Pn	00 13 43.3	+0.1
MT09				*i* S	Sn	00 14 11.4	+0.3
ML02	**Panimavida**	**2.37**	**128**	*eP*	Pn	00 13 44.4	+0.7
ML02				IAML		00 14 19.5	
	comp=E,149nm,0.5s						
MT02	**Curacav**	**2.39**	**64**	*eP*	Pn	00 13 44.1	+0.1
MT02				*i* S	Sn	00 14 12.8	+0.1
BI05	**Punta Hualpn**	**2.46**	**170⇑**	*i*P	Pn	00 13 41.9	-2.9
BI05				*i* S	Sn	00 14 06.5	-7.6
BI05				IAML		00 14 10.8	
	comp=E,197nm,0.2s						
BO02	**Sierra Bellavi**	**2.47**	**102**	*eP*	Pn	00 13 46.1	+1.0
BO02				*eS*	Sn	00 14 15.6	+1.0
BO04	**La Punta**	**2.60**	**84**	*eP*	Pn	00 13 47.8	+1.0
BO04				*eS*	Sn	00 14 19.1	+1.4
BO04				IAML		00 14 20.7	
	comp=N,169nm,0.6s						
ROCH	**El Roble**	**2.63**	**60**	*eP*	Pn	00 13 48.0	+0.6
ROCH				*i* S	Sn	00 14 20.1	+1.4
ROCH				IAML		00 14 23.2	
	comp=N,88nm,0.3s						
VA06	**Catapilco**	**2.68**	**50**	*eP*	Pn	00 13 47.9	0.0
VA06				*i* S	Sn	00 14 19.5	0.0
VA06				IAML		00 14 20.8	
	comp=N,169nm,0.2s						
MT15	**Las Vizcachas**	**2.76**	**76**	*eP*	Pn	00 13 49.9	+0.8
MT15				*i* S	Sn	00 14 22.9	+1.1
MT10	**Hacienda Santa**	**2.85**	**69**	*eP*	Pn	00 13 51.4	+1.1
MT10				*i* S	Sn	00 14 26.0	+2.1
MT10				IAML		00 14 29.8	
	comp=E,157nm,0.3s						
FCH	**Farellones**	**3.02**	**72**	*eP*	Pn	00 13 53.8	+1.0
FCH				*i* S	Sn	00 14 30.2	+1.7
FCH				IAML		00 14 31.4	
	comp=N,153nm,0.3s						
VA03	**San Esteban**	**3.07**	**60**	*eP*	Pn	00 13 54.5	+1.1
VA03				*i* S	Sn	00 14 30.8	+1.4
VA03				IAML		00 14 36.4	
	comp=E,135nm,0.2s						
CO02	**Combarbal**	**3.86**	**37**	*eP*	Pn	00 14 04.8	+0.6
CO02				*i* S	Sn	00 14 49.4	+0.4

GRAL 09 00:15:41.0±0.3, 33°78N×35°79E, h2km±15km, MD2.7, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAHL	**Zahle**	**0.11**	**43**	*eP*	Pg	00 15 43.0	-0.2
DQRL	**Deir Qamar**	**0.20**	**249**	*eP*	Pg	00 15 44.6	-0.3
DQRL				*eS*	Sg	00 15 47.3	-0.2
QRWL	**Qaraoun**	**0.25**	**202**	*eP*	Pg	00 15 45.3	-0.4
RCY	**Rachaya**	**0.28**	**173**	*eP*	Pg	00 15 46.1	-0.3
RCY				*eS*	Sg	00 15 49.8	-0.3

*IDC **09** 00:26:24.8±1.5, 47°29N×155°86E, h0km, mb3.5/4, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=40.3km s-min=29.5km az=113.0*
ISC 09 00:26:26.5±1.4, 47°4N±0°1×155°9E±0°3, h10km, n8, σ0s90/6, mb3.7/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.86**	**11**	Pn	**Pn**	**00 27 54.1**	**+0.8**
	0.6nm,0.3s,baz=209,slow=14,SNR=15						
PETK				Sn	**Sn**	**00 28 59.4**	**-1.2**
	baz=110,slow=18						
	1.5nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**30.13**	**159**	T	T	01 03 37.0	
	baz=345						
H11S3	**WAKE ISLAND Hy**	**30.14**	**159**	T	T	01 03 51.0	
	baz=345						
H11S2	**WAKE ISLAND Hy**	**30.15**	**159**	T	T	01 03 44.8	
	baz=345						
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**00 35 07.6**	**-0.2**
	0.4nm,0.8s,baz=67,slow=7.9,SNR=4.7						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**48.66**	**304**	P	**P**	**00 35 10.8**	**+0.4**
	0.9nm,0.6s,baz=66,slow=8.6,SNR=9.9						
	0.9nm,0.6s						
YKA	**Yellowknife Ar**	**49.29**	**38**	P	**P**	**00 35 15.2**	**+0.1**
	0.2nm,0.5s,baz=288,slow=6.4,SNR=4.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**69.75**	**202**	P	**P**	**00 37 36.2**	**-0.5**
	0.9nm,1.0s,baz=7.2,slow=8.0,SNR=4.8						
	0.9nm,1.0s						

IDC 09 00:37:53.3±12.0, 49°03S×106°32E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=670.3km s-min=56.1km az=122.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.25**	**25**	T	T	00 57 13.3	
	baz=199,slow=74,SNR=11						
H01W1	**Cape Leeuwin H**	**15.26**	**25**	T	T	00 57 14.2	
	baz=199,slow=74,SNR=14						
H01W3	**Cape Leeuwin H**	**15.27**	**25**	T	T	00 57 13.7	
	baz=199,slow=74,SNR=15						
ASAR	**Alice Springs**	**33.34**	**51**	P	P	00 44 32.6	-0.4
	0.9nm,0.8s,baz=213,slow=7.1,SNR=6.8						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**36.69**	**48**	P	P	00 45 02.1	+0.2
	1.0nm,0.8s,baz=210,slow=8.4,SNR=4.8						
	1.0nm,0.8s						
TXAR	**Lajitas Array**	**149.85**	**120**	PKPbc	PKPbc	00 57 44.9	-0.4
	0.3nm,0.7s,baz=183,slow=5.0,SNR=3.8						

*IDC **09** 00:43:45.0±0.8, 30°43S×178°24W, h0km, mb4.7/4, mbtmp4.5/5, ML3.5/1, Error ellipse: s-maj=29.5km s-min=26.4km az=133.0*
*NEIC **09** 00:43:48.3±2.2, 30°4S±0°1×177°85W±0°06, h35km±1km, mb4.6/22, Error ellipse: s-maj=19.0km s-min=8.2km az=188.0*
ISC 09 00:43:50.3±0.7, 30°51S±0°09×178°3W±0°1, h35km, n47, σ1s10/48, mb4.7/14, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.59**	**201**	Pn	**Pn**	**00 45 39.3**	**+0.9**
URZ	**Urewera**	**8.63**	**205**	Pn	**Pn**	**00 45 52.7**	**+0.1**
	0.5nm,0.3s,baz=24,slow=20,SNR=1.8						
URZ				Sn	**Sn**	**00 47 25.5**	**-3.1**
	6.4nm,0.3s,baz=220,slow=23,SNR=14						
	1.6nm,0.3s						
RTZ	**Ruatahuna**	**8.99**	**205**	Pn	**Pn**	**00 45 57.7**	**0.0**
BFZ	**Birch Farm**	**11.09**	**202**	Pn	**Pn**	**00 46 25.8**	**-0.6**
BHW	**Baring Head**	**12.21**	**205**	Pn	**Pn**	**00 46 40.8**	**-0.9**
TCW	**Tory Channel**	**12.27**	**207**	Pn	**Pn**	**00 46 41.2**	**-1.2**
THZ	**Tophouse**	**13.30**	**210**	Pn	**Pn**	**00 46 58.0**	**+1.4**
GVZ	**Greta Valley S**	**14.25**	**207**	Pn	**Pn**	**00 47 10.2**	**+0.7**
WKZ	**Wanaka**	**17.46**	**212**	P	**P**	**00 47 52.5**	**+0.7**
WKZ				IAmb	IAmb	00 48 06.1	
	comp=Z,29nm,1.2s						
CTAO	**Charters Tower**	**33.60**	**280**	P	**P**	**00 50 28.9**	**+1.5**
CTAO				IAmb	IAmb	00 50 33.5	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**34.24**	**257**	P	**P**	**00 50 34.0**	**+1.1**
STKA	**Stephens Creek**	**34.24**	**257**	P	**P**	**00 50 33.9**	**+1.1**
	comp=Z,12nm,0.7s,baz=102,slow=11,SNR=17						
	comp=Z,12nm,0.7s						
BBOO	**Buckleboo**	**38.73**	**254**	P	**P**	**00 51 11.4**	**+0.3**
BBOO				IAmb	IAmb	00 51 13.3	
	comp=Z,12nm,0.9s						
COEN	**Coen**	**39.09**	**286**	P	**P**	**00 51 14.7**	**+0.4**
COEN				IAmb	IAmb	00 51 29.8	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**42.88**	**267**	P	**P**	**00 51 45.0**	**-0.5**
ASAR	**Alice Springs**	**42.88**	**267**	P	**P**	**00 51 45.2**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=108,slow=7.9,SNR=26						
	comp=Z,1.5nm,0.3s						
WR0	**Warramunga Arr**	**43.70**	**272**	P	**P**	**00 51 52.3**	**+0.2**
WB2	**Warramunga Arr**	**43.87**	**272**	P	**P**	**00 51 53.5**	**0.0**
WB2				IAmb	IAmb	00 51 56.1	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**43.88**	**272**	P	**P**	**00 51 53.5**	**-0.1**
	comp=Z,5.0nm,0.3s,baz=111,slow=8.1,SNR=114						
WRA				PcP	**PcP**	**00 53 37.9**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=124,slow=3.0,SNR=8.1						
	comp=Z,5.0nm,0.3s						
WB0	**Warramunga Arr**	**43.91**	**273**	P	**P**	**00 51 53.7**	**-0.1**
WB0				IAmb	IAmb	00 51 54.2	
	comp=Z,6.6nm,0.5s						
FORT	**Forrest**	**45.81**	**255**	P	**P**	**00 52 08.3**	**-0.4**
FORT				IAmb	IAmb	00 52 20.5	
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**47.97**	**186**	P	**P**	**00 52 26.9**	**+1.9**
MTN	**Manton Dam**	**49.78**	**279**	P	**P**	**00 52 38.6**	**-1.1**
MTN				IAmb	IAmb	00 52 55.4	
	comp=Z,6.9nm,1.1s						
KNRA	**Kununurra**	**50.49**	**275**	P	**P**	**00 52 44.7**	**-0.5**
KNRA				IAmb	IAmb	00 52 52.1	
	comp=Z,8.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.14**	**270**	P	**P**	**00 52 57.0**	**-0.5**
QSPA	**South Pole Qui**	**59.60**	**180**	P	**P**	**00 53 50.9**	**+0.5**
QSPA				IAmb	IAmb	00 53 56.1	
	comp=Z,7.2nm,0.8s						
QSPA	**South Pole Qui**	**59.60**	**180**	P	**P**	**00 53 51.1**	**+0.7**
	comp=Z,6.7nm,0.7s,baz=108,slow=1.1,SNR=6.6						
	comp=Z,6.7nm,0.7s						
G08A	**Pilot Rock**	**92.68**	**37**	P	P	00 56 49.5	-8.9
KNK	**Knik Glacier**	**94.74**	**14**	P	**P**	**00 57 06.2**	**-1.2**
TTA	**Tatalina**	**94.80**	**10**	P	**P**	**00 57 05.4**	**-2.3**
TTA				IAmb	IAmb	00 57 23.9	
	comp=Z,2.3nm,1.2s						
GHO	**Glory Hole Cre**	**94.97**	**14**	P	P	00 57 02.0	-6.5
SML	**Sawmill**	**95.12**	**14**	P	**P**	**00 57 05.9**	**-3.3**
J18K	**Innoko River**	**95.20**	**10**	P	**P**	**00 57 10.6**	**+1.1**
J18K				IAmb	IAmb	00 57 11.7	
	comp=Z,1.4nm,1.0s						
FYU	**Fort Yukon**	**99.99**	**13**	Pdif	**Pdif**	**00 57 30.1**	**-0.8**
MKAR	**Makanchi Array**	**117.67**	**310**	PKP	**PKiKP**	**01 02 33.1**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=116,slow=1.3,SNR=7.4						
KURBB	**Kurchatov Arra**	**121.00**	**314**	PKP	**PKPdf**	**01 02 37.1**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=116,slow=2.2,SNR=9.1						
BVAR	**Borovoye Array**	**126.33**	**316**	PKP	**PKPdf**	**01 02 48.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=122,slow=2.9,SNR=6.1						
ARCES	**ARCESS Array B**	**138.65**	**348**	PKP	**PKiKP**	**01 03 13.1**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=349,slow=2.5,SNR=5.4						
KBZ	**Khabaz**	**144.99**	**304**	PKP	**PKPdf**	**01 03 23.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=253,slow=2.5,SNR=4.4						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	**PKPab**	**01 03 23.1**	**+0.1**
	comp=Z,4.4nm,0.4s,baz=52,slow=2.6,SNR=45						
NB2	**NORSAR Subarra**	**148.82**	**351**	PKP	**PKiKP**	**01 03 35.6**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**148.82**	**351**	PKPbc	**PKPbc**	**01 03 34.3**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=14,slow=4.2,SNR=9.5						
HFS	**Hagfors**	**149.30**	**348**	PKPbc	**PKPbc**	**01 03 34.7**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=106,slow=2.9,SNR=12						
AKASG	**Malin Array Be**	**151.25**	**322**	PKPbc	**PKPbc**	**01 03 39.4**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=48,slow=2.4,SNR=8.4						
MMAI	**Mount Meron Ar**	**151.34**	**284**	PKPbc	**PKiKP**	**01 03 41.0**	**0.0**
	comp=Z,2.7nm,0.5s,baz=86,slow=6.0,SNR=12						
BRTR	**Keskin Array B**	**152.46**	**298**	PKPbc	**PKPbc**	**01 03 43.0**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=139,slow=4.4,SNR=9.1						
TORD	**Torodi Ar. Bea**	**162.72**	**180**	PKP	**PKPdf**	**01 03 49.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=149,slow=1.2,SNR=3.1						
TORD				PKPab	**PKPab**	**01 04 38.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=174,slow=3.3,SNR=8.7						

TAP 09 00:48:46.8, 24°90N×122°45E, h8km±1km, ML2.4, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.44**	**284**	*eP*	Pb	00 48 56.3	-0.4
	baz=285						
TWB1				*i* S	Sb	00 49 03.3	-0.1
	baz=285						
EGS		**0.48**	**264**	*eP*	Pb	00 48 57.0	-0.4
	baz=263						
EOS2	**EOS2**	**0.52**	**203**	P	Pb	00 48 57.9	-0.2
	baz=197						
EOS2				*eS*	Sb	00 49 05.6	-0.1
	baz=197						
SXI1	**Grass Mountain**	**0.56**	**290**	P	Pb	00 48 59.0	+0.1
	baz=291						
SXI1				*eS*	Sb	00 49 08.0	+0.9
	baz=291						
TIPB	**Shuangxi**	**0.57**	**277**	*eP*	Pb	00 48 59.3	+0.2
	baz=277						
TIPB				*eS*	Sb	00 49 07.6	+0.2
	baz=277						
TWC	**Suao**	**0.62**	**242**	*eP*	Pg	00 48 59.2	+0.5
	baz=242						
EOS3	**EOS3**	**0.62**	**192**	P	Pb	00 48 59.8	0.0
	baz=185						
EOS3				*eS*	Sb	00 49 09.5	+0.9
	baz=185						
NWF	**Wu-fen Shan**	**0.63**	**286**	*eP*	Pb	00 49 00.7	+0.6
	baz=286						
WFSB	**Wu-fen Shan**	**0.63**	**286**	*eP*	Pb	00 49 00.7	+0.6
	baz=286						
TWE	**Neicheng**	**0.74**	**256**	*eP*	Pb	00 49 01.8	0.0
	baz=256						
EWUT	**Wuta**	**0.76**	**234**	*eP*	Pb	00 49 02.0	-0.3
	baz=233						
EOS4	**EOS4**	**0.79**	**189**	P	Pb	00 49 02.7	+0.2
	baz=178						
EOS4				*eS*	Sb	00 49 13.3	+0.2
	baz=178						
FUSB	**Fushanzhiwuyua**	**0.80**	**260**	*eP*	Pb	00 49 03.1	+0.2
	baz=248						
YM01	**YM01**	**0.84**	**287**	*eP*	Pn	00 49 04.6	-0.3
	baz=288						
NWLT	**Wulai**	**0.87**	**262**	*eP*	Pb	00 49 04.6	+0.4
	baz=262						
NDT	**Datong Townshi**	**0.91**	**251**	*eP*	Pb	00 49 05.0	+0.2
	baz=251						
LATG	**Datong**	**0.92**	**247**	*eP*	Pb	00 49 05.1	+0.1
	baz=246						
YHNB	**Yeheng**	**1.01**	**257**	*eP*	Pb	00 49 06.6	+0.1
	baz=269						
NSK	**Sanguang**	**1.02**	**258**	*eP*	Pb	00 49 07.0	+0.3
	baz=270						
NACB	**Ninganchiao**	**1.06**	**227**	*eP*	Pg	00 49 07.3	+0.1
	baz=226						
NNSB	**Datong**	**1.08**	**244**	*eP*	Pb	00 49 07.9	+0.1
	baz=229						
NNS	**Nan Shan**	**1.08**	**245**	*eP*	Pb	00 49 08.0	+0.2
	baz=244						
ETLH	**Xiulin Townshi**	**1.12**	**232**	*eP*	Pg	00 49 08.3	-0.1
	baz=231						
LXIB	**Xiulin Townshi**	**1.29**	**228**	*eP*	Pn	00 49 11.2	0.0
	baz=226						
WHF	**Hehuan Shan**	**1.32**	**235**	*eP*	Pb	00 49 12.0	0.0
	baz=234						
CHGB	**Renai**	**1.44**	**235**	*eP*	Pb	00 49 14.1	+0.2
	baz=233						

JMA 09 00:49:35.8±0.4, 24°N±1°×122°4E±°, h24km±1km, MV1.5/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.18**	**15**	P	Pb	00 49 40.9	-0.2
HATJ				S	Sb	00 49 44.5	-0.1
JKRS	**Kuro-shima**	**0.42**	**33**	P	Pb	00 49 44.7	+0.1
JKRS				S	Sb	00 49 50.9	+0.3
IRIF	**Iriomote-Funau**	**0.45**	**357**	P	Pb	00 49 45.0	-0.1
IRIF				S	Sb	00 49 51.3	-0.1
JIJ	**Ishigaki jima**	**0.59**	**37**	P	Pb	00 49 47.0	-0.5
JIJ				S	Sb	00 49 54.4	-1.1
JISG	**Ishigakijimahi**	**0.86**	**36**	P	Pb	00 49 51.5	-0.5
JISG				S	Sb	00 50 03.0	-0.2

*SOME **09** 01:10:09.2, 50°47N×86°70E, h20km*
*NNC **09** 01:10:15.2±1.6, 50°22N×87°76E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=14.5km s-min=6.1km az=102.0*
ISC 09 01:10:12.4±2.1, 50°32N±0°04×87°0E±0°1, h5km, n8, σ2s16/12, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.19**	**206**	*eP*	**Pb**	**01 11 11.1**	**+1.6**
	2.1nm,0.1s						
ZSN				*eS*	**Sg**	**01 11 55.3**	**+0.5**
	4.6nm,0.3s						
ZSN	**Zaisan**	**3.19**	**206**	*eP*	**Pb**	**01 11 11.6**	**+2.1**
	2.1nm,0.1s						
ZSN				*eS*	**Sg**	**01 11 55.3**	**+0.5**
	8.5nm,0.2s						
ZAA0	**Zalesovo Array**	**3.86**	**341**	⇓Pn	**Pb**	**01 11 19.2**	**-1.8**
	0.1nm,0.4s						
ZAA0				⇓Sn	**Sb**	**01 12 09.8**	**+1.7**
	0.3nm,0.6s						
ZAA0				⇑Lg	Lg	01 12 27.6	
	1.1nm,0.8s						
MK31	**Makanchi Array**	**4.70**	**223**	Pn	**Pb**	**01 11 33.1**	**-2.1**
	0.5nm,0.3s,baz=55,slow=14,SNR=53						
MK31				⇑Sn	**Sb**	**01 12 31.2**	**-0.9**
	1.1nm,0.5s,baz=54,slow=22,SNR=6.2						
MK31				⇑Lg	Lg	01 12 51.0	
	3.3nm,0.7s,baz=59,slow=32,SNR=3.0						
MAKZ	**Makanchi**	**4.83**	**225**	⇓Pn	**Pb**	**01 11 34.5**	**-2.9**
	0.4nm,0.3s						
MAKZ				⇑Sn	**Sb**	**01 12 33.8**	**-2.0**
	1.1nm,0.5s						
MAKZ				⇑Lg	Lg	01 12 56.1	
	3.0nm,0.7s						
KURK	**Kurchatov**	**5.33**	**277**	⇓Pn	Pb	01 11 42.5	-3.5
	0.7nm,0.4s						
KURK				⇓Sn	**Sb**	**01 12 52.9**	**+2.6**
	0.7nm,0.6s						
KURK				⇓Lg	Lg	01 13 24.0	
	3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**5.39**	**276**	⇑Pn	Pb	01 11 43.5	-3.4
	1.8nm,0.3s						
KURBB				⇑Sn	**Sb**	**01 12 53.9**	**+2.0**
	3.2nm,0.6s						
KURBB				⇑Lg	Lg	01 13 21.9	
	5.6nm,0.7s						
KAPS	**Kapalarasan**	**7.18**	**228**	*eP*	Pn	01 12 07.1	+9.1
	0.4nm,0.1s						
KAPS				*eS*	Sn	01 13 31.1	+11
	2.3nm,0.3s						

*IDC **09** 01:37:50.3±1.7, 21°09S×68°36W, h0km, mb4.0/3, mbtmp4.0/3, MS3.9/2, Error ellipse: s-maj=68.3km s-min=53.6km az=75.0*
*SJA **09** 01:38:02.6±0.9, 21°22S×68°67W, h130km±8km, ML3.8, MW3.8*
*GUC **09** 01:38:04.6±0.6, 21°24S×68°63W, h116km±2km, ML3.6*
ISC 09 01:38:04.6±0.9, 21°25S±0°03×68°71W±0°09, h121km±7km, n29, σ0s81/45, mb3.6/3, 6C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.74**	**222**	*i* P	**Pn**	**01 38 24.6**	**0.0**
PB09				*eS*	**Sn**	**01 38 40.6**	**+0.9**
PB09				IAML		01 38 41.4	
	comp=Z,1μm,0.5s						
PB09	**IPOC Station P**	**0.74**	**222⇑**	*i*P	**Pn**	**01 38 24.5**	**-0.1**
PB09				*i* S	**Sn**	**01 38 39.9**	**+0.2**
PB09				IAML		01 38 42.1	
	comp=E,1μm,0.6s						
PB01	**IPOC Station P**	**0.76**	**285⇑**	*eP*	**Pn**	**01 38 23.9**	**-0.8**
PB01				*i* S	**Sn**	**01 38 38.9**	**-0.8**
PB01				IAML		01 38 40.8	
	comp=E,2μm,0.5s						
PB02	**IPOC Station P**	**1.11**	**266**	*i* P	**Pn**	**01 38 27.8**	**-0.2**
PB02				*eS*	**Sn**	**01 38 46.5**	**+0.8**
PB02	**IPOC Station P**	**1.11**	**266⇑**	*i*P	**Pn**	**01 38 27.7**	**-0.2**
PB02				*i* S	**Sn**	**01 38 45.2**	**-0.5**
PB08	**IPOC Station P**	**1.18**	**339⇓**	*i*P	**Pn**	**01 38 28.8**	**-0.2**
PB08				*i* S	**Sn**	**01 38 47.1**	**-0.3**
PB07	**IPOC Station P**	**1.20**	**246**	*i* P	**Pn**	**01 38 28.8**	**-0.2**
PB07				*eS*	**Sn**	**01 38 48.2**	**+0.8**
PB07				IAML		01 38 48.5	
	comp=Z,894nm,0.6s						
PB07	**IPOC Station P**	**1.20**	**246⇑**	*i*P	**Pn**	**01 38 28.7**	**-0.2**
PB07				*i* S	**Sn**	**01 38 47.3**	**-0.1**
PB07				IAML		01 38 48.9	
	comp=E,1μm,0.3s						
LVC	**Limon Verde**	**1.37**	**188**	*i* P	**Pn**	**01 38 30.9**	**-0.1**
LVC	**Limon Verde**	**

comp=E,80nm,19.5s,baz=116,slow=35
comp=E,0.8nm,0.7s

MAW Mawson 84.52 163 P **P** 01 50 25.2 +1.5
comp=E,3.3nm,0.7s,baz=238,slow=1.4,SNR=2.9
comp=E,3.3nm,0.7s

YKA Yellowknife Ar 91.01 341 P **P** 01 50 55.4 +0.7
comp=E,0.2nm,0.5s,baz=135,slow=4.3,SNR=4.6
comp=E,0.2nm,0.5s

MKAR Makanchi Array 145.32 36 PKPbc **PKPdf** 01 57 28.9 +0.8
comp=E,0.7nm,0.6s,baz=332,slow=3.0,SNR=10

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*IDC **09** 02:55:09.2±1.6,54.52N×152.91W,h0km,mb3.4/5, mbtmp3.6/8,ML3.9/3, Error ellipse: s-maj=28.0km s-min=25.4km az=0.0*

*NEIC **09** 02:55:09.6±1.2,54.67N±0.08×153.10W±0.01,h10km±2km, mb3.7/4,ML3.8/34,ML3.6(AEIC), Error ellipse: s-maj=13.0km s-min=3.0km az=184.0*

*AEIC **09** 02:55:15.0±1.4,54.74N±0.09×153.1W±0.1,h10km±7km, Error ellipse: s-maj=14.4km s-min=7.1km az=158.0*

ISC 09 02:55:10.7±1.0,54°83N±0.08×152°97W±0.06,h10km, n204,σt¹36/205,mb3.5/5,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.81**	**304**		**Pn**	**02 55 40.8**	**-1.2**
CHIR					**Sn**	**02 56 02.1**	**-2.9**
CHIR	**Chirikof Islan**	**1.81**	**304**	P	**Pn**	**02 55 40.6**	**-1.3**
	baz=124						
CHIR				S	**Sn**	**02 56 02.7**	**-2.2**
	baz=124						
SII	**Sitkinak Islan**	**1.86**	**339**		**Pn**	**02 55 42.8**	**+0.1**
SII					**Sn**	**02 56 05.8**	**-0.5**
SII	**Sitkinak Islan**	**1.86**	**339**	IAML		02 56 07.7	
	comp=E,630nm,0.6s						
SII				IAML		02 56 07.7	
	comp=N,850nm,0.7s						
SII	**Sitkinak Islan**	**1.86**	**339**	P	**Pn**	**02 55 43.0**	**+0.3**
SII	**Sitkinak Islan**	**1.86**	**339**	P	**Pn**	**02 55 42.6**	**0.0**
	baz=160						
SII				S	**Sn**	**02 56 05.8**	**-0.5**
	baz=160						
OHAK	**Old Harbor**	**2.40**	**356**		**Pn**	**02 55 50.3**	**+0.2**
OHAK					**Sn**	**02 56 18.1**	**-1.4**
OHAK	**Old Harbor**	**2.40**	**356**	P	**Pn**	**02 55 50.4**	**+0.4**
OHAK	**Old Harbor**	**2.40**	**356**	P	**Pn**	**02 55 50.4**	**+0.4**
	baz=177						
OHAK				S	**Sn**	**02 56 18.1**	**-1.4**
	baz=177						
R18K	**Karluk**	**2.86**	**344**		**Pn**	**02 55 56.7**	**+0.4**
R18K	**Karluk**	**2.86**	**344**	IAML		02 56 36.0	
	comp=N,283nm,0.7s						
R18K				IAML		02 56 38.6	
	comp=E,371nm,0.5s						
R18K	**Karluk**	**2.86**	**344**	P	**Pn**	**02 55 56.8**	**+0.4**
	baz=164						
KDAK	**Kodiak Island**	**2.96**	**4**	IAML		02 56 33.7	
	comp=E,204nm,0.3s						
KDAK				IAML		02 56 34.9	
	comp=E,240nm,0.5s						
KDAK	**Kodiak Island**	**2.96**	**4**	Pn	**Pn**	**02 55 58.4**	**+0.6**
	comp=E,60nm,0.3s,baz=214,slow=8.0,SNR=3524						
KDAK				Sn	**Sn**	**02 56 31.1**	**-2.3**
	comp=E,16nm,0.3s,baz=16,slow=17,SNR=20						
	comp=E,112nm,0.3s						
R17K	**Ugashik Creek**	**3.40**	**327**		**Pn**	**02 56 04.0**	**+0.3**
R17K	**Ugashik Creek**	**3.40**	**327**	IAML		02 56 50.4	
	comp=E,174nm,0.8s						
R17K				IAML		02 56 52.7	
	comp=N,156nm,0.5s						
PLK3	**Peulik 3**	**3.40**	**329**		**Pn**	**02 56 04.4**	**+0.5**
ANNE	**Aniakchak Nort**	**3.54**	**308**		**Pn**	**02 56 05.7**	**-0.1**
AZAC	**Aniakchak**	**3.61**	**307**		**Pn**	**02 56 07.2**	**+0.4**
ACHA	**Angle Creek He**	**3.63**	**340**		**Pn**	**02 56 07.5**	**+0.5**
ACHA					**Sn**	**02 56 50.3**	**+0.4**
ANCK	**Angle Creek**	**3.65**	**338**		**Pn**	**02 56 07.8**	**+0.5**
ANCK					**Sn**	**02 56 50.7**	**+0.2**
KAHG	**Katmai Hook Gl**	**3.77**	**347**		**Pn**	**02 56 10.3**	**+1.3**
CNTC	**Contact Creek**	**3.80**	**336**		**Pn**	**02 56 09.7**	**+0.3**
CNTC					**Sn**	**02 56 53.8**	**-0.3**
Q17K	**Contact Creek**	**3.80**	**336**	P	**Pn**	**02 56 10.1**	**+0.7**
	baz=155						
Q17K				S	**Sn**	**02 56 53.8**	**-0.3**
	baz=155						
Q20K	**Shuyak Island**	**3.80**	**5**	P	**Pn**	**02 56 10.6**	**+1.3**
	baz=186						
SYI	**Shuyak Island**	**3.80**	**5**	Pn	**Pn**	**02 56 10.5**	**+1.2**
SYI				IAML		02 56 55.5	
	comp=E,101nm,0.8s						
CNBA	**Chernabura Isl**	**3.83**	**272**		**Pn**	**02 56 06.4**	**-3.3**
CNBA	**Chernabura Isl**	**3.83**	**272**	IAML		02 56 57.9	
	comp=N,133nm,3.3s						
KAHC	**Katmai Hardscr**	**3.99**	**344**		**Pn**	**02 56 13.1**	**+1.2**
KAHC	**Katmai Hardscr**	**3.99**	**344**		**Pn**	**02 56 13.1**	**+1.2**
KAHC					**Sn**	**02 56 59.2**	**+0.5**
KAHC	**Katmai Hardscr**	**3.99**	**344**	P	**Pn**	**02 56 13.1**	**+1.2**
	baz=164						
Q18K	**Katmai Hardscr**	**3.99**	**344**	P	**Pn**	**02 56 13.1**	**+1.1**
	baz=164						
Q18K				S	**Sn**	**02 56 59.2**	**+0.5**
	baz=164						
VNFG	**Fog Glacier, M**	**4.01**	**294**		**Pn**	**02 56 11.7**	**-0.6**
Q19K	**Cape Douglas,**	**4.12**	**355**		**Pn**	**02 56 15.5**	**+1.8**
Q19K	**Cape Douglas,**	**4.12**	**355**	P	**Pn**	**02 56 16.1**	**+2.4**
	baz=175						
SDPT	**Sand Point**	**4.35**	**280**		**Pn**	**02 56 14.5**	**-2.3**
SDPT	**Sand Point**	**4.35**	**280**	IAML		02 57 05.8	
	comp=E,180nm,3.1s						
SDPT				IAML		02 57 15.9	
	comp=N,163nm,2.7s						
SDPT	**Sand Point**	**4.35**	**280**	P	**Pn**	**02 56 14.6**	**-2.2**
P18K	**Big Mountain,**	**4.73**	**346**		**Pn**	**02 56 22.8**	**+0.7**
P18K	**Big Mountain,**	**4.73**	**346**	P	**Pn**	**02 56 23.0**	**+0.8**
	baz=165						
P17K	**Kvichak River**	**4.77**	**338**		**Pn**	**02 56 23.2**	**+0.7**
P17K	**Kvichak River**	**4.77**	**338**	P	**Pn**	**02 56 24.6**	**+2.1**
	baz=156						
CNPM	**China Poot**	**4.80**	**11**	Pn	**Pn**	**02 56 23.8**	**+0.8**
CNPM				IAML		02 57 20.1	
	comp=E,77nm,0.4s						
CNPM				IAML		02 57 20.0	
	comp=N,64nm,0.4s						
P19K	**Oil Pt**	**4.83**	**358**		**Pn**	**02 56 25.1**	**+1.6**
P16K	**Nushagak River**	**5.03**	**329**		**Pn**	**02 56 26.1**	**0.0**
BRSE	**Bradley Lake S**	**5.07**	**13**		**Pn**	**02 56 26.8**	**+0.1**
BRSE	**Bradley Lake S**	**5.07**	**13**	P	**Pn**	**02 56 26.8**	**+0.1**
	baz=195						
BRLK	**Bradley Lake**	**5.07**	**12**		**Pn**	**02 56 26.9**	**+0.1**
BRLK				IAML		02 57 26.2	
	comp=N,58nm,0.3s						
BRLK				IAML		02 57 26.4	
	comp=E,70nm,0.3s						
PVV	**Pavlof Volcano**	**5.10**	**280**		**Pn**	**02 56 25.0**	**-2.1**
ILSW	**Iliamna Southw**	**5.16**	**359**		**Pn**	**02 56 29.2**	**+1.1**
O18K	**Koktuh Hills**	**5.18**	**347**		**Pn**	**02 56 29.1**	**+0.9**
O18K	**Koktuh Hills**	**5.18**	**347**	IAML		02 57 29.6	
	comp=N,62nm,0.8s						
O18K				IAML		02 57 38.6	
	comp=E,41nm,0.7s						
O18K	**Koktuh Hills**	**5.18**	**347**	P	**Pn**	**02 56 29.3**	**+1.1**
	baz=166						
IVE	**Iliamna Volcan**	**5.20**	**360**		**Pn**	**02 56 30.0**	**+1.4**
O20K	**Slope Mountain**	**5.26**	**2**		**Pn**	**02 56 31.2**	**+1.7**
O20K	**Slope Mountain**	**5.26**	**2**	P	**Pn**	**02 56 31.4**	**+1.9**
	baz=183						
O19K	**Port Alsworth**	**5.42**	**353**		**Pn**	**02 56 32.8**	**+1.2**
O17K	**Koliganek Bris**	**5.43**	**337**		**Pn**	**02 56 32.9**	**+1.2**
O17K	**Koliganek Bris**	**5.43**	**337**	P	**Pn**	**02 56 32.9**	**+1.2**
	baz=155						
O16K	**Kokwok River B**	**5.52**	**332**		**Pn**	**02 56 32.9**	**-0.1**
RED	**Redoubt Volcan**	**5.60**	**1**		**Pn**	**02 56 35.4**	**+1.3**
SEW	**Seward**	**5.61**	**18**		**Pn**	**02 56 35.1**	**+1.0**
SEW	**Seward**	**5.61**	**18**	P	**Pn**	**02 56 36.5**	**+2.3**
	baz=202						
RSO	**Redoubt South**	**5.64**	**1**		**Pn**	**02 56 36.3**	**+1.5**
RDWB	**Redoubt West**	**5.67**	**1**		**Pn**	**02 56 36.1**	**+1.0**
O15K	**Ungalikthiuk R**	**5.74**	**322**		**Pn**	**02 56 35.9**	**-0.1**
NCT	**North Crescent**	**5.74**	**0**		**Pn**	**02 56 37.4**	**+1.3**
RDT	**Redoubt**	**5.76**	**3**		**Pn**	**02 56 37.3**	**+1.0**
DFR	**Drift River**	**5.78**	**1**		**Pn**	**02 56 37.2**	**+0.7**
Q23K	**Middleton Isla**	**5.85**	**35**		**Pn**	**02 56 36.5**	**-0.8**
MID	**Middleton Isla**	**5.85**	**35**		**Pn**	**02 56 36.5**	**-0.9**
MID	**Middleton Isla**	**5.85**	**35**	P	**Pn**	**02 56 38.3**	**+0.9**
SLKM	**Skilak Lake**	**5.88**	**13**		**Pn**	**02 56 37.3**	**-0.5**
P23K	**Montague Islan**	**5.99**	**28**		**Pn**	**02 56 38.8**	**-0.4**
P23K	**Montague Islan**	**5.99**	**28**	P	**Pn**	**02 56 40.8**	**+1.5**
	baz=213						
CAPN	**Captain Cook N**	**6.03**	**9**	Pn	**Pn**	**02 56 40.0**	**+0.2**
N19K	**Bonanza Creek**	**6.05**	**353**		**Pn**	**02 56 41.0**	**+0.7**
N18K	**Kilae Creek**	**6.07**	**346**		**Pn**	**02 56 41.4**	**+0.9**
N18K	**Kilae Creek**	**6.07**	**346**	P	**Pn**	**02 56 41.3**	**+0.9**
	baz=164						
N17K	**Nushagak Hills**	**6.14**	**340**		**Pn**	**02 56 42.0**	**+0.6**
ISLZ	**Isanotski Laza**	**6.22**	**273**		**Pn**	**02 56 40.3**	**-2.3**
O14K	**Tigyukauivet M**	**6.33**	**318**		**Pn**	**02 56 44.1**	**+0.1**
N20K	**Mount Spurr**	**6.40**	**3**	P	**Pn**	**02 56 47.1**	**+2.1**
	baz=184						
SPCR	**Spurr Chakacha**	**6.40**	**3**		**Pn**	**02 56 46.5**	**+1.5**
SVW2	**Sparrevohn**	**6.43**	**349**		**Pn**	**02 56 46.2**	**+0.8**
SVW2	**Sparrevohn**	**6.43**	**349**	P	**Pn**	**02 56 46.3**	**+0.9**
N16K	**Nishlik Lake**	**6.45**	**334**		**Pn**	**02 56 46.0**	**+0.3**
SPCP	**Crater Peak Br**	**6.46**	**3**		**Pn**	**02 56 47.5**	**+1.5**
RC01	**Rabbit Creek A**	**6.50**	**14**		**Pn**	**02 56 46.8**	**+0.4**
RC01	**Rabbit Creek A**	**6.50**	**14**	P	**Pn**	**02 56 46.7**	**+0.3**
	baz=197						
HIN	**Hinchinbrook I**	**6.57**	**29**		**Pn**	**02 56 47.1**	**-0.2**
N15K	**Kwethluk River**	**6.58**	**327**		**Pn**	**02 56 47.8**	**+0.4**
SUA	**Susitna One**	**6.75**	**9**		**Pn**	**02 56 49.8**	**-0.1**
SUA	**Susitna One**	**6.75**	**9**	P	**Pn**	**02 56 51.7**	**+1.8**
	baz=191						
M18K	**Stony River**	**6.84**	**348**		**Pn**	**02 56 52.1**	**+1.1**
M18K	**Stony River**	**6.84**	**348**	P	**Pn**	**02 56 52.5**	**+1.5**
	baz=166						
KAIM	**Kayak Island**	**6.88**	**39**		**Pn**	**02 56 52.2**	**+0.6**
EYAK	**Cordova Ski Ar**	**6.91**	**31**		**Pn**	**02 56 52.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**6.91**	**31**	P	**Pn**	**02 56 53.1**	**+1.2**
EYAK	**Cordova Ski Ar**	**6.91**	**31**	P	**Pn**	**02 56 53.5**	**+1.6**
	baz=217						
N14K	**Kuskokwak Cree**	**6.94**	**321**		**Pn**	**02 56 52.5**	**+0.1**
M16K	**Timber Creek**	**6.97**	**335**		**Pn**	**02 56 52.8**	**0.0**
M17K	**Holitna River**	**7.00**	**342**		**Pn**	**02 56 53.9**	**+0.7**
KNK	**Knik Glacier**	**7.01**	**18**		**Pn**	**02 56 54.0**	**+0.6**
KNK	**Knik Glacier**	**7.01**	**18**	P	**Pn**	**02 56 55.6**	**+2.2**
	baz=202						
M20K	**Styx River**	**7.07**	**359**		**Pn**	**02 56 55.1**	**+0.8**
PMR	**Palmer**	**7.07**	**15**	Pn	**Pn**	**02 56 55.0**	**+0.9**
PMR	**Palmer**	**7.07**	**15**	P	**Pn**	**02 56 56.2**	**+2.0**
RAGM	**Ragged Mountai**	**7.12**	**35**		**Pn**	**02 56 55.9**	**+0.9**
M15K	**Kasigluk River**	**7.18**	**328**		**Pn**	**02 56 55.5**	**-0.1**
SKT	**Skwentna**	**7.21**	**5**	Pn	**Pn**	**02 56 58.0**	**+2.0**
GOAT	**Goat Mountain**	**7.25**	**34**		**Pn**	**02 56 57.5**	**+0.8**
SML	**Sawmill**	**7.40**	**17**	Pn	**Pn**	**02 56 59.5**	**+0.7**
SML	**Sawmill**	**7.40**	**17**	P	**Pn**	**02 57 01.1**	**+2.3**
	baz=202						
L19K	**White Mountain**	**7.43**	**353**		**Pn**	**02 57 00.6**	**+1.4**
BERG	**Berg Lake**	**7.46**	**38**		**Pn**	**02 56 59.9**	**+0.4**
BMRM	**Bremner River**	**7.59**	**32**		**Pn**	**02 57 02.5**	**+1.2**
BMRM	**Bremner River**	**7.59**	**32**	P	**Pn**	**02 57 02.5**	**+1.2**
	baz=220						
SCM	**Sheep Creek Mo**	**7.62**	**21**		**Pn**	**02 57 02.5**	**+0.7**
SCM	**Sheep Creek Mo**	**7.62**	**21**	P	**Pn**	**02 57 02.8**	**+1.1**
	baz=206						
KLU	**Klutina**	**7.64**	**26**		**Pn**	**02 57 02.1**	**+0.1**
KLU	**Klutina**	**7.64**	**26**	P	**Pn**	**02 57 04.5**	**+2.4**
	baz=212						
SNH	**Sunshine Point**	**7.64**	**41**		**Pn**	**02 57 02.9**	**+0.8**
L18K	**Granite Mounta**	**7.66**	**347**		**Pn**	**02 57 02.8**	**+0.6**
L17K	**Donlin**	**7.83**	**341**		**Pn**	**02 57 05.8**	**+1.1**
L17K	**Donlin**	**7.83**	**341**	P	**Pn**	**02 57 05.8**	**+1.1**
	baz=157						
BARK	**Barkley Ridge**	**7.92**	**41**		**Pn**	**02 57 07.7**	**+1.8**
CRQM	**Cirque**	**7.92**	**37**		**Pn**	**02 57 06.9**	**+0.9**
CRQE	**Cirque**	**7.93**	**38**	P	**Pn**	**02 57 07.5**	**+1.4**
	baz=226						
TGL	**Tana Glacier**	**8.03**	**38**		**Pn**	**02 57 08.3**	**+1.0**
N25K	**Chitina, Valde**	**8.09**	**30**	Pn	**Pn**	**02 57 08.9**	**+0.7**
N25K	**Chitina, Valde**	**8.09**	**30**	P	**Pn**	**02 57 10.3**	**+2.0**
	baz=217						
M24K	**Tolsona, Glenn**	**8.11**	**23**		**Pn**	**02 57 09.6**	**+1.1**
VRDI	**Verde Repeater**	**8.15**	**34**		**Pn**	**02 57 09.4**	**+0.2**
GLB	**Gilahina Butte**	**8.20**	**32**	Pn	**Pn**	**02 57 10.7**	**+1.0**
WAT6	**Susitna Watana**	**8.23**	**17**		**Pn**	**02 57 12.5**	**+2.3**
WAT6	**Susitna Watana**	**8.23**	**17**	P	**Pn**	**02 57 12.5**	**+2.3**
	baz=202						
TTA	**Tatalina**	**8.27**	**350**	P	**Pn**	**02 57 11.7**	**+1.0**
KIAG	**Kiagna River**	**8.31**	**38**		**Pn**	**02 57 12.1**	**+0.7**
GRNC	**Granite Creek**	**8.41**	**41**		**Pn**	**02 57 13.7**	**+1.0**
SAMH	**Samovar Hills**	**8.44**	**46**		**Pn**	**02 57 15.5**	**+2.6**
PTPK	**Patty Peak**	**8.46**	**37**		**Pn**	**02 57 14.7**	**+1.4**
PCA	**Pinnacle**	**8.64**	**47**		**Pn**	**02 57 16.6**	**+0.9**
PINM	**Pinnacle**	**8.64**	**47**	P	**Pn**	**02 57 17.0**	**+1.3**
	baz=238						
BARN	**Barnard Glacie**	**8.66**	**39**		**Pn**	**02 57 17.1**	**+1.0**
CTG	**Chitina Glacier**	**8.71**	**40**	P	**Pn**	**02 57 18.5**	**+1.7**
	baz=230						
CTGM	**Chitina Glacie**	**8.72**	**40**		**Pn**	**02 57 18.0**	**+1.1**
TRF	**Thorofare Moun**	**8.75**	**8**		**Pn**	**02 57 18.4**	**+1.0**
TRF	**Thorofare Moun**	**8.75**	**8**	P	**Pn**	**02 57 19.9**	**+2.6**
	baz=190						
DHY	**Denali Highway**	**8.75**	**17**		**Pn**	**02 57 19.0**	**+1.6**
DHY	**Denali Highway**	**8.75**	**17**	P	**Pn**	**02 57 20.1**	**+2.8**
	baz=202						
LOGN	**Logan Glacier**	**8.75**	**42**		**Pn**	**02 57 18.2**	**+0.8**
PNL	**Peninsula**	**8.80**	**51**		**Pn**	**02 57 18.6**	**+0.7**
PNL	**Peninsula**	**8.80**	**51**	P	**Pn**	**02 57 18.8**	**+0.9**
PNL	**Peninsula**	**8.80**	**51**	P	**Pn**	**02 57 18.6**	**+0.7**
	baz=242						
KTH	**Kantishna Hill**	**8.81**	**6**		**Pn**	**02 57 20.5**	**+2.5**
J18K	**Innoko River**	**8.87**	**349**		**Pn**	**02 57 20.3**	**+1.5**
J20K	**Nowinta River**	**9.39**	**357**		**Pn**	**02 57 27.1**	**+1.2**
YUK2	**White River**	**9.44**	**38**		**Pn**	**02 57 29.2**	**+2.5**
O29M	**Mount Kennedy**	**9.47**	**49**		**Pn**	**02 57 28.1**	**+1.0**
YUK8	**Steele Glacier**	**9.51**	**42**		**Pn**	**02 57 30.8**	**+2.9**
YUK8	**Steele Glacier**	**9.51**	**42**	P	**Pn**	**02 57 30.8**	**+2.9**
	baz=233						
P29M	**Windy Craggy**	**9.54**	**54**		**Pn**	**02 57 28.4**	**+0.3**
P29M	**Windy Craggy**	**9.54**	**54**	P	**Pn**	**02 57 28.7**	**+0.6**
	baz=246						
YUK3	**Moose Creek**	**9.56**	**38**		**Pn**	**02 57 30.7**	**+2.2**
YUK3	**Moose Creek**	**9.56**	**38**	P	**Pn**	**02 57 30.7**	**+2.2**
	baz=229						
YUK7	**Dusty Glacier**	**9.77**	**48**		**Pn**	**02 57 33.2**	**+1.9**
YUK6	**Outpost Mounta**	**9.88**	**46**		**Pn**	**02 57 35.2**	**+2.3**
YUK6	**Outpost Mounta**	**9.88**	**46**	P	**Pn**	**02 57 35.2**	**+2.3**
	baz=238						
HDA	**Harding Lake**	**10.07**	**15**		**Pn**	**02 57 36.8**	**+1.5**
HYT	**Haines Junctio**	**10.18**	**48**	Pn	**Pn**	**02 57 37.9**	**+1.0**
ILAR	**Eielson Array**	**10.42**	**15**	Pn	**Pn**	**02 57 39.5**	**-0.5**
	comp=E,0.7nm,0.3s,baz=201,slow=13,SNR=21						
ILAR				Sn	**Sn**	**02 59 32.3**	**-4.4**
	comp=E,0.4nm,0.3s,baz=202,slow=16,SNR=2.3						
	comp=E,1.5nm,0.4s						
J25K	**Salcha River,**	**10.52**	**18**		**Pn**	**02 57 42.9**	**+1.4**
SKAG	**Skagway**	**10.63**	**57**	P	**Pn**	**02 57 44.4**	**+1.5**
M29M	**Somme Creek**	**10.71**	**39**		**Pn**	**02 57 45.5**	**+1.4**
J26L	**Joseph Creek**	**10.78**	**22**		**Pn**	**02 57 46.0**	**+0.9**
N31M	**Braeburn, Yuko**	**11.24**	**47**	Pn	**Pn**	**02 57 52.0**	**+0.7**
L29M	**L29M**	**11.26**	**37**		**Pn**	**02 57 52.6**	**+1.0**
WHY	**Whitehorse**	**11.27**	**51**	Pn	**Pn**	**02 57 52.2**	**+0.5**
M30M	**Minto, Yukon**	**11.41**	**41**	Pn	**Pn**	**02 57 54.6**	**+0.9**
K29M	**Barlow Dome**	**11.95**	**35**	Pn	**Pn**	**02 58 02.4**	**+1.3**
M31M	**Drury Creek, Y**	**12.16**	**45**		**Pn**	**02 58 04.9**	**+1.0**
FARO	**Faro, Yukon**	**12.60**	**46**		**Pn**	**02 58 11.2**	**+1.3**
DLBC	**Dease Lake**	**13.11**	**65**	Pn	**Pn**	**02 58 16.5**	**-0.3**
	comp=E,0.2nm,0.3s,baz=240,slow=16,SNR=2.3						
	comp=E,2.1nm,0.7s						
E25K	**Arctic Village**	**13.78**	**12**	Pn	**Pn**	**02 58 27.4**	**+1.6**
E27K	**Coleen River**	**14.41**	**17**	Pn	**Pn**	**02 58 35.5**	**+0.9**
G30M	**tAoh Zraii Nji**	**14.58**	**27**	Pn	**Pn**	**02 58 37.7**	**+0.9**
C19K	**Lookout Ridge**	**14.64**	**351**	Pn	**Pn**	**02 58 39.2**	**+1.5**
C16K	**Lisburne Hills**	**14.67**	**342**	Pn	**Pn**	**02 58 38.8**	**+0.8**
G31M	**Satah River**	**15.06**	**29**	Pn	**Pn**	**02 58 44.2**	**+0.9**
E28M	**Babbage River**	**15.15**	**19**		**Pn**	**02 58 44.8**	**+0.3**
E29M	**Blow River**	**15.30**	**21**	Pn	**Pn**	**02 58 48.0**	**+1.5**
E29M				IAmb	IAmb	02 59 09.1	
	comp=E,4.3nm,0.9s						
D27M	**Malcolm River**	**15.46**	**16**	Pn	**P**	**02 58 51.1**	**-2.1**
D27M				IAmb	IAmb	02 59 07.2	
	comp=E,4.9nm,1.1s						
YKA	**Yellowknife Ar**	**21.09**	**53**	P	**P**	**02 59 55.7**	**+0.9**
	comp=E,2.0nm,0.8s,baz=262,slow=11,SNR=16						
	comp=E,2.0nm,0.8s						
TXAR	**Lajitas Array**	**43.37**	**105**	P	**P**	**03 03 12.7**	**-0.5**
	comp=E,0.1nm,0.6s,baz=316,slow=9.9,SNR=1.8						
	comp=E,0.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**46.34**	**237**	T	T	03 53 20.2	
	baz=31						
H11N3	**WAKE ISLAND Hy**	**46.34**	**237**	T	T	03 53 22.2	
	baz=31						
H11N1	**WAKE ISLAND Hy**	**46.36**	**237**	T	T	03 53 22.7	
	baz=31						
H11S1	**WAKE ISLAND Hy**	**47.48**	**236**	T	T	03 54 48.4	
	baz=30						
H11S2	**WAKE ISLAND Hy**	**47.49**	**236**	T	T	03 54 44.7	
	baz=30						
H11S3	**WAKE ISLAND Hy**	**47.50**	**236**	T	T	03 54 58.6	
	baz=30						
SONM	**Songino Array**	**57.94**	**309**	P	**P**	**03 05 04.3**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=46,slow=6.2,SNR=3.5						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**66.46**	**327**	P	**P**	**03 06 01.6**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=30,slow=6.6,SNR=2.6						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.52**	**323**	P	**P**	**03 06 15.0**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=43,slow=7.6,SNR=2.2						
	comp=Z,0.1nm,0.5s						

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*DNK **09** 03:00:57.0±2.1,67.74N×34.09E,h0km,ML3.2(UPP), Suspected explosion*

*HEL **09** 03:00:58.6±0.1,67.55N×33.96E,h0km,ML3.1,Suspected explosion*

*KOLA **09** 03:01:00.1,67.63N×33.83E,h0km,ML3.2,Error ellipse: s-maj=6.6km s-min=2.4km az=150.0,Khibiny, mines Rasvumchorr, Central*

*NAO **09** 03:01:00.5±1.0,67.68N×33.75E,ML3.8*

*UPP **09** 03:01:00.1±2.6,67.63N×33.71E,h0km,ML3.2*

*IDC **09** 03:01:00.1±0.6,67.66N×33.90E,h0km,mb3.5/10, mbtmp3.7/18,ML3.5/8, Error ellipse: s-maj=8.7km s-min=7.0km az=50.0*

*BER **09** 03:01:00.1±2.2,67.62N×34.11E,h0km,ML3.0, ML3.8(NAO),Suspected explosion*

ISC 09 03:00:58.3±0.5,67°62N±0.03×33°73E±0.03,h0km,n118, σt²9¹8/182,mb3.4/10,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.14**	**250**	P	**Pg**	**03 01 03.1**	**+2.3**
APA				S	**Sg**	**03 01 06.2**	**+3.6**
APA0	**Apatity Array**	**0.28**	**268**	Pg	**Pb**	**03 01 06.3**	**0.0**
APA0				Lg	Lg	03 01 10.6	
APA0				Rg	Rg	03 01 11.8	
	baz=72,slow=37						
APA0	**Apatity Array**	**0.28**	**268**	P	**Pb**	**03 01 05.7**	**-0.6**
APA0				S	**Sb**	**03 01 10.6**	**-1.0**
APA0	**Apatity Array**	**0.28**	**268**	Pg	**Pb**	**03 01 06.3**	**0.0**
LVZ	**Lovozero**	**0.45**	**51**	P	**Pg**	**03 01 07.5**	**+0.6**
LVZ				S	**Sg**	**03 01 13.1**	**+0.3**
LVZ	**Lovozero**	**0.45**	**51**	PG	**Pg**	**03 01 06.4**	**-0.5**
LVZ				SG	**Sg**	**03 01 13.3**	**+0.6**
VRF	**Varrio**	**1.58**	**277**	PG	**Pn**	**03 01 28.5**	**+0.9**
VRF				MSG		03 01 48.6	
	comp=Z,327nm,0.2s						
VRF				SG	**Sg**	**03 01 50.1**	**+1.1**
TERR	**Teriberka**	**1.67**	**17**	P	**Pn**	**03 01 29.6**	**+0.9**
TERR				S	**Sn**	**03 01 50.8**	**-0.1**
OLKF	**Oulanka, Finla**	**2.14**	**235**	PG	**Pb**	**03 01 37.8**	**-0.2**
	baz=56						
OLKF				MSG		03 02 03.1	
	comp=Z,122nm,0.2s						
KU6	**Riekki**	**2.21**	**225**	PG	**Pb**	**03 01 38.5**	**-0.5**
	baz=48						
KU6				MSG		03 02 04.4	
	comp=Z,87nm,0.2s						
MSF	**Maaselka**	**2.53**	**230**	PG	**Pb**	**03 01 43.6**	**-0.9**
MSF				SG	**Sg**	**03 02 18.6**	**-0.8**
SGF	**Sodankyl**	**2.77**	**270**	PN	**Pn**	**03 01 45.4**	**+1.4**
	baz=83						
SGF				SB	**Sb**	**03 02 21.2**	**-2.0**
VADS	**Vadso**	**2.97**	**330**	P	**Pn**	**03 01 48.0**	**+1.4**
VADS				S	**Sn**	**03 02 23.7**	**+0.8**
VADS	**Vadso**	**2.97**	**330**	*e*P	**Pn**	**03 01

KALU	**Kalix**	**4.48**	252	P		**Pn**	**03 02 08.8**	**+1.5**
KALU				S		**Sn**	**03 03 01.0**	**+1.0**
OBF4	**Vikkela, Lumij**	**4.49**	235	PN		**Pn**	**03 02 09.6**	**+2.2**
	baz=46							
MASU	**Masugnsbyn**	**4.51**	273	P		**Pn**	**03 02 08.1**	**+0.4**
MASU	**Masugnsbyn**	**4.51**	273	P		**Pn**	**03 02 08.1**	**+0.4**
ERTU	**Ertsjaerv**	**4.64**	262	P		**Pn**	**03 02 10.7**	**+1.2**
ERTU				S		**Sn**	**03 03 05.0**	**+1.1**
ERTU	**Ertsjaerv**	**4.64**	262	PN		**Pn**	**03 02 10.5**	**+0.9**
	baz=68							
ERTU				SN		**Sn**	**03 03 05.1**	**+1.1**
ERTU	**Ertsjaerv**	**4.64**	262	P		**Pn**	**03 02 10.7**	**+1.2**
ERTU				S		**Sn**	**03 03 05.0**	**+1.1**
HAMF	**Hammerfest**	**4.70**	315	Pn		**Pn**	**03 02 12.0**	**+1.6**
HAMF				Sn		**Sn**	**03 03 04.7**	**-0.8**
HAMF				Lg		Lg	03 03 20.8	
HAMF	**Hammerfest**	**4.70**	315	*e*P		**Pn**	**03 02 11.9**	**+1.5**
HAMF				*e*S		**Sn**	**03 03 04.2**	**-1.3**
HAMF				IAML			03 03 28.8	
	comp=Z,79nm,0.4s							
KIF	**Kilpisjarvi**	**5.00**	292	Pn		**Pn**	**03 02 15.7**	**+1.2**
KIF				Sn		**Sn**	**03 03 11.2**	**-1.5**
KIF	**Kilpisjarvi**	**5.00**	292	*e*P		**Pn**	**03 02 15.6**	**+1.2**
KIF				*e*S		**Sn**	**03 03 10.4**	**-2.3**
KUA	**Kurravaara**	**5.10**	280	P		**Pn**	**03 02 16.8**	**+1.0**
KUA	**Kurravaara**	**5.10**	280	P		**Pn**	**03 02 16.8**	**+1.0**
DUNU	**Dundret**	**5.11**	271	P		**Pn**	**03 02 16.8**	**+0.8**
DUNU	**Dundret**	**5.11**	271	P		**Pn**	**03 02 16.8**	**+0.8**
KOVU	**Salmi**	**5.16**	283	P		**Pn**	**03 02 18.0**	**+1.3**
KOVU	**Salmi**	**5.16**	283	P		**Pn**	**03 02 18.0**	**+1.3**
HARU	**Harads**	**5.23**	260	P		**Pn**	**03 02 17.9**	**+0.2**
HARU	**Harads**	**5.23**	260	P		**Pn**	**03 02 17.9**	**+0.2**
JETT	**Jettan, Norway**	**5.25**	298	Pn		**Pn**	**03 02 20.0**	**+2.0**
JETT				Sn		**Sn**	**03 03 17.4**	**-1.8**
JETT	**Jettan, Norway**	**5.25**	298	Pn		**Pn**	**03 02 20.0**	**+2.0**
JETT				Sn		**Sn**	**03 03 17.4**	**-1.8**
JETT				IAML			03 03 51.9	
	comp=Z,90nm,0.3s							
TRO	**Tromso**	**5.78**	297	Pn		**Pn**	**03 02 27.2**	**+2.1**
TRO				Sn		**Sn**	**03 03 31.2**	**-0.8**
TRO	**Tromso**	**5.78**	297	*e*P		**Pn**	**03 02 27.2**	**+2.1**
TRO				*e*S		**Sn**	**03 03 30.4**	**-1.5**
TRO				IAML			03 03 34.9	
	comp=Z,25nm,0.5s							
SALU	**Saltoluokta**	**5.85**	275	*e*P		**Pn**	**03 02 26.2**	**0.0**
SALU				*e*S		**Sn**	**03 03 32.8**	**-1.1**
FIA0	**FINESS Array S**	**7.02**	212	Pn		**Pn**	**03 02 43.1**	**+1.0**
	baz=22,slow=14							
FIA0				Sn		**Sn**	**03 04 01.2**	**-1.3**
	baz=27,slow=22							
FIA0	**FINESS Array S**	**7.02**	212	Pn		**Pn**	**03 02 43.1**	**+1.0**
	baz=22,slow=14							
FIA0				Sn		**Sn**	**03 04 01.2**	**-1.3**
	baz=27,slow=22							
FINES	**FINESS Array B**	**7.02**	212	Pn		**Pn**	**03 02 42.9**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=28,slow=13,SNR=31							
FINES				Sn		**Sn**	**03 04 00.2**	**-2.3**
	comp=Z,1.7nm,0.3s,baz=24,slow=20,SNR=2.5							
FINES				Lg		Lg	03 04 34.1	
	comp=Z,6.0nm,0.3s,baz=27,slow=30,SNR=18							
	comp=Z,2.2nm,0.4s							
STEI	**Steigen**	**7.02**	281	Pn		**Pn**	**03 02 42.4**	**+0.3**
STEI				Sn		**Sn**	**03 03 58.8**	**-3.7**
STEI	**Steigen**	**7.02**	281	*e*P		**Pn**	**03 02 41.5**	**-0.6**
STEI				*e*S		**Sn**	**03 03 59.6**	**-2.8**
STEI				IAML			03 04 10.2	
	comp=Z,12nm,0.4s							
FAUS	**Fauske**	**7.08**	277	P		**Pn**	**03 02 42.7**	**-0.3**
FAUS				S		**Sn**	**03 04 00.5**	**-3.5**
FAUS	**Fauske**	**7.08**	277	*e*P		**Pn**	**03 02 42.7**	**-0.3**
FAUS				*e*S		**Sn**	**03 04 00.7**	**-3.2**
FAUS				IAML			03 04 25.0	
	comp=Z,15nm,0.4s							
LOF	**Lofoten**	**7.63**	283	Pn		**Pn**	**03 02 49.6**	**-1.0**
LOF				Sn		**Sn**	**03 04 14.1**	**-3.5**
LOF	**Lofoten**	**7.63**	283	*e*P		**Pn**	**03 02 49.8**	**-0.8**
LOF				*e*S		**Sn**	**03 04 13.5**	**-4.1**
LOF				IAML			03 04 40.3	
	comp=Z,11nm,1.1s							
MOR8	**Moi Rana**	**7.72**	268	Pn		**Pn**	**03 02 48.9**	**-2.9**
MOR8				Sn		**Sn**	**03 04 13.9**	**-5.9**
MOR8	**Moi Rana**	**7.72**	268	*e*P		**Pn**	**03 02 48.9**	**-2.9**
MOR8				*e*S		**Sn**	**03 04 12.8**	**-7.0**
MOR8				IAML			03 04 15.9	
	comp=Z,16nm,0.4s							
KONS	**Konsvik**	**8.12**	272	*e*P		**Pn**	**03 02 56.8**	**-0.4**
KONS				*e*S		**Sn**	**03 04 25.0**	**-4.6**
KONS				IAML			03 04 51.2	
	comp=Z,19nm,0.4s							
RAF	**Rauma**	**8.40**	224	*e*P		**Pn**	**03 03 03.3**	**+2.2**
MEF	**Metsahovi**	**8.48**	213	*e*P		**Pn**	**03 03 03.8**	**+1.7**
HOPEN	**Hopen**	**9.32**	347	*e*P		**Pn**	**03 03 12.3**	**-1.3**
NSS	**Namsos**	**9.35**	261	*e*P		**Pn**	**03 03 13.4**	**-0.6**
VSU	**Vasula**	**9.71**	202	*e*P		**Pn**	**03 03 17.9**	**-1.2**
MTSE	**Matsula**	**9.98**	211	*e*P		**Pn**	**03 03 23.7**	**+1.0**
HFS	**Hagfors**	**11.53**	239	Pn		**Pn**	**03 03 43.9**	**-0.1**
	baz=26,slow=11							
HFS				Sn		**Sn**	**03 05 48.0**	**-5.3**
	baz=47,slow=28							
HFS	**Hagfors**	**11.53**	239	Pn		**Pn**	**03 03 43.9**	**-0.1**
	baz=26,slow=11							
HFS				Sn		**Sn**	**03 05 48.0**	**-5.3**
	baz=47,slow=28							
HFS	**Hagfors**	**11.53**	239	Pn		**Pn**	**03 03 42.9**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=33,slow=12,SNR=16							
HFS				Sn		**Sn**	**03 05 47.5**	**-5.9**
	comp=Z,1.0nm,0.3s,baz=46,slow=25,SNR=7.2							
HFS				Lg		Lg	03 06 55.8	
	comp=Z,1.4nm,0.3s,baz=57,slow=30,SNR=7.3							
	comp=Z,3.2nm,0.5s							
SPA0	**Spitsbergen Ar**	**11.69**	342	Pn		**Pn**	**03 03 44.4**	**-1.6**
	baz=145,slow=16							
SPA0	**Spitsbergen Ar**	**11.69**	342	Pn		**Pn**	**03 03 44.4**	**-1.6**
	baz=145,slow=16							
SPITS	**Spitsbergen Ar**	**11.69**	342	Pn		**Pn**	**03 03 44.0**	**-2.0**
	baz=143,slow=17							
SPITS				Sn		Sn	03 05 48.4	-8.6
	baz=146,slow=20							
	comp=Z,4.3nm,0.5s							
NB2	**NORSAR Subarra**	**11.72**	247	Pn		**Pn**	**03 03 46.0**	**-0.5**
	baz=49,slow=14							
NB2				Sn		**Sn**	**03 05 52.8**	**-5.2**
NB2	**NORSAR Subarra**	**11.72**	247	Pn		**Pn**	**03 03 46.0**	**-0.5**
	baz=49,slow=14							
NB2				Sn		**Sn**	**03 05 52.8**	**-5.2**
NOA	**NORSAR Array B**	**11.72**	247	Pn		**Pn**	**03 03 45.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=46,slow=11,SNR=20							
NOA				Sn		**Sn**	**03 05 53.1**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=74,slow=16,SNR=2.9							
NOA				Lg		Lg	03 07 04.0	
	comp=Z,0.1nm,0.3s,baz=48,slow=26,SNR=6.4							
	comp=Z,0.4nm,0.4s							
NRA0	**NORESS Array S**	**11.82**	245	Pn		**Pn**	**03 03 47.4**	**-0.5**
	baz=46,slow=14							
NRA0				Sn		**Sn**	**03 05 53.8**	**-6.6**
	baz=49,slow=22							
NRA0	**NORESS Array S**	**11.82**	245	Pn		**Pn**	**03 03 47.4**	**-0.5**
	baz=46,slow=14							
NRA0				Sn		**Sn**	**03 05 53.8**	**-6.6**
	baz=49,slow=22							
DOMB	**Dombas**	**11.83**	254	*e*P		**Pn**	**03 03 44.6**	**-3.5**
KBS	**Kingsbay**	**12.82**	341	Pn		**Pn**	**03 03 59.3**	**-2.1**
KBS	**Kingsbay**	**12.82**	341	*e*P		Pn	03 03 56.0	-5.4
SKAR	**Skarslia**	**13.00**	250	*e*P		**Pn**	**03 04 01.2**	**-2.9**
TJOU	**Tjoern**	**13.84**	237	*e*Lg		Lg	03 08 03.1	
BLEU	**Blekinge**	**14.05**	225	*e*Lg		Lg	03 08 07.0	
FABU	**Falkenberg**	**14.35**	232	*e*Lg		Lg	03 08 21.8	
HOMB	**Homborsund**	**14.69**	243	*e*Lg		Lg	03 08 42.3	
SNART	**Snartemo**	**15.08**	245	*e*Lg		Lg	03 08 46.6	
BSD	**Bornholm Skovb**	**15.34**	224	*e*Lg		Lg	03 08 58.6	
BSD				IAML			03 09 15.5	
	comp=Z,13nm,0.7s							
ARU	**Arti**	**16.01**	122	Pn		**Pn**	**03 04 39.8**	**-4.8**
	comp=Z,0.9nm,0.3s,baz=291,slow=9.3,SNR=8.9							
ARU				Sn		Sn	03 07 29.8	-13
	comp=Z,0.4nm,0.3s,baz=41,slow=20,SNR=1.5							
	comp=Z,3.0nm,0.3s							
BELG	**Belogornoye**	**16.70**	149	Pn		**Pn**	**03 04 53.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=327,slow=17,SNR=1.3							
	comp=Z,6.9nm,0.7s							
AKASG	**Malin Array Be**	**17.11**	190	Pn		**Pn**	**03 04 52.5**	**-6.1**
	comp=Z,1.0nm,0.3s,baz=7.9,slow=13,SNR=6.8							
AKASG				Sn		Sn	03 07 54.5	-15
	comp=Z,0.7nm,0.3s,baz=1.8,slow=23,SNR=1.7							
AKASG				Lg		Lg	03 09 57.9	
	comp=Z,0.3nm,0.3s,baz=79,slow=32,SNR=1.2							
	comp=Z,0.5nm,0.3s							
AKTO	**Aktyubinsk**	**21.02**	133	P		**P**	**03 05 42.9**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=330,slow=9.2,SNR=11							
	comp=Z,2.6nm,0.6s							
BVAR	**Borovoye Array**	**22.81**	112	P		**P**	**03 06 03.5**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=3.6,slow=12,SNR=3.9							
	comp=Z,0.6nm,0.5s							
KBZ	**Khabaz**	**24.44**	164	P		**P**	**03 06 20.9**	**+2.5**
	comp=Z,1.1nm,0.9s,baz=278,slow=7.5,SNR=2.2							
	comp=Z,1.1nm,0.9s							
ZALV	**Zalesovo Beam**	**27.46**	94	P		**P**	**03 06 46.4**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=324,slow=7.9,SNR=2.2							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**27.72**	105	P		**P**	**03 06 50.2**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=330,slow=11,SNR=1.9							
	comp=Z,0.2nm,0.4s							
BRTR	**Keskin Array B**	**27.94**	180	P		**P**	**03 06 52.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=349,slow=8.8,SNR=1.7							
	comp=Z,0.2nm,0.3s							
MKAR	**Makanchi Array**	**32.29**	105	P		**P**	**03 07 30.2**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=333,slow=8.4,SNR=4.4							
	comp=Z,0.1nm,0.3s							
GEYT	**Alibeck**	**32.72**	143	P		**P**	**03 07 35.3**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=327,slow=10,SNR=2.5							
	comp=Z,0.9nm,0.3s							
ILAR	**Eielson Array**	**47.90**	0	P		**P**	**03 09 39.9**	**+2.5**
	comp=Z,0.2nm,0.8s,baz=1.4,slow=7.2,SNR=2.2							
	comp=Z,0.2nm,0.8s							
TORD	**Toro Ar. Bea**	**58.33**	217	P		**P**	**03 10 55.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=9.5,slow=7.7,SNR=4.2							
	comp=Z,0.2nm,0.5s							

*IDC **09** 03:07:03.4±3.7,3.°42S×146.°56E,h0km,mb3.9/6, mbtmp3.9/6,MS3.0/4,Error ellipse: s-maj=116.4km s-min=25.4km az=98.0*

ISC 09 03:07:07.0±3.7,3.°4S±0.°2×146.°5E±0.°8,h20km,n9,σ1°22/6, mb3.9/5,MS3.1/3,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.97**	**173**	LR		LR	03 10 23.4	
	comp=Z,46nm,19.8s,baz=12,slow=34							
WRA	**Warramunga Arr**	**20.22**	**215**	P		**P**	**03 11 39.6**	**-1.3**
	3.1nm,0.9s,baz=37,slow=12,SNR=12							
	3.1nm,0.9s							
ASAR	**Alice Springs**	**23.48**	**210**	P		**P**	**03 12 16.6**	**+1.0**
	1.4nm,0.8s,baz=42,slow=8.8,SNR=14							
ASAR				LR		LR	03 22 59.2	
	comp=Z,57nm,18.3s,baz=23,slow=41							
	1.4nm,0.8s							
DZM	**Mont Dzumac**	**26.82**	**135**	LR		LR	03 21 58.4	
	comp=Z,73nm,19.1s,baz=104,slow=33							
KSRS	**Korea Array**	**44.18**	**339**	LR		LR	03 31 41.9	
	comp=Z,16nm,19.9s,baz=35,slow=33							
CMAR	**Chiang Mai Arr**	**51.59**	**297**	P		**P**	**03 16 12.9**	**+0.6**
	2.0nm,0.3s,baz=115,slow=6.4,SNR=3.0							
	2.0nm,0.3s							
SONM	**Songino Array**	**61.92**	**331**	P		**P**	**03 17 24.2**	**-1.1**
	0.7nm,0.7s,baz=134,slow=6.2,SNR=2.7							
	0.7nm,0.7s							
MKAR	**Makanchi Array**	**75.19**	**320**	P		**P**	**03 18 48.4**	**+0.3**
	0.8nm,0.9s,baz=101,slow=7.5,SNR=6.3							
	0.8nm,0.9s							
BVAR	**Borovoye Array**	**84.39**	**324**	P		**P**	**03 19 38.4**	**+0.5**
	1.3nm,0.7s,baz=98,slow=5.1,SNR=7.1							
	1.3nm,0.7s							

*IDC **09** 03:51:52.5±2.5,17.°82S×178.°66W,h535km±28km, mb3.6/11,mbtmp4.4/12,Error ellipse: s-maj=21.5km s-min=14.6km az=140.0*

*NEIC **09** 03:51:54.1±1.9,17.°9S±0.°1×178.°6W±0.°1,h547km±7km, mb4.3/61,Error ellipse: s-maj=22.3km s-min=12.2km az=123.0*

ISC 09 03:51:53.8±0.5,17.°78S±0.°10×178.°69W±0.°09,h550km, n127,σ1°03/127,mb4.3/44,1C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.69**	**61**	P		**P**	**03 53 46.8**	**-1.8**
PINNC	**Pines Island,**	**13.87**	**247**	P		**P**	**03 54 53.2**	**+1.6**
QUENC	**Ouen Island, N**	**14.35**	**249**	P		**P**	**03 54 56.5**	**-0.1**
DZM	**Mont Dzumac**	**14.62**	**251**	P		**P**	**03 54 59.6**	**+0.1**
DZM	**Mont Dzumac**	**14.62**	**251**	P		**P**	**03 55 03.2**	**+3.8**
DZM	**Mont Dzumac**	**14.62**	**251**	P		**P**	**03 54 59.1**	**-0.3**
	18nm,0.6s,baz=69,slow=15,SNR=21							
ONTNC	**Ouen Toro**	**14.67**	**250**	P		**P**	**03 55 01.3**	**+1.5**
KOUNC	**Koumac, New Ca**	**16.32**	**258**	P		**P**	**03 55 17.4**	**+1.0**
KOUNC	**Koumac, New Ca**	**16.32**	**258**	P		**P**	**03 55 17.4**	**+1.0**
MXZ	**Matakaoa Point**	**19.88**	**187**	P		**P**	**03 55 48.6**	**0.0**
URZ	**Urewera**	**20.73**	**189**	P		**P**	**03 55 53.5**	**-2.8**
	6.2nm,0.7s,baz=83,slow=9.7,SNR=5.2							
	6.2nm,0.7s							
LHI	**Lord Howe Isla**	**24.35**	**232**	P		**P**	**03 56 29.3**	**+0.5**
THZ	**Tophouse**	**24.96**	**195**	P		**P**	**03 56 34.1**	**0.0**
LTZ	**Lake Taylor**	**26.08**	**195**	P		**P**	**03 56 42.1**	**-1.8**
LTZ				IAmb		IAmb	03 57 18.5	
	comp=Z,20nm,1.3s							
ODZ	**Otahua Downs**	**28.61**	**196**	P		P	03 56 52.3	-14
	comp=Z,38nm,2.4s							
EIDS	**Eidsvold**	**29.06**	**250**	P		**P**	**03 57 10.4**	**+0.2**
EIDS				IAmb		IAmb	03 57 11.3	
	comp=Z,11nm,0.8s							
EIDS	**Eidsvold**	**29.06**	**250**	P		**P**	**03 57 10.7**	**+0.5**
MLZ	**Mavora Lakes**	**29.63**	**199**	P		**P**	**03 57 14.9**	**+0.1**
ARMA	**Armidale**	**29.77**	**239**	P		**P**	**03 57 17.2**	**+0.7**
ARMA	**Armidale**	**29.77**	**239**	P		**P**	**03 57 17.9**	**+1.4**
CTAO	**Charters Tower**	**33.20**	**260**	P		**P**	**03 57 46.0**	**+0.3**
CTAO				IAmb		IAmb	03 57 48.2	
	comp=Z,11nm,0.9s							
CMSA	**Cobar Meteorol**	**34.98**	**240**	P		**P**	**03 58 01.2**	**+0.7**
QLP	**Quilpie**	**35.33**	**249**	P		**P**	**03 58 03.9**	**+0.5**
COEN	**Coen**	**36.84**	**270**	P		**P**	**03 58 17.0**	**+1.0**
COEN				IAmb		IAmb	03 58 17.9	
	comp=Z,9.0nm,0.8s							
TOO	**Toolangi**	**37.04**	**231**	P		**P**	**03 58 18.5**	**+1.1**
TOO	**Toolangi**	**37.04**	**231**	P		**P**	**03 58 18.9**	**+1.4**
BRAT	**Ballarat**	**38.19**	**231**	P		**P**	**03 58 28.9**	**+2.2**
	comp=Z,22nm,0.8s							
STKA	**Stephens Creek**	**38.46**	**241**	P		**P**	**03 58 30.0**	**+0.9**
STKA	**Stephens Creek**	**38.46**	**241**	P		**P**	**03 58 30.1**	**+1.1**
STKA	**Stephens Creek**	**38.46**	**241**	P		**P**	**03 58 29.7**	**+0.7**
	comp=Z,8.5nm,0.5s,baz=96,slow=11,SNR=27							
	comp=Z,8.5nm,0.5s							
INKA	**Innaminka**	**38.55**	**248**	P		**P**	**03 58 31.5**	**+1.7**
HTT	**Hallett**	**40.98**	**239**	P		**P**	**03 58 50.2**	**+0.9**
LCRK	**Leigh Creek**	**41.07**	**244**	P		**P**	**03 58 50.6**	**+0.6**
PTPS	**Port Pirie**	**41.69**	**240**	P		**P**	**03 58 55.5**	**+0.7**
WHYH	**Whyalla**	**42.01**	**240**	P		**P**	**03 58 58.2**	**+0.8**
BBOO	**Buckleboo**	**43.23**	**241**	P		**P**	**03 59 07.5**	**+0.6**
BBOO	**Buckleboo**	**43.23**	**241**	P		**P**	**03 59 07.4**	**+0.4**
WR0	**Warramunga Arr**	**44.20**	**259**	P		**P**	**03 59 14.1**	**-0.6**
WR0				IAmb		IAmb	03 59 23.2	
	comp=Z,16nm,1.4s							
WB0	**Warramunga Arr**	**44.36**	**260**	P		**P**	**03 59 15.4**	**-0.5**
WB0				IAmb		IAmb	03 59 16.3	
	comp=Z,7.6nm,0.9s							
WB2	**Warramunga Arr**	**44.38**	**259**	P		**P**	**03 59 15.7**	**-0.4**
WB2				IAmb		IAmb	03 59 16.6	
	comp=Z,6.7nm,0.6s							
WRA	**Warramunga Arr**	**44.39**	**259**	P		**P**	**03 59 15.7**	**-0.5**
	comp=Z,4.2nm,0.5s,baz=97,slow=6.9,SNR=67							
WRA				S		**S**	**04 05 06.7**	**-4.5**
	comp=Z,0.3nm,0.7s,baz=99,slow=15,SNR=2.0							
	comp=Z,4.2nm,0.5s							
AS31	**Alice Springs**	**44.57**	**254**	P		**P**	**03 59 17.5**	**+0.1**
ASAR	**Alice Springs**	**44.57**	**254**	P		**P**	**03 59 17.9**	**+0.4**
	comp=Z,58nm,0.6s,baz=89,slow=8.2,SNR=612							
ASAR				ScP		**ScP**	**04 03 50.1**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=85,slow=3.9,SNR=2.3							
ASAR				S		**S**	**04 05 11.1**	**-2.6**
	comp=Z,1.1nm,0.9s,baz=87,slow=14,SNR=8.0							
FORT	**Forrest**	**49.82**	**245**	P		**P**	**03 59 56.6**	**-0.1**
KNRA	**Kununurra**	**50.24**	**264**	P		**P**	**04 00 00.2**	**+0.2**
KNRA				IAmb		IAmb	04 00 08.6	
	comp=Z,35nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.79**	**261**	P		**P**	**04 00 16.6**	**-1.8**
PSA00	**Pilbara Seismi**	**57.68**	**255**	P		**P**	**04 00 52.4**	**-0.1**
PSA00	**Pilbara Seismi**	**57.68**	**255**	P		**P**	**04 00 52.3**	**-0.1**
PSA00				IAmb		IAmb	04 00 53.2	
	comp=Z,20nm,1.1s							
MORW	**Morawa**	**60.29**	**246**	P		**P**	**04 01 09.6**	**-0.2**
MORW				IAmb		IAmb	04 01 15.8	
	comp=Z,30nm,1.4s							
MJAR	**Matsushiro Arr**	**67.65**	**323**	P		**P**	**04 01 55.1**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=160,slow=5.6,SNR=5.8							
	comp=Z,3.2nm,0.7s							
QSPA	**South Pole Qui**	**72.27**	**180**	P		**P**	**04 02 23.8**	**+0.3**
QSPA	**South Pole Qui**	**72.27**	**180**	P		**P**	**04 02 23.5**	**0.0**
	comp=Z,1.3nm,0.8s,baz=334,slow=2.9,SNR=2.6							
	comp=Z,1.3nm,0.8s							
PEA0B	**Petropavlovsk-**	**73.49**	**345**	P		**P**	**04 02 31.4**	**+1.0**
PETK	**Petropavlovsk-**	**73.49**	**345**	P		**P**	**04 02 30.8**	**+0.4**
	comp=Z,6.2nm,0.7s,baz=123,slow=8.7,SNR=7.5							
	comp=Z,6.2nm,0.7s							
MDPB	**Devils Postpil**	**78.57**	**44**	P		**P**	**04 02 59.9**	**+0.8**
PNTR	**Pine Nut**	**79.03**	**43**	P		**P**	**04 03 02.5**	**+1.1**
PNTR				IAmb		IAmb	04 03 03.6	
	comp=Z,8.4nm,0.9s							
NVAR	**Mina Array Bea**	**79.52**	**44**	P		**P**	**04 03 05.1**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=224,slow=8.4,SNR=15							
	comp=Z,2.7nm,0.8s							
BNX	**BinXian**	**79.84**	**325**	⇑P		**P**	**04 03 06.1**	**+0.8**
BNX				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BNX				pmax		pmax		
	comp=Z,370nm,4.6s							
J05D	**Fort Rock, OR**	**80.39**	**39**	P		**P**	**04 03 09.9**	**+1.5**
J05D				IAmb		IAmb	04 03 10.2	
	comp=Z,7.8nm,0.6s							
PINE	**Pine Mountain**	**80.86**	**38**	P		**P**	**04 03 11.8**	**+0.9**
PINE				IAmb		IAmb	04 03 13.2	
	comp=Z,8.4nm,0.9s							
K15K	**Wolf Creek Mou**	**80.96**	**8**	P		**P**	**04 03 11.8**	**+1.1**
PRN	**Pahroc Range**	**81.18**	**46**	P		**P**	**04 03 13.4**	**+0.8**
BMN	**Battle Mountai**	**81.30**	**43**	P		**P**	**04 03 14.0**	**+0.8**
WVOR	**Wild Horse Val**	**81.48**	**40**	P		**P**	**04 03 15.1**	**+1.0**
WVOR				IAmb		IAmb	04 03 16.1	
	comp=Z,8.0nm,1.1s							
I07A	**Izee**	**81.88**	**39**	P		**P**	**04 03 17.3**	**+1.2**
SUA	**Susitna One**	**82.07**	**13**	P		**P**	**04 03 16.4**	**-0.2**
SUA				IAmb		IAmb	04 03 17.1	
	comp=Z,8.7nm,0.9s							
J08A	**Circle Bar Ran**	**82.09**	**40**	P		**P**	**04 03 17.9**	**+0.8**
LCMT	**Little Creek M**	**82.24**	**47**	P		**P**	**04 03 17.5**	**-0.5**
U15A	**North Rim**	**82.63**	**48**	P		**P**	**04 03 21.1**	**+0.8**
U15A				IAmb		IAmb	04 03 22.6	
	comp=Z,5.4nm,0.8s							
ELK	**Elko**	**82.75**	**43**	P		**P**	**04 03 21.1**	**+0.5**
GHO	**Glory Hole Cre**	**82.75**	**14**	P		**P**	**04 03 20.2**	**+0.3**
GHO				IAmb		IAmb	04 03 20.7	
	comp=Z,11nm,0.6s							
J18K	**Innoko River**	**82.78**	**10**	P		**P**	**04 03 20.6**	**+0.6**
J18K				IAmb		IAmb	04 03 21.3	
	comp=Z,5.5nm,0.8s							
HAWA	**Hanford**	**83.17**	**37**	P		**P**	**04 03 23.4**	**+1.1**
CAST	**Castle Rocks**	**83.56**	**12**	P		**P**	**04 03 22.7**	**-1.2**
CAST				IAmb		IAmb	04 03 23.9	
	comp=Z,6.6nm,0.7s							
MFID	**Camas Ranch**	**83.75**	**41**	P		**P**	**04 03 24.9**	**-0.6**
MFID				IAmb		IAmb	04 03 27.8	
	comp=Z,9.1nm,1.4s							
TRF	**Thorofare Moun**	**83.95**	**12**	P		**P**	**04 03 25.4**	**-0.5**
TRF				IAmb		IAmb	04 03 26.5	
	comp=Z,9.7nm,0.7s							
RND	**Reindeer**	**84.21**	**13**	P		**P**	**04 03 26.8**	**-0

*WEL **09** 04:28:38.9±0.4, 42˚S±2˚×17˚4E±˚, h7km±3km, M3.1/23, ML3.5/13, MLv3.1/23, Error ellipse: s-maj=0.0km s-min=0.0km az=114.4, confirmed*
*NOU **09** 04:28:38.2, 42˚41S×173˚88E, h8km, MLv3.5/6, South Island, New Zealand*
ISC 09 04:28:38.6±1.0**, 42˚30S**±0˚03×**173˚83E**±0˚03**, h18**km±5km**, n56, σ1ˢ19**/67**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIKS	Kaikoura	0.17	221	P	Pg	04 28 43.6	+0.5
KIKS				S	Sg	04 28 46.9	+0.8
KHZ	Kahutara	0.24	242	P	Pg	04 28 44.2	-0.1
KHZ	Kahutara	0.24	242	P	Pg	04 28 44.2	-0.1
KHZ				S	Sg	04 28 47.8	-0.3
KEKS	Kekerengu Vall	0.36	18	P	Pg	04 28 46.4	+0.1
KEKS				S	Sg	04 28 52.4	+1.0
MOLW	Molesworth Sta	0.47	296	P	Pg	04 28 46.9	-1.4
MOLW				S	Sg	04 28 53.0	-1.8
BSWZ	Blackbirch Sta	0.59	4	P	Pg	04 28 49.8	-0.5
BSWZ				S	Sg	04 28 57.6	-0.5
THZ	Tophouse	0.87	308	P	Pg	04 28 54.5	-1.1
THZ				S	Sg	04 29 05.3	-1.9
TUWZ	Tuamarina	0.87	6	P	Pg	04 28 54.8	-0.8
TUWZ				S	Sg	04 29 07.3	+0.1
GVZ	Greta Valley S	0.89	221	P	Pn	04 28 56.8	+0.6
GVZ				S	Sn	04 29 10.3	+1.7
NNZ	Nelson	1.13	343	P	Pg	04 28 59.2	-1.4
NNZ				S	Sg	04 29 14.0	-1.4
TCW	Tory Channel	1.14	17	P	Pg	04 28 59.9	-0.8
TCW				S	Sg	04 29 15.3	-0.3
SNZO	South Karori	1.19	34	P	Pb	04 29 00.8	+0.2
MRNZ	Matariki Terra	1.20	318	P	Pb	04 29 01.0	+0.1
MRNZ				S	Sg	04 29 16.5	-1.1
AMCZ	Amberley	1.23	224	P	Pb	04 29 01.6	+0.3
WEL	Wellington	1.23	35	P	Pn	04 29 01.6	+0.6
LTZ	Lake Taylor	1.25	247	P	Pb	04 29 01.7	0.0
PLWZ	Palliser	1.29	56	P	Pn	04 29 01.9	+0.1
TKNZ	Takaka Hill	1.42	333	P	Pn	04 29 04.5	+0.9
DUWZ	D'Urville Isla	1.50	3	P	Pn	04 29 06.0	+1.4
PAWZ	Paruwai Farm	1.51	53	P	Pn	04 29 04.4	-0.4
CAW	Cannon Point	1.51	38	P	Pn	04 29 05.0	+0.2
OKCZ	Okains Bay	1.53	201	P	Pn	04 29 05.4	+0.3
DSZ	Denniston Nort	1.61	290	P	Pn	04 29 07.4	+1.3
MQZ	McQueen's Vall	1.65	211	P	Pn	04 29 06.1	-0.5
KIW	Kapiti Island	1.65	30	P	Pn	04 29 07.4	+0.7
TRWZ	Traveller	1.66	58	P	Pn	04 29 06.6	-0.2
OXZ	Oxford	1.67	231	P	Pn	04 29 06.7	-0.3
MTW	Mount Morrison	1.69	48	P	Pn	04 29 06.9	-0.4
AKCZ	Akaroa Harbour	1.71	203	P	Pn	04 29 07.7	+0.2
QRZ	Quartz Range	1.77	326	P	Pn	04 29 10.2	+1.9
QRZ	Quartz Range	1.77	326	P	Pn	04 29 10.0	+1.7
OGWZ	Otaki Gorge	1.79	35	P	Pn	04 29 08.8	+0.2
INZ	Inchbonnie	1.81	256	P	Pn	04 29 09.5	+0.6
HOWZ	Holdsworth Sta	1.89	43	P	Pn	04 29 10.0	0.0
RACZ	Rakaia	1.89	220	P	Pn	04 29 09.8	-0.2
TMWZ	Te Maipa	1.95	53	P	Pn	04 29 10.3	-0.6
MHCZ	Mount Hutt	2.07	233	P	Pn	04 29 12.1	-0.4
MRZ	Mangatainoka R	2.10	39	P	Pn	04 29 12.6	-0.2
WACZ	Wakanui South	2.19	221	P	Pn	04 29 14.1	-0.1
WVZ	Waitaha Valley	2.41	250	P	Pn	04 29 17.9	+0.8
RPZ	Rata Peaks	2.48	234	P	Pn	04 29 18.0	-0.1
RPZ	Rata Peaks	2.48	234	P	Pn	04 29 18.1	-0.1
ARCZ	Arundel	2.54	229	P	Pn	04 29 18.8	-0.3
ANWZ	Angora Road	2.71	48	P	Pn	04 29 21.8	+0.6
TMZ	Timaru	2.93	224	P	Pn	04 29 24.1	-0.1
WNVZ	Wahianoa	3.26	25	P	Pn	04 29 31.7	+2.7
BHHZ	Black Hill Sta	3.28	32	P	Pb	04 29 35.5	-0.8
NGZ	Ngauruhoe	3.40	24	P	Pb	04 29 37.3	-1.1
OTVZ	Oturere	3.43	25	P	Pn	04 29 32.6	+1.2
NNVZ	North Ngauruho	3.44	24	P	Pn	04 29 35.7	+4.2
ETVZ	East Tongariro	3.47	25	P	Pn	04 29 34.0	+2.2
ODZ	Otahua Downs	3.58	219	P	Pn	04 29 33.4	+0.1
ODZ	Otahua Downs	3.58	219	P	Pn	04 29 33.1	-0.2
HIZ	Hauiti	3.86	12	P	Pn	04 29 40.1	+3.0
HIZ	Hauiti	3.86	12	P	Pn	04 29 40.2	+3.1
MRHZ	Matea Rd	3.98	31	P	Pn	04 29 37.7	-1.2

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*NIED **09** 04:43:21.6, 39˚63N×142˚10E, h48km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.25; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-1.40; $M_{r\theta}$0.57; $M_{\theta\phi}$-0.36; $M_{\phi r}$1.03; Fault plane solution: $M_0$1.81000×10^{15} NP1:ϕ_s24.00000°, δ66.00000°, λ101.00000°. NP2:ϕ_s178.00000°, δ27.00000°, λ66.00000°.*
*JMA **09** 04:43:21.6±0.1, 39˚6N±0˚2×142˚1E±0˚6, h48km, MD4.1/40, MV4.3/40, E OFF IWATE PREF*
JMA Felt III J1 at E OFF IWATE PREF .
*IDC **09** 04:43:24.4±2.4, 39˚57N×142˚01E, h80km±20km, mb3.8/23, mbtmp4.1/27, MS3.1/9, Error ellipse: s-maj=16.9km s-min=13.6km az=96.0*
*NEIC **09** 04:43:24.4±1.9, 39˚70N±0˚06×142˚0E±0˚1, h70km±8km, mb4.4/37, Error ellipse: s-maj=11.7km s-min=8.0km az=99.0*
ISC 09 04:43:21.7±0.7**, 39˚62N**±0˚03×**142˚11E**±0˚06**, h53**km±6km**, n111, σ1ˢ56**/115**, mb4.3**/43**, 18D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.23	258	⇓iP	Pn	04 43 30.0	-0.6
MIYJ				⇓S	Sn	04 43 35.6	-1.3
MIYJ	Miyakonagasawa	0.23	258	A	A	04 43 30.0	
	comp=E,54nm,0.3s,comp=N,28nm,0.3s						
JTH	Tanohata	0.37	329	⇓iP	Pn	04 43 31.1	-0.7
JTH				⇓S	Sn	04 43 37.7	-1.3
JTH	Tanohata	0.37	329	A	A	04 43 31.1	
	comp=E,48nm,0.6s,comp=N,28nm,0.3s						
OFUJ	Ofunato	0.64	212	i P	Pn	04 43 34.4	-0.5
OFUJ				S	Sn	04 43 43.3	-1.1
OFUJ	Ofunato	0.64	212	A	A	04 43 34.4	
	comp=E,8.0nm,0.3s,comp=N,8.0nm,0.6s						
JOM	Ohasama	0.65	257	⇓iP	Pn	04 43 34.8	-0.2
JOM				⇓S	Sn	04 43 44.2	-0.3
JOM	Ohasama	0.65	257	A	A	04 43 34.8	
	comp=E,61nm,0.4s,comp=N,36nm,0.5s						
JKZ	Kuzumaki	0.70	301	⇓iP	Pn	04 43 35.4	-0.3
JKZ				⇓S	Sn	04 43 44.9	-0.8
JKZ	Kuzumaki	0.70	301	A	A	04 43 35.4	
	comp=E,26nm,0.4s,comp=N,13nm,0.2s						
JANG	Nango	0.88	329	⇓iP	Pn	04 43 37.2	-0.7
JANG				⇓S	Sn	04 43 47.9	-1.8
JANG	Nango	0.88	329	A	A	04 43 37.2	
	comp=E,4.0nm,0.9s,comp=N,10.0nm,0.7s						
JSZI	Iwateshizukuis	0.90	278	A	A	04 43 38.0	
	comp=E,18nm,1.6s,comp=N,13nm,1.4s						
JKMT	Kesennumamotoy	0.95	212	⇓iP	Pn	04 43 38.6	-0.2
JKMT				⇓S	Sn	04 43 50.4	-1.0
JMK	Ichinoseki	0.96	226	⇓iP	Pn	04 43 38.8	-0.2
JMK				⇓S	Sn	04 43 51.2	-0.5
JRG	Rokugo	1.16	259	⇓iP	Pn	04 43 41.5	-0.1
JRG				⇓eS	Sn	04 43 55.8	-0.7
JAH	Hinai	1.27	297	⇓iP	Pn	04 43 43.0	0.0
JIO	Ouri	1.31	207	P	Pn	04 43 43.4	-0.3
JIO				S	Sn	04 43 59.2	-0.8
JTM	Tenmabayashi	1.41	326	Pn	Pn	04 43 44.8	-0.2
JTM				Sn	Sn	04 44 03.0	+0.5
JTM	Tenmabayashi	1.41	326	⇓iP	Pn	04 43 44.8	-0.2
JOU	Okura	1.69	222	A	A	04 43 49.4	
	comp=E,4.0nm,3.8s,comp=N,5.0nm,5.5s						
JAHD	Aomorihigashid	1.74	340	A	A	04 43 50.0	
	comp=E,6.0nm,1.0s,comp=N,7.0nm,1.7s						
JMM	Marumori	2.04	211		Pn	04 43 54.7	+1.1
ERM	Erimo	2.52	18	Pn	Pn	04 44 00.6	+0.5
MJAR	Matsushiro Arr	4.35	226	P	Pn	04 44 28.1	+2.8
	comp=N,30nm,0.6s,baz=33,slow=13,SNR=53						
MJAR				S	Sn	04 45 22.4	+7.7
	comp=N,3.7nm,0.3s,baz=216,slow=46,SNR=0.7						
MJAR				LR	LR	04 46 05.5	
	comp=N,110nm,18.6s,baz=64,slow=38						
MJB9	Matsu-Tunnel	4.35	226	Pn	Pn	04 44 27.1	+1.8
MAJO	Matsushiro	4.35	226		Pn	04 44 26.3	+1.0
ASAJ	Asahikawa	4.50	4	P	Pn	04 44 27.3	0.0
	comp=N,6.1nm,0.3s,baz=226,slow=11,SNR=7.2						
ASAJ				S	Sn	04 45 22.9	+4.5
	comp=N,32nm,0.6s,baz=127,slow=20,SNR=1.7						
ASAJ				LR	LR	04 46 33.5	
	comp=N,124nm,21.7s,baz=197,slow=41						
JKA	Kamikawa-asahi	4.50	5	Pn	Pn	04 44 28.2	+0.9
JGF	Kuroka	5.51	225	Pn	Pn	04 44 43.1	+1.9
USA0B	Ussuriysk Arra	8.82	304	Pn	Pn	04 45 29.1	+2.6
USRK	Ussuriysk Ar.	8.82	304	P	Pn	04 45 29.3	+2.8
	comp=N,9.9nm,0.7s,baz=112,slow=13,SNR=17						
USRK				LR	LR	04 48 36.2	
	comp=N,141nm,19.8s,baz=142,slow=36						
MDJ	Mudanjiang	10.55	302	P	Pn	04 45 52.1	+2.0
MDJ				sP		04 46 09.0	
MDJ				S	Sn	04 47 46.2	-0.5
MDJ				ScP	ScP	04 55 14.9	-3.4
MDJ				PcS	PcS	04 55 24.5	+0.5
MDJ	Mudanjiang	10.55	302	ScS	ScS	04 58 56.4	+3.2
MDJ				pmax	pmax		
	comp=Z,20nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,410nm,4.3s						
JNU	Nakatsue	11.13	238	P	Pn	04 45 59.6	+1.4
	comp=Z,10nm,0.8s,baz=60,slow=13,SNR=2.0						
JNU				LR	LR	04 49 31.0	
	comp=Z,57nm,21.6s,baz=26,slow=33						
KSRS	Korea Array	11.32	263	P	Pn	04 46 05.3	+4.7
	comp=Z,5.0nm,0.4s,baz=70,slow=14,SNR=16						
KSRS				LR	LR	04 49 59.0	
	comp=Z,52nm,20.2s,baz=85,slow=35						
KS19	Wonju Array Si	11.35	264	Pn	Pn	04 46 05.1	+4.0
KLR	Kul'dur	12.12	326	P	Pn	04 46 13.7	+2.2
	comp=Z,1.4nm,0.6s,baz=166,slow=6.0,SNR=4.3						
KLR				LR	LR	04 50 52.6	
	comp=Z,98nm,18.6s,baz=61,slow=37						
PETK	Petropavlovsk-	17.20	33	LR	LR	04 55 03.5	
	comp=Z,56nm,18.6s,baz=112,slow=40						
NJ2	Nanjing	20.28	255	eP	P	04 47 52.8	0.0
NJ2				pP	pP	04 48 06.9	+1.9
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
MA2	Magadan	20.71	13	P	P	04 47 57.5	+0.2
	comp=Z,5.6nm,0.7s,baz=184,slow=20,SNR=4.0						
	comp=Z,5.6nm,0.7s						
HHC	Hu-ho-hao-te	23.30	283	eP	P	04 48 24.2	-0.7
HHC				pmax	pmax		
	comp=Z,29nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,4.8s						
YAK	Yakutsk	23.68	345	P	P	04 48 27.6	-0.5
SONM	Songino Array	26.89	300	P	P	04 48 57.0	-0.6
	comp=Z,1.1nm,0.5s,baz=81,slow=8.1,SNR=6.1						
SONM				LR	LR	04 59 35.5	
	comp=Z,63nm,18.3s,baz=239,slow=36						
	comp=Z,1.1nm,0.5s						
ENH	Enshi	28.19	261	P	P	04 49 07.6	-1.7
ENH				IAmb	IAmb	04 49 10.8	
	comp=Z,9.8nm,1.0s						
H11N2	WAKE ISLAND Hy	29.11	126	T	T	05 19 48.7	
	baz=316						
H11N1	WAKE ISLAND Hy	29.12	126	T	T	05 19 49.4	
	baz=316						
H11N3	WAKE ISLAND Hy	29.13	126	T	T	05 19 51.6	
	baz=316						
H11S1	WAKE ISLAND Hy	29.91	128	T	T	05 21 01.0	
	baz=316						
H11S3	WAKE ISLAND Hy	29.91	128	T	T	05 20 54.7	
	baz=316						
H11S2	WAKE ISLAND Hy	29.92	128	T	T	05 20 57.3	
	baz=316						
PZH	PanZhiHua	35.98	261	P	P	04 50 17.3	-0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,5.3s						
C16K	Lisburne Hills	40.15	27	P	P	04 50 50.9	-1.1
C16K				IAmb	IAmb	04 51 23.9	
	comp=Z,5.4nm,1.2s						
WMQ	Urumqi	40.22	294	eP	P	04 50 53.2	+0.2
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ZAA0	Zalesovo Array	40.62	310	P	P	04 50 56.1	0.0
ZAA0				IAmb	IAmb	04 50 56.7	
	comp=Z,5.7nm,0.9s						
ZALV	Zalesovo Beam	40.62	310	P	P	04 50 55.9	-0.2
	comp=Z,4.6nm,0.4s,baz=91,slow=8.3,SNR=25						
ZALV				PcP	PcP	04 52 56.8	-0.3
	comp=Z,1.7nm,0.4s,baz=104,slow=3.6,SNR=7.1						
	comp=Z,4.6nm,0.4s						
C18K	Utukok River	41.72	27	P	P	04 51 05.6	+0.5
CMAR	Chiang Mai Arr	42.73	253	P	P	04 51 12.5	-1.3
	comp=Z,1.0nm,0.3s,baz=47,slow=7.9,SNR=1.2						
	comp=Z,1.0nm,0.3s						
D19K	Kuna River	42.79	28	P	P	04 51 14.8	+1.0
D19K				IAmb	IAmb	04 51 48.9	
	comp=Z,8.5nm,1.4s						
E19K	Redstone River	42.95	30	P	P	04 51 16.3	+1.3
MK31	Makanchi Array	43.26	300	P	P	04 51 17.7	-0.1
MK31				IAmb	IAmb	04 51 18.4	
	comp=Z,3.6nm,0.6s						
MKAR	Makanchi Array	43.26	300	P	P	04 51 17.4	-0.3
	comp=Z,3.3nm,0.6s,baz=84,slow=9.8,SNR=48						
MKAR				PcP	PcP	04 53 05.9	-0.1
	comp=Z,0.7nm,0.8s,baz=99,slow=3.1,SNR=2.7						
	comp=Z,3.3nm,0.6s						
MAKZ	Makanchi	43.46	300	P	P	04 51 18.6	-0.8
KURK	Kurchatov	44.81	306	P	P	04 51 29.7	-0.3
D22K	Ayikyak River	44.81	28	P	P	04 51 31.8	+1.9
KDAK	Kodiak Island	44.83	44	P	P	04 51 31.0	+0.8
SYI	Shuyak Island	44.86	42	P	P	04 51 30.9	+0.6
KURBB	Kurchatov Arra	44.88	306	P	P	04 51 30.2	-0.4
	comp=Z,7.9nm,0.6s,baz=80,slow=8.4,SNR=53						
KURBB				PcP	PcP	04 53 11.1	-0.3
	comp=Z,1.0nm,0.7s,baz=87,slow=3.7,SNR=4.4						
	comp=Z,7.9nm,0.6s						
E22K	Anaktuvuk Pass	45.07	29	P	P	04 51 33.5	+1.5
E22K				IAmb	IAmb	04 51 34.6	
	comp=Z,4.4nm,0.8s						
SUA	Susitna One	45.47	38	P	P	04 51 37.1	+1.7
SUA				IAmb	IAmb	04 51 42.9	
	comp=Z,7.8nm,1.4s						
C23K	Itkillik River	45.63	27	P	P	04 51 37.5	+1.2
D24K	Happy Valley	46.22	28	P	P	04 51 42.9	+1.9
D24K				IAmb	IAmb	04 51 43.5	
	comp=Z,4.5nm,0.8s						
E24K	Your Creek	46.31	29	P	P	04 51 43.2	+1.4
E24K				IAmb	IAmb	04 51 44.3	
	comp=Z,4.0nm,0.9s						
F24K	Squaw Lake	46.53	30	P	P	04 51 44.4	+0.8
ILAR	Eielson Array	47.03	34	P	P	04 51 48.0	+0.6
	comp=Z,1.1nm,0.7s,baz=268,slow=6.3,SNR=16						
	comp=Z,1.1nm,0.7s						
SCRK	Sand Creek	48.35	35	P	P	04 51 57.6	-0.2
BOOM	Boomskoye usch	48.83	296	P	P	04 52 00.8	-1.0
E27K	Coleen River	48.89	29	P	P	04 52 03.8	+2.1
K27K	Chicken	49.18	34	P	P	04 52 05.2	+1.2
K27K				IAmb	IAmb	04 52 33.9	
	comp=Z,4.7nm,1.4s						
BVAR	Borovoye Array	49.27	311	P	P	04 52 04.7	-0.1
	comp=Z,2.5nm,0.5s,baz=72,slow=7.8,SNR=16						
BVAR				PcP	PcP	04 53 27.2	+0.2
	comp=Z,1.5nm,0.5s,baz=82,slow=2.1,SNR=4.8						
	comp=Z,2.5nm,0.5s						
E28M	Babbage River	49.60	28	P	P	04 52 09.2	+2.1
E28M				IAmb	IAmb	04 52 28.8	
	comp=Z,4.3nm,1.4s						
I28M	Miner Creek	49.88	32	P	P	04 52 11.0	+1.6
I28M				IAmb	IAmb	04 52 48.4	
	comp=Z,6.2nm,1.4s						
E29M	Blow River	50.23	28	P	P	04 52 13.9	+2.0
E29M				IAmb	IAmb	04 52 14.7	
	comp=Z,3.5nm,0.9s						
G29M	Pine Creek	50.41	30	P	P	04 52 15.7	+2.4
G30M	tAoh Zraii Nji	51.09	30	P	P	04 52 19.9	+1.4
G30M				IAmb	IAmb	04 52 22.8	
	comp=Z,3.5nm,0.9s						
ARSB	Arslanbob	51.31	296	P	P	04 52 20.3	-0.3
I30M	Mount Dempster	51.39	32	P	P	04 52 22.8	+2.0
I30M				IAmb	IAmb	04 52 23.5	
	comp=Z,4.6nm,0.8s						
KKAR	Karatay Array	52.33	299	P	P	04 52 27.1	-1.0
KKAR				IAmb	IAmb	04 52 28.3	
	comp=Z,2.8nm,0.6s						
A36M	Sachs Harbour	53.66	23	P	P	04 52 39.1	+1.8
A36M				IAmb	IAmb	04 52 42.4	
	comp=Z,5.2nm,1.0s						
ARU	Arti	54.80	318	P	P	04 52 45.2	-0.7
SIMJ	Simiganj	55.18	294	P	P	04 52 46.3	-2.8
ABKAR	Akbulak array	56.71	309	P	P	04 52 58.2	-1.5
SPITS	Spitsbergen Ar	58.09	349	P	P	04 53 08.7	-0.3
	comp=Z,1.7nm,0.7s,baz=81,slow=8.9,SNR=0.9						
	comp=Z,1.7nm,0.7s						
WRA	Warramunga Arr	59.70	188	P	P	04 53 19.1	-1.6
	comp=Z,1.6nm,0.7s,baz=5.3,slow=6.9,SNR=9.5						
	comp=Z,1.6nm,0.7s						
RES	Resolute Bay	59.96	15	P	P	04 53 22.2	+0.3
RES				IAmb	IAmb	04 53 23.1	
	comp=Z,5.0nm,1.1s						
YKA	Yellowknife Ar	61.30	31	P	P	04 53 31.3	+0.1
	comp=Z,0.4nm,0.7s,baz=303,slow=6.5,SNR=5.1						
	comp=Z,0.4nm,0.7s						
ARCES	ARCESS Array B	61.77	339	P	P	04 53 34.1	-0.2
	comp=Z,3.7nm,1.0s,baz=54,slow=6.2,SNR=6.2						
	comp=Z,3.7nm,1.0s						
GEYT	Alibeck	63.08	298	P	P	04 53 42.8	-0.7
	comp=Z,2.6nm,0.7s,baz=65,slow=12,SNR=3.9						
	comp=Z,2.6nm,0.7s						
ASAR	Alice Springs	63.42	188	P	P	04 53 45.0	-0.8
	comp=Z,0.9nm,0.7s,baz=11,slow=5.9,SNR=8.8						
	comp=Z,0.9nm,0.7s						
FINES	FINESS Array B	66.78	332	P	P	04 54 06.8	-0.3
	comp=Z,3.4nm,0.6s,baz=35,slow=9.8,SNR=19						
	comp=Z,3.4nm,0.6s						
KBZ	Khabaz	69.64	310	P	P	04 54 25.4	+0.1
	comp=Z,2.7nm,0.9s,baz=356,slow=6.4,SNR=4.9						
	comp=Z,2.7nm,0.9s						
GHLM	Highland Sprin	69.67	56	P	P	04 54 24.0	-1.8
HFS	Hagfors	71.96	336	P	P	04 54 39.1	0.0
	comp=Z,2.6nm,0.3s,baz=45,slow=6.5,SNR=25						
	comp=Z,2.6nm,0.3s						
NB2	NORSAR Subarra	72.01	337	P	P	04 54 39.7	+0.2
	comp=Z,1.2nm,0.5s,baz=36,slow=6.2						
NOA	NORSAR Array B	72.01	337	P	P	04 54 39.3	-0.2
	comp=Z,1.7nm,0.6s,baz=52,slow=7.0,SNR=9.9						
NOA				LR	LR	05 28 53.3	
	comp=Z,30nm,19.6s,baz=340,slow=38						
	comp=Z,1.7nm,0.6s						
AKASG	Malin Array Be	72.59	322	P	P	04 54 42.2	-0.9
	comp=Z,1.2nm,0.4s,baz=44,slow=6.4,SNR=22						
	comp=Z,1.2nm,0.4s						
PDAR	Pinedale Array	75.47	46	P	P	04 55 01.1	+0.8
	comp=Z,0.6nm,0.7s,baz=259,slow=2.2,SNR=8.0						
	comp=Z,0.6nm,0.7s						
KOLS	Kolonicke sedl	77.05	324	eP	P	04 55 08.8	-0.1
GERES	GERESS Array B	80.80	328	P	P	04 55 29.6	+0.1
	comp=Z,0.6nm,0.4s,baz=62,slow=5.1,SNR=2.7						
	comp=Z,0.6nm,0.4s						
EKA	Eskdalemuir Ar	80.87	341	P	P	04 55 29.6	-0.1
	comp=Z,0.8nm,0.6s,baz=46,slow=5.1,SNR=1.4						
	comp=Z,0.8nm,0.6s						
TXAR	Lajitas Array	88.11	53	P	P	04 56 07.3	+0.4
	comp=Z,0.1nm,0.5s,baz=295,slow=2.3,SNR=4.4						
	comp=Z,0.1nm,0.5s						

IDC 09 05:04:23.9±4.7**, 9˚95S**×**165˚04E, h0**km**, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=258.1km s-min=31.1km az=137.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.23	248	P	P	05 10 46.2	+0.8
	0.3nm,0.5s,baz=79,slow=8.6,SNR=1.2						
	0.3nm,0.5s						
ASAR	Alice Springs	32.68	241	P	P	05 10 57.6	-0.7
	0.5nm,0.6s,baz=67,slow=9.4,SNR=6.1						
	0.5nm,0.6s						
ILAR	Eielson Array	82.70	19	P	P	05 16 49.2	0.0
	0.4nm,0.5s,baz=241,slow=5.0,SNR=14						
	0.4nm,0.5s						

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*ISK **09** 05:24:59.8, 37˚28N×38˚65E, h5km, ML2.7/14*
*AFAD **09** 05:25:00.1±0.0, 37˚29N×38˚62E, h7km±2km, ML2.7*
ISC 09 05:25:00.3±1.0**, 37˚30N**±0˚03×**38˚65E**±0˚02**, h14**km±9km**, n25, σ0ˢ93**/39**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URFA	Urfa	0.20	45	Pg	Pb	05 25 04.8	-0.9
SANL	SANLIURFA_Merk	0.30	115	P	Pb	05 25 06.8	-0.6
SANL				i AML	AML	05 25 11.0	
	comp=N,1μm,0.4s						
SANL				i AML	AML	05 25 11.0	
	comp=E,1μm,0.2s						
SANL				S	Sb	05 25 11.3	-1.0
ATAB	Bozova	0.33	301	P	Pg	05 25 07.0	0.0
ATAB				S	Sg	05 25 11.6	-0.1
ATAB				i AML	AML	05 25 12.0	
	comp=E,1μm,0.3s						
ATAB				i AML	AML	05 25 12.0	
	comp=N,1μm,0.3s						
HANM	anlurfa/Hi	0.34	34	P	Pb	05 25 07.4	-0.7
HANM				S	Sb	05 25 12.3	-1.0
SURC	SANLIURFA_SURC	0.42	184	P	Pg	05 25 08.6	-0.1
SURC				S	Sb	05 25 15.1	-0.7
NARI	Adyaman-Kaht	0.59	9	P	Pb	05 25 12.1	-0.4
NARI				S	Sn	05 25 22.6	-1.1
AZEY	Adyaman-Merk	0.60	328	P	Pb	05 25 12.2	-0.4
AZEY				S	Sg	05 25 20.4	+0.3
NZIP	Nizip/Gaziante	0.82	252	P	Pg	05 25 16.0	-0.1
NZIP				S	Sg	05 25 26.7	-0.2
NZIP				i AML	AML	05 25 30.0	
	comp=N,212nm,0.6s						
GZT	Gaziantep	0.86	274	P	Pg	05 25 16.9	-0.2
GZT				S	Sb	05 25 28.9	+0.3
GZT				i AML	AML	05 25 33.0	
	comp=N,192nm,0.3s						
AKCA	Adyaman/G¶l	0.91	303	P	Pg	05 25 17.3	-0.6
AKCA				S	Sg	05 25 29.3	-0.5
AKCA				i AML	AML	05 25 33.0	
	comp=E,197nm,0.2s						
AKCA				i AML	AML	05 25 35.0	
	comp=N,192nm,0.6s						
MAYA	Malatya/Merkez	1.04	350	P	Pn	05 25 21.2	+0.7
MAYA				S	Sn	05 25 34.5	-0.4
AKCD	Akcadag	1.15	330	P	Pn	05 25 22.4	+0.3
AKCD				S	Sb	05 25 36.5	-0.2
AKCD				i AML	AML	05 25 40.0	
	comp=N,255nm,0.4s						
AKCD				i AML	AML	05 25 42.0	
	comp=E,174nm,0.2s						
GAZ	Gaziantep	1.15	264	Pn	Pg	05 25 22.6	+0.1
GAZ				Sn	Sn	05 25 40.0	+2.4
KHMN	Narli-Kahraman	1.19	275	Pn	Pg	05 25 24.1	+0.9
DYBB	Diyarbakir	1.35	61	Pn	Pg	05 25 27.0	+0.7
DYBB				Sn	Sg	05 25 46.9	+2.9
KMRS	Kahramanmaras	1.41	279	Pn	Pg	05 25 27.5	+0.2
MAZI	Mazidag	1.44	83	Pn	Pg	05 25 28.3	+0.3
DARE	Darende-Malaty	1.57	324	Pn	Pg	05 25 30.1	-0.3
DARE				Sn	Sg	05 25 52.2	+1.4
PTK	Pertek	1.69	20	Pn	Pg	05 25 31.8	-1.1
ARPR	Arapgir-MALATY	1.81	352	Pn	Pb	05 25 33.7	+0.5
SARI	SarD1z-Kayseri	2.08	303	Pn	Pb	05 25 37.3	-0.6
TAHT	Tahtakopru-Hat	2.18	246	Pn	Pb	05 25 38.4	-1.1
SVAN	Silvan-Diyarba	2.19	66	Pn	Pb	05 25 38.8	-1.0
KOZT	Kozan	2.25	275	Pn	Pb	05 25 40.0	-0.7
BNGB	Bingl	2.33	43	Pn	Pb	05 25 41.3	-0.8

IDC 09 05:31:36.9±1.0**, 18˚96N**×**120˚46E, h0**km**, mb3.7**/5**, mbtmp3.7**/5**, MS2.6**/1**, Error ellipse: s-maj=77.5km s-min=21.5km az=65.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.39	272	LR	LR	05 44 27.7	
	comp=Z,17nm,18.8s,baz=320,slow=38						
WRA	Warramunga Arr	40.99	160	P	P	05 39 21.6	-0.2
	1.0nm,0.7s,baz=341,slow=9.0,SNR=6.0						
WRA				PcP	PcP	05 41 21.6	-0.5
	0.2nm,0.5s,baz=343,slow=2.9,SNR=1.9						
	1.0nm,0.7s						
MKAR	Makanchi Array	41.77	320	P	P	05 39 28.9	+0.9
	0.4nm,0.8s,baz=109,slow=8.3,SNR=3.0						
MKAR				PcP	PcP	05 41 22.7	-1.6
	0.1nm,0.4s,baz=108,slow=4.7,SNR=2.0						
	0.4nm,0.8s						
ASAR	Alice Springs	44.35	162	P	P	05 39 49.3	+0.2
	0.6nm,0.5s,baz=340,slow=6.5,SNR=10						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	45.78	324	P	P	05 39 59.6	-0.5
	0.6nm,0.2s,baz=122,slow=8.2,SNR=4.7						
	0.6nm,0.2s						
YKA	Yellowknife Ar	88.03	22	P	P	05 44 29.1	+0.3
	0.2nm,0.7s,baz=314,slow=4.4,SNR=5.4						
	0.2nm,0.7s						

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*WEL **09** 05:34:09.0, 38˚9S±1˚0×17˚6E±˚, h10km±2km, M3.3/30,*

ML3.5/31,MLv3.3/30,Error ellipse: s-maj=0.0km s-min=0.0km az=78.2,confirmed
*NOU **09** 05:34:10.3,38°.855S×175°.87E,h0km,MLv3.5/9,North Island, New Zealand*
ISC 09 05:34:10.0±0.9,38°.90S±0°.02×175°.84E±0°.02,h8km±7km, n147,σ0s.75/157,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.06**	**305**	**P**	**Pg**	**05 34 11.8**	**0.0**
RITZ	**Rihia Road**	**0.08**	**167**	**P**	**Pg**	**05 34 11.6**	**-0.4**
KATZ	**Kakaramea**	**0.13**	**237**	**P**	**Pg**	**05 34 12.6**	**-0.3**
KATZ				S	Sg	05 34 14.9	0.0
HATZ	**Hinemaiaia**	**0.20**	**87**	**P**	**Pg**	**05 34 13.7**	**-0.3**
HATZ				S	Sg	05 34 16.8	0.0
WATZ	**Wairara**	**0.21**	**337**	**P**	**Pg**	**05 34 14.5**	**+0.3**
WATZ				S	Sg	05 34 18.3	+1.2
NTVZ	**North Tongarir**	**0.23**	**213**	**P**	**Pg**	**05 34 14.3**	**-0.3**
NTVZ				S	Sg	05 34 17.1	-0.7
TMVZ	**Te Maari**	**0.24**	**206**	**P**	**Pg**	**05 34 14.4**	**-0.4**
KRVZ	**Karewarewa**	**0.24**	**218**	**P**	**Pg**	**05 34 14.5**	**-0.4**
ETVZ	**East Tongariro**	**0.25**	**203**	**P**	**Pg**	**05 34 14.7**	**-0.4**
ETVZ				S	Sg	05 34 18.2	-0.3
WHTZ	**Whakaora**	**0.25**	**22**	**P**	**Pg**	**05 34 16.1**	**+1.1**
NNVZ	**North Ngauruho**	**0.29**	**217**	**P**	**Pg**	**05 34 15.4**	**-0.3**
NNVZ				S	Sg	05 34 19.7	+0.1
WTVZ	**West Tongariro**	**0.29**	**222**	**P**	**Pg**	**05 34 15.3**	**-0.4**
OTVZ	**Oturere**	**0.29**	**207**	**P**	**Pg**	**05 34 15.4**	**-0.4**
OTVZ				S	Sg	05 34 19.3	-0.5
POIZ	**Poihipi**	**0.31**	**30**	**P**	**Pb**	**05 34 17.5**	**-0.3**
SNVZ	**South Ngauruho**	**0.32**	**208**	**P**	**Pg**	**05 34 16.0**	**-0.4**
SNVZ				S	Sg	05 34 19.7	-1.0
NGZ	**Ngauruhoe**	**0.33**	**214**	**P**	**Pg**	**05 34 16.1**	**-0.4**
NGZ				S	Sg	05 34 19.5	-1.4
THQ2	**Tauhara North**	**0.35**	**48**	**P**	**Pg**	**05 34 17.2**	**+0.4**
ARAZ	**Aratiatia Land**	**0.35**	**39**	**P**	**Pb**	**05 34 17.7**	**-0.8**
TWVZ	**Taurewa**	**0.35**	**241**	**P**	**Pg**	**05 34 16.5**	**-0.5**
TWVZ				S	Sg	05 34 20.7	-0.9
COVZ	**Chateau Observ**	**0.38**	**218**	**P**	**Pg**	**05 34 17.0**	**-0.3**
TUVZ	**Tukino**	**0.39**	**201**	**P**	**Pg**	**05 34 17.3**	**-0.4**
KUTZ	**Kaahu Road**	**0.41**	**359**	**P**	**Pb**	**05 34 18.5**	**-1.1**
FWVZ	**Far West T-bar**	**0.42**	**212**	**P**	**Pg**	**05 34 17.8**	**-0.3**
MAVZ	**Matarangi**	**0.42**	**210**	**P**	**Pg**	**05 34 18.0**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.42**	**207**	**P**	**Pg**	**05 34 18.2**	**-0.3**
TRVZ	**Turoa**	**0.46**	**210**	**P**	**Pg**	**05 34 18.4**	**-0.5**
MRHZ	**Matea Rd**	**0.46**	**82**	**P**	**Pb**	**05 34 18.6**	**-0.3**
WPRZ	**Whakapapatarin**	**0.46**	**34**	**P**	**Pb**	**05 34 19.7**	**-0.6**
WNVZ	**Wahianoa**	**0.46**	**204**	**P**	**Pg**	**05 34 18.4**	**-0.6**
MOVZ	**Moawhango**	**0.51**	**187**	**P**	**Pg**	**05 34 19.0**	**-0.8**
ALRZ	**Allen Road**	**0.52**	**50**	**P**	**Pg**	**05 34 19.9**	**-0.1**
PKVZ	**Pokaka**	**0.54**	**224**	**P**	**Pg**	**05 34 20.1**	**-0.4**
MTVZ	**Mangateitei**	**0.56**	**211**	**P**	**Pg**	**05 34 20.4**	**-0.4**
BKZ	**Black Stump Fm**	**0.57**	**117**	**P**	**Pg**	**05 34 20.9**	**-0.2**
BKZ	**Black Stump Fm**	**0.57**	**117**	**P**	**Pg**	**05 34 20.9**	**-0.2**
GRRZ	**Galatos Road**	**0.59**	**21**	**P**	**Pb**	**05 34 22.5**	**-0.1**
PRRZ	**Plateau Road**	**0.59**	**47**	**P**	**Pg**	**05 34 21.4**	**0.0**
BHHZ	**Black Hill Sta**	**0.61**	**163**	**P**	**Pg**	**05 34 21.1**	**-0.7**
TLZ	**Tolley Road**	**0.62**	**338**	**P**	**Pg**	**05 34 21.5**	**-0.4**
HRRZ	**Handcock Road**	**0.62**	**35**	**P**	**Pb**	**05 34 23.0**	**-0.1**
KWHZ	**Kaweka Forest**	**0.69**	**139**	**P**	**Pg**	**05 34 23.2**	**-0.1**
HLRZ	**Highlands Stat**	**0.77**	**32**	**P**	**Pn**	**05 34 26.9**	**-0.2**
RRRZ	**Republican Roa**	**0.77**	**44**	**P**	**Pb**	**05 34 25.7**	**+0.1**
UTUZ	**Utuhina**	**0.78**	**21**	**P**	**Pn**	**05 34 26.9**	**-0.4**
NMHZ	**Naumai**	**0.78**	**105**	**P**	**Pb**	**05 34 25.6**	**-0.3**
MTHZ	**Maungataniwha**	**0.79**	**87**	**P**	**Pg**	**05 34 24.9**	**-0.1**
MUGZ	**Murupara**	**0.84**	**60**	**P**	**Pg**	**05 34 25.7**	**-0.5**
NGRZ	**Ngongotaha**	**0.84**	**19**	**P**	**Pb**	**05 34 27.1**	**+0.2**
TARZ	**Mount Tarawera**	**0.85**	**38**	**P**	**Pb**	**05 34 27.1**	**+0.1**
KRHZ	**Kereru**	**0.85**	**151**	**P**	**Pg**	**05 34 26.0**	**-0.3**
MCHZ	**McNeill Hill**	**0.86**	**129**	**P**	**Pb**	**05 34 27.5**	**+0.4**
HIZ	**Hauiti**	**0.86**	**297**	**P**	**Pg**	**05 34 26.3**	**-0.2**
HIZ	**Hauiti**	**0.86**	**297**	**P**	**Pg**	**05 34 26.2**	**-0.2**
VRZ	**Vera Road**	**0.87**	**255**	**P**	**Pg**	**05 34 26.3**	**-0.4**
OMRZ	**Omania**	**0.90**	**28**	**P**	**Pb**	**05 34 27.8**	**-0.1**
MKRZ	**Makatiti**	**0.91**	**33**	**P**	**Pn**	**05 34 29.8**	**+0.7**
KARZ	**Kaharoa**	**0.94**	**20**	**P**	**Pn**	**05 34 29.2**	**-0.3**
RTZ	**Ruatahuna**	**0.94**	**73**	**P**	**Pg**	**05 34 27.7**	**-0.3**
ARHZ	**Aropaoanui**	**0.97**	**112**	**P**	**Pn**	**05 34 29.9**	**0.0**
RAHZ	**Arahi**	**0.97**	**91**	**P**	**Pb**	**05 34 29.2**	**+0.1**
PNHZ	**Pukenui**	**1.05**	**165**	**P**	**Pg**	**05 34 29.6**	**-0.5**
KMRZ	**Kaimai**	**1.06**	**4**	**P**	**Pb**	**05 34 30.5**	**0.0**
EDRZ	**Edgecumbe**	**1.06**	**42**	**P**	**Pn**	**05 34 31.4**	**+0.1**
WAZ	**Wanganui**	**1.08**	**218**	**P**	**Pg**	**05 34 30.1**	**-0.5**
WHHZ	**Waihua**	**1.10**	**100**	**P**	**Pn**	**05 34 32.1**	**+0.4**
MARZ	**Manawahe**	**1.13**	**36**	**P**	**Pn**	**05 34 32.5**	**+0.4**
TSZ	**Takapari Road**	**1.16**	**175**	**P**	**Pg**	**05 34 31.4**	**-0.8**
SNGZ	**Shannon Statio**	**1.18**	**85**	**P**	**Pn**	**05 34 32.9**	**+0.1**
URZ	**Urewera**	**1.19**	**58**	**P**	**Pg**	**05 34 32.0**	**-0.7**
URZ	**Urewera**	**1.19**	**58**	**P**	**Pg**	**05 34 31.8**	**-0.9**
MHEZ	**Mangahewa**	**1.19**	**261**	**P**	**Pn**	**05 34 33.2**	**+0.2**
OPRZ	**Ohinepanea**	**1.20**	**28**	**P**	**Pg**	**05 34 32.4**	**-0.5**
TOZ	**Tahuroa Road**	**1.20**	**347**	**P**	**Pg**	**05 34 31.4**	**-1.6**
KAHZ	**Kahuranaki**	**1.20**	**138**	**P**	**Pn**	**05 34 34.0**	**+0.9**
TGRZ	**Tauranga**	**1.22**	**16**	**P**	**Pg**	**05 34 32.8**	**-0.5**
CKHZ	**Cape Kidnapper**	**1.22**	**128**	**P**	**Pn**	**05 34 34.9**	**+1.5**
LREZ	**Lake Rotokare**	**1.25**	**243**	**P**	**Pn**	**05 34 33.9**	**+0.2**
WPWZ	**Waipukurau**	**1.25**	**153**	**P**	**Pn**	**05 34 34.3**	**+0.5**
RAGZ	**Rawiri**	**1.30**	**72**	**P**	**Pb**	**05 34 34.5**	**+0.2**
DREZ	**Durham Road**	**1.31**	**257**	**P**	**Pb**	**05 34 34.9**	**+0.1**
OHWZ	**Ohakea**	**1.36**	**197**	**P**	**Pn**	**05 34 35.2**	**-0.1**
PREZ	**Palmer Road**	**1.38**	**251**	**P**	**Pg**	**05 34 36.3**	**-0.1**
PXZ	**Pawanui**	**1.38**	**145**	**P**	**Pg**	**05 34 37.1**	**+0.7**
NEZ	**North Egmont**	**1.40**	**254**	**P**	**Pb**	**05 34 36.6**	**+0.1**
DVHZ	**Dannevirke**	**1.42**	**170**	**P**	**Pb**	**05 34 36.8**	**+0.1**
KNZ	**Kokohu**	**1.44**	**95**	**P**	**Pg**	**05 34 38.2**	**+0.7**
MWZ	**Matawai**	**1.44**	**67**	**P**	**Pn**	**05 34 36.3**	**-0.2**
PKE	**Pukeiti**	**1.47**	**258**	**P**	**Pb**	**05 34 37.4**	**-0.1**
KHEZ	**Kahui Hut**	**1.47**	**254**	**P**	**Pb**	**05 34 37.8**	**+0.2**
KHEZ	**Kahui Hut**	**1.47**	**254**	**P**	**Pb**	**05 34 37.8**	**+0.2**
POWZ	**Post Office Ro**	**1.49**	**182**	**P**	**Pb**	**05 34 37.7**	**-0.2**
PRHZ	**Porangahau**	**1.50**	**156**	**P**	**Pg**	**05 34 39.0**	**+0.4**
RIGZ	**Rimuhau**	**1.52**	**83**	**P**	**Pg**	**05 34 39.1**	**0.0**
NBEZ	**Newall Road No**	**1.58**	**256**	**P**	**Pb**	**05 34 39.5**	**+0.2**
PRGZ	**Paritu Road**	**1.60**	**91**	**P**	**Pb**	**05 34 39.6**	**-0.1**
NMEZ	**Namu Road**	**1.61**	**251**	**P**	**Pb**	**05 34 40.0**	**+0.1**
ANWZ	**Angora Road**	**1.63**	**163**	**P**	**Pg**	**05 34 40.8**	**-0.4**
MHGZ	**Mahia Peninsul**	**1.63**	**99**	**P**	**Pg**	**05 34 41.1**	**-0.1**
TKGZ	**Te Karaka**	**1.64**	**74**	**P**	**Pg**	**05 34 40.8**	**-0.6**
PRWZ	**Pori Road**	**1.65**	**176**	**P**	**Pb**	**05 34 41.0**	**+0.3**
RUGZ	**Raukumara Rang**	**1.72**	**58**	**P**	**Pn**	**05 34 39.6**	**-0.8**
MRZ	**Mangatainoka R**	**1.77**	**186**	**P**	**Pn**	**05 34 41.8**	**+0.9**
BFZ	**Birch Farm**	**1.81**	**170**	**P**	**Pb**	**05 34 43.0**	**-0.3**
BFZ	**Birch Farm**	**1.81**	**170**	**P**	**Pb**	**05 34 43.0**	**-0.3**
TWGZ	**Tauwhareparae**	**1.83**	**67**	**P**	**Pb**	**05 34 43.4**	**-0.3**
TIWZ	**Tintock**	**1.87**	**179**	**P**	**Pg**	**05 34 45.2**	**-0.6**
MKAZ	**Moumakai**	**1.87**	**343**	**P**	**Pn**	**05 34 42.4**	**+0.1**
CNGZ	**Carnagh Statio**	**1.90**	**78**	**P**	**Pg**	**05 34 45.8**	**-0.6**
HAZ	**Te Kaha**	**1.91**	**54**	**P**	**Pn**	**05 34 42.6**	**-0.2**
OGWZ	**Otaki Gorge**	**1.98**	**195**	**P**	**Pn**	**05 34 45.1**	**+1.3**
HOWZ	**Holdsworth Sta**	**2.01**	**187**	**P**	**Pn**	**05 34 44.6**	**+0.4**
CPWZ	**Castlepoint**	**2.02**	**172**	**P**	**Pg**	**05 34 50.1**	**+1.4**
PKGZ	**Pakihiroa**	**2.03**	**61**	**P**	**Pg**	**05 34 46.9**	**-1.2**
AWAZ	**Awhitu Peninsu**	**2.06**	**332**	**P**	**Pb**	**05 34 45.4**	**+0.5**
PUZ	**Puketiti**	**2.07**	**67**	**P**	**Pb**	**05 34 46.7**	**-1.1**
ETAZ	**East Tamaki Re**	**2.07**	**339**	**P**	**Pn**	**05 34 45.4**	**+0.3**
KIW	**Kapiti Island**	**2.08**	**200**	**P**	**Pn**	**05 34 46.5**	**+1.3**
KUZ	**Kuaotunu**	**2.15**	**358**	**P**	**Pn**	**05 34 46.6**	**+0.4**
KUZ	**Kuaotunu**	**2.15**	**358**	**P**	**Pb**	**05 34 49.6**	**+0.3**
WIAZ	**Waiheke Island**	**2.18**	**345**	**P**	**Pn**	**05 34 47.0**	**+0.5**
EPAZ	**Eden Park BICE**	**2.20**	**337**	**P**	**Pn**	**05 34 47.5**	**+0.7**
TMWZ	**Te Maipa**	**2.20**	**179**	**P**	**Pb**	**05 34 49.4**	**-0.6**
WTAZ	**Waiatarua**	**2.21**	**333**	**P**	**Pn**	**05 34 47.5**	**+0.6**
HBAZ	**Herne Bay Bore**	**2.23**	**337**	**P**	**Pn**	**05 34 47.7**	**+0.6**
MBAZ	**Motutapu North**	**2.26**	**340**	**P**	**Pn**	**05 34 47.1**	**-0.5**
MTW	**Mount Morrison**	**2.27**	**186**	**P**	**Pn**	**05 34 47.5**	**-0.3**
CAW	**Cannon Point**	**2.28**	**195**	**P**	**Pn**	**05 34 48.3**	**+0.3**
RVAZ	**Riverhead Bore**	**2.35**	**335**	**P**	**Pn**	**05 34 49.4**	**+0.5**
MXZ	**Matakaoa Point**	**2.36**	**56**	**P**	**Pn**	**05 34 49.9**	**+0.9**
MXZ	**Matakaoa Point**	**2.36**	**56**	**P**	**Pn**	**05 34 50.3**	**+1.3**
DUWZ	**D'Urville Isla**	**2.40**	**217**	**P**	**Pb**	**05 34 52.5**	**-1.0**
ABAZ	**Army Bay**	**2.43**	**341**	**P**	**Pn**	**05 34 50.3**	**+0.3**
TRWZ	**Traveller**	**2.50**	**183**	**P**	**Pn**	**05 34 52.3**	**+1.4**
PAWZ	**Paruwai Farm**	**2.50**	**187**	**P**	**Pg**	**05 34 57.2**	**-0.6**
TCW	**Tory Channel**	**2.60**	**207**	**P**	**Pb**	**05 34 55.6**	**-1.2**
BHW	**Baring Head**	**2.61**	**196**	**P**	**Pn**	**05 34 52.6**	**+0.2**
GRZ	**Great Barrier**	**2.67**	**353**	**P**	**Pb**	**05 34 58.3**	**+0.4**
PLWZ	**Palliser**	**2.70**	**189**	**P**	**Pn**	**05 34 53.3**	**-0.5**
NNZ	**Nelson**	**2.98**	**218**	**P**	**Pb**	**05 35 02.6**	**-0.8**
TKNZ	**Takaka Hill**	**3.07**	**225**	**P**	**Pb**	**05 35 04.3**	**-0.6**
BSWZ	**Blackbirch Sta**	**3.18**	**207**	**P**	**Pb**	**05 35 06.6**	**-0.2**
QRZ	**Quartz Range**	**3.19**	**232**	**P**	**Pn**	**05 35 02.6**	**+2.2**
QRZ	**Quartz Range**	**3.19**	**232**	**P**	**Pn**	**05 35 02.4**	**+2.0**
MRNZ	**Matariki Terra**	**3.43**	**222**	**P**	**Pb**	**05 35 09.2**	**-1.8**
THZ	**Tophouse**	**3.63**	**217**	**P**	**Pn**	**05 35 09.7**	**+3.2**
KHZ	**Kahutara**	**3.92**	**206**	**P**	**Pn**	**05 35 12.7**	**+2.2**
KHZ	**Kahutara**	**3.92**	**206**	**P**	**Pn**	**05 35 13.4**	**+2.9**

*IDC **09** 05:40:01.9±8.2,3°.30S×135°.21E,h0km,mb3.9/5, mbtmp3.9/5,Error ellipse: s-maj=478.5km s-min=31.0km az=80.0*
*DJA **09** 05:40:06.3±1.1,4°.5S±6°×13°.4E±1°.5,h18km±5km,M4.4/6, mb4.9/1,MLv4.2/6*
ISC 09 05:40:07.9±1.1,3°.86S±0°.07×133°.8E±0°.1,h35km,n11, σ2s.34/15,mb3.7/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.20**	**347**	**P**	**Pn**	**05 40 13.6**	**-1.1**
KMPI				S	Sn	05 40 17.2	-2.2
FAKI	**Fak Fak**	**1.76**	**302**	**P**	**Pn**	**05 40 36.3**	**+0.3**
SIJI	**Sorong**	**3.87**	**320**	**P**	**Pn**	**05 41 05.0**	**+0.1**
SIJI				S	Sn	05 41 45.2	-4.0
SWI	**Sorong**	**3.88**	**320**	**P**	**Pn**	**05 41 05.6**	**+0.6**
BNDI	**Bandanaira**	**3.89**	**260**	**P**	**Pn**	**05 41 05.6**	**+0.3**
WRA	**Warramunga Arr**	**16.00**	**178**	**Pn**	**Pn**	**05 43 50.7**	**+0.3**
	0.2nm,0.3s,baz=360,slow=13,SNR=7.8						
WRA				Sn	**Sn**	**05 46 44.6**	**-2.3**
	baz=3.0,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**19.70**	**180**	**P**	**Pn**	**05 44 39.3**	**+3.3**
	6.8nm,0.7s,baz=5.3,slow=10,SNR=58						
ASAR				S	**S**	**05 48 10.5**	**-4.3**
	0.2nm,0.6s,baz=0.9,slow=30,SNR=1.0 6.8nm,0.7s						
MKAR	**Makanchi Array**	**67.75**	**325**	**P**	**P**	**05 51 04.0**	**+1.9**
	0.6nm,0.7s,baz=113,slow=8.3,SNR=5.4 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**70.51**	**332**	**P**	**P**	**05 51 19.9**	**+0.9**
	0.2nm,0.4s,baz=123,slow=5.3,SNR=1.6 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.88**	**327**	**P**	**P**	**05 51 28.5**	**+1.1**
	0.9nm,0.2s,baz=125,slow=4.4,SNR=1.5 0.9nm,0.2s						
BVAR	**Borovoye Array**	**77.47**	**326**	**P**	**P**	**05 52 01.4**	**+1.7**
	0.3nm,0.5s,baz=102,slow=4.9,SNR=1.7 0.3nm,0.5s						

*NEIC **09** 05:52:39.3±0.5,37°.20N±0°.04×97°.81W±0°.02,h6km±4km, mb_Lg2.6/24,ML2.6/18,ML2.9/30,Error ellipse: s-maj=5.6km s-min=1.3km az=160.0*
NEIC 09 05:52:39.1±0.4,37°.20N±0°.03×97°.81W±0°.01,h5km±1km, Error ellipse: s-maj=4.7km s-min=2.5km az=340.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN01	**Argonia South**	**0.07**	**140**	**Pg**	**Pg**	**05 52 41.0**	**+0.3**
KAN05	**Bluff City Nor**	**0.11**	**207**		**Pg**	**05 52 41.7**	**+0.4**
KAN05				IAML		05 52 43.7	
	comp=N,6μm,0.3s						
KAN08	**Anthony NE Sta**	**0.13**	**280**	**Pg**	**Pg**	**05 52 42.2**	**+0.5**
KAN08				IAML		05 52 44.6	
	comp=N,4μm,0.5s						
KAN12	**Harper NE Stat**	**0.17**	**302**		**Pg**	**05 52 43.1**	**+0.5**
KAN12				IAML		05 52 46.4	
	comp=N,3μm,0.5s						
KAN12				IAML		05 52 49.6	
	comp=E,3μm,0.3s						
KAN10	**Anthony SW Sta**	**0.24**	**250**	**Pg**	**Pg**	**05 52 44.3**	**+0.5**
KAN14	**Manchester OK**	**0.28**	**206**		**Pg**	**05 52 44.9**	**+0.4**
KAN14				IAML		05 52 49.0	
	comp=E,1μm,0.5s						
OK032	**Salt Plains WL**	**0.51**	**219**	**Pg**	**Pg**	**05 52 49.3**	**+0.4**
OK032					Sg	05 52 56.4	+0.8
OK032				IAML		05 52 58.3	
	comp=E,1μm,0.3s						
OK032				IAML		05 53 00.2	
	comp=E,723nm,0.3s						
BLOK	**Blackwell**	**0.65**	**133**	**Pg**	**Pg**	**05 52 51.6**	**0.0**
BLOK					Sg	05 53 00.5	+0.4
BLOK				IAML		05 53 01.1	
	comp=E,652nm,0.5s						
BLOK				IAML		05 53 02.6	
	comp=N,560nm,0.3s						
CROK	**Carrier**	**0.71**	**191**	**Pg**	**Pg**	**05 52 53.0**	**+0.2**
CROK					Sg	05 53 02.6	+0.6
OK035	**E0210 Rd and N**	**0.87**	**236**	**Pg**	**Pg**	**05 52 56.3**	**+0.4**
OK035				IAML		05 53 16.1	
	comp=N,306nm,0.3s						
OK035				IAML		05 53 19.7	
	comp=N,289nm,0.3s						
OK038	**West end E0370**	**1.04**	**226**	**Pg**	**Pg**	**05 52 58.9**	**-0.2**
OK051	**E0350 and S346**	**1.05**	**131**		**Pg**	**05 52 59.0**	**-0.2**
OK051				IAML		05 53 18.4	
	comp=N,314nm,0.2s						
OK051				IAML		05 53 18.7	
	comp=N,372nm,0.2s						
OK048	**Pawnee Station**	**1.05**	**138**	**Pg**	**Pg**	**05 52 59.0**	**-0.2**
T35A	**Sooner Cattle**	**1.08**	**105**	**Pg**	**Pg**	**05 52 59.5**	**-0.3**
T35A					Sg	05 53 13.7	-0.1
T35A				IAML		05 53 18.9	
	comp=N,201nm,0.5s						
QUOK	**Quay**	**1.36**	**139**		**Pn**	**05 53 04.6**	**-0.1**
QUOK					Sb	05 53 22.4	-0.4
OK029	**Liberty Lake**	**1.43**	**168**	**Pg**	**Pn**	**05 53 06.0**	**+0.2**
OK052	**Battle Ridge R**	**1.46**	**146**		**Pn**	**05 53 06.4**	**+0.3**
CSTR	**Hydro, Custer**	**1.71**	**205**		**Pb**	**05 53 10.4**	**-0.6**
DEOK	**Depew**	**1.72**	**142**		**Pb**	**05 53 10.8**	**-0.5**
TUL3	**Leonard**	**2.08**	**128**		**Pn**	**05 53 15.8**	**+1.2**
KSU1	**Kansas State U**	**2.12**	**26**	**Pn**	**Pn**	**05 53 16.3**	**+1.1**
KSU1				IAmb_Lg		05 53 50.7	
	comp=Z,38nm,0.9s						
W35A	**Tecumseh**	**2.18**	**159**	**Pn**	**Pn**	**05 53 17.4**	**+1.3**
RLO	**Rose Lookout**	**2.47**	**114**	**Pn**	**Pn**	**05 53 21.9**	**+1.9**
WMOK	**Wichita Mounta**	**2.58**	**198**	**Pn**	**Pn**	**05 53 21.7**	**+0.1**
U38A	**Gravette**	**2.85**	**104**	**Pn**	**Pn**	**05 53 27.1**	**+1.8**
SMWD	**Samnorwood**	**2.87**	**224**		**Pn**	**05 53 26.7**	**+1.1**
HHAR	**Hobbs**	**3.24**	**105**	**Pn**	**Pn**	**05 53 32.6**	**+1.9**
S39A	**Bolivar**	**3.61**	**81**	**Pn**	**Pn**	**05 53 36.7**	**+1.1**
S39A				IAmb_Lg		05 54 34.4	
	comp=Z,16nm,1.0s						
Z35A	**Perchaven, San**	**3.89**	**173**	IAmb_Lg		05 54 51.5	
	comp=Z,14nm,1.0s						
AMTX	**Amarillo**	**3.90**	**235**	IAmb_Lg		05 54 51.3	
	comp=Z,18nm,0.9s						
RTBA	**Rita Blanca**	**4.03**	**261**	**Pn**	**Pn**	**05 53 42.7**	**+1.2**
P38A	**Dawn**	**4.14**	**53**	IAmb_Lg		05 54 57.0	
	comp=Z,11nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.20**	**297**	IAmb_Lg		05 55 04.0	
	comp=Z,14nm,0.8s						
BGNE	**Belgrade**	**4.21**	**357**	IAmb_Lg		05 55 00.9	
	comp=Z,15nm,0.7s						
MGMO	**Mountain Grove**	**4.43**	**89**	IAmb_Lg		05 55 01.5	
	comp=Z,12nm,0.7s						
WHAR	**Wooly Hollow**	**4.86**	**112**	IAmb_Lg		05 55 16.9	
	comp=Z,15nm,0.9s						
N38A	**Joes South For**	**5.05**	**43**	IAmb_Lg		05 55 25.3	
	comp=Z,12nm,0.8s						
PBMO	**Poplar Bluff**	**5.92**	**92**	IAmb_Lg		05 56 01.9	
	comp=Z,11nm,0.8s						
WVT	**Waverly**	**8.09**	**95**	IAmb_Lg		05 57 08.1	
	comp=Z,7.5nm,1.2s						

IDC 09 06:01:54.0±4.6,7°.06S×132°.27E,h0km,mb3.2/1, mbtmp3.3/3,ML3.3/2,MS2.5/1,Error ellipse: s-maj=301.1km s-min=34.7km az=74.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**12.61**	**279**	LR	LR	06 10 26.4	
	comp=Z,22nm,18.0s,baz=78,slow=41						
WRA	**Warramunga Arr**	**12.96**	**171**	**Pn**	**Pn**	**06 04 59.6**	**0.0**
	0.1nm,0.3s,baz=351,slow=13,SNR=2.7						
WRA				Sn	Sn	06 07 18.1	-6.6
	0.2nm,0.3s,baz=349,slow=24,SNR=2.6 0.3nm,0.4s						
ASAR	**Alice Springs**	**16.59**	**175**	**Pn**	**Pn**	**06 05 48.2**	**0.0**
	0.1nm,0.3s,baz=351,slow=9.3,SNR=11						
ASAR				Sn	Sn	06 08 44.9	-8.2
	0.1nm,0.3s,baz=308,slow=38,SNR=2.4 0.7nm,0.7s						
MKAR	**Makanchi Array**	**69.52**	**326**	P	P	06 13 04.7	0.0
	0.1nm,0.6s,baz=109,slow=6.6,SNR=1.7 0.1nm,0.6s						

*NEIC **09** 06:02:58.4±1.5,20°.4S±0°.1×177°.5W±0°.1,h462km±7km, mb4.5/37,Error ellipse: s-maj=21.8km s-min=16.1km az=133.0*
*IDC **09** 06:03:07.3±1.9,20°.39S×177°.91W,h562km±21km, mb3.5/15,mbtmp4.4/17,Error ellipse: s-maj=15.7km s-min=11.8km az=151.0*
ISC 09 06:02:57.2±0.4,20°.23S±0°.09×177°.74W±0°.08,h450km, n121,σ1s.74/118,mb4.4/35,18C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.46**	**82**	**P**	**P**	**06 04 45.8**	**-1.0**
AFI	**Afiamalu**	**8.49**	**43**	**P**	**P**	**06 04 58.9**	**+0.7**
PINNC	**Pines Island,**	**13.99**	**258**	**P**	**P**	**06 06 01.5**	**+3.8**
LIFNC	**LIFOU**	**14.08**	**265**	**P**	**P**	**06 05 59.0**	**+0.4**
DZM	**Mont Dzumac**	**14.87**	**260**	**P**	**P**	**06 06 09.8**	**+2.7**
DZM				IAmb	IAmb	06 06 15.6	
	comp=Z,14nm,1.0s						
DZM	**Mont Dzumac**	**14.87**	**260**	**P**	**P**	06 06 14.5	+7.4
	comp=Z,6.7nm,0.5s,baz=91,slow=20,SNR=11						
URZ	**Urewera**	**18.51**	**193**	**P**	**P**	**06 06 47.0**	**+2.2**
	comp=Z,5.2nm,0.9s,baz=74,slow=13,SNR=2.4						
SNZO	**South Karori**	**21.97**	**195**	**P**	**P**	**06 07 16.3**	**-0.1**
PPT	**Papeete**	**26.77**	**89**	**P**	**P**	**06 08 03.0**	**+3.5**
	comp=Z,16nm,0.8s,baz=118,slow=21,SNR=2.4 comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**29.15**	**254**	**P**	**P**	**06 08 21.4**	**+1.0**
ARMA	**Armidale**	**29.40**	**244**	**P**	**P**	**06 08 24.8**	**+2.2**
CTAO	**Charters Tower**	**33.76**	**264**	**P**	**P**	**06 09 02.0**	**+1.8**
CTAO				IAmb	IAmb	06 09 02.6	
	comp=Z,9.8nm,0.6s						
TOO	**Toolangi**	**36.25**	**234**	**P**	**P**	**06 09 22.8**	**+1.9**
TOO				IAmb	IAmb	06 09 28.1	
	comp=Z,21nm,1.3s						
COEN	**Coen**	**37.81**	**273**	**P**	**P**	**06 09 36.0**	**+2.0**
STKA	**Stephens Creek**	**38.12**	**244**	**P**	**P**	**06 09 38.1**	**+1.7**
STKA	**Stephens Creek**	**38.12**	**244**	**P**	**P**	**06 09 37.5**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=85,slow=12,SNR=6.9 comp=Z,4.7nm,0.8s						
BBOO	**Buckleboo**	**42.88**	**

ARCES ARCESS Array B 128.70 350 PKP **PKPdf** 06 21 10.4 -1.3
comp=Z,1.8nm,0.8s,baz=12,slow=1.7,SNR=8.9
BELG Belogornoye 132.53 324 PKP **PKPdf** 06 21 18.2 -1.2
comp=Z,2.4nm,0.5s,baz=117,slow=5.6,SNR=3.8
FINES FINESS Array B 135.58 344 PKP **PKPdf** 06 21 21.8 -3.1
comp=Z,1.0nm,0.7s,baz=38,slow=5.3,SNR=6.9
HFS Hagfors 139.31 351 PKhKP PKPpre 06 21 23.5
comp=Z,2.0nm,0.6s,baz=347,slow=3.3,SNR=6.7
AKASG Malin Array Be 142.90 331 PKP **PKPdf** 06 21 34.4 -4.1
comp=Z,6.1nm,0.6s,baz=42,slow=4.3,SNR=53
KIEV Kiev 142.91 331 ⇑P **PKPdf** 06 21 33.9 -4.6
KIEV Kiev 142.91 331 PKPpre 06 21 34.3
LODK Lodwar 143.67 247 PKPab 06 21 38.7 -0.8
ARPR Arapgir-MALATY 143.76 309 PKPab 06 21 38.7 -0.5
EKA Eskdalemuir Ar 144.72 5 PKP **PKPdf** 06 21 40.0 -1.5
comp=Z,0.3nm,0.4s,baz=323,slow=2.7,SNR=5.1
SORM Soroca 145.10 329 ⇑P PKPdf 06 21 32.8 -10
KWP Kalwaria Pacla 146.44 336 PKPbc **PKPbc** 06 21 46.4 -0.5
BRTR Keskin Array B 146.84 313 PKPbc **PKPdf** 06 21 47.0 +1.2
comp=Z,3.1nm,0.6s,baz=58,slow=3.6,SNR=15
VRI Vrincioaia 147.47 327 ⇑P **PKPdf** 06 21 47.0 +0.5
PLOR Plostina 147.52 327 ⇓P **PKPdf** 06 21 46.6 0.0
TURR Turia 147.70 328 ⇑P **PKPdf** 06 21 41.9 -5.0
OSTC Ostas 147.78 343 *e*PKP **PKPbc** 06 21 50.4 0.0
BOSR Bodos 147.86 329 ⇓P **PKPdf** 06 21 41.5 -5.6
CLL Collm 147.86 347 **PKPbc** 06 21 49.4 -1.1
CLL Collm 147.86 347 *i* PKPbc **PKPbc** 06 21 50.1 -0.4
comp=Z,16nm,0.9s
CLL *i* PKPab **PKPab** 06 21 54.4 -0.1
comp=Z,5.0nm,0.8s
MMAI Mount Meron Ar 147.89 300 PKPbc **PKPbc** 06 21 50.8 -0.5
comp=Z,4.1nm,0.5s,baz=52,slow=5.7,SNR=6.8
DPC Dobruska-Polom 147.94 343 *e*PKP **PKPbc** 06 21 50.6 -0.3
BRG Berggiesshubel 148.06 346 *i* P **PKPbc** 06 21 51.0 -0.1
BRG Amp 06 21 51.3
comp=Z,8.7nm,0.9s
DOPR Dopca 148.07 329 ⇑P **PKPdf** 06 21 42.5 -5.0
MLR Muntele Rosu 148.13 328 ⇑P **PKPbc** 06 21 50.1 -1.5
PVCC Panska Ves 148.23 345 *e*PKP **PKPbc** 06 21 51.3 -0.2
MAUC Maruska 148.38 340 *e*PKP **PKPbc** 06 21 51.6 -0.4
VOIR 148.61 328 ⇑P **PKPdf** 06 21 48.0 -0.4
PRU Pruhonice 148.74 345 *e*PKP **PKPbc** 06 21 52.4 -0.4
GOPC GO Pecny, Ondr 148.75 344 *e*PKP **PKPbc** 06 21 52.5 -0.4
ARR Arges 148.87 329 ⇑P **PKPdf** 06 21 47.9 -0.9
ZVC Zvikov 149.34 345 *e*PKP **PKPbc** 06 21 54.0 -0.3
SIRR Siria 149.55 333 ⇑P PKPdf 06 21 41.6 -8.3
GZR Gura Zlata 149.72 331 ⇑P **PKPdf** 06 21 49.5 -0.7
SURR Surduc 149.75 332 ⇑P **PKPdf** 06 21 46.5 -3.6
KHC Kasperske Hory 149.77 345 **PKPbc** 06 21 54.3 -1.0
KHC Kasperske Hory 149.77 345 *e*PKP **PKPbc** 06 21 54.6 -0.8
KHC *ex* x 06 22 02.8
CKRC Cesky Krumlov 149.88 344 *e*PKP **PKPbc** 06 21 54.5 -1.1
GERES GERESS Array B 150.01 345 PKPbc **PKPbc** 06 21 54.8 -1.3
comp=Z,2.2nm,0.7s,baz=2.9,slow=2.0,SNR=4.9
BZS Buzias 150.07 332 ⇓P **PKPdf** 06 21 49.2 -1.5
CONA Conrad Observa 150.25 341 *e*PKP **PKPbc** 06 21 56.3 -0.3
comp=Z,5.4nm,0.6s
HERR Herculane 150.28 330 ⇑P **PKPbc** 06 21 55.8 -0.8
RONA Rosalia, Austr 150.33 341 *e*PKP **PKPbc** 06 21 56.3 -0.5
comp=Z,6.4nm,0.5s
MORH Mrgy, Hungar 150.80 336 ⇑P **PKPbc** 06 21 57.2 -0.6
BLKB Belogradchik 151.10 328 ⇑P **PKPbc** 06 21 57.4 -1.3
FRGS Fruska Gora 151.21 334 ⇑P **PKPbc** 06 21 58.3 -0.6
BOVS Bovan 151.56 329 ⇓P **PKPbc** 06 21 57.7 -1.9
LESA Schwarzleotal 151.58 345 *e*PKP **PKPbc** 06 21 58.8 -0.9
comp=Z,1.6nm,0.4s
KBA Koelnbreinsper 151.73 344 *e*PKiKP **PKiKP** 06 22 01.5 +1.1
comp=Z,2.0nm,0.5s
OBKA Obir 151.92 342 *e*PKP **PKPbc** 06 21 57.8 -2.7
comp=Z,0.3nm,0.2s
WTTA Wattenberg 151.97 346 *i* PKP **PKPbc** 06 21 59.6 -1.1
comp=Z,2.1nm,0.4s
MYKA Terra Mystica 152.07 343 *i* PKP **PKPbc** 06 21 59.1 -1.7
comp=Z,5.2nm,0.7s
SQTA Sankt Quirin 152.11 347 *e*PKP **PKPbc** 06 22 00.1 -0.8
comp=Z,0.3nm,0.1s
ABTA Abfaltersbach 152.25 345 *i* PKP **PKPbc** 06 21 59.8 -1.5
comp=Z,5.5nm,0.6s
FETA Feichten 152.40 347 *i* PKP **PKPbc** 06 22 00.6 -1.0
TORD Torodi Ar. Bea 172.94 176 PKP **PKPdf** 06 22 12.0 -2.6
comp=Z,0.2nm,0.5s,baz=208,slow=0.6,SNR=4.7
TORD PKPab **PKPab** 06 23 43.4 -0.8
comp=Z,0.2nm,0.6s,baz=157,slow=4.1,SNR=1.7

*IDC **09** 06:12:30.0±1.0, 3.50S×131.63E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=57.0km s-min=20.6km az=69.0*
*NEIC **09** 06:12:33.2±2.0, 3.95S±0.04×132.1E±0.1, h10km±2km, mb4.0/7, Error ellipse: s-maj=23.0km s-min=4.8km az=103.0*
*DJA **09** 06:12:33.3±1.6, 4.4°S±4.4°×13.1°E±.1°, h17km±15km, M4.2/10, mb4.6/3, MLv4.0/10*
ISC 09 06:12:32.4±0.5, 3.87S±0.05×131.72E±0.06, h29km, n34, σ1.9s96/34, mb4.2/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.08**	**29**				**Pb**	**06 12 54.2**	**+1.6**
FAKI	**Fak Fak**	**1.08**	**29**	P			**Pb**	**06 12 53.8**	**+1.2**
FAKI				S			**Sb**	**06 13 08.3**	**+2.0**
BNDI	**Bandanaira**	**1.93**	**250**	P			**Pn**	**06 13 04.0**	**+0.7**
BNDI				S			**Sn**	**06 13 27.7**	**+1.2**
KMPI	**Kaimana, Papua**	**1.99**	**84**	P			**Pb**	**06 13 11.2**	**+3.2**
SIJI	**Sorong**	**3.01**	**351**	P			**Pn**	**06 13 14.9**	**-3.4**
SWI	**Sorong**	**3.02**	**351**	P			**Pn**	**06 13 16.1**	**-2.3**
KRAI	**Karang Ratu**	**3.37**	**279**	P			**Pn**	**06 13 21.2**	**-1.9**
NLAI	**Namlea**	**4.66**	**278**	P			**Pn**	**06 13 39.3**	**-1.5**
LBMI	**Labuha**	**5.30**	**307**	P			Pn	06 13 45.7	-4.0
SANI	**Sanana**	**6.00**	**287**	P			Pn	06 13 54.5	-4.9
	38nm,0.6s,0.2nm								
MTN	**Manton Dam**	**8.94**	**184**				**Pn**	**06 14 42.3**	**+2.7**
SOEI	**Soe**	**9.43**	**231**				Pn	06 14 52.4	+5.8
KNRA	**Kununurra**	**12.09**	**194**	Pn			**Pn**	**06 15 24.5**	**+1.6**
COEN	**Coen**	**15.11**	**132**	Pn			**Pn**	**06 16 02.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**15.34**	**202**	Pn			**Pn**	**06 16 06.6**	**-0.5**
WB0	**Warramunga Arr**	**16.02**	**171**	Pn			**Pn**	**06 16 16.7**	**+0.9**
WB0				IAmb			IAmb	06 16 32.8	
	comp=Z,8.9nm,1.1s								
WRAB	**Tennant Creek**	**16.17**	**171**	Pn			**Pn**	**06 16 18.4**	**+0.6**
WRA	**Warramunga Arr**	**16.18**	**171**	Pn			**P**	**06 16 19.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=345,slow=14,SNR=8.5								
WRA				Sn			**Sn**	**06 19 12.7**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=355,slow=23,SNR=1.6								
WB2	**Warramunga Arr**	**16.18**	**171**	Pn			**Pn**	**06 16 17.6**	**-0.3**
WB2				IAmb			IAmb	06 16 30.5	
	comp=Z,13nm,1.2s								
WR0	**Warramunga Arr**	**16.23**	**170**	Pn			**P**	**06 16 19.4**	**-2.0**
WR0				IAmb			IAmb	06 16 41.1	
	comp=Z,5.4nm,0.8s								
ASAR	**Alice Springs**	**19.80**	**174**	P			**Pn**	**06 17 06.4**	**+4.0**
	comp=Z,3.2nm,0.6s,baz=349,slow=11,SNR=37								
ASAR				S			**S**	**06 20 40.5**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=355,slow=27,SNR=3.6								
	comp=Z,3.2nm,0.6s								
PSA00	**Pilbara Seismi**	**21.04**	**212**	P			**P**	**06 17 14.8**	**+0.6**
PSA00				IAmb			IAmb	06 17 35.7	
	comp=Z,8.7nm,0.8s								
CTAO	**Charters Tower**	**21.46**	**140**	P			**P**	**06 17 14.7**	**-4.0**
CTAO				IAmb			IAmb	06 17 33.8	
	comp=Z,9.8nm,0.9s								
STKA	**Stephens Creek**	**29.37**	**163**	P			P	06 18 38.1	+5.0
	comp=Z,2.2nm,0.8s,baz=328,slow=9.8,SNR=3.4								
	comp=Z,2.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**39.18**	**306**	P			**P**	**06 19 57.5**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=132,slow=7.6,SNR=7.5								
	comp=Z,1.6nm,0.3s								
SONM	**Songino Array**	**56.08**	**340**	P			**P**	**06 22 08.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=155,slow=3.1,SNR=2.3								
	comp=Z,0.4nm,0.5s								
MKAR	**Makanchi Array**	**66.60**	**325**	P			**P**	**06 23 20.1**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=119,slow=8.9,SNR=12								
	comp=Z,1.2nm,0.7s								
ZALV	**Zalesovo Beam**	**69.58**	**333**	P			**P**	**06 23 37.8**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=126,slow=8.6,SNR=4.4								
	comp=Z,1.6nm,0.6s								
KURBB	**Kurchatov Arra**	**70.78**	**327**	P			**P**	**06 23 45.9**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=128,slow=5.5,SNR=24								
	comp=Z,2.5nm,0.5s								
BVAR	**Borovoye Array**	**76.37**	**327**	P			**P**	**06 24 18.6**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=101,slow=7.7,SNR=5.9								
	comp=Z,2.6nm,0.9s								
NRIK	**Noril'sk**	**78.97**	**345**	P			**P**	**06 24 33.4**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=122,slow=6.4,SNR=3.7								
	comp=Z,2.5nm,0.7s								
GEYT	**Alibeck 79.53 310**			P			**P**	**06 24 38.1**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=72,slow=19,SNR=2.2								
	comp=Z,1.1nm,0.5s								
ILAR	**Eielson Array 89.80 25**			P			**P**	**06 25 29.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=282,slow=4.5,SNR=2.8								
	comp=Z,0.3nm,0.8s								
TORD	**Torodi Ar. Bea 129.81 284**			PKP			**PKiKP**	**06 31 41.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=96,slow=2.3,SNR=3.5								

IDC 09 06:30:55.4±3.1, 54.30N×87.32E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=24.8km s-min=17.7km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA 1.51 258**			I		I		06 41 50.0	
	baz=79,slow=352,SNR=5.6								
ZALV	**Zalesovo Beam 1.51 258**			Pg		Pn		06 31 22.7	-1.0
	2.0nm,0.3s,baz=74,slow=16,SNR=18								
ZALV				Lg		Lg		06 31 42.8	
	0.8nm,0.3s,baz=73,slow=20,SNR=5.2								
KURBB	**Kurchatov Arra 6.51 239**			Pn		Pn		06 32 32.9	+0.6
	0.1nm,0.3s,baz=57,slow=14,SNR=6.8								
KURBB				Sn		Sn		06 33 47.1	-0.1
	0.1nm,0.3s,baz=50,slow=48,SNR=1.7								
KURBB				Lg		Lg		06 34 20.7	
	baz=54,slow=32,SNR=1.9								
	0.5nm,0.3s								
MKAR	**Makanchi Array 8.16 205**			Pn		Pn		06 32 55.8	+0.8
	0.1nm,0.3s,baz=28,slow=14,SNR=5.0								
MKAR				Sn		Sn		06 34 28.5	+0.6
	0.1nm,0.3s,baz=23,slow=27,SNR=3.3								
MKAR				Lg		Lg		06 35 10.1	
	baz=26,slow=17,SNR=2.0								
	0.1nm,0.3s								

IDC 09 06:35:09.7±2.0, 4.93N×122.15E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=282.7km s-min=27.2km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr 27.47 155**			P		P		06 40 55.9	-1.9
	0.1nm,0.5s,baz=329,slow=11,SNR=1.5								
	0.1nm,0.5s								
ASAR	**Alice Springs 30.65 159**			P		P		06 41 27.7	+1.6
	0.2nm,0.4s,baz=339,slow=7.2,SNR=5.6								
	0.2nm,0.4s								
MKAR	**Makanchi Array 54.02 327**			P		P		06 44 35.7	-0.1
	0.2nm,0.4s,baz=119,slow=7.7,SNR=6.0								
	0.2nm,0.4s								

IDC 09 06:46:11.4±2.1, 7.11N×125.88E, h52km±23km, mb3.3/4, mbtmp3.6/4, 1C, Error ellipse: s-maj=51.9km s-min=9.4km az=81.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W) 0.30 263**			*i* P		Pn		06 46 22.0	+1.3
DAV	**Davao City (W) 0.30 263**			P		Pn		06 46 22.0	+1.3
	1µm,0.4s,baz=93,slow=0.6,SNR=26								
DAV				S		Sn		06 46 30.0	+2.6
	3µm,0.2s,baz=71,slow=22,SNR=12								
WRA	**Warramunga Arr 28.14 163**			P		P		06 51 57.5	-1.3
	0.2nm,0.3s,baz=334,slow=11,SNR=7.8								
	0.2nm,0.3s								
ASAR	**Alice Springs 31.57 166**			P		P		06 52 28.4	-0.8
	0.5nm,0.4s,baz=343,slow=7.2,SNR=16								
	0.5nm,0.4s								
STKA	**Stephens Creek 41.57 160**			P		P		06 53 54.8	+0.6
	1.8nm,0.7s,baz=324,slow=7.6,SNR=4.1								
	1.8nm,0.7s								
MKAR	**Makanchi Array 54.33 324**			P		P		06 55 34.2	+1.5
	0.1nm,0.5s,baz=117,slow=8.4,SNR=1.5								
	0.1nm,0.5s								

*IDC **09** 06:52:23.7±1.9, 15.11S×173.44W, h0km, mb3.8/6, mbtmp3.8/6, MS3.4/4, Error ellipse: s-maj=110.0km s-min=24.7km az=150.0*
*NOU **09** 06:52:30.2, 14.54S×172.69W, h137km, MLv4.0/5, Samoa Islands*
ISC 09 06:52:29.0±1.9, 15.1S±0.6×173.5W±0.4, h35km, n18, σ0.8s53/7, mb3.8/6, MS3.5/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu 2.04 55**			P		Pn		06 52 54.3	-6.6
DZM	**Mont Dzumac 20.23 247**			LR		LR		07 03 31.6	
	comp=Z,107nm,18.3s,baz=229,slow=33								
PPT	**Papeete 23.09 99**			LR		LR		07 03 53.5	
	comp=Z,26nm,20.5s,baz=110,slow=30								
H11S2	**WAKE ISLAND Hy 38.65 329**			T		T		07 41 07.1	
	baz=146								
H11S3	**WAKE ISLAND Hy 38.66 329**			T		T		07 41 04.6	
	baz=146								
H11S1	**WAKE ISLAND Hy 38.67 329**			T		T		07 41 27.6	
	baz=146								
H11N3	**WAKE ISLAND Hy 39.60 330**			T		T		07 42 33.4	
	baz=145								
H11N1	**WAKE ISLAND Hy 39.60 330**			T		T		07 42 28.4	
	baz=145								
H11N2	**WAKE ISLAND Hy 39.62 330**			T		T		07 42 37.8	
	baz=145								
WRA	**Warramunga Arr 49.82 257**			P		**P**		**07 01 18.8**	**-0.2**
	0.3nm,0.5s,baz=88,slow=7.1,SNR=3.4								
	0.3nm,0.5s								
ASAR	**Alice Springs 50.11 252**			P		**P**		**07 01 21.0**	**-0.2**
	0.7nm,0.4s,baz=87,slow=8.3,SNR=14								
	0.7nm,0.4s								
MJAR	**Matsushiro Arr 68.64 320**			LR		LR		07 25 33.8	
	comp=Z,45nm,21.2s,baz=55,slow=29								
TXAR	**Lajitas Array 80.52 56**			P		**P**		**07 04 38.3**	**+0.2**
	1.0nm,1.0s,baz=251,slow=2.8,SNR=6.2								
	1.0nm,1.0s								
PDAR	**Pinedale Array 82.10 42**			P		**P**		**07 04 46.1**	**-0.2**
	0.6nm,0.8s,baz=193,slow=5.8,SNR=4.2								
	0.6nm,0.8s								
ILAR	**Eielson Array 82.16 11**			P		**P**		**07 04 45.5**	**-0.3**
	0.7nm,0.8s,baz=203,slow=6.6,SNR=8.2								
	0.7nm,0.8s								
MAW	**Mawson 88.05 199**			LR		LR		07 42 10.3	
	comp=Z,33nm,19.9s,baz=196,slow=34								
YKA	**Yellowknife Ar 89.86 23**			P		**P**		**07 05 23.7**	**-0.1**
	0.5nm,0.9s,baz=237,slow=4.6,SNR=7.0								
	0.5nm,0.9s								
BRTR	**Keskin Array B 145.86 321**			PKPbc		**PKPab**		**07 12 06.5**	**+0.9**
	2.6nm,0.8s,baz=58,slow=3.6,SNR=12								

IDC 09 07:20:43.4±2.1, 8.21S×122.72E, h0km, mb3.4/1, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=224.8km s-min=31.3km az=56.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr 16.21 137**			Pn		Pn		07 24 32.9	+0.2
	0.2nm,0.3s,baz=314,slow=11,SNR=8.5								
WRA				Sn		Sn		07 27 20.7	-13
	0.2nm,0.3s,baz=325,slow=29,SNR=6.2								
	0.6nm,0.5s								
ASAR	**Alice Springs 18.74 146**			P		P		07 25 03.8	-0.2
	0.3nm,0.3s,baz=330,slow=14,SNR=17								
ASAR				S		Sn		07 28 22.0	-13
	0.4nm,0.8s,baz=314,slow=21,SNR=3.7								
	0.7nm,0.4s								
MKAR	**Makanchi Array 65.50 331**			P		P		07 31 28.6	0.0
	0.3nm,0.6s,baz=138,slow=7.4,SNR=2.9								
	0.3nm,0.6s								

*IDC **09** 07:27:28.8±2.2, 15.10N×93.98W, h49km±20km, mb3.9/14, mbtmp4.2/18, ML4.1/4, MS3.6/28, Error ellipse: s-maj=30.0km s-min=12.3km az=50.0*
*MEX **09** 07:27:28.1±0.4, 15.02N±.94°23W, h39km±55km, MD4.6*
*NEIC **09** 07:27:29±2.7, 15.01N±0.07×94.22W±0.05, h35km±9km, mb4.5/50, Md4.6/131(MEX), Error ellipse: s-maj=10.3km s-min=6.3km az=196.0*
*CATAC **09** 07:27:43.0±0.6, 15.15N×93.09W, h107km±5km, ML4.3*
ISC 09 07:27:27.5±0.4, 14.94N±0.04×94.21W±0.03, h33km, n275, σ2.9s95/344, mb4.4/26, MS3.6/25, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG								**1.22 51**			**Pn**	**07 27 46.6**	**-1.6**
PCIG											**Sn**	**07 28 00.8**	**-2.7**
PCIG								**1.22 51**	*e*	P	**Pn**	**07 27 46.6**	**-1.6**
PCIG										*e*	**Sn**	**07 28 00.8**	**-2.7**
CARR	**Arriaga**			**1.33 12**				*e*	P		**Pn**	**07 27 47.8**	**-2.0**
CARR										*e*	**Sn**	**07 28 02.9**	**-3.4**
NILT	**Santiago Nilte**			**1.66 346**				*e*	P		**Pn**	**07 27 52.1**	**-2.2**
NILT										*e*	**Sn**	**07 28 10.7**	**-3.8**
THIG				**1.88 91**							**Pn**	**07 27 56.4**	**-0.9**
THIG											**Sn**	**07 28 20.6**	**+0.8**
THIG				**1.88 91**				*e*	P		**Pn**	**07 27 56.4**	**-0.9**
THIG										*e*	**Sn**	**07 28 20.6**	**+0.8**
PATR	**El Naranjo**			**1.91 85**				*e*	P		**Pn**	**07 27 56.8**	**-1.3**
PATR										*e*	**Sn**	**07 28 18.9**	**-2.2**
PAVE	**Pavencul**			**1.98 82**				*e*	P		**Pn**	**07 27 58.0**	**-0.8**
PAVE										*e*	**Sn**	**07 28 21.1**	**-1.6**
HUIG	**Huatulco**			**2.01 294**							**Pn**	**07 27 57.4**	**-1.8**
HUIG											**Sn**	**07 28 17.9**	**-5.2**
HUIG	**Huatulco**			**2.01 294**				*e*	P		**Pn**	**07 27 57.4**	**-1.8**
HUIG										*e*	**Sn**	**07 28 17.9**	**-5.2**
CHUJ	**Union Juarez**			**2.03 85**				*e*	P		**Pn**	**07 27 58.6**	**-1.1**
CHUJ										*e*	**Sn**	**07 28 18.7**	**-5.4**
SMCA	**Catarina**			**2.06 92**				*i*	P		**Pb**	**07 28 04.7**	**+0.4**
SMCA										*i*	**Sn**	**07 28 20.7**	**-3.8**
SMCA										IAML		07 28 56.8	
	comp=Z,2µm,1.0s												
TGIG				**2.10 30**							**Pn**	**07 28 00.1**	**-0.4**
TGIG											**Sn**	**07 28 24.2**	**-1.4**
TGIG				**2.10 30**				*e*	P		**Pn**	**07 28 00.1**	**-0.4**
TGIG										*e*	**Sn**	**07 28 24.2**	**-1.4**
TGBT	**Tuxtla Gutierr**			**2.12 30**							**Pn**	**07 28 00.2**	**-0.4**
TGBT											**Sn**	**07 28 26.6**	**+0.8**
TGBT	**Tuxtla Gutierr**			**2.12 30**				*e*	P		**Pn**	**07 28 00.2**	**-0.4**
TGBT										*e*	**Sn**	**07 28 26.6**	**+0.8**
CMIG	**Matias Romero**			**2.23 343**							**Pn**	**07 28 00.8**	**-1.4**
CMIG											**Sn**	**07 28 25.9**	**-2.8**
CMIG	**Matias Romero**			**2.23 343**				P			**Pn**	**07 28 01.0**	**-1.2**
	comp=Z,277nm,0.3s,baz=161,slow=11,SNR=2987												
CMIG										S	**Sn**	**07 28 25.5**	**-3.2**
	comp=Z,2µm,0.4s,baz=166,slow=13,SNR=9.1												
CMIG										LR	LR	07 29 05.1	
	comp=Z,1µm,20.0s,baz=118,slow=45												
	comp=Z,1µm,0.4s												
CMIG	**Matias Romero**			**2.23 343**				*e*	P		**Pn**	**07 28 00.8**	**-1.4**
CMIG										*e*	**Sn**	**07 28 25.9**	**-2.8**
SMSP	**San Marcos**			**2.34 89**				*e*	P		**Pn**	**07 28 05.3**	**+1.3**
SMSP										*e*	**Sn**	**07 28 30.7**	**-1.1**
SMSP	**San Marcos**			**2.34 89**				*i*	P		**Pb**	**07 28 06.9**	**-2.4**
SMSP										*i*	**Sn**	**07 28 25.4**	**-6.4**
SMSP										IAML		07 28 41.6	
	comp=Z,5µm,1.0s												
UXUV	**UXUV**			**2.36 1**				*e*	P		**Pn**	**07 28 03.9**	**-0.1**
UXUV										*e*	**Sn**	**07 28 30.1**	**-1.8**
CCIG	**Comitan**			**2.40 56**				Pn			**Pn**	**07 28 05.2**	**+0.6**
CCIG	**Comitan**			**2.40 56**				*e*	P		**Pn**	**07 28 05.7**	**+1.1**
CCIG										*e*	**Sn**	**07 28 33.3**	**+0.3**
RTAL	**Retalhuleu**			**2.46 99**							**Pn**	**07 28 05.3**	**-0.1**
RTAL	**Retalhuleu**			**2.46 99**				*e*	P		**Pn**	**07 28 05.1**	**-0.3**
RTAL										*e*	**Sn**	**07 28 35.5**	**+1.1**
RTAL	**Retalhuleu**			**2.46 99**				*i*	P		**Pb**	**07 28 09.1**	**-2.1**
RTAL										*i*	**Sn**	**07 28 30.6**	**-3.8**
QUEO	**Labor Ovalle**			**2.60 91**				*i*	P		**Pb**	**07 28 10.6**	**-3.1**
QUEO										*i*	**Sn**	**07 28 32.6**	**-5.6**
QUEO										IAML		07 28 52.0	
	comp=Z,4µm,1.0s												
HUEH	**Huehuetenango**			**2.64 82**							**Pn**	**07 28 09.2**	**+1.3**
HUEH	**Huehuetenango**			**2.64 82**				*e*	P		**Pn**	**07 28 09.2**	**+1.3**
HUEH										*e*	**Sn**	**07 28 38.4**	**-0.6**
HUEH	**Huehuetenango**			**2.64 82**				*i*	P		**Pn**	**07 28 09.5**	**+1.5**
HUEH										*i*	**Sn**	**07 28 31.1**	**-7.9**
SOKI	**Kika Raxquin**			**2.71 92**				*i*	P		**Pn**	**07 28 10.6**	**+1.4**
SOKI										*i*	**Sn**	**07 28 33.5**	**-7.6**
SOKI										IAML		07 29 12.2	
	comp=Z,1µm,1.0s												
PEIG	**Puerto Escondi**			**3.02 291**							**Pn**	**07 28 11.7**	**-1.4**
PEIG											**Sn**	**07 28 42.2**	**-6.0**
PEIG	**Puerto Escondi**			**3.02 291**				*e*	P		**Pn**	**07 28 11.7**	**-1.4**
PEIG										*e*	**Sn**	**07 28 42.2**	**-6.0**
QUIS	**Sacapulas**			**3.03 83**				*i*	P		**Pn**	**07 28 15.1**	**+1.8**
QUIS										*i*	**Sn**	**07 28 41.2**	**-7.3**
QUIS								

SNET Serv Nac Est T 4.98 104 Pn 07 28 40.9 +0.8
JAUV Jalcomulco 5.05 331 eP Pn 07 28 38.6 -2.4
JAUV eS Sn 07 29 32.1 -6.2
CRIG Cruz Grande 5.06 291 Pn 07 28 41.0 -0.1
CRIG Sn 07 29 29.9 -8.7
CRIG Cruz Grande 5.06 291 eP Pn 07 28 41.0 -0.1
CRIG eS Sn 07 29 29.9 -8.7
LVIG Laguna Verde 5.20 336 eP Pn 07 28 40.3 -2.8
LVIG eS Sn 07 29 31.8 -10
SJTE Alcalda de S 5.21 104 iP Pn 07 28 45.2 +2.0
SJTE iS Sn 07 29 34.8 -7.5
SJTE IAML 07 30 07.5
comp=Z,140nm,1.0s
PAVA Las Pavas 5.25 103 iP Pn 07 28 47.0 +3.2
PAVA iS Sn 07 29 35.2 -8.1
PAVA IAML 07 30 10.0
comp=Z,280nm,1.0s
SARH Santa Rosa de 5.27 91 iP Pn 07 28 44.9 +0.9
SARH iS Sn 07 29 34.3 -9.4
COEG Centro de Oper 5.33 104 iP Pn 07 28 48.5 +3.6
COEG IAML 07 29 11.1
comp=Z,160nm,1.0s
COEG iS Sn 07 29 36.2 -9.0
SCLA Alcaldia de Sa 5.45 102 iP Pn 07 28 49.6 +3.1
SCLA iS Sn 07 29 38.8 -9.4
SCLA IAML 07 30 27.5
comp=Z,90nm,1.0s
DAIG Los Arroyos 5.63 292 Pn 07 28 49.5 +0.6
DAIG Sn 07 29 44.4 -8.1
DAIG Los Arroyos 5.63 292 eP Pn 07 28 49.5 +0.6
DAIG eS Sn 07 29 44.4 -8.1
PPM Popocatepetl 5.89 315 eP Pn 07 28 56.7 +3.7
PPM eS Sn 07 30 00.1 +0.5
PPIG Popocatepetl 5.89 315 Pn 07 28 56.7 +3.7
PPIG Sn 07 30 00.1 +0.5
MEIG Mezcala 5.98 300 Pn 07 28 55.9 +2.1
MEIG Sn 07 29 55.8 -5.5
MEIG Mezcala 5.98 300 eP Pn 07 28 55.9 +2.1
MEIG eS Sn 07 29 55.8 -5.5
YAIG Yautepec 6.07 311 Pn 07 28 58.0 +2.9
YAIG Sn 07 29 58.4 -5.1
YAIG Yautepec 6.07 311 eP Pn 07 28 58.0 +2.9
YAIG eS Sn 07 29 58.4 -5.1
PLIG Platanillo 6.13 305 Pn 07 28 58.6 +2.8
PLIG Sn 07 30 02.2 -2.7
PLIG Platanillo 6.13 305 eP Pn 07 28 58.6 +2.8
PLIG eS Sn 07 30 02.2 -2.7
NISHN Nisperales Com 6.16 81 iP Pn 07 28 55.6 -0.6
CAIG El Cayaco 6.19 291 Pn 07 28 57.1 +0.5
CAIG Sn 07 29 52.8 -14
CAIG El Cayaco 6.19 291 eP Pn 07 28 57.1 +0.5
CAIG eS Sn 07 29 52.8 -14
MPVM San Francisco 6.25 313 eP Pn 07 29 01.7 +4.0
MPVM eS Sn 07 30 07.8 -0.3
TLVM San Miguel Top 6.36 313 eP Pn 07 29 01.8 +2.6
TLVM eS Sn 07 30 12.8 +2.0
XCVM Xochimilco 6.36 313 eS Sn 07 30 13.8 +3.0
AOVM Tlapan 6.51 312 eP Pn 07 29 05.6 +4.1
AOVM eS Sn 07 30 05.4 -9.5
INVM La Marquesa 6.57 312 eP Pn 07 29 04.3 +2.6
INVM eS Sn 07 30 06.8 -9.4
PTVM Pico Tres Padr 6.58 315 Pn 07 29 05.1 +2.8
PTVM Sn 07 30 09.6 -6.8
PTVM Pico Tres Padr 6.58 315 eP Pn 07 29 05.1 +2.8
PTVM eS Sn 07 30 09.6 -6.8
ZUVM ZUMPANGO 6.72 317 Sn 07 30 20.5 +0.6
ZUVM ZUMPANGO 6.72 317 eS Sn 07 30 20.5 +0.6
ARIG Puente Sto Nin 6.76 300 Pn 07 29 07.1 +2.7
ARIG Sn 07 30 15.2 -5.1
ARIG Puente Sto Nin 6.76 300 eP Pn 07 29 07.1 +2.7
ARIG eS Sn 07 30 15.2 -5.1
TOVM TOLUCA 6.78 310 Pn 07 29 08.5 +3.5
TOVM Sn 07 30 20.0 -1.4
TOVM TOLUCA 6.78 310 eP Pn 07 29 08.5 +3.5
TOVM eS Sn 07 30 20.0 -1.4
DHIG Demacu 7.04 320 Pn 07 29 12.3 +3.8
DHIG Sn 07 30 26.1 -1.5
DEIG Demacu 7.04 320 eP Pn 07 29 12.3 +3.7
DEIG eS Sn 07 30 26.1 -1.5
CRIN San Cristobal 7.30 107 Pn 07 29 15.7 +3.8
ZIIG Zihuatanejo 7.46 292 Pn 07 29 15.8 +1.7
ZIIG Sn 07 30 34.4 -3.1
ZIIG Zihuatanejo 7.46 292 eP Pn 07 29 15.8 +1.7
ZIIG eS Sn 07 30 34.4 -3.1
CTUV Llano Grande 7.60 329 eP Pn 07 29 18.4 +2.4
CTUV eS Sn 07 30 32.8 -8.1
CNGN Cerro Negro 7.69 107 Pn 07 29 18.1 +0.8
TEIG Tepich 7.72 46 Pn Pn 07 29 16.2 -1.4
TEIG Tepich 7.72 46 P Pn 07 29 15.6 -2.0
comp=Z,721nm,0.3s,baz=346,slow=2.0,SNR=58
TEIG S Sn 07 30 34.4 -10
comp=Z,385nm,0.5s,baz=311,slow=2.2,SNR=1.2
TEIG LR LR 07 32 44.3
comp=Z,6µm,20.9s,baz=8.0,slow=42
MOIG Morelia 8.16 306 Pn 07 29 27.8 +3.9
MOIG Morelia 8.16 306 eP Pn 07 29 28.4 +4.4
MOIG eS Sn 07 30 44.7 -10
MATN Matagalpa 8.29 103 Pn Pn 07 29 27.6 +2.1
RPIG Rio Verde 8.81 322 Pn 07 29 35.3 +2.5
RPIG Rio Verde 8.81 322 eP Pn 07 29 35.3 +2.5
GTIG Gomez Farias 9.34 331 Pn 07 29 40.5 +0.5
GTIG Gomez Farias 9.34 331 eP Pn 07 29 40.5 +0.5
MMIG Aquila 9.37 292 Pn 07 29 42.0 +1.7
MMIG Sn 07 31 27.4 +2.8
MMIG Aquila 9.37 292 eP Pn 07 29 42.0 +1.7
MMIG eS Sn 07 31 27.4 +2.8
COIG Colima 10.00 296 eP Pn 07 29 52.9 +3.9
JUBC Volcan de Coli 10.03 298 eP Pn 07 29 54.6 +4.9
EZ5V 10.05 298 Pn 07 29 53.3 +3.5
EZ5V 10.05 298 eP Pn 07 29 53.3 +3.5
MNGA Volcan de Coli 10.06 298 eP Pn 07 29 54.6 +4.6
INCO Volcan de Coli 10.07 298 eP Pn 07 29 55.5 +5.2
SOMAC Volcano de Col 10.09 298 eP Pn 07 29 56.1 +5.6
JTS Las Juntas de 10.14 116 P Pn 07 29 51.6 +0.7
comp=Z,0.2nm,0.3s,baz=7.6,slow=20,SNR=1.5
comp=Z,1.3nm,0.4s
CDAR Ciudad de Arme 10.19 294 eP Pn 07 29 54.2 +2.7
CEGR Campo Tres 10.23 297 eP Pn 07 29 56.2 +4.0
CIHU Emiliano Zapat 10.94 295 iP Pn 07 30 04.2 +2.3
LNIG Linares 11.07 334 eP Pn 07 30 01.7 -1.8
ZAIG Zacatecas 11.10 316 Pn Pn 07 30 06.1 +1.9
ZAIG Zacatecas 11.10 316 eP Pn 07 30 07.4 +3.2
HBVL Hebbronville 12.76 342 Pn Pn 07 30 28.4 +1.8
833A Chaparral WMA, 14.16 341 Pn Pn 07 30 45.8 +0.1
833A Chaparral WMA, 14.16 341 P Pn 07 30 47.2 +1.4
baz=158,SNR=38
PDIG Papasquiaro 14.53 315 P P 07 30 54.9 -2.4
PDIG Papasquiaro 14.53 315 eP P 07 30 54.9 -2.4
MCIG Muzquiz 14.54 333 Pn 07 30 50.9 -0.1
MCIG Muzquiz 14.54 333 eP Pn 07 30 50.9 -0.1
EF01 Eagle Ford 01 14.64 345 Pn Pn 07 30 51.4 -0.9
HKT Hockley 15.01 355 Pn Pn 07 30 56.8 -0.5
HNDO Hondo 15.25 343 Pn 07 30 59.4 -1.1
HNDO IAmb IAmb 07 31 02.4
comp=Z,34nm,0.7s
DRIO Del Rio 15.58 339 Pn Pn 07 31 04.1 -0.7
HNVL Huntsville, TX 15.78 356 Pn 07 31 07.1 -0.3
HNVL IAmb IAmb 07 31 12.3
comp=Z,30nm,0.8s
HPIG 16.02 320 P 07 31 12.3 -1.4
435B Jarrell 16.07 349 Pn Pn 07 31 10.4 -0.6
JCT Junction City 16.30 343 Pn Pn 07 31 14.5 +0.5
JCT Junction City 16.30 343 P P 07 31 15.5 -1.2
baz=160,SNR=9.3
SAND Sanderson 16.63 335 Pn Pn 07 31 18.4 +0.2
TXAR Lajitas Array 16.78 330 P P 07 31 21.1 -1.0
comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=24
TXAR LR LR 07 38 42.6
comp=Z,54nm,19.3s,baz=77,slow=40
comp=Z,12nm,1.0s
BRDY Brady 16.85 346 Pn Pn 07 31 20.7 -0.3
BRDY IAmb IAmb 07 31 34.6
comp=Z,27nm,0.9s
237A Washetta, Mont 17.05 355 Pn 07 31 22.1 -1.2
237A IAmb IAmb 07 31 43.4
comp=Z,43nm,1.1s
OZNA Ozona 17.13 339 Pn Pn 07 31 24.4 -0.1
WHTX Lake Whitney, 17.23 351 Pn 07 31 25.0 -0.7
WHTX IAmb IAmb 07 31 32.4
comp=Z,30nm,0.7s
WHTX Lake Whitney, 17.23 351 P P 07 31 26.2 -0.7
baz=169,SNR=9.1
ALPN Alpine 17.64 332 P 07 31 32.1 +0.4
ALPN IAmb IAmb 07 31 35.6
comp=Z,38nm,1.1s
LPIG La Paz 17.69 303 P P 07 31 34.3 +2.2
comp=Z,1.7nm,0.3s,baz=182,slow=13,SNR=1.3
LPIG LR LR 07 37 34.5
comp=Z,138nm,20.1s,baz=142,slow=34
comp=Z,5.3nm,0.2s
TREL Terrell 17.79 355 P Pn 07 31 32.2 -0.4
TREL IAmb IAmb 07 31 36.0
comp=Z,29nm,0.9s
SGCY Sterling City 18.04 341 P 07 31 35.5 -0.4
SGCY IAmb IAmb 07 31 37.0
comp=Z,48nm,0.8s
MNHN Monahans 18.11 336 P P 07 31 37.5 +0.8
PLPT Palo Pinto 18.18 349 P Pn 07 31 36.8 -0.6
Z38A Mt. Pleasant 18.25 358 P 07 31 37.8 -0.4
Z38A IAmb IAmb 07 31 41.1
comp=Z,48nm,1.4s
ABTX Abilene, Hawle 18.29 345 Pn 07 31 38.3 -0.4
ABTX IAmb IAmb 07 31 40.5
comp=Z,28nm,0.8s
ABTX Abilene, Hawle 18.29 345 P Pn 07 31 39.1 +0.4
baz=162,SNR=18
VHRN Van Horn 18.62 330 P Pn 07 31 43.6 +0.7
WLAR White Oak Lake 18.69 3 P P 07 31 42.5 -0.5
WLAR IAmb IAmb 07 31 54.1
comp=Z,26nm,0.9s
SN01 Snyder 1 18.85 342 P Pn 07 31 45.2 -0.3
SN01 IAmb IAmb 07 31 46.9
comp=Z,74nm,1.4s
WTFS Witchita Falls 19.13 349 P Pn 07 31 48.4 -0.6
MNTX Cornudas Mount 19.56 330 P Pn 07 31 53.2 -0.9
baz=145,SNR=6.6
DKNS Dickens 19.61 343 P P 07 31 53.3 +0.1
DKNS IAmb IAmb 07 31 55.9
comp=Z,37nm,0.8s
FNO Franklin 20.43 352 P 07 32 00.6 -1.5
MSTX Muleshoe 20.47 339 P P 07 32 02.6 0.0
MSTX Muleshoe 20.47 339 P P 07 32 02.7 +0.2
baz=155,SNR=18
GUY2C Guyana, Caldas 20.89 116 eP Pn 07 32 10.1 -0.2
AMTX Amarillo 20.97 343 P P 07 32 07.2 -0.7
AMTX Amarillo 20.97 343 P P 07 32 08.0 +0.1
baz=159
BBAC Balboa, Cauca 21.09 126 eP P 07 32 11.7 +2.1
319A Douglas 21.40 322 P P 07 32 14.7 +2.0
U38A Gravette 21.41 360 P P 07 32 11.6 -1.0
U38A IAmb IAmb 07 32 16.5
comp=Z,23nm,1.2s
121A Cookes Peak, D 21.43 327 P P 07 32 14.6 +1.5
121A IAmb IAmb 07 32 19.2
comp=Z,22nm,0.8s
121A Cookes Peak, D 21.43 327 P P 07 32 15.6 +2.5
baz=141,SNR=27
ORTC Ortega, Tolima 21.66 119 eP P 07 32 17.7 +2.3
ROSC El Rosal 21.99 115 P P 07 32 18.9 -0.5
comp=Z,2.6nm,0.4s,baz=320,slow=13,SNR=1.7
comp=Z,2.6nm,0.4s
PRAC Prado 22.06 118 eP P 07 32 23.8 +3.9
BARC Barichara 22.24 110 eP P 07 32 25.5 +3.5
Y22D IRIS PASSCAL I 22.25 331 P P 07 32 23.6 +1.8
PAMC Pamplona, Colo 22.40 107 eP P 07 32 25.9 +2.0
S39A Bolivar 22.67 2 P P 07 32 25.0 -1.1
S39A IAmb IAmb 07 32 26.1
comp=Z,11nm,0.8s
ANMO Albuquerque 22.77 333 P P 07 32 28.1 +0.8
baz=147
ANMO Albuquerque 22.77 333 P P 07 32 26.0 -1.3
comp=Z,2.6nm,0.6s,baz=137,slow=18,SNR=12
comp=Z,2.6nm,0.6s
VILC Villavicencio, 22.89 116 eP P 07 32 31.1 +2.4
TUC Tucson 22.96 322 P P 07 32 31.6 +2.4
baz=134
CCM Cathedral Cave 23.17 6 P P 07 32 28.4 -2.8
baz=187
BOSC San Juan Bosco 23.78 138 P P 07 32 38.6 +1.1
SDV Santo Domingo 23.83 102 LR LR 07 42 28.6
comp=Z,154nm,21.8s,baz=268,slow=38
T25A Trinidad 23.90 340 P P 07 32 39.6 +1.1
T25A IAmb IAmb 07 32 50.5
comp=Z,26nm,1.0s
T25A Trinidad 23.90 340 P P 07 32 40.0 +1.4
baz=154,SNR=16
CBKS Cedar Bluff 24.27 349 P P 07 32 42.7 +0.9
baz=166
X16A Lo Mia Camp, P 24.85 324 P P 07 32 49.1 +1.9
X16A IAmb IAmb 07 32 53.2
comp=Z,14nm,1.1s
S22A 4UR Ranch, Cre 25.32 336 P P 07 32 52.8 +1.2
baz=150
WUAZ Wupatki 25.63 326 P P 07 32 57.3 +3.0
baz=138
PDMCI Parker Dam,Lak 26.36 321 P P 07 33 03.9 +3.1
baz=132
ISCO Idaho Springs 26.70 340 P P 07 33 04.9 +0.8
baz=154,SNR=5.7
OGNE Ogallala 26.79 347 P P 07 33 08.2 +3.6
baz=162
ATAH Atahualpa 26.96 143 LR LR 07 42 18.5
comp=Z,127nm,18.4s,baz=321,slow=33
SJG San Juan 27.07 79 LR LR 07 42 59.4
comp=Z,101nm,21.4s,baz=252,slow=35
PFO Pinyon Flats O 27.41 317 LR LR 07 44 24.1
comp=Z,127nm,21.5s,baz=134,slow=37
ECSD EROS Data Cent 28.77 356 P P 07 33 20.9 -1.2
ECSD IAmb IAmb 07 33 21.4
comp=Z,27nm,1.5s
ECSD EROS Data Cent 28.77 356 P P 07 33 21.0 -1.2
baz=175,SNR=5.2
TCUT Toone Canyon 30.06 334 P P 07 33 34.8 +0.8
TCUT IAmb IAmb 07 33 46.5
comp=Z,12nm,0.9s
SPMN Marine on St. 30.21 2 P P 07 33 32.5 -2.4
baz=182,SNR=6.8
PDAR Pinedale Array 30.71 338 P P 07 33 38.9 -0.7
comp=Z,1.0nm,0.9s,baz=139,slow=7.7,SNR=6.3
PDAR LR LR 07 49 15.4
comp=Z,82nm,18.9s,baz=28,slow=43
comp=Z,1.0nm,0.9s
ELK Elko 31.56 329 P P 07 33 48.4 +1.2
ELK Elko 31.56 329 P P 07 33 47.2 0.0
comp=Z,2.7nm,0.9s,baz=118,slow=4.7,SNR=9.2
ELK LR LR 07 48 23.2
comp=Z,186nm,19.1s,baz=162,slow=40
comp=Z,2.7nm,0.9s
NVAR Mina Array Bea 31.61 322 P P 07 33 48.4 +0.7
comp=Z,3.6nm,0.9s,baz=136,slow=9.1,SNR=18
NVAR PcP PcP 07 36 40.3 +0.8
comp=Z,0.3nm,0.3s,baz=131,slow=3.7,SNR=2.6
NVAR LR LR 07 48 36.8
comp=Z,129nm,21.0s,baz=111,slow=40
comp=Z,3.6nm,0.9s
REDW Red Top Meadow 31.71 337 P P 07 33 49.3 +0.9
NNA Nana 31.81 146 LR LR 07 44 18.9
comp=Z,97nm,20.4s,baz=334,slow=32
TPAW Teton Pass 31.85 337 P P 07 33 50.2 +0.4
TPAW IAmb IAmb 07 34 05.2
comp=Z,6.2nm,1.1s
E28A Huff 32.00 352 P P 07 33 49.6 -1.1
SADO Sadowa 32.36 20 LR LR 07 47 59.1
comp=Z,126nm,19.3s,baz=72,slow=38
MDND Maddock 33.11 353 P P 07 33 59.8 -0.7
MDND Maddock 33.11 353 P P 07 34 00.9 +0.5
baz=170
HLID Hailey 33.35 333 P P 07 34 04.0 +1.2
baz=142
WVOR Wild Horse Val 34.53 327 P P 07 34 14.0 +0.9
J08A Circle Bar Ran 35.11 329 P P 07 34 19.7 +1.7
J08A IAmb IAmb 07 34 21.4
comp=Z,9.3nm,0.9s
ULM Lac du Bonnet 35.24 358 P P 07 34 16.4 -2.4
comp=Z,6.1nm,0.9s,baz=164,slow=6.0,SNR=8.5
ULM LR LR 07 52 13.3
comp=Z,73nm,18.4s,baz=92,slow=42
comp=Z,6.1nm,0.9s
PLID Pearl Lake 35.25 333 P P 07 34 19.2 -0.1
PLID IAmb IAmb 07 34 30.5
comp=Z,7.1nm,0.9s
YBH Yreka Blue Hor 36.32 323 P P 07 34 27.6 -0.8
comp=Z,1.5nm,0.7s,baz=100,slow=8.5,SNR=4.4
YBH LR LR 07 50 01.1
comp=Z,134nm,18.1s,baz=163,slow=37
comp=Z,1.5nm,0.7s
ETMB Extrema 37.08 130 P P 07 34 35.1 +0.1
ETMB IAmb IAmb 07 34 35.8
comp=Z,6.3nm,1.0s
NEW Newport 38.23 335 LR LR 07 52 42.1
comp=Z,91nm,19.9s,baz=126,slow=40
FFC Flin Flon 40.16 353 P P 07 34 59.2 -1.1
FFC IAmb IAmb 07 35 10.0
comp=Z,5.8nm,0.8s
MDP Montagnes des 42.01 99 LR LR 07 53 37.3
comp=Z,102nm,20.8s,baz=292,slow=38
FCC Fort Churchill 43.74 0 P P 07 35 27.6 -1.9
RPN Rapa Nui 44.32 199 LR LR 07 49 46.5
comp=Z,69nm,18.2s,baz=10,slow=30
LVC Limon Verde 44.80 146 LR LR 07 53 49.8
comp=Z,50nm,18.5s,baz=324,slow=35
SIV San Ignacio 44.90 132 LR LR 07 54 20.5
comp=Z,67nm,19.1s,baz=290,slow=36
SCHQ Schefferville 45.12 22 LR LR 07 55 19.8
comp=Z,151nm,19.1s,baz=230,slow=37
YKA Yellowknife Ar 49.64 348 P P 07 36 14.7 -0.9
comp=Z,2.8nm,0.8s,baz=152,slow=7.3,SNR=27
comp=Z,2.8nm,0.8s
DLBC Dease Lake 50.94 337 LR LR 08 00 55.5
comp=Z,107nm,19.6s,baz=297,slow=39
CFA Coronel Fontan 52.56 152 LR LR 07 54 41.1
comp=Z,60nm,20.7s,baz=360,slow=31
CPUP Villa Florida 54.49 139 P P 07 36 51.0 -1.1
comp=Z,2.7nm,0.9s,baz=15,slow=10,SNR=4.1
comp=Z,2.7nm,0.9s
BDFB Brasilia 54.83 122 P P 07 36 52.9 -2.1
comp=Z,1.6nm,0.6s,baz=258,slow=9.3,SNR=3.7
comp=Z,1.6nm,0.6s
PLCA Paso Flores 59.58 159 P P 07 37 27.9 -0.2
comp=Z,3.4nm,0.9s,baz=340,slow=9.8,SNR=5.5
PLCA LR LR 07 58 15.2
comp=Z,41nm,18.4s,baz=18,slow=31
comp=Z,3.4nm,0.9s
RES Resolute Bay 59.74 360 LR LR 08 08 22.3
comp=Z,45nm,19.7s,baz=310,slow=41
J26L Joseph Creek 59.77 338 P P 07 37 31.4 +2.2
baz=122
A36M Sachs Harbour 59.92 349 P P 07 37 30.0 +0.1
baz=145
F28M Old Crow 60.30 342 P P 07 37 32.8 +0.2
baz=127
ILAR Eielson Array 61.14 337 P P 07 37 37.2 -1.1
comp=Z,2.1nm,1.0s,baz=137,slow=3.9,SNR=15
comp=Z,2.1nm,1.0s
H24K Noodor Dome 62.02 338 P P 07 37 44.5 +0.2
baz=118
PPT Papeete 63.44 241 LR LR 07 57 53.4
comp=Z,50nm,20.2s,baz=36,slow=29
J19K Poorman 64.29 335 P P 07 38 00.1 +0.8
baz=109
E22K Anaktuvuk Pass 64.43 339 P P 07 38 01.6 +1.3
baz=115
F21K Alatna River 64.64 338 P P 07 38 03.6 +2.0
baz=113
C23K Itkillik River 64.80 341 P P 07 38 04.9 +2.3
baz=117
F20K Avaraart Lake 65.39 338 P P 07 38 08.7 +2.2
baz=111
E20K Nigu River 65.99 339 P P 07 38 12.2 +1.8
baz=111
NEEM North Greenlan 66.15 9 eP P 07 38 10.0 -1.6
DAG Danmarks Havn 72.25 14 iP P 07 38 48.0 -1.0
DAG iP P 07 38 48.0 -1.0
EKA Eskdalemuir Ar 78.45 36 P P 07 39 23.1 -1.9
comp=Z,1.3nm,0.7s,baz=283,slow=3.7,SNR=3.5
comp=Z,1.3nm,0.7s
NB2 NORSAR Subarra 84.33 28 P P 07 39 56.9 +0.8
comp=Z,4.8nm,1.1s,baz=291,slow=5.1
NOA NORSAR Array B 84.33 28 P P 07 39 54.5 -1.6
comp=Z,3.0nm,0.9s,baz=290,slow=5.1,SNR=4.5
NOA LR LR 08 18 07.8
comp=Z,48nm,18.1s,baz=10.0,slow=36
comp=Z,3.0nm,0.9s
TORD Torodi Ar. Bea 92.23 76 LR LR 08 22 26.8
comp=Z,27nm,19.1s,baz=316,slow=36
OBN Obninsk 98.80 26 LR LR 08 26 00.9
comp=Z,66nm,19.0s,baz=340,slow=36
STKA Stephens Creek 126.65 241 PKP PKPdf 07 46 27.8 -0.2
comp=Z,0.6nm,0.3s,baz=147,slow=1.6,SNR=3.6
WRA Warramunga Arr 133.54 257 PKP PKPdf 07 46 39.5 -2.0
comp=Z,1.0nm,0.9s,baz=77,slow=2.0,SNR=6.3
ASAR Alice Springs 133.95 251 PKP PKPdf 07 46 41.4 -0.8
comp=Z,0.4nm,0.7s,baz=129,slow=1.6,SNR=5.5
CMAR Chiang Mai Arr 144.37 338 PKP PKPbc 07 46 59.4 -0.2
comp=Z,1.4nm,0.3s,baz=343,slow=3.5,SNR=7.0

*CATAC **09** 07:32:43.7±0.2, 10°.70N×85°.22W, h10km, ML3.1*
*UCR **09** 07:32:43.6±1.4, 10°.72N×85°.21W, h4km±2km, MW4.0*
ISC 09 07:32:44.1±0.8, 10°.71N±0°.02×85°.18W±0°.02, h11km±5km, n90, σ0°971/126, 18C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
COLC	**Colonia**	**0.05**	**205**	**eP**	**Pg**		**07 32 45.8**	**-0.5**
CUI	**Cuipilapa**	**0.05**	**159**	**iP**	**Pg**		**07 32 45.7**	**-0.7**
VMAR	**Armenia, Volca**	**0.12**	**33**	**iP**	**Pg**		**07 32 46.9**	**-0.3**
VMAR				eS	Sg		07 32 51.1	+1.6
GPS3	**Bodega del ICE**	**0.18**	**285**	**iP**	**Pb**		**07 32 51.8**	**+2.2**
VRLE	**La Escondida,**	**0.20**	**294**	**iP**	**Pg**		**07 32 48.4**	**+0.1**
GB1A	**Borinquen Arri**	**0.24**	**298**	**iP**	**Pg**		**07 32 49.1**	**0.0**
GB1A				eS	Sg		07 32 53.4	+0.8
ERIA	**Liberia**	**0.26**	**254**	**iP**	**Pb**		**07 32 50.3**	**-0.5**
CNAS	**Canas**	**0.29**	**162**	**iP**	**Pb**		**07 32 51.6**	**+0.2**
CNAS				eS	Sb		07 32 56.6	+0.5
VERA	**Finca Concepci**	**0.34**	**65**	**iP**	**Pg**		**07 32 51.4**	**+0.5**
VERA				eS	Sb		07 32 57.9	+0.2
ELI1	**Hacienda Flor**	**0.37**	**260**	**eP**	**Pg**		**07 32 51.6**	**+0.2**
PLVR	**Palo Verde**	**0.39**	**205**	**eP**	**Pg**		**07 32 52.2**	**+0.2**
PLVR				eS	Sb		07 32 58.7	-0.6
HZTE	**Horizontes, Gu**	**0.41**	**271**	**iP**	**Pg**		**07 32 52.7**	**+0.5**
HZTE				eS	Sb		07 32 59.5	0.0
ORTG	**Ortega, Santa**	**0.44**	**218**	**iP**	**Pg**		**07 32 53.0**	**+0.3**
ORTG				eS	Sb		07 32 59.9	-0.6
ORTG	**Ortega, Santa**	**0.44**	**218**	**iP**	**Pg**		**07 32 52.9**	**+0.1**
ORTG				iS	Sb		07 32 59.8	-0.7
ORTG				IAML			07 33 05.1	
	comp=Z,850nm,1.0s							
DELF	**Filadelfia**	**0.45**	**235**	**iP**	**Pg**		**07 32 53.2**	**+0.3**
DELF				eS	Sb		07 33 00.4	-0.3
JTS	**Las Juntas de**	**0.47**	**151**	**iP**	**Pg**		**07 32 53.5**	**+0.1**
JTS				eS	Sg		07 33 00.5	+0.8
JUNT	**Juntas**	**0.48**	**152**	**iP**	**Pb**		**07 32 54.5**	**-0.1**
JUNT				eS	Sb		07 33 01.5	0.0
ARE1	**Arenal 1**	**0.52**	**118**	**eP**	**Pg**		**07 32 54.5**	**+0.3**
VACR	**Volcan Arenal**	**0.55**	**115**	**eP**	**Pg**		**07 32 55.1**	**+0.2**
VACR				eS	Sn		07 33 06.3	-0.8
VACR	**Volcan Arenal**	**0.55**	**115**	**iP**	**Pg**		**07 32 55.1**	**+0.3**
VACR				iS	Sb		07 33 04.1	+0.4
VACR				IAML			07 33 08.2	
	comp=Z,1µm,1.0s							
LCHIL	**Los Chiles**	**0.56**	**55**	**iP**	**Pb**		**07 32 56.0**	**0.0**
LCRUZ	**La Cruz**	**0.57**	**310**	**eP**	**Pb**		**07 32 56.2**	**+0.1**
TUNA	**La Fortuna**	**0.58**	**114**	**eP**	**Pb**		**07 32 56.8**	**+0.5**
SACU	**Santa Cruz**	**0.59**	**222**	**eP**	**Pg**		**07 32 55.8**	**+0.2**
SACU				eS	Sb		07 33 05.2	+0.3
SOCE	**Pocosol**	**0.64**	**120**	**eP**	**Pg**		**07 32 56.3**	**-0.3**
SOCE	**Pocosol**	**0.64**	**120**	**iP**	**Pg**		**07 32 56.3**	**-0.3**
SOCE				iS	Sg		07 33 03.7	-1.4
SOCE				IAML			07 33 06.2	
	comp=Z,640nm,1.0s							
DUNO	**Dulce Nombre,**	**0.69**	**206**	**eP**	**Pg**		**07 32 56.9**	**-0.7**
NYURE	**Nandayure**	**0.71**	**186**	**eP**	**Pg**		**07 32 57.6**	**-0.3**
NYURE				eS	Sb		07 33 08.1	-0.2
CMARA	**Lajas Hojancha**	**0.72**	**199**	**eP**	**Pg**		**07 32 58.0**	**-0.1**
COVE	**Coope Vega, Sa**	**0.77**	**89**	**eP**	**Pg**		**07 32 58.3**	**-0.7**
COVE	**Coope Vega, Sa**	**0.77**	**89**	**iP**	**Pg**		**07 32 58.9**	**-0.1**
COVE				IAML			07 33 03.6	
	comp=Z,500nm,1.0s							
ARZA	**Esparza**	**0.87**	**145**	**iP**	**Pb**		**07 33 01.7**	**+0.4**
ARZA				eS	Sb		07 33 13.7	+0.7
INDI	**Punta indio, G**	**0.89**	**201**	**eP**	**Pb**		**07 33 01.6**	**0.0**
INDI	**Punta indio, G**	**0.89**	**201**	**iP**	**Pg**		**07 33 01.0**	**-0.3**
INDI				iS	Sg		07 33 12.3	-0.7
INDI				IAML			07 33 18.3	
	comp=Z,380nm,1.0s							
CPMI	**Catarata Coope**	**0.90**	**118**	**iP**	**Pg**		**07 33 01.1**	**-0.3**
CPMI	**Catarata Coope**	**0.90**	**118**	**iP**	**Pg**		**07 33 01.3**	**-0.1**
CPMI				iS	Sg		07 33 11.8	-1.3
CPMI				IAML			07 33 25.7	
	comp=Z,310nm,1.0s							
ITAL	**Pital**	**0.93**	**106**	**eP**	**Pg**		**07 33 02.5**	**+0.4**
RAMO	**San Ramon**	**0.94**	**131**	**eP**	**Pb**		**07 33 02.8**	**+0.4**

JAPN	**AI SSO del Vol**	**0.95**	**329**	*i* P	**Pb**	**07 33 02.8**	**+0.2**
JAPN				IAML		07 33 03.8	
	comp=Z,400nm,1.0s						
MORN	**AI O del Volca**	**0.95**	**331**	*i* P	**Pg**	**07 33 01.1**	**-1.3**
MORN				IAML		07 33 17.6	
	comp=Z,480nm,1.0s						
CONN	**Concepcion**	**0.95**	**333**	*i* P	**Pg**	**07 33 01.4**	**-1.1**
CONN				IAML		07 33 02.9	
	comp=Z,2μm,1.0s						
TRB2	**Turrubares**	**1.07**	**137**⇑	*i* P	**Pb**	**07 33 04.3**	**-0.4**
CBL1	**Cabuya**	**1.12**	**175**	*e*P	**Pb**	**07 33 04.8**	**-0.6**
CBL1				*e*S	**Sg**	**07 33 20.5**	**+0.3**
JACO	**JACO, Garabito**	**1.16**	**154**⇑	*i* P	**Pb**	**07 33 05.2**	**-1.0**
JACO				*e*S	**Sb**	**07 33 21.2**	**-0.1**
JACO	**JACO, Garabito**	**1.16**	**154**	*i* P	**Pb**	**07 33 05.2**	**-1.0**
JACO				IAML		07 33 10.2	
	comp=Z,310nm,1.0s						
JACO				*i* S	**Sb**	**07 33 20.2**	**-1.0**
SARA	**Sarapiqu**	**1.17**	**102**	*e*P	**Pn**	**07 33 05.2**	**-1.2**
BELE	**Belen**	**1.22**	**127**	*e*P	**Pn**	**07 33 07.4**	**+0.2**
ACON	**Acoyapa**	**1.25**	**0**	*e*P	**Pn**	**07 33 06.6**	**-1.0**
ACON	**Acoyapa**	**1.25**	**0**	*e*P	**Pn**	**07 33 06.6**	**-1.0**
ACON				*e*S	**Sb**	**07 33 24.3**	**+0.4**
ACON	**Acoyapa**	**1.25**	**0**	*i* P	**Pn**	**07 33 06.8**	**-0.8**
ACON				*i* S	**Sb**	**07 33 23.8**	**-0.1**
ACON				IAML		07 33 30.1	
	comp=Z,290nm,1.0s						
HDC	**Heredia**	**1.27**	**124**	*e*P	**Pn**	**07 33 08.1**	**+0.2**
HDC3	**Heredia 3**	**1.27**	**124**	*e*P	**Pn**	**07 33 08.2**	**+0.3**
HDC3	**Heredia 3**	**1.27**	**124**	*i* P	**Pn**	**07 33 08.0**	**+0.1**
HDC3				*i* S	**Sg**	**07 33 25.6**	**+0.6**
HDC3				IAML		07 33 32.8	
	comp=Z,580nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.30**	**107**	*i* P	**Pg**	**07 33 09.5**	**+0.4**
RIFO				*i* S	**Sb**	**07 33 25.2**	**-0.1**
RIFO				IAML		07 33 33.8	
	comp=Z,450nm,1.0s						
TIBA	**Tibas**	**1.32**	**124**	*e*P	**Pn**	**07 33 08.5**	**-0.2**
LUJA	**Lujan**	**1.34**	**125**	*e*P	**Pb**	**07 33 09.6**	**+0.2**
SJS	**Escuela Geolog**	**1.35**	**124**	*e*P	**Pn**	**07 33 09.1**	**+0.1**
SJS3	**Mercedes San J**	**1.35**	**124**	*e*P	**Pn**	**07 33 09.5**	**+0.5**
CORON	**Coronado**	**1.37**	**122**	*e*P	**Pg**	**07 33 10.7**	**+0.2**
CVIMO	**Finca Echandi**	**1.40**	**119**	*e*P	**Pg**	**07 33 11.2**	**+0.2**
RITA	**Parrita**	**1.45**	**144**	*e*P	**Pg**	**07 33 12.0**	**+0.1**
OCM	**Ochomogo**	**1.45**	**124**	*e*P	**Pn**	**07 33 10.4**	**0.0**
OCM	**Ochomogo**	**1.45**	**124**	*i* P	**Pn**	**07 33 10.3**	**-0.2**
OCM				IAML		07 33 12.1	
	comp=Z,300nm,1.0s						
OCM				*i* S	**Sg**	**07 33 31.2**	**+0.4**
CARI	**Cariari**	**1.46**	**103**	*e*P	**Pb**	**07 33 11.4**	**0.0**
ABE2	**San Pablo**	**1.49**	**132**	*e*P	**Pn**	**07 33 11.7**	**+0.6**
VICA	**Volcano Irazu**	**1.50**	**119**	*e*P	**Pn**	**07 33 11.9**	**-0.4**
LCR2	**La Lucha 2**	**1.51**	**130**	*e*P	**Pn**	**07 33 11.9**	**0.0**
LCR2				*e*S	**Sg**	**07 33 33.0**	**+0.4**
LCR2	**La Lucha 2**	**1.51**	**130**	*i* P	**Pn**	**07 33 11.5**	**+0.3**
LCR2				*i* S	**Sb**	**07 33 31.5**	**+0.1**
LCR2				IAML		07 33 34.0	
	comp=Z,290nm,1.0s						
ICR3	**Volcano Irazu**	**1.52**	**118**	*e*P	**Pn**	**07 33 11.4**	**-0.1**
REPA	**Paraso**	**1.56**	**124**	*e*P	**Pb**	**07 33 13.6**	**+0.4**
PCAYA	**Pacayas**	**1.56**	**120**	*e*P	**Pb**	**07 33 13.5**	**+0.3**
LLNJ	**Naranjito**	**1.62**	**139**	*e*P	**Pb**	**07 33 14.9**	**+0.8**
VINA	**Juan Vinas**	**1.63**	**120**	*e*P	**Pb**	**07 33 14.5**	**+0.2**
VERB	**Verbena**	**1.65**	**117**⇑	*e*P	**Pn**	**07 33 13.6**	**+0.4**
TURIB	**Turrialba**	**1.68**	**118**	*e*P	**Pn**	**07 33 11.6**	**-1.8**
ESPN	**Las Esperanzas**	**1.71**	**30**	*i* P	**Pn**	**07 33 14.5**	**+0.6**
ESPN				*i* S	**Sn**	**07 33 35.3**	**-0.5**
ESPN				IAML		07 33 55.0	
	comp=Z,200nm,1.0s						
LCOCO	**El Coco**	**1.72**	**111**	*e*P	**Pn**	**07 33 14.5**	**+0.6**
IRES	**Siquirres**	**1.76**	**110**	*e*P	**Pn**	**07 33 15.5**	**+0.9**
IRES				*e*S	**Sg**	**07 33 40.3**	**-0.4**
CDM	**Cerro de Muert**	**1.81**	**129**	*e*P	**Pn**	**07 33 16.6**	**+1.0**
CDM	**Cerro de Muert**	**1.81**	**129**	*i* P	**Pn**	**07 33 16.8**	**+1.2**
CDM				*i* S	**Sg**	**07 33 43.0**	**+0.6**
CDM				IAML		07 33 48.5	
	comp=Z,300nm,1.0s						
BUS1	**Rivas**	**1.82**	**129**⇑	*e*P	**Pn**	**07 33 16.5**	**+0.7**
BLUN	**Bluefields**	**1.89**	**47**	*i* P	**Pn**	**07 33 16.7**	**+0.4**
BLUN				*i* S	**Sn**	**07 33 40.4**	**+0.2**
BLUN				IAML		07 33 48.8	
	comp=Z,180nm,1.0s						
ZELE	**Perez Zeledon**	**1.97**	**132**	*e*P	**Pb**	**07 33 19.2**	**-0.9**
CNGA	**AI SSO del Vol**	**2.32**	**320**	*i* P	**Pn**	**07 33 22.3**	**0.0**
CNGA				IAML		07 33 24.9	
	comp=Z,46nm,1.0s						
CNGN	**Cerro Negro**	**2.32**	**320**	*e*P	**Pb**	**07 33 25.7**	**-0.3**
CNGN	**Cerro Negro**	**2.32**	**320**	*i* P	**Pn**	**07 33 23.3**	**+1.0**
CNGN				IAML		07 33 35.6	
	comp=Z,61nm,1.0s						
MATN	**Matagalpa**	**2.33**	**342**	*i* P	**Pn**	**07 33 21.9**	**-0.5**
MATN				*i* S	**Sn**	**07 33 51.1**	**0.0**
MATN				IAML		07 33 57.6	
	comp=Z,35nm,1.0s						
ROCN	**Rota Cerro Neg**	**2.36**	**320**	*i* P	**Pn**	**07 33 22.9**	**0.0**
ROCN				IAML		07 33 32.4	
	comp=Z,28nm,1.0s						
ROCN				*i* S	**Sn**	**07 33 49.7**	**-2.2**
POTG	**Potrero Grande**	**2.62**	**129**	*i* P	**Pb**	**07 33 29.8**	**-1.3**
POTG				IAML		07 33 37.0	
	comp=Z,140nm,1.0s						
POTG				*i* S	**Sn**	**07 34 00.4**	**+2.2**
CRIN	**San Cristobal**	**2.69**	**317**	*e*P	**Pn**	**07 33 29.5**	**+2.1**

*TIR **09** 08:02:12.9, 42.°41N×19.°31E, h15km±2km, Ml3.1*
*THE **09** 08:02:13.6, 42.°26N×18.°80E, h10km±31km, ML2.8/2, Error ellipse: s-maj=41.0km s-min=3.1km az=323.0*
*RHSSO **09** 08:02:14.1±0.4, 42.°40N×19.°38E, h9km±1km, ML3.1/16*
*PDG **09** 08:02:14.1±0.2, 42.°42N×19.°32E, h17km±1km, MD3.1/8, ML3.0/12, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **09** 08:02:14.9±0.2, 42.°47N×19.°39E, h10km±2km, ML2.7/21*

ISC 09 08:02:14.3±0.9, **42.°42N**±0.°01×**19.°33E**±0.°02, **h13**km±7km, **n97**, σ1°**02**/165, **16C-18D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRME	**Dracevica, Mon**	**0.26**	**206**⇓	*i* Pg	**Pg**	**08 02 19.4**	**-0.3**
DRME				*i* Sg	**Sg**	**08 02 24.5**	**+1.1**
DRME	**Dracevica, Mon**	**0.26**	**206**⇑	*i* Pg	**Pg**	**08 02 19.5**	**-0.3**
DRME				*e*Sg	**Sg**	**08 02 24.2**	**+0.8**
CEME	**Cevo**	**0.33**	**293**⇑	*i* Pg	**Pg**	**08 02 20.8**	**-0.4**
CEME				*i* Sg	**Sb**	**08 02 26.4**	**-1.0**
BUM	**Brajici-Budva**	**0.35**	**251**⇓	*i* Pg	**Pg**	**08 02 21.0**	**-0.4**
BUM				*i* Sg	**Sb**	**08 02 27.1**	**-0.7**
NKME	**Niksic**	**0.45**	**321**⇑	*i* Pg	**Pg**	**08 02 22.4**	**-0.8**
NKME				*i* Sg	**Sb**	**08 02 30.1**	**-0.6**
KOME	**Kolasin**	**0.45**	**17**⇓	*i* Pg	**Pg**	**08 02 23.3**	**-0.1**
KOME				*i* Sg	**Sb**	**08 02 31.0**	**+0.1**
ULC	**Ulcinj**	**0.46**	**188**⇓	*i* Pg	**Pg**	**08 02 22.5**	**-0.9**
ULC				*i* Sg	**Sb**	**08 02 30.8**	**-0.1**
PVY	**Plav**	**0.49**	**69**⇓	*i* Pg	**Pg**	**08 02 24.0**	**-0.1**
PVY				*i* Sg	**Sb**	**08 02 32.0**	**-0.1**
BCI	**Bajram Curri**	**0.55**	**95**	P	**Pg**	**08 02 24.4**	**-0.6**
	baz=94						
BCI				S	**Sg**	**08 02 33.0**	**+0.7**
	baz=94						
BCI				AMP			
	comp=N,9.4nm,0.3s,baz=94						
IVA	**Berane**	**0.61**	**42**⇓	*i* Pg	**Pg**	**08 02 26.1**	**-0.2**
IVA				*i* Sg	**Sb**	**08 02 35.8**	**+0.3**
HCY	**Herceg Novi**	**0.62**	**273**⇓	*i* Pg	**Pg**	**08 02 25.6**	**-0.9**
HCY				*i* Sg	**Sb**	**08 02 35.8**	**+0.1**
HCY	**Herceg Novi**	**0.62**	**273**⇑	*i* Pg	**Pg**	**08 02 25.6**	**-0.9**
HCY				*e*Sg	**Sb**	**08 02 35.4**	**-0.3**
BRY	**Bratogost**	**0.76**	**310**⇑	*i* Pg	**Pg**	**08 02 27.9**	**-1.2**
BRY				*i* Sg	**Sb**	**08 02 40.5**	**+0.7**
BRY	**Bratogost**	**0.76**	**310**⇓	*i* Pg	**Pg**	**08 02 27.6**	**-1.5**
BRY				*e*Sg	**Sb**	**08 02 39.9**	**+0.1**
TREB	**Trebinje**	**0.79**	**293**	*e*Pg	**Pg**	**08 02 28.4**	**-1.2**
TREB				*e*Sg	**Sb**	**08 02 41.4**	**+1.0**
TREB	**Trebinje**	**0.79**	**293**⇑	*i* Pg	**Pg**	**08 02 28.4**	**-1.2**
TREB				*e*Sg	**Sb**	**08 02 40.9**	**+0.5**
UPM	**Unac-Piva**	**0.85**	**338**⇓	*i* Pg	**Pg**	**08 02 29.6**	**-1.2**
UPM				*i* Sg	**Sb**	**08 02 43.1**	**+0.8**
UPM	**Unac-Piva**	**0.85**	**338**⇓	*i* Pg	**Pg**	**08 02 29.6**	**-1.2**
UPM				*e*Sg	**Sb**	**08 02 42.5**	**+0.2**
DBRK	**Dubrovnik**	**0.91**	**286**	*e*Pg	**Pg**	**08 02 30.9**	**-1.0**
DBRK				Sg	**Sn**	**08 02 45.6**	**-0.2**
PLE	**Pljevlja**	**0.91**	**3**⇓	*i* Pg	**Pg**	**08 02 31.3**	**-0.7**
PLE				*i* Sg	**Sn**	**08 02 45.7**	**-0.3**
KLINJ	**Klinje**	**0.93**	**324**	*e*Pg	**Pg**	**08 02 30.7**	**-1.7**
KLINJ				*e*Sg	**Sb**	**08 02 45.4**	**+0.7**
SJES	**Sjenica**	**0.97**	**29**	*e*Pg	**Pg**	**08 02 32.2**	**-0.8**
SJES				*e*Sg	**Sg**	**08 02 44.3**	**-1.4**
SJES	**Sjenica**	**0.97**	**29**⇓	*i* Pg	**Pg**	**08 02 32.2**	**-0.8**
SJES				*e*Sg	**Sg**	**08 02 45.4**	**-0.3**
PHP	**Peshkopia**	**1.10**	**131**	P	**Pb**	**08 02 34.2**	**-1.0**
	baz=130						
PHP				S	**Sn**	**08 02 50.9**	**+0.4**
	baz=130						
PHP				AMP			
	comp=N,1.3nm,0.4s,baz=130						
TIR	**Tirane**	**1.14**	**159**	⇓P	**Pn**	**08 02 36.2**	**+0.3**
TIR				⇑S	**Sn**	**08 02 52.5**	**+1.2**
TIR	**Tirane**	**1.14**	**159**	P	**Pb**	**08 02 35.0**	**-0.9**
	baz=158						
TIR				S	**Sg**	**08 02 51.2**	**+0.2**
	baz=158						
TIR				AMP			
	comp=N,1.6nm,0.4s,baz=158						
TIR	**Tirane**	**1.14**	**159**	*e*Pg	**Pb**	**08 02 34.8**	**-1.0**
TIR				*e*Sg	**Sn**	**08 02 51.7**	**+0.3**
RUDO	**Rudo**	**1.20**	**1**⇑	*i* Pg	**Pb**	**08 02 35.5**	**-1.4**
RUDO				*e*Sg	**Sb**	**08 02 52.5**	**+0.2**
NEVS	**Nevesinje**	**1.26**	**315**	*e*Pg	**Pg**	**08 02 38.5**	**-0.1**
NEVS				*e*Sg	**Sn**	**08 02 56.1**	**+1.5**
STON	**Ston**	**1.29**	**291**	*e*Pg	**Pn**	**08 02 37.2**	**-0.7**
STON				*e*Sg	**Sg**	**08 02 56.4**	**+0.6**
STON	**Ston**	**1.29**	**291**	*e*Pn	**Pn**	**08 02 36.9**	**-1.0**
STON				Sn	**Sg**	**08 02 56.7**	**+0.8**
STON	**Ston**	**1.29**	**291**	*e*Pg	**Pn**	**08 02 37.2**	**-0.7**
STON				*e*Sg	**Sg**	**08 02 56.4**	**+0.6**
IVAS	**Ivanjica**	**1.31**	**27**	*e*Pg	**Pn**	**08 02 38.2**	**-0.1**
IVAS				*e*Sg	**Sb**	**08 02 55.5**	**+0.1**
BBLS	**Lazići**	**1.45**	**2**	*e*Pg	**Pb**	**08 02 41.2**	**0.0**
BBLS	**Lazići**	**1.45**	**2**⇑	*i* Pg	**Pb**	**08 02 41.0**	**-0.2**
BBLS				*e*Sg	**Sg**	**08 03 00.7**	**-0.3**
SELS	**Selova**	**1.54**	**58**	*e*Pg	**Pn**	**08 02 41.1**	**-0.4**
SELS				*e*Sg	**Sn**	**08 03 01.1**	**-0.2**
SKO	**Skopje**	**1.63**	**105**	*e*Sg	**Sb**	**08 03 05.8**	**+1.2**
HAPS	**Han Pijesak,Bl**	**1.69**	**351**	*e*Pg	**Pn**	**08 02 44.3**	**+0.7**
HAPS				*e*Sg	**Sb**	**08 03 07.2**	**+0.6**
HAPS	**Han Pijesak,Bl**	**1.69**	**351**⇑	*i* Pn	**Pn**	**08 02 44.5**	**+0.9**
HAPS				*e*Sn	**Sn**	**08 03 05.6**	**+0.4**
OHR	**Ohrid**	**1.70**	**139**	*e*Pg	**Pg**	**08 02 46.4**	**-0.6**
OHR				*e*Sg	**Sg**	**08 03 10.0**	**+0.9**
OHR	**Ohrid**	**1.70**	**139**	*i* Pn	**Pg**	**08 02 46.7**	**-0.3**
DIVS	**Divibare**	**1.75**	**16**	*e*Pg	**Pn**	**08 02 44.4**	**0.0**
DIVS				*e*Sg	**Sn**	**08 03 07.4**	**+0.8**
GRUS	**Gruza**	**1.79**	**34**	*e*Pn	**Pn**	**08 02 44.9**	**+0.1**
BARS	**Barje**	**1.88**	**77**	*e*Pn	**Pn**	**08 02 46.1**	**+0.1**
BARS				*e*Sn	**Sn**	**08 03 08.9**	**-0.7**
RICI	**Ricice**	**1.94**	**304**	*e*Pn	**Pn**	**08 02 47.9**	**+0.9**
RICI				Sn	**Sb**	**08 03 14.3**	**+0.6**
TRUS	**Trudelj**	**1.97**	**23**	*e*Pn	**Pn**	**08 02 47.3**	**0.0**
PRVS	**Prvonek**	**2.03**	**87**	*e*Pn	**Pn**	**08 02 48.4**	**+0.2**
BOVS	**Bovan**	**2.12**	**54**	⇑P	**Pn**	**08 02 50.9**	**+1.5**
BOVS	**Bovan**	**2.12**	**54**	*e*Pn	**Pn**	**08 02 50.1**	**+0.7**
BOVS				*e*Sn	**Sn**	**08 03 14.6**	**-1.1**
TEKS	**Tekeris**	**2.14**	**4**	*e*Pn	**Pn**	**08 02 49.8**	**+0.1**
TEKS				*e*Sn	**Sn**	**08 03 16.0**	**0.0**
TEKS	**Tekeris**	**2.14**	**4**	*e*Pn	**Pn**	**08 02 50.0**	**+0.3**
TEKS				*e*Sn	**Sn**	**08 03 16.2**	**+0.2**
FNA	**Florina**	**2.24**	**136**	P	**Pb**	**08 02 53.5**	**-1.1**
	baz=135						
FNA				S	**Sb**	**08 03 23.1**	**+0.9**
	baz=135						
FNA	**Florina**	**2.24**	**136**	P	**Pb**	**08 02 53.5**	**-1.1**
FNA				S	**Sb**	**08 03 23.7**	**+1.5**
	comp=N,190nm,0.7s						
FNA	**Florina**	**2.24**	**136**	*e*Pn	**Pb**	**08 02 53.3**	**-1.3**
FNA				*e*Sn	**Sn**	**08 03 20.3**	**+1.7**
HVAR	**Hvar**	**2.26**	**291**	*e*Pn	**Pn**	**08 02 51.5**	**+0.2**
HVAR				Sn	**Sn**	**08 03 19.7**	**+0.8**
NEST	**Nestorio**	**2.38**	**147**	P	**Pn**	**08 02 54.1**	**+1.0**
LSK	**Leskovik**	**2.46**	**157**	P	**Pn**	**08 02 54.7**	**+0.6**
	baz=156						
LSK				S	**Sb**	**08 03 29.8**	**+1.2**
	baz=156						
ZAGS	**Zajecar**	**2.54**	**56**	*e*Pn	**Pn**	**08 02 54.9**	**-0.3**
ZAGS				*e*Sn	**Sn**	**08 03 24.7**	**+1.2**
ZAPS	**Zavoj**	**2.57**	**69**	*e*Sn	**Sn**	**08 03 26.9**	**+0.1**
MGRS	**Mrkonjic Grad**	**2.59**	**321**	*e*Pn	**Pn**	**08 02 57.4**	**+1.6**
MGRS				*e*Sn	**Sn**	**08 03 28.8**	**+1.7**
PENT	**Pentalofos**	**2.60**	**148**	P	**Pn**	**08 02 57.0**	**+0.9**
PENT				S	**Sb**	**08 03 30.6**	**-2.1**
MATE	**Matera**	**2.65**	**229**	⇑P	**Pn**	**08 02 57.2**	**+0.6**
KIJV	**Kijevo**	**2.67**	**308**	*e*Pn	**Pn**	**08 02 56.9**	**0.0**
KIJV				Sn	**Sn**	**08 03 31.3**	**+2.3**
GRG	**Griva**	**2.72**	**121**	P	**Pn**	**08 02 59.1**	**+1.4**
KEK	**Kerkira**	**2.72**	**172**	P	**Pn**	**08 02 55.4**	**-2.3**
KEK				S	**Sn**	**08 03 28.4**	**-2.1**
BLKB	**Belogradchik**	**2.73**	**63**	⇑P	**Pn**	**08 02 58.6**	**+0.7**
FRGS	**Fruska Gora**	**2.76**	**7**	⇓P	**Pn**	**08 02 58.8**	**+0.6**
FRGS	**Fruska Gora**	**2.76**	**7**	*e*Pn	**Pn**	**08 02 58.4**	**+0.1**
FRGS	**Fruska Gora**	**2.76**	**7**	*e*Pn	**Pn**	**08 02 58.0**	**-0.3**
FRGS				*e*Sn	**Sn**	**08 03 32.1**	**+0.6**
BLY	**Banja Luka**	**2.81**	**327**	*e*Pn	**Pn**	**08 03 01.0**	**+2.2**
BLY				*e*Sn	**Sn**	**08 03 34.8**	**+2.3**
BLY	**Banja Luka**	**2.81**	**327**	*e*Pn	**Pn**	**08 03 00.0**	**+1.2**
BLY				*e*Sn	**Sn**	**08 03 33.7**	**+1.2**
VTS	**Vitosha**	**2.89**	**85**	*e*Pn	**Pn**	**08 03 00.5**	**+0.4**
KPRO	**Kipourio**	**2.90**	**147**	P	**Pn**	**08 03 01.7**	**+1.5**
KPRO				S	**Sn**	**08 03 38.4**	**+3.5**
	comp=N,38nm,0.5s						
A050A	**Klekovaca**	**2.90**	**316**	*e*Pn	**Pn**	**08 03 01.2**	**+1.0**
A050A				*e*Sn	**Sn**	**08 03 36.5**	**+1.5**
ZIRJ	**Zirje**	**2.98**	**296**	*e*Pn	**Pn**	**08 03 01.3**	**+0.2**
ZIRJ				Sn	**Sn**	**08 03 37.8**	**+1.2**
IGT	**Igoumenitsa**	**2.98**	**165**	P	**Pn**	**08 03 00.9**	**-0.3**
	baz=164						
IGT	**Igoumenitsa**	**2.98**	**165**	P	**Pn**	**08 03 01.0**	**-0.2**
IGT				S	**Sn**	**08 03 36.6**	**-0.2**
MORI	**Morici**	**3.02**	**300**	*e*Pn	**Pn**	**08 03 02.8**	**+0.1**
MORI				Sn	**Sn**	**08 03 40.0**	**+2.2**
A051A	**Mrakovica**	**3.13**	**327**	*e*Pn	**Pn**	**08 03 04.6**	**+1.2**
A051A				*e*Sn	**Sn**	**08 03 42.2**	**+1.5**
A252A	**Venje**	**3.20**	**341**	*e*Pn	**Pn**	**08 03 05.2**	**+0.9**
A252A				Sn	**Sn**	**08 03 43.2**	**+0.9**
BZS	**Buzias**	**3.60**	**26**	⇑P	**Pn**	**08 03 10.1**	**+0.3**
TIP	**Timpagrande**	**3.78**	**212**	⇓P	**Pn**	**08 03 11.0**	**-1.2**
MORH	**Mrgy, Hungar**	**3.83**	**353**	⇑P	**Pn**	**08 03 13.6**	**+0.8**
GZR	**Gura Zlata**	**3.88**	**39**	⇓P	**Pn**	**08 03 15.0**	**+1.4**
SURR	**Surduc**	**3.90**	**30**	⇓P	**Pn**	**08 03 15.0**	**+1.2**
SIRR	**Siria**	**4.20**	**23**	⇓P	**Pn**	**08 03 18.2**	**+0.2**
BOJS	**Bojanci**	**4.27**	**318**	*e*Pn	**Pn**	**08 03 20.0**	**+1.1**
BOJS				*e*Sn	**Sn**	**08 04 09.0**	**+0.5**
CRES	**Cresnjev**	**4.41**	**322**	*e*Pn	**Pn**	**08 03 21.8**	**+1.0**
CRES				*e*Sn	**Sn**	**08 04 12.0**	**0.0**
CEY	**Cerknica**	**4.85**	**315**	*e*Pn	**Pn**	**08 03 26.6**	**-0.4**
CEY				*e*Sn	**Sn**	**08 04 23.0**	**0.0**
SKDS	**Skadanscina**	**4.95**	**311**	*e*Pn	**Pn**	**08 03 28.1**	**-0.2**
SKDS				*e*Sn	**Sn**	**08 04 24.4**	**-1.1**
VOIR		**5.11**	**52**	⇑P	**Pn**	**08 03 32.1**	**+1.5**
SOKA	**Soboth**	**5.25**	**326**	*e*Pn	**Pn**	**08 03 34.4**	**+1.9**
	comp=N,0.5nm,0.2s						
OBKA	**Obir**	**5.33**	**322**	*i* Pn	**Pn**	**08 03 35.7**	**+2.0**
	comp=N,1.0nm,0.2s						
RONA	**Rosalia, Austr**	**5.70**	**339**	*e*Pn	**Pn**	**08 03 39.9**	**+1.2**
	comp=N,0.5nm,0.2s						
VYHS	**Vyhne**	**6.09**	**357**	*e*SN	**Sn**	**08 04 51.4**	**-2.0**
MODS	**Modra-Piesok**	**6.13**	**347**	*e*SN	**Sn**	**08 04 53.8**	**-0.7**
WTTA	**Wattenberg**	**7.31**	**314**	*e*Pn	**Pn**	**08 04 02.1**	**+1.3**
	comp=N,0.7nm,0.2s						

*IDC **09** 08:21:15.6±3.4, 53.°73N×88.°26E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=30.2km s-min=18.0km az=64.0, Southwestern Siberia*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.05**	**278**	I	I	08 36 10.0	
	0.1nm,1.4s,baz=94,slow=335,SNR=2.9						
ZALV	**Zalesovo Beam**	**2.05**	**278**	Pn	Pn	08 21 51.8	+0.5
	1.5nm,0.3s,baz=91,slow=14,SNR=7.4						
ZALV				Lg	Lg	08 22 20.4	
	2.7nm,0.3s,baz=92,slow=24,SNR=8.1						
	4.3nm,0.4s						
KURBB	**Kurchatov Arra**	**6.74**	**246**	Pn	Pn	08 22 55.7	0.0
	0.1nm,0.3s,baz=60,slow=13,SNR=1.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.92**	**211**	Pn	Pn	08 23 13.4	+1.5
	0.2nm,0.3s,baz=26,slow=14,SNR=5.1						
MKAR				Sn	Sn	08 24 42.0	-0.2
	0.1nm,0.3s,baz=27,slow=26,SNR=2.8						
MKAR				Lg	Lg	08 25 23.7	
	baz=34,slow=29,SNR=2.3						
	0.3nm,0.3s						

*IDC **09** 08:31:04.8±12.0, 15.°49S×174.°99W, h211km±104km, mb3.6/6, mbtmp4.2/6, Error ellipse: s-maj=66.4km s-min=23.7km az=128.0*

ISC 09 08:31:10.3±1.7, **15.°5S**±0.°4×**175.°1W**±0.°4, **h262**km, **n8**, σ0°**53**/10, **mb3.5/6, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.55**	**240**	P	**P**	**08 38 40.6**	**-0.1**
	0.6nm,0.3s,baz=75,slow=11,SNR=5.3						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**48.19**	**257**	P	**P**	**08 39 25.0**	**0.0**
	2.0nm,0.7s,baz=90,slow=7.3,SNR=23						
WRA				PcP	**sP**	**08 40 48.7**	**-0.6**
	0.3nm,0.5s,baz=93,slow=3.2,SNR=2.3						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**48.49**	**252**	P	**P**	**08 39 28.0**	**+0.7**
	12nm,0.6s,baz=87,slow=8.4,SNR=181						
ASAR				PcP	**PcP**	**08 40 49.3**	**+0.2**
	0.8nm,0.8s,baz=94,slow=4.7,SNR=1.7						
	12nm,0.6s						
PETK	**Petropavlovsk-**	**72.20**	**343**	P	**P**	**08 42 06.8**	**+0.2**
	3.1nm,0.7s,baz=104,slow=8.1,SNR=12						
	3.1nm,0.7s						
ILAR	**Eielson Array**	**82.85**	**12**	P	**P**	**08 43 04.8**	**-0.3**
	0.5nm,0.5s,baz=225,slow=5.7,SNR=18						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**83.45**	**42**	P	**P**	**08 43 09.2**	**+0.3**
	0.4nm,0.6s,baz=198,slow=2.7,SNR=4.0						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**124.44**	**351**	PKP	**PKPdf**	**08 49 36.7**	**-0.9**
	0.9nm,0.8s,baz=31,slow=0.5,SNR=4.7						
BRTR	**Keskin Array B**	**145.14**	**319**	PKPbc	**PKPab**	**08 50 17.8**	**+0.3**
	2.2nm,0.6s,baz=74,slow=3.1,SNR=10						

WEL 09 08:36:44.1±0.9, **35.°S**±19.°×**18.°0W**±2.°3, **h226**km±22km, **M4.1**/14, **mB4.5/2, ML4.2**/12, **MLv4.1**/14, **Mw(mB)3.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8, confirmed, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.25**	**205**	P	Pn	08 37 37.7	-0.2
WMGZ				S	S	08 38 21.3	+1.2
PKGZ	**Pakihiroa**	**3.43**	**209**	P	Pn	08 37 39.6	-0.4
PKGZ				S	S	08 38 23.3	-0.8
HAZ	**Te Kaha**	**3.44**	**213**	P	Pn	08 37 40.1	0.0
PUZ	**Puketiti**	**3.53**	**205**

STKA	Stephens Creek	49.85	277	P		P	08 49 28.2	+0.6
STKA	Stephens Creek	49.85	277	P		P	08 49 27.5	-0.1
	comp=Z,4.2nm,1.1s,baz=178,slow=7.9,SNR=3.7							
STKA				LR		LR	09 07 18.7	
	comp=Z,721nm,18.9s,baz=146,slow=32							
	comp=Z,4.2nm,1.1s							
PLCA	Paso Flores	52.66	108	P		P	08 49 50.0	+1.3
PLCA				IAmb		IAmb	08 49 56.2	
	comp=Z,9.4nm,1.1s							
PLCA	Paso Flores	52.66	108	P		P	08 49 48.9	+0.2
	comp=Z,1.9nm,0.9s,baz=198,slow=6.2,SNR=3.5							
PLCA				LR		LR	09 07 06.9	
	comp=Z,446nm,19.5s,baz=216,slow=30							
	comp=Z,1.9nm,0.9s							
H03S2	Juan Fernandez	54.46	96	T		T	09 49 15.5	
	baz=211,slow=74							
H03S1	Juan Fernandez	54.46	96	T		T	09 49 23.7	
	baz=211,slow=74							
H03S3	Juan Fernandez	54.47	96	T		T	09 49 17.0	
	baz=211,slow=74							
CTA	Charters Tower	57.83	289	LR		LR	09 12 29.3	
	comp=Z,355nm,19.1s,baz=132,slow=33							
H01W1	Cape Leeuwin H	60.04	252	T		T	09 56 13.9	
	baz=146,slow=76,SNR=15							
H01W2	Cape Leeuwin H	60.05	252	T		T	09 56 07.9	
	baz=146,slow=76,SNR=17							
H01W3	Cape Leeuwin H	60.06	252	T		T	09 56 19.2	
	baz=146,slow=76,SNR=18							
NWAO	Narrogin (SRO)	60.31	255	LR		LR	09 10 50.8	
	comp=Z,667nm,18.0s,baz=174,slow=30							
ASAR	Alice Springs	60.39	275	P		P	08 50 43.4	-0.4
ASAR	Alice Springs	60.39	275	P		P	08 50 43.0	-0.8
	comp=Z,1.0nm,0.6s,baz=147,slow=6.5,SNR=22							
ASAR				LR		LR	09 12 32.7	
	comp=Z,742nm,21.4s,baz=148,slow=32							
	comp=Z,1.0nm,0.6s							
AS31	Alice Springs	60.39	275	P		P	08 50 44.0	+0.2
CFA	Coronel Fontan	61.25	104	LR		LR	09 11 51.5	
	comp=Z,227nm,19.1s,baz=233,slow=31							
HNR	Honiara	61.80	308	LR		LR	09 12 50.5	
	comp=Z,2μm,21.8s,baz=122,slow=31							
WR0	Warramunga Arr	63.28	278	P		P	08 51 03.6	+0.2
WR0				IAmb		IAmb	08 51 08.0	
	comp=Z,4.5nm,0.9s							
WB2	Warramunga Arr	63.38	278	P		P	08 51 03.2	-0.8
WB2				IAmb		IAmb	08 51 36.3	
	comp=Z,6.7nm,1.2s							
WRA	Warramunga Arr	63.39	278	P		P	08 51 03.1	-0.9
	comp=Z,2.3nm,0.9s,baz=156,slow=5.7,SNR=9.8							
	comp=Z,2.3nm,0.9s							
WB0	Warramunga Arr	63.52	278	P		P	08 51 04.0	-0.9
WB0				IAmb		IAmb	08 51 11.2	
	comp=Z,3.5nm,1.0s							
PMG	Port Moresby	66.92	295	P		P	08 51 25.4	-1.6
PMG	Port Moresby	66.92	295	LR		LR	09 16 13.5	
	comp=Z,398nm,20.5s,baz=172,slow=32							
LVC	Limon Verde	68.61	98	LR		LR	09 14 27.5	
	comp=Z,343nm,19.4s,baz=210,slow=30							
CPUP	Villa Florida	70.67	110	P		P	08 51 49.3	-0.9
	comp=Z,2.5nm,1.0s,baz=200,slow=12,SNR=3.2							
CPUP				LR		LR	09 18 05.7	
	comp=Z,285nm,20.7s,baz=208,slow=32							
	comp=Z,2.5nm,1.0s							
NNA	Nana	74.10	85	LR		LR	09 16 53.4	
	comp=Z,534nm,19.5s,baz=208,slow=29							
LPAZ	La Paz	74.44	95	P		P	08 52 14.0	+0.5
ATAH	Atahualpa	77.63	82	LR		LR	09 18 41.8	
	comp=Z,550nm,21.1s,baz=227,slow=30							
SIV	San Ignacio	77.97	101	LR		LR	09 21 10.5	
	comp=Z,362nm,20.4s,baz=240,slow=31							
KAPI	Kappang	83.22	272	LR		LR	09 29 23.5	
	comp=Z,175nm,18.0s,baz=146,slow=35							
BDFB	Brasilia	84.14	112	LR		LR	09 28 05.4	
	comp=Z,439nm,19.3s,baz=182,slow=34							
SUR	Sutherland	85.72	177	LR		LR	09 29 11.8	
	comp=Z,458nm,18.5s,baz=171,slow=34							
LEM	Lembang	87.31	261	LR		LR	09 25 27.3	
	comp=Z,304nm,19.8s,baz=174,slow=31							
GUMO	Guam	88.67	303	LR		LR	09 25 28.0	
	comp=Z,94nm,21.4s,baz=126,slow=30							
BOSA	Boshof	89.53	181	LR		LR	09 30 55.4	
	comp=Z,302nm,19.2s,baz=186,slow=34							
ROSC	El Rosal	90.05	80	LR		LR	09 28 19.3	
	comp=Z,196nm,18.0s,baz=230,slow=32							
JTS	Las Juntas de	90.09	68	LR		LR	09 24 59.6	
	comp=Z,411nm,21.1s,baz=207,slow=30							
DAV	Davao City (W)	91.14	283	LR		LR	09 33 42.7	
	comp=Z,124nm,20.0s,baz=322,slow=35							
CMIG	Matias Romero	92.09	56	LR		LR	09 26 20.7	
	comp=Z,270nm,20.5s,baz=199,slow=30							
LPIG	La Paz	93.18	40	LR		LR	09 27 46.4	
	comp=Z,223nm,18.1s,baz=208,slow=30							
SDV	Santo Domingo	95.31	81	LR		LR	09 30 13.6	
	comp=Z,312nm,20.4s,baz=220,slow=31							
OPO	Ambohidratompo	97.56	201	LR		LR	09 36 17.8	
	comp=Z,302nm,18.1s,baz=1.0,slow=34							
TEIG	Tepich	97.57	61	LR		LR	09 30 03.1	
	comp=Z,1μm,19.0s,baz=350,slow=30							
RCBR	Riachuelo	98.06	119	LR		LR	09 36 24.9	
	comp=Z,126nm,19.3s,baz=224,slow=34							
PCRV	Puerto La Cruz	99.24	86	LR		LR	09 33 34.8	
	comp=Z,520nm,19.5s,slow=32							
ILAR	Eielson Array	126.80	5	PKP		PKPdf	08 59 36.1	-0.6
	comp=Z,0.8nm,0.7s,baz=253,slow=1.6,SNR=5.7							
TORD	Torodi Ar. Bea	128.34	151	PKP		PKPdf	08 59 41.7	+0.5
	comp=Z,0.4nm,0.8s,baz=200,slow=3.2,SNR=2.6							
MKAR	Makanchi Array	144.52	272	PKP		PKPab	09 00 08.2	-0.3
	comp=Z,3.1nm,0.8s,baz=122,slow=4.6,SNR=7.9							
AAK	Ala-Archa	145.03	260	PKPbc		PKPbc	09 00 10.5	-0.2
	comp=Z,4.2nm,0.7s,baz=144,slow=5.1,SNR=11							
ZALV	Zalesovo Beam	148.25	283	PKPbc		PKPbc	09 00 18.3	-1.1
	comp=Z,2.5nm,0.9s,baz=95,slow=7.2,SNR=1.1							
ASF	Jabal al Asfar	148.96	200	PKPbc		PKPbc	09 00 20.5	-1.6
	comp=Z,1.9nm,0.3s,baz=295,slow=9.2,SNR=4.2							
KURBB	Kurchatov Arra	148.99	273	PKPbc		PKPbc	09 00 19.8	-1.6
	comp=Z,0.6nm,0.4s,baz=122,slow=2.7,SNR=4.5							
ESDC	Sonseca Array	151.56	129	PKPbc		PKiKP	09 00 29.1	+0.6
	comp=Z,2.8nm,1.0s,baz=283,slow=1.9,SNR=6.6							
NRIK	Noril'sk	154.36	313	PKPbc		PKPbc	09 00 32.3	-0.9
	comp=Z,0.7nm,0.3s,baz=76,slow=4.2,SNR=1.7							
BVAR	Borovoye Array	154.38	270	PKPbc		PKiKP	09 00 35.2	+1.5
	comp=Z,0.7nm,0.7s,baz=171,slow=3.6,SNR=2.5							

IDC 09 08:53:09.6±892.0, 53.69N×4.50E, h0km, Error ellipse: s-maj=401.4km s-min=142.5km az=115.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	7.54	126	I	I	09 36 30.0	
	baz=314,slow=327,SNR=0.7						
I43RU	DUBNA INFRASONI	8.81	68	I	I	10 50 11.3	
	baz=278,slow=321,SNR=1.1						
I31KZ	AKTYUBINSK INF	32.44	74	I	I	12 11 00.0	
	baz=295,slow=333,SNR=1.0						

*IDC **09** 08:54:23.4±2.3, 6.30S×129.80E, h0km, mb4.0/1, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=139.9km s-min=31.1km az=69.0*
*DJA **09** 08:54:30.2±0.2, 6.6°S±2.2°×13.1°E±0.7°, h76km±11km, M4.2/9, mb4.1/9, mB5.6/1, MLv4.2/9, Mw(mB)5.1/1*

ISC 09 08:54:31.6±0.9, 5.79S±0.06°×130.99E±0.08, h100km, n18, σ2.5, 51/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.66	319	P	Pn	08 54 58.6	-1.3
BNDI				S	Sn	08 55 19.5	-1.9
SAUI	Saumlaki	2.20	172	P	Pn	08 55 05.4	-1.4
SAUI				S	Sn	08 55 32.0	-1.8
FAKI	Fak Fak	3.11	24	P	Pn	08 55 18.1	-0.8
FAKI	Fak Fak	3.11	24	P	Pn	08 55 16.5	-2.4
KMPI	Kaimana, Papua	3.43	52	P	Pn	08 55 21.1	-2.0
SJI	Sorong	4.89	3	P	Pn	08 55 41.0	-2.0
SWI	Sorong	4.90	3	P	Pn	08 55 40.9	-2.1
LBMI	Labuha	6.19	326	P	Pn	08 55 59.6	-1.0
	92nm,0.8s,0.3nm						
SANI	Sanana	6.22	306	P	Pn	08 55 58.9	-2.1
	20nm,1.1s,0.1nm						
KDU	Kakadu	7.01	168	P	Pn	08 56 09.3	-2.4
MTN	Manton Dam	7.01	179	P	Pn	08 56 09.8	-1.9
SOEI	Soe	7.74	239	P	Pn	08 56 19.7	-2.1
	27nm,1.1s,0.1nm						
WRA	Warramunga Arr	14.44	167	Pn	Pn	08 57 45.9	-5.5
	0.4nm,0.3s,baz=345,slow=14,SNR=17						
WRA				Sn	Sn	09 00 17.6	-13
	0.9nm,0.3s,baz=344,slow=22,SNR=12						
	1.7nm,0.6s						
ASAR	Alice Springs	18.00	171	P	P	08 58 32.3	-2.2
	0.4nm,0.3s,baz=351,slow=13,SNR=29						
ASAR				S	S	09 01 42.5	-13
	1.1nm,0.7s,baz=357,slow=26,SNR=7.4						
	0.5nm,0.5s						
WRKA	Warakurna	19.31	187	P	Pn	08 58 51.6	+0.6
MULG	Mulgathing	24.54	174	P	P	08 59 45.8	+3.9
LCRK	Leigh Creek	25.45	165	P	P	08 59 55.2	+4.9
MKAR	Makanchi Array	67.77	326	P	P	09 05 21.6	+2.9
	1.0nm,0.7s,baz=125,slow=7.6,SNR=6.2						
	1.0nm,0.7s						

*IDC **09** 08:56:36.8±0.7, 29.57N×51.55E, h0km, mb4.0/22, mbtmp4.0/27, ML3.7/5, MS3.6/5, Error ellipse: s-maj=16.7km s-min=15.2km az=2.0*
*TEH **09** 08:56:37.9, 29.66N×51.49E, h7km±137km, ML3.9*
*NEIC **09** 08:56:39.8±1.1, 29.6N±0.1°×51.5E±0.1°, h10km±2km, mb4.1/12, Error ellipse: s-maj=26.0km s-min=6.4km az=226.0*
*OMAN **09** 08:56:44.1±1.0, 29.39N×51.82E, h10km, mb4.5/19, ml3.4/2, Error ellipse: s-maj=8.8km s-min=5.8km az=173.0*
*DSN **09** 08:56:44.5±1.5, 29.51N×51.99E, h15km, ML4.0/8, Error ellipse: s-maj=50.2km s-min=13.4km az=54.0*

ISC 09 08:56:38.7±0.4, 29.64N±0.04×51.57E±0.04, h10km, n139, σ1.6, 76/159, mb4.3/38, MS4.1/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	Shiraz	0.82	89	Pg	Pg	08 56 55.9	+1.3
DSBU	Dashti - Bushe	1.30	192	Pg	Pg	08 57 03.8	+0.2
KLNJ	Kolanjah	1.37	1	Pg	Pn	08 57 04.3	+0.1
QIR1	Qir	1.73	131	Pg	Pb	08 57 12.0	+1.3
IRAM	Ramesheh	2.27	18	Pn	Pb	08 57 19.4	-0.6
IBRJ	Brojen	2.28	353	Pn	Pn	08 57 18.8	+2.1
ZNGN	Zangian	2.55	346	Pn	Pn	08 57 22.4	+2.0
JHBN	Jahan bin	2.70	344	Pn	Pn	08 57 24.7	+2.2
IGAR	Gharneh	2.79	8	Pn	Pn	08 57 25.9	+2.3
IPIR	Pirpir	3.09	349	Pn	Pn	08 57 29.7	+1.8
IMEH	Mehriz	3.15	56	Pn	Pn	08 57 32.3	+3.6
IZEF	Zefreh	3.31	11	Pn	Pn	08 57 33.3	+2.4
IKLH	Kolahrood	3.67	0	Pn	Pn	08 57 38.0	+2.2
SAKB	Bahrain	3.76	194	P	Pn	08 57 40.1	+3.4
SAKB				S	Sn	08 58 23.7	+2.7
SHMA	Al-Shehemyia	3.80	188	P	Pn	08 57 40.3	+3.0
	SNR=20						
SHMA				S	Sn	08 58 24.3	+2.1
IBAF	Bafgh	3.96	60	Pn	Pn	08 57 42.5	+2.9
QAMS	Qamsar	4.09	358	Pn	Pn	08 57 44.2	+2.6
KHGB	Koh Gabri	4.32	79	Pn	Pn	08 57 47.8	+3.1
KRSH	Karshahi	4.35	6	Pn	Pn	08 57 46.8	+1.8
NGRK	Negar Kerman	4.49	89	Pn	Pn	08 57 50.7	+3.5
ZRDN	Zarand Kerman	4.50	72	Pn	Pn	08 57 50.1	+3.0
ISFB	Sefidab	4.74	7	Pn	Pn	08 57 52.1	+1.8
TRNA	Turayna	4.89	184	P	Pn	08 57 55.0	+2.6
TRNA				S	Sn	08 58 50.9	+1.9
SMRA	Abu-Samra	4.92	188	P	Pn	08 57 55.7	+3.0
SMRA				S	Sn	08 58 51.6	+2.0
IKFM	Kafar-mosalman	5.01	322	Pn	Pn	08 57 55.6	+1.7
CHMN	Cheshme madani	5.20	86	Pn	Pn	08 57 60.0	+3.1
IQOM	Qom	5.21	355	Pn	Pn	08 58 02.2	+1.3
HSAM	Samen	5.21	332	Pn	Pn	08 57 58.5	+1.5
SHME	Shamm	5.40	130	P	Pn	08 58 00.1	+0.8
SHME	Shamm	5.40	130	P	Pn	08 58 00.8	+1.4
SHME				S	Sn	08 59 02.5	+0.9
TPRV	Parvadeh(Tabas	5.53	51	Pn	Pn	08 58 03.9	+2.7
HAGD	Aghdareh	5.56	339	Pn	Pn	08 58 03.9	+2.1
BANOM	Banah	5.59	130	P	Pn	08 58 03.0	+1.0
BANOM	Banah	5.59	130	P	Pn	08 58 04.2	+2.2
BANOM				S	Sn	08 59 06.0	-0.3
IKOM	Komasi	5.69	324	Pn	Pn	08 58 05.1	+1.7
IBZA	Bozab	5.75	328	Pn	Pn	08 58 05.9	+1.5
ILAS	Lasjerd	5.85	11	Pn	Pn	08 58 07.7	+2.0
MASF	Masafi	5.89	135	P	Pn	08 58 09.0	+2.9
	SNR=5.4						
MASF				S	Sn	08 59 13.2	-0.5
NAZ	Nazwa, Dubai	5.89	141	P	Pn	08 58 08.1	+2.1
NAZ	Nazwa, Dubai	5.89	141	P	Pn	08 58 08.6	+2.5
NAZ				S	Sn	08 59 13.8	+0.1
MSFE	Esma-Masafi	5.90	135	P	Pn	08 58 05.8	-0.4
IRAZ	Razeghan	5.92	347	Pn	Pn	08 58 08.2	+1.6
IALM	Almabolaq	5.95	332	Pn	Pn	08 58 08.0	+0.9
ASUD	Al Ashush, Dub	6.01	145	P	Pn	08 58 10.7	+3.0
	SNR=10.0						
ASUD				S	Sn	08 59 16.9	+0.3
MDH	Madha	6.03	135	P	Pn	08 58 07.8	-0.2
MDH	Madha	6.03	135	P	Pn	08 58 09.3	+1.4
MDH				S	Sn	08 59 16.3	-0.7
KBAM	BAM	6.03	93	Pn	Pn	08 58 10.9	+2.9
FAQ	Al Faqa, Dubai	6.05	143	P	Pn	08 58 11.4	+3.2
FAQ				S	Sn	08 59 16.4	-1.1
ILBA	Ilam Banvizeh	6.06	312	Pn	Pn	08 58 09.2	+0.8
TNSJ	Nastanj	6.08	44	Pn	Pn	08 58 11.1	+2.3
TKDS	Koohdasht(Taba	6.18	49	Pn	Pn	08 58 12.8	+2.7
UOSS	Minazif	6.23	137		Pn	08 58 11.8	+1.0
HATD	Hatta, Dubai	6.28	139	P	Pn	08 58 12.4	+0.9
HATD				S	Sn	08 59 21.2	-2.1
HATD	Hatta, Dubai	6.28	139	P	Pn	08 58 13.5	+2.0
HATD				S	Sn	08 59 22.0	-1.3
IGHG	Ghaleghazi	6.32	319	Pn	Pn	08 58 13.0	+0.8
ASHO	Ashiyiah	6.35	140	P	Pn	08 58 13.0	+0.6
ASHO	Ashiyiah	6.35	140	P	Pn	08 58 14.1	+1.7
ASHO				S	Sn	08 59 23.3	-1.8
ILIN	Lien	6.55	325	Pn	Pn	08 58 16.0	+0.6
IDHR	Dehrash	6.69	320	Pn	Pn	08 58 18.4	+1.2
ALNE	Al Ain	6.70	145	P	Pn	08 58 19.8	+2.6
ALNE				S	Sn	08 59 33.1	-0.5
JASK	Jask - Hormozg	6.72	122	P	Pn	08 58 19.1	+1.6
BSRN	Basiran	6.90	68	Pn	Pn	08 58 23.0	+2.9
ITEG	Tejag	6.95	60	Pn	Pn	08 58 23.0	+2.2
IKOO	Kooshah	6.96	65	Pn	Pn	08 58 24.4	+3.4
SOHO	SOHO	7.05	140	P	Pn	08 58 22.4	+0.4
SOHO	SOHO	7.05	140	P	Pn	08 58 22.9	+1.0
SOHO				S	Sn	08 59 40.0	-2.2
AFRZ	Afriz	7.39	57	Pn	Pn	08 58 29.5	+2.7
ARQ	Araqi	7.68	144	P	Pn	08 58 33.1	+2.4
ARQ				S	Sn	08 59 56.2	-1.7
BSY	Bisya	8.52	142	P	Pn	08 58 44.0	+1.8
BSY				S	Sn	09 00 15.8	-2.7
SMDO	Samad	8.76	137	P	Pn	08 58 46.4	+0.9
SMDO				S	Sn	09 00 22.1	-2.3
WSAR	Wadi Sarin	8.98	134	Pn	Pn	08 58 48.9	+0.4
	1.6nm,0.3s,baz=356,slow=8.6,SNR=20						
WSAR					Sn	09 00 25.4	-4.3
	3.1nm,0.3s,baz=344,slow=22,SNR=9.1						
	5.9nm,0.4s						
JMDO	Jabal Madar	9.32	139	P	Pn	08 58 54.4	+1.2
NGCH	Negor - Chabah	9.50	114	P	Pn	08 58 55.9	+0.2
NGCH				S	Sn	09 00 39.5	-3.0
WBK	Wadi Bani Khal	9.65	135	P	Pn	08 58 57.7	0.0
	SNR=5.7						
SRVN	Saravan	9.78	101	Pn	Pn	08 59 02.4	+2.8
GEYT	Alibeck	9.90	32	Pn	Pn	08 59 01.8	+0.7
	0.5nm,0.3s,baz=205,slow=13,SNR=3.9						
GEYT				LR	LR	09 02 44.2	
	comp=Z,44nm,18.4s,baz=4.0,slow=37						
	1.9nm,0.4s						
JLN	Jalan Bani Buh	10.26	135	P	Pn	08 59 05.6	-0.5
JLN				S	Sn	09 00 57.5	-3.8
MHTO	MHTO	10.37	145	P	Pn	08 59 07.9	+0.3
MHTO				S	Sn	09 01 00.1	-3.9
DQM	DQM	11.08	149	P	Pn	08 59 18.0	+0.7
WHFO	Wadi Hawf	11.84	170	P	Pn	08 59 28.4	+0.7
DMTO	DMTO	12.26	165	P	Pn	08 59 33.4	-0.1
RBK	Rabkut	12.32	168	P	Pn	08 59 34.5	+0.2
ABTO	Aybut	12.33	172	P	Pn	08 59 34.7	+0.2
MMAI	Mount Meron Ar	14.22	288	Pn	Pn	08 59 59.9	-0.4
	1.0nm,0.3s,baz=294,slow=25,SNR=1.6						
	0.5nm,0.3s						
EIL	Elat	14.45	274	LR	LR	09 06 40.4	
	comp=Z,41nm,19.9s,baz=256,slow=42						
KBZ	Khabaz	15.68	336	Pn	Pn	09 00 21.0	+1.4
	0.1nm,0.3s,baz=175,slow=5.8,SNR=4.6						
	3.3nm,0.8s						
BR131	Keskin Array S	17.82	309	P	P	09 00 47.8	+0.1
BRTR	Keskin Array B	17.82	309	P	Pn	09 00 47.5	+0.5
	0.2nm,0.3s,baz=170,slow=10.0,SNR=6.4						
BRTR				S	Sn	09 04 05.0	-0.7
	0.5nm,0.3s,baz=270,slow=33,SNR=5.4						
	1.3nm,0.8s						
BR231	Keskin MP Arra	18.46	308	P	Pn	09 00 56.4	+1.6
ANTO	Ankara	18.46	309	P	Pn	09 00 55.5	+0.8
KK31	Karatay Array	20.27	43	P	P	09 01 15.0	+0.6
KK31				IAmb	IAmb	09 01 16.8	
	comp=Z,4.5nm,1.1s						
KKAR	Karatay Array	20.27	43	P	P	09 01 15.4	+1.0
ABKAR	Akbulak array	20.61	16	P	P	09 01 18.8	+0.9
ABKAR	Akbulak array	20.61	16	P	P	09 01 18.8	+0.9
AKTO	Aktyubinsk	21.34	11	P	P	09 01 25.2	-0.6
	comp=Z,2.3nm,0.7s,baz=176,slow=7.6,SNR=7.3						
	comp=Z,2.3nm,0.7s						
KSH	Kashi	22.32	57	P	P	09 01 34.4	-2.2
KSH				pP	pP	09 01 39.6	-0.2
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MLR	Muntele Rosu	25.60	315	P	P	09 02 07.8	-0.4
MLR				IAmb	IAmb	09 02 12.8	
	comp=Z,5.5nm,0.7s						
AKASG	Malin Array Be	26.91	328	P	P	09 02 20.6	+0.8
	comp=Z,0.5nm,0.3s,baz=132,slow=9.5,SNR=8.4						
	comp=Z,0.5nm,0.3s						
BURAR	Bucovina Array	27.11	319	P	P	09 02 23.0	+1.2
BUR08	Bucovina Ar. S	27.14	319	P	P	09 02 22.9	+0.9
BUR08				IAmb	IAmb	09 02 28.9	
	comp=Z,2.7nm,0.9s						
BVAR	Borovoye Array	27.14	25	P	P	09 02 23.4	+1.4
	comp=Z,1.1nm,0.4s,baz=227,slow=6.3,SNR=6.1						
	comp=Z,1.1nm,0.4s						
KURBB	Kurchatov Arra	29.13	36	P	P	09 02 39.6	0.0
	comp=Z,1.0nm,0.7s,baz=234,slow=9.1,SNR=2.9						
	comp=Z,1.0nm,0.7s						
MK31	Makanchi Array	29.34	46	P	P	09 02 42.4	+0.7
MK31				IAmb	IAmb	09 02 50.0	
	comp=Z,2.2nm,1.1s						
MKAR	Makanchi Array	29.34	46	P	P	09 02 42.4	+0.7
MKAR	Makanchi Array	29.34	46	P	P	09 02 41.6	-0.1
	comp=Z,0.5nm,0.5s,baz=245,slow=8.2,SNR=4.4						
	comp=Z,0.5nm,0.5s						
VYHS	Vyhne	31.29	316	eP	P	09 03 01.1	+2.2
CONA	Conrad Observa	32.91	314	iP	P	09 03 12.4	-0.7
	comp=Z,7.3nm,1.5s						
ZAA0	Zalesovo Array	34.19	35	P	P	09 03 23.6	-0.4
ZAA0				IAmb	IAmb	09 03 26.4	
	comp=Z,4.0nm,0.9s						
ZALV	Zalesovo Beam	34.19	35		P	09 03 23.9	-0.2
ZALV	Zalesovo Beam	34.19	35	P	P	09 03 25.4	+1.3
	comp=Z,1.8nm,0.4s,baz=250,slow=8.9,SNR=11						
	comp=Z,1.8nm,0.4s						
KBA	Koelnbreinsper	34.25	311	eP	P	09 03 22.5	-2.4
	comp=Z,4.2nm,0.7s						
GERES	GERESS Array B	34.58	314	P	P	09 03 27.4	-0.3
	comp=Z,0.9nm,0.6s,baz=111,slow=7.3,SNR=2.1						
	comp=Z,0.9nm,0.6s						
LESA	Schwarzleotal	34.78	312	eP	P	09 03 27.5	-2.0
	comp=Z,3.0nm,0.5s						
WTTA	Wattenberg	35.42	311	epP	P	09 03 35.2	+0.1
	comp=Z,4.8nm,0.5s						
WATA	Walderalm	35.48	311	iP	P	09 03 35.4	-0.1
	comp=Z,3.9nm,0.7s						
SQTA	Sankt Quirin	35.69	311	ipP	P	09 03 37.3	0.0
	comp=Z,6.8nm,0.4s						
MOTA	Moosalm	35.79	311	iP	P	09 03 37.1	-1.1
	comp=Z,4.6nm,0.7s						
FETA	Feichten	35.96	310	ipP	P	09 03 39.9	+0.3
	comp=Z,5.3nm,0.7s						
FINES	FINESS Array B	35.99	339	P	P	09 03 39.2	-0.3
	comp=Z,2.7nm,0.9s,baz=142,slow=9.4,SNR=6.3						
	comp=Z,2.7nm,0.9s						
RETA	Reutte	36.05	311	iP	P	09 03 39.5	-0.9
	comp=Z,5.5nm,0.8s						
DAVA	Damuels	36.58	311	iP	P	09 03 44.8	-0.2
	comp=Z,11nm,0.4s						
HFS	Hagfors	39.66	331	P	P	09 04 10.0	-0.5
	comp=Z,1.4nm,0.4s,baz=140,slow=9.8,SNR=9.5						
	comp=Z,1.4nm,0.4s						
NOA	NORSAR Array B	41.18	331	P	P	09 04 22.2	-1.0
	comp=Z,0.6nm,0.6s,baz=121,slow=8.2,SNR=1.6						
	comp=Z,0.6nm,0.6s						
ARCES	ARCESS Array B	42.64	347	P	P	09 04 33.9	-1.1
	comp=Z,2.7nm,0.9s,baz=149,slow=7.9,SNR=9.3						
	comp=Z,2.7nm,0.9s						
SONM	Songino Array	45.46	51	P	P	09 04 57.9	-0.2
	comp=Z,0.5nm,0.6s,baz=264,slow=5.8,SNR=2.8						
	comp=Z,0.5nm,0.6s						
EKA	Eskdalemuir Ar	46.29

TOA0	**Torodi Ar. Sit**	**30.32**	**300**	P	**P**	**09 07 11.6**	**-0.3**
TOA0				IAmb	IAmb	09 07 15.9	
	comp=Z,12nm,1.1s						
TORD	**Torodi Ar. Bea**	**30.32**	**300**	P	**P**	**09 07 11.7**	**-0.2**
TORD				IAmb	IAmb	09 07 15.9	
	comp=Z,7.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**30.32**	**300**	P	**P**	**09 07 11.3**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=102,slow=8.2,SNR=18						
	comp=Z,5.3nm,0.8s						
EIL	**Elat**	**31.79**	**11**	LR	LR	09 20 25.0	
	comp=Z,66nm,18.1s,baz=258,slow=37						
KIC	**Kosan Boka**	**34.04**	**284**	⇓*iP*	**P**	**09 07 44.4**	**-0.2**
	comp=Z,7.6nm,0.6s						
DBIC	**Dimbokro**	**34.22**	**284**	P	**P**	**09 07 46.5**	**+0.3**
DBIC	**Dimbokro**	**34.22**	**284**	P	**P**	**09 07 45.2**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=96,slow=8.1,SNR=9.0						
	comp=Z,4.0nm,0.6s						
LIC	**Lamto**	**34.29**	**284**	⇓*iP*	**P**	**09 07 46.5**	**-0.3**
	comp=Z,12nm,0.5s						
TIC	**Toumodi**	**34.37**	**284**	⇓*iP*	**P**	**09 07 47.4**	**-0.1**
	comp=Z,9.5nm,0.3s						
BR131	**Keskin Array S**	**41.47**	**6**	P	**P**	**09 08 47.5**	**+0.3**
BR131				IAmb	IAmb	09 08 52.8	
	comp=Z,6.8nm,0.8s						
BRTR	**Keskin Array B**	**41.47**	**6**	P	**P**	**09 08 47.3**	**0.0**
BRTR	**Keskin Array B**	**41.47**	**6**	P	**P**	**09 08 48.2**	**+1.0**
	comp=Z,5.2nm,0.9s,baz=193,slow=8.2,SNR=17						
	comp=Z,5.2nm,0.9s						
BURAR	**Bucovina Array**	**49.16**	**357**	P	**P**	**09 09 48.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**49.19**	**357**	P	**P**	**09 09 48.7**	**+0.3**
PSZ	**Piszkesteto**	**49.94**	**353**	P	**P**	**09 09 54.3**	**+0.3**
TUE	**Stuetta**	**50.80**	**343**	P	**P**	**09 10 00.9**	**+0.2**
TUE				IAmb	IAmb	09 10 02.5	
	comp=Z,8.6nm,1.2s						
GERES	**GERESS Array B**	**51.91**	**348**	P	**P**	**09 10 07.7**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=158,slow=8.2,SNR=2.8						
	comp=Z,1.1nm,0.6s						
AKASG	**Malin Array Be**	**52.18**	**1**	P	**P**	**09 10 09.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=191,slow=4.4,SNR=2.2						
	comp=Z,0.5nm,0.5s						
AKTO	**Aktyubinsk**	**57.76**	**22**	P	**P**	**09 10 50.8**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=220,slow=8.5,SNR=4.1						
	comp=Z,1.9nm,0.8s						
KK31	**Karatay Array**	**58.44**	**35**	P	**P**	**09 10 57.2**	**+1.1**
KK31				IAmb	IAmb	09 11 01.7	
	comp=Z,3.7nm,0.9s						
KKAR	**Karatay Array**	**58.44**	**35**	P	**P**	**09 10 56.9**	**+0.8**
TARG	**Taragay, Kyrgy**	**62.11**	**40**	P	**P**	**09 11 21.4**	**-0.3**
TARG				IAmb	IAmb	09 11 29.5	
	comp=Z,2.4nm,1.1s						
EKA	**Eskdalemuir Ar**	**62.43**	**340**	P	**P**	**09 11 23.2**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=142,slow=6.3,SNR=2.3						
	comp=Z,2.8nm,0.9s						
NOA	**NORSAR Array B**	**63.93**	**351**	P	**P**	**09 11 33.1**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=171,slow=7.1,SNR=2.6						
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**67.30**	**32**	P	**P**	**09 11 55.4**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=243,slow=6.7,SNR=4.3						
	comp=Z,1.1nm,0.6s						
MK31	**Makanchi Array**	**67.43**	**37**	P	**P**	**09 11 56.7**	**+0.8**
MKAR	**Makanchi Array**	**67.43**	**37**	P	**P**	**09 11 56.3**	**+0.5**
MKAR	**Makanchi Array**	**67.43**	**37**	P	**P**	**09 11 56.0**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=246,slow=4.8,SNR=8.4						
	comp=Z,2.3nm,0.9s						
ARCES	**ARCESS Array B**	**71.09**	**359**	P	**P**	**09 12 18.3**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=168,slow=4.6,SNR=21						
	comp=Z,3.0nm,0.6s						
SCHQ	**Schefferville**	**94.38**	**325**	LR	LR	09 55 30.2	
	comp=Z,173nm,18.3s,baz=215,slow=35						
TXAR	**Lajitas Array**	**126.80**	**306**	PKP	**PKiKP**	**09 20 05.9**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=163,slow=3.8,SNR=3.6						

*KRNET **09** 09:03:00.8±0.1,39.°79N×75.°35E,mb3.5*
*SOME **09** 09:03:02.2,39.°97N×75.°33E,h0km*
*NNC **09** 09:03:03.9±0.8,39.°96N×75.°45E,h0km,mb3.9,mpv3.6,*
Error ellipse: s-maj=5.9km s-min=4.3km az=162.0
ISC 09 09:03:01.9±1.7,39.°74N±0.°06×75.°34E±0.°04,h2km±13km,
n85,σ1ŝ58/127,32C-21D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.44**	**282**	⇑*iP*	**Pn**	**09 03 27.4**	**-1.9**
	baz=80						
SFK				⇑*iS*	**Sn**	**09 03 46.7**	**-2.2**
	baz=80						
NRN	**Naryn**	**1.77**	**16**	⇓*iP*	**Pn**	**09 03 31.8**	**-2.1**
	baz=16						
NRN				⇓*iS*	**Sn**	**09 03 54.8**	**-2.3**
	baz=16						
OHH	**Osh**	**2.11**	**293**	⇑*iP*	**Pn**	**09 03 37.9**	**-0.4**
	baz=91						
OHH				⇑*iS*	**Sn**	**09 04 04.9**	**-0.3**
	baz=91						
ARLS	**Aral**	**2.26**	**340**	⇑*eP*	**Pn**	**09 03 39.7**	**-0.8**
	baz=40						
ARLS				⇑*eS*	**Sn**	**09 04 08.0**	**-1.0**
	baz=40						
KZA	**Kyzart**	**2.34**	**358**	P	**Pn**	**09 03 41.1**	**-0.7**
	SNR=44						
KZA	**Kyzart**	**2.34**	**358**	⇑*eP*	**Pn**	**09 03 40.9**	**-0.9**
	baz=58						
KZA				⇑*iS*	**Sn**	**09 04 10.0**	**-1.4**
	baz=58						
ARSB	**Arslanbob**	**2.40**	**312**	⇑*eP*	**Pn**	**09 03 41.7**	**-0.6**
	baz=11						
ARSB				⇑*iS*	**Sn**	**09 04 11.7**	**-0.7**
	baz=11						
UCH	**Uchtor**	**2.57**	**346**	P	**Pn**	**09 03 44.7**	**-0.3**
	SNR=38						
UCH	**Uchtor**	**2.57**	**346**	⇓*iP*	**Pn**	**09 03 44.1**	**-0.9**
	baz=46						
UCH				⇓*iS*	**Sn**	**09 04 15.8**	**-1.2**
	baz=46						
ULHL	**Ulahol**	**2.60**	**15**	P	**Pn**	**09 03 47.0**	**+1.8**
	SNR=16						
ULHL	**Ulahol**	**2.60**	**15**	⇑*iP*	**Pn**	**09 03 44.2**	**-1.0**
	baz=15						
ULHL				⇑*iS*	**Sn**	**09 04 15.9**	**-1.5**
	baz=15						
AML	**Almayashu**	**2.70**	**333**	P	**Pn**	**09 03 46.3**	**-0.4**
	SNR=30						
AML	**Almayashu**	**2.70**	**333**	⇑Pn	**Pn**	**09 03 46.2**	**-0.4**
	0.7nm,0.5s						
AML				⇓Lg	Lg	09 04 25.1	
	26nm,0.7s						
AML	**Almayashu**	**2.70**	**333**	⇓*eP*	**Pn**	**09 03 45.9**	**-0.8**
	baz=32						
AML				⇓*iS*	**Sn**	**09 04 19.0**	**-1.2**
	baz=32						
DRK	**Karamyk**	**2.75**	**266**	⇓*eP*	**Pn**	**09 03 47.4**	**+0.1**
	baz=65						
DRK				⇓*eS*	**Sn**	**09 04 21.3**	**+0.1**
	baz=65						
BOOM	**Boomskoye usch**	**2.79**	**9**	⇑*eP*	**Pn**	**09 03 47.0**	**-0.8**
	baz=9.0						
BOOM				⇑*iS*	**Sn**	**09 04 20.7**	**-1.4**
	baz=9.0						
KBK	**Karagaybulak**	**2.93**	**354**	P	**Pn**	**09 03 50.0**	**+0.3**
	SNR=18						
KBK	**Karagaybulak**	**2.93**	**354**	⇑*iP*	**Pn**	**09 03 48.9**	**-0.8**
	baz=54						
KBK				⇑*iS*	**Sn**	**09 04 24.0**	**-1.6**
	baz=54						
AAK	**Ala-Archa**	**2.97**	**348**	P	**Pn**	**09 03 50.6**	**+0.4**
	SNR=40						
AAK	**Ala-Archa**	**2.97**	**348**	⇑*iP*	**Pn**	**09 03 49.5**	**-0.7**
	baz=47						
AAK				⇑*iS*	**Sn**	**09 04 24.9**	**-1.6**
	baz=47						
FRU1	**Bishkek**	**3.12**	**350**	⇑*eP*	**Pn**	**09 03 51.8**	**-0.4**
	baz=50						
FRU1				⇑*iS*	**Sn**	**09 04 29.0**	**-1.0**
	baz=50						
EKS2	**Erkin-Say**	**3.15**	**339**	P	**Pn**	**09 03 53.1**	**+0.4**
	SNR=8.6						
EKS2	**Erkin-Say**	**3.15**	**339**	⇓*eP*	**Pn**	**09 03 52.0**	**-0.7**
	baz=38						
EKS2				⇓*iS*	**Sn**	**09 04 29.4**	**-1.6**
	baz=38						
TKM2	**Tokmak 2**	**3.19**	**3**	P	**Pn**	**09 03 53.4**	**+0.2**
	SNR=14						
TKM2	**Tokmak 2**	**3.19**	**3**	⇓Pn	**Pn**	**09 03 53.0**	**-0.3**
	12nm,0.5s						
TKM2				⇑Lg	Lg	09 04 38.5	
	83nm,0.9s						
TKM2	**Tokmak 2**	**3.19**	**3**	⇓*eP*	**Pn**	**09 03 52.4**	**-0.9**
	baz=3.0						
TKM2				⇓*iS*	**Sn**	**09 04 30.1**	**-1.9**
	baz=3.0						
CHMS	**Chumysh**	**3.29**	**352**	P	**Pn**	**09 03 54.7**	**+0.2**
	SNR=6.0						
CHMS	**Chumysh**	**3.29**	**352**	⇓Pn	**Pn**	**09 03 54.2**	**-0.3**
	22nm,0.5s						
CHMS				⇓Lg	Lg	09 04 42.2	
	34nm,0.8s						
CHMS	**Chumysh**	**3.29**	**352**	⇑*eP*	**Pn**	**09 03 53.6**	**-0.9**
	baz=52						
CHMS				⇑*iS*	**Sn**	**09 04 32.3**	**-1.9**
	baz=52						
KST	**Kastek**	**3.34**	**8**	Pg	**Pb**	**09 04 01.5**	**-0.4**
	17nm,0.5s						
KST				Lg	Lg	09 04 43.5	
	284nm,0.8s						
KST	**Kastek**	**3.34**	**8**	*eP*	**Pb**	**09 04 01.5**	**-0.4**
	17nm,0.3s						
KST				*eS*	**Sb**	**09 04 43.5**	**+0.5**
	279nm,0.8s						
MRKS	**Merke**	**3.40**	**333**	Pg	**Pb**	**09 04 02.7**	**-0.3**
	31nm,0.5s						
MRKS				Lg	Lg	09 04 46.2	
	26nm,0.6s						
MRKS	**Merke**	**3.40**	**333**	*eP*	**Pb**	**09 04 02.7**	**-0.3**
	31nm,0.5s						
MRKS				*eS*	**Sb**	**09 04 46.2**	**+1.3**
	26nm,0.6s						
IZV	**Izvestkoviy**	**3.44**	**16**	Pg	**Pb**	**09 04 02.5**	**-1.1**
	15nm,0.7s						
IZV				Lg	Lg	09 04 46.0	
	95nm,1.0s						
IZV	**Izvestkoviy**	**3.44**	**16**	*eP*	**Pb**	**09 04 02.5**	**-1.1**
	15nm,0.7s						
IZV				*eS*	**Sb**	**09 04 46.0**	**+0.2**
	95nm,1.0s						
MTBS	**Maitube**	**3.49**	**13**	Pg	**Pb**	**09 04 03.7**	**-0.8**
	17nm,0.5s						
MTBS				Lg	Lg	09 04 47.8	
	54nm,0.9s						
MTBS	**Maitube**	**3.49**	**13**	*eP*	**Pb**	**09 04 03.7**	**-0.8**
	17nm,0.5s						
MTBS				*eS*	**Sb**	**09 04 47.8**	**+0.5**
	54nm,0.9s						
BTK	**Batken**	**3.49**	**277**	⇓*eP*	**Pn**	**09 03 57.4**	**+0.1**
	baz=76						
BTK				⇓*eS*	**Sn**	**09 04 39.0**	**-0.3**
	baz=76						
TNSS	**Tian-Shan**	**3.51**	**20**	Pg	**Pb**	**09 04 04.2**	**-0.8**
	13nm,0.4s						
TNSS				Lg	Lg	09 04 49.1	
	48nm,0.7s						
TNSS	**Tian-Shan**	**3.51**	**20**	*eP*	**Pb**	**09 04 04.2**	**-0.8**
	14nm,0.3s						
TNSS				*eS*	**Sb**	**09 04 49.1**	**+0.8**
	48nm,0.5s						
DGS	**Degeres**	**3.52**	**5**	Pg	**Pb**	**09 04 05.4**	**+0.4**
	23nm,0.4s						
DGS				Lg	Lg	09 04 50.0	
	56nm,0.6s						
DGS	**Degeres**	**3.52**	**5**	*eP*	**Pb**	**09 04 03.1**	**-1.9**
	21nm,0.5s						
DGS				*eS*	**Sb**	**09 04 47.1**	**-1.1**
	55nm,0.6s						
USP	**Ospenovka**	**3.58**	**350**	P	**Pn**	**09 03 58.4**	**-0.2**
	SNR=14						
USP	**Ospenovka**	**3.58**	**350**	⇓*eP*	**Pn**	**09 03 57.8**	**-0.8**
	baz=50						
USP				⇓*iS*	**Sn**	**09 04 39.5**	**-2.0**
	baz=50						
PRZ	**Przheval'sk**	**3.59**	**39**	⇑*eP*	**Pn**	**09 03 58.3**	**-0.5**
	baz=39						
PRZ				⇑*iS*	**Sn**	**09 04 40.1**	**-1.7**
	baz=39						
MDOK	**Medeo**	**3.66**	**20**	Pg	**Pb**	**09 04 06.5**	**-0.9**
	7.3nm,0.4s						
MDOK				Pg	Pg	09 04 06.9	-5.1
	4.4nm,0.5s						
MDOK				Lg	Lg	09 04 52.6	
	94nm,1.0s						
MDOK				Lg	Lg	09 04 52.8	
	88nm,0.9s						
MDOK	**Medeo**	**3.66**	**20**	*eP*	**Pb**	**09 04 06.5**	**-0.9**
	7.3nm,0.4s						
MDOK				*eS*	**Sb**	**09 04 52.8**	**+0.5**
	88nm,0.9s						
TRKS	**Terek-Say**	**3.67**	**301**	⇑*eP*	**Pn**	**09 03 58.8**	**-1.0**
	baz=99						
TRKS				⇑*iS*	**Sn**	**09 04 41.1**	**-2.5**
	baz=99						
KNDC	**Almaty**	**3.69**	**19**	Pg	**Pb**	**09 04 08.1**	**+0.3**
	33nm,0.4s						
KNDC				⇑Lg	Lg	09 04 54.6	
	380nm,0.9s						
KOTS	**Kotyrbulak**	**3.74**	**20**	Pg	**Pb**	**09 04 09.1**	**+0.3**
	23nm,0.7s						
KOTS				Lg	Lg	09 04 56.3	
	326nm,0.8s						
KOTS	**Kotyrbulak**	**3.74**	**20**	*eP*	**Pb**	**09 04 09.1**	**+0.3**
	23nm,0.7s						
KOTS				*eS*	**Sb**	**09 04 56.3**	**+1.7**
	326nm,0.8s						
SGDS	**Sogindy**	**3.75**	**352**	Pg	**Pb**	**09 04 08.7**	**-0.2**
	12nm,0.5s						
SGDS				Lg	Lg	09 04 55.9	
	23nm,0.6s						
KRBS	**Karabastau**	**3.97**	**4**	Pg	**Pb**	**09 04 11.9**	**-0.6**
	15nm,0.7s						
KRBS				Lg	Lg	09 05 02.1	
	36nm,0.7s						
KRBS	**Karabastau**	**3.97**	**4**	*eP*	**Pb**	**09 04 11.9**	**-0.6**
	16nm,0.4s						
KRBS				*eS*	**Sb**	**09 05 02.1**	**+1.1**
	37nm,0.6s						
KTBS	**Karatobe**	**4.10**	**14**	Pg	**Pb**	**09 04 14.1**	**-0.7**
	11nm,0.5s						
KTBS				Lg	Lg	09 05 05.8	
	108nm,1.0s						
KTBS	**Karatobe**	**4.10**	**14**	*eP*	**Pb**	**09 04 14.1**	**-0.7**
	11nm,0.5s						
KTBS				*eS*	**Sb**	**09 05 05.8**	**+1.0**
	107nm,0.7s						
ZHN	**Zhinishke**	**4.14**	**33**	Pg	**Pb**	**09 04 15.5**	**-0.1**
	12nm,0.6s						
ZHN				Lg	Lg	09 05 07.9	
	19nm,0.6s						
ZHN	**Zhinishke**	**4.14**	**33**	*eP*	**Pb**	**09 04 15.5**	**-0.1**
	12nm,0.6s						
ZHN				*eS*	**Sb**	**09 05 07.9**	**+1.7**
	19nm,0.6s						
KUU	**Kurty**	**4.22**	**10**	Pg	**Pb**	**09 04 16.9**	**0.0**
	9.4nm,0.6s						
KUU				Lg	Lg	09 05 10.2	
	101nm,1.3s						
KUU	**Kurty**	**4.22**	**10**	*eP*	**Pb**	**09 04 16.9**	**0.0**
	9.4nm,0.4s						
KUU				*eS*	**Sb**	**09 05 10.2**	**+1.8**
	101nm,0.6s						
CHKK	**Chushkaly**	**4.30**	**16**	Pg	**Pb**	**09 04 17.7**	**-0.5**
	9.1nm,0.7s						
CHKK				Lg	Lg	09 05 11.8	
	99nm,1.2s						
CHKK	**Chushkaly**	**4.30**	**16**	*eP*	**Pb**	**09 04 17.7**	**-0.5**
	11nm,0.3s						
CHKK				*eS*	**Sb**	**09 05 11.8**	**+1.3**
	99nm,0.6s						
KURS	**Kuram**	**4.31**	**29**	Pg	**Pb**	**09 04 17.8**	**-0.6**
	13nm,1.1s						
KURS				Lg	Lg	09 05 11.9	
	26nm,1.0s						
KURS	**Kuram**	**4.31**	**29**	*eP*	**Pb**	**09 04 17.8**	**-0.6**
	13nm,1.1s						
KURS				*eS*	**Sb**	**09 05 11.9**	**+1.0**
	26nm,1.0s						
UZB	**Uzynbulak**	**4.39**	**38**	Pg	**Pb**	**09 04 20.1**	**+0.3**
	5.6nm,0.6s						
UZB				Lg	Lg	09 05 16.0	
	12nm,0.6s						
UZB	**Uzynbulak**	**4.39**	**38**	*eP*	**Pb**	**09 04 20.1**	**+0.3**
	5.6nm,0.6s						
UZB				*eS*	**Sb**	**09 05 16.0**	**+2.7**
	12nm,0.6s						
KPKS	**Kokpek**	**4.49**	**33**	Pg	**Pb**	**09 04 20.7**	**-0.9**
	6.6nm,0.3s						
KPKS				Lg	Lg	09 05 17.2	
	48nm,0.7s						
KPKS	**Kokpek**	**4.49**	**33**	*eP*	**Pb**	**09 04 20.7**	**-0.9**
	6.6nm,0.3s						
KPKS				*eS*	**Sb**	**09 05 17.1**	**+1.0**
	48nm,0.7s						
SHLS	**Shalkode**	**4.61**	**41**	Pg	**Pg**	**09 04 29.0**	**-1.3**
	11nm,0.7s						
SHLS				Lg	Lg	09 05 30.7	
	26nm,0.8s						
SHLS	**Shalkode**	**4.61**	**41**	*eP*	**Pg**	**09 04 29.0**	**-1.3**
	11nm,0.7s						
SHLS				*eS*	**Sg**	**09 05 30.7**	**+0.6**
	26nm,0.8s						
PDGK	**Podgornoye**	**4.75**	**40**	Pg	**Pb**	**09 04 24.7**	**-1.3**
	3.0nm,0.7s						
PDGK				Lg	Lg	09 05 23.7	
	16nm,0.9s						
PDGK	**Podgornoye**	**4.75**	**40**	⇑Pg	**Pb**	**09 04 23.0**	**-3.0**
	1.1nm,0.4s						
PDGK				⇓Lg	Lg	09 05 26.3	
	29nm,0.9s						
ARXS	**Arharly**	**4.84**	**22**	Pg	**Pb**	**09 04 28.2**	**+0.6**
	13nm,0.8s						
ARXS				Lg	Lg	09 05 29.2	
	15nm,0.7s						
ARXS	**Arharly**	**4.84**	**22**	*eP*	**Pb**	**09 04 28.2**	**+0.6**
	13nm,0.8s						
ARXS				*eS*	**Sb**	**09 05 29.2**	**+2.9**
	15nm,0.7s						
KK31	**Karatay Array**	**4.95**	**314**	⇑Pg	**Pb**	**09 04 30.0**	**+0.7**
	0.8nm,0.4s,baz=137,slow=16,SNR=10						
KK31				⇑Lg	Lg	09 05 37.3	
	16nm,0.9s,baz=131,slow=28,SNR=5.2						
BTLS	**Baital**	**5.39**	**350**	Pg	**Pb**	**09 04 38.9**	**+2.2**
	2.8nm,0.8s						
BTLS				Lg	Lg	09 05 47.6	
	13nm,0.7s						
BTLS	**Baital**	**5.39**	**350**	*eP*	**Pb**	**09 04 38.9**	**+2.2**
	2.8nm,0.8s						
BTLS				*eS*	**Sb**	**09 05 47.6**	**+5.8**
	13nm,0.7s						
KNOS	**Konyrlen**	**5.43**	**30**	Pg	**Pb**	**09 04 38.6**	**+1.0**
	9.4nm,0.7s						
KNOS				Lg	Lg	09 05 47.0	
	15nm,0.9s						
DJR	**Jarkent**	**5.66**	**34**	Pg	**Pb**	**09 04 43.7**	**+2.2**
	2.0nm,0.7s						
DJR				Lg	Lg	09 05 55.7	
	3.8nm,1.1s						
DJR	**Jarkent**	**5.66**	**34**	*eP*	**Pb**	**09 04 43.7**	**+2.2**
	2.0nm,0.7s						
DJR				*eS*	**Sb**	**09 05 55.7**	**+5.9**
	3.8nm,1.1s						
TDK	**Taldyqorghan**	**5.73**	**22**	Pg	**Pb**	**09 04 44.7**	**+2.1**
	26nm,0.3s						
TDK				Lg	Lg	09 05 57.5	
	39nm,0.5s						
TDK	**Taldyqorghan**	**5.73**	**22**	*eP*	**Pb**	**09 04 44.7**	**+2.1**
	26nm,0.3s						
TDK				*eS*	**Sb**	**09 05 57.5**	**+5.7**
	39nm,0.5s						
KAPS	**Kapalarasan**	**6.29**	**27**	Pg	**Pb**	**09 04 54.1**	**+1.9**
	5.2nm,0.6s						
KAPS				Lg	Lg	09 06 13.4	
	4.7nm,1.0s						
KAPS	**Kapalarasan**	**6.29**	**27**	*eP*	**Pb**	**09 04 54.0**	**+1.9**
	5.2nm,0.6s						
KAPS				*eS*	**Sb**	**09 06 13.4**	**+5.6**
	4.7nm,1.0s						
OTUK	**Ortayu**	**8.78**	**347**	Pg	Pg	09 05 39.2	-11
	0.2nm,0.2s						
OTUK				Lg	Lg	09 07 31.8	
	4.1nm,0.8s						

*IDC **09** 09:19:54.7±2.4,10.°19S×112.°82E,h0km,mb3.5/3,*
mbtmp3.6/3,MS3.9/4,Error ellipse: s-maj=109.9km
s-min=26.0km az=46.0
*DJA **09** 09:19:58.2±0.4,10.°S±3.°×11.°2E±.°,h10km,M4.2/16,*
mb4.4/6,mB4.8/1,MLv4.0/16,Mw(mB)4.0/1,MwMwp4.7/1,
Mwp5.0/1
ISC 09 09:19:55.6±1.4,10.°6S±0.°1×112.°25E±0.°07,h10km,n27,
σ1ŝ39/27,mb3.6/3,MS4.0/4,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**2.43**	**5**	P	**Pn**	**09 20 34.7**	**-0.7**
KRKI				S	**Sn**	**09 21 05.8**	**+0.6**
PWJI	**Pagerwojo**	**2.59**	**350**	P	**Pn**	**09 20 38.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**2.83**	**42**	P	**Pn**	**09 20 41.9**	**+1.0**
JAGI				S	**Sn**	**09 21 14.0**	**-1.1**
SJI	**Sawahan**	**2.88**	**351**	P	**Pn**	**09 20 40.9**	**-0.8**
BLJI	**Banyuglugur**	**3.13**	**25**	P	**Pn**	**09 20 45.6**	**+0.5**
BLJI				S	**Sn**	**09 21 22.5**	**0.0**
UGM	**Wanagama**	**3.16**	**327**	P	**Pn**	**09 20 46.7**	**+1.2**
UGM				S	**Sn**	**09 21 24.4**	**+1.0**
IGBI	**Denpasar**	**3.36**	**59**	P	**Pn**	**09 20 50.0**	**+1.8**
YOGI	**Yogyakarta**	**3.37**	**325**	P	**Pn**	**09 20 47.8**	**-0.5**
GRJI	**Gresik**	**3.67**	**4**	P	**Pn**	**09 20 52.2**	**-0.2**
KMMI	**Kalianget**	**3.91**	**26**	P	**Pn**	**09 20 56.5**	**+0.7**
KPJI	**Karang Pucung**	**4.61**	**314**	P	**Pn**	**09 21 07.3**	**+1.9**
CMJI	**Cimerak**	**4.67**	**306**	P	**Pn**	**09 21 06.5**	**+0.2**
TWSI	**Taliwang, Sumb**	**4.93**	**68**	P	**Pn**	**09 21 10.0**	**+0.2**
BBJI	**Bungbulang**	**5.50**	**304**	P	**Pn**	**09 21 18.8**	**+1.0**
	36nm,1.4s,3µm0.2nm						
PLAI	**Plampang**	**5.73**	**73**	P	**Pn**	**09 21 21.7**	**+0.9**
	28nm,1.0s,723nm0.1nm						
CNJI	**Cibinong**	**6.02**	**302**	P	**Pn**	**09 21 25.0**	**+0.2**
	25nm,1.3s,0.1nm						
DBNI	**Kabupaten Domp**	**6.33**	**71**	P	**Pn**	**09 21 30.9**	**+1.7**
	14nm,0.8s,0.1nm						
TNG	**Tangerang**	**7.07**	**308**	P	**Pn**	**09 21 40.7**	**+1.4**
	515nm,0.5s,3.8nm						
WBSI	**Waikabubak, Su**	**7.10**	**83**	P	**Pn**	**09 21 42.4**	**+2.7**
	0.1nm,0.7s,0.0nm						
BASI	**Baing, Sumba**	**8.21**	**88**	P	**Pn**	**09 21 57.6**	**+2.8**
WRA	**Warramunga Arr**	**23.23**	**116**	P	**P**	**09 25 00.6**	**-2.6**
	1.2nm,0.6s,baz=292,slow=11,SNR=8.7						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**24.39**	**125**	P	**P**	**09 25 12.6**	**-1.9**
	1.1nm,0.7s,baz=300,slow=8.8,SNR=16						
	1.1nm,0.7s						
STKA	**Stephens Creek**	**34.40**	**132**	LR	LR	09 41 26.4	
	comp=Z,44nm,19.0s,baz=17,slow=38						
MKAR	**Makanchi Array**	**63.09**	**337**	P	**P**	**09 30 23.2**	**-0.1**
	0.3nm,0.6s,baz=147,slow=7.8,SNR=5.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**67.66**	**338**	LR	LR	10 02 29.6	
	comp=Z,78nm,18.9s,baz=163,slow=38						
ZALV	**Zalesovo Beam**	**68.38**

*NEIC **09** 09:38:24.7±1.6, 19.°3S±0.°1×177.°5W±0.°1, h445km±7km, mb4.3/110, Error ellipse: s-maj=20.7km s-min=14.7km az=134.0*
*IDC **09** 09:38:34.3±2.5, 19.°65S×177.°64W, h568km±29km, mb3.5/13, mbtmp4.4/14, Error ellipse: s-maj=20.5km s-min=12.5km az=149.0*
ISC 09 09:38:24.1±0.4, 19.°35S±0.°09×177.°46W±0.°08, h450km, n175, σ1§26/175, mb4.3/67, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.12**	**89**	P	**P**	**09 40 09.9**	**-0.2**
AFI	**Afiamalu**	**7.68**	**46**	P	**P**	**09 40 16.5**	**+0.3**
RAO	**Raoul Island**	**9.87**	**182**	P	**P**	**09 40 41.5**	**+1.8**
DZM	**Mont Dzumac**	**15.30**	**257**	P	**P**	**09 41 38.8**	**+0.2**
DZM				IAmb	IAmb	09 41 46.4	
	comp=Z,16nm,1.2s						
URZ	**Urewera**	**19.43**	**193**	P	**P**	**09 42 20.0**	**-0.1**
	comp=Z,3.7nm,0.3s,baz=10,slow=3.2,SNR=6.0						
RTZ	**Ruatahuna**	**19.80**	**193**	P	**P**	**09 42 23.6**	**0.0**
RTZ				IAmb	IAmb	09 42 37.5	
	comp=Z,12nm,1.2s						
TCW	**Tory Channel**	**22.91**	**196**	P	**P**	**09 42 52.0**	**+0.3**
THZ	**Tophouse**	**23.80**	**198**	P	**P**	**09 43 00.5**	**+0.7**
EIDS	**Eidsvold**	**29.66**	**253**	P	**P**	**09 43 53.7**	**+2.0**
ARMA	**Armidale**	**30.04**	**242**	P	**P**	**09 43 57.3**	**+2.3**
ARMA				IAmb	IAmb	09 44 25.1	
	comp=Z,14nm,1.2s						
CAN	**Canberra**	**33.58**	**235**	P	**P**	**09 44 26.7**	**+1.4**
CTAO	**Charters Tower**	**34.12**	**263**	P	**P**	**09 44 31.9**	**+1.8**
TOO	**Toolangi**	**36.99**	**233**	P	**P**	**09 44 55.1**	**+1.3**
TOO				IAmb	IAmb	09 44 55.7	
	comp=Z,13nm,0.7s						
COEN	**Coen**	**38.03**	**272**	P	**P**	**09 45 04.8**	**+2.1**
COEN				IAmb	IAmb	09 45 05.4	
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**38.75**	**243**	P	**P**	**09 45 09.8**	**+1.4**
STKA	**Stephens Creek**	**38.75**	**243**	P	**P**	**09 45 08.2**	**-0.2**
	comp=Z,6.4nm,0.8s,baz=91,slow=11,SNR=10.0						
	comp=Z,6.4nm,0.8s						
BBOO	**Buckleboo**	**43.52**	**242**	P	**P**	**09 45 47.1**	**+0.5**
WR0	**Warramunga Arr**	**45.08**	**261**	P	**P**	**09 45 59.0**	**+0.1**
WB0	**Warramunga Arr**	**45.25**	**261**	P	**P**	**09 46 00.4**	**+0.3**
WB0				IAmb	IAmb	09 46 00.7	
	comp=Z,7.0nm,0.4s						
WB2	**Warramunga Arr**	**45.26**	**261**	P	**P**	**09 46 00.4**	**+0.1**
WB2				IAmb	IAmb	09 46 01.1	
	comp=Z,24nm,1.3s						
WRAB	**Tennant Creek**	**45.26**	**261**	P	**P**	**09 46 01.0**	**+0.7**
WRAB				IAmb	IAmb	09 46 01.6	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**45.27**	**261**	P	**P**	**09 46 00.0**	**-0.3**
WRA	**Warramunga Arr**	**45.27**	**261**	P	**P**	**09 46 00.1**	**-0.3**
	comp=Z,4.6nm,0.3s,baz=98,slow=7.5,SNR=146						
WRA				PcP	**pwP**	**09 47 29.2**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=97,slow=3.1,SNR=5.4						
	comp=Z,4.6nm,0.3s						
AS31	**Alice Springs**	**45.28**	**256**	P	**P**	**09 46 00.7**	**+0.3**
ASAR	**Alice Springs**	**45.28**	**256**	P	**P**	**09 46 00.7**	**+0.3**
	comp=Z,12nm,0.7s,baz=87,slow=8.2,SNR=178						
ASAR				PcP	**pwP**	**09 47 29.0**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=99,slow=4.1,SNR=11						
ASAR				S	S	09 51 57.6	-10
	comp=Z,0.8nm,0.9s,baz=90,slow=15,SNR=7.2						
	comp=Z,12nm,0.7s						
MTN	**Manton Dam**	**49.67**	**269**	P	**P**	**09 46 33.3**	**-0.3**
MTN				IAmb	IAmb	09 46 41.9	
	comp=Z,29nm,1.4s						
FORT	**Forrest**	**50.22**	**246**	P	**P**	**09 46 37.0**	**-0.5**
KNRA	**Kununurra**	**51.25**	**265**	P	**P**	**09 46 45.3**	**+0.1**
KNRA				IAmb	IAmb	09 46 46.0	
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.69**	**261**	P	**P**	**09 47 03.0**	**+0.2**
SOEI	**Soe**	**56.98**	**271**	P	**P**	**09 47 26.9**	**+0.8**
PSA00	**Pilbara Seismi**	**58.43**	**256**	P	**P**	**09 47 34.8**	**-1.0**
PSA00				IAmb	IAmb	09 47 35.6	
	comp=Z,8.5nm,0.8s						
TOLI2	**Tolitoli**	**63.87**	**281**	P	**P**	**09 48 12.0**	**+0.1**
TOLI2				IAmb	IAmb	09 48 12.4	
	comp=Z,8.2nm,0.9s						
MJAR	**Matsushiro Arr**	**69.59**	**323**	P	**P**	**09 48 47.3**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=152,slow=5.7,SNR=6.6						
	comp=Z,2.8nm,0.7s						
KKM	**Kota Kinabalu**	**69.96**	**284**	P	**P**	**09 48 49.8**	**0.0**
UGM	**Wanagama**	**70.50**	**268**	P	**P**	**09 48 52.1**	**-0.8**
QSPA	**South Pole Qui**	**70.71**	**180**	P	**P**	**09 48 53.1**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=54,slow=1.4,SNR=3.7						
	comp=Z,0.6nm,0.3s						
ADK	**Adak**	**70.93**	**1**	P	**P**	**09 48 55.4**	**+0.9**
ERM	**Erimo**	**71.08**	**330**	P	**P**	**09 48 56.6**	**+1.0**
JKA	**Kamikawa-asahi**	**72.96**	**331**	P	**P**	**09 49 07.3**	**+0.8**
SSLB	**Suanglung**	**73.77**	**303**	P	**P**	**09 49 10.9**	**-0.8**
TPUB	**Ta-pu**	**73.79**	**302**	P	**P**	**09 49 11.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**75.30**	**345**	P	**P**	**09 49 19.9**	**+0.3**
PETK	**Petropavlovsk-**	**75.30**	**345**	P	**P**	**09 49 20.2**	**+0.6**
PETK	**Petropavlovsk-**	**75.30**	**345**	P	**P**	**09 49 20.5**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=119,slow=8.6,SNR=5.5						
	comp=Z,5.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.30**	**325**	P	**P**	**09 49 38.0**	**+1.6**
	comp=Z,4.3nm,0.9s,baz=145,slow=4.0,SNR=4.5						
	comp=Z,4.3nm,0.9s						
OHAK	**Old Harbor**	**78.92**	**13**	P	**P**	**09 49 40.7**	**+1.4**
OHAK				IAmb	IAmb	09 49 43.0	
	comp=Z,11nm,1.0s						
YBH	**Yreka Blue Hor**	**79.08**	**39**	P	**P**	**09 49 43.2**	**+2.5**
PNTR	**Pine Nut**	**79.39**	**42**	P	**P**	**09 49 44.6**	**+1.9**
PNTR				IAmb	IAmb	09 49 45.6	
	comp=Z,5.2nm,0.8s						
HUMO	**Hull Mountain**	**79.48**	**38**	P	**P**	**09 49 45.1**	**+2.3**
HUMO				IAmb	IAmb	09 50 07.3	
	comp=Z,7.4nm,1.4s						
YERR	**Yerington**	**79.56**	**42**	P	**P**	**09 49 45.3**	**+1.8**
L04D	**Klamath Falls**	**79.61**	**38**	P	**P**	**09 49 45.8**	**+2.2**
NVAR	**Mina Array Bea**	**79.84**	**43**	P	**P**	**09 49 46.7**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=216,slow=8.4,SNR=6.1						
	comp=Z,1.2nm,0.8s						
O16K	**Kokwok River B**	**80.24**	**10**	P	**P**	**09 49 46.4**	**+0.1**
O16K				IAmb	IAmb	09 49 59.7	
	comp=Z,16nm,1.3s						
N15K	**Kwethluk River**	**80.48**	**9**	P	**P**	**09 49 49.3**	**+1.6**
K05A	**Summer Lake**	**80.75**	**39**	P	**P**	**09 49 52.0**	**+2.3**
K05A				IAmb	IAmb	09 49 52.7	
	comp=Z,11nm,1.1s						
J05D	**Fort Rock, OR**	**80.89**	**38**	P	**P**	**09 49 52.4**	**+2.0**
J05D				IAmb	IAmb	09 49 53.3	
	comp=Z,8.6nm,0.9s						
O18K	**Koktuh Hills**	**80.98**	**11**	P	**P**	**09 49 50.9**	**+0.6**
O18K				IAmb	IAmb	09 49 55.3	
	comp=Z,12nm,1.1s						
PINE	**Pine Mountain**	**81.37**	**38**	P	**P**	**09 49 54.8**	**+1.9**
PINE				IAmb	IAmb	09 49 56.6	
	comp=Z,13nm,1.1s						
O19K	**Port Alsworth**	**81.46**	**11**	P	**P**	**09 49 53.2**	**+0.6**
M16K	**Timber Creek**	**81.47**	**9**	P	**P**	**09 49 53.8**	**+1.0**
CNPM	**China Poot**	**81.47**	**13**	P	**P**	**09 49 53.2**	**+0.4**
ILSW	**Iliamna Southw**	**81.49**	**12**	P	**P**	**09 49 53.5**	**+0.5**
BMN	**Battle Mountai**	**81.66**	**42**	P	**P**	**09 49 56.4**	**+1.9**
TUC	**Tucson**	**81.87**	**52**		**P**	**09 49 58.0**	**+2.5**
X16A	**Lo Mia Camp, P**	**82.42**	**50**	P	**P**	**09 50 01.0**	**+2.5**
319A	**Douglas**	**82.56**	**53**	P	**P**	**09 50 00.4**	**+1.3**
319A				IAmb	IAmb	09 50 02.6	
	comp=Z,5.9nm,0.9s						
U15A	**North Rim**	**82.81**	**48**	P	**P**	**09 50 00.3**	**-0.3**
L18K	**Granite Mounta**	**82.95**	**10**	P	**P**	**09 50 01.8**	**+1.5**
ELK	**Elko**	**83.09**	**43**	P	**P**	**09 50 03.0**	**+1.2**
DUN6	**Lazy B Ranch**	**83.25**	**52**	P	**P**	**09 50 05.3**	**+2.6**
DUN6				IAmb	IAmb	09 50 05.9	
	comp=Z,7.8nm,0.9s						
SUA	**Susitna One**	**83.33**	**13**		**P**	**09 50 02.5**	**+0.1**
PMR	**Palmer**	**83.79**	**13**	P	**P**	**09 50 05.0**	**+0.6**
PMR				IAmb	IAmb	09 50 09.5	
	comp=Z,11nm,1.4s						
J18K	**Innoko River**	**84.12**	**9**	P	**P**	**09 50 07.6**	**+1.4**
J18K				IAmb	IAmb	09 50 09.1	
	comp=Z,9.5nm,1.1s						
SCM	**Sheep Creek Mo**	**84.40**	**14**	P	**P**	**09 50 08.2**	**+0.6**
F10A	**Beach Ranch, E**	**84.78**	**37**	P	**P**	**09 50 10.6**	**+0.7**
F10A				IAmb	IAmb	09 50 11.4	
	comp=Z,5.3nm,1.1s						
VRDI	**Verde Repeater**	**84.81**	**16**	P	**P**	**09 50 09.3**	**-0.5**
N25K	**Chitina, Valde**	**84.85**	**15**	P	**P**	**09 50 10.0**	**+0.2**
N25K				IAmb	IAmb	09 50 37.6	
	comp=Z,9.0nm,1.2s						
CAST	**Castle Rocks**	**84.86**	**11**	P	**P**	**09 50 09.0**	**-0.7**
CAST				IAmb	IAmb	09 50 09.6	
	comp=Z,7.3nm,1.0s						
RPSI	**Rantau Prapat**	**84.86**	**275**	P	**P**	**09 50 09.4**	**-1.5**
RPSI				IAmb	IAmb	09 50 10.3	
	comp=Z,4.7nm,1.0s						
GLB	**Gilahina Butte**	**84.90**	**16**	P	**P**	**09 50 10.8**	**+0.8**
GLB				IAmb	IAmb	09 50 19.7	
	comp=Z,8.3nm,1.2s						
LOGN	**Logan Glacier**	**85.12**	**17**	P	**P**	**09 50 12.2**	**+0.9**
LOGN				IAmb	IAmb	09 50 40.5	
	comp=Z,6.9nm,1.2s						
KTH	**Kantishna Hill**	**85.19**	**12**	P	**P**	**09 50 12.5**	**+1.1**
J20K	**Nowinta River**	**85.20**	**10**	P	**P**	**09 50 12.0**	**+0.6**
J20K				IAmb	IAmb	09 50 12.2	
	comp=Z,8.8nm,1.4s						
TRF	**Thorofare Moun**	**85.22**	**12**	P	**P**	**09 50 11.8**	**+0.1**
TRF				IAmb	IAmb	09 50 12.1	
	comp=Z,7.3nm,0.9s						
RND	**Reindeer**	**85.47**	**12**		**P**	**09 50 13.4**	**+0.6**
RND				IAmb	IAmb	09 50 13.9	
	comp=Z,8.6nm,0.9s						
VHRN	**Van Horn**	**85.59**	**55**	P	**P**	**09 50 15.7**	**+1.4**
TX31	**Lajitas Ar. Si**	**86.01**	**57**	P	**P**	**09 50 18.0**	**+1.8**
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**09 50 17.8**	**+1.5**
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**09 50 17.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=218,slow=6.3,SNR=13						
	comp=Z,0.8nm,0.7s						
M27K	**Edge Creek, AK**	**86.17**	**16**	P	**P**	**09 50 17.5**	**+1.2**
M27K				IAmb	IAmb	09 50 18.2	
	comp=Z,4.6nm,1.1s						
ALPN	**Alpine**	**86.47**	**56**	P	**P**	**09 50 20.2**	**+1.7**
BCAR	**Beaver Creek A**	**86.78**	**15**	P	**P**	**09 50 19.7**	**+0.6**
CCB	**Clear Creek Bu**	**86.79**	**12**	P	**P**	**09 50 19.0**	**0.0**
CCB				IAmb	IAmb	09 50 19.3	
	comp=Z,6.2nm,0.6s						
H21K	**Melozitna Rive**	**86.79**	**10**	P	**P**	**09 50 19.6**	**+0.6**
H21K				IAmb	IAmb	09 50 46.0	
	comp=Z,6.6nm,1.4s						
IMAR	**Indian Mountai**	**86.94**	**9**	P	**P**	**09 50 20.2**	**+0.5**
MDM	**Murphy Dome**	**86.98**	**12**	P	**P**	**09 50 19.7**	**-0.3**
MDM				IAmb	IAmb	09 50 20.2	
	comp=Z,5.3nm,0.9s						
IL31		**87.08**	**13**	P	**P**	**09 50 20.2**	**-0.2**
ILAR	**Eielson Array**	**87.08**	**13**	P	**P**	**09 50 20.2**	**-0.2**
ILAR	**Eielson Array**	**87.08**	**13**	P	**P**	**09 50 19.9**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=223,slow=5.4,SNR=19						
	comp=Z,1.2nm,0.6s						
M29M	**Somme Creek**	**87.15**	**17**	P	**P**	**09 50 21.2**	**+0.3**
R33M	**Jennings River**	**87.16**	**22**	P	**P**	**09 50 22.4**	**+1.4**
R33M				IAmb	IAmb	09 50 42.8	
	comp=Z,5.6nm,1.4s						
BPMT	**Black Pine Rid**	**87.24**	**38**	P	**P**	**09 50 22.7**	**+0.9**
J25K	**Salcha River,**	**87.27**	**13**	P	**P**	**09 50 21.6**	**+0.3**
POKR	**Poker Plat Res**	**87.28**	**12**	P	**P**	**09 50 20.8**	**-0.5**
POKR				IAmb	IAmb	09 50 22.0	
	comp=Z,3.9nm,0.8s						
G21K	**Allakaket**	**87.47**	**9**	P	**P**	**09 50 22.7**	**+0.5**
G21K				IAmb	IAmb	09 50 23.4	
	comp=Z,4.3nm,0.9s						
J26L	**Joseph Creek**	**87.57**	**14**	P	**P**	**09 50 24.0**	**+1.2**
M30M	**Minto, Yukon**	**87.72**	**18**	P	**P**	**09 50 24.4**	**+0.9**
M30M				IAmb	IAmb	09 50 25.0	
	comp=Z,4.0nm,0.8s						
L29M	**L29M**	**87.78**	**17**	P	**P**	**09 50 24.7**	**+1.0**
L29M				IAmb	IAmb	09 50 25.7	
	comp=Z,6.1nm,0.9s						
PD31	**Pinedale Array**	**87.78**	**43**	P	**P**	**09 50 25.5**	**+1.0**
PDAR	**Pinedale Array**	**87.78**	**43**	P	**P**	**09 50 25.2**	**+0.7**
PDAR	**Pinedale Array**	**87.78**	**43**	P	**P**	**09 50 24.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=197,slow=3.1,SNR=8.3						
	comp=Z,0.7nm,0.6s						
YHL	**Hebgen Lake**	**87.78**	**41**	P	**P**	**09 50 26.1**	**+1.6**
YHL				IAmb	IAmb	09 50 27.4	
	comp=Z,4.8nm,1.0s						
C16K	**Lisburne Hills**	**87.82**	**4**	P	**P**	**09 50 24.9**	**+1.1**
OVMT	**Ovando**	**87.83**	**38**	P	**P**	**09 50 25.5**	**+1.0**
E19K	**Redstone River**	**87.84**	**8**	P	**P**	**09 50 24.6**	**+0.7**
E19K				IAmb	IAmb	09 50 25.1	
	comp=Z,5.0nm,0.9s						
BOZ	**Bozeman (W)**	**87.89**	**40**	P	**P**	**09 50 25.7**	**+0.9**
BOZ				IAmb	IAmb	09 50 27.3	
	comp=Z,2.7nm,0.7s						
F21K	**Alatna River**	**88.13**	**9**	P	**P**	**09 50 25.7**	**+0.4**
DAWY	**Dawson**	**88.22**	**16**	P	**P**	**09 50 26.8**	**+1.0**
DAWY				IAmb	IAmb	09 50 27.3	
	comp=Z,3.3nm,0.8s						
I26K	**Coal Creek Min**	**88.35**	**14**	P	**P**	**09 50 27.5**	**+1.2**
I26K				IAmb	IAmb	09 50 33.6	
	comp=Z,9.1nm,1.5s						
EGAK	**Eagle**	**88.37**	**15**	P	**P**	**09 50 27.6**	**+1.2**
EGAK				IAmb	IAmb	09 50 27.7	
	comp=Z,6.8nm,0.9s						
K29M	**Barlow Dome**	**88.53**	**17**	P	**P**	**09 50 28.6**	**+1.2**
K29M				IAmb	IAmb	09 50 28.7	
	comp=Z,3.8nm,0.8s						
C18K	**Utukok River**	**88.54**	**6**	P	**P**	**09 50 28.2**	**+1.0**
D19K	**Kuna River**	**88.72**	**7**	P	**P**	**09 50 28.3**	**+0.3**
D19K				IAmb	IAmb	09 50 29.1	
	comp=Z,2.7nm,0.8s						
MAYO	**Mayo, Yukon**	**88.78**	**17**	P	**P**	**09 50 29.2**	**+0.9**
RLMT	**Red Lodge**	**89.10**	**41**	P	**P**	**09 50 29.4**	**-1.2**
RLMT				IAmb	IAmb	09 50 30.1	
	comp=Z,6.8nm,1.2s						
I28M	**Miner Creek**	**89.22**	**15**	P	**P**	**09 50 31.0**	**+0.5**
D22K	**Ayikyak River**	**89.78**	**9**	P	**P**	**09 50 34.1**	**+1.2**
D22K				IAmb	IAmb	09 50 34.4	
	comp=Z,3.3nm,0.7s						
BMAR	**Burnt Mountain**	**89.87**	**12**	P	**P**	**09 50 34.5**	**+1.1**
I30M	**Mount Dempster**	**89.93**	**16**	P	**P**	**09 50 34.2**	**+0.3**
I30M				IAmb	IAmb	09 50 35.1	
	comp=Z,4.5nm,1.1s						
CMAR	**Chiang Mai Ar**	**90.21**	**289**	P	**P**	**09 50 36.5**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=120,slow=2.9,SNR=12						
	comp=Z,1.6nm,0.4s						
H29M	**Whitestone**	**90.22**	**15**	P	**P**	**09 50 35.8**	**+0.8**
H29M				IAmb	IAmb	09 50 36.3	
	comp=Z,2.9nm,0.8s						
C23K	**Itkillik River**	**90.96**	**9**	P	**P**	**09 50 39.3**	**+1.0**
C23K				IAmb	IAmb	09 51 00.8	
	comp=Z,7.8nm,1.4s						
G30M	**tAoh Zraii Nji**	**91.35**	**15**	P	**P**	**09 50 40.7**	**+0.4**
G31M	**Satah River**	**91.79**	**16**	P	**P**	**09 50 42.5**	**+0.3**
G31M				IAmb	IAmb	09 50 42.8	
	comp=Z,4.4nm,0.8s						
E28M	**Babbage River**	**91.89**	**13**	P	**P**	**09 50 42.8**	**+0.1**
YKA	**Yellowknife Ar**	**95.26**	**25**	P	**P**	**09 50 56.8**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=237,slow=5.3,SNR=4.3						
	comp=Z,0.4nm,0.9s						
MKAR	**Makanchi Array**	**110.78**	**314**	PKiKP	**PKiKP**	**09 56 01.9**	**-3.0**
	comp=Z,0.5nm,0.5s,baz=216,slow=1.5,SNR=7.7						
KURBB	**Kurchatov Arra**	**113.55**	**318**	PKiKP	**PKiKP**	**09 56 07.1**	**-2.9**
	comp=Z,3.5nm,0.2s,baz=94,slow=1.7,SNR=4.6						
BVAR	**Borovoye Array**	**118.52**	**320**	PKP	**PKPdf**	**09 56 17.0**	**-2.6**
	comp=Z,1.5nm,0.4s,baz=113,slow=1.8,SNR=9.6						
ARCES	**ARCESS Array B**	**127.88**	**350**	PKP	**PKPdf**	**09 56 35.1**	**-2.0**
	comp=Z,4.4nm,0.9s,baz=8.3,slow=1.5,SNR=15						
FINES	**FINESS Array B**	**134.81**	**344**	PKP	**PKPdf**	**09 56 49.0**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=44,slow=4.2,SNR=5.3						
AKASG	**Malin Array Be**	**142.25**	**332**	PKhKP	PKPpre	09 56 58.4	
	comp=Z,1.7nm,0.5s,baz=38,slow=3.7,SNR=13						
AKASG				PKP	**PKPdf**	**09 57 04.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=43,slow=2.6,SNR=4.9						
EKA	**Eskdalemuir Ar**	**143.82**	**6**	PKP	PKPab	09 57 04.0	-1.5
	comp=Z,2.7nm,0.8s,baz=331,slow=2.9,SNR=5.3						
LODK	**Lodwar**	**144.25**	**248**	PKPbc	PKPbc	09 57 07.1	-1.3
GAZ	**Gaziantep**	**144.93**	**308**		**PKPdf**	**09 57 09.1**	**-0.3**
BNN	**Bunyan**	**145.28**	**311**		**PKPdf**	**09 57 10.0**	**0.0**
KWP	**Kalwaria Pacla**	**145.74**	**337**	PKPdf	**PKPdf**	**09 57 09.7**	**-0.7**
MBAR	**Mbarara**	**145.96**	**238**	PKPdf	**PKPdf**	**09 57 10.1**	**-1.9**
BUR08	**Bucovina Ar. S**	**146.29**	**332**	PKPbc	**PKPdf**	**09 57 12.8**	**+1.3**
BURAR	**Bucovina Array**	**146.30**	**332**	PKPbc	**PKPdf**	**09 57 12.9**	**+1.4**
BR131	**Keskin Array S**	**146.43**	**314**		**PKPdf**	**09 57 12.7**	**+0.7**
BRTR	**Keskin Array B**	**146.43**	**314**		**PKPdf**	**09 57 12.7**	**+0.7**
BRTR	**Keskin Array B**	**146.43**	**314**	PKPbc	**PKPdf**	**09 57 12.1**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=136,slow=4.0,SNR=18						
ANTO	**Ankara**	**146.93**	**315**	PKPbc	**PKPdf**	**09 57 14.3**	**+1.5**
CLL	**Collm**	**147.06**	**348**	PKPbc	**PKPbc**	**09 57 14.7**	**-0.6**
MMAI	**Mount Meron Ar**	**147.67**	**302**	PKPbc	**PKPbc**	**09 57 16.5**	**-1.1**
	comp=Z,6.1nm,0.5s,baz=77,slow=5.2,SNR=4.2						
GHAJ	**Ghor Haditha**	**147.98**	**298**	PKPbc	**PKPbc**	**09 57 17.4**	**-0.9**
GRA1	**Grafenberg Arr**	**148.94**	**349**	PKPbc	**PKPbc**	**09 57 20.1**	**-0.1**
KHC	**Kasperske Hory**	**148.99**	**346**		**PKPbc**	**09 57 19.6**	**-0.8**
GEC2	**GERESS Array S**	**149.23**	**346**	PKPbc	**PKPbc**	**09 57 20.1**	**-0.9**
GERES	**GERESS Array B**	**149.23**	**346**	PKPbc	**PKPbc**	**09 57 19.8**	**-1.2**
	comp=Z,4.2nm,0.7s,baz=62,slow=2.3,SNR=7.5						
MOA	**Molln**	**150.01**	**344**	*i* P	**PKPbc**	**09 57 21.2**	**-1.6**
	comp=Z,2.7nm,0.5s						
BALB	**Balikesir**	**150.25**	**318**	PKPbc	**PKPbc**	**09 57 23.4**	**-0.2**
RDO	**Rodhopi**	**150.72**	**323**	PKPbc	**PKPbc**	**09 57 22.6**	**-2.0**
LESA	**Schwarzleotal**	**150.80**	**346**	*eP*	**PKPbc**	**09 57 23.5**	**-1.3**
	comp=Z,4.8nm,0.9s						
KBA	**Koelnbreinsper**	**150.96**	**345**	*eP*	**PKPbc**	**09 57 23.2**	**-2.0**
	comp=Z,3.9nm,0.6s						
WATA	**Walderalm**	**151.12**	**347**	*eP*	**PKPbc**	**09 57 23.9**	**-1.7**
	comp=Z,3.7nm,0.5s						
RETA	**Reutte**	**151.14**	**348**	*eP*	**PKPbc**	**09 57 24.1**	**-1.4**
	comp=Z,5.2nm,0.8s						
WTTA	**Wattenberg**	**151.18**	**347**	*eP*	**PKPbc**	**09 57 24.3**	**-1.5**
	comp=Z,5.7nm,0.7s						
MOTA	**Moosalm**	**151.21**	**348**	*eP*	**PKPbc**	**09 57 23.7**	**-2.1**
	comp=Z,9.3nm,1.3s						
SQTA	**Sankt Quirin**	**151.31**	**348**	*eP*	**PKPbc**	**09 57 24.4**	**-1.6**
	comp=Z,4.6nm,0.7s						
ABTA	**Abfaltersbach**	**151.47**	**346**	*i* P	**PKPbc**	**09 57 24.2**	**-2.1**
	comp=Z,6.2nm,0.6s						
DAVA	**Damuels**	**151.49**	**349**	*eP*	**PKPbc**	**09 57 24.2**	**-2.2**
	comp=Z,9.5nm,1.1s						
FETA	**Feichten**	**151.59**	**348**	*i* P	**PKPbc**	**09 57 25.1**	**-1.6**
	comp=Z,2.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**173.78**	**172**	PKP	**PKPdf**	**09 57 37.4**	**-4.5**
	comp=Z,0.4nm,0.9s,baz=104,slow=1.4,SNR=2.3						

*SOME **09** 09:46:53.8, 39.°42N×75.°22E, h5km*
*NNC **09** 09:46:56.4±1.2, 39.°45N×75.°36E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=8.9km s-min=7.4km az=126.0*
*KRNET **09** 09:47:09.2±0.1, 39.°84N×75.°37E, mb2.6*
ISC 09 09:47:04.2±1.7, 39.°73N±0.°06×75.°43E±0.°04, h17km±14km, n35, σ1§20/59, 16C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.51**	**281**	⇑*eP*	**Pg**	**09 47 35.9**	**+2.5**
	baz=78						
SFK				⇑*eS*	**Sg**	**09 47 55.4**	**+2.3**
	baz=78						
NRN	**Naryn**	**1.76**	**14**	⇑*eP*	**Pg**	**09 47 39.4**	**+1.4**
	baz=16						
NRN				⇑*eS*	**Sg**	**09 48 01.4**	**+0.5**
	baz=16						
OHH	**Osh**	**2.18**	**292**	⇑*eP*	**Pg**	**09 47 46.4**	**+0.3**
	baz=90						
OHH				⇑*eS*	**Sg**	**09 48 13.5**	**-0.9**
	baz=90						
ARLS	**Aral**	**2.29**	**339**	⇓*eP*	**Pg**	**09 47 47.3**	**-0.9**
	baz=39						
ARLS				⇓*eS*	**Sb**	**09 48 15.6**	**+2.3**
	baz=39						
KZA	**Kyzart**	**2.35**	**357**	⇑*eP*	**Pg**	**09 47 48.5**	**-0.9**
	baz=58						
KZA				⇑*eS*	**Sb**	**09 48 17.2**	**+2.0**
	baz=58						
ARSB	**Arslanbob**	**2.46**	**311**	⇑*eP*	**Pg**	**09 47 49.6**	**-1.7**
	baz=10.0						
ARSB				⇑*eS*	**Sb**	**09 48 19.7**	**+1.7**
	baz=10.0						
ULHL	**Ulahol**	**2.59**	**13**	⇓*eP*	**Pg**	**09 47 52.0**	**-1.9**
	baz=15						
ULHL				⇓*eS*	**Sb**	**09 48 23.1**	**+1.2**
	baz=15						
UCH	**Uchtor**	**2

	12nm,0.9s						
KPKS	**Kokpek**	**4.46**	**32**	Pg	**Pb**	**09 48 23.1**	**+1.1**
	1.0nm,0.2s						
KPKS				Lg	Lg	09 49 27.3	
	7.6nm,0.6s						
KPKS	**Kokpek**	**4.46**	**32**	*e*P	**Pb**	**09 48 23.1**	**+1.1**
	1.0nm,0.2s						
KPKS				*e*S	**Sg**	**09 49 27.3**	**0.0**
	7.6nm,0.6s						

IDC 09 09:49:03.3±3.1, 54°.19N×87°.62E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.2km s-min=19.4km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**263**	I	I	10 00 20.0	
	baz=85,slow=344,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.67**	**263**	Pn	Pn	09 49 31.9	-1.8
	3.6nm,0.3s,baz=80,slow=17,SNR=27						
ZALV				Lg	Lg	09 49 56.8	
	1.7nm,0.3s,baz=79,slow=22,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.61**	**241**	Pn	Pn	09 50 41.3	-0.2
	0.1nm,0.3s,baz=56,slow=13,SNR=3.9						
KURBB				Lg	Lg	09 52 33.3	
	0.1nm,0.3s,baz=58,slow=33,SNR=3.2						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.14**	**207**	Pn	Pn	09 51 04.7	+2.1
	0.2nm,0.3s,baz=28,slow=13,SNR=6.7						
MKAR				Lg	Lg	09 53 22.1	
	baz=23,slow=30						
	0.2nm,0.3s						

*CATAC **09** 10:00:55.5±0.3, 9°.47N×84°.49W, h2km±2km, ML2.5*
*UCR **09** 10:00:55.7±1.5, 9°.49N×84°.50W, h2km±3km, MW3.5*
ISC 09 10:00:56.3±0.9, 9°.48N±0°.03×84°.49W±0°.02, h13km±7km, n48, σ1=91/74, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.16**	**77**	⇓*i*P	**Pg**	**10 00 59.8**	**-0.4**
RITA				*e*S	**Sg**	**10 01 03.6**	**+0.8**
JACO	**JACO, Garabito**	**0.24**	**317**	⇑*i*P	**Pg**	**10 01 01.4**	**-0.1**
JACO				*e*S	**Sg**	**10 01 06.3**	**+1.3**
LLNJ	**Naranjito**	**0.39**	**91**	*e*P	**Pg**	**10 01 04.0**	**0.0**
ABE2	**San Pablo**	**0.48**	**63**	⇓*e*P	**Pg**	**10 01 05.7**	**-0.3**
ABE2				*e*S	**Sb**	**10 01 14.1**	**+0.1**
RAZU	**San Marcos de**	**0.49**	**69**	*e*P	**Pg**	**10 01 06.0**	**-0.1**
LCR2	**La Lucha 2**	**0.54**	**62**	⇓*i*P	**Pg**	**10 01 06.5**	**-0.5**
LCR2				*e*S	**Sb**	**10 01 15.0**	**-0.7**
BELE	**Belen**	**0.57**	**31**	*e*P	**Pb**	**10 01 07.9**	**-0.4**
CBL1	**Cabuya**	**0.60**	**280**	*e*P	**Pb**	**10 01 08.1**	**-0.6**
CBL1				*e*S	**Sb**	**10 01 18.6**	**+1.5**
LUJA	**Lujan**	**0.60**	**43**	*e*P	**Pb**	**10 01 08.5**	**-0.3**
HDC	**Heredia**	**0.64**	**36**	*e*P	**Pg**	**10 01 08.1**	**-0.7**
HDC				*e*S	**Sn**	**10 01 22.2**	**+0.9**
HDC3	**Heredia 3**	**0.64**	**36**	*e*P	**Pg**	**10 01 08.3**	**-0.5**
HDC3	**Heredia 3**	**0.64**	**36**	*i*P	**Pg**	**10 01 07.7**	**-1.1**
HDC3				*i*S	**Sg**	**10 01 16.9**	**-0.4**
HDC3				IAML		10 01 30.7	
	comp=Z,170nm,1.0s						
OCM	**Ochomogo**	**0.66**	**52**	*e*P	**Pg**	**10 01 08.3**	**-1.0**
OCM	**Ochomogo**	**0.66**	**52**	*i*P	**Pg**	**10 01 08.5**	**-0.8**
OCM				*i*S	**Sg**	**10 01 17.7**	**-0.4**
OCM				IAML		10 01 26.1	
	comp=Z,110nm,1.0s						
REPA	**Paraso**	**0.70**	**61**	*e*P	**Pg**	**10 01 10.0**	**-0.1**
CDM	**Cerro de Muert**	**0.72**	**84**	*e*P	**Pg**	**10 01 09.8**	**-0.6**
CDM				*e*S	**Sb**	**10 01 21.6**	**+0.6**
CDM	**Cerro de Muert**	**0.72**	**84**	*i*P	**Pg**	**10 01 09.7**	**-0.8**
CDM				*i*S	**Sg**	**10 01 18.8**	**-1.2**
CDM				IAML		10 01 27.4	
	comp=Z,370nm,1.0s						
BUS1	**Rivas**	**0.74**	**85**	*e*P	**Pg**	**10 01 09.9**	**-0.9**
BUS1				*e*S	**Sb**	**10 01 22.2**	**+0.7**
CVIMO	**Finca Echandi**	**0.76**	**45**	*e*P	**Pg**	**10 01 10.3**	**-0.9**
PCAYA	**Pacayas**	**0.80**	**57**	*e*P	**Pb**	**10 01 11.9**	**-0.3**
CPMI	**Catarata Coope**	**0.80**	**8**	*e*P	**Pg**	**10 01 11.2**	**-0.7**
CPMI	**Catarata Coope**	**0.80**	**8**	*i*P	**Pg**	**10 01 11.6**	**-0.3**
CPMI				*i*S	**Sg**	**10 01 22.4**	**-0.1**
CPMI				IAML		10 01 36.8	
	comp=Z,80nm,1.0s						
VICA	**Volcano Irazu**	**0.81**	**52**	*e*P	**Pg**	**10 01 11.4**	**-0.7**
ICR3	**Volcano Irazu**	**0.81**	**53**	*e*P	**Pg**	**10 01 11.4**	**-0.8**
SOCE	**Pocosol**	**0.90**	**352**	*e*P	**Pg**	**10 01 13.5**	**-0.3**
SOCE	**Pocosol**	**0.90**	**352**	*i*P	**Pg**	**10 01 13.0**	**-0.8**
SOCE				IAML		10 01 16.1	
	comp=Z,240nm,1.0s						
SOCE				*i*S	**Sb**	**10 01 26.2**	**+0.4**
NYURE	**Nandayure**	**0.91**	**304**	*e*P	**Pg**	**10 01 12.8**	**-1.1**
VERB	**Verbena**	**0.91**	**60**	⇓*i*P	**Pg**	**10 01 13.2**	**-0.8**
VERB				*e*S	**Sb**	**10 01 26.7**	**+0.6**
JUNT	**Juntas**	**0.92**	**330**	*e*P	**Pb**	**10 01 14.4**	**+0.3**
OCHAL	**Ojochal**	**0.92**	**115**	*i*P	**Pg**	**10 01 12.5**	**-1.6**
OCHAL				IAML		10 01 19.6	
	comp=Z,2.9nm,1.0s						
OCHAL				*i*S	**Sg**	**10 01 25.2**	**-0.9**
JTS	**Las Juntas de**	**0.92**	**331**	*e*P	**Pg**	**10 01 13.0**	**-1.1**
RVSTA	**Santa Teresita**	**0.96**	**59**	*e*P	**Pg**	**10 01 14.2**	**-0.8**
RVSTA				*e*S	**Sb**	**10 01 28.4**	**+0.7**
ARE1	**Arenal 1**	**1.00**	**347**	*e*P	**Pb**	**10 01 15.8**	**+0.3**
VACR	**Volcan Arenal**	**1.00**	**349**	*e*P	**Pg**	**10 01 15.3**	**-0.3**
VACR	**Volcan Arenal**	**1.00**	**349**	*i*P	**Pg**	**10 01 14.8**	**-0.8**
VACR				IAML		10 01 23.5	
	comp=Z,110nm,1.0s						
VACR				*i*S	**Sg**	**10 01 28.0**	**-0.7**
INDI	**Punta indio, G**	**1.07**	**291**	*i*P	**Pg**	**10 01 16.2**	**-0.7**
INDI				*i*S	**Sg**	**10 01 30.2**	**-0.6**
INDI				IAML		10 01 39.1	
	comp=Z,51nm,1.0s						
PLVR	**Palo Verde**	**1.21**	**315**	*e*P	**Pg**	**10 01 18.1**	**-1.5**
DRK0	**Durika**	**1.25**	**100**	*e*P	**Pg**	**10 01 18.6**	**-1.8**
DRK0				*e*S	**Sg**	**10 01 36.0**	**-0.7**
ORTG	**Ortega, Santa**	**1.29**	**313**	*e*P	**Pg**	**10 01 19.7**	**-1.5**
ORTG	**Ortega, Santa**	**1.29**	**313**	*i*P	**Pg**	**10 01 19.2**	**-2.0**
ORTG				*i*S	**Sg**	**10 01 37.4**	**-0.7**
ORTG				IAML		10 01 50.3	
	comp=Z,37nm,1.0s						
TRT2	**Tortugero**	**1.30**	**35**	*i*P	**Pg**	**10 01 18.8**	**-2.6**
TRT2				*i*S	**Sg**	**10 01 37.7**	**-0.6**
TRT2				IAML		10 01 45.5	
	comp=Z,81nm,1.0s						
CUI	**Cuipilapa**	**1.34**	**330**	*e*P	**Pg**	**10 01 21.0**	**-1.1**
CUI				*e*S	**Sg**	**10 01 38.9**	**-0.7**
POTG	**Potrero Grande**	**1.42**	**107**	*e*P	**Pg**	**10 01 22.8**	**-0.9**
POTG				*e*S	**Sn**	**10 01 44.6**	**+4.1**
POTG	**Potrero Grande**	**1.42**	**107**	*i*P	**Pn**	**10 01 22.1**	**+0.2**
POTG				*i*S	**Sg**	**10 01 41.0**	**-1.2**
POTG				IAML		10 01 49.2	
	comp=Z,120nm,1.0s						
VMAR	**Armenia, Volca**	**1.46**	**335**	*e*P	**Pn**	**10 01 22.6**	**+0.3**
VMAR	**Armenia, Volca**	**1.46**	**335**	*i*P	**Pn**	**10 01 22.3**	**-0.1**
VMAR				*i*S	**Sg**	**10 01 42.5**	**-0.8**
VMAR				IAML		10 01 47.0	
	comp=Z,65nm,1.0s						
VRLE	**La Escondida,**	**1.56**	**327**	*i*P	**Pn**	**10 01 23.5**	**-0.3**
VRLE				*i*S	**Sn**	**10 01 44.9**	**+1.0**
VRLE				IAML		10 01 55.9	
	comp=Z,40nm,1.0s						
HZTE	**Horizontes, Gu**	**1.64**	**318**	*e*P	**Pb**	**10 01 26.5**	**+0.2**

*NNC **09** 10:03:48.8±3.3, 53°.89N×90°.82E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=24.7km s-min=19.4km az=53.0, Suspected Mining explosion.*
*IDC **09** 10:03:49.3±3.4, 53°.66N×90°.95E, h0km, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=27.6km s-min=23.8km az=51.0*
ISC 09 10:03:50.4±4.0, 53°.8N±0°.1×90°.8E±0°.2, h0km, n12, σ1=99/15, 7C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.52**	**275**	I	I	10 31 20.0	
	baz=90,slow=342,SNR=1.1						
ZAA0	**Zalesovo Array**	**3.52**	**275**	⇑Pg	**Pb**	**10 04 52.8**	**-0.7**
	0.6nm,0.5s						
ZAA0				⇓Lg	Lg	10 05 43.7	
	11nm,0.9s						
ZALV	**Zalesovo Beam**	**3.52**	**275**	Pn	**Pn**	**10 04 48.2**	**+1.9**
	1.0nm,0.3s,baz=84,slow=18,SNR=5.1						
ZALV				Lg	Lg	10 05 42.4	
	2.2nm,0.3s,baz=93,slow=25,SNR=10						
	2.6nm,0.5s						
KURK	**Kurchatov**	**8.05**	**253**	⇑Pn	**Pn**	**10 05 48.4**	**-0.1**
	0.4nm,0.4s						
KURK				⇓Sn	**Sn**	**10 07 23.3**	**+3.2**
	1.7nm,0.6s						
KURK				⇑Lg	Lg	10 08 08.6	
	14nm,0.9s						
KURBB	**Kurchatov Arra**	**8.15**	**252**	⇑Pn	**Pn**	**10 05 50.5**	**+0.7**
	4.2nm,0.4s						
KURBB				⇑Sn	**Sn**	**10 07 20.0**	**-2.4**
	5.1nm,0.4s						
KURBB				⇓Lg	Lg	10 08 13.4	
	56nm,0.9s						
KURBB	**Kurchatov Arra**	**8.15**	**252**	Pn	**Pn**	**10 05 49.5**	**-0.3**
	baz=65,slow=14,SNR=6.0						
KURBB				Sn	**Sn**	**10 07 22.9**	**+0.4**
	baz=69,slow=26						
KURBB				Lg	Lg	10 08 08.2	
	0.1nm,0.3s,baz=63,slow=32,SNR=3.5						
	1.2nm,0.3s						
MK31	**Makanchi Array**	**8.84**	**221**	⇓Pn	**Pn**	**10 05 59.8**	**+0.5**
	0.2nm,0.4s,baz=35,slow=14,SNR=4.2						
MK31				⇓Sn	**Sn**	**10 07 41.3**	**+1.8**
	1.0nm,0.6s,baz=44,slow=25,SNR=3.7						
MK31				⇑Lg	Lg	10 08 35.3	
	25nm,1.1s,baz=39,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**8.84**	**221**	Pn	**Pn**	**10 05 58.6**	**-0.7**
	0.2nm,0.3s,baz=34,slow=13,SNR=6.0						
MKAR				Sn	**Sn**	**10 07 37.6**	**-1.9**
	0.1nm,0.3s,baz=36,slow=23,SNR=1.8						
MKAR				Lg	Lg	10 08 26.2	
	0.1nm,0.3s,baz=39,slow=26,SNR=5.9						
	0.6nm,0.5s						
MAKZ	**Makanchi**	**8.95**	**222**	⇓Pn	**Pn**	**10 06 00.3**	**-0.5**
	0.1nm,0.3s						
MAKZ				⇓Sn	**Sn**	**10 07 45.9**	**+3.7**
	1.5nm,0.7s						
MAKZ				⇑Lg	Lg	10 08 36.9	
	17nm,1.1s						
I34MN	**SONGINO INFRAS**	**11.56**	**115**	I	I	11 10 00.0	
	baz=311,slow=326,SNR=0.6						
BVAR	**Borovoye Array**	**12.18**	**275**	Sn	**Sn**	**10 08 59.0**	**-2.3**
	baz=80,slow=21,SNR=2.9						
AAK	**Ala-Archa**	**15.50**	**231**	Lg	Lg	10 11 59.0	
	0.2nm,0.3s,baz=51,slow=22,SNR=1.4						

*IDC **09** 10:19:42.2±1.6, 55°.53N×163°.23E, h0km, mb3.3/3, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=123.0km s-min=24.5km az=143.0*
*KRSC **09** 10:19:50.6±0.9, 55°.98N×160°.90E, h154km±8km, Ml3.7*
ISC 09 10:19:53.0±0.9, 55°.99N±0°.05×160°.96E±0°.06, h145km±6km, n35, σ1=68/47, mb3.2/3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.16**	**250**	*e*P	**Pn**	**10 20 12.5**	**-0.3**
CIRR	**Tsirk**	**0.17**	**316**	*e*P	**Pn**	**10 20 12.6**	**-0.2**
BZP	**Bezymyannyi-Pe**	**0.25**	**251**	*e*P	**Pn**	**10 20 12.3**	**-0.7**
BZWR	**Bezymyannyi-We**	**0.26**	**264**	*e*P	**Pn**	**10 20 12.6**	**-0.4**
BZMR	**Bezymyannaya**	**0.27**	**258**	*e*P	**Pn**	**10 20 12.7**	**-0.4**
KIRR	**Kirishev**	**0.35**	**264**	*e*P	**Pn**	**10 20 12.5**	**-0.8**
KLY	**Klyuchi**	**0.36**	**332**	*e*P	**Pn**	**10 20 12.5**	**-0.6**
KLY				*e*S	**Sn**	**10 20 28.6**	**+0.1**
KPT	**Kopyto**	**0.41**	**267**	*e*P	**Pn**	**10 20 12.7**	**-0.8**
KMNR	**Kamenistaya**	**0.47**	**240**	*e*P	**Pn**	**10 20 13.2**	**-0.5**
BDR	**Baidarnaya**	**0.59**	**13**	*e*P	**Pn**	**10 20 14.2**	**-0.2**
BDR				*e*S	**Sn**	**10 20 33.2**	**+2.5**
KOZ	**Kozyrevsk**	**0.61**	**277**	*e*P	**Pn**	**10 20 13.7**	**-0.7**
SMKR	**Semkarok**	**0.66**	**25**	*e*P	**Pn**	**10 20 14.5**	**-0.3**
SMKR				*e*S	**Sn**	**10 20 32.4**	**+1.1**
SRKR	**Sorokina**	**0.67**	**10**	*e*P	**Pn**	**10 20 15.1**	**+0.2**
SRKR				*e*S	**Sn**	**10 20 33.6**	**+2.0**
SRDR	**Sredinnyy**	**0.77**	**296**	*e*P	**Pn**	**10 20 14.7**	**-0.8**
SRDR				*e*S	**Sn**	**10 20 32.4**	**-0.2**
TUMR	**Tumrok**	**0.85**	**213**	*e*P	**Pn**	**10 20 16.2**	**-0.1**
TUMR				*e*S	**Sn**	**10 20 34.6**	**+0.8**
TUMD	**Tumrok D**	**0.85**	**202**	*e*P	**Pn**	**10 20 15.5**	**-0.6**
TUMD				*e*S	**Sn**	**10 20 33.2**	**-0.5**
KBG	**Krutoberegovo**	**1.01**	**74**	*e*P	**Pn**	**10 20 16.9**	**-0.4**
KBG				*e*S	**Sn**	**10 20 36.0**	**+0.1**
KBTR	**Krutoberegovo**	**1.06**	**78**	*e*P	**Pn**	**10 20 17.2**	**-0.6**
KBTR				*e*S	**Sn**	**10 20 36.9**	**+0.1**
ESO	**Esso**	**1.27**	**268**	*e*P	**Pn**	**10 20 18.7**	**-1.1**
ESO				*e*S	**Sn**	**10 20 39.6**	**-0.7**
KII	**Karymskiy**	**2.15**	**205**	*e*P	**Pn**	**10 20 29.8**	**+0.1**
SPN	**Mys Shipunski**	**2.95**	**191**	*e*P	**Pn**	**10 20 38.9**	**-0.6**
SPN				*e*S	**Sn**	**10 21 12.4**	**-3.1**
KRX	**Arik**	**2.96**	**208**	*e*P	**Pn**	**10 20 39.4**	**-0.4**
SMAR	**Somma**	**3.01**	**206**	*e*P	**Pn**	**10 20 40.5**	**0.0**
AVH	**Avacha**	**3.02**	**206**	*e*P	**Pn**	**10 20 41.2**	**+0.6**
KOK	**Koryaka**	**3.02**	**207**	*e*P	**Pn**	**10 20 41.1**	**+0.5**
UGLR	**Uglovaya**	**3.05**	**205**	*e*P	**Pn**	**10 20 40.9**	**0.0**
PALN	**Palana**	**3.15**	**351**	*e*P	**Pn**	**10 20 41.5**	**-0.5**
OSSR	**Ossora**	**3.46**	**18**	*e*P	**Pn**	**10 20 46.2**	**+0.3**
PETK	**Petropavlovsk-**	**3.46**	**215**	Pn	**Pn**	**10 20 45.0**	**-1.1**
	1.3nm,0.3s,baz=52,slow=17,SNR=51						
PETK				Sn	**Sn**	**10 21 35.8**	**+8.7**
	baz=34,slow=21						
	5.7nm,0.5s						
KRMR	**Karymshinskiy**	**3.58**	**209**	*e*P	**Pn**	**10 20 46.9**	**-0.6**
APC	**Apacha**	**3.79**	**217**	*e*P	**Pn**	**10 20 46.9**	**-3.4**
ASAK	**Asacha**	**4.04**	**208**	*e*P	**Pn**	**10 20 53.1**	**-0.6**
ILAR	**Eielson Array**	**26.47**	**49**	P	**P**	**10 25 14.9**	**-1.2**
	0.2nm,0.7s,baz=263,slow=6.3,SNR=4.3						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**40.72**	**45**	P	**P**	**10 27 18.9**	**0.0**
	0.3nm,0.6s,baz=302,slow=8.3,SNR=9.2						
	0.3nm,0.6s						
TXAR	**Laitas Array**	**69.07**	**69**	P	**P**	**10 30 43.4**	**+0.2**
	0.3nm,0.7s,baz=312,slow=5.4,SNR=3.8						
	0.3nm,0.7s						

DJA 09 10:43:24.7±0.4, 4°S±4°×112°9E±°, h149km±7km, M3.8/10, mb4.1/3, MLv3.6/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.57**	**124**	P	Pn	10 43 47.2	+0.9
KRAI	**Karang Ratu**	**1.35**	**310**	P	Pn	10 43 53.4	+0.7
NLAI	**Namlea**	**2.51**	**292**	P	Pn	10 44 07.1	+1.2
NLAI				S	Sn	10 44 38.5	+0.8
FAKI	**Fak Fak**	**3.09**	**66**	P	Pn	10 44 14.0	+0.8
SIJI	**Sorong**	**3.78**	**29**	P	Pn	10 44 22.0	-0.2
SWI	**Sorong**	**3.79**	**29**	P	Pn	10 44 21.9	-0.3
LBMI	**Labuha**	**4.03**	**331**	P	Pn	10 44 26.1	+0.7
SANI	**Sanana**	**4.05**	**302**	P	Pn	10 44 25.3	-0.3
SAUI	**Saumlaki**	**4.19**	**154**	P	Pn	10 44 27.2	-0.3
KMPI	**Kaimana, Papua**	**4.30**	**83**	P	Pn	10 44 28.5	-0.4
BBSI	**Bau Bau**	**6.95**	**259**	P	Pn	10 45 03.6	-0.6

*SNET **09** 11:13:40.4±0.9, 13°.51N×90°.74W, h19km±6km, ML3.5*
*CATAC **09** 11:13:40.9±0.4, 13°.69N×90°.80W, h56km±13km, ML3.6*
ISC 09 11:13:41.2±1.6, 13°.71N±0°.09×90°.80W±0°.06, h58km±28km, n29, σ0=60/58, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNB	**GUNB**	**0.99**	**26**	*i*P	**Pn**	**11 13 58.7**	**-0.6**
GUNB				*i*S	**Sn**	**11 14 13.0**	**+0.4**
GUNB				IAML		11 14 13.6	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**1.01**	**79**	*e*P	**Pn**	**11 13 58.7**	**-0.7**
NUBE				*e*S	**Sn**	**11 14 12.9**	**0.0**
NUBE				IAML		11 14 14.7	
	comp=Z,686nm,0.3s						
NUBE	**Las Nubes**	**1.01**	**79**	*i*P	**Pn**	**11 13 59.0**	**-0.4**
NUBE				*i*S	**Sn**	**11 14 12.2**	**-0.7**
NUBE				IAML		11 14 14.3	
	comp=Z,2μm,1.0s						
LOAL	**Lomas de Alarc**	**1.03**	**74**	*i*P	**Pn**	**11 13 59.2**	**-0.4**
LOAL				*i*S	**Sn**	**11 14 14.1**	**+0.9**
LOAL				IAML		11 14 15.0	
	comp=Z,3μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.04**	**72**	*e*P	**Pn**	**11 13 59.1**	**-0.5**
SLOZ				*e*S	**Sn**	**11 14 14.4**	**+1.0**
CEVE	**Cerro Verde**	**1.15**	**84**	*e*P	**Pn**	**11 14 01.1**	**-0.3**
CEVE				*e*S	**Sn**	**11 14 17.9**	**+1.6**
CEVE	**Cerro Verde**	**1.15**	**84**	*i*P	**Pn**	**11 14 01.2**	**-0.1**
CEVE				*i*S	**Sn**	**11 14 16.6**	**+0.3**
CEVE				IAML		11 14 18.5	
	comp=Z,3μm,1.0s						
SNJE	**San Jose**	**1.17**	**82**	*e*P	**Pn**	**11 14 01.3**	**-0.3**
SNJE				*e*S	**Sn**	**11 14 18.2**	**+1.5**
UNIC	**Universidad Ca**	**1.25**	**77**	*i*P	**Pn**	**11 14 01.9**	**-0.6**
UNIC				*i*S	**Sn**	**11 14 18.6**	**+0.2**
UNIC				IAML		11 14 21.6	
	comp=Z,360nm,1.0s						
SOKI	**Kika Raxquin**	**1.25**	**332**	*i*P	**Pn**	**11 14 02.6**	**-0.3**
SOKI				*i*S	**Sn**	**11 14 18.9**	**-0.1**
SOKI				IAML		11 14 24.2	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**1.31**	**92**	*e*P	**Pn**	**11 14 03.1**	**-0.3**
JAYA				*e*S	**Sn**	**11 14 19.6**	**-0.5**
JAYA				IAML		11 14 22.1	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.31**	**92**	*i*P	**Pn**	**11 14 03.1**	**-0.4**
JAYA				*i*S	**Sn**	**11 14 19.7**	**-0.4**
JAYA				IAML		11 14 21.9	
	comp=Z,3μm,1.0s						
PMON	**Piamonte**	**1.44**	**90**	*i*P	**Pn**	**11 14 04.8**	**-0.4**
PMON				*i*S	**Sn**	**11 14 23.6**	**+0.4**
PMON				IAML		11 14 30.0	
	comp=Z,830nm,1.0s						
UEES	**Universidad Ev**	**1.52**	**89**	*i*P	**Pn**	**11 14 06.6**	**+0.5**
UEES				*i*S	**Sn**	**11 14 24.9**	**0.0**
UEES				IAML		11 14 29.3	
	comp=Z,470nm,1.0s						
MTO3	**Montecristo**	**1.56**	**64**	*i*P	**Pn**	**11 14 05.9**	**-0.9**
MTO3				*i*S	**Sn**	**11 14 25.8**	**-0.3**
MTO3				IAML		11 14 30.1	
	comp=Z,200nm,1.0s						
SMSP	**San Marcos**	**1.58**	**323**	*i*P	**Pn**	**11 14 07.0**	**-0.2**
SMSP				IAML		11 14 11.5	
	comp=Z,5μm,1.0s						
SMSP				*i*S	**Sn**	**11 14 26.8**	**+0.1**
LOMA	**Loma Larga**	**1.58**	**92**	*i*P	**Pn**	**11 14 07.4**	**+0.3**
LOMA				*i*S	**Sn**	**11 14 26.9**	**+0.3**
LOMA				IAML		11 14 29.6	
	comp=Z,760nm,1.0s						
QUIS	**Sacapulas**	**1.60**	**350**	*i*P	**Pn**	**11 14 07.5**	**+0.2**
QUIS				*i*S	**Sn**	**11 14 28.1**	**+1.1**
QUIS				IAML		11 14 32.0	
	comp=Z,290nm,1.0s						
SMCA	**Catarina**	**1.68**	**313**	*i*P	**Pn**	**11 14 08.4**	**+0.1**
SMCA				*i*S	**Sn**	**11 14 28.5**	**-0.4**
SMCA				IAML		11 14 30.8	
	comp=Z,430nm,1.0s						
SJTE	**Alcalda de S**	**1.75**	**93**	*e*P	**Pn**	**11 14 09.0**	**-0.3**
SJTE				*e*S	**Sn**	**11 14 30.8**	**+0.4**
SJTE	**Alcalda de S**	**1.75**	**93**	*i*P	**Pn**	**11 14 09.0**	**-0.2**
SJTE				*i*S	**Sn**	**11 14 30.4**	**-0.1**
SJTE				IAML		11 14 36.5	
	comp=Z,280nm,1.0s						
PAVA	**Las Pavas**	**1.81**	**90**	*i*P	**Pn**	**11 14 09.9**	**-0.2**
PAVA				*i*S	**Sn**	**11 14 32.3**	**+0.2**
PAVA				IAML		11 14 41.3	
	comp=Z,430nm,1.0s						
COEG	**Centro de Oper**	**1.87**	**92**	*e*P	**Pn**	**11 14 11.2**	**+0.3**
COEG				*e*S	**Sn**	**11 14 34.8**	**+1.4**
COEG	**Centro de Oper**	**1.87**	**92**	*i*P	**Pn**	**11 14 11.6**	**+0.7**
COEG				IAML		11 14 12.8	
	comp=Z,260nm,1.0s						
COEG				*i*S	**Sn**	**11 14 33.5**	**+0.1**
UESV	**Universidad de**	**1.96**	**92**	*i*P	**Pn**	**11 14 11.9**	**-0.2**
UESV				IAML		11 14 13.6	
	comp=Z,210nm,1.0s						
UESV				*i*S	**Sn**	**11 14 36.3**	**+0.7**
SCLA	**Alcaldia de Sa**	**2.01**	**90**	*i*P	**Pn**	**11 14 12.7**	**-0.1**
SCLA				*i*S	**Sn**	**11 14 36.5**	**-0.4**
SCLA				IAML		11 14 46.8	
	comp=Z,57nm,1.0s						
PQSS	**Presa 15 de Se**	**2.18**	**92**	*i*P	**Pn**	**11 14 14.3**	**-0.7**
PQSS				IAML		11 14 15.1	
	comp=Z,140nm,1.0s						
PQSS				*i*S	**Sn**	**11 14 40.6**	**-0.3**
SARH	**Santa Rosa de**	**2.24**	**61**	*i*P	**Pn**	**11 14 15.3**	**-0.7**
SARH				*i*S	**Sn**	**11 14 43.6**	**+1.0**
CNCH	**Conchagua**	**2.92**	**98**	*i*P	**Pn**	**11 14 25.5**	**+0.2**
CNCH				*i*S	**Sn**	**11 14 58.5**	**-0.7**
CNCH				IAML		11 15 12.2	
	comp=Z,220nm,1.0s						

*GCMT **09** 11:26:07.3±0.4, 12°.04N±0°.02×45°.77E±0°.05, h22km±1km, MW4.8/68, Moment Tensor Solution. s18,c23; s68,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.65±.20; $M_{\theta\theta}$1.73±.12; $M_{\phi\phi}$-0.08±.12; $M_{r\theta}$0.03±.14; $M_{\theta\phi}$-0.35±.07; $M_{\phi r}$1.56±.26; Best double couple: $M_0$2.22500×10^{16} NP1:ϕs131.00000°, δ59.00000°, λ-53.00000°. NP2: ϕs256

	comp=Z,0.9nm,0.8s,baz=170,slow=12,SNR=5.1						
BRTR				LR	LR	11 44 19.2	
	comp=Z,315nm,18.4s,baz=150,slow=37						
	comp=Z,0.9nm,0.8s						
LSZ	Lusaka	31.91	214	LR	LR	11 45 44.6	
	comp=Z,193nm,19.2s,baz=37,slow=36						
KBZ	Khabaz	32.33	356	LR	LR	11 45 03.0	
	comp=Z,79nm,20.6s,baz=260,slow=36						
PALK	Pallekele	34.35	94	LR	LR	11 44 46.2	
	comp=Z,43nm,18.5s,baz=57,slow=33						
ARSB	Arslanbob	37.99	34	P	P	11 33 23.4	-1.7
KKAR	Karatay Array	38.02	29	P	P	11 33 25.4	+0.3
MLR	Muntele Rosu	38.09	337	LR	LR	11 48 51.1	
	comp=Z,130nm,18.1s,baz=147,slow=36						
ABKAR	Akbulak array	39.44	14	P	P	11 33 36.6	-0.3
ABKAR	Akbulak array	39.44	14	P	P	11 33 36.5	-0.3
AAK	Ala-Archa	39.71	33	P	P	11 33 40.1	+0.5
AAK	Ala-Archa	39.71	33	LR	LR	11 52 53.4	
	comp=Z,82nm,20.8s,baz=258,slow=41						
NRN	Naryn	39.75	36	P	P	11 33 41.5	+1.5
NRN				IAmb	IAmb	11 33 57.1	
	comp=Z,7.7nm,1.3s						
AKTO	Aktyubinsk	40.12	12	LR	LR	11 53 19.8	
	comp=Z,173nm,18.9s,baz=126,slow=41						
BURAR	Bucovina Array	40.15	338	P	P	11 33 44.0	+1.0
BUR08	Bucovina Ar. S	40.18	338	P	P	11 33 44.0	+0.8
BOOM	Boomskoye usch	40.41	35	P	P	11 33 46.6	+1.3
BELG	Belogornoye	40.89	1	LR	LR	11 54 36.2	
	comp=Z,141nm,20.0s,baz=49,slow=42						
TARG	Taragay, Kyrgy	40.99	37	P	P	11 33 51.7	+1.3
KEST	Kesra	41.13	312	P	P	11 33 52.1	+0.9
KEST				IAmb	IAmb	11 34 18.9	
	comp=Z,8.5nm,1.2s						
LBTB	Lobatse	41.37	209	LR	LR	11 52 33.5	
	comp=Z,136nm,19.2s,baz=30,slow=38						
AKASG	Malin Array Be	41.56	344	P	P	11 33 53.9	-0.5
	comp=Z,0.5nm,0.5s,baz=160,slow=7.5,SNR=7.8						
AKASG				LR	LR	11 52 12.5	
	comp=Z,146nm,19.0s,baz=188,slow=38						
	comp=Z,0.5nm,0.5s						
PSZ	Piszkesteto	42.52	334	P	P	11 34 03.3	+0.9
PSZ				IAmb	IAmb	11 34 18.0	
	comp=Z,5.1nm,0.9s						
FDMO	Fiordimonte	42.58	324	P	P	11 34 04.0	+1.0
TOA0	Torodi Ar. Sit	43.41	277	P	P	11 34 08.2	-1.8
TOA0				IAmb	IAmb	11 34 13.3	
	comp=Z,11nm,1.4s						
TORD	Torodi Ar. Bea	43.41	277	P	P	11 34 08.0	-2.0
TORD				IAmb	IAmb	11 34 13.3	
	comp=Z,9.2nm,1.4s						
TORD	Torodi Ar. Bea	43.41	277	P	P	11 34 11.7	+1.7
	comp=Z,2.5nm,1.0s,baz=77,slow=10,SNR=8.6						
	comp=Z,2.5nm,1.0s						
BOSA	Boshof	44.61	206	LR	LR	11 53 25.0	
	comp=Z,183nm,19.3s,baz=22,slow=36						
BVAR	Borovoye Array	45.85	20	P	P	11 34 26.6	-2.4
	comp=Z,0.4nm,0.3s,baz=212,slow=7.8,SNR=2.7						
BVAR				LR	LR	11 57 02.2	
	comp=Z,301nm,18.2s,baz=226,slow=41						
	comp=Z,0.4nm,0.3s						
ARU	Arti	45.95	10	LR	LR	11 56 58.8	
	comp=Z,241nm,18.4s,baz=188,slow=41						
GERES	GERESS Array B	46.03	331	LR	LR	11 55 21.7	
	comp=Z,51nm,18.9s,baz=252,slow=38						
MAKZ	Makanchi	46.47	34	P	P	11 34 32.9	-1.1
MAKZ				IAmb	IAmb	11 34 46.0	
	comp=Z,2.7nm,1.1s						
MK31	Makanchi Array	46.64	34	P	P	11 34 34.0	-1.3
MK31				IAmb	IAmb	11 34 41.2	
	comp=Z,3.8nm,1.1s						
MKAR	Makanchi Array	46.64	34	P	P	11 34 34.4	-0.9
MKAR	Makanchi Array	46.64	34	P	P	11 34 33.6	-1.7
	comp=Z,1.9nm,1.1s,baz=224,slow=6.3,SNR=7.5						
MKAR				LR	LR	11 58 03.9	
	comp=Z,109nm,18.1s,baz=257,slow=42						
	comp=Z,1.9nm,1.1s						
KIRV	Kirov	47.15	2	LR	LR	11 59 32.5	
	comp=Z,138nm,18.0s,baz=205,slow=43						
KURBB	Kurchatov Arra	47.25	28	P	P	11 34 38.5	-1.4
	comp=Z,0.4nm,0.6s,baz=226,slow=7.8,SNR=5.1						
KURBB				LR	LR	11 57 29.3	
	comp=Z,126nm,18.1s,baz=162,slow=40						
	comp=Z,0.4nm,0.6s						
KURK	Kurchatov	47.36	28	P	P	11 34 41.4	+0.6
KURK				IAmb	IAmb	11 34 49.8	
	comp=Z,6.1nm,1.4s						
SUR	Sutherland	49.81	208	LR	LR	11 56 22.2	
	comp=Z,144nm,20.1s,baz=14,slow=36						
DBIC	Dimbokro	50.52	269	P	P	11 35 08.0	+2.4
	comp=Z,5.0nm,1.0s,baz=86,slow=11,SNR=4.0						
DBIC				LR	LR	11 58 18.5	
	comp=Z,72nm,20.2s,baz=55,slow=38						
	comp=Z,5.0nm,1.0s						
CMAR	Chiang Mai Arr	51.37	75	P	P	11 35 11.2	-0.8
CMAR	Chiang Mai Arr	51.37	75	P	P	11 35 13.2	+1.2
	comp=Z,1.0nm,0.6s,baz=276,slow=8.5,SNR=11						
CMAR				LR	LR	11 57 13.3	
	comp=Z,11nm,18.1s,baz=25,slow=36						
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	52.05	348	P	P	11 35 16.1	-0.3
	comp=Z,2.0nm,0.8s,baz=171,slow=9.4,SNR=1.9						
FINES				LR	LR	11 59 17.7	
	comp=Z,122nm,18.1s,baz=194,slow=39						
	comp=Z,2.0nm,0.8s						
ZAA0	Zalesovo Array	52.35	28	P	P	11 35 20.5	+1.8
ZAA0				IAmb	IAmb	11 35 34.4	
	comp=Z,4.1nm,1.3s						
ZALV	Zalesovo Beam	52.35	28	P	P	11 35 20.4	+1.6
ZALV	Zalesovo Beam	52.35	28	P	P	11 35 16.5	-2.2
	comp=Z,2.2nm,0.7s,baz=242,slow=8.0,SNR=9.1						
ZALV				LR	LR	11 58 19.5	
	comp=Z,74nm,18.7s,baz=340,slow=37						
	comp=Z,2.2nm,0.7s						
HFS	Hagfors	54.24	341	LR	LR	12 00 38.0	
	comp=Z,157nm,19.1s,baz=122,slow=38						
NOA	NORSAR Array B	55.74	340	P	P	11 35 41.8	-1.6
	comp=Z,1.8nm,1.0s,baz=131,slow=7.1,SNR=1.9						
NOA				LR	LR	12 01 01.7	
	comp=Z,84nm,18.5s,baz=300,slow=38						
	comp=Z,1.8nm,1.0s						
SONM	Songino Array	61.78	42	P	P	11 36 24.5	-1.4
	comp=Z,0.4nm,0.4s,baz=239,slow=5.4,SNR=4.8						
	comp=Z,0.4nm,0.4s						
NRIK	Noril'sk	63.60	15	LR	LR	12 08 43.0	
	comp=Z,182nm,19.3s,baz=231,slow=40						
BORG	Borgarnes	70.20	335	LR	LR	12 11 57.4	
	comp=Z,166nm,21.2s,baz=157,slow=39						
SCO	Scoresbysund	72.05	341	P	P	11 37 31.2	+0.6
TIXI	Tiksi	76.96	19	LR	LR	12 16 35.8	
	comp=Z,6.4nm,18.8s,baz=216,slow=40						
SEY	Seymchan	87.18	26	LR	LR	12 23 06.1	
	comp=Z,93nm,19.9s,baz=326,slow=39						
MA2	Magadan	87.54	30	LR	LR	12 21 10.6	
	comp=Z,38nm,20.6s,baz=115,slow=38						
WRA	Warramunga Arr	92.17	110	P	P	11 39 18.1	+0.9
WRA	Warramunga Arr	92.17	110	P	P	11 39 22.4	+5.2
	comp=Z,1.2nm,0.8s,baz=292,slow=3.4,SNR=3.3						
	comp=Z,1.2nm,0.8s						
WB2	Warramunga Arr	92.18	110	P	P	11 39 16.7	-0.6
WB0	Warramunga Arr	92.19	110	P	P	11 39 18.1	+0.8
ASAR	Alice Springs	92.50	113	P	P	11 39 23.6	+4.8
	comp=Z,0.3nm,0.7s,baz=293,slow=4.8,SNR=4.7						
	comp=Z,0.3nm,0.7s						
NVAR	Mina Array Bea	128.33	344	PKP	PKiKP	11 45 16.6	+1.6
	comp=Z,0.2nm,0.3s,baz=96,slow=1.8,SNR=2.4						
TXAR	Lajitas Array	130.10	325	PKP	PKiKP	11 45 20.0	+1.4
	comp=Z,0.2nm,0.6s,baz=75,slow=1.0,SNR=2.7						

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*IDC **09** 11:45:38.8±0.8, 31°.66S×179°.80E, h404km±8km, mb3.3/7, mbtmp4.2/10, Error ellipse: s-maj=19.5km s-min=11.9km az=124.0*

*NOU **09** 11:45:42.4, 31°.78S×179°.81E, h439km, mb4.5/23, Kermadec Islands Region*

*WEL **09** 11:45:45.7±0.8, 32°S±8°×17°9W±2°1, h338km±12km, M4.8/30, mB5.2/27, ML5.5/26, MLv5.4/30, Mw(mB)4.6/27, Error ellipse: s-maj=0.0km s-min=0.0km az=110.3, confirmed*

ISC 09 11:45:38.9±0.5**, 31°.71S**±0°.03×**179°.82E**±0°.08**, h400**km**, n116, σ2.14**/132**, mb3.5**/8**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.12	39	P	Pn	11 46 43.0	-0.2
GLKZ				S	S	11 47 35.1	-0.1
RAO	Raoul Island	3.13	39	P	Pn	11 46 44.0	+0.8
	103nm,0.3s,baz=101,slow=22,SNR=1.9						
RAO				S	S	11 47 34.8	-0.5
	286nm,0.3s,baz=48,slow=20,SNR=2.8						
MXZ	Matakaoa Point	5.97	192	P	Pn	11 47 14.1	+3.1
KUZ	Kuaotunu	6.06	213	P	Pn	11 47 18.4	+6.3
KUZ	Kuaotunu	6.06	213	P	Pn	11 47 18.8	+6.8
OUZ	Omahuta	6.27	234	P	Pn	11 47 19.8	+5.4
PUZ	Puketiti	6.47	191	P	Pn	11 47 19.1	+2.5
PUZ				S	S	11 48 35.7	-0.7
RUGZ	Raukumara Rang	6.48	195	P	Pn	11 47 19.7	+2.9
RUGZ				S	S	11 48 36.1	-0.6
TWGZ	Tauwhareparae	6.62	193	P	P	11 47 20.9	+2.0
TWGZ				S	S	11 48 38.2	-1.2
OPRZ	Ohinepanea	6.68	203	P	P	11 47 22.7	+3.3
EDRZ	Edgecumbe	6.86	201	P	P	11 47 26.0	+4.4
MWZ	Matawai	6.87	195	P	P	11 47 22.8	+1.2
MWZ				S	S	11 48 45.1	+0.7
LIRZ	Lichensteins R	6.88	203	P	P	11 47 26.8	+5.1
CNGZ	Carnagh Statio	6.88	191	P	P	11 47 24.8	+3.1
CNGZ				P	Pn	11 47 25.0	+3.9
URZ	Urewera	6.90	198	P	P	11 47 23.9	+2.0
URZ	Urewera	6.90	198	P	Pn	11 47 22.4	+1.1
	296nm,0.3s,baz=52,slow=4.7,SNR=143						
URZ				S	S	11 48 42.6	-2.4
	147nm,0.3s,baz=126,slow=22,SNR=17						
URZ	Urewera	6.90	198	P	Pn	11 47 22.2	+0.9
URZ				S	S	11 48 45.4	+0.4
TKGZ	Te Karaka	6.90	193	P	P	11 47 23.1	+1.2
TKGZ				S	S	11 48 43.8	-1.2
KARZ	Kaharoa	6.95	204	P	P	11 47 26.5	+4.1
MKRZ	Makatiti	6.98	202	P	P	11 47 27.8	+4.9
TOZ	Tahuroa Road	6.98	209	P	P	11 47 26.1	+3.4
OMRZ	Omania	6.98	203	P	P	11 47 27.6	+4.7
RAGZ	Rawiri	7.05	196	P	P	11 47 24.9	+1.3
RAGZ				S	S	11 48 47.4	-0.8
TARZ	Mount Tarawera	7.05	202	P	P	11 47 28.0	+4.3
UTU	Utuhina	7.10	204	P	P	11 47 30.0	+5.8
HLRZ	Highlands Stat	7.12	203	P	P	11 47 28.9	+4.5
RRRZ	Republican Roa	7.15	201	P	P	11 47 28.4	+3.8
RIGZ	Rimuhau	7.18	193	P	P	11 47 26.0	+1.0
RIGZ				S	S	11 48 47.9	-2.9
MUGZ	Murupara	7.20	199	P	P	11 47 26.5	+1.2
MUGZ				S	S	11 48 51.2	+0.1
HRRZ	Handcock Road	7.27	203	P	P	11 47 29.7	+3.6
RTZ	Ruatahuna	7.27	198	P	P	11 47 27.1	+1.0
RTZ				S	S	11 48 51.1	-1.6
PRRZ	Plateau Road	7.33	202	P	P	11 47 29.7	+3.0
SNGZ	Shannon Statio	7.34	195	P	P	11 47 29.1	+2.2
SNGZ				S	S	11 48 54.5	+0.4
PRGZ	Paritu Road	7.37	192	P	P	11 47 29.8	+2.7
ALRZ	Allen Road	7.40	202	P	P	11 47 30.8	+3.3
WPRZ	Whakapapatarin	7.42	203	P	P	11 47 31.3	+3.6
TLZ	Tolley Road	7.48	207	P	P	11 47 32.1	+3.7
KNZ	Kokohu	7.50	193	P	P	11 47 29.5	+0.9
KNZ				S	S	11 48 56.2	-1.2
KUTZ	Kaahu Road	7.51	205	P	P	11 47 33.3	+4.6
RAHZ	Arahi	7.53	197	P	P	11 47 29.8	+0.9
RAHZ				S	S	11 48 55.6	-2.5
MTHZ	Maungataniwha	7.53	198	P	P	11 47 30.6	+1.7
MTHZ				S	S	11 48 56.5	-1.6
MRHZ	Matea Rd	7.63	200	P	P	11 47 31.9	+1.8
MRHZ				S	S	11 48 58.4	-1.8
WATZ	Wairara	7.74	204	P	P	11 47 35.3	+4.1
NMHZ	Naumai	7.77	198	P	P	11 47 33.0	+1.4
RATZ	Rangitukua	7.87	204	P	P	11 47 35.5	+2.8
HIZ	Hauiti	7.91	210	P	P	11 47 37.0	+3.9
HIZ	Hauiti	7.91	210	P	P	11 47 36.8	+3.7
BKZ	Black Stump Fm	7.92	199	P	P	11 47 35.3	+2.0
BKZ	Black Stump Fm	7.92	199	P	P	11 47 34.2	+1.0
RITZ	Rihia Road	7.94	203	P	P	11 47 35.4	+1.9
WNVZ	Wahianoa	8.34	203	P	Pn	11 47 38.4	+0.5
WNVZ				S	S	11 49 14.6	-0.7
PKVZ	Pokaka	8.39	205	P	Pn	11 47 38.9	+0.5
VRZ	Vera Road	8.47	208	P	P	11 47 42.7	+3.3
MHEZ	Mangahewa	8.61	210	P	P	11 47 49.7	+8.8
PNHZ	Pukenui	8.70	199	P	Pn	11 47 41.0	-0.7
PNHZ				S	S	11 49 19.4	-3.2
PKE	Pukeiti	8.85	211	P	P	11 47 49.3	+5.7
NEZ	North Egmont	8.87	210	P	P	11 47 49.1	+5.2
PRHZ	Porangahau	8.92	196	P	Pn	11 47 44.7	+0.4
PRHZ				S	S	11 49 19.9	-7.4
KHEZ	Kahui Hut	8.92	210	P	P	11 47 49.5	+5.0
KHEZ	Kahui Hut	8.92	210	P	P	11 47 49.3	+4.8
WAZ	Wanganui	8.93	205	P	P	11 47 46.4	+1.8
POWZ	Post Office Ro	9.26	200	P	Pn	11 47 49.6	+1.4
POWZ				S	S	11 49 30.3	-4.1
PRWZ	Pori Road	9.36	198	P	P	11 47 50.0	+0.8
PRWZ				S	S	11 49 32.6	-3.8
BFZ	Birch Farm	9.40	197	P	P	11 47 50.4	+0.7
BFZ	Birch Farm	9.40	197	P	P	11 47 50.5	+0.7
BFZ				S	S	11 49 33.7	-3.7
MRZ	Mangatainoka R	9.56	200	P	P	11 47 50.3	-1.2
CPWZ	Castlepoint	9.63	197	P	Pn	11 47 54.1	+1.7
CPWZ				S	S	11 49 39.9	-2.1
HOWZ	Holdsworth Sta	9.80	200	P	P	11 47 55.0	+0.9
OGWZ	Otaki Gorge	9.83	201	P	P	11 47 54.5	+0.1
TMWZ	Te Maipa	9.89	198	P	Pn	11 47 56.3	+0.8
KIW	Kapiti Island	9.95	202	P	P	11 47 56.1	+0.3
MTW	Mount Morrison	10.05	199	P	P	11 47 57.4	+0.5
CAW	Cannon Point	10.13	201	P	P	11 47 57.2	-0.5
TRWZ	Traveller	10.22	198	P	Pn	11 48 00.2	+0.9
DUWZ	D'Urville Isla	10.24	206	P	P	11 47 59.0	-0.1
PAWZ	Paruwai Farm	10.28	199	P	Pn	11 48 01.1	+1.1
WEL	Wellington	10.38	202	P	P	11 48 01.7	+1.2
SNZO	South Karori	10.42	202	P	Pn	11 48 03.2	+1.6
BHW	Baring Head	10.46	201	P	P	11 48 02.3	+0.9
TCW	Tory Channel	10.47	204	P	P	11 48 01.9	+0.3
PLWZ	Palliser	10.50	199	P	Pn	11 48 03.6	+1.1
TUWZ	Tuamarina	10.79	204	P	P	11 48 04.3	-0.6
NNZ	Nelson	10.81	207	P	P	11 48 05.0	-0.2
QRZ	Quartz Range	10.83	211	P	P	11 48 06.4	+0.9
BSWZ	Blackbirch Sta	11.06	204	P	P	11 48 09.2	+1.2
KHZ	Kahutara	11.80	203	P	Pn	11 48 18.5	+1.0
RPZ	Rata Peaks	13.84	208	P	P	11 48 39.8	+1.2
RPZ	Rata Peaks	13.84	208	P	P	11 48 39.0	+0.5
	10nm,1.1s,baz=42,slow=23,SNR=2.3						
RPZ				S	S	11 51 04.6	-2.6
	10nm,0.6s,baz=24,slow=17,SNR=3.6						
OUENC	Ouen Island, N	14.80	306	P	P	11 48 52.1	+2.8
TAVE	Taveuni	14.94	1	P	P	11 48 53.7	+2.8
YATNC	Mamie plateau,	15.01	307	P	P	11 48 54.8	+3.2
ODZ	Otahua Downs	15.12	206	P	P	11 48 55.0	+2.6
DZM	Mont Dzumac	15.31	306	P	P	11 48 57.0	+2.1
DZM	Mont Dzumac	15.31	306	P	P	11 48 54.8	-0.1
	11nm,0.8s,baz=119,slow=13,SNR=10						
DGTI	Dogotuki	15.34	360	P	P	11 48 57.6	+2.3
NOUC	Port Laguerre	15.38	305	P	P	11 48 57.9	+2.3
AFI	Afiamalu	19.32	25	P	P	11 49 38.9	+1.6
RAR	Rarotonga	21.01	65	P	P	11 49 54.3	+1.6
	78nm,1.6s						
STKA	Stephens Creek	32.38	259	P	P	11 51 34.5	+1.1
	1.1nm,0.6s,baz=116,slow=11,SNR=3.8						
	1.1nm,0.6s						
ASAR	Alice Springs	41.20	269	P	P	11 52 46.2	-0.5
	0.9nm,0.6s,baz=107,slow=7.1,SNR=23						
ASAR				PcP	PcP	11 54 35.7	-1.3
	0.3nm,0.4s,baz=112,slow=4.0,SNR=6.9						
ASAR				ScP	ScP	11 57 44.8	-3.2
	0.5nm,0.7s,baz=111,slow=3.8,SNR=5.7						
	0.9nm,0.6s						
WRA	Warramunga Arr	42.31	275	P	P	11 52 54.9	-0.8
	0.7nm,0.3s,baz=111,slow=8.1,SNR=40						
WRA				ScP	ScP	11 57 49.7	-2.8
	1.1nm,0.7s,baz=111,slow=3.7,SNR=9.3						
	0.7nm,0.3s						
QSPA	South Pole Qui	58.40	180	P	P	11 54 55.5	+1.5
	2.4nm,0.9s,baz=42,slow=3.9,SNR=5.3						
	2.4nm,0.9s						
KSRS	Korea Array	84.16	321	P	P	11 57 25.6	-0.7
	1.5nm,0.7s,baz=134,slow=5.6,SNR=5.0						
	1.5nm,0.7s						
PETK	Petropavlovsk-	86.64	347	P	P	11 57 37.4	-0.6
	3.2nm,0.7s,baz=127,slow=8.2,SNR=8.1						
	3.2nm,0.7s						
NVAR	Mina Array Bea	90.47	44	P	P	11 57 57.5	+0.9
	0.2nm,0.3s,baz=217,slow=9.2,SNR=3.6						
	0.2nm,0.3s						
MKAR	Makanchi Array	117.19	310	PKP	PKPdf	12 03 35.6	-1.4
	0.3nm,0.6s,baz=218,slow=3.0,SNR=4.3						
KURBB	Kurchatov Arra	120.64	313	PKP	PKPdf	12 03 41.9	-1.5
	0.9nm,0.4s,baz=112,slow=2.0,SNR=12						
BVAR	Borovoye Array	126.03	315	PKP	PKPdf	12 03 53.0	-0.7
	1.4nm,0.4s,baz=124,slow=0.9,SNR=8.9						
ARCES	ARCESS Array B	139.45	346	PKhKP	PKPpre	12 04 09.7	
	2.1nm,0.8s,baz=50,slow=1.4,SNR=8.3						
ARCES				PKP	PKPdf	12 04 19.1	+0.6
	1.2nm,0.6s,baz=90,slow=2.7,SNR=5.2						
KBZ	Khabaz	144.26	302	PKP	PKPbc	12 04 24.6	-2.4
	3.6nm,0.9s,baz=45,slow=2.9,SNR=4.8						
FINES	FINESS Array B	145.69	338	PKPbc	PKPdf	12 04 29.8	+0.2
	6.4nm,0.4s,baz=39,slow=4.5,SNR=69						
NB2	NORSAR Subarra	149.72	349	PKP	PKPbc	12 04 40.4	-1.2
	comp=Z,0.9nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.72	349	PKPbc	PKPbc	12 04 40.4	-1.2
	comp=Z,1.0nm,0.5s,baz=18,slow=4.2,SNR=5.9						
MMAI	Mount Meron Ar	150.00	282	PKPbc	PKPbc	12 04 42.9	-0.2
	comp=Z,3.9nm,0.4s,baz=70,slow=6.3,SNR=4.5						
HFS	Hagfors	150.11	346	PKPbc	PKPbc	12 04 41.1	-1.3
	comp=Z,1.5nm,0.3s,baz=129,slow=2.1,SNR=13						
HFS				PKPab	PKPab	12 04 48.4	-1.6
	comp=Z,2.4nm,0.4s,baz=60,slow=3.9,SNR=9.3						
AKASG	Malin Array Be	151.15	320	PKPbc	PKPbc	12 04 44.1	-1.0
	comp=Z,1.6nm,0.5s,baz=62,slow=2.0,SNR=7.8						

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*SJA **09** 11:48:44.7±0.7, 29°.98S×71°.65W, h26km±3km, ML3.3, MW3.6*

*GUC **09** 11:48:46.0±0.6, 29°.94S×71°.60W, h59km±3km, ML3.5*

ISC 09 11:48:39.0±1.6**, 29°.79S**±0°.02×**71°.89W**±0°.05**, h11**km±11km**, n38, σ1.93**/67**, 8C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.58	103	⇓iP	Pn	11 48 55.6	+2.5
CO05				eS	Sn	11 49 03.0	+0.4
CO05				IAML		11 49 04.3	
	comp=N,4μm,0.2s						
CO06	Fray Jorge	0.91	166	⇑iP	Pn	11 49 00.4	+2.7
CO06				eS	Sn	11 49 11.3	+0.6
CO06				IAML		11 49 12.9	
	comp=E,3μm,0.2s						
GO04	Tololo Observa	1.02	112	⇓iP	Pn	11 49 00.8	+1.4
GO04				eS	Sg	11 49 11.7	-0.4
GO04				IAML		11 49 13.3	
	comp=E,8μm,0.4s						
LCO	Las Campanas	1.30	53	eP	Pg	11 49 04.8	+0.8
LCO				eS	Sn	11 49 20.1	-0.6
CO03	El Pedregal	1.47	135	eP	Pb	11 49 07.3	+0.8
CO03				eS	Sn	11 49 24.6	-0.2
CO03				IAML		11 49 24.9	
	comp=Z,621nm,0.5s						
CO03	El Pedregal	1.47	135	eP	Pb	11 49 07.2	+0.7
CO03				eS	Sn	11 49 22.9	-1.9
CO03				IAML		11 49 24.3	
	comp=N,1μm,0.3s						
CO01	Juntas del Tor	1.57	97	⇓iP	Pb	11 49 08.9	+0.6
CO01				eS	Sn	11 49 25.8	-1.7
CO01				IAML		11 49 27.2	
	comp=N,1μm,0.4s						
CO02	Combarbal	1.60	152	eP	Pb	11 49 09.8	+1.1
CO02				eS	Sn	11 49 28.4	+0.3
CO02				IAML		11 49 28.4	
	comp=Z,767nm,0.9s						
CO02	Combarbal	1.60	152	⇑iP	Pb	11 49 09.7	+1.1
CO02				eS	Sn	11 49 27.5	-0.6
AC04	Llanos de Chal	1.74	25	⇑iP	Pb	11 49 11.6	+0.7
AC04				eS	Sn	11 49 31.1	-0.1
AC04				IAML		11 49 33.1	
	comp=E,820nm,0.1s						
AROD	Rodeo	2.13	101	eP	Pb	11 49 18.0	+0.2
AROD				eS	Sb	11 49 43.2	-1.2
ACDV	Cuesta del Vie	2.43	100	eP	Pb	11 49 22.2	-0.7
ACDV				eS	Sb	11 49 52.8	-0.1
ACCO	Cerro Coronel	2.57	109	eP	Pb	11 49 25.0	-0.3
ACCO				eS	Sn	11 49 41.2	-11
ACCO				IAML		11 49 57.9	
	comp=Z,108nm,0.3s						
GO03	Copiap	2.63	34	eP	Pn	11 49 23.6	+2.2
GO03	Copiap	2.63	34	eP	Pn	11 49 23.8	+2.2
GO03				iS	Sn	11 49 53.3	-0.1
GO03				IAML		11 50 08.3	
AC06	Mina Casimiro	2.78	29	eP	Pn	11 49 25.9	+2.5
AC06				iS	Sn	11 49 56.8	-0.2
VA06	Catapilco	2.81	170	⇑iP	Pn	11 49 26.2	+2.4
VA06				iS	Sn	11 49 57.3	-0.2
VA06				IAML		11 50 13.1	
	comp=N,376nm,0.7s						
AGUA	GUANDACOL	2.98	85	eP	Pb	11 49 30.7	-1.4
AGUA				eS	Sb	11 50 08.6	+0.1
AGUA				IAML		11 50 09.4	
	comp=Z,134nm,0.2s						
RTLS	Leoncito	3.00	133	eP	Pb	11 49 31.2	-1.4
RTLS				eS	Sn	11 49 49.5	-13
RTLS				IAML		11 49 50.5	
	comp=Z,141nm,0.5s						
AUSP	Uspallata	3.24	139	eP	Pb	11 49 34.8	-1.9
ROCH	El Roble	3.26	167	⇑iP	Pn	11 49 32.7	+2.5
ROCH				⇑iP	Pn	11 49 32.7	+2.5
ROCH				iS	Sn	11 50 08.1	-1.0
ROCH				iS		11 50 08.4	
ROCH				IAML		11 50 31.8	
	comp=N,230nm,0.5s						
ROCH				IAML		11 50 32.3	
	comp=N,151nm,0.4s						
VCA	Vinchina	3.39	73	eP	Pb	11 49 37.2	-2.0
VCA				eS	Sb	11 50 16.7	-3.7
VCA				IAML		11 50 19.1	
	comp=Z,103nm,0.5s						
MT02	Curacav	3.51	170	eP	Pn	11 49 35.4	+1.8
MT02				iS	Sn	11 50 13.2	-1.9
MT02				IAML		11 50 36.8	
	comp=E,57nm,0.5s						
FCH	Farellones	3.78	159	eP	Pn	11 49 40.8	+3.3
FCH				iS	Sn	11 50 22.8	+0.7
AC01	Pan de Azucar	3.81	18	⇑iP	Pn	11 49 38.8	+1.2
AC01				iS	Sn	11 50 19.7	-2.7
ASAL	Salagasta	3.83	138	eP	Pb	11 49 43.0	-3.6
ASAL				IAML		11 50 47.9	
	comp=Z,48nm,1.0s						
MT04	Ro Olivares	3.90	158	eP	Pn	11 49 43.3	+4.2
MT04				iS	Sn	11 50 24.9	0.0
AVFE	Valle Fertil	3.93	104	eP	Pn	11 49 42.5	+3.1
AVFE				eS	Sn	11 50 24.9	-0.7
AVFE				IAML		11 50 51.4	
	comp=Z,46nm,0.5s						
ARCO	CERRO ARCO	3.96	141	eP	Pb	11 49 45.8	-3.1
ARCO				IAML		11 50 54.4	
	comp=Z,46nm,0.7s						
MT09	Talagante	4.04	169	⇑iP	Pn	11 49 43.5	+2.6
MT09				iS	Sn	11 50 27.1	-1.2
MT01	Popeta	4.09	173	eP	Pn	11 49 43.6	+2.1
MT01				iS	Sn	11 50 26.7	-2.8
AAGR	Agrelo	4.20	142	eP	Pg	11 49 58.4	-1.1
AAGR				IAML		11 50 57.0	
	comp=Z,27nm,1.9s						
ACLC	CERRO LA CRUZ	4.32	86	eP	Pn	11 49 47.4	+2.6
ACLC				eS	Sn	11 50 38.7	+3.5
ACLC				IAML		11 50 56.0	
	comp=Z,50nm,0.6s						
BO04	La Punta	4.32	166	eP	Pn	11 49 47.2	+2.5
BO04				iS	Sn	11 50 33.5	-1.6
BO01	Tunca	4.63	172	eP	Pn	11 49 50.8	+1.8
BO03	Pichilemu	4.69	181	eP	Pn	11 49 51.0	+1.3
GO02	Mina Guanaco	5.04	24	eP	Pn	11 49 55.8	+0.9
GO02				iS	Sn	11 50 51.0	-2.3
CYA	Choya	5.49	77	eP	Pn	11 50 03.2	+2.4
CYA				IAML		11 51 31.6	
	comp=Z,10nm,0.8s						

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*IDC **09** 11:50:03.5±1.0, 48°.79S×120°.65E, h0km, mb3.8/6, mbtmp3.9/6, MS3.9/17, Error ellipse: s-maj=47.9km s-min=21.0km az=98.0*

*GCMT **09** 11:50:10.0±0.4, 48°.84S±0°.02×121°.34E±0°.06, h28km±1km, MW4.9/68, Moment Tensor Solution. s24,c28; s68,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52±.29; $M_{\theta\theta}$2.61±.18; $M_{\phi\phi}$-0.09±.18; $M_{r\theta}$0.94±.23; $M_{\theta\phi}$-1.36±.09; $M_{\phi r}$1.03±.29; Best double couple: $M_0$3.22200×10^{16} NP1:ϕ_s268.00000°, δ56.00000°, λ-123.00000°. NP2: ϕ_s137.00000°, δ46.00000°, λ-51.00000°. Principal axes: T 3.2180, Plg5.0000°, Azm21.0000°; N 0.0040, Plg27.0000°, Azm288.0000°; P -3.2270, Plg63.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

ISC 09 11:50:04.8±1.0, 48°38S±0°1×120°8E±0°3, h10km, n23, σ0.60/11, mb3.8/6, MS4.0/16, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.75**	**338**	T	T	12 09 13.3	
	baz=160,slow=54,SNR=54						
H01W2	**Cape Leeuwin H**	**14.75**	**338**	T	T	12 08 57.2	
	baz=160,slow=74,SNR=67						
H01W3	**Cape Leeuwin H**	**14.76**	**338**	T	T	12 09 14.4	
	baz=160,slow=74,SNR=67						
NWAO	**Narrogin (SRO)**	**16.09**	**349**	LR	LR	11 58 53.7	
	comp=Z,626nm,18.6s,baz=184,slow=33						
STKA	**Stephens Creek**	**23.05**	**50**	P	**P**	**11 55 10.7**	**+0.5**
	3.4nm,1.1s,baz=211,slow=15,SNR=2.5						
STKA				LR	LR	12 02 52.5	
	comp=Z,307nm,18.6s,baz=207,slow=33 3.4nm,1.1s						
ASAR	**Alice Springs**	**27.14**	**27**	P	**P**	**11 55 48.1**	**0.0**
	0.6nm,0.5s,baz=212,slow=8.1,SNR=7.3						
ASAR				PcP	**PcP**	**11 59 09.2**	**+0.7**
	0.2nm,0.5s,baz=188,slow=2.4,SNR=5.3						
ASAR				LR	LR	12 05 25.0	
	comp=Z,511nm,20.4s,baz=200,slow=34 0.6nm,0.5s						
WRA	**Warramunga Arr**	**30.79**	**25**	P	**P**	**11 56 20.2**	**-0.3**
	1.2nm,1.0s,baz=203,slow=8.7,SNR=3.1						
WRA				PcP	**PcP**	**11 59 17.2**	**-0.5**
	0.6nm,0.9s,baz=199,slow=2.0,SNR=2.7						
WRA				LR	LR	12 07 29.5	
	comp=Z,292nm,19.6s,baz=183,slow=34 1.2nm,1.0s						
VNDA	**Vanda**	**32.78**	**165**	P	**P**	**11 56 37.6**	**+0.1**
	0.8nm,0.8s,baz=331,slow=12,SNR=1.9						
VNDA				LR	LR	12 09 00.4	
	comp=Z,264nm,18.6s,baz=318,slow=35 0.8nm,0.8s						
CTA	**Charters Tower**	**35.19**	**44**	LR	LR	12 11 10.5	
	comp=Z,290nm,18.5s,baz=256,slow=36						
QSPA	**South Pole Qui**	**41.32**	**180**	P	**P**	**11 57 50.5**	**+0.2**
	2.7nm,0.7s,baz=309,slow=2.3,SNR=6.8						
QSPA				LR	LR	12 14 04.9	
	comp=Z,276nm,19.9s,baz=314,slow=35 2.7nm,0.7s						
KAPI	**Kappang**	**43.64**	**358**	LR	LR	12 15 34.6	
	comp=Z,80nm,20.1s,baz=132,slow=35						
DZM	**Mont Dzumac**	**44.84**	**70**	LR	LR	12 13 49.4	
	comp=Z,108nm,19.9s,baz=227,slow=32						
PMG	**Port Moresby**	**45.06**	**38**	LR	LR	12 16 54.0	
	comp=Z,173nm,19.4s,baz=219,slow=36						
GUMO	**Guam**	**65.68**	**26**	LR	LR	12 30 04.7	
	comp=Z,57nm,18.8s,baz=185,slow=36						
PALK	**Pallekele**	**65.96**	**316**	LR	LR	12 24 28.8	
	comp=Z,52nm,20.1s,baz=219,slow=31						
PMSA	**Palmer Station**	**66.70**	**178**	LR	LR	12 28 41.8	
	comp=Z,110nm,22.0s,baz=130,slow=35						
CMAR	**Chiang Mai Arr**	**69.74**	**338**	P	**P**	**12 01 15.1**	**+0.3**
	0.6nm,0.5s,baz=187,slow=6.9,SNR=6.4						
CMAR				LR	LR	12 34 06.4	
	comp=Z,17nm,18.1s,baz=120,slow=38 0.6nm,0.5s						
LBTB	**Lobatse**	**74.87**	**249**	LR	LR	12 27 14.6	
	comp=Z,118nm,19.6s,baz=162,slow=30						
WSAR	**Wadi Sarin**	**90.60**	**306**	LR	LR	12 36 48.3	
	comp=Z,31nm,18.6s,baz=227,slow=31						
CFA	**Coronel Fontan**	**99.55**	**172**	LR	LR	12 49 30.6	
	comp=Z,64nm,18.1s,slow=36						
TXAR	**Lajitas Array**	**141.04**	**103**	PKP	**PKiKP**	**12 09 36.6**	**-1.3**
	0.1nm,0.5s,baz=188,slow=5.5,SNR=1.9						
PDAR	**Pinedale Array**	**144.90**	**81**	PKPbc	**PKPdf**	**12 09 41.6**	**-0.1**
	1.1nm,1.0s,baz=134,slow=4.3,SNR=4.8						
YKA	**Yellowknife Ar**	**147.01**	**45**	PKPbc	**PKPbc**	**12 09 46.5**	**+0.1**
	1.2nm,0.7s,baz=271,slow=1.8,SNR=22						

*ISU **09** 11:58:20.1, 41.12N×72.12E, h16km*
*KRNET **09** 11:58:20.1±0.1, 41.11N×72.10E, h12km, mb2.3*
*NNC **09** 11:58:23.5±2.1, 41.17N×72.13E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=17.5km s-min=6.8km az=178.0*
*SOME **09** 11:58:23.2, 41.15N×72.30E, h5km*

ISC 09 11:58:19.6±1.1, 41.11N±0.02×72.12E±0.02, h9km±15km, n23, σ23/42, 17C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSNS	**Kasansay**	**0.46**	**277**	P	**Pb**	**11 58 29.5**	**-0.3**
KSNS				S	**Sb**	**11 58 36.6**	**-0.1**
TSTA	**Tashata**	**0.59**	**153**	P	**Pb**	**11 58 32.0**	**-0.1**
TSTA				S	**Sb**	**11 58 40.9**	**+0.3**
ARSB	**Arslanbob**	**0.69**	**71**	↑*e*P	**Pb**	**11 58 33.5**	**-0.3**
	baz=72						
ARSB				↑*e*S	**Sb**	**11 58 43.0**	**-0.4**
	baz=72						
FRG	**Fergana**	**0.77**	**199**	P	**Pb**	**11 58 35.2**	**0.0**
FRG				S	**Sb**	**11 58 46.3**	**+0.5**
TRKS	**Terek-Say**	**0.85**	**300**	↑*e*P	**Pg**	**11 58 35.0**	**-1.0**
	baz=97						
TRKS				↑*e*S	**Sg**	**11 58 45.7**	**-1.4**
	baz=97						
BTK	**Batken**	**1.44**	**224**	↓*e*P	**Pb**	**11 58 46.9**	**+0.3**
	baz=23						
BTK				↓*e*S	**Sg**	**11 59 06.2**	**+0.3**
	baz=23						
SFK	**Sufi-Kurgan**	**1.52**	**136**	↓*e*P	**Pg**	**11 58 48.6**	**-0.1**
	baz=35						
SFK				↓*e*S	**Sg**	**11 59 09.5**	**+1.1**
	baz=35						
AML	**Almayashu**	**1.56**	**49**	↑P	**Pg**	**11 58 51.1**	**+1.6**
AML				↑S	**Sg**	**11 59 13.4**	**+3.5**
	0.6nm,0.6s						
AML	**Almayashu**	**1.56**	**49**	↑*e*P	**Pb**	**11 58 49.4**	**+0.5**
	baz=49						
AML				↑*e*S	**Sg**	**11 59 10.9**	**+1.0**
	baz=49						
DRK	**Karamyk**	**1.64**	**189**	↑*e*P	**Pg**	**11 58 51.0**	**-0.1**
	baz=88						
DRK				↑*e*S	**Sg**	**11 59 12.9**	**+0.5**
	baz=88						
MRKS	**Merke**	**1.83**	**26**	P	**Pg**	**11 58 56.1**	**+1.4**
	3.6nm,0.2s						
MRKS				S	**Sg**	**11 59 19.9**	**+1.4**
	19nm,0.3s						
MRKS	**Merke**	**1.83**	**26**	*e*P	**Pg**	**11 58 56.1**	**+1.4**
	3.6nm,0.2s						
MRKS				*e*S	**Sg**	**11 59 19.9**	**+1.4**
	19nm,0.3s						
UCH	**Uchtor**	**2.12**	**57**	↑*e*P	**Pb**	**11 58 58.6**	**+0.3**
	baz=58						
UCH				↑*e*S	**Sg**	**11 59 26.6**	**-1.0**
	baz=58						
KK31	**Karatay Array**	**2.33**	**330**	↑Pn	**Pb**	**11 59 02.3**	**+0.6**
	0.3nm,0.3s,baz=148,slow=15,SNR=13						
KK31				↓Sn	**Sb**	**11 59 32.0**	**+1.5**
	1.9nm,0.5s,baz=144,slow=26,SNR=12						
AAK	**Ala-Archa**	**2.34**	**48**	↑*e*P	**Pb**	**11 59 01.4**	**-0.6**
	baz=49						
AAK				↑*e*S	**Sb**	**11 59 31.7**	**+0.6**
	baz=49						
KZA	**Kyzart**	**2.54**	**66**	↑*e*P	**Pb**	**11 59 04.6**	**-0.9**
	baz=67						
KZA				↑*i*S	**Sb**	**11 59 37.0**	**0.0**
	baz=67						
TKM2	**Tokmak 2**	**3.16**	**54**	↓Pg	**Pg**	**11 59 21.2**	**+1.0**
	0.3nm,0.3s						
TKM2				↓Lg	Lg	11 59 58.4	
	2.2nm,0.6s						
DGS	**Degeres**	**3.45**	**51**	Pg	**Pg**	**11 59 24.0**	**-1.7**
	1.0nm,0.6s						
DGS				Lg	Lg	12 00 08.1	
	3.4nm,0.7s						
DGS	**Degeres**	**3.45**	**51**	*e*P	**Pg**	**11 59 24.0**	**-1.7**
	1.0nm,0.2s						
DGS				*e*S	**Sg**	**12 00 08.1**	**-2.3**
	3.4nm,0.4s						
KRBS	**Karabastau**	**3.69**	**44**	Pg	**Pg**	**11 59 28.9**	**-1.4**
	0.4nm,0.2s						
KRBS				Lg	Lg	12 00 16.5	
	1.5nm,0.7s						
KRBS	**Karabastau**	**3.69**	**44**	*e*P	**Pg**	**11 59 28.9**	**-1.4**
	0.4nm,0.2s						
KRBS				*e*S	**Sg**	**12 00 16.5**	**-1.6**
	1.5nm,0.7s						
KTBS	**Karatobe**	**4.27**	**51**	Pg	**Pg**	**11 59 39.9**	**-1.3**
	0.5nm,0.4s						
KTBS				Lg	Lg	12 00 35.4	
	2.9nm,0.6s						
KTBS	**Karatobe**	**4.27**	**51**	*e*P	**Pg**	**11 59 39.9**	**-1.3**
	0.5nm,0.4s						
KTBS				*e*S	**Sg**	**12 00 35.4**	**-1.1**
	2.9nm,0.6s						

JMA 09 11:58:54.1±0.3, 28°N±2°×14°1E±°, h154km, MV3.7/17, NEAR CHICHIJIMA ISLAND, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.69**	**137**	P	Pn	11 59 26.4	+0.3
CBIJ				S	Sn	11 59 50.6	+0.1
JHH2	**Haha-jima-NKT2**	**2.05**	**146**	P	Pn	11 59 30.1	0.0
JHH2				S	Sn	11 59 58.2	+0.5
BSO1	**Boso 1**	**6.29**	**1**	*e*P	Pn	12 00 25.2	+1.0
BSO1				*e*S	Sn	12 01 33.0	-1.9
JOD2	**Odawara 2**	**7.07**	**348**	*e*P	Pn	12 00 36.6	+1.6
JHU	**Hanno**	**7.61**	**350**	*e*P	Pn	12 00 42.1	-0.1
JAG	**Ashikaga**	**8.15**	**352**	*e*P	Pn	12 00 48.3	-1.1
JHO	**Hitachi**	**8.25**	**358**	P	Pn	12 00 50.4	-0.3
JHO				S	Sn	12 02 14.7	-7.9

GII 09 12:07:12.0±0.3, 31°32N±0°01×36°31E±0°02, h0km, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHAJ	**Ghor Haditha**	**0.64**	**269**	P	Pb	12 07 25.3	-0.8
MSBI	**Mazada**	**0.82**	**270**	P	Pb	12 07 28.4	-0.7
MSBI	**Mazada**	**0.82**	**270**	S	Sb	12 07 41.2	+0.7
DSI	**Dead Sea**	**0.84**	**288**	P	Pb	12 07 29.5	+0.1
DSI	**Dead Sea**	**0.84**	**288**	S	Sb	12 07 41.7	+0.5
YTIR	**Yattir**	**1.02**	**273**	P	Pb	12 07 32.4	-0.2
YTIR	**Yattir**	**1.02**	**273**	S	Sn	12 07 48.2	-0.6
AMAZ	**Amatzia**	**1.21**	**280**	P	Pb	12 07 35.6	-0.2
AMAZ	**Amatzia**	**1.21**	**280**	S	Sn	12 07 53.2	-0.3
ZFRI	**Zfri**	**1.24**	**232**	P	Pg	12 07 35.6	-0.1
ZFRI	**Zfri**	**1.24**	**232**	S	Sn	12 07 55.0	+1.1
MMLI	**Mount Malkishu**	**1.35**	**326**	P	Pg	12 07 30.5	-7.3
SLTI	**Sal'it**	**1.42**	**311**	P	Pn	12 07 34.8	-4.3
SLTI	**Sal'it**	**1.42**	**311**	S	Sg	12 07 51.3	-6.4
PRNI	**Paran**	**1.48**	**230**	P	Pn	12 07 40.1	+0.1
PRNI	**Paran**	**1.48**	**230**	S	Sn	12 08 01.5	+1.5
HRFI	**Mount Harif**	**1.69**	**221**	P	Pn	12 07 43.2	+0.5
HRFI	**Mount Harif**	**1.69**	**221**	S	Sg	12 08 06.2	0.0
KZIT	**Kziot**	**1.69**	**256**	P	Pn	12 07 42.6	-0.2
KZIT	**Kziot**	**1.69**	**256**	S	Sb	12 08 06.0	+0.1
KSHT	**Keshet**	**1.71**	**346**	P	Pn	12 07 33.1	-10
KSHT	**Keshet**	**1.71**	**346**	S	Sn	12 07 48.7	-17
KRMI	**Paran Flat**	**1.82**	**229**	P	Pn	12 07 44.7	+0.2
KRMI	**Paran Flat**	**1.82**	**229**	S	Sb	12 08 09.3	-0.2
MMC7	**Mount Meron ar**	**1.87**	**336**	P	Pn	12 07 37.4	-7.9
MBRI	**Mt Berech**	**1.94**	**219**	P	Pn	12 07 46.6	+0.4
MBRI	**Mt Berech**	**1.94**	**219**	S	Sb	12 08 12.8	-0.2
GEM	**Giv'at Ha'Em**	**1.96**	**344**	P	Pn	12 07 37.1	-9.5
GEM	**Giv'at Ha'Em**	**1.96**	**344**	S	Sn	12 07 56.4	-15
NATI	**Neve Ativ**	**2.00**	**346**	P	Pn	12 07 37.8	-9.1
NATI	**Neve Ativ**	**2.00**	**346**	S	Sn	12 07 56.6	-16
EIL	**Elat**	**2.02**	**216**	P	Pn	12 07 47.6	+0.3
EIL	**Elat**	**2.02**	**216**	S	Sb	12 08 14.5	-0.8

DJA 09 12:31:46.8±0.5, 8°S±4°×12°2E±°, h301km±6km, M3.8/12, mb3.9/4, mB5.5/1, MLv3.7/12, Mw(mB)5.0/1, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.82**	**177**	P	Pn	12 32 27.4	+0.8
MMRI				S	S	12 32 58.1	-0.1
EDFI	**Ende, Flores**	**1.06**	**208**	P	Pn	12 32 28.1	+0.4
BBSI	**Bau Bau**	**2.34**	**9**	P	Pn	12 32 36.8	+0.3
SOEI	**Soe**	**2.81**	**134**	P	Pn	12 32 40.9	-0.1
BASI	**Baing, Sumba**	**2.88**	**214**	P	Pn	12 32 40.7	-0.8
BKSI	**Bulukumba**	**3.22**	**320**	P	Pn	12 32 44.8	-0.1
MKS	**Makassar**	**3.74**	**313**	P	Pn	12 32 50.6	+0.3
DBNI	**Kabupaten Domp**	**3.91**	**260**	P	Pn	12 32 52.5	+0.4
DBNI				S	S	12 33 44.4	0.0
PLAI	**Plampang**	**4.49**	**257**	P	Pn	12 32 58.7	+0.1
TWSI	**Taliwang, Sumb**	**5.34**	**260**	P	Pn	12 33 08.4	0.0
	13nm,0.6s,0.1nm						
NLAI	**Namlea**	**6.66**	**47**	P	Pn	12 33 23.7	-0.5
	5.4nm,1.1s,0.1nm						
LUWI	**Luwuk**	**6.75**	**5**	P	Pn	12 33 24.9	-0.3
IGBI	**Denpasar**	**7.05**	**261**	P	Pn	12 33 28.8	-0.1
	25nm,0.9s,0.2nm						
BNDI	**Bandanaira**	**8.33**	**67**	P	Pn	12 33 43.8	-0.7

*IDC **09** 12:35:26.9±0.9, 8°28S×150°00E, h0km, mb4.1/13, mbtmp4.1/17, ML3.7/3, MS3.4/14, Error ellipse: s-maj=29.7km s-min=14.6km az=114.0*
*NEIC **09** 12:35:35.1±1.6, 8°3S±0°1×149°8E±0°1, h52km±10km, mb4.1/13, Error ellipse: s-maj=21.6km s-min=9.0km az=137.0*

ISC 09 12:35:32.8±0.7, 8°30S±0°09×149°9E±0°1, h35km, n54, σ19/46, mb4.0/16, MS3.3/12, 1C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.92**	**248**	P	**Pn**	**12 36 17.7**	**+1.0**
PMG	**Port Moresby**	**2.92**	**248**	Pn	**Pn**	**12 36 17.9**	**+1.2**
	92nm,0.4s,baz=60,slow=5.6,SNR=38						
PMG				Sn	**Sn**	**12 36 52.6**	**+2.0**
	59nm,0.3s,baz=196,slow=23,SNR=11						
KRVT	**Keravat (AS076**	**4.50**	**28**	Pn	**Pn**	**12 36 35.8**	**-2.6**
	14nm,0.3s,baz=203,slow=2.4,SNR=1.6						
KRVT				Sn	**Sn**	**12 37 30.2**	**+0.7**
	11nm,0.3s,baz=28,slow=24,SNR=14 33nm,0.3s						
RABL	**Rabaul**	**4.66**	**29**	Pn	**Pn**	**12 36 42.5**	**+1.8**
RABL				Sn	**Sn**	**12 37 37.9**	**+4.2**
COEN	**Coen**	**8.66**	**229**	Pn	**Pn**	**12 37 36.4**	**+0.7**
HNR	**Honiara**	**10.00**	**97**	LR	LR	12 40 55.5	
	comp=Z,691nm,20.8s,baz=230,slow=33						
CTA	**Charters Tower**	**12.24**	**196**	Pn	**Pn**	**12 38 24.3**	**-0.4**
	0.1nm,0.3s,baz=12,slow=14,SNR=1.0						
CTA				LR	LR	12 42 52.4	
	comp=Z,72nm,18.6s,baz=61,slow=36 3.2nm,1.0s						
CTAO	**Charters Tower**	**12.24**	**196**	Pn	**Pn**	**12 38 26.9**	**+2.2**
WR0	**Warramunga Arr**	**18.85**	**230**	P	**P**	**12 39 49.5**	**-0.5**
WR0				IAmb	IAmb	12 40 00.4	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**18.85**	**231**	P	**P**	**12 39 49.6**	**-0.4**
WB0				IAmb	IAmb	12 40 04.6	
	comp=Z,9.4nm,1.2s						
WRAB	**Tennant Creek**	**18.98**	**231**	P	**P**	**12 39 51.2**	**-0.2**
WRAB				IAmb	IAmb	12 40 09.8	
	comp=Z,17nm,1.5s						
MTN	**Manton Dam**	**18.98**	**255**	P	**P**	**12 39 50.1**	**-1.3**
MTN				IAmb	IAmb	12 40 03.8	
	comp=Z,27nm,1.3s						
WB2	**Warramunga Arr**	**18.98**	**231**	P	**P**	**12 39 50.7**	**-0.7**
WRA	**Warramunga Arr**	**18.99**	**231**	P	**P**	**12 39 50.6**	**-1.0**
WRA	**Warramunga Arr**	**18.99**	**231**	P	**P**	**12 39 51.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=57,slow=12,SNR=11 comp=Z,1.9nm,0.8s						
DZM	**Mont Dzumac**	**21.01**	**133**	LR	LR	12 46 15.7	
	comp=Z,105nm,19.7s,baz=252,slow=31						
AS31	**Alice Springs**	**21.64**	**223**	P	**P**	**12 40 22.6**	**+2.4**
ASAR	**Alice Springs**	**21.64**	**223**	P	**P**	**12 40 23.2**	**+3.0**
ASAR	**Alice Springs**	**21.64**	**223**	P	**P**	**12 40 20.4**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=59,slow=8.8,SNR=17 comp=Z,1.7nm,0.7s						
KNRA	**Kununurra**	**21.92**	**248**	P	**P**	**12 40 20.6**	**-2.6**
GUMO	**Guam**	**22.31**	**347**	LR	LR	12 49 18.1	
	comp=Z,15nm,18.1s,baz=144,slow=37						
STKA	**Stephens Creek**	**24.70**	**197**	P	**P**	**12 40 50.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=40,slow=12,SNR=3.7						
STKA				LR	LR	12 50 00.3	
	comp=Z,84nm,20.2s,baz=24,slow=35 comp=Z,1.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.51**	**245**	P	**P**	**12 40 57.8**	**-0.4**
FITZ				IAmb	IAmb	12 40 58.6	
	comp=Z,3.2nm,0.8s						
KAPI	**Kappang**	**30.11**	**274**	LR	LR	12 55 15.8	
	comp=Z,49nm,21.2s,baz=84,slow=39						
FORT	**Forrest**	**30.27**	**219**	P	**P**	**12 41 39.9**	**-0.7**
URZ	**Urewera**	**38.63**	**145**	LR	LR	12 57 41.0	
	comp=Z,60nm,18.4s,baz=289,slow=35						
RPZ	**Rata Peaks**	**39.83**	**156**	LR	LR	12 57 16.4	
	comp=Z,82nm,21.9s,baz=316,slow=33						
LEM	**Lembang**	**41.92**	**269**	LR	LR	13 04 45.4	
	comp=Z,34nm,18.1s,baz=62,slow=42						
JHJ	**Hachijo jima 2**	**42.29**	**347**	LR	LR	12 59 34.2	
	comp=Z,296nm,19.0s,baz=100,slow=34						
JNU	**Nakatsue**	**44.99**	**337**	LR	LR	13 01 29.8	
	comp=Z,34nm,18.3s,baz=120,slow=35						
MJAR	**Matsushiro Arr**	**45.93**	**347**	P	**P**	**12 43 52.0**	**-0.3**
	comp=Z,5.5nm,1.0s,baz=152,slow=7.9,SNR=5.1 comp=Z,5.5nm,1.0s						
KSRS	**Korea Array**	**49.94**	**337**	P	**P**	**12 44 23.2**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=137,slow=7.4,SNR=6.0 comp=Z,3.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**54.70**	**344**	LR	LR	13 05 57.7	
	comp=Z,26nm,20.5s,baz=148,slow=34						
CMAR	**Chiang Mai Arr**	**56.86**	**298**	P	**P**	**12 45 14.4**	**0.0**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.1,SNR=12 comp=Z,1.3nm,0.6s						
PETK	**Petropavlovsk-**	**61.52**	**5**	P	**P**	**12 45 47.1**	**+1.1**
	comp=Z,4.5nm,0.9s,baz=202,slow=7.5,SNR=4.6 comp=Z,4.5nm,0.9s						
SONM	**Songino Array**	**67.80**	**330**	P	**P**	**12 46 27.9**	**+0.6**
SONM				IAmb	IAmb	12 46 29.2	
	comp=Z,3.1nm,0.9s						
SONM	**Songino Array**	**67.80**	**330**	P	**P**	**12 46 27.2**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=146,slow=6.4,SNR=16 comp=Z,3.2nm,0.9s						
MK31	**Makanchi Array**	**81.08**	**320**	↑Pn	**P**	**12 47 42.4**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=97,slow=7.0,SNR=7.3						
MK31				↓Lg	Lg	12 49 18.7	
	comp=Z,1.0nm,0.7s,baz=37,slow=29,SNR=3.4						
MKAR	**Makanchi Array**	**81.08**	**320**	P	**P**	**12 47 43.6**	**-0.8**
MKAR	**Makanchi Array**	**81.08**	**320**	P	**P**	**12 47 43.5**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=98,slow=6.5,SNR=6.9 comp=Z,0.5nm,0.7s						
MAKZ	**Makanchi**	**81.29**	**320**	↓Pn	**P**	**12 47 44.1**	**-1.4**
	comp=Z,0.1nm,0.4s						
MAKZ				↓Lg	Lg	12 49 24.3	
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**81.69**	**180**	P	**P**	**12 47 47.4**	**-0.1**
QSPA				IAmb	IAmb	12 47 59.4	
	comp=Z,4.4nm,1.1s						
QSPA	**South Pole Qui**	**81.69**	**180**	P	**P**	**12 47 46.8**	**-0.6**
	comp=Z,1.6nm,1.0s,baz=0.0,slow=3.0,SNR=3.4 comp=Z,1.6nm,1.0s						
ZALV	**Zalesovo Beam**	**82.47**	**327**	P	**P**	**12 47 50.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=96,slow=4.6,SNR=3.5						
ZALV				LR	LR	13 23 35.1	
	comp=Z,36nm,21.5s,baz=349,slow=35 comp=Z,0.4nm,0.4s						
KZA	**Kyzart**	**84.29**	**314**	P	**P**	**12 48 02.5**	**+0.8**
	SNR=9.6						
KURBB	**Kurchatov Arra**	**84.78**	**323**	P	**P**	**12 48 02.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=111,slow=3.6,SNR=8.1 comp=Z,0.3nm,0.3s						
UCH	**Uchtor**	**84.86**	**314**	P	**P**	**12 48 05.1**	**+0.4**
	SNR=6.2						
USP	**Ospenovka**	**85.16**	**315**	P	**P**	**12 48 05.3**	**-0.3**
	SNR=6.2						
AML	**Almayashu**	**85.42**	**314**	P	**P**	**12 48 07.7**	**+0.3**
	SNR=8.4						
EKS2	**Erkin-Say**	**85.50**	**314**	P	**P**	**12 48 07.7**	**+0.2**
	SNR=6.0						
ILAR	**Eielson Array**	**86.47**	**23**	P	**P**	**12 48 10.2**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=250,slow=5.1,SNR=16 comp=Z,1.7nm,0.9s						
BVAR	**Borovoye Array**	**90.30**	**324**	P	**P**	**12 48 28.2**	**-1.9**
	comp=Z,1.8nm,0.9s,baz=98,slow=3.0,SNR=5.3 comp=Z,1.8nm,0.9s						
RPN	**Rapa Nui**	**95.73**	**118**	LR	LR	13 25 45.1	
	comp=Z,19nm,19.9s,baz=324,slow=32						
TORD	**Torodi Ar. Bea**	**148.40**	**282**	PKPbc	**PKPbc**	**12 55 16.2**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=56,slow=3.5,SNR=12						

IDC 09 13:09:46.1±8.6, 4°43S×148°47E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=277.8km s-min=37.4km az=102.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.67**	**221**	P	P	13 14 27.6	-0.2
	0.3nm,0.5s,baz=41,slow=12,SNR=9.0 0.3nm,0.5s						
ASAR	**Alice Springs**	**23.73**	**215**	P	P	13 15 00.2	+0.1
	0.2nm,0.4s,baz=49,slow=8.2,SNR=4.9 0.2nm,0.4s						
MKAR	**Makanchi Array**	**77.24**	**320**	P	P	13 21 42.4	+0.1
	0.1nm,0.3s,baz=130,slow=7.1,SNR=1.6 0.1nm,0.3s						

*ISN **09** 13:16:25.9±0.4, 34.54N×46.03E, h8km±61km, ML3.1*
*TEH **09** 13:16:27.0, 34.63N×46.02E, h8km±33km, ML3.3*

ISC 09 13:16:27.0±1.3, 34.62N±0.03×46.04E±0.03, h4km±13km, n23, σ19/28, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.30**	**75**	Pg	**Pg**	**13 16 33.4**	**+0.6**
IDHR				Sg	**Sb**	**13 16 38.6**	**-1.8**
KGS1	**Ghasr-e-Shirin**	**0.39**	**253**	Pg	**Pg**	**13 16 34.8**	**+0.3**
IGHG	**Ghaleghazi**	**0.53**	**124**	Pg	**Pb**	**13 16 37.7**	**-1.2**
IGHG				Sg	**Sb**	**13 16 46.4**	**-0.6**
ILIN	**Lien**	**0.81**	**68**	Pg	**Pg**	**13 16 43.0**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.90**	**112**	Pg	**Pg**	**13 16 44.2**	**0.0**
ILBA	**Ilam Banvizeh**	**1.00**	**172**	Pg	**Pb**	**13 16 46.6**	**-0.4**
IKOM	**Komasi**	**1.30**	**110**	Pg	**Pg**	**13 16 52.0**	**+0.1**

EMUR	**La Murta**	**0.24**	**142**	Pg		**Pg**	**13 21 44.1**	**+0.3**
EMUR				Sg		**Sg**	**13 21 47.5**	**-0.2**
EMUR	**La Murta**	**0.24**	**142**	⇓Pg		**Pg**	**13 21 44.3**	**+0.4**
EMUR				Sg		**Sg**	**13 21 47.0**	**-0.6**
EMUR				*i* Vmb_Lg			13 21 48.3	
EZAR	**Zarzadilla de**	**0.26**	**233**	Pg		**Pg**	**13 21 44.0**	**-0.2**
EZAR				Sg		**Sg**	**13 21 47.5**	**-0.7**
EZAR				*i* Vmb_Lg			13 21 49.1	
TLOR	**Lorca, Murcia**	**0.43**	**209**	Pg		**Pb**	**13 21 47.1**	**-0.2**
TLOR				Sg		**Sg**	**13 21 52.7**	**-0.2**
TLOR	**Lorca, Murcia**	**0.43**	**209**	Pg		**Pb**	**13 21 47.0**	**-0.3**
TLOR				Sg		**Sg**	**13 21 52.3**	**-0.6**
ELOR	**Lorca, Murcia**	**0.47**	**212**	Pg		**Pb**	**13 21 47.7**	**-0.3**
ELOR				Sg		**Sg**	**13 21 53.4**	**-0.6**
ELOR				*i* Vmb_Lg			13 21 55.8	
CART	**Cartagena**	**0.56**	**143**	Pg		**Pb**	**13 21 49.9**	**+0.4**
CART				Sg		**Sg**	**13 21 56.5**	**-0.5**
ETOB	**Tobarra**	**0.62**	**351**	Pg		**Pn**	**13 21 53.8**	**+1.5**
ETOB				Sg		**Sb**	**13 22 01.0**	**+2.0**
ETOB	**Tobarra**	**0.62**	**351**	Pg		**Pb**	**13 21 51.7**	**+1.1**
ETOB				Sg		**Sb**	**13 21 59.3**	**+0.3**
ETOB				*i* Vmb_Lg			13 22 05.3	
ETOB	**Tobarra**	**0.62**	**351**	Sg		**Pg**	**13 21 51.6**	**+1.1**
AFON	**Font Roja**	**0.94**	**48**	Pg		**Pb**	**13 21 56.4**	**+0.3**
AFON				Sg		**Sb**	**13 22 08.9**	**+0.5**
AFON				*i* Vmb_Lg			13 22 18.0	
EBEN2	**Beniarda presa**	**1.17**	**56**	Pg		**Pb**	**13 21 59.7**	**-0.2**
EBEN2				Sg		**Sb**	**13 22 14.6**	**-0.2**
EBEN2				*i* Vmb_Lg			13 22 21.8	
ENIJ	**Nijar**	**1.23**	**210**	Pn		**Pn**	**13 22 00.5**	**0.0**
ENIJ				Sn		**Sb**	**13 22 15.6**	**-0.8**
ENIJ	**Nijar**	**1.23**	**210**	Pg		**Pn**	**13 22 00.6**	**0.0**
ENIJ				Sg		**Sb**	**13 22 16.7**	**+0.2**
ENIJ				*i* Vmb_Lg			13 22 22.1	
EVIV	**Cofrentes, Val**	**1.25**	**11**	Pg		**Pg**	**13 22 02.1**	**-0.5**
EVIV				Sg		**Sn**	**13 22 19.5**	**+2.0**
EVIV				*i* Vmb_Lg			13 22 23.9	
EQES	**Quesada**	**1.32**	**260**	Pg		**Pg**	**13 22 04.1**	**+0.4**
EQES				Sg		**Sg**	**13 22 21.5**	**+0.6**
EQES				*i* Vmb_Lg			13 22 26.5	
ECHE	**Chera**	**1.60**	**13**	Pg		**Pg**	**13 22 09.6**	**+0.6**
ECHE				Pn		**Pb**	**13 22 07.0**	**-0.3**
ECHE				Sg		**Sg**	**13 22 31.1**	**+1.3**
ECHE	**Chera**	**1.60**	**13**	Pn		**Pb**	**13 22 07.2**	**-0.1**
ECHE				Pg		**Pg**	**13 22 09.7**	**+0.7**
ECHE				Sn		**Sn**	**13 22 27.4**	**+1.5**
ECHE				Sg		**Sg**	**13 22 29.9**	**+0.1**
ECHE				*i* Vmb_Lg			13 22 36.7	
EBER	**Berja**	**1.62**	**226**	Pn		**Pn**	**13 22 07.1**	**+1.0**
EBER	**Berja**	**1.62**	**226**	Pn		**Pn**	**13 22 07.0**	**+0.8**
EBER				Pg		**Pg**	**13 22 09.7**	**+0.2**
EBER				Sn		**Sb**	**13 22 28.8**	**+0.8**
EBER				Sg		**Sg**	**13 22 30.6**	**-0.1**
EBER				*i* Vmb_Lg			13 22 38.4	
EQUE	**Quentar**	**1.80**	**243**	Pn		**Pb**	**13 22 10.2**	**-0.5**
EQUE				Sn		**Sb**	**13 22 33.8**	**+0.8**
EQUE				*i* Vmb_Lg			13 22 41.4	
EQTA	**Presa de Quent**	**1.80**	**243**	Pn		**Pb**	**13 22 10.2**	**-0.6**
EQTA				Sn		**Sn**	**13 22 32.2**	**+1.3**
ELGU	**Los Guajares,**	**2.10**	**237**	Pn		**Pb**	**13 22 15.1**	**-0.8**
ELGU				Sg		**Sg**	**13 22 46.1**	**+0.3**
ELGU	**Los Guajares,**	**2.10**	**237**	Pn		**Pn**	**13 22 14.5**	**+1.8**
ELGU				Sn		**Sn**	**13 22 39.6**	**+1.2**
ELGU				Sg		**Sg**	**13 22 45.8**	**-0.1**
ELGU				*i* Vmb_Lg			13 22 56.5	
EGOR	**Sierra Gorda,**	**2.32**	**247**	Pn		**Pn**	**13 22 17.3**	**+1.6**
EGOR	**Sierra Gorda,**	**2.32**	**247**	Pn		**Pn**	**13 22 17.4**	**+1.5**
EGOR				Pg		**Pb**	**13 22 20.9**	**+1.3**
EGOR				Sn		**Sn**	**13 22 45.6**	**+1.7**
EGOR				*i* Vmb_Lg			13 23 05.7	
EIBI	**Ibiza**	**2.39**	**65**	Pn		**Pn**	**13 22 16.3**	**-0.3**
EIBI				Sn		**Sn**	**13 22 43.5**	**-2.0**
EIBI	**Ibiza**	**2.39**	**65**	Pn		**Pn**	**13 22 16.2**	**-0.3**
EIBI				Sn		**Sn**	**13 22 43.5**	**-2.0**
EIBI				*i* Vmb_Lg			13 22 48.1	
EMOS	**Mosqueruela**	**2.44**	**17**	Pn		**Pn**	**13 22 18.9**	**+1.4**
EMOS				Pg		**Pb**	**13 22 23.4**	**+1.6**
EMOS				Sn		**Sn**	**13 22 49.2**	**+2.2**
EMOS				Sg		**Sg**	**13 22 55.4**	**-1.4**
EMOS				*i* Vmb_Lg			13 23 05.7	
EADA	**Adamuz**	**2.49**	**274**	Pn		**Pn**	**13 22 18.4**	**+0.5**
EADA				Sn		**Sn**	**13 22 48.8**	**+1.0**
EADA				Sg		**Sg**	**13 22 58.0**	**-0.2**
EADA	**Adamuz**	**2.49**	**274**	Pn		**Pn**	**13 22 18.5**	**+0.6**
EADA				Pg		**Pg**	**13 22 25.0**	**-0.9**
EADA				Sn		**Sn**	**13 22 48.3**	**+0.5**
EADA				Sg		**Sg**	**13 22 57.1**	**-1.1**
EADA				*i* Vmb_Lg			13 23 02.2	
ESDC	**Sonseca Array**	**2.57**	**310**	Pn		**Pn**	**13 22 20.9**	**+1.8**
ESDC				Pg		**Pg**	**13 22 26.1**	**-1.4**
ESDC				Sn		**Sn**	**13 22 49.4**	**-0.4**
ESDC				Sg		**Sg**	**13 22 58.4**	**-2.4**
ESDC				*i* Vmb_Lg			13 23 03.5	
UCM	**Universidad Co**	**2.67**	**329**	Pn		**Pn**	**13 22 22.7**	**+2.2**
UCM				Pg		**Pg**	**13 22 29.9**	**+0.3**
UCM				Sg		**Sg**	**13 23 04.1**	**-0.1**
PAB	**San Pablo**	**2.73**	**304**	Pn		**Pn**	**13 22 22.3**	**+0.9**
PAB				Sg		**Sg**	**13 23 06.0**	**-0.2**
PAB				*i* Vmb_Lg			13 23 08.6	
ETOR	**Torete**	**2.82**	**350**	Pn		**Pn**	**13 22 23.4**	**+0.8**
ETOR				Pg		**Pg**	**13 22 32.6**	**+0.2**
ETOR				Sg		**Sg**	**13 22 38.4**	**-0.6**
ETOR				*i* Vmb_Lg			13 23 13.7	
EMIJ	**Mijas**	**3.04**	**242**	Pn		**Pn**	**13 22 27.5**	**+1.9**
ECAB	**El Cabril**	**3.15**	**272**	Pn		**Pn**	**13 22 27.5**	**+0.5**
ECAB				Sn		**Sn**	**13 23 02.8**	**-1.3**
ECAB				Sg		**Sg**	**13 23 18.1**	**-1.3**
ECAB	**El Cabril**	**3.15**	**272**	Pn		**Pn**	**13 22 27.3**	**+0.3**
ECAB				Sn		**Sn**	**13 23 03.8**	**-0.4**
ECAB				Sg		**Sg**	**13 23 17.8**	**-1.6**
ECAB				*i* Vmb_Lg			13 23 20.5	
ERTA	**Horta de San J**	**3.22**	**25**	Pn		**Pn**	**13 22 30.1**	**+2.0**
ERTA				Sn		**Sn**	**13 23 07.6**	**+1.6**
ERTA				*i* Vmb_Lg			13 23 16.3	
ERTA				Sg		**Sg**	**13 23 19.1**	**-2.7**
GUD	**Guadarrama**	**3.35**	**322**	Pn		**Pn**	**13 22 31.2**	**+1.3**
GUD				Pg		**Pg**	**13 22 40.4**	**-2.2**
GUD				Sn		**Sn**	**13 23 08.3**	**-1.1**
GUD				Sg		**Sg**	**13 23 24.0**	**-2.0**
GUD				*i* Vmb_Lg			13 23 32.0	
ETOS	**Mallorca**	**3.74**	**61**	Pn		**Pn**	**13 22 35.9**	**+0.8**
ETOS	**Mallorca**	**3.74**	**61**	Pn		**Pn**	**13 22 35.5**	**+0.4**
ETOS				Sn		**Sn**	**13 23 16.8**	**-1.8**
EPOB	**Poblet**	**3.84**	**29**	Pn		**Pn**	**13 22 37.8**	**+1.2**
EPOB				Sn		**Sn**	**13 23 21.3**	**+0.1**
PBAR	**Barrancos**	**4.43**	**274**	*e*Pn		**Pn**	**13 22 45.1**	**+0.6**
PBAR				*e*Sn		**Sn**	**13 23 36.5**	**+0.9**
PBAR				*e*Sg		**Sg**	**13 23 59.5**	**-0.8**
PBAR				A		A	13 24 11.3	
	23nm,0.6s							
PBAR	**Barrancos**	**4.43**	**274**	Pn		**Pn**	**13 22 44.8**	**+0.3**
EBAD	**Badajoz**	**4.45**	**281**	Pn		**Pn**	**13 22 46.6**	**+1.8**
EBAD				Sn		**Sn**	**13 23 33.1**	**-3.0**
EBAD				Sg		**Sg**	**13 23 57.5**	**-3.4**
EGRO	**El Granado**	**4.82**	**266**	Pn		**Pn**	**13 22 51.1**	**+1.1**
EGRO				Sg		**Sb**	**13 24 06.7**	**+6.8**
PMRV	**Marv??o**	**4.87**	**288**	*e*Sg		**Sg**	**13 24 14.3**	**-0.1**
PMRV				A		A	13 24 21.2	
	28nm,0.5s							
ETSF	**Etsaut**	**4.91**	**8**	*e*Pn		**Pn**	**13 22 52.3**	**+1.1**
ETSF	**Etsaut**	**4.91**	**8**	*e*P		Pn	13 22 56.0	+4.8
ETSF				*e*Sg		**Sg**	**13 24 13.7**	**-2.0**
	9.7nm,0.4s							
PESTR	**Estremoz**	**4.91**	**282**	*e*Pn		**Pn**	**13 22 52.7**	**+1.5**
PESTR				*e*Sn		**Sn**	**13 23 46.4**	**-1.1**
PESTR				*e*Sg		**Sg**	**13 24 14.7**	**-1.0**
PESTR				A		A	13 24 24.4	
	26nm,0.5s							
PVAQ	**Vaqueiros**	**5.02**	**265**	*e*Pn		**Pn**	**13 22 54.3**	**+1.5**
PVAQ				*e*Sn		**Sn**	**13 23 49.9**	**-0.5**
PCBR	**Castelo Branco**	**5.05**	**293**	*e*Sg		**Sg**	**13 24 20.1**	**-0.2**
PCBR				A		A	13 24 29.3	
	15nm,0.4s							
SJPF	**Ste Jean**	**5.08**	**2**	*e*Pn		**Pn**	**13 22 54.8**	**+1.3**
SJPF	**Ste Jean**	**5.08**	**2**	*e*P		**Pn**	**13 22 57.8**	**+4.3**
SJPF				*e*Sg		**Sg**	**13 24 19.5**	**-1.7**
	14nm,0.7s							
PBEJ	**Beja**	**5.08**	**272**	*e*Sg		**Sg**	**13 24 17.5**	**-3.8**
PBEJ				A		A	13 24 28.7	
	11nm,0.4s							
EPF	**Esparros**	**5.17**	**15**	*e*Pn		**Pn**	**13 22 55.8**	**+1.0**
EPF	**Esparros**	**5.17**	**15**	*e*P		**Pn**	**13 22 59.2**	**+4.4**
EPF				*e*Sg		**Sg**	**13 24 22.3**	**-1.9**
	14nm,0.5s							
EVO	**Evora**	**5.20**	**278**	*e*Sn		**Sn**	**13 23 53.3**	**-1.5**
EVO				*e*Sg		**Sg**	**13 24 24.8**	**-0.4**
EVO				A		A	13 24 32.2	
	23nm,0.8s							
PBDV	**Barranco-do-Ve**	**5.22**	**263**	*e*Sg		**Sg**	**13 24 24.7**	**-1.1**
PBDV				A		A	13 24 38.8	
	16nm,0.7s							
PCVE	**Castro Verde**	**5.25**	**268**	*e*Pn		**Pn**	**13 22 56.5**	**+0.7**
PCVE				*e*Sg		**Sg**	**13 24 26.0**	**-0.6**
PCVE				A		A	13 24 41.0	
	12nm,0.6s							
MTE	**Manteigas**	**5.30**	**298**	*e*Sg		**Sg**	**13 24 26.6**	**-1.8**
MTE				A		A	13 24 31.2	
	17nm,0.5s							
MVO	**Moncorvo**	**5.33**	**308**	*e*Pn		**Pn**	**13 22 58.4**	**+1.3**
MVO				*e*Sn		**Sn**	**13 23 55.7**	**-2.4**
MVO				*e*Sg		**Sg**	**13 24 29.6**	**+0.1**
MVO				A		A	13 24 34.9	
	17nm,0.4s							
PMTG	**Montargil**	**5.43**	**283**	*e*Pn		**Pn**	**13 23 00.5**	**+2.2**
PMTG				*e*Sn		**Sn**	**13 23 57.9**	**-2.4**
PMTG				*e*Sg		**Sg**	**13 24 32.1**	**-0.3**
PMTG				A		A	13 24 42.1	
	27nm,0.5s							
PBRG	**Braganca**	**5.55**	**314**	*e*Pn		**Pn**	**13 23 01.4**	**+1.3**
PBRG				*e*Sg		**Sg**	**13 24 35.0**	**-1.5**
PBRG				A		A	13 24 43.4	
	14nm,0.5s							
PNCL	**Nicolau / Gran**	**5.60**	**273**	*e*Sg		**Sg**	**13 24 36.3**	**-1.7**
PNCL				A		A	13 24 48.1	
	9.9nm,0.6s							
PVIS	**Viseu**	**5.68**	**300**	*e*Sg		**Sg**	**13 24 39.6**	**-0.9**
PVIS				A		A	13 24 49.1	
	16nm,0.6s							
PCAS	**Casmilo, Conde**	**5.86**	**292**	*e*Sn		**Sn**	**13 24 09.2**	**-1.8**
PCAS				*e*Sg		**Sg**	**13 24 45.1**	**-1.2**
PCAS				A		A	13 25 01.5	
	17nm,0.7s							
POLO	**Lamas de Olo**	**5.93**	**306**	*e*Sg		**Sg**	**13 24 48.0**	**-0.6**
POLO				A		A	13 25 04.3	
	6.7nm,0.5s							
MTLF	**Montolieu**	**5.98**	**26**	*e*Pn		**Pn**	**13 23 05.5**	**-0.4**
MTLF	**Montolieu**	**5.98**	**26**	*e*P		Pn	13 23 11.5	+5.6
MTLF				*e*Sg		**Sg**	**13 24 46.5**	**-3.7**
	5.1nm,0.5s							
EARI	**Arriondas**	**6.00**	**333**	Pn		**Pn**	**13 23 08.2**	**+2.1**
EARI				Sn		**Sn**	**13 24 10.9**	**-3.4**
EARI				Sg		**Sg**	**13 24 45.6**	**-4.9**
EPON	**Pontenova**	**6.84**	**322**	Pn		**Pn**	**13 23 19.5**	**+1.7**
EPON				Sn		**Sn**	**13 24 29.9**	**-5.3**
CAF	**Calviac**	**7.37**	**20**	*e*Pn		**Pn**	**13 23 25.8**	**+0.8**
CAF	**Calviac**	**7.37**	**20**	*e*P		Pn	13 23 30.7	+5.7

DJA 09 14:02:43.0±0.9, 1°S±2°×12°6E±°, h12km±7km, M4.0/19, mb4.1/9, mB4.9/1, MLv4.0/19, Mw(mB)4.2/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.61**	**163**	P	Pn	14 03 09.7	-1.5
SANI				S	Sn	14 03 32.1	+0.2
KMSI	**Cibinong**	**1.88**	**305**	P	Pn	14 03 14.9	-0.1
KMSI				S	Sn	14 03 39.0	+0.3
LBMI	**Labuha**	**1.98**	**94**	P	Pn	14 03 16.6	+0.3
LBMI				S	Sn	14 03 41.7	+0.7
TNTI	**Ternate**	**2.23**	**55**	P	Pn	14 03 19.5	-0.3
GTOI	**Gorontalo**	**2.76**	**294**	P	Pn	14 03 29.0	+1.9
GTOI				S	Sb	14 04 05.6	-0.5
LUWI	**Luwuk**	**2.81**	**259**	P	Pn	14 03 26.5	-1.3
NLAI	**Namlea**	**3.14**	**150**	P	Pn	14 03 31.2	-1.1
MRSI	**Marisa**	**3.72**	**285**	P	Pn	14 03 39.7	-0.6
SGSI	**Sangihe**	**4.16**	**360**	P	Pn	14 03 45.9	-0.5
MPSI	**Mapaga**	**5.69**	**278**	P	Pn	14 04 08.7	+1.2
	10nm,0.8s,0.1nm						
SWI	**Sorong**	**5.74**	**94**	P	Pn	14 04 07.7	-0.4
	7.2nm,1.1s,0.1nm						
BBSI	**Bau Bau**	**5.77**	**211**	P	Pn	14 04 08.5	0.0
	18nm,1.0s,0.1nm						
BNDI	**Bandanaira**	**5.92**	**133**	P	Pn	14 04 10.3	-0.3
	73nm,1.5s,0.3nm						
TTSI	**Tana Toraja**	**6.24**	**246**	P	Pn	14 04 14.8	-0.2
	20nm,0.4s,0.1nm						
SPSI	**Sidrap Palu**	**6.71**	**239**	P	Pn	14 04 21.1	-0.3
	28nm,0.6s,896nm0.1nm						
FAKI	**Fak Fak**	**7.13**	**110**	P	Pn	14 04 27.1	-0.2
	17nm,1.1s,0.1nm						
BKSI	**Bulukumba**	**7.22**	**228**	P	Pn	14 04 28.8	+0.4

*IDC **09** 14:12:19.4±0.8, 4°.28N×127°.42E, h0km, mb3.9/10, mbtmp3.9/10, MS2.5/1, Error ellipse: s-maj=47.8km s-min=15.1km az=68.0*
*NEIC **09** 14:12:24.7±1.2, 4°.23N±0°.05×127°.4E±0°.1, h32km±6km, mb4.3/16, Error ellipse: s-maj=17.4km s-min=6.5km az=85.0*
*DJA **09** 14:12:26.6±0.5, 4°N±4°×12°7E±°, h10km, M4.1/12, mb4.1/8, MLv4.1/12*
ISC 09 14:12:21.1±0.6, 4°.22N±0°.06×127°.36E±0°.07, h10km, n43, σ0°88/42, mb4.1/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.90**	**254**	P	**Pn**	**14 12 54.7**	**+1.1**
SGSI				S	**Sn**	**14 13 16.2**	**-1.5**
DAV	**Davao City (W)**	**3.34**	**328**	P	**Pb**	**14 13 21.6**	**+1.1**
TNTI	**Ternate**	**3.42**	**180**	Pn	**Pn**	**14 13 15.9**	**+1.3**
TNTI	**Ternate**	**3.42**	**180**	P	**Pn**	**14 13 14.8**	**+0.2**
LBMI	**Labuha**	**4.83**	**178**	P	**Pn**	**14 13 33.2**	**-0.7**
KMSI	**Cibinong**	**4.95**	**223**	P	**Pn**	**14 13 35.4**	**-0.2**
GTOI	**Gorontalo**	**5.62**	**231**	P	**Pn**	**14 13 45.5**	**+0.8**
	10nm,1.0s,0.0nm						
SANI	**Sanana**	**6.38**	**192**	P	**Pn**	**14 13 54.9**	**-0.3**
	16nm,0.7s,0.1nm						
SWI	**Sorong**	**6.38**	**142**	P	Pn	14 13 59.1	+3.9
	15nm,0.8s,0.1nm						
SIJI	**Sorong**	**6.38**	**142**	P	**Pn**	**14 13 58.6**	**+3.3**
	10nm,0.8s,0.1nm						
MRSI	**Marisa**	**6.57**	**236**	P	**Pn**	**14 13 57.3**	**-0.5**
	28nm,0.5s,0.1nm						
TOLI2	**Tolitoli**	**7.26**	**245**	Pn	**Pn**	**14 14 08.1**	**+0.7**
NLAI	**Namlea**	**7.41**	**182**	P	**Pn**	**14 14 09.4**	**0.0**
	8.7nm,0.6s,0.1nm						
FAKI	**Fak Fak**	**8.61**	**145**	Pn	Pn	14 14 31.1	+5.2
KAPI	**Kappang**	**11.91**	**220**	LR	LR	14 20 22.2	
	comp=Z,24nm,19.3s,baz=51,slow=40						
SOEI	**Soe**	**14.22**	**193**		**P**	**14 15 50.4**	**+0.1**
MTN	**Manton Dam**	**17.36**	**168**	P	**P**	**14 16 24.0**	**-1.0**
MTN				IAmb	IAmb	14 16 46.5	
	comp=Z,26nm,1.4s						
KNRA	**Kununurra**	**19.82**	**176**	P	**P**	**14 16 51.7**	**-0.3**
KNRA				IAmb	IAmb	14 17 09.7	
	comp=Z,26nm,1.1s						
TPUB	**Ta-pu**	**20.05**	**342**	P	**P**	**14 16 55.2**	**+0.6**
TPUB				IAmb	IAmb	14 17 14.5	
	comp=Z,39nm,1.1s						
JMZ	**Minamidaito 2**	**21.80**	**9**	P	**P**	**14 17 11.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**22.24**	**184**	P	**P**	**14 17 17.8**	**-0.4**
WB0	**Warramunga Arr**	**24.82**	**164**	P	**P**	**14 17 43.4**	**-0.3**
WB0				IAmb	IAmb	14 18 15.8	
	comp=Z,8.6nm,1.1s						
WRAB	**Tennant Creek**	**24.96**	**164**	P	**P**	**14 17 44.6**	**-0.4**
WRA	**Warramunga Arr**	**24.97**	**164**	P	**P**	**14 17 44.5**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=344,slow=10.0,SNR=21						
	comp=Z,2.0nm,0.6s						
WB2	**Warramunga Arr**	**24.97**	**164**	P	**P**	**14 17 44.5**	**-0.6**
WB2				IAmb	IAmb	14 17 59.3	
	comp=Z,5.9nm,1.1s						
PSA00	**Pilbara Seismi**	**26.67**	**196**	P	**P**	**14 18 01.1**	**+0.7**
PSA00				IAmb	IAmb	14 18 02.2	
	comp=Z,9.6nm,0.9s						
ASAR	**Alice Springs**	**28.44**	**167**	P	**P**	**14 18 17.8**	**+1.5**
ASAR	**Alice Springs**	**28.44**	**167**	P	**P**	**14 18 16.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=349,slow=7.4,SNR=15						
ASAR				PcP	**PcP**	**14 21 29.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=357,slow=2.0,SNR=5.2						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.18**	**299**	P	**P**	**14 18 40.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=100,slow=6.3,SNR=4.4						
	comp=Z,0.3nm,0.3s						

BBOO	**Buckleboo**	**37.74**	**168**	P		**P**	**14 19 37.5**	**+0.3**
STKA	**Stephens Creek**	**38.37**	**160**	P		**P**	**14 19 43.1**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=333,slow=12,SNR=5.7							
	comp=Z,2.4nm,0.7s							
SONM	**Songino Array**	**47.04**	**341**	P		**P**	**14 20 52.9**	**-0.1**
SONM	**Songino Array**	**47.04**	**341**	P		**P**	**14 20 52.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=156,slow=8.9,SNR=3.0							
	comp=Z,0.3nm,0.5s							
PETK	**Petropavlovsk-**	**54.74**	**22**	P		**P**	**14 21 49.6**	**-1.1**
	comp=Z,8.4nm,1.1s,baz=158,slow=1.4,SNR=4.4							
	comp=Z,8.4nm,1.1s							
MK31	**Makanchi Array**	**57.52**	**325**	P		**P**	**14 22 10.9**	**+0.2**
MKAR	**Makanchi Array**	**57.52**	**325**	P		**P**	**14 22 11.1**	**+0.3**
MKAR	**Makanchi Array**	**57.52**	**325**	P		**P**	**14 22 10.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=120,slow=6.8,SNR=11							
	comp=Z,0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**60.44**	**333**	P		**P**	**14 22 30.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=111,slow=7.9,SNR=2.2							
	comp=Z,0.5nm,0.5s							
WHZ	**Wether Hill Ro**	**61.53**	**149**	P		**P**	**14 22 37.2**	**-1.1**
KURBB	**Kurchatov Arra**	**61.67**	**327**	P		**P**	**14 22 39.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=127,slow=6.4,SNR=10							
	comp=Z,0.7nm,0.5s							
KURK	**Kurchatov**	**61.67**	**327**	P		**P**	**14 22 39.3**	**+0.1**
KURK				IAmb		IAmb	14 22 47.4	
	comp=Z,2.7nm,0.8s							
BVAR	**Borovoye Array**	**67.26**	**327**	P		**P**	**14 23 15.6**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=120,slow=8.8,SNR=7.3							
	comp=Z,1.0nm,0.6s							
ABKAR	**Akbulak array**	**72.17**	**321**	P		**P**	**14 23 46.2**	**0.0**

*CATAC **09** 14:22:16.7±0.5, 9°.47N×84°.50W, h6km±4km, ML2.9*
*UCR **09** 14:22:17.0±1.6, 9°.50N×84°.48W, h5km, MW3.5*
ISC 09 14:22:16.4±1.3, 9°44N±0°04×84°49W±0°02, h4km±10km, n37, σ1°07/52, 4C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.28**	**324**	⇑*e*P	**Pg**	**14 22 21.8**	**-0.1**
JACO				*e*S	**Sg**	**14 22 26.6**	**+1.2**
JACO	**JACO, Garabito**	**0.28**	**324**	*i* P	**Pg**	**14 22 21.7**	**-0.1**
JACO				*i* S	**Sg**	**14 22 26.8**	**+1.3**
JACO				IAML		14 22 27.0	
	comp=Z,3μm,1.0s						
TRB2	**Turrubares**	**0.48**	**5**	*e*P	**Pg**	**14 22 25.1**	**-0.6**
ABE2	**San Pablo**	**0.51**	**58**	*e*P	**Pg**	**14 22 26.1**	**-0.1**
LCR2	**La Lucha 2**	**0.57**	**58**	⇑*e*P	**Pg**	**14 22 26.9**	**-0.4**
LCR2				*e*S	**Sg**	**14 22 35.3**	**+0.5**
LCR2	**La Lucha 2**	**0.57**	**58**	*i* P	**Pg**	**14 22 27.0**	**-0.4**
LCR2				*i* S	**Sg**	**14 22 35.5**	**+0.7**
LCR2				IAML		14 22 39.5	
	comp=Z,440nm,1.0s						
CBL1	**Cabuya**	**0.61**	**285**	*e*P	**Pg**	**14 22 28.5**	**+0.4**
CBL1				*e*S	**Sb**	**14 22 38.9**	**+0.3**
BELE	**Belen**	**0.62**	**29**	*e*P	**Pb**	**14 22 30.1**	**+0.2**
BELE				*e*S	**Sb**	**14 22 37.1**	**-1.9**
CDM	**Cerro de Muert**	**0.73**	**81**	⇑*e*P	**Pg**	**14 22 30.1**	**-0.3**
CDM				*e*S	**Sb**	**14 22 42.0**	**-0.5**
CDM	**Cerro de Muert**	**0.73**	**81**	*i* P	**Pg**	**14 22 30.0**	**-0.5**
CDM				*i* S	**Sb**	**14 22 42.3**	**-0.2**
CDM				IAML		14 22 48.6	
	comp=Z,460nm,1.0s						
BUS1	**Rivas**	**0.75**	**81**	⇑*e*P	**Pg**	**14 22 30.3**	**-0.5**
BUS1				*e*S	**Sb**	**14 22 43.0**	**0.0**
HAYA	**Volcan Irazu**	**0.84**	**50**	*i* P	**Pn**	**14 22 35.7**	**+0.3**
VICA	**Volcano Irazu**	**0.84**	**49**	*e*P	**Pg**	**14 22 31.6**	**-1.0**
ICR3	**Volcano Irazu**	**0.85**	**50**	*e*P	**Pb**	**14 22 34.0**	**+0.1**
CPMI	**Catarata Coope**	**0.85**	**7**	*e*P	**Pg**	**14

CSLB				AML	AML			
	comp=N,247μm,0.3s							
CSLB				AML	AML			
	comp=E,372μm,0.3s							
MUCR	**Ucria**	**0.64**	**137**	P	Pb	14 42 24.7	-0.5	
MUCR				S	Sb	14 42 34.0	+0.3	
MUCR				AML	AML			
	comp=E,1605μm,0.7s							
MUCR				AML	AML			
	comp=N,4400μm,0.5s							
MUCR				AML	AML			
	comp=N,4405μm,0.5s							
MUCR				AML	AML			
	comp=E,1487μm,0.6s							
MUCR				AML	AML			
	comp=N,4404μm,0.5s							
PETRA	**Petralia Sopra**	**0.70**	**194**	P	Pn	14 42 26.8	-0.1	
PETRA				AML	AML			
	comp=E,1018μm,0.7s							
PETRA				AML	AML			
	comp=N,1016μm,0.5s							
PETRA				AML	AML			
	comp=N,1015μm,0.5s							
PETRA				AML	AML			
	comp=E,1017μm,0.7s							
MILZ	**Milazzo**	**0.75**	**108**	P	Pb	14 42 26.8	-0.3	
SOLUN	**Solunto**	**0.75**	**236**	P	Pn	14 42 27.5	0.0	
NOV	**Novara**	**0.80**	**127**	P	Pn	14 42 28.3	+0.1	
EPZF	**Pizzo Felice**	**0.80**	**148**	P	Pn	14 42 28.6	+0.3	
EPZF				AML	AML			
	comp=N,860μm,1.3s							
EPZF				AML	AML			
	comp=E,688μm,0.8s							
EPZF				AML	AML			
	comp=N,847μm,0.4s							
EPZF				AML	AML			
	comp=E,676μm,0.4s							
EMSG	**Monte Spagnolo**	**0.85**	**144**	P	Pn	14 42 29.8	+0.8	
EMSG				AML	AML			
	comp=N,665μm,0.5s							
EMSG				AML	AML			
	comp=E,942μm,0.4s							
AIO	**Antillo**	**0.89**	**127**	P	Pb	14 42 29.4	-0.1	
AIO				S	Sb	14 42 41.3	+0.2	
AIO				AML	AML			
	comp=E,234μm,1.2s							
AIO				AML	AML			
	comp=N,382μm,0.2s							
AIO				AML	AML			
	comp=E,223μm,0.2s							
AIO				AML	AML			
	comp=N,383μm,0.2s							
MSRU	**Castanea**	**0.96**	**105**	P	Pn	14 42 30.2	-0.3	
MSRU				AML	AML			
	comp=E,320μm,0.5s							
MSRU				AML	AML			
	comp=N,278μm,0.7s							
MSRU				AML	AML			
	comp=E,320μm,0.5s							
MSRU				AML	AML			
	comp=N,255μm,0.5s							
HLNI	**Lentini**	**1.24**	**159**	P	Pb	14 42 35.2	-0.1	
HLNI				AML	AML			
	comp=E,114μm,0.2s							
HLNI				AML	AML			
	comp=N,102μm,0.3s							
CEL	**Celeste**	**1.26**	**101**	P	Pn	14 42 34.4	-0.2	
CEL				AML	AML			
	comp=E,77μm,0.4s							
CEL				AML	AML			
	comp=N,85μm,1.2s							
CEL				AML	AML			
	comp=E,77μm,0.4s							
CEL				AML	AML			
	comp=N,72μm,0.5s							
CEL				AML	AML			
	comp=N,71μm,0.3s							
HAGA	**Augusta**	**1.39**	**152**	P	Pn	14 42 36.9	+0.6	
HAGA				AML	AML			
	comp=E,168μm,1.5s							
HAGA				AML	AML			
	comp=N,192μm,1.3s							
SSY	**Sortino**	**1.48**	**156**	P	Pb	14 42 38.6	-0.8	
SSY				AML	AML			
	comp=E,192μm,1.3s							
SSY				AML	AML			
	comp=N,285μm,1.2s							
SSY				AML	AML			
	comp=N,227μm,0.3s							
VIVA	**Pratoni del Vi**	**3.45**	**340**	AML	AML			
	comp=E,504μm,0.5s							
VIVA				AML	AML			
	comp=N,488μm,1.4s							

ROM 09 14:43:12.0±0.1, 38°48N±0°.01×14°34E±0°.01, h21km±1km, ML3.1/53, 3D, Error ellipse: s-maj=1.2km s-min=0.4km az=330.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**0.06**	**12**	⇓P	Pb	14 43 15.4	-0.4
IACL				S	Sb	14 43 17.9	-0.5
IACL				AML	AML		
	comp=N,46750μm,0.7s						
IACL				AML	AML		
	comp=N,46750μm,1.3s						
IACL				AML	AML		
	comp=E,37100μm,0.7s						
IFIL	**Filicudi I Eol**	**0.20**	**64**	P	Pb	14 43 17.7	-0.2
IFIL				S	Sb	14 43 21.5	-0.5
IFIL				AML	AML		
	comp=E,41150μm,0.7s						
IFIL				AML	AML		
	comp=N,12000μm,0.9s						
IFIL				AML	AML		
	comp=E,41150μm,1.3s						
LLI	**Lipari**	**0.48**	**94**	P	Pb	14 43 22.5	+0.8
LLI				S	Sn	14 43 30.2	-1.1
LLI				AML	AML		
	comp=E,10275μm,0.8s						
LLI				AML	AML		
	comp=N,15900μm,0.3s						
LLI				AML	AML		
	comp=E,10275μm,1.2s						
MSFR	**San Fratello**	**0.48**	**156**	⇓P	Pb	14 43 21.2	-0.6
MSFR				S	Sb	14 43 29.1	+0.7
MSFR				AML	AML		
	comp=N,2585μm,1.0s						
MSFR				AML	AML		
	comp=E,1029μm,0.5s						
MSFR				AML	AML		
	comp=E,1029μm,1.5s						
VPL	**Vulcano Piano**	**0.51**	**101**	P	Pb	14 43 22.6	+0.3
VPL				S	Sn	14 43 30.8	-1.4
VPL				AML	AML		
	comp=N,4185μm,1.3s						
VPL				AML	AML		
	comp=E,4315μm,0.4s						
VPL				AML	AML		
	comp=N,4185μm,0.7s						
GIB	**Gibilmanna**	**0.55**	**207**	P	Pb	14 43 23.0	0.0
GIB				S	Sb	14 43 31.2	+0.7
GIB				AML	AML		
	comp=E,3580μm,0.4s						
GIB				AML	AML		
	comp=N,4395μm,0.4s						
GIB				AML	AML		
	comp=E,3580μm,1.6s						
GIB				AML	AML		
	comp=N,4395μm,1.6s						
CSLB	**Castelbuono**	**0.58**	**203**	P	Pb	14 43 23.2	-0.3
CSLB				S	Sb	14 43 31.6	+0.1
CSLB				AML	AML		
	comp=N,1485μm,0.6s						
CSLB				AML	AML		
	comp=E,2040μm,0.3s						
MUCR	**Ucria**	**0.60**	**136**	⇓P	Pb	14 43 23.4	-0.6
MUCR				S	Sb	14 43 32.5	+0.4
MUCR				AML	AML		
	comp=N,17900μm,0.5s						
MUCR				AML	AML		
	comp=N,17900μm,1.5s						
MUCR				AML	AML		
	comp=E,6210μm,0.7s						
PETRA	**Petralia Sopra**	**0.67**	**196**	P	Pb	14 43 25.2	+0.1
PETRA				AML	AML		
	comp=E,4630μm,0.5s						
PETRA				AML	AML		
	comp=N,4550μm,0.5s						
MILZ	**Milazzo**	**0.73**	**106**	P	Pb	14 43 25.5	-0.4
MILZ				AML	AML		
	comp=E,1475μm,1.2s						
MILZ				AML	AML		
	comp=N,1152μm,0.5s						
MILZ				AML	AML		
	comp=N,1152μm,1.5s						
MILZ				AML	AML		
	comp=E,1475μm,0.8s						
ISTR	**Stromboli Gino**	**0.73**	**65**	P	Pn	14 43 26.8	-0.3
SOLUN	**Solunto**	**0.74**	**239**	P	Pb	14 43 25.8	-0.3
SOLUN				AML	AML		
	comp=E,2025μm,0.6s						
SOLUN				AML	AML		
	comp=N,1345μm,0.5s						
IST3	**Stromboli F**	**0.77**	**65**	P	Pn	14 43 28.2	+0.7
EPZF	**Pizzo Felice**	**0.77**	**148**	P	Pb	14 43 27.1	+0.4
EPZF				AML	AML		
	comp=N,3860μm,1.3s						
EPZF				AML	AML		
	comp=E,3100μm,0.8s						
NOV	**Novara**	**0.77**	**125**	P	Pb	14 43 26.5	-0.2
NOV				AML	AML		
	comp=N,2935μm,0.5s						
NOV				AML	AML		
	comp=E,4085μm,0.4s						
GALF	**Gagliano Caste**	**0.79**	**167**	P	Pn	14 43 27.7	-0.1
GALF				AML	AML		
	comp=E,1560μm,0.4s						
GALF				AML	AML		
	comp=N,1265μm,0.4s						
EMSG	**Monte Spagnolo**	**0.81**	**144**	P	Pn	14 43 28.3	-0.1
EMSG				AML	AML		
	comp=N,2855μm,0.5s						
EMSG				AML	AML		
	comp=E,4370μm,0.5s						
EMSG				AML	AML		
	comp=N,2855μm,1.5s						
MPG	**Monte Pellegri**	**0.83**	**248**	P	Pn	14 43 28.9	+0.4
MPG				AML	AML		
	comp=E,318μm,1.4s						
MPG				AML	AML		
	comp=N,308μm,1.2s						
MPG				AML	AML		
	comp=E,318μm,0.6s						
ALJA	**Alia**	**0.86**	**213**	P	Pn	14 43 28.9	0.0
ALJA				AML	AML		
	comp=E,1215μm,1.4s						
ALJA				AML	AML		
	comp=N,1190μm,1.5s						
ALJA				AML	AML		
	comp=E,1215μm,0.6s						
ALJA				AML	AML		
	comp=N,1190μm,0.5s						
AIO	**Antillo**	**0.87**	**125**	P	Pb	14 43 28.3	0.0
AIO				AML	AML		
	comp=E,1032μm,1.2s						
AIO				AML	AML		
	comp=N,1275μm,0.3s						
AIO				AML	AML		
	comp=E,1032μm,0.8s						
USI	**Ustica**	**0.94**	**285**	P	Pb	14 43 29.5	0.0
MSRU	**Castanea**	**0.94**	**103**	P	Pb	14 43 28.8	-0.8
MSRU				AML	AML		
	comp=N,1027μm,0.5s						
MSRU				AML	AML		
	comp=N,1027μm,1.5s						
MSRU				AML	AML		
	comp=E,1305μm,0.5s						
HLNI	**Lentini**	**1.20**	**159**	P	Pb	14 43 33.9	-0.1
HLNI				AML	AML		
	comp=N,523μm,0.9s						
HLNI				AML	AML		
	comp=E,558μm,0.4s						
HLNI				AML	AML		
	comp=E,558μm,1.6s						
JOPP	**Joppolo**	**1.22**	**83**	P	Pn	14 43 33.0	-0.8
JOPP				AML	AML		
	comp=E,170μm,1.6s						
JOPP				AML	AML		
	comp=N,179μm,1.6s						
JOPP				AML	AML		
	comp=E,170μm,0.4s						
JOPP				AML	AML		
	comp=N,179μm,0.4s						
CEL	**Celeste**	**1.24**	**100**	P	Pn	14 43 33.1	-1.0
CEL				AML	AML		
	comp=N,332μm,1.1s						
CEL				AML	AML		
	comp=E,311μm,0.7s						
CEL				AML	AML		
	comp=N,265μm,1.1s						
CEL				AML	AML		
	comp=E,356μm,0.8s						
CEL				AML	AML		
	comp=N,265μm,0.9s						
CEL				AML	AML		
	comp=N,332μm,0.9s						
CEL				AML	AML		
	comp=E,356μm,1.2s						
CEL				AML	AML		
	comp=E,274μm,0.4s						
SOI	**Samo**	**1.41**	**106**	P	Pn	14 43 35.7	-0.7
SOI				AML	AML		
	comp=E,260μm,0.4s						
SOI				AML	AML		
	comp=N,266μm,0.6s						
SSY	**Sortino**	**1.44**	**156**	P	Pn	14 43 37.0	+0.2
SSY				AML	AML		
	comp=E,480μm,0.4s						
SSY				AML	AML		
	comp=N,1050μm,0.4s						
SSY				AML	AML		
	comp=E,480μm,1.6s						
HMDC	**Modica**	**1.56**	**167**	P	Pb	14 43 39.4	-0.7
HMDC				AML	AML		
	comp=N,520μm,0.7s						
HMDC				AML	AML		
	comp=E,434μm,1.2s						
CAR1	**CAROLEI**	**1.65**	**61**	P	Pn	14 43 39.4	-0.4
CAR1				AML	AML		
	comp=E,167μm,1.0s						
CAR1				AML	AML		
	comp=N,136μm,0.5s						
CAR1				AML	AML		
	comp=N,136μm,1.5s						
CAR1				AML	AML		
	comp=E,167μm,1.0s						
CMPR	**Campora**	**1.98**	**22**	P	Pn	14 43 44.4	+0.1
SALB	**San Lorenzo Be**	**2.09**	**47**	P	Pn	14 43 46.9	+1.0
SALB				AML	AML		
	comp=E,64μm,1.5s						
SALB				AML	AML		
	comp=N,43μm,1.6s						
SALB				AML	AML		
	comp=E,64μm,0.5s						
CDRU	**Civita di Ruta**	**2.14**	**20**	P	Pn	14 43 47.1	+0.5

*SSNC **09** 15:04:02.2±1.1, 18°.18N×73°.15W, h7km±26km, MD3.3, ML2.7*

*SDD **09** 15:04:03.6±1.4, 18°.33N×73°.34W, h19km±62km, MD3.4, ML2.7, MW3.3*

ISC 09 15:04:03.2±2.8, 18°48N±0°.09×73°24W±0°.06, h4km±19km, n11, σ0°66/22, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.90**	**87**	*e*Pg	**Pb**	**15 04 21.2**	**-0.2**
PAPH				*e*Sg	**Sn**	**15 04 35.2**	**-0.8**
PAPH				IAML		15 04 39.5	
	comp=Z,338nm,0.2s						
LOPE2	**Hotel El Peder**	**1.49**	**107**	*e*Pg	**Pn**	**15 04 30.1**	**-0.7**
LOPE2				*e*Sg	**Sb**	**15 04 50.4**	**-0.4**
PODR	**Polo**	**1.89**	**99**	*e*Pg	**Pn**	**15 04 37.5**	**+1.0**
PODR				*e*Sg	**Sg**	**15 05 03.5**	**-0.5**
PODR				IAML		15 05 19.1	
	comp=Z,55nm,1.9s						
SDDR	**Presa de Saban**	**1.92**	**75**	*e*Pg	**Pb**	**15 04 39.3**	**+0.4**
SDDR				*e*Sg	**Sg**	**15 05 05.2**	**+0.1**
SDDR				IAML		15 05 08.9	
	comp=Z,56nm,0.7s						
MASC	**Masc**	**1.93**	**331**	*e*P	**Pn**	**15 04 36.9**	**+0.1**
MASC				*e*S	**Sb**	**15 05 03.1**	**-0.3**
MASC				IAML		15 05 06.3	
	comp=N,16nm,0.2s						
MASC				IAML		15 05 06.7	
	comp=E,21nm,0.2s						
MCDR	**Montecristi**	**2.06**	**47**	*e*Pg	**Pb**	**15 04 41.6**	**+0.5**
MCDR				*e*Sg	**Sg**	**15 05 09.1**	**-0.3**
MCDR				IAML		15 05 14.5	
	comp=Z,81nm,2.1s						
LOBA2	**Hotel Casa Bon**	**2.08**	**101**	*e*Pg	**Pn**	**15 04 40.0**	**+1.1**
LOBA2				*e*Sg	**Sb**	**15 05 07.9**	**+0.1**
GTBY	**Guantanamo Bay**	**2.28**	**310**	*e*Pg	**Pn**	**15 04 42.5**	**+0.9**
GTBY				*e*Sg	**Sb**	**15 05 13.2**	**-0.3**
GTBY				IAML		15 05 53.9	
	comp=Z,17nm,2.9s						
GTBY	**Guantanamo Bay**	**2.28**	**310**	*e*P	**Pn**	**15 04 41.4**	**-0.3**
GTBY				*e*S	**Sn**	**15 05 09.3**	**-0.8**
GTBY				IAML		15 05 17.3	
	comp=Z,29nm,0.4s						
GTBY				IAML		15 05 18.6	
	comp=Z,16nm,0.2s						
MARVS	**Santiago de Cu**	**2.93**	**302**	*e*P	**Pn**	**15 04 50.9**	**+0.3**
MARVS				*e*S	**Sn**	**15 05 27.3**	**+1.0**
MARVS				*e*Sg	**Sb**	**15 05 32.5**	**+0.2**
MARVS				IAML		15 05 35.5	
	comp=E,37nm,0.5s						
MARVS				IAML		15 05 35.6	
	comp=N,36nm,0.4s						
PINC	**Pinares de May**	**3.13**	**310**	*e*P	**Pn**	**15 04 52.5**	**-0.7**

IDC 09 15:13:48.1±1.9, 2°.98N×127°.94E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=167.2km s-min=24.7km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.63**	**165**	P	P	15 19 00.5	-0.7
	0.7nm,0.5s,baz=344,slow=9.9,SNR=17						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**27.12**	**168**	P	P	15 19 32.0	-1.0
	0.2nm,0.7s,baz=342,slow=7.6,SNR=8.1						
ASAR				PcP	PcP	15 22 55.0	+0.8
	0.7nm,1.1s,baz=356,slow=2.3,SNR=4.6						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.85**	**325**	P	P	15 23 49.3	+0.6
	0.1nm,0.4s,baz=111,slow=8.2,SNR=4.7						
	0.1nm,0.4s						

IDC 09 15:32:05.0±1.7, 2°.49S×124°.47E, h0km, mb3.3/2, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=218.4km s-min=25.5km az=62.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.84**	**152**	P	P	15 36 35.9	-1.8
	0.1nm,0.3s,baz=327,slow=12,SNR=5.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**22.95**	**157**	P	P	15 37 12.3	+1.2
	0.6nm,0.7s,baz=340,slow=12,SNR=13						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**61.49**	**328**	P	P	15 42 23.6	-0.1
	0.2nm,0.6s,baz=139,slow=8.1,SNR=6.9						
	0.2nm,0.6s						

*IDC **09** 15:35:56.9±1.5, 3°.41S×128°.33E, h0km, mb3.6/4, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=131.1km s-min=13.3km az=70.0*

*DJA **09** 15:36:01.1±0.3, 3°.5±3°×12°9E±°, h67km±11km, M4.1/16, mB5.6/3, mb4.2/7, MLv3.9/16, Mw(mB)5.2/3*

ISC 09 15:36:01.5±0.9, 2°.79S±0°.05×129°.48E±0°.05, h50km, n18, σ1°24/21, mb3.7/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**1.21**	**244**	P	**Pn**	**15 36 22.8**	**+0.8**
BNDI	**Bandanaira**	**1.77**	**166**	P	**Pn**	**15 36 30.7**	**+1.0**
NLAI	**Namlea**	**2.42**	**259**	P	**Pn**	**15 36 38.9**	**+0.3**
SIJI	**Sorong**	**2.61**	**43**	P	**Pn**	**15 36 40.8**	**-0.5**
SWI	**Sorong**	**2.61**	**43**	P	**Pn**	**15 36 41.0**	**-0.2**
FAKI	**Fak Fak**	**2.77**	**93**	P	**Pn**	**15 36 42.9**	**-0.4**
FAKI				S	**Sn**	**15 37 16.3**	**+0.7**
LBMI	**Labuha**	**2.92**	**317**	P	**Pn**	**15 36 44.7**	**-0.7**
SANI	**Sanana**	**3.57**	**282**	P	**Pn**	**15 36 53.6**	**-0.7**
TNTI	**Ternate**	**4.12**	**329**	P	**Pn**	**15 37 01.3**	**-0.7**
KMPI	**Kaimana, Papua**	**4.30**	**102**	P	**Pn**	**15 37 04.6**	**+0.2**
SAUI	**Saumlaki**	**5.46**	**161**	P	**Pn**	**15 37 19.9**	**-0.5**
	71nm,0.6s,6μm0.5nm						
KMSI	**Cibinong**	**6.44**	**301**	P	**Pn**	**15 37 33.1**	**-0.6**
	27nm,0.7s,1μm0.2nm						
LUWI	**Luwuk**	**6.93**	**284**	P	**Pn**	**15 37 39.4**	**-1.1**
	42nm,0.9s,0.2nm						
WRA	**Warramunga Arr**	**17.69**	**165**	P	**Pn**	**15 40 03.4**	**-1.1**
	0.3nm,0.3s,baz=344,slow=13,SNR=6.7						
WRA				S	**Sn**	**15 43 19.2**	**-1.6**
	0.5nm,0.9s,baz=336,slow=22,SNR=1.2						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**21.19**	**169**	P	**P**	**15 40 42.1**	**-0.8**
	1.3nm,0.3s,baz=353,slow=12,SNR=42						
ASAR				S	**S**	**15 44 33.6**	**-2.4**
	0.6nm,0.8s,baz=352,slow=20,SNR=2.6						
	1.3nm,0.3s						
MKAR	**Makanchi Array**	**64.46**	**326**	P	**P**	**15 46 34.7**	**+1.8**
	0.2nm,0.6s,baz=118,slow=8.4,SNR=3.6						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**67.61**	**333**	P	**P**	**15 46 54.7**	**+1.8**
	0.4nm,0.4s,baz=128,slow=4.4,SNR=1.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**68.68**	**328**	P	**P**	**15 47 01.8**	**+2.1**
	0.4nm,0.5s,baz=131,slow=6.0,SNR=9.2						
	0.4nm,0.5s						

*LDG **09** 15:45:33.7±0.1, 37°.99N×1°.41W, h10km, Ml2.7/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*INMG **09** 15:45:34.4±1.6, 37°.99N×1°.41W, h17km±3km, ML2.8, Error ellipse: s-maj=2.4km s-min=2.1km az=105.0*

*SFS **09** 15:45:34.5, 37°.98N×1°.35W, h19km, ML2.9/13, ML3.1/11, MLv2.9/13*

*CNRM **09** 15:46:13.0, 34°.92N×3°.07W, h20km, ML1.0*

MDD 09 15:45:34.3±0.2, 37°99N×1°41W, h12km, mb_Lg3.0/37, 2D, Error ellipse: s-maj=2.1km s-min=1.5km az=131.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.20**	**138**	Pg	Pg	15 45 38.6	-0.1
EMUR				Sg	Sg	15 45 41.8	+0.1
EMUR	**La Murta**	**0.20**	**138**	⇓Pg	Pg	15 45 38.6	-0.1
EMUR				Sg	Sg	15 45 42.2	+0.5
EMUR				*i* Vmb_Lg		15 45 42.6	
EZAR	**Zarzadilla de**	**0.25**	**242**	⇓Pg	Pg	15 45 38.2	-1.3
EZAR				Sg	Sg	15 45 42.2	-1.0
EZAR				*i* Vmb_Lg		15 45 44.1	
TLOR	**Lorca, Murcia**	**0.40**	**213**	Pg	Pg	15 45 41.5	-0.7
TLOR				Sg	Sg	15 45 47.2	-0.5
TLOR	**Lorca, Murcia**	**0.40**	**213**	Pg	Pg	15 45 41.7	-0.5
TLOR				Sg	Sg	15 45 48.4	+0.7
ELOR	**Lorca, Murcia**	**0.44**	**217**	Pg	Pg	15 45 42.5	-0.5
ELOR				Sg	Sg	15 45 48.9	+0.1
ELOR				*i* Vmb_Lg		15 45 51.9	
CART	**Cartagena**	**0.52**	**141**	Pg	Pg	15 45 44.2	-0.2
CART				Sg	Sg	15 45 50.9	-0.5
ETOB	**Tobarra**	**0.66**	**351**	Pg	Pg	15 45 46.1	-1.0
ETOB				Sg	Sg	15 45 55.3	-0.5
ETOB	**Tobarra**	**0.66**	**351**	Pg	Pg	15 45 46.1	-1.0
ETOB				Sg	Sg	15 45 55.3	-0.5
ETOB				*i* Vmb_Lg		15 45 58.6	
AFON	**Font Roja**	**0.96**	**45**	Pg	Pg	15 45 52.5	-0.3
AFON				Sg	Sg	15 46 04.6	-0.7
AFON				*i* Vmb_Lg		15 46 08.4	
EBEN2	**Beniarda presa**	**1.18**	**54**	Pg	Pb	15 45 55.2	-1.4
EBEN2				Sg	Sb	15 46 09.4	-2.4
EBEN2				*i* Vmb_Lg		15 46 15.2	
ENIJ	**Nijar**	**1.20**	**212**	Pn	Pn	15 45 54.8	-2.1
ENIJ				Sn	Sb	15 46 10.1	-2.3
ENIJ	**Nijar**	**1.20**	**212**	Pg	Pn	15 45 55.4	-1.5
ENIJ				Sg	Sb	15 46 11.4	-1.0
ENIJ				*i* Vmb_Lg		15 46 17.1	
EVIV	**Cofrentes, Val**	**1.29**	**10**	Pn	Pn	15 45 56.4	-1.9
EVIV				Pg	Pb	15 45 58.2	-0.4
EVIV				Sg	Sb	15 46 14.9	-0.3

EVIV				*i* Vmb_Lg		15 46 16.6		
EQES	**Quesada**	**1.32**	**262**	Pn	Pn	15 45 56.8	-2.0	
EQES				Pg	Pb	15 45 58.9	-0.3	
EQES				Sg	Sb	15 46 16.0	-0.2	
EQES				*i* Vmb_Lg		15 46 18.0		
EBER	**Berja**	**1.60**	**227**	Pg	Pn	15 46 00.9	-1.8	
EBER				Pn	Pb	15 46 01.1	-2.9	
EBER				Sg	Sb	15 46 25.1	+0.8	
EBER				*i* Vmb_Lg		15 46 31.3		
ECHE	**Chera**	**1.63**	**12**	Pn	Pn	15 46 01.4	-1.5	
ECHE				Pg	Pb	15 46 04.1	-0.3	
ECHE				Sg	Sb	15 46 25.4	+0.4	
ECHE	**Chera**	**1.63**	**12**	Pn	Pn	15 46 01.4	-1.5	
ECHE				Pg	Pb	15 46 04.1	-0.3	
ECHE				Sn	Sn	15 46 21.1	-2.8	
ECHE				Sg	Sb	15 46 24.9	-0.1	
ECHE				*i* Vmb_Lg		15 46 29.0		
EQTA	**Presa de Quent**	**1.79**	**245**	Pn	Pn	15 46 04.5	-0.7	
ELGU	**Los Guajares,**	**2.09**	**238**	Pn	Pn	15 46 09.0	-0.2	
ELGU				Pg	Pb	15 46 12.4	+0.2	
ELGU				Sg	Sg	15 46 40.6	-0.9	
ELGU	**Los Guajares,**	**2.09**	**238**	Pg	Pb	15 46 12.7	+0.5	
ELGU				*i* Vmb_Lg		15 46 47.6		
EGOR	**Sierra Gorda,**	**2.32**	**248**	Pg	Pg	15 46 17.5	-1.2	
EIBI	**Ibiza**	**2.40**	**64**	Pn	Pn	15 46 10.6	-2.7	
EIBI				Sn	Sn	15 46 37.8	-4.8	
EIBI	**Ibiza**	**2.40**	**64**	Pn	Pn	15 46 10.3	-3.0	
EIBI				Sn	Sn	15 46 38.0	-4.6	
EIBI				*i* Vmb_Lg		15 46 49.8		
EMOS	**Mosqueruela**	**2.48**	**17**	Pn	Pn	15 46 13.4	-1.3	
EMOS				Pg	Pb	15 46 18.7	-0.2	
EMOS				Sn	Sn	15 46 42.4	-2.6	
EMOS				Sg	Sb	15 46 50.6	+1.2	
EMOS				*i* Vmb_Lg		15 46 56.6		
EADA	**Adamuz**	**2.50**	**275**	Pn	Pn	15 46 12.5	-2.3	
EADA	**Adamuz**	**2.50**	**275**	Pn	Pn	15 46 12.9	-2.0	
EADA				Pg	Pb	15 46 18.1	-1.1	
EADA				Sn	Sn	15 46 42.9	-2.5	
EADA				Sg	Sg	15 46 53.1	-1.6	
EADA				*i* Vmb_Lg		15 46 56.5		
ESDC	**Sonseca Array**	**2.60**	**311**	Pn	Pn	15 46 15.1	-1.2	
ESDC				Pg	Pb	15 46 20.6	-0.3	
ESDC				Sg	Sb	15 46 53.8	+0.9	
ESDC				*i* Vmb_Lg		15 46 59.3		
UCM	**Universidad Co**	**2.71**	**329**	Pn	Pn	15 46 16.5	-1.3	
UCM				Pg	Pb	15 46 24.2	+1.4	
UCM				Sg	Sg	15 46 59.5	-2.0	
PAB	**San Pablo**	**2.77**	**305**	Pn	Pn	15 46 16.8	-1.7	
PAB				Sg	Sb	15 46 59.8	+2.2	
PAB				*i* Vmb_Lg		15 47 06.2		
ETOR	**Torete**	**2.87**	**350**	Pn	Pn	15 46 19.3	-0.6	
ETOR				Pg	Pb	15 46 26.1	+0.7	
ETOR				Sg	Sb	15 47 03.2	+2.7	
ETOR				*i* Vmb_Lg		15 47 11.2		
GOG	**Mont Gurugu**	**3.04**	**205**	P	Pn	15 46 19.9	-2.4	
ECAB	**El Cabril**	**3.16**	**273**	Pn	Pn	15 46 21.8	-2.1	
ECAB				Sn	Sn	15 46 56.9	-4.7	
ECAB				Sg	Sb	15 47 11.6	+2.6	
ECAB				*i* Vmb_Lg		15 47 24.5		
ERTA	**Horta de San J**	**3.25**	**24**	Pn	Pn	15 46 24.3	-0.9	
ERTA				Sn	Sn	15 47 02.6	-1.3	
ERTA				Sg	Sb	15 47 14.3	+2.8	
ERTA				*i* Vmb_Lg		15 47 24.0		
TAF	**Taforalt**	**3.27**	**195**	P	Pn	15 46 24.1	-1.4	
GUD	**Guadarrama**	**3.39**	**322**	Pn	Pn	15 46 25.5	-1.7	
GUD				Pg	Pb	15 46 35.2	+0.7	
GUD				Sn	Sn	15 47 02.9	-4.6	
GUD				Sg	Sb	15 47 18.2	+2.5	
GUD				*i* Vmb_Lg		15 47 35.2		
ETOS	**Mallorca**	**3.75**	**60**	Pn	Pn	15 46 30.3	-1.7	
ETOS				Sn	Sn	15 47 11.6	-4.3	
JBK	**JBK**	**3.77**	**195**	P	Pn	15 46 26.8	-5.6	
ESAC	**San Caprasio**	**3.79**	**11**	Pn	Pn	15 46 31.3	-1.3	
ESAC				Pg	Pb	15 46 39.5	-1.8	
ESAC				Sg	Sg	15 47 32.2	-3.9	
EPOB	**Poblet**	**3.87**	**29**	Pn	Pn	15 46 32.5	-1.2	
EPOB				Sn	Sn	15 47 16.0	-3.0	
EPOB				Sg	Sb	15 47 32.3	+3.1	
PBAR	**Barrancos**	**4.44**	**274**	*e*Pn	Pn	15 46 41.5	0.0	
PBAR				*e*Sn	Sn	15 47 31.2	-1.9	
PBAR				*e*Sg	Sg	15 47 53.6	-3.3	
PBAR				A	A	15 47 57.9		
	8.4nm,0.5s							
EBAD	**Badajoz**	**4.47**	**282**	Sn	Sn	15 47 30.1	-3.6	
EBAD				Sg	Sg	15 47 52.5	-5.2	
EBAD				*i* Vmb_Lg		15 48 07.2		
PESTR	**Estremoz**	**4.93**	**282**	*e*Sn	Sn	15 47 40.9	-4.2	
PESTR				*e*Sg	Sg	15 48 10.4	-2.1	
PESTR				A	A	15 48 19.0		
	10nm,0.6s							
ETSF	**Etsaut**	**4.94**	**7**	*e*Pn	Pn	15 46 46.1	-2.3	
ETSF				*e*Sn	Sn	15 47 40.7	-4.9	
	2.4nm,0.5s							
PCBR	**Castelo Branco**	**5.08**	**293**	*e*Sg	Sg	15 48 13.3	-3.9	
PCBR				A	A	15 48 23.4		
	9.3nm,0.6s							
SJPF	**Ste Jean**	**5.12**	**2**	*e*Pn	Pn	15 46 48.2	-2.6	
SJPF				*e*Sn	Sn	15 47 43.8	-6.0	
	1.7nm,0.3s							
EPF	**Esparros**	**5.21**	**14**	*e*Pn	Pn	15 46 49.8	-2.2	
EPF				*e*Sn	Sn	15 47 46.8	-5.2	
	4.3nm,0.5s							
PMTG	**Montargil**	**5.45**	**283**	*e*Sn	Sn	15 47 52.8	-5.1	
PMTG				A	A	15 48 36.2		
	12nm,0.6s							

*IDC **09** 15:58:36.6±0.8,0.˚06N×125.˚86E,h0km,mb3.8/12, mbtmp3.9/13,MS3.0/2,Error ellipse: s-maj=33.9km s-min=15.5km az=70.0*
*NEIC **09** 15:58:43.8±2.4,0.˚08N±0.˚10×126.˚02E±0.˚07,h50km±7km, mb4.4/20,Error ellipse: s-maj=15.1km s-min=8.9km az=157.0*
*DJA **09** 15:58:43.6±0.3,0.˚N±4.˚×12.˚6E±.˚,h56km±14km,M4.0/14, mb4.1/7,mB4.7/1,MLv3.9/14,Mw(mB)3.9/1*
ISC 09 15:58:43.1±0.5,0.˚13N±0.˚06×125.˚96E±0.˚04,h44km,n54, σ1°38/56,mb4.2/20,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.55**	**66**		**Pn**	**15 59 08.2**	**+0.1**
TNTI	**Ternate**	**1.55**	**66**	P	**Pn**	**15 59 09.6**	**+1.4**
LBMI	**Labuha**	**1.72**	**116**	P	**Pn**	**15 59 11.3**	**+0.7**
LBMI				S	**Sn**	**15 59 33.7**	**+2.3**
KMSI	**Cibinong**	**2.03**	**283**	P	**Pn**	**15 59 13.6**	**-1.1**
KMSI				S	**Sn**	**15 59 39.1**	**+0.2**
SANI	**Sanana**	**2.16**	**179**	P	**Pn**	**15 59 19.2**	**+2.5**
GTOI	**Gorontalo**	**2.99**	**280**	P	**Pn**	**15 59 30.8**	**+2.8**
GTOI				S	**Sn**	**16 00 06.9**	**+4.3**
LUWI	**Luwuk**	**3.39**	**250**		**Pn**	**15 59 34.3**	**+0.8**
LUWI	**Luwuk**	**3.39**	**250**	P	**Pn**	**15 59 34.7**	**+1.2**
MRSI	**Marisa**	**4.03**	**275**	P	**Pn**	**15 59 42.1**	**-0.2**
TOLI2	**Tolitoli**	**5.27**	**281**		**Pn**	**16 00 00.4**	**+1.1**
SWI	**Sorong**	**5.39**	**101**	P	**Pn**	**16 00 02.2**	**+1.2**
	8.7nm,0.9s,733nm0.0nm						
SIJI	**Sorong**	**5.40**	**101**	P	**Pn**	**16 00 01.4**	**+0.3**
	7.5nm,0.9s,0.0nm						
MPSI	**Mapaga**	**6.06**	**272**	P	**Pn**	**16 00 10.6**	**+0.4**
	19nm,0.8s,0.1nm						
TTSI	**Tana Toraja**	**6.90**	**243**	P	**Pn**	**16 00 21.0**	**-0.7**
	26nm,0.8s,0.1nm						
SPSI	**Sidrap Palu**	**7.40**	**237**	P	**Pn**	**16 00 28.9**	**+0.3**
KSM	**Kuching**	**15.71**	**275**	P	**P**	**16 02 25.2**	**+0.3**
KSM				IAmb	IAmb	16 02 25.4	
	comp=Z,19nm,0.9s						
KNRA	**Kununurra**	**15.95**	**170**		**P**	**16 02 27.8**	**+0.3**
KNRA				IAmb	IAmb	16 02 48.7	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.11**	**181**	P	**P**	**16 02 52.2**	**+0.8**
LEM	**Lembang**	**19.56**	**249**	P	**P**	**16 03 06.7**	**-0.9**
	comp=Z,20nm,0.8s,baz=25,slow=7.4,SNR=5.0						
WB0	**Warramunga Arr**	**21.43**	**158**	P	**P**	**16 03 26.1**	**-1.5**
WRAB	**Tennant Creek**	**21.57**	**158**	P	**P**	**16 03 27.9**	**-1.1**
WRA	**Warramunga Arr**	**21.57**	**158**	P	**P**	**16 03 27.2**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=338,slow=11,SNR=12 comp=Z,1.3nm,0.6s						
WB2	**Warramunga Arr**	**21.57**	**158**	P	**P**	**16 03 28.0**	**-1.2**
WB2				IAmb	IAmb	16 03 34.1	
	comp=Z,14nm,1.5s						
WR0	**Warramunga Arr**	**21.66**	**158**	P	**P**	**16 03 28.1**	**-2.0**
PSA00	**Pilbara Seismi**	**22.38**	**195**	P	**P**	**16 03 34.8**	**-3.0**
PSA00				IAmb	IAmb	16 03 39.1	
	comp=Z,27nm,1.2s						
GUMO	**Guam**	**23.02**	**54**	LR	LR	16 12 08.3	
	comp=Z,54nm,20.1s,baz=222,slow=35						
TPUB	**Ta-pu**	**23.61**	**348**	P	**P**	**16 03 50.4**	**+0.2**
AS31	**Alice Springs**	**24.88**	**162**	P	**P**	**16 04 00.9**	**-1.0**
ASAR	**Alice Springs**	**24.88**	**162**	P	**P**	**16 04 01.2**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=346,slow=8.0,SNR=26 comp=Z,1.0nm,0.8s						
CTA	**Charters Tower**	**28.26**	**136**	LR	LR	16 16 39.3	
	comp=Z,23nm,19.6s,baz=263,slow=38						
CMAR	**Chiang Mai Arr**	**32.19**	**306**	P	**P**	**16 05 06.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=111,slow=7.2,SNR=6.0 comp=Z,0.5nm,0.7s						
BBOO	**Buckleboo**	**34.12**	**165**	P	**P**	**16 05 23.2**	**-0.6**
STKA	**Stephens Creek**	**35.10**	**156**	P	**P**	**16 05 32.0**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=300,slow=15,SNR=2.9 comp=Z,3.3nm,1.0s						
KSRS	**Korea Array**	**37.19**	**3**	P	**P**	**16 05 51.6**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=168,slow=10,SNR=3.1 comp=Z,1.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**44.21**	**6**	P	**P**	**16 06 48.7**	**+0.9**
USRK	**Ussuriysk Ar.**	**44.21**	**6**	P	**P**	**16 06 49.2**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=194,slow=5.2,SNR=1.8 comp=Z,1.1nm,0.6s						
JKA	**Kamikawa-asahi**	**46.24**	**17**	P	**P**	**16 07 03.0**	**-1.0**
SONM	**Songino Array**	**50.47**	**343**	P	**P**	**16 07 36.9**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=142,slow=6.4,SNR=7.1						
SONM				PcP	**PcP**	**16 08 53.8**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=132,slow=4.3,SNR=2.6 comp=Z,1.6nm,0.9s						
MK31	**Makanchi Array**	**60.09**	**327**	P	**P**	**16 08 44.6**	**-1.4**
MK31				IAmb	IAmb	16 08 48.6	
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**16 08 44.3**	**-1.6**
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**16 08 45.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=124,slow=8.4,SNR=19 comp=Z,1.5nm,0.7s						
MAKZ	**Makanchi**	**60.27**	**327**	P	**P**	**16 08 46.3**	**-0.9**
MAKZ				IAmb	IAmb	16 08 49.7	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**63.45**	**334**	P	**P**	**16 09 09.7**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=116,slow=6.6,SNR=5.2 comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**64.36**	**329**	P	**P**	**16 09 13.5**	**-0.9**
	comp=Z,2.9nm,1.0s,baz=126,slow=5.9,SNR=14 comp=Z,2.9nm,1.0s						
KURK	**Kurchatov**	**64.37**	**329**	P	**P**	**16 09 13.1**	**-1.3**
KURK				IAmb	IAmb	16 09 17.3	
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**69.92**	**328**	P	**P**	**16 09 49.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=140,slow=7.8,SNR=6.8 comp=Z,1.3nm,0.7s						
ABKAR	**Akbulak array**	**74.45**	**322**	P	**P**	**16 10 15.7**	**-1.1**
KHLU	**Kahalu`u**	**78.79**	**70**	P	**P**	**16 10 41.5**	**-0.5**
C18K	**Utukok River**	**83.68**	**21**	P	**P**	**16 11 08.4**	**+1.5**
C18K				IAmb	IAmb	16 11 46.4	
	comp=Z,3.4nm,1.4s						
L18K	**Granite Mounta**	**84.00**	**27**	P	**P**	**16 11 10.2**	**+1.6**
D19K	**Kuna River**	**84.74**	**21**	P	**P**	**16 11 13.7**	**+1.4**
D19K				IAmb	IAmb	16 11 31.1	
	comp=Z,7.4nm,1.4s						
GURO	**Guroymak-BITLI**	**85.16**	**309**	P	**P**	**16 11 15.5**	**+0.3**
GURO				IAmb	IAmb	16 11 16.5	
	comp=Z,8.2nm,1.1s						
ILAR	**Eielson Array**	**88.67**	**25**	P	**P**	**16 11 30.7**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=235,slow=6.8,SNR=1.9 comp=Z,0.1nm,0.6s						
BMAR	**Burnt Mountain**	**89.67**	**23**	P	**P**	**16 11 37.6**	**+1.4**

IDC 09 16:01:40.4±2.0,0.˚09S×125.˚33E,h0km,mb3.1/3, mbtmp3.1/3,MS2.5/1,Error ellipse: s-maj=194.2km s-min=28.2km az=64.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.41**	**229**	LR	LR	16 06 27.9	
	comp=Z,42nm,21.2s,baz=41,slow=39						
WRA	**Warramunga Arr**	**21.61**	**156**	P	P	16 06 33.1	+0.9
	0.3nm,0.5s,baz=335,slow=10,SNR=2.2 0.3nm,0.5s						
ASAR	**Alice Springs**	**24.87**	**161**	P	P	16 07 04.3	-0.6
	0.2nm,0.6s,baz=338,slow=7.9,SNR=4.4 0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.94**	**327**	P	P	16 11 48.5	0.0
	0.1nm,0.4s,baz=131,slow=6.5,SNR=4.3 0.1nm,0.4s						

*MDD **09** 16:01:50.0±0.2,38.˚00N×1.˚44W,h11km,mb_Lg2.6/27, Error ellipse: s-maj=2.4km s-min=1.6km az=118.0*
*SFS **09** 16:01:50.3,37.˚98N×1.˚44W,h14km,ML2.4/8,ML2.5/7, MLv2.4/8*
ISC 09 16:01:49.0±1.0,38.˚00N±0.˚02×1.˚44W±0.˚02,h18km±4km, n25,σ1°02/61,1D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.22**	**135**	Pg	**Pb**	**16 01 54.6**	**+0.2**
EMUR				Sg	**Sb**	**16 01 57.9**	**-0.1**
EMUR	**La Murta**	**0.22**	**135**	⇓Pg	**Pb**	**16 01 54.6**	**+0.2**
EMUR				Sg	**Sb**	**16 01 58.1**	**+0.2**
EMUR				*i* Vmb_Lg		16 01 58.6	
EZAR	**Zarzadilla de**	**0.24**	**239**	Pg	**Pg**	**16 01 54.2**	**-0.4**
EZAR				Sg	**Sg**	**16 01 58.2**	**-0.2**
EZAR				*i* Vmb_Lg		16 01 59.0	
TLOR	**Lorca, Murcia**	**0.40**	**210**	Pg	**Pb**	**16 01 57.7**	**+0.2**
TLOR	**Lorca, Murcia**	**0.40**	**210**	Pg	**Pb**	**16 01 57.5**	**0.0**
TLOR				Sg	**Sg**	**16 02 03.1**	**+0.4**
ELOR	**Lorca, Murcia**	**0.43**	**214**	Pg	**Pb**	**16 01 58.4**	**+0.2**
ELOR				Sg	**Sg**	**16 02 04.0**	**+0.2**
ELOR				*i* Vmb_Lg		16 02 05.9	
CART	**Cartagena**	**0.54**	**140**	Pg	**Pb**	**16 02 00.3**	**+0.4**
CART				Sg	**Sb**	**16 02 07.0**	**-0.3**
ETOB	**Tobarra**	**0.65**	**352**	Pg	**Pb**	**16 02 02.0**	**+0.2**
ETOB				Sg	**Sb**	**16 02 11.6**	**+0.9**
ETOB	**Tobarra**	**0.65**	**352**	Pg	**Pb**	**16 02 02.2**	**+0.3**
ETOB				Sg	**Sg**	**16 02 10.6**	**0.0**
ETOB				*i* Vmb_Lg		16 02 14.8	
AFON	**Font Roja**	**0.97**	**46**	Pg	**Pn**	**16 02 08.3**	**+0.5**
AFON				Sg	**Sg**	**16 02 20.4**	**-0.3**
AFON				*i* Vmb_Lg		16 02 26.1	
EBEN2	**Beniarda presa**	**1.19**	**55**	Pg	**Pn**	**16 02 10.2**	**-0.6**
EBEN2				Sg	**Sg**	**16 02 27.2**	**-0.5**
EBEN2				*i* Vmb_Lg		16 02 33.7	
ENIJ	**Nijar**	**1.19**	**211**	Pn	**Pn**	**16 02 10.4**	**-0.5**
ENIJ				Sn	**Sn**	**16 02 27.3**	**+0.7**
ENIJ	**Nijar**	**1.19**	**211**	Pg	**Pn**	**16 02 11.1**	**+0.3**
ENIJ				Sg	**Sb**	**16 02 26.8**	**+0.6**
ENIJ				*i* Vmb_Lg		16 02 32.3	
EVIV	**Cofrentes, Val**	**1.29**	**11**	Pg	**Pn**	**16 02 12.5**	**+0.3**
EVIV				Pn	**Pb**	**16 02 12.7**	**-0.1**
EVIV				Sg	**Sg**	**16 02 30.9**	**0.0**
EVIV				*i* Vmb_Lg		16 02 33.2	
EQES	**Quesada**	**1.31**	**262**	Pg	**Pb**	**16 02 13.6**	**+0.5**
EQES				Sg	**Sg**	**16 02 31.5**	**+0.2**
EQES				*i* Vmb_Lg		16 02 33.1	
EBER	**Berja**	**1.59**	**227**	Pn	**Pn**	**16 02 17.2**	**+0.7**
EBER				Sg	**Sb**	**16 02 38.7**	**+0.8**
ECHE	**Chera**	**1.63**	**13**	Pn	**Pn**	**16 02 17.5**	**+0.6**
ECHE				Pg	**Pg**	**16 02 20.0**	**-0.4**
ECHE				Sn	**Sn**	**16 02 37.5**	**0.0**
ECHE				Sg	**Sb**	**16 02 40.2**	**+1.3**
EMOS	**Mosqueruela**	**2.48**	**17**	Pn	**Pn**	**16 02 29.4**	**+0.8**
EMOS				Pg	**Pb**	**16 02 33.4**	**+0.2**
EMOS				Sn	**Sn**	**16 02 58.5**	**-0.1**
EMOS				*i* Vmb_Lg		16 03 04.7	
EMOS				Sg	**Sb**	**16 03 05.7**	**+2.3**
EADA	**Adamuz**	**2.48**	**275**	Pn	**Pn**	**16 02 28.7**	**+0.2**
EADA	**Adamuz**	**2.48**	**275**	Pn	**Pn**	**16 02 28.8**	**+0.2**
EADA				Pg	**Pb**	**16 02 33.6**	**+0.5**
EADA				Sn	**Sn**	**16 02 58.1**	**-0.3**
EADA				Sg	**Sg**	**16 03 07.7**	**-1.1**
EADA				*i* Vmb_Lg		16 03 13.9	
UCM	**Universidad Co**	**2.70**	**329**	Sg	**Sg**	**16 03 14.1**	**-1.6**
PAB	**San Pablo**	**2.75**	**305**	Pn	**Pn**	**16 02 32.5**	**+0.2**
PAB				Sn	**Sn**	**16 03 03.6**	**-1.5**
PAB				Sg	**Sg**	**16 03 15.9**	**-1.5**
PAB				*i* Vmb_Lg		16 03 19.2	
ETOR	**Torete**	**2.86**	**351**	Pn	**Pn**	**16 02 34.5**	**+0.8**
ETOR				Pg	**Pb**	**16 02 41.1**	**+1.5**
ETOR				Sn	**Sn**	**16 03 07.6**	**-0.2**
ETOR				Sg	**Sg**	**16 03 18.4**	**-2.4**
ETOR				*i* Vmb_Lg		16 03 27.7	
ECAB	**El Cabril**	**3.14**	**273**	Pn	**Pn**	**16 02 37.5**	**-0.2**
ECAB				Pg	**Pb**	**16 02 46.4**	**+2.1**
ECAB				Sn	**Sn**	**16 03 14.2**	**-0.5**
ECAB				Sg	**Sg**	**16 03 28.1**	**-1.9**
ECAB				*i* Vmb_Lg		16 03 31.5	
GUD	**Guadarrama**	**3.38**	**322**	Pn	**Pn**	**16 02 41.4**	**+0.4**
GUD				Pg	**Pb**	**16 02 50.1**	**+1.7**
GUD				Sn	**Sn**	**16 03 17.7**	**-3.0**
GUD				*i* Vmb_Lg		16 03 33.7	
GUD				Sg	**Sg**	**16 03 34.7**	**-2.8**

*TRN **09** 16:13:52.0,10.˚69N×61.˚20W,h19km,MD3.1*
*FUNV **09** 16:13:59.3,10.˚69N×62.˚08W,h16km,MW3.5*
ISC 09 16:13:35.2±2.1,10.˚0N±0.˚1×61.˚4W±0.˚1,h10km,n10, σ2°64/15,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.56**	**35**	*e*P	Pn	16 13 56.9	+7.7
TBH				*e*S	**Sn**	**16 14 02.2**	**+3.7**
TRN	**Trinidad (W)**	**0.62**	**359**	*e*P	Pn	16 13 56.2	+6.2
TRN				*e*S	**Sn**	**16 14 01.5**	**+1.5**
TPR	**Prospect**	**1.30**	**28**	*e*P	Pg	16 14 04.4	+4.1
TPR				*e*S	**Sg**	**16 14 14.5**	**-2.6**
CRUV	**Carupano**	**1.92**	**290**	*e*P	Pg	16 14 19.2	+7.2
GRHS	**Sauteurs**	**2.20**	**354**	*e*P	**Pg**	**16 14 20.3**	**+3.0**
GRHS				*e*S	**Sn**	**16 14 38.9**	**-0.2**
GCMP	**Grenada, Carri**	**2.44**	**359**	*e*P	**Pg**	**16 14 23.3**	**+1.2**
GCMP				*e*S	**Sn**	**16 14 44.5**	**-0.6**
TACV	**Tcata**	**5.55**	**272**	*e*P	**Pb**	**16 15 11.1**	**-1.1**
TACV				*e*S	**Sn**	**16 16 03.4**	**+1.6**
CACV	**CAICARA DEL OR**	**5.64**	**245**	*e*P	**Pb**	**16 15 11.4**	**-2.4**
CACV				*e*S	**Sn**	**16 16 06.3**	**+2.2**
BENV	**Beln**	**6.11**	**270**	*e*P	**Pb**	**16 15 18.7**	**-3.2**
BENV				*e*S	**Sn**	**16 16 17.4**	**+1.7**
BAUV	**El Baul**	**6.64**	**261**	*e*P	**Pb**	**16 15 27.8**	**-3.1**
BAUV				*e*S	**Sn**	**16 16 32.4**	**+3.6**

*NEIC **09** 16:29:28.5±0.5,18.˚2N±0.˚2×68.˚1W±0.˚2,h91km±37km, ML2.4/8,Md3.2/5(RSPR),Error ellipse: s-maj=33.9km s-min=19.8km az=132.0*
*RSPR **09** 16:29:29.4,18.˚36N×68.˚02W,h104km±3km,MD3.2/5*
*SDD **09** 16:29:31.5±1.5,18.˚85N×67.˚95W,h17km±174km,MD3.1, ML2.4,MW2.6*
ISC 09 16:29:30.1±1.3,18.˚3N±0.˚2×67.˚98W±0.˚05,h99km,n14, σ0°85/19,2C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.76**	**265**	*e*Pg	**Pn**	**16 29 48.6**	**+0.6**
SADR				*e*Sg	**Sn**	**16 30 02.9**	**+1.5**
SADR				IAML		16 30 46.2	
	comp=Z,102nm,3.0s						
MLPR	**Magueyes Islan**	**0.94**	**108**	⇑*e*P	**Pn**	**16 29 48.9**	**-0.9**
MLPR	**Magueyes Islan**	**0.94**	**108**	*e*S	**Sn**	**16 30 03.8**	**-0.8**
MLPR	**Magueyes Islan**	**0.94**	**108**		**Pn**	**16 29 48.9**	**-0.9**
MLPR					**Sn**	**16 30 03.8**	**-0.8**
AOPR	**Arecibo Observ**	**1.17**	**86**	⇓*e*P	**Pn**	**16 29 52.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.17**	**86**	*e*S	**Sn**	**16 30 09.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.17**	**86**		**Pn**	**16 29 52.3**	**-0.1**
AOPR					**Sn**	**16 30 09.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.17**	**86**	*e*Pg	**Pn**	**16 29 52.3**	**-0.1**
AOPR				*e*Sg	**Sn**	**16 30 09.8**	**+0.7**
AOPR				IAML		16 30 13.1	
	comp=Z,83nm,0.3s						
CELP	**Cerrillos**	**1.34**	**98**	⇑*e*P	**Pn**	**16 29 54.4**	**-0.1**
CELP	**Cerrillos**	**1.34**	**98**	*e*S	**Sn**	**16 30 13.7**	**+0.8**
CELP	**Cerrillos**	**1.34**	**98**		**Pn**	**16 29 54.4**	**-0.1**
CELP					**Sn**	**16 30 13.7**	**+0.8**
CELP	**Cerrillos**	**1.34**	**98**	IAML		16 30 16.0	
	comp=N,35nm,2.4s						
CELP				IAML		16 30 46.3	
	comp=E,31nm,3.9s						
HATOM	**Hato Mayor del**	**1.43**	**292**	⇓*e*Pg	**Pn**	**16 29 55.4**	**-0.1**
HATOM				*e*Sg	**Sn**	**16 30 12.8**	**-1.9**
HATOM				IAML		16 30 49.8	
	comp=Z,37nm,3.4s						
SJG	**San Juan**	**1.75**	**95**	Pn	**Pn**	**16 29 59.2**	**-0.2**
SJG				IAML		16 30 23.7	
	comp=Z,26nm,0.9s						
SJG				IAML		16 30 43.2	
	comp=Z,30nm,1.3s						

NOU 09 16:33:10.2,21.˚36S×169.˚62E,h0km,MLv3.5/9, Southeast of Loyalty Islands,Southeast of Loyalty Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

0.2nm,0.3s,baz=62,slow=14,SNR=38
MK31 ⇓Lg Lg 16 48 48.1
9.3nm,0.8s,baz=54,slow=30,SNR=10
MAKZ Makanchi 5.19 236 ⇓Pn **Pn 16 47 25.4 +1.5**
0.5nm,0.4s
MAKZ ⇓Lg Lg 16 48 52.1
6.5nm,0.9s
KURK Kurchatov 6.22 281 ⇑Pn **Pn 16 47 40.2 +2.3**
0.3nm,0.4s
KURK ⇑Sn **Sn 16 48 52.0 +3.1**
1.9nm,0.5s
KURK ⇓Lg Lg 16 49 22.1
5.2nm,1.0s
KURBB Kurchatov Arra 6.27 280 ⇑Pn **Pn 16 47 40.9 +2.3**
1.1nm,0.3s
KURBB ⇑Sn **Sn 16 48 52.7 +2.5**
4.8nm,0.5s
KURBB ⇑Lg Lg 16 49 22.3
9.8nm,0.9s

*ROM **09** 16:57:59.1±0.1,38.˚500N±0.˚008×14.˚338E±0.˚008, h22km±1km,ML3.4/88,Error ellipse: s-maj=0.8km s-min=0.5km az=330.0*
*THE **09** 16:58:06.1,38.˚39N×15.˚05E,h7km±42km,ML3.2/5,Error ellipse: s-maj=55.1km s-min=2.5km az=261.0*
ISC 09 16:57:58.6±0.8,38.˚49N±0.˚03×14.˚35E±0.˚02,h16km,n65, σ1s37/83,4C-6D,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
IACL	**Alicudi**	**0.04**	**10**	⇓P		**Pg**	**16 58 02.8**	**+1.2**
IACL				S		**Sg**	**16 58 05.4**	**+1.9**
IACL					AML	AML		
	comp=E,96550μm,1.0s							
IACL					AML	AML		
IACL					AML	AML		
	comp=E,69514μm,0.2s							
IACL					AML	AML		
	comp=N,83740μm,0.3s							
LLI	**Lipari**	**0.47**	**96**	P		**Pn**	**16 58 09.7**	**-1.0**
LLI				S		**Sb**	**16 58 17.1**	**+1.8**
LLI					AML	AML		
	comp=N,41450μm,1.0s							
LLI					AML	AML		
	comp=E,30250μm,1.1s							
LLI					AML	AML		
	comp=N,38771μm,0.3s							
LLI					AML	AML		
	comp=E,28406μm,0.8s							
MSFR	**San Fratello**	**0.50**	**157**	⇓P		**Pg**	**16 58 08.4**	**-0.1**
MSFR				S		**Sb**	**16 58 16.6**	**+0.5**
MSFR					AML	AML		
	comp=E,3820μm,1.5s							
MSFR					AML	AML		
	comp=N,9225μm,0.9s							
MSFR					AML	AML		
	comp=E,3398μm,0.3s							
MSFR					AML	AML		
	comp=N,7139μm,0.4s							
VPL	**Vulcano Piano**	**0.51**	**103**	P		**Pb**	**16 58 09.8**	**+0.6**
VPL				S		**Sb**	**16 58 18.0**	**+1.6**
VPL					AML	AML		
	comp=E,13300μm,0.5s							
VPL					AML	AML		
	comp=N,12350μm,1.3s							
VPL					AML	AML		
	comp=N,11208μm,0.4s							
VPL					AML	AML		
	comp=E,13292μm,0.5s							
GIB	**Gibilmanna**	**0.56**	**207**	⇓P		**Pb**	**16 58 10.2**	**+0.1**
GIB				S		**Sb**	**16 58 18.6**	**+0.7**
GIB					AML	AML		
	comp=E,10135μm,0.4s							
GIB					AML	AML		
	comp=N,11350μm,1.4s							
GIB					AML	AML		
	comp=E,10130μm,0.4s							
GIB					AML	AML		
	comp=N,11197μm,0.5s							
CSLB	**Castelbuono**	**0.60**	**202**	P		**Pg**	**16 58 10.4**	**0.0**
CSLB				S		**Sb**	**16 58 19.0**	**+0.1**
CSLB					AML	AML		
	comp=N,5210μm,0.7s							
CSLB					AML	AML		
	comp=E,5445μm,0.5s							
CSLB					AML	AML		
	comp=E,5446μm,0.5s							
CSLB					AML	AML		
	comp=N,5210μm,0.7s							
MUCR	**Ucria**	**0.61**	**137**	⇓P		**Pg**	**16 58 10.7**	**0.0**
MUCR					AML	AML		
	comp=N,69700μm,0.5s							
MUCR					AML	AML		
	comp=E,25200μm,0.6s							
MUCR					AML	AML		
	comp=N,69736μm,0.5s							
MUCR					AML	AML		
	comp=E,25175μm,0.6s							
PETRA	**Petralia Sopra**	**0.68**	**196**	⇓P		**Pb**	**16 58 12.2**	**0.0**
PETRA					AML	AML		
	comp=N,13950μm,0.5s							
PETRA					AML	AML		
	comp=E,15100μm,0.5s							
PETRA					AML	AML		
	comp=E,15080μm,0.5s							
PETRA					AML	AML		
	comp=N,13945μm,0.5s							
MILZ	**Milazzo**	**0.73**	**107**	⇑P		**Pb**	**16 58 12.9**	**0.0**
MILZ				S		**Sb**	**16 58 22.8**	**+0.2**
MILZ					AML	AML		
	comp=N,4365μm,0.5s							
MILZ					AML	AML		
	comp=E,4960μm,0.3s							
MILZ					AML	AML		
	comp=E,4960μm,0.3s							
MILZ					AML	AML		
	comp=N,4367μm,0.5s							
SOLUN	**Solunto**	**0.76**	**238**	⇑P		**Pb**	**16 58 13.4**	**0.0**
SOLUN					AML	AML		
	comp=E,5540μm,0.6s							
SOLUN					AML	AML		
	comp=N,4270μm,0.6s							
SOLUN					AML	AML		
	comp=N,4273μm,0.6s							
SOLUN					AML	AML		
	comp=E,5543μm,0.6s							
IST3	**Stromboli F**	**0.76**	**66**	P		**Pb**	**16 58 13.8**	**+0.4**
NOV	**Novara**	**0.78**	**126**	P		**Pb**	**16 58 14.0**	**+0.3**
NOV				S		**Sb**	**16 58 24.8**	**+0.7**
NOV					AML	AML		
	comp=E,12350μm,0.3s							
NOV					AML	AML		
	comp=N,9850μm,1.0s							
NOV					AML	AML		
	comp=E,12374μm,0.3s							
NOV					AML	AML		
	comp=N,9221μm,0.5s							
EPZF	**Pizzo Felice**	**0.78**	**149**	P		**Pb**	**16 58 14.4**	**+0.6**
EPZF					AML	AML		
	comp=N,12650μm,0.3s							
EPZF					AML	AML		
	comp=E,11900μm,0.8s							
EPZF					AML	AML		
	comp=N,12693μm,0.3s							
EPZF					AML	AML		
	comp=E,11872μm,0.8s							
GALF	**Gagliano Caste**	**0.80**	**167**	P		**Pn**	**16 58 15.0**	**-0.2**
GALF					AML	AML		
	comp=E,5460μm,0.5s							
GALF					AML	AML		
	comp=N,4315μm,0.5s							
GALF					AML	AML		
	comp=N,4317μm,0.6s							
GALF					AML	AML		
	comp=E,5459μm,0.5s							
EMSG	**Monte Spagnolo**	**0.82**	**144**	P		**Pn**	**16 58 15.5**	**-0.2**
EMSG					AML	AML		
	comp=E,17350μm,0.5s							
EMSG					AML	AML		
	comp=N,10260μm,0.6s							
EMSG					AML	AML		
	comp=E,17347μm,0.5s							
EMSG					AML	AML		
	comp=N,10269μm,0.6s							
MPG	**Monte Pellegri**	**0.84**	**247**	P		**Pb**	**16 58 14.7**	**-0.2**
MPG					AML	AML		
	comp=E,815μm,1.5s							
MPG					AML	AML		
	comp=N,749μm,0.5s							
MPG					AML	AML		
	comp=N,749μm,0.5s							
MPG					AML	AML		
	comp=E,710μm,0.8s							
AIO	**Antillo**	**0.87**	**126**	P		**Pb**	**16 58 15.4**	**+0.1**
AIO				S		**Sb**	**16 58 27.0**	**+0.2**
AIO					AML	AML		
	comp=E,3205μm,1.2s							
AIO					AML	AML		
	comp=N,4735μm,0.2s							
AIO					AML	AML		
	comp=N,4731μm,0.2s							
AIO					AML	AML		
	comp=E,3195μm,0.3s							
RESU	**Resuttano**	**0.88**	**195**	P		**Pn**	**16 58 16.5**	**+0.2**
RESU					AML	AML		
	comp=E,3595μm,0.5s							
RESU					AML	AML		
	comp=N,3760μm,0.5s							
RESU					AML	AML		
	comp=N,3757μm,0.5s							
RESU					AML	AML		
	comp=E,3597μm,0.5s							
ALJA	**Alia**	**0.88**	**212**	P		**Pn**	**16 58 16.0**	**-0.4**
ALJA					AML	AML		
	comp=N,3420μm,0.6s							
ALJA					AML	AML		
	comp=E,3825μm,1.4s							
ALJA					AML	AML		
	comp=E,3471μm,0.9s							
ALJA					AML	AML		
	comp=N,3420μm,0.6s							
ESLN	**Serra La Nave**	**0.94**	**148**	P		**Pn**	**16 58 18.5**	**+1.1**
ESLN					AML	AML		
	comp=E,4020μm,0.6s							
ESLN					AML	AML		
	comp=N,4175μm,0.7s							
ESLN					AML	AML		
	comp=N,4171μm,0.7s							
ESLN					AML	AML		
	comp=E,4018μm,0.6s							
USI	**Ustica**	**0.94**	**284**	P		**Pb**	**16 58 16.4**	**-0.2**
USI					AML	AML		
	comp=N,3525μm,0.6s							
USI					AML	AML		
	comp=E,966μm,0.7s							
USI					AML	AML		
	comp=E,965μm,0.7s							
USI					AML	AML		
	comp=N,3525μm,0.6s							
ESML	**S. M. di Licod**	**0.97**	**154**	P		**Pn**	**16 58 18.8**	**+1.2**
ESML					AML	AML		
	comp=E,3520μm,1.3s							
ESML					AML	AML		
	comp=N,4680μm,0.8s							
ESML					AML	AML		
	comp=N,4680μm,0.8s							
ESML					AML	AML		
	comp=E,3460μm,0.6s							
CORL	**Corleone**	**1.02**	**234**	P		**Pn**	**16 58 18.0**	**-0.3**
CORL					AML	AML		
	comp=E,2050μm,0.7s							
CORL					AML	AML		
	comp=N,1570μm,1.2s							
CORL					AML	AML		
	comp=E,2049μm,0.7s							
CORL					AML	AML		
	comp=N,1570μm,1.2s							
EPOZ	**Pozzillo**	**1.14**	**149**	⇓P		**Pg**	**16 58 20.5**	**-0.1**
EPOZ					AML	AML		
	comp=E,4160μm,1.6s							
EPOZ					AML	AML		
	comp=N,4985μm,0.9s							
EPOZ					AML	AML		
	comp=N,4986μm,0.9s							
EPOZ					AML	AML		
	comp=E,4090μm,0.7s							
MTTG	**Motta San Giov**	**1.17**	**114**	P		**Pn**	**16 58 19.9**	**-0.4**
MTTG					AML	AML		
	comp=N,2020μm,1.4s							
MTTG					AML	AML		
	comp=E,2615μm,0.8s							
MTTG					AML	AML		
	comp=E,2613μm,0.8s							
MTTG					AML	AML		
	comp=N,1837μm,0.5s							
JOPP	**Joppolo**	**1.21**	**84**	P		**Pn**	**16 58 20.4**	**-0.5**
JOPP					AML	AML		
	comp=N,498μm,0.4s							
JOPP					AML	AML		
	comp=E,500μm,0.5s							
JOPP					AML	AML		
	comp=N,498μm,0.4s							
JOPP					AML	AML		
	comp=E,500μm,0.5s							
HLNI	**Lentini**	**1.22**	**160**	⇑P		**Pb**	**16 58 21.3**	**+0.1**
HLNI				S		**Sg**	**16 58 38.7**	**+0.8**
HLNI					AML	AML		
	comp=E,1805μm,0.4s							
HLNI					AML	AML		
	comp=N,1570μm,0.8s							
HLNI					AML	AML		
	comp=E,1807μm,0.4s							
HLNI					AML	AML		
	comp=N,1405μm,0.4s							
CEL	**Celeste**	**1.24**	**100**	⇑P		**Pn**	**16 58 20.5**	**-0.8**
CEL					AML	AML		
	comp=N,952μm,1.1s							
CEL					AML	AML		
	comp=E,892μm,0.8s							
CEL					AML	AML		
	comp=E,1115μm,0.7s							
CEL					AML	AML		
	comp=N,1125μm,1.1s							
CEL					AML	AML		
	comp=E,889μm,0.4s							
CEL					AML	AML		
	comp=E,1106μm,0.4s							
CEL					AML	AML		
	comp=N,1092μm,0.3s							
CEL					AML	AML		
	comp=N,905μm,0.3s							
CRJA	**Costa Raja**	**1.26**	**237**	P		**Pb**	**16 58 22.0**	**-0.1**
CLTB	**Caltabellotta**	**1.28**	**225**	P		**Pg**	**16 58 23.4**	**+0.2**
MMGO	**Monte Magaggia**	**1.36**	**233**	P		**Pb**	**16 58 23.5**	**-0.2**
MMGO					AML	AML		
	comp=E,366μm,0.6s							
MMGO					AML	AML		
	comp=N,398μm,1.0s							
MMGO					AML	AML		
	comp=E,366μm,0.6s							
MMGO					AML	AML		
	comp=N,398μm,1.0s							
HAGA	**Augusta**	**1.36**	**152**	P		**Pn**	**16 58 23.0**	**+0.1**
HAGA					AML	AML		
	comp=E,1089μm,1.3s							
HAGA					AML	AML		
	comp=N,1330μm,0.9s							
HAGA					AML	AML		
	comp=E,1077μm,0.4s							
HAGA					AML	AML		
	comp=N,1061μm,0.6s							
SOI	**Samo**	**1.41**	**107**	P		**Pn**	**16 58 23.2**	**-0.4**
SOI					AML	AML		
	comp=N,882μm,0.6s							
SOI					AML	AML		
	comp=E,732μm,0.4s							
SOI					AML	AML		
	comp=E,732μm,0.4s							
SOI					AML	AML		
	comp=N,882μm,0.6s							
AGST	**Augusta-Monte**	**1.42**	**150**	P		**Pn**	**16 58 23.7**	**0.0**
AGST					AML	AML		
	comp=E,1805μm,0.7s							
AGST					AML	AML		
	comp=N,2080μm,0.3s							
AGST					AML	AML		
	comp=N,2082μm,0.3s							
AGST					AML	AML		
	comp=E,1659μm,0.5s							
SSY	**Sortino**	**1.45**	**157**	P		**Pn**	**16 58 24.3**	**+0.1**
SSY					AML	AML		
	comp=N,3615μm,0.3s							
SSY					AML	AML		
	comp=E,1525μm,1.5s							
SSY					AML	AML		
	comp=N,3617μm,0.3s							
SSY					AML	AML		
	comp=E,1460μm,0.5s							
HMDC	**Modica**	**1.57**	**167**	P		**Pn**	**16 58 26.5**	**+0.7**
CET2	**Cetraro**	**1.62**	**50**	P		**Pn**	**16 58 27.0**	**+0.3**
CAR1	**CAROLEI**	**1.64**	**62**	P		**Pn**	**16 58 27.1**	**+0.2**
CAR1					AML	AML		
	comp=E,514μm,0.6s							
CAR1					AML	AML		
	comp=N,599μm,1.1s							
CAR1					AML	AML		
	comp=E,616μm,0.5s							
CAR1					AML	AML		
	comp=N,474μm,0.4s							
CAR1					AML	AML		
	comp=N,578μm,0.7s							
CAR1					AML	AML		
	comp=E,514μm,0.6s							
CAR1					AML	AML		
	comp=N,475μm,0.4s							
CAR1					AML	AML		
	comp=E,616μm,0.5s							
PLAC	**Placanica**	**1.64**	**91**	P		**Pn**	**16 58 27.0**	**+0.2**
PLAC					AML	AML		
	comp=E,450μm,1.2s							
PLAC					AML	AML		
	comp=N,516μm,0.4s							
PLAC					AML	AML		
	comp=E,524μm,0.4s							
PLAC					AML	AML		
	comp=N,476μm,1.1s							
PLAC					AML	AML		
	comp=E,524μm,0.4s							
PLAC					AML	AML		
	comp=N,515μm,0.4s							
PLAC					AML	AML		
	comp=E,431μm,0.8s							
PLAC					AML	AML		
	comp=N,443μm,0.5s							
HPAC	**Pachino**	**1.89**	**161**	P		**Pn**	**16 58 31.0**	**+0.8**
HPAC					AML	AML		
	comp=E,1150μm,0.5s							
HPAC					AML	AML		
	comp=N,1270μm,0.5s							
HPAC					AML	AML		
	comp=N,1267μm,0.5s							
HPAC					AML	AML		
	comp=E,1153μm,0.5s							
SERS	**Sersale**	**1.91**	**73**	P		**Pn**	**16 58 31.3**	**+0.7**
SERS					AML	AML		
	comp=E,180μm,1.0s							
SERS					AML	AML		
	comp=N,175μm,0.5s							
SERS					AML	AML		
	comp=E,195μm,0.5s							
SERS					AML	AML		
	comp=N,150μm,0.4s							
SERS					AML	AML		
	comp=N,149μm,0.4s							
SERS					AML	AML		
	comp=E,161μm,0.9s							
SERS					AML	AML		
	comp=N,175μm,0.5s							
SERS					AML	AML		
	comp=E,195μm,0.5s							
TDS	**Terranova Siba**	**1.94**	**52**	P		**Pn**	**16 58 31.9**	**+1.0**
TDS					AML	AML		
	comp=E,83μm,1.1s							
TDS					AML	AML		
	comp=N,66μm,0.8s							
TDS					AML	AML		
	comp=E,76μm,0.7s							
TDS					AML	AML		
	comp=N,63μm,1.0s							
CMPR	**Campora**	**1.97**	**22**	P		**Pn**	**16 58 32.1**	**+0.8**
CMPR					AML	AML		
	comp=E,168μm,0.8s							
CMPR					AML	AML		
	comp=N,119μm,0.8s							
CMPR					AML	AML		
	comp=E,168μm,0.8s							
CMPR					AML	AML		
	comp=N,119μm,0.8s							
TIP	**Timpagrande**	**2.00**	**69**	P		**Pn**	**16 58 32.8**	**+0.9**
TIP					AML	AML		
	comp=E,93μm,0.4s							
TIP					AML	AML		
	comp=N,170μm,1.4s							
TIP					AML	AML		
	comp=E,93μm,0.4s							
TIP					AML	AML		
	comp=E,96μm,0.8s							
TIP					AML	AML		
	comp=N,117μm,0.6s							
TIP					AML	AML		
	comp=N,110μm,0.6s							
SIRI	**Monte Sirino -**	**2.06**	**34**	P		**Pn**	**16 58 34.0**	**+1.3**
SIRI					AML	AML		
	comp=E,175μm,1.3s							
SIRI					AML	AML		
	comp=N,140μm,0.7s							
SIRI					AML	AML		
	comp=E,155μm,0.6s							
SIRI					AML	AML		
	comp=N,151μm,0.7s							
SIRI					AML	AML		
	comp=E,155μm,0.6s							
SIRI					AML	AML		
	comp=E,164μm,0.7s							
SIRI					AML	AML		
	comp=N,139μm,0.7s							
SIRI					AML	AML		
	comp=N,151μm,0.7s							
SALB	**San Lorenzo Be**	**2.08**	**48**	P		**Pb**	**16 58 34.4**	**-1.6**
SALB					AML	AML		
	comp=E,160μm,0.7s							
SALB					AML	AML		
	comp=N,100μm,0.7s							
SALB					AML	AML		
	comp=E,146μm,0.4s							
SALB					AML	AML		
	comp=N,100μm,0.7s							
CDRU	**Civita di Ruta**	**2.13**	**20**	P		**Pn**	**16 58 34.9**	**+1.3**
CDRU					AML	AML		
	comp=E,74μm,0.9s							
CDRU					AML	AML		
	comp=N,53μm,0.9s							
CDRU					AML	AML		
	comp=N,41μm,0.7s							
CDRU					AML	AML		
	comp=E,71μm,0.6s							
MRLC	**Muro Lucano**	**2.43**	**21**	P		**Pb**	**16 58 39.6**	**-2.3**
VSL	**Villasalto**	**4.00**	**286**	P		**Pn**	**16 58 58.6**	**-0.7**
KEK	**Kerkira**	**4.41**	**72**	P		**Pn**	**16 59 04.7**	**-0.2**
KEF3	**Kipouria, Keph**	**4.73**	**92**	P		**Pn**	**16 59 10.1**	**+0.9**
AGLI	**Aglientu**	**4.77**	**305**	P		**Pn**	**16 59 10.3**	**+0.5**
IGT	**Igoumenitsa**	**4.78**	**76**	P		**Pn**	**16 59 11.0**	**+1.1**
FSK	**Fiskardo**	**4.88**	**88**	P		**Pn**	**16 59 11.7**	**+0.4**
FSK				S		**Sn**	**17 00 04.2**	**-3.2**
EVGI	**Lefkada island**	**4.95**	**87**	P		**Pn**	**16 59 15.0**	**+2.8**
EVGI				S		**Sn**	**17 00 06.7**	**-2.4**
	comp=E,22nm,0.4s							
LKD2	**Lefkada island**	**4.95**	**85**	P		**Pn**	**16 59 13.8**	**+1.5**
LKD2				S		**Sn**	**17 00 05.9**	**-3.3**
	comp=E,28nm,0.8s							
NYDR	**Nydri-Lefkada**	**4.98**	**85**	P		**Pn**	**16 59 14.2**	**+1.5**
NYDR				S		**Sn**	**17 00 06.5**	**-3.4**
NEST	**Nestorio**	**5.53**	**68**	P		**Pn**	**16 59 23.6**	**+3.3**
KPRO	**Kipourio**	**5.64**	**73**	P		**Pn**	**16 59 24.7**	**+2.9**
KPRO				S		**Sn**	**17 00 25.7**	**-0.6**
ANX	**Ano Chora**	**5.94**	**87**	P		**Pn**	**16 59 28.4**	**+2.5**
ANX				S		**Sn**	**17 00 31.4**	**-2.3**
	comp=E,32nm,0.6s							
PYL	**PYLOS**	**6.08**	**103**	P		**Pn**	**16 59 29.3**	**+1.5**
MAKR	**Makrakomi, Fth**	**6.11**	**83**	P		**Pn**	**16 59 31.1**	**+2.9**
MAKR				S		**Sn**	**17 00 36.0**	**-1.8**
	comp=E,60nm,0.8s							
TYRN	**Tyrnavos**	**6.25**	**76**	P		**Pn**	**16 59 32.1**	**+1.9**
AGG	**Agios Georgios**	**6.26**	**83**	P		**Pn**	**16 59 32.8**	**+2.5**
AGG				S		**Sn**	**17 00 39.3**	**-2.3**
	comp=E,28nm,0.6s							
VILL	**Villia**	**7.06**	**90**	P		**Pn**	**16 59 42.8**	**+1.6**

*IDC **09** 17:47:33.5±2.0,34˚.76N×138˚.00E,h0km,mb3.3/3, mbtmp3.3/3,MS3.0/1,Error ellipse: s-maj=55.6km s-min=24.0km az=94.0*

*JMA **09** 17:47:38.3±0.3,35˚.6N±0˚.7×14˚0E±˚,h93km±2km, MV2.4/37,TOKYO PREF*

ISC 09 17:47:38.8±1.0,35˚.55N±0˚.06×139˚.78E±0˚.06,h97km±7km, n16,σ0§86/24,mb3.2/3,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.13**	**354**	P		**Pn**		**17 47 52.3**	**-0.1**
TOK				eS		**Sn**		**17 48 03.1**	**+0.6**
JYO	**Yokosk**	**0.34**	**195**	P		**Pn**		**17 47 53.1**	**-0.2**
JYO				S		**Sn**		**17 48 04.9**	**+0.9**
JCN	**Nagara**	**0.37**	**111**	P		**Pn**		**17 47 53.3**	**-0.1**
JCN				S		**Sn**		**17 48 05.1**	**+0.8**
JOD2	**Odawara 2**	**0.63**	**243**	P		**Pn**		**17 47 54.5**	**-0.8**
JOD2				S		**Sn**		**17 48 06.5**	**-1.3**
JRY	**Ryogami san**	**0.85**	**303**	P		**Pn**		**17 47 57.2**	**-0.2**
JRY				S		**Sn**		**17 48 11.5**	**+0.1**
JAG	**Ashikaga**	**0.91**	**343**	*i* P		**Pn**		**17 47 57.0**	**-1.0**
JAG				S		**Sn**		**17 48 11.3**	**-1.1**
JFNN	**Fujinakano**	**0.96**	**248**	S		**Sn**		**17 48 13.7**	**+0.3**
BSO3	**Boso 3**	**0.96**	**141**	P		**Pn**		**17 47 57.9**	**-0.4**
JYN	**Shimodo**	**1.01**	**267**	P		**Pn**		**17 47 58.9**	**-0.3**
JYN				S		**Sn**		**17 48 14.4**	**0.0**
JIZS	**Izushimoda**	**1.11**	**222**	*e*P		**Pn**		**17 48 00.1**	**-0.2**
JIZS				*e*S		**Sn**		**17 48 16.6**	**+0.2**
BSO1	**Boso 1**	**1.33**	**132**	*e*P		**Pn**		**17 48 01.7**	**-0.6**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=179,slow=12,SNR=33	**1.61**	**308**	Pn		**Pn**		**17 48 05.5**	**-0.7**
MJAR						**Sn**		**17 48 29.6**	**+2.6**
	0.4nm,0.3s,baz=196,slow=20,SNR=3.8								
JCJ	**Chichijima**	**8.68**	**166**	LR		LR		17 52 29.1	
	comp=Z,107nm,21.9s,baz=188,slow=35								
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=90,slow=8.1,SNR=2.7	**43.80**	**303**	P		**P**		**17 55 35.5**	**+0.6**
	0.2nm,0.6s								
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=84,slow=7.1,SNR=4.5	**45.88**	**309**	P		**P**		**17 55 51.6**	**+0.4**
	0.5nm,0.5s								
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=0.7,slow=7.8,SNR=1.1	**55.43**	**186**	P		**P**		**17 57 02.9**	**-0.4**
	0.2nm,0.8s								

*JMA **09** 17:50:30.4±0.1,30˚.0N±0˚.9×14˚2E±˚,h43km,MV4.2/21, NEAR TORISHIMA IS*

*IDC **09** 17:50:34.5±2.4,29˚.59N×140˚.21E,h60km±19km,mb3.7/20, mbtmp4.0/25,ML3.2/5,MS3.6/9,Error ellipse: s-maj=18.2km s-min=13.9km az=101.0*

*NEIC **09** 17:50:34±2.2,29˚.58N±0˚.06×140˚.42E±0˚.02,h47km±6km, mb4.7/43,Error ellipse: s-maj=9.5km s-min=2.7km az=175.0*

ISC 09 17:50:32.2±0.7,29˚.54N±0˚.05×140˚.46E±0˚.07,h42km±6km, n122,σ1§54/122,mb4.6/48,MS3.6/9,1D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**148**	P		**Pn**		**17 51 15.4**	**-0.1**
CBIJ				S		**Sn**		**17 51 49.1**	**+0.3**
JCJ	**Chichijima**	**2.87**	**148**	Pn		**Pn**		**17 51 15.3**	**-0.2**
JCJ	**Chichijima** 606nm,0.5s,baz=299,slow=22,SNR=25	**2.87**	**148**	P		**Pn**		**17 51 11.3**	**-4.2**
JCJ				S		**Sn**		**17 51 44.9**	**-3.9**
	668nm,0.4s,baz=49,slow=19,SNR=14								
JHH2	**Haha-jima-NKT2**	**3.27**	**152**	P		**Pn**		**17 51 21.9**	**+0.9**
JHH2				S		**Sn**		**17 52 00.3**	**+1.8**
JHJ2	**Mitsune**	**3.61**	**351**	Pn		**Pn**		**17 51 25.3**	**-0.3**
JHJ	**Hachijo jima 2** 10nm,0.3s,baz=82,slow=23,SNR=2.0	**3.62**	**351**	P		**Pn**		**17 51 25.9**	**+0.1**
JHJ				S		**Sn**		**17 52 09.3**	**+2.1**
	193nm,0.7s,baz=108,slow=20,SNR=2.4								
	262nm,1.0s								
BSO1	**Boso 1**	**5.12**	**5**	*e*P		**Pn**		**17 51 41.7**	**-4.2**
BSO3	**Boso 3**	**5.25**	**0**	*e*P		**Pn**		**17 51 44.0**	**-3.9**
HMMJ	**Hamamatsu 2**	**5.79**	**337**	*e*P		**Pn**		**17 51 58.1**	**+2.6**
JOD2	**Odawara 2**	**5.83**	**349**	*e*P		**Pn**		**17 51 55.4**	**-0.7**
JNY	**Yasuok**	**6.21**	**340**	*e*P		**Pn**		**17 52 03.5**	**+2.1**
JRY	**Ryogami san**	**6.59**	**349**	*e*P		**Pn**		**17 52 06.7**	**+0.1**
JMN	**Monobe**	**6.99**	**308**	Pn		**Pn**		**17 52 10.3**	**-1.9**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=160,slow=12,SNR=3.7	**7.24**	**345**	P		**Pn**		**17 52 15.0**	**-0.5**
	2.4nm,0.5s								
MAJO	**Matsushiro**	**7.24**	**345**	Pn		**Pn**		**17 52 16.8**	**+1.3**
MJB9	**Matsu-Tunnel**	**7.24**	**345**	Pn		**Pn**		**17 52 17.9**	**+2.4**
JMM	**Marumori**	**8.31**	**2**	Pn		**Pn**		**17 52 25.9**	**-4.3**
JNU	**Nakatsue** 0.3nm,0.3s,baz=133,slow=19,SNR=1.7	**8.94**	**296**	P		**Pn**		**17 52 38.3**	**-0.5**
	8.8nm,1.1s								
KSRS	**Korea Array** 0.1nm,0.3s,baz=128,slow=9.3,SNR=3.5	**13.10**	**310**	P		**Pn**		**17 53 36.4**	**+0.7**
	0.9nm,0.6s								
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=130,slow=10.0,SNR=3.4	**16.11**	**338**	P		**Pn**		**17 54 14.4**	**-1.2**
	3.1nm,0.8s								
MDJ	**Mudanjiang**	**17.34**	**333**	P		**P**		**17 54 33.9**	**+1.8**
MDJ				PP		**sP**		**17 54 46.1**	**-0.8**
MDJ				S		**S**		**17 57 52.7**	**+2.5**
MDJ				sS		sS		17 58 04.7	-0.6
MDJ				PcP		PcP		17 59 02.8	-8.7
MDJ				PcS		**PcS**		**18 02 45.3**	**-2.2**
MDJ	**Mudanjiang**	**17.34**	**333**	ScS		ScS		18 06 19.5	-3.4
MDJ				pmax		pmax			
	comp=Z,14nm,1.4s								
MDJ				pmax		pmax			
	comp=Z,860nm,4.8s								
NJ2	**Nanjing**	**18.73**	**283**	*e*P		**P**		**17 54 47.2**	**-0.2**
NJ2				pmax		pmax			
	comp=Z,28nm,1.3s								
KLR	**Kul'dur** comp=Z,4.3nm,0.6s,baz=149,slow=5.1,SNR=16	**20.76**	**344**	P		**P**		**17 55 09.0**	**-0.4**
	comp=Z,4.3nm,0.6s								
H11N2	**WAKE ISLAND Hy** baz=295	**25.89**	**106**	T		T		18 23 06.4	
H11N1	**WAKE ISLAND Hy** baz=295	**25.89**	**106**	T		T		18 23 06.6	
H11N3	**WAKE ISLAND Hy** baz=295	**25.91**	**106**	T		T		18 23 07.7	
HHC	**Hu-ho-hao-te**	**26.05**	**303**	*e*P		**P**		**17 56 01.1**	**-0.7**
HHC				pmax		pmax			
	comp=Z,18nm,0.8s								
HHC				pmax		pmax			
	comp=Z,240nm,5.8s								
H11S3	**WAKE ISLAND Hy** baz=305	**26.30**	**109**	T		T		18 23 43.0	
H11S1	**WAKE ISLAND Hy** baz=305	**26.30**	**109**	T		T		18 23 42.3	
H11S2	**WAKE ISLAND Hy** baz=305	**26.32**	**109**	T		T		18 23 44.3	
DAV	**Davao City (W)** comp=Z,76nm,19.6s,baz=311,slow=37	**26.38**	**215**	LR		LR		18 06 50.6	
XAN	**Xi'an**	**27.12**	**288**	P		**P**		**17 56 12.0**	**+0.6**
XAN				pmax		pmax			
	comp=Z,9.0nm,0.7s								
GYA	**Guiyang**	**29.93**	**272**	||P		**P**		**17 56 38.8**	**+2.2**
GYA				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SONM	**Songino Array** comp=Z,0.4nm,0.6s,baz=103,slow=11,SNR=1.8	**31.91**	**314**	P		**P**		**17 56 52.3**	**-1.5**
	comp=Z,0.4nm,0.6s								
YAK	**Yakutsk**	**33.26**	**351**	P		**P**		**17 57 03.3**	**-1.9**
YAK	**Yakutsk** comp=Z,0.6nm,0.8s,baz=139,slow=9.3,SNR=6.6	**33.26**	**351**	P		**P**		**17 57 03.8**	**-1.4**
SHEM	**Shemya Is, Ala** comp=Z,65nm,20.7s,baz=292,slow=33	**33.84**	**37**	LR		LR		18 09 19.5	
PZH	**PanZhiHua**	**34.20**	**274**	P		**P**		**17 57 15.6**	**+1.5**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
PZH				pmax		pmax			
	comp=Z,130nm,5.5s								
SEY	**Seymchan** comp=Z,86nm,19.0s,baz=59,slow=39	**34.29**	**10**	LR		LR		18 13 05.4	
GOMU	**GeErMu**	**38.63**	**292**	P		**P**		**17 57 53.1**	**+1.1**
GOMU				pP		pP		17 57 56.4	-6.3
GOMU				sP		pwP		17 57 58.3	-7.9
GOMU				pmax		pmax			
	comp=Z,7.0nm,0.7s								
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.3s,baz=72,slow=5.8,SNR=1.5	**39.31**	**263**	P		**P**		**17 57 56.2**	**-1.2**
	comp=Z,0.2nm,0.3s								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**43.08**	**193**	P		**P**		**17 58 29.6**	**+1.3**
MTN				IAmb		IAmb		17 58 39.7	
	comp=Z,16nm,1.1s								
WMQ	**Urumqi**	**43.94**	**304**	*e*P		**P**		**17 58 36.6**	**+1.5**
ZALV	**Zalesovo Beam**	**46.66**	**318**	PcP		**PcP**		**18 00 30.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=136,slow=4.0,SNR=6.5								
MK31	**Makanchi Array**	**47.76**	**308**	P		**P**		**17 59 03.4**	**-1.8**
MKAR	**Makanchi Array**	**47.76**	**308**	P		**P**		**17 59 03.1**	**-2.1**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.8s,baz=91,slow=9.1,SNR=9.0	**47.76**	**308**	P		**P**		**17 59 04.0**	**-1.2**
	comp=Z,0.7nm,0.8s								
ANM	**Nome**	**48.50**	**28**	P		**P**		**17 59 10.7**	**+0.2**
ANM				IAmb		IAmb		17 59 29.8	
	comp=Z,9.9nm,1.0s								
ANM				PcP		**PcP**		**18 00 35.3**	**-0.7**
WB0	**Warramunga Arr**	**49.36**	**188**	P		**P**		**17 59 18.6**	**+0.9**
WB0				IAmb		IAmb		17 59 58.5	
	comp=Z,8.2nm,1.2s								
GSI	**Gunungsitoli**	**49.50**	**243**	P		**P**		**17 59 19.0**	**+0.1**
GSI				PcP		**PcP**		**18 00 41.6**	**+1.2**
WR0	**Warramunga Arr**	**49.54**	**187**	P		**P**		**17 59 19.3**	**+0.3**
WR0				IAmb		IAmb		17 59 36.5	
	comp=Z,9.9nm,1.5s								
WRA	**Warramunga Arr**	**49.54**	**188**	P		**P**		**17 59 19.8**	**+0.8**
WRA				PcP		**PcP**		**18 00 40.1**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.4s,baz=5.1,slow=7.7,SNR=20	**49.54**	**188**	P		**P**		**17 59 19.3**	**+0.3**
	comp=Z,0.8nm,0.4s								
NRIK	**Noril'sk** comp=Z,120nm,18.4s,baz=96,slow=38	**49.83**	**338**	LR		LR		18 21 45.5	
C16K	**Lisburne Hills**	**49.84**	**23**	P		**P**		**17 59 21.4**	**+0.7**
C16K				IAmb		IAmb		17 59 35.0	
	comp=Z,10nm,1.4s								
KURBB	**Kurchatov Arra** comp=Z,0.2nm,0.4s,baz=94,slow=6.2,SNR=2.5	**50.26**	**313**	P		**P**		**17 59 22.4**	**-1.8**
KURBB				PcP		**PcP**		**18 00 42.5**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=95,slow=4.2,SNR=4.2								
	comp=Z,0.2nm,0.4s								
K17K	**Iditarod**	**51.06**	**31**	P		**P**		**17 59 31.0**	**+1.0**
K17K						**PcP**		**18 00 46.9**	**+1.5**
H18K	**Honhosa River**	**51.53**	**28**	P		**P**		**17 59 34.4**	**+0.8**
H18K				IAmb		IAmb		18 00 15.8	
	comp=Z,14nm,1.4s								
E19K	**Redstone River**	**52.51**	**25**	P		**P**		**17 59 41.9**	**+1.1**
E19K				IAmb		IAmb		17 59 42.4	
	comp=Z,6.3nm,0.7s								
E19K				PcP		**PcP**		**18 00 52.5**	**+1.7**
L19K	**White Mountain**	**52.56**	**32**	ScP		**ScP**		**18 04 39.8**	**-5.2**
J20K	**Nowinta River**	**53.14**	**30**	P		**P**		**17 59 47.2**	**+1.7**
J20K				IAmb		IAmb		17 59 47.7	
	comp=Z,7.7nm,0.8s								
J20K				PcP		**PcP**		**18 00 54.6**	**+1.4**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=2.7,slow=5.5,SNR=8.4	**53.27**	**188**	P		**P**		**17 59 47.2**	**+0.3**
	comp=Z,0.3nm,0.5s								
H21K	**Melozitna Rive**	**53.91**	**28**	P		**P**		**17 59 52.7**	**+1.6**
B21K	**Ikpikpuk River**	**53.93**	**23**	P		**P**		**17 59 52.1**	**+0.9**
B21K				IAmb		IAmb		17 59 53.2	
	comp=Z,7.0nm,0.7s								
BVAR	**Borovoye Array** comp=Z,1.4nm,0.7s,baz=96,slow=10,SNR=8.7	**55.23**	**316**	P		**P**		**17 59 59.8**	**-1.1**
BVAR				PcP		**PcP**		**18 01 01.1**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=81,slow=2.3,SNR=5.6								
	comp=Z,1.4nm,0.7s								
C23K	**Itkillik River**	**55.34**	**23**	P		**P**		**18 00 02.4**	**+1.0**
C23K				IAmb		IAmb		18 00 03.1	
	comp=Z,5.2nm,0.7s								
C23K				PcP		**PcP**		**18 01 02.7**	**+1.2**
MDM	**Murphy Dome**	**55.76**	**29**			**ScP**		**18 04 56.8**	**-2.1**
F24K	**Squaw Lake**	**56.07**	**26**	P		**P**		**18 00 08.0**	**+1.3**
ILAR	**Eielson Array** comp=Z,2.3nm,0.8s,baz=277,slow=6.2,SNR=25	**56.33**	**29**	P		**P**		**18 00 08.3**	**-0.2**
ILAR				PcP		**PcP**		**18 01 05.0**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=284,slow=4.3,SNR=1.9								
ILAR				LR		LR		18 25 51.1	
	comp=Z,40nm,20.1s,baz=240,slow=38								
	comp=Z,2.3nm,0.8s								
KKAR	**Karatay Array**	**56.44**	**304**	P		**P**		**18 00 09.3**	**-0.4**
E25K	**Arctic Village**	**56.98**	**25**	P		**P**		**18 00 14.8**	**+1.6**
E25K				IAmb		IAmb		18 00 15.5	
	comp=Z,5.0nm,0.6s								
J26L	**Joseph Creek**	**57.76**	**30**	P		**P**		**18 00 19.0**	**+0.2**
J26L				PcP		**PcP**		**18 01 10.6**	**-0.6**
M27K	**Edge Creek, AK**	**58.62**	**32**	P		**P**		**18 00 26.5**	**+1.6**
M27K				IAmb		IAmb		18 00 29.4	
	comp=Z,8.5nm,1.2s								
D27M	**Malcolm River** comp=Z,3.6nm,0.8s	**58.68**	**24**	IAmb		IAmb		18 00 27.9	
E28M	**Babbage River**	**59.22**	**25**	P		**P**		**18 00 29.9**	**+1.0**
E28M				IAmb		IAmb		18 00 31.0	
	comp=Z,3.4nm,0.6s								
I28M	**Miner Creek**	**59.25**	**29**	P		**P**		**18 00 30.6**	**+1.4**
I28M				IAmb		IAmb		18 00 33.6	
	comp=Z,6.5nm,1.2s								
L29M	**L29M**	**60.27**	**31**	P		**P**		**18 00 37.9**	**+1.8**
EPYK	**Eagle Plains**	**60.48**	**27**	P		**P**		**18 00 38.7**	**+1.1**
G30M	**tAoh Zraii Nji**	**60.61**	**27**	P		**P**		**18 00 38.9**	**+0.5**
G30M				IAmb		IAmb		18 01 18.3	
	comp=Z,5.5nm,1.2s								
WHY	**Whitehorse**	**62.17**	**34**	P		**P**		**18 00 51.1**	**+1.9**
WHY				IAmb		IAmb		18 00 59.6	
	comp=Z,8.9nm,1.2s								
ABKAR	**Akbulak array**	**62.31**	**313**	P		**P**		**18 00 48.2**	**-2.0**
ABKAR	**Akbulak array**	**62.31**	**313**	P		**P**		**18 00 48.5**	**-1.6**
RES	**Resolute Bay**	**70.05**	**13**	P		**P**		**18 01 39.1**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,1.7nm,0.9s,baz=296,slow=6.0,SNR=20	**70.73**	**28**	P		**P**		**18 01 43.6**	**0.0**
	comp=Z,1.7nm,0.9s								
ARCES	**ARCESS Array B** comp=Z,1.3nm,0.7s,baz=76,slow=5.7,SNR=48	**70.74**	**340**	P		**P**		**18 01 43.5**	**-0.1**
	comp=Z,1.3nm,0.7s								
MXC	**Moxie City**	**75.02**	**45**	P		**P**		**18 02 10.1**	**+0.7**
MXC				IAmb		IAmb		18 02 12.2	
	comp=Z,6.9nm,1.0s								
FIA1	**FINESS Array S**	**75.09**	**333**	P		**P**		**18 02 08.9**	**-0.5**
FINES	**FINESS Array B** comp=Z,4.3nm,0.5s,baz=70,slow=5.7,SNR=39	**75.09**	**333**	P		**P**		**18 02 08.8**	**-0.6**
	comp=Z,4.3nm,0.5s								
KBZ	**Khabaz** comp=Z,4.5nm,0.9s,baz=68,slow=1.5,SNR=5.4	**75.24**	**312**	P		**P**		**18 02 10.0**	**-0.7**
	comp=Z,4.5nm,0.9s								
D08A	**Wollman Farm,**	**75.64**	**44**	P		**P**		**18 02 13.7**	**+0.8**
C09A	**Chrisman Ranch**	**75.67**	**43**	P		**P**		**18 02 14.3**	**+1.2**
EDM	**Edmonton**	**75.77**	**37**	P		**P**		**18 02 14.2**	**+0.6**
EDM				IAmb		IAmb		18 02 15.3	
	comp=Z,8.0nm,0.8s								
PINE	**Pine Mountain**	**75.89**	**48**			**P**		**18 02 16.7**	**+2.0**
NEW	**Newport**	**76.13**	**42**	P		**P**		**18 02 16.4**	**+0.6**
NEW				IAmb		IAmb		18 02 18.0	
	comp=Z,5.4nm,0.8s								
E09A	**Wood Farm, Sta**	**76.36**	**44**	P		**P**		**18 02 18.1**	**+1.1**
RAR	**Rarotonga** comp=Z,27nm,18.9s,baz=341,slow=35	**76.53**	**124**	LR		LR		18 34 58.8	
TUWZ	**Tuamarina**	**77.10**	**155**	P		**P**		**18 02 22.5**	**+1.5**
BMO	**Blue Mountains**	**77.68**	**45**	P		**P**		**18 02 26.1**	**+1.4**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.4s,baz=45,slow=5.4,SNR=6.0	**79.76**	**323**	P		**P**		**18 02 34.7**	**-1.1**
	comp=Z,0.5nm,0.4s								
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.5s,baz=303,slow=6.9,SNR=6.0	**80.20**	**51**	P		**P**		**18 02 40.3**	**+1.5**
	comp=Z,0.8nm,0.5s								
FFC	**Flin Flon**	**80.47**	**31**	P		**P**		**18 02 39.5**	**-0.1**
FFC				IAmb		IAmb		18 02 40.8	
	comp=Z,5.8nm,0.7s								
HFS	**Hagfors** comp=Z,2.6nm,0.8s,baz=4.3,slow=5.8,SNR=2.0	**80.58**	**336**	P		**P**		**18 02 39.2**	**-0.9**
	comp=Z,2.6nm,0.8s								
NC204	**NORSAR Array S**	**80.76**	**338**	P		**P**		**18 02 41.5**	**+0.4**
NC204				IAmb		IAmb		18 03 16.6	
	comp=Z,13nm,1.1s								
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.6s,baz=45,slow=5.9	**80.78**	**338**	P		**P**		**18 02 40.1**	**-1.1**
NOA	**NORSAR Array B** comp=Z,2.3nm,0.9s,baz=45,slow=5.0,SNR=4.6	**80.78**	**338**	P		**P**		**18 02 40.7**	**-0.5**
	comp=Z,2.3nm,0.9s								
TPNV	**Topopah Spring**	**82.36**	**52**	P		**P**		**18 02 51.7**	**+1.6**
BRTR	**Keskin Array B** comp=Z,2.1nm,1.1s,baz=132,slow=1.8,SNR=3.5	**83.24**	**312**	P		**P**		**18 02 54.4**	**-0.2**
BRTR				LR		LR		18 43 30.5	
	comp=Z,40nm,19.3s,baz=262,slow=38								
	comp=Z,2.1nm,1.1s								
PDAR	**Pinedale Array**	**83.54**	**44**	P		**P**		**18 02 57.1**	**+0.9**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.8s,baz=279,slow=2.9,SNR=6.1	**83.54**	**44**	P		**P**		**18 02 57.4**	**+1.2**
	comp=Z,0.8nm,0.8s								
BUR08	**Bucovina Ar. S**	**83.69**	**322**	P		**P**		**18 02 56.4**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BURAR	**Bucovina Array**	**83.70**	**322**	P		**P**		**18 02 56.4**	**-0.4**
SRU	**San Rafael Swe**	**85.00**	**48**	P		**P**		**18 03 04.7**	**+1.1**
SRU				IAmb		IAmb		18 03 05.6	
	comp=Z,3.8nm,0.8s								
ANMO	**Albuquerque** comp=Z,44nm,19.3s,baz=62,slow=32	**90.06**	**49**	LR		LR		18 39 04.7	
LPIG	**La Paz** comp=Z,29nm,19.7s,baz=7.5,slow=31	**93.62**	**60**	LR		LR		18 38 53.6	
TXAR	**Lajitas Array** comp=Z,0.8nm,0.7s,baz=315,slow=3.3,SNR=10	**95.34**	**52**	P		**P**		**18 03 54.4**	**+2.0**
	comp=Z,0.8nm,0.7s								
QSPA	**South Pole Qui** comp=Z,0.7nm,0.6s,baz=287,slow=0.8,SNR=8.8	**119.30**	**180**	PKP		**PKPdf**		**18 09 16.2**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.1nm,0.3s,baz=68,slow=2.9,SNR=1.8	**121.84**	**311**	PKP		**PKPdf**		**18 09 22.4**	**-0.2**
H03N2	**Juan Fernandez** baz=280	**146.32**	**107**	T		T		20 53 45.5	
H03N3	**Juan Fernandez** baz=280	**146.33**	**107**	T		T		20 53 43.7	
H03N1	**Juan Fernandez** baz=280	**146.34**	**107**	T		T		20 53 46.0	
PLCA	**Paso Flores** comp=Z,0.9nm,0.6s,baz=237,slow=0.7,SNR=6.3	**152.43**	**122**	PKPbc		**PKiKP**		**18 10 25.2**	**+1.0**

*NEIC **09** 17:51:51.9±0.9,29˚.58N±0˚.06×140˚.1E±0˚.1,h31km±2km, mb4.5/27,Error ellipse: s-maj=14.7km s-min=9.1km az=78.0*

*IDC **09** 17:51:55.2±3.0,29˚.69N×140˚.25E,h61km±26km,mb3.6/19, mbtmp3.9/21,MS3.6/10,Error ellipse: s-maj=22.5km s-min=14.8km az=88.0*

ISC 09 17:51:51.6±0.5,29˚.52N±0˚.06×140˚.24E±0˚.09,h35km,n75, σ1§30/64,mb4.3/31,MS3.7/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.96**	**144**	Pn		**Pn**		**17 52 36.0**	**-0.1**
JCJ	**Chichijima** 321nm,0.5s,baz=348,slow=20,SNR=0.8	**2.96**	**144**	P		**Pn**		**17 52 33.1**	**-3.1**
JCJ				S		**Sn**		**17 53 05.8**	**-4.6**
	670nm,0.4s,baz=317,slow=19,SNR=4.1								
JHJ	**Hachijo jima 2** 85nm,0.5s,baz=228,slow=24,SNR=1.1	**3.61**	**354**	P		**Pn**		**17 52 46.4**	**+1.4**
JMN	**Monobe**	**6.86**	**309**	Pn		**Pn**		**17 53 25.5**	**-4.2**
MJAR	**Matsushiro Arr** 4.3nm,1.0s,baz=165,slow=13,SNR=1.2	**7.21**	**347**	P		**Pn**		**17 53 35.7**	**+1.3**
MJAR				S		**Sn**		**17 54 54.2**	**-0.8**
	1.7nm,0.7s,baz=154,slow=22,SNR=1.1								
MAJO	**Matsushiro**	**7.21**	**347**	Pn		**Pn**		**17 53 33.9**	**-0.6**
MJB9	**Matsu-Tunnel**	**7.21**	**347**	Pn		**Pn**		**17 53 34.5**	**-0.1**
JMM	**Marumori**	**8.34**	**3**	Pn		**Pn**		**17 53 47.0**	**-3.0**
JNU	**Nakatsue** comp=Z,288nm,19.0s,baz=110,slow=35	**8.77**	**297**	LR		LR		17 56 58.4	
JOW	**Kunigami** comp=Z,253nm,19.6s,baz=180,slow=31	**10.89**	**259**	LR		LR		17 57 35.5	
KSRS	**Korea Array** comp=Z,67nm,18.1s,baz=125,slow=38	**12.96**	**311**	LR		LR		18 00 11.6	
KLR	**Kul'dur** 2.1nm,0.6s,baz=112,slow=4.4,SNR=2.7	**20.72**	**344**	P		**P**		**17 56 28.2**	**-0.7**
KLR				LR		LR		18 03 32.5	
	comp=Z,132nm,19.1s,baz=158,slow=34								
	2.1nm,0.6s								
H11N2	**WAKE ISLAND Hy** baz=301	**26.07**	**106**	T		T		18 24 28.3	
H11N1	**WAKE ISLAND Hy** baz=301	**26.07**	**106**	T		T		18 24 28.4	
H11N3	**WAKE ISLAND Hy** baz=301	**26.08**	**106**	T		T		18 24 29.5	
H11S3	**WAKE ISLAND Hy** baz=306	**26.47**	**109**	T		T		18 25 04.1	
H11S1	**WAKE ISLAND Hy** baz=306	**26.48**	**108**	T		T		18 25 02.9	
H11S2	**WAKE ISLAND Hy** baz=306	**26.49**	**109**	T		T		18 25 04.0	
PETK	**Petropavlovsk-** comp=Z,43nm,20.6s,baz=198,slow=37	**26.83**	**24**	LR		LR		18 08 31.7	
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=61,slow=5.5,SNR=4.3	**39.12**	**263**	P		**P**		**17 59 18.2**	**+2.3**
	0.3nm,0.3s								
MTN	**Manton Dam**	**43.02**	**193**	P		**P**		**17 59 49.1**	**+1.3**
HNR	**Honiara** comp=Z,480nm,21.9s,baz=173,slow=32	**43.13**	**151**

	comp=Z,2.9nm,0.9s							
YKA	**Yellowknife Ar**	**70.83**	**28**	P		**P**	**18 03 04.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=294,slow=5.8,SNR=4.3							
	comp=Z,0.6nm,0.7s							
FIA1	**FINESS Array S**	**75.02**	**333**	P		**P**	**18 03 28.2**	**-1.0**
FINES	**FINESS Array B**	**75.02**	**333**	P		**P**	**18 03 28.7**	**-0.5**
FINES	**FINESS Array B**	**75.02**	**333**	P		**P**	**18 03 29.0**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=69,slow=5.3,SNR=11							
	comp=Z,2.1nm,0.6s							
KBZ	**Khabaz**	**75.11**	**312**	P		**P**	**18 03 30.4**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=127,slow=5.1,SNR=2.0							
	comp=Z,2.2nm,0.9s							
AKASG	**Malin Array Be**	**79.66**	**323**	P		**P**	**18 03 54.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=54,slow=5.1,SNR=1.8							
	comp=Z,0.4nm,0.4s							
NVAR	**Mina Array Bea**	**80.36**	**51**	P		**P**	**18 04 00.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=260,slow=5.4,SNR=1.8							
	comp=Z,0.3nm,0.5s							
HFS	**Hagfors**	**80.52**	**336**	P		**P**	**18 03 58.5**	**-1.4**
	comp=Z,7.4nm,1.1s,baz=64,slow=3.4,SNR=2.8							
	comp=Z,7.4nm,1.1s							
NOA	**NORSAR Array B**	**80.73**	**337**	P		**P**	**18 04 00.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=120,slow=3.6,SNR=2.1							
	comp=Z,0.7nm,0.7s							
PPT	**Papeete**	**82.25**	**115**	LR		LR	18 35 17.1	
	comp=Z,43nm,19.2s,baz=38,slow=32							
PDAR	**Pinedale Array**	**83.69**	**44**	P		**P**	**18 04 17.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=321,slow=3.6,SNR=2.2							
	comp=Z,0.3nm,0.7s							
ULM	**Lac du Bonnet**	**86.34**	**32**	LR		LR	18 46 18.2	
	comp=Z,60nm,18.8s,baz=346,slow=38							
VRAC	**Vranov**	**86.87**	**327**	LR		LR	18 44 26.8	
	comp=Z,26nm,18.8s,baz=324,slow=36							
TXAR	**Lajitas Array**	**95.50**	**52**	P		**P**	**18 05 14.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=327,slow=3.6,SNR=2.3							
	comp=Z,0.3nm,0.6s							
QSPA	**South Pole Qui**	**119.28**	**180**	PKP		**PKPdf**	**18 10 36.1**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=62,slow=4.4,SNR=1.7							
H03N2	**Juan Fernandez**	**146.50**	**107**	T		T	20 55 02.9	
	baz=279,slow=75,SNR=5.9							
H03N3	**Juan Fernandez**	**146.51**	**107**	T		T	20 55 06.0	
	baz=279,slow=75,SNR=5.9							
H03N1	**Juan Fernandez**	**146.52**	**107**	T		T	20 55 04.2	
	baz=279,slow=75,SNR=16							
PLCA	**Paso Flores**	**152.58**	**122**	PKPbc		**PKiKP**	**18 11 45.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=53,slow=2.4,SNR=2.5							

*IDC **09** 17:58:24.2±2.2,2.72N×125.58E,h0km,mb3.1/3, mbtmp3.1/3,Error ellipse: s-maj=193.7km s-min=28.9km az=65.0*
*DJA **09** 17:58:30.5±1.3,3.4N±4×12.6E±°,h31km±20km,M3.7/11, mb3.8/5,MLv3.6/11*

ISC 09 17:58:29.8±1.1,3.09N±0.08×126.46E±0.10,h35km,n12, σ1°49/13,mb3.1/3,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.10**	**303**	P	**Pn**	**17 58 50.0**	**+1.2**
SGSI				S	**Sn**	**17 59 04.2**	**+1.4**
TNTI	**Ternate**	**2.47**	**158**	P	**Pn**	**17 59 09.3**	**+1.7**
LBMI	**Labuha**	**3.84**	**164**	P	**Pn**	**17 59 27.7**	**+1.2**
DAV	**Davao City (W)**	**4.05**	**348**	P	**Pn**	**17 59 30.8**	**+1.4**
GTOI	**Gorontalo**	**4.22**	**235**	P	**Pn**	**17 59 33.0**	**+1.4**
SANI	**Sanana**	**5.12**	**185**	P	**Pn**	**17 59 44.7**	**+0.6**
	9.1nm,1.5s,0.0nm						
MRSI	**Marisa**	**5.21**	**240**	P	**Pn**	**17 59 45.8**	**+0.6**
	19nm,0.7s,0.1nm						
SWI	**Sorong**	**6.20**	**129**	P	**Pn**	**18 00 00.2**	**+1.4**
	15nm,1.4s,0.1nm						
NLAI	**Namlea**	**6.32**	**174**	P	**Pn**	**18 00 01.4**	**+0.9**
WRA	**Warramunga Arr**	**24.16**	**162**	P	**P**	**18 03 41.8**	**-1.1**
	0.3nm,0.5s,baz=338,slow=11,SNR=7.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**27.56**	**165**	P	**P**	**18 04 12.7**	**-0.9**
	0.2nm,0.7s,baz=344,slow=10.0,SNR=1.7						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**57.93**	**326**	P	**P**	**18 08 16.4**	**-2.2**
	0.1nm,0.5s,baz=116,slow=6.6,SNR=1.3						
	0.1nm,0.5s						

*IDC **09** 18:03:35.8±2.2,29.7N×141.39E,h45km±21km,mb3.4/4, mbtmp3.7/7,ML3.2/3,Error ellipse: s-maj=84.1km s-min=14.0km az=71.0*

ISC 09 18:03:35.6±1.2,29.7N±0.1×141.4E±0.3,h46km,n13, σ0°73/8,mb3.5/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.68**	**166**	P	**Pn**	**18 04 15.3**	**-1.0**
	37nm,0.3s,baz=322,slow=18,SNR=13						
JCJ				S	**Sn**	**18 04 48.6**	**+1.0**
	120nm,0.3s,baz=294,slow=19,SNR=8.1						
	77nm,0.3s						
MJAR	**Matsushiro Arr**	**7.33**	**339**	P	**Pn**	**18 05 20.6**	**+0.4**
	0.1nm,0.3s,baz=163,slow=12,SNR=2.1						
	1.7nm,0.8s						
KSRS	**Korea Array**	**13.65**	**308**	P	**Pn**	**18 06 46.6**	**0.0**
	0.1nm,0.3s,baz=134,slow=13,SNR=2.8						
	2.1nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**25.12**	**107**	T	T	18 36 11.9	
	baz=295						
H11N1	**WAKE ISLAND Hy**	**25.12**	**108**	T	T	18 36 12.0	
	baz=295						
H11N3	**WAKE ISLAND Hy**	**25.14**	**107**	T	T	18 36 13.1	
	baz=295						
H11S3	**WAKE ISLAND Hy**	**25.55**	**110**	T	T	18 36 50.5	
	baz=305						
H11S1	**WAKE ISLAND Hy**	**25.55**	**110**	T	T	18 36 47.5	
	baz=305						
H11S2	**WAKE ISLAND Hy**	**25.57**	**110**	T	T	18 36 51.7	
	baz=305						
WRA	**Warramunga Arr**	**49.83**	**189**	P	**P**	**18 12 24.4**	**+0.2**
	0.2nm,0.3s,baz=6.0,slow=7.7,SNR=8.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**50.77**	**313**	P	**P**	**18 12 31.0**	**0.0**
	0.1nm,0.3s,baz=74,slow=6.8,SNR=1.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**53.56**	**189**	P	**P**	**18 12 52.5**	**+0.5**
	0.3nm,0.9s,baz=7.0,slow=6.4,SNR=1.4						
	0.3nm,0.9s						
FINES	**FINESS Array B**	**75.33**	**333**	P	**P**	**18 15 13.4**	**-0.3**
	6.2nm,1.2s,baz=51,slow=7.3,SNR=6.3						
	6.2nm,1.2s						

IDC 09 18:05:31.0±713.0,22.47S×69.54W,h0km,Error ellipse: s-maj=337.1km s-min=178.3km az=79.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I14CL	**ROBINSON CRUSO**	**13.80**	**214**	I	I	19 26 13.1	
	baz=39,slow=315,SNR=1.2						
I20EC	**Galapagos**	**29.72**	**314**	I	I	21 06 30.0	
	baz=141,slow=317,SNR=3.9						
I13CL	**EASTER ISLAND**	**36.34**	**254**	I	I	21 50 00.0	
	baz=90,slow=322,SNR=1.1						

IDC 09 18:06:03.4±4.2,3.37S×135.35E,h0km,mb3.4/2, mbtmp3.4/3,ML3.1/1,Error ellipse: s-maj=194.3km s-min=32.4km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.51**	**183**	Pn	Pn	18 09 57.0	+0.5
	0.1nm,0.3s,baz=2.2,slow=12,SNR=6.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**20.23**	**184**	P	P	18 10 40.0	-0.2
	1.1nm,0.6s,baz=8.1,slow=12,SNR=30						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**68.30**	**324**	P	P	18 17 06.4	0.0
	0.3nm,0.7s,baz=105,slow=5.1,SNR=2.9						
	0.3nm,0.7s						

IDC 09 18:11:12.8±999.0,54.10N×2.72E,h0km,Error ellipse: s-maj=458.0km s-min=165.9km az=110.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.64**	**123**	I	I	19 06 03.7	
	baz=310,slow=320,SNR=4.8						
I43RU	**DUBNA INFRASON**	**19.64**	**68**	I	I	20 10 40.0	
	baz=276,slow=327,SNR=2.5						
I31KZ	**AKTYUBINSK INF**	**33.33**	**73**	I	I	21 31 30.0	
	baz=296,slow=330,SNR=1.3						

*NNC **09** 18:37:24.3±0.9,41.27N×74.16E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=6.3km s-min=3.3km az=16.0*
*KRNET **09** 18:37:24.4±0.1,41.25N×74.22E,h20km,mb2.7*
*SOME **09** 18:37:24.5,41.32N×74.23E,h5km*
*KNET **09** 18:37:26.3±0.8,41.40N×74.25E,h11km±3km,ml2.2,Error ellipse: s-maj=4.6km s-min=2.6km az=18.0*

ISC 09 18:37:21.9±1.2,41.18N±0.03×74.34E±0.02,h1km±10km, n78,σ1°01/131,54C-19D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.69**	**359**	⇑*e*P	**Pb**	**18 37 35.8**	**-1.0**
	baz=8.0						
ARLS				⇑*e*S	**Sg**	**18 37 44.4**	**+0.5**
	baz=8.0						
ARSB	**Arslanbob**	**1.03**	**279**	⇓*i*P	**Pg**	**18 37 41.8**	**+0.2**
	baz=75						
ARSB				⇓*e*S	**Sg**	**18 37 54.7**	**-0.3**
	baz=75						
UCH	**Uchtor**	**1.06**	**7**	⇑P	**Pb**	**18 37 43.3**	**0.0**
	19nm,0.1s,SNR=50						
UCH				⇓S	**Sb**	**18 37 56.8**	**-1.1**
	42nm,0.2s						
UCH	**Uchtor**	**1.06**	**7**	⇑*i*P	**Pb**	**18 37 43.4**	**0.0**
	baz=13						
UCH				⇑*i*S	**Sb**	**18 37 57.1**	**-0.8**
	baz=13						
AML	**Almayashu**	**1.07**	**333**	⇓P	**Pg**	**18 37 42.5**	**+0.2**
	30nm,0.1s,SNR=218						
AML				⇓S	**Sg**	**18 37 55.4**	**-0.8**
	76nm,0.1s						
AML	**Almayashu**	**1.07**	**333**	⇑P	**Pg**	**18 37 42.4**	**+0.1**
	0.6nm,0.4s						
AML				⇓S	**Sg**	**18 37 55.2**	**-1.0**
	3.7nm,0.6s						
AML	**Almayashu**	**1.07**	**333**	⇓*i*P	**Pg**	**18 37 42.6**	**+0.2**
	baz=36						
AML				⇓*i*S	**Sg**	**18 37 55.6**	**-0.6**
	baz=36						
KZA	**Kyzart**	**1.13**	**37**	⇑P	**Pn**	**18 37 45.5**	**+0.2**
	17nm,0.2s,SNR=14						
KZA				⇓S	**Sn**	**18 38 00.9**	**-0.8**
	49nm,0.3s						
KZA	**Kyzart**	**1.13**	**37**	⇑*i*P	**Pn**	**18 37 45.5**	**+0.2**
	baz=43						
KZA				⇑*i*S	**Sn**	**18 38 00.8**	**-0.9**
	baz=43						
SFK	**Sufi-Kurgan**	**1.32**	**209**	⇑*i*P	**Pn**	**18 37 49.3**	**+1.5**
	baz=4.0						
SFK				⇑*i*S	**Sn**	**18 38 06.9**	**+0.7**
	baz=4.0						
OHH	**Osh**	**1.34**	**242**	⇑*i*P	**Pb**	**18 37 48.4**	**+0.5**
	baz=37						
OHH				⇑*i*S	**Sb**	**18 38 05.6**	**-0.1**
	baz=37						
AAK	**Ala-Archa**	**1.47**	**5**	⇑P	**Pb**	**18 37 50.7**	**+0.6**
	8.1nm,0.1s,SNR=14						
AAK				⇑S	**Sb**	**18 38 09.2**	**-0.1**
	51nm,0.2s						
AAK	**Ala-Archa**	**1.47**	**5**	⇑*i*P	**Pb**	**18 37 50.3**	**+0.2**
	baz=8.0						
AAK				⇑*i*S	**Sg**	**18 38 08.9**	**-0.1**
	baz=8.0						
EKS2	**Erkin-Say**	**1.54**	**345**	⇓P	**Pg**	**18 37 51.4**	**0.0**
	7.6nm,0.1s,SNR=56						
EKS2				⇑S	**Sn**	**18 38 10.0**	**-1.4**
	19nm,0.2s						
EKS2	**Erkin-Say**	**1.54**	**345**	⇓*i*P	**Pb**	**18 37 51.1**	**-0.3**
	baz=47						
EKS2				⇓*i*S	**Sn**	**18 38 10.3**	**-1.2**
	baz=47						
KBK	**Karagaybulak**	**1.55**	**17**	⇑P	**Pg**	**18 37 52.4**	**+0.8**
	22nm,0.1s,SNR=12						
KBK				⇑S	**Sg**	**18 38 11.3**	**-0.3**
	129nm,0.2s						
KBK	**Karagaybulak**	**1.55**	**17**	⇑*i*P	**Pg**	**18 37 51.9**	**+0.3**
	baz=21						
KBK				⇑*i*S	**Sb**	**18 38 12.1**	**+0.4**
	baz=21						
FRU1	**Bishkek**	**1.65**	**8**	⇑*i*P	**Pg**	**18 37 53.9**	**+0.4**
	baz=11						
FRU1				⇑*i*S	**Sg**	**18 38 15.4**	**+0.6**
	baz=11						
MRKS	**Merke**	**1.77**	**333**	P	**Pb**	**18 37 55.0**	**-0.3**
	10nm,0.2s						
MRKS				S	**Sn**	**18 38 17.0**	**-0.1**
	41nm,0.2s						
MRKS	**Merke**	**1.77**	**333**	*e*P	**Pb**	**18 37 55.0**	**-0.3**
	10nm,0.2s						
MRKS				*e*S	**Sn**	**18 38 17.0**	**-0.1**
	41nm,0.2s						
ULHL	**Ulahol**	**1.78**	**53**	⇓P	**Pg**	**18 37 57.7**	**+1.7**
	16nm,0.3s,SNR=76						
ULHL				⇑S	**Sg**	**18 38 21.6**	**+2.4**
	21nm,0.2s						
ULHL	**Ulahol**	**1.78**	**53**	⇑*i*P	**Pg**	**18 37 57.3**	**+1.2**
	baz=56						
ULHL				⇑*i*S	**Sg**	**18 38 21.3**	**+2.1**
	baz=56						
CHMS	**Chumysh**	**1.85**	**10**	⇑P	**Pg**	**18 37 57.1**	**-0.2**
	7.5nm,0.2s,SNR=10						
CHMS				⇑S	**Sg**	**18 38 21.5**	**+0.3**
	14nm,0.2s						
CHMS	**Chumysh**	**1.85**	**10**	⇑P	**Pg**	**18 37 57.8**	**+0.5**
	5.1nm,0.5s						
CHMS				⇓S	**Sg**	**18 38 21.1**	**-0.1**
	14nm,0.7s						
CHMS	**Chumysh**	**1.85**	**10**	⇑*i*P	**Pg**	**18 37 56.8**	**-0.5**
	baz=13						
CHMS				⇑*i*S	**Sg**	**18 38 20.6**	**-0.6**
	baz=13						
ARK	**Arkit**	**1.89**	**290**	⇑*i*P	**Pb**	**18 37 56.8**	**-0.4**
	baz=89						
ARK				⇑*i*S	**Sn**	**18 38 20.4**	**+0.4**
	baz=89						
TKM2	**Tokmak 2**	**1.98**	**28**	⇑P	**Pg**	**18 38 00.5**	**+0.6**
	15nm,0.3s,SNR=10						
TKM2	**Tokmak 2**	**1.98**	**28**	⇑P	**Pg**	**18 38 00.5**	**+0.6**
	5.3nm,0.3s						
TKM2				⇑S	**Sg**	**18 38 25.2**	**-0.3**
	7.2nm,0.6s						
TKM2	**Tokmak 2**	**1.98**	**28**	⇑*i*P	**Pg**	**18 37 59.5**	**-0.3**
	baz=31						
TKM2				⇑*e*S	**Sg**	**18 38 24.8**	**-0.7**
	baz=31						
USP	**Ospenovka**	**2.09**	**3**	⇓P	**Pg**	**18 38 02.1**	**+0.1**
	12nm,0.2s,SNR=24						
USP				⇓S	**Sg**	**18 38 28.5**	**-0.7**
	11nm,0.2s						
USP	**Ospenovka**	**2.09**	**3**	⇑*i*P	**Pb**	**18 38 00.3**	**-0.4**
	baz=6.0						
USP				⇑*i*S	**Sb**	**18 38 26.3**	**-0.9**
	baz=6.0						
KST	**Kastek**	**2.22**	**32**	Pg	**Pg**	**18 38 05.3**	**+0.8**
	8.4nm,0.3s						
KST				Lg	Lg	18 38 34.6	
	36nm,0.7s						
KST	**Kastek**	**2.22**	**32**	*e*P	**Pg**	**18 38 05.3**	**+0.8**
	8.4nm,0.3s						
KST				*e*S	**Sg**	**18 38 34.6**	**+1.2**
	36nm,0.7s						
SGDS	**Sogindy**	**2.29**	**5**	Pg	**Pg**	**18 38 05.5**	**-0.2**
	8.4nm,0.3s						
SGDS				Lg	Lg	18 38 35.0	
	22nm,0.4s						
DGS	**Degeres**	**2.32**	**27**	Pg	**Pg**	**18 38 06.7**	**+0.2**
	32nm,0.5s						
DGS				Lg	Lg	18 38 37.4	
	33nm,0.8s						
DGS	**Degeres**	**2.32**	**27**	*e*P	**Pg**	**18 38 06.7**	**+0.2**
	32nm,0.5s						
DGS				*e*S	**Sg**	**18 38 37.4**	**+0.9**
	33nm,0.8s						
KDJ	**Kajisay**	**2.33**	**65**	⇑*e*P	**Pg**	**18 38 05.8**	**-0.8**
	baz=67						
KDJ				⇑*e*S	**Sb**	**18 38 34.7**	**+0.4**
	baz=67						
TRKS	**Terek-Say**	**2.43**	**279**	⇑*i*P	**Pn**	**18 38 04.0**	**+1.1**
	baz=76						
TRKS				⇑*i*S	**Sn**	**18 38 33.0**	**-0.4**
	baz=76						
MTBS	**Maitube**	**2.50**	**38**	Pg	**Pg**	**18 38 10.2**	**+0.5**
	19nm,0.3s						
MTBS				Lg	Lg	18 38 43.4	
	23nm,0.5s						
MTBS	**Maitube**	**2.50**	**38**	*e*P	**Pg**	**18 38 10.2**	**+0.5**
	19nm,0.3s						
MTBS				*e*S	**Sg**	**18 38 43.4**	**+1.3**
	23nm,0.5s						
IZV	**Izvestkoviy**	**2.52**	**42**	Pg	**Pg**	**18 38 10.6**	**+0.6**
	5.6nm,0.3s						
IZV				Lg	Lg	18 38 44.0	
	26nm,0.3s						
IZV	**Izvestkoviy**	**2.52**	**42**	*e*P	**Pg**	**18 38 10.6**	**+0.6**
	5.6nm,0.3s						
IZV				*e*S	**Sg**	**18 38 44.0**	**+1.3**
	26nm,0.3s						
DRK	**Karamyk**	**2.57**	**230**	⇑*e*P	**Pb**	**18 38 07.8**	**-1.2**
	baz=27						
DRK				⇑*e*S	**Sb**	**18 38 39.7**	**-1.6**
	baz=27						
TNSS	**Tian-Shan**	**2.69**	**45**	Pg	**Pg**	**18 38 14.0**	**+0.6**
	8.9nm,0.3s						
TNSS				Lg	Lg	18 38 49.7	
	9.3nm,0.6s						
TNSS	**Tian-Shan**	**2.69**	**45**	*e*P	**Pg**	**18 38 14.0**	**+0.6**
	8.9nm,0.3s						
TNSS				*e*S	**Sg**	**18 38 49.7**	**+1.4**
	9.4nm,0.3s						
KRBS	**Karabastau**	**2.71**	**21**	Pg	**Pg**	**18 38 12.9**	**-0.9**
	8.5nm,0.4s						
KRBS				Lg	Lg	18 38 48.1	
	28nm,0.5s						
KRBS	**Karabastau**	**2.71**	**21**	*e*P	**Pg**	**18 38 12.9**	**-0.9**
	8.5nm,0.4s						
KRBS				*e*S	**Sg**	**18 38 48.1**	**-0.8**
	28nm,0.5s						
DZA	**Taraz**	**2.82**	**308**	Pg	**Pb**	**18 38 14.0**	**+0.9**
	27nm,0.1s						
DZA				Lg	Lg	18 38 49.7	
	52nm,0.3s						
DZA	**Taraz**	**2.82**	**308**	*e*P	**Pb**	**18 38 14.0**	**+0.9**
	27nm,0.1s						
DZA				*e*S	**Sb**	**18 38 49.8**	**+1.6**
	52nm,0.3s						
KNDC	**Almaty**	**2.83**	**43**	⇓Pg	**Pg**	**18 38 15.2**	**-0.9**
	16nm,0.3s						
KNDC				⇑Lg	Lg	18 38 54.8	
	22nm,0.7s						
BTK	**Batken**	**2.90**	**249**	⇑*i*P	**Pb**	**18 38 11.6**	**-2.9**
	baz=46						
BTK				⇑*i*S	**Sn**	**18 38 45.8**	**+0.9**
	baz=46						
KOTS	**Kotyrbulak**	**2.91**	**44**	Pg	**Pg**	**18 38 18.1**	**+0.4**
	12nm,0.5s						
KOTS				Lg	Lg	18 38 57.1	
	25nm,0.4s						
KOTS	**Kotyrbulak**	**2.91**	**44**	*e*P	**Pg**	**18 38 18.1**	**+0.4**
	12nm,0.5s						
KOTS				*e*S	**Sg**	**18 38 57.0**	**+1.6**
	25nm,0.4s						
ANVS	**Anan'yevo**	**2.96**	**56**	⇑*i*P	**Pb**	**18 38 13.7**	**-1.8**
	baz=58						
ANVS				⇑*i*S	**Sb**	**18 38 49.8**	**-2.5**
	baz=58						
KTBS	**Karatobe**	**3.07**	**34**	Pg	**Pg**	**18 38 20.1**	**-0.7**
	4.2nm,0.4s						
KTBS				Lg	Lg	18 38 59.7	
	37nm,0.6s						
KTBS	**Karatobe**	**3.07**	**34**	*e*P	**Pg**	**18 38 20.1**	**-0.7**
	4.2nm,0.4s						
KTBS				*e*S	**Sg**	**18 38 59.7**	**-0.9**
	37nm,0.6s						
KUU	**Kurty**	**3.09**	**28**	Pg	**Pg**	**18 38 20.2**	**-0.9**
	2.2nm,0.3s						
KUU				Lg	Lg	18 39 00.1	
	21nm,0.4s						
KUU	**Kurty**	**3.09**	**28**	*e*P	**Pg**	**18 38 20.2**	**-0.9**
	2.2nm,0.3s						
KUU				*e*S	**Sg**	**18 39 00.1**	**-1.1**
	21nm,0.4s						
CHKK	**Chushkaly**	**3.32**	**35**	Pg	**Pg**	**18 38 24.7**	**-0.8**
	0.9nm,0.1s						
CHKK				Lg	Lg	18 39 08.0	
	19nm,0.2s						
CHKK	**Chushkaly**	**3.32**	**35**	*e*P	**Pg**	**18 38 24.7**	**-0.8**
	0.9nm,0.1s						
CHKK				*e*S	**Sg**	**18 39 08.0**	**-0.4**
	19nm,0.2s						
KK31	**Karatay Array**	**3.43**	**305**	⇑Pg	**Pb**	**18 38 24.3**	**+0.8**
	1.1nm,0.3s,baz=133,slow=18,SNR=45						
KK31				⇓Lg	Lg	18 39 07.0	
	7.5nm,0.7s,baz=132,slow=26,SNR=11						
SATY	**Saty**	**3.56**	**57**	Pg	**Pg**	**18 38 30.5**	**+0.3**
	1.5nm,0.1s						
SATY				Lg	Lg	18 39 18.0	
	6.9nm,0.2s						
SATY	**Saty**	**3.56**	**57**	*e*P	**Pg**	**18 38 30.5**	**+0.3**
	1.5nm,0.1s						
SATY				*e*S	**Sg**	**18 39 18.0**	**+1.6**
	6.9nm,0.2s						
ZHN	**Zhinishke**	**3.64**	**55**	Pg	**Pg**	**18 38 32.1**	**+0.5**
ZHN				Lg	Lg	18 39 20.4	
ZHN	**Zhinishke**	**3.64**	**55**	*e*P	**Pg**	**18 38 32.1**	**+0.5**
ZHN				*e*S	**Sg**	**18 39 20.4**	**+1.6**
KURS	**Kuram**	**3.66**	**50**	Pg	**Pg**	**18 38 33.2**	**+1.2**
	1.6nm,0.3s						
KURS				Lg	Lg	18 39 22.3	
	5.3nm,0.7s						
KURS	**Kuram**	**3.66**	**50**	*e*P	**Pg**	**18 38 31.3**	**-0.7**
	1.6nm,0.3s						
KURS				*e*S	**Sg**	**18 39 19.2**	**-0.3**
	5.3nm,0.7s						
BTLS	**Baital**	**3.87**	**357**	Pg	**Pb**	**18 38 32.5**	**+1.5**
	0.5nm,0.2s						
BTLS				Lg	Lg	18 39 21.4	
	7.4nm,0.3s						
BTLS	**Baital**	**3.87**	**357**	*e*P	**Pb**	**18 38 32.5**	**+1.5**
	0.5nm,0.2s						
BTLS				*e*S	**Sb**	**18 39 21.4**	**+3.1**
	7.4nm,0.2s						
KPKS	**Kokpek**	**3.95**	**53**	Pg	**Pg**	**18 38 36.7**	**-0.9**
	3.3nm,0.4s						
KPKS				Lg	Lg	18 39 28.7	
	8.5nm,0.5s						
KPKS	**Kokpek**	**3.95**	**53**	*e*P	**Pg**	**18 38 36.7**	**-0.9**
	3.3nm,0.4s						
KPKS				*e*S	**Sg**	**18 39 28.7**	**-0.2**
	8.5nm,0.5s						
ARXS	**Arharly**	**3.98**	**39**	Pg	**Pg**	**18 38 36.3**	**-1.9**
	2.2nm,0.2s						
ARXS				Lg	Lg	18 39 27.9	
	8.0nm,0.4s						
ARXS	**Arharly**	**3.98**	**39**	*e*P	**Pg**	**18 38 36.3**	**-1.9**
	2.2nm,0.2s						
ARXS				*e*S	**Sg**	**18 39 27.9**	**-1.8**
	8.0nm,0.4s						
UZB	**Uzynbulak**	**4.00**	**59**	Pg	**Pg**	**18 38 38.3**	**-0.3**
	4.2nm,0.3s						
UZB				Lg	Lg	18 39 30.9	
	6.8nm,0.4s						
UZB	**Uzynbulak**	**4.00**	**59**	*e*P	**Pg**	**18 38 38.3**	**-0.3**
	4.2nm,0.3s						
UZB				*e*S	**Sg**	**18 39 30.9**	**+0.5**
	6.8nm,0.4s						
PDGK	**Podgornoye**	**4.39**	**59**	Pg

K22A				IAML		19 03 28.0	
	comp=E,335nm,0.7s						
PHWY	**Pilot Hill**	**2.47**	**182**		**Pn**	**19 03 18.8**	**+0.2**
PHWY				IAML		19 03 57.3	
	comp=E,89nm,0.5s						
RWWY	**Rawlins**	**2.49**	**214**		**Pn**	**19 03 20.2**	**+1.4**
RWWY				IAML		19 03 56.4	
	comp=E,158nm,0.7s						
N23A	**Red Feather La**	**2.91**	**189**		**Pn**	**19 03 25.6**	**+1.1**
N23A				IAML		19 04 08.0	
	comp=N,93nm,0.5s						
N23A				IAML		19 04 09.2	
	comp=E,65nm,0.5s						
LAO	**LASA Array**	**2.98**	**349**	Pn	**Pn**	**19 03 26.0**	**+0.7**
RLMT	**Red Lodge**	**3.10**	**297**		**Pn**	**19 03 29.1**	**+1.9**
RLMT				IAML		19 04 23.5	
	comp=E,60nm,0.6s						
RLMT				IAML		19 04 25.4	
	comp=E,71nm,0.7s						
BW06	**Boulder Array**	**3.23**	**253**		**Pn**	**19 03 30.4**	**+1.5**
PD31	**Pinedale Array**	**3.23**	**253**		**Pn**	**19 03 30.4**	**+1.5**
PDAR	**Pinedale Array**	**3.23**	**253**		**Pn**	**19 03 29.8**	**+1.0**
PDAR	**Pinedale Array**	**3.23**	**253**	Pn	**Pn**	**19 03 30.4**	**+1.5**
	comp=E,1.6nm,0.3s,baz=77,slow=17,SNR=46						
PDAR				Lg	Lg	19 04 12.6	
	comp=E,4.8nm,0.3s,baz=71,slow=35,SNR=2.2 comp=E,4.4nm,0.4s						
BRIGG	**Briggsdale**	**3.29**	**166**		**Pn**	**19 03 30.9**	**+1.3**
YMP	**Mirror Lake Pl**	**3.58**	**287**		**Pn**	**19 03 32.8**	**-0.9**
OGNE	**Ogallala**	**3.75**	**138**		**Pn**	**19 03 37.0**	**+1.0**
LOHW	**Long Hollow**	**3.80**	**269**		**Pn**	**19 03 37.7**	**+0.9**
H17A	**Grant Village**	**3.81**	**281**		**Pn**	**19 03 38.6**	**+1.7**
H17A				IAML		19 04 41.3	
	comp=E,28nm,1.9s						
H17A				IAML		19 04 43.8	
	comp=N,31nm,1.5s						
FLWY	**Flagg Ranch**	**3.87**	**276**		**Pn**	**19 03 38.3**	**+0.6**
FLWY				IAML		19 04 48.9	
	comp=N,28nm,1.1s						
FLWY				IAML		19 04 59.4	
	comp=N,42nm,1.2s						
MOOW	**Moose Ponds**	**3.90**	**271**		**Pn**	**19 03 39.4**	**+1.3**
SNOW	**Snow King Moun**	**3.93**	**267**		**Pn**	**19 03 38.9**	**+0.3**
SNOW				IAML		19 04 55.7	
	comp=N,41nm,1.3s						
SNOW				IAML		19 05 17.2	
	comp=N,38nm,1.4s						
ISCO	**Idaho Springs**	**3.98**	**183**		**Pn**	**19 03 40.4**	**+1.1**
YFT	**Old Faithful**	**4.00**	**282**		**Pn**	**19 03 40.2**	**+0.7**
REDW	**Red Top Meadow**	**4.01**	**266**		**Pn**	**19 03 40.6**	**+1.0**
IMW	**Indian Meadow**	**4.04**	**274**		**Pn**	**19 03 40.7**	**+0.7**
IMW				IAML		19 04 11.7	
	comp=N,34nm,0.6s						
YHH	**Holmes Hill**	**4.07**	**286**	Pn	**Pn**	**19 03 40.5**	**0.0**
YMR	**Madison River**	**4.12**	**284**		**Pn**	**19 03 41.5**	**+0.3**
YMR				IAML		19 04 58.3	
	comp=N,41nm,0.9s						
YMR				IAML		19 05 18.9	
	comp=E,33nm,1.0s						
O20A	**White River Ci**	**4.22**	**212**		**Pn**	**19 03 43.6**	**+1.0**
O20A				IAML		19 05 28.2	
	comp=N,36nm,2.2s						
AHID	**Auburn Hatcher**	**4.31**	**258**		**Pn**	**19 03 44.7**	**+1.0**
AHID				IAML		19 04 57.7	
	comp=N,30nm,1.1s						
AHID				IAML		19 05 03.5	
	comp=N,33nm,1.2s						
K30B	**Basset**	**4.34**	**103**		**Pn**	**19 03 45.0**	**+0.9**
RDMU	**Red Mountain**	**4.47**	**226**		**Pn**	**19 03 47.0**	**+0.9**
RDMU				IAML		19 05 05.1	
	comp=E,26nm,1.0s						
RDMU				IAML		19 05 09.4	
	comp=N,32nm,0.9s						
SMCO	**Snowmass**	**4.75**	**195**		**Pn**	**19 03 51.4**	**+1.4**
SMCO				IAML		19 05 13.2	
	comp=N,21nm,1.1s						
SMCO				IAML		19 05 15.2	
	comp=N,25nm,1.0s						
DGMT	**Dagmar**	**4.76**	**9**		**Pn**	**19 03 51.3**	**+1.4**
Q24A	**Divide**	**4.81**	**178**		**Pn**	**19 03 51.5**	**+0.8**
Q24A				IAML		19 05 14.1	
	comp=N,13nm,0.7s						
BOZ	**Bozeman (W)**	**4.83**	**294**	Pn	**Pn**	**19 03 53.6**	**+2.8**
BOZ				IAML		19 05 10.6	
	comp=N,18nm,2.6s						
BOZ				IAML		19 05 13.0	
	comp=N,14nm,1.9s						
HWUT	**Hardware Ranch**	**5.06**	**247**	Pn	**Pn**	**19 03 55.0**	**+1.0**
BSUT	**Blindstream Ca**	**5.15**	**233**		**Pn**	**19 03 56.9**	**+1.4**
BSUT				IAML		19 05 25.9	
	comp=E,15nm,2.6s						
BSUT				IAML		19 05 45.8	
	comp=N,12nm,4.1s						
KSCO	**Kaye Shedlock'**	**5.18**	**156**		**Pn**	**19 03 56.3**	**+0.6**
TCUT	**Toone Canyon**	**5.20**	**241**		**Pn**	**19 03 56.9**	**+0.8**
EGMT	**Eagleton**	**5.24**	**326**		**Pn**	**19 03 58.4**	**+2.0**
P18A	**Preston Nutter**	**5.52**	**223**		**Pn**	**19 04 01.6**	**+1.1**
MDND	**Maddock**	**5.73**	**43**		**Pn**	**19 04 04.1**	**+1.1**
SPUT	**South Promonto**	**5.79**	**247**		**Pn**	**19 04 04.4**	**+0.4**
LYMT	**Lyon Mountain**	**5.83**	**306**		**Pn**	**19 04 05.6**	**+1.0**
P17A	**Butcher Ranch,**	**5.89**	**225**		**Pn**	**19 04 06.7**	**+1.2**
SRU	**San Rafael Swe**	**6.06**	**222**		**Pn**	**19 04 08.8**	**+1.0**
TMUT	**Trail Mountain**	**6.26**	**226**		**Pn**	**19 04 10.9**	**+0.2**
NLU	**North Lily Min**	**6.30**	**235**		**Pn**	**19 04 10.9**	**-0.2**
ECSD	**EROS Data Cent**	**6.34**	**87**		**Pn**	**19 04 12.4**	**+1.0**
CBKS	**Cedar Bluff**	**6.52**	**138**		**Pn**	**19 04 14.7**	**+0.8**
HMU	**Henry Mountain**	**7.11**	**217**		**Pn**	**19 04 22.5**	**+0.2**
ELK	**Elko**	**7.92**	**251**	Pn	**Pn**	**19 04 35.4**	**+2.0**
	comp=N,0.1nm,0.3s,baz=63,slow=14,SNR=3.6						
ELK				Lg	Lg	19 06 41.3	
	comp=N,0.1nm,0.3s,baz=121,slow=14,SNR=1.5 comp=N,0.7nm,0.6s						
ULM	**Lac du Bonnet**	**9.16**	**42**	Pn	**Pn**	**19 04 49.7**	**-0.4**
	comp=N,0.4nm,0.3s,baz=231,slow=12,SNR=2.4						
ULM				Pg		19 05 18.6	
	comp=N,0.3nm,0.3s,baz=232,slow=17,SNR=1.8						
ULM				Sn	**Sn**	**19 06 30.9**	**-2.9**
	comp=N,0.2nm,0.3s,baz=227,slow=17,SNR=1.5						
ULM				Lg	Lg	19 07 22.6	
	comp=N,0.3nm,0.3s,baz=152,slow=20,SNR=3.8 comp=N,1.2nm,0.4s						
NEW	**Newport**	**9.33**	**303**	Lg	Lg	19 07 24.6	
	comp=N,0.1nm,0.3s,baz=121,slow=14,SNR=1.9						
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn	**Pn**	**19 05 18.9**	**+1.6**
	comp=N,0.5nm,0.6s,baz=55,slow=13,SNR=1.9						

IDC 09 19:21:55.7±2.0, 7°60S×129°23E, h0km, mb3.5/1, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=99.0km s-min=29.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.23**	**159**	Pn	Pn	19 25 05.0	0.0
	baz=338,slow=13,SNR=4.9						
WRA				Sn	Sn	19 27 32.2	-0.9
	0.1nm,0.3s,baz=336,slow=22,SNR=1.4 0.3nm,0.9s						
ASAR	**Alice Springs**	**16.59**	**165**	Pn	Pn	19 25 50.9	+0.9
	baz=343,slow=12,SNR=2.6 0.3nm,0.7s						
MKAR	**Makanchi Array**	**68.31**	**327**	P	P	19 32 58.7	0.0
	0.2nm,0.4s,baz=121,slow=7.2,SNR=5.0 0.2nm,0.4s						

DJA 09 19:23:18.2±0.4, 1°N±4°×12°2E±°, h89km±4km, M3.7/13, mb3.9/5, MLv3.6/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.14**	**227**	P	Pn	19 23 31.7	+0.8
MRSI				S	Sn	19 23 41.9	+1.6
GTOI	**Gorontalo**	**0.97**	**86**	P	Pn	19 23 37.6	+0.1
GTOI				S	Sn	19 23 52.4	+0.4
LUWI	**Luwuk**	**1.76**	**155**	P	Pn	19 23 46.9	-0.4
KMSI	**Cibinong**	**1.94**	**90**	P	Pn	19 23 50.5	+0.9
MPSI	**Mapaga**	**2.15**	**264**	P	Pn	19 23 53.0	+0.6
TTSI	**Tana Toraja**	**4.22**	**212**	P	Pn	19 24 20.4	+0.1
MMSI	**Mamuju**	**4.50**	**224**	P	Pn	19 24 23.3	-0.8
SANI	**Sanana**	**4.73**	**123**	P	Pn	19 24 23.8	-3.4
SPSI	**Sidrap Palu**	**5.04**	**207**	P	Pn	19 24 32.3	+0.8
	8.4nm,0.5s,0.1nm						
LBMI	**Labuha**	**5.59**	**102**	P	Pn	19 24 37.7	-1.2
	16nm,0.7s,0.1nm						
BKSI	**Bulukumba**	**6.16**	**198**	P	Pn	19 24 46.2	-0.4
	11nm,0.9s,0.0nm						
NLAI	**Namlea**	**6.32**	**127**	P	Pn	19 24 47.9	-0.9
	8.5nm,0.9s,0.0nm						

SOME ***09*** *19:24:05.5, 42°.12N×81°.03E, h20km*
NNC ***09*** *19:24:07.1±1.1, 42°.10N×80°.93E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=7.5km s-min=7.0km az=1.0*
ISC 09 19:23:58.5±2.3, 42°.00N±0°.08×81°.32E±0°.06, h7km±12km, n51, σ1°90/76, 8C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.79**	**311**	P	**Pn**	**19 24 31.8**	**+1.8**
	119nm,0.2s						
SHLS				S	**Sn**	**19 24 50.4**	**-2.5**
	1µm,0.2s						
SHLS	**Shalkode**	**1.79**	**311**	*e*P	**Pn**	**19 24 31.8**	**+1.8**
	119nm,0.2s						
SHLS				*e*S	**Sn**	**19 24 50.4**	**-2.5**
	1µm,0.2s						
PDGK	**Podgornoye**	**1.89**	**315**	P	**Pg**	**19 24 37.0**	**+2.2**
	49nm,0.2s						
PDGK				S	**Sg**	**19 24 59.1**	**-0.1**
	45nm,0.2s						
PDGK	**Podgornoye**	**1.89**	**315**	⇓P	**Pg**	**19 24 37.0**	**+2.2**
	20nm,0.2s						
PDGK				⇑S	**Sg**	**19 24 59.2**	**0.0**
	41nm,0.7s						
UZB	**Uzynbulak**	**2.04**	**305**	P	**Pg**	**19 24 40.3**	**+2.6**
	169nm,0.4s						
UZB				S	**Sg**	**19 25 04.8**	**+0.6**
	104nm,0.3s						
UZB	**Uzynbulak**	**2.04**	**305**	*e*P	**Pg**	**19 24 40.3**	**+2.6**
	169nm,0.4s						
UZB				*e*S	**Sg**	**19 25 04.8**	**+0.6**
	104nm,0.3s						
SATY	**Saty**	**2.40**	**297**	Pg	**Pg**	**19 24 46.0**	**+1.6**
	63nm,0.5s						
SATY				Lg	Lg	19 25 14.6	
	131nm,0.3s						
SATY	**Saty**	**2.40**	**297**	*e*P	**Pg**	**19 24 46.0**	**+1.6**
	63nm,0.5s						
SATY				*e*S	**Sg**	**19 25 14.6**	**-0.9**
	131nm,0.3s						
ZHN	**Zhinishke**	**2.42**	**300**	Pg	**Pg**	**19 24 46.4**	**+1.4**
	57nm,0.3s						
ZHN				Lg	Lg	19 25 15.4	
	217nm,0.4s						
ZHN	**Zhinishke**	**2.42**	**300**	*e*P	**Pg**	**19 24 46.4**	**+1.4**
	57nm,0.3s						
ZHN				*e*S	**Sg**	**19 25 15.4**	**-1.0**
	217nm,0.4s						
KPKS	**Kokpek**	**2.43**	**308**	Pg	**Pg**	**19 24 46.5**	**+1.5**
	165nm,0.5s						
KPKS				Lg	Lg	19 25 15.5	
	174nm,0.3s						
KPKS	**Kokpek**	**2.43**	**308**	*e*P	**Pg**	**19 24 46.5**	**+1.5**
	165nm,0.5s						
KPKS				*e*S	**Sg**	**19 25 15.5**	**-1.0**
	174nm,0.3s						
DJR	**Jarkent**	**2.58**	**335**	Pg	**Pg**	**19 24 49.6**	**+1.6**
	12nm,0.4s						
DJR				Lg	Lg	19 25 21.1	
	99nm,0.5s						
DJR	**Jarkent**	**2.58**	**335**	*e*P	**Pg**	**19 24 49.6**	**+1.6**
	12nm,0.4s						
DJR				*e*S	**Sg**	**19 25 21.1**	**-0.4**
	99nm,0.5s						
KURS	**Kuram**	**2.75**	**304**	Pg	**Pg**	**19 24 52.1**	**+0.8**
	40nm,0.3s						
KURS				Lg	Lg	19 25 25.0	
	57nm,0.5s						
KURS	**Kuram**	**2.75**	**304**	*e*P	**Pg**	**19 24 52.1**	**+0.8**
	40nm,0.3s						
KURS				*e*S	**Sg**	**19 25 25.0**	**-1.9**
	57nm,0.5s						
KNOS	**Konyrlen**	**2.83**	**327**	Pg	**Pg**	**19 24 53.7**	**+1.0**
	31nm,0.2s						
KNOS				Lg	Lg	19 25 28.1	
	110nm,0.6s						
KOTS	**Kotyrbulak**	**3.34**	**293**	Pg	**Pg**	**19 25 02.3**	**-0.2**
	27nm,0.2s						
KOTS				Lg	Lg	19 25 43.0	
	194nm,0.5s						
KOTS	**Kotyrbulak**	**3.34**	**293**	*e*P	**Pg**	**19 25 02.3**	**-0.2**
	27nm,0.2s						
KOTS				*e*S	**Sg**	**19 25 43.0**	**-2.8**
	194nm,0.5s						
ARXS	**Arharly**	**3.38**	**312**	Pg	**Pg**	**19 25 02.8**	**-0.4**
	22nm,0.3s						
ARXS				Lg	Lg	19 25 43.9	
	53nm,0.5s						
ARXS	**Arharly**	**3.38**	**312**	*e*P	**Pg**	**19 25 02.8**	**-0.4**
	22nm,0.3s						
ARXS				*e*S	**Sg**	**19 25 43.9**	**-3.1**
	53nm,0.5s						
TNSS	**Tian-Shan**	**3.39**	**289**	Pg	**Pg**	**19 25 03.1**	**-0.4**
	18nm,0.2s						
TNSS				Lg	Lg	19 25 44.0	
	17nm,0.6s						
TNSS	**Tian-Shan**	**3.39**	**289**	*e*P	**Pg**	**19 25 03.1**	**-0.4**
	18nm,0.2s						
TNSS				*e*S	**Sg**	**19 25 44.0**	**-3.5**
	17nm,0.6s						
KNDC	**Almaty**	**3.43**	**292**	⇑Pg	**Pg**	**19 25 02.9**	**-1.4**
	17nm,0.5s						
KNDC				⇓Lg	Lg	19 25 48.9	
	44nm,0.7s						
AAA	**Alma-Ata**	**3.46**	**292**	Pg	**Pg**	**19 25 05.4**	**+0.5**
	18nm,0.1s						
AAA				Lg	Lg	19 25 48.2	
	71nm,0.2s						
AAA	**Alma-Ata**	**3.46**	**292**	*e*P	**Pg**	**19 25 05.4**	**+0.5**
	18nm,0.1s						
AAA				*e*S	**Sg**	**19 25 48.2**	**-1.6**
	71nm,0.2s						
KAPS	**Kapalarasan**	**3.58**	**337**	Pg	**Pb**	**19 25 05.3**	**+3.2**
	2.9nm,0.2s						
KAPS				Lg	Lg	19 25 48.3	
	33nm,0.5s						
KAPS	**Kapalarasan**	**3.58**	**337**	*e*P	**Pg**	**19 25 06.9**	**-0.1**
	9.0nm,0.2s						
KAPS				*e*S	**Sg**	**19 25 50.6**	**-2.7**
	50nm,0.3s						
IZV	**Izvestkoviy**	**3.63**	**288**	Pg	**Pg**	**19 25 07.9**	**-0.1**
	7.5nm,0.2s						
IZV				Lg	Lg	19 25 51.9	
	64nm,0.5s						
IZV	**Izvestkoviy**	**3.63**	**288**	*e*P	**Pg**	**19 25 07.9**	**-0.1**
	7.5nm,0.2s						
IZV				*e*S	**Sg**	**19 25 51.9**	**-3.1**
	64nm,0.5s						
TDK	**Taldyqorghan**	**3.67**	**326**	Pg	**Pg**	**19 25 08.1**	**-0.7**
	6.7nm,0.1s						
TDK				Lg	Lg	19 25 52.8	
	48nm,0.3s						
TDK	**Taldyqorghan**	**3.67**	**326**	*e*P	**Pg**	**19 25 08.1**	**-0.7**
	6.7nm,0.1s						
TDK				*e*S	**Sg**	**19 25 52.8**	**-3.5**
	48nm,0.3s						
CHKK	**Chushkaly**	**3.68**	**302**	Pg	**Pg**	**19 25 08.0**	**-0.9**
	4.7nm,0.1s						
CHKK				Lg	Lg	19 25 52.8	
	42nm,0.4s						
CHKK	**Chushkaly**	**3.68**	**302**	*e*P	**Pg**	**19 25 08.0**	**-0.9**
	4.7nm,0.1s						
CHKK				*e*S	**Sg**	**19 25 52.8**	**-3.7**
	42nm,0.4s						
MTBS	**Maitube**	**3.78**	**289**	Pg	**Pb**	**19 25 08.7**	**+3.1**
	9.1nm,0.4s						
MTBS				Lg	Lg	19 25 53.8	
	45nm,0.6s						
MTBS	**Maitube**	**3.78**	**289**	*e*P	**Pb**	**19 25 08.7**	**+3.1**
	9.1nm,0.4s						
MTBS				*e*S	**Sb**	**19 25 53.8**	**+2.2**
	45nm,0.6s						
KTBS	**Karatobe**	**3.81**	**298**	Pg	**Pg**	**19 25 10.6**	**-0.9**
	22nm,0.5s						
KTBS				Lg	Lg	19 25 56.9	
	60nm,0.5s						
KTBS	**Karatobe**	**3.81**	**298**	*e*P	**Pg**	**19 25 10.6**	**-0.9**
	22nm,0.5s						
KTBS				*e*S	**Sg**	**19 25 56.9**	**-3.9**
	60nm,0.5s						
KST	**Kastek**	**4.09**	**287**	Pg	**Pg**	**19 25 16.8**	**-0.1**
	17nm,0.6s						
KST				Lg	Lg	19 26 07.7	
	27nm,1.1s						
KST	**Kastek**	**4.09**	**287**	*e*P	**Pg**	**19 25 16.8**	**-0.1**
	17nm,0.6s						
KST				*e*S	**Sg**	**19 26 07.7**	**-2.1**
	27nm,1.1s						
KUU	**Kurty**	**4.11**	**299**	Pg	**Pg**	**19 25 16.1**	**-1.2**
	16nm,0.8s						
KUU				Lg	Lg	19 26 06.4	
	15nm,0.3s						
KUU	**Kurty**	**4.11**	**299**	*e*P	**Pg**	**19 25 16.1**	**-1.2**
	16nm,0.8s						
KUU				*e*S	**Sg**	**19 26 06.4**	**-4.1**
	15nm,0.3s						
DGS	**Degeres**	**4.27**	**289**	Pg	**Pg**	**19 25 19.2**	**-1.2**
	7.4nm,0.4s						
DGS				Lg	Lg	19 26 12.1	
	28nm,0.6s						
DGS	**Degeres**	**4.27**	**289**	*e*P	**Pg**	**19 25 19.2**	**-1.2**
	7.4nm,0.4s						
DGS				*e*S	**Sg**	**19 26 12.1**	**-3.7**
	28nm,0.6s						
TKM2	**Tokmak 2**	**4.33**	**284**	⇑Pg	**Pb**	**19 25 16.1**	**+1.0**
	5.5nm,0.5s						
TKM2				⇑Lg	Lg	19 26 14.8	
	10nm,0.6s						
MAKZ	**Makanchi**	**4.83**	**5**	⇓Pn	**Pb**	**19 25 21.5**	**-1.9**
	2.5nm,0.4s						
MAKZ				⇑Lg	Lg	19 26 39.1	
	9.2nm,0.7s						
MK31	**Makanchi Array**	**4.84**	**8**	Pn	**Pb**	**19 25 22.0**	**-1.6**
	1.2nm,0.5s,baz=188,slow=14,SNR=93						
MK31				⇑Lg	Lg	19 26 40.1	
	8.1nm,0.7s,baz=189,slow=28,SNR=4.8						
CHMS	**Chumysh**	**4.95**	**284**	⇑Pg	**Pg**	**19 25 31.3**	**-2.1**
	2.1nm,0.5s						
CHMS				⇑Lg	Lg	19 26 32.9	
	6.2nm,0.6s						
SGDS	**Sogindy**	**5.13**	**289**	Pg	**Pg**	**19 25 35.2**	**-1.6**
	3.1nm,0.5s						
SGDS				Lg	Lg	19 26 39.3	
	5.2nm,0.5s						
AML	**Almayashu**	**5.67**	**274**	Pg	**Pg**	**19 25 47.4**	**+0.2**
	0.2nm,0.4s						
AML				Lg	Lg	19 27 00.4	
	1.9nm,0.8s						
ZSN	**Zaisan**	**6.00**	**24**	*e*P	**Pg**	**19 25 53.8**	**+0.3**
	0.9nm,0.3s						
ZSN				*e*S	**Sg**	**19 27 10.8**	**-0.3**
	6.5nm,0.7s						

NDI 09 19:32:12.0±0.8, 29°.11N×69°.54E, h10km, ML3.5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**5.23**	**119**	IAML		19 35 18.1	
	comp=E,25nm,0.5s						
KHET	**Khetri**	**5.61**	**99**	*e*S	Sn	19 34 36.5	-3.4
KUDL	**Kundal**	**6.18**	**97**	*e*S	Sn	19 34 49.2	-4.9
BHK	**Bhakra**	**6.38**	**67**	*e*S	Sn	19 34 53.0	-6.0
DHRM	**DHARAMSHALA**	**6.61**	**60**	*e*P	Pn	19 33 49.0	-0.5
DHRM				*e*S	Sn	19 35 00.6	-4.4
DHRM				IAML		19 35 03.8	
	comp=N,28nm,0.9s						
DHRM				IAML		19 35 04.8	
	comp=E,42nm,0.9s						
SMLA	**Simla**	**6.91**	**71**	*e*P	Pn	19 33 53.4	+0.1
SMLA				*e*S	Sn	19 35 06.5	-5.4
SMLA				IAML		19 35 08.1	
	comp=E,40nm,0.6s						
SMLA				IAML		19 35 09.3	
	comp=N,46nm,1.3s						
LGTI	**Lohaghat**	**9.36**	**85**	*e*P	Pn	19 34 24.4	-2.5
LGTI				IAML		19 36 10.4	
	comp=E,61nm,1.2s						
LGTI				IAML		19 36 10.9	
	comp=N,66nm,0.2s						

TIR ***09*** *19:46:35.0, 43°.12N×18°.08E, h0km±6km, Ml3.3*
PDG ***09*** *19:46:36.4±0.1, 43°.04N×18°.03E, h13km, MD3.0/2, ML2.9/12, Error ellipse: s-maj=0.3km s-min=0.2km az=90.0*
PRU ***09*** *19:46:37.8, 42°.99N×18°.07E, h0km*
RHSSO ***09*** *19:46:37.1±0.2, 43°.03N×18°.03E, h3km±1km, ML2.8/17*
BEO ***09*** *19:46:37.1±0.3, 43°.02N×18°.03E, h4km±2km, ML2.6/15*
ISC 09 19:46:36.9±1.1, 43°.04N±0°.02×18°.04E±0°.01, h2km±9km, n87, σ0°78/147, 15C-15D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVS	**Nevesinje**	**0.27**	**10**	*e*Pg	**Pg**	**19 46 41.7**	**-0.3**
NEVS				*e*Sg	**Sg**	**19 46 46.5**	**+1.0**
STON	**Ston**	**0.30**	**236**	*e*Pg	**Pg**	**19 46 42.3**	**-0.3**
STON				*e*Sg	**Sg**	**19 46 47.1**	**+0.6**
STON	**Ston**	**0.30**	**236**	*i* Pg	**Pg**	**19 46 42.3**	**-0.3**
STON				*i* Sg	**Sg**	**19 46 47.2**	**+0.7**
STON	**Ston**	**0.30**	**236**	⇓*i*Pg	**Pg**	**19 46 42.3**	**-0.3**
STON				*e*Sg	**Sg**	**19 46 47.1**	**+0.6**
DBRK	**Dubrovnik**	**0.38**	**168**	*e*Pg	**Pg**	**19 46 43.7**	**-0.4**
DBRK				*i* Sg	**Sg**	**19 46 49.9**	**+0.9**
BRY	**Bratogost**	**0.39**	**110**	⇑*i*Pg	**Pg**	**19 46 43.9**	**-0.5**
BRY				*i* Sg	**Sg**	**19 46 50.3**	**+0.8**
BRY	**Bratogost**	**0.39**	**110**	⇑*i*Pg	**Pg**	**19 46 43.7**	**-0.7**
TREB	**Trebinje**	**0.39**	**144**	*e*Pg	**Pg**	**19 46 44.0**	**-0.5**
TREB				*e*Sg	**Sg**	**19 46 50.3**	**+0.7**
TREB	**Trebinje**	**0.39**	**144**	⇑*i*Pg	**Pg**	**19 46 43.9**	**-0.5**
TREB				*e*Sg	**Sg**	**19 46 50.2**	**+0.7**
KLINJ	**Klinje**	**0.42**	**72**	*e*Pg	**Pg**	**19 46 44.4**	**-0.6**
KLINJ				*e*Sg	**Sg**	**19 46 50.8**	**+0.3**
UPM	**Unac-Piva**	**0.66**	**75**	⇓*i*Pg	**Pg**	**19 46 48.7**	**-0.8**
UPM				*i* Sg	**Sg**	**19 46 59.2**	**+1.2**
UPM	**Unac-Piva**	**0.66**	**75**	*e*Pg	**Pg**	**19 46 48.4**	**-1.1**
UPM				*e*Sg	**Sg**	**19 46 58.6**	**+0.6**
HCY	**Herceg Novi**	**0.68**	**150**	⇑*i*Pg	**Pg**	**19 46 48.9**	**-1.0**
HCY				*i* Sg	**Sb**	**19 47 00.2**	**-1.0**
HCY	**Herceg Novi**	**0.68**	**150**	⇑*i*Pg	**Pg**	**19 46 48.9**	**-1.0**
HCY				*e*Sg	**Sg**	**19 46 59.1**	**+0.4**
NKME	**Niksic**	**0.72**	**112**	⇓*i*Pg	**Pg**	**19 46 49.9**	**-0.9**
NKME				*i* Sg	**Sb**	**19 47 01.7**	**-0.9**
MAKA	**Makarska**	**0.79**	**289**	*e*Pg	**Pg**	**19 46 50.7**	**-1.3**
MAKA				Sg	**Sg**	**19 47 01.9**	**-0.2**
RICI	**Ricice**	**0.80**	**305**	*i* Pg	**Pg**	**19 46 51.3**	**-1.0**
RICI				Sg	**Sg**	**19 47 03.5**	**+0.7**
CEME	**Cevo**	**0.81**	**127**	⇑*i*Pg	**Pg**	**19 46 51.2**	**-1.2**
CEME				*i* Sg	**Sg**	**19 47 03.8**	**+0.8**
LSTV	**Lastovo**	**0.89**	**253**	*e*Pg	**Pg**	**19 46 53.4**	**-0.4**
LSTV				Sg	**Sg**	**19 47 05.8**	**+0.5**

MGRS				*e*Sn	**Sb**	**19 47 26.6**	**+0.4**		
IVAS	**Ivanjica**	**1.63**	**70**	*e*Pg	**Pn**	**19 47 05.8**	**-0.9**		
IVAS				*e*Sg	**Sn**	**19 47 28.5**	**+0.2**		
BCI	**Bajram Curri**	**1.64**	**113**	P	**Pn**	**19 47 07.0**	**+0.3**		
	baz=116								
BCI				S	**Sg**	**19 47 31.6**	**+2.0**		
	baz=116								
BCI				AMP					
	comp=N,1.6nm,0.5s,baz=116								
PUK	**Puka**	**1.69**	**125**	P	**Pn**	**19 47 07.8**	**+0.3**		
	baz=128								
PUK				S	**Sg**	**19 47 33.1**	**+1.8**		
	baz=128								
PUK				AMP					
	comp=N,0.7nm,0.5s,baz=128								
DOB	**Doboj**	**1.69**	**1**	*e*Pn	**Pn**	**19 47 07.4**	**0.0**		
DOB				*e*Sn	**Sn**	**19 47 30.2**	**+0.5**		
DIVS	**Divibare**	**1.77**	**53**	*e*Pn	**Pn**	**19 47 07.9**	**-0.7**		
DIVS				*e*Sn	**Sb**	**19 47 32.7**	**-0.1**		
A050A	**Klekovaca**	**1.81**	**323**	⇓*i*Pn	**Pn**	**19 47 09.0**	**-0.1**		
A050A				*e*Sn	**Sn**	**19 47 32.5**	**-0.2**		
BLY	**Banja Luka**	**1.82**	**340**	*e*Pn	**Pn**	**19 47 09.6**	**+0.5**		
BLY				*e*Sn	**Sb**	**19 47 34.7**	**+0.6**		
BLY	**Banja Luka**	**1.82**	**340**	⇓*i*Pn	**Pn**	**19 47 08.9**	**-0.2**		
BLY				*e*Sn	**Sn**	**19 47 33.0**	**+0.3**		
ZIRJ	**Zirje**	**1.85**	**290**	*e*Pn	**Pn**	**19 47 09.9**	**+0.4**		
ZIRJ				Sn	**Sn**	**19 47 33.9**	**+0.4**		
TEKS	**Tekeris**	**1.86**	**35**	*e*Pn	**Pn**	**19 47 10.3**	**+0.6**		
TEKS				*e*Sn	**Sn**	**19 47 33.2**	**-0.5**		
TEKS	**Tekeris**	**1.86**	**35**	*e*Pn	**Pn**	**19 47 10.0**	**+0.3**		
TEKS				*e*Sn	**Sn**	**19 47 33.9**	**+0.2**		
MORI	**Morici**	**1.89**	**297**	*e*Pn	**Pn**	**19 47 10.4**	**+0.3**		
MORI				Sn	**Sn**	**19 47 35.1**	**+0.6**		
TRUS	**Trudelj**	**2.09**	**55**	*e*Pn	**Pn**	**19 47 12.2**	**-0.7**		
TRUS				*e*Sn	**Sn**	**19 47 40.3**	**+0.9**		
GRUS	**Gruza**	**2.13**	**66**	*e*Pn	**Pn**	**19 47 13.0**	**-0.4**		
A051A	**Mrakovica**	**2.14**	**338**	⇓*i*Pn	**Pn**	**19 47 13.0**	**-0.6**		
A051A				*e*Sn	**Sn**	**19 47 40.7**	**0.0**		
PHP	**Peshkopia**	**2.23**	**126**	P	**Pb**	**19 47 17.9**	**-0.1**		
	baz=128								
PHP				S	**Sg**	**19 47 50.1**	**+1.4**		
	baz=128								
PHP				AMP					
	comp=N,0.5nm,0.3s,baz=128								
SELS	**Selova**	**2.26**	**84**	*e*Pn	**Pn**	**19 47 15.1**	**-0.2**		
FRGS	**Fruska Gora**	**2.47**	**30**	⇓P	**Pn**	**19 47 16.8**	**-1.4**		
FRGS	**Fruska Gora**	**2.47**	**30**	*e*Pn	**Pn**	**19 47 16.8**	**-1.4**		
FRGS	**Fruska Gora**	**2.47**	**30**	*e*Pn	**Pn**	**19 47 18.5**	**+0.3**		
FRGS				*e*Sn	**Sn**	**19 47 49.0**	**+0.1**		
MATE	**Matera**	**2.59**	**203**	⇑P	**Pg**	**19 47 25.2**	**-1.3**		
BOVS	**Bovan**	**2.74**	**76**	⇓P	**Pn**	**19 47 22.5**	**+0.7**		
BARS	**Barje**	**2.78**	**93**	*e*Pn	**Pn**	**19 47 22.6**	**+0.2**		
BARS				*e*Sn	**Sn**	**19 47 57.5**	**+1.0**		
PRVS	**Prvonek**	**3.02**	**99**	*e*Pn	**Pn**	**19 47 26.0**	**+0.3**		
PRVS				*e*Sn	**Sn**	**19 48 01.3**	**-1.1**		
ZAGS	**Zajecar**	**3.15**	**74**	*e*Pn	**Pn**	**19 47 27.3**	**-0.2**		
BOJS	**Bojanci**	**3.18**	**322**	*e*Pn	**Pn**	**19 47 27.9**	**+0.1**		
BOJS				*e*Sn	**Sn**	**19 48 06.2**	**0.0**		
MORH	**Mrgy, Hungar**	**3.21**	**8**	*e*Pn	**Pn**	**19 47 28.5**	**+0.3**		
MORH				*e*Sn	**Sn**	**19 48 07.0**	**+0.1**		
CRES	**Cresnjev**	**3.34**	**327**	*e*Pn	**Pn**	**19 47 30.2**	**+0.1**		
CRES				*e*Sn	**Sn**	**19 48 10.4**	**0.0**		
ZAPS	**Zavoj**	**3.37**	**84**	*e*Pn	**Pn**	**19 47 30.7**	**+0.2**		
BLKB	**Belogradchik**	**3.43**	**79**	⇑P	**Pn**	**19 47 32.4**	**+1.0**		
BEHE	**Becsehely**	**3.55**	**346**	*e*Pn	**Pn**	**19 47 33.7**	**+0.8**		
BZS	**Buzias**	**3.64**	**44**	⇑P	**Pn**	**19 47 33.9**	**-0.2**		
CEY	**Cerknica**	**3.74**	**317**	*e*Pn	**Pn**	**19 47 35.4**	**-0.2**		
CEY				*e*Sn	**Sn**	**19 48 19.5**	**-0.7**		
SIRR	**Siria**	**4.13**	**37**	⇑P	**Pn**	**19 47 40.6**	**-0.4**		
GZR	**Gura Zlata**	**4.14**	**54**	⇑P	**Pn**	**19 47 40.2**	**-0.9**		
SOKA	**Soboth**	**4.22**	**331**	*i* Pn	**Pn**	**19 47 42.8**	**+0.5**		
	comp=N,8.1nm,0.6s								
SOKA				*e*Sn	**Sn**	**19 48 31.7**	**-0.4**		
	comp=N,3.5nm,0.6s								
OBKA	**Obir**	**4.27**	**326**	*e*Pn	**Pn**	**19 47 44.1**	**+1.2**		
	comp=N,1.2nm,0.3s								
OBKA	**Obir**	**4.27**	**326**	*e*Pn	**Pn**	**19 47 43.1**	**+0.2**		
RONA	**Rosalia, Austr**	**4.82**	**346**	*e*Pn	**Pn**	**19 47 51.4**	**+0.9**		
	comp=N,0.8nm,0.2s								
CONA	**Conrad Observa**	**5.12**	**343**	*e*Pn	**Pn**	**19 47 55.7**	**+1.1**		
	comp=N,0.8nm,0.3s								
KBA	**Koelnbreinsper**	**5.23**	**322**	*i* Pn	**Pn**	**19 47 57.1**	**+0.9**		
	comp=N,1.6nm,0.4s								
ABTA	**Abfaltersbach**	**5.40**	**315**	*e*Pn	**Pn**	**19 47 59.0**	**+0.5**		
	comp=N,1.3nm,0.3s								
MOA	**Molln**	**5.50**	**332**	*i* Pn	**Pn**	**19 48 01.2**	**+1.5**		
	comp=N,2.7nm,0.3s								
MOA				*e*Sn	**Sn**	**19 49 04.2**	**+0.8**		
	comp=N,5.3nm,0.6s								
BIOA	**Bad Ischl, Aus**	**5.59**	**328**	*e*Pn	**Pn**	**19 48 02.3**	**+1.3**		
	comp=N,2.1nm,0.3s								
LESA	**Schwarzleotal**	**5.79**	**321**	*e*Pn	**Pn**	**19 48 04.4**	**+0.5**		
	comp=N,1.7nm,0.3s								
WTTA	**Wattenberg**	**6.19**	**315**	*e*Pn	**Pn**	**19 48 10.4**	**+1.0**		
	comp=N,3.9nm,0.4s								
WATA	**Walderalm**	**6.27**	**315**	*e*Pn	**Pn**	**19 48 10.8**	**+0.3**		
	comp=N,4.7nm,0.4s								
SQTA	**Sankt Quirin**	**6.39**	**313**	*e*Pn	**Pn**	**19 48 12.8**	**+0.7**		
	comp=N,0.5nm,0.2s								
RETA	**Reutte**	**6.79**	**313**	*e*Pn	**Pn**	**19 48 18.5**	**+0.9**		
	comp=N,0.7nm,0.2s								
KHC	**Kasperske Hory**	**6.84**	**335**	*e*PN	**Pn**	**19 48 18.2**	**+0.1**		
KHC				*e*SN	**Sn**	**19 49 35.0**	**-1.5**		

HEL 09 19:54:42.4±0.2, 67.78N×20.32E, h0km, ML1.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.69**	**66**	PG	Pg	19 54 54.6	-1.0
LANU				SG	Sg	19 55 03.5	-1.0
KIF	**Kilpisjarvi**	**1.24**	**8**	PG	Pg	19 55 05.3	-0.8
KIF				MSG		19 55 21.0	
	comp=Z,12nm,0.2s						
KIF				SN	Sn	19 55 26.6	+2.2
PAJU	**Pajala**	**1.32**	**124**	PG	Pg	19 55 05.8	-1.9
PAJU				SG	Sg	19 55 24.8	0.0
HEF	**Hetta**	**1.40**	**62**	*e*P	Pn	19 55 06.7	-2.5
HEF	**Hetta**	**1.40**	**62**	PG	Pn	19 55 07.2	-2.0
HEF				MSG		19 55 24.6	
	comp=Z,1.5nm,0.2s						
HEF				SG	Sg	19 55 26.2	-1.2
ERTU	**Ertsjaerv**	**1.43**	**148**	PG	Pn	19 55 08.1	-1.5
ERTU				SN	Sn	19 55 29.4	+0.3
KLF	**Kolari**	**1.51**	**110**	PG	Pn	19 55 09.3	-1.3
	baz=290						
KLF				MSG		19 55 27.5	
	comp=Z,1.8nm,0.2s						
KLF				SN	Sn	19 55 31.5	+0.6
KTK1	**Kautokeino**	**1.64**	**40**	PG	Pn	19 55 11.8	-0.6
KTK1				SN	Sb	19 55 34.5	-0.2
JETT	**Jettan, Norway**	**1.78**	**1**	*e*P	Pn	19 55 10.8	-3.6
TRO	**Tromso**	**1.93**	**345**	SG	Sb	19 55 42.1	-0.8
KALU	**Kalix**	**2.27**	**147**	PB	Pn	19 55 21.8	+0.6
	baz=333						
KALU				SG	Sb	19 55 53.5	+0.7
TOF	**Tornio**	**2.33**	**135**	PB	Pn	19 55 22.6	+0.7
	baz=319						
TOF				MSG		19 55 51.3	
	comp=Z,1.0nm,0.2s						
TOF				SG	Sb	19 55 55.2	+0.8
SGF	**Sodankyl**	**2.40**	**95**	PG	Pb	19 55 25.6	-0.8
RNF	**Rovaniemi**	**2.51**	**115**	PB	Pn	19 55 26.4	+1.9
RNF				SG	Sb	19 55 59.3	-0.5
ARA0	**ARCESS Array S**	**2.59**	**45**	PN	Pn	19 55 24.5	-1.0
	baz=226						
ARA0				SG	Sn	19 55 59.3	+1.7
KEV	**Kevo**	**3.14**	**48**	SB	Sn	19 56 12.2	+1.1
KEV				MSG		19 56 14.6	
	comp=Z,1.0nm,0.2s						

HEL 09 19:54:49.4±0.1, 63.63N×26.07E, h0km, ML1.3, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.82**	**106**	PG	Pg	19 55 04.4	-0.7
NIF				SB	Sg	19 55 15.9	+0.2
OUF	**Merijarvi**	**0.94**	**322**	PG	Pg	19 55 06.2	-1.3
OUF				MSG		19 55 18.4	
	comp=Z,1.9nm,0.2s						
OUF				SB	Sg	19 55 18.7	-1.0
OBF0	**Syolatti, Pyha**	**1.18**	**318**	PG	Pg	19 55 10.9	-1.2
OBF0				MSG		19 55 25.4	
	comp=Z,1.7nm,0.2s						
OBF0				SB	Sg	19 55 27.4	+0.1
OBF4	**Vikkela, Lumij**	**1.26**	**341**	PG	Pg	19 55 12.3	-1.2
OBF4				MSG		19 55 27.5	
	comp=Z,1.5nm,0.2s						
OBF4				SB	Sg	19 55 29.0	-0.8
OUL	**Oulu**	**1.46**	**357**	PG	Pn	19 55 15.7	-1.3
OUL				SG	Sg	19 55 34.2	-2.1
KAF	**Kangasniemi**	**1.53**	**176**	PN	Pn	19 55 18.0	+0.1
	baz=352						
KAF				MSG		19 55 35.3	
	comp=Z,3.9nm,0.2s						
KAF				SN	Sg	19 55 38.2	-0.2
KEF	**Keuruu**	**1.57**	**201**	PN	Pn	19 55 18.1	-0.4
KEF				MSG		19 55 36.3	
	comp=Z,2.6nm,0.2s						
KEF				SN	Sn	19 55 39.0	-0.5
VAF	**Ylistaro**	**1.64**	**250**	PN	Pn	19 55 19.7	+0.3
VAF				MSG		19 55 38.6	
	comp=Z,2.3nm,0.2s						
VAF				SN	Sn	19 55 41.1	-0.1
RMF	**Romuvaara**	**1.81**	**69**	PG	Pn	19 55 22.0	+0.2
RMF				MSG		19 55 43.3	
	comp=Z,2.5nm,0.2s						
RMF				SN	Sn	19 55 45.5	+0.2
FIA0	**FINESS Array S**	**2.20**	**180**	PG	Pb	19 55 28.8	-1.1
	baz=360						
FIA0				MSG		19 55 54.5	
	comp=Z,2.2nm,0.2s						
FIA0				SG	Sb	19 55 58.6	+1.0
BURU	**Burvik**	**2.27**	**297**	PG	Pb	19 55 29.7	-1.5
BURU				SG	Sb	19 55 59.9	+0.2
UMAU	**Umeaa**	**2.41**	**278**	PB	Pn	19 55 30.7	+0.7
UMAU				SG	Sb	19 56 02.9	-0.8
JOF	**Joensuu**	**2.48**	**104**	PB	Pn	19 55 32.6	+1.6
JOF				SG	Sb	19 56 05.2	-0.5
RUF	**Ruokolahti**	**2.59**	**148**	PG	Pb	19 55 35.7	-0.9
RUF				MSG		19 56 05.6	
	comp=Z,1.2nm,0.2s						
MSF	**Maaselka**	**2.62**	**28**	PB	Pn	19 55 34.6	+1.7
MSF				SG	Sb	19 56 08.8	-1.0
KU6	**Riekki**	**2.91**	**33**	PB	Pn	19 55 38.8	+1.9
KU6				MSG		19 56 14.9	
	comp=Z,1.1nm,0.2s						
KU6				SB	Sb	19 56 17.0	-1.1
RNF	**Rovaniemi**	**2.99**	**360**	PB	Pn	19 55 39.6	+1.7
VJF	**Virojoki**	**3.18**	**167**	SG	Sb	19 56 26.9	+0.9
SGF	**Sodankyl**	**3.83**	**3**	PG	Pb	19 55 57.2	-0.5

*IDC **09** 20:12:23.6±1.3, 38°.35N×26°.76E, h0km, mb3.5/4, mbtmp3.4/5, ML2.8/1, MS2.3/1, Error ellipse: s-maj=52.7km s-min=17.9km az=162.0*
*ISK **09** 20:12:24.6, 38°.42N×26°.68E, h16km, ML3.9/42*
*ATH **09** 20:12:25.3, 38°.40N×26°.70E, h14km±1km, ML3.8/9, Error ellipse: s-maj=2.4km s-min=1.1km az=289.0*
*AFAD **09** 20:12:25.2±0.0, 38°.40N×26°.69E, h7km±1km, MW3.8*
*CFUSG **09** 20:12:26.4, 38°.50N×26°.70E, h33km, mb3.2/3, Western Turkey Magtype MSH 3.4 from 2 stations*
*THE **09** 20:12:26.3, 38°.46N×26°.61E, h2km±10km, ML3.8/6, Error ellipse: s-maj=11.9km s-min=0.5km az=123.0*
*SOF **09** 20:12:41.3, 39°.67N±0°.05×26°.41E±0°.08, h15km±2km, MD3.3/4*

ISC 09 20:12:25.3±0.8, 38°.42N±0°.02×26°.69E±0°.02, h15km±6km, n160, σ1°.02/194, mb3.6/4, 13C-8D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.23**	**220**	P	**Pg**	**20 12 30.0**	**-0.5**
ZEYE				*i* AML	AML	20 12 34.0	
	comp=E,4μm,0.3s						
ZEYE				S	**Sg**	**20 12 34.0**	**+0.1**
ZEYE				*i* AML	AML	20 12 36.0	
	comp=N,2μm,0.4s						
FOCM	**Foa**	**0.30**	**6**	Pg	**Pg**	**20 12 30.9**	**-0.7**
FOCM				Sg	**Sg**	**20 12 35.8**	**0.0**
CESE	**eme**	**0.32**	**255**	Pg	**Pg**	**20 12 31.7**	**-0.3**
CESE				Sg	**Sg**	**20 12 36.8**	**+0.3**
KARB	**zmir-Karabur**	**0.33**	**318**	P	**Pg**	**20 12 32.0**	**-0.2**
KARB				*i* AML	AML	20 12 37.0	
	comp=N,3μm,0.2s						
KARB				*i* AML	AML	20 12 37.0	
	comp=E,4μm,0.2s						
KARB				S	**Sg**	**20 12 37.3**	**+0.4**
GMLD	**Gumuldur**	**0.38**	**153**	Pg	**Pg**	**20 12 32.9**	**-0.2**
GMLD				Sg	**Sg**	**20 12 38.6**	**+0.3**
DGB	**zmir**	**0.39**	**158**	P	**Pg**	**20 12 32.9**	**-0.4**
DGB				S	**Sg**	**20 12 38.5**	**-0.2**
DGB				*i* AML	AML	20 12 41.0	
	comp=N,8μm,0.7s						
DGB				*i* AML	AML	20 12 41.0	
	comp=E,4μm,0.5s						
EAG2	**Marmaro, Chios**	**0.48**	**286**	P	**Pg**	**20 12 34.8**	**0.0**
EAG2				S	**Sg**	**20 12 41.2**	**-0.1**
CHOS	**Chios island**	**0.50**	**267**	P	**Pg**	**20 12 35.4**	**0.0**
CHOS				S	**Sg**	**20 12 41.8**	**-0.3**
	11μm,0.3s						
CHOS	**Chios island**	**0.50**	**267**	P	**Pg**	**20 12 35.4**	**0.0**
CHOS				S	**Sg**	**20 12 41.9**	**-0.3**
CHOS				AML	AML	20 12 46.0	
	comp=N,20542μm,0.2s						
CHOS				AML	AML	20 12 49.2	
	comp=E,23165μm,0.3s						
CAND	**Candarli**	**0.54**	**9**	Pg	**Pg**	**20 12 35.7**	**-0.4**
CAND				Sg	**Sb**	**20 12 43.7**	**-0.5**
RFT7	**Candarli**	**0.57**	**18**	Pg	**Pg**	**20 12 36.4**	**-0.1**
RFT7				Sg	**Sb**	**20 12 44.9**	**-0.1**
ZEDA	**zmir-Bergama**	**0.62**	**29**	P	**Pg**	**20 12 37.3**	**-0.3**
ZEDA				S	**Sb**	**20 12 46.8**	**+0.2**
ZEDA				*i* AML	AML	20 12 51.0	
	comp=E,5μm,0.2s						
ZEDA				*i* AML	AML	20 12 51.0	
	comp=E,5μm,0.3s						
DKL	**Dikili**	**0.67**	**14**	Pg	**Pg**	**20 12 38.3**	**-0.2**
EAG3	**Mitilini, Lesv**	**0.67**	**352**	P	**Pg**	**20 12 38.0**	**-0.5**
EAG3				S	**Sb**	**20 12 48.6**	**+0.6**
EAG3				AML	AML	20 12 51.0	
	comp=N,71179μm,0.5s						
EAG3				AML	AML	20 12 53.5	
	comp=E,49612μm,0.4s						
GCAM	**G?zelcaml?**	**0.83**	**149**	Pg	**Pg**	**20 12 41.1**	**-0.4**
PRK	**Paraskevi**	**0.89**	**338**	P	**Pg**	**20 12 42.2**	**-0.4**
PRK				S	**Sb**	**20 12 54.6**	**+0.4**
	comp=E,32μm,0.7s						
PRK	**Paraskevi**	**0.89**	**338**	P	**Pg**	**20 12 42.1**	**-0.6**
PRK				S	**Sn**	**20 12 55.6**	**-0.5**
PRK				AML	AML	20 12 57.1	
	comp=E,71362μm,0.5s						
PRK				AML	AML	20 12 57.2	
	comp=N,41577μm,0.5s						
PSRA	**Psara**	**0.90**	**278**	P	**Pb**	**20 12 42.4**	**-0.2**
PSRA				AML	AML	20 12 56.7	
	comp=N,21571μm,0.2s						
PSRA				AML	AML	20 12 57.6	
	comp=E,17523μm,0.5s						
AKS	**Akhisar**	**0.99**	**62**	Pg	**Pb**	**20 12 44.2**	**0.0**
GOMA	**Golmarmara-Man**	**1.00**	**73**	Pg	**Pb**	**20 12 44.5**	**+0.1**
SIGR	**SIGRI**	**1.03**	**321**	Pg	**Pb**	**20 12 44.5**	**-0.4**
SIGR	**SIGRI**	**1.03**	**321**	P	**Pb**	**20 12 44.3**	**-0.6**
SIGR				S	**Sg**	**20 12 58.8**	**+0.1**
	comp=E,7μm,0.4s						
SIGR	**SIGRI**	**1.03**	**321**	P	**Pb**	**20 12 44.2**	**-0.6**
SIGR				AML	AML	20 12 59.8	
	comp=E,12437μm,0.4s						
SIGR				AML	AML	20 13 00.8	
	comp=N,14619μm,0.4s						
DDIM	**Aydin, Didim**	**1.05**	**156**	P	**Pb**	**20 12 44.7**	**-0.6**
DDIM				S	**Sn**	**20 13 00.1**	**+0.1**
DDIM				*i* AML	AML	20 13 01.0	
	comp=N,2μm,0.5s						
DDIM				*i* AML	AML	20 13 05.0	
	comp=N,2μm,0.6s						
BUHA	**Balikesir, Bur**	**1.12**	**15**	P	**Pb**	**20 12 46.3**	**-0.2**
BUHA				S	**Sn**	**20 13 03.2**	**+1.4**
BUHA				*i* AML	AML	20 13 06.0	
	comp=N,2μm,0.4s						
BUHA				*i* AML	AML	20 13 06.0	
	comp=N,3μm,0.7s						
DIDI	**Didim-Aydin**	**1.12**	**157**	Pn	**Pb**	**20 12 46.6**	**+0.1**
GPNR	**Gulpinar-Canak**	**1.13**	**337**	Pn	**Pn**	**20 12 46.6**	**0.0**
KOCA	**Canakkale, Ayv**	**1.17**	**338**	P	**Pn**	**20 12 47.0**	**-0.2**
KOCA				S	**Sg**	**20 13 02.6**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.25**	**40**	P	**Pn**	**20 12 48.1**	**-0.2**
STEP				S	**Sg**	**20 13 06.3**	**+0.6**
STEP				*i* AML	AML	20 13 08.0	
	comp=N,3μm,0.6s						
STEP				*i* AML	AML	20 13 12.0	
	comp=N,2μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**1.33**	**355**	P	**Pn**	**20 12 48.9**	**-0.5**
BAYC				S	**Sb**	**20 13 06.7**	**-0.2**
KIRA	**zmir-Kiraz**	**1.36**	**99**	P	**Pb**	**20 12 50.9**	**+0.3**
KIRA				S	**Sg**	**20 13 09.1**	**-0.2**
KIRA				*i* AML	AML	20 13 12.0	
	comp=N,975nm,0.3s						
KIRA				*i* AML	AML	20 13 15.0	
	comp=N,781nm,0.3s						
YKAV	**Yalikavak-Bodr**	**1.37**	**160**	Pn	**Pn**	**20 12 50.3**	**+0.3**
MLSB	**Milas**	**1.41**	**142**	Pn	**Pn**	**20 12 50.3**	**-0.2**
EZN	**Ezine**	**1.44**	**349**	Pn	**Pn**	**20 12 50.5**	**-0.4**
EZN	**Ezine**	**1.44**	**349**	P	**Pn**	**20 12 50.3**	**-0.6**
EZN				S	**Sb**	**20 13 09.7**	**-0.2**
	comp=N,2μm,0.6s						
BODT	**Bodrum**	**1.44**	**160**	Pn	**Pn**	**20 12 50.4**	**-0.5**
KLNA	**Kalymnos**	**1.47**	**171**	P	**Pn**	**20 12 50.7**	**-0.6**
TNSA	**Tinos**	**1.49**	**235**	P	**Pn**	**20 12 50.8**	**-0.8**
TNSA				AML	AML	20 13 12.8	
	comp=E,2975μm,0.5s						
TNSA				AML	AML	20 13 15.0	
	comp=N,4117μm,0.5s						
BALB	**Balikesir**	**1.53**	**37**	Pn	**Pn**	**20 12 52.1**	**-0.1**
KULA	**Kula-Manisa**	**1.55**	**86**	Pn	**Pn**	**20 12 52.9**	**+0.4**
KULA	**Kula-Manisa**	**1.55**	**86**	P	**Pb**	**20 12 54.2**	**+0.4**
CANM	**Can-anakkale**	**1.62**	**10**	Pn	**Pn**	**20 12 53.0**	**-0.4**
BKES	**Balkesir-Mer**	**1.63**	**36**	P	**Pn**	**20 12 53.4**	**-0.2**
BKES				S	**Sb**	**20 13 15.1**	**-0.4**
APE	**Apeiranthos**	**1.63**	**215**	⇑P	**Pn**	**20 12 52.2**	**-1.5**
APE	**Apeiranthos**	**1.63**	**215**	Pn	**Pn**	**20 12 52.4**	**-1.2**
APE	**Apeiranthos**	**1.63**	**215**	P	**Pn**	**20 12 52.1**	**-1.5**
APE				AML	AML	20 13 21.9	
	comp=E,3742μm,0.2s						
APE				AML	AML	20 13 22.9	
	comp=N,2899μm,0.2s						
RFTAA	**Mazikoy-Bodrum**	**1.64**	**149**	Pn	**Pn**	**20 12 53.4**	**-0.3**
ECEA	**Canakkale, Ece**	**1.67**	**346**	P	**Pg**	**20 12 57.0**	**-0.5**
ECEA				S	**Sg**	**20 13 21.0**	**+1.8**
ECEA				*i* AML	AML	20 13 23.0	
	comp=N,2μm,0.3s						
ECEA				*i* AML	AML	20 13 23.0	
	comp=N,3μm,0.4s						
COMU	**Canakkale**	**1.69**	**354**	Pn	**Pn**	**20 12 54.4**	**0.0**
EFSA	**Agios Efstrati**	**1.74**	**311**	P	**Pn**	**20 12 54.9**	**-0.1**
EFSA				AML	AML	20 13 26.5	
	comp=E,1962μm,0.9s						
EFSA				AML	AML	20 13 33.5	
	comp=N,1595μm,0.6s						
SKY	**Skiros Island**	**1.74**	**286**	P	**Pn**	**20 12 54.4**	**-0.7**
YER	**Yerkesik**	**1.80**	**135**	Pn	**Pn**	**20 12 55.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.80**	**25**	Pn	**Pn**	**20 12 56.2**	**+0.3**
DAT	**Datca**	**1.83**	**157**	Pn	**Pn**	**20 12 56.6**	**+0.3**
GOAD	**anakkale-G¶**	**1.84**	**341**	P	**Pn**	**20 12 56.5**	**0.0**
GOAD				S	**Sn**	**20 13 20.0**	**-0.4**
GADA	**Gvkgeada**	**1.88**	**341**	Pn	**Pn**	**20 12 57.4**	**+0.5**
SIMA	**Simav-Kutahya**	**1.91**	**69**	Pn	**Pn**	**20 12 57.9**	**+0.4**
DST	**Dursunbey**	**1.91**	**51**	Pn	**Pn**	**20 12 57.5**	**0.0**
LPK	**Lapseki**	**1.95**	**1**	Pn	**Pn**	**20 12 57.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.98**	**355**	Pn	**Pn**	**20 12 58.8**	**+0.4**
KRBG	**Karabiga-Canak**	**2.03**	**13**	Pn	**Pn**	**20 12 58.8**	**-0.2**
KYMI	**Kymi, Euboea I**	**2.05**	**277**	P	**Pn**	**20 12 58.7**	**-0.6**
KYMI	**Kymi, Euboea I**	**2.05**	**277**	P	**Pn**	**20 12 58.7**	**-0.6**
TURN	**Turunc**	**2.05**	**143**	Pn	**Pn**	**20 12 59.1**	**-0.2**
EDC	**Edincik**	**2.13**	**25**	Pn	**Pn**	**20 12 59.9**	**-0.5**
DION	**Dionisos Attik**	**2.20**	**262**	P	**Pn**	**20 13 02.1**	**+0.7**
DION	**Dionisos Attik**	**2.20**	**262**	P	**Pn**	**20 13 02.0**	**+0.6**
DION				AML	AML	20 13 37.1	
	comp=N,1388μm,0.5s						
DION				AML	AML	20 13 42.4	
	comp=E,1692μm,0.3s						
GEDZ	**Gediz**	**2.21**	**73**	Pn	**Pn**	**20 13 02.9**	**+1.2**
KHL	**Karahalli**	**2.23**	**92**	Pn	**Pn**	**20 13 02.6**	**+0.8**
ENZZ	**Sultanice-Enez**	**2.23**	**349**	Pn	**Pn**	**20 13 01.5**	**-0.3**
DALY	**Dalyan (Mula)**	**2.23**	**135**	Pn	**Pn**	**20 13 03.1**	**+1.3**
SMTH	**Samothraki Isl**	**2.24**	**337**	P	**Pn**	**20 13 01.8**	**-0.1**
SMTH	**Samothraki Isl**	**2.24**	**337**	P	**Pn**	**20 13 01.8**	**-0.1**
KCTX	**Karacabey (Bur**	**2.25**	**34**	Pn	**Pn**	**20 13 01.7**	**-0.4**
ERIK	**Erikli-Kesan**	**2.25**	**357**

HARR	**Harsova**	**6.34**	**8**	⇑P	**Pn**	**20 13 58.8**	**+0.6**		
BOVS	**Bovan**	**6.43**	**326**	⇓P	**Pn**	**20 14 01.1**	**+1.6**		
TPGR	**Topolog**	**6.56**	**11**	⇑P	**Pn**	**20 14 01.6**	**+0.2**		
CFR	**Carcaliu**	**6.84**	**9**	⇑P	**Pn**	**20 14 05.3**	**+0.2**		
MLR	**Muntele Rosu**	**7.09**	**356**	⇓P	**Pn**	**20 14 10.0**	**+1.3**		
VOIR		**7.12**	**351**	⇑P	**Pn**	**20 14 10.7**	**+1.7**		
PLOR	**Plostina**	**7.43**	**360**	⇑P	**Pn**	**20 14 14.0**	**+0.8**		
COVR	**Voineasa-Covas**	**7.43**	**357**	⇑P	**Pn**	**20 14 14.5**	**+1.3**		
VRI	**Vrincioaia**	**7.44**	**0**	⇓P	**Pn**	**20 14 14.8**	**+1.4**		
GZR	**Gura Zlata**	**7.56**	**339**	⇑P	**Pn**	**20 14 16.3**	**+1.3**		
TURR	**Turia**	**7.65**	**356**	⇓P	**Pn**	**20 14 18.0**	**+1.8**		
SEV	**Sevastopol'**	**8.05**	**38**	*e*P	**Pn**	**20 14 21.9**	**+0.2**		
SEV				Pm		20 14 23.8			
	comp=Z,3.0nm,0.5s								
SEV				*e*S	**Sn**	**20 15 48.7**	**-3.8**		
SEV				Sm		20 15 49.4			
	comp=N,5.0nm,0.5s								
SEV				Sm		20 15 49.4			
	comp=E,11nm,0.4s								
SURR	**Surduc**	**8.08**	**337**	⇓P	**Pn**	**20 14 24.2**	**+2.1**		
BZS	**Buzias**	**8.12**	**334**	⇑P	**Pn**	**20 14 23.7**	**+1.0**		
YAL	**Yalta**	**8.25**	**40**	*e*P	**Pn**	**20 14 24.1**	**-0.4**		
YAL				*e*S	**Sn**	**20 15 55.4**	**-2.0**		
YAL				Sm		20 15 55.6			
	comp=N,4.0nm,0.5s								
YAL				Sm		20 15 55.6			
	comp=E,9.0nm,0.4s								
MILM	**Milestii Mici**	**8.64**	**10**	*e*P	Pn	20 14 22.0	-7.8		
SUDU	**Sudak**	**8.97**	**41**	*e*P	**Pn**	**20 14 32.6**	**-1.7**		
SUDU				Pm		20 14 37.1			
	comp=Z,5.0nm,0.6s								
SUDU				*e*S	**Sn**	**20 16 13.2**	**-1.8**		
SUDU				Sm		20 16 14.0			
	comp=N,11nm,0.6s								
SUDU				Sm		20 16 14.0			
	comp=E,6.0nm,0.6s								
BURAR	**Bucovina Array**	**9.26**	**354**	⇑P	**Pn**	**20 14 40.2**	**+1.8**		
SORM	**Soroca**	**9.79**	**7**	⇑P	**Pn**	**20 14 45.0**	**-0.5**		
ESDC	**Sonseca Array**	**23.79**	**283**	P	**P**	**20 17 38.0**	**+0.5**		
	comp=E,1.1nm,0.8s,baz=81,slow=9.9,SNR=6.0								
	comp=E,1.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**33.55**	**228**	P	**P**	**20 19 05.4**	**+0.6**		
	comp=E,0.8nm,0.6s,baz=33,slow=10.0,SNR=5.1								
	comp=E,0.8nm,0.6s								
MKAR	**Makanchi Array**	**41.01**	**60**	P	**P**	**20 20 07.8**	**0.0**		
	comp=E,0.2nm,0.7s,baz=284,slow=7.3,SNR=2.1								
	comp=E,0.2nm,0.7s								
SONM	**Songino Array**	**56.50**	**53**	P	**P**	**20 22 08.3**	**+1.4**		
	comp=E,0.3nm,0.4s,baz=285,slow=5.5,SNR=4.5								
	comp=E,0.3nm,0.4s								

NEIC 09 20:14:03.9±1.3, 29.05N±0.03×97.91W±0.04, h5km±2km, mb_Lg2.8/42, ML2.9/6, Error ellipse: s-maj=6.9km s-min=3.2km az=49.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
735A	**Kenedy**	**0.21**	**155**		Pg	20 14 07.5	-0.6
735A				IAML		20 14 12.3	
	comp=E,2μm,0.7s						
735A				IAML		20 14 13.1	
	comp=N,3μm,0.6s						
EF01	**Eagle Ford 01**	**0.42**	**281**	Pg	Pg	20 14 12.1	0.0
EF01				Sg	Sg	20 14 18.1	+0.6
EF01				IAML		20 14 21.0	
	comp=N,2μm,0.5s						
HNDO	**Hondo**	**1.29**	**292**		Pn	20 14 26.9	-1.8
HNDO				IAML		20 14 55.2	
	comp=N,97nm,0.9s						
833A	**Chaparral WMA,**	**1.49**	**241**		Pn	20 14 31.0	-0.4
KVTX	**Kingsville**	**1.50**	**179**		Pn	20 14 30.4	-1.1
435B	**Jarrell**	**1.75**	**9**	Pn	Pn	20 14 34.6	-0.3
435B				IAmb_Lg		20 15 03.9	
	comp=Z,55nm,1.0s						
HBVL	**Hebbronville**	**2.09**	**199**		Pn	20 14 38.7	-0.9
JCT	**Junction City**	**2.18**	**311**	Pn	Pn	20 14 40.8	-0.1
JCT				IAmb_Lg		20 15 12.1	
	comp=Z,29nm,0.9s						
DRIO	**Del Rio**	**2.40**	**280**	Pn	Pn	20 14 43.6	-0.3
DRIO				IAmb_Lg		20 15 20.2	
	comp=Z,26nm,0.9s						
BRDY	**Brady**	**2.42**	**337**	Pn	Pn	20 14 43.7	-0.5
WHTX	**Lake Whitney,**	**2.96**	**7**		Pn	20 14 51.6	+0.1
OZNA	**Ozona**	**3.36**	**305**		Pn	20 14 57.0	-0.1
OZNA				IAmb_Lg		20 15 54.2	
	comp=Z,29nm,0.8s						
PLPT	**Palo Pinto**	**3.77**	**355**	Pn	Pn	20 15 02.0	-0.7
SAND	**Sanderson**	**3.78**	**285**	Pn	Pn	20 15 01.0	-2.0
SAND				IAmb_Lg		20 16 08.8	
	comp=Z,17nm,0.8s						
ABTX	**Abilene, Hawle**	**3.86**	**338**	Pn	Pn	20 15 02.9	-1.2
ABTX				IAmb_Lg		20 16 15.6	
	comp=Z,21nm,0.8s						
FW06	**Azle**	**3.92**	**4**	Pn	Pn	20 15 03.2	-1.6
FW06				IAmb_Lg		20 16 17.1	
	comp=Z,22nm,1.1s						
SGCY	**Sterling City**	**3.98**	**317**		Pn	20 15 03.5	-2.2
Z35A	**Perchaven, San**	**4.30**	**7**	Pn	Pn	20 15 09.9	-0.2
SN01	**Snyder 1**	**4.58**	**327**	Pn	Pn	20 15 09.9	-4.0
SN01				IAmb_Lg		20 16 36.6	
	comp=Z,24nm,0.8s						
SN05	**Snyder 5**	**4.59**	**327**	IAmb_Lg		20 16 30.6	
	comp=Z,24nm,0.7s						
WTFS	**Witchita Falls**	**4.73**	**354**	Pn	Pn	20 15 09.7	-6.2
MNHN	**Monahans**	**4.78**	**300**		Pn	20 15 12.0	-4.7
MNHN				IAmb_Lg		20 16 37.4	
	comp=Z,24nm,0.8s						
LOOK	**Love County**	**4.97**	**7**	Pn	Pn	20 15 20.3	+1.1
LOOK				IAmb_Lg		20 16 46.9	
	comp=Z,25nm,1.0s						
ODSA	**Odessa**	**5.04**	**309**	Pn	Pn	20 15 18.1	-2.1
ODSA				IAmb_Lg		20 16 50.4	
	comp=Z,13nm,0.8s						
TXAR	**Lajitas Array**	**5.04**	**275**		Pn	20 15 17.3	-3.0
TX31	**Lajitas Ar. Si**	**5.04**	**275**	Pn	Pn	20 15 17.1	-3.2
POST	**Post**	**5.05**	**323**		Pn	20 15 18.3	-2.1
POST				IAmb_Lg		20 16 54.9	
	comp=Z,20nm,0.9s						
ALPN	**Alpine**	**5.16**	**286**	IAmb_Lg		20 16 53.1	
	comp=Z,17nm,0.7s						
DKNS	**Dickens**	**5.28**	**332**	Pn	Pn	20 15 22.4	-1.1
X34A	**Smith Ranch, M**	**5.54**	**1**	Pn	Pn	20 15 25.1	-1.9
PECS	**Pecos**	**5.65**	**296**	Pn	Pn	20 15 27.0	-1.7
PECS				IAmb_Lg		20 17 15.1	
	comp=Z,14nm,0.9s						
WMOK	**Wichita Mounta**	**5.72**	**353**	Pn	Pn	20 15 28.5	-1.1
WMOK				IAmb_Lg		20 17 19.3	
	comp=Z,13nm,0.8s						
W35A	**Tecumseh**	**6.15**	**8**	Pn	Pn	20 15 34.5	-0.9
FNO	**Franklin**	**6.20**	**4**	IAmb_Lg		20 17 34.2	
	comp=Z,14nm,0.8s						
SMWD	**Samnorwood**	**6.35**	**342**	IAmb_Lg		20 17 36.5	
	comp=Z,17nm,0.8s						
VHRN	**Van Horn**	**6.38**	**287**	Pn	Pn	20 15 36.6	-2.1
VHRN				IAmb_Lg		20 17 41.7	
	comp=Z,8.8nm,0.8s						
MSTX	**Muleshoe**	**6.43**	**321**	Pn	Pn	20 15 39.5	+0.1
AMTX	**Amarillo**	**6.64**	**332**	Pn	Pn	20 15 38.9	-3.3
121A	**Cookes Peak, D**	**9.18**	**295**	IAmb_Lg		20 19 12.1	
	comp=Z,11nm,1.2s						

TAP ***09*** *20:15:33.6, 22.15N×121.41E, h25km, ML3.4, C*
JMA ***09*** *20:15:35.8±0.2, 23.1N×121.6E±0.4, h2km±3km, MV3.9/17, TAIWAN REGION*

ISC 09 20:15:33.0±0.9, 22.13N±0.03×121.45E±0.02, h27km±7km, n146, σt=16/191, 2C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.13**	**134**	⇓*i*P	**Pb**	**20 15 38.9**	**+0.8**
LAY	baz=122			S	**Sb**	**20 15 42.2**	**+0.6**
	baz=122						
LYUB	**Lan-yu**	**0.18**	**136**	⇓*i*P	**Pb**	**20 15 38.4**	**-0.2**
LYUB	baz=126			*e*S	**Sb**	**20 15 41.3**	**-1.1**
	baz=126						
LDUT	**Ludao**	**0.54**	**2**	P	**Pb**	**20 15 43.7**	**-0.2**
LDUT	baz=13			*e*S	**Sb**	**20 15 52.1**	**+0.7**
	baz=13						
TSEB	**Hengchuen, Pin**	**0.56**	**246**	⇑*i*P	**Pn**	**20 15 45.0**	**-0.2**
	baz=256						
TSEB				*i* S	**Sb**	**20 15 52.7**	**+0.8**
	baz=256						
TAW	**Tawu**	**0.56**	**294**	⇓P	**Pb**	**20 15 43.7**	**-0.6**
	baz=294						
TAW				*e*S	**Sb**	**20 15 50.9**	**-1.0**
	baz=294						
TAWH	**Dawu Township**	**0.56**	**292**	⇓*i*P	**Pb**	**20 15 43.8**	**-0.4**
	baz=291						
TAWH				S	**Sb**	**20 15 51.1**	**-0.9**
	baz=291						
SMST	**Manzhou Townsh**	**0.58**	**259**	*e*P	**Pb**	**20 15 44.4**	**-0.2**
	baz=267						
SMST				*i* S	**Sb**	**20 15 51.7**	**-0.8**
	baz=267						
SLIU	**Shizi**	**0.61**	**278**	⇓P	**Pb**	**20 15 44.6**	**-0.5**
	baz=277						
SLIU				*e*S	**Sb**	**20 15 52.0**	**-1.3**
	baz=277						
EAST	**Anshuo**	**0.61**	**294**	⇓*i*P	**Pb**	**20 15 44.6**	**-0.6**
	baz=294						
EAST				S	**Sb**	**20 15 51.7**	**-1.7**
	baz=294						
TWKBT	**Hengchun**	**0.62**	**252**	⇑P	**Pb**	**20 15 45.1**	**-0.1**
	baz=259						
TWKBT				*e*S	**Sb**	**20 15 52.4**	**-1.2**
	baz=259						
ECL	**Taimali**	**0.65**	**315**	⇓*i*P	**Pb**	**20 15 45.0**	**-0.8**
	baz=306						
ECL				*e*S	**Sb**	**20 15 52.2**	**-2.3**
	baz=306						
HEN	**Hengchun**	**0.67**	**260**	*e*P	**Pn**	**20 15 46.7**	**0.0**
	baz=264						
HEN				S	**Sb**	**20 15 54.8**	**-0.3**
	baz=264						
SNW	**Nanwan**	**0.67**	**256**	*e*P	**Pn**	**20 15 46.7**	**0.0**
	baz=260						
SNW				*e*S	**Sb**	**20 15 55.1**	**+0.1**
	baz=260						
TTN	**Taitung**	**0.68**	**336**	*e*P	**Pn**	**20 15 47.0**	**+0.1**
	baz=347						
TTN				*e*S	**Sn**	**20 15 57.2**	**+0.5**
	baz=347						
TWGBT	**Beinan**	**0.77**	**333**	⇓P	**Pb**	**20 15 47.0**	**-0.8**
	baz=323						
TWG	**Pinlang**	**0.77**	**333**	⇓*i*P	**Pb**	**20 15 47.0**	**-0.8**
	baz=322						
TWG				*e*S	**Sb**	**20 15 56.6**	**-1.4**
	baz=322						
SCZT	**Fangliau**	**0.81**	**288**	⇓*i*P	**Pb**	**20 15 47.8**	**-0.6**
	baz=293						
LONT	**Longtian**	**0.83**	**339**	*e*P	**Pb**	**20 15 48.1**	**-0.7**
	baz=328						
EDH	**Donghe**	**0.85**	**351**	*e*P	**Pb**	**20 15 48.9**	**-0.2**
	baz=353						
MASBT	**Mashibuluo**	**0.90**	**303**	⇓P	**Pb**	**20 15 49.0**	**-0.9**
	baz=310						
TSMG	**Majia**	**0.94**	**308**	*e*P	**Pn**	**20 15 50.4**	**-0.1**
	baz=308						
CHKT	**Chengkung**	**0.97**	**355**	*e*P	**Pn**	**20 15 50.2**	**-0.6**
	baz=4.0						
CHKT				*e*S	**Sb**	**20 16 03.2**	**-0.3**
	baz=4.0						
SSD	**Sandimen**	**0.97**	**309**	*e*P	**Pn**	**20 15 49.5**	**-1.4**
	baz=310						
ECS	**Chishang**	**0.98**	**348**	*e*P	**Pn**	**20 15 51.0**	**-0.1**
	baz=354						
TWP	**Hsiaoliuchiu**	**1.03**	**282**	*e*P	**Pb**	**20 15 53.8**	**+1.6**
	baz=282						
TSPT	**Pingtung City**	**1.04**	**302**	*e*P	**Pb**	**20 15 53.9**	**+1.6**
	baz=307						
EHD	**Haiduan**	**1.04**	**347**	*e*P	**Pn**	**20 15 51.1**	**-0.7**
	baz=337						
CHKH	**Chenggong**	**1.06**	**357**	*e*P	**Pn**	**20 15 52.2**	**+0.2**
	baz=9.0						
SGLT	**Jiouru**	**1.07**	**304**	*e*P	**Pn**	**20 15 54.5**	**+1.7**
	baz=313						
FULB	**Fuli**	**1.07**	**352**	*e*P	**Pn**	**20 15 52.1**	**-0.2**
	baz=2.0						
FULB				*e*S	**Sn**	**20 16 06.6**	**+0.3**
	baz=2.0						
ELDTW	**Lidau**	**1.13**	**339**	*e*P	**Pn**	**20 15 52.1**	**-1.0**
	baz=341						
SLGT	**Liugui**	**1.14**	**319**	*e*P	**Pb**	**20 15 54.6**	**+0.7**
	baz=324						
KAU	**Kaohsiung**	**1.14**	**293**	*e*P	**Pb**	**20 15 55.3**	**+1.2**
	baz=293						
SCST	**Cishan**	**1.16**	**311**	*e*P	**Pb**	**20 15 55.5**	**+1.1**
	baz=314						
TWM1	**Shoushan**	**1.18**	**306**	*e*P	**Pb**	**20 15 56.3**	**+1.7**
	baz=313						
ECBN	**Changbin**	**1.18**	**0**	*e*P	**Pn**	**20 15 53.6**	**-0.2**
	baz=11						
STYH	**Taoyuan**	**1.21**	**329**	*e*P	**Pb**	**20 15 55.4**	**+0.2**
	baz=338						
STYT	**Tauyuan**	**1.21**	**328**	*e*P	**Pn**	**20 15 54.2**	**0.0**
	baz=337						
WSSB	**Gushan**	**1.21**	**295**	*e*P	**Pb**	**20 15 56.4**	**+1.1**
	baz=295						
EYUL	**Yuli**	**1.22**	**354**	*e*P	**Pb**	**20 15 55.6**	**+0.2**
	baz=3.0						
TWF1	**Yuli**	**1.23**	**353**	*e*P	**Pn**	**20 15 54.2**	**-0.2**
	baz=3.0						
SGST	**Jiashian**	**1.24**	**320**	*e*P	**Pb**	**20 15 55.3**	**-0.5**
	baz=324						
YULB	**Yu-li**	**1.26**	**354**	*e*P	**Pn**	**20 15 54.7**	**-0.2**
	baz=344						
SHHT	**Tainan City**	**1.35**	**311**	*e*P	**Pb**	**20 15 58.9**	**+1.3**
	baz=312						
CHN1	**Nanshi**	**1.35**	**321**	*e*P	**Pb**	**20 15 58.0**	**+0.3**
	baz=321						
CHN1				*e*S	**Sb**	**20 16 15.7**	**+1.1**
	baz=321						
WTP	**Ta-pu**	**1.35**	**325**	*e*P	**Pb**	**20 15 57.7**	**0.0**
	baz=337						
WTP				*e*S	**Sb**	**20 16 15.8**	**+1.2**
	baz=337						
HGSD	**Ruisui**	**1.36**	**359**	*e*P	**Pn**	**20 15 55.9**	**-0.3**
	baz=11						
EHY	**Hungye**	**1.38**	**355**	*e*P	**Pn**	**20 15 56.0**	**-0.4**
	baz=346						
CHN3	**Shinhua**	**1.38**	**313**	*e*P	**Pb**	**20 15 59.0**	**+1.0**
	baz=313						
CHN3				*e*S	**Sb**	**20 16 18.7**	**+3.5**
	baz=313						
TPUB	**Ta-pu**	**1.39**	**327**	*e*P	**Pb**	**20 15 58.3**	**0.0**
	baz=337						
TPUB				S	**Sb**	**20 16 17.2**	**+1.6**
	baz=337						
SNST	**Tainan City**	**1.40**	**321**	*e*P	**Pb**	**20 15 59.1**	**+0.7**
	baz=321						
SNST				*e*S	**Sb**	**20 16 17.8**	**+1.9**
	baz=321						
TWK	**Hsinying**	**1.44**	**322**	*e*P	**Pb**	**20 15 59.3**	**+0.1**
	baz=323						
CHN4	**Tsaushan**	**1.45**	**327**	*e*P	**Pb**	**20 15 59.5**	**+0.2**
	baz=337						
CHN4				*e*S	**Sb**	**20 16 18.3**	**+0.9**
	baz=337						
SSHA	**Shanhua**	**1.47**	**313**	*e*P	**Pn**	**20 15 58.5**	**+0.8**
	baz=314						
ALS	**Alishan**	**1.50**	**337**	*e*P	**Pb**	**20 15 59.5**	**-0.8**
	baz=337						
ALS				*e*S	**Sb**	**20 16 21.2**	**+2.2**
	baz=337						
WCKO	**Fanlu**	**1.52**	**329**	*e*P	**Pb**	**20 16 00.8**	**+0.3**
	baz=338						
WCKO				*e*S	**Sb**	**20 16 20.3**	**+1.0**
	baz=338						
EGFH	**Guangfu**	**1.53**	**359**	*e*P	**Pn**	**20 15 59.3**	**+0.7**
	baz=349						
SCLT	**Jiali**	**1.56**	**312**	*e*P	**Pn**	**20 15 59.9**	**+1.0**
	baz=313						
WARBT	**Fenglin Townsh**	**1.58**	**358**	*e*P	**Pn**	**20 15 59.9**	**+0.6**
	baz=349						
CHN5	**Tsauling**	**1.62**	**334**	*e*P	**Pb**	**20 16 02.4**	**0.0**
	baz=334						
CHN5				*e*S	**Sb**	**20 16 24.2**	**+1.8**
	baz=334						
ICHU	**Yijhu**	**1.63**	**319**	*e*P	**Pb**	**20 16 01.6**	**-0.8**
	baz=319						
VWDT	**VWDT**	**1.64**	**350**	*e*P	**Pn**	**20 16 01.1**	**+1.0**
	baz=359						
SHUL	**Shoufeng**	**1.65**	**4**	*e*P	**Pn**	**20 16 01.1**	**+0.8**
	baz=13						
SHUL				*e*S	**Sn**	**20 16 21.4**	**+0.8**
	baz=13						
WHYT	**Xinyi Township**	**1.65**	**341**	*e*P	**Pb**	**20 16 03.0**	**+0.2**
	baz=341						
CHY	**Chiayi**	**1.66**	**325**	*e*P	**Pb**	**20 16 02.6**	**-0.3**
	baz=326						
ESL	**Shilin**	**1.68**	**359**	*e*P	**Pn**	**20 16 01.6**	**+1.1**
	baz=350						
SSLB	**Suanglung**	**1.71**	**345**	*e*P	**Pb**	**20 16 03.4**	**-0.4**
	baz=345						
WGK	**Gukeng**	**1.75**	**332**	*e*P	**Pb**	**20 16 03.9**	**-0.5**
	baz=333						
WDLH	**Douliu**	**1.77**	**332**	*e*P	**Pb**	**20 16 04.6**	**-0.1**
	baz=316						
WJS	**Zhushan**	**1.81**	**339**	*e*P	**Pb**	**20 16 06.4**	**+0.9**
	baz=323						
SMLT	**Sun Moon Lake**	**1.82**	**344**	*e*P	**Pb**	**20 16 05.3**	**-0.4**
	baz=344						
SMLT				S	**Sb**	**20 16 27.8**	**-0.2**
	baz=344						
ETM	**Tongmen**	**1.83**	**1**	*e*P	**Pn**	**20 16 03.5**	**+0.8**
	baz=352						
OWD	**Renai**	**1.83**	**352**	*e*P	**Pb**	**20 16 04.8**	**-1.2**
	baz=3.0						
WTK	**Tuku**	**1.83**	**328**	*e*P	**Pb**	**20 16 04.6**	**-1.2**
	baz=328						
TYC	**Yuchr**	**1.85**	**343**	*e*P	**Pb**	**20 16 05.8**	**-0.3**
	baz=343						
TYC				*e*S	**Sb**	**20 16 28.3**	**-0.5**
	baz=343						
WNT	**Mingjian**	**1.88**	**338**	*e*P	**Pb**	**20 16 06.1**	**-0.5**
	baz=338						
WNT				*e*S	**Sb**	**20 16 29.3**	**-0.4**
	baz=338						
WUSB	**Renai**	**1.88**	**351**	*e*P	**Pb**	**20 16 05.1**	**-1.6**
	baz=1.0						
WUSB				*e*S	**Sn**	**20 16 27.9**	**+1.5**
	baz=1.0						
WSF	**Szhu**	**1.88**	**323**	*e*P	**Pn**	**20 16 05.0**	**+1.6**
	baz=323						
WSF				*e*S	**Sb**	**20 16 28.3**	**-1.5**
	baz=323						
LXIB	**Xiulin Townshi**	**1.88**	**359**	*e*P	**Pn**	**20 16 03.9**	**+0.4**
	baz=359						
LXIB				*e*S	**Sn**	**20 16 25.7**	**-0.8**
	baz=359						
WNT1	**Nantou City**	**1.91**	**338**	*e*P	**Pb**	**20 16 06.7**	**-0.4**
	baz=338						
WNT1				*e*S	**Sb**	**20 16 30.7**	**+0.2**
	baz=338						
WPL	**Puli Township**	**1.93**	**346**	*e*P	**Pb**	**20 16 07.4**	**-0.1**
	baz=332						
CHGB	**Renai**	**1.94**	**353**	*e*P	**Pb**	**20 16 07.7**	**-0.1**
	baz=3.0						
TWD	**Chiawan**	**1.94**	**4**	*e*P	**Pn**	**20 16 04.7**	**+0.5**
	baz=14						
DPDB	**Guoxing**	**1.96**	**346**	*e*P	**Pb**	**20 16 06.9**	**-1.1**
	baz=331						
WCS	**Beigang Elemen**	**1.98**	**346**	*e*P	**Pb**	**20 16 07.1**	**-1.2**
	baz=332						
WDGT	**Dungji**	**2.00**	**305**	*e*P	**Pn**	**20 16 05.3**	**+0.3**
	baz=305						
WHF	**Hehuan Shan**	**2.01**	**355**	*e*P	**Pn**	**20 16 07.8**	**-1.4**
	baz=6.0						
RLNB	**Erlin**	**2.02**	**330**	*e*P	**Pb**	**20 16 07.5**	**-1.6**
	baz=330						
WWF	**Wufeng**	**2.03**	**340**	*e*P	**Pb**	**20 16 08.1**	**-1.1**
	baz=326						
NACB	**Ninganchiao**	**2.04**	**4**	*e*P	**Pn**	**20 16 06.2**	**+0.6**
	baz=353						
NACB				*e*S	**Sn**	**20 16 30.0**	**-0.2**
	baz=353						
ETLH	**Xiulin Townshi**	**2.07**	**1**	*e*P	**Pb**	**20 16 08.3**	**-1.5**
	baz=2.0						
FUSS	**Fushou**	**2.12**	**355**	*e*P	**Pn**	**20 16 08.6**	**+1.7**
	baz=5.0						
TWT	**Tachien**	**2.13**	**353**	*e*P	**Pb**	**20 16 10.4**	**-0.6**
	baz=3.0						
TDCB	**Techi**	**2.13**	**353**	*e*P	**Pb**	**20 16 09.9**	**-1.1**
	baz=3.0						
TCU	**Taichung**	**2.13**	**341**	*e*P	**Pb**	**20 16 10.3**	**-0.7**
	baz=325						
EOS4	**EOS4**	**2.14**	**22**	*e*P	**Pn**	**20 16 07.7**	**+1.2**
	baz=27						
EOS4				*e*S	**Sn**	**20 16 31.8**	**-0.2**
	baz=27						
VCHM	**Qimei**	**2.15**	**300**	*e*P	**Pn**	**20 16 07.5**	**+0.4**
	baz=300						
VCHM				*e*S	**Sn**	**20 16 31.5**	**-1.4**
	baz=300						
WHP	**Taichung City**	**2.19**	**348**	*e*P	**Pb**	**20 16 10.8**	**-1.1**
	baz=358						
PHUB	**P'eng-hu**	**2.21**	**309**	*e*P	**Pn**	**20 16 08.3**	**+0.4**
	baz=308						
PHUB				*e*S	**Sn**	**20 16 33.5**	**-0.9**
	baz=308						
PNG	**Penghu**	**2.26**	**310**	*e*P	**Pn**	**20 16 08.9**	**+0.3**
	baz=310						
NNSB	**Datong**	**2.29**	**358**	*e*P	**Pn**	**20 16 10.4**	**+1.3**
	baz=7.0						
EOS3	**EOS3**	**2.29**	**20**	*e*P	**Pn**	**20 16 10.5**	**+1.7**
	baz=19						
TWQ1	**Liyutan**	**2.29**	**344**	*e*P	**Pb**	**20 16 12.6**	**-1.1**
	baz=329						
NNS	**Nan Shan**	**2.30**	**358**	*e*P	**Pb**	**20 16 12.8**	**-1.0**
	baz=7.0						
ENA	**Nanau**	**2.30**	**7**	*e*P	**Pn**	**20 16 10.2**	**+1.0**
	baz=355						
EWUT	**Wuta**	**2.32**	**7**	*e*P	**Pn**	**20 16 11.1**	**+1.7**
	baz=16						
NSY	**Sanyi**	**2.36**	**345**	*e*P	**Pb**	**20 16 14.2**	**-0.7**
	baz=330						
EOS2	**EOS2**	**2.39**	**17**	*e*P	**Pn**	**20 16 12.3**	**+2.0**
	baz=16						
LATG	**Datong**	**2.40**	**2**	*e*P	**Pn**	**20 16 12.2**	**+1.6**
	baz=2.0						
NDT	**Datong Townshi**	**2.46**	**1**	*e*P	**Pb**	**20 16 15.5**	**-1.1**
	baz=2.0						
NMLH	**Miaoli**	**2.47**	**346**	*e*P	**Pb**	**20 16 16.2**	**-0.5**
	baz=346						
ENTT	**Nioudou**	**2.50**	**2**	*e*P	**Pb**	**20 16 14.8**	**-2.4**
	baz=3.0						
NDS	**Dongshan**	**2.50**	**6**	*e*P	**Pn**	**20 16 14.4**	**+2.5**
	baz=357						
NFF	**Wufeng Townshi**	**2.51**	**353**	*e*P	**Pb**	**20 16 15.9**	**-1.5**
	baz=336						
NSTT	**Nanjuang**	**2.52**	**351**	*e*P	**Pb**	**20 16 17.1**	**-0.5**
	baz=337						
YHNB	**Yeheng**	**2.53**	**358**	*e*P	**Pn**	**20 16 14.8**	**+2.5**
	baz=9.0						
LIOB	**Emei**	**2.54**	**351**	*e*P	**Pb**	**20 16 16.6**	**-1.2**
	baz=337						
NSK	**Sanguang**	**2.54**	**358**	*e*P	**Pb**	**20 16 15.3**	**

	baz=340						
JIRB	**Irabujima**	**4.35**	**51**	P	**Pn**	**20 16 38.6**	**+1.3**
JIRB				*eS*	**Sn**	**20 17 26.2**	**-0.8**
JMJ2	**Miyako jima3**	**4.41**	**53**	S	**Sn**	**20 17 28.6**	**0.0**
JIKM	**Ikemajima**	**4.46**	**51**	*eS*	**Sn**	**20 17 29.7**	**-0.1**
JOGS	**Gusukube**	**4.48**	**53**	*eS*	**Sn**	**20 17 29.8**	**-0.6**
MHZQ	**Yeshan**	**4.53**	**331**	*eP*	**Pn**	**20 16 38.7**	**-1.1**
	baz=329						
LYJJ	**Jianjiangzhen**	**4.66**	**341**	*eP*	**Pn**	**20 16 44.0**	**+2.4**
	baz=340						
XPSS	**Dashiqiu**	**4.92**	**347**	*eP*	**Pn**	**20 16 48.1**	**+3.0**
	baz=345						
SXFK	**Yanhouchang**	**5.49**	**322**	*eP*	**Pn**	**20 16 53.5**	**+0.4**
	baz=318						

*IDC **09** 20:33:34.4±1.7, 10°.19N×126°.59E, h0km, mb3.6/6, mbtmp3.6/6, MS3.3/1, Error ellipse: s-maj=88.5km s-min=21.6km az=61.0*

ISC 09 20:33:40.4±1.5, 10°.1N±0°.3×126°.5E±0°.5, h42km, n7, σ0s89/6, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.94**	**290**	P	**P**	**20 39 27.5**	**+0.3**
	0.2nm,0.3s,baz=102,slow=8.4,SNR=1.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**30.86**	**166**	P	**P**	**20 39 52.3**	**-0.6**
	0.3nm,0.6s,baz=342,slow=9.0,SNR=2.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**34.36**	**168**	P	**P**	**20 40 23.9**	**+0.3**
	0.3nm,0.4s,baz=355,slow=7.3,SNR=7.5						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**44.20**	**161**	P	**P**	**20 41 45.6**	**+0.1**
	0.5nm,0.3s,baz=356,slow=13,SNR=3.6						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**52.28**	**323**	P	**P**	**20 42 46.8**	**-1.0**
	0.4nm,0.7s,baz=132,slow=8.6,SNR=3.0						
	0.4nm,0.7s						
AAK	**Ala-Archa**	**55.59**	**315**	LR	LR	21 07 54.7	
	comp=Z,29nm,18.8s,baz=7.5,slow=37						
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**20 46 17.8**	**+0.9**
	1.8nm,0.9s,baz=64,slow=4.4,SNR=4.9						
	1.8nm,0.9s						

*NEIC **09** 20:44:34.5±1.7, 10°.5S±0°.1×162°.3E±0°.1, h62km±9km, mb4.3/14, Error ellipse: s-maj=18.9km s-min=13.0km az=48.0*

*IDC **09** 20:44:38.5±2.6, 10°.72S×161°.83E, h74km±21km, mb3.5/9, mbtmp3.9/11, MS3.4/8, Error ellipse: s-maj=26.5km s-min=15.9km az=69.0*

ISC 09 20:44:34.4±0.7, 10°.62S±0°.08×162°.18E±0°.10, h54km, n45, σ1s77/36, mb3.9/13, MS3.4/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.49**	**298**		**Pn**	**20 45 13.0**	**+0.5**
HNR				Sn	**Sn**	**20 45 43.6**	**+1.8**
HNR	**Honiara**	**2.49**	**298**	P	**Pn**	**20 45 13.0**	**+0.5**
	5μm,0.3s,baz=217,slow=4.6,SNR=24						
HNR				S	**Sn**	**20 45 41.7**	**-0.1**
	6μm,0.4s,baz=196,slow=20,SNR=5.7						
KOUNC	**Koumac, New Ca**	**10.08**	**169**	Pn	**Pn**	**20 46 56.7**	**+0.2**
LIFNC	**LIFOU**	**11.21**	**155**	Pn	**Pn**	**20 47 11.8**	**-0.2**
DZM	**Mont Dzumac**	**12.10**	**161**	Pn	**Pn**	**20 47 25.4**	**+1.2**
DZM	**Mont Dzumac**	**12.10**	**161**	P	**Pn**	**20 47 26.6**	**+2.4**
	4.0nm,0.4s,baz=318,slow=17,SNR=9.8						
DZM				S	**Sn**	**20 49 33.3**	**-4.3**
	4.2nm,0.7s,baz=279,slow=19,SNR=1.9						
DZM				LR	LR	20 51 20.9	
	comp=Z,130nm,18.8s,baz=269,slow=33						
ONTNC	**Ouen Toro**	**12.32**	**161**	Pn	**Pn**	**20 47 28.9**	**+1.8**
OUENC	**Ouen Island, N**	**12.55**	**160**	Pn	**Pn**	**20 47 31.5**	**+1.2**
PINNC	**Pines Island,**	**12.95**	**158**	Pn	**Pn**	**20 47 37.0**	**+1.4**
PMG	**Port Moresby**	**14.84**	**273**	LR	LR	20 53 32.7	
	comp=Z,231nm,18.3s,baz=99,slow=37						
PATS	**Pohnpei**	**17.77**	**347**	P	**Pn**	**20 48 35.5**	**-2.6**
CTA	**Charters Tower**	**18.00**	**237**	P	**P**	**20 48 41.3**	**+0.6**
	12nm,0.7s,baz=67,slow=12,SNR=16						
CTA				LR	LR	20 54 17.6	
	comp=Z,58nm,19.4s,baz=80,slow=33						
CTAO	**Charters Tower**	**18.00**	**237**		**P**	**20 48 42.0**	**+1.3**
CTAO				IAmb	IAmb	20 48 44.5	
	comp=Z,14nm,0.8s						
EIDS	**Eidsvold**	**18.05**	**214**		**P**	**20 48 42.5**	**+1.2**
COEN	**Coen**	**18.86**	**258**	P	**Pn**	**20 48 50.1**	**-1.2**
COEN				IAmb	IAmb	20 48 56.9	
	comp=Z,24nm,1.5s						
WB0	**Warramunga Arr**	**28.27**	**248**	P	**P**	**20 50 22.2**	**-0.6**
WB0				IAmb	IAmb	20 50 28.6	
	comp=Z,4.4nm,0.8s						
WB2	**Warramunga Arr**	**28.36**	**248**	P	**P**	**20 50 21.7**	**-2.0**
WRA	**Warramunga Arr**	**28.37**	**248**	P	**P**	**20 50 22.0**	**-1.7**
WRA	**Warramunga Arr**	**28.37**	**248**	P	**P**	**20 50 23.1**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=77,slow=8.8,SNR=13						
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**28.45**	**219**	P	**P**	**20 50 23.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=16,slow=7.4,SNR=1.8						
	comp=Z,0.9nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**29.27**	**9**	T	T	21 21 23.7	
	baz=187						
H11S3	**WAKE ISLAND Hy**	**29.27**	**9**	T	T	21 21 20.5	
	baz=187						
H11S1	**WAKE ISLAND Hy**	**29.29**	**9**	T	T	21 21 21.8	
	baz=187						
GUMO	**Guam**	**29.56**	**324**	LR	LR	21 01 47.3	
	comp=Z,36nm,22.0s,baz=102,slow=35						
ASAR	**Alice Springs**	**29.89**	**241**	P	**P**	**20 50 35.4**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=63,slow=9.8,SNR=7.6						
ASAR				LR	LR	21 02 12.1	
	comp=Z,83nm,18.9s,baz=40,slow=36						
	comp=Z,0.5nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**30.50**	**9**	T	T	21 22 53.3	
	baz=191						
H11N3	**WAKE ISLAND Hy**	**30.51**	**9**	T	T	21 22 58.4	
	baz=191						
H11N2	**WAKE ISLAND Hy**	**30.52**	**9**	T	T	21 22 54.4	
	baz=191						
URZ	**Urewera**	**30.60**	**157**	LR	LR	21 01 51.1	
	comp=Z,58nm,18.7s,baz=198,slow=34						
BBOO	**Buckleboo**	**32.64**	**223**	P	**P**	**20 50 59.7**	**-1.6**
KNRA	**Kununurra**	**32.90**	**258**	P	**P**	**20 51 02.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**36.12**	**254**	P	**P**	**20 51 30.7**	**-0.8**
FITZ				IAmb	IAmb	20 51 44.7	
	comp=Z,5.5nm,1.4s						
JCJ	**Chichijima**	**42.22**	**333**	LR	LR	21 07 42.0	
	comp=Z,76nm,21.3s,baz=0.5,slow=33						
VNDA	**Vanda**	**66.88**	**180**	P	**P**	**20 55 23.1**	**+2.7**
VNDA				IAmb	IAmb	20 55 24.0	
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**66.88**	**180**	P	**P**	**20 55 22.9**	**+2.5**
	comp=Z,1.9nm,0.7s,baz=1.9,slow=7.5,SNR=14						
	comp=Z,1.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**68.74**	**295**	P	**P**	**20 55 32.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=123,slow=4.4,SNR=1.9						
	comp=Z,0.2nm,0.5s						
SONM	**Songino Array**	**76.28**	**325**	P	**P**	**20 56 16.2**	**-1.4**
SONM				IAmb	IAmb	20 56 30.7	
	comp=Z,4.7nm,1.3s						
SONM	**Songino Array**	**76.28**	**325**	P	**P**	**20 56 18.8**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=143,slow=7.4,SNR=3.7						
SONM				LR	LR	21 27 31.6	
	comp=Z,52nm,20.9s,baz=64,slow=34						
	comp=Z,0.4nm,0.6s						
L18K	**Granite Mounta**	**79.33**	**18**	P	**P**	**20 56 31.4**	**-2.6**
L18K				IAmb	IAmb	20 56 41.2	
	comp=Z,13nm,1.3s						
QSPA	**South Pole Qui**	**79.38**	**180**	P	**P**	**20 56 36.1**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=325,slow=4.4,SNR=4.2						
	comp=Z,2.2nm,0.9s						
L19K	**White Mountain**	**79.88**	**19**	P	**P**	**20 56 35.7**	**-1.3**
L19K				IAmb	IAmb	20 57 18.0	
	comp=Z,14nm,1.4s						
H02S1	**DAWSON INLET T**	**84.24**	**33**	T	T	22 30 06.0	
	SNR=32						
ILAR	**Eielson Array**	**84.26**	**20**	P	**P**	**20 57 03.2**	**+3.3**
	comp=Z,0.5nm,0.7s,baz=246,slow=4.7,SNR=7.1						
	comp=Z,0.5nm,0.7s						
H06S1	**SOCORRO T**	**90.43**	**71**	T	T	22 37 52.5	
	SNR=7.9						
MKAR	**Makanchi Array**	**90.83**	**317**	P	**P**	**20 57 32.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=100,slow=4.9,SNR=2.0						
	comp=Z,0.2nm,0.6s						

*JMA **09** 20:56:10.1±0.2, 33°.5N±0°.6×14°.1E±°, h49km, MV3.3/25, E OFF HACHIJOJIMA ISLAND*

*IDC **09** 20:56:12.6±3.7, 33°.49N×140°.99E, h65km±28km, mb3.4/4, mbtmp3.6/5, ML2.7/1, MS3.8/1, Error ellipse: s-maj=42.8km s-min=12.9km az=85.0*

ISC 09 20:56:10.6±1.9, 33°.50N±0°.05×141°.1E±0°.1, h50km±18km, n22, σ0s54/27, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.16**	**353**	P	**Pn**	**20 56 29.8**	**-0.2**
JHJ2	**Mitsune**	**1.18**	**251**	*i* P	**Pn**	**20 56 30.8**	**+0.1**
JHJ2				S	**Sn**	**20 56 45.8**	**+0.2**
JHJ	**Hachijo jima 2**	**1.20**	**252**	P	**Pn**	**20 56 30.8**	**-0.2**
	507nm,0.3s,baz=3.7,slow=22,SNR=236						
JHJ				S	**Sn**	**20 56 45.9**	**-0.3**
	1μm,0.3s,baz=84,slow=22,SNR=41						
JHCJ	**Hachijojimakas**	**1.21**	**250**	P	**Pn**	**20 56 31.1**	**+0.1**
JHCJ				S	**Sn**	**20 56 46.0**	**-0.3**
JMKN	**Mikurajimanish**	**1.35**	**287**	*eP*	**Pn**	**20 56 32.9**	**-0.1**
JMKN				*eS*	**Sn**	**20 56 49.7**	**-0.2**
BSO3	**Boso 3**	**1.40**	**338**	P	**Pn**	**20 56 33.4**	**-0.1**
BSO3				S	**Sn**	**20 56 50.7**	**-0.1**
JMYK	**Miyake Tsubota**	**1.44**	**293**	P	**Pn**	**20 56 34.5**	**+0.2**
JMYK				*eS*	**Sn**	**20 56 52.9**	**+0.8**
JAOM	**Aogashimamukai**	**1.55**	**229**	*eP*	**Pn**	**20 56 36.3**	**+0.5**
JAOM				*eS*	**Sn**	**20 56 54.6**	**-0.2**
JIZS	**Izushimoda**	**2.24**	**304**	P	**Pn**	**20 56 45.4**	**+0.2**
JOD2	**Odawara 2**	**2.45**	**317**	P	**Pn**	**20 56 47.8**	**-0.2**
JOD2				S	**Sn**	**20 57 15.9**	**-0.9**
JYN	**Shimob**	**2.93**	**314**	P	**Pn**	**20 56 55.9**	**+1.1**
JRY	**Ryogami san**	**3.12**	**324**	*eP*	**Pn**	**20 56 57.6**	**+0.3**
JAG	**Ashikaga**	**3.23**	**335**	*eP*	**Pn**	**20 56 59.6**	**+0.7**
MJAR	**Matsushiro Arr**	**3.88**	**322**	P	**Pn**	**20 57 08.2**	**+0.5**
	0.6nm,0.3s,baz=154,slow=13,SNR=19						
MJAR				S	**Sn**	**20 57 52.4**	**+0.5**
	2.6nm,0.3s,baz=163,slow=34,SNR=1.7						
	2.8nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.71**	**114**	T	T	21 30 41.4	
	baz=307						
H11N1	**WAKE ISLAND Hy**	**26.71**	**114**	T	T	21 30 39.1	
	baz=307						
H11N3	**WAKE ISLAND Hy**	**26.73**	**114**	T	T	21 30 43.7	
	baz=307						
MKAR	**Makanchi Array**	**45.89**	**305**	P	**P**	**21 04 28.0**	**0.0**
	0.2nm,0.7s,baz=79,slow=7.5,SNR=2.5						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**48.06**	**311**	P	**P**	**21 04 43.7**	**-1.2**
	0.2nm,0.3s,baz=94,slow=7.6,SNR=4.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**53.54**	**188**	P	**P**	**21 05 26.6**	**+0.2**
	1.8nm,0.3s,baz=5.2,slow=7.6,SNR=42						
	1.8nm,0.3s						
ASAR	**Alice Springs**	**57.26**	**188**	P	**P**	**21 05 53.6**	**+0.5**
	0.6nm,0.6s,baz=15,slow=12,SNR=12						
	0.6nm,0.6s						
INK	**Inuvik**	**57.64**	**26**	LR	LR	21 33 51.0	
	comp=Z,86nm,19.1s,baz=30,slow=39						

*NEIC **09** 21:14:54.6±1.6, 59°.787N±0°.008×136°.66W±0°.03, h5km±2km, ML2.0/18, ML2.6(OTT), Error ellipse: s-maj=3.0km s-min=2.7km az=241.0*

*PGC **09** 21:14:55.6±0.0, 59°.77N×136°.67W, h1km, ML2.6/12, 109km Wnw of Haines, Ak Southeastern Alaska*

ISC 09 21:14:54.1±1.2, 59°.80N±0°.03×136°.63W±0°.02, h2km±12km, n43, σ1s02/67, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P29M	**Windy Craggy**	**0.59**	**254**	Pg	**Pg**	**21 15 05.4**	**0.0**
P29M				Sg	**Sg**	**21 15 12.9**	**-0.2**
P29M	**Windy Craggy**	**0.59**	**254**	P	**Pg**	**21 15 05.4**	**0.0**
P29M				S	**Sg**	**21 15 12.8**	**-0.2**
O30N	**Mendenhall**	**1.01**	**15**	Pg	**Pg**	**21 15 14.2**	**+0.7**
O30N				Sg	**Sg**	**21 15 27.6**	**+1.1**
O30N				IAML		21 15 28.3	
	comp=E,26nm,0.3s						
YUK7	**Dusty Glacier**	**1.05**	**315**		**Pg**	**21 15 14.5**	**+0.2**
YUK7					**Sb**	**21 15 28.8**	**-0.7**
YUK7	**Dusty Glacier**	**1.05**	**315**	P	**Pg**	**21 15 14.5**	**+0.2**
YUK7				S	**Sb**	**21 15 28.8**	**-0.7**
O29M	**Mount Kennedy**	**1.10**	**298**	Pg	**Pg**	**21 15 14.9**	**-0.2**
O29M				IAML		21 15 24.1	
	comp=N,42nm,3.8s						
O29M				Sg	**Sg**	**21 15 29.3**	**-0.1**
O29M				IAML		21 15 39.8	
	comp=E,38nm,4.2s						
O29M	**Mount Kennedy**	**1.10**	**298**	P	**Pg**	**21 15 15.2**	**0.0**
O29M				S	**Sg**	**21 15 29.8**	**+0.3**
HYT	**Haines Junctio**	**1.12**	**337**	Pg	**Pg**	**21 15 15.7**	**+0.2**
HYT				IAML		21 15 20.9	
	comp=E,20nm,3.1s						
HYT	**Haines Junctio**	**1.12**	**337**		**Sg**	**21 15 30.1**	**+0.2**
HYT	**Haines Junctio**	**1.12**	**337**	P	**Pn**	**21 15 16.7**	**-0.3**
HYT				S	**Sg**	**21 15 30.1**	**+0.2**
WHY	**Whitehorse**	**1.23**	**45**		**Pn**	**21 15 17.6**	**-0.8**
WHY				IAML		21 15 53.9	
	comp=E,31nm,4.0s						
WHY				IAML		21 15 59.7	
	comp=N,16nm,2.9s						
WHY	**Whitehorse**	**1.23**	**45**		**Sb**	**21 15 34.0**	**-0.4**
WHY	**Whitehorse**	**1.23**	**45**	P	**Pn**	**21 15 18.1**	**-0.4**
WHY				S	**Sb**	**21 15 34.0**	**-0.4**
YUK6	**Outpost Mounta**	**1.43**	**324**	Pn	**Pn**	**21 15 21.1**	**-0.3**
YUK6					**Sg**	**21 15 41.2**	**+1.0**
YUK6	**Outpost Mounta**	**1.43**	**324**	Pn	**Pn**	**21 15 21.1**	**-0.3**
YUK6				Sg	**Sg**	**21 15 41.2**	**+1.0**
YUK5	**Granite Creek**	**1.47**	**336**	Pn	**Pb**	**21 15 22.0**	**-0.3**
YUK5					**Sg**	**21 15 42.1**	**+0.9**
YUK5	**Granite Creek**	**1.47**	**336**	Pn	**Pb**	**21 15 22.0**	**-0.3**
YUK5				Sg	**Sg**	**21 15 42.1**	**+0.9**
P32M	**Atlin**	**1.49**	**97**	Pn	**Pn**	**21 15 21.6**	**-0.4**
P32M				IAML		21 15 29.5	
	comp=E,28nm,3.8s						
P32M				IAML		21 15 53.0	
	comp=N,18nm,4.8s						
P32M	**Atlin**	**1.49**	**97**		**Sg**	**21 15 42.7**	**+0.7**
P32M	**Atlin**	**1.49**	**97**	Pn	**Pb**	**21 15 22.6**	**0.0**
P32M				Sg	**Sg**	**21 15 42.7**	**+0.7**
N30M	**Aishikik Lake**	**1.68**	**352**	Pn	**Pn**	**21 15 23.3**	**-1.3**
N30M				IAML		21 15 57.7	
	comp=N,21nm,4.2s						
N30M				IAML		21 16 06.2	
	comp=E,20nm,3.8s						
N30M	**Aishikik Lake**	**1.68**	**352**		**Sg**	**21 15 48.4**	**+0.3**
N30M	**Aishikik Lake**	**1.68**	**352**	Pg	**Pg**	**21 15 26.6**	**+0.3**
N30M				Sg	**Sg**	**21 15 48.4**	**+0.3**
N31M	**Braeburn, Yuko**	**1.74**	**13**	Pg	**Pg**	**21 15 27.8**	**+0.3**
N31M				Sg	**Sb**	**21 15 49.8**	**+0.6**
YUK4	**Talbot Arm**	**1.84**	**328**	Pg	**Pg**	**21 15 30.5**	**+1.1**
YUK4				Sg	**Sg**	**21 15 54.4**	**+1.1**
YUK4	**Talbot Arm**	**1.84**	**328**	Pg	**Pg**	**21 15 30.5**	**+1.1**
YUK4				Sg	**Sg**	**21 15 54.4**	**+1.1**
S31K	**Pelican**	**1.86**	**174**	Pn	**Pn**	**21 15 27.0**	**0.0**
P33M	**Teslin, Yukon**	**1.96**	**76**	Pn	**Pn**	**21 15 28.1**	**-0.4**
P33M	**Teslin, Yukon**	**1.96**	**76**		**Sb**	**21 15 56.0**	**+0.6**
P33M	**Teslin, Yukon**	**1.96**	**76**	Pg	**Pb**	**21 15 31.3**	**+0.8**
P33M				Sg	**Sb**	**21 15 56.0**	**+0.6**
N32M	**Quiet Lake**	**2.22**	**51**	Pg	**Pb**	**21 15 35.6**	**+0.7**
N32M				Sg	**Sb**	**21 16 04.6**	**+1.7**
N32M	**Quiet Lake**	**2.22**	**51**	Pg	**Pb**	**21 15 35.6**	**+0.7**
N32M				Sg	**Sb**	**21 16 04.6**	**+1.7**
M31M	**Drury Creek, Y**	**2.64**	**23**	Sg	**Sg**	**21 16 17.8**	**-1.2**
M30M	**Minto, Yukon**	**2.79**	**358**	Pg	**Pb**	**21 15 45.6**	**+1.0**
M30M	**Minto, Yukon**	**2.79**	**358**	Pg	**Pb**	**21 15 45.6**	**+1.0**
M30M				Sg	**Sg**	**21 16 22.5**	**-1.0**
M29M	**Somme Creek**	**2.80**	**342**	Pg	**Pg**	**21 15 46.6**	**-1.1**
M29M	**Somme Creek**	**2.80**	**342**	Pg	**Pg**	**21 15 46.6**	**-1.1**
M29M				Sg	**Sg**	**21 16 24.1**	**+0.3**
R33M	**Jennings River**	**2.91**	**96**	Sn	**Sn**	**21 16 17.6**	**+0.5**
R33M				Sg	**Sg**	**21 16 26.0**	**-1.4**
L29M	**L29M**	**3.40**	**348**	Sg	**Sg**	**21 16 41.1**	**-2.1**
S34M	**Telegraph Cree**	**3.43**	**121**	Sg	**Sg**	**21 16 42.0**	**-2.1**
MMPY	**Sheldon Lake,**	**3.84**	**40**	Sg	**Sg**	**21 16 55.5**	**-1.7**
K29M	**Barlow Dome**	**4.08**	**354**	Sg	**Sg**	**21 17 02.8**	**-2.2**
J30M	**Hart River**	**4.79**	**2**	Sg	**Sg**	**21 17 24.2**	**-3.8**

*NNC **09** 21:21:06.6±3.0, 42°.00N×78°.14E, h0km, mb2.0, mpv2.2, Error ellipse: s-maj=20.4km s-min=18.3km az=35.0*

SOME 09 21:21:05.7, 42°.32N×81°.03E, h10km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.52**	**312**	P	Pg	21 21 36.7	+1.9
	0.6nm,0.4s						
PDGK				S	Sg	21 21 59.3	+4.7
	2.0nm,0.6s						
KPKS	**Kokpek**	**2.07**	**304**	*eP*	Pb	21 21 43.7	+0.2
	2.3nm,0.2s						
KPKS				*eS*	Sg	21 22 11.0	-1.3
	5.6nm,0.5s						
SATY	**Saty**	**2.07**	**292**	*eP*	Pb	21 21 44.5	+1.0
	0.5nm,0.2s						
SATY				*eS*	Sg	21 22 12.4	0.0
	2.9nm,0.1s						
KURS	**Kuram**	**2.41**	**300**	P	Pn	21 21 34.0	-11
	0.6nm,0.4s						
KURS				S	Sn	21 21 54.5	-20
	1.6nm,0.5s						
KNOS	**Konyrlen**	**2.45**	**327**	Pg	Pb	21 21 50.9	+1.0
	1.6nm,0.3s						
KNOS				Lg	Lg	21 22 23.9	
	1.3nm,0.4s						

*IDC **09** 21:31:15.2±0.8, 4°.72S×153°.30E, h0km, mb4.2/15, mbtmp4.2/16, ML2.1/1, MS3.0/7, Error ellipse: s-maj=29.3km s-min=16.6km az=98.0*

*NEIC **09** 21:31:21.0±1.9, 4°.82S±0°.08×153°.28E±0°.09, h37km±5km, mb4.4/20, Error ellipse: s-maj=14.1km s-min=10.8km az=68.0*

ISC 09 21:31:20.5±0.6, 4°.82S±0°.07×153°.26E±0°.09, h35km, n52, σ0s88/50, mb4.2/22, MS2.9/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.26**	**300**	Pn	**Pn**	**21 31 43.0**	**+1.2**
RABL				Sn	**Sn**	**21 31 57.0**	**-0.5**
MANU	**Manus Island**	**6.50**	**295**	Pn	**Pn**	**21 32 55.7**	**+1.9**
PMG	**Port Moresby**	**7.58**	**233**	Pn	**Pn**	**21 33 09.5**	**+0.9**
PMG	**Port Moresby**	**7.58**	**233**	Pn	**Pn**	**21 33 09.1**	**+0.5**
	1.8nm,0.3s,baz=34,slow=12,SNR=2.6						
PMG				Sn	**Sn**	**21 34 32.0**	**-1.3**
	2.8nm,0.3s,baz=158,slow=23,SNR=2.2						
	7.2nm,0.4s						
CTA	**Charters Tower**	**16.64**	**204**	LR	LR	21 41 01.6	
	comp=Z,45nm,21.0s,baz=84,slow=35						
GUMO	**Guam**	**20.10**	**336**	LR	LR	21 43 07.0	
	comp=Z,27nm,20.2s,baz=117,slow=36						
FAKI	**Fak Fak**	**21.05**	**274**	P	**P**	**21 36 00.5**	**-1.3**
FAKI				IAmb	IAmb	21 36 21.5	
	comp=Z,24nm,1.0s						
DZM	**Mont Dzumac**	**21.38**	**145**	LR	LR	21 43 01.6	
	comp=Z,76nm,19.5s,baz=113,slow=33						
MTN	**Manton Dam**	**23.26**	**249**	P	**P**	**21 36 25.1**	**-0.1**
WB0	**Warramunga Arr**	**23.63**	**229**	P	**P**	**21 36 27.8**	**-0.9**
WRA	**Warramunga Arr**	**23.78**	**229**	P	**P**	**21 36 29.4**	**-0.7**
WRA	**Warramunga Arr**	**23.78**	**229**	P	**P**	**21 36 29.8**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=48,slow=9.3,SNR=27						
WRA				PcP	**PcP**	**21 40 13.6**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=57,slow=2.5,SNR=3.2						
	comp=Z,1.5nm,0.6s						
KNRA	**Kununurra**	**26.38**	**244**	P	**P**	**21 36 54.5**	**+0.6**
AS31	**Alice Springs**	**26.44**	**223**	P	**P**	**21 36 53.5**	**-0.9**
ASAR	**Alice Springs**	**26.45**	**223**	P	**P**	**21 36 53.9**	**-0.5**
ASAR	**Alice Springs**	**26.45**	**223**	P	**P**	**21 36 54.6**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=56,slow=8.9,SNR=16						
ASAR				PcP	**PcP**	**21 40 18.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=41,slow=2.6,SNR=2.8						
	comp=Z,0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.05**	**242**	P	**P**	**21 37 25.3**	**-1.3**
KAPI	**Kappang**	**33.39**	**268**	LR	LR	21 53 15.6	
	comp=Z,17nm,20.6s,baz=72,slow=40						
RPZ	**Rata Peaks**	**41.80**	**161**	LR	LR	21 54 00.2	
	comp=Z,61nm,20.1s,baz=280,slow=33						
MORW	**Morawa**	**42.69**	**231**	P	**P**	**21 39 16.3**	**+2.0**
MORW				IAmb	IAmb	21 39 19.5	
	comp=Z,22nm,1.4s						
JNU	**Nakatsue**	**43.30**	**332**	P	**P**	**21 39 18.6**	**-0.5**
LEM	**Lembang**	**45.44**	**265**	LR	LR	22 02 26.4	
	comp=Z,19nm,18.4s,baz=161,slow=41						
KSRS	**Korea Array**	**48.23**	**333**	P	**P**	**21 39 57.4**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=146,slow=8.0,SNR=4.0						
	comp=Z,1.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.42**	**341**	P	**P**	**21 40 29.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**52.42**	**341**	P	**P**	**21 40 28.8**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=164,slow=5.2,SNR=4.1						
	comp=Z,1.8nm,0.7s						
CRAI	**Chiangrai**	**57.59**	**298**	P	**P**	**21 41 07.7**	**+0.3**
PETK	**Petropavlovsk-**	**57.84**	**3**	P	**P**	**21 41 08.4**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=179,slow=7.2,SNR=4.5						
	comp=Z,2.2nm,0.6s

n78,σ1§00/97,mb3.8/12,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDBA	**Terre de Bas,**	**0.15**	**232**	*eP*	**Pn**	**21 50 24.5**	**+0.6**
CBE	**Ff, Capester**	**0.16**	**326**		**Pn**	**21 50 24.2**	**+0.3**
CBE				Sn	**Sn**	**21 50 36.8**	**+0.2**
CBE	**Ff, Capester**	**0.16**	**326**	*eP*	**Pn**	**21 50 24.4**	**+0.5**
CBE				*eS*	**Sn**	**21 50 37.4**	**+0.9**
MAGL	**Barre de l'ile**	**0.23**	**87**		**Pn**	**21 50 24.0**	**0.0**
MAGL				Sn	**Sn**	**21 50 36.2**	**-0.5**
MAGL	**Barre de l'ile**	**0.23**	**87**	*eP*	**Pn**	**21 50 24.4**	**+0.3**
GDHS	**Morne Mazeau,**	**0.41**	**324**		**Pn**	**21 50 24.9**	**+0.1**
GDHS				Sn	**Sn**	**21 50 38.4**	**+0.2**
ABD	**La Joyeuse, An**	**0.53**	**3**		**Pn**	**21 50 25.5**	**0.0**
ABD				Sn	**Sn**	**21 50 38.7**	**-0.6**
ABD	**La Joyeuse, An**	**0.53**	**3**	*eP*	**Pn**	**21 50 25.8**	**+0.3**
ABD				*eS*	**Sn**	**21 50 39.1**	**-0.2**
GDSD	**La Dsirade Is**	**0.57**	**49**		**Pn**	**21 50 25.4**	**-0.3**
GDSD				Sn	**Sn**	**21 50 38.3**	**-1.4**
H05N1	**Guadeloupe/Mar**	**0.58**	**50**	P	**Pn**	**21 50 25.5**	**-0.3**
H05N1				S	**Sn**	**21 50 38.0**	**-1.8**
MLYT	**Lee's Yard**	**1.01**	**320**	*eP*	**Pn**	**21 50 31.8**	**+2.4**
MLYT				*eS*	**Sn**	**21 50 48.2**	**+1.8**
MBFL	**Flemmings, Mon**	**1.05**	**320**	*eP*	**Pn**	**21 50 30.5**	**+0.7**
MBFL				*eS*	**Sn**	**21 50 49.4**	**+2.4**
ANBD	**Bethesda, Anti**	**1.13**	**348**	*eP*	**Pn**	**21 50 30.8**	**+0.2**
ANBD				*eS*	**Sn**	**21 50 47.8**	**-0.6**
SVN	**Savane Anatole**	**1.14**	**163**	*eP*	**Pn**	**21 50 31.1**	**+0.3**
SVN				*eS*	**Sn**	**21 50 48.6**	**-0.1**
PCM	**Pelee Case Pet**	**1.16**	**165**	*eP*	**Pn**	**21 50 31.1**	**+0.2**
CXM	**Morne La Croix**	**1.17**	**163**	*eP*	**Pn**	**21 50 31.6**	**+0.4**
BAMF	**Morne Balai**	**1.17**	**162**	*eP*	**Pn**	**21 50 31.5**	**+0.3**
GBMF	**Grand Be**	**1.18**	**163**	*eP*	**Pn**	**21 50 31.4**	**+0.1**
PML	**Morne Lenard**	**1.20**	**164**	*eP*	**Pn**	**21 50 31.4**	**+0.2**
FDF	**Fort de France**	**1.25**	**164**		**Pn**	**21 50 32.2**	**+0.2**
FDF				Sn	**Sn**	**21 50 50.2**	**-0.5**
FDF	**Fort de France**	**1.25**	**164**	*eP*	**Pn**	**21 50 32.3**	**+0.4**
FDF				*eS*	**Sn**	**21 50 50.9**	**+0.1**
ILAM	**Ilet Lapin Mar**	**1.31**	**152**		**Pn**	**21 50 32.5**	**0.0**
ILAM				Sn	**Sn**	**21 50 51.0**	**-0.9**
ILAM	**Ilet Lapin Mar**	**1.31**	**152**	*eP*	**Pn**	**21 50 32.7**	**+0.1**
ILAM				*eS*	**Sn**	**21 50 51.2**	**-0.6**
ZAM	**Aeronautique**	**1.44**	**161**	*eP*	**Pn**	**21 50 34.1**	**+0.1**
LPMF	**Morne Lapointe**	**1.46**	**159**	*eP*	**Pn**	**21 50 33.9**	**-0.3**
TRMF	**Trois Ilets**	**1.47**	**162**	*eP*	**Pn**	**21 50 34.6**	**+0.3**
BIM	**Bigot**	**1.48**	**163**		**Pn**	**21 50 35.0**	**+0.5**
BIM				Sn	**Sn**	**21 50 56.0**	**+0.7**
BIM	**Bigot**	**1.48**	**163**	*eP*	**Pn**	**21 50 35.2**	**+0.7**
BIM				*eS*	**Sn**	**21 50 56.2**	**+1.0**
MVM	**Montagne Vaucl**	**1.50**	**156**	*eP*	**Pn**	**21 50 34.9**	**+0.2**
MPOM	**Morne Pois Mar**	**1.61**	**157**		**Pn**	**21 50 36.1**	**+0.1**
MPOM	**Morne Pois Mar**	**1.61**	**157**	*eP*	**Pn**	**21 50 36.3**	**+0.3**
MPOM				*eS*	**Sn**	**21 50 57.9**	**-0.1**
H05S1	**Guadeloupe/Mar**	**1.64**	**156**	P	**Pn**	**21 50 35.3**	**-1.0**
H05S1				S	**Sn**	**21 50 58.8**	**+0.2**
	SNR=1298						
SLBI	**Saint Lucia, B**	**1.98**	**165**	*eP*	**Pn**	**21 50 40.6**	**+0.2**
SLBI				*eS*	**Sn**	**21 51 06.2**	**+0.5**
SLCP	**Castries, St.**	**1.98**	**165**	*eP*	**Pn**	**21 50 41.3**	**+0.8**
SLCP				*eS*	**Sn**	**21 51 07.0**	**+1.0**
SLB	**Belfond**	**2.15**	**168**	*eP*	**Pn**	**21 50 44.2**	**+1.6**
SABA	**Saba**	**2.35**	**316**	Pn	**Pn**	**21 50 45.0**	**-0.1**
SMRT	**St. Maarten**	**2.58**	**325**		**Pn**	**21 50 47.5**	**-0.4**
SSV	**Crater Summit**	**2.62**	**173**	*eP*	**Pn**	**21 50 50.1**	**+1.5**
SVV	**Soufriere Volc**	**2.62**	**174**	*eP*	**Pn**	**21 50 50.5**	**+1.9**
SVB	**Belmont**	**2.66**	**174**	*eP*	**Pn**	**21 50 50.0**	**+0.9**
SVOC	**Richmond Hill,**	**2.78**	**174**	*eP*	**Pn**	**21 50 50.9**	**+0.3**
BBGH	**Gun Hill**	**3.36**	**145**	*eP*	**Pn**	**21 50 58.3**	**0.0**
BBGH				*eS*	**Sn**	**21 51 36.4**	**-1.4**
GCMP	**Grenada, Carri**	**3.43**	**179**	*eP*	**Pn**	**21 50 59.6**	**+0.4**
GRGR	**Grenville**	**3.79**	**182**	Pn	**Pn**	**21 51 04.2**	**+0.3**
SJG	**San Juan**	**4.93**	**297**	Pn	**Pn**	**21 51 19.7**	**+0.6**
SJG	**San Juan**	**4.93**	**297**	P	**Pn**	**21 51 20.1**	**+0.9**
	4.7nm,0.3s,baz=53,slow=23,SNR=1.7						
SJG				S	**Sn**	**21 52 10.8**	**-4.4**
	6.4nm,0.2s,baz=344,slow=19,SNR=1.8						
GCPR	**Guaynabo City**	**4.96**	**299**	Pn	**Pn**	**21 51 19.7**	**+0.2**
CELP	**Cerrillos**	**5.29**	**294**	Pn	**Pn**	**21 51 23.6**	**-0.4**
AOPR	**Arecibo Observ**	**5.55**	**296**	Pn	**Pn**	**21 51 28.2**	**+0.7**
AOPR	**Arecibo Observ**	**5.55**	**296**	*eP*	**Pn**	**21 51 29.4**	**+1.8**
AOPR	**Arecibo Observ**	**5.55**	**296**	*eS*	**Sn**	**21 52 31.5**	**+1.3**
MLPR	**Magueyes Islan**	**5.66**	**292**	Pn	**Pn**	**21 51 27.4**	**-1.6**
BAUV	**El Baul**	**9.43**	**223**	Pn	**Pn**	**21 52 18.8**	**-1.2**
SDDR	**Presa de Saban**	**9.80**	**289**	Pn	**Pn**	**21 52 24.1**	**-0.9**
BOAV	**Boa Vista**	**13.49**	**176**	Pn	**Pn**	**21 53 11.5**	**-2.2**
SJCC	**San Jacinto, C**	**14.61**	**247**	Pn	**Pn**	**21 53 27.7**	**-0.4**
SOR	**Soroa**	**21.38**	**292**	P	**P**	**21 54 43.5**	**-1.6**
SOR				IAmb	IAmb	21 55 05.6	
	comp=Z,16nm,1.4s						
SAML	**Samuel**	**24.78**	**184**	P	**P**	**21 55 17.0**	**-0.8**
TEIG	**Tepich**	**25.78**	**284**	P	**P**	**21 55 28.4**	**+1.6**
SCHQ	**Schefferville**	**39.03**	**355**	P	**P**	**21 57 22.1**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=183,slow=10.0,SNR=6.4 comp=Z,1.5nm,0.5s						
TXAR	**Lajitas Array**	**40.91**	**297**	P	**P**	**21 57 37.0**	**-0.8**
TXAR	**Lajitas Array**	**40.91**	**297**	P	**P**	**21 57 37.5**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=114,slow=8.1,SNR=4.6 comp=Z,0.3nm,0.4s						
TX31	**Lajitas Ar. Si**	**40.91**	**297**	P	**P**	**21 57 36.6**	**-1.1**
TX31				IAmb	IAmb	21 57 48.9	
	comp=Z,4.5nm,1.5s						
PDAR	**Pinedale Array**	**48.83**	**313**	P	**P**	**21 58 41.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=111,slow=9.8,SNR=4.7 comp=Z,0.3nm,0.4s						
H10N3	**ASCENSION HYDR**	**52.20**	**113**	T	T	22 55 28.2	
	baz=297,slow=75,SNR=17						
H10N2	**ASCENSION HYDR**	**52.21**	**113**	T	T	22 55 28.7	
	baz=297,slow=75,SNR=9.8						
H10N1	**ASCENSION HYDR**	**52.22**	**113**	T	T	22 55 29.9	
	baz=297,slow=75,SNR=14						
H10S3	**ASCENSION HYDR**	**52.57**	**115**	T	T	22 55 57.1	
	baz=295,slow=74,SNR=6.3						
H10S2	**ASCENSION HYDR**	**52.59**	**115**	T	T	22 55 59.6	
	baz=285,slow=74,SNR=3.1						
ESDC	**Sonseca Array**	**55.12**	**53**	P	**P**	**21 59 27.6**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=258,slow=7.9,SNR=5.5 comp=Z,0.5nm,0.6s						
DBIC	**Dimbokro**	**56.17**	**93**	P	**P**	**21 59 34.4**	**-0.3**
DBIC	**Dimbokro**	**56.17**	**93**	P	**P**	**21 59 36.0**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=231,slow=8.5,SNR=3.5 comp=Z,2.8nm,0.7s						
YKA	**Yellowknife Ar**	**59.34**	**334**	P	**P**	**21 59 55.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=107,slow=7.4,SNR=5.7 comp=Z,0.4nm,0.7s						
TOA0	**Torodi Ar. Sit**	**61.05**	**84**	P	**P**	**22 00 08.7**	**+0.2**
TOA0				IAmb	IAmb	22 00 37.0	
	comp=Z,3.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**61.05**	**84**	P	**P**	**22 00 08.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**61.05**	**84**	P	**P**	**22 00 09.4**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=295,slow=6.0,SNR=6.1 comp=Z,0.8nm,0.6s						
FINES	**FINESS Array B**	**75.00**	**30**	P	**P**	**22 01 35.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=256,slow=4.1,SNR=4.7 comp=Z,1.1nm,0.8s						
BRTR	**Keskin Array B**	**83.85**	**51**	P	**P**	**22 02 25.3**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=297,slow=6.3,SNR=2.1 comp=Z,0.4nm,0.7s						

*IDC **09** 21:51:54.6±3.2,31°28S×178°68W,h0km,mb3.9/2, mbtmp3.8/3,ML3.4/1,Error ellipse: s-maj=70.5km s-min=48.2km az=113.0,Kermadec Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.78**	**205**	Pn	Pn	21 53 48.2	-0.9
	0.5nm,0.3s,baz=160,slow=7.6,SNR=2.0						
URZ				Sn	Sn	21 55 13.5	-4.3
	0.5nm,0.3s,baz=2.7,slow=20,SNR=1.4 2.6nm,0.5s						
ASAR	**Alice Springs**	**42.49**	**268**	P	P	21 59 51.7	-0.1
	0.5nm,0.3s,baz=106,slow=7.3,SNR=9.7 0.5nm,0.3s						
WRA	**Warramunga Arr**	**43.56**	**273**	P	P	22 00 00.5	0.0
	0.7nm,0.3s,baz=112,slow=8.0,SNR=19 0.7nm,0.3s						
FINES	**FINESS Array B**	**145.76**	**339**	PKPbc	PKPdf	22 11 34.0	-0.4
	1.1nm,1.0s,baz=46,slow=4.0,SNR=3.9						

*NEIC **09** 21:58:29.6±0.6,18°.5S×173°.3W±0°.1,h10km±2km, mb4.6/10,Error ellipse: s-maj=19.4km s-min=14.2km az=41.0*

*IDC **09** 21:58:31.4±5.1,17°.51S×172°.88W,h69km±47km,mb4.1/6, mbtmp4.4/8,ML3.6/2,MS3.1/4,Error ellipse: s-maj=36.4km s-min=25.7km az=173.0*

ISC 09 21:58:28.9±0.7,17°.9S±0°.1×173°.13W±0°.07,h26km,n31, σ1§62/23,mb4.5/10,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.24**	**111**		**Pn**	**21 59 20.6**	**+2.6**
NIUE				Sn	**Sn**	**21 59 51.9**	**-3.9**
AFI	**Afiamalu**	**4.22**	**18**	Pn	**Pb**	**21 59 41.8**	**-0.7**
RAR	**Rarotonga**	**13.00**	**107**	P	**Pn**	**22 01 33.2**	**+1.2**
	1.8nm,0.3s,baz=42,slow=22,SNR=1.8						
RAR				S	Sn	22 03 42.8	-13
	30nm,0.9s,baz=226,slow=21,SNR=2.1						
RAR				LR	LR	22 05 14.3	
	comp=Z,56nm,19.6s,baz=318,slow=31 21nm,0.7s						
PINNC	**Pines Island,**	**18.80**	**252**	P	**P**	**22 02 47.0**	**+0.5**
PINNC				IAmb	IAmb	22 03 08.7	
	comp=Z,82nm,1.4s						
DZM	**Mont Dzumac**	**19.63**	**255**	P	**P**	**22 02 54.7**	**-1.0**
DZM	**Mont Dzumac**	**19.63**	**255**	*e*LR	LR	22 08 19.6	
	comp=Z,110nm,24.1s						
DZM	**Mont Dzumac**	**19.63**	**255**	P	**Pn**	**22 02 58.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=226,slow=20,SNR=2.3						
DZM				LR	LR	22 09 07.1	
	comp=Z,71nm,20.5s,baz=228,slow=32 comp=Z,4.5nm,0.6s						
MXZ	**Matakaoa Point**	**20.94**	**199**	P	**P**	**22 03 06.2**	**-3.6**
MXZ				IAmb	IAmb	22 03 36.2	
	comp=Z,81nm,1.4s						
PPT2	**Papeete2**	**22.43**	**93**	*e*LR	LR	22 08 54.1	
	comp=Z,116nm,25.0s						
PPT	**Papeete**	**22.43**	**93**	LR	LR	22 09 38.8	
	comp=Z,63nm,21.0s,baz=282,slow=30						
RPZ	**Rata Peaks**	**28.96**	**204**	P	**P**	**22 04 28.8**	**+2.7**
	comp=Z,11nm,0.4s,baz=349,slow=2.5,SNR=13 comp=Z,11nm,0.4s						
CTA	**Charters Tower**	**38.40**	**260**	LR	LR	22 19 39.6	
	comp=Z,39nm,20.1s,baz=85,slow=33						
CTAO	**Charters Tower**	**38.40**	**260**	P	**P**	**22 05 48.6**	**+0.2**
CTAO				IAmb	IAmb	22 05 49.6	
	comp=Z,6.2nm,0.5s						
STKA	**Stephens Creek**	**43.05**	**242**	P	**P**	**22 06 26.0**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=75,slow=12,SNR=3.5 comp=Z,1.4nm,0.5s						
BBOO	**Buckleboo**	**47.81**	**242**	P	**P**	**22 07 02.2**	**-2.2**
WR0	**Warramunga Arr**	**49.38**	**259**	P	**P**	**22 07 16.9**	**+0.2**
WR0				IAmb	IAmb	22 07 45.2	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**49.57**	**259**	P	**P**	**22 07 18.0**	**-0.1**
WRA	**Warramunga Arr**	**49.57**	**259**	P	**P**	**22 07 18.2**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=98,slow=7.1,SNR=57						
WRA				PcP	**PcP**	**22 08 39.3**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=97,slow=2.9,SNR=2.2 comp=Z,2.2nm,0.5s						
AS31	**Alice Springs**	**49.62**	**254**	P	**P**	**22 07 18.2**	**-0.3**
AS31				IAmb	IAmb	22 07 19.3	
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**49.62**	**254**	P	**P**	**22 07 18.2**	**-0.3**
ASAR	**Alice Springs**	**49.62**	**254**	P	**P**	**22 07 18.9**	**+0.4**
	comp=Z,10nm,0.6s,baz=96,slow=7.6,SNR=115						
ASAR				PcP	**PcP**	**22 08 39.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=112,slow=4.1,SNR=1.7 comp=Z,10nm,0.6s						
PSA00	**Pilbara Seismi**	**62.76**	**255**	P	**P**	**22 08 52.4**	**0.0**
PSA00				IAmb	IAmb	22 08 59.8	
	comp=Z,7.9nm,1.4s						
PSA00	**Pilbara Seismi**	**62.76**	**255**	P	**P**	**22 08 52.7**	**+0.3**
PSA00				IAmb	IAmb	22 09 18.4	
	comp=Z,26nm,1.2s						
QSPA	**South Pole Qui**	**72.11**	**180**	P	**P**	**22 09 50.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=42,slow=7.0,SNR=5.8 comp=Z,1.1nm,0.5s						
H03S2	**Juan Fernandez**	**83.59**	**123**	T	T	23 43 53.0	
	baz=249,slow=74,SNR=7.6						
H03S1	**Juan Fernandez**	**83.60**	**123**	T	T	23 43 54.0	
	baz=249,slow=74,SNR=7.5						
H03S3	**Juan Fernandez**	**83.60**	**123**	T	T	23 43 51.4	
	baz=249,slow=74,SNR=7.1						
H03N2	**Juan Fernandez**	**83.70**	**123**	T	T	23 43 49.9	
	baz=249						
H03N3	**Juan Fernandez**	**83.70**	**123**	T	T	23 43 56.5	
	baz=249						
H03N1	**Juan Fernandez**	**83.71**	**123**	T	T	23 43 59.4	
	baz=249						
YKA	**Yellowknife Ar**	**92.31**	**23**	P	P	22 11 29.8	-6.6
	comp=Z,0.2nm,0.7s,baz=232,slow=4.6,SNR=3.7 comp=Z,0.2nm,0.7s						

*JMA **09** 22:05:00.7±0.2,33°.N±2°.×13°.8E±°,h337km,MV3.8/34, FAR S OFF TOKAI DISTRICT*

*IDC **09** 22:05:05.3±0.6,33°.19N×138°.18E,h300km±6km,mb3.4/18, mbtmp4.0/22,Error ellipse: s-maj=15.8km s-min=9.3km az=66.0*

ISC 09 22:05:05.4±0.6,33°.24N±0°.07×138°.27E±0°.07,h300km,n48, σ1§02/55,mb3.7/18,1C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.82**	**329**	P	**Pn**	**22 05 45.2**	**+0.6**
TTO3	**TONANKAI O.B.S**	**0.95**	**311**	P	**Pn**	**22 05 46.1**	**+0.8**
TTO4	**TONANKAI O.B.S**	**0.98**	**322**	*eP*	**Pn**	**22 05 45.8**	**+0.6**
TTO5	**TONANKAI O.B.S**	**1.11**	**336**	*eP*	**Pn**	**22 05 46.8**	**+0.8**
TTO2	**TONANKAI O.B.S**	**1.15**	**296**	*eP*	**Pn**	**22 05 47.0**	**+1.0**
TK04	**Tokai 4**	**1.19**	**344**	*eP*	**Pn**	**22 05 47.4**	**+1.0**
JHJ	**Hachijo jima 2**	**1.27**	**95**	P	**Pn**	**22 05 45.9**	**-1.2**
	138nm,0.6s,baz=333,slow=17,SNR=15						
JHJ				S	**S**	**22 06 22.2**	**+1.8**
	98nm,0.3s,baz=81,slow=22,SNR=5.2						
TTO1	**TONANKAI O.B.S**	**1.30**	**287**	*eP*	**Pn**	**22 05 47.5**	**+0.7**
JHJ2	**Mitsune**	**1.30**	**95**	P	**Pn**	**22 05 46.7**	**-0.6**
JHJ2				*eS*	**S**	**22 06 21.6**	**+0.9**
JIE	**Ise**	**1.73**	**312**	P	**Pn**	**22 05 50.3**	**+0.2**
JOD2	**Odawara 2**	**2.13**	**18**	P	**Pn**	**22 05 53.4**	**+0.3**
JOD2				*eS*	**S**	**22 06 34.1**	**+3.0**
JYN	**Shimob**	**2.26**	**6**	P	**Pn**	**22 05 55.2**	**+0.9**
JTNC	**Tanabenakahech**	**2.29**	**285**	P	**Pn**	**22 05 54.2**	**-0.4**
JWY	**Kouya**	**2.43**	**294**	P	**Pn**	**22 05 56.2**	**+0.4**
BSO1	**Boso 1**	**2.66**	**57**	P	**Pn**	**22 05 55.5**	**-1.5**
BSO1				S	**S**	**22 06 36.2**	**-2.3**
JYTA	**Yamagatataniai**	**2.67**	**332**	*eP*	**Pn**	**22 05 58.2**	**+0.4**
JRY	**Ryogami san**	**2.82**	**10**	P	**Pn**	**22 06 00.0**	**+0.7**
JWT	**Wachi**	**3.13**	**311**	P	**Pn**	**22 06 02.5**	**+0.2**
JAI	**Aioi**	**3.24**	**281**	P	**Pn**	**22 06 03.3**	**-0.2**
MJAR	**Matsushiro Arr**	**3.29**	**359**	P	**Pn**	**22 06 03.7**	**-0.2**
	3.7nm,0.4s,baz=173,slow=11,SNR=22						
MJAR				S	**S**	**22 06 51.5**	**+0.7**
	2.4nm,0.5s,baz=154,slow=37,SNR=2.9						
MAT	**Matsushiro**	**3.29**	**359**	P	**Pn**	**22 06 04.2**	**+0.2**
JAG	**Ashikaga**	**3.32**	**17**	P	**Pn**	**22 06 03.4**	**-0.9**
JAG				S	**S**	**22 06 48.5**	**-2.8**
JMN	**Monobe**	**3.70**	**279**	P	**Pn**	**22 06 08.5**	**+0.1**
JTO	**Tosashimizu**	**4.61**	**267**	P	**Pn**	**22 06 17.9**	**-0.5**
JCJ	**Chichijima**	**7.00**	**150**	P	Pn	22 06 37.2	-10
	81nm,0.7s,baz=288,slow=21,SNR=2.0						
JCJ				S	S	22 07 53.8	-15
	62nm,0.4s,baz=255,slow=19,SNR=5.6						
KSRS	**Korea Array**	**9.44**	**299**	P	**Pn**	**22 07 16.7**	**+0.2**
	9.4nm,0.8s,baz=111,slow=13,SNR=20						
USRK	**Ussuriysk Ar.**	**11.98**	**338**	P	**Pn**	**22 07 47.1**	**-0.4**
	1.5nm,0.6s,baz=146,slow=8.5,SNR=5.9						
BNX	**BinXian**	**15.02**	**329**	P	**P**	**22 08 22.6**	**+0.2**
BNX				pmax	pmax		
	comp=Z,41nm,0.6s						
BNX				pmax	pmax		
	comp=Z,930nm,5.7s						
KLR	**Kul'dur**	**16.70**	**345**	P	**P**	**22 08 40.5**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=171,slow=12,SNR=15						
SONM	**Songino Array**	**28.03**	**311**	P	**P**	**22 10 30.0**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=108,slow=9.3,SNR=18 comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**42.69**	**316**	P	**P**	**22 12 32.7**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=96,slow=8.2,SNR=13						
ZALV				PcP	**PcP**	**22 14 17.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=127,slow=3.8,SNR=2.5 comp=Z,1.9nm,0.4s						
MKAR	**Makanchi Array**	**44.06**	**305**	P	**P**	**22 12 44.2**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=86,slow=9.3,SNR=40						
MKAR				PcP	**PcP**	**22 14 22.1**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=54,slow=3.7,SNR=1.6 comp=Z,1.0nm,0.3s						
NRIK	**Noril'sk**	**45.70**	**337**	P	**P**	**22 12 56.9**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=94,slow=7.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**46.40**	**311**	P	**P**	**22 13 02.0**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=94,slow=9.2,SNR=48 comp=Z,1.5nm,0.4s						
BVAR	**Borovoye Array**	**51.29**	**314**	P	**P**	**22 13 39.1**	**0.0**
	comp=Z,1.4nm,0.5s,baz=90,slow=7.1,SNR=10 comp=Z,1.4nm,0.5s						
WRA	**Warramunga Arr**	**53.02**	**185**	P	**P**	**22 13 51.2**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=0.2,slow=7.7,SNR=35 comp=Z,1.2nm,0.3s						
ILAR	**Eielson Array**	**54.06**	**31**	P	**P**	**22 13 59.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=263,slow=6.7,SNR=4.7 comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**56.74**	**185**	P	**P**	**22 14 18.1**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=14,slow=9.8,SNR=16 comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**66.63**	**339**	P	**P**	**22 15 23.9**	**+0.4**
	comp=Z,4.0nm,1.0s,baz=60,slow=6.3,SNR=3.6 comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**68.37**	**29**	P	**P**	**22 15 34.6**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=307,slow=6.1,SNR=2.3 comp=Z,0.1nm,0.4s						
FINES	**FINESS Array B**	**70.95**	**332**	P	**P**	**22 15 50.5**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=53,slow=6.6,SNR=29 comp=Z,1.5nm,0.4s						
AKASG	**Malin Array Be**	**75.69**	**322**	P	**P**	**22 16 16.4**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=48,slow=6.8,SNR=5.5 comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**76.45**	**335**	P	**P**	**22 16 21.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=64,slow=3.4,SNR=6.6 comp=Z,0.9nm,0.4s						
NB2	**NORSAR Subarra**	**76.65**	**336**	P	**P**	**22 16 23.5**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=44,slow=5.9						
NOA	**NORSAR Array B**	**76.65**	**336**	P	**P**	**22 16 23.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=54,slow=6.6,SNR=4.9 comp=Z,0.5nm,0.4s						
NVAR	**Mina Array Bea**	**79.34**	**51**	P	**P**	**22 16 40.6**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=296,slow=6.5,SNR=4.2 comp=Z,0.5nm,0.5s						
PDAR	**Pinedale Array**	**82.17**	**44**	P	**P**	**22 16 52.6**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=324,slow=4.5,SNR=2.7 comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**94.49**	**51**	P	**P**	**22 17 54.0**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=308,slow=3.7,SNR=5.7 comp=Z,0.4nm,0.7s						

*BJI **09** 22:20:46.7±0.0,35°.25N×141°.36E,h29km,mb4.5/61, mB5.0/28,Ms4.6/27,Ms7 4.3/24*

*JMA **09** 22:20:50.0±0.2,35°.4N±0°.5×14°.1E±°,h34km±1km, MD4.7/33,MW4.7/33,E OFF BOSO PENINSULA*

JMA Felt I J1 at E OFF BOSO PENINSULA .

*NIED **09** 22:20:50.0,35°.42N×141°.23E,h34km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.55; Mθθ-1.90; Mφφ 1.35; Mrθ 0.29; Mθφ-0.43; Mφr 0.77; Fault plane solution: M₀1.93000×10¹⁶ NP1:φs42.00000°, δ76.00000°, λ29.00000°. NP2:φs304.00000°, δ62.00000°, λ164.00000°.*

*GCMT **09** 22:20:51.8±0.5,35°.42N±0°.03×141°.27E±0°.03,h32km±1km, MW4.9/78,Moment Tensor Solution. s14,c17; s78,c98; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.71±.32; Mθθ-2.77±.19; Mφφ 1.07±.18; Mrθ 0.32±.16; Mθφ-0.41±.10; Mφr 1.18±.20; Best double couple: M₀2.73600×10¹⁶ NP1:φs53.00000°,δ61.00000°,λ47.00000°. NP2: φs296.00000°,δ51.00000°,λ141.00000°. Principal axes: T 2.6130, Plg53.0000°, Azm270.0000°; N 0.2570, Plg37.0000°, Azm78.0000°; P -2.8600, Plg6.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 22:20:51.8±1.3,35°.42N±0°.04×141°.20E±0°.08,h35km±3km, mb5.0/73 Error ellipse: s-maj=9.5km s-min=6.0km az=103.0*

*IDC **09** 22:20:54.7±1.7,35°.36N×140°.90E,h54km±16km,mb3.9/30, mbtmp4.2/35,ML3.5/5,MS4.

JNY Yasuok 2.74 270 A A 22 21 33.5
comp=E,7.0nm,2.3s,comp=N,8.0nm,3.8s
JYS Shirataka 2.97 342 A A 22 21 36.2
comp=E,13nm,2.0s,comp=N,11nm,3.0s
JOU Okura 3.00 352 A A 22 21 36.6
comp=E,11nm,2.0s,comp=N,12nm,1.7s
JOFO Osakifurukawao 3.21 356 A A 22 21 39.6
comp=E,47nm,2.3s,comp=N,46nm,3.9s
JYA Atsumi 3.41 340 A A 22 21 42.5
comp=E,14nm,1.5s,comp=N,10.0nm,3.4s
JTM Tenmabayashi 5.39 359 Pn Pn 22 22 09.0 +0.1
JTM Tenmabayashi 5.39 359 P Pn 22 22 10.0 +1.0
JMN Monobe 6.28 257 Pn Pn 22 22 22.4 +1.2
JMN Monobe 6.28 257 P Pn 22 22 24.3 +3.1
ERM Erimo 6.79 12 Pn Pn 22 22 27.3 -0.8
ERM Erimo 6.79 12 P Pn 22 22 30.7 +2.6
JEM Erimo 6.79 12 P Pn 22 22 30.6 +2.5
JCJ Chichijima 8.31 174 Pn Pn 22 22 47.9 -1.3
JCJ Chichijima 8.31 174 P Pn 22 22 48.4 -0.8
JCJ Chichijima 8.31 174 P Pn 22 22 43.5 -5.7
comp=N,86nm,0.4s,baz=282,slow=22,SNR=7.7
JCJ S Sn 22 24 11.4 -11
comp=N,54nm,0.3s,baz=263,slow=21,SNR=1.7
JCJ LR LR 22 25 43.9
comp=N,287nm,20.0s,baz=0.5,slow=35
JKA Kamikawa-asahi 8.78 7 Pn Pn 22 22 53.6 -1.9
ASAJ Asahikawa 8.78 7 P Pn 22 22 53.5 -1.9
comp=N,13nm,0.4s,baz=202,slow=14,SNR=9.1
ASAJ S Sn 22 24 28.1 -5.4
comp=N,26nm,0.8s,baz=76,slow=17,SNR=1.6
ASAJ LR LR 22 26 57.5
comp=N,849nm,20.9s,baz=150,slow=41
JNU Nakatsue 8.85 258 Pn Pn 22 22 57.7 +1.1
JNU Nakatsue 8.85 258 P Pn 22 22 57.2 +0.6
comp=N,0.5nm,0.3s,baz=102,slow=3.7,SNR=4.2
comp=N,12nm,0.9s
KSRS Korea Array 10.90 285 P Pn 22 23 25.1 +0.5
comp=N,0.3nm,0.3s,baz=100,slow=14,SNR=7.7
KSRS LR LR 22 27 39.2
comp=N,889nm,21.3s,baz=95,slow=38
comp=N,2.0nm,0.7s
USA0B Ussuriysk Arra 11.29 324 Pn Pn 22 23 29.2 -0.7
USRK Ussuriysk Ar. 11.29 324 Pn Pn 22 23 29.7 -0.3
USRK Ussuriysk Ar. 11.29 324 P Pn 22 23 31.2 +1.3
comp=N,0.6nm,0.3s,baz=139,slow=13,SNR=11
USRK LR LR 22 27 40.2
comp=N,1μm,19.5s,baz=135,slow=36
comp=N,4.8nm,0.7s
YSS Yuzh-Sakhalins 11.61 5 Pn Pn 22 23 31.3 -2.9
MDJ Mudanjiang 12.80 320 P Pn 22 23 52.7 +2.1
MDJ pP P 22 23 59.6 -1.7
MDJ PP PnPn 22 24 00.7 +2.3
MDJ S Sn 22 26 22.6 +10
MDJ sS 22 26 30.5
MDJ SS SnSn 22 26 35.6 +11
MDJ PcS PcS 22 32 53.6 -5.9
MDJ pmax pmax
comp=N,21nm,1.7s
MDJ pmax pmax
comp=N,690nm,5.3s
MDJ LR LR
comp=N,1μm,18.6s
MDJ LR LR
comp=N,1μm,17.9s
MDJ LR LR
comp=N,2μm,19.9s
BNX BinXian 14.71 319 ⇑P Pn 22 24 15.8 -0.7
BNX pmax pmax
comp=N,6.0nm,1.2s
BNX pmax pmax
comp=N,350nm,4.7s
SNY Shenyang 15.20 300 ⇑P P 22 24 24.5 -3.4
SNY S Sn 22 27 17.0 +6.5
SNY pmax pmax
comp=N,18nm,1.0s
SNY pmax pmax
comp=N,220nm,3.5s
SNY LR LR
comp=N,770nm,18.5s
SNY LR LR
comp=N,780nm,21.0s
KLR Kul'dur 15.48 336 P Pn 22 24 24.6 -2.2
comp=N,1.6nm,0.4s,baz=152,slow=9.7,SNR=12
KLR LR LR 22 30 31.2
comp=N,887nm,19.0s,baz=136,slow=37
HEH HeiHe 17.93 330 eP P 22 24 57.3 -0.7
HEH pmax pmax
comp=N,8.0nm,1.0s
HEH pmax pmax
comp=N,720nm,5.0s
HEH LR LR
comp=N,900nm,13.3s
HEH LR LR
comp=N,790nm,14.4s
HEH LR LR
comp=N,1μm,14.9s
NJ2 Nanjing 18.89 266 eP Pn 22 25 11.8 +2.3
NJ2 pP pP 22 25 17.3 +1.4
NJ2 pmax pmax
comp=N,8.0nm,1.1s
BJI Beijing 20.32 291 P P 22 25 22.0 -2.3
BJI pP pP 22 25 30.8 -0.7
BJI sP sP 22 25 35.3 +0.4
BJI pmax pmax
comp=N,8.0nm,1.9s
BJT Baijiatuau 20.32 291 P P 22 25 21.6 -2.7
XLT XiLinHaoTe 21.08 301 eP P 22 25 31.9 -0.7
XLT pmax pmax
comp=N,11nm,0.9s
XLT pmax pmax
comp=N,340nm,7.9s
PETK Petropavlovsk- 21.20 28 P P 22 25 37.0 +3.3
comp=N,5.9nm,0.7s,baz=206,slow=9.7,SNR=3.5
comp=N,5.9nm,0.7s
HNS HongShan 21.41 283 ⇓P P 22 25 32.7 -3.4
HNS S S 22 29 21.9 -10
HNS pmax pmax
comp=N,16nm,1.3s
HNS LR LR
comp=N,1μm,17.9s
HNS LR LR
comp=N,360nm,16.2s
HNS LR LR
comp=N,520nm,21.6s
WHN Wuhan 23.02 266 eP P 22 25 51.1 -2.2
WHN sP pP 22 26 02.3 +1.8
LYN LuoYang 23.54 276 eP P 22 25 54.7 -3.8
LYN pmax pmax
comp=N,14nm,0.5s
LYN LR LR
comp=N,660nm,14.7s
LYN LR LR
comp=N,670nm,12.9s
LYN LR LR
comp=N,900nm,18.2s
HHC Hu-ho-hao-te 23.89 292 eP P 22 26 01.9 0.0
HHC pmax pmax
comp=N,23nm,0.8s
HHC pmax pmax
comp=N,690nm,5.8s
HHC LR LR
comp=N,540nm,11.5s
HHC LR LR
comp=N,860nm,12.2s
HHC LR LR
comp=N,970nm,11.5s
MA2 Magadan 24.99 12 P P 22 26 10.8 -0.8
MA2 IAmb IAmb 22 26 32.6
comp=Z,26nm,0.9s
BTO Baotou 25.05 291 eP P 22 26 13.4 +0.9
BTO pP pP 22 26 17.7 -2.5
BTO sP sP 22 26 20.4 -3.1
BTO PP PnPn 22 26 51.7 +5.4
BTO pmax pmax
comp=Z,14nm,1.4s
BTO pmax pmax
comp=Z,460nm,9.7s
XAN Xi'an 26.52 276 ⇑P P 22 26 23.6 -2.2
XAN sP sP 22 26 36.2 -0.5
XAN pmax pmax
comp=Z,13nm,0.9s
XAN LR LR
comp=Z,770nm,14.9s
XAN LR LR
comp=Z,710nm,18.7s
XAN LR LR

comp=Z,600nm,17.8s
ENH Enshi 27.07 268 P P 22 26 28.7 -2.1
ENH IAmb IAmb 22 26 41.5
comp=Z,28nm,0.9s
H11N2 WAKE ISLAND Hy 27.49 118 T T 22 55 32.8
baz=312
H11N1 WAKE ISLAND Hy 27.49 118 T T 22 55 37.0
baz=312
H11N3 WAKE ISLAND Hy 27.50 118 T T 22 55 36.9
baz=312
YAK Yakutsk 27.64 348 P P 22 26 34.8 -0.6
H11S1 WAKE ISLAND Hy 28.14 120 T T 22 56 22.4
baz=314
H11S3 WAKE ISLAND Hy 28.14 120 T T 22 56 10.1
baz=314
H11S2 WAKE ISLAND Hy 28.16 120 T T 22 56 14.9
baz=314
ULN Ulaanbaatar 28.17 307 P P 22 26 39.2 -1.4
SONM Songino Array 28.60 307 P P 22 26 42.8 -1.6
SONM Songino Array 28.60 307 P P 22 26 43.9 -0.5
comp=Z,1.6nm,0.6s,baz=106,slow=8.5,SNR=11
comp=Z,1.6nm,0.6s
LZH Lanzhou 30.22 282 ⇓P P 22 26 57.9 -1.0
LZH pP sP 22 27 09.5 -0.4
LZH sP pP 22 27 14.3 +7.5
LZH pmax pmax
comp=Z,13nm,1.2s
LZH LR LR
comp=Z,590nm,15.1s
LZH LR LR
comp=Z,500nm,16.8s
LZH LR LR
comp=Z,480nm,15.8s
GYA Guiyang 30.82 263 ⇓P P 22 27 05.2 +0.9
GYA pmax pmax
comp=Z,7.0nm,1.2s
CD2 Chengdu 31.55 273 P P 22 27 08.6 -2.0
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,270nm,11.9s
CD2 LR LR
comp=Z,430nm,14.5s
CD2 LR LR
comp=Z,960nm,20.4s
GTA Gaotai 32.92 290 eP P 22 27 23.9 +1.3
GTA pP pP 22 27 31.4 +0.9
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=Z,270nm,18.7s
GTA LR LR
comp=Z,280nm,18.7s
GTA LR LR
comp=Z,310nm,17.5s
PZH PanZhiHua 34.80 266 P P 22 27 37.4 -1.7
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,4.5s
TIXI Tiksi 36.90 354 P P 22 27 55.7 -0.6
TIXI Tiksi 36.90 354 P P 22 27 57.1 +0.8
TIXI pP sP 22 28 06.9 -0.4
GOMU GeErMu 37.37 285 P P 22 28 01.3 +0.1
GOMU pP pP 22 28 05.6 -3.5
GOMU sP sP 22 28 09.1 -3.1
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU LR LR
comp=Z,380nm,13.7s
GOMU LR LR
comp=Z,160nm,11.4s
GOMU LR LR
comp=Z,370nm,12.4s
CRAI Chiangrai 38.86 258 P P 22 28 13.0 -0.6
FAKI Fak Fak 39.03 194 P P 22 28 12.7 -2.1
FAKI IAmb IAmb 22 29 43.3
comp=Z,29nm,1.1s
PHRA Phrae 39.90 256 P P 22 28 20.9 -1.3
CMAR Chiang Mai Arr 40.95 257 P P 22 28 30.2 -0.6
comp=Z,0.8nm,0.3s,baz=49,slow=7.8,SNR=1.2
comp=Z,0.8nm,0.3s
WMQ Urumqi 41.46 298 eP P 22 28 36.8 +1.9
WMQ sP sP 22 28 47.8 +1.7
WMQ pmax pmax
comp=Z,8.0nm,1.3s
WMQ LR LR
comp=Z,960nm,18.3s
WMQ LR LR
comp=Z,500nm,13.7s
WMQ LR LR
comp=Z,720nm,20.1s
LSA Lhasa 42.22 277 P P 22 28 41.3 -0.5
LSA Lhasa 42.22 277 P P 22 28 43.5 +1.7
LSA pP sP 22 28 52.8 0.0
ZAA0 Zalesovo Array 42.91 314 P P 22 28 46.0 -0.5
ZALV Zalesovo Beam 42.91 314 P P 22 28 46.4 -0.1
ZALV Zalesovo Beam 42.91 314 P P 22 28 46.7 +0.2
comp=Z,3.2nm,0.4s,baz=93,slow=6.5,SNR=20
ZALV PcP PcP 22 30 36.1 -0.7
comp=Z,1.2nm,0.7s,baz=85,slow=3.6,SNR=2.0
comp=Z,3.2nm,0.4s
F15K North Star Dit 43.70 29 P sP 22 29 05.3 +1.6
baz=253
M14K Bethel 43.80 36 P sP 22 29 06.0 +1.5
baz=261
C16K Lisburne Hills 44.25 25 P P 22 28 57.8 +0.7
C16K IAmb IAmb 22 29 09.8
comp=Z,25nm,0.9s
H16K Elim 44.41 31 P sP 22 29 09.8 +0.5
baz=257
N15K Kvethluk River 44.63 37 P sP 22 29 12.7 +1.5
baz=264
O15K Ungalikthiuk R 44.67 39 P sP 22 29 12.5 +1.0
baz=265
NRIK Noril'sk 44.69 336 P P 22 29 00.1 -0.5
NRIK IAmb IAmb 22 29 21.1
comp=Z,16nm,1.3s
NRIK Noril'sk 44.69 336 P P 22 29 01.0 +0.4
comp=Z,2.6nm,0.4s,baz=139,slow=13,SNR=4.5
comp=Z,2.6nm,0.4s
MK31 Makanchi Array 44.87 303 P P 22 29 02.1 -0.3
MKAR Makanchi Array 44.87 303 P P 22 29 01.8 -0.6
MKAR Makanchi Array 44.87 303 P P 22 29 02.3 -0.1
comp=Z,3.3nm,0.6s,baz=87,slow=9.5,SNR=33
comp=Z,3.3nm,0.6s
RDOG Red Dog Mine 45.04 26 P sP 22 29 14.7 +0.4
baz=253,SNR=6.2
C17K DeLong Mountai 45.07 25 P sP 22 29 15.5 +0.9
baz=252
MAKZ Makanchi 45.08 304 P P 22 29 03.4 -0.6
MAKZ Makanchi 45.08 304 P P 22 29 04.0 -0.1
L16K Owhat River 45.12 35 P sP 22 29 16.0 +1.0
baz=263
E17K Hotham Inlet 45.17 28 P sP 22 29 16.4 +1.1
baz=255,SNR=6.3
F17K Baldwin Pennin 45.23 29 P sP 22 29 17.4 +1.6
baz=256
G17K Kiwalik Mounta 45.26 30 P sP 22 29 15.9 -0.2
baz=258
M16K Timber Creek 45.29 36 P sP 22 29 17.6 +1.2
baz=264
N16K Nishlik Lake 45.32 37 P sP 22 29 17.5 +0.8
baz=264
E18K Tukpahlearik C 45.72 27 P sP 22 29 21.4 +1.7
baz=256
L17K Donlin 45.73 35 P sP 22 29 21.7 +1.9
baz=263,SNR=5.7
K17K Iditarod 45.80 34 P sP 22 29 21.9 +1.6
baz=263,SNR=5.0
B18K Kokolik River 45.82 24 P sP 22 29 22.3 +1.9
baz=253,SNR=5.7
C18K Utukok River 45.82 26 P sP 22 29 21.2 +0.7
baz=254
M17K Holitna River 46.06 36 P sP 22 29 24.4 +1.9
baz=265
H18K Honhosa River 46.13 31 P sP 22 29 24.0 +1.0
baz=260
G18K Tagagawik 46.15 30 P sP 22 29 24.5 +1.4
baz=259
A19K Wainwright 46.31 23 P sP 22 29 26.1 +1.5
baz=253
L18K Granite Mounta 46.49 35 P 22 29 16.4 +1.5
L18K Granite Mounta 46.49 35 P sP 22 29 27.6 +1.8
baz=265
C19K Lookout Ridge 46.51 25 P sP 22 29 27.4 +1.5
baz=255,SNR=7.4

G19K Purcell Mounta 46.82 29 P sP 22 29 29.3 +0.9
baz=261
KURK Kurchatov 46.83 309 P P 22 29 17.1 -0.7
KURK Kurchatov 46.83 309 P P 22 29 17.5 -0.3
KURK sP sP 22 29 31.1 +2.1
M18K Stony River 46.84 36 P sP 22 29 30.3 +1.7
baz=266
D19K Kuna River 46.88 26 P sP 22 29 30.3 +1.5
baz=257
KURBB Kurchatov Arra 46.90 309 P P 22 29 18.0 -0.2
comp=Z,3.1nm,0.5s,baz=84,slow=7.6,SNR=35
comp=Z,3.1nm,0.5s
E19K Redstone River 47.00 28 P 22 29 20.2 +1.4
E19K IAmb IAmb 22 29 31.9
comp=Z,15nm,0.8s
E19K Redstone River 47.00 28 P sP 22 29 30.9 +1.1
baz=259
J19K Poorman 47.15 32 P P 22 29 21.2 +1.1
J19K IAmb IAmb 22 29 33.0
comp=Z,11nm,0.9s
J19K Poorman 47.15 32 P sP 22 29 31.7 +0.7
baz=264,SNR=7.6
D20K Etivluk River 47.47 26 P sP 22 29 34.4 +1.0
baz=259
O19K Port Alsworth 47.51 38 P sP 22 29 35.6 +1.7
baz=269
E20K Nigu River 47.53 27 P sP 22 29 35.2 +1.2
baz=260,SNR=5.6
B20K Meade River 47.55 24 P 22 29 24.2 +1.1
B20K Meade River 47.55 24 P sP 22 29 35.5 +1.2
baz=257
H20K Anotleneega Mo 47.63 30 P sP 22 29 35.8 +1.0
baz=263
SOEI Soe 47.67 203 P P 22 29 24.5 -0.3
K20K Telida 47.78 33 P sP 22 29 37.3 +1.4
baz=266
J20K Nowinta River 47.81 32 P sP 22 29 37.8 +1.7
baz=265
L20K Farewell, AK 47.81 35 P sP 22 29 37.4 +1.2
baz=267,SNR=5.3
A21K Barrow 48.03 23 P sP 22 29 38.7 +0.7
baz=256
M20K Styx River 48.14 35 P sP 22 29 40.2 +1.4
baz=268
C21K Knifeblade Rid 48.20 26 P sP 22 29 40.3 +1.3
baz=260
G21K Allakaket 48.30 29 P sP 22 29 41.2 +1.3
baz=264
B21K Ikpikpuk River 48.34 25 P sP 22 29 41.3 +1.2
baz=260
PRZ Przheval'sk 48.38 298 P P 22 29 31.2 +1.0
F21K Alatna River 48.40 28 P sP 22 29 41.8 +1.2
baz=263
KDAK Kodiak Island 48.44 41 P P 22 29 30.5 +0.4
KDAK Kodiak Island 48.44 41 P sP 22 29 40.6 -0.4
baz=272
A22K Sinclair Lake 48.48 23 P sP 22 29 42.1 +0.6
baz=258
H21K Melozitna Rive 48.51 30 P P 22 29 31.3 +0.7
H21K Melozitna Rive 48.51 30 P sP 22 29 42.1 +0.6
baz=265,SNR=5.3
Q20K Shuyak Island 48.51 40 P sP 22 29 41.4 -0.2
baz=272
N20K Mount Spurr 48.57 36 P sP 22 29 43.4 +1.3
baz=270,SNR=8.2
CHUM Lake Minchumin 48.59 33 P sP 22 29 43.8 +1.7
baz=267
PPLA Purkeypile 48.61 34 P sP 22 29 43.7 +1.2
baz=269
CAST Castle Rocks 48.68 33 P sP 22 29 44.3 +1.4
baz=268
B22K Teshekpuk Lake 48.87 24 P sP 22 29 45.2 +0.8
baz=260
D22K Ayikyak River 48.90 26 P sP 22 29 46.0 +1.5
baz=262
MTN Manton Dam 48.91 193 P P 22 29 34.4 +0.3
F22K John River 48.93 28 P sP 22 29 46.3 +1.5
baz=264
TARG Taragay, Kyrgy 49.00 298 P P 22 29 35.0 -0.1
TARG IAmb IAmb 22 29 50.5
comp=Z,17nm,0.8s
H22K Ishtalitna Cre 49.11 30 P sP 22 29 48.0 +1.9
baz=266
COEN Coen 49.11 177 P P 22 29 35.7 +0.1
COEN IAmb IAmb 22 29 46.6
comp=Z,13nm,1.1s
E22K Anaktuvuk Pass 49.13 27 P sP 22 29 47.8 +1.5
baz=264
G22K Bettles 49.13 29 P sP 22 29 47.0 +0.7
baz=265
SUA Susitna One 49.27 36 P P 22 29 36.1 -0.5
SUA IAmb IAmb 22 29 49.9
comp=Z,14nm,1.0s
SUA Susitna One 49.27 36 P sP 22 29 48.6 +1.0
baz=271,SNR=5.8
BRSE Bradley Lake S 49.32 38 P sP 22 29 49.1 +1.2
baz=272
MLY Manley 49.33 31 P sP 22 29 49.4 +1.6
baz=268
TRF Thorofare Moun 49.48 33 P sP 22 29 49.8 +0.6
baz=269
D23K Nanushuk River 49.63 26 P sP 22 29 51.5 +1.4
baz=264
C23K Itkillik River 49.75 25 P P 22 29 42.8 +2.9
C23K IAmb IAmb 22 29 52.7
comp=Z,16nm,0.9s
C23K Itkillik River 49.75 25 P sP 22 29 52.5 +1.3
baz=264
RC01 Rabbit Creek A 49.77 36 P P 22 29 39.0 -1.3
RC01 IAmb IAmb 22 29 52.6
comp=Z,15nm,0.9s
RC01 Rabbit Creek A 49.77 36 P sP 22 29 51.5 +0.3
baz=272
I23K Minto, Yukon-K 49.92 31 P sP 22 29 53.5 +1.3
baz=269
E23K Chandalar 49.95 27 P sP 22 29 54.1 +1.5
baz=266
PMR Palmer 50.04 36 P sP 22 29 53.8 +0.5
baz=272
MCK McKinley 50.09 33 P sP 22 29 53.9 +0.2
baz=270
RND Reindeer 50.13 33 P P 22 29 43.1 +0.1
RND IAmb IAmb 22 29 55.4
comp=Z,13nm,1.0s
WAT1 Susitna Watana 50.28 34 P sP 22 29 54.9 -0.2
baz=272
D24K Happy Valley 50.31 26 P sP 22 29 56.6 +1.4
baz=266
E24K Your Creek 50.37 27 P sP 22 29 58.0 +2.2
baz=267
KNK Knik Glacier 50.37 36 P sP 22 29 56.2 +0.3
baz=273
C24K Franklin Bluff 50.40 25 P sP 22 29 56.9 +0.8
baz=266
SML Sawmill 50.41 36 P sP 22 29 57.0 +0.8
baz=272
H24K Noodor Dome 50.55 30 P P 22 29 46.9 +0.7
H24K IAmb IAmb 22 29 59.9
comp=Z,17nm,1.1s
H24K Noodor Dome 50.55 30 P sP 22 29 58.8 +1.6
baz=270,SNR=7.1
M23K Glacier View 50.70 36 P sP 22 29 58.7 +0.3
baz=273
POKR Poker Plat Res 50.73 31 P sP 22 29 59.8 +1.3
baz=271,SNR=10
SCM Sheep Creek Mo 50.89 35 P P 22 29 49.9 +1.1
SCM IAmb IAmb 22 30 02.7
comp=Z,25nm,1.1s
SCM Sheep Creek Mo 50.89 35 P sP 22 30 00.5 +0.7
baz=273
KSH Kashi 50.94 295 P P 22 29 56.3 +6.7
KSH pP sP 22 30 05.6 +4.6
KSH sP pP 22 30 08.0 +10
KSH LR LR
comp=Z,670nm,17.2s
KSH LR LR
comp=Z,510nm,14.4s
HDA Harding Lake 50.95 32 P sP 22 30 00.6 +0.4
baz=272
IL31 50.97 32 P P 22 29 48.8 -0.4
IL31 IAmb IAmb 22 30 04.3
comp=Z,16nm,1.1s
ILAR Eielson Array 50.97 32 P P 22 29 49.6 +0.3
ILAR Eielson Array 50.97 32 P P 22 29 50.8 +1.5
comp=Z,1.8nm,0.7s,baz=266,slow=5.3,SNR=22
comp=Z,1.8nm,0.7s
AAK Ala-Archa 51.14 299 P P 22 29 50.8 -0.3

AAK	**Ala-Archa**	51.14	299	P		**P**	22 29 51.2	+0.1
AAK				x		x	22 30 07.5	
G25K	**Bearman Lake**	51.26	29	P		sP	22 30 04.5	+2.1
	baz=270							
F25K	**Christian Rive**	51.44	28	P		sP	22 30 05.8	+2.0
	baz=270							
E25K	**Arctic Village**	51.47	27	P		sP	22 30 06.1	+2.1
	baz=270,SNR=6.3							
K24K	**Donnelly Dome**	51.49	33	P		sP	22 30 04.7	+0.5
	baz=273							
PRP	**Porcupine Dome**	51.52	31	P		sP	22 30 05.8	+1.2
	baz=272							
BVAR	**Borovoye Array**	51.57	313	P		**P**	**22 29 54.3**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=93,slow=7.3,SNR=11							
	comp=Z,2.0nm,0.5s							
KLU	**Klutina**	51.58	36	P		**P**	**22 29 54.5**	**+0.5**
KLU				IAmb		IAmb	22 30 07.3	
	comp=Z,14nm,0.9s							
KLU	**Klutina**	51.58	36	P		sP	22 30 05.8	+0.8
	baz=275							
BRVK	**Borovoye**	51.62	313	P		**P**	**22 29 53.7**	**-0.6**
BRVK				IAmb		IAmb	22 30 08.1	
	comp=Z,11nm,0.9s							
BRVK	**Borovoye**	51.62	313	P		**P**	**22 29 55.1**	**+0.8**
BRVK				pP		**sP**	**22 30 05.4**	**-0.3**
PAX	**Paxson**	51.68	34	P		sP	22 30 07.3	+1.6
	baz=274							
C26K	**Camden Bay**	51.72	25	P		sP	22 30 07.4	+1.3
	baz=269							
BMAR	**Burnt Mountain**	51.85	28	P		**P**	**22 29 56.9**	**+1.0**
F26K	**Sheenjek River**	52.01	28	P		sP	22 30 10.2	+2.2
	baz=272							
KNRA	**Kununurra**	52.14	195	P		**P**	**22 29 58.0**	**-0.5**
G26K	**Porcupine Rive**	52.17	29	P		sP	22 30 11.3	+2.1
	baz=272							
BMRM	**Bremner River**	52.27	36	P		sP	22 30 08.9	-1.2
	baz=276							
SCRK	**Sand Creek**	52.27	33	P		sP	22 30 09.9	-0.3
	baz=274,SNR=7.0							
J26L	**Joseph Creek**	52.41	32	P		sP	22 30 11.2	0.0
	baz=274							
L26K	**Log Cabin Wild**	52.64	34	P		sP	22 30 14.1	+1.3
	baz=276,SNR=6.3							
GSI	**Gunungsitoli**	52.83	240	P		**P**	**22 30 02.0**	**-1.8**
GSI				IAmb		IAmb	22 30 15.6	
	comp=Z,32nm,1.2s							
M26K	**Nabesna, AK**	52.87	34	P		sP	22 30 16.2	+1.7
	baz=277							
E27K	**Coleen River**	52.95	27	P		sP	22 30 16.6	+1.6
	baz=273							
G27K	**Doyon Strip**	53.02	29	P		sP	22 30 16.7	+1.1
	baz=274							
CRQE	**Cirque**	53.03	37	P		sP	22 30 17.5	+1.6
	baz=278							
K27K	**Chicken**	53.10	32	P		sP	22 30 17.3	+1.1
	baz=276							
D27M	**Malcolm River**	53.12	26	P		sP	22 30 16.3	-0.4
	baz=273							
H27K	**Steamboat Moun**	53.12	30	P		sP	22 30 17.9	+1.6
	baz=275							
I27K	**Kandik River**	53.14	30	P		sP	22 30 18.4	+1.9
	baz=275							
L27K	**Beaver Creek,**	53.33	34	P		sP	22 30 19.1	+1.2
	baz=277							
BCAR	**Beaver Creek A**	53.34	34	P		**P**	**22 30 06.9**	**-0.1**
M27K	**Edge Creek, AK**	53.39	34	P		sP	22 30 20.0	+1.5
	baz=278							
EGAK	**Eagle**	53.42	31	P		sP	22 30 18.3	-0.2
	baz=276							
E28M	**Babbage River**	53.68	27	P		sP	22 30 21.8	+1.4
	baz=275							
GRNC	**Granite Creek**	53.68	36	P		**P**	**22 30 09.9**	**+0.2**
KK31	**Karatay Array**	53.82	301	P		**P**	**22 30 10.3**	**-0.5**
KK31				IAmb		IAmb	22 30 37.0	
	comp=Z,20nm,1.3s							
KKAR	**Karatay Array**	53.82	301	P		**P**	**22 30 10.3**	**-0.4**
I28M	**Miner Creek**	53.85	31	P		sP	22 30 23.0	+1.2
	baz=277							
YUK3	**Moose Creek**	54.14	35	P		sP	22 30 25.1	+1.0
	baz=279							
DAWY	**Dawson**	54.27	32	P		sP	22 30 26.9	+2.1
	baz=278							
E29M	**Blow River**	54.30	27	P		sP	22 30 26.6	+1.8
	baz=277							
H29M	**Whitestone**	54.40	29	P		sP	22 30 26.2	+0.6
	baz=278							
G29M	**Pine Creek**	54.44	29	P		sP	22 30 27.8	+1.8
	baz=278							
I29M	**Ogilvie Camp,**	54.54	31	P		sP	22 30 27.7	+1.0
	baz=278,SNR=6.7							
M29M	**Somme Creek**	54.95	34	P		sP	22 30 31.2	+1.4
	baz=280							
L29M	**L29M**	54.98	33	P		sP	22 30 31.8	+1.8
	baz=280,SNR=7.0							
NIL	**Nilore**	54.99	289	P		**P**	**22 30 19.1**	**-0.3**
NIL				IAmb		IAmb	22 30 37.6	
	comp=Z,15nm,1.0s							
EPYK	**Eagle Plains**	55.03	29	P		sP	22 30 31.6	+1.4
	baz=279,SNR=7.3							
YUK4	**Talbot Arm**	55.07	35	P		sP	22 30 31.9	+1.1
	baz=281							
K29M	**Barlow Dome**	55.12	32	P		sP	22 30 32.6	+1.6
	baz=280							
G30M	**tAoh Zraii Nji**	55.13	28	P		sP	22 30 32.1	+1.1
	baz=279,SNR=7.8							
F30M	**Barrier River**	55.20	28	P		sP	22 30 33.4	+2.0
	baz=279							
FITZ	**Fitzroy Crossi**	55.21	198	P		**P**	**22 30 20.2**	**-0.7**
FITZ				IAmb		IAmb	22 31 25.6	
	comp=Z,26nm,2.0s							
WB0	**Warramunga Arr**	55.24	188	P		**P**	**22 30 20.5**	**-0.7**
WB0				IAmb		IAmb	22 30 32.8	
	comp=Z,18nm,0.9s							
O29M	**Mount Kennedy**	55.31	37	P		sP	22 30 33.8	+1.3
	baz=282							
I30M	**Mount Dempster**	55.36	31	P		sP	22 30 34.2	+1.4
	baz=280							
WRA	**Warramunga Arr**	55.41	188	P		**P**	**22 30 22.1**	**-0.4**
WRA	**Warramunga Arr**	55.41	188	P		**P**	**22 30 22.0**	**-0.4**
	comp=Z,8.0nm,0.6s,baz=3.8,slow=7.6,SNR=33							
	comp=Z,8.0nm,0.6s							
M30M	**Minto, Yukon**	55.69	34	P		sP	22 30 36.5	+1.4
	baz=282							
G31M	**Satah River**	55.90	28	P		sP	22 30 37.0	+0.7
	baz=281							
INK	**Inuvik**	55.92	27	P		**P**	**22 30 25.0**	**-0.5**
INK				IAmb		IAmb	22 30 38.2	
	comp=Z,10nm,1.1s							
INK	**Inuvik**	55.92	27	P		sP	22 30 37.0	+0.2
	baz=281,SNR=5.4							
SIMJ	**Simiganj**	56.34	296	P		**P**	**22 30 28.3**	**-1.0**
SIMJ				IAmb		IAmb	22 30 39.1	
	comp=Z,12nm,1.1s							
SIMJ	**Simiganj**	56.34	296	P		**P**	**22 30 28.9**	**-0.4**
ARU	**Arti**	57.49	319	P		**P**	**22 30 36.2**	**-0.7**
ARU				IAmb		IAmb	22 30 49.1	
	comp=Z,20nm,0.8s							
ARU	**Arti**	57.49	319	P		**P**	**22 30 36.8**	**-0.1**
ARU				pP		**pP**	**22 30 47.0**	**+2.0**
KBL	**Kabul**	57.86	292	P		**P**	**22 30 38.8**	**-1.3**
HYB	**Hyderabad**	58.01	269	*e*P		**P**	**22 30 41.1**	**0.0**
P33M	**Teslin, Yukon**	58.11	36	P		sP	22 30 53.8	+1.4
	baz=286							
ABKAR	**Akbulak array**	58.88	311	P		**P**	**22 30 46.1**	**-0.6**
ABKAR				IAmb		IAmb	22 31 06.0	
	comp=Z,17nm,1.4s							
ABKAR	**Akbulak array**	58.88	311	P		**P**	**22 30 46.0**	**-0.7**
C36M	**Paulatuk**	58.99	24	P		sP	22 30 58.3	-0.1
	baz=288							
AS31	**Alice Springs**	59.14	188	P		**P**	**22 30 48.9**	**+0.2**
ASAR	**Alice Springs**	59.14	188	P		**P**	**22 30 49.2**	**+0.5**
ASAR	**Alice Springs**	59.14	188	P		**P**	**22 30 50.2**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=15,slow=10,SNR=20							
	comp=Z,2.5nm,0.8s							
PSA00	**Pilbara Seismi**	60.17	203	P		**P**	**22 30 54.8**	**-1.0**
HRA	**Herat**	63.04	294	P		**P**	**22 31 15.2**	**-0.2**
LVZ	**Lovozero**	63.54	336	P		**P**	**22 31 18.2**	**+0.2**
RES	**Resolute Bay**	64.23	14	P		**P**	**22 31 22.5**	**+0.1**
RES				IAmb		IAmb	22 31 33.7	
	comp=Z,9.0nm,0.8s							
GEYT	**Alibeck**	64.50	300	P		**P**	**22 31 23.9**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=59,slow=31,SNR=4.1							
	comp=Z,1.8nm,0.8s							
YKA	**Yellowknife Ar**	65.31	30	P		**P**	**22 31 31.4**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=302,slow=6.6,SNR=6.9							
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	65.47	340	P		**P**	**22 31 31.1**	**+0.5**
ARCES	**ARCESS Array B**	65.47	340	P		**P**	**22 31 31.4**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=48,slow=5.8,SNR=7.0							
	comp=Z,1.7nm,0.7s							
STKA	**Stephens Creek**	66.92	180	P		**P**	**22 31 41.5**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=301,slow=15,SNR=3.0							
	comp=Z,0.7nm,0.3s							
FORT	**Forrest**	66.97	192	P		**P**	**22 31 40.9**	**+0.3**
NEEM	**North Greenlan**	67.17	3	*e*P		**P**	**22 31 42.9**	**+1.1**
DAG	**Danmarks Havn**	67.39	355	*i* P		**P**	**22 31 43.0**	**+0.3**
DAG				*i* P		**P**	**22 31 43.0**	**+0.3**
MORW	**Morawa**	68.37	204	P		**P**	**22 31 49.4**	**0.0**
FINES	**FINESS Array B**	70.19	332	P		**P**	**22 31 59.9**	**-0.4**
FINES	**FINESS Array B**	70.19	332	P		**P**	**22 32 00.2**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=65,slow=4.3,SNR=18							
	comp=Z,4.3nm,0.7s							
YBH	**Yreka Blue Hor**	71.48	52	P		**P**	**22 32 11.8**	**+3.1**
	comp=Z,1.4nm,0.8s,baz=309,slow=6.5,SNR=1.4							
	comp=Z,1.4nm,0.8s							
KBZ	**Khabaz**	71.85	311	P		**P**	**22 32 10.4**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=39,slow=0.5,SNR=4.4							
	comp=Z,3.6nm,0.8s							
KIV	**Kislovodsk**	71.86	311	P		**P**	**22 32 11.7**	**+0.7**
KIV				IAmb		IAmb	22 32 29.9	
	comp=Z,21nm,1.0s							
KIV	**Kislovodsk**	71.86	311	P		**P**	**22 32 12.4**	**+1.4**
KIV				pP		**sP**	**22 32 21.9**	**-0.6**
SUMG	**Summit**	72.32	360	P		**P**	**22 32 14.1**	**+0.5**
SUMG				IAmb		IAmb	22 32 26.3	
	comp=Z,26nm,1.2s							
SUMG	**Summit**	72.32	360	*e*P		**P**	**22 32 15.0**	**+1.4**
PABE	**Paberze**	74.85	328	P		**P**	**22 32 28.5**	**+0.3**
GURO	**Guroymak-BITLI**	75.19	307	P		**P**	**22 32 30.6**	**-0.1**
AKASG	**Malin Array Be**	75.50	322	P		**P**	**22 32 31.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=46,slow=5.9,SNR=21							
	comp=Z,1.8nm,0.6s							
AKBB	**Malin Array Si**	75.50	322	P		**P**	**22 32 30.9**	**-1.2**
AKBB				IAmb		IAmb	22 32 49.7	
	comp=Z,11nm,1.1s							
KIEV	**Kiev**	75.51	322	P		**P**	**22 32 30.6**	**-1.5**
KIEV				IAmb		IAmb	22 32 49.7	
	comp=Z,10nm,1.1s							
HFS	**Hagfors**	75.52	336	P		**P**	**22 32 31.9**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=51,slow=7.6,SNR=5.3							
	comp=Z,1.8nm,0.6s							
FCC	**Fort Churchill**	75.54	26	P		**P**	**22 32 32.2**	**+0.1**
FCC				IAmb		IAmb	22 32 44.2	
	comp=Z,12nm,1.1s							
NC204	**NORSAR Array S**	75.60	338	P		**P**	**22 32 32.4**	**-0.1**
NC204				IAmb		IAmb	22 34 54.0	
	comp=Z,39nm,1.4s							
NB2	**NORSAR Subarra**	75.64	337	P		**P**	**22 32 33.1**	**+0.4**
	comp=Z,8.6nm,0.9s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	75.64	337	P		**P**	**22 32 33.1**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=39,slow=5.7,SNR=7.5							
	comp=Z,2.2nm,0.8s							
NVAR	**Mina Array Bea**	76.11	53	P		P	22 32 39.5	+3.4
	comp=Z,1.0nm,0.6s,baz=284,slow=4.8,SNR=5.4							
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	78.93	45	P		**P**	**22 32 53.5**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=299,slow=1.9,SNR=3.3							
	comp=Z,0.4nm,0.5s							
KWP	**Kalwaria Pacla**	79.37	324	P		**P**	**22 32 54.1**	**+0.4**
BUR08	**Bucovina Ar. S**	79.49	322	P		**P**	**22 32 54.7**	**+0.2**
BUR08				IAmb		IAmb	22 32 56.4	
	comp=Z,37nm,2.0s							
BR131	**Keskin Array S**	79.82	312	P		**P**	**22 32 56.6**	**0.0**
BRTR	**Keskin Array B**	79.82	312	P		**P**	**22 32 57.7**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=126,slow=3.2,SNR=3.9							
	comp=Z,0.7nm,0.7s							
STHS	**Stebnicka Huta**	80.21	325	*e*P		**P**	**22 33 00.3**	**+2.0**
LANS	**Liptovska Anna**	81.22	326	*e*P		**P**	**22 33 05.9**	**+2.1**
DPC	**Dobruska-Polom**	81.76	328	*e*P		**P**	**22 33 07.4**	**+0.8**
VYHS	**Vyhne**	81.98	325	*e*P		**P**	**22 33 08.6**	**+0.8**
CLL	**Collm**	82.44	330	*e*P		**P**	**22 33 10.0**	**-0.1**
MMAI	**Mount Meron Ar**	82.78	305	P		**P**	**22 33 14.1**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=69,slow=7.9,SNR=1.8							
	comp=Z,1.1nm,0.6s							
MODS	**Modra-Piesok**	82.79	326	*e*P		**P**	**22 33 13.3**	**+1.3**
PRU	**Pruhonice**	82.80	329	*e*pP		pP	22 33 24.2	+3.8
CKRC	**Cesky Krumlov**	83.78	328	*e*P		**P**	**22 33 17.5**	**+0.4**
KHC	**Kasperske Hory**	83.86	328	*e*P		**P**	**22 33 17.6**	**+0.1**
GERES	**GERESS Array B**	84.02	328	P		**P**	**22 33 18.3**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=357,slow=7.3,SNR=3.7							
	comp=Z,1.1nm,0.7s							
GRF	**Grafenberg Arr**	84.41	330	*e*P		**P**	**22 33 20.7**	**+0.4**
	comp=Z,6.2nm,1.0s,baz=39,slow=4.3							
EKA	**Eskdalemuir Ar**	84.62	340	P		**P**	**22 33 21.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=44,slow=6.2,SNR=1.4							
	comp=Z,0.7nm,0.6s							
SOKA	**Soboth**	85.06	326	*e*P		**P**	**22 33 24.0**	**+0.3**
	comp=Z,5.4nm,0.8s							
KBA	**Koelnbreinsper**	85.52	327	*e*PcP		**P**	**22 33 27.4**	**+1.2**
	comp=Z,4.1nm,0.9s							
LESA	**Schwarzleotal**	85.55	328	*e*PcP		**P**	**22 33 26.7**	**+0.5**
	comp=Z,3.3nm,0.9s							
MYKA	**Terra Mystica**	85.73	327	*e*P		**P**	**22 33 27.1**	**0.0**
	comp=Z,3.8nm,0.7s							
ANMO	**Albuquerque**	85.77	50	P		**P**	**22 33 30.4**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=319,slow=11,SNR=2.0							
	comp=Z,0.8nm,0.5s							
SCHQ	**Schefferville**	86.96	16	P		**P**	**22 33 34.4**	**+1.6**
	comp=Z,4.8nm,1.1s,baz=42,slow=17,SNR=2.2							
	comp=Z,4.8nm,1.1s							
TXAR	**Lajitas Array**	91.25	52	P		**P**	**22 33 56.1**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=272,slow=3.3,SNR=6.2							
	comp=Z,0.5nm,0.7s							
H06N1	**SOCORRO T-PHAS**	92.94	65	T		T	00 17 31.4	
	SNR=7.5							
H06S1	**SOCORRO T**	93.04	65	T		T	00 17 33.9	
	SNR=6.4							
TORD	**Torodi Ar. Bea**	118.36	314	PKP		**PKiKP**	**22 39 35.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=32,slow=1.8,SNR=2.1							
H03N2	**Juan Fernandez**	146.98	98	T		T	01 24 51.8	
	baz=290,slow=76,SNR=188							
H03N3	**Juan Fernandez**	146.99	98	T		T	01 24 52.9	
	baz=290,slow=76,SNR=197							
H03N1	**Juan Fernandez**	147.00	98	T		T	01 24 53.0	
	baz=290,slow=76,SNR=176							

BJI ***09*** *22:30:11.5±0.0,35.2°N×141.4°E,h5km,mb4.9/79, mB5.2/45,Ms5.0/81,Ms7 4.9/77*

MOS ***09*** *22:30:17.3±1.0,35.3°N×141.1°06E,h19km,mb5.5/96, MS4.8/16,Error ellipse: s-maj=6.6km s-min=3.8km az=116.9*

NIED ***09*** *22:30:19.6,35.4°42N×141.2°21E,h32km,MW5.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-2.92; Mθθ0.03; Mφφ2.89; Mrθ1.38; Mθφ-1.96; Mφr1.96; Fault plane solution: M₀4.24000×10¹⁶ NP1: φs182.00000°,δ62.00000°,λ-55.00000°. NP2: φs306.00000°,δ44.00000°,λ-137.00000°.*

JMA ***09*** *22:30:19.6±0.2,35.4°N±0.5×14.1°E±1,h32km±1km, MD5.2/33,MW5.1/33,E OFF BOSO PENINSULA*

JMA Felt II J1 at E OFF BOSO PENINSULA .

NEIC ***09*** *22:30:19.1±1.6,35.3°44N±0.0°04×141.2°20E±0.0°07,h19km±2km, mb5.4/256,Error ellipse: s-maj=8.9km s-min=5.6km az=104.0*

IDC ***09*** *22:30:19.1±2.6,35.3°33N×141.0°02E,h19km±15km,mb5.0/42, mbtmp5.1/44,ML4.2/2,MS4.5/69,Error ellipse: s-maj=10.7km s-min=9.4km az=98.0*

GCMT ***09*** *22:30:22.1±0.2,35.3°36N±0.0°01×141.0°09E±0.0°02,h28km, MW5.1/115,Moment Tensor Solution. s53,c73; s115,c164; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.22±.16; Mθθ-0.18±.11; Mφφ2.40±.11; Mrθ2.90±.21; Mθφ-2.47±.07; Mφr2.95±.20; Best double couple: M₀5.10200×10¹⁶ NP1:φs189.00000°,δ71.00000°, λ-48.00000°. NP2:φs299.00000°,δ45.00000°, λ-152.00000°. Principal axes: T 4.1810, Plg15.0000°, Azm250.0000°; N 1.8420, Plg39.0000°, Azm352.0000°; P -6.0230, Plg47.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***09*** *22:30:27.2,36.18N×140.64E,h33km,mb5.4*

ISC 09 22:30:18.3±0.4,35.35N±0.03×141.15E±0.03,h16km±2km, h16km:pP-P,n1342,σ1944/1306,mb5.3/339,MS4.7/104, 66C-51D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.65**	**297**	P	**P**	**Pn**	**22 30 32.8**	**0.0**
JSMT				*e*S	**S**	**Sn**	**22 30 41.8**	**-0.9**
JSMT	**Sammumatsuo**	**0.65**	**297**	A	A	A	22 30 32.8	
	comp=E,422nm,2.9s,comp=N,484nm,2.8s							
I30JP	**ISUMI INFRASON**	**0.69**	**267**	Pg	**Pg**		**22 30 30.0**	**-1.8**
	baz=87,slow=15							
BSO1	**Boso 1**	**0.70**	**192**	P	**Pn**		**22 30 34.0**	**+0.9**
KTR	**Katsuura**	**0.71**	**254**	P	**Pn**		**22 30 34.3**	**+0.6**
BSO3	**Boso 3**	**0.76**	**224**	*i* P	**Pn**		**22 30 35.2**	**+1.1**
BSO4	**Boso 4**	**0.76**	**242**	P	**Pn**		**22 30 35.2**	**+1.0**
JCN	**Nagara**	**0.78**	**276**	*i* P	**Pn**		**22 30 35.8**	**+1.1**
JCN	**Nagara**	**0.78**	**276**	A	A		22 30 35.8	
	comp=E,503nm,3.6s,comp=N,315nm,1.7s							
JKUC	**kamogawauchiur**	**0.80**	**257**	A	A		22 30 35.5	
	comp=E,200nm,1.5s,comp=N,171nm,3.4s							
JIHU	**Itakohorinouch**	**0.80**	**321**	P	**Pn**		**22 30 34.8**	**-0.1**
JIHU				S	**Sn**		**22 30 45.8**	**-0.8**
JIHU	**Itakohorinouch**	**0.80**	**321**	A	A		22 30 34.8	
	comp=E,473nm,2.4s,comp=N,385nm,4.8s							
TATJ	**Tateyama 2**	**1.08**	**254**	A	A		22 30 39.9	
	comp=E,227nm,3.2s,comp=N,185nm,2.1s							
JHYU	**Hitachinakayam**	**1.09**	**335**	A	A		22 30 38.3	
	comp=E,79nm,0.9s,comp=N,69nm,0.7s							
JYT	**Yasato**	**1.18**	**319**	P	**Pn**		**22 30 39.6**	**-0.4**
JYT	**Yasato**	**1.18**	**319**	A	A		22 30 39.6	
	comp=E,62nm,0.4s,comp=N,59nm,1.4s							
TOK	**Tokyo**	**1.19**	**287**	A	A		22 30 40.9	
	comp=E,183nm,0.7s,comp=N,230nm,1.1s							
JYO	**Yokosk**	**1.22**	**265**	A	A		22 30 41.9	
	comp=E,132nm,3.7s,comp=N,134nm,4.2s							
JHO	**Hitachi**	**1.35**	**340**	A	A		22 30 42.1	
	comp=E,49nm,2.9s,comp=N,30nm,2.8s							
JIM2	**Oshima 3**	**1.55**	**247**	A	A		22 30 46.9	
	comp=E,72nm,2.0s,comp=N,68nm,1.2s							
JHU	**Hanno**	**1.61**	**289**	A	A		22 30 47.0	
	comp=E,52nm,1.6s,comp=N,43nm,2.5s							
JSGW	**Sagamiharawaka**	**1.61**	**280**	A	A		22 30 47.2	
	comp=E,35nm,4.1s,comp=N,50nm,4.0s							
JOD2	**Odawara 2**	**1.69**	**268**	A	A		22 30 48.7	
	comp=E,68nm,3.7s,comp=N,95nm,2.1s							
JTHY	**Toshimahigashi**	**1.74**	**242**	A	A		22 30 49.7	
	comp=E,53nm,0.8s,comp=N,54nm,0.8s							
JAG	**Ashikaga**	**1.75**	**308**	A	A		22 30 48.7	
	comp=E,22nm,4.0s,comp=N,26nm,2.5s							
ONAJ	**Iwakimizuishiy**	**1.78**	**351**	A	A		22 30 48.2	
	comp=E,38nm,2.2s,comp=N,17nm,3.6s							
JHTM	**Izuhatsuma**	**1.80**	**258**	A	A		22 30 50.4	
	comp=E,73nm,1.2s,comp=N,93nm,1.2s							
JFFD	**Fukushimafurud**	**1.81**	**345**	A	A		22 30 48.7	
	comp=E,25nm,1.8s,comp=N,17nm,2.6s							
JNIO	**Niijimaoohara**	**1.83**	**238**	A	A		22 30 51.2	
	comp=E,64nm,3.0s,comp=N,50nm,2.9s							
JMYK	**Miyake Tsubota**	**1.84**	**226**	A	A		22 30 51.4	
	comp=E,61nm,3.1s,comp=N,51nm,2.7s							
JSKK	**Shikinejimakit**	**1.89**	**238**	A	A		22 30 52.0	
	comp=E,41nm,1.8s,comp=N,35nm,1.4s							
JSB	**Shiboa**	**1.90**	**329**	A	A		22 30 50.5	
	comp=E,63nm,3.0s,comp=N,77nm,3.9s							
JRY	**Ryogami san**	**1.95**	**291**	A	A		22 30 52.0	
	comp=E,29nm,3.2s,comp=N,30nm,3.2s							
JIZS	**Izushimonda**	**1.97**	**252**	A	A		22 30 53.0	
	comp=E,24nm,2.0s,comp=N,20nm,2.3s							
JKO	**Kozu shima**	**2.02**	**236**	A	A		22 30 53.9	
	comp=E,67nm,3.6s,comp=N,43nm,2.3s							
JFNN	**Fujinakano**	**2.02**	**266**	A	A		22 30 53.5	
	comp=E,78nm,3.2s,comp=N,52nm,3.4s							
JFK	**Kawauchi**	**2.03**	**354**	A	A		22 30 51.8	
	comp=E,17nm,4.7s,comp=N,12nm,4.9s							
JKT	**Katashina**	**2.10**	**313**	A	A		22 30 53.6	
	comp=E,29nm,1.2s,comp=N,19nm,0.6s							
JYN	**Shimob**	**2.14**	**275**	A	A		22 30 55.0	
	comp=E,27nm,5.9s,comp=N,37nm,4.5s							
JOTO	**OTAMA OYAMA**	**2.31**	**344**	A	A		22 30 55.9	
	comp=E,67nm,0.9s,comp=N,69nm,1.1s							
JFY	**Yanaizu**	**2.37**	**331**	A	A		22 30 57.1	
	comp=E,23nm,3.9s,comp=N,16nm,2.6s							
JGK	**Kuni**	**2.37**	**301**	A	A		22 30 57.8	
	comp=E,22nm,2.2s,comp=N,25nm,3.5s							
JMST	**Minamisoumatoc**	**2.38**	**355**	A	A		22 30 56.9	
	comp=E,23nm,2.3s,comp=N,18nm,3.4s							
SHZ3	**Shizuoka 3**	**2.43**	**264**	A	A

comp=Z,137nm,0.7s
JEM Erimo 6.84 13 P Pn 22 31 57.2 -0.7
JCJ Chichijima 8.27 174 Pn Pn 22 32 16.2 -1.4
JCJ Chichijima 8.27 174 P Pn 22 32 17.1 -0.5
JCJ Chichijima 8.27 174 Pn Pn 22 32 12.5 -5.1
comp=Z,101nm,0.3s,baz=353,slow=2.0,SNR=23
JCJ Sn Sn 22 33 38.7 -12
comp=Z,68nm,0.3s,baz=284,slow=21,SNR=2.2
NMR Nemuro--Hokkai 8.76 22 *e*P **Pn 22 32 20.5 -3.7**
JNU Nakatsue 8.79 258 Pn **Pn 22 32 27.6 +2.8**
JNU Nakatsue 8.79 258 P **Pn 22 32 28.7 +3.9**
JNU Nakatsue 8.79 258 Pn **Pn 22 32 28.6 +3.8**
comp=Z,2.3nm,0.3s,baz=47,slow=5.8,SNR=15
JNU LR LR 22 36 18.4
comp=Z,8μm,20.2s,baz=68,slow=41
ASAJ Asahikawa 8.83 7 P **Pn 22 32 22.7 -2.5**
ASAJ Asahikawa 8.83 7 Pn **Pn 22 32 23.1 -2.2**
comp=Z,21nm,0.3s,baz=225,slow=10,SNR=26
ASAJ Sn **Sn 22 33 59.8 -4.6**
comp=Z,2.8nm,0.3s,baz=311,slow=18,SNR=2.2
JKA Kamikawa-asahi 8.83 7 Pn 22 32 22.7 -2.6
RUSJ Misakicho 9.30 19 *e*P Pn 22 32 25.5 -6.1
YUK Yuzh-Kuril'sk 9.40 21 *e*P Pn 22 32 27.3 -5.8
YUK pmax pmax
comp=Z,298nm,0.2s
YUK pmax pmax
comp=N,170nm,0.3s
YUK pmax pmax
comp=E,92nm,0.3s
SHO Shikotan 9.57 25 *e*P **Pn 22 32 32.1 -3.3**
SHO pmax pmax
comp=N,16nm,0.3s
SHO pmax pmax
comp=E,19nm,0.3s
SHO pmax pmax
comp=Z,29nm,0.3s
MSHR Mys Shultsa 10.61 316 P Pn 22 32 48.4 -1.2
KSRS Korea Array 10.87 285 Pn **Pn 22 32 57.6 +4.4**
comp=Z,0.9nm,0.3s,baz=101,slow=14,SNR=26
KSAR Wonju Array Be 10.90 285 Pn **Pn 22 32 55.6 +2.0**
KSAR Wonju Array Be 10.90 285 P **Pn 22 32 55.6 +2.0**
KS19 Wonju Array Si 10.92 285 Pn 22 32 55.2 +1.3
TJN Taejon 11.24 279*ce*P **Pn 22 33 02.9 +4.7**
USA0B Ussuriysk Arra 11.30 324 Pn 22 33 00.5 +1.4
USA0B Ussuriysk Arra 11.30 324 P **Pn 22 33 00.5 +1.4**
USRK Ussuriysk Ar. 11.30 324 Pn 22 33 59.8 +0.8
USRK Ussuriysk Ar. 11.30 324 Pn **Pn 22 33 00.4 +1.3**
comp=Z,1.1nm,0.3s,baz=135,slow=12,SNR=30
comp=Z,33nm,0.9s
YSS Yuzh-Sakhalins 11.66 5 Pn **Pn 22 33 02.0 -1.9**
YSS Yuzh-Sakhalins 11.66 5*ce*P **Pn 22 33 01.3 -2.6**
YSS pmax pmax
comp=Z,44nm,0.7s
MDJ Mudanjiang 12.81 320 P P 22 33 26.8 -3.8
MDJ pP Pn 22 33 30.3 +11
MDJ PP **PnPn 22 33 35.1 +7.6**
MDJ S **Sn 22 35 50.6 +8.8**
MDJ sS 22 36 00.9
MDJ SS **SnSn 22 36 07.5 +14**
MDJ PcP **PcP 22 39 00.9 +6.0**
MDJ ScP **ScP 22 42 34.2 +6.8**
MDJ PcS **PcS 22 42 35.9 +6.8**
MDJ Mudanjiang 12.81 320 ScS ScS 22 46 01.6 -2.0
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ pmax pmax
comp=Z,1μm,5.2s
MDJ LR LR
comp=N,3μm,19.2s
MDJ LR LR
comp=E,3μm,17.9s
MDJ LR LR
comp=Z,4μm,19.2s
MDJ Mudanjiang 12.81 320 Pn **Pn 22 33 21.4 +1.7**
JOW Kunigami 13.91 236 LR LR 22 38 47.7
comp=Z,1μm,21.1s,baz=80,slow=37
BNX BinXian 14.71 319 ⇓P **Pn 22 33 44.9 -0.7**
BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,710nm,5.3s
SNY Shenyang 15.18 300 ⇑P **Pn 22 33 53.4 +1.5**
SNY pmax pmax
comp=Z,54nm,1.0s
SNY pmax pmax
comp=Z,430nm,9.5s
SNY LR LR
comp=Z,980nm,17.9s
SNY LR LR
comp=Z,2μm,22.6s
SNY LR LR
comp=Z,2μm,22.4s
KLR Kul'dur 15.50 336 *i* P **Pn 22 33 52.8 -3.3**
KLR Kul'dur 15.50 336 Pn **Pn 22 33 52.6 -3.6**
comp=Z,1.0nm,0.3s,baz=161,slow=13,SNR=17
TYV Tymovskoe 15.55 4 *e*P **Pn 22 33 53.8 -2.9**
TYV *e*S **Sn 22 36 45.8 -2.7**
TYV pmax pmax
comp=Z,800nm,4.5s
TYV pmax pmax
comp=Z,75nm,0.7s
TYV smax smax
comp=N,1μm,6.1s
TYV smax smax
comp=E,1μm,6.1s
TYV MLR MLR
comp=Z,3μm,15.0s
GRNR Gornyy 15.79 349 ⇓*i*P **Pn 22 33 54.0 -5.9**
GRNR pmax pmax
comp=Z,4.0nm,0.7s
GRNR MLR MLR
comp=E,1μm,15.0s
GRNR MLR MLR
comp=N,1μm,18.0s
GRNR MLR MLR
comp=Z,1μm,18.0s
DL2 Dalian 15.97 289 P P 22 34 06.2 +0.5
DL2 S **S 22 37 06.8 -6.0**
DL2 pmax pmax
comp=Z,72nm,1.1s
DL2 pmax pmax
comp=Z,570nm,4.9s
DL2 LR LR
comp=Z,1μm,13.5s
DL2 LR LR
comp=Z,3μm,18.4s
DL2 LR LR
comp=Z,4μm,21.4s
SSE Sheshan 17.23 261 P Pn 22 34 16.9 -1.4
SSE S **Sn 22 37 27.9 -1.7**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,240nm,3.6s
SSE LR LR
comp=Z,1μm,15.7s
SSE LR LR
comp=Z,2μm,15.5s
HEH HeiHe 17.94 330 *e*P **Pn 22 34 23.4 -3.6**
HEH pmax pmax
comp=Z,17nm,1.0s
HEH pmax pmax
comp=Z,940nm,5.0s
HEH LR LR
comp=Z,2μm,13.0s
HEH LR LR
comp=Z,1μm,12.8s
HEH LR LR
comp=Z,3μm,13.9s
OKH Okha 18.25 3*de*P **Pn 22 34 23.5 -7.1**
OKH MLR MLR
comp=E,1μm,19.0s
OKH MLR MLR
comp=N,2μm,16.0s
OKH MLR MLR
comp=Z,2μm,17.0s
NJ2 Nanjing 18.84 266 *e*P **Pn 22 34 38.7 +0.7**
NJ2 pP **sP 22 34 43.7 -0.3**
NJ2 pmax pmax
comp=Z,17nm,1.1s
NJ2 pmax pmax
comp=Z,670nm,3.8s
NJ2 LR LR
comp=Z,3μm,16.1s
NJ2 LR LR
comp=Z,2μm,14.2s
NJ2 LR LR
comp=Z,3μm,12.3s
TIA Tai'an 19.51 280 P **P 22 34 43.0 -1.8**
TIA pmax pmax
comp=Z,17nm,1.9s
TIA LR LR
comp=Z,1μm,16.2s
TIA LR LR
comp=Z,2μm,17.2s
TIA LR LR
comp=Z,2μm,16.2s
YHNB Yeheng 20.13 243 P **P 22 34 49.9 -1.8**
YHNB Yeheng 20.13 243 P Pn 22 34 55.0 +1.4
comp=Z,31nm,0.9s
NACB Ninganchiao 20.27 242 P P 22 34 50.2 -2.9
NACB Ninganchiao 20.27 242 P **P 22 34 52.8 -0.3**
comp=Z,32nm,1.0s
BJI Beijing 20.29 291 P P 22 34 53.5 +0.2
BJI PP **PnPn 22 35 14.3 +4.3**
BJI pmax pmax
comp=Z,16nm,0.9s
BJI LR LR
comp=Z,410nm,18.9s
BJI LR LR
comp=Z,520nm,20.9s
BJI LR LR
comp=Z,860nm,22.9s
BJT Baijiatuan 20.29 291 P P 22 34 50.8 -2.5
BJT Baijiatuan 20.29 291 P **P 22 34 53.9 +0.6**
comp=Z,45nm,0.7s
BJT Baijiatuan 20.29 291 P P 22 34 50.8 -2.5
BJT pmax pmax
comp=Z,34nm,0.9s
ZEA Zeya 20.82 336 *e*P **P 22 34 56.3 -2.6**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=Z,80nm,0.8s
ZEA MLR MLR
comp=E,700nm,17.0s
ZEA MLR MLR
comp=N,900nm,14.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
YULB Yu-li 20.96 241 P Pn 22 35 03.3 0.0
comp=Z,40nm,1.0s
SSLB Suanglung 20.96 242 P P 22 34 58.1 -2.6
SSLB Suanglung 20.96 242 P P 22 35 00.8 +0.1
HIA Hailar 20.98 318 P P 22 34 58.5 -2.2
HIA Hailar 20.98 318 P P 22 34 58.5 -2.2
HIA pmax pmax
comp=Z,14nm,0.7s
XLT XiLinHaoTe 21.06 302 *e*P **P 22 34 58.9 -2.8**
XLT pmax pmax
comp=Z,30nm,0.7s
XLT pmax pmax
comp=Z,530nm,6.2s
XLT LR LR
comp=Z,2μm,18.2s
XLT LR LR
comp=Z,2μm,22.1s
PEA0B Petropavlovsk- 21.26 28 P 22 35 03.4 -0.3
PEA0B Petropavlovsk- 21.26 28*ce*P **P 22 35 02.5 -1.2**
PETK Petropavlovsk- 21.26 28 P **P 22 35 03.3 -0.4**
PETK Petropavlovsk- 21.26 28 P **P 22 35 03.3 -0.4**
PETK Petropavlovsk- 21.26 28 P **P 22 35 04.7 +1.1**
comp=Z,26nm,0.8s,baz=212,slow=12,SNR=13
PETK LR LR 22 44 44.9
comp=Z,879nm,18.7s,baz=211,slow=41
comp=Z,26nm,0.8s
HNS HongShan 21.37 283 ⇓P **P 22 35 02.6 -2.4**
HNS S **S 22 38 54.7 -7.0**
HNS SS **SnSn 22 39 30.8 +6.3**
HNS pmax pmax
comp=Z,62nm,1.0s
HNS LR LR
comp=Z,1μm,16.3s
HNS LR LR
comp=Z,3μm,15.7s
HNS LR LR
comp=Z,3μm,17.5s
TPUB Ta-pu 21.50 242 P P 22 35 04.6 -1.8
TPUB IAmb IAmb 22 35 16.9
comp=Z,198nm,1.7s
PET Petropavlovsk 21.57 30 *e*P **P 22 35 08.7 +1.7**
PET *e*S **S 22 38 57.6 -7.8**
PET pmax pmax
comp=Z,80nm,1.3s
PET MLR MLR
comp=Z,10μm,18.0s
GUMO Guam 21.92 170 P **P 22 35 11.6 +0.7**
comp=Z,42nm,0.4s,baz=89,slow=7.2,SNR=2.0
comp=Z,42nm,0.4s
WHN Wuhan 22.97 266 ⇑*i*P **P 22 35 21.1 -1.0**
WHN sP **sP 22 35 29.3 +0.6**
WHN S **S 22 39 27.9 -3.8**
WHN pmax pmax
comp=Z,94nm,0.8s
WHN LR LR
comp=Z,15μm,17.6s
WHN LR LR
comp=Z,3μm,11.2s
WHN LR LR
comp=Z,14μm,15.0s
TIY Taiyuan 23.16 284 *e*P **P 22 35 26.2 +2.1**
TIY S **S 22 39 33.1 -2.1**
TIY pmax pmax
comp=Z,38nm,0.6s
TIY pmax pmax
comp=Z,420nm,4.7s
TIY LR LR
comp=Z,1μm,17.2s
TIY LR LR
comp=Z,2μm,18.6s
TIY LR LR
comp=Z,3μm,17.5s
LYN LuoYang 23.50 276 *e*P **P 22 35 26.2 -1.2**
LYN S **S 22 39 38.1 -2.4**
LYN pmax pmax
comp=Z,26nm,0.5s
LYN LR LR
comp=Z,3μm,15.6s
LYN LR LR
comp=Z,5μm,17.9s
LYN LR LR
comp=Z,9μm,18.5s
HHC Hu-ho-hao-te 23.86 292 *e*P **P 22 35 28.1 -2.9**
HHC S **S 22 39 43.2 -3.3**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,560nm,5.4s
HHC LR LR
comp=Z,2μm,13.8s
HHC LR LR
comp=Z,810nm,14.5s
HHC LR LR
comp=Z,1μm,13.8s
CNSH ChangSha 24.98 261 ⇑P **P 22 35 41.8 +0.6**
CNSH S **S 22 40 06.3 +1.9**
CNSH pmax pmax
comp=Z,18nm,1.5s
CNSH LR LR
comp=Z,710nm,18.3s
CNSH LR LR
comp=Z,3μm,14.8s
CNSH LR LR
comp=Z,3μm,15.2s
BTO Baotou 25.02 291 *e*P **P 22 35 40.5 -1.1**
BTO pP **pP 22 35 44.8 -1.8**
BTO sP **sP 22 35 47.6 -0.8**
BTO PP **PnPn 22 36 17.8 +2.9**
BTO S **S 22 40 04.3 -0.8**
BTO sS **pS 22 40 08.0 -2.3**
BTO SS 22 41 01.8
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,490nm,7.0s
BTO LR LR
comp=Z,2μm,19.0s
BTO LR LR
comp=Z,2μm,20.3s
BTO LR LR
comp=Z,3μm,21.4s
MA2 Magadan 25.05 12 P **P 22 35 41.4 -0.1**
MA2 IAmb IAmb 22 35 44.4
comp=Z,79nm,0.7s
MA2 Magadan 25.05 12*ce*P **P 22 35 39.7 -1.8**
MA2 pmax pmax
comp=Z,90nm,0.8s
MA2 Magadan 25.05 12 LR LR 22 45 55.5
comp=Z,974nm,20.5s,baz=201,slow=37
XAN Xi'an 26.48 277 ⇑P **P 22 35 53.5 -1.3**
XAN pP sP 22 36 04.5 +2.9
XAN pmax pmax
comp=Z,35nm,1.1s
XAN LR LR
comp=Z,5μm,17.5s
XAN LR LR
comp=Z,4μm,17.8s
XAN LR LR
comp=Z,5μm,19.7s
ENH Enshi 27.02 268 P **P 22 35 58.1 -1.7**
ENH IAmb IAmb 22 36 04.4
comp=Z,79nm,0.7s
H11N2 WAKE ISLAND Hy 27.51 118 T T 23 05 02.5
baz=311
H11N1 WAKE ISLAND Hy 27.52 118 T T 23 05 11.4
baz=311
H11N3 WAKE ISLAND Hy 27.53 118 T T 23 05 12.0
baz=311
YAK Yakutsk 27.67 348 P **P 22 36 04.1 -1.1**
YAK Yakutsk 27.67 348 *e*P **P 22 36 05.2 0.0**
YAK *e**PP **sP 22 36 15.3 +3.4**
YAK *e*S **S 22 40 47.8 +1.5**
YAK pmax pmax
comp=Z,102nm,0.9s
YAK pmax pmax
comp=N,55nm,1.0s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,330nm,3.7s
YAK pmax pmax
comp=N,197nm,3.7s
YAK pmax pmax
comp=E,234nm,3.1s
YAK smax smax
comp=N,797nm,3.8s
YAK smax smax
comp=E,234nm,3.1s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=N,609nm,24.0s
YAK MLR MLR
comp=E,1μm,22.0s
TGY Tagaytay City 27.90 226 LR LR 22 45 22.0
comp=E,317nm,20.4s,baz=105,slow=32
H11S3 WAKE ISLAND Hy 28.16 120 T T 23 05 55.0
baz=312
H11S1 WAKE ISLAND Hy 28.16 120 T T 23 05 55.0
baz=312
ULN Ulaanbaatar 28.16 307 P **P 22 36 09.5 -0.4**
ULN Ulaanbaatar 28.16 307*ce*P **P 22 36 09.7 -0.2**
ULN pmax pmax
comp=Z,20nm,1.0s
ULN Ulaanbaatar 28.16 307 P **P 22 36 09.6 -0.3**
comp=Z,77nm,0.9s
H11S2 WAKE ISLAND Hy 28.18 120 T T 23 05 56.1
baz=312
GULI GuiLin 28.30 258 P P 22 36 05.8 -5.4
GULI LR LR
comp=Z,1μm,16.8s
GULI LR LR
comp=Z,920nm,18.4s
GULI LR LR
comp=Z,3μm,15.9s
SEY Seymchan 28.48 11*ce*P **P 22 36 13.7 +1.3**
SEY pmax pmax
comp=Z,52nm,1.4s
SEY Seymchan 28.48 11 LR LR 22 49 08.2
comp=Z,1μm,18.8s,baz=198,slow=40
SONM Songino Array 28.59 307 P **P 22 36 13.2 -0.4**
SONM Songino Array 28.59 307 P **P 22 36 13.3 -0.4**
comp=Z,9.4nm,0.6s,baz=109,slow=7.9,SNR=45
SONM PcP **PcP 22 39 24.6 0.0**
comp=Z,2.3nm,0.9s,baz=112,slow=4.2,SNR=2.8
comp=Z,9.4nm,0.6s
SHEM Shemya Is, Ala 29.03 43 LR LR 22 46 21.0
comp=Z,827nm,20.0s,baz=268,slow=33
LZH Lanzhou 30.18 282 ⇑P **P 22 36 25.6 -2.4**
LZH pP pP 22 36 34.1 +1.3
LZH pmax pmax
comp=Z,26nm,1.2s
LZH LR LR
comp=Z,2μm,15.8s
LZH LR LR
comp=Z,2μm,15.8s
LZH LR LR
comp=Z,3μm,14.8s
GYA Guiyang 30.77 263 ⇓P **P 22 36 32.7 -0.5**
GYA pmax pmax
comp=Z,17nm,1.6s
GYA LR LR
comp=Z,2μm,19.0s
GYA LR LR
comp=Z,900nm,28.8s
GYA LR LR
comp=Z,1μm,23.3s
ZAK Zakamensk 31.18 311 *e*P **P 22 36 35.4 -1.2**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
CD2 Chengdu 31.50 273 P **P 22 36 39.0 -0.6**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,2μm,15.9s
CD2 LR LR
comp=Z,2μm,16.7s
CD2 LR LR
comp=Z,7μm,17.4s
DAV Davao City (W) 31.57 211 LR LR 22 48 46.6
comp=Z,509nm,20.3s,baz=45,slow=35
QIZ Qiongzhong 32.07 248 P **P 22 36 44.4 -0.2**
QIZ S **S 22 41 59.3 +3.2**
QIZ LR LR
comp=Z,880nm,11.8s
QIZ LR LR
comp=Z,870nm,15.1s
QIZ LR LR
comp=Z,800nm,16.0s
GTA Gaotai 32.89 290 *e*P **P 22 36 52.5 +0.7**
GTA pP pP 22 36 56.8 +0.2
GTA PcP **PcP 22 39 36.8 +0.7**
GTA S **S 22 42 08.4 -0.5**
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA LR LR
comp=Z,810nm,17.9s
GTA LR LR
comp=Z,1μm,19.1s
GTA LR LR
comp=Z,2μm,19.9s
KMI Kunming 34.53 264 ⇓P **P 22 37 08.1 +1.8**
KMI sP sP 22 37 13.8 +0.7
KMI pmax pmax
comp=Z,16nm,1.2s
KMI LR LR
comp=Z,1μm,14.6s
KMI LR LR
comp=Z,3μm,14.7s
KMI LR LR
comp=Z,3μm,15.1s
PZH PanZhiHua 34.75 266 P **P 22 37 07.0 -1.1**
PZH sP **sP 22 37 15.5 +0.6**
PZH S **S 22 42 35.5 -2.4**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,170nm,5.5s
PZH LR LR
comp=Z,1μm,20.0s
PZH LR LR
comp=Z,1μm,19.4s
PZH LR LR
comp=Z,2μm,19.1s
BILL Bilibino 35.70 16⇑*e*P **P 22 37 14.9 -0.7**
BILL pmax pmax
comp=Z,41nm,1.0s

TNTI Ternate 36.72 203 P **P** 22 37 23.4 -1.4
TNTI IAmb IAmb 22 37 26.2
comp=Z,31nm,0.9s
TNTI Ternate 36.72 203 P **P** 22 37 24.5 -0.3
comp=Z,38nm,1.6s
TIXI Tiksi 36.94 354 P **P** 22 37 25.4 -0.7
TIXI IAmb IAmb 22 37 27.1
comp=Z,40nm,0.9s
TIXI Tiksi 36.94 354 *ce*P **P** 22 37 25.9 -0.2
TIXI pmax pmax
comp=Z,82nm,1.7s
TIXI Tiksi 36.94 354 LR LR 22 54 34.0
comp=Z,43nm,18.9s,baz=175,slow=39
SWI Sorong 37.19 197 P **P** 22 37 28.3 -0.5
comp=Z,57nm,1.0s,comp=Z,1µm
SIJI Sorong 37.19 196 P **P** 22 37 28.9 0.0
comp=Z,40nm,1.0s
GOMU GeErMu 37.33 285 P **P** 22 37 30.6 +0.3
GOMU pP pP 22 37 35.2 0.0
GOMU sP sP 22 37 37.2 +0.1
GOMU pmax pmax
comp=Z,22nm,1.2s
GOMU LR LR
comp=Z,830nm,16.7s
GOMU LR LR
comp=Z,1µm,16.4s
GOMU LR LR
comp=Z,2µm,16.8s
UBPT Khong Chiam 37.66 247 P **P** 22 37 30.9 -1.9
UBPT IAmb IAmb 22 38 50.0
comp=Z,146nm,1.9s
GENI Genyem 37.75 182 P **P** 22 37 34.2 +0.7
comp=Z,110nm,1.0s,comp=Z,4µm
LBMI Labuha 38.00 203 P **P** 22 37 36.1 +0.4
comp=Z,80nm,0.9s,comp=Z,2µm
TNCH TengChong 38.01 266 *e*P **P** 22 37 37.5 +1.5
TNCH pP pP 22 37 40.5 -0.4
TNCH S **S** **22 43 29.6 +1.8**
TNCH pmax pmax
comp=Z,19nm,0.8s
TNCH pmax pmax
comp=Z,170nm,4.3s
TNCH LR LR
comp=Z,1µm,19.4s
TNCH LR LR
comp=Z,660nm,15.9s
TNCH LR LR
comp=Z,2µm,20.0s
CRAI Chiangrai 38.80 258 P **P** 22 37 41.4 -1.1
FAKI Fak Fak 38.97 194 P **P** 22 37 43.1 -0.7
FAKI IAmb IAmb 22 37 45.6
comp=Z,90nm,0.9s
FAKI Fak Fak 38.97 194 P **P** 22 37 43.7 -0.1
FAKI Fak Fak 38.97 194 P **P** 22 37 43.6 -0.2
comp=Z,100nm,0.8s,comp=Z,1µm
TOLI2 Tolitoli 38.98 214 P **P** 22 37 41.7 -2.3
TOLI2 Tolitoli 38.98 214 P **P** 22 37 41.9 -2.1
MRSI Marisa 39.04 211 P **P** 22 37 43.5 -0.9
comp=Z,29nm,1.0s
SANI Sanana 39.82 204 P **P** 22 37 49.0 -1.9
SANI Sanana 39.82 204 P **P** 22 37 48.7 -2.2
comp=Z,45nm,0.7s
PHRA Phrae 39.84 256 P **P** 22 37 49.5 -1.6
KRAI Karang Ratu 40.28 200 P **P** 22 37 56.2 +1.5
comp=Z,165nm,1.2s,comp=Z,5µm
NLAI Namlea 40.58 202 P **P** 22 37 58.2 +1.0
comp=Z,14nm,0.7s
CMMT Chiang Mai 40.69 257 P **P** 22 37 57.7 -0.5
comp=Z,26nm,1.2s,comp=Z,47µm
CHTO Chiang Mai 40.70 257 P **P** 22 37 56.9 -1.3
CHTO Chiang Mai 40.70 257 P **P** 22 37 56.9 -1.3
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 40.70 257 P **P** 22 37 57.5 -0.7
comp=Z,9.8nm,1.2s
CM31 Chiang Mai Arr 40.89 257 P **P** 22 37 58.8 -1.0
CMAR Chiang Mai Arr 40.89 257 P **P** 22 37 58.2 -1.7
CMAR Chiang Mai Arr 40.89 257 P **P** 22 37 58.5 -1.3
comp=Z,4.5nm,0.7s,baz=47,slow=7.5,SNR=27
CMAR PcP **PcP** **22 40 00.7 +0.3**
comp=Z,1.7nm,0.8s,baz=31,slow=3.7,SNR=4.5
CMAR LR LR 22 56 49.1
comp=Z,1µm,19.1s,baz=60,slow=39
comp=Z,4.5nm,0.7s
BNDI Bandanaira 41.04 197 P **P** 22 38 01.1 +0.1
comp=Z,262nm,1.2s
DGZ Jazzator, Alta 41.23 307 *di*P **P** 22 38 03.5 +1.0
DGZ pmax pmax
comp=Z,92nm,0.8s
WMQ Urumqi 41.44 299 *e*P **P** 22 38 05.4 +1.2
WMQ PP **PnPn** **22 39 44.2 -0.3**
WMQ PcP **PcP** **22 40 03.4 +1.5**
WMQ S **S** **22 44 19.1 +0.5**
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ LR LR
comp=Z,410nm,21.1s
WMQ LR LR
comp=Z,690nm,8.5s
WMQ LR LR
comp=Z,660nm,16.9s
LSA Lhasa 42.18 277 P **P** 22 38 11.1 +0.2
LSA Lhasa 42.18 277 P **P** 22 38 11.1 +0.2
LSA pmax pmax
comp=Z,27nm,0.9s
TNA Tin City 42.43 29 P **P** 22 38 14.0 +2.2
baz=250
BKB Balikpapan 42.90 217 P **P** 22 38 14.8 -1.4
BKB IAmb IAmb 22 38 17.3
comp=Z,67nm,1.0s
BKB Balikpapan 42.90 217 P **P** 22 38 16.5 +0.3
comp=Z,73nm,0.6s
ZAA0 Zalesovo Array 42.91 314 P **P** 22 38 15.4 -0.5
ZALV Zalesovo Beam 42.91 314 P **P** 22 38 15.6 -0.3
ZALV Zalesovo Beam 42.91 314 P **P** 22 38 16.1 +0.1
comp=Z,19nm,0.7s,baz=96,slow=7.0,SNR=72
ZALV PcP **PcP** **22 40 06.0 -0.5**
comp=Z,5.7nm,0.7s,baz=83,slow=3.1,SNR=3.5
ZALV ScP **ScP** **22 43 55.9 -1.0**
comp=Z,0.8nm,0.6s,baz=105,slow=4.9,SNR=3.6
ZALV LR LR 22 56 19.6
comp=Z,352nm,19.6s,baz=92,slow=36
comp=Z,19nm,0.7s
F14K Arctic Creek 43.03 29 P **P** 22 38 19.2 +2.4
baz=252
ZSN Zaisan 43.04 304 *e*P **P** 22 38 18.0 +0.8
comp=Z,39nm,0.7s,baz=304
ZSN Zaisan 43.04 304 *e*P **P** 22 38 17.9 +0.8
ZSN pmax pmax
comp=Z,39nm,0.7s
TTSI Tana Toraja 43.11 212 P **P** 22 38 19.1 +1.2
comp=Z,11nm,0.8s
ANM Nome 43.15 30 P **P** 22 38 17.6 -0.1
ANM Nome 43.15 30 P **P** 22 38 20.0 +2.3
baz=254,SNR=6.7
ANM Nome 43.15 30 P **P** 22 38 17.6 -0.1
ANM pmax pmax
comp=Z,44nm,1.0s
SHL Shillong 43.20 271 P **P** 22 38 17.1 -1.7
SHL Shillong 43.20 271 P **P** 22 38 17.2 -1.7
SHL pmax pmax
comp=Z,16nm,0.8s
J14K Nanvaranak Lak 43.49 33 P **P** 22 38 22.6 +2.2
baz=258
L14K Kuka Creek 43.61 35 P **P** 22 38 24.2 +2.8
baz=260
F15K North Star Dit 43.77 29 P **P** 22 38 25.2 +2.5
baz=253
M14K Bethel 43.86 36 P **P** 22 38 23.7 +0.2
M14K IAmb IAmb 22 38 26.6
comp=Z,67nm,0.9s
M14K Bethel 43.86 36 P **P** 22 38 25.7 +2.2
baz=261,SNR=11
PMSI Majene 43.91 213 P **P** 22 38 23.6 -0.9
comp=Z,41nm,0.8s
SPSI Sidrap Palu 43.96 212 P **P** 22 38 24.1 -0.6
comp=Z,18nm,1.1s
SAUI Saumlaki 44.09 194 P **P** 22 38 25.5 -0.3
SAUI Saumlaki 44.09 194 P **P** 22 38 26.9 +1.1
comp=Z,257nm,1.1s
SDPT Sand Point 44.14 44 P **P** 22 38 25.5 -0.3
baz=268
BBSI Bau Bau 44.22 207 P **P** 22 38 28.4 +1.5
comp=Z,27nm,1.0s
L15K Ungalak Mounta 44.23 35 P **P** 22 38 28.4 +1.9
baz=261

KSM Kuching 44.24 227 P **P** 22 38 27.8 +0.7
comp=Z,19nm,0.7s
C16K Lisburne Hills 44.31 25 P **P** 22 38 28.4 +1.4
baz=250,SNR=44
K15K Wolf Creek Mou 44.32 34 P **P** 22 38 29.7 +2.5
baz=260,SNR=5.2
M15K Kasigluk River 44.47 37 P **P** 22 38 30.3 +1.9
baz=262
H16K Elim 44.48 31 P **P** 22 38 30.2 +1.8
baz=257,SNR=11
CHNA Chernabura Isl 44.64 45 P **P** 22 38 30.7 +0.9
baz=269
STKI Sintang 44.69 225 P **P** 22 38 31.2 +0.6
N15K Kwethluk River 44.70 37 P **P** 22 38 32.6 +2.3
baz=264
NRIK Noril'sk 44.72 336 P **P** 22 38 29.6 -0.7
NRIK IAmb IAmb 22 38 32.1
comp=Z,53nm,1.1s
NRIK Noril'sk 44.72 336 *ce*P **P** 22 38 29.9 -0.3
NRIK pmax pmax
comp=Z,57nm,1.2s
NRIK Noril'sk 44.72 336 P **P** 22 38 30.0 -0.3
comp=Z,28nm,1.0s,baz=109,slow=9.2,SNR=35
NRIK PcP **PcP** **22 40 12.6 +0.3**
comp=Z,14nm,0.8s,baz=104,slow=4.0,SNR=3.9
NRIK LR LR 22 58 31.1
comp=Z,579nm,18.0s,baz=114,slow=38
comp=Z,28nm,1.0s
O15K Ungalikthiuk R 44.73 39 P **P** 22 38 32.7 +2.2
baz=265,SNR=5.7
MK31 Makanchi Array 44.85 304 P **P** 22 38 31.5 -0.2
MK31 Makanchi Array 44.85 304 P **P** 22 38 31.5 -0.2
MK31 pmax pmax
comp=Z,19nm,0.8s
MKAR Makanchi Array 44.85 304 P **P** 22 38 31.9 +0.1
MKAR Makanchi Array 44.85 304 P **P** 22 38 32.2 +0.5
comp=Z,23nm,0.8s,baz=90,slow=9.8,SNR=172
MKAR PcP **PcP** **22 40 13.2 -0.1**
comp=Z,2.8nm,0.7s,baz=66,slow=3.5,SNR=1.4
MKAR LR LR 22 58 02.0
comp=Z,944nm,18.9s,baz=100,slow=37
comp=Z,23nm,0.8s
PMG Port Moresby 44.87 172 P **P** 22 38 31.2 -0.7
PMG IAmb IAmb 22 38 33.9
comp=Z,46nm,1.1s
PMG Port Moresby 44.87 172 *di*P **P** 22 38 32.6 +0.6
PMG pmax pmax
comp=Z,43nm,1.1s
PMG Port Moresby 44.87 172 LR LR 22 56 40.1
comp=Z,130nm,19.7s,baz=3.5,slow=35
KAPI Kappang 44.91 211 P **P** 22 38 31.6 -0.7
KAPI IAmb IAmb 22 38 34.1
comp=Z,42nm,1.1s
KAPI Kappang 44.91 211 P **P** 22 38 31.6 -0.7
KAPI pmax pmax
comp=Z,42nm,1.1s
KAPI Kappang 44.91 211 LR LR 22 57 56.6
comp=Z,192nm,20.6s,baz=17,slow=37
J16K Anvik River 44.91 33 P **P** 22 38 33.0 +1.1
J16K Anvik River 44.91 33 P **P** 22 38 34.3 +2.5
baz=260
I17K Unalakleet 44.98 32 P **P** 22 38 32.9 +0.5
I17K IAmb IAmb 22 38 35.5
comp=Z,30nm,1.0s
I17K Unalakleet 44.98 32 P **P** 22 38 34.4 +2.0
baz=259,SNR=6.2
BKSI Bulukumba 45.03 210 P **P** 22 38 32.5 -0.8
comp=Z,21nm,0.9s
MAKZ Makanchi 45.07 304 P **P** 22 38 33.1 -0.3
MAKZ Makanchi 45.07 304 P **P** 22 38 33.6 +0.2
RDOG Red Dog Mine 45.11 26 P **P** 22 38 33.9 +0.5
RDOG IAmb IAmb 22 38 36.2
comp=Z,43nm,1.0s
RDOG Red Dog Mine 45.11 26 P **P** 22 38 35.4 +2.0
baz=253,SNR=16
C17K DeLong Mountai 45.14 25 P **P** 22 38 35.3 +1.6
baz=252
L16K Owhat River 45.19 35 P **P** 22 38 35.9 +1.8
baz=262,SNR=6.1
MKS Makassar 45.21 211 P **P** 22 38 34.1 -0.6
comp=Z,60nm,1.0s
PKKI Palangkaraya 45.23 220 P **P** 22 38 34.5 -0.4
comp=Z,72nm,0.9s
E17K Hotham Inlet 45.24 28 P **P** 22 38 36.3 +1.9
baz=255,SNR=23
F17K Baldwin Pennin 45.30 29 P **P** 22 38 37.2 +2.3
baz=256
G17K Kiwalik Mounta 45.32 30 P **P** 22 38 37.3 +2.2
baz=258
M16K Timber Creek 45.35 36 P **P** 22 38 37.6 +2.1
baz=264
N16K Nishlik Lake 45.39 37 P **P** 22 38 38.1 +2.4
baz=264,SNR=11
H17K Granite Mounta 45.51 31 P **P** 22 38 38.9 +2.2
baz=259,SNR=5.5
O16K Kokwok River B 45.65 38 P **P** 22 38 39.9 +2.1
baz=266
P16K Nushagak River 45.67 39 P **P** 22 38 40.4 +2.5
baz=266
E18K Tukpahlearik C 45.78 27 P **P** 22 38 41.1 +2.4
baz=256
L17K Donlin 45.79 35 P **P** 22 38 41.5 +2.6
baz=263,SNR=14
SEM Semipalatinsk 45.82 309 *e*P **P** 22 38 39.4 -0.1
SEM LR LR 22 57 50.1
baz=309
SEM Semipalatinsk 45.82 309 *e*P **P** 22 38 39.4 -0.1
K17K Iditarod 45.86 34 P **P** 22 38 42.0 +2.6
baz=263,SNR=23
B18K Kokolik River 45.88 24 P **P** 22 38 42.0 +2.6
baz=253
C18K Utukok River 45.88 26 P **P** 22 38 40.3 +0.7
C18K IAmb IAmb 22 38 42.1
comp=Z,51nm,1.0s
C18K Utukok River 45.88 26 P **P** 22 38 41.2 +1.6
baz=254
M17K Holitna River 46.12 36 P **P** 22 38 43.9 +2.4
baz=265,SNR=8.4
O17K Koliganek Bris 46.17 38 P **P** 22 38 43.9 +2.1
baz=267,SNR=5.4
N17K Nushagak Hills 46.17 37 P **P** 22 38 42.4 +0.5
N17K IAmb IAmb 22 38 45.4
comp=Z,64nm,1.1s
N17K Nushagak Hills 46.17 37 P **P** 22 38 44.4 +2.5
baz=266,SNR=10
H18K Honhosa River 46.20 31 P **P** 22 38 43.9 +1.9
baz=260,SNR=10
G18K Tagagawik 46.21 30 P **P** 22 38 44.1 +1.9
baz=259
SRIT Nakonsritamara 46.33 245 P **P** 22 38 41.9 -1.8
SRIT IAmb IAmb 22 38 47.4
comp=Z,26nm,1.0s
Q16K King Salmon 46.34 40 P **P** 22 38 45.2 +2.0
baz=268
A19K Wainwright 46.37 23 P **P** 22 38 45.8 +2.5
baz=253
P17K Kvichak River 46.48 39 P **P** 22 38 46.3 +2.0
baz=268
L18K Granite Mounta 46.55 35 P **P** 22 38 47.4 +2.5
baz=265,SNR=6.1
C19K Lookout Ridge 46.57 25 P **P** 22 38 46.9 +2.0
baz=255,SNR=39
Q17K Contact Creek 46.74 40 P **P** 22 38 47.0 +0.5
baz=269
GCSA Galena City Sc 46.76 31 P **P** 22 38 47.4 +0.9
baz=262
KURK Kurchatov 46.82 309 P **P** 22 38 46.8 -0.3
KURK Kurchatov 46.82 309 *ce*P **P** 22 38 46.7 -0.4
KURK pmax pmax
comp=Z,50nm,1.0s
N18K Kilae Creek 46.82 37 P **P** 22 38 49.6 +2.5
baz=267,SNR=7.0
G19K Purcell Mounta 46.89 29 P **P** 22 38 49.0 +1.6
baz=260
KURBB Kurchatov Arra 46.89 309 P **P** 22 38 47.5 -0.2
comp=Z,15nm,0.4s,baz=85,slow=8.2,SNR=132
KURBB LR LR 22 59 11.2
comp=Z,829nm,18.2s,baz=111,slow=37
comp=Z,15nm,0.4s
M18K Stony River 46.90 36 P **P** 22 38 49.9 +2.3
baz=266,SNR=7.7
TTA Tatalina 46.93 34 P **P** 22 38 47.9 0.0
TTA Tatalina 46.93 34 P **P** 22 38 49.4 +1.5
baz=265,SNR=6.0
TTA Tatalina 46.93 34 P **P** 22 38 47.9 0.0
TTA pmax pmax
comp=Z,16nm,1.0s
D19K Kuna River 46.94 26 P **P** 22 38 49.6 +1.7
baz=257
H19K Roundabout Mou 47.05 30 P **P** 22 38 50.7 +2.0
baz=262
E19K Redstone River 47.06 28 P **P** 22 38 50.7 +1.9
baz=259
P18K Big Mountain, 47.10 39 P **P** 22 38 51.1 +1.8
baz=269,SNR=5.4
O18K Koktuh Hills 47.13 38 P **P** 22 38 51.6 +2.1
baz=268,SNR=8.5
Q18K Katmai Hardscr 47.20 40 P **P** 22 38 50.9 +0.7
baz=270
J19K Poorman 47.21 32 P **P** 22 38 51.7 +1.7
baz=264,SNR=20
L19K White Mountain 47.41 35 P **P** 22 38 53.7 +2.1
baz=266,SNR=8.3
SHLS Shalkode 47.45 299 *e*P **P** 22 38 49.9 -2.5
baz=299
SHLS Shalkode 47.45 299 *e*P **P** 22 38 49.8 -2.5
R18K Karluk 47.51 41 P **P** 22 38 52.5 +0.2
baz=271
N19K Bonanza Creek 47.52 37 P **P** 22 38 54.8 +2.3
baz=268
D20K Etivluk River 47.53 26 P **P** 22 38 54.0 +1.5
baz=259
EDFI Emde, Flores 47.55 207 P **P** 22 38 52.1 -1.2
comp=Z,37nm,0.6s,comp=Z,674nm
F20K Avaraart Lake 47.57 28 P **P** 22 38 54.1 +1.4
baz=261
O19K Port Alsworth 47.58 38 P **P** 22 38 55.2 +2.3
baz=269
E20K Nigu River 47.60 27 P **P** 22 38 54.6 +1.6
baz=260
M19K Big River Lodg 47.61 35 P **P** 22 38 55.6 +2.4
baz=267
SOEI Soe 47.61 203 P **P** 22 38 52.5 -1.3
SOEI Soe 47.61 203 P **P** 22 38 53.7 0.0
SOEI Soe 47.61 203 P **P** 22 38 53.1 -0.6
comp=Z,199nm,0.9s,comp=Z,1µm
B20K Meade River 47.61 24 P **P** 22 38 54.9 +1.8
baz=257
H20K Anotleneega Mo 47.69 30 P **P** 22 38 55.6 +1.8
baz=263,SNR=9.5
UZB Uzynbulak 47.77 299 *e*P **P** 22 38 54.6 -0.3
baz=299
UZB Uzynbulak 47.77 299 *e*P **P** 22 38 54.5 -0.3
KULM Kulim 47.80 241 P **P** 22 38 54.2 -0.9
KULM Kulim 47.80 241 P **P** 22 38 56.3 +1.1
comp=Z,10nm,1.0s
TDK Taldyqorghan 47.82 302 *e*P **P** 22 38 55.2 +0.1
baz=302
TDK LR LR 22 59 01.2
comp=Z,853nm,17.2s,baz=302
TDK Taldyqorghan 47.82 302 *e*P **P** 22 38 55.1 +0.1
TDK MLR MLR
comp=Z,853nm,17.0s
K20K Telida 47.85 33 P **P** 22 38 57.3 +2.3
baz=266,SNR=6.4
J20K Nowinta River 47.88 32 P **P** 22 38 57.0 +1.9
baz=265,SNR=15
L20K Farewell, AK 47.88 35 P **P** 22 38 57.3 +2.1
baz=267,SNR=6.9
KPKS Kokpek 47.94 300 *e*P **P** 22 38 56.1 -0.1
baz=300
KPKS Kokpek 47.94 300 *e*P **P** 22 38 56.0 -0.1
HNR Honiara 47.95 155 LR LR 23 00 09.8
comp=Z,2µm,18.8s,baz=327,slow=37
A21K Barrow 48.09 23 P **P** 22 38 58.6 +1.9
baz=256,SNR=8.9
OHAK Old Harbor 48.15 42 P **P** 22 38 57.9 +0.6
OHAK Old Harbor 48.15 42 P **P** 22 38 58.1 +0.8
baz=272
ZHN Zhinishke 48.18 299 *e*P **P** 22 38 58.0 -0.1
baz=299
ZHN Zhinishke 48.18 299 *e*P **P** 22 38 57.9 -0.1
M20K Styx River 48.20 35 P **P** 22 39 00.1 +2.2
baz=268,SNR=5.1
IMAR Indian Mountai 48.21 30 P **P** 22 38 57.6 -0.2
SATY Saty 48.23 299 *e*P **P** 22 38 58.6 +0.2
baz=299
SATY Saty 48.23 299 *e*P **P** 22 38 58.6 +0.2
C21K Knifeblade Rid 48.26 26 P **P** 22 39 00.2 +2.1
baz=260
PRZ Przheval'sk 48.36 298 P **P** 22 38 59.8 +0.3
PRZ IAmb IAmb 22 39 18.6
comp=Z,46nm,1.0s
PRZ Przheval'sk 48.36 298 P **P** 22 38 59.8 +0.3
PRZ pmax pmax
comp=Z,46nm,1.0s
G21K Allakaket 48.37 29 P **P** 22 39 00.9 +1.9
baz=264
B21K Ikpikpuk River 48.40 25 P **P** 22 39 01.0 +1.9
baz=260
F21K Alatna River 48.46 28 P **P** 22 39 01.1 +1.5
baz=263
KDAK Kodiak Island 48.50 41 P **P** 22 38 59.5 -0.6
KDAK Kodiak Island 48.50 41 P **P** 22 39 00.8 +0.7
baz=272
KDAK Kodiak Island 48.50 41 P **P** 22 38 59.5 -0.6
KDAK pmax pmax
comp=Z,56nm,0.8s
A22K Sinclair Lake 48.54 23 P **P** 22 39 02.0 +1.9
baz=258
H21K Melozitna Rive 48.57 30 P **P** 22 39 02.3 +1.8
baz=265,SNR=17
Q20K Shuyak Island 48.57 40 P **P** 22 39 01.3 +0.7
baz=272,SNR=6.9
SYI Shuyak Island 48.57 40 P **P** 22 38 59.8 -0.8
N20K Mount Spurr 48.63 36 P **P** 22 39 03.3 +2.1
baz=270,SNR=29
CHUM Lake Minchumin 48.66 33 P **P** 22 39 03.3 +2.1
baz=267,SNR=9.4
PPLA Purkeypile 48.68 34 P **P** 22 39 03.9 +2.4
baz=268,SNR=8.0
CAST Castle Rocks 48.74 33 P **P** 22 39 02.7 +0.8
CAST IAmb IAmb 22 39 04.3
comp=Z,21nm,1.0s
CAST Castle Rocks 48.74 33 P **P** 22 39 04.0 +2.1
baz=268,SNR=10
MTN Manton Dam 48.86 193 P **P** 22 39 02.7 -0.5
B22K Teshekpuk Lake 48.93 24 P **P** 22 39 04.8 +1.7
baz=260
SKT Skwentna 48.96 35 P **P** 22 39 03.9 +0.3
SKT Skwentna 48.96 35 P **P** 22 39 04.9 +1.3
baz=270,SNR=6.6
D22K Ayikyak River 48.97 26 P **P** 22 39 05.6 +2.0
baz=262
TARG Taragay, Kyrgy 48.98 298 P **P** 22 39 04.7 +0.2
TARG IAmb IAmb 22 39 15.6
comp=Z,42nm,0.7s
TARG Taragay, Kyrgy 48.98 298 P **P** 22 39 04.7 +0.2
TARG pmax pmax
comp=Z,42nm,0.7s
F22K John River 48.99 28 P **P** 22 39 05.9 +2.1
baz=264
CHKK Chushkaly 49.05 300 *e*P **P** 22 39 04.5 -0.1
baz=300
CHKK Chushkaly 49.05 300 *e*P **P** 22 39 04.5 -0.1
COEN Coen 49.07 177 P **P** 22 39 05.2 +0.4
COEN IAmb IAmb 22 39 07.1
comp=Z,39nm,0.9s
PLAI Plampang 49.17 211 P **P** 22 39 04.0 -1.6
MDOK Medeo 49.17 300 *e*P **P** 22 39 06.1 +0.5
baz=300
MDOK Medeo 49.17 300 *e*P **P** 22 39 06.1 +0.5
H22K Ishtalitna Cre 49.17 30 P **P** 22 39 07.6 +2.5
baz=266,SNR=17
E22K Anaktuvuk Pass 49.20 27 P **P** 22 39 07.1 +1.8
baz=264,SNR=31
G22K Bettles 49.20 29 P **P** 22 39 06.7 +1.5
baz=265
AAA Alma-Ata 49.26 300 *e*P **P** 22 39 06.3 +0.1
comp=Z,24nm,1.1s,baz=300
AAA Alma-Ata 49.26 300 *e*P **P** 22 39 06.3 +0.1
AAA pmax pmax
comp=Z,24nm,1.1s
KTH Kantishna Hill 49.27 33 P **P** 22 39 06.6 +0.6
KTH IAmb IAmb 22 39 08.7
comp=Z,37nm,1.1s
TNSS Tian-Shan 49.27 299 *e*P **P** 22 39 07.5 +0.7
baz=299
TNSS Tian-Shan 49.27 299 *e*P **P** 22 39 07.4 +0.7
BRLK Bradley Lake 49.31 38 P **P** 22 39 06.2 -0.1
BRLK IAmb IAmb 22 39 08.9
comp=Z,34nm,1.0s
SUA Susitna One 49.34 36 P **P** 22 39 06.9 +0.3

SUA IAmb IAmb 22 40 30.4
comp=Z,26nm,1.0s
SUA Susitna One 49.34 36 P **P** **22 39 07.7 +1.1**
baz=271,SNR=8.2
BRSE Bradley Lake S 49.38 38 P **P** **22 39 08.5 +1.6**
baz=272
MLY Manley 49.40 31 P **P** **22 39 09.0 +2.1**
baz=268,SNR=8.7
TWSI Taliwang, Sumb 49.47 212 P **P** **22 39 06.3 -1.7**
comp=Z,56nm,1.0s
KUU Kurty 49.50 301 *e*P **P** **22 39 07.9 -0.1**
baz=301
KUU Kurty 49.50 301 *e*P **P** **22 39 07.9 -0.1**
TRF Thorofare Moun 49.55 33 P **P** **22 39 09.5 +1.2**
baz=269
SRBI Singaraja 49.65 215 P **P** **22 39 09.1 -0.2**
comp=Z,55nm,0.7s
D23K Nanushuk River 49.70 26 P **P** **22 39 11.1 +2.0**
baz=264
COLD Coldfoot 49.73 28 P **P** **22 39 11.3 +1.9**
baz=266,SNR=6.4
G23K Bananza Creek 49.77 29 P **P** **22 39 11.5 +1.8**
baz=267,SNR=9.7
C23K Itkillik River 49.81 25 P **P** **22 39 12.0 +2.0**
baz=264
RC01 Rabbit Creek A 49.83 36 P **P** **22 39 10.2 -0.1**
RC01 IAmb IAmb 22 39 11.9
comp=Z,35nm,1.0s
RC01 Rabbit Creek A 49.83 36 P **P** **22 39 11.3 +1.0**
baz=272,SNR=8.4
I23K Minto, Yukon-K 49.98 31 P **P** **22 39 13.5 +2.2**
I23K IAmb IAmb 22 40 33.6
comp=Z,34nm,0.9s
I23K Minto, Yukon-K 49.98 31 P **P** **22 39 13.0 +1.7**
baz=269,SNR=7.3
E23K Chandalar 50.01 27 P **P** **22 39 13.8 +2.3**
baz=266
SEW Seward 50.02 38 P **P** **22 39 12.5 +0.9**
baz=273
NEA2 Nenana 50.10 32 P **P** **22 39 14.2 +2.0**
baz=270
PMR Palmer 50.11 36 P **P** **22 39 13.2 +0.9**
baz=272,SNR=8.4
MCK McKinley 50.16 33 P **P** **22 39 14.0 +1.3**
baz=270,SNR=9.9
RND Reindeer 50.20 33 P **P** **22 39 13.0 0.0**
RND IAmb IAmb 22 39 14.8
comp=Z,29nm,1.0s
RND Reindeer 50.20 33 P **P** **22 39 13.0 0.0**
RND pmax pmax
comp=Z,29nm,1.0s
TKM2 Tokmak 2 50.26 300 P **P** **22 39 14.9 +0.9**
SNR=12
TKM2 Tokmak 2 50.26 300 *i* P **P** **22 39 14.6 +0.6**
TKM2 pmax pmax
comp=Z,31nm,0.9s
WAT1 Susitna Watana 50.34 34 P **P** **22 39 14.8 +0.7**
baz=271
D24K Happy Valley 50.38 26 P **P** **22 39 16.1 +1.8**
baz=266
E24K Your Creek 50.44 27 P **P** **22 39 17.2 +2.4**
baz=267
KNK Knik Glacier 50.44 36 P **P** **22 39 16.0 +1.1**
baz=273,SNR=6.3
MDM Murphy Dome 50.46 31 P **P** **22 39 16.3 +1.3**
MDM IAmb IAmb 22 39 17.6
comp=Z,68nm,0.9s
C24K Franklin Bluff 50.46 25 P **P** **22 39 16.4 +1.6**
baz=266
SML Sawmill 50.48 35 P **P** **22 39 16.4 +1.2**
baz=272,SNR=8.6
H24K Noodor Dome 50.61 30 P **P** **22 39 18.4 +2.3**
baz=270,SNR=24
COLA College 50.62 31 P **P** **22 39 17.6 +1.5**
F24K Squaw Lake 50.64 28 P **P** **22 39 18.2 +1.9**
baz=268,SNR=13
CCB Clear Creek Bu 50.64 32 P **P** **22 39 16.7 +0.4**
BRZS Berezniki 50.69 309 *e*P **P** **22 39 16.6 -0.4**
baz=309
BRZS Berezniki 50.69 309 *e*P **P** **22 39 16.5 -0.4**
WAT6 Susitna Watana 50.73 34 P **P** **22 39 18.2 +1.1**
baz=272,SNR=6.1
KZA Kyzart 50.73 299 P **P** **22 39 18.8 +1.0**
SNR=14
PSI Prapat 50.76 240 P **P** **22 39 17.3 -0.6**
PSI pmax pmax
comp=Z,9.0nm,0.8s
M23K Glacier View 50.77 35 P **P** **22 39 18.6 +1.2**
baz=273
G24K Hadweenzic Riv 50.78 29 P **P** **22 39 20.0 +2.7**
baz=269
KBK Karagaybulak 50.79 299 P **P** **22 39 18.7 +0.7**
SNR=28
POKR Poker Plat Res 50.80 31 P **P** **22 39 18.6 +1.2**
POKR IAmb IAmb 22 39 20.3
comp=Z,75nm,0.9s
POKR Poker Plat Res 50.80 31 P **P** **22 39 19.6 +2.1**
baz=270,SNR=32
SGDS Sogindy 50.81 300 *e*P **P** **22 39 18.1 +0.1**
baz=300
SGDS Sogindy 50.81 300 *e*P **P** **22 39 18.1 +0.1**
BTLS Baital 50.83 303 *e*P **P** **22 39 17.9 -0.1**
baz=302
BTLS Baital 50.83 303 *e*P **P** **22 39 17.9 -0.1**
RPSI Rantau Prapat 50.83 240 P **P** **22 39 17.3 -1.0**
CHMS Chumysh 50.84 300 P **P** **22 39 18.9 +0.8**
SNR=8.5
DHY Denali Highway 50.87 34 P **P** **22 39 19.4 +1.1**
baz=272
KSH Kashi 50.92 295 P **P** **22 39 23.2 +4.3**
KSH pP sP 22 39 26.2 +0.4
KSH sP pP 22 39 29.4 +5.5
KSH pmax pmax
comp=Z,14nm,0.8s
KSH LR LR
comp=Z,460nm,16.5s
KSH LR LR
comp=Z,830nm,17.9s
KSH LR LR
comp=Z,1μm,18.0s
USP Ospenovka 50.95 300 P **P** **22 39 19.8 +0.8**
SNR=13
SCM Sheep Creek Mo 50.96 35 P **P** **22 39 19.1 +0.3**
SCM IAmb IAmb 22 39 20.5
comp=Z,26nm,0.8s
SCM Sheep Creek Mo 50.96 35 P **P** **22 39 20.0 +1.2**
baz=273,SNR=6.0
SCM Sheep Creek Mo 50.96 35 P **P** **22 39 19.1 +0.3**
SCM pmax pmax
comp=Z,26nm,0.8s
FRU1 Bishkek 50.98 300 P **P** **22 39 19.2 -0.1**
FRU1 Bishkek 50.98 300 P **P** **22 39 19.2 -0.1**
FRU1 pmax pmax
comp=Z,47nm,0.5s
HDA Harding Lake 51.02 32 P **P** **22 39 19.3 +0.2**
HDA IAmb IAmb 22 39 20.6
comp=Z,34nm,0.9s
HDA Harding Lake 51.02 32 P **P** **22 39 19.8 +0.7**
baz=272,SNR=11
IL31 51.03 32 P **P** **22 39 19.8 +0.6**
IL31 IAmb IAmb 22 39 20.8
comp=Z,31nm,0.8s
ILAR Eielson Array 51.03 32 P **P** **22 39 19.7 +0.4**
comp=Z,23nm,0.8s,baz=269,slow=6.2,SNR=208
ILAR PcP **PcP** **22 40 34.5 -0.6**
comp=Z,4.6nm,0.8s,baz=273,slow=3.1,SNR=1.7
ILAR LR LR 23 01 44.9
comp=Z,210nm,21.0s,baz=262,slow=37
comp=Z,23nm,0.8s
AAK Ala-Archa 51.12 300 P **P** **22 39 20.8 +0.4**
SNR=10
AAK Ala-Archa 51.12 300 P **P** **22 39 20.3 -0.2**
AAK Ala-Archa 51.12 300 *ce*P **P** **22 39 21.0 +0.6**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 51.12 300 LR LR 23 02 22.3
comp=Z,1μm,20.3s,baz=82,slow=38
UCH Uchtor 51.22 299 P **P** **22 39 22.3 +0.8**
SNR=7.9
D25K Kavik River 51.26 26 P **P** **22 39 22.7 +1.8**
baz=268
G25K Bearman Lake 51.33 29 P **P** **22 39 24.1 +2.7**
baz=270
FID Port Fidalgo 51.44 37 P **P** **22 39 22.6 +0.2**
M24K Tolsona, Glenn 51.48 35 P **P** **22 39 24.8 +2.1**
baz=274
F25K Christian Rive 51.50 28 P **P** **22 39 25.1 +2.3**
baz=270,SNR=47
E25K Arctic Village 51.53 27 P **P** **22 39 25.1 +2.1**
baz=270,SNR=27
K24K Donnelly Dome 51.56 33 P **P** **22 39 24.2 +0.9**
baz=273,SNR=6.3
BVAR Borovoye Array 51.56 313 P **P** **22 39 23.3 -0.1**
comp=Z,5.2nm,0.3s,baz=84,slow=7.4,SNR=55
BVAR LR LR 23 01 49.2
comp=Z,356nm,21.5s,baz=77,slow=37
comp=Z,5.2nm,0.3s
PRP Porcupine Dome 51.59 31 P **P** **22 39 23.6 0.0**
PRP Porcupine Dome 51.59 31 P **P** **22 39 25.2 +1.7**
baz=272,SNR=7.3
BRVK Borovoye 51.62 313 P **P** **22 39 23.1 -0.7**
BRVK Borovoye 51.62 313 *i* P **P** **22 39 23.1 -0.7**
BRVK pmax pmax
comp=Z,24nm,1.0s
EKS2 Erkin-Say 51.62 300 P **P** **22 39 24.9 +0.7**
SNR=9.1
KLU Klutina 51.65 36 P **P** **22 39 24.6 +0.6**
KLU IAmb IAmb 22 39 36.0
comp=Z,37nm,1.2s
KLU Klutina 51.65 36 P **P** **22 39 25.4 +1.3**
baz=275,SNR=7.6
J25K Salcha River, 51.69 32 P **P** **22 39 24.3 0.0**
baz=273
PAX Paxson 51.75 34 P **P** **22 39 26.3 +1.6**
baz=274,SNR=5.8
C26K Camden Bay 51.78 25 P **P** **22 39 27.2 +2.4**
baz=269
UGM Wanagama 51.82 220 P **P** **22 39 24.2 -1.5**
UGM Wanagama 51.82 220 P **P** **22 39 24.3 -1.5**
AML Almayashu 51.83 299 P **P** **22 39 27.1 +1.1**
SNR=41
AML Almayashu 51.83 299 *i* P **P** **22 39 26.4 +0.4**
AML pmax pmax
comp=Z,5.0nm,0.7s
BMAR Burnt Mountain 51.91 28 P **P** **22 39 27.5 +1.6**
HARP HAARP 51.93 35 P **P** **22 39 27.8 +1.7**
baz=275,SNR=5.5
F26K Sheenjek River 52.07 28 P **P** **22 39 29.7 +2.6**
baz=271,SNR=68
KNRA Kunuurra 52.09 195 P **P** **22 39 27.8 +0.2**
G26K Porcupine Rive 52.24 29 P **P** **22 39 30.9 +2.7**
baz=272
N25K Chitina, Valde 52.27 36 P **P** **22 39 30.5 +1.8**
baz=276
BMRM Bremner River 52.34 36 P **P** **22 39 30.8 +1.7**
baz=276,SNR=5.3
SCRK Sand Creek 52.34 33 P **P** **22 39 29.5 +0.4**
SCRK IAmb IAmb 22 39 31.0
comp=Z,32nm,0.9s
SCRK Sand Creek 52.34 33 P **P** **22 39 30.1 +1.0**
baz=274,SNR=17
J26L Joseph Creek 52.48 32 P **P** **22 39 30.8 +0.7**
baz=274
LEM Lembang 52.51 224 LR LR 23 02 01.6
comp=Z,137nm,20.2s,baz=5.0,slow=36
L26K Log Cabin Wild 52.71 34 P **P** **22 39 34.0 +2.2**
baz=276,SNR=17
GSI Gunungsitoli 52.76 240 P **P** **22 39 31.4 -1.4**
GSI IAmb IAmb 22 39 34.7
comp=Z,95nm,1.2s
M26K Nabesna, AK 52.94 34 P **P** **22 39 35.5 +2.0**
baz=276,SNR=6.6
E27K Coleen River 53.02 27 P **P** **22 39 36.2 +2.2**
baz=273
MCARA McCarthy VSAT 53.05 36 P **P** **22 39 34.8 +0.5**
MCARA IAmb IAmb 22 39 37.0
comp=Z,57nm,1.1s
MCARA McCarthy VSAT 53.05 36 P **P** **22 39 36.3 +2.0**
baz=277,SNR=7.4
G27K Doyon Strip 53.09 29 P **P** **22 39 36.9 +2.3**
baz=274
CRQE Cirque 53.10 37 P **P** **22 39 36.6 +1.8**
baz=278
K27K Chicken 53.17 32 P **P** **22 39 36.9 +1.7**
baz=276
D27M Malcolm River 53.18 26 P **P** **22 39 37.3 +2.0**
baz=273,SNR=16
H27K Steamboat Moun 53.19 30 P **P** **22 39 37.5 +2.2**
baz=275
I27K Kandik River 53.21 30 P **P** **22 39 37.4 +1.9**
baz=275,SNR=10
DZA Taraz 53.29 301 *e*P **P** **22 39 36.4 0.0**
baz=301
DZA Taraz 53.29 301 *e*P **P** **22 39 36.4 0.0**
L27K Beaver Creek, 53.39 34 P **P** **22 39 38.9 +2.1**
baz=277
BCAR Beaver Creek A 53.41 34 P **P** **22 39 38.4 +1.4**
M27K Edge Creek, AK 53.46 34 P **P** **22 39 39.3 +1.9**
baz=278
EGAK Eagle 53.48 31 P **P** **22 39 37.5 +0.1**
EGAK Eagle 53.48 31 P **P** **22 39 38.4 +0.9**
baz=276,SNR=10.0
F28M Old Crow 53.71 28 P **P** **22 39 41.3 +2.2**
baz=275,SNR=23
E28M Babbage River 53.74 27 P **P** **22 39 41.5 +2.1**
baz=275
KK31 Karatay Array 53.80 301 P **P** **22 39 40.0 -0.1**
KK31 IAmb IAmb 22 39 53.9
comp=Z,30nm,1.1s
KK31 Karatay Array 53.80 301 P **P** **22 39 40.1 -0.1**
KK31 pmax pmax
comp=Z,30nm,1.1s
KKAR Karatay Array 53.80 301 P **P** **22 39 40.0 -0.2**
KKAR Karatay Array 53.80 301 P **P** **22 39 40.0 -0.2**
CTG Chitna Glacier 53.91 36 P **P** **22 39 42.4 +1.6**
baz=279
CTGM Chitina Glacie 53.92 36 P **P** **22 39 41.5 +0.7**
CTGM IAmb IAmb 22 40 59.4
comp=Z,21nm,1.0s
I28M Miner Creek 53.92 30 P **P** **22 39 42.7 +1.9**
baz=277,SNR=26
BVCY Beaver Creek 53.92 34 P **P** **22 39 42.6 +1.9**
baz=278
YUK3 Moose Creek 54.20 35 P **P** **22 39 44.4 +1.4**
baz=279,SNR=8.4
DAWY Dawson 54.34 32 P **P** **22 39 44.7 +0.9**
DAWY Dawson 54.34 32 P **P** **22 39 45.3 +1.5**
baz=278,SNR=5.5
E29M Blow River 54.37 27 P **P** **22 39 46.3 +2.4**
baz=277
H29M Whitestone 54.46 29 P **P** **22 39 46.8 +2.3**
baz=278
G29M Pine Creek 54.50 29 P **P** **22 39 47.4 +2.5**
baz=276
I29M Ogilvie Camp, 54.61 30 P **P** **22 39 47.4 +1.8**
baz=278,SNR=18
CHM Chimkent 54.68 300 *e*P **P** **22 39 46.5 0.0**
baz=300
CHM Chimkent 54.68 300 *e*P **P** **22 39 46.5 0.0**
J29N Klondike Camp 54.78 32 P **P** **22 39 49.1 +2.1**
baz=279
NIL Nilore 54.96 289 P **P** **22 39 48.8 +0.1**
NIL IAmb IAmb 22 39 57.3
comp=Z,50nm,1.1s
NIL Nilore 54.96 289 P **P** **22 39 48.8 +0.1**
NIL pmax pmax
comp=Z,49nm,1.1s
M29M Somme Creek 55.02 34 P **P** **22 39 51.0 +2.2**
baz=280,SNR=16
L29M L29M 55.05 33 P **P** **22 39 51.5 +2.6**
baz=280,SNR=22
EPYK Eagle Plains 55.10 29 P **P** **22 39 50.1 +0.8**
EPYK Eagle Plains 55.10 29 P **P** **22 39 51.2 +2.0**
baz=279,SNR=32
YUK4 Talbot Arm 55.13 35 P **P** **22 39 51.8 +2.1**
baz=281,SNR=6.4
FITZ Fitzroy Crossi 55.15 198 P **P** **22 39 50.0 0.0**
FITZ Fitzroy Crossi 55.15 198 P **P** **22 39 50.7 +0.7**
WB0 Warramunga Arr 55.18 188 P **P** **22 39 50.1 -0.2**
K29M Barlow Dome 55.19 32 P **P** **22 39 52.0 +2.0**
baz=280
G30M tAoh Zraii Nji 55.20 28 P **P** **22 39 51.5 +1.6**
baz=279
F30M Barrier River 55.26 28 P **P** **22 39 52.8 +2.4**
baz=279
CTA Charters Tower 55.34 174 LR LR 23 02 57.9
comp=Z,135nm,21.5s,baz=325,slow=35
CTAO Charters Tower 55.34 174 P **P** **22 39 51.0 -0.4**
CTAO Charters Tower 55.34 174 P **P** **22 39 51.0 -0.4**
CTAO pmax pmax
comp=Z,14nm,1.1s
YUK6 Outpost Mounta 55.35 36 P **P** **22 39 53.7 +2.3**
baz=281
WRA Warramunga Arr 55.36 188 P **P** **22 39 50.4 -1.1**
WRA Warramunga Arr 55.36 188 P **P** **22 39 51.1 -0.4**
comp=Z,68nm,0.8s,baz=3.6,slow=7.5,SNR=159
WRA S **S** **22 47 35.4 0.0**
comp=Z,6.4nm,1.2s,baz=4.1,slow=13,SNR=7.1
WRA PKP2bc 23 10 09.4
comp=Z,1.2nm,0.9s,baz=204,slow=2.2,SNR=5.8
comp=Z,68nm,0.8s
O29M Mount Kennedy 55.37 37 P **P** **22 39 54.0 +2.5**
baz=282,SNR=6.9
I30M Mount Dempster 55.43 30 P **P** **22 39 53.5 +1.7**
baz=280,SNR=54
J30M Hart River 55.57 31 P **P** **22 39 54.6 +1.9**
baz=281,SNR=12
M30M Minto, Yukon 55.75 34 P **P** **22 39 56.3 +2.3**
baz=282,SNR=7.9
HYT Haines Junctio 55.78 36 P **P** **22 39 55.3 +0.9**
HYT IAmb IAmb 22 39 57.9
comp=Z,96nm,1.7s
HYT Haines Junctio 55.78 36 P **P** **22 39 57.0 +2.7**
baz=282,SNR=6.6
G31M Satah River 55.96 28 P **P** **22 39 56.5 +1.2**
baz=281,SNR=14
INK Inuvik 55.98 27 P **P** **22 39 56.0 +0.5**
INK IAmb IAmb 22 39 57.6
comp=Z,26nm,0.9s
INK Inuvik 55.98 27 P **P** **22 39 56.7 +1.3**
baz=280,SNR=20
INK Inuvik 55.98 27 P **P** **22 39 56.0 +0.5**
INK pmax pmax
comp=Z,27nm,1.0s
INK Inuvik 55.98 27 LR LR 23 06 01.2
comp=Z,337nm,20.2s,baz=192,slow=38
F31M Tsiigehtchic 56.07 28 P **P** **22 39 57.5 +1.4**
baz=281,SNR=13
P30M Million Dollar 56.20 37 P **P** **22 39 59.9 +2.6**
baz=283
SVE Sverdlovsk 56.28 319⇑ *e*P **P** **22 39 58.2 +0.4**
SVE pmax pmax
comp=Z,59nm,1.1s
SVE MLR MLR
comp=Z,950nm,16.0s
SIMJ Simiganj 56.32 296 P **P** **22 39 58.5 -0.1**
SIMJ IAmb IAmb 22 40 14.1
comp=Z,38nm,1.0s
N31M Braeburn, Yuko 56.45 35 P **P** **22 40 01.5 +2.5**
baz=283
M31M Drury Creek, Y 56.92 34 P **P** **22 40 04.0 +1.7**
baz=284,SNR=6.8
WHY Whitehorse 57.07 36 P **P** **22 40 04.6 +1.1**
WHY IAmb IAmb 22 40 06.5
comp=Z,28nm,1.1s
WHY Whitehorse 57.07 36 P **P** **22 40 05.9 +2.4**
baz=284,SNR=5.3
FARO Faro, Yukon 57.39 34 P **P** **22 40 07.4 +1.7**
baz=285,SNR=6.5
ARU Arti 57.49 319 P **P** **22 40 06.2 -0.2**
ARU IAmb IAmb 22 40 07.3
comp=Z,60nm,1.0s
ARU Arti 57.49 319 *d i* P **P** **22 40 06.2 -0.2**
ARU 22 41 00.9
ARU 22 42 12.6
ARU S **S** **22 48 06.1 +3.2**
ARU SS **SS** **22 51 55.2 +3.0**
ARU pmax pmax
comp=Z,66nm,1.0s
ARU MLR MLR
comp=Z,790nm,16.0s
ARU Arti 57.49 319 LR LR 23 06 58.3
comp=Z,465nm,19.0s,baz=68,slow=38
N32M Quiet Lake 57.80 35 P **P** **22 40 10.3 +1.7**
baz=286,SNR=5.5
KBL Kabul 57.84 292 P **P** **22 40 08.6 -0.8**
KBL Kabul 57.84 292 P **P** **22 40 08.6 -0.8**
KBL pmax pmax
comp=Z,15nm,0.8s
A36M Sachs Harbour 57.90 22 P **P** **22 40 10.7 +1.7**
baz=286,SNR=34
HYB Hyderabad 57.96 269⇓ *e*P **P** **22 40 10.2 -0.1**
HYB IVmB_BB 22 40 10.4
comp=Z,353nm,0.7s
HYB *es*P **sP** **22 40 18.9 +1.6**
HYB *e*PcP **PcP** **22 41 02.3 -0.1**
HYB *e*ScP **ScP** **22 45 00.8 -1.1**
HYB *e*S **S** **22 48 09.2 -1.0**
P33M Teslin, Yukon 58.18 36 P **P** **22 40 13.5 +2.2**
baz=286,SNR=10
ABKAR Akbulak array 58.87 311 P **P** **22 40 16.0 -0.2**
ABKAR Akbulak array 58.87 311 P **P** **22 40 15.9 -0.2**
ABKAR IAmb IAmb 22 40 17.0
comp=Z,26nm,1.0s
C36M Paulatuk 59.05 24 P **P** **22 40 16.4 -0.6**
C36M IAmb IAmb 22 40 18.9
comp=Z,40nm,0.9s
C36M Paulatuk 59.05 24 P **P** **22 40 17.9 +0.9**
baz=288,SNR=30
AS31 Alice Springs 59.09 188 P **P** **22 40 17.7 -0.2**
ASAR Alice Springs 59.09 188 P **P** **22 40 18.1 +0.2**
ASAR Alice Springs 59.09 188 P **P** **22 40 17.8 -0.1**
comp=Z,7.3nm,1.0s,baz=19,slow=12,SNR=46
ASAR S **S** **22 48 25.6 +1.2**
comp=Z,1.6nm,0.9s,baz=7.8,slow=10,SNR=4.1
ASAR LR LR 23 05 16.6
comp=Z,282nm,20.0s,baz=11,slow=36
ASAR PKP2bc 23 10 02.5
comp=Z,4.5nm,0.9s,baz=168,slow=2.2,SNR=20
comp=Z,7.3nm,1.0s
AKTO Aktyubinsk 59.65 313 LR LR 23 07 17.2
comp=Z,530nm,18.4s,baz=72,slow=37
TGTN Hyland Airport 59.90 34 P **P** **22 40 25.3 +2.2**
baz=289,SNR=15
DLBC Dease Lake 60.09 37 P **P** **22 40 26.2 +1.7**
comp=Z,12nm,1.1s,baz=277,slow=5.1,SNR=7.3
comp=Z,12nm,1.1s
PSA00 Pilbara Seismi 60.11 203 P **P** **22 40 24.4 -0.4**
PSA00 IAmb IAmb 22 40 37.3
comp=Z,29nm,0.8s
PSA00 Pilbara Seismi 60.11 203 P **P** **22 40 24.5 -0.4**
PSA00 IAmb IAmb 22 40 37.3
comp=Z,20nm,0.9s
EIDS Eidsvold 61.11 170 P **P** **22 40 32.1 +0.4**
EIDS IAmb IAmb 22 40 33.2
comp=Z,20nm,0.8s
WRKA Warakurna 61.28 193 P **P** **22 40 33.1 +0.3**
KIRV Kirov 61.47 323 *ce*P **P** **22 40 33.8 0.0**
KIRV Kirov 61.47 323 LR LR 23 09 22.2
comp=Z,620nm,18.9s,baz=57,slow=38
HOPEN Hopen 61.62 346 *e*P **P** **22 40 35.2 +0.7**
HOPEN IAmb IAmb 22 40 36.2
comp=Z,116nm,1.1s
PALK Pallekele 61.81 258 P **P** **22 40 36.6 -0.2**
PALK IAmb IAmb 22 40 37.3
comp=Z,18nm,0.9s
PALK Pallekele 61.81 258 P **P** **22 40 36.6 -0.2**
PALK pmax pmax
comp=Z,18nm,1.0s
PALK Pallekele 61.81 258 LR LR 23 11 09.8
comp=Z,535nm,18.2s,baz=142,slow=40
DZM Mont Dzumac 61.94 153 P **P** **22 40 37.5 +0.1**
DZM Mont Dzumac 61.94 153 P **P** **22 40 39.1 +1.7**
DZM Mont Dzumac 61.94 153 P **P** **22 40 39.0 +1.6**
comp=Z,31nm,0.9s,baz=28,slow=8.5,SNR=12
DZM LR LR 23 04 54.8
comp=Z,159nm,22.0s,baz=60,slow=34
comp=Z,31nm,0.9s
MARNC Mare, Loyalty 62.00 152 P **P** **22 40 37.0 -0.7**
SPA0 Spitsbergen Ar 62.14 349 *e*P **P** **22 40 38.0 0.0**
SPB2 Spitsbergen Ar 62.14 349 P **P** **22 40 38.1 +0.1**
SPITS Spitsbergen Ar 62.14 349 P **P** **22 40 38.5 +0.5**
comp=Z,16nm,0.8s,baz=78,slow=7.9,SNR=22
SPITS LR LR 23 10 55.1
comp=Z,518nm,18.2s,baz=10,slow=39
comp=Z,16nm,0.8s
KBS Kingsbay 62.28 350 P **P** **22 40 39.8 +0.8**
KBS Kingsbay 62.28 350 *e*P **P** **22 40 40.1 +1.1**
KBS IAmb IAmb 22 40 40.8
comp=Z,62nm,0.9s
KBS Kingsbay 62.28 350 P **P** **22 40 39.8 +0.8**
KBS pmax pmax
comp=Z,63nm,0.9s
KBS Kingsbay 62.28 350 *i* P **P** **22 40 39.2 +0.2**
INKA Innaminka 62.75 180 P **P** **22 40 42.9 +0.3**
HRA Herat 63.01 294 P **P** **22 40 44.2 -0.6**
OOD Oodnadatta 63.01 185 P **P** **22 40 44.7 +0.3**
HSPB Hornsund (broa 63.05 348 *e*P **P** **22 40 44.3 +0.2**
GIRL Giralia 63.07 208 P **P** **22 40 45.2 +0.4**
GIRL Giralia 63.07 208 P **P** **22 40 45.4 +0.6**

LVZ Lovozero 63.56 336 P P 22 40 47.5 -0.2
LVZ Lovozero 63.56 336 P P 22 40 47.5 -0.2
LVZ pmax pmax
comp=Z,251nm,1.9s
BJO1 Bjornoya 64.04 345 eP P 22 40 51.5 +0.9
VADS Vadso 64.06 339 eP P 22 40 51.3 +0.4
APA Apatity 64.14 336 ⇓iP P 22 40 49.7 -1.7
APA i 22 43 08.0
APA i S S 22 49 23.0 -4.4
APA pmax pmax
comp=Z,25nm,0.8s
APA MLR MLR
comp=Z,2µm,19.0s
RES Resolute Bay 64.28 14 P P 22 40 52.6 +0.3
RES Resolute Bay 64.28 14 P P 22 40 52.6 +0.3
RES pmax pmax
comp=Z,72nm,1.0s
RES Resolute Bay 64.28 14 LR LR 23 10 40.1
comp=Z,193nm,20.4s,baz=354,slow=38
GEYT Alibeck 64.47 300 P P 22 40 54.1 -0.1
GEYT IAmb IAmb 22 40 55.7
comp=Z,18nm,1.0s
GEYT Alibeck 64.47 300 P P 22 40 54.6 +0.4
comp=Z,12nm,0.9s,baz=69,slow=5.7,SNR=16
GEYT LR LR 23 11 03.0
comp=Z,529nm,18.7s,baz=83,slow=38
comp=Z,12nm,0.9s
GYA0B ALIBECK ARRAY 64.47 300 P P 22 40 54.1 -0.1
BELG Belogornoye 64.89 318 iP P 22 40 56.1 -0.5
BELG pmax pmax
comp=Z,16nm,1.1s
BELG Belogornoye 64.89 318 LR LR 23 12 03.3
comp=Z,564nm,18.2s,baz=120,slow=39
KEV Kevo 64.94 339 P P 22 40 56.8 +0.2
KEV Kevo 64.94 339 P P 22 40 56.8 +0.2
KEV pmax pmax
comp=Z,62nm,1.2s
KLMR Klimovskoe 65.07 328 eP P 22 40 55.3 -2.3
KLMR e 22 43 20.4
KLMR pmax pmax
comp=Z,67nm,1.5s
MEEK Meekatharra 65.23 202 P P 22 40 58.5 -0.5
HAMF Hammerfest 65.34 341 eP P 22 40 58.8 -0.4
YKA Yellowknife Ar 65.37 30 P P 22 40 60.0 +0.4
YKA Yellowknife Ar 65.37 30 P P 22 41 00.0 +0.4
YKA Yellowknife Ar 65.37 30 P P 22 40 59.8 +0.3
comp=Z,11nm,0.8s,baz=299,slow=6.6,SNR=106
YKA LR LR 23 09 40.4
comp=Z,163nm,21.0s,baz=326,slow=36
YKA PKP2bc 23 09 44.8
comp=Z,0.4nm,0.9s,baz=121,slow=2.7,SNR=4.4
comp=Z,11nm,0.8s
ARA0 ARCESS Array S 65.50 340 eP P 22 41 00.7 +0.4
ARCES ARCESS Array B 65.50 340 P P 22 41 00.6 +0.3
ARCES IAmb IAmb 22 41 03.6
comp=Z,85nm,1.7s
ARCES ARCESS Array B 65.50 340 P P 22 41 00.6 +0.3
ARCES pmax pmax
comp=Z,85nm,1.7s
ARCES ARCESS Array B 65.50 340 P P 22 40 59.9 -0.4
comp=Z,17nm,0.7s,baz=55,slow=8.0,SNR=62
ARCES LR LR 23 12 51.3
comp=Z,445nm,20.1s,baz=50,slow=39
comp=Z,17nm,0.7s
LCRK Leigh Creek 65.50 183 P P 22 41 01.4 +0.8
MULG Mulgathing 65.62 187 P P 22 41 01.8 +0.4
ARMA Armidale 66.15 170 P P 22 41 05.6 +0.6
ARMA IAmb IAmb 22 41 07.3
comp=Z,23nm,1.0s
KTK1 Kautokeino 66.46 340 eP P 22 41 06.7 +0.2
KTK1 IAmb IAmb 22 41 07.5
comp=Z,32nm,1.1s
CMSA Cobar Meteorol 66.67 176 P P 22 41 09.2 +1.1
TULEG Thule 66.80 7 iP P 22 41 08.0 -0.5
TULEG IAmb IAmb 22 41 09.8
comp=Z,24nm,0.7s
STKA Stephens Creek 66.87 180 P P 22 41 09.6 +0.2
STKA Stephens Creek 66.87 180 P P 22 41 09.6 +0.2
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 66.87 180 P P 22 41 09.2 -0.2
comp=Z,12nm,0.9s,baz=359,slow=9.2,SNR=17
STKA LR LR 23 10 52.0
comp=Z,219nm,20.5s,baz=16,slow=36
comp=Z,12nm,0.9s
JETT Jettan, Norway 66.90 341 eP P 22 41 09.5 +0.2
FORT Forrest 66.92 192 P P 22 41 10.2 +0.4
FORT Forrest 66.92 192 P P 22 41 10.3 +0.6
NEEM North Greenlan 67.22 3 iP P 22 41 11.3 -0.3
NEEM IAmb IAmb 22 41 14.3
comp=Z,66nm,0.9s
TRO Tromso 67.24 341 eP P 22 41 11.6 +0.2
DAG Danmarks Havn 67.44 355 iP P 22 41 12.0 -0.5
DAG iP P 22 41 12.0 -0.5
DAG IAmb IAmb 22 41 15.2
comp=Z,23nm,0.7s
BBOO Buckleboo 67.97 185 P P 22 41 16.3 -0.1
BBOO IAmb IAmb 22 41 17.8
comp=Z,44nm,1.2s
BBOO Buckleboo 67.97 185 P P 22 41 16.7 +0.4
NLWA Neilton Lookou 68.02 47 P P 22 41 17.2 +0.5
MORW Morawa 68.31 204 P P 22 41 18.2 -0.4
RADR Rader Ridge 68.52 48 P P 22 41 21.4 +1.5
VRH Novokhopyorsk 68.69 318 eP P 22 41 20.1 -0.7
VRH pmax pmax
comp=Z,33nm,0.7s
B06A Marblemount 68.87 45 P P 22 41 22.3 +0.3
B06A IAmb IAmb 22 41 24.2
comp=Z,39nm,1.2s
OBN Obninsk 69.32 324 P P 22 41 24.1 -0.5
OBN Obninsk 69.32 324 ⇓iP P 22 41 23.7 -0.9
OBN e 22 41 44.5
OBN pmax pmax
comp=Z,57nm,1.3s
OBN MLR MLR
comp=Z,509nm,15.0s
OBN Obninsk 69.32 324 LR LR 23 12 40.3
comp=Z,580nm,20.8s,baz=20,slow=37
MAK Makhachkala 69.34 308 eP P 22 41 21.7 -3.3
MAK e 22 43 54.7
MAK ePPP PPP 22 45 32.7
MAK eS S 22 50 27.6 -3.4
MAK eSS SS 22 54 53.1 -4.2
MAK pmax pmax
comp=Z,430nm,1.5s
MAK MLR MLR
comp=Z,926nm,15.0s
STEI Steigen 69.39 341 eP P 22 41 24.9 +0.1
STEI IAmb IAmb 22 41 25.2
comp=Z,38nm,0.8s
LPSR Galich'ya Gora 69.46 320 eP P 22 41 24.9 -0.7
LPSR pmax pmax
comp=Z,50nm,0.9s
PUL Pulkovo 69.53 330 ceP P 22 41 26.2 +0.3
PUL pmax pmax
comp=Z,47nm,0.5s
FAUS Fauske 69.77 340 eP P 22 41 27.4 +0.2
FAUS IAmb IAmb 22 41 28.1
comp=Z,57nm,0.9s
VORR Voronezh 69.80 320 eP P 22 41 27.0 -0.7
VORR pmax pmax
comp=Z,17nm,0.4s
KEBM Edson Butte 69.93 51 P P 22 41 30.1 +1.3
VSR Storozhevoye 70.06 319 eP P 22 41 27.7 -1.6
VSR pmax pmax
comp=Z,40nm,1.0s
VORD Divnogorie 70.13 319 eP P 22 41 28.5 -1.2
VORD pmax pmax
comp=Z,20nm,1.0s
I03D Drain, OR 70.14 50 P P 22 41 31.4 +1.4
I03D IAmb IAmb 22 41 33.2
comp=Z,50nm,1.0s
FIA1 FINESS Array S 70.21 332 P P 22 41 29.8 -0.2
FINES FINESS Array B 70.21 332 P P 22 41 29.8 -0.2
FINES FINESS Array B 70.21 332 P P 22 41 30.0 0.0
FINES FINESS Array B 70.21 332 P P 22 41 29.9 0.0
comp=Z,31nm,0.8s,baz=58,slow=6.5,SNR=71
FINES LR LR 23 14 11.3
comp=Z,390nm,18.8s,baz=30,slow=38
comp=Z,31nm,0.8s
SEKA Sheki 70.40 307 P P 22 41 29.6 -2.1
LKRN Lenkeran, Azer 70.60 304 P P 22 41 31.3 -1.5
CAN Canberra 70.68 173 P P 22 41 33.6 +0.4
CAN IAmb IAmb 22 41 35.6
comp=Z,39nm,1.2s
CAN Canberra 70.68 173 P P 22 41 33.6 +0.4
CAN pmax pmax
comp=Z,39nm,1.2s
MNGR Mingechevir, A 70.69 307 P P 22 41 31.8 -1.6
EDM Edmonton 70.80 38 P P 22 41 33.6 -0.2
EDM IAmb IAmb 22 41 35.5
comp=Z,29nm,1.1s
EDM Edmonton 70.80 38 P P 22 41 33.7 -0.2
EDM pmax pmax
comp=Z,29nm,1.1s
MOR8 Moi Rana 70.87 340 eP P 22 41 33.0 -1.1
MOR8 IAmb IAmb 22 41 33.6
comp=Z,88nm,1.0s
KONS Konsvik 71.00 340 eP P 22 41 35.2 +0.5
GOF Gofitskoye 71.06 312 ceP P 22 41 35.8 +0.2
HAWA Hanford 71.09 46 P P 22 41 35.8 +0.1
HAWA IAmb IAmb 22 41 38.2
comp=Z,19nm,1.1s
WSAR Wadi Sarin 71.11 285 LR LR 23 17 32.5
comp=Z,355nm,19.4s,baz=68,slow=40
STOK Stokkvaagen 71.15 340 eP P 22 41 36.2 +0.6
GANJ Ganja 71.26 307 P P 22 41 35.2 -1.7
NEW Newport 71.49 44 P P 22 41 38.4 +0.3
NEW IAmb IAmb 22 41 40.3
comp=Z,24nm,1.1s
NEW Newport 71.49 44 P P 22 41 39.2 +1.1
baz=302,SNR=12
NEW Newport 71.49 44 P P 22 41 39.1 +0.9
comp=Z,10nm,0.8s,baz=326,slow=5.3,SNR=15
comp=Z,10nm,0.8s
UPNV Upernavik 71.50 5 iP P 22 41 37.2 -0.5
UPNV IAmb IAmb 22 41 39.4
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 71.52 201 P P 22 41 37.9 -0.4
NWAO Narrogin (SRO) 71.52 201 P P 22 41 37.9 -0.4
NWAO pmax pmax
comp=Z,483nm,1.8s
YBH Yreka Blue Hor 71.55 52 P P 22 41 39.6 +0.9
YBH IAmb IAmb 22 41 41.7
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 71.55 52 P P 22 41 40.2 +1.5
comp=Z,12nm,0.8s,baz=295,slow=8.2,SNR=18
YBH LR LR 23 10 38.0
comp=Z,73nm,18.8s,baz=327,slow=34
comp=Z,12nm,0.8s
MEF Metsahovi 71.62 332 eP P 22 41 38.7 +0.1
ZEI Tsey 71.71 310 eP P 22 41 36.5 -3.3
ZEI pmax pmax
comp=Z,25nm,1.4s
JMIC Jan Mayen 71.77 350 LR LR 23 16 37.7
comp=Z,88nm,18.3s,baz=58,slow=39
VSU Vasula 71.80 330 ceP P 22 41 37.9 -1.8
VSU pmax pmax
comp=Z,92nm,1.3s
VSU Vasula 71.80 330 eP P 22 41 40.0 +0.3
KBZ Khabaz 71.84 311 ceP P 22 41 39.2 -1.0
KBZ pmax pmax
comp=Z,41nm,1.0s
KBZ Khabaz 71.84 311 P P 22 41 40.7 +0.5
comp=Z,23nm,0.9s,baz=53,slow=2.2,SNR=18
KBZ LR LR 23 15 10.9
comp=Z,292nm,19.6s,baz=50,slow=38
comp=Z,23nm,0.9s
KIV Kislovodsk 71.86 311 ⇑P P 22 41 41.5 +1.1
KIV Kislovodsk 71.86 311 P P 22 41 40.5 +0.1
KIV IAmb IAmb 22 41 42.8
comp=Z,56nm,1.0s
KIV Kislovodsk 71.86 311 eP P 22 41 40.6 +0.1
KIV pmax pmax
comp=Z,50nm,1.1s
RAF Rauma 72.08 334 eP P 22 41 41.5 +0.1
ONI Oni 72.09 310 P P 22 41 41.7 -0.2
ONI IAmb IAmb 22 41 52.9
comp=Z,22nm,1.0s
ONI Oni 72.09 310 P P 22 41 41.7 -0.2
ONI pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 72.37 360 P P 22 41 43.7 +0.3
SUMG Summit 72.37 360 P P 22 41 43.7 +0.3
SUMG pmax pmax
comp=Z,71nm,0.8s
SUMG Summit 72.37 360 iP P 22 41 43.0 -0.4
SUMG iP P 22 41 43.0 -0.4
SUMG IAmb IAmb 22 41 46.1
comp=Z,47nm,0.8s
GNI Garni 72.55 307 P P 22 41 44.8 0.0
GNI IAmb IAmb 22 41 51.9
comp=Z,50nm,1.1s
GNI Garni 72.55 307 iP P 22 41 43.4 -1.4
GNI pmax pmax
comp=Z,60nm,1.2s
GNI Garni 72.55 307 LR LR 23 16 25.2
comp=Z,640nm,18.2s,baz=52,slow=38
NAX Nakhchivan 72.56 306 P P 22 41 43.1 -1.7
AKH Akhalkalaki 72.69 309 P P 22 41 46.5 +0.9
AKH IAmb IAmb 22 41 57.8
comp=Z,51nm,0.9s
AKH Akhalkalaki 72.69 309 P P 22 41 46.5 +0.9
AKH pmax pmax
comp=Z,51nm,0.9s
NSS Namsos 72.79 339 eP P 22 41 45.9 +0.4
MTSE Matsula 72.82 331 eP P 22 41 46.2 +0.4
BMO Blue Mountains 73.23 47 P P 22 41 49.1 +0.4
BMO Blue Mountains 73.23 47 P P 22 41 49.1 +0.4
BMO pmax pmax
comp=Z,18nm,1.0s
ORV Oroville 73.47 53 P P 22 41 50.4 +0.3
ORV Oroville 73.47 53 P P 22 41 50.4 +0.3
ORV pmax pmax
comp=Z,19nm,1.0s
WVOR Wild Horse Val 73.75 49 P P 22 41 52.1 +0.3
WVOR IAmb IAmb 22 41 54.5
comp=Z,31nm,1.2s
WVOR Wild Horse Val 73.75 49 P P 22 41 52.1 +0.3
WVOR pmax pmax
comp=Z,31nm,1.2s
SCO Scoresbysund 73.77 354 P P 22 41 52.5 +1.3
SCO IAmb IAmb 22 44 09.9
comp=Z,120nm,2.0s
SCO Scoresbysund 73.77 354 P P 22 41 52.5 +1.3
SCO pmax pmax
comp=Z,120nm,2.0s
MNK Minsk 73.77 326 iP P 22 41 51.7 +0.1
comp=E,7.0nm,0.9s
MNK iP P 22 41 51.7 +0.1
comp=N,20nm,0.9s
MNK iP P 22 41 51.7 +0.1
comp=Z,51nm,0.9s,baz=52
MNK iPcP PcP 22 42 07.1 0.0
MNK iPP PP 22 44 35.8 +0.2
MNK iPPP PPP 22 46 20.6
MNK iS S 22 51 23.2 +1.3
MNK iSS SS 22 56 07.5 +2.9
MNK iLQ LQ 23 10 22.4
MNK iLR LR 23 15 20.8
MNK iLRM MLR 23 19 15.9
comp=E,162nm,17.4s
MNK iLRM MLR 23 20 05.4
comp=Z,513nm,17.2s
MNK iLRM MLR 23 20 17.2
comp=N,338nm,17.4s
MNK Minsk 73.77 326 iP P 22 41 51.6 +0.1
MNK i 22 42 07.1
MNK i 22 44 35.7
MNK iPPP PPP 22 46 20.6
MNK iS S 22 51 23.1 +1.3
MNK iSS SS 22 56 07.5 +2.9
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=Z,51nm,0.9s
MNK MLR MLR
comp=E,162nm,17.0s
SOC Sochi 73.87 312 eP P 22 41 49.8 -2.5
SOC e 22 44 33.0
SOC ePPP PPP 22 46 21.9
SOC eS SKiKP 22 51 21.6 +1.0
SOC eSS SS 22 56 06.4 -0.3
SOC pmax pmax
comp=Z,50nm,0.9s
SOC MLR MLR
comp=Z,206nm,14.0s
ISAL Salakas 73.88 328 eP P 22 41 52.5 +0.4
MSO Missoula 74.08 44 P P 22 41 53.8 +0.2
MSO Missoula 74.08 44 P P 22 41 54.8 +1.2
baz=305,SNR=7.7
SLIT Slitere, Latvi 74.15 331 eP P 22 41 53.7 +0.1
TBLU Trondheim 74.25 339 eP P 22 41 53.6 -0.5
OVMT Ovando 74.47 43 P P 22 41 56.4 +0.5
ANN Anapa 74.55 314 eP P 22 41 59.2 +3.0
ANN pmax pmax
comp=Z,60nm,1.0s
VSVD Vaisvydziai 74.56 329 eP P 22 41 56.4 +0.3
MPK Martis Peak 74.57 53 P P 22 41 58.1 +1.2
MPK IAmb IAmb 22 41 59.5
comp=Z,48nm,1.2s
PABE Paberze 74.86 328 P P 22 41 57.6 -0.2
PABE Paberze 74.86 328 eP P 22 41 58.0 +0.2
MFID Camas Ranch 74.92 47 P P 22 41 59.3 +0.7
MFID IAmb IAmb 22 42 01.1
comp=Z,22nm,1.0s
GURO Guroymak-BITLI 75.18 307 P P 22 42 00.4 +0.2
GURO IAmb IAmb 22 42 02.4
comp=Z,27nm,1.1s
FFC Flin Flon 75.24 32 P P 22 42 00.3 +0.2
FFC IAmb IAmb 22 42 01.6
comp=Z,35nm,1.0s
FFC Flin Flon 75.24 32 P P 22 42 00.3 +0.2
FFC pmax pmax
comp=Z,35nm,1.0s
ILULI Ilulissat 75.36 4 iP P 22 42 00.8 +0.3
ILULI IAmb IAmb 22 42 07.6
comp=Z,45nm,0.5s
PBUR Paburge 75.37 330 eP P 22 42 01.1 +0.3
NC405 NORSAR Array S 75.45 337 P P 22 42 01.4 +0.3
AKASG Malin Array Be 75.50 322 P P 22 42 01.5 -0.1
AKASG IAmb IAmb 22 42 02.7
comp=Z,36nm,1.3s
AKASG Malin Array Be 75.50 322 P P 22 42 01.3 -0.3
comp=Z,22nm,0.8s,baz=46,slow=6.0,SNR=88
AKASG LR LR 23 18 21.9
comp=Z,830nm,18.1s,baz=36,slow=38
comp=Z,22nm,0.8s
AKBB Malin Array Si 75.50 322 P P 22 42 01.4 -0.3
AKBB IAmb IAmb 22 42 02.4
comp=Z,51nm,1.1s
AKBB Malin Array Si 75.50 322 ceP P 22 42 00.7 -0.9
AKBB pmax pmax
comp=Z,55nm,1.0s
KIEV Kiev 75.52 322 ⇑P P 22 42 01.7 0.0
KIEV Kiev 75.52 322 P P 22 42 01.3 -0.4
KIEV IAmb IAmb 22 42 02.4
comp=Z,46nm,1.1s
KIEV Kiev 75.52 322 P P 22 42 01.3 -0.4
KIEV pmax pmax
comp=Z,46nm,1.1s
HFS Hagfors 75.54 336 P P 22 42 01.7 +0.1
comp=Z,25nm,0.9s,baz=66,slow=3.7,SNR=23
HFS LR LR 23 17 42.7
comp=Z,843nm,19.5s,baz=28,slow=38
comp=Z,25nm,0.9s
DOMB Dombas 75.54 339 eP P 22 42 01.9 +0.2
MOL Molde 75.56 340 eP P 22 42 02.6 +0.9
FCC Fort Churchill 75.60 26 P P 22 42 02.0 +0.1
FCC IAmb IAmb 22 42 03.4
comp=Z,50nm,1.1s
FCC Fort Churchill 75.60 26 P P 22 42 02.1 +0.1
FCC pmax pmax
comp=Z,50nm,1.1s
NB2 NORSAR Subarra 75.66 337 P P 22 42 02.3 -0.1
comp=Z,11nm,0.7s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.66 337 P P 22 42 02.3 -0.1
baz=41,slow=5.9
NOA NORSAR Array B 75.66 337 P P 22 42 02.5 +0.1
comp=Z,23nm,0.8s,baz=39,slow=5.7,SNR=61
NOA PKiKP PKiKP 22 47 50.3 +0.4
comp=Z,0.6nm,0.7s,baz=24,slow=4.4,SNR=3.3
NOA LR LR 23 18 19.5
comp=Z,534nm,19.9s,baz=55,slow=38
comp=Z,23nm,0.8s
HLID Hailey 75.68 47 P P 22 42 03.7 +0.6
HLID Hailey 75.68 47 P P 22 42 04.5 +1.5
baz=305,SNR=16
EGMT Eagleton 75.68 41 P P 22 42 03.2 +0.4
EGMT IAmb IAmb 22 42 04.8
comp=Z,55nm,1.1s
EGMT Eagleton 75.68 41 P P 22 42 03.7 +0.9
baz=307,SNR=18
NC602 NORSAR Array S 75.79 337 eP P 22 42 03.4 +0.3
ICESG Greenland Ices 75.87 0 iP P 22 42 04.3 +0.4
ICESG IAmb IAmb 22 42 05.9
comp=Z,37nm,0.7s
BOZ Bozeman (W) 76.10 44 P P 22 42 06.1 +0.7
BOZ IAmb IAmb 22 42 07.6
comp=Z,24nm,0.9s
BOZ Bozeman (W) 76.10 44 P P 22 42 06.7 +1.3
baz=306,SNR=22
BOZ Bozeman (W) 76.10 44 P P 22 42 06.1 +0.7
BOZ pmax pmax
comp=Z,24nm,1.0s
NVAR Mina Array Bea 76.17 53 P P 22 42 07.4 +1.4
NVAR Mina Array Bea 76.17 53 P P 22 42 07.6 +1.6
comp=Z,17nm,0.7s,baz=288,slow=5.7,SNR=111
NVAR LR LR 23 09 44.4
comp=Z,227nm,21.8s,baz=284,slow=31
comp=Z,17nm,0.7s
SUW Suwalki 76.19 328 P P 22 42 03.3 -2.2
SUW Suwalki 76.19 328 P P 22 42 03.3 -2.2
SUW pmax pmax
comp=Z,76nm,1.1s
SUW Suwalki 76.19 328 eP P 22 42 03.7 -1.8
SIM Simferopol' 76.38 316 eP P 22 42 07.0 +0.2
SIM pmax pmax
comp=Z,57nm,1.1s
SIM MLR MLR
comp=Z,236nm,17.0s
SOEG Soedalen 76.61 357 iP P 22 42 08.4 +0.7
SOEG IAmb IAmb 22 42 09.8
comp=Z,24nm,0.8s
YHL Hebgen Lake 76.80 44 P P 22 42 10.2 +0.7
ELK Elko 76.80 49 P P 22 42 10.6 +1.0
ELK Elko 76.80 49 P P 22 42 11.2 +1.7
comp=Z,18nm,0.9s,baz=313,slow=6.5,SNR=51
ELK LR LR 23 12 39.2
comp=Z,146nm,21.6s,baz=339,slow=33
comp=Z,18nm,0.9s
SKAR Skarslia 76.84 338 eP P 22 42 09.8 +0.7
SKAR IAmb IAmb 22 42 10.7
comp=Z,24nm,1.0s
VES Vestal, Richgr 77.11 55 P P 22 42 11.5 +0.5
baz=304
PKM Mcpherson Peak 77.15 56 P P 22 42 13.7 +2.2
baz=304
STRU Stroemstad 77.21 336 ⇓eP P 22 42 11.2 +0.1
KONO Kongsberg 77.25 337 P P 22 42 11.1 -0.3
KONO Kongsberg 77.25 337 eP P 22 42 11.5 +0.1
KONO Kongsberg 77.25 337 P P 22 42 11.1 -0.3
KONO pmax pmax
comp=Z,131nm,1.8s
ARPR Arapgir-MALATY 77.26 309 P P 22 42 12.4 +0.3
H17A Grant Village 77.42 44 P P 22 42 16.3 +3.3
baz=307,SNR=28
CWC Cottonwood Cre 77.44 54 P P 22 42 14.6 +1.5
baz=305
SORM Soroca 77.56 321 ⇑P P 22 42 13.3 -0.1
SORM Soroca 77.56 321 P P 22 42 13.2 -0.1
SFJD Kangerlussuaq 77.58 5 LR LR 23 19 01.1
comp=Z,232nm,18.3s,baz=352,slow=38
SFJD Kangerlussuaq 77.58 5 iP P 22 42 13.3 +0.2
SFJD IAmb IAmb 22 42 15.1
comp=Z,16nm,0.9s
ISA Isabella, Lake 77.62 55 P P 22 42 14.8 +0.8
baz=305
RLMT Red Lodge 77.72 43 P P 22 42 14.4 -0.1
RLMT Red Lodge 77.72 43 P P 22 42 16.1 +1.5
baz=308,SNR=9.9
TPAW Teton Pass 77.75 45 P P 22 42 15.9 +1.0
PURM Purcari 77.77 319 ⇑P P 22 42 14.6 +0.1
BER Bergen 77.96 339 eP P 22 42 15.6 +0.3
ODD1 Odda 77.96 338 eP P 22 42 15.9 +0.5
R11B Troy Canyon, C 77.97 51 P P 22 42 16.5 +0.4
R11B Troy Canyon, C 77.97 51 P P 22 42 17.7 +1.6
baz=306,SNR=26
MPMC Manual Prospec 78.05 54 P P 22 42 17.8 +1.3
baz=305
BGU Big Grassy Mou 78.06 48 P P 22 42 17.3 +0.9
MILM Milestii Mici 78.09 320 eP P 22 42 16.0 -0.3
MILM eL L 23 19 17.0

MILM LRM MLR 23 19 37.0
comp=Z,1µm,16.0s
MILM Milestii Mici 78.09 320 ⇓P P 22 42 16.3 0.0
MILM Milestii Mici 78.09 320 eP P 22 42 16.0 -0.3
MILM MLR MLR
comp=Z,1µm,16.0s
AHID Auburn Hatcher 78.10 46 P P 22 42 17.0 +0.2
SPUT South Promonto 78.18 48 P P 22 42 18.1 +0.9
DEL Delary 78.21 333 *i* P P 22 42 16.0 -0.8
DGMT Dagmar 78.29 38 P P 22 42 18.3 +0.8
baz=311,SNR=11
DGMT Dagmar 78.29 38 P P 22 42 17.9 +0.4
baz=311,SNR=11
DY2G Dye2 78.34 3 *i* P P 22 42 18.3 +0.6
DY2G IAmb IAmb 22 42 19.5
comp=Z,24nm,0.7s
TPNV Topopah Spring 78.35 53 P P 22 42 19.7 +1.5
baz=306,SNR=10
EDW2 Edwards Air Fo 78.39 56 P P 22 42 19.8 +1.5
baz=305,SNR=7.9
LAO LASA Array 78.39 40 P P 22 42 18.5 +0.4
LAO IAmb IAmb 22 42 20.4
comp=Z,44nm,1.1s
LAO LASA Array 78.39 40 P P 22 42 19.5 +1.4
baz=310,SNR=11
LAO LASA Array 78.39 40 P P 22 42 18.5 +0.4
baz=310
BLS5 Blasjo 78.40 338 eP P 22 42 18.8 +0.9
FRB Frobisher Bay 78.46 13 LR LR 23 21 50.6
comp=Z,214nm,18.6s,baz=7.5,slow=39
LVV L'vov 78.62 324 eP P 22 42 19.5 +0.3
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=E,300nm,18.0s
LVV MLR MLR
comp=Z,400nm,18.0s
DUG Dugway, Tooele 78.62 49 P P 22 42 21.4 +1.9
baz=307,SNR=27
BEL Belsk 78.74 327 eP P 22 42 20.6 +0.8
VASR Vaslui 78.81 320 ⇓P P 22 42 21.3 +1.0
BJUU Bjuv 78.82 333 ⇓eP P 22 42 20.2 0.0
BSD Bornholm Skovb 78.83 332 eP P 22 42 20.2 0.0
BSD Bornholm Skovb 78.83 332 *i* P P 22 42 19.7 -0.5
BSD IAmb IAmb 22 42 21.4
comp=Z,32nm,1.0s
KMY Karmoy 78.94 339 eP P 22 42 21.9 +1.1
GSC Goldstone, Bar 78.94 55 P P 22 42 22.9 +1.5
baz=306,SNR=5.1
BNN Bunyan 78.97 310 P P 22 42 21.7 +0.2
BNN IAmb IAmb 22 42 23.4
comp=Z,65nm,1.1s
BFSC Mount Baldy Ra 78.98 56 P P 22 42 23.1 +1.4
baz=305
BW06 Boulder Array 79.00 45 P P 22 42 22.3 +0.6
baz=308,SNR=15
PD31 Pinedale Array 79.00 45 P P 22 42 21.4 -0.4
PDAR Pinedale Array 79.00 45 P P 22 42 21.3 -0.4
PDAR Pinedale Array 79.00 45 P P 22 42 22.4 +0.6
comp=Z,9.1nm,0.6s,baz=271,slow=2.0,SNR=105
comp=Z,9.1nm,0.6s
SNART Snartemo 79.04 337 eP P 22 42 22.1 +0.7
SNART Snartemo 79.04 337 eP P 22 42 21.5 +0.2
GAZ Gaziantep 79.10 308 P P 22 42 22.1 -0.1
PRAR RASCA 79.16 321 ⇑P P 22 42 22.2 0.0
VLDR Vladesti 79.17 319 ⇑P P 22 42 23.0 +0.7
BORG Borgarnes 79.29 352 P P 22 42 24.6 +2.1
BORG Borgarnes 79.29 352 P P 22 42 24.7 +2.1
BORG pmax pmax
comp=Z,738nm,2.0s
SCTR Scanteiesti 79.33 319 ⇓P P 22 42 24.3 +1.2
RAR Rarotonga 79.35 125 LR LR 23 09 16.0
comp=Z,222nm,20.9s,baz=314,slow=29
KWP Kalwaria Pacla 79.38 324 eP P 22 42 23.9 +0.5
KWP Kalwaria Pacla 79.38 324 P P 22 42 23.9 +0.5
KWP Kalwaria Pacla 79.38 324 P P 22 42 23.9 +0.5
KWP pmax pmax
comp=Z,108nm,1.1s
JURR Jurilovca 79.43 318 ⇑P P 22 42 24.7 +1.0
TUQ Turquoise Moun 79.45 54 P P 22 42 26.0 +1.8
baz=306,SNR=14
BUR08 Bucovina Ar. S 79.49 322 P P 22 42 24.2 0.0
BUR08 IAmb IAmb 22 42 25.7
comp=Z,33nm,1.2s
TESR Tescani 79.49 320 ⇑P P 22 42 24.5 +0.5
BURAR Bucovina Array 79.50 322 ⇑P P 22 42 24.8 +0.5
BURAR Bucovina Array 79.50 322 P P 22 42 24.3 +0.1
BURAR Bucovina Array 79.50 322 P P 22 42 24.7 +0.5
HEC Hector, Ludlow 79.53 55 P P 22 42 26.4 +1.8
baz=306,SNR=12
IZVR Izvoarele 79.53 319 ⇓P P 22 42 25.0 +0.8
CFR Carcaliu 79.57 319 ⇑P P 22 42 25.0 +0.5
CFR Carcaliu 79.57 319 P P 22 42 24.9 +0.5
TPGR Topolog 79.62 318 ⇑P P 22 42 25.4 +0.6
PANC Panciu 79.65 320 ⇓P P 22 42 26.2 +1.3
MURC Murrieta 79.66 56 P P 22 42 26.8 +1.5
baz=306,SNR=5.5
ODBI Odobesti 79.77 320 ⇓P P 22 42 26.3 +0.8
BR131 Keskin Array S 79.81 312 P P 22 42 25.5 -0.6
BR131 Keskin Array S 79.81 312 *i* P P 22 42 25.6 -0.6
BRTR Keskin Array B 79.81 312 P P 22 42 25.5 -0.6
BRTR Keskin Array B 79.81 312 P P 22 42 25.5 -0.6
BRTR Keskin Array B 79.81 312 P P 22 42 26.6 +0.5
comp=Z,11nm,0.9s,baz=96,slow=3.7,SNR=27
BRTR LR LR 23 20 07.0
comp=Z,212nm,19.1s,baz=64,slow=38
comp=Z,11nm,0.9s
VRI Vrincioaia 79.88 320 ⇓P P 22 42 26.8 +0.7
VRI Vrincioaia 79.88 320 P P 22 42 27.1 +1.0
VRI Vrincioaia 79.88 320 ⇓P P 22 42 27.1 +1.0
TIRR Tirgusor 79.88 318 ⇓P P 22 42 26.4 +0.2
TIRR Tirgusor 79.88 318 P P 22 42 26.4 +0.2
PLOR Plostina 79.93 320 ⇓P P 22 42 27.2 +0.7
PLOR Plostina 79.93 320 P P 22 42 27.1 +0.7
GMRC Granite Mounta 80.00 54 P P 22 42 28.9 +1.7
baz=306,SNR=17
KOLS Kolonicke sedl 80.06 324 eP P 22 42 27.7 +0.6
KOLS pmax pmax
comp=Z,19nm,1.0s
KOLS Kolonicke sedl 80.06 324 eP P 22 42 27.7 +0.6
TURR Turia 80.13 320 ⇓P P 22 42 28.5 +0.9
PFO Pinyon Flats O 80.16 56 P P 22 42 28.6 +0.5
PFO IAmb IAmb 22 42 30.4
comp=Z,47nm,0.9s
PFO Pinyon Flats O 80.16 56 P P 22 42 29.7 +1.7
baz=306,SNR=9.7
PFO Pinyon Flats O 80.16 56 P P 22 42 28.9 +0.9
comp=Z,38nm,0.9s,baz=301,slow=4.5,SNR=26
PFO LR LR 23 12 56.7
comp=Z,606nm,19.7s,baz=257,slow=32
comp=Z,38nm,0.9s
TPFO Pinon Flats 80.16 56 P P 22 42 29.7 +1.6
baz=306,SNR=10.0
COVR Voineasa-Covas 80.17 320 ⇑P P 22 42 28.6 +0.9
STHS Stebnicka Huta 80.22 325 eP P 22 42 28.2 +0.3
STHS pmax pmax
comp=Z,23nm,1.1s
STHS Stebnicka Huta 80.22 325 eP P 22 42 28.2 +0.3
OZUR 80.22 320 ⇓P P 22 42 28.7 +0.7
ANTO Ankara 80.24 312 P P 22 42 27.9 -0.4
ANTO Ankara 80.24 312 P P 22 42 27.9 -0.4
ANTO pmax pmax
comp=Z,22nm,1.0s
NUUK Nuuk 80.28 6 *i* P P 22 42 28.8 +0.8
NUUK IAmb IAmb 22 42 30.4
comp=Z,29nm,0.8s
ARCR ARCALIA 80.29 322 ⇑P P 22 42 29.4 +1.0
BOSR Bodos 80.30 320 ⇑P P 22 42 29.2 +0.7
OJC Ojcow 80.32 326 eP P 22 42 29.0 +0.5
OJC Ojcow 80.32 326 P P 22 42 28.6 +0.2
OJC IAmb IAmb 22 42 30.1
comp=Z,69nm,1.2s
OJC Ojcow 80.32 326 P P 22 42 28.7 +0.2
OJC pmax pmax
comp=Z,69nm,1.2s
BMR Baia Mare 80.33 323 ⇑P P 22 42 29.8 +1.2
BMR Baia Mare 80.33 323 P P 22 42 29.7 +1.2
URZ Urewera 80.46 152 LR LR 23 13 09.6
comp=Z,139nm,20.3s,baz=106,slow=32
ISR Istrita 80.46 319 ⇓P P 22 42 30.1 +0.7
ISR Istrita 80.46 319 P P 22 42 30.1 +0.7
CRVS Cervenica-Dubn 80.47 324 eP P 22 42 30.2 +0.9
CRVS pmax pmax
comp=Z,41nm,1.4s

CRVS Cervenica-Dubn 80.47 324 eP P 22 42 30.2 +0.9
DOPR Dopca 80.51 320 ⇑P P 22 42 30.9 +1.3
MLR Muntele Rosu 80.53 320 ⇓P P 22 42 30.1 +0.2
MLR Muntele Rosu 80.53 320 P P 22 42 29.1 -0.8
MLR Muntele Rosu 80.53 320 P P 22 42 30.1 +0.2
MLR Muntele Rosu 80.53 320 LR LR 23 21 15.2
comp=Z,643nm,18.5s,baz=44,slow=38
NIE Niedzica 80.66 325 eP P 22 42 31.2 +0.8
IRM Iron Mountain 80.72 55 P P 22 42 32.7 +1.7
baz=306,SNR=16
RTZ Ruatahuna 80.72 152 P P 22 42 29.6 -1.0
RTZ IAmb IAmb 22 42 31.1
comp=Z,28nm,1.0s
BC3 Big Chuckawall 80.81 55 P P 22 42 33.2 +1.6
baz=306,SNR=6.2
MDUB Mudurnu 80.82 313 P P 22 42 31.2 -0.2
CJR Cluj-Napoca 80.93 322 ⇓P P 22 42 32.7 +0.8
CJR Cluj-Napoca 80.93 322 P P 22 42 32.6 +0.8
MESR Meseseni 80.95 322 ⇑P P 22 42 33.0 +1.1
IKP In-Ko-Pah, Jac 80.96 56 P P 22 42 34.0 +1.7
baz=306,SNR=9.1
MDND Maddock 80.99 37 P P 22 42 32.4 +0.3
MDND IAmb IAmb 22 42 33.9
comp=Z,65nm,1.1s
MDND Maddock 80.99 37 P P 22 42 33.2 +1.1
baz=314,SNR=5.4
MDND Maddock 80.99 37 P P 22 42 32.9 +0.8
baz=314,SNR=5.4
ULM Lac du Bonnet 81.03 33 P P 22 42 31.9 -0.3
ULM Lac du Bonnet 81.03 33 P P 22 42 31.9 -0.3
ULM pmax pmax
comp=Z,19nm,1.0s
ULM Lac du Bonnet 81.03 33 P P 22 42 31.8 -0.4
comp=Z,12nm,0.8s,baz=306,slow=6.3,SNR=24
comp=Z,12nm,0.8s
VOIR 81.04 320 ⇑P P 22 42 33.0 +0.4
VOIR 81.04 320 P P 22 42 32.9 +0.4
MARR Marisel-Cluj 81.19 322 ⇑P P 22 42 33.9 +0.6
U15A North Rim 81.22 51 P P 22 42 34.3 +0.4
U15A IAmb IAmb 22 42 37.0
comp=Z,55nm,1.6s
LANS Liptovska Anna 81.23 326 eP P 22 42 34.7 +1.3
LANS pmax pmax
comp=Z,16nm,1.2s
LANS Liptovska Anna 81.23 326 eP P 22 42 34.7 +1.3
RUE Ruedersdorf 81.25 331 eP P 22 42 33.3 0.0
RUE Ruedersdorf 81.25 331 eP P 22 42 33.6 +0.3
comp=Z,79nm,1.2s,baz=39,slow=5.1
PDMCI Parker Dam,Lak 81.30 54 P P 22 42 35.7 +1.7
baz=307,SNR=10
ARR Arges 81.31 320 ⇑P P 22 42 35.1 +1.2
O20A White River Ci 81.42 47 P P 22 42 35.9 +1.1
baz=309,SNR=13
KSP Ksiaz 81.42 328 eP P 22 42 34.9 +0.6
BSEG Bad Segeberg 81.47 333 eP P 22 42 34.7 +0.2
comp=Z,57nm,1.1s,baz=39,slow=5.1
MORC Moravsky Berou 81.66 327 ⇑P P 22 42 36.4 +0.8
MORC Moravsky Berou 81.66 327 P P 22 42 35.6 -0.1
MORC IAmb IAmb 22 42 37.3
comp=Z,30nm,1.1s
MORC Moravsky Berou 81.66 327 eP P 22 42 36.0 +0.4
MORC Moravsky Berou 81.66 327 P P 22 42 36.4 +0.8
OSTC Ostas 81.67 328 eP P 22 42 34.1 -1.6
OSTC Ostas 81.67 328 eP P 22 42 34.1 -1.6
HUMR Humele 81.69 320 ⇓P P 22 42 36.3 +0.4
CHVC Chvalec 81.71 328 eP P 22 42 36.0 +0.1
CHVC Chvalec 81.71 328 eP P 22 42 36.0 +0.1
DPC Dobruska-Polom 81.77 328 eP P 22 42 36.0 -0.3
DPC Dobruska-Polom 81.77 328 eP P 22 42 36.0 -0.3
UPC Upice 81.79 328 eP P 22 42 36.4 +0.1
UPC Upice 81.79 328 eP P 22 42 36.4 +0.1
GORT1 Trebel 81.83 332 eP P 22 42 36.8 +0.5
comp=Z,79nm,1.4s,baz=39,slow=5.1
PSZ Piszkesteto 81.91 324 ⇑P P 22 42 37.7 +0.7
PSZ Piszkesteto 81.91 324 P P 22 42 37.4 +0.4
PSZ IAmb IAmb 22 42 39.0
comp=Z,45nm,1.1s
PSZ Piszkesteto 81.91 324 P P 22 42 37.7 +0.7
VYHS Vyhne 81.99 325 eP P 22 42 38.4 +1.0
VYHS pmax pmax
comp=Z,32nm,1.2s
VYHS Vyhne 81.99 325 eP P 22 42 38.4 +1.0
SIRR Siria 82.21 322 ⇓P P 22 42 39.2 +0.7
GZR Gura Zlata 82.25 321 ⇑P P 22 42 39.2 +0.3
GZR Gura Zlata 82.25 321 P P 22 42 39.2 +0.3
JAVC Velka Javorina 82.26 326 eP P 22 42 40.6 +1.7
ELND Elena 82.27 318 ⇑P P 22 42 39.3 +0.3
SURR Surduc 82.33 322 ⇑P P 22 42 39.8 +0.6
BSWZ Blackbirch Sta 82.35 156 P P 22 42 38.7 -0.4
WUAZ Wupatki 82.37 52 P P 22 42 39.6 -0.2
WUAZ IAmb IAmb 22 42 42.0
comp=Z,19nm,0.9s
WUAZ Wupatki 82.37 52 P P 22 42 42.0 +2.2
baz=308
FLTG Flechtingen 82.37 332 eP P 22 42 38.7 -0.5
comp=Z,57nm,1.1s,baz=39,slow=5.1
PVCC Panska Ves 82.39 329 eP P 22 42 39.5 +0.1
PVCC Panska Ves 82.39 329 eP P 22 42 39.5 +0.1
BRG Berggiesshubel 82.39 329 *i* P P 22 42 39.8 +0.3
BRG Amp 22 42 40.9
comp=Z,25nm,1.1s
BRG Amp 23 25 38.0
comp=Z,0.6nm,19.0s
BRG Amp 23 25 49.0
comp=N,0.5nm,22.3s
BRG Amp 23 25 50.0
comp=E,0.3nm,17.5s
BRG Berggiesshubel 82.39 329 *i* P P 22 42 39.7 +0.3
BRG pmax pmax
comp=Z,25nm,1.1s
BRG MLR MLR
comp=Z,635nm,19.0s
BRG MLR MLR
comp=N,461nm,22.3s
BRG MLR MLR
comp=E,292nm,17.5s
BRG Berggiesshubel 82.39 329 eP P 22 42 39.5 +0.1
comp=E,25nm,1.1s,baz=39,slow=5.1
VRAC Vranov 82.42 327 ⇑P P 22 42 40.6 +0.9
VRAC Vranov 82.42 327 eP P 22 42 40.2 +0.6
VRAC Vranov 82.42 327 P P 22 42 40.5 +0.9
VRAC Vranov 82.42 327 LR LR 23 21 57.1
comp=E,328nm,20.7s,baz=39,slow=38
AGMN Agassiz Nation 82.44 34 P P 22 42 39.1 -0.6
AGMN Agassiz Nation 82.44 34 P P 22 42 39.6 -0.2
baz=316,SNR=8.9
AGMN Agassiz Nation 82.44 34 P P 22 42 39.4 -0.3
baz=316
CLL Collm 82.45 330 P P 22 42 39.2 -0.5
CLL IAmb IAmb 22 42 40.8
comp=Z,45nm,0.9s
CLL Collm 82.45 330 ⇓*i* P P 22 42 39.7 0.0
CLL pmax pmax
comp=Z,57nm,1.0s
CLL MLR MLR
comp=Z,400nm,19.6s
CLL Collm 82.45 330 ⇓*i* P P 22 42 39.7 0.0
comp=Z,57nm,1.0s
CLL AMS AMS 23 21 00.0
comp=N,500nm,18.9s
CLL AMS AMS 23 21 00.0
comp=E,300nm,19.6s
CLL AMS AMS 23 21 00.0
comp=Z,400nm,19.6s
CLL Collm 82.45 330 eP P 22 42 39.4 -0.3
comp=Z,48nm,0.9s,baz=39,slow=5.1
SRE Strehaia 82.53 321 ⇓P P 22 42 41.4 +1.1
SRE Strehaia 82.53 321 P P 22 42 41.4 +1.1
SMOL Smolenice 82.62 326 eP P 22 42 42.1 +1.4
PLVB Pleven 82.65 319 ⇑P P 22 42 41.3 +0.4
NRDL Niedersach Rie 82.67 332 eP P 22 42 40.8 0.0
comp=Z,25nm,1.1s,baz=39,slow=5.1
KRUC Moravsky 82.69 327 eP P 22 42 41.5 +0.5
SRO Srobarova 82.72 325 eP P 22 42 42.1 +0.9
SRO pmax pmax
comp=Z,69nm,1.8s
SRO Srobarova 82.72 325 eP P 22 42 42.1 +0.9
ASSE Asse, Remlinge 82.74 332 eP P 22 42 41.3 +0.2
comp=Z,21nm,1.2s,baz=39,slow=5.1
RETH Rethem/Aller, 82.76 333 eP P 22 42 41.3 0.0
comp=Z,44nm,1.2s,baz=39,slow=5.1
MMAI Mount Meron Ar 82.77 305 P P 22 42 42.3 +0.5
comp=Z,9.0nm,1.0s,baz=92,slow=7.6,SNR=17
MMAI LR LR 23 23 16.3
comp=Z,433nm,19.1s,baz=256,slow=38

comp=Z,9.0nm,1.0s
HERR Herculane 82.79 321 ⇑P P 22 42 41.8 +0.2
PRA Prague 82.79 329 eP P 22 42 41.4 -0.1
PRA Prague 82.79 329 eP P 22 42 41.4 -0.1
MODS Modra-Piesok 82.80 326 eP P 22 42 42.6 +1.0
MODS pmax pmax
comp=Z,47nm,1.2s
MODS Modra-Piesok 82.80 326 eP P 22 42 42.6 +1.0
HSKC Hora Svate Kat 82.81 329 eP P 22 42 42.1 +0.5
PRU Pruhonice 82.81 329 eP P 22 42 41.5 -0.1
PRU Pruhonice 82.81 329 eP P 22 42 41.5 -0.1
DJES Djerdap 82.88 321 P P 22 42 41.6 -0.5
BAIL Bailesti 82.89 320 ⇑P P 22 42 43.0 +0.9
CSS Mathiatis 82.93 308 P P 22 42 42.4 -0.1
CSS IAmb IAmb 22 43 04.1
comp=Z,15nm,0.9s
NEUB Neuenburg 83.03 331 eP P 22 42 42.6 0.0
comp=Z,60nm,1.1s,baz=39,slow=5.1
CLZ Clausthal 83.08 332 eP P 22 42 43.3 +0.2
comp=Z,48nm,1.1s,baz=39,slow=5.1
MVCO Mesa Verde 83.12 49 P P 22 42 44.1 +0.4
MVCO Mesa Verde 83.12 49 P P 22 42 45.2 +1.4
baz=310,SNR=9.7
ISCO Idaho Springs 83.18 45 P P 22 42 44.0 -0.1
ISCO Idaho Springs 83.18 45 P P 22 42 45.4 +1.3
baz=311,SNR=9.5
ISCO Idaho Springs 83.18 45 P P 22 42 44.0 -0.1
ISCO pmax pmax
comp=Z,13nm,1.2s
RPZ Rata Peaks 83.27 159 LR LR 23 14 24.7
comp=Z,200nm,20.6s,baz=328,slow=32
BALB Balikesir 83.31 314 P P 22 42 44.2 -0.1
BALB IAmb IAmb 22 42 45.8
comp=Z,35nm,1.0s
TANN Tannenbergstha 83.36 330 eP P 22 42 44.6 +0.1
comp=Z,45nm,1.6s,baz=39,slow=5.1
B35A Bob, Littlefor 83.37 33 P P 22 42 44.5 -0.1
baz=318
ZVC Zvikov 83.37 328 eP P 22 42 44.7 +0.2
BRIGG Briggsdale 83.41 44 P P 22 42 45.0 -0.1
BRIGG IAmb IAmb 22 42 46.9
comp=Z,24nm,1.1s
PLN Piauen 83.43 330 eP P 22 42 44.9 +0.1
comp=Z,41nm,1.5s,baz=39,slow=5.1
GTTG Gottingen 83.47 332 eP P 22 42 45.1 +0.1
comp=Z,29nm,1.0s,baz=39,slow=5.1
IVI Ivigtut 83.49 5 P P 22 42 44.7 -0.2
IVI Ivigtut 83.49 5 *i* P P 22 42 44.2 -0.7
IVI IAmb IAmb 22 42 46.0
comp=Z,16nm,0.7s
NKC Novy Kostel 83.50 330 eP P 22 42 45.0 -0.2
NKC Novy Kostel 83.50 330 eP P 22 42 45.0 -0.2
KPL Plockton 83.51 343 eP P 22 42 45.6 +0.6
BLKB Belogradchik 83.52 320 ⇑P P 22 42 45.8 +0.3
MOX Moxa 83.52 330 eP P 22 42 45.3 0.0
comp=Z,40nm,1.4s,baz=39,slow=5.1
214A Organ Pipe Nat 83.61 55 P P 22 42 47.9 +1.8
baz=308,SNR=8.1
RDO Rodhopi 83.65 317 P P 22 42 46.2 +0.1
RDO IAmb IAmb 22 42 47.7
comp=Z,26nm,1.0s
W18A Petrified Fore 83.66 51 P P 22 42 48.4 +1.8
baz=309,SNR=6.3
GHAJ Ghor Haditha 83.70 304 P P 22 42 46.6 +0.1
IBBN Ibbenburen 83.70 333 eP P 22 42 45.9 -0.2
comp=Z,51nm,1.2s,baz=39,slow=5.1
MORH Mrgy, Hungar 83.72 324 ⇑P P 22 42 46.6 +0.2
RONA Rosalia, Austr 83.74 326 eP P 22 42 47.4 +0.9
comp=Z,69nm,1.5s,SNR=20
CONA Conrad Observa 83.77 326 *i* P P 22 42 47.5 +0.8
comp=Z,47nm,1.2s,SNR=16
CKRC Cesky Krumlov 83.79 328 eP P 22 42 46.7 0.0
CKRC Cesky Krumlov 83.79 328 eP P 22 42 46.7 0.0
S22A 4UR Ranch, Cre 83.79 48 P P 22 42 49.4 +2.1
baz=310,SNR=15
MANZ Manzenberg 83.83 330 eP P 22 42 47.0 +0.1
comp=Z,7.2nm,1.2s,baz=39,slow=5.1
KHC Kasperske Hory 83.87 328 P P 22 42 47.4 +0.2
KHC IAmb IAmb 22 42 48.7
comp=Z,40nm,1.1s
KHC Kasperske Hory 83.87 328 eP P 22 42 47.1 -0.1
KHC *ex* x 22 42 58.7
KHC Kasperske Hory 83.87 328 ce P 22 42 46.9 -0.3
KHC pmax pmax
comp=Z,102nm,1.3s
FRGS Fruska Gora 83.91 323 ⇑P P 22 42 48.1 +0.7
FRGS Fruska Gora 83.91 323 ⇑*i* P P 22 42 46.5 -0.9
INVG Invergeldie, C 83.92 341 eP P 22 42 47.6 +0.5
ROTZ Rotzenmuhle 83.96 320 eP P 22 42 48.1 +0.5
comp=Z,18nm,1.4s,baz=39,slow=5.1
ELL Elmali 83.96 311 P P 22 42 46.9 -1.1
ELL Elmali 83.96 311 P P 22 42 46.9 -1.1
ELL pmax pmax
comp=Z,71nm,1.0s
Q24A Divide 84.00 46 P P 22 42 49.8 +1.4
baz=311
F33A 5 Mile Ranch, 84.01 36 P P 22 42 48.3 +0.4
baz=316,SNR=17
BOVS Bovan 84.02 321 ⇑P P 22 42 47.7 -0.2
GEC2 GERESS Array S 84.03 328 P P 22 42 47.8 -0.3
GEC2 IAmb IAmb 22 42 49.1
comp=Z,24nm,1.1s
GEC2 GERESS Array S 84.03 328 eP P 22 42 47.8 -0.3
comp=Z,25nm,1.1s,baz=39,slow=5.1
GERES GERESS Array B 84.03 328 P P 22 42 47.7 -0.4
GERES GERESS Array B 84.03 328 P P 22 42 48.0 0.0
comp=Z,12nm,0.9s,baz=39,slow=5.1,SNR=17
GERES LR LR 23 24 34.3
comp=Z,520nm,18.2s,baz=32,slow=39
comp=Z,12nm,0.9s
UBBA Unterbreizbach 84.03 331 eP P 22 42 47.9 +0.1
comp=Z,20nm,1.2s,baz=39,slow=5.1
PPT Papeete 84.07 116 LR LR 23 13 57.9
comp=Z,283nm,19.6s,baz=337,slow=31
WET Wettzell 84.16 329 eP P 22 42 48.9 +0.3
comp=Z,28nm,1.2s,baz=39,slow=5.1
KASTN Kahler Asten 84.34 332 eP P 22 42 49.4 -0.1
baz=39,slow=5.1
GRA1 Grafenberg Arr 84.42 330 P P 22 42 50.2 +0.3
GRF Grafenberg Arr 84.42 330 P P 22 42 50.2 +0.3
GRF pmax pmax
comp=Z,96nm,1.2s
GRF Grafenberg Arr 84.42 330 eP P 22 42 50.5 +0.6
comp=Z,96nm,1.2s,baz=39,slow=5.1
GRFO Grafenberg 84.42 330 P P 22 42 50.2 +0.3
GRFO Grafenberg 84.42 330 P P 22 42 50.2 +0.3
GRFO pmax pmax
comp=Z,86nm,1.2s
TEKS Tekeris 84.48 322 eP P 22 42 49.8 -0.5
MOA Molln 84.54 327 eP P 22 42 50.9 +0.3
comp=Z,29nm,1.2s,SNR=7.4
BUG Bochum--Univer 84.58 333 eP P 22 42 51.9 +1.3
comp=Z,17nm,0.9s,baz=39,slow=5.1
SDCO Great Sand Dun 84.59 47 P P 22 42 51.4 0.0
SDCO IAmb IAmb 22 42 54.1
comp=Z,22nm,1.1s
SDCO Great Sand Dun 84.59 47 P P 22 42 52.8 +1.4
baz=311,SNR=24
SDCO Great Sand Dun 84.59 47 P P 22 42 52.6 +1.2
baz=311
EKA Eskdalemuir Ar 84.65 340 P P 22 42 51.0 +0.1
comp=Z,4.1nm,0.7s,baz=44,slow=4.2,SNR=12
comp=Z,4.1nm,0.7s
EYMN Ely 84.67 32 P P 22 42 50.4 -0.8
EYMN IAmb IAmb 22 42 52.4
comp=Z,28nm,1.0s
EYMN Ely 84.67 32 P P 22 42 51.6 +0.4
baz=319,SNR=6.7
EYMN Ely 84.67 32 P P 22 42 51.3 0.0
baz=319,SNR=6.7
PEHC Pehcevo 84.67 319 *i* P P 22 42 51.8 +0.4
TUC Tucson 84.74 54 P P 22 42 52.5 +0.6
TUC IAmb IAmb 22 42 54.4
comp=Z,28nm,0.9s
TUC Tucson 84.74 54 P P 22 42 53.5 +1.5
baz=309
TUC Tucson 84.74 54 P P 22 42 52.5 +0.6
TUC pmax pmax
comp=Z,28nm,0.9s
BIOA Bad Ischl, Aus 84.94 327 eP P 22 42 52.6 0.0
comp=Z,40nm,1.2s,SNR=11
BBLS Lazići 85.03 322 ⇑*i* P P 22 42 54.1 +0.9
PERS Pernice 85.07 326 *i* P P 22 42 53.4 +0.1
SOKA Soboth 85.08 326 eP P 22 42 53.5 +0.1
comp=Z,63nm,1.3s,SNR=19
HAPS Han Pijesak,Bl 85.10 322 ⇓*i* P P 22 42 53.6 0.0

TNS Taunus Mts 85.11 332 *e*P P 22 42 53.4 0.0
comp=Z,45nm,1.3s,baz=39,slow=5.1
VAY Valandovo 85.17 318 *i* P P 22 42 54.2 +0.4
SJES Sjenica 85.18 321 ⇓*i*P P 22 42 53.8 -0.2
RUDO Rudo 85.23 322 *e*P P 22 42 53.5 -0.6
RJOB Jochberg 85.27 328 *e*P P 22 42 54.5 +0.2
comp=Z,33nm,1.1s,baz=39,slow=5.1
GOLS Golise 85.30 325 *i* P P 22 42 54.4 0.0
SKO Skopje 85.32 319 *i* P P 22 42 55.8 +1.2
ECSD EROS Data Cent 85.37 38 P P 22 42 54.7 -0.1
ECSD IAmb IAmb 22 42 56.1
comp=Z,18nm,0.9s
ECSD EROS Data Cent 85.37 38 P P 22 42 55.1 +0.3
baz=316,SNR=16
ECSD EROS Data Cent 85.37 38 P P 22 42 54.9 +0.1
baz=316
AHRW Bad Neuenahr-A 85.38 333 *e*P P 22 42 54.7 +0.1
comp=Z,56nm,1.2s,baz=39,slow=5.1
OBKA Obir 85.42 326 *e*P P 22 42 54.6 -0.5
comp=Z,19nm,1.5s
OBKA Obir 85.42 326 ⇑*i*P P 22 42 54.0 -1.1
KSCO Kaye Shedlock' 85.43 45 P P 22 42 55.7 +0.3
A051A Mrakovica 85.43 324 ⇑*i*P P 22 42 54.1 -1.1
BLY Banja Luka 85.49 324 *e*P P 22 42 55.3 -0.1
CRES Cresnjev 85.52 325 ⇑*i*P P 22 42 54.7 -0.8
KBA Koelnbreinsper 85.53 327 *i* P P 22 42 55.5 -0.2
comp=Z,11nm,0.8s
LESA Schwarzleotal 85.56 328 *i* P P 22 42 55.6 -0.2
comp=Z,44nm,1.3s
FUR Furstenfeldbru 85.59 329 *e*P P 22 42 56.0 +0.2
comp=Z,52nm,0.9s,baz=39,slow=5.1
E38A The Farm, Brul 85.66 33 P P 22 42 55.8 -0.4
baz=319,SNR=8.9
BEBN Eben Emael 85.69 333 *d*P P 22 42 56.6 +0.4
BTNL Ternell 85.69 333 *d*P P 22 42 56.1 -0.2
comp=Z,15nm,1.0s
MEM Membach 85.72 333 *d*P P 22 42 56.1 -0.3
comp=Z,21nm,1.1s
MYKA Terra Mystica 85.74 327 *e*P P 22 42 55.7 -1.0
comp=Z,13nm,0.8s
MGRS Mrkonjic Grad 85.78 323 ⇑*i*P P 22 42 57.8 +0.9
ANMO Albuquerque 85.84 50 P P 22 42 58.4 +0.9
ANMO IAmb IAmb 22 43 00.2
comp=Z,19nm,0.9s
ANMO Albuquerque 85.84 50 P P 22 42 59.2 +1.6
baz=311
ANMO Albuquerque 85.84 50 P P 22 42 58.9 +1.3
baz=311
ANMO Albuquerque 85.84 50 P P 22 42 58.6 +1.1
comp=Z,16nm,0.9s,baz=36,slow=5.6,SNR=29
ANMO LR LR 23 15 04.0
comp=Z,127nm,21.7s,baz=61,slow=31
comp=Z,16nm,0.9s
BOJS Bojanci 85.85 325 ⇓*i*P P 22 42 55.9 -1.2
BSTI Sart Tilman 85.90 333 *d*P P 22 42 57.3 0.0
comp=Z,3.4nm,1.1s
PRED Cave del Predi 85.92 327 P P 22 42 55.4 -2.1
PRED IAmb IAmb 22 42 56.1
comp=Z,18nm,1.0s
BHOU Houvegnez 85.93 333 *d*P P 22 42 57.9 +0.4
comp=Z,16nm,1.2s
LBWR Ladybower, Pea 85.93 339 *e*P P 22 42 58.0 +0.7
LBWR IAmb IAmb 22 42 58.7
comp=Z,76nm,1.0s
STU Stuttgart 85.97 330 P P 22 42 57.2 -0.5
STU Stuttgart 85.97 330 P P 22 42 57.2 -0.5
STU Stuttgart 85.97 330 *e*P P 22 42 57.6 0.0
comp=Z,149nm,0.9s,baz=39,slow=5.1
A050A Klekovaca 86.00 324 *e*P P 22 42 58.0 0.0
CEY Cerknica 86.06 326 *i* P P 22 42 57.8 -0.4
CEY Cerknica 86.06 326 ⇑*i*P P 22 42 57.3 -0.9
WATA Walderalm 86.11 328 *i* P P 22 42 58.1 -0.5
comp=Z,4.2nm,0.7s
SPMN Marine on St. 86.13 35 P P 22 42 58.0 -0.5
SPMN IAmb IAmb 22 42 59.8
comp=Z,29nm,1.2s
BCLA Clavier 86.13 333 *d*P P 22 42 58.3 -0.1
comp=Z,17nm,1.2s
WTTA Wattenberg 86.14 328 *i* P P 22 42 58.3 -0.5
comp=Z,10nm,1.1s
ABTA Abfaltersbach 86.15 327 *i* P P 22 42 57.5 -1.2
comp=Z,15nm,1.0s
Y22A Socorro 86.17 51 P P 22 43 00.7 +1.5
baz=311
CLUD Cludinico 86.21 327 P P 22 42 57.5 -1.4
CLUD IAmb IAmb 22 42 59.2
comp=Z,33nm,0.9s
BGES Gesves 86.24 334 *d*P P 22 42 57.8 -1.2
comp=Z,18nm,1.2s
BGNE Belgrade 86.24 40 P P 22 42 59.2 0.0
OHR Ohrid 86.27 319 *i* P P 22 43 00.6 +1.2
RETA Reutte 86.33 329 *i* P P 22 42 59.5 -0.1
comp=Z,21nm,0.9s,SNR=8.1
DRME Dracevica, Mon 86.35 321 *e*P P 22 42 59.2 -0.5
SQTA Sankt Quirin 86.35 328 *e*P P 22 42 59.4 -0.4
comp=Z,10nm,0.9s
RCHB Rochefort 86.38 333 *d*P P 22 42 59.0 -0.6
comp=Z,22nm,1.2s
CWF Charnwood Fore 86.38 338 *e*P P 22 42 59.4 -0.2
BMRD Maredsous 86.42 334 *d*P P 22 42 59.1 -0.7
comp=Z,24nm,1.2s
WLF Walferdange 86.44 333 *d*P P 22 43 00.6 +0.6
comp=Z,13nm,1.4s
WLF Walferdange 86.44 333 *e*P P 22 43 00.3 +0.3
comp=Z,56nm,1.4s,baz=39,slow=5.1
UBR Ueberruh 86.46 329 *e*P P 22 42 60.0 -0.2
comp=Z,20nm,1.3s,baz=39,slow=5.1
121A Cookes Peak, D 86.56 52 P P 22 43 01.5 +0.4
121A IAmb IAmb 22 43 03.8
comp=Z,20nm,1.1s
121A Cookes Peak, D 86.56 52 P P 22 43 02.4 +1.3
baz=310,SNR=8.9
121A Cookes Peak, D 86.56 52 P P 22 43 02.0 +0.9
baz=310,SNR=8.9
STON Ston 86.61 322 *e*P P 22 43 00.1 -0.8
DOU Dourbes 86.66 334 *d*P P 22 43 01.1 0.0
BFO Black Forest 86.67 331 P P 22 43 00.9 -0.3
BFO Black Forest 86.67 331 P P 22 43 00.9 -0.3
BFO pmax pmax
comp=Z,43nm,1.0s
BFO Black Forest 86.67 331 *e*P P 22 43 00.9 -0.3
comp=Z,44nm,1.0s,baz=39,slow=5.1
HSIG 86.68 57 P P 22 43 02.5 +1.0
HSIG IAmb IAmb 22 43 03.9
comp=Z,25nm,1.2s
FETA Feichten 86.71 329 *i* P P 22 43 01.3 -0.3
comp=Z,12nm,1.0s
I37B Waseca 86.75 36 P P 22 43 02.3 +0.7
baz=318,SNR=9.0
FOEL Foel Wylfa 86.81 339 *e*P P 22 43 02.0 +0.3
SRIG Santa Rosalia 86.84 59 P P 22 43 02.9 +0.6
SRIG IAmb IAmb 22 45 54.7
comp=Z,22nm,0.6s
DAVA Damuels 86.86 329 *i* P P 22 43 02.0 -0.3
comp=Z,43nm,1.2s
LLW Llanuwchllyn 86.98 340 *e*P P 22 43 03.0 +0.5
SCHQ Schefferville 87.02 16 P P 22 43 03.1 +0.4
SCHQ IAmb IAmb 22 43 04.3
comp=Z,31nm,0.8s
SCHQ Schefferville 87.02 16 P P 22 43 03.3 +0.6
comp=Z,30nm,0.7s,baz=350,slow=5.2,SNR=48
SCHQ LR LR 23 22 56.7
comp=Z,299nm,21.7s,baz=307,slow=36
comp=Z,30nm,0.7s
RTBA Rita Blanca 87.11 46 P P 22 43 04.1 +0.4
COWI Conover 87.12 32 P P 22 43 03.3 -0.1
baz=321
CBKS Cedar Bluff 87.20 43 P P 22 43 03.5 -0.5
CBKS Cedar Bluff 87.20 43 P P 22 43 04.2 +0.2
baz=314
CBKS Cedar Bluff 87.20 43 P P 22 43 03.5 -0.5
CBKS pmax pmax
comp=Z,51nm,1.2s
FUORN Ofenpass-Fuorn 87.23 329 P P 22 43 04.4 +0.2
FUORN IAmb IAmb 22 43 05.5
comp=Z,33nm,1.1s
ECH Echery 87.23 331 P P 22 43 03.8 -0.1
ECH IAmb IAmb 22 43 04.7
comp=Z,23nm,1.0s
ECH Echery 87.23 331 P P 22 43 03.8 -0.1
ECH pmax pmax
comp=Z,23nm,1.0s
DAVOX Davos/Dischmat 87.26 329 LR LR 23 25 11.1
comp=Z,307nm,18.7s,baz=66,slow=38
G40A Rib Lake 87.29 34 P P 22 43 03.6 -0.7
baz=320,SNR=14

DSB Dublin 87.37 341 P P 22 43 04.5 0.0
STRD Stroud 87.48 338 *e*P P 22 43 05.5 +0.5
STRD IAmb IAmb 22 43 06.5
comp=Z,83nm,0.8s
MCH1 Michaelchurch 87.54 339 *e*P P 22 43 05.4 +0.1
MCH1 IAmb IAmb 22 43 06.6
comp=Z,32nm,0.8s
MONM Monmouth 87.62 339 *e*P P 22 43 05.5 -0.1
MONM IAmb IAmb 22 43 06.7
comp=Z,38nm,0.9s
TUE Stuetta 87.73 329 P P 22 43 06.0 -0.5
TUE IAmb IAmb 22 43 08.5
comp=Z,60nm,1.7s
E43A Lone Tree Farm 87.83 31 P P 22 43 07.1 +0.4
baz=322
N35A Tabor 87.95 39 P P 22 43 08.5 +1.1
baz=317
I40A Norwalk 88.16 35 P P 22 43 08.6 +0.2
baz=320
SCIA State Center 88.41 37 P P 22 43 09.8 +0.2
SCIA State Center 88.41 37 P P 22 43 10.9 +1.3
baz=318
MNTX Cornudas Mount 88.64 51 P P 22 43 11.6 +0.7
baz=312,SNR=7.4
MNTX Cornudas Mount 88.64 51 P P 22 43 11.2 +0.3
baz=312
KSU1 Kansas State U 88.71 41 P P 22 43 10.6 -0.5
KSU1 Kansas State U 88.71 41 P P 22 43 11.8 +0.7
baz=316,SNR=8.2
KSU1 Kansas State U 88.71 41 P P 22 43 11.5 +0.3
baz=316
FDMO Fiordimonte 88.74 325 P P 22 43 10.5 -0.7
AMTX Amarillo 88.80 47 P P 22 43 10.9 -0.8
AMTX Amarillo 88.80 47 P P 22 43 13.1 +1.4
baz=313
AMTX Amarillo 88.80 47 P P 22 43 12.9 +1.2
baz=313
MURB Monte Urbino 88.83 325 P P 22 43 11.3 -0.3
NRCA Norcia 88.88 325 P P 22 43 11.3 -0.6
I42A Draeger Farm, 88.94 34 P P 22 43 12.0 0.0
baz=321,SNR=5.8
E46A Sault Ste Mari 88.94 30 P P 22 43 12.5 +0.5
baz=324
JFWS Jewell Farm 89.08 35 P P 22 43 12.7 0.0
baz=320
JFWS Jewell Farm 89.08 35 P P 22 43 12.7 0.0
baz=320
OSSC Osservatorio P 89.22 326 P P 22 43 12.6 -0.8
OSSC IAmb IAmb 22 43 13.7
comp=Z,22nm,1.0s
L40A Anamosa 89.27 36 P P 22 43 14.0 +0.4
baz=320,SNR=7.4
G45A Suttons Bay 89.46 31 P P 22 43 14.4 -0.1
G45A Suttons Bay 89.46 31 P P 22 43 15.6 +1.1
baz=324
G45A P 22 43 15.6 +1.1
baz=324
OK032 Salt Plains WL 89.47 44 P 22 43 15.4 +0.7
VHRN Van Horn 89.50 52 P P 22 43 15.1 0.0
VHRN IAmb IAmb 22 43 17.3
comp=Z,18nm,1.2s
P38A Dawn 89.95 39 P P 22 43 16.9 0.0
P38A IAmb IAmb 22 43 18.0
comp=Z,21nm,0.8s
P38A Dawn 89.95 39 P P 22 43 17.5 +0.6
baz=318,SNR=11
VLDQ Val d'Or 90.04 25 P P 22 43 16.0 -1.1
VLDQ IAmb IAmb 22 43 17.7
comp=Z,31nm,1.3s
L42A Oliver, Polo 90.06 35 P P 22 43 17.3 0.0
baz=321
GLMI Grayling 90.07 31 P P 22 43 18.7 +1.4
baz=324
LPIG La Paz 90.21 60 P P 22 43 19.3 +0.9
comp=Z,27nm,0.3s,baz=245,slow=6.4,SNR=6.0
LPIG LR LR 23 15 29.2
comp=Z,158nm,21.4s,baz=250,slow=30
comp=Z,27nm,0.3s
T35B Sooner Cattle 90.34 43 P P 22 43 19.7 +0.9
baz=316,SNR=8.9
SLBS Sierra La Lagu 90.73 60 P P 22 43 21.4 +0.5
SLBS IAmb IAmb 22 43 24.2
comp=Z,34nm,1.2s
P40A Paris 90.78 38 P P 22 43 20.7 -0.1
baz=319,SNR=11
M44A Midewin, Midew 91.30 35 P P 22 43 23.9 +0.8
baz=322
TX31 Lajitas Ar. Si 91.32 52 P P 22 43 23.3 -0.2
TX31 Lajitas Ar. Si 91.32 52 P P 22 43 24.0 +0.4
baz=312,SNR=25
TXAR Lajitas Array 91.32 52 P P 22 43 23.7 +0.1
TXAR Lajitas Array 91.32 52 P P 22 43 24.6 +1.0
comp=Z,11nm,0.9s,baz=293,slow=3.5,SNR=66
TXAR LR LR 23 20 34.6
comp=Z,226nm,19.2s,baz=315,slow=33
comp=Z,11nm,0.9s
TUL3 Leonard 91.47 43 P P 22 43 24.8 +0.8
baz=317,SNR=5.4
TUL3 Leonard 91.47 43 P P 22 43 24.8 +0.8
baz=317,SNR=5.4
S39A Bolivar 91.50 40 P P 22 43 24.0 -0.1
baz=318,SNR=16
ABTX Abilene, Hawle 91.58 47 P P 22 43 25.8 +1.2
baz=315,SNR=7.1
ABTX Abilene, Hawle 91.58 47 P P 22 43 25.7 +1.1
baz=315,SNR=7.1
HPIG 91.59 55 P P 22 43 25.1 +0.1
HPIG IAmb IAmb 22 43 27.5
comp=Z,17nm,1.0s
R40A Maddies Statio 91.60 39 P P 22 43 24.8 +0.2
baz=319,SNR=14
U38A Gravette 91.86 42 P P 22 43 26.2 +0.4
baz=318,SNR=14
LDAQ Lac Daran 92.15 21 P P 22 43 27.0 0.0
LDAQ IAmb IAmb 22 43 28.4
comp=Z,22nm,0.9s
HHAR Hobbs 92.22 42 P P 22 43 27.2 -0.3
HHAR IAmb IAmb 22 43 28.7
comp=Z,19nm,0.8s
SADO Sadowa 92.29 27 P P 22 43 27.5 -0.1
comp=Z,9.3nm,1.2s,baz=151,slow=5.0,SNR=3.9
SADO LR LR 23 25 57.6
comp=Z,118nm,21.8s,baz=358,slow=36
comp=Z,9.3nm,1.2s
VAE Valguarnera 92.30 320 LR LR 23 28 17.0
comp=Z,266nm,18.1s,baz=32,slow=38
CCM Cathedral Cave 92.31 39 P P 22 43 27.5 -0.4
CCM IAmb IAmb 22 43 29.2
comp=Z,29nm,1.1s
CCM Cathedral Cave 92.31 39 P P 22 43 28.5 +0.6
baz=320
CCM Cathedral Cave 92.31 39 P P 22 43 28.1 +0.3
baz=320,SNR=13
CCM Cathedral Cave 92.31 39 P P 22 43 27.5 -0.4
CCM pmax pmax
comp=Z,29nm,1.1s
MGMO Mountain Grove 92.46 40 P P 22 43 28.1 -0.5
MGMO IAmb IAmb 22 43 29.6
comp=Z,26nm,0.9s
L48A N Adams 92.48 32 P P 22 43 29.1 +0.5
baz=324,SNR=5.8
L48A P P 22 43 29.1 +0.5
baz=324,SNR=5.8
Z35A Perchaven, San 92.50 46 P P 22 43 29.6 +0.8
baz=316,SNR=8.7
SFIN Lafayette 92.53 35 P P 22 43 29.0 +0.1
baz=322
SFIN Lafayette 92.53 35 P P 22 43 28.8 -0.1
baz=322
U40A Yellville 92.75 41 P P 22 43 30.1 +0.1
baz=319,SNR=35
U40A P P 22 43 30.1 +0.1
baz=319,SNR=35
N47A Urbana 92.78 34 P P 22 43 30.3 +0.3
baz=323,SNR=5.5
N47A P P 22 43 30.3 +0.3
baz=323,SNR=5.5
LMQ La Malbaie 92.79 21 P P 22 43 30.1 +0.2
JCT Junction City 92.98 49 P P 22 43 30.5 -0.7
JCT Junction City 92.98 49 P P 22 43 32.0 +0.9
baz=314
JCT Junction City 92.98 49 P P 22 43 30.5 -0.7
JCT pmax pmax
comp=Z,107nm,2.0s
H06N1 SOCORRO T-PHAS 93.00 64 T T 00 26 59.7
SNR=9.2
H06S1 SOCORRO T 93.10 65 T T 00 27 04.7

T42A Van Buren 93.17 39 P P 22 43 31.7 -0.2
baz=320
WHTX Lake Whitney, 93.34 47 P P 22 43 34.2 +1.5
baz=316,SNR=7.2
WHTX Lake Whitney, 93.34 47 P P 22 43 33.9 +1.2
baz=316,SNR=7.2
OLIL Olney 93.35 36 P P 22 43 32.9 +0.2
N49A Columbus Grove 93.42 33 P P 22 43 33.2 +0.2
baz=324,SNR=5.0
N49A P P 22 43 33.2 +0.2
baz=324,SNR=5.0
FCAR Ozark Folk Cen 93.49 41 P P 22 43 32.6 -0.7
FCAR IAmb IAmb 22 43 34.4
comp=Z,19nm,1.0s
O48B Farmland 93.52 34 P P 22 43 34.0 +0.5
baz=324
PBMO Poplar Bluff 93.70 39 P P 22 43 34.8 +0.5
baz=320,SNR=5.9
LCAR Lake Charles 93.86 40 P P 22 43 34.9 -0.2
baz=320
BATG Bathurst New B 94.20 18 P P 22 43 36.8 +0.4
ACSO Alum Creek Sta 94.51 32 P P 22 43 37.4 -0.6
ACSO IAmb IAmb 22 43 39.2
comp=Z,20nm,0.8s
ACSO Alum Creek Sta 94.51 32 P P 22 43 38.2 +0.2
baz=325,SNR=5.7
ACSO Alum Creek Sta 94.51 32 P P 22 43 38.1 +0.2
baz=325,SNR=5.7
WCI Wyandotte Cave 94.62 36 P P 22 43 37.6 -0.9
WCI IAmb IAmb 22 43 39.8
comp=Z,14nm,0.8s
WCI Wyandotte Cave 94.62 36 P P 22 43 39.2 +0.7
baz=323
WCI Wyandotte Cave 94.62 36 P P 22 43 37.6 -0.9
WCI pmax pmax
comp=Z,14nm,0.8s
Q51A Peebles 95.34 33 P P 22 43 42.0 +0.3
baz=325,SNR=6.8
Q51A P P 22 43 42.0 +0.3
baz=325,SNR=6.8
R50A Paris 95.50 34 P P 22 43 42.8 +0.3
baz=324
R50A P P 22 43 42.8 +0.3
baz=324
KEST Kesra 96.23 322 LR LR 23 32 03.9
comp=Z,270nm,18.2s,baz=310,slow=38
ZAIG Zacatecas 96.46 56 P P 22 43 48.0 +0.4
ZAIG IAmb IAmb 22 43 50.5
comp=Z,13nm,1.3s
TKL Tuckaleechee C 97.88 35 P P 22 43 52.8 -0.6
comp=Z,5.8nm,0.8s,baz=265,slow=3.6,SNR=4.8
TKL LR LR 23 30 05.9
comp=Z,65nm,21.1s,baz=332,slow=37
comp=Z,5.8nm,0.8s
ESDC Sonseca Array 98.70 333 P P 22 43 56.5 -0.5
comp=Z,1.4nm,0.9s,baz=22,slow=4.8,SNR=6.9
ESDC LR LR 23 32 21.2
comp=Z,365nm,20.9s,baz=26,slow=38
comp=Z,1.4nm,0.9s
TORD Torodi Ar. Bea 118.36 314 PKPdf **PKPdf 22 49 04.4 -1.2**
TORD Torodi Ar. Bea 118.36 314 PKP **PKPdf 22 49 04.9 -0.7**
comp=Z,1.3nm,0.6s,baz=11,slow=2.6,SNR=7.7
TORD PKKPbc **PKKPbc 22 59 22.7 +0.5**
comp=Z,0.9nm,0.7s,baz=239,slow=3.1,SNR=5.4
TORD PKKPab **PKKPab 22 59 27.8 -0.1**
comp=Z,2.1nm,1.0s,baz=232,slow=2.5,SNR=7.4
QSPA South Pole Qui 125.09 180 **PKPdf 22 49 16.5 -0.5**
QSPA South Pole Qui 125.09 180 PKP **PKPdf 22 49 16.8 -0.2**
comp=Z,6.7nm,1.0s,baz=343,slow=0.7,SNR=10
BOSA Boshof 126.04 258 PKP **PKPdf 22 49 20.0 0.0**
comp=Z,3.2nm,0.7s,baz=256,slow=2.2,SNR=5.5
SDV Santo Domingo 126.75 41 PKPdf **PKPdf 22 49 20.9 -1.0**
DBIC Dimbokro 127.36 316 PKIKP **PKPdf 22 49 22.0 -0.9**
DBIC Dimbokro 127.36 316 PKP **PKPdf 22 49 21.9 -0.9**
comp=Z,2.7nm,0.6s,baz=353,slow=2.0,SNR=7.0
TIC Toumodi 127.47 316 ⇑*i*PKP1 **PKPdf 22 49 23.2 +0.1**
comp=Z,7.8nm,0.5s
KIC Kosan Boka 127.55 315 ⇓*i*PKP1 **PKPdf 22 49 22.8 -0.5**
comp=Z,3.5nm,0.5s
LIC Lamto 127.82 316 ⇓*i*PKP1 **PKPdf 22 49 22.3 -1.5**
comp=Z,4.7nm,0.4s
ROSC El Rosal 127.96 47 PKP **PKiKP 22 49 25.2 +0.1**
comp=Z,5.0nm,0.3s,baz=359,slow=6.5,SNR=4.8
BAUV El Baul 128.04 38 PKPdf **PKPdf 22 49 21.9 -2.2**
ELIB Princess Elisa 131.77 202 *d*PKPdf **PKPdf 22 49 28.4 -1.3**
ETMB Extrema 144.40 51 PKPdf **PKPab 22 49 51.4 -1.1**
SAML Samuel 145.58 46 PKPdf **PKPdf 22 49 56.3 -0.1**
SAML Samuel 145.58 46 PKIKP **PKPdf 22 49 56.3 -0.1**
H03N2 Juan Fernandez 147.02 98 T T 01 34 23.5
baz=290,slow=76,SNR=144
H03N3 Juan Fernandez 147.03 98 T T 01 34 24.1
baz=290,slow=76,SNR=178
H03N1 Juan Fernandez 147.04 98 T T 01 34 23.5
baz=290,slow=76,SNR=113
PB12 IPOC Station P 147.55 67 **PKPdf 22 50 00.7 +1.1**
LPAZ La Paz 147.71 62 **PKPdf 22 50 01.5 +0.9**
LPAZ La Paz 147.71 62 PKP2 **PKPdf 22 50 01.5 +0.9**
PB16 IPOC Station P 148.00 66 **PKPdf 22 50 01.4 +0.4**
TA02 Huaiquique 148.68 70 **PKPdf 22 50 03.1 +1.7**
PB11 IPOC Station P 148.74 68 **PKPdf 22 50 02.7 +1.0**
TA01 Diego Aracena 148.81 70 **PKPdf 22 50 02.9 +1.3**
PATCX Punta Patache 148.97 71 **PKPbc 22 50 06.5 +0.5**
GO01 Chusmiza 149.04 68 **PKPdf 22 50 01.8 -0.8**
PB08 IPOC Station P 149.35 68 **PKPdf 22 50 04.1 +1.2**
CO06 Fray Jorge 152.19 90 **PKPbc 22 50 12.5 -0.8**
LL01 San Ignacio de 153.06 115 **PKPbc 22 50 14.3 -0.5**
MT02 Curacav 153.31 95 **PKPbc 22 50 15.3 -0.4**
ROC1 El Roble 153.34 94 **PKPbc 22 50 15.5 -0.6**
BO01 Tunca 153.59 97 **PKPbc 22 50 15.8 -0.5**
BO02 Sierra Bellavi 153.91 98 **PKPbc 22 50 17.0 0.0**
PLCA Paso Flores 154.54 112 PKPbc **PKiKP 22 50 18.7 +0.5**
comp=Z,1.4nm,0.8s,baz=175,slow=5.0,SNR=4.5
BDFB Brasilia 158.73 25 PKPab **PKPab 22 50 52.1 +0.8**
comp=Z,5.2nm,0.7s,baz=308,slow=6.2,SNR=6.2
CPUP Villa Florida 161.78 66 PKP **PKPdf 22 50 19.2 +0.4**
comp=Z,2.6nm,0.9s,baz=298,slow=4.6,SNR=3.3
CPUP PKPab **PKPab 22 51 04.7 +0.3**
comp=Z,1.6nm,0.4s,baz=350,slow=6.2,SNR=4.2

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*NNC **09** 22:30:35.7±1.4, 42.18N×80.99E, h0km, mb3.7, mpv3.5,*
Error ellipse: s-maj=10.6km s-min=9.1km az=10.0
*SOME **09** 22:30:35.2, 42.13N×81.08E, h25km*
ISC 09 22:30:22.5±2.9, 41.9N±0.1×81.6E±0.1, h10km, n39,
σ1.9 s 98/61, 7C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.02**	**311**	P	**Pb**	**22 30 59.5**	**0.0**
SHLS	50nm,0.2s			S	**Sn**	**22 31 17.0**	**-5.3**
	67nm,0.2s						
SHLS	**Shalkode**	**2.02**	**311**	*e*P	**Pb**	**22 30 59.5**	**0.0**
SHLS	50nm,0.2s			*e*S	**Sn**	**22 31 17.0**	**-5.3**
	67nm,0.2s						
PDGK	**Podgornoye**	**2.12**	**315**	P	**Pg**	**22 31 04.9**	**+1.7**
PDGK	19nm,0.2s			S	**Sb**	**22 31 26.7**	**-0.9**
	19nm,0.2s						
PDGK	**Podgornoye**	**2.12**	**315**	⇑Pn	**Pg**	**22 31 04.2**	**+1.0**
PDGK	5.7nm,0.2s			⇑Sn	**Sb**	**22 31 28.7**	**+1.1**
	12nm,0.4s						
UZB	**Uzynbulak**	**2.28**	**305**	P	**Pg**	**22 31 07.9**	**+1.7**
UZB	54nm,0.3s			S	**Sb**	**22 31 31.4**	**-0.7**
	28nm,0.2s						
UZB	**Uzynbulak**	**2.28**	**305**	*e*P	**Pg**	**22 31 07.9**	**+1.7**
UZB	54nm,0.3s			*e*S	**Sb**	**22 31 31.4**	**-0.7**
	28nm,0.2s						
SATY	**Saty**	**2.63**	**298**	Pg	**Pg**	**22 31 15.4**	**+2.5**
SATY	19nm,0.2s			Lg	Lg	22 31 44.6	
	38nm,0.1s						
SATY	**Saty**	**2.63**	**298**	*e*P	**Pg**	**22 31 15.2**	**+2.3**
SATY	19nm,0.2s			*e*S	**Sb**	**22 31 43.8**	**+1.7**
	38nm,0.1s						
KPKS	**Kokpek**	**2.66**	**308**	Pg	**Pg**	**22 31 15.2**	**+1.6**
KPKS	62nm,0.3s			Lg	Lg	22 31 44.2	
	65nm,0.3s						
KPKS	**Kokpek**	**2.66**	**308**	*e*P	**Pg**	**22 31 15.1**	**+1.6**
	62nm,0.3s						

KPKS				*eS*		**Sb**	**22 31 44.2**	**+1.1**
	65nm,0.3s								
DJR	**Jarkent**	**2.79**	**333**	Pg		**Pg**	**22 31 18.1**	**+2.0**
	2.7nm,0.1s								
DJR				Lg		Lg	22 31 49.2		
	23nm,0.2s								
DJR	**Jarkent**	**2.79**	**333**	*eP*		**Pg**	**22 31 18.1**	**+2.0**
	2.7nm,0.1s								
DJR				*eS*		**Sb**	**22 31 49.2**	**+2.3**
	23nm,0.2s								
KNOS	**Konyrlen**	**3.05**	**326**	Pg		**Pg**	**22 31 22.1**	**+1.1**
	14nm,0.2s								
KNOS				Lg		Lg	22 31 55.9		
	32nm,0.3s								
KOTS	**Kotyrbulak**	**3.56**	**294**	*eP*		**Pg**	**22 31 30.8**	**0.0**
	12nm,0.2s								
KOTS				*eS*		**Sb**	**22 32 11.1**	**+1.9**
	36nm,0.2s								
MDOK	**Medeo**	**3.58**	**293**	⇓Pn		**Pb**	**22 31 27.4**	**+1.4**
	3.3nm,0.4s								
MDOK				Pg		**Pg**	**22 31 31.6**	**+0.4**
	3.6nm,0.2s								
MDOK				⇑Lg		Lg	22 32 11.8		
	7.9nm,0.6s								
MDOK				Lg		Lg	22 32 12.3		
	12nm,0.5s								
MDOK	**Medeo**	**3.58**	**293**	*eP*		**Pg**	**22 31 31.6**	**+0.4**
	3.6nm,0.2s								
MDOK				*eS*		**Sb**	**22 32 12.3**	**+2.6**
	12nm,0.5s								
ARXS	**Arharly**	**3.61**	**312**	Pg		**Pg**	**22 31 30.9**	**-0.8**
	6.3nm,0.3s								
ARXS				Lg		Lg	22 32 11.5		
	14nm,0.4s								
ARXS	**Arharly**	**3.61**	**312**	*eP*		**Pg**	**22 31 30.9**	**-0.8**
	6.3nm,0.3s								
ARXS				*eS*		**Sb**	**22 32 11.5**	**+1.2**
	14nm,0.4s								
TNSS	**Tian-Shan**	**3.61**	**291**	*eP*		**Pg**	**22 31 32.3**	**+0.5**
	5.1nm,0.2s								
TNSS				*eS*		**Sb**	**22 32 13.1**	**+2.3**
	7.7nm,0.2s								
KAPS	**Kapalarasan**	**3.78**	**336**	Pg		**Pg**	**22 31 33.9**	**-1.1**
	1.9nm,0.2s								
KAPS				Lg		Lg	22 32 16.3		
	20nm,0.4s								
KAPS	**Kapalarasan**	**3.78**	**336**	*eP*		**Pg**	**22 31 35.2**	**+0.2**
	2.2nm,0.1s								
KAPS				*eS*		**Sb**	**22 32 18.1**	**+2.8**
	20nm,0.4s								
IZV	**Izvestkoviy**	**3.85**	**289**	*eP*		**Pg**	**22 31 36.1**	**-0.1**
	2.7nm,0.2s								
IZV				*eS*		**Sb**	**22 32 19.7**	**+2.5**
	19nm,0.3s								
CHKK	**Chushkaly**	**3.91**	**302**	Pg		**Pg**	**22 31 37.3**	**-0.1**
	2.7nm,0.2s								
CHKK				Lg		Lg	22 32 22.4		
	16nm,0.4s								
CHKK	**Chushkaly**	**3.91**	**302**	*eP*		**Pg**	**22 31 37.3**	**-0.1**
	2.7nm,0.2s								
CHKK				*eS*		**Sb**	**22 32 22.4**	**+3.4**
	16nm,0.4s								
MTBS	**Maitube**	**4.00**	**290**	Pg		**Pg**	**22 31 37.9**	**-1.3**
	3.5nm,0.3s								
MTBS				Lg		Lg	22 32 23.0		
	13nm,0.5s								
KTBS	**Karatobe**	**4.04**	**299**	Pg		**Pg**	**22 31 38.8**	**-1.1**
	7.5nm,0.5s								
KTBS				Lg		Lg	22 32 24.6		
	15nm,0.3s								
KTBS	**Karatobe**	**4.04**	**299**	*eP*		**Pg**	**22 31 38.8**	**-1.1**
	7.5nm,0.5s								
KTBS				*eS*		**Sb**	**22 32 24.6**	**+1.8**
	15nm,0.3s								
KST	**Kastek**	**4.31**	**288**	Pg		**Pg**	**22 31 44.7**	**-0.4**
	5.2nm,0.4s								
KST				Lg		Lg	22 32 34.7		
	14nm,0.4s								
KST	**Kastek**	**4.31**	**288**	*eP*		**Pg**	**22 31 44.7**	**-0.4**
	5.2nm,0.4s								
KST				*eS*		**Sb**	**22 32 34.7**	**+4.1**
	14nm,0.4s								
KUU	**Kurty**	**4.34**	**300**	Pg		**Pg**	**22 31 44.7**	**-1.0**
	4.5nm,0.7s								
KUU				Lg		Lg	22 32 34.6		
	8.0nm,0.3s								
KUU	**Kurty**	**4.34**	**300**	*eP*		**Pg**	**22 31 44.7**	**-1.0**
	4.5nm,0.7s								
KUU				*eS*		**Sb**	**22 32 34.6**	**+3.2**
	8.0nm,0.3s								
DGS	**Degeres**	**4.50**	**290**	Pg		**Pg**	**22 31 47.8**	**-0.8**
	4.8nm,0.6s								
DGS				Lg		Lg	22 32 39.8		
	8.6nm,0.3s								
DGS	**Degeres**	**4.50**	**290**	*eP*		**Pg**	**22 31 47.8**	**-0.8**
	4.8nm,0.6s								
DGS				*eS*		**Sb**	**22 32 39.8**	**+3.9**
	8.6nm,0.3s								
TKM2	**Tokmak 2**	**4.54**	**286**	⇑Pg		**Pg**	**22 31 50.7**	**+1.1**
	2.1nm,0.5s								
TKM2				⇑Lg		Lg	22 32 45.5		
	3.8nm,0.7s								
KRBS	**Karabastau**	**4.71**	**295**	Pg		**Pg**	**22 31 50.7**	**-2.0**
	2.6nm,0.3s								
KRBS				Lg		Lg	22 32 44.9		
	3.6nm,0.3s								
KRBS	**Karabastau**	**4.71**	**295**	*eP*		**Pg**	**22 31 50.7**	**-2.0**
	2.6nm,0.3s								
KRBS				*eS*		**Sb**	**22 32 44.9**	**+3.0**
	3.6nm,0.3s								
MAKZ	**Makanchi**	**4.96**	**3**	⇑Pn		**Pb**	**22 31 49.8**	**+0.4**
	0.8nm,0.3s								
MAKZ				⇓Lg		Lg	22 33 03.2		
	1.5nm,0.6s								
MK31	**Makanchi Array**	**4.96**	**6**	Pn		**Pb**	**22 31 49.5**	**+0.1**
	0.4nm,0.4s,baz=191,slow=12,SNR=23								
MK31				⇓Lg		Lg	22 33 05.0		
	2.1nm,0.6s,baz=184,slow=26,SNR=3.5								
AML	**Almayashu**	**5.87**	**275**	⇑Pg		**Pg**	**22 32 13.5**	**-1.5**
AML				⇓Lg		Lg	22 33 26.0		
	0.6nm,0.8s								

*IDC **09** 22:37:46.7±3.9,20.08S×178.48W,h594km±45km, mb3.3/14,mbtmp4.3/15,Error ellipse: s-maj=22.4km s-min=17.1km az=74.0*

ISC 09 22:37:47.2±0.7,20.2S±0.1×178.6W±0.1,h602km,n23,
σ1ᵖ50/24,mb3.8/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.11**	**260**	P		**P**	**22 40 48.9**	**+1.8**
	11nm,0.6s,baz=83,slow=18,SNR=9.9							
URZ	**Urewera**	**18.42**	**191**	P		**P**	**22 41 23.9**	**-2.3**
	10nm,0.3s,baz=335,slow=3.1,SNR=16							
CTA	**Charters Tower**	**32.98**	**264**	P		**P**	**22 43 35.1**	**+0.8**
	5.5nm,0.6s,baz=89,slow=14,SNR=3.6							
	5.5nm,0.6s							
ASAR	**Alice Springs**	**44.07**	**256**	P		**P**	**22 45 04.2**	**+0.7**
	6.1nm,0.9s,baz=87,slow=8.5,SNR=17							
ASAR				PcP		**PcP**	**22 46 35.3**	**0.0**
	0.8nm,0.8s,baz=92,slow=5.6,SNR=2.6							
ASAR				S		**S**	**22 50 52.3**	**-1.4**
	1.0nm,0.7s,baz=94,slow=16,SNR=7.0							
	6.1nm,0.9s							
WRA	**Warramunga Arr**	**44.11**	**262**	P		**P**	**22 45 03.9**	**0.0**
	2.0nm,0.3s,baz=97,slow=7.5,SNR=38							
WRA				S		**S**	**22 50 49.7**	**-4.6**
	0.4nm,0.8s,baz=98,slow=14,SNR=2.9							
	2.0nm,0.3s							
VNDA	**Vanda**	**58.20**	**185**	P		**P**	**22 46 45.5**	**+1.2**
	0.9nm,0.6s,baz=354,slow=5.8,SNR=6.3							
	0.9nm,0.6s							
MJAR	**Matsushiro Arr**	**69.62**	**324**	P		**P**	**22 47 56.8**	**-0.6**
	1.7nm,0.6s,baz=156,slow=6.4,SNR=4.0							
	1.7nm,0.6s							
QSPA	**South Pole Qui**	**69.90**	**180**	P		**P**	**22 47 59.2**	**+0.5**
	4.5nm,0.8s,baz=274,slow=1.7,SNR=12							
	4.5nm,0.8s							
PETK	**Petropavlovsk-**	**75.81**	**346**	P		**P**	**22 48 31.8**	**-0.6**
	11nm,1.1s,baz=166,slow=6.7,SNR=2.8							
	11nm,1.1s							
KSRS	**Korea Array**	**76.28**	**319**	P		**P**	**22 48 36.2**	**+0.9**
	1.1nm,0.7s,baz=119,slow=5.4,SNR=2.3							
	1.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**78.38**	**326**	P		**P**	**22 48 47.8**	**+1.4**
	1.7nm,0.7s,baz=173,slow=1.2,SNR=2.5							
	1.7nm,0.7s							
NVAR	**Mina Array Bea**	**81.15**	**44**	P		**P**	**22 49 01.7**	**+0.3**
	0.4nm,0.6s,baz=224,slow=7.6,SNR=2.5							
	0.4nm,0.6s							
TXAR	**Lajitas Array**	**87.33**	**58**	P		**P**	**22 49 31.9**	**+0.3**
	0.7nm,0.9s,baz=224,slow=5.0,SNR=3.9							
	0.7nm,0.9s							
ILAR	**Eielson Array**	**88.11**	**13**	P		**P**	**22 49 33.1**	**-1.2**
	0.6nm,0.4s,baz=215,slow=5.2,SNR=14							
	0.6nm,0.4s							
PDAR	**Pinedale Array**	**89.09**	**43**	P		**P**	**22 49 38.8**	**-0.9**
	0.5nm,0.7s,baz=213,slow=6.0,SNR=5.0							
	0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**89.49**	**290**	P		**P**	**22 49 43.6**	**+1.9**
	1.6nm,0.3s,baz=119,slow=3.0,SNR=8.3							
	1.6nm,0.3s							
MKAR	**Makanchi Array**	**110.57**	**314**	PKiKP		**PKiKP**	**22 55 10.8**	**-1.5**
	0.5nm,0.9s,baz=72,slow=4.0,SNR=3.6							
ARCES	**ARCESS Array B**	**128.49**	**349**	PKP		**PKPdf**	**22 55 45.1**	**-0.8**
	1.9nm,1.0s,baz=80,slow=1.4,SNR=6.9							
HFS	**Hagfors**	**139.12**	**351**	PKhKP		PKPpre	22 55 59.1	
	3.0nm,0.9s,baz=53,slow=4.3,SNR=7.3							
AKASG	**Malin Array Be**	**142.46**	**331**	PKhKP		PKPpre	22 56 08.2	
	2.5nm,0.6s,baz=43,slow=4.4,SNR=17							
BRTR	**Keskin Array B**	**146.21**	**312**	PKPbc		**PKPbc**	**22 56 21.1**	**-0.4**
	0.9nm,0.6s,baz=134,slow=4.1,SNR=4.9							
MMAI	**Mount Meron Ar**	**147.18**	**300**	PKPbc		**PKPbc**	**22 56 24.8**	**+0.5**
	1.6nm,0.5s,baz=82,slow=6.0,SNR=9.9							
GERES	**GERESS Array B**	**149.73**	**344**	PKPbc		**PKPbc**	**22 56 29.8**	**-0.3**
	1.9nm,0.9s,baz=132,slow=4.1,SNR=3.2							

*NEIC **09** 23:12:54.4±1.2,31.85N±0.09×48.74E±0.08,h10km±1km, mb4.3/16,Error ellipse: s-maj=15.4km s-min=11.5km az=201.0*

*IDC **09** 23:12:56.1±5.3,31.87N×48.67E,h23km±36km,mb4.0/15, mbtmp4.0/22,ML3.4/7,MS3.8/3,Error ellipse: s-maj=21.3km s-min=13.5km az=175.0*

*TEH **09** 23:12:56.2,31.84N×48.65E,h20km±108km,ML4.0*

*OMAN **09** 23:12:59.6±2.0,32.14N×50.03E,h10km,mb3.5/6,ms3.2/1, Error ellipse: s-maj=89.4km s-min=14.6km az=52.0*

ISC 09 23:12:53.9±0.4,31.77N±0.05×48.69E±0.05,h10km,n133,
σ2ᵖ01/141,mb4.3/29,MS3.6/4,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.44**	**185**	Pg		**Pb**	**23 13 06.6**	**+2.9**
JHBN	**Jahan bin**	**1.74**	**74**	Pg		**Pn**	**23 13 26.8**	**+2.4**
ZNGN	**Zangian**	**1.87**	**79**	Pn		**Pn**	**23 13 29.1**	**+2.9**
IKFM	**Kafar-mosalman**	**1.89**	**338**	Pn		**Pn**	**23 13 27.6**	**+1.5**
IPIR	**Pirpir**	**2.08**	**63**	Pn		**Pn**	**23 13 31.5**	**+2.5**
IBRJ	**Brojen**	**2.19**	**86**	Pn		**Pn**	**23 13 33.3**	**+2.8**
HSAM	**Samen**	**2.44**	**358**	Pn		**Pn**	**23 13 35.6**	**+1.6**
KLNJ	**Kolanjah**	**2.59**	**106**	Pn		**Pn**	**23 13 39.5**	**+3.3**
IKOM	**Komasi**	**2.59**	**338**	Pn		**Pn**	**23 13 37.7**	**+1.6**
IBZA	**Bozab**	**2.78**	**346**	Pn		**Pn**	**23 13 40.1**	**+1.4**
ILBA	**Ilam Banvizeh**	**2.79**	**312**	Pn		**Pn**	**23 13 39.6**	**+0.9**
KCHF	**Cheshme Sefid,**	**2.86**	**331**	Pn		**Pn**	**23 13 41.2**	**+1.6**
IKLH	**Kolahrood**	**2.89**	**57**	Pn		**Pn**	**23 13 42.5**	**+2.4**
IGAR	**Gharneh**	**2.91**	**77**	Pn		**Pn**	**23 13 43.4**	**+3.0**
QAMS	**Qamsar**	**3.00**	**49**	Pn		**Pn**	**23 13 44.2**	**+2.4**
HAGD	**Aghdareh**	**3.07**	**7**	Pn		**Pn**	**23 13 44.6**	**+2.0**
IALM	**Almabolaq**	**3.11**	**352**	Pn		**Pn**	**23 13 45.1**	**+1.6**
IGHG	**Ghaleghazi**	**3.11**	**326**	Pn		**Pn**	**23 13 44.8**	**+1.6**
IRAM	**Ramesheh**	**3.14**	**88**	Pn		**Pn**	**23 13 46.0**	**+2.3**
IZEF	**Zefreh**	**3.28**	**69**	Pn		**Pn**	**23 13 48.5**	**+3.0**
ILIN	**Lien**	**3.46**	**336**	Pn		**Pn**	**23 13 49.3**	**+1.3**
IDHR	**Dehrash**	**3.50**	**327**	Pn		**Pn**	**23 13 49.9**	**+1.4**
KRSH	**Karshahi**	**3.63**	**52**	Pn		**Pn**	**23 13 52.8**	**+2.5**
IQOM	**Qom**	**3.65**	**32**	Pn		**Pn**	**23 13 52.6**	**+1.9**
IRAZ	**Razeghan**	**3.77**	**16**	Pn		**Pn**	**23 13 54.2**	**+2.0**
KGS1	**Ghasr-e-Shirin**	**3.77**	**317**	Pn		**Pn**	**23 13 53.4**	**+1.3**
SHI	**Shiraz**	**3.92**	**122**	Pn		**Pn**	**23 13 57.0**	**+2.8**
ISFB	**Sefidab**	**3.94**	**48**	Pn		**Pn**	**23 13 56.5**	**+2.1**
DSBU	**Dashti - Bushe**	**4.06**	**146**	Pn		**Pn**	**23 14 00.6**	**+4.5**
IVRN	**Varamin**	**4.10**	**37**	Pn		**Pn**	**23 13 58.8**	**+2.2**
IMHD	**Mahdasht**	**4.24**	**22**	Pn		**Pn**	**23 14 00.5**	**+2.0**
IHSB	**Hasanabad**	**4.25**	**30**	Pn		**Pn**	**23 14 00.9**	**+2.2**
ISAD	**Sadrabad**	**4.25**	**87**	Pn		**Pn**	**23 14 01.8**	**+2.8**
ANAR	**Anarak**	**4.49**	**70**	Pn		**Pn**	**23 14 04.5**	**+2.5**
IDMV	**Damavand**	**4.71**	**35**	Pn		**Pn**	**23 14 06.6**	**+1.4**
QSDN	**Sirdan**	**4.74**	**5**	Pn		**Pn**	**23 14 07.2**	**+1.6**
ICHK	**Chekchek**	**4.88**	**83**	Pn		**Pn**	**23 14 09.7**	**+2.1**
JIR1	**Jirandeh**	**5.01**	**10**	Pn		**Pn**	**23 14 10.6**	**+1.4**
IMEH	**Mehriz**	**5.07**	**93**	Pn		**Pn**	**23 14 13.3**	**+3.2**
SDS1	**Sardasht. Az.**	**5.12**	**329**	Pn		**Pn**	**23 14 12.0**	**+1.3**
KLST	**Kelardasht - M**	**5.13**	**22**	Pn		**Pn**	**23 14 12.9**	**+1.9**
IFIR	**Firoozkooh**	**5.13**	**40**	Pn		**Pn**	**23 14 13.5**	**+2.4**
MZPU	**Pul - Mazandar**	**5.23**	**26**	Pn		**Pn**	**23 14 14.4**	**+2.1**
IPRN	**Peran**	**5.39**	**33**	Pn		**Pn**	**23 14 16.7**	**+2.3**
MAHB	**Mahabad**	**5.56**	**334**	Pn		**Pn**	**23 14 17.8**	**+1.0**
ISRB	**Sarab**	**6.10**	**352**	Pn		**Pn**	**23 14 25.8**	**+1.5**
IAZR	**Azarshahr**	**6.30**	**340**	Pn		**Pn**	**23 14 28.3**	**+1.2**
TPRV	**Parvadeh(Tabas**	**6.88**	**77**	Pn		**Pn**	**23 14 37.4**	**+2.6**
TNSJ	**Nastanj**	**7.01**	**70**	Pn		**Pn**	**23 14 39.2**	**+2.6**
GRMI	**Germi**	**7.05**	**355**	Pn		**Pn**	**23 14 38.6**	**+1.4**
NGRK	**Negar Kerman**	**7.24**	**105**	Pn		**Pn**	**23 14 43.3**	**+3.2**
TKDS	**Toohdasht(Taba**	**7.34**	**73**	Pn		**Pn**	**23 14 43.3**	**+2.1**
GURO	**Guroymak-BITLI**	**8.69**	**323**	Pn		**Pn**	**23 14 58.8**	**-0.9**
SBZV	**Sabzevar**	**8.71**	**56**	Pn		**Pn**	**23 15 02.5**	**+2.4**
GNI	**Garni**	**8.95**	**340**	Pn		Pn	23 14 59.5	-3.9
GNI	**Garni**	**8.95**	**340**	Pn		**Pn**	**23 15 04.4**	**+1.0**
	0.2nm,0.3s,baz=82,slow=22,SNR=1.7							
	9.8nm,1.1s							
MASF	**Masafi**	**9.15**	**132**	P		Pn	23 15 03.3	-2.6
MASF				S		**Sn**	**23 16 45.5**	**-3.5**
ASUD	**Al Ashush, Dub**	**9.21**	**139**	P		**Pn**	**23 15 09.1**	**+2.3**
	SNR=12							
ASUD				S		Sn	23 16 44.9	-5.7
MDH	**Madha**	**9.29**	**132**	P		Pn	23 15 06.0	-1.9
MDH				S		Sn	23 16 44.1	-8.3
HATD	**Hatta, Dubai**	**9.53**	**135**	P		**Pn**	**23 15 12.3**	**+1.2**
HATD				S		**Sn**	**23 16 55.3**	**-3.1**
ASHO	**Ashiyiah**	**9.59**	**136**	P		**Pn**	**23 15 11.4**	**-0.7**
ASHO				S		**Sn**	**23 16 55.2**	**-4.8**
GEYT	**Alibeck**	**9.88**	**49**	Pn		**Pn**	**23 15 15.2**	**-0.8**
GEYT	**Alibeck**	**9.88**	**49**	Pn		**Pn**	**23 15 17.6**	**+1.6**
	0.1nm,0.3s,baz=248,slow=7.6,SNR=4.3							
	4.3nm,0.9s							
ALNE	**Al Ain**	**9.90**	**139**	P		**Pn**	**23 15 18.0**	**+1.8**
	SNR=8.8							
ALNE				S		**Sn**	**23 17 03.0**	**-4.4**
ASF	**Jabal al Asfar**	**10.03**	**275**	Pn		**Pn**	**23 15 18.3**	**+0.2**
	1.0nm,0.3s,baz=62,slow=22,SNR=12							
ASF				Sn		**Sn**	**23 17 09.2**	**-1.5**
	0.3nm,0.3s,baz=272,slow=21,SNR=1.1							
ASF				Lg		Lg	23 18 13.4	
	0.6nm,0.3s,baz=112,slow=21,SNR=2.4							
	2.9nm,0.4s							
SOHO	**SOHO**	**10.29**	**136**	P		**Pn**	**23 15 21.6**	**0.0**
SOHO				S		**Sn**	**23 17 14.0**	**-3.0**
ARQ	**Araqi**	**10.90**	**139**	P		**Pn**	**23 15 30.6**	**+0.7**
	SNR=6.2							
ARQ				S		**Sn**	**23 17 28.6**	**-3.4**
GHAJ	**Ghor Haditha**	**11.21**	**271**	Pn		**Pn**	**23 15 36.6**	**+2.5**
MMAI	**Mount Meron Ar**	**11.30**	**280**	Pn		**Pn**	**23 15 35.6**	**+0.1**
	0.3nm,0.3s,baz=91,slow=12,SNR=1.9							
MMAI				Sn		**Sn**	**23 17 42.3**	**+0.4**
	0.4nm,0.3s,baz=310,slow=3.0,SNR=1.5							
MMAI				Lg		Lg	23 18 55.3	
	0.2nm,0.3s,baz=87,slow=32,SNR=1.9							
	0.5nm,0.4s							
BSY	**Bisya**	**11.75**	**138**	P		**Pn**	**23 15 41.6**	**+0.1**
BSY				S		**Sn**	**23 17 50.0**	**-2.7**
EIL	**Elat**	**12.01**	**264**	Pn		**Pn**	**23 15 45.2**	**+0.1**
	0.3nm,0.3s,baz=6.7,slow=14,SNR=1.6							
EIL				Lg		Lg	23 19 20.7	
	0.3nm,0.3s,baz=117,slow=20,SNR=1.3							
	1.4nm,0.6s							
SMDO	**Samad**	**12.01**	**134**	P		Pn	23 15 42.8	-2.4
SMDO				S		**Sn**	**23 17 55.9**	**-3.4**
WSAR	**Wadi Sarin**	**12.24**	**132**	Pn		**Pn**	**23 15 48.8**	**+0.4**
	0.3nm,0.3s,baz=348,slow=7.6,SNR=7.2							
WSAR				Sn		Sn	23 17 58.3	-6.6
	0.2nm,0.3s,baz=340,slow=11,SNR=2.1							
	3.4nm,0.8s							
JMDO	**Jabal Madar**	**12.56**	**136**	P		**Pn**	**23 15 53.4**	**+0.7**
BNN	**Bunyan**	**12.64**	**308**	Pn		**Pn**	**23 15 55.6**	**+1.7**
KBZ	**Khabaz**	**12.78**	**341**	Pn		**Pn**	**23 15 54.5**	**-1.0**
	baz=176,slow=18							
MHTO	**MHTO**	**13.57**	**140**	P		**Pn**	**23 16 06.5**	**0.0**
	SNR=6.2							
BRTR	**Keskin Array B**	**14.56**	**307**	Pn		**Pn**	**23 16 20.1**	**+0.1**
	0.1nm,0.3s,baz=108,slow=14,SNR=3.0							
ELL	**Elmali**	**16.30**	**293**			**Pn**	**23 16 46.1**	**+3.1**
ELL				IAmb		IAmb	23 16 56.9	
	comp=Z,23nm,0.9s							
ABKAR	**Akbulak array**	**19.41**	**23**	P		**P**	**23 17 18.9**	**-1.1**
AKTO	**Aktyubinsk**	**19.90**	**18**	P		**P**	**23 17 25.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=209,slow=10,SNR=4.2							
	comp=Z,1.3nm,0.6s							
TIRR	**Tirgusor**	**20.31**	**314**	P		**P**	**23 17 30.3**	**+0.5**
ALN	**Alexandroupoli**	**20.35**	**303**	P		**P**	**23 17 31.0**	**+0.7**
ALN				IAmb		IAmb	23 17 37.6	
	comp=Z,8.4nm,0.9s							
BELG	**Belogornoye**	**20.62**	**358**	P		**P**	**23 17 32.6**	**-0.6**
	comp=Z,23nm,0.9s,baz=86,slow=4.2,SNR=4.3							
	comp=Z,23nm,0.9s							
RDO	**Rodhopi**	**20.79**	**303**	P		**P**	**23 17 35.1**	**0.0**
RDO				IAmb		IAmb	23 17 42.8	
	comp=Z,9.5nm,0.9s							
MLR	**Muntele Rosu**	**22.34**	**314**	P		**P**	**23 17 52.8**	**+0.9**
MLR				IAmb		IAmb	23 17 60.0	
	comp=Z,9.2nm,0.8s							
MLR	**Muntele Rosu**	**22.34**	**314**	P		**P**	**23 17 52.4**	**+0.5**
	comp=Z,8.1nm,1.0s,baz=146,slow=17,SNR=5.4							
	comp=Z,8.1nm,1.0s							
AGG	**Agios Georgios**	**22.62**	**296**	P		**P**	**23 17 53.7**	**-1.2**
AAK	**Ala-Archa**	**23.15**	**55**	LR		LR	23 28 17.9	
	comp=Z,128nm,19.0s,baz=272,slow=40							
KSH	**Kashi**	**23.42**	**63**	P		P	23 17 58.0	-5.2
KSH				pmax		pmax		
	comp=Z,27nm,0.8s							
FNA	**Florina**	**23.71**	**300**	P		**P**	**23 18 05.8**	**-0.1**
AKASG	**Malin Array Be**	**23.79**	**328**	P		**P**	**23 18 05.8**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=132,slow=8.9,SNR=6.4							
	comp=Z,0.7nm,0.5s							
BURAR	**Bucovina Array**	**23.88**	**318**	P		**P**	**23 18 07.4**	**-0.2**
BUR08	**Bucovina Ar. S**	**23.90**	**318**	P		**P**	**23 18 08.0**	**+0.2**
ARU	**Arti**	**25.60**	**13**	P		**P**	**23 18 22.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=225,slow=8.6,SNR=2.1							
	comp=Z,1.3nm,0.5s							
KOLS	**Kolonicke sedl**	**26.25**	**318**	*eP*		**P**	**23 18 30.8**	**+1.8**
KWP	**Kalwaria Pacla**	**26.37**	**320**	P		**P**	**23 18 30.3**	**+0.1**
KWP				IAmb		IAmb	23 18 31.5	
	comp=Z,15nm,1.2s							
BRVK	**Borovoye**	**26.39**	**30**	P		**P**	**23 18 29.8**	**-0.5**
BRVK				IAmb		IAmb	23 18 36.5	
	comp=Z,3.7nm,0.9s							
BVAR	**Borovoye Array**	**26.41**	**30**	P		**P**	**23 18 30.5**	**0.0**
	comp=Z,2.9nm,0.6s,baz=229,slow=7.8,SNR=20							
	comp=Z,2.9nm,0.6s							
CRVS	**Cervenica-Dubn**	**26.69**	**318**	*eP*		**P**	**23 18 34.1**	**+1.0**
TIP	**Timpagrande**	**26.94**	**295**	P		**P**	**23 18 36.0**	**+0.6**
MNK	**Minsk**	**27.13**	**333**	*i* P		**P**	**23 18 33.6**	**-3.2**
	comp=E,5.0nm,0.8s							
MNK				*i* P		**P**	**23 18 33.6**	**-3.2**
	comp=N,3.0nm,0.8s							
MNK				*i* P		**P**	**23 18 33.6**	**-3.2**
	comp=Z,5.0nm,0.8s,baz=139							
MNK				*i* pP		**sP**	**23 18 48.4**	**+7.2**
MNK				*i* sP		pP	23 18 55.7	+16
MNK				*i* PP		**PnPn**	**23 19 19.6**	**-0.1**
MNK				*i* S		**S**	**23 23 08.8**	**-6.3**
MNK				*i* sS		sS	23 23 34.6	+14
MNK				*i* SS		**SnSn**	**23 24 22.4**	**+0.7**
MNK				*i* LQ		LQ	23 26 29.8	
MNK				*i* LR		LR	23 28 13.2	
MNK				*i* LRM		MLR	23 29 29.8	
	comp=Z,151nm,15.4s							
MNK				*i* LRM		MLR	23 29 37.7	
	comp=N,173nm,15.4s							
MNK				*i* LRM		MLR	23 29 59.6	
	comp=E,114nm,15.6s

AAK	**Ala-Archa**	**6.75**	**24**	P	**Pn**	**23 17 03.3**	**+2.2**
	SNR=13						
AAK	**Ala-Archa**	**6.75**	**24**	P	**Pn**	**23 17 03.2**	**+2.1**
	6.2nm,0.3s,baz=176,slow=4.3,SNR=51						
AAK				S	**Sn**	**23 18 17.6**	**-0.2**
	12nm,0.4s,baz=327,slow=23,SNR=26						
KBK	**Karagaybulak**	**6.93**	**26**	P	**Pn**	**23 17 05.5**	**+2.1**
	SNR=10						
ULHL	**Ulahol**	**7.12**	**35**	P	**Pn**	**23 17 08.2**	**+2.3**
	SNR=6.1						
CHMS	**Chumysh**	**7.16**	**24**	P	**Pn**	**23 17 08.0**	**+1.7**
	SNR=5.5						
CHMS	**Chumysh**	**7.16**	**24**	⇓P	**Pn**	**23 17 07.6**	**+1.3**
	1.7nm,0.4s						
CHMS				⇓S	**Sn**	**23 18 24.1**	**-3.1**
	16nm,0.8s						
TKM2	**Tokmak 2**	**7.40**	**29**	P	**Pn**	**23 17 11.2**	**+1.6**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.40**	**29**	⇓P	**Pn**	**23 17 10.7**	**+1.2**
	1.3nm,0.5s						
TKM2				⇓S	**Sn**	**23 18 30.3**	**-2.8**
	21nm,0.8s						
GEYT	**Alibeck**	**10.20**	**282**	P	**Pn**	**23 17 48.7**	**+2.6**
	1.3nm,0.5s,baz=106,slow=9.6,SNR=6.4						
GEYT				S	**Sn**	**23 19 35.5**	**-4.2**
	1.2nm,0.5s,baz=294,slow=26,SNR=2.8						
MKAR	**Makanchi Array**	**13.38**	**36**	P	**Pn**	**23 18 27.0**	**+0.4**
	3.4nm,0.6s,baz=220,slow=9.3,SNR=26						
KURBB	**Kurchatov Arra**	**15.17**	**19**	P	**Pn**	**23 18 47.9**	**-0.7**
	1.9nm,0.6s,baz=209,slow=10.0,SNR=11						
BVAR	**Borovoye Array**	**16.51**	**359**	P	**P**	**23 19 05.6**	**+1.4**
	2.3nm,0.4s,baz=164,slow=11,SNR=18						
AKTO	**Aktyubinsk**	**16.68**	**331**	P	**P**	**23 19 08.0**	**+1.9**
	1.3nm,0.3s,baz=144,slow=6.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**19.98**	**25**	P	**P**	**23 19 41.0**	**-0.7**
	6.1nm,0.3s,baz=215,slow=11,SNR=43						
	6.1nm,0.3s						
SONM	**Songino Array**	**28.47**	**55**	P	**P**	**23 21 02.5**	**+1.0**
	0.8nm,0.7s,baz=254,slow=10,SNR=4.5						
	0.8nm,0.7s						
NRIK	**Noril'sk**	**34.15**	**11**	P	**P**	**23 21 51.9**	**+1.1**
	2.3nm,0.6s,baz=213,slow=5.6,SNR=5.6						
	2.3nm,0.6s						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**23 22 19.0**	**+0.7**
	1.0nm,0.7s,baz=110,slow=12,SNR=1.7						
	1.0nm,0.7s						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**23 22 49.7**	**+1.0**
	1.9nm,0.8s,baz=116,slow=8.1,SNR=4.4						
	1.9nm,0.8s						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**23 23 15.3**	**+0.7**
	1.3nm,1.1s,baz=100,slow=8.0,SNR=1.8						
	1.3nm,1.1s						
SPITS	**Spitsbergen Ar**	**47.44**	**347**	P	**P**	**23 23 39.5**	**+0.3**
	5.8nm,0.9s,baz=120,slow=10,SNR=1.4						
	5.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**65.54**	**268**	P	**P**	**23 25 46.5**	**-1.2**
	0.5nm,0.6s,baz=48,slow=6.5,SNR=6.9						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**74.81**	**16**	P	**P**	**23 26 42.3**	**-0.9**
	0.2nm,0.7s,baz=305,slow=5.2,SNR=5.2						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**23 27 17.9**	**-0.7**
	0.2nm,0.5s,baz=16,slow=6.0,SNR=4.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**82.15**	**122**	P	**P**	**23 27 22.2**	**-1.8**
	0.7nm,0.7s,baz=323,slow=4.9,SNR=14						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**84.41**	**125**	P	**P**	**23 27 34.0**	**-1.5**
	0.5nm,0.5s,baz=312,slow=4.8,SNR=9.7						
	0.5nm,0.5s						

*ROM **09** 23:22:01.9±0.2,38.927N±0.009×15.72E±0.02, h109km±1km,ML2.8/80,Error ellipse: s-maj=1.4km s-min=1.1km az=119.0*
*THE **09** 23:22:08.1,39.01N×16.41E,h22km±33km,ML3.1/17, Error ellipse: s-maj=40.5km s-min=1.5km az=269.0*
ISC 09 23:22:00.2±1.4,**38.92N**±0.03×**15.79E**±0.04,**h124**km±7km, **n81,σ1.82/111,7D,Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOPP	**Joppolo**	**0.32**	**166**	⇓P	**Pn**	**23 22 18.2**	**+0.5**
JOPP				S	**Sn**	**23 22 29.8**	**-1.1**
JOPP				AML	AML		
	comp=E,1265μm,0.3s						
JOPP				AML	AML		
	comp=N,1780μm,0.1s						
JOPP				AML	AML		
	comp=E,1212μm,0.2s						
JOPP				AML	AML		
	comp=N,1781μm,0.1s						
IST3	**Stromboli F**	**0.45**	**255**	P	**Pn**	**23 22 18.7**	**+0.5**
IST3				AML	AML		
	comp=E,1135μm,1.1s						
IST3				AML	AML		
	comp=N,1560μm,1.1s						
IST3				AML	AML		
	comp=N,4530μm,1.1s						
IST3				AML	AML		
	comp=E,1660μm,1.6s						
IST3				AML	AML		
	comp=E,1446μm,0.4s						
IST3				AML	AML		
	comp=N,3494μm,0.4s						
CAR1	**CAROLEI**	**0.47**	**44**	P	**Pn**	**23 22 18.8**	**+0.4**
CAR1				S	**Sn**	**23 22 31.1**	**-1.2**
CAR1				AML	AML		
	comp=E,524μm,1.2s						
CAR1				AML	AML		
	comp=N,408μm,0.9s						
CAR1				AML	AML		
	comp=N,408μm,0.9s						
CAR1				AML	AML		
	comp=E,556μm,1.2s						
CAR1				AML	AML		
	comp=N,360μm,0.3s						
CAR1				AML	AML		
	comp=E,524μm,1.2s						
CAR1				AML	AML		
	comp=E,556μm,0.3s						
CAR1				AML	AML		
	comp=N,401μm,0.3s						
CAR1				AML	AML		
	comp=N,359μm,0.3s						
CAR1				AML	AML		
	comp=E,472μm,0.4s						
CAR1				AML	AML		
	comp=E,472μm,1.6s						
GRI	**Girifalco**	**0.50**	**101**	P	**Pn**	**23 22 19.4**	**+0.8**
GRI				S	**Sn**	**23 22 32.0**	**-0.5**
GRI				AML	AML		
	comp=N,474μm,1.1s						
GRI				AML	AML		
	comp=E,602μm,0.3s						
GRI				AML	AML		
	comp=E,602μm,0.3s						
GRI				AML	AML		
	comp=N,462μm,0.4s						
SPS2	**Spezzano della**	**0.57**	**48**	P	**Pn**	**23 22 19.9**	**+0.8**
SPS2				S	**Sn**	**23 22 33.2**	**-0.1**
SPS2				AML	AML		
	comp=E,153μm,0.2s						
SPS2				AML	AML		
	comp=N,198μm,0.8s						
SPS2				AML	AML		
	comp=N,193μm,0.4s						
SPS2				AML	AML		
	comp=E,153μm,0.2s						
CET2	**Cetraro**	**0.62**	**12**	P	**Pn**	**23 22 19.8**	**+0.4**
CET2				S	**Sn**	**23 22 32.7**	**-1.3**
CET2				AML	AML		
	comp=E,919μm,0.6s						
CET2				AML	AML		
	comp=N,1370μm,1.3s						
CET2				AML	AML		
	comp=E,599μm,0.1s						
CET2				AML	AML		
	comp=N,1268μm,0.2s						
CEL	**Celeste**	**0.66**	**173**	⇓P	**Pn**	**23 22 20.0**	**+0.3**
CEL				S	**Sn**	**23 22 33.4**	**-1.0**
CEL				AML	AML		
	comp=E,556μm,1.1s						
CEL				AML	AML		
	comp=N,926μm,0.2s						
CEL				AML	AML		
	comp=N,1145μm,0.2s						
CEL				AML	AML		
	comp=E,556μm,1.1s						
CEL				AML	AML		
	comp=N,927μm,0.2s						
CEL				AML	AML		
	comp=E,707μm,1.1s						
CEL				AML	AML		
	comp=E,514μm,0.5s						
CEL				AML	AML		
	comp=E,613μm,0.5s						
CEL				AML	AML		
	comp=N,927μm,0.2s						
CEL				AML	AML		
	comp=N,1144μm,0.2s						
CEL				AML	AML		
	comp=E,613μm,1.5s						
CEL				AML	AML		
	comp=E,514μm,1.5s						
PLAC	**Placanica**	**0.69**	**132**	⇓P	**Pn**	**23 22 20.9**	**+1.0**
PLAC				S	**Sn**	**23 22 34.7**	**0.0**
PLAC				AML	AML		
	comp=E,490μm,0.2s						
PLAC				AML	AML		
	comp=N,510μm,0.2s						
PLAC				AML	AML		
	comp=E,490μm,0.2s						
PLAC				AML	AML		
	comp=N,647μm,0.7s						
PLAC				AML	AML		
	comp=E,680μm,0.7s						
PLAC				AML	AML		
	comp=N,569μm,0.2s						
PLAC				AML	AML		
	comp=E,596μm,0.2s						
PLAC				AML	AML		
	comp=N,511μm,0.2s						
PLAC				AML	AML		
	comp=E,490μm,0.2s						
SERS	**Sersale**	**0.71**	**80**	P	**Pn**	**23 22 21.2**	**+1.1**
SERS				AML	AML		
	comp=E,216μm,0.3s						
SERS				AML	AML		
	comp=N,186μm,1.3s						
SERS				AML	AML		
	comp=E,195μm,0.5s						
SERS				AML	AML		
	comp=N,224μm,0.3s						
SERS				AML	AML		
	comp=E,195μm,0.5s						
SERS				AML	AML		
	comp=N,167μm,0.5s						
SERS				AML	AML		
	comp=N,224μm,0.3s						
SERS				AML	AML		
	comp=E,216μm,0.3s						
SERS				AML	AML		
	comp=N,167μm,1.5s						
SERS				AML	AML		
	comp=E,195μm,1.5s						
MILZ	**Milazzo**	**0.78**	**214**	⇓P	**Pn**	**23 22 21.0**	**+0.5**
MILZ				S	**Sn**	**23 22 34.7**	**-1.2**
MILZ				AML	AML		
	comp=E,923μm,1.0s						
MILZ				AML	AML		
	comp=N,742μm,0.5s						
MILZ				AML	AML		
	comp=E,826μm,0.2s						
MILZ				AML	AML		
	comp=N,734μm,0.4s						
TIP	**Timpagrande**	**0.80**	**71**	P	**Pn**	**23 22 21.9**	**+1.2**
TIP				AML	AML		
	comp=N,72μm,1.4s						
TIP				AML	AML		
	comp=E,97μm,0.7s						
TIP				AML	AML		
	comp=E,94μm,0.5s						
TIP				AML	AML		
	comp=N,68μm,0.6s						
TIP				AML	AML		
	comp=E,78μm,0.5s						
TIP				AML	AML		
	comp=N,67μm,0.5s						
TIP				AML	AML		
	comp=E,78μm,1.5s						
TIP				AML	AML		
	comp=E,94μm,1.5s						
LLI	**Lipari**	**0.81**	**235**	P	**Pn**	**23 22 21.8**	**+1.1**
GRIS	**Grisolia**	**0.82**	**3**	P	**Pn**	**23 22 21.4**	**+0.5**
GRIS				S	**Sn**	**23 22 35.7**	**-1.0**
VPL	**Vulcano Piano**	**0.83**	**230**	P	**Pn**	**23 22 21.6**	**+0.6**
VPL				AML	AML		
	comp=N,425μm,0.6s						
VPL				AML	AML		
	comp=E,444μm,1.4s						
VPL				AML	AML		
	comp=N,424μm,0.4s						
VPL				AML	AML		
	comp=E,362μm,0.5s						
TDS	**Terranova Siba**	**0.85**	**30**	P	**Pn**	**23 22 22.3**	**+1.2**
TDS				AML	AML		
	comp=N,86μm,1.6s						
TDS				AML	AML		
	comp=E,147μm,0.8s						
TDS				AML	AML		
	comp=E,138μm,0.5s						
TDS				AML	AML		
	comp=N,72μm,0.2s						
SOI	**Samo**	**0.87**	**166**	⇓P	**Pn**	**23 22 22.3**	**+0.9**
SOI				S	**Sn**	**23 22 36.9**	**-0.5**
SOI				AML	AML		
	comp=E,336μm,0.6s						
SOI				AML	AML		
	comp=N,320μm,0.7s						
SOI				AML	AML		
	comp=N,294μm,0.3s						
SOI				AML	AML		
	comp=E,336μm,0.6s						
SOI				AML	AML		
	comp=N,294μm,1.7s						
MTTG	**Motta San Giov**	**0.92**	**185**	P	**Pn**	**23 22 22.8**	**+1.0**
MTTG				S	**Sn**	**23 22 38.3**	**+0.2**
MTTG				AML	AML		
	comp=E,476μm,0.4s						
MTTG				AML	AML		
	comp=N,498μm,1.1s						
MTTG				AML	AML		
	comp=E,476μm,0.4s						
MTTG				AML	AML		
	comp=N,459μm,0.2s						
PIPA	**Pietrapaola**	**0.98**	**54**	P	**Pn**	**23 22 24.3**	**+2.0**
LADO	**San Nicola del**	**1.00**	**68**	P	**Pn**	**23 22 24.2**	**+1.7**
NOV	**Novara**	**1.02**	**210**	⇓P	**Pn**	**23 22 23.7**	**+0.9**
NOV				AML	AML		
	comp=E,257μm,0.9s						
NOV				AML	AML		
	comp=N,292μm,0.2s						
NOV				AML	AML		
	comp=N,133μm,0.2s						
NOV				AML	AML		
	comp=E,186μm,0.4s						
AIO	**Antillo**	**1.04**	**205**	⇓P	**Pn**	**23 22 23.9**	**+0.9**
AIO				AML	AML		
	comp=N,207μm,0.9s						
AIO				AML	AML		
	comp=E,209μm,0.8s						
SALB	**San Lorenzo Be**	**1.05**	**24**	P	**Pn**	**23 22 24.9**	**+1.7**
SALB				AML	AML		
	comp=E,315μm,1.5s						
SALB				AML	AML		
	comp=N,143μm,0.7s						
SALB				AML	AML		
	comp=N,143μm,0.3s						
SALB				AML	AML		
	comp=E,292μm,0.3s						
CUC	**Castrocucco**	**1.07**	**1**	P	**Pn**	**23 22 23.8**	**+0.5**
CUC				S	**Sn**	**23 22 39.9**	**-1.0**
CUC				AML	AML		
	comp=N,220μm,0.4s						
CUC				AML	AML		
	comp=N,212μm,0.4s						
CUC				AML	AML		
	comp=E,202μm,1.6s						
CUC				AML	AML		
	comp=E,233μm,0.8s						
CUC				AML	AML		
	comp=N,210μm,0.3s						
CUC				AML	AML		
	comp=E,198μm,0.4s						
CUC				AML	AML		
	comp=N,214μm,0.3s						
CUC				AML	AML		
	comp=E,204μm,0.3s						
MUCR	**Ucria**	**1.13**	**220**	P	**Pn**	**23 22 24.6**	**+0.7**
MUCR				AML	AML		
	comp=N,116μm,0.5s						
MUCR				AML	AML		
	comp=E,109μm,0.2s						
ORI	**Oriolo Calabro**	**1.25**	**24**	P	**Pn**	**23 22 26.5**	**+1.4**
ORI				AML	AML		
	comp=E,304μm,0.3s						
ORI				AML	AML		
	comp=N,340μm,0.5s						
ORI				AML	AML		
	comp=N,340μm,0.5s						
ORI				AML	AML		
	comp=E,305μm,0.3s						
SIRI	**Monte Sirino -**	**1.27**	**3**	P	**Pn**	**23 22 26.0**	**+0.7**
SIRI				AML	AML		
	comp=N,175μm,1.3s						
SIRI				AML	AML		
	comp=N,150μm,1.3s						
SIRI				AML	AML		
	comp=E,197μm,0.3s						
SIRI				AML	AML		
	comp=E,195μm,0.3s						
SIRI				AML	AML		
	comp=N,134μm,0.2s						
SIRI				AML	AML		
	comp=N,130μm,0.2s						
SIRI				AML	AML		
	comp=E,197μm,0.3s						
SIRI				AML	AML		
	comp=E,195μm,0.3s						
MSFR	**San Fratello**	**1.29**	**227**	P	**Pn**	**23 22 26.6**	**+1.0**
EPZF	**Pizzo Felice**	**1.31**	**214**	P	**Pn**	**23 22 28.4**	**+2.5**
MTSN	**Montesano sull**	**1.35**	**359**	P	**Pn**	**23 22 26.9**	**+0.7**
MCEL	**Monticello**	**1.41**	**0**	P	**Pn**	**23 22 27.8**	**+1.0**
MCEL				AML	AML		
	comp=E,105μm,0.3s						
MCEL				AML	AML		
	comp=E,105μm,0.3s						
MCEL				AML	AML		
	comp=N,83μm,0.5s						
CMPR	**Campora**	**1.45**	**345**	P	**Pn**	**23 22 28.1**	**+0.9**
ESML	**S. M. di Licod**	**1.48**	**209**	P	**Pn**	**23 22 28.9**	**+1.2**
ESML				AML	AML		
	comp=E,216μm,1.6s						
ESML				AML	AML		
	comp=N,230μm,0.9s						
EPOZ	**Pozzillo**	**1.51**	**202**	P	**Pn**	**23 22 27.0**	**-0.9**
CRAC	**Craco**	**1.53**	**19**	P	**Pn**	**23 22 30.2**	**+2.0**
CRAC				AML	AML		
	comp=E,723μm,0.5s						
CRAC				AML	AML		
	comp=N,754μm,0.7s						
CRAC				AML	AML		
	comp=N,735μm,0.3s						
CRAC				AML	AML		
	comp=E,723μm,0.5s						
HAGA	**Augusta**	**1.70**	**197**	P	**Pn**	**23 22 30.1**	**-0.2**
HAGA				AML	AML		
	comp=N,484μm,1.2s						
HAGA				AML	AML		
	comp=E,549μm,0.1s						
HAGA				AML	AML		
	comp=N,364μm,0.1s						
HAGA				AML	AML		
	comp=E,549μm,0.1s						
AGST	**Augusta-Monte**	**1.72**	**195**	P	**Pn**	**23 22 30.1**	**-0.3**
AGST				AML	AML		
	comp=E,660μm,1.1s						
AGST				AML	AML		
	comp=N,970μm,1.3s						
AGST				AML	AML		
	comp=E,646μm,0.1s						
AGST				AML	AML		
	comp=N,662μm,0.2s						
HLNI	**Lentini**	**1.73**	**205**	P	**Pn**	**23 22 30.5**	**+0.1**
HLNI				S	**Sn**	**23 22 52.8**	**-0.7**
HLNI				AML	AML		
	comp=E,259μm,0.2s						
HLNI				AML	AML		
	comp=N,288μm,0.2s						
HLNI				AML	AML		
	comp=E,259μm,0.2s						
HLNI				AML	AML		
	comp=N,289μm,0.1s						
PZUN	**Potenza**	**1.73**	**0**	P	**Pn**	**23 22 33.2**	**+2.8**
SSY	**Sortino**	**1.85**	**198**	P	**Pn**	**23 22 31.8**	**-0.2**
SSY				S	**Sn**	**23 22 55.3**	**-1.0**
SSY				AML	AML		
	comp=E,209μm,0.2s						
SSY				AML	AML		
	comp=N,626μm,0.1s						
MRLC	**Muro Lucano**	**1.85**	**353**	P	**Pn**	**23 22 34.3**	**+2.3**
MATE	**Matera**	**1.87**	**22**	P	**Pn**	**23 22 32.1**	**-0.1**
MATE				AML	AML		
	comp=E,224μm,1.2s						
MATE				AML	AML		
	comp=N,208μm,0.6s						
MATE				AML	AML		
	comp=E,186μm,0.4s						
MATE				AML	AML		
	comp=N,191μm,0.1s						
ACER	**Acerenza**	**1.87**	**4**	P	**Pn**	**23 22 33.5**	**+1.2**
AMUR	**Altamura**	**2.08**	**17**	P	**Pn**	**23 22 34.8**	**0.0**
AMUR				AML	AML		
	comp=E,394μm,0.9s						
AMUR				AML	AML		
	comp=N,316μm,1.4s						
AMUR				AML	AML		
	comp=N,310μm,0.2s						
AMUR				AML	AML		
	comp=E,359μm,0.2s						
NOCI	**Noci**	**2.11**	**27**	P	**Pn**	**23 22 34.8**	**-0.4**
NOCI				AML	AML		
	comp=E,285μm,0.3s						
NOCI				AML	AML		
	comp=N,528μm,0.2s						
NOCI				AML	AML		
	comp=E,269μm,0.2s						
NOCI				AML	AML		
	comp=N,528μm,0.2s						
NOCI				AML	AML		
	comp=N,528μm,1.8s						
MRVN	**Minervino Murg**	**2.16**	**8**	P	**Pn**	**23 22 35.8**	**0.0**
MRVN				AML	AML		
	comp=E,106μm,1.3s						
MRVN				AML	AML		
	comp=N,100μm,1.0s						
MRVN				AML	AML		
	comp=E,85μm,0.2s						
MRVN				AML	AML		
	comp=N,82μm,0.1s						
KEK	**Kerkira**	**3.21**	**74**	P	**Pn**	**23 22 49.2**	**-0.1**
KEK				S	**Sn**	**23 23 22.6**	**-4.6**
	comp=N,62nm,0.2s						
KEK	**Kerkira**	**3.21**	**74**	AML	AML		
	comp=E,18μm,0.1s						
IGT	**Igoumenitsa**	**3.58**	**79**	P	**Pn**	**23 22 55.6**	**+1.4**
IGT				S	**Sn**	**23 23 32.2**	**-3.8**
	comp=E,32nm,0.1s						
KEF3	**Kipouria, Keph**	**3.64**	**100**	P	**Pn**	**23 22 57.0**	**+2.0**
KEF3				S	**Sn**	**23 23 35.2**	**-2.3**
	comp=E,252nm,0.4s						
DMLN	**Damoulianata-K**	**3.66**	**99**	P	**Pn**	**23 22 56.9**	**+1.7**
DMLN				S	**Sn**	**23 23 36.2**	**-1.6**
	comp=E,132nm,0.6s						
KEF4	**Livadi, Kephal**	**3.69**	**99**	P	**Pn**	**23 22 57.7**	**+2.1**
KEF4				S	**Sn**	**23 23 36.5**	**-2.1**
	comp=E,562nm,0.3s						
DRAG	**Dragano-Lefkad**	**3.75**	**92**	P	**Pn**	**23 22 58.1**	**+1.7**
FSK	**Fiskardo**	**3.76**	**95**	P	**Pn**	**23 22 58.4**	**+1.8**
FSK				S	**Sn**	**23 23 37.5**	**-2.8**
	comp=E,108nm,0.6s						
VSK1	**VASILIKIADES**	**3.77**	**96**	P	**Pn**	**23 22 58.6**	**+1.9**
TSLK	**Tsoukalades, L**	**3.80**	**90**	P	**Pn**	**23 22 59.2**	**+2.1**
TSLK				S	**Sn**	**23 23 38.9**	**-2.3**
	comp=E,70nm,0.6s						
LKD2	**Lefkada island**	**3.80**	**90**	P	**Pn**	**23 22 59.1**	**+1.9**
LKD2				S	**Sn**	**23 23 38.5**	**-2.8**
	comp=E,58nm,0.5s						
EVGI	**Lefkada island**	**3.82**	**93**	P	**Pn**	**23 22 59.0**	**+1.7**
EVGI				S	**Sn**	**23 23 38.2**	**-3.4**

	comp=E,98nm,0.2s							
VLS	**Valsamata**	**3.84**	**100**	P	**Pn**	**23 22 59.0**	**+1.4**	
VLS	**Valsamata**	**3.84**	**100**	AML	AML			
	comp=N,25μm,1.1s							
VLS				AML	AML			
	comp=E,32μm,0.8s							
VLS				AML	AML			
	comp=N,19μm,0.2s							
VLS				AML	AML			
	comp=E,27μm,0.3s							
NYDR	**Nydri-Lefkada**	**3.84**	**91**	P	**Pn**	**23 22 59.2**	**+1.6**	
LTHK	**Lithakia**	**4.15**	**105**	P	**Pn**	**23 23 02.6**	**+0.9**	
NEST	**Nestorio**	**4.33**	**68**	P	**Pn**	**23 23 07.4**	**+3.2**	
KPRO	**Kipourio**	**4.44**	**75**	P	**Pn**	**23 23 08.7**	**+3.0**	
PVO	**Paravola**	**4.49**	**92**	P	**Pn**	**23 23 09.0**	**+2.7**	
FNA	**Florina**	**4.69**	**65**	P	**Pn**	**23 23 11.3**	**+2.3**	
EVR	**Evrytania**	**4.70**	**88**	P	**Pn**	**23 23 13.1**	**+4.0**	
DRO	**Drossia**	**4.75**	**100**	P	**Pn**	**23 23 11.9**	**+2.1**	
DRO				S	**Sn**	**23 24 03.1**	**-0.8**	
	comp=E,62nm,0.8s							
ANX	**Ano Chora**	**4.80**	**92**	P	**Pn**	**23 23 13.2**	**+2.6**	
ANX				S	**Sn**	**23 24 03.2**	**-2.1**	
	comp=E,58nm,0.8s							
EFP	**Efpalio**	**4.81**	**94**	P	**Pn**	**23 23 13.3**	**+2.7**	
THL	**Klokotos Trika**	**4.88**	**80**	P	**Pn**	**23 23 13.8**	**+2.4**	
THL				S	**Sn**	**23 24 04.3**	**-2.6**	
	comp=E,18nm,0.4s							
MAKR	**Makrakomi, Fth**	**4.95**	**87**	P	**Pn**	**23 23 16.0**	**+3.6**	
MAKR				S	**Sn**	**23 24 04.7**	**-3.9**	
	comp=E,105nm,0.4s							
TYRN	**Tyrnavos**	**5.06**	**79**	P	**Pn**	**23 23 16.2**	**+2.3**	
TYRN				S	**Sn**	**23 24 10.5**	**-0.8**	
	comp=E,25nm,0.7s							
KLV	**Kalavryta, Ach**	**5.07**	**98**	P	**Pn**	**23 23 16.6**	**+2.5**	
AGG	**Agios Georgios**	**5.10**	**87**	P	**Pn**	**23 23 17.2**	**+2.7**	
AGG				S	**Sn**	**23 24 10.9**	**-1.4**	
	comp=E,35nm,0.5s							
GUR	**Goura**	**5.24**	**99**	P	**Pn**	**23 23 18.8**	**+2.4**	
GUR				S	**Sn**	**23 24 15.7**	**-0.1**	
	comp=E,35nm,0.7s							
AXAR	**Agios Charalam**	**5.37**	**89**	P	**Pn**	**23 23 19.7**	**+1.7**	
AXAR				S	**Sn**	**23 24 17.4**	**-1.3**	
	comp=E,40nm,0.3s							
NEO	**Neokhori**	**5.79**	**84**	P	**Pn**	**23 23 26.0**	**+2.2**	
VILL	**Villia**	**5.95**	**95**	P	**Pn**	**23 23 27.5**	**+1.6**	
KRND	**KRANIDI**	**6.00**	**102**	P	**Pn**	**23 23 27.6**	**+1.0**	
VLI	**Veliai**	**6.07**	**109**	P	**Pn**	**23 23 30.1**	**+2.6**	
DION	**Dionisos Attik**	**6.44**	**95**	P	**Pn**	**23 23 34.9**	**+2.3**	
DION				S	**Sn**	**23 24 42.8**	**-2.0**	

*IDC **09** 23:37:59.5±2.2,35°.79N×140°.12E,h74^{km}±18^{km}, mb3.3/6, mbtmp3.7/8,Error ellipse: s-maj=31.0km s-min=9.4km az=65.0*
*JMA **09** 23:38:00.2±0.1,36°.0N±0°.3×140°.1E±0°.4,h62^{km}, MV3.3/33, SOUTHERN IBARAKI PREF*
JMA Felt I J1 at SOUTHERN IBARAKI PREF .

ISC 09 23:37:59.3±0.9,35°.89N±0°.04×140°.13E±0°.06,h69^{km}±8^{km}, n17,σ0°.84/26,mb3.7/6,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.33**	**77**	P	**Pn**	**23 38 11.7**	**+1.2**
JYT	**Yasato**	**0.34**	**9**	P	**Pn**	**23 38 10.4**	**-0.2**
JYT				S	**Sn**	**23 38 18.0**	**-0.9**
JAG	**Ashikaga**	**0.76**	**314**	⇓*i* P	**Pn**	**23 38 14.4**	**-0.4**
JAG				⇓S	**Sn**	**23 38 24.9**	**-1.4**
JRY	**Ryogami san**	**1.00**	**277**	⇓*i* P	**Pn**	**23 38 17.9**	**+0.1**
JRY				⇓*e*S	**Sn**	**23 38 30.9**	**-0.6**
JOD2	**Odawara 2**	**1.06**	**234**	⇓*i* P	**Pn**	**23 38 18.8**	**+0.4**
JOD2				⇓S	**Sn**	**23 38 32.1**	**-0.6**
JKT	**Katashina**	**1.12**	**321**	*i* P	**Pn**	**23 38 18.8**	**-0.6**
JKT				S	**Sn**	**23 38 33.8**	**-0.6**
JIM2	**Oshima 3**	**1.30**	**206**	P	**Pn**	**23 38 22.0**	**+0.4**
JIM2				S	**Sn**	**23 38 38.4**	**-0.1**
JYN	**Shimob**	**1.35**	**253**	⇓*i* P	**Pn**	**23 38 22.9**	**+0.6**
JYN				⇓S	**Sn**	**23 38 39.6**	**+0.1**
MJAR	**Matsushiro Arr**	**1.68**	**293**	P	**Pn**	**23 38 26.5**	**-0.1**
	86nm,0.6s,baz=92,slow=13,SNR=186						
MJAR				S	**Sn**	**23 38 48.5**	**+1.2**
	33nm,0.7s,baz=216,slow=37,SNR=3.9						
JHJ	**Hachijo jima 2**	**2.78**	**186**	P	**Pn**	**23 38 41.7**	**+0.2**
	60nm,0.3s,baz=291,slow=14,SNR=1.3						
JHJ				S	**Sn**	**23 39 11.4**	**-2.5**
	110nm,0.7s,baz=68,slow=23,SNR=1.5						
USRK	**Ussuriysk Ar.**	**10.37**	**326**	P	**Pn**	**23 40 26.0**	**+0.9**
	3.7nm,0.8s,baz=146,slow=10,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.93**	**313**	P	**P**	**23 45 42.5**	**-0.4**
	0.7nm,0.5s,baz=81,slow=8.9,SNR=1.9 0.7nm,0.5s						
MKAR	**Makanchi Array**	**43.86**	**303**	P	**P**	**23 45 58.6**	**-0.1**
	1.0nm,0.8s,baz=94,slow=9.8,SNR=10 1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**45.90**	**309**	P	**P**	**23 46 14.2**	**-0.5**
	0.8nm,0.6s,baz=83,slow=7.7,SNR=13 0.8nm,0.6s						
BVAR	**Borovoye Array**	**50.58**	**313**	P	**P**	**23 46 50.3**	**-0.4**
	0.3nm,0.5s,baz=61,slow=7.4,SNR=2.2 0.3nm,0.5s						
ILAR	**Eielson Array**	**51.01**	**32**	P	**P**	**23 46 54.2**	**+0.4**
	0.5nm,0.9s,baz=291,slow=9.1,SNR=4.6 0.5nm,0.9s						
WRA	**Warramunga Arr**	**55.80**	**187**	P	**P**	**23 47 29.2**	**-0.2**
	0.6nm,0.6s,baz=1.5,slow=7.5,SNR=14 0.6nm,0.6s						

IDC 09 23:48:38.9±1.7,2°.98N×126°.39E,h0^{km},mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=185.3km s-min=22.7km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**161**	P	P	23 53 56.4	+0.2
	1.1nm,0.6s,baz=341,slow=10,SNR=18 1.1nm,0.6s						
STKA	**Stephens Creek**	**37.55**	**159**	P	P	23 55 55.0	0.0
	1.8nm,0.6s,baz=332,slow=10.0,SNR=4.6 1.8nm,0.6s						
MKAR	**Makanchi Array**	**57.98**	**326**	P	P	23 58 33.4	0.0
	0.1nm,0.4s,baz=119,slow=8.7,SNR=4.3 0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**62.19**	**328**	P	P	23 59 01.8	-0.4
	0.1nm,0.2s,baz=126,slow=7.1,SNR=1.7 0.1nm,0.2s						

*SNET **09** 23:50:30.4±1.0,13°.29N×89°.76W,h41^{km}, ML4.0*
*CATAC **09** 23:50:30.4±0.5, 13°.28N×89°.73W,h28^{km}±3^{km}, ML4.1*

ISC 09 23:50:30.5±1.9,13°.26N±0°.06×89°.75W±0°.05,h34^{km}±2^{km}, n87,σ0°.51/121,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.49**	**37**	*e*P	**Pn**	**23 50 41.5**	**+0.2**
JAYA				*e*S	**Sn**	**23 50 49.0**	**+0.3**
JAYA	**Jayaque - finc**	**0.49**	**37**	*i* P	**Pn**	**23 50 41.5**	**+0.2**
JAYA				*i* S	**Sn**	**23 50 49.1**	**+0.3**
JAYA				IAML		23 50 50.5	
	comp=Z,65μm,1.0s						
CEVE	**Cerro Verde**	**0.58**	**12**	*e*P	**Pb**	**23 50 42.7**	**+0.1**
CEVE				*e*S	**Sn**	**23 50 52.0**	**+1.0**
CEVE	**Cerro Verde**	**0.58**	**12**	*i* P	**Pb**	**23 50 42.7**	**+0.1**
CEVE				*i* S	**Sn**	**23 50 52.3**	**+1.3**
CEVE				IAML		23 50 55.0	
	comp=Z,19μm,1.0s						
SBLS	**San Blas**	**0.59**	**12**	*e*P	**Pb**	**23 50 42.6**	**-0.2**
ITCA	**Escuela Especi**	**0.62**	**48**	*e*P	**Pb**	**23 50 42.9**	**-0.3**
ITCA	**Escuela Especi**	**0.62**	**48**	*i* P	**Pb**	**23 50 42.9**	**-0.2**
ITCA				*i* S	**Sb**	**23 50 52.3**	**+0.5**
ITCA				IAML		23 50 55.6	
	comp=Z,10μm,1.0s						
PMON	**Piamonte**	**0.62**	**43**	*e*P	**Pb**	**23 50 43.0**	**-0.1**
PMON	**Piamonte**	**0.62**	**43**	*i* P	**Pb**	**23 50 42.9**	**-0.3**
PMON				IAML		23 51 03.0	
	comp=Z,11μm,1.0s						
SNJE	**San Jose**	**0.62**	**13**	*e*P	**Pb**	**23 50 43.1**	**-0.2**
NUBE	**Las Nubes**	**0.64**	**358**	*e*P	**Pb**	**23 50 43.1**	**-0.4**
NUBE	**Las Nubes**	**0.64**	**358**	*i* P	**Pb**	**23 50 43.2**	**-0.3**
NUBE				*i* S	**Sb**	**23 50 52.9**	**+0.5**
NUBE				IAML		23 50 54.9	
	comp=Z,8μm,1.0s						
CEDA	**San Andres**	**0.64**	**33**	*e*P	**Pb**	**23 50 43.2**	**-0.2**
CEDA				*e*S	**Sb**	**23 50 52.5**	**+0.1**
CEDA	**San Andres**	**0.64**	**33**	*i* P	**Pb**	**23 50 43.3**	**-0.2**
CEDA				*i* S	**Sb**	**23 50 53.7**	**+1.4**
CEDA				IAML		23 50 57.7	
	comp=Z,16μm,1.0s						
RTR	**El Retiro**	**0.64**	**9**	*e*P	**Pb**	**23 50 43.5**	**-0.1**
PANCS	**Alcalda de**	**0.66**	**58**	*e*P	**Pn**	**23 50 43.2**	**-0.2**
PANCS				*e*S	**Sb**	**23 50 52.5**	**-0.3**
PANCS	**Alcalda de**	**0.66**	**58**	*i* P	**Pn**	**23 50 43.2**	**-0.2**
PANCS				*i* S	**Sb**	**23 50 52.8**	**0.0**
PANCS				IAML		23 50 53.3	
	comp=Z,26μm,1.0s						
BOQS	**Boqueron**	**0.66**	**44**	*e*P	**Pb**	**23 50 43.7**	**-0.2**
BOQS				*e*S	**Sb**	**23 50 53.4**	**+0.4**
SNET	**Serv Nac Est T**	**0.66**	**50**	*e*P	**Pn**	**23 50 43.2**	**-0.4**
SNET				*e*S	**Sb**	**23 50 53.5**	**+0.6**
SNET	**Serv Nac Est T**	**0.66**	**50**	*i* P	**Pn**	**23 50 43.2**	**-0.3**
SNET				*i* S	**Sb**	**23 50 53.3**	**+0.4**
SNET				IAML		23 50 55.5	
	comp=Z,12μm,1.0s						
UEES	**Universidad Ev**	**0.67**	**48**	*e*P	**Pb**	**23 50 43.6**	**-0.5**
UEES	**Universidad Ev**	**0.67**	**48**	*i* P	**Pb**	**23 50 43.8**	**-0.3**
UEES				*i* S	**Sb**	**23 50 53.3**	**0.0**
UEES				IAML		23 51 02.5	
	comp=Z,4μm,1.0s						
SEMO	**Seminario San**	**0.68**	**49**	*e*P	**Pb**	**23 50 43.7**	**-0.4**
SEMO	**Seminario San**	**0.68**	**49**	*i* P	**Pb**	**23 50 43.6**	**-0.5**
SEMO				*i* S	**Sb**	**23 50 53.0**	**-0.3**
SEMO				IAML		23 50 56.1	
	comp=Z,14μm,1.0s						
PIC2	**El Picacho**	**0.68**	**45**	*e*P	**Pb**	**23 50 44.5**	**+0.2**
LOMA	**Loma Larga**	**0.68**	**56**	*e*P	**Pb**	**23 50 43.8**	**-0.4**
LOMA	**Loma Larga**	**0.68**	**56**	*i* P	**Pb**	**23 50 43.9**	**-0.3**
LOMA				*i* S	**Sb**	**23 50 53.8**	**+0.3**
LOMA				IAML		23 50 55.7	
	comp=Z,11μm,1.0s						
UTEC	**Universidad Te**	**0.69**	**51**	*e*P	**Pb**	**23 50 43.8**	**-0.5**
UTEC				*e*S	**Sb**	**23 50 54.1**	**+0.3**
UTEC	**Universidad Te**	**0.69**	**51**	*i* P	**Pb**	**23 50 43.9**	**-0.4**
UTEC				*i* S	**Sb**	**23 50 54.3**	**+0.6**
UTEC				IAML		23 50 59.5	
	comp=Z,4μm,1.0s						
UESS	**Universidad de**	**0.70**	**50**	*e*P	**Pb**	**23 50 44.0**	**-0.6**
IGN	**Direccin Gen**	**0.72**	**51**	*e*P	**Pb**	**23 50 44.3**	**-0.6**
IGN	**Direccin Gen**	**0.72**	**51**	*i* P	**Pb**	**23 50 44.5**	**-0.4**
IGN				*i* S	**Sb**	**23 50 55.2**	**+0.6**
IGN				IAML		23 51 01.1	
	comp=Z,22μm,1.0s						
LOAL	**Lomas de Alarc**	**0.73**	**358**	*i* P	**Pb**	**23 50 44.8**	**-0.2**
LOAL				IAML		23 50 45.3	
	comp=Z,10μm,1.0s						
LOAL				*i* S	**Sb**	**23 50 56.1**	**+1.2**
UDBS	**Universidad Do**	**0.73**	**52**	*e*P	**Pn**	**23 50 44.4**	**-0.2**
UDBS	**Universidad Do**	**0.73**	**52**	*i* P	**Pb**	**23 50 44.7**	**-0.4**
UDBS				*i* S	**Sb**	**23 50 55.5**	**+0.6**
UDBS				IAML		23 50 56.3	
	comp=Z,11μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.74**	**39**	*e*P	**Pb**	**23 50 44.6**	**-0.5**
QUEZ				*e*S	**Sb**	**23 50 54.7**	**-0.2**
QUEZ	**Alcaldia de Qu**	**0.74**	**39**	*i* P	**Pb**	**23 50 44.8**	**-0.3**
QUEZ				*i* S	**Sb**	**23 50 55.9**	**+1.0**
QUEZ				IAML		23 51 01.4	
	comp=Z,26μm,1.0s						
UNIC	**Universidad Ca**	**0.74**	**15**	*e*P	**Pb**	**23 50 44.5**	**-0.7**
UNIC	**Universidad Ca**	**0.74**	**15**	*i* P	**Pb**	**23 50 44.7**	**-0.5**
UNIC				*i* S	**Sb**	**23 50 55.8**	**+0.6**
UNIC				IAML		23 50 58.4	
	comp=Z,2μm,1.0s						
AEIL	**Aeropuerto Ilo**	**0.76**	**55**	*e*P	**Pb**	**23 50 45.0**	**-0.4**
AEIL				*e*S	**Sb**	**23 50 56.0**	**+0.5**
SLOZ	**Alcaldia de Sa**	**0.76**	**358**	*e*P	**Pb**	**23 50 44.9**	**-0.6**
LFRS	**El Faro**	**0.76**	**62**	*e*P	**Pn**	**23 50 44.8**	**-0.2**
LFRS				*e*S	**Sb**	**23 50 55.5**	**-0.2**
LFU	**La Fuente**	**0.79**	**52**	*e*P	**Pb**	**23 50 45.4**	**-0.5**
SJTE	**Alcalda de S**	**0.81**	**64**	*e*P	**Pn**	**23 50 45.4**	**-0.2**
SJTE				*e*S	**Sb**	**23 50 57.1**	**+0.2**
SJTE	**Alcalda de S**	**0.81**	**64**	*i* P	**Pb**	**23 50 45.7**	**-0.5**
SJTE				*i* S	**Sb**	**23 50 57.2**	**+0.3**
SJTE				IAML		23 50 58.1	
	comp=Z,7μm,1.0s						
LBRS	**Las Brisas**	**0.84**	**55**	*e*P	**Pb**	**23 50 46.1**	**-0.6**
PAVA	**Las Pavas**	**0.91**	**60**	*e*P	**Pb**	**23 50 47.4**	**-0.6**
PAVA	**Las Pavas**	**0.91**	**60**	*i* P	**Pb**	**23 50 47.5**	**-0.5**
PAVA				IAML		23 51 04.5	
	comp=Z,7μm,1.0s						
COEG	**Centro de Oper**	**0.92**	**67**	*e*P	**Pn**	**23 50 47.1**	**0.0**
COEG	**Centro de Oper**	**0.92**	**67**	*i* P	**Pn**	**23 50 47.2**	**+0.1**
COEG				IAML		23 51 04.3	
	comp=Z,4μm,1.0s						
SNVI	**San Vicente**	**0.95**	**68**	*e*P	**Pb**	**23 50 48.2**	**-0.6**
TECO	**Alcaldia de Te**	**0.98**	**74**	*e*P	**Pn**	**23 50 47.8**	**-0.2**
TECO	**Alcaldia de Te**	**0.98**	**74**	*i* P	**Pn**	**23 50 47.9**	**-0.1**
TECO				*i* S	**Sn**	**23 51 00.7**	**0.0**
TECO				IAML		23 51 05.9	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**1.01**	**68**	*e*P	**Pn**	**23 50 48.4**	**0.0**
UESV	**Universidad de**	**1.01**	**68**	*i* P	**Pn**	**23 50 48.6**	**+0.3**
UESV				*i* S	**Sb**	**23 51 02.1**	**-0.5**
UESV				IAML		23 51 06.8	
	comp=Z,2μm,1.0s						
JUAM	**Asuncion Mita**	**1.07**	**2**	*i* P	**Pn**	**23 50 48.9**	**-0.3**
JUAM				IAML		23 50 49.1	
	comp=Z,3μm,1.0s						
JUAM				*i* S	**Sb**	**23 51 03.4**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.09**	**66**	*e*P	**Pn**	**23 50 49.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.09**	**66**	*i* P	**Pn**	**23 50 49.7**	**+0.3**
SCLA				IAML		23 51 09.3	
	comp=Z,940nm,1.0s						
LLGN	**La Laguna**	**1.19**	**41**	*e*P	**Pn**	**23 50 50.5**	**-0.4**
LLGN	**La Laguna**	**1.19**	**41**	*i* P	**Pn**	**23 50 50.6**	**-0.3**
LLGN				IAML		23 50 52.3	
	comp=Z,920nm,1.0s						
MTO3	**Montecristo**	**1.19**	**19**	*e*P	**Pn**	**23 50 50.7**	**-0.3**
MTO3	**Montecristo**	**1.19**	**19**	*i* P	**Pn**	**23 50 50.8**	**-0.3**
MTO3				IAML		23 50 50.8	
	comp=Z,860nm,1.0s						
JAMO	**Monjas**	**1.23**	**354**	*i* P	**Pn**	**23 50 51.5**	**0.0**
JAMO				IAML		23 51 24.9	
	comp=Z,2μm,1.0s						
TECA	**Tecapa**	**1.24**	**79**	*e*P	**Pn**	**23 50 51.3**	**-0.3**
ESQI	**Esquipulas**	**1.35**	**17**	*i* P	**Pn**	**23 50 53.2**	**+0.1**
ESQI				IAML		23 51 14.9	
	comp=Z,1μm,1.0s						
PACA	**Pacayal**	**1.41**	**81**	*e*P	**Pn**	**23 50 54.1**	**+0.3**
PACA	**Pacayal**	**1.41**	**81**	*i* P	**Pn**	**23 50 54.7**	**+0.8**
PACA				IAML		23 51 19.5	
	comp=Z,9μm,1.0s						
LCY	**Lacayo**	**1.43**	**83**	*e*P	**Pn**	**23 50 54.7**	**+0.6**
RANC	**El Ranchito**	**1.43**	**83**	*e*P	**Pn**	**23 50 54.5**	**+0.2**
GUNB	**GUNB**	**1.45**	**337**	*i* P	**Pn**	**23 50 53.9**	**-0.7**
GUNB				*i* S	**Sn**	**23 51 12.1**	**-0.5**
GUNB				IAML		23 51 12.8	
	comp=Z,1μm,1.0s						
JUCU	**Jucuarn**	**1.46**	**90**	*e*P	**Pn**	**23 50 54.3**	**-0.3**
JUCU				*e*S	**Sn**	**23 51 12.6**	**0.0**
SARH	**Santa Rosa de**	**1.79**	**32**	*i* P	**Pn**	**23 50 59.5**	**+0.4**
LCND	**La Caada**	**1.81**	**88**	*e*P	**Pn**	**23 50 59.4**	**0.0**
LCND				*e*S	**Sn**	**23 51 20.6**	**-0.6**
LCND	**La Caada**	**1.81**	**88**	*i* P	**Pn**	**23 50 59.7**	**+0.3**
LCND				IAML		23 51 25.0	
	comp=Z,910nm,1.0s						
CNCH	**Conchagua**	**1.87**	**89**	*e*P	**Pn**	**23 51 00.2**	**0.0**
CNCH	**Conchagua**	**1.87**	**89**	*i* P	**Pn**	**23 51 00.6**	**+0.4**
CNCH				IAML		23 51 31.6	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**2.04**	**89**	*i* P	**Pn**	**23 51 02.6**	**+0.2**
COMHN	**El Horno**	**2.43**	**61**	*i* P	**Pn**	**23 51 07.3**	**-0.8**
CRIN	**San Cristobal**	**2.69**	**102**	*i* P	**Pn**	**23 51 13.0**	**+1.5**
QUEN	**Al S del Volca**	**2.90**	**103**	*i* P	**Pn**	**23 51 13.5**	**-0.9**
YUSH	**Yuscaran**	**2.91**	**76**	*i* P	**Pn**	**23 51 14.3**	**-0.3**
HERN	**Volcan Telica**	**2.92**	**102**	*i* P	**Pn**	**23 51 14.1**	**-0.6**
HERN				IAML		23 52 44.4	
	comp=Z,330nm,1.0s						
CNGA	**Al SSO del Vol**	**3.07**	**104**	*i* P	**Pn**	**23 51 16.7**	**0.0**
CNGA				IAML		23 52 09.5	
	comp=Z,310nm,1.0s						
CNGN	**Cerro Negro**	**3.07**	**104**	*i* P	**Pn**	**23 51 17.3**	**+0.6**
CNGN				IAML		23 52 06.4	
	comp=Z,300nm,1.0s						
NISHN	**Nisperales Com**	**3.09**	**36**	*i* P	**Pn**	**23 51 16.9**	**0.0**
MOMN	**Momotombo**	**3.25**	**105**	*i* P	**Pn**	**23 51 20.8**	**+1.7**
COPN	**Copaltepe**	**3.27**	**109**	*i* P	**Pn**	**23 51 20.0**	**+0.6**

*IDC **10** 00:16:21.5±5.7,6°.16N×126°.85E,h99^{km}±45^{km}, mb3.4/8, mbtmp3.8/8,MS3.1/1,Error ellipse: s-maj=168.0km s-min=15.3km az=66.0*

ISC 10 00:16:21.7±1.1,6°.2N±0°.2×126°.8E±0°.4,h100^{km},n10, σ0°.82/10,mb3.9/8,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.52**	**306**	P	**Pn**	**00 16 48.3**	**0.0**
	99nm,0.3s,baz=230,slow=5.5,SNR=2.2						
DAV				S	Sn	00 17 18.4	+10
	249nm,0.5s,baz=291,slow=23,SNR=18						
WRA	**Warramunga Arr**	**26.98**	**164**	P	**P**	**00 21 52.3**	**-2.0**
	0.8nm,1.1s,baz=346,slow=10,SNR=2.8 0.8nm,1.1s						
JHJ	**Hachijo jima 2**	**29.40**	**23**	LR	LR	00 34 39.5	
	comp=Z,35nm,20.2s,baz=96,slow=37						
ASAR	**Alice Springs**	**30.45**	**167**	P	**P**	**00 22 25.2**	**+0.2**
	0.2nm,0.3s,baz=345,slow=7.0,SNR=3.9 0.2nm,0.3s						
STKA	**Stephens Creek**	**40.38**	**160**	P	**P**	**00 23 50.6**	**+0.7**
	0.9nm,0.4s,baz=342,slow=11,SNR=3.8 0.9nm,0.4s						
SONM	**Songino Array**	**45.03**	**341**	P	**P**	**00 24 27.3**	**-0.1**
	0.2nm,0.4s,baz=150,slow=7.7,SNR=2.4 0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.63**	**324**	P	**P**	**00 25 47.5**	**+0.2**
	0.5nm,0.4s,baz=118,slow=7.0,SNR=21						
MKAR				PcP	**PcP**	**00 26 45.9**	**+0.2**
	0.3nm,0.6s,baz=116,slow=4.4,SNR=2.3 0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**58.48**	**332**	P	**P**	**00 26 07.1**	**0.0**
	0.5nm,0.3s,baz=135,slow=8.6,SNR=4.3 0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**59.76**	**327**	P	**P**	**00 26 15.6**	**-0.4**
	0.7nm,0.5s,baz=124,slow=6.8,SNR=9.1 0.7nm,0.5s						
BVAR	**Borovoye Array**	**65.34**	**326**	P	**P**	**00 26 53.5**	**+0.3**
	0.8nm,0.7s,baz=123,slow=7.1,SNR=2.4 0.8nm,0.7s						

*TAP **10** 00:29:28.4,24°.75N×122°.37E,h112^{km}, ML3.4,C*
*JMA **10** 00:29:28.8±0.1,25°.N±1°.×122°.4E±0°.3,h109^{km}±1^{km}, MV2.3/14,NW OFF ISHIGAKIJIMA IS*

ISC 10 00:29:29.2±1.5,24°.71N±0°.05×122°.42E±0°.03,h104^{km}±6^{km}, n73,σ0°.62/118,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.33**	**211**	*e*P	**Pn**	**00 29 44.9**	**+0.7**
	baz=214						
EOS2				S	**Sn**	**00 29 56.9**	**+1.4**
	baz=214						
EOS3	**EOS3**	**0.43**	**193**	*e*P	**Pn**	**00 29 45.5**	**+0.7**
	baz=195						
TWB1	**Santiao Chiao**	**0.49**	**308**	*e*P	**Pn**	**00 29 45.0**	**-0.4**
	baz=301						
TWC	**Suao**	**0.53**	**260**	*e*P	**Pn**	**00 29 45.2**	**-0.4**
	baz=253						
JYNG	**Yonagunijimaku**	**0.54**	**118**	P	**Pn**	**00 29 45.6**	**0.0**
JYNG				S	**Sn**	**00 29 58.2**	**+0.2**
EOS4	**EOS4**	**0.59**	**189**	P	**Pn**	**00 29 45.6**	**-0.1**
	baz=189						
YOJ	**Yonaguni jima**	**0.59**	**114**	P	**Pn**	**00 29 46.1**	**0.0**
YOJ				*e*S	**Sn**	**00 29 59.2**	**+0.5**
TIPB	**Shuangxi**	**0.60**	**296**	*i* P	**Pn**	**00 29 45.9**	**-0.3**
	baz=291						
TIPB				*i* S	**Sn**	**00 29 58.3**	**-0.6**
	baz=291						
EWUT	**Wuta**	**0.64**	**246**	P	**Pn**	**00 29 46.5**	**+0.1**
	baz=241						
EWUT				*i* S	**Sn**	**00 29 59.6**	**+0.2**
	baz=241						
NDS	**Dongshan**	**0.65**	**264**	P	**Pn**	**00 29 46.5**	**0.0**
	baz=259						
NDS				*e*S	**Sn**	**00 29 59.3**	**-0.2**
	baz=259						
ENA	**Nanau**	**0.68**	**246**	P	**Pn**	**00 29 46.9**	**+0.1**
	baz=240						
ENA				S	**Sn**	**00 30 00.3**	**+0.3**
	baz=240						
EAHA	**Aohua**	**0.72**	**239**	*i* P	**Pn**	**00 29 47.2**	**0.0**
	baz=227						
EAHA				*i* S	**Sn**	**00 30 01.3**	**+0.6**
	baz=227						
FUSB	**Fushanzhiwuyua**	**0.76**	**274**	P	**Pn**	**00 29 47.3**	**-0.3**
	baz=276						
ENTT	**Nioudou**	**0.78**	**265**	*e*P	**Pn**	**00 29 47.8**	**0.0**
	baz=263						
ENTT				*e*S	**Sn**	**00 30 02.0**	**+0.4**
	baz=263						
LATG	**Datong**	**0.83**	**258**	P	**Pn**	**00 29 48.6**	**+0.2**
	baz=249						
LATG				*i* S	**Sn**	**00 30 03.1**	**+0.4**
	baz=249						
NDT	**Datong Townshi

	baz=265							
LIOB				eS		Sn	00 30 10.6	-0.5
	baz=265							
NSTT	**Nanjuang**	**1.29**	**267**	eS		Sn	00 30 10.8	-0.6
	baz=264							
CHGB	**Renai**	**1.31**	**241**	eP		Pn	00 29 53.8	+0.2
	baz=232							
CHGB				eS		Sn	00 30 11.7	-0.3
	baz=232							
OWD	**Renai**	**1.36**	**237**	eS		Sn	00 30 12.4	-0.6
	baz=230							
WARBT	**Fenglin Townsh**	**1.36**	**224**	eP		Pn	00 29 52.8	-1.3
	baz=227							
WARBT				eS		Sn	00 30 11.2	-1.7
	baz=227							
EGFH	**Guangfu**	**1.37**	**222**	eS		Sn	00 30 12.1	-0.9
	baz=227							
WUSB	**Renai**	**1.39**	**239**	eP		Pn	00 29 54.8	+0.3
	baz=232							
WUSB				eS		Sn	00 30 13.4	-0.1
	baz=232							
WHP	**Taichung City**	**1.41**	**253**	P		Pn	00 29 55.4	+0.7
	baz=258							
WHP				S		Sn	00 30 14.3	+0.4
	baz=258							
HATJ	**Hateruma jima**	**1.42**	**117**	eS		Sn	00 30 14.0	0.0
NMLH	**Miaoli**	**1.49**	**264**	eP		Pn	00 29 55.5	-0.1
	baz=261							
NMLH				eS		Sn	00 30 15.6	0.0
	baz=261							
VWDT	**VWDT**	**1.50**	**231**	eP		Pn	00 29 55.9	+0.2
	baz=224							
VWDT				eS		Sn	00 30 15.4	-0.4
	baz=224							
HGSD	**Ruisui**	**1.51**	**217**	eP		Pn	00 29 55.4	-0.5
	baz=210							
HGSD				eS		Sn	00 30 16.0	0.0
	baz=210							
WCS	**Beigang Elemen**	**1.52**	**245**	eP		Pn	00 29 56.6	+0.7
	baz=238							
WCS				eS		Sn	00 30 16.7	+0.5
	baz=238							
JKRS	**Kuro-shima**	**1.52**	**108**	S		Sn	00 30 16.6	+0.4
EHY	**Hungye**	**1.56**	**220**	eP		Pn	00 29 56.5	+0.1
	baz=224							
JIJ	**Ishigaki jima**	**1.60**	**102**	P		Pn	00 29 56.8	-0.2
JIJ				S		Sn	00 30 17.2	-0.9
SMLT	**Sun Moon Lake**	**1.61**	**240**	eP		Pn	00 29 57.7	+0.5
	baz=233							
SMLT				eS		Sn	00 30 19.5	+1.1
	baz=233							
SSLB	**Suanglung**	**1.62**	**236**	eP		Pn	00 29 57.8	+0.6
	baz=230							
SSLB				eS		Sn	00 30 18.9	+0.5
	baz=230							
TYC	**Yuchr**	**1.63**	**241**	eP		Pn	00 29 58.0	+0.7
	baz=235							
TYC				eS		Sn	00 30 19.4	+0.7
	baz=235							
YULB	**Yu-li**	**1.66**	**218**	eP		Pn	00 29 57.0	-0.7
	baz=223							
YULB				eS		Sn	00 30 17.4	-2.0
	baz=223							
TWF1	**Yuli**	**1.69**	**218**	eP		Pn	00 29 58.5	+0.3
	baz=221							
JISG	**Ishigakijimahi**	**1.72**	**94**	P		Pn	00 29 58.5	0.0
JISG				S		Sn	00 30 20.1	-0.6
WHYT	**Xinyi Township**	**1.75**	**235**	eP		Pn	00 29 59.8	+1.0
	baz=227							
WHYT				S		Sn	00 30 22.7	+1.4
	baz=227							
CHKH	**Chenggong**	**1.77**	**212**	eS		Sn	00 30 20.6	-1.2
	baz=205							
FULB	**Fuli**	**1.82**	**215**	eS		Sn	00 30 22.2	-0.7
	baz=221							
ALS	**Alishan**	**1.90**	**231**	eP		Pn	00 30 01.8	+0.8
	baz=223							
ALS				eS		Sn	00 30 26.7	+1.7
	baz=223							
EHD	**Haiduan**	**1.91**	**216**	eP		Pn	00 30 00.9	+0.1
	baz=213							
CHN5	**Tsauling**	**1.94**	**236**	eP		Pn	00 30 02.0	+0.8
	baz=243							
EDH	**Donghe**	**2.00**	**211**	eS		Sn	00 30 25.5	-1.6
	baz=205							
JTJ	**Tarama**	**2.08**	**91**	P		Pn	00 30 03.4	+0.4
JTJ				S		Sn	00 30 28.9	+0.2
WCKO	**Fanlu**	**2.08**	**233**	eP		Pn	00 30 03.6	+0.6
	baz=240							
WTK	**Tuku**	**2.11**	**242**	eS		Sn	00 30 29.4	-0.2
	baz=239							
STYH	**Taoyuan**	**2.15**	**225**	eP		Pn	00 30 04.3	+0.4
	baz=222							
CHN4	**Tsaushan**	**2.15**	**231**	eP		Pn	00 30 04.2	+0.4
	baz=239							
CHN4				eS		Sn	00 30 30.6	+0.2
	baz=239							
WTP	**Ta-pu**	**2.20**	**229**	eP		Pn	00 30 05.2	+0.6
	baz=238							
TWK	**Hsinying**	**2.27**	**231**	eP		Pn	00 30 06.0	+0.4
	baz=239							
CHN1	**Nanshi**	**2.30**	**229**	eP		Pn	00 30 06.4	+0.6
	baz=238							
SGST	**Jiashian**	**2.33**	**227**	eP		Pn	00 30 06.8	+0.5
	baz=224							

*TRN **10** 00:52:03.2, 10˚.79N×62˚.49W, h63km, MD3.5*
*FUNV **10** 00:52:04.4, 10˚.80N×62˚.23W, h94km, MW3.5*
ISC 10 00:52:01.9±1.7, 10˚.78N±0˚.07×62˚.32W±0˚.05, h115km±15km, n13, σ2s=205/21, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.91**	**264**	eP	**Pn**	**00 52 23.6**	**+1.1**
CRUV				eS	**Sn**	**00 52 37.6**	**-0.5**
TRN	**Trinidad (W)**	**0.91**	**98**	eP	**Pn**	**00 52 23.5**	**+0.9**
TRN				eS	**Sn**	**00 52 36.9**	**-1.3**
TBH	**Brigand Hill**	**1.27**	**103**	eP	**Pn**	**00 52 27.4**	**+1.1**
TBH				eS	**Sn**	**00 52 44.1**	**-0.8**
GRGR	**Grenville**	**1.50**	**26**	eP	**Pn**	**00 52 29.2**	**+0.2**
GRGR				eS	**Sn**	**00 52 48.0**	**-1.5**
GRHS	**Sauteurs**	**1.58**	**25**	eS	**Sn**	**00 52 49.9**	**-1.5**
GCMP	**Grenada, Carri**	**1.91**	**27**	eP	**Pn**	**00 52 34.8**	**+0.8**
GCMP				eS	**Sn**	**00 52 57.1**	**-1.4**
PCRV	**Puerto La Cruz**	**2.36**	**255**	eP	**Pn**	**00 52 41.3**	**+1.6**
PCRV				eS	**Sn**	**00 53 09.0**	**+0.3**
SVOC	**Richmond Hill,**	**2.59**	**24**	eS	**Sn**	**00 53 14.7**	**+0.6**
TACV	**Tcata**	**4.67**	**263**	eP	**Pn**	**00 53 12.5**	**+2.1**
TACV				eS	**Sn**	**00 54 02.7**	**-1.0**
CACV	**CAICARA DEL OR**	**5.25**	**233**	eP	Pn	00 53 14.8	-3.4
CACV				eS	Sn	00 54 07.3	-10
BENV	**Beln**	**5.26**	**262**	eP	**Pn**	**00 53 20.5**	**+2.2**
BENV				eS	**Sn**	**00 54 16.2**	**-1.7**
BAUV	**El Baul**	**5.93**	**253**	eP	**Pn**	**00 53 28.8**	**+1.4**
BAUV				eS	**Sn**	**00 54 31.6**	**-2.4**
BAUV	**El Baul**	**5.93**	**253**	eS	**Sn**	**00 54 28.1**	**-5.9**

*DJA **10** 00:57:57.4±0.8, 10˚.5±6˚×11˚.9E±˚, h13km±6km, M4.0/13, mb4.4/3, MLv3.9/13*
*IDC **10** 00:58:02.9±5.8, 10˚.01S×119˚.92E, h120km±47km, mb3.5/3, mbtmp3.6/6, MS2.4/1, Error ellipse: s-maj=86.6km s-min=14.0km az=54.0*
ISC 10 00:57:48.1±0.9, 10˚.54S±0˚.07×118˚.90E±0˚.05, h10km, n18, σ2s=29/22, mb4.0/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.01**	**28**	P	**Pg**	**00 58 06.2**	**-1.4**
BASI	**Baing, Sumba**	**1.68**	**79**	P	**Pg**	**00 58 21.1**	**+0.7**
BASI				S	**Sb**	**00 58 40.4**	**0.0**
PLAI	**Plampang**	**2.03**	**327**	P	**Pg**	**00 58 27.3**	**+0.2**
DBNI	**Kabupaten Domp**	**2.10**	**344**	P	**Pg**	**00 58 27.7**	**-0.8**
TWSI	**Taliwang, Sumb**	**2.68**	**312**	P	**Pg**	**00 58 39.1**	**-0.4**
TWSI				S	**Sg**	**00 59 12.2**	**-2.0**
EDFI	**Ende, Flores**	**3.27**	**57**	P	**Pn**	**00 58 40.2**	**+0.6**
MMRI	**Maumere**	**3.79**	**60**	P	**Pn**	**00 58 48.7**	**+2.0**
IGBI	**Denpasar**	**4.08**	**294**	P	**Pb**	**00 59 01.5**	**+1.4**
DNP	**Denpasar**	**4.08**	**297**	P	**Pb**	**00 58 59.8**	**-0.4**
JAGI	**Jajag, Banyuwa** 23nm,1.5s,0.1nm	**5.12**	**293**	P	**Pb**	**00 59 15.6**	**-2.2**
BKSI	**Bulukumba**	**5.32**	**13**	P	**Pn**	**00 59 09.1**	**+1.4**
KAPI	**Kappang** 5.8nm,0.4s,baz=180,slow=12,SNR=5.6	**5.55**	**9**	P	**Pn**	**00 59 14.3**	**+3.4**
KAPI				S	**Sn**	**01 00 12.6**	**-2.2**
	5.2nm,0.4s,baz=199,slow=22,SNR=1.4						
KAPI				LR	LR	01 01 14.4	
	comp=Z,36nm,18.6s,baz=210,slow=39						
PMSI	**Majene**	**6.99**	**0**	P	**Pn**	**00 59 32.7**	**+2.0**
WRA	**Warramunga Arr**	**17.57**	**124**	P	**P**	**01 01 54.9**	**+0.5**
	0.4nm,1.0s,baz=294,slow=14,SNR=7.1						
WRA				S	Sn	01 04 58.1	-11
	0.4nm,0.6s,baz=306,slow=25,SNR=2.0						
ASAR	**Alice Springs**	**19.37**	**134**	P	**Pn**	**01 02 16.9**	**+1.6**
	0.1nm,0.3s,baz=310,slow=11,SNR=1.7						
ASAR				S	**Sn**	**01 05 45.6**	**-7.1**
	0.2nm,0.3s,baz=314,slow=24,SNR=1.5						
MKAR	**Makanchi Array**	**65.78**	**333**	P	**P**	**01 08 35.3**	**+1.9**
	0.5nm,0.7s,baz=144,slow=7.4,SNR=6.6						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**70.30**	**334**	P	**P**	**01 09 03.1**	**+1.4**
	0.5nm,0.2s,baz=146,slow=4.7,SNR=2.1						
	0.5nm,0.2s						
ZALV	**Zalesovo Beam**	**70.44**	**339**	P	**P**	**01 09 02.6**	**+0.2**
	0.5nm,0.5s,baz=152,slow=6.5,SNR=2.8						
	0.5nm,0.5s						

*NOU **10** 01:03:45.2, 30˚.85S×176˚.86W, h63km, mb5.3/56, Kermadec Islands Region*
*NEIC **10** 01:03:50.5±1.6, 30˚.52S±0˚.07×177˚.9W±0˚.1, h67km±5km, mb5.2/66, Error ellipse: s-maj=16.1km s-min=9.9km az=84.0*
*BJI **10** 01:03:50.4±0.0, 30˚.68S×177˚.76W, h84km, mb5.0/19, mB5.9/10*
*MOS **10** 01:03:51.0±1.0, 30˚.37S×177˚.94W, h84km, mb5.2/15, Error ellipse: s-maj=12.1km s-min=11.3km az=108.3*
*GCMT **10** 01:03:52.5±0.2, 30˚.44S±0˚.01×177˚.67W±0˚.01, h87km±2km, MW5.2/102, Moment Tensor Solution. s75,c104; s102,c157; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.80±.21; Mθθ=3.56±.20; Mϕϕ=4.36±.20; Mrθ=1.27±.14; Mrϕ=2.71±.21; Mθϕ=6.00±.11; Best double couple: M₀7.00000×10¹⁶ NP1:ϕs=170.00000°, δ84.00000°, λ=-122.00000°. NP2:ϕs=71.00000°, δ32.00000°, λ=-10.00000°. Principal axes: T 9.0100, Plg32.0000°, Azm286.0000°; N -4.0190, Plg32.0000°, Azm173.0000°; P -4.9900, Plg42.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **10** 01:03:53.1±0.5, 30˚.29S×178˚.01W, h89km±4km, mb4.5/16, mbtmp4.8/17, MS4.0/36 Error ellipse: s-maj=12.6km s-min=8.5km az=96.0*
ISC 10 01:03:50.6±0.3, 30˚.58S±0˚.03×177˚.83W±0˚.04, h73km±2km, h73km:pP-P, n475, σ1s79/472, mb5.2/76, 9C-8D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.31**	**356**	P	**Pn**	**01 04 12.4**	**-0.8**
GLKZ				S	**Sn**	**01 04 28.0**	**-2.2**
RAO	**Raoul Island**	**1.32**	**356**		**Pn**	**01 04 12.6**	**-0.7**
RAO				Sn	**Sn**	**01 04 27.9**	**-2.5**
RAO	**Raoul Island**	**1.32**	**356**	P	**Pn**	**01 04 13.1**	**-0.2**
RAO	**Raoul Island**	**1.32**	**356**	P	**Pn**	**01 04 12.6**	**-0.7**
RAO						01 04 28.0	
RAO	**Raoul Island**	**1.32**	**356**	P	**Pn**	**01 04 12.7**	**-0.7**
	22µm,0.4s,baz=164,slow=3.5,SNR=346						
RAO				LR	LR	01 04 28.4	
	comp=Z,2µm,18.7s,baz=62,slow=34						
RAO				S	**Sn**	**01 04 28.5**	**-1.9**
	36µm,0.3s,baz=86,slow=20,SNR=19						
RIZ	**Raoul Island**	**1.33**	**356**	P	**Pn**	**01 04 12.9**	**-0.5**
RIZ				S	**Sn**	**01 04 28.8**	**-1.8**
MXZ	**Matakaoa Point**	**7.67**	**204**	Pn	**Pn**	**01 05 36.1**	**-3.4**
HAZ	**Te Kaha**	**8.03**	**206**	P	**Pn**	**01 05 43.2**	**-1.3**
HAZ				S	**Sn**	**01 07 16.2**	**+2.5**
PKGZ	**Pakihiroa**	**8.04**	**204**	P	**Pn**	**01 05 41.9**	**-2.7**
PKGZ				S	**Sn**	**01 07 13.6**	**-0.5**
PUZ	**Puketiti**	**8.15**	**202**	P	**Pn**	**01 05 43.8**	**-2.3**
PUZ				S	**Sn**	**01 07 15.7**	**-0.9**
RUGZ	**Raukumara Rang**	**8.25**	**206**	P	**Pn**	**01 05 44.9**	**-2.7**
RUGZ				S	**Sn**	**01 07 18.8**	**-0.6**
TWGZ	**Tauwhareparae**	**8.33**	**203**	P	**Pn**	**01 05 46.2**	**-2.5**
TWGZ				S	**Sn**	**01 07 21.9**	**+0.7**
WHRZ	**Whale Island**	**8.44**	**209**	P	**Pn**	**01 05 48.3**	**-1.8**
WHRZ				S	**Sn**	**01 07 25.4**	**+1.7**
WCZ	**Waipu Caves**	**8.46**	**229**	P	**Pn**	**01 05 53.3**	**+3.0**
CNGZ	**Carnagh Statio**	**8.54**	**201**	P	**Pn**	**01 05 48.4**	**-2.9**
CNGZ				S	**Sn**	**01 07 25.0**	**-1.1**
OUZ	**Omahuta**	**8.57**	**235**	P	Pn	01 05 55.7	+3.9
OUZ	**Omahuta**	**8.57**	**235**	P	Pn	01 05 57.0	+5.2
OPRZ	**Ohinepanea**	**8.61**	**211**	P	**Pn**	**01 05 51.3**	**-1.1**
OPRZ				S	**Sn**	**01 07 29.7**	**+1.9**
TKGZ	**Te Karaka**	**8.62**	**203**	P	**Pn**	**01 05 49.4**	**-3.0**
TKGZ				S	**Sn**	**01 07 26.0**	**-2.0**
MWZ	**Matawai**	**8.63**	**205**	P	**Pn**	**01 05 49.2**	**-3.5**
MWZ				S	**Sn**	**01 07 28.8**	**+0.3**
URZ	**Urewera**	**8.73**	**207**	P	**Pn**	**01 05 51.1**	**-2.9**
URZ	**Urewera**	**8.73**	**207**	P	**Pn**	**01 05 50.5**	**-3.4**
	20nm,0.3s,baz=18,slow=3.2,SNR=132						
URZ				S	**Sn**	**01 07 27.7**	**-3.0**
	291nm,0.5s,baz=268,slow=22,SNR=32						
URZ	**Urewera**	**8.73**	**207**	P	**Pn**	**01 05 51.0**	**-3.0**
URZ				S	**Sn**	**01 07 28.9**	**-1.8**
RAGZ	**Rawiri**	**8.82**	**205**	P	**Pn**	**01 05 51.7**	**-3.6**
RAGZ				S	**Sn**	**01 07 31.3**	**-1.8**
RIGZ	**Rimuhau**	**8.88**	**203**	P	**Pn**	**01 05 53.5**	**-2.7**
RIGZ				S	**Sn**	**01 07 33.3**	**-1.3**
KARZ	**Kaharoa**	**8.90**	**212**	P	**Pn**	**01 05 57.1**	**+0.8**
KARZ				S	**Sn**	**01 07 37.5**	**+2.6**
TARZ	**Mount Tarawera**	**8.96**	**210**	P	**Pn**	**01 05 57.7**	**+0.5**
TARZ				S	**Sn**	**01 07 37.8**	**+1.3**
PRGZ	**Paritu Road**	**9.04**	**202**	P	**Pn**	**01 05 54.3**	**-4.0**
PRGZ				S	**Sn**	**01 07 35.3**	**-3.2**
MUGZ	**Murupara**	**9.05**	**208**	P	**Pn**	**01 05 55.0**	**-3.4**
MUGZ				S	**Sn**	**01 07 36.8**	**-1.9**
RTZ	**Ruatahuna**	**9.09**	**207**	P	**Pn**	**01 05 55.4**	**-3.5**
RTZ				S	**Sn**	**01 07 38.6**	**-1.1**
SNGZ	**Shannon Statio**	**9.10**	**205**	P	**Pn**	**01 05 56.9**	**-2.1**
SNGZ				S	**Sn**	**01 07 38.4**	**-1.4**
KNZ	**Kokohu**	**9.20**	**202**	P	**Pn**	**01 05 55.8**	**-4.6**
KNZ				S	**Sn**	**01 07 40.3**	**-1.9**
RAHZ	**Arahi**	**9.31**	**205**	P	**Pn**	**01 05 58.9**	**-3.0**
RAHZ				S	**Sn**	**01 07 40.2**	**-4.9**
MTHZ	**Maungataniwha**	**9.35**	**207**	P	**Pn**	**01 05 59.4**	**-3.1**
MTHZ				S	**Sn**	**01 07 43.1**	**-2.9**
WHHZ	**Waihua**	**9.40**	**204**	P	**Pn**	**01 06 00.9**	**-2.3**
WHHZ				S	**Sn**	**01 07 45.1**	**-2.0**
TLZ	**Tolley Road**	**9.47**	**214**	P	**Pn**	**01 06 05.1**	**+0.9**
MRHZ	**Matea Rd**	**9.50**	**208**	P	**Pn**	**01 06 01.5**	**-3.1**
MRHZ				S	**Sn**	**01 07 46.6**	**-3.1**
NMHZ	**Naumai**	**9.57**	**206**	P	**Pn**	**01 06 02.4**	**-3.2**
NMHZ				S	**Sn**	**01 07 49.1**	**-2.4**
ARHZ	**Aropaoanui**	**9.65**	**205**	P	**Pn**	**01 06 02.6**	**-4.0**
BKZ	**Black Stump Fm**	**9.75**	**207**	P	**Pn**	**01 06 04.3**	**-3.7**
BKZ	**Black Stump Fm**	**9.75**	**207**	P	**Pn**	**01 06 03.9**	**-4.1**
MCHZ	**McNeill Hill**	**9.92**	**205**	P	**Pn**	**01 06 06.3**	**-4.0**
CKHZ	**Cape Kidnapper**	**9.97**	**203**	P	Pn	01 06 06.1	-4.8
KWHZ	**Kaweka Forest**	**10.00**	**207**	P	Pn	01 06 06.7	-4.7
NTVZ	**North Tongariro**	**10.04**	**210**	P	**Pn**	**01 06 09.3**	**-2.6**
KRVZ	**Karewarewa**	**10.05**	**211**	P	**Pn**	**01 06 11.0**	**-1.1**
ETVZ	**East Tongariro**	**10.05**	**210**	P	**Pn**	**01 06 09.5**	**-2.7**
WTVZ	**West Tongariro**	**10.09**	**211**	P	**Pn**	**01 06 09.7**	**-3.0**
TWVZ	**Taurewa**	**10.12**	**211**	P	**Pn**	**01 06 11.5**	**-1.5**
NGZ	**Ngauruhoe**	**10.13**	**210**	P	**Pn**	**01 06 10.6**	**-2.7**
KAHZ	**Kahuranaki**	**10.16**	**204**	P	Pn	01 06 08.7	-4.9
TUVZ	**Tukino**	**10.19**	**210**	P	**Pn**	**01 06 13.9**	**-0.1**
BHHZ	**Black Hill Sta**	**10.20**	**208**	P	**Pn**	**01 06 09.9**	**-4.2**
KRHZ	**Kereru**	**10.21**	**206**	P	Pn	01 06 09.0	-5.3
MAVZ	**Matarangi**	**10.22**	**210**	P	**Pn**	**01 06 12.9**	**-1.8**
TRVZ	**Turoa**	**10.26**	**210**	P	**Pn**	**01 06 12.4**	**-2.7**
WNVZ	**Wahianoa**	**10.26**	**210**	P	**Pn**	**01 06 11.3**	**-3.7**
MOVZ	**Moawhango**	**10.26**	**209**	P	**Pn**	**01 06 10.7**	**-4.3**
PKVZ	**Pokaka**	**10.34**	**211**	P	**Pn**	**01 06 14.6**	**-1.4**
PNHZ	**Pukenui**	**10.51**	**206**	P	Pn	01 06 12.7	-5.7
WPHZ	**Waipukurau**	**10.56**	**205**	P	Pn	01 06 14.0	-4.9
PRHZ	**Porangahau**	**10.67**	**204**	P	Pn	01 06 14.6	-5.9
TSZ	**Takapari Road**	**10.73**	**206**	P	Pn	01 06 15.8	-5.5
DVHZ	**Dannevirke**	**10.86**	**205**	P	Pn	01 06 17.7	-5.4
ANWZ	**Angora Road**	**10.89**	**204**	P	Pn	01 06 17.8	-5.7
BFZ	**Birch Farm**	**11.17**	**204**	P	**Pn**	**01 06 23.2**	**-4.1**
BFZ	**Birch Farm**	**11.17**	**204**	P	Pn	01 06 21.1	-6.2
NFK	**Norfolk Island**	**12.46**	**273**	P	**Pn**	**01 06 47.1**	**+2.2**
	baz=13,SNR=3.6						
NFK	**Norfolk Island**	**12.46**	**273**	P	**P**	**01 06 51.5**	**-2.5**
	672nm,0.9s						
TKNZ	**Takaka Hill**	**12.83**	**213**	Pn	Pn	01 06 42.6	-7.2
QRZ	**Quartz Range**	**12.87**	**215**	P	**Pn**	**01 06 47.7**	**-2.8**
CTZ	**Chatham Island**	**13.17**	**176**	Pn	**Pn**	**01 06 53.0**	**-1.4**
NIUE	**Niue**	**13.50**	**34**	P	Pn	01 06 52.5	-6.5
	baz=13,SNR=10						
KHZ	**Kahutara**	**13.69**	**208**	Pn	Pn	01 06 53.4	-7.9
DGTI	**Dogotuki**	**14.39**	**351**	P	**Pn**	**01 07 12.5**	**+1.9**
PINNC	**Pines Island,**	**15.37**	**298**	P	**P**	**01 07 25.6**	**-0.7**
PINNC	**Pines Island,**	**15.37**	**298**	P	**P**	**01 07 30.6**	**+4.3**
RPZ	**Rata Peaks**	**15.81**	**211**	P	**Pn**	**01 07 26.5**	**-2.2**
RPZ	**Rata Peaks**	**15.81**	**211**	P	Pn	01 07 20.6	-8.1
	12nm,0.6s,baz=237,slow=3.7,SNR=12						
RPZ				S	Sn	01 10 06.4	-17
	34nm,0.5s,baz=302,slow=22,SNR=13						
RPZ				LR	LR	01 12 52.4	
	comp=Z,104nm,19.6s,baz=43,slow=34						
OUENC	**Ouen Island, N**	**15.94**	**297**	P	**P**	**01 07 31.7**	**-1.0**
OUENC	**Ouen Island, N**	**15.94**	**297**	P	**P**	**01 07 37.5**	**+4.8**
YATNC	**Mamie plateau,**	**16.10**	**298**	P	**P**	**01 07 38.8**	**+4.3**
ONTNC	**Ouen Toro**	**16.30**	**297**		**P**	**01 07 38.4**	**+1.7**
ONTNC	**Ouen Toro**	**16.30**	**297**	P	**P**	**01 07 40.3**	**+3.6**
	0.4nm,1.0s						
DZM	**Mont Dzumac**	**16.44**	**297**		**P**	**01 07 39.8**	**+1.4**
DZM	**Mont Dzumac**	**16.44**	**297**	P	**P**	**01 07 42.2**	**+3.9**
DZM	**Mont Dzumac**	**16.44**	**297**	LR	LR	01 13 03.5	
	comp=Z,635nm,18.5s,baz=110,slow=34						
NOUC	**Port Laguerre**	**16.53**	**297**	P	**P**	**01 07 42.9**	**+3.7**
ODZ	**Otahua Downs**	**17.05**	**209**	P	**Pn**	**01 07 40.5**	**-3.6**
JCZ	**Jackson Bay**	**17.14**	**214**	P	**Pn**	**01 07 43.8**	**-1.5**
AFI	**Afiamalu**	**17.50**	**20**	P	**Pn**	**01 07 45.4**	**-4.5**
	320nm,1.1s						
RAR	**Rarotonga**	**18.71**	**64**	P	**Pn**	**01 08 04.6**	**+0.2**
	40nm,0.8s,baz=200,slow=15,SNR=7.6						
RAR				S	S	01 11 12.0	-20
	79nm,0.6s,baz=91,slow=18,SNR=9.6						
RAR				LR	LR	01 13 40.2	
	comp=Z,475nm,20.8s,baz=214,slow=31						
KOUNC	**Koumac, New Ca**	**18.95**	**298**	P	**P**	**01 08 05.1**	**-0.9**
KOUNC				IAmb	IAmb	01 08 12.3	
	comp=Z,520nm,1.9s						
KOUNC	**Koumac, New Ca**	**18.95**	**298**	P	**Pn**	**01 08 09.2**	**+1.9**
LHI	**Lord Howe Isla**	**19.82**	**261**	P	**Pn**	**01 08 17.9**	**+0.4**
	baz=20,SNR=5.0						
LHI	**Lord Howe Isla**	**19.82**	**261**	P	**Pn**	**01 08 19.5**	**+2.0**
GC1S	**Gold Coast 1 S**	**25.07**	**268**	P	**P**	**01 09 12.0**	**+3.8**
ARMA	**Armidale**	**26.28**	**262**	P	**P**	**01 09 21.7**	**+2.3**
	baz=27,SNR=19						
ARMA	**Armidale**	**26.28**	**262**	P	**P**	**01 09 21.7**	**+2.3**
ARMA	**Armidale**	**26.28**	**262**	P	**P**	**01 09 23.0**	**+3.6**
MGCD	**Mangrove Creek**	**26.46**	**256**	P	**P**	**01 09 23.2**	**+2.4**
	baz=27,SNR=20						
MGCD	**Mangrove Creek**	**26.46**	**256**	P	**P**	**01 09 24.4**	**+3.6**
WOLH	**Wollongong Har**	**26.62**	**253**	P	**P**	**01 09 25.7**	**+3.5**
SYDH	**Sydney Hard Ro**	**26.74**	**255**	P	**P**	**01 09 26.8**	**+3.5**
AUPHS	**Peel High Scho**	**26.82**	**261**	P	**P**	**01 09 27.3**	**+3.2**
EIDS	**Eidsvold**	**27.89**	**273**	P	**P**	**01 09 35.5**	**+1.8**
	baz=28,SNR=9.5						
EIDS	**Eidsvold**	**27.89**	**273**	P	**P**	**01 09 33.9**	**+0.2**
EIDS	**Eidsvold**	**27.89**	**273**	P	**P**	**01 09 35.8**	**+2.1**
AUDCS	**Dubbo College**	**28.62**	**258**	P	**P**	**01 09 43.4**	**+3.3**
PPT	**Papeete**	**28.77**	**70**	P	**P**	**01 09 42.1**	**+0.6**
	comp=Z,24nm,0.8s,baz=229,slow=20,SNR=3.8						
PPT				LR	LR	01 18 22.9	
	comp=Z,212nm,21.6s,baz=238,slow=30						
	comp=Z,24nm,0.8s						
RK1H	**Rockhampton Ha**	**29.06**	**277**	P	**P**	**01 09 46.7**	**+2.6**
GLAD	**Gladstone**	**29.43**	**240**	P	**P**	**01 09 48.7**	**+1.5**
AULRC	**Lightning Ridg**	**29.57**	**263**	P	**P**	**01 09 51.3**	**+2.7**
TAU	**Tasmania Unive**	**30.31**	**236**	P	**P**	**01 09 56.2**	**+1.3**
TAU				sP	**sP**	**01 10 20.8**	**+1.0**
TAU				PcP	**PcP**	**01 12 55.1**	**+1.6**
TAU				ScP	**ScP**	**01 16 30.9**	**+1.3**
TOO	**Toolangi**	**31.03**	**247**	P	**P**	**01 10 03.9**	**+2.5**
	baz=31,SNR=12						
TOO	**Toolangi**	**31.03**	**247**	P	**P**	**01 10 01.9**	**+0.4**
TOO				IAmb	IAmb	01 10 06.3	
	comp=Z,22nm,0.8s						
TOO	**Toolangi**	**31.03**	**247**	P	**P**	**01 10 04.2**	**+2.8**
TOO	**Toolangi**	**31.03**	**247**	P	**P**	**01 10 01.9**	**+0.4**
TOO				pmax	pmax		
	comp=Z,22nm,0.8s				

WRA Warramunga Arr 44.26 272 P **P** **01 11 52.4 -0.7**
comp=Z,64nm,0.8s,baz=111,slow=7.7,SNR=229
WRA PcP **PcP** **01 13 35.6 -0.9**
comp=Z,2.6nm,0.7s,baz=116,slow=3.6,SNR=1.7
WRA ScP **ScP** **01 17 22.5 +0.5**
comp=Z,2.5nm,0.8s,baz=113,slow=3.8,SNR=7.8
WRA S **S** **01 18 17.3 -4.3**
comp=Z,3.3nm,0.9s,baz=109,slow=14,SNR=4.6
WRA LR LR 01 28 44.6
comp=Z,308nm,21.0s,baz=106,slow=34
comp=Z,64nm,0.8s
WB0 Warramunga Arr 44.28 272 P **P** **01 11 52.3 -0.9**
WB0 IAmb IAmb 01 11 55.3
comp=Z,60nm,0.8s
FORT Forrest 46.15 255 P **P** **01 12 07.2 -0.6**
baz=46,SNR=11
FORT Forrest 46.15 255 P **P** **01 12 06.8 -1.0**
FORT IAmb IAmb 01 12 09.0
comp=Z,41nm,0.8s
FORT Forrest 46.15 255 P **P** **01 12 07.8 -0.1**
WRKA Warakurna 47.61 263 P **P** **01 12 18.4 -1.0**
baz=48,SNR=33
SBA Scott Base 47.87 184 P **P** **01 12 24.6 +4.0**
SBA IAmb IAmb 01 12 26.8
comp=Z,32nm,1.1s
SBA Scott Base 47.87 184 P **P** **01 12 24.6 +4.0**
SBA pmax pmax
comp=Z,32nm,1.1s
SBA Scott Base 47.87 184 P P 01 12 25.8 +5.2
VNDA Vanda 47.93 186 P **P** **01 12 23.3 +2.2**
VNDA Vanda 47.93 186 P **P** **01 12 24.0 +2.8**
VNDA Vanda 47.93 186 P **P** **01 12 23.9 +2.8**
comp=Z,3.2nm,0.7s,baz=5.5,slow=9.6,SNR=20
VNDA LR LR 01 28 20.4
comp=Z,55nm,21.9s,baz=24,slow=30
comp=Z,3.2nm,0.7s
VNDA Vanda 47.93 186 P **P** **01 12 24.8 +3.7**
VNDA pP **pwP** **01 12 42.1 -1.1**
VNDA sP **sP** **01 12 48.8 +2.7**
KDU Kakadu 49.09 280 P **P** **01 12 29.9 -1.0**
baz=49,SNR=6.0
MTN Manton Dam 50.16 279 P **P** **01 12 38.1 -0.8**
baz=50,SNR=3.6
MTN Manton Dam 50.16 279 P **P** **01 12 37.6 -1.4**
KNRA Kununurra 50.87 274 P **P** **01 12 44.3 0.0**
baz=51,SNR=7.6
KNRA Kununurra 50.87 274 P **P** **01 12 43.2 -1.1**
KMBL Kambalda 51.11 253 P **P** **01 12 45.3 -0.7**
baz=51,SNR=11
KMBL Kambalda 51.11 253 P **P** **01 12 45.4 -0.6**
FITZ Fitzroy Crossi 52.51 270 P **P** **01 12 56.2 -0.3**
baz=53,SNR=13
FITZ Fitzroy Crossi 52.51 270 P **P** **01 12 55.1 -1.4**
FITZ Fitzroy Crossi 52.51 270 P **P** **01 12 56.5 0.0**
CCD Concordia, Ant 52.82 196 P **P** **01 13 00.6 +2.1**
CCD sP **sP** **01 13 25.3 +1.6**
KLBR Kellerberrin 54.43 251 P **P** **01 13 09.6 -0.9**
baz=55,SNR=12
KLBR Kellerberrin 54.43 251 P **P** **01 13 09.3 -1.2**
NWAO Narrogin (SRO) 54.48 249 LR LR 01 35 28.2
comp=Z,156nm,19.3s,baz=74,slow=35
FAKI Fak Fak 54.54 290 P **P** **01 13 09.8 -1.6**
FAKI IAmb IAmb 01 15 10.8
comp=Z,35nm,1.3s
CASY Casey 55.05 208 P **P** **01 13 14.5 +0.1**
CASY Casey 55.05 208 P **P** **01 13 15.1 +0.7**
MEEK Meekatharra 55.29 257 P **P** **01 13 17.3 +0.5**
baz=56,SNR=3.8
MORW Morawa 56.62 253 P **P** **01 13 25.6 -0.6**
baz=57,SNR=6.8
MORW Morawa 56.62 253 P **P** **01 13 25.3 -0.9**
MORW IAmb IAmb 01 14 55.4
comp=Z,33nm,1.4s
NLAI Namlea 58.58 286 P **P** **01 13 39.3 -0.8**
comp=Z,10nm,0.9s,comp=Z,2μm
RPN Rapa Nui 59.24 105 LR LR 01 32 30.0
comp=Z,79nm,20.0s,baz=297,slow=29
QSPA South Pole Qui 59.53 180 P **P** **01 13 48.6 +2.5**
comp=Z,32nm,1.1s,baz=35,slow=5.0,SNR=40
comp=Z,32nm,1.1s
QSPA South Pole Qui 59.53 180 P **P** **01 13 49.2 +3.0**
QSPA sP **sP** **01 14 13.3 +1.9**
SANI Sanana 60.16 287 P **P** **01 13 50.0 -1.0**
comp=Z,22nm,0.7s
KAPI Kappang 63.79 280 LR LR 01 40 26.7
comp=Z,107nm,21.6s,baz=110,slow=34
GTOI Gorontalo 64.12 287 P **P** **01 14 17.2 -0.3**
comp=Z,12nm,0.6s,comp=Z,177nm
DAV Davao City (W) 65.84 295 LR LR 01 41 37.5
comp=Z,32nm,21.8s,baz=122,slow=34
MPSI Mapaga 66.53 285 P **P** **01 14 31.7 -1.4**
comp=Z,18nm,0.9s
UGM Wanagama 70.23 272 P **P** **01 14 55.8 -0.5**
KPJI Karang Pucung 71.89 272 P **P** **01 15 05.8 -0.5**
comp=Z,29nm,0.8s,comp=Z,130μm
PMSA Palmer Station 72.04 156 LR LR 01 40 39.8
comp=Z,149nm,18.5s,baz=190,slow=30
MAW Mawson 72.19 201 P **P** **01 15 10.0 +2.8**
baz=72,SNR=7.5
MAW Mawson 72.19 201 P **P** **01 15 07.9 +0.7**
MAW Mawson 72.19 201 P **P** **01 15 08.9 +1.7**
comp=Z,15nm,0.8s,baz=129,slow=9.8,SNR=8.4
MAW LR LR 01 45 18.2
comp=Z,77nm,19.4s,baz=106,slow=34
comp=Z,15nm,0.8s
BBJI Bungbulang 72.93 271 P **P** **01 15 11.6 -1.0**
comp=Z,62nm,0.8s
LEM Lembang 73.27 272 LR LR 01 48 57.5
comp=Z,138nm,19.4s,baz=144,slow=37
MG02 Cerro Sombrero 76.41 144 P **P** **01 15 33.4 +1.5**
ELIB Princess Elisa 76.69 187 *d*P **P** **01 15 35.0 +1.6**
comp=Z,13nm,1.0s
ELIB *d*PcP **PcP** **01 15 46.2 +1.6**
ELIB *dx* x 01 15 59.9
TROLL Troll, Antarti 77.69 180 ⇓P **P** **01 15 40.8 +1.7**
comp=Z,1μm,0.8s
MJAR Matsushiro Arr 78.47 325 P **P** **01 15 41.9 -1.7**
comp=Z,1.8nm,0.4s,baz=156,slow=5.6,SNR=4.4
comp=Z,1.8nm,0.4s
VNA2 Neumayer--Watz 78.55 177 ⇓P **P** **01 15 45.2 +1.5**
comp=Z,30nm,0.8s,baz=180,slow=4.0
COYC Coyhaique 78.70 136 IAmb IAmb 01 15 48.0
comp=Z,44nm,0.9s
NVL N'lazarevskaya 78.71 183 *e*P **P** **01 15 43.3 -1.1**
NVL pmax pmax
comp=Z,25nm,1.0s
VNA1 Neumayer--Stat 78.78 176 ⇓P **P** **01 15 46.4 +1.6**
comp=Z,40nm,1.0s
LL02 Futaleuf 80.12 134 IAmb IAmb 01 15 55.4
comp=Z,25nm,0.9s
H03S2 Juan Fernandez 80.24 123 T T 02 45 21.1
baz=238,slow=74,SNR=174
H03S1 Juan Fernandez 80.25 123 T T 02 45 22.1
baz=238,slow=74,SNR=178
H03S3 Juan Fernandez 80.26 123 T T 02 45 21.2
baz=238,slow=74,SNR=150
H03N3 Juan Fernandez 80.43 123 T T 02 45 31.0
baz=241,slow=72,SNR=38
H03N2 Juan Fernandez 80.44 123 T T 02 45 33.0
baz=241,slow=72,SNR=50
H03N1 Juan Fernandez 80.45 123 T T 02 45 31.0
baz=241,slow=72,SNR=83
H06S1 SOCORRO T 80.82 62 T T 02 45 39.3
SNR=7.2
ADK Adak 82.11 1 P **P** **01 16 02.7 0.0**
ADK Adak 82.11 1 P **P** **01 16 02.7 0.0**
ADK pmax pmax
comp=Z,123nm,1.4s
PLCA Paso Flores 82.28 133 P **P** **01 16 05.4 +1.1**
PLCA IAmb IAmb 01 16 07.2
comp=Z,26nm,1.0s
PLCA Paso Flores 82.28 133 P **P** **01 16 05.8 +1.6**
comp=Z,16nm,0.9s,baz=228,slow=7.3,SNR=25
PLCA pP **sP** **01 16 32.0 +1.8**
comp=Z,4.4nm,0.9s,baz=246,slow=9.6,SNR=2.9
PLCA LR LR 01 45 02.0
comp=Z,96nm,19.2s,baz=248,slow=30
comp=Z,16nm,0.9s
GO06 Curarrehue 82.32 132 P **P** **01 16 05.7 +1.1**
EFI East Falkland 82.56 147 *i* P **P** **01 16 03.3 -2.0**
EFI pmax pmax
comp=Z,24nm,0.9s
SHEM Shemya Is, Ala 83.25 355 LR LR 01 44 12.0
comp=Z,196nm,21.5s,baz=212,slow=29
LPIG La Paz 84.50 58 LR LR 01 44 31.1
comp=Z,102nm,21.9s,baz=206,slow=29
KSRS Korea Array 84.58 320 P **P** **01 16 15.6 -0.1**
comp=Z,4.2nm,0.9s,baz=134,slow=5.2,SNR=6.8
comp=Z,4.2nm,0.9s
YSS Yuzh-Sakhalins 84.97 334 *e*P **P** **01 16 18.4 +1.0**
YSS *e*S **S** **01 26 38.7 -1.5**
YSS *e*PPS PPS 01 27 31.4
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,2μm,16.0s
BO02 Sierra Bellavi 85.44 128 IAmb IAmb 01 16 22.7
comp=Z,34nm,1.2s
RPSI Rantau Prapat 85.55 276 P **P** **01 16 19.8 -1.4**
PSI Prapat 85.60 276 P **P** **01 16 19.8 -1.8**
PSI pmax pmax
comp=Z,10.0nm,1.1s
PSI Prapat 85.60 276 P **P** **01 16 20.6 -1.0**
comp=Z,9.6nm,1.1s,comp=Z,172nm
MT09 Talagante 85.87 127 IAmb IAmb 01 16 24.5
comp=Z,31nm,1.1s
GSI Gunungsitoli 86.00 274 P **P** **01 16 22.8 -0.7**
GSI Gunungsitoli 86.00 274 P **P** **01 16 23.3 -0.2**
PEA0B Petropavlovsk- 86.02 346 *e*P **P** **01 16 21.1 -1.4**
PETK Petropavlovsk- 86.02 346 P **P** **01 16 22.8 +0.3**
comp=Z,17nm,0.8s,baz=129,slow=6.5,SNR=8.4
comp=Z,17nm,0.8s
MT02 Curacav 86.06 126 IAmb IAmb 01 16 25.8
comp=Z,53nm,1.8s
PFO Pinyon Flats O 86.22 47 LR LR 01 45 50.3
comp=Z,61nm,21.1s,baz=236,slow=29
ROC1 El Roble 86.30 126 IAmb IAmb 01 16 33.7
comp=Z,24nm,1.0s
LMEL Las Melosas 86.37 127 IAmb IAmb 01 16 30.8
comp=Z,14nm,1.1s
MT13 San Alfonso 86.37 127 IAmb IAmb 01 16 27.7
comp=Z,12nm,0.8s
PEL Peldehue 86.43 127 P **P** **01 16 25.9 +0.5**
PEL Peldehue 86.43 127 P **P** **01 16 25.9 +0.5**
PEL pmax pmax
comp=Z,31nm,0.9s
NJ2 Nanjing 86.47 311 *e*P **P** **01 16 27.6 +2.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
VA03 San Esteban 86.74 126 IAmb IAmb 01 17 51.8
comp=Z,9.3nm,0.6s
CO02 Combarbal 87.30 125 IAmb IAmb 01 16 31.7
comp=Z,26nm,0.9s
USRK Ussuriysk Ar. 87.39 326 P **P** **01 16 29.8 +0.3**
comp=Z,4.8nm,0.9s,baz=163,slow=5.3,SNR=4.2
comp=Z,4.8nm,0.9s
CO03 El Pedregal 87.73 125 IAmb IAmb 01 16 33.5
comp=Z,15nm,1.1s
PNTR Pine Nut 87.96 41 P **P** **01 16 33.1 +0.5**
PNTR IAmb IAmb 01 16 56.0
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 88.08 38 LR LR 01 46 37.6
comp=Z,66nm,21.7s,baz=242,slow=29
NVAR Mina Array Bea 88.27 43 P **P** **01 16 35.0 +0.9**
comp=Z,2.6nm,0.7s,baz=221,slow=8.1,SNR=14
NVAR LR LR 01 47 10.4
comp=Z,90nm,21.7s,baz=262,slow=29
comp=Z,2.6nm,0.7s
LCO Las Campanas 88.75 123 P **P** **01 16 36.6 -0.2**
LCO IAmb IAmb 01 16 38.2
comp=Z,7.8nm,0.8s
LCO Las Campanas 88.75 123 P **P** **01 16 36.6 -0.2**
LCO pmax pmax
comp=Z,8.0nm,0.8s
W13A Hualapai Mount 88.80 47 IAmb IAmb 01 19 06.5
comp=Z,19nm,1.8s
MDJ Mudanjiang 88.86 325 P **P** **01 16 38.9 +2.5**
MDJ pmax pmax
comp=Z,15nm,1.7s
MDJ pmax pmax
comp=Z,1μm,5.7s
CFA Coronel Fontan 89.01 126 LR LR 01 48 56.1
comp=Z,73nm,20.2s,baz=154,slow=30
TRQA Tornquist 89.20 135 P **P** **01 16 38.1 -0.4**
TRQA IAmb IAmb 01 16 40.5
comp=Z,10nm,1.1s
TRQA Tornquist 89.20 135 P **P** **01 16 38.1 -0.4**
TRQA pmax pmax
comp=Z,10.0nm,1.1s
TIA Tai'an 90.20 313 P **P** **01 16 43.4 +0.5**
TIA pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 90.37 323 *e*P **P** **01 16 43.5 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
U15A North Rim 90.64 47 P **P** **01 16 46.6 +1.3**
U15A IAmb IAmb 01 17 14.0
comp=Z,37nm,1.9s
BNX BinXian 90.74 325 ⇑P **P** **01 16 43.5 -1.6**
BNX pmax pmax
comp=Z,12nm,1.6s
BNX pmax pmax
comp=Z,430nm,6.8s
KLR Kul'dur 91.26 330 *ce*P **P** **01 16 46.3 -1.2**
KLR pmax pmax
comp=Z,49nm,3.6s
KLR Kul'dur 91.26 330 LR LR 01 50 56.8
comp=Z,76nm,20.6s,baz=143,slow=31
ELK Elko 91.57 42 LR LR 01 49 23.6
comp=Z,102nm,21.6s,baz=240,slow=30
G06A Carlson Farm, 91.61 36 P **P** **01 16 49.4 +0.1**
LYN LuoYang 92.23 309 ⇓P **P** **01 16 53.2 +0.9**
LYN pmax pmax
comp=Z,22nm,0.8s
TX31 Lajitas Ar. Si 92.36 57 IAmb IAmb 01 17 22.5
comp=Z,16nm,1.4s
TXAR Lajitas Array 92.36 57 P **P** **01 16 54.3 +1.1**
comp=Z,0.8nm,0.8s,baz=209,slow=7.4,SNR=8.4
TXAR PKKPbc **PKKPbc** **01 34 07.7 +0.3**
comp=Z,0.4nm,0.8s,baz=117,slow=1.4,SNR=3.4
comp=Z,0.8nm,0.8s
G08A Pilot Rock 92.51 37 IAmb IAmb 01 17 21.2
comp=Z,25nm,1.5s
CMIG Matias Romero 92.66 72 LR LR 01 47 54.6
comp=Z,40nm,20.4s,baz=256,slow=28
MFID Camas Ranch 92.96 40 IAmb IAmb 01 17 35.0
comp=Z,8.1nm,1.3s
TMUT Trail Mountain 93.08 46 IAmb IAmb 01 17 31.4
comp=Z,19nm,1.7s
BJI Beijing 93.16 315 P **P** **01 16 57.3 +0.9**
BJI pmax pmax
comp=Z,4.0nm,1.0s
BBB Bella Bella 93.18 28 LR LR 01 48 20.6
comp=Z,50nm,21.3s,baz=234,slow=29
NNA Nana 93.23 106 *ce*P **P** **01 16 59.3 +1.7**
NNA pmax pmax
comp=Z,35nm,2.5s
NNA Nana 93.23 106 LR LR 01 48 25.7
comp=Z,72nm,20.8s,baz=246,slow=29
MA2 Magadan 93.50 345 LR LR 01 53 53.9
comp=Z,92nm,21.1s,baz=139,slow=32
ANMO Albuquerque 93.57 51 P **P** **01 16 58.3 -0.5**
ANMO Albuquerque 93.57 51 P **P** **01 16 58.3 -0.5**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 93.57 51 LR LR 01 50 36.1
comp=Z,55nm,21.0s,baz=342,slow=30
D08A Wollman Farm, 93.72 36 P **P** **01 16 59.4 +0.5**
D08A IAmb IAmb 01 17 26.8
comp=Z,7.5nm,1.1s
LVC Limon Verde 93.72 119 LR LR 01 51 52.1
comp=Z,28nm,19.7s,baz=250,slow=31
HLID Hailey 93.84 41 IAmb IAmb 01 17 26.8
comp=Z,16nm,1.9s
PLID Pearl Lake 93.94 39 P **P** **01 16 59.4 -0.9**
PLID IAmb IAmb 01 17 02.4
comp=Z,24nm,1.9s
ATAH Atahualpa 94.46 101 LR LR 01 49 20.1
comp=Z,43nm,21.0s,baz=244,slow=29
MCRA Macar, Loja 94.56 98 P **P** **01 17 02.6 -1.1**
NEW Newport 95.43 36 LR LR 01 54 13.5
comp=Z,53nm,19.4s,baz=234,slow=32
PZH PanZhiHua 95.52 297 P **P** **01 17 08.0 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,6.5s
PDAR Pinedale Array 96.16 43 P **P** **01 17 10.3 -0.1**
comp=Z,0.5nm,0.7s,baz=204,slow=4.0,SNR=4.5
PDAR PKKPbc **PKKPbc** **01 33 58.2 +0.2**
comp=Z,0.7nm,0.7s,baz=76,slow=4.2,SNR=8.9
PDAR LR LR 01 52 14.8
comp=Z,70nm,21.6s,baz=258,slow=30
comp=Z,0.5nm,0.7s
SEY Seymchan 96.18 347 *i* P **P** **01 17 08.3 -1.4**
SEY pmax pmax
comp=Z,13nm,2.0s
BOSC San Juan Bosco 96.43 97 P **P** **01 17 10.7 -1.6**
HHC Hu-ho-hao-te 96.47 314 *e*P **P** **01 17 12.4 +0.6**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,390nm,4.9s
BTO Baotou 97.29 313 *e*P Pdif 01 17 21.1 +5.5
BTO pP sP 01 17 41.9 -0.2
BTO sP pwP 01 17 50.3 +12
BTO pmax pmax
comp=Z,14nm,0.9s
BTO pmax pmax
comp=Z,440nm,4.8s
JTS Las Juntas de 97.61 83 LR LR 01 52 24.4
comp=Z,70nm,20.1s,baz=266,slow=30
ILAR Eielson Array 98.07 13 P **P** **01 17 16.9 -1.3**
comp=Z,0.5nm,0.9s,baz=229,slow=5.7,SNR=6.9
ILAR pP **pwP** **01 17 41.8 +0.1**
comp=Z,2.1nm,0.9s,baz=221,slow=5.1,SNR=8.9
ILAR PKKPbc **PKKPbc** **01 33 50.8 -2.6**
comp=Z,0.5nm,0.8s,baz=359,slow=2.8,SNR=6.5
comp=Z,0.5nm,0.9s
TEIG Tepich 99.65 72 LR LR 01 56 06.1
comp=Z,601nm,18.8s,baz=354,slow=31
CPUP Villa Florida 99.76 128 P **Pdif** **01 17 29.9 +3.0**
comp=Z,1.1nm,0.6s,baz=202,slow=10,SNR=2.8
YKA Yellowknife Ar 105.54 25 PKiKP **PKiKP** **01 22 04.0 -0.5**
comp=Z,0.2nm,0.6s,baz=265,slow=1.9,SNR=4.5
YKA PKKPbc **PKKPbc** **01 33 28.1 -3.0**
comp=Z,0.3nm,0.8s,baz=48,slow=3.4,SNR=5.3
YKA PKKPab **PKKPab** **01 33 43.5 -0.5**
comp=Z,0.5nm,0.9s,baz=49,slow=4.8,SNR=5.5
ULM Lac du Bonnet 108.09 42 PKKPbc PKKPbc 01 33 20.4 -2.4
comp=Z,0.7nm,0.6s,baz=90,slow=1.0,SNR=3.6
WMQ Urumqi 113.45 308 *e*PKP **PKiKP** **01 22 20.0 -0.1**
DGZ Jazzator, Alta 115.55 314 *i* PKIKP **PKPdf** **01 22 22.9 -1.1**
MK31 Makanchi Array 118.00 310 *ci* PKIKP **PKPdf** **01 22 28.3 -0.4**
MKAR Makanchi Array 118.00 310 PKP **PKPdf** **01 22 27.1 -1.6**
comp=Z,1.4nm,0.7s,baz=86,slow=1.2,SNR=15
MKAR pPKP **sPKPdf** **01 22 52.5 -3.2**
comp=Z,0.9nm,0.6s,baz=105,slow=0.4,SNR=4.0
MKAR PKKPbc **PKKPab** **01 32 49.7 -0.3**
comp=Z,0.3nm,0.6s,baz=272,slow=3.0,SNR=5.7
ZALV Zalesovo Beam 118.27 318 PKP **PKPdf** **01 22 28.3 -0.5**
comp=Z,0.6nm,0.5s,baz=169,slow=1.5,SNR=2.0
NRIK Noril'sk 119.86 336 *i* PKIKP **PKPdf** **01 22 30.8 -0.7**
KSH Kashi 120.46 300 PKP **PKiKP** **01 22 33.9 0.0**
KURK Kurchatov 121.28 314 **PKPdf** **01 22 33.6 -1.1**
KURK Kurchatov 121.28 314 *c* PKIKP **PKPdf** **01 22 34.4 -0.4**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 121.32 314 PKP **PKPdf** **01 22 33.9 -1.0**
comp=Z,3.6nm,0.7s,baz=107,slow=2.0,SNR=45
KURBB SKP 01 26 02.6
comp=Z,0.2nm,0.4s,baz=72,slow=3.0,SNR=4.7
TKM2 Tokmak 2 121.61 304 P **PKPdf** **01 22 35.4 -0.6**
SNR=6.9
KZA Kyzart 121.66 303 P **PKiKP** **01 22 36.7 +0.2**
SNR=7.2
KBK Karagaybulak 122.02 304 P **PKPdf** **01 22 36.6 -0.1**
SNR=5.8
UCH Uchtor 122.23 303 P **PKiKP** **01 22 37.9 +0.2**
SNR=9.1
CHMS Chumysh 122.24 304 P **PKPdf** **01 22 36.3 -0.6**
SNR=6.7
FRU1 Bishkek 122.28 304 PKPdf **PKPdf** **01 22 36.1 -1.0**
FRU1 Bishkek 122.28 304 PKiKP **PKPdf** **01 22 36.1 -1.0**
AAK Ala-Archa 122.34 304 PKPdf **PKPdf** **01 22 36.4 -0.9**
AAK Ala-Archa 122.34 304 *i* PKIKP **PKPdf** **01 22 36.4 -0.9**
USP Ospenovka 122.48 304 P **PKPdf** **01 22 37.2 -0.2**
SNR=6.6
AML Almayashu 122.80 303 P **PKiKP** **01 22 38.8 0.0**
SNR=13
KBL Kabul 124.43 293 PKPdf **PKPdf** **01 22 41.2 -0.4**
KBL Kabul 124.43 293 PKiKP **PKPdf** **01 22 41.2 -0.4**
KK31 Karatay Array 125.30 303 PKPdf **PKPdf** **01 22 42.1 -0.7**
KK31 Karatay Array 125.30 303 PKiKP **PKPdf** **01 22 42.1 -0.7**
KKAR Karatay Array 125.30 303 PKPdf **PKPdf** **01 22 41.7 -1.1**
KKAR Karatay Array 125.30 303 PKiKP **PKPdf** **01 22 41.7 -1.1**
SIMJ Ismiganj 125.49 298 PKPdf **PKPdf** **01 22 42.8 -0.6**
BVAR Borovoye Array 126.64 316 PKP **PKPdf** **01 22 44.7 -0.3**
comp=Z,6.2nm,0.8s,baz=89,slow=2.3,SNR=19
BRVK Borovoye 126.70 316 PKPdf **PKPdf** **01 22 44.8 -0.3**
BRVK Borovoye 126.70 316 *i* PKIKP **PKPdf** **01 22 43.1 -2.0**
SPITS Spitsbergen Ar 131.89 356 PKP **PKiKP** **01 22 55.5 +0.1**
comp=Z,14nm,1.1s,baz=29,slow=3.3,SNR=5.1
ARU Arti 133.32 321 *i* PKIKP **PKPdf** **01 22 56.4 -1.2**
GEYT Alibeck 133.77 295 PKP **PKPdf** **01 22 59.2 +0.2**
comp=Z,5.0nm,0.8s,baz=93,slow=2.9,SNR=7.6
GEYT SKPbc **SKPbc** **01 26 22.1 +0.6**
comp=Z,13nm,0.8s,baz=113,slow=3.3,SNR=21
KMBO Kilima Mbogo 134.09 233 *i* PKIKP **PKPdf** **01 22 58.6 -2.1**
KMBO Kilima Mbogo 134.09 233 SKPbc **SKPbc** **01 26 22.6 -1.1**
comp=Z,11nm,1.1s,baz=56,slow=7.3,SNR=12
KIRV Kirov 137.55 325 *i* PKIKP **PKPdf** **01 23 05.0 -0.3**
APA Apatity 138.63 342 ⇓ *i* PKIKP **PKPdf** **01 23 03.0 -4.1**
APA pmax pmax
comp=Z,7μm,0.8s
ARCES ARCESS Array B 138.79 348 PKhKP PKPpre 01 22 59.8
comp=Z,1.4nm,0.7s,baz=82,slow=2.4,SNR=15
ARCES PKP **PKPdf** **01 23 07.5 +0.1**
comp=Z,5.3nm,0.9s,baz=283,slow=1.2,SNR=7.1
ARCES SKPbc **SKPbc** **01 26 35.6 -0.2**
comp=Z,10.0nm,1.0s,baz=28,slow=2.1,SNR=6.4
BELG Belogornoye 140.42 317 *i* PKIKP **PKPdf** **01 23 08.4 -2.4**
KLMR Klimovskoe 140.99 332 *e*PKIKP **PKPdf** **01 23 08.2 -3.4**
KLMR pmax pmax
comp=Z,15nm,1.3s
VRH Novokhopyorsk 144.28 317 *e*PKIKP **PKPab** **01 23 14.0 -1.8**
VRH pmax pmax
comp=Z,9.0nm,0.6s
ZEI Tsey 144.73 302 *i* PKIKP **PKPab** **01 23 17.2 -0.9**
ZEI pmax pmax
comp=Z,16nm,0.9s
GOF Gofitskoye 145.02 306 *ce* PKIKP **PKPbc** **01 23 18.4 -0.3**
ONI Oni 145.08 302 **PKPbc** **01 23 18.9 -0.2**
ONI Oni 145.08 302 PKIKP **PKPbc** **01 23 18.9 -0.2**
AKH Akhalkalaki 145.16 300 **PKPbc** **01 23 19.0 -0.6**
AKH Akhalkalaki 145.16 300 PKIKP **PKPbc** **01 23 19.0 -0.6**
KBZ Khabaz 145.34 304 *i* PKIKP **PKPbc** **01 23 18.6 -1.1**
KBZ Khabaz 145.34 304 PKPbc **PKPbc** **01 23 19.1 -0.7**
comp=Z,10nm,0.9s,baz=50,slow=3.7,SNR=11
LPSR Galich'ya Gora 145.34 320 *e*PKP2 **PKPdf** **01 23 18.0 -1.5**
LPSR pmax pmax
comp=Z,60nm,0.9s
FIA1 FINESS Array S 145.36 340 **PKPdf** **01 23 18.2 -1.1**
FINES FINESS Array B 145.36 340 PKPbc **PKPdf** **01 23 18.2 -1.0**
comp=Z,65nm,0.8s,baz=64,slow=3.2,SNR=281
OBN Obninsk 145.40 325 **PKPdf** **01 23 18.7 -0.8**
OBN Obninsk 145.40 325 *e*PKIKP **PKPdf** **01 23 18.3 -1.2**
OBN *e* 01 26 35.8
OBN *e*PPP PPP 01 29 53.2
OBN pmax pmax
comp=Z,55nm,0.9s
KIV Kislovodsk 145.45 304 *i* PKIKP **PKPdf** **01 23 19.1 -1.0**
KIV pmax pmax
comp=Z,17nm,1.1s
VORR Voronezh 145.57 318 *e*PKIKP **PKPdf** **01 23 18.9 -1.0**
VORR pmax pmax
comp=Z,70nm,0.7s
VSR Storozhevoye 145.77 318 *e*PKP2 **PKPdf** **01 23 19.7 -0.6**
VSR pmax pmax
comp=Z,50nm,0.7s
VORD Divnogorie 145.79 317 *e*PKP2 **PKPdf** **01 23 19.4 -0.9**
VORD pmax pmax
comp=Z,30nm,0.7s
GURO Guroymak-BITLI 146.44 295 PKPbc **PKPbc** **01 23 22.9 -0.6**
ERBR Yeremizino-Bor 146.65 308 *i* PKP2 **PKiKP** **01 23 27.1 +0.7**
ERBR pmax pmax
comp=N,28nm,0.9s
MEF Metsahovi 146.84 340 *e*P **PKPbc** **01 23 23.4 -0.4**
RAF Rauma 146.91 343 *e*P **PKPbc** **01 23 24.1 +0.2**
VSU Vasula 147.45 336 *e*P **PKPbc** **01 23 25.4 0.0**
SOC Sochi 147.63 304 *i* PKP2 **PKPbc** **01 23 27.2 +0.7**
SOC *e* 01 26 51.6
SOC *e*PPP PPP 01 30 08.9
SOC *e*SS SS 01 45 52.4 -0.1
SOC *e*SSS SSS 01 51 22.8
MTSE Matsula 148.23 339 *e*P **PKPbc** **01 23 27.9 +0.4**
NB2 NORSAR Subarra 148.95 351 PKP **PKPbc** **01 23 29.1 -0.3**
comp=Z,2.8nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 148.95 351 PKIKP **PKPbc** **01 23 28.0 -1.5**

NOA	**NORSAR Array B**	**148.95**	**351**	PKPbc	**PKPbc**	**01 23 27.9**	**-1.5**
	comp=Z,4.1nm,0.8s,baz=9.9,slow=3.6,SNR=14							
ANN	**Anapa**	**148.96**	**307**	*i* PKP2	**PKPbc**	**01 23 29.2**	**-0.7**
ANN				pmax	pmax			
	comp=Z,53nm,1.1s							
HFS	**Hagfors**	**149.45**	**349**	PKPbc	**PKPbc**	**01 23 29.7**	**-0.9**
	comp=Z,11nm,0.7s,baz=11,slow=1.5,SNR=10							
SLIT	**Slitere, Latvi**	**149.58**	**339**	*e*P	**PKPbc**	**01 23 30.0**	**-1.0**
MNK	**Minsk**	**149.81**	**330**	*i* PKP	**PKPdf**	**01 23 24.3**	**-2.5**
	comp=E,8.0nm,1.3s							
MNK				*i* PKP	**PKPdf**	**01 23 24.3**	**-2.5**
	comp=N,17nm,0.6s							
MNK				*i* PKP	**PKPdf**	**01 23 24.3**	**-2.5**
	comp=Z,9.0nm,1.4s,baz=47							
MNK				*i* pPKP	**pPKPdf**	**01 23 44.4**	**-2.2**
MNK				*i* PP	**PP**	**01 27 03.7**	**-2.1**
MNK				*i* SKS	**SKSdf**	**01 30 26.0**	**-2.1**
MNK				*i* SKKS	**SKKSdf**	**01 39 17.6**	**-5.5**
MNK				*i* SS	SS	01 46 30.4	+15
MNK	**Minsk**	**149.81**	**330**	*i* PKIKP	**PKPdf**	**01 23 24.3**	**-2.5**
MNK				*i*		01 23 44.4	
MNK				*i*		01 27 03.7	
MNK				*i*		01 30 26.0	
MNK				pmax	pmax			
	comp=E,8.0nm,1.3s							
MNK				pmax	pmax			
	comp=N,17nm,0.6s							
MNK				pmax	pmax			
	comp=Z,9.0nm,1.4s							
GAZ	**Gaziantep**	**150.29**	**292**	PKPbc	**PKiKP**	**01 23 33.9**	**-0.4**
VSVD	**Vaisvydziai**	**150.33**	**335**	*e*P	**PKPbc**	**01 23 32.8**	**-0.1**
PABE	**Paberze**	**150.68**	**334**	*e*P	**PKiKP**	**01 23 34.1**	**-0.2**
SIM	**Simferopol'**	**151.17**	**309**	*i* PKIKP	**PKiKP**	**01 23 37.0**	**+1.2**
SIM				pmax	pmax			
	comp=Z,37nm,0.8s							
SIM				pmax	pmax			
	comp=Z,44nm,0.9s							
AKASG	**Malin Array Be**	**151.53**	**323**	PKPbc	**PKPbc**	**01 23 35.4**	**-0.4**
AKASG	**Malin Array Be**	**151.53**	**323**	PKPbc	**PKPbc**	**01 23 35.2**	**-0.6**
	comp=Z,12nm,0.6s,baz=48,slow=2.7,SNR=71							
AKASG				pPKPbc	**sPKPbc**	**01 24 01.0**	**-1.9**
	comp=Z,5.0nm,0.6s,baz=42,slow=2.3,SNR=3.3							
AKBB	**Malin Array Si**	**151.53**	**323**	PKPbc	**PKPbc**	**01 23 34.6**	**-1.2**
AKBB	**Malin Array Si**	**151.53**	**323**	PKIKP	**PKPbc**	**01 23 34.6**	**-1.2**
KIEV	**Kiev**	**151.54**	**323**	PKPbc	**PKPbc**	**01 23 34.9**	**-1.0**
KIEV	**Kiev**	**151.54**	**323**	PKIKP	**PKPbc**	**01 23 34.9**	**-1.0**
MMAI	**Mount Meron Ar**	**151.72**	**284**	PKPbc	**PKiKP**	**01 23 37.9**	**+0.5**
	comp=Z,30nm,0.7s,baz=76,slow=6.1,SNR=78							
MMAI				pPKPbc	**sPKPbc**	**01 24 03.0**	**-1.1**
	comp=Z,12nm,0.7s,baz=86,slow=5.1,SNR=3.0							
TJOU	**Tjoern**	**151.79**	**349**	*e*P	**PKPbc**	**01 23 35.9**	**-0.3**
HOMB	**Homborsund**	**151.97**	**353**	*e*P	**PKPbc**	**01 23 36.6**	**0.0**
SNART	**Snartemo**	**152.03**	**354**	*e*P	**PKiKP**	**01 23 37.2**	**+0.1**
SUW	**Suwalki**	**152.10**	**333**	PKPbc	**PKPbc**	**01 23 34.9**	**-2.1**
SUW	**Suwalki**	**152.10**	**333**	PKIKP	**PKPbc**	**01 23 34.9**	**-2.1**
SUW	**Suwalki**	**152.10**	**333**	*e*P	**PKPbc**	**01 23 36.0**	**-1.1**
ONAU	**Onsala**	**152.34**	**349**	*e*P	**PKPbc**	**01 23 37.3**	**-0.1**
BLEU	**Blekinge**	**152.55**	**343**	*e*P	**PKPbc**	**01 23 37.3**	**-0.7**
BRTR	**Keskin Array B**	**152.82**	**298**	PKPbc	**PKPbc**	**01 23 38.9**	**-0.4**
BRTR	**Keskin Array B**	**152.82**	**298**	PKPbc	**PKPbc**	**01 23 38.5**	**-0.9**
	comp=Z,6.4nm,0.8s,baz=135,slow=5.1,SNR=26							
DEL	**Delary**	**152.84**	**346**	*e*P	**PKiKP**	**01 23 38.9**	**+0.1**
BJUU	**Bjuv**	**153.39**	**346**	*e*P	**PKiKP**	**01 23 40.7**	**+0.8**
ANTO	**Ankara**	**153.43**	**299**	PKPbc	**PKPbc**	**01 23 40.1**	**-0.5**
ANTO	**Ankara**	**153.43**	**299**	PKIKP	**PKPbc**	**01 23 40.1**	**-0.5**
BSD	**Bornholm Skovb**	**153.84**	**343**	*e*P	**PKiKP**	**01 23 40.8**	**-0.1**
BSD	**Bornholm Skovb**	**153.84**	**343**	*i* P	**PKPbc**	**01 23 40.0**	**-0.8**
LIC	**Lamto**	**154.84**	**163** ⇑	*i* PKP2	**PKPab**	**01 24 00.6**	**+1.1**
	comp=Z,12nm,0.3s							
EKA	**Eskdalemuir Ar**	**154.97**	**7**	PKPab	**PKPab**	**01 23 57.3**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=351,slow=2.7,SNR=1.7							
KIC	**Kosan Boka**	**155.05**	**164** ⇑	*i* PKP2	**PKPab**	**01 24 01.4**	**+1.1**
	comp=Z,19nm,0.8s							
TIC	**Toumodi**	**155.25**	**163** ⇑	*i* PKP2	**PKPab**	**01 24 02.3**	**+1.1**
	comp=Z,2.3nm,0.2s							
DBIC	**Dimbokro**	**155.32**	**163**	PKPab	**PKPab**	**01 24 02.4**	**+1.0**
	comp=Z,6.3nm,0.8s,baz=166,slow=4.4,SNR=8.3							
BURAR	**Bucovina Array**	**155.46**	**320**		PKPdf	01 23 44.8	+9.3
BURAR					**PKPab**	**01 23 60.0**	**-1.5**
KWP	**Kalwaria Pacla**	**155.47**	**327**	*e*PKP	**PKPab**	**01 24 00.9**	**-0.4**
STHS	**Stebnicka Huta**	**156.30**	**328**	*e*PKP2	**PKPab**	**01 24 04.9**	**0.0**
STHS	**Stebnicka Huta**	**156.30**	**328**	*e*PKP	**PKPab**	**01 24 04.9**	**0.0**
CRVS	**Cervenica-Dubn**	**156.56**	**327**	*e*PKP2	**PKPab**	**01 24 06.1**	**+0.1**
CRVS	**Cervenica-Dubn**	**156.56**	**327**	*e*PKP	**PKPab**	**01 24 06.1**	**+0.1**
KSP	**Ksiaz**	**157.18**	**337**	*e*PKP	**PKPab**	**01 24 08.7**	**+0.1**
OSTC	**Ostas**	**157.44**	**336**	*e*PKPAB	**PKPab**	**01 24 09.8**	**0.0**
OSTC	**Ostas**	**157.44**	**336**	*e*PKP2	**PKPab**	**01 24 09.8**	**0.0**
UPC	**Upice**	**157.56**	**336**	*e*PKPAB	**PKPab**	**01 24 09.9**	**-0.3**
UPC	**Upice**	**157.56**	**336**	*e*PKP2	**PKPab**	**01 24 09.9**	**-0.3**
DPC	**Dobruska-Polom**	**157.58**	**336**	*e*PKPAB	**PKPab**	**01 24 10.0**	**-0.4**
DPC	**Dobruska-Polom**	**157.58**	**336**	*e*PKP2	**PKPab**	**01 24 10.0**	**-0.4**
MORC	**Moravsky Berou**	**157.59**	**333**	*e*PKP	**PKPab**	**01 24 10.3**	**-0.2**
KRLC	**Kraliky**	**157.64**	**335**	*e*PKPAB	**PKPab**	**01 24 10.6**	**-0.1**
KRLC	**Kraliky**	**157.64**	**335**	*e*PKP2	**PKPab**	**01 24 10.6**	**-0.1**
CLL	**Collm**	**157.78**	**342**	PKPab	**PKPab**	**01 24 09.1**	**-2.0**
CLL	**Collm**	**157.78**	**342**	*i* PKP2	**PKPab**	**01 24 10.3**	**-0.8**
CLL				pmax	pmax			
	comp=Z,7.0nm,0.7s							
CLL	**Collm**	**157.78**	**342**	*i* PKPab	**PKPab**	**01 24 10.3**	**-0.8**
	comp=Z,7.0nm,0.7s							
CLL				*i* x	x	01 24 23.6		
BRG	**Berggiesshubel**	**157.90**	**340**	*e*PKP	**PKPab**	**01 24 11.7**	**0.0**
BRG				Amp		01 24 12.5		
	comp=Z,9.7nm,1.0s							
BRG	**Berggiesshubel**	**157.90**	**340**	*e*PKP2	**PKPab**	**01 24 11.7**	**0.0**
BRG				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,6.0nm,0.9s							
PVCC	**Panska Ves**	**158.01**	**339**	*e*PKPAB	**PKPab**	**01 24 12.3**	**+0.1**
PVCC	**Panska Ves**	**158.01**	**339**	*e*PKP2	**PKPab**	**01 24 12.3**	**+0.1**
VYHS	**Vyhne**	**158.06**	**329**	*e*PKP2	**PKPab**	**01 24 12.5**	**0.0**
VYHS	**Vyhne**	**158.06**	**329**	*e*PKP	**PKPab**	**01 24 12.5**	**0.0**
JAVC	**Velka Javorina**	**158.27**	**332**	*e*PKP	**PKPab**	**01 24 14.3**	**+0.8**
VRAC	**Vranov**	**158.34**	**334**	*e*PKP	**PKPab**	**01 24 13.4**	**-0.3**
PRA	**Prague**	**158.46**	**338**	*e*PKPAB	**PKPab**	**01 24 13.5**	**-0.6**
PRA	**Prague**	**158.46**	**338**	*e*PKP2	**PKPab**	**01 24 13.5**	**-0.6**
PRU	**Pruhonice**	**158.49**	**338**	*e*PKPAB	**PKPab**	**01 24 13.8**	**-0.5**
PRU	**Pruhonice**	**158.49**	**338**	*e*PKP2	**PKPab**	**01 24 13.8**	**-0.5**
KRUC	**Moravsky**	**158.62**	**334**	*e*PKP	**PKPab**	**01 24 14.8**	**-0.1**
MODS	**Modra-Piesok**	**158.81**	**331**	*e*PKP2	**PKPab**	**01 24 16.0**	**+0.2**
MODS	**Modra-Piesok**	**158.81**	**331**	*e*PKP	**PKPab**	**01 24 16.0**	**+0.2**
NKC	**Novy Kostel**	**158.90**	**341**	*e*PKPAB	**PKPab**	**01 24 16.1**	**0.0**
NKC	**Novy Kostel**	**158.90**	**341**	*e*PKP2	**PKPab**	**01 24 16.1**	**0.0**
ZVC	**Zvikov**	**159.08**	**338**	*e*PKPAB	**PKPab**	**01 24 17.3**	**+0.4**
KHC	**Kasperske Hory**	**159.55**	**338**	*e*PKPAB	**PKPab**	**01 24 18.7**	**-0.2**
KHC	**Kasperske Hory**	**159.55**	**338**	*e*PKP2	**PKPab**	**01 24 18.7**	**-0.2**
CKRC	**Cesky Krumlov**	**159.57**	**337**	*e*PKPAB	**PKPab**	**01 24 19.0**	**0.0**
CKRC	**Cesky Krumlov**	**159.57**	**337**	*e*PKP2	**PKPab**	**01 24 19.0**	**0.0**
GRF	**Grafenberg Arr**	**159.72**	**343**	*e*PKP	**PKPab**	**01 24 19.4**	**-0.2**
	baz=23,slow=3.9							
CONA	**Conrad Observa**	**159.74**	**333**	*e*PKP	**PKPab**	**01 24 19.6**	**-0.3**
	comp=Z,5.2nm,1.0s							
RONA	**Rosalia, Austr**	**159.75**	**332**	*e*PKP	**PKPab**	**01 24 20.0**	**+0.1**
	comp=Z,5.5nm,0.9s							
GERES	**GERESS Array B**	**159.76**	**338**	PKPab	**PKPab**	**01 24 17.9**	**-2.0**
GERES	**GERESS Array B**	**159.76**	**338**	PKP2	**PKPab**	**01 24 17.9**	**-2.0**
GERES	**GERESS Array B**	**159.76**	**338**	PKPab	**PKPab**	**01 24 18.6**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=46,slow=4.2,SNR=9.0							
BIOA	**Bad Ischl, Aus**	**160.77**	**336**	*e*PKP	**PKPab**	**01 24 23.9**	**-0.4**
	comp=Z,6.2nm,1.0s							
KBA	**Koelnbreinsper**	**161.40**	**335**	*e*PKP	**PKPab**	**01 24 26.4**	**-0.8**
	comp=Z,1.6nm,0.6s							
WATA	**Walderalm**	**161.76**	**339**	*e*PKP	**PKPab**	**01 24 28.0**	**-0.8**
	comp=Z,1.7nm,0.4s							
WTTA	**Wattenberg**	**161.81**	**339**	*e*PKP	**PKPab**	**01 24 28.3**	**-0.8**
	comp=Z,6.4nm,0.8s							
RETA	**Reutte**	**161.87**	**341**	*e*PKP	**PKPab**	**01 24 28.8**	**-0.3**
	comp=Z,5.0nm,0.8s							
ABTA	**Abfaltersbach**	**161.98**	**336**	*e*PKP	**PKPab**	**01 24 28.5**	**-1.1**
	comp=Z,5.3nm,0.9s,SNR=4.5							
SQTA	**Sankt Quirin**	**161.98**	**340**	*e*PKP	**PKPab**	**01 24 29.7**	**0.0**
	comp=Z,8.9nm,1.0s							
DAVA	**Damuels**	**162.29**	**343**	*e*PKP	**PKPab**	**01 24 30.5**	**-0.6**
	comp=Z,2.3nm,0.5s							
FETA	**Feichten**	**162.30**	**340**	*e*PKP	**PKPab**	**01 24 30.8**	**-0.4**
	comp=Z,2.9nm,0.8s							
TOA0	**Torodi Ar. Sit**	**162.65**	**178**	PKPab	**PKPab**	**01 24 32.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**162.65**	**178**	PKP	**PKPdf**	**01 23 45.2**	**+0.4**
	comp=Z,1.2nm,1.1s,baz=76,slow=2.3,SNR=4.2							
TORD				PKPab	**PKPab**	**01 24 34.0**	**+0.8**
	comp=Z,11nm,1.0s,baz=161,slow=2.5,SNR=23							
FUORN	**Ofenpass-Fuorn**	**162.80**	**341**	PKPab	**PKPab**	**01 24 33.0**	**-0.4**
ESDC	**Sonseca Array**	**169.63**	**27**	PKPab	**PKPab**	**01 25 02.0**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=350,slow=4.7,SNR=4.4							

*ATH **10** 01:27:09.9,38.°12N×26.°68E,h16km±3km, ML3.2/8, Error ellipse: s-maj=4.5km s-min=1.4km az=284.0*
*ISK **10** 01:27:09.7,38.°16N×26.°62E,h17km, ML2.9/30*
*AFAD **10** 01:27:10.6±0.0,38.°14N×26.°66E,h7km±2km, ML2.7*
*THE **10** 01:27:10.9,38.°16N×26.°63E,h10km±3km, ML2.9/4, Error ellipse: s-maj=3.8km s-min=1.4km az=278.0*

ISC 10 01:27:10.4±0.8,38.°15N±0.°02×26.°63E±0.°02,h16km±6km, n68,σ0.°67/92, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.14**	**312**	P	**Pg**	**01 27 14.3**	**+0.1**
ZEYE				*i* AML	AML	01 27 17.0	
	comp=N,1μm,0.2s						
ZEYE				*i* AML	AML	01 27 17.0	
	comp=E,8μm,0.2s						
ZEYE				S	**Sg**	**01 27 17.4**	**+0.6**
DGB	**zmir**	**0.22**	**115**	P	**Pg**	**01 27 15.1**	**-0.3**
DGB				*i* AML	AML	01 27 18.0	
	comp=N,1μm,0.1s						
DGB				*i* AML	AML	01 27 18.0	
	comp=E,2μm,0.1s						
DGB				S	**Sg**	**01 27 18.3**	**-0.4**
GMLD	**Gumuldur**	**0.23**	**107**	Pg	**Pg**	**01 27 15.3**	**-0.3**
GMLD				Sg	**Sg**	**01 27 18.9**	**-0.2**
CESE	**eme**	**0.32**	**305**	Pg	**Pg**	**01 27 16.6**	**-0.5**
CHOS	**Chios island**	**0.52**	**298**	P	**Pg**	**01 27 21.1**	**+0.4**
CHOS				S	**Sb**	**01 27 28.9**	**+0.5**
	3μm,0.2s						
CHOS	**Chios island**	**0.52**	**298**	P	**Pg**	**01 27 20.9**	**+0.3**
CHOS				S	**Sg**	**01 27 28.6**	**+1.0**
CHOS				AML	AML	01 27 32.1	
	comp=E,5564μm,0.2s						
CHOS				AML	AML	01 27 32.5	
	comp=N,4474μm,0.3s						
KARB	**zmir-Karabur**	**0.55**	**341**	P	**Pg**	**01 27 21.0**	**-0.2**
KARB				S	**Sb**	**01 27 29.3**	**+0.1**
KARB				*i* AML	AML	01 27 31.0	
	comp=N,623nm,0.2s						
KARB				*i* AML	AML	01 27 32.0	
	comp=N,501nm,0.3s						
FOCM	**Foa**	**0.57**	**8**	Pg	**Pg**	**01 27 20.9**	**-0.8**
FOCM				Sg	**Sb**	**01 27 29.9**	**0.0**
EAG2	**Marmaro, Chios**	**0.57**	**314**	P	**Pg**	**01 27 21.9**	**+0.2**
EAG2				S	**Sg**	**01 27 29.8**	**+0.4**
EAG2				AML	AML	01 27 31.1	
	comp=E,65050μm,0.4s						
EAG2				AML	AML	01 27 31.4	
	comp=N,35004μm,0.3s						
GCAM	**G?zelcaml?**	**0.65**	**133**	Pg	**Pg**	**01 27 22.9**	**-0.2**
GCAM	**G?zelcaml?**	**0.65**	**133**	P	**Pg**	**01 27 22.9**	**-0.2**
GCAM				S	**Sb**	**01 27 32.0**	**-0.1**
GCAM				*i* AML	AML	01 27 32.0	
	comp=N,764nm,0.5s						
GCAM				*i* AML	AML	01 27 34.0	
	comp=N,578nm,0.2s						
CAND	**Candarli**	**0.82**	**9**	Pg	**Pb**	**01 27 25.9**	**-0.3**
DDIM	**Aydin, Didim**	**0.84**	**145**	P	**Pb**	**01 27 26.3**	**-0.2**
DDIM				S	**Sg**	**01 27 38.1**	**+0.4**
DDIM				*i* AML	AML	01 27 40.0	
	comp=N,567nm,0.9s						
DDIM				*i* AML	AML	01 27 42.0	
	comp=N,551nm,0.4s						
RFT7	**Candarli**	**0.84**	**15**	Pg	**Pb**	**01 27 26.4**	**-0.2**
RFT7				Sg	**Sn**	**01 27 38.7**	**-0.9**
ZEDA	**zmir-Bergama**	**0.89**	**23**	P	**Pb**	**01 27 27.2**	**-0.3**
ZEDA				S	**Sn**	**01 27 40.8**	**0.0**
ZEDA				*i* AML	AML	01 27 42.0	
	comp=N,220nm,0.4s						
ZEDA				*i* AML	AML	01 27 44.0	
	comp=N,173nm,0.4s						
PSRA	**Psara**	**0.93**	**296**	P	**Pb**	**01 27 28.2**	**+0.1**
PSRA				AML	AML	01 27 44.0	
	comp=N,3155μm,0.2s						
PSRA				AML	AML	01 27 44.8	
	comp=E,2726μm,0.2s						
EAG3	**Mitilini, Lesv**	**0.94**	**357**	P	**Pb**	**01 27 27.1**	**-1.1**
EAG3				AML	AML	01 27 48.0	
	comp=N,1551μm,0.3s						
EAG3				AML	AML	01 27 50.1	
	comp=E,3337μm,0.6s						
DKL	**Dikili**	**0.95**	**13**	Pg	**Pb**	**01 27 28.2**	**-0.2**
DKL				Sg	**Sn**	**01 27 41.9**	**-0.3**
IZMR	**zmir-demi**	**1.04**	**90**	P	**Pn**	**01 27 30.0**	**-0.3**
IZMR				S	**Sb**	**01 27 42.7**	**-0.7**
IZMR				*i* AML	AML	01 27 44.0	
	comp=E,126nm,0.4s						
IZMR				*i* AML	AML	01 27 48.0	
	comp=E,180nm,0.4s						
PRK	**Paraskevi**	**1.14**	**346**	P	**Pn**	**01 27 30.9**	**-0.7**
PRK				S	**Sg**	**01 27 47.4**	**+0.3**
	comp=E,935nm,0.5s						
PRK	**Paraskevi**	**1.14**	**346**	P	**Pn**	**01 27 30.8**	**-0.7**
PRK				AML	AML	01 27 54.1	
	comp=N,1825μm,0.6s						
PRK				AML	AML	01 27 54.5	
	comp=E,1960μm,0.6s						
YKAV	**Yalikavak-Bodr**	**1.14**	**153**	Pn	**Pb**	**01 27 31.9**	**+0.2**
GOMA	**Golmarmara-Man**	**1.15**	**61**	Pn	**Pn**	**01 27 31.7**	**-0.1**
GOMA				Sn	**Sg**	**01 27 47.8**	**+0.1**
AYVA	**Ayvalik**	**1.16**	**2**	P	**Pb**	**01 27 32.5**	**+0.4**
AYVA				S	**Sg**	**01 27 49.6**	**+1.6**
AYVA				*i* AML	AML	01 27 52.0	
	comp=E,136nm,0.6s						
AYVA				*i* AML	AML	01 27 53.0	
	comp=E,112nm,0.6s						
AKHS	**Akhisar**	**1.18**	**51**	P	**Pn**	**01 27 31.6**	**-0.6**
AKHS				S	**Sg**	**01 27 48.9**	**+0.4**
AKHS				*i* AML	AML	01 27 53.0	
	comp=E,198nm,0.6s						
AKS	**Akhisar**	**1.18**	**51**	Pn	**Pb**	**01 27 32.4**	**0.0**
BODT	**Bodrum**	**1.21**	**153**	Pn	**Pn**	**01 27 32.4**	**-0.2**
BODT	**Bodrum**	**1.21**	**153**	P	**Pn**	**01 27 32.0**	**-0.6**
BODT				S	**Sg**	**01 27 50.8**	**+1.4**
KLNA	**Kalymnos**	**1.22**	**167**	P	**Pn**	**01 27 31.2**	**-1.5**
KLNA				AML	AML	01 27 54.8	
	comp=E,2103μm,0.3s						
KLNA				AML	AML	01 27 54.9	
	comp=N,1411μm,0.4s						
SIGR	**SIGRI**	**1.23**	**330**	Pn	**Pn**	**01 27 32.3**	**-0.5**
SIGR	**SIGRI**	**1.23**	**330**	P	**Pn**	**01 27 32.3**	**-0.5**
SIGR				S	**Sb**	**01 27 48.8**	**+0.1**
	comp=N,565nm,0.5s						
SIGR	**SIGRI**	**1.23**	**330**	P	**Pn**	**01 27 31.9**	**-1.0**
SIGR				AML	AML	01 27 52.9	
	comp=N,1393μm,0.5s						
SIGR				AML	AML	01 27 54.8	
	comp=E,858μm,0.5s						
MLSB	**Milas**	**1.24**	**133**	Pn	**Pn**	**01 27 33.3**	**+0.2**
BDRM	**Kayabasi**	**1.26**	**149**	P	**Pn**	**01 27 33.0**	**-0.3**
TNSA	**Tinos**	**1.31**	**243**	P	**Pn**	**01 27 32.9**	**-1.1**
GPNR	**Gulpinar-Canak**	**1.37**	**344**	Pn	**Pn**	**01 27 34.7**	**-0.1**
APE	**Apeiranthos**	**1.39**	**220**	Pn	**Pn**	**01 27 35.5**	**+0.4**
APE	**Apeiranthos**	**1.39**	**220**	P	**Pn**	**01 27 33.5**	**-1.6**
APE				S	**Sb**	**01 27 54.9**	**+1.5**
	comp=E,182nm,0.2s						
APE	**Apeiranthos**	**1.39**	**220**	P	**Pn**	**01 27 33.5**	**-1.6**
KIRA	**zmir-Kiraz**	**1.39**	**87**	P	**Pn**	**01 27 35.1**	**-0.2**
BUHA	**Balikesir, Bur**	**1.40**	**14**	P	**Pn**	**01 27 34.0**	**-1.2**
BUHA				S	**Sg**	**01 27 56.4**	**+1.0**
ESEN	**Aydn-Nazilli**	**1.40**	**104**	P	**Pn**	**01 27 34.9**	**-0.3**
ESEN				S	**Sg**	**01 27 58.0**	**+2.5**
KOCA	**Canakkale, Ayv**	**1.41**	**344**	P	**Pn**	**01 27 34.6**	**-0.7**
RFTAA	**Mazikoy-Bodrum**	**1.45**	**142**	Pn	**Pn**	**01 27 35.4**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.49**	**34**	P	**Pn**	**01 27 36.1**	**-0.5**
STEP				S	**Sg**	**01 27 59.5**	**+0.9**
DAT	**Datca**	**1.60**	**152**	Pn	**Pn**	**01 27 37.3**	**-0.8**
KULA	**Kula-Manisa**	**1.64**	**76**	Pn	**Pn**	**01 27 38.7**	**+0.1**
KULA	**Kula-Manisa**	**1.64**	**76**	P	**Pn**	**01 27 39.1**	**+0.5**
YER	**Yerkesik**	**1.65**	**127**	Pn	**Pn**	**01 27 39.1**	**+0.3**
EZN	**Ezine**	**1.69**	**352**	Pn	**Pn**	**01 27 39.2**	**-0.1**
EZN	**Ezine**	**1.69**	**352**	P	**Pn**	**01 27 39.6**	**+0.3**
BALB	**Balikesir**	**1.78**	**33**	Pn	**Pn**	**01 27 40.3**	**-0.2**
TURN	**Turunc**	**1.87**	**136**	Pn	**Pn**	**01 27 42.1**	**+0.4**
CANM	**Can-anakkale**	**1.89**	**10**	Pn	**Pn**	**01 27 41.9**	**-0.1**
COMU	**Canakkale**	**1.95**	**356**	Pn	**Pn**	**01 27 42.9**	**0.0**
KYMI	**Kymi, Euboea I**	**2.05**	**285**	P	**Pn**	**01 27 43.3**	**-0.9**
SIMA	**Simav-Kutahya**	**2.06**	**62**	Pn	**Pn**	**01 27 44.5**	**0.0**
GONE	**Gonen-Balikesi**	**2.07**	**23**	Pn	**Pn**	**01 27 44.2**	**-0.2**
LIA	**Limnos Island**	**2.08**	**328**	P	**Pn**	**01 27 44.6**	**0.0**
LIA				AML	AML	01 28 20.1	
	comp=E,879μm,0.4s						
LIA				AML	AML	01 28 20.9	
	comp=N,377μm,0.4s						
GADA	**Gvkgeada**	**2.12**	**345**	Pn	**Pn**	**01 27 45.1**	**0.0**
LPK	**Lapseki**	**2.23**	**2**	Pn	**Pn**	**01 27 46.9**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.25**	**357**	Pn	**Pn**	**01 27 47.4**	**+0.4**
VLY	**Voula,Athens**	**2.26**	**263**	P	**Pn**	**01 27 46.6**	**-0.5**
ARG	**Arkhangelos**	**2.27**	**148**	P	**Pn**	**01 27 46.9**	**-0.3**
KRBG	**Karabiga-Canak**	**2.30**	**13**	Pn	**Pn**	**01 27 47.8**	**+0.2**
EDC	**Edincik**	**2.40**	**23**	Pn	**Pn**	**01 27 49.3**	**+0.4**
SMTH	**Samothraki Isl**	**2.48**	**340**	P	**Pn**	**01 27 49.4**	**-0.6**
ALN	**Alexandroupoli**	**2.79**	**351**	P	**Pn**	**01 27 53.8**	**-0.4**

*TRN **10** 01:35:09.1,11.°07N×62.°13W,h105km, MD3.8*
*FUNV **10** 01:35:09.3,10.°94N×62.°04W,h16km, MW3.9*

ISC 10 01:35:07.6±1.4,11.°04N±0.°04×62.°11W±0.°05, h11.7km±14km, n26,σ1.9°50/41, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.80**	**119** ⇑	*i* P	**Pn**	**01 35 29.2**	**+1.7**
TRN				*e*S	**Sn**	**01 35 42.1**	**-0.2**
TBH	**Brigand Hill**	**1.16**	**118**	*e*P	**Pn**	**01 35 32.1**	**+1.0**
TBH				*e*S	**Sn**	**01 35 49.0**	**+0.2**
CRUV	**Carupano**	**1.17**	**252**	*e*S	**Sn**	**01 35 46.8**	**-2.1**
GRGR	**Grenville**	**1.17**	**22**	*e*P	**Pn**	**01 35 31.8**	**+0.6**
GRGR				*e*S	**Sn**	**01 35 48.5**	**-0.6**
GRHS	**Sauteurs**	**1.26**	**21**	*e*P	**Pn**	**01 35 32.8**	**+0.6**
GRHS				*e*S	**Sn**	**01 35 49.7**	**-1.0**
TPR	**Prospect**	**1.31**	**84**	*e*P	**Pn**	**01 35 33.5**	**+0.7**
TPR				*e*S	**Sn**	**01 35 52.3**	**+0.5**
GCMP	**Grenada, Carri**	**1.58**	**25**	*e*P	**Pn**	**01 35 36.3**	**+0.5**
GCMP				*e*S	**Sn**	**01 35 56.0**	**-1.3**
SVOC	**Richmond Hill,**	**2.27**	**22**	*e*S	**Sn**	**01 36 11.6**	**-0.9**
SVB	**Belmont**	**2.37**	**21**	*e*P	**Pn**	**01 35 46.2**	**+0.5**
SVB				*e*S	**Sn**	**01 36 14.7**	**-0.2**
SSV	**Soufriere Volc**	**2.42**	**21**	*e*S	**Sn**	**01 36 16.2**	**+0.1**
SSV	**Crater Summit**	**2.44**	**21**	*e*S	**Sn**	**01 36 15.5**	**-1.1**
PCRV	**Puerto La Cruz**	**2.63**	**251**	*e*P	**Pn**	**01 35 50.7**	**+1.6**
PCRV				*e*S	**Sn**	**01 36 21.4**	**+0.5**
SLB	**Belfond**	**2.96**	**20**	*e*S	**Sn**	**01 36 29.3**	**+0.7**
SLBI	**Saint Lucia, B**	**3.16**	**20**	*e*P	**Pn**

KSRS ScP **ScP** **01 57 24.6 +1.6**
comp=Z,12nm,0.9s,baz=141,slow=2.3,SNR=23
comp=Z,61nm,0.6s
KSAR Wonju Array Be 20.48 323 P **P** **01 50 17.4 -0.4**
KSAR Wonju Array Be 20.48 323 P **P** **01 50 17.4 -0.4**
SSLB Suanglung 20.49 280 P **P** **01 50 18.8 +0.6**
SSLB Suanglung 20.49 280 P **P** **01 50 19.7 +1.5**
KS19 Wonju Array Si 20.53 324 P **P** **01 50 18.4 0.0**
DAV Davao City (W) 22.26 232 P **P** **01 50 35.4 +0.7**
comp=Z,313nm,0.5s
MSHR Mys Shultsa 23.11 337 *i* P **P** **01 50 41.2 -0.8**
NJ2 Nanjing 23.89 301 *e*P **P** **01 50 49.2 0.0**
NJ2 pmax pmax
comp=Z,18nm,0.7s
MANU Manus Island 23.95 169 P **P** **01 50 50.4 +0.5**
USA0B Ussuriysk Arra 24.26 340 P **P** **01 50 53.3 +0.8**
USA0B IAmb IAmb 01 50 54.8
comp=Z,36nm,0.8s
USA0B Ussuriysk Arra 24.26 340 P **P** **01 50 53.3 +0.8**
USA0B pmax pmax
comp=Z,36nm,0.8s
USRK Ussuriysk Ar. 24.26 340 P **P** **01 50 53.3 +0.9**
comp=Z,30nm,0.7s,baz=158,slow=8.7,SNR=38
comp=Z,30nm,0.7s
GENI Genyem 24.28 187 P **P** **01 50 53.2 +0.2**
GENI Genyem 24.28 187 P **P** **01 50 52.9 -0.1**
comp=Z,62nm,0.9s
DL2 Dalian 25.14 318 P **P** **01 51 01.1 +0.6**
DL2 pmax pmax
comp=Z,58nm,1.0s
SWI Sorong 25.19 209 P **P** **01 51 00.9 -0.2**
comp=Z,28nm,0.8s
SIJI Sorong 25.19 209 P **P** **01 51 01.1 -0.1**
comp=Z,22nm,0.9s
YSS Yuzh-Sakhalins 25.22 360 *e*P **P** **01 51 04.7 +3.7**
YSS *e* 01 51 55.0
YSS pmax pmax
comp=Z,20nm,0.8s
KAVG Kavieng 25.27 162 P **P** **01 51 00.9 -1.0**
MDJ Mudanjiang 25.44 337 P **P** **01 51 04.7 +1.7**
MDJ pP pwP 01 51 59.9 -0.8
MDJ PcP **PcP** **01 54 26.7 +0.6**
MDJ S **S** **01 55 10.5 +3.7**
MDJ ScP **ScP** **01 57 36.7 +0.6**
MDJ ScS **ScS** **02 01 26.3 +1.0**
MDJ pmax pmax
comp=Z,62nm,1.0s
MDJ pmax pmax
comp=Z,280nm,4.8s
MDJ Mudanjiang 25.44 337 IAmb IAmb 01 51 05.6
comp=Z,62nm,1.1s
MDJ Mudanjiang 25.44 337 P **P** **01 51 05.4 +2.4**
SNY Shenyang 25.93 325 ⇓P **P** **01 51 07.3 -0.1**
SNY pmax pmax
comp=Z,32nm,0.8s
CN2 Changchun 26.47 331 *e*P **P** **01 51 11.9 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
FAKI Fak Fak 26.63 205 P **P** **01 51 13.4 -0.6**
comp=Z,32nm,1.0s
KMPI Kaimana, Papua 26.79 201 P **P** **01 51 14.9 -0.5**
comp=Z,151nm,0.7s
TIA Tai'an 26.81 308 P **P** **01 51 15.9 +0.5**
TIA pmax pmax
comp=Z,36nm,0.8s
LBMI Labuha 26.88 216 P **P** **01 51 15.5 -0.7**
comp=Z,103nm,0.9s
WHN Wuhan 27.19 295 P **P** **01 51 19.1 +0.3**
WHN pmax pmax
comp=Z,70nm,0.7s
BNX BinXian 27.21 336 ⇑P **P** **01 51 19.3 +0.5**
BNX pmax pmax
comp=Z,130nm,0.6s
BNX pmax pmax
comp=Z,1μm,5.5s
KMSI Cibinong 28.03 224 P **P** **01 51 27.0 +0.6**
comp=Z,151nm,0.9s
GTOI Gorontalo 28.62 226 P **P** **01 51 31.4 -0.2**
comp=Z,30nm,1.1s,comp=Z,263nm
SANI Sanana 28.89 217 P **P** **01 51 33.3 -0.6**
SANI Sanana 28.89 217 P **P** **01 51 31.7 -2.2**
comp=Z,18nm,1.0s
KLR Kul'dur 28.93 345 *ce*P **P** **01 51 34.1 +0.1**
KLR pmax pmax
comp=Z,127nm,0.7s
BNDI Bandanaira 29.05 208 P **P** **01 51 34.7 -0.6**
comp=Z,183nm,1.4s
NLAI Namlea 29.27 214 P **P** **01 51 37.5 +0.2**
comp=Z,5.2nm,0.5s
BJT Baijiatuan 29.27 315 P **P** **01 51 39.1 +2.0**
BJI Beijing 29.28 315 P **P** **01 51 37.6 +0.5**
BJI pmax pmax
comp=Z,7.0nm,0.6s
GRNR Gornyy 29.50 351 ⇓ *i*P **P** **01 51 39.4 +0.4**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,1μm,17.0s
GRNR MLR MLR
comp=N,760nm,20.0s
GRNR MLR MLR
comp=Z,330nm,21.0s
LYN LuoYang 29.75 302 ⇓P **P** **01 51 41.8 +0.4**
LYN PcP **PcP** **01 54 37.6 +0.7**
LYN pmax pmax
comp=Z,31nm,0.8s
TOLI2 Tolitoli 29.81 230 P **P** **01 51 41.9 -0.2**
TOLI2 IAmb IAmb 01 51 44.5
comp=Z,48nm,0.8s
TOLI2 Tolitoli 29.81 230 P **P** **01 51 43.1 +1.0**
LUWI Luwuk 30.04 224 P **P** **01 51 42.8 -1.3**
LUWI Luwuk 30.04 224 P **P** **01 51 44.2 +0.1**
comp=Z,92nm,1.0s
LUWI Luwuk 30.04 224 P **P** **01 51 43.2 -0.9**
comp=Z,92nm,1.0s,comp=Z,2μm
KKM Kota Kinabalu 30.25 243 P **P** **01 51 45.4 -0.7**
MPSI Mapaga 30.98 230 P **P** **01 51 52.0 -0.3**
comp=Z,23nm,0.7s,comp=Z,1μm
HEH HeiHe 31.07 340 ⇓P **P** **01 51 52.9 +0.2**
HEH PcP **PcP** **01 54 40.7 +0.7**
HEH S **S** **01 56 34.7 -0.2**
HEH ScP **ScP** **01 57 53.0 -0.6**
HEH ScS **ScS** **02 01 49.8 -1.3**
HEH pmax pmax
comp=Z,170nm,1.0s
HEH pmax pmax
comp=Z,1μm,5.8s
PMG Port Moresby 31.15 172 *i* P **P** **01 51 52.3 -1.4**
PMG pmax pmax
comp=Z,16nm,0.7s
PMG Port Moresby 31.15 172 P **P** **01 51 53.6 -0.1**
comp=Z,14nm,0.5s,baz=348,slow=13,SNR=6.9
comp=Z,14nm,0.5s
ENH Enshi 31.28 293 P **P** **01 51 54.3 -0.6**
ENH Enshi 31.28 293 P **P** **01 51 55.4 +0.6**
XLT XiLinHaoTe 31.47 321 *e*P P 01 51 51.3 -5.1
XLT pP pP 01 52 53.2 -1.3
XLT PcP **PcP** **01 54 43.2 +1.8**
XLT pmax pmax
comp=Z,10.0nm,2.4s
XLT pmax pmax
comp=Z,590nm,5.1s
XAN Xi'an 32.44 300 ⇑P **P** **01 52 04.7 -0.2**
XAN pmax pmax
comp=Z,26nm,0.9s
XAN Xi'an 32.44 300 P **P** **01 52 04.8 -0.1**
XAN PcP **PcP** **01 54 45.0 +0.8**
HHC Hu-ho-hao-te 32.76 313 *e*P **P** **01 52 10.1 +2.4**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,190nm,5.0s
HHC LR LR
comp=Z,440nm,21.8s
HIA Hailar 33.18 332 IAmb IAmb 01 52 13.1
comp=Z,46nm,0.8s
HIA Hailar 33.18 332 P **P** **01 52 12.4 +1.4**
HIA Hailar 33.18 332 P **P** **01 52 11.9 +0.9**
PEA0B Petropavlovsk- 33.33 16 P **P** **01 52 13.6 +1.4**
PEA0B Petropavlovsk- 33.33 16 P **P** **01 52 13.6 +1.4**
PEA0B pmax pmax
comp=Z,220nm,1.8s
PETK Petropavlovsk- 33.33 16 P **P** **01 52 13.6 +1.3**
comp=Z,15nm,0.8s,baz=197,slow=4.5,SNR=7.4
PETK PcP **PcP** **01 54 46.1 -0.2**
comp=Z,4.2nm,0.7s,baz=213,slow=4.8,SNR=4.1
comp=Z,15nm,0.8s
TTSI Tana Toraja 33.47 226 P **P** **01 52 14.0 +0.1**
comp=Z,78nm,0.9s
GYA Guiyang 33.49 285 ⇓P **P** **01 52 15.1 +0.9**
GYA pmax pmax
comp=Z,21nm,0.9s
PET Petropavlovsk 33.51 17 *e*P **P** **01 52 15.5 +1.8**
PET pmax pmax
comp=Z,30nm,1.0s
BTO Baotou 33.72 312 *e*P **P** **01 52 18.3 +2.4**
BTO pP **pwP** **01 53 20.6 +3.2**
BTO pmax pmax
comp=Z,51nm,0.8s
BTO pmax pmax
comp=Z,600nm,6.2s
SPSI Sidrap Palu 34.19 225 P **P** **01 52 20.1 0.0**
comp=Z,156nm,0.8s,comp=Z,2μm
ZEA Zeya 34.20 343 *e*P **P** **01 52 19.8 +0.1**
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,50nm,0.9s
BKB Balikpapan 34.24 232 P **P** **01 52 20.4 -0.1**
BKB Balikpapan 34.24 232 P **P** **01 52 21.9 +1.4**
BKB Balikpapan 34.24 232 P **P** **01 52 22.2 +1.7**
comp=Z,468nm,0.9s,comp=Z,4μm
KAPI Kappang 35.00 223 P **P** **01 52 27.1 +0.2**
KAPI IAmb IAmb 01 52 28.6
comp=Z,56nm,1.1s
KAPI Kappang 35.00 223 P **P** **01 52 27.1 +0.2**
KAPI pmax pmax
comp=Z,56nm,1.1s
KAPI Kappang 35.00 223 P **P** **01 52 27.4 +0.5**
comp=Z,28nm,0.7s,baz=35,slow=10.0,SNR=9.1
comp=Z,28nm,0.7s
BKSI Bukumba 35.00 223 P **P** **01 52 27.4 +0.5**
comp=Z,30nm,0.9s
COEN Coen 35.41 180 P **P** **01 52 30.0 -0.4**
COEN IAmb IAmb 01 52 31.7
comp=Z,52nm,0.8s
KDU Kakadu 35.69 198 P **P** **01 52 32.3 -0.4**
MTN Manton Dam 36.24 200 P **P** **01 52 36.0 -1.4**
MTN IAmb IAmb 01 52 37.3
comp=Z,27nm,0.9s
CD2 Chengdu 36.26 293 P **P** **01 52 37.1 -0.4**
CD2 pmax pmax
comp=Z,30nm,0.9s
SLVN Son La 36.36 277 P **P** **01 52 38.4 -0.1**
SLVN IAmb IAmb 01 52 40.9
comp=Z,26nm,0.6s
MMRI Maumere 36.40 216 P **P** **01 52 38.3 -0.5**
EDFI Ende, Flores 36.79 217 P **P** **01 52 41.7 -0.5**
comp=Z,81nm,1.0s,comp=Z,888nm
LZH Lanzhou 36.95 302 ⇑P **P** **01 52 44.3 +0.8**
LZH pmax pmax
comp=Z,54nm,1.1s
KMI Kunming 37.06 283 ⇑P **P** **01 52 46.0 +1.4**
KMI pmax pmax
comp=Z,23nm,0.7s
BBKI Banjar Baru 37.24 231 P **P** **01 52 46.2 +0.4**
comp=Z,56nm,0.5s,comp=Z,8μm
STKI Sintang 37.55 239 P **P** **01 52 48.4 0.0**
comp=Z,155nm,0.7s
NONG Nongkai 37.63 272 P **P** **01 52 51.2 +2.1**
PZH PanZhiHua 37.90 286 P **P** **01 52 52.1 +0.7**
PZH S **S** **01 58 18.6 -1.5**
PZH pmax pmax
comp=Z,40nm,0.6s
PZH pmax pmax
comp=Z,160nm,5.0s
MA2 Magadan 38.26 6 P **P** **01 52 54.0 +0.2**
MA2 IAmb IAmb 01 52 55.8
comp=Z,26nm,0.7s
MA2 Magadan 38.26 6 P **P** **01 52 55.6 +1.8**
MA2 Magadan 38.26 6 *ce*P **P** **01 52 53.8 0.0**
MA2 pmax pmax
comp=Z,89nm,2.5s
MA2 Magadan 38.26 6 P **P** **01 52 54.5 +0.8**
ULN Ulaanbaatar 38.91 321 P **P** **01 52 59.7 +0.2**
ULN Ulaanbaatar 38.91 321 *ce*P **P** **01 53 00.3 +0.8**
ULN pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 38.91 321 P **P** **01 52 59.9 +0.4**
ULN ScP **ScP** **01 58 23.2 +0.9**
ULN Ulaanbaatar 38.91 321 P **P** **01 53 00.0 +0.5**
comp=Z,73nm,0.8s
PLAI Plampang 39.17 222 P **P** **01 53 02.3 +0.5**
PLAI Plampang 39.17 222 P **P** **01 53 01.1 -0.7**
comp=Z,188nm,0.9s,comp=Z,2μm
SONM Songino Array 39.28 321 P **P** **01 53 03.2 +0.7**
comp=Z,13nm,0.6s,baz=133,slow=7.9,SNR=78
SONM PcP **PcP** **01 55 04.3 -0.3**
comp=Z,2.1nm,0.5s,baz=163,slow=4.4,SNR=4.9
SONM ScP **ScP** **01 58 23.8 +0.2**
comp=Z,4.6nm,1.0s,baz=116,slow=3.6,SNR=8.8
comp=Z,13nm,0.6s
KNRA Kununurra 39.68 202 IAmb IAmb 01 53 06.4
comp=Z,68nm,0.9s
KNRA Kununurra 39.68 202 P **P** **01 53 06.3 +0.4**
CRAI Chiangrai 39.79 276 P **P** **01 53 07.5 +0.5**
PHRA Phrae 40.25 273 P **P** **01 53 11.1 +0.3**
PHRA IAmb IAmb 01 53 14.4
comp=Z,89nm,1.0s
NAYO Nakonayok 40.26 267 P **P** **01 53 12.7 +1.9**
KMMI Kalianget 40.36 228 P **P** **01 53 13.2 +1.7**
comp=Z,337nm,0.8s,comp=Z,4μm
ABJI Asem Bagus 40.71 227 P **P** **01 53 15.7 +1.3**
comp=Z,101nm,0.9s
GTA Gaotai 40.79 306 *e*P **P** **01 53 15.5 +0.5**
GTA PcP **PcP** **01 55 10.6 +1.0**
GTA ScP **ScP** **01 58 33.8 +4.0**
GTA pmax pmax
comp=Z,5.0nm,0.7s
BLJI Banyuglugur 41.11 228 P **P** **01 53 18.8 +1.2**
comp=Z,176nm,0.8s,comp=Z,6μm
JAGI Jajag, Banyuwa 41.25 226 P **P** **01 53 17.0 -1.8**
JAGI IAmb IAmb 01 53 19.4
comp=Z,64nm,0.8s
JAGI Jajag, Banyuwa 41.25 226 P **P** **01 53 18.6 -0.2**
comp=Z,97nm,0.9s
JAGI Jajag, Banyuwa 41.25 226 P **P** **01 53 18.0 -0.8**
comp=Z,95nm,0.9s
YAK Yakutsk 41.37 351 P **P** **01 53 18.7 -0.4**
YAK Yakutsk 41.37 351 *e*P **P** **01 53 18.9 -0.2**
YAK *e**PP **pP** **01 54 17.4 -2.0**
YAK *e* 01 54 58.1
YAK *e* 01 55 11.5
YAK *e*S **S** **01 59 11.9 +1.7**
YAK pmax pmax
comp=Z,146nm,0.7s
YAK pmax pmax
comp=N,27nm,0.9s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,883nm,9.9s
YAK pmax pmax
comp=N,276nm,4.5s
YAK pmax pmax
comp=E,570nm,5.9s
YAK smax smax
comp=E,423nm,5.0s
YAK smax smax
comp=N,324nm,3.9s
YAK Yakutsk 41.37 351 P **P** **01 53 19.0 -0.1**
CMMT Chiang Mai 41.38 274 P **P** **01 53 20.5 +0.6**
comp=N,56nm,1.1s
CHTO Chiang Mai 41.38 274 P **P** **01 53 19.9 0.0**
CHTO Chiang Mai 41.38 274 P **P** **01 53 21.5 +1.6**
CHTO Chiang Mai 41.38 274 P **P** **01 53 19.9 0.0**
CHTO pmax pmax
comp=Z,23nm,1.1s
CHTO Chiang Mai 41.38 274 P **P** **01 53 20.6 +0.8**
CHTO Chiang Mai 41.38 274 P **P** **01 53 20.7 +0.8**
comp=Z,20nm,1.1s
CM31 Chiang Mai Arr 41.46 274 P **P** **01 53 21.1 +0.6**
CMAR Chiang Mai Arr 41.46 274 P **P** **01 53 21.6 +1.1**
comp=Z,12nm,0.6s,baz=82,slow=6.1,SNR=60
comp=Z,12nm,0.6s
CTA Charters Tower 41.62 175 P **P** **01 53 22.1 +0.4**
CTA Charters Tower 41.62 175 P **P** **01 53 21.6 -0.1**
comp=Z,31nm,0.8s,baz=4.0,slow=10,SNR=28
comp=Z,31nm,0.8s
CTAO Charters Tower 41.62 175 P **P** **01 53 20.4 -1.3**
CTAO Charters Tower 41.62 175 P **P** **01 53 22.2 +0.5**
CTAO Charters Tower 41.62 175 P **P** **01 53 20.4 -1.3**
CTAO pmax pmax
comp=Z,50nm,1.0s
CTAO Charters Tower 41.62 175 P **P** **01 53 21.5 -0.1**
SEY Seymchan 41.72 6 *ce*P **P** **01 53 22.6 +0.7**
SEY pmax pmax
comp=Z,27nm,0.9s
BOD Bodaibo 41.81 337 *e*P **P** **01 53 22.6 -0.1**
BOD pmax pmax
comp=Z,12nm,1.5s
WB0 Warramunga Arr 42.05 192 P **P** **01 53 24.3 -0.8**
WB0 IAmb IAmb 01 53 25.8
comp=Z,86nm,1.1s
QIS Mount Isa 42.11 185 P **P** **01 53 25.3 -0.3**
KRKI Karangkates 42.20 229 P **P** **01 53 27.0 +0.6**
comp=Z,507nm,0.7s
WR0 Warramunga Arr 42.21 192 IAmb IAmb 01 53 27.1
comp=Z,65nm,1.1s
WRA Warramunga Arr 42.23 192 P **P** **01 53 24.6 -2.0**
WRA Warramunga Arr 42.23 192 P **P** **01 53 25.6 -0.9**
comp=Z,53nm,0.8s,baz=16,slow=9.2,SNR=318
WRA ScP **ScP** **01 58 37.9 +2.4**
comp=Z,4.9nm,0.7s,baz=10,slow=4.3,SNR=11
WRA S **S** **01 59 22.1 -1.6**
comp=Z,6.3nm,1.1s,baz=14,slow=14,SNR=8.9
WRA PKiKP **PKiKP** **02 02 17.3 -1.9**
comp=Z,0.7nm,0.7s,baz=328,slow=1.4,SNR=4.6
comp=Z,53nm,0.8s
SRDT SRDT 42.30 268 P **P** **01 53 29.0 +1.7**
SJI Sawahan 42.38 230 P **P** **01 53 28.1 +0.1**
comp=Z,113nm,1.4s
KIWB Kanaga Island 43.01 36 P **P** **01 53 33.5 +1.1**
FITZ Fitzroy Crossi 43.05 205 P **P** **01 53 32.3 -0.8**
FITZ Fitzroy Crossi 43.05 205 P **P** **01 53 32.7 -0.4**
ADK Adak 43.27 36 P **P** **01 53 35.3 +0.8**
ADK IAmb IAmb 01 53 36.6
comp=Z,69nm,0.7s
ADK Adak 43.27 36 P **P** **01 53 36.3 +1.8**
ADK Adak 43.27 36 P **P** **01 53 35.3 +0.8**
ADK pmax pmax
comp=Z,69nm,0.7s
ADK Adak 43.27 36 P **P** **01 53 35.9 +1.4**
SKLT Songkhla 43.39 257 P **P** **01 53 37.8 +1.9**
SKLT Songkhla 43.39 257 P **P** **01 53 37.4 +1.5**
comp=Z,237nm,0.8s,comp=Z,2μm
UGM Wanagama 43.40 231 P **P** **01 53 35.0 -1.0**
MND Mandalay 43.43 280 P **P** **01 53 37.0 +0.8**
comp=Z,23nm,0.8s
SURA Surathani 43.52 260 P **P** **01 53 38.9 +1.9**
comp=Z,47nm,0.9s
SRIT Nakonsritamara 43.76 260 P **P** **01 53 39.1 +0.2**
SRIT IAmb IAmb 01 53 41.8
comp=Z,45nm,0.9s
SRIT Nakonsritamara 43.76 260 P **P** **01 53 40.6 +1.7**
KULM Kulim 44.15 255 P **P** **01 53 42.5 +0.5**
KULM IAmb IAmb 01 53 44.5
comp=Z,66nm,0.6s
KULM Kulim 44.15 255 P **P** **01 53 43.3 +1.3**
comp=Z,109nm,0.8s,comp=Z,916nm
MOY Mondy 44.16 323 *e*P **P** **01 53 42.6 +0.9**
MOY pmax pmax
comp=Z,21nm,1.8s
KPJI Karang Pucung 44.17 233 P **P** **01 53 41.8 -0.3**
comp=Z,106nm,0.7s
GOMU GeErMu 44.19 300 P **P** **01 53 44.7 +2.2**
GOMU pmax pmax
comp=Z,37nm,0.7s
ATKA Atka Island 44.78 36 P **P** **01 53 48.0 +1.6**
BBJI Bungbulang 45.22 234 P **P** **01 53 50.3 -0.1**
BBJI Bungbulang 45.22 234 P **P** **01 53 49.0 -1.4**
comp=Z,48nm,0.5s
RK1H Rockhampton Ha 45.37 170 P **P** **01 53 51.3 0.0**
ASAR Alice Springs 45.94 192 P **P** **01 53 54.8 -1.0**
comp=Z,8.1nm,0.6s,baz=8.6,slow=8.0,SNR=65
ASAR PcP **PcP** **01 55 28.1 +0.9**
comp=Z,2.0nm,0.7s,baz=12,slow=4.7,SNR=4.1
ASAR ScP **ScP** **01 58 52.4 +1.7**
comp=Z,1.7nm,0.7s,baz=9.1,slow=4.7,SNR=6.2
ASAR S **S** **02 00 15.4 -1.6**
comp=Z,6.8nm,0.7s,baz=18,slow=19,SNR=28
comp=Z,8.1nm,0.6s
CGJI Cibinong 46.17 237 P **P** **01 53 55.8 -2.0**
comp=Z,206nm,0.8s,comp=Z,2μm
PSI Prapat 46.79 253 P **P** **01 54 03.9 +1.2**
PDSI Padang 47.24 247 P **P** **01 54 05.8 -0.3**
comp=Z,85nm,0.7s
KCSI Kotacane, Aceh 47.49 254 P **P** **01 54 07.9 -0.1**
comp=Z,21nm,0.6s,comp=Z,3μm
LHMI Lhok Sumawe 47.51 257 P **P** **01 54 08.6 +0.5**
LHMI Lhok Sumawe 47.51 257 P **P** **01 54 09.3 +1.2**
QLP Quilpie 47.98 179 P **P** **01 54 11.4 0.0**
BILL Bilibino 48.57 11 P **P** **01 54 16.9 +1.6**
PSA00 Pilbara Seismi 48.59 209 P **P** **01 54 15.7 -0.4**
PSA00 Pilbara Seismi 48.59 209 P **P** **01 54 16.8 +0.7**
WRKA Warakurna 48.59 198 P **P** **01 54 15.4 -0.7**
GSI Gunungsitoli 48.67 252 P **P** **01 54 16.8 -0.1**
GSI Gunungsitoli 48.67 252 P **P** **01 54 18.0 +1.1**
GSI Gunungsitoli 48.67 252 P **P** **01 54 17.4 +0.5**
comp=Z,119nm,0.8s
SPIA Saint Paul Isl 49.05 32 P **P** **01 54 21.3 +2.2**
baz=244
DZM Mont Dzumac 49.10 151 P **P** **01 54 19.8 -0.3**
INKA Innaminka 49.17 183 P **P** **01 54 19.3 -1.1**
OOD Oodnadatta 49.69 189 P **P** **01 54 24.6 +0.4**
UNV Unalaska Valle 49.70 37 P **P** **01 54 25.6 +1.6**
baz=250
WMQ Urumqi 50.50 309 *e*P **P** **01 54 30.5 +0.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
TIXI Tiksi 50.66 354 P **P** **01 54 30.2 -0.7**
TIXI Tiksi 50.66 354 *ce*P **P** **01 54 30.8 -0.1**
TIXI pmax pmax
comp=Z,28nm,0.8s
TIXI Tiksi 50.66 354 P **P** **01 54 30.6 -0.3**
TIXI PcP **PcP** **01 55 43.0 -0.4**
AULRC Lightning Ridg 51.03 174 P **P** **01 54 34.5 +0.3**
DGZ Jazzator, Alta 51.66 317 *i* P **P** **01 54 39.6 +0.7**
DGZ pmax pmax
comp=Z,22nm,0.6s
LCRK Leigh Creek 52.03 185 P **P** **01 54 41.9 +0.4**
MULG Mulgathing 52.38 190 P **P** **01 54 44.3 +0.2**
ZSN Zaisan 52.95 314 *e*P **P** **01 54 49.0 +0.7**
baz=314
ZSN Zaisan 52.95 314 *e*P **P** **01 54 48.9 +0.7**
CMSA Cobar Meteorol 52.97 177 P **P** **01 54 49.6 +1.2**
STKA Stephens Creek 53.26 182 P **P** **01 54 50.3 -0.2**
STKA Stephens Creek 53.26 182 P **P** **01 54 49.4 -1.2**
comp=Z,39nm,0.8s,baz=348,slow=8.3,SNR=63
comp=Z,39nm,0.8s
SDPT Sand Point 53.50 36 P **P** **01 54 53.4 +1.5**
SDPT Sand Point 53.50 36 P **P** **01 54 52.3 +0.4**
baz=255,SNR=5.5
MEEK Meekatharra 53.54 207 P **P** **01 54 52.4 -0.3**
M13K Dall Lake 53.65 30 IAmb IAmb 01 54 56.5
comp=Z,65nm,0.8s
M13K Dall Lake 53.65 30 P **P** **01 54 55.2 +2.3**
baz=248
CHNA Chernabura Isl 53.86 37 P **P** **01 54 55.8 +1.2**
baz=256
AUDCS Dubbo College 53.86 174 P **P** **01 54 55.7 +0.9**
comp=Z,42nm,1.6s
FORT Forrest 54.10 196 P **P** **01 54 55.1 -1.4**
FORT IAmb IAmb 01 54 57.3
comp=Z,69nm,0.8s
FORT Forrest 54.10 196 P **P** **01 54 57.1 +0.5**
ZAA0 Zalesovo Array 54.15 322 P **P** **01 54 56.3 -0.4**
ZALV Zalesovo Beam 54.15 322 P **P** **01 54 56.7 0.0**
comp=Z,29nm,0.7s,baz=105,slow=7.5,SNR=111
ZALV PcP **PcP** **01 55 56.8 -0.2**
comp=Z,27nm,0.5s,baz=121,slow=3.8,SNR=28
ZALV S **S** **02 02 06.8 -2.5**
comp=Z,0.3nm,0.4s,baz=111,slow=7.9,SNR=4.4
comp=Z,29nm,0.7s
O14K Tigyukauivet M 54.24 32 P **P** **01 54 58.7 +1.5**
baz=251
N14K Kuskokwak Cree 54.26 31 P **P** **01 54 59.3 +2.0**
baz=250
L14K Kuka Creek 54.30 29 IAmb IAmb 01 55 00.1
comp=Z,28nm,0.7s
L14K Kuka Creek 54.30 29 P **P** **01 54 59.5 +2.0**
baz=248
M14K Bethel 54.41 30 IAmb IAmb 01 55 01.0
comp=Z,54nm,0.7s

M14K **Bethel** 54.41 30 P P 01 55 00.5 +2.1
baz=250,SNR=11
J14K **Nanvaranak Lak** 54.46 27 IAmb IAmb 01 56 00.6
comp=Z,54nm,1.6s
J14K **Nanvaranak Lak** 54.46 27 P P 01 55 00.6 +1.9
baz=246
ANM **Nome** 54.49 25 P P 01 55 00.7 +1.8
baz=244
F14K **Arctic Creek** 54.55 23 P P 01 55 01.4 +2.1
baz=242
BBOO **Buckleboo** 54.59 187 P P 01 55 01.2 +1.2
comp=Z,22nm,1.2s
MK31 **Makanchi Array** 54.62 313 *i* P P 01 55 00.2 -0.1
MK31 pmax pmax
comp=Z,15nm,0.6s
MKAR **Makanchi Array** 54.62 313 P P 01 54 59.9 -0.4
MKAR **Makanchi Array** 54.62 313 P P 01 55 00.6 +0.4
comp=Z,20nm,0.6s,baz=92,slow=9.0,SNR=257
MKAR PcP PcP 01 55 59.5 +0.5
comp=Z,12nm,0.6s,baz=75,slow=4.3,SNR=13
MKAR ScP ScP 01 59 28.2 +0.4
comp=Z,2.3nm,0.7s,baz=82,slow=5.7,SNR=6.0
MKAR S S 02 02 15.6 -0.2
comp=Z,0.8nm,0.9s,baz=92,slow=10,SNR=4.1
comp=Z,20nm,0.6s
WHYH **Whyalla** 54.65 186 P P 01 55 01.2 +0.8
MAKZ **Makanchi** 54.84 313 P P 01 55 01.4 -0.4
MAKZ IAmb IAmb 01 55 03.6
comp=Z,26nm,0.7s
MAKZ **Makanchi** 54.84 313 P P 01 55 02.3 +0.5
MAKZ **Makanchi** 54.84 313 P P 01 55 02.1 +0.4
MAKZ PcP PcP 01 55 59.9 0.0
MAKZ pP pwP 01 56 08.5 -0.7
MAKZ sP sP 01 56 41.4 +2.0
CHGN **Chignik** 54.87 36 P P 01 55 02.1 +0.4
baz=256,SNR=10
O15K **Ungalikthiuk R** 54.92 32 P P 01 55 04.1 +2.0
baz=253
HTT **Hallett** 54.94 184 P P 01 55 03.3 +0.8
M15K **Kasigluk River** 54.98 30 P P 01 55 04.0 +1.5
baz=251
N15K **Kwethluk River** 55.09 31 P P 01 55 05.4 +2.1
baz=252
K15K **Wolf Creek Mou** 55.15 28 IAmb IAmb 01 55 06.2
comp=Z,24nm,0.7s
K15K **Wolf Creek Mou** 55.15 28 P P 01 55 05.7 +2.0
baz=249,SNR=6.2
F15K **North Star Dit** 55.28 23 P P 01 55 06.6 +2.1
baz=244
H16K **Elim** 55.75 25 P P 01 55 09.3 +1.5
baz=247,SNR=11
P16K **Nushagak River** 55.78 32 P P 01 55 10.3 +2.2
baz=254,SNR=5.8
N16K **Nishlik Lake** 55.81 31 P P 01 55 10.2 +1.8
baz=253,SNR=23
L16K **Owhat River** 55.87 29 P P 01 55 09.9 +1.2
baz=251
O16K **Kokwok River B** 55.89 32 IAmb IAmb 01 55 11.1
comp=Z,35nm,0.6s
O16K **Kokwok River B** 55.89 32 P P 01 55 10.5 +1.6
baz=254
M16K **Timber Creek** 55.89 30 IAmb IAmb 01 55 11.2
comp=Z,22nm,0.7s
M16K **Timber Creek** 55.89 30 P P 01 55 10.7 +1.8
baz=252,SNR=5.8
YNG **Young** 55.89 175 P P 01 55 09.8 +0.5
J16K **Anvik River** 55.91 27 IAmb IAmb 01 55 11.7
comp=Z,27nm,0.7s
J16K **Anvik River** 55.91 27 P P 01 55 11.0 +2.0
baz=249,SNR=17
G16K **Koyuk River** 56.01 24 P P 01 55 11.2 +1.6
baz=246
I17K **Unalakleet** 56.09 26 IAmb IAmb 01 55 12.9
comp=Z,29nm,0.7s
I17K **Unalakleet** 56.09 26 P P 01 55 12.4 +2.2
baz=249,SNR=11
C16K **Lisburne Hills** 56.23 21 P P 01 55 12.6 +1.4
baz=241
CHIR **Chirikof Islan** 56.29 37 P P 01 55 13.8 +2.0
baz=259
O17K **Koliganek Bris** 56.42 32 P P 01 55 14.4 +1.8
baz=255,SNR=22
SHLS **Shalkode** 56.43 308 *e*P P 01 55 11.6 -1.6
baz=308
SHLS **Shalkode** 56.43 308 *e*P P 01 55 11.6 -1.6
L17K **Donlin** 56.53 29 P P 01 55 15.6 +2.2
baz=252
N17K **Nushagak Hills** 56.58 31 IAmb IAmb 01 55 16.8
comp=Z,24nm,0.7s
N17K **Nushagak Hills** 56.58 31 P P 01 55 16.0 +2.3
baz=254,SNR=9.0
M17K **Holitna River** 56.70 30 P P 01 55 16.4 +1.8
baz=254
G17K **Kiwalik Mounta** 56.70 25 P P 01 55 16.3 +1.8
baz=248
K17K **Iditarod** 56.71 28 IAmb IAmb 01 55 17.9
comp=Z,70nm,0.8s
K17K **Iditarod** 56.71 28 P P 01 55 17.0 +2.3
baz=252,SNR=28
D17K **Noatak River** 56.72 22 P P 01 55 16.2 +1.6
baz=244
UZB **Uzynbulak** 56.75 308 *e*P P 01 55 15.9 +0.4
baz=308
UZB **Uzynbulak** 56.75 308 *e*P P 01 55 15.8 +0.4
MORW **Morawa** 56.77 208 P P 01 55 15.8 +0.3
H17K **Granite Mounta** 56.78 25 P P 01 55 17.0 +1.8
baz=249
F17K **Baldwin Pennin** 56.84 23 P P 01 55 17.5 +2.0
baz=247
E17K **Hotham Inlet** 56.90 23 P P 01 55 17.8 +2.0
baz=246
RDOG **Red Dog Mine** 56.94 21 P P 01 55 17.9 +1.7
baz=244
CAN **Canberra** 56.96 174 P P 01 55 17.6 +0.8
CAN **Canberra** 56.96 174 P P 01 55 17.1 +0.4
KPKS **Kokpek** 57.00 308 *e*P P 01 55 17.6 +0.4
baz=308
KPKS **Kokpek** 57.00 308 *e*P P 01 55 17.5 +0.4
C17K **DeLong Mountai** 57.03 21 P P 01 55 18.4 +1.5
baz=243
ZHN **Zhinishke** 57.18 308 *e*P P 01 55 19.0 +0.5
baz=308
ZHN **Zhinishke** 57.18 308 *e*P P 01 55 18.9 +0.5
Q18K **Katmai Hardscr** 57.20 33 P P 01 55 18.3 0.0
baz=258,SNR=12
SATY **Saty** 57.20 308 *e*P P 01 55 19.4 +0.7
baz=308
SATY **Saty** 57.20 308 *e*P P 01 55 19.3 +0.7
SII **Sitkinak Islan** 57.22 36 P P 01 55 20.1 +1.8
SII **Sitkinak Islan** 57.22 36 P P 01 55 20.3 +2.0
baz=260
TDK **Taldyqorghan** 57.23 310 *e*P P 01 55 19.1 +0.5
baz=310
TDK **Taldyqorghan** 57.23 310 *e*P P 01 55 19.1 +0.5
N18K **Kilae Creek** 57.24 31 IAmb IAmb 01 55 21.2
comp=Z,37nm,0.8s
N18K **Kilae Creek** 57.24 31 P P 01 55 20.5 +2.1
baz=255
P18K **Big Mountain,** 57.25 32 P P 01 55 19.5 +1.0
baz=257
L18K **Granite Mounta** 57.28 29 P P 01 55 20.8 +2.2
baz=254
O18K **Koktuh Hills** 57.37 32 P P 01 55 19.5 +0.2
O18K **Koktuh Hills** 57.37 32 P P 01 55 21.1 +1.8
baz=257,SNR=12
KURK **Kurchatov** 57.41 317 P P 01 55 19.4 -0.4
KURK IAmb IAmb 01 55 21.0
comp=Z,40nm,0.8s
KURK **Kurchatov** 57.41 317 *ce*P P 01 55 19.7 0.0
KURK pmax pmax
comp=Z,46nm,0.8s
KURK **Kurchatov** 57.41 317 P P 01 55 19.7 0.0
KURK PcP PcP 01 56 09.4 -0.4
KURBB **Kurchatov Arra** 57.46 317 P P 01 55 19.8 -0.3
KURBB **Kurchatov Arra** 57.46 317 P P 01 55 20.2 +0.1
comp=Z,65nm,0.6s,baz=95,slow=7.6,SNR=467
KURBB PcP PcP 01 56 09.8 -0.2
comp=Z,7.1nm,0.6s,baz=97,slow=4.4,SNR=6.2
KURBB S S 02 02 52.6 -0.1
comp=Z,0.8nm,0.2s,baz=93,slow=9.4,SNR=4.3
KURBB PKP2bc 02 25 13.7
comp=Z,0.6nm,0.7s,baz=288,slow=3.0,SNR=2.8
comp=Z,65nm,0.6s
E18K **Tukpahlearik C** 57.47 22 P P 01 55 21.7 +1.8
baz=247
M18K **Stony River** 57.48 30 P P 01 55 21.9 +1.9
baz=255

H18K **Honhosa River** 57.48 25 IAmb IAmb 01 55 21.9
comp=Z,21nm,0.6s
H18K **Honhosa River** 57.48 25 P P 01 55 21.2 +1.2
baz=250
SVW2 **Sparrevohn** 57.49 30 IAmb IAmb 01 55 22.9
comp=Z,35nm,0.6s
SVW2 **Sparrevohn** 57.49 30 P P 01 55 21.9 +1.8
G18K **Tagagawik** 57.62 24 P P 01 55 22.3 +1.4
baz=250
J18K **Innoko River** 57.62 27 P P 01 55 22.4 +1.4
baz=253
C18K **Utukok River** 57.77 21 P P 01 55 23.0 +1.0
baz=245
TTA **Tatalina** 57.78 28 IAmb IAmb 01 56 13.7
comp=Z,56nm,2.0s
TTA **Tatalina** 57.78 28 P P 01 55 24.3 +2.1
TTA **Tatalina** 57.78 28 P P 01 55 23.7 +1.5
baz=254
OHAK **Old Harbor** 57.82 35 IAmb IAmb 01 55 44.6
comp=Z,103nm,1.7s
OHAK **Old Harbor** 57.82 35 P P 01 55 23.5 +1.1
baz=260
B18K **Kokolik River** 57.88 20 P P 01 55 24.5 +1.8
baz=244
O19K **Port Alsworth** 57.88 32 P P 01 55 24.2 +1.4
baz=257,SNR=12
N19K **Bonanza Creek** 57.94 31 IAmb IAmb 01 55 26.2
comp=Z,44nm,0.8s
N19K **Bonanza Creek** 57.94 31 P P 01 55 25.2 +1.9
baz=257
GCSA **Galena City Sc** 57.94 26 P P 01 55 24.5 +1.4
baz=252,SNR=5.4
NRIK **Noril'sk** 57.98 340 IAmb IAmb 01 55 24.6
comp=Z,27nm,0.7s
NRIK **Noril'sk** 57.98 340 *ce*P P 01 55 23.0 -0.3
NRIK pmax pmax
comp=Z,26nm,0.7s
NRIK **Noril'sk** 57.98 340 P P 01 55 23.6 +0.3
comp=Z,31nm,0.8s,baz=110,slow=8.4,SNR=64
NRIK ScP ScP 01 59 42.1 +0.1
comp=Z,10nm,0.9s,baz=111,slow=5.0,SNR=7.9
comp=Z,31nm,0.8s
L19K **White Mountain** 58.10 29 P P 01 55 26.1 +1.8
baz=256,SNR=6.7
ARPS **Mount Arapiles** 58.14 181 P P 01 55 25.2 +0.4
comp=Z,66nm,0.9s
MDOK **Medeo** 58.19 308 *e*P P 01 55 26.3 +0.7
baz=308
MDOK **Medeo** 58.19 308 *e*P P 01 55 26.2 +0.7
CHKK **Chushkaly** 58.23 309 *e*P P 01 55 25.9 +0.3
baz=309
CHKK **Chushkaly** 58.23 309 *e*P P 01 55 25.8 +0.3
M19K **Big River Lodg** 58.24 30 IAmb IAmb 01 55 50.8
comp=Z,70nm,2.0s
J19K **Poorman** 58.24 27 IAmb IAmb 01 55 27.5
comp=Z,27nm,0.6s
J19K **Poorman** 58.24 27 P P 01 55 26.6 +1.4
baz=254
KLBR **Kellerberrin** 58.25 205 P P 01 55 25.9 +0.2
TNSS **Tian-Shan** 58.27 308 *e*P P 01 55 27.3 +1.0
baz=308
TNSS **Tian-Shan** 58.27 308 *e*P P 01 55 27.3 +1.0
KDAK **Kodiak Island** 58.29 35 P P 01 55 26.1 +0.4
KDAK IAmb IAmb 01 55 27.2
comp=Z,26nm,0.6s
KDAK **Kodiak Island** 58.29 35 P P 01 55 26.9 +1.2
baz=260
KDAK **Kodiak Island** 58.29 35 P P 01 55 26.1 +0.4
KDAK pmax pmax
comp=Z,26nm,0.6s
KDAK **Kodiak Island** 58.29 35 P P 01 55 26.4 +0.8
AAA **Alma-Ata** 58.29 308 *e*P P 01 55 27.3 +1.2
comp=Z,46nm,0.8s,baz=308
AAA **Alma-Ata** 58.29 308 *e*P P 01 55 27.2 +1.2
AAA pmax pmax
comp=Z,46nm,0.8s
P19K **Dit** 58.30 32 IAmb IAmb 01 55 27.5
comp=Z,50nm,0.7s
G19K **Purcell Mounta** 58.30 24 P P 01 55 27.1 +1.4
baz=251
H19K **Roundabout Mou** 58.36 25 IAmb IAmb 01 55 28.8
comp=Z,28nm,0.7s
H19K **Roundabout Mou** 58.36 25 P P 01 55 27.8 +1.8
baz=252
A19K **Wainwright** 58.47 19 P P 01 55 28.6 +2.0
baz=245
C19K **Lookout Ridge** 58.48 21 P P 01 55 28.8 +1.9
baz=247
Q20K **Shuyak Island** 58.53 34 P P 01 55 27.9 +0.6
baz=260,SNR=5.8
SYI **Shuyak Island** 58.53 34 IAmb IAmb 01 55 28.5
comp=Z,46nm,0.6s
L20K **Farewell, AK** 58.61 29 P P 01 55 29.4 +1.5
baz=256
E19K **Redstone River** 58.69 23 IAmb IAmb 01 55 31.5
comp=Z,19nm,0.6s
E19K **Redstone River** 58.69 23 P P 01 55 29.9 +1.6
baz=250
KUU **Kurty** 58.70 309 *e*P P 01 55 29.2 +0.4
comp=Z,56nm,0.7s,baz=309
KUU **Kurty** 58.70 309 *e*P P 01 55 29.2 +0.4
KUU pmax pmax
comp=Z,56nm,0.7s
K20K **Telida** 58.74 28 IAmb IAmb 01 55 31.4
comp=Z,19nm,0.7s
K20K **Telida** 58.74 28 P P 01 55 30.6 +1.9
baz=256
D19K **Kuna River** 58.75 22 IAmb IAmb 01 55 30.7
comp=Z,20nm,0.6s
D19K **Kuna River** 58.75 22 P P 01 55 29.9 +1.2
baz=249
M20K **Styx River** 58.81 30 P P 01 55 31.2 +1.9
baz=257
BRAT **Ballarat** 58.91 179 P P 01 55 30.8 +0.7
J20K **Nowita River** 58.92 27 IAmb IAmb 01 55 32.3
comp=Z,23nm,0.6s
J20K **Nowinta River** 58.92 27 P P 01 55 31.7 +1.9
baz=255,SNR=18
H20K **Anotleneega Mo** 58.97 25 P P 01 55 31.9 +1.7
baz=254,SNR=20
TOO **Toolangi** 58.97 178 P P 01 55 30.4 -0.2
TOO **Toolangi** 58.97 178 P P 01 55 31.3 +0.7
TOO **Toolangi** 58.97 178 P P 01 55 30.4 -0.2
TOO pmax pmax
comp=Z,22nm,0.9s
N20K **Mount Spurr** 59.10 31 P P 01 55 32.9 +1.6
baz=259,SNR=6.5
F20K **Avaraart Lake** 59.11 24 P P 01 55 32.7 +1.6
baz=252
KSH **Kashi** 59.14 304 P P 01 55 36.0 +4.0
KSH pmax pmax
comp=Z,22nm,0.7s
TKM2 **Tokmak 2** 59.26 308 P P 01 55 34.2 +1.3
SNR=16
TKM2 **Tokmak 2** 59.26 308 *i* P P 01 55 33.2 +0.3
TKM2 pmax pmax
comp=Z,14nm,0.6s
CNPM **China Poot** 59.27 33 IAmb IAmb 01 55 33.4
comp=Z,45nm,0.6s
E20K **Nigu River** 59.33 22 P P 01 55 34.3 +1.6
baz=251
D20K **Etivluk River** 59.34 22 P P 01 55 34.2 +1.4
baz=250
PPLA **Purkeypile** 59.46 29 P P 01 55 35.5 +1.7
baz=258,SNR=7.4
KZA **Kyzart** 59.55 307 P P 01 55 36.8 +1.7
SNR=20
BRSE **Bradley Lake S** 59.56 33 P P 01 55 34.8 +0.5
baz=261,SNR=7.4
SKT **Skwentna** 59.58 30 IAmb IAmb 01 56 23.5
comp=Z,43nm,0.8s
SKT **Skwentna** 59.58 30 P P 01 55 34.9 +0.5
baz=259,SNR=16
B20K **Mede River** 59.62 20 P P 01 55 36.1 +1.6
baz=249
CAST **Castle Rocks** 59.62 28 IAmb IAmb 01 55 36.9
comp=Z,45nm,0.7s
CAST **Castle Rocks** 59.62 28 P P 01 55 36.1 +1.4
baz=257,SNR=39
CHUM **Lake Minchumin** 59.63 28 P P 01 55 36.5 +1.8
baz=257,SNR=12
NWAO **Narrogin (SRO)** 59.63 205 P P 01 55 34.8 -0.4
comp=Z,8.8nm,0.7s,baz=32,slow=9.3,SNR=2.8
comp=Z,8.8nm,0.7s
KBK **Karagaybulak** 59.75 308 P P 01 55 37.1 +0.9
SNR=17
G21K **Allakaket** 59.80 25 P P 01 55 37.5 +1.6
baz=254

SUA **Susitna One** 59.85 31 IAmb IAmb 01 56 28.6
comp=Z,37nm,0.7s
SUA **Susitna One** 59.85 31 P P 01 55 37.4 +1.0
baz=260,SNR=16
H21K **Melozitna Rive** 59.85 26 IAmb IAmb 01 55 38.8
comp=Z,31nm,0.6s
H21K **Melozitna Rive** 59.85 26 P P 01 55 38.1 +1.9
baz=255
CHMS **Chumysh** 59.88 308 P P 01 55 37.6 +0.7
SNR=6.9
SGDS **Sogindy** 59.95 309 *e*P P 01 55 37.7 +0.3
baz=309
SGDS **Sogindy** 59.95 309 *e*P P 01 55 37.6 +0.3
F21K **Alatna River** 60.00 24 P P 01 55 38.7 +1.5
baz=254
USP **Ospenovka** 60.05 308 P P 01 55 38.9 +0.9
SNR=20
AAK **Ala-Archa** 60.09 308 P P 01 55 39.4 +1.0
SNR=7.7
AAK **Ala-Archa** 60.09 308 P P 01 55 38.6 +0.1
AAK **Ala-Archa** 60.09 308 *ce*P P 01 55 38.3 -0.1
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK **Ala-Archa** 60.09 308 P P 01 55 39.5 +1.0
AAK PcP PcP 01 56 21.1 +0.3
UCH **Uchtor** 60.09 307 P P 01 55 40.3 +1.5
SNR=26
C21K **Knifeblade Rid** 60.11 21 P P 01 55 39.5 +1.6
baz=252
KTH **Kantishna Hill** 60.16 28 P P 01 55 38.3 -0.2
O22K **Cooper Landing** 60.18 32 P P 01 55 39.4 +1.0
baz=261,SNR=15
CUT **Chulitna** 60.24 30 P P 01 55 39.2 +0.4
baz=260,SNR=8.9
BPAW **Bear Paw Mtn.** 60.24 28 P P 01 55 40.2 +1.3
baz=258,SNR=8.1
SEW **Seward** 60.26 32 P P 01 55 39.7 +0.7
baz=262,SNR=6.5
RC01 **Rabbit Creek A** 60.27 31 IAmb IAmb 01 55 40.5
comp=Z,30nm,0.8s
RC01 **Rabbit Creek A** 60.27 31 P P 01 55 39.6 +0.6
baz=261,SNR=12
A21K **Barrow** 60.27 19 P P 01 55 40.2 +1.3
baz=248,SNR=24
B21K **Ikpikpuk River** 60.32 21 IAmb IAmb 01 55 41.6
comp=Z,38nm,0.6s
B21K **Ikpikpuk River** 60.32 21 P P 01 55 40.8 +1.6
baz=251,SNR=44
BTLS **Baital** 60.32 310 *e*P P 01 55 40.2 +0.4
baz=310
BTLS **Baital** 60.32 310 *e*P P 01 55 40.1 +0.4
TRF **Thorofare Moun** 60.42 28 IAmb IAmb 01 55 42.0
comp=Z,38nm,0.8s
TRF **Thorofare Moun** 60.42 28 P P 01 55 40.9 +0.6
baz=259,SNR=26
H22K **Ishtalitna Cre** 60.48 25 P P 01 55 42.3 +1.8
baz=257
MLY **Manley** 60.55 26 IAmb IAmb 01 55 43.2
comp=Z,18nm,0.7s
MLY **Manley** 60.55 26 P P 01 55 42.5 +1.5
baz=258,SNR=6.6
HYB **Hyderabad** 60.56 278 IVmB_BB 01 55 41.6
comp=Z,302nm,1.6s
HYB *e*P P 01 55 42.5 +0.7
EKS2 **Erkin-Say** 60.61 308 P P 01 55 42.7 +0.8
SNR=10.0
PMR **Palmer** 60.63 31 P P 01 55 40.9 -0.6
PMR **Palmer** 60.63 31 P P 01 55 41.8 +0.3
PMR **Palmer** 60.63 31 P P 01 55 41.6 +0.2
baz=261,SNR=16
PMR **Palmer** 60.63 31 P P 01 55 40.9 -0.6
A22K **Sinclair Lake** 60.66 19 P P 01 55 43.0 +1.5
baz=250
G22K **Bettles** 60.67 24 P P 01 55 43.0 +1.3
baz=256
AML **Almayashu** 60.70 307 P P 01 55 44.1 +1.3
SNR=24
AML **Almayashu** 60.70 307 *i* P P 01 55 43.8 +0.9
AML pmax pmax
comp=Z,2.0nm,0.7s
D22K **Ayikyak River** 60.75 22 P P 01 55 44.0 +1.8
baz=254
E22K **Anaktuvuk Pass** 60.86 23 P P 01 55 44.7 +1.6
baz=255
KNK **Knik Glacier** 60.92 31 P P 01 55 44.3 +0.8
baz=262,SNR=18
B22K **Teshekpuk Lake** 60.93 20 IAmb IAmb 01 55 45.7
comp=Z,41nm,0.7s
B22K **Teshekpuk Lake** 60.93 20 P P 01 55 44.6 +1.3
baz=252
SML **Sawmill** 61.04 30 IAmb IAmb 01 55 45.8
comp=Z,50nm,0.7s
SML **Sawmill** 61.04 30 P P 01 55 45.2 +0.9
baz=262,SNR=21
MCK **McKinley** 61.07 28 P P 01 55 44.7 +0.2
baz=260,SNR=15
WAT1 **Susitna Watana** 61.09 29 P P 01 55 45.1 +0.4
baz=261
I23K **Minto, Yukon-K** 61.14 26 P P 01 55 46.4 +1.6
baz=259,SNR=35
NEA2 **Nenana** 61.16 27 IAmb IAmb 01 55 47.9
comp=Z,22nm,0.6s
NEA2 **Nenana** 61.16 27 P P 01 55 46.2 +1.2
baz=260,SNR=9.1
BRZS **Berezniki** 61.18 316 *e*P P 01 55 45.3 -0.2
baz=316
BRZS **Berezniki** 61.18 316 *e*P P 01 55 45.2 -0.2
G23K **Bananza Creek** 61.19 25 P P 01 55 45.7 +0.5
G23K **Bananza Creek** 61.19 25 P P 01 55 47.0 +1.8
baz=258,SNR=9.6
COLD **Coldfoot** 61.24 24 P P 01 55 47.2 +1.7
baz=257,SNR=14
P23K **Montague Islan** 61.26 32 P P 01 55 47.3 +1.5
baz=264
M23K **Glacier View** 61.32 30 P P 01 55 46.5 +0.4
baz=262,SNR=13
OTUK **Ortayu** 61.42 314 P P 01 55 46.9 -0.2
WAT6 **Susitna Watana** 61.42 30 P P 01 55 47.6 +0.6
baz=262,SNR=16
D23K **Nanushuk River** 61.47 22 P P 01 55 49.0 +2.0
baz=256
GLI **Glacier Island** 61.51 31 IAmb IAmb 01 55 50.2
comp=Z,37nm,0.6s
GLI **Glacier Island** 61.51 31 P P 01 55 48.5 +1.1
baz=263
SCM **Sheep Creek Mo** 61.52 30 IAmb IAmb 01 55 49.3
comp=Z,35nm,0.9s
SCM **Sheep Creek Mo** 61.52 30 P P 01 55 48.7 +1.2
baz=263,SNR=9.7
MDM **Murphy Dome** 61.58 27 IAmb IAmb 01 55 50.1
comp=Z,19nm,0.5s
E23K **Chandalar** 61.64 23 P P 01 55 50.3 +2.0
baz=257
DHY **Denali Highway** 61.66 29 IAmb IAmb 01 57 06.6
comp=Z,72nm,1.8s
DHY **Denali Highway** 61.66 29 P P 01 55 49.5 +1.0
baz=262,SNR=9.0
PALK **Pallekele** 61.68 267 P P 01 55 49.9 +0.5
C23K **Itkillik River** 61.72 21 P P 01 55 50.3 +1.7
baz=255
COLA **College** 61.72 27 P P 01 55 48.3 -0.4
COLA IAmb IAmb 01 55 51.4
comp=Z,32nm,0.6s
COLA **College** 61.72 27 P P 01 55 49.9 +1.2
COLA **College** 61.72 27 P P 01 55 49.8 +1.2
baz=261
COLA **College** 61.72 27 P P 01 55 48.3 -0.4
COLA pmax pmax
comp=Z,32nm,0.6s
COLA **College** 61.72 27 P P 01 55 49.1 +0.5
H24K **Noodor Dome** 61.87 26 IAmb IAmb 01 55 52.3
comp=Z,29nm,0.8s
H24K **Noodor Dome** 61.87 26 P P 01 55 51.2 +1.4
baz=260
POKR **Poker Plat Res** 61.94 27 IAmb IAmb 01 55 52.8
comp=Z,17nm,0.6s
POKR **Poker Plat Res** 61.94 27 P P 01 55 50.8 +0.6
baz=261,SNR=16
NIL **Nilore** 61.94 297 P P 01 55 50.2 -0.6
NIL IAmb IAmb 01 55 53.7
comp=Z,24nm,0.8s
NIL **Nilore** 61.94 297 P P 01 55 50.2 -0.6
NIL pmax pmax
comp=Z,24nm,0.8s
HDA **Harding Lake** 62.04 28 IAmb IAmb 01 55 51.4
comp=Z,27nm,0.6s
HDA **Harding Lake** 62.04 28 P P 01 55 50.9 0.0

baz=262,SNR=21
E24K Your Creek 62.06 23 IAmb IAmb 01 55 53.6
comp=Z,25nm,0.6s
E24K Your Creek 62.06 23 P **P** **01 55 52.7 +1.7**
baz=258
M24K Tolsona, Glenn 62.09 30 IAmb IAmb 01 55 54.1
comp=Z,77nm,1.3s
M24K Tolsona, Glenn 62.09 30 P **P** **01 55 52.9 +1.6**
baz=264,SNR=9.6
IL31 62.12 27 IAmb IAmb 01 55 52.1
comp=Z,29nm,0.7s
ILAR Eielson Array 62.12 27 P **P** **01 55 50.2 -1.2**
ILAR Eielson Array 62.12 27 P **P** **01 55 50.5 -0.8**
comp=Z,24nm,0.6s,baz=257,slow=5.4,SNR=391
ILAR S **S** **02 03 49.7 -1.8**
comp=Z,1.1nm,1.1s,baz=260,slow=11,SNR=5.3
comp=Z,24nm,0.6s
EYAK Cordova Ski Ar 62.14 32 P **P** **01 55 52.9 +1.4**
baz=265
KLU Klutina 62.14 31 P **P** **01 55 52.8 +1.1**
baz=264,SNR=18
D24K Happy Valley 62.17 22 P **P** **01 55 53.4 +1.8**
baz=257
F24K Squaw Lake 62.17 24 IAmb IAmb 01 55 56.7
comp=Z,14nm,0.7s
F24K Squaw Lake 62.17 24 P **P** **01 55 53.5 +1.8**
baz=259,SNR=21
G24K Hadweenzic Riv 62.19 25 IAmb IAmb 01 55 54.4
comp=Z,23nm,0.8s
G24K Hadweenzic Riv 62.19 25 P **P** **01 55 53.9 +2.1**
baz=260
C24K Franklin Bluff 62.33 21 P **P** **01 55 54.4 +1.7**
baz=257
DZA Taraz 62.39 308 *e*P **P** **01 55 54.7 +1.0**
baz=308
DZA Taraz 62.39 308 *e*P **P** **01 55 54.6 +1.0**
K24K Donnelly Dome 62.47 28 P **P** **01 55 54.7 +1.0**
baz=263,SNR=12
PAX Paxson 62.51 29 P **P** **01 55 54.9 +0.8**
baz=264,SNR=22
HARP HAARP 62.59 30 P **P** **01 55 56.1 +1.6**
baz=264,SNR=14
BVA0 Borovoye Array 62.61 320 P **P** **01 55 54.9 +0.1**
BVAR Borovoye Array 62.61 320 P **P** **01 55 55.1 +0.3**
comp=Z,108nm,0.5s,baz=95,slow=7.5,SNR=670
BVAR PcP **PcP** **01 56 31.0 +0.3**
comp=Z,16nm,0.6s,baz=93,slow=5.0,SNR=5.2
BVAR S **S** **02 03 59.7 +1.7**
comp=Z,2.1nm,0.8s,baz=82,slow=12,SNR=7.7
BVAR PKP2bc 02 24 59.6
comp=Z,0.7nm,0.8s,baz=298,slow=3.1,SNR=2.7
comp=Z,108nm,0.5s
BRVK Borovoye 62.67 320 P **P** **01 55 55.2 0.0**
BRVK Borovoye 62.67 320 *i* P **P** **01 55 55.5 +0.3**
BRVK pmax pmax
comp=Z,43nm,0.8s
BRVK Borovoye 62.67 320 P **P** **01 55 55.6 +0.4**
BRVK PcP **PcP** **01 56 31.1 +0.1**
BMRM Bremner River 62.73 32 P **P** **01 55 56.9 +1.3**
baz=266,SNR=14
J25K Salcha River, 62.74 27 IAmb IAmb 01 55 56.8
comp=Z,18nm,0.6s
J25K Salcha River, 62.74 27 P **P** **01 55 55.3 -0.3**
baz=263,SNR=26
N25K Chitina, Valde 62.78 31 IAmb IAmb 01 55 58.1
comp=Z,16nm,0.7s
N25K Chitina, Valde 62.78 31 P **P** **01 55 57.0 +1.1**
baz=265,SNR=11
PRP Porcupine Dome 62.79 26 P **P** **01 55 55.7 -0.3**
baz=262,SNR=11
KK31 Karatay Array 62.98 308 IAmb IAmb 01 55 59.2
comp=Z,30nm,0.7s
KK31 Karatay Array 62.98 308 *i* P **P** **01 55 57.6 +0.2**
KKAR Karatay Array 62.98 308 P **P** **01 55 57.5 +0.1**
KKAR Karatay Array 62.98 308 P **P** **01 55 57.5 +0.1**
F25K Christian Rive 63.04 24 P **P** **01 55 59.5 +2.0**
baz=261
FYU Fort Yukon 63.05 25 IAmb IAmb 01 56 00.0
comp=Z,34nm,0.6s
D25K Kavik River 63.06 22 P **P** **01 55 59.1 +1.6**
baz=260
RAO Raoul Island 63.07 142 P **P** **01 56 01.6 +3.6**
E25K Arctic Village 63.15 23 IAmb IAmb 01 56 00.9
comp=Z,23nm,0.7s
E25K Arctic Village 63.15 23 P **P** **01 56 00.2 +2.1**
baz=261,SNR=29
SCRK Sand Creek 63.27 28 P **P** **01 55 59.7 +0.6**
baz=265,SNR=22
MENT Mentasta 63.30 29 P **P** **01 56 01.6 +2.4**
BMAR Burnt Mountain 63.42 24 P **P** **01 56 01.0 +1.1**
CRQE Cirque 63.46 32 P **P** **01 56 01.6 +1.2**
baz=267,SNR=8.3
L26K Log Cabin Wild 63.48 29 IAmb IAmb 01 56 02.6
comp=Z,17nm,0.6s
L26K Log Cabin Wild 63.48 29 P **P** **01 56 01.9 +1.6**
baz=266,SNR=10
J26L Joseph Creek 63.50 28 IAmb IAmb 01 56 01.9
comp=Z,32nm,0.7s
J26L Joseph Creek 63.50 28 P **P** **01 56 01.1 +0.5**
baz=265
MCARA McCarthy VSAT 63.52 31 P **P** **01 56 00.8 +0.1**
MCARA IAmb IAmb 01 56 03.0
comp=Z,26nm,0.7s
MCARA McCarthy VSAT 63.52 31 P **P** **01 56 02.0 +1.4**
baz=267,SNR=6.3
M26K Nabesna, AK 63.60 30 P **P** **01 56 02.8 +1.6**
baz=266
F26K Sheenjek River 63.62 24 P **P** **01 56 03.3 +2.1**
baz=263,SNR=71
C26K Camden Bay 63.66 22 P **P** **01 56 03.6 +2.2**
baz=261
G26K Porcupine Rive 63.67 25 P **P** **01 56 03.4 +1.9**
baz=263
CHM Chimkent 63.72 308 *e*P **P** **01 56 02.8 +0.5**
baz=308
CHM Chimkent 63.72 308 *e*P **P** **01 56 02.7 +0.5**
I26K Coal Creek Min 63.75 27 P **P** **01 56 02.0 0.0**
baz=265
GRNC Granite Creek 64.11 32 IAmb IAmb 01 56 06.5
comp=Z,20nm,0.6s
M27K Edge Creek, AK 64.11 30 P **P** **01 56 05.9 +1.3**
baz=267
K27K Chicken 64.12 28 P **P** **01 56 05.7 +1.3**
baz=266
L27K Beaver Creek, 64.17 29 P **P** **01 56 06.3 +1.4**
baz=267
CTG Chitna Glacier 64.32 32 P **P** **01 56 07.4 +1.5**
baz=268
CTGM Chitina Glacie 64.33 32 IAmb IAmb 01 56 08.7
comp=Z,19nm,0.7s
I27K Kandik River 64.42 26 P **P** **01 56 07.4 +1.0**
baz=266
LOGN Logan Glacier 64.48 32 IAmb IAmb 01 56 29.4
comp=Z,61nm,1.6s
G27K Doyon Strip 64.49 25 P **P** **01 56 08.3 +1.5**
baz=265
H27K Steamboat Moun 64.50 26 P **P** **01 56 08.6 +1.7**
baz=266
EGAK Eagle 64.56 27 IAmb IAmb 01 56 10.1
comp=Z,13nm,0.6s
EGAK Eagle 64.56 27 P **P** **01 56 07.7 +0.4**
baz=267,SNR=12
BVCY Beaver Creek 64.59 30 P **P** **01 56 09.0 +1.5**
baz=268,SNR=5.3
SIMJ Simiganj 64.62 304 P **P** **01 56 08.4 +0.1**
SIMJ IAmb IAmb 01 56 09.9
comp=Z,26nm,0.8s
SIMJ Simiganj 64.62 304 P **P** **01 56 08.7 +0.3**
E27K Coleen River 64.63 24 IAmb IAmb 01 56 10.6
comp=Z,18nm,1.0s
E27K Coleen River 64.63 24 P **P** **01 56 09.4 +1.7**
baz=265,SNR=31
YUK3 Moose Creek 64.76 31 P **P** **01 56 10.2 +1.3**
baz=269,SNR=6.8
PINM Pinnacle 64.85 33 P **P** **01 56 10.9 +1.6**
baz=270
D27M Malcolm River 64.95 22 P **P** **01 56 11.6 +1.8**
baz=265
YUK8 Steele Glacier 65.09 31 P **P** **01 56 12.8 +1.7**
baz=270,SNR=9.7
I28M Miner Creek 65.11 27 P **P** **01 56 12.0 +1.1**
baz=268,SNR=58
F28M Old Crow 65.24 24 IAmb IAmb 01 56 14.1
comp=Z,31nm,0.7s
F28M Old Crow 65.24 24 P **P** **01 56 13.2 +1.6**
baz=267,SNR=36
KBL Kabul 65.24 299 P **P** **01 56 12.0 -0.5**
KBL Kabul 65.24 299 P **P** **01 56 12.0 -0.5**
KBL pmax pmax
comp=Z,58nm,0.5s
PNL Peninsula 65.28 33 P **P** **01 56 13.7 +1.7**
baz=271
DAWY Dawson 65.30 28 IAmb IAmb 01 56 14.4
comp=Z,21nm,0.7s
DAWY Dawson 65.30 28 P **P** **01 56 13.3 +1.2**
baz=269,SNR=18
E28M Babbage River 65.42 23 IAmb IAmb 01 56 15.4
comp=Z,28nm,0.6s
E28M Babbage River 65.42 23 P **P** **01 56 14.6 +1.9**
baz=267
YUK4 Talbot Arm 65.63 31 P **P** **01 56 16.5 +2.0**
baz=271,SNR=27
O29M Mount Kennedy 65.68 32 IAmb IAmb 01 56 17.1
comp=Z,20nm,0.6s
O29M Mount Kennedy 65.68 32 P **P** **01 56 16.8 +2.1**
baz=271
M29M Somme Creek 65.71 30 P **P** **01 56 16.6 +1.8**
baz=270,SNR=21
D28M Stokes Point 65.75 22 P **P** **01 56 16.5 +1.8**
baz=267
H29M Whitestone 65.78 26 P **P** **01 56 16.6 +1.5**
baz=269
YUK6 Outpost Mounta 65.78 32 P **P** **01 56 17.5 +2.1**
baz=271,SNR=7.9
I29M Ogilvie Camp, 65.78 27 P **P** **01 56 16.6 +1.5**
baz=269,SNR=16
J29N Klondike Camp 65.81 28 IAmb IAmb 01 56 17.7
comp=Z,30nm,0.6s
J29N Klondike Camp 65.81 28 P **P** **01 56 17.1 +1.7**
baz=270,SNR=20
L29M L29M 65.86 29 P **P** **01 56 17.6 +2.0**
baz=270
G29M Pine Creek 65.93 25 P **P** **01 56 17.8 +1.8**
baz=269
E29M Blow River 66.02 23 P **P** **01 56 18.0 +1.5**
baz=268
K29M Barlow Dome 66.12 28 IAmb IAmb 01 56 19.8
comp=Z,25nm,0.7s
K29M Barlow Dome 66.12 28 P **P** **01 56 19.0 +1.6**
baz=271
P29M Windy Craggy 66.13 33 P **P** **01 56 19.4 +2.1**
baz=272
HYT Haines Junctio 66.20 32 P **P** **01 56 18.5 +0.5**
HYT IAmb IAmb 01 56 20.2
comp=Z,20nm,0.7s
HYT Haines Junctio 66.20 32 P **P** **01 56 19.9 +2.0**
baz=272,SNR=8.8
N30M Aishikik Lake 66.38 31 IAmb IAmb 01 58 00.1
comp=Z,25nm,0.6s
N30M Aishikik Lake 66.38 31 P **P** **01 56 20.7 +1.7**
baz=272
EPYK Eagle Plains 66.44 26 P **P** **01 56 20.6 +1.3**
baz=270,SNR=38
M30M Minto, Yukon 66.48 30 IAmb IAmb 01 56 21.9
comp=Z,16nm,0.6s
M30M Minto, Yukon 66.48 30 P **P** **01 56 21.1 +1.5**
baz=272,SNR=12
P30M Million Dollar 66.50 33 P **P** **01 56 22.0 +2.2**
baz=273
I30M Mount Dempster 66.60 27 IAmb IAmb 01 56 23.2
comp=Z,18nm,0.7s
I30M Mount Dempster 66.60 27 P **P** **01 56 21.3 +0.9**
baz=271,SNR=36
J30M Hart River 66.63 28 IAmb IAmb 01 56 22.7
comp=Z,20nm,0.6s
J30M Hart River 66.63 28 P **P** **01 56 21.9 +1.3**
baz=271,SNR=20
G30M tAoh Zraii Nji 66.64 25 IAmb IAmb 01 56 22.9
comp=Z,24nm,0.6s
G30M tAoh Zraii Nji 66.64 25 P **P** **01 56 21.4 +1.0**
baz=270
F30M Barrier River 66.80 24 P **P** **01 56 22.9 +1.5**
baz=270
MAYO Mayo, Yukon 66.85 29 P **P** **01 56 23.1 +1.2**
MAYO Mayo, Yukon 66.85 29 P **P** **01 56 23.9 +2.1**
baz=272
O30N Mendenhall 66.89 32 P **P** **01 56 23.9 +1.7**
baz=273
N31M Braeburn, Yuko 67.00 31 P **P** **01 56 24.6 +1.7**
baz=273,SNR=6.5
SKAG Skagway 67.36 33 P **P** **01 56 27.1 +2.0**
baz=274
G31M Satah River 67.41 25 P **P** **01 56 26.1 +0.9**
baz=272,SNR=64
WHY Whitehorse 67.49 32 P **P** **01 56 27.6 +1.6**
baz=274,SNR=8.4
F31M Tsiigehtchic 67.59 24 IAmb IAmb 01 56 27.6
comp=Z,15nm,0.7s
F31M Tsiigehtchic 67.59 24 P **P** **01 56 27.1 +0.7**
baz=274,SNR=12
M31M Drury Creek, Y 67.62 30 IAmb IAmb 01 56 28.7
comp=Z,13nm,0.6s
M31M Drury Creek, Y 67.62 30 P **P** **01 56 27.8 +1.1**
baz=274,SNR=9.4
INK Inuvik 67.64 24 P **P** **01 56 26.2 -0.4**
INK IAmb IAmb 01 56 27.9
comp=Z,20nm,0.7s
INK Inuvik 67.64 24 P **P** **01 56 27.1 +0.5**
baz=272,SNR=34
INK Inuvik 67.64 24 P **P** **01 56 26.2 -0.4**
INK pmax pmax
comp=Z,20nm,0.7s
RTZ Ruatahuna 67.89 152 P **P** **01 56 27.4 -1.3**
SVE Sverdlovsk 68.03 324 ‖ *e*P **P** **01 56 29.8 +0.6**
SVE pmax pmax
comp=Z,42nm,0.8s
FARO Faro, Yukon 68.10 30 P **P** **01 56 30.8 +1.1**
baz=275,SNR=7.6
BKZ Black Stump Fm 68.13 153 P **P** **01 56 28.8 -1.4**
BKZ IAmb IAmb 01 56 30.8
comp=Z,27nm,1.3s
BKZ Black Stump Fm 68.13 153 P **P** **01 56 31.1 +0.9**
comp=Z,16nm,1.6s
P32M Atlin 68.17 33 P **P** **01 56 31.9 +1.7**
baz=276
N32M Quiet Lake 68.33 31 IAmb IAmb 01 58 15.8
comp=Z,27nm,0.8s
N32M Quiet Lake 68.33 31 P **P** **01 56 32.5 +1.4**
baz=276
P33M Teslin, Yukon 68.55 32 IAmb IAmb 01 58 05.1
comp=Z,27nm,0.6s
P33M Teslin, Yukon 68.55 32 P **P** **01 56 34.1 +1.6**
baz=276,SNR=8.4
ARU Arti 69.21 324 P **P** **01 56 35.8 -0.8**
ARU IAmb IAmb 01 56 37.7
comp=Z,34nm,0.7s
ARU Arti 69.21 324 P **P** **01 56 36.4 -0.1**
ARU Arti 69.21 324 P **P** **01 56 36.6 +0.1**
AB31 Akbulak array 69.48 316 *i* P **P** **01 56 38.1 -0.2**
ABKAR Akbulak array 69.48 316 P **P** **01 56 38.2 -0.1**
ABKAR Akbulak array 69.48 316 IAmb IAmb 01 56 39.5
comp=Z,75nm,0.6s
R33M Jennings River 69.58 33 P **P** **01 56 40.8 +1.9**
baz=278,SNR=5.6
H02S1 DAWSON INLET T 69.68 40 P **P** **01 56 40.0 +0.6**
SNR=19
S34M Telegraph Cree 69.71 35 IAmb IAmb 01 56 42.2
comp=Z,21nm,0.6s
S34M Telegraph Cree 69.71 35 P **P** **01 56 41.7 +2.1**
baz=278,SNR=7.2
RPZ Rata Peaks 69.96 159 P **P** **01 56 40.0 -1.2**
RPZ IAmb IAmb 01 56 40.9
comp=Z,23nm,0.9s
A36M Sachs Harbour 70.10 19 P **P** **01 56 42.4 +0.8**
baz=279,SNR=45
DLBC Dease Lake 70.21 34 IAmb IAmb 01 56 45.3
comp=Z,12nm,0.7s
DLBC Dease Lake 70.21 34 P **P** **01 56 44.5 +1.8**
baz=279,SNR=5.4
T35M Bob Quinn 70.33 35 P **P** **01 56 45.4 +2.1**
baz=280
AKTO Aktyubinsk 70.50 317 P **P** **01 56 43.5 -1.0**
WTLY Watson Lake, Y 70.56 32 IAmb IAmb 01 56 47.6
comp=Z,35nm,0.7s
WTLY Watson Lake, Y 70.56 32 P **P** **01 56 46.3 +1.6**
baz=280,SNR=14
HRA Herat 70.78 300 IAmb IAmb 01 56 48.4
comp=Z,13nm,0.7s
C36M Paulatuk 70.93 22 P **P** **01 56 47.0 +0.4**
baz=281,SNR=58
WRGLY Wrigley 72.44 28 P **P** **01 56 57.2 +1.5**
baz=283,SNR=15
KOTAN Kotaneelee Air 72.88 32 P **P** **01 56 59.9 +1.5**
baz=284,SNR=5.5
GEYT Alibeck 73.16 305 IAmb IAmb 01 57 02.6
comp=Z,14nm,0.8s
GEYT Alibeck 73.16 305 P **P** **01 57 01.6 +1.0**
comp=Z,16nm,0.8s,baz=96,slow=2.9,SNR=25
comp=Z,12nm,0.8s
GYA0B ALIBECK ARRAY 73.16 305 P **P** **01 57 00.7 +0.1**
KIRV Kirov 73.63 327 *ce*P **P** **01 57 02.9 +0.2**
HOPEN Hopen 75.27 348 *e*P **P** **01 57 13.0 +1.2**
HOPEN IAmb IAmb 01 57 14.1
comp=Z,30nm,0.8s
SPA0 Spitsbergen Ar 75.84 350 *e*P **P** **01 57 15.9 +0.8**
SPA0 IAmb IAmb 01 57 19.8
comp=Z,48nm,1.1s
SPITS Spitsbergen Ar 75.84 350 P **P** **01 57 15.4 +0.3**
comp=Z,5.4nm,0.5s,baz=81,slow=9.1,SNR=27
comp=Z,5.4nm,0.5s
KBS Kingsbay 76.00 351 *e*P **P** **01 57 17.0 +1.1**
KBS IAmb IAmb 01 57 17.7
comp=Z,28nm,0.7s
KBS Kingsbay 76.00 351 *i* P **P** **01 57 15.6 -0.3**
BELG Belogornoye 76.34 321 *i* P **P** **01 57 18.3 +0.1**
BELG pmax pmax
comp=Z,14nm,0.6s
NLWA Neilton Lookou 76.38 44 P **P** **01 57 20.0 +1.4**
NLWA IAmb IAmb 01 57 21.1
comp=Z,26nm,0.7s
YKA Yellowknife Ar 76.53 28 P **P** **01 57 19.1 0.0**
comp=Z,27nm,0.6s,baz=292,slow=5.5,SNR=397
comp=Z,27nm,0.6s
GNW Green Mountain 77.00 44 IAmb IAmb 01 57 24.8
comp=Z,28nm,1.1s
RES Resolute Bay 77.13 13 P **P** **01 57 18.5 -3.8**
comp=Z,26nm,0.7s,baz=263,slow=6.3,SNR=43
VADS Vadso 77.46 341 *e*P **P** **01 57 24.3 +0.2**
VADS IAmb IAmb 01 57 25.8
comp=Z,63nm,0.7s
BJO1 Bjornoya 77.67 347 *e*P **P** **01 57 24.8 -0.4**
KLMR Klimovskoe 77.67 331 *e*P **P** **01 57 23.8 -1.6**
KLMR pmax pmax
comp=Z,40nm,2.1s
F04A Amboy 77.78 45 IAmb IAmb 01 57 28.6
comp=Z,25nm,0.7s
BUCK Buck Mountain 77.94 47 P **P** **01 57 27.9 +0.5**
BRLDA Berland Lookou 78.12 36 IAmb IAmb 01 57 29.9
comp=Z,32nm,1.0s
H04A Detroit Lake 78.33 47 IAmb IAmb 01 57 31.5
comp=Z,26nm,1.0s
KEV Kevo 78.34 341 P **P** **01 57 29.1 +0.1**
KEV Kevo 78.34 341 P **P** **01 57 29.1 +0.1**
KEV pmax pmax
comp=Z,74nm,0.6s
I04A Tendick Farm, 78.47 47 IAmb IAmb 01 57 32.1
comp=Z,22nm,0.6s
HUMO Hull Mountain 78.47 49 IAmb IAmb 01 57 34.0
comp=Z,17nm,0.6s
HOOD Mount Hood Mea 78.48 46 IAmb IAmb 01 57 36.6
comp=Z,16nm,0.7s
LTY Liberty 78.49 44 IAmb IAmb 01 57 31.6
comp=Z,12nm,0.6s
HAMF Hammerfest 78.81 343 *e*P **P** **01 57 31.2 -0.3**
HAMF IAmb IAmb 01 57 32.6
comp=Z,58nm,0.8s
ARA0 ARCESS Array S 78.91 341 *e*P **P** **01 57 32.9 +0.8**
ARCES ARCESS Array B 78.91 341 P **P** **01 57 32.5 +0.5**
comp=Z,80nm,0.6s,baz=70,slow=8.0,SNR=334
ARCES PKiKP **PKiKP** **02 03 03.0 -0.5**
comp=Z,0.8nm,0.5s,baz=90,slow=3.6,SNR=7.1
comp=Z,80nm,0.6s
YBH Yreka Blue Hor 78.93 50 P **P** **01 57 33.3 +0.4**
YBH IAmb IAmb 01 57 35.2
comp=Z,14nm,0.7s
YBH Yreka Blue Hor 78.93 50 P **P** **01 57 33.3 +0.4**
YBH pmax pmax
comp=Z,14nm,0.7s
I05D Terrebonne, OR 79.02 47 IAmb IAmb 01 57 41.2
comp=Z,57nm,1.7s
E07A Sunnyside 79.25 44 IAmb IAmb 01 57 36.5
comp=Z,17nm,0.7s
F07A Phinny Hill Vi 79.43 45 IAmb IAmb 01 57 37.7
comp=Z,22nm,1.2s
J05D Fort Rock, OR 79.44 48 P **P** **01 57 36.0 +0.3**
HAWA Hanford 79.52 44 IAmb IAmb 01 57 37.4
comp=Z,15nm,0.6s
D08A Wollman Farm, 79.68 43 P **P** **01 57 37.3 +0.7**
D08A IAmb IAmb 01 57 38.6
comp=Z,28nm,1.0s
K05A Summer Lake 79.87 48 IAmb IAmb 01 57 40.3
comp=Z,25nm,0.9s
KTK1 Kautokeino 79.87 341 *e*P **P** **01 57 37.8 +0.5**
KTK1 IAmb IAmb 01 57 38.4
comp=Z,33nm,0.7s
TULEG Thule 80.10 7 *i* P **P** **01 57 38.8 +0.4**
TULEG IAmb IAmb 01 57 40.0
comp=Z,25nm,0.6s
VRH Novokhopyorsk 80.19 321 *e*P **P** **01 57 38.3 -0.9**
VRH pmax pmax
comp=Z,30nm,0.6s
JETT Jettan, Norway 80.36 343 *e*P **P** **01 57 40.1 +0.2**
E09A Wood Farm, Sta 80.37 44 IAmb IAmb 01 57 42.4
comp=Z,22nm,0.7s
NEW Newport 80.38 42 P **P** **01 57 41.7 +1.2**
baz=292,SNR=30
BTLR Botlikh 80.43 312 *e*P **P** **01 57 41.0 +0.2**
BTLR pmax pmax
comp=Z,12nm,0.7s
ORV Oroville 80.52 51 P **P** **01 57 41.2 -0.1**
ORV IAmb IAmb 01 57 43.8
comp=Z,69nm,1.9s
ORV Oroville 80.52 51 P **P** **01 57 41.2 -0.1**
ORV pmax pmax
comp=Z,69nm,1.9s
EDM Edmonton 80.68 36 IAmb IAmb 01 57 43.3
comp=Z,20nm,0.7s
TRO Tromso 80.72 343 *e*P **P** **01 57 41.5 -0.2**
NEEM North Greenlan 80.74 3 *i* P **P** **01 57 41.9 -0.2**
NEEM IAmb IAmb 01 57 43.8
comp=Z,23nm,0.6s
AFDM Forest Hills D 81.12 52 IAmb IAmb 01 57 46.4
comp=Z,24nm,1.4s
DAG Danmarks Havn 81.15 356 *i* P **P** **01 57 43.0 -0.8**
DAG IAmb IAmb 01 57 45.5
comp=Z,7.2nm,0.6s
LPSR Galich'ya Gora 81.23 323 *e*P **P** **01 57 45.0 +0.3**
LPSR pmax pmax
comp=Z,90nm,0.7s
J08A Circle Bar Ran 81.30 47 IAmb IAmb 01 57 47.5
comp=Z,21nm,0.8s
OBN Obninsk 81.44 326 ⇑P **P** **01 57 45.8 +0.1**
OBN Obninsk 81.44 326 P **P** **01 57 45.0 -0.7**
OBN IAmb IAmb 01 57 47.0
comp=Z,31nm,0.9s
OBN Obninsk 81.44 326 *e*P **P** **01 57 45.0 -0.7**
OBN *e**PP **pP** **01 58 54.5 -1.0**
OBN *e* 02 00 52.9
OBN *e*PPP PPP 02 02 51.0
OBN pmax pmax
comp=Z,35nm,1.0s
VORR Voronezh 81.45 322 *e*P **P** **01 57 45.9 0.0**
VORR pmax pmax
comp=Z,120nm,0.7s
BMO Blue Mountains 81.53 45 IAmb IAmb 01 57 48.4
comp=Z,20nm,0.7s
VSR Storozhevoye 81.66 322 *e*P **P** **01 57 46.5 -0.5**
VSR pmax pmax
comp=Z,100nm,0.6s
VORD Divnogorie 81.69 322 *e*P **P** **01 57 46.9 -0.2**
VORD pmax pmax
comp=Z,70nm,0.6s
EMB Emerald Bay 81.74 51 IAmb IAmb 01 57 49.9
comp=Z,15nm,0.8s
CMB Columbia Colle 81.87 52 IAmb IAmb 01 57 50.3
comp=Z,27nm,0.7s
NCK Nalchik 81.92 314 *i* P **P** **01 57 48.1 -0.5**
NCK pmax pmax
comp=Z,31nm,0.7s
ZEI Tsey 81.97 313 *e*P **P** **01 57 48.6 -0.5**
ZEI pmax pmax
comp=Z,28nm,0.8s
PAHR Pah Rah Range 82.00 51 IAmb IAmb 01 57 50.9
comp=Z,14nm,1.0s
PNTR Pine Nut 82.07 51 IAmb IAmb 01 57 51.7
comp=Z,20nm,0.8s
KBZ Khabaz 82.30 314 *ce*P **P** **01 57 51.6 +1.2**
KBZ pmax pmax
comp=Z,48nm,0.8s
KBZ Khabaz 82.30 314 P **P** **01 57 51.2 +0.8**
comp=Z,46nm,0.8s,baz=84,slow=13,SNR=91
comp=Z,46nm,0.8s

KIV **Kislovodsk** 82.35 314 ⇓P **P** 01 57 51.9 +1.0
KIV **Kislovodsk** 82.35 314 P **P** 01 57 50.7 -0.2
KIV **Kislovodsk** 82.35 314 *e*P **P** 01 57 50.6 -0.2
KIV pmax pmax
comp=Z,35nm,1.1s
ONI **Oni** 82.36 313 IAmb IAmb 01 57 53.6
comp=Z,29nm,0.8s
YERR **Yerington** 82.37 51 IAmb IAmb 01 57 52.6
comp=Z,15nm,0.7s
WAKR **Walker** 82.40 52 IAmb IAmb 01 57 53.5
comp=Z,14nm,0.7s
STEI **Steigen** 82.85 342 *e*P **P** 01 57 52.7 0.0
MSO **Missoula** 82.92 42 P **P** 01 57 54.5 +0.7
baz=294,SNR=5.1
RYN **Ryan** 83.02 51 P **P** 01 57 54.5 0.0
RYN IAmb IAmb 01 57 56.0
comp=Z,14nm,0.7s
MFID **Camas Ranch** 83.06 46 IAmb IAmb 01 57 56.5
comp=Z,21nm,0.7s
ERBR **Yeremizino-Bor** 83.10 316 *e*P **P** 01 57 55.2 +0.7
ERBR *e**PP **pP** 01 59 06.5 +1.9
ERBR *e*S **SKSac** 02 07 47.5 +0.5
ERBR pmax pmax
comp=Z,24nm,0.9s
FINES **FINESS Array B** 83.15 334 P **P** 01 57 53.5 -1.0
FINES **FINESS Array B** 83.15 334 *i* P **P** 01 57 53.7 -0.8
FINES pmax pmax
comp=Z,63nm,0.5s
FINES **FINESS Array B** 83.15 334 P **P** 01 57 53.6 -0.8
comp=Z,62nm,0.5s,baz=66,slow=4.9,SNR=489
FINES PP **PP** 02 01 06.6 -3.1
comp=Z,2.7nm,0.7s,baz=57,slow=10,SNR=3.7
comp=Z,62nm,0.5s
KVN **Kaiserville** 83.17 51 IAmb IAmb 01 57 56.6
comp=Z,15nm,0.6s
LHV **Little Huntoon** 83.17 52 IAmb IAmb 01 57 57.1
comp=Z,14nm,0.7s
LOF **Lofoten** 83.18 343 *e*P **P** 01 57 54.6 +0.1
LOF IAmb IAmb 01 57 54.8
comp=Z,2µm,3.8s
FAUS **Fauske** 83.21 342 *e*P **P** 01 57 54.5 -0.2
FAUS IAmb IAmb 01 57 55.2
comp=Z,23nm,0.6s
NVAR **Mina Array Bea** 83.25 51 P **P** 01 57 56.4 +0.7
comp=Z,20nm,0.6s,baz=279,slow=5.6,SNR=160
comp=Z,20nm,0.6s
BMN **Battle Mountai** 83.27 49 IAmb IAmb 01 57 57.5
comp=Z,17nm,0.5s
NV11 **Mina Array Sit** 83.36 51 IAmb IAmb 01 57 57.7
comp=Z,12nm,0.8s
VES **Vestal, Richgr** 83.65 54 P **P** 01 57 58.1 +0.6
baz=292
Q09A **Carvers** 83.91 51 IAmb IAmb 01 58 00.8
comp=Z,14nm,0.8s
HLID **Hailey** 83.95 46 P **P** 01 57 58.6 -0.5
HLID **Hailey** 83.95 46 P **P** 01 58 00.1 +0.9
baz=294,SNR=21
ARVC **Arvin** 84.11 55 P **P** 01 58 01.2 +1.3
baz=292
CWC **Cottonwood Cre** 84.17 53 P **P** 01 58 01.2 +0.9
baz=293
ISA **Isabella, Lake** 84.17 54 P **P** 01 58 00.7 +0.4
baz=292
MZP **Montezuma Peak** 84.20 52 IAmb IAmb 01 58 01.9
comp=Z,8.4nm,0.6s
MOR8 **Moi Rana** 84.28 341 *e*P **P** 01 57 58.7 -1.4
MOR8 IAmb IAmb 01 57 59.7
comp=Z,37nm,0.6s
KONS **Konsvik** 84.44 342 *e*P **P** 01 58 01.5 +0.7
GMN **Gold Mountain** 84.45 52 IAmb IAmb 01 58 03.2
comp=Z,12nm,0.6s
SOC **Sochi** 84.47 315 *e*P **P** 01 57 59.4 -2.1
SOC *e**PP **pP** 01 59 07.6 -4.3
SOC *e**SP **sP** 01 59 41.3 -2.1
SOC *e* 02 01 16.0
SOC *e*PPP PPP 02 03 16.7
SOC *e*S **SKSac** 02 07 53.1 -2.8
SOC *e*SS **SS** 02 13 39.8 +0.5
SOC *e*SSS SSS 02 17 14.0
VSU **Vasula** 84.51 332 *ce*P **P** 01 58 00.1 -1.2
VSU pmax pmax
comp=Z,31nm,0.6s
VSU **Vasula** 84.51 332 *e*P **P** 01 58 01.2 -0.2
MEF **Metsahovi** 84.52 334 *e*P **P** 01 58 00.8 -0.6
STOK **Stokkvaagen** 84.58 342 *e*P **P** 01 58 00.5 -1.0
CCAC **Calif City Air** 84.71 54 IAmb IAmb 01 58 04.8
comp=Z,18nm,0.7s
MPMC **Manual Prospec** 84.76 53 P **P** 01 58 04.4 +1.1
baz=293
LRMC **Laurel Mtn Rad** 84.84 54 P **P** 01 58 04.8 +1.1
baz=293,SNR=7.4
BOZ **Bozeman (W)** 84.90 43 P **P** 01 58 04.8 +1.0
baz=296,SNR=41
UPNV **Upernavik** 84.90 6 *i* P **P** 01 58 03.6 +0.6
UPNV IAmb IAmb 01 58 05.1
comp=Z,17nm,0.5s
EGMT **Eagleton** 84.97 40 IAmb IAmb 01 58 05.6
comp=Z,20nm,0.9s
EGMT **Eagleton** 84.97 40 P **P** 01 58 04.8 +0.8
baz=297,SNR=11
RAF **Rauma** 85.10 335 *e*P **P** 01 58 03.4 -0.8
WCT **Wildcat Mounta** 85.11 52 IAmb IAmb 01 58 06.3
comp=Z,14nm,0.8s
R11B **Troy Canyon, C** 85.25 51 P **P** 01 58 06.6 +0.9
baz=294,SNR=17
TPNV **Topopah Spring** 85.33 52 P **P** 01 58 07.2 +1.1
baz=294,SNR=26
S11A **Rachel** 85.42 51 IAmb IAmb 01 58 08.3
comp=Z,22nm,0.6s
ANN **Anapa** 85.44 317 *e*P **P** 01 58 03.3 -2.9
ANN pmax pmax
comp=Z,31nm,1.1s
Q12A **Willow Creek R** 85.51 50 P **P** 01 58 06.8 -0.1
Q12A IAmb IAmb 01 58 13.3
comp=Z,23nm,1.0s
GSC **Goldstone, Bar** 85.57 54 IAmb IAmb 01 58 08.5
comp=Z,16nm,0.8s
GSC **Goldstone, Bar** 85.57 54 P **P** 01 58 08.3 +1.1
baz=293,SNR=5.7
MTSE **Matsula** 85.63 333 *e*P **P** 01 58 05.3 -1.6
YHH **Holmes Hill** 85.75 43 P **P** 01 58 09.1 +0.9
FFC **Flin Flon** 85.91 32 P **P** 01 58 08.7 +0.4
FFC **Flin Flon** 85.91 32 P **P** 01 58 08.7 +0.4
FFC pmax pmax
comp=Z,31nm,0.6s
BGU **Big Grassy Mou** 85.98 48 P **P** 01 58 09.9 +0.7
BGU IAmb IAmb 01 58 10.8
comp=Z,9.1nm,0.6s
SUMG **Summit** 85.99 0 P **P** 01 58 09.8 +0.9
SUMG IAmb IAmb 01 58 19.9
comp=Z,53nm,1.8s
SUMG **Summit** 85.99 0 P **P** 01 58 09.8 +0.9
SUMG pmax pmax
comp=Z,53nm,1.8s
SUMG **Summit** 85.99 0 *i* P **P** 01 58 09.0 +0.1
SUMG IAmb IAmb 01 58 11.4
comp=Z,18nm,0.5s
H17A **Grant Village** 86.10 44 P **P** 01 58 12.7 +2.9
baz=297,SNR=14
HEC **Hector,Ludlow** 86.11 54 P **P** 01 58 11.0 +1.1
baz=294
MNK **Minsk** 86.13 328 *i* P P 01 58 03.9 -5.5
MNK *i* *PP pP 01 59 14.7 -5.3
MNK *i* S **SKSac** 02 07 59.8 -6.0
MNK *i* SS **SS** 02 14 02.7 -0.1
MNK *i* SSS SSS 02 17 33.5
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK pmax pmax
comp=E,5.0nm,1.1s
NSS **Namsos** 86.17 341 *e*P **P** 01 58 08.8 -0.5
NSS IAmb IAmb 01 58 09.2
comp=Z,34nm,1.0s
TUQ **Turquoise Moun** 86.17 53 P **P** 01 58 11.6 +1.3
baz=294,SNR=10.0
DUG **Dugway, Tooele** 86.44 48 P **P** 01 58 11.9 +0.5
DUG IAmb IAmb 01 58 13.2
comp=Z,20nm,0.7s
DUG **Dugway, Tooele** 86.44 48 P **P** 01 58 12.3 +0.8
baz=295,SNR=33
DUG **Dugway, Tooele** 86.44 48 P **P** 01 58 11.9 +0.5
DUG pmax pmax
comp=Z,20nm,0.7s
PFO **Pinyon Flats O** 86.50 55 P **P** 01 58 12.0 +0.2
PFO IAmb IAmb 01 58 13.3
comp=Z,19nm,0.8s
PFO **Pinyon Flats O** 86.50 55 P **P** 01 58 12.6 +0.8
baz=294
PFO **Pinyon Flats O** 86.50 55 P **P** 01 58 12.0 +0.2
PFO pmax pmax
comp=Z,19nm,0.8s
TPFO **Pinon Flats** 86.51 55 P **P** 01 58 12.7 +0.9
baz=294
RLMT **Red Lodge** 86.60 43 P **P** 01 58 13.9 +1.7
baz=297,SNR=44
GMRC **Granite Mounta** 86.64 54 P **P** 01 58 13.5 +1.1
baz=294,SNR=10.0
HWUT **Hardware Ranch** 86.68 46 IAmb IAmb 01 58 14.4
comp=Z,23nm,1.2s
BELC **Belle Mtn. Jos** 86.70 55 P **P** 01 58 13.5 +0.7
baz=294,SNR=6.6
MONP2 **Monument Peak** 86.82 56 P **P** 01 58 14.5 +1.0
baz=294
V12A **Nelson** 86.86 53 IAmb IAmb 01 58 15.4
comp=Z,18nm,0.7s
CTU **Camp Tracy** 86.96 47 IAmb IAmb 01 58 15.4
comp=Z,17nm,1.2s
TCUT **Toone Canyon** 87.00 47 IAmb IAmb 01 58 15.7
comp=Z,12nm,0.5s
NLU **North Lily Min** 87.06 48 IAmb IAmb 01 58 15.6
comp=Z,8.5nm,0.8s
VSVD **Vaisvydziai** 87.18 331 *e*P **P** 01 58 13.9 -0.4
BC3 **Big Chuckawall** 87.25 55 P **P** 01 58 16.3 +1.0
baz=294,SNR=5.6
SWSC **Sam W. Stewart** 87.28 56 P **P** 01 58 16.3 +0.9
baz=294
IRM **Iron Mountain** 87.28 54 P **P** 01 58 16.3 +0.9
baz=294,SNR=5.3
ARPR **Arapgir-MALATY** 87.32 311 IAmb IAmb 01 58 17.1
comp=Z,10nm,0.7s
PABE **Paberze** 87.44 330 *e*P **P** 01 58 15.2 -0.3
AKASG **Malin Array Be** 87.45 324 P **P** 01 58 14.6 -1.3
comp=Z,8.4nm,0.6s,baz=52,slow=4.9,SNR=70
comp=Z,8.4nm,0.6s
AKBB **Malin Array Si** 87.45 324 IAmb IAmb 01 58 15.6
comp=Z,18nm,0.8s
AKBB **Malin Array Si** 87.45 324 *i* P **P** 01 58 13.8 -2.0
AKBB pmax pmax
comp=Z,17nm,0.7s
KIEV **Kiev** 87.47 324 ⇓P **P** 01 58 15.2 -0.7
KIEV **Kiev** 87.47 324 P **P** 01 58 14.2 -1.7
KIEV IAmb IAmb 01 58 15.6
comp=Z,16nm,0.7s
KIEV **Kiev** 87.47 324 P **P** 01 58 14.2 -1.7
KIEV pmax pmax
comp=Z,16nm,0.7s
SIM **Simferopol'** 87.47 318 *e*P **P** 01 58 15.5 -0.5
SIM pmax pmax
comp=Z,24nm,0.8s
SCO **Scoresbysund** 87.49 355 *i* P **P** 01 58 14.6 -0.9
SCO IAmb IAmb 01 58 16.9
comp=Z,7.1nm,0.8s
BW06 **Boulder Array** 87.50 45 P **P** 01 58 16.8 +0.3
baz=297,SNR=9.1
LCMT **Little Creek M** 87.50 51 IAmb IAmb 01 58 18.5
comp=Z,9.7nm,0.7s
PDAR **Pinedale Array** 87.50 45 P **P** 01 58 16.6 +0.1
comp=Z,2.6nm,0.5s,baz=194,slow=1.1,SNR=78
comp=Z,2.6nm,0.5s
TBLU **Trondheim** 87.62 341 *e*P **P** 01 58 15.1 -1.2
LAO **LASA Array** 87.72 40 IAmb IAmb 01 58 19.4
comp=Z,40nm,1.4s
LAO **LASA Array** 87.72 40 P **P** 01 58 18.6 +1.4
baz=300
LAO **LASA Array** 87.72 40 P **P** 01 58 18.2 +1.0
baz=300
KNB **Kanab** 87.80 51 IAmb IAmb 01 58 20.4
comp=Z,26nm,0.9s
W13A **Hualapai Mount** 87.83 53 P **P** 01 58 18.4 +0.2
BLYC **Blythe** 87.92 55 IAmb IAmb 01 58 20.3
comp=Z,18nm,1.0s
PDMCI **Parker Dam,Lak** 87.98 54 P **P** 01 58 19.9 +1.3
baz=295,SNR=7.1
DGMT **Dagmar** 88.01 38 IAmb IAmb 01 58 19.7
comp=Z,10nm,0.8s
DGMT **Dagmar** 88.01 38 P **P** 01 58 19.1 +0.5
baz=301
DGMT **Dagmar** 88.01 38 P **P** 01 58 18.9 +0.3
baz=301
PBUR **Partridge** 88.06 331 *e*P **P** 01 58 18.1 -0.5
Q16A **Castle Valley** 88.14 49 IAmb IAmb 01 58 22.4
comp=Z,15nm,0.6s
P17A **Butcher Ranch,** 88.19 48 IAmb IAmb 01 58 21.5
comp=Z,11nm,0.7s
U15A **North Rim** 88.44 51 IAmb IAmb 01 58 22.7
comp=Z,7.3nm,0.6s
P18A **Preston Nutter** 88.46 48 IAmb IAmb 01 58 23.4
comp=Z,12nm,0.7s
RDMU **Red Mountain** 88.50 47 P **P** 01 58 21.4 +0.2
RDMU IAmb IAmb 01 58 22.8
comp=Z,12nm,0.8s
SUW **Suwalki** 88.68 329 *e*P **P** 01 58 18.8 -2.7
HFS **Hagfors** 88.70 337 P **P** 01 58 20.4 -1.1
comp=Z,22nm,0.5s,baz=83,slow=4.5,SNR=143
HFS PP **PP** 02 01 51.0 -3.3
comp=Z,4.9nm,0.8s,baz=98,slow=2.9,SNR=4.1
comp=Z,22nm,0.5s
HMU **Henry Mountain** 88.88 49 IAmb IAmb 01 58 25.3
comp=Z,12nm,0.6s
DOMB **Dombas** 88.89 340 *e*P **P** 01 58 22.0 -0.4
NB2 **NORSAR Subarra** 88.92 339 P **P** 01 58 21.4 -1.2
comp=Z,3.8nm,0.5s,baz=44,slow=5.1
NB2 PP **PP** 02 01 55.2 -0.9
comp=Z,0.8nm,0.7s,baz=43,slow=7.9
NB2 **NORSAR Subarra** 88.92 339 P **P** 01 58 21.4 -1.2
baz=44,slow=5.1
NOA **NORSAR Array B** 88.92 339 P **P** 01 58 21.4 -1.2
comp=Z,3.3nm,0.6s,baz=54,slow=7.8,SNR=30
NOA PP **PP** 02 01 55.3 -0.8
comp=Z,1.2nm,0.7s,baz=46,slow=8.5,SNR=4.1
comp=Z,3.3nm,0.6s
NC602 **NORSAR Array S** 89.03 338 *e*P **P** 01 58 22.0 -1.0
BNN **Bunyan** 89.17 312 IAmb IAmb 01 58 24.6
comp=Z,26nm,0.9s
SORM **Soroca** 89.30 323 ⇓P **P** 01 58 23.5 -1.1
SORM **Soroca** 89.30 323 P **P** 01 58 23.4 -1.1
AKN **Aaknes** 89.42 341 *e*P **P** 01 58 25.3 +0.5
ICESG **Greenland Ices** 89.48 1 *i* P **P** 01 58 24.8 -0.5
ICESG IAmb IAmb 01 58 27.0
comp=Z,14nm,0.7s
K22A **Casper** 89.52 44 P **P** 01 58 26.8 +0.9
baz=299
O20A **White River Ci** 89.60 47 IAmb IAmb 01 58 27.6
comp=Z,13nm,0.7s
O20A **White River Ci** 89.60 47 P **P** 01 58 27.2 +0.8
baz=298,SNR=11
OSL **Oslo** 89.89 338 *e*P **P** 01 58 26.7 -0.3
SKAR **Skarslia** 90.15 340 *e*P **P** 01 58 28.8 +0.4
SKAR IAmb IAmb 01 58 29.3
comp=Z,182nm,2.2s
BRTR **Keskin Array B** 90.27 313 P **P** 01 58 28.1 -1.3
BRTR **Keskin Array B** 90.27 313 P **P** 01 58 28.9 -0.6
comp=Z,5.7nm,0.7s,baz=81,slow=2.9,SNR=38
BRTR PKKPbc **PKKPbc** 02 15 57.4 -0.1
comp=Z,0.7nm,0.6s,baz=214,slow=3.6,SNR=4.7
comp=Z,5.7nm,0.7s
RSSD **Black Hills** 90.35 42 P **P** 01 58 29.0 -0.8
RSSD **Black Hills** 90.35 42 P **P** 01 58 30.6 +0.8
baz=301
RSSD **Black Hills** 90.35 42 P **P** 01 58 30.3 +0.5
baz=301
RSSD **Black Hills** 90.35 42 P **P** 01 58 29.0 -0.8
RSSD pmax pmax
comp=Z,23nm,0.5s
STRU **Stroemstad** 90.39 337 *i* P **P** 01 58 28.1 -1.2
KONO **Kongsberg** 90.49 338 *e*P **P** 01 58 30.7 +0.9
VLDR **Vladesti** 90.68 321 ⇑P **P** 01 58 30.7 -0.3
LVV **L'vov** 90.72 325 *e*P **P** 01 58 29.0 -2.1
N23A **Red Feather La** 90.76 45 IAmb IAmb 01 58 34.1
comp=Z,14nm,0.8s
N23A **Red Feather La** 90.76 45 P **P** 01 58 33.2 +1.4
baz=300,SNR=7.5
BORU **Boraas** 90.80 336 *i* P **P** 01 58 30.1 -1.2
PHWY **Pilot Hill** 90.88 45 IAmb IAmb 01 59 12.2
comp=Z,12nm,1.1s
W18A **Petrified Fore** 90.88 52 P **P** 01 58 33.7 +1.3
baz=297
SMCO **Snowmass** 90.91 47 IAmb IAmb 01 58 34.6
comp=Z,13nm,0.8s
MDND **Maddock** 90.94 37 P **P** 01 58 33.3 +1.1
baz=304,SNR=8.3
MDND **Maddock** 90.94 37 P **P** 01 58 32.8 +0.6
baz=304
TJOU **Tjoern** 90.95 336 *i* P **P** 01 58 30.6 -1.3
TPGR **Topolog** 91.01 320 ⇓P **P** 01 58 32.3 -0.3
E28A **Huff** 91.03 38 P **P** 01 58 32.9 +0.3
baz=304
TESR **Tescani** 91.15 322 ⇓P **P** 01 58 34.2 +1.0
DEL **Delary** 91.19 335 *i* P **P** 01 58 32.3 -0.7
ODD1 **Odda** 91.28 340 *e*P **P** 01 58 33.6 +0.1
ONAU **Onsala** 91.29 336 *i* P **P** 01 58 32.2 -1.3
BUR08 **Bucovina Ar. S** 91.34 323 P **P** 01 58 32.4 -1.7
FRB **Frobisher Bay** 91.34 13 P **P** 01 58 33.4 -0.2
comp=Z,4.8nm,0.6s,baz=353,slow=6.2,SNR=8.7
comp=Z,4.8nm,0.6s
BURAR **Bucovina Array** 91.35 323 ⇓P **P** 01 58 33.7 -0.5
BURAR **Bucovina Array** 91.35 323 IAmb IAmb 01 58 35.0
comp=Z,8.7nm,0.8s
BURAR **Bucovina Array** 91.35 323 P **P** 01 58 34.0 -0.2
TUC **Tucson** 91.37 54 P **P** 01 58 34.9 +0.3
TUC **Tucson** 91.37 54 P **P** 01 58 36.1 +1.5
baz=297
TUC **Tucson** 91.37 54 P **P** 01 58 34.9 +0.3
TUC pmax pmax
comp=Z,9.0nm,1.2s
VRI **Vrincioaia** 91.47 321 ⇑P **P** 01 58 35.9 +1.2
VRI **Vrincioaia** 91.47 321 P **P** 01 58 35.8 +1.2
ISCO **Idaho Springs** 91.52 46 IAmb IAmb 01 58 37.3
comp=Z,8.1nm,0.8s
ISCO **Idaho Springs** 91.52 46 P **P** 01 58 36.8 +1.3
baz=300,SNR=11
ISCO **Idaho Springs** 91.52 46 P **P** 01 58 36.2 +0.7
baz=300
KWP **Kalwaria Pacla** 91.52 326 IAmb IAmb 01 58 35.7
comp=Z,40nm,1.4s
ULM **Lac du Bonnet** 91.53 33 P **P** 01 58 34.9 +0.1
comp=Z,3.3nm,0.7s,baz=315,slow=4.7,SNR=8.6
comp=Z,3.3nm,0.7s
S22A **4UR Ranch, Cre** 91.71 48 P **P** 01 58 37.5 +1.2
baz=299,SNR=5.3
TURR **Turia** 91.77 322 ⇓P **P** 01 58 36.5 +0.4
BJUU **Bjuv** 91.80 335 *i* P **P** 01 58 35.3 -0.6
LUNU **Lund** 91.94 334 *i* P **P** 01 58 35.8 -0.7
MLR **Muntele Rosu** 92.13 321 P **P** 01 58 38.1 +0.2
comp=Z,1.2nm,0.5s,baz=14,slow=4.5,SNR=4.9
comp=Z,1.2nm,0.5s
MMAI **Mount Meron Ar** 92.17 307 P **P** 01 58 38.2 -0.1
comp=Z,4.5nm,0.7s,baz=46,slow=6.2,SNR=13
comp=Z,4.5nm,0.7s
KOLS **Kolonicke sedl** 92.17 325 *e*P **P** 01 58 38.1 +0.3
KOLS **Kolonicke sedl** 92.17 325 *e*P **P** 01 58 38.1 +0.3
DOPR **Dopca** 92.18 322 ⇓P **P** 01 58 38.2 +0.2
Q24A **Divide** 92.25 46 P **P** 01 58 39.9 +1.0
baz=300,SNR=6.2
SNART **Snartemo** 92.30 338 *i* P **P** 01 58 37.5 -0.6
STHS **Stebnicka Huta** 92.41 326 *e*P **P** 01 58 38.3 -0.7
STHS pmax pmax
comp=Z,4.0nm,0.6s
STHS **Stebnicka Huta** 92.41 326 *e*P **P** 01 58 38.3 -0.7
SDCO **Great Sand Dun** 92.62 48 P **P** 01 58 41.5 +1.0
baz=300,SNR=7.1
SDCO **Great Sand Dun** 92.62 48 P **P** 01 58 41.1 +0.6
baz=300
VOIR 92.68 322 ⇑P **P** 01 58 41.7 +1.4
VOIR 92.68 322 P **P** 01 58 41.7 +1.4
AGMN **Agassiz Nation** 92.72 35 P **P** 01 58 40.7 +0.3
baz=307
ARR **Arges** 92.96 322 ⇓P **P** 01 58 41.8 +0.1
ANMO **Albuquerque** 93.33 50 P **P** 01 58 44.0 +0.3
ANMO **Albuquerque** 93.33 50 P **P** 01 58 45.1 +1.3
baz=299
ANMO **Albuquerque** 93.33 50 P **P** 01 58 44.6 +0.9
baz=299
ANMO **Albuquerque** 93.33 50 *i* P **P** 01 58 43.0 -0.7
ANMO pmax pmax
comp=Z,19nm,4.0s
121A **Cookes Peak, D** 93.52 53 IAmb IAmb 01 58 47.1
comp=Z,11nm,1.3s
121A **Cookes Peak, D** 93.52 53 P **P** 01 58 45.4 +0.8
baz=298
MORC **Moravsky Berou** 94.05 328 *e*P **P** 01 58 47.3 +0.8
SURR **Surduc** 94.16 323 ⇓P **P** 01 58 45.5 -1.5
OSTC **Ostas** 94.18 329 *e*P **P** 01 58 46.9 -0.2
OSTC **Ostas** 94.18 329 *e*P **P** 01 58 46.9 -0.2
VYHS **Vyhne** 94.23 327 *e*P **P** 01 58 47.1 -0.2
VYHS **Vyhne** 94.23 327 *e*P **P** 01 58 47.1 -0.2
CHVC **Chvalec** 94.24 329 *e*P **P** 01 58 47.2 -0.1
CHVC **Chvalec** 94.24 329 *e*P **P** 01 58 47.2 -0.1
DPC **Dobruska-Polom** 94.27 329 *e*P **P** 01 58 47.1 -0.4
DPC **Dobruska-Polom** 94.27 329 *e*P **P** 01 58 47.1 -0.4
ELL **Elmali** 94.30 312 IAmb IAmb 01 58 48.7
comp=Z,15nm,0.8s
UPC **Upice** 94.31 329 *e*P **P** 01 58 47.6 0.0
UPC **Upice** 94.31 329 *e*P **P** 01 58 47.6 0.0
JAVC **Velka Javorina** 94.59 327 *e*P **P** 01 58 49.4 +0.4
VRAC **Vranov** 94.83 328 *e*P **P** 01 58 49.5 -0.5
VRAC **Vranov** 94.83 328 P **P** 01 58 49.6 -0.5
comp=Z,2.3nm,0.6s,baz=356,slow=2.7,SNR=5.5
comp=Z,2.3nm,0.6s
PVCC **Panska Ves** 94.98 330 *e*P **P** 01 58 51.0 +0.4
PVCC **Panska Ves** 94.98 330 *e*P **P** 01 58 51.0 +0.4
KRUC **Moravsky** 95.09 328 *e*P **P** 01 58 50.4 -0.8
CLL **Collm** 95.16 331 *i* P **P** 01 58 50.3 -1.1
CLL *e* 02 09 03.0
CLL *e*S **S** 02 09 34.0 -5.4
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL **Collm** 95.16 331 *i* P **P** 01 58 50.3 -1.1
comp=Z,5.0nm,0.7s
CLL *e*pP **pwP** 02 00 06.0 -0.9
CLL *e*PP **PP** 02 02 46.0 +1.1
MNTX **Cornudas Mount** 95.71 53 P **P** 01 58 55.0 +0.6
baz=300
MNTX **Cornudas Mount** 95.71 53 P **P** 01 58 54.8 +0.4
baz=300
RONA **Rosalia, Austr** 96.04 327 *e*P **P** 01 58 55.1 -0.5
comp=Z,1.3nm,0.5s
CONA **Conrad Observa** 96.11 327 *i* PcP **P** 01 58 55.5 -0.5
comp=Z,1.8nm,0.6s
CKRC **Cesky Krumlov** 96.27 329 *e*P **P** 01 58 56.2 -0.4
CKRC **Cesky Krumlov** 96.27 329 *e*P **P** 01 58 56.2 -0.4
KHC **Kasperske Hory** 96.41 329 *e*P **P** 01 58 56.9 -0.3
KHC **Kasperske Hory** 96.41 329 *e*P **P** 01 58 56.9 -0.3
GERES **GERESS Array B** 96.54 329 P **P** 01 58 57.0 -0.9
comp=Z,2.4nm,0.6s,baz=40,slow=5.0,SNR=15
comp=Z,2.4nm,0.6s
MOA **Molln** 96.95 328 *i* PcP **P** 01 58 59.2 -0.5
comp=Z,2.3nm,0.8s
PECS **Pecos** 96.99 52 IAmb IAmb 01 59 01.4
comp=Z,4.2nm,0.6s
GRF **Grafenberg Arr** 97.10 331 *e*Pdiff Pdif 01 59 00.3 0.0
SOKA **Soboth** 97.36 327 *e*PcP **P** 01 59 01.1 -0.6
comp=Z,0.6nm,0.4s
SOKA **Soboth** 97.36 327 *e*PP **PP** 02 03 03.2 +1.1
comp=Z,1.7nm,0.6s
OBKA **Obir** 97.72 327 *e*PP **PP** 02 03 06.4 +1.6
comp=Z,3.4nm,0.7s
KBA **Koelnbreinsper** 97.94 328 *e*Pdiff **P** 01 59 03.9 -0.4
comp=Z,0.8nm,0.4s
LESA **Schwarzleotal** 98.03 329 *e*Pdiff **P** 01 59 03.6 -0.9
comp=Z,1.7nm,0.4s
EKA **Eskdalemuir Ar** 98.07 341 P Pdif 01 59 04.7 +0.2
comp=Z,0.5nm,0.4s,baz=39,slow=4.6,SNR=6.3
EKA PP **PP** 02 03 08.2 +1.3
comp=Z,1.5nm,0.7s,baz=26,slow=6.8,SNR=4.1
EKA PKiKP **PKiKP** 02 03 36.7 +1.0
comp=Z,0.4nm,0.4s,baz=19,slow=3.0,SNR=3.5
comp=Z,0.5nm,0.4s
TX31 **Lajitas Ar. Si** 98.17 54 IAmb IAmb 01 59 08.9
comp=Z,3.5nm,0.8s
TX31 **Lajitas Ar. Si** 98.17 54 P **P** 01 59 05.3 -0.3
baz=300
TXAR **Lajitas Array** 98.17 54 P Pdif 01 59 05.7 +0.1
comp=Z,0.8nm,0.6s,baz=310,slow=1.7,SNR=12
TXAR PKKPbc **PKKPbc** 02 15 36.2 -0.3
comp=Z,0.5nm,0.5s,baz=129,slow=5.4,SNR=5.5
comp=Z,0.8nm,0.6s
ABTA **Abfaltersbach** 98.58 328 *e*Pdiff Pdif 01 59 06.3 -0.8
comp=Z,1.1nm,0.4s
WATA **Walderalm** 98.62 329 *i* Pdiff Pdif 01 59 06.3 -1.0
comp=Z,0.5nm,0.4s
WTTA **Wattenberg** 98.64 329 *e*Pdiff Pdif 01 59 06.3 -1.1
comp=Z,0.2nm,0.2s
WTTA **Wattenberg** 98.64 329 *e*PP **PP** 02 03 12.8 +1.0
comp=Z,1.9nm,0.6s
FETA **Feichten** 99.25 329 *i* PP **PP** 02 03 16.2 -0.2
comp=Z,1.9nm,0.7s

DAVA	**Damuels**	**99.46**	**330**	*e*Pdiff	**Pdif**	**01 59 10.4**	**-0.7**
	comp=Z,0.5nm,0.3s							
QSPA	**South Pole Qui**	**111.47**	**180**	PKiKP	**PKiKP**	**02 03 58.3**	**-1.7**
	comp=Z,3.1nm,0.5s,baz=301,slow=0.7,SNR=9.7							
ESDC	**Sonseca Array**	**111.64**	**333**	PKiKP	**PKiKP**	**02 04 01.4**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=9.1,slow=2.4,SNR=5.7							
ESDC				PP	**PP**	**02 04 41.1**	**-5.9**
	comp=Z,0.8nm,0.7s,baz=23,slow=7.1,SNR=5.7							
MDT	**Midelt**	**117.63**	**329**	PKP	**PKiKP**	**02 04 14.3**	**+1.3**
	comp=Z,2.6nm,0.7s,baz=90,slow=4.0,SNR=4.9							
LSZ	**Lusaka**	**118.27**	**264**	PKPdf	**PKPdf**	**02 04 14.1**	**-0.5**
LSZ	**Lusaka**	**118.27**	**264**	PKIKP	**PKPdf**	**02 04 14.1**	**-0.5**
ELIB	**Princess Elisa**	**119.51**	**198**	*d*PKPdf	**PKPdf**	**02 04 15.2**	**-0.2**
ELIB				*d*PP	**PP**	**02 05 41.5**	**-0.8**
TROLL	**Troll, Antarti**	**124.90**	**194**	⇑P	**PKiKP**	**02 04 26.0**	**-0.1**
	comp=Z,108nm,0.7s							
VNA2	**Neumayer--Watz**	**127.79**	**192**	⇑P	**PKPdf**	**02 04 31.3**	**+0.1**
	baz=154,slow=1.0							
VNA1	**Neumayer--Stat**	**128.18**	**192**	⇑P	**PKiKP**	**02 04 33.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**128.66**	**309**	PKPdf	**PKPdf**	**02 04 33.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**128.66**	**309**	PKP	**PKPdf**	**02 04 34.4**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=26,slow=2.0,SNR=37							
TORD				PP	**PP**	**02 06 42.5**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=36,slow=6.3,SNR=5.1							
PLMC	**San Jos del P**	**133.29**	**60**	*e*P	PKPpre	02 04 39.3		
OCAC	**Ocana**	**133.55**	**54**	*e*P	**PKPdf**	**02 04 41.0**	**-3.0**
YOTC	**Yotoco, Valle**	**133.77**	**61**	*e*P	PKPpre	02 04 33.3		
BBAC	**Balboa, Cauca**	**134.12**	**64**	*e*P	**PKPdf**	**02 04 43.1**	**-2.0**
SPBC	**San Pablo de B**	**134.60**	**58**	*e*P	PKPpre	02 04 38.4		
BARC	**Barichara**	**134.71**	**56**	*e*P	PKPpre	02 04 36.1		
SDV	**Santo Domingo**	**135.11**	**51**	*e*P	PKPpre	02 04 33.3		
DBIC	**Dimbokro**	**137.77**	**308**	PKhKP	PKPpre	02 04 40.4		
	comp=Z,1.9nm,0.6s,baz=31,slow=4.7,SNR=3.6							
DBIC				SKPbc	**SKPbc**	**02 07 54.2**	**-2.1**
	comp=Z,5.2nm,0.7s,baz=54,slow=4.5,SNR=7.0							
KIC	**Kosan Boka**	**137.89**	**308**	⇑*i*PKP2	**PKiKP**	**02 04 53.2**	**-0.7**
	comp=Z,8.6nm,0.5s							
TIC	**Toumodi**	**137.90**	**308**	⇑*i*PKP2	**PKiKP**	**02 04 54.0**	**+0.1**
	comp=Z,4.4nm,0.2s							
LIC	**Lamto**	**138.19**	**308**	⇓*i*PKP2	**PKiKP**	**02 04 54.4**	**-0.1**
	comp=Z,13nm,0.6s							
CZSB	**Cruzeiro do Su**	**142.85**	**74**	*e*P	PKPpre	02 04 54.3		
TBTG	**Tabatinga, AM**	**143.61**	**66**	*e*P	PKPab	02 04 56.8	-2.7	
PLCA	**Paso Flores**	**145.83**	**132**	PKP2	**PKPab**	**02 05 07.0**	**-0.4**
PLCA	**Paso Flores**	**145.83**	**132**	PKPbc	**PKPab**	**02 05 07.0**	**-0.4**
	comp=Z,48nm,0.6s,baz=230,slow=4.7,SNR=234							
BOAV	**Boa Vista**	**146.78**	**47**	*e*P	**PKPbc**	**02 05 09.7**	**-0.1**
SAML	**Samuel**	**151.77**	**67**	*e*P	**PKPdf**	**02 05 10.9**	**-4.5**
CPUP	**Villa Florida**	**160.81**	**108**	PKPab	**PKPab**	**02 06 11.1**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=316,slow=7.7,SNR=5.0							
BDFB	**Brasilia**	**167.92**	**62**	PKP	**PKPdf**	**02 05 34.5**	**+1.0**
	comp=Z,4.4nm,0.7s,baz=203,slow=4.1,SNR=6.3							
BDFB				PKPab	**PKPab**	**02 06 40.9**	**-1.7**
	comp=Z,2.7nm,0.7s,baz=263,slow=7.9,SNR=4.0							

*SOME **10** 01:46:44.9,41.°45N×77.°97E,h15km*
*KRNET **10** 01:46:45.8±0.1,41.°51N×77.°95E,h13km,mb2.9*
*NNC **10** 01:46:46.8±0.7,41.°53N×77.°97E,h0km,mb3.5,mpv3.4,*
Error ellipse: s-maj=4.8km s-min=3.0km az=174.0
ISC 10 01:46:46.3±1.5,41.°52N±0.°05×77.°91E±0.°03,h7km±10km,
n69,σ1§30/119,29C-15D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.22**	**340**	⇓*i*P	**Pg**	**01 46 51.1**	**+0.2**
	baz=33						
TARG				⇓*i*S	**Sg**	**01 46 54.2**	**+0.2**
	baz=33						
KDJ	**Kajisay**	**0.82**	**319**	⇑*e*P	**Pg**	**01 47 01.7**	**-0.3**
	baz=18						
KDJ				⇑*e*S	**Sg**	**01 47 13.1**	**+0.5**
	baz=18						
PRZ	**Przheval'sk**	**1.03**	**21**	⇓*i*P	**Pg**	**01 47 05.8**	**-0.3**
	baz=18						
PRZ				⇓*i*S	**Sn**	**01 47 20.7**	**-1.4**
	baz=18						
ANVS	**Anan'yevo**	**1.28**	**352**	⇓*e*P	**Pb**	**01 47 10.1**	**-0.6**
	baz=51						
ANVS				⇓*e*S	**Sg**	**01 47 28.2**	**+0.9**
	baz=51						
NRN	**Naryn**	**1.44**	**267**	⇑*e*P	**Pg**	**01 47 14.2**	**+0.4**
	baz=67						
NRN				⇑*e*S	**Sg**	**01 47 34.2**	**+1.8**
	baz=67						
ULHL	**Ulahol**	**1.44**	**301**	⇑*i*P	**Pb**	**01 47 13.2**	**-0.3**
	baz=1.0						
ULHL				⇑*i*S	**Sg**	**01 47 33.0**	**+0.4**
	baz=1.0						
SATY	**Saty**	**1.58**	**13**	P	**Pb**	**01 47 15.2**	**-0.7**
	12nm,0.1s						
SATY				S	**Sg**	**01 47 37.1**	**-0.1**
	48nm,0.2s						
SATY	**Saty**	**1.58**	**13**	*e*P	**Pb**	**01 47 15.2**	**-0.7**
	12nm,0.1s						
SATY				*e*S	**Sg**	**01 47 37.1**	**-0.1**
	48nm,0.2s						
SATY	**Saty**	**1.58**	**13**	*e*P	**Pb**	**01 47 15.2**	**-0.7**
	baz=12						
SATY				*e*S	**Sg**	**01 47 37.1**	**-0.1**
	baz=12						
TNSS	**Tian-Shan**	**1.68**	**335**	P	**Pb**	**01 47 17.4**	**-0.3**
	4.5nm,0.1s						
TNSS				S	**Sg**	**01 47 40.8**	**+0.6**
	13nm,0.1s						
TNSS	**Tian-Shan**	**1.68**	**335**	*e*P	**Pb**	**01 47 17.4**	**-0.3**
	4.5nm,0.1s						
TNSS				*e*S	**Sg**	**01 47 40.8**	**+0.6**
	13nm,0.1s						
TNSS	**Tian-Shan**	**1.68**	**335**	*e*P	**Pb**	**01 47 17.4**	**-0.3**
	baz=34						
TNSS				*e*S	**Sg**	**01 47 40.7**	**+0.6**
	baz=34						
ZHN	**Zhinishke**	**1.69**	**13**	P	**Pb**	**01 47 17.2**	**-0.6**
	18nm,0.1s						
ZHN				S	**Sg**	**01 47 40.3**	**-0.4**
	77nm,0.1s						
ZHN	**Zhinishke**	**1.69**	**13**	*e*P	**Pb**	**01 47 17.2**	**-0.6**
	18nm,0.1s						
ZHN				*e*S	**Sg**	**01 47 40.3**	**-0.4**
	77nm,0.1s						
ZHN	**Zhinishke**	**1.69**	**13**	*e*P	**Pb**	**01 47 17.2**	**-0.6**
	baz=12						
ZHN				*e*S	**Sg**	**01 47 40.3**	**-0.4**
	baz=12						
MDOK	**Medeo**	**1.76**	**339**	Pg	**Pb**	**01 47 18.8**	**-0.1**
	6.8nm,0.1s						
MDOK				⇑Pn	**Pb**	**01 47 18.9**	**-0.1**
	4.8nm,0.4s						
MDOK				Sn	**Sg**	**01 47 42.9**	**0.0**
	18nm,0.5s						
MDOK				Lg	Lg	01 47 43.3	
	22nm,0.3s						
MDOK	**Medeo**	**1.76**	**339**	*e*P	**Pb**	**01 47 18.8**	**-0.1**
	6.8nm,0.1s						
MDOK				*e*S	**Sg**	**01 47 43.3**	**+0.4**
	22nm,0.3s						
MDOK	**Medeo**	**1.76**	**339**	*e*P	**Pb**	**01 47 18.8**	**-0.1**
	baz=38						
MDOK				*e*S	**Sg**	**01 47 43.3**	**+0.4**
	baz=38						
IZV	**Izvestkoviy**	**1.79**	**328**	P	**Pb**	**01 47 19.2**	**-0.3**
	6.5nm,0.1s						
IZV				S	**Sg**	**01 47 43.9**	**0.0**
	28nm,0.1s						
IZV	**Izvestkoviy**	**1.79**	**328**	*e*P	**Pb**	**01 47 19.2**	**-0.3**
	6.5nm,0.1s						
IZV				*e*S	**Sg**	**01 47 43.9**	**0.0**
	28nm,0.1s						
KOTS	**Kotyrbulak**	**1.81**	**341**	Pg	**Pb**	**01 47 19.9**	**+0.1**
	25nm,0.2s						
KOTS				Lg	Lg	01 47 45.2	
	47nm,0.3s						
KOTS	**Kotyrbulak**	**1.81**	**341**	*e*P	**Pb**	**01 47 19.9**	**+0.1**
	25nm,0.2s						
KOTS				*e*S	**Sg**	**01 47 45.2**	**+0.7**
	47nm,0.3s						
UZB	**Uzynbulak**	**1.82**	**27**	P	**Pb**	**01 47 18.9**	**-1.1**
	7.9nm,0.2s						
UZB				S	**Sg**	**01 47 43.4**	**-1.5**
	37nm,0.3s						
UZB	**Uzynbulak**	**1.82**	**27**	*e*P	**Pb**	**01 47 18.9**	**-1.1**
	7.9nm,0.2s						
UZB				*e*S	**Sg**	**01 47 43.4**	**-1.5**
	37nm,0.3s						
UZB	**Uzynbulak**	**1.82**	**27**	*e*P	**Pb**	**01 47 19.0**	**-1.1**
	baz=25						
UZB				*e*S	**Sg**	**01 47 43.5**	**-1.5**
	baz=25						
KNDC	**Almaty**	**1.83**	**338**	⇓Sn	**Sg**	**01 47 46.4**	**+1.2**
	14nm,0.3s						
MTBS	**Maitube**	**1.95**	**326**	Pg	**Pb**	**01 47 22.3**	**+0.2**
	3.8nm,0.1s						
MTBS				Lg	Lg	01 47 49.0	
	28nm,0.2s						
MTBS	**Maitube**	**1.95**	**326**	*e*P	**Pb**	**01 47 22.3**	**+0.2**
	3.8nm,0.1s						
MTBS				*e*S	**Sg**	**01 47 49.0**	**+0.1**
	28nm,0.2s						
SHLS	**Shalkode**	**2.00**	**35**	Pg	**Pg**	**01 47 25.6**	**+1.0**
	22nm,0.2s						
SHLS				Lg	Lg	01 47 55.0	
	38nm,0.2s						
SHLS	**Shalkode**	**2.00**	**35**	*e*P	**Pg**	**01 47 25.6**	**+1.0**
	22nm,0.2s						
SHLS				*e*S	**Sg**	**01 47 55.0**	**+4.3**
	38nm,0.2s						
KPKS	**Kokpek**	**2.03**	**16**	Pg	**Pb**	**01 47 22.8**	**-0.7**
	15nm,0.1s						
KPKS				Lg	Lg	01 47 50.1	
	50nm,0.3s						
KPKS	**Kokpek**	**2.03**	**16**	*e*P	**Pb**	**01 47 22.8**	**-0.7**
	15nm,0.1s						
KPKS				*e*S	**Sg**	**01 47 50.1**	**-1.4**
	50nm,0.3s						
KPKS	**Kokpek**	**2.03**	**16**	*e*P	**Pb**	**01 47 22.8**	**-0.7**
	baz=15						
KPKS				*e*S	**Sg**	**01 47 50.0**	**-1.4**
	baz=15						
KZA	**Kyzart**	**2.06**	**287**	⇓*i*P	**Pb**	**01 47 23.8**	**-0.5**
	baz=87						
KZA				⇓*i*S	**Sg**	**01 47 51.8**	**-0.8**
	baz=87						
KST	**Kastek**	**2.10**	**317**	Pg	**Pb**	**01 47 24.8**	**+0.1**
	5.2nm,0.3s						
KST				Lg	Lg	01 47 53.5	
	17nm,0.3s						
KST	**Kastek**	**2.10**	**317**	*e*P	**Pb**	**01 47 24.8**	**+0.1**
	5.2nm,0.3s						
KST				*e*S	**Sg**	**01 47 53.5**	**-0.1**
	17nm,0.3s						
PDGK	**Podgornoye**	**2.16**	**32**	Pg	**Pb**	**01 47 24.5**	**-1.1**
	4.6nm,0.2s						
PDGK				Lg	Lg	01 47 53.0	
	15nm,0.3s						
PDGK	**Podgornoye**	**2.16**	**32**	⇑Pn	**Pb**	**01 47 24.2**	**-1.5**
	3.8nm,0.3s						
PDGK				⇑Sn	**Sg**	**01 47 53.3**	**-2.3**
	28nm,0.6s						
TKM2	**Tokmak 2**	**2.21**	**310**	⇑Pn	**Pb**	**01 47 26.9**	**+0.1**
	4.1nm,0.5s						
TKM2				⇑Lg	Lg	01 47 57.8	
	11nm,0.3s						
TKM2	**Tokmak 2**	**2.21**	**310**	⇑*i*P	**Pb**	**01 47 25.4**	**-1.3**
	baz=10.0						
TKM2				⇑*i*S	**Sb**	**01 47 55.1**	**+0.7**
	baz=10.0						
DGS	**Degeres**	**2.34**	**318**	Pg	**Pb**	**01 47 29.1**	**+0.3**
	7.6nm,0.2s						
DGS				Lg	Lg	01 48 00.9	
	20nm,0.2s						
DGS	**Degeres**	**2.34**	**318**	*e*P	**Pb**	**01 47 29.1**	**+0.3**
	7.6nm,0.2s						
DGS				*e*S	**Sg**	**01 48 00.9**	**-0.5**
	20nm,0.2s						
KTBS	**Karatobe**	**2.37**	**338**	Pg	**Pb**	**01 47 29.7**	**+0.4**
	6.6nm,0.3s						
KTBS				Lg	Lg	01 48 01.8	
	72nm,0.1s						
KTBS	**Karatobe**	**2.37**	**338**	*e*P	**Pb**	**01 47 29.7**	**+0.4**
	6.6nm,0.3s						
KTBS				*e*S	**Sg**	**01 48 01.8**	**-0.6**
	72nm,0.1s						
CHKK	**Chushkaly**	**2.43**	**344**	Pg	**Pb**	**01 47 30.6**	**+0.3**
	13nm,0.2s						
CHKK				Lg	Lg	01 48 03.5	
	51nm,0.1s						
CHKK	**Chushkaly**	**2.43**	**344**	*e*P	**Pb**	**01 47 30.6**	**+0.3**
	13nm,0.2s						
CHKK				*e*S	**Sg**	**01 48 03.5**	**-0.8**
	51nm,0.1s						
KBK	**Karagaybulak**	**2.48**	**298**	⇓*i*P	**Pb**	**01 47 29.5**	**-1.7**
	baz=98						
KBK				⇓*i*S	**Sb**	**01 48 01.5**	**-0.5**
	baz=98						
UCH	**Uchtor**	**2.63**	**287**	⇑*i*P	**Pb**	**01 47 31.8**	**-2.2**
	baz=87						
UCH				⇑*i*S	**Sb**	**01 48 05.5**	**-1.1**
	baz=87						
KUU	**Kurty**	**2.64**	**335**	Pg	**Pb**	**01 47 34.2**	**+0.3**
	7.0nm,0.4s						
KUU				Lg	Lg	01 48 09.7	
	24nm,0.2s						
KUU	**Kurty**	**2.64**	**335**	*e*P	**Pb**	**01 47 34.2**	**+0.3**
	7.0nm,0.4s						
KUU				*e*S	**Sg**	**01 48 09.7**	**-1.4**
	24nm,0.2s						
ARXS	**Arharly**	**2.69**	**359**	Pg	**Pb**	**01 47 35.3**	**+0.5**
	5.8nm,0.3s						
ARXS				Lg	Lg	01 48 11.5	
	27nm,0.2s						
ARXS	**Arharly**	**2.69**	**359**	*e*P	**Pb**	**01 47 35.3**	**+0.5**
	5.8nm,0.3s						
ARXS				*e*S	**Sg**	**01 48 11.5**	**-1.3**
	27nm,0.2s						
ARLS	**Aral**	**2.71**	**278**	⇑*e*P	**Pb**	**01 47 32.7**	**-2.4**
	baz=78						
ARLS				⇑*e*S	**Sb**	**01 48 06.8**	**-1.7**
	baz=78						
KRBS	**Karabastau**	**2.73**	**324**	Pg	**Pb**	**01 47 36.0**	**+0.6**
	4.1nm,0.2s						
KRBS				Lg	Lg	01 48 12.5	
	20nm,0.3s						
KRBS	**Karabastau**	**2.73**	**324**	*e*P	**Pb**	**01 47 36.0**	**+0.6**
	4.1nm,0.2s						
KRBS				*e*S	**Sg**	**01 48 12.5**	**-1.4**
	20nm,0.3s						
CHMS	**Chumysh**	**2.77**	**303**	⇑Pg	**Pg**	**01 47 38.8**	**-0.6**
	6.0nm,1.0s						
CHMS				⇑Lg	Lg	01 48 14.8	
	7.5nm,0.6s						
CHMS	**Chumysh**	**2.77**	**303**	⇑*i*P	**Pb**	**01 47 33.2**	**-2.9**
	baz=3.0						
CHMS				⇑*i*S	**Sb**	**01 48 08.2**	**-2.0**
	baz=3.0						
AAK	**Ala-Archa**	**2.77**	**295**	⇑*i*P	**Pb**	**01 47 33.5**	**-2.7**
	baz=95						
AAK				⇑*i*S	**Sb**	**01 48 08.6**	**-1.9**
	baz=95						
KNOS	**Konyrlen**	**2.99**	**18**	Pg	**Pb**	**01 47 39.9**	**0.0**
	5.9nm,0.2s						
KNOS				Lg	Lg	01 48 19.4	
	5.7nm,0.2s						
USP	**Ospenovka**	**3.07**	**306**	⇓*i*P	**Pn**	**01 47 37.3**	**+2.1**
	baz=6.0						
USP				⇓*i*S	**Sb**	**01 48 15.4**	**-3.4**
	baz=6.0						
DJR	**Jarkent**	**3.13**	**26**	Pg	**Pb**	**01 47 42.4**	**+0.1**
	4.7nm,0.2s						
DJR				Lg	Lg	01 48 23.9	
	18nm,0.3s						
DJR	**Jarkent**	**3.13**	**26**	*e*P	**Pb**	**01 47 42.4**	**+0.1**
	4.7nm,0.2s						
DJR				*e*S	**Sg**	**01 48 23.9**	**-3.0**
	18nm,0.3s						
AML	**Almayashu**	**3.21**	**282**	⇑Pg	**Pb**	**01 47 45.6**	**+1.8**
	0.1nm,0.4s						
AML				⇓Lg	Lg	01 48 30.0	
	1.8nm,0.8s						
AML	**Almayashu**	**3.21**	**282**	⇑*e*P	**Pn**	**01 47 39.9**	**+2.5**
	baz=82						
AML				⇑*i*S	**Sb**	**01 48 19.3**	**-3.8**
	baz=82						
TDK	**Taldyqorghan**	**3.50**	**6**	Pg	**Pb**	**01 47 49.3**	**+0.8**
	21nm,0.1s						
TDK				Lg	Lg	01 48 35.7	
	24nm,0.2s						
TDK	**Taldyqorghan**	**3.50**	**6**	*e*P	**Pb**	**01 47 49.4**	**+0.8**
	21nm,0.1s						
TDK				*e*S	**Sg**	**01 48 35.7**	**-3.0**
	24nm,0.2s						
KAPS	**Kapalarasan**	**3.91**	**15**	Pg	**Pb**	**01 47 57.3**	**+1.8**
	3.0nm,0.3s						
KAPS				Lg	Lg	01 48 49.1	
	3.8nm,0.1s						
KAPS	**Kapalarasan**	**3.91**	**15**	*e*P	**Pb**	**01 47 57.3**	**+1.8**
	3.0nm,0.3s						
KAPS				*e*S	**Sg**	**01 48 49.1**	**-2.7**
	3.8nm,0.1s						
MK31	**Makanchi Array**	**6.14**	**29**	⇓Pn	**Pn**	**01 48 18.8**	**+1.4**
	0.2nm,0.5s,baz=208,slow=13,SNR=5.8						
MK31				⇑Pg	Pg	01 48 38.5	-5.3
	1.2nm,0.9s						
MK31				⇑Sn	**Sn**	**01 49 30.3**	**+2.4**
	1.1nm,0.8s,baz=206,slow=23,SNR=4.5						
MK31				⇑Lg	Lg	01 50 00.9	
	0.6nm,0.5s						

*DSN **10** 02:03:02.3±1.6,27.°22N×54.°85E,h15km,ML2.9/8,Error ellipse: s-maj=20.2km s-min=7.7km az=14.0*
*TEH **10** 02:03:05.5,26.°84N×54.°79E,h28km±28km,ML2.9*
ISC 10 02:03:04.2±1.0,26.°70N±0.°05×54.°76E±0.°05,h17km,n15,
σ1§39/17,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**1.03**	**340**	Pg	**Pb**	**02 03 22.3**	**-1.3**
LAR1				Sg	**Sb**	**02 03 35.3**	**-1.5**
SHME	**Shamm**	**1.40**	**117**	P	**Pg**	**02 03 30.5**	**-0.6**
SHME				S	**Sg**	**02 03 52.3**	**+3.0**
GENO	**Geno**	**1.44**	**61**	Pg	**Pb**	**02 03 30.4**	**-0.2**
LMD1	**Lamerd**	**1.56**	**294**	Pg	**Pb**	**02 03 33.6**	**+0.9**
MSFE	**Esma-Masafi**	**1.83**	**136**	P	**Pg**	**02 03 39.0**	**-0.4**
NAZ	**Nazwa, Dubai**	**1.89**	**154**	P	**Pg**	**02 03 40.7**	**+0.2**
FAQ	**Al Faqa, Dubai**	**2.08**	**159**	P	**Pg**	**02 03 43.1**	**-1.1**
JHRM	**Jahrom**	**2.08**	**330**	Pn	**Pb**	**02 03 41.5**	**-0.2**
ASUD	**Al Ashush, Dub**	**2.13**	**166**	P	**Pg**	**02 03 44.2**	**-0.9**
HATD	**Hatta, Dubai**	**2.24**	**146**	P	**Pb**	**02 03 45.0**	**+0.8**
ASHD	**Ashiyiah**	**2.32**	**149**	P	**Pb**	**02 03 45.5**	**-0.2**
SOHO	**SOHO**	**3.01**	**148**	P	**Pb**	**02 03 54.5**	**-2.9**
NGRK	**Negar Kerman**	**3.41**	**30**	Pn	**Pn**	**02 03 57.2**	**+0.2**
KHGB	**Koh Gabri**	**3.96**	**22**	Pn	**Pn**	**02 04 05.3**	**+0.8**
IRAM	**Ramesheh**	**5.50**	**338**	Pn	**Pn**	**02 04 26.4**	**+0.8**

*UPP **10** 02:25:31.4±0.1,67.°82N×20.°22E,h0km,ML2.6,Confirmed Induced event*
*HEL **10** 02:25:31.9±0.2,67.°80N×20.°15E,h0km,ML0.9,Explosion*
ISC 10 02:25:31.2±0.8,67.°79N±0.°02×20.°27E±0.°03,h0km,n24,
σ0§82/38,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.26**	**278**	P	**Pg**	**02 25 36.1**	**-0.1**
RATU				S	**Sg**	**02 25 39.4**	**-0.1**
KOVU	**Salmi**	**0.44**	**355**	P	**Pg**	**02 25 39.2**	**-0.3**
KOVU				S	**Sg**	**02 25 44.6**	**-0.6**
DUNU	**Dundret**	**0.68**	**170**	P	**Pg**	**02 25 44.9**	**+0.8**
DUNU				S	**Sb**	**02 25 54.6**	**-1.2**
LANU	**Lannavaara**	**0.70**	**68**	PG	**Pg**	**02 25 44.9**	**+0.3**
LANU				SG	**Sg**	**02 25 54.9**	**+1.2**
SALU	**Saltoluokta**	**0.79**	**240**	P	**Pg**	**02 25 46.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.24**	**9**	PG	**Pb**	**02 25 55.2**	**-0.2**
KIF				MSG		02 26 10.3	
	comp=Z,1.3nm,0.2s						
KIF				SG	**Sg**	**02 26 11.3**	**+0.4**
PAJU	**Pajala**	**1.34**	**124**	PG	**Pg**	**02 25 56.7**	**-0.1**
	baz=307						
PAJU				SG	**Sb**	**02 26 15.1**	**+0.3**
PAJU	**Pajala**	**1.34**	**124**	P	**Pg**	**02 25 56.7**	**-0.1**
PAJU				S	**Sb**	**02 26 14.9**	**+0.1**
HEF	**Hetta**	**1.42**	**62**	PG	**Pn**	**02 25 57.9**	**-0.2**
	baz=249						
HEF				MSG		02 26 15.4	
	comp=Z,0.9nm,0.2s						
HEF				SG	**Sg**	**02 26 16.7**	**+0.1**
ERTU	**Ertsjaerv**	**1.45**	**148**	PG	**Pn**	**02 25 58.6**	**0.0**
ERTU				SN	**Sn**	**02 26 19.1**	**+0.8**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pg**	**02 25 58.9**	**0.0**
KLF	**Kolari**	**1.53**	**110**	PG	**Pn**	**02 26 00.0**	**+0.4**
	baz=292						
KLF				MSG		02 26 19.1	
	comp=Z,0.7nm,0.2s						
KLF				SN	**Sn**	**02 26 21.3**	**+1.2**
KTK1	**Kautokeino**	**1.65**	**40**	*e*P	**Pg**	**02 26 02.7**	**0.0**
KTK1	**Kautokeino**	**1.65**	**40**	PN	**Pb**	**02 26 02.4**	**+0.1**
KTK1				SN	**Sg**	**02 26 24.4**	**+0.4**
HARU	**Harads**	**1.66**	**170**	P	**Pb**	**02 26 02.1**	**-0.3**
JETT	**Jettan, Norway**	**1.78**	**2**	*e*P	**Pn**	**02 26 03.1**	**0.0**
TRO	**Tromso**	**1.92**	**346**	PG	**Pn**	**02 26 05.6**	**+0.6**
KALU	**Kalix**	**2.29**	**146**	SG	**Sg**	**02 26 44.2**	**-0.5**
TOF	**Tornio**	**2.34**	**135**	MSG		02 26 42.4	
	comp=Z,0.4nm,0.2s						
TOF				SG	**Sg**	**02 26 45.9**	**-0.4**
SGF	**Sodankyl**	**2.42**	**95**	PG	**Pb**	**02 26 14.7**	**-0.8**
	baz=280						
SGF				SG	**Sg**	**02 26 48.9**	**+0.1**
RNF	**Rovaniemi**	**2.53**	**115**	PB	**Pb**	**02 26 16.5**	**-0.9**
RNF				SG	**Sb**	**02 26 50.4**	**+1.3**
ARA0	**ARCESS Array S**	**2.60**	**45**	PB	**Pb**	**02 26 16.6**	**-1.9**
	baz=229						
ARA0				SB	**Sb**	**02 26 49.6**	**-1.3**
KEV	**Kevo**	**3.15**	**48**	SN	**Sn**	**02 27 01.8**	**+1.7**
KU6	**Riekki**	**4.18**	**111**	SG	**Sg**	**02 27 43.2**	**-2.1**

*NNC **10** 02:29:30.3±0.6,42.°55N×71.°97E,h4km±4km,mb3.5,mpv3.4,Error ellipse: s-maj=7.7km s-min=1.6km az=12.0*
*SOME **10** 02:29:31.4,42.°65N×72.°02E,h10km*
*KRNET **10** 02:29:31.1±0.1,42.°59N×71.°99E,h21km,mb3.1*
*KNET **10** 02:29:34.2±0.5,42.°53N×72.°24E,h7km±2km,ml2.6,Error ellipse: s-maj=4.1km s-min=2.6km az=174.0*
ISC 10 02:29:29.4±1.1,42.°64N±0.°03×72.°00E±0.°02,h2km±10km,
n74,σ1§48/125,39C-24D,Kyrgyzstan

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

	baz=9.0								
AML					*e*S		**Sg**	**02 30 14.3**	**+1.2**
	baz=9.0								
ARSB	**Arslanbob**	**1.51**	**150**	⇑	*e*P		**Pb**	**02 29 57.8**	**-0.5**
	baz=49								
ARSB				⇑	*e*S		**Sb**	**02 30 17.5**	**-0.4**
	baz=49								
CHM	**Chimkent**	**1.80**	**261**		*e*P		**Pg**	**02 30 05.1**	**+1.2**
	92nm,0.1s								
CHM					*e*S		**Sg**	**02 30 29.0**	**+1.8**
	319nm,0.3s								
AAK	**Ala-Archa**	**1.84**	**89**	⇑	P		**Pg**	**02 30 05.7**	**+0.9**
	7.2nm,0.1s,SNR=12								
AAK				⇑	S		**Sg**	**02 30 29.5**	**+0.8**
	20nm,0.2s								
AAK	**Ala-Archa**	**1.84**	**89**	⇑	*e*P		**Pg**	**02 30 04.6**	**-0.2**
	baz=88								
AAK				⇑	*e*S		**Sg**	**02 30 29.3**	**+0.6**
	baz=88								
ARLS	**Aral**	**1.90**	**113**	⇑	*e*P		**Pg**	**02 30 05.3**	**-0.5**
	baz=12								
ARLS				⇑	*e*S		**Sg**	**02 30 30.5**	**+0.2**
	baz=12								
UCH	**Uchtor**	**1.91**	**102**	⇑	P		**Pg**	**02 30 06.5**	**+0.4**
	6.8nm,0.2s,SNR=12								
UCH				⇑	S		**Sg**	**02 30 31.7**	**+0.9**
	27nm,0.2s								
UCH	**Uchtor**	**1.91**	**102**	⇓	*i*P		**Pg**	**02 30 05.7**	**-0.3**
	baz=0.0								
UCH				⇓	*i*S		**Sg**	**02 30 31.0**	**+0.2**
	baz=0.0								
USP	**Ospenovka**	**1.94**	**70**	⇓	P		**Pg**	**02 30 06.8**	**+0.2**
	15nm,0.2s,SNR=12								
USP				⇑	S		**Sg**	**02 30 33.3**	**+1.5**
	59nm,0.3s								
USP	**Ospenovka**	**1.94**	**70**	⇓	*e*P		**Pg**	**02 30 06.4**	**-0.3**
	baz=69								
USP				⇓	*i*S		**Sg**	**02 30 32.0**	**+0.2**
	baz=69								
FRU1	**Bishkek**	**1.95**	**84**	⇓	*e*P		**Pg**	**02 30 06.2**	**-0.6**
	baz=82								
FRU1				⇓	*e*S		**Sg**	**02 30 31.8**	**-0.3**
	baz=82								
CHMS	**Chumysh**	**2.06**	**79**	⇑	P		**Pg**	**02 30 09.0**	**+0.1**
	10nm,0.2s,SNR=8.6								
CHMS				⇓	S		**Sg**	**02 30 36.4**	**+0.9**
	23nm,0.2s								
CHMS	**Chumysh**	**2.06**	**79**		P		**Pn**	**02 30 05.1**	**0.0**
	92nm,0.1s								
CHMS				⇓	Pn		**Pb**	**02 30 07.7**	**+0.1**
	4.9nm,0.4s								
CHMS					S		**Sn**	**02 30 29.0**	**-2.4**
	319nm,0.3s								
CHMS				⇓	Lg		Lg	02 30 37.2	
	23nm,0.5s								
CHMS	**Chumysh**	**2.06**	**79**	⇑	*e*P		**Pb**	**02 30 07.9**	**+0.3**
	baz=78								
CHMS				⇑	*e*S		**Sg**	**02 30 34.9**	**-0.7**
	baz=78								
SGDS	**Sogindy**	**2.10**	**66**		Pg		**Pg**	**02 30 09.5**	**-0.1**
	7.8nm,0.2s								
SGDS					Lg		Lg	02 30 36.9	
	27nm,0.1s								
KBK	**Karagaybulak**	**2.18**	**89**	⇑	P		**Pg**	**02 30 11.7**	**+0.5**
	11nm,0.2s,SNR=5.3								
KBK				⇓	S		**Sg**	**02 30 40.1**	**+0.7**
	56nm,0.2s								
KBK	**Karagaybulak**	**2.18**	**89**	⇓	*i*P		**Pb**	**02 30 09.4**	**-0.3**
	baz=87								
KBK				⇓	*e*S		**Sb**	**02 30 37.4**	**+0.1**
	baz=87								
KZA	**Kyzart**	**2.48**	**102**	⇓	*i*P		**Pb**	**02 30 13.2**	**-1.8**
	baz=1.0								
KZA				⇓	*i*S		**Sb**	**02 30 44.6**	**-1.5**
	baz=1.0								
TKM2	**Tokmak 2**	**2.67**	**83**	⇑	P		**Pb**	**02 30 18.3**	**+0.3**
	2.4nm,0.1s,SNR=10								
TKM2	**Tokmak 2**	**2.67**	**83**	⇑	Pg		**Pg**	**02 30 19.9**	**-0.7**
	2.1nm,0.3s								
TKM2				⇑	Lg		Lg	02 30 54.7	
	16nm,0.3s								
TKM2	**Tokmak 2**	**2.67**	**83**	⇓	*i*P		**Pb**	**02 30 16.3**	**-1.8**
	baz=82								
TKM2				⇓	*i*S		**Sb**	**02 30 49.6**	**-1.7**
	baz=82								
BTK	**Batken**	**2.73**	**199**	⇑	*e*P		**Pb**	**02 30 16.4**	**-2.6**
	baz=0.0								
BTK				⇑	*e*S		**Sn**	**02 30 49.0**	**+1.0**
	baz=0.0								
BTLS	**Baital**	**2.82**	**31**		Pg		**Pg**	**02 30 23.1**	**-0.4**
	2.2nm,0.1s								
BTLS					Lg		Lg	02 31 00.2	
	13nm,0.2s								
BTLS	**Baital**	**2.82**	**31**		*e*P		**Pg**	**02 30 23.1**	**-0.4**
	2.2nm,0.1s								
BTLS					*e*S		**Sg**	**02 31 00.2**	**+0.2**
	13nm,0.2s								
DGS	**Degeres**	**2.84**	**76**		Pg		**Pg**	**02 30 23.1**	**-0.7**
	4.4nm,0.4s								
DGS					Lg		Lg	02 31 00.3	
	52nm,0.4s								
DGS	**Degeres**	**2.84**	**76**		*e*P		**Pg**	**02 30 23.1**	**-0.7**
	4.4nm,0.4s								
DGS					*e*S		**Sg**	**02 31 00.3**	**-0.3**
	52nm,0.4s								
KRBS	**Karabastau**	**2.89**	**67**		Pg		**Pg**	**02 30 24.4**	**-0.5**
	2.8nm,0.2s								
KRBS					Lg		Lg	02 31 02.3	
	14nm,0.2s								
KRBS	**Karabastau**	**2.89**	**67**		*e*P		**Pg**	**02 30 24.4**	**-0.5**
	2.8nm,0.2s								
KRBS					*e*S		**Sg**	**02 31 02.3**	**0.0**
	14nm,0.2s								
KST	**Kastek**	**2.95**	**81**		Pg		**Pg**	**02 30 25.0**	**-0.9**
	3.3nm,0.2s								
KST					Lg		Lg	02 31 03.2	
	63nm,0.6s								
KST	**Kastek**	**2.95**	**81**		*e*P		**Pg**	**02 30 25.0**	**-0.9**
	3.3nm,0.2s								
KST					*e*S		**Sg**	**02 31 03.2**	**-0.8**
	63nm,0.6s								
ULHL	**Ulahol**	**3.17**	**96**	⇑	*i*P		**Pn**	**02 30 22.8**	**+2.2**
	baz=95								
ULHL				⇑	*e*S		**Sn**	**02 31 00.8**	**+1.7**
	baz=95								
NRN	**Naryn**	**3.22**	**111**	⇑	*e*P		**Pn**	**02 30 23.4**	**+2.0**
	baz=10.0								
NRN				⇑	*e*S		**Sn**	**02 31 01.6**	**+1.1**
	baz=10.0								
MTBS	**Maitube**	**3.29**	**80**		Pg		**Pg**	**02 30 31.2**	**-1.4**
	1.9nm,0.1s								
MTBS					Lg		Lg	02 31 14.1	
	17nm,0.3s								
MTBS	**Maitube**	**3.29**	**80**		*e*P		**Pg**	**02 30 31.2**	**-1.4**
	1.9nm,0.1s								
MTBS					*e*S		**Sg**	**02 31 14.1**	**-1.2**
	17nm,0.3s								
KUU	**Kurty**	**3.41**	**67**		Pg		**Pg**	**02 30 33.7**	**-1.0**
	3.2nm,0.2s								
KUU					Lg		Lg	02 31 17.9	
	9.2nm,0.2s								
KUU	**Kurty**	**3.41**	**67**		*e*P		**Pg**	**02 30 33.8**	**-1.0**
	3.2nm,0.2s								
KUU					*e*S		**Sg**	**02 31 17.9**	**-1.1**
	9.2nm,0.2s								
KTBS	**Karatobe**	**3.59**	**71**		Pg		**Pg**	**02 30 37.1**	**-1.2**
	2.2nm,0.2s								
KTBS					Lg		Lg	02 31 24.3	
	16nm,0.2s								
KTBS	**Karatobe**	**3.59**	**71**		*e*P		**Pg**	**02 30 37.1**	**-1.2**
	2.2nm,0.2s								
KTBS					*e*S		**Sg**	**02 31 24.3**	**-0.5**
	16nm,0.2s								
TNSS	**Tian-Shan**	**3.66**	**82**		Pg		**Pg**	**02 30 38.1**	**-1.6**
	1.4nm,0.2s								
TNSS					Lg		Lg	02 31 25.8	
	9.6nm,0.3s								
TNSS	**Tian-Shan**	**3.66**	**82**		*e*P		**Pg**	**02 30 38.1**	**-1.6**
	1.4nm,0.2s								
TNSS					*e*S		**Sg**	**02 31 25.8**	**-1.3**
	9.6nm,0.3s								
MDOK	**Medeo**	**3.75**	**80**		Pg		**Pg**	**02 30 39.8**	**-1.5**
	2.2nm,0.2s								
MDOK				⇓	Pg		**Pb**	**02 30 40.4**	**+3.9**
	2.1nm,0.5s								
MDOK					Lg		Lg	02 31 28.6	
	12nm,0.4s								
MDOK				⇓	Lg		Lg	02 31 30.4	
	12nm,0.6s								
MDOK	**Medeo**	**3.75**	**80**		*e*P		**Pg**	**02 30 39.8**	**-1.5**
	2.2nm,0.2s								
MDOK					*e*S		**Sg**	**02 31 28.6**	**-1.3**
	12nm,0.4s								
KOTS	**Kotyrbulak**	**3.80**	**79**		Pg		**Pg**	**02 30 40.6**	**-1.7**
	2.1nm,0.2s								
KOTS					Lg		Lg	02 31 30.1	
	14nm,0.3s								
KOTS	**Kotyrbulak**	**3.80**	**79**		*e*P		**Pg**	**02 30 40.6**	**-1.7**
	2.1nm,0.2s								
KOTS					*e*S		**Sg**	**02 31 30.1**	**-1.6**
	14nm,0.3s								
CHKK	**Chushkaly**	**3.84**	**70**		Pg		**Pg**	**02 30 41.8**	**-1.3**
	1.3nm,0.1s								
CHKK					Lg		Lg	02 31 32.4	
	13nm,0.2s								
CHKK	**Chushkaly**	**3.84**	**70**		*e*P		**Pg**	**02 30 41.8**	**-1.3**
	1.3nm,0.1s								
CHKK					*e*S		**Sg**	**02 31 32.4**	**-0.5**
	13nm,0.2s								
ARXS	**Arharly**	**4.53**	**68**		Pg		**Pg**	**02 30 54.4**	**-1.8**
	1.7nm,0.2s								
ARXS					Lg		Lg	02 31 53.8	
	11nm,0.3s								
ARXS	**Arharly**	**4.53**	**68**		*e*P		**Pg**	**02 30 54.4**	**-1.8**
	1.7nm,0.2s								
ARXS					*e*S		**Sg**	**02 31 53.8**	**-1.1**
	11nm,0.3s								
KURS	**Kuram**	**4.60**	**77**		Pg		**Pg**	**02 30 55.6**	**-2.0**
	1.9nm,0.3s								
KURS					Lg		Lg	02 31 56.0	
	4.7nm,0.5s								
KURS	**Kuram**	**4.60**	**77**		*e*P		**Pg**	**02 30 55.6**	**-2.0**
	1.9nm,0.3s								
KURS					*e*S		**Sg**	**02 31 56.0**	**-1.3**
	4.7nm,0.5s								
SATY	**Saty**	**4.73**	**83**		Pg		**Pg**	**02 30 58.2**	**-1.9**
	2.0nm,0.3s								
SATY					Lg		Lg	02 32 00.4	
	2.4nm,0.2s								
SATY	**Saty**	**4.73**	**83**		*e*P		**Pg**	**02 30 58.2**	**-1.9**
	2.0nm,0.3s								
SATY					*e*S		**Sg**	**02 32 00.4**	**-1.0**
	2.4nm,0.2s								
KPKS	**Kokpek**	**4.97**	**78**		Pg		**Pg**	**02 31 02.1**	**-2.5**
	1.7nm,0.2s								
KPKS					Lg		Lg	02 32 07.1	
	8.5nm,0.6s								
KPKS	**Kokpek**	**4.97**	**78**		*e*P		**Pg**	**02 31 02.1**	**-2.5**
	1.7nm,0.2s								
KPKS					*e*S		**Sg**	**02 32 07.1**	**-1.9**
	8.5nm,0.6s								
KNOS	**Konyrlen**	**5.50**	**69**		Pg		**Pg**	**02 31 13.8**	**-1.0**
	1.7nm,0.2s								
KNOS					Lg		Lg	02 32 27.0	
	3.2nm,0.7s								
PDGK	**Podgornoye**	**5.54**	**80**		Pg		**Pg**	**02 31 14.4**	**-1.2**
	0.9nm,0.6s								
PDGK					Lg		Lg	02 32 28.5	
	2.1nm,0.4s								
PDGK	**Podgornoye**	**5.54**	**80**	⇓	Lg		Lg	02 32 27.6	
	4.8nm,0.6s								
OTUK	**Ortayu**	**5.61**	**2**		Pg		**Pg**	**02 31 16.1**	**-0.8**
	0.7nm,0.2s								
OTUK					Lg		Lg	02 32 31.3	
	5.6nm,0.3s								
OTUK	**Ortayu**	**5.61**	**2**	⇑	Pn		**Pn**	**02 30 57.4**	**+3.5**
	4.7nm,1.6s								
OTUK				⇓	Pg		**Pg**	**02 31 16.4**	**-0.5**
	0.9nm,0.4s								
OTUK				⇑	Lg		Lg	02 32 34.6	
	8.3nm,0.6s								
MAKZ	**Makanchi**	**8.24**	**56**	⇑	Sn		**Sn**	**02 33 07.9**	**+4.3**
	1.5nm,0.9s								
MAKZ				⇓	Lg		Lg	02 33 56.3	
	2.7nm,1.2s								
MK31	**Makanchi Array**	**8.42**	**57**		Pn		**Pn**	**02 31 34.7**	**+2.1**
	0.2nm,0.3s,baz=235,slow=12,SNR=12								
MK31				⇑	Sn		**Sn**	**02 33 14.1**	**+5.9**
	2.7nm,0.8s,baz=214,slow=9.0,SNR=7.0								
MK31				⇑	Lg		Lg	02 34 03.7	
	1.9nm,0.9s,baz=257,slow=15,SNR=3.5								

*IDC **10** 02:29:58.8±6.0,36°.39N×69°.63E,h127km±47km,mb3.5/1, mbtmp3.8/7,Error ellipse: s-maj=74.0km s-min=19.2km az=157.0*

ISC 10 02:30:02.0±2.3,**36°.6N**±0°.2×**69°.50E**±0°.10,**h150**km,**n7,** σ1°**00**/10,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAK	**Ala-Archa**	**7.12**	**31**	P		**Pn**	**02 31 43.7**	**0.0**
	5.4nm,0.3s,baz=204,slow=8.2,SNR=2.5							
AAK				S		**Sn**	**02 33 03.1**	**-0.5**
	11nm,0.6s,baz=164,slow=9.9,SNR=8.7							
GEYT	**Alibeck**	**9.17**	**282**	P		**Pn**	**02 32 10.1**	**-0.8**
	1.8nm,0.2s,baz=106,slow=9.9,SNR=11							
GEYT				S		**Sn**	**02 33 52.7**	**+0.2**
	1.2nm,0.4s,baz=77,slow=14,SNR=2.8							
MKAR	**Makanchi Array**	**13.92**	**39**	P		**Pn**	**02 33 12.6**	**-0.1**
	1.6nm,0.8s,baz=217,slow=12,SNR=10.0							
KURBB	**Kurchatov Arra**	**15.42**	**22**	P		**P**	**02 33 31.6**	**-1.0**
	1.3nm,0.9s,baz=212,slow=10,SNR=6.4							
AKTO	**Aktyubinsk**	**16.09**	**333**	P		**P**	**02 33 41.8**	**+1.8**
	0.6nm,0.3s,baz=71,slow=2.4,SNR=2.3							
AKTO				S		**S**	**02 36 37.5**	**-0.9**
	1.4nm,0.5s,baz=49,slow=11,SNR=3.2							
BVAR	**Borovoye Array**	**16.40**	**2**	P		**Pn**	**02 33 44.5**	**+1.1**
	0.6nm,0.3s,baz=186,slow=10,SNR=7.6							
ZALV	**Zalesovo Beam**	**20.32**	**27**	P		**P**	**02 34 25.9**	**-0.1**
	2.1nm,0.4s,baz=218,slow=11,SNR=11							
	2.1nm,0.4s							

*NOU **10** 02:30:47.4,37°.26S×179°.35E,h0km,MLv3.6/6,Off E. Coast of N. Island, N.Z.*
*WEL **10** 02:30:52.9±0.8,37°.5±4°×17°.9E±°,h12km,M3.2/22, ML3.5/26,MLv3.2/22,Error ellipse: s-maj=0.0km s-min=0.0km az=102.8,confirmed*

ISC 10 02:30:49.4±3.4,**37°.23S**±0°.09×**179°.1E**±0°.1,**h0**km±19km, **n61,** σ0°**76**/68,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.71**	**241**	P		**Pb**	**02 31 04.2**	**-0.4**
MXZ	**Matakaoa Point**	**0.71**	**241**	P		**Pb**	**02 31 04.2**	**-0.4**
MXZ				S		**Sg**	**02 31 11.5**	**-0.6**
WMGZ	**Waiomatatini S**	**0.80**	**222**	P		**Pn**	**02 31 08.0**	**+0.1**
WMGZ				S		**Sb**	**02 31 18.3**	**+0.8**
PKGZ	**Pakihiroa**	**1.04**	**230**	P		**Pn**	**02 31 10.7**	**-0.7**
PKGZ				S		**Sg**	**02 31 23.0**	**+0.2**
PUZ	**Puketiti**	**1.07**	**218**	P		**Pn**	**02 31 11.8**	**+0.1**
PUZ				S		**Sg**	**02 31 24.5**	**+0.7**
HAZ	**Te Kaha**	**1.16**	**243**	P		**Pg**	**02 31 11.3**	**-0.4**
HAZ				S		**Sg**	**02 31 26.7**	**-0.1**
TWGZ	**Tauwhareparae**	**1.29**	**222**	P		**Pb**	**02 31 15.2**	**+0.6**
TWGZ				S		**Sg**	**02 31 31.2**	**+0.2**
RUGZ	**Raukumara Rang**	**1.34**	**236**	P		**Pb**	**02 31 15.8**	**+0.3**
RUGZ				S		**Sg**	**02 31 32.1**	**-0.4**
CNGZ	**Carnagh Statio**	**1.43**	**209**	P		**Pg**	**02 31 17.6**	**+0.7**
WIZ	**White Island**	**1.54**	**258**	P		**Pb**	**02 31 18.7**	**-0.1**
TKGZ	**Te Karaka**	**1.56**	**219**	P		**Pb**	**02 31 18.4**	**-0.7**
MWZ	**Matawai**	**1.66**	**228**	P		**Pn**	**02 31 20.0**	**+0.2**
WHRZ	**Whale Island**	**1.79**	**249**	P		**Pn**	**02 31 23.2**	**+0.1**
RIGZ	**Rimuhau**	**1.81**	**215**	P		**Pn**	**02 31 21.8**	**-0.1**
RAGZ	**Rawiri**	**1.83**	**226**	P		**Pn**	**02 31 22.3**	**+0.1**
URZ	**Urewera**	**1.88**	**236**	P		**Pn**	**02 31 23.4**	**+0.6**
URZ	**Urewera**	**1.88**	**236**	P		**Pn**	**02 31 23.3**	**+0.6**
PRGZ	**Paritu Road**	**1.94**	**209**	P		**Pn**	**02 31 23.9**	**+0.2**
MARZ	**Manawahe**	**2.06**	**248**	P		**Pb**	**02 31 27.2**	**-0.5**
SNGZ	**Shannon Statio**	**2.08**	**221**	P		**Pn**	**02 31 25.7**	**+0.2**
OPRZ	**Ohinepanea**	**2.10**	**252**	P		**Pb**	**02 31 27.7**	**-0.8**
KNZ	**Kokohu**	**2.11**	**211**	P		**Pn**	**02 31 25.2**	**-0.8**
MHGZ	**Mahia Peninsul**	**2.13**	**205**	P		**Pn**	**02 31 26.3**	**0.0**
RTZ	**Ruatahuna**	**2.17**	**230**	P		**Pn**	**02 31 27.2**	**+0.3**
MUGZ	**Murupara**	**2.22**	**235**	P		**Pn**	**02 31 27.5**	**+0.1**
TARZ	**Mount Tarawera**	**2.28**	**243**	P		**Pn**	**02 31 29.5**	**+1.1**
RAHZ	**Arahi**	**2.31**	**223**	P		**Pn**	**02 31 28.9**	**+0.1**
WHHZ	**Waihua**	**2.35**	**218**	P		**Pn**	**02 31 29.5**	**+0.2**
MTHZ	**Maungataniwha**	**2.40**	**227**	P		**Pn**	**02 31 30.3**	**+0.3**
NMHZ	**Naumai**	**2.59**	**223**	P		**Pn**	**02 31 33.0**	**+0.4**
ARHZ	**Aropaoanui**	**2.62**	**218**	P		**Pn**	**02 31 32.8**	**-0.1**
KUZ	**Kuaotunu**	**2.74**	**279**	P		**Pn**	**02 31 34.7**	**+0.1**
BKZ	**Black Stump Fm**	**2.81**	**226**	P		**Pn**	**02 31 35.9**	**+0.2**
BKZ	**Black Stump Fm**	**2.81**	**226**	P		**Pn**	**02 31 35.6**	**-0.1**
CKHZ	**Cape Kidnapper**	**2.90**	**212**	P		**Pn**	**02 31 36.0**	**-0.8**
MCHZ	**McNeill Hill**	**2.90**	**220**	P		**Pn**	**02 31 36.6**	**-0.3**
KWHZ	**Kaweka Forest**	**3.03**	**223**	P		**Pn**	**02 31 38.0**	**-0.8**
GRZ	**Great Barrier**	**3.07**	**287**	P		**Pn**	**02 31 39.1**	**-0.1**
KAHZ	**Kahuranaki**	**3.09**	**213**	P		**Pn**	**02 31 38.4**	**-1.1**
MKAZ	**Moumakai**	**3.14**	**271**	P		**Pn**	**02 31 39.0**	**-1.1**
KRHZ	**Kereru**	**3.22**	**221**	P		**Pn**	**02 31 40.0**	**-1.2**
TMVZ	**Te Maari**	**3.27**	**234**	P		**Pn**	**02 31 41.8**	**-0.2**
ETVZ	**East Tongariro**	**3.27**	**233**	P		**Pn**	**02 31 41.9**	**-0.2**
NTVZ	**North Tongarir**	**3.27**	**234**	P		**Pn**	**02 31 42.1**	**0.0**
BHHZ	**Black Hill Sta**	**3.28**	**226**	P		**Pn**	**02 31 41.8**	**-0.3**
KRVZ	**Karewarewa**	**3.29**	**234**	P		**Pn**	**02 31 42.2**	**-0.1**
OTVZ	**Oturere**	**3.32**	**233**	P		**Pn**	**02 31 42.5**	**-0.2**
NNVZ	**North Ngauruho**	**3.33**	**234**	P		**Pn**	**02 31 43.6**	**+0.7**
NGZ	**Ngauruhoe**	**3.37**	**234**	P		**Pn**	**02 31 43.1**	**-0.2**
TUVZ	**Tukino**	**3.38**	**232**	P		**Pn**	**02 31 43.4**	**-0.3**
MBAZ	**Motutapu North**	**3.38**	**277**	P		**Pn**	**02 31 44.7**	**+1.3**
MAVZ	**Matarangi**	**3.44**	**233**	P		**Pn**	**02 31 44.3**	**-0.3**
WNVZ	**Wahianoa**	**3.45**	**232**	P		**Pn**	**02 31 44.0**	**-0.6**
PNHZ	**Pukenui**	**3.51**	**219**	P		**Pn**	**02 31 43.7**	**-1.5**
AWAZ	**Awhitu Peninsu**	**3.56**	**271**	P		**Pn**	**02 31 46.5**	**+0.6**
WCZ	**Waipu Caves**	**4.03**	**287**	P		**Pn**	**02 31 52.7**	**+0.4**
BFZ	**Birch Farm**	**4.10**	**212**	P		**Pn**	**02 31 51.7**	**-1.6**
MRZ	**Mangatainoka R**	**4.38**	**218**	P		**Pn**	**02 31 54.9**	**-2.4**
OUZ	**Omahuta**	**4.87**	**293**	P		**Pn**	**02 32 05.0**	**+1.1**
OUZ	**Omahuta**	**4.87**	**293**	P		**Pn**	**02 32 04.8**	**+0.9**
CTZ	**Chatham Island**	**7.28**	**155**	P		**Pn**	**02 32 39.7**	**+2.8**

*JMA **10** 02:33:50.2±0.2,25°.N±1°×122°.4E±0°.4,h3km±3km, MV2.7/12,NW OFF ISHIGAKIJIMA IS*
*TAP **10** 02:33:50.3,24°.86N×122°.39E,h13km,ML3.0,D*

ISC 10 02:33:49.9±1.0,**24°.83N**±0°.03×**122°.45E**±0°.02,**h14**km±8km, **n71,** σ0°**62**/115,**8C-20D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.45**	**293**	⇓	P	**Pg**	**02 33 58.7**	**-0.2**
	baz=292							
TWB1					*i* S	**Sg**	**02 34 04.9**	**-0.1**
	baz=292							
EOS2	**EOS2**	**0.46**	**205**	⇑	P	**Pb**	**02 34 00.1**	**+0.5**
	baz=197							
EOS2					*e*S	**Sn**	**02 34 09.0**	**-0.8**
	baz=197							
EGS		**0.47**	**271**		*e*S	**Sb**	**02 34 06.8**	**+0.1**
	baz=257							
EOS3	**EOS3**	**0.56**	**192**	⇑	P	**Pb**	**02 34 02.0**	**+0.7**
	baz=183							
EOS3					*e*S	**Sn**	**02 34 12.0**	**-0.3**
	baz=183							
SXI1	**Grass Mountain**	**0.58**	**297**	⇑	P	**Pg**	**02 34 01.3**	**0.0**
	baz=296							
SXI1					S	**Sb**	**02 34 10.2**	**+0.2**
	baz=296							
TIPB	**Shuangxi**	**0.58**	**284**	⇓	P	**Pg**	**02 34 01.4**	**+0.1**
	baz=282							
TIPB					*e*S	**Sb**	**02 34 09.8**	**-0.2**
	baz=282							
TWC	**Suao**	**0.59**	**248**	⇑	P	**Pg**	**02 34 01.2**	**-0.2**
	baz=250							
TWC					*e*S	**Sg**	**02 34 08.2**	**-1.1**
	baz=250							
JYNG	**Yonagunijimaku**	**0.59**	**130**		P	**Pg**	**02 34 01.2**	**-0.4**
JYNG					*e*S	**Sg**	**02 34 08.6**	**-0.8**
ESAO	**Su ao**	**0.60**	**245**	⇓	P	**Pg**	**02 34 01.6**	**-0.2**
	baz=248							
ESAO					*e*S	**Sg**	**02 34 09.6**	**-0.2**
	baz=248							
YOJ	**Yonaguni jima**	**0.63**	**126**		P	**Pg**	**02 34 01.9**	**-0.4**
YOJ					S	**Sg**	**02 34 10.3**	**-0.4**
ILA	**Ilan**	**0.64**	**264**		*e*P	**Pn**	**02 34 05.2**	**+0.6**
	baz=260							
ILA					*e*S	**Sb**	**02 34 13.1**	**+1.5**
	baz=260							
NWF	**Wu-fen Shan**	**0.65**	**292**	⇓	P	**Pg**	**02 34 03.0**	**+0.4**
	baz=291							
NWF					S	**Sb**	**02 34 12.4**	**+0.5**
	baz=291							
WFSB	**Wu-fen Shan**	**0.65**	**292**	⇓	P	**Pg**	**02 34 02.8**	**+0.2**
	baz=291							
WFSB					S	**Sb**	**02 34 12.0**	**+0.1**
	baz=291							
TNOU	**National Taiwa**	**0.69**	**297**		*e*P	**Pg**	**02 34 02.9**	**-0.4**
	baz=297							
TNOU					*e*S	**Sg**	**02 34 12.2**	**-0.2**
	baz=297							
NDS	**Dongshan**	**0.69**	**253**	⇓	P	**Pg**	**02 34 03.3**	**-0.2**
	baz=242							
NDS					S	**Sg**	**02 34 12.7**	**+0.1**
	baz=242							
EOS4	**EOS4**	**0.72**	**189**	⇓	P	**Pb**	**02 34 04.4**	**+0.4**
	baz=

NNS				*e*S		**Sn**	**02 34 24.8**	**-0.1**
	baz=233							
ETLH	**Xiulin Townshi**	**1.08**	**235**	⇑P		**Pb**	**02 34 10.3**	**-0.1**
	baz=231							
ETLH				S		**Sg**	**02 34 25.2**	**+0.3**
	baz=231							
TWD	**Chiawan**	**1.08**	**226**	P		**Pn**	**02 34 10.8**	**+0.2**
	baz=230							
NFF	**Wufeng Townshi**	**1.22**	**261**	*e*P		**Pg**	**02 34 13.8**	**+0.2**
	baz=258							
NFF				*e*S		**Sg**	**02 34 29.9**	**+0.4**
	baz=258							
ETM	**Tongmen**	**1.23**	**225**	P		**Pb**	**02 34 13.3**	**+0.4**
	baz=204							
LXIB	**Xiulin Townshi**	**1.24**	**230**	P		**Pb**	**02 34 13.6**	**+0.4**
	baz=236							
LXIB				*e*S		**Sg**	**02 34 32.0**	**+2.0**
	baz=236							
IRIF	**Iriomote-Funau**	**1.27**	**113**	P		**Pn**	**02 34 13.8**	**+0.6**
WHF	**Hehuan Shan**	**1.28**	**238**	⇑P		**Pb**	**02 34 14.2**	**+0.3**
	baz=234							
WHF				*e*S		**Sb**	**02 34 28.4**	**-2.0**
	baz=234							
TDCB	**Techi**	**1.31**	**244**	P		**Pb**	**02 34 14.8**	**+0.5**
	baz=231							
TDCB				*e*S		**Sg**	**02 34 31.9**	**-0.3**
	baz=231							
LIOB	**Emei**	**1.31**	**262**	*e*S		**Sg**	**02 34 33.3**	**+1.0**
	baz=259							
SBCB	**Hsinchu**	**1.33**	**269**	*e*P		**Pn**	**02 34 13.5**	**-0.6**
	baz=284							
SBCB				*e*S		**Sb**	**02 34 30.6**	**-0.9**
	baz=284							
NSTT	**Nanjuang**	**1.33**	**262**	*e*S		**Sg**	**02 34 32.8**	**0.0**
	baz=259							
ESL	**Shilin**	**1.37**	**223**	*e*P		**Pb**	**02 34 15.9**	**+0.6**
	baz=201							
CHGB	**Renai**	**1.39**	**237**	*e*P		**Pg**	**02 34 16.9**	**+0.1**
	baz=233							
CHGB				*e*S		**Sg**	**02 34 36.8**	**+1.9**
	baz=233							
OWD	**Renai**	**1.45**	**233**	*e*P		**Pb**	**02 34 17.6**	**+0.8**
	baz=230							
HATJ	**Hateruma jima**	**1.46**	**122**	P		**Pb**	**02 34 17.1**	**+0.3**
WARBT	**Fenglin Townsh**	**1.47**	**221**	*e*P		**Pg**	**02 34 18.3**	**+0.1**
	baz=200							
WUSB	**Renai**	**1.47**	**236**	⇓P		**Pb**	**02 34 17.5**	**+0.4**
	baz=232							
WUSB				*e*S		**Sg**	**02 34 37.7**	**+0.3**
	baz=232							
WHP	**Taichung City**	**1.47**	**248**	⇓*e*P		**Pg**	**02 34 18.7**	**+0.4**
	baz=245							
WHP				*e*S		**Sg**	**02 34 37.5**	**0.0**
	baz=245							
JKRS	**Kuro-shima**	**1.54**	**112**	*e*P		**Pb**	**02 34 18.6**	**+0.4**
WCS	**Beigang Elemen**	**1.60**	**241**	⇓*e*P		**Pg**	**02 34 20.4**	**-0.3**
	baz=239							
VWDT	**VWDT**	**1.60**	**228**	*e*P		**Pb**	**02 34 19.1**	**-0.2**
	baz=210							
JIJ	**Ishigaki jima**	**1.61**	**107**	*e*S		**Sb**	**02 34 40.4**	**+0.7**
EHY	**Hungye**	**1.67**	**218**	*e*P		**Pn**	**02 34 19.9**	**+1.1**
	baz=215							
SMLT	**Sun Moon Lake**	**1.70**	**236**	*e*P		**Pg**	**02 34 22.2**	**-0.4**
	baz=219							
JISG	**Ishigakijimahi**	**1.71**	**98**	P		**Pb**	**02 34 21.5**	**+0.3**
SSLB	**Suanglung**	**1.71**	**233**	*e*P		**Pb**	**02 34 22.2**	**+1.0**
	baz=242							
SSLB				*e*S		**Sb**	**02 34 42.5**	**-0.2**
	baz=242							
TYC	**Yuchr**	**1.72**	**238**	*e*P		**Pb**	**02 34 21.8**	**+0.6**
	baz=219							
YULB	**Yu-li**	**1.78**	**216**	*e*P		**Pn**	**02 34 21.6**	**+1.3**
	baz=214							
ALS	**Alishan**	**2.00**	**229**	*e*P		**Pb**	**02 34 26.4**	**+0.2**
	baz=209							
CHN5	**Tsauling**	**2.03**	**233**	*e*P		**Pb**	**02 34 26.4**	**-0.3**
	baz=231							
EDH	**Donghe**	**2.13**	**210**	*e*P		**Pn**	**02 34 25.7**	**+0.6**
	baz=194							
EDH				*e*S		**Sn**	**02 34 49.4**	**-1.9**
	baz=194							
WCKO	**Fanlu**	**2.18**	**231**	*e*P		**Pb**	**02 34 29.4**	**+0.2**
	baz=228							
CHN4	**Tsaushan**	**2.25**	**229**	*e*P		**Pb**	**02 34 29.6**	**-0.6**
	baz=210							
TPUB	**Ta-pu**	**2.25**	**228**	*e*P		**Pb**	**02 34 30.9**	**+0.4**
	baz=209							
TWK	**Hsinying**	**2.37**	**229**	*e*P		**Pb**	**02 34 31.6**	**-0.9**
	baz=210							
TWK				*e*S		**Sb**	**02 35 00.6**	**-1.1**
	baz=210							
SLGT	**Liugui**	**2.46**	**222**	*e*P		**Pb**	**02 34 32.3**	**-1.6**
	baz=220							

UPA ***10*** *02:35:54.7±0.5, 8°.73N×84°.02W, h0km±83km, MW3.2*
UCR ***10*** *02:35:55.7±1.3, 9°.02N×84°.09W, h20km±12km, MW3.5*
CATAC ***10*** *02:35:56.2±0.8, 9°.07N×84°.00W, h1km±5km, ML3.1*

ISC 10 02:35:56.1±1.5, 9°.04N±0°.05×84°.02W±0°.04, h22km±6km, n31, σ0°90/39, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OCHAL	**Ojochal**	**0.38**	**82**	*i* P		**Pb**	**02 36 03.3**	**-0.8**
OCHAL				IAML			02 36 03.5	
	comp=Z,15nm,1.0s							
CDM	**Cerro de Muert**	**0.57**	**27**	*e*P		**Pb**	**02 36 07.1**	**-0.7**
CDM	**Cerro de Muert**	**0.57**	**27**	*i* P		**Pb**	**02 36 07.1**	**-0.7**
CDM				IAML			02 36 17.2	
	comp=Z,690nm,1.0s							
BUS1	**Rivas**	**0.58**	**28**	*e*P		**Pb**	**02 36 07.2**	**-0.8**
ABE2	**San Pablo**	**0.66**	**357**	*e*P		**Pb**	**02 36 08.5**	**-0.6**
LCR2	**La Lucha 2**	**0.69**	**1**	*e*P		**Pb**	**02 36 09.0**	**-0.7**
LCR2	**La Lucha 2**	**0.69**	**1**	*i* P		**Pb**	**02 36 09.0**	**-0.7**
LCR2				IAML			02 36 20.5	
	comp=Z,450nm,1.0s							
TBLN	**Tablon, Guarco**	**0.78**	**2**	*i* P		**Pb**	**02 36 10.4**	**-0.7**
TBLN				*i* S		**Sb**	**02 36 19.9**	**-1.4**
TBLN				IAML			02 36 25.1	
	comp=Z,660nm,1.0s							
DRK0	**Durika**	**0.80**	**74**	*e*P		**Pb**	**02 36 10.7**	**-0.8**
OCM	**Ochomogo**	**0.85**	**4**	*i* P		**Pb**	**02 36 11.7**	**-0.6**
OCM				IAML			02 36 13.5	
	comp=Z,530nm,1.0s							
OCM				*i* S		**Sb**	**02 36 23.6**	**+0.2**
JACO	**JACO, Garabito**	**0.88**	**314**	*e*P		**Pb**	**02 36 11.4**	**-1.3**
JACO	**JACO, Garabito**	**0.88**	**314**	*i* P		**Pn**	**02 36 12.4**	**-0.8**
POTG	**Potrero Grande**	**0.89**	**89**	*e*P		**Pb**	**02 36 12.6**	**-0.4**
POTG				*e*S		**Sn**	**02 36 27.2**	**+1.4**
POTG	**Potrero Grande**	**0.89**	**89**	*i* P		**Pn**	**02 36 12.8**	**-0.7**
POTG				IAML			02 36 28.3	
	comp=Z,1μm,1.0s							
HAYA	**Volcan Irazu**	**0.95**	**11**	*i* P		**Pb**	**02 36 13.8**	**-0.3**
HAYA				IAML			02 36 31.5	
	comp=Z,1μm,1.0s							
ICR3	**Volcano Irazu**	**0.95**	**11**	*e*P		**Pb**	**02 36 13.7**	**-0.4**
HDC3	**Heredia 3**	**0.96**	**355**	*i* P		**Pn**	**02 36 14.6**	**+0.2**
HDC3				IAML			02 36 34.1	
	comp=Z,570nm,1.0s							
CVTQ	**Turrialba Volc**	**0.99**	**15**	*e*P		**Pn**	**02 36 14.7**	**-0.4**
CVTV	**Tajo**	**0.99**	**16**	*e*P		**Pn**	**02 36 14.7**	**-0.4**
RIFO	**Rio Frio, Sara**	**1.27**	**4**	*i* P		**Pb**	**02 36 19.0**	**-0.4**
RIFO				*i* S		**Sb**	**02 36 37.4**	**+2.1**
RIFO				IAML			02 36 40.9	
	comp=Z,300nm,1.0s							
CPMI	**Catarata Coope**	**1.28**	**344**	*e*P		**Pb**	**02 36 19.1**	**-0.6**
CPMI	**Catarata Coope**	**1.28**	**344**	*i* P		**Pb**	**02 36 19.1**	**-0.6**
CPMI				IAML			02 36 38.8	
	comp=Z,380nm,1.0s							
BRU2	**Volcan**	**1.34**	**101**	*e*P		**Pb**	**02 36 19.8**	**-0.8**
BRU2				*i* S		**Sb**	**02 36 39.2**	**+1.8**
SOCE	**Pocosol**	**1.45**	**336**	*i* P		**Pb**	**02 36 22.2**	**-0.4**
SOCE				IAML			02 36 46.4	
	comp=Z,490nm,1.0s							
BCO2	**Palmira**	**1.51**	**102**	*e*P		**Pb**	**02 36 22.1**	**-1.5**
BCO2				*e*S		**Sb**	**02 36 43.0**	**+0.6**
TRT2	**Tortugero**	**1.53**	**11**	*i* P		**Pb**	**02 36 23.6**	**-0.2**
TRT2				IAML			02 36 23.9	
	comp=Z,260nm,1.0s							
VACR	**Volcan Arenal**	**1.56**	**336**	*i* P		**Pb**	**02 36 24.1**	**-0.3**
VACR				IAML			02 36 49.2	
	comp=Z,370nm,1.0s							
CNI2	**El Empalme, Bo**	**1.58**	**76**	*e*P		**Pb**	**02 36 24.0**	**-0.7**
CNI2				*e*S		**Sb**	**02 36 45.8**	**+1.6**
INDI	**Punta indio, G**	**1.67**	**299**	*i* P		**Pb**	**02 36 27.0**	**+0.8**
INDI				IAML			02 36 58.5	
	comp=Z,76nm,1.0s							
CHGR2	**Aguacate**	**1.86**	**93**	*e*P		**Pn**	**02 36 27.1**	**+0.4**
CHGR2				*e*S		**Sb**	**02 36 51.8**	**-0.4**
ORTG	**Ortega, Santa**	**1.93**	**313**	*i* P		**Pb**	**02 36 30.5**	**-0.2**
ORTG				IAML			02 37 08.1	
	comp=Z,58nm,1.0s							

IDC ***10*** *02:40:56.0±1.7, 20°.80N×93°.46E, h0km, mb3.5/5, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=65.6km s-min=19.8km az=55.0*

ISC 10 02:41:00.1±1.7, 20°.6N±0°.3×93°.2E±0°.2, h35km, n6, σ1°05/7, mb3.7/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**5.83**	**110**	Pn		**Pn**	**02 42 22.9**	**-1.2**
	0.4nm,0.3s,baz=295,slow=14,SNR=6.5							
CMAR				Sn		**Sn**	**02 43 31.0**	**+1.1**
	1.0nm,0.3s,baz=302,slow=16,SNR=4.6 1.9nm,0.3s							
MKAR	**Makanchi Array**	**27.61**	**344**	P		**P**	**02 46 43.1**	**-1.0**
	0.2nm,0.5s,baz=141,slow=9.3,SNR=2.6 0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**32.12**	**342**	P		**P**	**02 47 24.5**	**+0.6**
	0.3nm,0.2s,baz=140,slow=9.1,SNR=1.4 0.3nm,0.2s							
ZALV	**Zalesovo Beam**	**33.91**	**351**	P		**P**	**02 47 39.9**	**+0.4**
	0.3nm,0.2s,baz=152,slow=9.6,SNR=1.7 0.3nm,0.2s							
WRA	**Warramunga Arr**	**56.97**	**132**	P		**P**	**02 50 42.5**	**+0.1**
	0.2nm,0.5s,baz=318,slow=7.7,SNR=5.7 0.2nm,0.5s							
ASAR	**Alice Springs**	**59.24**	**136**	P		**P**	**02 50 58.7**	**+0.5**
	0.3nm,0.5s,baz=321,slow=8.6,SNR=2.0 0.3nm,0.5s							

DJA 10 02:43:27.0±0.5, 2°S±4°×10°2E±°, h185km±6km, M4.1/9, mb4.8/2, mB5.2/1, MLv3.8/9, Mw(mB)4.7/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRJI	**Kerinci**	**0.88**	**288**	P		Pn	02 43 54.9	+0.4
UBSI	**University, Be**	**1.39**	**181**	P		Pn	02 43 59.5	+1.1
UBSI				S		Sn	02 44 24.1	+1.2
JMBI	**JAMBI**	**1.52**	**62**	P		Pn	02 43 58.9	-0.7
PPSI	**Pulau Pagai**	**2.32**	**260**	P		Pn	02 44 09.4	+1.4
PPSI				S		Sn	02 44 39.7	-0.1
PDSI	**Padang**	**2.33**	**308**	P		Pn	02 44 08.6	+0.5
PDSI				S		Sn	02 44 39.3	-0.8
EGSI	**Enggano, Bengk**	**2.97**	**180**	P		Pn	02 44 15.8	+0.2
EGSI				S		Sn	02 44 51.6	-2.0
KASI	**Kota Agung**	**3.83**	**145**	P		Pn	02 44 24.6	-1.6
PBSI	**Pulau Batu**	**4.62**	**300**	P		Pn	02 44 35.9	-0.4
GSI	**Gunungsitoli**	**5.96**	**308**	P		Pn	02 44 53.0	-0.6
	43nm,0.6s,0.2nm							
SKJI	**Sukabumi**	**6.27**	**138**	P		Pn	02 44 59.1	+1.5

IDC ***10*** *02:51:29.9±0.4, 17°.39N×83°.48W, h0km, mb5.8/30, mbtmp5.8/35, ML5.1/5, MS7.4/57, Error ellipse: s-maj=14.6km s-min=11.0km az=54.0*
MOS ***10*** *02:51:30.3±1.1, 17°.48N×83°.59W, h10km, mb6.7/41, MS7.5/60, Error ellipse: s-maj=6.6km s-min=4.3km az=78.4 Broadband fault plane solution: P waves. M06.60000×10^19 NP1:φs354.00000°, δ89.00000°, λ-168.00000°. NP2:φs263.00000°, δ78.00000°, λ-1.00000°. Principal axes: T Plg7.0000°, Azm168.0000°; N Plg78.0000°, Azm0.0000°; P Plg9.0000°, Azm219.0000°;*
INMG ***10*** *02:51:31.0, 17°.34N×83°.61W, h10km, MW7.3*
GCG ***10*** *02:51:31.8, 17°.47N×83°.52W, h11km, MW7.5(NEIC)*
CATAC ***10*** *02:51:31.5±1.2, 17°.67N×83°.41W, h30km, MB7.4, ML7.5*
IPGP ***10*** *02:51:31.0, 17°.47N×83°.52W, h15km, Mw7.5, Fault plane solution: NP1:φs167.00000°, δ79.00000°, λ169.00000°. NP2:φs259.00000°, δ79.00000°, λ12.00000°.*
JSN ***10*** *02:51:31.7±0.9, 17°.49N×83°.41W, h0km±999km*
NEIC ***10*** *02:51:31.8, 17°.48N×83°.51W, h18km*
NEIC ***10*** *02:51:31.8, 17°.48N×83°.83W, h18km, Moment Tensor Solution. Duration: 30s2 Moment tensor: Scale 10^20Nm; Mrr~0.27; Mθθ~0.98; Mφφ 1.25; Mrθ~0.67; Mθφ2.19; Mφr0.13; Fault plane solution: M02.56000×10^20 NP1:φs75.36000°, δ82.16000°, λ-14.96000°. NP2:φs167.44000°, δ75.19000°, λ-171.89000°. Principal axes: T 2.6111, Plg5.0000°, Azm122.0000°; N -0.1059, Plg73.0000°, Azm228.0000°; P -2.5053, Plg16.0000°, Azm31.0000°;*
NEIC ***10*** *02:51:32, 17°.47N×83°.52W, h10km*
NEIC ***10*** *02:51:33.3±1.6, 17°.48N±0°.05×83°.52W±0°.06, h19km±1km, mb6.7/903, Ms_20 7.6/909, Mwb7.5/78, Mww7.5/79, Error ellipse: s-maj=9.3km s-min=8.4km az=122.0, Moment Tensor Solution. Moment tensor: Scale 10^20Nm; Mrr0.01; Mθθ-1.00; Mφφ 0.99; Mrθ-0.20; Mθφ 1.85; Mφr-0.01; Fault plane solution: M02.11000×10^20 NP1: φs165.94000°, δ84.77000°, λ-178.99000°. NP2: φs75.85000°, δ88.99000°, λ-5.23000°. Principal axes: T 2.0996, Plg3.0000°, Azm121.0000°; N 0.0155, Plg85.0000°, Azm245.0000°; P -2.1151, Plg4.0000°, Azm31.0000°;*
BJI ***10*** *02:51:33.0±0.0, 17°.40N×83°.55W, h10km, mB7.3/45, Ms7.9/81, Ms7 7.9/78*
SSNC ***10*** *02:51:35.2±2.4, 17°.61N×83°.27W, h35km±286km, MS7.1, ms7.2, MW7.2*
BGR ***10*** *02:51:36.2, 18°.09N×83°.91W, h33km, mb6.8, mB_BB7.3, Ms7.4*
SNET ***10*** *02:51:43.4±0.9, 16°.71N×84°.27W, h185km±288km*
GCMT ***10*** *02:51:44.3±0.1, 17°.56N×83°.86W, h16km, MW7.5/168, Moment Tensor Solution. s167,c444; s168,c817; Duration: 14s0 Moment tensor: Scale 10^20Nm; Mrr~0.24±.01; Mθθ~0.97±.01; Mφφ 1.21±.01; Mrθ 0.12±.07; Mθφ 2.09±.01; Mφr 0.20±.06; Best double couple: M02.36600×10^20 NP1:φs346.00000°, δ87.00000°, λ177.00000°. NP2:φs76.00000°, δ87.00000°, λ3.00000°. Principal axes: T 2.4970, Plg5.0000°, Azm301.0000°; N -0.2610, Plg85.0000°, Azm122.0000°; P -2.2350, Plg0.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 10 02:51:30.3±0.3, 17°.37N±0°.02×83°.49W±0°.03, h2km±1km, h3km:pP-P, n2997, σ2°14/3326, mb6.7/584, MS7.6/601, 193C-74D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRVC	**Isla de Provid**	**4.47**	**152**	Pn		**Pn**	**02 52 38.8**	**-0.3**
PRVC	**Isla de Provid**	**4.47**	**152**	⇑P		**Pn**	**02 52 38.5**	**-0.6**
PRVC	**Isla de Provid**	**4.47**	**152**	*i* PA			02 52 40.1	
PRVC				IAML			02 54 43.6	
	comp=Z,41μm,1.0s							
NISHN	**Nisperales Com**	**4.50**	**250**	*i* P		**Pn**	**02 52 37.3**	**-2.3**
RCPN	**Sur Rio San Ju**	**4.57**	**214**	*i* P		**Pn**	**02 52 40.2**	**-0.5**
RCPN				IAML			02 53 35.0	
	comp=Z,150nm,1.0s							
YUSH	**Yuscaran**	**4.69**	**224**	*e*P		**Pn**	**02 52 42.4**	**+0.2**
YUSH	**Yuscaran**	**4.69**	**224**	*i* PA			02 52 41.6	
COMHN	**El Horno**	**4.88**	**234**	*i* P		**Pn**	**02 52 44.9**	**0.0**
TGUH	**Tegucigalpa,Un**	**4.91**	**228**	Pn		**Pn**	**02 52 44.5**	**-0.8**
TGUH	**Tegucigalpa,Un**	**4.91**	**228**	⇓P		**Pn**	**02 52 44.1**	**-1.3**
TGUH	**Tegucigalpa,Un**	**4.91**	**228**	*i* PA			02 52 45.2	
TGUH				IVmB_BB			02 53 15.2	
	comp=Z,2400μm,1.0s							
TGUH				IAML			02 54 34.0	
	comp=Z,300μm,1.0s							
MATN	**Matagalpa**	**5.00**	**208**	Pn		**Pn**	**02 52 46.1**	**-0.4**
MATN	**Matagalpa**	**5.00**	**208**	*i* P		**Pn**	**02 52 48.8**	**+2.3**
MATN				IVmB_BB			02 53 16.3	
	comp=Z,790μm,1.0s							
MATN				IAML			02 54 19.8	
	comp=Z,240μm,1.0s							
MATN	**Matagalpa**	**5.00**	**208**	*i* P		**Sg**	**02 54 05.9**	**-5.3**
ESPN	**Las Esperanzas**	**5.21**	**189**	Pn		**Pn**	**02 52 50.1**	**+0.8**
ESPN	**Las Esperanzas**	**5.21**	**189**	*i* PA			02 52 50.4	
ESPN				IVmB_BB			02 53 20.7	
	comp=Z,540μm,1.0s							
ESPN				IAML			02 54 56.6	
	comp=Z,220μm,1.0s							
BLUN	**Bluefields**	**5.34**	**183**	*i* PA			02 52 52.7	
BLUN				IVmB_BB			02 53 38.2	
	comp=Z,450μm,1.0s							
BLUN				IAML			02 54 50.3	
	comp=Z,190μm,1.0s							
TEIG	**Tepich**	**5.35**	**303**	Pn		**Pn**	**02 52 48.5**	**-2.7**
TEIG	**Tepich**	**5.35**	**303**	Pn		**Pn**	**02 52 49.1**	**-2.1**
	comp=Z,55μm,0.3s,baz=228,slow=1.3,SNR=3813							
TEIG				LR		LR	02 54 51.4	
	comp=Z,3763μm,20.1s,baz=80,slow=38							
TEIG	**Tepich**	**5.35**	**303**	*e*P		**Pn**	**02 52 48.3**	**-2.9**
INTHN	**La Esperanza I**	**5.38**	**236**	*i* P		**Pn**	**02 52 53.1**	**+1.2**
SOR	**Soroa**	**5.41**	**5**	Pn		**Pn**	**02 52 50.1**	**-2.0**
SOR	**Soroa**	**5.41**	**5**	P		**Pn**	**02 52 50.1**	**-2.0**
SOR	**Soroa**	**5.41**	**5**	*e*P		**Pn**	**02 52 49.3**	**-2.7**
ACON	**Acoyapa**	**5.61**	**197**	Pn		**Pn**	**02 52 54.9**	**+0.1**
ACON	**Acoyapa**	**5.61**	**197**	*e*P		**Pn**	**02 52 54.5**	**-0.3**
ACON	**Acoyapa**	**5.61**	**197**	*i* PA			02 52 55.3	
ACON				IVmB_BB			02 53 24.6	
	comp=Z,860μm,1.0s							
ACON				IAML			02 55 16.2	
	comp=Z,320μm,1.0s							
SARH	**Santa Rosa de**	**5.69**	**244**	*i* P		**Pn**	**02 52 56.5**	**+0.6**
MOM2	**El Cardon**	**5.70**	**211**	*i* PA			02 52 57.6	
MOM2				IVmB_BB			02 53 53.3	
	comp=Z,530μm,1.0s							
MOM2				IAML			02 54 58.5	
	comp=Z,270μm,1.0s							
AMPH	**Amapala**	**5.72**	**225**	*i* P		**Pn**	**02 52 57.2**	**+1.0**
MTDJ	**Mount Denham**	**5.74**	**81**	Pn		**Pn**	**02 52 54.3**	**-2.3**
MTDJ	**Mount Denham**	**5.74**	**81**	⇑P		**Pn**	**02 52 54.8**	**-1.8**
MTDJ				*i* S		**Sn**	**02 53 58.0**	**-4.6**
MTDJ	**Mount Denham**	**5.74**	**81**	*e*P		**Pn**	**02 52 52.6**	**-4.0**
MTDJ	**Mount Denham**	**5.74**	**81**	⇑*i*P		**Pn**	**02 52 54.2**	**-2.5**
MOMN	**Momotombo**	**5.75**	**211**	*i* PA			02 52 58.8	
MOMN				IVmB_BB			02 53 35.7	
	comp=Z,16μm,1.0s							
MOMN				IAML			02 54 44.5	
	comp=Z,10μm,1.0s							
CNGN	**Cerro Negro**	**5.75**	**213**			**Pn**	**02 52 56.6**	**-0.2**
CNGN	**Cerro Negro**	**5.75**	**213**	⇓*e*P		**Pn**	**02 52 56.1**	**-0.7**
CNGN	**Cerro Negro**	**5.75**	**213**	*i* P		**Pn**	**02 52 58.6**	**+1.8**
CNGN				IVmB_BB			02 53 36.4	
	comp=Z,1400μm,1.0s							
CNGN				IAML			02 54 48.9	
	comp=Z,340μm,1.0s							
CNGA	**Al SSO del Vol**	**5.76**	**213**	*i* P		**Pn**	**02 52 58.9**	**+2.0**
CNGA				IVmB_BB			02 53 41.7	
	comp=Z,110μm,1.0s							
CNGA				IAML			02 54 46.1	
	comp=Z,19μm,1.0s							
ROCN	**Rota Cerro Neg**	**5.76**	**214**	*i* P		Sn	02 54 13.3	+10
CRIN	**San Cristobal**	**5.78**	**217**	Pn		**Pn**	**02 52 57.0**	**-0.3**
CRIN	**San Cristobal**	**5.78**	**217**	⇓*i*P		**Pn**	**02 52 56.9**	**-0.3**
CRIN	**San Cristobal**	**5.78**	**217**	*i* PA			02 52 58.5	
CRIN				IVmB_BB			02 53 37.9	
	comp=Z,2000μm,1.0s							
CRIN				IAML			02 54 31.9	
	comp=Z,510μm,1.0s							
CAHU	**Cacacuatique**	**5.79**	**232**	*e*P		**Pn**	**02 52 57.0**	**-0.5**
LEVN	**Ruinas Leon Vi**	**5.79**	**212**	*i* P		**Pn**	**02 53 01.7**	**+4.4**
LEVN				IVmB_BB			02 53 44.6	
	comp=Z,330μm,1.0s							
LEVN				IAML			02 55 00.1	
	comp=Z,120μm,1.0s							
WILN	**Americas 2**	**5.80**	**207**	*i* P		**Pn**	**02 53 00.7**	**+3.3**
WILN				IVmB_BB			02 53 37.9	
	comp=Z,600μm,1.0s							
WILN				IAML			02 54 44.6	
	comp=Z,170μm,1.0s							
APQ2	**Apoyeque**	**5.83**	**208**	*i* P		**Pn**	**02 53 01.1**	**+3.3**
APQ2				IVmB_BB			02 53 44.2	
	comp=Z,370μm,1.0s							
APQ2				IAML			02 55 05.2	
	comp=Z,84μm,1.0s							
CNCH	**Conchagua**	**5.84**	**226**	*i* PA			02 52 59.3	
CNCH				IVmB_BB			02 53 30.9	
	comp=Z,1500μm,1.0s							
CNCH				IAML			02 54 56.6	
	comp=Z,510μm,1.0s							
LCND	**La Caada**	**5.86**	**227**	*e*P		**Pn**	**02 52 57.7**	**-0.5**
LCND	**La Caada**	**5.86**	**227**	*i* PA			02 52 59.6	
LCND				IVmB_BB			02 53 46.9	
	comp=Z,140μm,1.0s							
LCND				IAML			02 54 44.4	
	comp=Z,35μm,1.0s							
UNAN	**Cigeo UNAN**	**5.88**	**208**	*i* PA			02 53 02.1	
UNAN				IVmB_BB			02 53 36.2	
	comp=Z,3700μm,1.0s							
UNAN				IAML			02 55 09.0	
	comp=Z,1100μm,1.0s							
MAS3	**Al N del Volca**	**5.92**	**206**	*i* PA			02 53 01.8	
MAS3				IVmB_BB			02 53 37.8	
	comp=Z,350μm,1.0s							
MAS3				IAML			02 54 49.4	
	comp=Z,150μm,1.0s							
MASN	**Masaya**	**5.94**	**206**	*i* P		**Pn**	**02 53 03.0**	**+3.6**
MASN				IVmB_BB			02 53 50.2	
	comp=Z,32μm,1.0s							
MASN				IAML			02 55 00.5	
	comp=Z,12μm,1.0s							
CAMR	**Camarioca**	**6.00**	**19**	Pn		**Pn**	**02 52 57.5**	**-2.6**
CAMR	**Camarioca**	**6.00**	**19**	*e*P		**Pn**	**02 52 57.3**	**-2.8**
CAMR				IVMs_BB	IVMs_BB		02 55 22.2	
	comp=N,1670μm,9.3s							
CAMR				IVMs_BB	IVMs_BB		02 55 28.1	
	comp=E,2341μm,10.8s							
VSM	**San Miguel**	**6.05**	**230**	*e*P		**Pn**	**02 52 59.7**	**-1.5**
PACA	**Pacayal**	**6.06**	**231**	*i* PA			02 53 02.5	
PACA				IVmB_BB			02 54 02.0	
	comp=Z,1300μm,1.0s							
PACA				IAML			02 55 05.7	
	comp=Z,460μm,1.0s							
LCY	**Lacay

TECO IVmB_BB 02 53 32.2
comp=Z,55µm,1.0s
TECO IAML 02 55 06.2
comp=Z,14µm,1.0s
MTO3 Montecristo 6.38 243 Pn 02 53 04.3 -1.2
MTO3 Montecristo 6.38 243 *i* P **Pn 02 53 05.5 0.0**
MTO3 IVmB_BB 02 53 47.1
comp=Z,720µm,1.0s
MTO3 IAML 02 55 01.2
comp=Z,63µm,1.0s
PAVA Las Pavas 6.39 236 *eP* **Pn 02 53 04.4 -1.2**
PAVA Las Pavas 6.39 236 *i* P **Pn 02 53 06.3 +0.7**
PAVA IVmB_BB 02 53 40.2
comp=Z,840µm,1.0s
PAVA IAML 02 55 09.3
comp=Z,190µm,1.0s
COEG Centro de Oper 6.40 235 *eP* **Pn 02 53 05.3 -0.4**
COEG Centro de Oper 6.40 235 *i* PA 02 53 07.0
COEG IVmB_BB 02 53 32.2
comp=Z,100µm,1.0s
COEG IAML 02 55 06.8
comp=Z,18µm,1.0s
STH Stony Hill 6.41 83 *i* P **Pn 02 53 04.8 -0.9**
STH Stony Hill 6.41 83 *eP* **Pn 02 53 03.5 -2.3**
STH IAMs_20 IAMs_20 02 54 38.2
comp=N,7328µm,15.4s
STH IAMs_20 IAMs_20 02 54 54.8
comp=E,5450µm,16.9s
HOJ Hope 6.46 83 *i* P **Pn 02 53 05.6 -0.8**
GWJ Greenwich 6.48 83 *i* P **Pn 02 53 06.2 -0.7**
SJTE Alcalda de S 6.50 236 *eP* **Pn 02 53 06.7 -0.4**
SJTE Alcalda de S 6.50 236 *i* P **Pn 02 53 07.8 +0.7**
SJTE IVmB_BB 02 54 06.6
comp=Z,93µm,1.0s
SJTE IAML 02 55 29.4
comp=Z,16µm,1.0s
LFU La Fuente 6.51 237 *eP* **Pn 02 53 06.8 -0.4**
UDBS Universidad Do 6.56 237 *i* PA 02 53 10.3
UDBS IVmB_BB 02 53 45.6
comp=Z,410µm,1.0s
UDBS IAML 02 55 17.2
comp=Z,62µm,1.0s
IGN Direccin Gen 6.57 237 *i* P **Pn 02 53 08.7 +0.6**
IGN IVmB_BB 02 53 59.9
comp=Z,1000µm,1.0s
IGN IAML 02 55 17.6
comp=Z,150µm,1.0s
QUEZ Alcaldia de Qu 6.59 239 *i* P Pn 02 53 15.0 +6.7
UTEC Universidad Te 6.60 237 *i* P **Pn 02 53 10.2 +1.7**
UTEC IVmB_BB 02 53 46.5
comp=Z,380µm,1.0s
UTEC IAML 02 55 15.7
comp=Z,64µm,1.0s
CCCC Cccc 6.61 54 *eP* **Pn 02 53 12.2 +3.6**
LOMA Loma Larga 6.61 237 *eP* **Pn 02 53 07.7 -1.0**
LOMA Loma Larga 6.61 237 *i* PA 02 53 10.7
LOMA IVmB_BB 02 53 51.8
comp=Z,99µm,1.0s
LOMA IAML 02 53 52.2
comp=Z,12µm,1.0s
PIC2 El Picacho 6.62 238 *eP* **Pn 02 53 08.8 -0.2**
UEES Universidad Ev 6.63 238 *eP* **Pn 02 53 08.3 -0.6**
UEES Universidad Ev 6.63 238 *i* P **Pn 02 53 09.4 +0.5**
UEES IVmB_BB 02 54 06.8
comp=Z,72µm,1.0s
UEES IAML 02 55 03.6
comp=Z,10µm,1.0s
SNET Serv Nac Est T 6.64 237 Pn 02 53 08.1 -0.9
SNET Serv Nac Est T 6.64 237 *eP* **Pn 02 53 07.5 -1.5**
SNET Serv Nac Est T 6.64 237 *i* PA 02 53 12.2
SNET IVmB_BB 02 54 01.0
comp=Z,670µm,1.0s
SNET IAML 02 55 17.1
comp=Z,98µm,1.0s
PANCS Alcalda de 6.64 237 *i* PA 02 53 11.5
PANCS IVmB_BB 02 53 46.9
comp=Z,1100µm,1.0s
PANCS IAML 02 55 16.8
comp=Z,130µm,1.0s
BOQS Boqueron 6.65 238 *eP* **Pn 02 53 09.7 +0.4**
COVE Coope Vega, Sa 6.67 188 Pn **Pn 02 53 10.4 +1.0**
COVE Coope Vega, Sa 6.67 188 *i* PA 02 53 11.8
COVE IVmB_BB 02 53 48.0
comp=Z,510µm,1.0s
COVE IAML 02 55 24.1
comp=Z,160µm,1.0s
ITCA Escuela Especi 6.68 237 *i* P Pn 02 53 15.5 +5.9
PMON Piamonte 6.69 238 *i* PA 02 53 11.1
PMON IVmB_BB 02 53 55.3
comp=Z,77µm,1.0s
PMON IAML 02 55 37.1
comp=Z,12µm,1.0s
JUAM Asuncion Mita 6.70 244 *i* P **Pn 02 53 10.7 +0.9**
JUAM IVmB_BB 02 53 53.9
comp=Z,150µm,1.0s
JUAM IAML 02 55 14.4
comp=Z,21µm,1.0s
LMGC Las Mercedes 6.70 65 *eP* **Pn 02 53 07.3 -2.5**
CEDA San Andres 6.71 239 *i* P **Pn 02 53 10.7 +0.8**
CEDA IVmB_BB 02 53 47.7
comp=Z,540µm,1.0s
CEDA IAML 02 55 23.7
comp=Z,150µm,1.0s
VMAR Armenia, Volca 6.71 194 *i* PA 02 53 11.8
VMAR IVmB_BB 02 54 00.9
comp=Z,690µm,1.0s
VMAR IAML 02 55 25.3
comp=Z,480µm,1.0s
UNIC Universidad Ca 6.74 241 *i* PA 02 53 12.6
UNIC IVmB_BB 02 54 12.6
comp=Z,340µm,1.0s
UNIC IAML 02 55 08.0
comp=Z,33µm,1.0s
TRT2 Tortugero 6.78 182 *i* P **Pn 02 53 13.2 +2.4**
TRT2 IVmB_BB 02 54 04.3
comp=Z,390µm,1.0s
TRT2 IAML 02 55 41.8
comp=Z,83µm,1.0s
JAMO Monjas 6.78 246 *i* P **Pn 02 53 11.7 +0.7**
JAMO IVmB_BB 02 54 08.1
comp=Z,300µm,1.0s
JAMO IAML 02 55 25.6
comp=Z,71µm,1.0s
VRLE La Escondida, 6.79 196 *i* P **Pn 02 53 15.0 +3.8**
VRLE IVmB_BB 02 53 48.1
comp=Z,780µm,1.0s
VRLE IAML 02 55 40.9
comp=Z,170µm,1.0s
JAYA Jayaque - finc 6.83 238 *i* P **Pn 02 53 12.1 +0.4**
JAYA IAML 02 55 40.8
comp=Z,88µm,1.0s
SNJE San Jose 6.84 240 *eP* **Pn 02 53 11.6 -0.4**
RTR El Retiro 6.86 241 *eP* **Pn 02 53 11.4 -0.7**
SBLS San Blas 6.87 240 *eP* **Pn 02 53 12.3 -0.1**
CEVE Cerro Verde 6.88 240 *eP* **Pn 02 53 11.8 -0.7**
CEVE Cerro Verde 6.88 240 *i* PA 02 53 13.7
CEVE IVmB_BB 02 54 06.7
comp=Z,79µm,1.0s
CEVE IAML 02 55 13.8
comp=Z,12µm,1.0s
AVCB Coban 6.90 255 *i* P **Pn 02 53 12.4 -0.3**
AVCB IAML 02 54 46.2
comp=Z,73µm,1.0s
SLOZ Alcaldia de Sa 6.91 242 *eP* **Pn 02 53 12.4 -0.4**
LOAL Lomas de Alarc 6.92 242 *i* PA 02 53 16.2
LOAL IVmB_BB 02 53 49.8
comp=Z,1100µm,1.0s
LOAL IAML 02 55 29.4
comp=Z,150µm,1.0s
HZTE Horizontes, Gu 6.93 197 Pn **Pn 02 53 14.2 +1.3**
HZTE Horizontes, Gu 6.93 197 *i* PA 02 53 15.0
HZTE IVmB_BB 02 54 07.2
comp=Z,680µm,1.0s
HZTE IAML 02 55 31.3
comp=Z,280µm,1.0s
VACR Volcan Arenal 6.95 190 *i* PA 02 53 16.5
VACR IVmB_BB 02 54 12.6
comp=Z,460µm,1.0s
VACR IAML 02 55 36.9
comp=Z,180µm,1.0s
ARE1 Arenal 1 6.97 190 Pn **Pn 02 53 15.3 +1.8**
NUBE Las Nubes 6.97 241 *eP* **Pn 02 53 12.7 -1.0**
NUBE Las Nubes 6.97 241 *i* PA 02 53 13.3
NUBE IVmB_BB 02 53 49.9
comp=Z,530µm,1.0s
NUBE IAML 02 55 42.3
comp=Z,47µm,1.0s
RIFO Rio Frio, Sara 7.03 183 *i* P Pn 02 53 20.0 +5.7
SOCE Pocosol 7.03 189 Pn **Pn 02 53 15.5 +1.1**
SOCE Pocosol 7.03 189 *i* PA 02 53 17.5
SOCE IVmB_BB 02 54 10.0
comp=Z,150µm,1.0s
SOCE IAML 02 55 41.0
comp=Z,54µm,1.0s
CPMI Catarata Coope 7.10 187 *i* PA 02 53 17.8
CPMI IVmB_BB 02 54 02.4
comp=Z,470µm,1.0s
CPMI IAML 02 55 40.7
comp=Z,140µm,1.0s
JTS Las Juntas de 7.18 192 Pn **Pn 02 53 16.9 +0.4**
JTS Las Juntas de 7.18 192 *d* P **Pn 02 53 17.1 +0.7**
JTS Las Juntas de 7.18 192 Pn **Pn 02 53 17.2 +0.8**
comp=Z,155nm,0.3s,baz=56,slow=19,SNR=238
comp=Z,411nm,0.3s
JTS Las Juntas de 7.18 192 *eP* **Pn 02 53 17.9 +1.5**
CHIV Chivirico 7.19 68 *eP* **Pn 02 53 13.5 -3.0**
ORTG Ortega, Santa 7.22 196 Pn **Pn 02 53 18.2 +1.1**
ORTG Ortega, Santa 7.22 196 *i* PA 02 53 18.6
ORTG IVmB_BB 02 53 55.1
comp=Z,440µm,1.0s
ORTG IAML 02 55 41.3
comp=Z,120µm,1.0s
GCG4 OSOP 7.32 249 *i* P Pn 02 53 23.5 +5.1
HDC3 Heredia 3 7.35 185 *i* P Pb 02 53 30.4 -8.4
HDC3 Heredia 3 7.35 185 *i* P Pn 02 53 28.5 +10
HDC3 *i* S Sn 02 53 44.4 -59
HDC3 IAML 02 54 26.4
comp=Z,25µm,1.0s
HDC Heredia 7.35 185 Pn **Pn 02 53 19.9 +1.0**
HAYA Volcan Irazu 7.36 183 *i* PA 02 53 23.1
HAYA IVmB_BB 02 54 14.2
comp=Z,360µm,1.0s
HAYA IAML 02 55 51.0
comp=Z,64µm,1.0s
GUMI Mixco 7.37 249 *i* P **Pn 02 53 23.3 +4.1**
OCM Ochomogo 7.45 184 *i* P Pn 02 53 26.8 +6.6
TBLN Tablon, Guarco 7.52 184 *i* PA 02 53 25.1
TBLN IVmB_BB 02 54 00.7
comp=Z,200µm,1.0s
TBLN IAML 02 55 52.0
comp=Z,48µm,1.0s
QUIS Sacapulas 7.59 255 *i* PA 02 53 21.2
QUIS IAML 02 53 42.9
comp=Z,21µm,1.0s
QUIS IVmB_BB 02 53 42.9
comp=Z,170µm,1.0s
LCR2 La Lucha 2 7.60 184 Pn **Pn 02 53 23.5 +1.2**
LCR2 La Lucha 2 7.60 184 *i* PA 02 53 26.2
LCR2 IVmB_BB 02 54 14.9
comp=Z,210µm,1.0s
LCR2 IAML 02 55 52.6
comp=Z,57µm,1.0s
MARVS Santiago de Cu 7.65 69 *eP* **Pn 02 53 19.5 -3.4**
INDI Punta indio, G 7.71 195 *i* PA 02 53 26.4
INDI IVmB_BB 02 54 02.8
comp=Z,340µm,1.0s
INDI IAML 02 55 56.4
comp=Z,59µm,1.0s
JACO JACO, Garabito 7.75 189 Pn **Pn 02 53 25.1 +1.0**
JACO JACO, Garabito 7.75 189 *i* PA 02 53 26.5
JACO IVmB_BB 02 54 03.6
comp=Z,340µm,1.0s
JACO IAML 02 55 54.4
comp=Z,87µm,1.0s
CDM Cerro de Muert 7.78 182 *i* PA 02 53 27.3
CDM IVmB_BB 02 54 03.4
comp=Z,230µm,1.0s
CDM IAML 02 55 57.0
comp=Z,47µm,1.0s
RGM0 Gandoca 7.78 174 Pn 02 53 25.0 +0.4
RCC Rio Carpintero 7.83 69 *eP* **Pn 02 53 22.8 -2.6**
RCC *eS* Sn 02 54 43.1 -12
HLGC Holguin 7.85 62 *eP* **Pn 02 53 24.1 -1.4**
HUEH Huehuetenango 7.96 256 Pn **Pn 02 53 25.1 -2.2**
SOKI Kika Raxquin 8.02 253 *i* PA 02 53 29.0
SOKI IAML 02 53 53.1
comp=Z,26µm,1.0s
SOKI IVmB_BB 02 53 53.1
comp=Z,180µm,1.0s
DRK0 Durika 8.06 178 Pn **Pn 02 53 29.4 +0.7**
QUEO Labor Ovalle 8.10 253 *i* PA 02 53 31.6
QUEO IVmB_BB 02 53 44.9
comp=Z,280µm,1.0s
OCHAL Ojochal 8.23 181 *i* P Pn 02 53 36.5 +5.7
OCHAL Ojochal 8.23 181 *i* P **Pn 02 53 34.6 +3.8**
OCHAL *i* S 02 53 55.5
OCHAL IAML 02 54 38.8
comp=Z,51nm,1.0s
POTG Potrero Grande 8.28 177 *i* P Pn 02 53 37.1 +5.6
POTG Potrero Grande 8.28 177 *i* P **Pn 02 53 34.2 +2.7**
POTG IAML 02 54 32.4
comp=Z,7µm,1.0s
SABCS La Quijada 8.29 68 *eP* **Pn 02 53 29.9 -1.8**
GTBY Guantanamo Bay 8.34 71 Pn **Pn 02 53 29.7 -2.6**
GTBY Guantanamo Bay 8.34 71 ⇑*iP* **Pn 02 53 31.0 -1.3**
GTBY Guantanamo Bay 8.34 71 *eP* **Pn 02 53 29.5 -2.8**
GTBY *eS* **Sn 02 55 00.3 -6.8**
GTBY Guantanamo Bay 8.34 71 ⇑*iP* **Pn 02 53 30.0 -2.3**
CCIG Comitan 8.35 264 Pn 02 53 30.3 -2.3
RTAL Retalhuleu 8.38 251 Pn **Pn 02 53 32.6 -0.3**
CTCR Cotoan 8.45 175 *i* PA 02 53 36.6
CTCR IVmB_BB 02 54 25.9
comp=Z,74µm,1.0s
CTCR Cotoan 8.45 175 *i* P **Pn 02 53 36.0 +1.9**
BRU2 Volcan 8.56 175 Pn **Pn 02 53 35.6 +0.1**
BRU2 Volcan 8.56 175 *i* P Pn 02 53 40.9 +5.4
BRU2 Volcan 8.56 175 *i* P **Pn 02 53 38.3 +2.8**
BRU2 IAML 02 55 05.3
comp=Z,8µm,1.0s
SMCA Catarina 8.62 254 *i* PA 02 53 36.9
SMCA IAML 02 54 00.4
comp=Z,11µm,1.0s
SMCA IVmB_BB 02 54 07.9
comp=Z,89µm,1.0s
NMDO Nuevo Mundo 8.65 67 *eP* **Pn 02 53 35.1 -1.5**
MOAC Moa 8.71 67 *eP* **Pn 02 53 35.7 -1.6**
CDITO Canoas 8.77 176 Pn **Pn 02 53 39.6 +1.4**
CDITO Canoas 8.77 176 *i* P **Pn 02 53 40.7 +2.5**
CDITO IAML 02 54 45.2
comp=Z,14µm,1.0s
BCIP Isla Barro Col 8.90 156 Pn **Pn 02 53 37.5 -2.5**
BCIP Isla Barro Col 8.90 156 P **Pn 02 53 37.5 -2.5**
BCIP Isla Barro Col 8.90 156 ⇑*iP* **Pn 02 53 38.1 -1.9**
BCIP Isla Barro Col 8.90 156 *i* PA 02 53 39.1
BCIP IVmB_BB 02 54 18.9
comp=Z,160µm,1.0s
UPA Univ. de Panam 9.19 155 ⇑*iP* **Pn 02 53 41.2 -2.7**
MASC Masc 9.20 71 *eP* **Pn 02 53 42.0 -2.2**
PNME Penonome 9.35 160 ⇑*iP* **Pn 02 53 43.9 -2.4**
060A Indiantown 10.04 16 Pn 02 53 53.4 -2.2
060A Indiantown 10.04 16 P **Pn 02 53 54.1 -1.6**
baz=198,SNR=131
060A S **Sn 02 55 47.1 -1.8**
baz=198
UPD2 Meteti 10.26 148 ⇑*iP* **Pn 02 53 55.6 -3.1**
CACAO El Cacao, Vera 10.29 165 *eP* **Pn 02 54 01.2 +2.1**
CAPC Capurgana 10.54 145 ⇑*iP* **Pn 02 53 59.0 -3.5**
PAPH Port-au-Prince 10.71 82 Pn **Pn 02 54 04.1 -0.8**
PAPH Port-au-Prince 10.71 82 *eP* **Pn 02 54 03.1 -1.8**
DWPF Disney Wildern 10.86 10 Pn 02 54 03.8 -3.0
DWPF Disney Wildern 10.86 10 P **Pn 02 54 04.0 -2.8**
baz=191
DWPF Disney Wildern 10.86 10 P **Pn 02 54 04.8 -2.0**
baz=191,SNR=67
DWPF S **Sn 02 56 13.7 +4.8**
baz=191
DWPF Disney Wildern 10.86 10 *eP* Pn 02 53 58.4 -8.4
CMIG Matias Romero 10.89 270 Pn **Pn 02 54 04.4 -2.9**
comp=Z,58nm,0.3s,baz=90,slow=8.5,SNR=75
CMIG Sn Sn 02 55 55.9 -14
comp=Z,148nm,0.3s,baz=288,slow=20,SNR=1.6
CMIG LR LR 02 58 05.2
comp=Z,5166µm,21.2s,baz=86,slow=36
SMRC Santa Marta, M 10.89 123 ⇑*iP* **Pn 02 54 04.5 -2.8**
LCBC Los crdobas, 10.94 140 ⇑*iP* **Pn 02 54 08.1 +0.1**
SJCC San Jacinto, C 10.97 132 Pn **Pn 02 54 06.8 -1.7**
SJCC San Jacinto, C 10.97 132 ⇑*iP* **Pn 02 54 06.4 -2.0**
APAC Apartado, Choc 11.58 144 ⇑*iP* **Pn 02 54 15.0 -1.7**
PTAC Punta Ardita, 11.58 151 ⇑*iP* **Pn 02 54 14.3 -2.4**
ARGC Ariguani, Magd 11.68 129 ⇑*iP* **Pn 02 54 17.6 -0.5**
SDDR Presa de Saban 11.71 80 Pn 02 54 16.6 -2.0
SDDR Presa de Saban 11.71 80 *eP* **Pn 02 54 16.5 -2.0**
SDDR Presa de Saban 11.71 80 ⇑*iP* **Pn 02 54 15.8 -2.7**
CRJC Cerrejon, Guaj 12.06 120 ⇑*iP* **Pn 02 54 19.9 -3.6**
LL5C La Loma 5 El P 12.14 127 *eP* **Pn 02 54 22.4 -2.1**
UREC San Jos de Ur 12.31 140 ⇑*iP* **Pn 02 54 24.3 -2.5**
LL6C La Loma 6 Bece 12.50 126 ⇑*eP* **Pn 02 54 26.5 -2.8**
DBBC Dabeiba 12.51 144 ⇑*iP* **Pn 02 54 27.2 -2.3**
SOLC Bahia Solano 12.57 151 *eP* **Pn 02 54 31.4 +1.1**
ZARC Zaragoza, Cauc 12.94 138 ⇑*iP* **Pn 02 54 32.3 -3.0**
451A Vernon 13.35 352 Pn 02 54 36.9 -3.9
451A Vernon 13.35 352 P **Pn 02 54 39.2 -1.6**
baz=171,SNR=19
451A S **Sn 02 57 13.4 +3.6**
baz=171
456A Hilliard 13.36 5 Pn 02 54 37.8 -3.2
456A Hilliard 13.36 5 S **Sn 02 57 13.7 +3.6**
baz=186
OCAC Ocana 13.44 131 ⇑*eP* **Pn 02 54 39.5 -2.8**
CBOC Ciudad Bolivar 13.57 147 ⇑*iP* **Pn 02 54 42.6 -1.6**
PIZC Pizarro, Choco 13.71 153 ⇑*iP* **Pn 02 54 43.2 -2.7**
PTBC PUERTO BERRIO, 13.92 140 ⇑*iP* Pn 02 54 43.6 -5.2
TIGA Tifton 14.01 360 Pn 02 54 45.6 -4.2
TIGA Tifton 14.01 360 P **Pn 02 54 45.9 -3.9**
baz=180,SNR=56
TIGA Tifton 14.01 360 P **Pn 02 54 48.0 -1.9**
baz=180,SNR=56
TIGA S **Sn 02 57 27.3 +1.4**
baz=180
352A Blakely 14.11 355 Pn 02 54 47.0 -4.2
352A Blakely 14.11 355 P **Pn 02 54 47.8 -3.4**
baz=174,SNR=76
352A S **Sn 02 57 30.5 +2.1**
baz=174
BRAL Brewton 14.11 347 Pn 02 54 47.6 -3.6
BRAL Brewton 14.11 347 P **Pn 02 54 48.7 -2.6**
baz=166,SNR=44
BRAL Brewton 14.11 347 P **Pn 02 54 49.8 -1.5**
baz=166,SNR=44
BRAL S **Sn 02 57 25.9 -2.6**
baz=166
545A Edgard 14.14 334 Pn 02 54 48.9 -2.9
545B Wilberts Farm, 14.14 334 S **Sn 02 57 32.7 +3.4**
baz=152
PLMC San Jos del P 14.26 150 ⇑*iP* **Pn 02 54 50.0 -3.4**
TLIG Tlapa 14.39 273 Pn 02 54 50.5 -4.7
GUY2C Guyana, Caldas 14.46 146 ⇑*iP* **Pn 02 54 55.7 -0.8**
PAMC Pamplona, Colo 14.50 132 *eP* **Pn 02 54 55.5 -1.6**
255A Hazlehurst 14.52 3 Pn 02 54 52.2 -4.7
255A Hazlehurst 14.52 3 P **Pn 02 54 55.1 -1.7**
baz=184,SNR=57
255A S **Sn 02 57 39.0 +0.6**
baz=184
NIZA Niza - Manizal 14.54 146 *eP* **Pn 02 54 57.3 -0.2**
MALC Bahia Malaga 14.58 155 ⇑*eP* **Pn 02 54 58.5 +0.7**
RECRC Villamaria, Ca 14.68 146 *eP* Pn 02 54 51.3 -8.4
BARC Barichara 14.70 136 *eP* **Pn 02 54 57.6 -2.1**
257A Skidaway Islan 14.71 8 Pn 02 54 54.8 -4.7
257A Skidaway Islan 14.71 8 P **Pn 02 54 57.2 -2.2**
baz=189,SNR=19
257A S **Sn 02 57 45.4 +2.3**
baz=189
250A Grady 14.76 351 P **Pn 02 54 57.6 -2.6**
baz=170,SNR=82
250A S **Sn 02 57 44.1 -0.3**
baz=170
SPBC San Pablo de B 14.85 141 ⇑*eP* **Pn 02 54 57.1 -4.4**
HATO Hato, Curacao 14.97 108 Pn 02 54 59.3 -3.7
HATO IAmb IAmb 02 55 11.6
comp=Z,4µm,1.6s
346A Big Creek Wild 14.97 340 P **Pn 02 54 59.7 -3.4**
baz=157,SNR=105
346A S **Sn 02 57 53.4 +3.8**
baz=157
UNM Universidad Na 15.02 280 Pn 02 55 01.3 -2.7
UNM Universidad Na 15.02 280 P **Pn 02 55 01.3 -2.7**
YOTC Yotoco, Valle 15.04 151 ⇑*iP* **Pn 02 55 01.9 -2.2**
SDV Santo Domingo 15.09 122 Pn 02 55 01.6 -3.3
SDV IAmb IAmb 02 55 12.9
comp=Z,7µm,2.1s
SDV Santo Domingo 15.09 122 Pn **Pn 02 55 03.4 -1.5**
comp=Z,47nm,0.3s,baz=317,slow=7.6,SNR=110
SDV Sn **Sn 02 57 47.8 -5.0**
comp=Z,51nm,0.3s,baz=228,slow=23,SNR=2.2
comp=Z,646nm,0.7s
SDV Santo Domingo 15.09 122 ⇑*iP* **Pn 02 55 01.6 -3.3**
154A Montrose 15.18 1 P **Pn 02 55 03.6 -2.2**
baz=182,SNR=87
154A S **Sn 02 58 00.1 +5.5**
baz=182
GR1C Gorgona, Isla 15.21 159 *eP* **Pn 02 55 07.9 +1.7**
152A Waverly Hall 15.27 356 P **Pn 02 55 05.0 -2.1**
baz=176,SNR=104
152A S **Sn 02 58 02.2 +5.3**
baz=176
ROSC El Rosal 15.35 143 Pn 02 55 07.5 -1.0
ROSC El Rosal 15.35 143 P **Pn 02 55 07.5 -1.0**
ROSC pmax pmax
comp=Z,3µm,2.2s
ROSC El Rosal 15.35 143 Pn **P 02 55 11.2 -2.3**
comp=Z,3.5nm,0.3s,baz=346,slow=11,SNR=43
ROSC Sn **Sn 02 58 01.4 +1.9**
comp=Z,14nm,0.3s,baz=348,slow=22,SNR=1.8
ROSC LR LR 03 01 25.7
comp=Z,3686µm,21.5s,baz=348,slow=39
ROSC El Rosal 15.35 143 ⇑*eP* **Pn 02 55 07.9 -0.7**
JAMC Jamundi, Valle 15.58 154 ⇑*iP* **Pn 02 55 10.5 -0.8**
ORTC Ortega, Tolima 15.63 148 ⇑*eP* **Pn 02 55 11.7 -0.1**
BOG Bogota 15.68 143 *eP* **Pn 02 55 12.0 -0.8**
CVER Cruz Verde, Cu 15.75 143 ⇑*iP* **Pn 02 55 13.3 -0.5**
TAMC Tame, Arauca 15.77 132 ⇑*iP* **Pn 02 55 12.0 -1.7**
LRAL Lakeview Retre 15.91 349 Pn 02 55 11.7 -3.7
LRAL Lakeview Retre 15.91 349 P **Pn 02 55 12.1 -3.4**
baz=168,SNR=112
LRAL Lakeview Retre 15.91 349 P **Pn 02 55 12.8 -2.6**
baz=168,SNR=112
LRAL S **Sn 02 58 13.3 +0.9**
baz=168
NHSC New Hope 15.95 10 Pn **Pn 02 55 10.8 -5.1**
NHSC New Hope 15.95 10 P **Pn 02 55 10.6 -5.3**
baz=192,SNR=43
NHSC New Hope 15.95 10 P **Pn 02 55 13.2 -2.6**
baz=192,SNR=43
NHSC S **Sn 02 58 18.5 +5.3**
baz=192
AOPR Arecibo Observ 15.96 84 *eP* **Pn 02 55 14.1 -2.1**
GOGA Godfrey 15.97 0 Pn **Pn 02 55 11.4 -4.8**
GOGA Godfrey 15.97 0 P **Pn 02 55 11.8 -4.3**
baz=180,SNR=125
GOGA Godfrey 15.97 0 P **Pn 02 55 13.4 -2.7**
baz=180,SNR=125
GOGA S **Sn 02 58 12.3 -1.6**
baz=180
GOGA Godfrey 15.97 0 P **Pn 02 55 11.4 -4.8**
GOGA pmax pmax
comp=Z,1µm,1.3s
PRAC Prado 15.98 147 ⇑*iP* **Pn 02 55 16.3 -0.2**
146A Union 16.01 343 P **Pn 02 55 14.4 -2.3**
baz=160,SNR=116
146A S **Sn 02 58 15.4 +0.6**
baz=160
HAW Hawthorne Fire 16.01 6 P **Pn 02 55 14.1 -2.6**
baz=187,SNR=50
HAW S **Sn 02 58 16.5 +1.8**
baz=187
VBMS Vicksburg 16.09 338 Pn 02 55 13.5 -4.2
VBMS IAmb IAmb 02 55 23.6
comp=Z,9µm,1.7s
VBMS Vicksburg 16.09 338 P **Pn 02 55 14.0 -3.7**
baz=155,SNR=90
VBMS Vicksburg 16.09 338 P **Pn 02 55 16.1 -1.6**
baz=155,SNR=90
VBMS S **Sn 02 58 20.1 +3.4**
baz=155
TUMC Tumaco 16.14 163 ⇑*iP* **Pn 02 55 17.8 -0.7**
POPC Popayan, Colom 16.19 155 ⇑*iP* **Pn 02 55 19.2 -0.1**
Z47A Carrollton 16.29 346 P **Pn 02 55 18.9 -1.4**
baz=164,SNR=75
Z47A S **Sn 02 58 22.8 +1.2**
baz=164
VILC Villavicencio, 16.30 143 *eP* **Pn 02 55 19.9 -0.8**
Y52A Lilburn 16.43 358 P **Pn 02 55 20.2 -1.9**
baz=178,SNR=62
Y52A P **Pn 02 55 20.2 -1.9**

baz=178,SNR=62
Y52A S Sn 02 58 27.4 +2.4
baz=178
Y52A S Sn 02 58 27.4 +2.4
baz=178
BBAC Balboa, Cauca 16.44 157⇑ iP Pn 02 55 24.0 +1.5
SJG San Juan 16.54 85 Pn 02 55 20.4 -3.0
SJG San Juan 16.54 85 Pn Pn 02 55 23.3 -0.2
comp=Z,2.5nm,0.3s,baz=260,slow=9.3,SNR=36
comp=Z,858nm,1.1s
SJG San Juan 16.54 85 eP Pn 02 55 21.7 -1.7
SJG San Juan 16.54 85⇑ iP Pn 02 55 19.9 -3.6
BETC Betania 16.60 151 eP Pn 02 55 25.6 +1.2
Y49A Blount Mountai 16.63 351 P Pn 02 55 22.6 -1.9
baz=170,SNR=53
Y49A S Sn 02 58 33.6 +3.8
baz=170
KVTX Kingsville 16.71 310 P Pn 02 55 20.9 -4.7
baz=124,SNR=105
Y57A Sumter 16.81 9 P Pn 02 55 22.2 -4.7
baz=190,SNR=82
Y57A P Pn 02 55 22.2 -4.7
baz=190,SNR=82
Y57A S Sn 02 58 34.1 0.0
baz=190
Y57A S Sn 02 58 34.1 0.0
baz=190
Y58A Scranton 16.82 11 P Pn 02 55 22.1 -4.9
baz=193,SNR=147
Y58A P Pn 02 55 22.1 -4.9
baz=193,SNR=147
Y58A S Sn 02 58 36.1 +1.8
baz=193
Y58A S Sn 02 58 36.1 +1.8
baz=193
HODGE Hodges 16.83 4 Pn 02 55 22.8 -4.3
HODGE Hodges 16.83 4 P Pn 02 55 23.4 -3.7
baz=184,SNR=84
HODGE S Sn 02 58 35.3 +0.7
baz=184
HKT Hockley 16.85 320 Pn 02 55 23.4 -3.9
HKT Hockley 16.85 320 P Pn 02 55 24.0 -3.4
baz=135
HKT S Sn 02 58 35.3 +0.2
baz=135
HKT Hockley 16.85 320 *c iP Pn 02 55 24.0 -3.4*
143A Socs Landing, 16.86 336 P Pn 02 55 24.7 -2.8
baz=153,SNR=461
143A S Sn 02 58 39.1 +3.8
baz=153
MOIG Morelia 16.94 281 Pn 02 55 26.9 -2.0
JSC Jenkinsville 16.96 6 P Pn 02 55 24.7 -4.0
baz=187,SNR=148
JSC S S 02 58 50.9 +2.6
baz=187
CRUC La Cruz 16.97 157 eP Pn 02 55 30.3 +1.0
GARC Garzon, Huila 17.01 152⇑ iP Pn 02 55 28.9 -0.9
GCUF Volcan Galeras 17.14 159⇑ iP Pn 02 55 31.7 0.0
X51A Calhoun 17.17 356 P Pn 02 55 28.6 -2.7
baz=176,SNR=40
X51A P Pn 02 55 28.6 -2.7
baz=176,SNR=40
X51A S Sn 02 58 46.0 +3.2
baz=176
X51A S Sn 02 58 46.0 +3.2
baz=176
PTGC Puerto Gaitan, 17.18 138⇑ iP Pn 02 55 27.5 -4.2
FPAL Fort Paine 17.20 354 Pn 02 55 28.7 -3.1
FPAL IAmb IAmb 02 55 37.1
comp=Z,9µm,2.4s
BAUV El Baul 17.21 117 Pn 02 55 28.9 -3.1
BAUV El Baul 17.21 117 eP Pn 02 55 27.1 -4.9
Y60A Bolivia 17.23 15 P Pn 02 55 26.5 -5.6
baz=197,SNR=56
Y60A P Pn 02 55 26.5 -5.6
baz=197,SNR=56
Y60A S Sn 02 58 45.9 +1.7
baz=197
Y60A S Sn 02 58 45.9 +1.7
baz=197
CMBC Cumbal 17.25 161 eP P 02 55 34.8 +0.2
Y45A Yeager Farm, C 17.30 343 P Pn 02 55 30.2 -2.9
baz=160,SNR=134
Y45A S Sn 02 58 48.5 +2.4
baz=160
X48A Hartselle 17.30 350 Pn 02 55 29.8 -3.3
X48A Hartselle 17.30 350 P Pn 02 55 31.1 -2.0
baz=169,SNR=173
X48A S Sn 02 58 29.1 -17
baz=169
BIRD Birdtown, Kers 17.41 8 Pn 02 55 29.6 -4.8
BIRD Birdtown, Kers 17.41 8 P Pn 02 55 31.3 -3.1
baz=190,SNR=208
BIRD S Sn 02 58 49.2 +0.3
baz=190
735A Kenedy 17.42 314 P Pn 02 55 31.2 -3.4
baz=128,SNR=147
PAULI Pauline 17.44 5 Pn 02 55 30.8 -4.0
PAULI IAmb IAmb 02 55 39.5
comp=Z,11µm,2.7s
PAULI Pauline 17.44 5 P Pn 02 55 31.7 -3.1
baz=185,SNR=81
PAULI S Sn 02 58 41.2 -8.3
baz=185
TULM Tulcn-Chalpat 17.48 161 Pn 02 55 35.8 0.0
TULM Tulcn-Chalpat 17.48 161⇑ iP P 02 55 37.5 +0.4
X58A Rowland 17.51 11 P Pn 02 55 31.2 -4.5
baz=193,SNR=55
X58A P Pn 02 55 31.2 -4.5
baz=193,SNR=55
X58A S S 02 58 57.8 -1.7
baz=193
X58A S S 02 58 57.8 -1.7
baz=193
NATX Nacogdoches 17.54 327 Pn 02 55 32.4 -3.7
NATX Nacogdoches 17.54 327 P Pn 02 55 32.1 -3.9
baz=142,SNR=262
NATX Nacogdoches 17.54 327 P Pn 02 55 33.3 -2.8
baz=142,SNR=262
NATX S Sn 02 58 50.4 -1.6
baz=142
CASEE Lake Jocassee 17.56 2 P Pn 02 55 33.8 -2.5
baz=182,SNR=135
CASEE S Sn 02 58 55.5 +3.2
baz=182
PAC1 Pacto, Paraso 17.62 164⇑ iP Pn 02 55 37.4 +0.2
W52A Murphy 17.66 359 P Pn 02 55 35.5 -2.0
baz=179,SNR=102
W52A S Sn 02 58 53.0 -1.7
baz=179
CUSE Cuicocha Este 17.68 163⇑ iP P 02 55 40.0 +0.7
OTAV Otavalo 17.73 163 P P 02 55 39.9 -0.1
OTAV Otavalo 17.73 163 P P 02 55 39.9 -0.1
OTAV pmax pmax
comp=Z,532nm,1.1s
OTAV Otavalo 17.73 163⇑ iP P 02 55 39.7 -0.3
OTAV Otavalo 17.73 163 eP Pn 02 55 39.5 +0.5
IMBA Imbabura, San 17.77 162 P P 02 55 41.5 +1.2
KMSC Kings Mountain 17.80 6 P Pn 02 55 35.7 -3.5
baz=187,SNR=139
KMSC Kings Mountain 17.80 6 P Pn 02 55 36.2 -3.1
baz=187,SNR=139
KMSC S S 02 59 02.3 -3.1
baz=187
BONI La Bonita 17.81 160⇑ iP P 02 55 41.4 +0.9
W50A Signal Mountai 17.83 355 P Pn 02 55 37.9 -1.8
baz=174,SNR=140
W50A S Sn 02 58 59.8 +0.8
baz=174
OXF Oxford 17.87 344 IAmb IAmb 02 55 47.6
comp=Z,8µm,1.3s
OXF Oxford 17.87 344 P Pn 02 55 37.8 -2.3
baz=161,SNR=289
OXF Oxford 17.87 344 P Pn 02 55 38.4 -1.8
baz=161,SNR=289
OXF S Sn 02 59 03.0 +3.1
baz=161
PULU Pululahua 17.93 164 P P 02 55 42.8 +0.8
PULU IAmb IAmb 02 55 51.6
comp=Z,6µm,1.1s
EF01 Eagle Ford 01 17.98 313 Pn 02 55 36.7 -4.9
W57A Gilead 17.98 9 P Pn 02 55 38.8 -2.7
baz=191,SNR=370
W57A P Pn 02 55 38.8 -2.7
baz=191,SNR=370
W57A S S 02 59 07.3 -1.7
baz=191
W57A S S 02 59 07.3 -1.7
baz=191
CCAR Cane Creek 18.07 337 P Pn 02 55 41.7 -0.9
baz=154,SNR=311
CCAR S S 02 59 08.2 -2.7
baz=154
TKL Tuckaleechee C 18.22 359 Pn 02 55 41.3 -3.1
TKL Tuckaleechee C 18.22 359 P Pn 02 55 41.8 -2.5
baz=179,SNR=131
TKL S S 02 59 12.0 -1.8
baz=179
TKL Tuckaleechee C 18.22 359 P Pn 02 55 44.0 -0.4
TKL Tuckaleechee C 18.22 359 P Pn 02 55 44.0 -0.4
comp=Z,8.5nm,0.3s,baz=171,slow=12,SNR=47
TKL S Sn 02 58 55.3 -13
comp=Z,402nm,0.8s,baz=106,slow=7.6,SNR=2.9
comp=Z,221nm,0.7s
V53A Saluda 18.23 2 P Pn 02 55 43.3 -1.4
baz=182,SNR=265
V53A P Pn 02 55 43.3 -1.4
baz=182,SNR=265
V53A S S 02 59 15.1 +0.7
baz=182
V53A S S 02 59 15.1 +0.7
baz=182
833A Chaparral WMA, 18.25 309 Pn 02 55 40.0 -4.8
833A Chaparral WMA, 18.25 309 P Pn 02 55 39.9 -4.8
baz=123,SNR=1000
833A Chaparral WMA, 18.25 309 P Pn 02 55 41.2 -3.6
baz=123,SNR=1000
833A S S 02 59 17.4 +2.9
baz=123
W59A Clinton 18.29 13 P Pn 02 55 43.6 -1.6
baz=196,SNR=99
W59A S S 02 59 17.6 +2.4
baz=196
237A Washetta, Mont 18.35 325 P Pn 02 55 43.1 -2.9
baz=140,SNR=348
237A S Sn 02 59 10.5 -0.9
baz=140
V51A Loudon 18.38 358 P Pn 02 55 45.3 -1.0
baz=178,SNR=173
V51A S S 02 59 16.7 -0.3
baz=178
V52A Sevierville 18.40 360 P Pn 02 55 45.0 -1.6
baz=180,SNR=118
V52A S S 02 59 16.1 -1.4
baz=180
WLAR White Oak Lake 18.40 334 IAmb IAmb 02 55 49.4
comp=Z,13µm,1.5s
CNNC Cliffs of the 18.48 15 P P 02 55 43.5 -4.1
baz=197,SNR=52
CNNC Cliffs of the 18.48 15 P P 02 55 45.8 -1.8
baz=197,SNR=52
CNNC S S 02 59 24.5 +5.3
baz=197
435B Jarrell 18.52 319 IAmb IAmb 02 55 55.4
comp=Z,5µm,1.0s
435B Jarrell 18.52 319 P P 02 55 44.3 -3.7
baz=133
435B Jarrell 18.52 319 P P 02 55 45.5 -2.5
baz=133,SNR=183
435B S S 02 59 25.4 +5.4
baz=133
V55A Taylorsville 18.52 6 P P 02 55 46.6 -1.4
baz=187,SNR=328
V55A P P 02 55 46.6 -1.4
baz=187,SNR=328
V55A S Sn 02 59 17.5 +1.9
baz=187
V55A S Sn 02 59 17.5 +1.9
baz=187
V48A Smith Brothers 18.53 351 P P 02 55 47.1 -1.0
baz=170,SNR=511
V48A S Sn 02 59 16.7 +0.7
baz=170
MET Memphis--Engin 18.59 343 P P 02 55 47.4 -1.4
MET IAmb IAmb 02 55 55.8
comp=Z,9µm,1.5s
V58A Windy Hill, Pi 18.76 11 P P 02 55 49.2 -1.4
baz=193,SNR=91
V58A P P 02 55 49.2 -1.4
baz=193,SNR=91
V58A S Sn 02 59 20.1 -1.2
baz=193
V58A S Sn 02 59 20.1 -1.2
baz=193
HNDO Hondo 18.85 313 IAmb IAmb 02 56 00.4
comp=Z,5µm,0.7s
Z38A Mt. Pleasant 18.90 329 P P 02 55 50.7 -1.5
Z38A IAmb IAmb 02 55 59.6
comp=Z,15µm,2.1s
Z38A Mt. Pleasant 18.90 329 P P 02 55 50.7 -1.5
baz=144,SNR=251
Z38A S Sn 02 59 24.2 -0.7
baz=144
PIAT Ana Tenorio 18.97 164⇑ iP Pn 02 55 56.5 +2.5
X40A Basin Creek Fa 18.98 336 P P 02 55 53.3 +0.2
baz=152,SNR=764
X40A P P 02 55 53.3 +0.2
baz=152,SNR=764
X40A S Sn 02 59 25.2 -1.7
baz=152
X40A S Sn 02 59 25.2 -1.7
baz=152
PPLP Puerto Lpez 18.99 172 eP Pn 02 55 56.8 +2.8
UALR University of 19.05 337 IAmb IAmb 02 56 04.6
comp=Z,8µm,1.8s
TREL Terrell 19.05 326 IAmb IAmb 02 56 02.9
comp=Z,8µm,1.1s
WVT Waverly 19.08 349 P P 02 55 52.8 -1.3
WVT IAmb IAmb 02 55 58.8
comp=Z,11µm,2.0s
WVT Waverly 19.08 349 P P 02 55 54.0 -0.2
baz=167
WVT Waverly 19.08 349 P Pn 02 55 54.9 +0.1
baz=167,SNR=640
WVT S S 02 59 31.0 -0.3
baz=167
WVT Waverly 19.08 349 P P 02 55 52.8 -1.3
WVT pmax pmax
comp=Z,11µm,2.0s
TZTN Tazewell 19.10 360 P P 02 55 53.3 -1.0
baz=180,SNR=82
TZTN Tazewell 19.10 360 P P 02 55 54.5 +0.2
baz=180,SNR=82
TZTN S S 02 59 32.2 +0.5
baz=180
U56A King 19.10 8 P P 02 55 53.9 -0.5
baz=189,SNR=236
U56A P P 02 55 53.9 -0.5
baz=189,SNR=236
U56A S Sn 02 59 23.9 -5.7
baz=189
U56A S Sn 02 59 23.9 -5.7
baz=189
I20EC Galapagos 19.10 201 P Pn 02 56 00.9 +5.5
baz=22,slow=13,SNR=3.2
PTLC Puerto Leguiza 19.11 153⇑ eP Pn 02 56 00.3 +4.8
U54A Nelsons Funny 19.13 4 P P 02 55 54.5 -0.3
baz=185,SNR=77
U54A P P 02 55 54.5 -0.3
baz=185,SNR=77
U54A S S 02 59 31.7 -0.8
baz=185
U54A S S 02 59 31.7 -0.8
baz=185
PAYG Puerto Ayora 19.14 201 Pn 02 55 56.6 +0.9
PAYG IAmb IAmb 02 56 05.2
comp=Z,15µm,2.1s
PAYG Puerto Ayora 19.14 201⇓ iP Pn 02 55 57.3 +1.5
U49A Red Boiling Sp 19.17 354 P P 02 55 54.2 -1.0
U49A IAmb IAmb 02 56 00.3
comp=Z,19µm,3.1s
U49A Red Boiling Sp 19.17 354 P P 02 55 55.6 +0.4
baz=173,SNR=219
U49A S S 02 59 33.0 -0.2
baz=173
HBAR Harrisburg 19.20 342 P P 02 55 55.3 -0.1
baz=159,SNR=45
HBAR S Sn 02 59 31.3 -0.7
baz=159
WHTX Lake Whitney, 19.28 322 IAmb IAmb 02 56 04.1
comp=Z,5µm,1.1s
WHTX Lake Whitney, 19.28 322 P P 02 55 55.1 -1.3
baz=136,SNR=191
WHTX Lake Whitney, 19.28 322 P P 02 55 55.8 -0.6
baz=136,SNR=191
WHTX S Sn 02 59 32.0 -2.1
baz=136
CHSH Refugio Sur-Vo 19.29 166 P Pn 02 55 59.0 +0.9
CHSH IAmb IAmb 02 56 08.1
comp=Z,6µm,1.7s
V61A Roper 19.35 17 P P 02 55 57.0 -0.1
baz=200,SNR=78
V61A P P 02 55 57.0 -0.1
baz=200,SNR=78
V61A S S 02 59 42.4 +5.7
baz=200
V61A S S 02 59 42.4 +5.7
baz=200
LNXT Lenox 19.40 345 P Pn 02 55 58.5 -0.3
baz=163,SNR=32
LNXT S S 02 59 39.1 +1.4
baz=163
GNAR Gosnell 19.41 344 IAmb IAmb 02 56 06.4
comp=Z,6µm,1.2s
SMRT St. Maarten 19.46 85 P P 02 55 57.1 -1.3
UTMT University of 19.49 347 IAmb IAmb 02 56 09.1
comp=Z,7µm,1.4s
WHAR Wooly Hollow 19.49 338 P P 02 55 58.4 -0.2
WHAR IAmb IAmb 02 56 09.0
comp=Z,10µm,1.5s
GLAT Glass 19.51 346 IAmb IAmb 02 56 09.2
comp=Z,10µm,1.7s
U59A Littleton 19.57 14 P P 02 55 59.6 +0.1
baz=196,SNR=358
U59A P P 02 55 59.6 +0.1
baz=196,SNR=358
U59A S Sn 02 59 35.6 -5.3
baz=196
U59A S Sn 02 59 35.6 -5.3
baz=196
SALI Salinas 19.59 173 Pn Pn 02 56 02.7 +1.5
T50A Nancy 19.61 357 P Pn 02 56 00.8 -0.5
baz=176
T50A P Pn 02 56 00.8 -0.5
baz=176
T50A S Sn 02 59 37.8 -4.1
baz=176
T50A S Sn 02 59 37.8 -4.1
baz=176
PCRV Puerto La Cruz 19.65 109 P Pn 02 56 01.8 -0.1
comp=Z,3.3nm,0.3s,baz=297,slow=8.8,SNR=61
PCRV LR LR 03 04 17.9
comp=Z,671µm,19.4s,slow=39
comp=Z,739nm,1.1s
DRIO Del Rio 19.75 310 P P 02 55 58.6 -2.9
PVMO Portageville 19.75 345 P P 02 56 01.0 -0.4
PVMO IAmb IAmb 02 56 13.6
comp=Z,8µm,1.7s
BRDY Brady 19.76 317 IAmb IAmb 02 56 14.0
comp=Z,5µm,1.1s
HICK Hickman 19.76 346 IAmb IAmb 02 56 13.7
comp=Z,3µm,1.1s
JCT Junction City 19.78 314 IAmb IAmb 02 56 07.9
comp=Z,10µm,1.7s
JCT Junction City 19.78 314 P P 02 56 00.6 -1.4
baz=128,SNR=455
JCT Junction City 19.78 314 P P 02 56 00.9 -1.0
baz=128,SNR=455
JCT S S 02 59 43.9 -1.7
baz=128
T47A Sharon Grove 19.80 351 P P 02 56 02.2 +0.1
baz=170,SNR=238
T47A S Sn 02 59 46.3 -0.2
baz=170
LCAR Lake Charles 19.83 341 IAmb IAmb 02 56 13.2
comp=Z,9µm,1.9s
LCAR Lake Charles 19.83 341 P P 02 56 02.8 +0.5
baz=158,SNR=322
LCAR S S 02 59 44.7 -1.6
baz=158
T57A Hurt 19.91 10 P P 02 56 03.7 +0.5
baz=192,SNR=220
T57A P P 02 56 03.7 +0.5
baz=192,SNR=220
T57A S S 02 59 44.8 -3.1
baz=192
T57A S S 02 59 44.8 -3.1
baz=192
BLA Blacksburg 19.95 7 P P 02 56 03.8 +0.1
baz=189,SNR=138
BLA Blacksburg 19.95 7 P P 02 56 04.1 +0.4
baz=189,SNR=138
PARMO Parma 20.00 345 IAmb IAmb 02 56 15.2
comp=Z,9µm,1.8s
T45B Paducah 20.09 348 P P 02 56 06.0 +0.8
baz=166,SNR=88
Z35A Perchaven, San 20.14 325 P P 02 56 06.6 +0.8
baz=139,SNR=634
COHC Cochancay 20.15 168 eP P 02 56 06.8 +0.9
X37A Clayton 20.17 330 P Pn 02 56 07.8 -0.1
baz=145
S51A Beattyville 20.19 360 IAmb IAmb 02 56 19.7
comp=Z,6µm,2.0s
S51A Beattyville 20.19 360 P Pn 02 56 07.5 -0.6
baz=180,SNR=119
S51A P Pn 02 56 07.5 -0.6
baz=180,SNR=119
S51A S S 02 59 50.6 -2.9
baz=180
S51A S S 02 59 50.6 -2.9
baz=180
T59A Double "B" Far 20.22 14 P P 02 56 07.1 +0.6
baz=197,SNR=295
T59A P P 02 56 07.1 +0.6
baz=197,SNR=295
T59A S S 02 59 48.2 -5.9
baz=197
T59A S S 02 59 48.2 -5.9
baz=197
PBMO Poplar Bluff 20.28 344 IAmb IAmb 02 56 15.8
comp=Z,3µm,1.1s
PBMO Poplar Bluff 20.28 344 P P 02 56 07.6 +0.3
baz=161,SNR=250
PBMO S S 02 59 50.6 -4.8
baz=161
MBFL Flemmings, Mon 20.35 89 eP P 02 56 08.6 +0.4
MLYT Lee's Yard 20.38 89 eP Pn 02 56 10.4 -0.1
PLPT Palo Pinto 20.38 322 P P 02 56 07.8 -0.5
PLPT IAmb IAmb 02 56 19.1
comp=Z,6µm,1.0s
S54A Dingess, Beckl 20.44 5 P P 02 56 09.2 +0.1
baz=186,SNR=77
S54A P P 02 56 09.2 +0.1
baz=186,SNR=77
S54A S S 02 59 55.2 -3.4
baz=186
S54A S S 02 59 55.2 -3.4
baz=186
T60A Surry 20.57 16 P P 02 56 10.9 +0.4
baz=199,SNR=118
T60A P P 02 56 10.9 +0.4
baz=199,SNR=118
T60A S Sn 03 00 03.2 -1.9
baz=199
T60A S Sn 03 00 03.2 -1.9
baz=199
CGM3 Cape Girardeau 20.58 346 IAmb IAmb 02 56 25.7
comp=Z,8µm,1.8s
LOOK Love County 20.61 326 P 02 56 10.8 -0.1
U40A Yellville 20.65 338 P P 02 56 11.7 +0.4
baz=154,SNR=933
U40A P P 02 56 11.7 +0.4
baz=154,SNR=933
U40A S S 02 59 58.2 -4.5
baz=154
U40A S S 02 59 58.2 -4.5
baz=154
S57A Dark Hollow, R 20.70 10 P P 02 56 11.9 +0.1
baz=192,SNR=162
S57A P P 02 56 11.9 +0.1
baz=192,SNR=162
S57A S S 03 00 00.9 -2.8
baz=192
S57A S S 03 00 00.9 -2.8
baz=192
ANBD Bethesda, Anti 20.76 88 eP P 02 56 11.0 -1.5
USIN University of 20.84 351 IAmb IAmb 02 56 21.7
comp=Z,7µm,1.4s
USIN IAMs_20 IAMs_20 03 03 38.0
comp=Z,1723µm,21.0s
R50A Paris 20.84 358 P P 02 56 13.8 +0.4
baz=178,SNR=260
R50A P P 02 56 13.8 +0.4

baz=178,SNR=260
R50A S **S** 03 00 05.2 -1.4
baz=178
R50A S **S** 03 00 05.2 -1.4
baz=178
S44A **Carbondale** 20.87 347 P **P** 02 56 14.0 +0.4
baz=164,SNR=45
S44A S **S** 03 00 03.5 -3.6
baz=164
SIUC **Southern Illin** 20.88 347 IAmb IAmb 02 56 30.4
comp=Z,7µm,1.3s
R49A **Shelbyville** 20.89 356 P **P** 02 56 13.6 -0.3
baz=176,SNR=206
R49A P **P** 02 56 13.6 -0.3
baz=176,SNR=206
R49A S **S** 03 00 03.8 -3.7
baz=176
R49A S **S** 03 00 03.8 -3.7
baz=176
R53A **Hurricane** 20.93 3 P **P** 02 56 14.4 +0.1
baz=184,SNR=91
R53A P **P** 02 56 14.4 +0.1
baz=184,SNR=91
R53A S **S** 03 00 07.0 -1.2
baz=184
R53A S **S** 03 00 07.0 -1.2
baz=184
WCI **Wyandotte Cave** 20.93 354 P **P** 02 56 13.5 -0.7
WCI **Wyandotte Cave** 20.93 354 P **P** 02 56 14.1 -0.2
baz=173
WCI **Wyandotte Cave** 20.93 354 P **P** 02 56 14.7 +0.4
baz=173,SNR=116
WCI S **S** 03 00 07.8 -0.3
baz=173
WCI **Wyandotte Cave** 20.93 354 P **P** 02 56 13.5 -0.7
WCI pmax pmax
comp=Z,16µm,2.3s
WCI MLR MLR
comp=Z,1477µm,22.0s
BOSC **San Juan Bosco** 20.98 166 P Pn 02 56 17.6 -0.1
HHAR **Hobbs** 20.99 336 IAmb IAmb 02 56 26.9
comp=Z,9µm,1.9s
HHAR **Hobbs** 20.99 336 P **P** 02 56 15.7 +0.8
baz=151
HHAR S **S** 03 00 08.4 -1.1
baz=151
CBE **Ff, Capester** 21.00 90 *e*P **P** 02 56 14.5 -0.8
R55A **Marlinton** 21.04 7 P **P** 02 56 16.7 +1.1
baz=189,SNR=188
R55A P **P** 02 56 16.7 +1.1
baz=189,SNR=188
R55A S **S** 03 00 10.1 -0.5
baz=189
R55A S **S** 03 00 10.1 -0.5
baz=189
ABTX **Abilene, Hawle** 21.05 319 P **P** 02 56 15.9 +0.1
baz=132,SNR=836
ABTX **Abilene, Hawle** 21.05 319 P **P** 02 56 16.4 +0.7
baz=132,SNR=836
ABTX S **S** 03 00 06.1 -4.8
baz=132
ARNL **Arenillas** 21.06 170 P **P** 02 56 17.9 +2.1
ARNL IAMs_20 IAMs_20 03 04 04.7
comp=Z,2535µm,19.0s
ABD **La Joyeuse, An** 21.07 89 IAmb IAmb 02 56 24.8
comp=Z,5µm,1.1s
ABD **La Joyeuse, An** 21.07 89 *e*P **P** 02 56 14.5 -1.5
R58B **Mineral** 21.10 12 P **P** 02 56 16.6 +0.5
baz=195,SNR=298
R58B P **P** 02 56 16.6 +0.5
baz=195,SNR=298
R58B S **S** 03 00 09.8 -1.8
baz=195
R58B S **S** 03 00 09.8 -1.8
baz=195
SAND **Sanderson** 21.13 310 P **P** 02 56 15.7 -0.9
WTFS **Witchita Falls** 21.15 323 **P** 02 56 16.2 -0.5
MGMO **Mountain Grove** 21.17 340 IAmb IAmb 02 56 29.1
comp=Z,3µm,1.3s
U38A **Gravette** 21.30 335 IAmb IAmb 02 56 24.3
comp=Z,3µm,1.4s
U38A **Gravette** 21.30 335 P **P** 02 56 18.2 -0.1
baz=150,SNR=457
U38A S **S** 03 00 09.0 -6.7
baz=150
RLO **Rose Lookout** 21.33 334 IAmb IAmb 02 56 24.5
comp=Z,2µm,1.2s
S61A **Accomac** 21.37 17 IAmb IAmb 02 56 31.2
comp=Z,3µm,1.1s
S61A **Accomac** 21.37 17 P **P** 02 56 20.0 +1.0
baz=201,SNR=88
S61A P **P** 02 56 20.0 +1.0
baz=201,SNR=88
S61A S **S** 03 00 14.6 -2.3
baz=201
S61A S **S** 03 00 14.6 -2.3
baz=201
FVM **French Village** 21.42 345 P **P** 02 56 20.1 +0.5
baz=162,SNR=348
FVM S **S** 03 00 16.8 -1.2
baz=162
X34A **Smith Ranch, M** 21.42 326 IAmb IAmb 02 56 26.6
comp=Z,8µm,1.5s
CBN **Corbin Frederi** 21.44 13 P **P** 02 56 19.6 -0.1
CBN IAmb IAmb 02 56 33.6
comp=Z,5µm,1.7s
CBN **Corbin Frederi** 21.44 13 P **P** 02 56 20.2 +0.5
baz=196,SNR=56
CBN S **S** 03 00 19.1 +0.8
baz=196
CBN **Corbin Frederi** 21.44 13 P **P** 02 56 20.3 +0.5
baz=196,SNR=56
CBN S **S** 03 00 17.2 -1.1
baz=196
TUL3 **Leonard** 21.45 332 IAmb IAmb 02 56 25.9
comp=Z,5µm,1.2s
TUL3 **Leonard** 21.45 332 P **P** 02 56 19.7 -0.3
baz=146,SNR=931
TUL3 S **S** 03 00 14.9 -3.8
baz=146
TUL3 **Leonard** 21.45 332 P **P** 02 56 20.5 +0.5
baz=146,SNR=931
TUL3 S **S** 03 00 13.3 -5.3
baz=146
H05N1 **Guadeloupe/Mar** 21.50 89 P **P** 02 56 19.0 -1.6
SNR=358
Q52A **Bidwell** 21.54 3 IAmb IAmb 02 56 33.5
comp=Z,2µm,1.1s
Q52A **Bidwell** 21.54 3 P **P** 02 56 20.5 -0.4
baz=183,SNR=202
Q52A P **P** 02 56 20.5 -0.4
baz=183,SNR=202
Q52A S **S** 03 00 22.9 +2.6
baz=183
Q52A S **S** 03 00 22.9 +2.6
baz=183
SGCY **Sterling City** 21.55 315 P **P** 02 56 20.7 -0.5
Q51A **Peebles** 21.58 0 IAmb IAmb 02 56 34.0
comp=Z,2µm,0.9s
Q51A **Peebles** 21.58 0 P **P** 02 56 21.6 +0.4
baz=180,SNR=298
Q51A P **P** 02 56 21.6 +0.4
baz=180,SNR=298
Q51A S **S** 03 00 23.3 +2.2
baz=180
Q51A S **S** 03 00 23.3 +2.2
baz=180
SVN **Savane Anatole** 21.59 93 *e*P **P** 02 56 21.0 -0.7
FDF **Fort de France** 21.63 94 IAmb IAmb 02 56 35.4
comp=Z,6µm,1.2s
FDF **Fort de France** 21.63 94 *e*P **P** 02 56 20.7 -1.4
Q54A **Coxs Mills** 21.66 6 IAmb IAmb 02 56 35.1
comp=Z,3µm,1.4s
Q54A **Coxs Mills** 21.66 6 P **P** 02 56 22.5 +0.3
baz=187,SNR=155
Q54A P **P** 02 56 22.5 +0.3
baz=187,SNR=155
Q54A S **S** 03 00 21.4 -1.2
baz=187
Q54A S **S** 03 00 21.4 -1.2
baz=187
OLIL **Olney** 21.66 350 IAMs_20 IAMs_20 03 04 02.7
comp=Z,1543µm,20.0s
OLIL **Olney** 21.66 350 P **P** 02 56 23.0 +0.8
baz=168,SNR=420
OLIL S **S** 03 00 21.3 -1.3
baz=168
FNO **Franklin** 21.70 328 IAMs_20 IAMs_20 03 06 09.0
comp=Z,1612µm,21.0s
CCM **Cathedral Cave** 21.70 343 P **P** 02 56 22.1 -0.5
CCM **Cathedral Cave** 21.70 343 P **P** 02 56 22.4 -0.3
baz=160
CCM S **S** 03 00 20.0 -3.5
baz=160
CCM **Cathedral Cave** 21.70 343 P **P** 02 56 22.3 -0.3
baz=160,SNR=727
CCM S **S** 03 00 19.8 -3.6
baz=160
CCM **Cathedral Cave** 21.70 343 P **P** 02 56 22.1 -0.5
CCM pmax pmax
comp=Z,23µm,2.3s
CCM MLR MLR
comp=Z,1233µm,19.0s
GRHS **Sauteurs** 21.73 101 *e*P **P** 02 56 22.4 -0.7
BIM **Bigot** 21.74 94 **P** 02 56 22.1 -1.1
BIM **Bigot** 21.74 94 *e*P **P** 02 56 22.1 -1.1
SVB **Belmont** 21.83 98 *e*P **P** 02 56 24.6 +0.4
OKCSW **OKLAHOMA CITY** 21.84 328 IAmb IAmb 02 56 38.3
comp=Z,5µm,1.1s
OKCSW IAMs_20 IAMs_20 03 06 02.6
comp=Z,2760µm,21.0s
SVV **Soufriere Volc** 21.85 98 *e*P **P** 02 56 26.6 +2.2
GCMP **Grenada, Carri** 21.86 100 *e*P **P** 02 56 23.5 -1.0
SSV **Crater Summit** 21.87 97 *e*P **P** 02 56 26.2 +1.5
BLO **Bloomington** 21.88 354 IAmb IAmb 02 56 33.5
comp=Z,3µm,1.0s
ILAM **Ilet Lapin Mar** 21.88 94 IAMs_20 IAMs_20 03 03 08.4
comp=Z,1619µm,21.0s
ILAM **Ilet Lapin Mar** 21.88 94 *e*P **P** 02 56 24.0 -0.7
MCRA **Macar, Loja** 21.88 171 P **P** 02 56 25.5 +0.7
MCRA **Macar, Loja** 21.88 171 *e*P **P** 02 56 25.6 +0.8
SVOC **Richmond Hill,** 21.88 98 *e*P **P** 02 56 24.6 -0.2
SLB **Belfond** 21.90 96 *e*P **P** 02 56 25.6 +0.6
Q56A **Snyder Ridge,** 21.91 9 P **P** 02 56 26.0 +1.1
baz=191,SNR=188
Q56A P **P** 02 56 26.0 +1.1
baz=191,SNR=188
Q56A S **S** 03 00 27.8 +0.2
baz=191
Q56A S **S** 03 00 27.8 +0.2
baz=191
SLCP **Castries, St.** 21.91 96 *e*P **P** 02 56 24.7 -0.4
SLBI **Saint Lucia, B** 21.93 96 *e*P **P** 02 56 24.6 -0.6
MPOM **Morne Pois Mar** 21.95 94 **P** 02 56 24.9 -0.7
MPOM **Morne Pois Mar** 21.95 94 *e*P **P** 02 56 24.5 -1.1
H05S1 **Guadeloupe/Mar** 21.98 94 P **P** 02 56 24.8 -0.9
SNR=163
TXAR **Lajitas Array** 21.98 306 P **P** 02 56 24.7 -1.1
TXAR **Lajitas Array** 21.98 306 P **P** 02 56 25.9 +0.1
comp=Z,199nm,0.9s,baz=126,slow=12,SNR=399
TXAR LR LR 03 07 43.8
comp=Z,1134µm,19.2s,baz=132,slow=44
TXAR P3KPbc 03 30 15.7
comp=Z,1.6nm,1.1s,baz=2.6,slow=2.8,SNR=3.8
comp=Z,199nm,0.9s
TX31 **Lajitas Ar. Si** 21.98 306 P **P** 02 56 25.3 -0.5
baz=118,SNR=634
Q44A **Meyer Farm, Va** 21.99 348 P **P** 02 56 26.2 +0.6
baz=166,SNR=406
Q44A S **S** 03 00 27.6 -1.4
baz=166
SLM **Saint Louis** 21.99 346 P **P** 02 56 27.6 +1.9
baz=163,SNR=127
SLM S **S** 03 00 28.6 -0.6
baz=163
S39A **Bolivar** 22.01 339 IAmb IAmb 02 56 42.9
comp=Z,2µm,1.2s
S39A **Bolivar** 22.01 339 P **P** 02 56 25.8 -0.1
baz=154,SNR=782
S39A S **S** 03 00 27.8 -1.8
baz=154
P51A **Williamsport** 22.03 1 P **P** 02 56 26.0 -0.2
baz=181,SNR=129
P51A P **P** 02 56 26.0 -0.2
baz=181,SNR=129
P51A S **S** 03 00 32.8 +2.9
baz=181
P51A S **S** 03 00 32.8 +2.9
baz=181
WMOK **Wichita Mounta** 22.04 325 IAmb IAmb 02 56 42.7
comp=Z,4µm,1.1s
WMOK **Wichita Mounta** 22.04 325 P **P** 02 56 25.8 -0.5
baz=138,SNR=290
WMOK S **S** 03 00 27.4 -2.7
baz=138
WMOK **Wichita Mounta** 22.04 325 P **P** 02 56 26.2 -0.1
baz=138,SNR=290
WMOK S **S** 03 00 26.9 -3.2
baz=138
R61A **Willards** 22.07 17 P **P** 02 56 27.7 +1.2
baz=201,SNR=42
R61A P **P** 02 56 27.7 +1.2
baz=201,SNR=42
R61A S **S** 03 00 33.2 +2.6
baz=201
R61A S **S** 03 00 33.2 +2.6
baz=201
P48A **Milroy** 22.07 356 P **P** 02 56 25.4 -1.2
P48A IAmb IAmb 02 56 35.0
comp=Z,2µm,1.0s
P48A **Milroy** 22.07 356 P **P** 02 56 26.3 -0.3
baz=175,SNR=462
P48A P **P** 02 56 26.3 -0.3
baz=175,SNR=462
P48A S **S** 03 00 31.4 +0.7
baz=175
P48A S **S** 03 00 31.4 +0.7
baz=175
P49A **Miami Univ. Ec** 22.11 357 P **P** 02 56 26.5 -0.4
baz=177,SNR=257
P49A S **S** 03 00 30.9 -0.5
baz=177
P49A **Miami Univ. Ec** 22.11 357 P **P** 02 56 26.9 -0.1
baz=177,SNR=257
P49A S **S** 03 00 31.7 +0.4
baz=177
P53A **Whipple** 22.11 4 P **P** 02 56 27.2 +0.2
baz=185,SNR=304
P53A P **P** 02 56 27.2 +0.2
baz=185,SNR=304
P53A S **S** 03 00 28.1 -3.3
baz=185
P53A S **S** 03 00 28.1 -3.3
baz=185
OK029 **Liberty Lake** 22.15 329 IAmb IAmb 02 56 35.0
comp=Z,6µm,1.5s
P52A **Corning** 22.21 3 IAmb IAmb 02 56 37.6
comp=Z,2µm,1.1s
P52A **Corning** 22.21 3 P **P** 02 56 27.9 -0.2
baz=184,SNR=197
P52A S **S** 03 00 31.4 -1.9
baz=184
R40A **Maddies Statio** 22.22 341 P **P** 02 56 28.2 +0.1
baz=157,SNR=650
R40A S **S** 03 00 32.7 -0.7
baz=157
MNHN **Monahans** 22.35 312 IAmb IAmb 02 56 38.4
comp=Z,8µm,1.8s
OK048 **Pawnee Station** 22.40 330 IAmb IAmb 02 56 36.3
comp=Z,5µm,1.1s
P46A **Rosedale** 22.40 352 IAmb IAmb 02 56 47.7
comp=Z,4µm,1.6s
P46A **Rosedale** 22.40 352 P **P** 02 56 29.8 -0.3
baz=171,SNR=68
P46A S **S** 03 00 36.7 -0.2
baz=171
MCWV **Mont Chateau** 22.43 7 P **P** 02 56 31.4 +1.0
baz=189,SNR=244
MCWV S **S** 03 00 38.4 +0.9
baz=189
MCWV **Mont Chateau** 22.43 7 P **P** 02 56 31.5 +1.0
baz=189,SNR=244
MCWV S **S** 03 00 38.0 +0.5
baz=189
TRN **Trinidad (W)** 22.43 104 *e*P **P** 02 56 30.4 -0.3
ALPN **Alpine** 22.47 309 IAmb IAmb 02 56 50.1
comp=Z,2µm,1.0s
P57A **Homestead Farm** 22.54 11 IAmb IAmb 02 56 52.8
comp=Z,6µm,1.8s
P57A **Homestead Farm** 22.54 11 P **P** 02 56 32.4 +0.8
baz=194,SNR=177
P57A P **P** 02 56 32.4 +0.8
baz=194,SNR=177
P57A S **S** 03 00 42.0 +2.4
baz=194
P57A S **S** 03 00 42.0 +2.4
baz=194
HPIG **22.61 299** IAMs_20 IAMs_20 03 06 30.0
comp=Z,2435µm,20.0s
BBSR **BB Station** 22.61 45 P **P** 02 56 32.3 -0.1
BBSR **BB Station** 22.61 45 P **P** 02 56 34.0 +1.6
baz=233,SNR=101
BBSR S **S** 03 00 40.8 -0.2
baz=233
T35A **Sooner Cattle** 22.61 332 IAmb IAmb 02 56 39.3
comp=Z,6µm,1.4s
T35B **Sooner Cattle** 22.61 332 P **P** 02 56 32.4 0.0
baz=146,SNR=792
T35B S **S** 03 00 39.6 -1.3
baz=146
O52A **Adamsville** 22.71 3 IAmb IAmb 02 56 43.0
comp=Z,5µm,1.8s
O52A **Adamsville** 22.71 3 P **P** 02 56 33.9 +0.5
baz=184,SNR=219
O52A P **P** 02 56 33.9 +0.5
baz=184,SNR=219
O52A S **S** 03 00 43.7 +1.1
baz=184
O52A S **S** 03 00 43.7 +1.1
baz=184
SDMD **Soldier's Deli** 22.71 13 P **P** 02 56 33.9 +0.5
baz=197,SNR=144
SDMD S **S** 03 00 41.0 -1.7
baz=197
O49A **Covington** 22.75 358 IAmb IAmb 02 56 41.0
comp=Z,4µm,1.6s
O49A **Covington** 22.75 358 P **P** 02 56 33.5 -0.3
baz=178,SNR=162
O49A P **P** 02 56 33.5 -0.3
baz=178,SNR=162
O49A S **S** 03 00 42.3 -1.1
baz=178
O49A S **S** 03 00 42.3 -1.1
baz=178
ACSO **Alum Creek Sta** 22.78 1 IAmb IAmb 02 56 41.9
comp=Z,4µm,1.5s
ACSO **Alum Creek Sta** 22.78 1 P **P** 02 56 34.2 0.0
baz=181,SNR=146
ACSO S **S** 03 00 46.8 +2.8
baz=181
ACSO **Alum Creek Sta** 22.78 1 P **P** 02 56 34.2 0.0
baz=181,SNR=146
ACSO S **S** 03 00 43.6 -0.4
baz=181
P43A **Skaggs, Pawnee** 22.80 348 IAmb IAmb 02 56 47.1
comp=Z,3µm,1.1s
P43A **Skaggs, Pawnee** 22.80 348 P **P** 02 56 34.5 +0.1
baz=165,SNR=349
P43A S **S** 03 00 41.8 -2.5
baz=165
TBH **Brigand Hill** 22.80 105 *e*P **P** 02 56 35.9 +1.3
BLOK **Blackwell** 22.81 331 P **P** 02 56 33.2 -1.2
BLOK IAmb IAmb 02 56 40.7
comp=Z,5µm,1.2s
O48B **Farmland** 22.85 357 IAmb IAmb 02 56 41.7
comp=Z,7µm,1.9s
O48B **Farmland** 22.85 357 P **P** 02 56 34.2 -0.7
baz=176,SNR=118
O48B S **S** 03 00 44.6 -0.6
baz=176
O48B **Farmland** 22.85 357 P **P** 02 56 34.4 -0.4
baz=176,SNR=118
O48B S **S** 03 00 45.2 0.0
baz=176
O53A **New Philadelph** 22.88 4 IAmb IAmb 02 56 57.9
comp=Z,3µm,1.1s
O53A **New Philadelph** 22.88 4 P **P** 02 56 35.2 0.0
baz=186,SNR=343
O53A S **S** 03 00 46.1 +0.4
baz=186
O54A **Avella** 22.89 6 P **P** 02 56 35.5 +0.2
baz=188,SNR=201
O54A P **P** 02 56 35.5 +0.2
baz=188,SNR=201
O54A S **S** 03 00 45.7 -0.2
baz=188
O54A S **S** 03 00 45.7 -0.2
baz=188
CROK **Carrier** 22.97 329 IAmb IAmb 02 56 41.3
comp=Z,6µm,1.5s
O44A **Mansfield** 23.11 350 IAmb IAmb 02 56 58.1
comp=Z,4µm,1.2s
O44A **Mansfield** 23.11 350 P **P** 02 56 38.0 +0.5
baz=168,SNR=250
O44A S **S** 03 00 48.8 -0.8
baz=168
SFIN **Lafayette** 23.14 353 IAmb IAmb 02 56 48.4
comp=Z,3µm,1.5s
SFIN **Lafayette** 23.14 353 P **P** 02 56 37.4 -0.5
baz=171,SNR=98
SFIN S **S** 03 00 49.4 -0.8
baz=171
SFIN **Lafayette** 23.14 353 P **P** 02 56 37.4 -0.5
baz=171,SNR=98
SFIN S **S** 03 00 52.9 +2.7
baz=171
PECS **Pecos** 23.16 311 IAmb IAmb 02 56 51.1
comp=Z,3µm,1.2s
PABK **Blue Knob Stat** 23.21 10 P **P** 02 56 39.7 +1.1
baz=192
PABK S **S** 03 00 56.4 +5.1
baz=192
P40A **Paris** 23.30 343 IAmb IAmb 02 56 57.4
comp=Z,3µm,1.3s
P40A **Paris** 23.30 343 P **P** 02 56 38.5 -1.0
baz=159,SNR=433
P40A S **S** 03 00 51.7 -1.2
baz=159
OK038 **West end E0370** 23.33 328 IAMs_20 IAMs_20 03 07 00.3
comp=Z,1482µm,21.0s
ELIS **Ellis County** 23.37 326 P **P** 02 56 39.7 -0.6
GEDE **Greenville** 23.38 15 P **P** 02 56 41.1 +0.8
baz=199,SNR=68
GEDE S **S** 03 00 55.4 +1.4
baz=199
MVL **Millersville** 23.38 14 IAmb IAmb 02 56 59.6
comp=Z,3µm,1.6s
U32A **Winter Ranch,** 23.39 327 IAMs_20 IAMs_20 03 07 11.8
comp=Z,1561µm,22.0s
U32A **Winter Ranch,** 23.39 327 P **P** 02 56 39.5 -1.0
baz=140,SNR=152
U32A S **S** 03 00 55.2 +0.7
baz=140
BCHC **Barbados, Cave** 23.39 97 *e*P **P** 02 56 39.5 -1.1
BBGH **Gun Hill** 23.46 97 P **P** 02 56 39.9 -1.5
BBGH IAmb IAmb 02 56 50.4
comp=Z,4µm,1.2s
BBGH **Gun Hill** 23.46 97 *e*P **P** 02 56 40.4 -0.9
BBGH **Gun Hill** 23.46 97 ⇑*i*P **P** 02 56 40.6 -0.7
N53A **Lisbon** 23.47 5 P **P** 02 56 41.2 0.0
baz=186,SNR=53
N53A P **P** 02 56 41.2 0.0
baz=186,SNR=53
N53A S **S** 03 00 56.4 +0.8
baz=186
N53A S **S** 03 00 56.4 +0.8
baz=186
P61A **Hammonton** 23.47 17 P **P** 02 56 41.9 +0.7
baz=201,SNR=35
P61A P **P** 02 56 41.9 +0.7
baz=201,SNR=35
P61A S **S** 03 01 01.1 +5.5
baz=201
P61A S **S** 03 01 01.1 +5.5
baz=201
N49A **Columbus Grove** 23.48 359 IAmb IAmb 02 56 59.4
comp=Z,5µm,1.7s
N49A **Columbus Grove** 23.48 359 P **P** 02 56 41.1 -0.1
baz=178,SNR=189
N49A P **P** 02 56 41.1 -0.1
baz=178,SNR=189
N49A S **S** 03 00 55.5 -0.2
baz=178
N49A S **S** 03 00 55.5 -0.2
baz=178
N51A **Ashland** 23.49 2 IAmb IAmb 02 56 49.9
comp=Z,4µm,1.4s
N51A **Ashland** 23.49 2 P **P** 02 56 41.8 +0.4
baz=183,SNR=160
N51A P **P** 02 56 41.8 +0.4
baz=183,SNR=160
N51A S **S** 03 00 57.5 +1.6
baz=183

Sta	Name	Dist	Az	Ph	Ph	Time	Res
N51A				S	S	03 00 57.5	+1.6
	baz=183						
OK035	E0210 Rd and N	23.49	328	IAmb	IAmb	02 56 47.3	
	comp=Z,4µm,1.4s						
N47A	Urbana	23.50	356	P	P	02 56 41.3	-0.2
	baz=175,SNR=176						
N47A				P	P	02 56 41.3	-0.2
	baz=175,SNR=176						
N47A				S	S	03 00 55.8	-0.3
	baz=175						
N47A				S	S	03 00 55.8	-0.3
	baz=175						
KAN10	Anthony SW Sta	23.52	330	IAmb	IAmb	02 57 00.2	
	comp=Z,3µm,1.3s						
PSUB	Penn St. - Bra	23.53	16	P	P	02 56 41.9	0.0
	baz=200						
PSUB				S	S	03 00 57.1	+0.5
	baz=200						
PAMR	Moraine State	23.67	6	P	P	02 56 43.8	+0.6
	baz=188						
PAMR				S	S	03 00 59.3	+0.5
	baz=188						
SSPA	Standing Stone	23.68	11	P	P	02 56 43.4	+0.1
SSPA	Standing Stone	23.68	11	P	P	02 56 43.7	+0.4
	baz=194						
SSPA				S	S	03 01 00.8	+1.8
	baz=194						
SSPA	Standing Stone	23.68	11	P	P	02 56 44.3	+1.0
	baz=194,SNR=115						
SSPA				S	S	03 01 04.1	+5.0
	baz=194						
AMTX	Amarillo	23.82	321	IAMs_20	IAMs_20	03 07 33.5	
	comp=Z,1743µm,22.0s						
AMTX	Amarillo	23.82	321	P	P	02 56 44.2	-0.7
	baz=132						
AMTX				S	S	03 01 01.1	-0.5
	baz=132						
AMTX	Amarillo	23.82	321	P	P	02 56 45.0	+0.1
	baz=132,SNR=453						
AMTX				S	S	03 00 55.7	-5.9
	baz=132						
TUPA	Temple Univers	23.83	16	P	P	02 56 45.3	+0.6
	baz=200,SNR=136						
TUPA				S	S	03 01 06.3	+5.0
	baz=200						
P38A	Dawn	23.83	341	IAmb	IAmb	02 56 55.9	
	comp=Z,3µm,1.2s						
P38A	Dawn	23.83	341	P	P	02 56 44.2	-0.6
	baz=156,SNR=218						
P38A				S	S	03 00 59.7	-1.7
	baz=156						
MSTX	Muleshoe	23.91	317	P	P	02 56 44.5	-1.3
	baz=129,SNR=1000						
MSTX				S	S	03 01 06.6	+3.5
	baz=129						
MSTX	Muleshoe	23.91	317	P	P	02 56 45.3	-0.5
	baz=129,SNR=1000						
MSTX				S	S	03 01 06.7	+3.5
	baz=129						
M50A	Fremont	23.95	1	P	P	02 56 46.3	+0.3
	baz=181,SNR=151						
M50A				P	P	02 56 46.3	+0.3
	baz=181,SNR=151						
M50A				S	S	03 01 04.6	+1.4
	baz=181						
M50A				S	S	03 01 04.6	+1.4
	baz=181						
PSDB	Penn State Uni	24.02	9	S	S	03 01 09.0	+4.6
	baz=191						
N58A	Sunbury	24.11	13	P	P	02 56 48.3	+1.0
	baz=196,SNR=179						
N58A				P	P	02 56 48.3	+1.0
	baz=196,SNR=179						
N58A				S	S	03 01 12.6	+6.8
	baz=196						
N58A				S	S	03 01 12.6	+6.8
	baz=196						
M53A	WI Miller and	24.11	5	IAmb	IAmb	02 56 51.5	
	comp=Z,2µm,1.0s						
M53A	WI Miller and	24.11	5	P	P	02 56 48.1	+0.7
	baz=187,SNR=459						
M53A				S	S	03 01 07.0	+1.2
	baz=187						
N41A	Harden Midland	24.11	346	IAmb	IAmb	02 56 57.8	
	comp=Z,3µm,1.6s						
N41A	Harden Midland	24.11	346	P	P	02 56 47.7	+0.3
	baz=163,SNR=96						
N41A				S	S	03 01 01.3	-4.5
	baz=163						
PANJ	Princeton	24.15	17	P	P	02 56 49.1	+1.3
	baz=201,SNR=97						
PANJ				S	S	03 01 10.2	+3.7
	baz=201						
M52A	Chesterland	24.16	4	IAmb	IAmb	02 57 08.8	
	comp=Z,3µm,1.5s						
M52A	Chesterland	24.16	4	P	P	02 56 48.4	+0.5
	baz=185,SNR=92						
M52A				P	P	02 56 48.4	+0.5
	baz=185,SNR=92						
M52A				S	S	03 01 10.2	+3.7
	baz=185						
M52A				S	S	03 01 10.2	+3.7
	baz=185						
M44A	Midewin, Midew	24.25	352	IAmb	IAmb	02 56 52.8	
	comp=Z,2µm,1.4s						
M44A	Midewin, Midew	24.25	352	P	P	02 56 49.0	+0.2
	baz=169,SNR=94						
M44A				S	S	03 01 08.3	+0.2
	baz=169						
PAOC	Oil Creek Stat	24.29	7	P	P	02 56 49.9	+0.9
	baz=189						
PAOC				S	S	03 01 11.4	+2.8
	baz=189						
M55A	Ridgway	24.36	9	IAmb	IAmb	02 57 11.7	
	comp=Z,3µm,1.3s						
M55A	Ridgway	24.36	9	P	P	02 56 50.9	+1.2
	baz=191,SNR=240						
M55A				P	P	02 56 50.9	+1.2
	baz=191,SNR=240						
M55A				S	S	03 01 11.1	+1.3
	baz=191						
M55A				S	S	03 01 11.1	+1.3
	baz=191						
ALLY	Alegheny Colle	24.37	6	P	P	02 56 48.8	-1.0
ALLY	Alegheny Colle	24.37	6	P	P	02 56 50.6	+0.8
	baz=188,SNR=38						
ALLY				S	S	03 01 10.3	+0.3
	baz=188						
MNTX	Cornudas Mount	24.43	310	P	P	02 56 49.6	-0.9
	baz=120,SNR=1000						
MNTX				S	S	03 01 15.9	+4.7
	baz=120						
MNTX	Cornudas Mount	24.43	310	P	P	02 56 49.8	-0.7
	baz=120,SNR=1000						
MNTX				S	S	03 01 08.5	-2.7
	baz=120						
BRNJ	Basking Ridge	24.48	17	P	P	02 56 52.0	+1.3
	baz=201,SNR=58						
BRNJ				S	S	03 01 17.8	+6.1
	baz=201						
KSU1	Kansas State U	24.49	335	IAmb	IAmb	02 57 11.9	
	comp=Z,2µm,1.1s						
KSU1	Kansas State U	24.49	335	P	P	02 56 50.7	-0.2
	baz=148,SNR=166						
KSU1				S	S	03 01 09.7	-2.3
	baz=148						
KSU1	Kansas State U	24.49	335	P	P	02 56 50.8	-0.2
	baz=148,SNR=166						
KSU1				S	S	03 01 09.3	-2.6
	baz=148						
M57A	Sunshine Farm,	24.50	12	P	P	02 56 52.5	+1.5
	baz=195,SNR=101						
M57A				P	P	02 56 52.5	+1.5
	baz=195,SNR=101						
M57A				S	S	03 01 17.1	+5.0
	baz=195						
M57A				S	S	03 01 17.1	+5.0
	baz=195						
L48A	N Adams	24.50	358	IAmb	IAmb	02 57 03.9	
	comp=Z,3µm,1.6s						
L48A	N Adams	24.50	358	P	P	02 56 51.6	+0.6
	baz=178,SNR=95						
L48A				P	P	02 56 51.6	+0.6
	baz=178,SNR=95						
L48A				S	S	03 01 16.1	+4.0
	baz=178						
L48A				S	S	03 01 16.1	+4.0
	baz=178						
HQIL	Hanson Quary C	24.63	352	IAMs_20	IAMs_20	03 05 46.3	
	comp=Z,1505µm,21.0s						
L46A	Eue Claire	24.68	355	IAmb	IAmb	02 57 06.6	
	comp=Z,2µm,1.5s						
L46A	Eue Claire	24.68	355	P	P	02 56 52.6	0.0
	baz=174,SNR=50						
L46A				P	P	02 56 52.6	0.0
	baz=174,SNR=50						
L46A				S	S	03 01 19.6	+4.6
	baz=174						
L46A				S	S	03 01 19.6	+4.6
	baz=174						
PSWB	Penn State Wil	24.70	14	P	P	02 56 54.2	+1.3
	baz=197						
PSWB				S	S	03 01 18.9	+3.5
	baz=197						
N38A	Joes South For	24.81	342	IAmb	IAmb	02 57 24.1	
	comp=Z,3µm,0.9s						
N38A	Joes South For	24.81	342	P	P	02 56 54.3	+0.5
	baz=157,SNR=197						
N38A				S	S	03 01 13.3	-3.9
	baz=157						
FOR	Fordham	24.83	18	P	P	02 56 55.4	+1.4
	baz=202,SNR=34						
FOR				S	S	03 01 23.8	+6.4
	baz=202						
ODNJ	Ogdensburg	24.84	16	P	P	02 56 53.6	-0.4
ODNJ	Ogdensburg	24.84	16	P	P	02 56 55.6	+1.6
	baz=201,SNR=60						
ODNJ				S	S	03 01 21.1	+3.5
	baz=201						
ERPA	Erie	24.84	6	IAmb	IAmb	02 57 17.4	
	comp=Z,4µm,1.8s						
ERPA	Erie	24.84	6	P	P	02 56 54.8	+0.7
	baz=188,SNR=88						
ERPA				S	S	03 01 16.7	-1.0
	baz=188						
ERPA	Erie	24.84	6	P	P	02 56 55.0	+0.9
	baz=188,SNR=88						
ERPA				S	S	03 01 26.7	+9.0
	baz=188						
R32A	Long Quarter,	24.85	331	P	P	02 56 54.2	0.0
	baz=143,SNR=257						
R32A				S	S	03 01 20.0	+2.1
	baz=143						
AAM	Ann Arbor	24.85	360	IAmb	IAmb	02 57 00.7	
	comp=Z,2µm,1.4s						
AAM	Ann Arbor	24.85	360	P	P	02 56 55.1	+1.0
	baz=180,SNR=25						
AAM				S	S	03 01 16.7	-1.0
	baz=180						
AAM	Ann Arbor	24.85	360	P	P	02 56 54.7	+0.6
	baz=180,SNR=25						
AAM				S	S	03 01 19.3	+1.6
	baz=180						
ATAH	Atahualpa	24.86	168	LR	LR	03 06 32.6	
	comp=Z,2112µm,18.9s,baz=350,slow=36						
PAL	Palisades	24.96	17	IAmb	IAmb	02 57 10.7	
	comp=Z,2µm,1.2s						
PAL	Palisades	24.96	17	P	P	02 56 56.4	+1.3
	baz=202,SNR=56						
PAL				S	S	03 01 25.9	+6.4
	baz=202						
PAL	Palisades	24.96	17	P	P	02 56 56.9	+1.8
	baz=202,SNR=56						
PAL				S	S	03 01 24.0	+4.6
	baz=202						
KSPA	Keystone Colle	25.00	14	IAmb	IAmb	02 57 11.3	
	comp=Z,3µm,1.5s						
KSPA	Keystone Colle	25.00	14	P	P	02 56 57.5	+2.0
	baz=198,SNR=133						
KSPA				S	S	03 01 26.3	+6.1
	baz=198						
L44A	Lake County Fo	25.01	352	P	P	02 56 53.9	-1.6
L44A				IAmb	IAmb	02 57 09.6	
	comp=Z,5µm,1.6s						
L44A				IAMs_20	IAMs_20	03 05 57.4	
	comp=Z,1514µm,21.0s						
L44A	Lake County Fo	25.01	352	P	P	02 56 55.6	0.0
	baz=170,SNR=64						
L44A				S	S	03 01 15.8	-4.5
	baz=170						
L44A	Lake County Fo	25.01	352	P	P	02 56 55.3	-0.3
	baz=170,SNR=64						
L44A				S	S	03 01 24.5	+4.1
	baz=170						
N62A	Caumsett State	25.02	18	IAmb	IAmb	02 57 11.1	
	comp=Z,2µm,1.3s						
N62A	Caumsett State	25.02	18	P	P	02 56 57.0	+1.4
	baz=203,SNR=15						
N62A				P	P	02 56 57.0	+1.4
	baz=203,SNR=15						
N62A				S	S	03 01 25.5	+5.1
	baz=203						
N62A				S	S	03 01 25.5	+5.1
	baz=203						
L42A	Oliver, Polo	25.11	349	IAmb	IAmb	02 57 03.0	
	comp=Z,1µm,1.1s						
L42A	Oliver, Polo	25.11	349	P	P	02 56 56.8	+0.3
	baz=166,SNR=176						
L42A				S	S	03 01 19.8	-2.2
	baz=166						
L56A	Greenwood	25.20	10	P	P	02 56 58.8	+1.5
	baz=194,SNR=107						
L56A				P	P	02 56 58.8	+1.5
	baz=194,SNR=107						
L56A				S	S	03 01 28.1	+4.6
	baz=194						
L56A				S	S	03 01 28.1	+4.6
	baz=194						
TBTG	Tabatinga, AM	25.27	147⇑	eP	P	02 56 56.9	-1.3
TBTG	Tabatinga, AM	25.27	147	eP	P	02 56 59.4	+1.2
WSPT	Westport, CT	25.28	18	P	P	02 56 58.4	+0.4
WSPT				IAMs_20	IAMs_20	03 07 12.0	
	comp=Z,1553µm,20.0s						
EPT	El Paso	25.30	309	IAMs_20	IAMs_20	03 08 35.9	
	comp=Z,1399µm,21.0s						
KIDD	KIDD Seismic O	25.30	309	P	P	02 56 57.2	-1.2
	baz=119,SNR=64						
KIDD				S	S	03 01 29.4	+4.0
	baz=119						
WVNY	West Valley, N	25.30	8	P	P	02 56 59.5	+1.3
	baz=191,SNR=223						
WVNY				S	S	03 01 26.2	+1.2
	baz=191						
BRNY	Black Rk. Fore	25.31	17	P	P	02 56 59.8	+1.6
	baz=202,SNR=41						
BRNY				S	S	03 01 23.5	-1.6
	baz=202						
K50A	Casco	25.33	1	IAmb	IAmb	02 57 26.8	
	comp=Z,1µm,1.1s						
K50A	Casco	25.33	1	P	P	02 56 59.1	+0.6
	baz=182,SNR=58						
K50A				P	P	02 56 59.1	+0.6
	baz=182,SNR=58						
K50A				S	S	03 01 24.6	-0.8
	baz=182						
K50A				S	S	03 01 24.6	-0.8
	baz=182						
L40A	Anamosa	25.48	347	IAmb	IAmb	02 57 30.5	
	comp=Z,3µm,1.2s						
L40A	Anamosa	25.48	347	P	P	02 57 01.0	+1.1
	baz=163,SNR=231						
L40A				S	S	03 01 25.9	-1.9
	baz=163						
YLE	Yale	25.53	19	IAmb	IAmb	02 57 17.2	
	comp=Z,3µm,1.7s						
YLE				IAMs_20	IAMs_20	03 07 28.9	
	comp=Z,1451µm,20.0s						
SLBS	Sierra La Lagu	25.54	289	P	P	02 57 01.3	+0.6
BINY	Binghamton	25.57	13	IAmb	IAmb	02 57 27.6	
	comp=Z,3µm,1.4s						
BINY	Binghamton	25.57	13	P	P	02 57 01.8	+1.1
	baz=197,SNR=76						
BINY				S	S	03 01 32.5	+3.3
	baz=197						
BINY	Binghamton	25.57	13	P	P	02 57 02.2	+1.5
	baz=197,SNR=76						
BINY				S	S	03 01 33.3	+4.1
	baz=197						
K43A	Burlington	25.59	352	P	P	02 57 01.3	+0.5
	baz=169,SNR=47						
K43A				S	S	03 01 32.4	+3.0
	baz=169						
NPNY	Mohonk Preserv	25.59	16	P	P	02 57 00.2	-0.7
	baz=201,SNR=49						
NPNY				S	S	03 01 34.4	+4.9
	baz=201						
CBKS	Cedar Bluff	25.65	330	IAmb	IAmb	02 57 10.2	
	comp=Z,4µm,1.4s						
CBKS	Cedar Bluff	25.65	330	P	P	02 57 01.2	-0.2
	baz=142,SNR=156						
CBKS				S	S	03 01 26.0	-4.6
	baz=142						
CBKS	Cedar Bluff	25.65	330	P	P	02 57 01.4	0.0
	baz=142,SNR=156						
CBKS				S	S	03 01 33.7	+3.1
	baz=142						
N35A	Tabor	25.65	338	P	P	02 57 01.6	+0.2
	baz=152,SNR=157						
N35A				S	S	03 01 26.4	-4.1
	baz=152						
L59A	Walton	25.77	15	P	P	02 57 04.0	+1.5
	baz=199,SNR=114						
L59A				P	P	02 57 04.0	+1.5
	baz=199,SNR=114						
L59A				S	S	03 01 35.1	+2.6
	baz=199						
L59A				S	S	03 01 35.1	+2.6
	baz=199						
J47A	Sumner	25.81	358	IAmb	IAmb	02 57 33.0	
	comp=Z,3µm,1.4s						
J47A	Sumner	25.81	358	P	P	02 57 02.7	-0.1
	baz=177,SNR=64						
J47A				P	P	02 57 02.7	-0.1
	baz=177,SNR=64						
J47A				S	S	03 01 36.4	+3.4
	baz=177						
J47A				S	S	03 01 36.4	+3.4
	baz=177						
SCIA	State Center	25.84	343	P	P	02 57 02.4	-0.6
SCIA				IAMs_20	IAMs_20	03 06 54.2	
	comp=Z,1268µm,21.0s						
SCIA	State Center	25.84	343	P	P	02 57 03.2	+0.1
	baz=158,SNR=83						
SCIA				S	S	03 01 31.3	-2.1
	baz=158						
SCIA	State Center	25.84	343	P	P	02 57 03.7	+0.7
	baz=158,SNR=83						
SCIA				S	S	03 01 30.0	-3.4
	baz=158						
M63A	Gales Ferry	25.89	20	P	P	02 57 05.4	+1.8
	baz=206,SNR=13						
M63A				P	P	02 57 05.4	+1.8
	baz=206,SNR=13						
M63A				S	S	03 01 39.0	+4.7
	baz=206						
M63A				S	S	03 01 39.0	+4.7
	baz=206						
LPIG	La Paz	25.93	289	LR	LR	03 08 50.9	
	comp=Z,996µm,18.9s,baz=108,slow=40						
K57A	Scipio Center	25.97	12	P	P	02 57 05.2	+0.9
	baz=195,SNR=142						
K57A				S	S	03 01 37.8	+2.3
	baz=195						
JFWS	Jewell Farm	26.10	349	IAMs_20	IAMs_20	03 07 20.3	
	comp=Z,1187µm,18.0s						
JFWS	Jewell Farm	26.10	349	P	P	02 57 04.9	-0.6
	baz=165,SNR=118						
JFWS				S	S	03 01 36.1	-1.5
	baz=165						
JFWS	Jewell Farm	26.10	349	P	P	02 57 05.2	-0.3
	baz=165,SNR=118						
JFWS				S	S	03 01 41.7	+4.1
	baz=165						
H06S1	SOCORRO T	26.14	277	P	P	02 57 07.2	+1.1
H06S1	SOCORRO T	26.14	277	P	P	02 57 07.2	+1.1
	SNR=112						
H06N1	SOCORRO T-PHAS	26.17	278	P	P	02 57 06.3	0.0
	SNR=129						
N33B	J Bar K, Exete	26.22	335	P	P	02 57 07.4	+0.8
	baz=149,SNR=50						
N33B				S	S	03 01 43.6	+4.0
	baz=149						
J55A	Hilton	26.26	9	P	P	02 57 07.6	+0.8
	baz=192,SNR=48						
J55A				P	P	02 57 07.6	+0.8
	baz=192,SNR=48						
J55A				S	S	03 01 38.6	-1.4
	baz=192						
J55A				S	S	03 01 38.6	-1.4
	baz=192						
HCNY	Howe Caverns	26.41	15	P	P	02 57 09.7	+1.5
	baz=200,SNR=81						
HCNY				S	S	03 01 36.2	-6.2
	baz=200						
K38A	Parkersburg	26.41	344	P	P	02 57 08.0	-0.3
	baz=160,SNR=53						
K38A				S	S	03 01 41.7	-0.8
	baz=160						
J56A	Wolcott	26.43	11	IAmb	IAmb	02 57 41.7	
	comp=Z,2µm,1.4s						
J56A	Wolcott	26.43	11	P	P	02 57 09.1	+0.7
	baz=194,SNR=38						
J56A				P	P	02 57 09.1	+0.7
	baz=194,SNR=38						
J56A				S	S	03 01 46.6	+3.9
	baz=194						
J56A				S	S	03 01 46.6	+3.9
	baz=194						
I49A	Point Hope	26.49	1	IAmb	IAmb	02 57 29.0	
	comp=Z,2µm,0.9s						
I49A	Point Hope	26.49	1	P	P	02 57 09.2	+0.2
	baz=182,SNR=148						
I49A				P	P	02 57 09.2	+0.2
	baz=182,SNR=148						
I49A				S	S	03 01 38.8	-4.9
	baz=182						
I49A				S	S	03 01 38.8	-4.9
	baz=182						
M65A	Busby, Falmout	26.51	22	P	P	02 57 10.5	+1.3
	baz=208,SNR=5.8						
M65A				S	S	03 01 46.9	+2.9
	baz=208						
BRYW	Bryant College	26.52	20	P	P	02 57 08.2	-1.1
BRYW				IAMs_20	IAMs_20	03 07 24.8	
	comp=Z,1326µm,20.0s						
QUA2	Belchertown	26.59	19	IAMs_20	IAMs_20	03 08 30.7	
	comp=Z,1264µm,20.0s						
QUA2	Belchertown	26.59	19	P	P	02 57 11.1	+1.2
	baz=204,SNR=62						
QUA2				S	S	03 01 45.3	0.0
	baz=204						
121A	Cookes Peak, D	26.61	309	IAMs_20	IAMs_20	03 09 16.7	
	comp=Z,1212µm,21.0s						
121A	Cookes Peak, D	26.61	309	P	P	02 57 10.9	+0.4
	baz=119,SNR=275						
121A				S	S	03 01 49.7	+3.4
	baz=119						
121A	Cookes Peak, D	26.61	309	P	P	02 57 10.5	0.0
	baz=119,SNR=275						
121A				S	S	03 01 46.9	+0.6
	baz=119						
TRY	Troy	26.63	16	IAMs_20	IAMs_20	03 07 54.6	
	comp=Z,1785µm,20.0s						
TRY	Troy	26.63	16	P	P	02 57 11.9	+1.7
	baz=201,SNR=36						
TRY				S	S	03 01 43.8	-2.1
	baz=201						
L61B	Northampton	26.65	18	IAMs_20	IAMs_20	03 07 53.1	
	comp=Z,1266µm,20.0s						
L61B	Northampton	26.65	18	P	P	02 57 11.8	+1.4
	baz=204,SNR=60						
L61B				S	S	03 01 49.3	+3.1
	baz=204						
L61B	Northampton	26.65	18	P	P	02 57 10.8	+0.4
	baz=204,SNR=60						
L61B				S	S	03 01 52.3	+6.1
	baz=204						
I45A	Fountain	26.68	356	P	P	02 57 10.3	-0.4
	baz=174,SNR=13						
I45A				P	P	02 57 10.3	-0.4
	baz=174,SNR=13						
I45A				S	S	03 01 44.3	-2.5
	baz=174						
I45A				S	S	03 01 44.3	-2.5
	baz=174						
J57A	Williamstown	26.72	12	P	P	02 57 11.7	+0.6
	baz=196,SNR=85						
J57A				P	P	02 57 11.7	+0.6
	baz=196,SNR=85						
J57A				S	S	03 01 52.1	+4.7
	baz=196						
J57A				S	S	03 01 52.1	+4.7
	baz=196						
Y22A	Socorro	26.73	313	P	P	02 57 11.0	-0.6

Y22A baz=122,SNR=232 S **S** **03 01 49.8 +1.7**
L64A **Middleborough** **26.77 21** P **P** **02 57 12.8 +1.2**
L64A baz=122,SNR=14 P **P** **02 57 12.8 +1.2**
L64A baz=208,SNR=14 S **S** **03 01 54.4 +6.2**
L64A baz=208 S **S** **03 01 54.4 +6.2**
Y22D **IRIS PASSCAL I** **26.77 313** IAmb IAmb 02 57 29.8
Y22D comp=Z,2µm,1.1s baz=208
Y22D **IRIS PASSCAL I** **26.77 313** P **P** **02 57 11.8 -0.1**
Y22D baz=122,SNR=16 S **S** **03 01 54.6 +5.9**
Y22D **IRIS PASSCAL I** **26.77 313** P **P** **02 57 11.4 -0.4**
Y22D baz=122,SNR=16 S **S** **03 01 53.9 +5.1**
Y22F **Passcal Instru** **26.77 313** P **P** **02 57 11.7 -0.2**
Y22F baz=122,SNR=15 S **S** **03 01 51.7 +3.0**
J58A **Remsen** **26.83 13** IAmb IAmb 02 57 39.6
J58A comp=Z,3µm,1.8s baz=122
J58A **Remsen** **26.83 13** P **P** **02 57 12.9 +0.8**
J58A baz=198,SNR=73 P **P** **02 57 12.9 +0.8**
J58A baz=198,SNR=73 S **S** **03 01 48.4 -0.7**
J58A baz=198 S **S** **03 01 48.4 -0.7**
I42A **Draeger Farm,** **26.83 351** IAmb IAmb 02 57 26.9
I42A comp=Z,3µm,1.6s baz=198
I42A IAMs_20 IAMs_20 03 07 03.5
I42A **Draeger Farm,** **26.83 351** P **P** **02 57 12.2 +0.1**
I42A comp=Z,1244µm,20.0s baz=168,SNR=121 S **S** **03 01 46.5 -2.6**
L34A **Svendsen Farm,** **26.88 338** IAmb IAmb 02 57 34.4
L34A **Svendsen Farm,** **26.88 338** P **P** **02 57 11.9 -0.7**
L34A comp=Z,2µm,1.4s baz=152,SNR=20 S **S** **03 01 45.9 -4.1**
ANMO **Albuquerque** **26.94 315** P **P** **02 57 12.8 -0.6**
ANMO baz=152 IAmb IAmb 02 57 16.8
ANMO **Albuquerque** **26.94 315** IAMs_20 IAMs_20 03 08 14.1
ANMO comp=Z,3µm,1.8s comp=Z,1865µm,22.0s
ANMO **Albuquerque** **26.94 315** P **P** **02 57 13.6 +0.2**
ANMO baz=125 S **S** **03 01 56.1 +4.7**
ANMO **Albuquerque** **26.94 315** P **P** **02 57 13.9 +0.6**
ANMO baz=125,SNR=1000 S **S** **03 01 50.8 -0.6**
ANMO **Albuquerque** **26.94 315** *c i* P **P** **02 57 13.5 +0.2**
ANMO baz=125 pmax pmax
ANMO comp=Z,2µm,1.7s MLR MLR
T25A **Trinidad** **26.97 321** S **S** **03 01 58.3 +6.3**
K62A **Royalston** **26.98 19** P **P** **02 57 14.5 +1.1**
K62A comp=Z,1940µm,19.0s baz=131 P **P** **02 57 14.5 +1.1**
K62A baz=204,SNR=27 S **S** **03 01 56.2 +4.8**
K62A baz=204 S **S** **03 01 56.2 +4.8**
WES **Weston** **27.01 20** IAMs_20 IAMs_20 03 07 39.7
WES **Weston** **27.01 20** P **P** **02 57 14.8 +1.1**
WES comp=Z,1386µm,20.0s baz=206,SNR=14 S **S** **03 01 53.7 +1.8**
BCX **Boston College** **27.02 20** IAMs_20 IAMs_20 03 07 39.9
BOAV **Boa Vista** **27.02 121** P **P** **02 57 14.2 +0.1**
BOAV comp=Z,1267µm,20.0s baz=206 IAmb IAmb 02 57 20.9
BOAV **Boa Vista** **27.02 121** ⇑ *i* P **P** **02 57 15.0 +0.9**
BOAV **Boa Vista** **27.02 121** *e* P **P** **02 57 15.2 +1.1**
HRV **Adam Dziewonsk** **27.04 20** P **P** **02 57 14.1 +0.1**
HRV **Adam Dziewonsk** **27.04 20** P **P** **02 57 15.4 +1.5**
HRV comp=Z,4µm,1.9s baz=206 S **S** **03 01 58.7 +6.2**
HRV **Adam Dziewonsk** **27.04 20** P **P** **02 57 15.0 +1.0**
HRV baz=206,SNR=12 S **S** **03 01 57.7 +5.3**
HRV **Adam Dziewonsk** **27.04 20** P **P** **02 57 14.1 +0.1**
HRV baz=206 pmax pmax
HRV comp=Z,815nm,1.6s MLR MLR
BGNE **Belgrade** **27.07 335** IAmb IAmb 02 57 31.5
BGNE comp=Z,872µm,20.0s comp=Z,3µm,1.1s
BGNE **Belgrade** **27.07 335** P **P** **02 57 14.4 +0.1**
BGNE baz=148,SNR=38 S **S** **03 01 47.6 -5.4**
BGNE **Belgrade** **27.07 335** P **P** **02 57 14.1 -0.1**
BGNE baz=148 S **S** **03 01 48.5 -4.5**
J59A **Piesco** **27.10 14** P **P** **02 57 15.3 +0.7**
J59A baz=148,SNR=38 P **P** **02 57 15.3 +0.7**
J59A baz=199,SNR=59 S **S** **03 01 51.8 -1.7**
J59A baz=199 S **S** **03 01 51.8 -1.7**
I40A **Norwalk** **27.12 349** IAmb IAmb 02 57 46.6
I40A **Norwalk** **27.12 349** P **P** **02 57 15.3 +0.6**
I40A comp=Z,2µm,1.3s baz=199 S **S** **03 01 49.0 -4.6**
CZSB **Cruzeiro do Su** **27.12 156** IAMs_20 IAMs_20 03 09 08.5
CZSB **Cruzeiro do Su** **27.12 156** ⇑ *i* P **P** **02 57 15.1 +0.1**
319A **Douglas** **27.23 306** IAmb IAmb 02 57 39.6
ACCN comp=Z,1305µm,20.0s comp=Z,4µm,1.5s baz=165
ACCN **Adirondack Com** **27.24 16** P **P** **02 57 17.2 +1.5**
ACCN baz=201,SNR=49 S **S** **03 01 59.5 +3.9**
H43A **Windswept, Lux** **27.25 353** P **P** **02 57 15.9 +0.1**
H43A baz=171,SNR=34 S **S** **03 01 55.9 +0.1**
KSCO **Kaye Shedlock'** **27.26 326** IAmb IAmb 02 57 55.8
KSCO **Kaye Shedlock'** **27.26 326** P **P** **02 57 16.2 0.0**
KSCO comp=Z,3µm,1.4s baz=171 S **S** **03 02 00.9 +4.6**
KSCO **Kaye Shedlock'** **27.26 326** P **P** **02 57 15.9 -0.3**
KSCO baz=137,SNR=80 S **S** **03 01 59.4 +3.0**
WCNY **West Carthage** **27.34 12** P **P** **02 57 17.1 +0.5**
WCNY baz=137 S **S** **03 01 56.7 -0.4**
GLMI **Grayling** **27.39 358** IAmb IAmb 02 57 53.2
GLMI baz=196 P **P** **02 57 17.3 +0.3**
GLMI comp=Z,3µm,1.3s baz=178,SNR=27 S **S** **03 01 55.9 -1.9**
GLMI **Grayling** **27.39 358** P **P** **02 57 17.5 +0.5**
GLMI baz=178 S **S** **03 02 00.8 +2.9**
J61A **Chester** **27.51 17** P **P** **02 57 18.8 +0.6**
J61A baz=178,SNR=27 IAmb IAmb 02 57 37.5
comp=Z,2µm,1.8s baz=178,SNR=27

J61A **Chester** **27.51 17** P **P** **02 57 20.0 +1.9**
J61A baz=203,SNR=48 P **P** **02 57 20.0 +1.9**
J61A baz=203,SNR=48 S **S** **03 02 04.7 +4.9**
J61A baz=203 S **S** **03 02 04.7 +4.9**
SADO **Sadowa** **27.56 7** LR LR 03 08 45.9
G45A **Suttons Bay** **27.65 357** IAmb IAmb 02 57 50.2
G45A **Suttons Bay** **27.65 357** P **P** **02 57 19.0 -0.4**
G45A baz=176,SNR=50 P **P** **02 57 19.0 -0.4**
G45A baz=176,SNR=50 S **S** **03 01 58.5 -3.5**
G45A baz=176 S **S** **03 01 58.5 -3.5**
NCB **Newcomb** **27.65 15** P **P** **02 57 20.7 +1.2**
NCB baz=176 S **S** **03 02 03.2 +1.1**
HSIG **27.70 300** IAmb IAmb 02 57 23.1
HSIG comp=Z,2µm,1.4s IAMs_20 IAMs_20 03 09 10.0
UNH **University of** **27.79 20** P **P** **02 57 22.4 +1.7**
UNH comp=Z,2173µm,21.0s baz=207,SNR=9.9 S **S** **03 02 06.3 +2.1**
I37A **Lemond, Waseca** **27.85 345** IAmb IAmb 02 58 03.7
I37B **Waseca** **27.85 345** P **P** **02 57 22.4 +1.2**
I37B comp=Z,3µm,1.9s baz=160,SNR=39 S **S** **03 02 04.8 -0.4**
TEFE **Tefe** **27.87 136** *e* P **P** **02 57 23.6 +1.9**
HNH **Hanover** **27.91 18** IAMs_20 IAMs_20 03 08 51.6
HNH comp=Z,1332µm,20.0s baz=160 P **P** **02 57 23.8 +2.0**
HNH baz=203,SNR=19 S **S** **03 02 08.3 +2.2**
MCVT **Middlebury Col** **27.95 16** P **P** **02 57 23.9 +1.8**
MCVT baz=202,SNR=51 S **S** **03 02 13.2 +6.5**
SDCO **Great Sand Dun** **28.03 321** IAMs_20 IAMs_20 03 10 12.7
SDCO comp=Z,1206µm,22.0s baz=202 P **P** **02 57 23.4 +0.2**
SDCO baz=130,SNR=624 S **S** **03 02 14.7 +6.0**
SDCO **Great Sand Dun** **28.03 321** P **P** **02 57 24.2 +0.9**
SDCO baz=130,SNR=624 S **S** **03 02 10.8 +2.1**
LONY **Lake Ozonia** **28.18 14** IAmb IAmb 02 57 51.6
LONY comp=Z,3µm,1.7s IAMs_20 IAMs_20 03 08 12.6
LONY **Lake Ozonia** **28.18 14** P **P** **02 57 25.3 +1.1**
LONY baz=198,SNR=99 S **S** **03 02 11.8 +1.4**
SRIG **Santa Rosalia** **28.31 296** IAMs_20 IAMs_20 03 09 27.4
I62A **Tamworth** **28.35 19** P **P** **02 57 27.4 +1.8**
I62A comp=Z,2189µm,20.0s baz=205,SNR=18 P **P** **02 57 27.4 +1.8**
I62A baz=205,SNR=18 S **S** **03 02 16.8 +3.8**
I62A baz=205 S **S** **03 02 16.8 +3.8**
VT1 **Waterbury** **28.36 16** IAMs_20 IAMs_20 03 08 46.2
VT1 **Waterbury** **28.36 16** P **P** **02 57 27.0 +1.2**
VT1 comp=Z,1773µm,20.0s baz=202,SNR=37 S **S** **03 02 12.2 -1.0**
G40A **Rib Lake** **28.38 350** P **P** **02 57 24.8 -1.1**
G40A **Rib Lake** **28.38 350** P **P** **02 57 26.6 +0.7**
G40A baz=202 S **S** **03 02 10.5 -3.0**
WBO **Williamsburg** **28.39 12** IAmb IAmb 02 57 53.3
OGNE **Ogallala** **28.41 330** IAMs_20 IAMs_20 03 10 21.6
OGNE **Ogallala** **28.41 330** P **P** **02 57 26.1 -0.3**
OGNE baz=166 S **S** **03 02 18.2 +3.9**
OGNE **Ogallala** **28.41 330** P **P** **02 57 26.7 +0.3**
OGNE baz=140,SNR=60 S **S** **03 02 14.3 0.0**
LBNH **Lisbon** **28.51 18** IAmb IAmb 02 57 47.4
LBNH comp=Z,2µm,1.7s IAMs_20 IAMs_20 03 09 00.4
LBNH **Lisbon** **28.51 18** P **P** **02 57 29.0 +2.0**
LBNH comp=Z,1264µm,20.0s baz=204,SNR=42 S **S** **03 02 22.3 +6.7**
LBNH **Lisbon** **28.51 18** P **P** **02 57 27.6 +0.5**
LBNH baz=204,SNR=42 S **S** **03 02 13.6 -1.9**
ECSD **EROS Data Cent** **28.53 340** IAMs_20 IAMs_20 03 08 51.6
ECSD **EROS Data Cent** **28.53 340** P **P** **02 57 26.6 -0.7**
ECSD comp=Z,990µm,20.0s baz=153,SNR=98 S **S** **03 02 09.5 -6.5**
ECSD **EROS Data Cent** **28.53 340** P **P** **02 57 27.1 -0.2**
ECSD baz=153,SNR=98 S **S** **03 02 11.8 -4.2**
F42A **Maple Grove Fa** **28.57 353** P **P** **02 57 27.8 +0.1**
F42A baz=153 S **S** **03 02 16.0 -0.5**
FRNY **Flat Rock** **28.62 15** P **P** **02 57 28.6 +0.6**
FRNY baz=171,SNR=33 S **S** **03 02 23.9 +6.6**
Q24A **Divide** **28.63 323** IAmb IAmb 02 57 55.2
Q24A comp=Z,2µm,1.6s baz=200 P **P** **02 57 28.5 -0.1**
Q24A baz=133,SNR=88 S **S** **03 02 24.7 +6.5**
K30B **Basset** **28.72 335** IAmb IAmb 02 58 05.6
K30B **Basset** **28.72 335** P **P** **02 57 29.5 +0.4**
K30B comp=Z,3µm,1.3s baz=147,SNR=124 S **S** **03 02 17.1 -1.9**
I63A **Otisfield** **28.74 20** P **P** **02 57 30.6 +1.5**
I63A baz=147 P **P** **02 57 30.6 +1.5**
I63A baz=206,SNR=20 S **S** **03 02 20.4 +1.1**
I63A baz=206,SNR=20 S **S** **03 02 20.4 +1.1**
TUC **Tucson** **28.78 306** P **P** **02 57 29.1 -0.7**
TUC baz=206 IAMs_20 IAMs_20 03 10 37.3
TUC **Tucson** **28.78 306** P **P** **02 57 29.7 0.0**
TUC comp=Z,1182µm,22.0s baz=114 S **S** **03 02 26.5 +6.2**
TUC **Tucson** **28.78 306** P **P** **02 57 29.1 -0.7**
TUC baz=114 pmax pmax
TUC comp=Z,742nm,1.2s MLR MLR
S22A **4UR Ranch, Cre** **28.84 319** IAmb IAmb 02 58 24.4
S22A **4UR Ranch, Cre** **28.84 319** P **P** **02 57 30.8 +0.3**
S22A comp=Z,2µm,1.4s baz=128,SNR=334 S **S** **03 02 29.5 +7.9**
baz=128

SPMN **Marine on St.** **28.84 346** P **P** **02 57 29.8 -0.2**
SPMN baz=161,SNR=91 S **S** **03 02 17.0 -3.8**
SPMN **Marine on St.** **28.84 346** P **P** **02 57 29.7 -0.4**
SPMN baz=161,SNR=91 S **S** **03 02 13.7 -7.1**
E46A **Sault Ste Mari** **28.92 359** IAmb IAmb 02 58 33.2
E46A **Sault Ste Mari** **28.92 359** P **P** **02 57 30.4 -0.4**
E46A comp=Z,1µm,1.4s baz=178,SNR=28 S **S** **03 02 21.9 -0.1**
COWI **Conover** **29.03 352** IAMs_20 IAMs_20 03 08 39.7
COWI **Conover** **29.03 352** P **P** **02 57 32.0 +0.3**
COWI comp=Z,1365µm,18.0s baz=169 S **S** **03 02 21.9 -1.9**
H62A **Milan** **29.04 18** P **P** **02 57 32.5 +0.7**
H62A baz=205,SNR=21 P **P** **02 57 32.5 +0.7**
H62A baz=205,SNR=21 S **S** **03 02 26.7 +2.8**
H62A baz=205 S **S** **03 02 26.7 +2.8**
E43A **Lone Tree Farm** **29.07 355** P **P** **02 57 31.9 -0.1**
E43A baz=205 S **S** **03 02 22.3 -2.0**
MNTQ **Montreal, Queb** **29.23 14** IAmb IAmb 02 58 00.2
BRIGG **Briggsdale** **29.30 326** IAmb IAmb 02 58 21.2
W18A **Petrified Fore** **29.30 312** IAmb IAmb 02 57 54.8
W18A **Petrified Fore** **29.30 312** P **P** **02 57 34.9 +0.4**
W18A comp=Z,2µm,1.3s baz=120,SNR=76 S **S** **03 02 31.2 +2.6**
ISCO **Idaho Springs** **29.46 324** IAmb IAmb 02 58 04.7
ISCO comp=Z,2µm,1.4s IAMs_20 IAMs_20 03 10 45.5
ISCO **Idaho Springs** **29.46 324** P **P** **02 57 36.3 +0.3**
ISCO comp=Z,2085µm,22.0s baz=133,SNR=322 S **S** **03 02 31.5 +0.3**
ISCO **Idaho Springs** **29.46 324** P **P** **02 57 36.0 +0.1**
ISCO baz=133,SNR=322 S **S** **03 02 29.1 -2.1**
WVL **Waterville** **29.50 20** IAMs_20 IAMs_20 03 08 53.6
WVL **Waterville** **29.50 20** P **P** **02 57 38.1 +2.2**
WVL comp=Z,1025µm,20.0s baz=208,SNR=26 S **S** **03 02 34.5 +3.4**
MVCO **Mesa Verde** **29.59 317** IAMs_20 IAMs_20 03 09 53.9
MVCO **Mesa Verde** **29.59 317** P **P** **02 57 37.1 +0.1**
MVCO comp=Z,1424µm,22.0s baz=125,SNR=237 S **S** **03 02 38.3 +5.2**
F36A **Milaca** **29.61 346** P **P** **02 57 36.2 -0.6**
F36A baz=125 baz=160,SNR=160 S **S** **03 02 28.0 -5.0**
TRQ **Mont Tremblant** **29.71 13** IAmb IAmb 02 58 04.3
SMCO **Snowmass** **29.83 321** IAMs_20 IAMs_20 03 11 25.5
D41A **Chassel** **29.90 353** IAmb IAmb 02 58 24.7
D41A **Chassel** **29.90 353** P **P** **02 57 39.6 +0.2**
D41A comp=Z,1942µm,22.0s baz=160 S **S** **03 02 35.2 -2.2**
NNA **Nana** **29.90 167** P **P** **02 57 40.5 +0.7**
NNA **Nana** **29.90 167** *ce* P **P** **02 57 42.9 +3.2**
NNA baz=170 pmax pmax
NNA comp=Z,814nm,2.5s MLR MLR
NNA **Nana** **29.90 167** LR LR 03 09 51.4
NNA **Nana** **29.90 167** ⇑ *e* P **P** **02 57 41.0 +1.2**
E38A **The Farm, Brul** **29.91 349** IAMs_20 IAMs_20 03 08 59.0
E38A **The Farm, Brul** **29.91 349** P **P** **02 57 39.4 -0.1**
E38A comp=Z,482µm,19.5s,baz=343,slow=37 S **S** **03 02 37.1 -0.4**
SUSD **Miller** **29.96 338** IAmb IAmb 02 57 55.9
SUSD comp=Z,951µm,19.0s baz=164 IAMs_20 IAMs_20 03 10 24.6
SUSD **Miller** **29.96 338** P **P** **02 57 39.4 -0.7**
SUSD comp=Z,1267µm,20.0s baz=149,SNR=13 S **S** **03 02 35.6 -2.9**
SUSD **Miller** **29.96 338** P **P** **02 57 39.5 -0.5**
SUSD baz=149,SNR=13 S **S** **03 02 34.7 -3.8**
X16A **Lo Mia Camp, P** **30.19 310** IAmb IAmb 02 58 44.1
X16A comp=Z,835nm,0.9s baz=149 IAMs_20 IAMs_20 03 12 01.5
214A **Organ Pipe Nat** **30.23 304** IAmb IAmb 02 58 08.0
214A comp=Z,1µm,1.7s comp=Z,1025µm,20.0s IAMs_20 IAMs_20 03 11 49.6
214A **Organ Pipe Nat** **30.23 304** P **P** **02 57 42.7 +0.2**
214A comp=Z,1µm,1.2s comp=Z,1089µm,19.0s baz=112,SNR=40 S S 03 02 55.0 +12
PKME **Peaks-Kenny Pk** **30.24 20** IAMs_20 IAMs_20 03 09 27.2
PKME **Peaks-Kenny Pk** **30.24 20** P **P** **02 57 44.6 +2.1**
PKME comp=Z,1114µm,21.0s baz=208,SNR=32 S **S** **03 02 44.7 +1.9**
PKME **Peaks-Kenny Pk** **30.24 20** P **P** **02 57 42.2 -0.3**
PKME baz=208,SNR=32 S **S** **03 02 42.0 -0.8**
F33A **5 Mile Ranch,** **30.32 342** IAMs_20 IAMs_20 03 09 44.1
F33A **5 Mile Ranch,** **30.32 342** P **P** **02 57 42.3 -0.9**
F33A comp=Z,987µm,20.0s baz=155,SNR=88 S **S** **03 02 36.1 -8.0**
MACA **Manacapuru-AM** **30.38 130** IAmb IAmb 02 58 20.8
MACA **Manacapuru-AM** **30.38 130** *e* P **P** **02 57 45.3 +1.4**
N23A **Red Feather La** **30.39 325** IAmb IAmb 02 58 31.1
N23A comp=Z,3µm,1.8s IAMs_20 IAMs_20 03 12 03.2
N23A **Red Feather La** **30.39 325** P **P** **02 57 44.8 +0.7**
N23A comp=Z,1300µm,22.0s baz=134,SNR=80 S **S** **03 02 52.6 +6.8**
EMMW **East Machias** **30.40 23** P **P** **02 57 42.5 -1.3**
EMMW baz=134 IAmb IAmb 02 58 09.3
EMMW **East Machias** **30.40 23** P **P** **02 57 45.8 +2.0**
EMMW comp=Z,6µm,3.3s baz=212 S **S** **03 02 48.9 +3.7**
PHWY **Pilot Hill** **30.42 326** IAMs_20 IAMs_20 03 12 06.8
WUAZ **Wupatki** **30.66 312** IAmb IAmb 02 57 52.4
WUAZ **Wupatki** **30.66 312** P **P** **02 57 47.2 +0.7**
WUAZ comp=Z,912nm,1.2s baz=119,SNR=83 S **S** **03 02 52.5 +2.6**
F63A **Nahmakanta, Br** **30.69 20** P **P** **02 57 47.1 +0.6**
F63A baz=119 baz=208,SNR=62 P **P** **02 57 47.1 +0.6**
F63A baz=208,SNR=62 S **S** **03 02 50.6 +0.7**
F63A baz=208 S **S** **03 02 50.6 +0.7**
G65A **Princeton** **30.78 22** P **P** **02 57 48.4 +1.2**
baz=208

baz=211,SNR=13
G65A P P 02 57 48.4 +1.2
baz=211,SNR=13
G65A S S 03 02 53.2 +2.0
baz=211
G65A S S 03 02 53.2 +2.0
baz=211
GGN Saint George 30.98 23 P P 02 57 48.8 -0.1
GGN IAmb IAmb 02 57 55.3
comp=Z,6μm,3.2s
F64A Sherman 31.08 21 IAmb IAmb 02 58 09.3
comp=Z,2μm,1.9s
F64A Sherman 31.08 21 P P 02 57 50.3 +0.4
baz=209,SNR=25
F64A P P 02 57 50.3 +0.4
baz=209,SNR=25
F64A S S 03 02 57.7 +1.8
baz=209
F64A S S 03 02 57.7 +1.8
baz=209
Y14A Wickenburg 31.15 308 P P 02 57 49.5 -1.2
EYMN Ely 31.19 350 IAmb IAmb 02 58 46.7
comp=Z,2μm,1.7s
EYMN Ely 31.19 350 IAMs_20 IAMs_20 03 09 37.9
comp=Z,1223μm,19.0s
EYMN Ely 31.19 350 P P 02 57 50.3 -0.5
baz=165,SNR=48
EYMN S S 03 02 54.1 -3.5
baz=165
EYMN Ely 31.19 350 P P 02 57 51.4 +0.6
baz=165,SNR=48
EYMN S S 03 02 52.1 -5.5
baz=165
O20A White River Ci 31.20 322 IAMs_20 IAMs_20 03 12 09.6
comp=Z,2030μm,22.0s
O20A White River Ci 31.20 322 P P 02 57 52.4 +1.2
baz=130,SNR=203
O20A S S 03 02 59.1 +0.8
baz=130
E62A Clayton Lake 31.38 19 P P 02 57 54.2 +1.8
baz=206,SNR=51
E62A P P 02 57 54.2 +1.8
baz=206,SNR=51
E62A S S 03 03 03.1 +2.5
baz=206
E62A S S 03 03 03.1 +2.5
baz=206
HMU Henry Mountain 31.47 316 IAMs_20 IAMs_20 03 10 51.0
comp=Z,1069μm,22.0s
E63A Oxbow 31.55 20 P P 02 57 55.7 +1.7
baz=208,SNR=43
E63A P P 02 57 55.7 +1.7
baz=208,SNR=43
E63A S S 03 03 03.6 +0.3
baz=208
E63A S S 03 03 03.6 +0.3
baz=208
SFX San Felipe 31.55 301 IAMs_20 IAMs_20 03 12 36.8
comp=Z,1157μm,21.0s
RWWY Rawlins 31.63 325 IAmb IAmb 02 58 22.4
comp=Z,2μm,1.6s
RWWY IAMs_20 IAMs_20 03 12 31.0
comp=Z,1445μm,22.0s
D32A Dogwood Acres, 31.71 342 IAMs_20 IAMs_20 03 10 34.7
comp=Z,963μm,19.0s
D32B Dogwood Acres, 31.71 342 P P 02 57 54.4 -1.0
baz=155,SNR=12
D32B S S 03 03 01.2 -4.5
baz=155
U15A North Rim 31.75 312 IAmb IAmb 02 58 24.8
comp=Z,2μm,1.7s
U15A IAMs_20 IAMs_20 03 12 47.6
comp=Z,1256μm,22.0s
RSSD Black Hills 31.80 331 P P 02 57 55.8 -0.7
RSSD Black Hills 31.80 331 P P 02 57 56.9 +0.4
baz=141
RSSD S S 03 03 07.4 -0.3
baz=141
RSSD Black Hills 31.80 331 P P 02 57 56.7 +0.2
baz=141,SNR=175
RSSD S S 03 03 08.4 +0.7
baz=141
RSSD Black Hills 31.80 331 P P 02 57 55.8 -0.7
RSSD pmax pmax
comp=Z,663nm,1.3s
RSSD MLR MLR
comp=Z,658μm,20.0s
PQI Presque Isle 31.90 20 IAMs_20 IAMs_20 03 10 27.2
comp=Z,893μm,20.0s
HAL Halifax 31.91 27 P P 02 57 56.4 -0.8
HAL Halifax 31.91 27 P P 02 57 56.4 -0.8
HAL pmax pmax
comp=Z,575nm,1.1s
K22A Casper 31.93 327 IAmb IAmb 02 59 05.2
comp=Z,2μm,1.7s
K22A IAMs_20 IAMs_20 03 13 06.9
comp=Z,1421μm,22.0s
K22A Casper 31.93 327 P P 02 57 58.0 +0.4
baz=135,SNR=56
K22A S S 03 03 10.8 +1.2
baz=135
K22A Casper 31.93 327 P P 02 57 57.9 +0.3
baz=135,SNR=56
K22A S S 03 03 11.3 +1.7
baz=135
D62A Allapoint, All 31.94 19 P P 02 57 59.1 +1.8
baz=207,SNR=66
D62A P P 02 57 59.1 +1.8
baz=207,SNR=66
D62A S S 03 03 10.8 +1.6
baz=207
D62A S S 03 03 10.8 +1.6
baz=207
ETMB Extrema 31.96 146 P P 02 57 56.6 -1.3
ETMB Extrema 31.96 146 *e*P P 02 57 57.3 -0.6
LMQ La Malbaie 31.98 17 IAmb IAmb 02 58 21.9
comp=Z,929nm,1.3s
SRU San Rafael Swe 31.98 318 IAmb IAmb 02 58 15.4
comp=Z,2μm,1.5s
SRU IAMs_20 IAMs_20 03 11 35.5
comp=Z,910μm,22.0s
B35A Bob, Littlefor 32.02 347 IAmb IAmb 02 58 04.2
comp=Z,1μm,1.7s
B35A IAMs_20 IAMs_20 03 10 53.8
comp=Z,971μm,18.0s
B35A Bob, Littlefor 32.02 347 P P 02 57 58.1 0.0
baz=161,SNR=104
B35A S S 03 03 05.8 -4.7
baz=161
LDAQ Lac Daran 32.12 16 IAmb IAmb 02 58 25.6
comp=Z,2μm,1.8s
PDMCI Parker Dam,Lak 32.16 308 P P 02 57 59.6 +0.1
baz=114,SNR=54
PDMCI S S 03 03 07.4 -5.7
baz=114
BLYC Blythe 32.23 306 P P 02 57 58.9 -1.3
BLYC IAmb IAmb 02 58 43.1
comp=Z,2μm,1.9s
BLYC IAMs_20 IAMs_20 03 12 09.7
comp=Z,969μm,21.0s
RDMU Red Mountain 32.26 321 P P 02 58 00.4 -0.2
PKCU Pink Cliffs 32.27 314 IAMs_20 IAMs_20 03 12 03.2
comp=Z,1006μm,22.0s
W13A Hualapai Mount 32.30 309 P P 02 57 59.9 -1.1
W13A IAmb IAmb 02 58 25.9
comp=Z,3μm,2.5s
W13A IAMs_20 IAMs_20 03 13 30.7
comp=Z,1388μm,21.0s
CPBX Cerro Prieto 32.37 304 P P 02 57 59.7 -1.6
LMN Caledonia Moun 32.38 25 P P 02 58 00.2 -1.1
LMN IAmb IAmb 02 58 07.1
comp=Z,838nm,1.3s
KNB Kanab 32.41 313 IAMs_20 IAMs_20 03 13 29.0
comp=Z,1005μm,22.0s
VTX Valle De La Tr 32.42 302 IAMs_20 IAMs_20 03 13 26.8
comp=Z,829μm,20.0s
E28A Huff 32.42 338 IAMs_20 IAMs_20 03 11 48.6
comp=Z,987μm,20.0s
E28A Huff 32.42 338 P P 02 58 01.6 -0.1
baz=148,SNR=45
E28A S S 03 03 15.8 -1.2
baz=148
AGMN Agassiz Nation 32.46 345 P P 02 58 00.1 -1.9
AGMN IAmb IAmb 02 58 19.9
comp=Z,1μm,1.2s
AGMN Agassiz Nation 32.46 345 P P 02 58 01.4 -0.6
baz=158,SNR=164
AGMN S S 03 03 11.6 -5.8
baz=158
AGMN Agassiz Nation 32.46 345 P P 02 58 01.3 -0.6
baz=158,SNR=164
AGMN S S 03 03 16.2 -1.2
baz=158
MDP Montagnes des 32.56 108 LR LR 03 13 16.8
comp=Z,276μm,20.1s,baz=294,slow=40
NEE2 Needles Airpor 32.71 308 P P 02 58 04.7 +0.4
baz=114,SNR=16
NEE2 S S 03 03 18.0 -3.6
baz=114
ESJX Sierra Juarez 32.74 303 IAmb IAmb 02 58 29.6
comp=Z,1μm,1.2s
ESJX IAMs_20 IAMs_20 03 13 32.4
comp=Z,961μm,19.0s
IRM Iron Mountain 32.87 307 P P 02 58 06.3 +0.5
baz=112,SNR=56
IRM S S 03 03 27.6 +3.4
baz=112
SZCU Shurtz Canyon 32.88 314 IAmb IAmb 02 58 22.0
comp=Z,2μm,1.9s
SZCU IAMs_20 IAMs_20 03 12 11.4
comp=Z,1262μm,22.0s
BC3 Big Chuckawall 32.92 306 P P 02 58 06.5 +0.2
baz=112,SNR=14
BC3 S S 03 03 20.4 -4.7
baz=112
YUH Yuha Desert 32.93 304 IAmb IAmb 02 58 31.0
comp=Z,2μm,1.2s
YUH IAMs_20 IAMs_20 03 13 51.3
comp=Z,1002μm,20.0s
SWSC Sam W. Stewart 32.94 304 P P 02 58 06.5 +0.2
baz=110,SNR=49
SWSC S S 03 03 29.9 +4.7
baz=110
TCRU Three Creeks R 32.96 316 IAMs_20 IAMs_20 03 11 51.5
comp=Z,2μm,1.9s
BSUT Blindstream Ca 32.96 320 IAmb IAmb 02 58 24.6
comp=Z,2μm,1.3s
BSUT IAMs_20 IAMs_20 03 13 51.4
comp=Z,1186μm,21.0s
SAML Samuel 32.97 141 P P 02 58 05.7 -1.0
SAML Samuel 32.97 141 IAMs_20 IAMs_20 03 11 56.7
comp=Z,1326μm,21.0s
SAML Samuel 32.97 141 P P 02 58 05.7 -1.0
SAML pmax pmax
SAML comp=Z,668nm,1.4s MLR MLR
comp=Z,1326μm,21.0s
SAML Samuel 32.97 141 ⇑ *i*P P 02 58 02.5 -4.2
SAML Samuel 32.97 141 *e*P P 02 58 06.3 -0.4
IKP In-Ko-Pah, Jac 33.08 304 P P 02 58 08.3 +0.6
baz=109,SNR=17
IKP S S 03 03 31.2 +3.5
baz=109
MDND Maddock 33.15 340 IAMs_20 IAMs_20 03 11 41.7
comp=Z,1016μm,20.0s
MDND Maddock 33.15 340 P P 02 58 07.8 -0.2
baz=151,SNR=21
MDND S S 03 03 23.9 -4.2
baz=151
MDND Maddock 33.15 340 P P 02 58 07.9 -0.1
baz=151,SNR=21
MDND S S 03 03 23.9 -4.2
baz=151
CCX Cicese 33.28 302 IAmb IAmb 02 58 33.9
comp=Z,764nm,1.1s
CCX IAMs_20 IAMs_20 03 13 49.6
comp=Z,1238μm,18.0s
V12A Nelson 33.28 309 IAmb IAmb 02 58 34.5
comp=Z,1μm,1.7s
V12A IAMs_20 IAMs_20 03 14 09.2
comp=Z,1753μm,22.0s
MONP2 Monument Peak 33.41 304 P P 02 58 11.4 +0.6
baz=109,SNR=18
MONP2 S S 03 03 36.9 +3.9
baz=109
CBX Cerro Bola 33.42 303 IAMs_20 IAMs_20 03 12 07.6
comp=Z,972μm,22.0s
NLU North Lily Min 33.45 318 IAmb IAmb 02 58 38.5
comp=Z,2μm,1.6s
NLU IAMs_20 IAMs_20 03 12 46.3
comp=Z,1064μm,22.0s
TKX Tecate 33.45 303 IAMs_20 IAMs_20 03 14 10.1
comp=Z,1140μm,18.0s
BELC Belle Mtn. Jos 33.47 306 P P 02 58 11.6 +0.5
baz=111,SNR=99
BELC S S 03 03 35.1 +1.4
baz=111
GMRC Granite Mounta 33.50 307 P P 02 58 11.7 +0.3
baz=113,SNR=84
GMRC S S 03 03 35.4 +1.2
baz=113
BAR Barrett 33.54 303 P P 02 58 10.6 -1.1
BAR IAmb IAmb 02 58 35.1
comp=Z,1μm,1.5s
BAR IAMs_20 IAMs_20 03 14 21.9
comp=Z,1217μm,18.0s
PMD Palm Desert 33.63 305 IAmb IAmb 02 58 51.3
comp=Z,759nm,1.2s
PMD IAMs_20 IAMs_20 03 14 20.5
comp=Z,1220μm,19.0s
BW06 Boulder Array 33.65 324 IAmb IAmb 02 58 29.3
comp=Z,2μm,1.7s
BW06 IAMs_20 IAMs_20 03 13 47.4
comp=Z,1331μm,22.0s
BW06 Boulder Array 33.65 324 P P 02 58 12.5 -0.2
baz=131,SNR=422
BW06 S S 03 03 42.1 +5.6
baz=131
PD31 Pinedale Array 33.65 324 IAmb IAmb 02 58 29.3
comp=Z,2μm,1.7s
PDAR Pinedale Array 33.65 324 P P 02 58 12.5 -0.2
comp=Z,207nm,1.1s,baz=132,slow=8.7,SNR=228
PDAR LR LR 03 14 20.1
comp=Z,1139μm,21.4s,baz=128,slow=41
comp=Z,207nm,1.1s
CTU Camp Tracy 33.66 319 IAMs_20 IAMs_20 03 14 15.0
comp=Z,931μm,22.0s
TPFO Pinon Flats 33.68 305 P P 02 58 13.4 +0.5
baz=110,SNR=34
TPFO S S 03 03 40.4 +3.4
baz=110
PFO Pinyon Flats O 33.69 305 P P 02 58 12.6 -0.4
PFO IAmb IAmb 02 58 37.0
comp=Z,1μm,1.4s
PFO Pinyon Flats O 33.69 305 IAMs_20 IAMs_20 03 14 19.1
comp=Z,1487μm,19.0s
PFO Pinyon Flats O 33.69 305 P P 02 58 13.5 +0.4
baz=110,SNR=32
PFO S S 03 03 40.5 +3.4
baz=110
PFO Pinyon Flats O 33.69 305 *c i*P P 02 58 13.4 +0.4
PFO pmax pmax
comp=Z,1μm,1.4s
TCUT Toone Canyon 33.70 320 IAMs_20 IAMs_20 03 14 02.9
comp=Z,1747μm,22.0s
TJX Tijuana 33.79 303 IAMs_20 IAMs_20 03 13 37.1
comp=Z,812μm,19.0s
109C Camp Elliot, M 33.95 303 IAmb IAmb 02 58 39.5
comp=Z,2μm,1.4s
109C IAMs_20 IAMs_20 03 14 30.3
comp=Z,1038μm,18.0s
109C Camp Elliot, M 33.95 303 P P 02 58 15.5 +0.3
baz=109,SNR=22
109C S S 03 03 44.5 +3.6
baz=109
TUQ Turquoise Moun 33.96 308 P P 02 58 15.5 +0.1
baz=114,SNR=54
TUQ S S 03 03 46.9 +5.7
baz=114
HEC Hector,Ludlow 34.03 307 P P 02 58 16.6 +0.7
baz=112,SNR=134
HEC S S 03 03 47.0 +4.6
baz=112
DUG Dugway, Tooele 34.05 318 IAmb IAmb 02 58 21.2
comp=Z,3μm,1.9s
DUG Dugway, Tooele 34.05 318 P P 02 58 16.9 +0.7
baz=123,SNR=502
DUG S S 03 03 44.4 +1.7
baz=123
PRN Pahroc Range 34.16 312 IAMs_20 IAMs_20 03 14 16.5
comp=Z,1456μm,22.0s
MURC Murrieta 34.26 305 P P 02 58 18.5 +0.6
baz=110,SNR=46
MURC S S 03 03 48.4 +2.6
baz=110
BBRC Big Bear Solar 34.27 306 P P 02 58 19.2 +1.0
baz=111
BBRC S S 03 03 50.8 +4.4
baz=111
ULM Lac du Bonnet 34.28 346 P P 02 58 16.0 -1.8
ULM IAmb IAmb 02 58 22.6
comp=Z,789nm,1.2s
ULM IAMs_20 IAMs_20 03 12 13.6
comp=Z,955μm,18.0s
ULM Lac du Bonnet 34.28 346 *c i*P P 02 58 16.7 -1.1
ULM Lac du Bonnet 34.28 346 P P 02 58 17.1 -0.7
comp=Z,248nm,1.0s,baz=160,slow=8.2,SNR=123
ULM LR LR 03 12 23.8
comp=Z,945μm,19.1s,baz=170,slow=37
comp=Z,248nm,1.0s
SHOC Shoshone, Teco 34.41 309 P P 02 58 19.5 +0.4
baz=114,SNR=30
SHOC S S 03 03 53.1 +5.2
baz=114
SPR3 Spring Creek 3 34.42 315 IAmb IAmb 02 58 25.4
comp=Z,982nm,1.3s
SPUT South Promonto 34.45 320 IAMs_20 IAMs_20 03 14 38.8
comp=Z,1484μm,22.0s
ELS Elsinore Mount 34.46 305 IAmb IAmb 02 58 45.4
comp=Z,2μm,1.8s
ELS IAMs_20 IAMs_20 03 14 54.6
comp=Z,1233μm,19.0s
RRX Edison Barstow 34.55 307 P P 02 58 21.3 +0.9
baz=112,SNR=17
RRX S S 03 03 53.3 +3.0
baz=112
GSC Goldstone, Bar 34.57 308 IAMs_20 IAMs_20 03 13 54.4
comp=Z,806μm,21.0s
GSC Goldstone, Bar 34.57 308 P P 02 58 21.0 +0.4
baz=112,SNR=48
GSC S S 03 03 54.5 +3.9
baz=112
MALB Monte Alegre 34.57 121 *e*P P 02 58 21.9 +1.2
BGU Big Grassy Mou 34.59 319 IAmb IAmb 02 58 48.4
comp=Z,1μm,1.3s
BGU IAMs_20 IAMs_20 03 13 32.6
comp=Z,864μm,22.0s
LAO LASA Array 34.76 332 IAmb IAmb 02 58 24.8
comp=Z,1μm,1.4s
LAO IAMs_20 IAMs_20 03 13 39.6
comp=Z,897μm,22.0s
LAO LASA Array 34.76 332 P P 02 58 21.6 -0.5
baz=140,SNR=132
LAO S S 03 04 01.1 +7.9
baz=140
LAO LASA Array 34.76 332 P P 02 58 21.9 -0.2
baz=140,SNR=132
LAO S S 03 03 50.8 -2.4
baz=140
S11A Rachel 34.76 312 IAMs_20 IAMs_20 03 14 23.4
comp=Z,1331μm,22.0s
SNOW Snow King Moun 34.77 324 IAMs_20 IAMs_20 03 14 46.0
comp=Z,1182μm,22.0s
LOHW Long Hollow 34.78 325 IAmb IAmb 02 58 49.5
comp=Z,1μm,1.2s
LOHW IAMs_20 IAMs_20 03 15 08.3
comp=Z,987μm,21.0s
Q12A Willow Creek R 34.78 315 P P 02 58 22.9 +0.3
GWY Greenwater Val 34.81 309 IAMs_20 IAMs_20 03 15 07.8
comp=Z,1058μm,21.0s
TPNV Topopah Spring 34.82 311 IAMs_20 IAMs_20 03 13 37.9
comp=Z,1380μm,22.0s
TPNV Topopah Spring 34.82 311 P P 02 58 23.8 +0.9
baz=115,SNR=125
TPNV S S 03 03 59.6 +5.0
baz=115
BFSC Mount Baldy Ra 34.84 305 P P 02 58 23.0 -0.1
baz=110,SNR=21
BFSC S S 03 04 01.5 +6.6
baz=110
ITTB Itaituba 34.89 126 *e*P P 02 58 24.1 +0.6
TPAW Teton Pass 34.90 324 IAMs_20 IAMs_20 03 14 49.5
comp=Z,1141μm,21.0s
MOOW Moose Ponds 34.95 325 IAmb IAmb 02 58 50.9
comp=Z,1μm,1.3s
MOOW IAMs_20 IAMs_20 03 14 40.7
comp=Z,1123μm,22.0s
R11B Troy Canyon, C 34.97 313 P P 02 58 24.9 +0.7
baz=118,SNR=386
R11B S S 03 04 02.7 +5.8
baz=118
WCT Wildcat Mounta 35.03 310 IAMs_20 IAMs_20 03 15 12.5
comp=Z,985μm,21.0s
RLMT Red Lodge 35.08 328 IAMs_20 IAMs_20 03 14 46.1
comp=Z,1408μm,21.0s
RLMT Red Lodge 35.08 328 P P 02 58 25.3 +0.2
baz=134,SNR=352
RLMT S S 03 03 55.6 -2.9
baz=134
FLWY Flagg Ranch 35.14 325 IAMs_20 IAMs_20 03 14 35.8
comp=Z,1266μm,21.0s
IMW Indian Meadow 35.15 325 IAmb IAmb 02 58 41.6
comp=Z,2μm,1.4s
IMW IAMs_20 IAMs_20 03 14 47.1
comp=Z,1005μm,21.0s
CIS Catalina Islan 35.16 304 P P 02 58 26.1 +0.5
baz=108,SNR=17
CIS S S 03 04 04.3 +4.6
baz=108
FMP Fort Macarthur 35.16 304 P P 02 58 26.0 +0.4
baz=109
FMP S S 03 04 03.7 +4.1
baz=109
PASC Pasadena Art C 35.23 305 IAmb IAmb 02 58 51.8
comp=Z,2μm,1.6s
PASC Pasadena Art C 35.23 305 IAMs_20 IAMs_20 03 15 25.9
comp=Z,1095μm,19.0s
H17A Grant Village 35.27 326 P P 02 58 27.5 +0.7
baz=131,SNR=134
H17A S S 03 04 09.5 +7.9
baz=131
YMP Mirror Lake Pl 35.28 326 IAmb IAmb 02 59 14.1
comp=Z,2μm,1.5s
YMP IAMs_20 IAMs_20 03 15 15.5
comp=Z,1046μm,20.0s
LRMC Laurel Mtn Rad 35.30 307 P P 02 58 27.5 +0.5
baz=112,SNR=37
LRMC S S 03 04 05.5 +3.5
baz=112
DGMT Dagmar 35.32 336 P P 02 58 26.6 -0.2
DGMT Dagmar 35.32 336 IAMs_20 IAMs_20 03 13 09.2
comp=Z,791μm,20.0s
DGMT Dagmar 35.32 336 P P 02 58 26.7 -0.2
baz=144,SNR=156
DGMT S S 03 03 58.4 -3.3
baz=144
DGMT Dagmar 35.32 336 P P 02 58 27.0 +0.1
baz=144,SNR=156
DGMT S S 03 04 00.3 -1.4
baz=144
EDW2 Edwards Air Fo 35.32 306 P P 02 58 27.4 +0.3
baz=111,SNR=84
EDW2 S S 03 04 05.7 +3.5
baz=111
DECC Green Verdugo 35.37 305 P P 02 58 27.7 +0.3
baz=110,SNR=73
DECC S S 03 04 05.5 +2.6
baz=110
MPMC Manual Prospec 35.37 308 P P 02 58 27.9 +0.2
baz=113,SNR=70
MPMC S S 03 04 08.5 +5.2
baz=113
CCAC Calif City Air 35.44 307 IAmb IAmb 02 58 53.0
comp=Z,2μm,1.2s
CCAC IAMs_20 IAMs_20 03 15 38.8
comp=Z,849μm,18.0s
YFT Old Faithful 35.45 325 IAmb IAmb 02 58 57.7
comp=Z,1μm,1.5s
YFT IAMs_20 IAMs_20 03 14 22.1
comp=Z,1207μm,18.0s
YNR Norris Junctio 35.54 326 IAMs_20 IAMs_20 03 15 26.4
comp=Z,1291μm,22.0s
YNM Yellowstone No 35.56 326 IAMs_20 IAMs_20 03 15 27.0
comp=Z,1298μm,22.0s
MCPB Macapa, AP 35.62 116 *e*P P 02 58 30.8 +1.1
GRAC Grapevine Rang 35.65 310 IAmb IAmb 02 58 54.8
comp=Z,3μm,2.0s
GRAC Grapevine Rang 35.65 310 S S 03 04 16.1 +8.9
baz=114
YMR Madison River 35.66 326 IAMs_20 IAMs_20 03 15 42.7
comp=Z,1281μm,22.0s
OSI Osito Audit: C 35.79 306 P P 02 58 31.2 0.0
baz=110,SNR=7.1
OSI S S 03 04 16.1 +6.7

baz=110
YHL Hebgen Lake 35.90 326 IAmb IAmb 02 59 16.6
comp=Z,1µm,1.5s
YHL IAMs_20 IAMs_20 03 15 48.8
comp=Z,1344µm,22.0s
ELK Elko 35.91 317 IAmb IAmb 02 58 45.5
comp=Z,1µm,1.5s
ELK IAMs_20 IAMs_20 03 15 46.6
comp=Z,836µm,20.0s
ELK Elko 35.91 317 LR LR 03 15 59.2
comp=Z,826µm,20.2s,baz=134,slow=41
CWC Cottonwood Cre 35.96 309 P **P** **02 58 33.1 +0.4**
baz=113
CWC S S 03 04 22.8 +11
baz=113
ISA Isabella, Lake 35.97 307 P **P** **02 58 32.1 -0.6**
ISA IAmb IAmb 02 58 57.0
comp=Z,2µm,1.6s
ISA IAMs_20 IAMs_20 03 14 24.4
comp=Z,862µm,22.0s
ISA Isabella, Lake 35.97 307 P **P** **02 58 33.1 +0.4**
baz=111,SNR=71
ISA S **S** **03 04 18.2 +6.1**
baz=111
ISA Isabella, Lake 35.97 307 P **P** **02 58 32.1 -0.6**
ISA pmax pmax
comp=Z,2µm,1.6s
ISA MLR MLR
comp=Z,862µm,22.0s
SNCC San Nicolas Is 36.00 303 IAmb IAmb 02 58 56.8
comp=Z,2µm,1.4s
SNCC IAMs_20 IAMs_20 03 14 31.5
comp=Z,627µm,19.0s
SNCC San Nicolas Is 36.00 303 P **P** **02 58 33.6 +0.7**
baz=107,SNR=6.7
SNCC S S 03 04 23.1 +11
baz=107
ARVC Arvin 36.05 306 P **P** **02 58 34.2 +0.9**
baz=110,SNR=117
ARVC S S 03 04 22.4 +9.2
baz=110
Q09A Carvers 36.30 313 IAmb IAmb 02 59 13.3
comp=Z,2µm,1.6s
SCZ2 Santa Cruz Isl 36.31 304 P **P** **02 58 36.1 +0.6**
baz=108,SNR=14
SCZ2 S S 03 04 26.3 +9.1
baz=108
TIN Tinemaha, Big 36.31 310 P **P** **02 58 36.7 +1.1**
baz=113,SNR=38
TIN S **S** **03 04 25.8 +8.4**
baz=113
BCW Bitter Crk WRg 36.44 306 IAmb IAmb 02 59 16.4
comp=Z,2µm,1.4s
VES Vestal, Richgr 36.49 307 P **P** **02 58 37.8 +0.7**
baz=111,SNR=141
VES S S 03 04 30.3 +10
baz=111
SBC Santa Barbara 36.51 305 P **P** **02 58 37.8 +0.6**
baz=108,SNR=11
SBC S **S** **03 04 26.9 +6.6**
baz=108
BOZ Bozeman (W) 36.63 326 IAMs_20 IAMs_20 03 15 49.2
comp=Z,1409µm,22.0s
BOZ Bozeman (W) 36.63 326 P **P** **02 58 39.2 +0.9**
baz=131,SNR=396
BOZ S **S** **03 04 24.6 +2.5**
baz=131
PKM Mcpherson Peak 36.73 305 P **P** **02 58 39.7 +0.3**
baz=109,SNR=29
PKM S S 03 04 33.4 +9.4
baz=109
NV11 Mina Array Sit 36.82 312 IAmb IAmb 02 59 08.5
comp=Z,4µm,2.0s
NV11 IAMs_20 IAMs_20 03 15 48.8
comp=Z,1172µm,22.0s
VOG Valley Oaks Go 36.89 308 P **P** **02 58 40.6 +0.2**
baz=111
VOG S S 03 04 37.1 +11
baz=111
NPGB Novo Progresso 36.90 129 *e*P P **02 58 40.9 +0.1**
NVAR Mina Array Bea 36.92 312 P **P** **02 58 41.1 +0.1**
NVAR Mina Array Bea 36.92 312 P **P** **02 58 41.5 +0.5**
comp=Z,196nm,1.0s,baz=113,slow=5.6,SNR=218
comp=Z,196nm,1.0s
HLID Hailey 36.94 322 IAmb IAmb 02 58 59.1
comp=Z,2µm,1.4s
HLID IAMs_20 IAMs_20 03 16 30.6
comp=Z,873µm,22.0s
HLID Hailey 36.94 322 P **P** **02 58 41.7 +0.7**
baz=125,SNR=705
HLID S **S** **03 04 34.2 +7.2**
baz=125
MLAC Mammoth, Mammo 36.98 310 P **P** **02 58 42.3 +0.8**
baz=113,SNR=5.4
MLAC S S 03 04 39.7 +12
baz=113
LHV Little Huntoon 36.99 311 IAmb IAmb 02 59 08.3
comp=Z,3µm,1.6s
LHV IAMs_20 IAMs_20 03 15 23.4
comp=Z,1445µm,22.0s
SMMC Simmler 37.01 306 P **P** **02 58 42.4 +0.8**
baz=109,SNR=29
SMMC S S 03 04 39.9 +12
baz=109
KVN Kaiserville 37.04 313 IAMs_20 IAMs_20 03 16 09.7
comp=Z,1121µm,21.0s
BMN Battle Mountai 37.07 315 IAmb IAmb 02 58 50.0
comp=Z,2µm,1.5s
MDPB Devils Postpil 37.16 310 IAMs_20 IAMs_20 03 16 45.9
comp=Z,760µm,22.0s
RYN Ryan 37.16 312 IAmb IAmb 02 59 10.4
comp=Z,2µm,1.7s
RYN IAMs_20 IAMs_20 03 16 00.8
comp=Z,938µm,21.0s
EGMT Eagleton 37.36 331 IAmb IAmb 02 59 13.0
comp=Z,2µm,1.3s
EGMT IAMs_20 IAMs_20 03 15 23.5
comp=Z,969µm,22.0s
EGMT Eagleton 37.36 331 P **P** **02 58 44.8 +0.4**
baz=136,SNR=309
EGMT S **S** **03 04 32.0 -1.1**
baz=136
PB18 Visviri 37.38 158 P **P** **02 58 46.1 +0.8**
PB18 IAmb IAmb 02 59 30.8
comp=Z,2µm,1.2s
PB18 IAMs_20 IAMs_20 03 14 55.3
comp=Z,1392µm,21.0s
PB18 Visviri 37.38 158⇑ *i*P **P** **02 58 46.6 +1.3**
PB18 IAMs_20 IAMs_20 03 14 50.6
comp=Z,1334µm,17.8s
MFID Camas Ranch 37.70 320 IAmb IAmb 02 59 05.1
comp=Z,2µm,1.4s
MFID IAMs_20 IAMs_20 03 16 31.9
comp=Z,1501µm,22.0s
WAKR Walker 37.76 311 IAMs_20 IAMs_20 03 15 58.9
comp=Z,1301µm,22.0s
AP01 Chacaluta 37.80 159 IAmb IAmb 02 59 03.0
comp=Z,2µm,1.3s
AP01 IAMs_20 IAMs_20 03 16 27.5
comp=Z,1075µm,18.0s
AP01 Chacalluta 37.80 159⇑ *i*P **P** **02 58 49.2 +1.0**
AP01 *i* S **S** **03 04 39.8 -0.2**
AP01 IAMs_20 IAMs_20 03 16 22.7
comp=Z,1048µm,16.7s
YERR Yerington 37.82 312 IAmb IAmb 02 59 16.9
comp=Z,2µm,1.6s
YERR IAMs_20 IAMs_20 03 16 10.3
comp=Z,1214µm,22.0s
VILB Vilhena 37.91 141 *e*P **P** **02 58 49.2 0.0**
PMPB Monarch Peak 37.93 307 IAmb IAmb 02 59 32.0
comp=Z,2µm,1.7s
PMPB IAMs_20 IAMs_20 03 17 18.4
comp=Z,1228µm,18.0s
PB12 IPOC Station P 38.03 159 IAmb IAmb 02 59 30.2
comp=Z,4µm,2.2s
PB12 IAMs_20 IAMs_20 03 15 48.6
comp=Z,982µm,18.0s
PB12 IPOC Station P 38.03 159⇑ *i*P **P** **02 58 50.8 +0.5**
PB12 IAMs_20 IAMs_20 03 16 27.6
comp=Z,949µm,16.7s
PB16 IPOC Station P 38.05 158⇑ *i*P **P** **02 58 50.6 -0.5**
PNTR Pine Nut 38.12 312 P **P** **02 58 51.0 -0.1**
PNTR IAMs_20 IAMs_20 03 16 31.2
comp=Z,1234µm,22.0s
DRLN Deer Lake 38.13 28 IAmb IAmb 02 58 56.4
comp=Z,902nm,1.0s
PAHR Pah Rah Range 38.22 313 IAmb IAmb 02 58 59.4
comp=Z,2µm,1.8s
PAHR IAMs_20 IAMs_20 03 17 29.0
comp=Z,699µm,21.0s
BBGB Big Mountain B 38.23 308 IAmb IAmb 02 59 44.6
comp=Z,1µm,1.2s
BBGB IAMs_20 IAMs_20 03 17 28.4
comp=Z,1114µm,19.0s
CMB Columbia Colle 38.27 310 IAMs_20 IAMs_20 03 17 29.3
comp=Z,1058µm,20.0s
EMB Emerald Bay 38.43 312 P **P** **02 58 53.1 -0.6**
EMB IAmb IAmb 02 58 59.7
comp=Z,1µm,1.2s
EMB IAMs_20 IAMs_20 03 16 42.4
comp=Z,969µm,22.0s
MPK Martis Peak 38.51 312 IAmb IAmb 02 58 59.8
comp=Z,1µm,1.2s
MPK IAMs_20 IAMs_20 03 16 43.6
comp=Z,1024µm,22.0s
MSO Missoula 38.65 326 IAMs_20 IAMs_20 03 17 02.7
comp=Z,1312µm,21.0s
MSO Missoula 38.65 326 P **P** **02 58 55.4 +0.1**
baz=129,SNR=229
MSO S **S** **03 04 52.2 -0.6**
baz=129
PLTX Planet X, Gerl 38.71 314 IAMs_20 IAMs_20 03 16 40.9
comp=Z,676µm,21.0s
PLID Pearl Lake 38.75 323 IAMs_20 IAMs_20 03 17 05.4
comp=Z,1319µm,22.0s
WVOR Wild Horse Val 38.96 317 IAMs_20 IAMs_20 03 17 32.3
comp=Z,799µm,20.0s
AFDM Forest Hills D 39.04 311 IAMs_20 IAMs_20 03 16 38.6
comp=Z,1331µm,22.0s
PDRB Porto dos Gac 39.09 136 *e*P **P** **02 58 59.0 -0.3**
CLDB Colider 39.20 134 *e*P **P** **02 58 60.0 -0.2**
J08A Circle Bar Ran 39.31 319 IAmb IAmb 02 59 27.1
comp=Z,3µm,1.6s
PB11 IPOC Station P 39.32 159⇑ *i*P **P** **02 59 02.1 +0.9**
PB11 IAMs_20 IAMs_20 03 14 07.4
comp=Z,878µm,26.7s
BMO Blue Mountains 39.38 321 IAmb IAmb 02 59 27.6
comp=Z,2µm,1.4s
BMO IAMs_20 IAMs_20 03 18 18.3
comp=Z,836µm,19.0s
GO01 Chusmiza 39.40 158 IAmb IAmb 02 59 53.7
comp=Z,2µm,1.7s
GO01 IAMs_20 IAMs_20 03 16 35.8
comp=Z,968µm,19.0s
GO01 Chusmiza 39.40 158⇑ *i*P **P** **02 59 03.7 +1.5**
SCHQ Schefferville 39.52 15 P **P** **02 59 02.6 +0.2**
comp=Z,724nm,1.0s,baz=213,slow=6.6,SNR=226
SCHQ LR LR 03 15 50.1
comp=Z,1361µm,19.3s,baz=208,slow=37
comp=Z,724nm,1.0s
TA02 Huaiquique 39.64 160 P **P** **02 59 04.3 +0.7**
TA02 IAMs_20 IAMs_20 03 16 18.2
comp=Z,926µm,21.0s
TA02 Huaiquique 39.64 160⇑ *i*P **P** **02 59 05.0 +1.4**
TA02 IAMs_20 IAMs_20 03 15 13.5
comp=Z,1256µm,26.8s
ORV Oroville 39.65 312 IAmb IAmb 02 59 08.8
comp=Z,3µm,1.9s
ORV IAMs_20 IAMs_20 03 17 19.9
comp=Z,1119µm,22.0s
SIV San Ignacio 39.84 145 LR LR 03 16 58.2
comp=Z,1189µm,18.4s,baz=334,slow=38
PB08 IPOC Station P 39.85 159 IAMs_20 IAMs_20 03 17 32.7
comp=Z,841µm,19.0s
PB08 IPOC Station P 39.85 159 P **P** **02 59 07.1 +1.2**
PB08 S **S** **03 05 13.4 +1.7**
PB08 IPOC Station P 39.85 159⇑ *i*P **P** **02 59 06.7 +0.8**
PB08 IAMs_20 IAMs_20 03 17 27.1
comp=Z,838µm,18.3s
TA01 Diego Aracena 39.90 160 IAMs_20 IAMs_20 03 16 24.1
comp=Z,1070µm,21.0s
TA01 Diego Aracena 39.90 160⇑ *i*P **P** **02 59 06.8 +1.0**
TA01 IAMs_20 IAMs_20 03 16 28.8
comp=Z,1026µm,20.7s
FFC Flin Flon 39.91 343 P **P** **02 59 04.4 -1.2**
FFC IAmb IAmb 02 59 53.0
comp=Z,488nm,1.4s
FFC Flin Flon 39.91 343 IAMs_20 IAMs_20 03 15 12.5
comp=Z,710µm,20.0s
FFC Flin Flon 39.91 343 P **P** **02 59 04.4 -1.2**
FFC pmax pmax
comp=Z,488nm,1.4s
FFC MLR MLR
comp=Z,710µm,20.0s
F10A Beach Ranch, E 39.96 323 IAmb IAmb 02 59 32.2
comp=Z,2µm,1.3s
F10A IAMs_20 IAMs_20 03 17 55.5
comp=Z,861µm,22.0s
MCCM Marconi Confer 40.14 309 IAMs_20 IAMs_20 03 18 47.9
comp=Z,734µm,21.0s
PATCX Punta Patache 40.15 160 P **P** **02 59 08.3 +0.3**
PATCX IAMs_20 IAMs_20 03 16 41.7
comp=Z,921µm,21.0s
PATCX Punta Patache 40.15 160⇑ *i*P **P** **02 59 08.1 +0.1**
I07A Izee 40.32 319 IAmb IAmb 02 59 34.7
comp=Z,3µm,2.0s
I07A IAMs_20 IAMs_20 03 17 53.2
comp=Z,863µm,22.0s
PTLB Pontes e Lacer 40.50 142 P **P** **02 59 09.4 -1.5**
PTLB Pontes e Lacer 40.50 142 *e*P **P** **02 59 10.2 -0.7**
K05A Summer Lake 40.57 317 IAmb IAmb 03 00 26.9
comp=Z,2µm,1.7s
K05A IAMs_20 IAMs_20 03 19 08.3
comp=Z,883µm,22.0s
PB01 IPOC Station P 40.57 160 P **P** **02 59 12.0 +0.5**
PB01 IAMs_20 IAMs_20 03 16 48.9
comp=Z,822µm,22.0s
PB01 IPOC Station P 40.57 160⇑ *i*P **P** **02 59 11.8 +0.3**
PB01 IAMs_20 IAMs_20 03 15 41.4
comp=Z,963µm,26.1s
HOPS Hopland Field 40.58 310 P **P** **02 59 11.2 -0.2**
HOPS IAmb IAmb 02 59 37.9
comp=Z,3µm,2.2s
G08A Pilot Rock 40.61 321 P **P** **02 59 11.0 -0.7**
G08A IAMs_20 IAMs_20 03 18 03.7
comp=Z,1174µm,22.0s
PB02 IPOC Station P 40.70 160 IAMs_20 IAMs_20 03 17 08.2
comp=Z,892µm,20.0s
PB02 IPOC Station P 40.70 160⇑ *i*P **P** **02 59 13.7 +1.1**
PB02 IAMs_20 IAMs_20 03 16 52.3
comp=Z,980µm,21.8s
E09A Wood Farm, Sta 40.79 323 P **P** **02 59 12.4 -0.6**
E09A IAmb IAmb 02 59 30.3
comp=Z,1µm,1.3s
E09A IAMs_20 IAMs_20 03 18 21.4
comp=Z,967µm,22.0s
J05D Fort Rock, OR 41.05 317 P **P** **02 59 14.5 -0.9**
J05D IAMs_20 IAMs_20 03 19 02.5
comp=Z,1042µm,22.0s
BBSD Serra de San D 41.07 146 *e*P **P** **02 59 14.0 -1.6**
PB07 IPOC Station P 41.08 161 P **P** **02 59 16.2 +0.4**
PB07 IAMs_20 IAMs_20 03 16 23.4
comp=Z,1007µm,22.0s
PB07 IPOC Station P 41.08 161 P **P** **02 59 17.0 +1.1**
PB07 S **S** **03 05 31.4 +1.8**
PB07 IPOC Station P 41.08 161⇑ *i*P **P** **02 59 16.9 +1.1**
PB07 IAMs_20 IAMs_20 03 16 17.5
comp=Z,1053µm,24.0s
PINE Pine Mountain 41.09 318 IAMs_20 IAMs_20 03 18 46.6
comp=Z,575µm,21.0s
K04D Chiloquin, OR 41.09 316 IAmb IAmb 02 59 30.7
comp=Z,2µm,1.7s
KCPM Cahto Peak 41.20 311 IAmb IAmb 02 59 20.3
comp=Z,2µm,1.3s
KCPM IAMs_20 IAMs_20 03 17 57.7
comp=Z,1000µm,22.0s
NEW Newport 41.23 326 IAMs_20 IAMs_20 03 18 44.0
comp=Z,1137µm,22.0s
NEW Newport 41.23 326 P **P** **02 59 16.8 +0.1**
baz=127,SNR=232
NEW S **S** **03 05 31.0 -0.2**
baz=127
NEW Newport 41.23 326 LR LR 03 18 31.0
comp=Z,371µm,20.8s,baz=140,slow=39
L04D Klamath Falls 41.29 315 IAMs_20 IAMs_20 03 18 15.0
comp=Z,700µm,22.0s
E08A Ider Farm, El 41.31 322 IAMs_20 IAMs_20 03 18 48.1
comp=Z,965µm,22.0s
PB09 IPOC Station P 41.35 160 IAMs_20 IAMs_20 03 17 10.6
comp=Z,781µm,20.0s
PB09 IPOC Station P 41.35 160⇑ *i*P **P** **02 59 18.4 +0.4**
PB09 IAMs_20 IAMs_20 03 16 53.6
comp=Z,809µm,20.2s
YBH Yreka Blue Hor 41.36 314 P **P** **02 59 16.0 -1.9**
YBH Yreka Blue Hor 41.36 314 P **P** **02 59 16.0 -1.9**
YBH pmax pmax
comp=Z,215nm,1.2s
YBH MLR MLR
comp=Z,413µm,20.0s
YBH Yreka Blue Hor 41.36 314 LR LR 03 20 35.4
comp=Z,401µm,18.5s,baz=110,slow=42
KMRM Mail Ridge 41.48 312 IAMs_20 IAMs_20 03 18 07.0
comp=Z,1210µm,22.0s
F07A Phinny Hill Vi 41.50 321 IAmb IAmb 02 59 36.1
comp=Z,2µm,1.6s
F07A IAMs_20 IAMs_20 03 18 41.3
comp=Z,951µm,22.0s
HAWA Hanford 41.53 322 P **P** **02 59 17.9 -1.2**
HAWA IAMs_20 IAMs_20 03 19 16.0
comp=Z,818µm,20.0s
D08A Wollman Farm, 41.53 323 IAmb IAmb 02 59 45.8
comp=Z,4µm,1.7s
D08A IAMs_20 IAMs_20 03 18 44.1
comp=Z,1174µm,22.0s
PB04 IPOC Station P 41.56 161 IAmb IAmb 02 59 58.5
comp=Z,2µm,1.3s
PB04 IAMs_20 IAMs_20 03 16 34.3
comp=Z,665µm,22.0s
PB04 IPOC Station P 41.56 161⇑ *i*P **P** **02 59 20.7 +0.9**
PB04 IAMs_20 IAMs_20 03 16 27.1
comp=Z,666µm,21.7s
C09A Chrisman Ranch 41.59 325 IAmb IAmb 02 59 46.4
comp=Z,1µm,1.4s
C09A IAMs_20 IAMs_20 03 18 12.5
comp=Z,851µm,22.0s
G06A Carlson Farm, 41.60 320 IAMs_20 IAMs_20 03 18 33.9
comp=Z,833µm,22.0s
KHMM Horse Mountain 41.74 313 IAMs_20 IAMs_20 03 18 50.0
comp=Z,1055µm,21.0s
E07A Sunnyside 41.81 322 P **P** **02 59 20.7 -0.7**
E07A IAmb IAmb 02 59 38.7
comp=Z,1µm,1.2s
E07A IAMs_20 IAMs_20 03 19 13.3
comp=Z,867µm,22.0s
KMPM Mount Pierce 41.84 312 P **P** **02 59 21.4 -0.5**
KMPM IAmb IAmb 02 59 25.4
comp=Z,2µm,1.4s
KMPM IAMs_20 IAMs_20 03 18 29.8
comp=Z,1003µm,22.0s
HUMO Hull Mountain 41.89 315 P **P** **02 59 20.4 -1.8**
JCC Jacoby Creek, 41.92 312 IAMs_20 IAMs_20 03 18 53.9
comp=Z,867µm,22.0s
PB05 IPOC Station P 42.04 162 P **P** **02 59 24.2 +0.6**
PB05 IPOC Station P 42.04 162⇑ *i*P **P** **02 59 24.1 +0.5**
PB05 IAMs_20 IAMs_20 03 14 50.1
comp=Z,583µm,25.6s
I04A Tendick Farm, 42.04 317 IAMs_20 IAMs_20 03 19 23.8
comp=Z,783µm,22.0s
KRPM Rodgers 42.05 313 IAmb IAmb 02 59 41.1
comp=Z,2µm,1.6s
KRPM IAMs_20 IAMs_20 03 19 00.2
comp=Z,852µm,21.0s
FCC Fort Churchill 42.06 352 IAmb IAmb 03 00 09.7
comp=Z,2µm,1.9s
PB06 IPOC Station P 42.09 161 P **P** **02 59 24.1 0.0**
PB06 IAMs_20 IAMs_20 03 16 52.3
comp=Z,932µm,22.0s
PB06 IPOC Station P 42.09 161⇑ *i*P **P** **02 59 24.8 +0.7**
PB06 IAMs_20 IAMs_20 03 16 46.9
comp=Z,901µm,20.1s
KRMB Red Mountain 42.11 313 P **P** **02 59 23.4 -0.6**
KRMB IAMs_20 IAMs_20 03 19 36.7
comp=Z,726µm,19.0s
KSXB Camp Six Broad 42.20 314 IAMs_20 IAMs_20 03 18 15.2
comp=Z,1091µm,22.0s
LVC Limon Verde 42.22 160 P **P** **02 59 25.5 +0.1**
LVC IAmb IAmb 03 00 06.2
comp=Z,7µm,2.9s
LVC Limon Verde 42.22 160 IAMs_20 IAMs_20 03 17 35.6
comp=Z,964µm,22.0s
LVC Limon Verde 42.22 160 P **P** **02 59 25.5 +0.1**
LVC pmax pmax
comp=Z,7µm,2.9s
LVC MLR MLR
comp=Z,964µm,22.0s
LVC Limon Verde 42.22 160 *e*P **P** **02 59 25.3 0.0**
LVC Limon Verde 42.22 160 LR LR 03 17 58.8
comp=Z,901µm,21.9s,baz=313,slow=38
LVC Limon Verde 42.22 160 *e*P **P** **02 59 25.3 0.0**
HOOD Mount Hood Mea 42.27 320 IAMs_20 IAMs_20 03 19 55.6
comp=Z,1087µm,22.0s
DBO Dodson Butte 42.30 316 P **P** **02 59 24.3 -1.3**
DBO IAmb IAmb 02 59 49.1
comp=Z,3µm,2.3s
H04A Detroit Lake 42.30 318 IAMs_20 IAMs_20 03 19 31.6
comp=Z,646µm,21.0s
BBRB Robore, Bolivi 42.40 146 *e*P **P** **02 59 25.2 -1.3**
K02D Willamette Mer 42.40 315 IAMs_20 IAMs_20 03 20 01.5
comp=Z,699µm,22.0s
BUCK Buck Mountain 42.59 317 IAMs_20 IAMs_20 03 19 15.3
comp=Z,562µm,22.0s
KBO Bosley Butte 42.59 314 IAMs_20 IAMs_20 03 18 36.5
comp=Z,951µm,21.0s
PB15 IPOC Station P 42.60 161 P **P** **02 59 28.3 +0.1**
PB15 IAMs_20 IAMs_20 03 17 06.6
comp=Z,868µm,22.0s
PB15 IPOC Station P 42.60 161 *e*P **P** **02 59 28.6 +0.4**
PB15 IPOC Station P 42.60 161⇑ *i*P **P** **02 59 29.2 +1.0**
PB15 IAMs_20 IAMs_20 03 17 00.9
comp=Z,840µm,20.9s
I03D Drain, OR 42.61 317 IAMs_20 IAMs_20 03 20 03.9
comp=Z,679µm,22.0s
LTY Liberty 42.65 323 IAMs_20 IAMs_20 03 19 28.5
comp=Z,901µm,22.0s
EDM Edmonton 42.69 334 P **P** **02 59 27.4 -1.1**
EDM IAMs_20 IAMs_20 03 18 06.2
comp=Z,1158µm,21.0s
EDM Edmonton 42.69 334 P **P** **02 59 27.4 -1.1**
EDM pmax pmax
comp=Z,5µm,2.1s
EDM MLR MLR
comp=Z,1158µm,21.0s
AF01 San Pedro de A 42.78 159 P **P** **02 59 30.2 +0.4**
AF01 IAmb IAmb 03 00 09.7
comp=Z,1µm,1.1s
AF01 IAMs_20 IAMs_20 03 18 11.5
comp=Z,833µm,21.0s
AF01 San Pedro de A 42.78 159⇑ *i*P **P** **02 59 31.6 +1.7**
AF01 IAMs_20 IAMs_20 03 18 06.9
comp=Z,834µm,21.8s
KEBM Edson Butte 42.92 315 IAMs_20 IAMs_20 03 20 16.3
comp=Z,592µm,20.0s
SALV Santo Antonio 42.94 139 *e*P **P** **02 59 30.3 -0.6**
COR Corvallis 42.97 318 P **P** **02 59 30.0 -0.8**
COR IAmb IAmb 03 00 00.7
comp=Z,3µm,1.4s
COR Corvallis 42.97 318 P **P** **02 59 30.0 -0.8**
COR pmax pmax
comp=Z,3µm,1.4s
F04A Amboy 43.03 320 IAMs_20 IAMs_20 03 19 29.8
comp=Z,879µm,22.0s
LON Longmire 43.06 321 IAMs_20 IAMs_20 03 20 33.6
comp=Z,861µm,20.0s
YJA Yavi 43.06 155 *e*P **P** **02 59 32.3 0.0**
SNDB Serra Nova Dou 43.15 130 *e*P **P** **02 59 33.4 +0.7**
D05A Enumclaw 43.38 322 IAMs_20 IAMs_20 03 20 05.1
comp=Z,998µm,21.0s
F04D Rainier, OR 43.47 320 IAMs_20 IAMs_20 03 19 44.3
comp=Z,556µm,22.0s
HEBO Mount Hebo 43.53 318 IAMs_20 IAMs_20 03 19 36.2
comp=Z,632µm,22.0s
PB14 IPOC Station P 43.65 163 P **P** **02 59 38.0 +1.1**
PB14 S **S** **03 06 09.3 +1.5**
PB14 IPOC Station P 43.65 163⇑ *i*P **P** **02 59 37.9 +1.1**
F03A Seaside 43.73 319 IAMs_20 IAMs_20 03 20 04.4
comp=Z,671µm,22.0s
B06A Marblemount 43.78 324 IAmb IAmb 03 00 03.5
comp=Z,1µm,1.3s
B06A IAMs_20 IAMs_20 03 19 51.5
comp=Z,1095µm,22.0s
E03A Lebam 44.02 320 IAmb IAmb 02 59 45.2
comp=Z,1µm,1.6s
E03A IAMs_20 IAMs_20 03 20 02.0
comp=Z,991µm,22.0s
GNW Green Mountain 44.07 322 IAMs_20 IAMs_20 03 20 14.1
comp=Z,837µm,22.0s
RADR Rader Ridge 44.11 320 IAmb IAmb 03 00 05.3
comp=Z,3µm,1.7s
RADR IAMs_20 IAMs_20 03 20 05.3
comp=Z,1088µm,22.0s
GO02 Mina Guanaco 44.39 162 *e*P **P** **02 59 43.8 +0.9**
GO02 Mina Guanaco 44.39 162⇑ *i*P **P** **02 59 43.8 +0.9**

WISH Wishkah 44.41 321 IAmb IAmb 03 00 30.1
comp=Z,2µm,1.4s
WISH IAMs_20 IAMs_20 03 21 28.4
comp=Z,1116µm,21.0s
NLWA Neilton Lookou 44.60 321 IAmb IAmb 02 59 58.0
comp=Z,2µm,1.4s
B04A Port Angeles 44.71 322 IAmb IAmb 03 00 25.9
comp=Z,974µm,1.3s
PP1B Ponte de Pedra 44.73 140 *eP* **P 02 59 45.4 +0.1**
AC01 Pan de Azucar 45.04 164 *i P* **P 02 59 45.4 -2.2**
BRLDA Berland Lookou 45.04 332 P **P 02 59 46.9 -0.6**
BRLDA IAMs_20 IAMs_20 03 19 41.5
comp=Z,970µm,21.0s
C03A Quillayute Air 45.28 322 IAMs_20 IAMs_20 03 21 35.3
comp=Z,745µm,20.0s
SLA San Lorenzo 45.36 157 *eP* **P 02 59 51.5 +1.0**
CLRS Cowichan Lake 45.44 323 IAmb IAmb 03 00 16.7
comp=Z,2µm,1.9s
CLRS IAMs_20 IAMs_20 03 20 56.5
comp=Z,676µm,22.0s
RVDE Rio Verde (Bra 45.78 141 *eP* **P 02 59 53.2 -0.5**
BDQN Bodoquena, MS 45.84 144 *eP* **P 02 59 52.8 -1.3**
AC06 Mina Casimiro 46.25 164 *i P* **P 02 59 57.8 +0.5**
OZB Mount Ozzard 46.30 322 IAmb IAmb 03 00 13.0
comp=Z,645nm,0.9s
OZB IAMs_20 IAMs_20 03 21 13.3
comp=Z,572µm,22.0s
AQDB Aquidauana 46.46 143 IAmb IAmb 03 00 29.5
comp=Z,958nm,1.2s
AQDB Aquidauana 46.46 143 *eP* **P 02 59 58.2 -0.8**
GO03 Copiap 46.51 164 *eP* **P 02 59 59.9 +0.6**
GO03 Copiap 46.51 164 *i P* **P 02 59 59.7 +0.4**
CBB Campbell River 46.74 324 IAmb IAmb 03 00 15.6
comp=Z,2µm,1.4s
CBB IAMs_20 IAMs_20 03 21 22.7
comp=Z,547µm,22.0s
AC04 Llanos de Chal 46.87 165 IAmb IAmb 03 00 22.2
comp=Z,1µm,1.6s
AC04 Llanos de Chal 46.87 165 *i P* **P 03 00 02.3 +0.2**
C2SB Chapadao do Su 46.88 139 *eP* **P 03 00 02.5 +0.1**
AHML Horco Molle 47.30 158 *eP* **P 03 00 05.4 -0.1**
AHML *eP* **pP 03 00 05.7 +0.3**
FRB Frobisher Bay 47.46 9 LR LR 03 21 11.2
comp=Z,758µm,18.1s,baz=206,slow=38
RPRD Ribas do Rio P 47.64 141 *eP* **P 03 00 08.1 -0.1**
LCO Las Campanas 47.74 165 P **P 03 00 09.0 -0.1**
LCO Las Campanas 47.74 165 P **P 03 00 09.0 -0.1**
LCO pmax pmax
comp=Z,6µm,2.8s
LCO Las Campanas 47.74 165 *i P* **P 03 00 04.8 -4.3**
BDFB Brasilia 47.95 131 IAmb IAmb 03 00 46.2
comp=Z,1µm,1.6s
BDFB Brasilia 47.95 131 P **P 03 00 11.3 +0.5**
comp=Z,133nm,0.9s,baz=305,slow=10,SNR=125
BDFB LR LR 03 23 40.0
comp=Z,430µm,18.3s,baz=302,slow=40
comp=Z,133nm,0.9s
VCA Vinchina 48.16 162 *eP* **P 03 00 13.1 +0.8**
VCA *eP* **sP 03 00 13.6 +1.4**
VCA *eP* **pwP 03 00 14.8 -1.0**
VCA IAML 03 02 35.2
comp=Z,391nm,2.7s
SDBA SAO DESIDERIO 48.25 125 *eP* **P 03 00 13.6 +0.5**
CO05 La Serena 48.48 166 IAmb IAmb 03 00 33.5
comp=Z,635nm,1.3s
CO05 IAMs_20 IAMs_20 03 22 52.4
comp=Z,384µm,19.0s
HOLB Holberg 48.59 323 IAMs_20 IAMs_20 03 24 28.8
comp=Z,459µm,20.0s
ESFA Espinillo Form 48.62 149 *eP* **P 03 00 14.4 -1.3**
CYA Choya 48.65 159 *eP* **P 03 00 15.4 -0.5**
CYA IAML 03 02 51.5
comp=Z,254nm,3.0s
AGUA GUANDACOL 48.78 163 *eP* **P 03 00 17.4 +0.4**
AGUA IAML 03 02 55.6
comp=Z,368nm,2.4s
CO01 Juntas del Tor 48.81 165 IAmb IAmb 03 00 32.2
comp=Z,882nm,1.7s
GO04 Tololo Observa 48.82 165 *eP* **P 03 00 17.1 -0.4**
GO04 Tololo Observa 48.82 165 *eP* **P 03 00 17.1 -0.4**
TICA Tres Isletas 48.95 152 *eP* **P 03 00 17.8 -0.4**
CO06 Fray Jorge 49.11 166 *i P* **P 03 00 18.9 -0.5**
CO06 IAMs_20 IAMs_20 03 17 21.0
comp=Z,457µm,24.2s
AROD Rodeo 49.15 164 *eP* **P 03 00 21.1 +0.9**
ITRB Iturama 49.16 137 *eP* **P 03 00 19.9 -0.1**
ACLC CERRO LA CRUZ 49.19 161 *eP* **P 03 00 20.4 +0.2**
ACDV Cuesta del Vie 49.25 164 *eP* **P 03 00 20.4 -0.2**
BBB Bella Bella 49.28 325 IAmb IAmb 03 00 42.5
comp=Z,788nm,1.3s
BBB IAMs_20 IAMs_20 03 23 40.0
comp=Z,753µm,22.0s
BBB Bella Bella 49.28 325 LR LR 03 25 43.2
comp=Z,624µm,18.2s,baz=119,slow=42
IPMB Ipameri, GO 49.39 134 *eP* **P 03 00 21.7 -0.1**
CO03 El Pedregal 49.49 165 IAmb IAmb 03 00 53.5
comp=Z,993nm,1.4s
CO03 IAMs_20 IAMs_20 03 23 16.2
comp=Z,380µm,19.0s
CO03 El Pedregal 49.49 165 *eP* **P 03 00 22.5 +0.2**
ACCO Cerro Coronel 49.66 164 *eP* **P 03 00 23.7 -0.3**
ACCO IAML 03 02 35.6
comp=Z,229nm,2.5s
CO02 Combarbal 49.77 166 IAmb IAmb 03 00 43.4
comp=Z,1µm,1.4s
CO02 Combarbal 49.77 166 *eP* **P 03 00 23.4 -1.1**
VACA Villa Angela C 49.90 153 *eP* **P 03 00 25.1 -0.3**
PCMB Pacaembu 49.98 140 *eP* **P 03 00 25.4 -0.8**
YKAW1 Yellowknife Wh 49.98 342 IAMs_20 IAMs_20 03 23 10.0
comp=Z,430µm,21.0s
YKA Yellowknife Ar 50.03 342 P **P 03 00 24.4 -1.6**
YKA Yellowknife Ar 50.03 342 P **P 03 00 25.5 -0.5**
comp=Z,39nm,0.9s,baz=136,slow=7.6,SNR=158
YKA P4KPbc 03 38 00.2
comp=Z,0.7nm,1.0s,baz=123,slow=4.6,SNR=4.9
comp=Z,39nm,0.9s
YKAW3 Yellowknife Wh 50.08 342 IAMs_20 IAMs_20 03 23 12.6
comp=Z,415nm,21.0s
AVFE Valle Fertil 50.18 162 *eP* **P 03 00 27.7 0.0**
AVFE IAML 03 03 00.1
comp=Z,187nm,3.1s
H07S1 FLORES T-PHASE 50.19 53 *eP* P 03 00 33.0 +5.4
comp=Z,1µm,1.8s
H07S1 *eS* **S 03 07 45.2 +4.7**
JANB Januaria 50.32 128 *eP* **P 03 00 29.4 +0.5**
CPUP Villa Florida 50.33 149 P **P 03 00 27.2 -1.5**
comp=Z,14nm,0.9s,baz=332,slow=8.5,SNR=35
CPUP LR LR 03 23 35.2
comp=Z,522µm,19.1s,baz=328,slow=38
comp=Z,14nm,0.9s
CPUP Villa Florida 50.33 149 *eP* **P 03 00 26.8 -1.9**
MCR1 Marechal Candi 50.54 145 *eP* **P 03 00 29.4 -0.9**
H03N2 Juan Fernandez 50.71 175 P P 03 00 39.6 +8.4
baz=53,slow=76,SNR=5.0
H03N1 Juan Fernandez 50.72 175 P P 03 00 39.8 +8.6
baz=53,slow=76,SNR=5.0
H03N3 Juan Fernandez 50.73 175 P P 03 00 39.6 +8.2
baz=53,slow=76,SNR=3.3
RTLS Leoncito 50.75 164 *eP* **P 03 00 32.8 +0.7**
RTLS IAML 03 02 26.6
comp=Z,512nm,2.1s
RPN Rapa Nui 50.85 210 LR LR 03 17 05.0
comp=Z,913µm,20.4s,baz=18,slow=30
CFA Coronel Fontan 50.85 163 *eP* **P 03 00 29.6 -3.0**
CFA *eP* **pP 03 00 32.1 -0.4**
CFA Coronel Fontan 50.85 163 LR LR 03 24 29.8
comp=Z,355µm,18.4s,baz=358,slow=39
VA04 Juan Fernndez 50.92 175 *i P* **P 03 00 34.7 +1.6**
PMNB Patos De Minas 51.00 133 *eP* **P 03 00 34.3 +0.2**
VA06 Catapilco 51.00 167 IAmb IAmb 03 01 04.4
comp=Z,872nm,1.2s
VA06 IAMs_20 IAMs_20 03 21 33.3
comp=Z,481µm,21.0s
GRNB Grenville Isla 51.04 326 IAmb IAmb 03 01 09.8
comp=Z,2µm,1.7s
H03S3 Juan Fernandez 51.10 175 P **P 03 00 33.8 -0.3**
baz=338,slow=11,SNR=8.5
H03S2 Juan Fernandez 51.11 175 P P 03 00 46.3 +12
baz=338,slow=11,SNR=8.2
H03S1 Juan Fernandez 51.12 175 P P 03 00 45.8 +12
baz=338,slow=11,SNR=8.2
AUSP Uspallata 51.13 165 *eP* **P 03 00 36.1 +1.1**
VA03 San Esteban 51.37 166 IAmb IAmb 03 01 05.9
comp=Z,2µm,1.6s
VA03 IAMs_20 IAMs_20 03 20 47.9
comp=Z,397µm,21.0s
VA03 San Esteban 51.37 166 *eP* **P 03 00 36.8 +0.3**
VA01 Torpederas 51.37 167 IAmb IAmb 03 01 01.8
comp=Z,755nm,1.1s
NRS Narsarsuaq 51.39 22 P **P 03 00 34.9 -1.4**
NRS IAmb IAmb 03 00 58.3
comp=Z,2µm,2.0s
NRS Narsarsuaq 51.39 22 P **P 03 00 34.9 -1.4**
NRS pmax pmax
comp=Z,2µm,2.0s
NRS Narsarsuaq 51.39 22 *i* P **P 03 00 36.7 +0.4**
NRS IAmb IAmb 03 00 38.6
comp=Z,553nm,1.3s
NRS IVmB_BB 03 00 39.4
comp=Z,16µm,2.7s
LDASE Londrina, Braz 51.40 141 *eP* **P 03 00 35.9 -1.0**
RUBB Prince Rupert 51.41 327 IAmb IAmb 03 00 59.4
comp=Z,2µm,1.9s
ROC1 El Roble 51.46 167 *eP* **P 03 00 36.9 -0.5**
NUUK Nuuk 51.51 17 *i P* **P 03 00 37.9 +0.8**
NUUK IAmb IAmb 03 00 39.3
comp=Z,587nm,1.1s
FLDN Fort Liard 51.52 336 IAmb IAmb 03 01 17.4
comp=Z,3µm,1.7s
FLDN IAMs_20 IAMs_20 03 23 23.8
comp=Z,565µm,21.0s
FLDN Fort Liard 51.52 336 P **P 03 00 38.1 +0.8**
baz=128,SNR=23
ASAL Salagasta 51.62 164 *eP* **P 03 00 39.3 +0.9**
ASAL IAML 03 03 23.7
comp=Z,95nm,1.6s
KOTAN Kotaneelee Air 51.68 335 P **P 03 00 39.2 +0.6**
baz=128,SNR=139
PEL Peldehue 51.70 166 IAmb IAmb 03 01 26.2
comp=Z,841nm,1.3s
PEL Peldehue 51.70 166 *eP* **P 03 00 38.8 -0.2**
MT02 Curacav 51.71 167 IAmb IAmb 03 00 57.9
comp=Z,2µm,1.7s
MT02 IAMs_20 IAMs_20 03 24 14.0
comp=Z,348µm,19.0s
TCA Tanti 51.72 159 *eP* **P 03 00 38.2 -1.0**
TCA *eP* **sP 03 00 40.4 +1.4**
TCA IAML 03 03 16.8
comp=Z,171nm,2.1s
ARCO CERRO ARCO 51.84 164 *eP* **P 03 00 40.5 +0.3**
ARCO IAML 03 02 48.5
comp=Z,199nm,2.6s
PTGB Pitanga 51.85 143 *eP* **P 03 00 38.4 -2.0**
MT05 Renca 51.93 166 *eP* **P 03 00 40.3 -0.4**
CALA Caldeira 51.98 54 *eP* **P 03 00 43.5 +2.2**
comp=Z,2µm,1.5s
CALA *eS* **S 03 08 09.3 +3.7**
PCED Cedros 51.99 54 *eP* **P 03 00 45.5 +4.3**
comp=Z,1µm,1.8s
HOR Horta 52.03 54 *eP* **P 03 00 44.0 +2.5**
comp=Z,912nm,1.6s
HOR *eS* **S 03 08 05.0 -1.0**
MT03 Universidad Ad 52.08 166 IAmb IAmb 03 01 08.7
comp=Z,1µm,1.1s
MT03 Universidad Ad 52.08 166 *eP* **P 03 00 42.2 +0.3**
AAGR Agrelo 52.09 164 *i P* **P 03 00 42.6 +0.6**
AAGR IAML 03 03 17.4
comp=Z,222nm,2.5s
H02S1 DAWSON INLET T 52.12 325 P **P 03 00 42.8 +1.0**
SNR=40
PCAN Candelaria 52.14 55 *eP* **P 03 00 45.5 +3.2**
comp=Z,1µm,2.0s
PICO Pico 52.19 55 *eP* **P 03 00 46.0 +3.2**
comp=Z,972nm,1.2s
PICO *eS* **S 03 08 10.9 +2.6**
MT09 Talagante 52.24 167 P **P 03 00 42.6 -0.5**
MT09 IAmb IAmb 03 01 02.7
comp=Z,2µm,1.7s
FRBT Francisco Belt 52.27 145 *eP* **P 03 00 41.2 -2.2**
PPNO Prainha do Nor 52.31 55 *eP* **P 03 00 46.5 +2.8**
comp=Z,1µm,1.7s
PPNO *eS* **S 03 08 10.9 +0.9**
RCBR Riachuelo 52.35 112 LR LR 03 25 55.5
comp=Z,256µm,19.6s,baz=300,slow=40
RCBR Riachuelo 52.35 112 *eP* **P 03 00 45.9 +1.7**
MRA San Martin 52.35 161 *eP* **P 03 00 43.1 -0.9**
MRA *eP* **pP 03 00 43.3 -0.5**
MRA IAML 03 03 25.4
comp=Z,293nm,3.3s
ROSA Rosais 52.36 54 *eP* **P 03 00 47.5 +3.5**
comp=Z,1µm,1.9s
ROSA *eS* **S 03 08 18.9 +8.3**
MT13 San Alfonso 52.37 166 IAmb IAmb 03 01 16.9
comp=Z,966nm,1.1s
PID Ribeirinha 52.42 55 *eP* **P 03 00 47.5 +3.1**
comp=Z,2µm,1.7s
PMAN Manadas 52.47 54 *eP* **P 03 00 49.0 +4.3**
comp=Z,896nm,1.9s
PMAN *eS* **S 03 08 13.4 +1.4**
LMEL Las Melosas 52.48 166 IAmb IAmb 03 01 13.8
comp=Z,868nm,1.2s
BO04 La Punta 52.53 167 IAmb IAmb 03 01 30.2
comp=Z,2µm,1.9s
BO04 IAMs_20 IAMs_20 03 24 22.7
comp=Z,382µm,21.0s
V35K Ketchikan 52.57 328 IAmb IAmb 03 01 21.0
comp=Z,1µm,1.8s
V35K IAMs_20 IAMs_20 03 25 40.8
comp=Z,385µm,20.0s
V35K Ketchikan 52.57 328 P **P 03 00 46.3 +1.1**
baz=116,SNR=24
PGRA Graciosa 52.60 54 *eP* P 03 00 57.6 +12
comp=Z,992nm,1.9s
PGRA *eS* **S 03 08 22.1 +8.2**
T35M Bob Quinn 52.66 330 IAmb IAmb 03 01 15.2
comp=Z,777nm,1.1s
T35M Bob Quinn 52.66 330 P **P 03 00 47.4 +1.4**
baz=119,SNR=44
BO01 Tunca 52.81 167 IAMs_20 IAMs_20 03 21 17.0
comp=Z,370µm,21.0s
BO01 Tunca 52.81 167 *eP* **P 03 00 46.8 -0.4**
DIAM Diamantina, MG 52.82 130 *eP* **P 03 00 48.3 +0.6**
RCLB Rio Claro- Sao 52.93 137 *eP* **P 03 00 49.3 +0.9**
CRSM Crissiumal (Br 52.95 147 *eP* **P 03 00 46.5 -1.9**
ADH Angra Heroismo 53.13 54 *eP* **P 03 00 49.6 -0.1**
comp=Z,701nm,2.0s
PAGU Agualva, Azore 53.19 54 *eP* **P 03 00 53.1 +3.0**
comp=Z,1µm,1.7s
PAGU *eS* **S 03 08 22.5 +0.7**
PSCM Serra do Cume 53.23 54 *eP* **P 03 00 52.6 +2.2**
comp=Z,890nm,1.6s
GO05 Huala 53.24 168 IAmb IAmb 03 01 09.4
comp=Z,2µm,1.8s
BO02 Sierra Bellavi 53.26 167 IAmb IAmb 03 01 21.3
comp=Z,719nm,1.1s
BO02 IAMs_20 IAMs_20 03 24 43.1
comp=Z,387µm,21.0s
BO02 Sierra Bellavi 53.26 167 *eP* **P 03 00 50.5 -0.1**
DLBC Dease Lake 53.28 332 P **P 03 00 51.1 +0.6**
DLBC IAmb IAmb 03 01 20.6
comp=Z,2µm,1.4s
DLBC Dease Lake 53.28 332 P **P 03 00 52.0 +1.5**
baz=120,SNR=124
DLBC Dease Lake 53.28 332 LR LR 03 25 03.7
comp=Z,929µm,19.4s,baz=116,slow=38
CRAG Craig 53.41 327 IAmb IAmb 03 01 30.8
comp=Z,872nm,1.5s
CRAG IAMs_20 IAMs_20 03 25 44.0
comp=Z,588µm,21.0s
CRAG Craig 53.41 327 P **P 03 00 52.3 +1.0**
CRAG Craig 53.41 327 P **P 03 00 52.3 +1.0**
baz=115,SNR=12
WRGLY Wrigley 53.42 339 IAmb IAmb 03 01 11.5
comp=Z,991nm,1.2s
WRGLY IAMs_20 IAMs_20 03 23 51.8
comp=Z,637µm,20.0s
WRGLY Wrigley 53.42 339 P **P 03 00 51.9 +0.6**
baz=130,SNR=203
WRAK Wrangell Islan 53.43 329 IAMs_20 IAMs_20 03 26 39.4
comp=Z,626µm,21.0s
WRAK Wrangell Islan 53.43 329 P **P 03 00 52.4 +0.9**
baz=116
ITQB Itaqui 53.47 151 IAMs_20 IAMs_20 03 25 13.3
comp=Z,409µm,20.0s
ITQB Itaqui 53.47 151 *eP* **P 03 00 51.0 -1.1**
S34M Telegraph Cree 53.53 331 P **P 03 00 53.6 +1.4**
baz=119,SNR=25
WTLY Watson Lake, Y 53.62 334 IAMs_20 IAMs_20 03 24 32.2
comp=Z,668µm,22.0s
WTLY Watson Lake, Y 53.62 334 P **P 03 00 53.8 +0.9**
baz=122
U33K Whale Pass 53.68 328 IAMs_20 IAMs_20 03 26 33.2
comp=Z,469µm,19.0s
U33K Whale Pass 53.68 328 P **P 03 00 54.3 +1.0**
baz=116,SNR=9.9
UNIS Unistalda (Bra 53.71 149 *eP* **P 03 00 52.8 -1.2**
VAO Valinhos 53.71 137 *eP* **P 03 00 54.6 +0.5**
ITAB Concordia 53.77 145 IAmb IAmb 03 01 27.4
comp=Z,2µm,2.0s
ITAB Concordia 53.77 145 *eP* **P 03 00 53.2 -1.2**
RFA San Rafael 53.78 165 *eP* **P 03 00 52.0 -2.5**
RFA *eP* **pP 03 00 53.9 -0.4**
RFA *eP* **sP 03 00 54.4 +0.1**
RFA *eP* **pwP 03 00 54.6 -3.3**
RFA IAML 03 04 04.7
comp=Z,101nm,2.4s
BSCB Bom Sucesso 53.81 134 *eP* **P 03 00 55.0 +0.2**
SPB Sao Paulo 53.83 138 *eP* **P 03 00 55.3 +0.4**
T33K Petersburg 53.90 329 P **P 03 00 56.1 +1.2**
baz=116,SNR=8.6
SFJD Kangerlussuaq 53.98 15 P **P 03 00 53.9 -1.4**
SFJD IAmb IAmb 03 00 57.0
comp=Z,2µm,2.2s
SFJD Kangerlussuaq 53.98 15 P **P 03 00 53.9 -1.4**
SFJD pmax pmax
comp=Z,2µm,2.3s
SFJD MLR MLR
comp=Z,926µm,20.0s
SFJD Kangerlussuaq 53.98 15 LR LR 03 24 02.7
comp=Z,1001µm,19.3s,baz=218,slow=36
SFJD Kangerlussuaq 53.98 15 *i P* **P 03 00 54.4 -1.0**
SFJD IAmb IAmb 03 00 56.5
comp=Z,222nm,0.8s
ML02 Panimavida 54.07 168 IAmb IAmb 03 01 14.6
comp=Z,856nm,1.1s
R33M Jennings River 54.18 332 IAmb IAmb 03 01 27.0
comp=Z,1µm,1.4s
R33M Jennings River 54.18 332 P **P 03 00 58.3 +1.1**
baz=120,SNR=135
PDA Ponta Delgada 54.27 56 *eP* **P 03 00 59.6 +1.6**
comp=Z,2µm,1.6s
CMLA Cha da Macela 54.38 56 *eP* **P 03 00 58.7 -0.1**
comp=Z,1µm,1.6s
CMLA *eS* **S 03 08 45.8 +7.7**
PCALD Caldeiras da R 54.41 56 *eP* **P 03 01 02.1 +3.0**
comp=Z,996nm,1.7s
PET01 Itanhaem-SP 54.43 138 *eP* **P 03 00 59.0 -0.3**
PGRON Lagoa das Cont 54.50 56 *eP* **P 03 01 02.1 +2.4**
comp=Z,1µm,1.6s
PGRON *eS* **S 03 08 38.6 -1.1**
EDS3 Malargue 54.51 166 *eP* **P 03 01 02.7 +2.9**
ALGR Alto Alegre (B 54.53 147 *eP* **P 03 00 58.8 -1.2**
PSMA Santa Maria 54.63 57 *eP* **P 03 01 02.1 +1.5**
comp=Z,1µm,1.6s
BART Pico Bartolome 54.66 56 *eP* **P 03 01 03.6 +2.6**
comp=Z,1µm,1.2s
BART *eS* **S 03 08 47.8 +5.8**
PSMN Pico do Norte, 54.68 57 *eP* **P 03 01 02.1 +1.1**
comp=Z,991nm,1.8s
PSMN *eS* **S 03 08 43.7 +1.6**
GUA01 Guaratinga, BA 54.69 126 *eP* **P 03 01 02.4 +1.2**
BI05 Punta Hualpn 54.70 170 IAmb IAmb 03 01 26.0
comp=Z,1µm,1.3s
BI05 IAMs_20 IAMs_20 03 20 59.9
comp=Z,353µm,21.0s
RODS Rosario do Sul 54.71 150 *eP* **P 03 01 00.4 -0.8**
DY2G Dye2 54.76 17 *i P* **P 03 01 00.2 -1.2**
DY2G IAmb IAmb 03 01 02.7
comp=Z,3µm,2.2s
PARB Paraibuna 54.83 136 *eP* **P 03 01 02.8 +0.6**
SJMB Sao Joao De Ma 54.91 129 *eP* **P 03 01 03.6 +0.8**
S32K Killisnoo 54.98 329 IAMs_20 IAMs_20 03 27 25.6
comp=Z,655µm,20.0s
S32K Killisnoo 54.98 329 P **P 03 01 03.7 +0.9**
baz=115,SNR=8.5
SIT Sitka 55.18 328 P **P 03 01 05.4 +1.1**
SIT Sitka 55.18 328 P **P 03 01 05.2 +1.0**
baz=114
JIS Juneau Island 55.23 330 IAmb IAmb 03 01 34.0
comp=Z,1µm,1.4s
JIS Juneau Island 55.23 330 P **P 03 01 05.4 +0.8**
R32K Eaglecrest 55.30 330 IAmb IAmb 03 01 36.7
comp=Z,736nm,1.4s
R32K Eaglecrest 55.30 330 P **P 03 01 06.1 +1.0**
baz=116
P33M Teslin, Yukon 55.40 333 IAmb IAmb 03 01 36.3
comp=Z,591nm,1.1s
P33M Teslin, Yukon 55.40 333 P **P 03 01 06.7 +0.8**
baz=118,SNR=67
P32M Atlin 55.51 332 P **P 03 01 07.5 +0.8**
baz=117,SNR=48
ILULI Ilulissat 55.59 13 P **P 03 01 05.4 -1.6**
ILULI IAmb IAmb 03 01 25.4
comp=Z,2µm,1.8s
ILULI Ilulissat 55.59 13 P **P 03 01 05.4 -1.6**
ILULI pmax pmax
comp=Z,2µm,1.8s
ILULI MLR MLR
comp=Z,1128µm,20.0s
ILULI Ilulissat 55.59 13 *i P* **P 03 01 06.6 -0.4**
ILULI IAmb IAmb 03 01 09.4
comp=Z,1µm,1.9s
CPSB Cacapava Do Su 55.62 148 *eP* **P 03 01 06.4 -1.3**
RIB01 Linhares ES 55.88 129 *eP* **P 03 01 11.0 +1.2**
R31K City Hall, Gus 55.94 330 P **P 03 01 10.6 +0.9**
baz=114
N32M Quiet Lake 55.96 334 IAmb IAmb 03 01 40.3
comp=Z,1µm,1.4s
N32M IAMs_20 IAMs_20 03 29 14.3
comp=Z,407µm,22.0s
N32M Quiet Lake 55.96 334 P **P 03 01 10.7 +0.7**
baz=119,SNR=69
S31K Pelican 56.00 329 IAMs_20 IAMs_20 03 27 56.4
comp=Z,635µm,19.0s
S31K Pelican 56.00 329 P **P 03 01 11.2 +1.1**
baz=114,SNR=11
S31K S S 03 09 13.9 +15
baz=114
CNLB Canela 56.10 145 *eP* **P 03 01 09.9 -1.3**
SKAG Skagway 56.19 331 IAmb IAmb 03 01 41.9
comp=Z,1µm,1.6s
SKAG Skagway 56.19 331 P **P 03 01 13.2 +1.7**
SKAG Skagway 56.19 331 P **P 03 01 12.1 +0.7**
baz=115,SNR=11
SKAG S **S 03 09 05.4 +3.9**
baz=115
DUB01 Friburgo-RJ 56.19 133 *eP* **P 03 01 13.2 +1.1**
ABR01 Abrolhos, BA 56.35 126 *eP* **P 03 01 13.7 +0.5**
ISOG Isortoq, Green 56.41 21 *i P* **P 03 01 12.5 -0.4**
ISOG IAmb IAmb 03 01 14.1
comp=Z,522nm,1.1s
ALF01 Guarapari-ES 56.44 130 *eP* **P 03 01 14.4 +0.7**
WHY Whitehorse 56.51 333 IAMs_20 IAMs_20 03 26 18.9
comp=Z,516µm,22.0s
WHY Whitehorse 56.51 333 P **P 03 01 14.2 +0.2**
baz=116,SNR=22
WHY S **S 03 09 07.1 +1.0**
baz=116
UMMG Uummannaq 56.55 12 *eP* **P 03 01 12.8 -1.1**
UMMG IAmb IAmb 03 01 16.5
comp=Z,222nm,1.2s
FARO Faro, Yukon 56.60 335 P **P 03 01 14.8 +0.4**
baz=119,SNR=46
FARO S **S 03 09 08.9 +1.9**
baz=119
PLTB Pedras Altas 56.65 149 IAmb IAmb 03 01 45.0
comp=Z,1µm,1.4s
PLTB Pedras Altas 56.65 149 *eP* **P 03 01 14.8 -0.3**
ANGG Ammassalik, Gr 56.90 21 IAMs_20 IAMs_20 03 26 16.2
comp=Z,378µm,20.0s
M31M Drury Creek, Y 57.01 334 IAmb IAmb 03 01 47.8
comp=Z,867nm,1.5s
M31M Drury Creek, Y 57.01 334 P **P 03 01 18.0 +0.6**
baz=118,SNR=56
M31M S **S 03 09 14.8 +2.3**
baz=118
O30N Mendenhall 57.10 332 IAmb IAmb 03 01 47.4
comp=Z,786nm,1.2s
O30N IAMs_20 IAMs_20 03 28 12.3
comp=Z,742µm,22.0s
O30N Mendenhall 57.10 332 P **P 03 01 18.5 +0.5**
baz=115,SNR=70
O30N S **S 03 09 14.8 +1.1**
baz=115
P30M Million Dollar 57.22 331 S **S 03 09 18.5 +3.2**
baz=114

N31M Braeburn, Yuko 57.27 333 IAmb IAmb 03 01 49.4
comp=Z,1µm,1.3s
N31M IAMs_20 IAMs_20 03 28 22.9
comp=Z,477µm,20.0s
N31M Braeburn, Yuko 57.27 333 P **P** **03 01 19.9 +0.7**
baz=116,SNR=56
N31M S **S** **03 09 17.2 +1.2**
baz=116
SACV Santiago Islan 57.36 83 P **P** **03 01 20.5 -0.1**
P29M Windy Craggy 57.38 331 IAmb IAmb 03 01 49.5
comp=Z,1µm,1.3s
P29M Windy Craggy 57.38 331 P **P** **03 01 21.0 +1.0**
baz=113
P29M S **S** **03 09 19.6 +2.3**
baz=113
UPNV Upernavik 57.60 9 *e*P **P** **03 01 20.9 -0.3**
UPNV IAmb IAmb 03 01 22.5
comp=Z,205nm,1.0s
RES Resolute Bay 57.67 356 LR LR 03 26 16.5
comp=Z,449µm,18.2s,baz=168,slow=36
C36M Paulatuk 57.67 344 IAMs_20 IAMs_20 03 28 44.1
comp=Z,461µm,21.0s
C36M Paulatuk 57.67 344 P **P** **03 01 21.7 -0.1**
baz=133,SNR=55
C36M S **S** **03 09 18.3 -2.5**
baz=133
HYT Haines Junctio 57.75 332 IAmb IAmb 03 02 00.2
comp=Z,1µm,1.8s
HYT Haines Junctio 57.75 332 P **P** **03 01 23.6 +0.9**
baz=114,SNR=34
HYT S **S** **03 09 19.9 -2.5**
baz=114
GO06 Curarrehue 57.76 169 IAmb IAmb 03 01 36.3
comp=Z,916nm,1.4s
GO06 IAMs_20 IAMs_20 03 22 58.9
comp=Z,347µm,20.0s
N30M Aishikik Lake 57.83 333 IAmb IAmb 03 01 53.8
comp=Z,1µm,1.4s
N30M IAMs_20 IAMs_20 03 28 01.2
comp=Z,364µm,22.0s
N30M Aishikik Lake 57.83 333 S **S** **03 09 24.6 +1.2**
baz=115
O29M Mount Kennedy 58.03 331 IAmb IAmb 03 01 49.0
comp=Z,2µm,2.0s
O29M Mount Kennedy 58.03 331 P **P** **03 01 25.3 +0.7**
baz=113
O29M S **S** **03 09 28.9 +2.8**
baz=113
PNL Peninsula 58.17 330 P **P** **03 01 25.9 +0.3**
PNL Peninsula 58.17 330 P **P** **03 01 26.7 +1.1**
baz=111
PNL S **S** **03 09 29.9 +2.1**
baz=111
M30M Minto, Yukon 58.18 334 P **P** **03 01 25.9 +0.3**
baz=116,SNR=84
M30M S **S** **03 09 26.5 -1.4**
baz=116
YUK6 Outpost Mounta 58.18 332 P **P** **03 01 26.8 +0.9**
baz=113,SNR=41
YUK6 S **S** **03 09 29.4 +1.1**
baz=113
YKU2 Yakutat 58.25 330 IAMs_20 IAMs_20 03 28 20.8
comp=Z,628µm,20.0s
MAYO Mayo, Yukon 58.27 335 IAMs_20 IAMs_20 03 31 09.2
comp=Z,710µm,21.0s
MAYO Mayo, Yukon 58.27 335 P **P** **03 01 27.0 +0.9**
baz=117
MAYO S **S** **03 09 29.4 +0.5**
baz=117
LR05 Currie 58.29 170 IAmb IAmb 03 01 44.4
comp=Z,1µm,1.4s
LR05 IAMs_20 IAMs_20 03 23 38.1
comp=Z,312µm,20.0s
ICESG Greenland Ices 58.38 17 *i*P **P** **03 01 26.4 -0.9**
ICESG IAmb IAmb 03 01 28.3
comp=Z,798nm,1.1s
BCPM Bancas Point 58.39 331 IAmb IAmb 03 01 55.8
comp=Z,720nm,1.2s
YUK4 Talbot Arm 58.47 332 P **P** **03 01 28.5 +0.6**
baz=113,SNR=30
YUK4 S **S** **03 09 34.8 +2.8**
baz=113
TRQA Tornquist 58.72 160 P **P** **03 01 29.0 -0.6**
TRQA IAMs_20 IAMs_20 03 27 06.6
comp=Z,414µm,21.0s
TRQA Tornquist 58.72 160 P **P** **03 01 29.0 -0.6**
TRQA pmax pmax
comp=Z,602nm,1.6s
TRQA MLR MLR
comp=Z,414µm,21.0s
TRQA Tornquist 58.72 160 *e*P **P** **03 01 29.0 -0.6**
PINM Pinnacle 58.73 331 P **P** **03 01 30.3 +0.8**
baz=111,SNR=14
PINM S **S** **03 09 38.4 +3.3**
baz=111
M29M Somme Creek 58.83 334 IAmb IAmb 03 02 00.5
comp=Z,685nm,1.3s
M29M IAMs_20 IAMs_20 03 27 24.6
comp=Z,473µm,20.0s
M29M Somme Creek 58.83 334 P **P** **03 01 30.7 +0.5**
baz=114,SNR=69
M29M S **S** **03 09 35.0 -1.4**
baz=114
J30M Hart River 58.89 336 IAmb IAmb 03 01 47.3
comp=Z,1µm,1.8s
J30M IAMs_20 IAMs_20 03 31 34.3
comp=Z,616µm,20.0s
J30M Hart River 58.89 336 P **P** **03 01 31.3 +0.7**
baz=117,SNR=115
J30M S **S** **03 09 36.6 -0.6**
baz=117
YUK8 Steele Glacier 58.94 332 P **P** **03 01 31.9 +0.7**
baz=112,SNR=28
YUK8 S **S** **03 09 37.6 -0.7**
baz=112
L29M L29M 58.96 334 P **P** **03 01 31.5 +0.4**
baz=115
L29M S **S** **03 09 37.1 -0.9**
baz=115
K29M Barlow Dome 59.03 335 IAMs_20 IAMs_20 03 31 08.3
comp=Z,596µm,21.0s
K29M Barlow Dome 59.03 335 P **P** **03 01 31.8 +0.3**
baz=116
K29M S **S** **03 09 37.6 -1.4**
baz=116
PLCA Paso Flores 59.04 169 IAmb IAmb 03 01 56.8
comp=Z,640nm,1.1s
PLCA Paso Flores 59.04 169 P **P** **03 01 32.1 +0.2**
comp=Z,39nm,0.8s,baz=346,slow=8.2,SNR=34
PLCA LR LR 03 23 53.8
comp=Z,172µm,20.1s,baz=352,slow=33 PKP2bc 03 31 16.5
comp=Z,4.5nm,1.2s,baz=143,slow=5.0,SNR=3.6
comp=Z,39nm,0.8s
PLCA Paso Flores 59.04 169 *e*P **P** **03 01 32.1 +0.2**
I30M Mount Dempster 59.21 337 IAmb IAmb 03 02 27.7
comp=Z,1µm,1.6s
I30M Mount Dempster 59.21 337 P **P** **03 01 33.4 +0.6**
baz=118,SNR=221
I30M S **S** **03 09 41.2 -0.1**
baz=118
LL05 Los Muermos 59.21 171 IAMs_20 IAMs_20 03 27 53.3
comp=Z,290µm,18.0s
G31M Satah River 59.29 339 IAmb IAmb 03 02 03.5
comp=Z,977nm,1.4s
G31M IAMs_20 IAMs_20 03 31 47.9
comp=Z,472µm,21.0s
G31M Satah River 59.29 339 P **P** **03 01 33.3 +0.2**
baz=121,SNR=138
G31M S **S** **03 09 41.7 -0.2**
baz=121
LOGN Logan Glacier 59.34 331 IAmb IAmb 03 02 04.0
comp=Z,932nm,1.4s
F31M Tsiigehtchic 59.38 340 IAmb IAmb 03 01 53.9
comp=Z,1µm,1.4s
F31M IAMs_20 IAMs_20 03 28 56.3
comp=Z,358µm,22.0s
F31M Tsiigehtchic 59.38 340 P **P** **03 01 33.9 +0.2**
baz=122,SNR=183
F31M S **S** **03 09 41.8 -1.3**
baz=122
YUK3 Moose Creek 59.43 332 P **P** **03 01 34.7 +0.2**
baz=112,SNR=36
YUK3 S **S** **03 09 45.0 +0.5**
baz=112
CTGM Chitina Glacie 59.54 331 IAmb IAmb 03 02 05.7
comp=Z,748nm,1.3s
CTG Chitna Glacier 59.54 331 P **P** **03 01 36.1 +1.0**
baz=110,SNR=36
CTG S **S** **03 09 48.7 +2.9**
baz=110
J29N Klondike Camp 59.57 336 IAMs_20 IAMs_20 03 32 02.5
comp=Z,749µm,21.0s
J29N Klondike Camp 59.57 336 P **P** **03 01 35.9 +0.6**
baz=115,SNR=46
J29N S **S** **03 09 44.8 -1.1**
baz=115
GRNC Granite Creek 59.65 331 IAmb IAmb 03 02 13.1
comp=Z,545nm,1.2s
TULEG Thule 59.67 4 IAMs_20 IAMs_20 03 27 09.0
comp=Z,576µm,19.0s
TULEG Thule 59.67 4 *i*P **P** **03 01 35.9 +0.2**
TULEG IAmb IAmb 03 01 37.0
comp=Z,119nm,1.0s
BARN Barnard Glacie 59.72 331 P **P** **03 01 36.0 -0.5**
BARN IAmb IAmb 03 02 07.2
comp=Z,2µm,1.9s
A36M Sachs Harbour 59.76 346 IAmb IAmb 03 01 56.2
comp=Z,1µm,1.4s
A36M Sachs Harbour 59.76 346 P **P** **03 01 35.6 -0.7**
baz=133,SNR=67
A36M S **S** **03 09 45.6 -2.3**
baz=133
INK Inuvik 59.77 341 IAmb IAmb 03 01 56.7
comp=Z,963nm,1.3s
INK IAMs_20 IAMs_20 03 30 57.6
comp=Z,483µm,18.0s
INK Inuvik 59.77 341 P **P** **03 01 36.7 +0.2**
baz=122,SNR=243
INK S **S** **03 09 45.6 -2.5**
baz=122
BVCY Beaver Creek 59.85 333 P **P** **03 01 37.7 +0.6**
baz=112,SNR=16
BVCY S **S** **03 09 48.5 -1.0**
baz=112
EPYK Eagle Plains 59.87 338 IAMs_20 IAMs_20 03 32 10.3
comp=Z,474µm,20.0s
EPYK Eagle Plains 59.87 338 P **P** **03 01 37.7 +0.4**
baz=118,SNR=105
EPYK S **S** **03 09 49.8 +0.2**
baz=118
DAWY Dawson 59.87 335 P **P** **03 01 37.0 -0.3**
baz=114,SNR=52
DAWY S **S** **03 09 48.1 -1.7**
baz=114
LL06 Loncomilla 59.98 172 P **P** **03 01 38.8 +0.6**
LL06 IAMs_20 IAMs_20 03 28 16.7
comp=Z,295µm,19.0s
G30M tAoh Zraii Nji 59.98 339 IAmb IAmb 03 02 21.9
comp=Z,1µm,1.8s
G30M IAMs_20 IAMs_20 03 32 13.4
comp=Z,402µm,20.0s
G30M tAoh Zraii Nji 59.98 339 S **S** **03 09 49.4 -1.7**
baz=119
I29M Ogilvie Camp, 59.99 337 IAmb IAmb 03 02 13.9
comp=Z,1µm,1.9s
I29M IAMs_20 IAMs_20 03 29 51.7
comp=Z,647µm,21.0s
I29M Ogilvie Camp, 59.99 337 P **P** **03 01 38.3 +0.2**
baz=116,SNR=83
I29M S **S** **03 09 51.8 +0.6**
baz=116
F30M Barrier River 60.14 340 S **S** **03 09 52.3 -0.8**
baz=119
TGL Tana Glacier 60.16 331 IAmb IAmb 03 02 04.5
comp=Z,1000nm,1.2s
M27K Edge Creek, AK 60.27 333 IAmb IAmb 03 02 10.5
comp=Z,804nm,1.2s
M27K Edge Creek, AK 60.27 333 P **P** **03 01 40.9 +0.8**
baz=110,SNR=92
M27K S **S** **03 09 57.2 +2.1**
baz=110
CRQE Cirque 60.28 331 P **P** **03 01 41.2 +1.0**
baz=108,SNR=30
CRQE S **S** **03 09 57.8 +2.6**
baz=108
CRQM Cirque 60.30 331 IAmb IAmb 03 02 17.3
comp=Z,1µm,1.4s
LL01 San Ignacio de 60.32 171 P **P** **03 01 40.3 -0.2**
LL01 IAmb IAmb 03 02 26.6
comp=Z,962nm,1.5s
LL01 IAMs_20 IAMs_20 03 27 21.8
comp=Z,286µm,20.0s
SOEG Soedalen 60.38 20 *e*P **P** **03 01 40.6 0.0**
H29M Whitestone 60.39 338 IAmb IAmb 03 02 01.1
comp=Z,638nm,1.2s
H29M IAMs_20 IAMs_20 03 30 08.1
comp=Z,419µm,21.0s
H29M Whitestone 60.39 338 S **S** **03 09 56.9 +0.6**
baz=116
MCARA McCarthy VSAT 60.45 332 P **P** **03 01 40.8 -0.5**
MCARA IAmb IAmb 03 02 14.8
comp=Z,475nm,1.0s
MCARA McCarthy VSAT 60.45 332 P **P** **03 01 42.4 +1.1**
baz=109,SNR=37
MCARA S **S** **03 09 57.2 +0.1**
baz=109
L27K Beaver Creek, 60.50 334 IAMs_20 IAMs_20 03 29 41.1
comp=Z,527µm,20.0s
L27K Beaver Creek, 60.50 334 P **P** **03 01 41.9 +0.3**
baz=111
L27K S **S** **03 09 59.9 +2.1**
baz=111
G29M Pine Creek 60.58 338 IAmb IAmb 03 02 35.6
comp=Z,1µm,1.5s
G29M IAMs_20 IAMs_20 03 32 40.9
comp=Z,475µm,20.0s
G29M Pine Creek 60.58 338 S **S** **03 09 58.2 -0.5**
baz=117
VRDI Verde Repeater 60.60 331 IAmb IAmb 03 02 12.8
comp=Z,837nm,1.5s
LL07 Hotel Espejo d 60.61 172 P **P** **03 01 42.4 -0.1**
LL07 IAMs_20 IAMs_20 03 28 44.3
comp=Z,313µm,18.0s
I28M Miner Creek 60.65 336 P **P** **03 01 43.1 +0.5**
baz=114,SNR=126
I28M S **S** **03 09 58.6 -1.2**
baz=114
KAIM Kayak Island 60.66 330 S **S** **03 10 03.3 +3.5**
baz=107
M26K Nabesna, AK 60.77 333 P **P** **03 01 44.3 +0.7**
baz=110
M26K S **S** **03 10 02.9 +1.6**
baz=110
EGAK Eagle 60.86 336 P **P** **03 01 42.5 -1.4**
EGAK IAMs_20 IAMs_20 03 29 19.6
comp=Z,530µm,21.0s
EGAK Eagle 60.86 336 P **P** **03 01 44.0 0.0**
baz=112,SNR=36
EGAK S **S** **03 10 00.0 -2.2**
baz=112
GO07 Milladeo Hill, 60.86 172 P **P** **03 01 44.8 +0.6**
GO07 IAMs_20 IAMs_20 03 23 47.0
comp=Z,317µm,20.0s
SUMG Summit 60.91 14 P **P** **03 01 43.0 -1.7**
SUMG Summit 60.91 14 P **P** **03 01 45.0 +0.4**
SUMG S **S** **03 10 01.5 -1.9**
SUMG Summit 60.91 14 P **P** **03 01 43.0 -1.7**
SUMG pmax pmax
comp=Z,7µm,2.5s
SUMG MLR MLR
comp=Z,858µm,19.0s
SUMG Summit 60.91 14 *i*P **P** **03 01 44.6 -0.1**
SUMG IAmb IAmb 03 01 46.4
comp=Z,863nm,1.3s
RAGM Ragged Mountai 60.91 330 IAmb IAmb 03 02 14.0
comp=Z,995nm,1.5s
K27K Chicken 60.95 335 S **S** **03 10 04.1 +0.7**
baz=111
BMRM Bremner River 61.05 331 P **P** **03 01 46.3 +0.8**
baz=107,SNR=30
BMRM S **S** **03 10 05.4 +0.5**
baz=107
PMOZ Porto Moniz, M 61.09 62 *e*P **P** **03 01 47.1 +0.8**
comp=Z,1µm,1.7s
PMOZ *i*S **S** **03 10 12.0 +5.5**
PMOZ *e*LQ LQ 03 16 54.7
PMOZ *e*LR LR 03 20 07.5
comp=Z,163µm,20.0s
PMOZ Porto Moniz, M 61.09 62 P **P** **03 01 45.1 -1.2**
PMOZ Porto Moniz, M 61.09 62 P **P** **03 01 47.1 +0.8**
PMOZ S **S** **03 10 11.6 +5.1**
L26K Log Cabin Wild 61.13 333 P **P** **03 01 45.2 -0.8**
L26K IAmb IAmb 03 02 16.4
comp=Z,693nm,1.2s
L26K Log Cabin Wild 61.13 333 P **P** **03 01 46.8 +0.8**
baz=109,SNR=116
L26K S **S** **03 10 08.3 +2.4**
baz=109
LL02 Futaleuf 61.20 170 P **P** **03 01 46.2 -0.3**
LL02 IAmb IAmb 03 02 11.4
comp=Z,632nm,1.2s
E29M Blow River 61.22 340 IAMs_20 IAMs_20 03 32 41.7
comp=Z,337µm,20.0s
E29M Blow River 61.22 340 S **S** **03 10 05.4 -1.3**
baz=118
N25K Chitina, Valde 61.24 331 IAMs_20 IAMs_20 03 29 46.8
comp=Z,591µm,22.0s
N25K Chitina, Valde 61.24 331 P **P** **03 01 47.7 +1.0**
baz=108,SNR=49
N25K S **S** **03 10 09.0 +1.6**
baz=108
MENT Mentasta 61.27 333 IAmb IAmb 03 02 17.3
comp=Z,1µm,1.6s
MENT Mentasta 61.27 333 P **P** **03 01 47.4 +0.6**
PMAR Madeira 61.34 62 *e*P **P** **03 01 48.4 +0.4**
comp=Z,729nm,1.7s
I27K Kandik River 61.35 336 P **P** **03 01 48.3 +0.9**
baz=112
I27K S **S** **03 10 07.5 -1.2**
baz=112
FUL Funchal 61.36 62 *e*P **P** **03 01 48.0 +0.1**
comp=Z,422nm,1.8s
Q23K Middleton Isla 61.46 329 P **P** **03 01 49.3 +1.1**
baz=105
Q23K S **S** **03 10 12.2 +2.2**
baz=105
EYAK Cordova Ski Ar 61.47 330 P **P** **03 01 48.8 +0.6**
EYAK Cordova Ski Ar 61.47 330 P **P** **03 01 49.0 +0.9**
baz=106,SNR=26
EYAK S **S** **03 10 12.3 +2.2**
baz=106
F28M Old Crow 61.53 339 P **P** **03 01 49.5 +0.9**
baz=115,SNR=520
F28M S **S** **03 10 10.4 -0.4**
baz=115
H27K Steamboat Moun 61.56 337 P **P** **03 01 49.7 +0.9**
baz=113
H27K S **S** **03 10 10.6 -0.7**
baz=113
SCRK Sand Creek 61.72 334 IAmb IAmb 03 02 16.0
comp=Z,906nm,1.7s
SCRK Sand Creek 61.72 334 P **P** **03 01 50.9 +0.9**
baz=109,SNR=23
SCRK S **S** **03 10 15.2 +1.7**
baz=109
J26L Joseph Creek 61.72 335 P **P** **03 01 50.7 +0.7**
baz=110
J26L S **S** **03 10 15.8 +2.3**
baz=110
HARP HAARP 61.73 332 P **P** **03 01 50.7 +0.8**
baz=107,SNR=20
HARP S **S** **03 10 14.6 +1.2**
baz=107
TAOE Nuku Hiva Isla 61.75 250 P **P** **03 01 50.2 -0.7**
TAOE IAMs_20 IAMs_20 03 23 56.0
comp=Z,247µm,18.0s
TAOE Nuku Hiva Isla 61.75 250 P **P** **03 01 51.2 +0.3**
TAOE Nuku Hiva Isla 61.75 250 *e*PKP2 **P** **03 01 51.1 +0.2**
comp=Z,3µm,1.4s
TAOE Nuku Hiva Isla 61.75 250 *e*PP PP 03 04 15.3 +8.4
comp=Z,26µm,30.2s
TAOE *e*S **S** **03 10 09.0 -6.2**
comp=Z,71µm,32.5s
TAOE *e*LQ LQ 03 17 16.9
comp=Z,2549µm,29.2s
TAOE *e*LR LR 03 20 08.1
comp=Z,385µm,26.4s
PMPST Porto Santo, M 61.81 61 *e*P **P** **03 01 51.6 +0.6**
comp=Z,858nm,1.5s
PMPS Porto Santo 61.81 61 *e*P **P** **03 01 51.4 +0.4**
comp=Z,997nm,1.7s
KLU Klutina 61.81 331 IAMs_20 IAMs_20 03 31 18.0
comp=Z,622µm,21.0s
KLU Klutina 61.81 331 P **P** **03 01 51.3 +0.7**
baz=106,SNR=92
KLU S **S** **03 10 12.9 -1.8**
baz=106
G27K Doyon Strip 61.84 338 IAmb IAmb 03 02 35.2
comp=Z,866nm,1.6s
G27K Doyon Strip 61.84 338 S **S** **03 10 14.8 +0.1**
baz=113
I26K Coal Creek Min 61.84 336 IAMs_20 IAMs_20 03 29 40.4
comp=Z,574µm,21.0s
I26K Coal Creek Min 61.84 336 S **S** **03 10 15.4 +0.7**
baz=111
E28M Babbage River 61.85 340 IAMs_20 IAMs_20 03 32 54.3
comp=Z,289µm,19.0s
E28M Babbage River 61.85 340 P **P** **03 01 50.9 +0.3**
baz=116,SNR=205
E28M S **S** **03 10 13.7 -1.1**
baz=116
D28M Stokes Point 61.92 341 S **S** **03 10 16.0 +0.4**
baz=117
PTCN Pitcairn Islan 61.97 228 P **P** **03 01 51.5 -0.6**
PTCN IAmb IAmb 03 02 07.7
comp=Z,1µm,1.2s
PTCN Pitcairn Islan 61.97 228 IAMs_20 IAMs_20 03 22 39.6
comp=Z,561µm,19.0s
PTCN Pitcairn Islan 61.97 228 P **P** **03 01 53.1 +1.0**
RIDG Independent Ri 62.01 334 P **P** **03 01 52.8 +1.0**
baz=108,SNR=20
RIDG S **S** **03 10 19.4 +2.4**
baz=108
MACI Morro de la Ar 62.02 67 P **P** **03 01 52.4 -0.4**
PAX Paxson 62.03 333 P **P** **03 01 52.6 +0.5**
baz=107,SNR=145
PAX S **S** **03 10 17.9 +0.4**
baz=107
M24K Tolsona, Glenn 62.10 332 IAMs_20 IAMs_20 03 30 02.5
comp=Z,606µm,20.0s
M24K Tolsona, Glenn 62.10 332 P **P** **03 01 53.6 +1.1**
baz=106,SNR=165
M24K S **S** **03 10 18.9 +0.6**
baz=106
P23K Montague Islan 62.12 329 P **P** **03 01 52.9 +0.3**
baz=104,SNR=16
P23K S **S** **03 10 16.1 -2.3**
baz=104
GLI Glacier Island 62.20 330 IAmb IAmb 03 02 16.6
comp=Z,679nm,1.2s
GLI Glacier Island 62.20 330 P **P** **03 01 53.0 -0.1**
baz=105,SNR=13
GLI S **S** **03 10 20.1 +0.7**
baz=105
NEEM North Greenlan 62.23 8 *i*P **P** **03 01 53.1 -0.4**
NEEM IAmb IAmb 03 01 59.1
comp=Z,880nm,1.1s
AY01 Puyuhuapi 62.28 171 IAmb IAmb 03 02 29.3
comp=Z,712nm,1.4s
E27K Coleen River 62.37 339 P **P** **03 01 55.0 +0.8**
baz=114
E27K S **S** **03 10 22.4 +1.1**
baz=114
K24K Donnelly Dome 62.42 334 P **P** **03 01 55.4 +0.8**
baz=108,SNR=101
K24K S **S** **03 10 23.4 +1.2**
baz=108
J25K Salcha River, 62.50 335 P **P** **03 01 56.0 +0.9**
baz=108,SNR=371
J25K S **S** **03 10 24.5 +1.3**
baz=108
SCM Sheep Creek Mo 62.55 331 P **P** **03 01 55.1 -0.4**
SCM IAMs_20 IAMs_20 03 30 16.5
comp=Z,668µm,22.0s
SCM Sheep Creek Mo 62.55 331 P **P** **03 01 55.9 +0.3**
baz=105,SNR=64
SCM S **S** **03 10 24.2 +0.3**
baz=105
SCM Sheep Creek Mo 62.55 331 P **P** **03 01 55.2 -0.4**
SCM pmax pmax
comp=Z,3µm,1.8s
SCM MLR MLR
comp=Z,668µm,22.0s
D27M Malcolm River 62.59 340 IAmb IAmb 03 02 16.5
comp=Z,768nm,1.4s
D27M IAMs_20 IAMs_20 03 33 30.1
comp=Z,326µm,21.0s
D27M Malcolm River 62.59 340 S **S** **03 10 24.5 +0.3**
baz=115
BORG Borgarnes 62.66 25 P **P** **03 01 56.2 +0.1**
BORG Borgarnes 62.66 25 P **P** **03 01 56.2 +0.1**
BORG pmax pmax

comp=Z,3µm,2.5s
BORG Borgarnes 62.66 25 LR LR 03 27 54.2
comp=Z,182µm,20.6s,baz=267,slow=35
G26K Porcupine Rive 62.67 337 P **P** **03 01 56.8 +0.6**
baz=111
G26K S **S** **03 10 25.6 +0.5**
baz=111
M23K Glacier View 62.72 331 P **P** **03 01 56.8 +0.2**
baz=105,SNR=61
M23K S **S** **03 10 25.9 -0.1**
baz=105
PRP Porcupine Dome 62.85 336 IAmb IAmb 03 02 42.0
comp=Z,491nm,1.2s
PRP Porcupine Dome 62.85 336 P **P** **03 01 58.3 +0.7**
baz=109,SNR=56
PRP S **S** **03 10 27.4 -0.3**
baz=109
EOSO Osorio 62.88 67 P **P** **03 01 59.4 +1.1**
DHY Denali Highway 62.90 333 IAmb IAmb 03 02 21.7
comp=Z,674nm,1.4s
DHY Denali Highway 62.90 333 P **P** **03 01 58.2 +0.2**
baz=106,SNR=40
DHY S **S** **03 10 26.5 -1.9**
baz=106
WAT6 Susitna Watana 62.93 332 P **P** **03 01 58.5 +0.4**
baz=105,SNR=121
WAT6 S **S** **03 10 26.7 -2.1**
baz=105
KNK Knik Glacier 62.97 331 IAmb IAmb 03 02 28.2
comp=Z,2µm,1.7s
KNK Knik Glacier 62.97 331 P **P** **03 01 58.4 +0.2**
baz=104,SNR=63
KNK S **S** **03 10 29.3 +0.2**
baz=104
SML Sawmill 63.00 331 IAmb IAmb 03 02 26.7
comp=Z,1µm,1.2s
SML Sawmill 63.00 331 P **P** **03 01 58.7 +0.1**
baz=104,SNR=52
SML S **S** **03 10 29.6 0.0**
baz=104
F26K Sheenjek River 63.07 338 P **P** **03 01 59.9 +1.1**
baz=111,SNR=186
F26K S **S** **03 10 32.4 +2.1**
baz=111
HDA Harding Lake 63.09 334 P **P** **03 01 59.4 +0.4**
baz=107,SNR=261
HDA S **S** **03 10 30.1 -0.4**
baz=107
HDA S **S** **03 10 30.1 -0.4**
baz=107
BMAR Burnt Mountain 63.13 338 P **P** **03 01 59.3 0.0**
SEW Seward 63.15 329 P **P** **03 01 59.1 -0.3**
baz=102,SNR=17
SEW S **S** **03 10 30.5 -0.7**
baz=102
ILAR Eielson Array 63.17 335 P **P** **03 01 59.1 -0.4**
ILAR Eielson Array 63.17 335 P **P** **03 01 59.4 -0.2**
comp=Z,246nm,0.9s,baz=111,slow=4.2,SNR=366
ILAR LR LR 03 30 07.0
comp=Z,379µm,22.0s,baz=108,slow=37
ILAR PKPPKP **P'P'df** **03 30 57.2 -6.1**
comp=Z,1.2nm,0.9s,baz=280,slow=3.6,SNR=5.0
comp=Z,246nm,0.9s
PMR Palmer 63.32 331 IAmb IAmb 03 02 30.4
comp=Z,2µm,1.9s
PMR Palmer 63.32 331 P **P** **03 02 00.7 +0.1**
PMR Palmer 63.32 331 P **P** **03 02 00.6 +0.1**
baz=103,SNR=50
PMR S **S** **03 10 32.8 -0.6**
baz=103
WAT1 Susitna Watana 63.35 332 P **P** **03 02 01.0 +0.2**
baz=104
WAT1 S **S** **03 10 33.6 -0.3**
baz=104
O22K Cooper Landing 63.36 330 IAmb IAmb 03 02 29.1
comp=Z,753nm,0.9s
O22K IAMs_20 IAMs_20 03 31 11.0
comp=Z,436µm,21.0s
O22K Cooper Landing 63.36 330 P **P** **03 02 00.5 -0.3**
baz=102,SNR=11
O22K S **S** **03 10 31.9 -2.0**
baz=102
G25K Bearman Lake 63.47 337 S **S** **03 10 36.7 +1.6**
baz=109
POKR Poker Plat Res 63.49 335 IAmb IAmb 03 02 46.1
comp=Z,1µm,1.4s
POKR IAMs_20 IAMs_20 03 30 15.2
comp=Z,440µm,20.0s
POKR Poker Plat Res 63.49 335 P **P** **03 02 02.1 +0.4**
baz=106,SNR=135
POKR S **S** **03 10 32.8 -2.7**
baz=106
COYC Coyhaique 63.49 171 IAmb IAmb 03 02 15.5
comp=Z,830nm,1.3s
RC01 Rabbit Creek A 63.50 330 P **P** **03 02 02.1 +0.3**
baz=102,SNR=98
RC01 S **S** **03 10 34.0 -1.7**
baz=102
CCB Clear Creek Bu 63.51 334 IAMs_20 IAMs_20 03 34 36.8
comp=Z,444µm,21.0s
F25K Christian Rive 63.57 338 P **P** **03 02 03.5 +1.2**
baz=110,SNR=243
F25K S **S** **03 10 38.6 +2.0**
baz=110
COLA College 63.59 335 P **P** **03 02 01.5 -0.8**
COLA IAmb IAmb 03 02 20.7
comp=Z,996nm,1.4s
COLA College 63.59 335 IAMs_20 IAMs_20 03 29 34.0
comp=Z,471µm,22.0s
COLA College 63.59 335 P **P** **03 02 02.1 -0.2**
comp=Z,296nm,1.3s
COLA College 63.59 335 P **P** **03 02 02.5 +0.2**
baz=106
COLA S **S** **03 10 36.4 -0.3**
baz=106
COLA College 63.59 335*c i* P **P** **03 02 03.1 +0.8**
BRSE Bradley Lake S 63.71 329 P **P** **03 02 03.2 0.0**
baz=101,SNR=44
BRSE S **S** **03 10 37.7 -0.7**
baz=101
E25K Arctic Village 63.72 338 P **P** **03 02 04.2 +1.0**
baz=110,SNR=198
E25K S **S** **03 10 39.6 +1.2**
baz=110
FIS Fire Island 63.74 330 IAMs_20 IAMs_20 03 31 48.9
comp=Z,516µm,19.0s
MCK McKinley 63.75 333 P **P** **03 02 03.9 +0.5**
baz=104,SNR=112
MCK S **S** **03 10 39.2 +0.4**
baz=104
MDM Murphy Dome 63.77 335 IAmb IAmb 03 02 33.5
comp=Z,493nm,1.1s
MDM IAMs_20 IAMs_20 03 34 56.7
comp=Z,392µm,19.0s
MBO M'Bour 63.78 82 P **P** **03 02 04.5 +0.1**
BRLK Bradley Lake 63.79 329 IAMs_20 IAMs_20 03 31 37.6
comp=Z,526µm,20.0s
H24K Noodor Dome 63.87 336 IAmb IAmb 03 02 48.9
comp=Z,696nm,1.3s
H24K Noodor Dome 63.87 336 P **P** **03 02 05.0 +0.7**
baz=106,SNR=133
H24K S **S** **03 10 41.7 +1.4**
baz=106
G24K Hadweenzic Riv 63.97 337 IAMs_20 IAMs_20 03 34 49.8
comp=Z,575µm,20.0s
G24K Hadweenzic Riv 63.97 337 P **P** **03 02 05.9 +1.1**
baz=107,SNR=64
G24K S **S** **03 10 43.5 +2.1**
baz=107
NEA2 Nenana 64.02 334 IAmb IAmb 03 02 24.9
comp=Z,651nm,1.2s
NEA2 IAMs_20 IAMs_20 03 33 05.3
comp=Z,418µm,21.0s
NEA2 Nenana 64.02 334 P **P** **03 02 05.2 0.0**
baz=105,SNR=31
NEA2 S **S** **03 10 42.1 0.0**
baz=105
CUT Chulitna 64.03 332 P **P** **03 02 05.5 +0.4**
baz=102,SNR=74
CUT S **S** **03 10 41.0 -1.2**
baz=102
SUA Susitna One 64.05 330 P **P** **03 02 06.1 +0.5**
baz=102,SNR=47
SUA S **S** **03 10 42.3 -0.5**
baz=102
CAPN Captain Cook N 64.11 330 IAMs_20 IAMs_20 03 32 09.8
comp=Z,440µm,18.0s
CAPN Captain Cook N 64.11 330 P **P** **03 02 07.1 +1.3**
baz=101,SNR=10.0
CAPN S **S** **03 10 46.2 +3.0**
baz=101
C26K Camden Bay 64.13 340 S **S** **03 10 44.6 +1.3**
baz=111
HOM Homer 64.15 328 IAMs_20 IAMs_20 03 31 57.8
comp=Z,571µm,21.0s
HOM Homer 64.15 328 P **P** **03 02 06.5 +0.5**
baz=100
HOM S **S** **03 10 45.3 +1.5**
baz=100
TRF Thorofare Moun 64.27 333 P **P** **03 02 07.6 +0.5**
baz=103,SNR=164
TRF S **S** **03 10 45.5 -0.1**
baz=103
I23K Minto, Yukon-K 64.28 335 IAMs_20 IAMs_20 03 35 11.2
comp=Z,495µm,19.0s
I23K Minto, Yukon-K 64.28 335 P **P** **03 02 07.6 +0.8**
baz=105,SNR=353
I23K S **S** **03 10 45.0 -0.3**
baz=105
KDAK Kodiak Island 64.33 326 P **P** **03 02 06.2 -1.1**
KDAK IAmb IAmb 03 02 36.7
comp=Z,2µm,1.9s
KDAK Kodiak Island 64.33 326 P **P** **03 02 07.1 -0.1**
baz=98
KDAK S **S** **03 10 48.2 +2.1**
baz=98
KDAK Kodiak Island 64.33 326*c i* P **P** **03 02 06.0 -1.3**
KDAK pmax pmax
comp=Z,504nm,1.1s
KDAK MLR MLR
comp=Z,874µm,20.0s
KDAK Kodiak Island 64.33 326 LR LR 03 33 58.2
comp=Z,544µm,18.1s,baz=128,slow=40
Q20K Shuyak Island 64.36 327 P **P** **03 02 07.9 +0.4**
baz=99,SNR=20
Q20K S **S** **03 10 46.6 +0.2**
baz=99
F24K Squaw Lake 64.37 337 P **P** **03 02 08.7 +1.3**
baz=107,SNR=117
F24K S **S** **03 10 49.0 +2.7**
baz=107
SCO Scoresbysund 64.38 19 P **P** **03 02 06.2 -1.1**
SCO Scoresbysund 64.38 19 P **P** **03 02 06.3 -1.1**
SCO pmax pmax
comp=Z,615nm,1.7s
SCO MLR MLR
comp=Z,657µm,18.0s
SCO Scoresbysund 64.38 19*i* P **P** **03 02 07.0 -0.4**
SCO IAmb IAmb 03 02 08.9
comp=Z,209nm,1.3s
D25K Kavik River 64.41 339 IAMs_20 IAMs_20 03 34 52.0
comp=Z,476µm,22.0s
D25K Kavik River 64.41 339 S **S** **03 10 45.2 -1.6**
baz=110
SKT Skwentna 64.52 331 IAMs_20 IAMs_20 03 32 39.6
comp=Z,576µm,20.0s
SKT Skwentna 64.52 331 P **P** **03 02 08.6 +0.1**
baz=101,SNR=80
SKT S **S** **03 10 46.5 -1.9**
baz=101
KTH Kantishna Hill 64.57 333 IAmb IAmb 03 02 38.8
comp=Z,1µm,1.3s
OHAK Old Harbor 64.64 326 IAMs_20 IAMs_20 03 32 54.0
comp=Z,340µm,20.0s
OHAK Old Harbor 64.64 326 P **P** **03 02 09.1 -0.2**
OHAK Old Harbor 64.64 326 P **P** **03 02 09.3 +0.1**
baz=97,SNR=17
OHAK S **S** **03 10 49.0 -0.8**
baz=97
N20K Mount Spurr 64.69 330 P **P** **03 02 09.7 0.0**
baz=100,SNR=92
N20K S **S** **03 10 50.6 -0.1**
baz=100
O20K Slope Mountain 64.70 329 P **P** **03 02 10.1 +0.3**
baz=99,SNR=17
O20K S **S** **03 10 52.4 +1.6**
baz=99
BPAW Bear Paw Mtn. 64.72 333 P **P** **03 02 10.0 +0.2**
baz=103,SNR=40
BPAW S **S** **03 10 50.1 -0.6**
baz=103
E24K Your Creek 64.75 338 IAmb IAmb 03 03 04.2
comp=Z,584nm,1.3s
E24K Your Creek 64.75 338 S **S** **03 10 52.7 +1.6**
baz=107
MLY Manley 64.82 334 IAmb IAmb 03 02 51.0
comp=Z,1µm,1.4s
MLY IAMs_20 IAMs_20 03 31 35.5
comp=Z,385µm,19.0s
MLY Manley 64.82 334 P **P** **03 02 10.9 +0.5**
baz=103,SNR=84
MLY S **S** **03 10 53.2 +1.1**
baz=103
P19K Oil Pt 64.94 328 IAmb IAmb 03 02 39.0
comp=Z,641nm,1.1s
P19K Oil Pt 64.94 328 P **P** **03 02 11.1 -0.2**
baz=98,SNR=12
P19K S **S** **03 10 53.9 +0.3**
baz=98
G23K Bananza Creek 64.95 336 IAmb IAmb 03 02 30.2
comp=Z,632nm,1.1s
G23K IAMs_20 IAMs_20 03 35 30.4
comp=Z,558µm,20.0s
G23K Bananza Creek 64.95 336 P **P** **03 02 12.5 +1.2**
baz=105,SNR=109
G23K S **S** **03 10 56.3 +2.7**
baz=105
ILSW Iliamna Southw 64.95 329 P **P** **03 02 10.6 -0.9**
PPLA Purkeypile 65.00 332 P **P** **03 02 11.7 -0.1**
baz=101,SNR=58
PPLA S **S** **03 10 53.1 -1.4**
baz=101
SII Sitkinak Islan 65.05 325 IAMs_20 IAMs_20 03 31 41.9
comp=Z,444µm,22.0s
SII Sitkinak Islan 65.05 325 P **P** **03 02 12.3 +0.3**
SII Sitkinak Islan 65.05 325 S **S** **03 10 53.5 -1.6**
baz=96
Q19K Cape Douglas, 65.05 327 P **P** **03 02 12.0 -0.1**
baz=98,SNR=8.6
Q19K S **S** **03 10 52.9 -2.1**
baz=98
CAST Castle Rocks 65.05 332 IAmb IAmb 03 02 42.5
comp=Z,1µm,1.7s
CAST Castle Rocks 65.05 332 P **P** **03 02 11.8 -0.2**
baz=101,SNR=103
CAST S **S** **03 10 53.5 -1.4**
baz=101
AY03 Cochrane 65.07 172 IAmb IAmb 03 02 26.7
comp=Z,763nm,1.2s
AY03 IAMs_20 IAMs_20 03 26 05.3
comp=Z,216µm,19.0s
COLD Coldfoot 65.15 337 P **P** **03 02 13.9 +1.4**
baz=105,SNR=167
COLD S **S** **03 10 58.8 +2.9**
baz=105
E23K Chandalar 65.15 338 S **S** **03 10 57.6 +1.5**
baz=106
D24K Happy Valley 65.18 339 IAmb IAmb 03 02 44.6
comp=Z,1µm,1.4s
D24K Happy Valley 65.18 339 S **S** **03 10 57.8 +1.6**
baz=107
CHUM Lake Minchumin 65.24 333 P **P** **03 02 13.0 -0.1**
baz=101,SNR=65
CHUM S **S** **03 10 55.9 -1.3**
baz=101
M20K Styx River 65.25 331 S **S** **03 10 55.9 -1.6**
baz=100
H22K Ishtalitna Cre 65.28 335 P **P** **03 02 13.9 +0.5**
baz=103
H22K S **S** **03 10 57.9 +0.3**
baz=103
R18K Karluk 65.30 326 S **S** **03 10 55.1 -2.9**
baz=96
C24K Franklin Bluff 65.31 340 P **P** **03 02 14.3 +0.8**
baz=107,SNR=224
C24K S **S** **03 10 57.5 -0.3**
baz=107
O19K Port Alsworth 65.56 329 IAmb IAmb 03 02 38.4
comp=Z,908nm,1.2s
O19K IAMs_20 IAMs_20 03 32 14.0
comp=Z,417µm,21.0s
O19K Port Alsworth 65.56 329 P **P** **03 02 14.8 -0.4**
baz=98,SNR=16
O19K S **S** **03 10 59.1 -2.0**
baz=98
G22K Bettles 65.57 336 P **P** **03 02 16.5 +1.3**
baz=103,SNR=167
G22K S **S** **03 11 03.8 +2.8**
baz=103
L20K Farewell, AK 65.69 331 P **P** **03 02 15.9 -0.2**
baz=99
L20K S **S** **03 11 00.5 -2.3**
baz=99
Q18K Katmai Hardscr 65.72 327 P **P** **03 02 16.1 -0.3**
baz=96,SNR=34
Q18K S **S** **03 11 00.7 -2.7**
baz=96
N19K Bonanza Creek 65.73 329 P **P** **03 02 16.1 -0.3**
baz=98
N19K S **S** **03 11 00.8 -2.6**
baz=98
D23K Nanushuk River 65.77 339 S **S** **03 11 04.0 +0.4**
baz=105
CHIR Chirikof Islan 65.78 324 P **P** **03 02 16.3 -0.4**
CHIR Chirikof Islan 65.78 324 S **S** **03 11 02.8 -1.1**
baz=95
H21K Melozitna Rive 65.80 335 IAmb IAmb 03 03 08.9
comp=Z,1µm,1.8s
H21K Melozitna Rive 65.80 335 P **P** **03 02 17.0 +0.2**
baz=102
H21K S **S** **03 11 04.2 +0.1**
baz=102
P18K Big Mountain, 65.92 328 IAMs_20 IAMs_20 03 32 54.7
comp=Z,545µm,21.0s
P18K Big Mountain, 65.92 328 P **P** **03 02 17.1 -0.6**
baz=97,SNR=16
P18K S **S** **03 11 02.6 -3.1**
baz=97
K20K Telida 65.92 332 IAmb IAmb 03 02 47.2
comp=Z,829nm,1.1s
K20K Telida 65.92 332 S **S** **03 11 03.2 -2.4**
baz=99
O18K Koktuh Hills 65.96 328 IAMs_20 IAMs_20 03 34 21.8
comp=Z,414µm,19.0s
O18K Koktuh Hills 65.96 328 P **P** **03 02 17.4 -0.5**
baz=97,SNR=40
O18K S **S** **03 11 02.9 -3.3**
baz=97
E22K Anaktuvuk Pass 65.97 338 IAmb IAmb 03 02 49.0
comp=Z,1µm,1.7s
E22K Anaktuvuk Pass 65.97 338 S **S** **03 11 06.4 +0.4**
baz=104
C23K Itkillik River 65.98 340 S **S** **03 11 05.3 -0.7**
baz=106
J20K Nowinta River 66.09 333 P **P** **03 02 18.6 0.0**
baz=100,SNR=134
J20K S **S** **03 11 06.6 -0.9**
baz=100
L19K White Mountain 66.09 331 IAmb IAmb 03 02 43.6
comp=Z,561nm,1.2s
L19K IAMs_20 IAMs_20 03 36 25.0
comp=Z,466µm,20.0s
L19K White Mountain 66.09 331 P **P** **03 02 18.6 -0.2**
baz=98,SNR=78
L19K S **S** **03 11 05.5 -2.3**
baz=98
Q17K Contact Creek 66.14 327 P **P** **03 02 18.8 -0.3**
baz=96,SNR=56
Q17K S **S** **03 11 05.2 -3.4**
baz=96
VAL Valentia 66.20 40 P **P** **03 02 21.2 +1.7**
VAL Valentia 66.20 40 P **P** **03 02 20.0 +0.4**
VAL S **S** **03 11 11.7 +2.5**
IMAR Indian Mountai 66.25 335 P **P** **03 02 19.0 -0.6**
G21K Allakaket 66.25 336 IAMs_20 IAMs_20 03 33 58.0
comp=Z,573µm,21.0s
G21K Allakaket 66.25 336 S **S** **03 11 11.7 +2.2**
baz=101
GO08 Villa O'Higgin 66.26 172 P **P** **03 02 20.6 +0.8**
GO08 IAmb IAmb 03 03 01.7
comp=Z,1µm,2.0s
SVW2 Sparrevohn 66.30 330 P **P** **03 02 19.0 -1.0**
comp=Z,412nm,1.5s
I20K Naaghedeneel 66.34 334 IAMs_20 IAMs_20 03 35 10.5
comp=Z,560µm,21.0s
I20K Naaghedeneel 66.34 334 P **P** **03 02 20.6 +0.5**
baz=100
I20K S **S** **03 11 09.3 -1.1**
baz=100
R17K Ugashik Creek 66.35 326 IAMs_20 IAMs_20 03 29 51.2
comp=Z,395µm,22.0s
R17K Ugashik Creek 66.35 326 P **P** **03 02 20.3 0.0**
baz=95,SNR=15
R17K S **S** **03 11 08.8 -2.0**
baz=95
F21K Alatna River 66.39 336 S **S** **03 11 12.9 +1.7**
baz=102
N18K Kilae Creek 66.39 329 IAmb IAmb 03 02 50.0
comp=Z,1µm,1.4s
N18K Kilae Creek 66.39 329 P **P** **03 02 20.4 -0.3**
baz=97
N18K S **S** **03 11 09.0 -2.4**
baz=97
D22K Ayikyak River 66.45 338 S **S** **03 11 12.5 +0.6**
baz=103
M18K Stony River 66.46 330 P **P** **03 02 20.8 -0.3**
baz=97,SNR=93
M18K S **S** **03 11 09.5 -2.6**
baz=97
P17K Kvichak River 66.51 328 S **S** **03 11 11.0 -1.8**
baz=95
Q16K King Salmon 66.58 327 P **P** **03 02 21.6 -0.2**
baz=95,SNR=31
Q16K S **S** **03 11 11.4 -2.2**
baz=95
H20K Anotleneega Mo 66.62 334 P **P** **03 02 22.0 0.0**
baz=100,SNR=24
H20K S **S** **03 11 13.2 -0.8**
baz=100
J19K Poorman 66.70 333 IAmb IAmb 03 03 02.4
comp=Z,1µm,1.8s
J19K Poorman 66.70 333 P **P** **03 02 22.3 -0.2**
baz=98,SNR=72
J19K S **S** **03 11 12.5 -2.4**
baz=98
TTA Tatalina 66.73 332 IAMs_20 IAMs_20 03 34 03.0
comp=Z,502µm,20.0s
TTA Tatalina 66.73 332 P **P** **03 02 21.9 -0.9**
TTA Tatalina 66.73 332 P **P** **03 02 22.5 -0.3**
baz=97,SNR=142
TTA S **S** **03 11 13.9 -1.6**
baz=97
IGLA Glengowla, Co 66.79 39 P **P** **03 02 24.5 +1.3**
IGLA Glengowla, Co 66.79 39*e* P **P** **03 02 24.0 +0.8**
O17K Koliganek Bris 66.90 328 P **P** **03 02 23.7 -0.1**
baz=95,SNR=72
O17K S **S** **03 11 14.6 -2.9**
baz=95
L18K Granite Mounta 66.95 331 IAmb IAmb 03 02 53.6
comp=Z,868nm,1.3s
L18K IAMs_20 IAMs_20 03 36 51.5
comp=Z,421µm,18.0s
L18K Granite Mounta 66.95 331 P **P** **03 02 24.0 -0.2**
baz=96,SNR=66
L18K S **S** **03 11 16.1 -2.0**
baz=96
R16K Pilot Point 66.98 326 S **S** **03 11 23.2 +4.7**
baz=94
N17K Nushagak Hills 67.02 329 P **P** **03 02 24.4 -0.2**
baz=95,SNR=52
N17K S **S** **03 11 16.8 -2.0**
baz=95
B22K Teshekpuk Lake 67.04 340 IAMs_20 IAMs_20 03 37 15.5
comp=Z,422µm,22.0s
B22K Teshekpuk Lake 67.04 340 S **S** **03 11 18.5 -0.2**
baz=103
J18K Innoko River 67.11 332 P **P** **03 02 25.0 -0.2**
baz=97
J18K S **S** **03 11 16.3 -3.7**
baz=97
PMAFR Mafra 67.14 55*e* P **P** **03 02 26.9 +1.1**
comp=Z,934nm,1.3s
PMAFR Mafra 67.14 55*e* P'P' 03 31 01.1
PMAFR Mafra 67.14 55 P **P** **03 02 26.6 +0.7**
PMAFR S **S** **03 11 23.3 +2.2**
F20K Avaraart Lake 67.22 336 IAmb IAmb 03 02 50.7
comp=Z,2µm,2.2s
F20K Avaraart Lake 67.22 336 P **P** **03 02 26.7 +0.9**
baz=100,SNR=161
F20K S **S** **03 11 23.1 +2.1**
baz=100
M17K Holitna River 67.22 330 IAmb IAmb 03 02 49.3
comp=Z,2µm,1.9s
M17K Holitna River 67.22 330 P **P** **03 02 25.7 -0.2**

baz=96,SNR=28
M17K S **S** **03 11 19.3 -2.0**
baz=96
C21K Knifeblade Rid 67.25 338 S **S** **03 11 18.7 -2.7**
baz=101
LIS Lisbon 67.26 55 *e*P **P** **03 02 27.3 +0.7**
comp=Z,577nm,1.6s
LIS Lisbon 67.26 55 *e*P **P** **03 02 27.3 +0.7**
LIS *e*S **S** **03 11 22.8 +0.2**
LIS IAMs_20 IAMs_20 03 19 57.1
comp=N,474µm,29.1s
LIS Lisbon 67.26 55 *e*P **P** **03 02 27.2 +0.7**
LIS *e*S **S** **03 11 22.7 +0.2**
H19K Roundabout Mou 67.27 334 P **P** **03 02 25.1 -1.0**
H19K IAmb IAmb 03 03 06.6
comp=Z,997nm,1.4s
H19K Roundabout Mou 67.27 334 S **S** **03 11 22.3 +0.6**
baz=98
B21K Ikpikpuk River 67.28 339 IAmb IAmb 03 02 58.1
comp=Z,874nm,1.4s
B21K Ikpikpuk River 67.28 339 S **S** **03 11 18.9 -2.8**
baz=102
P16K Nushagak River 67.30 327 P **P** **03 02 25.9 -0.5**
baz=94,SNR=14
P16K S **S** **03 11 20.9 -1.3**
baz=94
GCSA Galena City Sc 67.35 334 P **P** **03 02 26.9 +0.3**
baz=97,SNR=14
GCSA S **S** **03 11 22.0 -0.6**
baz=97
CHGN Chignik 67.37 324 IAmb IAmb 03 02 41.7
comp=Z,467nm,0.9s
CHGN Chignik 67.37 324 P **P** **03 02 26.5 -0.4**
baz=92,SNR=23
CHGN S **S** **03 11 22.2 -1.0**
baz=92
O16K Kokwok River B 67.39 328 IAmb IAmb 03 02 56.1
comp=Z,1µm,1.9s
O16K Kokwok River B 67.39 328 S **S** **03 11 21.9 -1.5**
baz=94
PTO Porto 67.51 52 *e*P **P** **03 02 29.3 +1.2**
comp=Z,665nm,1.9s
DAG Danmarks Havn 67.53 13 P **P** **03 02 26.9 -0.6**
DAG S **S** **03 11 19.9 -4.6**
DAG Danmarks Havn 67.53 13 *i*P **P** **03 02 26.4 -1.1**
DAG IAmb IAmb 03 02 28.4
comp=Z,224nm,1.1s
JCUZ Jacuzzi 67.53 284 IAMs_20 IAMs_20 03 26 43.8
comp=Z,363µm,20.0s
NPOC North of Pu'u 67.53 284 IAMs_20 IAMs_20 03 26 42.9
comp=Z,351µm,20.0s
STCH Steam Cracks 67.55 284 IAmb IAmb 03 02 31.2
comp=Z,1µm,1.2s
STCH IAMs_20 IAMs_20 03 26 43.3
comp=Z,352µm,21.0s
E20K Nigu River 67.59 337 S **S** **03 11 25.1 -0.6**
baz=100
G19K Purcell Mounta 67.62 335 P **P** **03 02 28.9 +0.5**
baz=98,SNR=289
G19K S **S** **03 11 25.3 -0.7**
baz=98
PUH Pauahi 67.63 284 P **P** **03 02 28.0 -1.3**
PUH IAMs_20 IAMs_20 03 26 56.6
comp=Z,314µm,21.0s
PFVI Vila Bisbo 67.65 56 *e*P **P** **03 02 29.8 +0.7**
comp=Z,882nm,1.8s
HATHI Halema'uma'u T 67.67 284 IAMs_20 IAMs_20 03 26 59.5
comp=Z,310µm,20.0s
PCAS Casmilo, Conde 67.67 53 *e*P **P** **03 02 29.9 +0.8**
comp=Z,802nm,2.0s
PCAS Casmilo, Conde 67.67 53 *e*P'P' 03 30 59.3
BYL Byron's Ledge 67.67 284 IAMs_20 IAMs_20 03 26 58.5
comp=Z,326µm,20.0s
SBLHI Steaming Bluff 67.67 284 IAMs_20 IAMs_20 03 27 00.6
comp=Z,313µm,20.0s
KKO Keanakako`i 67.67 284 IAMs_20 IAMs_20 03 26 58.7
comp=Z,313µm,20.0s
UWB Uwekahuna B 67.68 284 IAMs_20 IAMs_20 03 27 00.9
comp=Z,312µm,20.0s
RIM Rim 67.68 284 IAMs_20 IAMs_20 03 26 47.9
comp=Z,317µm,20.0s
A22K Sinclair Lake 67.69 340 P **P** **03 02 29.3 +0.7**
baz=102
A22K S **S** **03 11 25.7 -0.8**
baz=102
NPH North Pit 67.69 284 IAMs_20 IAMs_20 03 26 58.0
comp=Z,313µm,20.0s
OBL Observatory Le 67.69 284 IAMs_20 IAMs_20 03 27 00.0
comp=Z,307µm,20.0s
L17K Donlin 67.69 331 P **P** **03 02 28.7 -0.2**
baz=95
L17K S **S** **03 11 23.8 -3.2**
baz=95
UWE Uwekahuna 67.69 284 IAMs_20 IAMs_20 03 26 58.2
comp=Z,325µm,20.0s
PTEO Sao Teotonio 67.70 56 *e*P **P** **03 02 30.7 +1.4**
comp=Z,2µm,1.6s
SDHHI Sand Hill 67.70 284 IAMs_20 IAMs_20 03 26 58.4
comp=Z,314µm,20.0s
WRMHI West Rim 67.70 284 IAMs_20 IAMs_20 03 26 48.5
comp=Z,305µm,20.0s
PGAV Gavieira, Arco 67.70 51 *e*P **P** **03 02 28.5 -1.0**
comp=Z,873nm,1.8s
PGAV *i*S **S** **03 11 30.4 +2.4**
PGAV *e*LQ LQ 03 18 55.9
PGAV *e*LR LR 03 22 41.8
comp=Z,194µm,20.0s
PGAV Gavieira, Arco 67.70 51 *e*P'P' 03 31 09.4
COI Coimbra 67.72 53 *e*P **P** **03 02 31.0 +1.6**
comp=Z,1µm,1.4s
COI Coimbra 67.72 53 IAmb IAmb 03 02 59.9
comp=Z,939nm,1.4s
HLP Hilina Pali 67.73 284 IAMs_20 IAMs_20 03 26 49.3
comp=Z,322µm,21.0s
K17K Iditarod 67.75 331 IAmb IAmb 03 02 52.7
comp=Z,946nm,1.6s
K17K Iditarod 67.75 331 P **P** **03 02 28.8 -0.4**
baz=95,SNR=45
K17K S **S** **03 11 22.3 -5.4**
baz=95
MLH Mauna Loa 67.77 284 IAMs_20 IAMs_20 03 26 50.1
comp=Z,348µm,20.0s
MORF Marmelete 67.78 56 *e*P **P** **03 02 31.2 +1.3**
comp=Z,998nm,1.6s
MORF Marmelete 67.78 56 *e*P'P' 03 30 59.0
MORF Marmelete 67.78 56 *e*P **P** **03 02 30.7 +0.8**
MORF *e*S **S** **03 11 29.1 +0.2**
MORF IAMs_20 IAMs_20 03 20 21.9
comp=N,436µm,27.5s
MORF Marmelete 67.78 56 *e*P **P** **03 02 30.7 +0.8**
MORF *e*S **S** **03 11 29.1 +0.2**
N16K Nishlik Lake 67.79 329 P **P** **03 02 29.6 +0.1**
baz=94,SNR=31
N16K S **S** **03 11 25.2 -3.0**
baz=94
PNCL Nicolau / Gran 67.80 55 *e*P **P** **03 02 30.8 +0.8**
comp=N,374nm,2.2s
PNCL Nicolau / Gran 67.80 55 P **P** **03 02 30.7 +0.8**
D20K Etivluk River 67.82 338 S **S** **03 11 25.4 -3.0**
baz=99
HMH Humu'ula Sheep 67.83 285 IAMs_20 IAMs_20 03 27 02.9
comp=Z,408µm,20.0s
POHA Pohakuloa 67.85 285 P **P** **03 02 29.0 -1.9**
POHA Pohakuloa 67.85 285 IAMs_20 IAMs_20 03 27 03.4
comp=Z,423µm,20.0s
POHA Pohakuloa 67.85 285 P **P** **03 02 30.7 -0.2**
AIN Ainahou 67.86 284 IAMs_20 IAMs_20 03 27 03.5
comp=Z,327µm,20.0s
E19K Redstone River 67.86 336 IAmb IAmb 03 02 54.4
comp=Z,1µm,1.7s
E19K Redstone River 67.86 336 S **S** **03 11 29.1 +0.3**
baz=98
M16K Timber Creek 67.92 329 IAmb IAmb 03 02 54.0
comp=Z,1µm,1.8s
M16K IAMs_20 IAMs_20 03 34 04.4
comp=Z,423µm,19.0s
M16K Timber Creek 67.92 329 S **S** **03 11 27.2 -2.6**
baz=94
MLOA Mauna Loa Obse 67.93 284 IAMs_20 IAMs_20 03 27 06.6
comp=Z,401µm,21.0s
HPAH Hawaii Prepara 67.95 285 IAmb IAmb 03 02 37.3
comp=Z,995nm,1.1s
HPAH IAMs_20 IAMs_20 03 29 44.0
comp=Z,342µm,19.0s
PMTG Montargil 67.95 54 *e*P **P** **03 02 31.2 +0.3**
comp=Z,644nm,1.4s
PMTG Montargil 67.95 54 *e*P'P' 03 30 58.0
MWH Moku'aweowe 67.96 284 IAmb IAmb 03 02 46.1
comp=Z,642nm,1.3s
MWH IAMs_20 IAMs_20 03 27 07.4
comp=Z,384µm,21.0s
F19K Shaleruckik Mo 67.98 336 IAmb IAmb 03 02 55.0
comp=Z,1µm,1.8s
F19K IAMs_20 IAMs_20 03 33 21.7
comp=Z,394µm,20.0s
F19K Shaleruckik Mo 67.98 336 S **S** **03 11 31.4 +1.2**
baz=97
CHNA Chernabura Isl 67.99 323 P **P** **03 02 31.2 +0.4**
baz=91,SNR=8.2
CHNA S **S** **03 11 27.3 -3.4**
baz=91
CNBA Chernabura Isl 67.99 323 IAmb IAmb 03 02 59.7
comp=Z,1µm,1.8s
CNBA IAMs_20 IAMs_20 03 34 51.9
comp=Z,336µm,19.0s
S14K Fog Glacier 68.00 324 P **P** **03 02 31.7 +0.7**
baz=92,SNR=7.2
S14K S **S** **03 11 31.9 +0.9**
baz=92
H18K Honhosa River 68.02 334 IAmb IAmb 03 02 55.8
comp=Z,1µm,1.6s
H18K IAMs_20 IAMs_20 03 32 48.8
comp=Z,544µm,22.0s
H18K Honhosa River 68.02 334 S **S** **03 11 31.7 +0.8**
baz=96
KHU Kahuku 68.03 284 IAMs_20 IAMs_20 03 26 57.1
comp=Z,360µm,20.0s
MESJ Messejana 68.07 56 *e*P **P** **03 02 32.3 +0.6**
comp=Z,633nm,1.7s
MESJ Messejana 68.07 56 *e*P **P** **03 02 32.4 +0.7**
MESJ *e*S **S** **03 11 32.7 +0.3**
MESJ IAMs_20 IAMs_20 03 23 37.0
comp=Z,365µm,31.9s
MESJ Messejana 68.07 56 *e*P **P** **03 02 32.4 +0.7**
MESJ *e*S **S** **03 11 32.6 +0.3**
PVIS Viseu 68.08 53 *e*P **P** **03 02 32.7 +1.0**
comp=Z,72µm,9.8s
PVIS Viseu 68.08 53 *e*P'P' 03 30 58.2
POLO Lamas de Olo 68.10 52 *e*P **P** **03 02 32.9 +0.9**
comp=Z,275nm,1.9s
POLO Lamas de Olo 68.10 52 *e*P'P' 03 31 01.0
HUH Hualalai 68.14 285 IAMs_20 IAMs_20 03 27 12.1
comp=Z,446µm,20.0s
EVO Evora 68.17 55 *e*P **P** **03 02 32.8 +0.5**
comp=Z,460nm,1.3s
EVO Evora 68.17 55 *e*P'P' 03 30 58.7
EVO Evora 68.17 55 P **P** **03 02 32.9 +0.7**
EVO S **S** **03 11 37.9 +4.4**
PVRL Vila Real 68.17 52 *e*P **P** **03 02 34.0 +1.7**
comp=Z,507nm,1.7s
PVRL Vila Real 68.17 52 *e*P'P' 03 30 53.9
KHLU Kahalu`u 68.22 285 IAMs_20 IAMs_20 03 27 13.0
comp=Z,439µm,20.0s
L16K Owhat River 68.22 330 P **P** **03 02 30.9 -1.3**
L16K IAmb IAmb 03 02 56.1
comp=Z,1µm,1.6s
L16K Owhat River 68.22 330 P **P** **03 02 32.6 +0.4**
baz=94
L16K S **S** **03 11 36.0 +2.8**
baz=94
B20K Meade River 68.22 339 IAmb IAmb 03 03 04.2
comp=Z,590nm,1.2s
B20K Meade River 68.22 339 S **S** **03 11 32.2 -0.9**
baz=99
G18K Tagagawik 68.22 335 IAmb IAmb 03 02 57.1
comp=Z,1µm,1.4s
G18K Tagagawik 68.22 335 P **P** **03 02 33.1 +1.0**
baz=96,SNR=85
G18K S **S** **03 11 35.6 +2.4**
baz=96
PCVE Castro Verde 68.23 56 *e*P **P** **03 02 34.2 +1.5**
comp=Z,553nm,1.7s
PCVE Castro Verde 68.23 56 P **P** **03 02 33.6 +0.9**
O15K Ungalikthiuk R 68.25 327 P **P** **03 02 30.9 -1.5**
baz=92
O15K S **S** **03 11 30.4 -3.3**
baz=92
A21K Barrow 68.27 341 P **P** **03 02 32.6 +0.3**
baz=100,SNR=83
A21K S **S** **03 11 32.8 -0.7**
baz=100
PBEJ Beja 68.33 55 *e*P **P** **03 02 33.5 +0.2**
comp=Z,432nm,1.7s
PBEJ Beja 68.33 55 *e*P'P' 03 30 53.0
D19K Kuna River 68.33 338 IAmb IAmb 03 02 57.6
comp=Z,1µm,1.4s
D19K Kuna River 68.33 338 S **S** **03 11 34.0 -0.5**
baz=98
IWEX Carrickbyrne, 68.35 40 P **P** **03 02 33.1 0.0**
IWEX Carrickbyrne, 68.35 40 *e*P **P** **03 02 33.5 +0.4**
IWEX IAMs_20 IAMs_20 03 39 07.7
comp=Z,269µm,18.6s
PBDV Barranco-do-Ve 68.35 56 *e*P **P** **03 02 34.6 +1.1**
comp=Z,1µm,1.6s
PBDV Barranco-do-Ve 68.35 56 *e*P'P' 03 30 55.0
LEWI Lewis, Hebride 68.36 34 *e*P **P** **03 02 33.3 +0.2**
LEWI IAmb IAmb 03 02 34.8
comp=Z,397nm,1.3s
MTE Manteigas 68.37 53 *e*P **P** **03 02 34.0 +0.4**
comp=Z,760nm,1.4s
MTE *i*S **S** **03 11 37.4 +1.5**
MTE *e*LQ LQ 03 19 12.1
MTE *e*LR LR 03 23 15.3
comp=Z,191µm,20.0s
MTE Manteigas 68.37 53 *e*P'P' 03 30 54.9
MTE Manteigas 68.37 53 IAmb IAmb 03 02 36.5
comp=Z,656nm,1.2s
N15K Kwethluk River 68.43 328 IAmb IAmb 03 03 03.0
comp=Z,704nm,1.6s
N15K IAMs_20 IAMs_20 03 37 41.2
comp=Z,465µm,18.0s
N15K Kwethluk River 68.43 328 P **P** **03 02 33.3 -0.3**
baz=93,SNR=11
N15K S **S** **03 11 36.2 +0.3**
baz=93
KHLH Kahului Airpor 68.45 286 IAMs_20 IAMs_20 03 27 41.2
comp=Z,354µm,20.0s
PCBR Castelo Branco 68.46 53 *e*P **P** **03 02 35.1 +1.0**
comp=Z,850nm,1.7s
PCBR Castelo Branco 68.46 53 *e*P'P' 03 30 51.9
PESTR Estremoz 68.47 54 *e*P **P** **03 02 35.0 +0.8**
comp=Z,810nm,1.6s
PESTR Estremoz 68.47 54 *e*P'P' 03 30 51.5
PESTR Estremoz 68.47 54 P **P** **03 02 33.7 -0.5**
PESTR IAmb IAmb 03 02 37.3
comp=Z,910nm,1.4s
PESTR Estremoz 68.47 54 P **P** **03 02 35.2 +1.0**
PESTR S **S** **03 11 38.1 +1.0**
PVAQ Vaqueiros 68.51 56 *e*P **P** **03 02 35.6 +1.2**
comp=Z,56nm,1.7s
PVAQ *e*S **S** **03 11 40.5 +3.0**
PVAQ *e*LQ LQ 03 19 22.3
PVAQ *e*LR LR 03 22 16.1
comp=Z,24µm,18.0s
PVAQ Vaqueiros 68.51 56 P **P** **03 02 35.2 +0.7**
SDPT Sand Point 68.51 323 IAMs_20 IAMs_20 03 32 29.5
comp=Z,358µm,22.0s
SDPT Sand Point 68.51 323 P **P** **03 02 34.8 +0.7**
SDPT Sand Point 68.51 323 P **P** **03 02 34.8 +0.7**
baz=90,SNR=10.0
SDPT S **S** **03 11 37.8 +1.0**
baz=90
PMRV Marv??o 68.57 54 *e*P **P** **03 02 35.8 +1.0**
comp=Z,581nm,2.1s
PMRV *i*S **S** **03 11 41.3 +3.1**
PMRV *e*LQ LQ 03 19 16.9
PMRV *e*LR LR 03 22 34.0
comp=Z,175µm,24.0s
PMRV Marv??o 68.57 54 *e*P'P' 03 30 55.0
DSB Dublin 68.58 39 P **P** **03 02 35.5 +0.9**
DSB Dublin 68.58 39 P **P** **03 02 35.7 +1.1**
DSB S **S** **03 11 39.5 +1.7**
ILTH Belurgan, Co L 68.60 38 P **P** **03 02 35.5 +0.8**
ILTH Belurgan, Co L 68.60 38 *e*P **P** **03 02 34.1 -0.6**
H17K Granite Mounta 68.66 334 P **P** **03 02 35.9 +1.1**
baz=95
H17K S **S** **03 11 40.6 +2.3**
baz=95
MVO Moncorvo 68.69 52 *e*P **P** **03 02 36.3 +0.7**
comp=Z,465nm,1.5s
MVO *i*S **S** **03 11 40.8 +1.0**
MVO *e*LQ LQ 03 19 18.2
MVO *e*LR LR 03 23 06.9
comp=Z,173µm,20.0s
MVO Moncorvo 68.69 52 *e*P'P' 03 30 52.0
JMI Jan Mayen 68.73 20 *e*P **P** **03 02 35.8 +0.7**
JMI *e*S **S** **03 11 38.5 -0.5**
JMI *e* 03 24 04.0
JMI IVMs_BB IVMs_BB 03 25 16.8
comp=Z,99µm,37.3s
M15K Kasigluk River 68.75 329 S **S** **03 11 43.5 +4.0**
baz=92
JMIC Jan Mayen 68.81 20 *e*P **P** **03 02 36.2 +0.5**
JMIC *e*S **S** **03 11 40.8 +0.8**
JMIC *e* 03 24 01.4
JMIC IVMs_BB IVMs_BB 03 25 19.1
comp=Z,96µm,35.1s
JMIC Jan Mayen 68.81 20 LR LR 03 32 39.4
comp=Z,156µm,20.0s,baz=267,slow=36
J16K Anvik River 68.84 332 IAMs_20 IAMs_20 03 35 29.0
comp=Z,515µm,20.0s
J16K Anvik River 68.84 332 P **P** **03 02 37.5 +1.4**
baz=93,SNR=132
J16K S **S** **03 11 42.6 +2.0**
baz=93
ECAL Calabor 68.85 51 P **P** **03 02 37.1 +0.5**
ECAL S **S** **03 11 44.8 +3.1**
PBRG Braganca 68.86 51 *e*P **P** **03 02 37.7 +1.1**
comp=Z,907nm,1.6s
PBRG Braganca 68.86 51 *e*P'P' 03 30 54.0
I17K Unalakleet 68.92 332 P **P** **03 02 37.9 +1.4**
baz=94,SNR=32
I17K S **S** **03 11 44.2 +2.7**
baz=94
EBAD Badajoz 68.92 55 P **P** **03 02 37.2 +0.2**
EBAD S **S** **03 11 46.3 +3.8**
C19K Lookout Ridge 68.94 338 S **S** **03 11 41.7 -0.1**
baz=97
PBAR Barrancos 68.96 55 *e*P **P** **03 02 37.8 +0.5**
comp=Z,510nm,1.9s
PBAR Barrancos 68.96 55 *e*P'P' 03 30 54.8
PBAR Barrancos 68.96 55 P **P** **03 02 38.2 +0.9**
O14K Tigyukauivet M 68.99 327 S **S** **03 11 41.2 -1.3**
baz=91
G17K Kiwalik Mounta 69.01 334 P **P** **03 02 38.1 +1.1**
baz=94,SNR=84
G17K S **S** **03 11 44.4 +1.8**
baz=94
LAWE Loch Awe, Argy 69.13 36 *e*P **P** **03 02 37.9 -0.1**
LAWE IAMs_20 IAMs_20 03 42 36.5
comp=Z,270µm,17.6s
E18K Tukpahlearik C 69.15 336 IAmb IAmb 03 03 02.0
comp=Z,660nm,1.6s
E18K Tukpahlearik C 69.15 336 S **S** **03 11 44.1 0.0**
baz=95
L15K Ungalak Mounta 69.17 330 S **S** **03 11 45.4 +0.8**
baz=92
K15K Wolf Creek Mou 69.22 331 IAMs_20 IAMs_20 03 35 18.0
comp=Z,393µm,19.0s
K15K Wolf Creek Mou 69.22 331 P **P** **03 02 39.3 +0.9**
baz=92,SNR=81
K15K S **S** **03 11 46.8 +1.7**
baz=92
N14K Kuskokwak Cree 69.22 328 P **P** **03 02 39.0 +0.6**
baz=91,SNR=8.5
N14K S **S** **03 11 47.6 +2.5**
baz=91
AVE Averroes 69.23 60 P **P** **03 02 39.7 +0.7**
AVE S **S** **03 11 49.3 +3.0**
LINV Loch Inver, As 69.25 34 *e*P **P** **03 02 37.5 -1.1**
LINV IAMs_20 IAMs_20 03 38 56.2
comp=Z,225µm,18.4s
F17K Baldwin Pennin 69.32 335 P **P** **03 02 38.0 -0.9**
F17K IAmb IAmb 03 03 03.3
comp=Z,976nm,1.7s
F17K Baldwin Pennin 69.32 335 S **S** **03 11 47.5 +1.3**
baz=94
M14K Bethel 69.38 329 IAMs_20 IAMs_20 03 35 00.9
comp=Z,400µm,19.0s
M14K Bethel 69.38 329 P **P** **03 02 40.0 +0.7**
baz=91,SNR=88
M14K S **S** **03 11 46.7 -0.3**
baz=91
CCA1 Carmenellis 69.38 42 *e*P **P** **03 02 40.2 +0.6**
CCA1 IAMs_20 IAMs_20 03 36 18.8
comp=Z,224µm,20.1s
C18K Utukok River 69.48 338 P **P** **03 02 40.5 +0.5**
baz=95
C18K S **S** **03 11 47.6 -0.5**
baz=95
GAL1 Galloway 69.54 37 *e*P **P** **03 02 41.4 +0.9**
GAL1 IAMs_20 IAMs_20 03 43 16.9
comp=Z,308µm,19.4s
A19K Wainwright 69.58 339 S **S** **03 11 49.0 0.0**
baz=96
WIM Isle of Man 69.58 38 *e*P **P** **03 02 41.7 +0.9**
E17K Hotham Inlet 69.59 336 P **P** **03 02 41.0 +0.4**
baz=94,SNR=167
E17K S **S** **03 11 48.8 -0.6**
baz=94
RTC Rabat Centre 69.60 60 S **S** **03 11 53.5 +3.0**
RTC P **P** **03 02 42.0 +0.7**
H16K Elim 69.63 333 P **P** **03 02 41.9 +1.1**
baz=92,SNR=75
H16K S **S** **03 11 53.2 +3.3**
baz=92
IOMK Kirk Michael 69.64 38 *e*P **P** **03 02 41.1 0.0**
IOMK IAMs_20 IAMs_20 03 40 17.4
comp=Z,516µm,20.5s
PGBU Glenifferbraes 69.65 36 *e*P **P** **03 02 41.6 +0.5**
PGBU IAmb IAmb 03 02 42.6
comp=Z,1µm,1.6s
PGBU IAMs_20 IAMs_20 03 38 57.5
comp=Z,243µm,18.4s
TIO Tiouine 69.69 63 S **S** **03 11 58.7 +6.7**
TIO P **P** **03 02 43.0 +0.9**
WPS Cemaes, Angles 69.70 39 *e*P **P** **03 02 41.8 +0.3**
G16K Koyuk River 69.72 334 IAmb IAmb 03 03 06.4
comp=Z,998nm,1.6s
G16K Koyuk River 69.72 334 P **P** **03 02 42.4 +1.0**
baz=93,SNR=48
G16K S **S** **03 11 54.1 +3.3**
baz=93
L14K Kuka Creek 69.74 330 IAmb IAmb 03 03 11.5
comp=Z,568nm,1.4s
L14K Kuka Creek 69.74 330 P **P** **03 02 41.7 +0.2**
baz=91
L14K S **S** **03 11 56.2 +5.0**
baz=91
B18K Kokolik River 69.75 338 P **P** **03 02 42.6 +1.0**
baz=95
B18K S **S** **03 11 50.9 -0.3**
baz=95
WLF1 Llynfaes 69.77 39 *e*P **P** **03 02 41.9 0.0**
WLF1 IAMs_20 IAMs_20 03 40 15.7
comp=Z,542µm,19.5s
KIP Kipapa 69.81 287 P **P** **03 02 42.4 -0.4**
KIP IAmb IAmb 03 02 49.6
comp=Z,1µm,1.3s
KIP Kipapa 69.81 287 IAMs_20 IAMs_20 03 28 28.9
comp=Z,239µm,20.0s
KIP Kipapa 69.81 287 P **P** **03 02 43.3 +0.5**
KIP Kipapa 69.81 287*d* *i*P **P** **03 02 42.1 -0.7**
KIP pmax pmax
comp=Z,1µm,1.5s
NEWG New Galloway 69.81 37 *e*P **P** **03 02 42.4 +0.2**
NEWG IAmb IAmb 03 02 43.7
comp=Z,416nm,1.2s
NEWG IAMs_20 IAMs_20 03 43 23.0
comp=Z,270µm,18.9s
HTL Hartland 69.81 41 *e*P **P** **03 02 43.4 +1.2**
HTL IAMs_20 IAMs_20 03 43 48.7
comp=Z,200µm,18.3s
HON Honolulu 69.81 287 IAMs_20 IAMs_20 03 28 40.2
comp=Z,291µm,21.0s
SFS San Fernando 69.81 57 S **S** **03 11 55.9 +2.9**
SFS P **P** **03 02 44.5 +2.0**
INVG Invergeldie, C 69.88 36 *e*P **P** **03 02 42.0 -0.6**
INVG IAMs_20 IAMs_20 03 43 06.7
comp=Z,229µm,17.2s
YLL Llanberis 69.91 39 *e*P **P** **03 02 43.6 +0.8**
ESPR Espera 70.05 56 P **P** **03 02 45.3 +1.3**
ESPR S **S** **03 11 59.7 +4.0**
M13K Dall Lake 70.06 329 IAMs_20 IAMs_20 03 36 32.2
comp=Z,444µm,20.0s
M13K Dall Lake 70.06 329 S **S** **03 11 56.6 +1.7**
baz=90
RDOG Red Dog Mine 70.07 337 P **P** **03 02 43.9 +0.4**
baz=93,SNR=83

RDOG S S 03 11 54.8 -0.2
baz=93
D17K Noatak River 70.12 336 S S 03 11 55.4 0.0
baz=93
J14K Nanvaranak Lak 70.17 331 IAMs_20 IAMs_20 03 34 15.9
comp=Z,352µm,22.0s
J14K Nanvaranak Lak 70.17 331 P P 03 02 45.8 +1.6
baz=91
J14K S S 03 11 60.0 +3.8
baz=91
C17K DeLong Mountai 70.19 337 S S 03 11 55.5 -0.9
baz=93
DYA Yadsworthy 70.20 42 *e*P P 03 02 43.3 -1.3
DYA IAMs_20 IAMs_20 03 36 57.2
comp=Z,167µm,18.7s
FALS False Pass 70.20 323 P P 03 02 45.9 +1.3
FALS False Pass 70.20 323 P P 03 02 45.1 +0.5
baz=88
FALS S S 03 11 53.7 -3.2
baz=88
LLW Llanuwychllyn 70.23 39 *e*P P 03 02 44.8 0.0
ECAB El Cabril 70.24 55 P P 03 02 46.0 +0.8
ECAB S S 03 12 01.1 +3.0
MCD Coleburn Disti 70.29 34 *e*P P 03 02 44.5 -0.5
MCD IAmb IAmb 03 02 46.3
comp=Z,400nm,1.0s
ESK Eskdalemuir 70.39 37 P P 03 02 44.7 -1.1
ESK IAmb IAmb 03 03 17.7
comp=Z,759nm,1.4s
ESK Eskdalemuir 70.39 37 *e*P P 03 02 45.1 -0.6
ESK IAMs_20 IAMs_20 03 43 38.3
comp=Z,261µm,18.0s
ESK Eskdalemuir 70.39 37 P P 03 02 44.7 -1.1
ESK pmax pmax
comp=Z,759nm,1.5s
G15K Niukluk 70.41 334 P P 03 02 46.8 +1.1
baz=91,SNR=38
G15K S S 03 11 59.9 +0.9
baz=91
EKA Eskdalemuir Ar 70.42 37 P P 03 02 45.5 -0.4
comp=Z,140nm,0.9s,baz=273,slow=6.2,SNR=94
EKA PKP2bc 03 30 44.9
comp=Z,4.3nm,1.0s,baz=115,slow=4.0,SNR=4.3
comp=Z,140nm,0.9s
KESW Keswick, Cumbr 70.48 38 *e*P P 03 02 46.6 +0.3
KESW IAMs_20 IAMs_20 03 43 46.5
comp=Z,223µm,18.3s
FOEL Foel Wylfa 70.51 39 *e*P P 03 02 46.2 -0.3
FOEL IAMs_20 IAMs_20 03 38 46.5
comp=Z,179µm,18.7s
CEU Ceuta 70.56 57 S S 03 12 04.8 +3.1
CEU P P 03 02 49.0 +1.9
F15K North Star Dit 70.68 334 S S 03 12 03.9 +1.7
baz=91
MCH1 Michaelchurch 70.69 40 *e*P P 03 02 48.0 +0.4
MCH1 IAMs_20 IAMs_20 03 41 15.6
comp=Z,225µm,22.1s
MG04 Isla Riesco 70.69 172 P 03 02 48.2 +0.8
MG04 IAmb IAmb 03 03 02.5
comp=Z,710nm,1.4s
HLM1 Long Mynd 70.72 40 *e*P P 03 02 47.8 -0.1
HLM1 IAMs_20 IAMs_20 03 40 35.4
comp=Z,228µm,19.1s
DRUM Mains of Drumt 70.73 35 *e*P P 03 02 47.3 -0.4
DRUM IAMs_20 IAMs_20 03 41 53.7
comp=Z,259µm,18.5s
MONM Monmouth 70.81 40 *e*P P 03 02 48.3 0.0
MONM IAMs_20 IAMs_20 03 41 20.3
comp=Z,255µm,20.5s
EADA Adamuz 70.89 55 P P 03 02 50.1 +0.9
EADA S S 03 12 08.2 +2.6
PAB San Pablo 70.90 53 P P 03 02 48.9 -0.3
PAB IAmb IAmb 03 02 52.6
comp=Z,766nm,1.4s
PAB San Pablo 70.90 53 P P 03 02 50.7 +1.4
MG02 Cerro Sombrero 70.94 171 IAMs_20 IAMs_20 03 36 26.8
comp=Z,222µm,18.0s
EMIJ Mijas 70.95 57 P P 03 02 50.5 +0.9
EMIJ S S 03 12 08.1 +1.7
ANM Nome 70.98 333 IAmb IAmb 03 03 14.0
comp=Z,1µm,1.9s
ANM Nome 70.98 333 P P 03 02 50.0 +0.8
baz=90,SNR=24
ANM S S 03 12 07.3 +1.5
baz=90
OLDB Oldbury-Upon-S 70.98 41 *e*P P 03 02 49.7 +0.3
OLDB IAMs_20 IAMs_20 03 41 25.4
comp=Z,278µm,19.2s
C16K Lisburne Hills 70.99 337 IAmb IAmb 03 03 39.6
comp=Z,1µm,1.5s
C16K Lisburne Hills 70.99 337 P P 03 02 49.6 +0.5
baz=91
C16K S S 03 12 06.1 +0.5
baz=91
GO10 Punta Arenas 71.05 172 IAMs_20 IAMs_20 03 34 17.6
comp=Z,235µm,20.0s
VAH Vaihoa 71.06 247 *e*P P 03 02 51.7 +1.3
comp=Z,2µm,1.4s
IFR Ifrane 71.09 60 S S 03 12 10.2 +1.8
IFR P P 03 02 51.4 +0.7
STNC Stoke 71.10 39 *e*P P 03 02 50.8 +0.7
STNC IAMs_20 IAMs_20 03 41 05.8
comp=Z,243µm,20.9s
EDMD Edmundbyers 71.13 37 *e*P P 03 02 50.3 0.0
EDMD IAMs_20 IAMs_20 03 47 12.1
comp=Z,256µm,17.6s
ESDC Sonseca Array 71.18 53 IAmb IAmb 03 02 54.3
comp=Z,685nm,1.4s
ESDC Sonseca Array 71.18 53 P P 03 02 51.8 +0.9
comp=Z,227nm,1.0s,baz=286,slow=5.5,SNR=319
ESDC PKPPKP **P'P'df** 03 30 45.0 -5.0
comp=Z,1.5nm,1.0s,baz=68,slow=1.5,SNR=3.0
ESDC LR LR 03 30 55.4
comp=Z,70µm,18.4s,baz=276,slow=33
comp=Z,227nm,1.0s
ESBB Sonseca Array 71.18 53 IAmb IAmb 03 02 54.2
comp=Z,759nm,1.4s
EMAL Malaga-Limoner 71.19 56 S S 03 12 13.8 +4.7
EMAL P P 03 02 52.7 +1.7
PMOR Pomariorio Ree 71.20 247 *e*P P 03 02 52.7 +1.5
comp=Z,3µm,1.6s
STRD Stroud 71.22 40 *e*P P 03 02 50.8 0.0
STRD IAmb IAmb 03 02 53.6
comp=Z,11µm,2.9s
STRD IAMs_20 IAMs_20 03 41 32.7
comp=Z,265µm,20.8s
KEKH Kekaha 71.24 288 IAMs_20 IAMs_20 03 29 18.0
comp=Z,245µm,20.0s
LBWR Ladybower, Pea 71.36 39 *e*P P 03 02 51.9 +0.1
LBWR IAMs_20 IAMs_20 03 41 13.0
comp=Z,311µm,18.8s
F14K Arctic Creek 71.38 334 P P 03 02 53.0 +1.4
baz=89
F14K S S 03 12 12.0 +1.7
baz=89
HPK Haverah Park 71.38 38 *e*P P 03 02 51.6 -0.2
HPK IAMs_20 IAMs_20 03 44 26.8
comp=Z,251µm,20.0s
EGOR Sierra Gorda, 71.40 56 P P 03 02 53.7 +1.3
EGOR S S 03 12 14.6 +2.8
JSA Saint Aubin 71.43 43 *e*P P 03 02 53.2 +1.0
JSA IAMs_20 IAMs_20 03 34 06.6
comp=Z,326µm,20.0s
SWN1 Swindon 71.46 41 *e*P P 03 02 52.2 -0.1
SWN1 IAmb IAmb 03 02 55.3
comp=Z,9µm,3.0s
SWN1 IAMs_20 IAMs_20 03 41 40.8
comp=Z,281µm,20.4s
M11K Mekoryuk 71.47 329 P P 03 02 53.7 +1.5
baz=87,SNR=5.5
M11K S S 03 12 14.9 +3.4
baz=87
PVLZ Pæn de 71.52 58 S S 03 12 15.8 +2.9
PVLZ P P 03 02 53.6 +0.6
AKUT Akutan 71.62 322 IAMs_20 IAMs_20 03 36 42.6
comp=Z,327µm,19.0s
MDT Midelt 71.63 61 LR LR 03 30 24.9
comp=Z,127µm,19.1s,baz=288,slow=33
CWF Charnwood Fore 71.67 39 *e*P P 03 02 53.4 -0.2
CWF IAMs_20 IAMs_20 03 41 24.6
comp=Z,295µm,21.5s
ELGU Los Guajares, 71.82 56 P P 03 02 56.2 +1.3
ELGU S S 03 12 20.6 +4.1
GDLE Glaisdale, N Y 71.82 38 *e*P P 03 02 55.0 +0.5
GDLE IAMs_20 IAMs_20 03 44 37.0
comp=Z,276µm,17.8s

EQTA Presa de Quent 71.91 56 P P 03 02 57.0 +1.6
EQTA S S 03 12 22.0 +4.3
TNA Tin City 72.04 334 P P 03 02 56.9 +1.4
baz=88,SNR=25
TNA S S 03 12 22.5 +4.7
baz=88
UNV Unalaska Valle 72.07 322 P P 03 02 56.2 +0.3
UNV Unalaska Valle 72.07 322 P P 03 02 56.0 +0.1
baz=85,SNR=10
UNV S S 03 12 16.9 -1.6
baz=85
LMK Market Rasen 72.19 39 *e*P P 03 02 57.6 +1.0
LMK IAmb IAmb 03 02 59.3
comp=Z,801nm,1.3s
LMK IAMs_20 IAMs_20 03 41 47.3
comp=Z,268µm,18.8s
EFI East Falkland 72.25 164 IAMs_20 IAMs_20 03 37 22.6
comp=Z,313µm,22.0s
EFI East Falkland 72.25 164 *ce*P P 03 02 57.6 +0.8
EFI pmax pmax
comp=Z,303nm,1.7s
EFI MLR MLR
comp=Z,294µm,21.0s
EBER Berja 72.40 56 P P 03 02 59.6 +1.1
EBER S S 03 12 25.8 +2.4
EALB Alboran 72.43 57 S S 03 12 25.9 +2.5
EALB P P 03 02 59.1 +0.6
MEH Mehetia 72.55 244 *e*PKP2 P 03 03 00.5 +1.1
comp=Z,543nm,1.4s
H10N3 ASCENSION HYDR 72.60 104 P P 03 03 02.8 +3.3
baz=288,slow=6.0,SNR=13
H10N2 ASCENSION HYDR 72.61 104 P P 03 03 02.0 +2.6
baz=288,slow=6.0,SNR=11
H10N1 ASCENSION HYDR 72.62 104 P P 03 03 01.4 +1.8
baz=288,slow=6.0,SNR=14
ASCN Ascension 72.76 104 P P 03 03 01.3 +0.6
ASCN IAmb IAmb 03 03 16.1
comp=Z,2µm,1.6s
WACR West Acre 72.84 39 *e*P P 03 03 00.4 -0.1
WACR IAmb IAmb 03 03 02.1
comp=Z,531nm,1.1s
WACR IAMs_20 IAMs_20 03 42 10.8
comp=Z,311µm,19.4s
HMNX Herstmonceux 72.86 41 *e*P P 03 03 02.0 +1.3
HMNX IAMs_20 IAMs_20 03 38 44.2
comp=Z,226µm,17.9s
ENIJ Nijar 72.93 56 P P 03 03 01.3 -0.1
ENIJ S S 03 12 31.5 +2.4
CHAS Isla Isabel II 73.03 58 S S 03 12 32.0 +1.7
CHAS P P 03 03 02.2 +0.1
USHA Ushuaia 73.05 171 LR LR 03 34 38.5
comp=Z,104µm,18.1s,baz=347,slow=35
ELMS Elmsett, Ipswi 73.13 40 *e*P P 03 03 02.6 +0.3
ELMS IAMs_20 IAMs_20 03 41 59.0
comp=Z,279µm,19.3s
ETOB Tobarra 73.18 54 P P 03 03 04.3 +1.3
ETOB S **SKiKP** 03 12 35.6 -0.8
TLOR Lorca, Murcia 73.22 55 P P 03 03 04.1 +0.9
TLOR S **SKiKP** 03 12 35.5 -0.9
MG01 Puerto William 73.27 171 IAMs_20 IAMs_20 03 37 21.4
comp=Z,228µm,20.0s
ELSH Elham, Standar 73.33 41 *e*P P 03 03 03.6 +0.1
ELSH IAMs_20 IAMs_20 03 42 50.1
comp=Z,284µm,19.8s
ECHE Chera 73.48 53 P P 03 03 06.0 +1.3
ECHE S **SKiKP** 03 12 40.6 +3.8
TVO Taravao 73.53 245 *e*PKP2 P 03 03 07.2 +1.9
comp=Z,607nm,1.4s
EMUR La Murta 73.55 55 P P 03 03 06.0 +0.9
EMUR S **SKiKP** 03 12 40.2 +3.3
NIKH Nikolski High 73.56 321 P P 03 03 05.9 +1.1
NIKH Nikolski High 73.56 321 P P 03 03 04.3 -0.5
baz=83
PPTF Pamatai, Papee 73.72 245 IAmb IAmb 03 03 14.9
comp=Z,2µm,1.5s
PPTF IAMs_20 IAMs_20 03 29 29.5
comp=Z,234µm,19.0s
PPTF Pamatai, Papee 73.72 245 P P 03 03 07.6 +1.2
PPT Papeete 73.72 245 P P 03 03 07.1 +0.8
comp=Z,80nm,1.0s,baz=79,slow=12,SNR=9.0
PPT LR LR 03 29 50.2
comp=Z,225µm,19.6s,baz=62,slow=31
comp=Z,80nm,1.0s
PPT2 Papeete2 73.73 245 *e*PKP2 P 03 03 07.5 +1.0
comp=Z,702nm,1.5s
PPT2 *e*S **SKiKP** 03 12 31.3 -6.4
comp=Z,118µm,31.8s
PPT2 *e*SS **SS** 03 17 29.5 +6.9
comp=Z,470µm,28.0s
PPT2 *e*LQ LQ 03 22 46.7
comp=Z,685µm,26.8s
PPT2 *e*LR LR 03 25 44.0
comp=Z,457µm,26.2s
PPT2 *e*LR LR 03 25 50.7
comp=Z,352µm,30.0s
PAE Paea 73.77 245 *e*PKP2 P 03 03 07.6 +1.1
comp=Z,509nm,1.4s
CART Cartagena 73.78 55 S S 03 12 40.1 +1.5
CART P P 03 03 06.3 -0.1
GAMB Gambell 73.80 332 P P 03 03 07.1 +1.2
baz=84
XMAS Kiritimati 74.08 267 P P 03 03 08.0 -0.5
XMAS Kiritimati 74.08 267 IAMs_20 IAMs_20 03 28 27.8
comp=Z,313µm,21.0s
XMAS Kiritimati 74.08 267 P P 03 03 09.1 +0.5
KBS Kingsbay 74.12 12 P P 03 03 07.5 -0.2
KBS IAmb IAmb 03 03 50.5
comp=Z,2µm,1.9s
KBS Kingsbay 74.12 12 IAMs_20 IAMs_20 03 37 30.3
comp=Z,456µm,20.0s
KBS Kingsbay 74.12 12 *e*P P 03 03 08.1 +0.5
KBS IVmBBB **pP** 03 03 11.3 +3.8
comp=Z,9µm,4.0s
KBS *ep*P **pP** 03 03 11.3 +3.8
KBS *e*S S 03 12 42.9 +1.8
KBS *e*SS **SS** 03 17 27.4 +2.0
KBS *e* 03 20 57.8
KBS IVMs_BB IVMs_BB 03 37 38.3
comp=Z,161µm,17.4s
KBS Kingsbay 74.12 12 *ce*P P 03 03 08.1 +0.5
KBS pmax pmax
comp=Z,563nm,2.5s
KBS MLR MLR
comp=Z,444µm,18.0s
KBS Kingsbay 74.12 12 *i* P P 03 03 08.7 +1.1
SUE Sulen 74.13 30 *e*P P 03 03 08.0 +0.1
SUE *ep*P **pwP** 03 03 11.5 +0.2
SUE IVmBBB 03 03 13.1
comp=Z,18µm,5.0s
SUE *e*S S 03 12 40.9 -0.8
SUE *e*SKSac **SKSac** 03 13 14.9 -1.4
SUE *e*SS **SS** 03 17 27.0 +0.8
SUE *e* 03 26 11.6
SUE IVMsBB 03 30 05.3
comp=Z,77µm,23.8s
FOO Floro 74.20 30 *e*P P 03 03 08.6 +0.2
FOO *ep*P **pwP** 03 03 11.8 +0.2
FOO IVmBBB 03 03 13.5
comp=Z,14µm,5.4s
FOO *e*S S 03 12 41.3 -1.2
FOO *e*SKSac **SKSac** 03 13 15.9 -0.8
FOO *e*SS **SS** 03 17 27.1 -0.1
FOO *e* 03 25 53.4
FOO IVMs_BB IVMs_BB 03 32 25.0
comp=Z,71µm,21.8s
CLES Cleveland East 74.20 321 IAMs_20 IAMs_20 03 35 07.2
comp=Z,357µm,21.0s
CLF Chambon-Foret 74.49 44 IAMs_20 IAMs_20 03 36 18.3
comp=Z,211µm,20.0s
BER Bergen 74.50 31 *e*P P 03 03 10.5 +0.4
BER *ep*P **pwP** 03 03 13.6 +0.1
BER IVmB_BB 03 03 14.9
comp=Z,15µm,9.0s
BER *e*S S 03 12 44.3 -1.6
BER *e*SS **SS** 03 17 29.0 -2.8
BER *e* 03 26 30.2
BER IVMs_BB IVMs_BB 03 28 46.0
comp=Z,62µm,25.1s
KMY Karmoy 74.61 32 *e*P P 03 03 10.5 -0.3
KMY *ep*P **pwP** 03 03 14.0 -0.2
KMY IVmBBB 03 03 18.1
comp=Z,10µm,5.4s
KMY *e*S S 03 12 46.3 -0.9
KMY *e*SKSac **SKSac** 03 13 18.9 -1.1
KMY *e*SS **SS** 03 17 30.2 -3.5

KMY *e* 03 26 29.9
KMY IVMs_BB IVMs_BB 03 28 03.8
comp=Z,59µm,28.0s
HYA Hoyanger 74.80 30 *e*P P 03 03 11.8 -0.1
HYA *ep*P **pwP** 03 03 15.5 +0.3
HYA IVmB_BB 03 03 20.0
comp=Z,10µm,5.5s
HYA *e*S S 03 12 47.2 -2.1
HYA *e*SKSac **SKSac** 03 13 20.0 -1.4
HYA *e*SS **SS** 03 17 37.5 +1.1
HYA IVMs_BB IVMs_BB 03 30 11.9
comp=Z,72µm,24.6s
AKN Aaknes 75.03 29 *e*P P 03 03 13.6 +0.4
AKN *ep*P **pwP** 03 03 16.8 +0.2
AKN IVmB_BB 03 03 36.0
comp=Z,14µm,8.2s
AKN *e*S S 03 12 49.5 -2.4
AKN *e*SS **SS** 03 17 39.7 -0.3
AKN *e* 03 26 38.0
AKN IVMs_BB IVMs_BB 03 33 24.3
comp=Z,93µm,20.2s
SPA0 Spitsbergen Ar 75.13 12 *e*P P 03 03 13.1 -0.4
SPA0 *ep*P **pwP** 03 03 16.9 0.0
SPA0 IVmBBB 03 03 18.4
comp=Z,12µm,5.2s
SPA0 *e*S S 03 12 52.7 +0.2
SPA0 *e*SS **SS** 03 17 40.9 0.0
SPA0 IVMs_BB IVMs_BB 03 37 36.1
comp=Z,250µm,18.4s
SPITS Spitsbergen Ar 75.13 12 P P 03 03 13.3 -0.2
comp=Z,115nm,0.9s,baz=141,slow=4.1,SNR=26
SPITS LR LR 03 37 50.1
comp=Z,716µm,18.8s,baz=244,slow=37
comp=Z,115nm,0.9s
BLS5 Blasjo 75.20 32 *e*P P 03 03 14.7 +0.5
BLS5 *ep*P **pwP** 03 03 18.1 +0.5
BLS5 IVmB_BB 03 03 19.8
comp=Z,20µm,4.7s
BLS5 *e*S S 03 12 53.7 -0.1
BLS5 *e*SS **SS** 03 17 42.2 -0.4
BLS5 *e* 03 26 37.3
BLS5 IVMs_BB IVMs_BB 03 29 17.7
comp=Z,61µm,24.8s
ODD1 Odda 75.21 31 *e*P P 03 03 14.5 +0.2
ODD1 *ep*P **pwP** 03 03 18.2 +0.6
ODD1 IVmBBB 03 03 20.0
comp=Z,16µm,4.5s
ODD1 *e*S S 03 12 54.7 +0.7
ODD1 *e*SKSac **SKSac** 03 13 24.5 -0.1
ODD1 *e*SS **SS** 03 17 41.5 -1.2
ODD1 *e* 03 26 36.5
ODD1 IVMs_BB IVMs_BB 03 29 06.5
comp=Z,62µm,26.7s
HSPB Hornsund (broa 75.22 13 *e*P P 03 03 15.2 +1.2
HSPB *e*L L 03 34 42.0
comp=Z,757µm,23.6s
MOL Molde 75.23 29 *e*P P 03 03 14.6 +0.3
MOL *ep*P **pwP** 03 03 17.9 +0.3
MOL IVmBBB 03 03 19.5
comp=Z,12µm,8.8s
MOL *e*S S 03 12 54.9 +0.9
MOL *e*SS **SS** 03 17 45.7 +2.9
MOL IVMs_BB IVMs_BB 03 33 58.3
comp=Z,53µm,22.7s
EIBI Ibiza 75.34 53 S S 03 12 57.6 +1.5
EIBI P P 03 03 16.4 +0.9
DOU Dourbes 75.67 42 *d*P P 03 03 16.6 -0.5
BMRD Maredsous 75.74 41 *d*P P 03 03 17.7 +0.1
EJON La Jonquera 75.87 50 S S 03 13 04.8 +2.9
EJON P P 03 03 19.1 +0.6
SKAR Skarslia 75.90 30 *e*P P 03 03 18.1 -0.2
SKAR IVmBBB 03 03 23.9
comp=Z,13µm,5.5s
SKAR *e*S S 03 13 00.8 -0.9
SKAR *e*SKSac **SKSac** 03 13 29.2 -0.5
SKAR *e*SS **SS** 03 17 54.6 +1.3
SKAR *e* 03 26 42.2
SKAR IVMs_BB IVMs_BB 03 30 43.3
comp=Z,73µm,23.7s
BGES Gesves 75.93 41 *d*P P 03 03 18.6 0.0
BGES *dx* x 03 03 27.0
DOMB Dombas 76.02 29 *e*P P 03 03 19.8 +0.9
DOMB *ep*P **pwP** 03 03 22.4 +0.2
DOMB IVmBBB 03 03 24.3
comp=Z,14µm,8.5s
DOMB *e*S S 03 13 01.9 -0.9
DOMB *e*SS **SS** 03 17 54.0 -0.9
DOMB *e* 03 27 05.9
DOMB IVMs_BB IVMs_BB 03 34 13.1
comp=Z,93µm,20.3s
BCLA Clavier 76.06 41 *d*P P 03 03 19.4 0.0
RCHB Rochefort 76.06 41 *d*P P 03 03 18.6 -0.7
RCHB *dS* S 03 13 10.2 +6.5
BSTI Sart Tilman 76.19 41 *d*P P 03 03 20.7 +0.6
BEBN Eben Emael 76.22 41 *d*P P 03 03 20.6 +0.4
ETOS Mallorca 76.32 52 P P 03 03 21.9 +0.8
TBLU Trondheim 76.33 28 *e*P P 03 03 20.1 -0.5
TBLU *ep*P **pwP** 03 03 24.3 +0.3
TBLU IVmBBB 03 03 25.9
comp=Z,11µm,5.1s
TBLU *ePP* **PP** 03 06 11.9 +0.3
TBLU *e*S S 03 13 06.0 -0.2
TBLU *e*SS **SS** 03 18 02.5 +3.0
TBLU *e* 03 27 15.8
TBLU IVMs_BB IVMs_BB 03 43 19.4
comp=Z,43µm,19.4s
HOMB Homborsund 76.45 33 *i* P P 03 03 22.6 +1.3
MEM Membach 76.46 41 *d*P P 03 03 21.8 +0.2
SSB Saint Sauveur 76.51 47 IAmb IAmb 03 03 51.6
comp=Z,1µm,1.9s
BHOU Houvegnez 76.51 41 *d*P P 03 03 21.8 -0.1
BTNL Ternell 76.55 41 *d*P P 03 03 21.7 -0.4
LOF Lofoten 76.62 22 *e*P P 03 03 22.3 +0.2
LOF *ep*P **pwP** 03 03 25.6 0.0
LOF IVmBBB 03 03 27.0
comp=Z,15µm,5.4s
LOF *ePP* **PP** 03 06 13.6 -0.4
LOF *e*S S 03 13 10.8 +1.6
LOF *e*SS **SS** 03 18 05.8 +2.0
LOF *e* 03 27 27.3
LOF IVMs_BB IVMs_BB 03 36 43.2
comp=Z,72µm,17.3s
BJO1 Bjornoya 76.69 16 *e*P P 03 03 22.4 0.0
BJO1 *ep*P **pwP** 03 03 26.2 +0.4
BJO1 IVmBBB 03 03 27.8
comp=Z,16µm,6.2s
BJO1 *e*S S 03 13 10.4 +0.7
BJO1 *e*SKSac **SKSac** 03 13 33.8 -1.2
BJO1 *e*SS **SS** 03 18 06.1 +1.7
BJO1 *e* 03 27 30.8
BJO1 IVMs_BB IVMs_BB 03 37 58.0
comp=Z,108µm,16.7s
KONO Kongsberg 76.73 31 P P 03 03 22.2 -0.7
KONO IAmb IAmb 03 03 55.7
comp=Z,2µm,2.2s
KONO Kongsberg 76.73 31 *e*P P 03 03 22.9 0.0
KONO IVmBBB 03 03 28.5
comp=Z,14µm,5.3s
KONO *ePP* **PP** 03 06 15.4 +0.3
KONO *e*S S 03 13 10.2 -0.5
KONO *e*SS **SS** 03 18 06.2 +0.4
KONO *e* 03 27 23.9
KONO IVMs_BB IVMs_BB 03 30 03.7
comp=Z,65µm,28.2s
KONO Kongsberg 76.73 31 *e*P P 03 03 22.1 -0.9
KONO pmax pmax
comp=Z,382nm,1.4s
WLF Walferdange 76.74 42 P P 03 03 22.4 -0.8
WLF Walferdange 76.74 42 S S 03 13 12.0 +0.9
WLF P P 03 03 23.4 +0.2
WLF Walferdange 76.74 42 P P 03 03 22.4 -0.8
WLF pmax pmax
comp=Z,5µm,2.8s
WLF Walferdange 76.74 42 *e*P P 03 03 23.4 +0.2
comp=Z,8µm,3.4s,baz=285,slow=5.5
WLF *e*S S 03 13 10.7 -0.4
baz=286,slow=11
NSS Namsos 76.80 26 *e*P P 03 03 23.5 +0.2
NSS IVmBBB 03 03 28.3
comp=Z,14µm,6.0s
NSS *ePP* **PP** 03 06 17.2 +1.6
NSS *e*S S 03 13 09.2 -2.1
NSS *e*SS **SS** 03 18 06.8 +0.3

NSS *e* 03 28 03.2
NSS IVMs_BB IVMs_BB 03 34 50.3
comp=Z,68µm,21.6s
STOK Stokkvaagen 76.83 24 *eP* **P 03 03 24.0 +0.6**
STOK *eS* **S 03 13 09.5 -2.0**
STOK *eSS* **SS 03 18 06.6 -0.3**
STOK *e* 03 27 32.6
STOK IVMs_BB IVMs_BB 03 34 38.0
comp=Z,85µm,16.8s
KONS Konsvik 76.83 24 *eP* **P 03 03 23.6 +0.2**
ATKA Atka Island 76.90 321 IAmb IAmb 03 03 47.1
comp=Z,1µm,1.5s
ATKA IAMs_20 IAMs_20 03 35 26.7
comp=Z,223µm,22.0s
ATKA Atka Island 76.90 321 P **P 03 03 24.3 +0.3**
NC204 NORSAR Array S 76.96 30 IAmb IAmb 03 03 29.3
comp=Z,2µm,2.8s
TIC Toumodi 77.07 87⇑ *iP* **P 03 03 27.1 +1.3**
comp=Z,81nm,0.8s
BUG Bochum--Univer 77.08 40 *eP* **P 03 03 24.7 -0.4**
comp=Z,4µm,2.6s,baz=285,slow=5.5
BUG *eS* **S 03 13 06.6 -8.2**
baz=286,slow=11
NAO01 NORSAR Array S 77.11 30 *eP* **P 03 03 25.0 -0.1**
AHRW Bad Neuenahr-A 77.15 41 *eP* **P 03 03 25.5 0.0**
comp=Z,1µm,1.7s,baz=285,slow=5.5
MUD Monsted U'grnd 77.16 35 *iP* **P 03 03 26.0 +0.6**
MUD IAmb IAmb 03 03 28.3
comp=Z,588nm,1.2s
LIC Lamto 77.18 87⇑ *eP* **P 03 03 27.0 +0.6**
comp=Z,469nm,1.1s
IBBN Ibbenburen 77.20 39 *eP* **P 03 03 25.4 -0.3**
comp=Z,3µm,2.1s,baz=285,slow=5.5
IBBN *eS* **S 03 13 12.5 -3.5**
baz=286,slow=11
DBIC Dimbokro 77.22 87 IAmb IAmb 03 03 59.2
comp=Z,1µm,1.6s
DBIC Dimbokro 77.22 87 P **P 03 03 26.6 +0.1**
comp=Z,150nm,1.1s,baz=279,slow=5.7,SNR=76
DBIC PKPPKP 03 30 35.3
comp=Z,3.9nm,1.0s,baz=162,slow=3.2,SNR=3.5
DBIC LR LR 03 34 33.8
comp=Z,64µm,20.1s,baz=274,slow=34
comp=Z,150nm,1.1s
NB2 NORSAR Subarra 77.23 30 P **P 03 03 25.5 -0.3**
comp=Z,460nm,1.2s,baz=283,slow=5.9
NB2 NORSAR Subarra 77.23 30 P **P 03 03 25.5 -0.3**
baz=283,slow=5.9
NOA NORSAR Array B 77.23 30 P **P 03 03 25.6 -0.2**
comp=Z,99nm,0.9s,baz=283,slow=5.5,SNR=170
NOA LR LR 03 38 25.5
comp=Z,53µm,18.1s,baz=285,slow=36
comp=Z,99nm,0.9s
OSL Oslo 77.23 31 *eP* **P 03 03 26.1 +0.4**
OSL IVmBBB 03 03 31.4
comp=Z,19µm,5.1s
OSL *ePP* **PP 03 06 20.7 +1.4**
OSL *eS* **S 03 13 16.7 +0.7**
OSL *eSS* **SS 03 18 13.4 +0.2**
OSL *e* 03 27 35.3
OSL IVMs_BB IVMs_BB 03 30 19.4
comp=Z,60µm,25.4s
NC303 NORSAR Array S 77.26 30 IAmb IAmb 03 03 59.9
comp=Z,2µm,2.6s
NB201 NORSAR Array S 77.26 30 IAmb IAmb 03 04 10.2
comp=Z,2µm,2.0s
STEI Steigen 77.29 23 *eP* **P 03 03 26.4 +0.4**
STEI IVmBBB 03 03 31.2
comp=Z,15µm,4.8s
STEI *ePP* **PP 03 06 21.2 +1.6**
STEI *eS* **S 03 13 16.5 0.0**
STEI *eSS* **SS 03 18 13.8 -0.1**
STEI *e* 03 27 53.7
STEI IVMs_BB IVMs_BB 03 36 27.0
comp=Z,101µm,17.1s
MAHO Mahon 77.39 52 IAMs_20 IAMs_20 03 38 56.0
comp=Z,225µm,20.0s
MAHO Mahon 77.39 52 S **S 03 13 21.6 +3.1**
MAHO P **P 03 03 27.8 +0.8**
KIC Kosan Boka 77.42 87⇑ *eP* **P 03 03 28.3 +0.6**
comp=Z,355nm,0.9s
MOR8 Moi Rana 77.43 24 *eP* **P 03 03 26.9 +0.1**
MOR8 IVmBBB 03 03 32.3
comp=Z,15µm,5.8s
MOR8 *eS* **S 03 13 19.3 +1.1**
MOR8 *eSS* **SS 03 18 18.1 +2.1**
MOR8 *e* 03 27 58.5
MOR8 IVMs_BB IVMs_BB 03 34 58.6
comp=Z,95µm,18.4s
NC405 NORSAR Array S 77.45 30 IAmb IAmb 03 03 59.6
comp=Z,3µm,2.8s
HOPEN Hopen 77.45 13 *eP* **P 03 03 27.0 +0.3**
HOPEN IVmBBB 03 03 31.5
comp=Z,14µm,5.3s
HOPEN *eS* **S 03 13 17.9 -0.1**
HOPEN *eSS* **SS 03 18 17.1 +1.2**
HOPEN IVMs_BB IVMs_BB 03 36 10.4
comp=Z,200µm,19.7s
NC602 NORSAR Array S 77.45 30 *eP* **P 03 03 27.3 +0.3**
NC602 IVmB_BB 03 03 32.9
comp=Z,20µm,4.8s
NC602 *eS* **S 03 13 17.8 -0.6**
NC602 *eSS* **SS 03 18 17.3 +0.8**
NC602 *e* 03 27 45.7
NC602 IVMs_BB IVMs_BB 03 32 07.7
comp=Z,64µm,25.3s
FAUS Fauske 77.45 23 *eP* **P 03 03 26.4 -0.5**
FAUS IVmB_BB 03 03 32.1
comp=Z,13µm,5.1s
FAUS *eS* **S 03 13 17.6 -0.6**
FAUS *eSS* **SS 03 18 19.0 +2.8**
FAUS *e* 03 27 55.2
FAUS IVMs_BB IVMs_BB 03 38 17.3
comp=Z,71µm,15.9s
SSRD Sdr. Stenderup 77.62 36 *iP* **P 03 03 28.5 +0.5**
SSRD IAmb IAmb 03 03 30.7
comp=Z,693nm,1.4s
STRU Stroemstad 77.66 32 *eP* **P 03 03 28.7 +0.6**
STRU Stroemstad 77.66 32 *iP* **P 03 03 29.4 +1.2**
ECH Echery 77.68 43 IAMs_20 IAMs_20 03 44 38.8
comp=Z,226µm,19.0s
KASTN Kahler Asten 77.84 40 *eP* **P 03 03 29.1 -0.3**
comp=Z,2µm,2.2s,baz=285,slow=5.5
KASTN *eS* **S 03 13 16.6 -6.5**
baz=286,slow=11
RETH Rethem/Aller, 78.07 38 *eP* **P 03 03 30.6 +0.1**
comp=Z,3µm,2.1s,baz=285,slow=5.5
TNS Taunus Mts 78.07 41 *eP* **P 03 03 30.6 -0.2**
comp=Z,2µm,2.2s,baz=285,slow=5.5
TNS *eS* **S 03 13 17.8 -8.0**
baz=286,slow=11
TRO Tromso 78.11 20 *eP* **P 03 03 30.3 -0.1**
TRO IVmB_BB 03 03 35.7
comp=Z,17µm,5.4s
TRO *eS* **S 03 13 26.3 +1.1**
TRO *eSS* **SS 03 18 26.3 +0.3**
TRO *e* 03 28 16.0
TRO IVMs_BB IVMs_BB 03 40 01.5
comp=Z,69µm,19.3s
TJOU Tjoern 78.11 33 *iP* **P 03 03 32.3 +1.6**
BSEG Bad Segeberg 78.36 37 *eP* **P 03 03 31.8 -0.3**
comp=Z,3µm,2.0s,baz=285,slow=5.5
BSEG *eS* **S 03 13 21.5 -7.0**
baz=286,slow=11
BFO Black Forest 78.42 43 P **P 03 03 31.6 -1.1**
BFO IAmb IAmb 03 04 05.2
comp=Z,2µm,2.7s
BFO Black Forest 78.42 43 P **P 03 03 31.6 -1.1**
BFO pmax pmax
comp=Z,2µm,2.7s
BFO Black Forest 78.42 43 *eP* **P 03 03 32.3 -0.4**
comp=Z,993nm,2.0s,baz=285,slow=5.5
BFO *eS* **S 03 13 26.0 -3.5**
baz=286,slow=11
ADK Adak 78.47 321 P **P 03 03 31.9 -0.9**
ADK Adak 78.47 321 IAMs_20 IAMs_20 03 39 41.2
comp=Z,204µm,20.0s
ADK Adak 78.47 321 P **P 03 03 32.4 -0.4**
ADK Adak 78.47 321 P **P 03 03 31.9 -0.9**
ADK pmax pmax
comp=Z,2µm,1.3s
ADK MLR MLR
comp=Z,204µm,20.0s
NRDL Niedersach Rie 78.57 39 *eP* **P 03 03 33.3 0.0**
comp=Z,2µm,1.9s,baz=285,slow=5.5
NRDL *eS* **S 03 13 31.6 +0.9**
baz=286,slow=11
JETT Jettan, Norway 78.62 20 *eP* **P 03 03 33.5 0.0**
JETT *epP* **pwP 03 03 36.9 +0.1**
JETT IVmB_BB 03 03 38.4
comp=Z,17µm,5.1s
JETT *eS* **S 03 13 30.4 -0.5**
JETT *eSS* **SS 03 18 34.8 +0.9**
JETT IVMs_BB IVMs_BB 03 29 43.0
comp=Z,58µm,48.6s
HFS Hagfors 78.63 30 P **P 03 03 33.3 -0.3**
comp=Z,69nm,0.9s,baz=256,slow=3.1,SNR=50
HFS LR LR 03 38 11.9
comp=Z,69µm,19.0s,baz=278,slow=36
comp=Z,69nm,0.9s
GTTG Gottingen 78.71 39 *eP* **P 03 03 34.1 -0.1**
comp=Z,2µm,2.2s,baz=285,slow=5.5
GTTG *eS* **S 03 13 29.3 -3.0**
baz=286,slow=11
BORU Boraas 78.81 33 *iP* **P 03 03 35.5 +1.0**
STU Stuttgart 78.88 42 IAmb IAmb 03 04 07.8
comp=Z,3µm,2.5s
STU Stuttgart 78.88 42 *eP* **P 03 03 34.9 -0.3**
comp=Z,5µm,2.3s,baz=285,slow=5.5
STU *eS* **S 03 13 33.4 -0.9**
baz=286,slow=11
CLZ Clausthal 78.88 39 *eP* **P 03 03 35.2 0.0**
comp=Z,2µm,1.8s,baz=285,slow=5.5
CLZ *eS* **S 03 13 31.6 -2.8**
baz=286,slow=11
UBBA Unterbreizbach 78.90 40 *eP* **P 03 03 34.9 -0.2**
comp=Z,2µm,2.2s,baz=285,slow=5.5
UBBA *eS* **S 03 13 30.1 -4.2**
baz=286,slow=11
ASSE Asse, Remlinge 78.99 39 *eP* **P 03 03 35.5 -0.1**
comp=Z,2µm,2.0s,baz=285,slow=5.5
ASSE *eS* **S 03 13 29.7 -5.5**
baz=286,slow=11
GORT1 Trebel 79.16 38 *eP* **P 03 03 36.2 -0.3**
comp=Z,3µm,2.2s,baz=285,slow=5.5
FLTG Flechtingen 79.28 38 *eP* **P 03 03 36.5 -0.7**
comp=Z,2µm,2.0s,baz=285,slow=5.5
FLTG *eS* **S 03 13 32.7 -5.7**
baz=286,slow=11
HAMF Hammerfest 79.30 19 *eP* **P 03 03 36.8 -0.2**
HAMF *epP* **pwP 03 03 40.4 +0.1**
HAMF IVmBBB 03 03 42.1
comp=Z,14µm,6.5s
HAMF *eS* **S 03 13 38.6 +0.6**
HAMF *eSS* **SS 03 18 43.2 -0.6**
HAMF IVMs_BB IVMs_BB 03 30 07.2
comp=Z,81µm,43.8s
TUE Stuetta 79.53 45 IAmb IAmb 03 04 13.5
comp=Z,852nm,1.5s
TUE IAMs_20 IAMs_20 03 38 17.2
comp=Z,233µm,22.0s
DAVA Damuels 79.68 44 *iP* **P 03 03 39.8 0.0**
comp=Z,64nm,0.8s
DAVA S **S 03 13 40.5 -2.7**
comp=Z,21nm,1.8s
DAVA *eP'P'* 03 30 34.1
comp=Z,25nm,1.6s
UBR Ueberruh 79.73 43 *eP* **P 03 03 39.8 -0.1**
comp=Z,4µm,2.6s,baz=285,slow=5.5
UBR *eS* **S 03 13 40.5 -3.1**
baz=286,slow=11
KTK1 Kautokeino 79.76 21 *eP* **P 03 03 39.7 +0.1**
KTK1 *epP* **pwP 03 03 43.1 +0.2**
KTK1 IVmBBB 03 03 44.6
comp=Z,13µm,5.3s
KTK1 *ePP* **PP 03 06 39.9 -0.3**
KTK1 *eS* **S 03 13 41.5 -1.5**
KTK1 *eSS* **SS 03 18 52.1 +1.3**
KTK1 *e* 03 25 17.5
KTK1 IVMs_BB IVMs_BB 03 36 24.8
comp=Z,49µm,18.9s
NEUB Neuenburg 79.89 40 *eP* **P 03 03 40.4 -0.2**
comp=Z,2µm,2.1s,baz=285,slow=5.5
NEUB *eS* **S 03 13 42.4 -2.6**
baz=286,slow=11
RGN Rugen 79.91 36 *eP* **P 03 03 40.7 +0.1**
RGN Rugen 79.91 36 *eP* **P 03 03 40.4 -0.2**
comp=Z,2µm,1.7s,baz=285,slow=5.5
RGN *eS* **S 03 13 42.0 -3.0**
baz=286,slow=11
GRFO Grafenberg 79.94 41 P **P 03 03 40.5 -0.5**
GRFO IAmb IAmb 03 04 13.9
comp=Z,3µm,2.4s
GRFO IAMs_20 IAMs_20 03 39 44.3
comp=Z,232µm,20.0s
GRFO Grafenberg 79.94 41 P **P 03 03 40.5 -0.5**
GRFO pmax pmax
comp=Z,3µm,2.4s
GRFO MLR MLR
comp=Z,232µm,20.0s
MOX Moxa 79.94 40 *eP* **P 03 03 40.8 -0.2**
comp=Z,2µm,2.3s,baz=285,slow=5.5
MOX *eS* **S 03 13 39.8 -5.8**
baz=286,slow=11
MOX *eL* L 03 47 45.8
comp=Z,174µm,21.1s
GRA1 Grafenberg Arr 79.94 41 IAmb IAmb 03 04 13.9
comp=Z,3µm,2.5s
GRA1 IAMs_20 IAMs_20 03 46 09.3
comp=Z,247µm,18.0s
GRF Grafenberg Arr 79.94 41 *eP* **P 03 03 41.0 0.0**
comp=Z,3µm,2.4s,baz=285,slow=5.5
GRF *eL* L 03 39 44.7
comp=Z,225µm,20.6s
FUORN Ofenpass-Fuorn 80.10 44 IAmb IAmb 03 04 15.8
comp=Z,817nm,1.4s
FUORN IAMs_20 IAMs_20 03 45 36.0
comp=Z,170µm,19.0s
RETA Reutte 80.21 43 *eP* **P 03 03 42.6 +0.1**
comp=Z,376nm,1.7s,SNR=75
RETA *eS* **S 03 13 45.9 -2.7**
comp=Z,0.9nm,0.2s
RETA *eP'P'* 03 30 33.8
comp=Z,29nm,1.4s
ARCES ARCESS Array B 80.30 20 IAmb IAmb 03 04 22.6
comp=Z,2µm,2.8s
ARCES ARCESS Array B 80.30 20 P **P 03 03 41.9 -0.7**
comp=Z,65nm,0.8s,baz=286,slow=3.4,SNR=104
ARCES PKKPbc **PKKPbc 03 22 26.3 -0.9**
comp=Z,3.7nm,1.1s,baz=64,slow=2.8,SNR=3.6
ARCES LR LR 03 40 49.8
comp=Z,121µm,18.3s,baz=300,slow=37
comp=Z,65nm,0.8s
ARA0 ARCESS Array S 80.30 20 *eP* **P 03 03 42.4 -0.1**
ARA0 *eS* **S 03 13 47.1 -1.5**
ARA0 *eSS* **SS 03 18 58.8 -0.1**
ARA0 *e* 03 25 25.0
ARA0 IVMs_BB IVMs_BB 03 30 34.2
comp=Z,72µm,43.3s
FETA Feichten 80.31 44 *iP* **P 03 03 43.3 +0.1**
comp=Z,79nm,1.0s,SNR=48
FETA *eS* **S 03 13 50.5 +0.6**
comp=Z,12nm,1.5s
FETA *ePKKP* **PKKPbc 03 22 29.8 +3.2**
comp=Z,15nm,1.2s
FETA *eP'P'* 03 30 28.2
comp=Z,9.6nm,1.3s
PLN Plauen 80.31 40 *eP* **P 03 03 42.6 -0.3**
comp=Z,2µm,2.2s,baz=285,slow=5.5
PLN *eS* **S 03 13 42.7 -6.7**
baz=286,slow=11
FUR Furstenfeldbru 80.37 43 *eP* **P 03 03 43.3 -0.1**
comp=Z,3µm,2.5s,baz=285,slow=5.5
FUR *eS* **S 03 13 48.0 -2.2**
baz=286,slow=11
MANZ Manzenberg 80.42 41 *eP* **P 03 03 43.7 +0.1**
comp=Z,418nm,2.3s,baz=285,slow=5.5
MANZ *eS* **S 03 13 49.1 -1.6**
baz=286,slow=11
MOTA Moosalm 80.47 43 *eP* **P 03 03 43.9 -0.1**
comp=Z,154nm,1.2s
MOTA S **S 03 13 50.6 -1.0**
comp=Z,13nm,1.8s
MOTA *ePKKP* **PKKPbc 03 22 29.1 +2.8**
comp=Z,18nm,1.6s
MOTA *eP'P'* 03 30 26.7
comp=Z,9.6nm,1.3s
TANN Tannenbergstha 80.52 40 *eP* **P 03 03 44.1 -0.1**
comp=Z,2µm,2.3s,baz=285,slow=5.5
ROTZ Rotzenmuhle 80.53 41 *eP* **P 03 03 44.3 +0.1**
comp=Z,668nm,2.4s,baz=285,slow=5.5
ROTZ *eS* **S 03 13 47.2 -4.6**
baz=286,slow=11
NKC Novy Kostel 80.56 40 *eP* **P 03 03 44.7 +0.4**
NKC AMS AMS 03 49 50.0
comp=Z,220µm,18.3s
NKC Novy Kostel 80.56 40 *eP* **P 03 03 44.7 +0.4**
NKC MLR MLR
comp=Z,220µm,18.3s
SQTA Sankt Quirin 80.57 44 *iP* **P 03 03 44.6 0.0**
comp=Z,149nm,1.5s,SNR=49
SQTA S **S 03 13 51.1 -1.4**
comp=Z,14nm,1.5s
SQTA *ePKKP* **PKKPbc 03 22 29.0 +3.0**
comp=Z,19nm,1.2s
SQTA *eP'P'* 03 30 27.4
comp=Z,13nm,1.6s
CLL Collm 80.61 39 P **P 03 03 43.8 -0.7**
CLL IAmb IAmb 03 04 17.1
comp=Z,1µm,2.2s
CLL IAMs_20 IAMs_20 03 43 16.8
comp=Z,221µm,20.0s
CLL Collm 80.61 39 *eP* **P 03 03 44.0 -0.5**
CLL *eS* **SKSac 03 13 56.0 -7.8**
CLL pmax pmax
comp=Z,4µm,3.3s
CLL MLR MLR
comp=Z,291µm,20.0s
CLL Collm 80.61 39 *eP* **P 03 03 44.3 -0.2**
comp=Z,2µm,2.2s,baz=285,slow=5.5
CLL *eS* **S 03 13 48.7 -3.8**
baz=286,slow=11
PRMA PARMA 80.61 46 P **P 03 03 44.4 -0.2**
BSD Bornholm Skovb 80.64 35 *eP* **P 03 03 45.1 +0.6**
BSD Bornholm Skovb 80.64 35 *iP* **P 03 03 45.6 +1.1**
BSD IAmb IAmb 03 03 46.5
comp=Z,226nm,1.1s
KEV Kevo 80.69 19 P **P 03 03 43.9 -0.6**
KEV Kevo 80.69 19 P **P 03 03 43.9 -0.6**
KEV pmax pmax
comp=Z,744nm,1.7s
RUE Ruedersdorf 80.74 38 *eP* **P 03 03 45.6 +0.4**
RUE Ruedersdorf 80.74 38 *eP* **P 03 03 44.8 -0.4**
comp=Z,1µm,1.7s,baz=285,slow=5.5
RUE *eS* **S 03 13 49.8 -4.0**
baz=286,slow=11
BLEU Blekinge 80.77 34 *iP* **P 03 03 46.1 +0.8**
WATA Walderalm 80.78 43 *iP* **P 03 03 45.5 -0.2**
comp=Z,137nm,1.4s,SNR=41
WATA *eS* **S 03 13 49.7 -5.2**
comp=Z,1.0nm,0.4s
WATA *ePKKP* **PKKPbc 03 22 28.3 +2.7**
comp=Z,27nm,1.4s
WATA *eP'P'* 03 30 28.6
comp=Z,19nm,1.5s
VLC Villacollemand 80.82 47 S **S 03 13 56.5 +1.4**
VLC P **P 03 03 45.1 -0.8**
WTTA Wattenberg 80.84 43 *eP* **P 03 03 46.0 -0.1**
comp=Z,101nm,1.1s,SNR=38
WTTA *ePKKP* **PKKPbc 03 22 28.6 +3.1**
comp=Z,26nm,1.2s
WTTA *eP'P'* 03 30 28.7
comp=Z,31nm,1.6s
AMKA Amchitka 81.02 321 P **P 03 03 46.1 -0.5**
HSKC Hora Svate Kat 81.06 40 *eP* **P 03 03 47.2 +0.2**
HSKC *eS* **S 03 13 54.6 -2.8**
HSKC AMS AMS 03 46 50.0
comp=Z,198µm,18.4s
WET Wettzell 81.13 41 *eP* **P 03 03 47.5 +0.1**
comp=Z,4µm,2.4s,baz=285,slow=5.5
WET *eS* **S 03 13 52.1 -6.0**
baz=286,slow=11
CTI Castel Tesino 81.18 45 P **P 03 03 47.3 -0.5**
CTI IAmb IAmb 03 04 20.3
comp=Z,2µm,2.3s
CTI Castel Tesino 81.18 45 P **P 03 03 47.3 -0.5**
CTI pmax pmax
comp=Z,2µm,2.3s
VADS Vadso 81.26 19 *eP* **P 03 03 46.9 -0.7**
VADS *eP* **pP 03 03 47.5 0.0**
VADS *epP* **pwP 03 03 51.0 +0.1**
VADS IVmBBB 03 03 52.7
comp=Z,16µm,6.8s
VADS *ePP* **PP 03 06 52.3 -0.2**
VADS *eS* **S 03 13 58.0 -0.6**
VADS *eSS* **SS 03 19 14.3 +1.2**
VADS *e* 03 25 40.7
VADS IVMs_BB IVMs_BB 03 37 16.6
comp=Z,98µm,21.4s
BRG Berggiesshubel 81.30 39 *eP* **P 03 03 48.3 0.0**
BRG Amp 03 03 50.7
comp=Z,227nm,1.3s
BRG Berggiesshubel 81.30 39 SS SS 03 19 20.0 +5.3
BRG PKKP 03 22 28.5
BRG Amp 03 22 34.5
comp=Z,35nm,1.8s
BRG PKPPKP **P'P'df 03 30 31.6 -0.1**
BRG Amp 03 30 37.3
comp=Z,31nm,1.6s
BRG Berggiesshubel 81.30 39 *eP* **P 03 03 48.2 0.0**
BRG S **SKSac 03 14 04.0 -4.6**
BRG SS **SS 03 19 20.0 +5.3**
BRG pmax pmax
comp=Z,227nm,1.3s
BRG MLR MLR
comp=N,110µm,19.5s
BRG MLR MLR
comp=Z,234µm,18.9s
BRG MLR MLR
comp=E,129µm,18.4s
BRG Berggiesshubel 81.30 39 *eP* **P 03 03 48.1 -0.1**
comp=E,2µm,2.0s,baz=285,slow=5.5
BRG *eS* **S 03 13 54.3 -5.4**
baz=286,slow=11
BILL Bilibino 81.33 339 *iP* **P 03 03 48.2 +0.2**
BILL pmax pmax
comp=Z,1µm,3.1s
TEOL Teolo 81.38 45 P **P 03 03 48.2 -0.6**
TEOL IAmb IAmb 03 04 17.5
comp=Z,2µm,1.9s
RJOB Jochberg 81.47 43 *eP* **P 03 03 49.3 0.0**
comp=Z,2µm,2.4s,baz=285,slow=5.5
RJOB *eS* **S 03 13 59.1 -2.6**
baz=286,slow=11
LESA Schwarzleotal 81.48 43 *eP* **P 03 03 49.2 -0.2**
comp=Z,103nm,1.2s
LESA S **S 03 13 58.6 -3.4**
comp=Z,12nm,1.6s
LESA *ePKKP* **PKKPbc 03 22 22.9 -1.1**
comp=Z,5.2nm,0.9s
LESA *eP'P'* 03 30 26.1
comp=Z,8.5nm,1.8s
JOHN Johnston Islan 81.48 285 P **P 03 03 49.0 -0.8**
JOHN IAmb IAmb 03 04 47.3
comp=Z,1µm,1.4s
JOHN Johnston Islan 81.48 285 IAMs_20 IAMs_20 03 36 37.5
comp=Z,356µm,19.0s
RICC Richard 81.49 40 *eP* **P 03 03 50.3 +1.1**
RICC AMS AMS 03 47 10.0
comp=Z,172µm,18.5s
CASP Castiglione de 81.52 48 P **P 03 03 49.1 -0.4**
ABTA Abfaltersbach 81.56 44 *eP* **P 03 03 49.7 -0.1**
comp=Z,139nm,1.2s,SNR=33
ABTA S **S 03 14 00.0 -2.8**
comp=Z,11nm,1.6s
ABTA *ePKKP* **PKKPbc 03 22 25.4 +1.6**
comp=Z,11nm,1.3s
ABTA *eP'P'* 03 30 29.1
comp=Z,8.3nm,1.4s
KHC Kasperske Hory 81.57 41 P **P 03 03 48.9 -0.8**
KHC IAmb IAmb 03 04 22.9
comp=Z,3µm,2.6s
KHC IAMs_20 IAMs_20 03 46 58.5
comp=Z,203µm,18.0s
KHC Kasperske Hory 81.57 41 *eP* **P 03 03 50.2 +0.5**
KHC *eS* **S 03 14 02.0 -0.7**
KHC AMS AMS 03 46 30.0
comp=Z,201µm,17.4s
KHC Kasperske Hory 81.57 41*c iP* **P 03 03 50.0 +0.2**
KHC pmax pmax
comp=Z,1µm,2.6s
TOA0 Torodi Ar. Sit 81.65 79 P **P 03 03 50.3 -0.5**
TOA0 IAmb IAmb 03 04 04.0
comp=Z,1µm,1.9s
TORD Torodi Ar. Bea 81.65 79 P **P 03 03 50.1 -0.7**
TORD IAmb IAmb 03 04 04.0
comp=Z,931nm,1.9s
TORD Torodi Ar. Bea 81.65 79 P **P 03 03 50.8 +0.1**
comp=Z,61nm,1.0s,baz=313,slow=3.9,SNR=156

TORD PKKPbc **PKKPbc** **03 22 22.5 -0.1**
comp=Z,1.0nm,0.8s,baz=63,slow=3.1,SNR=1.9
TORD PKPPKP **P'P'df** **03 30 24.8 -5.5**
comp=Z,1.4nm,1.0s,baz=41,slow=3.1,SNR=1.4
TORD LR LR 03 36 20.5
comp=Z,109μm,21.8s,baz=278,slow=33
comp=Z,61nm,1.0s
GEC2 GERESS Array S 81.73 41 P **P** **03 03 50.0 -0.6**
GEC2 IAmb IAmb 03 04 23.4
comp=Z,3μm,2.5s
GEC2 GERESS Array S 81.73 41 *e*P **P** **03 03 50.6 -0.1**
GEC2 comp=Z,3μm,2.4s,baz=285,slow=5.5
*e*S **S** **03 13 59.5 -5.0**
baz=286,slow=11
GERES GERESS Array B 81.73 41 P **P** **03 03 50.0 -0.6**
GERES GERESS Array B 81.73 41 P **P** **03 03 50.9 +0.2**
comp=Z,67nm,0.9s,baz=298,slow=2.9,SNR=138
GERES PKKPbc **PKKPbc** **03 22 21.5 -1.9**
comp=Z,0.4nm,0.5s,baz=108,slow=2.2,SNR=1.5
GERES PKPPKP **P'P'df** **03 30 23.7 -7.3**
comp=Z,0.9nm,0.7s,baz=101,slow=5.1,SNR=5.2
comp=Z,67nm,0.9s
TAMR Tamra 81.76 54 S **S** **03 14 06.4 +1.5**
TAMR P **P** **03 03 51.3 +0.4**
PVCC Panska Ves 81.78 40 *e*P **P** **03 03 51.2 +0.5**
PVCC *e*SKS **SKSac** **03 14 07.2 -4.6**
PVCC AMS AMS 03 47 00.0
comp=Z,206μm,20.8s
PVCC Panska Ves 81.78 40 *e*P **P** **03 03 51.2 +0.5**
PVCC *e* 03 14 07.2
PVCC MLR MLR
comp=Z,206μm,20.8s
PRA Prague 81.83 40 *e*P **P** **03 03 51.4 +0.4**
PRA *e*SKS **SKSac** **03 14 11.0 -1.2**
PRA AMS AMS 03 53 00.0
comp=Z,206μm,18.6s
PRA Prague 81.83 40 *e*P **P** **03 03 51.4 +0.4**
PRA *e* 03 14 11.0
PRA MLR MLR
comp=Z,206μm,18.6s
HOPE Hope Point 81.87 154 P **P** **03 03 51.1 +0.3**
HOPE Hope Point 81.87 154 IAMs_20 IAMs_20 03 44 54.0
comp=Z,229μm,19.0s
HOPE Hope Point 81.87 154 P **P** **03 03 51.1 +0.3**
HOPE pmax pmax
comp=Z,3μm,2.1s
HOPE MLR MLR
comp=Z,229μm,19.0s
ZVC Zvikov 81.87 41 *e*P **P** **03 03 51.4 +0.1**
ZVC *ex* x 03 04 03.5
ZVC AMS AMS 03 41 20.0
comp=Z,232μm,19.9s
PRU Pruhonice 81.92 40 *e*P **P** **03 03 52.0 +0.5**
PRU *ex* x 03 04 03.7
PRU *e*S **SKSac** **03 14 08.2 -4.6**
PRU AMS AMS 03 53 20.0
comp=Z,208μm,19.1s
PRU Pruhonice 81.92 40 *e*P **P** **03 03 52.0 +0.5**
PRU *e* 03 14 08.2
PRU MLR MLR
comp=Z,208μm,19.1s
KBA Koelnbreinsper 82.01 43 *i*P **P** **03 03 52.0 -0.2**
comp=Z,144nm,1.3s
KBA S **S** **03 14 05.6 -2.1**
comp=Z,24nm,3.1s
KBA *e*PKKP **PKKPbc** **03 22 25.9 +3.1**
comp=Z,5.2nm,0.9s
BIOA Bad Ischl, Aus 82.03 43 *e*P **P** **03 03 51.8 -0.4**
comp=Z,159nm,1.2s,SNR=56
BIOA *e*S **S** **03 14 04.1 -3.4**
comp=Z,11nm,1.7s
GOPC GO Pecny, Ondr 82.09 40 *e*P **P** **03 03 52.8 +0.3**
GOPC AMS AMS 03 53 10.0
comp=Z,214μm,19.1s
GOPC GO Pecny, Ondr 82.09 40 *e*P **P** **03 03 52.8 +0.3**
GOPC MLR MLR
comp=Z,214μm,19.1s
CKRC Cesky Krumlov 82.12 41 *e*P **P** **03 03 52.9 +0.3**
CKRC *e*SKS **S** **03 14 14.0 +5.6**
CKRC AMS AMS 03 45 40.0
comp=Z,186μm,19.9s
CKRC Cesky Krumlov 82.12 41 *e*P **P** **03 03 52.9 +0.3**
CKRC *e* 03 14 14.0
CKRC MLR MLR
comp=Z,186μm,19.9s
RAF Rauma 82.14 28 *e*P **P** **03 03 52.7 +0.4**
KEST Kesra 82.29 55 P **P** **03 03 54.9 +1.0**
comp=Z,90nm,0.8s,baz=252,slow=2.2,SNR=46
comp=Z,90nm,0.8s
MYKA Terra Mystica 82.34 44 *e*P **P** **03 03 53.6 -0.3**
comp=Z,100nm,1.0s,SNR=22
MYKA S **S** **03 14 08.1 -2.7**
comp=Z,11nm,1.8s
PRED Cave del Predi 82.34 44 P **P** **03 03 52.4 -1.5**
MOA Molln 82.38 42 *e*P **P** **03 03 53.5 -0.5**
comp=Z,81nm,1.1s,SNR=18
MOA S **S** **03 14 08.6 -2.5**
comp=Z,12nm,1.6s
MOA *e*PKKP **PKKPbc** **03 22 25.4 +3.5**
comp=Z,8.2nm,2.0s
MOA *e*P'P' 03 30 28.0
comp=Z,13nm,1.5s
GKP Gorka Klasztor 82.50 37 *e*P **P** **03 03 54.9 +0.4**
GKP *e*SKSac **SKSac** **03 14 15.9 -0.6**
GKP *e*L L 03 44 27.2
comp=Z,163μm,24.0s
GKP Gorka Klasztor 82.50 37 *e*P **P** **03 03 54.7 +0.3**
SABO M.te Sabotino 82.50 44 P **P** **03 03 54.8 +0.1**
SABO IAmb IAmb 03 04 27.8
comp=Z,9μm,2.8s
CADS Cadrg 82.52 44 *i*P **P** **03 03 54.5 -0.3**
CADS *i* 03 04 24.7
CADS *i*S **S** **03 14 08.3 -4.3**
MURB Monte Urbino 82.56 47 P **P** **03 03 54.2 -0.8**
TAM Tamanrasset 82.56 69 P **P** **03 03 55.5 -0.1**
TAM Tamanrasset 82.56 69 P **P** **03 03 55.5 -0.1**
TAM pmax pmax
comp=Z,4μm,2.9s
UPC Upice 82.66 39 *e*P **P** **03 03 55.8 +0.4**
UPC *e*SKS **S** **03 14 17.5 +3.7**
UPC AMS AMS 03 48 00.0
comp=Z,234μm,18.5s
UPC Upice 82.66 39 *e*P **P** **03 03 55.8 +0.4**
UPC *e* 03 14 17.5
UPC MLR MLR
comp=Z,234μm,18.5s
CHVC Chvalec 82.66 39 *e*P **P** **03 03 55.9 +0.5**
CHVC AMS AMS 03 47 50.0
comp=Z,241μm,19.1s
CHVC Chvalec 82.66 39 *e*P **P** **03 03 55.9 +0.5**
CHVC MLR MLR
comp=Z,241μm,19.1s
TREC Trest 82.72 41 *e*P **P** **03 03 56.0 +0.3**
TREC *ex* x 03 04 07.2
TREC AMS AMS 03 47 30.0
comp=Z,214μm,19.0s
TREC Trest 82.72 41 *e*P **P** **03 03 56.0 +0.3**
TREC MLR MLR
comp=Z,214μm,19.0s
KSP Ksiaz 82.73 39 *e*P **P** **03 03 56.2 +0.4**
KSP *e*SKSac **SKSac** **03 14 19.6 +1.4**
KSP *e*L L 03 44 51.8
comp=Z,205μm,22.9s
OSTC Ostas 82.77 39 *e*P **P** **03 03 56.6 +0.6**
OSTC *e*SKS **S** **03 14 20.0 +5.0**
OSTC AMS AMS 03 48 00.0
comp=Z,243μm,19.4s
OSTC Ostas 82.77 39 *e*P **P** **03 03 56.6 +0.6**
OSTC *e* 03 14 20.0
OSTC MLR MLR
comp=Z,243μm,19.4s
CESX Cesi 82.78 48 P **P** **03 03 56.1 -0.1**
DPC Dobruska-Polom 82.90 40 *e*P **P** **03 03 57.3 +0.6**
DPC AMS AMS 03 48 10.0
comp=Z,181μm,18.3s
DPC Dobruska-Polom 82.90 40 *e*P **P** **03 03 57.3 +0.6**
DPC MLR MLR
comp=Z,181μm,18.3s
OBKA Obir 82.97 44 *i*P **P** **03 03 56.9 -0.3**
comp=Z,140nm,1.3s
OBKA S **S** **03 14 14.4 -2.9**
comp=Z,15nm,1.8s
OBKA *e*P'P' 03 30 25.1
comp=Z,21nm,1.9s
OBKA Obir 82.97 44⇑ *i*P **P** **03 03 56.2 -1.0**

LJU Ljubljana 83.10 44 *i*P **P** **03 03 57.9 +0.1**
LJU *e* 03 04 28.1
LJU *i*S **S** **03 14 20.9 +2.5**
CEY Cerknica 83.12 44⇑ *i*P **P** **03 03 57.6 -0.3**
GUMA Gualdo di Mace 83.18 47 P **P** **03 03 57.6 -0.6**
GUMA IAmb IAmb 03 04 42.3
comp=Z,549nm,1.2s
PMSA Palmer Station 83.24 172 P **P** **03 03 58.9 +1.2**
PMSA IAmb IAmb 03 04 29.7
comp=Z,749nm,1.6s
PMSA Palmer Station 83.24 172 LR LR 03 37 42.4
comp=Z,92μm,18.9s,baz=345,slow=33
SOKA Soboth 83.24 43 *e*P **P** **03 03 57.9 -0.7**
comp=Z,127nm,1.2s,SNR=30
SOKA S **S** **03 14 17.6 -2.4**
comp=Z,9.2nm,1.6s
SOKA *e*PKKP **PKKPbc** **03 22 23.5 +3.6**
comp=Z,19nm,1.4s
SOKA *e*P'P' 03 30 21.0
comp=Z,9.9nm,1.4s
KRLC Kraliky 83.27 40 *e*P **P** **03 03 59.2 +0.6**
KRLC *ex* x 03 14 30.1
KRLC AMS AMS 03 51 40.0
comp=Z,176μm,18.3s
KRLC Kraliky 83.27 40 *e*P **P** **03 03 59.2 +0.6**
KRLC MLR MLR
comp=Z,176μm,18.3s
KRUC Moravsky 83.36 41⇑ *i*P **P** **03 03 58.8 -0.2**
KRUC Moravsky 83.36 41 *e*S **SKSac** **03 14 21.2 -1.2**
KRUC *e*PKKP 03 22 23.7
KRUC *e*PKPPKP **P'P'df** **03 30 21.0 -6.9**
CONA Conrad Observa 83.38 42 *e*P **P** **03 03 59.2 -0.1**
comp=Z,101nm,1.3s,SNR=39
CONA *e*PKKP **PKKPbc** **03 22 22.8 +3.1**
comp=Z,8.8nm,1.4s
CONA *e*P'P' 03 30 27.3
comp=Z,6.9nm,1.3s
CAMP Campotosto 83.39 48 P **P** **03 03 59.1 -0.4**
CAMP IAmb IAmb 03 04 33.1
comp=Z,393nm,1.1s
VRAC Vranov 83.40 40⇓ *i*P **P** **03 03 59.8 +0.6**
VRAC Vranov 83.40 40⇑ *i*P **P** **03 03 59.3 0.0**
VRAC Vranov 83.40 40 *e*S **SKSac** **03 14 21.2 -1.6**
VRAC *e*PKKP 03 22 24.3
VRAC Vranov 83.40 40 P **P** **03 03 59.8 +0.6**
SHEL Horse Pasture 83.46 109 P **P** **03 04 00.6 +0.5**
SHEL Horse Pasture 83.46 109 IAMs_20 IAMs_20 03 45 52.2
comp=Z,191μm,19.0s
SHEL Horse Pasture 83.46 109 P **P** **03 04 00.6 +0.5**
SHEL pmax pmax
comp=Z,4μm,2.7s
SHEM Shemya Is, Ala 83.64 323 P **P** **03 04 00.3 -0.1**
comp=Z,103nm,1.0s,baz=352,slow=5.5,SNR=4.4
SHEM LR LR 03 42 36.5
comp=Z,169μm,19.8s,baz=64,slow=37
comp=Z,103nm,1.0s
SMY Shemya 83.64 323 P **P** **03 03 59.6 -0.7**
SMY Shemya 83.64 323 P **P** **03 04 01.4 +1.0**
SMY Shemya 83.64 323 P **P** **03 03 59.6 -0.7**
SMY pmax pmax
comp=Z,1μm,1.6s
MEF Metsahovi 83.64 29 *e*P **P** **03 04 00.1 -0.2**
SLIT Slitere, Latvi 83.66 31 *e*P **P** **03 03 59.9 -0.4**
KLNR Kaliningrad 83.70 35 *d*P **P** **03 03 59.3 -1.3**
KLNR pmax pmax
comp=Z,1μm,1.8s
KLNR MLR MLR
comp=Z,168μm,20.0s
RONA Rosalia, Austr 83.73 42 *e*P **P** **03 04 00.7 -0.3**
comp=Z,108nm,1.1s,SNR=56
RONA *e*SKS **S** **03 14 21.9 -3.0**
comp=Z,13nm,1.9s
RONA *e*P'P' 03 30 25.5
comp=Z,12nm,1.5s
BOJS Bojanci 83.75 44 *i*P **P** **03 04 01.0 -0.1**
BOJS *i*S **S** **03 14 30.0 +5.0**
BOJS Bojanci 83.75 44⇑ *i*P **P** **03 04 01.5 +0.4**
CRES Cresnjev 83.78 44⇑ *i*P **P** **03 04 01.5 +0.2**
APA Apatity 83.79 20⇓ *i*P **P** **03 03 58.5 -2.3**
APA *i*S **S** **03 14 19.0 -5.6**
APA *i*PS **PnS** **03 15 11.0 -4.4**
APA pmax pmax
comp=Z,108nm,0.8s
MORC Moravsky Berou 83.83 40⇑ P **P** **03 04 02.8 +1.3**
MORC Moravsky Berou 83.83 40 P **P** **03 04 01.0 -0.5**
MORC IAmb IAmb 03 04 46.1
comp=Z,847nm,1.7s
MORC IAMs_20 IAMs_20 03 44 39.1
comp=Z,247μm,20.0s
MORC Moravsky Berou 83.83 40⇑ *i*P **P** **03 04 01.5 0.0**
MORC Moravsky Berou 83.83 40 *e*S **S** **03 14 31.3 +5.5**
MORC *e*PKKP 03 22 21.2
MORC *e*PKPPKP **P'P'df** **03 30 20.2 -6.8**
MORC Moravsky Berou 83.83 40 P **P** **03 04 01.0 -0.5**
MORC pmax pmax
comp=Z,847nm,1.7s
MORC MLR MLR
comp=Z,247μm,20.0s
FINES FINESS Array B 83.88 27 P **P** **03 04 01.1 -0.3**
comp=Z,72nm,0.9s,baz=275,slow=2.5,SNR=145
FINES PKKPbc **PKKPbc** **03 22 17.4 -1.4**
comp=Z,2.4nm,0.7s,baz=134,slow=5.5,SNR=3.7
comp=Z,72nm,0.9s
INTR Introdacqua 83.90 48 IAmb IAmb 03 04 27.1
comp=Z,476nm,1.4s
MTSE Matsula 83.98 30 *e*P **P** **03 04 01.8 -0.1**
RAR Rarotonga 84.00 246 P **P** **03 04 02.3 -0.4**
RAR Rarotonga 84.00 246 P **P** **03 04 03.9 +1.2**
RAR Rarotonga 84.00 246 P **P** **03 04 02.3 -0.4**
RAR pmax pmax
comp=Z,3μm,2.4s
RAR Rarotonga 84.00 246 LR LR 03 34 43.4
comp=Z,115μm,20.1s,baz=63,slow=31
LVZ Lovozero 84.02 20 P **P** **03 04 01.2 -0.9**
LVZ IAmb IAmb 03 04 49.4
comp=Z,354nm,1.1s
LVZ Lovozero 84.02 20 *i*P **P** **03 04 01.0 -1.1**
LVZ pmax pmax
comp=Z,419nm,1.2s
ZST Bratislava 84.08 41 *e*P **P** **03 04 03.1 +0.4**
ZST *e*S **S** **03 14 27.3 -1.0**
ZST Bratislava 84.08 41 *e*P **P** **03 04 03.1 +0.4**
PBUR Paburge 84.09 33 *e*P **P** **03 04 02.5 -0.1**
RAC Raciborz 84.12 39 *e*P **P** **03 04 03.5 +0.6**
RAC Raciborz 84.12 39⇑ *e*SKSp 03 14 24.9
RAC AMS AMS 03 43 25.1
comp=Z,282nm,19.5s
RAC Raciborz 84.12 39 *e*P **P** **03 04 03.5 +0.6**
RAC *e* 03 14 24.9
RAC MLR MLR
comp=Z,282μm,19.5s
MODS Modra-Piesok 84.13 41 *e*P **P** **03 04 03.6 +0.6**
MODS pmax pmax
comp=Z,7μm,2.7s
MODS Modra-Piesok 84.13 41 *e*P **P** **03 04 03.6 +0.6**
MODS Modra-Piesok 84.13 41 *e*S **S** **03 14 27.8 -1.0**
MODS *e*SS **SS** **03 20 05.3 +8.4**
MODS *e*L L 03 31 43.1
MAUC Maruska 84.14 40 *e*P **P** **03 04 04.4 +1.3**
OKC Ostrava-Krasne 84.18 40 *e*P **P** **03 04 04.4 +1.2**
OKC *e*S **S** **03 14 32.1 +2.9**
OKC AMS AMS 03 52 40.0
comp=Z,197μm,18.3s
OKC Ostrava-Krasne 84.18 40 *e*P **P** **03 04 04.4 +1.2**
OKC *e* 03 14 32.1
OKC MLR MLR
comp=Z,197μm,18.3s
SMOL Smolenice 84.18 41 *e*P **P** **03 04 03.7 +0.4**
SMOL pmax pmax
comp=Z,2μm,2.9s
JAVC Velka Javorina 84.22 41⇑ *i*P **P** **03 04 04.7 +1.2**
JAVC Velka Javorina 84.22 41 *e*S **S** **03 14 32.2 +2.5**
PRIJ Prijedor 84.90 45⇑ *i*P **P** **03 04 07.6 +0.7**
A050A Klekovaca 84.94 45⇑ *i*P **P** **03 04 08.1 +0.8**
SRO Srobarova 84.98 41 *e*P **P** **03 04 09.1 +1.8**
SRO pmax pmax
comp=Z,3μm,3.4s
SRO Srobarova 84.98 41 *e*P **P** **03 04 09.1 +1.8**
A051A Mrakovica 85.01 44⇑ *i*P **P** **03 04 08.1 +0.5**
BEL Belsk 85.03 37 *e*P **P** **03 04 07.8 +0.3**
BEL *e*S **S** **03 14 36.7 -0.9**
BEL *e*L L 03 49 07.0
comp=Z,402μm,19.7s
OJC Ojcow 85.04 39 *e*P **P** **03 04 07.7 +0.1**

OJC *e*SKSac **SKSac** **03 14 31.4 -1.9**
OJC *e*S **S** **03 14 37.3 -0.5**
OJC *e*L L 03 46 21.1
comp=Z,199μm,21.7s
OJC Ojcow 85.04 39 IAmb IAmb 03 04 51.7
comp=Z,708nm,1.6s
VYHS Vyhne 85.07 41 *e*P **P** **03 04 08.2 +0.4**
VYHS pmax pmax
comp=Z,2μm,2.8s
VYHS Vyhne 85.07 41 *e*P **P** **03 04 08.2 +0.4**
VYHS Vyhne 85.07 41 *e*S **SKSac** **03 14 33.2 -0.4**
VYHS *e*SS **SS** **03 20 21.2 +11**
VYHS *e* 03 22 25.4
VYHS *e*PDIFF 03 30 24.4
VYHS *e*L L 03 33 55.7
VSVD Vaisvydziai 85.14 33 *e*P **P** **03 04 07.5 -0.4**
LANS Liptovska Anna 85.23 40 *e*P **P** **03 04 09.7 +1.1**
LANS pmax pmax
comp=Z,59nm,1.3s
LANS Liptovska Anna 85.23 40 *e*P **P** **03 04 09.7 +1.1**
MIDW Midway 85.27 298 P **P** **03 04 07.8 -1.3**
MIDW Midway 85.27 298 P **P** **03 04 10.2 +1.1**
comp=Z,920nm,1.2s
BLY Banja Luka 85.29 45⇑ *i*P **P** **03 04 08.9 0.0**
MGRS Mrkonjic Grad 85.33 45⇑ *i*P **P** **03 04 10.6 +1.4**
PABE Paberze 85.35 33 IAmb IAmb 03 04 32.0
comp=Z,668nm,1.3s
PABE Paberze 85.35 33 *e*P **P** **03 04 09.4 +0.4**
VSU Vasula 85.47 30*c* *i*P **P** **03 04 08.6 -0.9**
VSU pmax pmax
comp=Z,409nm,1.1s
VSU MLR MLR
comp=Z,111μm,19.0s
VSU Vasula 85.47 30 *e*P **P** **03 04 09.2 -0.3**
SUW Suwalki 85.53 35 *e*P **P** **03 04 07.2 -2.7**
SUW *e*PcP **sP** **03 04 10.2 +0.4**
SUW *e*SKSac **SKSac** **03 14 37.2 +1.0**
SUW *e*L L 03 42 38.3
comp=Z,174μm,21.4s
SUW Suwalki 85.53 35 IAmb IAmb 03 04 30.8
comp=Z,731nm,1.3s
SUW IAMs_20 IAMs_20 03 42 37.6
comp=Z,180μm,21.0s
SUW Suwalki 85.53 35 *e*P **P** **03 04 08.1 -1.8**
NIE Niedzica 85.64 40 *e*P **P** **03 04 11.8 +1.1**
NIE *e*S **S** **03 14 43.0 -0.8**
NIE *e*L L 03 41 48.8
comp=Z,105μm,23.9s
VAE Valguarnera 85.68 52 LR LR 03 37 47.5
comp=Z,158μm,20.0s,baz=299,slow=32
MORH Mrgy, Hungar 85.75 43⇓ P **P** **03 04 11.5 +0.3**
DOB Doboj 85.91 44 *e*P **P** **03 04 14.0 +2.0**
CUC Castrocucco 85.91 49 IAmb IAmb 03 04 25.0
comp=Z,2μm,2.5s
PSZ Piszkesteto 85.94 41⇓ P **P** **03 04 13.6 +1.4**
PSZ Piszkesteto 85.94 41 P **P** **03 04 13.5 +1.4**
TRIS Tristan da Cun 86.08 131 P **P** **03 04 13.8 +1.0**
TRIS IAmb IAmb 03 04 41.1
comp=Z,668nm,1.4s
KECS Kecovo 86.10 40 *e*P **P** **03 04 14.6 +1.7**
KECS pmax pmax
comp=Z,62nm,1.0s
KECS Kecovo 86.10 40 *e*P **P** **03 04 14.6 +1.7**
STHS Stebnicka Huta 86.21 39 *e*P **P** **03 04 13.8 +0.4**
STHS pmax pmax
comp=Z,34nm,1.0s
STHS Stebnicka Huta 86.21 39 *e*P **P** **03 04 13.8 +0.4**
STON Ston 86.28 46⇑ *i*P P 03 04 08.8 -5.0
MATE Matera 86.33 49⇑ P **P** **03 04 15.6 +1.5**
NEVS Nevesinje 86.41 46 *e*P **P** **03 04 17.0 +2.4**
PUL Pulkovo 86.51 28*c* *i*P **P** **03 04 14.3 -0.3**
PUL pmax pmax
comp=Z,403nm,0.9s
CEL Celeste 86.54 51 P **P** **03 04 14.3 -1.0**
CRVS Cervenica-Dubn 86.54 40 *e*P **P** **03 04 15.8 +0.8**
CRVS pmax pmax
comp=Z,3μm,2.7s
CRVS Cervenica-Dubn 86.54 40 *e*P **P** **03 04 15.8 +0.8**
CRVS Cervenica-Dubn 86.54 40 *e*S **SKSac** **03 14 42.2 -0.6**
CRVS *e*SS **SS** **03 20 39.7 +7.5**
CRVS *e*L L 03 34 31.5
HAPS Han Pijesak,Bl 86.70 45⇑ *i*P **P** **03 04 16.7 +0.6**
TREB Trebinje 86.78 46 *e*P **P** **03 04 15.7 -0.6**
BRY Bratogost 86.84 46⇑ *i*P **P** **03 04 18.0 +1.2**
BRY Bratogost 86.84 46 *e*P **P** **03 04 16.6 -0.2**
TIP Timpagrande 86.87 50⇑ P **P** **03 04 16.9 -0.1**
TIP Timpagrande 86.87 50 IAmb IAmb 03 04 48.9
comp=Z,2μm,2.5s
FRGS Fruska Gora 86.89 44⇑ P **P** **03 04 18.1 +1.2**
FRGS Fruska Gora 86.89 44⇑ *i*P **P** **03 04 17.2 +0.3**
TEKS Tekeris 86.92 44⇑ *i*P **P** **03 04 16.3 -0.7**
HCY Herceg Novi 86.97 46⇑ *i*P **P** **03 04 18.6 +1.3**
HCY Herceg Novi 86.97 46 *e*P **P** **03 04 17.8 +0.5**
UPM Unac-Piva 86.99 46⇑ *i*P **P** **03 04 17.8 +0.2**
KWP Kalwaria Pacla 87.00 39 *e*P **P** **03 04 17.9 +0.6**
KWP *e*L L 03 43 18.5
comp=Z,113μm,24.1s
KWP Kalwaria Pacla 87.00 39 IAmb IAmb 03 05 02.0
comp=Z,1μm,1.7s
KOLS Kolonicke sedl 87.02 39 *e*P **P** **03 04 18.0 +0.6**
KOLS pmax pmax
comp=Z,74nm,1.0s
KOLS Kolonicke sedl 87.02 39 *e*P **P** **03 04 18.0 +0.6**
BBLS Lazići 87.09 45⇑ *i*P **P** **03 04 18.5 +0.6**
RUDO Rudo 87.16 45⇑ *i*P **P** **03 04 18.1 -0.1**
NKME Niksic 87.18 46⇑ *i*P **P** **03 04 19.5 +1.2**
CEME Cevo 87.23 46⇑ *i*P **P** **03 04 19.2 +0.6**
PLE Pljevlja 87.27 45⇑ *i*P **P** **03 04 19.3 +0.4**
BUM Brajici-Budva 87.30 47⇑ *i*P **P** **03 04 20.2 +1.2**
LTVH Ltavrtes, Hu 87.39 41⇓ P **P** **03 04 21.3 +2.1**
KOME Kolasin 87.53 46⇑ *i*P **P** **03 04 20.9 +0.8**
DRME Dracevica, Mon 87.55 47⇑ *i*P **P** **03 04 21.1 +1.0**
DRME Dracevica, Mon 87.55 47⇑ *i*P **P** **03 04 20.9 +0.8**
ULC Ulcinj 87.67 47⇑ *i*P **P** **03 04 21.4 +0.7**
SIRR Siria 87.67 42⇓ P **P** **03 04 20.5 -0.1**
SJES Sjenica 87.69 45⇑ *i*P **P** **03 04 21.1 +0.2**
LVV L'vov 87.72 38 *e*P **P** **03 04 20.9 +0.2**
LVV *e*S **S** **03 15 00.4 -3.5**
LVV *e*PS 03 15 58.7
LVV *e*SS **SS** **03 20 48.4 -0.9**
LVV pmax pmax
comp=Z,4μm,3.6s
LVV smax smax
comp=N,2μm,3.9s
LVV smax smax
comp=E,3μm,3.9s
IVA Berane 87.78 46⇑ *i*P **P** **03 04 22.6 +1.3**
MNK Minsk 87.82 33 *i*P **P** **03 04 21.2 +0.1**
MNK *i* 03 07 54.9
MNK *i* PPP PPP 03 09 44.8
MNK *i* S **SKSac** **03 14 48.9 -1.4**
MNK *i* SS **SS** **03 20 54.0 +3.5**
MNK *i* SSS SSS 03 24 25.3
MNK pmax pmax
comp=Z,113nm,1.6s
MNK pmax pmax
comp=N,81nm,1.6s
MNK pmax pmax
comp=E,28nm,1.6s
MNK MLR MLR
comp=E,64μm,25.0s
MNK MLR MLR
comp=N,48μm,19.0s
MNK MLR MLR
comp=Z,165μm,23.0s
BZS Buzias 87.90 43⇓ P **P** **03 04 22.4 +0.7**
BZS Buzias 87.90 43 P **P** **03 04 22.4 +0.7**
PVY Plav 87.93 46⇑ *i*P **P** **03 04 23.2 +1.1**
SURR Surduc 88.17 42⇓ P **P** **03 04 23.6 +0.6**
BMR Baia Mare 88.27 40⇑ P **P** **03 04 24.2 +0.8**
BMR Baia Mare 88.27 40 P **P** **03 04 24.2 +0.8**
MDVR Moldovita 88.28 43⇓ P **P** **03 04 24.1 +0.5**
TIR Tirane 88.33 47⇑ P **P** **03 04 25.7 +1.9**
TIR Tirane 88.33 47 P **P** **03 04 22.8 -1.0**
TIR Tirane 88.33 47 P **P** **03 04 25.7 +1.9**
MARR Marisel-Cluj 88.44 41⇑ P **P** **03 04 24.6 +0.2**
TIXI Tiksi 88.51 350 P **P** **03 04 23.5 -0.5**
TIXI Tiksi 88.51 350 IAMs_20 IAMs_20 03 47 41.6
comp=Z,345μm,21.0s
TIXI Tiksi 88.51 350*ce*P **P** **03 04 24.1 +0.1**
TIXI pmax pmax
comp=Z,468nm,2.2s
TIXI MLR MLR

comp=Z,382µm,22.0s
DEV Deva 88.62 42 ⇑P **P 03 04 27.1 +1.9**
DEV Deva 88.62 42 P **P 03 04 27.0 +1.9**
CBBR Cluj-Babes-Bol 88.67 41 ⇓P **P 03 04 23.4 -1.9**
HERR Herculane 88.70 43 ⇑P **P 03 04 26.6 +1.1**
BOVS Bovan 88.72 44 ⇑P **P 03 04 26.2 +0.6**
CJR Cluj-Napoca 88.72 41 ⇓P **P 03 04 26.2 +0.6**
CJR Cluj-Napoca 88.72 41 P **P 03 04 27.6 +1.9**
GZR Gura Zlata 88.73 43 ⇓P **P 03 04 26.4 +0.7**
GZR Gura Zlata 88.73 43 P **P 03 04 26.3 +0.6**
DJES Djerdap 88.86 43 ⇑P **P 03 04 27.2 +0.9**
KEK Kerkira 88.88 49 IAmb IAmb 03 05 04.1
comp=Z,422nm,1.4s
KEK Kerkira 88.88 49 P **P 03 04 25.4 -1.1**
SEY Seymchan 88.92 338*c i*P **P 03 04 26.8 +0.6**
SEY pmax pmax
comp=Z,749nm,3.3s
SEY MLR MLR
comp=Z,534µm,20.0s
SEY Seymchan 88.92 338 P **P 03 04 26.0 -0.1**
comp=Z,87nm,1.0s,baz=83,slow=5.9,SNR=52
SEY LR LR 03 48 09.1
comp=Z,500µm,20.4s,baz=60,slow=38
comp=Z,87nm,1.0s
ARCR ARCALIA 89.04 41 ⇑P **P 03 04 27.1 0.0**
OHR Ohrid 89.07 47 *i*P **P 03 04 28.9 +1.5**
SKO Skopje 89.18 46 *i*P **P 03 04 28.3 +0.5**
SRE Strehaia 89.31 43 ⇑P **P 03 04 30.0 +1.6**
SRE Strehaia 89.31 43 P **P 03 04 29.9 +1.6**
BUR08 Bucovina Ar. S 89.33 40 IAmb IAmb 03 05 12.7
comp=Z,736nm,2.5s
IGT Igoumenitsa 89.33 49 P **P 03 04 24.9 -3.7**
LOT Lotru 89.35 42 ⇑P **P 03 04 29.1 +0.4**
BURAR Bucovina Array 89.35 40 ⇑P **P 03 04 29.3 +0.7**
BURAR Bucovina Array 89.35 40 P **P 03 04 30.0 +1.4**
BLKB Belogradchik 89.37 44 ⇓P **P 03 04 29.1 +0.3**
NEST Nestorio 89.51 48 P **P 03 04 29.3 -0.2**
FNA Florina 89.60 47 P **P 03 04 29.6 -0.3**
PENT Pentalofos 89.65 48 P **P 03 04 30.7 +0.5**
JAN Janina 89.66 48 P **P 03 04 31.5 +1.4**
BAIL Bailesti 89.66 44 ⇓P **P 03 04 30.7 +0.7**
KLMR Klimovskoe 89.77 24*d i*P **P 03 04 30.3 +0.2**
KLMR *e* 03 08 02.7
KLMR S **SKSac 03 15 01.9 +0.3**
KLMR SS **SS 03 21 20.2 +1.8**
KLMR pmax pmax
comp=Z,274nm,2.6s
KLMR MLR MLR
comp=Z,140µm,19.0s
TSLK Tsoukalades, L 89.83 49 P **P 03 04 32.6 +1.7**
KEF3 Kipouria, Keph 89.84 50 P **P 03 04 34.2 +3.2**
LKD2 Lefkada island 89.84 49 P **P 03 04 29.3 -1.7**
VALD Valchedram 89.85 44 P **P 03 04 31.4 +0.5**
KEF4 Livadi, Kephal 89.87 50 P **P 03 04 31.8 +0.7**
FSK Fiskardo 89.90 50 P **P 03 04 32.0 +0.8**
NYDR Nydri-Lefkada 89.90 49 P **P 03 04 30.6 -0.6**
EVGI Lefkada island 89.91 49 P **P 03 04 29.6 -1.7**
KPRO Kipourio 89.91 48 P **P 03 04 32.3 +0.9**
ARR Arges 89.94 42 ⇑P **P 03 04 31.9 +0.5**
VLS Valsamata 90.03 50 P **P 03 04 31.2 -0.7**
PSDA Pessada-Kefalo 90.04 50 P **P 03 04 33.1 +1.2**
PRAR RASCA 90.08 40 ⇓P **P 03 04 32.7 +0.7**
VTS Vitosha 90.15 45 *i*P **P 03 04 32.7 +0.1**
DOPR Dopca 90.16 41 ⇑P **P 03 04 33.2 +0.8**
VOIR 90.17 42 ⇑P **P 03 04 33.3 +0.8**
VOIR 90.17 42 P **P 03 04 33.2 +0.8**
MPEP Malo Peshtene 90.19 44 P **P 03 04 32.7 +0.2**
VAY Valandovo 90.22 46 *i*P **P 03 04 34.2 +1.6**
GRG Griva 90.25 47 P **P 03 04 32.6 -0.3**
PEHC Pehcevo 90.26 46 *i*P **P 03 04 35.5 +2.4**
MTUR Matau 90.27 42 ⇓P **P 03 04 34.3 +1.3**
MTUR Matau 90.27 42 P **P 03 04 34.3 +1.3**
BOSR Bodos 90.29 41 ⇑P **P 03 04 34.3 +1.3**
KIEV Kiev 90.31 36 ⇓P **P 03 04 32.6 -0.2**
KIEV Kiev 90.31 36 P **P 03 04 30.7 -2.2**
KIEV Kiev 90.31 36 IAMs_20 IAMs_20 03 48 02.9
comp=Z,160µm,20.0s
KIEV Kiev 90.31 36 P **P 03 04 30.7 -2.2**
KIEV pmax pmax
comp=Z,439nm,2.2s
KIEV MLR MLR
comp=Z,160µm,20.0s
AKASG Malin Array Be 90.31 36 *i*P **P 03 04 30.7 -2.2**
AKASG Malin Array Be 90.31 36 P **P 03 04 31.4 -1.5**
comp=Z,7.5nm,1.0s,baz=286,slow=3.7,SNR=27
AKASG PP **PP 03 08 05.8 -0.5**
comp=Z,7.0nm,0.9s,baz=299,slow=7.5,SNR=4.2
AKASG PKKPbc **PKKPbc 03 22 01.6 -1.5**
comp=Z,0.6nm,0.5s,baz=83,slow=2.6,SNR=4.3
AKASG PKPPKP **P'P'df 03 30 10.8 -4.0**
comp=Z,0.3nm,0.4s,baz=81,slow=1.7,SNR=4.4
AKASG LR LR 03 42 15.1
comp=Z,82µm,20.3s,baz=290,slow=34
comp=Z,7.5nm,1.0s
AKBB Malin Array Si 90.31 36*c i*P **P 03 04 30.9 -2.0**
AKBB pmax pmax
comp=Z,137nm,2.7s
AKBB MLR MLR
comp=Z,170µm,18.0s
OZUR 90.36 41 ⇓P **P 03 04 34.8 +1.4**
STFAR Stefanesti-Arg 90.36 42 ⇓P **P 03 04 36.0 +2.7**
VLAD Vladila 90.36 43 ⇑P **P 03 04 34.4 +1.1**
LTHK Lithakia 90.38 50 P **P 03 04 32.3 -1.2**
KKB Krupnik 90.39 46 *i*P **P 03 04 33.8 +0.3**
KNT Kendrikon 90.51 46 P **P 03 04 34.3 +0.2**
HUMR Humele 90.52 43 ⇑P **P 03 04 34.7 +0.7**
THL Klokotos Trika 90.52 48 P **P 03 04 33.4 -0.7**
TURR Turia 90.52 41 ⇑P **P 03 04 35.9 +1.8**
PVO Paravola 90.54 49 P **P 03 04 33.4 -0.8**
TYRN Tyrnavos 90.62 48 P **P 03 04 33.7 -0.9**
EVR Evrytania 90.62 49 P **P 03 04 35.4 +0.6**
RLS Riolos of Patr 90.71 50 P **P 03 04 34.5 -0.5**
TESR Tescani 90.71 40 ⇑P **P 03 04 35.0 +0.1**
MLR Muntele Rosu 90.72 42 ⇓P **P 03 04 35.7 +0.6**
MLR Muntele Rosu 90.72 42 P **P 03 04 34.3 -0.8**
MLR IAMs_20 IAMs_20 03 53 02.3
comp=Z,224µm,22.0s
MLR Muntele Rosu 90.72 42 P **P 03 04 34.3 -0.8**
MLR pmax pmax
comp=Z,3µm,2.3s
MLR Muntele Rosu 90.72 42 PKKPbc PKKPbc 03 22 00.6 -1.4
comp=Z,1.8nm,0.8s,baz=72,slow=3.2,SNR=1.4
COVR Voineasa-Covas 90.73 41 ⇑P **P 03 04 36.1 +1.1**
PLVB Pleven 90.76 44 ⇓P **P 03 04 35.6 +0.4**
THE Thessaloniki 90.77 47 P **P 03 04 34.5 -0.7**
MAKR Makrakomi, Fth 90.82 49 P **P 03 04 34.8 -0.8**
PGB Panagyurishte 90.83 45 *i*P **P 03 04 36.5 +0.9**
ANX Ano Chora 90.83 49 P **P 03 04 35.4 -0.3**
COPA Copaceanca 90.84 43 ⇑P **P 03 04 37.3 +1.8**
HORT Hortiatis 90.87 47 P **P 03 04 34.0 -1.9**
EFP Efpalio 90.89 49 P **P 03 04 35.9 +0.1**
DRO Drossia 90.93 50 P **P 03 04 36.6 +0.5**
MMB Musomishta 90.94 46 *i*P **P 03 04 37.0 +0.9**
AGG Agios Georgios 90.96 49 P **P 03 04 34.6 -1.6**
AGG IAmb IAmb 03 05 14.3
comp=Z,445nm,1.4s
AGG Agios Georgios 90.96 49 P **P 03 04 35.4 -0.8**
AGG Agios Georgios 90.96 49 P **P 03 04 34.6 -1.6**
AGG pmax pmax
comp=Z,445nm,1.4s
SOH Sokhos 90.96 47 P **P 03 04 35.7 -0.5**
NEHR Nehoiu 90.97 42 ⇓P **P 03 04 36.7 +0.6**
SRS Serrai 91.00 46 P **P 03 04 34.8 -1.6**
PLOR Plostina 91.01 41 ⇓P **P 03 04 38.0 +1.7**
PLOR Plostina 91.01 41 P **P 03 04 38.5 +2.2**
PLOR Plostina 91.01 41 ⇑P **P 03 04 38.5 +2.2**
LAKA Lakka 91.01 49 P **P 03 04 37.1 +0.6**
SORM Soroca 91.01 38 ⇑P **P 03 04 36.0 -0.2**
SORM Soroca 91.01 38 P **P 03 04 36.0 -0.2**
VRI Vrincioaia 91.05 41 ⇑P **P 03 04 37.0 +0.5**
VRI Vrincioaia 91.05 41 P **P 03 04 37.0 +0.5**
NVR Nevrokopi 91.10 46 P **P 03 04 37.1 +0.3**
ZIMR 91.14 43 ⇓P **P 03 04 37.9 +1.0**
ZIMR 91.14 43 P **P 03 04 37.8 +1.0**
KLV Kalavryta, Ach 91.21 50 P **P 03 04 38.2 +0.7**
PVL Pavlikeni 91.24 44 *i*P **P 03 04 37.8 +0.4**
ISR Istrita 91.26 42 ⇓P **P 03 04 38.8 +1.2**
ISR Istrita 91.26 42 P **P 03 04 38.8 +1.2**
SULR 91.27 42 ⇑P **P 03 04 38.5 +1.0**
SGRR Singureni 91.29 43 ⇑P **P 03 04 37.4 -0.2**
AXAR Agios Charalam 91.29 49 P **P 03 04 37.3 -0.5**
PYL PYLOS 91.36 51 P **P 03 04 37.1 -1.0**

GHRR 91.39 41 ⇓P **P 03 04 38.8 +0.8**
GUR Goura 91.39 50 P **P 03 04 38.0 -0.4**
KOKK Kokkinochori, 91.41 46 P **P 03 04 37.3 -0.9**
XOR Xorichti 91.44 48 P **P 03 04 38.3 -0.1**
EKNA AfricaArray - 91.44 85⇑*i*P **P 03 04 41.1 +2.2**
NEO Neokhori 91.48 48 P **P 03 04 38.5 -0.2**
KLMT Kalamata 91.53 50 P **P 03 04 40.7 +1.9**
PAIG Paliouri 91.55 47 P **P 03 04 38.4 -0.5**
RZN Rozhen 91.55 45 *i*P **P 03 04 39.6 +0.5**
THAL Thalero 91.59 49 P **P 03 04 39.4 +0.3**
OUR Ouranopolis 91.60 47 P **P 03 04 38.1 -1.0**
MA2 Magadan 91.63 336 P **P 03 04 37.7 -1.2**
MA2 IAmb IAmb 03 05 10.9
comp=Z,574nm,1.4s
MA2 IAMs_20 IAMs_20 03 50 07.6
comp=Z,292µm,20.0s
MA2 Magadan 91.63 336 P **P 03 04 39.6 +0.7**
MA2 Magadan 91.63 336*c i*P **P 03 04 40.0 +1.1**
MA2 pmax pmax
comp=Z,610nm,3.0s
MA2 Magadan 91.63 336 P **P 03 04 38.9 0.0**
comp=Z,111nm,1.1s,baz=64,slow=4.4,SNR=22
MA2 LR LR 03 50 00.3
comp=Z,266µm,19.2s,baz=56,slow=38
comp=Z,111nm,1.1s
KAVA Kavala 91.69 46 P **P 03 04 39.5 0.0**
SZH Strazhitsa 91.71 44 P **P 03 04 39.2 -0.4**
ELND Elena 91.79 44 ⇓P **P 03 04 40.7 +0.8**
KIS Kishinev 91.82 39 *e*P **P 03 04 40.0 0.0**
comp=Z,2µm,3.9s
KIS *e*SKS **SKSac 03 15 11.0 -3.0**
KIS *e*S **SKKSac 03 15 32.0 +1.7**
KIS Kishinev 91.82 39 *e*P **P 03 04 40.0 0.0**
KIS *e* 03 15 11.0
KIS *e*S S 03 15 32.0 -10
KIS *e*PS **PS 03 16 49.0 -2.3**
KIS *i* PPS PPS 03 17 33.0
KIS pmax pmax
comp=Z,2µm,3.9s
OBN Obninsk 91.83 30 ⇓P **P 03 04 40.0 +0.1**
OBN Obninsk 91.83 30 P **P 03 04 37.6 -2.2**
OBN IAmb IAmb 03 05 03.0
comp=Z,461nm,1.5s
OBN Obninsk 91.83 30*c i*P **P 03 04 38.5 -1.3**
OBN *e**PP **pwP 03 04 43.7 +0.5**
OBN *e* 03 08 15.6
OBN *e*PPP PPP 03 10 14.5
OBN *e*S **SKSac 03 15 11.6 -2.1**
OBN pmax pmax
comp=Z,294nm,1.7s
OBN Obninsk 91.83 30 LR LR 03 46 23.9
comp=Z,92µm,18.1s,baz=313,slow=36
LOUT Loutraki 91.83 49 P **P 03 04 39.1 -1.2**
MILM Milestii Mici 91.86 39 *e*P **P 03 04 37.0 -3.1**
MILM *i* SKS **SKSac 03 15 15.0 +0.8**
MILM *e*S **SKKSac 03 15 30.0 -0.6**
MILM Milestii Mici 91.86 39 ⇓P **P 03 04 39.6 -0.5**
MILM Milestii Mici 91.86 39 *e*P **P 03 04 37.0 -3.1**
MILM *i* 03 15 15.0
MILM *e*S S 03 15 30.0 -12
MILM *e*PS **PS 03 16 51.0 -0.7**
MILM pmax pmax
comp=Z,5µm,4.0s
PET Petropavlovsk 91.89 328 P **P 03 04 38.2 -2.0**
PET Petropavlovsk 91.89 328 P **P 03 04 41.1 +0.9**
PET Petropavlovsk 91.89 328 *e*P **P 03 04 38.2 -2.0**
PET *e* 03 08 21.7
PET *e*S **S 03 15 35.4 -7.1**
PET *e*PS **PnS 03 16 57.0 +4.4**
PET *e*SS **SS 03 21 52.1 +2.6**
PET pmax pmax
comp=Z,16µm,14.4s
PET pmax pmax
comp=Z,15µm,14.2s
PET pmax pmax
comp=Z,383nm,2.0s
PET pmax pmax
comp=Z,28µm,15.9s
PET smax smax
comp=E,78µm,19.0s
PET smax smax
comp=E,58µm,16.9s
SCTR Scanteiesti 91.93 41 ⇓P **P 03 04 41.0 +0.5**
KDZ Kurdzhali 91.99 45 *i*P **P 03 04 40.5 -0.4**
THAS Thassos island 92.00 46 P **P 03 04 41.2 +0.3**
VILL Villia 92.00 49 P **P 03 04 39.8 -1.3**
LOZB Loznitsa 92.07 43 ⇓P **P 03 04 42.1 +0.9**
KRND KRANIDI 92.20 50 P **P 03 04 41.2 -0.8**
CFR Carcaliu 92.24 41 ⇓P **P 03 04 41.2 -0.7**
CFR Carcaliu 92.24 41 P **P 03 04 41.6 -0.4**
NIUE Niue 92.31 251 P **P 03 04 41.0 -1.7**
NIUE IAMs_20 IAMs_20 03 37 39.7
comp=Z,189µm,20.0s
NIUE Niue 92.31 251 P **P 03 04 45.2 +2.5**
VLI Veliai 92.31 50 P **P 03 04 41.6 -0.9**
RDO Rodhopi 92.33 46 P **P 03 04 42.2 -0.2**
RDO Rodhopi 92.33 46 P **P 03 04 40.7 -1.8**
PEA0B Petropavlovsk- 92.33 328 P **P 03 04 40.9 -1.3**
PEA0B Petropavlovsk- 92.33 328*ce*P **P 03 04 42.6 +0.3**
PETK Petropavlovsk- 92.33 328 P **P 03 04 41.1 -1.2**
PETK Petropavlovsk- 92.33 328 P **P 03 04 42.7 +0.4**
comp=Z,42nm,1.1s,baz=65,slow=8.4,SNR=12
PETK LR LR 03 49 53.8
comp=Z,143µm,19.8s,baz=69,slow=38
comp=Z,42nm,1.1s
ATH Athens Observa 92.38 49 P **P 03 04 42.1 -0.7**
KYMI Kymi, Euboea I 92.38 48 P **P 03 04 41.3 -1.5**
JMB Yambol 92.41 44 P **P 03 04 43.0 +0.2**
ATHU Athens Univers 92.43 49 P **P 03 04 42.1 -0.9**
PTL Penteli 92.45 49 P **P 03 04 43.0 -0.2**
AFI Afiamalu 92.47 256 IAMs_20 IAMs_20 03 44 03.9
comp=Z,230µm,18.0s
AFI Afiamalu 92.47 256 P **P 03 04 46.9 +3.2**
TLBR Topalu 92.48 42 ⇑P **P 03 04 43.3 +0.2**
VLY Voula,Athens 92.48 49 P **P 03 04 41.6 -1.7**
DION Dionisos Attik 92.49 49 P **P 03 04 43.3 0.0**
ICOR Ion Corvin 92.52 42 ⇑P **P 03 04 44.9 +1.6**
TPGR Topolog 92.57 41 ⇑P **P 03 04 43.8 +0.2**
SKY Skiros Island 92.60 48 P **P 03 04 45.6 +1.8**
SMTH Samothraki Isl 92.61 46 P **P 03 04 45.3 +1.5**
TLCR 92.67 41 ⇓P **P 03 04 44.7 +0.8**
TLCR 92.67 41 P **P 03 04 44.7 +0.8**
PURM Purcari 92.68 39 ⇑P **P 03 04 45.1 +1.1**
TIRR Tirgusor 92.75 42 ⇑P **P 03 04 44.9 +0.6**
TIRR Tirgusor 92.75 42 P **P 03 04 43.5 -0.8**
TIRR Tirgusor 92.75 42 P **P 03 04 43.5 -0.8**
TIRR pmax pmax
comp=Z,2µm,2.0s
ALN Alexandroupoli 92.78 46 P **P 03 04 43.9 -0.7**
ALN Alexandroupoli 92.78 46 P **P 03 04 42.6 -2.0**
ALN Alexandroupoli 92.78 46 P **P 03 04 43.9 -0.7**
ALN pmax pmax
comp=Z,159nm,1.1s
MFTR Murfatlar 92.89 42 ⇑P **P 03 04 46.7 +1.7**
JURR Jurilovca 92.90 41 ⇓P **P 03 04 46.0 +1.0**
ANKY Antikythira Is 92.92 51 P **P 03 04 46.2 +0.9**
ENEZ Enez 92.92 46 P **P 03 04 46.5 +1.3**
PSN Preselentsi 92.95 43 *i*P **P 03 04 44.3 -1.0**
NRIK Noril'sk 93.29 3 P **P 03 04 45.9 -0.4**
NRIK Noril'sk 93.29 3*c i*P **P 03 04 45.7 -0.6**
NRIK pmax pmax
comp=Z,213nm,1.3s
NRIK Noril'sk 93.29 3 P **P 03 04 46.4 +0.1**
comp=Z,20nm,1.0s,baz=22,slow=2.3,SNR=27
NRIK LR LR 03 46 52.6
comp=Z,420µm,20.5s,baz=5.5,slow=36
comp=Z,20nm,1.0s
SIGR SIGRI 93.38 47 P **P 03 04 47.8 +0.5**
RODP Rodopos 93.39 51 P **P 03 04 48.0 +0.5**
EZN Ezine 93.44 47 P **P 03 04 46.7 -0.9**
EZN Ezine 93.44 47 P **P 03 04 47.8 +0.2**
PRK Paraskevi 93.65 47 P **P 03 04 47.6 -1.0**
CHOS Chios island 93.87 48 P **P 03 04 52.7 +2.9**
LESV Lesvos island, 93.92 47 P **P 03 04 52.2 +2.4**
APE Apeiranthos 94.06 49 ⇓P **P 03 04 49.9 -0.7**
APE Apeiranthos 94.06 49 P **P 03 04 52.3 +1.7**
APE Apeiranthos 94.06 49 P **P 03 04 49.9 -0.7**
THR5 Thira Island, 94.20 50 P **P 03 04 51.4 +0.2**
CMBO Columbo, Santo 94.22 50 P **P 03 04 53.1 +1.8**
THT2 Imerovigli 94.25 50 P **P 03 04 51.8 +0.3**
IDI Anoyia 94.34 51 P **P 03 04 51.8 -0.2**
LPSR Galich'ya Gora 94.42 31 *e*P **P 03 04 49.5 -2.3**

LPSR *e* 03 15 22.9
LPSR pmax pmax
comp=Z,170nm,0.9s
SKR Severo-Kuril's 94.50 327 *e*P P 03 04 40.6 -12
SKR *e*S **SKSac 03 15 31.5 +2.9**
SKR *e*SS **SS 03 22 20.4 -6.4**
SKR pmax pmax
comp=Z,6µm,8.5s
BALB Balikesir 94.60 46 P **P 03 04 51.6 -1.3**
KIRV Kirov 95.03 23*c i*P **P 03 04 53.3 -1.2**
KIRV Kirov 95.03 23 LR LR 03 47 33.4
comp=Z,203µm,19.9s,baz=331,slow=35
VORR Voronezh 95.11 32 *e*P **P 03 04 52.4 -2.6**
VORR *e* 03 15 26.7
VORR pmax pmax
comp=Z,30nm,0.4s
VORR MLR MLR
comp=Z,114µm,17.0s
VSR Storozhevoye 95.36 32 *e*P **P 03 04 52.9 -3.3**
VSR *e* 03 15 25.7
VSR pmax pmax
comp=Z,60nm,1.2s
VSR MLR MLR
comp=Z,178µm,18.0s
VORD Divnogorie 95.57 32 *e*P P 03 04 49.5 -7.6
VORD *e* 03 15 26.7
VORD pmax pmax
comp=Z,20nm,0.2s
VORD MLR MLR
comp=Z,121µm,18.0s
KARP Karpathos 95.91 50 P **P 03 04 57.2 -1.9**
SIM Simferopol' 96.04 39 *e*P **P 03 04 58.0 -1.5**
SIM *e* 03 08 58.0
SIM *e* 03 15 40.0
SIM *e*S S 03 16 06.6 -13
SIM *e*PS PS 03 17 40.0 +2.1
SIM pmax pmax
comp=Z,5µm,12.9s
SIM pmax pmax
comp=Z,6µm,10.7s
ARG Arkhangelos 96.31 49 P **P 03 04 59.2 -1.7**
ARG IAmb IAmb 03 05 38.1
comp=Z,355nm,1.4s
ARG Arkhangelos 96.31 49 P **P 03 04 59.2 -1.7**
ARG pmax pmax
comp=Z,355nm,1.4s
YAK Yakutsk 96.61 345 P **P 03 05 01.2 -0.4**
YAK IAmb IAmb 03 05 35.6
comp=Z,799nm,2.1s
YAK Yakutsk 96.61 345 *e*P **P 03 05 02.7 +1.1**
YAK *e* 03 08 53.9
YAK *e*S **SKSac 03 15 39.4 0.0**
YAK *e**SS **ScS 03 16 27.6 +3.6**
YAK *e*SS **SS 03 23 00.0 +4.0**
YAK pmax pmax
comp=Z,107nm,1.8s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK smax smax
comp=N,18µm,16.0s
YAK smax smax
comp=E,15µm,14.9s
YAK Yakutsk 96.61 345 P **P 03 05 03.2 +1.6**
comp=E,1.5nm,0.6s,baz=34,slow=3.4,SNR=16
YAK LR LR 03 50 57.2
comp=E,11µm,21.8s,baz=24,slow=37
VRH Novokhopyorsk 96.65 31 *e*P **P 03 05 01.6 -0.4**
VRH pmax pmax
comp=Z,62nm,0.8s
ELL Elmali 97.34 48 P **P 03 05 04.9 -0.8**
ELL IAmb IAmb 03 05 43.3
comp=Z,336nm,1.4s
ELL Elmali 97.34 48 P **P 03 05 04.9 -0.8**
ELL pmax pmax
comp=Z,336nm,1.4s
ANTO Ankara 97.81 44 P Pdif 03 05 09.8 +2.1
ANTO P Pdif 03 05 09.8 +2.1
ANTO S **SKSac 03 15 47.3 +0.6**
ANTO S **SKSac 03 15 47.3 +0.6**
ANN Anapa 98.11 38 *e*P **P 03 05 07.3 -1.4**
ANN *e* 03 09 08.4
ANN *e* 03 15 44.4
ANN *e*SS SS 03 23 17.5 -0.6
ANN pmax pmax
comp=E,12nm,1.0s
ANN pmax pmax
comp=N,26nm,0.9s
ANN pmax pmax
comp=Z,21nm,0.8s
ANN pmax pmax
comp=Z,6µm,11.6s
ANN pmax pmax
comp=E,1µm,9.0s
ANN pmax pmax
comp=N,1µm,8.0s
ANN MLR MLR
comp=Z,248µm,19.0s
ANN MLR MLR
comp=N,123µm,20.0s
ANN MLR MLR
comp=E,123µm,15.0s
BR131 Keskin Array S 98.45 44 P **P 03 05 08.8 -1.9**
BR131 IAmb IAmb 03 09 05.3
comp=Z,768nm,3.2s
BR131 Keskin Array S 98.45 44 P **P 03 05 08.8 -1.9**
BR131 pmax pmax
comp=Z,768nm,3.2s
BRTR Keskin Array B 98.45 44 P **P 03 05 09.6 -1.0**
BRTR Keskin Array B 98.45 44 *i*P **P 03 05 09.8 -0.8**
BRTR Keskin Array B 98.45 44 P **P 03 05 09.9 -0.7**
comp=Z,5.6nm,0.9s,baz=295,slow=3.1,SNR=19
BRTR PP **PP 03 09 10.4 +0.2**
comp=Z,6.8nm,1.1s,baz=310,slow=9.2,SNR=3.1
BRTR PKKPbc **PKKPbc 03 21 40.5 -1.0**
comp=Z,1.6nm,0.6s,baz=143,slow=4.7,SNR=8.6
BRTR PKPPKP 03 29 55.8
comp=Z,0.8nm,0.9s,baz=147,slow=2.9,SNR=3.6
comp=Z,5.6nm,0.9s
BELG Belogornoye 98.64 28*d i*P **P 03 05 10.4 -0.6**
BELG pmax pmax
comp=Z,13nm,1.3s
BELG MLR MLR
comp=Z,21µm,17.0s
BELG Belogornoye 98.64 28 LR LR 03 47 29.5
comp=Z,213µm,21.8s,baz=326,slow=34
ERBR Yeremizino-Bor 99.33 36 *e*P **Pdif 03 05 16.0 +1.7**
ERBR *e* 03 15 55.5
ERBR *e*PS **PS 03 18 17.5 +3.9**
ARU Arti 99.88 20 P **Pdif 03 05 15.9 -0.6**
comp=Z,14nm,0.8s,baz=314,slow=3.5,SNR=7.7
ARU PP **PP 03 09 17.0 -3.3**
comp=Z,17nm,0.9s,baz=334,slow=6.9,SNR=3.9
ARU LR LR 03 49 19.8
comp=Z,86µm,21.8s,baz=344,slow=35
comp=Z,14nm,0.8s
LABN Labinsk 100.11 37 *e*P **Pdif 03 05 19.9 +2.2**
LABN *e* 03 09 24.5
LABN *e*PS PS 03 18 15.5 -6.5
LABN *e*SP SP 03 18 20.5 -0.8
LABN pmax pmax
comp=Z,993nm,3.4s
SOC Sochi 100.15 38 *e*P **Pdif 03 05 15.7 -2.2**
SOC *e* 03 09 21.4
SOC pmax pmax
comp=Z,32nm,0.8s
SVE Sverdlovsk 100.22 19*de*P **Pdif 03 05 18.9 +0.9**
SVE *e* 03 09 24.6
SVE *e*S **SKSac 03 15 58.2 +0.3**
SVE *e* 03 18 25.3
SVE *e*SS SS 03 23 58.1 +11
SVE pmax pmax
comp=Z,71nm,1.6s
SVE MLR MLR
comp=Z,139µm,20.0s
BNN Bunyan 100.36 44 IAMs_20 IAMs_20 03 56 47.6
comp=Z,260µm,22.0s
TYV Tymovskoe 100.94 332 *e*P **Pdif 03 05 32.1 +11**
TYV pmax pmax
comp=Z,13nm,1.2s
TYV pmax pmax
comp=Z,3µm,6.6s
GOF Gofitskoye 101.16 35*ce*P **Pdif 03 05 25.6 +3.2**
VNA1 Neumayer--Stat 101.46 161 ⇑PKKPbc PKKPbc 03 21 33.4 -0.6

comp=Z,11nm,0.9s
VNA1 Neumayer--Stat 101.46 161 ⇑Pdiff **Pdif** **03 05 21.1 -1.8**
comp=Z,70µm,14.5s
KIV Kislovodsk 101.64 37 *e*P **Pdif** **03 05 22.8 -1.9**
KIV *e* 03 09 30.4
KIV *e* 03 16 02.8
KIV *e*SS SS 03 24 02.0 -5.8
KIV *e*SSS SSS 03 27 59.2
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 101.64 37 P **Pdif** **03 05 23.8 -0.9**
KIV S **SKSac** **03 16 04.6 -0.9**
VNA2 Neumayer--Watz 101.82 161 ⇑PKKPbc PKKPbc 03 21 35.7 +2.8
comp=Z,4.2nm,0.7s,baz=87,slow=3.0
VNA2 Neumayer--Watz 101.82 161 ⇓PP **PP** **03 09 32.9 -2.7**
comp=Z,5µm,6.7s,baz=286,slow=9.0
VNA2 ⇑Pdiff **Pdif** **03 05 24.2 -0.4**
comp=Z,2µm,8.4s,baz=329,slow=6.0
KBZ Khabaz 101.91 37 P **Pdif** **03 05 25.6 -0.1**
comp=Z,2.5nm,0.9s,baz=33,slow=3.1,SNR=3.9
KBZ PP **PP** **03 09 36.2 +0.2**
comp=Z,7.9nm,0.9s,baz=305,slow=8.2,SNR=3.8
KBZ PKKPbc **PKKPbc** **03 21 33.4 +1.8**
comp=Z,5.5nm,1.0s,baz=89,slow=3.6,SNR=4.4
WAKE Wake Island 102.06 295 IAMs_20 IAMs_20 03 45 17.5
comp=Z,243µm,20.0s
UGL Uglegorsk 102.48 331 *e*P **Pdif** **03 05 33.4 +5.3**
UGL *e* 03 24 20.4
UGL pmax pmax
comp=Z,5µm,7.0s
TARA Tarawa 102.55 275 IAMs_20 IAMs_20 03 52 11.8
comp=Z,170µm,18.0s
MMAI Mount Meron Ar 103.11 49 PKKPdf 03 21 27.6 -7.7
MMAI Mount Meron Ar 103.11 49 PKKPbc PKKPbc 03 21 27.6 -0.2
comp=Z,8.8nm,1.0s,baz=160,slow=4.6,SNR=8.2
GRNR Gornyy 103.64 335 ⇑*i*P **Pdif** **03 05 34.7 +1.3**
GRNR pmax pmax
comp=Z,9.0nm,1.0s
YSS Yuzh-Sakhalins 103.66 329 IAMs_20 IAMs_20 03 59 04.4
comp=Z,231µm,19.0s
YSS Yuzh-Sakhalins 103.66 329 *d*P **Pdif** **03 05 44.7 +11**
YSS *e* 03 16 17.4
YSS *e*PS **PS** **03 18 54.0 -5.5**
YSS *e*SS SS 03 24 51.0 +16
YSS pmax pmax
comp=Z,4µm,11.9s
YSS pmax pmax
comp=N,5µm,9.3s
YSS pmax pmax
comp=E,4µm,6.9s
BOD Bodaibo 103.69 350 *e*P **Pdif** **03 05 34.3 +0.9**
BOD pmax pmax
comp=Z,42nm,1.8s
KARS Kars 103.92 39 IAMs_20 IAMs_20 03 58 23.5
comp=Z,208µm,21.0s
YUK Yuzh-Kuril'sk 104.07 326 *e*P **Pdif** **03 05 45.7 +10**
ZEA Zeya 104.41 342 *e*P **Pdif** **03 05 43.6 +6.9**
ZEA *e*SS SS 03 24 53.2 +8.5
ZEA pmax pmax
comp=Z,2µm,13.1s
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA pmax pmax
comp=E,4µm,10.3s
ZEA pmax pmax
comp=N,5µm,12.2s
ZEA MLR MLR
comp=E,66µm,18.0s
AKTO Aktyubinsk 104.47 24 PKiKP **PKiKP** **03 09 52.0 -1.1**
comp=E,23nm,1.1s,baz=325,slow=4.7,SNR=6.8
MAK Makhachkala 104.97 35 *i*P **Pdif** **03 05 31.0 -8.4**
MAK *e*PPP PPP 03 12 09.1
MAK *e* 03 16 15.1
MAK *e* 03 16 57.9
MAK *e*PS PS 03 19 15.7 +2.3
MAK *e*SSS SSS 03 28 51.8
MAK pmax pmax
comp=Z,139nm,1.0s
TROLL Troll, Antarti 105.16 161 ⇑PKKPbc PKKPbc 03 21 22.4 -0.8
comp=Z,310nm,0.8s
TROLL Troll, Antarti 105.16 161 ⇓PKiKP **PKiKP** **03 09 56.9 +3.0**
comp=Z,675µm,8.7s
TROLL ⇑Pdiff **Pdif** **03 05 39.8 +0.2**
comp=Z,32µm,3.2s
GNI Garni 105.21 39 IAMs_20 IAMs_20 03 55 54.2
comp=Z,125µm,22.0s
GNI Garni 105.21 39 PKiKP **PKiKP** **03 09 55.1 0.0**
comp=Z,15nm,1.1s,baz=238,slow=4.3,SNR=3.5
GNI Garni 105.21 39 P **Pdif** **03 05 42.6 +1.9**
GNI S **SKSac** **03 16 23.1 +0.7**
TSUM Tsumeb 105.69 106 IAMs_20 IAMs_20 04 01 26.0
comp=Z,183µm,19.0s
WIN Windhoek 105.99 109 IAMs_20 IAMs_20 03 58 32.9
comp=Z,162µm,20.0s
BRVK Borovoye 106.29 16 P **Pdif** **03 05 46.8 +1.7**
BRVK S **SKSac** **03 16 24.9 -1.4**
BVAR Borovoye Array 106.35 16 PKiKP **PKiKP** **03 09 54.4 -2.2**
comp=Z,6.6nm,0.8s,baz=355,slow=4.9,SNR=2.6
BVAR PKKPbc **PKKPbc** **03 21 16.1 -2.7**
comp=Z,2.0nm,0.8s,baz=108,slow=3.3,SNR=3.8
KLR Kul'dur 106.69 337 PKiKP **PKiKP** **03 09 55.5 -1.8**
comp=Z,10.0nm,1.1s,baz=36,slow=5.4,SNR=4.6
MXZ Matakaoa Point 106.76 235 IAMs_20 IAMs_20 03 44 21.6
comp=Z,240µm,21.0s
QSPA South Pole Qui 107.31 180 IAMs_20 IAMs_20 03 55 49.9
comp=Z,183µm,20.0s
QSPA South Pole Qui 107.31 180 PKiKP **PKiKP** **03 09 58.2 +0.3**
comp=Z,10nm,1.2s,baz=121,slow=1.8,SNR=2.1
QSPA PKKPbc **PKKPbc** **03 21 17.7 +0.8**
comp=Z,4.6nm,1.0s,baz=287,slow=4.2,SNR=3.2
HEH HeiHe 107.36 340 Pdif **Pdif** **03 05 51.2 +1.3**
HEH AMB AMB
comp=Z,12µm,10.4s
HEH LR LR
comp=Z,256µm,20.7s
HEH LR LR
comp=Z,618µm,21.8s
NVL N'lazarevskaya 108.02 160 *e*P **Pdif** **03 05 53.1 +1.0**
NVL pmax pmax
comp=Z,17nm,1.0s
ZALV Zalesovo Beam 108.27 7 PKiKP **PKiKP** **03 09 59.3 -0.8**
comp=Z,5.8nm,0.9s,baz=343,slow=4.6,SNR=3.9
TOZ Tahuroa Road 108.99 235 IAMs_20 IAMs_20 03 45 29.6
comp=Z,162µm,21.0s
HIZ Hauiti 109.59 235 IAMs_20 IAMs_20 03 45 43.5
comp=Z,236µm,22.0s
BRZS Berezniki 109.71 16 *e*PKiKP **PKiKP** **03 10 02.1 -0.9**
baz=16
BRZS *e*PP **PP** **03 10 33.1 -0.1**
baz=16
BHW Baring Head 109.90 232 IAMs_20 IAMs_20 03 46 20.7
comp=Z,236µm,20.0s
OUZ Omahuta 110.19 238 IAMs_20 IAMs_20 03 55 07.3
comp=Z,143µm,18.0s
KURK Kurchatov 110.41 12 *i* PKiKP **PKiKP** **03 10 03.7 -0.5**
KURK Kurchatov 110.41 12 P **Pdif** **03 06 04.1 +0.7**
KURK S **SKSac** **03 16 41.6 -2.4**
KURBB Kurchatov Arra 110.48 12 PKiKP **PKiKP** **03 10 03.7 -0.6**
comp=Z,1.1nm,0.3s,baz=338,slow=6.7,SNR=5.9
KURBB PKKPbc **PKKPbc** **03 21 03.3 -2.3**
comp=Z,4.1nm,0.7s,baz=162,slow=2.9,SNR=4.4
USRK Ussuriysk Ar. 110.68 334 PKiKP **PKiKP** **03 10 05.3 +0.3**
comp=Z,4.8nm,0.8s,baz=112,slow=4.1,SNR=4.2
SUR Sutherland 110.96 119 IAMs_20 IAMs_20 03 56 40.7
comp=Z,133µm,22.0s
SUR Sutherland 110.96 119 P **Pdif** **03 06 08.9 +2.5**
SUR S **SKSac** **03 16 47.7 +0.4**
KHZ Kahutara 110.99 231 IAMs_20 IAMs_20 03 56 02.3
comp=Z,140µm,18.0s
SBA Scott Base 111.00 192 IAMs_20 IAMs_20 03 47 48.3
comp=Z,232µm,21.0s
NNZ Nelson 111.00 232 IAMs_20 IAMs_20 03 46 56.8
comp=Z,224µm,21.0s
SEM Semipalatinsk 111.01 11 *e*PKiKP **PKiKP** **03 10 04.5 -1.2**
baz=11
SEM *e*PP **PP** **03 10 42.2 -0.5**
baz=11
SEM LR LR 03 50 49.2
comp=Z,110µm,23.0s,baz=11
SEM Semipalatinsk 111.01 11 *i* PKiKP **PKiKP** **03 10 04.5 -1.2**
SEM *e* 03 10 42.2
SEM MLR MLR
comp=Z,110µm,23.0s
JMM Marumori 111.08 324 IAMs_20 IAMs_20 03 54 54.3
comp=Z,146µm,21.0s
MOY Mondy 111.15 357 *e*P **Pdif** **03 06 11.0 +4.1**
MOY *e* 03 10 44.6
MOY pmax pmax
comp=Z,63nm,3.6s
BNX BinXian 111.23 337 Pdif **Pdif** **03 06 07.1 -0.1**
BNX PKP **PKiKP** **03 10 03.9 -2.0**
BNX PP **PP** **03 10 49.1 +4.8**
BNX SS SS 03 26 18.6 +1.4
BNX AMB AMB
comp=Z,9µm,10.5s
BNX LR LR
comp=Z,104µm,22.9s
BNX LR LR
comp=Z,324µm,19.1s
MDJ Mudanjiang 111.33 335 Pdif **Pdif** **03 06 05.7 -2.0**
MDJ SKS **SKSdf** **03 17 20.9 +1.5**
MDJ SS **SS** **03 26 16.0 -2.7**
MDJ AMB AMB
comp=Z,3µm,7.2s
MDJ LR LR
comp=Z,177µm,24.7s
MDJ LR LR
comp=Z,356µm,24.7s
GVZ Greta Valley S 111.40 230 IAMs_20 IAMs_20 03 52 07.2
comp=Z,154µm,18.0s
ELIB Princess Elisa 111.60 161 *d*Pdif **Pdif** **03 06 10.5 +2.2**
ELIB *dx* x 03 07 38.9
ELIB *d*PP **PP** **03 10 43.8 -3.7**
ELIB *d*Sdif Sdif 03 18 24.3 -4.5
ELIB *d*PS PKKPbc 03 20 17.2 -45
ELIB *d*PKKP **PKKPab** **03 21 04.4 -3.9**
ELIB *d*PKPPKP **PKKPdf** **03 21 25.4 +3.7**
VNDA Vanda 112.11 192 PKiKP **PKiKP** **03 10 06.8 +0.2**
comp=Z,1.0nm,0.8s,baz=225,slow=1.4,SNR=2.1
VNDA PP **PP** **03 10 50.1 -0.6**
comp=Z,3.1nm,0.9s,baz=110,slow=4.9,SNR=3.6
OXZ Oxford 112.15 230 IAMs_20 IAMs_20 03 48 01.0
comp=Z,170µm,20.0s
DGZ Jazzator, Alta 112.74 6 *i* PKiKP **PKiKP** **03 10 07.9 -1.0**
MBAR Mbarara 113.26 83 IAMs_20 IAMs_20 04 05 18.5
comp=Z,124µm,21.0s
MBAR Mbarara 113.26 83 P **Pdif** **03 06 13.2 -3.9**
MAJO Matsushiro 113.47 324 IAMs_20 IAMs_20 03 56 19.5
comp=Z,196µm,22.0s
MJAR Matsushiro Arr 113.47 324 PKiKP **PKiKP** **03 10 10.9 +0.4**
comp=Z,1.4nm,0.5s,baz=68,slow=2.6,SNR=2.2
MJAR PP **PP** **03 11 00.3 -0.5**
comp=Z,1.4nm,0.3s,baz=28,slow=4.2,SNR=1.5
MJAR PKKPbc **PKKPbc** **03 20 55.0 -0.4**
comp=Z,0.9nm,0.6s,baz=235,slow=4.3,SNR=1.3
PINNC Pines Island, 113.68 252 IAMs_20 IAMs_20 03 53 22.7
comp=Z,163µm,20.0s
LBTB Lobatse 114.09 110 IAMs_20 IAMs_20 03 57 37.6
comp=Z,212µm,21.0s
OUENC Ouen Island, N 114.20 253 IAMs_20 IAMs_20 03 50 49.4
comp=Z,121µm,21.0s
GEYT Alibeck 114.22 33 PKP **PKiKP** **03 10 11.7 -0.2**
comp=Z,3.2nm,0.6s,baz=290,slow=4.4,SNR=4.7
GEYT PP **PP** **03 11 04.6 -1.3**
comp=Z,5.4nm,0.8s,baz=260,slow=8.9,SNR=4.0
GEYT PKKPbc **PKKPbc** **03 20 52.2 -0.6**
comp=Z,2.2nm,0.6s,baz=100,slow=1.8,SNR=1.7
GYA0B ALIBECK ARRAY 114.22 33 IAMs_20 IAMs_20 04 05 22.8
comp=Z,163µm,20.0s
BOSA Boshof 114.28 114 IAMs_20 IAMs_20 04 02 44.6
comp=Z,174µm,20.0s
BOSA Boshof 114.28 114 PKP PKPdf 03 10 12.1 -0.2
comp=Z,14nm,0.9s,baz=246,slow=1.7,SNR=14
BOSA PKKPbc **PKKPbc** **03 20 51.1 -1.2**
comp=Z,5.3nm,1.0s,baz=121,slow=5.0,SNR=2.4
ULN Ulaanbaatar 114.38 352 *i* PKiKP **PKiKP** **03 10 10.7 -1.4**
SONM Songino Array 114.49 353 PKiKP **PKiKP** **03 10 12.0 -0.3**
SONM Songino Array 114.49 353 PKP **PKiKP** **03 10 12.0 -0.3**
comp=Z,5.5nm,0.9s,baz=354,slow=1.8,SNR=3.6
SONM PP **PP** **03 11 07.2 -0.3**
comp=Z,6.1nm,0.8s,baz=20,slow=4.6,SNR=4.7
SONM PKKPbc **PKKPbc** **03 20 51.1 -1.3**
comp=Z,4.3nm,0.7s,baz=198,slow=2.6,SNR=4.5
DZM Mont Dzumac 114.51 253 IAMs_20 IAMs_20 03 53 50.5
comp=Z,97µm,20.0s
DZM Mont Dzumac 114.51 253 *e*P **Pdif** **03 06 30.2 +8.0**
comp=Z,2µm,25.9s
DZM Mont Dzumac 114.51 253 *e*PP PP 03 10 55.9 -14
comp=Z,14µm,26.4s
DZM Mont Dzumac 114.51 253 *e*SS SS 03 27 01.7 -2.6
comp=Z,260µm,27.6s
DZM Mont Dzumac 114.51 253 *e*LQ LQ 03 39 32.6
comp=Z,169µm,35.3s
DZM *e*LR LR 03 44 53.8
comp=Z,362µm,27.3s
DZM Mont Dzumac 114.51 253 PKP **PKiKP** **03 10 13.2 +0.3**
comp=Z,5.5nm,1.0s,baz=339,slow=17,SNR=2.0
DZM PP **PP** **03 11 07.8 -1.8**
comp=Z,4.6nm,0.9s,baz=156,slow=9.4,SNR=3.2
ZSN Zaisan 114.64 9 *e*PKiKP **PKiKP** **03 10 11.6 -0.9**
baz=8.6
ZSN *e*PP **PP** **03 11 07.8 -0.5**
baz=8.6
ZSN Zaisan 114.64 9 *i* PKiKP **PKiKP** **03 10 11.5 -0.9**
ZSN *e* 03 11 07.8
LSZ Lusaka 114.72 99 IAMs_20 IAMs_20 04 00 20.1
comp=Z,147µm,20.0s
LSZ Lusaka 114.72 99 P **Pdif** **03 06 23.0 -0.4**
JSG Sagara 114.82 323 IAMs_20 IAMs_20 04 08 00.4
comp=Z,120µm,20.0s
MK31 Makanchi Array 114.86 11 *c* PKiKP **PKiKP** **03 10 12.8 -0.1**
MKAR Makanchi Array 114.86 11 PKP **PKiKP** **03 10 11.2 -1.7**
comp=Z,2.2nm,0.8s,baz=298,slow=3.3,SNR=6.4
MKAR PP **PP** **03 11 07.6 -2.4**
comp=Z,7.3nm,0.9s,baz=15,slow=5.1,SNR=4.4
MKAR PKKPbc **PKKPbc** **03 20 50.4 -0.6**
comp=Z,1.8nm,0.8s,baz=163,slow=4.2,SNR=5.6
JHJ2 Mitsune 114.95 321 IAMs_20 IAMs_20 03 59 05.2
comp=Z,122µm,21.0s
CHM Chimkent 115.63 22 *e*PKiKP **PKiKP** **03 10 13.3 -1.2**
baz=22
CHM *e*PP **PP** **03 11 15.1 -0.5**
baz=22
CHM LR LR 03 54 54.9
baz=22
CHM Chimkent 115.63 22 *i* PKiKP **PKiKP** **03 10 13.3 -1.2**
CHM *e* 03 11 15.1
DZA Taraz 115.71 20 *e*PKiKP **PKiKP** **03 10 13.4 -1.3**
baz=20
DZA *e*PP **PP** **03 11 15.9 -0.2**
baz=20
DZA Taraz 115.71 20 *i* PKiKP **PKiKP** **03 10 13.4 -1.3**
DZA *e* 03 11 15.9
TDK Taldyqorghan 115.77 14 *e*PKiKP **PKiKP** **03 10 13.6 -1.1**
baz=14
TDK *e*PP **PP** **03 11 15.7 -0.8**
baz=14
TDK LR LR 03 55 30.4
comp=Z,176µm,22.7s,baz=14
TDK Taldyqorghan 115.77 14 *i* PKiKP **PKiKP** **03 10 13.6 -1.1**
TDK *e* 03 11 15.6
TDK MLR MLR
comp=Z,176µm,23.0s
PYZ Puysegur Point 116.01 227 IAMs_20 IAMs_20 03 55 53.0
comp=Z,163µm,18.0s
SGDS Sogindy 116.23 18 *e*PKiKP **PKiKP** **03 10 15.1 -0.7**
baz=18
SGDS *e*PP **PP** **03 11 19.1 -0.6**
baz=18
SGDS Sogindy 116.23 18 *i* PKiKP **PKiKP** **03 10 15.0 -0.7**
SGDS *e* 03 11 19.1
LODK Lodwar 116.26 77 IAMs_20 IAMs_20 04 05 19.2
comp=Z,132µm,20.0s
LODK Lodwar 116.26 77 P **Pdif** **03 06 32.7 +2.5**
KUU Kurty 116.30 16 *e*PKiKP **PKiKP** **03 10 14.4 -1.3**
baz=16
KUU *e*PP **PP** **03 11 19.4 -0.8**
baz=16
KUU LR LR 03 55 48.3
comp=Z,230µm,24.9s,baz=16
KUU Kurty 116.30 16 *i* PKiKP **PKiKP** **03 10 14.3 -1.4**
KUU *e* 03 11 19.3
KUU MLR MLR
comp=Z,230µm,25.0s
XLT XiLinHaoTe 116.45 344 *e*PKP **PKiKP** **03 10 15.6 -0.5**
XLT PKS **PKSdf** **03 13 48.4 -4.4**
XLT SS SS 03 27 33.7 +7.6
XLT LR LR
comp=Z,26µm,20.9s
XLT LR LR
comp=Z,248µm,19.8s
XLT LR LR
comp=Z,169µm,24.4s
CHKK Chushkaly 116.50 16 *e*PKiKP **PKiKP** **03 10 14.4 -1.7**
baz=16
CHKK *e*PP **PP** **03 11 21.4 -0.2**
baz=16
CHKK Chushkaly 116.50 16 *i* PKiKP **PKiKP** **03 10 14.3 -1.8**
CHKK *e* 03 11 21.3
AAK Ala-Archa 116.94 18 *i* PKiKP **PKPdf** **03 10 15.3 -1.9**
AAK Ala-Archa 116.94 18 PKP **PKiKP** **03 10 17.4 +0.2**
comp=Z,4.7nm,0.9s,baz=27,slow=6.8,SNR=3.4
AAK PP **PP** **03 11 23.7 -1.2**
comp=Z,11nm,1.1s,baz=305,slow=7.0,SNR=5.9
AAK PKKPbc **PKKPbc** **03 20 42.5 -1.3**
comp=Z,5.2nm,0.7s,baz=180,slow=1.0,SNR=4.2
AAK Ala-Archa 116.94 18 P **Pdif** **03 06 35.9 +3.0**
AAA Alma-Ata 117.09 16 *e*PKiKP **PKPdf** **03 10 16.1 -1.2**
baz=16
AAA *e*PP **PP** **03 11 25.6 -0.1**
baz=16
AAA LR LR 03 55 57.2
comp=Z,188µm,20.2s,baz=16
AAA Alma-Ata 117.09 16 *i* PKiKP **PKPdf** **03 10 16.1 -1.2**
AAA *e* 03 11 25.5
AAA MLR MLR
comp=Z,188µm,20.0s
MDOK Medeo 117.16 16 *e*PKiKP **PKPdf** **03 10 16.1 -1.6**
baz=16
MDOK *e*PP **PP** **03 11 25.9 -0.5**
baz=16
MDOK LR LR 03 55 55.4
comp=Z,93µm,21.6s,baz=16
MDOK Medeo 117.16 16 *i* PKiKP **PKPdf** **03 10 16.0 -1.6**
MDOK *e* 03 11 25.8
MDOK MLR MLR
comp=Z,93µm,22.0s
FURI Furi 117.18 70 IAMs_20 IAMs_20 04 08 42.9
comp=Z,104µm,18.0s
TNSS Tian-Shan 117.26 16 *e*PKiKP **PKPdf** **03 10 17.5 -0.7**
baz=16
TNSS *e*PP **PP** **03 11 26.7 -0.6**
baz=16
TNSS Tian-Shan 117.26 16 *i* PKiKP **PKPdf** **03 10 17.4 -0.7**
TNSS *e* 03 11 26.6
KPKS Kokpek 117.29 15 *e*PKiKP **PKPdf** **03 10 16.3 -1.5**
baz=14
KPKS *e*PP **PP** **03 11 27.2 +0.1**
baz=14
KPKS Kokpek 117.29 15 *i* PKiKP **PKPdf** **03 10 16.3 -1.5**
KPKS *e* 03 11 27.2
JCJ Chichijima 117.41 314 IAMs_20 IAMs_20 03 54 50.2
comp=Z,138µm,21.0s
ZHN Zhinishke 117.51 15 *e*PKiKP **PKPdf** **03 10 17.1 -1.2**
baz=15
ZHN *e*PP **PP** **03 11 28.4 -0.3**
baz=15
ZHN Zhinishke 117.51 15 *i* PKiKP **PKPdf** **03 10 17.0 -1.2**
ZHN *e* 03 11 28.4
UZB Uzunbulak 117.67 14 *e*PKiKP **PKPdf** **03 10 16.9 -1.8**
baz=14
UZB *e*PP **PP** **03 11 29.7 -0.1**
baz=14
UZB Uzunbulak 117.67 14 *i* PKiKP **PKPdf** **03 10 16.8 -1.8**
UZB *e* 03 11 29.7
SHLS Shalkode 117.77 14 *e*PKiKP **PKPdf** **03 10 17.6 -1.1**
baz=14
SHLS *e*PP **PP** **03 11 30.7 +0.2**
baz=14
SHLS Shalkode 117.77 14 *i* PKiKP **PKPdf** **03 10 17.6 -1.1**
SHLS *e* 03 11 30.6
SAKB Bahrain 117.91 47 P **Pdif** **03 06 35.6 -1.7**
JMN Monobe 117.94 325 IAMs_20 IAMs_20 03 57 15.8
comp=Z,151µm,22.0s
KSRS Korea Array 117.96 332 PKP **PKPdf** **03 10 18.9 -0.2**
comp=Z,16nm,0.9s,baz=7.8,slow=2.0,SNR=7.5
KSRS PKKPbc **PKKPab** **03 20 42.1 -1.9**
comp=Z,2.5nm,0.9s,baz=212,slow=4.4,SNR=4.6
KSAR Wonju Array Be 117.99 332 **PKPdf** **03 10 16.9 -2.2**
KSAR Wonju Array Be 117.99 332 PKiKP **PKPdf** **03 10 16.9 -2.2**
HNR Honiara 118.01 268 IAMs_20 IAMs_20 03 53 41.7
comp=Z,209µm,20.0s
SHMA Al-Shehemyia 118.29 47 P **Pdif** **03 06 39.7 +0.8**
WMQ Urumqi 118.58 7 PKP **PKPdf** **03 10 18.7 -1.5**
WMQ PP **PP** **03 11 39.4 +3.5**
WMQ SKKS 03 18 31.5
WMQ AMB AMB
comp=Z,8µm,9.1s
WMQ LR LR
comp=Z,108µm,17.7s
WMQ LR LR
comp=Z,98µm,24.3s
WMQ LR LR
comp=Z,172µm,23.8s
SIMJ Simiganj 118.59 24 **PKPdf** **03 10 18.8 -1.6**
SIMJ IAMs_20 IAMs_20 04 06 27.4
comp=Z,222µm,21.0s
SMRA Abu-Samra 118.89 48 P **Pdif** **03 06 44.2 +2.6**
DL2 Dalian 119.28 338 PKP **PKPdf** **03 10 19.3 -2.2**
DL2 S **Sdif** **03 19 33.9 -0.2**
DL2 AMB AMB
comp=Z,12µm,10.2s
DL2 LR LR
comp=Z,153µm,21.2s
DL2 LR LR
comp=Z,288µm,22.1s
KMBO Kilima Mbogo 119.59 81 IAMs_20 IAMs_20 04 01 22.1
comp=Z,104µm,21.0s
KMBO Kilima Mbogo 119.59 81 PKiKP **PKPdf** **03 10 23.0 -0.1**
KMBO Kilima Mbogo 119.59 81 PKP **PKPdf** **03 10 23.0 -0.1**
comp=Z,1.8nm,0.8s,baz=112,slow=3.3,SNR=5.3
KMBO PP **PP** **03 11 44.0 -1.3**
comp=Z,5.6nm,1.1s,baz=269,slow=9.3,SNR=4.6
KMBO PKKPbc **PKKPbc** **03 20 33.7 +0.4**
comp=Z,13nm,1.2s,baz=52,slow=6.7,SNR=6.2
KMBO Kilima Mbogo 119.59 81 P **Pdif** **03 06 44.5 -0.8**
ATD Arta Tunnel 119.71 65 IAMs_20 IAMs_20 04 00 02.2
comp=Z,100µm,22.0s
MCQ Macquarie Isla 119.92 217 IAMs_20 IAMs_20 03 53 41.8
comp=Z,179µm,19.0s
BJI Beijing 120.02 343 Pdif **Pdif** **03 06 48.2 +1.8**
BJI PKP **sPKPdf** **03 10 25.8 +3.0**
BJI sPKP 03 10 31.0
BJI PP **PP** **03 11 51.6 +5.7**
BJI SS SS 03 28 15.3 +3.2
BJI AMB AMB
comp=Z,4µm,9.7s
BJI LR LR
comp=Z,72µm,20.0s
BJI LR LR
comp=Z,129µm,21.4s
BJI LR LR
comp=Z,130µm,20.1s
KSH Kashi 120.24 18 Pdif **Pdif** **03 06 53.9 +6.3**
KSH PKP **sPKPdf** **03 10 25.4 +1.9**
KSH AMB AMB
comp=Z,13µm,16.7s
KSH LR LR
comp=Z,187µm,21.0s
KSH LR LR
comp=Z,350µm,22.7s
HHC Hu-ho-hao-te 120.41 347 *e*PKP **PKPdf** **03 10 20.6 -3.3**
HHC AMB AMB
comp=Z,5µm,7.9s
HHC LR LR
comp=Z,264µm,19.4s
HHC LR LR
comp=Z,325µm,19.2s
HHC LR LR
comp=Z,600µm,20.6s
KIBK Kibwezi 120.74 82 IAMs_20 IAMs_20 04 14 02.6
comp=Z,125µm,21.0s
KIBK Kibwezi 120.74 82 P **Pdif** **03 06 52.9 +2.7**
BTO Baotou 120.97 348 *e*PKP **PKPdf** **03 10 21.4 -3.5**
BTO LR LR
comp=Z,596µm,24.7s
BTO LR LR
comp=Z,635µm,23.2s
BTO LR LR
comp=Z,627µm,26.1s
SHME Shamm 121.66 43 P **Pdif** **03 06 58.0 +4.1**
AJN Ajban 121.89 45 P **Pdif** **03 07 00.1 +5.1**
LHI Lord Howe Isla 122.03 243 IAMs_20 IAMs_20 04 04 12.9
comp=Z,123µm,18.0s
NAZ Nazwa, Dubai 122.06 44 P **Pdif** **03 06 58.8 +3.0**
ASUD Al Ashush, Dub 122.08 45 P **Pdif** **03 06 58.4 +2.5**
MASF Masafi 122.14 44 P **Pdif** **03 06 58.5 +2.3**
KBL Kabul 122.14 27 P **Pdif** **03 06 56.7 +0.5**

FAQ	Al Faqa, Dubai	122.18	45	P	Pdif	03 06 58.6	+2.3	
MDH	Madha	122.28	44	P	Pdif	03 06 59.6	+2.8	
HATD	Hatta, Dubai	122.49	44	P	Pdif	03 06 59.2	+1.5	
ASHO	Ashiyiah	122.53	44	P	Pdif	03 06 57.7	-0.3	
ALNE	Al Ain	122.75	45	P	Pdif	03 07 00.1	+1.2	
	SNR=5.5							
HNS	HongShan	122.89	343	⇑Pdif	Pdif	03 07 03.1	+3.9	
HNS				PKP	sPKPdf	03 10 29.5	+1.1	
HNS				PP	PP	03 12 10.3	+4.8	
HNS				SS	SS	03 28 57.0	+8.1	
HNS				LR	LR			
	comp=Z,98µm,22.4s							
HNS				LR	LR			
	comp=Z,289µm,21.8s							
HNS				LR	LR			
	comp=Z,211µm,22.0s							
JASK	Jask - Hormozg	122.90	42	P	Pdif	03 06 59.9	+0.4	
TIY	Taiyuan	123.20	345	Pdif	Pdif	03 07 01.5	+0.8	
TIY				PKP	PKPdf	03 10 25.9	-3.4	
TIY				PP	PP	03 12 18.7	+11	
TIY				SS	SS	03 28 53.7	+0.7	
TIY				AMB	AMB			
	comp=Z,5µm,10.7s							
TIY				LR	LR			
	comp=Z,265µm,19.1s							
TIY				LR	LR			
	comp=Z,239µm,19.1s							
TIY				LR	LR			
	comp=Z,166µm,23.5s							
SOHO	SOHO	123.22	45	P	Pdif	03 07 02.2	+1.3	
TIA	Tai'an	123.25	340	Pdif	Pdif	03 07 13.0	+12	
TIA				⇓PKP	sPKPdf	03 10 30.6	+1.4	
TIA				PP	PP	03 12 23.6	+16	
TIA				SKS	SKiKP	03 13 47.8	-19	
TIA				LR	LR			
	comp=N,103µm,19.6s							
TIA				LR	LR			
	comp=E,239µm,22.6s							
TIA				LR	LR			
	comp=Z,278µm,24.6s							
GTA	Gaotai	123.43	357	Pdif	Pdif	03 07 06.6	+4.8	
GTA				PKP	PKPdf	03 10 29.6	-0.1	
GTA				PP	PP	03 12 13.3	+4.1	
GTA				SKKS		03 19 02.7		
GTA				S	Sdif	03 20 08.4	-0.7	
GTA				SS	SS	03 28 58.0	+2.2	
GTA				AMB	AMB			
	comp=Z,9µm,10.4s							
GTA				LR	LR			
	comp=Z,159µm,21.9s							
GTA				LR	LR			
	comp=Z,160µm,23.9s							
ARQ	Araqi	123.75	45	P	Pdif	03 07 03.6	+0.3	
BSY	Bisya	124.61	45	P	Pdif	03 07 10.1	+2.9	
	SNR=14							
NIL	Nilore	124.62	24	P	Pdif	03 07 08.8	+1.7	
BIDO	Bidbid	124.70	44	P	Pdif	03 07 09.5	+1.9	
	SNR=11							
SMDO	Samad	124.97	44	P	Pdif	03 07 12.4	+3.5	
	SNR=16							
ABTO	Aybut	125.22	53	P	Pdif	03 07 14.2	+4.2	
WSAR	Wadi Sarin	125.23	44		PKPdf	03 10 33.2	-0.2	
WSAR	Wadi Sarin	125.23	44	PKP	PKPdf	03 10 33.2	-0.2	
	comp=Z,9.7nm,0.7s,baz=342,slow=2.4,SNR=4.1							
WHFO	Wadi Hawf	125.24	52	P	Pdif	03 07 18.7	+8.6	
MAW	Mawson	125.36	165		PKPdf	03 10 31.9	-0.3	
MAW	Mawson	125.36	165	PKIKP	PKPdf	03 10 31.9	-0.3	
MAW	Mawson	125.36	165	PKP	PKiKP	03 10 32.6	0.0	
	comp=Z,14nm,1.0s,baz=221,slow=3.1,SNR=4.3							
JMDO	Jabal Madar	125.48	45	P	Pdif	03 07 13.4	+2.3	
RBK	Rabkut	125.82	52	P	Pdif	03 07 16.5	+3.9	
WBK	Wadi Bani Khal	125.89	44	P	Pdif	03 07 15.4	+2.5	
LYN	LuoYang	126.18	344	⇑PKP	PKPdf	03 10 35.1	+0.2	
LYN				sPKP		03 10 41.0		
LYN				PP	PP	03 12 32.0	+4.4	
LYN				PKS		03 14 05.8		
LYN				SKS	SKSdf	03 17 44.7	-3.4	
LYN				SS	SS	03 29 30.6	+0.2	
LYN				AMB	AMB			
	comp=Z,14µm,10.1s							
LYN				LR	LR			
	comp=Z,194µm,22.6s							
LYN				LR	LR			
	comp=Z,186µm,18.9s							
LYN				LR	LR			
	comp=Z,351µm,22.0s							
DMTO	DMTO	126.25	52	P	Pdif	03 07 17.0	+2.5	
SSE	Sheshan	126.29	334	PKP	PKiKP	03 10 35.8	+0.1	
SSE				PP	PP	03 12 29.5	+0.9	
SSE				SS	SS	03 29 38.6	+6.3	
JOW	Kunigami	126.32	324	IAMs_20	IAMs_20	04 10 46.0		
	comp=Z,126µm,19.0s							
JOW	Kunigami	126.32	324	PKP	PKPdf	03 10 35.4	0.0	
	comp=Z,27nm,0.9s,baz=90,slow=1.0,SNR=1.8							
MHTO	MHTO	126.32	46	P	Pdif	03 07 20.7	+5.9	
	SNR=8.4							
LZH	Lanzhou	126.38	353	PKP	PKPdf	03 10 35.6	+0.1	
LZH				sPKP		03 10 44.1		
LZH				PP	PP	03 12 39.3	+10	
LZH				AMB	AMB			
	comp=Z,12µm,11.0s							
LZH				LR	LR			
	comp=Z,189µm,21.1s							
LZH				LR	LR			
	comp=Z,254µm,22.0s							
NJ2	Nanjing	126.39	336	ePKP	PKiKP	03 10 38.0	+2.2	
NJ2				PP	PP	03 12 31.8	+2.6	
NJ2				SKS	SKSac	03 17 40.3	-1.9	
NJ2				SS	SS	03 29 38.8	+5.4	
NJ2				AMB	AMB			
	comp=Z,19µm,10.3s							
NJ2				LR	LR			
	comp=Z,126µm,22.7s							
NJ2				LR	LR			
	comp=Z,239µm,23.5s							
JLN	Jalan Bani Buh	126.50	44	P	Pdif	03 07 19.5	+3.9	
SHAO	Shalim	126.56	51	P	Pdif	03 07 18.6	+2.6	
THN	Thein Dam	126.62	22	eP	PKiKP	03 10 36.4	+0.1	
THN				i x	x	03 12 28.5		
DQM	DQM	126.72	48	P	Pdif	03 07 19.8	+3.2	
	SNR=7.1							
DHRM	DHARAMSHALA	127.00	22	eP	PKiKP	03 10 39.0	+1.6	
XAN	Xi'an	127.53	347	⇓PKP	PKPdf	03 10 37.5	-0.1	
XAN				PP	PP	03 12 42.5	+6.0	
XAN				SS	SS	03 29 50.0	+2.8	
XAN				AMB	AMB			
	comp=Z,9µm,10.8s							
XAN				LR	LR			
	comp=Z,463µm,25.4s							
XAN				LR	LR			
	comp=Z,378µm,22.2s							
XAN				LR	LR			
	comp=Z,507µm,23.5s							
BHK	Bhakra	127.79	22	ex	x	03 10 34.8		
BHK				i PP	PP	03 12 43.3	+4.8	
SMLA	Simla	128.32	21	eP	PKPdf	03 10 38.7	-0.4	
SMLA				i PP	PP	03 12 44.1	+2.3	
ARMA	Armidale	128.41	245	IAMs_20	IAMs_20	04 03 35.9		
	comp=Z,169µm,20.0s							
EIDS	Eidsvold	128.85	251	IAMs_20	IAMs_20	04 04 21.7		
	comp=Z,117µm,19.0s							
WHN	Wuhan	129.36	340	Pdif	Pdif	03 07 30.5	+2.4	
WHN				PKP	PKiKP	03 10 42.5	+0.7	
WHN				PP	PP	03 12 50.5	+1.9	
WHN				SS	SS	03 30 08.4	-1.7	
WHN				LR	LR			
	comp=Z,407µm,16.9s							
WHN				LR	LR			
	comp=Z,462µm,18.1s							
WHN				LR	LR			
	comp=Z,726µm,22.4s							
JASL	Jaisalmer	129.44	30	eP	PKiKP	03 10 42.6	+0.5	
PMG	Port Moresby	130.22	272	PKP	PKPdf	03 10 43.3	+0.2	
	comp=Z,3.5nm,0.4s,baz=1.6,slow=1.6,SNR=1.1							
NDI	New Delhi	130.56	22	eP	PKPdf	03 10 43.0	-0.5	
KUDL	Kundal	130.78	24	eP	PKPdf	03 10 43.4	-0.4	
LGTI	Lohaghat	130.88	19	eP	PKPdf	03 10 43.0	-1.0	
SONA	Sohna	130.90	23	i x	x	03 10 44.6		
YOJ	Yonaguni jima	131.04	327	IAMs_20	IAMs_20	04 20 59.7		
	comp=Z,122µm,19.0s							
CD2	Chengdu	131.49	352	PKP	PKiKP	03 10 46.4	+0.2	
CD2				PP	PP	03 13 04.1	+1.8	
CD2				S	Sdif	03 21 16.7	+0.2	
CD2				SS	SS	03 30 36.5	+0.4	
CD2				LR	LR			
	comp=Z,42µm,16.2s							
CD2				LR	LR			
	comp=Z,49µm,17.9s							
CD2				LR	LR			
	comp=Z,156µm,23.8s							
AJM	Ajmer	131.51	26	i x	x	03 10 44.2		
CNSH	ChangSha	132.01	340	⇑PKP	PKPdf	03 10 46.3	+0.1	
CNSH				SKS	SKSdf	03 17 57.1	-1.9	
CNSH				SKKS	SKKSac	03 20 06.1	+1.3	
CNSH				AMB	AMB			
	comp=Z,2µm,10.0s							
CNSH				LR	LR			
	comp=Z,125µm,19.5s							
CNSH				LR	LR			
	comp=Z,201µm,20.2s							
YULB	Yu-li	132.80	328	IAMs_20	IAMs_20	04 13 05.2		
	comp=Z,154µm,20.0s							
LSA	Lhasa	132.92	6	IAMs_20	IAMs_20	04 10 23.2		
	comp=Z,144µm,20.0s							
CTA	Charters Tower	132.95	259	PKP	PKPdf	03 10 47.8	-0.4	
	comp=Z,7.9nm,0.7s,baz=38,slow=3.2,SNR=7.1							
CTA				PP	PP	03 13 13.7	-0.2	
	comp=Z,25nm,1.2s,baz=83,slow=6.7,SNR=3.3							
CTAO	Charters Tower	132.95	259		PKPdf	03 10 47.7	-0.4	
CTAO	Charters Tower	132.95	259	IAMs_20	IAMs_20	03 59 57.2		
	comp=Z,126µm,21.0s							
CTAO	Charters Tower	132.95	259	PKIKP	PKPdf	03 10 47.7	-0.4	
BRCI	Bahraich	133.04	18	eP	PKiKP	03 10 49.1	-0.3	
CRZF	Crozet Islands	133.17	138	IAMs_20	IAMs_20	04 06 35.2		
	comp=Z,76µm,20.0s							
KNMB	Chin-men Tao	133.26	332	IAMs_20	IAMs_20	04 13 07.0		
	comp=Z,141µm,21.0s							
TWG	Pinlang	133.39	328	IAMs_20	IAMs_20	04 12 33.8		
	comp=Z,150µm,21.0s							
GTK	Tadong	134.92	10	eP	PKiKP	03 10 53.1	-0.3	
ZIRO	ZIRO	135.29	3	eP	PKiKP	03 10 54.9	+0.7	
GYA	Guiyang	135.33	347	⇓PKP	PKiKP	03 10 54.5	+0.3	
GYA				PP	PP	03 13 31.0	+4.0	
GYA				LR	LR			
	comp=Z,135µm,22.8s							
GYA				LR	LR			
	comp=Z,143µm,21.7s							
DIBR	DIBRUGARH	135.40	2	eP	PKiKP	03 10 54.1	0.0	
GULI	GuiLin	135.50	342	PKP	PKPdf	03 10 53.4	+0.6	
GULI				LR	LR			
	comp=Z,74µm,22.8s							
GULI				LR	LR			
	comp=Z,218µm,22.6s							
LKP	Lekhapani	135.56	1	eP	PKiKP	03 10 54.8	+0.4	
ITAN	ITANAGAR	135.67	4	eP	PKiKP	03 10 55.6	+0.9	
PZH	PanZhiHua	136.09	353	PKP	PKPdf	03 10 51.9	-2.2	
PZH				PKS	PKSdf	03 14 26.1	-4.5	
PZH				AMB	AMB			
	comp=Z,6µm,7.5s							
PZH				LR	LR			
	comp=Z,102µm,22.0s							
PZH				LR	LR			
	comp=Z,140µm,22.6s							
JORH	JORHAT	136.09	3	eP	PKiKP	03 10 56.3	+0.8	
TEZP	TEZPUR	136.13	5	eP	PKPdf	03 10 51.8	-2.2	
MOKO	MOKOCHONG	136.53	3	eP	PKPdf	03 10 53.1	-1.8	
GZH	Guangzhou	136.55	337	⇓PKP	PKPdf	03 10 53.1	-1.7	
GZH				LR	LR			
	comp=Z,21µm,18.0s							
GZH				LR	LR			
	comp=Z,42µm,18.9s							
STKA	Stephens Creek	136.85	242	PKhKP	PKPpre	03 10 43.5		
	comp=Z,7.6nm,0.9s,baz=39,slow=6.2,SNR=3.9							
HKPS	Hong Kong Po S	136.98	336	IAMs_20	IAMs_20	04 12 51.1		
	comp=Z,148µm,22.0s							
SHL	Shillong	137.08	6		PKPdf	03 10 52.9	-3.1	
SHL	Shillong	137.08	6	eP	PKiKP	03 10 57.0	-0.9	
SHL	Shillong	137.08	6	PKIKP	PKPdf	03 10 52.9	-3.1	
KOHI	KOHIMA	137.10	3	eP	PKiKP	03 10 58.7	+0.9	
KMI	Kunming	137.33	352	⇑Pdif	Pdif	03 08 02.7	-1.3	
KMI				PKP	PKiKP	03 10 58.0	-0.4	
KMI				PP	PP	03 13 47.4	+7.8	
KMI				PKS	PKSdf	03 14 33.6	+0.5	
KMI				S	Sdif	03 22 09.7	+3.9	
KMI				AMB	AMB			
	comp=Z,9µm,10.1s							
KMI				LR	LR			
	comp=Z,92µm,25.0s							
KMI				LR	LR			
	comp=Z,220µm,23.1s							
KMI				LR	LR			
	comp=Z,299µm,24.8s							
AKL	Akola	137.60	28	i x	x	03 10 55.6		
BOK	Bokaro	137.79	15	eP	PKiKP	03 10 59.8	+0.7	
MSEY	Mahe Island	137.91	77	P	Pdif	03 08 07.0	+0.6	
POO	Poona	137.94	33	eP	PKPdf	03 10 57.1	-0.5	
SILR	SILCHAR	137.95	5	ex	x	03 11 01.5		
IMP	Imphal	137.98	3	eP	PKiKP	03 10 59.9	+0.4	
AGT	Agartala	138.68	7	eP	PKiKP	03 11 02.3	+1.5	
KAD	Karad	139.12	34	ex	x	03 10 50.4		
JHSG	JHARSUGUGA	139.16	18	ex	x	03 10 54.4		
SAIH	SAIHA	140.23	5	ex	x	03 10 55.4		
HYB	Hyderabad	141.17	28	ePKPdf	PKPdf	03 11 00.9	-2.5	
HYB				ePKiKP	PKiKP	03 11 05.3	-0.8	
HYB				ePP	PP	03 14 01.9	-1.7	
HYB				IVMsB		04 33 11.2		
	comp=Z,41µm,18.8s							
HYB	Hyderabad	141.17	28	ex	x	03 10 55.6		
RER	Riviere de l'E	141.41	102	IAMs_20	IAMs_20	04 13 07.8		
	comp=Z,90µm,20.0s							
QIZ	Qiongzhong	141.53	339	PKP	PKPdf	03 11 01.1	-2.9	
QIZ				SS	SS	03 32 33.9	-2.3	
QIZ				LR	LR			
	comp=Z,105µm,22.5s							
QIZ				LR	LR			
	comp=Z,87µm,22.7s							
QIZ				LR	LR			
	comp=Z,211µm,26.9s							
PAF	Port-aux-Franc	141.66	152	IAMs_20	IAMs_20	04 08 25.5		
	comp=Z,157µm,22.0s							
SWI	Sorong	142.09	292	PKP	PKiKP	03 11 07.7	-0.4	
FAKI	Fak Fak	142.11	288		PKPdf	03 11 03.4	-1.8	
FAKI	Fak Fak	142.11	288	PKP	PKPdf	03 11 04.9	-0.3	
FAKI				PKP	pPKPdf	03 11 05.2	+0.1	
DAV	Davao City (W)	142.38	308	⇑eP	PKiKP	03 11 10.0	+1.3	
CRAI	Chiangrai	142.44	354		PKPdf	03 11 02.9	-2.8	
VIS	Vishakhapatnam	142.79	21	ex	x	03 11 02.3		
VJD	Vijayawada	142.88	26	⇓i P	PKPdf	03 11 03.8	-2.6	
MNGI	Mangalore	143.04	37	eP	PKPbc	03 11 04.5	+1.0	
CHTO	Chiang Mai	143.96	356		PKPab	03 11 05.6	+0.1	
CHTO	Chiang Mai	143.96	356	PKIKP	PKPab	03 11 05.6	+0.1	
CHTO	Chiang Mai	143.96	356	P	Pdif	03 08 33.9	+0.6	
WB0	Warramunga Arr	144.06	260		PKPab	03 11 05.3	-0.6	
WRAB	Tennant Creek	144.10	260		PKPab	03 11 06.0	-0.1	
WRAB	Tennant Creek	144.10	260	PKIKP	PKPab	03 11 06.0	-0.1	
WRAB				MLR	MLR			
	comp=Z,10µm,21.0s							
WRA	Warramunga Arr	144.12	260	PKP	PKPab	03 11 05.8	-0.3	
	comp=Z,91nm,1.0s,baz=90,slow=3.3,SNR=238							
CMAR	Chiang Mai Arr	144.31	356	PKP	PKPbc	03 11 07.3	+0.2	
	comp=Z,21nm,0.8s,baz=328,slow=3.8,SNR=39							
ASAR	Alice Springs	144.50	253	PKP	PKPab	03 11 07.4	-0.1	
	comp=Z,330nm,1.1s,baz=101,slow=3.2,SNR=376							
TNTI	Ternate	144.66	298	IAMs_20	IAMs_20	04 07 59.1		
	comp=Z,133nm,22.0s							
MDRS	Chennai	145.75	29	eP	PKPdf	03 11 09.2	-2.3	
SALM	Salem	145.96	33	eP	PKPdf	03 11 10.9	-1.0	
KOD	Kodaikanal	146.74	36	ex	x	03 11 15.3		
SANI	Sanana	147.28	295	PKP	PKPbc	03 11 15.9	-0.6	
TRD	Trivandrum	147.83	38	eP	PKPdf	03 11 15.6	+0.6	
FORT	Forrest	148.38	239		PKPdf	03 11 16.3	+0.8	
ROCAM	Rodrigues Isla	148.52	100		PKPbc	03 11 19.5	-0.1	
ROCAM				IAMs_20	IAMs_20	04 29 54.6		
	comp=Z,93µm,20.0s							
DGPR	DIGLIPUR	149.44	7	eP	PKPdf	03 11 19.1	+1.5	
LUWI	Luwuk	149.50	299	PKP	PKPdf	03 11 17.0	-0.8	
KKM	Kota Kinabalu	149.66	318	IAMs_20	IAMs_20	04 28 45.3		
	comp=Z,126µm,22.0s							
TOLI2	Tolitoli	149.84	305	IAMs_20	IAMs_20	04 15 54.3		
	comp=Z,85µm,22.0s							
PBA	Port Blair	150.92	8		PKPdf	03 11 18.1	-1.8	
PBA	Port Blair	150.92	8	eP	PKPdf	03 11 20.3	+0.4	
PBA	Port Blair	150.92	8	P	PKPdf	03 11 21.2	+1.3	
PALK	Pallekele	150.95	34	P	PKPdf	03 11 22.1	+1.9	
BBSI	Bau Bau	151.91	292	PKP	PKPdf	03 11 24.7	+3.2	
SOEI	Soe	152.00	282	PKP	PKPdf	03 11 21.8	0.0	
FITZ	Fitzroy Crossi	152.26	264		PKPdf	03 11 20.8	-1.0	
MMRI	Maumere	153.50	286	IAMs_20	IAMs_20	04 29 39.9		
	comp=Z,93µm,22.0s							
SRIT	Nakonsritamara	154.02	353		PKPdf	03 11 22.9	-1.7	
KAPI	Kappang	154.15	296		PKPbc	03 11 29.1	-3.8	
KAPI	Kappang	154.15	296	PKIKP	PKPbc	03 11 29.1	-3.8	
DGAR	Diego Garcia	154.53	70	P	PKPdf	03 11 25.9	+0.6	
NWAO	Narrogin (SRO)	155.74	226	IAMs_20	IAMs_20	04 18 45.6		
	comp=Z,130µm,21.0s							
NWAO	Narrogin (SRO)	155.74	226	P	PKPdf	03 11 25.6	-0.8	
KSM	Kuching	156.86	323	IAMs_20	IAMs_20	04 28 35.3		
	comp=Z,77µm,20.0s							
MORW	Morawa	158.64	233	PKPdf	PKPdf	03 11 28.9	-1.3	
SNSI	Sinabang, Aceh	160.34	1	PKP	PKPdf	03 11 36.7	+4.1	
BLJI	Banyuglugur	160.79	298	PKP	PKPdf	03 11 38.1	+5.1	
BKNI	Bangkinang	161.86	345	PKP	PKPdf	03 11 31.2	-3.1	
NGJI	Ngawi	162.35	302	PKP	PKPdf	03 11 39.8	+5.1	
KPJI	Karang Pucung	164.30	308	PKP	PKPdf	03 11 40.1	+3.6	
CMJI	Cimerak	164.96	308	PKP	PKPdf	03 11 41.3	+4.2	
CNJI	Cibinong	165.60	313	PKP	PKPdf	03 11 41.2	+3.6	
CGJI	Cibinong	166.04	319	PKP	PKPdf	03 11 41.8	+3.8	

UCR ***10*** *03:05:16.7±1.0, 10°.68N×85°.01W, h8km±9km, MW3.4*
CATAC ***10*** *03:05:16.6±0.4, 10°.68N×85°.05W, h15km±7km, ML4.4*

ISC 10 03:05:17.4±0.9**, 10°.66N**±0°.03×**85°.00W**±0°.03**, h10km, n21,**
σ1§**03**/25**, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUI	Cuipilapa	0.16	271	eP	Pg	03 05 21.1	+0.1
VMAR	Armenia, Volca	0.19	325	i P	Pg	03 05 21.8	+0.3
VMAR				IAML		03 05 26.5	
	comp=Z,13µm,1.0s						
COLC	Colonia	0.20	273	eP	Pg	03 05 21.8	+0.2
VERA	Finca Concepci	0.24	34	eP	Pg	03 05 22.1	-0.2
VERA				eS	Sg	03 05 26.6	+1.1
CNAS	Canas	0.24	201	eP	Pg	03 05 23.6	+1.3
VACR	Volcan Arenal	0.37	120	IAML		03 05 23.8	
	comp=Z,27µm,1.0s						
VACR				i P	Pb	03 05 26.9	+0.8
GPS3	Bodega del ICE	0.37	285	eP	Pn	03 05 27.8	-1.1
GPS3				eS	Sb	03 05 34.3	+2.3
JUNT	Juntas	0.37	173	eP	Pg	03 05 24.6	-0.3
VRLE	La Escondida,	0.38	290	i P	Pg	03 05 25.0	0.0
VRLE				i S	Sb	03 05 31.3	-1.0
GB1A	Borinquen Arri	0.42	293	eP	Pg	03 05 25.7	0.0
PLVR	Palo Verde	0.46	228	eP	Pg	03 05 26.4	-0.1
SOCE	Pocosol	0.47	126	i P	Pg	03 05 26.6	+0.1
ORTG	Ortega, Santa	0.54	237	IAML		03 05 26.1	
	comp=Z,10µm,1.0s						
ORTG				i P	Pg	03 05 27.8	-0.1
HZTE	Horizontes, Gu	0.58	276	i P	Pg	03 05 26.0	-2.8
HZTE				IAML		03 06 03.9	
	comp=Z,15µm,1.0s						
COVE	Coope Vega, Sa	0.59	84	i P	Pg	03 05 27.8	-1.2
COVE				IAML		03 05 29.1	
	comp=Z,12µm,1.0s						
JACO	JACO, Garabito	1.04	161	i P	Pg	03 05 36.1	-1.4
JACO				i S	Sg	03 05 50.6	-0.5
TBLN	Tablon, Guarco	1.29	130	i P	Pn	03 05 41.4	-0.3
TBLN				IAML		03 05 46.2	
	comp=Z,11µm,1.0s						
ABE2	San Pablo	1.33	135	eP	Pn	03 05 41.9	-0.4
LCR2	La Lucha 2	1.34	133	i P	Pn	03 05 42.2	-0.2
LCR2				IAML		03 06 51.1	
	comp=Z,9µm,1.0s						
CDM	Cerro de Muert	1.64	132	i P	Pn	03 05 46.3	-0.4
CDM				IAML		03 05 53.2	
	comp=Z,8µm,1.0s						
BUS1	Rivas	1.65	131	eP	Pn	03 05 46.5	-0.4

ISK ***10*** *03:09:12.6, 35°.02N×33°.88E, h40km±1km, ML3.3/36*
GII ***10*** *03:09:13.9±0.4, 34°.874N±0°.003×33°.915E±0°.001, h8km, Mws2.8, confirmed*
GRAL ***10*** *03:09:13.6±0.3, 35°.03N×33°.90E, h17km±75km, MD3.2*
NIC ***10*** *03:09:14.2, 35°.07N×33°.82E, h42km±2km, Ml2.7/9*
AFAD ***10*** *03:09:15.9±0.0, 35°.32N×33°.65E, h28km±2km, ML2.3*

ISC 10 03:09:14.5±1.1**, 35°.03N**±0°.02×**33°.87E**±0°.02**, h40km**±6km**,**
n117, σ1§**03**/140**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PARAL	Paralimni	0.14	104	P	Pn	03 09 21.7	+0.3
PARAL				S	Sn	03 09 27.9	+1.6
PARAL				AML	AML	03 09 31.0	
	1.5nm,0.4s						
PARAL				AML	AML	03 09 33.4	
	2.3nm,0.3s						
MVOU	Mavrovouni	0.20	267	P	Pn	03 09 21.1	-0.8
MVOU				S	Sn	03 09 27.1	+0.2
MVOU				AML	AML	03 09 29.0	
	4.4nm,0.3s						
MVOU				AML	AML	03 09 29.1	
	1.9nm,0.2s						
AKIN	Akıncılar- Kıb	0.33	268	Pg	Pn	03 09 22.0	-1.2
AKIN				Sg	Sn	03 09 28.4	-0.9
LFK	Lefkose	0.37	312	Pg	Pn	03 09 22.9	-0.9
ATHAL	Athalassa	0.41	286	P	Pn	03 09 23.3	-0.8
ATHAL				S	Sn	03 09 31.0	+0.2
ATHAL				AML	AML	03 09 31.4	
	5.7nm,0.4s						
ATHAL				AML	AML	03 09 31.9	
	4.3nm,0.3s						
CSS	Mathiatis	0.45	262	Pg	Pn	03 09 23.4	-1.3
CSS				Sg	Sn	03 09 31.0	-0.7
CSS	Mathiatis	0.45	262	P	Pn	03 09 23.4	-1.3
CSS				S	Sn	03 09 31.1	-0.7
CSS				AML	AML	03 09 31.5	
	2.1nm,0.6s						
CSS				AML	AML	03 09 33.0	
	1.3nm,0.3s						
CSS	Mathiatis	0.45	262	P	Pn	03 09 23.2	-1.5
CSS	Mathiatis	0.45	262	P	Pn	03 09 23.4	-1.3
CSS				S	Sn	03 09 31.3	-0.5
EREN	Erenkoy	0.56	26	Pg	Pn	03 09 24.9	-1.2
EREN	Erenkoy	0.56	26	P	Pn	03 09 25.8	-0.3
EREN				i AML	AML	03 09 35.

AKMS				AML	AML	03 09 59.5	
	0.3nm,0.4s						
AKMS				AML	AML	03 10 01.4	
	0.3nm,0.5s						
BOZY	**Bozyazi-Mersin**	**1.30**	**326**	Pn	**Pn**	**03 09 35.3**	**-0.9**
BERE	**Bereket-Mersin**	**1.42**	**338**	Pn	**Pn**	**03 09 37.0**	**-1.0**
KEBE	**Keben-Mersin**	**1.42**	**355**	Pn	**Pn**	**03 09 37.2**	**-0.8**
TEVE	**Tevekalti-Mers**	**1.45**	**346**	Pn	**Pn**	**03 09 37.4**	**-0.9**
KIZK	**Mersin**	**1.47**	**9**	Pn	**Pn**	**03 09 37.6**	**-0.9**
KIZK	**Mersin**	**1.47**	**9**	P	**Pn**	**03 09 39.3**	**+0.8**
KIZK				S	**Sn**	**03 09 55.6**	**-0.9**
KIZK				*i* AML	AML	03 10 03.0	
	comp=N,66nm,2.5s						
KIZK				*i* AML	AML	03 10 11.0	
	comp=E,54nm,2.5s						
GAZI	**Gazipasa**	**1.75**	**314**	Pn	**Pn**	**03 09 40.9**	**-1.5**
GAZI	**Gazipasa**	**1.75**	**314**	P	**Pn**	**03 09 41.1**	**-1.3**
GAZI				S	**Sn**	**03 10 01.4**	**-2.1**
BHL	**Bhannes**	**1.85**	**127**	*e*P	**Pn**	**03 09 43.4**	**-0.5**
HWQ	**Hawqa**	**1.87**	**113**	*e*P	**Pn**	**03 09 43.6**	**-0.5**
HWQ				*e*S	**Sn**	**03 10 05.6**	**-0.9**
MERS	**Mersin**	**1.91**	**16**	Pn	**Pn**	**03 09 43.8**	**-0.9**
DQRL	**Deir Qamar**	**1.93**	**133**	*e*P	**Pn**	**03 09 44.2**	**-0.7**
BEIL	**Beino**	**1.96**	**104**	*e*P	**Pn**	**03 09 44.9**	**-0.5**
BEIL				*e*S	**Sn**	**03 10 07.9**	**-0.9**
ZAHL	**Zahle**	**2.03**	**124**	*e*P	**Pn**	**03 09 45.8**	**-0.6**
RCY	**Rachaya**	**2.23**	**133**	*e*P	**Pn**	**03 09 48.7**	**-0.5**
RCY				*e*S	**Sn**	**03 10 14.7**	**-0.8**
HDMB	**Hadim**	**2.23**	**330**	Pn	**Pn**	**03 09 48.5**	**-0.8**
SHBL	**Chebaa**	**2.28**	**137**	*e*P	**Pn**	**03 09 49.4**	**-0.5**
KKBE	**Karaman, Kazim**	**2.31**	**341**	P	**Pn**	**03 09 51.4**	**+1.1**
KKBE				*i* AML	AML	03 10 20.0	
	comp=E,24nm,0.9s						
KKBE				S	**Sn**	**03 10 20.2**	**+2.7**
KKBE				*i* AML	AML	03 10 41.0	
	comp=N,36nm,3.0s						
TAHT	**Tahtakopru-Hat**	**2.31**	**54**	Pn	**Pn**	**03 09 49.5**	**-0.7**
GEM	**Giv'at Ha'Em**	**2.34**	**140**	P	**Pn**	**03 09 50.6**	**0.0**
GEM				S	**Sn**	**03 10 15.8**	**-2.3**
GEM	**Giv'at Ha'Em**	**2.34**	**140**	S	**Sn**	**03 10 17.9**	**-0.3**
GEM	**Giv'at Ha'Em**	**2.34**	**140**	P	**Pn**	**03 09 50.5**	**-0.1**
NATI	**Neve Ativ**	**2.34**	**138**	P	**Pn**	**03 09 50.8**	**+0.3**
NATI	**Neve Ativ**	**2.34**	**138**	P	**Pn**	**03 09 50.5**	**0.0**
NATI	**Neve Ativ**	**2.34**	**138**	S	**Sn**	**03 10 17.4**	**-0.7**
MMC1	**Mount Meron ar**	**2.36**	**147**	P	**Pn**	**03 09 50.5**	**-0.4**
MMA0B	**Mount Meron ar**	**2.38**	**147**	P	**Pn**	**03 09 50.5**	**-0.6**
MMA0B	**Mount Meron ar**	**2.38**	**147**	S	**Sn**	**03 10 18.6**	**-0.4**
MMB1	**Mount Meron ar**	**2.38**	**147**	P	**Pn**	**03 09 50.8**	**-0.3**
KERG	**Konya-Eregli**	**2.39**	**5**	P	**Pn**	**03 09 51.7**	**+0.3**
KERG				*i* AML	AML	03 10 18.0	
	comp=N,47nm,2.6s						
KERG				S	**Sn**	**03 10 20.4**	**+0.9**
KARA	**Karaisali**	**2.42**	**23**	Pn	**Pn**	**03 09 51.2**	**-0.5**
OFRI	**`Ofer**	**2.57**	**159**	P	**Pn**	**03 09 52.9**	**-0.9**
OFRI	**`Ofer**	**2.57**	**159**	S	**Sn**	**03 10 23.4**	**-0.5**
OFRI	**`Ofer**	**2.57**	**159**	P	**Pn**	**03 09 52.9**	**-0.9**
KSHT	**Keshet**	**2.60**	**141**	P	**Pn**	**03 09 54.6**	**+0.4**
KSHT	**Keshet**	**2.60**	**141**	S	**Sn**	**03 10 24.6**	**+0.1**
KEPZ	**Antalya-Kepez**	**2.62**	**316**	P	**Pn**	**03 09 54.9**	**+0.5**
KEPZ				S	**Sn**	**03 10 25.4**	**+0.3**
KEPZ				*i* AML	AML	03 10 33.0	
	comp=N,41nm,2.1s						
KEPZ				*i* AML	AML	03 11 03.0	
	comp=E,44nm,2.5s						
YESY	**Yesilyurt**	**2.75**	**358**	Pn	**Pn**	**03 09 55.9**	**-0.4**
CMRD	**Camardi-Nigde**	**2.78**	**19**	Pn	**Pn**	**03 09 56.2**	**-0.5**
SHMJ	**Saham**	**2.78**	**145**	P	**Pn**	**03 09 57.3**	**+0.7**
SHMJ	**Saham**	**2.78**	**145**	P	**Pn**	**03 09 56.8**	**+0.2**
SEYD	**Seydisehir-KON**	**2.89**	**326**	Pn	**Pn**	**03 09 57.9**	**-0.2**
MMLI	**Mount Malkishu**	**2.89**	**153**	Pn	**Pn**	**03 09 57.3**	**-0.8**
KOZT	**Kozan**	**2.91**	**32**	Pn	**Pn**	**03 09 57.8**	**-0.6**
SLTI	**Sal'it**	**2.95**	**160**	P	**Pn**	**03 10 00.1**	**+1.2**
SLTI	**Sal'it**	**2.95**	**160**	P	**Pn**	**03 09 59.3**	**+0.4**
SEDI	**Konya, Seydise**	**2.96**	**325**	P	**Pn**	**03 10 00.8**	**+1.6**
SEDI				S	**Sn**	**03 10 36.2**	**+2.7**
QRNJ	**Al-Qirein**	**3.04**	**152**	P	**Pn**	**03 10 00.7**	**+0.6**
HMDT	**Nahal Hemdat**	**3.09**	**153**	P	**Pn**	**03 10 01.8**	**+0.9**
HMDT	**Nahal Hemdat**	**3.09**	**153**	P	**Pn**	**03 10 01.5**	**+0.6**
HMDT	**Nahal Hemdat**	**3.09**	**153**	P	**Pn**	**03 10 01.3**	**+0.5**
SALP	**Salfit**	**3.15**	**159**	P	**Pn**	**03 10 01.2**	**-0.5**
SALP	**Salfit**	**3.15**	**159**	S	**Sn**	**03 10 38.1**	**+0.1**
KONT	**Konya--Tatoy**	**3.16**	**338**	Pn	**Pn**	**03 10 01.7**	**-0.1**
UJAP	**Al Uja**	**3.34**	**156**	P	**Pn**	**03 10 05.5**	**+1.2**
KORT	**Korkueli**	**3.47**	**306**	Pn	**Pn**	**03 10 06.3**	**+0.2**
KMRS	**Kahramanmaras**	**3.48**	**44**	Pn	**Pn**	**03 10 05.9**	**-0.3**
HSUJ	**Al Zarqa**	**3.50**	**146**	P	**Pn**	**03 10 07.5**	**+1.0**
HSUJ	**Al Zarqa**	**3.50**	**146**	P	**Pn**	**03 10 07.2**	**+0.7**
AMAZ	**Amatzia**	**3.59**	**166**	S	**Sn**	**03 10 48.6**	**-0.4**
AMAZ	**Amatzia**	**3.59**	**166**	P	**Pn**	**03 10 07.4**	**-0.4**
ELL	**Elmali**	**3.65**	**299**	Pn	**Pn**	**03 10 08.5**	**-0.1**
DSI	**Dead Sea**	**3.67**	**159**	P	**Pn**	**03 10 09.7**	**+0.9**
DSI	**Dead Sea**	**3.67**	**159**	P	**Pn**	**03 10 09.2**	**+0.4**
DSI	**Dead Sea**	**3.67**	**159**	P	**Pn**	**03 10 09.4**	**+0.5**
YTIR	**Yattir**	**3.80**	**164**	P	**Pn**	**03 10 10.8**	**+0.1**
YTIR	**Yattir**	**3.80**	**164**	S	**Sn**	**03 10 53.4**	**-0.8**
ASF	**Jabal al Asfar**	**3.81**	**138**	P	**Pn**	**03 10 12.8**	**+2.0**
MSBI	**Mazada**	**3.91**	**161**	P	**Pn**	**03 10 13.7**	**+1.7**
MSBI	**Mazada**	**3.91**	**161**	P	**Pn**	**03 10 12.2**	**+0.2**
LISJ	**El Lisan**	**4.01**	**160**	P	**Pn**	**03 10 15.7**	**+2.3**
LISJ	**El Lisan**	**4.01**	**160**	P	**Pn**	**03 10 14.9**	**+1.5**
KZIT	**Kziot**	**4.13**	**174**	S	**Sn**	**03 11 01.9**	**-0.4**
KZIT	**Kziot**	**4.13**	**174**	P	**Pn**	**03 10 14.9**	**-0.3**
CAME	**Cameli-Denizli**	**4.17**	**299**	Pn	**Pn**	**03 10 16.3**	**+0.5**
KARJ	**KARJ**	**4.17**	**159**	P	Pn	03 10 05.8	-10
KARJ	**KARJ**	**4.17**	**159**	P	Pn	03 10 05.3	-10
FETY	**Fethiye**	**4.21**	**294**	Pn	**Pn**	**03 10 15.1**	**-1.1**
DALY	**Dalyan (Mula)**	**4.59**	**294**	Pn	**Pn**	**03 10 21.4**	**-0.1**
PRNI	**Paran**	**4.76**	**168**	P	**Pn**	**03 10 24.5**	**+0.7**
PRNI	**Paran**	**4.76**	**168**	P	**Pn**	**03 10 23.6**	**-0.2**
PRNI	**Paran**	**4.76**	**168**	P	**Pn**	**03 10 23.8**	**-0.1**
TURN	**Turunc**	**4.89**	**293**	Pn	**Pn**	**03 10 26.3**	**+0.8**
KRMI	**Paran Flat**	**4.95**	**171**	P	**Pn**	**03 10 26.3**	**-0.1**
KRMI	**Paran Flat**	**4.95**	**171**	S	**Sn**	**03 11 22.7**	**+0.2**
HRFI	**Mount Harif**	**5.07**	**168**	P	**Pn**	**03 10 27.9**	**-0.2**
HRFI	**Mount Harif**	**5.07**	**168**	S	**Sn**	**03 11 24.9**	**-0.6**
HRFI	**Mount Harif**	**5.07**	**168**	P	**Pn**	**03 10 28.1**	**0.0**
EIL	**Elat**	**5.42**	**170**	P	**Pn**	**03 10 35.2**	**+2.3**

*CATAC **10** 03:14:45.9±0.2, 10°.65N×84°.99W, h6km±3km, ML3.9*
*UCR **10** 03:14:45.4±1.1, 10°.68N×84°.99W, h4km±3km, MW3.9*
ISC 10 03:14:46.3±0.9, 10°.64N±0°.03×85°.00W±0°.02, h10km, n38, σ1§13/42, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
CUI	**Cuipilapa**	**0.16**	**275**	*e*P		**Pg**	**03 14 49.9**		**0.0**
CAMAV	**Centro de Prod**	**0.20**	**286**	*e*P		**Pg**	**03 14 50.5**		**0.0**
VMAR	**Armenia, Volca**	**0.20**	**326**	*i* P		**Pg**	**03 14 50.9**		**+0.3**
VMAR					IAML		03 15 05.7		
	comp=Z,15μm,1.0s								
COLC	**Colonia**	**0.20**	**276**	*e*P		**Pg**	**03 14 50.5**		**-0.1**
CNAS	**Canas**	**0.23**	**204**	*e*P		**Pg**	**03 14 52.7**		**+1.6**
CNAS				*e*S		**Sg**	**03 14 57.3**		**+3.0**
VERA	**Finca Concepci**	**0.24**	**31**	*e*P		**Pg**	**03 14 51.1**		**-0.2**
ARE1	**Arenal 1**	**0.33**	**124**	*e*P		**Pg**	**03 14 53.3**		**+0.4**
VACR	**Volcan Arenal**	**0.36**	**118**	*i* P		**Pg**	**03 14 54.1**		**+0.7**
VACR					IAML		03 15 02.6		
	comp=Z,6μm,1.0s								
JUNT	**Juntas**	**0.36**	**174**	*e*P		**Pg**	**03 14 53.3**		**-0.2**
GPS3	**Bodega del ICE**	**0.38**	**287**	*e*P		**Pb**	**03 14 56.3**		**+1.1**
VRLE	**La Escondida,**	**0.39**	**292**	*i* P		**Pg**	**03 14 53.9**		**-0.1**
VRLE				*i* S		**Sg**	**03 14 59.9**		**+0.7**
VRLE					IAML		03 15 04.9		
	comp=Z,4μm,1.0s								
GB1A	**Borinquen Arri**	**0.43**	**294**	*e*P		**Pg**	**03 14 54.9**		**+0.1**
SOCE	**Pocosol**	**0.45**	**125**	*e*P		**Pg**	**03 14 55.2**		**0.0**
SOCE				*e*S		**Sb**	**03 15 02.6**		**-0.7**
SOCE	**Pocosol**	**0.45**	**125**	*i* P		**Pg**	**03 14 55.4**		**+0.2**
SOCE					IAML		03 15 04.8		
	comp=Z,4μm,1.0s								
PLVR	**Palo Verde**	**0.46**	**230**	*e*P		**Pg**	**03 14 55.3**		**0.0**
LCHIL	**Los Chiles**	**0.48**	**35**	*e*P		**Pg**	**03 14 56.3**		**+0.6**
ORTG	**Ortega, Santa**	**0.53**	**238**	*i* P		**Pg**	**03 14 56.7**		**0.0**
ORTG				*i* S		**Sb**	**03 15 04.5**		**-1.1**
ORTG					IAML		03 15 19.8		
	comp=Z,3μm,1.0s								
ELI1	**Hacienda Flor**	**0.55**	**270**	*e*P		**Pg**	**03 14 57.0**		**+0.1**
COVE	**Coope Vega, Sa**	**0.59**	**83**	*i* P		**Pg**	**03 14 56.8**		**-1.0**
COVE					IAML		03 15 02.8		
	comp=Z,5μm,1.0s								

HZTE	**Horizontes, Gu**	**0.59**	**277**	*i* P	**Pg**	**03 14 57.9**	**+0.1**
HZTE				IAML		03 15 43.8	
	comp=Z,5μm,1.0s						
CPMI	**Catarata Coope**	**0.70**	**121**	*i* P	**Pg**	**03 14 59.7**	**-0.3**
CPMI				IAML		03 15 21.7	
	comp=Z,5μm,1.0s						
ITAL	**Pital**	**0.74**	**105**	*e*P	**Pg**	**03 14 59.8**	**-0.8**
INDI	**Punta indio, G**	**0.92**	**213**	*i* P	**Pg**	**03 15 03.7**	**-0.3**
INDI				IAML		03 16 06.2	
	comp=Z,4μm,1.0s						
CBL1	**Cabuya**	**1.05**	**185**	*e*P	**Pg**	**03 15 06.0**	**-0.6**
OMEN	**Al SSO del Vol**	**1.06**	**324**	*i* P	**Pn**	**03 15 08.2**	**+1.0**
JAPN	**Al SSO del Vol**	**1.10**	**323**	*i* P	**Pb**	**03 15 07.3**	**-0.2**
JAPN				IAML		03 15 08.0	
	comp=Z,330nm,1.0s						
CONN	**Concepcion**	**1.10**	**326**	*i* P	**Pb**	**03 15 06.5**	**-1.0**
CONN				IAML		03 15 13.5	
	comp=Z,2μm,1.0s						
RIFO	**Rio Frio, Sara**	**1.11**	**107**	*i* P	**Pb**	**03 15 06.8**	**-0.7**
RIFO				IAML		03 15 31.9	
	comp=Z,4μm,1.0s						
TRT2	**Tortugero**	**1.24**	**94**	*i* P	**Pg**	**03 15 14.5**	**+4.3**
OCM	**Ochomogo**	**1.26**	**126**	*i* P	**Pn**	**03 15 09.2**	**-1.0**
OCM				IAML		03 15 39.0	
	comp=Z,3μm,1.0s						
TBLN	**Tablon, Guarco**	**1.28**	**130**	*i* P	**Pn**	**03 15 09.0**	**-1.4**
TBLN				IAML		03 15 48.2	
	comp=Z,3μm,1.0s						
ABE2	**San Pablo**	**1.32**	**135**	*e*P	**Pn**	**03 15 09.5**	**-1.5**
LCR2	**La Lucha 2**	**1.33**	**132**	*i* P	**Pn**	**03 15 10.0**	**-1.1**
LCR2				IAML		03 15 17.8	
	comp=Z,3μm,1.0s						
ACON	**Acoyapa**	**1.33**	**353**	*e*P	**Pn**	**03 15 09.4**	**-1.5**
ACON	**Acoyapa**	**1.33**	**353**	*i* P	**Pn**	**03 15 10.0**	**-0.9**
ACON				IAML		03 15 31.2	
	comp=Z,6μm,1.0s						
CDM	**Cerro de Muert**	**1.63**	**132**	IAML		03 15 11.9	
	comp=Z,2μm,1.0s						
CDM				*i* P	**Pn**	**03 15 15.2**	**-0.2**
MRVA	**Moravia de Chi**	**1.73**	**118**	*i* P	**Pn**	**03 15 15.9**	**-0.7**
BLUN	**Bluefields**	**1.81**	**41**	*i* P	**Pn**	**03 15 17.3**	**-0.2**
BLUN				IAML		03 15 29.0	
	comp=Z,4μm,1.0s						

*DNK **10** 03:16:23.6±0.6, 67°.18N×20°.66E, h0km, ML3.1(UPP), Suspected explosion*
*UPP **10** 03:16:23.3±0.1, 67°.18N×20°.67E, h0km, ML3.1, Confirmed Induced event*
*HEL **10** 03:16:23.7±0.3, 67°.19N×20°.66E, h0km, ML1.3, Suspected explosion*
ISC 10 03:16:22.7±0.8, 67°.21N±0°.02×20°.76E±0°.03, h0km, n32, σ0§58/48, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
DUNU	**Dundret**	**0.11**	**221**	P		**Pg**	**03 16 24.9**		**+0.1**
DUNU				S		**Sg**	**03 16 26.1**		**-0.2**
DUNU	**Dundret**	**0.11**	**221**	P		**Pg**	**03 16 24.9**		**+0.1**
DUNU				S		**Sg**	**03 16 26.1**		**-0.2**
RATU	**Laukkuluspa**	**0.77**	**325**	P		**Pg**	**03 16 37.4**		**+0.1**
RATU				S		**Sg**	**03 16 47.6**		**+0.3**
RATU	**Laukkuluspa**	**0.77**	**325**	P		**Pg**	**03 16 37.4**		**+0.1**
RATU				S		**Sg**	**03 16 47.6**		**+0.3**
KUA	**Kurravaara**	**0.77**	**348**	P		**Pb**	**03 16 38.4**		**-0.6**
KUA	**Kurravaara**	**0.77**	**348**	P		**Pb**	**03 16 38.4**		**-0.6**
ERTU	**Ertsjaerv**	**0.86**	**139**	P		**Pg**	**03 16 39.3**		**0.0**
ERTU	**Ertsjaerv**	**0.86**	**139**	PG		**Pg**	**03 16 39.2**		**0.0**
ERTU				SB		**Sg**	**03 16 51.4**		**+1.0**
ERTU	**Ertsjaerv**	**0.86**	**139**	P		**Pg**	**03 16 39.3**		**0.0**
SALU	**Saltoluokta**	**0.89**	**282**	P		**Pg**	**03 16 39.3**		**-0.4**
SALU	**Saltoluokta**	**0.89**	**282**	P		**Pg**	**03 16 39.3**		**-0.4**
PAJU	**Pajala**	**0.94**	**100**	PG		**Pb**	**03 16 41.3**		**-0.5**
	baz=284								
PAJU				SB		**Sb**	**03 16 55.0**		**+0.2**
LANU	**Lannavaara**	**0.97**	**29**	P		**Pb**	**03 16 42.2**		**-0.1**
LANU	**Lannavaara**	**0.97**	**29**	PG		**Pb**	**03 16 42.1**		**-0.3**
LANU				SB		**Sb**	**03 16 55.4**		**-0.3**
LANU	**Lannavaara**	**0.97**	**29**	P		**Pb**	**03 16 42.2**		**-0.1**
KOVU	**Salmi**	**1.05**	**348**	P		**Pb**	**03 16 43.6**		**-0.1**
KOVU	**Salmi**	**1.05**	**348**	P		**Pb**	**03 16 43.6**		**-0.1**
HARU	**Harads**	**1.05**	**175**	P		**Pg**	**03 16 42.2**		**-0.6**
HARU	**Harads**	**1.05**	**175**	P		**Pg**	**03 16 42.2**		**-0.6**
KLF	**Kolari**	**1.25**	**87**	PG		**Pb**	**03 16 46.9**		**-0.2**
	baz=273								
KLF				MSG			03 17 02.6		
	comp=Z,2.1nm,0.2s								
KLF				SN		**Sn**	**03 17 05.1**		**+0.2**
HEF	**Hetta**	**1.64**	**41**	PG		**Pg**	**03 16 53.8**		**-0.2**
	baz=221								
HEF				MSG			03 17 13.7		
	comp=Z,1.4nm,0.2s								
HEF				SG		**Sg**	**03 17 15.7**		**+0.6**
KALU	**Kalix**	**1.71**	**141**	PN		**Pb**	**03 16 54.5**		**-0.4**
KALU				SN		**Sg**	**03 17 18.4**		**+1.0**
SJUU	**Sjulsmark**	**1.74**	**168**	P		**Pn**	**03 16 54.4**		**+0.3**
SJUU	**Sjulsmark**	**1.74**	**168**	P		**Pn**	**03 16 54.4**		**+0.3**
KIF	**Kilpisjarvi**	**1.81**	**0**	PG		**Pb**	**03 16 56.7**		**+0.1**
KIF				MSG			03 17 19.2		
	comp=Z,2.7nm,0.2s								
KIF				SG		**Sg**	**03 17 21.9**		**+1.2**
TOF	**Tornio**	**1.82**	**127**	PG		**Pb**	**03 16 56.6**		**-0.1**
TOF				MSG			03 17 18.4		
	comp=Z,0.8nm,0.2s								
TOF				SN		**Sg**	**03 17 21.1**		**+0.2**
KTK1	**Kautokeino**	**2.04**	**26**	PG		**Pb**	**03 17 00.9**		**+0.3**
KTK1				SG		**Sg**	**03 17 27.7**		**-0.4**
RNF	**Rovaniemi**	**2.16**	**104**	PG		**Pb**	**03 17 02.4**		**-0.2**
	baz=283								
RNF				SG		**Sg**	**03 17 31.9**		**0.0**
SGF	**Sodankyl**	**2.25**	**81**	PG		**Pb**	**03 17 03.8**		**-0.3**
SGF				SG		**Sg**	**03 17 34.6**		**-0.2**
BURU	**Burvik**	**2.65**	**174**	PB		**Pn**	**03 17 07.8**		**+1.3**
ARA0	**ARCESS Array S**	**2.93**	**35**	PB		**Pb**	**03 17 13.7**		**-2.0**
	baz=216								
ARA0				SB		**Sb**	**03 17 51.0**		**-1.0**
OBF0	**Syolatti, Pyha**	**3.07**	**151**	MSG			03 17 54.1		
	comp=Z,2.0nm,0.2s								
OBF0				SG		**Sg**	**03 18 00.1**		**-1.2**

*VAO **10** 03:16:32.4±0.6, 18°.16S×69°.45W, h10km, mb5.5*
*SJA **10** 03:16:42.9±0.7, 18°.17S×69°.54W, h138km±5km, ML4.9, MW4.6*
*NEIC **10** 03:16:44.0±1.7, 18°.19S±0°.04×69°.40W±0°.06, h127km±5km, mb4.9/89, Error ellipse: s-maj=8.6km s-min=6.4km az=102.0*
*IDC **10** 03:16:44.5±0.5, 18°.07S×69°.16W, h132km±3km, mb4.4/17, mbtmp4.8/21, Error ellipse: s-maj=12.9km s-min=10.2km az=53.0*
*GUC **10** 03:16:45.9±0.5, 18°.24S×69°.49W, h119km±2km, ML4.7*
ISC 10 03:16:43.5±0.3, 18°.18S±0°.03×69°.36W±0°.05, h127km±2km, h127km:pP-P, n357, σ1§29/394, mb4.9/61, 7C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
PB16	**IPOC Station P**	**0.21**	**222**			**Pn**	**03 17 01.9**		**+0.1**
PB16				Sn		**Sn**	**03 17 15.4**		**-0.1**
PB16	**IPOC Station P**	**0.21**	**222**	*e*P		**Pn**	**03 17 02.7**		**+1.0**
PB16					IAML		03 17 19.2		
	comp=Z,27μm,0.4s								
PB16	**IPOC Station P**	**0.21**	**222**	⇑*i*P		**Pn**	**03 17 02.8**		**+1.0**
PB16				*e*S		**Sn**	**03 17 16.3**		**+0.8**
PB16					IAML		03 17 17.7		
	comp=E,58μm,0.4s								
PB18	**Visviri**	**0.59**	**349**			**Pn**	**03 17 05.1**		**+1.6**
PB18				Sn		**Sn**	**03 17 19.0**		**+0.5**
PB18	**Visviri**	**0.59**	**349**	⇓*i*P		**Pn**	**03 17 05.4**		**+1.9**
PB18				*e*S		**Sn**	**03 17 20.6**		**+2.1**
PB18					IAML		03 17 49.9		
	comp=E,16μm,0.9s								
AP01	**Chacalluta**	**0.96**	**258**	Pn		**Pn**	**03 17 05.7**		**0.0**
AP01				Sn		**Sn**	**03 17 22.2**		**-0.3**
AP01	**Chacalluta**	**0.96**	**258**	*e*P		**Pn**	**03 17 05.0**		**-0.8**
AP01					IAML		03 17 24.8		
	comp=Z,35μm,0.2s								
AP01	**Chacalluta**	**0.96**	**258**	⇑*i*P		**Pn**	**03 17 05.7**		**0.0**
AP01				*e*S		**Sn**	**03 17 20.9**		**-1.6**
PB12	**IPOC Station P**	**1.02**	**245**	Pn		**Pn**	**03 17 06.1**		**-0.4**
PB12				Sn		**Sn**	**03 17 22.8**		**-1.0**

PB12	**IPOC Station P**	**1.02**	**245**	*e*P	**Pn**	**03 17 06.1**	**-0.4**
PB12				*e*S	**Sn**	**03 17 23.7**	**-0.1**
PB12				IAML		03 17 27.5	
	comp=Z,8μm,0.3s						
PB12	**IPOC Station P**	**1.02**	**245**	⇑*i*P	**Pn**	**03 17 06.0**	**-0.4**
PB12				*e*S	**Sn**	**03 17 21.9**	**-2.0**
PB12				IAML		03 17 24.3	
	comp=N,24μm,0.5s						
GO01	**Chusmiza**	**1.49**	**174**		**Pn**	**03 17 13.3**	**+1.4**
GO01				Sn	**Sn**	**03 17 34.9**	**+1.5**
GO01	**Chusmiza**	**1.49**	**174**	*e*P	**Pn**	**03 17 13.6**	**+1.7**
GO01				*e*S	**Sn**	**03 17 36.3**	**+2.9**
GO01	**Chusmiza**	**1.49**	**174**	*e*P	**Pn**	**03 17 13.3**	**+1.4**
GO01				*e*S	**Sn**	**03 17 34.2**	**+0.9**
GO01				IAML		03 17 37.0	
	comp=N,6μm,0.4s						
PB11	**IPOC Station P**	**1.60**	**190**		**Pn**	**03 17 13.2**	**+0.4**
PB11				Sn	**Sn**	**03 17 35.0**	**-0.1**
PB11	**IPOC Station P**	**1.60**	**190**	*e*P	**Pn**	**03 17 13.5**	**+0.7**
PB11				*e*S	**Sn**	**03 17 35.2**	**+0.2**
PB11				IAML		03 17 39.4	
	comp=Z,8μm,0.4s						
PB11	**IPOC Station P**	**1.60**	**190**	*e*P	**Pn**	**03 17 13.0**	**+0.3**
PB11				*e*S	**Sn**	**03 17 34.2**	**-0.9**
PB11				IAML		03 17 36.0	
	comp=N,12μm,0.5s						
PB08	**IPOC Station P**	**1.96**	**174**		**Pn**	**03 17 18.2**	**+0.9**
PB08				Sn	**Sn**	**03 17 43.0**	**-0.1**
PB08	**IPOC Station P**	**1.96**	**174**	*e*P	**Pn**	**03 17 19.2**	**+1.9**
PB08				*e*S	**Sn**	**03 17 44.6**	**+1.6**
PB08	**IPOC Station P**	**1.96**	**174**	*e*P	**Pn**	**03 17 18.7**	**+1.4**
PB08				*e*S	**Sn**	**03 17 43.3**	**+0.2**
PB08				IAML		03 17 46.4	
	comp=E,3μm,0.3s						
I08BO	**LAS PENAS INFR**	**2.13**	**24**	P	**Pn**	**03 17 23.3**	**+3.8**
	baz=205,slow=24,SNR=2.6						
HMBC	**Humberstone**	**2.15**	**193**	*e*P	**Pn**	**03 17 19.7**	**+0.3**
HMBC				*e*S	**Sn**	**03 17 46.1**	**-0.7**
HMBC	**Humberstone**	**2.15**	**193**	*e*P	**Pn**	**03 17 19.1**	**-0.2**
HMBC				*e*S	**Sn**	**03 17 45.2**	**-1.6**
HMBC				IAML		03 17 48.9	
	comp=N,5μm,0.3s						
TA02	**Huaiquique**	**2.21**	**199**		**Pn**	**03 17 19.2**	**-0.7**
TA02	**Huaiquique**	**2.21**	**199**	*e*P	**Pn**	**03 17 19.6**	**-0.3**
TA02				*e*S	**Sn**	**03 17 45.6**	**-2.2**
TA02				IAML		03 17 48.4	
	comp=N,7μm,0.1s						
LPAZ	**La Paz**	**2.21**	**32**	Pn	**Pn**	**03 17 22.6**	**+2.0**
LPAZ	**La Paz**	**2.21**	**32**	*e*P	**Pn**	**03 17 22.8**	**+2.2**
TA01	**Diego Aracena**	**2.50**	**198**		**Pn**	**03 17 23.5**	**-0.1**
TA01	**Diego Aracena**	**2.50**	**198**	*e*P	**Pn**	**03 17 25.1**	**+1.4**
TA01				*e*S	**Sn**	**03 17 51.2**	**-3.2**
TA01				IAML		03 17 52.3	
	comp=Z,3μm,0.6s						
TA01	**Diego Aracena**	**2.50**	**198**	*e*P	**Pn**	**03 17 23.3**	**-0.3**
TA01				IAML		03 17 54.9	
	comp=N,3μm,0.4s						
PATCX	**Punta Patache**	**2.74**	**196**

MCRA Macar, Loja 17.20 322 Pn 03 20 36.0 -0.3
PTGB Pitanga 17.35 115 eP P 03 20 37.6 +0.1
PCMB Pacaembu 17.36 104 eP P 03 20 37.1 -0.4
BOSC San Juan Bosco 17.41 328 P 03 20 37.1 -1.2
H03N1 Juan Fernandez 17.45 208 T T 03 38 33.0
baz=28,slow=73,SNR=18
H03N2 Juan Fernandez 17.46 208 T T 03 38 32.6
baz=28,slow=73,SNR=19
H03N3 Juan Fernandez 17.47 208 T T 03 38 31.8
baz=28,slow=73,SNR=25
NPGB Novo Progresso 17.56 53 eP P 03 20 38.4 -1.5
ML02 Panimavida 17.61 186 P 03 20 40.8 +0.6
RODS Rosario do Sul 17.68 136 eP P 03 20 40.3 -0.7
LDASE Londrina, Braz 17.82 110 eP P 03 20 42.1 -0.5
ARNL Arenillas 17.93 323 P Pn 03 20 44.2 -0.8
ITRB Iturama 18.04 98 eP P 03 20 44.8 -0.2
ITAB Concordia 18.25 123 P 03 20 47.8 +0.5
ITAB Concordia 18.25 123 eP P 03 20 47.8 +0.5
ALGR Alto Alegre (B 18.31 128 eP P 03 20 47.8 -0.2
COHC Cochancay 18.38 327 P Pn 03 20 50.1 -0.3
SNDB Serra Nova Dou 18.49 73 eP P 03 20 49.6 -0.4
CPSB Cacapava Do Su 18.91 133 eP P 03 20 53.9 -0.6
ITTB Itaituba 19.13 46 eP P 03 20 56.0 -0.9
PLTB Pedras Altas 19.64 137 P P 03 21 01.4 -0.9
PLTB Pedras Altas 19.64 137 eP P 03 21 01.2 -1.1
IPMB Ipameri, GO 20.10 93 eP P 03 21 05.9 -1.7
CNLB Canela 20.21 127 eP P 03 21 06.9 -1.7
OTAV Otavalo 20.37 333 P P 03 21 10.9 +0.1
TULM Tulcn-Chalpat 20.52 335 P P 03 21 12.6 +0.1
BDFB Brasilia 20.57 86 P P 03 21 11.5 -1.1
BDFB Brasilia 20.57 86 P P 03 21 11.0 -1.6
comp=Z,82nm,0.5s,baz=258,slow=9.2,SNR=61
comp=Z,82nm,0.5s
TRQA Tornquist 20.83 163 P P 03 21 15.8 +0.7
SPB Sao Paulo 21.17 108 P P 03 21 17.3 -1.5
SPB Sao Paulo 21.17 108 eP P 03 21 17.5 -1.4
GO06 Curarrehue 21.41 184 P P 03 21 21.8 +0.4
PET01 Itanhaem-SP 21.45 110 eP P 03 21 21.8 -0.1
MALB Monte Alegre 21.96 44 eP P 03 21 26.4 -0.9
LL05 Currie 22.10 185 P P 03 21 28.9 +0.5
BOAV Boa Vista 22.22 24 P P 03 21 28.6 -1.3
PLCA Paso Flores 22.50 182 P P 03 21 32.9 +0.3
PLCA Paso Flores 22.50 182 P P 03 21 33.4 +0.8
comp=Z,22nm,0.9s,baz=3.1,slow=12,SNR=32
comp=Z,22nm,0.9s
PLCA Paso Flores 22.50 182 eP P 03 21 33.5 +0.9
LL01 San Ignacio de 24.27 186 P P 03 21 49.1 +0.3
LL01 IAmb IAmb 03 21 51.3
comp=Z,48nm,0.8s
GO07 Milladeo Hill, 25.13 187 P P 03 21 57.1 +0.5
DUB01 Friburgo-RJ 25.61 103 eP P 03 22 01.9 +0.6
AY01 Puyuhuapi 26.31 185 P P 03 22 07.0 -0.3
AY01 IAmb IAmb 03 22 08.4
comp=Z,18nm,0.8s
SDV Santo Domingo 26.92 357 P P 03 22 10.9 -2.4
SDV Santo Domingo 26.92 357 eP P 03 22 14.3 +1.0
ALF01 Guarapari-ES 27.10 100 eP P 03 22 15.5 +0.9
LCR2 La Lucha 2 31.28 331 P P 03 22 52.6 +0.7
LCR2 IAmb IAmb 03 23 25.7
comp=Z,25nm,1.3s
JTS Las Juntas de 32.20 330 P P 03 23 02.1 +2.3
RCBR Riachuelo 34.87 74 P P 03 23 23.4 +0.4
RCBR pP pP 03 23 53.4 +1.3
RCBR Riachuelo 34.87 74 eP P 03 23 23.9 +0.8
MTO3 Montecristo 37.90 327 P P 03 23 49.6 +0.7
MTO3 IAmb IAmb 03 23 50.6
comp=Z,4.7nm,0.5s
CMIG Matias Romero 43.12 323 P P 03 24 32.3 +0.7
comp=Z,8.1nm,0.7s,baz=100,slow=6.8,SNR=8.1
comp=Z,8.1nm,0.7s
LRAL Lakeview Retre 53.64 342 P P 03 25 50.9 -1.1
baz=159
Z47A Carrollton 54.12 341 P P 03 25 54.7 -0.8
Z47A IAmb IAmb 03 25 59.0
comp=Z,23nm,1.1s
HKT Hockley 54.23 332 P P 03 25 57.2 +1.1
HKT pP pP 03 26 29.0 +1.5
HKT sP sP 03 26 43.9 +1.9
833A Chaparral WMA, 54.60 327 P P 03 25 59.4 +0.3
baz=144
X48A Hartselle 54.98 342 P P 03 26 00.9 -0.7
TKL Tuckaleechee C 55.26 346 P P 03 26 02.7 -0.9
comp=Z,3.8nm,0.8s,baz=182,slow=9.5,SNR=4.7
comp=Z,3.8nm,0.8s
NATX Nacogdoches 55.27 334 P P 03 26 04.8 +1.1
baz=150
SWET Sewanee 55.38 344 P P 03 26 03.7 -0.8
HNDO Hondo 55.52 328 P P 03 26 06.3 +0.6
HNDO IAmb IAmb 03 26 06.9
comp=Z,28nm,0.7s
435B Jarrell 55.74 330 P P 03 26 07.6 +0.5
baz=147
OXF Oxford 55.76 340 P P 03 26 05.9 -1.3
OXF Oxford 55.76 340 P P 03 26 06.5 -0.7
baz=157
PLAL Pickwick Lake 55.78 341 P P 03 26 06.0 -1.4
V48A Smith Brothers 56.12 343 P P 03 26 09.2 -0.5
DRIO Del Rio 56.12 327 P 03 26 10.0 +0.1
DRIO IAmb IAmb 03 26 57.7
comp=Z,7.8nm,0.9s
WLAR White Oak Lake 56.33 336 P 03 26 12.1 +0.8
JCT Junction City 56.56 328 P 03 26 13.5 +0.5
JCT IAmb IAmb 03 27 38.4
comp=Z,8.8nm,1.1s
JCT Junction City 56.56 328 P P 03 26 13.0 -0.1
baz=145
WHTX Lake Whitney, 56.69 331 P P 03 26 14.4 +0.5
baz=148
WVT Waverly 56.77 342 P 03 26 13.3 -1.1
WVT IAmb IAmb 03 27 01.6
comp=Z,52nm,1.6s
WVT Waverly 56.77 342 P P 03 26 13.2 -1.2
baz=159
WVT Waverly 56.77 342 P P 03 26 13.0 -1.3
WVT pP pP 03 26 44.7 -1.1
WVT sP sP 03 27 00.5 +0.3
T47A Sharon Grove 57.37 343 P P 03 26 18.0 -0.6
T47A IAmb IAmb 03 27 05.8
comp=Z,49nm,1.4s
TXAR Lajitas Array 57.69 324 P P 03 26 20.9 -0.2
comp=Z,1.9nm,0.7s,baz=150,slow=7.7,SNR=15
TXAR pP pP 03 26 53.9 +1.2
comp=Z,1.4nm,0.8s,baz=153,slow=10,SNR=4.3
comp=Z,1.9nm,0.7s
Z35A Perchaven, San 57.73 332 P P 03 26 21.6 +0.4
LCAR Lake Charles 57.76 339 P P 03 26 20.5 -0.8
LCAR IAmb IAmb 03 27 09.0
comp=Z,30nm,1.1s
T45A Paducah 57.84 342 P P 03 26 21.3 -0.5
PARMO Parma 57.85 341 P P 03 26 22.2 +0.3
ABTX Abilene, Hawle 58.24 330 IAmb IAmb 03 27 13.0
comp=Z,44nm,1.2s
ABTX Abilene, Hawle 58.24 330 P P 03 26 25.1 +0.3
baz=146
WCI Wyandotte Cave 58.32 344 P P 03 26 23.4 -1.7
WCI pP pP 03 26 56.2 -0.6
CGM3 Cape Girardeau 58.40 341 P P 03 26 25.5 -0.2
WTFS Witchita Falls 58.64 332 P 03 26 27.9 +0.4
S44A Carbondale 58.64 342 P P 03 26 27.4 0.0
S44A pP 03 26 58.2 -0.8
SIUC Southern Illin 58.65 342 P P 03 26 27.3 -0.2
MNHN Monahans 58.76 327 P P 03 26 28.7 +0.3
MNHN IAmb IAmb 03 26 29.6
comp=Z,13nm,0.9s
SSPA Standing Stone 59.04 352 P P 03 26 33.1 +3.0
baz=171
MGMO Mountain Grove 59.12 339 P P 03 26 30.2 -0.6
MGMO pP 03 27 02.0 -0.5
FVM French Village 59.27 341 P P 03 26 31.4 -0.4
FVM pP pP 03 27 03.8 +0.4
TUL3 Leonard 59.33 335 P P 03 26 32.3 0.0
baz=151
DEOK Depew 59.56 335 P 03 26 33.9 +0.1
DEOK pP 03 27 04.6 -0.9
CCM Cathedral Cave 59.60 340 P P 03 26 33.5 -0.5
CCM Cathedral Cave 59.60 340 P P 03 26 33.3 -0.6
baz=156
CCM Cathedral Cave 59.60 340 P P 03 26 33.0 -1.0
CCM pP pP 03 27 05.8 +0.1
CCM sP sP 03 27 20.6 +0.5
OK052 Battle Ridge R 59.81 334 P 03 26 35.6 +0.1
QUOK Quay 59.93 335 P 03 26 36.5 +0.2
QUOK IAmb IAmb 03 26 37.1
comp=Z,26nm,0.9s
QUOK pP 03 27 06.9 -1.2
S39A Bolivar 59.97 338 P P 03 26 36.0 -0.6
S39A pP 03 27 07.5 -0.8
S39A IAmb IAmb 03 27 24.7
comp=Z,21nm,0.8s
R40A Maddies Statio 60.15 339 P 03 26 37.1 -0.7
R40A pP pP 03 27 07.8 -1.7
R40A IAmb IAmb 03 27 25.5
comp=Z,17nm,0.8s
MNTX Cornudas Mount 60.44 325 P P 03 26 39.4 -0.5
baz=140
SFIN Lafayette 60.55 344 P P 03 26 39.1 -1.3
baz=161
SMWD Samnorwood 60.56 331 P P 03 26 40.6 -0.1
SHEL Horse Pasture 60.58 98 P P 03 26 41.9 +0.7
MSTX Muleshoe 60.85 328 P P 03 26 42.6 -0.2
baz=143
MBO M'Bour 60.95 61 P P 03 26 43.8 +0.1
OK032 Salt Plains WL 61.09 334 P 03 26 44.3 +0.1
OK032 IAmb IAmb 03 27 32.1
comp=Z,20nm,1.0s
P40A Paris 61.20 340 P P 03 26 44.2 -0.6
P40A IAmb IAmb 03 27 17.3
comp=Z,18nm,1.0s
N41A Harden Midland 61.90 342 P P 03 26 48.1 -1.4
N41A pP 03 27 20.4 -1.1
KSU1 Kansas State U 62.43 336 IAmb IAmb 03 27 48.5
comp=Z,7.7nm,0.8s
KSU1 Kansas State U 62.43 336 P P 03 26 52.7 -0.4
baz=151
R32A Long Quarter, 62.68 334 IAmb IAmb 03 27 52.1
comp=Z,9.0nm,0.9s
CBKS Cedar Bluff 63.44 334 P P 03 27 00.3 +0.4
baz=148
ANMO Albuquerque 63.51 326 P P 03 27 01.1 +0.5
baz=140
ANMO Albuquerque 63.51 326 P P 03 27 00.1 -0.4
comp=Z,2.0nm,0.6s,baz=225,slow=8.4,SNR=5.7
comp=Z,2.0nm,0.6s
ANMO Albuquerque 63.51 326 P P 03 27 01.1 +0.5
ANMO pP pP 03 27 33.2 +0.5
ANMO sP sP 03 27 48.1 +1.0
SCIA State Center 63.72 340 P P 03 27 00.7 -0.9
baz=155
JFWS Jewell Farm 63.76 343 IAmb IAmb 03 27 05.0
comp=Z,15nm,0.6s
JFWS Jewell Farm 63.76 343 P P 03 27 01.1 -0.7
baz=158
TUC Tucson 63.98 321 P P 03 27 04.1 +0.5
baz=136
KSCO Kaye Shedlock' 64.86 332 P P 03 27 09.9 +0.6
baz=145
BGNE Belgrade 65.01 336 P P 03 27 10.0 -0.1
baz=150
SDCO Great Sand Dun 65.19 329 P P 03 27 11.6 0.0
SDCO pP 03 27 45.6 +1.7
SDCO IAmb IAmb 03 28 00.4
comp=Z,10nm,0.8s
SDCO Great Sand Dun 65.19 329 P P 03 27 12.5 +0.8
baz=142
S22A 4UR Ranch, Cre 65.85 328 P P 03 27 16.6 +0.7
baz=141
Q24A Divide 65.98 330 P P 03 27 14.7 -2.0
Q24A IAmb IAmb 03 28 04.7
comp=Z,11nm,1.4s
Q24A Divide 65.98 330 P P 03 27 17.8 +1.1
baz=143
MVCO Mesa Verde 66.30 327 P P 03 27 18.4 -0.3
MVCO Mesa Verde 66.30 327 P P 03 27 19.3 +0.6
baz=139
ECSD EROS Data Cent 66.48 339 P 03 27 19.4 -0.1
ECSD IAmb IAmb 03 28 07.6
comp=Z,21nm,1.1s
ECSD EROS Data Cent 66.48 339 P P 03 27 19.0 -0.4
baz=152
SPMN Marine on St. 66.61 342 IAmb IAmb 03 27 53.6
comp=Z,50nm,1.3s
SPMN Marine on St. 66.61 342 P P 03 27 19.5 -0.7
baz=156
WUAZ Wupatki 66.62 323 P P 03 27 21.9 +1.3
baz=136
K30B Basset 66.66 336 IAmb IAmb 03 28 09.7
comp=Z,45nm,1.0s
ISCO Idaho Springs 66.86 330 P P 03 27 23.0 +0.7
baz=142
F36A Milaca 67.40 342 P P 03 27 24.7 -0.4
F36A pP pP 03 27 56.9 -0.6
F36A IAmb IAmb 03 27 58.4
comp=Z,9.8nm,0.8s
BC3 Big Chuckawall 67.74 320 P P 03 27 29.2 +1.5
baz=132
W13A Huapai Mount 67.77 322 P P 03 27 27.9 -0.1
IRM Iron Mountain 67.89 320 P P 03 27 30.1 +1.6
baz=133
LIC Lamto 67.91 75⇧ iP P 03 27 27.8 -1.2
comp=Z,62nm,0.6s
TIC Toumodi 68.08 75⇧ iP P 03 27 28.9 -1.2
comp=Z,90nm,1.0s
KIC Kosan Boka 68.22 75⇧ iP P 03 27 30.0 -1.0
comp=Z,103nm,0.7s
DBIC Dimbokro 68.23 75 P P 03 27 30.2 -0.8
DBIC Dimbokro 68.23 75 P P 03 27 29.9 -1.1
comp=Z,70nm,0.8s,baz=231,slow=6.0,SNR=96
comp=Z,70nm,0.8s
DBIC Dimbokro 68.23 75 P P 03 27 30.1 -1.0
O20A White River Ci 68.39 329 P P 03 27 32.8 +1.1
baz=140
KNB Kanab 68.50 324 IAmb IAmb 03 28 11.0
comp=Z,16nm,1.1s
GMRC Granite Mounta 68.62 320 P P 03 27 34.7 +1.5
baz=133
V12A Nelson 68.78 321 P P 03 27 35.5 +1.3
P18A Preston Nutter 69.02 327 P P 03 27 36.7 +0.9
P18A IAmb IAmb 03 27 40.4
comp=Z,21nm,1.5s
HEC Hector,Ludlow 69.06 320 P P 03 27 37.0 +1.1
baz=132
TUQ Turquoise Moun 69.22 321 P P 03 27 38.5 +1.6
baz=133
TCRU Three Creeks R 69.44 325 P P 03 27 39.2 +0.8
SHPR Sheep Range 69.49 322 P P 03 27 38.8 +0.2
BFSC Mount Baldy Ra 69.50 319 P P 03 27 39.9 +1.2
baz=131
K22A Casper 69.54 332 P P 03 27 39.4 +0.6
baz=142
RSSD Black Hills 69.64 334 P P 03 27 40.2 +0.8
RSSD pP pP 03 28 13.7 +1.6
RSSD sP sP 03 28 26.4 +0.2
GSC Goldstone, Bar 69.67 320 P P 03 27 41.5 +1.9
baz=132
SHOC Shoshone, Teco 69.74 321 P P 03 27 42.2 +2.2
baz=132
BSUT Blindstream Ca 69.96 328 P P 03 27 41.7 +0.1
EDW2 Edwards Air Fo 70.12 319 P P 03 27 43.6 +1.2
baz=131
GWY Greenwater Val 70.17 321 P P 03 27 43.7 +0.9
AGMN Agassiz Nation 70.29 342 P P 03 27 42.6 -0.4
baz=153
TPNV Topopah Spring 70.43 322 P P 03 27 45.0 +0.6
TPNV IAmb IAmb 03 28 21.9
comp=Z,16nm,1.1s
TPNV Topopah Spring 70.43 322 P P 03 27 46.1 +1.8
baz=133
DUG Dugway, Tooele 70.77 326 P P 03 27 47.6 +1.3
baz=136
ARVC Arvin 70.81 319 P P 03 27 47.5 +1.0
baz=130
ISA Isabella, Lake 70.93 319 P P 03 27 48.0 +0.7
ISA Isabella, Lake 70.93 319 P P 03 27 48.7 +1.4
baz=131
R11B Troy Canyon, C 71.00 323 P P 03 27 49.2 +1.4
baz=134
PDAR Pinedale Array 71.04 330 P P 03 27 47.9 -0.1
comp=Z,2.7nm,1.0s,baz=124,slow=7.9,SNR=10
PDAR pP pP 03 28 20.8 +0.1
comp=Z,2.0nm,0.7s,baz=114,slow=7.7,SNR=5.9
comp=Z,2.7nm,1.0s
MDND Maddock 71.09 339 P P 03 27 48.5 +0.6
MDND IAmb IAmb 03 28 37.6
comp=Z,67nm,1.1s
MDND Maddock 71.09 339 P P 03 27 48.3 +0.4
baz=150
GRAC Grapevine Rang 71.13 321 P P 03 27 50.3 +1.8
baz=132
VES Vestal, Richgr 71.42 319 P P 03 27 52.0 +1.8
baz=130
MZP Montezuma Peak 71.61 322 P P 03 27 52.2 +0.6
QSPA South Pole Qui 72.00 180 P P 03 27 54.2 +0.9
comp=Z,6.1nm,0.6s,baz=314,slow=0.1,SNR=15
comp=Z,6.1nm,0.6s
QSPA South Pole Qui 72.00 180 P P 03 27 54.5 +1.2
QSPA pP pP 03 28 28.6 +2.6
QSPA sP sP 03 28 42.0 +1.8
ULM Lac du Bonnet 72.04 342 P P 03 27 52.7 -0.7
ULM IAmb IAmb 03 28 42.0
comp=Z,6.9nm,0.6s
ULM Lac du Bonnet 72.04 342 P P 03 27 52.7 -0.7
comp=Z,10nm,0.5s,baz=156,slow=6.3,SNR=25
ULM pP pP 03 28 26.2 -0.2
comp=Z,17nm,0.7s,baz=146,slow=5.9,SNR=8.6
comp=Z,10nm,0.5s
OMMB Old Mammoth Mi 72.52 321 P P 03 27 58.2 +1.2
OMMB pP pP 03 28 30.9 +1.1
FLWY Flagg Ranch 72.58 330 P P 03 27 56.9 -0.3
MDPB Devils Postpil 72.58 321 P P 03 27 56.6 -0.7
NVAR Mina Array Bea 72.63 322 P P 03 27 58.4 +0.8
comp=Z,4.2nm,0.8s,baz=147,slow=6.6,SNR=20
comp=Z,4.2nm,0.8s
LHV Little Huntoon 72.64 321 P P 03 27 58.1 +0.8
RLMT Red Lodge 72.70 332 P P 03 27 58.7 +0.9
baz=140
H17A Grant Village 72.75 330 P P 03 27 59.8 +1.6
baz=139
DGMT Dagmar 73.27 337 P P 03 28 01.7 +0.9
baz=146
ELIB Princess Elisa 73.70 161 dSbSb 03 26 16.3
ELIB dP P 03 28 04.8 +1.6
ELIB dPcP PcP 03 28 22.6 +4.2
PNTR Pine Nut 73.83 321 IAmb IAmb 03 28 54.9
comp=Z,9.6nm,0.8s
HLID Hailey 74.02 328 P P 03 28 06.9 +1.4
baz=136
PAHR Pah Rah Range 74.11 322 IAmb IAmb 03 28 08.7
comp=Z,16nm,0.8s
BOZ Bozeman (W) 74.15 331 P P 03 28 07.0 +0.8
baz=138
EGMT Eagleton 75.15 333 P P 03 28 12.4 +0.5
baz=140
MSO Missoula 76.14 330 P P 03 28 18.8 +1.3
baz=137
TOA0 Torodi Ar. Sit 76.66 71 P P 03 28 20.0 -1.0
TORD Torodi Ar. Bea 76.66 71 IAmb IAmb 03 28 22.8
comp=Z,42nm,0.8s
TORD Torodi Ar. Bea 76.66 71 P P 03 28 19.9 -1.1
comp=Z,39nm,0.6s,baz=255,slow=5.3,SNR=303
comp=Z,39nm,0.6s
J05D Fort Rock, OR 77.48 324 IAmb IAmb 03 28 45.4
comp=Z,14nm,0.6s
I05D Terrebonne, OR 78.22 325 IAmb IAmb 03 31 19.3
comp=Z,41nm,1.9s
HAWA Hanford 78.60 327 IAmb IAmb 03 31 28.8
comp=Z,39nm,1.7s
C09A Chrisman Ranch 78.92 329 IAmb IAmb 03 29 41.4
comp=Z,21nm,1.6s
HOOD Mount Hood Mea 79.02 325 IAmb IAmb 03 30 36.6
comp=Z,13nm,1.1s
PFVI Vila Bisbo 79.20 45 eP P 03 28 34.7 +0.1
MORF Marmelete 79.41 45 eP P 03 28 37.3 +1.5
PTEO Sao Teotonio 79.49 45 eP P 03 28 38.5 +2.4
F04A Amboy 79.82 325 IAmb IAmb 03 28 40.3
comp=Z,42nm,1.0s
PBDV Barranco-do-Ve 79.86 45 eP P 03 28 39.9 +1.7
PBDV epP pP 03 29 09.2 -2.4
PNCL Nicolau / Gran 79.92 44 eP P 03 28 40.0 +1.5
MESJ Messejana 79.98 45 eP P 03 28 39.2 +0.4
MESJ epP pP 03 29 07.9 -4.4
PCVE Castro Verde 79.99 45 eP P 03 28 41.4 +2.5
VNDA Vanda 80.03 190 P P 03 28 40.4 +1.9
comp=Z,3.6nm,0.8s,baz=116,slow=2.3,SNR=9.1
comp=Z,3.6nm,0.8s
PBEJ Beja 80.32 45 eP P 03 28 41.8 +1.2
D05A Enumclaw 80.40 327 IAmb IAmb 03 28 43.0
comp=Z,40nm,1.0s
EVO Evora 80.49 44 eP P 03 28 43.2 +1.7
PMTG Montargil 80.64 44 eP P 03 28 42.9 +0.6
PESTR Estremoz 80.95 44 eP P 03 28 45.4 +1.4
PBAR Barrancos 80.95 45 eP P 03 28 45.6 +1.6
TSUM Tsumeb 81.41 107 P P 03 28 46.8 -0.3
TSUM IAmb IAmb 03 28 55.3
comp=Z,13nm,0.7s
PCBR Castelo Branco 81.54 43 eP P 03 28 47.8 +0.8
MTE Manteigas 81.79 43 eP P 03 28 49.8 +1.3
PGAV Gavieira, Arco 82.17 41 eP P 03 28 51.9 +1.5
MVO Moncorvo 82.53 42 eP P 03 28 52.8 +0.5
PBRG Braganca 83.05 42 eP P 03 28 55.8 +0.9
TAM Tamanrasset 83.72 64 P P 03 28 58.6 -0.3
TAM IAmb IAmb 03 30 42.2
comp=Z,48nm,1.9s
ESDC Sonseca Array 83.78 45 P P 03 28 58.8 +0.1
comp=Z,7.5nm,0.9s,baz=253,slow=5.1,SNR=26
comp=Z,7.5nm,0.9s
BOSA Boshof 85.38 118 P P 03 29 07.1 -0.2
comp=Z,3.7nm,0.8s,baz=228,slow=3.8,SNR=6.3
comp=Z,3.7nm,0.8s
YKA Yellowknife Ar 87.93 341 P P 03 29 18.7 +0.2
comp=Z,10nm,0.8s,baz=133,slow=4.7,SNR=85
YKA pP pP 03 29 53.0 +0.4
comp=Z,5.2nm,0.7s,baz=134,slow=4.6,SNR=7.0
comp=Z,10nm,0.8s
KEST Kesra 91.65 53 P P 03 29 36.2 -0.5
comp=Z,2.5nm,0.6s,baz=296,slow=6.5,SNR=5.6
comp=Z,2.5nm,0.6s
FINES FINESS Array B 108.37 30 PKKPbc PKKPbc 03 46 08.0 -1.6
comp=Z,1.6nm,0.8s,baz=86,slow=5.9,SNR=6.0
ARCES ARCESS Array B 108.58 22 PKKPbc PKKPbc 03 46 06.5 -2.7
comp=Z,2.4nm,0.8s,baz=90,slow=2.4,SNR=5.9
BRTR Keskin Array B 111.24 54 PP PP 03 35 37.5 -7.0
comp=Z,0.5nm,0.7s,baz=232,slow=7.1,SNR=2.7
STKA Stephens Creek 122.06 211 PKP PKPdf 03 35 24.0 +0.3
comp=Z,0.8nm,0.4s,baz=113,slow=6.2,SNR=4.6
H11N3 WAKE ISLAND Hyl 126.97 281 T T 05 55 11.6
baz=103
H11S2 WAKE ISLAND Hyl 126.97 280 T T 05 55 10.4
baz=100
H11N2 WAKE ISLAND Hyl 126.98 281 T T 05 55 21.7
baz=103
H11S1 WAKE ISLAND Hyl 126.98 280 T T 05 55 27.1
baz=100
H11N1 WAKE ISLAND Hyl 126.99 281 T T 05 55 28.6
baz=103
H11S3 WAKE ISLAND Hyl 126.99 280 T T 05 55 12.4
baz=100
ASAR Alice Springs 132.62 209 PKP PKPdf 03 35 43.6 -0.5
comp=Z,1.6nm,0.5s,baz=136,slow=1.9,SNR=21
ASAR SKPbc SKPbc 03 38 59.1 -0.6
comp=Z,1.4nm,0.8s,baz=146,slow=3.9,SNR=6.7
BVAR Borovoye Array 133.26 32 PKP PKPdf 03 35 44.2 -0.1
comp=Z,0.6nm,0.7s,baz=25,slow=5.1,SNR=2.3
BVAR SKPbc SKPbc 03 39 02.0 +1.1
comp=Z,2.2nm,0.6s,baz=303,slow=2.1,SNR=10
WRA Warramunga Arr 135.55 213 PKhKP PKPpre 03 35 36.9
comp=Z,0.5nm,0.6s,baz=183,slow=1.8,SNR=6.9
WRA PKP PKPdf 03 35 50.0 +0.3
comp=Z,1.4nm,0.8s,baz=140,slow=1.5,SNR=5.4
WRA pPKP pPKPdf 03 36 24.7 -0.6
comp=Z,1.6nm,0.7s,baz=147,slow=1.8,SNR=3.1
WRA SKPbc SKPbc 03 39 08.9 -0.5
comp=Z,5.3nm,1.0s,baz=146,slow=2.8,SNR=16
KURBB Kurchatov Arra 138.76 31 PKP PKPdf 03 35 53.9 -0.6
comp=Z,0.8nm,0.2s,baz=309,slow=2.9,SNR=1.4
KURBB SKPbc SKPbc 03 39 18.0 +0.2
comp=Z,0.8nm,0.6s,baz=306,slow=3.1,SNR=5.6
ZALV Zalesovo Beam 139.11 23 PKP PKPdf 03 35 54.6 -0.5
comp=Z,3.0nm,0.7s,baz=290,slow=2.1,SNR=9.1
ZALV pPKP pPKPdf 03 36 30.8 +0.1
comp=Z,5.4nm,0.8s,baz=302,slow=2.8,SNR=5.3
ZALV SKPbc SKPbc 03 39 19.0 +0.4
comp=Z,3.5nm,0.6s,baz=308,slow=3.8,SNR=10.0
MKAR Makanchi Array 143.14 33 PKhKP PKPpre 03 35 59.1
comp=Z,0.8nm,0.6s,baz=318,slow=3.0,SNR=6.7
MKAR SKPbc SKPbc 03 39 29.7 +0.4
comp=Z,1.5nm,0.6s,baz=339,slow=2.4,SNR=8.9
HEH HeiHe 145.29 341 eP PKPbc 03 36 05.8 -0.4
HEH pmax pmax
comp=Z,26nm,1.0s
WMQ Urumqi 147.95 32 eP PKPdf 03 36 11.3 +0.3
USRK Ussuriysk Ar. 148.46 330 PKPbc PKPbc 03 36 16.1 +0.7
comp=Z,13nm,0.7s,baz=21,slow=1.9,SNR=27
USRK pPKPbc pPKPbc 03 36 51.0 +0.3
comp=Z,17nm,0.9s,baz=16,slow=1.3,SNR=7.9
BNX BinXian 149.19 337 ⇧P PKPbc 03 36 16.9 -0.3
BNX pmax pmax
comp=Z,13nm,1.0s

MDJ	**Mudanjiang**	**149.23**	**333**	PKPbc	**PKPdf**	**03**	**36**	**13.8 +0.9**
MDJ				pPKP	pPKPdf	03	36	46.6 -2.0
MDJ				PP	PP	03	40	53.3 +64
MDJ				AMB	AMB			
	comp=Z,18μm,11.1s							
MJAR	**Matsushiro Arr**	**149.60**	**313**	PKPbc	**PKPbc**	**03**	**36**	**19.3 +0.8**
	comp=Z,6.8nm,0.6s,baz=97,slow=1.3,SNR=12							
MJAR				pPKPbc	**pPKPbc**	**03**	**36**	**54.2 +0.4**
	comp=Z,7.4nm,1.0s,baz=244,slow=1.1,SNR=3.7							
SONM	**Songino Array**	**150.22**	**6**	PKPbc	**PKPbc**	**03**	**36**	**20.4 +0.6**
	comp=Z,2.4nm,0.4s,baz=321,slow=1.8,SNR=21							
SONM				pPKPbc	**pPKPbc**	**03**	**36**	**55.0 -0.2**
	comp=Z,8.2nm,0.9s,baz=322,slow=1.3,SNR=7.2							
KAPI	**Kappang**	**155.27**	**202**	PKPab	**PKPab**	**03**	**36**	**48.9 +0.7**
	comp=Z,20nm,0.7s,baz=193,slow=3.1,SNR=8.7							
KSRS	**Korea Array**	**155.53**	**325**	PKPab	**PKPab**	**03**	**36**	**48.7 -0.1**
	comp=Z,4.1nm,0.9s,baz=66,slow=3.4,SNR=5.6							
PZH	**PanZhiHua**	**168.32**	**43**	PKP	**PKPdf**	**03**	**36**	**33.6 -2.3**

*UCR **10** 03:19:24.5±0.8, 10.°67N×85.°00W, h13km±5km, MW3.7*
*CATAC **10** 03:19:25.6±0.3, 10.°64N×84.°99W, h2km±3km, ML3.8*
ISC 10 03:19:25.4±0.9, 10.°65N±0.°03×84.°99W±0.°03, h15km±8km, n22, σ0°49/29, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VMAR	**Armenia, Volca**	**0.20**	**324**	*eP*		**Pg**		**03 19 29.9**	**-0.2**
VMAR				*eS*		**Sg**		**03 19 33.5**	**+0.3**
VMAR	**Armenia, Volca**	**0.20**	**324**	*i* P		**Pg**		**03 19 29.7**	**-0.4**
VMAR				IAML				03 19 59.2	
	comp=Z,4μm,1.0s								
CAMAV	**Centro de Prod**	**0.20**	**284**	*eP*		**Pg**		**03 19 29.6**	**-0.5**
COLC	**Colonia**	**0.21**	**274**	*eP*		**Pg**		**03 19 29.8**	**-0.4**
VERA	**Finca Concepci**	**0.24**	**31**	*eP*		**Pg**		**03 19 30.3**	**-0.3**
VERA				*eS*		**Sg**		**03 19 34.8**	**+0.6**
VACR	**Volcan Arenal**	**0.36**	**119**	*i* P		**Pb**		**03 19 33.2**	**-0.3**
VACR				IAML				03 19 46.9	
	comp=Z,5μm,1.0s								
JUNT	**Juntas**	**0.37**	**175**	*eP*		**Pg**		**03 19 32.5**	**-0.4**
JUNT				*eS*		**Sg**		**03 19 37.9**	**0.0**
VRLE	**La Escondida,**	**0.39**	**291**	*i* P		**Pg**		**03 19 32.8**	**-0.6**
VRLE				*i* S		**Sg**		**03 19 38.8**	**0.0**
VRLE				IAML				03 19 44.5	
	comp=Z,5μm,1.0s								
SOCE	**Pocosol**	**0.45**	**126**	*eP*		**Pg**		**03 19 34.1**	**-0.4**
SOCE				*eS*		**Sb**		**03 19 41.5**	**-0.2**
SOCE	**Pocosol**	**0.45**	**126**	*i* P		**Pg**		**03 19 34.3**	**-0.2**
SOCE				IAML				03 19 46.3	
	comp=Z,490nm,1.0s								
PLVR	**Palo Verde**	**0.46**	**230**	*eP*		**Pg**		**03 19 34.4**	**-0.2**
ORTG	**Ortega, Santa**	**0.54**	**238**	*i* P		**Pg**		**03 19 35.7**	**-0.4**
ORTG				*i* S		**Sg**		**03 19 43.5**	**+0.2**
ORTG				IAML				03 20 04.6	
	comp=Z,2μm,1.0s								
COVE	**Coope Vega, Sa**	**0.59**	**83**	*i* P		**Pg**		**03 19 36.1**	**-0.8**
COVE				IAML				03 20 08.1	
	comp=Z,3μm,1.0s								
HZTE	**Horizontes, Gu**	**0.59**	**276**	*i* P		**Pb**		**03 19 37.2**	**-0.3**
HZTE				*i* S		**Sg**		**03 19 45.2**	**+0.2**
HZTE				IAML				03 19 51.3	
	comp=Z,3μm,1.0s								
CPMI	**Catarata Coope**	**0.70**	**121**	*i* P		**Pg**		**03 19 39.1**	**-0.1**
CPMI				IAML				03 20 34.9	
	comp=Z,3μm,1.0s								
INDI	**Punta indio, G**	**0.93**	**213**	*i* P		**Pb**		**03 19 43.4**	**+0.3**
INDI				IAML				03 20 11.2	
	comp=Z,3μm,1.0s								
JACO	**JACO, Garabito**	**1.03**	**161**	*i* P		**Pg**		**03 19 44.3**	**-1.1**
JACO				IAML				03 20 23.6	
	comp=Z,3μm,1.0s								
TBLN	**Tablon, Guarco**	**1.28**	**130**	*i* P		**Pn**		**03 19 49.5**	**+0.6**
TBLN				IAML				03 20 43.2	
	comp=Z,2μm,1.0s								
ACON	**Acoyapa**	**1.32**	**352**	*i* P		**Pn**		**03 19 49.7**	**+0.4**
ACON				IAML				03 20 50.3	
	comp=Z,3μm,1.0s								
LCR2	**La Lucha 2**	**1.33**	**133**	*i* P		**Pn**		**03 19 50.1**	**+0.5**
LCR2				IAML				03 20 50.3	
	comp=Z,2μm,1.0s								
CDM	**Cerro de Muert**	**1.63**	**132**	*i* P		**Pn**		**03 19 54.7**	**+0.8**
CDM				IAML				03 20 58.0	
	comp=Z,3μm,1.0s								
ESPN	**Las Esperanzas**	**1.68**	**24**	*i* P		**Pg**		**03 19 57.1**	**-0.6**
ESPN				IAML				03 20 15.5	
	comp=Z,3μm,1.0s								

*CATAC **10** 03:25:47.7±1.7, 12.°54N×87.°95W, h10km, ML3.6*
*SNET **10** 03:26:04.5±1.0, 13.°48N×88.°51W, h3km±2km, ML1.9*
ISC 10 03:26:05.1±1.0, 13.°52N±0.°05×88.°52W±0.°03, h6km±7km, n17, σ0°90/24, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.03**	**135**	*eP*		**Pg**		**03 26 06.3**	**-0.3**
TECA				*eS*		**Sg**		**03 26 07.2**	**-0.4**
PQSS	**Presa 15 de Se**	**0.11**	**342**	*eP*		**Pg**		**03 26 08.3**	**+0.7**
PQSS				*eS*		**Sg**		**03 26 10.4**	**+1.2**
PQSS				IAML				03 26 10.4	
	comp=Z,968nm,0.1s								
PACA	**Pacayal**	**0.20**	**103**	*eP*		**Pg**		**03 26 09.8**	**+0.7**
PACA				*eS*		**Sg**		**03 26 12.9**	**+1.0**
LCY	**Lacayo**	**0.24**	**112**	*eP*		**Pg**		**03 26 10.5**	**+0.5**
RANC	**El Ranchito**	**0.24**	**109**	⇑*eP*		**Pg**		**03 26 10.3**	**+0.3**
RANC				*eS*		**Sg**		**03 26 14.2**	**+1.0**
RANC				IAML				03 26 18.8	
	comp=Z,236nm,0.3s								
TECO	**Alcaldia de Te**	**0.25**	**275**	⇓*eP*		**Pg**		**03 26 10.8**	**+0.7**
TECO				*eS*		**Sg**		**03 26 15.0**	**+1.5**
TECO				IAML				03 26 15.9	
	comp=Z,74nm,0.1s								
TECO	**Alcaldia de Te**	**0.25**	**275**	*i* P		**Pg**		**03 26 10.8**	**+0.7**
TECO				IAML				03 26 18.7	
	comp=Z,200nm,1.0s								
VSM	**San Miguel**	**0.26**	**110**	*eP*		**Pg**		**03 26 10.7**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.27**	**313**	⇓*iP*		**Pg**		**03 26 11.4**	**+0.9**
SCLA				*eS*		**Sb**		**03 26 18.2**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.27**	**313**	*i* P		**Pb**		**03 26 11.5**	**-1.0**
SCLA				IAML				03 26 18.3	
	comp=Z,110nm,1.0s								
UESV	**Universidad de**	**0.28**	**295**	*i* P		**Pb**		**03 26 11.6**	**-1.1**
UESV				IAML				03 26 12.0	
	comp=Z,1μm,1.0s								
COEG	**Centro de Oper**	**0.36**	**287**	*eP*		**Pb**		**03 26 13.0**	**-1.0**
COEG				*eS*		**Sb**		**03 26 19.1**	**-0.9**
COEG	**Centro de Oper**	**0.36**	**287**	*i* P		**Pg**		**03 26 12.9**	**+0.7**
COEG				IAML				03 26 19.8	
	comp=Z,180nm,1.0s								
COEG				*i* S		Sb		03 26 32.7	+13
PAVA	**Las Pavas**	**0.45**	**296**	*i* P		**Pb**		**03 26 14.7**	**-0.8**
PAVA				IAML				03 26 17.0	
	comp=Z,4μm,1.0s								
SJTE	**Alcalda de S**	**0.48**	**282**	*eP*		**Pb**		**03 26 15.5**	**-0.6**
LLGN	**La Laguna**	**0.76**	**328**	*i* P		**Pg**		**03 26 19.5**	**-0.3**
LLGN				IAML				03 26 33.3	
	comp=Z,1μm,1.0s								
MTO3	**Montecristo**	**1.20**	**317**	*i* P		**Pg**		**03 26 27.2**	**-0.9**
MTO3				IAML				03 27 19.0	
	comp=Z,2μm,1.0s								

*NNC **10** 03:27:17.0±0.2, 43.°20N×77.°27E, h4km±1km, mb4.2, mpv4.3, Error ellipse: s-maj=2.0km s-min=1.1km az=170.0*
*KRNET **10** 03:27:17.1±0.1, 43.°20N×77.°27E, h18km, mb3.8*
*SOME **10** 03:27:17.3, 43.°20N×77.°27E, h10km*
*KNET **10** 03:27:18.6±0.5, 43.°17N×77.°05E, h2km±3km, ml3.1, Error ellipse: s-maj=4.0km s-min=2.7km az=117.0*
ISC 10 03:27:16.0±0.8, 43.°20N±0.°02×77.°26E±0.°01, h18km±2km, n97, σ0°88/178, 43C-29D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOTS	**Kotyrbulak**	**0.12**	**286**	P		**Pg**		**03 27 20.3**	**+0.2**
	3μm,0.1s								
KOTS				S		**Sg**		**03 27 22.6**	**-0.2**
	7μm,0.1s								
KOTS	**Kotyrbulak**	**0.12**	**286**	*eP*		**Pg**		**03 27 20.3**	**+0.2**
	3μm,0.1s								
KOTS				*eS*		**Sg**		**03 27 22.6**	**-0.2**
	11μm,0.2s								
KOTS	**Kotyrbulak**	**0.12**	**286**	*eP*		**Pg**		**03 27 20.3**	**+0.2**
	baz=85								
KOTS				*eS*		**Sg**		**03 27 22.6**	**-0.2**
	baz=85								
MDOK	**Medeo**	**0.16**	**256**	⇓P		**Pg**		**03 27 20.7**	**+0.1**
	331nm,0.4s								
MDOK				Pg		Pg		03 27 20.9	+0.3
	1μm,0.1s								
MDOK				Lg		Lg		03 27 23.3	
	2μm,0.1s								
MDOK				⇓S		**Sg**		**03 27 23.4**	**-0.3**
	458nm,0.7s								
MDOK	**Medeo**	**0.16**	**256**	*eP*		**Pg**		**03 27 20.9**	**+0.3**
	1μm,0.1s								
MDOK				*eS*		**Sb**		**03 27 23.3**	**+0.7**
	2μm,0.1s								
MDOK	**Medeo**	**0.16**	**256**	*eP*		**Pg**		**03 27 20.9**	**+0.3**
	baz=56								
MDOK				*eS*		**Sb**		**03 27 23.3**	**+0.7**
	baz=56								
KNDC	**Almaty**	**0.22**	**274**	⇑P		**Pg**		**03 27 22.2**	**+0.8**
	726nm,0.3s								
KNDC				⇓S		**Sg**		**03 27 25.6**	**+0.7**
	483nm,0.5s								
AAA	**Alma-Ata**	**0.25**	**272**	P		**Pg**		**03 27 23.1**	**+1.2**
	2μm,0.1s								
AAA				S		**Sg**		**03 27 27.2**	**+1.3**
	2μm,0.1s								
AAA	**Alma-Ata**	**0.25**	**272**	*eP*		**Pg**		**03 27 23.1**	**+1.2**
	2μm,0.1s								
AAA				*eS*		**Sg**		**03 27 27.2**	**+1.3**
	2μm,0.1s								
TNSS	**Tian-Shan**	**0.28**	**235**	P		**Pg**		**03 27 23.1**	**+0.5**
	311nm,0.2s								
TNSS				S		**Sg**		**03 27 27.3**	**+0.3**
	1μm,0.3s								
TNSS	**Tian-Shan**	**0.28**	**235**	⇑*iP*		**Pg**		**03 27 23.1**	**+0.5**
	286nm,0.1s								
TNSS				*eS*		**Sg**		**03 27 27.3**	**+0.3**
	1μm,0.2s								
TNSS	**Tian-Shan**	**0.28**	**235**	⇑*iP*		**Pg**		**03 27 23.1**	**+0.5**
	baz=36								
TNSS				⇑*eS*		**Sg**		**03 27 27.4**	**+0.3**
	baz=36								
IZV	**Izvestkoviy**	**0.50**	**251**	P		**Pn**		**03 27 27.9**	**-0.6**
IZV				S		**Sn**		**03 27 35.5**	**-1.3**
	967nm,0.4s								
IZV	**Izvestkoviy**	**0.50**	**251**	*eP*		**Pn**		**03 27 27.9**	**-0.6**
	124nm,0.1s								
IZV				*eS*		**Sn**		**03 27 35.5**	**-1.3**
	1μm,0.2s								
ANVS	**Anan'yevo**	**0.51**	**145**	⇓*eP*		**Pg**		**03 27 27.0**	**+0.6**
	baz=45								
ANVS				⇓*eS*		**Sb**		**03 27 33.7**	**-0.1**
	baz=45								
MTBS	**Maitube**	**0.61**	**264**	P		**Pn**		**03 27 29.2**	**-0.8**
	457nm,0.1s								
MTBS				S		**Sg**		**03 27 37.5**	**+1.1**
	502nm,0.1s								
MTBS	**Maitube**	**0.61**	**264**	*eP*		**Pn**		**03 27 29.2**	**-0.8**
	457nm,0.1s								
MTBS				*eS*		**Sg**		**03 27 37.5**	**+1.1**
	502nm,0.1s								
MTBS	**Maitube**	**0.61**	**264**	*eP*		**Pn**		**03 27 29.2**	**-0.8**
	baz=63								
MTBS				*eS*		**Sg**		**03 27 37.6**	**+1.1**
	baz=63								
KTBS	**Karatobe**	**0.66**	**321**	P		**Pn**		**03 27 30.1**	**-0.5**
	88nm,0.1s								
KTBS				S		**Sg**		**03 27 39.0**	**+1.0**
	2μm,0.1s								
KTBS	**Karatobe**	**0.66**	**321**	*eP*		**Pn**		**03 27 30.1**	**-0.5**
	88nm,0.1s								
KTBS				*eS*		**Sg**		**03 27 39.0**	**+1.0**
	2μm,0.1s								
KTBS	**Karatobe**	**0.66**	**321**	*eP*		**Pn**		**03 27 30.1**	**-0.5**
	baz=20								
KTBS				*eS*		**Sg**		**03 27 39.0**	**+1.0**
	baz=20								
CHKK	**Chushkaly**	**0.68**	**343**	P		**Pn**		**03 27 30.3**	**-0.5**
	150nm,0.1s								
CHKK				S		**Sn**		**03 27 39.6**	**-1.4**
	1μm,0.1s								
CHKK	**Chushkaly**	**0.68**	**343**	*eP*		**Pn**		**03 27 30.3**	**-0.5**
	150nm,0.1s								
CHKK				*eS*		**Sn**		**03 27 39.6**	**-1.4**
	1μm,0.1s								
CHKK	**Chushkaly**	**0.68**	**343**	*eP*		**Pn**		**03 27 30.3**	**-0.5**
	baz=43								
CHKK				*eS*		**Sn**		**03 27 39.6**	**-1.4**
	baz=43								
KURS	**Kuram**	**0.72**	**66**	P		**Pn**		**03 27 31.1**	**-0.3**
	68nm,0.2s								
KURS				S		**Sn**		**03 27 41.1**	**-0.9**
	103nm,0.2s								
KURS	**Kuram**	**0.72**	**66**	*eP*		**Pn**		**03 27 31.1**	**-0.3**
	68nm,0.2s								
KURS				*eS*		**Sn**		**03 27 41.1**	**-0.9**
	103nm,0.2s								
KURS	**Kuram**	**0.72**	**66**	*eP*		**Pn**		**03 27 31.1**	**-0.3**
	baz=66								
KURS				*eS*		**Sn**		**03 27 41.1**	**-0.9**
	baz=66								
SATY	**Saty**	**0.85**	**99**	P		**Pn**		**03 27 33.0**	**-0.2**
	138nm,0.1s								
SATY				S		**Sn**		**03 27 44.4**	**-0.9**
	832nm,0.1s								
SATY	**Saty**	**0.85**	**99**	*eP*		**Pn**		**03 27 33.0**	**-0.2**
	138nm,0.1s								
SATY				*eS*		**Sn**		**03 27 44.4**	**-0.9**
	832nm,0.1s								
SATY	**Saty**	**0.85**	**99**	*eP*		**Pn**		**03 27 33.0**	**-0.2**
	baz=99								
SATY				*eS*		**Sn**		**03 27 44.4**	**-0.9**
	baz=99								
ZHN	**Zhinishke**	**0.86**	**92**	P		**Pn**		**03 27 33.2**	**-0.1**
	152nm,0.1s								
ZHN				S		**Sn**		**03 27 44.6**	**-0.9**
	572nm,0.1s								
ZHN	**Zhinishke**	**0.86**	**92**	*eP*		**Pn**		**03 27 33.2**	**-0.1**
	152nm,0.1s								
ZHN				*eS*		**Sn**		**03 27 44.6**	**-0.9**
	572nm,0.1s								
ZHN	**Zhinishke**	**0.86**	**92**	*eP*		**Pn**		**03 27 33.2**	**-0.1**
	baz=92								
ZHN				*eS*		**Sn**		**03 27 44.6**	**-0.9**
	baz=92								
KUU	**Kurty**	**0.96**	**316**	P		**Pg**		**03 27 35.2**	**+0.4**
	21nm,0.1s								
KUU				S		**Sn**		**03 27 47.9**	**0.0**
	580nm,0.1s								
KUU	**Kurty**	**0.96**	**316**	*eP*		**Pg**		**03 27 35.2**	**+0.4**
	21nm,0.1s								
KUU				*eS*		**Sn**		**03 27 47.9**	**0.0**
	580nm,0.1s								
KUU	**Kurty**	**0.96**	**316**	*eP*		**Pg**		**03 27 35.2**	**+0.4**
	baz=16								
KUU				*eS*		**Sn**		**03 27 47.9**	**0.0**
	baz=16								
KST	**Kastek**	**0.96**	**261**	P		**Pg**		**03 27 35.4**	**+0.6**
	117nm,0.2s								
KST				S		**Sn**		**03 27 48.2**	**+0.1**
	413nm,0.4s								
KST	**Kastek**	**0.96**	**261**	*eP*		**Pg**		**03 27 35.4**	**+0.6**
	117nm,0.2s								
KST				*eS*		**Sn**		**03 27 48.2**	**+0.1**
	413nm,0.4s								
KST	**Kastek**	**0.96**	**261**	*eP*		**Pg**		**03 27 35.4**	**+0.6**
	baz=61								
KST				*eS*		**Sn**		**03 27 48.3**	**+0.1**
	baz=61								
KPKS	**Kokpek**	**1.07**	**75**	P		**Pg**		**03 27 37.2**	**+0.4**
	255nm,0.2s								
KPKS				S		**Sg**		**03 27 51.6**	**+0.7**
	508nm,0.1s								
KPKS	**Kokpek**	**1.07**	**75**	*eP*		**Pg**		**03 27 37.2**	**+0.4**
	255nm,0.2s								
KPKS				*eS*		**Sg**		**03 27 51.6**	**+0.7**
	508nm,0.1s								
KPKS	**Kokpek**	**1.07**	**75**	*eP*		**Pg**		**03 27 37.2**	**+0.4**
	baz=75								
KPKS				*eS*		**Sg**		**03 27 51.6**	**+0.7**
	baz=75								
KDJ	**Kajisay**	**1.07**	**183**	⇑*eP*		**Pg**		**03 27 37.1**	**+0.2**
	baz=83								
KDJ				⇑*eS*		**Sg**		**03 27 51.7**	**+0.7**
	baz=83								
ARXS	**Arharly**	**1.09**	**22**	P		**Pg**		**03 27 37.6**	**+0.4**
	49nm,0.1s								
ARXS				S		**Sg**		**03 27 52.1**	**+0.6**
	344nm,0.1s								
ARXS	**Arharly**	**1.09**	**22**	*eP*		**Pg**		**03 27 37.6**	**+0.4**
	49nm,0.1s								
ARXS				*eS*		**Sg**		**03 27 52.1**	**+0.6**
	344nm,0.1s								
DGS	**Degeres**	**1.09**	**273**	P		**Pg**		**03 27 37.6**	**+0.4**
	322nm,0.2s								
DGS				S		**Sg**		**03 27 52.1**	**+0.6**
	196nm,0.2s								
DGS	**Degeres**	**1.09**	**273**	*eP*		**Pg**		**03 27 37.6**	**+0.4**
	322nm,0.2s								
DGS				*eS*		**Sg**		**03 27 52.1**	**+0.6**
	196nm,0.2s								
DGS	**Degeres**	**1.09**	**273**	*eP*		**Pg**		**03 27 37.6**	**+0.4**
	baz=73								
DGS				*eS*		**Sg**		**03 27 52.1**	**+0.6**
	baz=73								
PRZ	**Przheval'sk**	**1.10**	**130**	⇓*eP*		**Pg**		**03 27 38.2**	**+0.8**
	baz=30								
PRZ				⇓*eS*		**Sg**		**03 27 52.4**	**+0.5**
	baz=30								
ULHL	**Ulahol**	**1.22**	**219**	⇓P		**Pg**		**03 27 39.8**	**+0.3**
	37nm,0.3s,SNR=7.6								
ULHL				⇑S		**Sg**		**03 27 55.9**	**+0.3**
	302nm,0.2s								
ULHL	**Ulahol**	**1.22**	**219**	⇑*iP*		**Pg**		**03 27 39.9**	**+0.3**
	baz=19								
ULHL				⇑*iS*		**Sg**		**03 27 55.8**	**+0.3**
	baz=19								
TKM2	**Tokmak 2**	**1.25**	**258**	⇓P		**Pg**		**03 27 40.4**	**+0.1**
	66nm,0.2s,SNR=60								
TKM2				⇑S		**Sg**		**03 27 56.5**	**-0.2**
	303nm,0.1s								
TKM2	**Tokmak 2**	**1.25**	**258**	⇓P		**Pg**		**03 27 40.4**	**+0.1**
	29nm,0.3s								
TKM2				⇑S		**Sg**		**03 27 57.1**	**+0.4**
	122nm,0.6s								
TKM2	**Tokmak 2**	**1.25**	**258**	⇓*iP*		**Pg**		**03 27 40.5**	**+0.2**
	baz=58								
TKM2				⇓*iS*		**Sg**		**03 27 57.5**	**+0.8**
	baz=58								
KRBS	**Karabastau**	**1.26**	**294**	P		**Pg**		**03 27 40.4**	**+0.1**
	109nm,0.1s								
KRBS				S		**Sg**		**03 27 57.0**	**+0.2**
	855nm,0.2s								
KRBS	**Karabastau**	**1.26**	**294**	*eP*		**Pg**		**03 27 40.4**	**+0.1**
	109nm,0.1s								
KRBS				*eS*		**Sg**		**03 27 57.0**	**+0.2**
	855nm,0.2s								
KRBS	**Karabastau**	**1.26**	**294**	*eP*		**Pg**		**03 27 40.4**	**+0.1**
	baz=94								
KRBS				*eS*		**Sg**		**03 27 57.0**	**+0.2**
	baz=94								
UZB	**Uzynbulak**	**1.29**	**92**	P		**Pg**		**03 27 40.9**	**0.0**
	209nm,0.3s								
UZB				S		**Sg**		**03 27 57.8**	**0.0**
	228nm,0.2s								
UZB	**Uzynbulak**	**1.29**	**92**	⇑*iP*		**Pg**		**03 27 40.9**	**0.0**
	209nm,0.3s								
UZB				⇓*iS*		**Sg**		**03 27 57.8**	**0.0**
	228nm,0.2s								
UZB	**Uzynbulak**	**1.29**	**92**	⇑*iP*		**Pg**		**03 27 40.9**	**0.0**
	baz=92								
UZB				⇓*iS*		**Sg**		**03 27 57.8**	**0.0**
	baz=92								
SHLS	**Shalkode**	**1.61**	**91**	Pg		Pg		03 27 52.6	+5.6
	186nm,0.1s								
SHLS				Lg		Lg		03 28 18.0	
	180nm,0.3s								
SHLS	**Shalkode**	**1.61**	**91**	*eP*		Pg		03 27 52.6	+5.6
	186nm,0.1s								
SHLS				*eS*		Sg		03 28 18.0	+10
	180nm,0.3s								
PDGK	**Podgornoye**	**1.63**	**85**	P		**Pg**		**03 27 47.2**	**-0.3**
	92nm,0.3s								
PDGK				S		**Sg**		**03 28 08.7**	**0.0**
	73nm,0.3s								
PDGK	**Podgornoye**	**1.63**	**85**	⇑P		**Pg**		**03 27 46.8**	**-0.7**
	68nm,0.3s								
PDGK				⇑S		**Sg**		**03 28 08.7**	**0.0**
	82nm,0.6s								
KBK	**Karagaybulak**	**1.79**	**253**	⇑P		**Pg**		**03 27 50.0**	**-0.4**
	48nm,0.1s,SNR=22								
KBK				⇓S		**Sg**		**03 28 13.7**	**+0.1**
	426nm,0.2s								
KBK	**Karagaybulak**	**1.79**	**253**	⇑*iP*		**Pg**		**03 27 50.0**	**-0.4**
	baz=53								
KBK				⇑*iS*		**Sg**		**03 28 13.9**	**+0.3**
	baz=53								
KNOS	**Konyrlen**	**1.81**	**50**	P		**Pg**		**03 27 50.3**	**-0.4**
	95nm,0.1s								
KNOS				S		**Sg**		**03 28 14.0**	**-0.3**
	304nm,0.3s								
CHMS	**Chumysh**	**1.85**	**265**	⇑P		**Pg**		**03 27 50.5**	**-1.1**
	43nm,0.1s,SNR=19								
CHMS				⇑S		**Sg**		**03 28 14.8**	**-0.8**
	192nm,0.2s								
CHMS	**Chumysh**	**1.85**	**265**	⇑Pn		**Pb**		**03 27 50.3**	**+1.0**
	15nm,0.3s								
CHMS				⇑Sn		**Sg**		**03 28 14.9**	**-0.8**
	68nm,0.3s								
CHMS	**Chumysh**	**1.85**	**265**	⇑*iP*		**Pg**		**03 27 50.7**	**-0.9**
	baz=65								
CHMS				⇑*iS*		**Sg**		**03 28 15.2**	**-0.5**
	baz=65								
KZA	**Kyzart**	**1.86**	**234**	⇑P		**Pg**		**03 27 51.8**	**-0.1**
	16nm,0.2s,SNR=24								
KZA				⇓S		**Sg**		**03 28 16.8**	**+0.7**
	84nm,0.2s								
KZA	**Kyzart**	**1.86**	**234**	⇑*eP*		**Pg**		**03 27 51.3**	**-0.6**
	baz=34								
KZA				⇑*iS*		**Sg**		**03 28 15.9**	**-0.2**
	baz=34								
SGDS	**Sogindy**	**1.94**	**278**	Pg		Pg		**03 27 52.9**	**-0.3**
	43nm,0.1s								
SGDS				Lg		Lg		03 28 18.3

KAPS	**Kapalarasan**	**2.57**	**35**	*e*P		**Pg**	**03 28 04.1**	**-1.2**
	17nm,0.3s							
KAPS				*e*S		**Sg**	**03 28 37.5**	**-1.2**
	554nm,0.2s							
EKS2	**Erkin-Say**	**2.62**	**259**	⇑P		**Pb**	**03 28 02.9**	**+0.4**
	11nm,0.2s,SNR=16							
EKS2	**Erkin-Say**	**2.62**	**259**	⇑*i*P		**Pb**	**03 28 01.5**	**-0.9**
	baz=59							
EKS2				⇑*i*S		**Sb**	**03 28 33.8**	**-0.5**
	baz=59							
AML	**Almayashu**	**2.84**	**249**	⇑*e*P		**Pb**	**03 28 05.0**	**-1.4**
	baz=49							
AML				⇑*i*S		**Sb**	**03 28 39.5**	**-1.5**
	baz=49							
MRKS	**Merke**	**3.00**	**263**	Pg		**Pg**	**03 28 12.6**	**-0.9**
	35nm,0.4s							
MRKS				Lg		Lg	03 28 52.0	
	73nm,0.2s							
MRKS	**Merke**	**3.00**	**263**	*e*P		**Pg**	**03 28 12.6**	**-0.9**
	35nm,0.4s							
MRKS				*e*S		**Sg**	**03 28 52.0**	**-0.4**
	73nm,0.2s							
MAKZ	**Makanchi**	**4.92**	**41**	⇓Lg		Lg	03 29 53.9	
	12nm,0.8s							
KK31	**Karatay Array**	**4.94**	**271**	⇑Pg		**Pg**	**03 28 47.0**	**-3.6**
	2.7nm,0.5s,baz=86,slow=17,SNR=32							
KK31				⇑Lg		Lg	03 29 54.2	
	4.5nm,0.4s,baz=80,slow=29,SNR=9.7							
MK31	**Makanchi Array**	**5.06**	**43**	⇑Pn		**Pn**	**03 28 34.3**	**+3.3**
	0.1nm,0.1s,baz=215,slow=15,SNR=9.9							
MK31				⇑Pg		**Pg**	**03 28 50.1**	**-2.8**
	0.6nm,0.3s,baz=221,slow=15,SNR=7.2							
MK31				Sn		**Sn**	**03 29 33.1**	**+4.1**
	1.2nm,0.3s,baz=216,slow=24,SNR=4.4							
MK31				⇑Lg		Lg	03 29 55.6	
	9.8nm,0.5s,baz=223,slow=27,SNR=6.4							
OTUK	**Ortayu**	**6.11**	**327**	⇓Lg		Lg	03 30 32.1	
	8.7nm,0.5s							
KURK	**Kurchatov**	**7.57**	**7**	⇓Lg		Lg	03 31 19.2	
	11nm,0.8s							

*DJA **10** 03:27:16.4±0.7, 11°S±6"×11°5E±°, h10km, M4.6/7, mb4.8/2, MLv4.5/7*
*IDC **10** 03:27:17.4±2.9, 10°.73S×115°.50E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=158.5km s-min=26.7km az=46.0*
ISC 10 03:27:20.4±1.4, **11°2S**±0°.1×**115°.09E**±0°.07, **h35**km, **n13,** σ1**§49**/15, **South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.87**	**341**	P	**Pn**	**03 28 03.4**	**-0.4**
JAGI				S	**Sn**	**03 28 37.0**	**-0.1**
TWSI	**Taliwang, Sumb**	**3.02**	**36**	P	**Pn**	**03 28 05.4**	**-0.5**
SRBI	**Singaraja**	**3.10**	**2**	P	**Pn**	**03 28 07.0**	**0.0**
SRBI				S	**Sn**	**03 28 44.4**	**+1.5**
PLAI	**Plampang**	**3.55**	**48**	P	**Pn**	**03 28 11.6**	**-1.5**
BLJI	**Banyuglugur**	**3.74**	**337**	P	**Pn**	**03 28 16.2**	**+0.5**
DBNI	**Kabupaten Domp**	**4.16**	**50**	P	Pn	03 28 22.5	+1.0
SJI	**Sawahan**	**4.76**	**316**	P	**Pn**	**03 28 27.3**	**-2.5**
SJI				S	**Sn**	**03 29 24.7**	**+0.9**
BASI	**Baing, Sumba**	**5.49**	**80**	P	**Pn**	**03 28 38.0**	**-1.7**
UGM	**Wanagama**	**5.56**	**306**	P	**Pn**	**03 28 38.4**	**-2.5**
	133nm,1.9s,1.0nm						
UGM				S	**Sn**	**03 29 43.0**	**-0.7**
	133nm,1.9s,1.0nm						
WRA	**Warramunga Arr**	**20.46**	**117**	P	**P**	**03 31 54.6**	**-0.6**
	0.3nm,0.4s,baz=292,slow=12,SNR=8.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.78**	**127**	P	**P**	**03 32 11.5**	**+2.1**
	0.1nm,0.3s,baz=304,slow=11,SNR=1.3						
	0.1nm,0.3s						
HHC	**Hu-ho-hao-te**	**51.90**	**357**	*e*P		P	03 36 28.5	+2.8
MKAR	**Makanchi Array**	**64.76**	**336**	P		**P**	**03 37 56.0**	**+0.6**
	0.8nm,0.5s,baz=148,slow=7.7,SNR=9.9							
	0.8nm,0.5s							

*IDC **10** 03:38:24.5±2.0, 0°.51S×125°.28E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=174.3km s-min=29.2km az=64.0*
*DJA **10** 03:38:29.4±0.3, 0°.5S±3"×12°.6E±°, h10km, M4.0/7, mb4.0/1, mbB6.4/1, MLv4.0/7, Mw(mB)6.1/1*
ISC 10 03:38:32.3±1.0, **0°42S**±0°.07×**125°.57E**±0°.05, **h57**km, **n10,** σ1**§43**/13, **mb3.1/3, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.67**	**166**	P	**Pn**	**03 38 58.5**	**-0.8**
SANI				S	**Sn**	**03 39 21.8**	**+2.2**
KMSI	**Cibinong**	**1.88**	**302**	S	**Sn**	**03 39 25.4**	**+0.8**
LBMI	**Labuha**	**1.94**	**96**	P	**Pn**	**03 39 02.4**	**-0.5**
LBMI				S	**Sn**	**03 39 27.9**	**+1.7**
GTOI	**Gorontalo**	**2.77**	**292**	P	**Pn**	**03 39 14.9**	**+0.6**
GTOI				S	Sn	03 39 53.6	+7.0
LUWI	**Luwuk**	**2.87**	**258**	P	**Pn**	**03 39 16.3**	**+0.7**
LUWI				S	**Sn**	**03 39 51.1**	**+2.1**
KRAI	**Karang Ratu**	**4.03**	**136**	P	**Pn**	**03 39 32.3**	**+0.8**
SPSI	**Sidrap Palu**	**6.78**	**239**	P	**Pn**	**03 40 07.5**	**-1.8**
WRA	**Warramunga Arr**	**21.21**	**157**	P	**P**	**03 43 12.5**	**-1.1**
	0.7nm,0.7s,baz=335,slow=11,SNR=10						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**24.48**	**161**	P	**P**	**03 43 45.7**	**-0.6**
	0.1nm,0.2s,baz=330,slow=9.4,SNR=1.2						
	0.1nm,0.2s						
MKAR	**Makanchi Array**	**60.34**	**327**	P	**P**	**03 48 34.6**	**-0.8**
	0.2nm,0.4s,baz=132,slow=8.0,SNR=2.9						
	0.2nm,0.4s						

*IDC **10** 03:40:16.3±2.2, 16°.61N×85°.07W, h0km, mb3.5/6, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=52.1km s-min=26.0km az=17.0*
*NEIC **10** 03:40:19.4±1.8, 16°.79N±0°.06×85°.12W±0°.04, h10km±2km, mb4.3/23, Error ellipse: s-maj=11.3km s-min=4.1km az=147.0*
ISC 10 03:40:18.5±0.6, **16°78N**±0°.06×**85°10W**±0°.07, **h10**km, **n57,** σ1**§26**/58, **mb4.0**/13, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**3.42**	**218**	Pn	**Pn**	**03 41 11.8**	**-0.3**
TGUH				Sn	**Sn**	**03 41 51.0**	**-1.8**
MATN	**Matagalpa**	**3.91**	**192**	Pn	**Pn**	**03 41 18.3**	**-0.5**
CRIN	**San Cristobal**	**4.47**	**205**	Pn	**Pn**	**03 41 26.6**	**+0.1**
CNGN	**Cerro Negro**	**4.53**	**200**	Pn	**Pn**	**03 41 26.7**	**-0.5**
TEIG	**Tepich**	**4.56**	**319**	Pn	**Pn**	**03 41 26.9**	**-0.8**
TEIG	**Tepich**	**4.56**	**319**	Pn	**Pn**	**03 41 27.1**	**-0.6**
	2µm,0.3s,baz=160,slow=1.1,SNR=381						
TEIG				Sn	**Sn**	**03 42 15.2**	**-5.6**
	1µm,0.3s,baz=191,slow=20,SNR=29						
ESPN	**Las Esperanzas**	**4.62**	**170**		**Pn**	**03 41 28.9**	**+0.4**
MTO3	**Montecristo**	**4.74**	**241**		**Pn**	**03 41 30.4**	**+0.1**
ACON	**Acoyapa**	**4.78**	**181**		**Pn**	**03 41 31.2**	**+0.5**
HZTE	**Horizontes, Gu**	**6.05**	**185**	Pn	**Pn**	**03 41 49.3**	**+1.2**
COVE	**Coope Vega, Sa**	**6.06**	**173**	Pn	**Pn**	**03 41 48.3**	**+0.1**
ARE1	**Arenal 1**	**6.29**	**177**	Pn	**Pn**	**03 41 53.6**	**+2.2**
SOR	**Soroa**	**6.30**	**18**	Pn	**Pn**	**03 41 52.2**	**+0.7**
SOCE	**Pocosol**	**6.37**	**176**	Pn	**Pn**	**03 41 53.4**	**+0.8**
ORTG	**Ortega, Santa**	**6.39**	**183**	Pn	**Pn**	**03 41 53.6**	**+0.7**
JTS	**Las Juntas de**	**6.45**	**179**	Pn	**Pn**	**03 41 53.9**	**+0.2**
CCIG	**Comitan**	**6.77**	**267**	Pn	**Pn**	**03 41 58.0**	**-0.2**
LCR2	**La Lucha 2**	**7.08**	**171**	Pn	**Pn**	**03 41 59.3**	**-3.1**
CAMR	**Camarioca**	**7.17**	**29**	Pn	**Pn**	**03 42 03.5**	**0.0**
MTDJ	**Mount Denham**	**7.36**	**78**	Pn	**Pn**	**03 42 05.2**	**-1.0**
STH	**Stony Hill**	**8.02**	**80**	*i* P	**Pn**	**03 42 14.1**	**-1.1**
HOJ	**Hope**	**8.07**	**80**	*i* P	**Pn**	**03 42 14.6**	**-1.2**
GWJ	**Greenwich**	**8.10**	**80**	*i* P	**Pn**	**03 42 15.3**	**-1.0**
CMIG	**Matias Romero**	**9.37**	**273**	Pn	**Pn**	**03 42 33.5**	**-0.2**
	1.3nm,0.3s,baz=73,slow=8.1,SNR=9.1						
	2.3nm,0.4s						
SDV	**Santo Domingo**	**16.13**	**117**	Pn	**Pn**	**03 44 06.2**	**+0.5**
SDV	**Santo Domingo**	**16.13**	**117**	Pn	**Pn**	**03 44 03.4**	**-2.3**
	0.4nm,0.3s,baz=206,slow=20,SNR=2.0						
	1.6nm,0.3s						
HKT	**Hockley**	**16.39**	**325**		**Pn**	**03 44 10.6**	**+1.9**
HNVL	**Huntsville, TX**	**16.83**	**328**	Pn	**Pn**	**03 44 14.0**	**-0.3**
HNVL				IAmb	IAmb	03 44 18.3	
	comp=Z,28nm,0.8s						
833A	**Chaparral WMA,**	**17.48**	**314**		**P**	**03 44 24.2**	**+0.5**
833A				IAmb	IAmb	03 44 25.6	
	comp=Z,30nm,0.8s						
435B	**Jarrell**	**18.00**	**323**		**Pn**	**03 44 29.7**	**+0.8**
435B				IAmb	IAmb	03 44 35.0	
	comp=Z,21nm,0.6s						
HNDO	**Hondo**	**18.17**	**317**		**Pn**	**03 44 30.6**	**-0.4**
TKL	**Tuckaleechee C**	**18.84**	**3**	P	**Pn**	**03 44 40.7**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=176,slow=16,SNR=2.5						
	comp=Z,2.8nm,0.8s						
WHTX	**Lake Whitney,**	**18.84**	**326**	P	**Pn**	**03 44 39.7**	**+0.5**
DRIO	**Del Rio**	**19.00**	**314**	P	**P**	**03 44 39.0**	**-1.5**
BRDY	**Brady**	**19.20**	**321**		**P**	**03 44 42.9**	**+0.2**
BRDY				IAmb	IAmb	03 44 59.4	
	comp=Z,10nm,0.6s						
PLPT	**Palo Pinto**	**19.94**	**326**	P	**Pn**	**03 44 52.6**	**+0.2**
OZNA	**Ozona**	**20.29**	**317**	P	**P**	**03 44 55.7**	**+1.1**
OZNA				IAmb	IAmb	03 45 12.5	
	comp=Z,14nm,0.7s						
SAND	**Sanderson**	**20.37**	**313**		**P**	**03 44 56.4**	**+0.9**
SAND				IAmb	IAmb	03 45 10.4	
	comp=Z,7.7nm,0.8s						
TXAR	**Lajitas Array**	**21.13**	**310**	P	**P**	**03 45 04.7**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=128,slow=10,SNR=16						
	comp=Z,2.0nm,0.6s						
TX31	**Lajitas Ar. Si**	**21.13**	**310**	P	**P**	**03 45 04.8**	**+1.1**
MCRA	**Macar, Loja**	**21.62**	**166**	P	**P**	**03 45 09.9**	**+0.9**
MNHN	**Monahans**	**21.64**	**315**	P	**P**	**03 45 09.7**	**+0.6**
MNHN				IAmb	IAmb	03 45 11.2	
	comp=Z,22nm,1.3s						
WMOK	**Wichita Mounta**	**21.68**	**328**	P	**P**	**03 45 11.2**	**+1.7**
WMOK				IAmb	IAmb	03 45 13.0	
	comp=Z,8.7nm,0.8s						
ALPN	**Alpine**	**21.68**	**312**	P	**P**	**03 45 10.8**	**+1.2**
PECS	**Pecos**	**22.41**	**314**	P	**P**	**03 45 17.5**	**0.0**
PECS				IAmb	IAmb	03 45 18.6	
	comp=Z,11nm,1.2s						
SMWD	**Samnorwood**	**22.72**	**326**	P	**P**	**03 45 20.3**	**-0.4**
VHRN	**Van Horn**	**22.87**	**311**	P	**P**	**03 45 22.4**	**0.0**
AMTX	**Amarillo**	**23.34**	**324**	P	**P**	**03 45 26.3**	**-0.9**
AMTX				IAmb	IAmb	03 45 28.5	
	comp=Z,12nm,0.8s						
RTBA	**Rita Blanca**	**25.06**	**325**	P	**P**	**03 45 43.3**	**0.0**
RTBA				IAmb	IAmb	03 45 46.8	
	comp=Z,6.1nm,1.2s						
ANMO	**Albuquerque**	**26.30**	**318**	P	**P**	**03 45 55.3**	**+0.7**
ANMO				IAmb	IAmb	03 45 58.1	
	comp=Z,4.6nm,1.2s						
PDAR	**Pinedale Array**	**33.26**	**326**	P	**P**	**03 46 56.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=124,slow=13,SNR=5.0						
	comp=Z,0.3nm,0.5s						
TPAW	**Teton Pass**	**34.49**	**326**	P	**P**	**03 47 07.5**	**+0.4**
TPAW				IAmb	IAmb	03 47 09.8	
	comp=Z,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**36.18**	**313**	P	**P**	**03 47 22.5**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=120,slow=7.8,SNR=4.5						
	comp=Z,1.4nm,0.8s						
YKA	**Yellowknife Ar**	**50.12**	**343**	P	**P**	**03 49 14.4**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=138,slow=7.6,SNR=2.2						
	comp=Z,0.1nm,0.6s						
ILAR	**Eielson Array**	**63.04**	**335**	P	**P**	**03 50 46.0**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=105,slow=5.1,SNR=6.6						
	comp=Z,0.6nm,0.9s						
ESDC	**Sonseca Array**	**72.76**	**53**	P	**P**	**03 51 47.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=282,slow=6.7,SNR=1.7						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**142.85**	**253**	PKhKP	PKPpre	03 59 48.5	
	comp=Z,0.5nm,0.7s,baz=92,slow=3.8,SNR=4.8						

*IDC **10** 03:43:04.5±1.1, 34°.38N×25°.41E, h0km, mb3.6/5, mbtmp3.6/10, ML3.8/4, Error ellipse: s-maj=30.6km s-min=18.7km az=155.0*
*ISK **10** 03:43:08.5, 34°.46N×25°.38E, h20km, ML3.4/20*
*THE **10** 03:43:09.3, 34°.40N×25°.28E, h0km±1km, ML3.2/4, Error ellipse: s-maj=3.4km s-min=0.8km az=169.0*
*ATH **10** 03:43:12.0, 34°.55N×25°.30E, h27km±2km, ML3.3/8, Error ellipse: s-maj=4.9km s-min=1.5km az=356.0*
ISC 10 03:43:07.9±1.5, **34°27N**±0°.06×**25°.40E**±0°.03, **h27**km±12km, **n86,** σ1**§54**/84, **mb3.6**/5, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.79**	**20**	P	**Pn**	**03 43 24.5**	**+1.3**
FRMA				S	**Sn**	**03 43 37.0**	**+2.8**
	1µm,0.5s						
FRMA	**Ierapetra Chan**	**0.79**	**20**	P	**Pn**	**03 43 24.3**	**+1.0**
FRMA				S	**Sn**	**03 43 33.5**	**-0.6**
FRMA				AML	AML	03 43 43.7	
	comp=N,6819µm,0.4s						
FRMA				AML	AML	03 43 44.4	
	comp=E,6987µm,0.5s						
TMBK	**Timbaki Herakl**	**0.96**	**327**	P	**Pn**	**03 43 25.4**	**-0.1**
IACM	**Heraklion**	**1.07**	**345**	P	**Pb**	**03 43 27.3**	**-0.4**
ZKR	**Zakros**	**1.07**	**38**	Pg	**Pb**	**03 43 27.6**	**-0.2**
ZKR	**Zakros**	**1.07**	**38**	P	**Pb**	**03 43 29.0**	**+1.2**
ZKR				S	**Sn**	**03 43 45.3**	**+4.0**
	comp=E,1µm,0.7s						
ZKR	**Zakros**	**1.07**	**38**	P	**Pb**	**03 43 28.9**	**+1.0**
ZKR				AML	AML	03 43 49.6	
	comp=E,4162µm,0.5s						
ZKR				AML	AML	03 43 52.2	
	comp=N,1678µm,0.6s						
IDI	**Anoyia**	**1.10**	**337**	Pg	**Pn**	**03 43 26.9**	**-0.7**
IDI				Sg	**Sb**	**03 43 39.9**	**-2.3**
IDI	**Anoyia**	**1.10**	**337**	P	**Pn**	**03 43 27.4**	**-0.2**
IDI				S	**Sn**	**03 43 41.3**	**-0.6**
	comp=N,2µm,0.6s						
IDI	**Anoyia**	**1.10**	**337**	P	**Pn**	**03 43 27.3**	**-0.2**
IDI				AML	AML	03 43 44.3	
	comp=N,3476µm,0.6s						
IDI				AML	AML	03 43 44.4	
	comp=E,4239µm,0.7s						
GVD	**Gavdhos**	**1.23**	**298**	Pn	**Pb**	**03 43 29.6**	**-0.8**
GVD	**Gavdhos**	**1.23**	**298**	P	**Pb**	**03 43 30.2**	**-0.2**
GVD	**Gavdhos**	**1.23**	**298**	P	**Pb**	**03 43 30.1**	**-0.3**
GVD				AML	AML	03 43 57.0	
	comp=E,4000µm,0.6s						
GVD				AML	AML	03 44 01.8	
	comp=N,3565µm,0.5s						
GVDS	**Gavdos**	**1.23**	**298**	Pn	**Pb**	**03 43 30.2**	**-0.2**
GVDS	**Gavdos**	**1.23**	**298**	P	**Pb**	**03 43 30.2**	**-0.2**
GVDS				S	**Sb**	**03 43 46.9**	**+1.1**
	comp=N,1µm,0.5s						
IMMV	**Iera Moni Meta**	**1.67**	**316**	Pn	**Pn**	**03 43 35.6**	**+0.3**
IMMV				Sn	**Sn**	**03 43 55.1**	**-0.7**
IMMV	**Iera Moni Meta**	**1.67**	**316**	P	**Pn**	**03 43 36.0**	**+0.7**
IMMV	**Iera Moni Meta**	**1.67**	**316**	P	**Pn**	**03 43 35.9**	**+0.7**
IMMV				AML	AML	03 44 08.7	
	comp=E,2982µm,1.1s						
IMMV				AML	AML	03 44 21.0	
	comp=N,2071µm,0.7s						
CHAN	**Chania**	**1.67**	**318**	P	**Pn**	**03 43 34.6**	**-0.8**
CHAN				AML	AML	03 44 13.8	
	comp=E,1794µm,0.7s						
CHAN				AML	AML	03 44 15.0	
	comp=N,1661µm,0.8s						
RODP	**Rodopos**	**1.87**	**314**	Pn	**Pn**	**03 43 38.4**	**+0.3**
KARP	**Karpathos**	**1.93**	**48**	Pn	**Pn**	**03 43 39.7**	**+0.8**
KARP	**Karpathos**	**1.93**	**48**	P	**Pb**	**03 43 41.8**	**-0.5**
KARP	**Karpathos**	**1.93**	**48**	P	**Pb**	**03 43 41.5**	**-0.7**
KARP				AML	AML	03 44 31.2	
	comp=N,1229µm,0.8s						
KARP				AML	AML	03 44 35.4	
	comp=E,1264µm,0.9s						
THR6	**Thira Island,**	**2.08**	**360**	P	**Pn**	**03 43 42.1**	**+1.1**
THR6	**Thira Island,**	**2.08**	**360**	P	**Pn**	**03 43 40.7**	**-0.3**
SNT5	**Nea Kammeni, S**	**2.13**	**360**	P	**Pn**	**03 43 41.2**	**-0.4**
SNT5				AML	AML	03 44 18.4	
	comp=E,1248µm,0.7s						
SNT5				AML	AML	03 44 20.8	
	comp=N,784µm,0.6s						
THR3	**Thira Island,**	**2.13**	**360**	P	**Pn**	**03 43 42.4**	**+0.7**
THR3	**Thira Island,**	**2.13**	**360**	P	**Pn**	**03 43 42.0**	**+0.3**
THR5	**Thira Island,**	**2.14**	**359**	P	**Pn**	**03 43 42.1**	**+0.2**
ANKY	**Antikythira Is**	**2.35**	**313**	P	**Pn**	**03 43 45.4**	**+0.8**
APE	**Apeiranthos**	**2.79**	**2**	Pn	**Pn**	**03 43 50.4**	**-0.5**
APE	**Apeiranthos**	**2.79**	**2**	P	**Pn**	**03 43 50.6**	**-0.2**
ARG	**Arkhangelos**	**2.95**	**48**	Pn	**Pn**	**03 43 54.7**	**+1.7**
ARG	**Arkhangelos**	**2.95**	**48**	P	**Pn**	**03 43 55.1**	**+2.1**
DAT	**Datca**	**3.03**	**35**	Pn	**Pn**	**03 43 54.7**	**+0.6**
DATC	**Datca-Mugla**	**3.09**	**36**	Pn	**Pn**	**03 43 55.9**	**+1.0**
VLI	**Veliai**	**3.16**	**321**	P	**Pn**	**03 43 55.6**	**-0.3**
BODT	**Bodrum**	**3.19**	**29**	Pn	**Pn**	**03 43 56.7**	**+0.5**
RFTAA	**Mazikoy-Bodrum**	**3.32**	**34**	Pn	**Pn**	**03 43 59.1**	**+1.0**
TURN	**Turunc**	**3.41**	**42**	Pn	**Pn**	**03 44 00.1**	**+0.9**
MLSB	**Milas**	**3.58**	**32**	Pn	**Pn**	**03 44 02.6**	**+0.9**
KRND	**KRANIDI**	**3.60**	**330**	P	**Pn**	**03 44 01.6**	**-0.3**
DALY	**Dalyan (Mula)**	**3.67**	**45**	Pn	**Pn**	**03 44 04.6**	**+1.8**
YER	**Yerkesik**	**3.69**	**39**	Pn	**Pn**	**03 44 04.6**	**+1.3**
GCAM	**G?zelcaml?**	**3.73**	**23**	Pn	**Pn**	**03 44 04.8**	**+1.2**
FETY	**Fethiye**	**3.82**	**51**	Pn	**Pn**	**03 44 05.6**	**+0.7**
KSL	**Kastellorizon**	**3.90**	**60**	P	**Pn**	**03 44 07.0**	**+0.9**
DION	**Dionisos Attik**	**3.98**	**343**	P	**Pn**	**03 44 07.7**	**+0.5**
CAME	**Cameli-Denizli**	**4.15**	**49**	Pn	**Pn**	**03 44 10.5**	**+1.0**
VIL2	**Platees**	**4.29**	**337**	P	**Pn**	**03 44 10.2**	**-1.2**
GUR	**Goura**	**4.42**	**327**	P	**Pn**	**03 44 12.4**	**-0.9**
ELL	**Elmali**	**4.43**	**55**	Pn	**Pn**	**03 44 14.6**	**+1.2**
APMY	**Acipayam-Deniz**	**4.50**	**44**	Pn	**Pn**	**03 44 15.2**	**+0.9**
KLV	**Kalavryta, Ach**	**4.59**	**326**	P	**Pn**	**03 44 14.7**	**-0.9**
CSS	**Mathiatis**	**6.57**	**82**	P	**Pn**	**03 44 43.5**	**+0.7**
OFRI	**`Ofer**	**8.17**	**99**	P	**Pn**	03 45 11.7	+6.9
HNTI	**Hanita**	**8.23**	**96**	P	**Pn**	03 45 12.0	+6.5
HNTI				S	**Sn**	**03 46 32.7**	**-4.9**
KZIT	**Kziot**	**8.30**	**111**	P	**Pn**	**03 45 08.7**	**+2.3**
SLTI	**Sal'it**	**8.32**	**101**	P	**Pn**	03 45 13.4	+6.6
MMA0	**Mount Meron ar**	**8.43**	**96**	P	**Pn**	03 45 15.4	+7.1
MMAI	**Mount Meron Ar**	**8.43**	**96**	Pn	**Pn**	**03 45 08.1**	**-0.2**
	comp=N,1.5nm,0.3s,baz=272,slow=11,SNR=9.8						
MMAI				Sn	Sn	03 46 36.2	-6.5
	comp=N,5.8nm,0.3s,baz=266,slow=26,SNR=12						
	comp=N,0.5nm,0.2s						
AMAZ	**Amatzia**	**8.45**	**106**	P	Pn	03 45 16.2	+7.6
BRTR	**Keskin Array B**	**8.54**	**48**	Pn	**Pn**	**03 45 08.8**	**-1.2**
	comp=N,0.4nm,0.5s,baz=235,slow=15,SNR=2.4						
BRTR				Sn	**Sn**	**03 46 40.0**	**-5.5**
	comp=N,0.1nm,0.3s,baz=319,slow=17,SNR=1.7						
NATI	**Neve Ativ**	**8.66**	**94**	P	Pn	03 45 16.5	+5.1
YTIR	**Yattir**	**8.67**	**107**	P	Pn	03 45 18.2	+6.5
HMDT	**Nahal Hemdat**	**8.71**	**101**	P	Pn	03 45 18.5	+6.4
QRNJ	**Al-Qirein**	**8.73**	**100**	P	Pn	03 45 18.9	+6.6
SHMJ	**Saham**	**8.79**	**97**	P	Pn	03 45 20.2	+7.0
DSI	**Dead Sea**	**8.81**	**105**	P	Pn	03 45 22.0	+8.6
LISJ	**El Lisan**	**9.01**	**107**	P	**Pn**	**03 45 18.5**	**+2.4**
PRNI	**Paran**	**9.01**	**113**	P	**Pn**	**03 45 18.0**	**+1.7**
ZFRI	**Zfri**	**9.05**	**111**	P	**Pn**	**03 45 17.7**	**+0.9**
KARJ	**KARJ**	**9.19**	**107**	P	**Pn**	**03 45 20.4**	**+1.7**
HRFI	**Mount Harif**	**9.19**	**115**	P	**Pn**	**03 45 20.7**	**+2.0**
MBRI	**Mt Berech**	**9.22**	**116**	P	**Pn**	**03 45 20.9**	**+1.7**
EIL	**Elat**	**9.31**	**117**	P	**Pn**	**03 45 20.9**	**+0.6**
	comp=N,0.6nm,0.3s,baz=298,slow=2.2,SNR=14						
EIL				Sn	Sn	03 46 59.5	-4.8
	comp=N,1.8nm,0.3s,baz=303,slow=23,SNR=7.3						
	comp=N,1.4nm,0.3s						
EIL	**Elat**	**9.31**	**117**	P	**Pn**	**03 45 21.6**	**+1.2**
ASF	**Jabal al Asfar**	**9.85**	**99**	Sn	**Sn**	**03 47 14.1**	**-3.5**
	comp=N,0.5nm,0.3s,baz=48,slow=24,SNR=2.3						
ASF	**Jabal al Asfar**	**9.85**	**99**	P	**Pn**	**03 45 32.6**	**+4.8**
KBZ	**Khabaz**	**16.53**	**50**	Pn	**P**	**03 47 00.0**	**0.0**
	comp=N,0.1nm,0.3s,baz=246,slow=2.2,SNR=6.2						
	comp=N,6.0nm,0.9s						
AKASG	**Malin Array Be**	**16.66**	**8**	Pn	**Pn**	**03 46 58.9**	**-0.3**
	comp=N,1.3nm,0.3s,baz=200,slow=10,SNR=9.1						
	comp=N,0.2nm,0.3s						
ESDC	**Sonseca Array**	**24.02**	**292**	P	**P**	**03 48 20.0**	**-0.5**
	comp=N,0.8nm,0.8s,baz=85,slow=9.0,SNR=4.2						
	comp=N,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.08**	**231**	P	**P**	**03 49 16.6**	**+1.4**
	comp=N,0.4nm,0.3s,baz=33,slow=9.2,SNR=16						
	comp=N,0.4nm,0.3s						
MKAR	**Makanchi Array**	**44.10**	**56**	P	**P**	**03 51 14.0**	**+0.3**
	comp=N,0.4nm,0.7s,baz=271,slow=6.4,SNR=4.8						
	comp=N,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**45.48**	**46**	P	**P**	**03 51 23.9**	**-0.7**
	comp=N,0.6nm,0.3s,baz=262,slow=9.7,SNR=2.2						
	comp=N,0.6nm,0.3s						
SONM	**

SDV					IAmb	IAmb	04 04 07.4		
	comp=Z,10nm,1.1s								
SDV	**Santo Domingo**	**15.24**	**122**	Pn	**Pn**		**04 03 58.5**	**-1.2**	
	comp=Z,1.3nm,0.3s,baz=330,slow=9.8,SNR=7.9								
	comp=Z,6.2nm,0.5s								
OXF	**Oxford**	**17.79**	**344**		**Pn**		**04 04 31.1**	**-0.8**	
OXF					IAmb	IAmb	04 04 34.1		
	comp=Z,29nm,0.9s								
OTAV	**Otavalo**	**17.82**	**163**	Pn	**Pn**		**04 04 30.6**	**-2.2**	
PLAL	**Pickwick Lake**	**17.94**	**348**		**Pn**		**04 04 33.3**	**-0.4**	
PLAL					IAmb	IAmb	04 04 35.9		
	comp=Z,14nm,0.9s								
833A	**Chaparral WMA,**	**18.10**	**310**		**Pn**		**04 04 35.9**	**+0.1**	
833A					IAmb	IAmb	04 04 41.2		
	comp=Z,31nm,1.4s								
TKL	**Tuckaleechee C**	**18.17**	**360**	P	**P**		**04 04 36.6**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=206,slow=4.0,SNR=6.1								
	comp=Z,1.0nm,0.4s								
V48A	**Smith Brothers**	**18.47**	**352**		**P**		**04 04 39.8**	**-0.2**	
HNDO	**Hondo**	**18.71**	**313**		**P**		**04 04 40.9**	**-1.9**	
HNDO					IAmb	IAmb	04 04 48.2		
	comp=Z,16nm,1.2s								
WVT	**Waverly**	**19.01**	**350**		**P**		**04 04 46.0**	**0.0**	
CHSH	**Refugio Sur-Vo**	**19.37**	**165**	P	**P**		**04 04 50.6**	**0.0**	
CHSH					IAmb	IAmb	04 04 60.0		
	comp=Z,21nm,0.9s								
DRIO	**Del Rio**	**19.60**	**311**		**P**		**04 04 52.2**	**-0.3**	
BRDY	**Brady**	**19.62**	**318**	P	**P**		**04 04 51.7**	**-1.0**	
BRDY					IAmb	IAmb	04 05 01.4		
	comp=Z,7.3nm,0.8s								
T47A	**Sharon Grove**	**19.74**	**352**	Pn	**Pn**		**04 04 55.4**	**-0.1**	
T47A					IAmb	IAmb	04 04 56.6		
	comp=Z,16nm,1.1s								
LCAR	**Lake Charles**	**19.74**	**342**	P	**P**		**04 04 53.6**	**-0.4**	
PLPT	**Palo Pinto**	**20.25**	**322**	Pn	Pn		04 05 00.8	-0.8	
PLPT					IAmb	IAmb	04 05 11.3		
	comp=Z,6.6nm,0.6s								
S44A	**Carbondale**	**20.80**	**347**	P	**P**		**04 05 05.0**	**-0.4**	
R50A	**Paris**	**20.80**	**358**	P	**P**		**04 05 04.1**	**-1.4**	
R50A					IAmb	IAmb	04 05 08.8		
	comp=Z,11nm,0.8s								
SIUC	**Southern Illin**	**20.81**	**347**	P	**P**		**04 05 04.0**	**-1.5**	
OZNA	**Ozona**	**20.82**	**313**		**P**		**04 05 05.2**	**-0.6**	
OZNA					IAmb	IAmb	04 05 10.1		
	comp=Z,9.9nm,1.0s								
HHAR	**Hobbs**	**20.89**	**336**	P	**P**		**04 05 06.3**	**-0.2**	
HHAR					IAmb	IAmb	04 05 09.5		
	comp=Z,13nm,1.3s								
SAND	**Sanderson**	**20.99**	**310**		**P**		**04 05 08.2**	**+0.5**	
MGMO	**Mountain Grove**	**21.08**	**341**	P	**P**		**04 05 07.0**	**-1.5**	
FVM	**French Village**	**21.34**	**345**	P	**P**		**04 05 11.1**	**-0.2**	
FVM					IAmb	IAmb	04 05 26.6		
	comp=Z,16nm,1.2s								
Q51A	**Peebles**	**21.54**	**1**	P	**P**		**04 05 12.0**	**-1.4**	
Q51A					IAmb	IAmb	04 05 16.6		
	comp=Z,20nm,1.0s								
OLIL	**Olney**	**21.60**	**351**	P	**P**		**04 05 13.9**	**-0.1**	
CCM	**Cathedral Cave**	**21.62**	**344**	P	**P**		**04 05 13.7**	**-0.6**	
CCM					IAmb	IAmb	04 05 19.3		
	comp=Z,14nm,0.8s								
TXAR	**Lajitas Array**	**21.83**	**307**	P	**P**		**04 05 17.7**	**+0.9**	
	comp=Z,0.9nm,0.8s,baz=122,slow=12,SNR=7.8								
	comp=Z,0.9nm,0.8s								
WMOK	**Wichita Mounta**	**21.92**	**325**	P	**P**		**04 05 17.6**	**+0.1**	
Q44A	**Meyer Farm, Va**	**21.92**	**349**	P	**P**		**04 05 18.2**	**+0.7**	
S39A	**Bolivar**	**21.92**	**339**	P	**P**		**04 05 17.6**	**+0.1**	
S39A					IAmb	IAmb	04 05 23.1		
	comp=Z,12nm,1.0s								
MCRA	**Macar, Loja**	**21.95**	**170**	P	**P**		**04 05 18.5**	**+0.5**	
P52A	**Corning**	**22.18**	**3**	P	**P**		**04 05 21.4**	**+1.1**	
P52A					IAmb	IAmb	04 05 22.4		
	comp=Z,19nm,0.9s								
ALPN	**Alpine**	**22.33**	**309**	P	**P**		**04 05 23.0**	**+0.9**	
POST	**Post**	**22.39**	**317**	P	**P**		**04 05 21.8**	**-0.9**	
P40A	**Paris**	**23.22**	**343**	P	**P**		**04 05 32.3**	**+1.1**	
P40A					IAmb	IAmb	04 05 39.3		
	comp=Z,13nm,1.2s								
P38A	**Dawn**	**23.74**	**341**	P	**P**		**04 05 34.1**	**-2.3**	
P38A					IAmb	IAmb	04 05 50.8		
	comp=Z,13nm,1.3s								
M53A	**WI Miller and**	**24.08**	**5**	P	**P**		**04 05 39.3**	**-0.3**	
CZSB	**Cruzeiro do Su**	**27.22**	**156**	P	**P**		**04 06 06.2**	**-2.0**	
SADO	**Sadowa**	**27.54**	**7**	P	**P**		**04 06 15.4**	**+4.7**	
	comp=Z,5.3nm,0.8s,baz=195,slow=12,SNR=4.4								
SAML	**Samuel**	**33.09**	**141**	P	**P**		**04 06 59.4**	**-0.9**	
PDAR	**Pinedale Array**	**33.53**	**324**	P	**P**		**04 07 05.5**	**+1.4**	
	comp=Z,0.5nm,0.9s,baz=119,slow=8.6,SNR=3.9								
	comp=Z,0.5nm,0.9s								
ULM	**Lac du Bonnet**	**34.20**	**346**	P	**P**		**04 07 09.8**	**+0.2**	
	comp=Z,3.3nm,0.7s,baz=160,slow=8.5,SNR=5.5								
	comp=Z,3.3nm,0.7s								
NVAR	**Mina Array Bea**	**36.78**	**312**	P	**P**		**04 07 33.5**	**+1.3**	
	comp=Z,0.7nm,0.8s,baz=97,slow=7.4,SNR=1.9								
	comp=Z,0.7nm,0.8s								
SCHQ	**Schefferville**	**39.52**	**15**	P	**P**		**04 07 55.7**	**+1.0**	
	comp=Z,4.9nm,0.8s,baz=214,slow=7.1,SNR=6.6								
	comp=Z,4.9nm,0.8s								
FRB	**Frobisher Bay**	**47.44**	**9**	P	**P**		**04 08 58.5**	**+0.1**	
	comp=Z,2.5nm,0.8s,baz=217,slow=7.6,SNR=6.8								
	comp=Z,2.5nm,0.8s								
BDFB	**Brasilia**	**48.09**	**131**	P	**P**		**04 09 05.1**	**+0.9**	
	comp=Z,3.6nm,0.9s,baz=281,slow=12,SNR=5.3								
	comp=Z,3.6nm,0.9s								
YKA	**Yellowknife Ar**	**49.94**	**342**	P	**P**		**04 09 18.1**	**+0.4**	
	comp=Z,0.5nm,0.8s,baz=133,slow=8.0,SNR=9.4								
	comp=Z,0.5nm,0.8s								
PLCA	**Paso Flores**	**59.11**	**168**	P	**P**		**04 10 24.9**	**+0.3**	
	comp=Z,1.9nm,0.9s,baz=14,slow=7.4,SNR=3.6								
	comp=Z,1.9nm,0.9s								
ILAR	**Eielson Array**	**63.06**	**335**	P	**P**		**04 10 52.5**	**+1.4**	
	comp=Z,1.7nm,0.8s,baz=108,slow=5.0,SNR=28								
	comp=Z,1.7nm,0.8s								
ESDC	**Sonseca Array**	**71.27**	**53**	P	**P**		**04 11 45.2**	**+1.4**	
	comp=Z,0.7nm,0.9s,baz=272,slow=7.6,SNR=2.8								
	comp=Z,0.7nm,0.9s								
WRA	**Warramunga Arr**	**143.97**	**260**	PKP		**PKPdf**	**04 20 00.1**	**-0.3**	
	comp=Z,0.4nm,0.8s,baz=88,slow=3.7,SNR=3.0								
ASAR	**Alice Springs**	**144.36**	**254**	PKP		**PKPdf**	**04 20 00.8**	**-0.2**	
	comp=Z,0.9nm,0.8s,baz=109,slow=4.4,SNR=6.5								

*MDD **10** 04:01:00.8±1.3,36°.17N×2°.93E,h13km±13km,Mb4.2/7, M_mb3.5/7,Error ellipse: s-maj=14.5km s-min=5.4km az=172.0*

ISC 10 04:01:01.7±2.8,36°.4N±0°.2×2°.88E±0°.07,h10km,n13, σ1°82/25,6C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EIBI	**Ibiza**	**2.88**	**335**	Pn		**Pn**	**04 01 49.4**	**+1.7**
EIBI				Sn		**Sn**	**04 02 22.4**	**0.0**
EIBI	**Ibiza**	**2.88**	**335**	Pn		**Pn**	**04 01 49.3**	**+1.6**
EIBI				↑↑*i*Vmb_V			04 01 57.7	
	459nm,SNR=1.0							
EIBI				Sn		**Sn**	**04 02 23.0**	**+0.6**
EBEN2	**Beniarda presa**	**3.33**	**314**	Pn		**Pn**	**04 01 52.9**	**-1.0**
EBEN2				↑*i*Vmb_V			04 02 02.4	
	487nm,SNR=1.3							
EBEN2				Sn		**Sn**	**04 02 34.0**	**+0.4**
ETOS	**Mallorca**	**3.35**	**359**	Pn		**Pn**	**04 01 56.1**	**+2.0**
ETOS				Sn		**Sn**	**04 02 34.4**	**+0.3**
ETOS	**Mallorca**	**3.35**	**359**	Pn		**Pn**	**04 01 55.0**	**+0.8**
ETOS				Sn		**Sn**	**04 02 34.8**	**+0.7**
EMUR	**La Murta**	**3.59**	**295**	Pn		**Pn**	**04 01 58.1**	**+0.6**
ETOB	**Tobarra**	**4.17**	**304**	Pn		**Pn**	**04 02 06.6**	**+1.2**
ETOB				Sn		**Sn**	**04 02 57.1**	**+2.9**
ETOB	**Tobarra**	**4.17**	**304**	Pn		**Pn**	**04 02 06.7**	**+1.2**
ETOB				↑↑*i*Vmb_V			04 02 15.2	
	226nm,SNR=1.6							
ETOB				Sn		**Sn**	**04 02 52.8**	**-1.4**
EVIV	**Cofrentes, Val**	**4.26**	**313**	↑*i*Vmb_V			04 02 06.9	
	198nm,SNR=1.3							
EVIV				Pn		**Pn**	**04 02 07.3**	**+0.7**
EVIV				Sn		**Sn**	**04 02 56.5**	**0.0**
ECHE	**Chera**	**4.40**	**317**	Pn		**Pn**	**04 02 09.3**	**+0.8**
ECHE				↑↑*i*Vmb_V			04 02 17.3	
	224nm,SNR=1.5							
ECHE				Sn		**Sn**	**04 02 59.6**	**-0.2**
EMOS	**Mosqueruela**	**4.75**	**327**	Pn		**Pn**	**04 02 12.3**	**-1.1**
EMOS				↑↑*i*Vmb_V			04 02 18.7	
	190nm,SNR=1.2							
EMOS				Sn		**Sn**	**04 03 07.1**	**-1.6**
EQES	**Quesada**	**4.96**	**288**	Pn		**Pn**	**04 02 16.4**	**+0.2**
EQES				Sn		**Sn**	**04 03 08.9**	**-4.8**
VSL	**Villasalto**	**5.99**	**57**	Pn		**Pn**	**04 02 27.6**	**-2.8**
VSL				Sn		**Sn**	**04 03 35.6**	**-3.4**

*IDC **10** 04:03:07.5±1.9, 17°.73N×83°.55W, h0km, mb3.2/3, mbtmp3.4/4, ML3.8/2, Error ellipse: s-maj=100.5km s-min=30.0km az=34.0*

ISC 10 04:03:09.8±1.2, 17°.6N±0°.5×83°.6W±0°.3, h18km, n7, σ0°.82/8, mb3.2/3, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEIG	**Tepich**	**5.13**	**301**	Pn		**Pn**	**04 04 25.3**	**-0.4**
	29nm,0.3s,baz=151,slow=3.7,SNR=2.2							
TEIG				Sn		**Sn**	**04 05 23.8**	**-0.6**
	35nm,0.3s,baz=176,slow=22,SNR=2.2							
SDV	**Santo Domingo**	**15.31**	**123**	Pn		**Pn**	**04 06 44.7**	**-0.7**
	0.5nm,0.3s,baz=342,slow=4.8,SNR=3.6							
	3.1nm,0.7s							
TXAR	**Lajitas Array**	**21.75**	**306**	P		**P**	**04 08 00.9**	**+0.3**
	0.4nm,0.9s,baz=118,slow=11,SNR=2.1							
	0.4nm,0.9s							
NVAR	**Mina Array Bea**	**36.68**	**312**	P		**P**	**04 10 16.6**	**+0.7**
	0.1nm,0.2s,baz=112,slow=12,SNR=1.6							
	0.1nm,0.2s							
ILAR	**Eielson Array**	**62.91**	**335**	P		**P**	**04 13 34.5**	**-0.2**
	0.5nm,0.8s,baz=107,slow=5.7,SNR=4.4							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**144.03**	**260**	PKP		**PKPdf**	**04 22 46.5**	**+1.3**
	0.4nm,0.7s,baz=90,slow=3.3,SNR=2.7							
ASAR	**Alice Springs**	**144.44**	**254**	PKP		**PKPdf**	**04 22 45.7**	**-0.2**
	1.3nm,0.7s,baz=102,slow=3.6,SNR=5.7							

*IDC **10** 04:11:07.4±0.6, 55°.20N×165°.68E, h0km, mb4.2/30, mbtmp4.3/35, ML4.5/6, Error ellipse: s-maj=14.7km s-min=9.3km az=0.0*
*KRSC **10** 04:11:08.7±2.5, 55°.09N×165°.61E, h39km±15km, Ml5.0, Felt [V] at Nikolskoe.*
*NEIC **10** 04:11:09.5±1.7, 55°.2N±0°.1×165°.7E±0°.1, h10km±1km, mb4.7/167, Error ellipse: s-maj=23.1km s-min=12.6km az=176.0*
*MOS **10** 04:11:10.4±1.0, 55°.14N×165°.76E, h35km, mb4.7/26, Error ellipse: s-maj=5.7km s-min=5.1km az=104.3*

ISC 10 04:11:11.4±0.8, 55°.15N±0°.05×165°.72E±0°.04, h28km±5km, n338, σ1°17/331, mb4.6/130, 6C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.16**	**69**	PN		**Pb**	**04 11 16.7**	**-0.3**
BKI				S		**Sb**	**04 11 20.7**	**0.0**
BKI	**Bering**	**0.16**	**69**	*e*P		**Pb**	**04 11 16.7**	**-0.3**
BKI				*e*S		**Sb**	**04 11 20.7**	**0.0**
KBTR	**Krutoberegovo**	**1.96**	**304**	PN		**Pn**	**04 11 40.8**	**-1.9**
KBTR				S		**Sn**	**04 12 03.6**	**-2.6**
KBTR	**Krutoberegovo**	**1.96**	**304**	*e*P		**Pn**	**04 11 40.8**	**-1.9**
KBTR				*e*S		**Sn**	**04 12 03.6**	**-2.6**
KBG	**Krutoberegovo**	**2.03**	**304**	PN		**Pn**	**04 11 42.0**	**-1.7**
KBG				S		**Sn**	**04 12 05.9**	**-2.2**
KBG	**Krutoberegovo**	**2.03**	**304**	*e*P		**Pn**	**04 11 42.0**	**-1.7**
KBG				*e*S		**Sn**	**04 12 05.9**	**-2.2**
SMKR	**Semkarok**	**2.79**	**303**	PN		**Pn**	**04 11 54.3**	**+0.1**
SMKR	**Semkarok**	**2.79**	**303**	*e*P		**Pn**	**04 11 54.3**	**+0.1**
BDR	**Baidarnaya**	**2.91**	**301**	PN		**Pn**	**04 11 56.0**	**+0.1**
BDR	**Baidarnaya**	**2.91**	**301**	*e*P		**Pn**	**04 11 56.0**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.96**	**288**	PN		**Pn**	**04 11 56.9**	**+0.3**
BZGR				S		**Sn**	**04 12 33.0**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**2.96**	**288**	*e*P		**Pn**	**04 11 56.9**	**+0.3**
BZGR				*e*S		**Sn**	**04 12 33.0**	**+1.8**
SRKR	**Sorokina**	**2.97**	**302**	PN		**Pn**	**04 11 57.2**	**+0.5**
SRKR	**Sorokina**	**2.97**	**302**	*e*P		**Pn**	**04 11 57.2**	**+0.5**
CIRR	**Tsirk**	**2.98**	**291**	PN		**Pn**	**04 11 57.3**	**+0.4**
CIRR	**Tsirk**	**2.98**	**291**	*e*P		**Pn**	**04 11 57.3**	**+0.4**
BZP	**Bezymyannyi-Pe**	**3.04**	**287**	*e*P		**Pn**	**04 11 59.1**	**+1.3**
TUMD	**Tumrok D**	**3.05**	**273**	*e*P		**Pn**	**04 11 57.9**	**+0.1**
TUMD				*e*S		**Sn**	**04 12 34.8**	**+1.5**
BZMR	**Bezymyannaya**	**3.07**	**287**	PN		**Pn**	**04 11 59.6**	**+1.5**
BZMR	**Bezymyannaya**	**3.07**	**287**	*e*P		**Pn**	**04 11 59.6**	**+1.5**
BZWR	**Bezymyannyi-We**	**3.08**	**288**	PN		**Pn**	**04 11 59.9**	**+1.7**
BZWR	**Bezymyannyi-We**	**3.08**	**288**	*e*P		**Pn**	**04 11 59.9**	**+1.7**
KLY	**Klyuchi**	**3.09**	**294**	PN		**Pn**	**04 11 57.0**	**-1.3**
KLY				S		**Sn**	**04 12 32.4**	**-1.8**
KLY	**Klyuchi**	**3.09**	**294**	*e*P		**Pn**	**04 11 57.0**	**-1.3**
KLY				*e*S		**Sn**	**04 12 32.4**	**-1.8**
KIRR	**Kirishev**	**3.16**	**287**	PN		**Pn**	**04 12 01.3**	**+1.9**
KIRR	**Kirishev**	**3.16**	**287**	*e*P		**Pn**	**04 12 01.3**	**+1.9**
KMNR	**Kamenistaya**	**3.18**	**283**	PN		**Pn**	**04 12 01.7**	**+2.1**
KMNR				S		**Sn**	**04 12 39.9**	**+3.3**
KMNR	**Kamenistaya**	**3.18**	**283**	*e*P		**Pn**	**04 12 01.7**	**+2.1**
KMNR				*e*S		**Sn**	**04 12 39.9**	**+3.3**
TUMR	**Tumrok**	**3.19**	**275**	PN		**Pn**	**04 12 01.6**	**+1.8**
TUMR	**Tumrok**	**3.19**	**275**	*e*P		**Pn**	**04 12 01.6**	**+1.8**
KPT	**Kopyto**	**3.23**	**287**	PN		**Pn**	**04 12 02.1**	**+1.9**
KPT	**Kopyto**	**3.23**	**287**	*e*P		**Pn**	**04 12 02.1**	**+1.9**
KOZ	**Kozyrevsk**	**3.44**	**288**	PN		**Pn**	**04 12 04.7**	**+1.7**
KOZ	**Kozyrevsk**	**3.44**	**288**	*e*P		**Pn**	**04 12 04.7**	**+1.7**
SRDR	**Sredinnyy**	**3.59**	**291**	PN		**Pn**	**04 12 07.2**	**+2.0**
SRDR	**Sredinnyy**	**3.59**	**291**	*e*P		**Pn**	**04 12 07.2**	**+2.0**
KII	**Karymskiy**	**3.81**	**256**	PN		**Pn**	**04 12 08.7**	**+0.4**
KII	**Karymskiy**	**3.81**	**256**	*e*P		**Pn**	**04 12 08.7**	**+0.4**
SPN	**Mys Shipunski**	**3.93**	**241**	PN		**Pn**	**04 12 09.2**	**-0.6**
SPN	**Mys Shipunski**	**3.93**	**241**	*e*P		**Pn**	**04 12 09.2**	**-0.6**
SPN				*e*S		**Sn**	**04 12 51.1**	**-3.9**
ESO	**Esso**	**4.06**	**284**	PN		**Pn**	**04 12 12.3**	**+0.7**
ESO	**Esso**	**4.06**	**284**	*e*P		**Pn**	**04 12 12.3**	**+0.7**
NLC	**Nalytchevo**	**4.24**	**245**	PN		**Pn**	**04 12 12.9**	**-1.1**
NLC	**Nalytchevo**	**4.24**	**245**	*e*P		**Pn**	**04 12 12.9**	**-1.1**
NLC				*e*S		**Sn**	**04 12 58.8**	**-3.6**
OSSR	**Ossora**	**4.36**	**342**	PN		**Pn**	**04 12 15.5**	**-0.1**
OSSR	**Ossora**	**4.36**	**342**	*e*P		**Pn**	**04 12 15.5**	**-0.1**
OSSR				*e*S		**Sn**	**04 13 02.7**	**-2.7**
SMAR	**Somma**	**4.48**	**248**	PN		**Pn**	**04 12 18.3**	**+0.8**
SMAR	**Somma**	**4.48**	**248**	*e*P		**Pn**	**04 12 18.3**	**+0.8**
SMAR				*e*S		**Sn**	**04 13 06.7**	**-2.1**
UGLR	**Uglovaya**	**4.49**	**247**	PN		**Pn**	**04 12 18.3**	**+0.7**
UGLR	**Uglovaya**	**4.49**	**247**	*e*P		**Pn**	**04 12 18.2**	**+0.7**
UGLR				*e*S		**Sn**	**04 13 07.0**	**-1.9**
AVH	**Avacha**	**4.51**	**248**	PN		**Pn**	**04 12 19.2**	**+1.3**
AVH	**Avacha**	**4.51**	**248**	*e*P		**Pn**	**04 12 19.2**	**+1.3**
AVH				*e*S		**Sn**	**04 13 08.2**	**-1.2**
KRX	**Arik**	**4.52**	**249**	PN		**Pn**	**04 12 18.7**	**+0.7**
KRX	**Arik**	**4.52**	**249**	*e*P		**Pn**	**04 12 18.7**	**+0.7**
KOK	**Koryaka**	**4.55**	**249**	PN		**Pn**	**04 12 19.3**	**+0.9**
KOK	**Koryaka**	**4.55**	**249**	*e*P		**Pn**	**04 12 19.3**	**+0.9**
KOK				*e*S		**Sn**	**04 13 09.0**	**-1.4**
DALK	**Dalny**	**4.62**	**245**	PN		**Pn**	**04 12 19.2**	**0.0**
DALK	**Dalny**	**4.62**	**245**	*e*P		**Pn**	**04 12 19.2**	**0.0**
DALK				*e*S		**Sn**	**04 13 08.4**	**-3.4**
PET	**Petropavlovsk**	**4.67**	**246**			**Pn**	**04 12 20.8**	**+0.9**
PET	**Petropavlovsk**	**4.67**	**246**	*e*PN		**Pn**	**04 12 19.9**	**-0.1**
PET				pmax	pmax			
	comp=Z,99nm,0.6s							
PET	**Petropavlovsk**	**4.67**	**246**	*e*P		**Pn**	**04 12 21.0**	**+1.0**
PET				*e*S		**Sn**	**04 13 10.2**	**-3.0**
INSR	**Institute**	**4.68**	**246**	*e*S		**Sn**	**04 13 10.9**	**-2.4**
TIGL	**Tigil**	**4.71**	**307**	*e*P		**Pn**	**04 12 22.4**	**+2.0**
PALN	**Palana**	**5.04**	**324**	PN		**Pn**	**04 12 25.4**	**+0.4**
PALN	**Palana**	**5.04**	**324**	*e*P		**Pn**	**04 12 25.4**	**+0.4**
KRMR	**Karymshinskiy**	**5.04**	**246**	PN		**Pn**	**04 12 25.6**	**+0.5**
KRMR	**Karymshinskiy**	**5.04**	**246**	*e*P		**Pn**	**04 12 25.6**	**+0.5**
KRMR				*e*S		**Sn**	**04 13 20.9**	**-1.4**
PEA0B	**Petropavlovsk-**	**5.14**	**250**			**Pn**	**04 12 27.5**	**+1.0**
PEA0B	**Petropavlovsk-**	**5.14**	**250**	*i* PN		**Pn**	**04 12 26.3**	**-0.1**
PETK	**Petropavlovsk-**	**5.14**	**250**	Pn		**Pn**	**04 12 26.6**	**+0.2**
	comp=Z,20nm,0.3s,baz=71,slow=19,SNR=21							
PETK				Sn		**Sn**	**04 13 23.9**	**-0.9**
	comp=Z,22nm,0.3s,baz=329,slow=11,SNR=9.2							
	comp=Z,40nm,0.5s							
GRL	**Gorelyy**	**5.22**	**243**	PN		**Pn**	**04 12 28.5**	**+0.9**
GRL	**Gorelyy**	**5.22**	**243**	*e*P		**Pn**	**04 12 28.5**	**+0.9**
ASAK	**Asacha**	**5.40**	**242**	PN		**Pn**	**04 12 30.9**	**+0.8**
ASAK	**Asacha**	**5.40**	**242**	*e*P		**Pn**	**04 12 30.9**	**+0.8**
SHEM	**Shemya Is, Ala**	**5.51**	**113**	Pn		**Pn**	**04 12 32.1**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=107,slow=19,SNR=2.2							
SHEM				Sn		**Sn**	**04 13 35.4**	**+1.5**
	comp=Z,4.2nm,0.3s,baz=287,slow=19,SNR=1.7							
	comp=Z,39nm,0.4s							
SMY	**Shemya**	**5.51**	**113**	Pn		**Pn**	**04 12 31.9**	**+0.4**
SMY	**Shemya**	**5.51**	**113**	PN		**Pn**	**04 12 31.9**	**+0.4**
APC	**Apacha**	**5.51**	**250**	PN		**Pn**	**04 12 29.2**	**-2.3**
APC	**Apacha**	**5.51**	**250**	*e*P		**Pn**	**04 12 29.2**	**-2.3**

KDTR	**Khodutka, Kamc**	**5.66**	**237**	PN		**Pn**	**04 12 33.3**	**-0.2**	
KDTR	**Khodutka, Kamc**	**5.66**	**237**	*e*P		**Pn**	**04 12 33.3**	**-0.2**	
KDTR				*e*S		**Sn**	**04 13 32.5**	**-4.9**	
PAU	**Pauzhetka**	**6.49**	**239**	PN		**Pn**	**04 12 47.2**	**+2.3**	
PAU	**Pauzhetka**	**6.49**	**239**	*e*P		**Pn**	**04 12 47.2**	**+2.3**	
SKR	**Severo-Kuril's**	**7.33**	**236**	*i* PN		**Pn**	**04 12 55.8**	**-0.6**	
SKR	**Severo-Kuril's**	**7.33**	**236**	*e*P		**Pn**	**04 12 56.3**	**0.0**	
KMSK	**Kamenskaya**	**7.34**	**2**	PN		**Pn**	**04 12 57.5**	**+0.9**	
KMSK	**Kamenskaya**	**7.34**	**2**	*e*P		**Pn**	**04 12 57.5**	**+0.9**	
MA2	**Magadan**	**9.21**	**305**	*i* PN		**Pn**	**04 13 23.2**	**+1.0**	
MA2	**Magadan**	**9.21**	**305**	Pn		**Pn**	**04 13 22.6**	**+0.4**	
	comp=Z,1.2nm,0.3s,baz=101,slow=13,SNR=6.9								
	comp=Z,6.6nm,0.4s								
SEY	**Seymchan**	**10.38**	**324**	Pn		**Pn**	**04 13 38.7**	**+0.6**	
	comp=Z,1.4nm,0.3s,baz=127,slow=12,SNR=12								
	comp=Z,2.9nm,0.3s								
L14K	**Kuka Creek**	**17.62**	**57**	P		**P**	**04 15 16.4**	**+1.1**	
L14K				IAmb		IAmb	04 15 20.8		
	comp=Z,41nm,0.8s								
F15K	**North Star Dit**	**17.84**	**42**	P		**P**	**04 15 20.1**	**+2.4**	
K15K	**Wolf Creek Mou**	**18.28**	**54**	P		**P**	**04 15 24.9**	**+2.3**	
K15K				IAmb		IAmb	04 15 30.7		
	comp=Z,20nm,0.6s								
ASAJ	**Asahikawa**	**18.51**	**243**	P		**Pn**	**04 15 26.5**	**+0.9**	
	comp=Z,0.6nm,0.3s,baz=298,slow=23,SNR=1.6								
	comp=Z,10nm,0.7s								
C16K	**Lisburne Hills**	**18.74**	**34**	P		**Pn**	**04 15 28.2**	**+0.2**	
I17K	**Unalakleet**	**18.93**	**49**			**Pn**	**04 15 31.6**	**+1.1**	
I17K				IAmb		IAmb	04 15 38.7		
	comp=Z,27nm,0.5s								
F17K	**Baldwin Pennin**	**19.40**	**41**	P		**Pn**	**04 15 36.0**	**-0.1**	
RDOG	**Red Dog Mine**	**19.44**	**36**	P		**Pn**	**04 15 36.6**	**+0.1**	
H17K	**Granite Mounta**	**19.50**	**46**	P		**P**	**04 15 36.1**	**+0.2**	
YAK	**Yakutsk**	**19.79**	**305**	*ce*P		**P**	**04 15 39.7**	**+0.7**	
YAK				pmax	pmax				
	comp=Z,19nm,0.7s								
YAK	**Yakutsk**	**19.79**	**305**	P		**P**	**04 15 39.1**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=256,slow=0.6,SNR=4.4								
K17K	**Iditarod**	**19.82**	**53**	P		**P**	**04 15 39.2**	**-0.2**	
K17K				IAmb		IAmb	04 16 01.3		
	comp=Z,19nm,0.8s								
E18K	**Tukpahlearik C**	**19.98**	**39**	P		**P**	**04 15 41.8**	**+0.6**

K27K Chicken 27.12 50 IAmb IAmb 04 17 09.4
comp=Z,10.0nm,0.8s
L27K Beaver Creek, 27.34 52 IAmb IAmb 04 17 11.6
comp=Z,21nm,1.5s
EGAK Eagle 27.44 48 P **P 04 16 52.1 -2.2**
EGAK IAmb IAmb 04 16 54.1
comp=Z,14nm,1.2s
F28M Old Crow 27.83 42 P **P 04 16 58.2 +0.3**
G29M Pine Creek 28.57 43 IAmb IAmb 04 17 14.0
comp=Z,11nm,0.8s
L29M L29M 28.99 51 IAmb IAmb 04 17 29.7
comp=Z,7.0nm,0.9s
EPYK Eagle Plains 29.14 44 IAmb IAmb 04 17 36.1
comp=Z,23nm,1.5s
G31M Satah River 30.05 43 P **P 04 17 17.3 -0.2**
G31M IAmb IAmb 04 17 18.3
comp=Z,8.5nm,1.1s
INK Inuvik 30.19 40 P **P 04 17 18.9 +0.2**
INK IAmb IAmb 04 17 19.4
comp=Z,4.3nm,0.7s
INK Inuvik 30.19 40 P **P 04 17 18.9 +0.2**
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 30.19 40 P **P 04 17 18.7 0.0**
comp=Z,4.1nm,0.7s,baz=283,slow=6.1,SNR=20
comp=Z,4.1nm,0.7s
F31M Tsiigehtchic 30.19 42 P **P 04 17 18.8 +0.1**
F31M IAmb IAmb 04 17 34.9
comp=Z,20nm,1.5s
C36M Paulatuk 33.43 37 P **P 04 17 47.5 +0.3**
C36M IAmb IAmb 04 17 48.7
comp=Z,12nm,1.2s
C36M **PcP 04 20 29.2 +1.6**
DLBC Dease Lake 34.15 58 P **P 04 17 54.4 +0.7**
comp=Z,3.0nm,0.7s,baz=292,slow=10,SNR=4.9
comp=Z,3.0nm,0.7s
H11N2 WAKE ISLAND Hy 35.37 178 T T 04 55 33.9
baz=0.4
H11N3 WAKE ISLAND Hy 35.38 178 T T 04 55 36.4
baz=0.4
H11N1 WAKE ISLAND Hy 35.39 178 T T 04 55 38.7
baz=0.4
ULN Ulaanbaatar 36.26 283 *i* P **P 04 18 11.9 -0.1**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 36.64 284 P **P 04 18 16.9 +1.7**
SONM Songino Array 36.64 284 *e*P **P 04 18 17.1 +1.9**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 36.64 284 P **P 04 18 16.6 +1.4**
comp=Z,2.8nm,0.6s,baz=57,slow=7.9,SNR=19
comp=Z,2.8nm,0.6s
MOY Mondy 37.51 292 *e*P **P 04 18 24.0 +1.5**
MOY pmax pmax
comp=Z,24nm,2.0s
YKA Yellowknife Ar 39.38 46 P **P 04 18 37.5 -0.4**
YKA Yellowknife Ar 39.38 46 P **P 04 18 38.4 +0.5**
comp=Z,1.9nm,0.7s,baz=299,slow=8.0,SNR=36
YKA PcP **PcP 04 20 45.6 0.0**
comp=Z,0.6nm,0.8s,baz=301,slow=3.4,SNR=4.4
comp=Z,1.9nm,0.7s
ZALV Zalesovo Beam 44.43 304 P **P 04 19 19.2 0.0**
comp=Z,0.3nm,0.3s,baz=47,slow=6.3,SNR=1.8
comp=Z,0.3nm,0.3s
SPITS Spitsbergen Ar 45.62 352 P **P 04 19 28.2 -0.3**
comp=Z,7.9nm,0.9s,baz=58,slow=6.3,SNR=7.3
comp=Z,7.9nm,0.9s
DGZ Jazzator, Alta 45.70 297 *i* P **P 04 19 29.9 +0.3**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 46.02 65 P **P 04 19 32.2 +0.2**
comp=Z,1.7nm,0.7s,baz=333,slow=6.3,SNR=4.5
comp=Z,1.7nm,0.7s
DAG Danmarks Havn 48.32 1 *i* P **P 04 19 48.0 -1.5**
KURK Kurchatov 49.42 303 P **P 04 19 58.4 +0.1**
KURK IAmb IAmb 04 20 20.3
comp=Z,8.7nm,1.0s
KURK Kurchatov 49.42 303*ce*P **P 04 19 57.6 -0.6**
KURK pmax pmax
comp=Z,13nm,1.7s
KURBB Kurchatov Arra 49.52 303 P **P 04 19 59.1 0.0**
comp=Z,2.6nm,0.6s,baz=54,slow=7.7,SNR=23
comp=Z,2.6nm,0.6s
MK31 Makanchi Array 50.20 297 P **P 04 20 04.0 -0.3**
MK31 Makanchi Array 50.20 297*ce*P **P 04 20 03.0 -1.3**
MKAR Makanchi Array 50.20 297 P **P 04 20 04.1 -0.2**
comp=Z,0.8nm,0.7s,baz=50,slow=6.7,SNR=9.1
comp=Z,0.8nm,0.7s
BVAR Borovoye Array 51.66 310 P **P 04 20 15.1 0.0**
comp=Z,4.9nm,0.8s,baz=58,slow=8.1,SNR=22
comp=Z,4.9nm,0.8s
BRVK Borovoye 51.68 310 P **P 04 20 15.8 +0.5**
BRVK IAmb IAmb 04 20 16.2
comp=Z,6.5nm,0.8s
BRVK Borovoye 51.68 310*ce*P **P 04 20 14.8 -0.5**
BRVK pmax pmax
comp=Z,13nm,1.7s
NVAR Mina Array Bea 51.97 75 P **P 04 20 19.0 +1.0**
comp=Z,2.9nm,0.7s,baz=302,slow=7.5,SNR=21
comp=Z,2.9nm,0.7s
RLMT Red Lodge 52.15 63 IAmb IAmb 04 20 21.1
comp=Z,9.1nm,0.8s
ARCES ARCESS Array B 52.31 343 *e*P **P 04 20 17.7 -2.1**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 52.31 343 P **P 04 20 18.6 -1.2**
comp=Z,2.3nm,0.8s,baz=46,slow=6.9,SNR=4.7
comp=Z,2.3nm,0.8s
LAO LASA Array 52.60 60 IAmb IAmb 04 20 24.1
comp=Z,9.1nm,0.8s
PDAR Pinedale Array 53.64 66 P **P 04 20 30.8 +0.5**
comp=Z,3.0nm,0.8s,baz=333,slow=2.0,SNR=20
comp=Z,3.0nm,0.8s
SPR3 Spring Creek 3 53.75 72 P **P 04 20 33.2 +2.0**
SPR3 IAmb IAmb 04 20 34.0
comp=Z,5.1nm,0.8s
ARU Arti 54.07 319*ce*P **P 04 20 31.5 -1.4**
ARU pmax pmax
comp=Z,10.0nm,2.5s
TPNV Topopah Spring 54.17 75 IAmb IAmb 04 20 36.0
comp=Z,12nm,1.3s
GWY Greenwater Val 54.48 76 P **P 04 20 37.6 +1.2**
GWY IAmb IAmb 04 20 38.3
comp=Z,6.2nm,0.7s
PRN Pahroc Range 54.50 74 IAmb IAmb 04 20 38.7
comp=Z,9.6nm,1.0s
ULM Lac du Bonnet 54.97 51 *e*P **P 04 20 40.1 +0.6**
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 54.97 51 P **P 04 20 39.9 +0.4**
comp=Z,8.6nm,0.8s,baz=310,slow=7.2,SNR=10
comp=Z,8.6nm,0.8s
TMUT Trail Mountain 55.23 70 IAmb IAmb 04 20 44.1
comp=Z,10nm,0.8s
RSSD Black Hills 55.51 61 P **P 04 20 44.2 +0.5**
RSSD IAmb IAmb 04 20 45.0
comp=Z,6.6nm,0.6s
RSSD Black Hills 55.51 61 P **P 04 20 44.3 +0.5**
RSSD pmax pmax
comp=Z,7.0nm,0.6s
P18A Preston Nutter 55.51 69 IAmb IAmb 04 21 23.8
comp=Z,10.0nm,1.3s
Q16A Castle Valley 55.53 70 IAmb IAmb 04 20 46.2
comp=Z,7.5nm,0.8s
MTPU Mount Pierson 55.61 71 IAmb IAmb 04 20 47.2
comp=Z,4.5nm,1.0s
LCMT Little Creek M 55.78 73 IAmb IAmb 04 20 48.2
comp=Z,3.7nm,0.8s
AGMN Agassiz Nation 56.40 52 IAmb IAmb 04 20 50.9
comp=Z,11nm,1.0s
N23A Red Feather La 56.86 65 IAmb IAmb 04 20 55.9
comp=Z,13nm,1.0s
AAK Ala-Archa 57.07 298 *i* P **P 04 20 54.3 -0.6**
AAK pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 57.84 65 IAmb IAmb 04 21 03.0
comp=Z,4.8nm,0.9s
KK31 Karatay Array 58.71 301 IAmb IAmb 04 21 17.1
comp=Z,5.1nm,1.0s
KKAR Karatay Array 58.71 301 P **P 04 21 05.7 -0.5**
KKAR IAmb IAmb 04 21 17.1
comp=Z,5.1nm,1.0s
KKAR Karatay Array 58.71 301 P **P 04 21 05.7 -0.5**
KKAR pmax pmax
comp=Z,5.0nm,1.0s
ABKAR Akbulak array 58.91 313 P **P 04 21 07.1 -0.3**
ABKAR Akbulak array 58.91 313 IAmb IAmb 04 21 07.8

comp=Z,6.6nm,1.4s
FIA1 FINESS Array S 59.47 339 P **P 04 21 10.4 -0.7**
FINES FINESS Array B 59.47 339 *e*P **P 04 21 10.4 -0.7**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 59.47 339 P **P 04 21 10.5 -0.6**
comp=Z,3.2nm,0.6s,baz=18,slow=9.5,SNR=15
comp=Z,3.2nm,0.6s
ANMO Albuquerque 61.00 70 P **P 04 21 23.1 +0.9**
ANMO IAmb IAmb 04 21 24.1
comp=Z,6.7nm,1.4s
ANMO Albuquerque 61.00 70 *i* P **P 04 21 19.1 -3.1**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
BELG Belogornoye 61.22 322 *i* P **P 04 21 21.2 -2.0**
BELG pmax pmax
comp=Z,2.0nm,1.0s
SCHQ Schefferville 62.23 31 P **P 04 21 29.7 -0.3**
comp=Z,4.4nm,0.6s,baz=324,slow=5.1,SNR=10
comp=Z,4.4nm,0.6s
NB2 NORSAR Subarra 62.41 346 P **P 04 21 30.3 -0.8**
comp=Z,2.1nm,0.5s,baz=16,slow=6.9
NOA NORSAR Array B 62.41 346 *e*P **P 04 21 30.8 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 62.41 346 P **P 04 21 30.7 -0.5**
comp=Z,1.8nm,0.5s,baz=13,slow=6.9,SNR=12
comp=Z,1.8nm,0.5s
OBN Obninsk 62.48 330 *e*P **P 04 21 35.6 +4.0**
OBN *e* 04 22 12.6
OBN *e* 04 23 50.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,14µm,21.0s
HFS Hagfors 62.92 345 P **P 04 21 33.8 -0.7**
comp=Z,2.6nm,0.5s,baz=46,slow=4.3,SNR=13
comp=Z,2.6nm,0.5s
VLDQ Val d'Or 64.27 42 P **P 04 21 41.9 -1.7**
VHRN Van Horn 64.97 72 P **P 04 21 48.4 -0.2**
VHRN IAmb IAmb 04 21 50.5
comp=Z,2.8nm,0.8s
WMOK Wichita Mounta 65.22 65 P **P 04 21 50.5 +0.5**
WMOK IAmb IAmb 04 21 51.1
comp=Z,5.4nm,0.8s
WMOK Wichita Mounta 65.22 65 P **P 04 21 50.5 +0.5**
WMOK pmax pmax
comp=Z,5.0nm,0.8s
R40A Maddies Statio 65.72 58 P **P 04 21 52.6 -0.6**
R40A IAmb IAmb 04 21 53.1
comp=Z,8.7nm,0.9s
MNHN Monahans 65.75 70 IAmb IAmb 04 21 54.6
comp=Z,5.5nm,0.7s
TXAR Lajitas Array 66.81 72 P **P 04 22 01.0 +0.6**
TXAR Lajitas Array 66.81 72 P **P 04 22 01.2 +0.7**
comp=Z,2.7nm,0.5s,baz=300,slow=5.2,SNR=32
comp=Z,2.7nm,0.5s
LMQ La Malbaie 67.35 38 P **P 04 22 03.1 -0.3**
SIUC Southern Illin 67.64 56 P **P 04 22 05.2 -0.2**
FCAR Ozark Folk Cen 67.68 59 IAmb IAmb 04 22 05.8
comp=Z,7.1nm,0.8s
AKASG Malin Array Be 68.46 332 *e*P **P 04 22 09.3 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 68.46 332 P **P 04 22 09.5 -0.8**
comp=Z,1.5nm,0.4s,baz=26,slow=6.7,SNR=5.4
comp=Z,1.5nm,0.4s
WVNY West Valley, N 68.53 46 P **P 04 22 10.3 -0.7**
EKA Eskdalemuir Ar 69.50 353 P **P 04 22 16.9 +0.1**
comp=Z,2.6nm,0.7s,baz=16,slow=6.1,SNR=7.1
comp=Z,2.6nm,0.7s
WVT Waverly 69.57 56 P **P 04 22 17.7 +0.2**
WVT Waverly 69.57 56 P **P 04 22 17.7 +0.2**
WVT pmax pmax
comp=Z,7.0nm,0.6s
M57A Sunshine Farm, 70.03 45 P **P 04 22 19.6 -0.7**
KBZ Khabaz 70.22 320 *i* P **P 04 22 19.7 -1.6**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 70.22 320 P **P 04 22 21.4 +0.1**
comp=Z,3.5nm,1.0s,baz=18,slow=9.4,SNR=2.8
comp=Z,3.5nm,1.0s
SSPA Standing Stone 70.31 46 P **P 04 22 21.1 -0.8**
SSPA IAmb IAmb 04 22 56.3
comp=Z,8.2nm,1.1s
CLTN Cedars of Leba 70.31 55 P **P 04 22 22.2 +0.2**
PLAL Pickwick Lake 70.38 57 P **P 04 22 22.2 -0.2**
KWP Kalwaria Pacla 71.10 336 P **P 04 22 27.2 +0.6**
KWP Kalwaria Pacla 71.10 336 P **P 04 22 27.2 +0.6**
KWP pmax pmax
comp=Z,19nm,1.0s
TZTN Tazewell 71.23 53 P **P 04 22 27.4 -0.2**
V51A Loudon 71.47 54 P **P 04 22 29.1 +0.1**
V51A IAmb IAmb 04 22 29.4
comp=Z,6.8nm,0.7s
CLL Collm 71.51 342 *e*P **P 04 22 29.0 0.0**
CLL Collm 71.51 342 *e*P **P 04 22 29.0 0.0**
W50A Signal Mountai 71.51 55 P **P 04 22 29.2 -0.3**
DPC Dobruska-Polom 71.81 340 *e*P **P 04 22 31.6 +0.7**
DPC Dobruska-Polom 71.81 340 *e*P **P 04 22 31.6 +0.7**
FPAL Fort Paine 71.91 55 P **P 04 22 31.7 -0.1**
Y49A Blount Mountai 72.09 56 P **P 04 22 32.5 -0.4**
HSKC Hora Svate Kat 72.10 342 *e*P **P 04 22 32.3 -0.4**
MORC Moravsky Berou 72.11 339 *e*P **P 04 22 32.9 +0.2**
LANS Liptovska Anna 72.29 337 *e*P **P 04 22 35.5 +1.7**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 72.29 337 *e*P **P 04 22 35.5 +1.7**
BUR08 Bucovina Ar. S 72.32 333 P **P 04 22 34.0 -0.2**
BUR08 IAmb IAmb 04 22 54.1
comp=Z,6.7nm,1.3s
BURAR Bucovina Array 72.34 333 P **P 04 22 34.3 0.0**
MAUC Maruska 72.44 339 *e*P **P 04 22 35.3 +0.6**
LRAL Lakeview Retre 72.48 57 P **P 04 22 34.6 -0.6**
VRAC Vranov 72.74 339 *e*P **P 04 22 37.0 +0.5**
T57A Hurt 72.77 49 P **P 04 22 36.6 -0.2**
BG3 Lake Jocassee 72.79 53 P **P 04 22 37.3 +0.3**
BG3 IAmb IAmb 04 22 37.7
comp=Z,8.6nm,0.7s
V55A Taylorsville 72.86 51 P **P 04 22 37.4 0.0**
JAVC Velka Javorina 72.95 339 *e*P **P 04 22 38.8 +1.0**
TREC Trest 72.98 340 *e*P **P 04 22 38.2 +0.3**
TREC Trest 72.98 340 *e*P **P 04 22 38.2 +0.3**
KRUC Moravsky 73.02 339 *e*P **P 04 22 38.4 +0.3**
ZVC Zvikov 73.09 341 *e*P **P 04 22 38.9 +0.4**
Y52A Lilburn 73.20 55 P **P 04 22 39.5 +0.1**
MODS Modra-Piesok 73.49 339 *e*P **P 04 22 41.8 +0.8**
MODS Modra-Piesok 73.49 339 *e*P **P 04 22 41.8 +0.8**
KHC Kasperske Hory 73.50 341 *e*P **P 04 22 41.4 +0.4**
KHC Kasperske Hory 73.50 341*ce*P **P 04 22 41.8 +0.8**
KHC pmax pmax
comp=Z,13nm,1.3s
ZST Bratislava 73.70 339 *e*P **P 04 22 41.0 -1.1**
ZST Bratislava 73.70 339 *e*P **P 04 22 41.0 -1.1**
HODGE Hodges 73.73 53 P **P 04 22 42.3 -0.2**
HODGE IAmb IAmb 04 22 43.0
comp=Z,6.6nm,0.7s
GEC2 GERESS Array S 73.75 341 P **P 04 22 43.0 +0.4**
GEC2 IAmb IAmb 04 22 43.5
comp=Z,4.1nm,0.9s
GERES GERESS Array B 73.75 341 P **P 04 22 42.7 +0.2**
GERES GERESS Array B 73.75 341 *e*P **P 04 22 42.8 +0.2**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 73.75 341 P **P 04 22 42.5 -0.1**
comp=Z,3.6nm,0.9s,baz=34,slow=5.0,SNR=11
comp=Z,3.6nm,0.9s
V58A Windy Hill, Pi 73.84 50 P **P 04 22 43.2 +0.1**
V58A IAmb IAmb 04 22 43.3
comp=Z,10nm,0.8s
W57A Gilead 73.99 51 P **P 04 22 43.7 -0.3**
W57A IAmb IAmb 04 22 44.0
comp=Z,8.1nm,0.8s
CONA Conrad Observa 74.21 339 *e*P **P 04 22 45.9 +0.6**
comp=Z,0.5nm,0.3s
RONA Rosalia, Austr 74.34 339 *e*P **P 04 22 46.0 +0.1**
comp=Z,0.7nm,0.3s
STU Stuttgart 74.59 344 P **P 04 22 50.0 +2.7**
STU Stuttgart 74.59 344 P **P 04 22 50.0 +2.7**
STU pmax pmax
comp=Z,15nm,0.9s
MOA Molln 74.60 340 *e*P **P 04 22 47.4 0.0**
comp=Z,0.8nm,0.4s
Y58A Scranton 75.18 51 P **P 04 22 51.6 +0.6**
LESA Schwarzleotal 75.30 341 *e*P **P 04 22 52.3 +0.7**

comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 75.51 341 *e*P **P 04 22 54.1 +1.2**
comp=Z,7.1nm,1.0s
255A Hazlehurst 75.55 55 P **P 04 22 53.8 +0.8**
SOKA Soboth 75.57 340 *e*P **P 04 22 53.7 +0.6**
comp=Z,1.5nm,0.6s
WTTA Wattenberg 75.64 342 *i* P **P 04 22 54.0 +0.4**
comp=Z,4.8nm,0.9s
MOTA Moosalm 75.66 342 *e*P **P 04 22 54.0 +0.3**
comp=Z,2.5nm,0.6s
SQTA Sankt Quirin 75.76 342 *e*P **P 04 22 54.2 0.0**
comp=Z,3.8nm,0.6s
OBKA Obir 75.83 340 *e*P **P 04 22 55.5 +0.9**
comp=Z,6.7nm,0.6s
ABTA Abfaltersbach 75.99 341 *i* P **P 04 22 54.9 -0.6**
comp=Z,4.0nm,0.6s
FETA Feichten 76.04 343 *e*P **P 04 22 56.6 +0.7**
comp=Z,4.4nm,0.8s
PRED Cave del Predi 76.08 341 P **P 04 22 56.1 +0.1**
PRED IAmb IAmb 04 23 24.2
comp=Z,16nm,1.3s
FUORN Ofenpass-Fuorn 76.50 343 P **P 04 22 58.6 0.0**
FUORN IAmb IAmb 04 23 02.4
comp=Z,2.4nm,0.6s
TUE Stuetta 76.80 343 P **P 04 23 01.1 +0.8**
TUE IAmb IAmb 04 23 01.5
comp=Z,11nm,1.3s
BRTR Keskin Array B 77.02 324 P **P 04 23 01.5 -0.1**
BRTR Keskin Array B 77.02 324 *e*P **P 04 23 01.4 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 77.02 324 P **P 04 23 01.3 -0.3**
comp=Z,0.6nm,0.5s,baz=77,slow=2.0,SNR=4.7
comp=Z,0.6nm,0.5s
TEOL Teolo 77.48 342 P **P 04 23 04.3 +0.4**
ZCCA Zocca 78.58 342 P **P 04 23 11.8 +1.7**
BNI Bardonecchia 78.60 345 P **P 04 23 11.7 +1.5**
BNI IAmb IAmb 04 23 24.2
comp=Z,10nm,1.2s
BNI Bardonecchia 78.60 345 P **P 04 23 11.7 +1.5**
BNI pmax pmax
comp=Z,10.0nm,1.2s
MURB Monte Urbino 79.34 340 P **P 04 23 16.0 +1.8**
WR0 Warramunga Arr 79.39 210 P **P 04 23 14.9 +0.4**
WR0 IAmb IAmb 04 23 44.3
comp=Z,9.0nm,1.4s
WRA Warramunga Arr 79.43 210 *e*P **P 04 23 15.3 +0.5**
WRA Warramunga Arr 79.43 210 P **P 04 23 15.0 +0.2**
comp=Z,0.4nm,0.5s,baz=24,slow=6.1,SNR=8.9
comp=Z,0.4nm,0.5s
FDMO Fiordimonte 79.45 340 P **P 04 23 15.7 +0.9**
NRCA Norcia 79.64 340 P **P 04 23 17.1 +1.2**
CAMP Campotosto 79.87 340 P **P 04 23 17.9 +0.8**
ASAR Alice Springs 83.08 209 P **P 04 23 34.8 +0.7**
comp=Z,0.4nm,0.4s,baz=16,slow=4.6,SNR=5.0
comp=Z,0.4nm,0.4s
ESDC Sonseca Array 85.13 352 P **P 04 23 45.0 +0.4**
comp=Z,6.9nm,0.9s,baz=0.8,slow=5.0,SNR=30
comp=Z,6.9nm,0.9s
QSPA South Pole Qui 144.90 180 PKP PKPbc 04 30 42.2 -1.2
comp=Z,1.1nm,0.2s,baz=359,slow=3.4,SNR=4.0

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*IDC **10** 04:11:59.5±1.1, 17.°45N×83.°63W, h0km, mb4.1/11, mbtmp4.1/15, ML3.8/4, Error ellipse: s-maj=24.9km s-min=20.1km az=24.0*
*NEIC **10** 04:12:02.1±1.1, 17.°45N±0.°04×83.°61W±0.°07, h10km±1km, mb4.5/107, Error ellipse: s-maj=12.5km s-min=5.3km az=66.0*
ISC 10 04:12:01.9±0.6**, 17.°44N**±0.°06×**83.°64W**±0.°06**, h18km, n219,** σ**1.°63**/215**, mb4.5**/48**, North of Honduras**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
TGUH Tegucigalpa,Un 4.85 227 Pn **Pn 04 13 15.7 +1.6**
MATN Matagalpa 5.00 206 Pn **Pn 04 13 17.6 +1.5**
TEIG Tepich 5.19 303 Pn **Pn 04 13 17.9 -0.8**
563nm,0.3s,baz=260,slow=1.0,SNR=460
TEIG Sn **Sn 04 14 12.9 -5.2**
251nm,0.3s,baz=170,slow=24,SNR=15
ESPN Las Esperanzas 5.25 187 **Pn 04 13 21.3 +1.7**
SOR Soroa 5.36 6 Pn **Pn 04 13 21.6 +0.6**
ACON Acoyapa 5.64 195 **Pn 04 13 26.2 +1.3**
CNGN Cerro Negro 5.73 211 Pn **Pn 04 13 27.8 +1.6**
CRIN San Cristobal 5.75 215 Pn **Pn 04 13 25.4 -1.1**
MTO3 Montecristo 6.28 242 **Pn 04 13 35.5 +1.6**
JTS Las Juntas de 7.22 190 Pn **Pn 04 13 48.4 +1.7**
2.1nm,0.3s,baz=0.0,slow=22,SNR=10
4.6nm,0.3s
CCIG Comitan 8.21 263 Pn **Pn 04 14 01.6 +1.2**
CMIG Matias Romero 10.74 270 Pn **Pn 04 14 34.5 -0.4**
1.3nm,0.3s,baz=62,slow=8.3,SNR=15
CMIG Sn **Sn 04 16 27.2 -7.7**
baz=15,slow=11
3.2nm,0.2s
SDV Santo Domingo 15.25 122 **Pn 04 15 36.0 -0.7**
SDV Santo Domingo 15.25 122 Pn **Pn 04 15 35.6 -1.1**
0.8nm,0.3s,baz=337,slow=12,SNR=7.0
SDV Sn **Sn 04 18 15.8 -10**
0.5nm,0.3s,baz=93,slow=22,SNR=2.3
3.7nm,0.4s
LRAL Lakeview Retre 15.82 350 Pn **Pn 04 15 41.8 -2.0**
Z47A Carrollton 16.19 347 Pn **Pn 04 15 47.7 -0.8**
Z47A IAmb IAmb 04 15 54.5
comp=Z,32nm,0.9s
143A Socs Landing, 16.73 337 Pn **Pn 04 15 54.4 -1.0**
143A IAmb IAmb 04 15 56.8
comp=Z,61nm,1.3s
Y45A Yeager Farm, C 17.19 343 **P 04 16 02.6 -0.1**
Y45A IAmb IAmb 04 16 06.1
comp=Z,24nm,0.8s
X48A Hartselle 17.21 350 **P 04 16 03.2 +0.3**
W50A Signal Mountai 17.75 356 **P 04 16 09.5 +0.5**
OXF Oxford 17.77 344 **P 04 16 09.5 +0.5**
OXF IAmb IAmb 04 16 09.6
comp=Z,44nm,0.9s
OXF Oxford 17.77 344 P **Pn 04 16 08.8 +0.5**
baz=162,SNR=8.0
OTAV Otavalo 17.84 163 **P 04 16 10.9 +0.4**
PLAL Pickwick Lake 17.91 348 Pn **Pn 04 16 09.0 -1.1**
CCAR Cane Creek 17.95 338 P **Pn 04 16 10.2 -0.4**
833A Chaparral WMA, 18.09 310 P **Pn 04 16 12.7 +0.3**
833A IAmb IAmb 04 16 16.1
comp=Z,40nm,0.8s
833A Chaparral WMA, 18.09 310 P **P 04 16 15.0 +2.4**
baz=123,SNR=13
TKL Tuckaleechee C 18.14 360 P **Pn 04 16 13.1 +0.1**
comp=Z,0.5nm,0.3s,baz=170,slow=11,SNR=6.4
TKL S **Sn 04 19 26.8 -8.3**
comp=Z,3.4nm,0.8s,baz=349,slow=19,SNR=2.6
comp=Z,4.0nm,0.8s
V48A Smith Brothers 18.44 352 P **P 04 16 16.3 -0.3**
ZAIG Zacatecas 18.54 290 P **Pn 04 16 18.8 +0.5**
HNDO Hondo 18.70 313 P **Pn 04 16 20.1 +0.3**
HNDO IAmb IAmb 04 16 23.4
comp=Z,34nm,0.9s
X40A Basin Creek Fa 18.86 336 **Pn 04 16 24.9 +3.1**
WVT Waverly 18.98 350 P **Pn 04 16 23.2 +0.1**
WVT Waverly 18.98 350 P **Pn 04 16 23.3 +0.2**
baz=168
WHTX Lake Whitney, 19.14 322 P **Pn 04 16 25.4 +0.3**
WHAR Wooly Hollow 19.37 338 P **Pn 04 16 28.6 +0.8**
DRIO Del Rio 19.59 311 Pn **Pn 04 16 31.3 +0.7**
BRDY Brady 19.61 317 **Pn 04 16 30.5 -0.2**
BRDY IAmb IAmb 04 16 36.9
comp=Z,11nm,0.7s
JCT Junction City 19.63 314 **P 04 16 30.6 +1.0**
JCT Junction City 19.63 314 P **Pn 04 16 32.0 +1.0**
baz=128
T47A Sharon Grove 19.71 352 P **P 04 16 31.0 +0.6**
T47A IAmb IAmb 04 16 32.4
comp=Z,12nm,0.8s
LCAR Lake Charles 19.71 342 **Pn 04 16 32.0 +0.1**
FCAR Ozark Folk Cen 19.86 339 P **Pn 04 16 33.5 -0.2**
PBMO Poplar Bluff 20.18 344 P Pn 04 16 36.8 -0.6
PBMO IAmb IAmb 04 16 42.3
comp=Z,22nm,0.8s
PLPT Palo Pinto 20.23 322 Pn 04 16 40.2 +2.1
PLPT IAmb IAmb 04 16 45.5
comp=Z,24nm,1.2s
CGM3 Cape Girardeau 20.48 346 P Pn 04 16 40.1 -0.8
CGM3 IAmb IAmb 04 16 42.7
comp=Z,25nm,1.2s
S44A Carbondale 20.77 347 P Pn 04 16 43.4 -0.9
SIUC Southern Illin 20.78 347 P Pn 04 16 43.6 -0.9

OZNA Ozona 20.80 313 P 04 16 43.7 +1.2
OZNA IAmb IAmb 04 16 45.5
comp=Z,40nm,1.2s
R49A Shelbyville 20.82 357 P Pn 04 16 43.9 -1.0
R49A IAmb IAmb 04 17 19.7
comp=Z,22nm,1.4s
HHAR Hobbs 20.87 336 P P 04 16 44.2 +1.2
HHAR IAmb IAmb 04 16 45.5
comp=Z,26nm,1.5s
ABTX Abilene, Hawle 20.90 319 P 04 16 44.3 +0.9
ABTX IAmb IAmb 04 17 03.3
comp=Z,9.5nm,0.7s
SAND Sanderson 20.97 310 P P 04 16 45.9 +1.6
SAND IAmb IAmb 04 16 48.0
comp=Z,16nm,1.0s
WTFS Witchita Falls 21.00 324 P 04 16 45.7 +1.2
WTFS IAmb IAmb 04 17 04.2
comp=Z,14nm,0.8s
MGMO Mountain Grove 21.06 341 P P 04 16 45.9 +0.8
MGMO IAmb IAmb 04 16 47.2
comp=Z,14nm,1.0s
U38A Gravette 21.18 335 P P 04 16 46.0 -0.3
FVM French Village 21.31 345 P P 04 16 48.0 +0.2
FVM IAmb IAmb 04 16 53.0
comp=Z,32nm,1.2s
TUL3 Leonard 21.32 332 P P 04 16 49.1 +1.2
TUL3 IAmb IAmb 04 16 52.8
comp=Z,19nm,0.9s
TUL3 Leonard 21.32 332 P P 04 16 49.5 +1.6
baz=146
Q52A Bidwell 21.48 3 P P 04 16 50.6 +1.1
Q52A IAmb IAmb 04 16 59.1
comp=Z,38nm,1.4s
Q51A Peebles 21.51 1 P P 04 16 50.6 +0.7
Q51A IAmb IAmb 04 16 54.9
comp=Z,18nm,0.8s
FNO Franklin 21.56 328 P 04 16 51.0 +0.5
FNO IAmb IAmb 04 16 52.9
comp=Z,19nm,0.9s
OLIL Olney 21.57 350 P P 04 16 51.1 +0.6
CCM Cathedral Cave 21.59 344 P P 04 16 51.7 +1.0
CCM Cathedral Cave 21.59 344 P P 04 16 51.8 +1.0
baz=160
BLO Bloomington 21.80 354 P P 04 16 53.1 +0.1
BLO IAmb IAmb 04 16 54.7
comp=Z,15nm,0.8s
TXAR Lajitas Array 21.82 306 P P 04 16 54.4 +0.9
comp=Z,1.4nm,0.8s,baz=125,slow=12,SNR=18
comp=Z,1.4nm,0.8s
TX31 Lajitas Ar. Si 21.82 306 P P 04 16 54.3 +0.9
SN01 Snyder 1 21.85 318 P P 04 16 54.6 +1.0
OK052 Battle Ridge R 21.86 330 P 04 16 54.5 +0.8
OK052 IAmb IAmb 04 16 58.7
comp=Z,18nm,0.9s
Q44A Meyer Farm, Va 21.89 349 P P 04 16 54.9 +0.9
S39A Bolivar 21.89 339 P P 04 16 55.0 +1.0
S39A IAmb IAmb 04 16 58.4
comp=Z,16nm,0.9s
WMOK Wichita Mounta 21.90 325 P 04 16 55.0 +0.9
QUOK Quay 21.96 331 P 04 16 55.1 +0.4
QUOK IAmb IAmb 04 16 59.8
comp=Z,14nm,0.8s
P51A Williamsport 21.97 1 P P 04 16 54.8 +0.1
P51A IAmb IAmb 04 16 58.9
comp=Z,12nm,0.8s
P49A Miami Univ. Ec 22.03 358 P P 04 16 56.2 +0.8
baz=177
P53A Whipple 22.05 5 P P 04 16 56.8 +1.1
P53A IAmb IAmb 04 17 00.2
comp=Z,14nm,0.8s
R40A Maddies Statio 22.10 342 P P 04 16 57.0 +0.7
R40A IAmb IAmb 04 17 00.2
comp=Z,15nm,0.9s
P52A Corning 22.15 3 P P 04 16 57.7 +0.9
P52A IAmb IAmb 04 17 00.8
comp=Z,15nm,0.8s
P52A Corning 22.15 3 P P 04 16 57.7 +0.9
baz=184,SNR=5.4
MNHN Monahans 22.19 312 P P 04 16 58.2 +0.9
MNHN IAmb IAmb 04 17 22.8
comp=Z,10nm,0.5s
OK048 Pawnee Station 22.27 331 P 04 16 58.6 +0.6
OK048 IAmb IAmb 04 17 00.1
comp=Z,32nm,1.2s
ALPN Alpine 22.31 309 P P 04 16 59.5 +0.8
P46A Rosedale 22.31 353 P P 04 16 57.9 -0.6
P46A IAmb IAmb 04 17 10.8
comp=Z,14nm,0.9s
POST Post 22.37 317 P P 04 17 01.0 +1.7
DKNS Dickens 22.40 319 P P 04 17 00.4 +0.9
DKNS IAmb IAmb 04 17 06.2
comp=Z,12nm,0.9s
ODSA Odessa 22.49 314 P P 04 16 58.0 -2.6
ODSA IAmb IAmb 04 17 03.9
comp=Z,20nm,0.8s
P43A Skaggs, Pawnee 22.70 348 P P 04 17 03.1 +0.5
P43A IAmb IAmb 04 17 05.9
comp=Z,18nm,0.8s
O53A New Philadelph 22.83 5 P P 04 17 05.2 +1.3
baz=186
SMWD Samnorwood 22.98 323 P P 04 17 06.3 +0.6
SMWD IAmb IAmb 04 17 12.8
comp=Z,22nm,1.4s
PECS Pecos 23.00 311 P P 04 17 06.4 +0.5
PECS IAmb IAmb 04 17 11.3
comp=Z,9.4nm,0.8s
O44A Mansfield 23.02 351 P P 04 17 06.3 +0.4
O44A IAmb IAmb 04 17 08.0
comp=Z,14nm,0.8s
SFIN Lafayette 23.05 353 P P 04 17 07.6 +1.4
baz=171
OK032 Salt Plains WL 23.18 329 P 04 17 08.0 +0.3
OK032 IAmb IAmb 04 17 10.2
comp=Z,21nm,1.0s
P40A Paris 23.19 343 P P 04 17 07.2 -0.5
P40A IAmb IAmb 04 17 14.2
comp=Z,16nm,1.0s
VHRN Van Horn 23.52 308 P P 04 17 11.6 +0.3
AMTX Amarillo 23.68 321 P P 04 17 14.1 +1.4
AMTX IAmb IAmb 04 17 23.0
comp=Z,19nm,0.8s
AMTX Amarillo 23.68 321 P P 04 17 14.1 +1.4
baz=133
P38A Dawn 23.72 341 P P 04 17 13.4 +0.5
P38A IAmb IAmb 04 17 16.1
comp=Z,7.6nm,0.6s
MSTX Muleshoe 23.76 317 P P 04 17 14.0 +0.4
MSTX IAmb IAmb 04 17 22.4
comp=Z,15nm,0.8s
MSTX Muleshoe 23.76 317 P P 04 17 14.5 +1.0
baz=129
M53A WI Miller and 24.05 5 P P 04 17 17.3 +1.2
M53A WI Miller and 24.05 5 P P 04 17 17.8 +1.7
baz=187
MNTX Cornudas Mount 24.27 310 P P 04 17 19.0 +0.8
baz=121,SNR=5.2
KSU1 Kansas State U 24.36 335 P P 04 17 19.8 +0.9
KSU1 Kansas State U 24.36 335 P P 04 17 20.1 +1.1
baz=149,SNR=6.1
L40A Anamosa 25.38 347 P P 04 17 28.9 +0.8
L40A IAmb IAmb 04 17 29.7
comp=Z,12nm,0.9s
ANMO Albuquerque 26.78 315 P P 04 17 42.1 +0.9
ANMO Albuquerque 26.78 315 P P 04 17 43.0 +1.8
baz=125
SDCO Great Sand Dun 27.88 321 P P 04 17 53.8 +2.7
baz=130
SPMN Marine on St. 28.74 346 P P 04 17 58.3 -0.1
SPMN IAmb IAmb 04 17 59.4
comp=Z,9.8nm,0.9s
SPMN Marine on St. 28.74 346 P P 04 17 58.9 +0.6
baz=162
F36A Milaca 29.51 346 P P 04 18 05.3 +0.1
F36A IAmb IAmb 04 18 06.1
comp=Z,6.9nm,0.8s
AGMN Agassiz Nation 32.36 345 P P 04 18 30.7 +0.5
AGMN Agassiz Nation 32.36 345 P P 04 18 30.5 +0.3
baz=158
NLU North Lily Min 33.30 318 P P 04 18 40.6 +1.8
BW06 Boulder Array 33.51 324 P P 04 18 41.8 +1.2
baz=131
PDAR Pinedale Array 33.51 324 P P 04 18 40.9 +0.2
comp=Z,1.1nm,0.9s,baz=134,slow=11,SNR=8.2
comp=Z,1.1nm,0.9s
DUG Dugway, Tooele 33.90 318 P P 04 18 45.6 +1.6
DUG IAmb IAmb 04 18 46.7
comp=Z,2.9nm,0.8s
DUG Dugway, Tooele 33.90 318 P P 04 18 46.2 +2.1
baz=124
HWUT Hardware Ranch 33.94 321 P P 04 18 45.2 +0.8
ULM Lac du Bonnet 34.17 346 P P 04 18 45.6 -0.4
comp=Z,7.5nm,0.8s,baz=163,slow=9.0,SNR=15
comp=Z,7.5nm,0.8s
SPUT South Promonto 34.30 320 P P 04 18 48.9 +1.4
SPUT IAmb IAmb 04 18 50.2
comp=Z,8.8nm,1.3s
REDW Red Top Meadow 34.62 324 P P 04 18 50.8 +0.5
MOOW Moose Ponds 34.80 325 P P 04 18 52.5 +0.7
RLMT Red Lodge 34.94 328 P P 04 18 54.3 +1.3
baz=134
DGMT Dagmar 35.19 336 P P 04 18 55.8 +0.9
DGMT Dagmar 35.19 336 P P 04 18 56.2 +1.2
baz=144
ELK Elko 35.76 317 P P 04 19 01.9 +1.7
BOZ Bozeman (W) 36.49 326 P P 04 19 07.9 +1.6
BOZ IAmb IAmb 04 19 08.8
comp=Z,3.8nm,0.7s
BOZ Bozeman (W) 36.49 326 P P 04 19 08.2 +1.9
baz=131,SNR=6.8
NVAR Mina Array Bea 36.77 312 P P 04 19 09.4 +0.7
comp=Z,1.1nm,0.8s,baz=115,slow=9.4,SNR=6.0
comp=Z,1.1nm,0.8s
HLID Hailey 36.79 322 P P 04 19 09.5 +0.6
HLID Hailey 36.79 322 P P 04 19 10.6 +1.7
baz=125,SNR=5.5
EGMT Eagleton 37.23 331 P P 04 19 14.1 +1.6
baz=136
BPMT Black Pine Rid 38.00 326 P P 04 19 20.3 +1.1
PLID Pearl Lake 38.60 323 P P 04 19 25.5 +1.3
SCHQ Schefferville 39.50 15 P P 04 19 32.0 +0.7
comp=Z,2.2nm,0.5s,baz=237,slow=9.4,SNR=8.0
comp=Z,2.2nm,0.5s
NEW Newport 41.09 326 P P 04 19 45.8 +1.2
baz=127
NEW Newport 41.09 326 P P 04 19 45.2 +0.5
comp=Z,3.2nm,0.7s,baz=139,slow=11,SNR=7.1
comp=Z,3.2nm,0.7s
FCC Fort Churchill 41.97 352 P P 04 19 52.0 +0.4
YKA Yellowknife Ar 49.92 342 P P 04 20 54.2 0.0
comp=Z,0.9nm,0.8s,baz=133,slow=8.0,SNR=13
comp=Z,0.9nm,0.8s
WRGLY Wrigley 53.30 339 P P 04 21 20.7 +1.2
baz=136
I30M Mount Dempster 59.09 337 P P 04 22 02.4 +1.3
baz=118
INK Inuvik 59.65 341 P P 04 22 05.9 +1.2
baz=122
A36M Sachs Harbour 59.66 346 P P 04 22 04.6 0.0
A36M Sachs Harbour 59.66 346 P P 04 22 04.8 +0.2
baz=133,SNR=5.8
F30M Barrier River 60.03 340 P P 04 22 08.6 +1.3
baz=120
G29M Pine Creek 60.46 338 P P 04 22 11.7 +1.4
baz=117
I28M Miner Creek 60.53 336 P P 04 22 12.1 +1.2
baz=114
E29M Blow River 61.10 340 P P 04 22 16.3 +1.7
baz=118
F28M Old Crow 61.42 339 P P 04 22 18.4 +1.6
F28M Old Crow 61.42 339 P P 04 22 18.3 +1.5
baz=115,SNR=11
H27K Steamboat Moun 61.44 337 P P 04 22 18.6 +1.5
baz=113
G27K Doyon Strip 61.72 338 P P 04 22 20.0 +1.1
baz=113
I26K Coal Creek Min 61.72 336 P P 04 22 20.1 +1.3
E28M Babbage River 61.74 340 P P 04 22 19.9 +1.0
E28M IAmb IAmb 04 22 20.5
comp=Z,4.2nm,0.8s
E28M Babbage River 61.74 340 P P 04 22 20.0 +1.0
baz=116
PAX Paxson 61.91 333 P P 04 22 21.5 +1.2
baz=107
E27K Coleen River 62.25 339 P P 04 22 23.8 +1.4
baz=114
J25K Salcha River, 62.37 335 P P 04 22 24.7 +1.3
J25K Salcha River, 62.37 335 P P 04 22 25.3 +1.9
baz=108
D27M Malcolm River 62.48 340 P P 04 22 25.4 +1.4
D27M IAmb IAmb 04 22 26.0
comp=Z,4.5nm,0.8s
D27M Malcolm River 62.48 340 P P 04 22 25.4 +1.4
baz=115
G26K Porcupine Rive 62.55 337 P P 04 22 25.8 +1.4
baz=111
F26K Sheenjek River 62.95 338 P P 04 22 28.8 +1.7
baz=111
HDA Harding Lake 62.96 334 P P 04 22 28.6 +1.4
baz=107
IL31 63.04 335 P P 04 22 28.9 +1.2
ILAR Eielson Array 63.04 335 P P 04 22 28.9 +1.2
ILAR Eielson Array 63.04 335 P P 04 22 28.4 +0.7
comp=Z,4.0nm,0.7s,baz=107,slow=4.8,SNR=73
comp=Z,4.0nm,0.7s
F25K Christian Rive 63.45 338 P P 04 22 32.3 +1.8
baz=110
E25K Arctic Village 63.60 338 P P 04 22 33.1 +1.7
baz=110
MCK McKinley 63.62 333 P P 04 22 33.2 +1.6
baz=104
C26K Camden Bay 64.02 340 P P 04 22 36.1 +2.0
baz=111
TRF Thorofare Moun 64.14 333 P P 04 22 36.8 +1.6
baz=103
I23K Minto, Yukon-K 64.16 335 P P 04 22 36.9 +1.8
baz=105
F24K Squaw Lake 64.25 337 P P 04 22 37.8 +2.1
baz=107
D25K Kavik River 64.29 339 P P 04 22 37.4 +1.5
D25K Kavik River 64.29 339 P P 04 22 37.5 +1.5
baz=110
SKT Skwentna 64.39 331 P P 04 22 37.8 +1.1
baz=101
BPAW Bear Paw Mtn. 64.59 333 P P 04 22 39.2 +1.3
baz=103
G23K Bananza Creek 64.82 336 P P 04 22 41.6 +2.2
baz=105
COLD Coldfoot 65.02 337 P P 04 22 43.0 +2.3
baz=105
E23K Chandalar 65.03 338 P P 04 22 43.0 +2.2
baz=106
M20K Styx River 65.11 331 P P 04 22 42.4 +0.9
baz=100
C24K Franklin Bluff 65.19 340 P P 04 22 43.6 +1.8
baz=108
L20K Farewell, AK 65.56 331 P P 04 22 45.1 +0.8
baz=99
H21K Melozitna Rive 65.68 335 P P 04 22 46.0 +1.0
baz=102
O18K Koktuh Hills 65.82 328 P P 04 22 47.0 +0.9
baz=97
E22K Anaktuvuk Pass 65.85 338 P P 04 22 47.5 +1.4
baz=104
C23K Itkillik River 65.86 340 P P 04 22 47.8 +1.8
baz=106
J20K Nowinta River 65.96 333 P P 04 22 47.9 +1.1
baz=100
G21K Allakaket 66.13 336 P P 04 22 50.0 +2.1
baz=101
F21K Alatna River 66.27 336 P P 04 22 50.8 +2.1
baz=102
D22K Ayikyak River 66.33 338 P P 04 22 50.7 +1.5
D22K Ayikyak River 66.33 338 P P 04 22 50.9 +1.8
baz=103
J19K Poorman 66.57 333 P P 04 22 51.4 +0.6
baz=98
B22K Teshekpuk Lake 66.92 340 P P 04 22 54.0 +1.1
B22K Teshekpuk Lake 66.92 340 P P 04 22 54.2 +1.4
baz=103
F20K Avaraart Lake 67.09 336 P P 04 22 55.7 +1.8
baz=100
H19K Roundabout Mou 67.15 334 P P 04 22 55.8 +1.4
baz=98
B21K Ikpikpuk River 67.17 339 P P 04 22 55.6 +1.2
baz=102
E20K Nigu River 67.47 337 P P 04 22 58.2 +1.8
baz=100
G19K Purcell Mounta 67.49 335 P P 04 22 58.0 +1.5
baz=98
A22K Sinclair Lake 67.57 340 P P 04 22 58.2 +1.3
baz=102
E19K Redstone River 67.74 336 P P 04 22 59.2 +1.1
E19K Redstone River 67.74 336 P P 04 22 59.5 +1.4
baz=98
B20K Meade River 68.11 339 P P 04 23 01.7 +1.4
baz=99
A21K Barrow 68.16 341 P P 04 23 01.7 +1.1
baz=100
D19K Kuna River 68.21 338 P P 04 23 02.6 +1.5
baz=98
E17K Hotham Inlet 69.47 336 P P 04 23 10.1 +1.2
baz=94
B18K Kokolik River 69.64 338 P P 04 23 11.8 +1.9
baz=95
C17K DeLong Mountai 70.07 337 P P 04 23 13.8 +1.2
baz=93
C16K Lisburne Hills 70.87 337 P P 04 23 18.8 +1.4
baz=91
ESDC Sonseca Array 71.25 53 P P 04 23 21.1 +0.7
comp=Z,0.9nm,0.7s,baz=289,slow=6.4,SNR=7.3
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 80.29 20 P P 04 24 12.6 +1.1
comp=Z,1.6nm,0.8s,baz=290,slow=5.4,SNR=5.3
comp=Z,1.6nm,0.8s
FINES FINESS Array B 83.89 27 P P 04 24 30.4 0.0
comp=Z,0.8nm,0.5s,baz=299,slow=3.9,SNR=8.5
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 143.98 260 PKP PKPbc 04 31 35.4 +0.3
comp=Z,1.7nm,0.6s,baz=86,slow=3.3,SNR=22
ASAR Alice Springs 144.38 254 PKP PKPbc 04 31 36.6 +0.4
comp=Z,3.6nm,0.6s,baz=100,slow=3.8,SNR=45

CNRM ***10*** *04:43:33.1,36°49N×10°15W,h28km,ML3.6*
SFS ***10*** *04:43:36.6,36°49N×9°92W,h51km,ML3.2/10,ML3.4/8, MLv2.8/10*
MDD ***10*** *04:43:36.4±0.8,36°48N×9°90W,h31km±13km,mb_Lg3.0/7, Error ellipse: s-maj=8.4km s-min=4.1km az=83.0*
IGIL ***10*** *04:43:37.0,36°48N×9°82W,h19km,ML1.9*
INMG ***10*** *04:43:37.9±1.0,36°48N×9°84W,h31km±8km,ML1.9, Error ellipse: s-maj=5.1km s-min=3.2km az=74.0*

ISC 10 04:43:36.2±1.4,36°53N±0°03×9°84W±0°07,h35km,n53, σ1º40/85,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PFVI	**Vila Bisbo**	**1.02**	**53**	*eP*	**Pn**	**04 43 54.9**	**+0.9**
PFVI				*eS*	**Sn**	**04 44 07.7**	**+0.7**
PFVI				A	A	04 44 08.6	
	18nm,0.3s						
PFVI	**Vila Bisbo**	**1.02**	**53**	Pn	**Pn**	**04 43 54.9**	**+0.9**
PFVI	**Vila Bisbo**	**1.02**	**53**	P	**Pn**	**04 43 54.7**	**+0.7**
PFVI	**Vila Bisbo**	**1.02**	**53**	S	**Sn**	**04 44 09.7**	**+2.6**
MORF	**Marmelete**	**1.23**	**51**	*eP*	**Pn**	**04 43 57.9**	**+0.9**
MORF				*eS*	**Sn**	**04 44 13.3**	**+0.9**
MORF				A	A	04 44 14.3	
	20nm,1.8s						
MORF	**Marmelete**	**1.23**	**51**	*eP*	**Pn**	**04 43 57.9**	**+0.9**
MORF				*eS*	**Sn**	**04 44 13.1**	**+0.7**
MORF				IAML		04 44 13.9	
	comp=N,22nm,0.1s						
PTEO	**Sao Teotonio**	**1.36**	**41**	*eP*	**Pn**	**04 43 59.7**	**+1.0**
PTEO				*eS*	**Sn**	**04 44 16.1**	**+0.7**
PTEO				A	A	04 44 17.4	
	comp=N,10nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.69**	**64**	*eP*	**Pn**	**04 44 04.5**	**+1.2**
PBDV				*eS*	**Sn**	**04 44 24.2**	**+0.4**
PBDV				A	A	04 44 29.9	
	comp=N,5.1nm,0.6s						
PCVE	**Castro Verde**	**1.82**	**52**	*eP*	**Pn**	**04 44 06.5**	**+1.5**
PCVE				*eS*	**Sn**	**04 44 28.1**	**+1.3**
PCVE				A	A	04 44 34.9	
	comp=N,4.0nm,0.6s						
PCVE	**Castro Verde**	**1.82**	**52**	Pn	**Pn**	**04 44 06.3**	**+1.3**
MESJ	**Messejana**	**1.84**	**44**	*eP*	**Pn**	**04 44 06.4**	**+1.0**
MESJ				*eS*	**Sn**	**04 44 27.8**	**+0.3**
MESJ				A	A	04 44 36.8	
	comp=N,5.3nm,0.6s						
MESJ	**Messejana**	**1.84**	**44**	*eP*	**Pn**	**04 44 06.4**	**+1.0**
MESJ				*eS*	**Sn**	**04 44 27.9**	**+0.3**
MESJ				IAML		04 44 29.8	
	comp=N,6.0nm,0.2s						
PNCL	**Nicolau / Gran**	**1.90**	**33**	*eP*	**Pn**	**04 44 07.0**	**+0.9**
PNCL				*eS*	**Sn**	**04 44 29.1**	**+0.3**
PNCL				A	A	04 44 33.0	
	comp=N,4.5nm,0.3s						
PNCL	**Nicolau / Gran**	**1.90**	**33**	Pn	**Pn**	**04 44 06.8**	**+0.7**
PVAQ	**Vaqueiros**	**1.92**	**62**	*eP*	**Pn**	**04 44 07.6**	**+1.2**
PVAQ				*eS*	**Sn**	**04 44 29.4**	**+0.2**
PBEJ	**Beja**	**2.17**	**46**	*eP*	**Pn**	**04 44 11.2**	**+1.3**
PBEJ				*eS*	**Sn**	**04 44 35.9**	**+0.2**
PBEJ				A	A	04 44 40.4	
	comp=N,4.5nm,0.3s						
PMAFR	**Mafra**	**2.46**	**10**	*eP*	**Pn**	**04 44 14.7**	**+0.8**
PMAFR				*eS*	**Sn**	**04 44 42.9**	**+0.1**
PMAFR				A	A	04 44 44.9	
	comp=N,21nm,0.2s						
PMAFR	**Mafra**	**2.46**	**10**	Pn	**Pn**	**04 44 14.3**	**+0.4**
PMAFR				Sn	**Sn**	**04 44 41.6**	**-1.2**
EVO	**Evora**	**2.48**	**35**	*eP*	**Pn**	**04 44 14.7**	**+0.6**
EVO				*eS*	**Sn**	**04 44 42.7**	**-0.4**
EVO				A	A	04 44 45.1	
	comp=N,7.2nm,0.1s						
PBAR	**Barrancos**	**2.78**	**53**	*eP*	**Pn**	**04 44 19.2**	**+1.0**
PBAR				*eS*	**Sn**	**04 44 50.0**	**-0.5**
PBAR				A	A	04 44 53.1	
	comp=N,6.6nm,0.7s						
PBAR	**Barrancos**	**2.78**	**53**	Pn	**Pn**	**04 44 18.9**	**+0.8**
PMTG	**Montargil**	**2.84**	**26**	*eP*	**Pn**	**04 44 20.1**	**+1.0**
PMTG				*eS*	**Sn**	**04 44 51.6**	**-0.5**
PMTG				A	A	04 44 56.1	
	comp=N,2.0nm,0.4s						
PESTR	**Estremoz**	**2.94**	**37**	*eP*	**Pn**	**04 44 21.6**	**+1.1**
PESTR				*eS*	**Sn**	**04 44 54.1**	**-0.5**
PESTR				A	A	04 44 57.4	
	comp=N,1.0nm,0.1s						
PESTR	**Estremoz**	**2.94**	**37**	P	**Pn**	**04 44 20.3**	**-0.2**
PESTR	**Estremoz**	**2.94**	**37**	S	**Sn**	**04 44 58.3**	**+3.7**
EBAD	**Badajoz**	**3.16**	**44**	Pn	**Pn**	**04 44 23.8**	**+0.3**
EBAD				Sn	**Sn**	**04 44 59.1**	**-0.9**
EBAD	**Badajoz**	**3.16**	**44**	Pn	**Pn**	**04 44 23.5**	**0.0**
EBAD				Sn	**Sn**	**04 44 58.9**	**-1.1**
EBAD				*i* Vmb_Lg		04 45 01.4	
ESPR	**Espera**	**3.22**	**83**	Pn	**Pn**	**04 44 25.0**	**+0.7**
ESPR				Sn	**Sn**	**04 45 00.0**	**-1.4**
ESPR				*i* Vmb_Lg		04 45 02.9	
PMRV	**Marv??o**	**3.48**	**33**	*eP*	**Pn**	**04 44 28.8**	**+0.8**
PMRV				*eS*	**Sn**	**04 45 06.8**	**-1.2**
PMRV				A	A	04 45 08.5	
	comp=N,2.1nm,0.2s						
PCAS	**Casmilo, Conde**	**3.68**	**16**	*eP*	**Pn**	**04 44 31.7**	**+1.1**
PCAS				*eS*	**Sn**	**04 45 12.2**	**-0.5**
AVE	**Averroes**	**3.79**	**147**	Pn	**Pn**	**04 44 32.3**	**+0.2**
AVE				Sn	**Sn**	**04 45 12.3**	**-3.2**
AVE	**Averroes**	**3.79**	**147**	P	**Pn**	**04 44 31.0**	**-1.1**
AVE	**Averroes**	**3.79**	**147**	S	**Sn**	**04 45 16.8**	**+1.3**
PCBR	**Castelo Branco**	**3.80**	**29**	*eP*	**Pn**	**04 44 33.8**	**+1.6**
PCBR				*eS*	**Sn**	**04 45 14.8**	**-0.9**
ECAB	**El Cabril**	**3.85**	**65**	Pn	**Pn**	**04 44 34.1**	**+1.1**
ECAB				Sn	**Sn**	**04 45 15.4**	**-1.7**
ECAB	**El Cabril**	**3.85**	**65**	Pn	**Pn**	**04 44 34.1**	**+1.1**
ECAB				Sn	**Sn**	**04 45 15.4**	**-1.7**
ECAB				*i* Vmb_Lg		04 45 23.0	
MTE	**Manteigas**	**4.27**	**24**	*eP*	**Pn**	**04 44 39.7**	**+0.9**
MTE				*eS*	**Sn**	**04 45 26.6**	**-0.8**
SRHM	**Skhour des Reh**	**4.35**	**158**	P	**Pn**	**04 44 39.1**	**-0.8**
SRHM	**Skhour des Reh**	**4.35**	**158**	S	**Sn**	**04 45 35.4**	**+5.9**
PVIS	**Viseu**	**4.45**	**19**	*eP*	**Pn**	**04 44 41.9**	**+0.6**
PVIS				*eS*	**Sn**	**04 45 30.3**	**-1.6**
PVIS				A	A	04 45 35.6	
	comp=N,2.7nm,0.7s						
EADA	**Adamuz**	**4.50**	**67**	Pn	**Pn**	**04 44 41.5**	**-0.4**
EADA				Sn	**Sn**	**04 45 31.4**	**-1.7**
EADA				*i* Vmb_Lg		04 45 36.2	
EPLA	**Plasencia**	**4.61**	**39**	Sn	**Sn**	**04 45 33.7**	**-2.0**
EPLA				*i* Vmb_Lg		04 45 37.4	
IFR	**Ifrane**	**4.90**	**126**	Pn	**Pn**	**04 44 47.0**	**-0.6**
POLO	**Lamas de Olo**	**5.10**	**18**	*eP*	**Pn**	**04 44 50.7**	**+0.5**
POLO				*eS*	**Sn**	**04 45 46.0**	**-1.8**
MVO	**Moncorvo**	**5.13**	**25**	*eP*	**Pn**	**04 44 51.3**	**+0.8**
MVO				*eS*	**Sn**	**04 45 45.6**	**-2.9**
AKLM	**AKL**	**5.28**	**111**	P	**Pn**	**04 44 53.7**	**+1.0**
AKLM	**AKL**	**5.28**	**111**	S	**Sn**	**04 45 52.6**	**+0.3**
PAB	**San Pablo**	**5.28**	**54**	Pn	**Pn**	**04 44 53.8**	**+1.1**

PAB				Sn	Sn	04 45 49.8	-2.6	
PAB				*i* Vmb_Lg		04 45 55.3		
MD31	**MD31**	**5.56**	**130**	P	**Pn**	**04 44 55.9**	**-0.6**	
EQES	**Quesada**	**5.56**	**75**	Sn	**Sn**	**04 45 56.5**	**-2.7**	
EQES				*i* Vmb_Lg		04 46 13.8		
MDT	**Midelt**	**5.69**	**129**	P	**Pn**	**04 44 57.9**	**-0.4**	
TIO	**Tiouine**	**5.99**	**158**	Pn	**Pn**	**04 45 01.8**	**-0.7**	
OUZM	**OUZ**	**6.16**	**154**	P	**Pn**	**04 45 04.2**	**-0.7**	

NEIC ***10*** *04:49:42.1±1.6,5.°1S±0.°2×154.°6E±0.°1, h74km±9km, mb4.4/13, Error ellipse: s-maj=25.4km s-min=17.2km az=182.0*

IDC ***10*** *04:49:44.2±4.8,5.°12S×154.°53E, h99km±34km, mb3.6/10, mbtmp4.0/10, Error ellipse: s-maj=42.0km s-min=18.9km az=95.0*

ISC 10 04:49:35.9±0.9, 5.°3S±0.°1×154.°9E±0.°1, h35km, n36, σ1°25/35, mb4.3/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.96**	**291**	Pn	**Pn**	**04 50 21.5**	**+0.9**
RABL				Sn	**Sn**	**04 50 55.0**	**+0.1**
KRVT	**Keravat (AS076**	**3.06**	**288**	P	**Pn**	**04 50 24.6**	**+2.8**
	baz=38,slow=19						
KRVT				S	**Sn**	**04 50 56.9**	**-0.2**
	baz=128,slow=20						
WR0	**Warramunga Arr**	**24.65**	**232**	P	**P**	**04 54 54.1**	**+0.5**
WR0				IAmb	IAmb	04 54 55.1	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**24.66**	**232**	P	**P**	**04 54 54.0**	**+0.4**
WB0				IAmb	IAmb	04 54 55.6	
	comp=Z,9.1nm,1.0s						
MTN	**Manton Dam**	**24.67**	**251**	P	**P**	**04 54 53.8**	**0.0**
MTN				IAmb	IAmb	04 54 57.8	
	comp=Z,34nm,1.4s						
WRAB	**Tennant Creek**	**24.78**	**232**	P	**P**	**04 54 55.5**	**+0.7**
WRAB				IAmb	IAmb	04 54 56.2	
	comp=Z,7.4nm,0.8s						
WB2	**Warramunga Arr**	**24.79**	**232**	P	**P**	**04 54 55.6**	**+0.8**
WRA	**Warramunga Arr**	**24.80**	**232**	P	**P**	**04 54 54.6**	**-0.3**
WRA	**Warramunga Arr**	**24.80**	**232**	P	**P**	**04 54 55.2**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=56,slow=10.0,SNR=60						
	comp=Z,6.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**26.29**	**26**	T	T	05 22 53.1	
	baz=207						
H11S2	**WAKE ISLAND Hy**	**26.30**	**26**	T	T	05 22 46.8	
	baz=207						
H11S1	**WAKE ISLAND Hy**	**26.31**	**26**	T	T	05 22 52.5	
	baz=207						
ASAR	**Alice Springs**	**27.31**	**226**	P	**P**	**04 55 18.1**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=55,slow=9.0,SNR=16						
	comp=Z,1.0nm,0.5s						
KNRA	**Kununurra**	**27.71**	**246**	P	**P**	**04 55 20.8**	**-0.4**
KNRA				IAmb	IAmb	04 55 29.4	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**29.29**	**204**	P	**P**	**04 55 37.0**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=356,slow=13,SNR=1.9						
	comp=Z,0.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**31.34**	**244**	P	**P**	**04 55 52.8**	**-0.6**
PSA00	**Pilbara Seismi**	**37.66**	**241**	P	**P**	**04 56 47.0**	**-1.0**
PSA00				IAmb	IAmb	04 56 53.3	
	comp=Z,9.6nm,1.5s						
PSA00	**Pilbara Seismi**	**37.66**	**241**	P	**P**	**04 56 47.0**	**-1.0**
PSA00				IAmb	IAmb	04 56 49.7	
	comp=Z,18nm,1.1s						
NWAO	**Narrogin (SRO)**	**44.61**	**227**	P	**P**	**04 57 43.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**60.00**	**295**	P	**P**	**04 59 38.5**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=113,slow=5.2,SNR=7.0						
	comp=Z,1.0nm,0.3s						
SONM	**Songino Arrav**	**67.86**	**327**	P	**P**	**05 00 30.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=136,slow=4.9,SNR=3.0						
	comp=Z,0.3nm,0.5s						
E18K	**Tukpahlearik C**	**79.02**	**16**	P	**P**	**05 01 36.8**	**+0.8**
E18K				IAmb	IAmb	05 01 38.9	
	comp=Z,6.2nm,1.2s						
IMAR	**Indian Mountai**	**80.11**	**19**	P	**P**	**05 01 43.6**	**+1.6**
D19K	**Kuna River**	**80.44**	**16**	P	**P**	**05 01 45.5**	**+1.7**
IL31		**81.79**	**22**	P	**P**	**05 01 51.8**	**+0.9**
ILAR	**Eielson Array**	**81.79**	**22**	P	**P**	**05 01 52.7**	**+1.7**
	comp=Z,0.5nm,1.0s,baz=220,slow=3.8,SNR=4.2						
	comp=Z,0.5nm,1.0s						
MKAR	**Makanchi Array**	**82.07**	**319**	P	**P**	**05 01 52.3**	**-0.6**
MKAR	**Makanchi Array**	**82.07**	**319**	P	**P**	**05 01 52.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=100,slow=5.9,SNR=7.6						
	comp=Z,0.8nm,0.7s						
J25K	**Salcha River,**	**82.27**	**22**	P	**P**	**05 01 55.2**	**+1.6**
ZALV	**Zalesovo Beam**	**82.72**	**326**	P	**P**	**05 01 55.1**	**-1.0**
ZALV	**Zalesovo Beam**	**82.72**	**326**	P	**P**	**05 01 54.5**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=100,slow=4.4,SNR=2.8						
	comp=Z,0.6nm,0.4s						
BCAR	**Beaver Creek A**	**82.94**	**24**	P	**P**	**05 01 59.6**	**+2.5**
BMAR	**Burnt Mountain**	**83.95**	**20**	P	**P**	**05 02 02.6**	**+0.4**
KURBB	**Kurchatov Arra**	**85.48**	**322**	P	**P**	**05 02 08.8**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=110,slow=4.1,SNR=7.2						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**90.89**	**323**	P	**P**	**05 02 34.2**	**-1.7**
	comp=Z,1.1nm,0.9s,baz=120,slow=8.8,SNR=3.8						
	comp=Z,1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**152.47**	**288**	PKPbc	**PKPbc**	**05 09 28.2**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=41,slow=3.3,SNR=2.4						

JSN ***10*** *04:51:31.9±0.4, 16.°98N×83.°38W, h15km*

IDC ***10*** *04:51:32.1±0.7, 17.°35N×83.°20W, h0km, mb4.1/13, mbtmp4.1/19, ML3.5/6, Error ellipse: s-maj=22.3km s-min=14.7km az=49.0*

CATAC ***10*** *04:51:32.8±1.9, 17.°56N×83.°33W, h7km±25km, MB5.3, mb4.7, ML4.9*

NEIC ***10*** *04:51:34.4±1.9, 17.°44N±0.°06×83.°20W±0.°07, h10km±1km, mb4.6/121, Error ellipse: s-maj=10.8km s-min=9.8km az=299.0*

ISC 10 04:51:33.6±0.4, 17.°49N±0.°04×83.°15W±0.°04, h10km, n213, σ1°45/209, mb4.6/59, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**4.43**	**157**	*eP*	**Pn**	**04 52 39.6**	**-1.4**
PRVC	**Isla de Provid**	**4.43**	**157**	*i* P	**Pn**	**04 52 41.6**	**+0.6**
PRVC				IAML		04 54 46.7	
	comp=Z,180nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.86**	**216**	*i* P	**Pn**	**04 52 44.3**	**-2.6**
RCPN				IAML		04 54 07.3	
	comp=Z,0.8nm,1.0s						
TGUH	**Tegucigalpa,Un**	**5.24**	**230**	Pn	**Pn**	**04 52 51.9**	**-0.2**
TGUH	**Tegucigalpa,Un**	**5.24**	**230**	*eP*	**Pn**	**04 52 50.7**	**-1.4**
TGUH	**Tegucigalpa,Un**	**5.24**	**230**	*i* P	**Pn**	**04 52 50.6**	**-1.5**
TGUH				IAmb	IAmb	04 53 02.6	
	comp=Z,98nm,1.2s						
TGUH				IAML		04 54 41.2	
	comp=Z,510nm,1.0s						
MATN	**Matagalpa**	**5.26**	**211**	Pn	**Pn**	**04 52 51.9**	**-0.7**
MATN	**Matagalpa**	**5.26**	**211**	*i* P	**Pn**	**04 52 51.7**	**-0.8**
MATN				IAmb	IAmb	04 53 20.4	
	comp=Z,65nm,0.5s						
MATN				IAML		04 54 49.2	
	comp=Z,260nm,1.0s						
SOR	**Soroa**	**5.28**	**1**	Pn	**Pn**	**04 52 52.5**	**-0.2**
ESPN	**Las Esperanzas**	**5.38**	**192**		**Pn**	**04 52 53.8**	**-0.1**
ESPN	**Las Esperanzas**	**5.38**	**192**	*i* P	**Pn**	**04 52 53.9**	**-0.1**
ESPN				IAmb	IAmb	04 53 04.4	
	comp=Z,120nm,0.8s						
ESPN				IAML		04 54 50.3	
	comp=Z,420nm,1.0s						
MTDJ	**Mount Denham**	**5.39**	**81**	Pn	**Pn**	**04 52 53.9**	**-0.4**
MTDJ	**Mount Denham**	**5.39**	**81**	*eP*	**Pn**	**04 52 53.4**	**-0.9**
BLUN	**Bluefields**	**5.48**	**186**	*i* P	**Pn**	**04 52 55.7**	**+0.3**
BLUN				IAmb	IAmb	04 53 06.8	
	comp=Z,150nm,0.9s						
BLUN				IAML		04 54 29.5	
	comp=Z,300nm,1.0s						
TEIG	**Tepich**	**5.57**	**300**	Pn	**Pn**	**04 52 53.4**	**-3.2**
	comp=Z,113nm,0.3s,baz=198,slow=0.7,SNR=60						
TEIG				Sn	**Sn**	**04 53 52.6**	**-8.1**
	comp=Z,111nm,0.3s,baz=31,slow=23,SNR=2.1						
TEIG	**Tepich**	**5.57**	**300**	*eP*	**Pn**	**04 52 52.5**	**-4.2**
CAMR	**Camaricoa**	**5.79**	**16**	Pn	**Pn**	**04 53 01.6**	**+1.9**
ACON	**Acoyapa**	**5.83**	**200**		**Pn**	**04 52 59.6**	**-0.5**
ACON	**Acoyapa**	**5.83**	**200**	*eP*	**Pn**	**04 52 59.4**	**-0.7**
ACON	**Acoyapa**	**5.83**	**200**	*i* P	**Pn**	**04 52 59.5**	**-0.7**
ACON				IAmb	IAmb	04 53 00.1	
	comp=Z,180nm,0.4s						
ACON				IAML		04 55 03.9	
	comp=Z,440nm,1.0s						
CNGN	**Cerro Negro**	**6.03**	**215**	Pn	**Pn**	**04 53 02.9**	**-0.1**
CNGN	**Cerro Negro**	**6.03**	**215**	*eP*	**Pb**	**04 53 21.5**	**+2.6**
CNGN	**Cerro Negro**	**6.03**	**215**	*i* P	**Pn**	**04 53 02.7**	**-0.3**
CNGN				IAmb	IAmb	04 53 30.1	
	comp=Z,59nm,0.7s						
CNGN				IAML		04 55 10.6	
	comp=Z,390nm,1.0s						
CNGA	**Al SSO del Vol**	**6.04**	**215**	*i* P	**Pn**	**04 53 02.2**	**-0.9**
CNGA				IAML		04 53 36.7	
	comp=Z,92nm,1.0s						
CNGA				IVmB_BB		04 53 36.7	
	comp=Z,870nm,1.0s						
STH	**Stony Hill**	**6.07**	**83**	*i* P	**Pn**	**04 53 03.6**	**+0.1**
CRIN	**San Cristobal**	**6.07**	**219**	*eP*	**Pg**	**04 53 30.3**	**+0.3**
HOJ	**Hope**	**6.12**	**84**	*i* P	**Pn**	**04 53 04.4**	**+0.3**
HOJ				*i* S	**Sn**	**04 54 13.9**	**-0.4**
GWJ	**Greenwich**	**6.14**	**84**	*i* P	**Pn**	**04 53 05.2**	**+0.6**
LCND	**La Caada**	**6.18**	**228**	*i* S	**Sn**	**04 54 14.7**	**-1.1**
COPN	**Copaltepe**	**6.24**	**213**	*i* P	**Pn**	**04 53 05.1**	**-0.7**
COPN				IAmb	IAmb	04 53 14.5	
	comp=Z,73nm,1.1s						
COPN				IVmB_BB		04 53 45.6	
	comp=Z,2μm,1.0s						
COPN				IAML		04 55 15.1	
	comp=Z,350nm,1.0s						
CONN	**Concepcion**	**6.36**	**203**	*i* P	**Pn**	**04 53 07.3**	**-0.2**
CONN				IAmb	IAmb	04 53 15.8	
	comp=Z,750nm,0.7s						
CONN				IVmB_BB		04 53 48.9	
	comp=Z,11μm,1.0s						
CONN				IAML		04 55 19.7	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**6.72**	**244**		**Pn**	**04 53 11.0**	**-1.6**
MTO3	**Montecristo**	**6.72**	**244**	*i* P	**Pn**	**04 53 10.6**	**-2.0**
MTO3				IAmb	IAmb	04 53 19.2	
	comp=Z,36nm,0.7s						
MTO3				IAML		04 53 48.8	
	comp=Z,95nm,1.0s						
HZTE	**Horizontes, Gu**	**7.14**	**200**	*i* P	**Pn**	**04 53 17.4**	**-0.8**
HZTE				IAmb	IAmb	04 53 30.8	
	comp=Z,33nm,1.1s						
HZTE				IAML		04 55 45.7	
	comp=Z,270nm,1.0s						
JTS	**Las Juntas de**	**7.36**	**194**		**Pn**	**04 53 21.8**	**+0.5**
JTS	**Las Juntas de**	**7.36**	**194**	Pn	**Pn**	**04 53 20.8**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=15,slow=18,SNR=8.8						
	comp=Z,4.7nm,0.3s						
JTS	**Las Juntas de**	**7.36**	**194**	*eP*	**Pn**	**04 53 22.3**	**+0.9**
ORTG	**Ortega, Santa**	**7.43**	**198**	*i* P	**Pn**	**04 53 22.4**	**+0.1**
ORTG				IAmb	IAmb	04 53 30.9	
	comp=Z,24nm,1.2s						
ORTG				IAML		04 55 35.1	
	comp=Z,110nm,1.0s						
LCR2	**La Lucha 2**	**7.74**	**186**	Pn	**Pn**	**04 53 25.1**	**-1.6**
CDM	**Cerro de Muert**	**7.91**	**184**	*i* P	**Pn**	**04 53 30.7**	**+1.5**
CDM				IAmb	IAmb	04 53 41.3	
	comp=Z,30nm,1.0s						
CDM				IAML		04 55 47.6	
	comp=Z,120nm,1.0s						
GTBY	**Guantanamo Bay**	**7.99**	**71**	Pn	**Pn**	**04 53 30.1**	**+0.2**
GTBY	**Guantanamo Bay**	**7.99**	**71**	*eP*	**Pn**	**04 53 30.5**	**+0.6**
CCIG	**Comitan**	**8.69**	**263**		**Pn**	**04 53 37.5**	**-2.2**
BCIP	**Isla Barro Col**	**8.87**	**158**	*i* P	**Pn**	**04 53 43.8**	**+1.8**
BCIP				IAmb	IAmb	04 53 52.0	
	comp=Z,38nm,1.8s						
UPD2	**Meteti**	**10.19**	**150**	*eP*	Pn	04 53 52.5	-7.6
SJCC	**San Jacinto, C**	**10.80**	**133**	*eP*	**Pn**	**04 54 06.3**	**-2.3**
CMIG	**Matias Romero**	**11.22**	**270**	Pn	**Pn**	**04 54 12.3**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=80,slow=12,SNR=4.2						
CMIG				Sn	Sn	04 56 06.5	-13
	comp=Z,0.7nm,0.3s,baz=304,slow=20,SNR=1.9						
	comp=Z,1.4nm,0.3s						
SDDR	**Presa de Saban**	**11.37**	**81**	Pn	**Pn**	**04 54 17.6**	**+1.4**
SDDR	**Presa de Saban**	**11.37**	**81**	*eP*	**Pn**	**04 54 15.7**	**-0.6**
APAC	**Apartado, Choc**	**11.48**	**145**	*eP*	Pn	04 54 12.2	-5.5
ARGC	**Ariguani, Magd**	**11.50**	**130**	*eP*	**Pn**	**04 54 16.7**	**-1.3**
CRJC	**Cerrejon, Guaj**	**11.84**	**122**	*eP*	Pn	04 54 18.0	-4.8
UREC	**San Jos de Ur**	**12.19**	**142**	*eP*	Pn	04 54 23.1	-4.4
LL6C	**La Loma 6 Bece**	**12.30**	**127**	*eP*	**Pn**	**04 54 25.6**	**-3.4**
ZARC	**Zaragoza, Cauc**	**12.81**	**140**	*eP*	**Pn**	**04 54 32.2**	**-3.7**
CBOC	**Ciudad Bolivar**	**13.49**	**148**	*eP*	Pn	04 54 39.6	-5.8
PTBC	**PUERTO BERRIO,**	**13.80**	**141**	*eP*	**Pn**	**04 54 45.8**	**-3.7**
PLMC	**San Jos del P**	**14.19**	**151**	*eP*	**P**	**04 55 01.1**	**-1.4**
PAMC	**Pamplona, Colo**	**14.34**	**133**	*eP*	**Pn**	**04 54 54.6**	**-2.6**
GUY2C	**Guyana, Caldas**	**14.37**	**147**	*eP*	**Pn**	**04 54 56.3**	**-1.5**
BARC	**Barichara**	**14.56**	**137**	*eP*	Pn	04 54 55.8	-4.2
250A	**Grady**	**14.70**	**349**	Pn	**Pn**	**04 55 01.8**	**+0.1**
SPBC	**San Pablo de B**	**14.73**	**142**	*eP*	**Pn**	**04 55 02.1**	**-0.2**
SDV	**Santo Domingo**	**14.87**	**123**		**Pn**	**04 55 02.5**	**-1.9**
SDV	**Santo Domingo**	**14.87**	**123**	Pn	**Pn**	**04 55 02.6**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=330,slow=7.6,SNR=8.2						
SDV				Sn	**Sn**	**04 57 44.0**	**-5.4**
	comp=Z,0.2nm,0.3s,baz=37,slow=22,SNR=1.3						
	comp=Z,5.5nm,0.6s						
SDV	**Santo Domingo**	**14.87**	**123**	*eP*	**Pn**	**04 55 02.1**	**-2.2**
ROSC	**El Rosal**	**15.25**	**144**	Pn	**Pn**	**04 55 08.6**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=301,slow=21,SNR=2.1						
	comp=Z,2.4nm,0.3s						
JAMC	**Jamundi, Valle**	**15.54**	**155**	*eP*	**Pn**	**04 55 15.5**	**+2.3**
ORTC	**Ortega, Tolima**	**15.56**	**149**	*eP*	**Pn**	**04 55 15.8**	**+2.5**
TAMC	**Tame, Arauca**	**15.61**	**133**	*eP*	**P**	**04 55 19.6**	**+1.4**
PRAC	**Prado**	**15.90**	**148**	*eP*	**Pn**	**04 55 18.0**	**+0.2**
SJG	**San Juan**	**16.20**	**85**	Pn	**Pn**	**04 55 22.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=304,slow=8.6,SNR=4.0						
	comp=Z,1.1nm,0.7s						
BBAC	**Balboa, Cauca**	**16.42**	**159**	*eP*	**P**	**04 55 27.8**	**+0.4**
143A	**Socs Landing,**	**16.89**	**335**	P	**Pn**	**04 55 31.7**	**+1.6**
143A				IAmb	IAmb	04 55 54.0	
	comp=Z,80nm,1.4s						
BAUV	**El Baul**	**16.97**	**118**	Pn	**Pn**	**04 55 29.4**	**-1.9**
HKT	**Hockley**	**16.98**	**319**		**Pn**	**04 55 32.5**	**+1.2**
PTGC	**Puerto Gaitan,**	**17.05**	**139**	*eP*	**P**	**04 55 35.5**	**+1.4**
FPAL	**Fort Paine**	**17.13**	**353**		**Pn**	**04 55 35.0**	**+1.8**
BIRD	**Birdtown, Kers**	**17.26**	**7**	P	**Pn**	**04 55 35.5**	**+0.8**
TULM	**Tulcn-Chalpat**	**17.48**	**162**	*eP*	**P**	**04 55 45.9**	**+6.5**
OTAV	**Otavalo**	**17.75**	**164**	Pn	**Pn**	**04 55 40.5**	**-1.0**
OTAV	**Otavalo**	**17.75**	**164**	*eP*	**Pn**	**04 55 42.2**	**+0.7**
OXF	**Oxford**	**17.86**	**343**		**Pn**	**04 55 40.0**	**-2.2**
OXF				IAmb	IAmb	04 55 52.9	
	comp=Z,79nm,1.2s						
PLAL	**Pickwick Lake**	**17.97**	**347**		**P**	**04 55 45.1**	**+1.0**
CCAR	**Cane Creek**	**18.10**	**336**		**Pn**	**04 55 45.1**	**-0.1**
CCAR				IAmb	IAmb	04 56 09.3	
	comp=Z,44nm,1.1s						
TKL	**Tuckaleeches C**	**18.11**	**358**	P	**Pn**	**04 55 46.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=2.0						
	comp=Z,3.2nm,0.9s						
V53A	**Saluda**	**18.11**	**1**		**Pn**	**04 55 45.2**	**-0.2**
833A	**Chaparral WMA,**	**18.43**	**309**	P	**P**	**04 55 49.7**	**+0.4**
WLAR	**White Oak Lake**	**18.45**	**333**	P	**P**	**04 55 48.8**	**-0.6**
WLAR				IAmb	IAmb	04 56 27.9	
	comp=Z,42nm,1.2s						
V48A	**Smith Brothers**	**18.47**	**351**	P	**P**	**04 55 49.8**	**+0.1**
PIAT	**Ana Tenorio**	**18.99**	**165**	*eP*	**P**	**04 55 56.2**	**+0.3**
HNDO	**Hondo**	**19.02**	**312**	P	**P**	**04 55 55.4**	**-0.3**
X40A	**Basin Creek Fa**	**19.02**	**335**	P	**P**	**04 55 55.5**	**-0.2**
WVT	**Waverly**	**19.03**	**348**	P	**P**	**04 55 56.8**	**+1.0**
WHTX	**Lake Whitney,**	**19.40**	**321**		**P**	**04 56 00.4**	**+0.5**
WHTX				IAmb	IAmb	04 56 38.6	
	comp=Z,27nm,1.1s						
WHAR	**Wooly Hollow**	**19.51**	**337**	P	**P**	**04 55 59.8**	**-1.4**
WHAR				IAmb	IAmb	04 56 15.9	
	comp=Z,32nm,1.0s						
T47A	**Sharon Grove**	**19.74**	**351**	P	**P**	**04 56 05.3**	**+1.7**
BRDY	**Brady**	**19.90**	**317**	P	**P**	**04 56 06.0**	**+0.6**
DRIO	**Del Rio**	**19.92**	**310**	P	**P**	**04 56 05.8**	**+0.2**
DRIO				IAmb	IAmb	04 56 33.0	
	comp=Z,38nm,1.2s						
JCT	**Junction City**	**19.94**	**313**		**P**	**04 56 06.3**	**+0.4**
FCAR	**Ozark Folk Cen**	**19.99**	**338**	P	**P**	**04 56 07.1**	**+0.8**
PBMO	**Poplar Bluff**	**20.27**	**343**	P	**P**	**04 56 10.8**	**+1.5**
PBMO				IAmb	IAmb	04 56 23.1	
	comp=Z,24nm,0.9s						
PLPT	**Palo Pinto**	**20.49**	**321**		**P**	**04 56 13.1**	**+1.2**
PLPT				IAmb	IAmb	04 56 33.1	
	comp=Z,17nm,0.8s						
CGM3	**Cape Girardeau**	**20.55**	**345**	P	**P**	**04 56 13.5**	**+1.1**
R49A	**Shelbyville**	**20.80**	**356**	P	**P**	**04 56 16.1**	**+0.9**
S44A	**Carbondale**	**20.84**	**346**	P	**P**	**04 56 15.9**	**+0.4**
SIUC	**Southern Illin**	**20.85**	**346**	P	**P**	**04 56 15.8**	**+0.2**
WCI	**Wyandotte Cave**	**20.85**	**353**	P	**P**	**04 56 16.2**	**+0.6**
WCI				IAmb	IAmb	04 56 32.5	
	comp=Z,29nm,1.2s						
HHAR	**Hobbs**	**21.02**	**335**	P	**P**	**04 56 18.9**	**+1.4**
OZNA	**Ozona**	**21.12**	**313**	P	**P**	**04 56 18.9**	**+0.2**
OZNA				IAmb	IAmb	04 56 43.9	
	comp=Z,50nm,1.5s						
MGMO	**Mountain Grove**	**21.18**	**339**	P	**P**	**04 56 19.8**	**+0.5**
MGMO				IAmb	IAmb	04 56 43.7	
	comp=Z,40nm,1.1s						
ABTX	**Abilene, Hawle**	**21.18**	**318**	P	**P**	**04 56 20.5**	**+1.2**
ABTX				IAmb	IAmb	04 56 32.8	
	comp=Z,24nm,0.9s						
FDF	**Fort de France**	**21.31**	**94**	P	**P**	**04 56 21.4**	**+0.6**
SAND	**Sanderson**	**21.31**	**309**	P	**P**	**04 56 20.9**	**+0.1**
SAND				IAmb	IAmb	04 56 54.6	
	comp=Z,20nm,1.0s						
U38A	**Gravette**	**21.34**	**334**	P	**P**	**04 56 21.0**	**0.0**
U38A				IAmb	IAmb	04 56 41.6	
	comp=Z,40nm,1.5s						
FVM	**French Village**	**21.40**	**344**	P	**P**	**04 56 22.1**	**+0.6**
BIM	**Bigot**	**21.42**	**95**	P	**P**	**04 56 20.8**	**-1.2**
Q51A	**Peebles**	**21.46**	**360**	P	**P**	**04 56 23.6**	**+1.4**
Q51A				IAmb	IAmb	04 56 45.7	
	comp=Z,24nm,1.0s						
TUL3	**Leonard**	**21.51**	**331**	P	**P**	**04 56 23.9**	**+1.1**
TUL3				IAmb	IAmb	04 56 37.0	
	comp=Z,31nm,1.1s						
OLIL	**Olney**	**21.61**	**349**	P	**P**	**04 56 25.0**	**+1.2**
OLIL				IAmb	IAmb	04 56 39.1	
	comp=Z,24nm,0.9s						
CCM	**Cathedral Cave**	**21.69**	**342**	P	**P**	**04 56 25.3**	**+0.6**
CCM				IAmb	IAmb	04 56 48.1	
	comp=Z,29nm,1.2s						
FNO	**Franklin**	**21.78**	**327**		**P**	**04 56 25.7**	**0.0**
FNO				IAmb	IAmb	04 56 38.5	
	comp=Z,26nm,0.9s						
DEOK	**Depew**	**21.79**	**330**		**P**	**04 56 26.5**	**+0.7**
P51A	**Williamsport**	**21.92**	**0**	P	**P**	**04 56 27.5**	**+0.4**
P51A				IAmb	IAmb	04 56 44.1	
	comp=Z,28nm,1.2s						
MCRA	**Macar, Loja**	**21.94**	**171**	P	**P**	**04 56 25.4**	**-2.3**
MCRA	**Macar, Loja**	**21.94**	**171**	*eP*	**P**	**04 56 30.8**	**+3.2**
Q44A	**Meyer Farm, Va**	**21.95**	**348**	P	**P**	**04 56 28.9**	**+1.5**
Q44A				IAmb	IAmb	04 56 46.4	
	comp=Z,26nm,0.9s						
P48A	**Milroy**	**21.99**	**355**	P	**P**	**04 56 26.9**	**-0.9**
P48A				IAmb	IAmb	04 56 57.6	
	comp=Z,26nm,1.1s						
S39A	**Bolivar**	**22.03**	**338**	P	**P**	**04 56 27.5**	**-0.8**
S39A				IAmb	IAmb	04 56 44.2	
	comp=Z,17nm,1.1s						
OK052	**Battle Ridge R**	**22.06**	**329**		**P**	**04 56 29.1**	**+0.4**
OK052				IAmb	IAmb	04 56 42.1	
	comp=Z,23nm,1.0s						
WMOK	**Wichita Mounta**	**22.14**	**324**		**P**	**04 56 29.0**	**-0.6**
QUOK	**Quay**	**22.16**	**330**		**P**	**04 56 30.2**	**+0.4**
QUOK				IAmb	IAmb	04 56 54.3	
	comp=Z,31nm,1.0s						
OK033	**Mehan**	**22.16**	**329**		**P**	**04 56 31.2**	**+1.3**
OK033				IAmb	IAmb	04 56 41.6	
	comp=Z,16nm,0.8s						
TXAR	**Lajitas Array**	**22.18**	**306**	P	**P**	**04 56 31.3**	**+1.1**
TXAR	**Lajitas Array**	**22.18**	**306**	P	**P**	**04 56 30.6**	**+0.4**
	comp=Z,4.5nm,1.2s,baz=131,slow=9.5,SNR=18						
	comp=Z,4.5nm,1.2s						
TX31	**Lajitas Ar. Si**	**22.18**	**306**	P	**P**	**04 56 30.2**	**0.0**
TX31				IAmb	IAmb	04 56 49.0	
	comp=Z,28nm,1.1s						
R40A	**Maddies Statio**	**22.21**	**341**	P	**P**	**04 56 31.1**	**+0.8**
R40A				IAmb	IAmb	04 56 42.7	
	comp=Z,30nm,1.2s						
OK029	**Liberty Lake**	**22.23**	**328**		**P**	**04 56 31.0**	**+0.5**
OK029				IAmb	IAmb	04 56 54.1	
	comp=Z,40nm,1.2s						
OK048	**Pawnee Station**	**22.46**	**330**		**P**	**04 56 33.6**	**+0.6**
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REDW Red Top Meadow 34.86 324 P P 04 58 26.4 +1.1
MOOW Moose Ponds 35.04 324 P P 04 58 28.1 +1.2
R11B Troy Canyon, C 35.13 313 P P 04 58 28.5 +0.8
ELK Elko 36.05 317 P P 04 58 34.8 -0.8
ELK IAmb IAmb 04 58 46.9
comp=Z,11nm,1.4s
HLID Hailey 37.05 321 P P 04 58 43.8 -0.3
NVAR Mina Array Bea 37.09 311 P P 04 58 45.4 +0.8
comp=Z,1.5nm,0.9s,baz=108,slow=11,SNR=6.6
comp=Z,1.5nm,0.9s
KVN Kaiserville 37.21 312 P P 04 58 45.5 0.0
BMN Battle Mountai 37.22 315 P P 04 58 46.1 +0.6
BMN IAmb IAmb 04 59 01.6
comp=Z,13nm,1.3s
MFID Camas Ranch 37.83 320 P P 04 58 50.8 +0.2
MFID IAmb IAmb 04 59 01.5
comp=Z,9.0nm,1.2s
SCHQ Schefferville 39.33 15 P P 04 59 03.8 +0.9
comp=Z,1.8nm,0.5s,baz=195,slow=9.8,SNR=2.1
comp=Z,1.8nm,0.5s
J08A Circle Bar Ran 39.45 318 P P 04 59 04.6 +0.4
F10A Beach Ranch, E 40.07 323 P P 04 59 10.0 +0.7
BRLDA Berland Lookou 45.09 332 P P 04 59 48.9 -1.1
AQDB Aquidauana 46.35 143 P P 04 59 59.2 -0.9
AQDB IAmb IAmb 04 59 59.7
comp=Z,8.2nm,1.2s
BDFB Brasilia 47.78 132 P P 05 00 10.9 -0.6
comp=Z,7.9nm,1.0s,baz=330,slow=6.6,SNR=8.4
comp=Z,7.9nm,1.0s
YKA Yellowknife Ar 50.02 342 P P 05 00 28.6 +0.6
comp=Z,0.9nm,1.0s,baz=129,slow=8.4,SNR=4.8
comp=Z,0.9nm,1.0s
PLCA Paso Flores 59.09 169 P P 05 01 33.6 -0.6
comp=Z,1.9nm,0.9s,baz=312,slow=8.3,SNR=2.3
comp=Z,1.9nm,0.9s
A36M Sachs Harbour 59.73 346 P P 05 01 38.1 0.0
F28M Old Crow 61.55 339 P P 05 01 52.0 +1.3
IL31 63.21 334 P P 05 02 03.0 +1.3
ILAR Eielson Array 63.21 334 P P 05 02 02.6 +0.8
comp=Z,3.0nm,0.8s,baz=108,slow=4.6,SNR=34
comp=Z,3.0nm,0.8s
RND Reindeer 63.68 333 P P 05 02 05.8 +0.7
TRF Thorofare Moun 64.32 333 P P 05 02 10.1 +0.7
G19K Purcell Mounta 67.65 335 P P 05 02 31.5 +0.9
ESDC Sonseca Array 70.84 53 P P 05 02 52.1 +1.1
ESDC Sonseca Array 70.84 53 P P 05 02 52.3 +1.3
comp=Z,3.4nm,0.9s,baz=284,slow=6.2,SNR=13
comp=Z,3.4nm,0.9s
TORD Torodi Ar. Bea 81.31 79 P P 05 03 50.9 -0.1
comp=Z,0.9nm,0.9s,baz=306,slow=3.9,SNR=4.4
comp=Z,0.9nm,0.9s
GERES GERESS Array B 81.43 42 P P 05 03 52.0 +0.9
comp=Z,1.0nm,0.7s,baz=292,slow=5.2,SNR=3.1
comp=Z,1.0nm,0.7s
FINES FINESS Array B 83.63 27 P P 05 04 04.0 +1.9
comp=Z,2.8nm,1.1s,baz=207,slow=5.9,SNR=1.7
comp=Z,2.8nm,1.1s
WRA Warramunga Arr 144.46 260 PKP PKPab 05 11 09.0 -0.4
comp=Z,2.2nm,1.1s,baz=84,slow=4.1,SNR=6.6
ASAR Alice Springs 144.84 254 PKP PKPab 05 11 09.7 -1.0
comp=Z,3.9nm,0.8s,baz=98,slow=3.4,SNR=19

CATAC 10 04:53:03.9±0.4, 10°23'N×84°79'W, h120km, ML2.7, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COVE	**Coope Vega, Sa**	**0.62**	**38**	*i* P	Pn	04 53 20.4	-2.3
COVE				IAML		04 53 54.1	
comp=Z,310nm,1.0s							
VMAR	**Armenia, Volca**	**0.66**	**332**	*i* P	Pn	04 53 20.0	-3.0
VMAR				IAML		04 54 01.8	
comp=Z,290nm,1.0s							
ORTG	**Ortega, Santa**	**0.67**	**282**	IAML		04 54 09.7	
comp=Z,76nm,1.0s							
HZTE	**Horizontes, Gu**	**0.92**	**302**	*i* P	Pn	04 53 23.3	-1.9
HZTE				IAML		04 54 25.9	
comp=Z,170nm,1.0s							
CDM	**Cerro de Muert**	**1.22**	**123**	*i* S	Sn	04 53 48.8	+1.5
CDM				IAML		04 54 29.6	
comp=Z,91nm,1.0s							
RIOS	**Rincon, Osa**	**1.97**	**140**	*i* P	Pn	04 53 42.9	+5.8
CRUN	**El Crucero**	**2.29**	**320**	*i* P	Pn	04 53 45.1	+4.0
UNAN	**Cigeo UNAN**	**2.37**	**322**	*i* P	Pn	04 53 44.1	+2.1
CRIN	**San Cristobal**	**3.31**	**318**	*i* P	Pn	04 54 01.9	+7.6
CRIN				IAML		04 55 03.1	
comp=Z,600nm,1.0s							

IDC ***10*** *04:55:19.0±4.2, 9°.82S×116°.80E, h0km, mb3.3/2, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=294.7km s-min=30.0km az=48.0*
DJA ***10*** *04:55:24.1±1.0, 10°.5S×11°.6E, h26km±11km, M3.9/9, mb4.3/3, mB5.2/1, MLv3.6/9, Mw(mB)4.6/1*
ISC 10 04:55:26.1±1.2, 10°.19S±0°.10×116°.44E±0°.05, h76km, n13, σ1§24/17, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.51**	**17**	P	**Pn**	**04 55 50.1**	**-1.3**
IGBI	**Denpasar**	**1.87**	**317**	P	**Pn**	**04 55 54.4**	**-1.8**
PLAI	**Plampang**	**1.89**	**44**	P	**Pn**	**04 55 54.1**	**-2.3**
PLAI				S	Sn	04 56 19.3	-0.2
SRBI	**Singaraja**	**2.42**	**330**	P	**Pn**	**04 56 04.1**	**+0.6**
SRBI				S	Sn	04 56 32.6	+0.4
DBNI	**Kabupaten Domp**	**2.50**	**48**	P	**Pn**	**04 56 05.1**	**+0.5**
DBNI				S	Sn	04 56 35.1	+1.0
JAGI	**Jajag, Banyuwa**	**2.83**	**307**	P	Pn	04 56 06.5	-2.7
JAGI				S	Sn	04 56 41.5	-0.8
WBSI	**Waikabubak, Su**	**2.96**	**80**	P	**Pn**	**04 56 10.8**	**-0.1**
BASI	**Baing, Sumba**	**4.07**	**91**	P	**Pn**	**04 56 25.1**	**-0.9**
PWJI	**Pagerwojo**	**5.06**	**295**	P	**Pn**	**04 56 38.1**	**-1.4**
13nm,0.8s,2µm0.1nm							
EDFI	**Ende, Flores**	**5.37**	**75**	P	**Pn**	**04 56 42.1**	**-1.8**
EDFI				S	Sn	04 57 44.0	-0.5
WRA	**Warramunga Arr**	**19.80**	**121**	P	**P**	**04 59 50.7**	**+0.2**
baz=302,slow=14,SNR=1.6							
0.3nm,0.9s							
ASAR	**Alice Springs**	**21.38**	**131**	P	**P**	**05 00 07.7**	**0.0**
0.8nm,0.7s,baz=307,slow=10,SNR=7.4							
0.8nm,0.7s							
MKAR	**Makanchi Array**	**64.40**	**335**	P	**P**	**05 05 55.8**	**+1.6**
0.3nm,0.5s,baz=155,slow=7.5,SNR=2.5							
0.3nm,0.5s							

CATAC ***10*** *04:57:07.0±1.7, 18°.51N×82°.35W, h100km, MB2.8, mb4.7, ML4.9*
IDC ***10*** *04:57:21.1±0.8, 17°.41N×83°.21W, h0km, mb3.9/12, mbtmp3.9/15, ML3.5/3, Error ellipse: s-maj=26.1km s-min=16.8km az=53.0*
NEIC ***10*** *04:57:23.7±2.0, 17°.50N±0°.07×83°.28W±0°.08, h10km±1km, mb4.5/105, Error ellipse: s-maj=12.3km s-min=11.2km az=268.0*
ISC 10 04:57:23.5±0.4, 17°.42N±0°.04×83°.35W±0°.05, h18km, n178, σ1§42/173, mb4.5/53, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**4.45**	**154**	*eP*	**Pg**	**04 58 48.0**	**-0.9**
NISHN	**Nisperales Com**	**4.64**	**250**	*i* P	**Pn**	**04 58 31.4**	**-1.5**
RCPN	**Sur Rio San Ju**	**4.69**	**215**	*i* P	**Pn**	**04 58 33.0**	**-0.6**
RCPN				IAmb	IAmb	04 58 36.4	
comp=Z,0.1nm,0.8s							
RCPN				IAML		04 59 26.8	
comp=Z,0.7nm,1.0s							
RCPN				IVmB_BB		04 59 28.6	
comp=Z,12nm,1.0s							
YUSH	**Yuscaran**	**4.82**	**225**	*i* P	**Pn**	**04 58 36.2**	**+0.9**
COMHN	**El Horno**	**5.01**	**234**	*i* P	**Pn**	**04 58 38.8**	**+0.7**
TGUH	**Tegucigalpa,Un**	**5.05**	**229**	Pn	**Pn**	**04 58 39.4**	**+0.9**
TGUH	**Tegucigalpa,Un**	**5.05**	**229**	*eP*	**Pn**	**04 58 38.9**	**+0.4**
TGUH	**Tegucigalpa,Un**	**5.05**	**229**	*i* P	**Pn**	**04 58 41.1**	**+2.6**
TGUH				IAmb	IAmb	04 58 51.1	
comp=Z,180nm,0.7s							
TGUH				IAML		05 00 40.5	
comp=Z,450nm,1.0s							
MATN	**Matagalpa**	**5.11**	**209**	Pn	**Pn**	**04 58 40.3**	**+0.9**
MATN	**Matagalpa**	**5.11**	**209**	*i* P	**Pn**	**04 58 40.7**	**+1.4**
MATN				IAmb	IAmb	04 59 08.8	
comp=Z,110nm,0.7s							
MATN				*i* S	**Sb**	**04 59 54.1**	**+0.4**
MATN				IAML		05 00 39.2	
comp=Z,310nm,1.0s							
ESPN	**Las Esperanzas**	**5.28**	**190**		**Pn**	**04 58 43.0**	**+1.5**
SOR	**Soroa**	**5.35**	**3**	Pn	**Pn**	**04 58 41.4**	**-1.2**
TEIG	**Tepich**	**5.44**	**302**	Pn	**Pn**	**04 58 42.3**	**-1.5**
TEIG	**Tepich**	**5.44**	**302**	Pn	**Pn**	**04 58 42.1**	**-1.6**
comp=Z,146nm,0.3s,baz=54,slow=0.6,SNR=20							
TEIG				Sn	**Sn**	**04 59 40.6**	**-5.2**
comp=Z,161nm,0.3s,baz=72,slow=23,SNR=7.9							
TEIG	**Tepich**	**5.44**	**302**	*eP*	**Pn**	**04 58 41.6**	**-2.1**
ACON	**Acoyapa**	**5.70**	**198**		**Pn**	**04 58 45.1**	**+1.1**
ACON	**Acoyapa**	**5.70**	**198**	*eP*	**Pn**	**04 58 46.8**	**-0.6**
ACON	**Acoyapa**	**5.70**	**198**	*i* P	**Pn**	**04 58 48.3**	**+0.9**
ACON				IAML		04 58 48.9	
comp=Z,410nm,1.0s							
ACON				IAmb	IAmb	04 58 49.0	
comp=Z,300nm,0.6s							
SARH	**Santa Rosa de**	**5.83**	**244**	*i* P	**Pn**	**04 58 49.9**	**+0.7**
CNGN	**Cerro Negro**	**5.87**	**214**	Pn	**Pn**	**04 58 51.5**	**+1.8**
CNGN	**Cerro Negro**	**5.87**	**214**	*eP*	**Pn**	**04 58 50.3**	**+0.6**
CNGA	**Al SSO del Vol**	**5.87**	**214**	*i* P	Pb	04 59 00.1	-5.4
CRIN	**San Cristobal**	**5.90**	**218**	*eP*	**Pn**	**04 58 46.0**	**-4.2**
CAMR	**Camarioca**	**5.91**	**18**	Pn	**Pn**	**04 58 49.9**	**-0.3**
MTO3	**Montecristo**	**6.52**	**243**		**Pn**	**04 58 59.8**	**+1.0**
MTO3	**Montecristo**	**6.52**	**243**	*i* P	**Pn**	**04 58 59.5**	**+0.7**
MTO3				IAML		04 59 10.5	
comp=Z,100nm,1.0s							
MTO3				IAmb	IAmb	04 59 10.6	
comp=Z,73nm,0.7s							
COVE	**Coope Vega, Sa**	**6.74**	**189**		Pn	04 59 07.2	+5.5
HZTE	**Horizontes, Gu**	**7.01**	**198**	Pn	**Pn**	**04 59 07.0**	**+1.6**
JTS	**Las Juntas de**	**7.26**	**193**		**Pn**	**04 59 10.1**	**+1.3**
JTS	**Las Juntas de**	**7.26**	**193**	Pn	**Pn**	**04 59 09.6**	**+0.9**
comp=Z,2.0nm,0.3s,baz=126,slow=13,SNR=10							
comp=Z,4.1nm,0.3s							
JTS	**Las Juntas de**	**7.26**	**193**	*eP*	**Pn**	**04 59 08.5**	**-0.3**
ORTG	**Ortega, Santa**	**7.31**	**197**		**Pn**	**04 59 11.6**	**+2.1**
GTBY	**Guantanamo Bay**	**8.20**	**71**		**Pn**	**04 59 19.1**	**-2.6**
GTBY	**Guantanamo Bay**	**8.20**	**71**	*eP*	**Pn**	**04 59 18.0**	**-3.6**
CCIG	**Comitan**	**8.49**	**264**	Pn	**Pn**	**04 59 26.2**	**+0.3**
SJCC	**San Jacinto, C**	**10.90**	**132**	*eP*	**Pn**	**04 59 57.0**	**-1.8**
CMIG	**Matias Romero**	**11.03**	**270**	Pn	**Pn**	**04 59 58.1**	**-2.4**
comp=Z,0.2nm,0.3s,baz=62,slow=17,SNR=1.8							
CMIG				Sn	**Sn**	**05 01 58.8**	**-4.6**
comp=Z,1.1nm,0.3s,baz=56,slow=22,SNR=3.4							
APAC	**Apartado, Choc**	**11.54**	**144**	*eP*	**Pn**	**05 00 06.2**	**-1.3**
SDDR	**Presa de Saban**	**11.57**	**80**	Pn	**Pn**	**05 00 09.4**	**+1.5**
SDDR	**Presa de Saban**	**11.57**	**80**	*eP*	**Pn**	**05 00 06.7**	**-1.3**
ARGC	**Ariguani, Magd**	**11.61**	**129**	*eP*	**Pn**	**05 00 05.6**	**-2.8**
UREC	**San Jos de Ur**	**12.27**	**141**	*eP*	Pn	05 00 12.4	-5.1
LL6C	**La Loma 6 Bece**	**12.42**	**127**	*eP*	Pn	05 00 13.2	-6.4
ZARC	**Zaragoza, Cauc**	**12.88**	**139**	*eP*	Pn	05 00 19.9	-6.0
CBOC	**Ciudad Bolivar**	**13.54**	**147**	*eP*	**Pn**	**05 00 34.0**	**-1.1**
PTBC	**PUERTO BERRIO,**	**13.87**	**140**	*eP*	Pn	05 00 33.0	-6.4
PLMC	**San Jos del P**	**14.23**	**150**	*eP*	**P**	**05 00 52.2**	**+0.5**
GUY2C	**Guyana, Caldas**	**14.42**	**146**	*eP*	**Pn**	**05 00 49.9**	**+2.5**
PAMC	**Pamplona, Colo**	**14.43**	**133**	*eP*	**Pn**	**05 00 44.1**	**-3.4**
SDV	**Santo Domingo**	**15.00**	**123**	Pn	**Pn**	**05 00 51.4**	**-3.6**
comp=Z,0.6nm,0.3s,baz=322,slow=14,SNR=2.8							
comp=Z,1.9nm,0.4s							
SDV	**Santo Domingo**	**15.00**	**123**	*eP*	**Pn**	**05 00 57.8**	**+2.8**
YOTC	**Yotoco, Valle**	**15.02**	**152**	*eP*	**Pn**	**05 00 54.9**	**-0.2**
JAMC	**Jamundi, Valle**	**15.56**	**154**	*eP*	**Pn**	**05 01 02.3**	**-0.1**
ORTC	**Ortega, Tolima**	**15.60**	**148**	*eP*	**Pn**	**05 01 01.7**	**-1.1**
PRAC	**Prado**	**15.95**	**148**	*eP*	**Pn**	**05 01 07.5**	**+0.2**
Z47A	**Carrollton**	**16.28**	**346**	Pn	**Pn**	**05 01 12.2**	**+1.0**
Z47A				IAmb	IAmb	05 01 54.3	
comp=Z,42nm,1.3s							
BBAC	**Balboa, Cauca**	**16.44**	**158**	*eP*	**P**	**05 01 17.3**	**+1.0**
143A	**Socs Landing,**	**16.86**	**336**		**P**	**05 01 20.2**	**-0.5**
143A				IAmb	IAmb	05 01 40.3	
comp=Z,66nm,1.4s							
HKT	**Hockley**	**16.90**	**320**	Pn	**Pn**	**05 01 18.8**	**-0.4**
BIRD	**Birdtown, Kers**	**17.35**	**8**	P	**Pn**	**05 01 24.5**	**-0.2**
TULM	**Tulcn-Chalpat**	**17.48**	**161**		**P**	**05 01 29.5**	**+1.3**
OTAV	**Otavalo**	**17.74**	**164**		**P**	**05 01 33.2**	**+2.1**
OTAV	**Otavalo**	**17.74**	**164**	*eP*	**P**	**05 01 31.7**	**+0.7**
IMBA	**Imbabura, San**	**17.77**	**163**		**P**	**05 01 32.2**	**+0.8**
IMBA				IAmb	IAmb	05 01 53.8	
comp=Z,43nm,1.0s							
OXF	**Oxford**	**17.86**	**343**		**P**	**05 01 32.6**	**+0.8**
OXF				IAmb	IAmb	05 01 48.2	
comp=Z,37nm,1.1s							
PLAL	**Pickwick Lake**	**17.99**	**347**		**P**	**05 01 33.6**	**+0.5**
TKL	**Tuckaleechee C**	**18.17**	**359**	P	**Pn**	**05 01 35.2**	**+0.3**
comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=2.0							
comp=Z,4.3nm,1.0s							
833A	**Chaparral WMA,**	**18.32**	**309**	Pn	**Pn**	**05 01 34.7**	**-2.1**
833A				IAmb	IAmb	05 01 40.6	
comp=Z,31nm,1.1s							
WLAR	**White Oak Lake**	**18.42**	**333**	P	**P**	**05 01 36.3**	**-1.6**
WLAR				IAmb	IAmb	05 01 47.5	
comp=Z,31nm,1.0s							
V48A	**Smith Brothers**	**18.51**	**351**	P	**Pn**	**05 01 39.8**	**+0.7**
ZAIG	**Zacatecas**	**18.81**	**290**		**Pn**	**05 01 43.9**	**+0.7**
ZAIG				IAmb	IAmb	05 01 55.1	
comp=Z,41nm,1.5s							
HNDO	**Hondo**	**18.92**	**312**	P	**Pn**	**05 01 44.4**	**+0.3**
HNDO				IAmb	IAmb	05 01 57.0	
comp=Z,28nm,0.8s							
WHAR	**Wooly Hollow**	**19.50**	**338**	P	**Pn**	**05 01 51.0**	**0.0**
BRDY	**Brady**	**19.81**	**317**	P	**P**	**05 01 53.8**	**+0.6**
DRIO	**Del Rio**	**19.82**	**310**	P	**Pn**	**05 01 54.9**	**0.0**
DRIO				IAmb	IAmb	05 02 08.3	
comp=Z,30nm,1.1s							
LCAR	**Lake Charles**	**19.82**	**341**		**P**	**05 01 54.1**	**+0.8**
JCT	**Junction City**	**19.84**	**314**		**P**	**05 01 54.8**	**+1.1**
FCAR	**Ozark Folk Cen**	**19.98**	**339**	P	**P**	**05 01 55.8**	**+0.8**
PBMO	**Poplar Bluff**	**20.27**	**343**	P	**P**	**05 01 58.4**	**+0.2**
PBMO				IAmb	IAmb	05 02 12.2	
comp=Z,31nm,1.2s							
PLPT	**Palo Pinto**	**20.42**	**321**		Pn	05 02 02.6	+0.7
S44A	**Carbondale**	**20.85**	**347**	P	Pn	05 02 06.8	-0.2
SIUC	**Southern Illin**	**20.87**	**347**	P	**P**	**05 02 03.6**	**-0.9**
HHAR	**Hobbs**	**21.00**	**336**	P	**P**	**05 02 06.6**	**+0.6**
OZNA	**Ozona**	**21.02**	**313**	P	**P**	**05 02 07.4**	**+1.0**
OZNA				IAmb	IAmb	05 02 38.2	
comp=Z,22nm,1.0s							
ABTX	**Abilene, Hawle**	**21.10**	**319**	P	**P**	**05 02 09.4**	**+2.2**
ABTX				IAmb	IAmb	05 02 22.8	
comp=Z,20nm,0.8s							
MGMO	**Mountain Grove**	**21.17**	**340**	P	**P**	**05 02 08.3**	**+0.4**
MGMO				IAmb	IAmb	05 02 20.8	
comp=Z,22nm,0.9s							
WTFS	**Witchita Falls**	**21.19**	**323**		**P**	**05 02 09.8**	**+1.7**
WTFS				IAmb	IAmb	05 02 20.0	
comp=Z,22nm,0.8s							
SAND	**Sanderson**	**21.20**	**309**	P	**P**	**05 02 09.7**	**+1.3**
SAND				IAmb	IAmb	05 02 42.6	
comp=Z,16nm,0.9s							
W35A	**Tecumseh**	**21.38**	**328**	P	**P**	**05 02 08.2**	**-2.0**
W35A				IAmb	IAmb	05 02 21.3	
comp=Z,13nm,0.9s							
FVM	**French Village**	**21.41**	**345**	P	**P**	**05 02 12.6**	**+2.2**
FVM				IAmb	IAmb	05 02 24.2	
comp=Z,42nm,1.2s							
TUL3	**Leonard**	**21.48**	**331**	P	**P**	**05 02 11.0**	**-0.1**
TUL3				IAmb	IAmb	05 02 29.9	
comp=Z,25nm,1.1s							
FNO	**Franklin**	**21.73**	**328**		**P**	**05 02 13.4**	**-0.5**
FNO				IAmb	IAmb	05 02 27.0	
comp=Z,25nm,0.9s							
DEOK	**Depew**	**21.75**	**330**		**P**	**05 02 16.8**	**+2.7**
DEOK				IAmb	IAmb	05 02 27.9	
comp=Z,27nm,0.8s							
MCRA	**Macar, Loja**	**21.91**	**171**	P	**P**	**05 02 16.8**	**+0.8**
MCRA	**Macar, Loja**	**21.91**	**171**	*eP*	**P**	**05 02 19.4**	**+3.4**
OK052	**Battle Ridge R**	**22.02**	**330**		**P**	**05 02 18.6**	**+1.6**
OK052				IAmb	IAmb	05 02 30.7	
comp=Z,22nm,0.9s							
TXAR	**Lajitas Array**	**22.06**	**306**	P	**P**	**05 02 16.3**	**-1.4**
TXAR	**Lajitas Array**	**22.06**	**306**	P	**P**	**05 02 18.9**	**+1.3**
comp=Z,2.5nm,0.8s,baz=125,slow=12,SNR=13							
comp=Z,2.5nm,0.8s							
TX31	**Lajitas Ar. Si**	**22.06**	**306**	P	**P**	**05 02 16.3**	**-1.4**
WMOK	**Wichita Mounta**	**22.07**	**324**		**P**	**05 02 16.2**	**-1.4**
WMOK				IAmb	IAmb	05 02 30.3	
comp=Z,14nm,0.8s							
OK029	**Liberty Lake**	**22.18**	**328**		**P**	**05 02 20.1**	**+1.4**
OK029				IAmb	IAmb	05 02 32.0	
comp=Z,20nm,1.0s							
R40A	**Maddies Statio**	**22.21**	**341**	P	**P**	**05 02 19.4**	**+0.4**
R40A				IAmb	IAmb	05 02 36.0	
comp=Z,18nm,1.1s							
MNHN	**Monahans**	**22.41**	**312**	P	**P**	**05 02 23.6**	**+2.2**
OK048	**Pawnee Station**	**22.42**	**330**		**P**	**05 02 21.9**	**+0.5**
OK051	**E0350 and S346**	**22.45**	**331**	P	**P**	**05 02 21.4**	**-0.2**
OK051				IAmb	IAmb	05 02 34.8	
comp=Z,28nm,0.9s							
ALPN	**Alpine**	**22.54**	**309**	P	**P**	**05 02 23.9**	**+1.1**
POST	**Post**	**22.58**	**317**	P	**P**	**05 02 24.7**	**+1.6**
T35A	**Sooner Cattle**	**22.63**	**332**	P	**P**	**05 02 25.0**	**+1.4**
ODSA	**Odessa**	**22.71**	**314**	P	**P**	**05 02 23.0**	**-1.5**
ODSA				IAmb	IAmb	05 02 39.8	
comp=Z,23nm,0.8s							
SMWD	**Samnorwood**	**23.17**	**323**	P	**P**	**05 02 28.5**	**-0.7**
SMWD				IAmb	IAmb	05 03 06.2	
comp=Z,9.1nm,0.8s							
PECS	**Pecos**	**23.23**	**311**	P	**P**	**05 02 28.7**	**-1.2**
PECS				IAmb	IAmb	05 02 43.0	
comp=Z,10nm,0.9s							
OK032	**Salt Plains WL**	**23.35**	**329**		**P**	**05 02 31.8**	**+0.8**
OK032				IAmb	IAmb	05 02 48.4	
comp=Z,22nm,1.0s							
ELIS	**Ellis County**	**23.41**	**326**	P	**P**	**05 02 32.0**	**+0.4**
N47A	**Urbana**	**23.47**	**356**	P	**P**	**05 02 34.0**	**+1.9**
N47A				IAmb	IAmb	05 02 43.2	
comp=Z,32nm,1.2s							
VHRN	**Van Horn**	**23.76**	**308**	P	**P**	**05 02 36.4**	**+1.2**
VHRN				IAmb	IAmb	05 03 07.9	
comp=Z,9.4nm,1.0s							
AMTX	**Amarillo**	**23.87**	**320**	P	**P**	**05 02 35.4**	**-0.8**
AMTX				IAmb	IAmb	05 02 56.7	
comp=Z,22nm,1.0s							
MSTX	**Muleshoe**	**23.97**	**317**	P	**P**	**05 02 38.3**	**+1.1**
MSTX				IAmb	IAmb	05 02 55.1	
comp=Z,20nm,0.9s							
R32A	**Long Quarter,**	**24.87**	**330**	P	**P**	**05 02 46.8**	**+1.5**
BOAV	**Boa Vista**	**26.93**	**121**	*eP*	**P**	**05 03 02.1**	**-1.9**
ANMO	**Albuquerque**	**27.00**	**315**	P	**P**	**05 03 05.2**	**+0.5**
CZSB	**Cruzeiro do Su**	**27.11**	**156**	P	**P**	**05 03 06.0**	**+0.4**
CZSB				IAmb	IAmb	05 03 23.2	
comp=Z,14nm,0.9s							
SDCO	**Great Sand Dun**	**28.07**	**321**	P	**P**	**05 03 15.7**	**+1.3**
RSSD	**Black Hills**	**31.82**	**331**	P	**P**	**05 03 48.2**	**+0.7**
RSSD				IAmb	IAmb	05 03 59.3	
comp=Z,4.0nm,0.8s							
SRU	**San Rafael Swe**	**32.04**	**318**	P	**P**	**05 03 49.3**	**-0.1**
SRU				IAmb	IAmb	05 04 02.6	
comp=Z,8.0nm,1.0s							
P18A	**Preston Nutter**	**32.16**	**319**	P	**P**	**05 03 51.0**	**+0.4**
P18A				IAmb	IAmb	05 04 13.9	
comp=Z,6.9nm,1.1s							
KNB	**Kanab**	**32.47**	**313**	P	**P**	**05 03 53.1**	**-0.2**
KNB				IAmb	IAmb	05 04 10.5	
comp=Z,11nm,1.2s							
MSU	**Marysvale**	**32.79**	**316**	P	**P**	**05 03 56.0**	**-0.1**
BW06	**Boulder Array**	**33.69**	**324**	P	**P**	**05 04 04.1**	**+0.2**
PD31	**Pinedale Array**	**33.69**	**324**	P	**P**	**05 04 05.1**	**+1.2**
PDAR	**Pinedale Array**	**33.69**	**324**	P	**P**	**05 04 05.1**	**+1.2**
comp=Z,1.8nm,1.0s,baz=129,slow=8.4,SNR=7.6							
comp=Z,1.8nm,1.0s							
DUG	**Dugway, Tooele**	**34.11**	**318**	P	**P**	**05 04 09.1**	**+1.7**
DUG				IAmb	IAmb	05 04 19.2	
comp=Z,4.5nm,0.8s							
HWUT	**Hardware Ranch**	**34.13**	**321**	P	**P**	**05 04 08.8**	**+1.1**
HWUT				IAmb	IAmb	05 04 26.5	
comp=Z,5.8nm,0.8s							
SPR3	**Spring Creek 3**	**34.48**	**315**	P	**P**	**05 04 11.5**	**+0.6**
SPR3				IAmb	IAmb	05 04 22.1	
comp=Z,5.9nm,1.1s							
SPUT	**South Promonto**	**34.50**	**320**	P	**P**	**05 04 11.8**	**+1.0**
BGU	**Big Grassy Mou**	**34.65**	**319**	P	**P**	**05 04 14.1**	**+2.0**
BGU				IAmb	IAmb	05 04 24.1	
comp=Z,4.3nm,0.8s							
REDW	**Red Top Meadow**	**34.80**	**324**	P	**P**	**05 04 14.4**	**+0.9**
LOHW	**Long Hollow**	**34.82**	**324**	P	**P**	**05 04 13.9**	**+0.3**
MOOW	**Moose Ponds**	**34.98**	**324**	P	**P**	**05 04 15.5**	**+0.4**
MOOW				IAmb	IAmb	05 04 26.4	
comp=Z,5.7nm,0.9s							
IMW	**Indian Meadow**	**35.19**	**324**	P	**P**	**05 04 16.5**	**-0.3**
IMW				IAmb	IAmb	05 04 33.1	
comp=Z,6.9nm,1.0s							
ELK	**Elko**	**35.97**	**317**	P	**P**	**05 04 24.7**	**+1.1**
ELK				IAmb	IAmb	05 04 48.4	
comp=Z,6.9nm,1.3s							
HLID	**Hailey**	**36.98**	**321**	P	**P**	**05 04 33.2**	**+1.0**
NVAR	**Mina Array Bea**	**36.99**	**312**	P	**P**	**05 04 32.8**	**+0.5**
comp=Z,0.4nm,0.6s,baz=111,slow=8.4,SNR=5.3							
comp=Z,0.4nm,0.6s							
KVN	**Kaiserville**	**37.11**	**313**	P	**P**	**05 04 34.5**	**+1.2**
BMN	**Battle Mountai**	**37.13**	**315**	P	**P**	**05 04 34.1**	**+0.7**
BMN				IAmb	IAmb	05 04 44.5	
comp=Z,6.6nm,1.0s							
EGMT	**Eagleton**	**

TNTI	**Ternate**	**1.38**	**243**	P	**Pn**	**05 00 08.0**	**-2.4**
TNTI				S	**Sn**	**05 00 26.9**	**-0.9**
LBMI	**Labuha**	**2.31**	**208**	P	**Pn**	**05 00 22.2**	**-0.8**
LBMI				S	**Sn**	**05 00 51.6**	**+1.4**
SWI	**Sorong**	**3.49**	**130**	P	Pn	05 00 37.3	-1.9
SWI				S	**Sn**	**05 01 18.3**	**-1.0**
SIJI	**Sorong**	**3.50**	**130**	P	**Pn**	**05 00 37.8**	**-1.5**
SIJI				S	**Sn**	**05 01 19.0**	**-0.5**
SANI	**Sanana**	**4.31**	**217**	P	**Pn**	**05 00 49.8**	**-0.6**
KMSI	**Cibinong**	**4.69**	**260**	P	**Pn**	**05 00 55.9**	**+0.3**
KRAI	**Karang Ratu**	**4.70**	**182**	P	**Pn**	**05 00 55.1**	**-0.6**
GTOI	**Gorontalo**	**5.63**	**262**	P	Pn	05 01 10.9	+2.3
	7.7nm,0.9s,0.1nm						
TTSI	**Tana Toraja**	**9.82**	**243**	P	**Pn**	**05 02 04.6**	**-1.3**
WRA	**Warramunga Arr**	**21.95**	**165**	P	**P**	**05 04 36.9**	**+0.8**
	4.6nm,0.8s,baz=344,slow=11,SNR=13						
	4.6nm,0.8s						
ASAR	**Alice Springs**	**25.45**	**169**	P	**P**	**05 05 12.0**	**+2.3**
	1.5nm,0.8s,baz=348,slow=9.6,SNR=15						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**60.52**	**325**	P	**P**	**05 09 51.6**	**+0.4**
	0.3nm,0.7s,baz=128,slow=8.7,SNR=3.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**64.69**	**327**	P	**P**	**05 10 19.1**	**+0.2**
	0.3nm,0.2s,baz=128,slow=6.2,SNR=2.2						
	0.3nm,0.2s						

IDC ***10*** *05:05:47.7±3.6,21.˙61S×169.˙37E,h0km,mb3.9/3, mbtmp3.8/4,ML3.3/1,Error ellipse: s-maj=167.1km s-min=33.5km az=160.0*

NOU ***10*** *05:05:50.9,21.˙83S×169.˙19E,h0km,MLv3.7/8,Southeast of Loyalty Islands*

ISC 10 05:05:49.3±1.5,21.˙8S±0.˙2×169.˙3E±0.˙1,h10km,n12, σ1§**40**/13,**mb3.8/3,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.22**	**285**	P	**Pn**	**05 06 12.3**	**-0.1**
LIFNC	**LIFOU**	**2.17**	**297**	P	**Pn**	**05 06 26.9**	**+1.4**
YATNC	**Mamie plateau,**	**2.25**	**263**	P	**Pn**	**05 06 27.1**	**+0.5**
OUENC	**Ouen Island, N**	**2.36**	**254**	P	**Pn**	**05 06 29.9**	**+1.8**
DZM	**Mont Dzumac**	**2.66**	**264**	P	**Pn**	**05 06 33.0**	**+0.6**
DZM	**Mont Dzumac**	**2.66**	**264**	Pn	**Pn**	**05 06 33.3**	**+0.9**
	5.5nm,0.3s,baz=113,slow=18,SNR=61						
DZM				Sn	**Sn**	**05 07 02.6**	**-2.2**
	13nm,0.3s,baz=93,slow=18,SNR=8.3						
	11nm,0.3s						
ONTNC	**Ouen Toro**	**2.69**	**259**	P	**Pn**	**05 06 34.1**	**+1.5**
NOUC	**Port Laguerre**	**2.80**	**263**	P	**Pn**	**05 06 35.1**	**+1.0**
KOUNC	**Koumac, New Ca**	**4.84**	**284**	P	**Pn**	**05 07 04.2**	**+2.0**
WRA	**Warramunga Arr**	**32.68**	**267**	P	**P**	**05 12 22.2**	**+0.2**
	0.6nm,0.6s,baz=96,slow=7.9,SNR=1.6						
	0.6nm,0.6s						
SONM	**Songino Array**	**89.29**	**323**	P	**P**	**05 18 46.1**	**+0.3**
	0.3nm,0.5s,baz=117,slow=5.5,SNR=1.8						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**90.45**	**48**	P	**P**	**05 18 50.4**	**-1.1**
	0.7nm,0.8s,baz=237,slow=6.1,SNR=3.3						
	0.7nm,0.8s						

IDC ***10*** *05:08:29.5±1.6,0.˙16S×125.˙36E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=188.0km s-min=22.5km az=64.0*

DJA ***10*** *05:08:33.6±0.3,0.˙7N±3.˙×12.˙6E±.˚,h10km,M3.4/6,MLv3.4/6*

ISC 10 05:08:36.0±1.0,0.˙11N±0.˙06×125.˙93E±0.˙04,h35km,n10, σ2§**78**/14,**mb3.6/4,Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.58**	**65**	P	**Pn**	**05 09 00.9**	**-0.6**
TNTI				S	**Sn**	**05 09 24.1**	**+3.3**
LBMI	**Labuha**	**1.74**	**115**	P	**Pn**	**05 09 04.6**	**+0.9**
LBMI				S	**Sn**	**05 09 28.3**	**+3.6**
KMSI	**Cibinong**	**2.00**	**283**	P	**Pn**	**05 09 06.2**	**-1.1**
SANI	**Sanana**	**2.14**	**178**	P	**Pn**	**05 09 10.1**	**+0.8**
SANI				S	**Sn**	**05 09 36.9**	**+2.2**
GTOI	**Gorontalo**	**2.96**	**280**	P	**Pn**	**05 09 23.7**	**+3.1**
GTOI				S	**Sn**	**05 09 59.9**	**+4.9**
LUWI	**Luwuk**	**3.36**	**250**	P	**Pn**	**05 09 24.2**	**-1.8**
WRA	**Warramunga Arr**	**21.56**	**158**	P	**P**	**05 13 20.2**	**-2.5**
	0.5nm,0.4s,baz=335,slow=11,SNR=7.2						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**24.87**	**162**	P	**P**	**05 13 53.7**	**-1.8**
	0.6nm,0.5s,baz=344,slow=8.4,SNR=5.9						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**05 18 38.0**	**-1.8**
	0.6nm,0.7s,baz=110,slow=7.0,SNR=8.3						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**64.37**	**329**	P	**P**	**05 19 06.6**	**-1.7**
	0.4nm,0.3s,baz=132,slow=6.2,SNR=4.3						
	0.4nm,0.3s						

IDC ***10*** *05:12:08.9±0.5,21.˙89S×169.˙21E,h0km,mb4.7/21, mbtmp4.7/23,ML4.1/2,Error ellipse: s-maj=16.2km s-min=14.3km az=98.0*

NEIC ***10*** *05:12:11.2±1.5,21.˙77S±0.˙05×169.˙11E±0.˙04,h10km±1km, mb5.1/104,Error ellipse: s-maj=8.8km s-min=6.1km az=324.0*

BJI ***10*** *05:12:12.0±0.0,21.˙48S×168.˙97E,h10km,mb4.9/33, mB5.6/1,Ms5.9/3,Ms7 5.8/3*

NOU ***10*** *05:12:16.4,21.˙79S×168.˙69E,h0km,mb4.7/29,Loyalty Islands*

ISC 10 05:12:13.0±0.6,21.˙86S±0.˙05×169.˙18E±0.˙06,h24km±3km,
h24km:pP-P,n314,σ1§**34**/286,**mb5.1**/85,**3C-6D,**
Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.13**	**289**		**Pn**	**05 12 31.3**	**-2.0**
MARNC					**Sn**	**05 12 46.6**	**-1.5**
MARNC	**Mare, Loyalty**	**1.13**	**289**	P	**Pn**	**05 12 31.6**	**-1.7**
MARNC	**Mare, Loyalty**	**1.13**	**289**	P	**Pn**	**05 12 31.1**	**-2.2**
PINNC	**Pines Island,**	**1.77**	**245**		**Pn**	**05 12 40.7**	**-1.5**
PINNC	**Pines Island,**	**1.77**	**245**	P	**Pn**	**05 12 41.7**	**-0.5**
PINNC	**Pines Island,**	**1.77**	**245**	P	**Pn**	**05 12 41.2**	**-1.0**
LIFNC	**LIFOU**	**2.10**	**300**	Pn	**Pn**	**05 12 44.5**	**-2.3**
LIFNC	**LIFOU**	**2.10**	**300**	P	**Pn**	**05 12 47.5**	**+0.8**
LIFNC	**LIFOU**	**2.10**	**300**	P	**Pn**	**05 12 46.0**	**-0.7**
YATNC	**Mamie plateau,**	**2.13**	**264**	P	**Pn**	**05 12 47.0**	**-0.1**
YATNC	**Mamie plateau,**	**2.13**	**264**	P	**Pn**	**05 12 45.6**	**-1.6**
OUENC	**Ouen Island, N**	**2.24**	**255**	Pn	**Pn**	**05 12 47.2**	**-1.3**
OUENC	**Ouen Island, N**	**2.24**	**255**	P	**Pn**	**05 12 49.4**	**+0.8**
OUENC	**Ouen Island, N**	**2.24**	**255**	P	**Pn**	**05 12 48.1**	**-0.5**
DZM	**Mont Dzumac**	**2.55**	**265**		**Pn**	**05 12 51.7**	**-1.3**
DZM	**Mont Dzumac**	**2.55**	**265**	P	**Pn**	**05 12 53.3**	**+0.4**
DZM	**Mont Dzumac**	**2.55**	**265**	Pn	**Pn**	**05 12 51.9**	**-1.1**
	34nm,0.3s,baz=141,slow=11,SNR=143						
DZM				Sn	**Sn**	**05 13 22.4**	**-0.9**
	126nm,0.3s,baz=90,slow=20,SNR=6.7						
	127nm,0.3s						
ONTNC	**Ouen Toro**	**2.57**	**259**	Pn	**Pn**	**05 12 52.2**	**-0.9**
ONTNC	**Ouen Toro**	**2.57**	**259**	P	**Pn**	**05 12 54.4**	**+1.3**
ONTNC	**Ouen Toro**	**2.57**	**259**	P	**Pn**	**05 12 52.8**	**-0.3**
NOUC	**Port Laguerre**	**2.68**	**264**	P	**Pn**	**05 12 54.6**	**-0.1**
NOUC	**Port Laguerre**	**2.68**	**264**	P	**Pn**	**05 12 53.8**	**-0.9**
KOUNC	**Koumac, New Ca**	**4.75**	**285**		**Pn**	**05 13 22.6**	**-0.5**
KOUNC	**Koumac, New Ca**	**4.75**	**285**	P	**Pn**	**05 13 23.3**	**+0.2**
DGTI	**Dogotuki**	**11.41**	**63**	P	Pn	05 15 07.0	+12
	63nm,1.8s						
HNR	**Honiara**	**15.21**	**323**	Pn	**Pn**	**05 15 46.0**	**-0.4**
	260nm,0.3s,baz=143,slow=20,SNR=1.8						
EIDS	**Eidsvold**	**16.95**	**255**	P	**Pn**	**05 16 08.8**	**+0.2**
EIDS	**Eidsvold**	**16.95**	**255**	P	**P**	**05 16 10.4**	**0.0**
URZ	**Urewera**	**17.72**	**159**	P	**Pn**	**05 16 18.5**	**+0.4**
	0.8nm,0.3s,baz=358,slow=3.9,SNR=5.3						
	14nm,0.8s						
ARMA	**Armidale**	**17.90**	**238**	P	**P**	**05 16 21.7**	**+0.7**
RTZ	**Ruatahuna**	**18.00**	**160**		**P**	**05 16 23.4**	**+1.4**
BKZ	**Black Stump Fm**	**18.35**	**162**		**Pn**	**05 16 27.3**	**+1.4**
TKNZ	**Takaka Hill**	**19.38**	**171**	P	**Pn**	**05 16 38.1**	**-0.2**
NIUE	**Niue**	**19.77**	**86**	P	**P**	**05 16 41.5**	**0.0**
THZ	**Tophouse**	**20.09**	**172**		**P**	**05 16 44.5**	**-0.4**
THZ				IAmb	IAmb	05 16 53.9	
	comp=Z,241nm,1.9s						
SYDH	**Sydney Hard Ro**	**20.13**	**230**	P	Pn	05 16 49.8	+2.6
TV1H	**Townsville Har**	**21.11**	**273**	P	**P**	**05 16 58.3**	**+2.2**
CTA	**Charters Tower**	**21.48**	**271**	P	**P**	**05 17 01.6**	**+1.5**
CTA	**Charters Tower**	**21.48**	**271**	P	**P**	**05 17 01.0**	**+1.0**
	comp=Z,14nm,1.0s,baz=99,slow=11,SNR=8.4						
	comp=Z,14nm,1.0s						
CTAO	**Charters Tower**	**21.48**	**271**	P	**P**	**05 16 59.4**	**-0.7**
CTAO	**Charters Tower**	**21.48**	**271**	P	**P**	**05 17 01.5**	**+1.5**
RPZ	**Rata Peaks**	**21.85**	**176**	P	**P**	**05 17 04.6**	**+0.7**
	comp=Z,6.0nm,0.8s,baz=320,slow=8.7,SNR=2.5						
	comp=Z,6.0nm,0.8s						
CNB	**Canberra Magne**	**21.91**	**228**	P	**P**	**05 17 09.2**	**+4.6**
YNG	**Young**	**22.08**	**231**	P	**P**	**05 17 10.6**	**+4.2**
CAN	**Canberra**	**22.17**	**228**	P	**P**	**05 17 05.7**	**-1.7**
CAN				IAmb	IAmb	05 17 24.5	
	comp=Z,96nm,1.7s						
CAN	**Canberra**	**22.17**	**228**	P	**P**	**05 17 10.6**	**+3.2**
CMSA	**Cobar Meteorol**	**23.05**	**240**	P	**P**	**05 17 18.0**	**+1.3**
QLP	**Quilpie**	**23.22**	**253**	P	**P**	**05 17 19.6**	**+1.2**
MTSU	**Mount Surprise**	**23.65**	**275**	P	**P**	**05 17 23.8**	**+1.1**
PMG	**Port Moresby**	**24.51**	**297**	P	**P**	**05 17 29.7**	**-1.1**
PMG				IAmb	IAmb	05 17 45.0	
	comp=Z,74nm,0.9s						
PMG	**Port Moresby**	**24.51**	**297**	P	**P**	**05 17 31.3**	**+0.5**
PMG	**Port Moresby**	**24.51**	**297**	P	**P**	**05 17 31.2**	**+0.5**
TOO	**Toolangi**	**25.75**	**227**	P	**P**	**05 17 46.4**	**+4.5**
COEN	**Coen**	**25.93**	**283**	P	**P**	**05 17 40.6**	**-3.1**
STKA	**Stephens Creek**	**26.49**	**242**	P	**P**	**05 17 48.5**	**0.0**
STKA	**Stephens Creek**	**26.49**	**242**	P	**P**	**05 17 52.4**	**+3.9**
STKA	**Stephens Creek**	**26.49**	**242**	P	**P**	**05 17 48.6**	**0.0**
	comp=Z,1.9nm,0.7s,baz=96,slow=12,SNR=4.5						
	comp=Z,1.9nm,0.7s						
QIS	**Mount Isa**	**27.58**	**267**	P	**P**	**05 18 00.7**	**+2.2**
TAU	**Tasmania Unive**	**27.80**	**216**	P	**P**	**05 18 00.8**	**+0.6**
BBOO	**Buckleboo**	**31.26**	**242**	P	**P**	**05 18 31.9**	**+0.9**
BBOO				IAmb	IAmb	05 19 17.8	
	comp=Z,40nm,1.7s						
WR0	**Warramunga Arr**	**32.37**	**267**	P	**P**	**05 18 39.3**	**-1.6**
AS31	**Alice Springs**	**32.53**	**260**	P	**P**	**05 18 41.2**	**-1.1**
ASAR	**Alice Springs**	**32.53**	**260**	P	**P**	**05 18 41.3**	**-1.0**
	comp=Z,9.5nm,1.0s,baz=85,slow=8.9,SNR=23						
ASAR				PcP	**PcP**	**05 21 28.6**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=107,slow=3.2,SNR=4.2						
	comp=Z,9.5nm,1.0s						
WB0	**Warramunga Arr**	**32.54**	**267**	P	**P**	**05 18 41.2**	**-1.2**
WB2	**Warramunga Arr**	**32.55**	**267**	P	**P**	**05 18 41.0**	**-1.5**
WRA	**Warramunga Arr**	**32.56**	**267**	P	**P**	**05 18 41.1**	**-1.5**
WRA	**Warramunga Arr**	**32.56**	**267**	P	**P**	**05 18 40.7**	**-1.9**
	comp=Z,6.3nm,0.7s,baz=97,slow=8.2,SNR=26						
	comp=Z,6.3nm,0.7s						
FORT	**Forrest**	**37.74**	**248**	P	**P**	**05 19 26.7**	**-0.4**
FORT				IAmb	IAmb	05 19 40.6	
	comp=Z,41nm,1.1s						
KNRA	**Kununurra**	**38.68**	**272**	P	**P**	**05 19 34.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**40.99**	**267**	P	**P**	**05 19 53.6**	**-0.8**
PSA00	**Pilbara Seismi**	**45.67**	**261**	P	**P**	**05 20 31.1**	**-1.0**
NWAO	**Narrogin (SRO)**	**47.01**	**245**	P	**P**	**05 20 42.8**	**+0.3**
MORW	**Morawa**	**48.18**	**250**	P	**P**	**05 20 50.9**	**-0.8**
KAPI	**Kappang**	**50.65**	**282**	P	**P**	**05 21 09.5**	**-1.2**
KAPI				IAmb	IAmb	05 21 24.9	
	comp=Z,39nm,1.0s						
SPSI	**Sidrap Palu**	**51.07**	**283**	P	**P**	**05 21 15.5**	**+1.7**
	comp=Z,13nm,0.8s						
TOLI2	**Tolitoli**	**52.44**	**289**	P	**P**	**05 21 22.4**	**-1.7**
TOLI2				IAmb	IAmb	05 21 37.1	
	comp=Z,17nm,0.8s						
VNDA	**Vanda**	**55.83**	**182**	P	**P**	**05 21 47.5**	**-0.3**
VNDA	**Vanda**	**55.83**	**182**	P	**P**	**05 21 46.8**	**-1.0**
	comp=Z,2.9nm,1.1s,baz=2.1,slow=4.9,SNR=11						
	comp=Z,2.9nm,1.1s						
SBA	**Scott Base**	**56.06**	**181**	P	**P**	**05 21 50.5**	**+0.9**
SBA				IAmb	IAmb	05 21 52.9	
	comp=Z,20nm,0.9s						
CASY	**Casey**	**57.72**	**204**	P	**P**	**05 22 02.1**	**+0.6**
CASY				IAmb	IAmb	05 22 14.7	
	comp=Z,40nm,1.2s						
MJAR	**Matsushiro Arr**	**65.04**	**333**	P	**P**	**05 22 51.9**	**+0.6**
	comp=Z,8.4nm,0.9s,baz=175,slow=6.2,SNR=8.5						
	comp=Z,8.4nm,0.9s						
JNU	**Nakatsue**	**65.77**	**325**	P	**P**	**05 22 56.8**	**+0.7**
JNU	**Nakatsue**	**65.77**	**325**	P	**P**	**05 22 56.1**	**0.0**
	comp=Z,13nm,0.9s,baz=128,slow=12,SNR=3.6						
	comp=Z,13nm,0.9s						
QSPA	**South Pole Qui**	**68.21**	**180**	P	**P**	**05 23 10.7**	**-0.7**
QSPA	**South Pole Qui**	**68.21**	**180**	P	**P**	**05 23 10.4**	**-0.9**
	comp=Z,14nm,0.9s,baz=8.5,slow=3.8,SNR=22						
	comp=Z,14nm,0.9s						
KSRS	**Korea Array**	**70.63**	**326**	P	**P**	**05 23 26.8**	**+0.3**
	comp=Z,10nm,0.9s,baz=147,slow=6.0,SNR=12						
	comp=Z,10nm,0.9s						
KSAR	**Wonju Array Be**	**70.64**	**326**	P	**P**	**05 23 27.0**	**+0.5**
NJ2	**Nanjing**	**72.05**	**317**	eP	**P**	**05 23 37.4**	**+2.2**
NJ2				pP	**pP**	**05 23 40.4**	**-1.2**
NJ2				sP	**sP**	**05 23 41.8**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**74.03**	**333**	P	**P**	**05 23 46.7**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=145,slow=3.8,SNR=6.1						
	comp=Z,4.5nm,0.8s						
WHN	**Wuhan**	**74.07**	**313**	P	**P**	**05 23 48.0**	**+0.8**
PETK	**Petropavlovsk-**	**75.31**	**353**	P	**P**	**05 23 54.2**	**+0.3**
	comp=Z,24nm,1.0s,baz=158,slow=4.6,SNR=7.3						
	comp=Z,24nm,1.0s						
MDJ	**Mudanjiang**	**75.39**	**332**	P	**P**	**05 23 56.9**	**+2.4**
MDJ				PcP	**pwP**	**05 24 09.7**	**+3.6**
MDJ				PP	**PP**	**05 26 40.0**	**-3.9**
MDJ				S	**S**	**05 33 37.4**	**+4.5**
MDJ				pmax	pmax		
	comp=Z,19nm,1.9s						
MDJ				LR	LR		
	comp=Z,3μm,15.8s						
MDJ				LR	LR		
	comp=Z,4μm,21.3s						
CN2	**Changchun**	**76.66**	**329**	eP	**P**	**05 24 02.1**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX	**BinXian**	**77.23**	**331**	‖P	**P**	**05 24 05.3**	**+0.4**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LYN	**LuoYang**	**77.77**	**315**	eP	**P**	**05 24 10.2**	**+2.0**
LYN				pmax	pmax		
	comp=Z,19nm,0.9s						
KLR	**Kul'dur**	**78.22**	**336**	P	**P**	**05 24 11.1**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=85,slow=2.3,SNR=6.8						
	comp=Z,2.7nm,0.8s						
UNV	**Unalaska Valle**	**78.26**	**14**	P	**P**	**05 24 10.3**	**-0.2**
PHRA	**Phrae**	**78.47**	**295**	P	**P**	**05 24 11.2**	**-1.2**
BJI	**Beijing**	**78.93**	**321**	P	**P**	**05 24 15.8**	**+1.3**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CRAI	**Chiangrai**	**79.16**	**297**	P	**P**	**05 24 15.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**79.53**	**295**	P	**P**	**05 24 17.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**79.53**	**295**	P	**P**	**05 24 19.2**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=136,slow=4.1,SNR=16						
	comp=Z,1.5nm,0.3s						
CHTO	**Chiang Mai**	**79.69**	**295**	P	**P**	**05 24 18.2**	**-1.0**
CHTO	**Chiang Mai**	**79.69**	**295**	P	**P**	**05 24 19.5**	**+0.3**
XAN	**Xi'an**	**79.84**	**313**	⇑P	**P**	**05 24 20.6**	**+0.9**
XAN				pmax	pmax		
	comp=Z,15nm,1.1s						
PZH	**PanZhiHua**	**81.08**	**303**	P	**P**	**05 24 28.2**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XLT	**XiLinHaoTe**	**81.52**	**324**	eP	**P**	**05 24 30.0**	**+1.5**
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**82.17**	**320**	eP	**P**	**05 24 33.7**	**+1.7**
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
BTO	**Baotou**	**82.96**	**319**	eP	**P**	**05 24 38.5**	**+2.4**
BTO				pP	**pP**	**05 24 43.2**	**+0.5**
BTO				sP	**sP**	**05 24 45.4**	**+0.4**
BTO				PP	**PP**	**05 27 51.8**	**+4.6**
BTO				pmax	pmax		
	comp=Z,17nm,0.9s						
ELIB	**Princess Elisa**	**83.57**	**190**	dP	**P**	**05 24 37.3**	**-1.7**
	comp=Z,7.0nm,1.0s						
ELIB				dx	x	05 25 14.3	
LZH	**Lanzhou**	**84.44**	**312**	eP	**P**	**05 24 47.0**	**+3.1**
LZH				pP	sP	05 24 55.9	+3.1
LZH				pmax	pmax		
	comp=Z,9.0nm,1.4s						
OHAK	**Old Harbor**	**84.83**	**19**	P	**P**	**05 24 45.5**	**+0.4**
	baz=215						
Q17K	**Contact Creek**	**84.93**	**18**	P	**P**	**05 24 45.7**	**0.0**
	baz=212						
KDAK	**Kodiak Island**	**85.51**	**19**	P	**P**	**05 24 48.5**	**0.0**
	comp=Z,8.5nm,0.9s,baz=126,slow=14,SNR=2.3						
	comp=Z,8.5nm,0.9s						
M14K	**Bethel**	**85.58**	**14**	P	**P**	**05 24 49.5**	**+0.7**
	baz=207						
M15K	**Kasigluk River**	**85.81**	**14**	P	**P**	**05 24 50.6**	**+0.6**
	baz=208						
TROLL	**Troll, Antarti**	**85.93**	**184**	⇑P	**P**	**05 24 49.3**	**-1.6**
	comp=Z,108nm,0.7s						
L14K	**Kuka Creek**	**85.95**	**13**	P	**P**	**05 24 52.2**	**+1.6**
	baz=206						
N16K	**Nishlik Lake**	**86.08**	**15**	P	**P**	**05 24 52.7**	**+1.4**
	baz=210						
VNA2	**Neumayer--Watz**	**87.44**	**181**	⇑P	**P**	**05 24 56.3**	**-1.8**
	baz=174,slow=4.0						
SHL	**Shillong**	**88.53**	**298**	IAmb	IAmb	05 25 06.0	
	comp=Z,8.5nm,1.0s						
VES	**Vestal, Richgr**	**88.81**	**51**	P	**P**	**05 25 03.6**	**-1.5**
	baz=242						
GTA	**Gaotai**	**88.88**	**314**	eP	**P**	**05 25 06.6**	**+1.1**
GTA				pP	pP	05 25 11.5	-0.5
GTA				sP	sP	05 25 14.8	+0.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ORV	**Oroville**	**88.92**	**46**	IAmb	IAmb	05 25 07.5	
	comp=Z,13nm,1.1s						
ULN	**Ulaanbaatar**	**88.92**	**323**	P	**P**	**05 25 04.7**	**-0.8**
ULN				IAmb	IAmb	05 25 10.2	
	comp=Z,17nm,1.1s						
CMB	**Columbia Colle**	**88.94**	**48**	IAmb	IAmb	05 25 07.0	
	comp=Z,12nm,0.9s						
AFDM	**Forest Hills D**	**88.98**	**47**	IAmb	IAmb	05 25 07.7	
	comp=Z,17nm,1.0s						
L20K	**Farewell, AK**	**89.02**	**16**	P	**P**	**05 25 05.0**	**-0.4**
	baz=214						
EDW2	**Edwards Air Fo**	**89.15**	**52**	P	**P**	**05 25 07.0**	**+0.2**
	baz=243						
ISA	**Isabella, Lake**	**89.17**	**51**	IAmb	IAmb	05 25 08.9	
	comp=Z,14nm,0.9s						
ISA	**Isabella, Lake**	**89.17**	**51**	P	**P**	**05 25 06.1**	**-0.7**
	baz=242						
YBH	**Yreka Blue Hor**	**89.21**	**44**	P	**P**	**05 25 06.5**	**-0.4**
	comp=Z,7.0nm,0.9s,baz=190,slow=2.6,SNR=10						
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**89.27**	**323**	P	**P**	**05 25 06.3**	**-0.9**
SONM				IAmb	IAmb	05 25 11.5	
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**89.27**	**323**	P	**P**	**05 25 06.6**	**-0.5**
	comp=Z,11nm,0.9s,baz=142,slow=4.6,SNR=30						
	comp=Z,11nm,0.9s						
MONP2	**Monument Peak**	**89.42**	**54**	P	**P**	**05 25 09.0**	**+0.7**
	baz=244						
LRMC	**Laurel Mtn Rad**	**89.65**	**51**	P	**P**	**05 25 09.2**	**-0.1**
	baz=243						
MDPB	**Devils Postpil**	**89.66**	**49**	IAmb	IAmb	05 25 14.0	
	comp=Z,17nm,1.2s						
OMMB	**Old Mammoth Mi**	**89.70**	**49**	IAmb	IAmb	05 25 11.8	
	comp=Z,12nm,1.2s						
PFO	**Pinyon Flats O**	**89.71**	**53**	P	**P**	**05 25 10.4**	**+0.9**
	comp=Z,5.3nm,0.9s,baz=225,slow=2.2,SNR=4.3						
	comp=Z,5.3nm,0.9s						
CWC	**Cottonwood Cre**	**89.81**	**50**	P	**P**	**05 25 10.0**	**0.0**
	baz=242						
WAKR	**Walker**	**89.82**	**48**	IAmb	IAmb	05 25 11.8	
	comp=Z,18nm,1.0s						
SWSC	**Sam W. Stewart**	**89.91**	**54**	P	**P**	**05 25 10.9**	**+0.7**
	baz=244						
MPMC	**Manual Prospec**	**90.06**	**51**	P	**P**	**05 25 11.7**	**+0.6**
	baz=243						
G17K	**Kiwalik Mounta**	**90.09**	**12**	P	**P**	**05 25 12.2**	**+1.8**
	baz=208						
YERR	**Yerington**	**90.18**	**48**	IAmb	IAmb	05 25 13.6	
	comp=Z,13nm,1.0s						
BELC	**Belle Mtn. Jos**	**90.23**	**53**	P	**P**	**05 25 12.0**	**0.0**
	baz=244						
CAST	**Castle Rocks**	**90.26**	**16**	P	**P**	**05 25 09.6**	**-1.7**
	baz=216						
HEC	**Hector,Ludlow**	**90.34**	**52**	P	**P**	**05 25 13.4**	**+1.0**
	baz=244						
LHV	**Little Huntoon**	**90.35**	**49**	IAmb	IAmb	05 25 14.6	
	comp=Z,18nm,1.2s						
PAHR	**Pah Rah Range**	**90.42**	**47**	IAmb	IAmb	05 25 14.6	
	comp=Z,12nm,1.0s						
RYN	**Ryan**	**90.51**	**48**	IAmb	IAmb	05 25 14.6	
	comp=Z,9.5nm,0.8s						
NVAR	**Mina Array Bea**	**90.57**	**49**	P	**P**	**05 25 12.5**	**-1.0**
	comp=Z,11nm,0.9s,baz=229,slow=6.9,SNR=47						
	comp=Z,11nm,0.9s						
GRAC	**Grapevine Rang**	**90.57**	**50**	P	**P**	**05 25 13.0**	**-0.3**
	baz=243						
NV11	**Mina Array Sit**	**90.67**	**49**	IAmb	IAmb	05 25 15.8	
	comp=Z,17nm,1.0s						
GWY	**Greenwater Val**	**90.71**	**51**	IAmb	IAmb	05 25 15.7	
	comp=Z,14nm,1.0s						
TRF	**Thorofare Moun**	**90.77**	**17**	P	**P**	**05 25 12.3**	**-1.5**
	baz=217						
GMN	**Gold Mountain**	**90.78**	**50**	IA

baz=217
E08A Dider Farm, El 93.83 41 IAmb IAmb 05 25 29.7
comp=Z,7.6nm,1.0s
X16A Lo Mia Camp, P 93.83 55 IAmb IAmb 05 25 30.9
comp=Z,8.1nm,1.0s
KNB Kanab 93.86 52 IAmb IAmb 05 28 41.8
comp=Z,22nm,1.8s
U15A North Rim 94.00 52 IAmb IAmb 05 25 31.9
comp=Z,9.4nm,0.9s
I26K Coal Creek Min 94.19 18 IAmb IAmb 05 25 40.8
comp=Z,13nm,1.1s
I26K Coal Creek Min 94.19 18 P P 05 25 30.1 +0.7
baz=224
A19K Wainwright 94.20 10 P P 05 25 28.3 -0.9
baz=208
L29M L29M 94.22 21 P P 05 25 28.7 -0.9
baz=228
M30M Minto, Yukon 94.33 22 P 05 25 29.6 -0.5
M30M IAmb IAmb 05 25 30.6
comp=Z,12nm,1.1s
M30M Minto, Yukon 94.33 22 P P 05 25 29.0 -1.1
baz=229
C21K Knifeblade Rid 94.40 12 P P 05 25 29.5 -0.7
baz=213
EGAK Eagle 94.40 19 P P 05 25 29.2 -1.2
EGAK IAmb IAmb 05 25 31.4
comp=Z,13nm,1.0s
EGAK Eagle 94.40 19 P P 05 25 29.3 -1.0
baz=225
DAWY Dawson 94.46 20 P 05 25 30.4 -0.3
DAWY IAmb IAmb 05 25 45.2
comp=Z,9.9nm,1.3s
DAWY Dawson 94.46 20 P P 05 25 29.5 -1.2
baz=227
F24K Squaw Lake 94.59 15 P P 05 25 31.0 -0.3
baz=220
D22K Ayikyak River 94.60 13 P P 05 25 30.0 -1.1
baz=215
E23K Chandalar 94.61 14 P P 05 25 31.6 +0.2
baz=218
F10A Beach Ranch, E 94.72 42 P P 05 25 31.6 -0.8
B21K Ikpikpuk River 94.83 12 P P 05 25 32.1 0.0
baz=214
I27K Kandik River 94.85 18 P P 05 25 32.1 -0.4
baz=225
K29M Barlow Dome 94.92 21 P P 05 25 31.8 -1.1
baz=228
D23K Nanushuk River 95.09 14 P P 05 25 34.4 +0.9
baz=217
J29N Klondike Camp 95.10 20 IAmb IAmb 05 25 37.1
comp=Z,14nm,1.2s
J29N Klondike Camp 95.10 20 P P 05 25 33.0 -0.6
baz=228
F25K Christian Rive 95.21 16 P P 05 25 35.3 +1.2
baz=222
G26K Porcupine Rive 95.22 17 P P 05 25 34.2 +0.2
baz=223
H27K Steamboat Moun 95.33 18 P P 05 25 33.9 -0.7
baz=225
D24K Happy Valley 95.65 14 P P 05 25 37.5 +1.6
baz=219
B22K Teshekpuk Lake 95.66 12 P P 05 25 37.3 +1.4
baz=215
F26K Sheenjek River 95.67 16 P P 05 25 37.3 +1.2
baz=223
I29M Ogilvie Camp, 95.68 20 IAmb IAmb 05 25 47.6
comp=Z,17nm,1.4s
I29M Ogilvie Camp, 95.68 20 P P 05 25 34.7 -1.5
baz=228
C23K Itkillik River 95.81 13 P P 05 25 37.4 +0.8
baz=217
TMUT Trail Mountain 95.94 50 IAmb IAmb 05 25 41.7
comp=Z,3.8nm,0.8s
C24K Franklin Bluff 96.12 14 P P 05 25 38.7 +0.6
baz=219
I30M Mount Dempster 96.20 20 P P 05 25 37.2 -1.5
baz=230
H29M Whitestone 96.24 19 P P 05 25 39.0 +0.3
baz=228
E27K Coleen River 96.69 17 P P 05 25 41.7 +1.0
baz=225
F28M Old Crow 96.76 17 P P 05 25 41.6 +0.5
baz=227
EPYK Eagle Plains 96.84 19 P P 05 25 40.0 -1.5
baz=229
C26K Camden Bay 97.13 14 P Pdif 05 25 43.9 +1.2
baz=222
G30M tAoh Zraii Nji 97.39 19 P P 05 25 42.7 -1.3
baz=230
E28M Babbage River 97.53 17 IAmb IAmb 05 25 56.2
comp=Z,5.8nm,1.1s
E28M Babbage River 97.53 17 P Pdif 05 25 45.0 +0.4
baz=227
D27M Malcolm River 97.60 16 P Pdif 05 25 46.2 +1.2
baz=226
F30M Barrier River 97.93 18 P Pdif 05 25 47.0 +0.6
baz=230
G31M Satah River 97.95 19 P P 05 25 45.9 -0.4
baz=232
PDAR Pinedale Array 98.42 47 P P 05 25 49.0 -0.4
comp=Z,1.0nm,0.9s,baz=192,slow=2.2,SNR=5.5
comp=Z,1.0nm,0.9s
F31M Tsiigehtchic 98.43 19 P P 05 25 48.2 -0.3
baz=232
WMQ Urumqi 98.97 314 *e*P Pdif 05 25 52.8 +1.2
INK Inuvik 99.03 18 P Pdif 05 25 48.7 -2.5
comp=Z,2.8nm,1.1s,baz=304,slow=5.5,SNR=5.3
YKA Yellowknife Ar 103.01 28 Pdiff Pdif 05 26 08.5 -0.5
comp=Z,0.9nm,0.9s,baz=253,slow=4.7,SNR=9.4
MKAR Makanchi Array 103.55 315 Pdiff Pdif 05 26 11.5 -0.4
comp=Z,0.6nm,0.8s,baz=93,slow=7.2,SNR=4.7
MKAR PKiKP **PKiKP** 05 30 32.2 +1.8
comp=Z,0.2nm,0.6s,baz=88,slow=2.2,SNR=3.6
KURBB Kurchatov Arra 106.98 318 Pdiff Pdif 05 26 28.4 +1.5
comp=Z,0.3nm,0.3s,baz=104,slow=3.9,SNR=2.1
BVAR Borovoye Array 112.38 320 Pdiff Pdif 05 26 53.3 +2.3
comp=Z,0.3nm,0.4s,baz=55,slow=5.5,SNR=2.2
BVAR PKiKP **PKiKP** 05 30 46.0 -0.7
comp=Z,1.3nm,0.9s,baz=104,slow=3.7,SNR=4.8
BELG Belogornoye 126.19 320 PKP **PKiKP** 05 31 13.3 -0.2
comp=Z,21nm,0.9s,baz=154,slow=4.0,SNR=9.5
ARCES ARCESS Array B 127.57 345 PKP **PKPdf** 05 31 13.8 -1.6
comp=Z,3.2nm,0.7s,baz=5.2,slow=4.0,SNR=12
BDFB Brasilia 127.86 132 PKP **PKPdf** 05 31 17.4 -0.3
comp=Z,1.7nm,0.6s,baz=145,slow=6.3,SNR=5.4
FINES FINESS Array B 132.97 337 PKP **PKiKP** 05 31 26.5 -0.5
comp=Z,0.9nm,0.5s,baz=50,slow=3.0,SNR=4.9
MMAI Mount Meron Ar 137.79 295 PKP **PKiKP** 05 31 37.2 -0.6
comp=Z,0.6nm,0.3s,baz=129,slow=1.1,SNR=1.1
NOA NORSAR Array B 137.94 344 PKP **PKPdf** 05 31 34.9 -0.2
comp=Z,0.3nm,0.6s,baz=38,slow=2.6,SNR=1.5
BRTR Keskin Array B 138.33 306 PKP **PKiKP** 05 31 37.8 -0.9
comp=Z,0.8nm,0.6s,baz=116,slow=3.4,SNR=2.3
MLR Muntele Rosu 141.87 317 PKP **PKPdf** 05 31 42.0 -0.8
comp=Z,1.9nm,0.6s,baz=61,slow=10,SNR=3.4
LANS Liptovska Anna 143.69 326 *e*PKP **PKiKP** 05 31 48.1 -1.2
RDO Rodhopi 143.86 311 PKPbc 05 31 44.8 +0.7
KARP Karpathos 144.23 301 PKPdf PKPbc 05 31 45.1 -0.4
MORC Moravsky Berou 144.27 328 PKP **PKPdf** 05 31 46.9 0.0
MAUC Maruska 144.40 327 *e*PKP **PKPdf** 05 31 48.2 +1.1
JAVC Velka Javorina 144.80 327 *e*PKP **PKPdf** 05 31 48.2 +0.3
VRAC Vranov 145.04 328 *e*PKP **PKPdf** 05 31 48.2 0.0
VRAC Vranov 145.04 328 PKPbc **PKPdf** 05 31 48.5 +0.3
comp=Z,1.4nm,0.4s,baz=45,slow=7.0,SNR=4.5
PVCC Panska Ves 145.14 331 *e*PKP **PKPdf** 05 31 48.6 +0.3
BRG Berggiesshubel 145.17 332 *e*PKP **PKPbc** 05 31 47.0 -0.9
BRG Amp 05 31 49.8
comp=Z,15nm,0.8s
BRG Berggiesshubel 145.17 332 P PKiKP 05 32 00.9 +8.7
BRG Amp 05 32 01.5
comp=Z,14nm,0.9s
CLL Collm 145.24 334 **PKPbc** 05 31 46.9 -1.2
CLL Collm 145.24 334 *i* PKPbc **PKPbc** 05 31 47.8 -0.3
comp=Z,19nm,1.0s
CLL *i* pPKPbc **PKiKP** 05 31 50.6 -1.7
comp=Z,20nm,0.9s
CLL *e*pPKiKP **pPKPdf** 05 31 57.0 +1.7
CLL *i* x x 05 32 07.3
CLL *e*(PP) 05 35 02.0
CLL *e*SKPbc **SKiKP** 05 35 31.0 +3.9
KRUC Moravsky 145.31 328 *e*PKP **PKPdf** 05 31 48.5 -0.1
MODS Modra-Piesok 145.31 327 *e*PKP **PKPdf** 05 31 49.6 +0.9
RICC Richard 145.34 332 *e*PKP **PKPdf** 05 31 49.5 +0.9
PEHC Pehcevo 145.45 313 *i* P **PKPab** 05 31 49.5 +0.1
PRU Pruhonice 145.54 331 *e*PKP **PKPab** 05 31 49.4 0.0
HSKC Hora Svate Kat 145.58 332 *e*PKP **PKPdf** 05 31 48.2 -0.9
VAY Valandovo 145.86 312 *i* P **PKPdf** 05 31 47.5 -2.3
EKA Eskdalemuir Ar 146.08 352 PKPbc **PKPdf** 05 31 48.9 -0.9
comp=Z,5.9nm,0.5s,baz=356,slow=2.6,SNR=26
RONA Rosalia, Austr 146.25 326 *e*PKP **PKPab** 05 31 52.0 -0.2
comp=Z,12nm,1.0s
CONA Conrad Observa 146.32 327 *e*PKP **PKPab** 05 31 52.7 +0.2
comp=Z,17nm,1.3s
SKO Skopje 146.35 314 *i* P **PKPbc** 05 31 51.7 -0.2
CKRC Cesky Krumlov 146.47 329 *e*PKP **PKPbc** 05 31 51.6 -0.5
KHC Kasperske Hory 146.59 330 **PKPbc** 05 31 51.9 -0.5
KHC Kasperske Hory 146.59 330 *e*PKP **PKPbc** 05 31 51.4 -1.0
GEC2 GERESS Array S 146.74 330 **PKPbc** 05 31 52.8 -0.2
GERES GERESS Array B 146.74 330 PKPbc **PKPbc** 05 31 52.1 -0.8
comp=Z,7.2nm,0.8s,baz=35,slow=3.3,SNR=22
FNA Florina 146.91 312 **PKPbc** 05 31 52.6 -1.1
AGG Agios Georgios 146.93 309 **PKPbc** 05 31 52.9 -0.8
OHR Ohrid 147.16 313 *i* P **PKPbc** 05 31 54.1 -0.2
MOA Molln 147.17 328 *e*PKP **PKPbc** 05 31 53.4 -0.7
comp=Z,3.1nm,0.5s
GRF Grafenberg Arr 147.21 333 *e*PKP **PKPbc** 05 31 54.2 +0.1
baz=40,slow=3.0
KBA Koelnbreinsper 148.15 328 *e*PKP **PKPbc** 05 31 56.3 -0.6
comp=Z,1.1nm,0.6s
LESA Schwarzleotal 148.24 329 *e*PKP **PKPbc** 05 31 55.7 -1.3
comp=Z,5.9nm,0.5s
MYKA Terra Mystica 148.31 327 *e*PKP **PKPbc** 05 31 55.9 -1.4
comp=Z,1.8nm,0.4s
BTNL Ternell 148.39 339 *d*PKP **PKiKP** 05 31 58.5 -0.4
MEM Membach 148.41 339 *d*PKP **PKPbc** 05 31 57.6 +0.3
ABTA Abfaltersbach 148.79 328 *e*PKP **PKPdf** 05 31 53.4 -1.2
comp=Z,2.2nm,0.5s
WTTA Wattenberg 148.84 330 *i* pPKP **PKPbc** 05 31 57.3 -1.5
comp=Z,2.1nm,0.3s
MOTA Moosalm 149.03 330 *e*pPKP **PKPbc** 05 31 57.5 -1.7
comp=Z,4.4nm,0.5s
SQTA Sankt Quirin 149.07 330 *i* pPKP **PKPbc** 05 31 57.5 -1.8
comp=Z,2.7nm,0.4s
WLF Walferdange 149.17 338 *d*PKP **PKiKP** 05 31 59.9 -0.6
FETA Feichten 149.44 330 *i* pPKP **PKPbc** 05 31 58.6 -1.7
comp=Z,4.6nm,0.8s
DAVA Damuels 149.62 332 *e*PKP **PKPbc** 05 31 59.8 -0.8
comp=Z,6.0nm,0.8s
FUORN Ofenpass-Fuorn 149.95 330 **PKPbc** 05 32 00.6 -1.0
DAVOX Davos/Dischmat 150.01 331 PKPbc **PKPbc** 05 32 01.2 -0.5
comp=Z,8.8nm,0.7s,baz=58,slow=4.6,SNR=17
SGRT San Giovanni R 150.14 318 PKPdf **PKPdf** 05 31 58.0 +1.0
TUE Stuetta 150.48 331 **PKPbc** 05 32 02.9 0.0
TIP Timpagrande 150.80 312 **PKPdf** 05 32 00.4 +2.3
ESDC Sonseca Array 161.30 343 PKPab **PKPab** 05 32 54.5 -1.1
comp=Z,1.0nm,0.9s,baz=354,slow=2.6,SNR=3.7
DBIC Dimbokro 163.84 202 PKPab **PKPab** 05 33 07.1 -0.1
comp=Z,2.3nm,0.7s,baz=133,slow=3.9,SNR=3.6
TORD Torodi Ar. Bea 165.26 236 **PKPdf** 05 32 14.5 -1.7
TORD Torodi Ar. Bea 165.26 236 PKP **PKPdf** 05 32 14.8 -1.4
comp=Z,2.1nm,0.9s,baz=41,slow=1.3,SNR=12
TORD PKPab **PKPab** 05 33 12.4 -1.2
comp=Z,0.9nm,0.9s,baz=115,slow=3.4,SNR=3.7

*IDC **10** 05:13:49.2±1.2, 17°.31N×84°.13W, h0km, mb3.6/7, mbtmp3.8/11, ML3.6/4, Error ellipse: s-maj=27.9km s-min=22.3km az=31.0*
*NEIC **10** 05:13:51.6±1.5, 17°.32N±0°.07×84°.13W±0°.08, h10km±2km, mb4.3/25, Error ellipse: s-maj=12.8km s-min=11.4km az=75.0*
*CATAC **10** 05:13:51.1±2.0, 17°.42N×84°.07W, h20km±28km, mb4.8, ML4.6*

ISC 10 05:13:50.7±0.6, **17°.31N**±0°.05×**84°.24W**±0°.06, **h10**km, **n69,**
σ1°.**92**/65, **mb4.1**/16, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCPN	**Sur Rio San Ju**	**4.16**	**206**	*i* P	**Pn**	**05 14 54.3**	**-0.2**
RCPN				IAML		05 15 43.9	
	comp=Z,1.0nm,1.0s						
TGUH	**Tegucigalpa,Un**	**4.36**	**223**	Pn	**Pn**	**05 14 58.8**	**+1.7**
TGUH	**Tegucigalpa,Un**	**4.36**	**223**	*i* P	**Pn**	**05 14 58.8**	**+1.7**
TGUH				IAML		05 15 52.3	
	comp=Z,370nm,1.0s						
MATN	**Matagalpa**	**4.65**	**201**	Pn	**Pn**	**05 15 02.1**	**+1.0**
MATN	**Matagalpa**	**4.65**	**201**	*i* P	**Pn**	**05 15 02.3**	**+1.2**
MATN				*i* S	**Sn**	**05 15 58.5**	**+3.3**
MATN				IAML		05 16 28.3	
	comp=Z,130nm,1.0s						
PRVC	**Isla de Provid**	**4.79**	**144**	*i* P	**Pn**	**05 15 02.2**	**-0.8**
PRVC				IAML		05 16 14.7	
	comp=Z,39nm,1.0s						
TEIG	**Tepich**	**4.80**	**308**	Pn	**Pn**	**05 15 04.1**	**+1.0**
	comp=Z,2μm,0.3s,baz=112,slow=19,SNR=1033						
TEIG				Sn	**Sn**	**05 15 55.5**	**-3.3**
	comp=Z,370nm,0.3s,baz=206,slow=20,SNR=8.4						
ESPN	**Las Esperanzas**	**5.08**	**181**		**Pn**	**05 15 08.1**	**+1.1**
CRIN	**San Cristobal**	**5.32**	**211**		**Pn**	**05 15 12.3**	**+1.9**
CRIN	**San Cristobal**	**5.32**	**211**	*eP*	**Pn**	**05 15 12.4**	**+2.0**
CRIN	**San Cristobal**	**5.32**	**211**	*i* P	**Pn**	**05 15 12.5**	**+2.1**
CRIN				IAML		05 17 06.0	
	comp=Z,340nm,1.0s						
CNGN	**Cerro Negro**	**5.34**	**207**	Pn	**Pn**	**05 15 12.4**	**+1.9**
CNGN	**Cerro Negro**	**5.34**	**207**	*eP*	**Pn**	**05 15 11.9**	**+1.4**
CNGN	**Cerro Negro**	**5.34**	**207**	*i* P	**Pn**	**05 15 12.8**	**+2.2**
CNGN				IAmb	IAmb	05 15 27.5	
	comp=Z,65nm,0.6s						
CNGN				IAML		05 16 42.8	
	comp=Z,180nm,1.0s						
ACON	**Acoyapa**	**5.38**	**190**		**Pn**	**05 15 12.4**	**+1.3**
ACON	**Acoyapa**	**5.38**	**190**	*eP*	**Pn**	**05 15 10.6**	**-0.5**
ACON	**Acoyapa**	**5.38**	**190**	*i* P	**Pn**	**05 15 12.4**	**+1.3**
ACON				IAmb	IAmb	05 15 26.4	
	comp=Z,90nm,0.6s						
ACON				IAML		05 16 48.2	
	comp=Z,230nm,1.0s						
PETF	**Flores**	**5.39**	**267**		**Pn**	**05 15 11.9**	**+0.6**
SOR	**Soroa**	**5.58**	**12**	Pn	**Pn**	**05 15 14.9**	**+1.1**
COPN	**Copaltepe**	**5.58**	**204**	*i* P	**Pn**	**05 15 15.2**	**+1.3**
COPN				IAmb	IAmb	05 15 16.2	
	comp=Z,82nm,0.7s						
COPN				IAML		05 17 15.9	
	comp=Z,170nm,1.0s						
MTO3	**Montecristo**	**5.71**	**240**		**Pn**	**05 15 17.9**	**+2.0**
MTO3	**Montecristo**	**5.71**	**240**	*i* P	**Pn**	**05 15 17.8**	**+1.9**
MTO3				IAmb	IAmb	05 15 19.9	
	comp=Z,12nm,0.7s						
MTO3				IAML		05 17 21.2	
	comp=Z,44nm,1.0s						
CONN	**Concepcion**	**5.87**	**193**	*i* P	**Pn**	**05 15 19.5**	**+1.7**
CONN				IAmb	IAmb	05 15 39.6	
	comp=Z,860nm,0.8s						
CONN				IAML		05 17 15.0	
	comp=Z,2μm,1.0s						
CAMR	**Camarioca**	**6.33**	**25**	Pn	**Pn**	**05 15 23.8**	**-0.3**
ARE1	**Arenal 1**	**6.82**	**184**	Pn	**Pn**	**05 15 31.7**	**+0.7**
ORTG	**Ortega, Santa**	**7.00**	**190**	Pn	**Pn**	**05 15 35.2**	**+1.7**
JTS	**Las Juntas de**	**7.01**	**186**	Pn	**Pn**	**05 15 35.6**	**+2.1**
JTS	**Las Juntas de**	**7.01**	**186**	Pn	**Pn**	**05 15 35.2**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=6.7,slow=19,SNR=4.0						
JTS				Sn	**Sn**	**05 16 51.0**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=0.0,slow=20,SNR=6.6						
	comp=Z,6.8nm,0.9s						
CCIG	**Comitan**	**7.63**	**263**	Pn	**Pn**	**05 15 43.9**	**+1.7**
CCIG	**Comitan**	**7.63**	**263**	*i* P	**Pn**	**05 15 43.5**	**+1.3**
CCIG				IAmb	IAmb	05 15 54.5	
	comp=Z,34nm,0.8s						
CCIG				IAML		05 17 37.0	
	comp=Z,99nm,1.0s						
CMIG	**Matias Romero**	**10.18**	**270**	Pn	**Pn**	**05 16 17.9**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=80,slow=8.8,SNR=9.9						
CMIG				Sn	**Sn**	**05 18 06.2**	**-5.0**
	comp=Z,0.7nm,0.3s,baz=44,slow=17,SNR=2.7						
	comp=Z,2.9nm,0.3s						
SJCC	**San Jacinto, C**	**11.48**	**129**	Pn	**Pn**	**05 16 32.6**	**-2.3**
APAC	**Apartado, Choc**	**11.97**	**140**	*eP*	Pn	05 16 36.6	-4.9
ARGC	**Ariguani, Magd**	**12.21**	**126**	*eP*	**Pn**	**05 16 42.3**	**-2.6**
OCAC	**Ocana**	**13.94**	**129**	*eP*	Pn	05 17 02.6	-6.1
SDV	**Santo Domingo**	**15.66**	**121**		**Pn**	**05 17 30.7**	**-1.2**
SDV	**Santo Domingo**	**15.66**	**121**	Pn	**Pn**	**05 17 29.2**	**-2.7**
	comp=Z,1.2nm,0.3s,baz=335,slow=9.5,SNR=16						
	comp=Z,6.1nm,0.6s						
HKT	**Hockley**	**16.45**	**322**	Pn	**Pn**	**05 17 42.8**	**+1.1**
HNVL	**Huntsville, TX**	**16.85**	**325**	P	**Pn**	**05 17 49.1**	**+2.4**
HNVL				IAmb	IAmb	05 18 02.4	
	comp=Z,26nm,0.7s						
HODGE	**Hodges**	**16.95**	**6**	P	**Pn**	**05 17 49.5**	**+1.5**
BIRD	**Birdtown, Kers**	**17.59**	**10**	P	**P**	**05 17 57.5**	**+0.4**
833A	**Chaparral WMA,**	**17.74**	**311**	P	**Pn**	**05 17 59.5**	**+1.5**
435B	**Jarrell**	**18.10**	**320**	P	**P**	**05 18 04.2**	**+1.5**
TKL	**Tuckaleechee C**	**18.28**	**1**	P	**Pn**	**05 18 04.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=193,slow=9.1,SNR=7.3						
TKL				S	Sn	05 21 15.4	-13
	comp=Z,2.1nm,0.6s,baz=103,slow=14,SNR=2.3						
	comp=Z,3.6nm,0.6s						
V53A	**Saluda**	**18.33**	**4**	P	**Pn**	**05 18 05.3**	**+0.1**
JCT	**Junction City**	**19.32**	**316**		**Pn**	**05 18 18.7**	**+1.5**
JCT				IAmb	IAmb	05 18 31.0	
	comp=Z,22nm,0.6s						
BRDY	**Brady**	**19.32**	**319**	Pn	**Pn**	**05 18 18.6**	**+1.3**
BRDY				IAmb	IAmb	05 18 25.2	
	comp=Z,18nm,0.7s						
PLPT	**Palo Pinto**	**19.99**	**323**		**P**	**05 18 25.6**	**+2.2**
PLPT				IAmb	IAmb	05 18 33.9	
	comp=Z,18nm,0.8s						
OZNA	**Ozona**	**20.49**	**315**		**P**	**05 18 30.7**	**+1.8**
SAND	**Sanderson**	**20.63**	**311**		**P**	**05 18 32.3**	**+1.8**
ABTX	**Abilene, Hawle**	**20.64**	**321**	P	**P**	**05 18 32.5**	**+2.0**
BOSC	**San Juan Bosco**	**21.10**	**164**	P	**P**	**05 18 34.0**	**-1.8**
BOSC				IAmb	IAmb	05 18 37.9	
	comp=Z,2.6nm,0.3s						
R55A	**Marlinton**	**21.21**	**9**	P	**P**	**05 18 37.1**	**+0.4**
R55A				IAmb	IAmb	05 18 38.8	
	comp=Z,12nm,0.8s						
TXAR	**Lajitas Array**	**21.45**	**307**	P	**P**	**05 18 40.8**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=141,slow=8.4,SNR=19						
TXAR				S	**S**	**05 22 30.9**	**-6.6**
	comp=Z,0.2nm,0.3s,baz=86,slow=15,SNR=2.6						
	comp=Z,1.0nm,0.7s						
TX31	**Lajitas Ar. Si**	**21.45**	**307**	IAmb	IAmb	05 18 52.2	
	comp=Z,7.8nm,0.7s						
ALPN	**Alpine**	**21.96**	**310**	IAmb	IAmb	05 18 47.1	
	comp=Z,5.4nm,0.7s						
HPIG		**22.01**	**300**	IAmb	IAmb	05 18 50.0	
	comp=Z,13nm,1.3s						
PECS	**Pecos**	**22.66**	**312**	IAmb	IAmb	05 19 30.8	
	comp=Z,4.7nm,0.6s						
VHRN	**Van Horn**	**23.16**	**309**	P	**P**	**05 18 58.4**	**+0.7**
VHRN				IAmb	IAmb	05 19 08.6	
	comp=Z,8.2nm,1.3s						
AMTX	**Amarillo**	**23.43**	**322**	P	**P**	**05 19 01.8**	**+1.6**
AMTX				IAmb	IAmb	05 19 02.5	
	comp=Z,11nm,0.7s						
MSTX	**Muleshoe**	**23.48**	**318**	IAmb	IAmb	05 19 33.4	
	comp=Z,8.9nm,0.6s						
PDAR	**Pinedale Array**	**33.29**	**325**	P	**P**	**05 20 29.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=128,slow=12,SNR=5.4						
	comp=Z,0.5nm,0.8s						
NVAR	**Mina Array Bea**	**36.43**	**312**	P	**P**	**05 20 57.4**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=114,slow=8.2,SNR=4.7						
	comp=Z,0.7nm,0.7s						
SCHQ	**Schefferville**	**39.78**	**16**	P	**P**	**05 21 23.6**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=162,slow=6.4,SNR=2.1						
	comp=Z,2.4nm,0.7s						
YKA	**Yellowknife Ar**	**49.87**	**342**	P	**P**	**05 22 43.1**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=135,slow=8.8,SNR=1.7						
	comp=Z,0.1nm,0.5s						
ILAR	**Eielson Array**	**62.92**	**335**	P	**P**	**05 24 17.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=108,slow=4.5,SNR=5.4						
	comp=Z,0.3nm,0.6s						
ESDC	**Sonseca Array**	**71.79**	**53**	P	**P**	**05 25 14.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=284,slow=5.6,SNR=6.5						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**143.40**	**260**	PKP	PKPab	05 33 23.9	+1.5
	comp=Z,0.4nm,0.8s,baz=92,slow=3.1,SNR=2.5						
ASAR	**Alice Springs**	**143.79**	**253**	PKP	PKPab	05 33 24.4	+0.4
	comp=Z,0.5nm,0.5s,baz=99,slow=4.0,SNR=8.4						

*IDC **10** 05:17:44.7±0.6, 21°.85S×169°.29E, h0km, mb4.2/16, mbtmp4.2/17, ML4.4/1, Error ellipse: s-maj=23.3km s-min=16.6km az=155.0*
*NEIC **10** 05:17:47.1±1.1, 21°.92S±0°.08×169°.16E±0°.08, h10km±1km, mb4.9/39, Error ellipse: s-maj=14.1km s-min=11.2km az=39.0*
*NOU **10** 05:17:49.2, 21°.94S×168°.95E, h0km, MLv4.2/7, Loyalty Islands*

ISC 10 05:17:49.3±0.4, **21°.90S**±0°.07×**169°.21E**±0°.06, **h31**km, **n98,**
σ1°.**13**/99, **mb4.8**/36, **3C-2D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.18**	**291**		**Pn**	**05 18 08.0**	**-1.5**
MARNC				Sn	**Sn**	**05 18 23.2**	**-1.3**
MARNC	**Mare, Loyalty**	**1.18**	**291**	P	**Pn**	**05 18 08.1**	**-1.5**
PINNC	**Pines Island,**	**1.78**	**246**		**Pn**	**05 18 17.1**	**-0.8**
LIFNC	**LIFOU**	**2.15**	**301**		**Pn**	**05 18 24.5**	**+1.4**
LIFNC	**LIFOU**	**2.15**	**301**	P	**Pn**	**05 18 23.5**	**+0.5**
YATNC	**Mamie plateau,**	**2.16**	**265**	P	**Pn**	**05 18 22.4**	**-0.7**
OUENC	**Ouen Island, N**	**2.26**	**256**		**Pn**	**05 18 24.6**	**+0.2**
OUENC	**Ouen Island, N**	**2.26**	**256**	P	**Pn**	**05 18 24.5**	**0.0**
DZM	**Mont Dzumac**	**2.58**	**266**	Pn	**Pn**	**05 18 29.2**	**+0.3**
DZM	**Mont Dzumac**	**2.58**	**266**	P	**Pn**	**05 18 28.9**	**0.0**
DZM	**Mont Dzumac**	**2.58**	**266**	Pn	**Pn**	**05 18 29.0**	**0.0**
	66nm,0.3s,baz=128,slow=21,SNR=32						
DZM				Sn	**Sn**	**05 18 59.4**	**+0.2**
	116nm,0.3s,baz=148,slow=24,SNR=7.5						
	139nm,0.3s						
ONTNC	**Ouen Toro**	**2.59**	**261**		**Pn**	**05 18 29.2**	**+0.2**
ONTNC	**Ouen Toro**	**2.59**	**261**	P	**Pn**	**05 18 29.1**	**+0.1**
NOUC	**Port Laguerre**	**2.71**	**265**	P	**Pn**	**05 18 30.4**	**-0.3**
KOUNC	**Koumac, New Ca**	**4.79**	**285**	Pn	**Pn**	**05 18 59.8**	**+0.5**
URZ	**Urewera**	**17.66**	**159**	P	**P**	**05 21 56.0**	**+2.4**
	17nm,0.9s,baz=38,slow=19,SNR=4.8						
ARMA	**Armidale**	**17.90**	**238**		**Pn**	**05 21 52.0**	**-4.1**
RTZ	**Ruatahuna**	**17.94**	**160**		**Pn**	**05 21 55.9**	**-0.6**
NIUE	**Niue**	**19.74**	**86**	P	**P**	**05 22 15.1**	**-1.5**
AFI	**Afiamalu**	**19.75**	**69**	P	**P**	**05 22 12.9**	**-3.9**
CTA	**Charters Tower**	**21.51**	**271**	P	**P**	**05 22 34.6**	**-1.2**
	3.0nm,0.7s,baz=107,slow=14,SNR=1.8						
	3.0nm,0.7s						
STKA	**Stephens Creek**	**26.49**	**242**	P	**P**	**05 23 26.6**	**+2.6**
	0.9nm,0.4s,baz=80,slow=17,SNR=1.7						
	0.9nm,0.4s						
WR0	**Warramunga Arr**	**32.40**	**267**	P	**P**	**05 24 16.5**	**0.0**
AS31	**Alice Springs**	**32.55**	**260**	P	**P**	**05 24 17.6**	**-0.2**
ASAR	**Alice Springs**	**32.55**	**260**	P	**P**	**05 24 17.5**	**-0.4**
ASAR	**Alice Springs**	**32.55**	**260**	P	**P**	**05 24 18.1**	**+0.2**
	1.9nm,0.8s,baz=77,slow=9.2,SNR=9.8						
ASAR				PcP	**PcP**	**05 27 04.4**	**+0.3**
	0.6nm,0.8s,baz=74,slow=4.0,SNR=2.6						
	1.9nm,0.8s						
WB0	**Warramunga Arr**	**32.57**	**267**	P	**P**	**05 24 16.8**	**-1.3**
WB0				IAmb	IAmb	05 24 49.3	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**32.58**	**267**	P	**P**	**05 24 17.1**	**-1.0**
WB2				IAmb	IAmb	05 24 41.

ELIB	**Princess Elisa**	**83.53**	**190**	*d*P		**P**		**05 30 13.5**	**-0.5**
ELIB				*dx*		x		05 30 22.1	
LZH	**Lanzhou**	**84.49**	**312**	*e*P		**P**		**05 30 19.0**	**-0.4**
LZH				pP		PcP		05 30 25.8	+2.8
LZH				pmax		pmax			
	comp=Z,8.0nm,1.2s								
TROLL	**Troll, Antarti**	**85.89**	**184**	⇑P		**P**		**05 30 26.1**	**+0.3**
	comp=Z,108nm,0.7s								
VNA2	**Neumayer--Watz**	**87.39**	**181**	⇑P		**P**		**05 30 33.0**	**0.0**
	baz=196,slow=5.0								
CMB	**Columbia Colle**	**88.94**	**48**	P		**P**		**05 30 41.1**	**+0.2**
CMB				IAmb		IAmb		05 30 52.7	
	comp=Z,4.3nm,0.8s								
ULN	**Ulaanbaatar**	**88.98**	**323**	P		**P**		**05 30 41.0**	**-0.1**
ULN				IAmb		IAmb		05 30 43.4	
	comp=Z,12nm,1.4s								
AFDM	**Forest Hills D**	**88.99**	**47**	P		**P**		**05 30 41.5**	**+0.4**
AFDM				IAmb		IAmb		05 30 42.6	
	comp=Z,7.3nm,0.9s								
YBH	**Yreka Blue Hor**	**89.22**	**44**	P		**P**		**05 30 42.0**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=207,slow=4.5,SNR=3.6								
	comp=Z,2.2nm,0.7s								
SONM	**Songino Array**	**89.33**	**323**	P		**P**		**05 30 43.6**	**+1.0**
SONM				IAmb		IAmb		05 30 44.9	
	comp=Z,10nm,1.3s								
SONM	**Songino Array**	**89.33**	**323**	P		**P**		**05 30 43.4**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=138,slow=5.8,SNR=13								
	comp=Z,3.1nm,0.9s								
PNTR	**Pine Nut**	**89.99**	**47**	P		**P**		**05 30 47.1**	**+1.1**
PNTR				IAmb		IAmb		05 30 48.2	
	comp=Z,8.8nm,0.9s								
PAHR	**Pah Rah Range**	**90.43**	**47**	P		**P**		**05 30 48.7**	**+0.7**
PAHR				IAmb		IAmb		05 30 49.6	
	comp=Z,6.2nm,0.9s								
RYN	**Ryan**	**90.52**	**48**	P		**P**		**05 30 49.2**	**+0.7**
RYN				IAmb		IAmb		05 30 49.9	
	comp=Z,6.2nm,0.9s								
NVAR	**Mina Array Bea**	**90.58**	**49**	P		**P**		**05 30 49.6**	**+0.8**
NVAR	**Mina Array Bea**	**90.58**	**49**	P		**P**		**05 30 49.4**	**+0.6**
	comp=Z,4.4nm,0.8s,baz=226,slow=8.6,SNR=29								
	comp=Z,4.4nm,0.8s								
GMN	**Gold Mountain**	**90.79**	**50**	P		**P**		**05 30 50.7**	**+0.8**
GMN				IAmb		IAmb		05 30 51.1	
	comp=Z,4.1nm,0.9s								
MZP	**Montezuma Peak**	**90.89**	**49**	P		**P**		**05 30 51.0**	**+0.7**
J05D	**Fort Rock, OR**	**90.94**	**43**	P		**P**		**05 30 51.4**	**+1.1**
WCT	**Wildcat Mounta**	**91.02**	**51**	IAmb		IAmb		05 30 52.3	
	comp=Z,7.3nm,1.0s								
TPNV	**Topopah Spring**	**91.36**	**51**	P		**P**		**05 30 53.1**	**+0.7**
TPNV				IAmb		IAmb		05 30 54.0	
	comp=Z,7.1nm,0.8s								
WVOR	**Wild Horse Val**	**92.21**	**45**	IAmb		IAmb		05 30 57.7	
	comp=Z,7.3nm,1.2s								
BMN	**Battle Mountai**	**92.24**	**47**	IAmb		IAmb		05 30 57.9	
	comp=Z,6.0nm,1.1s								
J08A	**Circle Bar Ran**	**92.75**	**44**	P		**P**		**05 30 59.1**	**+0.5**
J08A				IAmb		IAmb		05 31 10.3	
	comp=Z,5.0nm,0.8s								
ILAR	**Eielson Array**	**92.77**	**17**	P		**P**		**05 30 56.5**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=242,slow=5.0,SNR=4.1								
	comp=Z,0.2nm,0.4s								
ELK	**Elko**	**93.73**	**48**	P		**P**		**05 31 03.8**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=243,slow=4.8,SNR=6.9								
	comp=Z,1.3nm,0.8s								
U15A	**North Rim**	**94.01**	**52**	IAmb		IAmb		05 31 07.4	
	comp=Z,7.2nm,1.0s								
ANMO	**Albuquerque**	**97.82**	**56**	P		**P**		**05 31 21.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=308,slow=3.6,SNR=4.0								
	comp=Z,0.4nm,0.3s								
TXAR	**Lajitas Array**	**98.05**	**62**	P		**P**		**05 31 21.8**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=218,slow=8.7,SNR=2.4								
	comp=Z,0.3nm,0.9s								
PDAR	**Pinedale Array**	**98.43**	**47**	P		**P**		**05 31 23.6**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=232,slow=1.0,SNR=2.0								
	comp=Z,0.3nm,0.8s								
WMQ	**Urumqi**	**99.02**	**314**	*e*P		**Pdif**		**05 31 29.2**	**+2.1**
YKA	**Yellowknife Ar**	**103.03**	**28**	P		**Pdif**		**05 31 45.8**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=260,slow=4.1,SNR=5.3								
MKAR	**Makanchi Array**	**103.61**	**315**	Pdiff		**Pdif**		**05 31 48.6**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=73,slow=6.8,SNR=2.2								
ARCES	**ARCESS Array B**	**127.62**	**345**	PKP		**PKPdf**		**05 36 50.7**	**0.0**
	comp=Z,4.0nm,0.9s,baz=48,slow=1.8,SNR=6.9								
BDFB	**Brasilia**	**127.81**	**132**	PKP		**PKPdf**		**05 36 52.6**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=151,slow=5.8,SNR=4.3								
DPC	**Dobruska-Polom**	**144.53**	**330**	*e*PKP		**PKPdf**		**05 37 22.2**	**-0.3**
PVCC	**Panska Ves**	**145.20**	**331**	*e*PKP		**PKPdf**		**05 37 24.4**	**+0.8**
GQPC	**GO Pecny, Ondr**	**145.54**	**330**	*e*PKP		**PKPbc**		**05 37 24.7**	**+0.3**
PRU	**Pruhonice**	**145.60**	**331**	*e*PKP		**PKPab**		**05 37 25.0**	**+0.2**
EKA	**Eskdalemuir Ar**	**146.13**	**352**	PKPbc		**PKPdf**		**05 37 25.5**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=354,slow=2.6,SNR=19								
RONA	**Rosalia, Austr**	**146.31**	**326**	*e*pPKP		**PKiKP**		**05 37 29.1**	**-0.9**
	comp=Z,9.0nm,1.1s								
CONA	**Conrad Observa**	**146.38**	**327**	*e*pPKP		**PKiKP**		**05 37 29.6**	**-0.5**
	comp=Z,16nm,1.6s								
CKRC	**Cesky Krumlov**	**146.53**	**329**	*e*PKP		**PKPab**		**05 37 28.6**	**+0.2**
KHC	**Kasperske Hory**	**146.65**	**330**	*e*PKP		**PKPbc**		**05 37 28.5**	**+0.7**
GERES	**GERESS Array B**	**146.80**	**330**	PKPbc		**PKPbc**		**05 37 29.1**	**+0.7**
	comp=Z,9nm,0.7s,baz=20,slow=4.3,SNR=12								
OBKA	**Obir**	**147.99**	**326**	*e*PKP		**PKPbc**		**05 37 31.5**	**-0.2**
	comp=Z,1.1nm,0.5s								
KBA	**Koelnbreinsper**	**148.21**	**328**	*e*PKP		**PKPbc**		**05 37 32.4**	**0.0**
	comp=Z,2.5nm,0.6s								
LESA	**Schwarzleotal**	**148.29**	**329**	*e*PKP		**PKPbc**		**05 37 32.8**	**+0.4**
	comp=Z,1.9nm,0.4s								
ABTA	**Abfaltersbach**	**148.85**	**328**	*e*pPKP		**PKPbc**		**05 37 33.6**	**-0.3**
	comp=Z,1.6nm,0.5s								
MOTA	**Moosalm**	**149.09**	**330**	*e*PKP		**PKPbc**		**05 37 35.0**	**+0.4**
	comp=Z,2.1nm,0.5s								
SQTA	**Sankt Quirin**	**149.13**	**330**	*i* PKP		**PKPbc**		**05 37 35.3**	**+0.7**
	comp=Z,1.8nm,0.3s								
FETA	**Feichten**	**149.50**	**330**	*i* PKP		**PKPbc**		**05 37 36.3**	**+0.7**
	comp=Z,1.6nm,0.6s								
DAVOX	**Davos/Dischmat**	**150.06**	**331**	PKPbc		**PKPbc**		**05 37 36.7**	**-0.3**
	comp=Z,5.3nm,0.8s,baz=65,slow=7.6,SNR=7.8								
TUE	**Stuetta**	**150.54**	**331**			**PKPdf**		**05 37 33.9**	**+1.0**
OSSC	**Osservatorio P**	**151.73**	**325**			**PKPdf**		**05 37 33.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**165.26**	**236**	PKP		**PKPdf**		**05 37 51.8**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=56,slow=1.7,SNR=4.2								
TORD				PKPab		**PKPab**		**05 38 48.7**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=113,slow=3.7,SNR=1.4								

*HEL **10** 05:19:57.2±0.2, 67°.85N×19°.98E, h0km, ML1.5, Suspected explosion*
*IDC **10** 05:20:01.9±1.4, 67°.82N×21°.16E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=20.6km s-min=7.7km az=112.0*

ISC 10 05:20:00.2±1.1, **67°.87N**±0°.03×**20°.53E**±0°.05, **h0km**, **n22**, σ1§**27**/35, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.58**	**72**	PG	**Pg**	**05 20 11.2**	**0.0**
LANU				SG	**Sb**	**05 20 21.3**	**-0.7**
KIF	**Kilpisjarvi**	**1.14**	**5**	*e*P	**Pg**	**05 20 21.1**	**-0.9**
KIF	**Kilpisjarvi**	**1.14**	**5**	PN	**Pg**	**05 20 21.5**	**-0.5**
KIF				MSG		05 20 34.5	
	comp=Z,6.6nm,0.2s						
KIF				SN	**Sb**	**05 20 37.9**	**-0.2**
HEF	**Hetta**	**1.29**	**64**	*e*P	**Pg**	**05 20 24.3**	**-0.5**
HEF	**Hetta**	**1.29**	**64**	PG	**Pg**	**05 20 24.0**	**-0.8**
	baz=249						
HEF				MSG		05 20 41.8	
	comp=Z,2.5nm,0.2s						
HEF				SB	**Sn**	**05 20 43.9**	**+0.5**
PAJU	**Pajala**	**1.31**	**129**	PG	**Pg**	**05 20 23.3**	**-1.9**
	baz=301						
PAJU				SB	**Sg**	**05 20 42.5**	**+0.3**
KLF	**Kolari**	**1.47**	**114**	PG	**Pn**	**05 20 26.8**	**-1.0**
KLF				MSG		05 20 46.5	
	comp=Z,3.4nm,0.2s						
KLF				SN	**Sn**	**05 20 49.0**	**+1.3**
ERTU	**Ertsjaerv**	**1.47**	**153**	PN	**Pn**	**05 20 25.7**	**-2.2**
	baz=331						
ERTU				SN	**Sg**	**05 20 48.0**	**+0.5**
KTK1	**Kautokeino**	**1.52**	**40**	PN	**Pn**	**05 20 28.3**	**-0.3**
KTK1				SN	**Sn**	**05 20 51.3**	**+2.3**
KALU	**Kalix**	**2.31**	**150**	PG	**Pn**	**05 20 38.9**	**-0.4**
	baz=328						
KALU				SG	**Sb**	**05 21 11.0**	**-0.7**
SGF	**Sodankyl**	**2.33**	**98**	PG	**Pb**	**05 20 42.1**	**-0.9**
SGF				SB	**Sb**	**05 21 12.6**	**+0.4**
TOF	**Tornio**	**2.34**	**139**	PG	**Pn**	**05 20 40.0**	**+0.3**
TOF				MSG		05 21 10.0	
	comp=Z,2.2nm,0.2s						
TOF				SG	**Sb**	**05 21 13.1**	**+0.6**

ARA0	**ARCESS Array S**	**2.47**	**45**	PB		**Pn**		**05 20 42.6**	**+1.0**
ARCES	**ARCESS Array B**	**2.47**	**45**	Pn		**Pn**		**05 20 42.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=226,slow=13,SNR=32								
ARCES				Lg		Lg		05 21 15.4	
	comp=Z,1.1nm,0.3s,baz=226,slow=25,SNR=14								
	comp=Z,0.7nm,0.3s								
RNF	**Rovaniemi**	**2.48**	**118**	PB		**Pn**		**05 20 43.0**	**+1.3**
	baz=305								
RNF				SG		**Sb**		**05 21 17.4**	**+0.9**
KEV	**Kevo**	**3.02**	**48**	SB		**Sb**		**05 21 28.6**	**-3.4**
BURU	**Burvik**	**3.32**	**174**	PB		**Pn**		**05 20 54.0**	**+0.7**
BURU				SB		**Sn**		**05 21 35.3**	**+1.9**
VRF	**Varrio**	**3.45**	**88**	SG		**Sg**		**05 21 51.2**	**+0.4**
UMAU	**Umeaa**	**4.01**	**179**	PB		**Pn**		**05 21 03.4**	**+0.7**
KU6	**Riekki**	**4.12**	**112**	PG		**Pb**		**05 21 14.7**	**+1.3**
	baz=296								
FINES	**FINESS Array B**	**6.88**	**157**	Pn		**Pn**		**05 21 42.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=3.5								
FINES				Sn		**Sn**		**05 22 58.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=349,slow=28,SNR=2.4								
FINES				Lg		Lg		05 23 32.1	
	comp=Z,0.3nm,0.3s,baz=343,slow=28,SNR=6.7								
	comp=Z,0.5nm,0.4s								
NOA	**NORSAR Array B**	**7.95**	**215**	Pn		**Pn**		**05 21 57.7**	**+0.9**
	baz=35,slow=15,SNR=1.4								
NOA				Lg		Lg		05 24 08.3	
	baz=40,slow=16,SNR=4.7								
	comp=Z,0.4nm,0.8s								

*IDC **10** 05:23:08.4±2.9, 31°.91N×31°.70E, h0km, mb3.5/2, mbtmp3.5/7, ML3.5/5, Error ellipse: s-maj=52.4km s-min=23.2km az=41.0*
*GII **10** 05:23:12.5±0.4, 31°.805N±0°.003×31°.704E±0°.001, h30km, Md3.0/3, Mws3.3/6, confirmed*
*NIC **10** 05:23:13.1, 31°.88N×31°.75E, h30km±31km, Ml3.3/8*

ISC 10 05:23:07.9±1.1, **31°.80N**±0°.04×**31°.56E**±0°.05, **h10**km, **n99**, σ1§**53**/109, **Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSC2	**CSNet OBS 4**	**1.40**	**25**	P	**Pn**	**05 23 30.3**	**-3.3**
OSC2				S	**Sb**	**05 23 48.0**	**-4.1**
KZIT	**Kziot**	**2.58**	**109**	P	**Pn**	**05 23 51.1**	**+1.3**
KZIT				S	**Sn**	**05 24 21.3**	**0.0**
KZIT				AML	AML	05 24 26.9	
	0.3nm,0.4s						
KZIT				AML	AML	05 24 28.7	
	0.3nm,0.4s						
KZIT	**Kziot**	**2.58**	**109**	P	**Pn**	**05 23 50.9**	**+1.1**
KZIT	**Kziot**	**2.58**	**109**	S	**Sn**	**05 24 20.8**	**-0.5**
KZIT	**Kziot**	**2.58**	**109**	P	**Pn**	**05 23 50.9**	**+1.1**
AMAZ	**Amatzia**	**2.87**	**95**	P	**Pn**	**05 23 54.9**	**+1.1**
AMAZ				S	**Sn**	**05 24 27.6**	**-0.8**
AMAZ				AML	AML	05 24 29.5	
	0.6nm,0.2s						
AMAZ				AML	AML	05 24 37.4	
	0.7nm,0.3s						
AMAZ	**Amatzia**	**2.87**	**95**	S	**Sn**	**05 24 27.5**	**-0.9**
AMAZ	**Amatzia**	**2.87**	**95**	P	**Pn**	**05 23 54.8**	**+1.0**
SLTI	**Sal'it**	**2.99**	**81**	P	**Pn**	**05 23 55.9**	**+0.5**
SLTI	**Sal'it**	**2.99**	**81**	P	**Pn**	**05 23 55.6**	**+0.3**
SLTI	**Sal'it**	**2.99**	**81**	S	**Sn**	**05 24 29.5**	**-1.8**
YTIR	**Yattir**	**3.06**	**97**	P	**Pn**	**05 23 57.7**	**+1.2**
YTIR	**Yattir**	**3.06**	**97**	P	**Pn**	**05 23 57.5**	**+0.9**
NATA	**Nata**	**3.09**	**16**	P	**Pn**	**05 23 58.9**	**+2.1**
NATA				AML	AML	05 24 42.3	
	0.4nm,0.5s						
NATA				AML	AML	05 24 49.5	
	0.3nm,0.6s						
SALP	**Salfit**	**3.10**	**84**	P	**Pn**	**05 23 57.4**	**+0.5**
KRMI	**Paran Flat**	**3.19**	**121**	P	**Pn**	**05 23 58.8**	**+0.6**
KRMI	**Paran Flat**	**3.19**	**121**	S	**Sn**	**05 24 35.6**	**-0.8**
DSI	**Dead Sea**	**3.26**	**93**	P	**Pn**	**05 24 00.2**	**+1.0**
DSI	**Dead Sea**	**3.26**	**93**	P	**Pn**	**05 24 00.0**	**+0.9**
AKMS	**Akamas**	**3.27**	**11**	P	**Pn**	**05 23 60.0**	**+0.6**
AKMS				AML	AML	05 24 42.7	
	0.2nm,0.3s						
AKMS				AML	AML	05 24 43.6	
	0.1nm,0.3s						
MDBI	**Mazsada**	**3.28**	**98**	P	**Pn**	**05 24 00.4**	**+1.1**
MSBI	**Mazada**	**3.28**	**98**	P	**Pn**	**05 24 00.5**	**+1.2**
MSBI	**Mazada**	**3.28**	**98**	P	**Pn**	**05 24 00.4**	**+1.2**
PRNI	**Paran**	**3.29**	**115**	P	**Pn**	**05 24 00.4**	**+0.9**
PRNI	**Paran**	**3.29**	**115**	S	**Sn**	**05 24 37.3**	**-1.4**
PRNI	**Paran**	**3.29**	**115**	P	**Pn**	**05 24 00.3**	**+0.7**
ASGA	**Asgata**	**3.29**	**25**	P	**Pn**	**05 24 01.3**	**+1.7**
ASGA				S	**Sn**	**05 24 38.8**	**-0.1**
ASGA				AML	AML	05 24 46.4	
	0.2nm,0.5s						
ASGA				AML	AML	05 24 49.0	
	0.2nm,0.5s						
HNTI	**Hanita**	**3.31**	**66**	P	**Pn**	**05 24 02.3**	**+2.5**
HNTI	**Hanita**	**3.31**	**66**	S	**Sn**	**05 24 37.8**	**-1.4**
HNTI	**Hanita**	**3.31**	**66**	P	**Pn**	**05 24 00.5**	**+0.7**
TROD	**Troodos**	**3.32**	**19**	P	**Pn**	**05 24 01.6**	**+1.5**
TROD				S	**Sn**	**05 24 39.6**	**-0.2**
TROD				AML	AML	05 24 47.1	
	0.1nm,0.3s						
TROD				AML	AML	05 24 50.7	
	0.1nm,0.4s						
MMLI	**Mount Malkishu**	**3.33**	**78**	*e*P	**Pn**	**05 24 00.4**	**+0.2**
MMLI	**Mount Malkishu**	**3.33**	**78**	P	**Pn**	**05 24 00.9**	**+0.7**
MMLI				S	**Sn**	**05 24 38.1**	**-1.8**
MMLI				AML	AML	05 24 41.3	
	0.2nm,0.2s						
MMLI				AML	AML	05 24 43.8	
	0.2nm,0.3s						
MMLI	**Mount Malkishu**	**3.33**	**78**	P	**Pn**	**05 24 00.7**	**+0.5**
ZFRI	**Zfri**	**3.34**	**111**	P	**Pn**	**05 24 00.5**	**+0.3**
ZFRI	**Zfri**	**3.34**	**111**	P	**Pn**	**05 24 00.5**	**+0.3**
ZFRI	**Zfri**	**3.34**	**111**	S	**Sn**	**05 24 38.3**	**-1.6**
LISJ	**El Lisan**	**3.39**	**98**	P	**Pn**	**05 24 02.3**	**+1.4**
HMDT	**Nahal Hemdat**	**3.40**	**81**	P	**Pn**	**05 24 03.0**	**+2.0**
QRNJ	**Al-Qirein**	**3.45**	**80**	P	**Pn**	**05 24 02.7**	**+1.0**
ALFC	**Alefka**	**3.46**	**14**	P	**Pn**	**05 24 02.9**	**+1.1**
ALFC				S	**Sn**	**05 24 42.1**	**-0.7**
ALFC				AML	AML	05 24 46.6	
	0.2nm,0.4s						
ALFC				AML	AML	05 24 48.5	
	0.2nm,0.5s						
HRFI	**Mount Harif**	**3.46**	**120**	S	**Sn**	**05 24 42.8**	**-0.4**
HRFI	**Mount Harif**	**3.46**	**120**	P	**Pn**	**05 24 03.7**	**+1.1**
MMA0	**Mount Meron ar**	**3.47**	**69**	P	**Pn**	**05 24 03.7**	**+1.7**
MMA0B	**Mount Meron ar**	**3.47**	**69**	S	**Sn**	**05 24 41.0**	**-2.2**
MMA0B	**Mount Meron ar**	**3.47**	**69**	P	**Pn**	**05 24 02.3**	**+0.3**
MMAI	**Mount Meron Ar**	**3.47**	**69**	Pn	**Pn**	**05 24 02.1**	**+0.1**
	5.6nm,0.3s,baz=252,slow=28,SNR=11						
MMAI				Sn	**Sn**	**05 24 40.0**	**-3.1**
	24nm,0.3s,baz=243,slow=24,SNR=13						
	2.5nm,0.3s						
CSS	**Mathiatis**	**3.48**	**25**	*e*P	**Pn**	**05 24 03.2**	**+1.0**
CSS	**Mathiatis**	**3.48**	**25**	P	**Pn**	**05 24 02.7**	**+0.5**
CSS	**Mathiatis**	**3.48**	**25**	P	**Pn**	**05 24 04.5**	**+2.3**
CSS	**Mathiatis**	**3.48**	**25**	P	**Pn**	**05 24 04.3**	**+2.2**
CSS	**Mathiatis**	**3.48**	**25**	S	**Sn**	**05 24 44.4**	**+0.9**
LEF	**Lefka**	**3.49**	**18**	*e*P	**Pn**	**05 24 03.8**	**+1.5**
MBRI	**Mt Berech**	**3.51**	**124**	P	**Pn**	**05 24 03.3**	**+0.6**
MBRI	**Mt Berech**	**3.51**	**124**	P	**Pn**	**05 24 03.3**	**+0.7**
KARJ	**KARJ**	**3.56**	**100**	P	**Pn**	**05 24 02.7**	**-0.6**
EIL	**Elat**	**3.61**	**125**	Pn	**Pn**	**05 24 04.9**	**+0.9**
	4.1nm,0.3s,baz=315,slow=7.1,SNR=54						
EIL				Sn	**Sn**	**05 24 44.9**	**-1.7**
	11nm,0.3s,baz=17,slow=13,SNR=11						
	10nm,0.4s						
EIL	**Elat**	**3.61**	**125**	P	**Pn**	**05 24 04.8**	**+0.9**
EIL	**Elat**	**3.61**	**125**	S	**Sn**	**05 24 45.2**	**-1.4**
EIL	**Elat**	**3.61**	**125**	P	**Pn**	**05 24 05.3**	**+1.3**
MVOU	**Mavrovouni**	**3.64**	**28**	P	**Pn**	**05 24 06.4**	**+2.0**
SHMJ	**Saham**	**3.68**	**74**	P	**Pn**	**05 24 07.0**	**+2.1**
GEM	**Giv'at Ha'Em**	**3.74**	**67**	P	**Pn**	**05 24 07.8**	**+2.1**
GEM	**Giv'at Ha'Em**	**3.74**	**67**	S	**Sn**	**05 24 48.5**	**-1.3**
GEM	**Giv'at Ha'Em**	**3.74**	**67**	P	**Pn**	**05 24 07.6**	**+1.9**
KSHT	**Keshet**	**3.78**	**71**	P	**Pn**	**05 24 08.0**	**+1.6**
NATI	**Neve Ativ**	**3.81**	**66**	P	**Pn**	**05 24 08.5**	**+1.8**
NATI	**Neve Ativ**	**3.81**	**66**	P	**Pn**	**05 24 07.6**	**+0.9**
NATI	**Neve Ativ**	**3.81**	**66**	S	**Sn**	**05 24 50.4**	**-1.2**
LFK	**Lefkose**	**3.84**	**25**	*e*P	**Pn**	**05 24 09.8**	**+2.7**
GAZI	**Gazipasa**	**4.46**	**8**	*e*P	**Pn**	**05 24 16.3**	**+0.6**
ASF	**Jabal al Asfar**	**4.55**	**84**	Pn	**Pn**	**05 24 17.4**	**+0.5**
	1.6nm,0.3s,baz=253,slow=14,SNR=5.4						
ASF				Sn	**Sn**	**05 25 05.8**	**-4.1**
	baz=243,slow=23						

	3.5nm,0.3s								
AKKU	**Akkuyu-Mersin**	**4.65**	**20**	*e*P		**Pn**		**05 24 20.2**	**+2.0**
BERE	**Bereket-Mersin**	**4.74**	**16**	*e*P		**Pn**		**05 24 21.1**	**+1.5**
ALAN	**Alanya-ANTALYA**	**4.76**	**5**	*e*P		**Pn**		**05 24 20.9**	**+1.2**
IKL	**Isikli**	**4.76**	**21**	*e*P		**Pn**		**05 24 21.5**	**+1.7**
TEVE	**Tevekalti-Mers**	**4.88**	**18**	*e*P		**Pn**		**05 24 24.1**	**+2.7**
KEBE	**Keben-Mersin**	**4.96**	**20**	*e*P		**Pn**		**05 24 23.9**	**+1.3**
ELL	**Elmali**	**5.12**	**345**	*e*P		**Pn**		**05 24 25.9**	**+1.1**
KIZK	**Mersin**	**5.13**	**24**	*e*P		**Pn**		**05 24 27.4**	**+2.5**
HDMB	**Hadim**	**5.21**	**8**	*e*P		**Pn**		**05 24 27.8**	**+1.7**
KARP	**Karpathos**	**5.24**	**317**	P		**Pn**		**05 24 25.8**	**-0.5**
FETY	**Fethiye**	**5.24**	**338**	*e*P		**Pn**		**05 24 25.8**	**-0.6**
ARG	**Arkhanelos**	**5.25**	**328**	*e*P		**Pn**		**05 24 25.3**	**-1.1**
KORT	**Korkueli**	**5.28**	**349**	*e*P		**Pn**		**05 24 28.2**	**+1.2**
CAME	**Cameli-Denizli**	**5.46**	**341**	*e*P		**Pn**		**05 24 29.9**	**+0.4**
DALY	**Dalyan (Mula)**	**5.55**	**335**	*e*P		**Pn**		**05 24 29.9**	**-0.7**
SEYD	**Seydisehir-KON**	**5.59**	**2**	*e*P		**Pn**		**05 24 33.8**	**+2.5**
TURN	**Turunc**	**5.67**	**332**	*e*P		**Pn**		**05 24 31.8**	**-0.4**
APMY	**Acipayam-Deniz**	**5.96**	**342**	*e*P		**Pn**		**05 24 36.9**	**+0.7**
TAHT	**Tahtakopru-Hat**	**5.96**	**39**	*e*P		**Pn**		**05 24 38.5**	**+2.3**
YER	**Yerkesik**	**5.97**	**334**	*e*P		**Pn**		**05 24 36.8**	**+0.4**
BASM	**Basmaki-Afyon**	**6.23**	**349**	*e*P		**Pn**		**05 24 40.9**	**+0.9**
CMRD	**Camardi-Nigde**	**6.49**	**25**	*e*P		**Pn**		**05 24 46.2**	**+2.6**
SHUT	**Suhut-Afyon**	**6.79**	**353**	*e*P		**Pn**		**05 24 49.1**	**+1.4**
BRTR	**Keskin Array B**	**8.08**	**11**	Pn		**Pn**		**05 25 07.4**	**+1.8**
	0.4nm,0.3s,baz=190,slow=16,SNR=8.6								
	1.3nm,0.5s								
AKASG	**Malin Array Be**	**18.96**	**355**	P		**P**		**05 27 29.7**	**+0.5**
	0.3nm,0.3s,baz=180,slow=12,SNR=8.1								
	0.8nm,0.5s								
GERES	**GERESS Array B**	**21.71**	**327**	P		**P**		**05 28 02.3**	**+3.2**
	0.3nm,0.5s,baz=124,slow=12,SNR=1.4								
	0.3nm,0.5s								
ARCES	**ARCESS Array B**	**37.93**	**357**	P		**P**		**05 30 25.1**	**-0.1**
	2.0nm,0.8s,baz=191,slow=9.1,SNR=3.7								
	2.0nm,0.8s								

*IDC **10** 05:46:14.6±0.6, 54°.2S×120°.85W, h0km, mb4.3/9, mbtmp4.3/9, Error ellipse: s-maj=28.6km s-min=18.9km az=149.0*
*NEIC **10** 05:46:16.2±1.5, 54°.3S±0°.2×120°.8W±0°.2, h10km±1km, mb4.9/37, Error ellipse: s-maj=32.3km s-min=19.7km az=334.0*

ISC 10 05:46:16.2±0.6, **54°.2S**±0°.1×**120°.7W**±0°.1, **h10**km, **n74**, σ0§**88**/59, **mb4.8**/**23**, **1C**, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO10	**Punta Arenas**	**28.94**	**108**	P	**P**	**05 52 14.7**	**-0.6**
GO09	**Cerro Castillo**	**28.98**	**104**	P

	baz=144							
ILAR	**Eielson Array**	**120.37**	**347**	PKP	**PKPdf**	06 05 04.3	**-1.8**
	comp=Z,0.4nm,0.8s,baz=190,slow=2.7,SNR=2.6							
LZH	**Lanzhou**	**144.45**	**258**	⇑P	PKPbc	06 05 50.9	+0.1
LZH				pP	PKiKP	06 05 56.3	+0.4
LZH				sP	sPKPdf	06 06 00.3	+4.7
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
EKA	**Eskdalemuir Ar**	**145.04**	**62**	PKPbc	**PKPbc**	**06 05 51.2**	**-0.7**
	comp=Z,5.8nm,1.0s,baz=239,slow=3.1,SNR=7.9						
DAVA	**Damuels**	**148.54**	**82**	*e*PKP	**PKPab**	**06 06 07.2**	**+1.2**
	comp=Z,19nm,1.7s						
FETA	**Feichten**	**148.90**	**83**	*e*PKP	**PKPbc**	**06 06 03.6**	**+0.2**
	comp=Z,14nm,1.2s						
GTA	**Gaotai**	**149.05**	**258**	*e*P	**PKiKP**	**06 06 04.4**	**-0.8**
GTA				pP	pPKPab	06 06 09.0	-1.7
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RETA	**Reutte**	**149.16**	**82**	*e*pPKP	**PKPbc**	**06 06 03.6**	**-0.4**
	comp=Z,8.2nm,1.3s						
WTTA	**Wattenberg**	**149.55**	**83**	*e*PKiKP	**PKiKP**	**06 06 06.9**	**+0.8**
	comp=Z,5.1nm,0.6s						
ABTA	**Abfaltersbach**	**149.80**	**85**	*e*PKP	**PKPbc**	**06 06 05.6**	**+0.1**
	comp=Z,15nm,1.6s						
SONM	**Songino Array**	**150.16**	**277**	PKPbc	**PKPbc**	**06 06 05.8**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=106,slow=1.0,SNR=7.4						
GRF	**Grafenberg Arr**	**150.50**	**79**	*e*PKP	**PKiKP**	**06 06 07.7**	**0.0**
	baz=243,slow=2.7						
BIOA	**Bad Ischl, Aus**	**150.94**	**84**	*e*PKP	**PKiKP**	**06 06 09.3**	**+0.6**
	comp=Z,16nm,1.7s						
SOKA	**Soboth**	**151.24**	**87**	pPKP	**PKPbc**	**06 06 08.0**	**-1.0**
	comp=Z,9.4nm,1.4s						
GERES	**GERESS Array B**	**151.54**	**82**	PKPbc	**PKiKP**	**06 06 09.8**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=215,slow=1.6,SNR=4.8						
CONA	**Conrad Observa**	**152.36**	**85**	*e*pPKP	**PKPbc**	**06 06 09.6**	**-1.9**
	comp=Z,3.2nm,0.8s						
NOA	**NORSAR Array B**	**153.91**	**55**	PKPbc	**PKiKP**	**06 06 16.6**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=267,slow=1.8,SNR=2.4						
BRTR	**Keskin Array B**	**157.44**	**120**	PKPab	**PKPab**	**06 06 43.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=190,slow=6.2,SNR=4.4						
AKASG	**Malin Array Be**	**161.42**	**89**	PKPbc	PKPdf	06 06 23.9	+8.0
	comp=Z,0.6nm,0.5s,baz=272,slow=1.1,SNR=5.2						

*IDC **10** 05:47:20.8±0.9, 39.65N×22.18E, h0km, mb3.7/11, mbtmp3.8/14, ML3.6/3, Error ellipse: s-maj=22.6km s-min=11.6km az=130.0*
*ATH **10** 05:47:22.0, 39.76N×22.21E, h7km±1km, ML3.6/31, Manual Solution by A.Moschou This location: 2020/05/05 14:39:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **10** 05:47:22.5, 39.77N×22.18E, h0km±1km, ML3.6/9, Error ellipse: s-maj=1.8km s-min=0.6km az=59.0*
*PDG **10** 05:47:22.5±0.6, 39.74N×22.24E, h11km, ML3.6/11, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*BEO **10** 05:47:24.0±0.8, 39.79N×22.35E, h11km±3km, ML3.2/9*
*SOF **10** 05:47:25.4, 39.96N±0.08×22.52E±0.08, h6km±12km, MD3.4/3*

ISC 10 05:47:22.4±0.7, **39.75N**±0.01×**22.22E**±0.01, **h9**km±4km, **n180**, σ1§**20**/246, **mb3.8**/10, **18C-15D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TYRN	**Tyrnavos**	**0.04**	**171**	P	**Pg**	**05 47 23.8**	**-0.4**
TYRN				S	**Sg**	**05 47 25.0**	**-0.4**
	197μm,0.6s						
TYRN	**Tyrnavos**	**0.04**	**171**	P	**Pg**	**05 47 23.8**	**-0.4**
TYRN				S	**Sg**	**05 47 24.4**	**-0.9**
GINA	**Giannouli**	**0.15**	**123**	P	**Pg**	**05 47 26.7**	**+1.0**
GINA				S	**Sg**	**05 47 29.0**	**+1.0**
LRSO	**Larissa Observ**	**0.15**	**122**	P	**Pg**	**05 47 26.3**	**+0.6**
LRSO				S	**Sg**	**05 47 29.5**	**+1.5**
	56μm,0.6s						
LRSO	**Larissa Observ**	**0.15**	**122**	P	**Pg**	**05 47 26.1**	**+0.4**
LRSO				S	**Sg**	**05 47 28.9**	**+0.9**
THL	**Klokotos Trika**	**0.25**	**221**	P	**Pg**	**05 47 26.5**	**-0.9**
THL				S	**Sg**	**05 47 29.7**	**-1.1**
	17μm,0.5s						
THL	**Klokotos Trika**	**0.25**	**221**	P	**Pg**	**05 47 26.5**	**-0.9**
THL				S	**Sg**	**05 47 29.6**	**-1.1**
TRKA	**Trikala**	**0.41**	**241**	P	**Pg**	**05 47 29.4**	**-1.0**
TRKA				S	**Sg**	**05 47 35.2**	**-0.5**
SOFA	**Sofades**	**0.43**	**193**	P	**Pg**	**05 47 31.3**	**+0.5**
SOFA				S	**Sg**	**05 47 36.7**	**+0.3**
KPRO	**Kipourio**	**0.69**	**287**	P	**Pg**	**05 47 34.8**	**-1.0**
KPRO				S	**Sg**	**05 47 44.7**	**-0.2**
	6μm,0.5s						
KPRO	**Kipourio**	**0.69**	**287**	P	**Pg**	**05 47 34.6**	**-1.2**
KPRO				S	**Sg**	**05 47 44.2**	**-0.6**
AGG	**Agios Georgios**	**0.73**	**174**	P	**Pg**	**05 47 36.5**	**-0.1**
AGG				S	**Sb**	**05 47 48.4**	**+0.8**
	4μm,0.6s						
AGG	**Agios Georgios**	**0.73**	**174**	P	**Pg**	**05 47 36.4**	**-0.1**
AGG				S	**Sg**	**05 47 46.5**	**+0.3**
VERN	**Vergina**	**0.73**	**6**	P	**Pb**	**05 47 36.9**	**-0.6**
VERN				S	**Sg**	**05 47 45.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.74**	**186**	P	**Pg**	**05 47 36.9**	**+0.1**
MAKR				S	**Sb**	**05 47 48.6**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.74**	**186**	P	**Pg**	**05 47 36.8**	**+0.1**
MAKR				S	**Sg**	**05 47 47.0**	**+0.6**
XOR	**Xorichti**	**0.84**	**117**	P	**Pg**	**05 47 38.7**	**0.0**
XOR				S	**Sn**	**05 47 52.6**	**-0.5**
	2μm,0.5s						
XOR	**Xorichti**	**0.84**	**117**	P	**Pg**	**05 47 38.4**	**-0.2**
XOR				S	**Sb**	**05 47 50.5**	**-0.2**
LAM2	**Lamia**	**0.86**	**169**	P	**Pg**	**05 47 38.8**	**-0.3**
LAM2				S	**Sg**	**05 47 50.2**	**-0.2**
NEO	**Neokhori**	**0.89**	**120**	P	**Pg**	**05 47 39.3**	**-0.3**
NEO				S	**Sn**	**05 47 54.3**	**0.0**
	5μm,0.5s						
NEO	**Neokhori**	**0.89**	**120**	P	**Pg**	**05 47 39.4**	**-0.2**
NEO				S	**Sb**	**05 47 52.7**	**+0.5**
EVR	**Evrytania**	**0.90**	**201**	P	**Pg**	**05 47 39.9**	**+0.2**
EVR	**Evrytania**	**0.90**	**201**	P	**Pg**	**05 47 39.8**	**+0.1**
EVR				S	**Sg**	**05 47 52.1**	**+0.8**
PENT	**Pentalofos**	**0.94**	**298**	P	**Pg**	**05 47 40.1**	**-0.5**
PENT	**Pentalofos**	**0.94**	**298**	P	**Pg**	**05 47 40.1**	**-0.5**
PENT				S	**Sg**	**05 47 53.4**	**+0.5**
AXAR	**Agios Charalam**	**1.04**	**161**	P	**Pg**	**05 47 41.9**	**-0.6**
AXAR				S	**Sg**	**05 47 56.2**	**+0.3**
THE	**Thessaloniki**	**1.04**	**33**	P	**Pg**	**05 47 42.3**	**-0.2**
THE	**Thessaloniki**	**1.04**	**33**	P	**Pg**	**05 47 41.8**	**-0.7**
THE				S	**Sg**	**05 47 55.8**	**-0.3**
JAN	**Janina**	**1.06**	**265**	P	**Pg**	**05 47 42.0**	**-0.9**
JAN				S	**Sg**	**05 47 57.2**	**+0.5**
PLN1	**Chaniotis**	**1.07**	**76**	P	**Pg**	**05 47 42.8**	**-0.2**
PLN1				S	**Sn**	**05 47 57.9**	**-0.6**
HORT	**Hortiatis**	**1.08**	**38**	P	**Pg**	**05 47 42.8**	**-0.3**
HORT	**Hortiatis**	**1.08**	**38**	P	**Pg**	**05 47 42.8**	**-0.3**
HORT				S	**Sb**	**05 47 58.0**	**+0.4**
OREA	**Oraiokastro**	**1.11**	**28**	P	**Pg**	**05 47 43.4**	**-0.3**
OREA				S	**Sb**	**05 47 58.4**	**+0.1**
NEST	**Nestorio**	**1.12**	**307**	P	**Pg**	**05 47 43.2**	**-0.7**
NEST				S	**Sb**	**05 47 59.0**	**+0.3**
	2μm,0.7s						
NEST	**Nestorio**	**1.12**	**307**	P	**Pb**	**05 47 44.2**	**+0.2**
NEST				S	**Sg**	**05 47 57.8**	**-0.6**
ART2	**Arta**	**1.13**	**238**	P	**Pg**	**05 47 43.0**	**-1.0**
ART2				S	**Sg**	**05 47 57.4**	**-1.4**
PAIG	**Paliouri**	**1.13**	**81**	P	**Pb**	**05 47 44.1**	**-0.1**
ANX	**Ano Chora**	**1.18**	**192**	P	**Pg**	**05 47 45.1**	**0.0**
ANX				S	**Sn**	**05 48 02.3**	**+0.7**
	6μm,0.4s						
ANX	**Ano Chora**	**1.18**	**192**	P	**Pg**	**05 47 45.0**	**-0.1**
ANX				S	**Sg**	**05 48 00.9**	**+0.4**
GRG	**Griva**	**1.21**	**6**	P	**Pg**	**05 47 45.1**	**-0.6**
GRG				S	**Sg**	**05 48 00.5**	**-0.9**
FNA	**Florina**	**1.22**	**328**	*e*Pg	**Pg**	**05 47 45.4**	**-0.4**
FNA				*e*Sg	**Sn**	**05 48 04.4**	**+2.0**
FNA	**Florina**	**1.22**	**328**	P	**Pg**	**05 47 45.0**	**-0.8**
FNA				S	**Sb**	**05 48 01.6**	**0.0**
PVO	**Paravola**	**1.26**	**206**	P	**Pn**	**05 47 45.1**	**-1.1**
EFP	**Efpalio**	**1.35**	**191**	P	**Pn**	**05 47 47.0**	**-0.4**
EFP				S	**Sb**	**05 48 05.5**	**+0.2**
SOH	**Sokhos**	**1.37**	**39**	P	**Pn**	**05 47 47.8**	**-0.1**
SOH				S	**Sb**	**05 48 04.8**	**-1.2**
OUR	**Ouranopolis**	**1.47**	**66**	P	**Pn**	**05 47 49.2**	**+0.1**
OUR				S	**Sn**	**05 48 07.8**	**-0.7**
IGT	**Igoumenitsa**	**1.48**	**262**	P	**Pn**	**05 47 49.5**	**+0.3**
KNT	**Kendrikon**	**1.50**	**20**	P	**Pn**	**05 47 49.9**	**+0.4**
TSLK	**Tsoukalades, L**	**1.53**	**233**	P	**Pn**	**05 47 50.5**	**+0.5**
LKD2	**Lefkada island**	**1.55**	**232**	P	**Pn**	**05 47 50.1**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.57**	**229**	P	**Pn**	**05 47 50.6**	**0.0**
NYDR				S	**Sn**	**05 48 10.8**	**-0.3**
VAY	**Valandovo**	**1.59**	**9**	*e*Pg	**Pb**	**05 47 51.7**	**-0.3**
VAY				*e*Sg	**Sb**	**05 48 12.4**	**+0.2**
VAY	**Valandovo**	**1.59**	**9**	*i* Pn	**Pb**	**05 47 52.0**	**0.0**
EVGI	**Lefkada island**	**1.66**	**228**	P	**Pn**	**05 47 51.9**	**+0.1**
EVGI				S	**Sn**	**05 48 13.7**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.67**	**231**	P	**Pn**	**05 47 51.8**	**0.0**
KLV	**Kalavryta, Ach**	**1.71**	**182**	P	**Pn**	**05 47 52.5**	**0.0**
SRS	**Serrai**	**1.72**	**37**	*e*Pn	**Pn**	**05 47 52.9**	**+0.3**
SRS				*e*Sn	**Sn**	**05 48 13.7**	**-1.0**
SRS	**Serrai**	**1.72**	**37**	P	**Pn**	**05 47 52.6**	**+0.1**
KOKK	**Kokkinochori,**	**1.73**	**51**	P	**Pn**	**05 47 52.6**	**-0.1**
OHR	**Ohrid**	**1.74**	**322**	*e*Pn	**Pb**	**05 47 55.1**	**+0.5**
OHR	**Ohrid**	**1.74**	**322**	*i* Pn	**Pg**	**05 47 55.3**	**-0.5**
GUR	**Goura**	**1.82**	**177**	P	**Pn**	**05 47 53.8**	**-0.3**
FSK	**Fiskardo**	**1.83**	**226**	P	**Pn**	**05 47 54.4**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.84**	**127**	P	**Pn**	**05 47 53.9**	**-0.3**
KEK	**Kerkira**	**1.87**	**270**	P	**Pn**	**05 47 55.0**	**+0.3**
NVR	**Nevrokopi**	**2.02**	**38**	P	**Pn**	**05 47 56.8**	**-0.1**
VLS	**Valsamata**	**2.02**	**219**	P	**Pn**	**05 47 57.7**	**+0.9**
KEF4	**Livadi, Kephal**	**2.05**	**224**	P	**Pn**	**05 47 57.1**	**0.0**
PEHC	**Pehcevo**	**2.09**	**14**	*i* Pn	**Pn**	**05 47 57.8**	**+0.1**
THAS	**Thassos island**	**2.09**	**65**	P	**Pn**	**05 47 57.1**	**-0.6**
THAS				S	**Sn**	**05 48 23.2**	**-0.7**
MMB	**Musomishta**	**2.13**	**32**	⇑*i* P	**Pn**	**05 47 59.5**	**+1.2**
MMB				Sg	**Sn**	**05 48 26.2**	**+1.2**
KAVA	**Kavala**	**2.15**	**54**	P	**Pn**	**05 47 57.8**	**-0.6**
KAVA				S	**Sn**	**05 48 25.1**	**-0.1**
KKB	**Krupnik**	**2.20**	**18**	*i* P	**Pn**	**05 48 00.4**	**+0.8**
KKB				Sg	**Sn**	**05 48 27.0**	**+0.5**
VLY	**Voula,Athens**	**2.26**	**147**	P	**Pn**	**05 47 59.8**	**-0.2**
SKO	**Skopje**	**2.29**	**345**	*e*Pn	**Pb**	**05 48 02.9**	**-1.1**
SKO	**Skopje**	**2.29**	**345**	*i* Pn	**Pg**	**05 48 05.9**	**-0.5**
TIR	**Tirane**	**2.40**	**312**	*e*Pn	**Pb**	**05 48 04.6**	**-1.2**
SMTH	**Samothraki Isl**	**2.63**	**73**	P	**Pn**	**05 48 04.0**	**-1.2**
RZN	**Rozhen**	**2.72**	**44**	P	**Pn**	**05 48 07.1**	**+0.5**
RZN				S	**Sn**	**05 48 40.0**	**+0.3**
PRVS	**Prvonek**	**2.75**	**358**	*e*Pn	**Pn**	**05 48 07.6**	**+0.7**
PRVS				*e*Sn	**Sn**	**05 48 40.8**	**+0.5**
GADA	**Gvkgeada**	**2.86**	**80**	*e*P	**Pn**	**05 48 08.0**	**-0.2**
SIGR	**SIGRI**	**2.86**	**100**	*e*P	**Pn**	**05 48 07.6**	**-0.7**
RDO	**Rodhopi**	**2.89**	**60**	P	**Pn**	**05 48 08.4**	**-0.2**
VTS	**Vitosha**	**2.96**	**15**	*i* P	**Pn**	**05 48 11.9**	**+2.1**
VTS				S	**Sn**	**05 48 45.1**	**-0.5**
VTS	**Vitosha**	**2.96**	**15**	*e*Pn	**Pn**	**05 48 10.4**	**+0.6**
VTS				*e*Sn	**Sn**	**05 48 44.0**	**-1.6**
KDZ	**Kurdzhali**	**3.02**	**51**	*e*P	**Pn**	**05 48 10.6**	**+0.1**
KDZ	**Kurdzhali**	**3.02**	**51**	P	**Pn**	**05 48 10.9**	**+0.4**
PLD	**Plovdiv**	**3.06**	**38**	*e*P	**Pn**	**05 48 10.4**	**-0.6**
BARS	**Barje**	**3.08**	**354**	*e*Pn	**Pn**	**05 48 11.9**	**+0.6**
ALN	**Alexandroupoli**	**3.14**	**67**	P	**Pn**	**05 48 11.9**	**-0.2**
ULC	**Ulcinj**	**3.16**	**315**	⇓*i* Pn	**Pn**	**05 48 14.5**	**+2.1**
ULC				*i* Sn	**Sn**	**05 48 52.6**	**+2.3**
EZN	**Ezine**	**3.16**	**87**	*e*P	**Pn**	**05 48 12.3**	**-0.1**
ENEZ	**Enez**	**3.16**	**71**	*e*P	**Pn**	**05 48 12.6**	**+0.2**
COMU	**Canakkale**	**3.29**	**83**	*e*P	**Pn**	**05 48 14.3**	**+0.2**
PVY	**Plav**	**3.31**	**330**	⇓*i* Pn	**Pn**	**05 48 16.2**	**+1.6**
PVY				*i* Sn	**Sn**	**05 48 56.3**	**+2.1**
GELI	**Tayfur-Gelibol**	**3.32**	**77**	*e*P	**Pn**	**05 48 14.6**	**0.0**
DRME	**Dracevica, Mon**	**3.35**	**318**	⇑*i* Pn	**Pn**	**05 48 17.0**	**+2.0**
DRME				*i* Sn	**Sn**	**05 48 57.6**	**+2.7**
DRME	**Dracevica, Mon**	**3.35**	**318**	*e*Pn	**Pn**	**05 48 17.0**	**+2.0**
ERIK	**Erikli-Kesan**	**3.41**	**73**	*e*P	**Pn**	**05 48 15.9**	**+0.1**
ZAPS	**Zavoj**	**3.53**	**5**	*e*Pn	**Pn**	**05 48 19.0**	**+1.5**
LPK	**Lapseki**	**3.54**	**78**	*e*P	**Pn**	**05 48 17.3**	**-0.3**
SELS	**Selova**	**3.56**	**347**	*e*Pn	**Pn**	**05 48 18.1**	**+0.2**
IVA	**Berane**	**3.58**	**331**	⇑*i* Pn	**Pn**	**05 48 20.1**	**+1.9**
IVA				*i* Sn	**Sn**	**05 49 02.6**	**+2.0**
BUM	**Brajici-Budva**	**3.58**	**316**	⇓*i* Pn	**Pn**	**05 48 20.2**	**+2.0**
BUM				*i* Sn	**Sn**	**05 49 03.1**	**+2.4**
KOME	**Kolasin**	**3.71**	**327**	⇑*i* Pn	**Pn**	**05 48 22.7**	**+2.7**
KOME				*i* Sn	**Sn**	**05 49 06.3**	**+2.5**
RFT7	**Candarli**	**3.73**	**101**	*e*P	**Pn**	**05 48 19.1**	**-1.1**
CEME	**Cevo**	**3.74**	**319**	⇓*i* Pn	**Pn**	**05 48 21.9**	**+1.4**
CEME				*i* Sn	**Sn**	**05 49 06.7**	**+2.0**
MPEP	**Malo Peshtene**	**3.77**	**17**	P	**Pn**	**05 48 23.0**	**+2.1**
BLKB	**Belogradchik**	**3.88**	**5**	⇑P	**Pn**	**05 48 23.6**	**+1.3**
NKME	**Niksic**	**3.89**	**322**	⇓*i* Pn	**Pn**	**05 48 24.5**	**+2.0**
NKME				*i* Sn	**Sn**	**05 49 09.9**	**+1.6**
SJES	**Sjenica**	**3.89**	**335**	*e*Pn	**Pn**	**05 48 24.1**	**+1.6**
SJES	**Sjenica**	**3.89**	**335**	*e*Pn	**Pn**	**05 48 24.2**	**+1.7**
HCY	**Herceg Novi**	**3.90**	**315**	⇓*i* Pn	**Pn**	**05 48 24.0**	**+1.5**
HCY				*i* Sn	**Sn**	**05 49 10.2**	**+1.8**
HCY	**Herceg Novi**	**3.90**	**315**	*e*Pn	**Pn**	**05 48 23.2**	**+0.7**
BOVS	**Bovan**	**3.90**	**354**	⇑P	**Pn**	**05 48 22.9**	**+0.4**
BOVS	**Bovan**	**3.90**	**354**	*e*Pn	**Pn**	**05 48 22.3**	**-0.2**
RKY	**Sarkoy-Tekirda**	**3.91**	**75**	*e*P	**Pn**	**05 48 23.1**	**+0.4**
KRBG	**Karabiga-Canak**	**3.94**	**79**	*e*P	**Pn**	**05 48 23.5**	**+0.3**
EDRB	**Edirne**	**4.02**	**57**	*e*P	**Pn**	**05 48 24.8**	**+0.6**
PLVB	**Pleven**	**4.05**	**26**	⇑P	**Pn**	**05 48 26.9**	**+2.3**
ZAGS	**Zajecar**	**4.06**	**0**	*e*Pn	**Pn**	**05 48 24.6**	**-0.1**
IVAS	**Ivanjica**	**4.12**	**339**	*e*Pn	**Pn**	**05 48 26.0**	**+0.3**
PLE	**Pljevlja**	**4.16**	**330**	⇓*i* Pn	**Pn**	**05 48 28.4**	**+2.2**
PLE				*i* Sn	**Sn**	**05 49 16.8**	**+1.8**
TREB	**Trebinje**	**4.16**	**317**	*e*Pn	**Pn**	**05 48 27.3**	**+1.2**
TREB	**Trebinje**	**4.16**	**317**	*e*Pn	**Pn**	**05 48 27.0**	**+0.9**
BRY	**Bratogost**	**4.19**	**320**	⇑*i* Pn	**Pn**	**05 48 28.3**	**+1.6**
BRY				*i* Sn	**Sn**	**05 49 17.9**	**+2.0**
BRY	**Bratogost**	**4.19**	**320**	*e*Pn	**Pn**	**05 48 29.5**	**+2.8**
ELND	**Elena**	**4.20**	**40**	⇑P	**Pn**	**05 48 27.8**	**+0.9**
TIP	**Timpagrande**	**4.27**	**264**	⇓P	**Pn**	**05 48 28.4**	**+0.7**
GRUS	**Gruza**	**4.28**	**345**	*e*Pn	**Pn**	**05 48 29.4**	**+1.6**
MATE	**Matera**	**4.32**	**284**	⇓P	**Pn**	**05 48 29.1**	**+0.8**
RUDO	**Rudo**	**4.41**	**332**	*e*Pn	**Pn**	**05 48 30.9**	**+1.3**
STON	**Ston**	**4.62**	**314**	*e*Pn	**Pn**	**05 48 32.9**	**+0.5**
STON				*e*Sn	**Sn**	**05 49 25.8**	**-0.3**
STON	**Ston**	**4.62**	**314**	*e*Pn	**Pn**	**05 48 31.4**	**-1.0**
BBLS	**Lazići**	**4.62**	**334**	*e*Pn	**Pn**	**05 48 34.1**	**+1.6**
BBLS	**Lazići**	**4.62**	**334**	*e*Pn	**Pn**	**05 48 33.3**	**+0.8**
DIVS	**Divibare**	**4.65**	**340**	*e*Pn	**Pn**	**05 48 34.0**	**+1.1**
TRUS	**Trudelj**	**4.67**	**344**	*e*Pn	**Pn**	**05 48 34.2**	**+1.1**
NEVS	**Nevesinje**	**4.70**	**320**	*e*Pn	**Pn**	**05 48 34.9**	**+1.2**
HAPS	**Han Pijesak,BI**	**4.97**	**332**	*e*Pn	**Pn**	**05 48 39.4**	**+2.0**
HERR	**Herculane**	**5.13**	**2**	⇑P	**Pn**	**05 48 41.4**	**+2.0**
TEKS	**Tekeris**	**5.19**	**338**	*e*Pn	**Pn**	**05 48 41.2**	**+0.8**
TEKS	**Tekeris**	**5.19**	**338**	*e*Pn	**Pn**	**05 48 40.3**	**-0.1**
GZR	**Gura Zlata**	**5.65**	**4**	⇓P	**Pn**	**05 48 40.6**	**+2.2**
FRGS	**Fruska Gora**	**5.69**	**343**	⇓P	**Pn**	**05 48 48.5**	**+1.3**
FRGS	**Fruska Gora**	**5.69**	**343**	*e*Pn	**Pn**	**05 48 48.4**	**+1.3**
FRGS	**Fruska Gora**	**5.69**	**343**	*e*Pn	**Pn**	**05 48 48.4**	**+1.3**
BZS	**Buzias**	**5.88**	**356**	⇑P	**Pn**	**05 48 50.4**	**+0.7**
ARR	**Arges**	**5.89**	**17**	⇑P	**Pn**	**05 48 51.4**	**+1.5**
VOIR		**6.05**	**19**	⇑P	**Pn**	**05 48 53.8**	**+1.6**
BLY	**Banja Luka**	**6.24**	**325**	*e*Pn	**Pn**	**05 48 56.4**	**+1.8**
A050A	**Klekovaca**	**6.34**	**320**	*e*Pn	**Pn**	**05 48 57.3**	**+1.1**
MLR	**Muntele Rosu**	**6.36**	**24**	⇑P	**Pn**	**05 48 59.1**	**+2.7**
MLR	**Muntele Rosu**	**6.36**	**24**	Pn	**Pn**	**05 48 59.1**	**+2.7**
	1.4nm,0.3s,baz=265,slow=10,SNR=11						
MLR				Sn	**Sn**	**05 50 12.3**	**+3.1**
	baz=272,slow=15						
MLR				Lg	Lg	05 50 50.2	
	0.1nm,0.3s,baz=265,slow=17,SNR=1.8 6.6nm,0.5s						
NEHR	**Nehoiu**	**6.42**	**27**	⇓P	**Pn**	**05 49 01.0**	**+3.9**
VAE	**Valguarnera**	**6.53**	**252**	Pn	**Pn**	**05 48 57.7**	**-1.0**
	1.0nm,0.3s,baz=12,slow=19,SNR=2.4						
VAE				Sn	**Sn**	**05 50 15.5**	**+2.2**
	0.4nm,0.3s,baz=20,slow=12,SNR=2.2 11nm,0.7s						
A051A	**Mrakovica**	**6.56**	**325**	*e*Pn	**Pn**	**05 48 58.8**	**-0.4**
DOPR	**Dracevica**	**6.63**	**19**	⇑P	**Pn**	**05 49 02.6**	**+2.5**
COVR	**Voineasa-Covas**	**6.75**	**24**	⇓P	**Pn**	**05 49 04.8**	**+3.0**
TURR	**Turia**	**6.88**	**23**	⇓P	**Pn**	**05 49 07.0**	**+3.4**
PLOR	**Plostina**	**6.91**	**27**	⇑P	**Pn**	**05 49 06.5**	**+2.6**
VRI	**Vrincioaia**	**6.95**	**27**	⇑P	**Pn**	**05 49 06.9**	**+2.5**
MORH	**Mrgy, Hungar**	**6.97**	**339**	⇑P	**Pn**	**05 49 05.6**	**+0.9**
BOJS	**Bojanci**	**7.71**	**320**	*e*Pn	**Pn**	**05 49 15.4**	**+0.6**
CRES	**Cresnjev**	**7.84**	**323**	*e*Pn	**Pn**	**05 49 18.2**	**+1.5**
BURAR	**Bucovina Array**	**8.15**	**14**	⇓P	**Pn**	**05 49 24.1**	**+3.1**
CEY	**Cerknica**	**8.29**	**319**	*e*Pn	**Pn**	**05 49 23.8**	**+1.0**
BRTR	**Keskin Array B**	**8.80**	**87**	Pn	**Pn**	**05 49 30.6**	**+0.7**
	0.4nm,0.3s,baz=269,slow=13,SNR=2.7 1.1nm,0.4s						
MODS	**Modra-Piesok**	**9.32**	**339**	*e*PN	**Pn**	**05 49 41.2**	**+4.2**
ESDC	**Sonseca Array**	**20.13**	**278**	P	**P**	**05 51 56.1**	**-0.7**
	0.6nm,0.8s,baz=74,slow=12,SNR=5.4 0.6nm,0.8s						
HFS	**Hagfors**	**21.09**	**348**	P	**P**	**05 52 07.1**	**+0.1**
	1.8nm,0.8s,baz=165,slow=12,SNR=1.4 1.8nm,0.8s						
FINES	**FINESS Array B**	**21.85**	**5**	P	**P**	**05 52 14.0**	**-1.1**
	2.7nm,0.8s,baz=178,slow=11,SNR=6.3 2.7nm,0.8s						
NOA	**NORSAR Array B**	**22.38**	**346**	P	**P**	**05 52 20.5**	**-0.3**
	1.1nm,0.9s,baz=166,slow=9.6,SNR=1.6 1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**32.09**	**220**	P	**P**	**05 53 49.4**	**-0.5**
	1.2nm,0.5s,baz=33,slow=9.7,SNR=31 1.2nm,0.5s						
BVAR	**Borovoye Array**	**35.09**	**52**	P	**P**	**05 54 16.9**	**+1.1**
	0.5nm,0.5s,baz=297,slow=8.2,SNR=2.4 0.5nm,0.5s						
DBIC	**Dimbokro**	**40.95**	**224**	P	**P**	**05 55 05.2**	**-0.3**
	1.9nm,0.8s,baz=10.0,slow=11,SNR=1.8 1.9nm,0.8s						
MKAR	**Makanchi Array**	**43.36**	**60**	P	**P**	**05 55 25.0**	**0.0**
	2.0nm,0.5s,baz=280,slow=7.4,SNR=37 2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**43.66**	**49**	P	**P**	**05 55 27.4**	**+0.2**
	2.7nm,0.6s,baz=276,slow=8.7,SNR=13 2.7nm,0.6s						
SONM	**Songino Array**	**58.44**	**52**	P	**P**	**05 57 17.9**	**-0.7**
	0.9nm,0.9s,baz=293,slow=4.6,SNR=4.7 0.9nm,0.9s						
YKA	**Yellowknife Ar**	**72.36**	**341**	P	**P**	**05 58 47.7**	**-0.6**
	0.3nm,0.7s,baz=26,slow=5.3,SNR=4.7 0.3nm,0.7s						

*IDC **10** 06:08:03.9±1.2, 14.57N×147.33E, h0km, mb3.9/7, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=33.7km s-min=20.0km az=104.0*

ISC 10 06:08:08.7±1.2, **14.6N**±0.2×**147.3E**±0.2, **h35**km, **n11**, σ1§**92**/9, **mb3.9**/7, **Mariana Islands region**

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

JMN **Monobe** 3.40 26 Pn **Pn** 06 24 16.0 -1.6
JTU **Tsushima** 4.45 330 Pn **Pn** 06 24 30.6 -1.2
JMZ **Minamidaito 2** 4.90 189 Pn **Pn** 06 24 38.2 +0.1
JOW **Kunigami** 5.08 222 Pn **Pn** 06 24 39.9 -0.7
comp=N,12nm,0.3s,baz=95,slow=23,SNR=2.9
JOW Sn **Sn** 06 25 34.7 -3.6
comp=N,9.1nm,0.3s,baz=108,slow=20,SNR=6.5
comp=N,22nm,0.3s
INU **Inuyama** 6.24 40 **Pn** 06 24 57.3 +0.8
JHJ **Hachijo jima 2** 6.99 68 Pn **Pn** 06 25 05.7 -1.1
comp=N,10.0nm,0.3s,baz=319,slow=7.1,SNR=1.9
comp=N,247nm,1.0s
KSRS **Korea Array** 7.58 334 Pn **Pn** 06 25 13.9 -0.9
comp=N,0.3nm,0.3s,baz=151,slow=14,SNR=1.8
comp=N,1.6nm,0.7s
MAJO **Matsushiro** 7.77 40 Pn **Pn** 06 25 17.7 +0.3
MJAR **Matsushiro Arr** 7.77 40 Pn **Pn** 06 25 17.8 +0.3
comp=N,0.7nm,0.3s,baz=243,slow=14,SNR=18
comp=N,4.3nm,0.4s
MJB9 **Matsu-Tunnel** 7.77 40 **Pn** 06 25 18.8 +1.3
USRK **Ussuriysk Ar.** 13.50 360 Pn **Pn** 06 26 33.8 -2.0
comp=N,0.2nm,0.3s,baz=155,slow=7.9,SNR=2.5
comp=N,1.1nm,0.6s
BJT **Baijiatuau** 15.96 310 **Pn** 06 27 11.2 +2.4
KLR **Kul'dur** 18.53 359 P **P** 06 27 40.9 +0.4
comp=N,0.5nm,0.3s,baz=164,slow=8.1,SNR=26
comp=N,15nm,0.9s
ENH **Enshi** 19.47 275 P **P** 06 27 51.4 +0.4
ULN **Ulaanbaatar** 25.71 319 P **P** 06 28 53.1 -1.1
SONM **Songino Array** 26.07 318 P **P** 06 28 56.6 -0.8
SONM **Songino Array** 26.07 318 P **P** 06 28 55.7 -1.7
comp=N,1.5nm,0.9s,baz=128,slow=9.8,SNR=8.3
SONM ScP **ScP** 06 36 04.2 +1.8
comp=N,0.4nm,0.4s,baz=90,slow=4.6,SNR=1.8
comp=N,1.5nm,0.9s
PETK **Petropavlovsk-** 29.15 32 P **P** 06 29 24.9 +0.1
PETK **Petropavlovsk-** 29.15 32 P **P** 06 29 25.4 +0.6
comp=N,1.8nm,1.0s,baz=229,slow=9.0,SNR=4.3
comp=N,18nm,1.0s
CMAR **Chiang Mai Arr** 32.37 256 P **P** 06 29 52.5 -1.1
comp=N,0.8nm,0.3s,baz=49,slow=6.9,SNR=6.6
comp=N,0.8nm,0.3s
H11N2 **WAKE ISLAND Hy** 33.22 101 T T 07 05 07.1
baz=296
H11N1 **WAKE ISLAND Hy** 33.22 101 T T 07 05 06.4
baz=296
H11N3 **WAKE ISLAND Hy** 33.23 101 T T 07 05 07.7
baz=296
ZAA0 **Zalesovo Array** 40.96 319 P **P** 06 31 05.2 -1.2
ZAA0 IAmb IAmb 06 31 34.7
comp=Z,13nm,0.7s
ZALV **Zalesovo Beam** 40.96 319 P **P** 06 31 05.0 -1.3
TIXI **Tiksi** 41.06 358 P **P** 06 31 07.8 +0.9
MK31 **Makanchi Array** 41.32 307 P **P** 06 31 08.2 -1.2
MKAR **Makanchi Array** 41.32 307 P **P** 06 31 08.9 -0.5
MKAR **Makanchi Array** 41.32 307 P **P** 06 31 08.0 -1.4
comp=Z,1.0nm,0.8s,baz=92,slow=9.0,SNR=8.5
MKAR ScP **ScP** 06 36 58.7 +3.0
comp=Z,0.4nm,0.4s,baz=31,slow=3.4,SNR=8.4
comp=Z,1.0nm,0.8s
KURK **Kurchatov** 44.11 313 P **P** 06 31 30.7 -1.2
KURK **Kurchatov** 44.11 313 P **P** 06 31 31.4 -0.6
KURBB **Kurchatov Arra** 44.16 313 P **P** 06 31 30.6 -1.7
comp=Z,1.0nm,0.2s,baz=98,slow=8.8,SNR=6.3
comp=Z,1.0nm,0.2s
NRIK **Noril'sk** 46.16 340 P **P** 06 31 46.9 -1.0
comp=Z,1.0nm,0.3s,baz=186,slow=12,SNR=1.5
comp=Z,1.0nm,0.3s
BVAR **Borovoye Array** 49.35 316 P **P** 06 32 11.6 -1.4
comp=Z,1.0nm,0.5s,baz=91,slow=7.9,SNR=6.5
comp=Z,1.0nm,0.5s
BRVK **Borovoye** 49.41 316 P **P** 06 32 13.7 +0.2
KK31 **Karatay Array** 49.75 302 P **P** 06 32 14.8 -1.4
KKAR **Karatay Array** 49.75 302 P **P** 06 32 15.4 -0.8
WRAB **Tennant Creek** 50.37 177 P **P** 06 32 21.3 +0.3
WRAB IAmb IAmb 06 32 53.5
comp=Z,11nm,0.7s
WB2 **Warramunga Arr** 50.38 177 P **P** 06 32 22.4 +1.3
WB2 IAmb IAmb 06 33 05.6
comp=Z,24nm,1.6s
WRA **Warramunga Arr** 50.38 177 P **P** 06 32 20.0 -1.0
comp=Z,1.9nm,1.0s,baz=353,slow=8.3,SNR=7.0
comp=Z,1.9nm,1.0s
WR0 **Warramunga Arr** 50.40 177 P **P** 06 32 22.5 +1.2
WR0 IAmb IAmb 06 33 07.9
comp=Z,15nm,1.4s
ANM **Nome** 50.99 30 P **P** 06 32 27.3 +2.0
baz=260
F15K **North Star Dit** 51.50 28 P **P** 06 32 30.7 +1.7
F15K **North Star Dit** 51.50 28 P **P** 06 32 31.3 +2.3
baz=260
G15K **Niukluk** 51.63 29 P **P** 06 32 32.1 +2.1
baz=261
C16K **Lisburne Hills** 51.77 25 P **P** 06 32 32.1 +1.2
C16K IAmb IAmb 06 32 33.5
comp=Z,24nm,1.2s
C16K **Lisburne Hills** 51.77 25 P **P** 06 32 32.2 +1.3
baz=257
L14K **Kuka Creek** 51.78 34 P **P** 06 32 33.3 +2.2
baz=265,SNR=5.3
H16K **Elim** 52.34 30 P **P** 06 32 37.0 +1.7
baz=263
D17K **Noatak River** 52.48 26 P **P** 06 32 38.3 +2.1
baz=260
RDOG **Red Dog Mine** 52.61 25 P **P** 06 32 38.9 +1.7
baz=259
E17K **Hotham Inlet** 52.85 27 P **P** 06 32 40.3 +1.2
baz=261,SNR=6.1
J16K **Anvik River** 52.91 32 P **P** 06 32 41.7 +2.2
J16K IAmb IAmb 06 33 38.6
comp=Z,41nm,1.8s
N15K **Kwethluk River** 52.97 35 P **P** 06 32 41.5 +1.4
baz=268
F17K **Baldwin Pennin** 52.99 28 P **P** 06 32 42.1 +2.1
baz=262
G17K **Kiwalik Mounta** 53.11 29 P **P** 06 32 42.7 +1.7
baz=264
B18K **Kokolik River** 53.25 24 P **P** 06 32 43.7 +1.7
baz=260,SNR=11
L16K **Owhat River** 53.34 34 P **P** 06 32 44.4 +1.7
baz=268
C18K **Utukok River** 53.34 25 P **P** 06 32 43.8 +1.1
C18K IAmb IAmb 06 32 44.8
comp=Z,14nm,0.9s
C18K **Utukok River** 53.34 25 P **P** 06 32 44.1 +1.5
baz=261,SNR=13
E18K **Tukpahlearik C** 53.38 26 P **P** 06 32 44.9 +2.0
E18K IAmb IAmb 06 32 45.6
comp=Z,10.0nm,0.8s
E18K **Tukpahlearik C** 53.38 26 P **P** 06 32 44.9 +2.0
baz=262
N16K **Nishlik Lake** 53.64 35 P **P** 06 32 47.2 +2.2
baz=269
F18K **Selawik** 53.64 27 P **P** 06 32 46.8 +1.9
baz=264
A19K **Wainwright** 53.65 23 P **P** 06 32 46.9 +2.1
baz=260
L17K **Donlin** 53.91 33 P **P** 06 32 49.3 +2.4
baz=268
K17K **Iditarod** 53.93 32 P **P** 06 32 48.1 +1.1
K17K **Iditarod** 53.93 32 P **P** 06 32 49.2 +2.2
baz=268
O16K **Kokwok River B** 53.97 36 P **P** 06 32 48.8 +1.5
baz=270
G18K **Tagagawik** 53.98 28 P **P** 06 32 48.9 +1.5
baz=265,SNR=5.5
C19K **Lookout Ridge** 53.99 24 P **P** 06 32 49.0 +1.6
C19K IAmb IAmb 06 32 50.0
comp=Z,12nm,1.0s
C19K **Lookout Ridge** 53.99 24 P **P** 06 32 49.2 +1.8
baz=262
H18K **Honhosa River** 54.04 29 P **P** 06 32 49.0 +1.2
H18K IAmb IAmb 06 32 52.1
comp=Z,32nm,1.6s
H18K **Honhosa River** 54.04 29 P **P** 06 32 49.6 +1.8
baz=266
ASAR **Alice Springs** 54.06 178 P **P** 06 32 48.4 0.0
comp=Z,1.2nm,0.8s,baz=3.5,slow=7.0,SNR=8.9
comp=Z,1.2nm,0.8s
M17K **Holitna River** 54.30 34 P **P** 06 32 51.5 +1.8
F19K **Shaleruckik Mo** 54.41 27 P **P** 06 32 52.0 +1.5
baz=265
N17K **Nushagak Hills** 54.42 35 P **P** 06 32 52.2 +1.6
baz=270
D19K **Kuna River** 54.44 25 P **P** 06 32 52.1 +1.4
D19K IAmb IAmb 06 32 53.0
comp=Z,17nm,1.0s
D19K **Kuna River** 54.44 25 P **P** 06 32 52.1 +1.4
baz=264
G19K **Purcell Mounta** 54.63 28 P **P** 06 32 53.8 +1.7
baz=266
L18K **Granite Mounta** 54.66 33 P **P** 06 32 53.9 +1.5
L18K IAmb IAmb 06 32 55.2
comp=Z,11nm,1.1s
L18K **Granite Mounta** 54.66 33 P **P** 06 32 54.6 +2.2
baz=270
E19K **Redstone River** 54.67 26 P **P** 06 32 53.8 +1.4
E19K IAmb IAmb 06 32 55.3
comp=Z,16nm,1.1s
E19K **Redstone River** 54.67 26 P **P** 06 32 54.2 +1.9
baz=265
Q16K **King Salmon** 54.73 37 P **P** 06 32 54.4 +1.5
baz=272
H19K **Roundabout Mou** 54.86 29 IAmb IAmb 06 32 56.3
comp=Z,17nm,1.0s
H19K **Roundabout Mou** 54.86 29 P **P** 06 32 55.7 +1.9
baz=267
B20K **Meade River** 54.95 23 P **P** 06 32 56.1 +1.9
baz=264
D20K **Etivluk River** 55.01 25 P **P** 06 32 56.5 +1.6
baz=265
E20K **Nigu River** 55.13 26 P **P** 06 32 57.4 +1.6
baz=266
J19K **Poorman** 55.17 31 P **P** 06 32 57.4 +1.4
baz=269,SNR=5.8
A21K **Barrow** 55.28 22 P **P** 06 32 57.5 +0.9
baz=263,SNR=7.5
H20K **Anotleneega Mo** 55.51 29 P **P** 06 33 00.3 +1.8
baz=269
C21K **Knifeblade Rid** 55.70 24 P **P** 06 33 01.8 +2.0
baz=266
B21K **Ikpikpuk River** 55.79 24 P **P** 06 33 02.2 +1.9
baz=266
J20K **Nowitna River** 55.82 31 P **P** 06 33 02.9 +2.3
baz=270
O19K **Port Alsworth** 55.86 35 P **P** 06 33 02.8 +1.9
baz=273
K20K **Telida** 55.86 32 IAmb IAmb 06 33 03.8
comp=Z,13nm,0.8s
K20K **Telida** 55.86 32 P **P** 06 33 03.2 +2.1
baz=271
L20K **Farewell, AK** 55.97 33 P **P** 06 33 03.9 +2.1
baz=272
G21K **Allakaket** 56.09 28 IAmb IAmb 06 33 05.1
comp=Z,9.7nm,1.0s
G21K **Allakaket** 56.09 28 P **P** 06 33 03.9 +1.3
baz=270
F21K **Alatna River** 56.11 27 P **P** 06 33 04.0 +1.3
baz=269
B22K **Teshekpuk Lake** 56.25 23 IAmb IAmb 06 33 57.3
comp=Z,25nm,1.6s
B22K **Teshekpuk Lake** 56.25 23 P **P** 06 33 05.0 +1.4
baz=272
H21K **Melozitna Rive** 56.38 29 IAmb IAmb 06 33 07.9
comp=Z,20nm,1.2s
H21K **Melozitna Rive** 56.38 29 P **P** 06 33 06.7 +2.0
baz=271,SNR=7.6
D22K **Ayikyak River** 56.45 25 IAmb IAmb 06 33 07.7
comp=Z,14nm,0.9s
D22K **Ayikyak River** 56.45 25 P **P** 06 33 07.0 +1.9
baz=269
CHUM **Lake Minchumin** 56.63 31 P **P** 06 33 08.8 +2.4
baz=272,SNR=6.3
CAST **Castle Rocks** 56.76 31 P **P** 06 33 09.4 +2.0
baz=273,SNR=7.0
N20K **Mount Spurr** 56.83 34 P **P** 06 33 09.6 +1.6
baz=274,SNR=7.1
G22K **Bettles** 56.88 27 P **P** 06 33 09.5 +1.3
baz=271
KDAK **Kodiak Island** 56.94 38 P **P** 06 33 09.1 +0.4
H22K **Ishtalitna Cre** 56.96 28 P **P** 06 33 11.2 +2.4
baz=272,SNR=12
D23K **Nanushuk River** 57.17 25 P **P** 06 33 12.1 +1.9
baz=270
C23K **Itkillik River** 57.19 24 P **P** 06 33 11.9 +1.5
baz=270
MLY **Manley** 57.26 29 IAmb IAmb 06 33 13.6
comp=Z,13nm,1.0s
MLY **Manley** 57.26 29 P **P** 06 33 12.8 +1.8
baz=273,SNR=5.9
G23K **Bananza Creek** 57.48 27 IAmb IAmb 06 33 16.0
comp=Z,12nm,1.2s
G23K **Bananza Creek** 57.48 27 P **P** 06 33 14.5 +2.0
baz=272
SUA **Susitna One** 57.51 34 IAmb IAmb 06 33 14.9
comp=Z,17nm,1.0s
SUA **Susitna One** 57.51 34 P **P** 06 33 14.3 +1.4
baz=275
TRF **Thorofare Moun** 57.56 31 P **P** 06 33 14.7 +1.4
baz=274
E23K **Chandalar** 57.58 26 P **P** 06 33 15.1 +1.8
baz=272
CUT **Chulitna** 57.65 33 P **P** 06 33 14.8 +1.1
baz=275
D24K **Happy Valley** 57.84 25 IAmb IAmb 06 33 17.3
comp=Z,14nm,0.9s
D24K **Happy Valley** 57.84 25 P **P** 06 33 16.7 +1.8
baz=272,SNR=5.6
I23K **Minto, Yukon-K** 57.84 29 P **P** 06 33 16.9 +1.9
baz=274
C24K **Franklin Bluff** 57.86 24 P **P** 06 33 16.5 +1.5
baz=272
E24K **Your Creek** 58.01 26 IAmb IAmb 06 33 18.3
comp=Z,12nm,1.2s
E24K **Your Creek** 58.01 26 P **P** 06 33 18.1 +1.9
baz=273
MCK **McKinley** 58.14 31 P **P** 06 33 18.0 +0.9
baz=275,SNR=6.0
F24K **Squaw Lake** 58.27 26 P **P** 06 33 19.6 +1.6
F24K **Squaw Lake** 58.27 26 P **P** 06 33 19.9 +1.9
baz=274
PMR **Palmer** 58.27 33 P **P** 06 33 18.8 +0.8
baz=277
SEW **Seward** 58.29 35 P **P** 06 33 19.3 +1.1
baz=277
H24K **Noodor Dome** 58.40 28 IAmb IAmb 06 33 22.4
comp=Z,27nm,1.5s
H24K **Noodor Dome** 58.40 28 P **P** 06 33 21.0 +2.0
baz=275,SNR=8.6
G24K **Hadweenzic Riv** 58.49 27 P **P** 06 33 21.5 +2.0
baz=275
KNK **Knik Glacier** 58.61 34 IAmb IAmb 06 33 22.2
comp=Z,15nm,0.9s
KNK **Knik Glacier** 58.61 34 P **P** 06 33 21.0 +0.6
baz=277
POKR **Poker Plat Res** 58.65 29 P **P** 06 33 22.5 +1.8
POKR **Poker Plat Res** 58.65 29 P **P** 06 33 22.6 +1.9
baz=276,SNR=8.9
D25K **Kavik River** 58.70 24 P **P** 06 33 22.3 +1.4
baz=274
WAT6 **Susitna Watana** 58.80 32 P **P** 06 33 23.1 +1.2
baz=277,SNR=5.7
M23K **Glacier View** 58.91 33 P **P** 06 33 23.7 +1.2
baz=278
IL31 58.92 30 P **P** 06 33 22.4 0.0
ILAR **Eielson Array** 58.92 30 P **P** 06 33 22.4 -0.1
comp=Z,2.1nm,0.8s,baz=270,slow=5.5,SNR=25
comp=Z,2.1nm,0.8s
G25K **Bearman Lake** 59.03 27 P **P** 06 33 25.8 +2.6
baz=276
SCM **Sheep Creek Mo** 59.09 33 P **P** 06 33 25.3 +1.5
baz=278
E25K **Arctic Village** 59.09 26 IAmb IAmb 06 33 26.7
comp=Z,14nm,1.2s
E25K **Arctic Village** 59.09 26 P **P** 06 33 26.0 +2.2
baz=276,SNR=6.9
F25K **Christian Rive** 59.12 26 P **P** 06 33 26.4 +2.4
baz=276,SNR=8.8
C26K **Camden Bay** 59.16 24 P **P** 06 33 26.6 +2.6
baz=275
PRP **Porcupine Dome** 59.40 29 IAmb IAmb 06 33 28.6
comp=Z,11nm,1.0s
PRP **Porcupine Dome** 59.40 29 P **P** 06 33 27.5 +1.4
baz=277,SNR=5.7
K24K **Donnelly Dome** 59.52 31 P **P** 06 33 27.3 +0.6
baz=278
M24K **Tolsona, Glenn** 59.59 33 P **P** 06 33 29.1 +1.8
baz=279
F26K **Sheenjek River** 59.68 26 P **P** 06 33 30.4 +2.6
baz=277
PAX **Paxson** 59.78 32 P **P** 06 33 29.7 +1.1
baz=279
G26K **Porcupine Rive** 59.91 27 P **P** 06 33 31.8 +2.4
baz=278
HARP **HAARP** 60.02 32 P **P** 06 33 32.1 +2.0
baz=279
SCRK **Sand Creek** 60.28 30 P **P** 06 33 32.1 0.0
SCRK IAmb IAmb 06 33 33.5
comp=Z,10.0nm,0.8s
SCRK **Sand Creek** 60.28 30 P **P** 06 33 33.1 +1.1
baz=280
J26L **Joseph Creek** 60.38 30 IAmb IAmb 06 33 34.2
comp=Z,7.1nm,0.9s
J26L **Joseph Creek** 60.38 30 P **P** 06 33 33.0 +0.3
baz=280,SNR=6.5
I26K **Coal Creek Min** 60.42 29 P **P** 06 33 33.6 +0.8
baz=280
E27K **Coleen River** 60.56 25 P **P** 06 33 35.7 +1.9
baz=279
D27M **Malcolm River** 60.62 24 P **P** 06 33 36.2 +1.9
baz=279
L26K **Log Cabin Wild** 60.73 31 IAmb IAmb 06 33 37.4
comp=Z,12nm,1.1s
L26K **Log Cabin Wild** 60.73 31 P **P** 06 33 36.6 +1.6
baz=281,SNR=5.4
G27K **Doyon Strip** 60.77 27 P **P** 06 33 37.0 +1.8
baz=280
H27K **Steamboat Moun** 60.92 28 P **P** 06 33 38.3 +2.0
baz=280
I27K **Kandik River** 61.00 28 P **P** 06 33 38.6 +1.7
baz=281,SNR=15
M26K **Nabesna, AK** 61.01 32 IAmb IAmb 06 33 39.1
comp=Z,13nm,0.9s
M26K **Nabesna, AK** 61.01 32 P **P** 06 33 38.6 +1.7
baz=281,SNR=5.3
K27K **Chicken** 61.10 30 P **P** 06 33 39.1 +1.6
baz=281
E28M **Babbage River** 61.24 25 P **P** 06 33 40.1 +1.7
baz=281
F28M **Old Crow** 61.30 26 P **P** 06 33 40.9 +2.0
baz=281,SNR=9.2
L27K **Beaver Creek,** 61.40 31 P **P** 06 33 39.4 -0.2
L27K IAmb IAmb 06 33 42.4
comp=Z,17nm,1.6s
L27K **Beaver Creek,** 61.40 31 P **P** 06 33 41.4 +1.8
baz=282
BCAR **Beaver Creek A** 61.42 31 P **P** 06 33 40.8 +1.0
M27K **Edge Creek, AK** 61.52 32 P **P** 06 33 42.1 +1.5
baz=282
I28M **Miner Creek** 61.71 28 P **P** 06 33 43.7 +2.0
baz=282
E29M **Blow River** 61.87 25 P **P** 06 33 44.4 +1.8
baz=282
G29M **Pine Creek** 62.15 26 P **P** 06 33 46.7 +2.1
baz=283,SNR=7.0
H29M **Whitestone** 62.17 27 P **P** 06 33 46.6 +1.9
baz=283
DAWY **Dawson** 62.25 30 P **P** 06 33 46.3 +1.0
baz=283
YUK3 **Moose Creek** 62.31 32 P **P** 06 33 47.1 +1.2
baz=284
I29M **Ogilvie Camp,** 62.40 28 IAmb IAmb 06 33 48.5
comp=Z,8.4nm,1.0s
I29M **Ogilvie Camp,** 62.40 28 P **P** 06 33 47.8 +1.5
baz=284,SNR=6.0
J29N **Klondike Camp** 62.65 29 IAmb IAmb 06 33 51.8
comp=Z,12nm,0.8s
J29N **Klondike Camp** 62.65 29 P **P** 06 33 49.9 +1.9
baz=284,SNR=7.7
EPYK **Eagle Plains** 62.79 27 P **P** 06 33 50.4 +1.6
baz=284,SNR=8.9
G30M **tAoh Zraii Nji** 62.83 26 P **P** 06 33 50.3 +1.2
baz=285
F30M **Barrier River** 62.83 25 P **P** 06 33 51.0 +1.9
baz=285
STKA **Stephens Creek** 62.87 171 P **P** 06 33 49.4 -0.2
comp=Z,2.2nm,0.6s,baz=343,slow=10,SNR=6.1
comp=Z,2.2nm,0.6s
L29M **L29M** 63.03 31 P **P** 06 33 53.0 +2.5
baz=285,SNR=7.7
M29M **Somme Creek** 63.05 31 P **P** 06 33 53.0 +2.2
baz=285
K29M **Barlow Dome** 63.10 30 P **P** 06 33 52.6 +1.6
baz=285
I30M **Mount Dempster** 63.22 28 P **P** 06 33 53.5 +1.7
baz=285
J30M **Hart River** 63.41 29 P **P** 06 33 54.5 +1.4
J30M **Hart River** 63.41 29 P **P** 06 33 54.9 +1.7
baz=286
INK **Inuvik** 63.47 24 IAmb IAmb 06 33 56.3
comp=Z,27nm,1.8s
INK **Inuvik** 63.47 24 P **P** 06 33 54.2 +1.0
baz=286,SNR=6.6
G31M **Satah River** 63.58 26 P **P** 06 33 54.8 +0.8
baz=286
M30M **Minto, Yukon** 63.76 31 P **P** 06 33 57.3 +1.9
baz=286
A36M **Sachs Harbour** 64.93 20 IAmb IAmb 06 34 05.2
comp=Z,14nm,1.0s
A36M **Sachs Harbour** 64.93 20 P **P** 06 34 04.0 +1.2
baz=292,SNR=11
M31M **Drury Creek, Y** 64.94 31 P **P** 06 34 04.6 +1.6
baz=288
FARO **Faro, Yukon** 65.40 31 IAmb IAmb 06 34 08.3
comp=Z,12nm,0.9s
FARO **Faro, Yukon** 65.40 31 P **P** 06 34 07.6 +1.6
baz=289,SNR=7.9
P33M **Teslin, Yukon** 66.32 33 IAmb IAmb 06 34 14.5
comp=Z,13nm,1.1s
P33M **Teslin, Yukon** 66.32 33 P **P** 06 34 13.7 +1.6
baz=291
C36M **Paulatuk** 66.33 22 IAmb IAmb 06 34 13.5
comp=Z,15nm,1.0s
C36M **Paulatuk** 66.33 22 P **P** 06 34 12.9 +1.0
baz=294,SNR=11
T35M **Bob Quinn** 68.79 36 P **P** 06 34 29.4 +1.8
baz=294
WRGLY **Wrigley** 69.20 28 P **P** 06 34 31.6 +1.6
baz=297
RES **Resolute Bay** 70.54 12 IAmb IAmb 06 34 39.6
comp=Z,8.1nm,0.9s
FINES **FINESS Array B** 70.66 331 P **P** 06 34 38.3 -0.7
comp=Z,3.0nm,0.6s,baz=62,slow=5.5,SNR=16
comp=Z,3.0nm,0.6s
YKA **Yellowknife Ar** 73.06 26 P **P** 06 34 53.6 +0.2
comp=Z,2.1nm,0.8s,baz=302,slow=5.6,SNR=30
comp=Z,2.1nm,0.8s
HFS **Hagfors** 76.43 333 P **P** 06 35 11.6 -1.4
comp=Z,2.4nm,0.8s,baz=56,slow=3.6,SNR=2.0
comp=Z,2.4nm,0.8s
BRLDA **Berland Lookou** 76.56 35 IAmb IAmb 06 35 16.0
comp=Z,12nm,1.1s
NB2 **NORSAR Subarra** 76.80 335 P **P** 06 35 14.9 -0.2
comp=Z,3.4nm,1.2s,baz=51,slow=5.9
NOA **NORSAR Array B** 76.80 335 P **P** 06 35 14.4 -0.7
comp=Z,1.1nm,0.9s,baz=52,slow=5.3,SNR=2.8
comp=Z,1.1nm,0.9s
BRTR **Keskin Array B** 76.95 308 P **P** 06 35 17.1 +0.6
comp=Z,1.0nm,0.7s,baz=64,slow=13,SNR=2.0
comp=Z,1.0nm,0.7s
EDM **Edmonton** 79.03 34 P **P** 06 35 27.3 -0.4
EDM IAmb IAmb 06 35 29.4
comp=Z,19nm,1.2s
CLL **Collm** 82.39 326 *i* P **P** 06 35 46.2 +0.6
comp=Z,5.0nm,0.7s
CLL *i* sP **pwP** 06 35 59.0 +2.2
GERES **GERESS Array B** 83.64 324 P **P** 06 35 53.0 +0.7
comp=Z,0.3nm,0.4s,baz=46,slow=3.9,SNR=3.5
comp=Z,0.3nm,0.4s
GRF **Grafenberg Arr** 84.31 326 eP **P** 06 35 56.8 +1.2
comp=Z,8.4nm,1.3s,baz=58,slow=5.1
HLID **Hailey** 84.33 42 P **P** 06 35 56.1 +0.1
HLID **Hailey** 84.33 42 P **P** 06 35 57.4 +1.4
baz=308
BMN **Battle Mountai** 84.52 46 IAmb IAmb 06 35 59.1
comp=Z,8.0nm,1.2s
KVN **Kaiserville** 84.78 47 IAmb IAmb 06 36 00.1
comp=Z,11nm,1.1s
NVAR **Mina Array Bea** 85.01 48 P **P** 06 36 00.0 +0.4
comp=Z,2.8nm,0.8s,baz=296,slow=5.5,SNR=15
comp=Z,2.8nm,0.8s
H17A **Grant Village** 85.97 40 IAmb IAmb 06 36 08.1
comp=Z,7.4nm,1.1s
H17A **Grant Village** 85.97 40 P **P** 06 36 07.6 +3.3
baz=310
EKA **Eskdalemuir Ar** 86.15 336 P **P** 06 36 02.9 -1.7
comp=Z,1.3nm,0.8s,baz=55,slow=5.3,SNR=2.4
comp=Z,1.3nm,0.8s
LAO **LASA Array** 86.76 36 IAmb IAmb 06 36 10.4
comp=Z,9.9nm,1.1s
R11B **Troy Canyon, C** 86.78 47 P **P** 06 36 09.4 +1.1
baz=307
HWUT **Hardware Ranch** 87.19 42 IAmb IAmb 06 36 13.2
comp=Z,9.1nm,1.3s

DUG	**Dugway, Tooele**	**87.35**	**44**	IAmb	IAmb	06 36 14.3
	comp=Z,7.3nm,1.2s					
DUG	**Dugway, Tooele**	**87.35**	**44**	P	**P**	**06 36 12.5 +1.5**
	baz=309					
PD31	**Pinedale Array**	**87.59**	**40**	P	**P**	**06 36 12.4 +0.2**
PDAR	**Pinedale Array**	**87.59**	**40**	P	**P**	**06 36 12.2 0.0**
PDAR	**Pinedale Array**	**87.59**	**40**	P	**P**	**06 36 11.4 -0.8**
	comp=Z,0.9nm,0.8s,baz=297,slow=1.3,SNR=8.6					
	comp=Z,0.9nm,0.8s					
ULM	**Lac du Bonnet**	**88.92**	**28**	P	**P**	**06 36 16.9 -1.1**
	comp=Z,3.3nm,0.9s,baz=342,slow=5.0,SNR=4.6					
	comp=Z,3.3nm,0.9s					
P18A	**Preston Nutter**	**89.23**	**43**	IAmb	IAmb	06 36 22.5
	comp=Z,7.2nm,1.1s					
MVCO	**Mesa Verde**	**91.85**	**44**	P	**P**	**06 36 33.5 +1.2**
	baz=312					

*JMA **10** 06:45:37.0±0.1, 35°.4N±0°.4×141°.2E±0°.8, h30km±1km, MV2.7/25, NEAR CHOSHI CITY*
*IDC **10** 06:45:47.4±1.5, 35°.10N×139°.93E, h84km±15km, mb3.2/8, mbtmp3.5/9, Error ellipse: s-maj=26.4km s-min=11.4km az=76.0*
ISC 10 06:45:38.6±1.3, 35°.34N±0°.07×141°.0E±0°.1, h35km, n24, σ1s 34/15, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.68**	**217**	P	**Pn**	**06 45 52.2**	**+0.8**
BSO1	**Boso 1**	**0.69**	**182**	*e*P	**Pn**	**06 45 51.5**	**+0.2**
JIM2	**Oshima 3**	**1.44**	**245**	P	**Pn**	**06 46 02.4**	**+0.3**
JIM2				*e*S	**Sn**	**06 46 21.1**	**+1.3**
JAG	**Ashikaga**	**1.66**	**311**	P	**Pn**	**06 46 06.8**	**+1.7**
JHJ	**Hachijo jima 2**	**2.44**	**205**	P	**Pn**	**06 46 17.4**	**+1.5**
	33nm,0.4s,baz=51,slow=22,SNR=1.1						
JHJ				S	**Sn**	**06 46 44.7**	**+0.2**
	72nm,0.3s,baz=283,slow=18,SNR=5.9						
MJAR	**Matsushiro Arr**	**2.56**	**299**	P	**Pn**	**06 46 17.7**	**+0.1**
	4.9nm,0.6s,baz=113,slow=8.2,SNR=9.4						
KSRS	**Korea Array**	**10.75**	**285**	P	**Pn**	**06 48 06.4**	**-3.6**
	0.9nm,0.5s,baz=99,slow=16,SNR=2.2						
PETK	**Petropavlovsk-**	**21.32**	**28**	P	P	06 50 34.6	+12
	3.6nm,1.0s,baz=260,slow=8.6,SNR=1.7						
	3.6nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.61**	**117**	T	T	07 20 18.3	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**27.62**	**117**	T	T	07 20 21.0	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**27.63**	**117**	T	T	07 20 27.9	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	07 21 05.8	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	07 21 00.2	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	07 21 07.5	
	baz=313						
SONM	**Songino Array**	**28.49**	**307**	P	**P**	**06 51 31.2**	**+0.7**
	0.2nm,0.4s,baz=117,slow=9.1,SNR=2.3						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**42.83**	**314**	P	**P**	**06 53 32.6**	**-0.2**
	0.5nm,0.4s,baz=95,slow=4.0,SNR=1.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**44.76**	**303**	P	**P**	**06 53 49.0**	**+0.5**
	0.6nm,0.8s,baz=89,slow=8.7,SNR=5.9						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**46.80**	**309**	P	**P**	**06 54 03.8**	**-0.7**
	0.2nm,0.4s,baz=84,slow=8.0,SNR=2.7						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**51.10**	**32**	P	P	06 54 46.3	+9.0
	0.5nm,0.9s,baz=265,slow=5.6,SNR=4.3						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**55.35**	**188**	P	**P**	**06 55 09.0**	**0.0**
	0.6nm,0.7s,baz=4.1,slow=7.7,SNR=8.2						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**59.07**	**188**	P	**P**	**06 55 35.4**	**+0.1**
	0.5nm,1.1s,baz=20,slow=11,SNR=1.8						
	0.5nm,1.1s						
H03N2	**Juan Fernandez**	**147.14**	**98**	T	T	09 49 32.2	
	baz=290,slow=76,SNR=5.8						
H03N3	**Juan Fernandez**	**147.15**	**98**	T	T	09 49 58.5	
	baz=290,slow=76,SNR=8.7						
H03N1	**Juan Fernandez**	**147.16**	**98**	T	T	09 49 33.0	
	baz=290,slow=76,SNR=5.9						

VAO 10 06:55:19.7±0.7, 16°.78S×69°.29W, h154km±10km, mb3.6, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**5.81**	**177**	*e*P	Pn	06 56 43.5	-0.8
ETMB	**Extrema**	**7.54**	**24**	*e*P	Pn	06 57 07.2	+0.2
BBSD	**Serra de San D**	**8.31**	**94**	*e*P	Pn	06 57 17.1	-0.2
TBTG	**Tabatinga, AM**	**12.53**	**357**	*e*P	Pn	06 58 13.1	+0.2
CRSM	**Crissiumal (Br**	**17.68**	**130**	*e*P	P	06 59 15.3	+0.1
PTGB	**Pitanga**	**17.93**	**119**	*e*P	Pn	06 59 19.9	+0.4
SNDB	**Serra Nova Dou**	**18.07**	**77**	*e*P	P	06 59 20.1	+0.5
ITTB	**Itaituba**	**18.14**	**49**	*e*P	P	06 59 19.8	-0.6
IPMB	**Ipameri, GO**	**20.15**	**97**	*e*P	P	06 59 41.3	-0.9
JANB	**Januaria**	**24.08**	**89**	*e*P	P	07 00 20.1	-1.0

*IDC **10** 07:10:50.1±0.9, 17°.46N×83°.69W, h0km, mb4.1/16, mbtmp4.1/20, ML3.6/4, Error ellipse: s-maj=23.3km s-min=16.7km az=36.0*
*NEIC **10** 07:10:52.8±1.1, 17°.47N±0°.07×83°.70W±0°.08, h10km±1km, mb4.4/95, Error ellipse: s-maj=12.8km s-min=12.0km az=121.0*
*CATAC **10** 07:10:53.9±3.0, 17°.61N×83°.72W, h100km, MB5.2, mb4.5, ML4.4*
ISC 10 07:10:52.6±0.5, 17°.45N±0°.06×83°.70W±0°.06, h18km, n135, σ1s 69/100, mb4.4/47, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISHN	**Nisperales Com**	**4.34**	**248**	*i* P	**Pn**	**07 11 57.7**	**-0.1**
RCPN	**Sur Rio San Ju**	**4.53**	**211**	*i* PA		07 12 01.3	
RCPN				IAML		07 13 21.3	
	comp=Z,0.4nm,1.0s						
YUSH	**Yuscaran**	**4.61**	**222**	*i* PA		07 12 02.8	
PRVC	**Isla de Provid**	**4.63**	**151**	*e*P	**Pn**	**07 12 01.4**	**-0.3**
COMHN	**El Horno**	**4.76**	**232**	*i* PA		07 12 04.7	
TGUH	**Tegucigalpa,Un**	**4.82**	**226**	Pn	**Pn**	**07 12 05.3**	**+0.9**
TGUH	**Tegucigalpa,Un**	**4.82**	**226**	*e*P	**Pn**	**07 12 05.1**	**+0.7**
TGUH	**Tegucigalpa,Un**	**4.82**	**226**	*i* PA		07 12 06.0	
TGUH				IAML		07 13 59.3	
	comp=Z,240nm,1.0s						
MATN	**Matagalpa**	**4.98**	**206**	Pn	**Pn**	**07 12 07.7**	**+1.1**
MATN	**Matagalpa**	**4.98**	**206**	*i* PA		07 12 08.2	
MATN				IAmb	IAmb	07 12 37.3	
	comp=Z,19nm,0.5s						
MATN				IAML		07 13 58.8	
	comp=Z,120nm,1.0s						
TEIG	**Tepich**	**5.14**	**303**	Pn	**Pn**	**07 12 07.4**	**-1.3**
TEIG	**Tepich**	**5.14**	**303**	Pn	**Pn**	**07 12 07.2**	**-1.6**
	comp=Z,283nm,0.3s,baz=286,slow=2.0,SNR=100						
TEIG				Sn	**Sn**	**07 13 01.4**	**-6.2**
	comp=Z,127nm,0.3s,baz=192,slow=22,SNR=7.5						
TEIG	**Tepich**	**5.14**	**303**	*e*P	**Pn**	**07 12 05.8**	**-2.9**
ESPN	**Las Esperanzas**	**5.25**	**186**		**Pn**	**07 12 11.8**	**+1.6**
ESPN	**Las Esperanzas**	**5.25**	**186**	IAmb	IAmb	07 12 12.1	
	comp=Z,36nm,0.6s						
ESPN				*i* PA		07 12 12.2	
ESPN				IAML		07 13 54.6	
	comp=Z,140nm,1.0s						
SOR	**Soroa**	**5.36**	**7**	Pn	**Pn**	**07 12 12.3**	**+0.6**
BLUN	**Bluefields**	**5.41**	**181**	*i* PA		07 12 14.6	
BLUN				IAmb	IAmb	07 12 14.8	
	comp=Z,52nm,0.6s						
BLUN				IVmB_BB		07 12 17.1	
	comp=Z,2μm,1.0s						
BLUN				IAML		07 12 25.4	
	comp=Z,93nm,1.0s						
SARH	**Santa Rosa de**	**5.54**	**242**	*i* PA		07 12 15.3	
ACON	**Acoyapa**	**5.63**	**195**		**Pn**	**07 12 16.6**	**+1.1**
ACON	**Acoyapa**	**5.63**	**195**	*e*P	**Pn**	**07 12 16.2**	**+0.7**
ACON	**Acoyapa**	**5.63**	**195**	*i* PA		07 12 17.3	
ACON				IAmb	IAmb	07 12 17.3	
	comp=Z,48nm,0.6s						
ACON				IVmB_BB		07 13 14.4	
	comp=Z,14μm,1.0s						
ACON				IAML		07 14 04.9	
	comp=Z,180nm,1.0s						
PETF	**Flores**	**5.92**	**266**		**Pn**	**07 12 18.2**	**-1.3**
PETF	**Flores**	**5.92**	**266**	*i* PA		07 12 19.0	
PETF				IVmB_BB		07 12 19.1	
	comp=Z,2μm,1.0s						
PETF				IAML		07 12 19.2	
	comp=Z,130nm,1.0s						
PETF				IAmb	IAmb	07 12 19.3	
	comp=Z,59nm,0.5s						
MTDJ	**Mount Denham**	**5.92**	**82**	Pn	**Pn**	**07 12 19.1**	**-0.5**
CAMR	**Camarioca**	**6.00**	**21**	Pn	**Pn**	**07 12 20.5**	**0.0**
MTO3	**Montecristo**	**6.23**	**242**		**Pn**	**07 12 25.1**	**+1.1**
COVE	**Coopr Vega, Sa**	**6.72**	**186**	Pn	**Pn**	**07 12 34.2**	**+3.7**
JTS	**Las Juntas de**	**7.22**	**190**	Pn	**Pn**	**07 12 39.4**	**+2.1**
JTS	**Las Juntas de**	**7.22**	**190**	Pn	**Pn**	**07 12 38.8**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=18,slow=17,SNR=5.6						
	comp=Z,3.3nm,0.3s						
JACO	**JACO, Garabito**	**7.79**	**187**	Pn	**Pn**	**07 12 47.5**	**+2.3**
GTBY	**Guantanamo Bay**	**8.51**	**72**	Pn	**Pn**	**07 12 55.5**	**+0.6**
GTBY	**Guantanamo Bay**	**8.51**	**72**	*e*P	**Pn**	**07 12 53.0**	**-2.0**
CMIG	**Matias Romero**	**10.69**	**270**	Pn	**Pn**	**07 13 23.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=124,slow=11,SNR=2.3						
CMIG				Sn	Sn	07 15 14.8	-10
	comp=Z,0.2nm,0.3s,baz=47,slow=18,SNR=2.0						
	comp=Z,1.5nm,0.3s						
SJCC	**San Jacinto, C**	**11.17**	**131**	*e*P	**Pn**	**07 13 29.6**	**-2.0**
CRJC	**Cerrejon, Guaj**	**12.28**	**120**	*e*P	**Pn**	**07 13 44.3**	**-2.5**
CRJC				*i*		07 14 07.1	
	comp=Z,12nm,0.4s						
LL6C	**La Loma 6 Bece**	**12.70**	**126**	*e*P	**Pn**	**07 13 52.4**	**-0.1**
ZARC	**Zaragoza, Cauc**	**13.12**	**138**	*e*P	**Pn**	**07 13 56.1**	**-2.2**
GUY2C	**Guyana, Caldas**	**14.63**	**145**	*e*P	**P**	**07 14 27.2**	**+1.6**
SDV	**Santo Domingo**	**15.30**	**122**	Pn	**Pn**	**07 14 27.8**	**-0.1**
SDV	**Santo Domingo**	**15.30**	**122**	Pn	**Pn**	**07 14 26.9**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=344,slow=10,SNR=10						
SDV				Sn	**Sn**	**07 17 07.7**	**-9.5**
	comp=Z,0.2nm,0.3s,baz=317,slow=19,SNR=1.7						
	comp=Z,6.0nm,0.5s						
SDV	**Santo Domingo**	**15.30**	**122**	*e*P	**Pn**	**07 14 23.9**	**-4.1**
LRAL	**Lakeview Retre**	**15.80**	**350**	Pn	**Pn**	**07 14 34.5**	**+0.2**
Z51A	**Franklin**	**15.86**	**355**		**Pn**	**07 14 35.5**	**+0.5**
Z51A				IAmb	IAmb	07 14 37.6	
	comp=Z,11nm,0.7s						
Y49A	**Blount Mountai**	**16.52**	**352**	Pn	**Pn**	**07 14 44.8**	**+1.2**
HKT	**Hockley**	**16.67**	**321**	Pn	**Pn**	**07 14 45.8**	**+0.5**
HODGE	**Hodges**	**16.77**	**4**	Pn	**Pn**	**07 14 47.5**	**+0.9**
FPAL	**Fort Payne**	**17.11**	**355**		**P**	**07 14 52.0**	**-0.6**
Y45A	**Yeager Farm, C**	**17.17**	**343**		**Pn**	**07 14 52.0**	**+0.3**
OXF	**Oxford**	**17.75**	**344**	P	**P**	**07 14 59.3**	**-0.3**
OXF				IAmb	IAmb	07 15 00.3	
	comp=Z,36nm,1.0s						
833A	**Chaparral WMA,**	**18.04**	**310**	IAmb	IAmb	07 15 06.2	
	comp=Z,24nm,0.8s						
TKL	**Tuckaleechee C**	**18.14**	**360**	P	**Pn**	**07 15 03.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=170,slow=12,SNR=1.6						
	comp=Z,1.6nm,0.6s						
HNDO	**Hondo**	**18.65**	**313**	IAmb	IAmb	07 15 13.7	
	comp=Z,15nm,0.8s						
WVT	**Waverly**	**18.97**	**350**	P	**Pn**	**07 15 14.1**	**+0.4**
DRIO	**Del Rio**	**19.55**	**311**		**Pn**	**07 15 21.3**	**+0.6**
BRDY	**Brady**	**19.57**	**318**	P	**P**	**07 15 20.1**	**+0.5**
BRDY				IAmb	IAmb	07 15 23.1	
	comp=Z,13nm,0.9s						
JCT	**Junction City**	**19.59**	**314**	P	**Pn**	**07 15 21.4**	**+0.1**
JCT				IAmb	IAmb	07 15 36.8	
	comp=Z,21nm,1.2s						
T47A	**Sharon Grove**	**19.70**	**352**	IAmb	IAmb	07 15 24.5	
	comp=Z,18nm,0.9s						
FCAR	**Ozark Folk Cen**	**19.84**	**339**	P	**P**	**07 15 21.6**	**-0.9**
PBMO	**Poplar Bluff**	**20.16**	**344**	IAmb	IAmb	07 15 33.7	
	comp=Z,23nm,0.9s						
LOOK	**Love County**	**20.43**	**326**		Pn	07 15 30.8	-0.4
LOOK				IAmb	IAmb	07 15 34.9	
	comp=Z,20nm,1.1s						
CGM3	**Cape Girardeau**	**20.46**	**346**	P	**P**	**07 15 30.1**	**+0.8**
S44A	**Carbondale**	**20.75**	**347**	IAmb	IAmb	07 15 37.0	
	comp=Z,26nm,1.0s						
OZNA	**Ozona**	**20.76**	**313**	P	Pn	07 15 34.5	-0.7
OZNA				IAmb	IAmb	07 15 35.7	
	comp=Z,35nm,1.0s						
SIUC	**Southern Illin**	**20.77**	**348**	IAmb	IAmb	07 15 37.2	
	comp=Z,31nm,1.1s						
WCI	**Wyandotte Cave**	**20.83**	**354**	P	Pn	07 15 34.5	-1.2
WCI				IAmb	IAmb	07 15 37.5	
	comp=Z,13nm,0.8s						
SAND	**Sanderson**	**20.93**	**310**	P	**P**	**07 15 35.1**	**+0.6**
SAND				IAmb	IAmb	07 15 38.2	
	comp=Z,12nm,0.8s						
WTFS	**Witchita Falls**	**20.97**	**324**	P	Pn	07 15 36.3	-1.1
WTFS				IAmb	IAmb	07 15 41.4	
	comp=Z,9.8nm,0.8s						
TUL3	**Leonard**	**21.29**	**332**	IAmb	IAmb	07 15 43.2	
	comp=Z,13nm,0.9s						
FVM	**French Village**	**21.30**	**345**	IAmb	IAmb	07 15 43.7	
	comp=Z,22nm,1.3s						
CCM	**Cathedral Cave**	**21.57**	**344**	P	**P**	**07 15 42.1**	**+0.8**
TXAR	**Lajitas Array**	**21.78**	**307**	P	**P**	**07 15 43.2**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=123,slow=10,SNR=17						
TXAR				S	**S**	**07 19 42.8**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=124,slow=22,SNR=3.6						
	comp=Z,0.9nm,0.7s						
TX31	**Lajitas Ar. Si**	**21.78**	**307**	P	**P**	**07 15 43.0**	**-0.6**
BLO	**Bloomington**	**21.79**	**354**	P	**P**	**07 15 43.6**	**0.0**
BLO				IAmb	IAmb	07 15 45.7	
	comp=Z,23nm,0.9s						
WMOK	**Wichita Mounta**	**21.86**	**325**		**P**	**07 15 45.0**	**+0.5**
WMOK				IAmb	IAmb	07 16 02.9	
	comp=Z,14nm,1.4s						
Q44A	**Meyer Farm, Va**	**21.88**	**349**	IAmb	IAmb	07 15 47.3	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**22.08**	**342**	IAmb	IAmb	07 15 50.9	
	comp=Z,14nm,1.1s						
MNHN	**Monahans**	**22.15**	**312**	IAmb	IAmb	07 15 51.3	
	comp=Z,7.7nm,0.6s						
OK048	**Pawnee Station**	**22.24**	**331**	IAmb	IAmb	07 15 50.6	
	comp=Z,28nm,1.2s						
ALPN	**Alpine**	**22.27**	**309**	P	**P**	**07 15 49.5**	**+0.5**
POST	**Post**	**22.33**	**317**	IAmb	IAmb	07 15 56.2	
	comp=Z,16nm,0.7s						
ODSA	**Odessa**	**22.45**	**314**	IAmb	IAmb	07 15 52.3	
	comp=Z,13nm,0.9s						
P43A	**Skaggs, Pawnee**	**22.69**	**348**	IAmb	IAmb	07 15 56.7	
	comp=Z,17nm,0.8s						
PECS	**Pecos**	**22.96**	**311**	P	**P**	**07 15 56.2**	**0.0**
O44A	**Mansfield**	**23.00**	**351**	P	**P**	**07 15 56.0**	**-0.5**
O44A				IAmb	IAmb	07 15 59.2	
	comp=Z,18nm,0.8s						
OK032	**Salt Plains WL**	**23.15**	**329**	IAmb	IAmb	07 16 00.5	
	comp=Z,18nm,1.1s						
P40A	**Paris**	**23.17**	**343**	IAmb	IAmb	07 16 00.2	
	comp=Z,9.2nm,0.9s						
MSTX	**Muleshoe**	**23.73**	**318**	IAmb	IAmb	07 16 08.0	
	comp=Z,9.2nm,1.1s						
M53A	**WI Miller and**	**24.05**	**6**	P	**P**	**07 16 07.9**	**+1.1**
M55A	**Ridgway**	**24.31**	**9**	P	**P**	**07 16 11.1**	**+1.9**
M55A				IAmb	IAmb	07 16 12.0	
	comp=Z,14nm,0.8s						
KSU1	**Kansas State U**	**24.34**	**335**	IAmb	IAmb	07 16 11.2	
	comp=Z,15nm,0.8s						
R32A	**Long Quarter,**	**24.68**	**331**	IAmb	IAmb	07 16 15.1	
	comp=Z,17nm,1.1s						
121A	**Cookes Peak, D**	**26.41**	**309**	IAmb	IAmb	07 16 38.6	
	comp=Z,4.9nm,0.9s						
ANMO	**Albuquerque**	**26.74**	**315**	P	**P**	**07 16 31.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=229,slow=12,SNR=5.5						
	comp=Z,0.7nm,0.4s						
SADO	**Sadowa**	**27.51**	**7**	P	**P**	**07 16 38.1**	**0.0**
	comp=Z,2.6nm,0.8s,baz=177,slow=15,SNR=1.9						
	comp=Z,2.6nm,0.8s						
PDAR	**Pinedale Array**	**33.47**	**324**	P	**P**	**07 17 31.1**	**+0.1**
	comp=Z,1.6nm,1.1s,baz=96,slow=9.3,SNR=5.9						
	comp=Z,1.6nm,1.1s						
HWUT	**Hardware Ranch**	**33.90**	**321**	IAmb	IAmb	07 17 38.0	
	comp=Z,2.9nm,0.8s						
ULM	**Lac du Bonnet**	**34.16**	**346**	P	**P**	**07 17 36.1**	**-0.5**
	comp=Z,9.4nm,0.9s,baz=161,slow=7.7,SNR=18						
	comp=Z,9.4nm,0.9s						
ELK	**Elko**	**35.72**	**317**	P	**P**	**07 17 51.9**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=113,slow=6.9,SNR=9.1						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**36.72**	**312**	P	**P**	**07 18 00.2**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=125,slow=7.4,SNR=6.7						
	comp=Z,1.0nm,0.8s						
WVOR	**Wild Horse Val**	**38.77**	**317**	IAmb	IAmb	07 18 18.9	
	comp=Z,12nm,1.1s						
SCHQ	**Schefferville**	**39.51**	**15**	P	**P**	**07 18 22.9**	**+0.8**
	comp=Z,4.1nm,0.5s,baz=212,slow=9.6,SNR=4.5						
	comp=Z,4.1nm,0.5s						
BDFB	**Brasilia**	**48.15**	**131**	P	**P**	**07 19 32.5**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=85,slow=3.9,SNR=3.5						
	comp=Z,1.1nm,0.4s						
YKA	**Yellowknife Ar**	**49.90**	**342**	P	**P**	**07 19 44.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=135,slow=7.9,SNR=14						
YKA				PP	**PP**	**07 21 39.7**	**+0.1**
	comp=Z,0.7nm,1.1s,baz=132,slow=10,SNR=4.1						
	comp=Z,0.9nm,0.8s						
A36M	**Sachs Harbour**	**59.64**	**346**	P	**P**	**07 20 55.2**	**0.0**
A36M				IAmb	IAmb	07 20 56.9	
	comp=Z,4.9nm,0.9s						
F28M	**Old Crow**	**61.39**	**339**	P	**P**	**07 21 08.3**	**+0.9**
IL31		**63.02**	**335**	P	**P**	**07 21 19.1**	**+0.9**
ILAR	**Eielson Array**	**63.02**	**335**	P	**P**	**07 21 19.1**	**+0.8**
ILAR	**Eielson Array**	**63.02**	**335**	P	**P**	**07 21 19.2**	**+1.0**
	comp=Z,3.4nm,0.7s,baz=105,slow=5.0,SNR=48						
	comp=Z,3.4nm,0.7s						
TRF	**Thorofare Moun**	**64.11**	**333**	P	**P**	**07 21 27.0**	**+1.3**
F24K	**Squaw Lake**	**64.22**	**337**	P	**P**	**07 21 27.8**	**+1.6**
F24K				IAmb	IAmb	07 21 37.8	
	comp=Z,2.6nm,1.1s						
D25K	**Kavik River**	**64.27**	**339**	P	**P**	**07 21 28.2**	**+1.7**
E24K	**Your Creek**	**64.60**	**338**	P	**P**	**07 21 29.6**	**+0.8**
E24K				IAmb	IAmb	07 21 31.8	
	comp=Z,5.5nm,1.4s						
CAST	**Castle Rocks**	**64.89**	**332**	P	**P**	**07 21 31.4**	**+0.8**
M20K	**Styx River**	**65.08**	**331**	P	**P**	**07 21 32.9**	**+0.8**
H21K	**Melozitna Rive**	**65.65**	**335**	P	**P**	**07 21 36.7**	**+1.1**
C23K	**Itkillik River**	**65.84**	**340**	P	**P**	**07 21 38.1**	**+1.4**
J20K	**Nowinta River**	**65.93**	**333**	P	**P**	**07 21 38.2**	**+0.9**
J20K				IAmb	IAmb	07 22 03.1	
	comp=Z,5.8nm,1.4s						
IMAR	**Indian Mountai**	**66.10**	**335**	P	**P**	**07 21 39.3**	**+0.9**
G21K	**Allakaket**	**66.11**	**336**	P	**P**	**07 21 40.5**	**+2.1**
SVW2	**Sparrevohn**	**66.13**	**330**	P	**P**	**07 21 38.5**	**-0.2**
D22K	**Ayikyak River**	**66.31**	**338**	P	**P**	**07 21 41.7**	**+2.0**
D22K				IAmb	IAmb	07 22 18.2	
	comp=Z,5.9nm,1.4s						
TTA	**Tatalina**	**66.57**	**332**	P	**P**	**07 21 42.6**	**+1.0**
TTA				IAmb	IAmb	07 22 09.2	
	comp=Z,2.6nm,1.1s						
N17K	**Nushagak Hills**	**66.85**	**329**	P	**P**	**07 21 43.9**	**+0.7**
B22K	**Teshekpuk Lake**	**66.90**	**340**	P	**P**	**07 21 44.8**	**+1.4**
B22K				IAmb	IAmb	07 21 59.3	
	comp=Z,3.1nm,1.1s						
B21K	**Ikpikpuk River**	**67.14**	**339**	P	**P**	**07 21 46.3**	**+1.3**
B21K				IAmb	IAmb	07 21 46.9	
	comp=Z,3.7nm,0.8s						
G19K	**Purcell Mounta**	**67.47**	**335**	P	**P**	**07 21 48.5**	**+1.4**
G19K				IAmb	IAmb	07 21 49.5	
	comp=Z,3.6nm,0.9s						
E19K	**Redstone River**	**67.71**	**336**	P	**P**	**07 21 50.1**	**+1.4**
E19K				IAmb	IAmb	07 21 50.5	
	comp=Z,3.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**70.48**	**37**	P	**P**	**07 22 06.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=266,slow=6.8,SNR=4.0						
	comp=Z,0.6nm,0.5s						
F15K	**North Star Dit**	**70.52**	**334**	P	**P**	**07 22 07.7**	**+1.6**
ESDC	**Sonseca Array**	**71.29**	**53**	P	**P**	**07 22 12.7**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=289,slow=6.5,SNR=2.5						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**80.30**	**20**	P	**P**	**07 23 02.2**	**0.0**
	comp=Z,6.9nm,1.2s,baz=287,slow=4.6,SNR=5.1						
	comp=Z,6.9nm,1.2s						
FINES	**FINESS Array B**	**83.91**	**27**	P	**P**	**07 23 21.5**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=318,slow=2.6,SNR=7.6						
	comp=Z,1.7nm,0.9s						
TIXI	**Tiksi**	**88.41**	**350**	P	**P**	**07 23 43.9**	**+0.7**
	comp=Z,0.4nm,0.2s,baz=2.6,slow=4.5,SNR=14						
	comp=Z,0.4nm,0.2s						
WRA	**Warramunga Arr**	**143.93**	**260**	PKP	PKPbc	07 30 26.1	+0.5
	comp=Z,1.9nm,0.8s,baz=85,slow=3.8,SNR=6.5						
ASAR	**Alice Springs**	**144.33**	**254**	PKP	PKPbc	07 30 26.8	0.0
	comp=Z,3.0nm,0.8s,baz=105,slow=4.0,SNR=23						

IDC 10 07:16:31.9±2.9, 55°.68N×86°.84E, h0km, mbtmp2.7/4, ML2.2/4, Error ellipse: s-maj=25.4km s-min=19.3km az=78.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.09**	**215**	I	I	07 30 08.8	
	0.1nm,1.0s,baz=31,slow=345,SNR=2.9						
ZALV	**Zalesov

BARC				*e*S	Sn	07 25 08.2	+1.8
BARC				*i*		07 25 21.1	
	comp=Z,73nm,0.5s						
ORTC	**Ortega, Tolima**	**3.40**	**162**	*e*P	Pn	07 24 34.2	+2.4
ORTC				*e*S	Sn	07 25 13.8	+0.8
ORTC				*i*		07 25 42.6	
	comp=Z,18nm,0.4s						
CVER	**Cruz Verde, Cu**	**3.43**	**140**	*e*P	Pn	07 24 35.4	+2.8
PAMC	**Pamplona, Colo**	**3.55**	**87**	*e*P	Pn	07 24 33.6	-0.7
PAMC				*e*S	Sn	07 25 16.0	-1.2
PAMC				*i*		07 25 33.4	
	comp=Z,45nm,0.5s						
PRAC	**Prado**	**3.71**	**158**	*e*P	Pn	07 24 36.8	+0.7
LL6C	**La Loma 6 Bece**	**3.91**	**49**	*e*P	Pn	07 24 33.0	-5.8
JAMC	**Jamundi, Valle**	**3.96**	**186**	*e*P	Pn	07 24 34.6	-5.0
VILC	**Villavicencio,**	**3.98**	**140**	*e*P	Pn	07 24 42.7	+2.8
VILC				*e*S	Sn	07 25 26.6	-0.8
VILC				*i*		07 25 54.6	
	comp=Z,22nm,0.5s						
GARC	**Garzon, Huila**	**5.02**	**171**	*e*P	Pn	07 24 54.1	-0.1
PTGC	**Puerto Gaitan,**	**5.07**	**125**	*e*P	Pn	07 24 54.6	-0.2
PTGC				*e*S	Sn	07 25 55.7	+1.6
PTGC				*i*		07 25 59.7	
	comp=Z,8.7nm,0.5s						

MDD ***10*** *07:31:01.4±0.9, 43°.55N×14°.18W, h0km, Mb4.1/11, M_mb3.5/10, Error ellipse: s-maj=7.2km s-min=5.9km az=120.0*
LDG ***10*** *07:31:02.9±0.4, 43°.69N×14°.14W, h10km, Ml3.4/6, Error ellipse: s-maj=7.4km s-min=5.4km az=110.0*
IGIL ***10*** *07:31:03.5, 43°.55N×14°.18W, h0km, ML2.9*
INMG ***10*** *07:31:04.2±1.8, 43°.71N×14°.48W, h10km, ML3.1, Error ellipse: s-maj=7.1km s-min=5.0km az=83.0*

ISC 10 07:30:58.5±3.3, 43°.66N±0°.09×14°.1W±0°.2, h10km, n70, σ3s 07/117, 10C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAGO	**Agolada(Pontev**	**4.44**	**99**	P	**Pn**	**07 32 09.0**	**+3.1**
EAGO				⇑*i*Vmb_V		07 32 10.7	
	83nm,SNR=4.8						
EAGO				S	**Sn**	**07 32 58.3**	**+0.7**
PGAV	**Gavieira, Arco**	**4.58**	**110**	*e*P	**Pn**	**07 32 09.9**	**+2.0**
PGAV				*e*S	**Sn**	**07 33 00.6**	**-0.6**
PGAV				A	A	07 33 05.3	
	21nm,0.1s						
PTO	**Porto**	**4.76**	**120**	*e*P	**Pn**	**07 32 14.0**	**+3.8**
PTO				*e*S	**Sn**	**07 33 06.9**	**+1.5**
ELOB	**Lobios**	**4.76**	**110**	P	**Pn**	**07 32 14.0**	**+3.6**
ELOB				⇑*i*Vmb_V		07 32 14.1	
	288nm,SNR=26						
ELOB				S	**Sn**	**07 33 07.8**	**+2.1**
PCAB	**Cabril**	**4.85**	**112**	*e*P	**Pn**	**07 32 15.4**	**+3.9**
PCAB				*e*S	**Sn**	**07 33 10.0**	**+2.2**
PCAB				A	A	07 33 13.3	
	22nm,0.4s						
EPON	**Pontenova**	**5.04**	**91**	S	**Sn**	**07 33 11.2**	**-1.0**
POLO	**Lamas de Olo**	**5.16**	**114**	*e*P	**Pn**	**07 32 20.0**	**+4.2**
POLO				*e*S	**Sn**	**07 33 16.5**	**+1.0**
POLO				A	A	07 33 20.2	
	3.3nm,0.2s						
PVRL	**Vila Real**	**5.26**	**115**	*e*S	**Sn**	**07 33 17.8**	**0.0**
PVRL				A	A	07 33 19.9	
	16nm,0.1s						
PVIS	**Viseu**	**5.44**	**121**	*e*P	**Pn**	**07 32 23.1**	**+3.5**
PVIS				*e*S	**Sn**	**07 33 22.6**	**+0.3**
PVIS				A	A	07 33 26.0	
	18nm,0.3s						
PCAS	**Casmilo, Conde**	**5.50**	**129**	*e*P	**Pn**	**07 32 23.4**	**+3.0**
PCAS				*e*S	**Sn**	**07 33 23.9**	**+0.3**
PCAS				A	A	07 33 27.1	
	11nm,0.4s						
ECAL	**Calabor**	**5.65**	**105**	Pn	**Pn**	**07 32 26.4**	**+3.8**
ECAL				Sn	**Sn**	**07 33 28.2**	**+0.7**
ECAL	**Calabor**	**5.65**	**105**	P	**Pn**	**07 32 26.5**	**+4.0**
ECAL				⇑*i*Vmb_V		07 32 27.8	
	89nm,SNR=5.8						
ECAL				S	**Sn**	**07 33 28.5**	**+0.9**
PBRG	**Braganca**	**5.70**	**107**	*e*P	**Pn**	**07 32 27.0**	**+3.8**
PBRG				*e*S	**Sn**	**07 33 29.3**	**+0.7**
PBRG				A	A	07 33 32.3	
	7.5nm,0.3s						
PSBE	**So Bento**	**5.72**	**135**	*e*P	**Pn**	**07 32 26.3**	**+2.8**
PSBE				*e*S	**Sn**	**07 33 29.0**	**-0.2**
PSBE				A	A	07 33 33.2	
	8.1nm,0.5s						
MVO	**Moncorvo**	**5.77**	**113**	*e*P	**Pn**	**07 32 28.2**	**+4.0**
MVO				*e*S	**Sn**	**07 33 30.3**	**-0.1**
MVO				A	A	07 33 34.2	
	8.9nm,0.2s						
MTE	**Manteigas**	**5.84**	**122**	*e*P	**Pn**	**07 32 28.4**	**+3.2**
MTE				*e*S	**Sn**	**07 33 31.9**	**-0.3**
PMAFR	**Mafra**	**5.92**	**141**	*e*P	**Pn**	**07 32 29.1**	**+2.9**
PMAFR				*e*S	**Sn**	**07 33 32.4**	**-1.6**
PMAFR				A	A	07 33 42.4	
	24nm,0.6s						
PMAFR	**Mafra**	**5.92**	**141**	Pn	**Pn**	**07 32 29.0**	**+2.9**
PMAFR				Sn	**Sn**	**07 33 32.3**	**-1.7**
PCBR	**Castelo Branco**	**6.23**	**126**	*e*P	**Pn**	**07 32 33.5**	**+3.1**
PCBR				*e*S	**Sn**	**07 33 40.7**	**-0.9**
PCBR				A	A	07 33 44.0	
	4.2nm,0.2s						
PMTG	**Montargil**	**6.35**	**134**	*e*P	**Pn**	**07 32 34.5**	**+2.5**
PMTG				*e*S	**Sn**	**07 33 43.1**	**-1.4**
EARI	**Arriondas**	**6.45**	**90**	P	**Pn**	**07 32 36.8**	**+3.3**
EARI				S	**Sn**	**07 33 46.7**	**-0.4**
PMRV	**Marv??o**	**6.55**	**128**	*e*P	**Pn**	**07 32 37.6**	**+2.8**
PMRV				*e*S	**Sn**	**07 33 48.5**	**-1.0**
PMRV				A	A	07 33 50.2	
	10.0nm,0.2s						
PESTR	**Estremoz**	**6.83**	**132**	*e*P	**Pn**	**07 32 40.7**	**+2.0**
PESTR				*e*S	**Sn**	**07 33 54.8**	**-1.7**
PESTR				A	A	07 33 59.1	
	5.2nm,0.3s						
PESTR	**Estremoz**	**6.83**	**132**	Pn	**Pn**	**07 32 40.5**	**+1.9**
PESTR				Sn	**Sn**	**07 33 54.7**	**-1.8**
PESTR	**Estremoz**	**6.83**	**132**	P	**Pn**	**07 32 39.7**	**+1.0**
PESTR	**Estremoz**	**6.83**	**132**	S	**Sn**	**07 33 50.3**	**-6.2**
EVO	**Evora**	**6.86**	**136**	*e*P	**Pn**	**07 32 41.5**	**+2.4**
EVO				*e*S	**Sn**	**07 33 54.6**	**-2.6**
EVO				A	A	07 34 00.2	
	10nm,0.1s						
EVO	**Evora**	**6.86**	**136**	Pn	**Pn**	**07 32 41.5**	**+2.4**
EVO				Sn	**Sn**	**07 33 55.3**	**-2.0**
PNCL	**Nicolau / Gran**	**6.95**	**141**	*e*P	**Pn**	**07 32 42.7**	**+2.4**
PNCL				*e*S	**Sn**	**07 33 56.7**	**-2.6**
PNCL				A	A	07 34 02.6	
	8.2nm,0.4s						
PNCL	**Nicolau / Gran**	**6.95**	**141**	Pn	**Pn**	**07 32 42.4**	**+2.2**
PNCL				Sn	**Sn**	**07 33 56.6**	**-2.6**
EPLA	**Plasencia**	**6.95**	**118**	P	**Pn**	**07 32 44.0**	**+3.6**
EPLA				⇑*i*Vmb_V		07 32 45.2	
	145nm,SNR=17						
EPLA				S	**Sn**	**07 33 59.7**	**+0.2**
EBAD	**Badajoz**	**7.22**	**130**	Pn	**Pn**	**07 32 46.2**	**+2.2**
EBAD				Sn	**Sn**	**07 34 03.1**	**-3.1**
EBAD	**Badajoz**	**7.22**	**130**	P	**Pn**	**07 32 46.3**	**+2.2**
EBAD				⇑*i*Vmb_V		07 32 48.0	
	110nm,SNR=17						
EBAD				S	**Sn**	**07 34 03.9**	**-2.3**
MESJ	**Messejana**	**7.31**	**141**	*e*P	**Pn**	**07 32 47.9**	**+2.6**
MESJ				*e*S	**Sn**	**07 34 05.5**	**-2.8**
MESJ				A	A	07 34 14.8	
	6.4nm,0.3s						
MESJ	**Messejana**	**7.31**	**141**	*e*P	**Pn**	**07 32 47.9**	**+2.6**
MESJ				*e*S	**Sn**	**07 34 04.5**	**-3.7**
MESJ				IAML		07 34 10.3	
	comp=E,8.6nm,0.3s						
PBEJ	**Beja**	**7.33**	**138**	*e*S	**Sn**	**07 34 06.2**	**-2.5**
PBEJ				A	A	07 34 11.5	
	comp=E,6.6nm,0.5s						
PTEO	**Sao Teotonio**	**7.33**	**145**	*e*P	**Pn**	**07 32 48.6**	**+3.0**
PTEO				*e*S	**Sn**	**07 34 06.0**	**-2.8**
PTEO				A	A	07 34 11.3	
	comp=E,14nm,0.6s						
PCVE	**Castro Verde**	**7.56**	**141**	*e*P	**Pn**	**07 32 51.4**	**+2.7**
PCVE				*e*S	**Sn**	**07 34 11.0**	**-3.5**
PCVE				A	A	07 34 17.8	
	comp=E,2.9nm,0.2s						
PCVE	**Castro Verde**	**7.56**	**141**	Pn	**Pn**	**07 32 51.1**	**+2.4**
PCVE				Sn	**Sn**	**07 34 11.0**	**-3.5**
MORF	**Marmelete**	**7.57**	**145**	*e*P	**Pn**	**07 32 51.2**	**+2.4**
MORF				*e*S	**Sn**	**07 34 11.1**	**-3.6**
MORF				A	A	07 34 17.4	
	comp=E,12nm,0.1s						
MORF	**Marmelete**	**7.57**	**145**	*e*P	**Pn**	**07 32 50.9**	**+2.1**
MORF				*e*S	**Sn**	**07 34 10.2**	**-4.4**
MORF				IAML		07 34 13.3	
	comp=N,7.7nm,0.2s						
PBAR	**Barrancos**	**7.63**	**134**	*e*P	**Pn**	**07 32 52.4**	**+2.7**
PBAR				*e*S	**Sn**	**07 34 13.6**	**-2.6**
PBAR				A	A	07 34 20.3	
	comp=N,4.9nm,0.2s						
PBAR	**Barrancos**	**7.63**	**134**	Pn	**Pn**	**07 32 52.1**	**+2.4**
PBAR				Sn	**Sn**	**07 34 14.2**	**-2.0**
PFVI	**Vila Bisbo**	**7.64**	**147**	*e*P	**Pn**	**07 32 51.8**	**+1.9**
PFVI				*e*S	**Sn**	**07 34 12.0**	**-4.5**
PFVI	**Vila Bisbo**	**7.64**	**147**	Pn	**Pn**	**07 32 51.7**	**+1.9**
PFVI	**Vila Bisbo**	**7.64**	**147**	P	**Pn**	**07 32 49.5**	**-0.4**
PFVI	**Vila Bisbo**	**7.64**	**147**	S	**Sn**	**07 34 08.6**	**-7.9**
ELAN	**Lanestosa**	**7.74**	**90**	S	**Sn**	**07 34 18.0**	**-1.0**
PVAQ	**Vaqueiros**	**7.90**	**140**	*e*P	**Pn**	**07 32 56.2**	**+2.9**
PVAQ				*e*S	**Sn**	**07 34 18.5**	**-4.2**
PVAQ	**Vaqueiros**	**7.90**	**140**	Pn	**Pn**	**07 32 56.4**	**+3.1**
PVAQ	**Vaqueiros**	**7.90**	**140**	P	**Pn**	**07 32 54.0**	**+0.7**
PVAQ	**Vaqueiros**	**7.90**	**140**	S	**Sn**	**07 34 17.4**	**-5.3**
PBDV	**Barranco-do-Ve**	**7.93**	**142**	*e*P	**Pn**	**07 32 56.9**	**+3.1**
PBDV				*e*S	**Sn**	**07 34 20.2**	**-3.4**
PBDV				A	A	07 34 24.9	
	comp=N,5.1nm,0.2s						
GUD	**Guadarrama**	**7.95**	**109**	P	**Pn**	**07 32 58.7**	**+4.5**
GUD				⇑*i*Vmb_V		07 32 59.7	
	comp=N,67nm,SNR=13						
GUD				S	**Sn**	**07 34 24.6**	**+0.4**
PAB	**San Pablo**	**8.35**	**116**	P	**Pn**	**07 33 03.5**	**+3.8**
PAB				⇑*i*Vmb_V		07 33 04.2	
	comp=N,80nm,SNR=18						
PAB				S	**Sn**	**07 34 32.3**	**-1.7**
ESDC	**Sonseca Array**	**8.54**	**114**	P	**Pn**	**07 33 06.4**	**+4.2**
ESDC				⇑*i*Vmb_V		07 33 06.8	
	comp=N,41nm,SNR=5.7						
ECAB	**El Cabril**	**8.60**	**128**	Pn	**Pn**	**07 33 05.8**	**+2.9**
ECAB				Sn	**Sn**	**07 34 36.9**	**-3.0**
ECAB	**El Cabril**	**8.60**	**128**	P	**Pn**	**07 33 05.7**	**+2.8**
ECAB				⇑*i*Vmb_V		07 33 06.3	
	comp=N,36nm,SNR=3.7						
ECAB				S	**Sn**	**07 34 37.3**	**-2.7**
UCM	**Universidad Co**	**8.72**	**109**	Sn	**Sn**	**07 34 40.4**	**-2.6**
ROSF	**Rostrenen**	**8.84**	**54**	*e*Sn	**Sn**	**07 34 40.3**	**-5.4**
	comp=N,2.6nm,0.3s						
EADA	**Adamuz**	**9.03**	**124**	Pn	**Pn**	**07 33 11.5**	**+2.6**
EADA				Sn	**Sn**	**07 34 49.0**	**-1.6**
EADA	**Adamuz**	**9.03**	**124**	P	**Pn**	**07 33 11.5**	**+2.6**
EADA				⇑*i*Vmb_V		07 33 12.2	
	comp=N,157nm,SNR=36						
EADA				S	**Sn**	**07 34 49.0**	**-1.6**
SGMF	**Saint Gilles**	**9.23**	**56**	*e*Sn	**Sn**	**07 34 49.8**	**-5.5**
	comp=N,2.5nm,0.3s						
SJPF	**Ste Jean**	**9.36**	**89**	*e*Sn	**Sn**	**07 34 54.2**	**-4.4**
	comp=N,1.0nm,0.3s						
GRR	**Gorron**	**10.32**	**58**	*e*Sn	**Sn**	**07 35 15.1**	**-7.0**
	comp=N,0.9nm,0.2s						
LDF	**La Druitiere**	**10.85**	**58**	*e*Sn	**Sn**	**07 35 28.2**	**-6.9**
	comp=N,1.0nm,0.3s						
MTLF	**Montolieu**	**11.83**	**86**	*e*Sn	**Sn**	**07 35 52.3**	**-6.8**
	comp=N,0.8nm,0.3s						
MD31	**MD31**	**13.01**	**143**	P	**Pn**	**07 34 05.4**	**+2.0**
MDT	**Midelt**	**13.12**	**142**	P	**Pn**	**07 34 07.3**	**+2.4**
OUZM	**OUZ**	**13.98**	**153**	P	**Pn**	**07 34 17.6**	**+0.9**

IDC 10 07:33:25.3±3.1, 54°.39N×87°.23E, h0km, mbtmp3.0/3, ML2.4/2, Error ellipse: s-maj=28.1km s-min=16.1km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**254**	I	I	07 43 59.4	
	0.1nm,1.1s,baz=71,slow=345,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.48**	**254**	Pg	Pn	07 33 50.7	-2.5
	1.4nm,0.3s,baz=75,slow=17,SNR=8.0						
ZALV				Lg	Lg	07 34 13.3	
	1.0nm,0.3s,baz=69,slow=29,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.51**	**238**	Pn	Pn	07 35 02.3	0.0
	0.1nm,0.3s,baz=53,slow=14,SNR=5.5						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.23**	**204**	Pn	Pn	07 35 28.2	+2.3
	0.3nm,0.7s,baz=23,slow=13,SNR=2.4						
MKAR				Sn	Sn	07 36 57.9	-1.5
	0.1nm,0.3s,baz=28,slow=28,SNR=1.6						
MKAR				Lg	Lg	07 37 44.2	
	0.2nm,0.3s,baz=32,slow=28,SNR=1.7						
BVAR	**Borovoye Array**	**10.08**	**269**	Pn	Pn	07 35 50.5	-0.6
	baz=72,slow=15,SNR=2.4						
	0.6nm,0.6s						

IDC ***10*** *07:45:34.5±0.8, 30°.62N×132°.04E, h0km, mb3.7/9, mbtmp3.7/13, ML3.3/4, Error ellipse: s-maj=25.2km s-min=15.8km az=93.0*
JMA ***10*** *07:45:38.6±0.2, 30°.7N±0°.5×13°.2E±°, h52km±4km, MV3.4/33, E OFF TANEGASHIMA ISLAND*

ISC 10 07:45:36.6±1.7, 30°.65N±0°.04×132°.17E±0°.06, h15km±10km, n25, σ0s 98/36, mb3.8/9, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**1.02**	**270**	P	**Pg**	**07 45 56.3**	**0.0**
JTN				S	**Sg**	**07 46 10.0**	**+0.3**
JMTN	**Minamitane**	**1.12**	**257**	P	**Pg**	**07 45 58.1**	**-0.2**
JMTN				S	**Sg**	**07 46 13.0**	**+0.1**
JNAR	**Kushima--Naru**	**1.16**	**319**	P	**Pn**	**07 45 58.4**	**+0.1**
JNAR				S	**Sb**	**07 46 12.5**	**-0.7**
JNKG	**Nichinankitago**	**1.21**	**326**	P	**Pb**	**07 45 59.2**	**-0.1**
JNKG				S	**Sb**	**07 46 13.8**	**-0.9**
JYAK	**Yakushimahirau**	**1.49**	**254**	P	**Pn**	**07 46 03.0**	**+0.2**
JYAK				S	**Sn**	**07 46 21.4**	**-0.7**
JTZ	**Takazaki**	**1.55**	**324**	P	**Pn**	**07 46 03.8**	**+0.1**
JTZ				S	**Sn**	**07 46 22.9**	**-0.7**
JTSN	**Tsuno**	**1.69**	**341**	*i* P	**Pn**	**07 46 05.8**	**+0.2**
JTSN				S	**Sn**	**07 46 25.4**	**-1.5**
JSU	**Suzuyama**	**1.70**	**301**	S	**Sn**	**07 46 26.2**	**-1.0**
JNN	**Nakanoshima**	**2.14**	**248**	S	**Sn**	**07 46 38.1**	**-0.1**
JIU3	**Izumi3**	**2.21**	**329**	P	**Pn**	**07 46 13.6**	**+0.8**
JIU3				S	**Sn**	**07 46 39.9**	**-0.1**
JTO	**Tosashimizu**	**2.27**	**14**	*i* P	**Pn**	**07 46 12.9**	**-0.7**
JTO				S	**Sn**	**07 46 38.1**	**-3.1**
UWA2	**Uwa jima 2**	**2.58**	**9**	P	**Pn**	**07 46 17.9**	**0.0**
JNU	**Nakatsue**	**2.69**	**336**	Pn	**Pn**	**07 46 19.9**	**+0.4**
	6.0nm,0.3s,baz=7.4,slow=5.3,SNR=29						
JNU				Sn	**Sn**	**07 46 51.6**	**-0.3**
	12nm,0.3s,baz=170,slow=11,SNR=4.8						
	18nm,0.4s						
JOW	**Kunigami**	**5.11**	**223**	Pn	**Pn**	**07 46 52.2**	**-0.5**
	5.0nm,0.3s,baz=114,slow=20,SNR=1.8						
JOW				Sn	**Sn**	**07 47 48.6**	**-2.9**
	1.2nm,0.3s,baz=107,slow=19,SNR=2.3						
	13nm,0.4s						
MJAR	**Matsushiro Arr**	**7.74**	**39**	Pn	**Pn**	**07 47 29.0**	**+0.2**
	0.2nm,0.3s,baz=241,slow=14,SNR=4.9						
	1.4nm,0.3s						
KLR	**Kul'dur**	**18.56**	**359**	P	**Pn**	**07 49 52.9**	**-0.1**
	0.1nm,0.3s,baz=181,slow=9.7,SNR=6.3						
	3.0nm,0.9s						
MKAR	**Makanchi Array**	**41.39**	**307**	P	**P**	**07 53 21.9**	**-0.4**
	0.4nm,0.8s,baz=101,slow=7.8,SNR=2.6						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**44.23**	**313**	P	**P**	**07 53 44.2**	**-1.0**
	0.8nm,0.8s,baz=97,slow=8.9,SNR=5.3						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**50.35**	**177**	P	**P**	**07 54 32.7**	**-0.4**
	1.2nm,1.2s,baz=23,slow=6.6,SNR=2.0						
	1.2nm,1.2s						
ASAR	**Alice Springs**	**54.03**	**178**	P	**P**	**07 55 00.3**	**-0.1**
	0.5nm,0.9s,baz=7.4,slow=9.3,SNR=2.5						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**58.91**	**30**	P	**P**	**07 55 35.4**	**+0.7**
	0.7nm,0.9s,baz=261,slow=5.9,SNR=9.1						
	0.7nm,0.9s						
STKA	**Stephens Creek**	**62.83**	**171**	P	**P**	**07 56 02.1**	**+0.4**
	1.1nm,0.7s,baz=324,slow=9.9,SNR=3.7						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**70.72**	**331**	P	**P**	**07 56 52.5**	**+0.7**
	0.8nm,0.6s,baz=64,slow=6.3,SNR=1.7						
	0.8nm,0.6s						
YKA	**Yellowknife Ar**	**73.05**	**26**	P	**P**	**07 57 06.5**	**+0.8**
	0.4nm,0.8s,baz=304,slow=6.0,SNR=5.9						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**84.97**	**48**	P	**P**	**07 58 13.0**	**+1.3**
	0.5nm,0.5s,baz=297,slow=5.4,SNR=4.5						
	0.5nm,0.5s						

NNC 10 07:51:52.5±1.6, 54°.52N×85°.88E, h0km, mb3.7, mpv3.0, 4C-4D, Error ellipse: s-maj=68.3km s-min=8.8km az=138.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.84**	**228**	⇑P	Pg	07 52 08.5	-0.1
	0.4nm,0.2s						
ZAA0				⇑S	Sg	07 52 20.7	+1.1
	2.4nm,0.4s						
KURK	**Kurchatov**	**5.83**	**232**	⇓Pn	Pn	07 53 21.6	+1.5
	1.2nm,0.5s						
KURK				⇓Lg	Lg	07 54 57.4	
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.94**	**232**	⇓Pn	Pn	07 53 23.6	+1.9
	3.4nm,0.4s						
KURBB				⇓Sn	Sn	07 54 32.1	+1.8
	3.0nm,0.7s						
KURBB				⇑Lg	Lg	07 55 02.4	
	5.6nm,0.6s						
MK31	**Makanchi Array**	**8.06**	**198**	⇑Pn	Pn	07 53 51.7	+0.9
	0.4nm,0.3s,baz=17,slow=11,SNR=32						

IDC ***10*** *07:53:17.4±3.1, 13°.08S×166°.98E, h186km±28km, mb3.5/5, mbtmp4.0/6, Error ellipse: s-maj=36.3km s-min=21.2km az=132.0*
NOU ***10*** *07:53:37.0, 14°.54S×168°.09E, h139km, MLv4.3/10, Vanuatu Islands*

ISC 10 07:53:18.7±1.1, 13°.12S±0°.10×167°.1E±0°.2, h200km, n14, σ1s 24/15, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**7.86**	**200**	P	Pn	07 55 17.0	+6.9
MARNC	**Mare, Loyalty**	**8.36**	**174**	P	**Pn**	**07 55 15.2**	**-1.4**
YATNC	**Mamie plateau,**	**8.89**	**181**	P	**Pn**	**07 55 24.4**	**+0.9**
DZM	**Mont Dzumac**	**8.92**	**184**	P	**Pn**	**07 55 25.8**	**+1.8**
DZM	**Mont Dzumac**	**8.92**	**184**	P	**Pn**	**07 55 23.4**	**-0.6**
	7.2nm,0.5s,baz=75,slow=11,SNR=52						
DZM				S	**Sn**	**07 57 03.6**	**-0.5**
	7.3nm,0.9s,baz=256,slow=15,SNR=1.9						
NOUC	**Port Laguerre**	**8.96**	**185**	P	**Pn**	**07 55 26.9**	**+2.5**
OUENC	**Ouen Island, N**	**9.25**	**181**	P	**Pn**	**07 55 29.4**	**+1.3**
STKA	**Stephens Creek**	**29.93**	**227**	P	**P**	**07 59 08.1**	**0.0**
	2.7nm,0.5s,baz=53,slow=9.4,SNR=16						
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**32.08**	**253**	P	**P**	**07 59 26.4**	**-0.8**
	0.4nm,0.5s,baz=85,slow=9.0,SNR=6.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**33.11**	**247**	P	**P**	**07 59 34.7**	**-1.4**
	1.1nm,0.5s,baz=75,slow=9.2,SNR=33						
ASAR				ScP	**ScP**	**08 05 40.9**	**+0.9**
	0.7nm,0.8s,baz=72,slow=3.7,SNR=7.5						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**85.06**	**18**	P	**P**	**08 05 31.6**	**+0.2**
	0.8nm,0.6s,baz=238,slow=5.1,SNR=24						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**95.93**	**317**	P	**P**	**08 06 23.3**	**+0.5**
	0.2nm,0.6s,baz=73,slow=5.7,SNR=1.9						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**118.66**	**346**	PKP	**PKPdf**	**08 11 41.7**	**-0.5**
	1.1nm,0.6s,baz=57,slow=1.7,SNR=10						
FINES	**FINESS Array B**	**124.17**	**339**	PKP	**PKiKP**	**08 11 53.4**	**+0.1**
	0.6nm,0.6s,baz=108,slow=3.1,SNR=1.2						

TRN 10 08:14:46.8, 16°.31N×61°.75W, h182km, MD3.9, 1C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBE	**Ff, Capester**	**0.28**	**151**	*e*P	Pn	08 15 11.8	+0.6
CBE				*e*S	Sn	08 15 31.1	+1.1
ABD	**La Joyeuse, An**	**0.30**	**57**	*e*P	Pn	08 15 12.3	+1.1
ABD				*e*S	Sn	08 15 30.3	+0.4
TDBA	**Terre de Bas,**	**0.47**	**167**	*e*P	Pn	08 15 12.8	+1.0
MAGL	**Barre de l'ile**	**0.57**	**129**	⇑*e*P	Pn	08 15 13.5	+1.3
MLYT	**Lee's Yard**	**0.59**	**314**	*e*P	Pn	08 15 14.8	+2.5
MLYT				*e*S	Sn	08 15 33.4	+1.4
MBFL	**Flemmings, Mon**	**0.62**	**314**	*e*P	Pn	08 15 13.0	+0.6
MBFL				*e*S	Sn	08 15 33.0	+0.7
ANBD	**Bethesda, Anti**	**0.73**	**359**	*e*P	Pn	08 15 14.1	+1.1
ANBD				*e*S	Sn	08 15 32.7	-0.7
CXM	**Morne La Croix**	**1.59**	**159**	*e*P	Pn	08 15 21.1	+1.1
BAMF	**Morne Balai**	**1.60**	**159**	⇓*e*P	Pn	08 15 20.9	+0.9
GBMF	**Grand Be**	**1.61**	**159**	*e*P	Pn	08 15 20.8	+0.7
PML	**Morne Lenard**	**1.62**	**160**	*e*P	Pn	08 15 21.3	+1.1
FDF	**Fort de France**	**1.67**	**160**	*e*P	Pn	08 15 21.1	+0.3
FDF				*e*S	Sn	08 15 47.2	+0.

KNHH	**Kane Nui o Ham**	**0.12**	**104**		Pg	08 22 33.0	+0.4
MLH	**Mauna Loa**	**0.12**	**314**		Pg	08 22 32.3	-0.4
MLH	**Mauna Loa**	**0.12**	**314**	IAML		08 22 33.8	
	comp=N,211nm,4.3s						
MLH				IAML		08 22 36.3	
	comp=E,118nm,1.3s						
AIN	**Ainahou**	**0.16**	**258**		Pg	08 22 33.0	-0.3
AIN				IAML		08 22 33.8	
	comp=N,193nm,3.0s						
AIN				IAML		08 22 38.0	
	comp=E,179nm,0.7s						
HMH	**Humu'ula Sheep**	**0.27**	**317**	Pg	Pg	08 22 35.3	+0.1
HMH				IAML		08 22 38.5	
	comp=N,102nm,2.1s						
HMH				IAML		08 22 39.1	
	comp=E,117nm,2.4s						
JOKA	**Jonika Flow**	**0.27**	**84**		Sg	08 22 37.7	-1.1
MLOA	**Mauna Loa Obse**	**0.30**	**295**	Pg	Pg	08 22 35.4	-0.4
MWH	**Moku'aweowe**	**0.30**	**285**	Pg	Pg	08 22 34.5	-1.5
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg	08 22 36.5	-0.2
POHA	**Pohakuloa**	**0.42**	**327**	Pg	Pg	08 22 37.4	-0.6
HUH	**Hualalai**	**0.58**	**298**	Pg	Pg	08 22 41.6	+0.5
KHLU	**Kahalu`u**	**0.60**	**288**	Pg	Pg	08 22 40.3	-1.0
HPAH	**Hawaii Prepara**	**0.73**	**328**	Pg	Pg	08 22 44.1	+0.3

CATAC 10 08:35:38.9±2.5, 11°41N×83°59W, h138km±20km, ML3.3, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIFO	**Rio Frio, Sara**	**1.13**	**197**	*i* P	Pn	08 36 04.1	+0.3
RIFO				IAML		08 37 15.8	
	comp=Z,200nm,1.0s						
CPMI	**Catarata Coope**	**1.36**	**215**	*i* P	Pn	08 36 06.1	-0.2
CPMI				IAML		08 37 04.8	
	comp=Z,340nm,1.0s						
HAYA	**Volcan Irazu**	**1.44**	**190**	*i* P	Pn	08 36 07.3	-0.1
HAYA				IAML		08 36 08.5	
	comp=Z,250nm,1.0s						
OCM	**Ochomogo**	**1.54**	**194**	*i* P	Pn	08 36 07.8	-0.5
OCM				IAML		08 36 24.9	
	comp=Z,170nm,1.0s						
RIMA	**Rio Macho**	**1.65**	**189**	*i* P	Pn	08 36 09.0	-0.5
RIMA				IAML		08 36 10.9	
	comp=Z,140nm,1.0s						
LCR2	**La Lucha 2**	**1.70**	**194**	*i* P	Pn	08 36 09.9	-0.2
LCR2				IAML		08 36 09.9	
	comp=Z,180nm,1.0s						
VRLE	**La Escondida,**	**1.84**	**251**	*i* S	Sn	08 36 36.9	+0.3
CDM	**Cerro de Muert**	**1.85**	**185**	*i* P	Pn	08 36 11.6	-0.4
CDM				IAML		08 36 28.8	
	comp=Z,320nm,1.0s						
JACO	**JACO, Garabito**	**2.03**	**211**	*i* P	Pn	08 36 13.8	+0.1
JACO				IAML		08 36 29.1	
	comp=Z,320nm,1.0s						
HZTE	**Horizontes, Gu**	**2.08**	**251**	*i* P	Pn	08 36 14.4	+0.1
HZTE				IAML		08 36 50.2	
	comp=Z,350nm,1.0s						
ORTG	**Ortega, Santa**	**2.11**	**241**	*i* PA		08 36 14.3	
ORTG				IAML		08 36 55.8	
	comp=Z,150nm,1.0s						
POTG	**Potrero Grande**	**2.39**	**169**	*i* P	Pn	08 36 18.1	0.0
POTG				IAML		08 36 46.5	
	comp=Z,200nm,1.0s						
INDI	**Punta indio, G**	**2.42**	**231**	IAML		08 36 15.6	
	comp=Z,230nm,1.0s						
INDI				*i* P	Pn	08 36 18.6	+0.1

IDC 10 08:36:08.7±2.2, 54°52N×83°47E, h0km, mbtmp2.4/2, ML2.0/2, Error ellipse: s-maj=18.6km s-min=10.0km az=161.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**125**	I	I	08 41 37.6	
	baz=307,slow=333,SNR=2.5						
ZALV	**Zalesovo Beam**	**0.98**	**125**	Pg	Pg	08 36 27.2	-0.2
	1.2nm,0.3s,baz=306,slow=17,SNR=10						
ZALV				Lg	Lg	08 36 41.3	
	2.3nm,0.3s,baz=306,slow=29,SNR=16						
KURBB	**Kurchatov Arra**	**4.93**	**220**	Pn	Pn	08 37 24.2	+0.3
	baz=42,slow=14,SNR=2.4						
KURBB				Sn	Sn	08 38 20.9	-0.8
	baz=119,slow=41,SNR=1.7						
KURBB				Lg	Lg	08 38 43.9	
	baz=72,slow=6.1,SNR=1.5						
	0.1nm,0.2s						
MKAR	**Makanchi Array**	**7.77**	**186**	Pn	Pn	08 38 03.2	+0.2
	0.1nm,0.3s,baz=0.0,slow=0.4,SNR=2.6						
	0.2nm,0.5s						

UCR 10 08:36:36.0±1.3, 10°66N×84°99W, h6km±4km, MW3.5, 12C-7D, Fault plane solution: NP1:ϕs224.01000°, δ79.45000°, λ-10.73000°, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUI	**Cuipilapa**	**0.17**	**270**	↑*iP*	Pg	08 36 40.3	+0.9
CUI				*eS*	Sg	08 36 43.3	+1.6
VMAR	**Armenia, Volca**	**0.19**	**323**	↑*eP*	Pg	08 36 41.1	+1.2
COLC	**Colonia**	**0.21**	**272**	↑*iP*	Pg	08 36 41.0	+0.9
COLC				*eS*	Sg	08 36 44.7	+1.8
VERA	**Finca Concepci**	**0.23**	**32**	↓*iP*	Pg	08 36 41.4	+0.8
CNAS	**Canas**	**0.24**	**203**	↓*eP*	Pg	08 36 42.5	+1.7
CNAS				*eS*	Sg	08 36 46.8	+2.7
ARE1	**Arenal 1**	**0.33**	**126**	↑*iP*	Pg	08 36 43.3	+0.7
VACR	**Volcan Arenal**	**0.36**	**121**	↑*iP*	Pg	08 36 43.7	+0.7
VACR				*eS*	Sb	08 36 49.7	-1.1
JTS	**Las Juntas de**	**0.37**	**174**	↓*iP*	Pg	08 36 43.1	-0.1
JTS				*eS*	Sg	08 36 48.1	+0.1
JUNT	**Juntas**	**0.38**	**175**	↓*iP*	Pg	08 36 43.2	-0.1
JUNT				*eS*	Sg	08 36 48.3	+0.1
TUNA	**La Fortuna**	**0.39**	**119**	↑*iP*	Pb	08 36 45.2	-0.1
SOCE	**Pocosol**	**0.46**	**126**	↑*eP*	Pg	08 36 44.9	0.0
SOCE				*eS*	Sg	08 36 51.7	+0.8
LCHIL	**Los Chiles**	**0.47**	**36**	↑*eP*	Pb	08 36 46.4	-0.3
PLVR	**Palo Verde**	**0.47**	**229**	*eP*	Pg	08 36 45.6	+0.6
PLVR				*eS*	Sg	08 36 52.4	+1.2
ORTG	**Ortega, Santa**	**0.54**	**237**	↑*iP*	Pg	08 36 46.8	+0.2
ORTG				*eS*	Sg	08 36 54.8	+1.2
ELI1	**Hacienda Flor**	**0.55**	**269**	↑*iP*	Pg	08 36 47.2	+0.6
ELI1				*eS*	Sb	08 36 56.1	-0.1
COVE	**Coope Vega, Sa**	**0.58**	**84**	*eP*	Pg	08 36 46.8	-0.5
HZTE	**Horizontes, Gu**	**0.59**	**275**	↑*eP*	Pb	08 36 48.2	-0.6
HZTE				*eS*	Sb	08 36 56.9	-0.5
NYURE	**Nandayure**	**0.70**	**201**	↓*iP*	Pg	08 36 50.1	+0.5
NYURE				*eS*	Sb	08 37 00.0	-0.6
CPMI	**Catarata Coope**	**0.71**	**122**	↑*iP*	Pg	08 36 49.5	-0.2
CPMI				*eS*	Sg	08 36 59.7	+0.8
ARZA	**Esparza**	**0.74**	**154**	*eP*	Pb	08 36 50.9	-0.3
ITAL	**Pital**	**0.74**	**106**	*eP*	Pg	08 36 49.4	-0.9
LCRUZ	**La Cruz**	**0.75**	**304**	*eP*	Pn	08 36 53.4	+0.2
TRB2	**Turrubares**	**0.91**	**144**	*eP*	Pg	08 36 52.9	-0.7
TRB2				*eS*	Sg	08 37 05.2	-0.3
INDI	**Punta indio, G**	**0.93**	**212**	*eP*	Pg	08 36 53.9	0.0
BELE	**Belen**	**1.04**	**130**	↓*iP*	Pg	08 36 55.9	-0.1
BELE				*eS*	Sb	08 37 10.2	-0.3
JACO	**JACO, Garabito**	**1.04**	**162**	*eP*	Pg	08 36 55.0	-1.0
JACO				*eS*	Sg	08 37 09.2	-0.3
HDC	**Heredia**	**1.08**	**127**	*eP*	Pn	08 36 57.6	-0.3
HDC3	**Heredia 3**	**1.09**	**127**	*eP*	Pn	08 36 57.6	-0.2
RIFO	**Rio Frio, Sara**	**1.11**	**108**	*eP*	Pg	08 36 56.2	-1.1
DOMI	**Santo Domingo**	**1.11**	**127**	*eP*	Pg	08 36 57.4	0.0
OCM	**Ochomogo**	**1.27**	**127**	*eP*	Pg	08 36 59.2	-1.2
CARI	**Cariari**	**1.27**	**103**	*eP*	Pn	08 36 58.9	-1.4
CARI				*eS*	Sg	08 37 16.4	-0.5
ACON	**Acoyapa**	**1.31**	**352**	*eP*	Pn	08 36 59.9	-1.0
ACON				*eS*	Sb	08 37 18.2	0.0
VICA	**Volcano Irazu**	**1.31**	**121**	*eP*	Pg	08 36 59.6	-1.7
LCR2	**La Lucha 2**	**1.33**	**133**	*eP*	Pn	08 37 00.7	-0.6
CVTQ	**Turrialba Volc**	**1.37**	**118**	*eP*	Pn	08 37 00.8	-1.3
PCAYA	**Pacayas**	**1.38**	**122**	*eP*	Pn	08 37 02.0	0.0
REPA	**Paraso**	**1.38**	**127**	*eP*	Pg	08 37 02.7	+0.1
VTLO	**VTLO**	**1.39**	**116**	*eP*	Pn	08 37 00.7	-1.5
RIMA	**Rio Macho**	**1.42**	**128**	*eP*	Pn	08 37 01.2	-1.3
VERB	**Verbena**	**1.46**	**119**	*eP*	Pn	08 37 02.3	-0.7
CDM	**Cerro de Muert**	**1.64**	**132**	*eP*	Pn	08 37 04.6	-1.1
BUS1	**Rivas**	**1.65**	**132**	↓*eP*	Pn	08 37 04.7	-1.1

IDC 10 09:07:27.4±4.5, 54°01N×90°48E, h0km, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=44.7km s-min=30.0km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.34**	**271**	Pn	Pn	09 08 20.0	-0.8
	0.2nm,0.3s,baz=83,slow=15,SNR=1.9						
ZALV				Lg	Lg	09 09 14.4	
	0.5nm,0.3s,baz=102,slow=28,SNR=3.4						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**8.07**	**250**	Pn	Pn	09 09 25.1	-0.6
	0.1nm,0.3s,baz=65,slow=14,SNR=1.5						
KURBB				Lg	Lg	09 11 44.9	
	baz=62,slow=31,SNR=4.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.91**	**219**	Pn	Pn	09 09 38.7	+1.4
	baz=29,slow=18,SNR=2.0						
MKAR				Lg	Lg	09 12 07.3	
	baz=30,slow=32,SNR=3.6						
	0.2nm,0.6s						
I34MN	**SONGINO INFRAS**	**11.81**	**115**	I	I	10 14 40.0	
	baz=308,slow=330,SNR=0.7						

*KRSC **10** 09:08:24.6±0.8, 52°.89N×159°.52E, h104km±5km, Ml3.6*
*IDC **10** 09:08:26.2±1.8, 53°.16N×159°.27E, h119km±10km, mb3.1/4, mbtmp3.5/4, Error ellipse: s-maj=38.9km s-min=29.6km az=173.0*

ISC 10 09:08:25.0±1.0, 52°.87N±0°.06×159°.48E±0°.07, h109km±6km, n28, σ0°.96/42, mb3.4/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.31**	**345**	*eP*	**Pn**	**09 08 40.4**	**-0.3**
NLC				*eS*	**Sn**	**09 08 51.7**	**-0.7**
SPN	**Mys Shipunski**	**0.40**	**55**	*eP*	**Pn**	**09 08 41.3**	**+0.2**
SPN				*eS*	**Sn**	**09 08 52.6**	**-0.6**
DALK	**Dalny**	**0.47**	**291**	*iP*	**Pn**	**09 08 41.9**	**+0.4**
DALK				*iS*	**Sn**	**09 08 53.4**	**-0.5**
UGLR	**Uglovaya**	**0.52**	**311**	*eP*	**Pn**	**09 08 42.9**	**+0.9**
UGLR				*eS*	**Sn**	**09 08 55.1**	**+0.3**
PET	**Petropavlovsk**	**0.52**	**288**	*eP*	**Pn**	**09 08 42.2**	**+0.4**
PET				*eS*	**Sn**	**09 08 54.3**	**-0.3**
SMAR	**Somma**	**0.57**	**314**	*eP*	**Pn**	**09 08 43.5**	**+1.0**
AVH	**Avacha**	**0.60**	**312**	*eP*	**Pn**	**09 08 43.5**	**+1.0**
AVH				*eS*	**Sn**	**09 08 56.8**	**+1.1**
KOK	**Koryaka**	**0.66**	**310**	*eP*	**Pn**	**09 08 43.7**	**+0.6**
KOK				*eS*	**Sn**	**09 08 57.2**	**+0.6**
KRX	**Arik**	**0.70**	**315**	*eP*	**Pn**	**09 08 44.2**	**+0.8**
KRX				*eS*	**Sn**	**09 08 57.3**	**0.0**
KRMR	**Karymshinskiy**	**0.82**	**268**	*eP*	**Pn**	**09 08 44.6**	**+0.3**
KRMR				*eS*	**Sn**	**09 08 58.2**	**-0.6**
GRL	**Gorelyy**	**0.91**	**250**	*eP*	**Pn**	**09 08 46.4**	**+1.3**
GRL				*eS*	**Sn**	**09 09 01.4**	**+0.8**
ASAK	**Asacha**	**1.08**	**244**	*eP*	**Pn**	**09 08 48.3**	**+1.3**
PETK	**Petropavlovsk-**	**1.10**	**283**	P	**Pn**	**09 08 46.8**	**-0.4**
	7.9nm,0.4s,baz=82,slow=11,SNR=313						
PETK				S	**Sn**	**09 09 04.7**	**+0.7**
	21nm,0.8s,baz=113,slow=15,SNR=6.0						
KII	**Karymskiy**	**1.17**	**359**	*eP*	**Pn**	**09 08 48.3**	**+0.3**
KII				*eS*	**Sn**	**09 09 04.8**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.37**	**220**	*eP*	**Pn**	**09 08 50.8**	**+0.6**
KDTR				*eS*	**Sn**	**09 09 08.8**	**-0.4**
TUMD	**Tumrok D**	**2.40**	**13**	*eP*	**Pn**	**09 09 03.9**	**+0.8**
TUMD				*eS*	**Sn**	**09 09 31.9**	**-0.4**
TUMR	**Tumrok**	**2.45**	**9**	*eP*	**Pn**	**09 09 05.4**	**+1.6**
KMNR	**Kamenistaya**	**2.93**	**8**	*eP*	**Pn**	**09 09 11.2**	**+1.1**
BZP	**Bezymyannyi-Pe**	**3.11**	**11**	*eP*	**Pn**	**09 09 13.8**	**+1.2**
KPT	**Kopyto**	**3.13**	**8**	*eP*	**Pn**	**09 09 14.0**	**+1.2**
BZWR	**Bezymyannyi-We**	**3.16**	**10**	*eP*	**Pn**	**09 09 15.0**	**+1.9**
SRDR	**Sredinnyy**	**3.46**	**2**	*eP*	**Pn**	**09 09 16.7**	**-0.4**
KBTR	**Krutoberegovo**	**3.87**	**29**	*eP*	**Pn**	**09 09 23.4**	**+0.9**
SMKR	**Semkarok**	**3.90**	**16**	*eP*	**Pn**	**09 09 24.3**	**+1.3**
MJAR	**Matsushiro Arr**	**22.12**	**231**	P	**P**	**09 13 12.5**	**+1.1**
	1.1nm,0.6s,baz=16,slow=11,SNR=2.1						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**47.64**	**302**	P	**P**	**09 16 47.8**	**-2.0**
	0.4nm,0.5s,baz=57,slow=7.6,SNR=2.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**47.92**	**295**	P	**P**	**09 16 50.2**	**-1.8**
	0.4nm,0.4s,baz=58,slow=6.7,SNR=11						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**71.07**	**66**	P	**P**	**09 19 31.9**	**+0.5**
	0.1nm,0.4s,baz=324,slow=5.9,SNR=2.1						
	0.1nm,0.4s						

*CATAC **10** 09:10:40.3±2.3, 9°.58N×82°.52W, h213km±24km, ML2.4*

UPA 10 09:10:48.4±3.3, 9°.57N×82°.28W, h11km±12km, MW2.9, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	**El Empalme, Bo**	**0.24**	**232**	↓*iP*	Pb	09 10 54.6	-0.2
CNI2				*eS*	Sg	09 10 59.8	+3.0
CHGR2	**Aguacate**	**0.64**	**168**	*eP*	Pg	09 11 01.2	+0.3
CHGR2				*eS*	Sb	09 11 11.3	+0.6
BRU2	**Volcan**	**0.87**	**208**	*eP*	Pg	09 11 04.3	-1.0
BRU2				*eS*	Sg	09 11 16.8	0.0
BRU2	**Volcan**	**0.87**	**208**	*iP*	Pn	09 11 10.7	+3.9
BRU2				IAML		09 11 18.5	
	comp=Z,210nm,1.0s						
BCO2	**Palmira**	**0.88**	**196**	↓*iP*	Pg	09 11 04.5	-1.0
BCO2				*eS*	Sb	09 11 17.6	-0.1
CDITO	**Canoas**	**1.15**	**211**	*eP*	Pb	09 11 09.1	-1.3
CDITO				*eS*	Sb	09 11 25.1	-0.3
CDITO	**Canoas**	**1.15**	**211**	*iP*	Pg	09 11 11.9	+1.3
CDITO				IAML		09 11 28.0	
	comp=Z,140nm,1.0s						
OCHAL	**Ojochal**	**1.43**	**251**	*iP*	Pn	09 11 12.8	-1.5
OCHAL				IAML		09 11 56.4	
	comp=Z,2.1nm,1.0s						
CDM	**Cerro de Muert**	**1.47**	**269**	*iP*	Pn	09 11 13.2	-2.0
CDM				IAML		09 11 31.7	
	comp=Z,42nm,1.0s						
PTPM	**Petroterminale**	**1.48**	**204**	*eP*	Pg	09 11 16.9	0.0
PTPM				*eS*	Sg	09 11 36.6	+0.4
LCR2	**La Lucha 2**	**1.71**	**276**	*iP*	Pn	09 11 15.0	-3.4
LCR2				IAML		09 11 24.5	
	comp=Z,40nm,1.0s						
BCIP	**Isla Barro Col**	**2.44**	**99**	IAML		09 11 25.1	
	comp=Z,58nm,1.0s						
BCIP				*iP*	Pn	09 11 27.1	-1.1
BCIP				*iS*	Sb	09 12 04.1	+1.6

*IDC **10** 09:33:07.2±0.8, 39°.34N×73°.63E, h0km, mb3.8/12, mbtmp3.8/18, ML3.1/6, Error ellipse: s-maj=16.1km s-min=12.3km az=109.0*
*KRNET **10** 09:33:09.0±0.1, 39°.56N×73°.76E, h13km, mb4.1*
*SOME **10** 09:33:09.6, 39°.65N×73°.62E, h5km*
*NNC **10** 09:33:14.3±0.9, 39°.78N×73°.70E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=6.8km s-min=4.2km az=176.0*

ISC 10 09:33:07.9±1.4, 39°.57N±0°.04×73°.80E±0°.02, h1km±8km, n106, σ1°.99/141, mb3.9/12, 36C-24D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.50**	**332**	↑*eP*	**Pg**	**09 33 18.7**	**+1.2**
	baz=36						
SFK				↑*eS*	**Sg**	**09 33 26.1**	**+2.2**
	baz=36						
OHH	**Osh**	**1.23**	**321**	↓*eP*	**Pb**	**09 33 32.1**	**+0.1**
	baz=22						
OHH				↓*eS*	**Sg**	**09 33 49.6**	**+2.2**
	baz=22						
DRK	**Karamyk**	**1.55**	**267**	↓*eP*	**Pg**	**09 33 38.0**	**+0.3**
	baz=68						
DRK				↓*eS*	**Sg**	**09 33 58.5**	**+0.7**
	baz=68						
ARSB	**Arslanbob**	**1.86**	**341**	↑*eP*	**Pb**	**09 33 43.7**	**+0.9**
	baz=42						
ARSB				↑*eS*	**Sg**	**09 34 09.0**	**+1.4**
	baz=42						
ARLS	**Aral**	**2.32**	**10**	↓*eP*	**Pb**	**09 33 50.8**	**+0.1**
	baz=10.0						
ARLS				↓*eS*	**Sb**	**09 34 21.4**	**+1.5**
	baz=10.0						
BTK	**Batken**	**2.35**	**283**	↑*eP*	**Pb**	**09 33 50.4**	**-0.7**
	baz=83						
BTK				↑*eS*	**Sb**	**09 34 20.6**	**0.0**
	baz=83						
NRN	**Naryn**	**2.50**	**41**	↑*eP*	**Pb**	**09 33 53.4**	**-0.5**
	baz=41						
NRN				↑*eS*	**Sb**	**09 34 25.8**	**+0.5**
	baz=41						
AML	**Almayashu**	**2.56**	**358**	P	**Pb**	**09 33 55.1**	**+0.3**
	SNR=255						
AML	**Almayashu**	**2.56**	**358**	↓Pn	**Pb**	**09 33 55.2**	**+0.3**
	9.1nm,0.6s						
AML				↓Lg	Lg	09 34 30.1	
	76nm,0.7s						
AML	**Almayashu**	**2.56**	**358**	↑*iP*	**Pb**	**09 33 54.3**	**-0.5**
	baz=59						
AML				↑*iS*	**Sb**	**09 34 27.3**	**+0.4**
	baz=59						
UCH	**Uchtor**	**2.71**	**11**	P	**Pb**	**09 33 57.9**	**+0.5**
	SNR=180						
UCH	**Uchtor**	**2.71**	**11**	↑*eP*	**Pb**	**09 33 56.4**	**-1.0**
	baz=12						
UCH				↑*iS*	**Sb**	**09 34 30.7**	**-0.6**
	baz=12						
KZA	**Kyzart**	**2.73**	**23**	P	**Pb**	**09 33 58.3**	**+0.4**
	SNR=36						
KZA	**Kyzart**	**2.73**	**23**	↓*eP*	**Pb**	**09 33 56.9**	**-0.9**
	baz=24						
KZA				↓*iS*	**Sb**	**09 34 32.0**	**0.0**
	baz=24						
TRKS	**Terek-Say**	**2.82**	**315**	↑*eP*	**Pb**	**09 33 56.7**	**-2.4**
	baz=15						
TRKS				↑*eS*	**Sb**	**09 34 31.1**	**-3.1**
	baz=15						
EKS2	**Erkin-Say**	**3.08**	**360**	P	**Pb**	**09 34 02.9**	**-0.8**
	SNR=36						
EKS2	**Erkin-Say**	**3.08**	**360**	↑*eP*	**Pb**	**09 34 01.4**	**-2.3**
	baz=0.0						
EKS2				↑*iS*	**Sb**	**09 34 39.6**	**-2.3**
	baz=0.0						
AAK	**Ala-Archa**	**3.11**	**9**	P	**Pb**	**09 34 03.8**	**-0.3**
	SNR=41						
AAK	**Ala-Archa**	**3.11**	**9**	Pn	**Pb**	**09 34 03.7**	**-0.3**
	9.3nm,0.3s,baz=146,slow=7.1,SNR=68						
AAK					Sn	**Sg**	**09 34 46.0**	**-1.7**
	22nm,0.3s,baz=323,slow=20,SNR=8.3						
	31nm,0.3s						
AAK	**Ala-Archa**	**3.11**	**9**	↑*eP*	**Pb**	**09 34 01.8**	**-2.3**
	baz=10.0						
AAK				↑*iS*	**Sb**	**09 34 40.3**	**-2.2**
	baz=10.0						
MRKS	**Merke**	**3.20**	**352**	Pg	**Pb**	**09 34 04.9**	**-0.7**
	34nm,0.2s						
MRKS				Lg	Lg	09 34 44.7	
	599nm,0.3s						
MRKS	**Merke**	**3.20**	**352**	*eP*	**Pb**	**09 34 07.8**	**+2.2**
	34nm,0.3s						
MRKS				*eS*	**Sg**	**09 34 49.6**	**-1.1**
	599nm,0.3s						
KBK	**Karagaybulak**	**3.20**	**15**	P	**Pb**	**09 34 05.4**	**-0.3**
	SNR=41						
KBK	**Karagaybulak**	**3.20**	**15**	↑*iP*	**Pb**	**09 34 03.1**	**-2.6**
	baz=16						
KBK				↑*iS*	**Sb**	**09 34 42.6**	**-2.6**
	baz=16						
ULHL	**Ulahol**	**3.25**	**34**	P	**Pb**	**09 34 05.9**	**-0.6**
	SNR=21						
ULHL	**Ulahol**	**3.25**	**34**	↑*eP*	**Pb**	**09 34 03.9**	**-2.6**
	baz=34						
ULHL				↑*iS*	**Sb**	**09 34 44.1**	**-2.5**
	baz=34						
CHMS	**Chumysh**	**3.50**	**11**	P	**Pb**	**09 34 08.5**	**-2.2**
	SNR=11						
CHMS	**Chumysh**	**3.50**	**11**	↓Pn	**Pb**	**09 34 08.4**	**-2.2**
	29nm,0.6s						
CHMS				Pg	Pg	09 34 24.8	+10
	105nm,0.1s						
CHMS				↑Lg	Lg	09 35 01.3	
	210nm,0.8s						
CHMS				Lg	Lg	09 35 18.9	
	389nm,0.2s						
CHMS	**Chumysh**	**3.50**	**11**	↑*iP*	**Pn**	**09 34 07.1**	**+3.6**
	baz=12						
CHMS				↑*iS*	**Sb**	**09 34 49.5**	**-4.1**
	baz=12						
TKM2	**Tokmak 2**	**3.61**	**21**	P	**Pb**	**09 34 10.5**	**-2.2**
	SNR=44						
TKM2	**Tokmak 2**	**3.61**	**21**	↓Pn	**Pb**	**09 34 10.2**	**-2.4**
	24nm,0.5s						
TKM2				↓Lg	Lg	09 35 04.8	
	100nm,0.7s						
TKM2	**Tokmak 2**	**3.61**	**21**	↑*iP*	**Pn**	**09 34 08.9**	**+3.7**
	baz=22						
TKM2				↑*iS*	**Sb**	**09 34 52.6**	**-4.4**
	baz=22						
USP	**Ospenovka**	**3.73**	**8**	P	**Pb**	**09 34 11.9**	**-2.7**
	SNR=8.7						
USP	**Ospenovka**	**3.73**	**8**	↑*eP*	**Pn**	**09 34 10.3**	**+3.7**
	baz=8.0						
USP				↑*iS*	**Sn**	**09 34 55.0**	**+3.8**
	baz=8.0						
DZA	**Taraz**	**3.80**	**331**	Pg	**Pb**	**09 34 17.3**	**+1.4**
	110nm,0.1s						
DZA				Lg	Lg	09 35 06.1	
	608nm,0.4s						
DZA	**Taraz**	**3.80**	**331**	*eP*	**Pb**	**09 34 17.3**	**+1.4**
	110nm,0.1s						
DZA				*eS*	**Sb**	**09 35 06.1**	**+3.7**
	608nm,0.4s						
KST	**Kastek**	**3.83**	**24**	Pg	**Pg**	**09 34 20.8**	**-0.6**
	28nm,0.4s						
KST				Lg	Lg	09 35 12.1	
	227nm,0.6s						
KST	**Kastek**	**3.83**	**24**	*eP*	**Pg**	**09 34 20.8**	**-0.6**
	28nm,0.4s						
KST				*eS*	**Sg**	**09 35 12.1**	**+1.2**
	227nm,0.6s						
SGDS	**Sogindy**	**3.92**	**9**	Pg	**Pg**	**09 34 21.9**	**-1.2**
	28nm,0.5s						
SGDS				Lg	Lg	09 35 14.0	
	138nm,0.5s						
DGS

	152nm,0.3s								
ANVS	**Anan'yevo**	**4.33**	**41**	⇑	*e*P	**Pn**	09 34 19.1	+4.0
	baz=41								
ANVS				⇑	*e*S	**Sn**	09 35 10.3	+3.9
	baz=41								
MDOK	**Medeo**	**4.34**	**33**	⇑	Pn	**Pb**	09 34 21.3	-3.8
	21nm,0.5s								
MDOK					Pg	**Pg**	09 34 30.5	-0.6
	20nm,0.4s								
MDOK				⇑	Lg	Lg	09 35 28.4		
	121nm,0.7s								
MDOK					Lg	Lg	09 35 28.5		
	83nm,0.5s								
MDOK	**Medeo**	**4.34**	**33**	*e*	P	**Pg**	09 34 30.5	-0.6
	20nm,0.4s								
MDOK					*e*S	**Sg**	09 35 28.5	+1.2
	83nm,0.5s								
KNDC	**Almaty**	**4.35**	**32**	⇑	Pn	**Pb**	09 34 22.1	-3.1
	84nm,0.6s								
KNDC				⇓	Lg	Lg	09 35 29.2		
	316nm,0.6s								
KRBS	**Karabastau**	**4.35**	**18**		Pg	**Pg**	09 34 30.3	-1.0
	24nm,0.3s								
KRBS					Lg	Lg	09 35 28.5		
	159nm,0.4s								
KRBS	**Karabastau**	**4.35**	**18**		*e*P	**Pg**	09 34 30.3	-1.0
	24nm,0.3s								
KRBS					*e*S	**Sg**	09 35 28.5	+0.8
	159nm,0.4s								
KOTS	**Kotyrbulak**	**4.42**	**33**		Pg	**Pg**	09 34 32.5	-0.2
	23nm,0.4s								
KOTS					Lg	Lg	09 35 31.7		
	289nm,0.6s								
KOTS	**Kotyrbulak**	**4.42**	**33**		*e*P	**Pg**	09 34 32.5	-0.2
	23nm,0.4s								
KOTS					*e*S	**Sg**	09 35 31.8	+1.7
	289nm,0.6s								
KTBS	**Karatobe**	**4.66**	**27**		Pg	**Pg**	09 34 35.9	-1.4
	13nm,0.5s								
KTBS					Lg	Lg	09 35 37.9		
	137nm,0.4s								
KTBS	**Karatobe**	**4.66**	**27**		*e*P	**Pg**	09 34 35.9	-1.4
	13nm,0.5s								
KTBS					*e*S	**Sg**	09 35 37.9	+0.1
	137nm,0.4s								
KUU	**Kurty**	**4.71**	**23**		Pg	**Pg**	09 34 36.4	-1.9
	27nm,0.2s								
KUU					Lg	Lg	09 35 38.8		
	94nm,0.5s								
KUU	**Kurty**	**4.71**	**23**		*e*P	**Pg**	09 34 36.4	-1.9
	27nm,0.2s								
KUU					*e*S	**Sg**	09 35 38.8	-0.5
	94nm,0.5s								
CHKK	**Chushkaly**	**4.90**	**28**		Pg	**Pg**	09 34 40.0	-1.7
	28nm,0.3s								
CHKK					Lg	Lg	09 35 44.9		
	61nm,0.7s								
CHKK	**Chushkaly**	**4.90**	**28**		*e*P	**Pg**	09 34 40.0	-1.7
	28nm,0.3s								
CHKK					*e*S	**Sg**	09 35 44.9	-0.3
	61nm,0.7s								
SATY	**Saty**	**4.91**	**43**		Pg	**Pg**	09 34 41.2	-0.9
	27nm,0.3s								
SATY					Lg	Lg	09 35 46.7		
	87nm,0.5s								
SATY	**Saty**	**4.91**	**43**	*e*	P	**Pg**	09 34 41.2	-0.9
	27nm,0.3s								
SATY					*e*S	**Sg**	09 35 46.7	+0.9
	87nm,0.5s								
ZHN	**Zhinishke**	**5.00**	**43**		Pg	**Pg**	09 34 43.1	-0.7
	9.5nm,0.3s								
ZHN					Lg	Lg	09 35 50.3		
	50nm,0.4s								
KURS	**Kuram**	**5.10**	**39**		Pg	**Pg**	09 34 45.0	-0.7
	11nm,0.5s								
KURS					Lg	Lg	09 35 53.7		
	53nm,0.7s								
KURS	**Kuram**	**5.10**	**39**		*e*P	**Pg**	09 34 45.0	-0.7
	11nm,0.5s								
KURS					*e*S	**Sg**	09 35 53.7	+1.9
	53nm,0.7s								
UZB	**Uzynbulak**	**5.31**	**46**		Pg	**Pg**	09 34 48.9	-0.7
	15nm,0.3s								
UZB					Lg	Lg	09 36 00.2		
	32nm,0.4s								
KPKS	**Kokpek**	**5.34**	**42**		Pg	**Pg**	09 34 49.4	-0.9
	17nm,0.4s								
KPKS					Lg	Lg	09 36 00.8		
	73nm,0.5s								
BTLS	**Baital**	**5.47**	**2**		Pg	**Pg**	09 34 50.3	-2.4
	13nm,0.4s								
BTLS					Lg	Lg	09 36 02.7		
	39nm,0.4s								
ARXS	**Arharly**	**5.52**	**32**		Pg	**Pg**	09 34 51.3	-2.4
	13nm,0.5s								
ARXS					Lg	Lg	09 36 04.5		
	112nm,0.5s								
SHLS	**Shalkode**	**5.56**	**48**		Pg	**Pg**	09 34 58.2	+3.7
	18nm,0.4s								
SHLS					Lg	Lg	09 36 16.0		
	30nm,0.4s								
PDGK	**Podgornoye**	**5.69**	**47**		Pg	**Pg**	09 34 55.0	-1.9
	5.2nm,0.4s								
PDGK					Lg	Lg	09 36 10.5		
	16nm,0.5s								
PDGK	**Podgornoye**	**5.69**	**47**	⇑	Pn	**Pn**	09 34 38.4	+4.8
	9.3nm,0.6s								
PDGK				⇓	Lg	Lg	09 36 14.2		
	53nm,0.9s								
KNOS	**Konyrlen**	**6.24**	**38**		Pg	**Pg**	09 35 05.2	-2.2
	12nm,0.5s								
KNOS					Lg	Lg	09 36 28.4		
	21nm,0.3s								
TDK	**Taldyqorghan**	**6.41**	**31**		Pg	**Pg**	09 35 08.8	-1.9
	40nm,0.2s								
TDK					Lg	Lg	09 36 34.1		
	106nm,0.7s								
DJR	**Jarkent**	**6.52**	**41**		Pg	Pg	09 35 09.0	-3.8
	3.0nm,0.2s								
DJR					Lg	Lg	09 36 36.5		
	25nm,0.4s								
KAPS	**Kapalarasan**	**7.03**	**34**		Pg	**Pg**	09 35 20.9	-1.7
	5.3nm,0.3s								
KAPS					Lg	Lg	09 36 54.8		
	19nm,0.5s								
OTUK	**Ortayu**	**8.73**	**354**	⇓	Pn	**Pn**	09 35 18.9	+3.6
	4.7nm,0.8s								
OTUK				⇓	Lg	Lg	09 37 46.5		
	32nm,0.7s								
MAKZ	**Makanchi**	**9.37**	**37**	⇓	Lg	Lg	09 38 11.2		
	13nm,1.4s								
MK31	**Makanchi Array**	**9.51**	**38**	⇓	Pn	Pn	09 35 31.8	+5.9
	1.2nm,0.6s,baz=217,slow=14,SNR=6.8								
MK31				⇓	Lg	Lg	09 38 14.4		
	3.0nm,0.7s,baz=227,slow=24,SNR=4.6								
MKAR	**Makanchi Array**	**9.51**	**38**		Pn	Pn	09 35 31.5	+5.6
	0.1nm,0.3s,baz=232,slow=16,SNR=4.4								
MKAR					Lg	Lg	09 38 08.7		
	0.1nm,0.3s,baz=220,slow=24,SNR=1.9								
	0.5nm,0.7s								
BRZS	**Berezniki**	**10.44**	**356**		Pg	Pn	09 36 20.4	+42
	2.8nm,0.7s								
BRZS					Lg	Lg	09 38 37.4		
	13nm,0.6s								
KURBB	**Kurchatov Arra**	**11.54**	**15**	⇑	Lg	Lg	09 39 18.0		
	63nm,1.2s								
KURBB	**Kurchatov Arra**	**11.54**	**15**		Pn	**Pn**	09 35 56.3	+2.6
	baz=201,slow=12,SNR=2.8								
KURBB					Sn	**Sn**	09 38 04.5	+1.3
	baz=266,slow=16,SNR=1.7								
KURBB					Lg	Lg	09 39 13.9		
	0.1nm,0.3s,baz=192,slow=30,SNR=7.2								
	0.3nm,0.6s								
KURK	**Kurchatov**	**11.65**	**15**	⇓	Lg	Lg	09 39 19.2		
	57nm,1.4s								
GEYT	**Alibeck**	**12.36**	**267**		Pn	**Pn**	09 36 01.3	-3.6
	0.3nm,0.3s,baz=93,slow=23,SNR=1.5								
GEYT					Sn	**Sn**	09 38 21.4	-1.9
	0.4nm,0.3s,baz=177,slow=10,SNR=1.4								
	0.9nm,0.4s								
BVAR	**Borovoye Array**	**13.66**	**351**		Pn	**Pn**	09 36 22.9	+0.2
	0.1nm,0.3s,baz=165,slow=12,SNR=17								
BVAR					Lg	Lg	09 40 27.6		
	baz=150,slow=30,SNR=3.7								
	4.5nm,0.8s								
AKTO	**Aktyubinsk**	**15.54**	**320**		Sn	**Sn**	09 39 34.5	-6.3
	0.2nm,0.3s,baz=142,slow=15,SNR=1.7								
ZALV	**Zalesovo Beam**	**16.21**	**24**		Pn	**P**	09 36 59.1	-0.9
	0.4nm,0.3s,baz=220,slow=12,SNR=10								
	2.4nm,0.5s								
SONM	**Songino Array**	**24.82**	**60**		P	**P**	09 38 33.1	+1.4
	0.6nm,0.7s,baz=251,slow=9.0,SNR=3.5								
	0.6nm,0.7s								
AKASG	**Malin Array Be**	**32.88**	**305**		P	**P**	09 39 43.8	+0.5
	0.3nm,0.4s,baz=82,slow=7.1,SNR=2.8								
	0.3nm,0.4s								
FINES	**FINESS Array B**	**36.26**	**323**		P	**P**	09 40 13.5	+1.1
	1.4nm,0.4s,baz=108,slow=8.9,SNR=14								
	1.4nm,0.4s								
ARCES	**ARCESS Array B**	**39.21**	**335**		P	**P**	09 40 38.4	+1.1
	1.6nm,0.4s,baz=108,slow=8.4,SNR=21								
	1.6nm,0.4s								
HFS	**Hagfors**	**42.09**	**320**		P	**P**	09 41 01.2	+0.2
	2.0nm,0.5s,baz=94,slow=13,SNR=7.2								
	2.0nm,0.5s								
NB2	**NORSAR Subarra**	**43.32**	**321**		P	**P**	09 41 11.6	+0.4
	comp=Z,0.9nm,0.6s,baz=89,slow=7.9								
NOA	**NORSAR Array B**	**43.32**	**321**		P	**P**	09 41 11.7	+0.5
	comp=Z,1.1nm,0.7s,baz=91,slow=8.0,SNR=5.6								
	comp=Z,1.1nm,0.7s								
EKA	**Eskdalemuir Ar**	**51.66**	**315**		P	**P**	09 42 16.4	+0.4
	comp=Z,0.3nm,0.5s,baz=84,slow=7.9,SNR=3.5								
	comp=Z,0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**67.99**	**269**		P	**P**	09 44 07.0	-2.0
	comp=Z,0.5nm,0.6s,baz=37,slow=6.6,SNR=7.9								
	comp=Z,0.5nm,0.6s								
ILAR	**Eielson Array**	**71.21**	**17**		P	**P**	09 44 28.2	+0.2
	comp=Z,0.6nm,0.8s,baz=318,slow=4.1,SNR=7.8								
	comp=Z,0.6nm,0.8s								
YKA	**Yellowknife Ar**	**78.06**	**4**		P	**P**	09 45 07.7	-0.1
	comp=Z,0.3nm,0.6s,baz=351,slow=6.0,SNR=6.9								
	comp=Z,0.3nm,0.6s								
WRA	**Warramunga Arr**	**81.81**	**124**		P	**P**	09 45 28.2	-0.5
	comp=Z,1.3nm,0.6s,baz=326,slow=5.0,SNR=18								
	comp=Z,1.3nm,0.6s								
ASAR	**Alice Springs**	**84.26**	**127**		P	**P**	09 45 41.0	-0.4
	comp=Z,0.6nm,0.6s,baz=320,slow=5.0,SNR=10								
	comp=Z,0.6nm,0.6s								

*IDC **10** 09:34:56.6±1.0,52.11N×62.23E,h0km,mb3.3/1, mbtmp3.5/3,ML2.4/3,Error ellipse: s-maj=33.6km s-min=8.5km az=159.0*
ISC 10 09:34:57.5±1.0,52.08N±0.07×62.25E±0.06,h10km,n8, σ1s45/11,4C-2D,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKTO	**Aktyubinsk**	**3.13**	**240**	⇑	Pn	**Pb**	**09 35 51.4**	**-1.8**
	2.7nm,1.2s							
AKTO				⇓	Lg	Lg	09 36 37.8	
	4.4nm,1.0s							
AKTO	**Aktyubinsk**	**3.13**	**240**		Pn	**Pn**	**09 35 48.6**	**+1.8**
	0.1nm,0.3s,baz=36,slow=8.7,SNR=1.6							
AKTO					Pg	**Pb**	**09 35 54.3**	**+1.2**
	0.4nm,0.3s,baz=65,slow=12,SNR=4.8							
AKTO					Lg	Lg	09 36 34.9	
	0.7nm,0.3s,baz=7.6,slow=13,SNR=9.2							
I31KZ	**AKTYUBINSK INF**	**3.13**	**239**		I	I	09 58 20.0	
	baz=61,slow=339,SNR=1.1							
AB31	**Akbulak array**	**3.19**	**208**	⇑	Pn	**Pn**	**09 35 48.4**	**+0.8**
	0.3nm,0.3s,baz=26,slow=14,SNR=28							
AB31				⇓	Pg	**Pg**	**09 35 56.8**	**-1.7**
	2.0nm,0.6s,baz=24,slow=15,SNR=15							
AB31				⇑	Sn	**Sn**	**09 36 27.3**	**+1.7**
	1.6nm,0.5s,baz=148,slow=11,SNR=11							
AB31				⇑	Lg	Lg	09 36 36.7	
	5.1nm,0.5s,baz=25,slow=26,SNR=3.6							
ARU	**Arti**	**4.87**	**335**		Sn	**Sn**	**09 37 07.5**	**+0.5**
	1.0nm,0.3s,baz=297,slow=21,SNR=2.0							
ARU					Lg	Lg	09 37 29.3	
	0.7nm,0.3s,baz=14,slow=20,SNR=4.0							
BVAR	**Borovoye Array**	**5.06**	**76**		Pn	**Pn**	**09 36 14.0**	**+0.7**
	0.2nm,0.3s,baz=262,slow=13,SNR=19							
BVAR					Sn	**Sn**	**09 37 12.7**	**+1.0**
	baz=165,slow=12,SNR=1.3							
BVAR					Lg	Lg	09 37 35.9	
	0.1nm,0.3s,baz=252,slow=28,SNR=6.9							
	2.9nm,0.4s							
ZALV	**Zalesovo Beam**	**13.70**	**73**		Pn	**Pn**	**09 38 11.4**	**-0.3**
	0.2nm,0.3s,baz=272,slow=15,SNR=1.8							
	0.5nm,0.3s							
FINES	**FINESS Array B**	**21.65**	**310**		P	**P**	**09 39 46.8**	**-0.9**
	0.7nm,0.5s,baz=119,slow=11,SNR=7.2							
	0.7nm,0.5s							

*IDC **10** 09:52:28.3±0.9,34.71N×85.32E,h0km,mb3.7/9, mbtmp3.7/12,ML2.9/3,MS3.7/5,Error ellipse: s-maj=27.5km s-min=16.8km az=57.0*
*BJI **10** 09:52:31.0±0.0,34.65N×84.92E,h11km,mb4.1/6, mB4.6/2,ML3.6/3,Ms4.0/2,Ms7 3.5/1*
ISC 10 09:52:30.2±0.9,34.8N±0.1×85.12E±0.09,h10km,n19, σ1s49/13,mb3.8/7,MS3.6/5,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GOMU	**GeErMu**	**8.03**	**77**		P	Pn	09 54 32.4	+5.1
GOMU					pP	Pb	09 54 37.2	-12
GOMU					sP	Pg	09 54 39.2	-25
GOMU					S	**Sn**	**09 55 58.9**	**+0.6**
GOMU					pmax	pmax		
	comp=Z,4.0nm,1.1s							
GOMU					LR	LR		
	comp=N,1μm,11.6s							
GOMU					LR	LR		
	comp=Z,440nm,14.1s							
KSH	**Kashi**	**8.68**	**305**		P	Pn	09 54 48.8	+13
KSH					sP	**Pg**	**09 55 14.4**	**-2.0**
KSH					S	Sg	09 56 48.6	-20
KSH					LR	LR		
	comp=N,590nm,11.6s							
KSH					LR	LR		
	comp=E,520nm,8.2s							
KSH					LR	LR		
	comp=Z,420nm,8.8s							
WMQ	**Urumqi**	**9.22**	**12**	*e*	P	Pn	09 54 50.0	+6.7
MKAR	**Makanchi Array**	**12.17**	**351**		Pn	**Pn**	**09 55 23.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=16							
MKAR					Lg	Lg	09 58 59.5	
	baz=166,slow=31,SNR=1.2							
	comp=Z,1.1nm,0.7s							
PZH	**PanZhiHua**	**16.51**	**116**		P	**P**	**09 56 25.0**	**+0.3**
PZH					pmax	pmax		
	comp=Z,10.0nm,1.2s							
PZH					pmax	pmax		
	comp=Z,100nm,6.1s							
KURBB	**Kurchatov Arra**	**16.52**	**345**		Pn	**Pn**	**09 56 21.4**	**-0.5**
	baz=163,slow=11,SNR=9.2							
	comp=Z,2.3nm,1.1s							
ZALV	**Zalesovo Beam**	**19.14**	**359**		P	**Pn**	**09 56 53.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=189,slow=8.6,SNR=2.1							
	comp=Z,1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**20.40**	**139**		P	Pn	09 57 06.1	-3.4
	comp=Z,1.0nm,0.4s,baz=318,slow=12,SNR=11							
	comp=Z,1.0nm,0.4s							
SONM	**Songino Array**	**20.53**	**44**		P	Pn	09 57 08.9	-2.0
	comp=Z,2.4nm,1.2s,baz=223,slow=8.8,SNR=2.5							
	comp=Z,2.4nm,1.2s							
BVAR	**Borovoye Array**	**21.00**	**335**		P	**P**	**09 57 14.7**	**+1.0**
	comp=Z,3.7nm,0.8s,baz=145,slow=13,SNR=9.3							
	comp=Z,3.7nm,0.8s							
GEYT	**Alibeck**	**21.94**	**286**		P	**P**	**09 57 25.8**	**+2.0**
	comp=Z,5.0nm,0.7s,baz=129,slow=12,SNR=5.8							
GEYT					LR	LR	10 07 50.0	
	comp=Z,165nm,19.1s,baz=98,slow=42							
	comp=Z,5.0nm,0.7s							
KBZ	**Khabaz**	**33.58**	**298**		LR	LR	10 15 58.1	
	comp=Z,104nm,18.8s,baz=229,slow=42							
EIL	**Elat**	**42.39**	**278**		LR	LR	10 20 44.5	
	comp=Z,47nm,19.7s,baz=68,slow=40							
AKASG	**Malin Array Be**	**42.95**	**309**		LR	LR	10 19 23.7	
	comp=Z,83nm,18.9s,baz=41,slow=37							
GERES	**GERESS Array B**	**53.14**	**309**		P	**P**	**10 01 50.7**	**+2.6**
	comp=Z,0.8nm,0.6s,baz=62,slow=6.8,SNR=3.6							
GERES					LR	LR	10 28 11.5	
	comp=Z,142nm,18.0s,baz=20,slow=40							
	comp=Z,0.8nm,0.6s							
WRA	**Warramunga Arr**	**71.76**	**131**		P	**P**	**10 03 51.0**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=327,slow=6.0,SNR=3.8							
	comp=Z,0.6nm,0.8s							
ILAR	**Eielson Array**	**72.77**	**21**		P	**P**	**10 03 58.2**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=292,slow=4.3,SNR=6.4							
	comp=Z,0.5nm,0.9s							
ASAR	**Alice Springs**	**74.32**	**134**		P	**P**	**10 04 06.6**	**-1.4**
	comp=Z,0.9nm,1.1s,baz=324,slow=4.6,SNR=4.2							
	comp=Z,0.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**77.28**	**277**		P	**P**	**10 04 25.0**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=45,slow=6.9,SNR=3.8							
	comp=Z,0.6nm,0.9s							

*KOLA **10** 10:00:47.1,68.16N×33.15E,h0km,ML2.2,Error ellipse: s-maj=2.3km s-min=1.6km az=90.0,Olenegorsk City, Mines*
*HEL **10** 10:00:47.0±0.2,68.16N×33.18E,h0km,ML1.8,Explosion*
*IDC **10** 10:00:50.3±2.8,68.02N×32.20E,h0km,mbtmp2.7/2, ML1.9/2,Error ellipse: s-maj=33.1km s-min=12.1km az=67.0*
ISC 10 10:00:46.0±0.8,68.14N±0.03×33.21E±0.03,h0km,n29, σ1s30/52,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APA0	**Apatity Array**	**0.54**	**189**		P	**Pg**	**10 00 56.8**	**+0.4**
APA0					S	**Sg**	**10 01 03.6**	**+0.2**
APA	**Apatity**	**0.58**	**173**		P	**Pg**	**10 00 57.5**	**+0.5**
APA					S	**Sg**	**10 01 05.4**	**+0.8**
LVZ	**Lovozero**	**0.59**	**113**		P	**Pg**	**10 00 57.9**	**+0.5**
LVZ					S	**Sb**	**10 01 07.2**	**-1.1**
LVZ	**Lovozero**	**0.59**	**113**		PG	**Pg**	**10 00 58.0**	**+0.5**
LVZ					SG	**Sg**	**10 01 06.2**	**+1.1**
TERR	**Teriberka**	**1.27**	**32**		P	**Pg**	**10 01 09.8**	**-0.6**
TERR					S	**Sg**	**10 01 25.8**	**-1.1**
VRF	**Varrio**	**1.42**	**256**		PG	**Pn**	**10 01 12.5**	**-0.5**
	baz=70							
VRF					MSG		10 01 29.5	
	comp=Z,7.1nm,0.2s							
VRF					SG	**Sg**	**10 01 30.4**	**-1.1**
VADS	**Vadso**	**2.42**	**327**		P	**Pn**	**10 01 27.1**	**+0.3**
VADS					S	**Sn**	**10 01 56.7**	**-0.4**
KU6	**Riekki**	**2.49**	**213**		PB	**Pn**	**10 01 29.3**	**+1.5**
	baz=29							
KU6					MSG		10 02 00.8	
	comp=Z,2.3nm,0.2s							
KU6					SG	**Sb**	**10 02 02.3**	**-0.4**
SGF	**Sodankyl**	**2.63**	**258**		PN	**Pn**	**10 01 30.4**	**+0.6**
SGF					SN	**Sn**	**10 02 02.4**	**0.0**
KEV	**Kevo**	**2.77**	**309**		PB	**Pn**	**10 01 32.9**	**+1.3**
KEV					SB	**Sn**	**10 02 06.9**	**+1.3**
KEV					MSG		10 02 07.8	
	comp=Z,4.8nm,0.2s							
MSF	**Maaselka**	**2.77**	**218**		PN	**Pn**	**10 01 33.5**	**+1.8**
MSF					SB	**Sb**	**10 02 10.6**	**-0.3**
ARA0	**ARCESS Array S**	**3.13**	**300**		PN	**Pn**	**10 01 37.2**	**+0.7**
	baz=117							
ARA0					SN	**Sn**	**10 02 14.9**	**+0.4**
ARCES	**ARCESS Array B**	**3.13**	**300**		P	**Pn**	**10 01 37.2**	**+0.7**
ARCES					S	**Sn**	**10 02 13.6**	**-0.9**
ARCES	**ARCESS Array B**	**3.13**	**300**		Pn	**Pn**	**10 01 37.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=118,slow=14,SNR=15							
ARCES					Sn	**Sn**	**10 02 13.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=118,slow=25,SNR=6.4							
ARCES					Lg	Lg	10 02 20.1	
	comp=Z,0.8nm,0.3s,baz=113,slow=34,SNR=3.5							
	comp=Z,0.7nm,0.4s							
RNF	**Rovaniemi**	**3.18**	**244**		PN	**Pn**	**10 01 38.0**	**+0.8**
	baz=58							
RNF					SN	**Sn**	**10 02 15.9**	**+0.1**
HEF	**Hetta**	**3.56**	**279**		PN	**Pn**	**10 01 42.8**	**+0.3**
HEF					SN	**Sn**	**10 02 24.5**	**-0.8**
KLF	**Kolari**	**3.64**	**260**		PN	**Pn**	**10 01 44.1**	**+0.5**
KLF					SG	**Sb**	**10 02 38.4**	**+2.5**
KTK1	**Kautokeino**	**3.76**	**288**		PN	**Pn**	**10 01 45.5**	**+0.3**
KTK1					SN	**Sn**	**10 02 31.6**	**+1.4**
PAJU	**Pajala**	**4.03**	**259**		PN	**Pn**	**10 01 49.1**	**+0.2**
PAJU					SN	**Sn**	**10 02 35.7**	**-1.0**
TOF	**Tornio**	**4.04**	**243**		PN	**Pn**	**10 01 48.7**	**-0.3**
TOF					SN	**Sn**	**10 02 36.1**	**-0.9**
RMF	**Romuvaara**	**4.16**	**200**		PN	**Pn**	**10 01 50.9**	**+0.2**
LANU	**Lannavaara**	**4.20**	**274**		PN	**Pn**	**10 01 51.1**	**-0.2**
LANU					SG	**Sb**	**10 02 56.0**	**+4.0**
OUL	**Oulu**	**4.23**	**227**		SB	**Sb**	**10 02 49.8**	**-2.9**
ERTU	**Ertsjaerv**	**4.55**	**255**		PN	**Pn**	**10 01 55.8**	**-0.2**
	baz=67							
ERTU					SN	**Sn**	**10 02 47.6**	**-1.9**
KIF	**Kilpisjarvi**	**4.63**	**287**		PN	**Pn**	**10 01 57.4**	**+0.2**
KIF					SN	**Sn**	**10 02 50.2**	**-1.4**
OBF4	**Vikkela, Lumij**	**4.66**	**228**		PN	**Pn**	**10 01 57.6**	**+0.1**
OBF4					SN	**Sn**	**10 02 51.2**	**-0.9**
FAUS	**Fauske**	**6.84**	**272**		S	**Sn**	**10 03 41.4**	**-4.5**
FINES	**FINESS Array B**	**7.38**	**208**		Pn	**Pn**	**10 02 34.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=34,slow=15,SNR=2.0							
FINES					Lg	Lg	10 04 31.2	
	comp=Z,0.1nm,0.3s,baz=16,slow=26,SNR=2.1							
	comp=Z,1.6nm,0.9s							
I43RU	**DUBNA INFRASON**	**11.61**	**169**		I	I	11 11 40.0	
	baz=358,slow=315,SNR=7.6							

*THE **10** 10:09:47.7,34.72N×25.17E,h0km±2km,ML3.1/3,Error ellipse: s-maj=3.6km s-min=0.8km az=199.0*
*ATH **10** 10:09:48.0,34.67N×25.16E,h15km±2km,ML3.2/4,Error ellipse: s-maj=4.0km s-min=1.1km az=1.0*
*AFAD **10** 10:09:50.0±0.0,35.01N×25.32E,h36km,ML2.9*
*GII **10** 10:09:50.2±0.6,34.62N±0.09×26.13E±0.03,h2km, Mws3.5,confirmed*
ISC 10 10:09:45.3±1.3,34.60N±0.07×25.31E±0.05,h77km±10km, n41,σ2s49/54,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FRMA	**Ierapetra Chan**	**0.54**	**40**		P	**Pn**	**10 10 00.5**	**+1.3**
FRMA					S	**Sn**	**10 10 10.8**	**+1.4**
	2μm,0.5s							
**

KNIK				S		Sn	10 11 32.8	-0.3
GOLH	**Golhisar**	**4.34**	**51**	P		Pn	10 10 51.2	+2.3
GOLH				S		Sn	10 11 38.0	-0.2
GOLH				*i* AML	AML		10 11 45.0	
	comp=E,20nm,0.5s							
GOLH				*i* AML	AML		10 11 46.0	
	comp=E,18nm,0.5s							
AKUM	**Antalya-Kumluc**	**4.45**	**66**	P		Pn	10 10 53.6	+3.3
AKUM				S		Sn	10 11 40.8	0.0
AKUM				*i* AML	AML		10 11 50.0	
	comp=E,10nm,0.3s							
AKUM				*i* AML	AML		10 12 10.0	
	comp=E,17nm,0.9s							
KEPZ	**Antalya-Kepez**	**5.61**	**64**	P		Pn	10 11 09.3	+3.1
KEPZ				S		Sn	10 12 07.7	-1.5
KEPZ				*i* AML	AML		10 12 13.0	
	comp=E,11nm,1.3s							
KEPZ				*i* AML	AML		10 12 33.0	
	comp=E,7.0nm,0.8s							
CSS	**Mathiatis**	**6.61**	**85**	P		Pn	10 11 19.3	-0.5
CSS	**Mathiatis**	**6.61**	**85**	S		Sn	10 12 28.4	-5.3
NATI	**Neve Ativ**	**8.77**	**96**	P		Pn	10 11 54.1	+4.8
NATI	**Neve Ativ**	**8.77**	**96**	S		Sn	10 13 25.7	-0.7
DSI	**Dead Sea**	**8.97**	**107**	P		Pn	10 11 53.3	+1.2
DSI	**Dead Sea**	**8.97**	**107**	S		Sn	10 13 29.4	-2.1
KRMI	**Paran Flat**	**9.13**	**117**	S		Sn	10 13 32.2	-3.3
KRMI	**Paran Flat**	**9.13**	**117**	P		Pn	10 11 56.1	+1.8
PRNI	**Paran**	**9.22**	**115**	S		Sn	10 13 35.4	-2.1
PRNI	**Paran**	**9.22**	**115**	P		Pn	10 11 55.8	+0.4
MBRI	**Mt Berech**	**9.44**	**118**	P		Pn	10 12 00.2	+1.6
MBRI	**Mt Berech**	**9.44**	**118**	S		Sn	10 13 40.4	-2.7
EIL	**Elat**	**9.54**	**118**	S		Sn	10 13 43.4	-1.9
EIL	**Elat**	**9.54**	**118**	P		Pn	10 12 00.6	+0.8

*IDC **10** 10:12:09.4±0.7,56°.75N×162°.95E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=21.8km s-min=18.0km az=170.0*
*KRSC **10** 10:12:09.9±1.1,56°.96N×163°.31E, h41km±16km, Ml4.8, Felt [II-III] at Ust-Kamchatsk; [II] at HMS cape Ozernoy.*
*MOS **10** 10:12:12.7±0.8,56°.96N×163°.12E, h45km, mb4.2/7, Error ellipse: s-maj=13.2km s-min=4.5km az=66.5*

ISC 10 10:12:10.1±1.4,**56°.96N**±0°.04×**163°.16E**±0°.03,**h1**km±9km, **n108,**σ1°38/118,**mb3.9**/14,**3C,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.75**	**200**	PN	**Pg**	**10 12 24.8**	**+0.3**
KBG				S	**Sg**	**10 12 35.4**	**+1.2**
KBG	**Krutoberegovo**	**0.75**	**200**	*e*P	**Pg**	**10 12 24.8**	**+0.3**
KBG				*e*S	**Sg**	**10 12 35.4**	**+1.2**
KBTR	**Krutoberegovo**	**0.78**	**194**	PN	**Pg**	**10 12 25.4**	**+0.4**
KBTR	**Krutoberegovo**	**0.78**	**194**	*e*P	**Pg**	**10 12 25.4**	**+0.4**
SMKR	**Semkarok**	**1.00**	**248**	PN	**Pg**	**10 12 29.0**	**-0.3**
SMKR	**Semkarok**	**1.00**	**248**	*e*P	**Pg**	**10 12 29.0**	**-0.3**
SRKR	**Sorokina**	**1.14**	**255**	PN	**Pb**	**10 12 31.0**	**-1.6**
SRKR	**Sorokina**	**1.14**	**255**	*e*P	**Pb**	**10 12 31.0**	**-1.6**
BDR	**Baidarnaya**	**1.14**	**251**	PN	**Pb**	**10 12 31.4**	**-1.3**
BDR				S	**Sg**	**10 12 45.9**	**-0.9**
BDR	**Baidarnaya**	**1.14**	**251**	*i* P	**Pb**	**10 12 31.4**	**-1.3**
BDR				*e*S	**Sg**	**10 12 45.9**	**-0.9**
KLY	**Klyuchi**	**1.53**	**246**	PN	**Pn**	**10 12 35.8**	**-2.7**
KLY				S	**Sn**	**10 12 54.5**	**-4.5**
KLY	**Klyuchi**	**1.53**	**246**	*e*P	**Pn**	**10 12 35.8**	**-2.7**
KLY				*e*S	**Sn**	**10 12 54.5**	**-4.5**
CIRR	**Tsirk**	**1.58**	**238**	PN	**Pn**	**10 12 38.7**	**-0.7**
CIRR	**Tsirk**	**1.58**	**238**	*i* P	**Pn**	**10 12 38.7**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.71**	**234**	PN	**Pn**	**10 12 40.6**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.71**	**234**	*i* P	**Pn**	**10 12 40.6**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.78**	**237**	PN	**Pn**	**10 12 41.6**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.78**	**237**	*i* P	**Pn**	**10 12 41.6**	**-0.6**
BZP	**Bezymyannyi-Pe**	**1.80**	**235**	*i* P	**Pn**	**10 12 41.8**	**-0.6**
BZMR	**Bezymyannaya**	**1.80**	**236**	PN	**Pn**	**10 12 42.0**	**-0.4**
BZMR	**Bezymyannaya**	**1.80**	**236**	*i* P	**Pn**	**10 12 42.0**	**-0.4**
KIRR	**Kirishev**	**1.86**	**238**	PN	**Pn**	**10 12 42.6**	**-0.6**
KIRR				S	**Sn**	**10 13 07.0**	**-0.4**
KIRR	**Kirishev**	**1.86**	**238**	*e*P	**Pn**	**10 12 42.6**	**-0.6**
KIRR				*e*S	**Sn**	**10 13 07.0**	**-0.4**
KPT	**Kopyto**	**1.91**	**240**	PN	**Pn**	**10 12 43.4**	**-0.4**
KPT				S	**Sn**	**10 13 08.4**	**-0.2**
KPT	**Kopyto**	**1.91**	**240**	*i* P	**Pn**	**10 12 43.4**	**-0.4**
KPT				*e*S	**Sn**	**10 13 08.4**	**-0.2**
SRDR	**Sredinnyy**	**2.01**	**253**	PN	**Pn**	**10 12 44.5**	**-0.6**
SRDR				S	**Sn**	**10 13 09.6**	**-1.3**
SRDR	**Sredinnyy**	**2.01**	**253**	*e*P	**Pn**	**10 12 44.5**	**-0.6**
SRDR				*e*S	**Sn**	**10 13 09.6**	**-1.3**
KMNR	**Kamenistaya**	**2.03**	**235**	PN	**Pn**	**10 12 45.6**	**+0.2**
KMNR				S	**Sn**	**10 13 11.9**	**+0.5**
KMNR	**Kamenistaya**	**2.03**	**235**	*e*P	**Pn**	**10 12 45.6**	**+0.2**
KMNR				*e*S	**Sn**	**10 13 11.9**	**+0.5**
KOZ	**Kozyrevsk**	**2.03**	**245**	PN	**Pn**	**10 12 45.6**	**+0.1**
KOZ				S	**Sn**	**10 13 12.1**	**+0.7**
KOZ	**Kozyrevsk**	**2.03**	**245**	*i* P	**Pn**	**10 12 45.6**	**+0.1**
KOZ				*e*S	**Sn**	**10 13 12.1**	**+0.7**
OSSR	**Ossora**	**2.29**	**359**	PN	**Pn**	**10 12 47.7**	**-1.3**
OSSR	**Ossora**	**2.29**	**359**	*e*P	**Pn**	**10 12 47.7**	**-1.3**
TUMD	**Tumrok D**	**2.35**	**222**	*e*P	**Pn**	**10 12 50.0**	**+0.3**
TUMD				*e*S	**Sn**	**10 13 19.0**	**-0.1**
BKI	**Bering**	**2.37**	**137**	PN	**Pn**	**10 12 49.2**	**-0.8**
BKI				S	**Sn**	**10 13 17.1**	**-2.5**
BKI	**Bering**	**2.37**	**137**	*e*P	**Pn**	**10 12 49.2**	**-0.8**
BKI				*e*S	**Sn**	**10 13 17.1**	**-2.5**
TUMR	**Tumrok**	**2.38**	**226**	PN	**Pn**	**10 12 50.0**	**-0.3**
TUMR				S	**Sn**	**10 13 19.0**	**-1.2**
TUMR	**Tumrok**	**2.38**	**226**	*e*P	**Pn**	**10 12 51.4**	**+1.1**
TIGL	**Tigil**	**2.56**	**290**	*e*P	**Pn**	**10 12 54.3**	**+1.7**
ESO	**Esso**	**2.68**	**249**	PN	**Pn**	**10 12 53.5**	**-0.9**
ESO				S	**Sn**	**10 13 25.5**	**-2.0**
ESO	**Esso**	**2.68**	**249**	*e*P	**Pn**	**10 12 53.5**	**-0.9**
ESO				*e*S	**Sn**	**10 13 25.5**	**-2.0**
PALN	**Palana**	**2.72**	**323**	PN	**Pn**	**10 12 55.6**	**+0.7**
PALN	**Palana**	**2.72**	**323**	*e*P	**Pn**	**10 12 55.6**	**+0.7**
KII	**Karymskiy**	**3.61**	**217**	PN	**Pn**	**10 13 07.6**	**+0.4**
KII	**Karymskiy**	**3.61**	**217**	*e*P	**Pn**	**10 13 07.6**	**+0.4**
TILK	**Tilichiki**	**3.83**	**23**	PN	**Pn**	**10 13 10.1**	**+0.1**
TILK	**Tilichiki**	**3.83**	**23**	*e*P	**Pn**	**10 13 10.1**	**+0.1**
SPN	**Mys Shipunski**	**4.27**	**206**	PN	**Pn**	**10 13 15.6**	**-0.6**
SPN	**Mys Shipunski**	**4.27**	**206**	*e*P	**Pn**	**10 13 15.6**	**-0.6**
NLC	**Nalytchevo**	**4.39**	**212**	PN	**Pn**	**10 13 17.2**	**-0.5**
NLC	**Nalytchevo**	**4.39**	**212**	*e*P	**Pn**	**10 13 17.2**	**-0.5**
KRX	**Arik**	**4.44**	**217**	PN	**Pn**	**10 13 20.6**	**+1.9**
KRX	**Arik**	**4.44**	**217**	*e*P	**Pn**	**10 13 20.6**	**+1.9**
SMAR	**Somma**	**4.47**	**216**	PN	**Pn**	**10 13 20.0**	**+0.9**
SMAR	**Somma**	**4.47**	**216**	*e*P	**Pn**	**10 13 20.0**	**+0.9**
AVH	**Avacha**	**4.49**	**216**	PN	**Pn**	**10 13 20.7**	**+1.5**
AVH	**Avacha**	**4.49**	**216**	*e*P	**Pn**	**10 13 20.7**	**+1.5**
KOK	**Koryaka**	**4.50**	**217**	PN	**Pn**	**10 13 21.0**	**+1.6**
KOK	**Koryaka**	**4.50**	**217**	*e*P	**Pn**	**10 13 21.0**	**+1.6**
UGLR	**Uglovaya**	**4.51**	**215**	PN	**Pn**	**10 13 20.6**	**+1.0**
UGLR	**Uglovaya**	**4.51**	**215**	*e*P	**Pn**	**10 13 20.6**	**+1.0**
DALK	**Dalny**	**4.69**	**215**	PN	**Pn**	**10 13 22.1**	**+0.3**
DALK	**Dalny**	**4.69**	**215**	*e*P	**Pn**	**10 13 22.1**	**+0.3**
PET	**Petropavlovsk**	**4.72**	**215**	*e*PN	**Pn**	**10 13 23.2**	**+0.9**
PET				*e*S	**Sn**	**10 14 19.0**	**+1.3**
PET				smax	smax		
	comp=N,90nm,0.9s						
PET				smax	smax		
	comp=E,112nm,0.9s						
PET	**Petropavlovsk**	**4.72**	**215**	*e*P	**Pn**	**10 13 22.7**	**+0.3**
PEA0B	**Petropavlovsk-**	**4.98**	**221**	*e*PN	**Pn**	**10 13 26.4**	**+0.5**
PETK	**Petropavlovsk-**	**4.98**	**221**	Pn	**Pn**	**10 13 26.8**	**+0.9**
	comp=E,1.5nm,0.3s,baz=59,slow=16,SNR=3.1						
PETK				Lg	Lg	10 14 34.8	
	baz=88,slow=39						
KRMR	**Karymshinskiy**	**5.06**	**217**	PN	**Pn**	**10 13 27.7**	**+0.8**
KRMR	**Karymshinskiy**	**5.06**	**217**	*e*P	**Pn**	**10 13 27.7**	**+0.8**
GRL	**Gorelyy**	**5.31**	**216**	PN	**Pn**	**10 13 32.3**	**+1.7**
GRL	**Gorelyy**	**5.31**	**216**	*e*P	**Pn**	**10 13 32.3**	**+1.7**
ASAK	**Asacha**	**5.51**	**216**	PN	**Pn**	**10 13 35.7**	**+2.4**
ASAK	**Asacha**	**5.51**	**216**	*e*P	**Pn**	**10 13 35.7**	**+2.4**
KMSK	**Kamenskaya**	**5.73**	**14**	PN	**Pn**	**10 13 35.9**	**-0.3**
KMSK	**Kamenskaya**	**5.73**	**14**	*e*P	**Pn**	**10 13 35.9**	**-0.3**
SEY	**Seymchan**	**8.06**	**322**	*i* PN	Pn	10 14 13.5	+5.4
YSS	**Yuzh-Sakhalins**	**16.01**	**240**	*e*P	**Pn**	**10 15 57.9**	**+1.6**
YAK	**Yakutsk**	**17.59**	**301**	*ce*P	**P**	**10 16 20.7**	**+3.4**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIXI	**Tiksi**	**20.46**	**329**	*i* P	Pn	10 16 54.9	+4.2
TIXI	**Tiksi**	**20.46**	**329**	P	**P**	**10 16 48.4**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=138,slow=11,SNR=10						
ZEA	**Zeya**	**20.52**	**276**	*e*P	**P**	**10 16 49.6**	**+0.2**
ILAR	**Eielson Array**	**24.91**	**51**	P	**P**	**10 17 34.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=258,slow=7.0,SNR=13						
	comp=Z,0.9nm,0.7s						
SONM	**Songino Array**	**34.86**	**280**	P	**P**	**10 19 01.3**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=55,slow=8.3,SNR=4.1						
	comp=Z,0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**37.28**	**174**	T	T	10 58 21.3	
	baz=357						
H11N3	**WAKE ISLAND Hy**	**37.30**	**174**	T	T	10 58 26.5	
	baz=357						
H11N1	**WAKE ISLAND Hy**	**37.30**	**174**	T	T	10 58 25.9	
	baz=357						
H11S1	**WAKE ISLAND Hy**	**38.49**	**175**	T	T	11 00 01.8	
	baz=359						
H11S3	**WAKE ISLAND Hy**	**38.50**	**175**	T	T	10 59 55.9	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**38.50**	**175**	T	T	10 59 56.6	
	baz=359						
YKA	**Yellowknife Ar**	**39.16**	**47**	*e*P	**P**	**10 19 40.3**	**+1.5**
YKA	**Yellowknife Ar**	**39.16**	**47**	P	**P**	**10 19 35.2**	**-3.6**
	comp=Z,0.3nm,0.6s,baz=304,slow=8.1,SNR=1.9						
KURK	**Kurchatov**	**47.24**	**300**	*ce*P	**P**	**10 20 46.7**	**+2.5**
KURK				pmax	pmax		
	comp=Z,17nm,0.9s						
MKAR	**Makanchi Array**	**48.12**	**294**	*ce*P	P	10 20 55.2	+4.0
MKAR	**Makanchi Array**	**48.12**	**294**	P	**P**	**10 20 48.5**	**-2.7**
	comp=Z,0.2nm,0.4s,baz=46,slow=6.6,SNR=8.5						
	comp=Z,0.2nm,0.4s						
BRVK	**Borovoye**	**49.42**	**307**	*i* P	P	10 21 06.0	+4.9
NVAR	**Mina Array Bea**	**52.89**	**75**	P	**P**	**10 21 27.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=309,slow=12,SNR=2.4						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**54.19**	**65**	P	**P**	**10 21 38.0**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=313,slow=3.2,SNR=9.1						
	comp=Z,0.7nm,0.6s						
FINES	**FINESS Array B**	**57.25**	**337**	*e*P	P	10 22 03.0	+4.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**57.25**	**337**	P	**P**	**10 22 00.2**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=35,slow=7.0,SNR=6.2						
	comp=Z,0.9nm,0.6s						
OBN	**Obninsk**	**60.19**	**328**	*e*P	P	10 22 23.4	+4.5
OBN				*e*		10 23 06.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA	**NORSAR Array B**	**60.29**	**345**	P	**P**	**10 22 20.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=14,slow=7.1,SNR=2.8						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**66.17**	**330**	*e*P	P	10 23 03.9	+5.2
AKASG	**Malin Array Be**	**66.17**	**330**	P	**P**	**10 23 00.6**	**+1.9**
	comp=Z,0.8nm,0.4s,baz=30,slow=6.4,SNR=4.4						
	comp=Z,0.8nm,0.4s						
TXAR	**Lajitas Array**	**67.59**	**71**	P	**P**	**10 23 09.2**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=291,slow=4.9,SNR=13						
	comp=Z,1.3nm,0.9s						
WRA	**Warramunga Arr**	**80.34**	**207**	*e*P	**P**	**10 24 21.8**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**80.34**	**207**	P	**P**	**10 24 20.6**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=14,slow=5.4,SNR=9.2						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**84.02**	**207**	P	**P**	**10 24 40.5**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=16,slow=5.0,SNR=17						
	comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**146.72**	**180**	PKPbc	**PKPdf**	**10 31 50.3**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=37,slow=20,SNR=14						

*ISK **10** 10:16:34.7,37°.56N×26°.73E, h4km, ML2.4/24*
*AFAD **10** 10:16:34.8±0.0,37°.62N×26°.70E, h7km±6km, ML2.2*
*ATH **10** 10:16:37.4,37°.61N×26°.65E, h13km±4km, ML2.9/4, Error ellipse: s-maj=4.3km s-min=0.9km az=148.0*

ISC 10 10:16:35.3±1.2,**37°.59N**±0°.02×**26°.70E**±0°.03,**h11**km±10km, **n39,**σ0°84/52,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.43**	**76**	Pg	**Pg**	**10 16 43.5**	**-0.3**
GMLD	**Gumuldur**	**0.51**	**19**	Pg	**Pb**	**10 16 45.6**	**-0.7**
YKAV	**Yalikavak-Bodr**	**0.66**	**135**	Pg	**Pg**	**10 16 47.3**	**-0.7**
BODT	**Bodrum**	**0.72**	**137**	Pg	**Pg**	**10 16 48.8**	**-0.4**
MLSB	**Milas**	**0.91**	**109**	Pg	**Pg**	**10 16 52.1**	**-0.6**
CHOS	**Chios island**	**0.94**	**327**	Pg	**Pn**	**10 16 54.3**	**-0.3**
CHOS	**Chios island**	**0.94**	**327**	P	**Pn**	**10 16 54.4**	**-0.3**
CHOS				S	**Sn**	**10 17 06.8**	**-1.4**
CHOS				AML	AML	10 17 11.1	
	comp=E,594μm,0.3s						
CHOS				AML	AML	10 17 12.2	
	comp=N,380μm,0.2s						
RFTAA	**Mazikoy-Bodrum**	**1.02**	**125**	Pg	**Pg**	**10 16 54.5**	**-0.4**
RFTAA				Sg	**Sg**	**10 17 08.4**	**+0.2**
NISR	**Nisiros**	**1.04**	**161**	P	**Pn**	**10 16 57.0**	**+1.2**
EAG2	**Marmaro, Chios**	**1.06**	**334**	P	**Pn**	**10 16 56.4**	**+0.3**
EAG2				S	**Sn**	**10 17 10.0**	**-0.9**
EAG2				AML	AML	10 17 13.0	
	comp=N,5344μm,0.3s						
EAG2				AML	AML	10 17 14.7	
	comp=E,6611μm,0.3s						
APE	**Apeiranthos**	**1.07**	**241**	Pg	**Pb**	**10 16 55.9**	**0.0**
APE	**Apeiranthos**	**1.07**	**241**	P	**Pn**	**10 16 56.9**	**+0.5**
APE				S	**Sn**	**10 17 11.0**	**-0.3**
APE				AML	AML	10 17 13.9	
	comp=E,653μm,0.4s						
APE				AML	AML	10 17 16.0	
	comp=N,605μm,0.4s						
DAT	**Datca**	**1.11**	**141**	Pg	**Pg**	**10 16 55.5**	**-1.2**
FOCM	**Foa**	**1.12**	**1**	Pn	**Pn**	**10 16 57.3**	**+0.4**
ESEN	**Aydn-Nazilli**	**1.32**	**81**	P	**Pn**	**10 16 58.5**	**-1.2**
ESEN				S	**Sn**	**10 17 18.5**	**+1.2**
ESEN				*i* AML	AML	10 17 20.0	
	comp=N,29nm,0.6s						
ESEN				*i* AML	AML	10 17 23.0	
	comp=N,37nm,0.6s						
YER	**Yerkesik**	**1.34**	**110**	Pn	**Pn**	**10 17 00.2**	**+0.2**
CAND	**Candarli**	**1.36**	**3**	Pn	**Pg**	**10 17 01.5**	**+0.1**
RFT7	**Candarli**	**1.37**	**7**	Pn	**Pg**	**10 17 01.5**	**-0.1**
RFT7				Sn	**Sg**	**10 17 21.6**	**+2.1**
GOMA	**Golmarmara-Man**	**1.47**	**40**	Pn	**Pg**	**10 17 03.1**	**-0.4**
GOMA				Sn	**Sg**	**10 17 23.4**	**+0.9**
KIRA	**zmir-Kiraz**	**1.47**	**65**	P	**Pg**	**10 17 03.1**	**-0.5**
KIRA				S	**Sg**	**10 17 23.1**	**+0.5**
KIRA				*i* AML	AML	10 17 27.0	
	comp=N,35nm,0.6s						
KIRA				*i* AML	AML	10 17 29.0	
	comp=N,59nm,0.6s						
TURN	**Turunc**	**1.48**	**123**	Pn	**Pn**	**10 17 02.3**	**+0.5**
DKL	**Dikili**	**1.48**	**6**	Pn	**Pg**	**10 17 03.6**	**-0.2**
PRK	**Paraskevi**	**1.68**	**349**	P	**Pb**	**10 17 05.5**	**-0.8**
PRK				S	**Sn**	**10 17 25.9**	**-0.4**
PRK				AML	AML	10 17 32.8	
	comp=N,777μm,0.5s						
PRK				AML	AML	10 17 33.2	
	comp=E,577μm,0.5s						
MANT	**Manisa**	**1.72**	**58**	P	**Pg**	**10 17 08.1**	**-0.2**
MANT				S	**Sg**	**10 17 29.8**	**-0.7**
MANT				*i* AML	AML	10 17 35.0	
	comp=E,26nm,0.6s						
MANT				*i* AML	AML	10 17 36.0	
	comp=E,31nm,0.5s						
DALY	**Dalyan (Mula)**	**1.74**	**116**	Pn	**Pn**	**10 17 05.9**	**+0.5**
SIGR	**SIGRI**	**1.75**	**338**	P	**Pb**	**10 17 06.4**	**-0.9**
TAVA	**DENIZLI_Tavas**	**1.76**	**93**	P	**Pb**	**10 17 07.1**	**-0.6**
TAVA				S	**Sg**	**10 17 32.6**	**+0.6**
ARG	**Arkhangelos**	**1.79**	**140**	Pn	**Pn**	**10 17 06.6**	**+0.5**
KULA	**Kula-Manisa**	**1.80**	**59**	Pn	**Pb**	**10 17 07.3**	**-1.0**
DNIZ	**Denizli-Tavas-**	**1.85**	**88**	P	**Pn**	**10 17 06.2**	**-0.9**
DNIZ				S	**Sg**	**10 17 36.9**	**+2.0**
DNIZ				*i* AML	AML	10 17 43.0	
	comp=E,39nm,0.4s						
DNIZ				*i* AML	AML	10 17 44.0	
	comp=E,41nm,0.5s						
APMY	**Acipayam-Deniz**	**2.07**	**93**	Pn	**Pn**	**10 17 10.8**	**+0.7**
KARP	**Karpathos**	**2.08**	**170**	Pn	**Pn**	**10 17 10.4**	**+0.3**
KARP	**Karpathos**	**2.08**	**170**	P	**Pb**	**10 17 12.2**	**-0.9**
FETY	**Fethiye**	**2.13**	**116**	Pn	**Pn**	**10 17 11.3**	**+0.4**
FETY				Sn	**Sn**	**10 17 38.4**	**+1.1**
CAME	**Cameli-Denizli**	**2.17**	**107**	Pn	**Pn**	**10 17 12.6**	**+1.0**
DION	**Dionisos Attik**	**2.25**	**283**	P	**Pn**	**10 17 13.3**	**+0.8**
VLY	**Voula,Athens**	**2.32**	**277**	P	**Pn**	**10 17 13.9**	**+0.5**
SIMA	**Simav-Kutahya**	**2.33**	**50**	Pn	**Pn**	**10 17 15.2**	**+1.5**
LIA	**Limnos Island**	**2.59**	**333**	P	**Pn**	**10 17 18.2**	**+1.1**

*RHSSO **10** 10:21:49.3±0.5,42°.61N×20°.00E, h8km±2km, ML2.7/13*
*PDG **10** 10:21:49.7±0.2,42°.61N×19°.86E, h12km±1km, MD2.8/4, ML2.7/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*BEO **10** 10:21:50.7±0.2,42°.64N×19°.91E, h5km±2km, ML2.5/11*

ISC 10 10:21:49.9±0.8,**42°.63N**±0°.02×**19°.90E**±0°.02,**h10**km±6km, **n55,**σ0°94/103,**12C-7D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.06**	**125**	↑*i*P	**Pg**	**10 21 52.1**	**0.0**
PVY				*i* Sg	**Sg**	**10 21 53.9**	**+0.2**
IVA	**Berane**	**0.24**	**360**	↑*i*P	**Pg**	**10 21 54.9**	**-0.1**
IVA				*i* Sg	**Sg**	**10 21 59.1**	**+0.7**
KOME	**Kolasin**	**0.36**	**309**	↑*i*P	**Pg**	**10 21 56.8**	**-0.3**
KOME				*i* Sg	**Sg**	**10 22 02.1**	**+0.3**
SJES	**Sjenica**	**0.64**	**5**	*e*Pg	**Pg**	**10 22 02.3**	**0.0**
SJES				*e*Sg	**Sg**	**10 22 11.2**	**+0.5**
SJES	**Sjenica**	**0.64**	**5**	↑*i*Pg	**Pg**	**10 22 01.9**	**-0.4**
SJES				*e*Sg	**Sg**	**10 22 10.7**	**0.0**
DRME	**Dracevica, Mon**	**0.69**	**230**	↑*i*Pg	**Pg**	**10 22 02.1**	**-1.1**
DRME				*i* Sg	**Sg**	**10 22 12.2**	**0.0**
DRME	**Dracevica, Mon**	**0.69**	**230**	↑*i*Pg	**Pg**	**10 22 01.9**	**-1.3**
DRME				*e*Sg	**Sb**	**10 22 13.6**	**+0.1**
NKME	**Niksic**	**0.71**	**282**	↓*i*Pg	**Pg**	**10 22 02.6**	**-1.0**
NKME				*i* Sg	**Sg**	**10 22 13.5**	**+0.6**
CEME	**Cevo**	**0.73**	**264**	↑*i*Pg	**Pg**	**10 22 02.6**	**-1.4**
CEME				*i* Sg	**Sg**	**10 22 13.7**	**+0.2**
BUM	**Brajici-Budva**	**0.81**	**247**	↓*i*Pg	**Pg**	**10 22 04.9**	**-0.6**
BUM				*i* Sg	**Sb**	**10 22 16.7**	**-0.5**
ULC	**Ulcinj**	**0.82**	**216**	↓*i*Pg	**Pg**	**10 22 04.3**	**-1.4**
ULC				*i* Sg	**Sb**	**10 22 17.2**	**-0.2**
UPM	**Unac-Piva**	**0.93**	**309**	↑*i*Pg	**Pg**	**10 22 06.5**	**-1.3**
UPM				*i* Sg	**Sb**	**10 22 21.2**	**+0.5**
UPM	**Unac-Piva**	**0.93**	**309**	*e*Pg	**Pg**	**10 22 06.8**	**-1.0**
UPM				*e*Sg	**Sb**	**10 22 21.7**	**+1.0**
IVAS	**Ivanjica**	**0.97**	**11**	*e*Pg	**Pg**	**10 22 07.5**	**-1.1**
IVAS				*e*Sg	**Sg**	**10 22 20.6**	**-0.6**
BRY	**Bratogost**	**1.04**	**286**	↑*i*Pg	**Pg**	**10 22 08.5**	**-1.4**
BRY				*i* Sg	**Sb**	**10 22 24.3**	**+0.5**
BRY	**Bratogost**	**1.04**	**286**	↑*i*Pg	**Pg**	**10 22 08.9**	**-1.0**
BRY				*e*Sg	**Sb**	**10 22 24.7**	**+0.9**
HCY	**Herceg Novi**	**1.05**	**261**	↓*i*Pg	**Pg**	**10 22 09.2**	**-0.9**
HCY				*i* Sg	**Sn**	**10 22 25.1**	**-0.4**
HCY	**Herceg Novi**	**1.05**	**261**	↑*i*Pg	**Pg**	**10 22 09.4**	**-0.7**
HCY				*e*Sg	**Sb**	**10 22 24.9**	**+0.8**
RUDO	**Rudo**	**1.06**	**339**	↓*i*Pg	**Pg**	**10 22 08.3**	**-2.1**
RUDO				*e*Sg	**Sg**	**10 22 23.8**	**-0.4**
SELS	**Selova**	**1.08**	**56**	*e*Pg	**Pg**	**10 22 09.5**	**-1.1**
SELS				*e*Sg	**Sg**	**10 22 23.6**	**-1.0**
KLINJ	**Klinje**	**1.10**	**300**	*e*Pg	**Pg**	**10 22 10.2**	**-1.0**
KLINJ				*e*Sg	**S

DZM	**Mont Dzumac**	**10.25**	**186**	P	**Pn**	**10 40 30.5**	**+0.6**
	7.5nm,0.5s,baz=151,slow=19,SNR=14						
NOUC	**Port Laguerre**	**10.29**	**187**	P	**P**	**10 40 31.8**	**-1.1**
ONTNC	**Ouen Toro**	**10.48**	**186**		**Pn**	**10 40 33.6**	**+1.0**
OUENC	**Ouen Island, N**	**10.55**	**184**		**P**	**10 40 34.8**	**-1.0**
OUENC	**Ouen Island, N**	**10.55**	**184**	P	**P**	**10 40 35.1**	**-0.7**
PINNC	**Pines Island,**	**10.72**	**181**	P	**P**	**10 40 37.3**	**-0.3**
PMG	**Port Moresby**	**20.31**	**275**	P	**P**	**10 42 22.5**	**+0.5**
PMG				IAmb	IAmb	10 42 34.0	
	comp=Z,20nm,1.0s						
PMG	**Port Moresby**	**20.31**	**275**	P	**P**	**10 42 21.5**	**-0.4**
	comp=Z,16nm,0.8s,baz=60,slow=9.0,SNR=4.0						
	comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**20.67**	**227**	P	**P**	**10 42 25.7**	**+0.3**
EIDS				IAmb	IAmb	10 42 28.0	
	comp=Z,7.2nm,1.1s						
CTA	**Charters Tower**	**22.16**	**246**	P	**P**	**10 42 38.7**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=82,slow=12,SNR=2.5						
	comp=Z,2.2nm,0.4s						
CTAO	**Charters Tower**	**22.16**	**246**	P	**P**	**10 42 39.4**	**+0.4**
CTAO				IAmb	IAmb	10 43 08.1	
	comp=Z,5.8nm,1.0s						
ARMA	**Armidale**	**23.74**	**216**	P	**P**	**10 42 55.7**	**+2.3**
COEN	**Coen**	**23.98**	**262**	P	**P**	**10 42 56.1**	**+0.5**
COEN				IAmb	IAmb	10 43 08.6	
	comp=Z,7.1nm,0.9s						
CMSA	**Cobar Meteorol**	**28.21**	**223**	P	**P**	**10 43 33.4**	**+0.3**
MRZ	**Mangatainoka R**	**29.54**	**168**	P	**P**	**10 43 43.8**	**-0.9**
MRZ				IAmb	IAmb	10 43 45.7	
	comp=Z,17nm,1.1s						
MRZ	**Mangatainoka R**	**29.54**	**168**	P	**P**	**10 43 44.8**	**+0.1**
BFZ	**Birch Farm**	**29.71**	**167**	P	**P**	**10 43 45.6**	**-0.6**
BFZ	**Birch Farm**	**29.71**	**167**	P	**P**	**10 43 45.1**	**-1.1**
HOWZ	**Holdsworth Sta**	**29.76**	**168**	P	**P**	**10 43 45.7**	**-1.0**
TCW	**Tory Channel**	**29.83**	**170**	P	**P**	**10 43 47.4**	**+0.2**
CAW	**Cannon Point**	**29.87**	**169**	P	**P**	**10 43 47.1**	**-0.5**
SNZO	**South Karori**	**30.00**	**169**	P	**P**	**10 43 50.0**	**+1.3**
MTW	**Mount Morrison**	**30.01**	**168**	P	**P**	**10 43 47.7**	**-1.1**
THZ	**Tophouse**	**30.16**	**172**	P	**P**	**10 43 50.7**	**+0.5**
PAWZ	**Paruwai Farm**	**30.21**	**168**	P	**P**	**10 43 49.4**	**-1.2**
KHZ	**Kahutara**	**30.89**	**172**	P	**P**	**10 43 55.7**	**-0.8**
LTZ	**Lake Taylor**	**31.09**	**173**	P	**P**	**10 43 58.6**	**+0.3**
STKA	**Stephens Creek**	**31.22**	**226**	P	**P**	**10 44 00.5**	**+1.0**
STKA	**Stephens Creek**	**31.22**	**226**	P	**P**	**10 44 00.3**	**+0.7**
STKA	**Stephens Creek**	**31.22**	**226**	P	**P**	**10 43 59.2**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=65,slow=9.9,SNR=6.7						
	comp=Z,1.4nm,0.5s						
WR0	**Warramunga Arr**	**32.83**	**252**	P	**P**	**10 44 12.4**	**-1.3**
WB0	**Warramunga Arr**	**32.94**	**252**	P	**P**	**10 44 13.6**	**-1.0**
WB0				IAmb	IAmb	10 44 15.5	
	comp=Z,5.4nm,1.1s						
WB2	**Warramunga Arr**	**33.00**	**252**	P	**P**	**10 44 14.1**	**-1.1**
WRAB	**Tennant Creek**	**33.00**	**252**	P	**P**	**10 44 14.0**	**-1.2**
WRAB				IAmb	IAmb	10 44 24.6	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**33.01**	**252**	P	**P**	**10 44 14.2**	**-1.1**
WRA	**Warramunga Arr**	**33.01**	**252**	P	**P**	**10 44 13.8**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=81,slow=8.5,SNR=19						
WRA				PcP	**PcP**	**10 46 50.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=73,slow=3.0,SNR=3.1						
	comp=Z,0.8nm,0.3s						
ODZ	**Otahua Downs**	**33.19**	**176**	P	**P**	**10 44 18.3**	**+1.9**
HTT	**Hallett**	**33.96**	**226**	P	**P**	**10 44 23.1**	**-0.1**
ASAR	**Alice Springs**	**34.16**	**245**	P	**P**	**10 44 23.7**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=71,slow=9.3,SNR=20						
ASAR				PcP	**PcP**	**10 46 52.7**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=94,slow=3.8,SNR=2.2						
	comp=Z,1.0nm,0.4s						
KDU	**Kakadu**	**34.40**	**265**	P	**P**	**10 44 27.1**	**-0.1**
MTN	**Manton Dam**	**35.70**	**264**	P	**P**	**10 44 38.9**	**+0.7**
MTN				IAmb	IAmb	10 44 39.4	
	comp=Z,5.6nm,0.8s						
MTN	**Manton Dam**	**35.70**	**264**	P	**P**	**10 44 39.1**	**+0.9**
BBOO	**Buckleboo**	**35.71**	**229**	P	**P**	**10 44 37.5**	**-0.6**
BBOO				IAmb	IAmb	10 44 46.1	
	comp=Z,5.8nm,1.1s						
BBOO	**Buckleboo**	**35.71**	**229**	P	**P**	**10 44 37.9**	**-0.2**
MULG	**Mulgathing**	**36.15**	**234**	P	**P**	**10 44 40.7**	**-1.1**
KNRA	**Kununurra**	**37.96**	**260**	P	**P**	**10 44 57.3**	**+0.3**
KNRA	**Kununurra**	**37.96**	**260**	P	**P**	**10 44 57.1**	**0.0**
WRKA	**Warakurna**	**39.45**	**245**	P	**P**	**10 45 08.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.02**	**256**	P	**P**	**10 45 22.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**41.02**	**256**	P	**P**	**10 45 22.4**	**+0.2**
PSA00	**Pilbara Seismi**	**46.67**	**252**	P	**P**	**10 46 06.8**	**0.0**
PSA00				IAmb	IAmb	10 46 16.2	
	comp=Z,18nm,1.1s						
MEEK	**Meekatharra**	**48.32**	**245**	P	**P**	**10 46 18.7**	**-0.6**
TOLI2	**Tolitoli**	**48.33**	**282**	P	**P**	**10 46 19.7**	**+0.2**
PLAI	**Plampang**	**49.14**	**269**	P	**P**	**10 46 25.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**50.61**	**237**	P	**P**	**10 46 35.5**	**-0.9**
KKM	**Kota Kinabalu**	**54.18**	**286**	P	**P**	**10 47 03.2**	**+0.5**
KKM				IAmb	IAmb	10 47 04.8	
	comp=Z,12nm,0.8s						
MJAR	**Matsushiro Arr**	**55.56**	**331**	P	**P**	**10 47 09.5**	**-2.5**
	comp=Z,1.8nm,0.7s,baz=164,slow=8.7,SNR=4.6						
	comp=Z,1.8nm,0.7s						
KSRS	**Korea Array**	**61.60**	**325**	P	**P**	**10 47 52.2**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=131,slow=7.1,SNR=1.6						
	comp=Z,1.0nm,0.7s						
PMBI	**Palembang**	**62.90**	**273**	P	**P**	**10 48 03.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**64.51**	**332**	P	**P**	**10 48 12.8**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=134,slow=6.2,SNR=5.9						
	comp=Z,1.2nm,0.5s						
VNDA	**Vanda**	**65.75**	**181**	P	**P**	**10 48 20.6**	**+0.9**
VNDA	**Vanda**	**65.75**	**181**	P	**P**	**10 48 19.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=9.3,slow=4.8,SNR=1.7						
	comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**74.17**	**293**	P	**P**	**10 49 12.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**74.17**	**293**	P	**P**	**10 49 11.6**	**0.0**
	comp=Z,3.0nm,0.8s,baz=123,slow=4.4,SNR=13						
	comp=Z,3.0nm,0.8s						
SEY	**Seymchan**	**75.48**	**353**	P	**P**	**10 49 17.8**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=158,slow=5.1,SNR=4.2						
	comp=Z,2.8nm,0.7s						
QSPA	**South Pole Qui**	**78.17**	**180**	P	**P**	**10 49 32.9**	**-0.5**
	comp=Z,0.6nm,0.2s,baz=61,slow=1.9,SNR=3.5						
	comp=Z,0.6nm,0.2s						
J18K	**Innoko River**	**79.89**	**15**	P	**P**	**10 49 44.2**	**+1.8**
J18K				IAmb	IAmb	10 49 44.7	
	comp=Z,2.4nm,0.8s						
SONM	**Songino Array**	**80.43**	**323**	P	**P**	**10 49 45.0**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=147,slow=3.6,SNR=5.8						
	comp=Z,1.2nm,0.8s						
KNK	**Knik Glacier**	**80.74**	**20**	P	**P**	**10 49 48.6**	**+1.6**
E19K	**Redstone River**	**83.06**	**13**	P	**P**	**10 50 01.6**	**+2.8**
E19K				IAmb	IAmb	10 50 02.7	
	comp=Z,3.8nm,0.7s						
IL31		**83.67**	**18**	P	**P**	**10 50 02.9**	**+1.1**
IL31				IAmb	IAmb	10 50 03.7	
	comp=Z,5.0nm,0.8s						
ILAR	**Eielson Array**	**83.67**	**18**	P	**P**	**10 50 02.5**	**+0.7**
	comp=Z,4.4nm,0.6s,baz=246,slow=5.2,SNR=103						
	comp=Z,4.4nm,0.6s						
J25K	**Salcha River,**	**84.02**	**18**	P	**P**	**10 50 05.1**	**+1.4**
NVAR	**Mina Array Bea**	**85.09**	**49**	P	**P**	**10 50 10.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=241,slow=9.2,SNR=2.3						
	comp=Z,0.2nm,0.3s						
F24K	**Squaw Lake**	**85.37**	**16**	P	**P**	**10 50 12.8**	**+2.5**
F24K				IAmb	IAmb	10 50 13.7	
	comp=Z,2.6nm,0.7s						
TXAR	**Lajitas Array**	**94.54**	**61**	P	**P**	**10 50 54.1**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=260,slow=5.2,SNR=2.2						
	comp=Z,0.2nm,0.8s						
YKA	**Yellowknife Ar**	**94.81**	**27**	P	**P**	**10 50 54.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=257,slow=4.2,SNR=7.6						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**95.39**	**317**	P	**P**	**10 50 58.5**	**+1.0**
MKAR	**Makanchi Array**	**95.39**	**317**	P	**P**	**10 50 58.5**	**+1.0**
MKAR	**Makanchi Array**	**95.39**	**317**	P	**P**	**10 50 58.7**	**+1.1**
	comp=Z,3.6nm,0.5s,baz=85,slow=6.4,SNR=49						
ARCES	**ARCESS Array B**	**117.56**	**346**	PKP	**PKPdf**	**10 56 16.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=75,slow=3.8,SNR=5.6						
FINES	**FINESS Array B**	**123.19**	**339**	PKP	**PKPdf**	**10 56 27.2**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=77,slow=2.5,SNR=3.8						
KEST	**Kesra**	**149.18**	**324**	PKPbc	**PKPbc**	**10 57 19.6**	**-0.9**
	comp=Z,3.6nm,0.6s,baz=54,slow=1.1,SNR=5.5						
ESDC	**Sonseca Array**	**151.30**	**346**	PKPbc	**PKiKP**	**10 57 26.1**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=26,slow=3.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**166.25**	**277**	PKP	**PKPdf**	**10 57 36.0**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=5.7,slow=2.2,SNR=4.8						

*JMA **10** 10:43:30.1±0.2,30.7°N±0.4°×13.2°E±°, h55km±3km, MV3.0/30,E OFF TANEGASHIMA ISLAND*
*IDC **10** 10:43:33.1±3.8,31.56°N×132.82°E, h0km, mb3.3/4,*
mbtmp3.3/5,ML2.8/1,MS3.9/1,Error ellipse: s-maj=92.7km s-min=35.0km az=15.0

ISC 10 10:43:28.3±3.9, 30.71°N±0.06°×132.16°E±0.07, h8km±25km, n17,σ2.8°05/25, mb3.2/4, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**1.02**	**267**	*eP*	**Pb**	**10 43 47.6**	**-0.6**
JNAR	**Kushima--Naru**	**1.11**	**317**	P	**Pn**	**10 43 49.5**	**-0.6**
JNAR				*eS*	**Sb**	**10 44 03.8**	**-0.6**
JMTN	**Minamitane**	**1.13**	**254**	P	**Pn**	**10 43 49.2**	**-1.2**
JMTN				S	**Sb**	**10 44 04.0**	**-1.0**
JNKG	**Nichinankitago**	**1.16**	**325**	P	**Pn**	**10 43 50.3**	**-0.5**
JNKG				S	**Sb**	**10 44 04.9**	**-0.9**
JTZ	**Takazaki**	**1.50**	**323**	*eP*	**Pn**	**10 43 55.0**	**-0.5**
JTZ				S	**Sn**	**10 44 13.6**	**-1.6**
JYAK	**Yakushimahirau**	**1.50**	**252**	P	**Pn**	**10 43 54.2**	**-1.3**
JYAK				*eS*	**Sn**	**10 44 12.6**	**-2.7**
JTSN	**Tsuno**	**1.63**	**340**	P	**Pn**	**10 43 56.9**	**-0.4**
JTSN				S	**Sn**	**10 44 16.7**	**-1.7**
JSU	**Suzuyama**	**1.66**	**299**	*eP*	**Pn**	**10 43 57.2**	**-0.6**
JIU3	**Izumi3**	**2.16**	**328**	*eP*	**Pn**	**10 44 04.7**	**+0.1**
JIU3				*eS*	**Sn**	**10 44 29.3**	**-2.2**
JTO	**Tosashimizu**	**2.21**	**14**	P	**Pn**	**10 44 04.0**	**-1.2**
JTO				S	**Sn**	**10 44 28.9**	**-3.8**
UWA2	**Uwa jima 2**	**2.52**	**9**	P	**Pn**	**10 44 09.1**	**-0.5**
UWA2				S	**Sn**	**10 44 37.3**	**-3.3**
JNU	**Nakatsue**	**2.64**	**336**	Pn	**Pn**	**10 44 11.5**	**+0.3**
	4.3nm,0.3s,baz=216,slow=4.4,SNR=29						
JNU				Sn	**Sn**	**10 44 41.9**	**-1.4**
	4.8nm,0.3s,baz=196,slow=22,SNR=8.4						
	12nm,0.5s						
SONM	**Songino Array**	**26.09**	**318**	P	**P**	**10 49 06.3**	**+3.8**
	0.2nm,0.5s,baz=131,slow=10,SNR=2.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**41.35**	**307**	P	P	10 51 20.8	+6.1
	0.3nm,0.7s,baz=106,slow=7.7,SNR=1.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.19**	**313**	P	**P**	**10 51 41.8**	**+4.3**
	0.5nm,0.6s,baz=98,slow=8.8,SNR=5.5						
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**57.23**	**313**	LR	LR	11 17 34.8	
	comp=Z,101nm,20.1s,baz=194,slow=36						
ILAR	**Eielson Array**	**58.86**	**30**	P	**P**	**10 53 26.1**	**-1.1**
	0.2nm,0.7s,baz=287,slow=6.2,SNR=1.1						
	0.2nm,0.7s						

*ISN **10** 10:47:29.8±1.1,34.65°N×46.05°E,h18km±7km, ML2.7*
*TEH **10** 10:47:29.7,34.59°N×46.06°E,h9km, ML2.6*

ISC 10 10:47:29.9±1.3, 34.58°N±0.06°×46.05°E±0.04, h10km, n9, σ1°15/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.30**	**66**	Pg	**Pg**	**10 47 36.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.39**	**260**	Pg	**Pg**	**10 47 37.6**	**0.0**
KGS1				Sg	**Sb**	**10 47 43.9**	**-1.1**
IGHG	**Ghaleghazi**	**0.49**	**120**	Pg	**Pg**	**10 47 39.9**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.87**	**110**	Pg	**Pg**	**10 47 46.1**	**-0.6**
IKOM	**Komasi**	**1.27**	**108**	Pg	**Pg**	**10 47 54.5**	**+0.2**
IBDR	**Badra**	**1.47**	**184**	*ePg*	**Pg**	**10 47 58.0**	**-0.1**
IBDR				*eSg*	**Sg**	**10 48 18.0**	**+0.9**
IBDR				AML	AML	10 48 28.6	
	comp=E,128nm,0.4s						
IBDR				AML	AML	10 48 33.8	
	comp=N,90nm,0.8s						
IBZA	**Bozab**	**1.50**	**94**	Pg	**Pg**	**10 47 58.5**	**-0.1**
BHD	**Baghdad**	**1.91**	**227**	*ePn*	**Pb**	**10 48 04.0**	**-0.8**
BHD				*eSn*	**Sb**	**10 48 29.0**	**+0.4**
RAFI	**Al-Rafai**	**2.85**	**179**	*ePn*	**Pn**	**10 48 17.0**	**+1.6**
RAFI				*eSn*	**Sb**	**10 48 53.0**	**-2.7**

*RHSSO **10** 10:47:45.7±0.6,42.57°N×20.08°E,h6km±2km,ML2.6/12*
*PDG **10** 10:47:47.7±0.2,42.63°N×19.88°E,h10km±1km,MD2.7/2, ML2.7/12,Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
*BEO **10** 10:47:48.4±0.2,42.64°N×19.91°E,h0km±2km,ML2.3/10*

ISC 10 10:47:47.8±0.8, 42.64°N±0.02°×19.89°E±0.02, h8km±6km, n47,σ0°93/91, 10C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.07**	**133**	↓*i*Pg	**Pg**	**10 47 49.7**	**-0.1**
PVY				*i* Sg	**Sg**	**10 47 51.4**	**+0.2**
IVA	**Berane**	**0.23**	**360**	↓↓*i*Pg	**Pg**	**10 47 52.7**	**+0.2**
IVA				*i* Sg	**Sg**	**10 47 56.4**	**+0.7**
KOME	**Kolasin**	**0.35**	**307**	↑*i*Pg	**Pg**	**10 47 54.3**	**-0.4**
KOME				*i* Sg	**Sg**	**10 47 59.7**	**+0.3**
SJES	**Sjenica**	**0.62**	**5**	*ePg*	**Pg**	**10 47 59.9**	**0.0**
SJES				*eSg*	**Sg**	**10 48 08.0**	**-0.1**
SJES	**Sjenica**	**0.62**	**5**	↑*i*Pg	**Pg**	**10 47 58.8**	**-1.1**
SJES				*eSg*	**Sg**	**10 48 08.0**	**-0.1**
DRME	**Dracevica, Mon**	**0.69**	**230**	↑↑*i*Pg	**Pg**	**10 47 59.7**	**-1.4**
DRME				*i* Sg	**Sb**	**10 48 11.2**	**-0.6**
DRME	**Dracevica, Mon**	**0.69**	**230**	↓↓*i*Pg	**Pg**	**10 47 59.4**	**-1.7**
DRME				*eSg*	**Sg**	**10 48 10.9**	**+0.8**
NKME	**Niksic**	**0.71**	**281**	↓↓*i*Pg	**Pg**	**10 48 00.7**	**-0.7**
NKME				*i* Sg	**Sg**	**10 48 11.4**	**+0.8**
CEME	**Cevo**	**0.73**	**263**	↓↓*i*Pg	**Pg**	**10 48 00.0**	**-1.8**
CEME				*i* Sg	**Sg**	**10 48 11.4**	**+0.1**
PLE	**Pljevlja**	**0.78**	**332**	↑↑*i*Pg	**Pg**	**10 48 02.1**	**-0.8**
PLE				*i* Sg	**Sb**	**10 48 14.6**	**0.0**
BUM	**Brajici-Budva**	**0.81**	**246**	↑↑*i*Pg	**Pg**	**10 48 02.5**	**-0.9**
BUM				*i* Sg	**Sb**	**10 48 15.6**	**+0.2**
ULC	**Ulcinj**	**0.83**	**216**	↑↑*i*Pg	**Pg**	**10 48 03.0**	**-0.7**
ULC				*i* Sg	**Sb**	**10 48 15.9**	**+0.1**
UPM	**Unac-Piva**	**0.92**	**308**	↑↑*i*Pg	**Pg**	**10 48 04.4**	**-1.1**
UPM				*i* Sg	**Sb**	**10 48 19.2**	**+0.6**
IVAS	**Ivanjica**	**0.96**	**11**	*ePg*	**Pg**	**10 48 05.1**	**-1.1**
IVAS				*eSg*	**Sg**	**10 48 17.9**	**-0.7**
BRY	**Bratogost**	**1.03**	**285**	↑↑*i*Pg	**Pg**	**10 48 06.6**	**-1.1**
BRY				*i* Sg	**Sn**	**10 48 21.1**	**-0.3**
BRY	**Bratogost**	**1.03**	**285**	↑↑*i*Pg	**Pg**	**10 48 06.5**	**-1.1**
BRY				*eSg*	**Sn**	**10 48 23.6**	**+0.2**
RUDO	**Rudo**	**1.05**	**339**	*ePg*	**Pg**	**10 48 05.8**	**-2.2**
RUDO				*eSg*	**Sg**	**10 48 22.0**	**+0.4**
HCY	**Herceg Novi**	**1.05**	**260**	↓↓*i*Pg	**Pg**	**10 48 07.0**	**-1.0**
HCY				*i* Sg	**Sn**	**10 48 23.5**	**-0.2**
HCY	**Herceg Novi**	**1.05**	**260**	↑↑*i*Pg	**Pg**	**10 48 06.3**	**-1.7**
HCY				*eSg*	**Sb**	**10 48 22.9**	**+0.7**
SELS	**Selova**	**1.07**	**57**	*ePg*	**Pg**	**10 48 08.2**	**-0.1**
SELS				*eSg*	**Sg**	**10 48 21.3**	**-0.9**
KLINJ	**Klinje**	**1.10**	**299**	*ePg*	**Pg**	**10 48 07.8**	**-1.1**
KLINJ				*eSg*	**Sn**	**10 48 25.1**	**+0.1**
TREB	**Trebinje**	**1.14**	**274**	*ePg*	**Pg**	**10 48 08.3**	**-1.4**
TREB				*eSg*	**Sn**	**10 48 26.9**	**+1.0**
BBLS	**Lazići**	**1.28**	**344**	*ePg*	**Pn**	**10 48 10.8**	**-1.2**
BBLS				*eSg*	**Sn**	**10 48 30.0**	**+0.6**
BBLS	**Lazići**	**1.28**	**344**	↓↓*i*Pg	**Pn**	**10 48 11.7**	**-0.9**
BBLS				*eSg*	**Sn**	**10 48 30.0**	**+0.6**
DBRK	**Dubrovnik**	**1.29**	**272**	*ePg*	**Pn**	**10 48 12.0**	**-0.1**
DBRK				Sg	**Sn**	**10 48 31.1**	**+1.6**
TIR	**Tirane**	**1.29**	**181**	*eSn*	**Sn**	**10 48 32.3**	**+2.8**
GRUS	**Gruza**	**1.39**	**25**	*ePg*	**Pb**	**10 48 13.8**	**-0.1**
GRUS				*eSg*	**Sg**	**10 48 32.8**	**+0.5**
BARS	**Barje**	**1.43**	**82**	*ePg*	**Pb**	**10 48 14.4**	**-0.2**
BARS				*eSg*	**Sg**	**10 48 33.8**	**+0.2**
DIVS	**Divibare**	**1.46**	**3**	*ePg*	**Pg**	**10 48 16.2**	**+0.4**
DIVS				*eSg*	**Sn**	**10 48 34.2**	**+0.3**
NEVS	**Nevesinje**	**1.47**	**297**	*ePn*	**Pn**	**10 48 15.0**	**+0.3**
NEVS				*eSg*	**Sg**	**10 48 37.6**	**+2.5**
HAPS	**Han Pijesak,BI**	**1.60**	**335**	*ePn*	**Pn**	**10 48 16.2**	**-0.3**
HAPS				*eSn*	**Sb**	**10 48 39.0**	**+0.9**
PRVS	**Prvonek**	**1.62**	**94**	*ePg*	**Pb**	**10 48 17.2**	**-0.7**
PRVS				*eSg*	**Sb**	**10 48 38.7**	**+0.2**
STON	**Ston**	**1.63**	**279**	*ePg*	**Pn**	**10 48 17.2**	**+0.4**
STON				*eSg*	**Sg**	**10 48 41.6**	**+1.4**
STON	**Ston**	**1.63**	**279**	*ePn*	**Pn**	**10 48 17.4**	**+0.7**
STON				Sn	**Sg**	**10 48 41.5**	**+1.2**
STON	**Ston**	**1.63**	**279**	↓*i*Pn	**Pn**	**10 48 16.0**	**-0.8**
STON				*eSn*	**Sb**	**10 48 39.5**	**+0.6**
BOVS	**Bovan**	**1.66**	**52**	*ePg*	**Pg**	**10 48 19.1**	**-0.5**
BOVS				*eSg*	**Sg**	**10 48 40.9**	**-0.2**
TEKS	**Tekeris**	**1.93**	**352**	*ePn*	**Pb**	**10 48 22.4**	**-0.8**
TEKS	**Tekeris**	**1.93**	**352**	*ePn*	**Pn**	**10 48 20.7**	**-0.2**
TEKS				*eSn*	**Sn**	**10 48 45.5**	**+0.1**
ZAGS	**Zajecar**	**2.07**	**55**	*ePn*	**Pn**	**10 48 23.6**	**+0.7**
ZAGS				*eSn*	**Sn**	**10 48 49.8**	**+0.9**
FNA	**Florina**	**2.16**	**149**	*ePn*	**Pb**	**10 48 25.8**	**-1.4**
FNA				*eSn*	**Sb**	**10 48 53.9**	**-0.2**
RICI	**Ricice**	**2.20**	**294**	*ePn*	**Pb**	**10 48 27.7**	**-0.1**
RICI				Sn	**Sg**	**10 48 57.8**	**-0.6**
MAKA	**Makarska**	**2.21**	**288**	*ePn*	**Pb**	**10 48 27.5**	**-0.5**
MAKA				Sn	**Sb**	**10 48 57.0**	**+1.6**
LSTV	**Lastovo**	**2.22**	**274**	*ePn*	**Pn**	**10 48 26.2**	**+1.4**
LSTV				Sn	**Sb**	**10 48 55.6**	**-0.1**
HVAR	**Hvar**	**2.59**	**283**	*ePn*	**Pn**	**10 48 31.8**	**+1.9**
HVAR				Sn	**Sb**	**10 49 05.7**	**-0.7**
KIJV	**Kijevo**	**2.89**	**299**	Sn	**Sb**	**10 49 14.8**	**-0.3**
A050A	**Klekovaca**	**3.06**	**308**	*ePn*	**Pn**	**10 48 36.5**	**0.0**
A050A				*eSn*	**Sn**	**10 49 14.6**	**+1.2**
A051A	**Mrakovica**	**3.21**	**319**	*ePn*	**Pn**	**10 48 38.1**	**-0.5**
A051A				*eSn*	**Sn**	**10 49 17.5**	**+0.5**

*HEL **10** 10:51:21.8±0.3,64.61°N×30.95°E, h0km, ML2.0, Suspected explosion*
*UPP **10** 10:51:25.6±3.4,64.80°N×30.87°E, h0km, ML1.6*
*KOLA **10** 10:51:25.8,64.75°N×30.86°E, h0km, ML2.4, Error ellipse: s-maj=18.8km s-min=15.7km az=170.0,Kostomuksha, Karelia*
*IDC **10** 10:51:26.4±2.2,64.72°N×30.77°E, h0km, mbtmp3.1/3, ML2.1/3,Error ellipse: s-maj=30.1km s-min=8.8km az=105.0*

ISC 10 10:51:25.0±1.0, 64.77°N±0.03°×30.63°E±0.05, h0km, n37, σ1°77/56, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.64**	**209**	SG	**Sg**	**10 51 40.1**	**-5.2**
RMF				MSG		10 51 40.7	
	comp=Z,31nm,0.2s						
KU6	**Riekki**	**1.30**	**346**	PG	**Pg**	**10 51 48.7**	**-1.1**
KU6				MSG		10 52 06.4	
	comp=Z,10.0nm,0.2s						
KU6				SG	**Sn**	**10 52 07.8**	**-0.6**
MSF	**Maaselka**	**1.32**	**330**	PG	**Pg**	**10 51 49.2**	**-1.2**
MSF				SG	**Sb**	**10 52 08.5**	**+0.3**
OLKF	**Oulanka, Finla**	**1.64**	**342**	PG	**Pn**	**10 51 54.8**	**-0.2**
OLKF				MSG		10 52 16.5	
	comp=Z,9.5nm,0.2s						
OLKF				SG	**Sg**	**10 52 17.9**	**+0.3**
OUL	**Oulu**	**2.04**	**281**	PG	**Pn**	**10 52 02.0**	**+1.5**
	baz=98						
OUL				SG	**Sn**	**10 52 28.8**	**+2.1**
OBF4	**Vikkela, Lumij**	**2.37**	**273**	PG	**Pn**	**10 52 07.0**	**+2.0**
	baz=89						
OBF4				MSG		10 52 36.2	
	comp=Z,12nm,0.2s						
OBF4				SG	**Sn**	**10 52 39.0**	**+4.2**
OUF	**Merijarvi**	**2.58**	**264**	PG	**Pn**	**10 52 09.9**	**+1.9**
OUF				MSG		10 52 41.4	
	comp=Z,11nm,0.2s						
OUF				SG	**Sb**	**10 52 45.0**	**+0.8**
RNF	**

MV3.7/33,E OFF TANEGASHIMA ISLAND
*NEIC **10** 11:01:10.1±1.9,30.˚72N±0.˚06×131.˚99E±0.˚10,h10km±1km, mb4.4/18,Error ellipse: s-maj=13.8km s-min=10.5km az=98.0*
ISC 10 11:01:11.4±2.4,30.˚70N±0.˚04×132.˚08E±0.˚05,h28km±17km, n68,σ1ş31/76,mb4.3/28,MS3.8/5,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.95**	**268**	P		**Pn**		**11 01 28.0**	**-0.9**
JTN				S		**Sb**		**11 01 42.1**	**+0.7**
JMTN	**Minamitane**	**1.06**	**254**	P		**Pn**		**11 01 29.8**	**-0.6**
JMTN				S		**Sn**		**11 01 44.6**	**+0.4**
JNAR	**Kushima--Naru**	**1.08**	**320**	P		**Pn**		**11 01 30.1**	**-0.6**
JNAR				S		**Sn**		**11 01 44.2**	**-0.6**
JTSR	**Tashiro 2**	**1.10**	**296**	P		**Pn**		**11 01 29.8**	**-1.2**
JNKG	**Nichinankitago**	**1.14**	**328**	P		**Pn**		**11 01 30.8**	**-0.6**
JNKG				S		**Sn**		**11 01 45.4**	**-0.7**
JYAK	**Yakushimahirau**	**1.43**	**252**	P		**Pn**		**11 01 34.8**	**-0.7**
JYAK				S		**Sn**		**11 01 53.0**	**-0.4**
JTZ	**Takazaki**	**1.47**	**325**	P		**Pn**		**11 01 35.5**	**-0.6**
JTZ				S		**Sn**		**11 01 53.5**	**-1.0**
JSU	**Suzuyama**	**1.61**	**301**	P		**Pn**		**11 01 37.5**	**-0.6**
JTSN	**Tsuno**	**1.62**	**343**	P		**Pn**		**11 01 37.4**	**-0.8**
JTSN				S		**Sn**		**11 01 57.3**	**-0.9**
JKC	**Kuchinoerabu**	**1.64**	**262**	P		**Pn**		**11 01 38.1**	**-0.3**
JIU3	**Izumi3**	**2.14**	**330**	*eP*		**Pn**		**11 01 45.3**	**0.0**
JTO	**Tosashimizu**	**2.24**	**16**	*i P*		**Pn**		**11 01 44.6**	**-2.1**
JTO				S		**Sn**		**11 02 09.4**	**-4.1**
UWA2	**Uwa jima 2**	**2.55**	**10**	P		**Pn**		**11 01 49.5**	**-1.5**
UWA2				S		**Sn**		**11 02 17.9**	**-3.3**
JNU	**Nakatsue**	**2.62**	**337**			**Pn**		**11 01 51.9**	**-0.1**
JNU	**Nakatsue**	**2.62**	**337**	Pn		**Pn**		**11 01 52.3**	**+0.3**
	26nm,0.3s,baz=130,slow=2.7,SNR=251								
JNU				Sn		**Sn**		**11 02 20.8**	**-2.2**
	14nm,0.3s,baz=174,slow=11,SNR=5.0								
	55nm,0.3s								
JMN	**Monobe**	**3.39**	**26**			**Pn**		**11 02 01.8**	**-0.7**
JTU	**Tsushima**	**4.44**	**330**	Pn		**Pn**		**11 02 16.4**	**-0.4**
JMZ	**Minamidaito 2**	**4.92**	**189**	Pn		**Pn**		**11 02 24.0**	**+0.5**
JOW	**Kunigami**	**5.09**	**222**	Pn		**Pn**		**11 02 26.4**	**+0.5**
JOW	**Kunigami**	**5.09**	**222**	Pn		**Pn**		**11 02 25.2**	**-0.8**
	14nm,0.3s,baz=117,slow=28,SNR=16								
JOW				Sn		**Sn**		**11 03 19.6**	**-4.3**
	8.0nm,0.3s,baz=79,slow=29,SNR=6.7								
	36nm,0.3s								
INU	**Inuyama**	**6.22**	**40**			**Pn**		**11 02 42.5**	**+1.1**
JHJ	**Hachijo jima 2**	**6.98**	**68**	Pn		**Pn**		**11 02 51.5**	**-0.4**
	4.8nm,0.3s,baz=287,slow=19,SNR=0.8								
	88nm,0.9s								
KSRS	**Korea Array**	**7.57**	**334**	Pn		**Pn**		**11 03 00.2**	**+0.3**
	0.2nm,0.3s,baz=157,slow=14,SNR=2.3								
	2.7nm,1.1s								
MAJO	**Matsushiro**	**7.75**	**40**	Pn		**Pn**		**11 03 03.5**	**+1.1**
MJAR	**Matsushiro Arr**	**7.75**	**40**	Pn		**Pn**		**11 03 03.6**	**+1.2**
	0.6nm,0.3s,baz=243,slow=14,SNR=25								
	3.6nm,0.5s								
MJB9	**Matsu-Tunnel**	**7.75**	**40**			**Pn**		**11 03 04.3**	**+1.9**
KLR	**Kul'dur**	**18.51**	**359**	P		**P**		**11 05 26.4**	**+0.9**
	0.4nm,0.3s,baz=181,slow=5.7,SNR=17								
	6.6nm,0.8s								
ULN	**Ulaanbaatar**	**25.70**	**319**	P		**P**		**11 06 38.7**	**-0.6**
ULN				IAmb		IAmb		11 06 52.0	
	comp=Z,9.4nm,1.1s								
SONM	**Songino Array**	**26.05**	**318**			**P**		**11 06 40.6**	**-2.0**
SONM	**Songino Array**	**26.05**	**318**	P		**P**		**11 06 43.0**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=134,slow=9.2,SNR=2.2								
	comp=Z,0.9nm,0.9s								
CMAR	**Chiang Mai Arr**	**32.38**	**256**	P		**P**		**11 07 37.4**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=62,slow=6.6,SNR=2.3								
	comp=Z,0.6nm,0.3s								
MK31	**Makanchi Array**	**41.31**	**307**	P		**P**		**11 08 54.6**	**0.0**
MKAR	**Makanchi Array**	**41.31**	**307**	P		**P**		**11 08 53.7**	**-0.8**
MKAR	**Makanchi Array**	**41.31**	**307**	P		**P**		**11 08 54.0**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=106,slow=7.8,SNR=4.3								
	comp=Z,0.3nm,0.7s								
MAKZ	**Makanchi**	**41.52**	**307**	P		**P**		**11 08 55.6**	**-0.6**
MTN	**Manton Dam**	**43.30**	**181**	P		**P**		**11 09 10.8**	**-0.1**
MTN				IAmb		IAmb		11 09 11.3	
	comp=Z,5.3nm,0.9s								
KURK	**Kurchatov**	**44.10**	**313**	P		**P**		**11 09 16.2**	**-0.9**
KURK				IAmb		IAmb		11 09 26.0	
	comp=Z,4.6nm,0.7s								
KURBB	**Kurchatov Arra**	**44.15**	**313**	P		**P**		**11 09 17.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=99,slow=9.0,SNR=6.7								
KURBB				LR		LR		11 29 39.9	
	comp=Z,155nm,18.9s,baz=172,slow=39								
	comp=Z,1.1nm,0.8s								
NRIK	**Noril'sk**	**46.14**	**340**	LR		LR		11 29 02.3	
	comp=Z,63nm,18.1s,baz=124,slow=36								
KNRA	**Kununurra**	**46.22**	**184**	P		**P**		**11 09 34.8**	**+0.7**
AAK	**Ala-Archa**	**46.88**	**301**	P		**P**		**11 09 37.8**	**-1.7**
BVAR	**Borovoye Array**	**49.34**	**315**	P		**P**		**11 09 57.7**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=93,slow=9.0,SNR=6.0								
BVAR				LR		LR		11 32 46.3	
	comp=Z,69nm,20.9s,baz=51,slow=38								
	comp=Z,0.9nm,0.6s								
WRA	**Warramunga Arr**	**50.39**	**177**	P		**P**		**11 10 06.5**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=354,slow=8.5,SNR=4.8								
	comp=Z,0.7nm,0.9s								
WB2	**Warramunga Arr**	**50.40**	**177**	P		**P**		**11 10 06.9**	**+0.5**
WB2				IAmb		IAmb		11 10 35.1	
	comp=Z,3.7nm,1.1s								
WR0	**Warramunga Arr**	**50.42**	**177**	P		**P**		**11 10 07.4**	**+0.8**
WR0				IAmb		IAmb		11 10 16.7	
	comp=Z,5.0nm,1.1s								
F15K	**North Star Dit**	**51.49**	**28**	P		**P**		**11 10 16.6**	**+2.5**
F15K				IAmb		IAmb		11 10 25.4	
	comp=Z,6.2nm,1.1s								
C16K	**Lisburne Hills**	**51.75**	**25**	P		**P**		**11 10 17.8**	**+1.8**
C18K	**Utukok River**	**53.32**	**25**	P		**P**		**11 10 29.6**	**+1.8**
C18K				IAmb		IAmb		11 10 30.3	
	comp=Z,6.6nm,1.1s								
ASAR	**Alice Springs**	**54.08**	**178**	P		**P**		**11 10 34.0**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=8.6,slow=8.0,SNR=7.4								
	comp=Z,1.0nm,0.9s								
E19K	**Redstone River**	**54.66**	**26**	P		**P**		**11 10 39.4**	**+2.0**
E19K				IAmb		IAmb		11 10 40.2	
	comp=Z,4.5nm,0.8s								
D22K	**Ayikyak River**	**56.43**	**25**	P		**P**		**11 10 52.3**	**+2.1**
D22K				IAmb		IAmb		11 10 53.2	
	comp=Z,5.7nm,1.0s								
ILAR	**Eielson Array**	**58.91**	**30**	P		**P**		**11 11 08.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=268,slow=6.3,SNR=13								
	comp=Z,1.1nm,0.8s								
SCRK	**Sand Creek**	**60.27**	**30**	P		**P**		**11 11 18.1**	**+0.9**
F28M	**Old Crow**	**61.29**	**26**	P		**P**		**11 11 26.1**	**+2.1**
F28M				IAmb		IAmb		11 11 35.4	
	comp=Z,2.9nm,1.0s								
STKA	**Stephens Creek**	**62.88**	**171**	P		**P**		**11 11 33.8**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=45,slow=2.9,SNR=5.4								
	comp=Z,1.8nm,0.6s								
FARO	**Faro, Yukon**	**65.38**	**31**	P		**P**		**11 11 52.5**	**+1.4**
FINES	**FINESS Array B**	**70.65**	**331**	P		**P**		**11 12 24.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=71,slow=6.0,SNR=11								
	comp=Z,1.2nm,0.5s								
YKA	**Yellowknife Ar**	**73.05**	**26**	P		**P**		**11 12 39.7**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=300,slow=5.6,SNR=14								
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**74.33**	**320**	P		**P**		**11 12 45.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=54,slow=6.1,SNR=3.2								
	comp=Z,0.1nm,0.3s								
HFS	**Hagfors**	**76.42**	**333**	P		**P**		**11 12 58.2**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=88,slow=4.5,SNR=2.7								
	comp=Z,3.5nm,0.9s								
NB2	**NORSAR Subarra**	**76.78**	**335**	P		P		11 13 08.9	+8.7
	comp=Z,3.2nm,0.8s,baz=50,slow=5.9								
NOA	**NORSAR Array B**	**76.78**	**335**	P		**P**		**11 13 00.1**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=48,slow=5.7,SNR=2.1								
NOA				LR		LR		11 50 25.5	
	comp=Z,50nm,18.2s,baz=300,slow=38								
	comp=Z,1.1nm,0.9s								
BRTR	**Keskin Array B**	**76.95**	**308**	LR		LR		11 52 12.7	
	comp=Z,47nm,18.5s,baz=342,slow=40								
CLL	**Collm**	**82.38**	**326**	*i* P		**P**		**11 13 31.6**	**+0.9**
	comp=Z,6.0nm,1.2s								
GERES	**GERESS Array B**	**83.63**	**324**	P		**P**		**11 13 37.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=20,slow=4.3,SNR=3.6								
	comp=Z,0.3nm,0.4s								
NVAR	**Mina Array Bea**	**85.00**	**48**	P		**P**		**11 13 46.2**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=290,slow=5.1,SNR=10								
	comp=Z,1.3nm,0.6s								
PDAR	**Pinedale Array**	**87.58**	**40**	P		**P**		**11 13 58.1**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=270,slow=1.5,SNR=6.1								
	comp=Z,0.7nm,0.9s								
QSPA	**South Pole Qui**	**120.46**	**180**	PKP		**PKPdf**		**11 19 59.2**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=80,slow=16,SNR=2.2								

*BGR **10** 11:03:18.3,42.˚46N×143.˚36E,h33km,mb4.8*
*BJI **10** 11:03:22.5±0.0,42.˚69N×143.˚10E,h113km,mb4.7/47, mB5.1/25*
*MOS **10** 11:03:27.2±0.9,42.˚53N×142.˚38E,h119km,mb4.7/37, Error ellipse: s-maj=6.3km s-min=4.8km az=111.7*
*NEIC **10** 11:03:28.9±1.4,42.˚53N±0.˚04×142.˚39E±0.˚09, h115km±6km,mb4.7/112,Error ellipse: s-maj=10.2km s-min=4.8km az=103.0*
*NIED **10** 11:03:28.1,42.˚52N×142.˚47E,h125km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}2.20; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-2.16; $M_{r\theta}$0.33; $M_{\theta\phi}$1.85; $M_{\phi r}$1.11; Fault plane solution: M_o3.03000×10¹⁵ NP1: ϕ_s353.00000°,δ58.00000°,λ121.00000°. NP2: ϕ_s124.00000°,δ43.00000°,λ50.00000°.*
*JMA **10** 11:03:28.1±0.2,42.˚5N±0.˚8×142.˚5E±1.˚0,h125km±1km, MD4.3/39,MV4.3/39,HIDAKA REGION*
JMA Felt II J1 at HIDAKA REGION .
*IDC **10** 11:03:28.2±0.6,42.˚55N×142.˚46E,h114km±4km,mb4.2/36, mbtmp4.6/41,Error ellipse: s-maj=10.7km s-min=7.2km az=101.0*
*SKHL **10** 11:03:28.3±0.1,42.˚50N×142.˚50E,h120km±6km,mb6.0/3, msha6.1/3*
ISC 10 11:03:27.9±0.4,42.˚50N±0.˚03×142.˚45E±0.˚03,h115km±3km, h115km:pP-P,n444,σ1ş21/424,mb4.6/134,15C-24D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.10**	**170**	*i* P		**Pn**		**11 03 45.2**	**+1.5**
JSHD	**Hidakashinhida**	**0.10**	**170**	A		A		11 03 45.2	
	comp=E,19nm,1.1s,comp=N,18nm,0.7s								
JBT2	**Biratori 2**	**0.28**	**348**	*eP*		**Pn**		**11 03 45.4**	**+1.2**
JBT2				*eS*		**Sn**		**11 03 58.5**	**+2.0**
JBT2	**Biratori 2**	**0.28**	**348**	A		A		11 03 45.4	
	comp=E,12nm,0.5s,comp=N,19nm,1.8s								
JNBK	**Urakawa-nobuka**	**0.32**	**134**	*eP*		**Pn**		**11 03 46.0**	**+1.6**
JNBK				*eS*		**Sn**		**11 03 59.5**	**+2.9**
JNBK	**Urakawa-nobuka**	**0.32**	**134**	A		A		11 03 46.0	
	comp=E,36nm,0.5s,comp=N,34nm,0.5s								
JIAM	**Iburiatsuma**	**0.41**	**287**	*i* P		**Pn**		**11 03 46.7**	**+1.9**
JIAM				*eS*		**Sn**		**11 04 00.6**	**+3.2**
JIAM	**Iburiatsuma**	**0.41**	**287**	A		A		11 03 46.7	
	comp=E,302nm,0.9s,comp=N,238nm,0.5s								
JTHR	**Tokachihiroo**	**0.67**	**108**	A		A		11 03 47.7	
	comp=E,29nm,0.5s,comp=N,22nm,0.5s								
JFR	**Furan**	**0.67**	**9**	*eP*		**Pn**		**11 03 47.4**	**+0.9**
JFR				*eS*		**Sn**		**11 04 01.8**	**+1.2**
JFR	**Furan**	**0.67**	**9**	A		A		11 03 47.4	
	comp=E,13nm,0.6s,comp=N,19nm,0.8s								
JCH	**Churui**	**0.69**	**80**	*eP*		**Pn**		**11 03 47.6**	**+1.0**
JCH				*eS*		**Sn**		**11 04 01.4**	**+0.7**
JCH	**Churui**	**0.69**	**80**	A		A		11 03 47.6	
	comp=E,44nm,1.0s,comp=N,34nm,0.5s								
ERM	**Erimo**	**0.72**	**132**	Pn		**Pn**		**11 03 48.2**	**+1.3**
ERM				Sn		**Sn**		**11 04 03.4**	**+2.2**
ERM	**Erimo**	**0.72**	**132**	P		**Pn**		**11 03 48.3**	**+1.4**
ERM	**Erimo**	**0.72**	**132**	*ceP*		**Pn**		**11 03 48.0**	**+1.1**
ERM				pmax		pmax			
	comp=Z,4μm,1.3s								
JEM	**Erimo**	**0.72**	**132**	P		**Pn**		**11 03 48.3**	**+1.4**
JEM	**Erimo**	**0.72**	**132**	*eP*		**Pn**		**11 03 48.2**	**+1.4**
JEM	**Erimo**	**0.72**	**132**	A		A		11 03 48.2	
	comp=E,12nm,2.8s,comp=N,11nm,1.7s								
JEW	**Eniwo**	**0.81**	**295**	*eP*		**Pn**		**11 03 48.5**	**+0.8**
JEW				*eS*		**Sn**		**11 04 03.2**	**+0.7**
JEW	**Eniwo**	**0.81**	**295**	A		A		11 03 48.5	
	comp=E,33nm,1.6s,comp=N,18nm,0.8s								
JAB	**Ashibetsu**	**1.01**	**351**	*eP*		**Pn**		**11 03 50.8**	**+1.2**
JAB	**Ashibetsu**	**1.01**	**351**	A		A		11 03 50.8	
	comp=E,8.0nm,3.7s,comp=N,7.0nm,2.6s								
JNB	**Noboribetsu**	**1.04**	**269**	*eP*		**Pn**		**11 03 49.9**	**0.0**
JNB				*eS*		**Sn**		**11 04 06.3**	**-0.3**
JNB	**Noboribetsu**	**1.04**	**269**	A		A		11 03 49.9	
	comp=E,13nm,0.3s,comp=N,9.0nm,0.4s								
JOB	**Onbets**	**1.10**	**68**	A		A		11 03 51.5	
	comp=E,37nm,0.8s,comp=N,38nm,0.9s								
JKB	**Kayabe**	**1.22**	**240**	A		A		11 03 53.2	
	comp=E,29nm,0.5s,comp=N,15nm,0.5s								
JAR	**Ashorobuto**	**1.25**	**50**	*eP*		**Pn**		**11 03 53.0**	**+0.8**
JAR				*eS*		**Sn**		**11 04 10.8**	**+0.2**
JAR	**Ashorobuto**	**1.25**	**50**	A		A		11 03 53.0	
	comp=E,25nm,0.5s,comp=N,30nm,0.5s								
JHR	**Hokuryu**	**1.35**	**337**	*eP*		**Pn**		**11 03 54.5**	**+1.2**
JHR				*eS*		**Sn**		**11 04 14.5**	**+2.0**
JKK2	**Kamakawa 2**	**1.39**	**9**	*eP*		**Pn**		**11 03 54.9**	**+1.2**
JKK2				*eS*		**Sn**		**11 04 14.6**	**+1.3**
JKK2	**Kamakawa 2**	**1.39**	**9**	A		A		11 03 54.9	
	comp=E,6.0nm,1.3s,comp=N,10.0nm,1.0s								
JAHD	**Aomorihigashid**	**1.49**	**214**	A		A		11 03 56.2	
	comp=E,77nm,0.3s,comp=N,45nm,0.6s								
JOT	**Ohata**	**1.53**	**223**	*eP*		**Pn**		**11 03 55.3**	**-0.1**
JOT				*eS*		**Sn**		**11 04 15.2**	**-1.0**
JOT	**Ohata**	**1.53**	**223**	A		A		11 03 55.3	
	comp=E,14nm,1.7s,comp=N,9.0nm,1.1s								
JYM2	**Yakumo 2**	**1.59**	**257**	A		A		11 03 57.3	
	comp=E,4.0nm,2.9s,comp=N,5.0nm,2.5s								
ASAJ	**Asahikawa**	**1.62**	**4**	PN		**Pn**		**11 03 57.6**	**+1.2**
ASAJ				S		**Sn**		**11 04 17.1**	**-1.0**
ASAJ	**Asahikawa**	**1.62**	**4**	P		**Pn**		**11 03 57.6**	**+1.2**
	comp=N,269nm,0.6s,baz=210,slow=13,SNR=236								
ASAJ				S		**Sn**		**11 04 17.1**	**-1.0**
	comp=N,1μm,0.9s,baz=87,slow=22,SNR=11								
JKA	**Kamikawa-asahi**	**1.62**	**4**	Pn		**Pn**		**11 03 57.5**	**+1.2**
JKA				Sn		**Sn**		**11 04 19.1**	**+1.0**
JMP	**Maruseppu**	**1.65**	**24**	A		A		11 03 57.5	
	comp=E,5.0nm,1.0s,comp=N,3.0nm,0.7s								
JARK	**Aomorirokkasho**	**1.70**	**209**	A		A		11 03 58.7	
	comp=E,15nm,1.2s,comp=N,15nm,0.5s								
JAK	**Akkeshi**	**1.73**	**73**	*eP*		**Pn**		**11 03 58.2**	**+0.5**
JAK				*eS*		**Sn**		**11 04 19.9**	**-0.6**
JAK	**Akkeshi**	**1.73**	**73**	A		A		11 03 58.2	
	comp=E,17nm,0.8s,comp=N,16nm,1.4s								
JTKR	**Abashiri--Toko**	**1.81**	**36**	*eP*		**Pn**		**11 04 00.1**	**+1.3**
JTKR				*eS*		**Sn**		**11 04 23.8**	**+1.5**
JTKR	**Abashiri--Toko**	**1.81**	**36**	A		A		11 04 00.1	
	comp=E,6.0nm,2.3s,comp=N,4.0nm,2.2s								
AKK	**Akkeshi**	**1.84**	**73**	*eP*		**Pn**		**11 03 59.4**	**+0.3**
JHST	**Hiyamasetana**	**1.90**	**268**	A		A		11 04 01.1	
	comp=E,7.0nm,2.7s,comp=N,7.0nm,3.1s								
JSS	**Shosan**	**1.94**	**347**	*eP*		**Pn**		**11 04 02.0**	**+1.6**
JSS				*eS*		**Sn**		**11 04 27.2**	**+2.0**
JNK	**Nakash**	**1.99**	**56**	A		A		11 04 01.7	
	comp=E,8.0nm,0.8s,comp=N,6.0nm,0.6s								
JTM	**Tenmabayashi**	**2.00**	**211**	Pn		**Pn**		**11 04 01.1**	**0.0**
JTM	**Tenmabayashi**	**2.00**	**211**	P		**Pn**		**11 04 01.0**	**-0.1**
JOMM	**Oshimamatsumae**	**2.06**	**243**	A		A		11 04 03.2	
	comp=E,4.0nm,2.1s,comp=N,4.0nm,2.3s								
JKHN	**Kushirohamanak**	**2.08**	**73**	A		A		11 04 02.9	
	comp=E,10.0nm,1.8s,comp=N,9.0nm,1.9s								
JSI2	**Shiura 2**	**2.10**	**227**	A		A		11 04 03.7	
	comp=E,15nm,0.9s,comp=N,8.0nm,0.7s								
JANG	**Nango**	**2.24**	**199**	A		A		11 04 05.4	
	comp=E,5.0nm,1.5s,comp=N,5.0nm,0.7s								
JNSB	**Nemuroshibetsu**	**2.26**	**55**	A		A		11 04 05.2	
	comp=E,16nm,2.2s,comp=N,14nm,3.2s								
JKEN	**Kujiedanarisaw**	**2.36**	**194**	A		A		11 04 07.0	
	comp=E,22nm,1.1s,comp=N,24nm,0.3s								
JRA	**Rausu**	**2.42**	**53**	A		A		11 04 07.3	
	comp=E,4.0nm,2.2s,comp=N,3.0nm,0.5s								
NMR	**Nemuro--Hokkai**	**2.56**	**69**	*i* P		**Pn**		**11 04 08.2**	**0.0**
NMR				*eS*		**Sn**		**11 04 37.1**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.56**	**69**	*i* P		**Pn**		**11 04 08.2**	**0.0**
NMR				*eS*		**Sn**		**11 04 37.3**	**-2.0**
NEM2	**Nemuro 2**	**2.57**	**69**	A		A		11 04 09.2	
	comp=E,4.0nm,0.7s,comp=N,4.0nm,0.7s								
RUSJ	**Misakicho**	**2.60**	**51**	*i* P		**Pn**		**11 04 10.4**	**+1.7**
RUSJ				*eS*		**Sn**		**11 04 44.9**	**+4.8**
JIW	**Iwasaki**	**2.64**	**225**	A		A		11 04 10.7	
	comp=E,5.0nm,2.3s,comp=N,3.0nm,3.4s								
JKZ	**Kuzumaki**	**2.65**	**199**	A		A		11 04 10.8	
	comp=E,5.0nm,1.0s,comp=N,6.0nm,1.8s								
YUK	**Yuzh-Kuril'sk**	**2.93**	**57**	*ei* P		**Pn**		**11 04 14.5**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**2.93**	**57**	*i* P		**Pn**		**11 04 14.2**	**+1.2**
YUK				AMB		AMB		11 04 15.4	
	comp=N,3μm,0.4s								
YUK				*eS*		**Sn**		**11 04 48.5**	**+0.7**
YUK				A		A		11 04 52.7	
	comp=N,2μm,0.6s								
YUK				A		A		11 04 52.7	
	comp=N,4μm,0.6s								
MIYJ	**Miyakonagasawa**	**2.96**	**189**	A		A		11 04 14.9	
	comp=E,3.0nm,1.5s,comp=N,3.0nm,1.4s								
JOM	**Ohasama**	**3.15**	**196**	A		A		11 04 17.4	
	comp=E,7.0nm,0.6s,comp=N,6.0nm,0.4s								
JRG	**Rokugo**	**3.39**	**204**	A		A		11 04 20.7	
	comp=E,4.0nm,0.5s,comp=N,4.0nm,1.1s								
OFUJ	**Ofunato**	**3.47**	**190**	A		A		11 04 21.7	
	comp=E,4.0nm,0.9s,comp=N,2.0nm,0.6s								
SHO	**Shikotan**	**3.48**	**65**	*i* P		**Pn**		**11 04 20.5**	**+0.1**
SHO				*eS*		**Sn**		**11 04 57.9**	**-3.1**
SHO				pmax		pmax			
	comp=Z,896nm,0.2s								
SHO				pmax		pmax			
	comp=N,374nm,0.3s								
SHO				pmax		pmax			
	comp=E,608nm,0.2s								
SHO				smax		smax			
	comp=N,1μm,0.5s								
SHO				smax		smax			
	comp=E,886nm,0.2s								
SHO	**Shikotan**	**3.48**	**65**	*i* P		**Pn**		**11 04 20.5**	**+0.1**
SHO				AMB		AMB		11 04 21.3	
	comp=E,900nm,0.3s								
SHO				*eS*		**Sn**		**11 04 58.8**	**-2.2**
SHO				A		A		11 05 00.1	
	comp=E,1μm,0.4s								
SHO				A		A		11 05 00.1	
	comp=E,890nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.46**	**3**	Pn		**Pn**		**11 04 31.8**	**-1.6**
YSS	**Yuzh-Sakhalins**	**4.46**	**3**	*e*PN		**Pn**		**11 04 35.4**	**+2.0**
YSS				*eS*		**Sn**		**11 05 25.9**	**+1.7**
YSS				pmax		pmax			
	comp=Z,70nm,0.9s								
YSS				smax		smax			
	comp=N,170nm,0.8s								
YSS				smax		smax			
	comp=E,100nm,0.9s								
YSS	**Yuzh-Sakhalins**	**4.46**	**3**	*e*P		**Pn**		**11 04 35.0**	**+1.6**
YSS				*eS*		**Sn**		**11 05 25.0**	**+0.8**
KUR	**Kuril'sk**	**4.78**	**53**	*e*PN		**Pn**		**11 04 38.9**	**+1.2**
KUR				*eS*		**Sn**		**11 05 34.6**	**+2.7**
KUR				pmax		pmax			
	comp=N,106nm,0.4s								
KUR				pmax		pmax			
	comp=E,92nm,0.4s								
KUR				pmax		pmax			
	comp=Z,293nm,0.4s								
KUR				smax		smax			
	comp=E,222nm,0.5s								
KUR				smax		smax			
	comp=N,111nm,0.4s								
KUR	**Kuril'sk**	**4.78**	**53**	*e*P		**Pn**		**11 04 38.9**	**+1.2**
KUR				AMB		AMB		11 04 42.0	
	comp=N,290nm,0.4s								
KUR				*eS*		**Sn**		**11 05 34.6**	**+2.7**
KUR				A		A		11 05 40.1	
	comp=N,110nm,0.5s								
KUR				A		A		11 05 40.1	
	comp=N,220nm,0.5s								
JMM	**Marumori**	**4.80**	**196**	Pn		**Pn**		**11 04 37.3**	**-0.8**
JMM	**Marumori**	**4

HHC PP **sP** **11 08 59.8 -0.6**
HHC pmax pmax
comp=Z,19nm,0.5s
HHC pmax pmax
comp=Z,430nm,4.7s
BTO **Baotou** **24.26 277** *e*P **P** **11 08 37.6 +3.3**
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,670nm,7.6s
TATO **Taipei** **24.58 231** P **P** **11 08 36.8 -0.3**
ULN **Ulaanbaatar** **25.36 294** P **P** **11 08 44.4 +0.1**
ULN **Ulaanbaatar** **25.36 294***ce*P **P** **11 08 44.0 -0.3**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN **Ulaanbaatar** **25.36 294** *e*P **P** **11 08 44.0 -0.3**
WHN **Wuhan** **25.42 251** P **P** **11 08 49.7 +5.0**
SONM **Songino Array** **25.81 294** P **P** **11 08 48.7 +0.4**
SONM **Songino Array** **25.81 294** P **P** **11 08 48.7 +0.4**
SONM pmax pmax
comp=Z,7.0nm,1.0s
SONM **Songino Array** **25.81 294** P **P** **11 08 48.6 +0.4**
comp=Z,3.7nm,0.5s,baz=77,slow=8.5,SNR=20
comp=Z,3.7nm,0.5s
MOY **Mondy** **29.32 303** *e*P **P** **11 09 20.1 +0.5**
MOY pmax pmax
comp=Z,39nm,3.6s
LZH **Lanzhou** **30.36 271** *e*P **P** **11 09 28.7 -0.3**
LZH pmax pmax
comp=Z,17nm,1.2s
GTA **Gaotai** **32.10 279** *e*P **P** **11 09 45.1 +0.9**
GTA pmax pmax
comp=Z,8.0nm,1.0s
ANM **Nome** **36.59 35** P **P** **11 10 21.9 -0.5**
ANM IAmb IAmb 11 10 29.7
comp=Z,14nm,1.4s
ANM **Nome** **36.59 35** P **P** **11 10 21.9 -0.5**
ANM pmax pmax
comp=Z,14nm,1.4s
PZH **PanZhiHua** **36.76 258** P **P** **11 10 24.5 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,5.3s
DGZ **Jazzator, Alta** **38.07 300** *i*P **P** **11 10 36.7 +1.4**
DGZ pmax pmax
comp=Z,21nm,1.1s
NRIK **Noril'sk** **38.71 332** P **P** **11 10 39.8 -0.4**
NRIK IAmb IAmb 11 10 41.4
comp=Z,7.7nm,0.6s
NRIK **Noril'sk** **38.71 332***ce*P **P** **11 10 38.9 -1.3**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
NRIK **Noril'sk** **38.71 332** P **P** **11 10 39.3 -0.9**
comp=Z,7.2nm,0.4s,baz=104,slow=7.5,SNR=12
comp=Z,7.2nm,0.4s
ZAA0 **Zalesovo Array** **39.01 308** P **P** **11 10 43.9 +1.1**
ZALV **Zalesovo Beam** **39.01 308** P **P** **11 10 43.8 +0.9**
ZALV **Zalesovo Beam** **39.01 308** *i*P **P** **11 10 43.2 +0.4**
ZALV pmax pmax
comp=Z,21nm,0.8s
ZALV **Zalesovo Beam** **39.01 308** P **P** **11 10 43.3 +0.4**
comp=Z,21nm,0.8s,baz=90,slow=8.8,SNR=67
ZALV PcP **PcP** **11 12 51.2 +0.5**
comp=Z,5.0nm,0.5s,baz=79,slow=2.7,SNR=11
comp=Z,21nm,0.8s
WMQ **Urumqi** **39.34 291** *e*P **P** **11 10 46.3 +0.5**
WMQ pmax pmax
comp=Z,16nm,1.1s
TTA **Tatalina** **40.55 38** P **P** **11 10 56.9 +1.3**
TTA **Tatalina** **40.55 38** P **P** **11 10 56.9 +1.3**
TTA pmax pmax
comp=Z,4.0nm,1.2s
IMAR **Indian Mountai** **41.60 34** P **P** **11 11 04.8 +0.8**
MK31 **Makanchi Array** **42.10 297** P **P** **11 11 09.2 +0.8**
MK31 IAmb IAmb 11 11 09.7
comp=Z,9.7nm,0.8s
MK31 **Makanchi Array** **42.10 297***ce*P **P** **11 11 08.0 -0.4**
MKAR **Makanchi Array** **42.10 297** P **P** **11 11 09.3 +0.9**
MKAR **Makanchi Array** **42.10 297** P **P** **11 11 09.0 +0.6**
MKAR 11 13 01.4
MKAR **Makanchi Array** **42.10 297** P **P** **11 11 09.0 +0.6**
comp=Z,7.8nm,0.7s,baz=83,slow=9.5,SNR=52
MKAR PcP **PcP** **11 13 01.4 +0.5**
comp=Z,1.9nm,0.3s,baz=76,slow=5.0,SNR=11
comp=Z,7.8nm,0.7s
MAKZ **Makanchi** **42.30 297** P **P** **11 11 11.1 +1.0**
MAKZ IAmb IAmb 11 11 11.4
comp=Z,14nm,0.8s
MAKZ **Makanchi** **42.30 297** P **P** **11 11 11.1 +1.0**
MAKZ pmax pmax
comp=Z,14nm,0.8s
KURK **Kurchatov** **43.37 304** P **P** **11 11 19.1 +0.6**
KURK **Kurchatov** **43.37 304***ce*P **P** **11 11 18.7 +0.2**
KURK pmax pmax
comp=Z,24nm,0.8s
KURK **Kurchatov** **43.37 304** *e*P **P** **11 11 18.7 +0.2**
KURBB **Kurchatov Arra** **43.44 304** P **P** **11 11 19.7 +0.6**
comp=Z,20nm,0.5s,baz=73,slow=8.9,SNR=92
KURBB PcP **PcP** **11 13 05.7 +0.4**
comp=Z,3.9nm,0.7s,baz=82,slow=3.4,SNR=6.1
comp=Z,20nm,0.5s
PMR **Palmer** **43.84 40** P **P** **11 11 23.2 +1.0**
PMR **Palmer** **43.84 40** P **P** **11 11 23.2 +1.0**
PMR pmax pmax
comp=Z,8.0nm,1.1s
CMAR **Chiang Mai Arr** **43.87 251** *i*P **P** **11 11 25.0 +2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR **Chiang Mai Arr** **43.87 251** P **P** **11 11 23.9 +1.0**
comp=Z,0.6nm,0.3s,baz=38,slow=7.3,SNR=4.2
comp=Z,0.6nm,0.3s
COLA **College** **44.09 35** P **P** **11 11 25.1 +1.0**
COLA IAmb IAmb 11 11 25.9
comp=Z,7.9nm,0.6s
COLA **College** **44.09 35** P **P** **11 11 25.1 +1.0**
COLA pmax pmax
comp=Z,8.0nm,0.6s
KNK **Knik Glacier** **44.19 40** P **P** **11 11 26.2 +1.2**
KNK IAmb IAmb 11 11 38.4
comp=Z,17nm,1.3s
IL31 **44.51 35** P **P** **11 11 28.2 +0.8**
ILAR **Eielson Array** **44.51 35** P **P** **11 11 28.1 +0.6**
ILAR **Eielson Array** **44.51 35** P **P** **11 11 28.1 +0.6**
ILAR **Eielson Array** **44.51 35** P **P** **11 11 27.9 +0.5**
comp=Z,2.7nm,0.8s,baz=257,slow=5.6,SNR=26
comp=Z,2.7nm,0.8s
E25K **Arctic Village** **44.78 30** P **P** **11 11 30.6 +1.0**
PRP **Proprietor Dome** **45.01 34** P **P** **11 11 32.7 +1.1**
SHLS **Shalkode** **45.20 293** *e*P **P** **11 11 31.0 -2.4**
baz=293
SHLS **Shalkode** **45.20 293** *e*P **P** **11 11 31.0 -2.4**
TDK **Taldyqorghan** **45.24 296** *e*P **P** **11 11 34.1 +0.4**
comp=Z,9.1nm,0.8s,baz=296
TDK **Taldyqorghan** **45.24 296** *e*P **P** **11 11 34.0 +0.4**
TDK pmax pmax
comp=Z,9.0nm,0.8s
KLU **Klutina** **45.38 40** P **P** **11 11 35.8 +1.3**
KLU IAmb IAmb 11 11 37.6
comp=Z,17nm,1.4s
UZB **Uzynbulak** **45.51 293** *e*P **P** **11 11 35.6 -0.2**
baz=293
UZB **Uzynbulak** **45.51 293** *e*P **P** **11 11 35.6 -0.2**
KPKS **Kokpek** **45.61 294** *e*P **P** **11 11 36.8 +0.1**
baz=294
KPKS **Kokpek** **45.61 294** *e*P **P** **11 11 36.7 +0.1**
SCRK **Sand Creek** **45.86 36** P **P** **11 11 38.9 +0.6**
SCRK IAmb IAmb 11 11 39.3
comp=Z,6.6nm,0.5s
ZHN **Zhinishke** **45.90 294** *e*P **P** **11 11 38.2 -0.7**
baz=294
ZHN **Zhinishke** **45.90 294** *e*P **P** **11 11 38.2 -0.7**
SATY **Saty** **45.96 294** *e*P **P** **11 11 38.7 -0.7**
comp=Z,3.9nm,0.8s,baz=293
SATY **Saty** **45.96 294** *e*P **P** **11 11 38.6 -0.7**
SATY pmax pmax
comp=Z,4.0nm,0.8s
CHKK **Chushkaly** **46.61 295** *e*P **P** **11 11 44.0 -0.4**
baz=295
CHKK **Chushkaly** **46.61 295** *e*P **P** **11 11 43.9 -0.4**
MDOK **Medeo** **46.83 294** *e*P **P** **11 11 46.0 -0.3**
baz=294
MDOK **Medeo** **46.83 294** *e*P **P** **11 11 45.9 -0.3**
TNSS **Tian-Shan** **46.95 294** *e*P **P** **11 11 47.7 +0.2**
baz=294
TNSS **Tian-Shan** **46.95 294** *e*P **P** **11 11 47.7 +0.2**

KUU **Kurty** **47.03 295** *e*P **P** **11 11 47.2 -0.5**
comp=Z,8.7nm,0.8s,baz=295
KUU **Kurty** **47.03 295** *e*P **P** **11 11 47.1 -0.5**
KUU pmax pmax
comp=Z,9.0nm,0.8s
BRZS **Berezniki** **47.22 304** *e*P **P** **11 11 48.8 -0.2**
baz=304
BRZS **Berezniki** **47.22 304** *e*P **P** **11 11 48.7 -0.2**
BVAR **Borovoye Array** **47.62 309** P **P** **11 11 52.6 +0.6**
BVAR 11 13 20.5
BVAR **Borovoye Array** **47.62 309** P **P** **11 11 52.5 +0.6**
comp=Z,13nm,0.4s,baz=76,slow=9.0,SNR=75
BVAR PcP **PcP** **11 13 20.5 +0.7**
comp=Z,7.6nm,0.5s,baz=77,slow=3.3,SNR=11
comp=Z,13nm,0.4s
BRVK **Borovoye** **47.67 309** P **P** **11 11 53.4 +1.0**
BRVK IAmb IAmb 11 11 57.4
comp=Z,25nm,1.5s
BRVK **Borovoye** **47.67 309***ce*P **P** **11 11 52.7 +0.3**
BRVK pmax pmax
comp=Z,20nm,1.7s
BRVK **Borovoye** **47.67 309** *e*P **P** **11 11 52.7 +0.3**
DAWY **Dawson** **47.83 35** P **P** **11 11 54.8 +1.2**
BOOM **Boomskoye usch** **47.85 294** IAmb IAmb 11 11 55.9
comp=Z,12nm,0.8s
BTLS **Baital** **48.11 298** *e*P **P** **11 11 55.8 -0.1**
baz=298
BTLS **Baital** **48.11 298** *e*P **P** **11 11 55.7 -0.1**
SGDS **Sogindy** **48.34 296** *e*P **P** **11 11 57.6 -0.2**
baz=295
SGDS **Sogindy** **48.34 296** *e*P **P** **11 11 57.6 -0.2**
EPYK **Eagle Plains** **48.43 32** IAmb IAmb 11 11 59.9
comp=Z,7.5nm,0.7s
K29M **Barlow Dome** **48.69 36** IAmb IAmb 11 12 02.6
comp=Z,4.4nm,0.6s
AAK **Ala-Archa** **48.76 295** P **P** **11 12 02.1 +0.9**
AAK IAmb IAmb 11 12 02.5
comp=Z,10nm,1.4s
AAK **Ala-Archa** **48.76 295***ce*P **P** **11 12 01.1 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK **Ala-Archa** **48.76 295** *e*P **P** **11 12 01.1 -0.1**
KSH **Kashi** **49.08 290** P **P** **11 12 08.1 +4.5**
INK **Inuvik** **49.19 29** P **P** **11 12 04.5 +0.7**
INK **Inuvik** **49.19 29** P **P** **11 12 04.5 +0.7**
INK pmax pmax
comp=Z,6.0nm,1.0s
G31M **Satah River** **49.25 31** P **P** **11 12 05.1 +0.8**
ARSB **Arslanbob** **50.34 294** IAmb IAmb 11 12 14.8
comp=Z,7.9nm,1.2s
DZA **Taraz** **50.77 296** *e*P **P** **11 12 16.2 0.0**
comp=Z,4.1nm,0.5s,baz=296
DZA **Taraz** **50.77 296** *e*P **P** **11 12 16.2 0.0**
DZA pmax pmax
comp=Z,4.0nm,0.5s
A36M **Sachs Harbour** **50.91 24** IAmb IAmb 11 12 19.0
comp=Z,9.4nm,0.7s
KK31 **Karatay Array** **51.22 297** P **P** **11 12 20.0 +0.5**
KK31 IAmb IAmb 11 12 20.5
comp=Z,14nm,1.4s
KK31 **Karatay Array** **51.22 297** P **P** **11 12 20.0 +0.5**
KK31 pmax pmax
comp=Z,14nm,1.4s
SVE **Sverdlovsk** **51.67 316** *e*P **P** **11 12 23.5 +0.9**
SVE pmax pmax
comp=Z,23nm,0.9s
C36M **Paulatuk** **52.16 27** P **P** **11 12 26.9 +0.9**
C36M IAmb IAmb 11 12 27.3
comp=Z,9.1nm,0.6s
CHM **Chimkent** **52.17 296** *e*P **P** **11 12 26.9 +0.3**
baz=296
CHM **Chimkent** **52.17 296** *e*P **P** **11 12 26.8 +0.3**
BTK **Batken** **52.38 293** P **P** **11 12 28.2 0.0**
BTK IAmb IAmb 11 12 29.9
comp=Z,9.3nm,1.2s
BTK **Batken** **52.38 293** P **P** **11 12 28.3 0.0**
BTK pmax pmax
comp=Z,9.0nm,1.3s
ARU **Arti** **52.88 316** P **P** **11 12 31.3 -0.3**
ARU **Arti** **52.88 316***ce*P **P** **11 12 31.3 -0.3**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU **Arti** **52.88 316** P **P** **11 12 31.9 +0.3**
comp=Z,6.1nm,0.2s,baz=64,slow=3.6,SNR=15
ARU PcP **PcP** **11 13 39.4 +0.3**
comp=Z,4.9nm,0.3s,baz=99,slow=21,SNR=3.3
comp=Z,6.1nm,0.2s
ARU **Arti** **52.88 316** *e*P **P** **11 12 31.3 -0.3**
SIMJ **Simiganj** **54.28 292** P **P** **11 12 42.1 -0.1**
ABKAR **Akbulak array** **55.13 308** P **P** **11 12 48.2 +0.3**
SPA0 **Spitsbergen Ar** **55.33 348** *e*P **P** **11 12 49.5 +0.5**
SPB2 **Spitsbergen Ar** **55.33 348** P **P** **11 12 49.7 +0.7**
SPITS **Spitsbergen Ar** **55.33 348** P **P** **11 12 49.5 +0.5**
SPITS pmax pmax
comp=Z,51nm,1.4s
SPITS **Spitsbergen Ar** **55.33 348** P **P** **11 12 49.0 0.0**
comp=Z,2.5nm,0.5s,baz=82,slow=6.0,SNR=11
comp=Z,2.5nm,0.5s
AKTO **Aktyubinsk** **55.71 310** P **P** **11 12 51.7 -0.5**
AKTO **Aktyubinsk** **55.71 310** P **P** **11 12 51.6 -0.5**
comp=Z,4.0nm,0.7s,baz=66,slow=6.9,SNR=11
comp=Z,4.0nm,0.7s
MTN **Manton Dam** **56.05 193** P **P** **11 12 55.5 +0.7**
KBL **Kabul** **56.34 288** P **P** **11 12 56.4 -0.7**
KBL IAmb IAmb 11 12 57.1
comp=Z,6.7nm,0.7s
KBL **Kabul** **56.34 288** P **P** **11 12 56.4 -0.7**
KBL pmax pmax
comp=Z,7.0nm,0.7s
KIRV **Kirov** **56.43 321***ce*P **P** **11 12 57.5 +0.4**
RES **Resolute Bay** **57.12 15** P **P** **11 13 01.6 -0.1**
RES IAmb IAmb 11 13 02.3
comp=Z,9.6nm,0.8s
RES **Resolute Bay** **57.12 15** P **P** **11 13 01.6 -0.1**
RES pmax pmax
comp=Z,10.0nm,0.8s
VADS **Vadso** **57.77 338** *e*P **P** **11 13 06.4 +0.1**
KEV **Kevo** **58.63 338** P **P** **11 13 12.4 0.0**
KEV **Kevo** **58.63 338** P **P** **11 13 12.4 0.0**
KEV pmax pmax
comp=Z,39nm,1.5s
YKA **Yellowknife Ar** **58.72 32** P **P** **11 13 13.2 +0.1**
YKA **Yellowknife Ar** **58.72 32** P **P** **11 13 13.7 +0.6**
YKA **Yellowknife Ar** **58.72 32** P **P** **11 13 13.7 +0.6**
comp=Z,2.0nm,0.8s,baz=304,slow=6.7,SNR=16
comp=Z,2.0nm,0.8s
ARA0 **ARCESS Array S** **59.18 339** *e*P **P** **11 13 16.1 -0.1**
ARCES **ARCESS Array B** **59.18 339** P **P** **11 13 15.8 -0.4**
ARCES **ARCESS Array B** **59.18 339** P **P** **11 13 15.8 -0.4**
comp=Z,1.2nm,0.5s,baz=49,slow=8.3,SNR=18
comp=Z,1.2nm,0.5s
KNRA **Kununurra** **59.25 195** P **P** **11 13 18.1 +0.9**
KLMR **Klimovskoe** **59.60 326** *e*P P 11 13 13.6 -5.6
KLMR pmax pmax
comp=Z,25nm,1.5s
NEEM **North Greenlan** **60.03 3** *i*P **P** **11 13 21.6 -0.6**
NEEM IAmb IAmb 11 13 24.3
comp=Z,7.5nm,0.7s
KTK1 **Kautokeino** **60.14 339** *e*P **P** **11 13 22.7 -0.1**
DAG **Danmarks Havn** **60.40 355** *i*P **P** **11 13 23.7 -0.7**
BELG **Belogornoye** **60.41 315** *i*P **P** **11 13 24.4 -0.4**
BELG **Belogornoye** **60.41 315** P **P** **11 13 25.1 +0.3**
comp=Z,21nm,0.8s,baz=1.1,slow=1.5,SNR=7.9
comp=Z,21nm,0.8s
JETT **Jettan, Norway** **60.50 340** *e*P **P** **11 13 25.4 +0.2**
TRO **Tromso** **60.82 340** *e*P **P** **11 13 27.4 +0.1**
HRA **Herat** **61.15 291** IAmb IAmb 11 13 31.9
comp=Z,8.9nm,0.8s
GEYT **Alibeck** **61.98 297** P **P** **11 13 35.9 +0.2**
GEYT **Alibeck** **61.98 297** P **P** **11 13 35.9 +0.2**
GEYT pmax pmax
comp=Z,12nm,0.8s
GEYT **Alibeck** **61.98 297** P **P** **11 13 36.1 +0.4**
comp=Z,11nm,0.7s,baz=55,slow=6.2,SNR=15
comp=Z,11nm,0.7s
GYA0B **ALIBECK ARRAY** **61.98 297** P **P** **11 13 35.8 +0.1**
GYA0B IAmb IAmb 11 13 36.9
comp=Z,8.6nm,0.8s
WB0 **Warramunga Arr** **62.40 189** P **P** **11 13 38.8 +0.3**
WB0 IAmb IAmb 11 13 39.4
comp=Z,12nm,1.4s
WR0 **Warramunga Arr** **62.58 188** P **P** **11 13 39.8 +0.1**
WR0 IAmb IAmb 11 13 42.9
comp=Z,7.3nm,1.4s
WB2 **Warramunga Arr** **62.58 189** P **P** **11 13 40.1 +0.4**

WB2 IAmb IAmb 11 14 07.2
comp=Z,14nm,1.4s
WRA **Warramunga Arr** **62.58 189** P **P** **11 13 40.0 +0.3**
WRA **Warramunga Arr** **62.58 189** P **P** **11 13 39.6 -0.1**
WRA *PP **pP** **11 14 08.9 +1.4**
WRA **Warramunga Arr** **62.58 189** P **P** **11 13 39.6 -0.1**
comp=Z,1.2nm,0.5s,baz=7.2,slow=6.9,SNR=35
WRA pP **pP** **11 14 08.9 +1.4**
comp=Z,3.7nm,0.7s,baz=3.9,slow=6.9,SNR=9.7
comp=Z,1.2nm,0.5s
LOF **Lofoten** **63.25 341** *e*P **P** **11 13 44.2 +0.6**
FAUS **Fauske** **63.38 340** *e*P **P** **11 13 44.5 0.0**
LON **Longmire** **64.03 50** P **P** **11 13 51.1 +1.9**
LON IAmb IAmb 11 13 56.0
comp=Z,8.3nm,1.4s
LON **Longmire** **64.03 50** P **P** **11 13 51.1 +1.9**
LON pmax pmax
comp=Z,8.0nm,1.5s
OBN **Obninsk** **64.23 322** *e*P **P** **11 13 50.5 +0.3**
OBN *e*SP **pP** **11 14 19.2 +0.7**
OBN *e* 11 16 10.1
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN **Obninsk** **64.23 322** *e*P **P** **11 13 50.7 +0.5**
UPNV **Upernavik** **64.29 6** *i*P **P** **11 13 52.3 +2.0**
UPNV IAmb IAmb 11 13 55.6
comp=Z,12nm,0.8s
FIA1 **FINESS Array S** **64.37 331** P **P** **11 13 51.0 0.0**
FINES **FINESS Array B** **64.37 331** P **P** **11 13 51.2 +0.2**
FINES **FINESS Array B** **64.37 331** P **P** **11 13 51.2 +0.2**
FINES **FINESS Array B** **64.37 331** P **P** **11 13 50.8 -0.2**
comp=Z,20nm,0.5s,baz=50,slow=7.5,SNR=92
comp=Z,20nm,0.5s
LTY **Liberty** **64.38 49** P **P** **11 13 52.8 +1.3**
MOR8 **Moi Rana** **64.53 339** *e*P **P** **11 13 50.6 -1.4**
SUMG **Summit** **65.22 0** P **P** **11 13 57.9 +1.0**
SUMG IAmb IAmb 11 13 58.5
comp=Z,11nm,0.7s
SUMG **Summit** **65.22 0** P **P** **11 13 57.9 +1.0**
SUMG pmax pmax
comp=Z,11nm,0.7s
SUMG **Summit** **65.22 0** *i*P **P** **11 13 57.0 +0.1**
SUMG IAmb IAmb 11 13 58.8
comp=Z,10nm,0.7s
VSR **Storozhevoye** **65.39 318** *e*P **P** **11 13 56.4 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.5s
D08A **Wollman Farm,** **65.46 48** P **P** **11 13 59.6 +1.3**
VORD **Divnogorie** **65.47 317** *e*P **P** **11 13 56.4 -2.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSU **Vasula** **66.17 329***ce*P **P** **11 14 03.8 +1.1**
VSU pmax pmax
comp=Z,9.0nm,0.6s
ASAR **Alice Springs** **66.31 189** P **P** **11 14 05.2 +1.2**
ASAR **Alice Springs** **66.31 189** P **P** **11 14 04.5 +0.5**
ASAR *PP **pP** **11 14 32.0 0.0**
ASAR **Alice Springs** **66.31 189** P **P** **11 14 04.5 +0.5**
comp=Z,1.7nm,0.8s,baz=0.1,slow=5.1,SNR=20
ASAR pP **pP** **11 14 32.0 0.0**
comp=Z,0.8nm,0.8s,baz=15,slow=3.8,SNR=2.2
comp=Z,1.7nm,0.8s
NSS **Namsos** **66.46 339** *e*P **P** **11 14 05.6 +1.2**
KIV **Kislovodsk** **67.97 310** *e*P **P** **11 14 15.7 +1.2**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV **Kislovodsk** **67.97 310** *e*P **P** **11 14 15.7 +1.2**
KBZ **Khabaz** **67.99 310** *i*P **P** **11 14 14.1 -0.3**
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ **Khabaz** **67.99 310** P **P** **11 14 15.7 +1.3**
comp=Z,6.0nm,0.8s,baz=36,slow=8.7,SNR=12
comp=Z,6.0nm,0.8s
KBZ **Khabaz** **67.99 310** *e*P **P** **11 14 14.1 -0.3**
ICESG **Greenland Ices** **68.72 1** *i*P **P** **11 14 19.5 +0.5**
ICESG IAmb IAmb 11 14 20.4
comp=Z,10nm,0.8s
DOMB **Dombas** **69.25 339** *e*P **P** **11 14 22.0 0.0**
NC405 **NORSAR Array S** **69.26 337** P **P** **11 14 22.3 +0.3**
NC303 **NORSAR Array S** **69.27 337** IAmb IAmb 11 14 23.4
comp=Z,9.8nm,0.7s
NC204 **NORSAR Array S** **69.40 337** P **P** **11 14 23.3 +0.3**
HFS **Hagfors** **69.44 335** P **P** **11 14 23.1 -0.1**
HFS **Hagfors** **69.44 335** P **P** **11 14 23.1 -0.1**
comp=Z,20nm,0.5s,baz=49,slow=6.7,SNR=103
comp=Z,20nm,0.5s
NB2 **NORSAR Subarra** **69.46 337** P **P** **11 14 23.4 0.0**
comp=Z,6.2nm,0.6s,baz=35,slow=6.5
NB2 **NORSAR Subarra** **69.46 337** P **P** **11 14 23.4 0.0**
baz=35,slow=6.5
NOA **NORSAR Array B** **69.46 337** P **P** **11 14 23.2 -0.1**
NOA **NORSAR Array B** **69.46 337** P **P** **11 14 23.2 -0.1**
comp=Z,11nm,0.7s,baz=36,slow=6.2,SNR=42
comp=Z,11nm,0.7s
NBO00 **NORSAR Array S** **69.59 337** P **P** **11 14 24.7 +0.5**
NBO00 IAmb IAmb 11 14 25.0
comp=Z,14nm,0.7s
NC602 **NORSAR Array S** **69.61 337** *e*P **P** **11 14 24.2 0.0**
AKN **Aaknes** **69.68 339** *e*P **P** **11 14 25.2 +0.5**
BOZ **Bozeman (W)** **70.31 46** P **P** **11 14 30.4 +1.4**
BOZ **Bozeman (W)** **70.31 46** P **P** **11 14 30.4 +1.4**
BOZ pmax pmax
comp=Z,4.0nm,0.7s
AKASG **Malin Array Be** **70.48 322** P **P** **11 14 29.5 -0.2**
AKASG **Malin Array Be** **70.48 322** P **P** **11 14 29.5 -0.2**
comp=Z,1.8nm,0.3s,baz=44,slow=5.9,SNR=24
comp=Z,1.8nm,0.3s
AKBB **Malin Array Si** **70.48 322** IAmb IAmb 11 14 30.4
comp=Z,10nm,0.8s
AKBB **Malin Array Si** **70.48 322***ce*P **P** **11 14 29.5 -0.2**
AKBB pmax pmax
comp=Z,13nm,0.9s
KIEV **Kiev** **70.49 322** P **P** **11 14 29.4 -0.3**
KIEV IAmb IAmb 11 14 30.4
comp=Z,9.0nm,0.8s
KIEV **Kiev** **70.49 322** P **P** **11 14 29.4 -0.3**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
SKAR **Skarsla** **70.58 338** *e*P **P** **11 14 31.0 +0.8**
NVAR **Mina Array Bea** **71.14 55** P **P** **11 14 34.6 +0.4**
comp=Z,0.8nm,0.6s,baz=297,slow=6.2,SNR=4.6
comp=Z,0.8nm,0.6s
DY2G **Dye2** **71.15 4** *i*P **P** **11 14 33.9 +0.2**
DY2G IAmb IAmb 11 14 35.3
comp=Z,6.4nm,0.7s
RLMT **Red Lodge** **71.87 45** P **P** **11 14 39.3 +0.8**
DUG **Dugway, Tooele** **73.22 51** P **P** **11 14 48.4 +1.9**
DUG **Dugway, Tooele** **73.22 51** P **P** **11 14 48.4 +1.9**
DUG pmax pmax
comp=Z,3.0nm,0.7s
PDAR **Pinedale Array** **73.31 47** P **P** **11 14 47.8 +0.8**
PDAR **Pinedale Array** **73.31 47** P **P** **11 14 47.9 +0.8**
comp=Z,2.2nm,0.7s,baz=248,slow=0.3,SNR=24
PDAR pP **pP** **11 15 15.8 -0.3**
comp=Z,0.6nm,0.6s,baz=282,slow=1.2,SNR=2.9
comp=Z,2.2nm,0.7s
LVV **L'vov** **73.44 324** *e*P **P** **11 14 48.3 +0.9**
KWP **Kalwaria Pacla** **74.16 324** IAmb IAmb 11 14 53.1
comp=Z,12nm,0.8s
BUR08 **Bucovina Ar. S** **74.51 321** IAmb IAmb 11 14 55.2
comp=Z,6.3nm,0.7s
ULM **Lac du Bonnet** **74.53 35** P **P** **11 14 53.1 -0.6**
ULM **Lac du Bonnet** **74.53 35** P **P** **11 14 53.0 -0.6**
comp=Z,2.8nm,0.7s,baz=288,slow=3.4,SNR=4.8
comp=Z,2.8nm,0.7s
RDMU **Red Mountain** **74.80 49** IAmb IAmb 11 14 58.0
comp=Z,9.3nm,0.7s
KOLS **Kolonicke sedl** **74.87 324** *e*P **P** **11 14 56.5 +0.8**
KOLS **Kolonicke sedl** **74.87 324** *e*P **P** **11 14 56.5 +0.8**
OJC **Ojcow** **74.95 326** IAmb IAmb 11 14 57.8
comp=Z,11nm,0.8s
STHS **Stebnicka Huta** **74.95 325** *e*P **P** **11 14 56.7 +0.5**
STHS **Stebnicka Huta** **74.95 325** *e*P **P** **11 14 56.7 +0.5**
RSSD **Black Hills** **75.26 43** P **P** **11 14 59.1 +0.8**
RSSD **Black Hills** **75.26 43** P **P** **11 14 59.1 +0.8**
RSSD pmax pmax
comp=Z,3.0nm,0.7s
SRU **San Rafael Swe** **75.26 50** IAmb IAmb 11 15 00.4
comp=Z,7.9nm,1.0s
MLR **Muntele Rosu** **75.74 319** P **P** **11 15 01.1 +0.2**
MLR **Muntele Rosu** **75.74 319** P **P** **11 15 01.1 +0.2**
comp=Z,1.3nm,0.4s,baz=166,slow=9.2,SNR=4.0
comp=Z,1.3nm,0.4s
BRTR **Keskin Array B** **75.84 311** P **P** **11 15 02.1 +0.6**
BRTR **Keskin Array B** **75.84 311** *i*P **P** **11 15 02.2 +0.6**

BRTR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
BRTR	**Keskin Array B**	**75.84**	**311**	P		**P**	**11 15 01.9**	**+0.3**	
	comp=Z,2.2nm,0.7s,baz=74,slow=4.3,SNR=5.9								
	comp=Z,2.2nm,0.7s								
HMU	**Henry Mountain**	**75.94**	**51**	IAmb		IAmb	11 15 04.4		
	comp=Z,6.9nm,0.7s								
MORC	**Moravsky Berou**	**76.22**	**327**	IAmb		IAmb	11 15 05.1		
	comp=Z,7.6nm,1.0s								
UPC	**Upice**	**76.25**	**328**	*e*P		**P**	**11 15 04.3**	**+0.7**	
UPC	**Upice**	**76.25**	**328**	*e*P		**P**	**11 15 04.3**	**+0.7**	
DPC	**Dobruska-Polom**	**76.25**	**328**	*e*P		**P**	**11 15 04.5**	**+0.9**	
DPC	**Dobruska-Polom**	**76.25**	**328**	*e*P		**P**	**11 15 04.5**	**+0.9**	
KRLC	**Kraliky**	**76.29**	**327**	*e*P		**P**	**11 15 04.7**	**+0.9**	
KRLC	**Kraliky**	**76.29**	**327**	*e*P		**P**	**11 15 04.7**	**+0.9**	
CLL	**Collm**	**76.75**	**330**	IAmb		IAmb	11 15 07.3		
	comp=Z,8.0nm,1.0s								
CLL	**Collm**	**76.75**	**330**	⇑*i*P		**P**	**11 15 06.3**	**0.0**	
CLL					pmax	pmax			
	comp=Z,9.0nm,1.0s								
CLL	**Collm**	**76.75**	**330**	⇑*i*P		**P**	**11 15 06.3**	**0.0**	
	comp=Z,9.0nm,1.0s								
VRAC	**Vranov**	**76.97**	**327**	P		**P**	**11 15 07.8**	**+0.2**	
VRAC	**Vranov**	**76.97**	**327**	P		**P**	**11 15 07.8**	**+0.2**	
	comp=Z,4.2nm,0.7s,baz=60,slow=6.9,SNR=4.4								
	comp=Z,4.2nm,0.7s								
PRU	**Pruhonice**	**77.24**	**329**	*e*P		**P**	**11 15 10.0**	**+0.9**	
PRU	**Pruhonice**	**77.24**	**329**	*e*P		**P**	**11 15 10.0**	**+0.9**	
MODS	**Modra-Piesok**	**77.43**	**326**	*e*P		**P**	**11 15 12.3**	**+2.1**	
MODS	**Modra-Piesok**	**77.43**	**326**	*e*P		**P**	**11 15 12.3**	**+2.1**	
EKA	**Eskdalemuir Ar**	**78.24**	**341**	P		**P**	**11 15 14.7**	**+0.1**	
EKA	**Eskdalemuir Ar**	**78.24**	**341**	P		**P**	**11 15 14.7**	**+0.1**	
	comp=Z,2.3nm,0.5s,baz=23,slow=4.5,SNR=12								
	comp=Z,2.3nm,0.5s								
CKRC	**Cesky Krumlov**	**78.27**	**328**	*e*P		**P**	**11 15 15.5**	**+0.6**	
CKRC	**Cesky Krumlov**	**78.27**	**328**	*e*P		**P**	**11 15 15.5**	**+0.6**	
KHC	**Kasperske Hory**	**78.30**	**329**	*e*P		**P**	**11 15 15.4**	**+0.3**	
KHC	**Kasperske Hory**	**78.30**	**329**	*ce*P		**P**	**11 15 15.3**	**+0.2**	
KHC					pmax	pmax			
	comp=Z,14nm,0.8s								
CONA	**Conrad Observa**	**78.36**	**327**	*e*P		**P**	**11 15 16.5**	**+1.0**	
	comp=Z,2.1nm,0.5s								
RONA	**Rosalia, Austr**	**78.36**	**326**	*i* P		**P**	**11 15 16.6**	**+1.1**	
	comp=Z,3.8nm,0.6s								
GERES	**GERESS Array B**	**78.48**	**328**	P		**P**	**11 15 16.0**	**-0.1**	
GERES	**GERESS Array B**	**78.48**	**328**	P		**P**	**11 15 16.0**	**-0.1**	
	comp=Z,1.1nm,0.5s,baz=23,slow=7.2,SNR=6.3								
	comp=Z,1.1nm,0.5s								
K30B	**Basset**	**78.52**	**42**	IAmb		IAmb	11 15 18.0		
	comp=Z,14nm,0.8s								
GRF	**Grafenberg Arr**	**78.73**	**330**	*e*P		**P**	**11 15 18.1**	**+0.7**	
	comp=Z,8.5nm,0.8s,baz=34,slow=4.7								
RDO	**Rodhopi**	**79.14**	**317**	P		**P**	**11 15 20.3**	**+0.6**	
RDO				IAmb		IAmb	11 15 21.5		
	comp=Z,9.0nm,0.8s								
ECSD	**EROS Data Cent**	**79.16**	**39**			**P**	**11 15 20.2**	**+0.4**	
BIOA	**Bad Ischl, Aus**	**79.44**	**328**	*i* P		**P**	**11 15 21.9**	**+0.6**	
	comp=Z,2.7nm,0.6s								
MMAI	**Mount Meron Ar**	**79.46**	**305**	P		**P**	**11 15 22.9**	**+1.2**	
	comp=Z,8.1nm,0.7s,baz=39,slow=6.8,SNR=13								
	comp=Z,8.1nm,0.7s								
SOKA	**Soboth**	**79.70**	**326**	*i* P		**P**	**11 15 22.9**	**+0.1**	
	comp=Z,5.2nm,0.7s								
BTNL	**Ternell**	**79.76**	**333**	*d*P		**P**	**11 15 23.2**	**+0.2**	
SCHQ	**Schefferville**	**79.87**	**17**	P		**P**	**11 15 23.7**	**+0.2**	
	comp=Z,4.0nm,0.5s,baz=358,slow=5.7,SNR=10								
	comp=Z,4.0nm,0.5s								
OBKA	**Obir**	**80.03**	**326**	*e*P		**P**	**11 15 24.9**	**+0.3**	
	comp=Z,6.9nm,0.8s								
LESA	**Schwarzleotal**	**80.04**	**328**	*i* P		**P**	**11 15 25.3**	**+0.7**	
	comp=Z,6.6nm,0.9s								
KBA	**Koelnbreinsper**	**80.06**	**327**	*e*P		**P**	**11 15 25.8**	**+1.0**	
	comp=Z,3.7nm,0.6s								
MYKA	**Terra Mystica**	**80.30**	**327**	*e*P		**P**	**11 15 25.9**	**-0.1**	
	comp=Z,4.3nm,0.6s								
BMRD	**Maredsous**	**80.45**	**334**	*d*P		**P**	**11 15 26.7**	**+0.1**	
WATA	**Walderalm**	**80.54**	**329**	*e*P		**P**	**11 15 28.6**	**+1.2**	
	comp=Z,5.6nm,0.6s								
WTTA	**Wattenberg**	**80.58**	**328**	*i* P		**P**	**11 15 28.1**	**+0.5**	
	comp=Z,6.8nm,0.6s								
L34A	**Svendsen Farm,**	**80.62**	**40**	P		**P**	**11 15 27.4**	**-0.3**	
L34A				IAmb		IAmb	11 15 28.6		
	comp=Z,14nm,0.7s								
RETA	**Reutte**	**80.73**	**329**	*e*P		**P**	**11 15 28.9**	**+0.6**	
	comp=Z,9.9nm,1.0s								
SQTA	**Sankt Quirin**	**80.78**	**329**	*e*P		**P**	**11 15 29.1**	**+0.4**	
	comp=Z,4.5nm,0.6s								
STAL	**STALIGIAL**	**80.98**	**327**	IAmb		IAmb	11 15 29.4		
	comp=Z,7.1nm,0.6s								
FETA	**Feichten**	**81.12**	**329**	*e*P		**P**	**11 15 30.6**	**+0.1**	
	comp=Z,4.0nm,0.9s								
DAVA	**Damuels**	**81.23**	**330**	*e*P		**P**	**11 15 31.5**	**+0.5**	
	comp=Z,11nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**81.64**	**329**	IAmb		IAmb	11 15 34.9		
	comp=Z,12nm,0.8s								
DAVOX	**Davos/Dischmat**	**81.65**	**329**	P		**P**	**11 15 33.9**	**+0.6**	
DAVOX	**Davos/Dischmat**	**81.65**	**329**	P		**P**	**11 15 33.9**	**+0.6**	
	comp=Z,3.8nm,0.4s,baz=184,slow=5.0,SNR=9.9								
	comp=Z,3.8nm,0.4s								
TUE	**Stuetta**	**82.11**	**329**	IAmb		IAmb	11 15 36.9		
	comp=Z,5.5nm,0.7s								
VLDQ	**Val d'Or**	**83.14**	**26**	IAmb		IAmb	11 15 40.5		
	comp=Z,9.4nm,0.6s								
SMWD	**Samnorwood**	**83.85**	**47**	IAmb		IAmb	11 15 46.8		
	comp=Z,7.5nm,0.8s								
S39A	**Bolivar**	**85.42**	**41**	IAmb		IAmb	11 15 53.0		
	comp=Z,5.7nm,0.9s								
R40A	**Maddies Statio**	**85.45**	**40**	IAmb		IAmb	11 15 53.6		
	comp=Z,6.7nm,0.7s								
CCM	**Cathedral Cave**	**86.13**	**40**	P		**P**	**11 15 56.1**	**+0.1**	
CCM				IAmb		IAmb	11 15 57.1		
	comp=Z,7.3nm,0.8s								
CCM	**Cathedral Cave**	**86.13**	**40**	P		**P**	**11 15 56.1**	**+0.1**	
CCM					pmax	pmax			
	comp=Z,7.0nm,0.9s								
TX31	**Lajitas Ar. Si**	**86.18**	**53**	IAmb		IAmb	11 15 58.4		
	comp=Z,5.5nm,0.7s								
TXAR	**Lajitas Array**	**86.18**	**53**	P		**P**	**11 15 57.9**	**+1.4**	
TXAR	**Lajitas Array**	**86.18**	**53**	P		**P**	**11 15 57.9**	**+1.4**	
TXAR	**Lajitas Array**	**86.18**	**53**	P		**P**	**11 15 57.6**	**+1.1**	
	comp=Z,1.9nm,0.6s,baz=295,slow=4.3,SNR=30								
	comp=Z,1.9nm,0.6s								
PBMO	**Poplar Bluff**	**87.54**	**40**	IAmb		IAmb	11 16 04.2		
	comp=Z,7.3nm,0.8s								
ESDC	**Sonseca Array**	**92.72**	**335**	P		**P**	**11 16 27.1**	**0.0**	
	comp=Z,1.2nm,0.7s,baz=18,slow=3.6,SNR=6.2								
	comp=Z,1.2nm,0.7s								
TORD	**Torodi Ar. Bea**	**113.94**	**318**	PKiKP		**PKiKP**	**11 21 52.4**	**-1.2**	
	comp=Z,0.4nm,0.4s,baz=34,slow=2.7,SNR=5.5								
TORD				PP		**PP**	**11 22 43.1**	**-5.0**	
	comp=Z,1.6nm,1.1s,baz=16,slow=11,SNR=5.7								
VNDA	**Vanda**	**120.35**	**175**	PKiKP		**PKiKP**	**11 22 04.2**	**0.0**	
VNDA	**Vanda**	**120.35**	**175**	PKP		**PKiKP**	**11 22 04.2**	**0.0**	
	comp=Z,0.6nm,0.6s,baz=333,slow=2.4,SNR=1.8								
DBIC	**Dimbokro**	**122.72**	**320**	PKiKP		**PKPdf**	**11 22 09.8**	**-0.8**	
DBIC	**Dimbokro**	**122.72**	**320**	PKP		**PKPdf**	**11 22 09.8**	**-0.8**	
	comp=Z,1.1nm,0.5s,baz=21,slow=19,SNR=1.3								
QSPA	**South Pole Qui**	**132.24**	**180**	PKP		**PKPdf**	**11 22 27.5**	**+0.4**	
	comp=Z,1.2nm,0.6s,baz=328,slow=0.9,SNR=12								
TROLL	**Troll, Antarti**	**144.65**	**200**	⇓P		**PKPdf**	**11 22 49.7**	**0.0**	
	comp=Z,375nm,0.6s								
VNA2	**Neumayer--Watz**	**147.77**	**198**	⇓P		**PKPbc**	**11 22 58.5**	**+0.6**	
	comp=Z,8.8nm,0.6s,baz=92,slow=2.0								
VNA1	**Neumayer--Stat**	**148.17**	**198**	⇓P		**PKiKP**	**11 23 01.3**	**+0.7**	
	comp=Z,12nm,1.0s								
BDFB	**Brasilia**	**151.76**	**22**	PKiKP		**PKPbc**	**11 23 09.6**	**+0.2**	
BDFB	**Brasilia**	**151.76**	**22**	PKPbc		**PKPbc**	**11 23 09.6**	**+0.2**	
	comp=Z,5.5nm,0.8s,baz=214,slow=4.7,SNR=5.9								

JMA 10 11:04:49.5±0.0, 33°80N±0.0°08×135°4E±0.0°1, h10km, MV0.9/29, CENTRAL WAKAYAMA PREF, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JTNC	**Tanabenakahech**	**0.22**	**85**	P	Pg	11	04	54.2	+0.1
JTNC				*e*S	Sg	11	04	57.4	+0.2
JWY	**Kouya**	**0.46**	**26**	P	Pg	11	04	58.7	+0.1
JWY				*e*S	Sg	11	05	04.8	0.0
JAI	**Aioi**	**0.74**	**270**	*e*P	Pg	11	05	03.5	-0.4
JAI				*e*S	Sg	11	05	13.2	-0.5
JKN2	**Miekihoku**	**0.89**	**60**	*e*P	Pg	11	05	06.2	-0.4

*IDC **10** 11:08:25.1±1.9, 4.°11N×94.°59E, h0km, mb3.7/8,*
mbtmp3.8/9, ML4.5/1, Error ellipse: s-maj=80.5km s-min=22.4km az=58.0
*DJA **10** 11:08:35.0±1.0, 4°N±4°×9°5E±°, h58km±39km, M4.1/7, mb4.3/3, MLv4.0/7*
ISC 10 11:08:32.7±0.9, 4°38N±0°07×94°89E±0°09, h48km, n26, σ1§05/19, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MLSI	**Meulaboh, Aceh**	**1.52**	**94**	P	**Pn**	**11**	**08**	**58.7**	**+1.3**
MLSI				S	**Sn**	**11**	**09**	**15.1**	**-0.9**
LHMI	**Lhok Sumawe**	**2.22**	**68**	P	**Pn**	**11**	**09**	**08.4**	**+1.3**
SNSI	**Sinabang, Aceh**	**2.43**	**144**	P	**Pn**	**11**	**09**	**11.0**	**+1.1**
SNSI				S	**Sn**	**11**	**09**	**37.2**	**-1.2**
KCSI	**Kotacane, Aceh**	**3.00**	**106**	P	Pn	11	09	21.4	+3.6
KCSI				S	**Sn**	**11**	**09**	**52.9**	**+0.3**
GSI	**Gunungsitoli**	**4.07**	**139**	P	**Pn**	**11**	**09**	**33.3**	**+0.9**
PBSI	**Pulau Batu**	**5.56**	**142**	P	**Pn**	**11**	**09**	**53.8**	**+0.9**
	87nm,1.0s,0.5nm								
KULM	**Kulim**	**5.81**	**81**	P	**Pn**	**11**	**09**	**57.2**	**+0.8**
	13nm,1.2s,0.1nm								
SKLT	**Songkhla**	**6.34**	**64**	P	**Pn**	**11**	**10**	**04.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**14.54**	**16**	Pn	**P**	**11**	**11**	**59.2**	**-2.1**
	0.7nm,0.3s,baz=209,slow=12,SNR=16								
	1.4nm,0.3s								
H08S2	**Diego Garcia H**	**25.33**	**242**	T	T	11	39	37.8	
	baz=66								
H08S3	**Diego Garcia H**	**25.33**	**242**	T	T	11	39	40.4	
	baz=66								
H08S1	**Diego Garcia H**	**25.35**	**242**	T	T	11	39	31.4	
	baz=66								
MKAR	**Makarchi Array**	**43.64**	**347**	P	**P**	**11**	**16**	**33.5**	**+0.9**
	0.9nm,0.3s,baz=164,slow=8.0,SNR=15								
	0.9nm,0.3s								
SONM	**Songino Array**	**44.41**	**11**	P	**P**	**11**	**16**	**39.0**	**+0.2**
	0.3nm,0.3s,baz=189,slow=7.7,SNR=2.2								
	0.3nm,0.3s								
WRA	**Warramunga Arr**	**45.69**	**123**	P	**P**	**11**	**16**	**49.4**	**+0.2**
	0.3nm,0.7s,baz=304,slow=9.0,SNR=2.0								
	0.3nm,0.7s								
ASAR	**Alice Springs**	**47.15**	**128**	P	**P**	**11**	**16**	**59.6**	**-1.1**
	0.2nm,0.4s,baz=292,slow=7.3,SNR=2.0								
	0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**48.10**	**346**	P	**P**	**11**	**17**	**07.9**	**+0.3**
	0.6nm,0.6s,baz=163,slow=6.9,SNR=6.5								
	0.6nm,0.6s								
ZALV	**Zalesovo Beam**	**50.10**	**352**	P	**P**	**11**	**17**	**23.0**	**+0.2**
	0.5nm,0.3s,baz=142,slow=3.3,SNR=2.9								
	0.5nm,0.3s								
BVAR	**Borovoye Array**	**52.52**	**342**	P	**P**	**11**	**17**	**40.5**	**-0.4**
	1.4nm,0.6s,baz=145,slow=9.1,SNR=6.3								
	1.4nm,0.6s								
H04N2	**CROZET ISLANDS**	**63.15**	**212**	T	T	12	26	47.1	
	baz=50,slow=75,SNR=31								
H04N1	**CROZET ISLANDS**	**63.16**	**212**	T	T	12	26	45.9	
	baz=50,slow=75,SNR=27								
H04N3	**CROZET ISLANDS**	**63.17**	**212**	T	T	12	26	46.5	
	baz=50,slow=75,SNR=21								
H04S1	**CROZET ISLANDS**	**63.53**	**212**	T	T	12	27	19.1	
	baz=49								
H04S3	**CROZET ISLANDS**	**63.54**	**212**	T	T	12	27	15.4	
	baz=49								
H04S2	**CROZET ISLANDS**	**63.55**	**212**	T	T	12	27	18.2	
	baz=49								
ARCES	**ARCESS Array B**	**78.79**	**340**	P	**P**	**11**	**20**	**30.9**	**+0.9**
	1.2nm,0.7s,baz=345,slow=8.8,SNR=4.3								
	1.2nm,0.7s								

*NAO **10** 11:16:51.7, 36°77N×23°37E, h33km, mb3.5*
*IDC **10** 11:17:08.8±1.4, 38°77N×20°59E, h0km, mb3.8/10, mbtmp3.8/13, ML3.7/3, MS3.3/2, Error ellipse: s-maj=23.4km s-min=21.7km az=170.0*
*BEO **10** 11:17:10.8±0.8, 38°59N×20°44E, h15km±7km, ML3.2/9*
*ATH **10** 11:17:12.0, 38°71N×20°61E, h8km, ML3.7/9, Error ellipse: s-maj=1.3km s-min=0.7km az=280.0*
*THE **10** 11:17:11.8, 38°72N×20°58E, h7km±1km, ML3.7/12, Error ellipse: s-maj=1.2km s-min=0.6km az=134.0*
*PDG **10** 11:17:11.1±0.7, 38°75N×20°52E, h10km±1km, ML3.8/11, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
ISC 10 11:17:11.1±0.7, 38°73N±0°02×20°58E±0°02, h14km±3km, n158, σ1§16/208, mb3.8/10, 18C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
DRAG	**Dragano-Lefkad**	**0.04**	**184**	P	**Pg**	**11**	**17**	**13.6**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.04**	**184**	P	**Pg**	**11**	**17**	**13.8**	**0.0**
DRAG				S	**Sg**	**11**	**17**	**15.2**	**-0.2**
LKD2	**Lefkada island**	**0.09**	**45**	P	**Pg**	**11**	**17**	**14.0**	**-0.1**
LKD2				S	**Sg**	**11**	**17**	**15.4**	**-0.8**
	106μm,0.2s								
LKD2	**Lefkada island**	**0.09**	**45**	P	**Pg**	**11**	**17**	**14.0**	**-0.1**
LKD2				S	**Sg**	**11**	**17**	**15.4**	**-0.8**
LKD2				AML	AML	11	17	16.0	
LKD2				AML	AML	11	17	16.2	
NYDR	**Nydri-Lefkada**	**0.09**	**98**	P	**Pg**	**11**	**17**	**13.9**	**-0.2**
NYDR				S	**Sg**	**11**	**17**	**15.4**	**-0.8**
	189μm,0.3s								
NYDR	**Nydri-Lefkada**	**0.09**	**98**	P	**Pg**	**11**	**17**	**14.0**	**-0.1**
NYDR				S	**Sg**	**11**	**17**	**15.2**	**-1.0**
TSLK	**Tsoukalades, L**	**0.11**	**32**	P	**Pg**	**11**	**17**	**14.6**	**+0.2**
TSLK				S	**Sg**	**11**	**17**	**16.4**	**-0.3**
	109μm,0.3s								
TSLK	**Tsoukalades, L**	**0.11**	**32**	P	**Pg**	**11**	**17**	**14.6**	**+0.2**
TSLK				S	**Sg**	**11**	**17**	**16.3**	**-0.4**
TSLK				AML	AML	11	17	17.2	
TSLK				AML	AML	11	17	18.3	
EVGI	**Lefkada island**	**0.12**	**150**	P	**Pg**	**11**	**17**	**14.6**	**+0.1**
EVGI				S	**Sg**	**11**	**17**	**16.4**	**-0.4**
	50μm,0.2s								
EVGI	**Lefkada island**	**0.12**	**150**	P	**Pg**	**11**	**17**	**14.7**	**+0.1**
FSK	**Fiskardo**	**0.27**	**183**	P	**Pg**	**11**	**17**	**17.1**	**+0.4**
FSK				S	**Sb**	**11**	**17**	**21.8**	**-0.3**
	17μm,0.3s								
FSK	**Fiskardo**	**0.27**	**183**	P	**Pg**	**11**	**17**	**17.2**	**+0.4**
FSK				S	**Sg**	**11**	**17**	**21.1**	**+0.6**
FSK				AML	AML	11	17	22.1	
	comp=N,36632μm,0.4s								
FSK				AML	AML	11	17	23.4	
	comp=E,30677μm,0.2s								
VSK1	**VASILIKIADES**	**0.32**	**182**	P	**Pg**	**11**	**17**	**17.9**	**+0.2**
VSK1				S	**Sg**	**11**	**17**	**22.7**	**+0.6**
	comp=E,9μm,0.4s								
AST1	**Astakos**	**0.44**	**115**	P	**Pg**	**11**	**17**	**19.9**	**0.0**
AST1				S	**Sb**	**11**	**17**	**27.5**	**+0.4**
	comp=E,18μm,0.4s								
KEF4	**Livadi, Kephal**	**0.48**	**195**	P	**Pg**	**11**	**17**	**20.9**	**+0.3**
KEF4				S	**Sb**	**11**	**17**	**28.8**	**+0.5**
KEF4	**Livadi, Kephal**	**0.48**	**195**	P	**Pg**	**11**	**17**	**20.9**	**+0.3**
DMLN	**Damoulianata-K**	**0.51**	**198**	P	**Pg**	**11**	**17**	**21.3**	**+0.1**
DMLN				S	**Sb**	**11**	**17**	**30.0**	**+0.8**
	comp=E,9μm,0.5s								
DMLN	**Damoulianata-K**	**0.51**	**198**	P	**Pg**	**11**	**17**	**21.5**	**+0.3**
DMLN				S	**Sg**	**11**	**17**	**28.6**	**+0.5**
VLS	**Valsamata**	**0.55**	**179**	P	**Pg**	**11**	**17**	**21.8**	**-0.2**
VLS				S	**Sb**	**11**	**17**	**30.1**	**-0.1**
	comp=E,6μm,0.4s								
VLS	**Valsamata**	**0.55**	**179**	P	**Pg**	**11**	**17**	**21.7**	**-0.2**
VLS				S	**Sb**	**11**	**17**	**30.4**	**+0.2**
VLS				AML	AML	11	17	32.0	
	comp=E,12331μm,0.4s								
VLS				AML	AML	11	17	32.6	
	comp=N,10770μm,0.4s								
KEF3	**Kipouria, Keph**	**0.55**	**199**	P	**Pg**	**11**	**17**	**21.5**	**-0.5**
KEF3				S	**Sb**	**11**	**17**	**30.3**	**0.0**
KEF3	**Kipouria, Keph**	**0.55**	**199**	P	**Pg**	**11**	**17**	**21.5**	**-0.5**
KEF3				S	**Sg**	**11**	**17**	**29.7**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.61**	**180**	P	**Pg**	**11**	**17**	**23.0**	**-0.1**
PSDA				S	**Sb**	**11**	**17**	**31.9**	**-0.1**
	comp=N,7μm,0.4s								
PSDA	**Pessada-Kefalo**	**0.61**	**180**	P	**Pg**	**11**	**17**	**23.0**	**-0.1**
PSDA				S	**Sg**	**11**	**17**	**30.9**	**-0.3**
PVO	**Paravola**	**0.75**	**98**	P	**Pb**	**11**	**17**	**25.9**	**0.0**
PVO				S	**Sb**	**11**	**17**	**37.5**	**+1.5**
	comp=N,52μm,0.3s								
PVO	**Paravola**	**0.75**	**98**	P	**Pb**	**11**	**17**	**26.0**	**0.0**
PVO				S	**Sb**	**11**	**17**	**36.1**	**+0.1**
IGT	**Igoumenitsa**	**0.83**	**347**	P	**Pg**	**11**	**17**	**26.8**	**-0.3**
IGT	**Igoumenitsa**	**0.83**	**347**	P	**Pg**	**11**	**17**	**27.0**	**-0.2**
IGT				S	**Sb**	**11**	**17**	**39.8**	**+1.5**
IGT				AML	AML	11	17	45.3	
	comp=N,4277μm,0.3s								
IGT				AML	AML	11	17	45.4	
	comp=E,4103μm,0.6s								

JAN	**Janina**	**0.95**	**13**	P		**Pn**	**11**	**17**	**30.8**	**+0.7**
JAN	**Janina**	**0.95**	**13**	P		**Pn**	**11**	**17**	**30.6**	**+0.5**
JAN				S		**Sn**	**11**	**17**	**43.9**	**+0.4**
JAN				AML	AML		11	17	48.4	
	comp=N,5610μm,0.3s									
JAN				AML	AML		11	17	49.3	
	comp=E,8275μm,0.3s									
RLS	**Riolos of Patr**	**0.97**	**134**	P		**Pg**	**11**	**17**	**29.1**	**-0.6**
RLS	**Riolos of Patr**	**0.97**	**134**	P		**Pg**	**11**	**17**	**29.2**	**-0.6**
RLS				S		**Sg**	**11**	**17**	**41.5**	**-0.9**
EVR	**Evrytania**	**0.98**	**78**	P		**Pb**	**11**	**17**	**30.5**	**+0.6**
EVR				S		**Sn**	**11**	**17**	**44.9**	**+0.7**
EVR	**Evrytania**	**0.98**	**78**	P		**Pb**	**11**	**17**	**30.5**	**+0.6**
LTHK	**Lithakia**	**1.04**	**169**	P		**Pg**	**11**	**17**	**30.2**	**-0.9**
LTHK	**Lithakia**	**1.04**	**169**	P		**Pg**	**11**	**17**	**30.1**	**-1.0**
ANX	**Ano Chora**	**1.06**	**97**	P		**Pg**	**11**	**17**	**30.7**	**-0.9**
ANX				S		**Sn**	**11**	**17**	**46.7**	**+0.5**
	comp=E,5μm,0.4s									
ANX	**Ano Chora**	**1.06**	**97**	P		**Pg**	**11**	**17**	**31.0**	**-0.5**
ANX				S		**Sb**	**11**	**17**	**45.7**	**+0.7**
ANX				AML	AML		11	17	49.1	
	comp=E,7851μm,0.4s									
ANX				AML	AML		11	17	49.4	
	comp=N,12342μm,0.4s									
KRI1	**kERI**	**1.08**	**170**	P		**Pg**	**11**	**17**	**30.9**	**-1.0**
EFP	**Efpalio**	**1.08**	**106**	P		**Pg**	**11**	**17**	**31.0**	**-1.0**
EFP	**Efpalio**	**1.08**	**106**	P		**Pg**	**11**	**17**	**31.3**	**-0.7**
EFP				S		**Sb**	**11**	**17**	**46.6**	**+1.1**
EFP				AML	AML		11	17	51.9	
	comp=N,10702μm,0.2s									
EFP				AML	AML		11	17	51.9	
	comp=E,9049μm,0.2s									
KEK	**Kerkira**	**1.16**	**329**	P		**Pg**	**11**	**17**	**32.5**	**-0.9**
KEK	**Kerkira**	**1.16**	**329**	P		**Pg**	**11**	**17**	**32.5**	**-0.9**
TRIZ	**Trizonia**	**1.23**	**107**	P		**Pb**	**11**	**17**	**33.8**	**-0.2**
TRIZ	**Trizonia**	**1.23**	**107**	P		**Pb**	**11**	**17**	**33.5**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.25**	**76**	P		**Pn**	**11**	**17**	**34.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.25**	**76**	P		**Pn**	**11**	**17**	**34.5**	**+0.4**
ALIK	**Aliki, Aigiali**	**1.29**	**111**	P		**Pn**	**11**	**17**	**34.6**	**-0.1**
KPRO	**Kipourio**	**1.37**	**26**	P		**Pb**	**11**	**17**	**37.0**	**+0.5**
KPRO	**Kipourio**	**1.37**	**26**	P		**Pb**	**11**	**17**	**37.0**	**+0.5**
THL	**Klokotos Trika**	**1.40**	**53**	P		**Pn**	**11**	**17**	**37.0**	**+0.8**
THL	**Klokotos Trika**	**1.40**	**53**	P		**Pn**	**11**	**17**	**36.9**	**+0.8**
THL				S		**Sb**	**11**	**17**	**55.3**	**+0.7**
THL				AML	AML		11	18	03.3	
	comp=N,3985μm,0.6s									
THL				AML	AML		11	18	03.5	
	comp=E,6729μm,0.5s									
AGG	**Agios Georgios**	**1.40**	**77**	P		**Pn**	**11**	**17**	**36.9**	**+0.7**
KLV	**Kalavryta, Ach**	**1.41**	**118**	P		**Pn**	**11**	**17**	**36.3**	**-0.1**
KLV	**Kalavryta, Ach**	**1.41**

comp=E,1.9nm,0.4s
MOA Molln 10.21 335 *i* Pn **Pn 11 19 37.5 +0.4**
comp=E,2.5nm,0.3s,SNR=4.7
LESA Schwarzleotal 10.43 329 *e*Pn **Pn 11 19 40.2 -0.1**
comp=E,1.3nm,0.3s
DAVOX Davos/Dischmat 11.24 319 Pn **Pn 11 19 51.7 +0.2**
comp=E,0.2nm,0.3s,baz=305,slow=20,SNR=1.6
DAVOX Sn **Sn 11 21 53.9 -3.1**
comp=E,0.1nm,0.3s,baz=60,slow=22,SNR=1.6
comp=E,1.0nm,0.4s
GERES GERESS Array B 11.26 336 Pn **Pn 11 19 51.0 -0.7**
comp=E,0.4nm,0.3s,baz=156,slow=14,SNR=5.6
comp=E,1.3nm,0.5s
AKASG Malin Array Be 13.45 24 LR LR 11 25 42.4
comp=E,86nm,19.9s,baz=270,slow=38
HFS Hagfors 21.87 351 P **P 11 22 02.8 -0.4**
comp=E,3.2nm,0.8s,baz=178,slow=12,SNR=9.4
HFS LR LR 11 32 48.0
comp=E,113nm,18.9s,baz=48,slow=43
comp=E,3.2nm,0.8s
FINES FINESS Array B 23.00 7 P **P 11 22 13.8 -1.3**
comp=E,2.6nm,0.7s,baz=167,slow=10,SNR=13
comp=E,2.6nm,0.7s
EKA Eskdalemuir Ar 23.01 324 P **P 11 22 15.0 -0.3**
comp=E,3.4nm,0.7s,baz=122,slow=9.6,SNR=8.8
comp=E,3.4nm,0.7s
NB2 NORSAR Subarra 23.09 348 P **P 11 22 16.2 0.0**
comp=Z,0.7nm,0.6s,baz=157,slow=9.3
NOA NORSAR Array B 23.09 348 P **P 11 22 14.9 -1.3**
comp=Z,0.4nm,0.5s,baz=156,slow=9.7,SNR=5.1
comp=Z,0.4nm,0.5s
TORD Torodi Ar. Bea 30.49 218 P **P 11 23 23.0 -0.7**
comp=Z,0.3nm,0.5s,baz=36,slow=8.6,SNR=2.0
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 30.98 3 P **P 11 23 26.8 -0.8**
comp=Z,3.0nm,1.0s,baz=184,slow=11,SNR=4.3
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 36.73 50 P **P 11 24 16.5 -1.2**
comp=Z,0.3nm,0.4s,baz=270,slow=7.2,SNR=2.0
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 44.98 59 P **P 11 25 25.8 +0.1**
comp=Z,0.2nm,0.4s,baz=288,slow=6.8,SNR=2.5
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 45.29 49 P **P 11 25 28.0 -0.1**
comp=Z,1.1nm,0.4s,baz=284,slow=9.2,SNR=5.9
comp=Z,1.1nm,0.4s
SCHQ Schefferville 58.09 317 P **P 11 27 04.6 +0.9**
comp=Z,2.5nm,0.7s,baz=45,slow=2.9,SNR=2.4
comp=Z,2.5nm,0.7s

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*IDC **10** 11:20:08.9±0.5, 34.°92S×111.°04W, h0km, mb4.3/14, mbtmp4.3/14, MS4.7/40, Error ellipse: s-maj=21.2km s-min=17.2km az=77.0*
*NEIC **10** 11:20:11.9±1.2, 35.°0S±0.°1×111.°2W±0.°2, h10km±1km, mb5.0/169, Error ellipse: s-maj=21.4km s-min=19.8km az=293.0*
*BJI **10** 11:20:12.5±0.0, 35.°00S×111.°10W, h10km, mB5.5/2*
*GCMT **10** 11:20:14.9±0.4, 34.°93S±0.°03×111.°49W±0.°03, h24km±1km, MW5.4/85, Moment Tensor Solution. s12,c14; s85,c106; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.30±.19; $M_{\theta\theta}$0.04±.11; $M_{\phi\phi}$1.26±.12; $M_{r\theta}$-0.16±.17; $M_{\theta\phi}$-0.68±.04; $M_{r\phi}$0.06±.12; Best double couple: $M_0$1.44300×10^{17} NP1:ϕ_s149.00000°, δ48.00000°, λ-99.00000°. NP2:ϕ_s343.00000°, δ43.00000°, λ-80.00000°. Principal axes: T 1.5670, Plg2.0000°, Azm246.0000°; N -0.2470, Plg7.0000°, Azm156.0000°; P -1.3190, Plg83.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 11:20:11.0±0.3, 34.°99S±0.°09×111.°12W±0.°08, h10km, n222, σ1s07/139, mb4.9/98, MS4.7/41, 10C-4D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**26.53**	**97**	T	T	11 53 46.9	
	baz=257,slow=76,SNR=24						
H03S1	**Juan Fernandez**	**26.54**	**97**	T	T	11 53 45.5	
	baz=257,slow=76,SNR=48						
H03S3	**Juan Fernandez**	**26.54**	**97**	T	T	11 53 44.1	
	baz=257,slow=76,SNR=48						
H03N2	**Juan Fernandez**	**26.61**	**96**	T	T	11 53 50.4	
	baz=262,slow=72,SNR=26						
H03N3	**Juan Fernandez**	**26.61**	**96**	T	T	11 53 47.0	
	baz=262,slow=72,SNR=18						
H03N1	**Juan Fernandez**	**26.62**	**96**	T	T	11 53 50.4	
	baz=262,slow=72,SNR=28						
LC02	**Puerto Saavedr**	**30.28**	**108**	P	**P**	**11 26 22.9**	**+0.6**
AY01	**Puyuhuapi**	**30.82**	**120**	P	**P**	**11 26 28.4**	**+1.4**
AY01				IAmb	IAmb	11 26 37.8	
	comp=Z,18nm,0.8s						
LL01	**San Ignacio de**	**30.90**	**116**	P	**P**	**11 26 28.3**	**+0.6**
LL01				IAmb	IAmb	11 26 49.9	
	comp=Z,30nm,1.3s						
AY03	**Cochrane**	**31.19**	**125**	P	**P**	**11 26 31.4**	**+1.1**
AY03				IAmb	IAmb	11 26 38.7	
	comp=Z,41nm,1.1s						
COYC	**Coyhaique**	**31.32**	**122**	P	**P**	**11 26 32.8**	**+1.4**
LL02	**Futaleuf**	**31.33**	**117**	P	**P**	**11 26 31.0**	**-0.5**
GO06	**Curarrehue**	**31.70**	**110**	P	**P**	**11 26 35.0**	**+0.1**
GO06				IAmb	IAmb	11 26 43.0	
	comp=Z,14nm,0.9s						
PLCA	**Paso Flores**	**32.33**	**112**	P	**P**	**11 26 41.1**	**+0.7**
PLCA				IAmb	IAmb	11 26 48.9	
	comp=Z,16nm,0.9s						
PLCA	**Paso Flores**	**32.33**	**112**	P	**P**	**11 26 39.8**	**-0.6**
	comp=Z,6.7nm,0.9s,baz=274,slow=10,SNR=12						
PLCA				LR	LR	11 36 06.3	
	comp=Z,372nm,19.9s,baz=269,slow=30						
	comp=Z,6.7nm,0.9s						
PEL	**Peldehue**	**33.39**	**99**	P	**P**	**11 26 50.6**	**+0.9**
PEL				IAmb	IAmb	11 27 50.4	
	comp=Z,36nm,1.4s						
MT13	**San Alfonso**	**33.57**	**100**	P	**P**	**11 26 52.5**	**+1.1**
VA03	**San Esteban**	**33.60**	**98**	P	**P**	**11 26 53.0**	**+1.3**
VA03				IAmb	IAmb	11 27 23.9	
	comp=Z,12nm,0.8s						
LCO	**Las Campanas**	**34.62**	**92**	P	**P**	**11 27 01.1**	**+0.3**
LCO				IAmb	IAmb	11 27 19.5	
	comp=Z,28nm,1.4s						
CO01	**Juntas del Tor**	**34.79**	**93**	P	**P**	**11 27 03.5**	**+1.3**
CO01				IAmb	IAmb	11 27 43.8	
	comp=Z,47nm,1.9s						
AC06	**Mina Casimiro**	**35.51**	**89**	P	**P**	**11 27 09.5**	**+1.4**
AC06				IAmb	IAmb	11 27 30.2	
	comp=Z,21nm,1.1s						
GO03	**Copiap**	**35.52**	**90**	P	**P**	**11 27 09.9**	**+1.6**
AC01	**Pan de Azucar**	**35.79**	**87**	P	**P**	**11 27 11.9**	**+1.3**
AC01				IAmb	IAmb	11 27 50.4	
	comp=Z,34nm,1.4s						
CFA	**Coronel Fontan**	**35.80**	**97**	LR	LR	11 38 15.0	
	comp=Z,2μm,19.5s,baz=262,slow=30						
PB14	**IPOC Station P**	**36.59**	**85**	P	**P**	**11 27 19.2**	**+1.4**
PB14				IAmb	IAmb	11 27 38.8	
	comp=Z,32nm,1.4s						
GO02	**Mina Guanaco**	**37.02**	**86**	P	**P**	**11 27 22.5**	**+1.1**
GO02				IAmb	IAmb	11 27 37.6	
	comp=Z,24nm,1.2s						
PB05	**IPOC Station P**	**37.56**	**82**	P	**P**	**11 27 27.5**	**+1.7**
PB15	**IPOC Station P**	**37.99**	**83**	P	**P**	**11 27 30.0**	**+0.4**
PPT	**Papeete**	**38.31**	**287**	P	**P**	**11 27 32.4**	**+0.3**
	comp=Z,17nm,0.8s,baz=43,slow=18,SNR=3.6						
PPT				LR	LR	11 39 14.3	
	comp=Z,421nm,21.6s,baz=120,slow=30						
	comp=Z,17nm,0.8s						
PB07	**IPOC Station P**	**38.35**	**81**	P	**P**	**11 27 34.3**	**+1.7**
NNA	**Nana**	**38.59**	**62**	LR	LR	11 39 15.9	
	comp=Z,2μm,21.0s,baz=227,slow=30						
LVC	**Limon Verde**	**38.72**	**83**	P	**P**	**11 27 37.1**	**+1.2**
LVC				IAmb	IAmb	11 27 45.2	
	comp=Z,31nm,1.2s						
LVC	**Limon Verde**	**38.72**	**83**	LR	LR	11 39 28.5	
	comp=Z,2μm,19.0s,baz=243,slow=30						
PB09	**IPOC Station P**	**38.84**	**82**	P	**P**	**11 27 37.4**	**+0.7**
PB09				IAmb	IAmb	11 27 46.2	
	comp=Z,50nm,1.3s						
TA02	**Huaiquique**	**38.88**	**79**	P	**P**	**11 27 36.9**	**+0.1**
TA02				IAmb	IAmb	11 27 45.3	
	comp=Z,73nm,1.6s						
PB01	**IPOC Station P**	**39.01**	**80**	P	**P**	**11 27 37.1**	**-0.9**
PB01				IAmb	IAmb	11 27 46.9	
	comp=Z,52nm,1.8s						
TRQA	**Tornquist**	**39.25**	**109**	P	**P**	**11 27 40.2**	**+0.5**
GO01	**Chusmiza**	**39.95**	**79**	P	**P**	**11 27 46.9**	**+0.6**
PB16	**IPOC Station P**	**40.40**	**77**	P	**P**	**11 27 51.0**	**+0.9**
ATAH	**Atahualpa**	**40.90**	**55**	LR	LR	11 40 45.3	
	comp=Z,1μm,18.2s,baz=231,slow=30						
PMSA	**Palmer Station**	**40.94**	**151**	LR	LR	11 41 24.9	
	comp=Z,585nm,18.5s,baz=296,slow=31						
MCRA	**Macar, Loja**	**41.95**	**51**	P	**P**	**11 28 02.5**	**+0.2**
ARNL	**Arenillas**	**42.51**	**50**	P	**P**	**11 28 07.1**	**+0.3**
LPAZ	**La Paz**	**42.62**	**75**	P	**P**	**11 28 09.5**	**+1.1**
BOSC	**San Juan Bosco**	**43.81**	**51**	P	**P**	**11 28 17.8**	**+0.2**
COHC	**Cochancay**	**43.86**	**50**	P	**P**	**11 28 18.2**	**+0.6**
CZSB	**Cruzeiro do Su**	**44.45**	**62**	P	**P**	**11 28 23.4**	**+0.9**
CZSB				IAmb	IAmb	11 28 37.0	
	comp=Z,14nm,0.8s						
OTAV	**Otavalo**	**46.46**	**48**	P	**P**	**11 28 39.4**	**+0.5**
OTAV				IAmb	IAmb	11 28 47.8	
	comp=Z,21nm,1.4s						
CPUP	**Villa Florida**	**46.60**	**95**	P	**P**	**11 28 38.6**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=270,slow=6.1,SNR=3.3						
CPUP				LR	LR	11 45 22.1	
	comp=Z,742nm,18.2s,baz=252,slow=32						
	comp=Z,2.6nm,0.9s						
IMBA	**Imbabura, San**	**46.65**	**48**	P	**P**	**11 28 40.5**	**+0.1**
ETMB	**Extrema**	**47.95**	**70**	P	**P**	**11 28 50.1**	**+0.1**
SIV	**San Ignacio**	**48.44**	**80**	LR	LR	11 46 37.4	
	comp=Z,743nm,20.4s,baz=282,slow=33						
PTLB	**Pontes e Lacer**	**50.30**	**81**	P	**P**	**11 29 08.6**	**+0.6**
PTLB				IAmb	IAmb	11 29 15.5	
	comp=Z,29nm,1.7s						
AQDB	**Aquidauana**	**50.55**	**89**	P	**P**	**11 29 09.7**	**-0.2**
AQDB				IAmb	IAmb	11 29 26.1	
	comp=Z,21nm,1.4s						
VILB	**Vilhena**	**50.82**	**77**	P	**P**	**11 29 12.3**	**+0.3**
VILB				IAmb	IAmb	11 29 24.9	
	comp=Z,18nm,1.1s						
SAML	**Samuel**	**50.83**	**71**	P	**P**	**11 29 12.7**	**+0.6**
JTS	**Las Juntas de**	**51.40**	**34**	P	**P**	**11 29 17.6**	**+1.4**
ROSC	**El Rosal**	**52.60**	**49**	P	**P**	**11 29 26.4**	**+0.7**
ROSC				IAmb	IAmb	11 29 35.8	
	comp=Z,17nm,0.9s						
ROSC	**El Rosal**	**52.60**	**49**	LR	LR	11 48 27.0	
	comp=Z,664nm,19.1s,baz=244,slow=32						
APG	**El Apazote**	**53.45**	**25**	LR	LR	11 46 44.2	
	comp=Z,41nm,21.4s,baz=224,slow=30						
TLIG	**Tlapa**	**53.60**	**15**	P	**P**	**11 29 32.9**	**+0.3**
CMIG	**Matias Romero**	**54.04**	**19**	LR	LR	11 47 02.6	
	comp=Z,425nm,21.5s,baz=198,slow=30						
QSPA	**South Pole Qui**	**55.21**	**180**	P	**P**	**11 29 44.7**	**+0.8**
QSPA	**South Pole Qui**	**55.21**	**180**	P	**P**	**11 29 44.3**	**+0.4**
	comp=Z,11nm,1.1s,baz=100,slow=3.3,SNR=14						
QSPA				LR	LR	11 49 15.9	
	comp=Z,608nm,21.6s,baz=105,slow=32						
	comp=Z,11nm,1.1s						
PETF	**Flores**	**55.43**	**25**	P	**P**	**11 29 45.9**	**+0.2**
VNDA	**Vanda**	**55.50**	**195**	P	**P**	**11 29 47.3**	**+1.7**
VNDA	**Vanda**	**55.50**	**195**	P	**P**	**11 29 45.2**	**-0.4**
	comp=Z,2.5nm,1.2s,baz=110,slow=7.1,SNR=3.2						
VNDA				LR	LR	11 48 52.8	
	comp=Z,388nm,19.1s,baz=92,slow=31						
	comp=Z,2.5nm,1.2s						
RAO	**Raoul Island**	**55.93**	**256**	LR	LR	11 47 40.7	
	comp=Z,492nm,21.3s,baz=136,slow=30						
MACA	**Manapuru-AM**	**61.40**	**68**	P	**P**	**11 29 52.9**	**0.0**
ZAIG	**Zacatecas**	**58.01**	**9**	P	**P**	**11 30 04.8**	**+0.4**
SDV	**Santo Domingo**	**58.03**	**49**	P	**P**	**11 30 04.1**	**-0.5**
SDV				IAmb	IAmb	11 30 26.2	
	comp=Z,15nm,1.4s						
SDV	**Santo Domingo**	**58.03**	**49**	LR	LR	11 51 06.2	
	comp=Z,900nm,21.1s,baz=228,slow=32						
TEIG	**Tepich**	**59.04**	**25**	LR	LR	11 50 41.5	
	comp=Z,3μm,18.8s,baz=0.5,slow=31						
BDFB	**Brasilia**	**59.29**	**88**	P	**P**	**11 30 12.2**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=212,slow=17,SNR=2.3						
BDFB				LR	LR	11 53 47.6	
	comp=Z,855nm,18.0s,baz=234,slow=34						
	comp=Z,2.4nm,0.6s						
BAUV	**El Baul**	**59.71**	**51**	P	**P**	**11 30 15.1**	**-1.0**
BOAV	**Boa Vista**	**60.20**	**63**	P	**P**	**11 30 19.9**	**+0.4**
VNA1	**Neumayer--Stat**	**61.49**	**158**	⇓P	P	11 30 34.5	+7.0
	comp=Z,15nm,0.9s						
VNA2	**Neumayer--Watz**	**61.64**	**159**	⇓P	**P**	**11 30 29.5**	**+1.0**
	comp=Z,13nm,0.9s,baz=238,slow=7.0						
HPIG		**61.80**	**6**	P	**P**	**11 30 30.3**	**+0.1**
PCRV	**Puerto La Cruz**	**62.85**	**53**	LR	LR	11 54 34.9	
	comp=Z,815nm,21.8s,slow=33						
HSIG		**63.66**	**0**	P	**P**	**11 30 43.7**	**+1.3**
TROLL	**Troll, Antarti**	**63.88**	**162**	⇓P	**P**	**11 30 43.1**	**-0.6**
	comp=Z,202nm,0.7s						
TXAR	**Lajitas Array**	**64.36**	**7**	P	**P**	**11 30 47.4**	**+0.3**
TXAR	**Lajitas Array**	**64.36**	**7**	P	**P**	**11 30 45.7**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=156,slow=9.6,SNR=4.4						
	comp=Z,0.7nm,0.8s						
HNDO	**Hondo**	**65.14**	**11**	P	**P**	**11 30 52.4**	**+0.4**
SAND	**Sanderson**	**65.15**	**9**	P	**P**	**11 30 52.4**	**+0.2**
SAND				IAmb	IAmb	11 31 06.6	
	comp=Z,8.9nm,1.0s						
ALPN	**Alpine**	**65.39**	**7**	P	**P**	**11 30 53.6**	**-0.3**
ALPN				IAmb	IAmb	11 31 11.3	
	comp=Z,14nm,1.3s						
VHRN	**Van Horn**	**65.68**	**6**	IAmb	IAmb	11 31 08.9	
	comp=Z,6.9nm,0.9s						
JCT	**Junction City**	**65.99**	**11**	P	**P**	**11 30 57.5**	**-0.1**
JCT				IAmb	IAmb	11 31 27.0	
	comp=Z,15nm,1.1s						
OZNA	**Ozona**	**66.23**	**9**	P	**P**	**11 30 59.9**	**+0.7**
435B	**Jarrell**	**66.65**	**13**	P	**P**	**11 31 01.9**	**+0.1**
121A	**Cookes Peak, D**	**67.24**	**3**	P	**P**	**11 31 05.7**	**0.0**
121A				IAmb	IAmb	11 31 20.3	
	comp=Z,9.1nm,0.9s						
ODSA	**Odessa**	**67.24**	**8**	P	**P**	**11 31 05.1**	**-0.5**
ODSA				IAmb	IAmb	11 31 11.1	
	comp=Z,9.8nm,0.9s						
MDP	**Montagnes des**	**67.84**	**66**	LR	LR	11 57 41.6	
	comp=Z,1μm,19.0s,baz=233,slow=33						
NATX	**Nacogdoches**	**68.17**	**15**	P	**P**	**11 31 11.9**	**+0.6**
PFO	**Pinyon Flats O**	**68.42**	**355**	LR	LR	11 54 36.1	
	comp=Z,329nm,19.2s,baz=172,slow=30						
PLPT	**Palo Pinto**	**68.51**	**12**	IAmb	IAmb	11 31 27.1	
	comp=Z,8.3nm,0.9s						
CRNM	**Carthage**	**68.70**	**4**	P	**P**	**11 31 14.0**	**-0.9**
ELIB	**Princess Elisa**	**68.71**	**166**	*d*P	**P**	**11 31 14.4**	**-0.2**
	comp=Z,6.3nm,1.3s						
MSTX	**Muleshoe**	**69.04**	**7**	P	**P**	**11 31 17.5**	**+0.6**
MSTX				IAmb	IAmb	11 31 30.3	
	comp=Z,10nm,0.9s						
X18A	**Snowflake**	**69.17**	**1**	P	**P**	**11 31 17.7**	**0.0**
X18A				IAmb	IAmb	11 31 32.5	
	comp=Z,8.5nm,1.0s						
ANMO	**Albuquerque**	**69.71**	**4**	P	**P**	**11 31 22.3**	**+1.2**
ANMO	**Albuquerque**	**69.71**	**4**	LR	LR	11 56 22.7	
	comp=Z,270nm,21.5s,baz=264,slow=31						
143A	**Socs Landing,**	**69.83**	**18**	P	**P**	**11 31 21.7**	**+0.1**
WUAZ	**Wupatki**	**70.14**	**360**	P	**P**	**11 31 24.6**	**+0.8**
WUAZ				IAmb	IAmb	11 31 43.8	
	comp=Z,26nm,1.7s						
WLAR	**White Oak Lake**	**70.37**	**16**	P	**P**	**11 31 25.7**	**+0.8**
U15A	**North Rim**	**71.06**	**359**	IAmb	IAmb	11 31 44.2	
	comp=Z,12nm,1.1s						
RTBA	**Rita Blanca**	**71.49**	**7**	IAmb	IAmb	11 31 40.4	
	comp=Z,18nm,1.5s						
WCT	**Wildcat Mounta**	**71.60**	**355**	IAmb	IAmb	11 31 47.7	
	comp=Z,11nm,1.2s						
KNB	**Kanab**	**71.66**	**359**	IAmb	IAmb	11 32 07.1	
	comp=Z,18nm,1.4s						
DZM	**Mont Dzumac**	**71.73**	**256**	LR	LR	11 55 07.3	
	comp=Z,528nm,21.9s,baz=96,slow=29						
GRAC	**Grenevine Rang**	**71.85**	**355**	IAmb	IAmb	11 32 13.9	
	comp=Z,24nm,1.4s						
OK052	**Battle Ridge R**	**71.87**	**12**	P	**P**	**11 31 33.0**	**-1.0**
MVCO	**Mesa Verde**	**71.87**	**2**	IAmb	IAmb	11 31 53.9	
	comp=Z,14nm,1.2s						
OK033	**Mehan**	**71.89**	**12**	P	**P**	**11 31 33.4**	**-0.7**
TUL3	**Leonard**	**71.97**	**13**	P	**P**	**11 31 34.0**	**-0.6**
TUL3				IAmb	IAmb	11 31 51.7	
	comp=Z,21nm,1.2s						
SZCU	**Shurtz Canyon**	**72.24**	**358**	IAmb	IAmb	11 31 51.4	
	comp=Z,12nm,1.1s						
HHAR	**Hobbs**	**72.69**	**14**	IAmb	IAmb	11 31 52.9	
	comp=Z,11nm,0.9s						
U38A	**Gravette**	**72.75**	**14**	P	**P**	**11 31 39.5**	**+0.2**
U38A				IAmb	IAmb	11 32 01.5	
	comp=Z,18nm,1.4s						
R11B	**Troy Canyon, C**	**73.09**	**356**	IAmb	IAmb	11 31 56.6	
	comp=Z,22nm,1.6s						
LHV	**Little Huntoon**	**73.19**	**354**	IAmb	IAmb	11 31 50.5	
	comp=Z,17nm,1.1s						
TCRU	**Three Creeks R**	**73.24**	**359**	IAmb	IAmb	11 31 57.8	
	comp=Z,9.0nm,0.9s						
NV11	**Mina Array Sit**	**73.34**	**354**	IAmb	IAmb	11 31 57.8	
	comp=Z,17nm,1.2s						
NVAR	**Mina Array Bea**	**73.35**	**354**	P	**P**	**11 31 42.2**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=188,slow=5.4,SNR=14						
NVAR				LR	LR	11 57 30.8	
	comp=Z,587nm,18.4s,baz=173,slow=31						
	comp=Z,2.5nm,0.8s						
SPR3	**Spring Creek 3**	**73.68**	**357**	P	**P**	**11 31 44.7**	**-0.3**
SPR3				IAmb	IAmb	11 31 52.4	
	comp=Z,14nm,1.3s						
SRU	**San Rafael Swe**	**73.73**	**0**	P	**P**	**11 31 45.1**	**-0.1**
SRU				IAmb	IAmb	11 31 59.6	
	comp=Z,13nm,1.2s						
TMUT	**Trail Mountain**	**73.92**	**360**	IAmb	IAmb	11 32 00.8	
	comp=Z,11nm,1.0s						
R32A	**Long Quarter,**	**73.94**	**10**	IAmb	IAmb	11 32 04.7	
	comp=Z,21nm,1.2s						
KVN	**Kaiserville**	**73.95**	**354**	IAmb	IAmb	11 32 09.0	
	comp=Z,22nm,1.4s						
KSCO	**Kaye Shedlock'**	**74.05**	**7**	IAmb	IAmb	11 32 01.9	
	comp=Z,15nm,0.9s						
P17A	**Butcher Ranch,**	**74.09**	**0**	IAmb	IAmb	11 31 54.6	
	comp=Z,21nm,1.5s						
S39A	**Bolivar**	**74.18**	**15**	IAmb	IAmb	11 32 02.1	
	comp=Z,12nm,1.1s						
RCBR	**Riachuelo**	**74.58**	**86**	LR	LR	12 03 05.2	
	comp=Z,276nm,18.5s,baz=242,slow=35						
NLU	**North Lily Min**	**74.58**	**359**	IAmb	IAmb	11 32 05.4	
	comp=Z,16nm,1.2s						
ISCO	**Idaho Springs**	**74.59**	**4**	IAmb	IAmb	11 32 08.1	
	comp=Z,26nm,1.8s						
DUG	**Dugway, Tooele**	**74.83**	**359**	IAmb	IAmb	11 31 59.3	
	comp=Z,14nm,1.3s						
CCM	**Cathedral Cave**	**74.98**	**16**	P	**P**	**11 31 52.4**	**+0.2**
CCM				IAmb	IAmb	11 31 58.7	
	comp=Z,31nm,1.6s						
T47A	**Sharon Grove**	**75.02**	**20**	IAmb	IAmb	11 32 15.3	
	comp=Z,16nm,0.9s						
BSUT	**Blindstream Ca**	**75.15**	**0**	IAmb	IAmb	11 32 08.6	
	comp=Z,22nm,1.2s						
RDMU	**Red Mountain**	**75.20**	**1**	IAmb	IAmb	11 32 08.5	
	comp=Z,21nm,1.2s						
BMN	**Battle Mountai**	**75.26**	**355**	IAmb	IAmb	11 32 08.7	
	comp=Z,20nm,1.1s						
ELK	**Elko**	**75.46**	**357**	P	**P**	**11 31 55.2**	**-0.1**
ELK	**Elko**	**75.46**	**357**	LR	LR	11 59 15.6	
	comp=Z,410nm,18.5s,baz=195,slow=31						
YBH	**Yreka Blue Hor**	**77.08**	**351**	LR	LR	11 59 23.2	
	comp=Z,720nm,18.3s,baz=174,slow=31						
WVOR	**Wild Horse Val**	**77.36**	**354**	IAmb	IAmb	11 32 14.1	
	comp=Z,24nm,1.5s						
BW06	**Boulder Array**	**77.39**	**1**	IAmb	IAmb	11 32 20.4	
	comp=Z,15nm,1.1s						
PD31	**Pinedale Array**	**77.39**	**1**	IAmb	IAmb	11 32 20.4	
	comp=Z,13nm,1.1s						
PDAR	**Pinedale Array**	**77.39**	**1**	P	**P**	**11 32 05.2**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=164,slow=5.9,SNR=16						
PDAR				LR	LR	12 01 37.6	
	comp=Z,276nm,18.0s,baz=153,slow=32						
	comp=Z,4.6nm,0.8s						
MAW	**Mawson**	**77.62**	**178**	P	**P**	**11 32 07.1**	**0.0**
MAW	**Mawson**	**77.62**	**178**	P	**P**	**11 32 07.1**	**0.0**
	comp=Z,3.7nm,1.0s,baz=120,slow=13,SNR=2.7						
MAW				LR	LR	12 04 29.2	
	comp=Z,500nm,18.3s,baz=180,slow=34						
	comp=Z,3.7nm,1.0s						
TPAW	**Teton Pass**	**78.11**	**0**	IAmb	IAmb	11 32 24.7	
	comp=Z,14nm,1.2s						
LOHW	**Long Hollow**	**78.23**	**0**	IAmb	IAmb	11 32 24.6	
	comp=Z,16nm,1.4s						
HLID	**Hailey**	**78.23**	**358**	P	**P**	**11 32 11.2**	**+0.4**
J08A	**Circle Bar Ran**	**78.26**	**355**	P	**P**	**11 32 11.3**	**+0.5**
J08A				IAmb	IAmb	11 32 25.8	
	comp=Z,11nm,1.1s						
J05D	**Fort Rock, OR**	**78.44**	**352**	IAmb	IAmb	11 32 27.3	
	comp=Z,19nm,1.3s						
IMW	**Indian Meadow**	**78.51**	**0**	IAmb	IAmb	11 32 19.7	
	comp=Z,17nm,1.3s						
FLWY	**Flagg Ranch**	**78.70**	**0**	IAmb	IAmb	11 32 28.3	
	comp=Z,22nm,1.2s						
PINE	**Pine Mountain**	**78.92**	**353**	IAmb	IAmb	11 32 29.3	
	comp=Z,13nm,0.9s						
RSSD	**Black Hills**	**79.00**	**5**	P	**P**	**11 32 14.6**	**-0.5**
RSSD				IAmb	IAmb	11 32 29.9	
	comp=Z,21nm,1.3s						
I07A	**Izee**	**79.06**	**354**	IAmb	IAmb	11 32 23.4	
	comp=Z,14nm,1.2s						
ECSD	**EROS Data Cent**	**79.46**	**11**	IAmb	IAmb	11 32 31.4	
	comp=Z,18nm,1.1s						
YHL	**Hebgen Lake**	**79.47**	**360**	IAmb	IAmb	11 32 33.3	
	comp=Z,22nm,1.5s						
BMO	**Blue Mountains**	**79.67**	**356**	IAmb	IAmb	11 32 25.1	
	comp=Z,31nm,1.9s						
PLID	**Pearl Lake**	**79.83**	**356**	IAmb	IAmb	11 32 27.1	
	comp=Z,19nm,1.4s						
F36A	**Milaca**	**82.03**	**12**	IAmb	IAmb	11 32 45.4	
	comp=Z,19nm,1.1s						
C09A	**Chrisman Ranch**	**82.67**	**355**	IAmb	IAmb	11 32 48.7	
	comp=Z,9.0nm,1.0s						
NEW	**Newport**	**83.05**	**356**	IAmb	IAmb	11 32 43.9	
	comp=Z,13nm,1.2s						
NEW	**Newport**

TIY	**Taiyuan**	**145.05**	**287**	PKPbc	**PKiKP**	**11 39 53.8**	**+1.3**
APE	**Apeiranthos**	**145.10**	**74**	⇑P	**PKiKP**	**11 39 52.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**146.08**	**293**	*e*PKPbc	**PKPdf**	**11 39 47.8**	**-2.6**
HHC				pPKP	sPKPab	11 39 57.0	+1.9
VRI	**Vrincioaia**	**146.48**	**58**	⇑P	**PKiKP**	**11 39 55.7**	**+0.6**
XAN	**Xi'an**	**147.14**	**280**	⇑PKPbc	**PKPbc**	**11 39 54.6**	**+0.1**
XAN				PKPab	**sPKPab**	**11 39 59.4**	**0.0**
BTO	**Baotou**	**147.23**	**292**	*e*PKPbc	**PKPbc**	**11 39 54.5**	**-0.1**
BTO				PP	**PP**	**11 43 26.6**	**+6.1**
SORM	**Soroca**	**147.34**	**54**	⇑P	**PKPdf**	**11 39 52.0**	**0.0**
KIEV	**Kiev**	**147.40**	**49**	⇑P	**PKPbc**	**11 39 53.9**	**-0.6**
AKASG	**Malin Array Be**	**147.41**	**49**	PKPbc	**PKPbc**	**11 39 54.0**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=288,slow=3.5,SNR=2.7						
CFR	**Carcaliu**	**147.51**	**59**	⇑P	**PKPbc**	**11 39 54.5**	**-0.5**
TPGR	**Topolog**	**147.74**	**60**	⇑P	**PKPbc**	**11 39 57.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**148.66**	**246**	PKPbc	**PKPbc**	**11 39 59.0**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=172,slow=2.3,SNR=31						
KMI	**Kunming**	**149.21**	**261**	⇑PKPbc	**PKPdf**	**11 39 56.7**	**+0.5**
SONM	**Songino Array**	**149.38**	**306**	PKPbc	**PKPbc**	**11 39 59.3**	**-0.7**
	comp=Z,3.5nm,1.1s,baz=136,slow=2.2,SNR=13						
PZH	**PanZhiHua**	**150.62**	**262**	PKPbc	**PKPdf**	**11 40 00.3**	**+2.0**
LZH	**Lanzhou**	**151.61**	**282**	⇑PKPbc	**PKiKP**	**11 40 06.1**	**-0.1**
BRTR	**Keskin Array B**	**151.71**	**70**	PKPbc	**PKPbc**	**11 40 03.8**	**-2.0**
	comp=Z,3.1nm,1.0s,baz=225,slow=1.6,SNR=3.8						
MMAI	**Mount Meron Ar**	**152.25**	**84**	PKPbc	**PKPbc**	**11 40 05.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=264,slow=4.3,SNR=1.4						
GTA	**Gaotai**	**155.03**	**289**	*e*P		11 40 12.2	
GTA				pP	sPKPbc	11 40 18.3	+1.9
GTA				sP	pPKPbc	11 40 21.6	+6.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ARU	**Arti**	**157.43**	**15**	PKPab	**PKPab**	**11 40 38.1**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=279,slow=18,SNR=1.8						
ZALV	**Zalesovo Beam**	**157.99**	**334**	PKP	**PKPdf**	**11 40 05.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=82,slow=3.1,SNR=1.3						
ZALV				PKPab	**PKPab**	**11 40 40.1**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=7.6,slow=4.0,SNR=4.1						
KBZ	**Khabaz**	**158.16**	**59**	PKP	**PKPdf**	**11 40 07.1**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=214,slow=16,SNR=1.2						
BVAR	**Borovoye Array**	**161.94**	**357**	PKP	**PKPdf**	**11 40 10.8**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=27,slow=1.4,SNR=2.5						
BVAR				PKPab	**PKPab**	**11 40 57.1**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=2.9,SNR=2.3						
KURBB	**Kurchatov Arra**	**162.87**	**339**	PKP	**PKPdf**	**11 40 11.4**	**-1.6**
	comp=Z,0.3nm,0.9s,baz=31,slow=1.7,SNR=2.3						
KURBB				PKPab	**PKPab**	**11 41 01.4**	**-0.7**
	comp=Z,2.1nm,1.1s,baz=23,slow=3.0,SNR=3.1						
WMQ	**Urumqi**	**163.02**	**307**	*e*PKP	**PKPdf**	**11 40 14.2**	**+0.7**
MKAR	**Makanchi Array**	**164.47**	**323**	PKP	**PKPdf**	**11 40 14.8**	**+0.1**
	comp=Z,1.3nm,1.1s,baz=339,slow=3.6,SNR=5.1						
MKAR				PKPab	**PKPab**	**11 41 08.6**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=56,slow=5.4,SNR=1.5						

*NEIC **10** 11:26:11.2±1.1,35˚.26N±0˚.02×97˚.94W±0˚.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=176.0*
TUL 10 11:26:12.6±0.9,35˚.28N±0˚.02×97˚.91W±0˚.02,h6km±2km, ML2.4,mb_Lg2.1/15(NEIC),**ML2.2**/28(NEIC),**Error ellipse: s-maj=2.4km s-min=2.2km az=214.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKCSW	**OKLAHOMA CITY**	**0.41**	**72**	Pg	Pg	11 26 20.3	-0.2
OKCSW				Sg	Sg	11 26 26.8	+0.9
OKCSW				IAML		11 26 27.1	
	comp=E,318nm,0.3s						
FNO	**Franklin**	**0.42**	**93**	Pg	Pg	11 26 20.8	0.0
FNO				IAML		11 26 34.2	
	comp=E,155nm,0.4s						
OK029	**Liberty Lake**	**0.64**	**36**	Pg	Pg	11 26 24.4	-0.5
OK029				Sg	Sg	11 26 33.6	+0.4
OK029				IAML		11 26 37.3	
	comp=E,221nm,0.3s						
OK029				IAML		11 26 40.0	
	comp=E,181nm,0.3s						
X34A	**Smith Ranch, M**	**0.68**	**174**	Pg	Pg	11 26 25.6	0.0
X34A				IAML		11 26 39.5	
	comp=E,86nm,0.3s						
X34A				IAML		11 26 47.1	
	comp=N,90nm,1.5s						
CSTR	**Hydro, Custer**	**0.73**	**300**	Pg	Pg	11 26 26.3	-0.4
W35A	**Tecumseh**	**0.86**	**98**	Pg	Pg	11 26 28.6	-0.5
W35A				IAML		11 26 52.1	
	comp=E,66nm,0.2s						
W35A				IAML		11 26 56.2	
	comp=N,66nm,0.3s						
WMOK	**Wichita Mounta**	**0.89**	**233**	Pg	Pg	11 26 28.6	-1.1
OK052	**Battle Ridge R**	**1.15**	**51**	Pg	Pg	11 26 33.7	-1.0
OK052				IAML		11 26 56.0	
	comp=N,126nm,0.2s						
CROK	**Carrier**	**1.22**	**357**	Pg	Pg	11 26 35.0	-1.1
DEOK	**Depew**	**1.28**	**64**		Pn	11 26 35.8	-1.3
QUOK	**Quay**	**1.32**	**47**		Pn	11 26 36.6	-1.1
OK038	**West end E0370**	**1.37**	**331**		Pn	11 26 37.4	-1.0
OK048	**Pawnee Station**	**1.38**	**34**		Pn	11 26 37.6	-0.9
U32A	**Winter Ranch,**	**1.41**	**321**		Pn	11 26 38.0	-0.8
LOOK	**Love County**	**1.42**	**155**		Pn	11 26 38.2	-0.8
ELIS	**Ellis County**	**1.46**	**303**		Pn	11 26 38.9	-0.6
OK051	**E0350 and S346**	**1.50**	**35**		Pn	11 26 39.8	-0.4
OK051				IAmb_Lg		11 26 59.9	
	comp=Z,18nm,1.1s						
OK032	**Salt Plains WL**	**1.54**	**351**		Pn	11 26 39.8	-0.8
OK032				IAmb_Lg		11 27 00.7	
	comp=Z,10nm,1.1s						
GC02	**Grant County #**	**1.57**	**2**		Pn	11 26 40.1	-0.9
WTFS	**Witchita Falls**	**1.58**	**197**		Pn	11 26 40.6	-0.6
BLOK	**Blackwell**	**1.58**	**21**		Pn	11 26 41.4	+0.1
KAN14	**Manchester OK**	**1.68**	**359**		Pn	11 26 42.0	-0.5
KAN14				IAmb_Lg		11 27 04.5	
	comp=Z,8.7nm,0.9s						
TUL3	**Leonard**	**1.84**	**69**	Pn	Pn	11 26 44.2	-0.6
SMWD	**Samnorwood**	**1.92**	**265**	Pn	Pn	11 26 45.5	-0.3
KAN06	**Argonia West S**	**1.96**	**1**	Pn	Pn	11 26 46.1	-0.4
T35A	**Sooner Cattle**	**1.99**	**34**	Pn	Pn	11 26 47.1	+0.2
Z35A	**Perchaven, San**	**2.02**	**164**	Pn	Pn	11 26 46.6	-0.6
FW03	**Perrin-Whitt E**	**2.24**	**183**	IAmb_Lg		11 27 28.4	
	comp=Z,15nm,0.8s						
PLPT	**Palo Pinto**	**2.48**	**188**	Pn	Pn	11 26 53.2	-0.3
RLO	**Rose Lookout**	**2.51**	**69**	IAmb_Lg		11 27 30.7	
	comp=Z,13nm,0.8s						
U38A	**Gravette**	**3.09**	**67**	Pn	Pn	11 27 02.4	+0.4
U38A				IAmb_Lg		11 27 52.1	
	comp=Z,5.7nm,0.9s						
HHAR	**Hobbs**	**3.38**	**72**	IAmb_Lg		11 28 10.1	
	comp=Z,4.2nm,0.8s						
BRDY	**Brady**	**4.08**	**193**	Pn	Pn	11 27 14.7	-1.0
X40A	**Basin Creek Fa**	**4.25**	**99**	Pn	Pn	11 27 18.9	+1.0
S39A	**Bolivar**	**4.41**	**56**	IAmb_Lg		11 28 37.0	
	comp=Z,5.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.76**	**81**	Pn	Pn	11 27 23.6	-1.2
R40A	**Maddies Statio**	**5.44**	**55**	Pn	Pn	11 27 33.6	-0.6
CCM	**Cathedral Cave**	**6.03**	**61**	Pn	Pn	11 27 42.1	-0.3

*DNK **10** 11:38:35.9±4.0,73˚.98N×72˚.65W,h15km, ML2.0*
*OTT **10** 11:38:35.5±0.9,73˚.78N×72˚.65W,h18km, ML3.3/3, 210km northeast from Pond Inlet, Nu Baffin Bay Seismic Zone.*
ISC 10 11:38:30.6±0.8,73˚.80N±0˚.05×72˚.43W±0˚.06,h10km,n11, σ4s09/19,Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TULEG	**Thule**	**2.91**	**17**	*i* P	**Pb**	**11 39 20.9**	**-1.6**
TULEG				*i* S	**Sn**	**11 39 52.4**	**+0.6**
TULEG				IAML		11 40 44.4	
	comp=Z,21nm,0.4s						
UPNV	**Upernavik**	**4.81**	**94**	*i* P	Pn	11 39 48.6	+5.7
UPNV				*i* S	**Sn**	**11 40 39.3**	**+0.7**
UPNV				IAML		11 40 44.4	
	comp=Z,14nm,0.9s						
ILON	**Igloolik, Nuna**	**5.34**	**218**	PN	**Pn**	**11 39 54.4**	**+4.1**
ILON				SN	**Sn**	**11 40 50.5**	**-1.3**
ILON				Trac		11 40 52.8	
	comp=Z,16nm,0.1s						
RES	**Resolute Bay**	**6.17**	**289**	PN	**Pn**	**11 40 04.1**	**+2.5**
RES				SN	**Sn**	**11 41 09.6**	**-2.4**
RES				Trac		11 41 16.3	
	comp=Z,1.9nm,0.1s						
RES	**Resolute Bay**	**6.17**	**289**	*i* P	**Pn**	**11 40 04.6**	**+3.0**
RES				*i* S	**Sn**	**11 41 06.6**	**-5.4**
NEEM	**North Greenlan**	**6.42**	**45**	*i* P	**Pn**	**11 40 08.7**	**+3.4**
NEEM				*i* S	**Sn**	**11 41 12.5**	**-6.1**
NEEM				IAML		11 41 24.6	
	comp=Z,1.3nm,0.2s						

SUMG	**Summit**	**9.83**	**81**	*i* P	**Pn**	**11 40 56.6**	**+4.5**
SUMG				*i* S	**Sn**	**11 42 36.2**	**-6.2**
SUMG				IAML		11 42 43.5	
	comp=Z,3.4nm,1.1s						
FRB	**Frobisher Bay**	**10.19**	**170**	PN	**Pn**	**11 40 59.3**	**+2.6**
FRB				SN	**Sn**	**11 42 45.9**	**-5.0**
FRB				Trac		11 43 23.7	
	comp=Z,85nm,1.4s						
FRB	**Frobisher Bay**	**10.19**	**170**	*i* P	**Pn**	**11 41 00.5**	**+3.8**
FRB				*i* S	**Sn**	**11 42 45.1**	**-5.8**
BLKN	**Baker Lake**	**12.58**	**233**	PN	**Pn**	**11 41 30.4**	**+1.1**
BLKN				SN	Sn	11 43 40.2	-8.9
BLKN				Trac		11 43 58.5	
	comp=Z,0.8nm,0.2s						
DAG	**Danmarks Havn**	**13.54**	**52**	*i* P	**Pn**	**11 41 45.0**	**+2.6**
DAG				*e*S	Sn	11 44 00.8	-12

*JMA **10** 11:38:53.0±0.4,34˚N±1˚×14˚1E±˚,h38km, MV3.3/25, E OFF HACHIJOJIMA ISLAND*
*IDC **10** 11:38:57.9±3.6,33˚.92N×140˚.94E,h56km±27km,mb3.4/5, mbtmp3.6/6,ML2.7/1, Error ellipse: s-maj=35.4km s-min=10.7km az=85.0*
ISC 10 11:38:55.3±1.3,33˚.86N±0˚.06×141˚.2E±0˚.1,h40km,n17, σ0s84/21,mb3.8/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.80**	**349**	P	**Pn**	**11 39 08.8**	**-0.9**
BSO3	**Boso 3**	**1.08**	**330**	P	**Pn**	**11 39 13.0**	**-0.7**
BSO3				*e*S	**Sn**	**11 39 27.4**	**0.0**
JMKN	**Mikurajimanish**	**1.31**	**272**	P	**Pn**	**11 39 16.4**	**-0.6**
JMKN				*e*S	**Sn**	**11 39 34.3**	**+1.0**
BSO4	**Boso 4**	**1.31**	**329**	*e*P	**Pn**	**11 39 17.7**	**+0.7**
JHJ2	**Mitsune**	**1.35**	**237**	P	**Pn**	**11 39 16.8**	**-0.9**
JMYK	**Miyake Tsubota**	**1.36**	**279**	P	**Pn**	**11 39 17.5**	**-0.2**
JHJ	**Hachijo jima 2**	**1.37**	**238**	P	**Pn**	**11 39 16.9**	**-1.0**
	97nm,0.3s,baz=136,slow=23,SNR=15						
JHJ				S	**Sn**	**11 39 34.7**	**-0.2**
	260nm,0.4s,baz=42,slow=22,SNR=16						
JTHY	**Toshimahigashi**	**1.69**	**294**	P	**Pn**	**11 39 22.6**	**+0.3**
JIZS	**Izushimoda**	**2.08**	**295**	P	**Pn**	**11 39 27.8**	**+0.2**
JOD2	**Odawara 2**	**2.21**	**310**	P	**Pn**	**11 39 28.6**	**-0.9**
JYN	**Shimob**	**2.71**	**308**	*e*P	**Pn**	**11 39 36.4**	**+0.1**
MJAR	**Matsushiro Arr**	**3.60**	**319**	P	**Pn**	**11 39 49.3**	**+0.7**
	0.7nm,0.3s,baz=148,slow=12,SNR=24						
MJAR				S	**Sn**	**11 40 28.8**	**-1.2**
	3.3nm,0.4s,baz=183,slow=28,SNR=2.6						
	3.7nm,0.4s						
SONM	**Songino Array**	**29.50**	**309**	P	**P**	**11 44 55.8**	**+0.1**
	0.8nm,0.8s,baz=107,slow=8.1,SNR=3.7						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**45.69**	**305**	P	**P**	**11 47 11.3**	**-0.9**
	0.7nm,0.6s,baz=88,slow=9.8,SNR=7.5						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**47.84**	**310**	P	**P**	**11 47 28.0**	**-0.8**
	0.2nm,0.3s,baz=86,slow=7.7,SNR=3.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**53.90**	**188**	P	**P**	**11 48 16.4**	**+1.7**
	0.5nm,0.5s,baz=4.3,slow=7.5,SNR=1.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**57.63**	**188**	P	**P**	**11 48 42.1**	**+0.7**
	0.5nm,0.5s,baz=25,slow=7.5,SNR=2.0						
	0.5nm,0.5s						

*BJI **10** 11:40:54.9±0.0,2˚.20N×126˚.72E,h68km,mb4.7/49, mB5.4/24,Ms5.0/3,Ms7 4.9/3*
*NEIC **10** 11:40:54.6±1.1,2˚.37N±0˚.05×126˚.97E±0˚.06,h50km±8km, mb4.8/64, Error ellipse: s-maj=11.6km s-min=2.1km az=48.0*
*IDC **10** 11:40:55.4±2.1,2˚.16N×126˚.60E,h51km±18km,mb4.3/28, mbtmp4.6/28,MS3.8/9, Error ellipse: s-maj=23.1km s-min=10.8km az=74.0*
*DJA **10** 11:40:57.2±0.3,2˚N±2˚×12˚7E±˚,h49km±7km,M4.7/18, mB5.2/7,mb4.9/18,MLv4.6/14,Mw(mB)4.6/7*
ISC 10 11:40:55.1±0.3,2˚.26N±0˚.04×126˚.84E±0˚.06,h53km,n180, σ1s24/182,**mb4.7**/76,**MS3.7**/10,**1C-1D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.57**	**160**	Pn	**Pn**	**11 41 21.6**	**+1.0**
TNTI	**Ternate**	**1.57**	**160**	P	**Pn**	**11 41 21.9**	**+1.3**
SGSI	**Sangihe**	**1.93**	**317**	P	**Pn**	**11 41 26.0**	**+0.5**
LBMI	**Labuha**	**2.95**	**167**	P	**Pn**	**11 41 42.6**	**+3.0**
KMSI	**Cibinong**	**3.31**	**240**	P	**Pn**	**11 41 47.0**	**+2.6**
GTOI	**Gorontalo**	**4.15**	**247**	P	**Pn**	**11 41 58.9**	**+2.9**
SANI	**Sanana**	**4.36**	**191**	P	**Pn**	**11 41 58.8**	**-0.1**
DAV	**Davao City (W)**	**4.94**	**345**	Pn	**Pn**	**11 42 05.1**	**-1.7**
DAV	**Davao City (W)**	**4.94**	**345**	S	**Sn**	**11 43 04.8**	**+2.2**
	100nm,0.4s,baz=240,slow=20,SNR=1.3						
MRSI	**Marisa**	**5.21**	**250**	P	**Pn**	**11 42 13.5**	**+3.1**
	611nm,0.8s,5µm2.0nm						
LUWI	**Luwuk**	**5.22**	**231**		**Pn**	**11 42 12.7**	**+2.0**
LUWI	**Luwuk**	**5.22**	**231**	P	**Pn**	**11 42 09.9**	**-0.8**
	334nm,0.8s,4µm2.1nm						
SWI	**Sorong**	**5.40**	**125**	P	**Pn**	**11 42 16.1**	**+3.0**
	46nm,0.8s,0.2nm						
SIJI	**Sorong**	**5.41**	**125**	P	**Pn**	**11 42 16.6**	**+3.3**
	34nm,0.7s,0.1nm						
NLAI	**Namlea**	**5.47**	**177**	P	**Pn**	**11 42 16.3**	**+2.3**
	27nm,0.7s,0.3nm						
TOLI2	**Tolitoli**	**6.16**	**259**	Pn	**Pn**	**11 42 24.8**	**+1.3**
MPSI	**Mapaga**	**7.20**	**255**	P	**Pn**	**11 42 40.1**	**+2.4**
	101nm,0.7s,894nm0.4nm						
FAKI	**Fak Fak**	**7.46**	**134**	Pn	**Pn**	**11 42 40.2**	**-1.2**
TTSI	**Tana Toraja**	**8.77**	**233**	P	**Pn**	**11 42 59.2**	**-0.2**
	42nm,0.9s						
SPSI	**Sidrap Palu**	**9.39**	**229**	P	**Pn**	**11 43 10.9**	**+3.1**
	33nm,0.9s						
BKSI	**Bulukumba**	**10.09**	**222**	P	**Pn**	**11 43 19.6**	**+2.3**
	26nm,1.0s						
KAPI	**Kappang**	**10.12**	**224**	Pn	**Pn**	**11 43 19.0**	**+1.3**
KKM	**Kota Kinabalu**	**11.24**	**290**	Pn	**Pn**	**11 43 33.5**	**+0.3**
KKM	**Kota Kinabalu**	**11.24**	**290**	P	**Pn**	**11 43 34.8**	**+1.6**
	51nm,0.8s						
SOEI	**Soe**	**12.21**	**192**	Pn	**Pn**	**11 43 46.6**	**+0.1**
GENI	**Genyem**	**14.17**	**110**	P	**P**	**11 44 17.4**	**-1.7**
	53nm,0.8s,3µm						
PLAI	**Plampang**	**14.24**	**219**	P	**P**	**11 44 19.5**	**-0.4**
	82nm,0.8s						
TWSI	**Taliwang, Sumb**	**14.76**	**222**	P	**P**	**11 44 24.7**	**-1.0**
	154nm,0.8s,1µm						
SRBI	**Singaraja**	**15.49**	**228**	P	**P**	**11 44 34.9**	**+1.1**
	117nm,0.8s						
STKI	**Sintang**	**15.51**	**262**	P	**P**	**11 44 34.1**	**+0.1**
	30nm,0.5s						
MTN	**Manton Dam**	**15.60**	**164**	Pn	**Pn**	**11 44 31.5**	**-0.2**
KMMI	**Kalianget**	**15.83**	**234**	P	**P**	**11 44 39.3**	**+1.8**
BLJI	**Banyuglugur**	**16.53**	**233**	P	**P**	**11 44 45.7**	**+0.4**
	91nm,0.9s						
KSM	**Kuching**	**16.54**	**268**	Pn	**Pn**	**11 44 44.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**16.54**	**230**	P	**P**	**11 44 45.5**	**0.0**
JAGI				IAmb	IAmb	11 44 49.5	
	comp=Z,121nm,1.1s						
JAGI	**Jajag, Banyuwa**	**16.54**	**230**	P	**P**	**11 44 46.1**	**+0.6**
	comp=Z,104nm,1.2s						
KNRA	**Kununurra**	**17.92**	**174**		**P**	**11 45 00.8**	**+0.1**
UGM	**Wanagama**	**19.16**	**238**	P	**P**	**11 45 13.4**	**-0.9**
KPJI	**Karang Pucung**	**20.25**	**242**	P	**P**	**11 45 25.2**	**-1.0**
	comp=Z,40nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.26**	**183**	P	**P**	**11 45 26.6**	**+0.3**
TWG	**Pinlang**	**21.19**	**345**	P	**P**	**11 45 33.5**	**-2.7**
TWG				IAmb	IAmb	11 45 36.9	
	comp=Z,52nm,1.2s						
LEM	**Lembang**	**21.20**	**245**	LR	LR	11 53 34.5	
	comp=Z,116nm,21.1s,baz=324,slow=36						
YULB	**Yu-li**	**21.68**	**346**	P	**P**	**11 45 38.0**	**-3.5**
YULB				IAmb	IAmb	11 45 46.1	
	comp=Z,28nm,1.0s						
TPUB	**Ta-pu**	**21.76**	**344**	P	**P**	**11 45 40.2**	**-2.3**
TPUB				IAmb	IAmb	11 45 41.5	
	comp=Z,63nm,1.0s						
SSLB	**Suanglung**	**22.14**	**346**	P	**P**	**11 45 44.3**	**-2.2**
SSLB				IAmb	IAmb	11 45 46.9	
	comp=Z,42nm,1.1s						
MYKOM	**Kota Tinggi**	**22.98**	**269**	P	**P**	**11 45 55.8**	**+0.3**
MYKOM				IAmb	IAmb	11 46 22.1	
	comp=Z,38nm,1.3s						
WB0	**Warramunga Arr**	**23.11**	**162**	P	**P**	**11 45 56.2**	**-0.5**
WB0				IAmb	IAmb	11 46 17.7	
	comp=Z,20nm,0.8s						

WRAB	**Tennant Creek**	**23.26**	**162**	P	**P**	**11 45 57.4**	**-0.7**
WRAB				IAmb	IAmb	11 46 18.9	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**23.26**	**162**	P	**P**	**11 45 57.1**	**-1.0**
WRA	**Warramunga Arr**	**23.26**	**162**	P	**P**	**11 45 57.2**	**-1.0**
	comp=Z,12nm,0.7s,baz=339,slow=10,SNR=98						
WRA				PcP	**PcP**	**11 49 44.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=320,slow=1.9,SNR=2.7						
WRA				S	**S**	**11 50 03.0**	**-3.5**
	comp=Z,1.2nm,0.6s,baz=342,slow=22,SNR=3.0						
WRA				ScP	**ScP**	**11 53 18.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=329,slow=2.5,SNR=4.7						
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**23.27**	**162**	P	**P**	**11 45 57.7**	**-0.5**
WR0	**Warramunga Arr**	**23.34**	**161**	P	**P**	**11 45 58.4**	**-0.5**
PSA00	**Pilbara Seismi**	**24.65**	**196**	P	**P**	**11 46 11.1**	**+0.2**
PSA00				IAmb	IAmb	11 46 36.7	
	comp=Z,47nm,1.4s						
AS31	**Alice Springs**	**26.67**	**165**	P	**P**	**11 46 29.0**	**-0.3**
ASAR	**Alice Springs**	**26.67**	**165**	P	**P**	**11 46 29.3**	**0.0**
ASAR	**Alice Springs**	**26.67**	**165**	P	**P**	**11 46 29.1**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=343,slow=7.8,SNR=33						
ASAR				PcP	**PcP**	**11 49 52.9**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=352,slow=2.4,SNR=4.1						
ASAR				S	**S**	**11 50 58.9**	**-2.2**
	comp=Z,0.9nm,0.9s,baz=350,slow=19,SNR=4.2						
	comp=Z,1.5nm,0.3s						
GSI	**Gunungsitoli**	**29.26**	**269**	P	**P**	**11 46 51.4**	**-1.1**
GSI				IAmb	IAmb	11 46 51.6	
	comp=Z,18nm,0.9s						
NJ2	**Nanjing**	**30.57**	**347**	*e*P	**P**	**11 47 03.2**	**-0.6**
NJ2				pP	**pP**	**11 47 16.1**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,440nm,4.3s						
PHRA	**Phrae**	**30.66**	**304**	P	**P**	**11 47 05.1**	**+0.3**
CRAI	**Chiangrai**	**31.41**	**307**	P	**P**	**11 47 10.4**	**-1.0**
CM31	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**11 47 13.8**	**-0.4**
CM31				IAmb	IAmb	11 47 15.5	
	comp=Z,16nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**11 47 13.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**11 47 14.0**	**-0.2**
	comp=Z,11nm,0.8s,baz=115,slow=6.6,SNR=70						
CMAR				LR	LR	12 01 45.4	
	comp=Z,51nm,18.4s,baz=305,slow=40						
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**31.89**	**303**	P	**P**	**11 47 15.1**	**-0.5**
CHTO	**Chiang Mai**	**31.89**	**303**	P	**P**	**11 47 15.2**	**-0.4**
KMI	**Kunming**	**32.50**	**316**	⇑P	**P**	**11 47 21.5**	**+0.3**
KMI				pP	pP	11 47 33.7	-0.4
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FORT	**Forrest**	**32.88**	**178**	P	**P**	**11 47 23.8**	**-0.3**
PZH	**PanZhiHua**	**34.08**	**317**	P	**P**	**11 47 34.4**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,160nm,5.7s						
INU	**Inuyama**	**34.25**	**15**	P	**P**	**11 47 37.4**	**+1.3**
KSRS	**Korea Array**	**35.04**	**2**	P	**P**	**11 47 44.0**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=176,slow=9.5,SNR=13						
	comp=Z,4.7nm,0.7s						
MAJO	**Matsushiro**	**35.70**	**16**	P	**P**	**11 47 49.4**	**+0.9**
MJAR	**Matsushiro Arr**	**35.70**	**16**	P	**P**	**11 47 48.5**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=180,slow=9.5,SNR=8.8						
MJAR				LR	LR	12 05 11.0	
	comp=Z,11nm,19.2s,baz=138,slow=41						
	comp=Z,4.4nm,0.8s						
XAN	**Xi'an**	**35.77**	**334**	P	**P**	**11 47 48.4**	**-0.9**
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN	**Xi'an**	**35.77**	**334**	P	**P**	**11 47 48.3**	**-0.9**
BBOO	**Buckleboo**	**35.95**	**167**	P	**P**	**11 47 49

comp=Z,3.4nm,0.5s,baz=124,slow=8.5,SNR=48
MKAR ScP **ScP** **11 55 33.2 -0.3**
comp=Z,0.6nm,0.8s,baz=106,slow=7.7,SNR=3.6
MKAR LR LR 12 18 13.0
comp=Z,73nm,18.8s,baz=48,slow=38
comp=Z,3.4nm,0.5s
MAKZ Makanchi 59.00 326 P **P** **11 50 48.9 -0.6**
MAKZ IAmb IAmb 11 50 52.8
comp=Z,9.8nm,1.1s
MAKZ Makanchi 59.00 326 P **P** **11 50 49.3 -0.2**
KSH Kashi 59.16 316 P **P** **11 50 51.9 +1.1**
KSH pmax pmax
comp=Z,6.0nm,0.8s
SATY Saty 59.16 320 *eP* **P** **11 50 50.7 0.0**
comp=Z,4.9nm,0.7s,baz=320
KPKS Kokpek 59.19 321 *eP* **P** **11 50 50.6 -0.3**
comp=Z,3.2nm,0.6s,baz=321
YAK Yakutsk 59.66 2 P **P** **11 50 53.4 -0.2**
YAK Yakutsk 59.66 2 P **P** **11 50 55.4 +1.8**
NRN Naryn 59.98 318 P **P** **11 50 55.5 -1.2**
MDOK Medeo 60.08 320 *eP* **P** **11 50 56.9 -0.2**
baz=320
TNSS Tian-Shan 60.09 320 *eP* **P** **11 50 57.4 -0.1**
baz=320
MA2 Magadan 60.10 14 P **P** **11 50 59.0 +2.3**
comp=Z,11nm,0.9s,baz=204,slow=4.6,SNR=5.6
comp=Z,11nm,0.9s
TDK Taldygorghan 60.13 322 *eP* **P** **11 50 56.8 -0.4**
comp=Z,6.0nm,0.6s,baz=322
AAA Alma-Ata 60.19 320 *eP* **P** **11 50 57.8 0.0**
baz=320
CHKK Chushkaly 60.45 321 *eP* **P** **11 50 59.0 -0.5**
baz=321
BOOM Boomskoye usch 60.49 319 IAmb IAmb 11 51 02.4
comp=Z,5.4nm,1.1s
RPZ Rata Peaks 60.51 144 LR LR 12 17 37.5
comp=Z,42nm,18.2s,baz=280,slow=36
KZA Kyzart 60.77 318 P **P** **11 51 02.8 +0.7**
SNR=7.4
KUU Kurty 60.88 320 *eP* **P** **11 51 02.2 -0.2**
comp=Z,3.7nm,0.3s,baz=320
TKM2 Tokmak 2 60.91 319 P **P** **11 51 02.9 0.0**
SNR=7.4
UCH Uchtor 61.33 318 P **P** **11 51 06.8 +0.9**
SNR=8.7
AAK Ala-Archa 61.52 318 P **P** **11 51 05.0 -1.9**
AAK Ala-Archa 61.52 318 P **P** **11 51 08.0 +1.1**
SGDS Sogindy 61.78 319 *eP* **P** **11 51 07.1 -1.5**
baz=319
USP Ospenovka 61.79 319 P **P** **11 51 08.5 -0.1**
SNR=9.3
AML Almayashu 61.84 318 P **P** **11 51 09.7 +0.3**
SNR=12
ZAA0 Zalesovo Array 61.94 333 P **P** **11 51 08.1 -1.1**
ZALV Zalesovo Beam 61.94 333 P **P** **11 51 08.4 -0.9**
ZALV Zalesovo Beam 61.94 333 P **P** **11 51 08.9 -0.4**
comp=Z,2.4nm,0.6s,baz=115,slow=6.7,SNR=13
comp=Z,2.4nm,0.6s
SEM Semipalatinsk 62.00 328 *eP* **P** **11 51 10.2 +0.1**
baz=328
EKS2 Erkin-Say 62.00 318 P **P** **11 51 10.7 +0.6**
SNR=5.8
KBL Kabul 62.50 308 P **P** **11 51 12.3 -1.4**
BTLS Baital 62.87 321 *eP* **P** **11 51 15.3 -0.4**
baz=321
BTK Batken 63.02 314 IAmb IAmb 11 51 19.2
comp=Z,11nm,1.1s
KURBB Kurchatov Arra 63.03 328 P **P** **11 51 16.6 0.0**
comp=Z,10nm,0.8s,baz=129,slow=6.2,SNR=47
comp=Z,10nm,0.8s
KURK Kurchatov 63.03 328 P **P** **11 51 15.9 -0.7**
KURK Kurchatov 63.03 328 P **P** **11 51 16.7 +0.1**
SEY Seymchan 63.43 13 P **P** **11 51 21.8 +2.8**
comp=Z,4.6nm,0.9s,baz=214,slow=5.6,SNR=9.4
comp=Z,4.6nm,0.9s
SHEM Shemya Is, Ala 63.67 30 LR LR 12 14 19.0
comp=Z,354nm,21.1s,baz=128,slow=31
DZA Taraz 63.74 318 *eP* **P** **11 51 21.1 -0.4**
comp=Z,4.5nm,0.5s,baz=318
SIMJ Simiganj 63.84 312 P **P** **11 51 21.4 -1.1**
SIMJ IAmb IAmb 11 51 23.7
comp=Z,11nm,1.0s
SIMJ Simiganj 63.84 312 P **P** **11 51 22.3 -0.1**
KK31 Karatay Array 64.38 317 P **P** **11 51 24.8 -0.9**
KK31 IAmb IAmb 11 51 26.7
comp=Z,6.9nm,0.9s
KKAR Karatay Array 64.38 317 P **P** **11 51 25.1 -0.6**
KKAR IAmb IAmb 11 51 26.7
comp=Z,6.8nm,0.9s
KKAR Karatay Array 64.38 317 P **P** **11 51 24.9 -0.8**
CHM Chimkent 64.70 316 *eP* **P** **11 51 27.6 -0.2**
baz=316
BRZS Berezniki 65.94 325 *eP* **P** **11 51 35.6 -0.1**
baz=325
BVAR Borovoye Array 68.60 327 P **P** **11 51 52.8 +0.3**
comp=Z,11nm,0.9s,baz=125,slow=7.8,SNR=41
comp=Z,11nm,0.9s
BRVK Borovoye 68.68 327 P **P** **11 51 52.6 -0.3**
BRVK IAmb IAmb 11 51 54.1
comp=Z,11nm,0.8s
BRVK Borovoye 68.68 327 P **P** **11 51 53.0 +0.1**
TIXI Tiksi 69.30 1 P **P** **11 51 56.0 -0.4**
TIXI IAmb IAmb 11 52 03.3
comp=Z,7.1nm,0.9s
NRIK Noril'sk 71.87 346 P **P** **11 52 11.4 -0.7**
NRIK Noril'sk 71.87 346 P **P** **11 52 12.8 +0.6**
comp=Z,4.8nm,0.7s,baz=101,slow=6.9,SNR=8.6
comp=Z,4.8nm,0.7s
GEYT Alibeck 71.90 309 P **P** **11 52 12.8 -0.2**
comp=Z,2.4nm,0.3s,baz=132,slow=6.2,SNR=5.2
GEYT LR LR 12 28 01.1
comp=Z,58nm,18.4s,baz=290,slow=39
comp=Z,2.4nm,0.3s
ABKAR Akbulak array 73.35 321 P **P** **11 52 21.1 -0.2**
ABKAR IAmb IAmb 11 52 22.3
comp=Z,7.1nm,0.8s
AKTO Aktyubinsk 74.87 322 P **P** **11 52 30.5 +0.3**
comp=Z,16nm,0.7s,baz=101,slow=6.3,SNR=50
comp=Z,16nm,0.7s
ARU Arti 76.23 328 P **P** **11 52 36.9 -0.9**
ARU IAmb IAmb 11 52 38.6
comp=Z,18nm,0.9s
ARU Arti 76.23 328 P **P** **11 52 37.7 -0.1**
comp=Z,15nm,0.8s,baz=126,slow=3.7,SNR=20
comp=Z,15nm,0.8s
VNDA Vanda 81.96 173 P **P** **11 53 09.5 +0.7**
comp=Z,1.1nm,0.6s,baz=317,slow=8.7,SNR=9.5
comp=Z,1.1nm,0.6s
ONI Oni 83.60 312 IAmb IAmb 11 53 26.5
comp=Z,8.9nm,0.8s
H21K Melozitna Rive 83.97 24 IAmb IAmb 11 53 16.8
comp=Z,11nm,1.5s
KBZ Khabaz 84.06 314 P **P** **11 53 20.2 -0.1**
comp=Z,9.6nm,1.0s,baz=131,slow=4.2,SNR=9.2
comp=Z,9.6nm,1.0s
ILAR Eielson Array 86.38 25 P **P** **11 53 32.9 +1.4**
comp=Z,0.5nm,0.9s,baz=292,slow=7.4,SNR=2.6
comp=Z,0.5nm,0.9s
BMAR Burnt Mountain 87.38 23 P **P** **11 53 38.8 +2.4**
LOGN Logan Glacier 89.10 29 P **P** **11 53 42.8 -1.9**
KMBO Kilima Mbogo 89.63 269 P **P** **11 53 47.4 -0.9**
comp=Z,1.4nm,0.5s,baz=94,slow=1.7,SNR=3.9
KMBO LR LR 12 29 24.2
comp=Z,220nm,21.8s,baz=248,slow=32
comp=Z,1.4nm,0.5s
DAWY Dawson 89.64 26 P **P** **11 53 44.5 -2.5**
DAWY IAmb IAmb 11 54 07.2
comp=Z,8.3nm,1.4s
MMAI Mount Meron Ar 89.99 303 P **P** **11 53 49.5 +0.2**
comp=Z,0.6nm,0.3s,baz=100,slow=9.4,SNR=4.7
comp=Z,0.6nm,0.3s
BRTR Keskin Array B 91.03 310 P **P** **11 53 54.3 +0.1**
comp=Z,1.9nm,0.8s,baz=99,slow=7.6,SNR=5.2
comp=Z,1.9nm,0.8s
ARCES ARCESS Array B 91.86 340 P **P** **11 53 59.5 +2.3**
comp=Z,2.9nm,0.9s,baz=48,slow=1.3,SNR=2.1
ARCES LR LR 12 39 16.5
comp=Z,118nm,19.1s,baz=291,slow=38
comp=Z,2.9nm,0.9s
QSPA South Pole Qui 92.18 180 P **P** **11 54 00.1 +1.2**
comp=Z,0.7nm,0.8s,baz=141,slow=4.4,SNR=2.2
comp=Z,0.7nm,0.8s
AKASG Malin Array Be 93.09 321 P **P** **11 54 03.0 -0.3**
comp=Z,0.8nm,0.6s,baz=68,slow=4.3,SNR=5.1
comp=Z,0.8nm,0.6s
FINES FINESS Array B 93.17 332 P **P** **11 54 04.4 +1.0**
comp=Z,1.7nm,0.6s,baz=69,slow=6.3,SNR=9.7
comp=Z,1.7nm,0.6s

BURAR Bucovina Array 96.16 318 P **P** **11 54 17.1 -0.4**
BUR08 Bucovina Ar. S 96.17 318 IAmb IAmb 11 54 23.0
comp=Z,4.4nm,0.8s
YKA Yellowknife Ar 100.78 25 P **Pdif** **11 54 38.2 +0.4**
comp=Z,0.1nm,0.4s,baz=296,slow=4.8,SNR=2.5
TORD Torodi Ar. Bea 123.47 287 PKP **PKiKP** **11 59 47.8 0.0**
comp=Z,0.4nm,0.6s,baz=165,slow=1.7,SNR=3.1

*ATH **10** 11:46:50.8,38°.39N×26°.63E,h20km±4km,ML3.4/3,Error ellipse: s-maj=4.3km s-min=1.3km az=238.0*
*AFAD **10** 11:46:50.4±0.0,38°.40N×26°.68E,h7km±1km,ML3.2*
*ISK **10** 11:46:50.7,38°.47N×26°.62E,h14km,ML3.2/36*
*THE **10** 11:46:51.3,38°.36N×26°.59E,h14km±4km,ML3.2/2,Error ellipse: s-maj=4.6km s-min=0.9km az=213.0*
ISC 10 11:46:50.5±0.9,38°.40N±0°.02×26°.64E±0°.02,h14km±7km, n64,σ0s73/94,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.19**	**213**	P		**Pg**		**11 46 55.3**	**+0.5**
ZEYE				*i* AML		AML		11 46 59.0	
	comp=E,1μm,0.3s								
ZEYE				S		**Sb**		**11 46 59.2**	**-0.1**
ZEYE				*i* AML		AML		11 47 01.0	
	comp=N,6μm,0.5s								
CESE	**eme**	**0.27**	**256**	Pg		**Pb**		**11 46 57.2**	**0.0**
CESE				Sg		**Sb**		**11 47 01.7**	**0.0**
KARB	**zmir-Karabur**	**0.32**	**326**	P		**Pg**		**11 46 57.2**	**+0.2**
KARB				*i* AML		AML		11 47 02.0	
	comp=E,9μm,0.3s								
KARB				*i* AML		AML		11 47 02.0	
	comp=N,6μm,0.2s								
KARB				S		**Sg**		**11 47 02.2**	**+0.8**
FOCM	**Foa**	**0.32**	**13**	Pg		**Pg**		**11 46 56.2**	**-0.9**
FOCM				Sg		**Sg**		**11 47 00.6**	**-0.9**
GMLD	**Gumuldur**	**0.39**	**146**	Pg		**Pg**		**11 46 58.1**	**-0.2**
DGB	**zmir**	**0.40**	**151**	P		**Pg**		**11 46 58.2**	**-0.2**
DGB				S		**Sg**		**11 47 03.6**	**-0.1**
DGB				*i* AML		AML		11 47 06.0	
	comp=N,2μm,0.6s								
EAG2	**Marmaro, Chios**	**0.44**	**289**	P		**Pb**		**11 46 59.9**	**-0.1**
EAG2				S		**Sg**		**11 47 05.4**	**+0.3**
CAND	**Candarli**	**0.57**	**13**	Pg		**Pg**		**11 47 01.4**	**-0.2**
RFT7	**Candarli**	**0.60**	**22**	Pg		**Pg**		**11 47 01.7**	**-0.5**
RFT7				Sg		**Sg**		**11 47 09.9**	**-0.3**
ZEDA	**zmir-Bergama**	**0.66**	**31**	P		**Pg**		**11 47 02.5**	**-0.9**
ZEDA				S		**Sg**		**11 47 12.2**	**+0.1**
ZEDA				*i* AML		AML		11 47 16.0	
	comp=E,743nm,0.3s								
ZEDA				*i* AML		AML		11 47 16.0	
	comp=N,860nm,0.2s								
DKL	**Dikili**	**0.70**	**17**	Pg		**Pg**		**11 47 03.6**	**-0.6**
SMG	**Samos**	**0.71**	**167**	P		**Pg**		**11 47 03.9**	**-0.3**
SMG				S		**Sb**		**11 47 14.6**	**+0.4**
	3μm,0.4s								
SMG	**Samos**	**0.71**	**167**	P		**Pg**		**11 47 03.8**	**-0.4**
SMG				S		**Sg**		**11 47 14.0**	**+0.5**
SMG				AML		AML		11 47 17.7	
	comp=N,7574μm,0.4s								
SMG				AML		AML		11 47 18.8	
	comp=E,4742μm,0.4s								
GCAM	**G?zelcaml?**	**0.84**	**146**	P		**Pg**		**11 47 06.3**	**-0.4**
GCAM				S		**Sg**		**11 47 17.4**	**-0.4**
GCAM				*i* AML		AML		11 47 20.0	
	comp=E,610nm,0.7s								
GCAM				*i* AML		AML		11 47 21.0	
	comp=E,546nm,0.5s								
PRK	**Paraskevi**	**0.89**	**342**	P		**Pg**		**11 47 06.9**	**-0.8**
PRK				S		**Sb**		**11 47 19.8**	**+0.2**
PRK				AML		AML		11 47 22.4	
	comp=N,8956μm,0.7s								
PRK				AML		AML		11 47 22.7	
	comp=E,14228μm,0.5s								
AYVA	**Ayvalik**	**0.91**	**3**	P		**Pb**		**11 47 07.7**	**-0.4**
AYVA				S		**Sn**		**11 47 21.9**	**+0.1**
AYVA				*i* AML		AML		11 47 22.0	
	comp=E,1μm,0.6s								
AYVA				*i* AML		AML		11 47 22.0	
	comp=E,1μm,0.6s								
SIGR	**SIGRI**	**1.01**	**323**	Pg		**Pb**		**11 47 09.7**	**-0.1**
SIGR				Sg		**Sg**		**11 47 23.4**	**+0.1**
SIGR	**SIGRI**	**1.01**	**323**	P		**Pg**		**11 47 10.3**	**+0.2**
SIGR				S		**Sn**		**11 47 24.2**	**-0.2**
	comp=E,1μm,0.4s								
SIGR	**SIGRI**	**1.01**	**323**	P		**Pb**		**11 47 09.7**	**-0.1**
SIGR				S		**Sb**		**11 47 21.5**	**-1.5**
SIGR				AML		AML		11 47 26.0	
	comp=N,2382μm,0.4s								
SIGR				AML		AML		11 47 26.1	
	comp=E,2593μm,0.4s								
AKHS	**Akhisar**	**1.04**	**62**	P		**Pb**		**11 47 09.3**	**-1.0**
AKHS				S		**Sb**		**11 47 24.0**	**+0.2**
AKHS				*i* AML		AML		11 47 26.0	
	comp=E,483nm,0.3s								
AKS	**Akhisar**	**1.04**	**62**	Pg		**Pb**		**11 47 10.3**	**0.0**
GOMA	**Golmarmara-Man**	**1.05**	**73**	Pg		**Pb**		**11 47 11.1**	**+0.7**
DDIM	**Aydin, Didim**	**1.05**	**153**	P		**Pb**		**11 47 10.1**	**-0.4**
DDIM				S		**Sn**		**11 47 25.7**	**+0.3**
DDIM				*i* AML		AML		11 47 30.0	
	comp=E,420nm,0.6s								
DDIM				*i* AML		AML		11 47 31.0	
	comp=E,508nm,0.7s								
IZMR	**zmir-demi**	**1.07**	**104**	P		**Pb**		**11 47 10.0**	**-0.8**
IZMR				S		**Sb**		**11 47 22.7**	**-1.9**
GPNR	**Gulpinar-Canak**	**1.13**	**340**	Pg		**Pb**		**11 47 11.4**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.29**	**41**	P		**Pn**		**11 47 13.1**	**-1.1**
STEP				S		**Sg**		**11 47 32.5**	**+0.4**
STEP				*i* AML		AML		11 47 34.0	
	comp=E,614nm,0.6s								
STEP				*i* AML		AML		11 47 38.0	
	comp=E,407nm,0.5s								
BAYC	**CANAKKALE_Bayr**	**1.34**	**357**	P		**Pn**		**11 47 14.1**	**-0.7**
BAYC				S		**Sb**		**11 47 31.4**	**-1.1**
BAYC				*i* AML		AML		11 47 34.0	
	comp=E,357nm,0.8s								
KIRA	**zmir-Kiraz**	**1.40**	**98**	P		**Pn**		**11 47 16.1**	**+0.3**
KIRA				S		**Sn**		**11 47 34.0**	**-0.2**
KIRA				*i* AML		AML		11 47 37.0	
	comp=E,200nm,0.3s								
KIRA				*i* AML		AML		11 47 40.0	
	comp=E,169nm,0.6s								
EZN	**Ezine**	**1.45**	**350**	Pn		**Pn**		**11 47 16.6**	**+0.4**
ESEN	**Aydn-Nazilli**	**1.48**	**113**	P		**Pn**		**11 47 17.2**	**+0.5**
ESEN				S		**Sn**		**11 47 36.6**	**+0.8**
BOZC	**Bozcaada**	**1.51**	**343**	P		**Pn**		**11 47 16.9**	**-0.3**
BOZC				S		**Sg**		**11 47 38.8**	**-0.4**
BOZC				*i* AML		AML		11 47 40.0	
	comp=E,308nm,0.6s								
BOZC				*i* AML		AML		11 47 41.0	
	comp=E,315nm,0.3s								
BALY	**Balya**	**1.54**	**29**	P		**Pn**		**11 47 16.9**	**-0.7**
BALY				S		**Sg**		**11 47 41.5**	**+1.3**
BALY				*i* AML		AML		11 47 44.0	
	comp=E,265nm,0.5s								
BALY				*i* AML		AML		11 47 44.0	
	comp=E,550nm,0.5s								
BALB	**Balikesir**	**1.57**	**38**	Pn		**Pn**		**11 47 18.3**	**+0.3**
APE	**Apeiranthos**	**1.59**	**214**	P		**Pn**		**11 47 17.4**	**-0.9**
APE	**Apeiranthos**	**1.59**	**214**	P		**Pn**		**11 47 17.3**	**-0.9**
KULA	**Kula-Manisa**	**1.59**	**85**	Pn		**Pn**		**11 47 19.4**	**+1.0**
KULA	**Kula-Manisa**	**1.59**	**85**	P		**Pn**		**11 47 19.4**	**+1.0**
KULA				S		**Sn**		**11 47 39.5**	**+0.7**
BKES	**Balkesir-Mer**	**1.67**	**37**	P		**Pn**		**11 47 18.2**	**-1.1**
BKES				S		**Sb**		**11 47 43.4**	**+1.5**
CNKL	**anakkale-Mer**	**1.68**	**353**	P		**Pb**		**11 47 20.9**	**-0.3**
CNKL				S		**Sg**		**11 47 45.5**	**+1.1**
CNKL				*i* AML		AML		11 47 52.0	
	comp=E,185nm,0.6s								
CNKL				*i* AML		AML		11 47 56.0	
	comp=E,181nm,0.6s								
ECEA	**Canakkale, Ece**	**1.68**	**348**	P		**Pb**		**11 47 21.5**	**+0.3**
ECEA				*i* AML		AML		11 47 46.0	
	comp=E,406nm,0.6s								
ECEA				S		**Sg**		**11 47 46.3**	**+1.7**
ECEA				*i* AML		AML		11 47 47.0	
	comp=E,490nm,0.4s								
COMU	**Canakkale**	**1.70**	**356**	Pn		**Pn**		**11 47 19.7**	**-0.1**
DEMI	**Demirci**	**1.75**	**68**	P		**Pn**		**11 47 20.5**	**-0.1**
DEMI				S		**Sg**		**11 47 46.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.84**	**26**	Pn		**Pn**		**11 47 21.9**	**+0.3**
GADA	**Gvkgeada**	**1.88**	**342**	Pn		**Pn**		**11 47 22.6**	**+0.4**
SIMA	**Simav-Kutahya**	**1.96**	**69**	Pn		**Pn**		**11 47 24.7**	**+1.3**

LPK Lapseki 1.97 3 Pn **Pn** **11 47 23.4 -0.1**
GELI Tayfur-Gelibol 2.00 356 Pn **Pn** **11 47 23.8 -0.1**
KRBG Karabiga-Canak 2.06 14 Pn **Pn** **11 47 24.1 -0.5**
EDC Edincik 2.17 26 Pn **Pn** **11 47 25.5 -0.7**
GEDZ Gediz 2.26 73 Pn **Pn** **11 47 29.1 +1.5**
ERIK Erikli-Kesan 2.27 358 Pn **Pn** **11 47 27.7 +0.1**
KCTX Karacabey (Bur 2.29 35 Pn **Pn** **11 47 27.5 -0.4**
RKY Sarkoy-Tekirda 2.32 10 Pn **Pn** **11 47 29.0 +0.6**
ENEZ Enez 2.36 351 Pn **Pn** **11 47 29.2 +0.3**
TVSB Tavsanli 2.44 64 Pn **Pn** **11 47 31.4 +1.4**
ALN Alexandroupoli 2.54 350 Pn **Pn** **11 47 30.7 -0.5**
UKOP Uzunkopru-Edir 2.73 360 Pn **Pn** **11 47 34.6 +0.8**
ARMT Armutlu 2.77 38 Pn **Pn** **11 47 34.2 -0.2**
RDO Rodhopi 2.87 343 Pn **Pn** **11 47 36.5 +0.7**
SLVT Silivri 3.08 23 Pn **Pn** **11 47 39.8 +1.1**
ISK Istanbul-Kandi 3.25 34 Pn **Pn** **11 47 42.5 +1.4**
CTYL Yalikoy Yolu 3.33 22 Pn **Pn** **11 47 43.4 +1.3**
KDZ Kurdzhali 3.38 343 Pn **Pn** **11 47 43.5 +0.7**
EDRB Edirne 3.44 1 Pn **Pn** **11 47 43.8 +0.1**

DJA 10 11:52:42.4±0.6,8°S±5°×12°0E±°,h181km±9km,M3.8/10, mb4.2/1,MLv3.6/10,Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.54**	**108**	P	P	Pn	11 53 15.1	+0.2
WBSI	**Waikabubak, Su**	**1.58**	**211**	P	P	Pn	11 53 16.7	+1.5
DBNI	**Kabupaten Domp**	**1.89**	**263**	P	P	Pn	11 53 17.9	-0.5
DBNI				S	S	Sn	11 53 46.6	+0.3
BASI	**Baing, Sumba**	**1.96**	**169**	P	P	Pn	11 53 19.3	+0.2
BASI				S	S	Sn	11 53 47.8	0.0
MMRI	**Maumere**	**2.04**	**100**	P	P	Pn	11 53 20.1	+0.2
PLAI	**Plampang**	**2.47**	**257**	P	P	Pn	11 53 25.5	+0.7
PLAI				S	S	Sn	11 53 57.4	-0.3
BKSI	**Bulukumba**	**2.94**	**358**	P	P	Pn	11 53 30.4	0.0
TWSI	**Taliwang, Sumb**	**3.32**	**262**	P	P	Pn	11 53 35.4	+0.3
SOEI	**Soe**	**4.27**	**110**	P	P	Pn	11 53 47.0	-0.1
JAGI	**Jajag, Banyuwa**	**6.00**	**268**	P	P	Pn	11 54 09.2	-0.2

*IDC **10** 12:15:28.7±1.9, 10°.29S×112°.69E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=99.9km s-min=21.7km az=48.0*
*DJA **10** 12:15:30.2±0.4, 11°S±4°×11°2E±°, h10km,M4.3/12, mb4.3/6,MLv4.3/12*
ISC 10 12:15:31.5±1.0,10°.48S±0°.07×112°.42E±0°.06,h24km,n22, σ2s13/25,mb3.7/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**2.31**	**1**	S	**Sb**		**12 16 40.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**2.63**	**41**	P	**Pb**		**12 16 17.3**	**-0.7**
JAGI				S	**Sb**		**12 16 50.0**	**+0.2**
SJI	**Sawahan**	**2.81**	**347**	P	**Pb**		**12 16 18.8**	**-2.3**
BLJI	**Banyuglugur**	**2.96**	**23**	P	**Pb**		**12 16 22.8**	**-0.7**
BLJI				S	**Sb**		**12 16 59.6**	**+0.3**
IGBI	**Denpasar**	**3.15**	**59**	P	**Pb**		**12 16 24.0**	**-2.9**
UGM	**Wanagama**	**3.17**	**324**	P	**Pn**		**12 16 21.4**	**+1.4**
UGM				S	**Sn**		**12 16 59.6**	**+2.5**
ABJI	**Asem Bagus**	**3.21**	**34**	P	**Pb**		**12 16 25.5**	**-2.4**
SRBI	**Singaraja**	**3.64**	**49**	P	**Pb**		**12 16 31.2**	**-4.0**
KMMI	**Kalianget**	**3.74**	**24**	P	**Pb**		**12 16 32.2**	**-4.7**
KPJI	**Karang Pucung**	**4.66**	**312**	P	**Pn**		**12 16 41.5**	**+1.1**
TWSI	**Taliwang, Sumb**	**4.73**	**69**	P	**Pn**		**12 16 44.4**	**+3.0**
CMJI	**Cimerak**	**4.75**	**304**	P	**Pn**		**12 16 40.2**	**-1.5**
PLAI	**Plampang**	**5.53**	**73**	P	**Pn**		**12 16 55.0**	**+2.6**
	32nm,0.8s,0.2nm							
BBJI	**Bungbulang**	**5.59**	**302**	P	**Pn**		**12 16 53.2**	**-0.1**
	51nm,1.6s,0.2nm							
CNJI	**Cibinong**	**6.11**	**301**	P	**Pn**		**12 16 59.4**	**-1.0**
	32nm,1.2s,0.2nm							
DBNI	**Kabupaten Domp**	**6.13**	**72**	P	**Pn**		**12 17 03.6**	**+2.9**
	19nm,2.3s,0.2nm							
CGJI	**Cibinong**	**7.69**	**299**	P	**Pn**		**12 17 20.6**	**-1.5**
WRA	**Warramunga Arr**	**23.12**	**117**	P	**P**		**12 20 35.4**	**-0.7**
	2.2nm,0.6s,baz=291,slow=11,SNR=16							
	2.2nm,0.6s							
ASAR	**Alice Springs**	**24.32**	**125**	P	**P**		**12 20 47.4**	**-0.2**
	1.8nm,0.7s,baz=303,slow=9.1,SNR=27							
	1.8nm,0.7s							
STKA	**Stephens Creek**	**34.35**	**133**	P	**P**		**12 22 16.4**	**-0.3**
	2.0nm,0.8s,baz=310,slow=12,SNR=4.1							
	2.0nm,0.8s							
MKAR	**Makanchi Array**	**63.06**	**337**	P	**P**		**12 25 57.9**	**+1.0**
	0.1nm,0.4s,baz=152,slow=7.7,SNR=2.6							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**67.62**	**337**	P	**P**		**12 26 26.3**	**0.0**
	0.1nm,0.3s,baz=147,slow=7.5,SNR=2.3							
	0.1nm,0.3s							

*IDC **10** 12:18:20.0±1.2,31°.83N×48°.69E,h0km,mb3.9/12, mbtmp3.9/14,ML3.6/2,MS3.3/1,Error ellipse: s-maj=24.7km s-min=19.2km az=5.0*
*TEH **10** 12:18:24.2,31°.80N×48°.77E,h23km±26km,ML3.8*
ISC 10 12:18:24.7±0.8,31°.73N±0°.05×48°.71E±0°.06,h35km,n55, σ1s35/54,mb3.9/11,Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.41**	**188**	Pg	**Pn**		**12 18 34.4**	**+0.4**
JHBN	**Jahan bin**	**1.73**	**73**	Pg	**Pn**		**12 18 54.3**	**+1.7**
ZNGN	**Zangian**	**1.86**	**78**	Pg	**Pn**		**12 18 55.8**	**+1.5**
IKFM	**Kafar-mosalman**	**1.93**	**338**	Pn	**Pn**		**12 18 56.9**	**+1.9**
IPIR	**Pirpir**	**2.08**	**62**	Pn	**Pn**		**12 18 58.5**	**+1.2**
IBRJ	**Brojen**	**2.18**	**85**	Pn	**Pn**		**12 19 00.2**	**+1.5**
HSAM	**Samen**	**2.47**	**358**	Pn	**Pn**		**12 19 03.8**	**+1.1**
KLNJ	**Kolanjah**	**2.57**	**106**	Pn	**Pn**		**12 19 05.7**	**+1.7**
IKOM	**Komasi**	**2.64**	**338**	Pn	**Pn**		**12 19 06.7**	**+1.8**
IBZA	**Bozab**	**2.82**	**346**	Pn	**Pn**		**12 19 09.1**	**+1.6**
ILBA	**Ilam Banvizeh**	**2.83**	**312**	Pn	**Pn**		**12 19 09.2**	**+1.8**
IKLH	**Kolahrood**	**2.89**	**56**	Pn	**Pn**		**12 19 09.7**	**+1.2**
IGAR	**Gharneh**	**2.91**	**76**	Pn	**Pn**		**12 19 10.2**	**+1.5**
QAMS	**Qamsar**	**3.02**	**48**	Pn	**Pn**		**12 19 11.4**	**+1.2**
HAGD	**Aghdareh**	**3.10**	**7**	Pn	**Pn**		**12 19 13.1**	**+1.8**
IRAM	**Ramesheh**	**3.13**	**88**	Pn	**Pn**		**12 19 13.0**	**+1.3**
IALM	**Almabolaq**	**3.15**	**352**	Pn	**Pn**		**12 19 13.5**	**+1.4**
IGHG	**Ghaleghazi**	**3.15**	**326**	Pn	**Pn**		**12 19 13.5**	**+1.5**
IZEF	**Zefreh**	**3.27**	**68**	Pn	**Pn**		**12 19 14.8**	**+1.1**
ILIN	**Lien**	**3.50**	**336**	Pn	**Pn**		**12 19 18.9**	**+2.1**
IDHR	**Dehrash**	**3.54**	**327**	Pn	**Pn**		**12 19 18.3**	**+0.9**
KRSH	**Karshahi**	**3.64**	**51**	Pn	**Pn**		**12 19 19.8**	**+1.1**
IQOM	**Qom**	**3.68**	**32**	Pn	**Pn**		**12 19 19.9**	**+0.7**
IRAZ	**Razeghan**	**3.80**	**15**	Pn	**Pn**		**12 19 22.4**	**+1.5**
**

0.4nm,0.7s
FINES FINESS Array B 33.18 340 P **P 12 24 57.2 -0.5**
0.8nm,0.4s,baz=148,slow=11,SNR=7.2
0.8nm,0.4s
ZALV Zalesovo Beam 33.99 39 P **P 12 25 05.2 +0.3**
0.6nm,0.3s,baz=264,slow=10,SNR=5.6
0.6nm,0.3s
HFS Hagfors 36.64 331 P **P 12 25 26.8 -0.7**
0.6nm,0.3s,baz=106,slow=11,SNR=5.0
0.6nm,0.3s
ARCES ARCESS Array B 40.06 348 P **P 12 25 54.8 -1.3**
3.9nm,1.0s,baz=129,slow=5.0,SNR=6.3
3.9nm,1.0s
TORD Torodi Ar. Bea 46.83 258 P **P 12 26 52.4 +1.0**
1.0nm,0.4s,baz=56,slow=7.7,SNR=16
1.0nm,0.4s
CMAR Chiang Mai Arr 46.99 94 P **P 12 26 52.6 0.0**
0.3nm,0.3s,baz=296,slow=9.0,SNR=4.5
0.3nm,0.3s
SPITS Spitsbergen Ar 48.65 352 P **P 12 27 04.9 +0.2**
1.6nm,0.4s,baz=139,slow=10,SNR=9.9
1.6nm,0.4s

IDC 10 12:19:49.1±3.8, 16°75S×175°22W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=182.7km s-min=79.8km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.86**	**241**	P	P	12 27 41.4	+0.3
	1.1nm,0.6s,baz=77,slow=12,SNR=3.2						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**47.85**	**258**	P	P	12 28 29.0	-0.1
	1.9nm,0.6s,baz=95,slow=7.4,SNR=39						
WRA				PcP	PcP	12 29 57.7	-0.3
	0.1nm,0.3s,baz=89,slow=3.3,SNR=1.0						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**48.04**	**253**	P	P	12 28 30.2	-0.4
	4.7nm,0.6s,baz=92,slow=7.5,SNR=73						
ASAR				PcP	PcP	12 29 58.3	-0.4
	0.4nm,0.5s,baz=99,slow=3.9,SNR=5.7						
	4.7nm,0.6s						

*IDC **10** 12:38:25.6±1.1, 5°36N×124°44E, h0km, mb3.7/5, mbtmp3.8/6, ML4.1/1, MS2.8/1, Error ellipse: s-maj=37.0km s-min=17.9km az=81.0*
*DJA **10** 12:38:33.8±0.4, 5°N±3°×12°5E±°, h61km±25km, M4.3/9, mb4.5/4, mB4.9/3, MLv4.2/9, Mw(mB)4.2/3*
ISC 10 12:38:31.7±0.9, 5°29N±0°05×124°7E±0°1, h35km, n14, σ1°34/17, mb3.7/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.81**	**152**	P	**Pn**	**12 39 00.6**	**+0.2**
SGSI				S	**Sn**	**12 39 21.8**	**-0.3**
DAV	**Davao City (W)**	**1.99**	**27**	Pn	**Pn**	**12 39 01.6**	**-1.3**
	60nm,0.3s,baz=236,slow=23,SNR=1.6						
DAV				Sn	**Sn**	**12 39 27.8**	**+1.2**
	99nm,0.3s,baz=135,slow=22,SNR=7.2						
DAV				LR	LR	12 40 09.7	
	comp=Z,232nm,20.7s,baz=198,slow=51						
	348nm,0.4s						
DAV	**Davao City (W)**	**1.99**	**27**	P	**Pn**	**12 39 04.1**	**+1.2**
DAV				S	**Sn**	**12 39 28.4**	**+1.8**
KMSI	**Cibinong**	**4.73**	**188**	P	**Pn**	**12 39 42.2**	**+1.6**
GTOI	**Gorontalo**	**4.91**	**200**	P	**Pn**	**12 39 44.8**	**+1.8**
GTOI				S	**Sn**	**12 40 39.3**	**+0.7**
TNTI	**Ternate**	**5.23**	**149**	P	**Pn**	**12 39 48.4**	**+0.9**
	43nm,1.0s,0.2nm						
MRSI	**Marisa**	**5.50**	**210**	P	Pn	12 39 55.4	+4.3
	36nm,0.5s,890nm0.5nm						
SANI	**Sanana**	**7.41**	**170**	P	**Pn**	**12 40 17.2**	**-0.2**
	30nm,0.7s,564nm0.1nm						
NLAI	**Namlea**	**8.81**	**164**	P	**Pn**	**12 40 37.1**	**+0.4**
WRA	**Warramunga Arr**	**26.82**	**159**	P	**P**	**12 44 08.6**	**-0.3**
	1.8nm,0.8s,baz=337,slow=10,SNR=21						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**30.16**	**163**	P	**P**	**12 44 39.0**	**+0.3**
	0.5nm,0.4s,baz=341,slow=7.0,SNR=23						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**40.33**	**157**	P	**P**	**12 46 06.5**	**+0.6**
	3.5nm,0.7s,baz=345,slow=7.5,SNR=10.0						
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**55.11**	**326**	P	**P**	**12 47 58.9**	**-1.6**
	0.1nm,0.4s,baz=121,slow=7.1,SNR=3.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**59.33**	**328**	P	**P**	**12 48 27.5**	**-2.6**
	0.3nm,0.6s,baz=120,slow=7.5,SNR=4.4						
	0.3nm,0.6s						

DJA 10 12:40:55.2±0.7, 11°S±7°×11°2E±°, h10km, M4.1/8, mb4.2/2, MLv4.0/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.73**	**42**	P	Pn	12 41 38.8	-0.3
JAGI				S	Sn	12 42 12.4	+0.2
SJI	**Sawahan**	**2.80**	**349**	P	Pn	12 41 41.5	+1.4
BLJI	**Banyuglugur**	**3.03**	**25**	P	Pn	12 41 44.3	+1.1
UGM	**Wanagama**	**3.11**	**326**	P	Pn	12 41 44.2	-0.1
UGM				S	Sn	12 42 21.6	0.0
SRBI	**Singaraja**	**3.75**	**50**	P	Pn	12 41 53.4	+0.2
KPJI	**Karang Pucung**	**4.57**	**313**	P	Pn	12 42 03.8	-0.7
CMJI	**Cimerak**	**4.66**	**305**	P	Pn	12 42 05.8	+0.2
TWSI	**Taliwang, Sumb**	**4.86**	**69**	P	Pn	12 42 08.0	-0.4
BBJI	**Bungbulang**	**5.49**	**303**	P	Pn	12 42 16.8	-0.3
	44nm,1.3s,0.2nm						
PLAI	**Plampang**	**5.66**	**73**	P	Pn	12 42 18.9	-0.5

*TEH **10** 12:57:16.3, 34°45N×45°77E, h10km±97km, ML2.7*
*ISN **10** 12:57:17.7±1.1, 34°47N×45°79E, h10km±9km, ML2.6*
ISC 10 12:57:17.0±1.2, 34°45N±0°05×45°79E±0°04, h9km±11km, n10, σ0°53/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**289**	Pg	**Pg**	**12 57 20.6**	**-0.1**
IDHR	**Dehrash**	**0.56**	**63**	Pg	**Pg**	**12 57 27.3**	**-0.5**
IGHG	**Ghaleghazi**	**0.66**	**100**	Pg	**Pg**	**12 57 29.8**	**+0.1**
IGHG				Sg	**Sb**	**12 57 40.5**	**+0.4**
ILBA	**Ilam Banvizeh**	**0.90**	**157**	Pg	**Pg**	**12 57 33.2**	**-1.0**
ILIN	**Lien**	**1.08**	**64**	Pg	**Pg**	**12 57 37.7**	**0.0**
ILIN				Sg	**Sn**	**12 57 53.4**	**-0.2**
IBDR	**Badra**	**1.34**	**175**	*e*Pg	**Pn**	**12 57 42.0**	**+0.1**
	baz=355						
IBDR				*e*Sg	**Sg**	**12 58 01.0**	**+0.8**
IBDR				AML	AML	12 58 05.2	
	comp=E,161nm,0.5s						
IBDR				AML	AML	12 58 19.4	
	comp=N,74nm,0.5s						
IKOM	**Komasi**	**1.45**	**100**	Pg	**Pg**	**12 57 45.2**	**+0.4**
BHD	**Baghdad**	**1.66**	**225**	*e*Pn	**Pn**	**12 57 46.0**	**-0.2**
BHD				*e*Sn	**Sn**	**12 58 08.0**	**+0.4**
IBZA	**Bozab**	**1.71**	**89**	Pg	**Pg**	**12 57 49.5**	**-0.3**
IALM	**Almabolaq**	**2.01**	**78**	Pn	**Pb**	**12 57 53.5**	**-0.3**

NNC 10 13:03:22.2±0.7, 50°36N×73°45E, h0km, mb3.1, mpv3.3, 5C-4D, Error ellipse: s-maj=6.5km s-min=5.3km az=98.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.24**	**199**	Pn	Pn	13 04 00.8	+0.2
	3.5nm,0.6s						
OTUK				⇓Sn	Sn	13 04 30.3	+1.4
	28nm,0.8s						
KURBB	**Kurchatov Arra**	**3.26**	**83**	⇑Pg	Pb	13 04 22.5	+1.6
	2.7nm,0.6s						
KURBB				⇑Lg	Lg	13 05 05.8	
	35nm,0.6s						
BVA0	**Borovoye Array**	**3.28**	**326**	⇑Pg	Pb	13 04 22.1	+0.9
	1.3nm,0.8s						
BVA0				⇓Lg	Lg	13 05 05.1	
	25nm,0.8s						
KURK	**Kurchatov**	**3.32**	**82**	⇑Pg	Pb	13 04 22.5	+0.5
	5.5nm,1.2s						
KURK				⇓Lg	Lg	13 05 07.3	
	14nm,1.1s						
BRVK	**Borovoye**	**3.34**	**325**	⇑Pg	Pb	13 04 23.3	+1.0
	2.7nm,0.9s						
BRVK				⇓Lg	Lg	13 05 06.6	
	14nm,0.7s						

SOME 10 13:05:29.2, 46°17N×74°73E, h0km, 1C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLS	**Baital**	**1.23**	**203**	P	Pg	13 05 51.9	-0.7
	2.7nm,0.1s						
BTLS				S	Sg	13 06 08.3	-0.2
	3.5nm,0.4s						
BTLS	**Baital**	**1.23**	**203**	*e*P	Pg	13 05 51.9	-0.7
	2.7nm,0.1s						
BTLS				*e*S	Sg	13 06 08.3	-0.2
	3.5nm,0.4s						
KUU	**Kurty**	**2.54**	**153**	*e*P	Pb	13 06 16.6	+0.9
	0.9nm,0.2s						
KUU				*e*S	Sg	13 06 50.5	-0.4
	3.1nm,0.4s						
KRBS	**Karabastau**	**2.56**	**165**	Pg	Pg	13 06 17.7	-0.5
	0.6nm,0.2s						
KRBS				Lg	Lg	13 06 53.0	
	4.7nm,0.4s						
KRBS	**Karabastau**	**2.56**	**165**	*e*P	Pg	13 06 17.7	-0.5
	0.6nm,0.2s						
KRBS				*e*S	Sg	13 06 53.0	+1.6
	4.7nm,0.4s						
SGDS	**Sogindy**	**2.72**	**182**	Pg	Pg	13 06 20.3	-0.9
	0.8nm,0.5s						
SGDS				Lg	Lg	13 06 57.2	
	4.2nm,0.4s						
CHKK	**Chushkaly**	**2.81**	**145**	Pg	Pg	13 06 21.7	-1.4
	0.8nm,0.1s						
CHKK				Lg	Lg	13 06 59.4	
	4.1nm,0.3s						
CHKK	**Chushkaly**	**2.81**	**145**	*e*P	Pg	13 06 21.7	-1.4
	0.8nm,0.1s						
CHKK				*e*S	Sg	13 06 59.4	-0.1
	4.1nm,0.3s						
KTBS	**Karatobe**	**2.82**	**150**	Pg	Pg	13 06 22.1	-1.1
	0.5nm,0.2s						
KTBS				Lg	Lg	13 07 00.3	
	6.8nm,0.4s						
KTBS	**Karatobe**	**2.82**	**150**	*e*P	Pg	13 06 22.1	-1.1
	0.5nm,0.2s						
KTBS				*e*S	Sg	13 07 00.3	+0.6
	6.8nm,0.4s						
DGS	**Degeres**	**3.02**	**165**	*e*P	Pg	13 06 25.8	-1.2
	1.2nm,0.5s						
DGS				*e*S	Sg	13 07 06.3	+0.2
	2.8nm,0.6s						
KST	**Kastek**	**3.25**	**164**	Pg	Pg	13 06 30.3	-1.1
	0.5nm,0.1s						
KST				Lg	Lg	13 07 14.3	
	7.9nm,0.4s						
KST	**Kastek**	**3.25**	**164**	*e*P	Pg	13 06 30.2	-1.1
	0.5nm,0.1s						
KST				*e*S	Sg	13 07 14.3	+0.9
	7.9nm,0.4s						
MAKZ	**Makanchi**	**5.04**	**80**	⇓Lg	Lg	13 06 55.4	
	5.2nm,0.8s						
MK31	**Makanchi Array**	**5.26**	**80**	⇑Lg	Lg	13 07 01.6	
	5.5nm,0.9s,baz=312,slow=24,SNR=4.1						

*DJA **10** 13:13:00.8±1.0, 9°S±3°×10°9E±°, h26km±9km, M4.5/21, mb4.6/16, mB5.4/2, MLv4.5/21, Mw(mB)4.8/2*
*NEIC **10** 13:13:01.6±1.7, 8°69S±0°09×109°10E±0°07, h25km±5km, mb4.4/20, Error ellipse: s-maj=13.4km s-min=8.8km az=149.0*
*IDC **10** 13:13:04.6±1.9, 8°44S×109°30E, h49km±19km, mb3.9/11, mbtmp4.2/12, ML4.0/1, MS2.6/2, Error ellipse: s-maj=41.5km s-min=12.5km az=50.0*
ISC 10 13:13:02.3±0.5, 8°79S±0°06×109°14E±0°05, h35km, n90, σ1°41/87, mb4.3/18, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.21**	**326**	P	**Pn**	**13 13 21.5**	**-1.2**
CMJI				S	**Sn**	**13 13 39.4**	**+1.5**
KPJI	**Karang Pucung**	**1.46**	**352**	P	**Pn**	**13 13 27.4**	**+1.2**
YOGI	**Yogyakarta**	**1.50**	**50**	P	**Pn**	**13 13 24.8**	**-1.9**
UGM	**Wanagama**	**1.62**	**58**		**Pn**	**13 13 26.9**	**-1.5**
UGM	**Wanagama**	**1.62**	**58**	P	**Pn**	**13 13 26.7**	**-1.7**
UGM	**Wanagama**	**1.62**	**58**	P	**Pn**	**13 13 26.6**	**-1.8**
BBJI	**Bungbulang**	**1.98**	**312**	P	**Pn**	**13 13 32.6**	**-0.8**
BBJI	**Bungbulang**	**1.98**	**312**	P	**Pn**	**13 13 32.2**	**-1.2**
SMRI	**Semarang**	**2.16**	**37**		**Pn**	**13 13 35.9**	**+0.1**
SMRI	**Semarang**	**2.16**	**37**	P	**Pn**	**13 13 36.5**	**+0.7**
SMRI	**Semarang**	**2.16**	**37**	P	**Pn**	**13 13 36.4**	**+0.7**
LEM	**Lembang**	**2.47**	**322**	P	**Pn**	**13 13 41.9**	**+1.7**
	40nm,0.3s,baz=99,slow=11,SNR=23						
LEM				S	**Sn**	**13 14 08.1**	**-1.0**
	218nm,0.7s,baz=143,slow=20,SNR=5.6						
LEM				LR	LR	13 14 17.4	
	comp=Z,78nm,20.6s,baz=218,slow=32						
	112nm,0.4s						
LEM	**Lembang**	**2.47**	**322**	P	**Pn**	**13 13 42.3**	**+2.1**
CNJI	**Cibinong**	**2.48**	**306**	P	**Pn**	**13 13 39.5**	**-0.6**
NGJI	**Ngawi**	**2.70**	**59**	P	**Pn**	**13 13 45.7**	**+2.5**
SJI	**Sawahan**	**2.81**	**68**	P	**Pn**	**13 13 45.0**	**+0.3**
SJI				S	**Sn**	**13 14 17.3**	**-0.1**
SKJI	**Sukabumi**	**3.11**	**305**	P	**Pn**	**13 13 50.1**	**+1.2**
DBJI	**Dramaga**	**3.25**	**313**	P	**Pn**	**13 13 52.1**	**+1.3**
KRKI	**Karangkates**	**3.34**	**79**	P	**Pn**	**13 13 51.1**	**-0.9**
XMI	**Christmas Isla**	**3.78**	**244**	P	**Pn**	**13 13 57.8**	**-0.3**
GRJI	**Gresik**	**3.80**	**61**	P	**Pn**	**13 13 58.7**	**+0.4**
XMIS	**Christmas Isla**	**3.83**	**244**		**Pn**	**13 13 57.8**	**-1.0**
XMIS	**Christmas Isla**	**3.83**	**244**	P	**Pn**	**13 13 58.1**	**-0.6**
CGJI	**Cibinong**	**4.04**	**302**	P	**Pn**	**13 14 01.9**	**+0.2**
BLJI	**Banyuglugur**	**4.53**	**77**	P	**Pn**	**13 14 05.4**	**-3.0**
JAGI	**Jajag, Banyuwa**	**4.97**	**87**		**Pn**	**13 14 13.9**	**-0.6**
JAGI	**Jajag, Banyuwa**	**4.97**	**87**	P	**Pn**	**13 14 14.6**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.97**	**87**	P	**Pn**	**13 14 14.0**	**-0.4**
	53nm,0.5s,2μm0.4nm						
ABJI	**Asem Bagus**	**5.14**	**79**	P	**Pn**	**13 14 15.7**	**-1.1**
	85nm,0.5s,0.5nm						
KASI	**Kota Agung**	**5.63**	**305**	P	**Pn**	**13 14 24.9**	**+1.3**
	38nm,1.0s,0.2nm						
IGBI	**Denpasar**	**5.94**	**91**	P	**Pn**	**13 14 27.8**	**+0.1**
	131nm,0.8s,0.4nm						
SRBI	**Singaraja**	**6.05**	**84**	P	**Pn**	**13 14 30.0**	**+0.7**
EGSI	**Enggano, Bengk**	**7.62**	**296**	P	**Pn**	**13 14 51.9**	**+1.0**
	94nm,1.0s,0.4nm						
TWSI	**Taliwang, Sumb**	**7.65**	**90**	P	**Pn**	**13 14 51.9**	**+0.6**
	42nm,0.6s,0.2nm						
PLAI	**Plampang**	**8.54**	**91**	P	**Pn**	**13 15 03.4**	**-0.1**
PLAI	**Plampang**	**8.54**	**91**	P	**Pn**	**13 15 03.3**	**-0.2**
	40nm,0.6s						
DBNI	**Kabupaten Domp**	**9.07**	**89**	P	**Pn**	**13 15 10.9**	**0.0**
	38nm,1.6s						
KAPI	**Kappang**	**11.18**	**71**	LR	LR	13 21 10.9	
	comp=Z,46nm,19.5s,baz=230,slow=44						
PDSI	**Padang**	**11.66**	**312**	P	**Pn**	**13 15 46.4**	**+0.1**
	7.3nm,0.5s						
EDFI	**Ende, Flores**	**12.41**	**91**	P	**Pn**	**13 15 53.2**	**-3.4**
	18nm,0.9s						
GIRL	**Giralia**	**14.62**	**161**	P	**Pn**	**13 16 25.1**	**-1.5**
SOEI	**Soe**	**14.96**	**95**	Pn	**Pn**	**13 16 29.1**	**-2.3**
TOLI2	**Tolitoli**	**15.21**	**50**	Pn	**Pn**	**13 16 34.2**	**-0.4**
PSA00	**Pilbara Seismi**	**16.36**	**142**	P	**Pn**	**13 16 46.7**	**-2.7**
SANI	**Sanana**	**18.05**	**69**	P	**Pn**	**13 17 09.1**	**-1.4**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.51**	**122**	P	**Pn**	**13 17 17.0**	**+1.0**
NLAI	**Namlea**	**18.69**	**74**	P	**Pn**	**13 17 19.1**	**+0.8**
	8.8nm,0.5s,3μm						
LBMI	**Labuha**	**20.00**	**67**	P	**Pn**	**13 17 32.4**	**-1.6**
	63nm,0.7s						
KNRA	**Kununurra**	**20.35**	**112**	P	**P**	**13 17 36.6**	**+0.8**
KNRA				IAmb	IAmb	13 18 05.7	
	comp=Z,25nm,1.3s						
MTN	**Manton Dam**	**21.97**	**103**	P	**P**	**13 17 53.6**	**+0.3**
MTN				IAmb	IAmb	13 18 20.6	
	comp=Z,7.7nm,0.7s						
MTN	**Manton Dam**	**21.97**	**103**	P	**P**	**13 17 53.8**	**+0.5**
KDU	**Kakadu**	**23.25**	**102**	P	**P**	**13 18 08.3**	**+1.6**
FAKI	**Fak Fak**	**23.71**	**77**	P	**P**	**13 18 06.8**	**-4.4**
FAKI				IAmb	IAmb	13 18 42.3	
	comp=Z,22nm,1.1s						
WB0	**Warramunga Arr**	**26.75**	**117**	P	**P**	**13 18 39.4**	**+0.4**
WB0				IAmb	IAmb	13 18 40.6	
	comp=Z,8.7nm,0.6s						
WRA	**Warramunga Arr**	**26.77**	**117**	P	**P**	**13 18 39.9**	**+0.9**
WRA	**Warramunga Arr**	**26.77**	**117**	P	**P**	**13 18 40.1**	**+1.0**
	comp=Z,10nm,0.8s,baz=289,slow=12,SNR=87						
WRA				PcP	**PcP**	**13 22 03.0**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=300,slow=2.2,SNR=1.6						
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**27.93**	**125**	P	**P**	**13 18 50.9**	**+1.4**
ASAR	**Alice Springs**	**27.93**	**125**	P	**P**	**13 18 50.0**	**+0.5**
ASAR	**Alice Springs**	**27.93**	**125**	P	**P**	**13 18 51.1**	**+1.6**
	comp=Z,3.9nm,0.5s,baz=306,slow=8.8,SNR=28						
ASAR				PcP	**PcP**	**13 22 06.1**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=305,slow=1.6,SNR=6.0						
	comp=Z,3.9nm,0.5s						
COEN	**Coen**	**33.74**	**102**	P	**P**	**13 19 40.9**	**+0.1**
COEN				IAmb	IAmb	13 19 46.8	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**34.51**	**138**	P	**P**	**13 19 47.9**	**+0.7**
BBOO				IAmb	IAmb	13 20 01.8	
	comp=Z,12nm,1.2s						
H08S2	**Diego Garcia H**	**36.28**	**269**	T	T	13 58 29.4	
	baz=94						
H08S3	**Diego Garcia H**	**36.29**	**269**	T	T	13 58 28.7	
	baz=94,slow=74,SNR=44						
H08S1	**Diego Carcia H**	**36.30**	**269**	T	T	13 58 29.3	
	baz=94,slow=74,SNR=2.6						
STKA	**Stephens Creek**	**37.88**	**132**	P	**P**	**13 20 17.0**	**+0.9**
STKA				IAmb	IAmb	13 20 18.3	
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**37.88**	**132**	P	**P**	**13 20 17.6**	**+1.5**
	comp=Z,10nm,0.7s,baz=304,slow=8.3,SNR=26						
STKA				PcP	**PcP**	**13 22 33.4**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=318,slow=9.2,SNR=3.6						
	comp=Z,10nm,0.7s						
ARMA	**Armidale**	**45.08**	**125**	P	**P**	**13 21 17.6**	**+2.2**
SONM	**Songino Array**	**56.43**	**358**	P	**P**	**13 22 39.3**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=176,slow=9.7,SNR=2.1						
	comp=Z,0.4nm,0.8s						
MK31	**Makanchi Array**	**60.29**	**339**	P	**P**	**13 23 06.1**	**-1.3**
MKAR	**Makanchi Array**	**60.29**	**339**	P	**P**	**13 23 06.1**	**-1.3**
MKAR	**Makanchi Array**	**60.29**	**339**	P	**P**	**13 23 06.2**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=150,slow=7.5,SNR=10						
	comp=Z,0.9nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.32**	**222**	T	T	14 30 28.3	
	baz=70,slow=75,SNR=72						
H04N1	**CROZET ISLANDS**	**61.33**	**222**	T	T	14 30 31.0	
	baz=70,slow=75,SNR=57						
H04N3	**CROZET ISLANDS**	**61.34**	**222**	T	T	14 30 30.4	
	baz=70,slow=75,SNR=54						
WKZ	**Wanaka**	**62.64**	**136**	P	**P**	**13 23 25.8**	**+2.4**
KURBB	**Kurchatov Arra**	**64.86**	**339**	P	**P**	**13 23 37.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=154,slow=5.9,SNR=6.0						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**65.80**	**345**	P	**P**	**13 23 40.7**	**-3.0**
	comp=Z,1.0nm,0.4s,baz=151,slow=3.3,SNR=2.9						
	comp=Z,1.0nm,0.4s						
GEYT	**Alibeck**	**66.50**	**318**	P	**P**	**13 23 48.7**	**0.0**
GEYT				IAmb	IAmb	13 24 01.4	
	comp=Z,5.3nm,1.2s						
RTZ	**Ruatahuna**	**67.27**	**128**	P	**P**	**13 23 54.2**	**+0.6**
BVAR	**Borovoye Array**	**69.84**	**336**	P	**P**	**13 24 08.6**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=140,slow=8.3,SNR=9.6						
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**72.03**	**329**	P	**P**	**13 24 21.8**	**-0.8**
ABKAR	**Akbulak array**	**72.03**	**329**	P	**P**	**13 24 22.2**	**-0.3**
ABKAR				IAmb	IAmb	13 24 43.0	
	comp=Z,5.0nm,1.3s						
PETK	**Petropavlovsk-**	**74.14**	**28**	P	**P**	**13 24 33.4**	**-1.6**
PETK	**Petropavlovsk-**	**74.14**	**28**	P	**P**	**13 24 33.6**	**-1.4**
	comp=Z,4.4nm,0.9s,baz=135,slow=0.8,SNR=5.4						
	comp=Z,4.4nm,0.9s						
QSPA	**South Pole Qui**	**81.21**	**180**	P	**P**	**13 25 15.4**	**+1.0**
QSPA				IAmb	IAmb	13 25 27.4	
	comp=Z,2.1nm,1.0s						
QSPA	**South Pole Qui**	**81.21**	**180**	P	**P**	**13 25 16.1**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=247,slow=1.9,SNR=3.0						
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**84.59**	**311**	P	**P**	**13 25 33.1**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=106,slow=7.2,SNR=1.4						
	comp=Z,0.5nm,0.5s						
BELA	**Belgrano 2**	**91.15**	**187**	P	**P**	**13 26 04.5**	**+1.4**
FINES	**FINESS Array B**	**94.35**	**331**	LR	LR	14 16 00.4	
	comp=Z,166nm,20.0s,baz=335,slow=40						
TXAR	**Lajitas Array**	**143.07**	**52**	PKP	PKPbc	13 32 30.3	+0.1
	comp=Z,0.1nm,0.5s,baz=233,slow=1.8,SNR=4.1						

DJA 10 13:19:44.1±0.5, 8°S±7°×11°8E±°, h297km±7km, M3.9/12, mb4.1/4, MLv3.8/12, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.93**	**168**	P	Pn	13 20 24.8	+0.9
PLAI				S	S	13 20 55.6	+0.1
DBNI	**Kabupaten Domp**	**0.93**	**129**	P	Pn	13 20 24.7	+0.8
TWSI	**Taliwang, Sumb**	**1.07**	**220**	P	Pn	13 20 25.7	+1.2
SRBI	**Singaraja**	**2.35**	**266**	P	Pn	13 20 33.2	-0.4
IGBI	**Denpasar**	**2.57**	**249**	P	Pn	13 20 36.3	+0.8
IGBI				S	S	13 21 15.4	-1.2
MKS	**Makassar**	**3.27**	**35**	P	Pn	13 20 42.0	-0.4
JAGI	**Jajag, Banyuwa**	**3.44**	**260**	P	Pn	13 20 44.7	+0.5
JAGI				S	S	13 21 28.6	-3.6
BKSI	**Bulukumba**	**3.60**	**45**	P	Pn	13 20 45.5	-0.4
BASI	**Baing, Sumba**	**3.75**	**128**	P	Pn	13 20 46.3	-1.1
EDFI	**Ende, Flores**	**4.15**	**102**	P	Pn	13 20 52.2	+0.2
SJI	**Sawahan**	**5.76**	**271**	P	Pn	13 21 12.2	+1.6
SOEI	**Soe**	**6.86**	**106**	P	Pn	13 21 24.3	+0.4
	43nm,1.9s,0.2nm						
UGM	**Wanagama**	**6.99**	**269**	P	Pn	13 21 25.2	-0.2
	200nm,1.6s,1.4nm						
BBJI	**Bungbulang**	**9.85**	**272**	P	Pn	13 21 59.7	-0.9

TRN 10 13:32:26.6, 15°96N×61°07W, h50km, MD3.8, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**

EDFI	**Ende, Flores**	**0.97**	**341**	P	**Pn**	**13 33 01.1**	**+0.7**
EDFI				S	**Sn**	**13 33 11.8**	**-1.3**
MMRI	**Maumere**	**1.06**	**13**	P	**Pn**	**13 33 03.5**	**+2.0**
MMRI				S	**Sn**	**13 33 17.1**	**+2.0**
BASI	**Baing, Sumba**	**1.50**	**249**	P	**Pn**	**13 33 09.0**	**+1.4**
BASI				S	**Sn**	**13 33 27.3**	**+1.2**
SOEI	**Soe**	**2.23**	**92**	P	Pn	13 33 25.7	+8.0
DBNI	**Kabupaten Domp**	**3.83**	**287**	P	**Pn**	**13 33 41.0**	**+1.5**
PLAI	**Plampang**	**4.26**	**281**	P	**Pn**	**13 33 45.8**	**+0.4**
BKSI	**Bulukumba**	**4.71**	**337**	P	Pn	13 33 55.3	+3.6
TWSI	**Taliwang, Sumb**	**5.14**	**280**	P	**Pn**	**13 33 58.9**	**+1.3**
	26nm,1.6s,0.1nm						
WRA	**Warramunga Arr**	**15.69**	**132**	Pn	**Pn**	**13 36 20.2**	**-1.0**
	0.1nm,0.3s,baz=307,slow=14,SNR=2.1						
WRA				Sn	Sn	13 39 01.5	-13
	baz=300,slow=27,SNR=2.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**17.97**	**142**	P	**P**	**13 36 50.1**	**+0.2**
	baz=318,slow=12,SNR=2.4						
ASAR				S	Sn	13 40 01.4	-8.0
	0.2nm,0.7s,baz=314,slow=23,SNR=1.5						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**66.44**	**331**	P	**P**	**13 43 25.6**	**-2.2**
	0.4nm,0.6s,baz=132,slow=6.7,SNR=4.6						
	0.4nm,0.6s						

IDC 10 13:58:14.6±8.3, 23°24S×179°18E, h613km±87km, mb2.6/3, mbtmp3.8/4, Error ellipse: s-maj=198.9km s-min=40.1km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.82**	**273**	P	P	14 00 51.2	-0.5
	6.9nm,0.8s,baz=94,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**41.40**	**260**	P	P	14 05 09.2	-0.3
	0.2nm,0.4s,baz=98,slow=8.3,SNR=8.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**41.70**	**266**	P	P	14 05 12.1	+0.2
	0.7nm,0.4s,baz=103,slow=7.4,SNR=16						
	0.7nm,0.4s						
TXAR	**Lajitas Array**	**90.72**	**58**	P	P	14 10 13.9	+0.1
	0.2nm,0.6s,baz=217,slow=5.7,SNR=2.3						
	0.2nm,0.6s						
HFS	**Hagfors**	**141.75**	**348**	PKP	PKPdf	14 16 35.1	-1.8
	0.5nm,0.3s,baz=27,slow=3.5,SNR=4.8						

*SJA **10** 14:12:21.1±0.7, 31°.66S×69°.46W, h123km±3km, ML3.5, MW3.6*
*GUC **10** 14:12:22.0±0.8, 31°.70S×69°.82W, h140km±4km, ML3.6*
ISC 10 14:12:21.6±1.3, 31°.69S±0°.02×69°.49W±0°.03, h124km±7km, n53, σ1§24/99, 9C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.20**	**124**	*eP*	**Pn**	**14 12 38.5**	**-0.6**
RTLS				*eS*	**Sn**	**14 12 50.8**	**-1.5**
RTLS				IAML		14 12 51.7	
	comp=Z,2μm,0.3s						
SJA	**San Juan**	**0.81**	**79**	*eP*	**Pn**	**14 12 40.9**	**-1.5**
SJA				*eS*	**Sn**	**14 12 57.5**	**-0.5**
SJA				IAML		14 12 59.3	
	comp=Z,794nm,0.5s						
DOCA	**Reserva Natura**	**0.82**	**26**	*eP*	**Pn**	**14 12 42.2**	**-0.6**
DOCA				*eS*	**Sn**	**14 12 57.6**	**-1.2**
RTCV	**Cerro Valdivia**	**0.83**	**102**	*eP*	**Pn**	**14 12 42.4**	**-0.1**
RTCV				IAML		14 12 59.6	
	comp=Z,114nm,0.6s						
RTLL	**Cerro Villicun**	**0.94**	**68**	*eP*	**Pn**	**14 12 43.0**	**-0.5**
RTLL				IAML		14 13 00.8	
	comp=Z,519nm,0.3s						
RTLL	**Cerro Villicun**	**0.94**	**68**	*iP*	**Pn**	**14 12 43.0**	**-0.5**
RTLL				*eS*	**Sn**	**14 12 58.1**	**-1.9**
ASAL	**Salagasta**	**1.06**	**148**	*eP*	**Pn**	**14 12 45.1**	**+0.5**
ASAL				*eS*	**Sn**	**14 13 02.9**	**+0.7**
ASAL				IAML		14 13 04.0	
	comp=Z,742nm,0.6s						
ACCO	**Cerro Coronel**	**1.16**	**19**	*eP*	**Pn**	**14 12 46.0**	**+0.1**
ACCO				*eS*	**Sn**	**14 13 04.6**	**+0.3**
ACCO				IAML		14 13 06.1	
	comp=Z,1μm,1.1s						
ARCO	**CERRO ARCO**	**1.24**	**158**	*eP*	**Pn**	**14 12 47.2**	**+0.5**
ARCO				*eS*	**Sn**	**14 13 06.5**	**+0.8**
ARCO				IAML		14 13 07.2	
	comp=Z,1μm,0.3s						
CO03	**El Pedregal**	**1.33**	**309**	*eP*	**Pn**	**14 12 47.8**	**+0.3**
CO03				*eS*	**Sn**	**14 13 07.7**	**+0.5**
CO03				IAML		14 13 08.0	
	comp=Z,734nm,0.6s						
CO03	**El Pedregal**	**1.33**	**309**	*iP*	**Pn**	**14 12 47.8**	**+0.3**
CO03				*eS*	**Sn**	**14 13 07.5**	**+0.3**
CO03				IAML		14 13 08.1	
	comp=N,3μm,0.3s						
CO02	**Combarbal**	**1.38**	**290**	*eP*	**Pn**	**14 12 47.9**	**-0.2**
CO02				*eS*	**Sn**	**14 13 08.5**	**+0.3**
CO02				IAML		14 13 09.2	
	comp=Z,985nm,0.5s						
CO02	**Combarbal**	**1.38**	**290**	*iP*	**Pn**	**14 12 48.0**	**0.0**
CO02				*eS*	**Sn**	**14 13 07.7**	**-0.5**
VA03	**San Esteban**	**1.40**	**220**	*eP*	**Pn**	**14 12 48.9**	**+0.7**
VA03				*eS*	**Sn**	**14 13 09.7**	**+1.1**
VA03				IAML		14 13 10.8	
	comp=Z,298nm,0.3s						
VA03	**San Esteban**	**1.40**	**220**	*eP*	**Pn**	**14 12 49.0**	**+0.7**
VA03				*eS*	**Sn**	**14 13 08.9**	**+0.4**
VA03				IAML		14 13 12.0	
	comp=E,2μm,0.1s						
AAGR	**Agrelo**	**1.50**	**158**	*eP*	**Pn**	**14 12 50.1**	**+0.7**
AAGR				*eS*	**Sn**	**14 13 11.7**	**+1.0**
AAGR				IAML		14 13 14.9	
	comp=Z,455nm,0.2s						
AROD	**Rodeo**	**1.52**	**1**	*eP*	**Pn**	**14 12 50.7**	**+0.8**
AROD				*eS*	**Sn**	**14 13 12.2**	**+0.9**
ACDV	**Cuesta del Vie**	**1.55**	**12**	*eP*	**Pn**	**14 12 50.5**	**+0.5**
ACDV				*eS*	**Sn**	**14 13 12.4**	**+0.7**
ACDV				IAML		14 13 14.0	
	comp=Z,223nm,0.2s						
VA06	**Catapilco**	**1.76**	**240**	*eP*	**Pn**	**14 12 51.6**	**-0.7**
VA06				*eS*	**Sn**	**14 13 13.6**	**-2.2**
VA06				IAML		14 13 20.4	
	comp=E,475nm,0.2s						
PEL	**Peldehue**	**1.77**	**215**	*eP*	**Pn**	**14 12 53.0**	**+0.6**
PEL				*eS*	**Sn**	**14 13 16.9**	**+0.9**
PEL	**Peldehue**	**1.77**	**215**	*iP*	**Pn**	**14 12 52.8**	**+0.3**
PEL				*eS*	**Sn**	**14 13 16.1**	**0.0**
PEL				IAML		14 13 17.5	
	comp=N,503nm,0.3s						
FCH	**Farellones**	**1.77**	**202**	*iP*	**Pn**	**14 12 54.1**	**+1.3**
FCH				*eS*	**Sn**	**14 13 18.5**	**+1.9**
FCH				IAML		14 13 23.6	
	comp=E,699nm,0.3s						
CO01	**Juntas del Tor**	**1.78**	**343**	*eP*	**Pn**	**14 12 54.5**	**+1.6**
CO01				*eS*	**Sn**	**14 13 20.5**	**+3.8**
CO01				IAML		14 13 21.2	
	comp=Z,154nm,0.7s						
CO01	**Juntas del Tor**	**1.78**	**343**	*iP*	**Pn**	**14 12 54.5**	**+1.6**
CO01				*eS*	**Sn**	**14 13 19.7**	**+3.0**
CO01				IAML		14 13 20.9	
	comp=E,396nm,0.7s						
MT04	**Ro Olivares**	**1.80**	**197**	*eP*	**Pn**	**14 12 54.4**	**+1.4**
MT04				*eS*	**Sn**	**14 13 19.2**	**+2.2**
MT04				IAML		14 13 27.9	
	comp=E,191nm,0.2s						
MT10	**Hacienda Santa**	**1.81**	**209**	*iP*	**Pn**	**14 12 54.0**	**+0.9**
MT10				*eS*	**Sn**	**14 13 18.3**	**+1.1**
MT10				IAML		14 13 20.2	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**1.81**	**225**	*eP*	**Pn**	**14 12 53.3**	**+0.1**
ROCH				*eS*	**Sn**	**14 13 17.3**	**-0.1**
ROCH				IAML		14 13 19.7	
	comp=N,820nm,0.3s						
ROC1	**El Roble**	**1.82**	**225**	*eP*	**Pn**	**14 12 53.3**	**0.0**
ROC1				*eS*	**Sn**	**14 13 17.6**	**+0.1**
GO04	**Tololo Observa**	**1.88**	**323**	*eP*	**Pn**	**14 12 54.0**	**-0.1**
GO04				*eS*	**Sn**	**14 13 19.4**	**+0.5**
GO04	**Tololo Observa**	**1.88**	**323**	*iP*	**Pn**	**14 12 53.9**	**-0.2**
GO04				*eS*	**Sn**	**14 13 17.8**	**-1.0**
MT14	**Cerro Cal¡n**	**1.92**	**207**	*eP*	**Pn**	**14 12 55.1**	**+0.8**
MT14				*eS*	**Sn**	**14 13 19.9**	**+0.5**
MT14				IAML		14 13 22.1	
	comp=E,1μm,0.5s						
AVIZ	**Vizcacheras**	**1.96**	**155**	*eP*	**Pn**	**14 12 55.7**	**+0.8**
AVIZ				*eS*	**Sn**	**14 13 20.5**	**+0.2**
MT03	**Universidad Ad**	**2.00**	**205**	*eP*	**Pn**	**14 12 56.5**	**+1.2**
MT03				*eS*	**Sn**	**14 13 23.6**	**+2.5**
MT03				IAML		14 13 25.3	
	comp=Z,437nm,0.2s						
MT05	**Renca**	**2.00**	**211**	*eP*	**Pn**	**14 12 56.2**	**+0.9**
MT05				*eS*	**Sn**	**14 13 22.9**	**+1.8**
MT05				IAML		14 13 25.0	
	comp=Z,274nm,0.2s						
AVFE	**Valle Fertil**	**2.02**	**60**	*eP*	**Pn**	**14 12 55.6**	**0.0**
AVFE				*eS*	**Sn**	**14 13 22.1**	**+0.4**
AVFE				IAML		14 13 25.2	
	comp=Z,136nm,0.4s						
MT02	**Curacav**	**2.10**	**221**	*eP*	**Pn**	**14 12 56.3**	**-0.2**
MT02				*eS*	**Sn**	**14 13 22.8**	**-0.4**
MT02				IAML		14 13 23.6	
	comp=Z,160nm,0.2s						
CO06	**Fray Jorge**	**2.10**	**298**	*iP*	**Pn**	**14 12 52.3**	**-4.2**
VA01	**Torpederas**	**2.26**	**233**	*eP*	**Pn**	**14 12 55.9**	**-2.6**
VA01				IAML		14 13 32.0	
	comp=Z,146nm,0.2s						
CO05	**La Serena**	**2.32**	**319**	*eP*	**Pn**	**14 12 58.6**	**-0.6**
CO05				IAML		14 13 28.5	
	comp=N,544nm,0.3s						
AGUA	**GUANDACOL**	**2.36**	**22**	*eP*	**Pn**	**14 13 00.8**	**+0.9**
AGUA				IAML		14 13 38.5	
	comp=Z,182nm,0.2s						
ACHE	**Chepes**	**2.47**	**78**	*eP*	**Pn**	**14 13 02.1**	**+0.7**
ACHE				*eS*	**Sn**	**14 13 31.9**	**0.0**
MT01	**Popeta**	**2.63**	**214**	*eP*	**Pn**	**14 13 02.5**	**-0.6**
MT01				*eS*	**Sn**	**14 13 34.4**	**-0.8**
MT01				IAML		14 13 38.9	
	comp=Z,146nm,0.2s						
LCO	**Las Campanas**	**2.87**	**338**	*eP*	**Pn**	**14 13 05.7**	**-0.9**
LCO				*eS*	**Sn**	**14 13 40.0**	**-1.1**
LCO				IAML		14 13 43.7	
	comp=Z,437nm,0.5s						
LCO	**Las Campanas**	**2.87**	**338**	*iP*	**Pn**	**14 13 06.4**	**-0.2**
BO01	**Tunca**	**3.01**	**206**	*eP*	**Pn**	**14 13 07.5**	**-0.6**
BO01				*eS*	**Sn**	**14 13 43.5**	**-0.6**
BO01				IAML		14 13 46.2	
	comp=Z,62nm,0.2s						
ACLC	**CERRO LA CRUZ**	**3.14**	**45**	*eP*	**Pn**	**14 13 10.4**	**+0.4**
ACLC				*eS*	**Sn**	**14 13 49.3**	**+1.9**
ACLC				IAML		14 13 51.0	
	comp=Z,101nm,0.4s						
VCA	**Vinchina**	**3.15**	**21**	*eS*	**Sn**	**14 13 49.1**	**+1.6**
VCA				IAML		14 13 59.5	
	comp=Z,158nm,0.3s						
RFA	**San Rafael**	**3.19**	**165**	IAML		14 14 12.0	
	comp=Z,39nm,0.3s						
MRA	**San Martin**	**3.29**	**104**	*eS*	**Sn**	**14 13 47.4**	**-3.3**
MRA				IAML		14 14 11.3	
	comp=Z,327nm,0.5s						
GO05	**Huala**	**3.89**	**211**	*eP*	**Pn**	**14 13 18.4**	**-1.4**
GO05				*eP*	**Pn**	**14 13 18.4**	**-1.4**
GO05				*eS*	**Sn**	**14 14 05.2**	**+0.4**
GO03	**Copiap**	**4.13**	**351**	*eP*	**Pn**	**14 13 22.8**	**-0.2**
GO03				*eS*	**Sn**	**14 14 12.4**	**+1.7**
GO03				*eS*	**Sn**	**14 14 12.4**	**+1.7**
TCA	**Tanti**	**4.20**	**86**	*eP*	**Pn**	**14 13 23.9**	**0.0**
TCA				*eP*	**Pn**	**14 13 23.9**	**0.0**
TCA				IAML		14 14 40.1	
	comp=Z,28nm,0.6s						
CYA	**Choya**	**4.55**	**46**	*eP*	**Pn**	**14 13 28.0**	**-0.6**
CYA				*eP*	**Pn**	**14 13 28.0**	**-0.6**
CYA				*eP*	**Pn**	**14 13 28.0**	**-0.6**
CYA				*eS*	**Sn**	**14 14 18.7**	**-1.9**
CYA				IAML		14 14 19.2	
	comp=Z,19nm,0.2s						

*IDC **10** 14:32:05.0±0.8, 54°.50S×122°.09W, h0km, mb4.1/7, mbtmp4.0/7, MS3.8/26, Error ellipse: s-maj=36.8km s-min=26.6km az=132.0*
ISC 10 14:32:07.2±0.8, 54°.5S±0°.2×122°.3W±0°.2, h10km, n47, σ1§27/16, mb4.0/7, MS3.9/26, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**28.98**	**24**	LR	LR	14 46 58.2	
	comp=Z,135nm,18.6s,baz=350,slow=31						
PMSA	**Palmer Station**	**30.06**	**133**	LR	LR	14 47 09.6	
	comp=Z,256nm,19.2s,baz=230,slow=30						
QSPA	**South Pole Qui**	**35.66**	**180**	P	**P**	**14 39 05.1**	**0.0**
	2.1nm,1.0s,baz=177,slow=1.2,SNR=6.6						
QSPA				LR	LR	14 51 57.9	
	comp=Z,108nm,18.8s,baz=102,slow=33						
	2.1nm,1.0s						
H03S2	**Juan Fernandez**	**36.59**	**74**	T	T	15 16 38.5	
	baz=220,slow=74,SNR=26						
H03S1	**Juan Fernandez**	**36.60**	**74**	T	T	15 16 41.5	
	baz=220,slow=74,SNR=33						
H03S3	**Juan Fernandez**	**36.61**	**74**	T	T	15 16 41.3	
	baz=220,slow=74,SNR=34						
PLCA	**Paso Flores**	**36.65**	**90**	LR	LR	14 50 49.2	
	comp=Z,132nm,18.0s,baz=228,slow=31						
H03N3	**Juan Fernandez**	**36.88**	**73**	T	T	15 17 07.5	
	baz=222,slow=72,SNR=94						
H03N2	**Juan Fernandez**	**36.88**	**73**	T	T	15 16 54.8	
	baz=222,slow=72,SNR=131						
H03N1	**Juan Fernandez**	**36.89**	**73**	T	T	15 17 03.7	
	baz=222,slow=72,SNR=109						
RPZ	**Rata Peaks**	**43.34**	**256**	LR	LR	14 54 07.6	
	comp=Z,220nm,21.7s,baz=112,slow=30						
URZ	**Urewera**	**43.40**	**266**	LR	LR	14 54 14.0	
	comp=Z,48nm,20.0s,baz=298,slow=30						
RAR	**Rarotonga**	**43.60**	**305**	LR	LR	14 53 20.6	
	comp=Z,54nm,20.9s,baz=168,slow=29						
LVC	**Limon Verde**	**50.83**	**73**	LR	LR	14 56 35.8	
	comp=Z,87nm,20.1s,baz=197,slow=29						
CPUP	**Villa Florida**	**54.58**	**86**	LR	LR	15 01 17.6	
	comp=Z,243nm,18.8s,baz=228,slow=32						
NNA	**Nana**	**55.41**	**58**	LR	LR	14 58 38.6	
	comp=Z,76nm,20.9s,baz=202,slow=29						
MAW	**Mawson**	**58.13**	**182**	LR	LR	15 05 57.3	
	comp=Z,79nm,18.3s,baz=172,slow=35						
ATAH	**Atahualpa**	**58.87**	**54**	LR	LR	15 00 57.2	
	comp=Z,100nm,18.4s,baz=227,slow=30						
DZM	**Mont Dzumac**	**61.48**	**272**	LR	LR	15 03 32.4	
	comp=Z,67nm,20.7s,baz=347,slow=31						
STKA	**Stephens Creek**	**68.01**	**246**	P	**P**	**14 43 06.8**	**+0.3**
	1.3nm,0.7s,baz=169,slow=5.2,SNR=3.4						
STKA				LR	LR	15 08 43.3	
	comp=Z,57nm,18.4s,baz=35,slow=32						
	1.3nm,0.7s						
BDFB	**Brasilia**	**68.31**	**87**	LR	LR	15 09 12.9	
	comp=Z,118nm,20.4s,baz=211,slow=33						
ROSC	**El Rosal**	**71.30**	**51**	LR	LR	15 08 46.1	
	comp=Z,83nm,19.1s,baz=322,slow=31						
CTA	**Charters Tower**	**74.70**	**257**	LR	LR	15 12 33.0	
	comp=Z,42nm,19.3s,baz=85,slow=32						
SDV	**Santo Domingo**	**76.56**	**53**	LR	LR	15 11 43.6	
	comp=Z,63nm,20.4s,baz=287,slow=31						
H01W1	**Cape Leeuwin H**	**78.58**	**224**	T	T	16 12 10.8	
	baz=150,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**78.58**	**224**	T	T	16 12 14.6	
	baz=150,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**78.59**	**224**	T	T	16 12 12.2	
	baz=150,slow=76,SNR=15						
ASAR	**Alice Springs**	**78.64**	**245**	P	**P**	**14 44 08.6**	**-0.7**
	1.2nm,0.9s,baz=153,slow=5.4,SNR=9.4						
ASAR				LR	LR	15 14 17.2	
	comp=Z,75nm,19.4s,baz=136,slow=32						
	1.2nm,0.9s						
PCRV	**Puerto La Cruz**	**80.55**	**58**	LR	LR	15 16 10.4	
	comp=Z,77nm,18.9s,slow=33						
WRA	**Warramunga Arr**	**81.43**	**248**	P	**P**	**14 44 24.6**	**+0.2**
	2.2nm,0.9s,baz=144,slow=4.6,SNR=12						
	2.2nm,0.9s						
PMG	**Port Moresby**	**82.72**	**264**	P	**P**	**14 44 32.5**	**+1.3**
	7.3nm,0.9s,baz=159,slow=12,SNR=3.4						
	7.3nm,0.9s						
RCBR	**Riachuelo**	**83.22**	**90**	LR	LR	15 18 38.6	
	comp=Z,42nm,19.1s,baz=185,slow=34						
TXAR	**Lajitas Array**	**85.05**	**16**	P	**P**	**14 44 42.7**	**0.0**
	0.3nm,0.8s,baz=178,slow=6.3,SNR=2.5						
	0.3nm,0.8s						
SUR	**Sutherland**	**87.80**	**149**	LR	LR	15 19 55.7	
	comp=Z,32nm,18.7s,baz=188,slow=33						
PFO	**Pinyon Flats O**	**87.92**	**5**	LR	LR	15 16 02.1	
	comp=Z,74nm,18.5s,baz=68,slow=30						
BOSA	**Boshof**	**92.61**	**152**	LR	LR	15 25 41.0	
	comp=Z,56nm,18.1s,baz=190,slow=35						
NVAR	**Mina Arroy Bea**	**92.64**	**3**	P	**P**	**14 45 19.0**	**+0.2**
	0.3nm,0.6s,baz=196,slow=6.4,SNR=2.0						
NVAR				LR	LR	15 17 34.5	
	comp=Z,67nm,21.2s,baz=347,slow=30						
	0.3nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**94.34**	**296**	T	T	16 30 58.6	
	baz=147,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**94.36**	**296**	T	T	16 31 05.8	
	baz=147,slow=76,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**94.36**	**296**	T	T	16 31 01.4	
	baz=147,slow=76,SNR=10						
LBTB	**Lobatse**	**96.11**	**151**	LR	LR	15 21 19.8	
	comp=Z,28nm,19.5s,baz=175,slow=31						
ILAR	**Eielson Array**	**120.45**	**348**	PKP	**PKPdf**	**14 50 57.3**	**0.0**
	0.1nm,0.7s,baz=184,slow=1.4,SNR=2.3						
CMAR	**Chiang Mai Arr**	**132.19**	**238**	PKP	**PKiKP**	**14 51 22.2**	**0.0**
	0.3nm,0.4s,baz=208,slow=3.6,SNR=1.4						
TIXI	**Tiksi**	**146.12**	**327**	PKPbc	**PKPdf**	**14 51 42.9**	**-1.8**
	0.3nm,0.9s,baz=69,slow=1.9,SNR=14						
SONM	**Songino Array**	**149.26**	**278**	PKPbc	**PKPbc**	**14 51 53.6**	**-1.6**
	0.3nm,0.4s,baz=117,slow=2.4,SNR=1.7						
SONM				PKPab	**PKPab**	**14 52 00.5**	**+0.6**
	1.6nm,1.0s,baz=135,slow=3.3,SNR=5.9						
GERES	**GERESS Array B**	**152.51**	**84**	PKP	**PKPdf**	**14 51 55.2**	**-0.7**
	0.3nm,0.3s,baz=155,slow=3.0,SNR=3.3						
GERES				PKPbc	**PKPbc**	**14 52 02.8**	**0.0**
	1.3nm,0.8s,baz=298,slow=2.9,SNR=5.4						
GERES				PKPab	**sPKPbc**	**14 52 09.3**	**+3.3**
	1.0nm,0.7s,baz=224,slow=3.7,SNR=3.4						
MKAR	**Makanchi Array**	**162.65**	**254**	PKPab	**PKPab**	**14 52 56.0**	**-1.0**
	0.2nm,0.7s,baz=96,slow=2.9,SNR=2.3						

DJA 10 15:05:11.2±0.4, 8°S±7°×117°8E±°, h146km±4km, M3.8/8, mb4.0/2, mB4.7/1, MLv3.8/8, Mw(mB)3.9/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBNI	**Kabupaten Domp**	**0.37**	**93**	P	Pn	15 05 33.1	+1.6
DBNI				S	Sn	15 05 48.6	+1.7
PLAI	**Plampang**	**0.38**	**205**	P	Pn	15 05 33.1	+1.5
PLAI				S	Sn	15 05 48.4	+1.3
TWSI	**Taliwang, Sumb**	**1.08**	**256**	P	Pn	15 05 37.5	+1.2
TWSI				S	Sn	15 05 56.1	+0.7
BASI	**Baing, Sumba**	**3.12**	**124**	P	Pn	15 06 01.2	+1.2
EDFI	**Ende, Flores**	**3.72**	**94**	P	Pn	15 06 07.2	-0.6
JAGI	**Jajag, Banyuwa**	**3.75**	**270**	P	Pn	15 06 07.9	-0.2
JAGI				S	Sn	15 06 52.1	-0.1
BKSI	**Bulukumba**	**3.81**	**35**	P	Pn	15 06 09.4	+0.5
MMRI	**Maumere**	**4.25**	**92**	P	Pn	15 06 15.4	+0.7
SOEI	**Soe**	**6.38**	**102**	P	Pn	15 06 42.6	-0.4
	29nm,0.7s,0.2nm						

EAF 10 15:25:24.9±3.1, 14°26N×41°22E, h0km±56km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**3.14**	**149**	*eP*	Pn	15 26 17.2	+1.4
ATD				*eS*	Sn	15 26 51.8	-2.3
DESE	**Dese**	**3.48**	**206**	*eP*	Pn	15 26 19.8	-0.9
DESE				*eS*	Sn	15 26 59.6	-3.2
WLRA	**Wolmera**	**5.69**	**206**	*eP*	Pn	15 26 49.2	-1.8
WLRA				*eS*	Sn	15 27 52.4	-4.9
FURI	**Furi**	**5.88**	**205**	*eP*	Pn	15 26 51.8	-1.8
FURI				*eS*	Sn	15 27 57.0	-5.0
FURI				IAML		15 28 25.7	
	comp=Z,112nm,0.5s						
GRD1	**Great Renaissa**	**6.76**	**243**	*eP*	Pn	15 27 02.1	-3.5
GRD1				*eS*	Sn	15 28 20.3	-3.1

*IDC **10** 15:42:15.2±2.2, 2°.80S×128°.09E, h0km, mb3.5/2, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=164.3km s-min=27.6km az=67.0*
*DJA **10** 15:42:19.0±0.6, 3°S±5°×12°7E±°, h10km, M3.3/6, mb3.8/1, MLv3.0/6*
ISC 10 15:42:18.1±1.1, 3°.35S±0°.08×126°.92E±0°.07, h10km, n7, σ1§28/10, Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.20**	**59**	P	**Pg**	**15 42 21.9**	**-0.5**
NLAI				S	**Sg**	**15 42 25.1**	**-0.2**
SANI	**Sanana**	**1.59**	**324**	P	**Pn**	**15 42 46.2**	**-0.2**
SANI				S	**Sn**	**15 43 08.2**	**+1.2**
LBMI	**Labuha**	**2.75**	**12**	P	**Pn**	**15 43 03.8**	**+1.5**
LBMI				S	**Sb**	**15 43 39.1**	**-2.1**
SIJI	**Sorong**	**4.99**	**61**	P	**Pn**	**15 43 34.4**	**+1.3**
WRA	**Warramunga Arr**	**18.01**	**157**	P	**Pn**	**15 46 27.8**	**-1.0**
	0.1nm,0.3s,baz=339,slow=11,SNR=6.2						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**21.30**	**162**	P	**P**	**15 47 05.0**	**-0.2**
	2.3nm,0.8s,baz=345,slow=12,SNR=29						
	2.3nm,0.8s						
MKAR	**Makanchi Array**	**63.51**	**327**	P	**P**	**15 52 49.2**	**+0.6**
	0.3nm,0.7s,baz=141,slow=7.8,SNR=3.8						
	0.3nm,0.7s						

*IDC **10** 15:43:02.8±1.5, 14°.43N×89°.81W, h242km±19km, mb3.5/3, mbtmp3.9/7, Error ellipse: s-maj=34.7km s-min=13.3km az=40.0*
*CATAC **10** 15:43:03.8±0.5, 14°.44N×89°.88W, h240km±3km, ML3.2*
*NEIC **10** 15:43:03.4±1.6, 14°.44N±0°.10×89°.95W±0°.08, h246km±10km, mb4.1/7, Error ellipse: s-maj=17.4km s-min=5.9km az=216.0*
ISC 10 15:43:02.9±0.8, 14°.47N±0°.07×89°.91W±0°.06, h246km±6km, n54, σ1§56/67, mb4.1/6, Guatemala

| Code | Station Name | Δ°

comp=Z,840nm,1.0s
QUIS *i* S **S** 15 44 09.2 -0.5
SOKI Kika Raxquin 1.48 284 *i* P **Pn** 15 43 42.7 +1.5
SOKI IAML 15 43 42.8
comp=Z,510nm,1.0s
RTAL Retalhuleu 1.73 272 Pn **Pn** 15 43 42.7 0.0
RTAL Retalhuleu 1.73 272 *i* P **Pn** 15 43 42.7 0.0
RTAL IAML 15 43 43.4
comp=Z,780nm,1.0s
RTAL *i* S **S** 15 44 15.1 +1.2
ALJI Alcalda de J 1.73 131 *i* S **S** 15 44 12.9 -1.1
SMCA Catarina 2.13 281 *i* P **Pn** 15 43 46.3 0.0
SMCA IAML 15 43 47.2
comp=Z,480nm,1.0s
COMHN El Horno 2.28 90 *i* P **Pn** 15 43 48.0 0.0
NISHN Nisperales Com 2.35 56 *i* P **Pn** 15 43 49.5 +1.0
CRIN San Cristobal 3.29 122 Pn **Pn** 15 43 59.7 +1.2
CRIN San Cristobal 3.29 122 *i* P **Pn** 15 43 59.4 +0.9
CRIN IAML 15 45 00.4
comp=Z,580nm,1.0s
CNGN Cerro Negro 3.69 122 Pn **Pn** 15 44 03.6 +0.6
COPN Copaltepe 3.95 125 *i* PA 15 44 05.6
COPN IAML 15 44 56.9
comp=Z,220nm,1.0s
ACON Acoyapa 5.24 118 Pn **Pn** 15 44 21.4 -0.2
CMIG Matias Romero 5.45 299 P **Pn** 15 44 24.2 0.0
comp=Z,2.1nm,0.3s,baz=128,slow=9.6,SNR=2.4
CMIG S **S** 15 45 23.9 -5.1
comp=Z,8.3nm,0.3s,baz=299,slow=13,SNR=4.6
HZTE Horizontes, Gu 5.63 131 Pn **Pn** 15 44 26.6 +0.2
TEIG Tepich 5.94 15 P **Pn** 15 44 30.8 +0.6
comp=Z,129nm,0.5s,baz=310,slow=1.8,SNR=16
TEIG S **S** 15 45 34.1 -5.8
comp=Z,16nm,0.3s,baz=291,slow=22,SNR=1.0
ORTG Ortega, Santa 5.96 133 Pn **Pn** 15 44 30.4 -0.3
JTS Las Juntas de 6.38 130 Pn **Pn** 15 44 35.5 -0.3
JTS Las Juntas de 6.38 130 P **Pn** 15 44 36.0 +0.1
comp=Z,7.8nm,0.3s,baz=22,slow=16,SNR=8.9
JTS S **S** 15 45 44.5 -5.7
comp=Z,23nm,0.3s,baz=163,slow=21,SNR=24
JACO JACO, Garabito 7.01 132 Pn **Pn** 15 44 44.3 +0.5
LCR2 La Lucha 2 7.44 128 Pn **Pn** 15 44 49.7 +0.2
RIMA Rio Macho 7.54 128 Pn **Pn** 15 44 51.4 +0.8
DRK0 Durika 8.33 128 Pn **Pn** 15 45 00.8 +0.2
MTDJ Mount Denham 12.46 71 P **P** 15 45 56.6 +1.6
TXAR Lajitas Array 19.51 322 P **P** 15 47 14.1 +2.0
TXAR Lajitas Array 19.51 322 P **Pn** 15 47 14.3 -2.2
comp=Z,0.3nm,0.4s,baz=146,slow=11,SNR=6.0
Y49A Blount Mountai 19.57 9 P **P** 15 47 13.9 +1.4
Y49A IAmb IAmb 15 47 36.4
comp=Z,5.4nm,0.9s
SDV Santo Domingo 19.67 104 P **P** 15 47 14.8 +0.7
comp=Z,3.4nm,0.6s,baz=330,slow=3.9,SNR=5.3
TKL Tuckaleechee C 21.81 14 P **P** 15 47 35.4 -0.1
TKL IAmb IAmb 15 47 37.9
comp=Z,6.2nm,0.9s
TKL Tuckaleechee C 21.81 14 P **P** 15 47 36.0 +0.5
comp=Z,4.9nm,0.8s,baz=156,slow=12,SNR=2.4
comp=Z,4.9nm,0.8s
BAUV El Baul 22.10 102 P **P** 15 47 35.8 -2.5
BAUV IAmb IAmb 15 47 51.7
comp=Z,12nm,1.1s
U49A Red Boiling Sp 22.27 9 P **P** 15 47 39.7 +0.1
U49A IAmb IAmb 15 48 06.3
comp=Z,4.1nm,0.8s
T47A Sharon Grove 22.57 6 P **P** 15 47 43.5 +1.1
TZTN Tazewell 22.71 13 P **P** 15 47 40.9 -2.9
TZTN IAmb IAmb 15 47 53.5
comp=Z,9.3nm,1.1s
S39A Bolivar 23.33 353 P **P** 15 47 49.6 +0.3
GSR Geological Sur 26.78 22 P **P** 15 48 21.9 +1.6
SCHQ Schefferville 44.10 19 P **P** 15 50 46.1 -0.7
comp=Z,3.0nm,0.4s,baz=226,slow=5.6,SNR=18
comp=Z,3.0nm,0.4s
YKA Yellowknife Ar 51.06 346 P **P** 15 51 40.0 0.0
comp=Z,0.7nm,0.8s,baz=143,slow=7.7,SNR=8.6
comp=Z,0.7nm,0.8s

CATAC ***10*** *15:51:21.3±0.7, 9°.14N×84°.82W, h1km±4km, ML2.9*
UCR ***10*** *15:51:22.3±1.4, 9°.18N×84°.87W, h18km±10km, MW3.6*
ISC 10 15:51:21.8±1.6, 9°.18N±0°.06×84°.82W±0°.03, h12km±10km, n36, σ0°72/51, 8C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.50**	**18**	*i* P	**Pg**	**15 51 31.9**	**+0.2**
JACO				*i* S	**Sg**	**15 51 39.7**	**+1.3**
JACO				IAML		15 51 40.7	
	comp=Z,1μm,1.0s						
LLNJ	**Naranjito**	**0.77**	**68**↑	*i* P	**Pg**	**15 51 37.3**	**+0.6**
LLNJ				*e* S	**Sb**	**15 51 48.4**	**+0.9**
TRB2	**Turrubares**	**0.82**	**27**↑	*i* P	**Pg**	**15 51 37.3**	**-0.3**
TRB2				*e* S	**Sg**	**15 51 48.4**	**+0.1**
INDI	**Punta indio, G**	**0.96**	**315**	*e* P	**Pg**	**15 51 39.5**	**-0.7**
INDI	**Punta indio, G**	**0.96**	**315**	*i* P	**Pg**	**15 51 39.0**	**-1.3**
INDI				*i* S	**Sb**	**15 51 53.4**	**+0.5**
INDI				IAML		15 52 01.1	
	comp=Z,130nm,1.0s						
LCR2	**La Lucha 2**	**0.98**	**55**↑	*i* P	**Pg**	**15 51 40.2**	**-0.6**
LCR2				*e* S	**Sg**	**15 51 53.5**	**0.0**
LCR2	**La Lucha 2**	**0.98**	**55**	*i* P	**Pg**	**15 51 40.1**	**-0.6**
LCR2				*i* S	**Sg**	**15 51 53.8**	**+0.3**
LCR2				IAML		15 51 56.9	
	comp=Z,230nm,1.0s						
BELE	**Belen**	**1.01**	**38**	*e* P	**Pg**	**15 51 41.7**	**+0.5**
CMARA	**Lajas Hojancha**	**1.02**	**325**	*e* P	**Pg**	**15 51 40.9**	**-0.7**
TBLN	**Tablon, Guarco**	**1.03**	**52**	*i* P	**Pg**	**15 51 40.8**	**-0.9**
TBLN				*i* S	**Sg**	**15 51 55.8**	**+0.6**
TBLN				IAML		15 52 00.4	
	comp=Z,250nm,1.0s						
CDM	**Cerro de Muert**	**1.11**	**70**	*e* P	**Pg**	**15 51 42.5**	**-0.8**
CDM	**Cerro de Muert**	**1.11**	**70**	*i* P	**Pg**	**15 51 42.4**	**-0.8**
CDM				*i* S	**Sg**	**15 51 58.2**	**+0.5**
CDM				IAML		15 52 04.4	
	comp=Z,140nm,1.0s						
JTS	**Las Juntas de**	**1.11**	**353**↑	*e* P	**Pb**	**15 51 41.5**	**-1.4**
JTS				*e* S	**Sg**	**15 51 56.4**	**-1.3**
BUS1	**Rivas**	**1.12**	**71**↑	*e* P	**Pg**	**15 51 42.5**	**-1.0**
CPMI	**Catarata Coope**	**1.18**	**22**	*e* P	**Pb**	**15 51 43.7**	**-0.5**
CPMI				*e* S	**Sb**	**15 51 59.8**	**+0.3**
CPMI	**Catarata Coope**	**1.18**	**22**	*i* P	**Pb**	**15 51 43.8**	**-0.4**
CPMI				*i* S	**Sb**	**15 51 59.6**	**+0.1**
CPMI				IAML		15 52 16.8	
	comp=Z,230nm,1.0s						
SOCE	**Pocosol**	**1.21**	**10**	*e* P	**Pn**	**15 51 44.0**	**-0.5**
SOCE	**Pocosol**	**1.21**	**10**	*i* P	**Pn**	**15 51 44.1**	**-0.5**
SOCE				*i* S	**Sb**	**15 52 00.7**	**+0.4**
SOCE				IAML		15 52 06.0	
	comp=Z,350nm,1.0s						
HAYA	**Volcan Irazu**	**1.25**	**50**	*i* P	**Pn**	**15 51 44.6**	**-0.8**
HAYA				IAML		15 52 06.5	
	comp=Z,250nm,1.0s						
VICA	**Volcano Irazu**	**1.25**	**50**↑	*i* P	**Pn**	**15 51 44.8**	**-0.6**
ICR3	**Volcano Irazu**	**1.26**	**51**	*e* P	**Pn**	**15 51 45.2**	**-0.3**
PLVR	**Palo Verde**	**1.27**	**336**	*e* P	**Pg**	**15 51 47.2**	**+0.9**
ARE1	**Arenal 1**	**1.28**	**5**	*e* P	**Pn**	**15 51 44.8**	**-0.6**
VACR	**Volcan Arenal**	**1.29**	**6**	*e* P	**Pn**	**15 51 45.5**	**-0.1**
ORTG	**Ortega, Santa**	**1.33**	**332**	*e* P	**Pb**	**15 51 47.0**	**+0.2**
ORTG	**Ortega, Santa**	**1.33**	**332**	*i* P	**Pb**	**15 51 47.0**	**+0.2**
ORTG				IAML		15 52 11.6	
	comp=Z,67nm,1.0s						
VTCV	**VTCV, Calle Va**	**1.34**	**53**	*e* P	**Pn**	**15 51 46.9**	**+0.3**
SRBA	**San Rafael, Bu**	**1.44**	**88**↑	*e* P	**Pn**	**15 51 47.7**	**-0.1**
SRBA				*e* S	**Sn**	**15 52 06.5**	**-0.3**
SRBA	**San Rafael, Bu**	**1.44**	**88**	*i* P	**Pn**	**15 51 47.8**	**0.0**
SRBA				*i* S	**Sn**	**15 52 06.6**	**-0.2**
SRBA				IAML		15 52 08.3	
	comp=Z,150nm,1.0s						
LCOCO	**El Coco**	**1.54**	**54**	*e* P	**Pn**	**15 51 49.8**	**+0.8**
DRK0	**Durika**	**1.56**	**87**↑	*e* P	**Pn**	**15 51 49.4**	**0.0**
DRK0				*e* S	**Sn**	**15 52 09.3**	**-0.4**
COVE	**Coope Vega, Sa**	**1.58**	**15**	*e* P	**Pn**	**15 51 51.0**	**+1.3**
VRLE	**La Escondida,**	**1.68**	**342**	*i* P	**Pn**	**15 51 52.1**	**+1.0**
VRLE				IAML		15 52 00.9	
	comp=Z,61nm,1.0s						
POTG	**Potrero Grande**	**1.69**	**94**	*e* P	**Pg**	**15 51 55.2**	**+1.0**
HZTE	**Horizontes, Gu**	**1.70**	**333**	*e* P	**Pg**	**15 51 55.7**	**+1.2**
HZTE	**Horizontes, Gu**	**1.70**	**333**	*i* P	**Pg**	**15 51 55.0**	**+0.5**
HZTE				IAML		15 52 37.3	
	comp=Z,150nm,1.0s						

NAO ***10*** *15:56:00.4, 31°.28N×48°.32E, h33km, mb4.1*
TEH ***10*** *15:56:26.9, 34°.58N×46°.80E, h9km±34km, ML4.6*
IDC ***10*** *15:56:26.2±0.6, 34°.52N×46°.65E, h0km, mb4.3/26, mbtmp4.3/33, ML3.6/7, MS3.6/36, Error ellipse: s-maj=12.6km s-min=10.6km az=5.0*
MOS ***10*** *15:56:26.6±1.3, 34°.62N×46°.69E, h10km, mb4.6/39, MS3.3/5, Error ellipse: s-maj=4.9km s-min=3.8km az=102.2*
ISN ***10*** *15:56:27.5±0.8, 34°.58N×46°.80E, h21km±5km, ML4.5*
NEIC ***10*** *15:56:29.0±2.1, 34°.67N±0°.06×46°.68E±0°.05, h10km±1km, mb4.6/67, Error ellipse: s-maj=12.4km s-min=4.0km az=210.0*
GII ***10*** *15:56:30.7±0.7, 34°.68N×46°.66E, h10km, confirmed*
DSN ***10*** *15:56:31.7±0.7, 34°.33N×47°.20E, h15km, mb5.1/2, Error ellipse: s-maj=22.2km s-min=5.6km az=59.0*
AFAD ***10*** *15:56:34.0±0.0, 34°.43N×46°.36E, h35km, MW4.5*
ISC 10 15:56:28.0±0.5, 34°.55N±0°.03×46.75E±0°.02, h11km±3km, n474, σ1§85/497, mb4.6/108, MS3.6/29, 29C-4D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.27**	**213**	Pg	**Pg**	**15 56 33.4**	**-0.1**
IDHR	**Dehrash**	**0.33**	**297**	Pg	**Pg**	**15 56 33.9**	**-0.8**
IDHR				Sg	**Sb**	**15 56 39.9**	**-1.6**
KCHF	**Cheshme Sefid,**	**0.37**	**138**	Pg	**Pg**	**15 56 34.5**	**-0.9**
ILIN	**Lien**	**0.41**	**26**	Pg	**Pg**	**15 56 34.7**	**-1.5**
ILIN				Sg	**Sg**	**15 56 41.0**	**-0.6**
IKOM	**Komasi**	**0.74**	**121**	Pg	**Pg**	**15 56 41.0**	**-1.2**
IBZA	**Bozab**	**0.92**	**95**	Pg	**Pg**	**15 56 43.5**	**-2.3**
KGS1	**Ghasr-e-Shirin**	**0.96**	**268**	Pg	**Pg**	**15 56 46.1**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.03**	**206**	Pg	**Pg**	**15 56 47.1**	**-0.6**
ILBA				Sg	**Sn**	**15 57 04.4**	**+1.5**
IALM	**Almabolaq**	**1.21**	**75**	Pg	**Pn**	**15 56 49.5**	**-1.7**
IKFM	**Kafar-mosalman**	**1.37**	**138**	Pg	**Pn**	**15 56 53.0**	**-0.1**
HSAM	**Samen**	**1.57**	**102**	Pg	**Pn**	**15 56 56.3**	**+0.2**
IBDR	**Badra**	**1.59**	**205**	*e*Pg	**Pn**	**15 56 57.0**	**+0.9**
IBDR				*e*Sg	**Sn**	**15 57 18.0**	**+1.4**
IBDR				AML	AML	15 57 25.8	
	comp=E,10μm,0.4s						
IBDR				AML	AML	15 57 29.8	
	comp=N,6μm,0.7s						
SDS1	**Sardasht. Az.**	**1.90**	**328**	Pn	**Pb**	**15 57 02.2**	**-0.5**
HAGD	**Aghdareh**	**1.99**	**82**	Pn	**Pn**	**15 57 02.6**	**+0.8**
BHD	**Baghdad**	**2.35**	**238**	*e*Pn	**Pn**	**15 57 07.0**	**+0.5**
BHD				*e*Sn	**Sn**	**15 57 37.0**	**+1.7**
BHD				AML	AML	15 57 50.8	
	comp=E,3μm,0.4s						
MAHB	**Mahabad**	**2.37**	**339**	Pn	**Pn**	**15 57 09.0**	**+2.0**
IRAZ	**Razeghan**	**2.75**	**71**	Pn	**Pn**	**15 57 14.9**	**+2.7**
QSDN	**Sirdan**	**2.78**	**45**	Pn	**Pn**	**15 57 15.2**	**+2.5**
IHSH	**Hashtrud**	**2.78**	**9**	Pn	**Pn**	**15 57 15.3**	**+2.5**
RAFI	**Al-Rafai**	**2.87**	**191**	*e*Pn	**Pn**	**15 57 15.0**	**+1.3**
RAFI				*e*Sn	**Sn**	**15 57 49.0**	**+0.8**
IAZR	**Azarshahr**	**3.18**	**349**	Pn	**Pn**	**15 57 20.3**	**+2.0**
ISRB	**Sarab**	**3.35**	**13**	Pn	**Pn**	**15 57 22.8**	**+2.2**
IMHD	**Mahdasht**	**3.41**	**70**	Pn	**Pn**	**15 57 23.0**	**+1.8**
IQOM	**Qom**	**3.58**	**84**	Pn	**Pn**	**15 57 25.3**	**+1.6**
AHWZ	**Ahwaz**	**3.59**	**153**	Pn	**Pn**	**15 57 25.0**	**+1.4**
YOVA	**Hakkari_Yksek**	**3.62**	**327**	P	**Pn**	**15 57 27.1**	**+2.8**
YOVA				S	**Sn**	**15 58 08.4**	**+1.3**
CUKT	**Cukurca**	**3.71**	**317**	P	**Pn**	**15 57 27.3**	**+2.0**
CUKT				S	**Sn**	**15 58 10.3**	**+1.3**
IHRS	**Heris**	**3.77**	**4**	Pn	**Pn**	**15 57 28.8**	**+2.6**
ISHB	**Shabestar**	**3.83**	**347**	Pn	**Pn**	**15 57 29.9**	**+2.7**
HAKT	**HAKKARI**	**3.88**	**322**	P	**Pn**	**15 57 30.6**	**+2.7**
HAKT				S	**Sn**	**15 58 11.9**	**-1.6**
IPIR	**Pirpir**	**3.93**	**117**	Pn	**Pn**	**15 57 30.0**	**+1.4**
QAMS	**Qamsar**	**3.94**	**101**	Pn	**Pn**	**15 57 30.5**	**+1.8**
JHBN	**Jahan bin**	**4.01**	**124**	Pn	**Pn**	**15 57 31.0**	**+1.2**
IVRN	**Varamin**	**4.12**	**82**	Pn	**Pn**	**15 57 33.4**	**+2.4**
GAS1	**Astara - Iran**	**4.18**	**23**	Pn	**Pn**	**15 57 34.3**	**+2.6**
IKLH	**Kolahrood**	**4.20**	**106**	Pn	**Pn**	**15 57 34.0**	**+1.8**
ZNGN	**Zangian**	**4.21**	**124**	Pn	**Pn**	**15 57 33.7**	**+1.2**
IMRD	**Marand**	**4.24**	**349**	Pn	**Pn**	**15 57 35.2**	**+2.5**
GRMI	**Germi**	**4.35**	**12**	Pn	**Pn**	**15 57 36.5**	**+2.4**
IDMV	**Damavand**	**4.46**	**75**	Pn	**Pn**	**15 57 37.5**	**+1.7**
KRSH	**Karshahi**	**4.50**	**96**	Pn	**Pn**	**15 57 38.0**	**+1.7**
ISFB	**Sefidab**	**4.54**	**91**	Pn	**Pn**	**15 57 38.5**	**+1.7**
SIRN	**Sirnak**	**4.58**	**311**	P	**Pn**	**15 57 39.1**	**+1.8**
IBRJ	**Brojen**	**4.61**	**124**	Pn	**Pn**	**15 57 38.7**	**+0.8**
OZAP	**Van, Ozalp-Mer**	**4.66**	**332**	P	**Pn**	**15 57 40.2**	**+1.6**
OZAP				S	**Sg**	**15 58 51.7**	**-6.0**
TVAN	**Van**	**4.79**	**327**	P	**Pn**	**15 57 44.0**	**+3.7**
PERV	**Siirt/Pervari-**	**4.80**	**316**	P	**Pn**	**15 57 42.9**	**+2.6**
IPRN	**Peran**	**4.87**	**68**	Pn	**Pn**	**15 57 43.7**	**+2.3**
IGAR	**Gharneh**	**4.92**	**114**	Pn	**Pn**	**15 57 43.3**	**+1.2**
IZEF	**Zefreh**	**4.94**	**108**	Pn	**Pn**	**15 57 44.0**	**+1.6**
MAKU	**Maku**	**5.07**	**342**	Pn	**Pn**	**15 57 46.8**	**+2.7**
VMUR	**Van-Muradiye**	**5.11**	**331**	P	**Pn**	**15 57 48.3**	**+3.6**
VMUR				S	**Sg**	**15 59 06.1**	**-6.0**
CLDR	**Caldiran**	**5.11**	**334**	P	**Pn**	**15 57 48.9**	**+4.1**
CLDR				S	**Sg**	**15 59 05.5**	**-6.7**
ILAS	**Lasjerd**	**5.17**	**79**	Pn	**Pn**	**15 57 47.3**	**+1.7**
MIDY	**Mardin/Midyat-**	**5.19**	**305**	P	**Pn**	**15 57 47.6**	**+1.9**
KLNJ	**Kolanjah**	**5.40**	**130**	Pn	**Pn**	**15 57 48.8**	**0.0**
IRAM	**Rameshen**	**5.46**	**118**	Pn	**Pn**	**15 57 50.2**	**+0.6**
GURO	**Guroymak-BITLI**	**5.51**	**318**	Pn	**Pn**	**15 57 50.6**	**+0.5**
BTMN	**Batman**	**5.54**	**309**	P	**Pn**	**15 57 52.1**	**+1.6**
MARD	**Mardin**	**5.57**	**301**	P	**Pn**	**15 57 52.0**	**+1.1**
SVAN	**Silvan-Diyarba**	**5.74**	**310**	P	**Pn**	**15 57 54.5**	**+1.3**
GNI	**Garni**	**5.81**	**345**	P	**Pn**	15 58 01.5	+7.2
GNI	**Garni**	**5.81**	**345**	*i* P	**Pn**	**15 57 52.5**	**-1.8**
GNI	**Garni**	**5.81**	**345**	Pn	**Pn**	**15 57 55.6**	**+1.3**
	comp=E,0.4nm,0.3s,baz=276,slow=15,SNR=1.9						
GNI				Sn	**Sn**	**15 58 58.4**	**-2.6**
	comp=E,2.0nm,0.3s,baz=254,slow=21,SNR=1.9						
GNI				Lg	Lg	15 59 36.2	
	comp=E,2.2nm,0.3s,baz=349,slow=11,SNR=3.2						
GNI				LR	LR	15 59 52.5	
	comp=E,148nm,20.9s,baz=170,slow=36 comp=E,4.4nm,0.5s						
MUSM	**Mu-Merkez**	**5.92**	**316**	P	**Pn**	**15 57 57.4**	**+1.6**
ISAD	**Sadrabad**	**6.38**	**112**	Pn	**Pn**	**15 58 02.7**	**+0.4**
KARS	**Kars**	**6.73**	**335**	Pn	**Pn**	**15 58 05.7**	**-1.2**
KARS	**Kars**	**6.73**	**335**	P	**Pn**	**15 58 05.7**	**-1.2**
ICHK	**Chekchek**	**6.81**	**108**	Pn	**Pn**	**15 58 08.3**	**+0.2**
SHI	**Shiraz**	**6.92**	**133**	Pn	**Pn**	**15 58 10.9**	**+1.3**
DSBU	**Dashti - Bushe**	**7.28**	**147**	Pn	**Pn**	**15 58 14.9**	**+0.6**
AKH	**Akhalkalaki**	**7.31**	**340**	Pn	**Pn**	**15 58 14.9**	**0.0**
AKH	**Akhalkalaki**	**7.31**	**340**	P	**Pn**	**15 58 14.9**	**0.0**
IMEH	**Mehriz**	**7.32**	**113**	Pn	**Pn**	**15 58 15.3**	**+0.2**
IBAF	**Bafgh**	**7.97**	**109**	Pn	**Pn**	**15 58 24.3**	**+0.3**
ARPR	**Arapgir-MALATY**	**8.12**	**306**	Pn	**Pn**	**15 58 26.3**	**+0.2**
GAZ	**Gaziantep**	**8.17**	**291**	Pn	**Pn**	**15 58 26.4**	**-0.2**
TNSJ	**Nastanj**	**8.19**	**91**	Pn	**Pn**	**15 58 29.0**	**+2.1**
TPRV	**Parvadeh(Tabas**	**8.41**	**98**	Pn	**Pn**	**15 58 31.4**	**+1.4**
MAK	**Makhachkala**	**8.42**	**4**	*e*P	**Pn**	**15 58 26.9**	**-3.0**
MAK				*e*S	**Sn**	**16 00 02.1**	**-2.8**
MAK				pmax	pmax		
	comp=Z,151nm,1.1s						
MAK				MLR	MLR		
	comp=Z,958nm,17.0s						
ONI	**Oni**	**8.43**	**343**	Pn	**Pn**	**15 58 28.4**	**-1.7**
ONI	**Oni**	**8.43**	**343**	P	**Pn**	**15 58 28.4**	**-1.7**
ZEI	**Tsey**	**8.52**	**346**	*e*P	Pn	15 58 38.9	+7.4
ZEI				pmax	pmax		
	comp=Z,15nm,1.5s						
ASF	**Jabal al Asfar**	**8.57**	**257**	Pn	**Pn**	**15 58 32.0**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=65,slow=22,SNR=9.0						
ASF				Sn	**Sn**	**16 00 08.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=128,slow=6.7,SNR=2.0						
ASF				Lg	Lg	16 00 56.3	
	comp=Z,1.5nm,0.3s,baz=343,slow=17,SNR=1.9 comp=Z,3.1nm,0.4s						
ASF	**Jabal al Asfar**	**8.57**	**257**	P	**Pn**	**15 58 35.7**	**+3.5**
TKDS	**Koohdasht(Taba**	**8.66**	**93**	Pn	**Pn**	**15 58 34.5**	**+1.2**
SAKB	**Bahrain**	**9.15**	**158**	P	**Pn**	**15 58 39.7**	**-0.3**
SAKB				S	**Sn**	**16 00 19.2**	**-3.9**
KHGB	**Koh Gabri**	**9.21**	**114**	Pn	**Pn**	**15 58 41.1**	**0.0**
NATI	**Neve Ativ**	**9.24**	**265**	P	**Pn**	**15 58 42.1**	**+0.9**
NATI	**Neve Ativ**	**9.24**	**265**	P	**Pn**	**15 58 43.5**	**+2.3**
GEM	**Giv'at Ha'Em**	**9.31**	**265**	P	**Pn**	**15 58 43.9**	**+1.7**
GEM	**Giv'at Ha'Em**	**9.31**	**265**	P	**Pn**	**15 58 45.5**	**+3.3**
SHMA	**Al-Shehemyia**	**9.40**	**156**	P	**Pn**	**15 58 43.1**	**-0.3**
	SNR=10						
SHMA				S	**Sn**	**16 00 23.1**	**-6.0**
ISFR	**Sfrayin**	**9.48**	**71**	Pn	**Pn**	**15 58 47.4**	**+2.7**
MMA0	**Mount Meron ar**	**9.56**	**264**	P	**Pn**	**15 58 46.7**	**+1.0**
MMA0B	**Mount Meron ar**	**9.56**	**264**	P	**Pn**	**15 58 48.8**	**+3.0**
MMAI	**Mount Meron Ar**	**9.56**	**264**	P	**Pn**	**15 58 46.3**	**+0.6**
	comp=Z,3.1nm,0.3s,baz=64,slow=13,SNR=10.0						
MMAI				Lg	Lg	16 01 28.2	
	comp=Z,1.8nm,0.3s,baz=107,slow=32,SNR=1.8						
MMAI				LR	LR	16 02 50.2	
	comp=Z,139nm,18.0s,baz=40,slow=40						
KBZ	**Khabaz**	**9.64**	**343**	*i* P	**Pn**	**15 58 45.0**	**-1.6**
KBZ	**Khabaz**	**9.64**	**343**	Pn	**Pn**	**15 58 50.1**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=159,slow=8.7,SNR=7.0						
KBZ				LR	LR	16 03 06.5	
	comp=Z,280nm,20.2s,baz=148,slow=42 comp=Z,2.0nm,1.0s						
HMDT	**Nahal Hemdat**	**9.65**	**259**	P	**Pn**	**15 58 49.6**	**+2.7**
HNTI	**Hanita**	**9.74**	**265**	P	**Pn**	**15 58 49.2**	**+1.1**
BNN	**Bunyan**	**9.75**	**299**	Pn	**Pn**	**15 58 47.7**	**-0.5**
GEYT	**Alibeck**	**9.78**	**67**	Pn	**Pn**	**15 58 51.3**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=255,slow=12,SNR=16						
GEYT				Lg	Lg	16 01 45.1	
	baz=235,slow=23						
GEYT				LR	LR	16 03 00.0	
	comp=Z,363nm,21.0s,baz=270,slow=40 comp=Z,8.2nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**9.78**	**67**	Pn	**Pn**	**15 58 51.4**	**+2.7**
BLGI	**Bet Lehem HaGe**	**9.80**	**263**	P	**Pn**	**15 58 50.5**	**+1.6**
KIV	**Kislovodsk**	**9.90**	**343**	Pn	**Pn**	**15 58 51.2**	**+0.8**
KIV	**Kislovodsk**	**9.90**	**343**	*e*P	**Pn**	**15 58 51.1**	**+0.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,93nm,12.0s						
GHAJ	**Ghor Haditha**	**9.94**	**254**	Pn	**Pn**	**15 58 53.0**	**+2.2**
GHAJ	**Ghor Haditha**	**9.94**	**254**	P	**Pn**	**15 58 52.6**	**+1.9**
GHAJ	**Ghor Haditha**	**9.94**	**254**	P	**Pn**	**15 58 53.0**	**+2.2**
KARJ	**KARJ**	**9.94**	**253**	P	**Pn**	**15 58 48.9**	**-1.9**
MSBI	**Mazada**	**10.10**	**255**	P	**Pn**	**15 58 55.6**	**+2.6**
MSBI	**Mazada**	**10.10**	**255**	P	**Pn**	**15 58 54.7**	**+1.7**
ITEG	**Tejag**	**10.13**	**96**	Pn	**Pn**	**15 58 55.2**	**+1.6**
YTIR	**Yattir**	**10.27**	**255**	S	**Sn**	**16 00 51.3**	**+0.6**
AMAZ	**Amatzia**	**10.38**	**256**	S	**Sn**	**16 00 54.1**	**+1.0**
SMRA	**Abu-Samra**	**10.39**	**159**	P	**Pn**	**15 58 56.3**	**-0.8**
SMRA				S	**Sn**	**16 00 47.2**	**-6.4**
IKOO	**Kooshab**	**10.46**	**98**	Pn	**Pn**	**15 58 59.7**	**+1.6**
TRNA	**Turayna**	**10.52**	**157**	P	**Pn**	**15 58 58.1**	**-0.7**
	SNR=50						
TRNA				S	**Sn**	**16 00 50.9**	**-5.9**
SOC	**Sochi**	**10.54**	**331**	*e*P	**Pn**	**15 58 55.7**	**-3.3**
SOC				*e*		16 00 53.6	
SOC				MLR	MLR		
	comp=Z,214nm,16.0s						
IKRD	**Kardeh**	**10.62**	**74**	Pn	**Pn**	**15 59 02.2**	**+1.8**
PRNI	**Paran**	**10.77**	**250**	P	**Pn**	**15 59 04.7**	**+2.6**
JRN	**Qarnain Island**	**10.94**	**149**	P	**Pn**	**15 59 02.0**	**-2.6**
JRN				S	**Sn**	**16 01 01.7**	**-5.4**
MBRI	**Mt Berech**	**11.09**	**248**	P	**Pn**	**15 59 09.3**	**+2.7**
MBRI	**Mt Berech**	**11.09**	**248**	P	**Pn**	**15 59 09.8**	**+3.2**
EIL	**Elat**	**11.12**	**247**	Pn	**Pn**	**15 59 08.0**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=77,slow=2.1,SNR=2.6						
EIL				Lg	Lg	16 02 18.0	
	comp=Z,0.9nm,0.3s,baz=36,slow=17,SNR=1.9						
EIL				LR	LR	16 04 35.4	
	comp=Z,171nm,19.0s,baz=69,slow=44						
EIL	**Elat**	**11.12**	**247**	P	**Pn**	**15 59 10.0**	**+3.0**
EIL	**Elat**	**11.12**	**247**	P	**Pn**	**15 59 10.0**	**+3.0**
TBJM	**Torbat-e-JAM**	**11.18**	**82**	Pn	**Pn**	**15 59 10.0**	**+2.1**
SHRT	**Shahrakht**	**11.27**	**91**	Pn	**Pn**	**15 59 11.1**	**+2.0**
BRTR	**Keskin Array B**	**11.66**	**300**	Pn	**Pn**	**15 59 12.2**	**-2.3**
BRTR	**Keskin Array B**	**11.66**	**300**	Pn	**Pn**	**15 59 15

JMDO S Sn 16 02 52.0 -11
BALB Balikesir 15.88 294 Pn **Pn 16 00 12.1 +0.6**
WBK Wadi Bani Khal 16.01 135 P **Pn 16 00 10.6 -2.7**
WBK S Sn 16 03 01.1 -10
KARP Karpathos 16.07 279 **P 16 00 16.2 -1.2**
JLN Jalan Bani Buh 16.62 135 P **Pn 16 00 18.5 -2.5**
MHTO MHTO 16.75 141 P **Pn 16 00 19.9 -2.8**
SNR=44
VRH Novokhopyorsk 17.04 349 *e*P **Pn 16 00 24.7 -1.4**
VRH pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 17.28 344 *e*P **Pn 16 00 29.6 +0.5**
VORD pmax pmax
comp=Z,20nm,1.1s
DQM DQM 17.42 144 P **Pn 16 00 27.9 -3.2**
VSR Storozhevoye 17.54 344 *e*P **Pn 16 00 32.3 -0.1**
VSR pmax pmax
comp=Z,20nm,1.0s
ALN Alexandroupoli 17.54 297 Pn **Pn 16 00 31.5 -1.0**
ALN IAmb IAmb 16 00 38.4
comp=Z,53nm,1.5s
ALN Alexandroupoli 17.54 297 P **Pn 16 00 31.5 -1.0**
ALN pmax pmax
comp=Z,53nm,1.5s
ABKAR Akbulak array 17.63 30 **Pn 16 00 33.6 0.0**
WHFO Wadi Hawf 17.71 157 P **Pn 16 00 31.2 -3.6**
SNR=98
BELG Belogornoye 17.85 2 *i* P **Pn 16 00 35.1 -1.0**
BELG Belogornoye 17.85 2 P **Pn 16 00 35.7 -0.4**
comp=Z,1.3nm,0.3s,baz=268,slow=1.8,SNR=6.9
BELG LR LR 16 09 15.3
comp=Z,177nm,18.9s,baz=152,slow=43
comp=Z,39nm,0.9s
AKTO Aktyubinsk 17.88 24 P **Pn 16 00 36.5 -0.2**
comp=Z,1.2nm,0.3s,baz=204,slow=11,SNR=16
AKTO LR LR 16 10 19.7
comp=Z,190nm,18.3s,baz=78,slow=46
comp=Z,6.8nm,0.7s
RDO Rodhopi 17.98 298 **Pn 16 00 37.9 +0.1**
ABTO Aybut 18.10 159 P **Pn 16 00 36.0 -3.6**
SNR=41
RBK Rabkut 18.24 157 P **Pn 16 00 38.5 -2.7**
SNR=9.9
SHAO Shalim 18.27 152 *i* P **Pn 16 00 38.3 -3.3**
SNR=44
SHAO Shalim 18.27 152 P **Pn 16 00 39.2 -2.4**
SNR=37
SHAO P **Pn 16 00 39.2 -2.4**
SNR=37
DMTO DMTO 18.30 154 P **Pn 16 00 38.9 -3.0**
SNR=30
SIMJ Simiganj 18.33 71 P **P 16 00 44.9 +2.4**
KBL Kabul 18.37 84 P **P 16 00 43.3 +0.3**
KBL Kabul 18.37 84 P **P 16 00 43.3 +0.3**
KBL pmax pmax
comp=Z,8.0nm,1.0s
LPSR Galich'ya Gora 18.89 345 *e*P **P 16 00 46.7 -1.6**
LPSR pmax pmax
comp=Z,20nm,0.8s
PLOR Plostina 19.00 312 ⇑P **Pn 16 00 51.4 +1.1**
PLOR Plostina 19.00 312 ⇑P **Pn 16 00 51.4 +1.1**
MLR Muntele Rosu 19.26 311 ⇑P **Pn 16 00 55.3 +1.7**
MLR Muntele Rosu 19.26 311 P **P 16 00 53.0 +0.4**
MLR Muntele Rosu 19.26 311 ⇑P **Pn 16 00 55.3 +1.7**
MLR Muntele Rosu 19.26 311 P **Pn 16 00 54.9 +1.3**
comp=Z,6.3nm,0.6s,baz=57,slow=11,SNR=6.2
SORM Soroca 19.30 320 ⇑P **P 16 00 53.1 +0.3**
SORM Soroca 19.30 320 ⇑P **P 16 00 53.1 +0.3**
TESR Tescani 19.33 314 ⇓P **Pn 16 00 55.1 +0.9**
SRS Serrai 19.40 297 P **Pn 16 00 55.7 +0.5**
CHM Chimkent 19.48 60 *e*P **P 16 00 55.9 +1.0**
baz=60
CHM Chimkent 19.48 60 *e*P **P 16 00 55.9 +1.0**
TURR Turia 19.48 312 ⇑P **Pn 16 00 57.5 +1.4**
BOSR Bodos 19.71 312 ⇑P **Pn 16 00 59.9 +1.1**
VOIR 19.80 310 ⇑P **Pn 16 01 00.7 +0.7**
VOIR 19.80 310 ⇑P **Pn 16 01 00.7 +0.7**
DOPR Dopca 19.83 312 ⇑P **Pn 16 01 00.4 +0.1**
BTK Batken 19.90 67 P **Pn 16 01 02.1 +0.9**
BTK Batken 19.90 67 P **Pn 16 01 02.1 +0.9**
BTK pmax pmax
comp=Z,13nm,1.2s
ARR Arges 20.04 309 ⇑P **Pn 16 01 03.7 +0.9**
AGG Agios Georgios 20.04 290 P **P 16 01 02.2 +1.2**
AGG IAmb IAmb 16 01 24.9
comp=Z,20nm,1.3s
AGG Agios Georgios 20.04 290 P **P 16 01 02.2 +1.2**
AGG pmax pmax
comp=Z,20nm,1.3s
KK31 Karatay Array 20.34 58 P Pn 16 01 06.8 +0.4
KK31 Karatay Array 20.34 58 P Pn 16 01 06.8 +0.5
KK31 pmax pmax
comp=Z,20nm,1.3s
KKAR Karatay Array 20.34 58 P Pn 16 01 06.9 +0.6
KKAR Karatay Array 20.34 58 P Pn 16 01 06.9 +0.6
AKASG Malin Array Be 20.57 327 P **P 16 01 05.4 -1.3**
comp=Z,1.3nm,0.4s,baz=133,slow=10,SNR=14
AKASG LR LR 16 10 30.4
comp=Z,139nm,18.9s,baz=126,slow=41
comp=Z,1.3nm,0.4s
AKBB Malin Array Si 20.57 327 P **P 16 01 04.9 -1.8**
AKBB IAmb IAmb 16 01 12.4
comp=Z,27nm,1.2s
AKBB Malin Array Si 20.57 327 *i* P **P 16 01 05.5 -1.2**
AKBB pmax pmax
comp=Z,27nm,1.3s
KIEV Kiev 20.57 327 ⇓P **P 16 01 06.2 -0.5**
KIEV Kiev 20.57 327 P **P 16 01 05.4 -1.3**
KIEV IAmb IAmb 16 01 12.4
comp=Z,26nm,1.3s
KIEV Kiev 20.57 327 P **P 16 01 05.4 -1.3**
KIEV pmax pmax
comp=Z,26nm,1.3s
LOT Lotru 20.62 309 ⇑P Pn 16 01 09.5 -0.2
BLKB Belogradchik 20.71 303 ⇑P Pn 16 01 10.0 -0.6
BURAR Bucovina Array 20.74 315 ⇑P **P 16 01 09.9 +1.2**
BURAR Bucovina Array 20.74 315 P **P 16 01 08.9 +0.2**
BURAR IAmb IAmb 16 01 16.3
comp=Z,16nm,0.9s
BURAR Bucovina Array 20.74 315 ⇑P **P 16 01 09.9 +1.2**
BUR08 Bucovina Ar. S 20.76 316 P **P 16 01 09.0 +0.1**
BUR08 IAmb IAmb 16 01 19.6
comp=Z,16nm,0.9s
DZA Taraz 20.86 59 *e*P **P 16 01 10.5 +0.5**
baz=59
DZA Taraz 20.86 59 *e*P **P 16 01 10.4 +0.5**
FNA Florina 20.99 295 P **P 16 01 11.2 -0.2**
FNA Florina 20.99 295 P **P 16 01 11.2 -0.2**
FNA pmax pmax
comp=Z,14nm,1.3s
DJES Djerdap 21.15 306 P **P 16 01 12.2 -0.8**
GZR Gura Zlata 21.25 308 ⇓P **P 16 01 15.2 +1.1**
BOVS Bovan 21.38 303 ⇑P **P 16 01 16.5 +1.0**
MARR Marisel-Cluj 21.55 311 ⇑P **P 16 01 18.3 +0.9**
OBN Obninsk 21.75 344 P **P 16 01 18.4 -0.9**
OBN Obninsk 21.75 344 *e*P **P 16 01 18.4 -0.9**
OBN *e*PPP PPP 16 01 43.5
OBN pmax pmax
comp=Z,75nm,1.7s
OBN MLR MLR
comp=Z,179nm,20.0s
OBN Obninsk 21.75 344 P **P 16 01 18.2 -1.0**
comp=Z,16nm,0.4s,baz=194,slow=20,SNR=10
OBN S **S 16 05 22.7 +3.1**
comp=Z,13nm,0.4s,baz=54,slow=22,SNR=2.3
comp=Z,16nm,0.4s
NIL Nilore 21.95 85 P **P 16 01 22.1 +0.3**
NIL IAmb IAmb 16 01 32.6
comp=Z,30nm,1.2s
NIL Nilore 21.95 85 P **P 16 01 22.1 +0.3**
NIL pmax pmax
comp=Z,30nm,1.3s
BZS Buzias 22.09 308 ⇑P **P 16 01 24.9 +1.8**
BZS Buzias 22.09 308 ⇑P **P 16 01 24.9 +1.8**
SIRR Siria 22.30 309 ⇑P **P 16 01 26.7 +1.4**
LVV L'vov 22.59 319 *e*P **P 16 01 27.3 -1.1**
AAK Ala-Archa 23.07 61 P **P 16 01 33.1 -0.6**
AAK Ala-Archa 23.07 61 P **P 16 01 33.1 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 23.07 61 P **P 16 01 37.2 +3.5**
comp=Z,1.9nm,0.7s,baz=221,slow=9.7,SNR=6.5
AAK LR LR 16 12 18.4
comp=Z,190nm,18.0s,baz=250,slow=41

KOLS Kolonicke sedl 23.10 316 *e*P **P 16 01 35.2 +1.4**
KOLS pmax pmax
comp=Z,30nm,0.8s
KOLS Kolonicke sedl 23.10 316 *e*P **P 16 01 35.2 +1.4**
ATD Arta Tunnel 23.19 190 P **P 16 01 37.1 +2.1**
ATD IAmb IAmb 16 02 05.7
comp=Z,19nm,1.1s
ATD Arta Tunnel 23.19 190 LR LR 16 10 57.0
comp=Z,6.4nm,19.4s,baz=14,slow=38
ARU Arti 23.33 17 P **P 16 01 35.2 -0.7**
ARU IAmb IAmb 16 01 44.9
comp=Z,17nm,0.7s
ARU Arti 23.33 17 *ce*P **P 16 01 36.0 0.0**
ARU pmax pmax
comp=Z,26nm,1.3s
ARU Arti 23.33 17 LR LR 16 13 58.2
comp=Z,146nm,18.8s,baz=208,slow=45
SGDS Sogindy 23.34 59 *e*P **P 16 01 36.9 +0.6**
baz=59
SGDS Sogindy 23.34 59 *e*P **P 16 01 36.9 +0.6**
BTLS Baital 23.34 55 *e*P **P 16 01 36.5 +0.2**
baz=55
BTLS Baital 23.34 55 *e*P **P 16 01 36.5 +0.2**
CRVS Cervenica-Dubn 23.56 315 *e*P **P 16 01 40.2 +1.8**
CRVS pmax pmax
comp=Z,27nm,1.0s
CRVS Cervenica-Dubn 23.56 315 *e*P **P 16 01 40.2 +1.8**
KSH Kashi 23.80 69 P **P 16 01 41.7 +0.8**
KSH pP sP 16 01 47.1 +1.0
KSH sP pP 16 01 51.2 +6.6
MNK Minsk 23.91 332 *i* P **P 16 01 40.2 -1.5**
comp=E,5.0nm,0.9s
MNK *i* P **P 16 01 40.2 -1.5**
comp=N,14nm,1.2s
MNK *i* P **P 16 01 40.2 -1.5**
comp=Z,8.0nm,0.9s,baz=139
MNK *i* PP **PnPn 16 02 08.2 -1.7**
MNK *i* S **S 16 05 59.0 +1.1**
MNK *i* SS **SnSn 16 06 42.2 +5.0**
MNK *i* LQ LQ 16 09 04.9
MNK *i* LR LR 16 10 53.9
MNK Minsk 23.91 332 *i* P **P 16 01 40.2 -1.5**
MNK *i* 16 02 08.2
MNK *i* S **S 16 05 58.9 +1.1**
MNK *i* SS **SnSn 16 06 42.2 +5.0**
MNK pmax pmax
comp=N,14nm,1.2s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.9s
STHS Stebnicka Huta 23.93 316 *e*P **P 16 01 43.5 +1.6**
STHS Stebnicka Huta 23.93 316 *e*P **P 16 01 43.5 +1.6**
NRN Naryn 23.98 65 P **P 16 01 44.1 +1.2**
NRN IAmb IAmb 16 01 51.2
comp=Z,7.5nm,0.7s
NRN Naryn 23.98 65 P **P 16 01 44.1 +1.2**
NRN pmax pmax
comp=Z,8.0nm,0.7s
PSZ Piszkesteto 24.06 312 P **P 16 01 42.7 -0.6**
PSZ IAmb IAmb 16 01 48.3
comp=Z,33nm,1.4s
PSZ Piszkesteto 24.06 312 P **P 16 01 42.7 -0.6**
PSZ pmax pmax
comp=Z,33nm,1.4s
KIRV Kirov 24.11 3 *ce*P **P 16 01 43.2 -0.3**
KIRV Kirov 24.11 3 LR LR 16 12 51.2
comp=Z,268nm,18.1s,baz=185,slow=41
SVE Sverdlovsk 24.21 19 *e*P **P 16 01 46.9 +2.5**
SVE pmax pmax
comp=Z,19nm,1.1s
MORH Mrgy, Hungar 24.24 307 ⇑P **P 16 01 46.3 +1.5**
BRZS Berezniki 24.45 43 *e*P **P 16 01 45.7 -1.0**
baz=43
BRZS Berezniki 24.45 43 *e*P **P 16 01 45.7 -1.0**
NACGM Naroch 24.64 332 *e*P **P 16 01 51.3 +2.9**
comp=Z,12nm,0.8s,baz=138
KUU Kurty 24.64 59 *e*P **P 16 01 49.6 +1.0**
comp=Z,10nm,1.0s,baz=59
KUU Kurty 24.64 59 *e*P **P 16 01 49.6 +1.0**
KUU pmax pmax
comp=Z,10.0nm,1.0s
LANS Liptovska Anna 24.84 314 *e*P **P 16 01 51.9 +1.6**
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 24.84 314 *e*P **P 16 01 51.9 +1.6**
BRVK Borovoye 24.92 35 P **P 16 01 52.4 +1.4**
BRVK Borovoye 24.92 35 *ce*P **P 16 01 52.0 +1.0**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 24.95 35 P **P 16 01 52.6 +1.3**
comp=Z,8.9nm,0.7s,baz=235,slow=8.1,SNR=31
BVAR PcP **PcP 16 05 26.0 -0.4**
comp=Z,0.7nm,0.5s,baz=176,slow=2.6,SNR=5.6
BVAR ScP **ScP 16 09 06.5 +1.2**
comp=Z,0.2nm,0.5s,baz=251,slow=4.4,SNR=2.6
BVAR LR LR 16 14 24.8
comp=Z,130nm,19.6s,baz=218,slow=43
comp=Z,8.9nm,0.7s
MDOK Medeo 25.01 61 *e*P **P 16 01 52.5 +0.4**
baz=61
MDOK Medeo 25.01 61 *e*P **P 16 01 52.5 +0.4**
CHKK Chushkaly 25.09 59 *e*P **P 16 01 53.5 +0.8**
baz=59
CHKK Chushkaly 25.09 59 *e*P **P 16 01 53.5 +0.8**
OJC Ojcow 25.13 317 P **P 16 01 52.3 -0.6**
OJC IAmb IAmb 16 01 57.4
comp=Z,12nm,0.7s
OJC Ojcow 25.13 317 P **P 16 01 52.3 -0.6**
OJC pmax pmax
comp=Z,12nm,0.7s
SUW Suwalki 25.54 327 P **P 16 01 55.9 -0.7**
SUW Suwalki 25.54 327 P **P 16 01 55.9 -0.7**
SUW pmax pmax
comp=Z,110nm,1.5s
JAVC Velka Javorina 25.80 312 *e*P **P 16 02 01.7 +2.7**
SMOL Smolenice 25.81 312 *e*P **P 16 02 01.1 +2.0**
SMOL pmax pmax
comp=Z,5.0nm,1.2s
MODS Modra-Piesok 25.86 311 *e*P **P 16 02 02.8 +3.3**
MODS Modra-Piesok 25.86 311 *e*P **P 16 02 02.8 +3.3**
MAUC Maruska 25.90 314 *e*P **P 16 02 01.2 +1.2**
SATY Saty 25.97 61 *e*P **P 16 02 02.0 +1.1**
comp=Z,11nm,1.3s,baz=62
SATY Saty 25.97 61 *e*P **P 16 02 01.9 +1.1**
SATY pmax pmax
comp=Z,11nm,1.3s
ZHN Zhinishke 26.01 61 *e*P **P 16 02 02.0 +0.9**
baz=61
ZHN Zhinishke 26.01 61 *e*P **P 16 02 02.0 +0.9**
KPKS Kokpek 26.24 61 *e*P **P 16 02 03.8 +0.7**
baz=61
KPKS Kokpek 26.24 61 *e*P **P 16 02 03.8 +0.7**
MORC Moravsky Berou 26.24 314 P **P 16 02 03.2 +0.1**
MORC IAmb IAmb 16 02 06.6
comp=Z,13nm,1.1s
MORC Moravsky Berou 26.24 314 *e*P **P 16 02 02.9 -0.1**
MORC Moravsky Berou 26.24 314 P **P 16 02 03.2 +0.1**
MORC pmax pmax
comp=Z,13nm,1.1s
RONA Rosalia, Austr 26.24 309 *e*P **P 16 02 04.0 +1.0**
comp=Z,8.8nm,0.6s
TDK Taldyqorghan 26.32 57 *e*P **P 16 02 04.5 +0.7**
comp=Z,9.7nm,1.1s,baz=57
TDK Taldyqorghan 26.32 57 *e*P **P 16 02 04.5 +0.7**
TDK pmax pmax
comp=Z,10.0nm,1.1s
UZB Uzynbulak 26.43 61 *e*P **P 16 02 06.1 +1.1**
baz=62
UZB Uzynbulak 26.43 61 *e*P **P 16 02 06.1 +1.1**
CONA Conrad Observa 26.59 310 *e*P **P 16 02 06.6 +0.3**
comp=Z,11nm,1.1s
ARSA Arzberg 26.60 308 *i* pP **P 16 02 07.7 +1.4**
comp=Z,8.0nm,1.1s
VRAC Vranov 26.62 313 *e*P **P 16 02 06.4 -0.1**
VRAC Vranov 26.62 313 LR LR 16 13 53.8
comp=Z,83nm,19.0s,baz=121,slow=39
KRUC Moravsky 26.65 312 *e*P **P 16 02 05.3 -1.4**
KLMR Klimovskoe 26.73 352 *e*P **P 16 02 06.4 -0.8**
KLMR pmax pmax
comp=Z,40nm,1.9s
SHLS Shalkode 26.75 61 *e*P **P 16 02 10.5 +2.7**
baz=62
SHLS Shalkode 26.75 61 *e*P **P 16 02 10.5 +2.7**
SOKA Soboth 26.76 307 *i* P **P 16 02 07.1 -0.8**
comp=Z,4.7nm,0.9s
OBKA Obir 27.04 306 *i* P **P 16 02 14.0 +3.7**
comp=Z,14nm,1.4s
DPC Dobruska-Polom 27.19 315 *e*P **P 16 02 13.3 +1.7**
DPC Dobruska-Polom 27.19 315 *e*P **P 16 02 13.3 +1.7**
NRCA Norcia 27.38 298 P **P 16 02 14.0 +0.6**
VSU Vasula 27.39 337 *ce*P **P 16 02 12.4 -0.7**
VSU pmax pmax
comp=Z,51nm,2.5s
CHVC Chvalec 27.45 315 *e*P **P 16 02 13.5 -0.4**
CHVC Chvalec 27.45 315 *e*P **P 16 02 13.5 -0.4**
MOA Molln 27.59 309 *e*pP **P 16 02 16.3 +1.1**
comp=Z,3.9nm,0.4s
MURB Monte Urbino 27.86 298 P **P 16 02 17.7 0.0**
BIOA Bad Ischl, Aus 27.95 308 *e*pP **P 16 02 19.6 +1.2**
comp=Z,4.2nm,0.5s
KBA Koelnbreinsper 27.98 307 *e*P **P 16 02 19.2 +0.3**
comp=Z,20nm,1.2s
KURBB Kurchatov Arra 28.10 45 P **P 16 02 21.6 +1.9**
comp=Z,1.4nm,0.7s,baz=251,slow=9.2,SNR=13
KURBB LR LR 16 15 13.1
comp=Z,195nm,18.1s,baz=173,slow=40
comp=Z,1.4nm,0.7s
ZVC Zvikov 28.14 312 *e*P **P 16 02 20.4 +0.4**
KURK Kurchatov 28.19 45 P **P 16 02 22.3 +1.8**
KURK Kurchatov 28.19 45 *i* P **P 16 02 21.7 +1.3**
KURK pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 28.25 310 P **P 16 02 21.3 +0.1**
comp=Z,0.7nm,0.4s,baz=115,slow=8.4,SNR=4.6
GERES ScP **ScP 16 09 15.2 -0.1**
comp=Z,0.2nm,0.3s,baz=103,slow=4.2,SNR=3.6
comp=Z,0.7nm,0.4s
KHC Kasperske Hory 28.42 311 *e*P P 16 02 29.8 +7.2
KHC Kasperske Hory 28.42 311 *e*P P 16 02 29.8 +7.2
LESA Schwarzleotal 28.51 307 *e*P **P 16 02 24.1 +0.6**
comp=Z,1.2nm,0.4s
SEM Semipalatinsk 29.05 47 *e*P **P 16 02 29.3 +1.0**
baz=47
SEM Semipalatinsk 29.05 47 *e*P **P 16 02 29.3 +1.0**
MAKZ Makanchi 29.14 54 P **P 16 02 30.1 +1.1**
MAKZ IAmb IAmb 16 02 33.4
comp=Z,9.3nm,1.4s
MAKZ Makanchi 29.14 54 P **P 16 02 30.1 +1.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.4s
WTTA Wattenberg 29.16 306 *e*P **P 16 02 29.8 +0.5**
comp=Z,6.4nm,0.6s
WATA Walderalm 29.22 307 *e*P **P 16 02 30.1 +0.3**
comp=Z,19nm,1.3s
MK31 Makanchi Array 29.35 55 P **P 16 02 31.8 +0.9**
MK31 Makanchi Array 29.35 55 P **P 16 02 31.8 +0.9**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MKAR Makanchi Array 29.35 55 P **P 16 02 31.6 +0.8**
MKAR Makanchi Array 29.35 55 P **P 16 02 32.1 +1.2**
comp=Z,1.4nm,0.5s,baz=250,slow=7.5,SNR=19
MKAR PcP **PcP 16 05 37.5 +0.5**
comp=Z,0.2nm,0.5s,baz=238,slow=2.9,SNR=2.2
MKAR LR LR 16 15 52.6
comp=Z,115nm,21.7s,baz=274,slow=40
comp=Z,1.4nm,0.5s
SQTA Sankt Quirin 29.43 306 *e*P **P 16 02 31.3 -0.5**
comp=Z,7.5nm,0.5s
CLL Collm 29.51 315 *e*P **P 16 02 35.0 +2.9**
CLL Collm 29.51 315 *e*P **P 16 02 35.0 +2.9**
MOTA Moosalm 29.53 306 *e*P **P 16 02 32.7 +0.1**
comp=Z,13nm,1.1s
FETA Feichten 29.71 306 *e*P **P 16 02 34.8 +0.5**
comp=Z,16nm,1.2s
RETA Reutte 29.79 307 *e*P **P 16 02 35.1 +0.3**
comp=Z,2.5nm,0.4s
FINES FINESS Array B 29.98 340 P **P 16 02 35.1 -1.1**
FINES FINESS Array B 29.98 340 P **P 16 02 35.8 -0.4**
comp=Z,3.2nm,0.5s,baz=143,slow=10,SNR=17
comp=Z,3.2nm,0.5s
GRF Grafenberg Arr 30.05 311 *e*P **P 16 02 37.6 +0.6**
comp=Z,7.1nm,1.2s,baz=107,slow=10
DAVA Damuels 30.33 306 *e*P **P 16 02 39.2 -0.5**
comp=Z,9.6nm,0.5s
KEST Kesra 30.49 283 P **P 16 02 41.2 +0.1**
comp=Z,9.0nm,0.9s,baz=36,slow=4.0,SNR=5.4
comp=Z,9.0nm,0.9s
ZSN Zaisan 31.20 54 *e*P **P 16 02 47.9 +0.6**
comp=Z,14nm,1.9s,baz=54
ZSN Zaisan 31.20 54 *e*P **P 16 02 47.8 +0.6**
ZSN pmax pmax
comp=Z,14nm,1.9s
DEL Delary 31.31 325 *i* P **P 16 02 47.0 -1.0**
BNI Bardonecchia 32.22 301 P **P 16 02 55.9 -0.5**
BNI Bardonecchia 32.22 301 P **P 16 02 55.9 -0.5**
BNI pmax pmax
comp=Z,25nm,0.8s
LODK Lodwar 32.73 201 P **P 16 03 02.3 +1.3**
WMQ Urumqi 32.78 61 *e*P **P 16 03 05.6 +4.4**
WMQ PP **PP 16 04 13.5 -1.6**
WMQ pmax pmax
comp=Z,7.0nm,1.1s
ZAA0 Zalesovo Array 32.92 42 P **P 16 03 03.1 +1.0**
ZALV Zalesovo Beam 32.92 42 P **P 16 03 02.8 +0.6**
comp=Z,1.9nm,0.4s,baz=262,slow=8.4,SNR=13
ZALV LR LR 16 19 02.5
comp=Z,106nm,19.0s,baz=281,slow=41
comp=Z,1.9nm,0.4s
DGZ Jazzator, Alta 33.30 50 *i* P **P 16 03 06.6 +0.8**
HFS Hagfors 33.38 330 P **P 16 03 05.7 -0.5**
comp=Z,7.0nm,0.6s,baz=120,slow=8.8,SNR=17
HFS LR LR 16 17 28.0
comp=Z,127nm,20.1s,baz=114,slow=38
comp=Z,7.0nm,0.6s
NB2 NORSAR Subarra 34.91 330 P **P 16 03 18.2 -1.2**
comp=Z,2.7nm,0.8s,baz=124,slow=8.6
NOA NORSAR Array B 34.91 330 P **P 16 03 18.3 -1.1**
comp=Z,1.8nm,0.7s,baz=125,slow=8.6,SNR=6.5
NOA LR LR 16 18 48.3
comp=Z,92nm,19.0s,baz=345,slow=38
comp=Z,1.8nm,0.7s
KMBO Kilima Mbogo 36.59 196 LR LR 16 19 36.1
comp=Z,56nm,19.1s,baz=92,slow=38
ARCES ARCESS Array B 36.96 348 P **P 16 03 35.5 -1.3**
comp=Z,0.9nm,0.4s,baz=153,slow=8.2,SNR=16
ARCES LR LR 16 19 34.7
comp=Z,202nm,18.6s,baz=106,slow=38
comp=Z,0.9nm,0.4s
LSA Lhasa 37.69 85 P **P 16 03 44.1 0.0**
LSA IAmb IAmb 16 03 50.9
comp=Z,6.8nm,0.9s
LSA Lhasa 37.69 85 P **P 16 03 44.1 0.0**
LSA pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 37.78 263 P **P 16 03 44.8 +0.3**
TAM Tamanrasset 37.78 263 P **P 16 03 44.8 +0.3**
TAM pmax pmax
comp=Z,6.0nm,1.2s
EKA Eskdalemuir Ar 39.91 317 P **P 16 04 00.3 -1.5**
comp=Z,1.7nm,0.5s,baz=105,slow=8.5,SNR=12
comp=Z,1.7nm,0.5s
PALK Pallekele 41.39 123 LR LR 16 21 39.5
comp=Z,76nm,21.5s,baz=58,slow=36
NRIK Noril'sk 41.45 21 P **P 16 04 16.0 +1.6**
NRIK IAmb IAmb 16 04 18.6
comp=Z,17nm,1.4s
NRIK Noril'sk 41.45 21 *i* P **P 16 04 15.6 +1.2**
NRIK pmax pmax
comp=Z,12nm,1.5s
NRIK Noril'sk 41.45 21 P **P 16 04 14.4 +0.1**
comp=Z,2.1nm,0.4s,baz=239,slow=8.1,SNR=6.9
comp=Z,2.1nm,0.4s
MOY Mondy 42.09 49 *e*P **P 16 04 24.3 +4.3**
MOY pmax pmax
comp=Z,17nm,1.6s
GTA Gaotai 42.17 67 *e*P **P 16 04 22.7 +1.9**
GTA pP sP 16 04 26.7 +0.6
GTA pmax pmax
comp=Z,4.0nm,1.4s
SPITS Spitsbergen Ar 45.63 352 P **P 16 04 48.2 +0.2**
comp=Z,9.3nm,0.9s,baz=139,slow=13,SNR=13
comp=Z,9.3nm,0.9s
SONM Songino Array 45.72 54 P **P 16 04 50.2 +1.0**
comp=Z,1.0nm,0.5s,baz=267,slow=9.0,SNR=4.9
SONM PcP **PcP 16 06 28.4 +1.4**
comp=Z,0.5nm,0.6s,baz=272,slow=2.2,SNR=2.4
SONM LR LR 16 27 31.4
comp=Z,109nm,18.8s,baz=43,slow=41
comp=Z,1.0nm,0.5s
TOA0 Torodi Ar. Sit 45.92 254 P **P 16 04 51.3 +0.3**
TOA0 IAmb IAmb 16 04 53.3

comp=Z,4.0nm,1.1s
TORD Torodi Ar. Bea 45.92 254 P P 16 04 50.1 -0.9
TORD Torodi Ar. Bea 45.92 254 P P 16 04 50.7 -0.3
comp=Z,1.4nm,0.8s,baz=46,slow=6.7,SNR=8.8
TORD PcP **PcP 16 06 27.2 -0.8**
comp=Z,0.8nm,0.8s,baz=34,slow=5.5,SNR=2.1
TORD LR LR 16 27 46.6
comp=Z,41nm,20.5s,baz=30,slow=41
comp=Z,1.4nm,0.8s
LZH Lanzhou 46.03 71 ⇓P P 16 04 53.7 +1.8
LZH pP sP 16 05 02.2 +5.0
LZH pmax pmax
comp=Z,20nm,1.3s
ULN Ulaanbaatar 46.16 54 P P 16 04 53.5 +0.8
ULN IAmb IAmb 16 04 57.6
comp=Z,13nm,1.4s
ULN Ulaanbaatar 46.16 54 *i* P **P 16 04 53.6 +0.9**
ULN pmax pmax
comp=Z,6.0nm,1.0s
PZH PanZhiHua 47.56 84 P P 16 05 07.3 +3.4
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,140nm,4.7s
CD2 Chengdu 47.56 78 P P 16 05 04.3 +0.5
CD2 pmax pmax
comp=Z,30nm,0.9s
CHTO Chiang Mai 48.69 95 P P 16 05 10.8 -1.8
CHTO IAmb IAmb 16 05 27.6
comp=Z,7.8nm,1.2s
CHTO Chiang Mai 48.69 95 P P 16 05 10.8 -1.8
CHTO pmax pmax
comp=Z,8.0nm,1.2s
CM31 Chiang Mai Arr 48.86 95 P P 16 05 12.2 -1.7
CM31 IAmb IAmb 16 05 19.2
comp=Z,6.7nm,1.1s
CMAR Chiang Mai Arr 48.86 95 P P 16 05 12.3 -1.6
CMAR Chiang Mai Arr 48.86 95 *i* P **P 16 05 13.3 -0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 48.86 95 P P 16 05 13.4 -0.5
comp=Z,2.6nm,0.8s,baz=293,slow=8.4,SNR=23
CMAR PcP **PcP 16 06 38.0 -0.5**
comp=Z,0.9nm,0.6s,baz=287,slow=3.5,SNR=4.6
CMAR LR LR 16 28 00.5
comp=Z,30nm,18.9s,baz=320,slow=39
comp=Z,2.6nm,0.8s
BTO Baotou 49.56 63 *eP* **P 16 05 18.2 -0.9**
BTO pP **pP 16 05 22.8 -0.2**
BTO sP **sP 16 05 25.2 +0.8**
BTO PP **PP 16 07 12.4 -0.9**
BTO pmax pmax
comp=Z,9.0nm,0.6s
BTO pmax pmax
comp=Z,720nm,5.5s
BOD Bodaibo 49.63 40 *eP* **P 16 05 21.5 +2.2**
BOD pmax pmax
comp=Z,15nm,1.5s
XAN Xi'an 50.62 72 P P 16 05 28.0 +0.8
XAN pP pP 16 05 32.5 +1.5
XAN pmax pmax
comp=Z,33nm,1.1s
HHC Hu-ho-hao-te 50.63 63 *eP* **P 16 05 29.0 +1.7**
HHC pmax pmax
comp=Z,29nm,0.6s
HHC pmax pmax
comp=Z,440nm,7.1s
SLVN Son La 51.57 89 P P 16 05 36.5 +1.9
SLVN IAmb IAmb 16 05 39.8
comp=Z,9.7nm,1.1s
LSZ Lusaka 52.60 203 LR LR 16 28 49.4
comp=Z,83nm,18.6s,baz=2.0,slow=37
OPO Ambohidratompo 52.83 179 LR LR 16 28 40.7
comp=Z,83nm,18.6s,baz=181,slow=37
XLT XiLinHaoTe 53.08 58 *eP* **P 16 05 48.6 +3.1**
XLT pmax pmax
comp=Z,9.0nm,1.5s
XLT pmax pmax
comp=Z,400nm,4.7s
LYN LuoYang 53.21 70 *eP* **P 16 05 48.2 +1.7**
LYN pmax pmax
comp=Z,15nm,1.0s
DBIC Dimbokro 54.94 252 P P 16 05 59.2 -0.1
comp=Z,4.3nm,1.0s,baz=38,slow=6.3,SNR=3.6
comp=Z,4.3nm,1.0s
KIC Kosan Boka 55.04 252⇑ *e*PKP2 **P 16 05 59.4 -0.6**
comp=Z,7.1nm,0.6s
TIC Toumodi 55.09 252⇑ *e*PKP2 **P 16 06 00.6 +0.2**
comp=Z,4.9nm,0.2s
TIXI Tiksi 55.16 22 P P 16 06 01.1 +1.0
TIXI IAmb IAmb 16 06 03.8
comp=Z,7.6nm,1.0s
TIXI Tiksi 55.16 22 *i* P **P 16 05 58.9 -1.1**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 55.16 22 LR LR 16 32 58.4
comp=Z,6.2nm,18.3s,baz=5.5,slow=40
LIC Lamto 55.35 252⇑ *i*PKP2 **P 16 06 00.5 -1.7**
comp=Z,6.0nm,0.4s
YAK Yakutsk 56.92 34 P P 16 06 12.8 0.0
YAK Yakutsk 56.92 34 *i* P **P 16 06 12.0 -0.8**
YAK pmax pmax
comp=Z,12nm,1.0s
HEH HeiHe 58.75 48 *eP* **P 16 06 26.0 +0.2**
HEH pmax pmax
comp=Z,13nm,0.9s
NJ2 Nanjing 59.10 70 *eP* **P 16 06 28.6 0.0**
NJ2 pP **pP 16 06 32.6 +0.1**
NJ2 sP **sP 16 06 36.3 +2.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
KLR Kul'dur 61.74 48 *i* P **P 16 06 45.6 -0.8**
KLR pmax pmax
comp=Z,4.0nm,1.0s
KLR Kul'dur 61.74 48 LR LR 16 37 32.5
comp=Z,81nm,18.6s,baz=34,slow=40
LBTB Lobatse 62.55 202 LR LR 16 35 20.6
comp=Z,80nm,19.4s,baz=16,slow=37
KSAR Wonju Array Be 63.71 61 P P 16 06 59.3 -0.3
KSAR Wonju Array Be 63.71 61 P P 16 06 59.3 -0.3
KSRS Korea Array 63.73 61 P P 16 06 59.8 0.0
comp=Z,6.2nm,0.6s,baz=288,slow=6.5,SNR=26
comp=Z,6.2nm,0.6s
USRK Ussuriysk Ar. 63.80 53 P P 16 06 59.8 -0.4
USRK Ussuriysk Ar. 63.80 53 P P 16 06 59.8 -0.4
USRK Ussuriysk Ar. 63.80 53 P P 16 07 00.3 +0.1
comp=Z,6.6nm,0.7s,baz=233,slow=48,SNR=9.3
comp=Z,6.6nm,0.7s
BOSA Boshof 66.03 201 P P 16 07 14.9 +0.1
comp=Z,1.9nm,0.8s,baz=7.3,slow=8.6,SNR=1.9
BOSA LR LR 16 37 31.6
comp=Z,65nm,19.8s,baz=18,slow=37
comp=Z,1.9nm,0.8s
SEY Seymchan 66.41 29 *i* P **P 16 07 16.1 -0.7**
SEY pmax pmax
comp=Z,9.0nm,1.4s
SEY Seymchan 66.41 29 LR LR 16 41 39.0
comp=Z,106nm,18.6s,baz=2.0,slow=41
JNU Nakatsue 67.80 64 LR LR 16 42 43.6
comp=Z,39nm,20.3s,baz=299,slow=41
SUR Sutherland 70.90 203 LR LR 16 40 05.6
comp=Z,120nm,18.6s,baz=352,slow=37
MJAR Matsushiro Arr 71.48 58 P P 16 07 50.2 +1.4
comp=Z,2.7nm,0.7s,baz=290,slow=11,SNR=5.4
comp=Z,2.7nm,0.7s
A36M Sachs Harbour 73.61 357 P P 16 08 00.0 -0.8
B22K Teshekpuk Lake 74.39 7 P P 16 08 05.7 +0.3
C18K Utukok River 75.03 10 P P 16 08 09.3 0.0
C18K IAmb IAmb 16 08 13.2
comp=Z,7.5nm,0.9s
C36M Paulatuk 76.19 357 P P 16 08 15.1 -0.7
C36M IAmb IAmb 16 08 18.4
comp=Z,5.0nm,0.7s
E18K Tukpahlearik C 76.25 11 P P 16 08 16.6 +0.4
E18K IAmb IAmb 16 08 19.4
comp=Z,9.5nm,1.4s
E19K Redstone River 76.70 9 P P 16 08 18.4 -0.3
E19K IAmb IAmb 16 08 20.1
comp=Z,4.9nm,0.9s
E25K Arctic Village 77.22 5 P P 16 08 21.3 -0.4
E29M Blow River 77.31 2 P P 16 08 22.3 +0.2
G19K Purcell Mounta 77.95 10 P P 16 08 25.6 -0.2
G19K IAmb IAmb 16 08 27.1
comp=Z,8.2nm,1.1s
G18K Tagagawik 77.96 10 P P 16 08 26.6 +0.7
G18K IAmb IAmb 16 08 29.2
comp=Z,9.0nm,1.3s
F31M Tsiigehtchic 78.32 0 P P 16 08 27.4 -0.4
G27K Doyon Strip 78.75 3 P P 16 08 30.5 +0.2
G27K IAmb IAmb 16 08 34.2
comp=Z,5.2nm,1.1s
G30M tAoh Zraii Nji 78.76 1 P P 16 08 29.3 -1.0
POKR Poker Flat Res 80.04 6 P P 16 08 36.2 -1.1
POKR IAmb IAmb 16 08 41.5
comp=Z,9.9nm,1.2s
MDM Murphy Dome 80.12 6 P P 16 08 38.0 +0.3
MDM IAmb IAmb 16 08 41.6
comp=Z,9.4nm,1.2s
I26K Coal Creek Min 80.17 4 P P 16 08 37.8 -0.1
I26K IAmb IAmb 16 08 41.6
comp=Z,9.9nm,1.2s
ILAR Eielson Array 80.43 6 P P 16 08 38.8 -0.5
ILAR Eielson Array 80.43 6 P P 16 08 38.8 -0.5
ILAR Eielson Array 80.43 6 P P 16 08 39.3 0.0
comp=Z,1.2nm,1.0s,baz=324,slow=4.4,SNR=12
comp=Z,1.2nm,1.0s
BPAW Bear Paw Mtn. 80.68 8 P P 16 08 41.4 +0.7
J30M Hart River 81.17 1 P P 16 08 43.0 -0.5
J30M IAmb IAmb 16 08 46.8
comp=Z,10nm,1.4s
SCRK Sand Creek 81.43 5 P P 16 08 44.3 -0.6
SCRK IAmb IAmb 16 08 48.3
comp=Z,11nm,1.4s
YKA Yellowknife Ar 82.13 351 P P 16 08 47.7 -0.7
comp=Z,1.6nm,0.8s,baz=13,slow=5.6,SNR=16
comp=Z,1.6nm,0.8s
BCAR Beaver Creek A 82.48 4 P P 16 08 50.8 +0.5
KDAK Kodiak Island 86.59 10 LR LR 16 55 07.2
comp=Z,110nm,18.9s,baz=108,slow=41
WRA Warramunga Arr 99.14 108 *i* P **Pdif 16 10 10.6 +0.8**
WRA Warramunga Arr 99.14 108 P Pdif 16 10 08.0 -1.7
comp=Z,0.3nm,0.6s,baz=314,slow=4.1,SNR=5.7
comp=Z,0.3nm,0.6s
ASAR Alice Springs 100.83 111 P Pdif 16 10 15.3 -1.9
comp=Z,0.2nm,0.7s,baz=315,slow=4.9,SNR=4.8

BER 10 16:06:13.2±2.1, 74.46N×9.85E, h10km, mb(Pn)3.5,
Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**2.46**	**85**	*eP*		Pn	16 06 50.5	-2.8
BJO1				*eS*		Sn	16 07 19.7	-3.6
BJO1				IAML			16 07 22.6	
comp=Z,11nm,0.9s								
BRBA	**Barentsburg A**	**3.76**	**14**	*eP*		Pn	16 07 09.0	-2.1
BRBA				*eS*		Sn	16 07 51.2	-4.2
BRBA				IAML			16 07 52.1	
comp=Z,4.0nm,0.4s								
BRBB	**Barentsburg B**	**3.80**	**14**	*eP*		Pn	16 07 09.2	-2.4
BRBB				*eS*		Sn	16 07 52.1	-4.1
SPA0	**Spitsbergen Ar**	**4.04**	**19**	*eP*		Pn	16 07 13.4	-1.6
SPA0				*eS*		Sn	16 07 58.6	-3.7
SPA0				IAML			16 08 01.9	
comp=Z,1.9nm,0.7s								
HOPEN	**Hopen**	**4.33**	**54**	*eP*		Pn	16 07 16.7	-2.1
HOPEN				*eS*		Sn	16 08 03.8	-5.4
HOPEN				IAML			16 08 09.5	
comp=Z,4.3nm,0.3s								
KBS	**Kingsbay**	**4.52**	**5**	*eP*		Pn	16 07 18.0	-3.5
KBS				*eS*		Sn	16 08 10.1	-3.8
KBS				IAML			16 08 21.4	
comp=Z,2.4nm,0.8s								
KIF	**Kilpisjarvi**	**6.46**	**143**	*eP*		Pn	16 07 46.7	-1.5
ARA0	**ARCESS Array S**	**6.90**	**128**	*eP*		Pn	16 07 51.9	-2.4
KEV	**Kevo**	**7.06**	**123**	*eP*		Pn	16 07 53.7	-2.7
VADS	**Vadso**	**7.34**	**117**	*eP*		Pn	16 07 55.7	-4.5
VADS				*eS*		Sn	16 09 15.2	-8.2

*IDC **10** 16:25:01.1±2.0, 19.71S×177.56W, h0km, mb3.7/2,*
mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=55.0km
s-min=43.4km az=118.0
ISC 10 16:25:04.8±1.8, 19.8S±0.2×177.4W±0.4, h35km, n6,
σ0s70/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.03**	**193**	P		**Pn**	**16 29 24.8**	**0.0**
1.1nm,0.3s,baz=326,slow=3.2,SNR=7.6								
2.2nm,0.3s								
ASAR	**Alice Springs**	**45.26**	**256**	P		**P**	**16 33 19.1**	**-0.1**
0.9nm,0.7s,baz=90,slow=8.6,SNR=18								
0.9nm,0.7s								
WRA	**Warramunga Arr**	**45.28**	**261**	P		**P**	**16 33 19.6**	**+0.1**
0.2nm,0.3s,baz=96,slow=7.6,SNR=14								
0.2nm,0.3s								
BVAR	**Borovoye Array**	**118.90**	**320**	PKP		**PKiKP**	**16 43 50.4**	**+0.9**
0.5nm,0.3s,baz=98,slow=2.4,SNR=7.7								
AKASG	**Malin Array Be**	**142.66**	**332**	PKP		**PKPdf**	**16 44 33.4**	**-0.8**
1.7nm,0.5s,baz=42,slow=4.4,SNR=10								
MMAI	**Mount Meron Ar**	**147.95**	**301**	PKPbc		**PKiKP**	**16 44 48.7**	**-0.1**
1.7nm,0.4s,baz=90,slow=5.8,SNR=8.2								

*TEH **10** 16:32:15.2, 38.79N×44.76E, h8km±505km, ML2.5*
*AZER **10** 16:32:16.9, 39.01N×44.92E, h5km, ml2.1*
*AFAD **10** 16:32:18.3±0.0, 38.88N×44.78E, h6km±2km, ML1.6*
ISC 10 16:32:15.6±1.2, 38.87N±0.04×44.92E±0.03, h16km±10km,
n19, σ0s83/32, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKU	**Maku**	**0.52**	**339**	Pg		**Pb**	**16 32 26.5**	**0.0**
NAX	**Nakhchivan**	**0.54**	**56**	P		**Pn**	**16 32 28.4**	**-0.4**
NAX				S		**Sn**	**16 32 36.8**	**-0.7**
IMRD	**Marand**	**0.63**	**104**	Pg		**Pn**	**16 32 30.1**	**0.0**
SBZ	**Shahbuz**	**0.72**	**43**	P		**Pn**	**16 32 31.4**	**+0.2**
SBZ				S		**Sn**	**16 32 41.8**	**-0.1**
OZAP	**Van, Ozalp-Mer**	**0.76**	**254**	P		**Pn**	**16 32 31.6**	**-0.3**
ISHB	**Shabestar**	**0.80**	**137**	Pg		**Pn**	**16 32 32.2**	**-0.3**
CLDR	**Caldiran**	**0.83**	**289**	P		**Pn**	**16 32 32.4**	**-0.5**
CLDR				S		**Sb**	**16 32 43.2**	**+0.3**
CLDR				*i* AML		AML	16 32 54.0	
comp=N,30nm,0.4s								
CLDR				*i* AML		AML	16 32 55.0	
comp=E,28nm,0.6s								
ORD	**Ordubad**	**0.84**	**86**	P		**Pn**	**16 32 34.4**	**+1.5**
ORD				S		**Sn**	**16 32 46.8**	**+1.9**
HYR	**Heyderabad**	**0.85**	**356**	P		**Pn**	**16 32 32.8**	**-0.2**
HYR				S		**Sn**	**16 32 44.6**	**-0.5**
ITBZ	**Tabriz**	**1.15**	**123**	Pg		**Pn**	**16 32 38.2**	**+0.9**
IGDI	**IGDIR**	**1.19**	**327**	P		**Pg**	**16 32 40.3**	**+1.6**
IGDI				S		**Sb**	**16 32 52.9**	**-0.2**
IGDI				*i* AML		AML	16 32 58.0	
comp=N,12nm,0.3s								
IGDI				*i* AML		AML	16 33 07.0	
comp=E,11nm,0.8s								
KOTA	**Agri, Merkez-K**	**1.62**	**305**	P		**Pg**	**16 32 47.2**	**+0.3**
KOTA				S		**Sg**	**16 33 09.1**	**+1.0**
KOTA				*i* AML		AML	16 33 48.0	
comp=N,6.5nm,2.9s								
DORK	**Agr/Tutak/Do**	**1.74**	**288**	P		**Pg**	**16 32 48.7**	**-0.5**
DORK				S		**Sg**	**16 33 10.7**	**-1.2**
IHRS	**Heris**	**1.75**	**108**	Pn		**Pg**	**16 32 50.1**	**+0.8**
GDB	**GEDABAY**	**1.95**	**19**	Pn		**Pg**	**16 32 52.9**	**-0.3**
GDB				Sn		**Sg**	**16 33 18.7**	**+0.1**
GANJ	**Ganja**	**2.07**	**31**	Pn		**Pg**	**16 32 54.6**	**-0.8**
GANJ				Sn		**Sg**	**16 33 23.0**	**+0.6**
QZX	**Qazax, Azerbai**	**2.21**	**9**	Pn		**Pb**	**16 32 55.3**	**+0.1**
QZX				Sn		**Sg**	**16 33 26.2**	**-0.5**
YRD	**Yardimli**	**2.59**	**88**	Pn		**Pg**	**16 33 04.0**	**-1.3**
YRD				Sn		**Sg**	**16 33 38.9**	**0.0**
LRK	**Lerik**	**2.68**	**94**	Pn		**Pg**	**16 33 05.8**	**-1.3**
LRK				Sn		**Sg**	**16 33 41.4**	**-0.5**

*ISU **10** 16:38:31.1, 41.17N×72.13E, h15km*
*KRNET **10** 16:38:31.1±0.1, 41.17N×72.10E, h13km, mb2.3*
*NNC **10** 16:38:31.4±2.0, 41.12N×72.01E, h0km, mb2.8, mpv3.1,*
Error ellipse: s-maj=16.4km s-min=9.8km az=2.0
*SOME **10** 16:38:32.6, 41.10N×72.18E, h15km*
ISC 10 16:38:31.1±1.1, 41.16N±0.02×72.14E±0.02, h9km±12km,
n35, σ1s27/61, 20C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSTA	**Tashata**	**0.63**	**156**	P		**Pg**	**16 38 43.7**	**+0.4**
TSTA				S		**Sb**	**16 38 53.1**	**-0.1**
ARK	**Arkit**	**0.66**	**348⇑**	*eP*		**Pg**	**16 38 43.4**	**-0.4**
baz=51								
ARK			⇑	*eS*		**Sg**	**16 38 52.4**	**0.0**
baz=51								
ARSB	**Arslanbob**	**0.66**	**75⇓**	*eP*		**Pg**	**16 38 44.1**	**+0.3**
baz=77								
ARSB			⇓	*eS*		**Sb**	**16 38 53.6**	**-0.5**
baz=77								
OHH	**Osh**	**0.80**	**142⇑**	*eP*		**Pg**	**16 38 46.7**	**+0.2**
baz=41								
OHH			⇑	*eS*		**Sb**	**16 38 58.2**	**+0.2**
baz=41								
FRG	**Fergana**	**0.82**	**199**	P		**Pg**	**16 38 47.0**	**0.0**
FRG				S		**Sb**	**16 38 58.8**	**0.0**
TRKS	**Terek-Say**	**0.84**	**297⇓**	*eP*		**Pg**	**16 38 45.6**	**-1.7**
baz=93								
TRKS			⇓	*eS*		**Sg**	**16 38 56.1**	**-2.2**
baz=93								
AML	**Almayashu**	**1.52**	**50**	⇑Pn		**Pg**	**16 39 01.2**	**+0.9**
0.1nm,0.5s								
AML			⇑	Lg		Lg	16 39 25.2	
1.3nm,0.5s								
AML	**Almayashu**	**1.52**	**50**	⇓*eP*		**Pb**	**16 38 59.9**	**+0.3**
baz=51								
AML			⇓	*eS*		**Sg**	**16 39 21.0**	**+1.0**
baz=51								
SFK	**Sufi-Kurgan**	**1.54**	**137⇑**	*eP*		**Pb**	**16 39 00.4**	**+0.5**
baz=37								
SFK			⇑	*eS*		**Sg**	**16 39 21.9**	**+1.2**
baz=37								
CHMG	**Chimgan**	**1.65**	**285**	P		**Pb**	**16 39 00.9**	**-0.8**
CHMG				S		**Sg**	**16 39 23.2**	**-1.0**
DRK	**Karamyk**	**1.69**	**189⇑**	*eP*		**Pb**	**16 39 03.1**	**+0.6**
baz=88								
DRK			⇑	*eS*		**Sg**	**16 39 26.0**	**+0.5**
baz=88								
CHRV	**Charvak**	**1.72**	**287**	P		**Pb**	**16 39 02.1**	**-0.7**
CHRV				S		**Sg**	**16 39 25.1**	**-1.2**
MRKS	**Merke**	**1.78**	**27**	P		**Pg**	**16 39 06.4**	**+1.1**
4.2nm,0.1s								
MRKS				S		**Sg**	**16 39 30.2**	**+1.8**
18nm,0.2s								
MRKS	**Merke**	**1.78**	**27**	*eP*		**Pg**	**16 39 06.4**	**+1.1**
4.2nm,0.1s								
MRKS				*eS*		**Sg**	**16 39 30.2**	**+1.8**
18nm,0.2s								
ARLS	**Aral**	**1.79**	**66⇑**	*eP*		**Pb**	**16 39 04.7**	**+0.7**
baz=67								
ARLS			⇑	*eS*		**Sg**	**16 39 29.2**	**+0.7**
baz=67								
DZA	**Taraz**	**1.84**	**341**	P		**Pg**	**16 39 08.0**	**+1.7**
37nm,0.1s								
DZA				S		**Sg**	**16 39 33.1**	**+3.0**
37nm,0.2s								
DZA	**Taraz**	**1.84**	**341**	*eP*		**Pg**	**16 39 08.0**	**+1.7**
37nm,0.1s								
DZA				*eS*		**Sg**	**16 39 33.1**	**+3.0**
37nm,0.2s								
EKS2	**Erkin-Say**	**1.94**	**39⇑**	*eP*		**Pb**	**16 39 07.0**	**+0.4**
baz=39								
EKS2			⇑	*eS*		**Sg**	**16 39 33.3**	**-0.1**
baz=39								
UCH	**Uchtor**	**2.08**	**58⇑**	*eP*		**Pb**	**16 39 09.3**	**+0.1**
baz=59								
UCH			⇑	*eS*		**Sg**	**16 39 37.3**	**-0.5**
baz=59								
CHM	**Chimkent**	**2.23**	**302**	*eP*		**Pg**	**16 39 14.7**	**+0.9**
37nm,0.1s								
CHM				*eS*		**Sg**	**16 39 44.6**	**+2.0**
97nm,0.2s								
KK31	**Karatay Array**	**2.29**	**329**	⇑Pg		**Pb**	**16 39 12.6**	**0.0**
0.8nm,0.3s,baz=144,slow=15,SNR=10								
KK31			⇑	Lg		Lg	16 39 42.3	
1.9nm,0.3s,baz=159,slow=27,SNR=9.7								
KKAR	**Karatay Array**	**2.29**	**329⇓**	*eP*		**Pb**	**16 39 11.5**	**-1.1**
baz=29								
KKAR			⇓	*eS*		**Sb**	**16 39 40.9**	**-0.1**
baz=29								
AAK	**Ala-Archa**	**2.30**	**49⇑**	*eP*		**Pb**	**16 39 12.3**	**-0.5**
baz=50								
AAK			⇑	*eS*		**Sb**	**16 39 42.3**	**+1.0**
baz=50								
CHMS	**Chumysh**	**2.68**	**46**	Pg		**Pn**	**16 39 14.7**	**+0.3**
37nm,0.1s								
CHMS				Lg		Lg	16 39 44.6	
97nm,0.2s								
SGDS	**Sogindy**	**2.95**	**38**	Pg		**Pg**	**16 39 26.8**	**-0.7**
0.9nm,0.1s								
SGDS				Lg		Lg	16 40 05.4	
3.9nm,0.2s								
DGS	**Degeres**	**3.41**	**51**	Pg		**Pg**	**16 39 34.7**	**-1.7**
1.6nm,0.3s								
DGS				Lg		Lg	16 40 19.2	
2.5nm,0.3s								
DGS	**Degeres**	**3.41**	**51**	*eP*		**Pg**	**16 39 34.7**	**-1.7**
1.6nm,0.3s								
DGS				*eS*		**Sg**	**16 40 19.2**	**-1.4**
2.5nm,0.3s								
KST	**Kastek**	**3.41**	**55**	Pg		**Pg**	**16 39 34.9**	**-1.6**
0.8nm,0.2s								
KST				Lg		Lg	16 40 19.3	
5.0nm,0.3s								
KST	**Kastek**	**3.41**	**55**	*eP*		**Pg**	**16 39 34.9**	**-1.6**
0.8nm,0.2s								
KST				*eS*		**Sg**	**16 40 19.3**	**-1.4**
5.0nm,0.3s								
KRBS	**Karabastau**	**3.65**	**45**	Pg		**Pg**	**16 39 39.3**	**-1.6**
0.2nm,0.1s								
KRBS				Lg		Lg	16 40 26.9	
1.6nm,0.2s								
KRBS	**Karabastau**	**3.65**	**45**	*eP*		**Pg**	**16 39 39.3**	**-1.6**
0.2nm,0.1s								
KRBS				*eS*		**Sg**	**16 40 26.9**	**-1.3**
1.6nm,0.2s								
BTLS	**Baital**	**4.13**	**19**	Pg		**Pg**	**16 39 49.4**	**-0.7**
0.6nm,0.3s								
BTLS				Lg		Lg	16 40 44.4	
2.4nm,0.1s								
BTLS	**Baital**	**4.13**	**19**	*eP*		**Pg**	**16 39 49.4**	**-0.7**
0.6nm,0.3s								
BTLS				*eS*		**Sg**	**16 40 44.4**	**+0.8**
2.4nm,0.1s								
KTBS	**Karatobe**	**4.22**	**51**	Pg		**Pg**	**16 39 49.8**	**-2.1**
0.3nm,0.0s								
KTBS				Lg		Lg	16 40 45.0	
2.6nm,0.3s								
KTBS	**Karatobe**	**4.22**	**51**	*eP*		**Pg**	**16 39 49.9**	**-2.1**
0.3nm,0.0s								
KTBS				*eS*		**Sg**	**16 40 45.0**	**-1.6**
2.6nm,0.3s								

*TEH **10** 16:41:49.0, 38.80N×44.77E, h8km±512km, ML2.5*
*AZER **10** 16:41:52.4, 39.13N×44.98E, h2km, ml2.1*
*AFAD **10** 16:41:53.0±0.0, 38.99N×44.73E, h7km±3km, ML1.6*
ISC 10 16:41:49.3±1.2, 38.84N±0.04×44.90E±0.02, h10km±11km,
n20, σ1s00/35, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKU	**Maku**	**0.55**	**342**	Pg		**Pb**	**16 42 00.1**	**-1.0**
NAX	**Nakhchivan**	**0.57**	**54**	P		**Pn**	**16 42 02.1**	**-1.5**
NAX				S		**Sb**	**16 42 10.6**	**+0.8**
IMRD	**Marand**	**0.64**	**101**	Pg		**Pn**	**16 42 03.7**	**-0.9**
OZAP	**Van, Ozalp-Mer**	**0.73**	**256**	P		**Pn**	**16 42 05.9**	**0.0**
OZAP				S		**Sn**	**16 42 16.1**	**-1.2**
SBZ	**Shahbuz**	**0.76**	**42**	P		**Pn**	**16 42 05.1**	**-1.1**
SBZ				S		**Sb**	**16 42 15.6**	**+0.5**
ISHB	**Shabestar**	**0.79**	**134**	Pg		**Pn**	**16 42 05.9**	**-0.8**
CLDR	**Caldiran**	**0.82**	**292**	P		**Pb**	**16 42 05.4**	**-0.5**
CLDR				S		**Sg**	**16 42 15.2**	**-0.8**
CLDR				*i* AML		AML	16 42 23.0	
comp=E,30nm,0.4s								
CLDR				*i* AML		AML	16 42 24.0	
comp=N,27nm,0.4s								
ORD	**Ordubad**	**0.86**	**84**	P		**Pn**	**16 42 07.8**	**+0.3**
ORD				S		**Sn**	**16 42 20.4**	**+0.2**
HYR	**Heyderabad**	**0.88**	**358**	P		**Pn**	**16 42 06.7**	**-0.1**
HYR				S		**Sg**	**16 42 18.4**	**+0.6**
ITBZ	**Tabriz**	**1.15**	**121**	Pg		**Pn**	**16 42 12.1**	**+0.5**
DYDN	**Diyadin**	**1.18**	**307**	P		**Pn**	**16 42 13.1**	**+1.0**
DYDN				S		**Sn**	**16 42 28.3**	**0.0**
DYDN				*i* AML		AML	16 42 37.0	
comp=E,13nm,0.8s								
IGDI	**IGDIR**	**1.21**	**329**	P		**Pn**	**16 42 12.4**	**0.0**
IGDI				S		**Sg**	**16 42 26.7**	**-1.6**
IGDI				*i* AML		AML	16 42 29.0	

	comp=E,20nm,0.2s								
IGDI				*i* AML	AML	16 42 30.0			
	comp=N,20nm,0.3s								
DORK	**Agr/Tutak/Do**	**1.74**	**289**	P	**Pg**	**16 42 22.8**	**+0.2**		
DORK				S	**Sg**	**16 42 46.8**	**+1.6**		
DORK				*i* AML	AML	16 42 52.0			
	comp=N,7.2nm,0.8s								
IHRS	**Heris**	**1.76**	**106**	Pn	**Pg**	**16 42 23.9**	**+1.0**		
GDB	**GEDABAY**	**2.00**	**19**	Pn	**Pg**	**16 42 26.6**	**-0.9**		
GDB				Sn	**Sg**	**16 42 52.6**	**-0.8**		
GANJ	**Ganja**	**2.11**	**31**	Pn	**Pg**	**16 42 29.6**	**-0.2**		
GANJ				Sn	**Sb**	**16 42 55.3**	**+1.2**		
QZX	**Qazax, Azerbai**	**2.25**	**9**	Pn	**Pb**	**16 42 30.5**	**+0.5**		
QZX				Sn	**Sb**	**16 42 58.4**	**+0.5**		
YRD	**Yardimli**	**2.61**	**87**	Pn	**Pg**	**16 42 38.5**	**-0.7**		
YRD				Sn	**Sg**	**16 43 13.3**	**+0.2**		
VSHL	**Vashlovani**	**2.65**	**25**	P	**Pg**	**16 42 40.0**	**-0.1**		
VSHL				S	**Sg**	**16 43 17.6**	**+3.1**		
LRK	**Lerik**	**2.70**	**93**	Pn	**Pg**	**16 42 40.4**	**-0.6**		
LRK				Sn	**Sg**	**16 43 15.9**	**-0.1**		

*IDC **10** 16:44:37.5±0.9, 30°.10S×60°.78E, h0km, mb3.9/10, mbtmp3.9/10, MS3.2/2, Error ellipse: s-maj=30.3km s-min=22.6km az=59.0*

ISC 10 16:44:39.1±0.9, 30°.1S±0°.2×60°.8E±0°.2, h10km, n19, σ0$69/11, mb4.0/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**17.51**	**201**	T		T		17 06 57.5	
	baz=27,slow=74,SNR=144								
H04N1	**CROZET ISLANDS**	**17.51**	**201**	T		T		17 06 51.7	
	baz=27,slow=74,SNR=163								
H04N3	**CROZET ISLANDS**	**17.52**	**201**	T		T		17 06 55.2	
	baz=27,slow=74,SNR=151								
KMBO	**Kilima Mbogo**	**36.45**	**318**	LR		LR		17 05 42.6	
	comp=Z,30nm,18.0s,baz=92,slow=35								
TSUM	**Tsumeb**	**40.50**	**275**	LR		LR		17 07 09.7	
	comp=Z,37nm,20.1s,baz=134,slow=33								
H01W2	**Cape Leeuwin H**	**44.84**	**111**	T		T		17 40 48.8	
	baz=260,slow=75,SNR=4.5								
H01W3	**Cape Leeuwin H**	**44.84**	**111**	T		T		17 40 46.9	
	baz=260,slow=75,SNR=3.7								
H01W1	**Cape Leeuwin H**	**44.85**	**111**	T		T		17 40 45.2	
	baz=260,slow=75,SNR=3.9								
QSPA	**South Pole Qui**	**60.07**	**180**	P		**P**	**16 54 46.6**	**+0.4**	
	1.0nm,0.8s,baz=246,slow=3.5,SNR=8.2								
	1.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**60.68**	**42**	P		**P**	**16 54 51.5**	**+0.7**	
	2.5nm,0.9s,baz=231,slow=7.0,SNR=18								
	2.5nm,0.9s								
ASAR	**Alice Springs**	**64.56**	**104**	P		**P**	**16 55 16.4**	**-0.5**	
	1.5nm,0.7s,baz=244,slow=6.2,SNR=28								
	1.5nm,0.7s								
WRA	**Warramunga Arr**	**66.44**	**100**	P		**P**	**16 55 29.0**	**0.0**	
	2.9nm,1.0s,baz=244,slow=5.9,SNR=14								
	2.9nm,1.0s								
STKA	**Stephens Creek**	**67.69**	**115**	P		**P**	**16 55 36.7**	**-0.1**	
	1.2nm,0.7s,baz=275,slow=7.8,SNR=3.4								
	1.2nm,0.7s								
TORD	**Torodi Ar. Bea**	**71.26**	**298**	P		**P**	**16 55 58.9**	**-0.1**	
	0.6nm,0.7s,baz=112,slow=5.2,SNR=4.6								
	0.6nm,0.7s								
MKAR	**Makanchi Array**	**78.96**	**15**	P		**P**	**16 56 43.1**	**+0.3**	
	0.4nm,0.8s,baz=172,slow=4.2,SNR=2.4								
	0.4nm,0.8s								
KURBB	**Kurchatov Arra**	**81.89**	**11**	P		**P**	**16 56 58.5**	**+0.2**	
	0.6nm,0.8s,baz=206,slow=6.0,SNR=5.7								
	0.6nm,0.8s								
BVAR	**Borovoye Array**	**83.19**	**6**	P		**P**	**16 57 05.9**	**+0.8**	
	0.4nm,0.7s,baz=234,slow=5.0,SNR=2.7								
	0.4nm,0.7s								
ZALV	**Zalesovo Beam**	**86.25**	**14**	P		**P**	**16 57 19.1**	**-1.4**	
	0.8nm,0.6s,baz=205,slow=7.1,SNR=4.4								
	0.8nm,0.6s								
YKA	**Yellowknife Ar**	**147.45**	**356**	PKPbc		**PKPbc**	**17 04 22.1**	**-0.5**	
	0.9nm,0.7s,baz=356,slow=2.8,SNR=15								

*RHSSO **10** 16:53:25.2±0.5, 42°.59N×20°.04E, h7km±2km, ML2.5/14*
*TIR **10** 16:53:25.4, 42°.64N×19°.87E, h17km, Ml2.5*
*PDG **10** 16:53:27.1±0.1, 42°.62N×19°.84E, h3km±1km, MD2.5/1, ML2.4/12, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **10** 16:53:27.5±0.3, 42°.65N×19°.90E, h5km±4km, ML2.2/12*

ISC 10 16:53:26.8±0.9, 42°.65N±0°.01×19°.89E±0°.02, h7km±6km, n62, σ0$93/115, 14C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.07**	**135**	⇑*i*Pg		**Pg**	**16 53 28.7**	**-0.1**	
PVY				*i* Sg		**Sg**	**16 53 29.9**	**-0.4**	
IVA	**Berane**	**0.23**	**0**	⇓*i*Pg		**Pg**	**16 53 31.7**	**+0.3**	
IVA				*i* Sg		**Sg**	**16 53 35.6**	**+1.1**	
BCI	**Bajram Curri**	**0.31**	**155**	P		**Pg**	**16 53 32.3**	**-0.6**	
	baz=151								
BCI				S		**Sg**	**16 53 36.5**	**-0.4**	
	baz=151								
BCI				AMP					
	comp=E,8.0nm,0.2s,baz=151								
KOME	**Kolasin**	**0.34**	**307**	⇑*i*Pg		**Pg**	**16 53 33.4**	**-0.2**	
KOME				*i* Sg		**Sg**	**16 53 38.5**	**+0.3**	
PUK	**Puka**	**0.60**	**180**	P		**Pg**	**16 53 37.8**	**-0.6**	
	baz=178								
PUK				S		**Sg**	**16 53 46.8**	**+0.5**	
	baz=178								
PUK				AMP					
	comp=E,1.2nm,0.4s,baz=178								
SJES	**Sjenica**	**0.62**	**6**	*e*Pg		**Pg**	**16 53 38.7**	**-0.1**	
SJES				*e*Sg		**Sg**	**16 53 47.3**	**+0.4**	
SJES	**Sjenica**	**0.62**	**6**	⇓*i*Pg		**Pg**	**16 53 37.5**	**-1.3**	
SJES				*e*Sg		**Sg**	**16 53 47.4**	**+0.5**	
DRME	**Dracevica, Mon**	**0.69**	**229**	⇑*i*Pg		**Pg**	**16 53 39.0**	**-1.2**	
DRME				*i* Sg		**Sg**	**16 53 49.2**	**0.0**	
DRME	**Dracevica, Mon**	**0.69**	**229**	⇑*i*Pg		**Pg**	**16 53 38.5**	**-1.7**	
DRME				*e*Sg		**Sg**	**16 53 50.1**	**+0.9**	
NKME	**Niksic**	**0.70**	**280**	⇑*i*Pg		**Pg**	**16 53 39.4**	**-0.9**	
NKME				*i* Sg		**Sg**	**16 53 49.7**	**+0.2**	
CEME	**Cevo**	**0.72**	**263**	⇓*i*Pg		**Pg**	**16 53 39.3**	**-1.5**	
CEME				*i* Sg		**Sg**	**16 53 50.2**	**0.0**	
PLE	**Pljevlja**	**0.78**	**332**	⇑*i*Pg		**Pg**	**16 53 41.1**	**-0.7**	
PLE				*i* Sg		**Sb**	**16 53 54.0**	**+0.5**	
BUM	**Brajici-Budva**	**0.81**	**245**	⇑*i*Pg		**Pg**	**16 53 41.4**	**-1.1**	
BUM				*i* Sg		**Sg**	**16 53 53.7**	**+0.7**	
ULC	**Ulcinj**	**0.83**	**215**	⇑*i*Pg		**Pg**	**16 53 41.9**	**-0.9**	
ULC				*i* Sg		**Sg**	**16 53 54.5**	**+0.9**	
UPM	**Unac-Piva**	**0.91**	**308**	⇑*i*Pg		**Pg**	**16 53 43.6**	**-0.8**	
UPM				*i* Sg		**Sb**	**16 53 57.8**	**+0.3**	
UPM	**Unac-Piva**	**0.91**	**308**	⇑*i*Pg		**Pg**	**16 53 43.7**	**-0.7**	
UPM				*e*Sg		**Sb**	**16 53 58.3**	**+0.8**	
IVAS	**Ivanjica**	**0.95**	**12**	*e*Pg		**Pg**	**16 53 44.1**	**-1.0**	
IVAS				*e*Sg		**Sg**	**16 53 56.7**	**-0.8**	
BRY	**Bratogost**	**1.03**	**285**	⇑*i*Pg		**Pg**	**16 53 45.6**	**-1.0**	
BRY				*i* Sg		**Sb**	**16 54 01.4**	**+0.4**	
BRY	**Bratogost**	**1.03**	**285**	⇑*i*Pg		**Pg**	**16 53 45.6**	**-1.0**	
BRY				*e*Sg		**Sb**	**16 54 01.5**	**+0.8**	
PHP	**Peshkopia**	**1.04**	**157**	P		**Pg**	**16 53 45.5**	**-1.3**	
	baz=155								
PHP				S		**Sb**	**16 54 00.9**	**-0.1**	
	baz=155								
PHP				AMP					
	comp=N,0.5nm,0.4s,baz=155								
RUDO	**Rudo**	**1.04**	**339**	*e*Pg		**Pg**	**16 53 44.8**	**-2.1**	
RUDO				*e*Sg		**Sg**	**16 54 01.1**	**+0.6**	
HCY	**Herceg Novi**	**1.05**	**260**	⇑*i*Pg		**Pg**	**16 53 45.5**	**-1.5**	
HCY				*i* Sg		**Sb**	**16 54 02.0**	**+0.7**	
HCY	**Herceg Novi**	**1.05**	**260**	⇑*i*Pg		**Pg**	**16 53 45.4**	**-1.5**	
HCY				*e*Sg		**Sb**	**16 54 01.6**	**+0.3**	
SELS	**Selova**	**1.07**	**57**	*e*Pg		**Pg**	**16 53 46.2**	**-1.1**	
SELS				*e*Sg		**Sg**	**16 54 01.0**	**-0.2**	
KLINJ	**Klinje**	**1.09**	**299**	*e*Pg		**Pg**	**16 53 46.5**	**-1.3**	
KLINJ				*e*Sg		**Sb**	**16 54 03.8**	**+1.2**	
TREB	**Trebinje**	**1.14**	**274**	*e*Pg		**Pg**	**16 53 47.4**	**-1.3**	
TREB				*e*Sg		**Sg**	**16 54 03.2**	**-0.2**	
TREB	**Trebinje**	**1.14**	**274**	*e*Pg		**Pg**	**16 53 47.4**	**-1.3**	
TREB				*e*Sg		**Sn**	**16 54 05.4**	**+0.4**	
BBLS	**Lazi?i**	**1.27**	**344**	*e*Pg		**Pn**	**16 53 49.5**	**-1.5**	
BBLS				*e*Sg		**Sb**	**16 54 08.4**	**+0.7**	
BBLS	**Lazi?i**	**1.27**	**344**	⇓*i*Pg		**Pn**	**16 53 49.9**	**-1.1**	
BBLS				*e*Sg		**Sb**	**16 54 08.3**	**+0.6**	
TIR	**Tirane**	**1.30**	**181**	P		**Pn**	**16 53 50.8**	**-0.5**	
	baz=181								
TIR				S		**Sn**	**16 54 09.2**	**+0.4**	
	baz=181								
SKO	**Skopje**	**1.33**	**120**	*e*Pg		**Pn**	**16 53 51.4**	**-0.4**	
SKO	**Skopje**	**1.33**	**120**	*i* Pn		**Pb**	**16 53 52.2**	**+0.1**	
GRUS	**Gruza**	**1.38**	**26**	*e*Pg		**Pn**	**16 53 52.6**	**+0.1**	
GRUS				*e*Sg		**Sg**	**16 54 11.8**	**+0.6**	
BARS	**Barje**	**1.43**	**82**	*e*Pg		**Pn**	**16 53 53.3**	**+0.2**	
BARS				*e*Sg		**Sg**	**16 54 12.7**	**0.0**	
DIVS	**Divibare**	**1.46**	**3**	*e*Pg		**Pn**	**16 53 53.8**	**+0.2**	
DIVS				*e*Sg		**Sb**	**16 54 13.6**	**+0.6**	
NEVS	**Nevesinje**	**1.47**	**297**	*e*Pn		**Pn**	**16 53 53.4**	**-0.3**	
NEVS				*e*Sn		**Sg**	**16 54 15.1**	**+1.1**	
HAPS	**Han Pijesak,Bl**	**1.60**	**335**	*e*Pg		**Pn**	**16 53 55.5**	**0.0**	
HAPS				*e*Sg		**Sg**	**16 54 19.1**	**+1.0**	
HAPS	**Han Pijesak,Bl**	**1.60**	**335**	*e*Pn		**Pn**	**16 53 55.1**	**-0.4**	
HAPS				*e*Sn		**Sn**	**16 54 16.7**	**+0.3**	
PRVS	**Prvonek**	**1.62**	**94**	*e*Pn		**Pb**	**16 53 55.8**	**0.0**	
TRUS	**Trudelj**	**1.62**	**13**	*e*Pg		**Pb**	**16 53 57.4**	**+0.3**	
STON	**Ston**	**1.63**	**279**	*e*Pg		**Pn**	**16 53 56.1**	**+0.3**	
STON				*e*Sg		**Sg**	**16 54 20.0**	**+0.8**	
STON	**Ston**	**1.63**	**279**	*e*Pn		**Pn**	**16 53 56.5**	**+0.6**	
STON				Sg		**Sg**	**16 54 20.4**	**+1.3**	
STON	**Ston**	**1.63**	**279**	*e*Pn		**Pn**	**16 53 56.1**	**+0.3**	
STON				*e*Sn		**Sb**	**16 54 18.3**	**+0.4**	
BOVS	**Bovan**	**1.66**	**53**	*e*Pn		**Pb**	**16 53 57.9**	**+0.3**	
BOVS				*e*Sg		**Sb**	**16 54 18.7**	**0.0**	
OHR	**Ohrid**	**1.68**	**156**	*e*Pg		**Pb**	**16 53 58.3**	**+0.3**	
OHR				*e*Sg		**Sg**	**16 54 21.1**	**+0.5**	
OHR	**Ohrid**	**1.68**	**156**	*i* Pn		**Pb**	**16 53 58.6**	**+0.7**	
TEKS	**Tekeris**	**1.92**	**352**	*e*Pn		**Pb**	**16 54 01.5**	**-0.7**	
TEKS	**Tekeris**	**1.92**	**352**	*e*Pn		**Pn**	**16 53 59.7**	**-0.2**	
TEKS				*e*Sn		**Sn**	**16 54 24.7**	**+0.3**	
STIP	**Stip**	**1.95**	**118**	*i* Pn		**Pb**	**16 54 01.9**	**-0.8**	
ZAGS	**Zajecar**	**2.07**	**55**	*e*Pn		**Pn**	**16 54 01.6**	**-0.4**	
ZAPS	**Zavoj**	**2.11**	**72**	*e*Pn		**Pn**	**16 54 02.6**	**-0.1**	
FNA	**Florina**	**2.17**	**149**	P		**Pn**	**16 54 04.9**	**+1.5**	
	baz=148								
FNA				S		**Sb**	**16 54 33.9**	**+0.5**	
	baz=148								
RICI	**Ricice**	**2.19**	**294**	*e*Pn		**Pb**	**16 54 06.3**	**-0.4**	
RICI				Sn		**Sg**	**16 54 36.9**	**-0.3**	
MAKA	**Makarska**	**2.20**	**288**	*e*Pn		**Pb**	**16 54 06.4**	**-0.5**	
MAKA				Sn		**Sg**	**16 54 36.7**	**-0.9**	
LSTV	**Lastovo**	**2.21**	**274**	*e*Pn		**Pn**	**16 54 05.4**	**+1.5**	
LSTV				Sn		**Sb**	**16 54 35.0**	**+0.3**	
FRGS	**Fruska Gora**	**2.51**	**359**	*e*Pn		**Pn**	**16 54 07.6**	**-0.5**	
FRGS				*e*Sn		**Sn**	**16 54 39.0**	**+0.1**	
NOCI	**Noci**	**2.81**	**230**	P		**Pn**	**16 54 13.8**	**+1.6**	
	baz=230								
NOCI				S		**Sb**	**16 54 49.8**	**-2.2**	
	baz=230								
BLY	**Banja Luka**	**2.88**	**318**	*e*Pn		**Pn**	**16 54 13.2**	**+0.2**	
BLY				*e*Sn		**Sn**	**16 54 49.2**	**+1.3**	
KIJV	**Kijevo**	**2.88**	**299**	*e*Pn		**Pb**	**16 54 16.8**	**-1.8**	
KIJV				Sn		**Sb**	**16 54 54.5**	**+0.5**	
A050A	**Klekovaca**	**3.06**	**308**	*e*Pn		**Pn**	**16 54 15.8**	**+0.2**	
A050A				*e*Sn		**Sn**	**16 54 53.4**	**+1.0**	
A051A	**Mrakovica**	**3.20**	**319**	*e*Pn		**Pn**	**16 54 17.4**	**-0.2**	
A051A				*e*Sn		**Sn**	**16 54 57.1**	**+1.1**	
MORI	**Morici**	**3.29**	**293**	*e*Pn		**Pn**	**16 54 22.1**	**+3.5**	
MORI				Sn		**Sb**	**16 55 03.3**	**-2.4**	

*TEH **10** 17:10:51.7, 36°.76N×57°.44E, h6km±100km, ML4.0*
*IDC **10** 17:10:53.6±0.8, 30°.78N×57°.22E, h0km, mb3.8/13, mbtmp3.7/19, ML3.6/6, MS3.1/3, Error ellipse: s-maj=18.4km s-min=15.4km az=180.0*

ISC 10 17:10:53.5±0.5, 30.74N±0°.03×57°.45E±0°.03, h10km, n68, σ2$97/64, mb3.7/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.28**	**213**	Pg		**Pb**		**17 10 58.7**	**-2.2**
ZRDN	**Zarand Kerman**	**0.82**	**286**	Pg		**Pb**		**17 11 08.6**	**-1.5**
CHMN	**Cheshme madani**	**0.88**	**175**	Pg		**Pn**		**17 11 10.3**	**-2.0**
KHGB	**Koh Gabri**	**0.92**	**247**	Pg		**Pb**		**17 11 10.0**	**-1.7**
TVBK	**TV Kerman**	**0.96**	**219**	Pg		**Pn**		**17 11 12.0**	**-1.4**
NGRK	**Negar Kerman**	**1.26**	**210**	Pg		**Pg**		**17 11 17.5**	**-0.3**
KBAM	**BAM**	**1.82**	**151**	Pn		**Pg**		**17 11 26.5**	**-2.0**
IBAF	**Bafgh**	**1.82**	**298**	Pg		**Pg**		**17 11 26.4**	**-2.1**
BSRN	**Basiran**	**1.88**	**49**	Pn		**Pg**		**17 11 27.2**	**-2.5**
IKOO	**Kooshah**	**2.14**	**38**	Pn		**Pb**		**17 11 31.1**	**-1.4**
NHDN	**Nehbandan**	**2.32**	**73**	Pn		**Pb**		**17 11 34.2**	**-1.5**
TPRV	**Parvadeh(Tabas**	**2.37**	**344**	Pn		**Pb**		**17 11 34.4**	**-2.1**
ITEG	**Tejag**	**2.42**	**27**	Pn		**Pb**		**17 11 34.8**	**-2.5**
IMEH	**Mehriz**	**2.52**	**286**	Pn		**Pb**		**17 11 36.1**	**-2.9**
IDAH	**Dahanechah**	**2.86**	**45**	Pn		**Pb**		**17 11 42.5**	**-2.4**
TKDS	**Koohdasht(Taba**	**2.88**	**355**	Pn		**Pb**		**17 11 41.0**	**-4.1**
AFRZ	**Afriz**	**2.99**	**26**	Pn		**Pb**		**17 11 43.0**	**-3.9**
ICHK	**Chekchek**	**3.00**	**301**	Pn		**Pb**		**17 11 42.8**	**-4.4**
ZHDN	**Zahedan**	**3.20**	**114**	Pn		**Pb**		**17 11 46.5**	**-4.2**
TNSJ	**Nastanj**	**3.29**	**348**	Pn		**Pn**		**17 11 46.4**	**+1.2**
ISAD	**Sadrabad**	**3.43**	**291**	Pn		**Pn**		**17 11 48.6**	**+1.3**
SHRT	**Shahrakht**	**3.77**	**39**	Pn		**Pn**		**17 11 53.9**	**+2.1**
ANAR	**Anarak**	**4.00**	**309**	Pn		**Pn**		**17 11 56.2**	**+1.2**
IRAM	**Ramesheh**	**4.47**	**285**	Pn		**Pn**		**17 12 03.3**	**+1.7**
IZEF	**Zefreh**	**4.86**	**298**	Pn		**Pn**		**17 12 08.6**	**+1.6**
JASK	**Jask - Hormozg**	**4.87**	**176**	Pn		**Pn**		17 12 10.2	+3.3
IGAR	**Gharneh**	**4.91**	**291**	Pn		**Pn**		**17 12 09.7**	**+2.1**
KLNJ	**Kolanjah**	**5.04**	**275**	Pn		**Pn**		**17 12 11.2**	**+1.6**
TBJM	**Torbat-e-JAM**	**5.12**	**27**	Pn		**Pn**		**17 12 12.7**	**+2.3**
IBRJ	**Brojen**	**5.42**	**284**	Pn		**Pn**		**17 12 16.7**	**+2.0**
SRVN	**Saravan**	**5.46**	**126**	Pn		**Pn**		17 12 18.9	+3.8
KRSH	**Karshahi**	**5.53**	**307**	Pn		**Pn**		**17 12 17.3**	**+1.2**
IMOG	**Moghan**	**5.58**	**16**	Pn		**Pn**		**17 12 19.0**	**+2.1**
SBZV	**Sabzevar**	**5.63**	**1**	Pn		**Pn**		**17 12 19.3**	**+1.7**
ISFB	**Sefidab**	**5.68**	**311**	Pn		**Pn**		**17 12 19.8**	**+1.7**
IPAY	**Payeh**	**5.84**	**12**	Pn		**Pn**		**17 12 23.0**	**+2.6**
IPIR	**Pirpir**	**5.92**	**291**	Pn		**Pn**		**17 12 23.3**	**+1.7**
IAKL	**Akhelmad**	**5.95**	**10**	Pn		**Pn**		**17 12 24.3**	**+2.4**
JHBN	**Jahan bin**	**5.98**	**286**	Pn		**Pn**		**17 12 24.0**	**+1.5**
IFIR	**Firoozkooh**	**6.28**	**322**	Pn		**Pn**		**17 12 27.5**	**+1.1**
ISFR	**Sfrayin**	**6.31**	**4**	Pn		**Pn**		**17 12 28.7**	**+1.7**
IVRN	**Varamin**	**6.42**	**313**	Pn		**Pn**		**17 12 30.2**	**+2.0**
IGLO	**Ghaloghah**	**6.49**	**333**	Pn		**Pn**		**17 12 30.9**	**+1.5**
IDMV	**Damavand**	**6.62**	**318**	Pn		**Pn**		**17 12 32.6**	**+1.4**
MRVT	**Maraveh tapeh**	**6.99**	**351**	Pn		**Pn**		**17 12 37.8**	**+1.7**
GEYT	**Alibeck**	**7.19**	**4**	Pn		**Pn**		**17 12 40.7**	**+1.9**
	0.2nm,0.3s,baz=224,slow=43,SNR=2.0								
GEYT				Sn		**Sn**		**17 14 01.9**	**+1.4**
	baz=11,slow=17								
	1.1nm,0.6s								
WSAR	**Wadi Sarin**	**7.55**	**172**	Pn		**Pn**		**17 12 46.5**	**+2.8**
	2.1nm,0.3s,baz=9.0,slow=6.8,SNR=16								
WSAR				Sn		**Sn**		**17 14 08.2**	**-1.1**
	baz=104,slow=13								
	8.1nm,0.5s								
KSH	**Kashi**	**17.47**	**55**	P		**P**		**17 14 56.9**	**-1.8**
KSH				pP		sP		17 15 01.4	-1.6
ASF	**Jabal al Asfar**	**17.60**	**280**	P		**P**		**17 14 58.1**	**-1.9**
	0.3nm,0.3s,baz=67,slow=23,SNR=2.3								
	1.2nm,0.4s								
AAK	**Ala-Archa**	**18.07**	**44**	P		**P**		**17 15 07.4**	**+2.2**
	0.1nm,0.3s,baz=227,slow=10,SNR=4.1								
	1.1nm,0.7s								
MMAI	**Mount Meron Ar**	**18.86**	**283**	P		**Pn**		**17 15 13.7**	**-0.7**
	0.4nm,0.3s,baz=92,slow=16,SNR=1.8								
MMAI				LR		LR		17 24 03.3	
	comp=Z,36nm,20.0s,baz=73,slow=42								
	0.2nm,0.3s								
EIL	**Elat**	**19.48**	**273**	LR		LR		17 24 10.9	
	comp=Z,52nm,19.4s,baz=270,slow=41								
AKTO	**Aktyubinsk**	**19.68**	**1**	P		**Pn**		**17 15 24.5**	**+0.5**
	0.1nm,0.3s,baz=177,slow=7.4,SNR=8.9								
	2.6nm,1.0s								
BRTR	**Keskin Array B**	**21.37**	**301**	P		**P**		**17 15 42.1**	**+0.9**
	2.4nm,0.8s,baz=117,slow=13,SNR=9.2								
	2.4nm,0.8s								
BVAR	**Borovoye Array**	**24.18**	**19**	P		**P**		**17 16 11.9**	**+1.9**
	1.4nm,0.9s,baz=193,slow=6.1,SNR=5.2								
	1.4nm,0.9s								
MKAR	**Makanchi Array**	**24.99**	**43**	P		**P**		**17 16 19.2**	**+1.8**
	0.6nm,0.7s,baz=236,slow=8.6,SNR=5.6								
	0.6nm,0.7s								
KURBB	**Kurchatov Arra**	**25.34**	**32**	P		**P**		**17 16 22.3**	**+1.9**
	0.6nm,0.6s,baz=233,slow=9.3,SNR=7.8								
	0.6nm,0.6s								
AKASG	**Malin Array Be**	**28.96**	**322**	P		**P**		**17 16 53.9**	**+0.9**
	0.7nm,0.6s,baz=126,slow=8.6,SNR=4.2								
	0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**30.43**	**32**	P		**P**		**17 17 07.4**	**+1.5**
	1.3nm,0.6s,baz=232,slow=10,SNR=8.1								
	1.3nm,0.6s								
PALK	**Pallekele**	**31.93**	**132**	LR		LR		17 31 13.4	
	comp=Z,49nm,18.7s,baz=92,slow=38								
FINES	**FINESS Array B**	**36.94**	**335**	P		**P**		**17 18 02.9**	**+0.5**
	0.9nm,0.6s,baz=126,slow=9.7,SNR=5.9								
	0.9nm,0.6s								
GERES	**GERESS Array B**	**37.56**	**311**	P		**P**		**17 18 08.6**	**+0.5**
	1.5nm,0.7s,baz=98,slow=9.6,SNR=8.5								
	1.5nm,0.7s								
CLL	**Collm**	**38.58**	**315**	*e*Px		Px		17 18 18.0	
CMAR	**Chiang Mai Arr**	**39.45**	**98**	P		P		17 18 28.4	+4.3
	0.4nm,0.8s,baz=302,slow=12,SNR=5.3								
	0.4nm,0.8s								
ESDC	**Sonseca Array**	**50.11**	**298**	P		**P**		**17 19 47.8**	**-1.1**
	0.6nm,0.7s,baz=70,slow=7.8,SNR=1.8								
	0.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**54.06**	**264**	P		**P**		**17 20 17.6**	**-1.0**
	2.5nm,0.7s,baz=53,slow=8.1,SNR=21								
	2.5nm,0.7s								
WRA	**Warramunga Arr**	**89.35**	**114**	P		**P**		**17 23 52.9**	**+2.2**
	0.8nm,1.1s,baz=316,slow=4.1,SNR=2.0								
	0.8nm,1.1s								
ASAR	**Alice Springs**	**91.04**	**117**	P		**P**		**17 24 01.4**	**+2.9**
	1.3nm,1.1s,baz=297,slow=5.2,SNR=4.3								
	1.3nm,1.1s								

*NEIC **10** 17:22:12.8±1.3, 6°.3S±0°.1×149°.9E±0°.1, h37km±9km, mb4.0/12, Error ellipse: s-maj=29.3km s-min=2.7km az=135.0*
*IDC **10** 17:22:14.3±1.4, 6°.25S×149°.89E, h71km±23km, mb3.2/2, mbtmp3.8/3, Error ellipse: s-maj=100.3km s-min=8.7km az=133.0*

ISC 10 17:22:11.9±0.9, 6°.2S±0°.2×149°.9E±0°.2, h35km, n24, σ1$40/27, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.86**	**48**	P		**Pn**		**17 22 56.2**	**+1.0**
KRVT				S		**Sn**		**17 23 32.3**	**+3.9**
RABL	**Rabaul**	**3.04**	**48**			**Pn**		**17 22 57.7**	**+0.1**
PMG	**Port Moresby**	**4.15**	**220**			**Pn**		**17 23 14.5**	**+1.6**
PMG				Sn		**Sn**		**17 24 00.6**	**+0.4**
PMG	**Port Moresby**	**4.15**	**220**	P		**Pn**		**17 23 14.0**	**+1.1**
	28nm,0.3s,baz=40,slow=13,SNR=56								
PMG				S		**Sn**		**17 24 03.5**	**+3.2**
	68nm,0.3

PET	**Petropavlovsk**	**6.38**	**46**	*eP*		**Pn**	**17 31 49.5**	**+1.1**
PET	**Petropavlovsk**	**6.38**	**46**	*eP*		**Pn**	**17 31 49.5**	**+1.1**
DALK	**Dalny**	**6.43**	**46**	PN		**Pn**	**17 31 50.4**	**+1.4**
DALK				S		**S**	**17 33 02.3**	**-3.1**
DALK	**Dalny**	**6.43**	**46**	*eP*		**Pn**	**17 31 50.4**	**+1.4**
DALK				*eS*		**S**	**17 33 02.3**	**-3.1**
DALK	**Dalny**	**6.43**	**46**	*eP*		**Pn**	**17 31 50.4**	**+1.4**
KOK	**Koryaka**	**6.54**	**44**	PN		**Pn**	**17 31 52.3**	**+1.8**
KOK	**Koryaka**	**6.54**	**44**	*eP*		**Pn**	**17 31 52.3**	**+1.8**
KOK	**Koryaka**	**6.54**	**44**	*eP*		**Pn**	**17 31 52.3**	**+1.8**
AVH	**Avacha**	**6.57**	**44**	PN		**Pn**	**17 31 53.9**	**+3.1**
AVH	**Avacha**	**6.57**	**44**	*eP*		**Pn**	**17 31 53.9**	**+3.1**
AVH	**Avacha**	**6.57**	**44**	*eP*		**Pn**	**17 31 53.9**	**+3.1**
UGLR	**Uglovaya**	**6.57**	**45**	PN		**Pn**	**17 31 53.1**	**+2.2**
UGLR	**Uglovaya**	**6.57**	**45**	*eP*		**Pn**	**17 31 53.1**	**+2.2**
NMR	**Nemuro--Hokkai**	**6.59**	**217**	*e*PN		**Pn**	**17 31 50.3**	**-0.9**
NMR	**Nemuro--Hokkai**	**6.59**	**217**	*eP*		**Pn**	**17 31 51.0**	**-0.2**
SPN	**Mys Shipunski**	**7.09**	**49**	PN		**Pn**	**17 31 56.1**	**-0.9**
SPN	**Mys Shipunski**	**7.09**	**49**	*eP*		**Pn**	**17 31 56.1**	**-0.9**
SPN	**Mys Shipunski**	**7.09**	**49**	*eP*		**Pn**	**17 31 56.1**	**-0.9**
AKK	**Akkeshi**	**7.24**	**219**	*eP*		**Pn**	**17 31 59.3**	**+0.2**
ASAJ	**Asahikawa**	**7.51**	**235**	PN		**Pn**	**17 32 06.0**	**+3.7**
ASAJ	**Asahikawa**	**7.51**	**235**	P		**Pn**	**17 32 06.0**	**+3.7**
	comp=Z,18nm,0.9s,baz=64,slow=16,SNR=8.5							
KBG	**Krutoberegovo**	**10.27**	**39**	*eP*		**Pn**	**17 32 36.0**	**+0.3**
MA2	**Magadan**	**10.80**	**359**	P		**Pn**	**17 32 41.5**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=182,slow=11,SNR=4.5							
KLR	**Kul'dur**	**12.71**	**279**	P		**P**	**17 33 06.8**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=83,slow=9.8,SNR=15							
USRK	**Ussuriysk Ar.**	**13.94**	**258**	P		**P**	**17 33 19.7**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=62,slow=14,SNR=5.8							
SEY	**Seymchan**	**14.19**	**2**	P		**Pn**	**17 33 23.0**	**+0.2**
SEY	**Seymchan**	**14.19**	**2**	P		**Pn**	**17 33 22.9**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=183,slow=9.7,SNR=15							
SEY	**Seymchan**	**14.19**	**2**	*eP*		**Pn**	**17 33 23.0**	**+0.2**
MJAR	**Matsushiro Arr**	**15.46**	**222**	P		**Pn**	**17 33 40.2**	**+2.0**
	comp=Z,2.9nm,0.3s,baz=18,slow=12,SNR=21							
YAK	**Yakutsk**	**17.86**	**326**	P		**P**	**17 34 02.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=118,slow=2.8,SNR=7.5							
KSRS	**Korea Array**	**20.28**	**245**	P		**P**	**17 34 29.3**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=37,slow=9.2,SNR=4.1							
	comp=Z,1.0nm,0.6s							
ILAR	**Eielson Array**	**35.83**	**40**	P		**P**	**17 36 45.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=282,slow=11,SNR=14							
	comp=Z,1.1nm,0.7s							
MKAR	**Makanchi Array**	**44.82**	**295**	P		**P**	**17 37 57.2**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=68,slow=8.0,SNR=3.0							
	comp=Z,0.2nm,0.4s							
KURK	**Kurchatov**	**45.12**	**301**	P		**P**	**17 38 00.0**	**-0.7**
KURK	**Kurchatov**	**45.12**	**301**	*eP*		**P**	**17 38 00.0**	**-0.7**
KURBB	**Kurchatov Arra**	**45.21**	**301**	P		**P**	**17 37 60.0**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=71,slow=8.6,SNR=2.0							
	comp=Z,0.2nm,0.5s							
BVAR	**Borovoye Array**	**48.52**	**307**	P		**P**	**17 38 25.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=53,slow=9.8,SNR=3.9							
	comp=Z,0.4nm,0.3s							
YKA	**Yellowknife Ar**	**50.10**	**37**	P		**P**	**17 38 38.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=301,slow=7.4,SNR=8.6							
	comp=Z,0.5nm,0.6s							
FINES	**FINESS Array B**	**61.60**	**333**	P		**P**	**17 39 57.7**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=37,slow=8.5,SNR=10.0							
	comp=Z,0.5nm,0.3s							
HFS	**Hagfors**	**66.05**	**338**	P		**P**	**17 40 26.2**	**-2.2**
	comp=Z,1.7nm,0.6s,baz=70,slow=4.7,SNR=6.4							
	comp=Z,1.7nm,0.6s							
WRA	**Warramunga Arr**	**70.05**	**197**	P		**P**	**17 40 54.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=7.5,slow=6.1,SNR=6.9							
	comp=Z,0.6nm,0.6s							
ASAR	**Alice Springs**	**73.76**	**196**	P		**P**	**17 41 16.6**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=9.8,slow=5.6,SNR=21							
	comp=Z,0.5nm,0.4s							

*IDC **10** 17:35:11.2±1.3,30.°68N×131.°95E,h0km,mb3.5/8, mbtmp3.6/12,ML3.4/4, Error ellipse: s-maj=28.5km s-min=22.1km az=134.0*
*JMA **10** 17:35:14.8±0.2,30.°7N±0.°5×13.°2E±.°,h52km±4km, MV3.2/29,E OFF TANEGASHIMA ISLAND*
ISC 10 17:35:12.5±3.5,30.°69N±0.°05×132.°06E±0.°07,h11km±21km, n22,σ1°08/32,mb3.5/8,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.94**	**268**	P	**Pn**	**17 35 32.0**	**+0.4**
JTN				S	**Sn**	**17 35 45.0**	**-0.1**
JMTN	**Minamitane**	**1.05**	**254**	P	**Pn**	**17 35 33.8**	**+0.6**
JMTN				S	**Sn**	**17 35 47.9**	**+0.1**
JNAR	**Kushima--Naru**	**1.08**	**321**	P	**Pn**	**17 35 33.8**	**+0.2**
JNAR				S	**Sn**	**17 35 47.9**	**-0.7**
JNKG	**Nichinankitago**	**1.13**	**329**	*eP*	**Pn**	**17 35 34.8**	**+0.4**
JNKG				S	**Sb**	**17 35 48.8**	**-0.1**
JYAK	**Yakushimahirau**	**1.42**	**252**	P	**Pb**	**17 35 38.7**	**-0.3**
JYAK				S	**Sn**	**17 35 56.5**	**-0.4**
JTZ	**Takazaki**	**1.47**	**326**	*eP*	**Pn**	**17 35 39.1**	**+0.1**
JTZ				S	**Sn**	**17 35 57.6**	**-0.7**
JTSN	**Tsuno**	**1.62**	**343**	*i* P	**Pn**	**17 35 41.3**	**+0.1**
JTSN				S	**Sn**	**17 36 00.6**	**-1.5**
JKC	**Kuchinoerabu**	**1.63**	**262**	P	**Pb**	**17 35 41.9**	**-0.7**
JKC				S	**Sb**	**17 36 02.7**	**-0.5**
JIU3	**Izumi3**	**2.14**	**330**	S	**Sn**	**17 36 15.0**	**+0.2**
UWA2	**Uwa jima 2**	**2.56**	**11**	S	**Sn**	**17 36 21.5**	**-3.8**
JNU	**Nakatsue**	**2.62**	**338**	Pn	**Pn**	**17 35 55.7**	**+0.7**
	9.5nm,0.3s,baz=308,slow=8.9,SNR=20						
JNU				Sn	**Sn**	**17 36 27.8**	**+1.0**
	16nm,0.3s,baz=122,slow=20,SNR=12						
	20nm,0.3s						
JOW	**Kunigami**	**5.08**	**222**	Pn	**Pn**	**17 36 29.5**	**+0.8**
	9.7nm,0.3s,baz=111,slow=21,SNR=8.3						
JOW				Sn	**Sn**	**17 37 25.0**	**-2.5**
	6.1nm,0.3s,baz=85,slow=28,SNR=2.1						
	21nm,0.3s						
MJAR	**Matsushiro Arr**	**7.76**	**40**	Pn	**Pn**	**17 37 06.9**	**+1.3**
	0.1nm,0.3s,baz=243,slow=14,SNR=6.0						
	1.7nm,0.8s						
KLR	**Kul'dur**	**18.52**	**359**	P	**P**	**17 39 29.3**	**+0.4**
	0.1nm,0.3s,baz=178,slow=8.9,SNR=5.5						
	2.6nm,0.8s						
SONM	**Songino Array**	**26.05**	**318**	P	**P**	**17 40 45.2**	**-0.8**
	0.4nm,0.9s,baz=113,slow=6.7,SNR=3.5						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**41.30**	**307**	P	**P**	**17 42 57.9**	**-0.2**
	0.3nm,0.8s,baz=103,slow=6.2,SNR=1.9						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**44.14**	**313**	P	**P**	**17 43 20.3**	**-0.8**
	0.5nm,0.8s,baz=96,slow=8.5,SNR=4.0						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**58.92**	**30**	P	**P**	**17 45 11.9**	**+0.6**
	0.4nm,0.7s,baz=290,slow=9.3,SNR=6.2						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**70.65**	**331**	P	**P**	**17 46 27.5**	**-0.4**
	1.6nm,1.0s,baz=51,slow=6.1,SNR=6.2						
	1.6nm,1.0s						
YKA	**Yellowknife Ar**	**73.06**	**26**	P	**P**	**17 46 43.3**	**+0.9**
	0.3nm,0.8s,baz=298,slow=5.7,SNR=5.1						
	0.3nm,0.8s						
GERES	**GERESS Array B**	**83.63**	**324**	P	**P**	**17 47 41.8**	**+0.6**
	0.3nm,0.4s,baz=28,slow=9.3,SNR=2.1						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**85.01**	**48**	P	**P**	**17 47 49.1**	**+0.5**
	0.3nm,0.5s,baz=282,slow=4.5,SNR=2.5						
	0.3nm,0.5s						

*DJA **10** 18:06:23.9±0.6,8.°S±2.°×11.°7E±.°,h11km±5km,M4.8/22, mb4.8/18,mB5.2/4,MLv4.8/22,Mw4.4/16,Mw(mB)4.6/4*
*NEIC **10** 18:06:26.4±2.6,7.°91S±0.°08×117.°40E±0.°07,h46km±8km, mb4.5/30,Error ellipse: s-maj=11.4km s-min=9.5km az=179.0*
*IDC **10** 18:06:31.6±2.0,7.°79S×117.°81E,h81km±18km,mb3.9/15, mbtmp4.2/16,MS3.5/12,Error ellipse: s-maj=16.1km s-min=9.3km az=56.0*
ISC 10 18:06:25.2±0.4,7.°96S±0.°03×117.°51E±0.°04,h35km,n119, σ2°08/118,mb4.5/28,MS3.5/9,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.90**	**163**	P	**Pn**	**18 06 42.7**	**+1.3**
PLAI	**Plampang**	**0.90**	**163**	P	**Pn**	**18 06 42.5**	**+1.1**
PLAI				S	**Sn**	**18 06 55.9**	**+2.7**
DBNI	**Kabupaten Domp**	**0.96**	**124**	P	**Pn**	**18 06 43.8**	**+1.6**
DBNI				S	**Sn**	**18 06 58.9**	**+4.2**
TWSI	**Taliwang, Sumb**	**0.99**	**219**	P	**Pn**	**18 06 42.3**	**-0.2**
TWSI				S	**Sn**	**18 06 55.7**	**+0.4**
SRBI	**Singaraja**	**2.27**	**267**	P	**Pn**	**18 06 59.7**	**-0.5**
DNP	**Denpasar**	**2.38**	**252**	P	**Pn**	**18 07 04.3**	**+2.6**
ABJI	**Asem Bagus**	**3.25**	**273**	P	**Pn**	**18 07 13.9**	**+0.3**
MKS	**Makassar**	**3.35**	**36**	P	**Pn**	**18 07 15.6**	**+0.5**
MKS				S	Sn	18 08 07.0	+13
JAGI	**Jajag, Banyuwa**	**3.36**	**261**	Pn	**Pn**	**18 07 14.6**	**-0.6**
JAGI	**Jajag, Banyuwa**	**3.36**	**261**	P	**Pn**	**18 07 14.8**	**-0.4**
KMMI	**Kalianget**	**3.62**	**284**	P	**Pn**	**18 07 19.7**	**+0.9**
KAPI	**Kappang**	**3.68**	**37**	Pn	**Pn**	**18 07 19.7**	**+0.1**
KAPI				Sn	**Sn**	**18 08 01.4**	**-0.4**
KAPI	**Kappang**	**3.68**	**37**	P	**Pn**	**18 07 20.1**	**+0.4**
	266nm,0.2s,baz=200,slow=3.5,SNR=582						
KAPI				S	**Sn**	**18 08 01.9**	**0.0**
	253nm,0.3s,baz=26,slow=23,SNR=17						
KAPI				LR	LR	18 08 58.1	
	comp=Z,588nm,21.8s,baz=188,slow=44						
BKSI	**Bulukumba**	**3.69**	**45**	P	**Pn**	**18 07 20.4**	**+0.6**
BKSI				S	**Sn**	**18 08 02.9**	**+0.8**
BASI	**Baing, Sumba**	**3.77**	**127**	P	**Pn**	**18 07 22.9**	**+2.0**
BLJI	**Banyuglugur**	**3.88**	**273**	P	**Pn**	**18 07 22.7**	**+0.4**
EDFI	**Ende, Flores**	**4.21**	**101**	P	**Pn**	**18 07 29.0**	**+1.9**
EDFI				S	**Sn**	**18 08 19.5**	**+4.3**
SPSI	**Sidrap Palu**	**4.57**	**30**	P	**Pn**	**18 07 32.1**	**+0.3**
SPSI				S	**Sn**	**18 08 21.1**	**-2.6**
PMSI	**Majene**	**4.65**	**18**	P	**Pn**	**18 07 32.9**	**-0.1**
MMRI	**Maumere**	**4.73**	**98**	Pn	**Pn**	**18 07 35.4**	**+1.3**
MMRI	**Maumere**	**4.73**	**98**	P	**Pn**	**18 07 35.8**	**+1.7**
MMRI	**Maumere**	**4.73**	**98**	P	**Pn**	**18 07 35.5**	**+1.4**
KRKI	**Karangkates**	**5.01**	**267**	P	**Pn**	**18 07 40.1**	**+2.2**
GRJI	**Gresik**	**5.09**	**281**	P	**Pn**	**18 07 38.7**	**-0.3**
	167nm,0.5s,1.0nm						
TTSI	**Tana Toraja**	**5.40**	**25**	P	**Pn**	**18 07 44.9**	**+1.6**
	76nm,0.8s,1μm0.8nm						
BBSI	**Bau Bau**	**5.60**	**64**	P	**Pn**	**18 07 49.2**	**+3.2**
	64nm,0.8s,0.3nm						
SJI	**Sawahan**	**5.69**	**272**	P	**Pn**	**18 07 48.8**	**+1.5**
	27nm,0.5s,0.3nm						
PKKI	**Palangkaraya**	**6.69**	**328**	P	**Pn**	**18 08 00.1**	**-0.8**
	184nm,0.9s,2μm0.8nm						
SOEI	**Soe**	**6.92**	**105**	Pn	**Pn**	**18 08 07.6**	**+3.4**
SOEI	**Soe**	**6.92**	**105**	P	**Pn**	**18 08 07.9**	**+3.7**
	91nm,0.7s,0.5nm						
UGM	**Wanagama**	**6.92**	**270**	Pn	**Pn**	**18 08 03.8**	**-0.3**
UGM	**Wanagama**	**6.92**	**270**	P	Pn	18 08 11.9	+7.8
UGM	**Wanagama**	**6.92**	**270**	P	**Pn**	**18 08 05.8**	**+1.7**
	343nm,1.7s,1.4nm						
MTKI	**Muara Teweh, K**	**7.44**	**339**	P	**Pn**	**18 08 09.9**	**-1.5**
	82nm,0.5s,2μm0.6nm						
KPJI	**Karang Pucung**	**8.52**	**274**	P	**Pn**	**18 08 29.5**	**+3.3**
	26nm,0.8s						
MPSI	**Mapaga**	**8.58**	**16**	P	**Pn**	**18 08 28.0**	**+1.0**
	8.0nm,0.9s						
CMJI	**Cimerak**	**8.97**	**271**	P	**Pn**	**18 08 34.4**	**+2.0**
	68nm,1.7s						
TOLI2	**Tolitoli**	**9.59**	**20**	Pn	**Pn**	**18 08 42.4**	**+1.6**
LEM	**Lembang**	**9.87**	**276**	P	Pn	18 08 55.3	+11
	24nm,0.7s,baz=18,slow=6.3,SNR=6.3						
LEM				LR	LR	18 13 13.8	
	comp=Z,447nm,18.4s,baz=66,slow=40						
SANI	**Sanana**	**10.29**	**56**	P	**Pn**	**18 08 50.6**	**+0.2**
	18nm,1.3s,1μm						
FITZ	**Fitzroy Crossi**	**12.81**	**143**	Pn	**Pn**	**18 09 25.5**	**+0.6**
KNRA	**Kununurra**	**13.42**	**126**		**Pn**	**18 09 33.3**	**+0.1**
KNRA				Sn	**Sn**	**18 11 57.0**	**-4.2**
KNRA	**Kununurra**	**13.42**	**126**	P	**Pn**	**18 09 33.0**	**-0.2**
	37nm,1.3s						
PSA00	**Pilbara Seismi**	**13.72**	**171**	Pn	**Pn**	**18 09 36.5**	**-0.8**
PSA00				Sn	**Sn**	**18 12 00.7**	**-7.8**
PSA00	**Pilbara Seismi**	**13.72**	**171**	Pn	**Pn**	**18 09 35.8**	**-1.5**
PSA00				Sn	Sn	18 11 56.7	-12
PSA00	**Pilbara Seismi**	**13.72**	**171**	P	**P**	**18 09 40.9**	**-4.6**
MTN	**Manton Dam**	**14.25**	**111**	Pn	**Pn**	**18 09 43.8**	**-0.8**
MTN				Sn	**Sn**	**18 12 16.2**	**-5.4**
MTN	**Manton Dam**	**14.25**	**111**	P	**Pn**	**18 09 44.7**	**+0.1**
GIRL	**Giralia**	**14.93**	**192**	Pn	**Pn**	**18 09 50.8**	**-3.0**
GIRL	**Giralia**	**14.93**	**192**	P	**P**	**18 09 58.6**	**-0.3**
SWI	**Sorong**	**15.41**	**63**	P	**P**	**18 10 03.2**	**-1.1**
	32nm,0.9s						
SIJI	**Sorong**	**15.42**	**63**	P	**P**	**18 10 04.7**	**+0.3**
	20nm,1.2s						
KDU	**Kakadu**	**15.45**	**109**	P	**Pn**	**18 10 02.1**	**+1.4**
FAKI	**Fak Fak**	**15.51**	**72**	Pn	**Pn**	**18 10 00.5**	**-0.9**
FAKI				IAmb	IAmb	18 10 13.7	
	comp=Z,41nm,0.9s						
FAKI	**Fak Fak**	**15.51**	**72**	P	**Pn**	**18 10 01.9**	**+0.5**
	comp=Z,53nm,0.8s						
DAV	**Davao City (W)**	**16.96**	**29**	LR	LR	18 17 25.1	
	comp=Z,138nm,18.4s,baz=209,slow=39						
MEEK	**Meekatharra**	**18.60**	**177**	P	**Pn**	**18 10 44.7**	**+4.6**
WRKA	**Warakurna**	**19.86**	**150**	P	**Pn**	**18 10 56.1**	**+0.9**
WB0	**Warramunga Arr**	**20.14**	**127**	P	**P**	**18 10 56.2**	**-0.2**
WB0				IAmb	IAmb	18 11 13.5	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**20.19**	**128**	P	**P**	**18 10 56.7**	**-0.4**
WRA	**Warramunga Arr**	**20.19**	**128**	P	Pn	18 10 58.1	-1.0
	comp=Z,4.4nm,0.7s,baz=302,slow=12,SNR=52						
WRA				S	**S**	**18 14 39.6**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=317,slow=22,SNR=1.9						
	comp=Z,4.4nm,0.7s						
WRAB	**Tennant Creek**	**20.20**	**128**	P	Pn	18 10 58.5	-0.6
WRAB				IAmb	IAmb	18 11 16.6	
	comp=Z,17nm,0.8s						
WB2	**Warramunga Arr**	**20.20**	**128**	P	Pn	18 10 58.0	-1.2
WB2				IAmb	IAmb	18 11 12.1	
	comp=Z,16nm,0.8s						
WR0	**Warramunga Arr**	**20.36**	**128**	P	Pn	18 11 00.2	-0.9
WR0				IAmb	IAmb	18 11 06.4	
	comp=Z,34nm,1.0s						
MORW	**Morawa**	**21.04**	**184**	P	**P**	**18 11 06.3**	**+0.2**
MORW	**Morawa**	**21.04**	**184**	P		18 11 11.6	
AS31	**Alice Springs**	**22.16**	**137**	P	**P**	**18 11 20.1**	**+1.9**
ASAR	**Alice Springs**	**22.16**	**137**	P	**P**	**18 11 19.2**	**+1.0**
ASAR	**Alice Springs**	**22.16**	**137**	P	**P**	**18 11 19.9**	**+1.6**
	comp=Z,5.5nm,0.7s,baz=313,slow=9.6,SNR=95						
ASAR				S	**S**	**18 15 19.4**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=308,slow=22,SNR=1.8						
	comp=Z,5.5nm,0.7s						
FORT	**Forrest**	**24.75**	**158**	P	**P**	**18 11 42.6**	**-0.9**
QIS	**Mount Isa**	**24.77**	**123**	P	**P**	**18 11 46.0**	**+2.1**
NWAO	**Narrogin (SRO)**	**24.84**	**181**	P	**P**	**18 11 43.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**24.84**	**181**	P	**P**	**18 11 48.1**	**+3.8**
	comp=Z,9.8nm,0.8s,baz=3.0,slow=12,SNR=2.3						
NWAO				LR	LR	18 21 30.5	
	comp=Z,96nm,21.7s,baz=30,slow=36						
	comp=Z,9.8nm,0.8s						
COEN	**Coen**	**25.88**	**106**	P	**P**	**18 11 54.4**	**+0.4**
OOD	**Oonadatta**	**26.17**	**141**	P	**P**	**18 11 59.1**	**+2.7**
PMG	**Port Moresby**	**29.34**	**95**	LR	LR	18 27 15.5	
	comp=Z,77nm,19.8s,baz=272,slow=43						
BBOO	**Buckleboo**	**30.12**	**148**	P	**P**	**18 12 31.8**	**+0.1**
BBOO				IAmb	IAmb	18 12 45.8	
	comp=Z,23nm,1.5s						
CTA	**Charters Tower**	**30.32**	**116**	LR	LR	18 26 36.0	
	comp=Z,192nm,20.1s,baz=282,slow=40						
CTAO	**Charters Tower**	**30.32**	**116**	P	**P**	**18 12 31.6**	**-2.1**
CTAO				IAmb	IAmb	18 12 53.1	
	comp=Z,16nm,1.2s						
CMAR	**Chiang Mai Arr**	**32.01**	**325**	P	**P**	**18 12 45.6**	**-2.9**
CMAR	**Chiang Mai Arr**	**32.01**	**325**	P	**P**	**18 12 50.2**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=150,slow=6.2,SNR=7.3						
CMAR				LR	LR	18 26 00.8	
	comp=Z,87nm,18.3s,baz=150,slow=36						
	comp=Z,1.0nm,0.9s						
STKA	**Stephens Creek**	**32.69**	**140**	P	**P**	**18 12 55.4**	**+1.1**
STKA	**Stephens Creek**	**32.69**	**140**	P	**P**	**18 12 56.2**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=303,slow=12,SNR=3.7						
STKA				LR	LR	18 28 00.0	
	comp=Z,50nm,19.5s,baz=24,slow=40						
	comp=Z,2.4nm,0.8s						
PZH	**PanZhiHua**	**37.52**	**336**	P	**P**	**18 13 39.9**	**+3.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PZH				pmax	pmax		
	comp=Z,120nm,4.5s						
NJ2	**Nanjing**	**39.81**	**2**	*eP*	**P**	**18 13 58.1**	**+3.0**
NJ2				pP	**sP**	**18 14 11.8**	**+2.8**
NJ2				sP	pwP	18 14 18.9	+14
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,380nm,4.3s						
SHL	**Shillong**	**41.62**	**324**	P	**P**	**18 14 07.9**	**-2.5**
SHL				IAmb	IAmb	18 14 23.0	
	comp=Z,7.4nm,0.9s						
LSA	**Lhasa**	**45.22**	**327**	P	**P**	**18 14 37.0**	**-2.7**
KSRS	**Korea Array**	**46.22**	**11**	LR	LR	18 35 49.9	
	comp=Z,20nm,19.9s,baz=25,slow=38						
MJAR	**Matsushiro Arr**	**48.35**	**22**	P	**P**	**18 15 02.6**	**-0.9**
	comp=Z,4.6nm,1.1s,baz=212,slow=6.6,SNR=4.1						
	comp=Z,4.6nm,1.1s						
HHC	**Hu-ho-hao-te**	**48.88**	**354**	*eP*	**P**	**18 15 09.4**	**+1.8**
HHC				pmax	pmax		
	comp=Z,27nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,4.5s						
DZM	**Mont Dzumac**	**49.09**	**112**	LR	LR	18 37 35.5	
	comp=Z,61nm,18.2s,baz=252,slow=38						
ULN	**Ulaanbaatar**	**56.35**	**352**	P	**P**	**18 16 02.3**	**-0.5**
SONM	**Songino Array**	**56.42**	**351**	P	**P**	**18 16 02.8**	**-0.5**
SONM	**Songino Array**	**56.42**	**351**	P	**P**	**18 16 03.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=167,slow=7.6,SNR=10						
	comp=Z,1.2nm,0.7s						
WMQ	**Urumqi**	**58.19**	**335**	*eP*	**P**	**18 16 18.8**	**+3.0**
HEH	**HeiHe**	**58.61**	**7**	*eP*	**P**	**18 16 19.9**	**+1.4**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSH	**Kashi**	**60.90**	**324**	P	P	18 16 43.3	+8.6
RTZ	**Ruatahuna**	**61.34**	**130**	P	**P**	**18 16 37.1**	**-0.6**
URZ	**Urewera**	**61.36**	**129**	LR	LR	18 44 18.2	
	comp=Z,78nm,18.4s,baz=121,slow=37						
MK31	**Makanchi Array**	**62.87**	**334**	P	**P**	**18 16 48.4**	**+0.7**
MK31				IAmb	IAmb	18 16 58.7	
	comp=Z,5.2nm,0.9s						
MKAR	**Makanchi Array**	**62.87**	**334**	P	**P**	**18 16 48.8**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=140,slow=7.8,SNR=31						
	comp=Z,3.2nm,0.7s						
MAKZ	**Makanchi**	**63.02**	**333**	P	**P**	**18 16 47.4**	**-1.2**
MAKZ				IAmb	IAmb	18 16 58.9	
	comp=Z,3.4nm,1.1s						
KURBB	**Kurchatov Arra**	**67.39**	**334**	P	**P**	**18 17 18.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=150,slow=5.3,SNR=13						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**67.42**	**334**	P	**P**	**18 17 18.1**	**+1.0**
KURK				IAmb	IAmb	18 17 27.2	
	comp=Z,5.7nm,1.0s						
ZAA0	**Zalesovo Array**	**67.56**	**340**	P	**P**	**18 17 13.8**	**-4.0**
ZAA0				IAmb	IAmb	18 17 26.9	
	comp=Z,6.2nm,1.2s						
ZALV	**Zalesovo Beam**	**67.56**	**340**	P	**P**	**18 17 17.9**	**+0.1**
ZALV	**Zalesovo Beam**	**67.56**	**340**	P	**P**	**18 17 18.6**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=136,slow=4.1,SNR=11						
	comp=Z,1.6nm,0.5s						
PETK	**Petropavlovsk-**	**69.74**	**25**	P	**P**	**18 17 32.8**	**+1.3**
	comp=Z,8.1nm,1.0s,baz=234,slow=14,SNR=2.7						
	comp=Z,8.1nm,1.0s						
YAK	**Yakutsk**	**70.42**	**6**	P	**P**	**18 17 34.1**	**-1.3**
BVAR	**Borovoye Array**	**72.69**	**332**	P	**P**	**18 17 50.5**	**+1.1**
	comp=Z,4.5nm,1.0s,baz=140,slow=9.2,SNR=9.3						
	comp=Z,4.5nm,1.0s						
BRVK	**Borovoye**	**72.76**	**332**	P	**P**	**18 17 50.4**	**+0.6**
BRVK				IAmb	IAmb	18 17 59.5	
	comp=Z,8.0nm,1.1s						
VNDA	**Vanda**	**73.24**	**171**	P	**P**	**18 17 54.0**	**+1.8**
	comp=Z,1.6nm,1.0s,baz=325,slow=4.0,SNR=3

comp=N,27nm,2.5s
MLPR Magueyes Islan 2.58 236 Sn 18 36 56.5 +0.9

*NEIC **10** 18:40:05.3±2.7,50.61N±0.08×130.8W±0.1,h15km±5km, mb4.1/7,Mwr4.0(OTT),Error ellipse: s-maj=15.8km s-min=7.7km az=50.0*
*PGC **10** 18:40:07.7±2.7,50.73N×130.53W,h10km,MLSn3.4/26, Mw4.0/26,219km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **10** 18:40:11.5±1.9,50.89N×129.78W,h0km, mb3.6/1, mbtmp3.4/7,ML3.4/5,MS3.4/4,Error ellipse: s-maj=24.0km s-min=12.2km az=68.0*
ISC 10 18:40:05.5±0.9,50.71N±0.05×130.55W±0.06,h10km, n109,σ2§12/115,mb3.9/3,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.54**	**91**	Pn	**Pn**	**18 40 32.4**	**-0.6**
HOLB	**Holberg**	**1.54**	**91**	Pn	**Pn**	**18 40 33.0**	**0.0**
HOLB				Sn	**Sn**	**18 40 50.2**	**-2.9**
HG4B	**Hotspring**	**1.64**	**346**	Pn	**Pn**	**18 40 33.6**	**-0.8**
HG4B	**Hotspring**	**1.64**	**346**	Pn	**Pn**	**18 40 34.0**	**-0.4**
HG4B				Sn	**Sn**	**18 40 53.0**	**-2.6**
PHC	**Port Hardy**	**1.98**	**89**	Pn	**Pn**	**18 40 39.4**	**+0.3**
PHC				Sn	**Sn**	**18 41 01.0**	**-2.9**
BNB	**Barry Inlet**	**2.02**	**339**	Pn	**Pn**	**18 40 39.4**	**-0.2**
BNB				Sn	**Sn**	**18 41 02.6**	**-2.3**
BBB	**Bella Bella**	**2.13**	**45**	Pn	**Pn**	**18 40 41.4**	**+0.3**
BBB	**Bella Bella**	**2.13**	**45**	Pn	**Pn**	**18 40 41.1**	**0.0**
	16nm,0.3s,baz=231,slow=7.2,SNR=132						
BBB				Sn	**Sn**	**18 41 02.1**	**-5.4**
	45nm,0.3s,baz=260,slow=13,SNR=7.3						
BBB	**Bella Bella**	**2.13**	**45**	Pn	**Pn**	**18 40 41.5**	**+0.5**
BBB				Sn	**Sn**	**18 41 04.8**	**-2.6**
MAYB	**Maynard**	**2.18**	**97**	Pn	**Pn**	**18 40 42.2**	**+0.3**
EDB	**Eliza Dome**	**2.35**	**109**	Pn	**Pn**	**18 40 44.1**	**0.0**
WOSB	**Woss**	**2.60**	**101**	Pn	**Pn**	**18 40 48.4**	**+0.7**
WOSB				Sn	**Sn**	**18 41 18.3**	**-1.1**
BNKB	**Banks Island**	**2.66**	**8**	Pn	**Pn**	**18 40 48.6**	**+0.2**
BNKB				Sn	**Sn**	**18 41 18.6**	**-2.1**
BUTB	**Butedale**	**2.69**	**28**	Pn	**Pn**	**18 40 49.7**	**+0.8**
BUTB				Sn	**Sn**	**18 41 20.2**	**-1.4**
DIB	**Dawson Inlet,**	**2.77**	**335**	Pn	**Pn**	**18 40 48.1**	**-1.8**
DIB	**Dawson Inlet,**	**2.77**	**335**	Pn	**Pn**	**18 40 50.3**	**+0.4**
DIB				Sn	**Sn**	**18 41 22.1**	**-1.2**
GRIB	**Gribbell Islan**	**2.78**	**18**	Pn	**Pn**	**18 40 50.4**	**+0.4**
GRIB				Sn	**Sn**	**18 41 21.4**	**-2.2**
BNAB	**Bonilla**	**2.79**	**359**	Pn	**Pn**	**18 40 50.5**	**+0.3**
BNAB				Sn	**Sn**	**18 41 21.8**	**-2.1**
NCSB	**Newcastle Ridg**	**2.88**	**94**	Pn	**Pn**	**18 40 52.0**	**+0.5**
NCRB	**Newcastle Ridg**	**2.88**	**94**	Pn	**Pn**	**18 40 52.2**	**+0.6**
ETB	**Estevan Point**	**2.91**	**116**	Pn	**Pn**	**18 40 52.3**	**+0.5**
NC89	**ODP889**	**3.15**	**129**	Sn	**Sn**	**18 41 34.2**	**+1.8**
GRNB	**Grenville Isla**	**3.17**	**6**	Pn	**Pn**	**18 40 54.6**	**-0.7**
GRNB	**Grenville Isla**	**3.17**	**6**	Pn	**Pn**	**18 40 56.0**	**+0.6**
GRNB				Sn	**Sn**	**18 41 32.5**	**-0.7**
SPLB	**Strathcona Par**	**3.25**	**103**	Pn	**Pn**	**18 40 57.6**	**+1.2**
CBB	**Campbell River**	**3.39**	**99**	Pn	**Pn**	**18 40 59.7**	**+1.3**
CBB	**Campbell River**	**3.39**	**99**	Pn	**Pn**	**18 40 59.8**	**+1.3**
KITB	**Kitimat**	**3.58**	**18**	Pn	**Pn**	**18 41 01.9**	**+1.0**
RUBB	**Prince Rupert**	**3.63**	**3**	Pn	**Pn**	**18 41 02.2**	**+0.5**
RUBB	**Prince Rupert**	**3.63**	**3**	Pn	**Pn**	**18 41 02.5**	**+0.8**
OZB	**Mount Ozzard**	**3.71**	**116**	Pn	**Pn**	**18 41 03.7**	**+0.8**
OZB	**Mount Ozzard**	**3.71**	**116**	Pn	**Pn**	**18 41 03.4**	**+0.6**
TXB	**Texada**	**4.06**	**102**	Pn	**Pn**	**18 41 08.4**	**+0.8**
SHB	**Sechelt**	**4.44**	**102**	Pn	**Pn**	**18 41 14.0**	**+1.1**
PFB	**Port Renfrew**	**4.51**	**116**	Pn	**Pn**	**18 41 14.9**	**+1.1**
PTRF	**Port Renfrew**	**4.54**	**116**	Pn	**Pn**	**18 41 15.7**	**+1.5**
OCP	**Olym-Cheeka Pk**	**4.55**	**120**	Pn	**Pn**	**18 41 16.8**	**+2.4**
CLRS	**Cowichan Lake**	**4.57**	**112**	Pn	**Pn**	**18 41 15.2**	**+0.6**
CLRS	**Cowichan Lake**	**4.57**	**112**	Pn	**Pn**	**18 41 16.9**	**+2.3**
V35K	**Ketchikan**	**4.67**	**353**	Pn	**Pn**	**18 41 17.2**	**+1.2**
C03A	**Quillayute Air**	**4.79**	**123**	Pn	**Pn**	**18 41 17.5**	**-0.1**
BIB	**Bowen Island**	**4.85**	**103**	Pn	**Pn**	**18 41 20.1**	**+1.7**
GOBB	**Galiano Island**	**4.89**	**108**	Pn	**Pn**	**18 41 20.5**	**+1.6**
SYMB	**Survey Mountai**	**4.89**	**113**	Pn	**Pn**	**18 41 21.4**	**+2.3**
OBC	**Olympics--Boni**	**5.00**	**120**	Pn	**Pn**	**18 41 22.1**	**+1.5**
CRAG	**Craig**	**5.02**	**343**	Pn	**Pn**	**18 41 22.3**	**+1.6**
PGC	**Sidney**	**5.05**	**111**	Pn	**Pn**	**18 41 21.3**	**+0.2**
SNB	**Saturna Island**	**5.16**	**109**	Pn	**Pn**	**18 41 25.1**	**+2.3**
VGZ	**Gonzales**	**5.23**	**113**	Pn	**Pn**	**18 41 25.6**	**+1.9**
OSD	**Olympics--Snow**	**5.33**	**120**	Pn	**Pn**	**18 41 28.4**	**+3.1**
HNBB	**Haney**	**5.34**	**102**	Pn	**Pn**	**18 41 27.1**	**+1.9**
FSJB	**Fort St James**	**5.36**	**43**	Pn	**Pn**	**18 41 27.6**	**+2.2**
NLWA	**Neilton Lookou**	**5.50**	**124**	Pn	**Pn**	**18 41 27.7**	**+0.2**
U33K	**Whale Pass**	**5.63**	**345**	Pn	**Pn**	**18 41 29.0**	**-0.1**
HDW	**Hoodsport**	**5.79**	**119**	Pn	**Pn**	**18 41 34.5**	**+3.1**
WRAK	**Wrangell Islan**	**5.82**	**350**	Pn	**Pn**	**18 41 33.2**	**+1.4**
MBW	**Mount Baker**	**5.93**	**106**	Pn	**Pn**	**18 41 37.1**	**+3.6**
CMW	**Cultus Mountai**	**5.94**	**109**	Pn	**Pn**	**18 41 37.0**	**+3.4**
HOPB	**Hope**	**6.03**	**99**	Pn	**Pn**	**18 41 36.8**	**+2.1**
JCW	**Jim Creek**	**6.16**	**111**	Pn	**Pn**	**18 41 39.5**	**+3.0**
B06A	**Marblemount**	**6.29**	**107**		**Pn**	**18 41 39.0**	**+0.8**
B06A	**Marblemount**	**6.29**	**107**	Pn	**Pn**	**18 41 40.7**	**+2.5**
T35M	**Bob Quinn**	**6.29**	**2**	Pn	**Pn**	**18 41 40.8**	**+2.6**
T35M	**Bob Quinn**	**6.29**	**2**	Pn	**Pn**	**18 41 42.0**	**+3.7**
RPW	**Rockport**	**6.30**	**108**	Pn	**Pn**	**18 41 40.7**	**+2.3**
GPW	**Glacier Peak**	**6.67**	**109**	Pn	**Pn**	**18 41 47.1**	**+3.4**
FMW	**Mount Fremont**	**6.97**	**119**	Pn	**Pn**	**18 41 51.1**	**+3.3**
LON	**Longmire**	**7.01**	**121**		**Pn**	**18 41 50.8**	**+2.6**
LON	**Longmire**	**7.01**	**121**	Pn	**Pn**	**18 41 51.7**	**+3.6**
S34M	**Telegraph Cree**	**7.23**	**358**	Pn	**Pn**	**18 41 52.6**	**+1.5**
S34M	**Telegraph Cree**	**7.23**	**358**	Pn	**Pn**	**18 41 54.0**	**+2.9**
LTY	**Liberty**	**7.36**	**114**		**Pn**	**18 41 54.2**	**+1.2**
LTY	**Liberty**	**7.36**	**114**	Pn	**Pn**	**18 41 55.5**	**+2.5**
DLBC	**Dease Lake**	**7.75**	**2**	Pn	**Pn**	**18 41 58.0**	**-0.4**
DLBC	**Dease Lake**	**7.75**	**2**	Pn	**Pn**	**18 42 02.6**	**+4.3**
	0.3nm,0.3s,baz=196,slow=9.0,SNR=5.7						
DLBC				Sn	**Sn**	**18 43 27.5**	**+1.3**
	0.1nm,0.3s,baz=194,slow=14,SNR=1.8 1.0nm,0.3s						
DLBC	**Dease Lake**	**7.75**	**2**	Pn	**Pn**	**18 42 02.1**	**+3.7**
MXC	**Moxie City**	**7.95**	**117**	Pn	**Pn**	**18 42 01.6**	**+0.6**
NBCS	**NorthernBC 5**	**8.24**	**31**	Pn	**Pn**	**18 42 07.8**	**+2.7**
Q32M	**Nakina River**	**8.33**	**354**	Pn	**Pn**	**18 42 08.6**	**+2.2**
C09A	**Chrisman Ranch**	**8.54**	**105**	Pn	**Pn**	**18 42 07.6**	**-1.5**
KEBM	**Edson Butte**	**8.92**	**149**	Pn	**Pn**	**18 42 13.1**	**-1.3**
NEW	**Newport**	**9.08**	**100**	Pn	**Pn**	**18 42 16.3**	**-0.2**
	0.1nm,0.3s,baz=329,slow=5.2,SNR=3.1 1.7nm,0.6s						
P32M	**Atlin**	**9.09**	**350**	Pn	**Pn**	**18 42 19.1**	**+2.5**
F10A	**Beach Ranch, E**	**10.05**	**113**	Pn	**Pn**	**18 42 29.5**	**-0.4**
CTGM	**Chitina Glacie**	**11.91**	**334**	Pn	**Pn**	**18 42 53.6**	**-1.8**
HLID	**Hailey**	**13.09**	**117**	Pn	**Pn**	**18 43 09.3**	**-2.2**
ELK	**Elko**	**14.59**	**127**	LR	LR	18 48 49.6	
	comp=Z,134nm,18.2s,baz=310,slow=36						
YKA	**Yellowknife Ar**	**14.66**	**30**	Pn	**Pn**	**18 43 31.6**	**-1.1**
	0.2nm,0.3s,baz=227,slow=12,SNR=4.0 0.3nm,0.7s						
I30M	**Mount Dempster**	**14.87**	**350**	Pn	**Pn**	**18 43 34.2**	**-1.5**
I30M				P	**P**	**18 43 39.1**	**-2.4**
NVAR	**Mina Array Bea**	**15.03**	**140**	Pn	**P**	**18 43 44.7**	**+1.2**
	0.2nm,0.5s,baz=339,slow=9.9,SNR=1.3						
H29M	**Whitestone**	**16.06**	**349**	P	**P**	**18 43 55.2**	**+0.6**
H29M				IAmb	IAmb	18 44 24.2	
	comp=Z,9.5nm,1.3s						
PDAR	**Pinedale Array**	**16.40**	**111**	P	**P**	**18 43 58.7**	**+0.1**
PDAR	**Pinedale Array**	**16.40**	**111**	Pn	**P**	**18 44 01.3**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=316,slow=9.2,SNR=11						
PDAR				LR	LR	18 50 34.8	
	comp=Z,54nm,21.0s,baz=332,slow=39 comp=Z,1.4nm,0.7s						
ILAR	**Eielson Array**	**16.49**	**335**	Pn	**P**	**18 44 06.1**	**+6.8**
	baz=136,slow=9.6,SNR=11 comp=Z,0.9nm,0.9s						
FFC	**Flin Flon**	**17.71**	**66**	P	**P**	**18 44 15.8**	**+3.0**
I20K	**Naaghedeneel**	**18.85**	**327**	P	**P**	**18 44 21.1**	**-4.3**
I20K				IAmb	IAmb	18 44 32.3	
	comp=Z,28nm,0.8s						
ULM	**Lac du Bonnet**	**21.96**	**78**	P	**P**	**18 45 00.1**	**+0.9**
ULM				IAmb	IAmb	18 45 42.3	
	comp=Z,10nm,1.5s						
ULM	**Lac du Bonnet**	**21.96**	**78**	P	**P**	**18 45 01.0**	**+1.9**
	comp=Z,1.7nm,0.5s,baz=282,slow=8.2,SNR=4.2 comp=Z,1.7nm,0.5s						
FCC	**Fort Churchill**	**22.30**	**55**	P	**P**	**18 45 04.1**	**+1.5**
FCC				IAmb	IAmb	18 45 06.1	
	comp=Z,6.2nm,1.2s						
B22K	**Teshekpuk Lake**	**22.40**	**340**	P	**P**	**18 45 05.9**	**+2.3**
B22K				IAmb	IAmb	18 45 16.1	
	comp=Z,11nm,1.1s						
OK035	**E0210 Rd and N**	**26.69**	**109**	P	**P**	**18 45 39.3**	**-5.3**
MA2	**Magadan**	**43.29**	**313**	LR	LR	19 05 54.6	
	comp=Z,55nm,18.8s,baz=91,slow=36						
H11N2	**WAKE ISLAND Hy**	**57.65**	**262**	T	T	19 52 20.7	
	baz=41,slow=75,SNR=581						
H11N3	**WAKE ISLAND Hy**	**57.65**	**262**	T	T	19 52 26.7	
	baz=41,slow=75,SNR=464						
H11N1	**WAKE ISLAND Hy**	**57.66**	**262**	T	T	19 52 19.8	
	baz=41,slow=75,SNR=412						
H11S1	**WAKE ISLAND Hy**	**58.68**	**261**	T	T	19 53 35.4	
	baz=40,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**58.69**	**261**	T	T	19 53 36.5	
	baz=40,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**58.70**	**261**	T	T	19 53 40.4	
	baz=40,slow=75,SNR=22						
AKTO	**Aktyubinsk**	**78.97**	**354**	LR	LR	19 29 26.1	
	comp=Z,50nm,18.6s,baz=216,slow=38						

*NEIC **10** 18:41:56.7±1.1, 19.65S±0.07×174.7W±0.1, h101km±8km, mb4.5/22,Error ellipse: s-maj=16.9km s-min=8.8km az=67.0*
*IDC **10** 18:42:06.2±5.9,20.06S×175.42W,h151km±51km, mb3.6/10,mbtmp4.0/11,Error ellipse: s-maj=23.9km s-min=14.6km az=97.0*
ISC 10 18:41:56.5±0.5,19.78S±0.09×174.68W±0.07,h100km, n56,σ2§15/52,mb4.3/21,2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.54**	**82**	Pn	**Pn**	**18 43 03.1**	**+0.1**
NIUE				Sn	**Sn**	**18 43 49.4**	**-5.3**
AFI	**Afiamalu**	**6.47**	**26**	Pn	**Pn**	**18 43 28.1**	**-1.1**
RAR	**Rarotonga**	**14.04**	**98**	Pn	**Pn**	**18 45 11.4**	**+0.3**
PINNC	**Pines Island,**	**16.90**	**257**	Pn	**Pn**	**18 45 44.6**	**-2.3**
URZ	**Urewera**	**19.74**	**199**	P	**P**	**18 46 17.9**	**-0.4**
	6.6nm,0.4s,baz=352,slow=4.3,SNR=9.0						
URZ				S	**S**	**18 49 47.2**	**-8.2**
	3.0nm,0.6s,baz=262,slow=15,SNR=1.6						
BFZ	**Birch Farm**	**22.23**	**198**	P	**P**	**18 46 46.3**	**+1.4**
BFZ				IAmb	IAmb	18 47 18.4	
	comp=Z,27nm,1.2s						
MRZ	**Mangatainoka R**	**22.42**	**200**	P	**P**	**18 46 45.6**	**-1.3**
MRZ				IAmb	IAmb	18 46 56.2	
	comp=Z,18nm,1.2s						
BHW	**Baring Head**	**23.32**	**200**	P	**P**	**18 46 55.8**	**+0.1**
BHW				IAmb	IAmb	18 47 29.4	
	comp=Z,32nm,1.2s						
TCW	**Tory Channel**	**23.34**	**201**	P	**P**	**18 46 53.4**	**-2.5**
PLWZ	**Palliser**	**23.34**	**199**	P	**P**	**18 46 54.5**	**-1.4**
QRZ	**Quartz Range**	**23.65**	**205**	P	**P**	**18 46 56.7**	**-2.0**
TUWZ	**Tuamarina**	**23.65**	**202**	P	**P**	**18 46 55.9**	**-2.8**
TKNZ	**Takaka Hill**	**23.66**	**204**	P	**P**	**18 46 59.6**	**+0.8**
MRNZ	**Matariki Terra**	**24.05**	**204**	P	**P**	**18 47 03.5**	**+1.2**
THZ	**Tophouse**	**24.32**	**203**	P	**P**	**18 47 05.6**	**+0.8**
THZ				IAmb	IAmb	18 47 08.1	
	comp=Z,36nm,1.2s						
KHZ	**Kahutara**	**24.66**	**201**	P	**P**	**18 47 07.1**	**-0.7**
KHZ				IAmb	IAmb	18 47 23.6	
	comp=Z,48nm,1.5s						
GVZ	**Greta Valley S**	**25.32**	**201**	P	**P**	**18 47 12.8**	**-1.0**
GVZ				IAmb	IAmb	18 47 39.3	
	comp=Z,45nm,1.2s						
LTZ	**Lake Taylor**	**25.43**	**203**	P	**P**	**18 47 15.6**	**+0.7**
LTZ				IAmb	IAmb	18 47 21.3	
	comp=Z,19nm,1.2s						
RPZ	**Rata Peaks**	**26.69**	**203**	P	**P**	**18 47 25.7**	**-0.5**
RPZ				IAmb	IAmb	18 48 02.4	
	comp=Z,31nm,1.4s						
FOZ	**Fox Glacier**	**27.02**	**205**	P	**P**	**18 47 30.0**	**+1.0**
CTAO	**Charters Tower**	**36.67**	**263**	P	**P**	**18 48 54.0**	**+0.2**
COEN	**Coen**	**40.66**	**271**	P	**P**	**18 49 24.1**	**-3.2**
COEN				IAmb	IAmb	18 49 59.8	
	comp=Z,8.4nm,1.1s						
STKA	**Stephens Creek**	**40.90**	**244**	P	**P**	**18 49 27.9**	**-1.2**
STKA	**Stephens Creek**	**40.90**	**244**	P	**P**	**18 49 26.9**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=69,slow=8.6,SNR=1.4 comp=Z,0.9nm,0.5s						
WR0	**Warramunga Arr**	**47.60**	**261**	P	**P**	**18 50 22.1**	**-0.5**
AS31	**Alice Springs**	**47.71**	**256**	P	**P**	**18 50 23.3**	**-0.2**
ASAR	**Alice Springs**	**47.72**	**256**	P	**P**	**18 50 22.8**	**-0.7**
	comp=Z,4.2nm,0.7s,baz=94,slow=8.3,SNR=33						
ASAR				PcP	**PcP**	**18 51 53.0**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=93,slow=3.9,SNR=6.6 comp=Z,4.2nm,0.7s						
WB0	**Warramunga Arr**	**47.77**	**261**		**P**	**18 50 22.8**	**-1.2**
WB0				IAmb	IAmb	18 50 23.8	
	comp=Z,3.6nm,0.7s						
WB2	**Warramunga Arr**	**47.78**	**261**	P	**P**	**18 50 23.0**	**-1.0**
WB2				IAmb	IAmb	18 50 24.4	
	comp=Z,6.8nm,0.9s						
WRA	**Warramunga Arr**	**47.79**	**261**	P	**P**	**18 50 23.1**	**-1.1**
WRA	**Warramunga Arr**	**47.79**	**261**	P	**P**	**18 50 22.8**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=96,slow=7.3,SNR=40						
WRA				PcP	**PcP**	**18 51 52.6**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=80,slow=3.5,SNR=3.7 comp=Z,1.4nm,0.3s						
MTN	**Manton Dam**	**52.28**	**269**	P	**P**	**18 50 57.9**	**-0.2**
VNDA	**Vanda**	**58.92**	**186**	P	**P**	**18 51 48.0**	**+3.4**
	comp=Z,1.0nm,0.8s,baz=6.6,slow=6.8,SNR=3.5 comp=Z,1.0nm,0.8s						
QSPA	**South Pole Qui**	**70.28**	**180**	P	**P**	**18 53 02.0**	**+3.1**
QSPA				IAmb	IAmb	18 53 03.5	
	comp=Z,4.9nm,0.9s						
QSPA	**South Pole Qui**	**70.28**	**180**	P	**P**	**18 53 02.1**	**+3.1**
	comp=Z,3.2nm,0.6s,baz=42,slow=2.5,SNR=26 comp=Z,3.2nm,0.6s						
MJAR	**Matsushiro Arr**	**71.54**	**322**	P	**P**	**18 53 09.0**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=137,slow=6.5,SNR=5.8 comp=Z,2.1nm,0.6s						
BMN	**Battle Mountai**	**80.25**	**41**	P	**P**	**18 53 55.6**	**-0.8**
H03S2	**Juan Fernandez**	**83.81**	**124**	T	T	20 26 47.4	
	baz=248,slow=74,SNR=63						
H03S1	**Juan Fernandez**	**83.82**	**124**	T	T	20 26 51.0	
	baz=248,slow=74,SNR=65						
H03S3	**Juan Fernandez**	**83.83**	**124**	T	T	20 26 47.2	
	baz=248,slow=74,SNR=66						
H03N2	**Juan Fernandez**	**83.94**	**123**	T	T	20 26 58.5	
	baz=249,slow=71,SNR=78						
H03N3	**Juan Fernandez**	**83.94**	**123**	T	T	20 26 59.7	
	baz=249,slow=71,SNR=48						
H03N1	**Juan Fernandez**	**83.95**	**123**	T	T	20 26 57.0	
	baz=249,slow=71,SNR=42						
TXAR	**Lajitas Array**	**84.06**	**56**	P	P	18 54 22.7	+6.3
	comp=Z,0.2nm,0.6s,baz=263,slow=7.8,SNR=2.1 comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**86.96**	**12**	P	P	18 54 34.8	+4.9
	comp=Z,0.1nm,0.5s,baz=226,slow=5.7,SNR=4.1 comp=Z,0.1nm,0.5s						
ELIB	**Princess Elisa**	**87.68**	**186**	*d*P	**P**	**18 54 34.9**	**+1.3**
ELIB				*d*PcP	**PcP**	**18 54 36.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**92.83**	**288**	P	**P**	**18 54 58.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=127,slow=3.9,SNR=2.4 comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**94.58**	**24**	P	P	18 55 10.9	+5.5
	comp=Z,0.2nm,0.5s,baz=272,slow=17,SNR=3.7 comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**120.52**	**321**	PKP	**PKiKP**	**19 00 38.5**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=81,slow=4.7,SNR=5.9						
BRTR	**Keskin Array B**	**148.59**	**315**	PKPbc	**PKPbc**	**19 01 32.3**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=308,slow=38,SNR=2.4						
MMAI	**Mount Meron Ar**	**150.12**	**302**	PKPbc	**PKiKP**	**19 01 39.5**	**+2.6**
	comp=Z,2.0nm,0.6s,baz=56,slow=3.1,SNR=6.6						
GERES	**GERESS Array B**	**150.23**	**349**	PKPbc	**PKPab**	**19 01 39.5**	**-2.8**
	comp=Z,0.6nm,0.6s,baz=107,slow=1.8,SNR=4.8						
CONA	**Conrad Observa**	**150.65**	**345**	*e*PKP	**PKPbc**	**19 01 36.2**	**-0.8**
	comp=Z,0.8nm,0.4s						
RONA	**Rosalia, Austr**	**150.76**	**345**	*e*PKP	**PKiKP**	**19 01 38.6**	**+0.8**
	comp=Z,2.7nm,0.5s						
ARSA	**Arzberg**	**151.36**	**345**	*e*PKP	**PKiKP**	**19 01 40.2**	**+1.1**
	comp=Z,0.5nm,0.3s						
ABTA	**Abfaltersbach**	**152.47**	**349**	*e*PKP	**PKiKP**	**19 01 44.1**	**+2.7**
	comp=Z,2.0nm,0.8s						

IDC 10 19:04:18.8±49.0,17.94S×178.76W,h0km,mb4.4/3, mbtmp4.4/3,Error ellipse: s-maj=897.9km s-min=158.6km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.32**	**241**	P	P	19 11 41.8	+0.4
	1.1nm,0.4s,baz=72,slow=9.5,SNR=2.9 1.1nm,0.4s						
WRA	**Warramunga Arr**	**44.30**	**260**	P	P	19 12 30.6	-0.1
	3.8nm,0.5s,baz=96,slow=7.7,SNR=82 3.8nm,0.5s						
ASAR	**Alice Springs**	**44.46**	**254**	P	P	19 12 31.6	-0.4
	3.5nm,0.5s,baz=87,slow=8.3,SNR=96 3.5nm,0.5s						

IDC 10 19:08:54.5±674.0,23.10S×69.83W,h0km,Error ellipse: s-maj=316.9km s-min=173.8km az=77.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I14CL	**ROBINSON CRUSO**	**3.13**	**215**	I	I	20 25 00.0	
	baz=39,slow=323,SNR=0.9						
I20EC	**Galapagos**	**29.98**	**315**	I	I	22 11 40.0	
	baz=142,slow=316,SNR=1.0						
I13CL	**EASTER ISLAND**	**35.92**	**255**	I	I	22 50 50.0	
	baz=90,slow=322,SNR=1.6						

*NOU **10** 19:09:00.0,38.61S×175.46E,h205km,MLv3.6/10,North Island, New Zealand*
*WEL **10** 19:09:04.2±0.6,39.5±5.1×17.5E±.1,h161km±5km,M2.5/31, ML2.3/7,MLv2.5/31,Error ellipse: s-maj=0.0km s-min=0.0km az=36.3,confirmed*
ISC 10 19:08:58.6±1.8,38.64S±0.06×175.44E±0.05,h205km±9km, n115,σ1§68/125,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.32**	**14**	P	**Pn**	**19 09 26.7**	**+0.8**
TWVZ	**Taurewa**	**0.43**	**180**	P	**Pn**	**19 09 27.4**	**+1.2**
TWVZ				S	**Sn**	**19 09 45.7**	**-2.1**
KRVZ	**Karewarewa**	**0.48**	**161**	P	**Pn**	**19 09 27.8**	**+1.4**
KRVZ				S	**Sn**	**19 09 46.7**	**-1.5**
WTVZ	**West Tongariro**	**0.49**	**166**	P	**Pn**	**19 09 27.9**	**+1.4**
WTVZ				S	**Sn**	**19 09 46.7**	**-1.5**
NTVZ	**North Tongarir**	**0.50**	**158**	P	**Pn**	**19 09 28.0**	**+1.5**
NNVZ	**North Ngauruho**	**0.51**	**164**	P	**Pn**	**19 09 28.1**	**+1.5**
NNVZ				S	**Sn**	**19 09 46.8**	**-1.6**
TMVZ	**Te Maari**	**0.52**	**157**	P	**Pn**	**19 09 28.0**	**+1.4**
TMVZ				S	**Sn**	**19 09 46.2**	**-2.2**
ETVZ	**East Tongariro**	**0.54**	**157**	P	**Pn**	**19 09 28.1**	**+1.5**
ETVZ				S	**Sn**	**19 09 46.6**	**-1.9**
NGZ	**Ngauruhoe**	**0.55**	**167**	P	**Pn**	**19 09 28.2**	**+1.5**
OTVZ	**Oturere**	**0.56**	**161**	P	**Pn**	**19 09 28.2**	**+1.4**
OTVZ				S	**Sn**	**19 09 47.2**	**-1.5**
COVZ	**Chateau Observ**	**0.57**	**172**	P	**Pn**	**19 09 28.0**	**+1.3**
SNVZ	**South Ngauruho**	**0.57**	**164**	P	**Pn**	**19 09 28.5**	**+1.7**
SNVZ				S	**Sn**	**19 09 47.6**	**-1.2**
FWVZ	**Far West T-bar**	**0.62**	**172**	P	**Pn**	**19 09 28.6**	**+1.5**
FWVZ				S	**Sn**	**19 09 48.0**	**-1.4**
MAVZ	**Matarangi**	**0.64**	**171**	P	**Pn**	**19 09 28.7**	**+1.5**
TUVZ	**Tukino**	**0.65**	**165**	P	**Pn**	**19 09 28.7**	**+1.6**
TUVZ				S	**Sn**	**19 09 47.6**	**-1.8**
PKVZ	**Pokaka**	**0.66**	**186**	P	**Pn**	**19 09 28.4**	**+1.4**
TRVZ	**Turoa**	**0.67**	**173**	P	**Pn**	**19 09 28.8**	**+1.5**
WNVZ	**Wahianoa**	**0.70**	**170**	P	**Pn**	**19 09 29.0**	**+1.6**
VRZ	**Vera Road**	**0.72**	**227**	P	**Pn**	**19 09 29.0**	**+1.8**
MTVZ	**Mangateitei**	**0.75**	**178**	P	**Pn**	**19 09 29.2**	**+1.7**
MOVZ	**Moawhango**	**0.81**	**162**	P	**Pn**	**19 09 29.1**	**+1.3**
MOVZ				S	**Sn**	**19 09 47.8**	**-2.9**
TOZ	**Tahuroa Road**	**0.91**	**3**	P	**Pn**	**19 09 29.5**	**+1.2**
MHEZ	**Mangahewa**	**0.97**	**243**	P	**Pn**	**19 09 30.8**	**+2.1**
BKZ

ellipse: s-maj=2.8km s-min=0.7km az=321.0
*ATH **10** 19:17:29.1,40˚.72N×21˚.51E,h7km±1km,ML2.4/10,Error ellipse: s-maj=1.7km s-min=0.7km az=305.0*
*BEO **10** 19:17:29.0±0.6,40˚.71N×21˚.61E,h0km,ML2.3/4*

ISC 10 19:17:28.8±1.1,40.71N±0.02×21.55E±0.02,h3km±10km, n56,σ0°71/89,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.15**	**300**	P	**Pg**	**19 17 31.6**	**-0.2**
FNA				S	**Sg**	**19 17 33.8**	**0.0**
	10μm,0.3s						
FNA	**Florina**	**0.15**	**300**	*e*Pg	**Pg**	**19 17 31.6**	**-0.2**
FNA				*e*Sg	**Sg**	**19 17 33.8**	**0.0**
FNA	**Florina**	**0.15**	**300**	P	**Pg**	**19 17 31.6**	**-0.2**
FNA				S	**Sg**	**19 17 33.8**	**0.0**
FNA				AML	AML	19 17 34.2	
	comp=E,20604μm,0.3s						
FNA				AML	AML	19 17 34.9	
	comp=N,18478μm,0.4s						
FNA	**Florina**	**0.15**	**300**	*i* Pg	**Pg**	**19 17 31.7**	**-0.1**
FNA				*i* Sg	**Sg**	**19 17 34.0**	**+0.2**
NEST	**Nestorio**	**0.48**	**233**	P	**Pg**	**19 17 37.3**	**-0.7**
NEST				S	**Sg**	**19 17 45.4**	**+1.1**
	comp=N,392nm,0.5s						
NEST	**Nestorio**	**0.48**	**233**	P	**Pg**	**19 17 37.5**	**-0.5**
NEST				S	**Sg**	**19 17 44.5**	**+0.3**
NEST				AML	AML	19 17 46.5	
	comp=N,1042μm,0.3s						
NEST				AML	AML	19 17 49.2	
	comp=E,966μm,0.7s						
KTI	**Kastanea**	**0.53**	**126**	P	**Pg**	**19 17 38.8**	**-0.2**
KTI				S	**Sg**	**19 17 47.2**	**+1.3**
PENT	**Pentalofos**	**0.60**	**212**	P	**Pg**	**19 17 39.9**	**-0.4**
PENT	**Pentalofos**	**0.60**	**212**	P	**Pg**	**19 17 40.0**	**-0.3**
PENT				S	**Sg**	**19 17 48.5**	**+0.5**
GRG	**Griva**	**0.69**	**69**	P	**Pg**	**19 17 42.0**	**0.0**
GRG				S	**Sb**	**19 17 52.1**	**-1.4**
	comp=E,312nm,0.2s						
GRG	**Griva**	**0.69**	**69**	P	**Pg**	**19 17 42.2**	**+0.2**
GRG				S	**Sb**	**19 17 52.4**	**-1.1**
GRG				AML	AML	19 17 54.1	
	comp=N,678μm,0.4s						
GRG				AML	AML	19 17 54.6	
	comp=E,558μm,0.1s						
GRG	**Griva**	**0.69**	**69**	*i* Pg	**Pg**	**19 17 42.3**	**+0.2**
GRG				*i* Sg	**Sb**	**19 17 52.9**	**-0.6**
OHR	**Ohrid**	**0.70**	**306**	*e*Pg	**Pg**	**19 17 42.0**	**-0.2**
OHR				*e*Sg	**Sb**	**19 17 53.1**	**-0.6**
OHR	**Ohrid**	**0.70**	**306**	*i* Pg	**Pg**	**19 17 42.0**	**-0.2**
OHR				*i* Sg	**Sb**	**19 17 53.2**	**-0.5**
OHR				*e*Lg	Lg	19 17 54.2	
	comp=N,378nm,0.7s						
OHR				*e*Lg	Lg	19 17 55.6	
	comp=E,444nm,0.4s						
KPRO	**Kipourio**	**0.77**	**191**	P	**Pg**	**19 17 43.0**	**-0.4**
KPRO				S	**Sb**	**19 17 55.9**	**+0.3**
	comp=E,292nm,0.6s						
KPRO	**Kipourio**	**0.77**	**191**	P	**Pg**	**19 17 43.4**	**0.0**
KPRO				S	**Sg**	**19 17 54.7**	**+1.3**
KPRO				AML	AML	19 17 59.2	
	comp=E,582μm,0.5s						
KPRO				AML	AML	19 18 01.0	
	comp=N,556μm,0.4s						
VAY	**Valandovo**	**0.99**	**51**	*i* Pg	**Pg**	**19 17 47.9**	**+0.2**
VAY				*i* Sg	**Sb**	**19 18 02.1**	**+0.2**
VAY				*e*Lg	Lg	19 18 04.4	
	comp=N,95nm,0.6s						
VAY				*e*Lg	Lg	19 18 05.8	
	comp=E,125nm,0.6s						
THE	**Thessaloniki**	**1.08**	**94**	P	**Pb**	**19 17 50.2**	**+0.1**
THE				S	**Sn**	**19 18 05.3**	**-1.0**
THE				AML	AML	19 18 08.4	
	comp=E,210μm,0.5s						
THE				AML	AML	19 18 08.5	
	comp=N,218μm,0.5s						
THE	**Thessaloniki**	**1.08**	**94**	*i* Pg	**Pn**	**19 17 50.3**	**-0.5**
STIP	**Stip**	**1.10**	**26**	*i* Pg	**Pn**	**19 17 51.8**	**+0.7**
STIP				*i* Sg	**Sn**	**19 18 09.5**	**+2.7**
KNT	**Kendrikon**	**1.12**	**66**	P	**Pg**	**19 17 49.8**	**-0.4**
KNT				S	**Sb**	**19 18 05.2**	**-0.5**
	comp=N,110nm,0.6s						
KNT	**Kendrikon**	**1.12**	**66**	P	**Pg**	**19 17 50.2**	**0.0**
KNT				S	**Sb**	**19 18 05.6**	**-0.1**
KNT				AML	AML	19 18 09.6	
	comp=N,280μm,0.4s						
KNT				AML	AML	19 18 10.6	
	comp=E,111μm,0.3s						
KNT	**Kendrikon**	**1.12**	**66**	*i* Pg	**Pb**	**19 17 50.5**	**-0.2**
KNT				*i* Sg	**Sb**	**19 18 05.0**	**-0.7**
TYRN	**Tyrnavos**	**1.12**	**152**	P	**Pg**	**19 17 49.7**	**-0.6**
TYRN				S	**Sn**	**19 18 07.3**	**-0.1**
	comp=E,205nm,0.6s						
TYRN	**Tyrnavos**	**1.12**	**152**	P	**Pg**	**19 17 50.8**	**+0.6**
TYRN				S	**Sb**	**19 18 06.6**	**+0.7**
TYRN				AML	AML	19 18 09.8	
	comp=E,396μm,0.7s						
TYRN				AML	AML	19 18 11.6	
	comp=N,433μm,0.5s						
HORT	**Hortiatis**	**1.18**	**95**	P	**Pg**	**19 17 51.4**	**-0.1**
HORT				S	**Sn**	**19 18 08.0**	**-1.0**
	comp=N,128nm,0.6s						
HORT	**Hortiatis**	**1.18**	**95**	P	**Pg**	**19 17 51.3**	**-0.2**
HORT				S	**Sn**	**19 18 08.3**	**-0.7**
HORT				AML	AML	19 18 10.8	
	comp=N,296μm,0.6s						
HORT				AML	AML	19 18 11.4	
	comp=E,216μm,0.6s						
THL	**Klokotos Trika**	**1.20**	**163**	P	**Pg**	**19 17 50.7**	**-1.0**
THL				S	**Sn**	**19 18 09.9**	**+0.8**
	comp=E,130nm,0.6s						
THL	**Klokotos Trika**	**1.20**	**163**	P	**Pg**	**19 17 51.2**	**-0.5**
THL				S	**Sb**	**19 18 08.1**	**+0.2**
THL				AML	AML	19 18 14.0	
	comp=N,190μm,0.5s						
THL				AML	AML	19 18 16.9	
	comp=E,296μm,0.5s						
SKO	**Skopje**	**1.27**	**356**	*e*Pg	**Pn**	**19 17 52.8**	**-0.6**
SKO				*e*Sg	**Sb**	**19 18 09.4**	**-0.6**
SOH	**Sokhos**	**1.37**	**85**	P	**Pn**	**19 17 54.3**	**-0.6**
SOH				S	**Sg**	**19 18 13.0**	**+0.1**
SOH				AML	AML	19 18 16.9	
	comp=E,507μm,0.6s						
SOH				AML	AML	19 18 17.5	
	comp=N,537μm,0.5s						
SOH	**Sokhos**	**1.37**	**85**	*i* Pg	**Pn**	**19 17 54.6**	**-0.3**
SOH				*i* Sg	**Sn**	**19 18 15.8**	**+2.1**
TIR	**Tirane**	**1.43**	**297**	*e*Pg	**Pg**	**19 17 56.1**	**0.0**
PEHC	**Pehcevo**	**1.48**	**43**	*i* Pg	**Pg**	**19 17 57.1**	**0.0**
PEHC				*i* Sg	**Sg**	**19 18 17.7**	**+1.5**
IGT	**Igoumenitsa**	**1.50**	**219**	P	**Pb**	**19 17 57.6**	**+0.3**
SRS	**Serrai**	**1.60**	**74**	*e*Pg	**Pn**	**19 17 56.7**	**-1.3**
SRS	**Serrai**	**1.60**	**74**	P	**Pn**	**19 17 56.8**	**-1.2**
SRS	**Serrai**	**1.60**	**74**	*i* Pn	**Pn**	**19 17 57.1**	**-0.9**
KKB	**Krupnik**	**1.64**	**46**	*i* Pn	**Pn**	**19 17 58.8**	**+0.2**
KEK	**Kerkira**	**1.67**	**234**	P	**Pn**	**19 17 58.9**	**0.0**
MAKR	**Makrakomi, Fth**	**1.75**	**165**	P	**Pn**	**19 18 00.0**	**0.0**
AGG	**Agios Georgios**	**1.79**	**160**	P	**Pn**	**19 18 00.6**	**0.0**
AGG	**Agios Georgios**	**1.79**	**160**	P	**Pn**	**19 18 00.4**	**-0.2**
PAIG	**Paliouri**	**1.80**	**115**	P	**Pn**	**19 18 00.3**	**-0.5**
PRVS	**Prvonek**	**1.84**	**12**	*e*Pg	**Pn**	**19 18 01.4**	**0.0**
PRVS				*e*Sg	**Sb**	**19 18 26.4**	**-0.2**
KOKK	**Kokkinochori,**	**1.86**	**86**	P	**Pn**	**19 18 00.7**	**-0.9**
KOKK	**Kokkinochori,**	**1.86**	**86**	P	**Pn**	**19 18 01.1**	**-0.5**
KOKK				S	**Sn**	**19 18 24.9**	**-0.7**
NVR	**Nevrokopi**	**1.86**	**69**	P	**Pn**	**19 18 01.5**	**-0.1**
OUR	**Ouranopolis**	**1.89**	**101**	P	**Pn**	**19 18 01.6**	**-0.4**
BARS	**Barje**	**2.12**	**5**	*e*Pn	**Pn**	**19 18 05.3**	**+0.2**
ULC	**Ulcinj**	**2.14**	**307**	*i* Pn	**Pb**	**19 18 07.2**	**-1.0**
VTS	**Vitosha**	**2.29**	**33**	*e*Pn	**Pn**	**19 18 07.5**	**-0.1**
SELS	**Selova**	**2.53**	**353**	*e*Pn	**Pn**	**19 18 10.7**	**-0.1**
SJES	**Sjenica**	**2.81**	**336**	*e*Pn	**Pn**	**19 18 15.6**	**+0.9**
IVAS	**Ivanjica**	**3.05**	**341**	*e*Pn	**Pn**	**19 18 18.8**	**+0.8**
DIVS	**Divibare**	**3.58**	**342**	*e*Pn	**Pn**	**19 18 25.5**	**+0.2**

*CATAC **10** 19:18:07.7±0.3,8.91N×82.89W,h12km±3km,ML2.6*
*UPA **10** 19:18:08.6±1.3,8.89N×82.80W,h23km±4km,MW3.2*

ISC 10 19:18:07.8±0.9,8.89N±0.03×82.87W±0.03,h26km±6km, n27,σ0°66/43,4C-2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLIR3	**Monte Lirio, C**	**0.11**	**155**	*e*P	**Pb**	**19 18 13.1**	**+0.3**
MLIR3				*i* S	**Sb**	**19 18 17.6**	**+1.4**
BRU2	**Volcan**	**0.20**	**119**	⇑*i*P	**Pb**	**19 18 13.8**	**0.0**
BRU2				*i* S	**Sb**	**19 18 17.8**	**-0.1**
BRU2	**Volcan**	**0.20**	**119**	*i* P	**Pb**	**19 18 13.7**	**0.0**
BRU2				IAML		19 18 13.8	
	comp=Z,2μm,1.0s						
BRU2				*i* S	**Sb**	**19 18 18.2**	**+0.3**
BC3P	**Paso Ancho**	**0.27**	**107**	⇑*i*P	**Pb**	**19 18 14.5**	**-0.2**
BC3P				*i* S	**Sb**	**19 18 19.1**	**-0.3**
POTG	**Potrero Grande**	**0.29**	**303**	*i* P	**Pb**	**19 18 13.1**	**-1.7**
POTG				*i* S	**Sb**	**19 18 19.6**	**-0.1**
POTG				IAML		19 18 21.5	
	comp=Z,2μm,1.0s						
CDITO	**Canoas**	**0.32**	**180**	*i* P	**Pb**	**19 18 14.5**	**-0.7**
CDITO				*i* S	**Sn**	**19 18 22.4**	**-0.1**
CDITO				IAML		19 18 24.9	
	comp=Z,1μm,1.0s						
BCO2	**Palmira**	**0.38**	**117**	⇑*i*P	**Pb**	**19 18 16.4**	**+0.1**
BCO2				*i* S	**Sb**	**19 18 21.9**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.42**	**118**	⇑*i*P	**Pb**	**19 18 17.0**	**+0.2**
PTAR3				*i* S	**Sb**	**19 18 23.3**	**+0.3**
CCOL	**Caracol de Cor**	**0.49**	**192**	*i* P	**Pb**	**19 18 16.6**	**-1.4**
CCOL				*i* S	**Sn**	**19 18 27.6**	**+0.8**
CCOL				IAML		19 18 39.3	
	comp=Z,600nm,1.0s						
SRBA	**San Rafael, Bu**	**0.59**	**305**	*i* P	**Pb**	**19 18 19.3**	**-0.3**
SRBA				*i* S	**Sb**	**19 18 27.6**	**0.0**
SRBA				IAML		19 18 29.6	
	comp=Z,490nm,1.0s						
DVD	**David**	**0.62**	**138**	*e*P	**Pb**	**19 18 20.7**	**+0.7**
PIRO	**Carate, Puerto**	**0.67**	**223**	*i* P	**Pb**	**19 18 19.8**	**-1.1**
PIRO				*i* S	**Sn**	**19 18 31.5**	**+0.3**
PIRO				IAML		19 18 34.0	
	comp=Z,230nm,1.0s						
GUAL3	**Gualaca, Chiri**	**0.67**	**122**	*e*P	**Pb**	**19 18 21.0**	**+0.1**
PEDE3	**Pedregal, Chir**	**0.67**	**139**	*e*P	**Pb**	**19 18 21.3**	**+0.3**
PTPM	**Petroterminale**	**0.69**	**181**	⇓*e*P	**Pb**	**19 18 21.8**	**+0.6**
PTPM				*i* S	**Sb**	**19 18 30.8**	**+0.6**
CHGR2	**Aguacate**	**0.72**	**86**	⇓*e*P	**Pb**	**19 18 21.0**	**-0.8**
CHGR2				*i* S	**Sb**	**19 18 30.6**	**-0.6**
OCHAL	**Ojochal**	**0.79**	**285**	*i* P	**Pn**	**19 18 23.6**	**+0.4**
OCHAL				IAML		19 18 23.8	
	comp=Z,5.2nm,1.0s						
OCHAL				*i* S	**Sb**	**19 18 33.1**	**-0.2**
MRVA	**Moravia de Chi**	**1.08**	**329**	*i* P	**Pb**	**19 18 28.4**	**+0.5**
MRVA				*i* S	**Sn**	**19 18 42.4**	**+0.8**
MRVA				IAML		19 18 46.1	
	comp=Z,1.4nm,1.0s						
CDM	**Cerro de Muert**	**1.10**	**307**	*i* P	**Pn**	**19 18 27.6**	**-0.3**
CDM				*i* S	**Sn**	**19 18 42.9**	**+0.5**
CDM				IAML		19 18 46.0	
	comp=Z,93nm,1.0s						
NANC3	**Nancito, Chiri**	**1.30**	**120**	*e*P	Pn	19 18 22.3	-8.0
RIMA	**Rio Macho**	**1.31**	**312**	*i* P	**Pn**	**19 18 30.9**	**+0.4**
RIMA				*i* S	**Sb**	**19 18 48.1**	**-0.2**
RIMA				IAML		19 18 50.8	
	comp=Z,95nm,1.0s						
TBLN	**Tablon, Guarco**	**1.45**	**310**	*i* P	**Pn**	**19 18 33.2**	**+0.8**
TBLN				*i* S	**Sb**	**19 18 52.7**	**+0.5**
TBLN				IAML		19 18 53.9	
	comp=Z,240nm,1.0s						
SAFE3	**Santa Fe, Vera**	**1.81**	**102**	*e*P	**Pn**	**19 18 36.1**	**-1.2**
RSUS3	**Rio de Jesus,**	**1.92**	**118**	*e*P	**Pn**	**19 18 36.7**	**-0.1**
MARI3	**Mariato, Verag**	**2.24**	**123**	*e*P	**Pn**	**19 18 42.1**	**-1.0**
JTS	**Las Juntas de**	**2.48**	**304**	*e*P	Pn	19 18 27.3	-19
CACAO	**El Cacao, Vera**	**2.52**	**128**	*e*P	**Pn**	**19 18 46.7**	**-0.3**

IDC 10 19:50:41.6±3.5,4.58S×135.55E,h0km,mb3.7/1, mbtmp3.2/3,ML3.1/2,Error ellipse: s-maj=154.5km s-min=33.1km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.31**	**184**	Pn	Pn	19 54 20.0	+0.8
	0.1nm,0.3s,baz=6.2,slow=12,SNR=6.1						
WRA				Sn	Sn	19 57 03.3	-6.3
	baz=113,slow=20,SNR=2.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**19.04**	**185**	P	P	19 55 05.1	-0.4
	0.1nm,0.3s,baz=7.5,slow=11,SNR=6.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**69.39**	**324**	P	P	20 01 51.4	0.0
	1.1nm,1.2s,baz=122,slow=5.2,SNR=4.1						
	1.1nm,1.2s						

*JSN **10** 19:54:26.9±0.4,18˚.06N×76˚.75W,h15km±6km,MD2.6*
*SSNC **10** 19:54:27.0±1.4,18˚.18N×76˚.78W,h9km±26km,MD2.1, ML3.3*

ISC 10 19:54:23.2±1.1,18˚.31N±0˚.04×76˚.75W±0˚.08,h11km±11km, n11,σ0°46/19,4C-1D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GWJ	**Greenwich**	**0.23**	**176**	⇓*i*P	**Pb**	**19 54 29.7**	**+0.1**
STH	**Stony Hill**	**0.24**	**195**	⇑*i*P	**Pb**	**19 54 29.4**	**-0.1**
STH	**Stony Hill**	**0.24**	**195**	*e*P	**Pb**	**19 54 29.4**	**-0.1**
STH				*e*S	**Sg**	**19 54 31.1**	**-0.5**
STH				IAML		19 54 31.5	
	comp=E,102μm,0.1s						
STH				IAML		19 54 31.8	
	comp=N,132μm,0.0s						
HOJ	**Hope**	**0.30**	**181**	⇑*i*P	**Pg**	**19 54 29.6**	**+0.2**
MTDJ	**Mount Denham**	**0.76**	**264**	⇑*i*P	**Pn**	**19 54 40.6**	**+0.7**
MTDJ				⇑*i*S	**Sn**	**19 54 51.0**	**-0.3**
MTDJ	**Mount Denham**	**0.76**	**264**	*e*P	**Pn**	**19 54 40.3**	**+0.4**
MTDJ				*e*S	**Sn**	**19 54 50.7**	**-0.6**
CHIV	**Chivirico**	**1.69**	**11**	*e*P	**Pg**	**19 54 55.8**	**+0.2**
CHIV				*e*S	**Sg**	**19 55 17.2**	**-0.3**
PILO	**Pilon**	**1.71**	**339**	*e*P	**Pn**	**19 54 52.8**	**-0.1**
PILO				*e*S	**Sb**	**19 55 16.5**	**+0.4**
LMGC	**Las Mercedes**	**1.76**	**352**	*e*P	**Pg**	**19 54 57.4**	**+0.4**
LMGC				*e*S	**Sb**	**19 55 16.7**	**-0.9**
LMGC				IAML		19 55 21.2	
	comp=N,37nm,0.1s						
LMGC				IAML		19 55 21.2	
	comp=E,22nm,0.1s						
RCC	**Rio Carpintero**	**1.95**	**30**	*e*P	**Pg**	**19 55 00.4**	**-0.2**
RCC				*e*S	**Sb**	**19 55 23.4**	**+0.4**
PINC	**Pinares de May**	**2.35**	**22**	*e*P	**Pb**	**19 55 05.7**	**+0.2**
PINC				*e*S	**Sb**	**19 55 34.4**	**-0.1**

*IDC **10** 19:59:34.9±2.5,3˚.43S×135˚.01E,h0km,mb3.7/3, mbtmp3.7/4,ML3.3/1,Error ellipse: s-maj=134.0km s-min=27.3km az=74.0*
*DJA **10** 19:59:39.7±0.9,3˚.5±7˚×13˚.5E±˚,h72km±24km,M3.8/6, mb3.7/1,MLv3.8/6*

ISC 10 19:59:40.6±1.5,3.4S±0˚.1×135.3E±0˚.2,h50km,n8,σ1°92/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.63**	**261**	P	**Pn**	**20 00 09.3**	**+2.5**
FAKI	**Fak Fak**	**3.10**	**279**	P	**Pn**	**20 00 26.3**	**-0.7**
SIJI	**Sorong**	**4.76**	**302**	P	**Pn**	**20 00 50.6**	**+0.7**
SWI	**Sorong**	**4.77**	**302**	P	**Pn**	**20 00 50.7**	**+0.8**
SWI				S	**Sn**	**20 01 42.7**	**-1.3**
WRA	**Warramunga Arr**	**16.47**	**183**	Pn	**Pn**	**20 03 25.1**	**-3.3**
	0.1nm,0.3s,baz=1.9,slow=13,SNR=9.7						
WRA				Sn	Sn	20 06 18.9	-12
	0.1nm,0.3s,baz=354,slow=24,SNR=1.7						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**20.20**	**184**	P	**P**	**20 04 11.2**	**-0.2**
	1.3nm,0.7s,baz=10,slow=10,SNR=19						
	1.3nm,0.7s						
STKA	**Stephens Creek**	**28.94**	**169**	P	**P**	**20 05 36.6**	**+1.4**
	0.8nm,0.3s,baz=349,slow=16,SNR=5.4						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**68.30**	**324**	P	**P**	**20 10 36.9**	**+0.4**
	0.3nm,0.6s,baz=122,slow=7.3,SNR=4.5						
	0.3nm,0.6s						

*NIED **10** 20:05:30.9,35˚.72N×140˚.72E,h50km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.46; Mθθ-0.17; Mϕϕ-0.29; Mrθ-0.23; Mθϕ-0.01; Mϕr0.91; Fault plane solution: M₀1.00000×10¹⁵ NP1: ϕs347.00000°,δ79.00000°,λ88.00000°. NP2: ϕs179.00000°,δ11.00000°,λ102.00000°.*

*JMA **10** 20:05:30.9±0.2,35˚.7N±0˚.6×140˚.7E±0˚.8,h50km±1km, MV3.4/34,NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
*IDC **10** 20:05:32.9±2.8,35˚.62N×140˚.58E,h59km±24km,mb3.4/11, mbtmp3.7/13,ML3.2/2,MS3.0/5,Error ellipse: s-maj=29.3km s-min=16.5km az=73.0*

ISC 10 20:05:31.3±1.1,35.68N±0.05×140.8E±0.1,h50km±8km, n30,σ1°27/27,mb3.7/11,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.29**	**263**	⇓P	**Pn**	**20 05 39.8**	**-0.5**
JSMT				⇓S	**Sn**	**20 05 47.0**	**+0.2**
JIHU	**Itakohorinouch**	**0.36**	**322**	⇓P	**Pn**	**20 05 40.6**	**-0.4**
JIHU				⇓S	**Sn**	**20 05 48.1**	**+0.2**
JCN	**Nagara**	**0.56**	**242**	⇓P	**Pn**	**20 05 43.1**	**-0.1**
JCN				⇓S	**Sn**	**20 05 52.3**	**+0.6**
JYT	**Yasato**	**0.74**	**318**	⇓P	**Pn**	**20 05 44.1**	**-1.4**
JYT				⇓S	**Sn**	**20 05 53.8**	**-2.0**
BSO4	**Boso 4**	**0.79**	**209**	P	**Pn**	**20 05 46.2**	**+0.1**
BSO3	**Boso 3**	**0.91**	**195**	*e*P	**Pn**	**20 05 47.7**	**+0.1**
BSO1	**Boso 1**	**1.03**	**172**	*e*P	**Pn**	**20 05 49.6**	**+0.6**
MJAR	**Matsushiro Arr**	**2.27**	**293**	P	**Pn**	**20 06 05.8**	**-0.6**
	2.3nm,0.3s,baz=98,slow=14,SNR=58						
MJAR				S	**Sn**	**20 06 35.4**	**+2.2**
	17nm,0.3s,baz=107,slow=25,SNR=3.9						
	12nm,0.3s						
JHJ	**Hachijo jima 2**	**2.69**	**199**	P	**Pn**	**20 06 12.1**	**-0.1**
	40nm,0.3s,baz=323,slow=20,SNR=7.4						
JHJ				S	**Sn**	**20 06 40.1**	**-3.4**
	94nm,0.2s,baz=247,slow=23,SNR=1.3						
	86nm,0.3s						
JNU	**Nakatsue**	**8.59**	**256**	LR	LR	20 11 12.8	
	comp=Z,134nm,18.4s,baz=94,slow=40						
KSRS	**Korea Array**	**10.51**	**283**	P	**Pn**	**20 08 02.0**	**+2.8**
	2.7nm,0.9s,baz=100,slow=15,SNR=2.8						
KSRS				LR	LR	20 11 54.7	
	comp=Z,65nm,19.0s,baz=60,slow=37						
KLR	**Kul'dur**	**15.08**	**337**	LR	LR	20 14 22.2	
	comp=Z,35nm,19.6s,baz=76,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	20 40 39.5	
	baz=309,slow=75,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	20 40 37.6	
	baz=309,slow=75,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	20 40 48.1	
	baz=309,slow=75,SNR=9.2						
SONM	**Songino Array**	**28.16**	**306**	P	**P**	**20 11 18.0**	**-1.0**
	0.3nm,0.5s,baz=107,slow=8.9,SNR=3.4						
	0.3nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	20 41 21.1	
	baz=312,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	20 41 11.2	
	baz=312,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	20 41 18.0	
	baz=312,slow=75,SNR=13						
CMAR	**Chiang Mai Arr**	**40.69**	**256**	P	**P**	**20 13 06.2**	**-0.9**
	0.2nm,0.4s,baz=48,slow=7.8,SNR=4.1						
CMAR				LR	LR	20 30 45.4	
	comp=Z,24nm,18.2s,baz=45,slow=37						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**42.47**	**313**	P	**P**	**20 13 21.2**	**-0.1**
	0.4nm,0.4s,baz=90,slow=10,SNR=3.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**20 13 37.2**	**0.0**
	1.0nm,0.7s,baz=90,slow=9.9,SNR=11						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**46.46**	**309**	P	**P**	**20 13 52.2**	**-0.9**
	1.0nm,0.5s,baz=85,slow=7.9,SNR=11						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**20 14 28.8**	**+1.7**
	0.7nm,0.8s,baz=278,slow=6.7,SNR=7.7						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**51.13**	**313**	P	**P**	**20 14 29.1**	**+0.2**
	0.5nm,0.6s,baz=64,slow=10,SNR=3.6						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**20 15 02.3**	**-0.1**
	0.8nm,0.4s,baz=0.7,slow=7.5,SNR=6.9						
	0.8nm,0.4s						
AKTO	**Aktyubinsk**	**59.22**	**312**	LR	LR	20 44 06.9	
	comp=Z,23nm,21.1s,baz=24,slow=39						
ASAR	**Alice Springs**	**59.38**	**187**	P	**P**	**20 15 28.3**	**-0.3**
	0.4nm,0.5s,baz=23,slow=11,SNR=4.7						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**69.78**	**332**	P	**P**	**20 16 35.8**	**-0.2**
	0.6nm,0.8s,baz=41,slow=4.4,SNR=3.7						
	0.6nm,0.8s						
NOA	**NORSAR Array B**	**75.24**	**337**	P	**P**	**20 17 09.1**	**+0.5**
	0.4nm,0.6s,baz=57,slow=6.6,SNR=1.5						
	0.4nm,0.6s						

*NOU **10** 20:24:29.2,41˚.88S×172˚.82E,h96km,MLv3.7/6,South Island, New Zealand*
*WEL **10** 20:24:30.3±0.5,42˚.2S±4˚×17˚.3E±˚,h69km±6km,M3.9/69, ML4.0/21,MLv3.9/69,Error ellipse: s-maj=0.0km s-min=0.0km az=138.5,confirmed*

ISC 10 20:24:29.7±1.4,41.85S±0.03×172.75E±0.04,h87km±7km, n119,σ1°20/129,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.15**	**54**	P	**Pn**	**20 24 42.4**	**+0.1**
THZ				S	**Sn**	**20 24 50.9**	**-0.7**

PREZ	Palmer Road	2.73	24	P	Pn	20 25 12.9	+1.3
KHEZ	Kahui Hut	2.73	21	P	Pn	20 25 12.8	+1.2
KHEZ	Kahui Hut	2.73	21	P	Pn	20 25 12.8	+1.2
FOZ	Fox Glacier	2.74	231	P	Pn	20 25 11.7	+0.1
PRWZ	Pori Road	2.76	63	P	Pn	20 25 10.8	-1.0
CPWZ	Castlepoint	2.77	71	P	Pn	20 25 11.0	-1.0
NEZ	North Egmont	2.77	22	P	Pn	20 25 13.1	+0.9
PKE	Pukeiti	2.82	20	P	Pn	20 25 14.1	+1.3
TMZ	Timaru	2.83	206	P	Pn	20 25 12.7	-0.2
BFZ	Birch Farm	2.88	67	P	Pn	20 25 11.9	-1.7
BFZ	Birch Farm	2.88	67	P	Pn	20 25 12.0	-1.7
DVHZ	Dannevirke	3.01	60	P	Pn	20 25 13.6	-1.8
MHEZ	Mangahewa	3.02	24	P	Pn	20 25 17.3	+1.9
TSZ	Takapari Road	3.02	55	P	Pn	20 25 14.3	-1.2
VRZ	Vera Road	3.12	30	P	Pn	20 25 18.2	+1.3
ANWZ	Angora Road	3.14	65	P	Pn	20 25 15.4	-1.6
LBZ	Lake Benmore	3.15	216	P	Pn	20 25 16.2	-1.0
MTVZ	Mangateitei	3.22	41	P	Pn	20 25 19.0	+0.8
PKVZ	Pokaka	3.23	39	P	Pn	20 25 19.0	+0.6
PNHZ	Pukenui	3.25	55	P	Pn	20 25 17.0	-1.6
TRVZ	Turoa	3.32	41	P	Pn	20 25 19.7	-0.1
WNVZ	Wahianoa	3.33	42	P	Pn	20 25 19.9	+0.2
PRHZ	Porangahau	3.34	63	P	Pn	20 25 17.7	-2.1
MOVZ	Moawhango	3.34	44	P	Pn	20 25 19.3	-0.6
MAVZ	Matarangi	3.35	41	P	Pn	20 25 20.4	+0.2
WHVZ	Whangaehu Hut	3.36	41	P	Pn	20 25 20.8	+0.6
FWVZ	Far West T-bar	3.36	40	P	Pn	20 25 20.9	+0.6
COVZ	Chateau Observ	3.40	40	P	Pn	20 25 23.4	+2.8
TUVZ	Tukino	3.40	42	P	Pn	20 25 21.1	+0.4
NGZ	Ngauruhoe	3.45	40	P	Pn	20 25 22.0	+0.7
BHHZ	Black Hill Sta	3.45	48	P	Pn	20 25 20.4	-0.9
TWVZ	Taurewa	3.45	37	P	Pn	20 25 22.4	+1.1
SNVZ	South Ngauruho	3.46	41	P	Pn	20 25 21.5	0.0
OTVZ	Oturere	3.49	41	P	Pn	20 25 21.7	-0.2
NNVZ	North Ngauruho	3.49	40	P	Pn	20 25 23.1	+1.2
WTVZ	West Tongariro	3.49	39	P	Pn	20 25 22.0	+0.2
KRHZ	Kereru	3.53	53	P	Pn	20 25 20.6	-1.7
KRVZ	Karewarewa	3.53	40	P	Pn	20 25 23.0	+0.6
ETVZ	East Tongariro	3.53	41	P	Pn	20 25 22.9	+0.5
ODZ	Otahua Downs	3.54	205	P	Pn	20 25 22.2	-0.2
NTVZ	North Tongarir	3.54	40	P	Pn	20 25 23.2	+0.6
TMVZ	Te Maari	3.54	41	P	Pn	20 25 22.8	+0.1
PXZ	Pawanui	3.61	61	P	Pn	20 25 21.3	-2.1
KATZ	Kakaramea	3.65	39	P	Pn	20 25 27.8	+3.7
JCZ	Jackson Bay	3.66	231	P	Pn	20 25 23.7	-0.5
KWHZ	Kaweka Forest	3.70	50	P	Pn	20 25 23.0	-1.7
KAHZ	Kahuranaki	3.75	58	P	Pn	20 25 23.4	-1.9
RATZ	Rangitukua	3.77	39	P	Pn	20 25 29.6	+4.0
BKZ	Black Stump Fm	3.92	48	P	Pn	20 25 26.3	-1.3
BKZ	Black Stump Fm	3.92	48	P	Pn	20 25 26.1	-1.5
WKZ	Wanaka	4.03	221	P	Pn	20 25 29.1	0.0
TLZ	Tolley Road	4.12	32	P	Pn	20 25 31.3	+1.0
NMHZ	Naumai	4.14	50	P	Pn	20 25 28.7	-2.0
EAZ	Earnscleugh	4.20	215	P	Pn	20 25 29.9	-1.5
MTHZ	Maungataniwha	4.33	48	P	Pn	20 25 31.4	-1.9
MSZ	Milford Sound	4.51	230	P	Pn	20 25 36.0	+0.4
TOZ	Tahuroa Road	4.63	28	P	Pn	20 25 38.1	+0.9
TUZ	Tuapeka	4.68	208	P	Pn	20 25 37.2	-0.7
MLZ	Mavora Lakes	4.86	222	P	Pn	20 25 39.7	-0.7
AWAZ	Awhitu Peninsu	5.00	18	P	Pn	20 25 43.8	+1.5
MKAZ	Moumakai	5.09	22	P	Pn	20 25 44.1	+0.6
MBAZ	Motutapu North	5.34	19	P	Pn	20 25 48.6	+1.7
WIAZ	Waiheke Island	5.38	21	P	Pn	20 25 48.2	+0.8
RUGZ	Raukumara Rang	5.42	46	P	Pn	20 25 45.8	-2.3
DCZ	Deep Cove	5.43	226	P	Pn	20 25 49.8	+1.7
WCZ	Waipu Caves	6.03	12	P	Pn	20 25 57.9	+1.5
OUZ	Omahuta	6.65	6	P	Pn	20 26 06.6	+1.7

CATAC ***10*** *20:28:05.4±0.6, 8°.57N×82°.94W, h22km±3km, ML2.5*
UPA ***10*** *20:28:08.9±1.0, 8°.51N×82°.90W, h15km±3km, MD3.1, ML3.2*

ISC 10 20:28:06.6±1.0, **8°.59N**±0°.03×**83°.00W**±0°.03, **h24**km±11km, **n21,** σ0°**98**/**34**, **1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.37**	**56**	*eP*	**Pn**	**20 28 18.3**	**+1.8**
BRU2				*i* S	**Sn**	**20 28 23.2**	**+0.2**
BRU2	**Volcan**	**0.37**	**56**	*i* P	**Pb**	**20 28 13.5**	**-1.2**
BRU2				IAML		20 28 24.4	
	comp=Z,210nm,1.0s						
PIRO	**Carate, Puerto**	**0.38**	**241**	*i* P	**Pb**	**20 28 15.2**	**+0.4**
PIRO				*i* S	**Sn**	**20 28 22.6**	**-0.5**
PTPM	**Petroterminale**	**0.40**	**162**	⇑*i*P	**Pn**	**20 28 15.9**	**-0.9**
PTPM				AMP		20 28 16.1	
	comp=Z,2μm,0.1s						
PTPM				*i* S	**Sb**	**20 28 21.2**	**+0.3**
BC3P	**Paso Ancho**	**0.45**	**60**	*eP*	**Pn**	**20 28 20.9**	**+3.2**
POTG	**Potrero Grande**	**0.48**	**346**	*i* P	**Pn**	**20 28 17.5**	**-0.5**
POTG				*i* S	**Sn**	**20 28 25.9**	**+0.3**
POTG				IAML		20 28 27.5	
	comp=Z,610nm,1.0s						
BCO2	**Palmira**	**0.48**	**74**	*eP*	**Pn**	**20 28 17.9**	**-0.2**
BCO2				AMP		20 28 19.9	
	comp=Z,2μm,0.2s						
BCO2				*i* S	**Sn**	**20 28 25.0**	**-1.0**
LIMO3	**Limones**	**0.50**	**164**	*eP*	**Pb**	**20 28 17.2**	**+0.4**
LIMO3				*i* S	**Sb**	**20 28 23.9**	**+0.1**
PTAR3	**Potrerillos Ar**	**0.51**	**78**	*eP*	**Pn**	**20 28 17.9**	**-0.5**
PTAR3				*i* S	**Sn**	**20 28 25.3**	**-1.2**
PEDE3	**Pedregal, Chir**	**0.61**	**109**	*eP*	**Pn**	**20 28 19.1**	**-0.6**
PEDE3				*eS*	**Sb**	**20 28 26.6**	**-0.1**
GUAL3	**Gualaca, Chiri**	**0.70**	**94**	*eP*	**Pn**	**20 28 21.1**	**+0.1**
GUAL3				*i* S	**Sn**	**20 28 30.6**	**-0.4**
SRBA	**San Rafael, Bu**	**0.73**	**331**	*i* P	**Pb**	**20 28 20.6**	**-0.2**
SRBA				*i* S	**Sb**	**20 28 31.3**	**+0.9**
SRBA				IAML		20 28 31.8	
	comp=Z,130nm,1.0s						
OCHAL	**Ojochal**	**0.81**	**309**	*i* P	**Pb**	**20 28 21.8**	**-0.3**
OCHAL				IAML		20 28 22.1	
	comp=Z,5.2nm,1.0s						
OCHAL				*i* S	**Sn**	**20 28 34.1**	**+0.2**
CHGR2	**Aguacate**	**0.92**	**68**	*eP*	**Pn**	**20 28 24.8**	**+0.8**
CHGR2				*eS*	**Sb**	**20 28 35.9**	**+0.3**
CDM	**Cerro de Muert**	**1.22**	**322**	*i* P	**Pn**	**20 28 28.0**	**-0.5**
CDM				*i* S	**Sb**	**20 28 44.5**	**-0.3**
CDM				IAML		20 28 45.9	
	comp=Z,45nm,1.0s						
RIMA	**Rio Macho**	**1.45**	**324**	*i* P	**Pn**	**20 28 30.5**	**-1.0**
RIMA				IAML		20 28 34.6	
	comp=Z,49nm,1.0s						
LCR2	**La Lucha 2**	**1.52**	**319**	*i* P	**Pn**	**20 28 31.2**	**-1.2**
LCR2				IAML		20 28 55.4	
	comp=Z,32nm,1.0s						
TBLN	**Tablon, Guarco**	**1.57**	**321**	*i* P	**Pn**	**20 28 32.5**	**-0.7**
TBLN				IAML		20 28 44.8	
	comp=Z,65nm,1.0s						
JACO	**JACO, Garabito**	**1.96**	**303**	*i* P	**Pn**	**20 28 40.0**	**+1.8**
JACO				IAML		20 28 41.8	
	comp=Z,48nm,1.0s						
CACAO	**El Cacao, Vera**	**2.45**	**120**	*eP*	**Pn**	**20 28 46.0**	**+0.9**
INDI	**Punta indio, G**	**2.78**	**297**	*i* P	**Pn**	**20 28 50.0**	**+0.4**
INDI				IAML		20 28 50.4	
	comp=Z,30nm,1.0s						

NEIC ***10*** *20:31:41±0.7, 5°.45S±0°.09×150°.8E±0°.1, h82km±9km, mb4.1/15, Error ellipse: s-maj=16.6km s-min=10.5km az=129.0*
IDC ***10*** *20:31:41.3±1.2, 5°.41S×150°.88E, h103km±17km, mb3.6/5, mbtmp4.0/6, MS2.5/1, Error ellipse: s-maj=34.2km s-min=15.6km az=135.0*

ISC 10 20:31:41.4±0.7, **5°.49S**±0°.09×**150°.9E**±0°.1, **h100**km, **n27,** σ1**43**/**29**, **mb3.9**/12, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.66**	**45**	P	**Pn**	**20 32 09.8**	**+0.1**
	baz=197,slow=19						
KRVT				S	**Sn**	**20 32 29.4**	**-1.7**
	baz=128,slow=19						
RABL	**Rabaul**	**1.84**	**45**	Pn	**Pn**	**20 32 11.4**	**-0.6**
PMG	**Port Moresby**	**5.34**	**223**	Pn	**Pn**	**20 32 58.0**	**-0.8**
PMG	**Port Moresby**	**5.34**	**223**	P	**Pn**	**20 32 59.7**	**+0.9**
	40nm,0.6s,baz=23,slow=5.1,SNR=19						
PMG				S	**Sn**	**20 33 57.2**	**-1.9**
	110nm,0.4s,baz=182,slow=21,SNR=10						
PMG				LR	LR	20 35 11.9	
	comp=Z,400nm,19.0s,baz=100,slow=39						
EIDS	**Eidsvold**	**19.77**	**179**	P	**Pn**	**20 36 04.4**	**-1.7**
EIDS				IAmb	IAmb	20 36 06.1	
	comp=Z,5.4nm,0.7s						
WB0	**Warramunga Arr**	**21.40**	**227**	P	**P**	**20 36 21.1**	**-0.2**
WB0				IAmb	IAmb	20 36 23.4	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**21.41**	**226**	P	**P**	**20 36 20.3**	**-1.1**
WR0				IAmb	IAmb	20 36 40.1	
	comp=Z,5.8nm,0.9s						
WRAB	**Tennant Creek**	**21.54**	**227**	P	**P**	**20 36 17.3**	**-5.4**
WRAB				IAmb	IAmb	20 36 36.5	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**21.54**	**227**	P	**P**	**20 36 21.9**	**-0.9**
WB2				IAmb	IAmb	20 36 44.6	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**21.55**	**227**	P	**P**	**20 36 21.8**	**-1.1**
WRA	**Warramunga Arr**	**21.55**	**227**	P	**P**	**20 36 22.5**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=54,slow=10,SNR=12						
	comp=Z,1.7nm,0.5s						
DZM	**Mont Dzumac**	**22.34**	**139**	P	**P**	**20 36 31.9**	**+0.5**
DZM				IAmb	IAmb	20 36 36.3	
	comp=Z,14nm,1.2s						
DZM	**Mont Dzumac**	**22.34**	**139**	P	**P**	**20 36 31.6**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=287,slow=11,SNR=10						
	comp=Z,4.2nm,0.5s						
KNRA	**Kununurra**	**23.93**	**243**	P	**P**	**20 36 47.1**	**+0.7**
KNRA				IAmb	IAmb	20 37 22.9	
	comp=Z,37nm,1.4s						
AS31	**Alice Springs**	**24.35**	**220**	P	**P**	**20 36 50.5**	**+0.3**
ASAR	**Alice Springs**	**24.35**	**220**	P	**P**	**20 36 50.5**	**+0.2**
ASAR	**Alice Springs**	**24.35**	**220**	P	**P**	**20 36 51.0**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=56,slow=8.4,SNR=67						
	comp=Z,3.1nm,0.6s						
SOEI	**Soe**	**26.68**	**259**	P	**P**	**20 37 11.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.63**	**241**	P	**P**	**20 37 19.9**	**+0.2**
FITZ				IAmb	IAmb	20 37 20.9	
	comp=Z,8.4nm,1.4s						
STKA	**Stephens Creek**	**27.64**	**197**	P	**P**	**20 37 20.4**	**+0.6**
STKA	**Stephens Creek**	**27.64**	**197**	P	**P**	**20 37 20.1**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=1.7,slow=10.0,SNR=4.7						
	comp=Z,1.2nm,0.5s						
MORW	**Morawa**	**40.41**	**230**	P	**P**	**20 39 10.2**	**+0.2**
TCW	**Tory Channel**	**41.28**	**153**	P	**P**	**20 39 18.3**	**+1.4**
MLZ	**Mavora Lakes**	**42.48**	**162**	P	**P**	**20 39 28.1**	**+1.4**
PETK	**Petropavlovsk-**	**58.66**	**5**	P	**P**	**20 41 28.2**	**0.0**
SONM	**Songino Array**	**65.89**	**329**	P	**P**	**20 42 18.2**	**+1.5**
SONM				IAmb	IAmb	20 42 47.7	
	comp=Z,1.4nm,1.2s						
ILAR	**Eielson Array**	**83.53**	**22**	P	**P**	**20 43 56.9**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=248,slow=5.0,SNR=2.9						
	comp=Z,0.4nm,0.8s						

IDC ***10*** *20:38:32.0±28.0, 0°.27S×17°.74W, h0km, mb3.8/2, mbtmp4.0/3, ML4.3/1, MS3.8/1, Error ellipse: s-maj=740.6km s-min=70.0km az=178.0*

ISC 10 20:38:46.5±5.2, **2°.0N**±1°.0×**17°.8W**±0°.2, **h10**km, **n12,** σ0°**86**/**7, 2C-1D, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**10.29**	**161**	T	T	20 49 02.5	
	baz=334,slow=73,SNR=31						
H10N3	**ASCENSION HYDR**	**10.29**	**162**	T	T	20 49 05.2	
	baz=334,slow=73,SNR=225						
H10N1	**ASCENSION HYDR**	**10.30**	**161**	T	T	20 49 03.1	
	baz=334,slow=73,SNR=217						
H10S3	**ASCENSION HYDR**	**11.30**	**164**	T	T	20 50 12.8	
	baz=338,slow=74,SNR=39						
H10S2	**ASCENSION HYDR**	**11.31**	**164**	T	T	20 50 14.3	
	baz=242,slow=74,SNR=20						
LIC	**Lamto**	**13.38**	**71**	⇑*i*P	**Pn**	**20 41 57.3**	**+0.6**
	3.2nm,0.3s						
TIC	**Toumodi**	**13.52**	**70**	⇑*i*P	**Pn**	**20 41 59.7**	**+1.1**
	9.2nm,0.2s						
DBIC	**Dimbokro**	**13.69**	**70**	Pn	**Pn**	**20 41 59.8**	**-1.0**
	1.2nm,0.3s,baz=249,slow=15,SNR=14						
DBIC				Sn	**Sn**	**20 44 33.1**	**+0.1**
	0.3nm,0.3s,baz=252,slow=6.7,SNR=1.8						
	2.8nm,0.3s						
KIC	**Kosan Boka**	**13.70**	**71**	⇓*i*P	**Pn**	**20 42 00.6**	**-0.3**
	3.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**22.23**	**59**	P	**P**	**20 43 43.0**	**-0.6**
	1.5nm,0.7s,baz=237,slow=8.8,SNR=10						
	1.5nm,0.7s						
MLR	**Muntele Rosu**	**57.82**	**35**	LR	LR	21 15 16.5	
	comp=Z,80nm,18.8s,baz=333,slow=37						
FINES	**FINESS Array B**	**67.88**	**21**	P	**P**	**20 49 45.1**	**+0.2**
	0.9nm,0.7s,baz=237,slow=6.4,SNR=3.9						
	0.9nm,0.7s						

IDC ***10*** *20:53:24.7±2.1, 0°.82N×98°.55E, h0km, mb4.1/7, mbtmp4.0/8, ML4.4/1, Error ellipse: s-maj=93.2km s-min=19.5km az=57.0*
DJA ***10*** *20:53:37.6±0.3, 1°.1N±2°.×9°.9E±°, h87km±5km, M4.3/16, mb4.5/5, mB5.7/1, MLv4.2/16, Mw(mB)5.2/1*
NEIC ***10*** *20:53:38.3±1.2, 1°.19N±0°.06×98°.89E±0°.06, h95km±10km, mb4.1/16, Error ellipse: s-maj=12.2km s-min=2.1km az=222.0*

ISC 10 20:53:38.0±0.6, **1°.20N**±0°.04×**98°.91E**±0°.05, **h100**km, **n55,** σ1**10**/**55**, **mb4.1**/13, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRSI	**Tarutung**	**0.82**	**3**	P	**Pn**	**20 53 56.1**	**-0.7**
TRSI				S	**Sn**	**20 54 09.3**	**-1.5**
GSI	**Gunungsitoli**	**1.34**	**275**	Pn	**Pn**	**20 54 02.5**	**+0.1**
GSI	**Gunungsitoli**	**1.34**	**275**	P	**Pn**	**20 54 02.5**	**+0.1**
GSI				S	**Sn**	**20 54 20.5**	**-0.3**
PBSI	**Pulau Batu**	**1.40**	**207**	P	**Pn**	**20 54 03.4**	**+0.4**
PBSI				S	**Sn**	**20 54 22.3**	**+0.4**
RPSI	**Rantau Prapat**	**1.49**	**1**	Pn	**Pn**	**20 54 04.0**	**-0.2**
BKNI	**Bangkinang**	**2.30**	**112**	Pn	**Pn**	**20 54 14.7**	**+0.2**
BKNI	**Bangkinang**	**2.30**	**112**	P	**Pn**	**20 54 15.0**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.57**	**334**	P	**Pn**	**20 54 17.5**	**-0.7**
KCSI				S	**Sn**	**20 54 46.8**	**-2.2**
PDSI	**Padang**	**2.61**	**143**	P	**Pn**	**20 54 19.8**	**+1.2**
SNSI	**Sinabang, Aceh**	**2.85**	**295**	P	**Pn**	**20 54 22.3**	**+0.5**
SNSI				S	**Sn**	**20 54 52.0**	**-3.5**
MLSI	**Meulaboh, Aceh**	**3.94**	**321**	P	**Pn**	**20 54 36.2**	**-0.3**
PPSI	**Pulau Pagai**	**4.08**	**164**	P	Pn	20 54 31.8	-6.6
PPSI				S	**Sn**	**20 55 22.6**	**-2.6**
KRJI	**Kerinci**	**4.14**	**142**	P	**Pn**	**20 54 40.3**	**+1.0**
KULM	**Kulim**	**4.42**	**23**	Pn	**Pn**	**20 54 43.2**	**+0.2**
KULM	**Kulim**	**4.42**	**23**	P	**Pn**	**20 54 43.2**	**+0.2**
LHMI	**Lhok Sumawe**	**4.46**	**334**	Pn	**Pn**	**20 54 44.1**	**+0.7**
LHMI	**Lhok Sumawe**	**4.46**	**334**	P	**Pn**	**20 54 43.4**	**-0.1**
MYKOM	**Kota Tinggi**	**4.97**	**83**	Pn	**Pn**	**20 54 51.2**	**+0.7**
MYKOM	**Kota Tinggi**	**4.97**	**83**	P	**Pn**	**20 54 51.1**	**+0.7**
TPRI	**Tanjung Pinang**	**5.62**	**93**	P	**Pn**	**20 54 59.9**	**+0.7**
	44nm,0.6s,0.2nm						
UBSI	**University, Be**	**5.96**	**146**	P	**Pn**	**20 55 04.2**	**+0.3**
	244nm,1.0s,0.9nm						
EGSI	**Enggano, Bengk**	**7.32**	**153**	P	**Pn**	**20 55 19.1**	**-3.3**
	96nm,1.8s,0.4nm						
KASI	**Kota Agung**	**8.70**	**140**	P	**Pn**	**20 55 39.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**17.15**	**0**	P	**P**	**20 57 32.4**	**+0.6**
	0.5nm,0.3s,baz=191,slow=10,SNR=14						
	0.8nm,0.3s						
CRAI	**Chiangrai**	**18.97**	**4**	P	**Pn**	**20 57 53.6**	**+0.2**
TOLI2	**Tolitoli**	**21.87**	**90**	P	**P**	**20 58 24.3**	**+1.4**
TOLI2				IAmb	IAmb	20 58 45.3	
	comp=Z,7.3nm,0.9s						
SHL	**Shillong**	**25.16**	**345**	P	**P**	**20 58 54.1**	**-0.2**
H08S2	**Diego Garcia H**	**27.77**	**251**	T	T	21 26 53.5	
	baz=73,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**27.78**	**251**	T	T	21 26 50.8	
	baz=73,slow=76,SNR=15						
H08S1	**Diego Garcia H**	**27.79**	**251**	T	T	21 26 48.6	
	baz=73,slow=76,SNR=11						
WB0	**Warramunga Arr**	**40.56**	**123**	P	**P**	**21 01 06.7**	**-1.3**
WRA	**Warramunga Arr**	**40.59**	**123**	P	**P**	**21 01 07.1**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=306,slow=8.7,SNR=7.0						
	comp=Z,1.2nm,0.3s						
WRAB	**Tennant Creek**	**40.60**	**123**	P	**P**	**21 01 06.3**	**-2.0**
WRAB				IAmb	IAmb	21 01 33.2	
	comp=Z,6.1nm,1.2s						
WB2	**Warramunga Arr**	**40.60**	**123**	P	**P**	**21 01 07.1**	**-1.3**
WB2				IAmb	IAmb	21 01 11.9	
	comp=Z,3.0nm,0.8s						
AS31	**Alice Springs**	**42.04**	**128**	P	**P**	**21 01 19.8**	**-0.3**
ASAR	**Alice Springs**	**42.04**	**128**	P	**P**	**21 01 19.9**	**-0.2**
ASAR	**Alice Springs**	**42.04**	**128**	P	**P**	**21 01 19.1**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=298,slow=7.1,SNR=4.6						
	comp=Z,0.6nm,0.4s						
SIMJ	**Simiganj**	**46.25**	**327**	P	**P**	**21 01 54.0**	**+0.4**
SIMJ				IAmb	IAmb	21 01 56.4	
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**46.91**	**7**	P	**P**	**21 01 59.2**	**+0.7**
SONM	**Songino Array**	**46.91**	**7**	P	**P**	**21 01 59.5**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=193,slow=9.1,SNR=14						
SONM				PcP	**PcP**	**21 03 30.7**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=173,slow=3.1,SNR=1.8						
	comp=Z,0.8nm,0.4s						
ULN	**Ulaanbaatar**	**47.02**	**7**	P	**P**	**21 01 59.3**	**-0.2**
ULN				IAmb	IAmb	21 02 19.9	
	comp=Z,3.6nm,1.4s						
MK31	**Makanchi Array**	**47.68**	**345**	P	**P**	**21 02 04.8**	**+0.4**
MKAR	**Makanchi Array**	**47.68**	**345**	P	**P**	**21 02 04.9**	**+0.5**
MKAR	**Makanchi Array**	**47.68**	**345**	P	**P**	**21 02 05.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=158,slow=8.0,SNR=13						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**52.20**	**344**	P	**P**	**21 02 39.3**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=161,slow=7.5,SNR=9.0						
	comp=Z,0.7nm,0.3s						
ZAA0	**Zalesovo Array**	**53.85**	**350**	P	**P**	**21 02 50.6**	**0.0**
ZALV	**Zalesovo Beam**	**53.85**	**350**	P	**P**	**21 02 50.1**	**-0.4**
ZALV	**Zalesovo Beam**	**53.85**	**350**	P	**P**	**21 02 51.2**	**+0.7**
	comp=Z,2.5nm,0.4s,baz=167,slow=7.5,SNR=12						
	comp=Z,2.5nm,0.4s						
BVAR	**Borovoye Array**	**56.83**	**340**	P	**P**	**21 03 12.3**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=138,slow=8.9,SNR=11						
	comp=Z,1.3nm,0.5s						
BRVK	**Borovoye**	**56.89**	**340**	P	**P**	**21 03 12.4**	**0.0**
BRVK				IAmb	IAmb	21 03 13.3	
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**58.33**	**331**	P	**P**	**21 03 22.3**	**-0.3**
ABKAR	**Akbulak array**	**58.33**	**331**	P	**P**	**21 03 22.8**	**+0.2**
H04N2	**CROZET ISLANDS**	**62.74**	**215**	T	T	22 11 10.3	
	baz=54,slow=75,SNR=6.3						
H04N1	**CROZET ISLANDS**	**62.75**	**215**	T	T	22 11 10.9	
	baz=54,slow=75,SNR=7.0						
H04N3	**CROZET ISLANDS**	**62.76**	**215**	T	T	22 11 09.5	
	baz=54,slow=75,SNR=8.1						

IDC ***10*** *21:08:20.0±4.6, 18°.09S×178°.00W, h598km±50km, mb3.4/9, mbtmp4.4/9, Error ellipse: s-maj=32.3km s-min=27.4km az=53.0*
NEIC ***10*** *21:08:22.9±1.4, 18°.22S±0°.06×178°.2W±0°.2, h620km±14km, mb4.5/18, Error ellipse: s-maj=28.1km s-min=4.2km az=107.0*

ISC 10 21:08:19.5±0.6, **18°.1S**±0°.1×**178°.3W**±0°.1, **h579**km, **n50,** σ1**48**/**54**, **mb4.4**/**17**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.00**	**98**	P	**P**	**21 10 20.6**	**+2.5**
FUNA	**Funafuti**	**9.85**	**345**	P	**P**	**21 10 41.0**	**+4.5**
URZ	**Urewera**	**20.46**	**190**	P	**P**	**21 12 17.9**	**-0.2**
	2.2nm,0.3s,baz=51,slow=2.9,SNR=2.6						
	2.2nm,0.3s						
TSZ	**Takapari Road**	**22.42**	**192**	P	P	21 12 56.7	+21
MRZ	**Mangatainoka R**	**23.07**	**192**	P	**P**	**21 12 40.5**	**-1.1**
MRZ				IAmb	IAmb	21 13 04.6	
	comp=Z,20nm,1.2s						
OGWZ	**Otaki Gorge**	**23.31**	**193**	P	**P**	**21 12 47.3**	**+3.7**
QRZ	**Quartz Range**	**23.96**	**197**	P	**P**	**21 12 50.4**	**+1.0**
QRZ	**Quartz Range**	**23.96**	**197**	P	**P**	**21 12 51.7**	**+2.3**
PLWZ	**Palliser**	**24.01**	**192**	P	**P**	**21 12 50.5**	**+0.6**
NNZ	**Nelson**	**24.10**	**196**	P	**P**	**21 12 52.0**	**+1.4**
TUWZ	**Tuamarina**	**24.16**	**194**	P	**P**	**21 12 51.3**	**+0.1**
THZ	**Tophouse**	**24.73**	**196**	P	**P**	**21 12 57.1**	**+0.8**
KHZ	**Kahutara**	**25.19**	**194**	P	**P**	**21 13 00.5**	**+0.2**
GVZ	**Greta Valley S**	**25.84**	**195**	P	**P**	**21 13 06.1**	**+0.2**
LTZ	**Lake Taylor**	**25.85**	**196**	P	**P**	**21 13 06.3**	**+0.1**
EIDS	**Eidsvold**	**29.29**	**250**	P	**

JOGS	**Gusukube**	**1.06**	**294**	P	**Pn**	**21 22 27.2**	**-0.3**
JOGS				*e*S	**Sb**	**21 22 42.4**	**+0.5**
JMJ2	**Miyako jima3**	**1.12**	**292**	*e*P	**Pn**	**21 22 27.9**	**-0.4**
JMJ2				*e*S	**Sb**	**21 22 44.0**	**+0.4**
JIKM	**Ikemajima**	**1.26**	**299**	*e*P	**Pn**	**21 22 29.9**	**-0.4**
JIKM				*e*S	**Sn**	**21 22 46.5**	**+0.2**
JIRB	**Irabujima**	**1.28**	**293**	*e*P	**Pn**	**21 22 29.8**	**-0.7**
JIRB				*e*S	**Sn**	**21 22 46.7**	**-0.1**
JTJ	**Tarama**	**1.64**	**281**	P	**Pn**	**21 22 34.6**	**-0.9**
JTJ				*e*S	**Sn**	**21 22 55.5**	**-0.1**
JISG	**Ishigakijimahi**	**1.99**	**278**	*e*P	**Pn**	**21 22 39.3**	**-0.9**
JKE	**Kume jima 2**	**2.02**	**8**	P	**Pn**	**21 22 39.7**	**-0.9**
JKE				*e*S	**Sn**	**21 23 03.9**	**-0.9**
JIJ	**Ishigaki jima**	**2.12**	**272**	P	**Pn**	**21 22 40.8**	**-1.4**
JIJ				*e*S	**Sn**	**21 23 05.9**	**-1.6**
JJT3	**Tamagusuku3**	**2.17**	**33**	S	**Sn**	**21 23 08.3**	**-0.3**
JKRS	**Kuro-shima**	**2.25**	**268**	*e*P	**Pn**	**21 22 43.0**	**-0.8**
IRIF	**Iriomote-Funau**	**2.50**	**271**	*e*P	**Pn**	**21 22 46.4**	**-0.9**
JNTH	**Nagotoyohara**	**2.60**	**32**	P	**Pn**	**21 22 47.9**	**-0.8**
SONM	**Songino Array**	**28.36**	**331**	P	**P**	**21 28 01.3**	**+1.0**
	0.4nm,0.4s,baz=144,slow=11,SNR=7.1 0.4nm,0.4s						
PMG	**Port Moresby**	**39.14**	**146**	LR	LR	21 46 12.6	
	comp=Z,14nm,19.7s,baz=80,slow=37						
MKAR	**Makanchi Array**	**41.66**	**314**	P	**P**	**21 29 54.7**	**+0.3**
	0.2nm,0.5s,baz=104,slow=9.9,SNR=2.6 0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**42.84**	**325**	P	**P**	**21 30 03.4**	**-0.5**
	0.9nm,0.5s,baz=108,slow=9.5,SNR=4.4 0.9nm,0.5s						
WRA	**Warramunga Arr**	**44.66**	**169**	P	**P**	**21 30 18.4**	**-0.4**
	0.7nm,0.6s,baz=350,slow=8.6,SNR=5.3 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**45.17**	**318**	P	**P**	**21 30 22.7**	**+0.1**
	0.3nm,0.4s,baz=109,slow=8.6,SNR=1.9 0.3nm,0.4s						
ASAR	**Alice Springs**	**48.25**	**171**	P	**P**	**21 30 48.4**	**+1.4**
	0.1nm,0.6s,baz=354,slow=13,SNR=4.9 0.1nm,0.6s						

*AUST **10** 21:31:55.2±1.5, 18°.91S×123°.38E, h0km, Error ellipse: s-maj=19.5km s-min=12.2km az=129.0*
*NEIC **10** 21:31:56.3±2.8, 18°.87S±0°.09×123°.3E±0°.1, h10km±2km, mb4.0/3, Error ellipse: s-maj=22.1km s-min=6.5km az=313.0*
*IDC **10** 21:31:56.2±1.9, 19°.02S×123°.31E, h0km, mb3.5/2, mbtmp3.8/5, ML3.8/2, MS2.5/1, Error ellipse: s-maj=43.0km s-min=23.1km az=29.0*

ISC 10 21:31:55.2±0.8, 18°.96S±0°.07×123°.36E±0°.06, h10km, n36, σ2s44/45, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**2.33**	**69**	P	**Pn**	**21 32 35.3**	**+1.8**
	baz=2.3,SNR=69						
FITZ				S	**Sn**	**21 33 03.3**	**+1.2**
	baz=2.3						
FITZ	**Fitzroy Crossi**	**2.33**	**69**		**Pn**	**21 32 35.1**	**+1.6**
PSA00	**Pilbara Seismi**	**4.20**	**231**		**Pn**	**21 33 01.6**	**+2.2**
PSA00				Sn	**Sn**	**21 33 48.9**	**+0.4**
PSA00	**Pilbara Seismi**	**4.20**	**231**	Pn	**Pn**	**21 33 01.8**	**+2.4**
KNRA	**Kununurra**	**6.10**	**59**	P	**Pn**	**21 33 26.7**	**+1.2**
	baz=6.1,SNR=11						
KNRA				S	**Sn**	**21 34 30.4**	**-5.1**
	baz=6.1						
KNRA	**Kununurra**	**6.10**	**59**		**Pn**	**21 33 26.6**	**+1.1**
KNRA				Sn	**Sn**	**21 34 30.3**	**-5.1**
WRKA	**Warakurna**	**7.59**	**144**	P	**Pn**	**21 33 49.9**	**+4.0**
	baz=7.7,SNR=14						
WRKA				S	**Sn**	**21 35 14.2**	**+2.1**
	baz=7.7						
MEEK	**Meekatharra**	**8.81**	**209**	P	**Pn**	**21 34 05.7**	**+3.1**
	baz=8.9,SNR=6.1						
MEEK				S	**Sn**	**21 35 41.8**	**-0.3**
	baz=8.9						
GIRL	**Giralia**	**9.29**	**245**	P	**Pn**	**21 34 10.5**	**+1.3**
	baz=9.3						
GIRL				S	**Sn**	**21 35 47.8**	**-6.0**
	baz=9.3						
GIRL	**Giralia**	**9.29**	**245**		**Pn**	**21 34 10.1**	**+0.8**
MTN	**Manton Dam**	**9.63**	**52**	P	**Pn**	**21 34 13.0**	**-1.0**
	baz=9.6,SNR=13						
MTN				S	Sn	21 35 51.5	-11
	baz=9.6						
MTN	**Manton Dam**	**9.63**	**52**	Pn	**Pn**	**21 34 13.5**	**-0.4**
WRA	**Warramunga Arr**	**10.40**	**97**	Pn	**Pn**	**21 34 27.6**	**+3.0**
WRA	**Warramunga Arr**	**10.40**	**97**	Pn	**Pn**	**21 34 25.3**	**+0.8**
	0.8nm,0.3s,baz=269,slow=12,SNR=24						
WRA				Sn	Sn	21 36 14.4	-6.9
	1.9nm,0.3s,baz=272,slow=23,SNR=9.9						
WRA				Lg	Lg	21 37 27.3	
	baz=275,slow=29 1.4nm,0.4s						
KDU	**Kakadu**	**10.76**	**56**	P	**Pn**	**21 34 28.7**	**-0.7**
	baz=11						
KDU				S	Sn	21 36 20.3	-10
	baz=11						
AS31	**Alice Springs**	**10.89**	**117**	Pn	**Pn**	**21 34 34.0**	**+2.8**
ASAR	**Alice Springs**	**10.89**	**117**	Pn	**Pn**	**21 34 34.0**	**+2.8**
ASAR	**Alice Springs**	**10.89**	**117**	Pn	**Pn**	**21 34 33.6**	**+2.5**
	0.8nm,0.3s,baz=292,slow=13,SNR=58						
ASAR				Sn	**Sn**	**21 36 32.6**	**-0.5**
	1.1nm,0.3s,baz=313,slow=26,SNR=11						
ASAR				Lg	Lg	21 37 44.5	
	0.3nm,0.3s,baz=288,slow=27,SNR=4.9 3.5nm,0.7s						
MORW	**Morawa**	**12.08**	**212**	P	**Pn**	**21 34 48.3**	**+0.9**
	baz=12						
MORW	**Morawa**	**12.08**	**212**		**Pn**	**21 34 48.4**	**+0.9**
KMBL	**Kambalda**	**12.43**	**186**	P	**Pn**	**21 34 53.9**	**+1.7**
	baz=12,SNR=8.0						
KMBL				S	**Sn**	**21 37 05.7**	**-5.2**
	baz=12						
FORT	**Forrest**	**12.52**	**161**	P	**Pn**	**21 34 55.0**	**+1.6**
	baz=13						
FORT	**Forrest**	**12.52**	**161**	Pn	**Pn**	**21 34 55.3**	**+1.9**
KLBR	**Kellerberrin**	**13.56**	**201**	P	**Pn**	**21 35 09.4**	**+1.7**
	baz=14,SNR=5.6						
KLBR				S	Sn	21 37 30.9	-7.6
	baz=14						
KAPI	**Kappang**	**14.30**	**345**	LR	LR	21 41 15.9	
	comp=Z,21nm,20.9s,baz=141,slow=39						
OOD	**Oodnadatta**	**14.33**	**130**	P	**Pn**	**21 35 19.8**	**+1.7**
	baz=14,SNR=4.9						
OOD				S	**Sn**	**21 37 53.3**	**-3.9**
	baz=14						
MUN	**Mundaring**	**14.48**	**205**	P	**Pn**	**21 35 22.1**	**+1.9**
	baz=15						
MUN				S	Sn	21 37 52.3	-8.6
	baz=15						
MULG	**Mulgathing**	**14.88**	**141**	P	**Pn**	**21 35 26.5**	**+0.8**
	baz=15						
NWAO	**Narrogin (SRO)**	**14.96**	**200**	P	**Pn**	**21 35 27.0**	**+0.3**
	baz=15						
NWAO				P	**Pn**	**21 35 27.0**	**+0.3**
	baz=15						
NWAO	**Narrogin (SRO)**	**14.96**	**200**		**Pn**	**21 35 26.8**	**0.0**
NWAO				IAmb	IAmb	21 35 35.0	
	comp=Z,32nm,1.2s						
NWAO	**Narrogin (SRO)**	**14.96**	**200**	Pn	**Pn**	**21 35 26.9**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=24,slow=11,SNR=1.0						
NWAO				Sn	Sn	21 38 02.5	-10
	comp=Z,0.8nm,0.3s,baz=300,slow=20,SNR=1.7						
QIS	**Mount Isa**	**15.38**	**99**	P	**Pn**	**21 35 33.4**	**+1.0**
	baz=15						
BBOO	**Buckleboo**	**17.89**	**143**	Pn	**Pn**	**21 36 03.0**	**-1.2**
BBOO				IAmb	IAmb	21 36 08.2	
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek**	**20.86**	**132**	P	**P**	**21 36 38.5**	**+1.2**
STKA				IAmb	IAmb	21 36 41.6	
	comp=Z,1.1nm,1.1s						
STKA	**Stephens Creek**	**20.86**	**132**	P	Pn	21 36 40.6	+0.8
	comp=Z,1.9nm,0.5s,baz=309,slow=8.5,SNR=5.4						
STKA				S	S	21 40 21.6	-8.4
	comp=Z,0.5nm,0.4s,baz=253,slow=15,SNR=1.4 comp=Z,1.9nm,0.5s						
MKAR	**Makanchi Array**	**75.19**	**332**	P	**P**	**21 43 40.9**	**+3.1**
	comp=Z,0.2nm,0.6s,baz=152,slow=7.1,SNR=3.0 comp=Z,0.2nm,0.6s						

WEL 10 22:00:20.2±0.4, 38°.S×17°.7E±°, h5km, M3.2/19, ML3.6/19, MLv3.2/19, Error ellipse: s-maj=0.0km s-min=0.0km az=179.3, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.06**	**346**	P	Pg	22 00 21.3	-0.3
WSRZ	**White Island S**	**0.07**	**340**	P	Pg	22 00 21.5	-0.3
WHRZ	**Whale Island**	**0.33**	**214**	P	Pb	22 00 28.2	-0.3
HAZ	**Te Kaha**	**0.49**	**111**	P	Pg	22 00 29.6	0.0
HAZ				S	Sg	22 00 36.3	+0.5
RUGZ	**Raukumara Rang**	**0.53**	**136**	P	Pg	22 00 30.3	-0.2
RUGZ				S	Sg	22 00 37.3	-0.1
OPRZ	**Ohinepanea**	**0.58**	**243**	P	Pg	22 00 31.5	+0.2
OPRZ				S	Sg	22 00 38.5	-0.3
MARZ	**Manawahe**	**0.58**	**226**	P	Pb	22 00 32.3	-0.6
EDRZ	**Edgecumbe**	**0.64**	**215**	P	Pb	22 00 33.4	-0.5
URZ	**Urewera**	**0.68**	**186**	P	Pg	22 00 33.1	-0.1
URZ				S	Sg	22 00 42.0	0.0
PKGZ	**Pakihiroa**	**0.75**	**114**	P	Pg	22 00 34.6	0.0
PKGZ				S	Sb	22 00 45.5	-0.9
TGRZ	**Tauranga**	**0.77**	**259**	P	Pg	22 00 35.3	+0.4
MWZ	**Matawai**	**0.79**	**161**	P	Pg	22 00 35.2	-0.1
MWZ				S	Sg	22 00 46.2	+0.6
MKRZ	**Makatiti**	**0.81**	**226**	P	Pb	22 00 36.7	-0.1
OMRZ	**Omania**	**0.84**	**232**	P	Pb	22 00 36.9	-0.4
TWGZ	**Tauwhareparae**	**0.85**	**134**	P	Pg	22 00 36.8	+0.3
TWGZ				S	Sn	22 00 51.3	-0.4
TARZ	**Mount Tarawera**	**0.85**	**220**	P	Pb	22 00 37.7	+0.2
MXZ	**Matakaoa Point**	**0.87**	**89**	P	Pg	22 00 36.0	-0.9
MXZ				S	Sb	22 00 50.2	+0.4
KARZ	**Kaharoa**	**0.88**	**240**	P	Pg	22 00 36.9	-0.1
RAGZ	**Rawiri**	**0.92**	**170**	P	Pg	22 00 37.9	0.0
RAGZ				S	Sb	22 00 50.8	-0.6
MUGZ	**Murupara**	**0.96**	**201**	P	Pg	22 00 38.2	-0.3
NGRZ	**Ngongotaha**	**0.96**	**237**	P	Pn	22 00 41.0	+0.6
PUZ	**Puketiti**	**0.96**	**121**	P	Pb	22 00 39.1	-0.3
WMGZ	**Waiomatatini S**	**0.99**	**104**	P	Pb	22 00 40.0	+0.3
TKGZ	**Te Karaka**	**0.99**	**150**	P	Pb	22 00 39.9	0.0
KMRZ	**Kaimai**	**1.04**	**255**	P	Pn	22 00 43.1	+1.7
RTZ	**Ruatahuna**	**1.04**	**190**	P	Pg	22 00 39.7	-0.5
CNGZ	**Carnagh Statio**	**1.20**	**139**	P	Pn	22 00 44.2	+0.7
SNGZ	**Shannon Statio**	**1.20**	**175**	P	Pg	22 00 42.7	-0.5
SNGZ				P	Pb	22 00 42.7	-0.7
RIGZ	**Rimuhau**	**1.20**	**159**	P	Pn	22 00 43.7	+0.1
MTHZ	**Maungataniwha**	**1.30**	**193**	P	Pn	22 00 43.8	-1.2
RAHZ	**Arahi**	**1.33**	**184**	P	Pn	22 00 45.5	+0.1
TOZ	**Tahuroa Road**	**1.36**	**263**	P	Pn	22 00 44.6	-1.2
MRHZ	**Matea Rd**	**1.39**	**206**	P	Pg	22 00 47.6	+0.7
PRGZ	**Paritu Road**	**1.44**	**159**	P	Pg	22 00 48.1	+0.4
KUZ	**Kuaotunu**	**1.45**	**305**	P	Pn	22 00 45.3	-1.8
KNZ	**Kokohu**	**1.48**	**166**	P	Pn	22 00 47.7	+0.2
WHHZ	**Waihua**	**1.49**	**179**	P	Pn	22 00 47.9	+0.3
TLZ	**Tolley Road**	**1.52**	**240**	P	Pg	22 00 49.2	-0.1
NMHZ	**Naumai**	**1.54**	**192**	P	Pg	22 00 50.0	+0.3
MHGZ	**Mahia Peninsul**	**1.66**	**161**	P	Pn	22 00 50.2	+0.3
BKZ	**Black Stump Fm**	**1.68**	**199**	P	Pn	22 00 49.0	-1.2
ARHZ	**Aropaoanui**	**1.68**	**186**	P	Pn	22 00 50.9	+0.6
MKAZ	**Moumakai**	**1.70**	**286**	P	Pn	22 00 47.8	-2.6
RITZ	**Rihia Road**	**1.75**	**217**	P	Pg	22 00 55.1	+1.4
WIAZ	**Waiheke Island**	**1.83**	**295**	P	Pb	22 00 53.8	-0.4
MCHZ	**McNeill Hill**	**1.90**	**192**	P	Pn	22 00 54.0	+0.7
NTVZ	**North Tongarir**	**1.93**	**218**	P	Pb	22 00 56.2	+0.2
TMVZ	**Te Maari**	**1.93**	**217**	P	Pg	22 00 56.7	-0.5
GRZ	**Great Barrier**	**1.93**	**313**	P	Pg	22 00 57.0	-0.2
KWHZ	**Kaweka Forest**	**1.94**	**198**	P	Pn	22 00 53.2	-0.7
ETVZ	**East Tongariro**	**1.94**	**217**	P	Pb	22 00 55.3	-0.9
KRVZ	**Karewarewa**	**1.95**	**219**	P	Pb	22 00 57.5	0.0
NNVZ	**North Ngauruho**	**1.99**	**219**	P	Pg	22 00 57.9	-0.3
OTVZ	**Oturere**	**1.99**	**217**	P	Pb	22 00 57.4	+0.4
WTVZ	**West Tongariro**	**1.99**	**219**	P	Pg	22 00 58.0	-0.3
MBAZ	**Motutapu North**	**2.02**	**293**	P	Pn	22 00 52.8	-2.0
SNVZ	**South Ngauruho**	**2.02**	**217**	P	Pb	22 00 57.2	-0.3
NGZ	**Ngauruhoe**	**2.03**	**218**	P	Pg	22 00 58.4	-0.7
TWVZ	**Taurewa**	**2.04**	**223**	P	Pg	22 00 59.1	-0.1
TUVZ	**Tukino**	**2.08**	**216**	P	Pb	22 00 58.5	+0.1
BHHZ	**Black Hill Sta**	**2.10**	**205**	P	Pn	22 00 55.8	-0.3
AWAZ	**Awhitu Peninsu**	**2.11**	**283**	P	Pb	22 00 59.7	+0.8
FWVZ	**Far West T-bar**	**2.12**	**217**	P	Pb	22 00 59.3	+0.2
MAVZ	**Matarangi**	**2.12**	**217**	P	Pb	22 00 59.0	-0.3
MOVZ	**Moawhango**	**2.15**	**212**	P	Pn	22 00 56.5	-0.2
WNVZ	**Wahianoa**	**2.15**	**216**	P	Pn	22 00 57.4	+0.5
TRVZ	**Turoa**	**2.15**	**217**	P	Pb	22 00 59.6	-0.2
KRHZ	**Kereru**	**2.16**	**197**	P	Pn	22 00 56.9	+0.1
KAHZ	**Kahuranaki**	**2.22**	**187**	P	Pn	22 00 57.2	-0.5
PNHZ	**Pukenui**	**2.46**	**198**	P	Pn	22 01 00.4	-0.5
TSZ	**Takapari Road**	**2.66**	**201**	P	Pn	22 01 03.3	-0.4
WAZ	**Wanganui**	**2.78**	**218**	P	Pb	22 01 08.3	-2.0
INZ	**Inchbonnie**	**6.77**	**219**	P	Pn	22 02 00.0	-0.1

*HEL **10** 22:18:15.9±0.3, 67°.82N×20°.23E, h0km, ML1.6, Explosion*
*IDC **10** 22:18:17.2±1.2, 67°.80N×20°.51E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=18.3km s-min=8.6km az=117.0*

ISC 10 22:18:15.8±0.9, 67°.89N±0°.03×20°.30E±0°.04, h0km, n27, σ1s74/45, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.66**	**75**	PG	**Pg**	**22 18 28.5**	**+0.1**
LANU				SG	**Sb**	**22 18 38.9**	**-0.9**
KIF	**Kilpisjarvi**	**1.14**	**9**	*e*P	**Pg**	**22 18 38.2**	**+0.6**
KIF	**Kilpisjarvi**	**1.14**	**9**	PG	**Pg**	**22 18 38.0**	**+0.5**
KIF				MSG		22 18 53.8	
	comp=Z,8.0nm,0.2s						
KIF				SB	**Sn**	**22 18 55.2**	**+0.1**
HEF	**Hetta**	**1.36**	**66**	*e*P	**Pg**	**22 18 41.6**	**-0.2**
HEF	**Hetta**	**1.36**	**66**	PG	**Pg**	**22 18 41.4**	**-0.4**
	baz=247						
HEF				MSG		22 18 58.4	
	comp=Z,2.5nm,0.2s						
HEF				SN	**Sn**	**22 19 01.1**	**+0.4**
PAJU	**Pajala**	**1.39**	**127**	PG	**Pg**	**22 18 40.5**	**-1.8**
PAJU				SN	**Sg**	**22 18 59.8**	**-0.5**
ERTU	**Ertsjaerv**	**1.53**	**150**	PG	**Pn**	**22 18 42.7**	**-1.5**
ERTU				SN	**Sg**	**22 19 05.4**	**+0.7**
KLF	**Kolari**	**1.55**	**113**	PG	**Pn**	**22 18 43.9**	**-0.6**
	baz=299						
KLF				MSG		22 19 02.3	
	comp=Z,4.5nm,0.2s						
KLF				SN	**Sn**	**22 19 06.0**	**+0.7**
KTK1	**Kautokeino**	**1.57**	**42**	PG	**Pb**	**22 18 45.5**	**-0.1**
KTK1				SN	**Sn**	**22 19 09.8**	**+4.1**
TRO	**Tromso**	**1.82**	**345**	PG	**Pb**	**22 18 50.0**	**+0.1**
TRO				SG	**Sg**	**22 19 14.9**	**+0.6**
KALU	**Kalix**	**2.37**	**148**	PB	**Pn**	**22 18 56.1**	**+0.4**
	baz=329						
KALU				SG	**Sb**	**22 19 28.0**	**-0.8**
TOF	**Tornio**	**2.41**	**137**	PB	**Pn**	**22 18 57.4**	**+1.1**
TOF				MSG		22 19 26.1	
	comp=Z,2.2nm,0.2s						
TOF				SG	**Sb**	**22 19 30.2**	**+0.2**
SGF	**Sodankyl**	**2.42**	**98**	PG	**Pb**	**22 18 58.6**	**-1.5**
SGF				SG	**Sb**	**22 19 30.0**	**-0.4**
ARA0	**ARCESS Array S**	**2.52**	**47**	PB	**Pn**	**22 18 59.6**	**+1.7**
ARA0				SN	**Sn**	**22 19 27.0**	**-2.3**
ARCES	**ARCESS Array B**	**2.52**	**47**	Pn	**Pn**	**22 18 59.3**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=226,slow=15,SNR=40						
ARCES				Sn	**Sb**	**22 19 33.0**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=228,slow=24,SNR=17 comp=Z,0.7nm,0.3s						
RNF	**Rovaniemi**	**2.56**	**117**	PG	**Pn**	**22 19 00.2**	**+1.7**
	baz=305						
RNF				SG	**Sb**	**22 19 34.4**	**-0.2**
KEV	**Kevo**	**3.07**	**49**	PG	**Pb**	**22 19 10.7**	**-0.5**
KEV				SB	**Sb**	**22 19 46.0**	**-3.2**
KEV				MSG		22 19 48.1	
	comp=Z,1.7nm,0.2s						
BURU	**Burvik**	**3.35**	**172**	PB	**Pn**	**22 19 11.2**	**+2.0**
BURU				SB	**Sn**	**22 19 52.6**	**+3.1**
VRF	**Varrio**	**3.53**	**88**	PB	**Pn**	**22 19 15.3**	**+3.5**
OUL	**Oulu**	**3.60**	**139**	SG	**Sb**	**22 20 06.4**	**+2.2**
OLKF	**Oulanka, Finla**	**3.89**	**110**	PG	**Pb**	**22 19 26.7**	**+1.6**
OUF	**Merijarvi**	**3.97**	**151**	PG	**Pb**	**22 19 27.6**	**+1.2**
	baz=332						
MSF	**Maaselka**	**3.97**	**116**	PN	**Pn**	**22 19 19.7**	**+1.8**
UMAU	**Umeaa**	**4.02**	**178**	PN	**Pn**	**22 19 19.9**	**+1.4**
KU6	**Riekki**	**4.21**	**112**	PN	**Pn**	**22 19 22.7**	**+1.7**
FINES	**FINESS Array B**	**6.92**	**156**	Pn	**Pn**	**22 19 58.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=4.9						
FINES				Sn	**Sn**	**22 21 15.3**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=1.8						
FINES				Lg	Lg	22 21 52.0	
	comp=Z,0.4nm,0.3s,baz=343,slow=28,SNR=7.5 comp=Z,0.7nm,0.7s						
NOA	**NORSAR Array B**	**7.91**	**214**	Pn	**Pn**	**22 20 12.0**	**+0.2**
	baz=22,slow=13,SNR=1.9						
NOA				Sn	**Sn**	**22 21 37.0**	**-4.9**
	baz=44,slow=26,SNR=0.9						
NOA				Lg	Lg	22 22 23.1	
	baz=33,slow=23,SNR=6.0 comp=Z,0.6nm,0.9s						

*IDC **10** 22:35:32.9±1.3, 29°.86N×95°.32E, h0km, mb3.6/6, mbtmp3.5/8, ML3.5/2, MS3.8/2, Error ellipse: s-maj=54.0km s-min=20.0km az=58.0*

ISC 10 22:35:38.1±1.3, 29°.9N±0°.2×95°.3E±0°.3, h35km, n10, σ0s41/8, mb3.5/5, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.67**	**333**	P	**Pn**	**22 40 05.1**	**-0.5**
	0.1nm,0.3s,baz=136,slow=12,SNR=3.2 0.3nm,0.4s						
SONM	**Songino Array**	**19.83**	**22**	P	**P**	**22 40 06.1**	**+0.3**
	0.2nm,0.3s,baz=205,slow=11,SNR=11 1.5nm,0.9s						
AAK	**Ala-Archa**	**20.99**	**313**	P	**P**	**22 40 18.5**	**+0.1**
	1.5nm,0.8s,baz=122,slow=9.8,SNR=5.6 1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**24.23**	**333**	P	**P**	**22 40 50.9**	**-0.5**
	1.2nm,0.8s,baz=144,slow=10,SNR=9.2 1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**25.20**	**345**	P	**P**	**22 41 00.1**	**-0.2**
	1.1nm,0.4s,baz=152,slow=7.9,SNR=7.4 1.1nm,0.4s						
JOW	**Kunigami**	**29.10**	**88**	LR	LR	22 54 05.9	
	comp=Z,104nm,20.0s,baz=304,slow=38						
BVAR	**Borovoye Array**	**29.43**	**329**	P	**P**	**22 41 38.6**	**+0.4**
	0.6nm,0.7s,baz=126,slow=9.1,SNR=4.3 0.6nm,0.7s						
FINES	**FINESS Array B**	**54.34**	**326**	LR	LR	23 10 56.0	
	comp=Z,126nm,19.9s,baz=16,slow=39						
WRA	**Warramunga Arr**	**62.20**	**138**	P	**P**	**22 45 56.0**	**-0.2**
	0.5nm,0.8s,baz=320,slow=8.4,SNR=1.9 0.5nm,0.8s						
ASAR	**Alice Springs**	**64.89**	**141**	P	**P**	**22 46 14.2**	**+0.1**
	0.2nm,0.4s,baz=321,slow=7.2,SNR=1.4 0.2nm,0.4s						

*UCR **10** 22:42:26.7±1.1, 10°.39N×86°.27W, h20km±6km, MW4.5, MB4.4(NEIC)*
*CATAC **10** 22:42:26.2±0.3, 10°.39N×86°.27W, h10km, ML4.2*
*NEIC **10** 22:42:26.1±1.1, 10°.46N±0°.06×86°.22W±0°.04, h10km±2km, mb4.4/9, Error ellipse: s-maj=10.4km s-min=6.6km az=193.0*
*IDC **10** 22:42:30.0±4.3, 11°.28N×85°.16W, h31km±39km, mb3.5/5, mbtmp3.7/5, MS3.8/4, Error ellipse: s-maj=99.9km s-min=35.3km az=63.0*

ISC 10 22:42:27.1±0.7, 10°.43N±0°.03×86°.24W±0°.04, h22km±5km, n136, σ0s95/155, mb4.1/10, MS3.9/3, 15C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.67**	**104**↑	*e*P	**Pb**	**22 42 40.2**	**0.0**
SACU				*e*S	**Sn**	**22 42 49.8**	**-1.4**
DELF	**Filadelfia**	**0.68**	**88**↓	*e*P	**Pb**	**22 42 40.6**	**+0.2**
DELF				*e*S	**Sn**	**22 42 50.9**	**-0.5**
HZTE	**Horizontes, Gu**	**0.70**	**66**	Pn	**Pn**	**22 42 41.1**	**-0.5**
HZTE					**Sb**	**22 42 47.7**	**-2.2**
HZTE	**Horizontes, Gu**	**0.70**	**66**	*e*S	**Sn**	**22 42 52.4**	**+0.6**
HZTE				*e*P	**Pn**	**22 42 41.2**	**-0.5**
HZTE	**Horizontes, Gu**	**0.70**	**66**	*i* P	**Pn**	**22 42 41.1**	**-0.6**
HZTE				IAML		22 42 41.7	
	comp=Z,15μm,1.0s						
HZTE				*i* S	**Sn**	**22 42 51.5**	**-0.3**
ELI1	**Hacienda Flor**	**0.71**	**73**↓	*i* P	**Pn**	**22 42 41.9**	**0.0**
ELI1				*e*S	**Sn**	**22 42 54.2**	**+2.0**
JUD3	**Juan Diaz 3**	**0.74**	**111**↑	*e*P	**Pb**	**22 42 41.1**	**-0.3**
JUD3				*e*S	**Sb**	**22 42 51.6**	**+0.4**
ORTG	**Ortega, Santa**	**0.78**	**95**		**Pb**	**22 42 41.9**	**-0.1**
ORTG					**Sb**	**22 42 52.3**	**+0.2**
ORTG	**Ortega, Santa**	**0.78**	**95**	*e*P	**Pb**	**22 42 41.9**	**-0.1**
ORTG				*e*S	**Sn**	**22 42 53.0**	**-0.9**
ORTG	**Ortega, Santa**	**0.78**	**95**	*i* P	**Pb**	**22 42 42.0**	**0.0**
ORTG				*i* S	**Sn**	**22 42 53.1**	**-0.7**
ORTG				IAML		22 42 58.8	
	comp=Z,6μm,1.0s						
ERIA	**Liberia**	**0.82**	**76**	*e*P	**Pn**	**22 42 43.4**	**+0.1**
LCRUZ	**La Cruz**	**0.88**	**43**	*e*P	**Pn**

AMYN IAML 22 43 55.7
comp=Z,6μm,1.0s
MAS3 Al N del Volca 1.58 2 *i* P Pn 22 42 47.4 -6.5
SOCE Pocosol 1.60 92 Pn **Pn** **22 42 54.0 -0.2**
SOCE Pocosol 1.60 92 *eP* **Pn** **22 42 54.4 +0.3**
SOCE Pocosol 1.60 92 *i* P **Pn** **22 42 54.7 +0.6**
SOCE IAML 22 43 26.5
comp=Z,2μm,1.0s
MAFN Magfor 1.65 0 *i* P Pn 22 42 47.4 -7.5
UNAN Cigeo UNAN 1.67 359 *i* P **Pb** **22 42 57.1 -0.1**
UNAN IAML 22 43 26.3
comp=Z,9μm,1.0s
ENAN Enatrel Managu 1.67 359 *i* P **Pb** **22 42 56.5 -0.8**
ENAN IAML 22 43 24.0
comp=Z,8μm,1.0s
USIM UNAN 1.68 359 *i* P **Pb** **22 42 56.6 -0.7**
USIM IAML 22 43 51.9
comp=Z,6μm,1.0s
WILN Americas 2 1.72 2 *i* P **Pb** **22 42 57.0 -1.0**
WILN IAML 22 43 46.2
comp=Z,940nm,1.0s
SAPS Ciudad Sandino 1.73 355 *i* P **Pn** **22 42 56.4 +0.4**
SAPS IAML 22 43 33.0
comp=Z,2μm,1.0s
JACO JACO, Garabito 1.74 116 **Pn** **22 42 56.6 +0.6**
JACO JACO, Garabito 1.74 116 *eP* **Pn** **22 42 56.6 +0.6**
JACO JACO, Garabito 1.74 116 *i* P **Pn** **22 42 56.9 +0.9**
JACO IAML 22 43 34.8
comp=Z,620nm,1.0s
APQ2 Apoyeque 1.76 357 *i* P **Pn** **22 42 56.6 +0.3**
APQ2 *i* S **Sb** **22 43 21.4 +1.1**
APQ2 IAML 22 43 29.9
comp=Z,2μm,1.0s
RAMO San Ramon 1.78 101 *eP* **Pb** **22 43 00.1 +0.9**
COVE Coope Vega, Sa 1.83 81 **Pn** **22 42 56.9 -0.4**
COVE Coope Vega, Sa 1.83 81 *eP* **Pb** **22 42 58.7 -1.2**
COVE Coope Vega, Sa 1.83 81 *i* P **Pb** **22 42 58.9 -1.1**
COVE IAML 22 43 38.8
comp=Z,1μm,1.0s
CPMI Catarata Coope 1.84 94⇑ *i* P **Pn** **22 42 58.3 +0.7**
CPMI Catarata Coope 1.84 94 *i* P **Pn** **22 42 58.0 +0.4**
CPMI IAML 22 43 41.1
comp=Z,2μm,1.0s
ACON Acoyapa 1.85 34 **Pn** **22 42 57.7 +0.1**
ACON Acoyapa 1.85 34⇑ *i* P **Pn** **22 42 57.8 +0.2**
ACON *eS* **Sb** **22 43 24.3 +1.3**
ACON Acoyapa 1.85 34 *i* P **Pn** **22 42 57.8 +0.2**
ACON IAML 22 42 58.1
comp=Z,1μm,1.0s
ACON *i* S **Sb** **22 43 24.0 +0.9**
MOMN Momotombo 1.99 352 *i* P **Pn** **22 42 59.5 0.0**
MOMN IAML 22 43 12.6
comp=Z,34nm,1.0s
LEVN Ruinas Leon Vi 1.99 349 *i* P **Pb** **22 43 01.7 -1.0**
LEVN *i* S **Sn** **22 43 21.8 -2.0**
LEVN IAML 22 43 41.4
comp=Z,1μm,1.0s
POA5 Crater Von Fra 2.00 96 *eP* Pn 22 42 54.2 -5.6
MOM2 El Cardon 2.01 353 *i* P **Pn** **22 42 59.9 +0.2**
MOM2 IAML 22 43 44.8
comp=Z,860nm,1.0s
BELE Belen 2.07 102 *eP* **Pb** **22 43 05.0 +0.9**
CNGA Al SSO del Vol 2.10 348 *i* P **Pn** **22 43 00.2 -0.8**
CNGA IAML 22 43 26.7
comp=Z,770nm,1.0s
CNGN Cerro Negro 2.10 348 **Pn** **22 43 01.0 -0.1**
CNGN Cerro Negro 2.10 348 *eP* **Pn** **22 43 01.1 0.0**
CNGN Cerro Negro 2.10 348 *i* P **Pn** **22 43 01.6 +0.5**
CNGN IAML 22 43 42.1
comp=Z,850nm,1.0s
HDC Heredia 2.14 101 **Pn** **22 43 01.5 -0.2**
HDC Heredia 2.14 101 *eP* **Pb** **22 43 05.5 +0.2**
HDC3 Heredia 3 2.14 101 *eP* **Pb** **22 43 05.7 +0.4**
LUJA Lujan 2.20 103 *eP* **Pb** **22 43 05.8 -0.4**
QUEN Al S del Volca 2.23 345 *i* P **Pn** **22 43 02.1 -0.7**
QUEN IAML 22 43 31.4
comp=Z,990nm,1.0s
BRAN Las Pilas 2.28 357 *i* P Pn 22 42 57.3 -6.1
BRAN IAML 22 42 58.1
comp=Z,2μm,1.0s
RIFO Rio Frio, Sara 2.29 93 *eP* **Pb** **22 43 06.4 -1.3**
TBLN Tablon, Guarco 2.29 105 *i* P **Pb** **22 43 05.9 -2.0**
TBLN IAML 22 43 54.9
comp=Z,550nm,1.0s
CVIMO Finca Echandi 2.30 100 *eP* **Pn** **22 43 03.9 0.0**
LCR2 La Lucha 2 2.31 107 Pn **Pn** **22 43 04.0 0.0**
LCR2 La Lucha 2 2.31 107 *eP* **Pn** **22 43 04.9 +0.9**
LCR2 La Lucha 2 2.31 107 *i* P **Pn** **22 43 05.7 +1.7**
LCR2 IAML 22 43 49.9
comp=Z,610nm,1.0s
OCM Ochomogo 2.31 103 *eP* **Pn** **22 43 04.8 +0.7**
LLNJ Naranjito 2.32 114 *eP* **Pb** **22 43 10.7 +2.5**
CRIN San Cristobal 2.39 341 Pn **Pn** **22 43 05.4 +0.4**
CRIN San Cristobal 2.39 341⇑ *eP* **Pn** **22 43 05.4 +0.4**
VICA Volcano Irazu 2.40 100 *eP* **Pb** **22 43 08.4 -1.5**
HAYA Volcan Irazu 2.41 101 *i* P **Pn** **22 43 07.5 +1.9**
HAYA IAML 22 43 15.4
comp=Z,640nm,1.0s
REPA Paraso 2.42 104 *eP* **Pb** **22 43 10.2 +0.2**
ICR3 Volcano Irazu 2.42 101 *eP* **Pb** **22 43 08.3 -1.8**
RAFA San Farael, Vo 2.44 101 *eP* **Pb** **22 43 08.9 -1.6**
CVTV Tajo 2.49 100 *eP* **Pb** **22 43 09.8 -1.6**
MATN Matagalpa 2.50 7 **Pn** **22 43 06.5 -0.1**
MATN Matagalpa 2.50 7 *eP* **Pn** **22 43 06.9 +0.2**
MATN Matagalpa 2.50 7 *i* P **Pn** **22 43 07.2 +0.6**
MATN IAML 22 43 49.1
comp=Z,240nm,1.0s
VTCV VTCV, Calle Va 2.52 100 *eP* **Pb** **22 43 10.0 -1.7**
ESPN Las Esperanzas 2.59 47 Pn **Pn** **22 43 08.0 +0.3**
ESPN Las Esperanzas 2.59 47 *eP* **Pn** **22 43 08.0 +0.3**
CDM Cerro de Muert 2.59 109 *eP* **Pn** **22 43 08.9 +0.8**
BUS1 Rivas 2.61 109 *eP* **Pn** **22 43 08.6 +0.2**
SRBA San Rafael, Bu 3.08 112 **Pn** **22 43 14.8 +0.2**
DRK0 Durika 3.17 111 **Pn** **22 43 16.2 +0.3**
BRU2 Volcan 3.86 115 Pn **Pn** **22 43 25.9 +0.6**
MTO3 Montecristo 4.98 323 Pn **Pn** **22 43 41.6 +0.8**
BCIP Isla Barro Col 6.44 101 Pn **Pn** **22 44 00.1 -0.6**
SJCC San Jacinto, C 10.91 92 Pn **Pn** **22 45 02.7 +0.7**
CAMR Camarioca 13.39 20 Pn **Pn** **22 45 36.9 +0.9**
TLIG Tlapa 13.89 302 Pn **Pn** **22 45 42.2 -0.8**
ATAH Atahualpa 19.12 156 LR LR 22 53 15.5
comp=Z,94nm,18.8s,baz=357,slow=33
CELP Cerrillos 20.50 66 P **P** **22 47 03.0 -0.9**
LRAL Lakeview Retre 22.51 358 P **P** **22 47 24.6 -0.7**
LRAL IAmb IAmb 22 47 27.9
comp=Z,6.4nm,0.7s
GOGA Godfrey 23.01 6 P **P** **22 47 29.6 -1.0**
GOGA IAmb IAmb 22 47 35.7
comp=Z,14nm,1.1s
Y49A Blount Mountai 23.32 360 P **P** **22 47 33.1 -0.6**
Y52A Lilburn 23.41 5 P **P** **22 47 33.7 -1.0**
Y52A IAmb IAmb 22 48 01.8
comp=Z,16nm,1.4s
BRDY Brady 23.89 332 P **P** **22 47 38.3 -1.0**
FPAL Fort Paine 24.01 1 P **P** **22 47 39.0 -1.4**
FPAL IAmb IAmb 22 48 07.8
comp=Z,13nm,1.0s
TX31 Lajitas Ar. Si 24.88 322 P **P** **22 47 48.5 0.0**
TXAR Lajitas Array 24.88 322 P **P** **22 47 50.0 +1.5**
comp=Z,1.8nm,0.5s,baz=150,slow=9.4,SNR=14
TXAR PcP **PcP** **22 51 25.7 +1.4**
comp=Z,0.4nm,0.6s,baz=114,slow=3.1,SNR=3.6
comp=Z,1.8nm,0.5s
WMOK Wichita Mounta 26.77 337 P **P** **22 48 05.0 -0.5**
WMOK IAmb IAmb 22 48 08.6
comp=Z,4.8nm,0.8s
PDAR Pinedale Array 38.10 332 P **P** **22 49 44.3 -0.4**
comp=Z,0.5nm,0.6s,baz=129,slow=9.8,SNR=5.4
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 39.99 320 P **P** **22 50 03.2 +2.7**
comp=Z,1.4nm,0.6s,baz=130,slow=8.0,SNR=8.9
NVAR PcP **PcP** **22 52 07.5 +1.9**
comp=Z,0.6nm,0.6s,baz=140,slow=4.7,SNR=4.2
comp=Z,1.4nm,0.6s
NEW Newport 45.74 331 LR LR 23 13 10.6
comp=Z,180nm,18.3s,baz=284,slow=40
FRB Frobisher Bay 54.70 10 LR LR 23 15 03.2
comp=Z,101nm,18.9s,baz=225,slow=36
YKA Yellowknife Ar 55.86 345 P **P** **22 52 00.8 -1.9**
comp=Z,0.5nm,0.9s,baz=135,slow=7.3,SNR=6.6
comp=Z,0.5nm,0.9s
SFJD Kangerlussuaq 61.34 15 LR LR 23 21 31.0
comp=Z,90nm,19.0s,baz=319,slow=39
ILAR Eielson Array 68.33 336 P **P** **22 53 25.2 -1.2**
comp=Z,0.4nm,0.7s,baz=138,slow=5.2,SNR=7.7
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 139.80 251 PKP **PKPdf** **23 01 55.5 +1.1**
comp=Z,0.3nm,0.8s,baz=93,slow=2.7,SNR=1.3

*ISK **10** 23:02:42.9, 40.01N×25.88E, h9km, ML2.6/21*
*THE **10** 23:02:43.6, 40.01N×25.90E, h12km±1km, ML2.2/8, Error ellipse: s-maj=1.9km s-min=0.6km az=151.0*
*ATH **10** 23:02:44.1, 40.01N×25.88E, h14km±1km, ML2.2/8, Error ellipse: s-maj=1.9km s-min=0.7km az=235.0*
*AFAD **10** 23:02:44.0±0.0, 40.02N×25.98E, h7km±2km, ML2.7*
ISC 10 23:02:43.2±0.8, **40.00N**±0.02×**25.93E**±0.02, **h14**km±6km, **n69**, σ0.9**46**/104, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOAD	**anakkale-G¶**	**0.17**	**355**	P	**Pg**	**23 02 47.5**	**+0.2**
GOAD				S	**Sg**	**23 02 49.6**	**-0.5**
BOZC	**Bozcaada**	**0.18**	**148**	P	**Pb**	**23 02 48.5**	**+0.2**
BOZC				P	**Pb**	**23 02 48.5**	**+0.2**
BOZC				S	**Sb**	**23 02 51.3**	**-0.5**
BOZC				S		23 02 51.3	
BOZC				*i* AML	AML	23 02 52.0	
	comp=N,1μm,0.2s						
BOZC				*i* AML	AML	23 02 52.0	
	comp=E,2μm,0.2s						
BOZC				*i* AML	AML	23 02 52.0	
	comp=N,2μm,0.4s						
BOZC				*i* AML	AML	23 02 52.0	
	comp=E,2μm,0.2s						
GADA	**Gvkgeada**	**0.20**	**354**	Pg	**Pg**	**23 02 47.5**	**-0.3**
GADA				Sg	**Sg**	**23 02 50.8**	**0.0**
EZN	**Ezine**	**0.35**	**119**	Pg	**Pb**	**23 02 51.2**	**0.0**
EZN				Sg	**Sb**	**23 02 56.7**	**+0.1**
EZN	**Ezine**	**0.35**	**119**	P	**Pb**	**23 02 51.2**	**0.0**
EZN				S	**Sb**	**23 02 56.6**	**0.0**
	1μm,0.1s						
CNKL	**anakkale-Mer**	**0.36**	**79**	P	**Pb**	**23 02 51.3**	**0.0**
CNKL				P	**Pb**	**23 02 51.3**	**0.0**
CNKL				S	**Sg**	**23 02 55.8**	**+0.2**
COMU	**Canakkale**	**0.43**	**76**	Pg	**Pb**	**23 02 52.7**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.52**	**162**	P	**Pb**	**23 02 54.2**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.54**	**118**	P	**Pb**	**23 02 54.9**	**+0.4**
BAYC				S	**Sb**	**23 03 01.3**	**-0.8**
SMTH	**Samothraki Isl**	**0.56**	**328**	P	**Pg**	**23 02 54.5**	**+0.2**
SMTH				S	**Sg**	**23 03 01.6**	**-0.2**
	310nm,0.1s						
SMTH	**Samothraki Isl**	**0.56**	**328**	P	**Pg**	**23 02 54.6**	**+0.2**
SMTH				S	**Sg**	**23 03 01.6**	**-0.2**
SMTH				AML	AML	23 03 02.0	
	comp=E,635μm,0.2s						
SMTH				AML	AML	23 03 07.1	
	comp=N,676μm,0.2s						
GELI	**Tayfur-Gelibol**	**0.58**	**46**	Pg	**Pb**	**23 02 55.2**	**0.0**
GELI				Sg	**Sb**	**23 03 03.6**	**+0.4**
LIA	**Limnos Island**	**0.58**	**260**	P	**Pg**	**23 02 54.8**	**+0.2**
LIA				S	**Sg**	**23 03 02.5**	**+0.1**
	comp=N,520nm,0.2s						
LIA	**Limnos Island**	**0.58**	**260**	P	**Pg**	**23 02 54.9**	**+0.3**
LIA				S	**Sg**	**23 03 02.7**	**+0.4**
LIA				AML	AML	23 03 04.4	
	comp=E,1134μm,0.1s						
LIA				AML	AML	23 03 04.9	
	comp=N,813μm,0.3s						
CAVK	**Edirne/Enez-Ca**	**0.72**	**15**	P	**Pg**	**23 02 57.6**	**+0.3**
LPK	**Lapseki**	**0.74**	**59**	Pg	**Pg**	**23 02 57.9**	**+0.2**
ENEZ	**Enez**	**0.76**	**13**	Pg	**Pg**	**23 02 58.3**	**+0.3**
ENEZ	**Enez**	**0.76**	**13**	P	**Pg**	**23 02 58.3**	**+0.3**
ENEZ				S	**Sg**	**23 03 08.9**	**+0.9**
	comp=N,198nm,0.4s						
SIGR	**SIGRI**	**0.79**	**184**	Pg	**Pg**	**23 02 58.7**	**+0.2**
SIGR	**SIGRI**	**0.79**	**184**	P	**Pg**	**23 02 58.6**	**+0.1**
SIGR				S	**Sg**	**23 03 09.9**	**+1.1**
	comp=N,198nm,0.3s						
SIGR	**SIGRI**	**0.79**	**184**	P	**Pg**	**23 02 58.7**	**+0.2**
SIGR				S	**Sn**	**23 03 10.3**	**-1.1**
SIGR				AML	AML	23 03 13.6	
	comp=E,399μm,0.3s						
SIGR				AML	AML	23 03 14.5	
	comp=N,381μm,0.3s						
PRK	**Paraskevi**	**0.80**	**160**	P	**Pn**	**23 02 59.3**	**-0.6**
PRK				S	**Sn**	**23 03 10.7**	**-0.9**
	comp=N,195nm,0.3s						
PRK	**Paraskevi**	**0.80**	**160**	P	**Pn**	**23 02 59.4**	**-0.6**
PRK				S	**Sn**	**23 03 10.6**	**-0.9**
PRK				AML	AML	23 03 13.4	
	comp=E,371μm,0.2s						
PRK				AML	AML	23 03 13.8	
	comp=N,412μm,0.3s						
ERIK	**Erikli-Kesan**	**0.81**	**33**	Pg	**Pg**	**23 02 59.1**	**+0.1**
EFSA	**Agios Efstrati**	**0.85**	**238**	P	**Pg**	**23 03 00.4**	**+0.6**
EFSA				S	**Sb**	**23 03 11.2**	**+0.1**
EFSA				AML	AML	23 03 12.2	
	comp=N,364μm,0.3s						
EFSA				AML	AML	23 03 12.8	
	comp=E,545μm,0.3s						
CANM	**Can-anakkale**	**0.86**	**89**	Pg	**Pn**	**23 03 00.8**	**-0.1**
ALN	**Alexandroupoli**	**0.91**	**6**	Pg	**Pb**	**23 03 00.7**	**0.0**
ALN	**Alexandroupoli**	**0.91**	**6**	P	**Pb**	**23 03 00.7**	**0.0**
ALN				S	**Sg**	**23 03 12.9**	**+0.3**
	comp=E,122nm,0.4s						
ALN	**Alexandroupoli**	**0.91**	**6**	P	**Pb**	**23 03 00.7**	**0.0**
ALN				S	**Sg**	**23 03 13.1**	**+0.5**
ALN				AML	AML	23 03 14.3	
	comp=E,187μm,0.2s						
ALN				AML	AML	23 03 14.6	
	comp=N,251μm,0.4s						
AYVA	**Ayvalik**	**0.91**	**139**	P	**Pn**	**23 03 02.1**	**+0.6**
AYVA				S	**Sn**	**23 03 13.9**	**-0.4**
AYVA				*i* AML	AML	23 03 16.0	
	comp=N,420nm,0.6s						
AYVA				*i* AML	AML	23 03 16.0	
	comp=N,173nm,0.4s						
BUHA	**Balikesir, Bur**	**1.01**	**119**	P	**Pg**	**23 03 03.9**	**+1.0**
BUHA				S	**Sn**	**23 03 17.0**	**-0.1**
BUHA				*i* AML	AML	23 03 19.0	
	comp=N,316nm,0.4s						
BUHA				*i* AML	AML	23 03 20.0	
	comp=N,161nm,0.4s						
EAG3	**Mitilini, Lesv**	**1.04**	**151**	P	**Pg**	**23 03 04.2**	**+0.9**
EAG3				S	**Sn**	**23 03 18.2**	**+0.7**
THAS	**Thassos island**	**1.11**	**304**	P	**Pn**	**23 03 03.6**	**-0.7**
THAS				S	**Sb**	**23 03 17.6**	**-0.8**
THAS				AML	AML	23 03 17.9	
	comp=N,175μm,0.3s						
THAS				AML	AML	23 03 19.6	
	comp=E,161μm,0.3s						
KRBG	**Karabiga-Canak**	**1.12**	**69**	Pn	**Pg**	**23 03 04.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.18**	**54**	Pn	**Pb**	**23 03 05.4**	**0.0**
SART	**Tekirdag**	**1.18**	**54**	P	**Pn**	**23 03 04.9**	**-0.5**
SART				S	**Sn**	**23 03 20.9**	**-0.4**
SART				*i* AML	AML	23 03 25.0	
	comp=E,134nm,0.4s						
RDO	**Rodhopi**	**1.19**	**346**	Pn	**Pb**	**23 03 05.7**	**+0.2**
RDO	**Rodhopi**	**1.19**	**346**	P	**Pb**	**23 03 05.7**	**+0.2**
RDO				S	**Sb**	**23 03 20.5**	**-0.2**
	comp=E,80nm,0.4s						
RDO	**Rodhopi**	**1.19**	**346**	P	**Pb**	**23 03 05.7**	**+0.2**
RDO				S	**Sb**	**23 03 20.8**	**+0.1**
RDO				AML	AML	23 03 21.5	
	comp=N,178μm,0.5s						
RDO				AML	AML	23 03 22.7	
	comp=E,158μm,0.3s						
DKL	**Dikili**	**1.19**	**140**	Pn	**Pg**	**23 03 06.7**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.25**	**25**	Pn	**Pb**	**23 03 06.9**	**+0.3**
KNL	**Balıkesir**	**1.26**	**77**	P	**Pg**	**23 03 07.6**	**+0.1**
KNL				*i* AML	AML	23 03 25.0	
	comp=E,120nm,1.7s						
RFT7	**Candarli**	**1.29**	**143**	Pn	**Pg**	**23 03 07.9**	**-0.2**
BALY	**Balya**	**1.33**	**101**	P	**Pg**	**23 03 09.2**	**+0.4**
BALY				S	**Sg**	**23 03 26.6**	**+0.6**
BALY				*i* AML	AML	23 03 28.0	
	comp=E,137nm,0.3s						
BALY				*i* AML	AML	23 03 28.0	
	comp=E,141nm,0.6s						
GONE	**Gonen-Balikesi**	**1.35**	**87**	Pn	**Pg**	**23 03 09.2**	**-0.1**
ZEDA	**zmir-Bergama**	**1.36**	**139**	P	**Pb**	**23 03 08.8**	**+0.3**
ZEDA				S	**Sg**	**23 03 27.0**	**-0.1**
KAVA	**Kavala**	**1.47**	**313**	P	**Pn**	**23 03 08.8**	**-0.5**
PSRA	**Psara**	**1.48**	**191**	P	**Pn**	**23 03 09.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.52**	**114**	P	**Pb**	**23 03 10.9**	**-0.2**
STEP				S	**Sg**	**23 03 30.7**	**-1.3**
EDC	**Edincik**	**1.52**	**76**	Pn	**Pb**	**23 03 11.4**	**+0.1**
OUR	**Ouranopolis**	**1.53**	**283**	Pn	**Pn**	**23 03 09.8**	**-0.3**
OUR	**Ouranopolis**	**1.53**	**283**	P	**Pn**	**23 03 09.8**	**-0.3**
SKY	**Skiros Island**	**1.54**	**224**	P	**Pn**	**23 03 10.3**	**0.0**
BALB	**Balikesir**	**1.55**	**103**	Pn	**Pb**	**23 03 11.8**	**+0.2**
BKES	**Balkesir-Mer**	**1.56**	**99**	P	**Pb**	**23 03 12.0**	**+0.1**
BKES				S	**Sg**	**23 03 32.9**	**-0.7**
BKES				*i* AML	AML	23 03 36.0	
	comp=E,132nm,0.3s						
CHOS	**Chios island**	**1.61**	**176**	P	**Pn**	**23 03 11.8**	**+0.5**
KOKK	**Kokkinochori,**	**1.69**	**300**	P	**Pn**	**23 03 11.7**	**-0.5**
KDZ	**Kurdzhali**	**1.69**	**345**	Pn	**Pn**	**23 03 12.7**	**+0.4**
BAND	**Balkesir-Ban**	**1.70**	**77**	P	**Pb**	**23 03 14.7**	**+0.4**
BAND				S	**Sb**	**23 03 35.8**	**+0.2**
EDRB	**Edirne**	**1.95**	**18**	Pn	**Pn**	**23 03 16.8**	**+0.9**
KYMI	**Kymi, Euboea I**	**1.96**	**227**	P	**Pn**	**23 03 15.9**	**-0.2**
DURS	**Dursunbey**	**2.00**	**101**	P	**Pb**	**23 03 18.5**	**-1.0**
DURS				S	**Sn**	**23 03 41.8**	**+0.2**
NVR	**Nevrokopi**	**2.07**	**311**	P	**Pn**	**23 03 18.4**	**+0.8**
SRS	**Serrai**	**2.10**	**303**	P	**Pn**	**23 03 17.9**	**-0.1**
SRS	**Serrai**	**2.10**	**303**	P	**Pn**	**23 03 17.6**	**-0.4**
SOH	**Sokhos**	**2.13**	**294**	P	**Pn**	**23 03 18.3**	**-0.1**
HORT	**Hortiatis**	**2.24**	**286**	P	**Pn**	**23 03 20.2**	**+0.2**
KNT	**Kendrikon**	**2.58**	**298**	P	**Pn**	**23 03 25.3**	**+0.7**
GRG	**Griva**	**2.85**	**291**	P	**Pn**	**23 03 28.0**	**-0.3**

IDC 10 23:14:51.5±1.5, **48.50S**×**105.39E**, **h0**km, **mb4.0**/5, **mbtmp4.0**/5, **MS3.4**/4, **Error ellipse: s-maj=53.2km s-min=22.5km az=104.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.07**	**29**	T	T	23 33 53.5	
	baz=202,slow=74,SNR=73						
H01W1	**Cape Leeuwin H**	**15.08**	**29**	T	T	23 33 57.6	
	baz=202,slow=74,SNR=72						
H01W3	**Cape Leeuwin H**	**15.08**	**29**	T	T	23 33 53.2	
	baz=202,slow=74,SNR=62						
NWAO	**Narrogin (SRO)**	**17.93**	**34**	LR	LR	23 24 13.6	
	comp=Z,72nm,20.6s,baz=224,slow=31						
MAW	**Mawson**	**28.64**	**213**	LR	LR	23 29 44.3	
	comp=Z,62nm,19.3s,baz=118,slow=31						
ASAR	**Alice Springs**	**33.50**	**52**	P	P	23 21 32.7	+0.1
	2.7nm,0.8s,baz=209,slow=8.4,SNR=15						
	2.7nm,0.8s						
VNDA	**Vanda**	**36.02**	**162**	P	P	23 21 53.2	-0.5
	1.1nm,0.8s,baz=286,slow=11,SNR=4.1						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**36.80**	**49**	P	P	23 22 01.0	-0.1
	2.5nm,0.7s,baz=211,slow=8.7,SNR=9.7						
	2.5nm,0.7s						
QSPA	**South Pole Qui**	**41.63**	**180**	P	P	23 22 41.4	+0.3
	2.9nm,0.8s,baz=318,slow=3.1,SNR=6.7						
	2.9nm,0.8s						
CTA	**Charters Tower**	**43.31**	**64**	LR	LR	23 38 42.2	
	comp=Z,80nm,20.1s,baz=85,slow=33						
RPZ	**Rata Peaks**	**44.52**	**110**	LR	LR	23 37 37.3	
	comp=Z,60nm,18.4s,baz=4.0,slow=31						
CMAR	**Chiang Mai Arr**	**66.90**	**353**	P	P	23 25 45.1	-0.2
	0.7nm,0.5s,baz=190,slow=5.3,SNR=4.1						
	0.7nm,0.5s						

*NOU **10** 23:14:56.7, 14.74S×166.51E, h0km, MLv5.1/8, Vanuatu Islands*
*IDC **10** 23:14:59.2±2.6, 14.95S×167.54E, h108km±20km, mb3.7/9, mbtmp4.0/10, MS2.7/1, Error ellipse: s-maj=28.0km s-min=18.5km az=87.0*
*NEIC **10** 23:15:02.5±1.7, 15.05S±0.1×167.5E±0.2, h131km±9km, mb4.3/11, Error ellipse: s-maj=22.9km s-min=15.6km az=75.0*
ISC 10 23:15:01.8±0.8, **15.01S**±0.08×**167.5E**±0.1, **h129**km, **n34**, σ1.9**15**/36, **mb4.0**/12, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.29**	**208**		**Pn**	**23 16 32.6**	**+0.3**
DZM	**Mont Dzumac**	**7.09**	**188**	P	**Pn**	**23 16 44.1**	**+0.9**
DZM	**Mont Dzumac**	**7.09**	**188**	P	**Pn**	**23 16 43.3**	**+0.1**
	12nm,0.3s,baz=12,slow=17,SNR=32						
DZM				S	**Sn**	**23 18 02.0**	**-0.5**
	8.1nm,0.4s,baz=139,slow=19,SNR=1.7						
DZM				LR	LR	23 18 55.5	
	comp=Z,52nm,19.7s,baz=223,slow=33						
NOUC	**Port Laguerre**	**7.14**	**189**	P	**Pn**	**23 16 45.0**	**+1.2**
ONTNC	**Ouen Toro**	**7.33**	**187**		**Pn**	**23 16 46.4**	**+0.2**
ONTNC	**Ouen Toro**	**7.33**	**187**	P	**Pn**	**23 16 48.0**	**+1.8**
OUENC	**Ouen Island, N**	**7.40**	**185**		**Pn**	**23 16 47.1**	**-0.1**
OUENC	**Ouen Island, N**	**7.40**	**185**	P	**Pn**	**23 16 48.7**	**+1.5**
PINNC	**Pines Island,**	**7.57**	**180**	Pn	**Pn**	**23 16 49.5**	**+0.1**
HNR	**Honiara**	**9.21**	**306**	Pn	**Pn**	**23 17 12.1**	**+0.5**
EIDS	**Eidsvold**	**18.50**	**234**		**Pn**	**23 19 09.5**	**-0.4**
EIDS				IAmb	IAmb	23 19 11.3	
	comp=Z,11nm,0.8s						
TOZ	**Tahuroa Road**	**23.73**	**164**	P	**P**	**23 20 02.5**	**+0.4**
TOZ				IAmb	IAmb	23 20 05.1	
	comp=Z,21nm,0.9s						
RTZ	**Ruatahuna**	**24.97**	**162**	P	**P**	**23 20 13.8**	**+0.3**
RTZ				IAmb	IAmb	23 20 17.6	
	comp=Z,14nm,1.0s						
STKA	**Stephens Creek**	**28.96**	**230**	P	**P**	**23 20 49.8**	**+0.5**
STKA	**Stephens Creek**	**28.96**	**230**	P	**P**	**23 20 50.5**	**+1.2**
	comp=Z,4.2nm,0.5s,baz=36,slow=7.9,SNR=10						
	comp=Z,4.2nm,0.5s						
WB0	**Warramunga Arr**	**31.89**	**257**	P	**P**	**23 21 13.6**	**-1.6**
WB0				IAmb	IAmb	23 21 22.2	
	comp=Z,8.8nm,1.3s						
WRA	**Warramunga Arr**	**31.95**	**256**	P	**P**	**23 21 14.5**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=85,slow=8.4,SNR=5.8						
WRA				ScP	**ScP**	**23 27 38.2**	**+3.4**
	comp=Z,0.4nm,0.8s,baz=82,slow=3.5,SNR=2.3						
	comp=Z,0.6nm,0.8s						
AS31	**Alice Springs**	**32.76**	**250**	P	**P**	**23 21 21.0**	**-1.8**
AS31				IAmb	IAmb	23 21 23.4	
	comp=Z,3.6nm,1.4s						
ASAR	**Alice Springs**	**32.76**	**250**	P	**P**	**23 21 21.1**	**-1.7**
ASAR	**Alice Springs**	**32.76**	**250**	P	**P**	**23 21 21.8**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=80,slow=9.0,SNR=19						
ASAR				ScP	**ScP**	**23 27 39.6**	**+2.1**
	comp=Z,1.5nm,0.7s,baz=87,slow=3.9,SNR=16						
	comp=Z,1.5nm,0.5s						
BBOO	**Buckleboo**	**33.57**	**233**	P	**P**	**23 21 29.9**	**+0.2**
MJAR	**Matsushiro Arr**	**58.24**	**332**	P	**P**	**23 24 42.6**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=169,slow=7.1,SNR=2.4						
	comp=Z,1.3nm,0.7s						
VNDA	**Vanda**	**62.59**	**181**	P	**P**	**23 25 11.4**	**-0.3**
VNDA				IAmb	IAmb	23 25 25.2

SATY	**Saty**	**0.09**	**58**	P		**Pg**	23 18 60.0	+0.1
	24nm,0.1s							
SATY				S		**Sg**	23 19 01.5	-0.3
	220nm,0.1s							
SATY	**Saty**	**0.09**	**58**	*eP*		**Pg**	23 18 60.0	+0.1
	24nm,0.1s							
SATY				*eS*		**Sg**	23 19 01.5	-0.3
	220nm,0.1s							
SATY	**Saty**	**0.09**	**58**	*eP*		**Pg**	23 19 00.0	+0.1
	baz=64							
SATY				*eS*		**Sg**	23 19 01.6	-0.3
	baz=64							
ZHN	**Zhinishke**	**0.19**	**32**	P		**Pg**	23 19 01.5	+0.3
	11nm,0.1s							
ZHN				S		**Sg**	23 19 04.1	0.0
	362nm,0.2s							
ZHN	**Zhinishke**	**0.19**	**32**	*eP*		**Pg**	23 19 01.8	+0.6
	11nm,0.1s							
ZHN				*eS*		**Sg**	23 19 04.3	+0.2
	354nm,0.2s							
ZHN	**Zhinishke**	**0.19**	**32**	*eP*		**Pg**	23 19 01.8	+0.6
	baz=34							
ZHN				*eS*		**Sg**	23 19 04.3	+0.2
	baz=34							
KURS	**Kuram**	**0.49**	**349**	P		**Pg**	23 19 07.1	+0.4
	1.5nm,0.1s							
KURS				S		**Sg**	23 19 13.8	+0.7
	6.1nm,0.1s							
KURS	**Kuram**	**0.49**	**349**	*eP*		**Pg**	23 19 07.1	+0.4
	1.5nm,0.1s							
KURS				*eS*		**Sg**	23 19 13.8	+0.7
	6.1nm,0.1s							
KURS	**Kuram**	**0.49**	**349**	*eP*		**Pg**	23 19 07.1	+0.4
	baz=48							
KURS				*eS*		**Sg**	23 19 13.9	+0.7
	baz=48							
ANVS	**Anan'yevo**	**0.52**	**244**⇑	*eP*		**Pg**	23 19 08.0	+0.8
	baz=43							
ANVS				⇑*eS*		**Sg**	23 19 15.1	+1.0
	baz=43							
PRZ	**Przheval'sk**	**0.53**	**172**⇓	*iP*		**Pg**	23 19 08.2	+0.7
	baz=72							
PRZ				⇓*iS*		**Sg**	23 19 15.2	+0.6
	baz=72							
KPKS	**Kokpek**	**0.54**	**32**	P		**Pg**	23 19 07.6	0.0
	1.8nm,0.1s							
KPKS				S		**Sg**	23 19 14.6	-0.1
	9.2nm,0.2s							
KPKS	**Kokpek**	**0.54**	**32**	*eP*		**Pg**	23 19 07.6	0.0
	1.8nm,0.1s							
KPKS				*eS*		**Sg**	23 19 14.6	-0.1
	9.2nm,0.2s							
KPKS	**Kokpek**	**0.54**	**32**	*eP*		**Pg**	23 19 07.6	0.0
	baz=32							
KPKS				*eS*		**Sg**	23 19 14.6	-0.1
	baz=32							
UZB	**Uzynbulak**	**0.55**	**75**	P		**Pg**	23 19 08.3	+0.4
	3.4nm,0.1s							
UZB				S		**Sg**	23 19 15.6	+0.5
	22nm,0.2s							
UZB	**Uzynbulak**	**0.55**	**75**	*eP*		**Pg**	23 19 08.3	+0.4
	3.4nm,0.1s							
UZB				*eS*		**Sg**	23 19 15.6	+0.5
	22nm,0.2s							
UZB	**Uzynbulak**	**0.55**	**75**	*eP*		**Pg**	23 19 08.3	+0.4
	baz=76							
UZB				*eS*		**Sg**	23 19 15.7	+0.6
	baz=76							
KOTS	**Kotyrbulak**	**0.90**	**285**	P		**Pb**	23 19 14.7	-0.1
	2.2nm,0.1s							
KOTS				S		**Sg**	23 19 26.9	+0.7
	7.5nm,0.1s							
KOTS	**Kotyrbulak**	**0.90**	**285**	*eP*		**Pb**	23 19 14.7	-0.1
	2.2nm,0.1s							
KOTS				*eS*		**Sg**	23 19 26.9	+0.7
	7.5nm,0.1s							
KOTS	**Kotyrbulak**	**0.90**	**285**	*eP*		**Pb**	23 19 14.7	-0.1
	baz=84							
KOTS				*eS*		**Sg**	23 19 26.9	+0.7
	baz=84							
MDOK	**Medeo**	**0.93**	**280**	Pg		**Pb**	23 19 15.1	-0.3
	1.3nm,0.2s							
MDOK				Lg		Lg	23 19 27.5	
	8.3nm,0.3s							
MDOK	**Medeo**	**0.93**	**280**	*eP*		**Pb**	23 19 15.1	-0.3
	1.3nm,0.2s							
MDOK				*eS*		**Sb**	23 19 27.5	-0.3
	8.3nm,0.3s							
MDOK	**Medeo**	**0.93**	**280**	*eP*		**Pb**	23 19 15.1	-0.3
	baz=79							
MDOK				*eS*		**Sb**	23 19 27.5	-0.3
	baz=79							
TNSS	**Tian-Shan**	**0.99**	**272**	P		**Pb**	23 19 16.7	+0.1
	1.5nm,0.1s							
TNSS				S		**Sg**	23 19 30.2	+1.0
	2.8nm,0.2s							
TNSS	**Tian-Shan**	**0.99**	**272**	*eP*		**Pb**	23 19 16.7	+0.1
	1.5nm,0.1s							
TNSS				*eS*		**Sg**	23 19 30.2	+1.0
	2.8nm,0.2s							
TNSS	**Tian-Shan**	**0.99**	**272**	*eP*		**Pb**	23 19 16.7	+0.1
	baz=72							
TNSS				*eS*		**Sg**	23 19 30.2	+1.0
	baz=72							
KDJ	**Kajisay**	**1.21**	**224**⇓	*iP*		**Pn**	23 19 20.1	-0.1
	baz=23							
KDJ				⇓*eS*		**Sn**	23 19 36.3	-0.3
	baz=23							
IZV	**Izvestkoviy**	**1.24**	**272**	P		**Pb**	23 19 20.7	+0.1
	0.6nm,0.1s							
IZV				S		**Sn**	23 19 37.2	-0.1
	4.0nm,0.1s							
IZV	**Izvestkoviy**	**1.24**	**272**	*eP*		**Pb**	23 19 20.7	+0.1
	0.6nm,0.1s							
IZV				*eS*		**Sn**	23 19 37.2	-0.1
	4.0nm,0.1s							
IZV	**Izvestkoviy**	**1.24**	**272**	*eP*		**Pb**	23 19 20.7	+0.1
	baz=71							
IZV				*eS*		**Sn**	23 19 37.2	-0.1
	baz=71							
ARXS	**Arharly**	**1.25**	**344**	*eP*		**Pb**	23 19 20.9	0.0
	1.9nm,0.4s							
ARXS				*eS*		**Sn**	23 19 37.2	-0.4
	4.2nm,0.1s							
TARG	**Taragay, Kyrgy**	**1.33**	**196**⇑	*iP*		**Pb**	23 19 22.7	+0.3
	baz=96							
TARG				⇑*eS*		**Sg**	23 19 40.5	+0.5
	baz=96							
KTBS	**Karatobe**	**1.37**	**301**	P		**Pb**	23 19 23.4	+0.5
	3.5nm,0.1s							
KTBS				S		**Sg**	23 19 41.4	+0.1
	0.5nm,0.2s							
KTBS	**Karatobe**	**1.37**	**301**	*eP*		**Pb**	23 19 23.4	+0.5
	3.5nm,0.1s							
KTBS				*eS*		**Sg**	23 19 41.4	+0.1
	0.5nm,0.2s							
KTBS	**Karatobe**	**1.37**	**301**	*eP*		**Pb**	23 19 23.4	+0.5
	baz=1.0							
KTBS				*eS*		**Sg**	23 19 41.4	+0.1
	baz=1.0							
MTBS	**Maitube**	**1.38**	**276**	P		**Pb**	23 19 23.3	+0.4
	2.1nm,0.1s							
MTBS				S		**Sg**	23 19 41.3	0.0
	2.3nm,0.1s							
MTBS	**Maitube**	**1.38**	**276**	*eP*		**Pb**	23 19 23.3	+0.4
	2.1nm,0.1s							
MTBS				*eS*		**Sg**	23 19 41.4	0.0
	2.3nm,0.1s							
MTBS	**Maitube**	**1.38**	**276**	*eP*		**Pb**	23 19 23.3	+0.4
	baz=75							
MTBS				*eS*		**Sg**	23 19 41.3	0.0
	baz=75							
KUU	**Kurty**	**1.68**	**302**	P		**Pb**	23 19 28.8	+0.8
	1.8nm,0.1s							
KUU				S		**Sg**	23 19 50.9	-0.2
	3.8nm,0.2s							
KUU	**Kurty**	**1.68**	**302**	*eP*		**Pb**	23 19 28.8	+0.8
	1.8nm,0.1s							
KUU				*eS*		**Sg**	23 19 50.9	-0.2
	3.8nm,0.2s							
KUU	**Kurty**	**1.68**	**302**	*eP*		**Pb**	23 19 28.8	+0.8
	baz=2.0							
KUU				*eS*		**Sg**	23 19 50.8	-0.2
	baz=2.0							
ULHL	**Ulahol**	**1.70**	**244**⇑	*iP*		**Pb**	23 19 29.1	+0.6
	baz=44							
ULHL				⇑*eS*		**Sg**	23 19 51.6	-0.2
	baz=44							
KST	**Kastek**	**1.71**	**272**	P		**Pb**	23 19 29.5	+0.8
	0.6nm,0.1s							
KST				S		**Sg**	23 19 52.2	0.0
	1.8nm,0.2s							
KST	**Kastek**	**1.71**	**272**	*eP*		**Pb**	23 19 29.5	+0.8
	0.6nm,0.1s							
KST				*eS*		**Sg**	23 19 52.2	0.0
	1.8nm,0.2s							
KST	**Kastek**	**1.71**	**272**	*eP*		**Pb**	23 19 29.5	+0.8
	baz=71							
KST				*eS*		**Sg**	23 19 52.2	0.0
	baz=71							
DGS	**Degeres**	**1.86**	**278**	P		**Pg**	23 19 32.6	-0.3
	1.8nm,0.3s							
DGS				S		**Sg**	23 19 57.3	+0.3
	4.1nm,0.3s							
DGS	**Degeres**	**1.86**	**278**	*eP*		**Pg**	23 19 32.6	-0.3
	1.8nm,0.3s							
DGS				*eS*		**Sg**	23 19 57.3	+0.3
	4.1nm,0.3s							
TKM2	**Tokmak 2**	**1.98**	**268**⇑	*iP*		**Pb**	23 19 33.3	-0.1
	baz=68							
TKM2				⇑*iS*		**Sb**	23 19 59.1	+0.8
	baz=68							
KRBS	**Karabastau**	**2.03**	**291**	Pg		**Pb**	23 19 35.3	+1.2
	1.3nm,0.2s							
KRBS				Lg		Lg	23 20 02.1	
	4.3nm,0.3s							
KRBS	**Karabastau**	**2.03**	**291**	*eP*		**Pb**	23 19 35.3	+1.2
	1.3nm,0.2s							
KRBS				*eS*		**Sg**	23 20 02.1	-0.4
	4.3nm,0.3s							
NRN	**Naryn**	**2.32**	**228**⇓	*eP*		**Pb**	23 19 38.2	-1.0
	baz=28							
NRN				⇓*eS*		**Sb**	23 20 08.3	+0.2
	baz=28							
KZA	**Kyzart**	**2.44**	**249**⇓	*eP*		**Pb**	23 19 39.8	-1.4
	baz=48							
KZA				⇓*iS*		**Sb**	23 20 10.2	-1.3
	baz=48							
KBK	**Karagaybulak**	**2.49**	**263**⇑	*iP*		**Pb**	23 19 40.3	-1.7
	baz=63							
KBK				⇑*eS*		**Sb**	23 20 11.2	-1.5
	baz=63							

NEIC ***10*** *23:44:55.9±2.3, 17.°07N±0.°04×101.°37W±0.°03, h10km±1km, mb4.3/27, Md4.6/145(MEX), Error ellipse: s-maj=7.5km s-min=4.2km az=200.0*
IDC ***10*** *23:44:55.2±2.9, 17.°13N×101.°22W, h0km, mb4.2/7, mbtmp4.1/9, ML3.4/2, MS3.7/17, Error ellipse: s-maj=64.5km s-min=19.5km az=18.0*
MEX ***10*** *23:44:57.7±0.5, 17.°09N×101.°53W, h15km±10km, MD4.5*
ISC 10 23:44:54.4±1.3, 17.°01N±0.°03×101.°37W±0.°03, h4km±8km, n218, σ2s00/289, mb4.4/13, MS3.5/12, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET2	**Petatlan**	**0.53**	**11**	*eP*	**Pg**	**23 45 05.1**	**+0.5**
PET2				*eS*	**Sg**	**23 45 11.4**	**-0.1**
ZIIG	**Zihuatanejo**	**0.60**	**351**		**Pg**	**23 45 06.5**	**+0.5**
ZIIG					**Sg**	**23 45 13.5**	**-0.3**
ZIIG	**Zihuatanejo**	**0.60**	**351**	*eP*	**Pg**	**23 45 06.5**	**+0.5**
ZIIG				*eS*	**Sg**	**23 45 13.5**	**-0.3**
ATYC	**Atoyac**	**0.92**	**77**	*eP*	**Pn**	**23 45 14.0**	**-0.1**
ATYC				*eS*	**Sn**	**23 45 26.9**	**-1.0**
UON	**La Union**	**1.04**	**336**	*eP*	**Pg**	**23 45 13.6**	**-0.9**
UON				*eS*	**Sg**	**23 45 27.4**	**-0.6**
CAIG	**El Cayaco**	**1.06**	**88**		**Pg**	**23 45 15.1**	**+0.5**
CAIG					**Sn**	**23 45 31.1**	**-0.2**
CAIG	**El Cayaco**	**1.06**	**88**	*eP*	**Pg**	**23 45 15.1**	**+0.5**
CAIG				*eS*	**Sn**	**23 45 31.1**	**-0.2**
ACP2	**Acapulco**	**1.43**	**95**		**Pg**	**23 45 23.5**	**+1.8**
ACP2					**Sb**	**23 45 37.9**	**-2.3**
ACP2	**Acapulco**	**1.43**	**95**	*eP*	**Pg**	**23 45 23.5**	**+1.8**
ACP2				*eS*	**Sb**	**23 45 37.9**	**-2.3**
ARIG	**Puente Sto Nin**	**1.60**	**38**		**Pn**	**23 45 22.7**	**-0.8**
ARIG					**Sn**	**23 45 41.9**	**-2.8**
ARIG	**Puente Sto Nin**	**1.60**	**38**	*eP*	**Pn**	**23 45 22.7**	**-0.8**
ARIG				*eS*	**Sn**	**23 45 41.9**	**-2.8**
DAIG	**Los Arroyos**	**1.65**	**89**		**Pn**	**23 45 23.8**	**-0.3**
DAIG					**Sn**	**23 45 42.7**	**-3.1**
DAIG	**Los Arroyos**	**1.65**	**89**	*eP*	**Pn**	**23 45 23.8**	**-0.3**
DAIG				*eS*	**Sn**	**23 45 42.7**	**-3.1**
MEIG	**Mezcala**	**1.90**	**61**		**Pn**	**23 45 27.6**	**-0.2**
MEIG					**Sn**	**23 45 51.0**	**-1.3**
MEIG	**Mezcala**	**1.90**	**61**	*eP*	**Pn**	**23 45 27.6**	**-0.2**
MEIG				*eS*	**Sn**	**23 45 51.0**	**-1.3**
CRIG	**Cruz Grande**	**2.16**	**97**		**Pn**	**23 45 31.1**	**-0.1**
CRIG					**Sg**	**23 46 05.5**	**+1.6**
CRIG	**Cruz Grande**	**2.16**	**97**	*eP*	**Pn**	**23 45 31.1**	**-0.1**
CRIG				*eS*	**Sg**	**23 46 05.5**	**+1.6**
TEJU	**Tejupilco**	**2.21**	**31**	*eP*	**Pn**	**23 45 31.8**	**-0.3**
TEJU				*eS*	**Sn**	**23 45 55.8**	**-4.2**
PLIG	**Platanillo**	**2.25**	**52**		**Pn**	**23 45 32.7**	**+0.1**
PLIG					**Sn**	**23 46 00.1**	**-0.8**
PLIG	**Platanillo**	**2.25**	**52**	*eP*	**Pn**	**23 45 32.7**	**+0.1**
PLIG				*eS*	**Sn**	**23 46 00.1**	**-0.8**
MMIG	**Aquila**	**2.27**	**304**		**Pn**	**23 45 30.9**	**-1.9**
MMIG	**Aquila**	**2.27**	**304**	*eP*	**Pn**	**23 45 30.9**	**-1.9**
MMIG				*e*		23 46 09.2	
MGIG	**Malinaltepec**	**2.63**	**85**		**Pn**	**23 45 38.9**	**+1.1**
MGIG					**Sn**	**23 46 07.2**	**-3.1**
MGIG	**Malinaltepec**	**2.63**	**85**	*eP*	**Pn**	**23 45 38.9**	**+1.1**
MGIG				*eS*	**Sn**	**23 46 07.2**	**-3.1**
MOIG	**Morelia**	**2.66**	**4**	Pn	**Pn**	**23 45 37.7**	**-0.6**
MOIG	**Morelia**	**2.66**	**4**	*eP*	**Pn**	**23 45 40.1**	**+1.8**
MOIG				*eS*	**Sn**	**23 46 09.1**	**-2.1**
TLIG	**Tlapa**	**2.74**	**78**		**Pn**	**23 45 40.0**	**+0.7**
TLIG				Sn	**Sn**	**23 46 07.6**	**-5.3**
TLIG	**Tlapa**	**2.74**	**78**	*eP*	**Pn**	**23 45 40.4**	**+1.2**
TLIG				*eS*	**Sn**	**23 46 08.6**	**-4.3**
TOVM	**TOLUCA**	**2.78**	**35**		**Pb**	**23 45 44.3**	**-0.5**
TOVM					**Sb**	**23 46 18.4**	**-1.0**
TOVM	**TOLUCA**	**2.78**	**35**	*eP*	**Pb**	**23 45 44.3**	**-0.5**
TOVM				*eS*	**Sb**	**23 46 18.4**	**-1.0**
HMTT	**Tlapaneco**	**2.80**	**73**		**Pn**	**23 45 41.4**	**+1.3**
HMTT					**Sn**	**23 46 13.5**	**-0.9**
HMTT	**Tlapaneco**	**2.80**	**73**	*eP*	**Pn**	**23 45 41.4**	**+1.3**
HMTT				*eS*	**Sn**	**23 46 13.5**	**-0.9**
YAIG	**Yautepec**	**2.87**	**50**		**Pn**	**23 45 40.4**	**-0.7**
YAIG					**Sb**	**23 46 19.7**	**-2.0**
YAIG	**Yautepec**	**2.87**	**50**	*eP*	**Pn**	**23 45 40.4**	**-0.7**
YAIG				*eS*	**Sb**	**23 46 19.7**	**-2.0**
INVM	**La Maruquesa**	**2.95**	**40**	*eP*	**Pb**	**23 45 45.5**	**-2.4**
INVM				*eS*	**Sb**	**23 46 22.1**	**-2.5**
AOVM	**Tlapan**	**2.97**	**41**	*e*	**Pb**	**23 45 47.1**	**-1.2**
AOVM				*e*		23 46 27.4	
TLVM	**San Miguel Top**	**3.04**	**44**	*eP*	**Pb**	**23 45 47.3**	**-2.0**
TLVM				*eS*	**Sn**	**23 46 23.5**	**+2.8**
CJVM	**Cuajimalpa**	**3.07**	**40**	*eP*	**Pb**	**23 45 49.1**	**-0.6**
CJVM				*eS*	**Sb**	**23 46 24.4**	**-3.2**
ACAM	**Acambaro**	**3.08**	**12**	*eP*	**Pb**	**23 45 48.8**	**-1.1**
ACAM				*eS*	**Sb**	**23 46 27.9**	**-0.2**
COIG	**Colima**	**3.09**	**315**	*e*	**Pn**	**23 45 44.2**	**+0.1**
COIG				*e*		23 46 27.3	
XCVM	**Xochimilco**	**3.09**	**44**	*eP*	**Pb**	**23 45 50.4**	**+0.2**
XCVM				*eS*	**Sn**	**23 46 22.7**	**+0.8**
ATVM	**ATLACOMULCO**	**3.10**	**28**		**Pb**	**23 45 50.6**	**+0.3**
ATVM					**Sn**	**23 46 22.6**	**+0.5**
ATVM	**ATLACOMULCO**	**3.10**	**28**	*eP*	**Pb**	**23 45 50.6**	**+0.3**
ATVM				*eS*	**Sn**	**23 46 22.6**	**+0.5**
CUP5	**Mexico City**	**3.11**	**42**	*e*	**Pg**	**23 45 52.6**	**-1.4**
CUP5				*e*		23 46 31.5	
UNM	**Universidad Na**	**3.11**	**42**	Pn	**Pn**	**23 45 42.1**	**-2.4**
MPVM	**San Francisco**	**3.13**	**45**	*eP*	**Pb**	**23 45 47.9**	**-2.9**
MPVM				*eS*	**Sn**	**23 46 19.4**	**-3.3**
COVM	**Coyoacan**	**3.14**	**42**	*e*	**Sb**	**23 46 31.6**	**+1.8**
BJVM	**Benito Juarez**	**3.15**	**41**	*eP*	**Pb**	**23 45 51.4**	**+0.3**
BJVM				*eS*	**Sb**	**23 46 26.5**	**-3.5**
CDAR	**Ciudad de Arme**	**3.16**	**308**	*e*	**Pn**	**23 45 44.0**	**-1.0**
CDAR				*e*		23 46 33.0	
PNIG	**Pinotepa**	**3.17**	**101**		**Pn**	**23 45 45.8**	**+0.7**
PNIG	**Pinotepa**	**3.17**	**101**	*eP*	**Pn**	**23 45 45.8**	**+0.7**
PNIG				*eS*	**Sn**	**23 46 19.1**	**-4.4**
FTIG	**Fresnillo de T**	**3.22**	**73**		**Pn**	**23 45 46.8**	**+0.9**
FTIG					**Sb**	**23 46 29.1**	**-2.7**
FTIG	**Fresnillo de T**	**3.22**	**73**	*eP*	**Pn**	**23 45 46.8**	**+0.9**
FTIG				*eS*	**Sb**	**23 46 29.1**	**-2.7**
THVM	**De Xico**	**3.23**	**45**	*eP*	**Pb**	**23 45 53.0**	**+0.5**
THVM				*eS*	**Sb**	**23 46 29.8**	**-2.6**
COMA	**Comala**	**3.23**	**316**	*e*	**Pb**	**23 45 53.2**	**+0.8**
COMA				*e*		23 46 30.4	
AZVM	**Cuida Lopez Ma**	**3.24**	**37**		**Pb**	**23 45 53.4**	**+0.7**
AZVM					**Sn**	**23 46 26.9**	**+1.3**
AZVM	**Cuida Lopez Ma**	**3.24**	**37**	*eP*	**Pb**	**23 45 53.4**	**+0.7**
AZVM				*eS*	**Sn**	**23 46 26.9**	**+1.3**
AMVM	**AMECAMECA**	**3.24**	**49**		**Pn**	**23 45 46.6**	**+0.2**
AMVM					**Sb**	**23 46 32.5**	**-0.2**
AMVM	**AMECAMECA**	**3.24**	**49**	*eP*	**Pn**	**23 45 46.6**	**+0.2**
AMVM				*eS*	**Sb**	**23 46 32.5**	**-0.2**
EZ5V		**3.24**	**320**		**Pn**	**23 45 46.9**	**+0.5**
EZ5V		**3.24**	**320**	*e*	**Pn**	**23 45 46.9**	**+0.5**
EZ5V				*e*		23 46 35.7	
MNGA	**Volcan de Coli**	**3.25**	**319**	*e*	**Pn**	**23 45 47.4**	**+1.0**
MNGA				*e*		23 46 39.0	
JUBC	**Volcan de Coli**	**3.25**	**320**	*e*	**Pn**	**23 45 47.3**	**+0.8**
JUBC				*e*		23 46 37.8	
PBVM	**Pinon**	**3.25**	**42**		**Pb**	**23 45 52.4**	**-0.3**
PBVM					**Sb**	**23 46 33.2**	**+0.5**
PBVM	**Pinon**	**3.25**	**42**	*eP*	**Pb**	**23 45 52.4**	**-0.3**
PBVM				*eS*	**Sb**	**23 46 33.2**	**+0.5**
ACIG	**Acambay**	**3.28**	**25**		**Pn**	**23 45 49.9**	**+3.1**
ACIG					**Sb**	**23 46 31.9**	**-1.7**
ACIG	**Acambay**	**3.28**	**25**	*eP*	**Pn**	**23 45 49.9**	**+3.1**
ACIG				*eS*	**Sb**	**23 46 31.9**	**-1.7**
INCO	**Volcan de Coli**	**3.28**	**320**	*e*	**Pn**	**23 45 47.7**	**+0.7**
INCO				*e*		23 46 38.3	
SOMAC	**Volcano de Col**	**3.29**	**320**	*e*	**Pn**	**23 45 48.2**	**+1.0**
SOMAC				*e*		23 46 38.2	
PPIG	**Popocatepetl**	**3.32**	**51**		**Pn**	**23 45 47.5**	**-0.1**
PPIG					**Sn**	**23 46 27.8**	**0.0**
PPM	**Popocatepetl**	**3.32**	**52**	*eP*	**Pn**	**23 45 47.5**	**-0.1**
PPM				*i* S	**Sn**	**23 46 27.8**	**0.0**
CEGR	**Campo Tres**	**3.34**	**315**	*e*	**Pn**	**23 45 47.9**	**+0.2**
CEGR				*e*		23 46 36.8	
PTVM	**Pico Tres Padr**	**3.35**	**40**		**Pb**	**23 45 53.5**	**-1.0**
PTVM					**Sb**	**23 46 32.7**	**-3.0**
PTVM	**Pico Tres Padr**	**3.35**	**40**	*eP*	**Pb**	**23 45 53.5**	**-1.0**
PTVM				*eS*	**Sb**	**23 46 32.7**	**-3.0**
TXVM	**Universitario**	**3.35**	**44**	*eP*	**Pb**	**23 45 55.5**	**+0.9**
TXVM				*eS*	**Sn**	**23 46 27.2**	**-1.1**
TXIG	**Tlaxiaco**	**3.45**	**85**		**Pn**	**23 45 50.8**	**+1.5**
TXIG	**Tlaxiaco**	**3.45**	**85**	*eP*	**Pn**	**23 45 50.8**	**+1.5**
TXIG				*eS*	**Sn**	**23 46 25.3**	**-5.6**
HLIG	**Huajuapan de L**	**3.50**	**76**		**Pn**	**23 45 51.1**	**+1.2**
HLIG					**Sn**	**23 46 29.6**	**-2.4**
HLIG	**Huajuapan de L**	**3.50**	**76**	*eP*	**Pn**	**23 45 51.1**	**+1.2**
HLIG				*eS*	**Sn**	**23 46 29.6**	**-2.4**
ZUVM	**ZUMPANGO**	**3.55**	**38**		**Pn**	**23 45 52.9**	**+2.3**
ZUVM					**Sn**	**23 46 32.6**	**-0.5**
ZUVM	**ZUMPANGO**	**3.55**	**38**	*eP*	**Pn**	**23 45 52.9**	**+2.3**
ZUVM				*eS*	**Sn**	**23 46 32.6**	**-0.5**
PHPU	**Puebla**	**3.66**	**56**	*e*	**Sb**	**23 46 40.5**	**-4.2**
YOIG	**Yosondua**	**3.67**	**92**		**Pn**	**23 45 53.8**	**+1.6**
YOIG					**Sn**	**23 46 34.0**	**-2.0**
YOIG	**Yosondua**	**3.67**	**92**	*eP*	**Pn**	**23 45 53.8**	**+1.6**
YOIG				*eS*	**Sn**	**23 46 34.0**	**-2.0**
VTVM	**Tizayuca**	**3.69**	**42**		**Pb**	**23 45 57.6**	**-2.7**
VTVM					**Sn**	**23 46 35.9**	**-0.8**
VTVM	**Tizayuca**	**3.69**	**42**	*eP*	**Pb**	**23 45 57.6**	**-2.7**
VTVM				*eS*	**Sn**	**23 46 35.9**	**-0.8**
CIHU	**Emiliano Zapat**	**3.91**	**306**	*eP*	**Pn**	**23 45 54.2**	**-1.1**
CIHU				*eS*	**Sn**	**23 46 35.6**	**-6.0**
DHIG	**Demacu**	**3.95**	**34**		**Pn**	**23 45 55.1**	**-1.0**
DEIG	**Demacu**	**3.95**	**34**	*eP*	**Pn**	**23 45 55.1**	**-1.0**
DEIG				*eS*	**Sb**	**23 46 48.7**	**-4.5**
TPIG	**Tehuac#an**	**4.07**	**69**		**Pn**	**23 45 58.6**	**+0.9**
TPIG					**Sn**	**23 46 46.4**	**+0.4**
TPIG	**Tehuac#an**	**4.07**	**69**	*eP*	**Pn**	**23 45 58.6**	**+0.9**
TPIG				*eS*	**Sn**	**23 46 46.4**	**+0.4**
PEIG	**Puerto Escondi**	**4.17**	**103**		**Pn**	**23 46 00.7**	**+1.7**
PEIG	**Puerto Escondi**	**4.17**	**103**	*eP*	**Pn**	**23 46 00.7**	**+1.7**
PEIG				*eS*	**Sn**	**23 46 43.6**	**-4.7**
TOIG	**Toxpalan**	**4.25**	**75**		**Pn**	**23 46 00.8**	**+0.8**
TOIG					**Sn**	**23 46 49.6**	**-0.6**
TOIG	**Toxpalan**	**4.25**	**75**	*eP*	**Pn**	**23 46 00.8**	**+0.8**
TOIG				*eS*	**Sn**	**23 46 49.6**	**-0.6**
CJM	**Chamela**	**4.28**	**306**	*eP*	**Pn**	**23 45 59.2**	**-1.2**
CJM				*eS*	**Sn**	**23 46 43.8**	**-7.0**
OXIG	**Oaxaca**	**4.44**	**89**		**Pn**	**23 46 04.6**	**+1.8**
OXIG					**Sn**	**23 46 57.3**	**+2.2**
VHO	**Vista Hermosa**	**4.44**	**89**	*eP*	**Pn**	**23 46 04.6**	**+1.8**
VHO				*eS*	**Sn**	**23 46 57.3**	**+2.3**
OXCC	**Oaxaca**	**4.47**	**89**	*e*	**Sb**	**23 47 05.9**	**-2.0**
OZST	**Orizaba**	**4.47**	**65**	*e*	**Sb**	**23 47 05.3**	**-2.6**
JAUV	**Jalcomulco**	**4.94**	**61**

comp=Z,2.9nm,1.0s
TUL3 Leonard 19.47 14 P P 23 49 19.7 -2.5
TUL3 IAmb IAmb 23 49 21.2
comp=Z,19nm,0.9s
TUL3 Leonard 19.47 14 P P 23 49 20.5 -1.8
baz=196
OK038 West end E0370 19.53 6 P P 23 49 21.2 -1.8
OK038 IAmb IAmb 23 49 23.0
comp=Z,25nm,0.9s
X16A Lo Mia Camp, P 19.54 334 P P 23 49 23.3 0.0
BLYC Blythe 20.44 327 P P 23 49 33.5 +0.6
BLYC IAmb IAmb 23 49 36.0
comp=Z,12nm,0.8s
WUAZ Wupatki 20.47 336 P P 23 49 34.0 +0.6
WUAZ Wupatki 20.47 336 P Pn 23 49 36.4 +0.8
baz=151,SNR=12
FCAR Ozark Folk Cen 20.52 22 P P 23 49 31.3 -2.4
FCAR IAmb IAmb 23 49 33.8
comp=Z,14nm,0.9s
PDMCI Parker Dam,Lak 20.68 329 P Pn 23 49 37.8 0.0
baz=143,SNR=6.9
SDCO Great Sand Dun 20.98 351 P P 23 49 38.0 -0.9
SDCO IAmb IAmb 23 49 40.5
comp=Z,13nm,0.9s
SDCO Great Sand Dun 20.98 351 P P 23 49 39.7 +0.8
baz=168,SNR=19
IRM Iron Mountain 21.08 327 P P 23 49 42.8 +2.9
baz=140,SNR=5.7
MVCO Mesa Verde 21.08 344 P P 23 49 38.2 -1.9
MVCO IAmb IAmb 23 49 44.7
comp=Z,17nm,0.9s
MVCO Mesa Verde 21.08 344 P P 23 49 41.4 +1.3
baz=160,SNR=7.0
S22A 4UR Ranch, Cre 21.21 348 P P 23 49 42.8 +1.3
baz=165,SNR=9.1
PFO Pinyon Flats O 21.39 323 P P 23 49 45.9 +2.6
baz=136
PFO Pinyon Flats O 21.39 323 P P 23 49 45.5 +2.2
comp=Z,8.3nm,1.0s,baz=103,slow=3.0,SNR=5.5
PFO LR LR 23 58 32.5
comp=Z,110nm,20.0s,baz=256,slow=38
comp=Z,8.3nm,1.0s
GMRC Granite Mounta 21.83 327 P P 23 49 50.5 +2.4
baz=140
TUQ Turquoise Moun 22.47 328 P P 23 49 56.9 +1.9
baz=140,SNR=14
WVT Waverly 22.52 30 P P 23 49 53.2 -2.1
ISCO Idaho Springs 23.01 352 P P 23 49 59.6 -1.1
ISCO IAmb IAmb 23 50 03.1
comp=Z,6.5nm,1.1s
ISCO Idaho Springs 23.01 352 P P 23 50 02.2 +1.5
baz=169,SNR=5.9
MTPU Mount Pierson 23.01 338 P P 23 50 00.5 -0.3
MSU Marysvale 23.42 338 P P 23 50 03.7 -1.2
TPNV Topopah Spring 23.82 329 P P 23 50 08.5 -0.3
TPNV IAmb IAmb 23 50 12.7
comp=Z,14nm,0.9s
TPNV Topopah Spring 23.82 329 P P 23 50 11.5 +2.7
baz=142,SNR=8.2
GRAC Grapevine Rang 24.41 328 P P 23 50 18.3 +4.1
baz=140
Q12A Willow Creek R 24.90 335 P P 23 50 18.5 -0.1
Q12A IAmb IAmb 23 50 22.2
comp=Z,12nm,1.1s
DUG Dugway, Tooele 25.14 339 P P 23 50 22.7 +1.9
baz=153,SNR=8.3
TPH Tonopah 25.18 330 P P 23 50 21.5 +0.2
NVAR Mina Array Bea 25.99 329 P P 23 50 29.0 +0.4
NVAR Mina Array Bea 25.99 329 P P 23 50 30.5 +1.8
comp=Z,12nm,0.9s,baz=131,slow=12,SNR=33
comp=Z,12nm,0.9s
ELK Elko 26.52 336 LR LR 00 02 12.8
comp=Z,328nm,18.0s,baz=335,slow=39
PD31 Pinedale Array 26.61 346 P P 23 50 33.0 -1.2
PD31 IAmb IAmb 23 50 37.5
comp=Z,5.5nm,1.0s
PDAR Pinedale Array 26.61 346 P P 23 50 33.2 -1.0
PDAR Pinedale Array 26.61 346 P P 23 50 34.6 +0.4
comp=Z,3.9nm,0.9s,baz=161,slow=8.6,SNR=18
PDAR LR LR 00 02 43.1
comp=Z,190nm,20.6s,baz=250,slow=40
comp=Z,3.9nm,0.9s
BW06 Boulder Array 26.61 346 P P 23 50 35.5 +1.3
baz=162
P49A Miami Univ. Ec 26.72 30 P P 23 50 35.0 +0.1
baz=218
BMN Battle Mountai 27.08 333 P P 23 50 37.6 -0.7
BMN IAmb IAmb 23 50 44.4
comp=Z,7.6nm,1.0s
TPAW Teton Pass 27.62 345 P P 23 50 43.0 -0.4
TPAW IAmb IAmb 23 50 52.3
comp=Z,8.0nm,1.1s
HLID Hailey 28.69 340 P P 23 50 54.3 +1.6
baz=153
BOZ Bozeman (W) 29.77 345 P P 23 51 03.4 +1.2
baz=160
J08A Circle Bar Ran 30.01 335 P P 23 51 04.3 -0.1
SDV Santo Domingo 30.99 101 LR LR 00 03 27.2
comp=Z,76nm,20.3s,baz=40,slow=36
ULM Lac du Bonnet 33.45 6 P P 23 51 33.5 -0.9
comp=Z,4.1nm,1.0s,baz=214,slow=11,SNR=3.9
ULM LR LR 00 06 43.7
comp=Z,99nm,19.7s,baz=274,slow=39
comp=Z,4.1nm,1.0s
SJG San Juan 33.57 83 LR LR 00 06 25.8
comp=Z,65nm,18.2s,baz=24,slow=39
RPN Rapa Nui 44.55 190 LR LR 00 07 24.5
comp=Z,64nm,19.5s,baz=327,slow=30
KOTAN Kotaneelee Air 46.09 344 P P 23 53 21.1 +1.7
baz=149
YKA Yellowknife Ar 46.37 352 P P 23 53 21.6 0.0
comp=Z,3.2nm,0.9s,baz=160,slow=7.3,SNR=30
YKA PcP PcP 23 54 56.6 +0.1
comp=Z,0.3nm,0.6s,baz=163,slow=3.3,SNR=6.0
comp=Z,3.2nm,0.9s
DLBC Dease Lake 46.46 340 P P 23 53 25.0 +2.5
baz=140
WTLY Watson Lake, Y 47.39 342 P P 23 53 31.9 +2.2
baz=143
TGTN Hyland Airport 48.39 343 P P 23 53 39.6 +2.2
baz=144,SNR=6.1
MDP Montagnes des 49.13 98 LR LR 00 18 44.9
comp=Z,42nm,18.1s,baz=353,slow=41
M31M Drury Creek, Y 50.73 341 P P 23 53 57.7 +2.5
baz=137
H03N2 Juan Fernandez 54.55 157 T T 00 53 45.1
baz=334,slow=77,SNR=54
H03N1 Juan Fernandez 54.56 157 T T 00 53 49.9
baz=334,slow=77,SNR=70
H03N3 Juan Fernandez 54.57 157 T T 00 53 54.3
baz=334,slow=77,SNR=69
ILAR Eielson Array 56.63 339 P P 23 54 39.4 +1.0
comp=Z,1.2nm,1.0s,baz=154,slow=5.7,SNR=11
ILAR LR LR 00 20 54.3
comp=Z,205nm,21.3s,baz=138,slow=38
comp=Z,1.2nm,1.0s
SKT Skwentna 56.92 334 P P 23 54 41.9 +1.3
baz=118
TRF Thorofare Moun 57.16 336 P P 23 54 44.0 +1.6
baz=121
H24K Noodor Dome 57.59 339 P P 23 54 47.0 +1.8
baz=124
CAST Castle Rocks 57.84 336 P P 23 54 48.0 +0.9
baz=119
H22K Ishtalitna Cre 58.83 338 P P 23 54 55.0 +1.2
baz=121
TTA Tatalina 59.21 334 P P 23 54 57.3 +0.6
baz=114
H21K Melozitna Rive 59.21 338 P P 23 54 57.5 +1.0
baz=119
F21K Alatna River 60.23 339 P P 23 55 05.5 +2.0
baz=119
D22K Ayikyak River 60.81 341 P P 23 55 09.0 +1.5
baz=121
E18K Tukpahlearik C 62.79 338 P P 23 55 22.0 +1.2
baz=112
E17K Hotham Inlet 63.11 338 P P 23 55 24.0 +1.1
baz=111
A19K Wainwright 64.04 341 P P 23 55 30.1 +1.1
baz=113
C17K DeLong Mountai 64.08 339 P P 23 55 30.6 +1.2
baz=110
RAR Rarotonga 68.70 239 LR LR 00 18 50.5
comp=Z,95nm,18.4s,baz=316,slow=30
BORG Borgarnes 70.51 27 LR LR 00 26 29.8
comp=Z,48nm,18.1s,baz=302,slow=36
EKA Eskdalemuir Ar 80.76 35 P P 23 57 10.0 +0.9
comp=Z,0.8nm,0.7s,baz=269,slow=5.0,SNR=2.6
comp=Z,0.8nm,0.7s
NOA NORSAR Array B 85.69 27 LR LR 00 36 50.4
comp=Z,18nm,18.7s,baz=350,slow=36
CMAR Chiang Mai Arr 139.48 330 PKP **PKPdf 00 04 24.6 +0.4**
comp=Z,0.6nm,0.3s,baz=26,slow=2.3,SNR=1.8

NNC 10 23:46:01.5±1.5, 44°.39N×92°.03E, h0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=17.0km s-min=11.7km az=19.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**7.25**	**293**	Pn	Pn	23 47 49.3	+0.6
	0.2nm,0.2s,baz=100,slow=14,SNR=15						
MK31				⇑Sn	Sn	23 49 13.1	+1.4
	1.3nm,0.5s,baz=106,slow=16,SNR=2.9						
MK31				⇓Lg	Lg	23 49 51.4	
	4.5nm,0.7s,baz=94,slow=32,SNR=4.2						
MAKZ	**Makanchi**	**7.46**	**292**	⇑Pn	Pn	23 47 51.1	-0.5
	1.7nm,0.7s						
MAKZ				⇓Lg	Lg	23 49 56.8	
	6.7nm,0.9s						
PDGK	**Podgornoye**	**9.13**	**268**	⇑Pn	Pn	23 48 14.2	-0.4
	1.8nm,0.8s						
PDGK				⇓Sn	Sn	23 49 59.9	+1.9
	2.6nm,0.6s						
PDGK				⇑Lg	Lg	23 50 50.7	
	5.9nm,0.9s						
KURK	**Kurchatov**	**11.05**	**310**	⇑Lg	Lg	23 51 52.2	
	8.2nm,1.0s						

*IDC **11** 00:05:12.4±5.2,5.°06S×144.°44E,h84km±55km, mb3.7/7, mbtmp4.0/9,ML4.1/1,MS2.8/1,Error ellipse: s-maj=35.1km s-min=29.2km az=151.0*
*NEIC **11** 00:05:14.5±1.9,5.°15S±0.°08×144.°2E±0.°1,h102km±11km, mb4.4/12,Error ellipse: s-maj=19.9km s-min=5.7km az=121.0*
ISC 11 00:05:14.2±0.6,5.°16S±0.°07×144.°26E±0.°08,h100km,n39, σ1°19/37,mb4.1/10,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**3.02**	**268**	P	**Pn**	**00 06 00.5**	**+0.2**
MANU	**Manus Island**	**4.38**	**45**		**Pn**	**00 06 19.8**	**+1.2**
PMG	**Port Moresby**	**5.11**	**146**	Pn	**Pn**	**00 06 28.8**	**+0.4**
PMG	**Port Moresby**	**5.11**	**146**	P	**Pn**	**00 06 27.6**	**-0.8**
	6.4nm,0.3s,baz=326,slow=14,SNR=2.0						
PMG				S	**Sn**	**00 07 24.2**	**-1.9**
	17nm,0.6s,baz=323,slow=20,SNR=1.5						
COEN	**Coen**	**8.80**	**187**	Pn	**Pn**	**00 07 19.3**	**+0.6**
MTN	**Manton Dam**	**15.04**	**239**		**Pn**	**00 08 39.6**	**-1.9**
MTN	**Manton Dam**	**15.04**	**239**	P	**Pn**	**00 08 41.2**	**-0.3**
QIS	**Mount Isa**	**15.96**	**196**	P	**P**	**00 08 57.0**	**+2.3**
WR0	**Warramunga Arr**	**17.49**	**212**	P	**Pn**	**00 09 11.4**	**-0.4**
WR0				IAmb	IAmb	00 09 14.4	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**17.58**	**212**	P	**Pn**	**00 09 12.2**	**-0.8**
WRA	**Warramunga Arr**	**17.58**	**212**	P	**Pn**	**00 09 12.6**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=26,slow=11,SNR=42						
	comp=Z,1.7nm,0.4s						
KNRA	**Kununurra**	**18.46**	**234**	P	**Pn**	**00 09 21.8**	**-1.8**
KNRA				IAmb	IAmb	00 09 24.9	
	comp=Z,29nm,1.0s						
KNRA	**Kununurra**	**18.46**	**234**	P	**Pn**	**00 09 23.1**	**-0.5**
SOEI	**Soe**	**20.34**	**256**	P	**P**	**00 09 40.9**	**-1.9**
AS31	**Alice Springs**	**20.93**	**207**	P	Pn	00 09 49.8	-2.7
ASAR	**Alice Springs**	**20.93**	**207**	P	**P**	**00 09 49.6**	**+0.6**
ASAR	**Alice Springs**	**20.93**	**207**	P	Pn	00 09 50.0	-2.5
	comp=Z,5.5nm,0.8s,baz=27,slow=12,SNR=44						
	comp=Z,5.5nm,0.8s						
DAV	**Davao City (W)**	**22.25**	**303**	LR	LR	00 19 14.9	
	comp=Z,23nm,20.5s,baz=313,slow=38						
OOD	**Oodnadatta**	**23.94**	**199**	P	**P**	**00 10 20.5**	**+1.3**
TOLI2	**Tolitoli**	**24.26**	**284**	P	**P**	**00 10 20.9**	**-1.3**
TOLI2				IAmb	IAmb	00 10 29.1	
	comp=Z,5.6nm,0.6s						
WRKA	**Warakurna**	**25.00**	**216**	P	**P**	**00 10 30.1**	**+1.1**
CMSA	**Cobar Meteorol**	**26.27**	**177**	P	**P**	**00 10 43.2**	**+2.9**
CMAR	**Chiang Mai Arr**	**50.45**	**299**	P	**P**	**00 14 03.0**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=128,slow=6.6,SNR=6.9						
	comp=Z,0.7nm,0.4s						
SONM	**Songino Array**	**62.37**	**332**	P	**P**	**00 15 26.4**	**0.0**
	comp=Z,0.4nm,0.9s,baz=163,slow=7.1,SNR=1.8						
	comp=Z,0.4nm,0.9s						
MK31	**Makanchi Array**	**75.13**	**321**	P	**P**	**00 16 45.2**	**-0.4**
MKAR	**Makanchi Array**	**75.13**	**321**	P	**P**	**00 16 45.8**	**+0.2**
MKAR	**Makanchi Array**	**75.13**	**321**	P	**P**	**00 16 46.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=96,slow=9.2,SNR=11						
	comp=Z,0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**76.86**	**328**	P	**P**	**00 16 54.6**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=118,slow=6.1,SNR=7.5						
	comp=Z,1.2nm,0.5s						
IMAR	**Indian Mountai**	**83.69**	**21**	P	**P**	**00 17 31.5**	**0.0**
KTH	**Kantishna Hill**	**83.69**	**24**	P	**P**	**00 17 31.0**	**-0.7**
KTH				IAmb	IAmb	00 17 43.2	
	comp=Z,6.4nm,1.4s						
TRF	**Thorofare Moun**	**83.91**	**24**	P	**P**	**00 17 32.3**	**-0.6**
TRF				IAmb	IAmb	00 17 59.1	
	comp=Z,10nm,1.4s						
SML	**Sawmill**	**84.08**	**26**	P	**P**	**00 17 33.1**	**-0.6**
BVAR	**Borovoye Array**	**84.50**	**324**	P	**P**	**00 17 36.7**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=99,slow=7.0,SNR=6.4						
	comp=Z,1.1nm,0.5s						
SCM	**Sheep Creek Mo**	**84.54**	**26**	P	**P**	**00 17 35.9**	**-0.1**
DHY	**Denali Highway**	**84.97**	**25**	P	**P**	**00 17 38.0**	**-0.3**
DHY				IAmb	IAmb	00 17 38.8	
	comp=Z,5.8nm,0.8s						
ILAR	**Eielson Array**	**85.80**	**24**	P	**P**	**00 17 40.5**	**-1.7**
ILAR	**Eielson Array**	**85.80**	**24**	P	**P**	**00 17 40.8**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=254,slow=5.1,SNR=32						
	comp=Z,1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**142.24**	**285**	PKhKP	PKPpre	00 24 31.1	
	comp=Z,0.1nm,0.4s,baz=155,slow=1.5,SNR=2.2						
TORD				PKP	**PKiKP**	**00 24 37.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=79,slow=1.6,SNR=2.1						
DBIC	**Dimbokro**	**149.25**	**274**	PKPbc	**PKiKP**	**00 24 53.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=112,slow=6.5,SNR=1.5						

*IDC **11** 00:11:24.3±3.6,20.°94S×168.°23E,h0km,mb3.8/2, mbtmp3.7/3,ML3.3/1,MS3.0/2,Error ellipse: s-maj=131.8km s-min=28.3km az=139.0*
*NOU **11** 00:11:29.6,21.°72S×168.°27E,h0km,MLv3.2/7,Loyalty Islands*
ISC 11 00:11:25.4±1.6,21.°4S±0.°2×168.°5E±0.°1,h20km,n18, σ0°62/18,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.40**	**259**	P	**Pn**	**00 11 35.9**	**-0.1**
PINNC	**Pines Island,**	**1.52**	**218**	P	**Pn**	**00 11 51.5**	**0.0**
YATNC	**Mamie plateau,**	**1.59**	**246**	P	**Pb**	**00 11 53.9**	**-0.2**
YATNC	**Mamie plateau,**	**1.59**	**246**	P	**Pb**	**00 11 53.4**	**-0.7**
OUENC	**Ouen Island, N**	**1.80**	**236**	P	**Pb**	**00 11 57.2**	**-0.6**
OUENC	**Ouen Island, N**	**1.80**	**236**	P	**Pb**	**00 11 57.4**	**-0.4**
DZM	**Mont Dzumac**	**1.98**	**250**	P	**Pb**	**00 12 00.2**	**-0.6**
DZM	**Mont Dzumac**	**1.98**	**250**	P	**Pb**	**00 12 00.5**	**-0.3**
DZM	**Mont Dzumac**	**1.98**	**250**	Pn	**Pb**	**00 11 59.9**	**-0.9**
	11nm,0.3s,baz=65,slow=18,SNR=37						
DZM				LR	LR	00 12 25.0	
	comp=Z,96nm,19.0s,baz=238,slow=30						
DZM				Sn	**Sb**	**00 12 25.5**	**+0.3**
	44nm,0.3s,baz=40,slow=18,SNR=15						
	26nm,0.4s						
ONTNC	**Ouen Toro**	**2.06**	**244**	P	**Pb**	**00 12 01.4**	**-0.8**
ONTNC	**Ouen Toro**	**2.06**	**244**	P	**Pb**	**00 12 02.1**	**-0.1**
NOUC	**Port Laguerre**	**2.12**	**250**	P	**Pb**	**00 12 02.6**	**-0.5**
NOUC	**Port Laguerre**	**2.12**	**250**	P	**Pb**	**00 12 03.1**	**0.0**
WRA	**Warramunga Arr**	**31.91**	**266**	P	**P**	**00 17 50.3**	**+0.4**
	1.1nm,0.8s,baz=98,slow=7.8,SNR=7.5						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**31.95**	**259**	P	**P**	**00 17 51.1**	**+1.0**
	1.2nm,0.9s,baz=79,slow=8.0,SNR=6.8						
	1.2nm,0.9s						
MAW	**Mawson**	**76.16**	**202**	LR	LR	00 55 39.7	
	comp=Z,30nm,18.4s,baz=211,slow=35						
EKA	**Eskdalemuir Ar**	**145.54**	**352**	PKPbc	**PKPbc**	**00 31 01.0**	**-1.0**
	2.2nm,1.0s,baz=26,slow=3.4,SNR=2.0						
GERES	**GERESS Array B**	**146.01**	**330**	PKPbc	**PKPbc**	**00 31 04.3**	**+0.5**
	1.0nm,0.7s,baz=20,slow=3.1,SNR=5.9						

*NCEDC **11** 00:15:13.7±2.6,36.°16N±0.°02×120.°23W±0.°03,h11km±8km, ML3.1/19,ML3.0/62(NEIC),Error ellipse: s-maj=3.1km s-min=2.2km az=79.0*
*NEIC **11** 00:15:13.3±1.1,36.°18N±0.°01×120.°133W±0.°006, h10km±2km,Error ellipse: s-maj=3.1km s-min=2.5km az=205.0*
*ANF **11** 00:15:15.2±0.6,36.°09N×120.°09W,h14km±2km,ML3.2/10, Error ellipse: s-maj=4.7km s-min=2.6km az=116.0*
ISC 11 00:15:14.0±1.0,36.°15N±0.°02×120.°21W±0.°02,h18km±3km, n168, σ0°77/176,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKEM	**Kettleman Hill**	**0.12**	**136**		**Pg**	**00 15 17.8**	**-0.1**
PDRM	**Domengine Ranc**	**0.23**	**326**		**Pb**	**00 15 19.4**	**-0.1**
CTM	**Castle Mountai**	**0.24**	**206**		**Pb**	**00 15 19.6**	**-0.1**
PWMM	**Westland Maint**	**0.29**	**360**		**Pg**	**00 15 21.0**	**+0.7**
PSRM	**Scobie Ranch**	**0.29**	**191**		**Pg**	**00 15 20.8**	**+0.3**
PHFM	**Heflinger Ranc**	**0.31**	**211**		**Pg**	**00 15 21.0**	**+0.3**
PJUM	**Juniper Ridge**	**0.32**	**285**		**Pg**	**00 15 20.7**	**-0.3**
PSMM	**Smith Mountain**	**0.32**	**256**		**Pg**	**00 15 21.1**	**+0.1**
PSTM	**Stockdale Moun**	**0.33**	**228**		**Pg**	**00 15 21.2**	**+0.1**
GHC	**Gold Hill**	**0.34**	**201**		**Pg**	**00 15 21.2**	**0.0**
PHAM	**Harlan Ranch**	**0.35**	**207**		**Pg**	**00 15 21.7**	**+0.4**
PVCM	**Vineyard Canyo**	**0.35**	**230**		**Pg**	**00 15 21.6**	**+0.1**
PMRM	**Maxey Ranch**	**0.36**	**184**		**Pg**	**00 15 22.1**	**+0.4**
PHPM	**Hope Ranch**	**0.36**	**243**		**Pg**	**00 15 21.6**	**0.0**
PSNM	**Stone Corral**	**0.36**	**191**		**Pg**	**00 15 21.9**	**+0.2**
PKLM	**Kerr Lake**	**0.39**	**196**		**Pg**	**00 15 22.4**	**+0.4**
PWKM	**Work Ranch**	**0.41**	**217**		**Pg**	**00 15 22.9**	**+0.3**
PPTM	**Peach Tree Val**	**0.42**	**265**		**Pg**	**00 15 22.5**	**-0.1**
PPO	**Portuguese Can**	**0.43**	**230**		**Pg**	**00 15 23.3**	**+0.4**
TRAM	**Private Proper**	**0.47**	**186**		**Pg**	**00 15 23.8**	**+0.2**
TCHL	**Shandon**	**0.48**	**199**		**Pg**	**00 15 24.2**	**+0.4**
PMPB	**Monarch Peak**	**0.48**	**278**		**Pg**	**00 15 23.6**	**-0.3**
PMPB				IAML		00 15 35.8	
	comp=N,1μm,0.8s						
PMPB				IAML		00 15 39.6	
	comp=E,1μm,0.7s						
PSAM	**San Ardo**	**0.56**	**258**		**Pb**	**00 15 25.1**	**-0.2**
PBPM	**Bitterwater Pu**	**0.58**	**169**		**Pb**	**00 15 25.8**	**+0.3**
TRAY	**Twisselman Ran**	**0.60**	**174**		**Pb**	**00 15 26.1**	**+0.2**
TCAS	**Cass Winery, P**	**0.61**	**208**		**Pb**	**00 15 26.1**	**+0.1**
PANM	**San Antonio Re**	**0.68**	**237**		**Pb**	**00 15 27.1**	**-0.2**
VOG	**Valley Oaks Go**	**0.69**	**75**		**Pb**	**00 15 26.7**	**-0.7**
VOG					**Sg**	**00 15 36.7**	**-0.1**
VOG	**Valley Oaks Go**	**0.69**	**75**	P	**Pb**	**00 15 26.7**	**-0.7**
	baz=257,SNR=8.2						
VOG				S	**Sg**	**00 15 36.7**	**-0.1**
	baz=257						
LRV	**Little Rabbit**	**0.71**	**293**		**Pb**	**00 15 27.8**	**-0.1**
TSCS	**Shell Creek So**	**0.71**	**190**		**Pb**	**00 15 27.7**	**-0.2**
TSCS					**Sb**	**00 15 38.1**	**+0.8**
RAMR	**Ramage Ranch**	**0.74**	**227**		**Pb**	**00 15 28.3**	**0.0**
PHSB	**Hesperia Broad**	**0.76**	**245**		**Pb**	**00 15 28.4**	**-0.3**
PCCM	**Crazy Canyon**	**0.78**	**266**		**Pb**	**00 15 28.7**	**-0.2**
BBNM	**San Benito**	**0.79**	**298**		**Pb**	**00 15 29.0**	**-0.2**
BBGB	**Big Mountain B**	**0.80**	**303**		**Pb**	**00 15 29.2**	**-0.2**
BBGB				Sg	**Sb**	**00 15 40.1**	**+0.2**
BAVM	**Antelope Valle**	**0.83**	**307**		**Pb**	**00 15 29.6**	**-0.3**
HULI	**Fort Hunter Li**	**0.84**	**262**		**Pb**	**00 15 29.7**	**-0.3**
BPIM	**Pinnacles**	**0.85**	**294**		**Pb**	**00 15 29.5**	**-0.7**
SMMC	**Simmler**	**0.85**	**168**		**Pb**	**00 15 30.2**	**0.0**
SMMC	**Simmler**	**0.85**	**168**	P	**Pb**	**00 15 30.2**	**0.0**
	baz=347						
SMMC				S	**Sg**	**00 15 42.8**	**+1.0**
	baz=347						
PTAM	**Tassajara Cree**	**0.85**	**209**		**Pb**	**00 15 30.2**	**-0.1**
BSGM	**Shirttail Gulc**	**0.89**	**288**		**Pb**	**00 15 30.4**	**-0.4**
CARC	**Carrizo Plain**	**0.89**	**160**		**Pb**	**00 15 30.7**	**-0.2**
PHCM	**Hearst Castle**	**0.90**	**239**		**Pb**	**00 15 30.8**	**-0.2**
BVL	**Bear Valley**	**0.90**	**299**		**Pb**	**00 15 30.8**	**-0.3**
MRHM	**Rocky Hill**	**0.92**	**81**		**Pb**	**00 15 30.1**	**-1.2**
EFD	**Emergency Oper**	**0.93**	**207**		**Pb**	**00 15 31.2**	**-0.2**
FRI	**Friant**	**0.94**	**25**		**Pb**	**00 15 30.4**	**-1.3**
VES	**Vestal, Richgr**	**0.96**	**108**		**Pb**	**00 15 31.1**	**-1.0**
VES	**Vestal, Richgr**	**0.96**	**108**	P	**Pb**	**00 15 31.1**	**-1.0**
	baz=289,SNR=22						
VES				S	**Sb**	**00 15 43.4**	**-1.0**
	baz=289						
CRGC	**Crocker Grade**	**0.98**	**156**		**Pb**	**00 15 32.0**	**-0.6**
LSDC	**Los Osos Digit**	**0.99**	**212**		**Pb**	**00 15 32.5**	**-0.2**
BJOM	**Mount Johnson**	**1.01**	**299**		**Pb**	**00 15 32.5**	**-0.5**
BSMM	**Soledad Missio**	**1.01**	**284**		**Pb**	**00 15 32.5**	**-0.6**
DPD	**Davis Peak**	**1.02**	**207**		**Pb**	**00 15 32.8**	**-0.4**
BJCM	**Johnson Can.**	**1.04**	**293**		**Pb**	**00 15 32.7**	**-0.7**
DCD	**Diablo Creek**	**1.06**	**209**		**Pb**	**00 15 33.1**	**-0.8**
SCZ	**Santa Cruz**	**1.06**	**295**		**Pb**	**00 15 33.2**	**-0.7**
HAST	**Hastings Reser**	**1.11**	**283**		**Pb**	**00 15 33.6**	**-1.1**
BSLM	**Riva Ranch**	**1.11**	**305**		**Pb**	**00 15 34.8**	**+0.1**
BAPM	**Anderson Peak**	**1.16**	**272**		**Pn**	**00 15 34.6**	**-0.9**
SPG2	**Springville 2**	**1.17**	**87**		**Pn**	**00 15 34.1**	**-1.3**
SAO	**San Andreas Ge**	**1.17**	**302**		**Pn**	**00 15 34.9**	**-0.6**
BSRM	**Salinas Radio**	**1.18**	**297**		**Pn**	**00 15 35.1**	**-0.5**
FRP	**Fremont Peak**	**1.20**	**301**		**Pn**	**00 15 35.2**	**-0.7**
BPCNC	**Pine Canyon**	**1.22**	**291**		**Pn**	**00 15 35.6**	**-0.6**
PACP	**Pacheco Peak**	**1.22**	**315**		**Pn**	**00 15 35.9**	**-0.4**
SLD	**San Luis Dam**	**1.23**	**319**		**Pn**	**00 15 35.5**	**-0.8**
HPCM	**Pacheco Lake**	**1.25**	**317**		**Pn**	**00 15 35.9**	**-0.7**
BPRM	**Ponciano Ridge**	**1.26**	**282**		**Pn**	**00 15 35.6**	**-1.1**
BPOM	**Post Ranch**	**1.26**	**274**		**Pn**	**00 15 35.4**	**-1.4**
HFEM	**San Felipe**	**1.27**	**311**		**Pn**	**00 15 36.3**	**-0.6**
PKM	**Mcpherson Peak**	**1.30**	**166**		**Pn**	**00 15 37.1**	**-0.3**
PKM	**Mcpherson Peak**	**1.30**	**166**	P	**Pn**	**00 15 37.1**	**-0.3**
	baz=345,SNR=6.9						
PKM				S	**Sg**	**00 15 56.0**	**0.0**
	baz=345						
ANZ	**Anzar Road**	**1.34**	**304**		**Pn**	**00 15 38.0**	**+0.2**
HTUM	**Tustin Road**	**1.34**	**301**		**Pn**	**00 15 37.8**	**0.0**
CDC	**Canada Road**	**1.35**	**311**		**Pn**	**00 15 37.9**	**0.0**
BCW	**Bitter Crk WRg**	**1.37**	**151**		**Pn**	**00 15 37.0**	**-1.3**
BCW	**Bitter Crk WRg**	**1.37**	**151**	IAML		00 16 00.3	
	comp=E,283nm,0.5s						
BCW				IAML		00 16 04.6	
	comp=N,265nm,0.5s						
GHS	**Gilroy Hot Spr**	**1.38**	**314**		**Pn**	**00 15 37.6**	**-0.7**
HERM	**Elkhorn Road**	**1.38**	**299**		**Pn**	**00 15 37.9**	**-0.4**
KCC	**Kaiser Creek**	**1.38**	**31**		**Pn**	**00 15 38.1**	**-0.3**
WASM	**Alta Sierra Ca**	**1.40**	**106**		**Pn**	**00 15 38.2**	**-0.6**
HCBM	**Chamberlain**	**1.41**	**304**		**Pn**	**00 15 38.9**	**+0.2**
HCOM	**Corn Cob Canyo**	**1.42**	**302**		**Pn**	**00 15 38.8**	**-0.1**
FIGC	**Figueroa Mtn.**	**1.43**	**173**		**Pn**	**00 15 40.3**	**+0.2**
HLPM	**Lions Peak**	**1.45**	**308**		**Pn**	**00 15 39.2**

MLCM	**Laurel Creek C**	**1.79**	**35**			**Pb**	**00 15 45.3**	**-1.2**
BHPR	**Bishop**	**1.80**	**50**			**Pb**	**00 15 45.6**	**-0.9**
MMLB	**Mammoth Lakes**	**1.80**	**33**			**Pb**	**00 15 46.0**	**-0.7**
MGPM	**Gravel Pit**	**1.81**	**35**			**Pb**	**00 15 45.8**	**-1.0**
CSTL	**Corral Hollow**	**1.81**	**326**			**Pn**	**00 15 44.1**	**-0.2**
MCVM	**Convict Lake**	**1.82**	**37**			**Pn**	**00 15 45.7**	**+1.0**
MDCM	**Deadman Creek**	**1.82**	**31**			**Pn**	**00 15 45.7**	**+1.0**
MEMM	**East Mammoth H**	**1.83**	**33**			**Pb**	**00 15 46.0**	**-1.0**
MCBM	**Casa Benchmark**	**1.83**	**35**			**Pb**	**00 15 46.2**	**-0.9**
TIN	**Tinemaha, Big**	**1.83**	**60**			**Pb**	**00 15 46.0**	**-1.0**
TIN	**Tinemaha, Big**	**1.83**	**60**	P		**Pb**	**00 15 46.0**	**-1.0**
	baz=241,SNR=29							
TIN				S		**Sb**	**00 16 10.0**	**+0.3**
	baz=241							
MCSM	**Casa Diablo Ho**	**1.83**	**34**			**Pb**	**00 15 46.2**	**-0.9**
MLAC	**Mammoth, Mammo**	**1.84**	**36**			**Pb**	**00 15 46.5**	**-0.9**
MLAC	**Mammoth, Mammo**	**1.84**	**36**	P		**Pb**	**00 15 46.5**	**-0.9**
	baz=218,SNR=12							
MLAC				S		**Sb**	**00 16 10.5**	**+0.3**
	baz=218							
MDRNC	**Doe Ridge**	**1.85**	**36**			**Pb**	**00 15 46.6**	**-0.8**
CMB	**Columbia Colle**	**1.89**	**356**			**Pn**	**00 15 45.6**	**+0.2**
CMB	**Columbia Colle**	**1.89**	**356**	IAML			00 16 12.3	
	comp=E,86nm,0.4s							
CMB				IAML			00 16 16.7	
	comp=N,87nm,0.5s							
WNMM	**Nine Mile Cany**	**1.89**	**99**			**Pb**	**00 15 46.8**	**-1.2**
MLHM	**Little Hot Cre**	**1.89**	**36**			**Pb**	**00 15 47.4**	**-0.8**
MFBM	**Five Bridges**	**1.92**	**48**			**Pb**	**00 15 47.8**	**-0.7**
ORC	**Owens River**	**1.94**	**39**			**Pb**	**00 15 48.0**	**-1.0**
CASR	**Casa Diablo Mo**	**1.95**	**42**			**Pb**	**00 15 48.0**	**-1.1**
POCCA	**Poleta Canyon**	**1.97**	**51**			**Pb**	**00 15 48.6**	**-0.8**
CGO	**Cerro Gordo**	**1.98**	**78**			**Pb**	**00 15 49.0**	**-0.8**
MCDM	**Chidago Canyon**	**1.99**	**45**			**Pb**	**00 15 48.9**	**-0.9**
BENR	**Benton**	**2.04**	**39**			**Pb**	**00 15 49.5**	**-1.3**
CCAC	**Calif City Air**	**2.04**	**118**			**Pn**	**00 15 47.5**	**0.0**
CCAC				IAML			00 16 23.3	
	comp=E,87nm,0.5s							
CCAC				IAML			00 16 32.2	
	comp=N,89nm,1.0s							
MRCM	**Red Rock Canyo**	**2.04**	**41**			**Pb**	**00 15 49.6**	**-1.1**
MGNR	**McGee Canyon**	**2.06**	**36**			**Pb**	**00 15 50.1**	**-0.9**
MLNR	**Milner Canyon**	**2.08**	**45**			**Pb**	**00 15 50.2**	**-1.1**
LRMC	**Laurel Mtn Rad**	**2.16**	**107**	Sb		**Sb**	**00 16 18.6**	**-0.5**
	baz=289							
MPMC	**Manual Prospec**	**2.20**	**91**	Sb		**Sb**	**00 16 21.1**	**+0.6**
	baz=273							
WAKR	**Walker**	**2.43**	**14**			**Pn**	**00 15 54.5**	**+1.5**
GRAC	**Grapevine Rang**	**2.44**	**69**			**Pn**	**00 15 54.5**	**+1.5**
LHV	**Little Huntoon**	**2.50**	**32**			**Pn**	**00 15 55.5**	**+1.8**
LHV				IAML			00 16 35.2	
	comp=E,102nm,0.8s							
GMN	**Gold Mountain**	**2.63**	**63**			**Pn**	**00 15 57.2**	**+1.3**
GMN				IAML			00 16 38.0	
	comp=N,49nm,0.4s							
QSM	**Queen of Sheba**	**2.71**	**93**			**Pn**	**00 15 57.4**	**+0.7**
NVAR	**Mina Array Bea**	**2.74**	**33**			**Pn**	**00 15 58.6**	**+1.3**
NV11	**Mina Array Sit**	**2.81**	**35**			**Pn**	**00 15 59.8**	**+1.6**
RYN	**Ryan**	**2.82**	**28**			**Pn**	**00 15 59.3**	**+1.0**
RYN				IAML			00 16 40.5	
	comp=E,84nm,0.4s							
RYN				IAML			00 16 40.6	
	comp=N,60nm,0.5s							
EMB	**Emerald Bay**	**2.83**	**2**			**Pn**	**00 15 59.1**	**+0.7**
EMB				IAML			00 16 44.4	
	comp=N,85nm,0.5s							
EMB				IAML			00 16 44.5	
	comp=E,68nm,0.6s							
AFDM	**Forest Hills D**	**2.86**	**348**			**Pn**	**00 15 59.7**	**+0.9**
AFDM				IAML			00 16 46.3	
	comp=N,36nm,0.5s							
AFDM				IAML			00 16 48.3	
	comp=E,38nm,0.5s							
GWY	**Greenwater Val**	**2.86**	**88**			**Pn**	**00 15 58.7**	**-0.3**
GWY				IAML			00 16 46.6	
	comp=E,39nm,0.6s							
GSC	**Goldstone, Bar**	**2.89**	**106**	Pn		**Pn**	**00 15 59.7**	**+0.4**
GSC				IAML			00 16 47.5	
	comp=E,44nm,0.5s							
GSC				IAML			00 16 55.0	
	comp=N,32nm,0.8s							
MCCM	**Marconi Confer**	**2.92**	**314**	Pn		**Pn**	**00 15 59.8**	**+0.3**
MCCM				IAML			00 17 26.5	
	comp=E,73nm,2.0s							
WCT	**Wildcat Mounta**	**2.96**	**76**			**Pn**	**00 16 01.2**	**+1.1**
WCT				IAML			00 16 46.3	
	comp=E,32nm,0.7s							
MPK	**Martis Peak**	**3.15**	**3**	Pn		**Pn**	**00 16 04.1**	**+1.2**
TPNV	**Topopah Spring**	**3.29**	**75**			**Pn**	**00 16 06.4**	**+1.6**
TPNV				IAML			00 16 59.3	
	comp=E,31nm,0.9s							
ORV	**Oroville**	**3.55**	**344**			**Pn**	**00 16 09.6**	**+1.4**
PAHR	**Pah Rah Range**	**3.61**	**10**			**Pn**	**00 16 10.5**	**+1.2**
PAHR				IAML			00 17 09.2	
	comp=N,34nm,1.1s							
PAHR				IAML			00 17 13.0	
	comp=E,22nm,1.4s							
PFO	**Pinyon Flats O**	**3.99**	**128**	Pn		**Pn**	**00 16 15.7**	**+1.3**
R11B	**Troy Canyon, C**	**4.29**	**58**			**Pn**	**00 16 20.0**	**+1.4**
PRN	**Pahroc Range**	**4.33**	**72**			**Pn**	**00 16 20.7**	**+1.7**
PRN				IAML			00 17 32.8	
	comp=N,19nm,0.7s							
PRN				IAML			00 17 33.3	
	comp=E,16nm,0.6s							

IDC ***11*** *00:22:05.9±1.5,3˚.48S×99˚.56E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=69.1km s-min=20.3km az=53.0*

DJA ***11*** *00:22:09.7±0.6,3˚S±4˚×9˚9E±˚, h43km±14km, M4.3/7, mb4.3/1, mb5.1/1, MLv4.3/7, Mw(mB)4.5/1*

ISC 11 00:22:11.0±0.8,3˚.38S±0.07˚×99˚.49E±0.07˚, h35km, n33, σ1§63/25, mb3.7/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.80**	**40**	P	**Pn**	**00 22 25.0**	**-0.8**
PPSI				S	**Sn**	**00 22 35.9**	**-0.6**
KRJI	**Kerinci**	**2.35**	**57**	S	**Sn**	**00 23 14.6**	**-0.3**
PDSI	**Padang**	**2.63**	**22**	P	**Pn**	**00 22 49.8**	**-1.3**
UBSI	**University, Be**	**2.80**	**98**	P	**Pn**	**00 22 52.0**	**-1.3**
UBSI				S	**Sn**	**00 23 22.9**	**-3.0**
EGSI	**Enggano, Bengk**	**3.40**	**125**	P	**Pn**	**00 22 59.9**	**-1.7**
PBSI	**Pulau Batu**	**3.52**	**340**	P	**Pn**	**00 23 01.7**	**-1.5**
PBSI				S	**Sn**	**00 23 41.4**	**-2.2**
BKNI	**Bangkinang**	**3.99**	**23**	P	**Pn**	**00 23 10.0**	**+0.2**
LWLI	**Liwa**	**4.84**	**110**	P	**Pn**	**00 23 22.6**	**+1.1**
GSI	**Gunungsitoli**	**5.03**	**338**	P	Pn	00 23 12.8	-11
GSI				S	**Sn**	**00 24 17.0**	**-4.0**
KASI	**Kota Agung**	**5.43**	**113**	P	**Pn**	**00 23 28.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.70**	**359**	P	**P**	**00 26 59.1**	**-0.1**
	0.6nm,0.3s,baz=195,slow=9.3,SNR=1.7						
	0.6nm,0.3s						
H08S2	**Diego Garcia H**	**27.20**	**260**	T	T	00 57 10.7	
	baz=85						
H08S3	**Diego Garcia H**	**27.20**	**260**	T	T	00 57 33.4	
	baz=85						
H08S1	**Diego Garcia H**	**27.22**	**260**	T	T	00 57 31.3	
	baz=85						
H01W3	**Cape Leeuwin H**	**34.17**	**158**	T	T	01 05 29.1	
	baz=335,slow=76,SNR=5.4						
H01W2	**Cape Leeuwin H**	**34.18**	**158**	T	T	01 05 26.9	
	baz=335,slow=76,SNR=7.0						
H01W1	**Cape Leeuwin H**	**34.19**	**158**	T	T	01 05 20.7	
	baz=335,slow=76,SNR=3.5						
WRA	**Warramunga Arr**	**37.76**	**119**	P	**P**	**00 29 21.4**	**-2.7**
	0.4nm,0.7s,baz=303,slow=9.3,SNR=2.3						
WRA				PcP	**PcP**	**00 31 41.2**	**+0.6**
	0.2nm,0.6s,baz=328,slow=1.7,SNR=1.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**38.88**	**124**	P	**P**	**00 29 33.7**	**+0.2**
	0.5nm,0.7s,baz=306,slow=7.9,SNR=3.2						
	0.5nm,0.7s						
SONM	**Songino Array**	**51.36**	**6**	P	**P**	**00 31 14.1**	**+1.8**
	0.4nm,0.6s,baz=186,slow=9.2,SNR=4.1						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**52.22**	**345**	P	**P**	**00 31 19.7**	**+1.2**
	0.6nm,0.4s,baz=152,slow=9.4,SNR=13						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**56.72**	**344**	P	**P**	**00 31 51.6**	**+0.4**
	0.2nm,0.5s,baz=163,slow=6.8,SNR=2.3						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**58.42**	**350**	P	**P**	**00 32 04.0**	**+1.0**
	1.2nm,0.4s,baz=177,slow=5.6,SNR=7.9						
	1.2nm,0.4s						

H04N2	**CROZET ISLANDS**	**59.39**	**217**	T		T	01 37 34.1		
	baz=59,slow=75,SNR=28								
H04N1	**CROZET ISLANDS**	**59.41**	**217**	T		T	01 37 32.5		
	baz=59,slow=75,SNR=44								
H04N3	**CROZET ISLANDS**	**59.41**	**217**	T		T	01 37 22.6		
	baz=59,slow=75,SNR=38								
H04S1	**CROZET ISLANDS**	**59.68**	**216**	T		T	01 37 59.2		
	baz=61,slow=75								
H04S3	**CROZET ISLANDS**	**59.69**	**216**	T		T	01 37 52.2		
	baz=61								
H04S2	**CROZET ISLANDS**	**59.70**	**216**	T		T	01 37 59.5		
	baz=61								
BVAR	**Borovoye Array**	**61.30**	**340**	P		**P**	**00 32 23.5**	**+0.6**	
	0.4nm,0.5s,baz=176,slow=5.9,SNR=2.2								
	0.4nm,0.5s								
KBZ	**Khabaz**	**69.02**	**320**	P		**P**	**00 33 14.2**	**+1.1**	
	1.2nm,0.8s,baz=101,slow=9.0,SNR=2.4								
	1.2nm,0.8s								
FINES	**FINESS Array B**	**85.09**	**332**	P		**P**	**00 34 44.1**	**+1.0**	
	3.6nm,1.2s,baz=103,slow=8.4,SNR=3.7								
	3.6nm,1.2s								
TXAR	**Lajitas Array**	**146.10**	**38**	PKPbc		**PKPdf**	**00 41 47.3**	**-0.1**	
	0.7nm,0.7s,baz=299,slow=1.9,SNR=4.1								

IDC ***11*** *00:43:38.9±0.5,23˚.78N×126˚.70E, h0km, mb4.6/27, mbtmp4.7/33, ML4.8/4, MS4.0/62, Error ellipse: s-maj=15.1km s-min=11.9km az=75.0*

MOS ***11*** *00:43:38.6±0.9,23˚.70N×126˚.73E, h12km, mb5.2/71, MS4.4/9, Error ellipse: s-maj=6.6km s-min=4.1km az=119.0*

NEIC ***11*** *00:43:40.0±1.3,23˚.72N±0˚.07×126˚.74E±0˚.07, h10km±1km, mb5.1/131, Error ellipse: s-maj=12.8km s-min=9.5km az=142.0*

BJI ***11*** *00:43:40.9±0.0,23˚.91N×126˚.56E, h9km, mb4.6/69, mB5.0/43, Ms4.6/67, Ms7 4.4/67*

NIED ***11*** *00:43:43.4,24˚.07N×126˚.53E, h116km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=0.84; Mθθ 0.03; Mϕϕ 0.80; Mrθ -0.31; Mθϕ 1.87; Mϕr 0.44; Fault plane solution: M0 2.06000×10^16 NP1: ϕs178.00000°, δ72.00000°, λ-157.00000°. NP2: ϕs81.00000°, δ68.00000°, λ-20.00000°.*

JMA ***11*** *00:43:43.4±0.2,24˚N±2˚×12˚7E±˚, h116km±4km, MD4.8/35, MV4.5/35, NEAR MIYAKOJIMA ISLAND*

GCMT ***11*** *00:43:44.0±0.2,23˚.71N±0˚.02×126˚.61E±0˚.02, h17km, MW5.0/98, Moment Tensor Solution. s34,c44; s98,c159; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.67±.17; Mθθ 1.73±.11; Mϕϕ 0.94±.11; Mrθ -0.61±.27; Mϕϕ 2.40±.07; Mϕr 1.01±.30; Best double couple: M0 3.53300×10^16 NP1:ϕs205.00000°, δ53.00000°, λ-126.00000°. NP2: ϕs75.00000°, δ50.00000°, λ-52.00000°. Principal axes: T 3.7760, Plg2.0000°, Azm319.0000°; N -0.4790, Plg28.0000°, Azm228.0000°; P -3.2900, Plg62.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 00:43:41.3±0.5,23˚.75N±0˚.03×126˚.77E±0˚.03, h17km±3km, h17km:pP-P, n686, σ1§87/691, mb5.0/168, MS4.2/78, 17C-13D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.59**	**309**	P	**Pn**	**00 44 07.8**	**-0.9**
JOGS				*e*S	**Sn**	**00 44 26.0**	**-3.0**
JOGS	**Gusukube**	**1.59**	**309**	A	A	00 44 07.8	
	comp=E,39nm,3.9s,comp=N,36nm,4.6s						
JMJ2	**Miyako jima3**	**1.64**	**307**	P	**Pn**	**00 44 08.2**	**-1.1**
JMJ2				S	**Sn**	**00 44 27.3**	**-2.8**
JMJ2	**Miyako jima3**	**1.64**	**307**	A	A	00 44 08.2	
	comp=E,38nm,5.5s,comp=N,39nm,5.6s						
JMJ	**Miyako jima 2**	**1.71**	**308**	P	**Pn**	**00 44 08.7**	**-1.6**
JIRB	**Irabujima**	**1.81**	**307**	P	**Pn**	**00 44 10.5**	**-1.2**
JIRB				*e*S	**Sn**	**00 44 30.6**	**-3.6**
JIRB	**Irabujima**	**1.81**	**307**	A	A	00 44 10.5	
	comp=E,27nm,4.4s,comp=N,19nm,2.4s						
JIKM	**Ikemajima**	**1.81**	**310**	P	**Pn**	**00 44 10.5**	**-1.2**
JIKM				*e*S	**Sn**	**00 44 30.1**	**-4.1**
JIKM	**Ikemajima**	**1.81**	**310**	A	A	00 44 10.5	
	comp=E,33nm,4.6s,comp=N,39nm,2.9s						
JTJ	**Tarama**	**2.08**	**295**	P	**Pn**	**00 44 14.0**	**-1.4**
JTJ				S	**Sn**	**00 44 36.4**	**-4.6**
JTJ	**Tarama**	**2.08**	**295**	A	A	00 44 14.0	
	comp=E,23nm,0.9s,comp=N,19nm,1.7s						
JISG	**Ishigakijimahi**	**2.39**	**291**	*i* P	**Pn**	**00 44 18.2**	**-1.5**
JISG				*e*S	**Sn**	**00 44 44.1**	**-4.6**
JISG	**Ishigakijimahi**	**2.39**	**291**	A	A	00 44 18.2	
	comp=E,12nm,0.5s,comp=N,15nm,0.6s						
JIJ	**Ishigaki jima**	**2.48**	**285**	*i* P	**Pn**	**00 44 19.5**	**-1.3**
JIJ				S	**Sn**	**00 44 46.5**	**-4.2**
JIJ	**Ishigaki jima**	**2.48**	**285**	A	A	00 44 19.5	
	comp=E,9.0nm,1.0s,comp=N,10.0nm,8.5s						
JJT3	**Tamagusuku3**	**2.55**	**21**	P	**Pn**	**00 44 21.3**	**-0.6**
JJT3				S	**Sn**	**00 44 49.0**	**-3.6**
JKE	**Kume jima 2**	**2.56**	**0**	*e*P	**Pn**	**00 44 20.8**	**-1.3**
JKE				S	**Sn**	**00 44 48.3**	**-4.5**
JKRS	**Kuro-shima**	**2.57**	**281**	P	**Pn**	**00 44 21.1**	**-1.0**
JKRS				S	**Sn**	**00 44 49.0**	**-4.0**
JKRS	**Kuro-shima**	**2.57**	**281**	A	A	00 44 21.1	
	comp=E,29nm,4.5s,comp=N,33nm,2.4s						
HATJ	**Hateruma jima**	**2.73**	**277**	P	**Pn**	**00 44 23.0**	**-1.3**
HATJ				S	**Sn**	**00 44 51.9**	**-5.0**
HATJ	**Hateruma jima**	**2.73**	**277**	A	A	00 44 23.0	
	comp=E,17nm,3.1s,comp=N,11nm,2.0s						
IRIF	**Iriomote-Funau**	**2.84**	**282**	P	**Pn**	**00 44 24.1**	**-1.7**
IRIF				S	**Sn**	**00 44 55.2**	**-4.5**
IRIF	**Iriomote-Funau**	**2.84**	**282**	A	A	00 44 24.1	
	comp=E,12nm,1.1s,comp=N,16nm,1.4s						
JAGN	**Aguni-jima**	**2.85**	**9**	P	**Pn**	**00 44 25.6**	**-0.4**
JAGN				S	**Sn**	**00 44 57.6**	**-2.4**
JNTH	**Nagotoyohara**	**2.98**	**22**	P	**Pn**	**00 44 26.4**	**-1.3**
JNTH				S	**Sn**	**00 44 57.7**	**-5.4**
JOW	**Kunigami**	**3.35**	**24**		**Pn**	**00 44 32.2**	**-0.7**
JOW	**Kunigami**	**3.35**	**24**	P	**Pn**	**00 44 32.6**	**-0.4**
JOW	**Kunigami**	**3.35**	**24**	P	Pn	**00 44 32.4**	**-0.6**
JOW				*e*S	**Sn**	**00 45 07.8**	**-4.7**
JOW	**Kunigami**	**3.35**	**24**	Pn	**Pn**	**00 44 32.5**	**-0.4**
	comp=N,89nm,0.3s,baz=159,slow=16,SNR=44						
JOW				Sn	**Sn**	**00 45 06.3**	**-6.2**
	comp=N,137nm,0.3s,baz=146,slow=26,SNR=13						
	comp=N,203nm,0.2s						
JIH	**Iheya**	**3.44**	**18**	P	**Pn**	**00 44 33.7**	**-0.5**
JIH				S	**Sn**	**00 45 10.5**	**-4.1**
YOJ	**Yonaguni jima**	**3.50**	**282**	Pn	**Pn**	**00 44 33.6**	**-1.4**
YOJ	**Yonaguni jima**	**3.50**	**282**	P	**Pn**	**00 44 34.3**	**-0.7**
YOJ	**Yonaguni jima**	**3.50**	**282**	P	**Pn**	**00 44 33.6**	**-1.4**
YOJ	**Yonaguni jima**	**3.50**	**282**	P	**Pn**	**00 44 33.6**	**-1.4**
YOJ				*e*S	**Sn**	**00 45 11.2**	**-4.9**
JYNG	**Yonagunijimaku**	**3.56**	**282**	*e*P	**Pn**	**00 44 34.6**	**-1.2**
JYNG				S	**Sn**	**00 45 12.2**	**-5.3**
JYRO	**Yoronjima**	**3.59**	**25**	P	**Pn**	**00 44 35.5**	**-0.7**
JOKE	**Okinoerabujima**	**3.94**	**24**	P	**Pn**	**00 44 40.4**	**-0.7**
JOKE				S	**Sn**	**00 45 23.2**	**-3.7**
JTK	**Tokunoshima**	**4.47**	**26**	P	**Pn**	**00 44 47.3**	**-1.0**
JTK				S	**Sn**	**00 45 33.8**	**-6.2**
JMZ	**Minamidaito 2**	**4.54**	**62**	Pn	**Pn**	**00 44 46.8**	**-2.5**
JMZ	**Minamidaito 2**	**4.54**	**62**	P	**Pn**	**00 44 46.8**	**-2.5**
JMZ				*e*S	**Sn**	**00 45 34.4**	**-7.4**
JKDJ	**Kitadaitoujima**	**4.66**	**61**	P	**Pn**	**00 44 48.6**	**-2.3**
JKDJ				S	**Sn**	**00 45 38.3**	**-6.3**
NACB	**Ninganchiao**	**4.75**	**276**	Pn	**Pn**	**00 44 49.7**	**-2.5**
NACB	**Ninganchiao**	**4.75**	**276**	P	**Pn**	**00 44 50.0**	**-2.2**
TATO	**Taipei**	**4.96**	**285**	Pn	**Pn**	**00 44 53.3**	**-1.8**
TATO	**Taipei**	**4.96**	**285**	P	**Pn**	**00 44 55.4**	**+0.3**
JAMN	**Amaminishikomi**	**4.97**	**25**	*e*P	**Pn**	**00 44 53.9**	**-1.2**
JAMN				*e*S	**Sn**	**00 45 48.2**	**-3.9**
YHNB	**Yeheng**	**5.01**	**282**		**Pn**	**00 44 54.9**	**-0.8**
YHNB	**Yeheng**	**5.01**	**282**	P	**Pn**	**00 44 55.4**	**-0.4**
YULB	**Yu-li**	**5.03**	**267**	Pn	**Pn**	**00 44 53.2**	**-2.9**
YULB	**Yu-li**	**5.03**	**267**	P	**Pn**	**00 44 53.9**	**-2.2**
JAM	**Amami Oshima**	**5.29**	**28**	P	**Pn**	**00 44 58.5**	**-1.1**
TWGBT	**Beinan**	**5.31**	**261**	P	**Pn**	**00 44 57.0**	**-2.9**
TWG	**Pinlang**	**5.32**	**261**		**Pn**	**00 44 56.6**	**-3.3**
SSLB	**Suanglung**	**5.33**	**272**	Pn	**Pn**	**00 44 58.0**	**-2.1**
SSLB	**Suanglung**	**5.33**	**272**	P	**Pn**	**00 44 58.4**	**-1.7**
JZK	**Kikaishima**	**5.38**	**32**	P	**Pn**	**00 45 00.2**	**-0.6**
TPUB	**Ta-pu**	**5.65**	**267**	Pn	**Pn**	**00 45 03.6**	**-1.0**
TPUB	**Ta-pu**	**5.65**	**267**	P	**Pn**	**00 45 03.8**	**-0.8**
QZH	**Quanzhou**	**7.55**	**281**	Pn	**Pn**	**00 45 28.1**	**-2.5**
QZH				Sn	Sn	00 46 45.0	-11
QZH					LR	LR		
	comp=N,3μm,12.4s						
QZH					LR	LR		
	comp=N,2μm,18.6s						
QZH					LR	LR		
	comp=N,2μm,12.0s						
KNMB	**Chin-men Tao**	**7.69**	**277**		Pn	**Pn**	**00 45 30.3**	**-2.2**
SZP	**Santa**	**8.54**	**225**		P	**Pn**	**00 45 46.5**	**+2.2**
SSE	**Sheshan**	**8.83**	**327**		P	**Pn**	**00 45 47.0**	**-1.2**
SSE					S	**Sn**	**00 47 26.8**	**-0.6**
SSE					pmax	pmax		
	comp=N,7.0nm,0.5s							
SSE					pmax	pmax		
	comp=N,250nm,3.9s							
SSE					LR	LR		
	comp=N,1μm,15.3s							
SSE					LR	LR		
	comp=N,490nm,15.8s							
JNU	**Nakatsue**	**10.01**	**20**		Pn	**Pn**	**00 46 04.0**	**-0.4**
JNU	**Nakatsue**	**10.01**	**20**		P	**Pn**	**00 46 04.6**	**+0.2**
JNU	**Nakatsue**	**10.01**	**20**		Pn	**Pn**	**00 46 04.2**	**-0.2**
	comp=N,8.6nm,0.3s,baz=219,slow=4.8,SNR=42							
JNU					Sn	**Sn**	**00 47 51.0**	**-5.3**
	comp=N,0.5nm,0.3s,baz=277,slow=17,SNR=1.2							
JNU					LR	LR	00 50 24.7	
	comp=N,1μm,18.6s,baz=213,slow=41							
	comp=N,114nm,0.8s							
NJ2	**Nanjing**	**10.83**	**322**	*e*P		**Pn**	**00 46 14.7**	**-0.8**
NJ2				pP			00 46 17.8	
NJ2				sP			00 46 23.4	
NJ2				pmax		pmax		
	comp=N,7.0nm,0.5s							
NJ2				LR		LR		
	comp=N,2nm,12.8s							
NJ2				LR		LR		
	comp=N,2μm,10.4s							
NJ2				LR		LR		
	comp=N,2μm,13.4s							
TGY	**Tagaytay City**	**11.07**	**211**		Pn	**Pn**	**00 46 19.0**	**0.0**
	comp=N,27nm,0.3s,baz=64,slow=14,SNR=1.4							
TGY					Sn	**Sn**	**00 48 19.3**	**-3.2**
	comp=N,32nm,0.3s,baz=24,slow=20,SNR=1.5							
	comp=N,112nm,0.4s							
JMN	**Monobe**	**11.73**	**31**		Pn	**Pn**	**00 46 26.1**	**-1.9**
TJN	**Taejon**	**12.59**	**2**	*ce*	P	**Pn**	**00 46 40.8**	**+1.1**
WHN	**Wuhan**	**12.95**	**304**	↑↑	P	**Pn**	**00 46 45.7**	**+1.1**
WHN					LR	LR		
	comp=N,2μm,9.3s							
WHN					LR	LR		
	comp=N,3μm,10.3s							
WHN					LR	LR		
	comp=N,5μm,13.2s							
KSRS	**Korea Array**	**13.69**	**4**		LR	LR	00 52 45.0	
	comp=N,844nm,18.2s,baz=180,slow=40							
JCJ	**Chichijima**	**14.32**	**73**		Pn	**Pn**	**00 47 04.3**	**+0.9**
	comp=N,5.9nm,0.3s,baz=262,slow=14,SNR=1.7							
JCJ					LR	LR	00 51 38.8	
	comp=N,493nm,19.1s,baz=256,slow=33							
	comp=N,138nm,0.8s							
TIA	**Tai'an**	**14.95**	**328**		P	**Pn**	**00 47 13.2**	**+1.3**
TIA					pmax	pmax		
	comp=N,23nm,0.9s							
TIA					pmax	pmax		
	comp=N,180nm,5.1s							
TIA					LR	LR		
	comp=N,1μm,14.4s							
TIA					LR	LR		
	comp=N,460nm,17.3s							
TIA					LR	LR		
	comp=N,1μm,12.9s							
MAJO	**Matsushiro**	**16.12**	**35**		Pn	**Pn**	**00 47 27.1**	**0.0**
MAJO	**Matsushiro**	**16.12**	**35**		P	**P**	**00 47 31.4**	**+1.1**
MAJO	**Matsushiro**	**16.12**	**35**		P	**Pn**	**00 47 27.1**	**0.0**
MAJO					pmax	pmax		
	comp=Z,97nm,1.9s							
MJAR	**Matsushiro Arr**	**16.12**	**35**		Pn	**Pn**	**00 47 28.5**	**+1.4**
	comp=Z,1.9nm,0.4s,baz=212,slow=11,SNR=3.7							
MJB9	**Matsu-Tunnel**	**16.12**	**35**		Pn	**Pn**	**00 47 26.8**	**-0.3**
QIZ	**Qiongzhong**	**16.45**	**257**		P	**Pn**	**00 47 29.6**	**-1.8**
QIZ					sP	**pP**	**00 47 37.2**	**+0.1**
QIZ					S	**Sn**	**00 50 31.8**	**-1.8**
QIZ					pmax	pmax		
	comp=Z,640nm,3.7s							
QIZ					LR	LR		
	comp=Z,860nm,17.7s							
QIZ					LR	LR		
	comp=Z,540nm,17.7s							
QIZ					LR	LR		
	comp=Z,720nm,24.4s	

USA0B Ussuriysk Arra 20.84 11 P **P** **00 48 22.6 +0.5**
USA0B pmax pmax
comp=Z,71nm,1.2s
USRK Ussuriysk Ar. 20.84 11 P **P** **00 48 22.2 +0.1**
USRK Ussuriysk Ar. 20.84 11 P Pn 00 48 23.7 -0.9
comp=Z,32nm,1.0s,baz=193,slow=9.9,SNR=16
USRK LR LR 00 56 29.6
comp=Z,409nm,19.1s,baz=188,slow=37
comp=Z,32nm,1.0s
MDJ Mudanjiang 20.94 6 P **P** **00 48 23.0 -0.2**
MDJ pP pwP 00 48 36.3 +1.3
MDJ S **S** **00 52 17.0 +1.1**
MDJ pmax pmax
comp=Z,13nm,1.5s
MDJ pmax pmax
comp=Z,590nm,4.1s
MDJ LR LR
comp=Z,750nm,6.1s
MDJ LR LR
comp=Z,1μm,9.6s
MDJ LR LR
comp=Z,690nm,7.8s
MDJ Mudanjiang 20.94 6 P Pn 00 48 26.0 +0.2
SLVN Son La 21.25 268 P **P** **00 48 24.8 -2.1**
HHC Hu-ho-hao-te 21.29 327 *e*P **P** **00 48 29.3 +2.1**
HHC sP pwP 00 48 38.2 -1.0
HHC *e*S **S** **00 52 24.9 +1.7**
HHC SS **SnSn** **00 52 54.6 +8.7**
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,420nm,4.9s
HHC LR LR
comp=Z,2μm,12.7s
HHC LR LR
comp=Z,2μm,14.7s
HHC LR LR
comp=Z,3μm,15.4s
CD2 Chengdu 21.62 294 P **P** **00 48 31.0 +0.2**
CD2 S **S** **00 52 29.1 -0.7**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,280nm,7.9s
CD2 LR LR
comp=Z,1μm,15.2s
CD2 LR LR
comp=Z,650nm,11.8s
CD2 LR LR
comp=Z,920nm,14.7s
UBPT Khong Chiam 21.75 251 P **P** **00 48 32.7 +0.5**
KMI Kunming 21.91 279 ⇑P **P** **00 48 35.9 +1.8**
KMI S **S** **00 52 37.4 +1.6**
KMI pmax pmax
comp=Z,32nm,1.2s
KMI LR LR
comp=Z,510nm,11.1s
KMI LR LR
comp=Z,500nm,9.2s
KMI LR LR
comp=Z,820nm,15.7s
BTO Baotou 21.92 324 *e*P **P** **00 48 34.4 +0.5**
BTO pP **sP** **00 48 38.6 +0.4**
BTO sP **pwP** **00 48 41.5 -4.4**
BTO PP **PnPn** **00 49 00.2 +4.7**
BTO S **S** **00 52 38.6 +3.2**
BTO SS **SnSn** **00 53 10.4 +9.2**
BTO pmax pmax
comp=Z,19nm,0.7s
BTO pmax pmax
comp=Z,340nm,5.5s
BTO LR LR
comp=Z,2μm,17.0s
BTO LR LR
comp=Z,2μm,15.0s
BTO LR LR
comp=Z,3μm,18.0s
XLT XiLinHaoTe 21.93 339 *e*P **P** **00 48 36.4 +2.4**
XLT pP sP 00 48 40.8 +2.6
XLT sP pwP 00 48 42.9 -3.0
XLT PP **PnPn** **00 49 00.4 +4.7**
XLT PcP **PcP** **00 52 39.4 +6.7**
XLT pmax pmax
comp=Z,52nm,0.8s
XLT pmax pmax
comp=Z,350nm,4.8s
BNX BinXian 21.94 1 ⇓P **P** **00 48 36.2 +2.3**
BNX pmax pmax
comp=Z,11nm,0.8s
BNX pmax pmax
comp=Z,340nm,3.9s
NONG Nongkai 22.77 260 P **P** **00 48 45.4 +2.4**
PZH PanZhiHua 22.81 282 P **P** **00 48 44.2 +0.6**
PZH sP **sP** **00 48 47.6 -0.3**
PZH S **S** **00 52 50.2 -2.1**
PZH pmax pmax
comp=Z,80nm,1.2s
PZH pmax pmax
comp=Z,230nm,5.3s
PZH LR LR
comp=Z,1μm,14.9s
PZH LR LR
comp=Z,450nm,13.7s
PZH LR LR
comp=Z,580nm,17.5s
TNTI Ternate 22.85 178 P **P** **00 48 48.6 +4.7**
TOLI2 Tolitoli 23.25 195 P **P** **00 48 47.1 -0.9**
TOLI2 IAmb IAmb 00 49 02.5
comp=Z,69nm,0.9s
TOLI2 Tolitoli 23.25 195 P **P** **00 48 48.0 +0.1**
GTOI Gorontalo 23.27 190 P **P** **00 48 47.3 -0.9**
comp=Z,7.8nm,0.9s
LZH Lanzhou 23.30 307 *e*P **P** **00 48 48.8 +0.3**
LZH sP sP 00 48 56.0 +3.1
LZH S **S** **00 52 58.2 -2.3**
LZH sS sS 00 53 05.4 -0.2
LZH pmax pmax
comp=Z,13nm,1.2s
LZH pmax pmax
comp=Z,300nm,4.5s
LZH LR LR
comp=Z,1μm,14.8s
LZH LR LR
comp=Z,870nm,13.7s
LZH LR LR
comp=Z,1μm,14.4s
ASAJ Asahikawa 24.11 29 P **P** **00 48 54.9 -1.2**
ASAJ pmax pmax
comp=Z,324nm,1.9s
ASAJ Asahikawa 24.11 29 LR LR 00 58 23.9
comp=Z,396nm,20.8s,baz=171,slow=37
JKA Kamikawa-asahi 24.11 29 P **P** **00 48 54.9 -1.2**
MPSI Mapaga 24.21 197 P **P** **00 49 00.2 +2.9**
comp=Z,27nm,1.0s,comp=Z,815nm
LBMI Labuha 24.26 178 P P 00 49 04.9 +7.2
comp=Z,76nm,1.1s
CRAI Chiangrai 24.71 267 P **P** **00 49 01.0 -0.9**
CRAI IAmb IAmb 00 49 03.6
comp=Z,32nm,0.9s
PHRA Phrae 25.28 263 P **P** **00 49 06.3 -0.7**
SANI Sanana 25.66 182 P **P** **00 49 12.2 +1.8**
SANI Sanana 25.66 182 P **P** **00 49 11.3 +0.9**
comp=Z,59nm,0.7s
KLR Kul'dur 25.73 8 *i* P **P** **00 49 11.5 +0.8**
KLR pmax pmax
comp=Z,57nm,1.3s
KLR Kul'dur 25.73 8 LR LR 00 59 35.8
comp=Z,307nm,18.7s,baz=178,slow=37
TNCH TengChong 25.74 279 P **P** **00 49 11.7 +0.4**
TNCH S **S** **00 53 38.5 -1.4**
TNCH SS **SnSn** **00 54 42.0 +6.9**
TNCH pmax pmax
comp=Z,54nm,0.4s
TNCH pmax pmax
comp=Z,150nm,4.3s
TNCH LR LR
comp=Z,540nm,14.9s
TNCH LR LR
comp=Z,500nm,10.4s
TNCH LR LR
comp=Z,660nm,15.9s
NAYO Nakonayok 25.79 253 P **P** **00 49 12.3 +0.7**
CMMT Chiang Mai 26.36 265 P **P** **00 49 16.8 0.0**
comp=Z,88nm,1.0s,comp=Z,1μm
CHTO Chiang Mai 26.36 265 P **P** **00 49 15.9 -0.9**
CHTO Chiang Mai 26.36 265 P **P** **00 49 17.6 +0.8**
CHTO Chiang Mai 26.36 265 P **P** **00 49 15.9 -0.9**
CHTO pmax pmax
comp=Z,24nm,0.9s
CHTO Chiang Mai 26.36 265 P **P** **00 49 17.4 +0.6**
comp=Z,32nm,1.0s
HEH HeiHe 26.46 1 *e*P **P** **00 49 17.8 +0.5**
HEH pmax pmax
comp=Z,8.0nm,0.8s
HEH LR LR
comp=Z,650nm,14.1s
HEH LR LR
comp=Z,2μm,15.0s
HEH LR LR
comp=Z,1μm,17.5s
CM31 Chiang Mai Arr 26.46 264 P **P** **00 49 16.9 -0.8**
CMAR Chiang Mai Arr 26.46 264 P **P** **00 49 16.4 -1.3**
CMAR Chiang Mai Arr 26.46 264 *ce*P **P** **00 49 18.7 +1.0**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 26.46 264 P **P** **00 49 17.8 +0.1**
comp=Z,6.2nm,0.7s,baz=61,slow=8.1,SNR=38
CMAR PcP **PcP** **00 52 43.1 +0.3**
comp=Z,0.7nm,0.3s,baz=90,slow=1.8,SNR=1.5
CMAR LR LR 01 01 17.0
comp=Z,324nm,18.4s,baz=70,slow=40
comp=Z,6.2nm,0.7s
YSS Yuzh-Sakhalins 26.46 25 P **P** **00 49 18.5 +1.1**
YSS Yuzh-Sakhalins 26.46 25 P **P** **00 49 22.2 +4.8**
YSS Yuzh-Sakhalins 26.46 25 ⇑*e*P **P** **00 49 19.6 +2.2**
YSS *e*S **S** **00 53 52.0 +1.5**
YSS pmax pmax
comp=Z,100nm,1.2s
FAKI Fak Fak 27.05 168 P **P** **00 49 26.1 +3.2**
KSM Kuching 27.29 218 P **P** **00 49 24.7 -0.5**
KSM Kuching 27.29 218 P **P** **00 49 26.5 +1.3**
KSM Kuching 27.29 218 P **P** **00 49 26.3 +1.1**
GTA Gaotai 27.62 311 *e*P **P** **00 49 28.6 +0.5**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA LR LR
comp=Z,480nm,15.3s
GTA LR LR
comp=Z,460nm,16.7s
GTA LR LR
comp=Z,350nm,18.2s
SRDT SRDT 27.71 255 P **P** **00 49 29.4 +0.5**
SRDT SRDT 27.71 255 P **P** **00 49 29.7 +0.8**
MND Mandalay 28.27 273 P **P** **00 49 35.3 +1.4**
comp=Z,7.9nm,0.8s
ULN Ulaanbaatar 28.72 332 P **P** **00 49 37.0 -0.8**
ULN Ulaanbaatar 28.72 332 *i* P **P** **00 49 38.3 +0.4**
ULN pmax pmax
comp=Z,9.0nm,1.4s
ULN Ulaanbaatar 28.72 332 P **P** **00 49 37.9 0.0**
comp=Z,35nm,1.2s
SONM Songino Array 28.99 331 P **P** **00 49 39.0 -1.2**
SONM Songino Array 28.99 331 P **P** **00 49 39.3 -0.9**
comp=Z,1.4nm,0.7s,baz=148,slow=7.8,SNR=8.5
SONM PcP **PcP** **00 52 48.7 +0.1**
comp=Z,1.6nm,1.0s,baz=156,slow=1.9,SNR=4.2
SONM LR LR 01 02 59.5
comp=Z,617nm,18.4s,baz=130,slow=40
comp=Z,1.4nm,0.7s
KAPI Kappang 29.40 194 LR LR 01 01 43.0
comp=Z,165nm,20.4s,baz=12,slow=37
ZEA Zeya 29.94 1 *e*P **P** **00 49 49.5 +1.1**
ZEA *e* 00 56 45.3
ZEA MLR MLR
comp=N,500nm,14.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
GOMU GeErMu 30.19 302 P **P** **00 49 52.4 +1.1**
GOMU pP sP 00 49 56.3 +0.6
GOMU sP pP 00 49 57.7 +3.3
GOMU S **S** **00 54 49.8 -0.4**
GOMU sS sS 00 55 02.9 +7.5
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU LR LR
comp=Z,490nm,15.6s
GOMU LR LR
comp=Z,210nm,17.1s
GOMU LR LR
comp=Z,260nm,17.8s
KULM Kulim 31.14 238 P **P** **00 49 58.6 -0.8**
KULM IAmb IAmb 00 50 01.2
comp=Z,17nm,0.8s
SHL Shillong 31.70 281 P **P** **00 50 02.6 -1.9**
SHL IAmb IAmb 00 50 05.6
comp=Z,20nm,1.0s
SHL Shillong 31.70 281 P **P** **00 50 02.6 -1.9**
SHL pmax pmax
comp=Z,20nm,1.0s
LSA Lhasa 32.27 288 P **P** **00 50 08.2 -1.6**
LSA Lhasa 32.27 288 P **P** **00 50 08.2 -1.6**
LSA pmax pmax
comp=Z,10.0nm,0.9s
MANU Manus Island 32.55 139 P P 00 50 16.9 +5.2
PLAI Plampang 33.55 196 P **P** **00 50 20.6 +0.1**
PSI Prapat 34.04 236 P **P** **00 50 26.1 +1.2**
PSI Prapat 34.04 236 P **P** **00 50 24.4 -0.5**
PSI pmax pmax
comp=Z,45nm,0.9s
RPSI Rantau Prapat 34.10 236 P **P** **00 50 24.4 -0.9**
BKNI Bangkinang 34.14 231 P **P** **00 50 24.5 -1.1**
BKNI Bangkinang 34.14 231 P **P** **00 50 27.1 +1.5**
KCSI Kotacane, Aceh 34.48 239 P P 00 50 33.5 +4.9
SMRI Semarang 34.52 209 P **P** **00 50 26.8 -2.1**
KPJI Karang Pucung 35.47 212 P P 00 50 42.7 +5.6
LEM Lembang 35.69 214 P **P** **00 50 39.5 +0.3**
LEM pmax pmax
comp=Z,59nm,0.8s
LEM Lembang 35.69 214 LR LR 01 05 38.9
comp=Z,109nm,19.8s,baz=54,slow=37
SBJI Serang 35.88 217 P **P** **00 50 40.1 -0.5**
comp=Z,101nm,0.4s
DBJI Dramaga 35.91 215 P **P** **00 50 44.3 +3.4**
GSI Gunungsitoli 36.03 236 P **P** **00 50 40.9 -1.0**
MTN Manton Dam 36.62 173 P **P** **00 50 44.3 -2.6**
MTN IAmb IAmb 00 51 00.1
comp=Z,47nm,1.0s
MTN Manton Dam 36.62 173 P **P** **00 50 49.6 +2.7**
KDU Kakadu 36.65 171 P **P** **00 50 47.4 +0.3**
PETK Petropavlovsk- 37.49 31 P **P** **00 50 52.8 -1.3**
PETK Petropavlovsk- 37.49 31 P **P** **00 50 54.0 0.0**
comp=Z,15nm,1.0s,baz=211,slow=5.2,SNR=5.6
PETK LR LR 01 05 49.0
comp=Z,178nm,20.5s,baz=230,slow=36
comp=Z,15nm,1.0s
WMQ Urumqi 37.70 312 *e*P **P** **00 50 57.0 +1.0**
WMQ LR LR
comp=Z,480nm,17.3s
WMQ LR LR
comp=Z,260nm,18.5s
YAK Yakutsk 38.31 2 P **P** **00 50 59.3 -1.4**
YAK IAmb IAmb 00 51 02.5
comp=Z,61nm,1.0s
YAK Yakutsk 38.31 2 *c* *i*P **P** **00 51 00.8 +0.1**
YAK *e* 00 52 26.6
YAK *e*PPP PPP 00 52 47.4
YAK *e* 00 53 14.6
YAK *e*S **S** **00 56 55.8 +1.7**
YAK *e* 01 01 13.2
YAK pmax pmax
comp=Z,63nm,1.1s
YAK pmax pmax
comp=N,43nm,1.4s
YAK pmax pmax
comp=E,13nm,1.5s
YAK pmax pmax
comp=Z,297nm,5.6s
YAK pmax pmax
comp=N,468nm,4.8s
YAK pmax pmax
comp=E,86nm,3.3s
YAK smax smax
comp=E,448nm,5.4s
YAK smax smax
comp=N,179nm,4.8s
YAK MLR MLR
comp=Z,480nm,24.0s
YAK Yakutsk 38.31 2 LR LR 01 07 48.6
comp=Z,17nm,19.0s,baz=124,slow=38
PMG Port Moresby 38.52 146 LR LR 01 07 32.2
comp=Z,56nm,18.3s,baz=320,slow=37
KNRA Kununurra 39.24 177 P **P** **00 51 08.6 -0.4**
MA2 Magadan 39.57 19 *ce*P **P** **00 51 12.5 +1.1**
MA2 pmax pmax
comp=Z,36nm,2.5s
DGZ Jazzator, Alta 40.11 320 ⇑*i*P **P** **00 51 17.4 +1.2**
DGZ pmax pmax
comp=Z,7.0nm,1.5s
COEN Coen 40.77 155 P **P** **00 51 21.9 +0.1**
ZSN Zaisan 40.80 316 *e*P **P** **00 51 21.8 0.0**
ZSN Zaisan 40.80 316 *e*P **P** **00 51 21.8 0.0**
baz=316
FITZ Fitzroy Crossi 41.61 182 P **P** **00 51 27.9 -0.8**
MK31 Makanchi Array 42.25 314 P **P** **00 51 33.5 -0.2**
MK31 Makanchi Array 42.25 314 *i* P **P** **00 51 34.1 +0.4**
MKAR Makanchi Array 42.25 314 P **P** **00 51 33.8 +0.1**
MKAR Makanchi Array 42.25 314 P **P** **00 51 34.3 +0.6**
comp=Z,22nm,0.7s,baz=97,slow=10,SNR=247
MKAR LR LR 01 10 27.3
comp=Z,272nm,18.7s,baz=109,slow=38
comp=Z,22nm,0.7s
MAKZ Makanchi 42.46 314 P **P** **00 51 34.9 -0.5**
SEY Seymchan 42.77 17 *ce*P **P** **00 51 40.3 +2.7**
SEY pmax pmax
comp=Z,18nm,1.7s
SHLS Shalkode 43.31 308 *d* *i*P **P** **00 51 40.6 -1.9**
SHLS pmax pmax
comp=Z,17nm,0.8s
SHLS Shalkode 43.31 308 ⇓*i*P **P** **00 51 40.6 -1.9**
comp=Z,17nm,0.8s,baz=308
PDGK Podgornoye 43.32 309 P **P** **00 51 42.6 0.0**
ZAA0 Zalesovo Array 43.46 325 P **P** **00 51 42.2 -1.1**
ZALV Zalesovo Beam 43.46 325 P **P** **00 51 42.5 -0.7**
ZALV Zalesovo Beam 43.46 325 P **P** **00 51 42.7 -0.6**
comp=Z,12nm,0.8s,baz=111,slow=8.4,SNR=46
ZALV PcP **PcP** **00 53 30.9 -0.3**
comp=Z,1.2nm,0.6s,baz=114,slow=5.4,SNR=1.6
ZALV LR LR 01 10 40.1
comp=Z,256nm,19.5s,baz=110,slow=37
comp=Z,12nm,0.8s
UZB Uzynbulak 43.62 308 *e*P **P** **00 51 45.4 +0.4**
UZB pmax pmax
comp=Z,19nm,1.1s
UZB Uzynbulak 43.62 308 *e*P **P** **00 51 45.5 +0.4**
comp=Z,19nm,1.1s,baz=308
WB0 Warramunga Arr 43.89 170 P **P** **00 51 46.8 -0.4**
KPKS Kokpek 43.92 309 *d* *i*P **P** **00 51 47.8 +0.4**
KPKS pmax pmax
comp=Z,18nm,1.0s
KPKS Kokpek 43.92 309 ⇓*i*P **P** **00 51 47.8 +0.4**
comp=Z,18nm,1.0s,baz=309
PRZ Przheval'sk 43.96 307 P **P** **00 51 47.1 -0.7**
PRZ IAmb IAmb 00 51 53.8
comp=Z,38nm,0.9s
PRZ Przheval'sk 43.96 307 P **P** **00 51 47.1 -0.7**
PRZ pmax pmax
comp=Z,38nm,0.9s
ZHN Zhinishke 44.05 308 *e*P **P** **00 51 48.9 +0.5**
ZHN Zhinishke 44.05 308 *e*P **P** **00 51 49.0 +0.5**
baz=308
SATY Saty 44.05 308 *e*P **P** **00 51 49.4 +1.0**
SATY *e*S **S** **00 58 21.0 +0.8**
SATY pmax pmax
comp=Z,19nm,1.1s
SATY Saty 44.05 308 *e*P **P** **00 51 49.4 +1.0**
comp=Z,19nm,1.1s,baz=308
SATY *e*S **S** **00 58 21.0 +0.8**
baz=308
WRA Warramunga Arr 44.05 170 P **P** **00 51 47.2 -1.3**
WRA Warramunga Arr 44.05 170 P **P** **00 51 49.0 +0.5**
WRA Warramunga Arr 44.05 170 P **P** **00 51 49.0 +0.5**
comp=Z,28nm,0.7s,baz=350,slow=8.8,SNR=97
comp=Z,28nm,0.7s
TARG Taragay, Kyrgy 44.28 306 P **P** **00 51 49.7 -1.0**
TARG IAmb IAmb 00 51 56.4
comp=Z,14nm,0.7s
TARG Taragay, Kyrgy 44.28 306 P **P** **00 51 49.7 -1.0**
TARG pmax pmax
comp=Z,14nm,0.7s
TDK Taldyqorghan 44.42 311 *e*P **P** **00 51 52.4 +1.2**
TDK Taldyqorghan 44.42 311 *e*P **P** **00 51 52.4 +1.2**
baz=311
SEM Semipalatinsk 44.66 319 *e*P **P** **00 51 53.6 +0.3**
SEM pmax pmax
comp=Z,18nm,0.7s
SEM Semipalatinsk 44.66 319 *e*P **P** **00 51 53.6 +0.3**
comp=Z,18nm,0.7s,baz=319
MTSU Mount Surprise 45.02 156 P **P** **00 51 58.6 +2.4**
MDOK Medeo 45.05 308 *e*P **P** **00 51 57.3 +0.9**
MDOK *e*S **S** **00 58 35.9 +1.1**
MDOK Medeo 45.05 308 *e*P **P** **00 51 57.4 +0.9**
baz=308
MDOK *e*S **S** **00 58 36.0 +1.1**
baz=308
TNSS Tian-Shan 45.10 308 *e*P **P** **00 51 58.3 +1.1**
TNSS Tian-Shan 45.10 308 *e*P **P** **00 51 58.3 +1.1**
baz=308
AAA Alma-Ata 45.15 308 *e*P **P** **00 51 58.1 +0.9**
AAA Alma-Ata 45.15 308 *e*P **P** **00 51 58.2 +1.0**
baz=308
CHKK Chushkaly 45.20 309 *e*P **P** **00 51 57.9 +0.4**
CHKK Chushkaly 45.20 309 *e*P **P** **00 51 57.9 +0.4**
baz=309
HYB Hyderabad 45.41 271 *e*P **P** **00 51 59.4 -0.1**
KSH Kashi 45.42 303 P **P** **00 52 03.4 +4.0**
KSH pP pwP 00 52 07.7 -3.7
KSH pmax pmax
comp=Z,9.0nm,1.3s
KSH LR LR
comp=Z,520nm,16.0s
KSH LR LR
comp=Z,430nm,17.0s
KSH LR LR
comp=Z,520nm,18.2s
ULHL Ulahol 45.51 307 P **P** **00 52 01.7 +1.5**
SNR=6.9
PSA00 Pilbara Seismi 45.55 189 P **P** **00 51 58.9 -1.5**
PSA00 IAmb IAmb 00 52 14.4
comp=Z,18nm,0.9s
KUU Kurty 45.67 309 *d* *i*P **P** **00 52 02.0 +0.8**
KUU pmax pmax
comp=Z,12nm,0.6s
KUU Kurty 45.67 309 ⇓*i*P **P** **00 52 02.0 +0.8**
comp=Z,12nm,0.6s,baz=309
KURK Kurchatov 45.75 319 P **P** **00 52 01.6 0.0**
KURK IAmb IAmb 00 52 02.9
comp=Z,26nm,0.9s
KURK Kurchatov 45.75 319 P **P** **00 52 02.1 +0.5**
KURK 00 53 38.9
KURBB Kurchatov Arra 45.77 318 P **P** **00 52 01.0 -0.8**
KURBB Kurchatov Arra 45.77 318 P **P** **00 52 02.0 +0.2**
comp=Z,19nm,0.8s,baz=108,slow=8.1,SNR=86
KURBB PcP **PcP** **00 53 38.9 -0.4**
comp=Z,1.3nm,0.7s,baz=122,slow=3.4,SNR=1.9
KURBB LR LR 01 12 39.9
comp=Z,249nm,19.6s,baz=162,slow=38
comp=Z,19nm,0.8s
QIS Mount Isa 45.79 163 P **P** **00 52 03.8 +1.6**
TKM2 Tokmak 2 46.07 307 P **P** **00 52 05.8 +1.2**
SNR=36
TKM2 Tokmak 2 46.07 307 P **P** **00 52 04.9 +0.3**
KZA Kyzart 46.22 306 P **P** **00 52 08.2 +2.1**
SNR=15
HNR Honiara 46.26 132 LR LR 01 08 39.2
comp=Z,1μm,21.1s,baz=328,slow=32
KBK Karagaybulak 46.51 307 P **P** **00 52 09.3 +1.2**
SNR=12
CHMS Chumysh 46.69 307 P **P** **00 52 10.2 +0.9**
SNR=14
FRU1 Bishkek 46.76 307 P **P** **00 52 08.2 -1.6**
FRU1 IAmb IAmb 00 52 11.9
comp=Z,14nm,0.9s
FRU1 Bishkek 46.76 307 P **P** **00 52 08.2 -1.6**
FRU1 pmax pmax
comp=Z,14nm,0.9s
UCH Uchtor 46.78 306 P **P** **00 52 12.2 +1.7**
SNR=36
SGDS Sogindy 46.84 308 *e*P **P** **00 52 10.9 +0.5**
SGDS pmax pmax
comp=Z,10.0nm,1.7s
SGDS Sogindy 46.84 308 *e*P **P** **00 52 10.9 +0.5**
comp=Z,10.0nm,1.7s,baz=308
AAK Ala-Archa 46.84 307 P **P** **00 52 11.9 +1.3**
SNR=6.6
AAK Ala-Archa 46.84 307 P **P** **00 52 09.6 -1.0**
AAK Ala-Archa 46.84 307 *ce*P **P** **00 52 11.9 +1.3**
AAK pmax pmax

comp=Z,11nm,1.3s
AAK Ala-Archa 46.84 307 LR LR 01 14 55.6
comp=Z,195nm,18.6s,baz=98,slow=40
USP Ospenovka 46.91 308 P **P** **00 52 11.6 +0.6**
SNR=11
PALK Pallekele 47.07 257 LR LR 01 12 08.1
comp=Z,88nm,20.6s,baz=158,slow=36
EKS2 Erkin-Say 47.37 307 P **P** **00 52 16.0 +1.3**
SNR=7.6
AML Almayashu 47.38 306 P **P** **00 52 16.4 +1.4**
SNR=14
AML Almayashu 47.38 306 P **P** **00 52 16.2 +1.1**
BTLS Baital 47.47 310*d iP* **P** **00 52 15.8 +0.5**
BTLS pmax pmax
comp=Z,11nm,1.2s
BTLS Baital 47.47 310⇓ *iP* **P** **00 52 15.9 +0.5**
comp=Z,11nm,1.2s,baz=310
NIL Nilore 47.52 295 P **P** **00 52 14.9 -0.9**
NIL IAmb IAmb 00 52 17.0
comp=Z,17nm,1.1s
NIL Nilore 47.52 295 P **P** **00 52 14.9 -0.9**
NIL pmax pmax
comp=Z,17nm,1.1s
CTA Charters Tower 47.54 155 LR LR 01 09 17.3
comp=Z,64nm,21.9s,baz=282,slow=32
AS31 Alice Springs 47.64 171 P **P** **00 52 16.3 -0.4**
ASAR Alice Springs 47.65 171 P **P** **00 52 16.3 -0.5**
ASAR Alice Springs 47.65 171 P **P** **00 52 17.6 +0.8**
comp=Z,7.8nm,0.8s,baz=354,slow=13,SNR=55
ASAR PcP **PcP** **00 53 46.4 +0.2**
comp=Z,1.1nm,0.9s,baz=0.0,slow=3.7,SNR=1.8
ASAR LR LR 01 12 11.5
comp=Z,68nm,20.6s,baz=353,slow=36
comp=Z,7.8nm,0.8s
TIXI Tiksi 47.94 1 P **P** **00 52 17.0 -1.4**
TIXI IAmb IAmb 00 52 20.3
comp=Z,26nm,1.6s
TIXI Tiksi 47.94 1*ce*P **P** **00 52 18.5 +0.1**
TIXI pmax pmax
comp=Z,14nm,1.3s
WRKA Warakurna 48.52 178 P **P** **00 52 24.9 +1.3**
DZA Taraz 49.18 307 *e*P **P** **00 52 28.9 +0.3**
DZA Taraz 49.18 307 *e*P **P** **00 52 28.1 -0.5**
baz=307
BRZS Berezniki 49.24 316 *e*P **P** **00 52 29.5 +0.6**
BRZS Berezniki 49.24 316 *e*P **P** **00 52 29.6 +0.6**
baz=316
BTK Batken 49.42 303 P **P** **00 52 29.3 -1.2**
BTK Batken 49.42 303 P **P** **00 52 29.3 -1.2**
BTK pmax pmax
comp=Z,9.0nm,1.1s
KK31 Karatay Array 49.80 307 P **P** **00 52 32.4 -0.8**
KK31 IAmb IAmb 00 52 48.8
comp=Z,61nm,2.0s
KK31 Karatay Array 49.80 307 P **P** **00 52 32.4 -0.8**
KK31 pmax pmax
comp=Z,61nm,2.0s
KKAR Karatay Array 49.80 307 P **P** **00 52 32.7 -0.5**
KKAR Karatay Array 49.80 307 P **P** **00 52 32.7 -0.5**
CHM Chimkent 50.42 306 *e*P **P** **00 52 38.6 +0.7**
CHM Chimkent 50.42 306 *e*P **P** **00 52 38.7 +0.7**
baz=306
SIMJ Simiganj 50.81 301 P **P** **00 52 40.1 -1.0**
KBL Kabul 50.95 296 P **P** **00 52 41.4 -0.9**
KBL IAmb IAmb 00 52 57.0
comp=Z,22nm,1.1s
KBL Kabul 50.95 296 P **P** **00 52 41.4 -0.9**
KBL pmax pmax
comp=Z,22nm,1.2s
NRIK Noril'sk 51.21 343 P **P** **00 52 43.0 -0.4**
NRIK IAmb IAmb 00 52 57.3
comp=Z,19nm,1.1s
NRIK Noril'sk 51.21 343*ce*P **P** **00 52 43.7 +0.2**
NRIK pmax pmax
comp=Z,23nm,1.3s
NRIK Noril'sk 51.21 343 P **P** **00 52 43.6 +0.2**
comp=Z,4.2nm,0.4s,baz=123,slow=5.9,SNR=14
NRIK LR LR 01 16 56.6
comp=Z,389nm,19.0s,baz=140,slow=39
comp=Z,4.2nm,0.4s
BVA0 Borovoye Array 51.27 320 P **P** **00 52 43.5 -0.7**
BVAR Borovoye Array 51.27 320 P **P** **00 52 44.4 +0.2**
comp=Z,11nm,0.8s,baz=105,slow=11,SNR=36
BVAR PcP **PcP** **00 53 58.2 -0.9**
comp=Z,2.6nm,0.7s,baz=92,slow=3.7,SNR=1.8
BVAR LR LR 01 16 09.1
comp=Z,152nm,19.2s,baz=85,slow=38
comp=Z,11nm,0.8s
BRVK Borovoye 51.34 320 P **P** **00 52 44.3 -0.4**
BRVK IAmb IAmb 00 52 49.3
comp=Z,21nm,0.8s
BRVK Borovoye 51.34 320 P **P** **00 52 44.3 -0.4**
BRVK pmax pmax
comp=Z,21nm,0.9s
OOD Oodnadatta 51.97 170 P **P** **00 52 51.0 +1.5**
QLP Quilpie 52.81 160 P **P** **00 52 59.6 +3.7**
INKA Innaminka 52.94 164 P **P** **00 52 58.6 +1.8**
MORW Morawa 53.52 192 P **P** **00 52 59.6 -1.4**
MULG Mulgathing 54.18 172 P **P** **00 53 10.1 +4.3**
FORT Forrest 54.24 179 P **P** **00 53 05.2 -1.0**
FORT Forrest 54.24 179 P **P** **00 53 09.6 +3.4**
LCRK Leigh Creek 55.00 168 P **P** **00 53 15.8 +4.0**
KLBR Kellerberrin 55.70 189 P **P** **00 53 17.3 +0.4**
HRA Herat 56.55 297 P **P** **00 53 22.3 -1.1**
AULRC Lightning Ridg 56.68 158 P **P** **00 53 24.4 +0.6**
BBOO Buckleboo 56.94 171 P **P** **00 53 25.5 -0.2**
BBOO IAmb IAmb 00 53 39.4
comp=Z,29nm,0.9s
BBOO Buckleboo 56.94 171 P **P** **00 53 29.5 +3.8**
NWAO Narrogin (SRO) 57.09 190 P **P** **00 53 25.4 -1.3**
NWAO IAmb IAmb 00 53 41.1
comp=Z,29nm,0.9s
NWAO Narrogin (SRO) 57.09 190 P **P** **00 53 25.4 -1.3**
NWAO pmax pmax
comp=Z,29nm,1.0s
STKA Stephens Creek 57.11 165 P **P** **00 53 26.4 -0.5**
STKA Stephens Creek 57.11 165 P **P** **00 53 30.7 +3.8**
STKA Stephens Creek 57.11 165 P **P** **00 53 27.5 +0.6**
comp=Z,6.8nm,0.8s,baz=321,slow=7.7,SNR=13
STKA LR LR 01 18 08.7
comp=Z,27nm,21.2s,baz=10,slow=36
comp=Z,6.8nm,0.8s
AB31 Akbulak array 57.39 314 *i* P **P** **00 53 29.1 +0.3**
ABKAR Akbulak array 57.39 314 P **P** **00 53 27.8 -1.0**
ABKAR Akbulak array 57.39 314 P **P** **00 53 28.0 -0.8**
ABKAR IAmb IAmb 00 53 33.7
comp=Z,11nm,0.8s
SVE Sverdlovsk 57.42 323⇑ *eP* **P** **00 53 29.4 +0.5**
SVE pmax pmax
comp=Z,26nm,0.9s
SVE MLR MLR
comp=Z,715nm,19.0s
CMSA Cobar Meteorol 57.89 161 P **P** **00 53 37.0 +4.6**
comp=Z,16nm,1.1s
TNA Tin City 58.43 26 P **P** **00 53 37.7 +1.9**
baz=258
ARU Arti 58.53 323 P **P** **00 53 36.0 -0.6**
ARU IAmb IAmb 00 53 37.7
comp=Z,22nm,1.1s
ARU Arti 58.53 323*d iP* **P** **00 53 36.6 0.0**
ARU 00 54 23.8
ARU S **S** **01 01 41.5 +2.0**
ARU SS **SS** **01 05 31.0 -0.8**
ARU pmax pmax
comp=Z,25nm,1.2s
ARU Arti 58.53 323 LR LR 01 20 46.2
comp=Z,291nm,19.4s,baz=90,slow=38
AKTO Aktyubinsk 58.65 316 P **P** **00 53 37.5 -0.1**
AKTO Aktyubinsk 58.65 316 LR LR 01 21 02.1
comp=Z,443nm,18.1s,baz=148,slow=38
ARMA Armidale 58.91 155 P **P** **00 53 44.2 +4.5**
F14K Arctic Creek 59.07 27 P **P** **00 53 42.6 +2.4**
baz=259
AUPHS Peel High Scho 59.24 156 P **P** **00 53 46.4 +4.6**
ANM Nome 59.31 28 P **P** **00 53 42.2 +0.3**
ANM IAmb IAmb 00 54 37.1
comp=Z,37nm,1.8s
ANM Nome 59.31 28 P **P** **00 53 42.2 +0.3**
ANM pmax pmax
comp=Z,37nm,1.8s
GEYT Alibeck 59.41 301 P **P** **00 53 43.1 0.0**
GEYT IAmb IAmb 00 53 58.0
comp=Z,12nm,0.9s
GEYT Alibeck 59.41 301 P **P** **00 53 44.0 +0.9**
comp=Z,5.2nm,0.8s,baz=64,slow=3.7,SNR=15
GEYT LR LR 01 22 22.2
comp=Z,162nm,18.6s,baz=144,slow=39
comp=Z,5.2nm,0.8s
GYA0B ALIBECK ARRAY 59.41 301 P **P** **00 53 43.0 -0.1**
GYA0B IAmb IAmb 00 53 58.0
comp=Z,12nm,0.9s
DZM Mont Dzumac 59.70 137*eS* **S** **01 01 56.1 +0.5**
comp=Z,843nm,28.9s
DZM *e*LR LR 01 11 06.2
comp=Z,522nm,36.9s
DZM Mont Dzumac 59.70 137 LR LR 01 16 17.2
comp=Z,61nm,21.9s,baz=232,slow=33
F15K North Star Dit 59.80 26 P **P** **00 53 47.3 +2.0**
baz=261
C16K Lisburne Hills 59.99 23 P **P** **00 53 47.0 +0.5**
C16K IAmb IAmb 00 53 48.9
comp=Z,20nm,1.2s
C16K Lisburne Hills 59.99 23 P **P** **00 53 47.9 +1.3**
baz=259
L14K Kuka Creek 60.13 32 P **P** **00 53 48.0 +0.4**
L14K IAmb IAmb 00 53 50.5
comp=Z,25nm,1.1s
L14K Kuka Creek 60.13 32 P **P** **00 53 49.7 +2.1**
baz=265
H16K Elim 60.66 28 P **P** **00 53 52.2 +1.1**
baz=264,SNR=5.9
E17K Hotham Inlet 61.12 25 P **P** **00 53 56.3 +2.0**
baz=263,SNR=5.3
I17K Unalakleet 61.26 29 P **P** **00 53 57.3 +2.1**
baz=266
F17K Baldwin Pennin 61.27 26 P **P** **00 53 57.4 +2.1**
baz=264
YNG Young 61.28 160 P P 00 54 00.9 +5.1
G17K Kiwalik Mounta 61.42 27 P **P** **00 53 58.3 +2.0**
baz=265
B18K Kokolik River 61.45 22 P **P** **00 53 58.8 +2.4**
baz=261
C18K Utukok River 61.56 23 P **P** **00 53 57.0 -0.3**
C18K IAmb IAmb 00 53 59.7
comp=Z,16nm,1.1s
C18K Utukok River 61.56 23 P **P** **00 53 58.8 +1.5**
baz=262
H17K Granite Mounta 61.68 28 P **P** **00 53 59.9 +1.8**
baz=266
A19K Wainwright 61.82 22 P **P** **00 54 01.3 +2.4**
baz=262
ARPS Mount Arapiles 61.86 166 P P **00 54 03.6 +4.1**
WSAR Wadi Sarin 61.90 285 LR LR 01 22 19.5
comp=Z,77nm,21.2s,baz=64,slow=38
C19K Lookout Ridge 62.20 23 P **P** **00 54 02.3 +0.7**
C19K IAmb IAmb 00 54 04.6
comp=Z,16nm,1.1s
C19K Lookout Ridge 62.20 23 P **P** **00 54 03.7 +2.2**
baz=264
L17K Donlin 62.26 31 P **P** **00 54 04.2 +2.2**
baz=269
G18K Tagagawik 62.27 27 P **P** **00 54 03.5 +1.4**
baz=266
CAN Canberra 62.42 160 P P 00 54 08.6 +5.2
CNB Canberra Magne 62.53 159 P P 00 54 09.2 +5.0
D19K Kuna River 62.67 24 P **P** **00 54 06.5 +1.8**
baz=265
G19K Purcell Mounta 62.92 26 P **P** **00 54 07.8 +1.4**
baz=268
E19K Redstone River 62.93 25 P **P** **00 54 08.3 +1.8**
baz=267
L18K Granite Mounta 63.01 31 P **P** **00 54 09.2 +2.1**
baz=270
BRAT Ballarat 63.08 165 P P 00 54 12.5 +4.8
B20K Meade River 63.13 22 P **P** **00 54 09.6 +1.9**
baz=266
H19K Roundabout Mou 63.17 27 P **P** **00 54 10.1 +2.1**
baz=268
D20K Etivluk River 63.24 23 P **P** **00 54 10.4 +1.9**
baz=267
TTA Tatalina 63.33 30 P **P** **00 54 09.8 +0.6**
TTA IAmb IAmb 00 54 11.4
comp=Z,19nm,1.5s
TTA Tatalina 63.33 30 P **P** **00 54 09.9 +0.6**
TTA pmax pmax
comp=Z,19nm,1.5s
TTA Tatalina 63.33 30 P **P** **00 54 10.6 +1.4**
baz=270
E20K Nigu River 63.37 24 P **P** **00 54 11.0 +1.6**
baz=267
A21K Barrow 63.41 21 P **P** **00 54 11.2 +1.7**
baz=265
M18K Stony River 63.43 32 P **P** **00 54 11.9 +2.1**
baz=271
KIRV Kirov 63.49 325*ce*P **P** **00 54 10.8 +0.5**
KIRV Kirov 63.49 325 LR LR 01 24 17.0
comp=Z,584nm,18.1s,baz=97,slow=38
TOO Toolangi 63.49 163 P **P** **00 54 09.8 -0.7**
TOO Toolangi 63.49 163 P **P** **00 54 15.2 +4.7**
TOO Toolangi 63.49 163 P **P** **00 54 09.8 -0.7**
TOO pmax pmax
comp=Z,22nm,1.0s
F20K Avaraart Lake 63.50 25 P **P** **00 54 12.2 +2.0**
baz=268
J19K Poorman 63.50 29 P **P** **00 54 12.1 +1.8**
baz=270
H20K Anotleneega Mo 63.82 27 P **P** **00 54 14.2 +1.8**
baz=270
C21K Knifeblade Rid 63.92 23 P **P** **00 54 15.0 +2.1**
baz=268
A22K Sinclair Lake 63.93 21 P **P** **00 54 15.0 +2.1**
baz=267
B21K Ikpikpuk River 63.99 22 P **P** **00 54 15.4 +2.1**
baz=268
J20K Nowinta River 64.15 29 P **P** **00 54 16.5 +2.0**
baz=271
E21K Killik River 64.20 24 P **P** **00 54 16.5 +1.7**
baz=269
K20K Telida 64.20 29 P **P** **00 54 17.0 +2.0**
baz=272
IMAR Indian Mountai 64.28 27 P **P** **00 54 15.6 +0.2**
L20K Farewell, AK 64.32 30 P **P** **00 54 17.6 +1.8**
baz=272
G21K Allakaket 64.38 26 P **P** **00 54 17.8 +1.8**
baz=271
B22K Teshekpuk Lake 64.42 22 P **P** **00 54 17.9 +1.7**
baz=269
D22K Ayikyak River 64.67 23 P **P** **00 54 20.1 +2.2**
baz=270
H21K Melozitna Rive 64.68 27 P **P** **00 54 19.9 +1.9**
baz=272
F22K John River 64.88 25 P **P** **00 54 21.5 +2.2**
baz=271
E22K Anaktuvuk Pass 65.00 24 P **P** **00 54 22.1 +2.0**
baz=272
BELG Belogornoye 65.02 318 LR LR 01 26 26.3
comp=Z,130nm,19.6s,baz=149,slow=40
CAST Castle Rocks 65.09 29 P **P** **00 54 20.8 +0.1**
CAST IAmb IAmb 00 54 23.1
comp=Z,14nm,1.0s
CAST Castle Rocks 65.09 29 P **P** **00 54 22.3 +1.6**
baz=273,SNR=6.5
N20K Mount Spurr 65.19 32 P **P** **00 54 22.6 +1.1**
baz=274,SNR=5.1
H22K Ishtalitna Cre 65.26 27 P **P** **00 54 24.0 +2.2**
baz=273
KDAK Kodiak Island 65.29 36 LR LR 01 23 38.6
comp=Z,104nm,19.9s,baz=141,slow=37
C23K Itkillik River 65.39 22 P **P** **00 54 24.4 +1.9**
baz=272
D23K Nanushuk River 65.39 23 P **P** **00 54 25.0 +2.4**
baz=272
BPAW Bear Paw Mtn. 65.53 29 P **P** **00 54 23.7 +0.1**
BPAW IAmb IAmb 00 54 26.0
comp=Z,22nm,1.4s
BPAW Bear Paw Mtn. 65.53 29 P **P** **00 54 25.1 +1.5**
baz=274
MLY Manley 65.58 28 P **P** **00 54 23.3 -0.6**
MLY IAmb IAmb 00 54 39.6
comp=Z,8.3nm,1.0s
MLY Manley 65.58 28 P **P** **00 54 25.3 +1.4**
baz=274,SNR=6.7
G23K Bananza Creek 65.76 26 P **P** **00 54 26.6 +1.5**
baz=274,SNR=6.9
E23K Chandalar 65.83 24 P **P** **00 54 27.8 +2.3**
baz=274
SUA Susitna One 65.86 31 P **P** **00 54 25.9 0.0**
SUA IAmb IAmb 00 54 46.4
comp=Z,14nm,1.0s
D24K Happy Valley 66.05 23 P **P** **00 54 29.0 +2.1**
baz=274
C24K Franklin Bluff 66.06 22 P **P** **00 54 28.8 +2.0**
baz=274
MCK McKinley 66.47 29 P **P** **00 54 30.8 +1.2**
baz=276,SNR=7.1
F24K Squaw Lake 66.53 25 P **P** **00 54 31.9 +2.0**
baz=275
RND Reindeer 66.54 29 P **P** **00 54 29.9 -0.3**
RND IAmb IAmb 00 54 31.4
comp=Z,19nm,1.0s
RND Reindeer 66.54 29 P **P** **00 54 29.9 -0.3**
RND pmax pmax
comp=Z,19nm,1.0s
MAK Makhachkala 66.59 308 *eP* **P** **00 54 26.1 -4.6**
MAK *e* 00 56 56.4
MAK *e*PPP PPP 00 58 31.1
MAK *e*S **S** **01 03 15.9 -5.3**
MAK *e*SS **SS** **01 07 36.1 -2.1**
MAK pmax pmax
comp=Z,60nm,1.5s
MAK MLR MLR
comp=Z,177nm,17.0s
MDM Murphy Dome 66.64 28 P **P** **00 54 30.9 +0.2**
H24K Noodor Dome 66.70 27 P **P** **00 54 33.1 +2.0**
baz=276
G24K Hadweenzic Riv 66.77 26 P **P** **00 54 33.7 +2.2**
baz=276
CCB Clear Creek Bu 66.86 28 P **P** **00 54 32.2 +0.2**
D25K Kavik River 66.90 23 P **P** **00 54 34.5 +2.1**
baz=276
POKR Poker Plat Res 66.96 27 P **P** **00 54 33.5 +0.8**
POKR IAmb IAmb 00 54 48.4
comp=Z,13nm,0.9s
POKR Poker Plat Res 66.96 27 P **P** **00 54 35.0 +2.3**
baz=277
KNK Knik Glacier 66.96 31 P **P** **00 54 34.0 +1.2**
baz=278
WAT6 Susitna Watana 67.15 30 P **P** **00 54 34.6 +0.5**
baz=278
IL31 67.24 28 P **P** **00 54 33.8 -0.6**
ILAR Eielson Array 67.24 28 P **P** **00 54 34.3 -0.2**
ILAR Eielson Array 67.24 28 P **P** **00 54 34.3 -0.2**
ILAR Eielson Array 67.24 28 P **P** **00 54 33.9 -0.6**
comp=Z,1.3nm,0.8s,baz=282,slow=5.8,SNR=15
ILAR LR LR 01 27 57.5
comp=Z,99nm,18.0s,baz=164,slow=40
comp=Z,1.3nm,0.8s
HDA Harding Lake 67.26 28 P **P** **00 54 35.2 +0.5**
baz=278
G25K Bearman Lake 67.30 25 P **P** **00 54 37.7 +2.9**
baz=277
E25K Arctic Village 67.33 24 P **P** **00 54 37.3 +2.2**
baz=277,SNR=7.2
C26K Camden Bay 67.34 22 P **P** **00 54 37.7 +2.6**
baz=277
F25K Christian Rive 67.37 25 P **P** **00 54 37.9 +2.5**
baz=277
SCM Sheep Creek Mo 67.44 31 P **P** **00 54 35.8 -0.1**
SCM Sheep Creek Mo 67.44 31 P **P** **00 54 35.8 -0.1**
SCM pmax pmax
comp=Z,40nm,1.1s
SCM Sheep Creek Mo 67.44 31 P **P** **00 54 37.3 +1.4**
baz=278
PRP Porcupine Dome 67.70 27 P **P** **00 54 38.5 +0.9**
baz=278,SNR=5.5
BMAR Burnt Mountain 67.80 25 P **P** **00 54 39.7 +1.6**
J25K Salcha River, 67.90 28 P **P** **00 54 40.4 +1.6**
baz=279
F26K Sheenjek River 67.93 24 P **P** **00 54 41.3 +2.5**
baz=279
PAX Paxson 68.12 29 P **P** **00 54 41.1 +0.9**
baz=279
G26K Porcupine Rive 68.18 25 P **P** **00 54 42.6 +2.3**
baz=279
KLMR Klimovskoe 68.23 328 *eP* P 00 54 34.3 -6.5
KLMR pmax pmax
comp=Z,36nm,1.7s
SCRK Sand Creek 68.61 28 P **P** **00 54 42.6 -0.6**
SCRK IAmb IAmb 00 55 00.1
comp=Z,13nm,1.2s
SCRK Sand Creek 68.61 28 P **P** **00 54 44.2 +1.0**
baz=280
J26L Joseph Creek 68.69 28 P **P** **00 54 44.4 +0.6**
baz=280
D27M Malcolm River 68.82 22 P **P** **00 54 46.7 +2.3**
baz=281
VRH Novokhopyorsk 68.83 318 *eP* **P** **00 54 41.5 -3.2**
VRH pmax pmax
comp=Z,20nm,1.7s
MENT Mentasta 68.91 29 P **P** **00 54 49.3 +4.2**
G27K Doyon Strip 69.03 25 P **P** **00 54 47.6 +1.9**
baz=281
L26K Log Cabin Wild 69.06 29 P **P** **00 54 47.7 +1.7**
baz=281
H27K Steamboat Moun 69.20 26 P **P** **00 54 48.9 +2.1**
baz=282
ZEI Tsey 69.21 309 *eP* **P** **00 54 46.4 -1.1**
ZEI pmax pmax
comp=Z,12nm,1.4s
GNI Garni 69.23 306 LR LR 01 30 38.7
comp=Z,83nm,18.2s,baz=84,slow=41
I27K Kandik River 69.29 26 P **P** **00 54 49.5 +2.1**
baz=282
M26K Nabesna, AK 69.35 30 P **P** **00 54 49.2 +1.4**
baz=282,SNR=7.6
K27K Chicken 69.42 28 P **P** **00 54 49.8 +1.6**
baz=282,SNR=5.3
E28M Babbage River 69.46 23 P **P** **00 54 50.3 +2.0**
baz=282
F28M Old Crow 69.55 24 P **P** **00 54 49.1 +0.2**
F28M IAmb IAmb 00 54 51.8
comp=Z,23nm,1.1s
F28M Old Crow 69.55 24 P **P** **00 54 50.9 +2.0**
baz=282,SNR=15
ONI Oni 69.58 308 P **P** **00 54 48.7 -0.9**
ONI Oni 69.58 308 P **P** **00 54 48.7 -0.9**
ONI pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 69.71 310*ce*P **P** **00 54 50.9 +0.7**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 69.71 310 P **P** **00 54 50.1 -0.1**
comp=Z,6.8nm,0.9s,baz=150,slow=2.4,SNR=11
KBZ LR LR 01 31 25.5
comp=Z,108nm,19.2s,baz=62,slow=41
comp=Z,6.8nm,0.9s
L27K Beaver Creek, 69.73 29 P **P** **00 54 51.2 +1.0**
baz=282
BCAR Beaver Creek A 69.75 29 P **P** **00 54 50.8 +0.5**
KIV Kislovodsk 69.80 310 P **P** **00 54 50.5 -0.5**
KIV IAmb IAmb 00 55 07.2
comp=Z,29nm,1.3s
KIV Kislovodsk 69.80 310 *eP* **P** **00 54 52.0 +1.0**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,96nm,17.0s
AKH Akhalkalaki 69.84 307 P **P** **00 54 50.6 -0.8**
AKH Akhalkalaki 69.84 307 P **P** **00 54 50.6 -0.8**
AKH pmax pmax
comp=Z,25nm,0.9s
I28M Miner Creek 70.01 26 P **P** **00 54 54.0 +2.1**
baz=283
E29M Blow River 70.09 23 P **P** **00 54 53.9 +1.6**
baz=284
LPSR Galich'ya Gora 70.22 320 *eP* P 00 55 01.7 +8.5
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MOS Moscow 70.24 323 *eP* **P** **00 54 52.0 -1.3**
MOS pmax pmax
comp=Z,45nm,1.3s
VORR Voronezh 70.26 319 *eP* **P** **00 54 53.0 -0.5**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 70.38 318 *eP* **P** **00 54 52.4 -1.8**
VORD pmax pmax
comp=Z,6.0nm,0.9s
VSR Storozhevoye 70.39 318 *eP* **P** **00 54 53.0 -1.4**
VSR pmax pmax
comp=Z,7.0nm,1.0s
G29M Pine Creek 70.41 25 P **P** **00 54 56.3 +2.1**
baz=284
H29M Whitestone 70.45 25 P **P** **00 54 56.4 +1.9**
baz=284
DAWY Dawson 70.56 28 P **P** **00 54 55.2 0.0**
DAWY Dawson 70.56 28 P **P** **00 54 56.5 +1.3**
baz=284
YUK3 Moose Creek 70.65 30 P **P** **00 54 57.2 +1.2**
baz=284

I29M **Ogilvie Camp,** **70.69 26** P **P** **00 54 57.5 +1.5**
baz=285,SNR=8.6
J29N **Klondike Camp** **70.96 27** P **P** **00 54 59.6 +2.0**
baz=285
SPITS **Spitsbergen Ar** **70.97 348** P **P** **00 54 58.0 +0.6**
SPITS pmax pmax
comp=Z,133nm,1.9s
OBN **Obninsk** **70.97 323** P **P** **00 54 57.4 -0.4**
OBN **Obninsk** **70.97 323** *ce*P **P** **00 54 58.1 +0.3**
OBN *e* 00 55 14.8
OBN *e* 00 57 36.9
OBN pmax pmax
comp=Z,41nm,2.5s
OBN MLR MLR
comp=Z,162nm,16.0s
EPYK **Eagle Plains** **71.05 25** P **P** **00 54 59.5 +1.3**
baz=286,SNR=11
F30M **Barrier River** **71.06 24** P **P** **00 54 59.9 +1.7**
baz=286
G30M **tAoh Zraii Nji** **71.08 24** P **P** **00 54 59.3 +1.0**
baz=286
YUK8 **Steele Glacier** **71.10 31** P **P** **00 55 00.8 +2.0**
baz=285
KEV **Kevo** **71.25 339** P **P** **00 54 59.1 0.0**
KEV **Kevo** **71.25 339** P **P** **00 54 59.2 0.0**
KEV pmax pmax
comp=Z,80nm,1.7s
L29M **L29M** **71.36 29** P **P** **00 55 02.4 +2.3**
baz=286
M29M **Somme Creek** **71.39 29** P **P** **00 55 02.4 +2.1**
baz=286
K29M **Barlow Dome** **71.42 28** P **P** **00 55 02.4 +1.8**
baz=286
I30M **Mount Dempster** **71.51 26** P **P** **00 55 02.5 +1.4**
baz=286,SNR=6.9
YUK4 **Talbot Arm** **71.60 30** P **P** **00 55 03.7 +1.9**
baz=286
GURO **Guroymak-BITLI** **71.67 305** P **P** **00 55 01.5 -1.0**
INK **Inuvik** **71.67 23** P **P** **00 55 01.6 -0.2**
INK IAmb IAmb 00 55 04.5
comp=Z,18nm,1.2s
INK **Inuvik** **71.67 23** P **P** **00 55 01.6 -0.2**
INK pmax pmax
comp=Z,19nm,1.2s
INK **Inuvik** **71.67 23** P **P** **00 55 02.9 +1.1**
baz=288,SNR=14
INK **Inuvik** **71.67 23** LR LR 01 30 42.3
comp=Z,122nm,18.4s,baz=184,slow=39
J30M **Hart River** **71.71 27** P **P** **00 55 04.1 +1.8**
baz=287
ARCES **ARCESS Array B** **71.82 339** P **P** **00 55 02.7 0.0**
comp=Z,7.2nm,1.0s,baz=60,slow=6.9,SNR=9.8
ARCES LR LR 01 29 53.5
comp=Z,110nm,21.5s,baz=84,slow=39
comp=Z,7.2nm,1.0s
G31M **Satah River** **71.83 24** P **P** **00 55 03.3 +0.6**
baz=288,SNR=5.1
SOC **Sochi** **71.97 310** *e*P **P** **00 55 02.7 -1.4**
SOC *e* 00 57 37.9
SOC *e*PPP PPP 00 59 25.3
SOC *e*S **S** **01 04 24.2 -0.6**
SOC *e*SS **SS** **01 08 57.5 -3.7**
M30M **Minto, Yukon** **72.09 29** P **P** **00 55 04.9 +0.4**
baz=287,SNR=6.0
HYT **Haines Junctio** **72.28 31** P **P** **00 55 07.3 +1.5**
baz=287
KOPT **Kop Dagi** **72.40 306** P **P** **00 55 06.5 -0.6**
KOPT IAmb IAmb 00 55 12.3
comp=Z,33nm,1.3s
MARD **Mardin** **72.97 304** P **P** **00 55 09.8 -0.5**
A36M **Sachs Harbour** **72.98 18** P **P** **00 55 11.1 +1.6**
baz=294
M31M **Drury Creek, Y** **73.28 29** P **P** **00 55 12.9 +1.3**
baz=289,SNR=5.7
FARO **Faro, Yukon** **73.73 29** P **P** **00 55 15.9 +1.7**
baz=290,SNR=7.2
N32M **Quiet Lake** **74.22 30** P **P** **00 55 18.7 +1.6**
baz=290
FINES **FINESS Array B** **74.36 331** P **P** **00 55 17.8 0.0**
FINES **FINESS Array B** **74.36 331** *i* P **P** **00 55 18.2 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES **FINESS Array B** **74.36 331** P **P** **00 55 18.1 +0.2**
comp=Z,4.5nm,0.7s,baz=69,slow=5.6,SNR=32
FINES LR LR 01 33 26.9
comp=Z,152nm,19.5s,baz=79,slow=40
comp=Z,4.5nm,0.7s
C36M **Paulatuk** **74.47 20** P **P** **00 55 18.4 +0.2**
C36M IAmb IAmb 00 55 19.9
comp=Z,28nm,1.4s
C36M **Paulatuk** **74.47 20** P **P** **00 55 19.1 +0.8**
baz=296,SNR=8.4
P33M **Teslin, Yukon** **74.67 31** P **P** **00 55 20.9 +1.0**
baz=291
GAZ **Gaziantep** **75.72 304** P **P** **00 55 25.9 -0.4**
GAZ IAmb IAmb 00 55 27.9
comp=Z,10nm,0.8s
MNK **Minsk** **75.95 324** *i* P **P** **00 55 26.9 -0.2**
MNK *i* 00 58 17.2
MNK *i* PPP PPP 01 00 03.3
MNK *i* S **S** **01 05 09.4 +0.3**
MNK *i* SS **SS** **01 10 02.3 +1.3**
MNK *i* SSS SSS 01 13 25.1
MNK pmax pmax
comp=Z,13nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.3s
MNK pmax pmax
comp=N,11nm,1.3s
MNK MLR MLR
comp=N,155nm,17.0s
MNK MLR MLR
comp=E,86nm,20.0s
MNK MLR MLR
comp=Z,196nm,14.0s
BNN **Bunyan** **76.19 306** P **P** **00 55 28.5 -0.5**
TGTN **Hyland Airport** **76.22 28** P **P** **00 55 30.4 +1.8**
baz=294,SNR=7.5
AKASG **Malin Array Be** **76.55 320** P **P** **00 55 30.0 -0.6**
comp=Z,2.3nm,0.6s,baz=57,slow=6.2,SNR=14
AKASG LR LR 01 32 56.5
comp=Z,175nm,18.8s,baz=38,slow=39
comp=Z,2.3nm,0.6s
WTLY **Watson Lake, Y** **76.57 30** P **P** **00 55 32.5 +1.9**
baz=294,SNR=6.9
WRGLY **Wrigley** **77.48 26** P **P** **00 55 37.0 +1.4**
baz=298
BR131 **Keskin Array S** **77.50 308** P **P** **00 55 35.4 -1.0**
BR131 IAmb IAmb 00 55 37.5
comp=Z,12nm,1.1s
BR131 **Keskin Array S** **77.50 308** P **P** **00 55 35.4 -1.0**
BR131 pmax pmax
comp=Z,12nm,1.1s
BRTR **Keskin Array B** **77.50 308** P **P** **00 55 36.6 +0.2**
comp=Z,5.4nm,0.9s,baz=96,slow=5.0,SNR=17
BRTR LR LR 01 32 47.8
comp=Z,100nm,20.0s,baz=68,slow=38
comp=Z,5.4nm,0.9s
DAG **Danmarks Havn** **77.52 352** *i* P **P** **00 55 35.0 -0.6**
DAG IAmb IAmb 00 55 49.2
comp=Z,1.9nm,0.8s
PABE **Paberze** **77.65 325** P **P** **00 55 36.2 -0.5**
URZ **Urewera** **77.68 142** LR LR 01 23 39.7
comp=Z,43nm,21.9s,baz=100,slow=31
RTZ **Ruatahuna** **77.86 142** P **P** **00 55 37.8 -0.3**
RTZ IAmb IAmb 00 55 51.9
comp=Z,21nm,0.8s
RES **Resolute Bay** **78.21 10** P **P** **00 55 39.6 +0.1**
RES IAmb IAmb 00 55 41.4
comp=Z,19nm,1.4s
RES **Resolute Bay** **78.21 10** P **P** **00 55 39.6 +0.1**
RES pmax pmax
comp=Z,19nm,1.4s
RES **Resolute Bay** **78.21 10** LR LR 01 32 51.0
comp=Z,111nm,19.5s,baz=8.0,slow=38
RPZ **Rata Peaks** **78.48 149** LR LR 01 29 04.1
comp=Z,32nm,19.7s,baz=292,slow=35
MMAI **Mount Meron Ar** **78.53 301** P **P** **00 55 41.9 -0.2**
comp=Z,5.0nm,0.9s,baz=57,slow=9.1,SNR=5.6
MMAI LR LR 01 35 46.0
comp=Z,70nm,18.4s,baz=51,slow=40
comp=Z,5.0nm,0.9s
SUW **Suwalki** **78.68 324** P **P** **00 55 40.2 -2.1**
SUW **Suwalki** **78.68 324** P **P** **00 55 40.3 -2.1**
GHAJ **Ghor Haditha** **79.01 299** P **P** **00 55 44.0 -0.7**
GHAJ IAmb IAmb 00 55 46.3
comp=Z,17nm,1.0s

NEEM **North Greenlan** **79.02 360** *i* P **P** **00 55 44.6 +0.4**
NEEM IAmb IAmb 00 56 03.1
comp=Z,6.7nm,0.7s
CSS **Mathiatis** **79.43 303** P **P** **00 55 46.2 -0.8**
CSS IAmb IAmb 00 55 47.7
comp=Z,12nm,0.7s
EIL **Elat** **80.10 298** LR LR 01 33 31.8
comp=Z,95nm,21.7s,baz=34,slow=37
BUR08 **Bucovina Ar. S** **80.16 318** P **P** **00 55 50.6 -0.3**
BURAR **Bucovina Array** **80.16 318** P **P** **00 55 50.5 -0.3**
BURAR **Bucovina Array** **80.16 318** P **P** **00 55 52.3 +1.5**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
HFS **Hagfors** **80.38 332** P **P** **00 55 51.8 +0.2**
comp=Z,7.0nm,0.8s,baz=89,slow=6.1,SNR=11
HFS LR LR 01 35 49.1
comp=Z,273nm,19.1s,baz=52,slow=39
comp=Z,7.0nm,0.8s
MLR **Muntele Rosu** **80.58 316** LR LR 01 36 46.5
comp=Z,125nm,18.9s,baz=64,slow=40
NC405 **NORSAR Array S** **80.69 334** P **P** **00 55 52.7 -0.5**
NC405 IAmb IAmb 00 55 57.8
comp=Z,18nm,0.9s
KWP **Kalwaria Pacla** **80.82 320** P **P** **00 55 53.7 -0.5**
KWP **Kalwaria Pacla** **80.82 320** P **P** **00 55 53.7 -0.5**
KWP pmax pmax
comp=Z,63nm,1.8s
NB2 **NORSAR Subarra** **80.94 334** P **P** **00 55 54.0 -0.6**
comp=Z,8.2nm,0.9s,baz=55,slow=5.3
NOA **NORSAR Array B** **80.94 334** P **P** **00 55 54.5 -0.1**
comp=Z,5.9nm,0.9s,baz=56,slow=5.1,SNR=13
NOA LR LR 01 35 43.6
comp=Z,183nm,18.7s,baz=60,slow=39
comp=Z,5.9nm,0.9s
YKA **Yellowknife Ar** **81.32 24** P **P** **00 55 55.9 -0.6**
YKA **Yellowknife Ar** **81.32 24** *i* P **P** **00 55 57.5 +1.0**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA **Yellowknife Ar** **81.32 24** P **P** **00 55 56.7 +0.2**
comp=Z,3.3nm,0.8s,baz=302,slow=5.2,SNR=40
comp=Z,3.3nm,0.8s
KOLS **Kolonicke sedl** **81.38 320** *e*P **P** **00 56 01.0 +3.8**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS **Kolonicke sedl** **81.38 320** *e*P **P** **00 56 01.0 +3.8**
OJC **Ojcow** **82.23 322** P **P** **00 56 00.3 -1.2**
OJC **Ojcow** **82.23 322** P **P** **00 56 00.4 -1.2**
OJC pmax pmax
comp=Z,9.0nm,1.1s
SUMG **Summit** **83.39 356** P **P** **00 56 07.8 0.0**
SUMG IAmb IAmb 00 56 35.0
comp=Z,26nm,1.2s
SUMG **Summit** **83.39 356** P **P** **00 56 07.8 0.0**
SUMG pmax pmax
comp=Z,26nm,1.2s
SUMG **Summit** **83.39 356** *i* P **P** **00 56 08.0 +0.3**
SUMG IAmb IAmb 00 56 25.8
comp=Z,7.6nm,1.0s
VYHS **Vyhne** **83.60 320** *e*P **P** **00 56 09.8 +1.0**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS **Vyhne** **83.60 320** *e*P **P** **00 56 09.8 +1.0**
MORC **Moravsky Berou** **83.72 322** *e*P **P** **00 56 10.1 +0.7**
JAVC **Velka Javorina** **84.10 321** *e*P **P** **00 56 11.6 +0.2**
DPC **Dobruska-Polom** **84.12 323** *e*P **P** **00 56 10.8 -0.6**
DPC **Dobruska-Polom** **84.12 323** *e*P **P** **00 56 10.8 -0.6**
RAR **Rarotonga** **84.30 116** LR LR 01 26 00.9
comp=Z,24nm,21.6s,baz=54,slow=30
VRAC **Vranov** **84.49 322** *e*P **P** **00 56 14.2 +0.9**
VRAC **Vranov** **84.49 322** LR LR 01 36 27.1
comp=Z,149nm,18.1s,baz=60,slow=38
KRUC **Moravsky** **84.73 322** *e*P **P** **00 56 15.2 +0.7**
BRLDA **Berland Lookou** **84.92 32** P **P** **00 56 14.4 -1.1**
BRG **Berggiesshubel** **85.14 324** *e*P **P** **00 56 17.2 +0.7**
BRG Amp 00 56 18.3
comp=Z,16nm,1.4s
BRG **Berggiesshubel** **85.14 324** *e*P **P** **00 56 17.2 +0.7**
BRG pmax pmax
comp=Z,16nm,1.4s
BRG **Berggiesshubel** **85.14 324** *e*P **P** **00 56 16.7 +0.1**
comp=Z,16nm,1.4s,baz=56,slow=6.0
BSEG **Bad Segeberg** **85.31 328** *e*P **P** **00 56 17.8 +0.6**
comp=Z,14nm,1.1s,baz=56,slow=6.0
GORT1 **Trebel** **85.36 327** *e*P **P** **00 56 19.2 +1.7**
comp=Z,26nm,1.2s,baz=56,slow=6.0
CLL **Collm** **85.41 325** P **P** **00 56 16.9 -0.9**
CLL IAmb IAmb 00 56 19.2
comp=Z,11nm,1.1s
CLL **Collm** **85.41 325** *i* P **P** **00 56 18.0 +0.2**
CLL *i* 00 56 21.4
CLL pmax pmax
comp=Z,14nm,1.3s
CLL MLR MLR
comp=Z,400nm,19.3s
CLL **Collm** **85.41 325** *i* P **P** **00 56 18.0 +0.2**
comp=Z,14nm,1.3s
CLL *i* pP **pP** **00 56 21.4 +0.2**
CLL *i* x x 00 56 40.4
CLL AMS AMS 01 38 00.0
comp=Z,400nm,19.3s
CLL **Collm** **85.41 325** *e*P **P** **00 56 17.6 -0.2**
comp=Z,10.0nm,1.1s,baz=56,slow=6.0
RONA **Rosalia, Austr** **85.47 321** PcP **PcP** **00 56 20.3 -1.0**
comp=Z,5.7nm,2.0s
CONA **Conrad Observa** **85.61 321** *e*PcP **P** **00 56 20.1 +1.1**
comp=Z,10nm,1.2s
IDI **Anoyia** **85.64 307** LR LR 01 39 14.7
comp=Z,36nm,18.3s,baz=94,slow=39
FLTG **Flechtingen** **85.76 326** *e*P **P** **00 56 19.4 -0.1**
comp=Z,17nm,1.4s,baz=56,slow=6.0
ZVC **Zvikov** **85.77 323** *e*P **P** **00 56 20.0 +0.3**
CKRC **Cesky Krumlov** **86.03 322** *e*P **P** **00 56 25.0 +4.0**
CKRC **Cesky Krumlov** **86.03 322** *e*P **P** **00 56 25.0 +4.0**
NEUB **Neuenburg** **86.11 325** *e*P **P** **00 56 21.6 +0.3**
comp=Z,16nm,1.3s,baz=56,slow=6.0
ARSA **Arzberg** **86.16 320** *e*PcP **PcP** **00 56 23.2 -1.1**
comp=Z,4.8nm,0.9s
KHC **Kasperske Hory** **86.27 323** *ce*P **P** **00 56 23.5 +1.3**
KHC pmax pmax
comp=Z,19nm,2.5s
KHC **Kasperske Hory** **86.27 323** *e*P **P** **00 56 22.6 +0.4**
PLN **Plauen** **86.31 324** *e*P **P** **00 56 22.8 +0.5**
comp=Z,12nm,1.4s,baz=56,slow=6.0
GEC2 **GERESS Array S** **86.36 322** *e*P **P** **00 56 22.8 +0.1**
comp=Z,4.6nm,1.0s,baz=56,slow=6.0
GERES **GERESS Array B** **86.36 322** P **P** **00 56 21.6 -1.1**
GERES **GERESS Array B** **86.36 322** P **P** **00 56 22.2 -0.5**
comp=Z,2.6nm,0.9s,baz=35,slow=4.9,SNR=12
GERES LR LR 01 37 37.1
comp=Z,187nm,20.6s,baz=55,slow=38
comp=Z,2.6nm,0.9s
CLZ **Clausthal** **86.48 326** *e*P **P** **00 56 24.1 +0.9**
comp=Z,11nm,1.0s,baz=56,slow=6.0
MOX **Moxa** **86.51 325** *e*P **P** **00 56 23.9 +0.6**
comp=Z,15nm,1.5s,baz=56,slow=6.0
MOA **Molln** **86.57 321** PcP **P** **00 56 24.5 +0.8**
comp=Z,8.8nm,2.0s
ROTZ **Rotzenmuhle** **86.68 324** *e*P **P** **00 56 24.9 +0.8**
comp=Z,1.7nm,1.3s,baz=56,slow=6.0
SOKA **Soboth** **86.74 320** *e*PcP **P** **00 56 25.2 +0.6**
comp=Z,10nm,1.7s
HOOD **Mount Hood Mea** **87.36 41** P **P** **00 56 26.5 -1.3**
EDM **Edmonton** **87.39 31** P **P** **00 56 27.2 -0.4**
EDM **Edmonton** **87.39 31** P **P** **00 56 27.2 -0.4**
EDM pmax pmax
comp=Z,27nm,1.1s
KBA **Koelnbreinsper** **87.51 321** *e*pP pP 00 56 30.3 -1.5
comp=Z,6.3nm,1.4s
IBBN **Ibbenburen** **87.52 327** *e*P **P** **00 56 32.2 +4.1**
comp=Z,17nm,1.1s,baz=56,slow=6.0
LESA **Schwarzleotal** **87.70 322** *e*P **P** **00 56 29.3 0.0**
comp=Z,9.6nm,2.0s
E07A **Sunnyside** **87.76 39** P **P** **00 56 29.6 0.0**
E07A IAmb IAmb 00 56 32.4
comp=Z,16nm,1.1s
ABTA **Abfaltersbach** **88.17 321** *e*P **P** **00 56 30.9 -0.6**
comp=Z,4.7nm,1.3s
NEW **Newport** **88.36 37** P **P** **00 56 30.6 -1.8**
NEW IAmb IAmb 00 56 34.3
comp=Z,8.0nm,1.0s
NEW **Newport** **88.36 37** P **P** **00 56 30.6 -1.8**
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW **Newport** **88.36 37** P **P** **00 56 34.1 +1.7**
baz=305,SNR=5.4
BORG **Borgarnes** **88.39 347** LR LR 01 39 34.1
comp=Z,63nm,18.4s,baz=35,slow=38
YBH **Yreka Blue Hor** **88.56 45** P **P** **00 56 31.9 -1.6**
YBH **Yreka Blue Hor** **88.56 45** P **P** **00 56 31.9 -1.6**
YBH pmax pmax
comp=Z,30nm,1.5s
L04D **Klamath Falls** **88.56 44** P **P** **00 56 32.5 -1.0**
SFJD **Kangerlussuaq** **89.51 359** LR LR 01 38 03.6
comp=Z,80nm,19.1s,baz=336,slow=36
FUORN **Ofenpass-Fuorn** **89.52 322** P **P** **00 56 36.0 -2.1**
DAVOX **Davos/Dischmat** **89.64 322** LR LR 01 40 43.3
comp=Z,199nm,21.3s,baz=31,slow=38
KMBO **Kilima Mbogo** **90.00 269** *i* P **P** **00 56 39.4 -1.5**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO **Kilima Mbogo** **90.00 269** P **P** **00 56 39.8 -1.1**
comp=Z,5.1nm,1.0s,baz=20,slow=6.8,SNR=7.0
KMBO LR LR 01 36 40.6
comp=Z,28nm,20.8s,baz=90,slow=35
comp=Z,5.1nm,1.0s
TUE **Stuetta** **90.12 322** P **P** **00 56 39.5 -1.3**
TUE IAmb IAmb 00 56 42.8
comp=Z,22nm,1.6s
MSO **Missoula** **90.95 37** P **P** **00 56 46.0 +1.4**
baz=307,SNR=5.1
FCC **Fort Churchill** **91.11 20** P **P** **00 56 44.2 -0.7**
FCC IAmb IAmb 00 56 60.0
comp=Z,13nm,1.2s
FCC **Fort Churchill** **91.11 20** P **P** **00 56 44.2 -0.7**
FCC pmax pmax
comp=Z,13nm,1.2s
PPT **Papeete** **91.35 108** LR LR 01 28 20.9
comp=Z,30nm,21.4s,baz=307,slow=29
PPT2 **Papeete2** **91.36 109** *e*LR LR 01 25 57.0
PPT2 *e*LR LR 01 26 06.8
comp=Z,121nm,33.0s
FFC **Flin Flon** **91.39 26** P **P** **00 56 45.2 -1.1**
FFC IAmb IAmb 00 56 48.3
comp=Z,17nm,1.1s
FFC **Flin Flon** **91.39 26** P **P** **00 56 45.2 -1.1**
FFC pmax pmax
comp=Z,17nm,1.1s
BPMT **Black Pine Rid** **91.46 37** P **P** **00 56 46.4 -0.8**
MFID **Camas Ranch** **91.89 40** P **P** **00 56 48.6 -0.4**
MFID IAmb IAmb 00 56 52.0
comp=Z,9.1nm,1.1s
FRB **Frobisher Bay** **91.96 7** LR LR 01 40 33.0
comp=Z,122nm,20.1s,baz=357,slow=37
EGMT **Eagleton** **92.43 34** P **P** **00 56 50.6 -0.8**
EGMT **Eagleton** **92.43 34** P **P** **00 56 52.8 +1.4**
baz=310,SNR=6.7
HLID **Hailey** **92.64 40** P **P** **00 56 52.1 -0.4**
HLID IAmb IAmb 00 56 58.7
comp=Z,9.6nm,1.0s
HLID **Hailey** **92.64 40** P **P** **00 56 54.8 +2.3**
baz=307,SNR=12
BOZ **Bozeman (W)** **92.97 37** P **P** **00 56 53.2 -0.8**
BOZ IAmb IAmb 00 56 56.5
comp=Z,6.8nm,1.1s
BOZ **Bozeman (W)** **92.97 37** P **P** **00 56 53.2 -0.8**
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ **Bozeman (W)** **92.97 37** P **P** **00 56 55.8 +1.7**
baz=309,SNR=5.5
NVAR **Mina Array Bea** **93.17 46** P **P** **00 56 54.0 -1.2**
NVAR **Mina Array Bea** **93.17 46** P **P** **00 56 56.7 +1.5**
comp=Z,3.2nm,0.9s,baz=275,slow=6.2,SNR=12
comp=Z,3.2nm,0.9s
ELK **Elko** **93.80 42** P **P** **00 56 56.8 -1.3**
ELK IAmb IAmb 00 57 00.2
comp=Z,20nm,1.9s
ELK **Elko** **93.80 42** P **P** **00 56 56.8 -1.3**
ELK pmax pmax
comp=Z,20nm,2.0s
ELK **Elko** **93.80 42** LR LR 01 35 35.5
comp=Z,76nm,20.1s,baz=316,slow=33
TBI **Tubuai** **93.81 114** *e*LR LR 01 27 07.6
comp=Z,328nm,31.2s
YMR **Madison River** **93.92 37** P **P** **00 56 57.2 -1.3**
YMR IAmb IAmb 00 57 04.8
comp=Z,5.9nm,0.9s
TPH **Tonopah** **94.08 45** P **P** **00 56 57.9 -1.5**
TPH **Tonopah** **94.08 45** P **P** **00 56 57.9 -1.5**
TPH pmax pmax
comp=Z,35nm,1.0s
H17A **Grant Village** **94.31 37** P **P** **00 57 04.3 +4.0**
baz=309,SNR=5.9
FLWY **Flagg Ranch** **94.44 38** P **P** **00 57 00.2 -0.7**
FLWY IAmb IAmb 00 57 07.3
comp=Z,14nm,1.3s
R11B **Troy Canyon, C** **94.98 44** P **P** **00 57 05.0 +1.6**
baz=306
TPNV **Topopah Spring** **95.35 46** P **P** **00 57 07.2 +2.1**
baz=305
PDAR **Pinedale Array** **95.92 38** P **P** **00 57 08.8 +1.0**
comp=Z,1.1nm,0.8s,baz=294,slow=1.5,SNR=7.9
comp=Z,1.1nm,0.8s
KEST **Kesra** **96.34 313** LR LR 01 48 05.3
comp=Z,73nm,18.1s,baz=245,slow=40
PFO **Pinyon Flats O** **97.11 49** LR LR 01 41 35.5
comp=Z,50nm,18.1s,baz=332,slow=36
SDV **Santo Domingo** **143.37 30** PKPdf PKPbc 01 03 12.7 -0.3
SDV **Santo Domingo** **143.37 30** *e*P **PKPdf** **01 03 15.9 -0.1**
PTBC **PUERTO BERRIO** **143.45 37** *e*P PKPab 01 03 08.7 -3.3
GUY2C **Guyana, Caldas** **144.00 40** *e*P PKPbc 01 03 15.2 -0.1
BARC **Barichara** **144.09 35** *e*P **PKPdf** **01 03 16.4 -1.0**
YOTC **Yotoco, Valle** **144.40 42** *e*P **PKPab** **01 03 13.4 -2.4**
BAUV **El Baul** **144.42 26** PKPdf **PKPab** **01 03 14.8 -0.8**
JAMC **Jamundi, Valle** **144.79 44** *e*P **PKPab** **01 03 15.8 -1.6**
ORTC **Ortega, Tolima** **145.12 41** *e*P **PKPbc** **01 03 17.6 -0.7**
BBAC **Balboa, Cauca** **145.33 46** *e*P **PKPbc** **01 03 15.8 -3.4**
PPLP **Puerto Lpez** **145.37 54** *e*P **PKPbc** **01 03 16.6 -2.5**
PRAC **Prado** **145.50 41** *e*P **PKPbc** **01 03 17.4 -2.1**
VILC **Villavicencio,** **145.87 38** *e*P **PKPdf** **01 03 17.9 -2.3**
BONI **La Bonita** **146.30 48** *e*P **PKPdf** **01 03 19.3 -1.8**
PIAT **Ana Tenorio** **146.83 51** *e*P PKPdf 01 03 09.9 -12
COHC **Cochancay** **147.11 54** *e*P PKPdf 01 03 14.1 -8.1
MCRA **Macar, Loja** **147.82 57** **PKPbc** **01 03 25.0 -1.3**
MCRA **Macar, Loja** **147.82 57** *e*P **PKPdf** **01 03 24.8 +1.3**
BOSC **San Juan Bosco** **148.13 54** **PKPdf** **01 03 25.6 +1.5**
SAML **Samuel** **162.47 35** **PKPab** **01 04 28.6 -2.0**
SAML **Samuel** **162.47 35** PKP2 **PKPab** **01 04 28.6 -2.0**

IDC 11 01:19:11.4±4.9, 6.74S×149.22E, h92km±43km, mb3.1/3, mbtmp3.6/5, Error ellipse: s-maj=79.6km s-min=35.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**3.34**	**218**	P		Pn	01 20 01.7	0.0
	18nm,0.4s,baz=4.4,slow=4.6,SNR=7.4							
PMG				S		Sn	01 20 40.9	+0.4
	55nm,0.6s,baz=346,slow=19,SNR=9.5							
WRA	**Warramunga Arr**	**19.52**	**226**	P		P	01 23 31.2	-0.4
	1.7nm,0.4s,baz=52,slow=11,SNR=26							
ASAR	**Alice Springs**	**22.36**	**220**	P		P	01 24 03.0	+0.8
	1.3nm,0.7s,baz=58,slow=9.8,SNR=16							
	1.3nm,0.7s							
MKAR	**Makanchi Array**	**79.48**	**320**	P		P	01 31 07.7	-0.3
	0.2nm,0.7s,baz=106,slow=4.1,SNR=2.7							
	0.2nm,0.7s							
ILAR	**Eielson Array**	**85.30**	**23**	P		P	01 31 38.0	+0.1
	0.2nm,0.8s,baz=260,slow=5.4,SNR=1.7							
	0.2nm,0.8s							

IDC 11 01:26:17.8±7.2, 5.15S×141.20E, h0km, mb3.4/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=265.3km s-min=35.9km az=92.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**16.16**	**204**	Pn		Pn	01 30 07.8	+1.4
	0.2nm,0.3s,baz=21,slow=13,SNR=17							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**19.71**	**200**	P		P	01 30 48.3	-0.7
	0.1nm,0.3s,baz=29,slow=10,SNR=5.4							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**73.22**	**322**	P		P	01 37 50.9	+0.1
	0.2nm,0.6s,baz=104,slow=4.6,SNR=3.6							
	0.2nm,0.6s							

*IDC **11** 01:58:19.2±0.8, 46.56N×129.67E, h0km, mb3.6/9, mbtmp3.5/13, ML3.0/4, Error ellipse: s-maj=15.5km*

s-min=12.7km az=53.0
SKHL 11 01:58:21.2±0.5, 46°.51N×129°.72E, h9km±3km, mb3.9/3
ISC 11 01:58:21.2±0.6, 46°.56N±0°.03×129°.54E±0°.06, h10km, n21, σ1s81/32, mb3.6/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**2.92**	**143**	Pn	**Pn**	**01 59 06.5**	**-1.1**
	3.5nm,0.3s,baz=331,slow=14,SNR=27						
USRK				Pg	**Pb**	**01 59 12.1**	**-1.2**
	18nm,0.3s,baz=333,slow=18,SNR=32						
USRK				Lg	Lg	01 59 49.1	
	48nm,0.3s,baz=329,slow=28,SNR=15						
USRK				Rg	Rg	02 00 07.2	
	49nm,0.6s,baz=324,slow=31,SNR=4.6						
	9.9nm,0.4s						
USRK	**Ussuriysk Ar.**	**2.92**	**143**	*e*Pn	**Pn**	**01 59 06.5**	**-1.1**
USRK				*e*Pg	**Pb**	**01 59 12.1**	**-1.2**
USRK				AMB	AMB	01 59 12.5	
	18nm,0.3s						
USRK				*e*Sg	**Sb**	**01 59 49.1**	**+0.1**
USRK				A	A	01 59 49.8	
	46nm,0.3s						
KLR	**Kul'dur**	**3.06**	**28**	Pn	**Pn**	**01 59 08.5**	**-1.1**
	2.5nm,0.3s,baz=199,slow=17,SNR=46						
KLR				Pg	**Pb**	**01 59 13.6**	**-2.1**
	8.4nm,0.3s,baz=234,slow=13,SNR=26						
KLR				Lg	Lg	01 59 55.1	
	16nm,0.3s,baz=177,slow=23,SNR=4.9						
	7.7nm,0.4s						
KLR	**Kul'dur**	**3.06**	**28**	*e*Pn	**Pn**	**01 59 09.6**	**0.0**
KLR				*e*Pg	**Pb**	**01 59 16.6**	**+0.9**
KLR				*e*Sg	**Sb**	**01 59 56.7**	**+3.6**
GRTR	**Gornotajezhnoj**	**3.40**	**146**	*e*Pn	**Pn**	**01 59 13.4**	**-0.8**
GRTR				*e*Pg	**Pb**	**01 59 21.0**	**-0.4**
GRTR				AMB	AMB	01 59 21.9	
	16nm,0.4s						
GRTR				*e*Sg	**Sb**	**02 00 05.1**	**+2.4**
GRTR				A	A	02 00 08.4	
	57nm,0.3s						
PSTR	**Posyet**	**4.01**	**167**	*e*Pg	**Pb**	**01 59 32.9**	**+1.1**
PSTR				AMB	AMB	01 59 35.1	
	7.0nm,0.3s						
PSTR				*e*Sg	**Sb**	**02 00 24.2**	**+4.0**
PSTR				A	A	02 00 26.0	
	80nm,0.3s						
KHBR	**Khabarovsk**	**4.20**	**61**	*e*Pg	**Pb**	**01 59 35.0**	**-0.1**
KHBR				*e*Sg	**Sb**	**02 00 28.9**	**+3.1**
KHBR				A	A	02 00 30.2	
	97nm,0.3s						
TEY	**Ternei**	**5.17**	**105**	*e*Pn	**Pn**	**01 59 38.0**	**-0.5**
TEY				*e*Sg	**Sb**	**02 00 58.2**	**+4.6**
TEY				A	A	02 01 03.0	
	41nm,0.4s						
KSRS	**Korea Array**	**9.17**	**188**	Lg	Lg	02 03 11.5	
	0.4nm,0.3s,baz=4.6,slow=29,SNR=4.6						
SONM	**Songino Array**	**15.78**	**283**	Pn	**Pn**	**02 02 04.1**	**+0.7**
	0.1nm,0.3s,baz=82,slow=11,SNR=1.9						
SONM				Sn	**Sn**	**02 05 00.7**	**+2.5**
	0.1nm,0.3s,baz=92,slow=25,SNR=1.5						
SONM				Lg	Lg	02 06 42.1	
	0.1nm,0.3s,baz=100,slow=24,SNR=2.1						
	0.2nm,0.4s						
PETK	**Petropavlovsk-**	**19.23**	**60**	P	**P**	**02 02 45.4**	**+0.1**
	baz=269,slow=12,SNR=2.1						
	5.5nm,1.0s						
MKAR	**Makanchi Array**	**32.04**	**288**	P	**P**	**02 04 47.9**	**+0.1**
	0.3nm,0.8s,baz=67,slow=8.0,SNR=2.1						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**33.44**	**296**	P	**P**	**02 05 00.0**	**+0.1**
	0.7nm,0.6s,baz=81,slow=9.5,SNR=6.3						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**37.77**	**302**	P	**P**	**02 05 38.7**	**+1.6**
	0.2nm,0.4s,baz=71,slow=6.2,SNR=1.7						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**46.61**	**36**	P	**P**	**02 06 47.9**	**-1.0**
	0.4nm,0.7s,baz=284,slow=8.4,SNR=7.1						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**56.12**	**326**	P	**P**	**02 07 59.8**	**-0.4**
	1.7nm,0.6s,baz=52,slow=7.5,SNR=15						
	1.7nm,0.6s						
YKA	**Yellowknife Ar**	**59.92**	**29**	P	**P**	**02 08 25.7**	**-1.1**
	0.3nm,0.9s,baz=315,slow=6.9,SNR=2.5						
	0.3nm,0.9s						
NB2	**NORSAR Subarra**	**61.78**	**331**	P	**P**	**02 08 38.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=43,slow=6.5						
NOA	**NORSAR Array B**	**61.78**	**331**	P	**P**	**02 08 38.6**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=41,slow=6.9,SNR=3.2						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**75.90**	**49**	P	**P**	**02 10 08.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=311,slow=6.8,SNR=3.6						
	comp=Z,0.3nm,0.5s						
TXAR	**Lajitas Array**	**90.47**	**44**	P	**P**	**02 11 21.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=323,slow=2.3,SNR=1.6						
	comp=Z,0.1nm,0.3s						

DJA 11 02:03:45.9±0.2, 10°.3S×112°.2E±°, h104km±4km, M4.8/19, mb4.5/19, mB5.5/7, MLv4.7/17, Mw(mB)5.0/7
NEIC 11 02:03:45.2±2.1, 9°.62S±0°.03×121°.54E±0°.09, h80km±9km, mb4.6/37, Error ellipse: s-maj=13.0km s-min=3.7km az=75.0
IDC 11 02:03:48.4±2.4, 9°.38S×121°.55E, h99km±20km, mb4.1/16, mbtmp4.5/18, MS3.1/4, Error ellipse: s-maj=26.3km s-min=12.2km az=66.0
ISC 11 02:03:47.0±0.3, 9°.63S±0°.04×121°.69E±0°.05, h100km, n151, σ2s25/144, mb4.6/32, 1C, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.13**	**29**	Pn	**Pn**	**02 04 05.5**	**-3.3**
MMRI	**Maumere**	**1.13**	**29**	P	**Pn**	**02 04 06.0**	**-2.9**
MMRI	**Maumere**	**1.13**	**29**	P	**Pn**	**02 04 05.9**	**-2.9**
MMRI				S	**Sn**	**02 04 19.9**	**-5.4**
BASI	**Baing, Sumba**	**1.24**	**242**	P	**Pn**	**02 04 08.2**	**-2.0**
BASI				S	**Sn**	**02 04 25.2**	**-2.5**
SOEI	**Soe**	**2.54**	**93**	Pn	**Pn**	**02 04 27.7**	**+0.9**
SOEI	**Soe**	**2.54**	**93**	P	**Pn**	**02 04 28.7**	**+1.9**
DBNI	**Kabupaten Domp**	**3.52**	**288**	P	**Pn**	**02 04 39.0**	**-0.8**
PLAI	**Plampang**	**3.95**	**281**	P	**Pn**	**02 04 43.6**	**-1.9**
PLAI	**Plampang**	**3.95**	**281**	P	**Pn**	**02 04 43.8**	**-1.7**
BBSI	**Bau Bau**	**4.21**	**12**	P	**Pn**	**02 04 48.9**	**-0.2**
BKSI	**Bulukumba**	**4.55**	**340**	P	**Pn**	**02 04 52.3**	**-1.4**
TWSI	**Taliwang, Sumb**	**4.83**	**280**	P	**Pn**	**02 04 56.4**	**-1.1**
MKS	**Makassar**	**4.91**	**333**	P	**Pn**	**02 04 57.7**	**-0.8**
KAPI	**Kappang**	**4.97**	**337**	Pn	**Pn**	**02 04 56.5**	**-2.9**
KAPI	**Kappang**	**4.97**	**337**	P	**Pn**	**02 04 58.0**	**-1.5**
	72nm,0.5s,baz=172,slow=10,SNR=22						
KAPI				S	**Sn**	**02 05 51.3**	**-4.5**
	20nm,0.3s,baz=47,slow=22,SNR=1.2						
KAPI				LR	LR	02 07 04.8	
	comp=Z,181nm,20.7s,baz=140,slow=42						
SPSI	**Sidrap Palu**	**5.94**	**341**	P	**Pn**	**02 05 12.9**	**+0.3**
	40nm,0.5s,1μm0.2nm						
IGBI	**Denpasar**	**6.51**	**277**	P	**Pn**	**02 05 17.5**	**-2.8**
SRBI	**Singaraja**	**6.58**	**283**	P	**Pn**	**02 05 18.3**	**-3.0**
	43nm,0.8s,0.3nm						
PMSI	**Majene**	**6.69**	**335**	P	**Pn**	**02 05 22.5**	**-0.2**
	133nm,1.1s,0.4nm						
TTSI	**Tana Toraja**	**6.80**	**344**	P	**Pn**	**02 05 23.4**	**-0.9**
	55nm,1.0s,1μm0.3nm						
MMSI	**Mamuju**	**7.43**	**338**	P	**Pn**	**02 05 32.4**	**-0.4**
	12nm,0.9s,0.1nm						
JAGI	**Jajag, Banyuwa**	**7.54**	**278**	Pn	**Pn**	**02 05 29.9**	**-4.3**
JAGI	**Jajag, Banyuwa**	**7.54**	**278**	P	**Pn**	**02 05 30.1**	**-4.1**
JAGI	**Jajag, Banyuwa**	**7.54**	**278**	P	**Pn**	**02 05 30.0**	**-4.3**
ABJI	**Asem Bagus**	**7.59**	**283**	P	**Pn**	**02 05 32.7**	**-2.3**
	42nm,1.1s,0.3nm						
BLJI	**Banyuglugur**	**8.22**	**283**	P	**Pn**	**02 05 40.0**	**-3.6**
NLAI	**Namlea**	**8.32**	**41**	P	**Pn**	**02 05 45.7**	**+0.8**
	60nm,1.0s						
KBKI	**Kotabaru**	**8.35**	**319**	P	**Pn**	**02 05 44.1**	**-1.2**
	4μm,0.7s						
LUWI	**Luwuk**	**8.60**	**7**	Pn	**Pn**	**02 05 47.5**	**-1.2**
LUWI	**Luwuk**	**8.60**	**7**	P	**Pn**	**02 05 49.2**	**+0.5**
	57nm,0.9s						
SANI	**Sanana**	**8.66**	**30**	P	**Pn**	**02 05 50.6**	**+1.1**
	52nm,1.3s						
KNRA	**Kununurra**	**9.15**	**132**	Pn	**Pn**	**02 05 54.9**	**-1.2**
KNRA	**Kununurra**	**9.15**	**132**	P	**Pn**	**02 05 55.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**9.25**	**156**		**Pn**	**02 05 56.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**9.25**	**156**	P	**Pn**	**02 05 58.1**	**+0.6**
MTN	**Manton Dam**	**9.80**	**110**	Pn	**Pn**	**02 06 03.0**	**-2.0**
MTN	**Manton Dam**	**9.80**	**110**	P	**Pn**	**02 06 03.3**	**-1.7**
SJI	**Sawahan**	**9.99**	**280**	P	**Pn**	**02 06 05.4**	**-2.3**
	41nm,0.5s,8μm						
MPSI	**Mapaga**	**10.06**	**350**	P	**Pn**	**02 06 08.7**	**+0.1**
	6.9nm,1.2s						
GTOI	**Gorontalo**	**10.28**	**7**	P	**Pn**	02 06 14.6	+3.0
	10.0nm,0.7s						
TOLI2	**Tolitoli**	**10.71**	**355**	Pn	**Pn**	**02 06 16.2**	**-1.3**
KDU	**Kakadu**	**11.01**	**107**	P	**Pn**	**02 06 20.3**	**-1.1**
UGM	**Wanagama**	**11.17**	**278**	Pn	**Pn**	**02 06 20.6**	**-3.1**
UGM	**Wanagama**	**11.17**	**278**	P	**Pn**	**02 06 21.1**	**-2.6**
UGM	**Wanagama**	**11.17**	**278**	P	**Pn**	**02 06 20.9**	**-2.8**
	190nm,1.5s						
PSA00	**Pilbara Seismi**	**12.01**	**188**		**Pn**	**02 06 32.6**	**-2.2**
PSA00	**Pilbara Seismi**	**12.01**	**188**	Pn	**Pn**	**02 06 32.8**	**-2.1**
PSA00	**Pilbara Seismi**	**12.01**	**188**	P	**Pn**	**02 06 33.4**	**-1.4**
KPJI	**Karang Pucung**	**12.83**	**279**	P	**Pn**	**02 06 43.5**	**-2.2**
	23nm,1.7s						
SIJI	**Sorong**	**12.90**	**48**	P	**Pn**	**02 06 47.8**	**+1.0**
SWI	**Sorong**	**12.90**	**48**	P	**Pn**	**02 06 47.4**	**+0.7**
	21nm,0.7s						
BBJI	**Bungbulang**	**14.05**	**278**	P	**Pn**	**02 06 58.4**	**-3.4**
GIRL	**Giralia**	**14.78**	**208**	Pn	**Pn**	**02 07 10.3**	**-0.7**
GIRL	**Giralia**	**14.78**	**208**	P	**Pn**	**02 07 10.4**	**-0.7**
WB0	**Warramunga Arr**	**15.88**	**131**	Pn	**Pn**	**02 07 22.8**	**-2.1**
WB0				IAmb	IAmb	02 07 30.2	
	comp=Z,16nm,0.6s						
WRA	**Warramunga Arr**	**15.95**	**131**	P	**Pn**	**02 07 24.2**	**-1.5**
WRA	**Warramunga Arr**	**15.95**	**131**	P	**Pn**	**02 07 24.5**	**-1.2**
	comp=Z,13nm,0.5s,baz=305,slow=15,SNR=140						
WRA				S	**Sn**	**02 10 12.3**	**-10**
	comp=Z,12nm,0.7s,baz=307,slow=25,SNR=12						
WRAB	**Tennant Creek**	**15.95**	**131**	P	**Pn**	**02 07 24.8**	**-0.9**
WRAB				IAmb	IAmb	02 07 26.0	
	comp=Z,22nm,0.6s						
WB2	**Warramunga Arr**	**15.95**	**131**	P	**Pn**	**02 07 24.3**	**-1.5**
WB2				IAmb	IAmb	02 07 26.0	
	comp=Z,26nm,0.6s						
WR0	**Warramunga Arr**	**16.11**	**131**	P	**Pn**	**02 07 25.8**	**-1.9**
WR0				IAmb	IAmb	02 07 33.0	
	comp=Z,21nm,0.6s						
WRKA	**Warakurna**	**16.56**	**159**	P	**P**	**02 07 34.8**	**+0.6**
MEEK	**Meekatharra**	**17.16**	**189**	P	**P**	**02 07 42.9**	**+2.1**
AS31	**Alice Springs**	**18.19**	**142**	P	**Pn**	**02 07 55.1**	**+1.9**
AS31				IAmb	IAmb	02 07 58.5	
	comp=Z,19nm,0.5s						
ASAR	**Alice Springs**	**18.19**	**142**	P	**Pn**	**02 07 55.1**	**+1.9**
ASAR	**Alice Springs**	**18.19**	**142**	P	**Pn**	**02 07 54.9**	**+1.7**
	comp=Z,21nn,0.4s,baz=329,slow=14,SNR=139						
ASAR				S	**S**	**02 11 09.2**	**-6.1**
	comp=Z,4.1nm,0.5s,baz=315,slow=21,SNR=7.9						
ASAR				LR	LR	02 16 22.8	
	comp=Z,53nm,20.5s,baz=336,slow=41						
MORW	**Morawa**	**20.05**	**195**	P	**P**	**02 08 10.8**	**-1.5**
MORW				IAmb	IAmb	02 08 42.2	
	comp=Z,36nm,1.4s						
MORW	**Morawa**	**20.05**	**195**	P	Pn	02 08 15.3	+0.3
QIS	**Mount Isa**	**20.40**	**124**	P	Pn	02 08 19.8	+0.7
COEN	**Coen**	**21.46**	**104**	P	**P**	**02 08 30.0**	**+2.4**
KMBL	**Kambalda**	**21.63**	**180**	P	**P**	**02 08 31.7**	**+2.5**
FORT	**Forrest**	**21.86**	**165**	P	**P**	**02 08 31.3**	**-0.4**
FORT				IAmb	IAmb	02 08 36.2	
	comp=Z,27nm,0.8s						
FORT	**Forrest**	**21.86**	**165**	P	**P**	**02 08 34.6**	**+2.9**
KLBR	**Kellerberrin**	**22.16**	**189**	P	**P**	**02 08 37.5**	**+2.7**
OOD	**Oodnadatta**	**22.37**	**146**	P	**P**	**02 08 40.0**	**+3.0**
MUN	**Mundaring**	**22.81**	**192**	P	**P**	**02 08 43.9**	**+2.4**
NWAO	**Narrogin (SRO)**	**23.55**	**189**	P	**P**	**02 08 48.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**23.55**	**189**	P	**P**	**02 08 51.2**	**+2.8**
NWAO	**Narrogin (SRO)**	**23.55**	**189**	LR	LR	02 19 21.0	
	comp=Z,35nn,19.7s,baz=69,slow=39						
MULG	**Mulgathing**	**23.57**	**152**	P	**P**	**02 08 52.3**	**+3.7**
INKA	**Innaminka**	**25.43**	**138**	P	**P**	**02 09 09.8**	**+4.3**
LCRK	**Leigh Creek**	**25.82**	**146**	P	**P**	**02 09 13.2**	**+4.2**
CTAO	**Charters Tower**	**25.88**	**116**	P	**P**	**02 09 10.3**	**+0.6**
CTAO				IAmb	IAmb	02 09 50.9	
	comp=Z,14nm,1.1s						
BBOO	**Buckleboo**	**26.61**	**152**	P	**P**	**02 09 17.3**	**+1.1**
BBOO	**Buckleboo**	**26.61**	**152**	P	**P**	**02 09 19.6**	**+3.5**
HTT	**Hallett**	**28.51**	**149**	P	P	02 09 37.1	+4.0
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**28.82**	**143**	P	**P**	**02 09 36.0**	**+0.2**
STKA				IAmb	IAmb	02 09 40.5	
	comp=Z,4.6nm,0.6s						
STKA	**Stephens Creek**	**28.82**	**143**	P	P	02 09 39.8	+4.0
STKA	**Stephens Creek**	**28.82**	**143**	P	P	02 09 39.8	+4.0
	comp=Z,20nn,0.5s,baz=319,slow=9.4,SNR=72						
STKA				LR	LR	02 22 38.1	
	comp=Z,42nn,18.0s,baz=29,slow=39						
	comp=Z,20nn,0.5s						
CMSA	**Cobar Meteorol**	**31.16**	**138**	P	P	02 10 01.3	+4.7
ARPS	**Mount Arapiles**	**32.60**	**149**	P	P	02 10 13.8	+4.7
TOO	**Toolangi**	**35.13**	**146**	P	**P**	**02 10 31.2**	**+0.1**
TOO				IAmb	IAmb	02 10 37.4	
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**35.82**	**321**	P	**P**	**02 10 36.9**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=149,slow=6.8,SNR=11						
CMAR				PcP	**PcP**	**02 13 04.4**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=174,slow=2.4,SNR=5.3						
	comp=Z,1.5nm,0.3s						
PZH	**PanZhiHua**	**40.81**	**332**	P	**P**	**02 11 20.4**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,140nm,5.3s						
NJ2	**Nanjing**	**41.53**	**356**	*e*P	**P**	**02 11 27.4**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LYN	**LuoYang**	**44.80**	**349**	⇑P	P	02 11 55.0	+4.1
LYN				pP	pwP	02 12 18.1	+1.4
LYN				PP	**PP**	**02 13 43.2**	**+5.6**
LYN				sS	sS	02 19 06.1	+6.3
LYN				SS	**SS**	**02 21 43.0**	**-1.7**
LYN				pmax	pmax		
	comp=Z,13nm,0.5s						
LYN				pmax	pmax		
	comp=Z,300nm,4.5s						
MJAR	**Matsushiro Arr**	**48.48**	**18**	P	**P**	**02 12 20.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=186,slow=9.7,SNR=1.2						
	comp=Z,1.2nm,0.6s						
H08S3	**Diego Garcia H**	**48.66**	**268**	T	T	03 06 29.5	
	SNR=1.5						
BJT	**Baijiatuan**	**49.66**	**354**	P	**P**	**02 12 28.5**	**-0.1**
BJI	**Beijing**	**49.68**	**354**	P	**P**	**02 12 28.4**	**-0.3**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**51.09**	**350**	*e*P	P	02 12 43.3	+3.8
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,220nm,6.4s						
GTA	**Gaotai**	**52.86**	**339**	*e*P	**P**	**02 12 53.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**54.38**	**9**	P	**P**	**02 13 02.6**	**-0.9**
USA0B				IAmb	IAmb	02 13 35.4	
	comp=Z,7.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**54.38**	**9**	P	**P**	**02 13 04.1**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=172,slow=6.7,SNR=6.3						
	comp=Z,2.0nm,0.5s						
ULN	**Ulaanbaatar**	**58.70**	**349**	P	**P**	**02 13 33.0**	**-1.3**
SONM	**Songino Array**	**58.80**	**348**	P	**P**	**02 13 33.4**	**-1.5**
SONM				IAmb	IAmb	02 13 35.4	
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**58.80**	**348**	P	**P**	**02 13 33.4**	**-1.5**
	comp=Z,4.1nm,0.5s,baz=162,slow=7.7,SNR=33						
	comp=Z,4.1nm,0.5s						
WMQ	**Urumqi**	**61.51**	**333**	*e*P	**P**	**02 13 53.3**	**-0.1**
KSH	**Kashi**	**64.71**	**322**	P	**P**	**02 14 15.0**	**+0.2**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**66.25**	**332**	P	**P**	**02 14 24.0**	**-0.4**
MK31				IAmb	IAmb	02 14 24.9	
	comp=Z,7.7nm,0.7s						
MKAR	**Makanchi Array**	**66.25**	**332**	P	**P**	**02 14 24.1**	**-0.3**
MKAR	**Makanchi Array**	**66.25**	**332**	P	**P**	**02 14 23.8**	**-0.6**
	comp=Z,10nm,0.5s,baz=143,slow=7.6,SNR=159						
	comp=Z,10nm,0.5s						
MAKZ	**Makanchi**	**66.41**	**331**	P	**P**	**02 14 24.9**	**-0.5**
MAKZ				IAmb	IAmb	02 14 25.7	
	comp=Z,5.0nm,0.6s						
KBL	**Kabul**	**66.42**	**314**	P	**P**	**02 14 24.9**	**-1.1**
KBL				IAmb	IAmb	02 14 26.4	
	comp=Z,7.0nm,0.8s						
BOOM	**Boomskoye usch**	**66.61**	**325**	P	**P**	**02 14 26.3**	**-0.6**
BOOM				IAmb	IAmb	02 14 30.9	
	comp=Z,6.2nm,1.1s						
AAK	**Ala-Archa**	**67.53**	**324**	P	**P**	**02 14 33.1**	**+0.3**
ARSB	**Arslanbob**	**67.62**	**322**	P	**P**	**02 14 32.9**	**-0.4**
SIMJ	**Simiganj**	**68.62**	**318**	P	**P**	**02 14 39.2**	**-0.4**
H04N2	**CROZET ISLANDS**	**69.20**	**224**	T	T	03 30 02.9	
	baz=82						
H04N1	**CROZET ISLANDS**	**69.21**	**224**	T	T	03 29 44.9	
	baz=82						
H04N3	**CROZET ISLANDS**	**69.21**	**224**	T	T	03 30 12.4	
	baz=82						
MAW	**Mawson**	**69.56**	**200**	P	**P**	**02 14 40.2**	**-4.6**
PEA0B	**Petropavlovsk-**	**69.62**	**22**	P	**P**	**02 14 45.9**	**+0.6**
PETK	**Petropavlovsk-**	**69.62**	**22**	P	**P**	**02 14 46.2**	**+0.9**
	comp=Z,2.2nn,0.6s,baz=201,slow=3.0,SNR=8.7						
	comp=Z,2.2nn,0.6s						
KKAR	**Karatay Array**	**70.15**	**323**	P	**P**	**02 14 47.2**	**-1.6**
ZAA0	**Zalesovo Array**	**70.60**	**338**	P	**P**	**02 14 49.6**	**-1.6**
ZALV	**Zalesovo Beam**	**70.60**	**338**	P	**P**	**02 14 49.3**	**-2.0**
ZALV	**Zalesovo Beam**	**70.60**	**338**	P	**P**	**02 14 49.5**	**-1.8**
	comp=Z,11nn,0.5s,baz=136,slow=5.1,SNR=52						
	comp=Z,11nn,0.5s						
KURBB	**Kurchatov Arra**	**70.73**	**333**	P	**P**	**02 14 51.4**	**-0.8**
	comp=Z,4.7nn,0.5s,baz=147,slow=5.4,SNR=62						
	comp=Z,4.7nn,0.5s						
KURK	**Kurchatov**	**70.75**	**333**	P	**P**	**02 14 51.7**	**-0.6**
VNDA	**Vanda**	**70.96**	**171**	P	**P**	**02 14 56.3**	**+3.1**
VNDA	**Vanda**	**70.96**	**171**	P	**P**	**02 14 56.3**	**+3.1**
	comp=Z,0.6nm,0.5s,baz=315,slow=8.3,SNR=5.0						
	comp=Z,0.6nm,0.5s						
FOMA	**Nahampoana Res**	**72.20**	**247**	P	**P**	**02 14 58.9**	**-2.7**
GEYT	**Alibeck**	**75.80**	**313**	P	**P**	**02 15 22.9**	**+0.5**
	comp=Z,1.9nn,0.7s,baz=202,slow=6.4,SNR=4.6						
	comp=Z,1.9nn,0.7s						
SEY	**Seymchan**	**76.11**	**14**	P	**P**	**02 15 24.8**	**+1.3**
	comp=Z,1.7nn,0.5s,baz=199,slow=4.4,SNR=6.6						
	comp=Z,1.7nn,0.5s						
BVAR	**Borovoye Array**	**76.12**	**331**	P	**P**	**02 15 23.0**	**-0.8**
	comp=Z,2.4nn,0.6s,baz=123,slow=5.5,SNR=15						
	comp=Z,2.4nn,0.6s						
BRVK	**Borovoye**	**76.19**	**331**	P	**P**	**02 15 23.2**	**-0.9**
ABKAR	**Akbulak array**	**79.61**	**324**	P	**P**	**02 15 42.8**	**-0.4**
ABKAR	**Akbulak array**	**79.61**	**324**	P	**P**	**02 15 42.8**	**-0.4**
ABKAR				IAmb	IAmb	02 15 43.9	
	comp=Z,2.0nm,0.6s						
QSPA	**South Pole Qui**	**80.37**	**180**	P	**P**	**02 15 50.3**	**+3.1**
	comp=Z,0.5nm,0.2s,baz=9.5,slow=1.4,SNR=1.4						
	comp=Z,0.5nm,0.2s						
TIXI	**Tiksi**	**81.24**	**2**	P	**P**	**02 15 51.5**	**+0.1**
TIXI				IAmb	IAmb	02 15 51.8	
	comp=Z,4.7nm,0.8s						
KMBO	**Kilima Mbogo**	**84.33**	**270**	P	**P**	**02 16 10.3**	**+1.3**
KMBO				IAmb	IAmb	02 16 41.3	
	comp=Z,8.3nm,1.5s						
KMBO	**Kilima Mbogo**	**84.33**	**270**	P	**P**	**02 16 09.9**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=86,slow=13,SNR=2.5						
	comp=Z,1.3nm,0.6s						
ILAR	**Eielson Array**	**99.25**	**26**	P	**Pdif**	**02 17 16.8**	**-0.4**
	comp=Z,0.4nm,1.0s,baz=233,slow=6.0,SNR=1.9						
	comp=Z,0.4nm,1.0s						
ARCES	**ARCESS Array B**	**101.12**	**339**	P	**Pdif**	**02 17 25.4**	**-0.1**
	comp=Z,2.2nn,0.9s,baz=66,slow=5.9,SNR=4.9						
SPITS	**Spitsbergen Ar**	**102.50**	**348**	P	**Pdif**	**02 17 30.9**	**-0.6**
	comp=Z,13nn,1.1s,baz=93,slow=10,SNR=6.9						
HFS	**Hagfors**	**107.24**	**330**	Pdiff	**Pdif**	**02 17 52.4**	**-0.5**
	comp=Z,3.0nn,0.9s,baz=107,slow=8.0,SNR=2.7						
EKA	**Eskdalemuir Ar**	**117.28**	**328**	PKP	**PKiKP**	**02 22 21.0**	**+0.4**
	comp=Z,0.1nn,0.3s,baz=39,slow=4.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**121.19**	**280**	PKP	**PKiKP**	**02 22 31.5**	**+2.1**
	comp=Z,1.4nn,0.5s,baz=54,slow=2.2,SNR=31						
ESDC	**Sonseca Array**	**123.32**	**311**	PKP	**PKiKP**	**02 22 34.6**	**+1.6**
	comp=Z,0.3nn,0.6s,baz=26,slow=2.1,SNR=1.5						
PDAR	**Pinedale Array**	**124.54**	**44**	PKP	**PKiKP**	**02 22 37.4**	**+1.8**
	comp=Z,0.3nn,0.7s,baz=90,slow=1.5,SNR=5.7						
DBIC

ESO				eS		Sn	02 06 16.3	-0.4
PET	**Petropavlovsk**	**2.73**	**242**	*i* PN		Pn	02 05 45.2	+0.3
PET	**Petropavlovsk**	**2.73**	**242**	*e*P		Pn	02 05 45.4	+0.4
PET				eS		Sn	02 06 16.4	-0.2
GNL	**Ganaly**	**2.85**	**258**	PN		Pn	02 05 47.8	+1.1
GNL	**Ganaly**	**2.85**	**258**	*e*P		Pn	02 05 47.8	+1.1
KRMR	**Karymshinskiy**	**3.10**	**242**	PN		Pn	02 05 51.2	+1.1
KRMR				S		Sn	02 06 25.7	-0.1
KRMR	**Karymshinskiy**	**3.10**	**242**	*e*P		Pn	02 05 51.2	+1.1
KRMR				eS		Sn	02 06 25.7	-0.1
PEA0B	**Petropavlovsk-**	**3.20**	**248**	*i* PN		Pn	02 05 52.2	+0.8
PETK	**Petropavlovsk-**	**3.20**	**248**	Pn		Pn	02 05 51.8	+0.4
	9.5nm,0.3s,baz=69,slow=17,SNR=107							
PETK				Sn		Sn	02 06 28.9	+0.7
	7.0nm,0.3s,baz=95,slow=18,SNR=2.9							
	12nm,0.4s							
GRL	**Gorelyy**	**3.29**	**238**	PN		Pn	02 05 53.7	+1.0
GRL	**Gorelyy**	**3.29**	**238**	*e*P		Pn	02 05 53.7	+1.0
ASAK	**Asacha**	**3.47**	**237**	PN		Pn	02 05 56.8	+1.6
ASAK	**Asacha**	**3.47**	**237**	*e*P		Pn	02 05 56.8	+1.6
KDTR	**Khodutka, Kamc**	**3.77**	**229**	PN		Pn	02 06 02.5	+3.3
KDTR	**Khodutka, Kamc**	**3.77**	**229**	*e*P		Pn	02 06 02.5	+3.3
MA2	**Magadan**	**8.30**	**314**	*i* PN		Pn	02 07 03.4	+2.1
MA2	**Magadan**	**8.30**	**314**	LR	LR		02 10 31.7	
	comp=Z,92nm,18.7s,baz=92,slow=43							
YSS	**Yuzh-Sakhalins**	**14.60**	**247**	*e*P		Pn	02 08 27.0	-0.2
YSS				pmax	pmax			
	comp=Z,20nm,1.1s							
YAK	**Yakutsk**	**18.79**	**307**	*i* P		P	02 09 18.2	-0.7
YAK				pmax	pmax			
	comp=Z,8.0nm,0.5s							
TIXI	**Tiksi**	**22.57**	**333**	*i* P		P	02 09 58.2	-1.5
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ILAR	**Eielson Array**	**26.83**	**47**	*e*P		P	02 10 42.1	+2.7
ILAR	**Eielson Array**	**26.83**	**47**	P		P	02 10 41.0	+1.6
	comp=Z,0.3nm,0.7s,baz=264,slow=8.0,SNR=5.0							
	comp=Z,0.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**34.75**	**173**	T		T	02 49 09.6	
	baz=355,slow=76,SNR=62							
H11N3	**WAKE ISLAND Hy**	**34.77**	**173**	T		T	02 49 11.9	
	baz=355,slow=76,SNR=74							
H11N1	**WAKE ISLAND Hy**	**34.77**	**173**	T		T	02 49 11.4	
	baz=355,slow=76,SNR=64							
SONM	**Songino Array**	**35.07**	**283**	P		P	02 11 53.2	+0.9
	comp=Z,0.3nm,0.6s,baz=53,slow=8.2,SNR=2.0							
	comp=Z,0.3nm,0.6s							
SPITS	**Spitsbergen Ar**	**46.10**	**351**	P		P	02 13 22.3	-0.4
	comp=Z,3.4nm,0.6s,baz=48,slow=11,SNR=9.3							
	comp=Z,3.4nm,0.6s							
KURK	**Kurchatov**	**48.32**	**302**	P		P	02 13 39.4	-0.9
KURBB	**Kurchatov Arra**	**48.42**	**302**	P		P	02 13 39.4	-1.6
	comp=Z,0.9nm,0.5s,baz=57,slow=8.1,SNR=8.3							
	comp=Z,0.9nm,0.5s							
MKAR	**Makanchi Array**	**48.94**	**296**	P		P	02 13 43.6	-1.5
	comp=Z,0.3nm,0.6s,baz=52,slow=6.5,SNR=3.7							
	comp=Z,0.3nm,0.6s							
BVAR	**Borovoye Array**	**50.75**	**309**	P		P	02 13 57.4	-1.4
	comp=Z,1.0nm,0.5s,baz=60,slow=8.8,SNR=7.3							
	comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**52.51**	**342**	*e*P		P	02 14 12.6	+0.9
ARCES				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ARCES	**ARCESS Array B**	**52.51**	**342**	P		P	02 14 11.4	-0.3
	comp=Z,5.4nm,1.2s,baz=34,slow=9.8,SNR=7.1							
	comp=Z,5.4nm,1.2s							
NVAR	**Mina Array Bea**	**53.90**	**73**	P		P	02 14 26.4	+3.8
	comp=Z,0.5nm,0.7s,baz=291,slow=8.8,SNR=3.8							
	comp=Z,0.5nm,0.7s							
PDAR	**Pinedale Array**	**55.58**	**63**	P		P	02 14 38.9	+4.2
	comp=Z,0.5nm,1.0s,baz=18,slow=3.1,SNR=1.9							
	comp=Z,0.5nm,1.0s							
AAK	**Ala-Archa**	**55.84**	**297**	*ce*P		P	02 14 33.7	-2.8
AAK				pmax	pmax			
	comp=Z,4.0nm,1.7s							
FINES	**FINESS Array B**	**59.51**	**337**	P		P	02 15 01.6	-0.1
	comp=Z,3.5nm,0.6s,baz=33,slow=8.3,SNR=38							
	comp=Z,3.5nm,0.6s							
NB2	**NORSAR Subarra**	**62.70**	**345**	P		P	02 15 23.4	0.0
	comp=Z,0.4nm,0.5s,baz=19,slow=7.4							
NOA	**NORSAR Array B**	**62.70**	**345**	*e*P		P	02 15 23.3	-0.1
NOA	**NORSAR Array B**	**62.70**	**345**	P		P	02 15 23.1	-0.3
	comp=Z,0.5nm,0.5s,baz=19,slow=6.1,SNR=5.2							
	comp=Z,0.5nm,0.5s							
HFS	**Hagfors**	**63.16**	**343**	P		P	02 15 25.6	-0.8
	comp=Z,1.1nm,0.5s,baz=46,slow=4.3,SNR=12							
	comp=Z,1.1nm,0.5s							
AKASG	**Malin Array Be**	**68.25**	**330**	P		P	02 15 58.9	-0.5
	comp=Z,1.2nm,0.5s,baz=29,slow=6.2,SNR=4.3							
	comp=Z,1.2nm,0.5s							
KBZ	**Khabaz**	**69.61**	**318**	*i* P		P	02 16 06.8	-1.0
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KBZ	**Khabaz**	**69.61**	**318**	P		P	02 16 08.5	+0.6
	comp=Z,2.7nm,0.9s,baz=36,slow=6.4,SNR=6.1							
	comp=Z,2.7nm,0.9s							
EKA	**Eskdalemuir Ar**	**70.02**	**351**	P		P	02 16 12.1	+1.9
	comp=Z,0.3nm,0.5s,baz=16,slow=5.3,SNR=3.4							
	comp=Z,0.3nm,0.5s							

IDC 11 02:07:17.8±8.6, 17.02S×176.77W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=379.0km s-min=39.6km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.33**	**258**	P	P	02 15 45.3	-0.7
	1.3nm,1.2s,baz=97,slow=7.3,SNR=1.4						
	1.3nm,1.2s						
ASAR	**Alice Springs**	**46.53**	**253**	P	P	02 15 47.9	+0.4
	1.0nm,0.4s,baz=85,slow=8.4,SNR=4.8						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**84.69**	**12**	P	P	02 19 53.1	0.0
	0.5nm,1.1s,baz=228,slow=5.7,SNR=5.1						
	0.5nm,1.1s						

IDC 11 02:19:36.1±0.8, 4.92S×127.08E, h0km, mb3.9/10, mbtmp4.0/13, ML4.1/3, MS3.3/12, Error ellipse: s-maj=34.6km s-min=16.4km az=58.0
DJA 11 02:19:40.8±1.6, 5.5S±2.2×12.7E±.9, h33km±28km, M4.5/18, mb4.7/13, mB5.2/7, MLv4.4/18, Mw(mB)4.5/7
NEIC 11 02:19:43.2±1.9, 5.24S±0.09×127.13E±0.03, h85km±12km, mb4.4/8, Error ellipse: s-maj=12.7km s-min=3.7km az=177.0

ISC 11 02:19:40.1±0.6, 5.11S±0.05×127.04E±0.06, h35km, n59, σ1s91/54, mb3.8/9, MS3.3/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.86**	**2**	P	P	02 20 08.0	-1.5
NLAI				S	Sn	02 20 30.4	-1.4
KRAI	**Karang Ratu**	**2.23**	**37**	P	P	02 20 14.4	-0.3
BNDI	**Bandanaira**	**2.91**	**78**	P	P	02 20 23.6	-0.3
SANI	**Sanana**	**3.22**	**341**	P	P	02 20 27.6	-0.6
SANI				S	Sn	02 21 03.9	-1.5
LBMI	**Labuha**	**4.47**	**6**	P	P	02 20 44.4	-1.0
SAUI	**Saumlaki**	**5.10**	**124**		P	02 20 55.7	+1.7
SAUI	**Saumlaki**	**5.10**	**124**	P	P	02 20 55.8	+1.7
	172nm,0.5s,8μm1.2nm						
SOEI	**Soe**	**5.37**	**211**	Pn	P	02 20 59.8	+1.9
SOEI	**Soe**	**5.37**	**211**	P	P	02 21 00.6	+2.7
	68nm,0.9s,0.3nm						
FAKI	**Fak Fak**	**5.63**	**67**	Pn	P	02 21 02.6	+1.2
FAKI	**Fak Fak**	**5.63**	**67**	P	P	02 21 02.1	+0.7
LUWI	**Luwuk**	**5.88**	**313**	Pn	Pn	02 21 10.3	+5.5
LUWI	**Luwuk**	**5.88**	**313**	P	Pn	02 21 03.9	-0.9
	108nm,0.6s,0.5nm						
SIJI	**Sorong**	**5.96**	**45**	P	Pn	02 21 05.5	-0.4
	84nm,0.9s,1μm0.3nm						
SWI	**Sorong**	**5.96**	**45**	P	Pn	02 21 05.3	-0.6
	180nm,0.7s,2μm0.6nm						
EDFI	**Ende, Flores**	**6.43**	**235**	P	Pn	02 21 14.9	+2.5
	28nm,0.8s,0.1nm						
BKSI	**Bulukumba**	**6.90**	**268**	P	Pn	02 21 20.1	+1.3
	59nm,0.6s,628nm0.2nm						
KAPI	**Kappang**	**7.26**	**270**		Pn	02 21 26.5	+2.7
KAPI	**Kappang**	**7.26**	**270**	Pn	Pn	02 21 25.8	+2.0
	3.7nm,0.3s,baz=102,slow=5.9,SNR=11						
KAPI				Sn	Sn	02 22 42.2	-2.9
	0.3nm,0.3s,baz=72,slow=15,SNR=0.7						
KAPI				LR	LR	02 24 18.9	
	comp=Z,520nm,21.1s,baz=114,slow=39						
	28nm,0.6s						
SPSI	**Sidrap Palu**	**7.34**	**279**	P	Pn	02 21 25.4	+0.5
	66nm,0.7s,3μm0.2nm						
TTSI	**Tana Toraja**	**7.49**	**286**	P	Pn	02 21 27.6	+0.6
MRSI	**Marisa**	**7.54**	**317**	P	Pn	02 21 27.0	-0.6
	21nm,0.6s,0.1nm						
MTN	**Manton Dam**	**8.68**	**153**	Pn	Pn	02 21 43.0	-0.3
TOLI2	**Tolitoli**	**8.79**	**315**		Pn	02 21 49.4	+4.5
KNRA	**Kununurra**	**10.63**	**171**	Pn	Pn	02 22 10.0	0.0
FITZ	**Fitzroy Crossi**	**12.98**	**186**	Pn	Pn	02 22 41.6	-0.5
WB0	**Warramunga Arr**	**16.23**	**154**	Pn	Pn	02 23 23.1	-2.5
WRAB	**Tennant Creek**	**16.36**	**155**		Pn	02 23 27.3	+0.1
WRAB				IAmb	IAmb	02 23 56.9	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**16.36**	**155**		Pn	02 23 26.1	-1.1
WRA	**Warramunga Arr**	**16.36**	**155**	Pn	Pn	02 23 27.9	+0.7
	comp=Z,0.7nm,0.3s,baz=331,slow=12,SNR=15						
WRA				Sn	Sn	02 26 22.9	-4.9
	comp=Z,0.4nm,0.3s,baz=334,slow=22,SNR=5.7						
	comp=Z,2.7nm,0.6s						
WB2	**Warramunga Arr**	**16.37**	**155**	P	Pn	02 23 27.9	+0.6
WR0	**Warramunga Arr**	**16.46**	**154**	Pn	Pn	02 23 26.3	-2.2
WR0				IAmb	IAmb	02 23 41.3	
	comp=Z,24nm,0.9s						
COEN	**Coen**	**18.16**	**120**	Pn	Pn	02 23 48.8	-0.9
COEN				IAmb	IAmb	02 23 59.4	
	comp=Z,25nm,1.0s						
LEM	**Lembang**	**19.39**	**264**	LR	LR	02 32 49.5	
	comp=Z,94nm,18.5s,baz=1.0,slow=41						
AS31	**Alice Springs**	**19.59**	**161**	P	P	02 24 02.8	-2.6
AS31				IAmb	IAmb	02 24 19.6	
	comp=Z,9.3nm,0.6s						
ASAR	**Alice Springs**	**19.59**	**161**	P	P	02 24 03.0	-2.5
ASAR	**Alice Springs**	**19.59**	**161**	P	Pn	02 24 08.3	+1.3
	comp=Z,0.6nm,0.3s,baz=333,slow=10,SNR=46						
ASAR				S	S	02 27 41.2	-3.7
	comp=Z,2.1nm,0.7s,baz=324,slow=20,SNR=4.5						
	comp=Z,10nm,0.7s						
PMG	**Port Moresby**	**20.40**	**103**	P	P	02 24 15.4	+1.1
	comp=Z,5.2nm,0.4s,baz=235,slow=8.5,SNR=1.5						
PMG				LR	LR	02 32 55.6	
	comp=Z,56nm,20.4s,baz=236,slow=39						
	comp=Z,5.2nm,0.4s						
CTA	**Charters Tower**	**23.89**	**130**	P	P	02 24 52.7	+2.0
	comp=Z,9.9nm,1.2s,baz=321,slow=7.0,SNR=2.3						
CTA				LR	LR	02 34 53.3	
	comp=Z,111nm,18.7s,baz=285,slow=38						
	comp=Z,9.9nm,1.2s						
NWAO	**Narrogin (SRO)**	**29.15**	**197**	LR	LR	02 37 56.6	
	comp=Z,72nm,18.7s,baz=296,slow=38						
STKA	**Stephens Creek**	**29.91**	**155**	P	P	02 25 46.4	+1.5
	comp=Z,0.8nm,0.4s,baz=147,slow=20,SNR=1.7						
	comp=Z,0.8nm,0.4s						
JNU	**Nakatsue**	**38.20**	**5**	LR	LR	02 43 13.7	
	comp=Z,21nm,18.7s,baz=178,slow=37						
KSRS	**Korea Array**	**42.36**	**1**	LR	LR	02 50 41.5	
	comp=Z,10nm,18.1s,baz=195,slow=44						
PALK	**Pallekele**	**47.85**	**285**	LR	LR	02 47 58.7	
	comp=Z,32nm,20.7s,baz=204,slow=36						
RPZ	**Rata Peaks**	**54.52**	**142**	LR	LR	02 54 35.6	
	comp=Z,45nm,18.4s,baz=306,slow=38						
SONM	**Songino Array**	**55.77**	**343**	P	P	02 29 13.6	0.0
	comp=Z,0.2nm,0.4s,baz=150,slow=6.0,SNR=1.8						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**65.06**	**328**	P	P	02 30 15.3	-1.7
MKAR	**Makanchi Array**	**65.06**	**328**	P	P	02 30 16.3	-0.7
	comp=Z,0.4nm,0.5s,baz=119,slow=7.7,SNR=4.2						
	comp=Z,0.4nm,0.5s						
MAKZ	**Makanchi**	**65.24**	**328**	P	P	02 30 17.0	-1.1
ZALV	**Zalesovo Beam**	**68.62**	**335**	P	P	02 30 38.6	-0.9
	comp=Z,0.3nm,0.3s,baz=106,slow=4.7,SNR=1.9						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**69.39**	**329**	P	P	02 30 43.9	-0.5
	comp=Z,0.2nm,0.2s,baz=128,slow=4.8,SNR=4.6						
	comp=Z,0.2nm,0.2s						
SEY	**Seymchan**	**70.54**	**12**	P	P	02 30 53.0	+1.9
	comp=Z,1.8nm,0.7s,baz=224,slow=9.2,SNR=3.2						
	comp=Z,1.8nm,0.7s						
VNDA	**Vanda**	**74.67**	**173**	LR	LR	03 02 19.6	
	comp=Z,33nm,19.7s,baz=324,slow=34						
BVAR	**Borovoye Array**	**74.92**	**328**	P	P	02 31 19.7	+2.3
	comp=Z,0.3nm,0.4s,baz=149,slow=12,SNR=1.6						
	comp=Z,0.3nm,0.4s						
MAW	**Mawson**	**75.64**	**201**	LR	LR	03 01 46.8	
	comp=Z,24nm,19.0s,baz=169,slow=33						
ABKAR	**Akbulak array**	**79.22**	**322**	P	P	02 31 39.2	-2.4
PPT	**Papeete**	**82.18**	**107**	LR	LR	03 05 32.9	
	comp=Z,23nm,19.8s,baz=342,slow=34						
QSPA	**South Pole Qui**	**84.85**	**180**	P	P	02 32 14.4	+3.3
	comp=Z,0.8nm,0.3s,baz=313,slow=1.1,SNR=1.6						
	comp=Z,0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**125.55**	**282**	PKP	**PKiKP**	02 38 41.0	+1.8
	comp=Z,0.7nm,1.1s,baz=29,slow=3.3,SNR=2.7						

UCR 11 02:22:37.6±1.0, 10.67N×84.99W, h10km±3km, MW3.7
CATAC 11 02:22:38.1±0.2, 10.64N×84.99W, h7km±2km, ML3.1

ISC 11 02:22:38.4±0.9, 10.64N±0.02×84.98W±0.02, h16km±7km, n32, σ0s80/53, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMAR	**Armenia, Volca**	**0.22**	**323**	*e*P		Pg	02 22 42.8	-0.6
VMAR	**Armenia, Volca**	**0.22**	**323**	*i* P		Pg	02 22 42.9	-0.5
VMAR				*i* S		Sg	02 22 49.3	+2.5
VMAR					IAML		02 22 50.1	
	comp=Z,9μm,1.0s						
VACR	**Volcan Arenal**	**0.34**	**119**	*i* P		Pb	02 22 45.8	-0.3
VACR				*i* S		Sb	02 22 52.0	+0.7
VACR					IAML		02 22 54.6	
	comp=Z,4μm,1.0s						
JTS	**Las Juntas de**	**0.35**	**176**	*e*P		Pg	02 22 44.9	-0.7
VRLE	**La Escondida,**	**0.41**	**291**	*i* P		Pg	02 22 45.8	-0.9
VRLE				*i* S		Sg	02 22 51.5	-0.8
VRLE					IAML		02 22 54.7	
	comp=Z,940nm,1.0s						
SOCE	**Pocosol**	**0.44**	**126**	*e*P		Pg	02 22 46.9	-0.3
SOCE	**Pocosol**	**0.44**	**126**	*i* P		Pg	02 22 46.9	-0.3
SOCE				*i* S		Sg	02 22 52.9	-0.3
SOCE					IAML		02 22 59.1	
	comp=Z,2μm,1.0s						
LCHIL	**Los Chiles**	**0.47**	**33**	*e*P		Pb	02 22 48.0	-0.3
LCHIL				*e*S		Sb	02 22 55.1	0.0
ORTG	**Ortega, Santa**	**0.55**	**240**	*e*P		Pg	02 22 48.5	-0.7
ORTG				*e*S		Sb	02 22 56.8	-0.5
ORTG	**Ortega, Santa**	**0.55**	**240**	*i* P		Pg	02 22 48.7	-0.5
ORTG				*i* S		Sg	02 22 56.6	0.0
ORTG					IAML		02 22 59.2	
	comp=Z,510nm,1.0s						
COVE	**Coope Vega, Sa**	**0.57**	**82**	*e*P		Pg	02 22 48.7	-1.0
COVE				*e*S		Sg	02 22 57.3	-0.1
COVE	**Coope Vega, Sa**	**0.57**	**82**	*i* P		Pg	02 22 48.7	-1.0
COVE				*i* S		Sg	02 22 57.6	+0.2
COVE					IAML		02 23 09.8	
	comp=Z,1μm,1.0s						
HZTE	**Horizontes, Gu**	**0.61**	**277**	*e*P		Pg	02 22 49.9	-0.5
HZTE				*e*S		Sb	02 22 59.2	+0.2
HZTE	**Horizontes, Gu**	**0.61**	**277**	*i* P		Pg	02 22 50.0	-0.4
HZTE					IAML		02 22 51.8	
	comp=Z,870nm,1.0s						
HZTE				*i* S		Sb	02 22 58.9	-0.2
CPMI	**Catarata Coope**	**0.69**	**121**	*i* P		Pg	02 22 51.5	-0.4
CPMI				*i* S		Sb	02 23 02.0	+0.5
CPMI					IAML		02 23 05.9	
	comp=Z,680nm,1.0s						
INDI	**Punta indio, G**	**0.93**	**214**	*e*P		Pg	02 22 55.4	-0.9
INDI	**Punta indio, G**	**0.93**	**214**	*i* P		Pg	02 22 55.6	-0.7
INDI				*i* S		Sb	02 23 09.1	+1.0
INDI					IAML		02 23 11.3	
	comp=Z,320nm,1.0s						
JACO	**JACO, Garabito**	**1.02**	**162**	*e*P		Pg	02 22 56.9	-1.3
JACO	**JACO, Garabito**	**1.02**	**162**	*i* P		Pg	02 22 57.1	-1.1
JACO				*i* S		Sg	02 23 11.3	-0.3
JACO					IAML		02 23 11.4	
	comp=Z,190nm,1.0s						
OMEN	**Al SSO del Vol**	**1.07**	**324**	*i* P		Pg	02 22 57.2	-1.9
OMEN					IAML		02 23 21.5	
	comp=Z,510nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.09**	**107**	*i* P		Pg	02 22 58.7	-0.7
RIFO					IAML		02 23 20.1	
	comp=Z,610nm,1.0s						
CONN	**Concepcion**	**1.12**	**325**	*i* P		Pn	02 22 59.7	+0.3
CONN					IAML		02 23 00.8	
	comp=Z,2μm,1.0s						
CONN				*i* S		Sn	02 23 15.3	+0.8
JAPN	**Al SSO del Vol**	**1.12**	**322**	*i* P		Pn	02 22 59.7	+0.3
JAPN					IAML		02 23 02.3	
	comp=Z,630nm,1.0s						
JAPN				*i* S		Sn	02 23 15.5	+1.0
OCM	**Ochomogo**	**1.25**	**126**	*i* P		Pn	02 23 01.5	+0.1
OCM					IAML		02 23 05.2	
	comp=Z,150nm,1.0s						
OCM				*i* S		Sn	02 23 19.8	+1.8
VICA	**Volcano Irazu**	**1.29**	**120**	*e*P		Pn	02 23 01.6	-0.6
LCR2	**La Lucha 2**	**1.31**	**133**	*e*P		Pn	02 23 01.7	-0.6
LCR2	**La Lucha 2**	**1.31**	**133**	*i* P		Pn	02 23 02.9	+0.6
LCR2				*i* S		Sb	02 23 19.5	0.0
LCR2					IAML		02 23 26.4	
	comp=Z,160nm,1.0s						
ACON	**Acoyapa**	**1.33**	**352**	*i* P		Pn	02 23 01.9	-0.5
ACON				*i* S		Sb	02 23 19.7	-0.2
ACON					IAML		02 23 25.0	
	comp=Z,560nm,1.0s						
CDM	**Cerro de Muert**	**1.61**	**132**	*i* P		Pn	02 23 07.0	+0.4
CDM				*i* S		Sg	02 23 30.3	-0.2
CDM					IAML		02 23 36.7	
	comp=Z,120nm,1.0s						
BUS1	**Rivas**	**1.62**	**132**	*e*P		Pn	02 23 06.8	0.0
ESPN	**Las Esperanzas**	**1.68**	**23**	*i* P		Pn	02 23 07.5	+0.3
ESPN				*i* S		Sn	02 23 29.4	+0.9
ESPN					IAML		02 23 30.9	
	comp=Z,330nm,1.0s						
MATN	**Matagalpa**	**2.46**	**338**	*i* P		Pn	02 23 18.1	+0.2
MATN					IAML		02 23 58.7	
	comp=Z,59nm,1.0s						

THE 11 02:54:50.4, 40.75N×21.48E, h17km±2km, ML2.1/3, Error ellipse: s-maj=3.7km s-min=0.4km az=304.0
ATH 11 02:54:50.4, 40.76N×21.49E, h17km±7km, ML2.6/1, Error ellipse: s-maj=14.1km s-min=1.3km az=313.0
SKO 11 02:54:51.1, 40.73N×21.52E, h9km, ML2.1

ISC 11 02:54:50.4±0.8, 40.73N±0.04×21.48E±0.04, h15km±6km, n16, σ0s48/29, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.10**	**304**	P	Pg	02 54 53.8	+0.1
FNA				S	Sg	02 54 55.9	0.0
	3μm,0.4s						
FNA	**Florina**	**0.10**	**304**	P	Pg	02 54 53.7	+0.1
FNA				S	Sg	02 54 55.9	0.0
FNA				AML	AML	02 54 57.1	
	comp=N,6549μm,0.5s						
FNA				AML	AML	02 54 57.4	
	comp=E,6853μm,0.3s						
FNA	**Florina**	**0.10**	**304**	↑*i* Pg	Pg	02 54 53.8	+0.1
FNA				*i* Sg	Sg	02 54 56.0	0.0
NEST	**Nestorio**	**0.46**	**226**	P	Pg	02 54 59.7	+0.2
NEST				S	Sg	02 55 06.5	+0.8
	comp=E,185nm,0.3s						
NEST	**Nestorio**	**0.46**	**226**	P	Pg	02 54 59.7	+0.2
NEST				S	Sb	02 55 07.0	+0.2
PENT	**Pentalofos**	**0.59**	**206**	P	Pg	02 55 01.8	-0.3
PENT				S	Sb	02 55 11.3	+0.5
PENT	**Pentalofos**	**0.59**	**206**	P	Pg	02 55 02.4	+0.3
PENT				S	Sb	02 55 11.2	+0.5
OHR	**Ohrid**	**0.64**	**307**	*i* Pg	Pn	02 55 04.1	-0.9
OHR				*i* Sg	Sn	02 55 15.2	+0.2
OHR				*e*Lg	Lg	02 55 16.4	
	comp=N,136nm,0.7s						
OHR				*e*Lg	Lg	02 55 16.8	
	comp=E,292nm,1.2s						
GRG	**Griva**	**0.73**	**72**	P	Pg	02 55 04.1	-0.6
GRG				S	Sb	02 55 15.0	+0.2
	comp=E,105nm,0.5s						
GRG	**Griva**	**0.73**	**72**	P	Pg	02 55 04.2	-0.5
GRG	**Griva**	**0.73**	**72**	*i* Pg	Pb	02 55 04.7	-0.2
GRG				*i* Sg	Sb	02 55 15.3	+0.5
KPRO	**Kipourio**	**0.78**	**187**	P	Pb	02 55 05.2	-0.5
VAY	**Valandovo**	**1.01**	**54**	*i* Pg	Pn	02 55 09.7	-0.4
VAY				*i* Sg	Sn	02 55 23.9	-0.1
VAY				*e*Lg	Lg	02 55 24.8	
	comp=N,15nm,0.6s						
VAY				*e*Lg	Lg	02 55 26.5	
	comp=E,30nm,0.6s						
KNT	**Kendrikon**	**1.16**	**68**	*i* Pg	Pg	02 55 13.2	+0.5
KNT				*i* Sg	Sg	02 55 27.8	-0.1
PEHC	**Pehcevo**	**1.50**	**45**	*i* Pg	Pg	02 55 19.4	+0.2
PEHC				*i* Sg	Sg	02 55 40.0	+1.3
KKB	**Krupnik**	**1.67**	**48**	*e*Pn	Pb	02 55 20.9	+0.1

SKO 11 02:58:46.9, 40.63N×21.53E, h0km, ML1.9, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.19**	**323**	*i*

comp=Z,65nm,0.3s,baz=22,slow=16,SNR=8.3
JTS Las Juntas de 1.32 76⇑ *i*P **Pn 03 01 45.6 -0.9**
VMAR Armenia, Volca 1.40 53⇑ *i*P **Pn 03 01 47.5 -0.2**
VMAR *e*S **Sn 03 02 05.5 -0.7**
VMAR Armenia, Volca 1.40 53 *i* P **Pn 03 01 47.6 -0.1**
VMAR IAML 03 01 47.8
comp=Z,2μm,1.0s
ARE1 Arenal 1 1.59 72⇑ *e*P **Pn 03 01 50.4 +0.2**
JACO JACO, Garabito 1.60 101 *e*P **Pn 03 01 49.6 -0.7**
JACO JACO, Garabito 1.60 101 *i* P **Pn 03 01 49.8 -0.5**
JACO IAML 03 02 35.8
comp=Z,330nm,1.0s
VERA Finca Concepci 1.62 57⇑ *i*P **Pn 03 01 50.9 +0.2**
VACR Volcan Arenal 1.63 72⇑ *i*P **Pn 03 01 50.8 0.0**
VACR Volcan Arenal 1.63 72 *i* P **Pn 03 01 51.0 +0.2**
VACR IAML 03 02 20.1
comp=Z,1μm,1.0s
JAPN Al SSO del Vol 1.65 20 *i* P **Pb 03 01 52.2 -0.3**
JAPN IAML 03 01 58.5
comp=Z,870nm,1.0s
OMEN Al SSO del Vol 1.66 22 *i* P **Pn 03 01 49.8 -1.3**
OMEN IAML 03 01 58.1
comp=Z,700nm,1.0s
SOCE Pocosol 1.66 75 *e*P **Pn 03 01 51.3 +0.1**
SOCE Pocosol 1.66 75 *i* P **Pn 03 01 51.2 0.0**
SOCE IAML 03 01 59.3
comp=Z,1μm,1.0s
CONN Concepcion 1.71 21 *i* P **Pn 03 01 52.1 +0.3**
CONN IAML 03 02 04.8
comp=Z,6μm,1.0s
RAMO San Ramon 1.76 86 *e*P **Pn 03 01 52.8 +0.2**
NADN Granada 1.79 7 *i* P **Pn 03 01 53.9 +1.0**
NADN IAML 03 02 21.2
comp=Z,1μm,1.0s
LCHIL Los Chiles 1.85 55 *e*P **Pn 03 01 54.0 +0.2**
CPMI Catarata Coope 1.87 80⇑ *e*P **Pn 03 01 54.5 +0.3**
CPMI *e*S **Sn 03 02 19.4 +1.3**
CPMI Catarata Coope 1.87 80 *i* P **Pn 03 01 54.9 +0.7**
CPMI IAML 03 02 38.8
comp=Z,810nm,1.0s
COVE Coope Vega, Sa 1.97 67 *e*P **Pn 03 01 55.2 -0.2**
POA5 Crater Von Fra 2.01 83 *e*P Pn 03 01 50.2 -5.9
BELE Belen 2.03 89 *e*P **Pn 03 01 58.0 +1.7**
MAS3 Al N del Volca 2.05 2 *i* P **Pn 03 01 58.0 +1.4**
MAS3 IAML 03 02 10.5
comp=Z,410nm,1.0s
HDC3 Heredia 3 2.11 89 *e*P **Pn 03 01 58.6 +1.1**
UNAN Cigeo UNAN 2.14 360 *i* P **Pg 03 02 03.4 +0.5**
UNAN IAML 03 02 17.5
comp=Z,3μm,1.0s
WILN Americas 2 2.19 2 *i* P **Pn 03 01 59.8 +1.4**
WILN IAML 03 03 03.4
comp=Z,320nm,1.0s
SAPS Ciudad Sandino 2.20 356 *i* P **Pb 03 02 01.9 +0.1**
SAPS IAML 03 02 26.2
comp=Z,390nm,1.0s
APQ2 Apoyeque 2.22 358 *i* P **Pn 03 02 00.4 +1.5**
APQ2 IAML 03 02 12.2
comp=Z,460nm,1.0s
LCR2 La Lucha 2 2.23 95 *e*P **Pn 03 01 59.5 +0.4**
LCR2 La Lucha 2 2.23 95 *i* P **Pn 03 01 59.6 +0.5**
LCR2 IAML 03 02 54.9
comp=Z,220nm,1.0s
COPN Copaltepe 2.23 351 *i* P **Pg 03 02 03.8 -0.9**
COPN IAML 03 02 16.3
comp=Z,500nm,1.0s
ACON Acoyapa 2.26 28⇑ *i*P **Pn 03 01 59.4 +0.1**
ACON Acoyapa 2.26 28 *i* P **Pn 03 01 59.5 +0.1**
ACON IAML 03 01 59.7
comp=Z,390nm,1.0s
OCM Ochomogo 2.26 91 *e*P **Pn 03 02 00.4 +0.8**
OCM Ochomogo 2.26 91 *i* P **Pn 03 01 59.7 +0.1**
OCM IAML 03 02 31.2
comp=Z,210nm,1.0s
APYN Apoyeque 2.26 358 *i* P **Pb 03 02 01.6 -1.3**
APYN IAML 03 02 16.0
comp=Z,340nm,1.0s
CVIMO Finca Echandi 2.28 88 *e*P **Pn 03 02 00.9 +1.1**
RIFO Rio Frio, Sara 2.32 81 *e*P **Pn 03 02 00.7 +0.5**
RIFO Rio Frio, Sara 2.32 81 *i* P **Pn 03 02 01.1 +0.9**
RIFO IAML 03 02 42.2
comp=Z,620nm,1.0s
VICA Volcano Irazu 2.37 89⇑ *e*P **Pn 03 02 02.2 +0.9**
ICR3 Volcano Irazu 2.38 89⇑ *e*P **Pn 03 02 02.4 +0.9**
PCAYA Pacayas 2.41 91 *e*P **Pn 03 02 03.5 +1.9**
VTLA Turrialba Volc 2.44 89 *e*P **Pn 03 02 03.5 +1.3**
MOMN Momotombo 2.45 353 *i* P **Pn 03 02 03.2 +1.2**
MOMN IAML 03 02 21.4
comp=Z,12nm,1.0s
CVTQ Turrialba Volc 2.45 89 *e*P **Pn 03 02 03.9 +1.6**
CVTV Tajo 2.47 89 *e*P **Pn 03 02 04.5 +1.9**
MOM2 El Cardon 2.47 355 *i* P **Pn 03 02 03.7 +1.4**
MOM2 IAML 03 02 19.3
comp=Z,230nm,1.0s
CDM Cerro de Muert 2.49 99 *e*P **Pn 03 02 03.4 +0.5**
CDM Cerro de Muert 2.49 99 *i* P **Pn 03 02 03.6 +0.7**
CDM IAML 03 02 03.8
comp=Z,190nm,1.0s
VTCV VTCV, Calle Va 2.49 89‖ *e*P **Pn 03 02 04.7 +1.9**
VTLO VTLO 2.49 88‖ *e*P **Pn 03 02 04.1 +1.3**
BUS1 Rivas 2.50 99 *e*P **Pn 03 02 03.8 +0.7**
CNGA Al SSO del Vol 2.56 350 *i* P **Pn 03 02 03.5 0.0**
CNGA IAML 03 02 36.3
comp=Z,180nm,1.0s
CRIN San Cristobal 2.83 344 *e*P **Pn 03 02 08.6 +1.2**
CRIN San Cristobal 2.83 344 *i* P **Pn 03 02 08.8 +1.5**
CRIN IAML 03 02 46.4
comp=Z,530nm,1.0s
MATN Matagalpa 2.97 6 *i* P **Pn 03 02 10.1 +0.9**
MATN IAML 03 02 30.9
comp=Z,83nm,1.0s
DRK0 Durika 3.05 103 *e*P **Pn 03 02 11.1 +0.7**
LIMN Finca el Limon 3.08 358 *i* P **Pn 03 02 11.8 +1.0**
LIMN IAML 03 02 33.6
comp=Z,120nm,1.0s
BLUN Bluefields 3.17 50 *i* P **Pn 03 02 12.1 +0.2**
BLUN IAML 03 02 26.2
comp=Z,180nm,1.0s
POTG Potrero Grande 3.22 106 *e*P **Pn 03 02 14.3 +1.6**
CSGN Cosiguina Volc 3.26 337 *i* P **Pn 03 02 14.9 +1.7**
CSGN IAML 03 02 56.6
comp=Z,950nm,1.0s
PIRO Carate, Puerto 3.27 118 *e*P **Pn 03 02 14.8 +1.6**
EDAD Golfito 3.31 113 *e*P **Pn 03 02 15.4 +1.4**
RCPN Sur Rio San Ju 3.55 2 *i* P **Pn 03 02 17.8 +0.6**
RCPN IAML 03 02 29.9
comp=Z,0.5nm,1.0s
CMIG Matias Romero 10.98 311 Pn Pn 03 04 08.0 +8.8
comp=Z,0.1nm,0.3s,baz=117,slow=9.0,SNR=2.1
CMIG LR LR 03 07 39.4
comp=Z,36nm,20.9s,baz=44,slow=33
comp=Z,0.7nm,0.4s
TXAR Lajitas Array 25.24 322 P **P 03 06 51.1 +2.7**
comp=Z,0.5nm,0.5s,baz=139,slow=9.8,SNR=9.2
comp=Z,0.5nm,0.5s
SIV San Ignacio 35.87 136 LR LR 03 22 18.5
comp=Z,138nm,19.9s,baz=102,slow=35
PDAR Pinedale Array 38.51 332 P **P 03 08 41.2 -3.6**
comp=Z,0.1nm,0.3s,baz=122,slow=8.6,SNR=2.2
comp=Z,0.1nm,0.3s
NVAR Mina Array Bea 40.34 320 P **P 03 09 02.5 +2.3**
comp=Z,1.0nm,0.8s,baz=133,slow=7.8,SNR=4.7
comp=Z,1.0nm,0.8s
CFA Coronel Fontan 44.79 158 LR LR 03 27 09.6
comp=Z,86nm,21.7s,baz=102,slow=34
PLCA Paso Flores 52.48 165 LR LR 03 29 51.0
comp=Z,35nm,18.1s,baz=100,slow=32
YKA Yellowknife Ar 56.31 345 P **P 03 10 58.8 -3.8**
comp=Z,0.2nm,0.7s,baz=138,slow=6.6,SNR=2.8
comp=Z,0.2nm,0.7s
ILAR Eielson Array 68.76 336 P **P 03 12 24.5 -1.4**
comp=Z,0.3nm,0.8s,baz=104,slow=3.8,SNR=3.7
comp=Z,0.3nm,0.8s

*TIF **11** 03:13:19.6,38˚.50N×48˚.88E,h56km±2km*
*IDC **11** 03:13:20.2±4.5,38˚.82N×48˚.87E,h0km,mb3.4/2, mbtmp3.6/4,ML3.2/2, Error ellipse: s-maj=83.9km s-min=19.9km az=26.0*
*TEH **11** 03:13:21.1,38˚.59N×48˚.81E,h20km±70km,ML3.8*
*AZER **11** 03:13:22.3,38˚.63N×48˚.63E,h32km,ml3.4*
ISC 11 03:13:23.4±1.0,38˚.58N±0˚.03×48.70E±0˚.03,h33km±2km, n77,σ1⁄91/110,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTR	**Astara**	**0.07**	**102**	P	**Pb**	**03 13 29.3**	**+0.3**
ASTR				S	**Sb**	**03 13 34.5**	**+1.5**
LKRN	**Lenkeran, Azer**	**0.15**	**25**	P	Pn	03 13 29.4	+1.7
LKRN				S	**Sb**	**03 13 34.5**	**+0.8**
LRK	**Lerik**	**0.29**	**284**	Pg	**Pn**	**03 13 30.7**	**-0.4**
LRK	**Lerik**	**0.29**	**284**	P	**Pn**	**03 13 30.8**	**-0.4**
LRK				S	**Sn**	**03 13 36.9**	**+1.1**
YRD	**Yardimli**	**0.49**	**314**	Pg	**Pn**	**03 13 33.0**	**-1.2**
YRD	**Yardimli**	**0.49**	**314**	P	**Pn**	**03 13 33.1**	**-1.2**
YRD				S	**Sb**	**03 13 40.8**	**-0.6**
GRMI	**Germi**	**0.67**	**291**	Pg	**Pn**	**03 13 35.0**	**-1.7**
GLBA	**Clilabad**	**0.71**	**340**	Pg	**Pn**	**03 13 36.0**	**-1.0**
GLBA	**Clilabad**	**0.71**	**340**	P	**Pn**	**03 13 36.0**	**-1.0**
GLBA				S	**Sn**	**03 13 46.6**	**-0.1**
CSN1	**Caspian**	**1.06**	**163**	Pg	**Pn**	**03 13 41.3**	**-0.5**
ISRB	**Sarab**	**1.10**	**228**	Pg	**Pn**	**03 13 42.7**	**0.0**
SAAT	**Saatly**	**1.30**	**351**	Pn	**Pn**	**03 13 45.2**	**0.0**
SAAT				Sn	**Sn**	**03 14 03.1**	**+1.7**
IHRS	**Heris**	**1.32**	**259**	Pg	**Pn**	**03 13 45.6**	**-0.2**
QRD	**Qoradiz**	**1.39**	**310**	Pn	**Pn**	**03 13 45.1**	**-1.3**
QRD				Sn	**Sn**	**03 14 03.2**	**-0.4**
ALIB	**Äli-Bayra**	**1.40**	**10**	Pn	**Pn**	**03 13 47.7**	**+1.1**
ALIB				Sg	**Sb**	**03 14 07.8**	**+1.2**
BLQ	**Beylaqan**	**1.45**	**323**	Pn	**Pn**	**03 13 46.9**	**-0.3**
BLQ				Sn	**Sn**	**03 14 05.2**	**+0.2**
IHSH	**Hashtrud**	**1.70**	**222**	Pg	**Pn**	**03 13 50.9**	**-0.1**
LHJ2	**Lahijan - Gila**	**1.77**	**142**	Pg	**Pn**	**03 13 50.3**	**-1.4**
KDMR	**Kurdemir**	**1.84**	**348**	Pn	**Pn**	**03 13 53.8**	**+1.2**
KDMR				Sn	**Sn**	**03 14 15.8**	**+1.1**
ZRD	**Zardab**	**1.87**	**336**	Pn	**Pn**	**03 13 53.0**	**0.0**
ZRD				Sn	**Sn**	**03 14 17.9**	**+2.4**
AGDM	**Agdam**	**1.96**	**322**	Pn	**Pn**	**03 13 53.9**	**-0.4**
AGDM				Sn	**Sn**	**03 14 18.9**	**+1.0**
GBS	**Qobustan**	**1.97**	**5**	Pn	**Pn**	**03 13 56.5**	**+2.1**
GBS				Sn	**Sn**	**03 14 21.0**	**+3.0**
ITBZ	**Tabriz**	**2.03**	**261**	Pn	**Pn**	**03 13 55.3**	**-0.1**
BRDA	**Brd**	**2.06**	**326**	Pn	**Pn**	**03 13 55.8**	**+0.2**
BRDA				Sn	**Sn**	**03 14 22.2**	**+2.2**
JIR1	**Jirandeh**	**2.06**	**154**	Pn	**Pn**	**03 13 55.0**	**-0.8**
QSDN	**Sirdan**	**2.10**	**169**	Pn	**Pn**	**03 13 56.1**	**-0.3**
ORD	**Ordubad**	**2.14**	**280**	Pn	**Pn**	**03 13 57.1**	**+0.3**
ORD				Sn	**Sn**	**03 14 24.3**	**+2.0**
PQL	**Pirkuli**	**2.21**	**358**	Pn	**Pn**	**03 13 58.1**	**+0.2**
PQL				Sn	**Sn**	**03 14 25.8**	**+1.6**
IML	**Ismayilli**	**2.25**	**350**	Pn	**Pn**	**03 13 58.8**	**+0.5**
IML				Sn	**Sn**	**03 14 25.6**	**+0.6**
ATQJ	**Altiaghaj**	**2.29**	**5**	Pg	**Pb**	**03 14 02.9**	**-1.2**
ATQJ				Sg	**Sb**	**03 14 35.3**	**+3.3**
IMRD	**Marand**	**2.35**	**274**	Pn	**Pn**	**03 14 00.6**	**+0.8**
ISHB	**Shabestar**	**2.44**	**264**	Pn	**Pn**	**03 14 00.9**	**-0.1**
QBL	**Gabala**	**2.46**	**345**	Pn	**Pn**	**03 14 00.8**	**-0.3**
QBL				Sn	**Sn**	**03 14 30.0**	**0.0**
SIZA	**Siyzn**	**2.50**	**3**	Pg	**Pb**	**03 14 07.3**	**-0.4**
MNGR	**Mingechevir, A**	**2.52**	**331**	Pn	**Pn**	**03 14 02.6**	**+0.6**
MNGR				Sn	**Sn**	**03 14 33.8**	**+2.3**
NAX	**Nakhchivan**	**2.57**	**284**	Pg	**Pb**	**03 14 07.1**	**-1.8**
NAX				Sn	**Sn**	**03 14 35.3**	**+2.5**
SBZ	**Shahbuz**	**2.58**	**289**	Pn	**Pn**	**03 14 03.3**	**+0.3**
SBZ				Sn	**Sn**	**03 14 36.4**	**+3.2**
XNQ	**Khinaliq**	**2.63**	**351**	Pn	**Pn**	**03 14 04.1**	**+0.4**
XNQ				Sn	**Sn**	**03 14 35.5**	**+0.9**
GANJ	**Ganja**	**2.77**	**319**	Pn	**Pn**	**03 14 04.1**	**-1.3**
GANJ				Sn	**Sn**	**03 14 38.7**	**+1.1**
QUBA	**Quba, Azerbaij**	**2.78**	**357**	Pn	**Pn**	**03 14 06.0**	**+0.4**
QUBA				Sn	**Sn**	**03 14 40.7**	**+2.7**
KLST	**Kelardasht - M**	**2.78**	**137**	Pn	**Pn**	**03 14 04.7**	**-1.2**
SEKA	**Sheki**	**2.87**	**337**	Pn	**Pn**	**03 14 06.3**	**-0.6**
SEKA				Sn	**Sn**	**03 14 39.2**	**-1.1**
QSAR	**Qusar**	**2.96**	**354**	Pn	**Pn**	**03 14 09.0**	**+1.0**
QSAR				Sn	**Sn**	**03 14 44.1**	**+1.8**
MAHB	**Mahabad**	**2.98**	**234**	Pn	**Pn**	**03 14 09.7**	**+1.2**
GDB	**GEDABAY**	**3.12**	**314**	Pn	**Pn**	**03 14 10.1**	**-0.3**
GDB				Sn	**Sn**	**03 14 46.2**	**-0.4**
MZPU	**Pul - Mazandar**	**3.12**	**132**	Pn	**Pn**	**03 14 10.1**	**-0.3**
VSHL	**Vashlovani**	**3.19**	**327**	P	**Pn**	**03 14 11.7**	**+0.5**
VSHL				S	**Sn**	**03 14 48.9**	**+0.9**
HYR	**Heyderabad**	**3.20**	**292**	Pg	**Pb**	**03 14 18.1**	**-1.5**
HYR				Sn	**Sn**	**03 14 50.1**	**+1.7**
MAKU	**Maku**	**3.23**	**285**	Pn	**Pn**	**03 14 12.2**	**+0.4**
IRAZ	**Razeghan**	**3.31**	**162**	Pn	**Pn**	**03 14 12.9**	**-0.2**
ZKTA	**Zakatala**	**3.45**	**333**	Pn	**Pn**	**03 14 14.8**	**+0.1**
ZKTA				Sn	**Sn**	**03 14 53.7**	**-0.7**
DDL	**Dedoflistskaro**	**3.48**	**326**	P	**Pn**	**03 14 17.9**	**+2.6**
QZX	**Qazax, Azerbai**	**3.56**	**315**	Pn	**Pn**	**03 14 17.1**	**+0.8**
QZX				Sn	**Sn**	**03 14 55.7**	**-1.6**
IPRN	**Peran**	**3.72**	**128**	Pn	**Pn**	**03 14 18.0**	**-0.6**
LGD	**Lagodekhi**	**3.76**	**331**	P	**Pn**	**03 14 18.9**	**-0.1**
IALA	**Alasht**	**4.12**	**126**	Pn	**Pn**	**03 14 23.9**	**-0.3**
IDHR	**Dehrash**	**4.29**	**206**	Pn	**Pn**	**03 14 28.0**	**+1.5**
IVRN	**Varamin**	**4.32**	**145**	Pn	**Pn**	**03 14 26.9**	**+0.1**
IFIR	**Firoozkooh**	**4.37**	**131**	Pn	**Pn**	**03 14 28.0**	**+0.4**
IKOM	**Komasi**	**4.50**	**193**	Pn	**Pn**	**03 14 30.5**	**+1.2**
IGHG	**Ghaleghazi**	**4.57**	**203**	Pn	**Pn**	**03 14 32.0**	**+1.6**
IGLO	**Ghaloghah**	**4.57**	**115**	Pn	**Pn**	**03 14 29.7**	**-0.7**
CHRG	**Chargali**	**4.73**	**324**	P	**Pn**	**03 14 32.2**	**-0.2**
CHRG				S	**Sn**	**03 15 24.2**	**-1.9**
ISFB	**Sefidab**	**5.09**	**145**	Pn	**Pn**	**03 14 37.7**	**+0.3**
IANJ	**Anjilo**	**5.20**	**125**	Pn	**Pn**	**03 14 39.6**	**+0.6**
QAMS	**Qamsar**	**5.30**	**155**	Pn	**Pn**	**03 14 40.8**	**+0.4**
ILBA	**Ilam Banvizeh**	**5.34**	**203**	Pn	**Pn**	**03 14 41.7**	**+1.0**
IMND	**Minoodasht**	**5.47**	**102**	Pn	**Pn**	**03 14 40.5**	**-1.9**
MRVT	**Maraveh tapeh**	**5.90**	**97**	Pn	**Pn**	**03 14 46.9**	**-1.6**
KBZ	**Khabaz**	**6.76**	**321**	Pn	**Pn**	**03 15 01.8**	**+1.7**
	0.1nm,0.3s,baz=297,slow=15,SNR=1.7						
KBZ				Lg	Lg	03 16 51.8	
	0.1nm,0.3s,baz=259,slow=21,SNR=2.4						
	1.2nm,0.9s						
SBZV	**Sabzevar**	**7.42**	**104**	Pn	**Pn**	**03 15 09.1**	**-0.3**
GEYT	**Alibeck**	**7.44**	**92**	Pn	**Pn**	**03 15 07.3**	**-2.3**
	3.2nm,0.3s,baz=284,slow=13,SNR=23						
GEYT				Sn	**Sn**	**03 16 26.2**	**-6.7**
	1.7nm,0.3s,baz=245,slow=37,SNR=2.4						
	5.8nm,0.3s						
ISFR	**Sfrayin**	**7.52**	**99**	Pn	**Pn**	**03 15 09.9**	**-1.0**
IEMG	**Emamgholi**	**7.95**	**95**	Pn	**Pn**	**03 15 15.3**	**-1.5**
IPAY	**Payeh**	**8.45**	**101**	Pn	**Pn**	**03 15 23.3**	**-0.4**
BVAR	**Borovoye Array**	**20.80**	**39**	P	**P**	**03 18 00.4**	**-1.2**
	1.8nm,0.7s,baz=230,slow=9.0,SNR=9.8						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**25.87**	**61**	P	**P**	**03 18 51.6**	**-0.3**
	0.6nm,0.8s,baz=262,slow=8.2,SNR=5.7						
	0.6nm,0.8s						

*IDC **11** 03:18:27.9±0.4,30˚.63N×57˚.34E,h0km,mb4.7/32, mbtmp4.7/42,ML4.1/9,MS4.2/59,Error ellipse: s-maj=10.4km s-min=9.9km az=151.0*
*MOS **11** 03:18:27.9±0.9,30˚.65N×57˚.36E,h12km,mb5.1/69, MS4.3/9,Error ellipse: s-maj=4.0km s-min=3.0km az=105.2*
*TEH **11** 03:18:27.1,30˚.70N×57˚.39E,h6km±30km,ML5.2*
*BJI **11** 03:18:27.7±0.0,30˚.78N×57˚.08E,h15km,mb4.8/53, mB5.3/31,Ms4.7/31,Ms7 4.4/31*
*THR **11** 03:18:29.4±0.9,30˚.71N×57˚.36E,h15km±8km,ML4.8*
*NEIC **11** 03:18:30.2±1.4,30˚.73N±0˚.06×57˚.34E±0˚.03,h10km±1km, mb5.0/178,Error ellipse: s-maj=11.2km s-min=3.4km az=161.0*
*GCMT **11** 03:18:31.2±0.2,30˚.64N±0˚.02×57˚.41E±0˚.02,h18km, MW4.9/102,Moment Tensor Solution. s49,c54; s102,c149; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.32±.12; Mθθ-2.65±.09; Mφφ-0.66±.07; Mrθ-0.21±.21; Mθφ-0.58±.06; Mφr0.83±.23; Best double couple: Ms3.15500×10¹⁶ NP1:φs63.00000°,δ46.00000°, λ73.00000°. NP2:φs267.00000°,δ46.00000°,λ107.00000°. Principal axes: T 3.5030, Plg78.0000°, Azm255.0000°; N -0.6930, Plg12.0000°, Azm75.0000°; P -2.8070, Plg0.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DSN **11** 03:18:32.0±1.2,30˚.70N×57˚.39E,h19km±10km,mb5.4/3, ML4.6/13 Error ellipse: s-maj=9.5km s-min=3.4km az=91.0*
*OMAN **11** 03:18:34.7±0.2,30˚.43N×57˚.36E,h10km,mb5.7/26, ml4.6/5,ms3.7/2,Mwp4.8/4,Error ellipse: s-maj=7.3km s-min=1.3km az=305.0*

ISC 11 03:18:29.8±0.4,30˚.69N±0˚.03×57˚.35E±0˚.03,h12km±2km, h12km:pP-P,n765,σ1⁄945/773,mb5.0/246,MS4.2/70, 34C-29D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.20**	**199**	Pg	**Pg**	**03 18 33.3**	**-1.0**
ZRDN	**Zarand Kerman**	**0.75**	**292**	Pg	**Pg**	**03 18 43.3**	**-1.2**
KHGB	**Koh Gabri**	**0.81**	**248**	Pg	**Pg**	**03 18 44.6**	**-1.1**
CHMN	**Cheshme madani**	**0.84**	**169**	Pg	**Pg**	**03 18 44.9**	**-1.3**
CHMN				Sg	**Sg**	**03 18 56.8**	**-0.4**
TVBK	**TV Kerman**	**0.87**	**216**	Pg	**Pg**	**03 18 46.2**	**-0.5**
KRBR	**Kerman**	**0.87**	**216**	*i* Pg	**Pg**	**03 18 46.4**	**-0.3**
KRBR				*e*Sg	**Sb**	**03 18 58.6**	**-0.2**
KRBR				IAML		03 19 04.9	
	comp=E,20μm,0.5s						
KRBR				IAML		03 19 06.8	
	comp=N,21μm,0.6s						
NGRK	**Negar Kerman**	**1.17**	**207**	Pg	**Pb**	**03 18 51.5**	**-0.8**
IBAF	**Bafgh**	**1.77**	**301**	Pg	**Pb**	**03 19 01.6**	**-0.7**
KBAM	**BAM**	**1.82**	**148**	Pn	**Pn**	**03 19 01.9**	**+0.8**
BSRN	**Basiran**	**1.98**	**50**	*e*Pn	**Pn**	**03 19 03.8**	**+0.4**
BSRN				IAML		03 19 34.4	
	comp=E,7μm,0.5s						
BSRN	**Basiran**	**1.98**	**50**	Pn	**Pn**	**03 19 03.6**	**+0.2**
IKOO	**Kooshah**	**2.23**	**39**	Pn	**Pn**	**03 19 07.3**	**+0.4**
TPRV	**Parvadeh(Tabas**	**2.40**	**347**	Pn	**Pn**	**03 19 09.7**	**+0.7**
NHDN	**Nehbandan**	**2.42**	**73**	Pn	**Pn**	**03 19 10.2**	**+0.8**
IMEH	**Mehriz**	**2.45**	**287**	Pn	**Pn**	**03 19 11.8**	**+1.9**
ITEG	**Tejag**	**2.50**	**28**	Pn	**Pn**	**03 19 10.9**	**+0.4**
KHNJ	**Kahnooj**	**2.75**	**173**	Pn	**Pn**	**03 19 15.9**	**+2.1**
YZKH	**Yazd**	**2.90**	**306**	*e*Pn	**Pn**	**03 19 17.2**	**+1.2**
YZKH				IAML		03 20 08.7	
	comp=N,4μm,0.5s						
YZKH				IAML		03 20 09.1	
	comp=E,4μm,0.4s						
TKDS	**Koohdasht(Taba**	**2.92**	**356**	Pn	**Pn**	**03 19 16.7**	**+0.4**
ICHK	**Chekchek**	**2.95**	**302**	Pn	**Pn**	**03 19 19.0**	**+2.2**
TABS	**Tabas**	**2.96**	**356**	*e*Pn	**Pn**	**03 19 17.5**	**+0.8**
TABS				IAML		03 20 12.1	
	comp=N,6μm,0.8s						
TABS				IAML		03 20 18.4	
	comp=E,3μm,0.6s						
IDAH	**Dahanechah**	**2.96**	**46**	Pn	**Pn**	**03 19 17.4**	**+0.5**
AFRZ	**Afriz**	**3.07**	**27**	Pn	**Pn**	**03 19 18.9**	**+0.5**
ZHSF	**Zahedan**	**3.16**	**109**	*e*Pn	**Pn**	**03 19 20.7**	**+1.1**
ZHSF				IAML		03 20 14.9	
	comp=E,1μm,0.5s						
ZHSF				IAML		03 20 17.8	
	comp=N,2μm,0.4s						
ZHDN	**Zahedan**	**3.27**	**112**	Pn	**Pn**	**03 19 22.1**	**+1.0**
IBND	**Bandar-abas**	**3.31**	**193**	Pn	**Pn**	**03 19 24.8**	**+3.4**
TNSJ	**Nastanj**	**3.32**	**349**	Pn	**Pn**	**03 19 22.5**	**+0.7**
ISAD	**Sadrabad**	**3.36**	**292**	Pn	**Pn**	**03 19 23.9**	**+1.4**
GENO	**Geno**	**3.44**	**198**	Pn	**Pn**	**03 19 26.1**	**+2.7**
BNDS	**Bandar-Abbas**	**3.44**	**198**	*e*Pn	**Pn**	**03 19 25.7**	**+2.3**
BNDS				IAML		03 20 25.0	
	comp=E,1μm,0.5s						
BNDS				IAML		03 20 30.4	
	comp=N,1μm,0.6s						
SHRT	**Shahrakht**	**3.86**	**39**	*e*Pn	**Pn**	**03 19 29.9**	**+0.8**
SHRT				IAML		03 20 37.0	
	comp=E,929nm,0.5s						
SHRT				IAML		03 20 37.9	
	comp=N,551nm,0.6s						
SHRT	**Shahrakht**	**3.86**	**39**	Pn	**Pn**	**03 19 30.0**	**+0.8**
JHRM	**Jahrom**	**3.94**	**237**	Pn	**Pn**	**03 19 32.5**	**+2.2**
ANAR	**Anarak**	**3.96**	**310**	Pn	**Pn**	**03 19 31.0**	**+0.4**
LAR1	**LAR**	**3.98**	**222**	Pn	**Pn**	**03 19 32.8**	**+2.1**
SHI	**Shiraz**	**4.32**	**257**	Pn	**Pn**	**03 19 37.0**	**+1.5**
QIR1	**Qir**	**4.35**	**241**	Pn	**Pn**	**03 19 35.1**	**-0.7**
IRAM	**Ramesheh**	**4.40**	**286**	Pn	**Pn**	**03 19 38.4**	**+1.7**
NASN	**Na'in**	**4.40**	**300**	*e*Pn	**Pn**	**03 19 37.9**	**+1.1**
NASN				IAML		03 20 56.3	
	comp=E,814nm,0.6s						
NASN				IAML		03 21 04.5	
	comp=N,862nm,0.7s						
GHIR	**Ghir-Karzin**	**4.49**	**239**	*e*Pn	**Pn**	**03 19 39.3**	**+1.4**
SHME	**Shamm**	**4.74**	**193**	*i* P	**Pn**	**03 19 43.1**	**+1.9**
	SNR=17						
SHME	**Shamm**	**4.74**	**193**	P	**Pn**	**03 19 43.5**	**+2.3**
	SNR=39						
IZEF	**Zefreh**	**4.80**	**299**	Pn	**Pn**	**03 19 43.7**	**+1.4**
JASK	**Jask - Hormozg**	**4.83**	**174**	Pn	**Pn**	**03 19 44.0**	**+1.6**
JASK	**Jask - Hormozg**	**4.83**	**174**	P	**Pn**	**03 19 45.1**	**+2.7**
	SNR=35						
BANOM	**Banah**	**4.84**	**191**	*i* P	**Pn**	**03 19 45.1**	**+2.6**
	SNR=39						
BANOM	**Banah**	**4.84**	**191**	P	**Pn**	**03 19 45.2**	**+2.6**
IGAR	**Gharneh**	**4.84**	**292**	Pn	**Pn**	**03 19 44.5**	**+1.7**
LMD1	**Lamerd**	**4.96**	**229**	Pn	**Pn**	**03 19 45.4**	**+1.3**
KLNJ	**Kolanjah**	**4.96**	**275**	Pn	**Pn**	**03 19 46.1**	**+1.6**
TBJM	**Torbat-e-JAM**	**5.21**	**28**	Pn	**Pn**	**03 19 48.6**	**+0.8**
IBRJ	**Brojen**	**5.35**	**285**	Pn	**Pn**	**03 19 52.1**	**+2.3**
UMQ	**Umm Al-Quwin**	**5.36**	**197**	*i* P	**Pn**	**03 19 51.7**	**+2.1**
	SNR=5.5						
UMQ	**Umm Al-Quwin**	**5.36**	**197**	P	**Pn**	**03 19 53.0**	**+3.4**
MASF	**Masafi**	**5.40**	**191**	P	**Pn**	**03 19 52.9**	**+2.6**
	SNR=27						
SHRO	**Shahrood**	**5.40**	**348**	*e*Pn	**Pn**	**03 19 51.6**	**+1.2**
MSFE	**Esma-Masafi**	**5.41**	**191**	*i* P	**Pn**	**03 19 51.7**	**+1.2**
	SNR=70						
MDH	**Madha**	**5.45**	**190**	*i* P	**Pn**	**03 19 52.2**	**+1.3**
	SNR=16						
MDH	**Madha**	**5.45**	**190**	P	**Pn**	**03 19

IGLO **Ghaloghah** 6.50 334 Pn **Pn** 03 20 07.4 +1.9
SOHO **SOHO** 6.57 187 *i* P **Pn** 03 20 06.8 +0.5
SNR=18
SOHO **SOHO** 6.57 187 P **Pn** 03 20 07.0 +0.7
IALA **Alasht** 6.58 326 Pn **Pn** 03 20 09.0 +2.3
IDMV **Damavand** 6.60 319 Pn **Pn** 03 20 08.4 +1.3
DAMV **Damavand** 6.68 319 *e*Pn **Pn** 03 20 09.1 +1.1
IQOM **Qom** 6.71 310 Pn **Pn** 03 20 09.4 +0.8
IMND **Minoodasht** 6.75 347 Pn **Pn** 03 20 09.8 +1.1
ALNE **Al Ain** 6.76 192 *i* P **Pn** 03 20 10.3 +1.4
SNR=21
ALNE **Al Ain** 6.76 192 P **Pn** 03 20 11.3 +2.4
SNR=21
IEMG **Emamgholi** 6.79 9 Pn **Pn** 03 20 10.5 +0.8
IPRN **Peran** 6.94 324 Pn **Pn** 03 20 12.8 +1.3
IHSB **Hasanabad** 6.96 314 Pn **Pn** 03 20 12.8 +1.1
KHMZ **Khomeyn** 6.96 298 *e*Pn **Pn** 03 20 14.0 +2.2
JRN **Qarnain Island** 6.97 216 P **Pn** 03 20 13.6 +1.8
SNR=7.2
BJRD **Bojnurd** 6.99 0 *e*Pn **Pn** 03 20 14.3 +2.1
MRVT **Maraveh tapeh** 7.03 352 *e*Pn **Pn** 03 20 14.4 +1.8
MRVT **Maraveh tapeh** 7.03 352 Pn **Pn** 03 20 14.4 +1.8
BIDO **Bidbid** 7.17 174 P **Pn** 03 20 15.2 +0.6
SNR=6.1
GEYT **Alibeck** 7.25 5 **Pn** 03 20 17.3 +1.7
GEYT **Alibeck** 7.25 5 Pn **Pn** 03 20 17.7 +2.0
comp=N,6.3nm,0.3s,baz=181,slow=13,SNR=23
GEYT Sn **Sn** 03 21 39.5 +1.5
comp=N,4.7nm,0.3s,baz=168,slow=15,SNR=4.1
GEYT Lg Lg 03 22 20.4
comp=N,0.8nm,0.3s,baz=69,slow=8.1,SNR=4.8
comp=N,14nm,0.4s
GYA0 **ALIBECK ARRAY** 7.25 5 P **Pn** 03 20 17.5 +1.8
GYA0B **ALIBECK ARRAY** 7.25 5 **Pn** 03 20 16.9 +1.2
ASAO **Ashtian** 7.28 304 *e*Pn **Pn** 03 20 18.4 +2.2
ARQ **Araqi** 7.36 186 P **Pn** 03 20 19.9 +2.6
SNR=68
ARQ P **Pn** 03 20 19.9 +2.6
SNR=68
CHTH **Charan** 7.36 317 *e*Pn **Pn** 03 20 18.6 +1.2
SHMA **Al-Shehemyia** 7.41 231 P **Pn** 03 20 20.0 +2.2
SNR=16
MZPU **Pul - Mazandar** 7.49 321 Pn **Pn** 03 20 20.8 +1.6
WSAR **Wadi Sarin** 7.51 171 Pn **Pn** 03 20 19.6 +0.4
comp=N,174nm,0.4s,baz=12,slow=11,SNR=154
WSAR Sn **Sn** 03 21 45.0 +0.6
baz=193,slow=18
WSAR LR LR 03 23 34.8
comp=N,1μm,19.8s,baz=14,slow=41
WSAR **Wadi Sarin** 7.51 171 P **Pn** 03 20 20.0 +0.7
THKV **Tehran--Karaj** 7.51 316 *e*Pn **Pn** 03 20 19.7 +0.3
SMDO **Samad** 7.63 175 P **Pn** 03 20 21.9 +1.0
KLST **Kelardasht - M** 7.83 320 Pn **Pn** 03 20 25.0 +1.2
BSY **Bisya** 7.92 181 P **Pn** 03 20 28.0 +3.2
SNR=8.8
BSY P **Pn** 03 20 28.0 +3.2
SNR=8.8
TRNA **Turayna** 8.04 224 P **Pn** 03 20 26.7 +0.2
SNR=40
HAGD **Aghdareh** 8.05 303 Pn **Pn** 03 20 28.4 +1.7
WBK **Wadi Bani Khal** 8.18 169 P **Pn** 03 20 29.0 +0.5
SNR=147
WBK P **Pn** 03 20 29.0 +0.5
SNR=147
HSAM **Samen** 8.18 298 Pn **Pn** 03 20 30.9 +2.3
SMRA **Abu-Samra** 8.27 226 P **Pn** 03 20 29.7 0.0
JMDO **Jabal Madar** 8.31 175 P **Pn** 03 20 32.2 +1.9
IKFM **Kafar-mosalman** 8.54 292 Pn **Pn** 03 20 34.0 +0.7
JIR1 **Jirandeh** 8.69 316 Pn **Pn** 03 20 37.3 +1.8
JLN **Jalan Bani Buh** 8.70 167 P **Pn** 03 20 37.7 +2.1
GIDE **GILAN DEYLAMAN** 8.77 317 *e*Pn **Pn** 03 20 40.4 +3.7
SHBH1 **SHBH1** 8.80 217 S Sn 03 21 58.8 -17
SHBH1 **SHBH1** 8.80 217 P **Pn** 03 20 36.0 -0.9
IKOM **Komasi** 9.01 295 Pn **Pn** 03 20 39.8 -0.2
SMAN **Sihmah** 9.32 243 P **Pn** 03 20 42.3 -1.9
ZNJK **Zanjan** 9.36 312 *e*Pn **Pn** 03 20 44.5 -0.3
KCHF **Cheshme Sefid,** 9.41 295 Pn **Pn** 03 20 46.1 +0.7
NHRD **Haradh** 9.48 233 P **Pn** 03 20 45.6 -0.6
SNGE **Sanandaj** 9.48 300 *e*Pn **Pn** 03 20 49.2 +2.7
QYSM **Um Kedad** 9.57 255 P **Pn** 03 20 46.6 -0.9
MHTO **MHTO** 9.68 177 P **Pn** 03 20 50.4 +1.4
SNR=12
IGHG **Ghaleghazi** 9.80 295 Pn **Pn** 03 20 50.9 +0.1
ILBA **Ilam Banvizeh** 9.88 290 *e*Pn **Pn** 03 20 51.9 +0.1
ILBA **Ilam Banvizeh** 9.88 290 Pn **Pn** 03 20 51.4 -0.5
IDHR **Dehrash** 10.06 296 Pn **Pn** 03 20 55.2 +0.8
RQBS **RQBS** 10.51 254 P **Pn** 03 20 58.1 -2.3
KBL **Kabul** 10.58 66 Pn **Pn** 03 21 01.3 -0.2
KBL **Kabul** 10.58 66 P **Pn** 03 21 01.3 -0.2
KBL **Kabul** 10.58 66 P Pn 03 21 07.6 +6.1
SNR=10
RMAH **Rumah** 10.67 243 P **Pn** 03 21 01.4 -1.2
ISRB **Sarab** 10.71 314 Pn **Pn** 03 21 04.0 +0.7
DQM **DQM** 10.72 179 P **Pn** 03 21 04.6 +1.4
GRMI **Germi** 11.22 319 *e*Pn **Pn** 03 21 11.7 +1.6
GRMI **Germi** 11.22 319 Pn **Pn** 03 21 12.0 +1.9
IHRS **Heris** 11.40 315 Pn **Pn** 03 21 15.4 +2.6
ASYS 11.81 258 P **Pn** 03 21 15.6 -2.6
SIMJ **Simiganj** 12.45 47 Pn **Pn** 03 21 27.4 +0.3
DWDS **Al Duwadimi** 12.67 244 P **Pn** 03 21 26.9 -3.1
SHAO **Shalim** 12.71 187 P **Pn** 03 21 31.0 +0.5
SNR=23
DMTO **DMTO** 13.10 190 P **Pn** 03 21 34.6 -1.3
SNR=14
WHFO **Wadi Hawf** 13.12 195 P **Pn** 03 21 35.0 -1.2
SNR=152
RBK **Rabkut** 13.44 193 P **Pn** 03 21 39.6 -0.9
SNR=17
MAKU **Maku** 13.49 313 *e*Pn **Pn** 03 21 42.7 +1.4
HTM03 **HTM03** 13.55 258 P **Pn** 03 21 39.1 -2.9
NIL **Nilore** 13.79 74 **Pn** 03 21 45.9 +0.7
NIL **Nilore** 13.79 74 P **Pn** 03 21 45.9 +0.7
GNI **Garni** 13.94 316 **Pn** 03 21 47.9 +0.5
GNI **Garni** 13.94 316 *i* P **Pn** 03 21 48.3 +0.9
GNI **Garni** 13.94 316 Pn **Pn** 03 21 48.2 +0.8
comp=N,0.2nm,0.3s,baz=194,slow=22,SNR=1.1
GNI Lg Lg 03 25 53.4
comp=N,0.4nm,0.3s,baz=73,slow=19,SNR=1.5
GNI LR LR 03 28 11.3
comp=N,624nm,21.5s,baz=120,slow=42
comp=N,3.5nm,0.8s
BJDH **Asilah** 14.02 245 P **Pn** 03 21 44.6 -4.0
HIL01 **Al Amaaer** 14.37 254 P **Pn** 03 21 49.4 -3.9
BTK **Batken** 14.41 46 **Pn** 03 21 53.3 -0.5
BTK **Batken** 14.41 46 P **Pn** 03 21 53.3 -0.5
MAK **Makhachkala** 14.55 330 *e*P **Pn** 03 21 53.8 -1.7
MAK *e*S **Sn** 03 24 34.6 -2.1
MAK pmax pmax
comp=Z,145nm,1.2s
MAK MLR MLR
comp=Z,992nm,15.0s
KARS **Kars** 15.24 314 Pn **Pn** 03 22 04.8 -0.2
KARS lAmb lAmb 03 22 12.5
comp=Z,159nm,1.9s
KARS **Kars** 15.24 314 P **Pn** 03 22 04.8 -0.2
KARS pmax pmax
comp=Z,159nm,1.9s
AKH **Akhalkalaki** 15.47 318 Pn **Pn** 03 22 06.9 -1.1
AKH lAmb lAmb 03 22 15.0
comp=Z,122nm,1.7s
AKH **Akhalkalaki** 15.47 318 P **Pn** 03 22 06.9 -1.1
AKH pmax pmax
comp=Z,122nm,1.7s
GUDG **Gudauri** 15.63 322 P **Pn** 03 22 11.2 +1.1
OHH **Osh** 15.91 48 P **P** 03 22 15.5 -1.8
OHH pmax pmax
comp=Z,26nm,2.2s
ARK **Arkit** 16.16 43 P **Pn** 03 22 15.8 -1.1
ARK pmax pmax
comp=Z,43nm,0.8s
ZEI **Tsey** 16.16 322 *e*P **Pn** 03 22 18.0 +1.0
ZEI pmax pmax
comp=Z,61nm,1.1s
KK31 **Karatay Array** 16.23 37 Pn **Pn** 03 22 18.1 +0.3
KK31 **Karatay Array** 16.23 37 P **Pn** 03 22 17.4 -0.3
KKAR **Karatay Array** 16.23 37 Pn **Pn** 03 22 17.8 0.0
KKAR **Karatay Array** 16.23 37 Pn **Pn** 03 22 17.9 +0.2
KKAR lAmb lAmb 03 22 24.5
comp=Z,25nm,1.0s
KKAR **Karatay Array** 16.23 37 P **Pn** 03 22 17.9 +0.2
KKAR pmax pmax
comp=Z,25nm,1.0s
ONI **Oni** 16.27 321 Pn **Pn** 03 22 18.3 +0.1
ONI **Oni** 16.27 321 P **Pn** 03 22 18.3 +0.1
ONI pmax pmax
comp=Z,13nm,0.7s
ARSB **Arslanbob** 16.48 46 Pn **Pn** 03 22 20.5 -0.6
ARSB **Arslanbob** 16.48 46 P **Pn** 03 22 20.5 -0.6
ARSB pmax pmax
comp=Z,14nm,1.1s
DZA **Taraz** 16.52 39 *e*P **Pn** 03 22 21.8 +0.4
DZA **Taraz** 16.52 39 *e*P **Pn** 03 22 21.8 +0.4
baz=39
KBZ **Khabaz** 17.34 323 *ce*P **P** 03 22 33.8 +0.8
KBZ pmax pmax
comp=Z,76nm,2.5s
KBZ **Khabaz** 17.34 323 P **P** 03 22 32.9 -0.1
comp=Z,0.2nm,0.3s,baz=132,slow=11,SNR=16
KBZ LR LR 03 29 55.0
comp=Z,227nm,19.2s,baz=118,slow=40
comp=Z,18nm,0.8s
AML **Almayashu** 17.39 44 P **Pn** 03 22 31.3 -1.4
ASF **Jabal al Asfar** 17.52 280 P **P** 03 22 35.2 0.0
comp=Z,2.5nm,0.3s,baz=92,slow=6.5,SNR=48
ASF Lg Lg 03 27 46.0
comp=Z,0.1nm,0.3s,baz=268,slow=22,SNR=1.5
ASF LR LR 03 30 46.5
comp=Z,938nm,18.9s,baz=151,slow=42
comp=Z,53nm,0.8s
KSH **Kashi** 17.58 55 P **Pn** 03 22 29.9 -4.9
KSH pP P 03 22 33.1 -2.7
KSH sP pP 03 22 36.0 -3.6
KSH pmax pmax
comp=Z,13nm,0.8s
KSH pmax pmax
comp=Z,330nm,6.1s
KSH LR LR
comp=Z,970nm,12.7s
KSH LR LR
comp=Z,1μm,9.4s
KSH LR LR
comp=Z,970nm,12.4s
KVAR **Kislovodsk Arr** 17.60 323 P **P** 03 22 35.5 -0.6
baz=343,slow=19
comp=Z,5.9nm,0.9s
KIV **Kislovodsk** 17.61 323 **P** 03 22 35.7 -0.4
KIV lAmb lAmb 03 22 42.1
comp=Z,82nm,0.9s
KIV **Kislovodsk** 17.61 323 *e*P **P** 03 22 37.5 +1.4
KIV *e*S **Sn** 03 25 54.6 +3.5
KIV pmax pmax
comp=Z,95nm,1.1s
KIV **Kislovodsk** 17.61 323 *i* P **P** 03 22 35.9 -0.2
SNR=23
EKS2 **Erkin-Say** 17.75 43 P **P** 03 22 37.3 -0.5
SNR=19
GAZ **Gaziantep** 17.90 297 **P** 03 22 39.6 +0.3
UCH **Uchtor** 17.94 45 P **Pn** 03 22 38.9 -0.8
SNR=16
AAK **Ala-Archa** 18.16 44 P **P** 03 22 42.7 +0.3
SNR=19
AAK **Ala-Archa** 18.16 44 **P** 03 22 42.9 +0.6
AAK lAmb lAmb 03 22 47.5
comp=Z,154nm,1.8s
AAK **Ala-Archa** 18.16 44 *ce*P **P** 03 22 42.6 +0.3
AAK pmax pmax
comp=Z,117nm,2.5s
AAK **Ala-Archa** 18.16 44 *i* P **P** 03 22 43.3 +1.0
SNR=28
AAK **Ala-Archa** 18.16 44 P **P** 03 22 42.7 +0.3
comp=Z,0.6nm,0.3s,baz=210,slow=6.7,SNR=21
AAK LR LR 03 30 35.1
comp=Z,974nm,20.4s,baz=254,slow=40
comp=Z,13nm,0.7s
GOF **Gofitskoye** 18.21 326 *ce*P **P** 03 22 42.5 -0.2
KZA **Kyzart** 18.32 47 P **P** 03 22 46.9 +2.6
SNR=18
FRU1 **Bishkek** 18.35 44 **Pn** 03 22 43.6 -0.6
FRU1 **Bishkek** 18.35 44 P **Pn** 03 22 43.6 -0.6
FRU1 pmax pmax
comp=Z,35nm,1.0s
KBK **Karagaybulak** 18.45 45 P **Pn** 03 22 46.3 +0.7
SNR=13
AB31 **Akbulak array** 18.65 5 P **P** 03 22 47.2 -0.2
ABKAR **Akbulak array** 18.65 5 P **P** 03 22 46.7 -0.7
ABKAR **Akbulak array** 18.65 5 P **P** 03 22 46.7 -0.7
ABKAR lAmb lAmb 03 22 51.9
comp=Z,29nm,0.9s
GHAJ **Ghor Haditha** 18.68 277 P **P** 03 22 46.5 -1.5
SGDS **Sogindy** 18.73 42 *e*P **Pn** 03 22 49.0 +0.2
SGDS **Sogindy** 18.73 42 *e*P **Pn** 03 22 49.0 +0.2
baz=42
MMAI **Mount Meron Ar** 18.78 283 P **Pn** 03 22 50.0 +0.4
comp=Z,0.6nm,0.3s,baz=93,slow=12,SNR=13
MMAI LR LR 03 31 37.6
comp=Z,927nm,18.1s,baz=60,slow=42
comp=Z,9.1nm,0.8s
BOOM **Boomskoye usch** 18.97 47 P **P** 03 22 51.1 -0.1
BOOM lAmb lAmb 03 23 00.7
comp=Z,130nm,2.0s
BOOM **Boomskoye usch** 18.97 47 P **P** 03 22 51.1 -0.1
BOOM pmax pmax
comp=Z,131nm,2.0s
TKM2 **Tokmak 2** 18.99 45 P **Pn** 03 22 53.9 +1.8
SNR=18
TKM2 **Tokmak 2** 18.99 45 P **Pn** 03 22 53.0 +0.8
SOC **Sochi** 19.01 317 *e*P **P** 03 22 51.4 0.0
SOC *e* 03 26 25.7
SOC pmax pmax
comp=Z,20nm,0.7s
SOC MLR MLR
comp=Z,482nm,13.0s
EIL **Elat** 19.39 273 P **Pn** 03 22 56.8 -0.1
comp=Z,0.3nm,0.3s,baz=64,slow=4.1,SNR=20
EIL LR LR 03 31 50.9
comp=Z,789nm,18.2s,baz=78,slow=41
comp=Z,22nm,0.9s
BTLS **Baital** 19.41 38 *e*P **Pn** 03 22 56.4 -0.6
BTLS *e*S **S** 03 26 35.3 +0.2
BTLS pmax pmax
comp=Z,68nm,1.9s
BTLS **Baital** 19.41 38 *e*P **Pn** 03 22 56.5 -0.6
comp=Z,68nm,1.9s,baz=38
BTLS *e*S **S** 03 26 35.3 +0.2
baz=38
BNN **Bunyan** 19.42 301 P **Pn** 03 22 57.3 0.0
BNN lAmb lAmb 03 23 00.5
comp=Z,92nm,0.9s
AKTO **Aktyubinsk** 19.73 1 P **Pn** 03 23 00.1 -0.6
comp=Z,4.4nm,0.3s,baz=182,slow=8.8,SNR=137
AKTO LR LR 03 32 17.4
comp=Z,2μm,19.2s,baz=208,slow=42
comp=Z,42nm,0.6s
TARG **Taragay, Kyrgy** 19.80 51 P **P** 03 23 01.1 +0.6
TARG lAmb lAmb 03 23 11.3
comp=Z,184nm,1.8s
TARG **Taragay, Kyrgy** 19.80 51 P **P** 03 23 01.1 +0.6
TARG pmax pmax
comp=Z,184nm,1.8s
ERBR **Yeremizino-Bor** 19.95 323 *e*P **P** 03 22 59.8 -1.9
ERBR *e*S **S** 03 26 43.9 -2.1
ERBR pmax pmax
comp=Z,39nm,1.2s
KUU **Kurty** 19.99 43 *e*P **P** 03 23 02.5 +0.3
KUU **Kurty** 19.99 43 *e*P **P** 03 23 02.5 +0.3
baz=44
MDOK **Medeo** 20.02 46 *e*P **P** 03 23 03.1 +0.5
MDOK *e*S **S** 03 26 48.3 +0.7
MDOK **Medeo** 20.02 46 *e*P **P** 03 23 03.1 +0.5
baz=46
MDOK *e*S **S** 03 26 48.3 +0.7
baz=46
CHKK **Chushkaly** 20.35 44 *e*P **P** 03 23 06.6 +0.5
CHKK **Chushkaly** 20.35 44 *e*P **P** 03 23 06.6 +0.5
baz=44
CSS **Mathiatis** 20.61 288 P **P** 03 23 08.4 -0.6
CSS lAmb lAmb 03 23 21.5
comp=Z,54nm,0.9s
SATY **Saty** 20.82 48 *e*P **P** 03 23 11.8 +0.5
SATY **Saty** 20.82 48 *e*P **P** 03 23 11.8 +0.5
baz=48
ZHN **Zhinishke** 20.89 48 *e*P **P** 03 23 11.8 -0.3
ZHN **Zhinishke** 20.89 48 *e*P **P** 03 23 11.8 -0.3
baz=48
OTUK **Ortayu** 20.94 29 P **P** 03 23 13.2 +0.7
ANN **Anapa** 21.05 318 *e*P **P** 03 23 12.9 -0.7
ANN *e**PP **pP** 03 23 15.8 -1.8
ANN *e*S **S** 03 27 08.8 +1.1
ANN pmax pmax
comp=Z,78nm,1.3s
KPKS **Kokpek** 21.20 47 *e*P **P** 03 23 15.2 -0.1
KPKS **Kokpek** 21.20 47 *e*P **P** 03 23 15.3 -0.1
baz=47
UZB **Uzynbulak** 21.26 48 *e*P **P** 03 23 16.3 +0.3
UZB pmax pmax
comp=Z,67nm,2.1s
UZB **Uzynbulak** 21.26 48 *e*P **P** 03 23 16.4 +0.3
comp=Z,67nm,2.1s,baz=48
BR131 **Keskin Array S** 21.32 301 P **P** 03 23 17.5 +0.7
BR131 lAmb lAmb 03 23 22.0
comp=Z,63nm,0.9s
BR131 **Keskin Array S** 21.32 301 *i* P **P** 03 23 17.2 +0.5
BRTR **Keskin Array B** 21.32 301 P **P** 03 23 17.2 +0.5
comp=Z,39nm,0.9s,baz=122,slow=12,SNR=50
BRTR PcP **PcP** 03 27 20.6 -0.3
comp=Z,2.5nm,0.8s,baz=149,slow=4.0,SNR=4.4
BRTR LR LR 03 32 27.9
comp=Z,845nm,18.5s,baz=103,slow=39
comp=Z,39nm,0.9s
SHLS **Shalkode** 21.54 49 *e*P **P** 03 23 22.4 +3.3
SHLS pmax pmax
comp=Z,49nm,1.5s
SHLS **Shalkode** 21.54 49 *e*P **P** 03 23 22.5 +3.3
comp=Z,49nm,1.5s,baz=49
PDGK **Podgornoye** 21.64 48 P **P** 03 23 20.2 0.0
TDK **Taldyqorghan** 21.84 43 *e*P **P** 03 23 21.9 -0.2
TDK pmax pmax
comp=Z,85nm,1.3s
TDK **Taldyqorghan** 21.84 43 *e*P **P** 03 23 21.9 -0.2
comp=Z,85nm,1.3s,baz=43
ANTO **Ankara** 21.98 301 ⇑P **P** 03 23 24.7 +0.9
ANTO **Ankara** 21.98 301 P **P** 03 23 24.1 +0.4
ANTO **Ankara** 21.98 301 P **P** 03 23 24.7 +0.9
BR231 **Keskin MP Arra** 21.99 301 P **P** 03 23 24.6 +0.7
BRZS **Berezniki** 22.45 27 *e*P **P** 03 23 29.6 +0.9
BRZS **Berezniki** 22.45 27 *e*P **P** 03 23 29.7 +0.9
baz=26
BELG **Belogornoye** 22.83 345 *i* P **P** 03 23 32.4 -0.2
BELG pmax pmax
comp=Z,25nm,1.0s
BELG **Belogornoye** 22.83 345 P **P** 03 23 32.3 -0.2
comp=Z,130nm,0.9s,baz=303,slow=1.1,SNR=21
BELG LR LR 03 35 05.8
comp=Z,587nm,20.9s,baz=135,slow=44
comp=Z,130nm,0.9s
SIM **Simferopol'** 23.12 314 *e*P **P** 03 23 36.1 +0.4
SIM *e*S **S** 03 27 51.0 +4.2
SIM pmax pmax
comp=Z,123nm,0.9s
SIM smax smax
comp=N,310nm,8.9s
ISP **Isparta** 23.24 295 P **P** 03 23 37.2 +0.1
ISP **Isparta** 23.24 295 *ce*P **P** 03 23 38.8 +1.7
ISP pmax pmax
comp=Z,118nm,1.3s
MDUB **Mudurnu** 23.33 302 P **P** 03 23 37.2 -0.7
ATD **Arta Tunnel** 23.33 218 P **P** 03 23 39.0 +0.9
ATD lAmb lAmb 03 23 58.9
comp=Z,47nm,1.0s
ATD **Arta Tunnel** 23.33 218 P **P** 03 23 39.0 +0.9
comp=Z,0.3nm,0.4s,baz=70,slow=10,SNR=3.6
ATD LR LR 03 34 30.5
comp=Z,59nm,18.4s,baz=40,slow=41
HYB **Hyderabad** 23.39 120 *e*P **P** 03 23 40.4 +1.7
VRH **Novokhopyorsk** 23.55 335 *e*P **P** 03 23 40.1 +0.1
VRH pmax pmax
comp=Z,100nm,1.2s
ELL **Elmali** 23.57 292 P **P** 03 23 41.0 +0.6
ELL **Elmali** 23.57 292 P **P** 03 23 41.0 +0.6
ELL pmax pmax
comp=Z,487nm,0.8s
BRVK **Borovoye** 24.26 19 P **P** 03 23 47.2 +0.6
BRVK lAmb lAmb 03 23 52.1
comp=Z,55nm,1.1s
BRVK **Borovoye** 24.26 19 *ce*P **P** 03 23 47.6 +0.9
BRVK pmax pmax
comp=Z,119nm,2.5s
BVA0 **Borovoye Array** 24.26 19 P **P** 03 23 47.3 +0.6
BVAR **Borovoye Array** 24.26 19 P **P** 03 23 47.6 +0.9
comp=Z,57nm,0.8s,baz=200,slow=6.7,SNR=198
BVAR PcP **PcP** 03 27 26.4 -0.2
comp=Z,7.3nm,0.7s,baz=204,slow=2.5,SNR=7.3
BVAR LR LR 03 35 29.3
comp=Z,330nm,18.1s,baz=216,slow=42
comp=Z,57nm,0.8s
VORD **Divnogorie** 24.31 332 *e*P **P** 03 23 47.1 0.0
VORD pmax pmax
comp=Z,50nm,1.2s
VSR **Storozhevoye** 24.55 332 *e*P **P** 03 23 49.5 +0.2
VSR pmax pmax
comp=Z,60nm,0.9s
VORR **Voronezh** 24.89 333 *e*P **P** 03 23 51.9 -0.4
VORR pmax pmax
comp=Z,69nm,1.5s
MAKZ **Makanchi** 24.91 43 P **P** 03 23 53.2 +0.6
MAKZ lAmb lAmb 03 23 54.8
comp=Z,29nm,0.8s
MAKZ **Makanchi** 24.91 43 P **P** 03 23 53.9 +1.2
MK31 **Makanchi Array** 25.09 43 P **P** 03 23 54.5 +0.2
MK31 **Makanchi Array** 25.09 43 *i* P **P** 03 23 54.8 +0.5
MKAR **Makanchi Array** 25.09 43 P **P** 03 23 54.5 +0.2
MKAR **Makanchi Array** 25.09 43 P **P** 03 23 55.1 +0.9
comp=Z,12nm,0.7s,baz=227,slow=8.6,SNR=133
MKAR PcP **PcP** 03 27 27.5 -1.0
comp=Z,1.4nm,0.8s,baz=256,slow=2.4,SNR=3.5
comp=Z,12nm,0.7s
KURBB **Kurchatov Arra** 25.43 32 P **P** 03 23 58.5 +1.3
comp=Z,14nm,0.7s,baz=232,slow=9.2,SNR=106
KURBB PcP **PcP** 03 27 27.9 -1.2
comp=Z,2.2nm,0.7s,baz=236,slow=3.3,SNR=4.4
KURBB LR LR 03 35 19.8
comp=Z,920nm,19.8s,baz=174,slow=40
comp=Z,14nm,0.7s
KURK **Kurchatov** 25.53 32 P **P** 03 23 56.9 -1.3
KURK lAmb lAmb 03 24 01.6
comp=Z,28nm,1.0s
KURK **Kurchatov** 25.53 32 P **P** 03 23 58.8 +0.6
BALB **Balikesir** 25.60 298 P **P** 03 23 58.0 -1.0
BALB lAmb lAmb 03 23 59.9
comp=Z,38nm,0.9s
KARP **Karpathos** 25.69 289 P **P** 03 24 00.0 +0.1
LPSR **Galich'ya Gora** 25.72 334 *e*P **P** 03 23 59.2 -0.6
LPSR pmax pmax
comp=Z,40nm,0.7s
ARU **Arti** 25.74 2 P **P** 03 23 58.6 -1.4
ARU lAmb lAmb 03 24 08.7
comp=Z,38nm,1.1s
ARU **Arti** 25.74 2 *d* *i*P **P** 03 24 02.2 +2.1
ARU 03 24 36.7
ARU S **S** 03 28 33.4 +4.7
ARU SS **SnSn** 03 29 29.2 +5.5
ARU pmax pmax
comp=Z,33nm,1.0s
ARU MLR MLR
comp=Z,521nm,18.0s
ARU **Arti** 25.74 2 LR LR 03 35 15.9
comp=Z,546nm,18.8s,baz=169,slow=39
SEM **Semipalatinsk** 26.10 34 *e*P **P** 03 24 04.2 +0.6
SEM **Semipalatinsk** 26.10 34 *e*P **P** 03 24 04.2 +0.6
baz=34
SVE **Sverdlovsk** 26.23 4 *e*P **P** 03 24 05.9 +1.4
SVE *e*S **S** 03 28 44.6 +8.3
SVE pmax pmax
comp=Z,50nm,1.5s
SVE MLR MLR
comp=Z,867nm,12.0s
ZSN **Zaisan** 26.94 44 *e*P **P** 03 24 09.0 -2.0
ZSN **Zaisan** 26.94 44 *e*P **P** 03 24 09.1 -2.0
baz=44
ALN **Alexandroupoli** 27.23 301 P **P** 03 24 13.4 -0.2
ALN **Alexandroupoli** 27.23 301 P **P** 03 24 13.4 -0.2
ALN pmax pmax
comp=Z,18nm,1.1s
MILM **Milestii Mici** 27.31 314 *e*P **P** 03 24 14.0 -0.3
comp=Z,50nm,2.7s
MILM LRM MLR 03 40 02.0
comp=Z,500nm,15.0s
MILM **Milestii Mici** 27.31 314 *e*P **P** 03 24 14.0 -0.3
MILM pmax pmax
comp=Z,50nm,2.7s
WMQ **Urumqi** 27.31 53 *e*P **P** 03 24 14.8 +0.3
WMQ PP **PP** 03 25 07.4 -8.8
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ LR LR
comp=Z,320nm,16.1s

WMQ LR LR
comp=Z,370nm,20.5s
KIS Kishinev 27.34 315 *e*P **P 03 24 15.0 +0.4**
comp=Z,55nm,2.9s
KIS Kishinev 27.34 315 *e*P **P 03 24 15.0 +0.4**
KIS pmax pmax
comp=Z,55nm,2.9s
IDI Anoyia 27.54 288 LR LR 03 38 41.6
comp=Z,123nm,18.7s,baz=80,slow=44
RDO Rodhopi 27.66 301 P **P 03 24 17.0 -0.4**
RDO IAmb IAmb 03 24 18.5
comp=Z,22nm,1.0s
SORM Soroca 28.14 316 ⇓P **P 03 24 22.0 +0.2**
SORM Soroca 28.14 316 P **P 03 24 21.9 +0.2**
VRI Vrincioaia 28.20 311 ⇑P **P 03 24 23.5 +1.1**
VRI Vrincioaia 28.20 311 P **P 03 24 23.4 +1.1**
PLOR Plostina 28.25 311 ⇓P **P 03 24 23.9 +1.1**
PLOR Plostina 28.25 311 P **P 03 24 23.8 +1.1**
NEHR Nehoiu 28.32 310 ⇑P **P 03 24 25.5 +2.0**
KIRV Kirov 28.42 351 *ce*P **P 03 24 25.2 +1.2**
KIRV Kirov 28.42 351 LR LR 03 38 00.3
comp=Z,2µm,18.0s,baz=138,slow=41
TESR Tescani 28.50 312 ⇓P **P 03 24 25.7 +0.8**
COVR Voineasa-Covas 28.53 311 ⇓P **P 03 24 27.1 +1.8**
OBN Obninsk 28.55 335 ⇓P **P 03 24 26.5 +1.3**
OBN Obninsk 28.55 335 P **P 03 24 24.9 -0.3**
OBN Obninsk 28.55 335 *c* *i*P **P 03 24 26.0 +0.7**
OBN *e* 03 25 20.4
OBN pmax pmax
comp=Z,104nm,1.7s
OBN MLR MLR
comp=Z,347nm,15.0s
OBN Obninsk 28.55 335 LR LR 03 37 35.5
comp=Z,248nm,20.9s,baz=172,slow=40
MLR Muntele Rosu 28.58 310 ⇑P **P 03 24 27.2 +1.3**
MLR Muntele Rosu 28.58 310 P **P 03 24 24.3 -1.5**
MLR IAmb IAmb 03 24 32.5
comp=Z,17nm,0.9s
MLR Muntele Rosu 28.58 310 P **P 03 24 27.1 +1.3**
MLR Muntele Rosu 28.58 310 LR LR 03 37 58.7
comp=Z,254nm,19.0s,baz=105,slow=41
MOS Moscow 28.66 337 *e*P **P 03 24 24.7 -1.6**
MOS *e* 03 25 16.5
MOS pmax pmax
comp=Z,118nm,1.6s
TURR Turia 28.73 311 ⇓P **P 03 24 27.9 +0.8**
AKASG Malin Array Be 28.95 322 P **P 03 24 28.4 -0.4**
AKASG Malin Array Be 28.95 322 P **P 03 24 29.4 +0.5**
comp=Z,9.7nm,0.6s,baz=125,slow=8.6,SNR=73
AKASG PcP **PcP 03 27 36.4 -1.1**
comp=Z,3.0nm,0.7s,baz=87,slow=2.4,SNR=6.5
AKASG LR LR 03 39 26.5
comp=Z,214nm,19.0s,baz=80,slow=43
comp=Z,9.7nm,0.6s
AKBB Malin Array Si 28.95 322 P **P 03 24 28.0 -0.8**
AKBB IAmb IAmb 03 24 30.4
comp=Z,31nm,0.8s
AKBB Malin Array Si 28.95 322 *ce*P **P 03 24 29.4 +0.5**
KIEV Kiev 28.95 322 ⇑P **P 03 24 29.4 +0.5**
KIEV Kiev 28.95 322 P **P 03 24 29.0 +0.1**
KIEV IAmb IAmb 03 24 30.4
comp=Z,29nm,0.8s
KIEV Kiev 28.95 322 P **P 03 24 29.4 +0.5**
KIEV Kiev 28.95 322 *i* P **P 03 24 29.5 +0.5**
SNR=22
SRS Serrai 29.09 300 P **P 03 24 30.3 0.0**
SRS pmax pmax
comp=Z,24nm,1.4s
DOPR Dopca 29.11 311 ⇓P **P 03 24 31.0 +0.5**
VOIR 29.15 309 ⇑P **P 03 24 31.5 +0.5**
VOIR 29.15 309 P **P 03 24 31.4 +0.5**
ARR Arges 29.41 309 ⇓P **P 03 24 34.0 +0.9**
DGZ Jazzator, Alta 29.51 41 *c* *i*P **P 03 24 35.3 +1.2**
DGZ pmax pmax
comp=Z,7.0nm,0.6s
BURAR Bucovina Array 29.83 314 ⇑P **P 03 24 37.7 +0.8**
BURAR Bucovina Array 29.83 314 P **P 03 24 37.0 +0.1**
BURAR Bucovina Array 29.83 314 P **P 03 24 37.7 +0.8**
BUR08 Bucovina Ar. S 29.85 314 P **P 03 24 37.4 +0.3**
LOT Lotru 30.01 309 ⇑P **P 03 24 38.7 +0.2**
ARCR ARCALIA 30.17 312 ⇑P **P 03 24 41.4 +1.6**
BLKB Belogradchik 30.27 305 ⇓P **P 03 24 40.8 0.0**
ZAA0 Zalesovo Array 30.52 32 P **P 03 24 42.8 0.0**
ZAA0 IAmb IAmb 03 24 44.2
comp=Z,24nm,0.7s
ZALV Zalesovo Beam 30.52 32 P **P 03 24 43.0 +0.1**
ZALV Zalesovo Beam 30.52 32 P **P 03 24 43.2 +0.4**
comp=Z,26nm,0.7s,baz=239,slow=9.1,SNR=116
ZALV PcP **PcP 03 27 40.8 -0.7**
comp=Z,2.9nm,0.7s,baz=261,slow=2.8,SNR=3.4
ZALV LR LR 03 37 49.4
comp=Z,267nm,19.1s,baz=235,slow=38
comp=Z,26nm,0.7s
FNA Florina 30.70 299 P **P 03 24 44.1 -0.5**
FNA Florina 30.70 299 P **P 03 24 44.1 -0.5**
FNA pmax pmax
comp=Z,6.0nm,1.0s
DEV Deva 30.72 309 P **P 03 24 46.2 +1.5**
DEV pmax pmax
comp=Z,9.0nm,0.8s
SHL Shillong 30.80 91 P **P 03 24 44.9 -0.9**
SHL IAmb IAmb 03 24 48.4
comp=Z,18nm,0.9s
SHL Shillong 30.80 91 P **P 03 24 44.9 -0.9**
SHL pmax pmax
comp=Z,18nm,0.9s
SHL Shillong 30.80 91 P **P 03 24 48.4 +2.6**
SNR=7.2
MARR Marisel-Cluj 30.83 311 ⇓P **P 03 24 46.8 +1.1**
BOVS Bovan 30.96 305 ⇓P **P 03 24 46.6 -0.2**
BZS Buzias 31.51 308 ⇓P **P 03 24 51.9 +0.3**
BZS Buzias 31.51 308 P **P 03 24 51.9 +0.3**
SIRR Siria 31.66 310 ⇑P **P 03 24 54.1 +1.1**
MNK Minsk 31.79 327 *i* P **P 03 24 54.1 +0.1**
comp=E,10.0nm,1.1s
MNK *i* P **P 03 24 54.1 +0.1**
comp=N,23nm,1.1s
MNK *i* P **P 03 24 54.1 +0.1**
comp=Z,31nm,0.8s,baz=126
MNK *i* PP **PnPn 03 25 57.7 -0.5**
MNK *i* PPP PPP 03 26 06.9
MNK *i* S **S 03 30 04.7 +0.9**
MNK *i* SS **SnSn 03 31 53.3 +2.3**
MNK *i* SSS SSS 03 32 08.7
MNK *i* LQ LQ 03 35 19.5
MNK *i* LR LR 03 38 11.9
MNK *i* LRM MLR 03 40 16.6
MNK *i* LRM MLR 03 40 18.7
comp=E,90nm,13.2s
MNK *i* LRM MLR 03 40 56.5
comp=N,98nm,10.2s
MNK Minsk 31.79 327 *i* P **P 03 24 54.0 +0.1**
MNK *i* 03 25 57.6
MNK *i* S **S 03 30 04.7 +0.9**
MNK *i* SS **SnSn 03 31 53.3 +2.3**
MNK 03 35 19.5
MNK pmax pmax
comp=Z,31nm,0.8s
MNK pmax pmax
comp=N,23nm,1.1s
MNK pmax pmax
comp=E,10.0nm,1.1s
MNK MLR MLR
MNK MLR MLR
comp=N,98nm,10.0s
PALK Pallekele 31.96 132 LR LR 03 38 23.9
comp=N,368nm,20.6s,baz=58,slow=38
KOLS Kolonicke sedl 32.15 315 *e*P **P 03 24 59.1 +1.9**
KOLS pmax pmax
comp=Z,64nm,0.9s
KOLS Kolonicke sedl 32.15 315 *e*P **P 03 24 59.1 +1.9**
KWP Kalwaria Pacla 32.15 316 *e*P **P 03 24 58.1 +1.0**
KWP Kalwaria Pacla 32.15 316 P **P 03 24 55.8 -1.4**
KWP Kalwaria Pacla 32.15 316 P **P 03 24 55.8 -1.4**
KWP pmax pmax
comp=Z,43nm,1.0s
KLMR Klimovskoe 32.40 344 *e*P **P 03 24 57.5 -1.7**
KLMR pmax pmax
comp=Z,121nm,1.4s
KLMR MLR MLR
comp=Z,1µm,19.0s
NACGM Naroch 32.54 327 *e*P **P 03 24 58.7 -1.9**
CRVS Cervenica-Dubn 32.63 314 *e*P **P 03 25 03.2 +1.7**
CRVS pmax pmax
comp=Z,36nm,0.9s
CRVS Cervenica-Dubn 32.63 314 *e*P **P 03 25 03.2 +1.7**
PSZ Piszkesteto 33.30 312 ⇓P **P 03 25 08.0 +0.6**
PSZ Piszkesteto 33.30 312 P **P 03 25 07.2 -0.2**
PSZ Piszkesteto 33.30 312 P **P 03 25 07.2 -0.2**
PSZ pmax pmax
comp=Z,11nm,0.9s
KAAM Kaadhehdhoo 33.51 151 P **P 03 25 10.4 +1.0**
KAAM IAmb IAmb 03 25 38.3
comp=Z,26nm,1.1s
KAAM Kaadhehdhoo 33.51 151 P **P 03 25 09.7 +0.4**
comp=Z,24nm,1.1s
NIE Niedzica 33.53 315 P **P 03 25 12.0 +2.7**
NIE pmax pmax
comp=Z,4.0nm,1.9s
MORH Mrgy, Hungar 33.67 308 ⇓P **P 03 25 10.8 +0.4**
SUW Suwalki 33.84 323 *e*P **P 03 25 09.9 -1.9**
SUW Suwalki 33.84 323 P **P 03 25 10.3 -1.6**
SUW Suwalki 33.84 323 P **P 03 25 10.3 -1.6**
SUW pmax pmax
comp=Z,48nm,1.0s
SUW Suwalki 33.84 323 *e*P **P 03 25 11.1 -0.7**
LANS Liptovska Anna 33.95 314 *e*P **P 03 25 14.1 +1.1**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 33.95 314 *e*P **P 03 25 14.1 +1.1**
OJC Ojcow 34.11 316 *e*P **P 03 25 15.2 +0.8**
OJC Ojcow 34.11 316 P **P 03 25 15.1 +0.8**
OJC IAmb IAmb 03 25 16.5
comp=Z,32nm,1.1s
OJC Ojcow 34.11 316 P **P 03 25 15.1 +0.8**
OJC pmax pmax
comp=Z,32nm,1.1s
VYHS Vyhne 34.15 312 *e*P **P 03 25 15.3 +0.6**
VYHS pmax pmax
comp=Z,14nm,0.9s
VYHS Vyhne 34.15 312 *e*P **P 03 25 15.3 +0.6**
LODK Lodwar 34.16 222 P **P 03 25 16.1 +1.0**
PABE Paberze 34.22 326 P **P 03 25 14.6 -0.5**
PABE Paberze 34.22 326 *e*P **P 03 25 15.8 +0.7**
PUL Pulkovo 34.28 336 *ce*P **P 03 25 17.2 +1.6**
PUL pmax pmax
comp=Z,97nm,0.7s
VSVD Vaisvydziai 34.49 327 *e*P **P 03 25 18.6 +1.1**
VSU Vasula 34.74 332 *ce*P **P 03 25 19.5 -0.1**
VSU pmax pmax
comp=Z,54nm,1.7s
VSU Vasula 34.74 332 *e*P **P 03 25 20.5 +0.9**
OKC Ostrava-Krasne 34.99 314 *e*P **P 03 25 22.3 +0.4**
OKC Ostrava-Krasne 34.99 314 *e*P **P 03 25 22.3 +0.4**
JAVC Velka Javorina 34.99 313 *e*P **P 03 25 23.2 +1.1**
JAVC *e*PCP **PcP 03 27 54.4 +0.3**
MAUC Maruska 35.04 314 *e*P **P 03 25 22.9 +0.5**
SMOL Smolenice 35.05 312 *e*P **P 03 25 23.4 +0.9**
SMOL pmax pmax
comp=Z,7.0nm,0.9s
MODS Modra-Piesok 35.11 312 *e*P **P 03 25 24.1 +1.1**
MODS pmax pmax
comp=Z,23nm,1.0s
MODS Modra-Piesok 35.11 312 *e*P **P 03 25 24.1 +1.1**
MORC Moravsky Berou 35.34 314 ⇓P **P 03 25 25.6 +0.5**
MORC Moravsky Berou 35.34 314 PcP **PcP 03 27 54.4 -0.7**
MORC Moravsky Berou 35.34 314 *e*P **P 03 25 25.1 +0.1**
MORC *e*PCP **PcP 03 27 54.9 -0.2**
MORC Moravsky Berou 35.34 314 P **P 03 25 25.5 +0.5**
PBUR Paburge 35.47 326 *e*P **P 03 25 27.2 +1.3**
GTA Gaotai 35.57 64 *e*P **P 03 25 28.6 +1.4**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA LR LR
comp=Z,330nm,16.7s
GTA LR LR
comp=Z,250nm,16.4s
GTA LR LR
comp=Z,220nm,17.8s
RONA Rosalia, Austr 35.58 310 *i* P **P 03 25 27.3 +0.2**
comp=Z,13nm,1.1s,SNR=8.4
RONA *e*PcP **PcP 03 27 55.2 -0.6**
comp=Z,3.7nm,1.0s
VRAC Vranov 35.80 313 *e*P **P 03 25 29.2 +0.3**
BOJS Bojanci 35.85 306 *i* P **P 03 25 29.2 -0.1**
BOJS *i* PcP **PcP 03 27 56.5 -0.1**
KRUC Moravsky 35.86 313 *e*P **P 03 25 29.7 +0.3**
KRUC *e*PCP **PcP 03 27 56.2 -0.4**
KRLC Kraliky 35.90 314 *e*P **P 03 25 29.9 +0.1**
KRLC *e* 03 27 56.6
KRLC Kraliky 35.90 314 *e*P **P 03 25 29.9 +0.1**
KRLC Kraliky 35.90 314 *e*P **PcP 03 27 56.6 -0.1**
KRLC *ex* x 03 28 00.2
CONA Conrad Observa 35.92 311 *e*P **P 03 25 30.0 -0.1**
comp=Z,4.2nm,0.9s
CONA *e*PcP **PcP 03 27 55.3 -1.6**
comp=Z,4.1nm,1.2s
ARSA Arzberg 35.99 309 *e*P **P 03 25 31.3 +0.7**
comp=Z,4.2nm,0.7s
ARSA *e*PcP **PcP 03 27 56.8 -0.3**
comp=Z,4.4nm,1.0s
MTSE Matsula 36.10 331 *e*P **P 03 25 32.3 +1.0**
PDKS Podkum 36.12 307 *i* P **P 03 25 31.8 0.0**
PDKS *i* 03 25 33.2
SOKA Soboth 36.21 308 *e*P **P 03 25 32.9 +0.3**
comp=Z,1.2nm,0.6s
SOKA *e*PcP **PcP 03 27 57.9 +0.1**
comp=Z,5.2nm,0.9s
DPC Dobruska-Polom 36.26 315 *e*P **P 03 25 33.0 +0.1**
DPC *e* 03 27 58.2
DPC Dobruska-Polom 36.26 315 *e*P **P 03 25 33.0 +0.1**
DPC Dobruska-Polom 36.26 315 *e*P **PcP 03 27 58.2 +0.4**
DPC *ex* x 03 28 01.3
OSTC Ostas 36.39 315 *e*P **P 03 25 34.6 +0.6**
OSTC *e* 03 27 58.5
OSTC Ostas 36.39 315 *e*P **P 03 25 34.6 +0.6**
OSTC Ostas 36.39 315 *e*P **PcP 03 27 58.5 +0.3**
OSTC *ex* x 03 28 01.7
KSP Ksiaz 36.43 315 *e*P **P 03 25 35.1 +0.8**
CEY Cerknica 36.46 307 *i* P **P 03 25 33.6 -1.0**
CEY *i* PcP **PcP 03 27 56.0 -2.5**
TREC Trest 36.49 313 *e*P **P 03 25 34.9 0.0**
TREC Trest 36.49 313 *e*P **P 03 25 34.9 0.0**
CHVC Chvalec 36.50 315 *e*P **P 03 25 34.9 0.0**
CHVC Chvalec 36.50 315 *e*P **P 03 25 34.9 0.0**
UPC Upice 36.50 315 *e*P **P 03 25 33.8 -1.1**
UPC Upice 36.50 315 *e*P **P 03 25 33.8 -1.1**
OBKA Obir 36.50 308 *e*pP pP 03 25 38.4 -0.9
comp=Z,3.5nm,0.8s
GKP Gorka Klasztor 36.70 320 *e*P **P 03 25 37.9 +1.4**
MEF Metsahovi 36.78 333 *e*P **P 03 25 37.3 +0.2**
CAMP Campotosto 36.82 301 P **P 03 25 37.9 +0.1**
FIA1 FINESS Array S 36.95 335 P **P 03 25 38.7 +0.2**
FIA1 IAmb IAmb 03 25 43.7
comp=Z,40nm,0.8s
FINES FINESS Array B 36.95 335 P **P 03 25 39.2 +0.7**
FINES FINESS Array B 36.95 335 P **P 03 25 39.2 +0.7**
FINES FINESS Array B 36.95 335 P **P 03 25 39.0 +0.4**
comp=Z,8.6nm,0.5s,baz=132,slow=8.9,SNR=68
FINES LR LR 03 42 33.9
comp=Z,229nm,18.3s,baz=132,slow=39
comp=Z,8.6nm,0.5s
MOA Molln 36.95 310 *i* P **P 03 25 38.7 -0.1**
comp=Z,10nm,0.7s,SNR=6.2
KMBO Kilima Mbogo 36.97 215 P **P 03 25 39.5 0.0**
KMBO Kilima Mbogo 36.97 215 P **P 03 25 39.5 0.0**
KMBO pmax pmax
comp=Z,26nm,1.6s
KMBO Kilima Mbogo 36.97 215 P **P 03 25 39.3 -0.2**
comp=Z,4.4nm,0.7s,baz=28,slow=13,SNR=7.1
KMBO LR LR 03 43 13.9
comp=Z,294nm,18.2s,baz=78,slow=40
comp=Z,4.4nm,0.7s
SABO M.te Sabotino 37.06 307 P **P 03 25 39.0 -0.8**
SABO IAmb IAmb 03 25 40.7
comp=Z,11nm,0.9s
CKRC Cesky Krumlov 37.13 312 *e*P **P 03 25 40.1 -0.2**
CKRC *e* 03 28 00.3
CKRC Cesky Krumlov 37.13 312 *e*P **P 03 25 40.1 -0.2**
CKRC Cesky Krumlov 37.13 312 *e*P **PcP 03 28 00.3 -0.1**
CKRC *ex* x 03 28 03.5
PRED Cave del Predi 37.16 308 P **P 03 25 40.5 -0.2**
PRED **PcP 03 28 00.7 0.0**
PRU Pruhonice 37.27 314 *e*P **P 03 25 41.3 -0.1**
PRU Pruhonice 37.27 314 *e*P **P 03 25 41.3 -0.1**
BIOA Bad Ischl, Aus 37.33 310 *i* P **P 03 25 42.0 -0.1**
comp=Z,7.0nm,0.5s,SNR=6.1
ZVC Zvikov 37.35 313 *e*P **P 03 25 41.9 -0.2**
PRA Prague 37.35 314 *e*P **P 03 25 42.8 +0.7**
PRA Prague 37.35 314 *e*P **P 03 25 42.8 +0.7**
PVCC Panska Ves 37.39 314 *e*P **P 03 25 43.1 +0.7**
PVCC Panska Ves 37.39 314 *e*P **P 03 25 43.1 +0.7**
KBA Koelnbreinsper 37.42 309 *e*P **P 03 25 42.7 -0.3**
comp=Z,4.3nm,0.8s
KBA *e*PcP **PcP 03 28 01.0 -0.6**
comp=Z,5.6nm,1.0s
MURB Monte Urbino 37.52 302 IAmb IAmb 03 25 55.2
comp=Z,23nm,0.9s
GEC2 GERESS Array S 37.53 312 P **P 03 25 43.6 -0.2**
GEC2 IAmb IAmb 03 25 45.8
comp=Z,30nm,0.9s
GEC2 PcP **PcP 03 28 01.6 -0.2**
GERES GERESS Array B 37.53 312 P **P 03 25 43.7 -0.1**
comp=Z,25nm,0.9s,baz=99,slow=8.2,SNR=78
GERES PcP **PcP 03 28 01.5 -0.2**
comp=Z,3.5nm,0.7s,baz=113,slow=3.0,SNR=6.4
comp=Z,25nm,0.9s
CLUD Cludinico 37.63 308 P **P 03 25 45.0 +0.4**
CLUD PcP **PcP 03 28 01.9 -0.1**
KIBK Kibwezi 37.65 213 P **P 03 25 44.9 -0.1**
KHC Kasperske Hory 37.67 312 *ce*P **P 03 25 45.2 +0.3**
KHC pmax pmax
comp=Z,27nm,0.8s
KHC Kasperske Hory 37.67 312 *e*P **P 03 25 43.9 -1.0**
KHC Kasperske Hory 37.67 312 *e*P **PcP 03 28 01.9 -0.2**
RICC Richard 37.68 314 *e*P **P 03 25 45.0 +0.1**
BRG Berggiesshubel 37.87 315 *e*P **P 03 25 46.1 -0.4**
BRG Amp 03 25 47.9
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 37.87 315 *e*P **P 03 25 46.0 -0.4**
BRG pmax pmax
comp=Z,5.0nm,0.9s
LESA Schwarzleotal 37.92 309 *e*P **P 03 25 46.7 -0.5**
comp=Z,3.6nm,0.6s
LESA *e*PcP **PcP 03 28 02.5 -0.5**
comp=Z,6.4nm,1.1s
ABTA Abfaltersbach 37.93 308 *i* P **P 03 25 46.8 -0.3**
comp=Z,7.5nm,0.7s,SNR=5.4
ABTA *e*PcP **PcP 03 28 01.8 -1.2**
comp=Z,5.9nm,1.1s
HSKC Hora Svate Kat 38.11 314 *e*P **P 03 25 48.4 -0.2**
MOY Mondy 38.23 44 *e*P **P 03 25 51.0 +1.3**
MOY pmax pmax
comp=Z,43nm,2.4s
RAF Rauma 38.30 333 *e*P **P 03 25 49.9 -0.1**
TEOL Teolo 38.32 306 P **P 03 25 49.1 -1.3**
TEOL PcP **PcP 03 28 03.8 -0.3**
RUE Ruedersdorf 38.41 317 *e*P **P 03 25 50.8 -0.2**
CLL Collm 38.55 315 IAmb IAmb 03 25 56.6
comp=Z,28nm,1.0s
CLL Collm 38.55 315 *i* P **P 03 25 52.9 +0.7**
CLL *i* 03 25 55.4
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,300nm,18.0s
CLL Collm 38.55 315 *i* P **P 03 25 52.9 +0.7**
comp=Z,21nm,1.0s
CLL *i* pP **pP 03 25 55.4 -1.1**
comp=Z,32nm,1.0s
CLL *i* sP **sP 03 25 57.9 -0.4**
CLL *i* PP **PP 03 27 16.8 -3.6**
comp=Z,328nm,4.0s
CLL *e*S S 03 32 06.0 +18
CLL AMS AMS 03 45 00.0
comp=Z,300nm,18.0s
WTTA Wattenberg 38.60 309 *i* P **P 03 25 52.1 -0.8**
comp=Z,17nm,0.7s,SNR=10
NKC Novy Kostel 38.63 313 *e*P **P 03 25 53.0 0.0**
NKC Novy Kostel 38.63 313 *e*P **P 03 25 53.0 0.0**
WATA Walderalm 38.65 309 *e*P **P 03 25 52.6 -0.7**
comp=Z,9.7nm,0.7s,SNR=11
WATA *e*PcP **PcP 03 28 04.9 -0.4**
comp=Z,5.9nm,0.8s
BSD Bornholm Skovb 38.65 322 *e*P **P 03 25 52.9 -0.1**
BSD Bornholm Skovb 38.65 322 *i* P **P 03 25 52.0 -1.0**
BSD IAmb IAmb 03 25 54.0
comp=Z,96nm,1.2s
SQTA Sankt Quirin 38.88 308 *i* P **P 03 25 54.4 -0.8**
comp=Z,9.9nm,0.4s,SNR=5.2
SQTA *e*PcP **PcP 03 28 05.7 -0.3**
comp=Z,13nm,0.8s
LZH Lanzhou 38.91 69 *e*P **P 03 25 57.0 +1.4**
LZH pP sP 03 26 03.3 +1.8
LZH pmax pmax
comp=Z,37nm,1.2s
LZH LR LR
comp=Z,640nm,15.1s
LZH LR LR
comp=Z,400nm,14.8s
LZH LR LR
comp=Z,550nm,14.8s
MOTA Moosalm 38.97 309 *i* P **P 03 25 54.6 -1.3**
comp=Z,5.4nm,0.4s,SNR=5.7
MOTA *e*PcP **PcP 03 28 05.9 -0.4**
comp=Z,18nm,1.0s
PZH PanZhiHua 39.01 85 P **P 03 25 58.7 +2.1**
PZH S **S 03 31 55.8 +0.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,260nm,4.7s
PZH LR LR
comp=Z,180nm,10.9s
PZH LR LR
comp=Z,220nm,10.8s
PZH LR LR
comp=Z,190nm,12.3s
FETA Feichten 39.18 308 *i* P **P 03 25 56.9 -0.9**
comp=Z,14nm,0.7s,SNR=7.9
FETA *e*PcP **PcP 03 28 06.7 -0.3**
comp=Z,9.2nm,0.9s
RETA Reutte 39.22 309 *e*P **P 03 25 56.6 -1.4**
comp=Z,6.8nm,0.7s
RETA *e*PcP **PcP 03 28 06.7 -0.3**
comp=Z,5.2nm,0.8s
GRF Grafenberg Arr 39.29 312 *e*P **P 03 25 58.7 +0.2**
comp=Z,13nm,0.9s,baz=101,slow=8.6
ZAK Zakamensk 39.31 47 *e*P **P 03 25 59.3 +0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
RGN Rugen 39.32 320 *e*P **P 03 25 59.8 +1.2**
CHTO Chiang Mai 39.37 98 P **P 03 25 59.7 +0.2**
CHTO IAmb IAmb 03 26 05.5
comp=Z,69nm,1.7s
CHTO Chiang Mai 39.37 98 P **P 03 25 59.7 +0.2**
CHTO pmax pmax
comp=Z,69nm,1.7s
CHTO Chiang Mai 39.37 98 P **P 03 25 59.8 +0.3**
comp=Z,18nm,1.4s
CMMT Chiang Mai 39.38 98 P **P 03 25 59.9 +0.3**
comp=Z,48nm,1.4s,comp=Z,2µm
FUORN Ofenpass-Fuorn 39.44 307 P **P 03 25 59.4 -0.7**
FUORN **PcP 03 28 07.4 -0.6**
CMAR Chiang Mai Arr 39.53 98 P **P 03 26 01.6 +0.8**
comp=Z,2.4nm,0.6s,baz=292,slow=8.0,SNR=15
CMAR PcP **PcP 03 28 08.5 +0.1**
comp=Z,2.2nm,0.6s,baz=288,slow=4.7,SNR=4.9
CMAR LR LR 03 45 01.7
comp=Z,81nm,20.9s,baz=290,slow=40
comp=Z,2.4nm,0.6s
APA Apatity 39.55 346 ⇓*i*P **P 03 25 58.5 -1.8**
APA pmax pmax
comp=Z,31nm,0.7s
APA MLR MLR
comp=Z,900nm,13.0s
LVZ Lovozero 39.57 347 *i* P **P 03 26 00.7 +0.1**
LUNU Lund 39.62 322 *i* P **P 03 26 01.9 +0.8**
CD2 Chengdu 39.64 77 P **P 03 26 02.0 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,370nm,16.2s
DEL Delary 39.70 323 *e*P **P 03 26 02.0 +0.2**
DAVOX Davos/Dischmat 39.72 308 LR LR 03 44 16.2
comp=Z,243nm,18.5s,baz=82,slow=39
DAVA Damuels 39.78 308 *e*P **P 03 26 01.7 -1.1**
comp=Z,16nm,0.6s
DAVA *e*PcP **PcP 03 28 08.4 -0.5**
comp=Z,13nm,0.9s
VSL Villasalto 39.83 296 IAmb IAmb 03 26 07.7
comp=Z,21nm,0.9s

BJUU Bjuv 40.00 322 *i* P **P** **03 26 04.8 +0.6**
CRAI Chiangrai 40.01 95 P **P** **03 26 04.0 -0.8**
MBAR Mbarara 40.11 224 P **P** **03 26 05.7 -0.1**
MBAR Mbarara 40.11 224 *ce* P **P** **03 26 07.1 +1.3**
MBAR pmax pmax
comp=Z,19nm,1.0s
KEST Kesra 40.16 290 P **P** **03 26 06.3 +0.4**
comp=Z,5.1nm,0.9s,baz=31,slow=5.2,SNR=4.4
KEST LR LR 03 45 35.6
comp=Z,100nm,18.4s,baz=314,slow=40
comp=Z,5.1nm,0.9s
KMI Kunming 40.29 86 ⇓P **P** **03 26 08.4 +1.1**
KMI pmax pmax
comp=Z,30nm,0.9s
KMI LR LR
comp=Z,260nm,17.4s
PHRA Phrae 40.61 97 P **P** **03 26 10.3 +0.6**
BORU Boraas 40.70 325 *eP* **P** **03 26 10.6 +0.6**
SONM Songino Array 40.91 51 P **P** **03 26 12.0 -0.1**
SONM Songino Array 40.91 51 P **P** **03 26 13.2 +1.1**
comp=Z,4.2nm,0.8s,baz=268,slow=9.6,SNR=33
SONM LR LR 03 43 51.9
comp=Z,145nm,19.5s,baz=220,slow=37
comp=Z,4.2nm,0.8s
SBF Sospel 41.24 303 *eP* **P** **03 26 14.9 +0.1**
SBF pmax pmax
comp=Z,31nm,1.1s
HFS Hagfors 41.27 328 P **P** **03 26 15.0 +0.3**
comp=Z,5.3nm,0.6s,baz=116,slow=10,SNR=16
comp=Z,5.3nm,0.6s
ULN Ulaanbaatar 41.36 51 P **P** **03 26 15.1 -0.7**
ULN Ulaanbaatar 41.36 51 ⇑*iP* **P** **03 26 16.3 +0.5**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 41.36 51 P **P** **03 26 16.4 +0.6**
comp=Z,33nm,0.8s
SENIN Lac Senin/Sane 41.46 307 P **P** **03 26 16.1 -0.6**
SENIN IAmb IAmb 03 26 32.9
comp=Z,27nm,0.8s
SRDT SRDT 41.61 103 P **P** **03 26 19.7 +1.7**
comp=Z,30nm,0.9s,comp=Z,7µm
CDF Champ du Feu 41.66 310 *eP* **P** **03 26 17.3 -0.9**
CDF pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 41.72 309 P **P** **03 26 16.6 -2.0**
ECH Echery 41.72 309 P **P** **03 26 16.6 -2.0**
ECH pmax pmax
comp=Z,12nm,0.9s
MBDF Montbardon 41.74 304 *eP* **P** **03 26 18.8 -0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.8s
LPG La Plagne 41.79 305 *eP* **P** **03 26 18.6 -0.9**
LPG pmax pmax
comp=Z,9.0nm,0.9s
LPL La Plagne 41.80 305 *eP* **P** **03 26 18.7 -0.9**
LPL pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 41.82 305 P **P** **03 26 17.9 -1.7**
BNI IAmb IAmb 03 26 52.0
comp=Z,69nm,1.8s
BNI Bardonecchia 41.82 305 P **P** **03 26 17.9 -1.7**
BNI pmax pmax
comp=Z,69nm,1.8s
HINF Hinteralfeld 41.88 309 *eP* **P** **03 26 18.8 -1.2**
HINF pmax pmax
comp=Z,23nm,1.6s
MUD Monsted U'grnd 42.16 322 *eP* **P** **03 26 23.6 +1.6**
MUD IAmb IAmb 03 26 24.5
comp=Z,33nm,1.1s
CABF La Chapelle 42.31 307 *eP* **P** **03 26 22.1 -1.4**
CABF pmax pmax
comp=Z,16nm,1.0s
NRIK Noril'sk 42.35 15 P **P** **03 26 23.5 +0.1**
NRIK Noril'sk 42.35 15 *ce* P **P** **03 26 24.1 +0.7**
NRIK pmax pmax
comp=Z,27nm,1.3s
NRIK Noril'sk 42.35 15 P **P** **03 26 24.5 +1.1**
comp=Z,14nm,0.9s,baz=215,slow=6.1,SNR=23
NRIK LR LR 03 47 24.7
comp=Z,1µm,18.4s,baz=218,slow=41
comp=Z,14nm,0.9s
VADS Vadso 42.49 346 IAmb IAmb 03 26 25.3
comp=Z,39nm,0.9s
VADS *e*P **P** **03 26 25.4 +0.9**
NC602 NORSAR Array S 42.49 329 *eP* **P** **03 26 24.3 -0.4**
SLVN Son La 42.61 91 P **P** **03 26 27.4 +1.1**
SLVN IAmb IAmb 03 26 33.0
comp=Z,71nm,1.9s
BTNL Ternell 42.67 313 *dP* **P** **03 26 27.4 +1.0**
BHOU Houvegnez 42.72 312 *dP* **P** **03 26 27.8 +1.1**
BHOU *d*PP **PP** **03 28 03.9 -1.7**
MEM Membach 42.75 313 *dP* **P** **03 26 27.9 +0.9**
NB2 NORSAR Subarra 42.76 329 P **P** **03 26 26.4 -0.5**
comp=Z,1.6nm,0.7s,baz=113,slow=8.6
NB2 PP **PP** **03 28 10.6 +4.6**
comp=Z,6.4nm,1.0s,baz=115,slow=8.6
NB2 NORSAR Subarra 42.76 329 P **P** **03 26 26.4 -0.5**
baz=113,slow=8.6
NOA NORSAR Array B 42.76 329 P **P** **03 26 26.5 -0.4**
comp=Z,4.5nm,0.9s,baz=114,slow=8.0,SNR=11
NOA PP **PP** **03 28 07.7 +1.7**
comp=Z,2.7nm,0.8s,baz=118,slow=8.3,SNR=3.5
NOA LR LR 03 46 53.8
comp=Z,173nm,18.0s,baz=135,slow=40
comp=Z,4.5nm,0.9s
ARA0 ARCESS Array S 42.88 344 *eP* **P** **03 26 28.5 +0.8**
ARA0 IAmb IAmb 03 26 34.4
comp=Z,163nm,2.0s
ARCES ARCESS Array B 42.88 344 P **P** **03 26 28.1 +0.3**
ARCES IAmb IAmb 03 26 34.8
comp=Z,107nm,1.9s
ARCES ARCESS Array B 42.88 344 P **P** **03 26 28.4 +0.7**
comp=Z,6.1nm,0.7s,baz=141,slow=8.5,SNR=30
ARCES LR LR 03 48 13.2
comp=Z,312nm,21.2s,baz=101,slow=42
comp=Z,6.1nm,0.7s
KONO Kongsberg 42.98 327 *eP* **P** **03 26 29.1 +0.5**
HOMB Homborsund 43.05 324 *eP* **P** **03 26 29.8 +0.6**
KTK1 Kautokeino 43.05 343 *eP* **P** **03 26 29.3 +0.2**
KTK1 IAmb IAmb 03 26 33.2
comp=Z,33nm,1.1s
BCLA Clavier 43.17 313 *dP* **P** **03 26 30.8 +0.5**
comp=Z,6.5nm,1.0s
BCLA *d*PcP **PcP** **03 28 19.6 -0.2**
RCHB Rochefort 43.19 312 *dP* **P** **03 26 31.4 +0.9**
XAN Xi'an 43.32 71 ⇑P **P** **03 26 31.8 0.0**
XAN pP sP 03 26 42.4 +4.6
XAN pmax pmax
comp=Z,15nm,0.9s
BTO Baotou 43.37 62 *eP* **P** **03 26 33.1 +0.9**
BTO pP **sP** **03 26 37.7 -0.4**
BTO sP **pP** **03 26 40.4 +3.9**
BTO PP **PP** **03 28 16.0 +3.1**
BTO S **S** **03 32 59.1 -0.9**
BTO sS **sS** **03 33 10.4 +3.4**
BTO SS **SS** **03 36 05.0 -8.6**
BTO pmax pmax
comp=Z,23nm,0.8s
BTO pmax pmax
comp=Z,390nm,5.7s
BTO LR LR
comp=Z,910nm,13.8s
BTO LR LR
comp=Z,1µm,14.9s
BTO LR LR
comp=Z,800nm,11.7s
GIVF Givet 43.44 312 *eP* **P** **03 26 33.8 +1.3**
GIVF pmax pmax
comp=Z,23nm,1.0s
BMRD Maredsous 43.50 312 *dP* **P** **03 26 33.9 +0.9**
DOU Dourbes 43.59 312 *dP* **P** **03 26 34.3 +0.6**
comp=Z,10nm,1.0s
DOU *d*PP **PP** **03 28 14.4 -0.6**
SNART Snartemo 43.72 324 *eP* **P** **03 26 35.1 +0.5**
BAIF Baives 43.83 312 *eP* **P** **03 26 37.0 +1.3**
BAIF pmax pmax
comp=Z,53nm,1.5s
SMF Signal de Mont 43.86 307 *eP* **P** **03 26 35.5 -0.5**
SMF pmax pmax
comp=Z,19nm,1.1s
LOR Lormes 43.87 308 *eP* **P** **03 26 36.5 +0.5**
LOR pmax pmax
comp=Z,18nm,1.2s
MOR8 Moi Rana 43.91 336 *eP* **P** **03 26 35.8 -0.3**
MOR8 IAmb IAmb 03 26 42.4
comp=Z,26nm,1.3s

SKAR Skarslia 43.95 328 *eP* **P** **03 26 37.1 +0.6**
SKAR IAmb IAmb 03 26 38.9
comp=Z,26nm,1.1s
NSS Namsos 43.98 334 *eP* **P** **03 26 37.4 +0.7**
NSS IAmb IAmb 03 26 41.7
comp=Z,226nm,2.4s
SSF Saint Saulge 44.10 308 *eP* **P** **03 26 36.3 -1.6**
SSF pmax pmax
comp=Z,31nm,1.4s
DOMB Dombas 44.10 330 *eP* **P** **03 26 38.7 +1.0**
DOMB IAmb IAmb 03 26 40.2
comp=Z,35nm,1.4s
HAMF Hammerfest 44.12 345 *eP* **P** **03 26 38.3 +0.7**
JETT Jettan, Norway 44.16 342 *eP* **P** **03 26 38.8 +0.7**
AVF Avril sur Loir 44.20 307 *eP* **P** **03 26 38.3 -0.3**
AVF pmax pmax
comp=Z,33nm,1.6s
FAUS Fauske 44.30 338 *eP* **P** **03 26 39.5 +0.4**
FAUS IAmb IAmb 03 26 44.4
comp=Z,27nm,0.9s
ODD1 Odda 44.48 326 *eP* **P** **03 26 41.8 +1.0**
STOK Stokkvaagen 44.49 336 *eP* **P** **03 26 41.2 +0.6**
HHC Hu-ho-hao-te 44.52 61 *eP* **P** **03 26 42.8 +1.3**
HHC sP sP 03 26 55.0 +7.6
HHC *e*S **S** **03 33 19.0 +2.2**
HHC sS sS 03 33 24.9 +1.1
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,260nm,3.6s
HHC LR LR
comp=Z,540nm,13.9s
HHC LR LR
comp=Z,580nm,15.3s
HHC LR LR
comp=Z,670nm,16.1s
KONS Konsvik 44.54 336 *eP* **P** **03 26 41.6 +0.6**
TRO Tromso 44.60 342 *eP* **P** **03 26 42.1 +0.6**
TRO IAmb IAmb 03 26 42.7
comp=Z,28nm,0.8s
STEI Steigen 44.62 339 *eP* **P** **03 26 42.2 +0.4**
TCF Toulx Ste Croi 44.98 306 *eP* **P** **03 26 43.8 -1.2**
TCF pmax pmax
comp=Z,116nm,2.3s
AKN Aaknes 45.06 329 *eP* **P** **03 26 45.4 +0.1**
ASK Askoy 45.34 327 *eP* **P** **03 26 49.5 +2.0**
TIY Taiyuan 45.54 66 ⇑P **P** **03 26 53.4 +3.8**
TIY pmax pmax
comp=Z,19nm,0.6s
SUE Sulen 45.71 327 *eP* **P** **03 26 50.9 +0.5**
LYN LuoYang 46.11 70 *eP* **P** **03 26 54.9 +0.9**
LYN pmax pmax
comp=Z,16nm,0.5s
LDF La Druitiere 46.58 310 *eP* **P** **03 26 56.8 -0.7**
LDF pmax pmax
comp=Z,74nm,1.8s
TAM Tamanrasset 46.61 273 P **P** **03 26 57.0 -1.3**
TAM Tamanrasset 46.61 273 P **P** **03 26 57.0 -1.3**
TAM pmax pmax
comp=Z,5.0nm,1.0s
FLN La Foliniere 46.82 310 *eP* **P** **03 26 58.9 -0.5**
FLN pmax pmax
comp=Z,53nm,1.5s
BOD Bodaibo 46.97 38 *eP* **P** **03 27 00.7 +0.3**
BOD pmax pmax
comp=Z,38nm,1.4s
ETSF Etsaut 47.10 302 *eP* **P** **03 27 02.9 +1.1**
ETSF pmax pmax
comp=Z,23nm,1.4s
HNS HongShan 47.38 66 ⇓P **P** **03 27 07.3 +3.4**
HNS S **S** **03 34 06.4 +8.7**
HNS pmax pmax
comp=Z,11nm,1.4s
HNS LR LR
comp=Z,520nm,13.7s
HNS LR LR
comp=Z,310nm,16.2s
XLT XiLinHaoTe 47.61 57 *eP* **P** **03 27 02.8 -3.0**
XLT PcP **PcP** **03 28 36.6 +1.2**
XLT PP **PP** **03 28 54.5 -2.7**
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,290nm,4.6s
KULM Kulim 47.87 113 P **P** **03 27 09.2 +1.2**
comp=Z,13nm,1.5s
EDMD Edmundbyers 48.04 318 *eP* **P** **03 27 09.0 +0.2**
EDMD IAmb IAmb 03 27 10.5
comp=Z,21nm,0.5s
BJI Beijing 48.11 62 P **P** **03 27 10.7 +1.2**
BJI pP **pP** **03 27 13.8 0.0**
EKA Eskdalemuir Ar 48.77 319 P **P** **03 27 14.4 0.0**
comp=Z,3.6nm,0.4s,baz=102,slow=6.8,SNR=42
comp=Z,3.6nm,0.4s
ESK Eskdalemuir 48.79 319 *eP* **P** **03 27 14.2 -0.4**
ESK IAmb IAmb 03 27 16.0
comp=Z,40nm,1.2s
MCD Coleburn Disti 49.03 322 *eP* **P** **03 27 16.6 +0.2**
MCD IAmb IAmb 03 27 17.4
comp=Z,36nm,0.8s
INVG Invergeldie, C 49.35 320 *eP* **P** **03 27 18.5 -0.4**
TIA Tai'an 49.50 67 P **P** **03 27 21.3 +1.0**
TIA pmax pmax
comp=Z,9.0nm,1.0s
ESDC Sonseca Array 50.05 298 P **P** **03 27 23.5 -1.0**
comp=Z,3.2nm,0.8s,baz=58,slow=7.6,SNR=15
ESDC LR LR 03 49 42.2
comp=Z,93nm,18.4s,baz=57,slow=37
comp=Z,3.2nm,0.8s
LAWE Loch Awe, Argy 50.09 320 *eP* **P** **03 27 24.5 0.0**
LAWE IAmb IAmb 03 27 26.0
comp=Z,28nm,0.9s
LINV Loch Inver, As 50.12 322 *eP* **P** **03 27 24.7 +0.1**
LINV IAmb IAmb 03 27 26.4
comp=Z,31nm,0.8s
KPL Plockton 50.30 321 *eP* **P** **03 27 25.9 -0.1**
SPB2 Spitsbergen Ar 50.87 350 P **P** **03 27 30.9 +0.9**
SPA0 Spitsbergen Ar 50.87 350 *eP* **P** **03 27 30.1 -0.1**
SPITS Spitsbergen Ar 50.87 350 P **P** **03 27 30.3 +0.2**
comp=Z,7.9nm,0.7s,baz=147,slow=8.1,SNR=3.5
SPITS LR LR 03 52 47.3
comp=Z,698nm,18.5s,baz=100,slow=40
comp=Z,7.9nm,0.7s
NJ2 Nanjing 51.89 72 *eP* **P** **03 27 39.9 +1.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MDT Midelt 52.05 290 LR LR 03 53 25.6
comp=Z,28nm,20.9s,baz=30,slow=40
JMIC Jan Mayen 53.47 338 LR LR 03 52 55.6
comp=Z,192nm,18.4s,baz=56,slow=39
LSZ Lusaka 53.63 216 P **P** **03 27 51.8 +0.4**
LSZ IAmb IAmb 03 28 02.6
comp=Z,24nm,1.6s
LSZ Lusaka 53.63 216 P **P** **03 27 51.8 +0.4**
LSZ Lusaka 53.63 216 LR LR 03 51 17.8
comp=Z,331nm,18.8s,baz=354,slow=37
TOA0 Torodi Ar. Sit 53.97 264 P **P** **03 27 52.9 -1.1**
TORD Torodi Ar. Bea 53.97 264 P **P** **03 27 53.0 -0.9**
TORD IAmb IAmb 03 28 00.2
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 53.97 264 P **P** **03 27 53.0 -0.9**
comp=Z,17nm,0.7s,baz=53,slow=8.3,SNR=104
TORD LR LR 03 52 17.9
comp=Z,162nm,19.4s,baz=104,slow=38
comp=Z,17nm,0.7s
ZEA Zeya 54.24 43 *eP* **P** **03 27 57.5 +2.1**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,700nm,15.0s
CN2 Changchun 54.34 56 *eP* **P** **03 27 51.8 -4.5**
CN2 *e*S **S** **03 35 26.4 -7.7**
CN2 LR LR
comp=N,710nm,17.0s
CN2 LR LR
comp=E,580nm,17.0s
CN2 LR LR
comp=Z,640nm,18.0s
HEH HeiHe 54.69 48 *eP* **P** **03 27 58.7 0.0**
HEH pmax pmax
comp=Z,21nm,0.8s
HEH LR LR
comp=Z,1µm,13.3s

HEH LR LR
comp=Z,2µm,14.3s
YAK Yakutsk 55.17 33 *eP* **P** **03 28 01.4 -0.6**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,14nm,1.6s
YAK Yakutsk 55.17 33 LR LR 03 51 25.4
comp=E,6.0nm,21.5s,baz=272,slow=36
TIXI Tiksi 55.38 21 P **P** **03 28 03.0 -0.3**
TIXI IAmb IAmb 03 29 03.7
comp=Z,10nm,0.8s
TIXI Tiksi 55.38 21 *ce* P **P** **03 28 03.5 +0.2**
TIXI pmax pmax
comp=Z,24nm,1.7s
TIXI Tiksi 55.38 21 LR LR 03 54 32.6
comp=Z,14nm,18.9s,baz=266,slow=39
DAG Danmarks Havn 57.17 345 *i* P **P** **03 28 15.0 -1.0**
DAG IAmb IAmb 03 28 16.9
comp=Z,3.0nm,0.8s
KSRS Korea Array 57.62 63 P **P** **03 28 19.5 -0.3**
comp=Z,4.0nm,0.8s,baz=283,slow=7.4,SNR=9.3
KSRS LR LR 03 55 37.3
comp=Z,196nm,18.0s,baz=265,slow=39
comp=Z,4.0nm,0.8s
KLR Kul'dur 57.63 48 *ce* P **P** **03 28 19.9 +0.1**
KLR pmax pmax
comp=Z,9.0nm,0.8s
KLR Kul'dur 57.63 48 LR LR 03 55 52.0
comp=Z,606nm,21.4s,baz=274,slow=39
SCO Scoresbysund 57.85 337 *i* P **P** **03 28 22.5 +1.6**
SCO IAmb IAmb 03 28 25.4
comp=Z,5.4nm,0.8s
BORG Borgarnes 57.90 330 LR LR 03 57 52.6
comp=Z,79nm,18.1s,baz=68,slow=41
USRK Ussuriysk Ar. 58.87 54 P **P** **03 28 28.2 -0.3**
comp=Z,3.1nm,0.8s,baz=318,slow=2.6,SNR=5.8
USRK LR LR 03 57 28.2
comp=Z,257nm,18.1s,baz=279,slow=40
comp=Z,3.1nm,0.8s
SOEG Soedalen 61.43 335 *i* P **P** **03 28 46.1 +0.5**
SOEG IAmb IAmb 03 28 51.3
comp=Z,12nm,0.7s
TSUM Tsumeb 62.63 223 P **P** **03 28 53.4 -1.0**
TSUM IAmb IAmb 03 29 06.7
comp=Z,16nm,1.2s
TSUM Tsumeb 62.63 223 LR LR 03 59 33.1
comp=Z,381nm,18.1s,baz=14,slow=39
SUMG Summit 62.74 340 P **P** **03 28 55.2 +0.3**
SUMG Summit 62.74 340 P **P** **03 28 55.2 +0.3**
SUMG pmax pmax
comp=Z,25nm,1.0s
SUMG Summit 62.74 340 *i* P **P** **03 28 55.0 +0.1**
SUMG IAmb IAmb 03 28 57.0
comp=Z,8.6nm,0.8s
DBIC Dimbokro 62.77 261 P **P** **03 28 54.9 -0.5**
DBIC IAmb IAmb 03 29 01.9
comp=Z,11nm,1.0s
DBIC Dimbokro 62.77 261 P **P** **03 28 54.9 -0.5**
DBIC pmax pmax
comp=Z,11nm,1.0s
DBIC Dimbokro 62.77 261 P **P** **03 28 54.7 -0.7**
comp=Z,12nm,1.1s,baz=39,slow=7.7,SNR=7.2
DBIC LR LR 03 56 54.6
comp=Z,168nm,20.2s,baz=34,slow=37
comp=Z,12nm,1.1s
KIC Kosan Boka 62.83 261 ⇑*iP* **P** **03 28 55.2 -0.7**
comp=Z,12nm,0.7s
TIC Toumodi 62.92 261 ⇑*iP* **P** **03 28 58.6 +2.1**
comp=Z,3.1nm,0.3s
LIC Lamto 63.14 261 ⇑*iP* **P** **03 28 57.1 -0.8**
comp=Z,23nm,0.7s
LBTB Lobatse 63.19 212 P **P** **03 28 57.6 -0.4**
LBTB IAmb IAmb 03 30 02.9
comp=Z,29nm,1.7s
LBTB Lobatse 63.19 212 P **P** **03 28 57.6 -0.4**
LBTB pmax pmax
comp=Z,29nm,1.7s
LBTB Lobatse 63.19 212 LR LR 03 58 47.8
comp=Z,259nm,18.2s,baz=29,slow=38
ICESG Greenland Ices 64.13 337 *i* P **P** **03 29 03.5 -0.5**
ICESG IAmb IAmb 03 29 06.1
comp=Z,16nm,0.9s
NEEM North Greenlan 64.15 347 *i* P **P** **03 29 02.3 -1.8**
NEEM IAmb IAmb 03 29 05.5
comp=Z,6.1nm,0.7s
YSS Yuzh-Sakhalins 65.34 49 *eP* **P** **03 29 11.6 -0.3**
YSS pmax pmax
comp=Z,20nm,1.0s
SEY Seymchan 65.35 30 ⇑*iP* **P** **03 29 12.2 +0.5**
SEY pmax pmax
comp=Z,36nm,1.8s
SEY Seymchan 65.35 30 LR LR 04 00 49.7
comp=Z,702nm,18.7s,baz=302,slow=39
MJAR Matsushiro Arr 65.72 61 P **P** **03 29 14.2 -0.3**
comp=Z,1.9nm,0.7s,baz=243,slow=3.4,SNR=3.0
comp=Z,1.9nm,0.7s
MA2 Magadan 65.73 34 *ce* P **P** **03 29 15.7 +1.5**
MA2 pmax pmax
comp=Z,29nm,1.7s
MA2 Magadan 65.73 34 LR LR 04 01 41.4
comp=Z,169nm,18.3s,baz=296,slow=39
MPSI Mapaga 66.42 104 P **P** **03 29 18.7 -0.6**
comp=Z,25nm,1.0s,comp=Z,4µm
BOSA Boshof 66.44 211 P **P** **03 29 18.7 -0.5**
BOSA IAmb IAmb 03 29 20.2
comp=Z,23nm,1.3s
BOSA Boshof 66.44 211 P **P** **03 29 19.1 -0.2**
comp=Z,7.9nm,0.8s,baz=30,slow=7.3,SNR=15
BOSA LR LR 04 00 55.6
comp=Z,206nm,18.4s,baz=21,slow=38
comp=Z,7.9nm,0.8s
MMSI Mamuju 67.29 108 P **P** **03 29 24.3 -0.6**
comp=Z,36nm,0.9s,comp=Z,481nm
DY2G Dye2 67.43 335 *i* P **P** **03 29 24.2 -1.1**
DY2G IAmb IAmb 03 29 26.9
comp=Z,17nm,0.7s
EUNU Eureka 67.71 354 P **P** **03 29 26.1 -0.6**
SFJD Kangerlussuaq 68.74 336 LR LR 04 01 22.2
comp=Z,219nm,18.6s,baz=28,slow=37
KAPI Kappang 69.30 109 LR LR 04 02 21.4
comp=Z,50nm,19.8s,baz=289,slow=38
SUR Sutherland 71.64 212 LR LR 04 03 14.4
comp=Z,178nm,18.8s,baz=30,slow=38
SANI Sanae 72.81 103 P **P** **03 29 58.0 -0.8**
comp=Z,38nm,0.9s,comp=Z,871nm
RES Resolute Bay 73.32 353 LR LR 04 07 12.6
comp=Z,289nm,18.8s,baz=1.0,slow=40
SOEI Soe 75.68 111 P **P** **03 30 15.0 -0.6**
comp=Z,72nm,0.9s
C16K Lisburne Hills 76.37 15 IAmb IAmb 03 30 22.7
comp=Z,13nm,1.1s
SIJI Sorong 76.65 99 P **P** **03 30 20.4 -0.7**
comp=Z,32nm,1.0s,comp=Z,15µm
FRB Frobisher Bay 76.69 338 LR LR 04 07 00.7
comp=Z,101nm,18.3s,baz=358,slow=38
B22K Teshekpuk Lake 76.86 10 IAmb IAmb 03 30 27.6
comp=Z,21nm,1.1s
C19K Lookout Ridge 76.88 13 IAmb IAmb 03 30 27.3
comp=Z,16nm,1.3s
C18K Utukok River 76.95 14 IAmb IAmb 03 30 25.7
comp=Z,18nm,1.1s
B21K Ikpikpuk River 77.31 11 IAmb IAmb 03 30 28.2
comp=Z,13nm,0.9s
D19K Kuna River 77.68 13 IAmb IAmb 03 30 32.0
comp=Z,25nm,1.2s
E18K Tukpahlearik C 78.10 14 IAmb IAmb 03 30 33.5
comp=Z,12nm,1.0s
D22K Ayikyak River 78.29 11 IAmb IAmb 03 30 35.2
comp=Z,13nm,1.1s
F15K North Star Dit 78.61 16 IAmb IAmb 03 30 35.9
comp=Z,40nm,1.6s
E19K Redstone River 78.75 13 IAmb IAmb 03 30 36.9
comp=Z,37nm,1.9s
D25K Kavik River 78.78 8 IAmb IAmb 03 30 37.8
comp=Z,26nm,1.6s
F17K Baldwin Pennin 78.79 15 IAmb IAmb 03 30 35.3
comp=Z,26nm,1.6s
E22K Anaktuvuk Pass 79.10 11 IAmb IAmb 03 30 39.2
comp=Z,28nm,1.6s
F19K Shaleruckik Mo 79.19 13 IAmb IAmb 03 30 37.9
comp=Z,33nm,1.9s
F20K Avaraart Lake 79.39 13 IAmb IAmb 03 30 40.4
comp=Z,23nm,1.7s
G16K Koyuk River 79.41 16 IAmb IAmb 03 30 39.7

	comp=Z,12nm,1.1s						
D27M	**Malcolm River**	**79.46**	**7**	IAmb	IAmb	03 30 44.1	
	comp=Z,25nm,1.7s						
G19K	**Purcell Mounta**	**79.92**	**14**	IAmb	IAmb	03 30 43.3	
	comp=Z,18nm,1.1s						
E25K	**Arctic Village**	**80.01**	**9**	IAmb	IAmb	03 30 44.2	
	comp=Z,39nm,1.6s						
E28M	**Babbage River**	**80.21**	**6**	IAmb	IAmb	03 30 45.4	
	comp=Z,32nm,1.7s						
F24K	**Squaw Lake**	**80.26**	**10**	IAmb	IAmb	03 30 46.2	
	comp=Z,39nm,1.8s						
G21K	**Allakaket**	**80.28**	**12**	IAmb	IAmb	03 30 44.4	
	comp=Z,30nm,1.9s						
E27K	**Coleen River**	**80.41**	**7**	IAmb	IAmb	03 30 45.8	
	comp=Z,27nm,1.6s						
H18K	**Honhosa River**	**80.52**	**14**	P	**P**	**03 30 41.4**	**-0.1**
H18K				IAmb	IAmb	03 30 47.3	
	comp=Z,31nm,1.6s						
E29M	**Blow River**	**80.57**	**6**	IAmb	IAmb	03 30 47.2	
	comp=Z,21nm,1.6s						
INK	**Inuvik**	**80.97**	**4**	IAmb	IAmb	03 30 48.2	
	comp=Z,22nm,1.6s						
INK	**Inuvik**	**80.97**	**4**	LR	LR	04 11 27.9	
	comp=Z,122nm,19.9s,baz=0.0,slow=39						
I17K	**Unalakleet**	**81.07**	**16**	P	**P**	**03 30 44.4**	**-0.1**
F28M	**Old Crow**	**81.14**	**7**	IAmb	IAmb	03 30 50.5	
	comp=Z,40nm,1.9s						
H21K	**Melozitna River**	**81.17**	**12**	IAmb	IAmb	03 30 51.2	
	comp=Z,43nm,1.8s						
FITZ	**Fitzroy Crossi**	**81.59**	**117**	P	**P**	**03 30 46.6**	**-1.4**
G27K	**Doyon Strip**	**81.73**	**7**	IAmb	IAmb	03 30 54.1	
	comp=Z,45nm,1.9s						
H24K	**Noodor Dome**	**81.83**	**10**	P	**P**	**03 30 48.4**	**-0.2**
H24K				IAmb	IAmb	03 30 54.5	
	comp=Z,25nm,1.6s						
G30M	**tAoh Zraii Nji**	**82.09**	**5**	IAmb	IAmb	03 30 53.9	
	comp=Z,32nm,1.6s						
J19K	**Poorman**	**82.11**	**14**	IAmb	IAmb	03 30 55.5	
	comp=Z,36nm,1.8s						
K15K	**Wolf Creek Mou**	**82.21**	**17**	IAmb	IAmb	03 30 52.2	
	comp=Z,28nm,1.2s						
I23K	**Minto, Yukon-K**	**82.24**	**11**	IAmb	IAmb	03 30 56.4	
	comp=Z,31nm,1.8s						
SCHQ	**Schefferville**	**82.29**	**331**	P	**P**	**03 30 51.0**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=35,slow=8.3,SNR=5.4						
SCHQ				LR	LR	04 10 38.9	
	comp=Z,101nm,18.1s,baz=176,slow=38						
	comp=Z,4.8nm,0.8s						
PRP	**Porcupine Dome**	**82.48**	**9**	P	**P**	**03 30 52.4**	**+0.3**
PRP				IAmb	IAmb	03 30 57.6	
	comp=Z,20nm,1.7s						
MDM	**Murphy Dome**	**82.60**	**11**	IAmb	IAmb	03 30 57.0	
	comp=Z,29nm,1.5s						
KNRA	**Kununurra**	**82.64**	**113**	P	**P**	**03 30 54.2**	**+0.7**
TTA	**Tatalina**	**82.97**	**15**	IAmb	IAmb	03 30 58.5	
	comp=Z,26nm,1.5s						
IL31		**82.98**	**10**	IAmb	IAmb	03 30 58.2	
	comp=Z,32nm,1.9s						
ILAR	**Eielson Array**	**82.98**	**10**	P	**P**	**03 30 53.6**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=319,slow=4.3,SNR=22						
ILAR				LR	LR	04 15 34.2	
	comp=Z,154nm,18.1s,baz=264,slow=41						
	comp=Z,1.3nm,0.7s						
K20K	**Telida**	**83.00**	**14**	IAmb	IAmb	03 30 58.7	
	comp=Z,8.4nm,1.0s						
I28M	**Miner Creek**	**83.24**	**7**	IAmb	IAmb	03 31 00.2	
	comp=Z,24nm,1.8s						
CAST	**Castle Rocks**	**83.34**	**13**	P	**P**	**03 30 56.7**	**+0.3**
J25K	**Salcha River,**	**83.36**	**10**	IAmb	IAmb	03 31 01.6	
	comp=Z,23nm,1.6s						
I30M	**Mount Dempster**	**83.81**	**6**	IAmb	IAmb	03 31 03.6	
	comp=Z,32nm,1.8s						
L19K	**White Mountain**	**83.88**	**15**	P	**P**	**03 30 59.3**	**0.0**
RND	**Reindeer**	**83.94**	**12**	IAmb	IAmb	03 31 03.7	
	comp=Z,22nm,1.4s						
SCRK	**Sand Creek**	**84.16**	**9**	P	**P**	**03 31 01.2**	**+0.5**
J30M	**Hart River**	**84.45**	**6**	P	**P**	**03 31 02.0**	**-0.2**
J30M				IAmb	IAmb	03 31 07.6	
	comp=Z,24nm,1.5s						
DAWY	**Dawson**	**84.64**	**7**	IAmb	IAmb	03 31 08.2	
	comp=Z,22nm,1.5s						
K29M	**Barlow Dome**	**85.05**	**7**	IAmb	IAmb	03 31 09.1	
	comp=Z,5.6nm,0.8s						
SUA	**Susitna One**	**85.38**	**13**	IAmb	IAmb	03 31 07.9	
	comp=Z,18nm,1.0s						
WRGLY	**Wrigley**	**86.40**	**0**	IAmb	IAmb	03 31 17.6	
	comp=Z,19nm,1.2s						
YKA	**Yellowknife Ar**	**86.92**	**356**	P	**P**	**03 31 14.3**	**0.0**
	comp=Z,5.7nm,0.8s,baz=359,slow=5.2,SNR=83						
YKA				LR	LR	04 14 49.2	
	comp=Z,231nm,19.8s,baz=340,slow=39						
	comp=Z,5.7nm,0.8s						
FCC	**Fort Churchill**	**87.76**	**346**	P	**P**	**03 31 18.2**	**-0.2**
FCC				IAmb	IAmb	03 31 18.9	
	comp=Z,6.6nm,0.9s						
FCC	**Fort Churchill**	**87.76**	**346**	P	**P**	**03 31 18.2**	**-0.2**
FCC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KDAK	**Kodiak Island**	**88.34**	**16**	LR	LR	04 15 25.5	
	comp=Z,156nm,19.9s,baz=16,slow=39						
WRA	**Warramunga Arr**	**89.41**	**114**	P	**P**	**03 31 26.1**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=313,slow=4.1,SNR=13						
	comp=Z,2.4nm,0.6s						
AS31	**Alice Springs**	**91.09**	**117**	P	**P**	**03 31 33.9**	**-0.9**
ASAR	**Alice Springs**	**91.09**	**117**	P	**P**	**03 31 34.1**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=306,slow=4.8,SNR=21						
	comp=Z,5.0nm,0.7s						
ULM	**Lac du Bonnet**	**95.99**	**343**	P	**P**	**03 31 55.8**	**-1.0**
	comp=Z,5.1nm,0.8s,baz=28,slow=4.5,SNR=12						
ULM				LR	LR	04 17 55.7	
	comp=Z,104nm,18.8s,baz=300,slow=37						
	comp=Z,5.1nm,0.8s						
BBB	**Bella Bella**	**97.34**	**3**	LR	LR	04 21 46.1	
	comp=Z,218nm,18.0s,baz=334,slow=39						
MAW	**Mawson**	**98.08**	**178**	LR	LR	04 09 48.4	
	comp=Z,72nm,21.0s,baz=356,slow=31						
TXAR	**Lajitas Array**	**117.63**	**341**	PKP	**PKPdf**	**03 37 15.6**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=204,slow=2.7,SNR=5.3						
TGUH	**Tegucigalpa,Un**	**123.99**	**317**		**PKPdf**	**03 37 28.4**	**-0.5**
OTAV	**Otavalo**	**127.98**	**298**		**PKPdf**	**03 37 35.7**	**-1.4**
OTAV	**Otavalo**	**127.98**	**298**	PKIKP	**PKPdf**	**03 37 35.7**	**-1.4**

IDC ***11*** *03:23:46.8±1.8,4.˚61S×128.˚71E,h0km,mb4.0/3, mbtmp3.9/5,ML3.4/2,Error ellipse: s-maj=163.2km s-min=23.5km az=68.0*

DJA ***11*** *03:23:48.1±0.3,4.˚S±3.˚×13.˚0E±.˚,h10km,M4.0/12,mb4.3/2, MLv3.9/12*

ISC 11 03:23:47.7±0.8,4.˚22S±0.˚06×129.˚61E±0.˚06,h10km,n15, σ1§08/17,mb4.1/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.42**	**136**	P	**Pg**	**03 23 56.9**	**+0.9**
BNDI				S	**Sg**	**03 24 03.2**	**+1.6**
KRAI	**Karang Ratu**	**1.51**	**306**	P	**Pn**	**03 24 15.0**	**+0.2**
NLAI	**Namlea**	**2.69**	**291**	P	**Pn**	**03 24 31.3**	**+0.2**
FAKI	**Fak Fak**	**2.93**	**64**	P	**Pn**	**03 24 34.5**	**+0.1**
SIJI	**Sorong**	**3.71**	**26**	P	**Pn**	**03 24 46.1**	**+0.9**
SWI	**Sorong**	**3.71**	**26**	P	**Pn**	**03 24 45.2**	**0.0**
SAUI	**Saumlaki**	**4.10**	**156**	P	**Pn**	**03 24 51.0**	**+0.5**
KMPI	**Kaimana, Papua**	**4.12**	**82**	P	**Pn**	**03 24 50.6**	**-0.1**
LBMI	**Labuha**	**4.13**	**329**	P	**Pn**	**03 24 51.9**	**+0.9**
SANI	**Sanana**	**4.21**	**301**	P	**Pn**	**03 24 53.2**	**+1.2**
WRA	**Warramunga Arr**	**16.30**	**164**	Pn	**Pn**	**03 27 34.1**	**-2.7**
	0.1nm,0.3s,baz=342,slow=13,SNR=5.2						
WRA				Sn	**Sn**	**03 30 38.4**	**+0.6**
	0.1nm,0.3s,baz=351,slow=22,SNR=1.9						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.78**	**168**	P	**P**	**03 28 17.6**	**-0.7**
	0.3nm,0.3s,baz=350,slow=10.0,SNR=16						
	2.6nm,0.8s						
MKAR	**Makanchi Array**	**65.70**	**326**	P	**P**	**03 34 32.7**	**+0.1**
	0.9nm,0.6s,baz=126,slow=7.7,SNR=7.5						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**69.95**	**328**	P	**P**	**03 34 59.4**	**+0.1**
	1.3nm,0.5s,baz=130,slow=5.5,SNR=9.9						
	1.3nm,0.5s						
BVAR	**Borovoye Array**	**75.52**	**328**	P	**P**	**03 35 31.3**	**-1.0**
	0.8nm,0.6s,baz=133,slow=6.1,SNR=3.8						
	0.8nm,0.8s						

IDC ***11*** *03:48:02.8±1.1,42.˚74N×13.˚31E,h0km,mb3.5/7, mbtmp3.5/15,ML3.3/8,MS3.0/1,Error ellipse: s-maj=19.0km s-min=12.5km az=91.0*

ROM ***11*** *03:48:02.2±0.0,42.˚641N±0.˚002×13.˚290E±0.˚002, h8km,ML3.6/302,Mw3.4,Error ellipse: s-maj=0.2km s-min=0.1km az=73.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-1.16; Mθθ0.13; Mφφ 1.03; Mrθ-0.40; Mθφ-0.71; Mφr0.77; Fault plane solution: M₀1.55755×1014 NP1:φs330.00000°,δ28.00000°, λ-92.00000°. NP2:φs152.00000°,δ62.00000°, λ-89.00000°.*

PDG ***11*** *03:48:03.0±0.6,42.˚64N×13.˚27E,h10km,ML3.8/11 Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

LDG ***11*** *03:48:03.5±0.2,42.˚64N×13.˚31E,h10km,Ml3.3/10,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

PRU ***11*** *03:48:04.9,42.˚75N×13.˚38E,h0km*

BEO ***11*** *03:48:05.0±0.6,42.˚71N×13.˚44E,h0km,ML3.7/9*

STR ***11*** *03:48:05.0±1.2,43.˚N±9.9˚×1.˚3E±.˚,h10km,MLv3.9/23,Error ellipse: s-maj=0.0km s-min=0.0km az=147.7,preliminary*

ISC 11 03:48:03.2±0.8,42.˚64N±0.˚01×13.˚28E±0.˚02,h7km±5km, n248,σ1§59/324,mb3.6/6,39C-14D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**110**	⇑P	**Pg**	**03 48 04.3**	**-0.5**
SMA1				S	**Sg**	**03 48 05.3**	**-0.6**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
T1214	**Arquata del Tr**	**0.13**	**334**	P	**Pg**	**03 48 06.1**	**+0.1**
T1214				S	**Sg**	**03 48 08.6**	**+0.7**
T1214				AML	AML		
	comp=E,48450μm,0.5s						
T1214				AML	AML		
	comp=E,47750μm,0.5s						
T1214				AML	AML		
	comp=N,59400μm,0.5s						
T1214				AML	AML		
	comp=N,57950μm,0.5s						
T1214				AML	AML		
	comp=E,47800μm,0.5s						
T1214				AML	AML		
	comp=E,45301μm,0.4s						
T1214				AML	AML		
	comp=E,42948μm,0.4s						
T1214				AML	AML		
	comp=N,57979μm,0.5s						
T1214				AML	AML		
	comp=N,59409μm,0.5s						
T1214				AML	AML		
	comp=E,42948μm,1.6s						
T1214				AML	AML		
	comp=E,45301μm,1.6s						
T1214				AML	AML		
	comp=N,57979μm,1.5s						
T1214				AML	AML		
	comp=N,59409μm,1.5s						
MTRA	**Matera**	**0.14**	**36**	⇑P	**Pg**	**03 48 05.7**	**-0.5**
MTRA				S	**Sg**	**03 48 08.0**	**-0.2**
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
CAMP	**Campotosto**	**0.14**	**140**	⇑P	**Pg**	**03 48 05.9**	**-0.3**
CAMP				S	**Sg**	**03 48 08.3**	**0.0**
CAMP				AML	AML		
	comp=E,47350μm,0.8s						
CAMP				AML	AML		
	comp=N,50950μm,0.2s						
CAMP				AML	AML		
	comp=N,50985μm,0.2s						
CAMP				AML	AML		
	comp=E,39690μm,0.3s						
RM33	**Pellescritta (**	**0.14**	**201**	⇑P	**Pg**	**03 48 06.3**	**0.0**
RM33				S	**Sg**	**03 48 09.0**	**+0.7**
RM33				AML	AML		
	comp=E,72050μm,0.8s						
RM33				AML	AML		
	comp=E,72100μm,0.8s						
RM33				AML	AML		
	comp=E,72900μm,0.9s						
RM33				AML	AML		
	comp=N,84700μm,1.3s						
RM33				AML	AML		
	comp=E,72100μm,0.9s						
RM33				AML	AML		
	comp=N,87400μm,1.3s						
RM33				AML	AML		
	comp=E,52234μm,0.3s						
RM33				AML	AML		
	comp=N,84244μm,0.6s						
RM33				AML	AML		
	comp=N,80879μm,0.6s						
RM33				AML	AML		
	comp=E,53936μm,0.3s						
LNSS	**Leonessa**	**0.18**	**257**	⇑P	**Pg**	**03 48 07.1**	**+0.1**
LNSS				S	**Sg**	**03 48 10.1**	**+0.6**
LNSS				AML	AML		
	comp=E,55250μm,0.2s						
LNSS				AML	AML		
	comp=N,59950μm,0.8s						
LNSS				AML	AML		
	comp=N,47237μm,0.3s						
LNSS				AML	AML		
	comp=E,55282μm,0.2s						
LNSS				AML	AML		
	comp=E,55282μm,1.8s						
T1247	**Pizzolo (AQ)**	**0.20**	**177**	⇑P	**Pg**	**03 48 07.2**	**-0.1**
T1247				S	**Sg**	**03 48 10.8**	**+0.7**
NRCA	**Norcia**	**0.23**	**327**	P	**Pg**	**03 48 07.7**	**-0.1**
NRCA				S	**Sg**	**03 48 11.4**	**+0.6**
NRCA				AML	AML		
	comp=E,79800μm,0.7s						
NRCA				AML	AML		
	comp=N,45750μm,0.4s						
NRCA				AML	AML		
	comp=E,76150μm,0.7s						
NRCA				AML	AML		
	comp=N,42250μm,0.7s						
NRCA				AML	AML		
	comp=N,44442μm,0.1s						
NRCA				AML	AML		
	comp=N,40428μm,0.1s						
NRCA				AML	AML		
	comp=E,73234μm,0.1s						
NRCA				AML	AML		
	comp=E,76947μm,0.1s						
TERO	**Teramo**	**0.24**	**95**	P	**Pg**	**03 48 07.3**	**-0.6**
TERO				S	**Sg**	**03 48 10.9**	**-0.1**
TERO				AML	AML		
	comp=N,27800μm,0.5s						
TERO				AML	AML		
	comp=N,52450μm,0.7s						
TERO				AML	AML		
	comp=E,30900μm,0.3s						
TERO				AML	AML		
	comp=N,27850μm,0.5s						
TERO				AML	AML		
	comp=E,53250μm,0.6s						
TERO				AML	AML		
	comp=E,30900μm,0.4s						
TERO				AML	AML		
	comp=N,49730μm,0.5s						
TERO				AML	AML		
	comp=N,22611μm,0.4s						
TERO				AML	AML		
	comp=E,47709μm,0.3s						
TERO				AML	AML		
	comp=E,30897μm,0.3s						
MMO1	**Montemonaco**	**0.26**	**7**	⇑P	**Pg**	**03 48 08.0**	**-0.3**
MMO1				S	**Sg**	**03 48 12.2**	**+0.5**
MC2	**Monte Cornacci**	**0.28**	**346**	⇑P	**Pg**	**03 48 08.5**	**-0.3**
MC2				S	**Sg**	**03 48 13.5**	**+1.0**
GIGS	**Gran Sasso**	**0.29**	**133**	⇑P	**Pg**	**03 48 08.1**	**-0.8**
GIGS				S	**Sg**	**03 48 12.3**	**-0.3**
GIGS				AML	AML		
	comp=E,6605μm,1.4s						
GIGS				AML	AML		
	comp=N,4865μm,0.4s						
GIGS				AML	AML		
	comp=E,6392μm,0.4s						
GIGS				AML	AML		
	comp=N,4804μm,0.3s						
GAVE	**Gavelli**	**0.29**	**280**	AML	AML		
	comp=E,59400μm,1.2s						
GAVE				AML	AML		
	comp=E,59450μm,1.2s						
GAVE				AML	AML		
	comp=E,59400μm,1.2s						
GAVE				AML	AML		
	comp=N,15150μm,0.5s						
GAVE				AML	AML		
	comp=N,50650μm,0.5s						
GAVE				AML	AML		
	comp=N,50090μm,0.3s						
GAVE				AML	AML		
	comp=N,14728μm,0.3s						
GAVE				AML	AML		
	comp=E,57602μm,0.3s						
GAVE				AML	AML		
	comp=E,57975μm,0.2s						
FEMA	**Monte Fema**	**0.36**	**332**	P	**Pg**	**03 48 10.1**	**-0.2**
FEMA				S	**Sg**	**03 48 16.1**	**+1.0**
FEMA				AML	AML		
	comp=N,16250μm,0.5s						
FEMA				AML	AML		
	comp=E,28400μm,0.6s						
MF5	**Montefalcone A**	**0.37**	**21**	⇑P	**Pg**	**03 48 10.3**	**-0.1**
MF5				S	**Sg**	**03 48 16.6**	**+1.4**
MF5				AML	AML		
	comp=E,27400μm,0.4s						
MF5				AML	AML		
	comp=N,43800μm,0.5s						
MF5				AML	AML		
	comp=E,27426μm,0.4s						
MF5				AML	AML		
	comp=N,43836μm,0.5s						
ARRO	**Arrone**	**0.39**	**261**	⇑P	**Pg**	**03 48 10.5**	**-0.3**
ARRO				S	**Sg**	**03 48 16.7**	**+0.8**
T1221	**Campello sul C**	**0.39**	**304**	⇑P	**Pg**	**03 48 10.6**	**-0.2**
T1221				S	**Sg**	**03 48 16.7**	**+0.8**
T1221				AML	AML		
	comp=N,11120μm,1.0s						
T1221				AML	AML		
	comp=N,10650μm,0.3s						
T1221				AML	AML		
	comp=E,12800μm,0.4s						
T1221				AML	AML		
	comp=N,11115μm,1.0s						
T1221				AML	AML		
	comp=E,12450μm,0.4s						
T1221				AML	AML		
	comp=N,10645μm,0.3s						
T1221				AML	AML		
	comp=E,12778μm,0.4s						
T1221				AML	AML		
	comp=E,12453μm,0.4s						
T1221				AML	AML		
	comp=N,10755μm,0.3s						
T1221				AML	AML		
	comp=N,10626μm,0.3s						
FIAM	**Fiamignano**	**0.40**	**198**	⇑P	**Pg**	**03 48 10.4**	**-0.5**
OFFI	**Offida**	**0.41**	**45**	⇑P	**Pg**	**03 48 11.5**	**+0.2**
OFFI				S	**Sb**	**03 48 18.4**	**-1.0**
OFFI				AML	AML		
	comp=N,44100μm,0.5s						
OFFI				AML	AML		
	comp=E,32300μm,0.7s						
OFFI				AML	AML		
	comp=N,44095μm,0.5s						
OFFI				AML	AML		
	comp=E,31896μm,0.3s						
FDMO	**Fiordimonte**	**0.42**	**340**	P	**Pg**	**03 48 10.9**	**-0.4**
FDMO				S	**Sg**	**03 48 17.7**	**+0.9**
FDMO				AML	AML		
	comp=E,10145μm,0.2s						
FDMO				AML	AML		
	comp=N,9645μm,1.5s						
FDMO				AML	AML		
	comp=N,6714μm,0.3s						
FDMO				AML	AML		
	comp=N,6714μm,1.7s						
FDMO				AML	AML		
	comp=E,10121μm,0.2s						
GUMA	**Gualdo di Mace**	**0.42**	**5**	⇑P	**Pg**	**03 48 11.2**	**-0.2**
GUMA				S	**Sg**	**03 48 18.1**	**+1.3**
GUMA				AML	AML		
	comp=N,38050μm,0.3s						
GUMA				AML	AML		
	comp=E,41900μm,0.6s						
GUMA				AML	AML		
	comp=N,34250μm,0.3s						
GUMA				AML	AML		
	comp=E,54950μm,0.4s						
GUMA				AML	AML		
	comp=N,38058μm,0.3s						
GUMA				AML	AML		
	comp=E,54951μm,0.4s						
GUMA				AML	AML		
	comp=E,41918μm,0.6s						
GUMA				AML	AML		
	comp=N,34272μm,0.3s						
FAGN	**Fagnano**	**0.44**	**150**	P	**Pg**	**03 48 10.9**	**-0.8**
FAGN				S	**Sb**	**03 48 19.2**	**-0.9**
FAGN				AML	AML		
	comp=N,26500μm,0.8s						
FAGN				AML	AML		
	comp=E,34550μm,0.6s						
FAGN				AML	AML		
	comp=E,34527μm,0.6s						
FAGN				AML	AML		
	comp=N,24834μm,0.5s						
FAGN				AML	AML		
	comp=E,34527μm,1.4s						
CSP1	**Cessapalombo**	**0.45**	**353**	⇑P	**Pg**	**03 48 11.4**	**-0.5**
CSP1				S	**Sg**	**03 48 18.7**	**+0.8**
CSP1				AML	AML		
	comp=N,3985μm,0.7s						
CSP1				AML	AML		
	comp=E,7305μm,1.5s						
CSP1				AML	AML		
	comp=N,3990μm,0.7s						
CSP1				AML	AML		
	comp=E,6833μm,0.3s						
CSP1				AML	AML		
	comp=N,3795μm,0.5s						
CESI	**CESI - Serrava**	**0.46**	**322**	⇓P	**Pg**	**03 48 11.7**	**-0.3**
CESI				S	**Sg**	**03 48 19.0**	**+1.0**
CESI				AML	AML		
	comp=E,11135μm,0.2s						
CESI				AML	AML		
	comp=N,25500μm,0.4s						
CESI				AML	AML		
	comp=E,11140μm,0.2s						
CESI				AML	AML		
	comp=N,25504μm,0.4s						
VCEL	**Villa Celiera**	**0.48**	**121**	⇓P	**Pg**	**03 48 12.2**	**-0.3**
VCEL				S	**Sg**	**03 48 19.9**	**+1.1**
VCEL				AML	AML		
	comp=N,30850μm,0.8s						
VCEL				AML	AML		
	comp=E,29850μm,0.3s						
VCEL				AML	AML		
	comp=N,25308μm,0.3s						
VCEL				AML	AML		
	comp=E,29844μm,0.3s						
TRTR	**Tortoreto Alta**	**0.49**	**70**	⇑P	**Pg**	**03 48 13.2**	**+0.5**
TRTR				AML	AML		
	comp=N,25550μm,0.3s						
TRTR				AML	AML		
	comp=E,35500μm,1.3s						
TRTR				AML	AML		
	comp=N,25548μm,0.3s						
TRTR				AML	AML		
	comp=E,29287μm,0.5s						
TRTR				AML	AML		
	comp=N,25548μm,1.7s						
PF6	**Pievefavera**	**0.51**	**352**	P	**Pg**	**03 48 12.1**	**-0.9**
PF6				S	**Sg**	**03 48 20.2**	**+0.5**
MNTP	**Montappone**	**0.51**	**15**	P	**Pg**	**03 48 13.0**	**-0.1**
MNTP				S	**Sb**	**03 48 21.9**	**-0.3**
MNTP				AML	AML		
	comp=E,50150μm,0.4s						
MNTP				AML	AML		
	comp=N,20050μm,0.4s						
MNTP				AML	AML		

comp=E,50190µm,0.4s
MNTP AML AML
comp=N,20015µm,0.4s
MNTP AML AML
comp=N,20015µm,1.6s
CESX Cesi 0.52 266 ⇑P Pg 03 48 12.6 -0.7
CESX AML AML
comp=E,8375µm,0.4s
CESX AML AML
comp=N,8650µm,1.6s
CESX AML AML
comp=E,8379µm,0.4s
CESX AML AML
comp=N,8425µm,0.4s
T0110 Collepietro 0.56 139 P Pg 03 48 13.3 -0.7
T0110 AML AML
comp=N,12450µm,1.5s
T0110 AML AML
comp=E,16500µm,0.7s
T0110 AML AML
comp=E,15465µm,0.3s
T0110 AML AML
comp=E,15465µm,1.7s
T0110 AML AML
comp=N,11482µm,0.4s
MDAR Monte D'Aria 0.56 349 P Pg 03 48 13.3 -0.7
MDAR S Sg 03 48 22.2 +1.0
SEF1 Sefro 0.56 334 P Pg 03 48 13.5 -0.5
SEF1 S Sb 03 48 22.7 -0.9
SSM1 San Severino M 0.59 352 P Pg 03 48 14.0 -0.6
FIU1 Fiuminata 0.60 335 P Pg 03 48 14.3 -0.5
ASSB Assisi San Ben 0.61 311 AML AML
comp=E,8670µm,1.2s
ASSB AML AML
comp=N,7450µm,0.7s
ASSB AML AML
comp=E,7588µm,0.3s
ASSB AML AML
comp=N,7033µm,0.2s
GAG1 Gagliole 0.61 345 P Pg 03 48 14.6 -0.5
PTQR Pietraquaria 0.63 172 P Pg 03 48 13.9 -1.4
PTQR AML AML
comp=E,2545µm,0.4s
PTQR AML AML
comp=N,2170µm,1.3s
PTQR AML AML
comp=N,2019µm,0.4s
PTQR AML AML
comp=E,2545µm,0.4s
PTQR AML AML
comp=E,2545µm,1.6s
MTL1 Matelica 0.64 342 P Pg 03 48 15.1 -0.5
CADA Capodarco di F 0.65 32 P Pg 03 48 16.3 +0.5
CADA AML AML
comp=E,16600µm,1.2s
CADA AML AML
comp=N,17650µm,0.5s
CADA AML AML
comp=N,17624µm,0.5s
CADA AML AML
comp=N,17624µm,1.5s
CADA AML AML
comp=E,15049µm,0.5s
SNTG Esanatoglia 0.66 338 P Pg 03 48 15.0 -0.9
SNTG S Sb 03 48 25.7 -0.8
SNTG AML AML
comp=E,2490µm,1.5s
SNTG AML AML
comp=E,2685µm,0.3s
SNTG AML AML
comp=N,4150µm,0.5s
SNTG AML AML
comp=N,4535µm,0.5s
SNTG AML AML
comp=E,2685µm,0.3s
SNTG AML AML
comp=E,2475µm,0.3s
SNTG AML AML
comp=N,3905µm,0.5s
SNTG AML AML
comp=N,3940µm,0.5s
EL6 Elcito 0.70 349 P Pg 03 48 15.9 -0.7
EL6 AML AML
comp=N,8930µm,1.6s
EL6 AML AML
comp=E,7760µm,0.6s
EL6 AML AML
comp=E,7051µm,0.3s
EL6 AML AML
comp=N,8311µm,0.3s
EL6 AML AML
comp=E,7051µm,1.7s
SRES S.Oreste - Sor 0.70 235 ⇑P Pg 03 48 15.7 -1.0
SRES AML AML
comp=E,2905µm,0.7s
SRES AML AML
comp=N,2925µm,0.4s
SRES AML AML
comp=E,2447µm,1.0s
SRES AML AML
comp=N,2926µm,0.4s
SRES AML AML
comp=E,2447µm,1.0s
ATCC AVT- Casa Cast 0.72 319 P Pg 03 48 16.2 -0.8
ATCC AML AML
comp=E,8485µm,0.5s
ATCC AML AML
comp=N,4860µm,0.8s
ATCC AML AML
comp=N,4861µm,0.8s
ATCC AML AML
comp=E,8486µm,0.5s
CIMA Civitanova Mar 0.72 23 P Pb 03 48 17.6 -0.5
CERT Cerreto 0.73 198 P Pg 03 48 15.8 -1.4
CERT AML AML
comp=E,7550µm,1.3s
CERT AML AML
comp=N,4795µm,1.6s
CERT AML AML
comp=N,4706µm,0.3s
CERT AML AML
comp=E,6969µm,0.4s
CERT AML AML
comp=N,4706µm,1.7s
CING Cingoli 0.73 355 P Pg 03 48 16.4 -0.9
CING S Sb 03 48 28.4 -0.3
CING AML AML
comp=E,6795µm,1.0s
CING AML AML
comp=N,6320µm,1.2s
CING AML AML
comp=E,6226µm,0.3s
CING AML AML
comp=N,5611µm,0.2s
MTCE Montecelio 0.74 213 P Pg 03 48 15.9 -1.5
MTCE AML AML
comp=E,7090µm,1.2s
MTCE AML AML
comp=N,4570µm,0.5s
MTCE AML AML
comp=E,6987µm,0.4s
MTCE AML AML
comp=N,4568µm,0.5s
MTCE AML AML
comp=E,6987µm,1.6s
FOSV Fossato di Vic 0.76 330 P Pg 03 48 16.7 -1.0
FOSV S Sb 03 48 28.6 -0.6
FOSV AML AML
comp=N,3530µm,0.9s
FOSV AML AML
comp=E,3825µm,1.0s
FOSV AML AML
comp=N,3502µm,0.5s
FOSV AML AML
comp=E,3666µm,0.3s
FOSV AML AML
comp=E,3666µm,1.7s
PP3 Marolino 0.77 18 ⇑P Pg 03 48 17.9 -0.1
PP3 AML AML
comp=E,12350µm,0.8s
PP3 AML AML
comp=N,12000µm,0.6s
PP3 AML AML
comp=E,12650µm,0.8s
PP3 AML AML
comp=N,12300µm,0.6s
PP3 AML AML
comp=N,12250µm,0.6s
PP3 AML AML
comp=E,12335µm,0.8s
PP3 AML AML
comp=E,12602µm,0.8s
PP3 AML AML
comp=E,12335µm,1.2s
PP3 AML AML
comp=E,12602µm,1.2s
PP3 AML AML
comp=N,12274µm,0.6s
PP3 AML AML
comp=N,11990µm,0.6s
INTR Introdacqua 0.78 144 ⇓P Pg 03 48 16.8 -1.4
INTR AML AML
comp=E,4µm,0.5s
INTR AML AML
comp=N,4µm,0.6s
INTR AML AML
comp=E,3670µm,0.5s
INTR AML AML
comp=N,6440µm,0.6s
INTR AML AML
comp=E,4µm,0.5s
INTR AML AML
comp=N,4µm,0.6s
INTR AML AML
comp=E,3667µm,0.5s
INTR AML AML
comp=N,6440µm,0.6s
INTR AML AML
comp=N,4µm,0.6s
INTR AML AML
comp=E,4µm,0.5s
INTR AML AML
comp=N,6440µm,1.4s
INTR AML AML
comp=N,4µm,1.4s
VVLD Villa Vallelon 0.81 162 P Pg 03 48 17.8 -1.0
VVLD AML AML
comp=E,3965µm,0.9s
VVLD AML AML
comp=N,3150µm,1.5s
VVLD AML AML
comp=N,2441µm,0.7s
VVLD AML AML
comp=N,2441µm,1.3s
VVLD AML AML
comp=E,3967µm,0.9s
MMUR Monte Murano 0.82 345 P Pg 03 48 18.3 -0.8
MURB Monte Urbino 0.83 318 P Pg 03 48 18.4 -0.8
MURB AML AML
comp=E,14900µm,0.4s
MURB AML AML
comp=N,16250µm,0.3s
MURB AML AML
comp=E,15700µm,0.4s
MURB AML AML
comp=N,15600µm,0.3s
MURB AML AML
comp=E,15707µm,0.4s
MURB AML AML
comp=E,14876µm,0.4s
MURB AML AML
comp=N,16250µm,0.3s
MURB AML AML
comp=E,15707µm,1.6s
MURB AML AML
comp=E,14876µm,1.6s
RCAV Rocca di Cave 0.83 198 P Pg 03 48 18.2 -1.0
RCAV AML AML
comp=E,6615µm,1.2s
RCAV AML AML
comp=N,6660µm,0.6s
RCAV AML AML
comp=E,6620µm,1.2s
RCAV AML AML
comp=N,6660µm,0.6s
RCAV AML AML
comp=E,6497µm,0.5s
RCAV AML AML
comp=E,6497µm,1.5s
GUAR Guarcino 0.85 179 P Pg 03 48 18.5 -1.0
GUAR AML AML
comp=E,4355µm,0.4s
GUAR AML AML
comp=N,3695µm,0.5s
GUAR AML AML
comp=N,3693µm,0.5s
GUAR AML AML
comp=E,4356µm,0.4s
GUAR AML AML
comp=E,4356µm,1.6s
GUAR AML AML
comp=N,3693µm,1.5s
CSNT Castellina Chi 1.68 300 P Pn 03 48 33.2 +0.2
OSSC Osservatorio P 1.73 301 P Pn 03 48 34.0 +0.2
RUFI Rufina 1.76 313 P Pn 03 48 33.6 -0.5
MTCR Monte La Croce 2.17 310 P Pn 03 48 39.1 -0.7
POPM Popiglio 2.31 308 P Pn 03 48 41.5 -0.3
MAIM Mastiano 2.40 303 P Pn 03 48 43.0 0.0
MORSI Morsiglia 2.90 277 P Pn 03 48 50.4 +0.6
MORSI S Sn 03 49 25.8 +0.9
SKDS Skadanscina 2.95 10 *i* Pn Pn 03 48 49.5 -0.9
SKDS *i* Sn Sn 03 49 25.0 -1.2
SKDS IAML 03 49 30.7
comp=Z,78nm,0.4s
A050A Klekovaca 2.99 51 *e*Pn Pn 03 48 51.6 +0.5
SMPL Sampolo 3.01 261 P Pn 03 48 50.8 -0.6
SMPL S Sn 03 49 30.1 +2.3
PGF Pioggiola 3.17 270 *e*Pn Pn 03 48 53.9 +0.4
PGF Pioggiola 3.17 270 AML AML
comp=E,44µm,1.4s
PGF AML AML
comp=N,57µm,1.6s
PGF AML AML
comp=E,44µm,1.4s
PGF AML AML
comp=N,56µm,0.4s
PGF AML AML
comp=E,44µm,0.6s
PGF Pioggiola 3.17 270 P Pn 03 48 54.4 +0.9
BOJS Bojanci 3.19 26 AML AML
comp=E,522µm,0.5s
BOJS AML AML
comp=N,502µm,1.5s
BOJS AML AML
comp=N,489µm,0.9s
BOJS AML AML
comp=E,523µm,0.5s
BOJS AML AML
comp=E,523µm,1.5s
BOJS Bojanci 3.19 26 *e*Pn Pn 03 48 53.5 -0.3
CEY Cerknica 3.20 14 *e*Pn Pn 03 48 54.1 +0.1
MATE Matera 3.25 127 ⇓P Pn 03 48 50.7 -3.8
MATE ⇓S Sn 03 49 36.2 +2.8
STON Ston 3.26 85 *e*Pn Pn 03 48 54.8 +0.1
STON *e*Sn Sn 03 49 32.3 -1.4
STON Ston 3.26 85 AML AML
comp=N,166µm,1.6s
STON AML AML
comp=E,125µm,1.0s
STON AML AML
comp=N,166µm,0.4s
STON AML AML
comp=E,119µm,0.3s
STON AML AML
comp=N,166µm,0.4s
STON Ston 3.26 85 *e*Pn Pn 03 48 54.1 -0.6
MGRS Mrkonjic Grad 3.28 56 *e*Pn Pn 03 48 56.9 +1.8
PRIJ Prijedor 3.41 46 *e*Pn Pg 03 49 08.7 +0.3
AJAC Base Areonaval 3.43 259 P Pn 03 48 57.6 +0.6
AJAC S Sn 03 49 39.7 +1.8
GORR Gorreto 3.50 305 P Pn 03 49 01.7 +3.6
LJU Ljubljana 3.51 14 AML AML
comp=N,1452µm,1.3s
LJU AML AML
comp=E,1470µm,0.6s
LJU AML AML
comp=N,1455µm,0.7s
LJU AML AML
comp=N,1452µm,0.7s
LJU AML AML
comp=E,1468µm,0.6s
BLY Banja Luka 3.52 52 *e*Pn Pn 03 49 00.1 +1.7
BLY Banja Luka 3.52 52 *e*Pn Pn 03 48 59.2 +0.8
A051A Mrakovica 3.53 47 *e*Pn Pn 03 48 58.9 +0.4
CRES Cresnjev 3.54 25 *e*Pn Pn 03 48 58.5 -0.1
NEVS Nevesinje 3.60 78 *e*Pn Pn 03 49 00.4 +1.0
RNCA Ronca, Sant'Ol 3.64 302 P Pn 03 49 00.9 +0.9
TREB Trebinje 3.74 87 *e*Pn Pn 03 49 01.5 +0.2
TREB *e*Sn Sn 03 49 45.3 -0.2
TREB Trebinje 3.74 87 *e*Pn Pn 03 49 01.7 +0.4
HCY Herceg Novi 3.85 91 ⇑*i*Pn Pn 03 49 03.2 +0.3
HCY *i* Sn Sn 03 49 50.2 +1.8
HCY Herceg Novi 3.85 91 *e*Pn Pn 03 49 02.4 -0.5
BRY Bratogost 3.88 84 *e*Pn Pn 03 49 03.9 +0.6
OBKA Obir 3.97 13 *i* Pn Pn 03 49 04.9 +0.4
comp=E,4.3nm,0.3s
OBKA Obir 3.97 13 *e*Pn Pn 03 49 03.9 -0.7
MYKA Terra Mystica 3.99 4 *i* Pn Pn 03 49 05.0 +0.1
comp=E,9.9nm,0.5s,SNR=9.7
MYKA *e*Sn Sn 03 49 54.5 +2.5
comp=E,16nm,0.4s
CANO Canova, Maglio 3.99 295 P Pn 03 49 05.8 +1.0
CANO Canova, Maglio 3.99 295 S Sn 03 49 53.5 +1.5
DOB Doboj 4.07 57 *e*Pn Pn 03 49 06.9 +1.1
ABTA Abfaltersbach 4.14 353 *i* Pn Pn 03 49 07.3 +0.4
comp=E,12nm,0.5s,SNR=65
CEME Cevo 4.16 89 ⇑*i*Pn Pn 03 49 07.8 +0.6
CEME *i* Sn Sn 03 49 57.5 +1.4
BUM Brajici-Budva 4.16 93 ⇑*i*Pn Pn 03 49 08.0 +0.8
BUM *i* Sn Sn 03 49 57.6 +1.4
UPM Unac-Piva 4.17 80 ⇑*i*Pn Pn 03 49 07.9 +0.6
UPM *i* Sn Sn 03 49 57.6 +1.2
UPM Unac-Piva 4.17 80 *e*Pn Pn 03 49 08.0 +0.6
NKME Niksic 4.18 86 ⇑*i*Pn Pn 03 49 08.4 +1.0
NKME *i* Sn Sn 03 49 57.5 +1.0
SOKA Soboth 4.22 17 *i* Pn Pn 03 49 09.3 +1.2
comp=E,2.1nm,0.2s
GBOS Grotte di Boss 4.27 294 P Pn 03 49 09.7 +1.0
GBOS Grotte di Boss 4.27 294 S Sn 03 50 00.1 +1.2
HAPS Han Pijesak,BI 4.38 69 *e*Pn Pn 03 49 10.1 -0.1
SAOF Saorge 4.39 290 P Pn 03 49 11.5 +1.2
DRME Dracevica, Mon 4.39 94 ⇓*i*Pn Pn 03 49 11.2 +0.9
DRME *i* Sn Sn 03 50 02.7 +1.0
DRME Dracevica, Mon 4.39 94 *e*Pn Pn 03 49 10.9 +0.6
KBA Koelnbreinsper 4.43 1 *i* Pn Pn 03 49 11.2 +0.2
comp=E,6.8nm,0.4s
KBA *e*Sn Sn 03 50 01.7 -1.3
comp=E,17nm,0.4s
SBF Sospel 4.44 288 *e*Pn Pn 03 49 11.1 +0.1
ULC Ulcinj 4.47 97 ⇑*i*Pn Pn 03 49 12.0 +0.6
ULC *i* Sn Sn 03 50 04.3 +0.6
ESCA l'Escarene 4.48 287 P Pn 03 49 13.5 +2.0
PLE Pljevlja 4.53 79 ⇑*i*Pn Pn 03 49 14.3 +2.0
PLE *i* Sn Sn 03 50 06.6 +1.3
ENR Entracque 4.55 292 P Pn 03 49 15.8 +3.2
RUDO Rudo 4.56 76 *e*Pn Pn 03 49 12.7 +0.1
KOME Kolasin 4.59 85 ⇓*i*Pn Pn 03 49 14.7 +1.6
KOME *i* Sn Sn 03 50 08.1 +1.3
STV Sant Anna di V 4.62 292 P Pn 03 49 14.9 +1.4
SPIF crte de Spivo 4.63 290 P Pn 03 49 15.6 +1.9
BBLS Lazići 4.63 73 *e*Pn Pn 03 49 14.4 +0.7
BBLS *e*Sn Sn 03 50 05.5 -2.3
BBLS Lazići 4.63 73 *e*Pn Pn 03 49 13.4 -0.3
FETA Feichten 4.74 338 *i* Pn Pn 03 49 16.7 +1.5
comp=E,7.8nm,0.5s,SNR=16
WTTA Wattenberg 4.76 346 *i* Pn Pn 03 49 17.2 +1.6
comp=E,5.1nm,0.3s,SNR=14
WTTA *e*Sn Sn 03 50 14.7 +3.6
comp=E,27nm,0.3s
CALF Calern 4.78 286 P Pn 03 49 16.0 +0.3
DAVOX Davos/Dischmat 4.79 331 Pn Pn 03 49 17.2 +1.2
comp=E,4.3nm,0.3s,baz=155,slow=18,SNR=36
DAVOX Sn Sn 03 50 13.0 +1.1
comp=E,1.6nm,0.3s,baz=288,slow=24,SNR=2.1
comp=E,14nm,0.4s
ISO Isola 4.79 291 P Pn 03 49 18.0 +2.1
LESA Schwarzleotal 4.80 355 *i* Pn Pn 03 49 17.1 +1.2
comp=E,11nm,0.4s
SQTA Sankt Quirin 4.81 343 *i* Pn Pn 03 49 17.8 +1.7
comp=E,9.1nm,0.3s,SNR=10
WATA Walderalm 4.84 346 *i* Pn Pn 03 49 18.6 +1.9
comp=E,12nm,0.2s,SNR=22
PZZ Stroppo 4.85 295 P Pn 03 49 17.9 +1.2
IVA Berane 4.87 85 ⇑*i*Pn Pn 03 49 17.9 +0.9
IVA *i* Sn Sn 03 50 14.8 +1.2
ARSA Arzberg 4.87 18 *i* Pn Pn 03 49 16.2 -0.7
comp=E,6.2nm,0.5s
TRAV Traversella 4.91 308 P Pn 03 49 17.7 +0.2
TEKS Tekeris 4.92 65 *e*Pn Pn 03 49 16.7 -0.8
PVY Plav 4.93 88 ⇑*i*Pn Pn 03 49 18.8 +1.1
PVY *i* Sn Sn 03 50 16.1 +1.1
MOTA Moosalm 4.95 343 *i* Pn Pn 03 49 19.8 +1.7
comp=E,6.1nm,0.3s,SNR=18
SJES Sjenica 4.95 81 *e*Pn Pn 03 49 19.2 +1.2
SJES *e*Sn Sn 03 50 14.5 -1.1
SJES Sjenica 4.95 81 *e*Pn Pn 03 49 18.9 +0.9
SALSA La sagne 4.97 287 P Pn 03 49 19.4 +1.1
LMR La Mourre 5.02 280 *e*Pn Pn 03 49 18.6 -0.3
LMR *e*Sn Sn 03 50 15.1 -2.0
comp=E,7.2nm,0.6s
SURF Saint Ours 5.05 294 P Pn 03 49 20.3 +0.8
BIOA Bad Ischl, Aus 5.05 3 *i* Pn Pn 03 49 19.5 +0.1
comp=E,3.4nm,0.3s,SNR=10
TIR Tirane 5.07 103 ⇑P Pn 03 49 19.4 -0.2
TIR Tirane 5.07 103 *e*Pn Pn 03 49 20.2 +0.6
TIR *e*Sn Sn 03 50 17.0 -1.5
DIVS Divibare 5.10 71 *e*Pn Pn 03 49 20.4 +0.3
DIVS *e*Sn Sn 03 50 17.3 -2.0
IVAS Ivanjica 5.11 77 *e*Pn Pn 03 49 20.6 +0.3
IVAS *e*Sn Sn 03 50 17.2 -2.4
TRIGF Trigance 5.15 285 P Pn 03 49 21.5 +0.7
MBDF Montbardon 5.16 296 *e*Pn Pn 03 49 22.8 +1.8
RETA Reutte 5.16 341 *i* Pn Pn 03 49 22.7 +1.8
comp=E,4.3nm,0.2s
FLAF Flassans-sur-I 5.21 281 P Pn 03 49 22.5 +1.0
RRL Rocca Remolon 5.22 298 P Pn 03 49 24.1 +2.2
OGAG Argentiere 5.22 293 P Pb 03 49 29.0 -5.9
DAVA Damuels 5.23 334 *i* Pn Pn 03 49 23.8 +1.8
comp=E,14nm,0.5s
DAVA *e*Sn Sn 03 50 20.9 -1.7
comp=E,30nm,0.7s
MORH Mrgy, Hungar 5.24 45 ⇑P Pn 03 49 22.1 +0.1
LSD Lago del Serru 5.25 305 P Pn 03 49 21.5 -0.8
MOA Molln 5.25 7 *e*Pn Pn 03 49 22.6 +0.5
comp=E,5.3nm,0.3s
MOA Molln 5.25 7 *e*Pn Pn 03 49 22.2 +0.1
MOA *e*Sn Sn 03 50 22.5 -0.4
EMBD Embd, Matterta 5.29 314 P Pn 03 49 27.1 +4.3
FRGS Fruska Gora 5.34 60 ⇓P Pn 03 49 25.0 +1.6
FRGS Fruska Gora 5.34 60 *e*Pn Pn 03 49 22.4 -1.0
FRGS Fruska Gora 5.34 60 *e*Pn Pn 03 49 22.7 -0.7
TRUS Trudelj 5.42 71 *e*Pn Pn 03 49 24.4 0.0
DIX Grande Dixence 5.43 311 P Pn 03 49 26.1 +1.2
RONA Rosalia, Austr 5.49 22 *i* Pn Pn 03 49 25.6 +0.3
comp=E,6.8nm,0.6s
RONA *e*Sn Sn 03 50 27.8 -0.9
comp=E,3.2nm,0.3s
LPG La Plagne 5.50 303 *e*Pn Pn 03 49 26.7 +0.9
LPG *e*Sn Sn 03 50 24.3 -5.2
comp=E,8.3nm,0.6s
LPL La Plagne 5.52 304 *e*Pn Pn 03 49 27.3 +1.3
LPL *e*Sn Sn 03 50 28.1 -1.8
comp=E,5.5nm,0.4s
GRUS Gruza 5.57 75 *e*Sn Sn 03 50 27.4 -3.2
CONA Conrad Observa 5.59 18 *i* Pn Pn 03 49 26.4 -0.4
comp=E,4.4nm,0.3s
CONA *e*Sn Sn 03 50 29.4 -1.8
comp=E,5.0nm,0.4s
RSL Roselend 5.67 305 P Pn 03 49 29.8 +1.8
RSL S Sn 03 50 35.4 +1.9
BSTF la Bastide-des 5.71 285 P Pn 03 49 29.0 +0.5
SMRF Simiane la Rot 5.78 286 *e*Pn Pn 03 49 30.9 +1.5
SELS Selova 5.78 82 *e*Pn Pn 03 49 29.5 +0.1
OHR Ohrid 5.81 103 *e*Pn Pn 03 49 31.2 +1.3
OHR Ohrid 5.81 103 *i* Pn Pn 03 49 31.4 +1.5
OHR Ohrid 5.81 103 *i* Pn Pn 03 49 31.3 +1.5
ORIF Oris-en-Rattie 5.82 295 *e*Pn Pn 03 49 30.1 +0.1
ZST Bratislava 6.17 25 *e*PN Pn 03 49 34.4 -0.2
GERES GERESS Array B 6.21 3 Pn Pn 03 49 34.4 -0.9
comp=E,0.7nm,0.3s,baz=179,slow=12,SNR=14
GERES Sn Sn 03 50 45.7 -0.9
comp=E,2.6nm,0.3s,baz=167,slow=22,SNR=7.5
comp=E,2.6nm,0.6s
CKRC Cesky Krumlov 6.22 6 *e*PN Pn 03 49 35.4 0.0
CKRC *e*SN Sn 03 50 43.7 -3.0
BOVS Bovan 6.24 78 ⇓P Pn 03 49 36.2 +0.5

BARS	**Barje**	**6.29**	**86**	*e*Pn		**Pn**	**03 49 36.4**	**+0.1**
BARS				*e*Sn		**Sn**	**03 50 45.7**	**-2.7**
MODS	**Modra-Piesok**	**6.38**	**25**	*e*PN		**Pn**	**03 49 40.2**	**+2.6**
MODS				*e*SN		**Sn**	**03 50 46.1**	**-4.6**
MDVR	**Moldovita**	**6.47**	**68**	⇑P		**Pn**	**03 49 40.8**	**+1.9**
CABF	**La Chapelle**	**6.49**	**310**	*e*Pn		**Pn**	**03 49 40.0**	**+0.9**
CABF				*e*Sn		**Sn**	**03 50 46.6**	**-6.8**
	comp=E,2.3nm,0.3s							
KHC	**Kasperske Hory**	**6.49**	**2**	*e*PN		**Pn**	**03 49 39.1**	**0.0**
KHC				*e*SN		**Sn**	**03 50 49.9**	**-3.5**
PRVS	**Prvonek**	**6.49**	**88**	*e*Pn		**Pn**	**03 49 39.5**	**+0.3**
VIVF	**Saint-Julien-l**	**6.62**	**292**	*e*P		**Pn**	**03 49 44.3**	**+3.4**
ZAGS	**Zajecar**	**6.64**	**77**	*e*Pn		**Pn**	**03 49 41.2**	**0.0**
BZS	**Buzias**	**6.69**	**61**	⇑P		**Pn**	**03 49 43.2**	**+1.4**
BZS	**Buzias**	**6.69**	**61**	*e*Pn		**Pn**	**03 49 40.9**	**-1.0**
KRUC	**Moravsky**	**6.78**	**18**	*e*PN		**Pn**	**03 49 41.8**	**-1.2**
KRUC				*e*SN		**Sn**	**03 50 58.7**	**-1.7**
ZVC	**Zvikov**	**6.83**	**5**	*e*PN		**Pn**	**03 49 43.4**	**-0.3**
ZVC				*e*SN		**Sn**	**03 50 58.2**	**-3.4**
TREC	**Trest**	**6.83**	**12**	*e*PN		**Pn**	**03 49 43.0**	**-0.7**
TREC				*e*SN		**Sn**	**03 50 57.4**	**-4.3**
HINF	**Hinteralfeld**	**6.88**	**321**	*e*Pn		**Pn**	**03 49 44.4**	**-0.1**
HINF				*e*Sn		**Sn**	**03 51 00.1**	**-2.9**
	comp=E,24nm,0.6s							
BLKB	**Belogradchik**	**6.94**	**79**	⇓P		**Pn**	**03 49 45.8**	**+0.5**
HERR	**Herculane**	**6.98**	**68**	⇑P		**Pn**	**03 49 47.1**	**+1.3**
DJES	**Djerdap**	**7.00**	**70**	⇓P		**Pn**	**03 49 48.0**	**+1.9**
SIRR	**Siria**	**7.00**	**56**	⇓P		**Pn**	**03 49 47.4**	**+1.3**
LASF	**Ste Croix**	**7.02**	**285**	*e*Pn		**Pn**	**03 49 46.7**	**+0.3**
VYHS	**Vyhne**	**7.03**	**32**	*e*PN		**Pn**	**03 49 47.3**	**+0.8**
VAY	**Valandovo**	**7.04**	**98**	*i* Pn		**Pn**	**03 49 47.8**	**+1.1**
VAY	**Valandovo**	**7.04**	**98**	*i* Pn		**Pn**	**03 49 47.8**	**+1.1**
VRAC	**Vranov**	**7.05**	**18**	*e*PN		**Pn**	**03 49 42.4**	**-4.4**
VRAC	**Vranov**	**7.05**	**18**	Pn		**Pn**	**03 49 45.5**	**-1.3**
	comp=E,0.5nm,0.3s,baz=208,slow=9.1,SNR=4.5							
VRAC				Sn		**Sn**	**03 51 06.6**	**-0.6**
	comp=E,0.3nm,0.3s,baz=248,slow=14,SNR=1.7							
VRAC				LR		LR	03 52 54.0	
	comp=E,113nm,19.9s,baz=211,slow=42							
	comp=E,1.8nm,0.3s							
SURR	**Surduc**	**7.07**	**61**	⇑P		**Pn**	**03 49 48.5**	**+1.4**
CDF	**Champ du Feu**	**7.14**	**326**	*e*Pn		**Pn**	**03 49 48.2**	**0.0**
PEHC	**Pehcevo**	**7.19**	**94**	*i* Pn		**Pn**	**03 49 49.3**	**+0.5**
PEHC	**Pehcevo**	**7.19**	**94**	*i* Pn		**Pn**	**03 49 49.3**	**+0.5**
HAU	**Haudompre**	**7.25**	**320**	*e*Pn		**Pn**	**03 49 49.7**	**+0.1**
HAU				*e*Sn		**Sn**	**03 51 09.1**	**-3.1**
	comp=E,29nm,0.4s							
VTS	**Vitosha**	**7.34**	**87**	*e*Pn		**Pn**	**03 49 51.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**7.34**	**8**	*e*SN		**Sn**	**03 51 10.6**	**-3.8**
GZR	**Gura Zlata**	**7.37**	**65**	⇑P		**Pn**	**03 49 53.6**	**+2.3**
PRU	**Pruhonice**	**7.40**	**6**	*e*SN		**Sn**	**03 51 12.6**	**-3.1**
KEST	**Kesra**	**7.55**	**205**	Pn		**Pn**	**03 49 56.3**	**+2.5**
	comp=E,0.5nm,0.3s,baz=317,slow=6.4,SNR=8.6							
	comp=E,2.8nm,0.5s							
NKC	**Novy Kostel**	**7.61**	**356**	*e*PN		**Pn**	**03 49 54.7**	**+0.2**
NKC				*e*SN		**Sn**	**03 51 18.0**	**-3.0**
MORC	**Moravsky Berou**	**7.72**	**21**	⇑P		**Pn**	**03 49 53.2**	**-2.8**
KRLC	**Kraliky**	**7.81**	**17**	*e*PN		**Pn**	**03 49 57.9**	**+0.6**
KRLC				*e*SN		**Sn**	**03 51 21.7**	**-4.3**
SMF	**Signal de Mont**	**7.83**	**304**	*e*Pn		**Pn**	**03 49 57.9**	**+0.4**
SMF				*e*Sn		**Sn**	**03 51 21.5**	**-4.9**
	comp=E,7.8nm,0.5s							
SRS	**Serrai**	**7.84**	**98**	*e*Pn		**Pn**	**03 49 57.9**	**+0.2**
HSKC	**Hora Svate Kat**	**7.97**	**1**	*e*SN		**Sn**	**03 51 24.7**	**-5.0**
DPC	**Dobruska-Polom**	**7.99**	**14**	*e*PN		**Pn**	**03 49 59.7**	**0.0**
SFTF	**Sexfontaines**	**8.03**	**317**	*e*Pn		**Pn**	**03 50 00.7**	**+0.4**
SFTF				*e*Sn		**Sn**	**03 51 27.4**	**-3.9**
	comp=E,3.1nm,0.3s							
MARR	**Marisel-Cluj**	**8.09**	**57**	⇓P		**Pn**	**03 50 02.2**	**+1.1**
LOR	**Lormes**	**8.12**	**308**	*e*Pn		**Pn**	**03 50 01.7**	**+0.1**
LOR				*e*Sn		**Sn**	**03 51 26.2**	**-7.4**
	comp=E,2.4nm,0.3s							
OSTC	**Ostas**	**8.17**	**13**	*e*PN		**Pn**	**03 50 01.5**	**-0.6**
CHVC	**Chvalec**	**8.17**	**13**	*e*PN		**Pn**	**03 50 02.4**	**+0.2**
AVF	**Avril sur Loir**	**8.20**	**304**	*e*Pn		**Pn**	**03 50 02.2**	**-0.3**
MEZF	**Maizieres J'vi**	**8.22**	**318**	*e*Pn		**Pn**	**03 50 04.1**	**+1.3**
SSF	**Saint Saulge**	**8.23**	**306**	*e*Pn		**Pn**	**03 50 03.1**	**+0.1**
SSF				*e*Sn		**Sn**	**03 51 31.9**	**-4.3**
	comp=E,0.3nm,0.2s							
BRG	**Berggiesshubel**	**8.24**	**3**	*e*P		**Pn**	**03 50 06.6**	**+3.4**
BRG				Amp			03 50 08.5	
	comp=Z,1.8nm,0.4s							
BRG				r			03 51 26.4	
BRG				r			03 52 04.1	
BRG				r			03 52 25.2	
BRG				Amp			03 52 54.7	
	comp=Z,6.8nm,1.1s							
BGF	**Bois d'Agland**	**8.41**	**301**	*e*Pn		**Pn**	**03 50 05.6**	**+0.1**
CAF	**Calviac**	**8.43**	**290**	*e*Pn		**Pn**	**03 50 05.0**	**-0.8**
ARR	**Arges**	**8.62**	**68**	⇓P		**Pn**	**03 50 10.5**	**+2.1**
CLL	**Collm**	**8.67**	**359**	*ex*		x	03 52 10.0	
CLL				*e*Sg		**Sg**	**03 52 44.0**	**+2.8**
	comp=Z,13nm,1.2s							
VOIR		**8.92**	**68**	⇑P		**Pn**	**03 50 13.3**	**+0.8**
ELND	**Elena**	**9.27**	**84**	⇑P		**Pn**	**03 50 18.5**	**+1.3**
MLR	**Muntele Rosu**	**9.55**	**68**	Pn		**Pn**	**03 50 21.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=238,slow=19,SNR=1.8							
	comp=Z,1.5nm,0.8s							
EKA	**Eskdalemuir Ar**	**16.61**	**326**	Pn		**P**	**03 51 58.0**	**-0.8**
	baz=135,slow=14							
	comp=Z,0.1nm,0.3s							
HFS	**Hagfors**	**17.52**	**1**	P		**Pn**	**03 52 07.6**	**-0.1**
	baz=170,slow=19,SNR=1.4							
	comp=Z,2.1nm,0.9s							
NOA	**NORSAR Array B**	**18.47**	**357**	P		**P**	**03 52 17.1**	**-2.3**
	baz=175,slow=11,SNR=2.4							
	comp=Z,0.5nm,0.7s							
FINES	**FINESS Array B**	**20.33**	**18**	P		**P**	**03 52 39.4**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=204,slow=12,SNR=7.4							
	comp=Z,2.3nm,0.9s							
KBZ	**Khabaz**	**21.57**	**77**	P		**P**	**03 52 55.0**	**+1.8**
	comp=Z,2.0nm,0.8s,baz=310,slow=4.6,SNR=5.3							
	comp=Z,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**31.06**	**202**	P		**P**	**03 54 22.4**	**+0.6**
	comp=Z,0.9nm,1.1s,baz=16,slow=9.0,SNR=2.6							
	comp=Z,0.9nm,1.1s							
BVAR	**Borovoye Array**	**38.74**	**54**	P		**P**	**03 55 28.6**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=270,slow=6.8,SNR=3.8							
	comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**47.77**	**60**	P		**P**	**03 56 41.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=300,slow=4.2,SNR=2.4							
	comp=Z,0.2nm,0.5s							
SONM	**Songino Array**	**61.85**	**50**	P		**P**	**03 58 23.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=285,slow=10,SNR=4.8							
	comp=Z,0.6nm,0.8s							
YKA	**Yellowknife Ar**	**67.20**	**337**	P		**P**	**03 58 57.9**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=48,slow=6.8,SNR=4.7							
	comp=Z,0.5nm,0.9s							

NNC ***11*** *03:49:35.6±0.4, 43°.25N×78°.74E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=4.1km s-min=2.6km az=170.0*
SOME ***11*** *03:49:36.9, 43°.27N×78°.70E, h15km*
KRNET ***11*** *03:49:38.7±0.1, 43°.14N×78°.86E, h27km, mb2.0*
ISC 11 03:49:35.7±0.9, **43°.26N**±0°.02×**78°.74E**±0°.02, **h9**km±7km,
n35, σ0°68/69, 14C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.21**	**348**	P	**Pg**	**03 49 40.5**	**+0.4**
	26nm,0.1s						
KPKS				S	**Sg**	**03 49 43.6**	**+0.5**
	44nm,0.1s						
KPKS	**Kokpek**	**0.21**	**348**	*e*P	**Pg**	**03 49 40.5**	**+0.4**
	26nm,0.1s						
KPKS				*e*S	**Sg**	**03 49 43.6**	**+0.5**
	44nm,0.1s						
UZB	**Uzymbulak**	**0.23**	**118**	P	**Pg**	**03 49 40.6**	**+0.2**
	22nm,0.1s						
UZB				S	**Sg**	**03 49 43.9**	**+0.3**
	58nm,0.1s						
UZB	**Uzynbulak**	**0.23**	**118**	*e*P	**Pg**	**03 49 40.6**	**+0.2**
	22nm,0.1s						
UZB				*e*S	**Sg**	**03 49 43.9**	**+0.3**
	58nm,0.1s						
ZHN	**Zhinishke**	**0.24**	**249**	P	**Pg**	**03 49 40.3**	**-0.3**
	9.6nm,0.1s						
ZHN				S	**Sg**	**03 49 43.5**	**-0.4**
	65nm,0.2s						
ZHN	**Zhinishke**	**0.24**	**249**	*e*P	**Pg**	**03 49 40.6**	**-0.1**
	12nm,0.1s						
ZHN				*e*S	**Sg**	**03 49 43.5**	**-0.4**
	65nm,0.2s						
SATY	**Saty**	**0.32**	**231**	P	**Pg**	**03 49 41.9**	**-0.1**
	2.9nm,0.1s						
SATY				S	**Sg**	**03 49 46.0**	**-0.3**
	37nm,0.2s						
SATY	**Saty**	**0.32**	**231**	*e*P	**Pg**	**03 49 41.9**	**-0.1**
	2.9nm,0.1s						
SATY				*e*S	**Sg**	**03 49 46.0**	**-0.3**
	37nm,0.2s						
KURS	**Kuram**	**0.48**	**299**	P	**Pg**	**03 49 45.1**	**+0.2**
	0.8nm,0.1s						
KURS				S	**Sg**	**03 49 51.5**	**+0.2**
	0.7nm,0.1s						
KURS	**Kuram**	**0.48**	**299**	*e*P	**Pg**	**03 49 45.1**	**+0.2**
	0.8nm,0.1s						
KURS				*e*S	**Sg**	**03 49 51.5**	**+0.2**
	0.7nm,0.1s						
PDGK	**Podgornoye**	**0.55**	**82**	P	**Pb**	**03 49 46.5**	**-1.1**
	0.6nm,0.1s						
PDGK				S	**Sg**	**03 49 54.0**	**+0.4**
	5.3nm,0.1s						
PRZ	**Przheval'sk**	**0.81**	**198**	⇑*e*P	**Pb**	**03 49 52.5**	**+0.4**
	baz=8.0						
PRZ				⇑*e*S	**Sb**	**03 50 02.7**	**-0.6**
	baz=8.0						
ANVS	**Anan'yevo**	**0.92**	**239**	⇑*e*P	**Pn**	**03 49 56.4**	**+1.4**
	baz=48						
ANVS				⇑*e*S	**Sn**	**03 50 09.8**	**+1.3**
	baz=48						
KNOS	**Konyrlen**	**1.15**	**16**	P	**Pb**	**03 49 57.2**	**-0.6**
KNOS				S	**Sb**	**03 50 12.2**	**-0.7**
KTMS	**Ketmen**	**1.19**	**80**	P	**Pb**	**03 49 58.2**	**-0.3**
	0.6nm,0.1s						
KTMS				S	**Sb**	**03 50 13.7**	**-0.3**
	1.8nm,0.1s						
KTMS	**Ketmen**	**1.19**	**80**	*e*P	**Pb**	**03 49 58.2**	**-0.3**
	0.6nm,0.1s						
KTMS				*e*S	**Sb**	**03 50 13.7**	**-0.3**
	1.8nm,0.1s						
DJR	**Jarkent**	**1.31**	**35**	P	**Pg**	**03 50 00.9**	**0.0**
	1.8nm,0.2s						
DJR				S	**Sn**	**03 50 18.2**	**+0.1**
	3.4nm,0.2s						
DJR	**Jarkent**	**1.31**	**35**	*e*P	**Pg**	**03 50 00.6**	**-0.3**
	1.8nm,0.2s						
DJR				*e*S	**Sn**	**03 50 18.2**	**+0.1**
	3.4nm,0.2s						
TNSS	**Tian-Shan**	**1.33**	**261**	P	**Pn**	**03 50 00.0**	**-0.9**
	2.1nm,0.2s						
TNSS				S	**Sg**	**03 50 17.0**	**-1.6**
	1.4nm,0.1s						
TNSS	**Tian-Shan**	**1.33**	**261**	*e*P	**Pn**	**03 50 00.0**	**-0.9**
	2.1nm,0.2s						
TNSS				*e*S	**Sg**	**03 50 17.0**	**-1.6**
	1.4nm,0.1s						
KTBS	**Karatobe**	**1.57**	**288**	P	**Pb**	**03 50 04.7**	**-0.2**
	2.1nm,0.2s						
KTBS				S	**Sb**	**03 50 25.2**	**+0.3**
	0.3nm,0.2s						
KTBS	**Karatobe**	**1.57**	**288**	*e*P	**Pb**	**03 50 04.7**	**-0.2**
	2.1nm,0.2s						
KTBS				*e*S	**Sb**	**03 50 25.2**	**+0.3**
	0.3nm,0.2s						
KDJ	**Kajisay**	**1.61**	**226**	⇑*i*P	**Pg**	**03 50 07.0**	**+0.4**
	baz=31						
KDJ				⇑*i*S	**Sg**	**03 50 27.8**	**+0.3**
	baz=31						
TARG	**Taragay, Kyrgy**	**1.68**	**205**	⇓*i*P	**Pg**	**03 50 07.5**	**-0.4**
	baz=9.0						
TARG				⇓*i*S	**Sb**	**03 50 28.3**	**-0.1**
	baz=9.0						
MTBS	**Maitube**	**1.70**	**266**	P	**Pb**	**03 50 06.5**	**-0.6**
	1.4nm,0.1s						
MTBS				S	**Sb**	**03 50 28.7**	**+0.1**
	3.8nm,0.3s						
MTBS	**Maitube**	**1.70**	**266**	*e*P	**Pb**	**03 50 06.5**	**-0.6**
	1.4nm,0.1s						
MTBS				*e*S	**Sb**	**03 50 28.7**	**+0.1**
	3.8nm,0.3s						
KUU	**Kurty**	**1.86**	**291**	P	**Pb**	**03 50 09.3**	**-0.6**
	0.8nm,0.1s						
KUU				S	**Sb**	**03 50 33.7**	**+0.5**
	4.6nm,0.2s						
KUU	**Kurty**	**1.86**	**291**	*e*P	**Pb**	**03 50 09.6**	**-0.2**
	0.8nm,0.1s						
KUU				*e*S	**Sb**	**03 50 33.7**	**+0.5**
	4.6nm,0.2s						
ULHL	**Ulahol**	**2.10**	**242**	⇑*i*P	**Pb**	**03 50 14.5**	**+0.4**
	baz=46						
ULHL				⇑*i*S	**Sb**	**03 50 40.0**	**-0.4**
	baz=46						
DGS	**Degeres**	**2.17**	**271**	Pg	**Pb**	**03 50 14.8**	**-0.4**
	1.6nm,0.3s						
DGS				Lg	**Lg**	03 50 43.3	
	4.7nm,0.4s						
DGS	**Degeres**	**2.17**	**271**	*e*P	**Pb**	**03 50 14.8**	**-0.4**
	1.6nm,0.3s						
DGS				*e*S	**Sb**	**03 50 42.6**	**+0.2**
	4.7nm,0.4s						
BOOM	**Boomskoye usch**	**2.20**	**251**	⇑*i*P	**Pb**	**03 50 16.0**	**+0.3**
	baz=54						
BOOM				⇑*i*S	**Sb**	**03 50 43.0**	**-0.2**
	baz=54						
TKM2	**Tokmak 2**	**2.33**	**263**	⇑P	**Pb**	**03 50 16.8**	**-1.2**
	0.2nm,0.2s						
TKM2				⇑S	**Sg**	**03 50 49.6**	**-0.9**
	0.8nm,0.3s						
TKM2	**Tokmak 2**	**2.33**	**263**	⇑*i*P	**Pb**	**03 50 18.0**	**0.0**
	baz=66						
TKM2				⇑*i*S	**Sb**	**03 50 46.9**	**-0.1**
	baz=66						
KZA	**Kyzart**	**2.83**	**247**	⇓*i*P	**Pb**	**03 50 25.0**	**-1.7**
	baz=49						
KZA				⇓*i*S	**Sn**	**03 50 58.6**	**+2.6**
	baz=49						

UCR ***11*** *04:01:36.0±0.7, 10°.45N×86°.59W, h20km±9km, MW4.0*
CATAC ***11*** *04:01:36.1±0.6, 10°.50N×86°.67W, h10km, ML3.4*
ISC 11 04:01:37.8±1.9, **10°.54N**±0°.08×**86°.59W**±0°.10, **h23**km, **n54,**
σ2§10/33, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.99**	**80**	*e*P	**Pn**	**04 01 54.7**	**-1.7**
HZTE				*e*S	**Sb**	**04 02 09.4**	**+0.4**
HZTE	**Horizontes, Gu**	**0.99**	**80**	*i* PA		04 01 54.8	
HZTE				IAML		04 02 20.5	
	comp=Z,1μm,1.0s						
ELI1	**Hacienda Flor**	**1.02**	**84**	⇑*i*P	**Pn**	**04 01 55.6**	**-1.2**
JUD3	**Juan Diaz 3**	**1.10**	**110**	*e*P	**Pn**	**04 01 55.3**	**-2.6**
ORTG	**Ortega, Santa**	**1.12**	**99**	*e*P	**Pn**	**04 01 56.1**	**-2.2**
ORTG	**Ortega, Santa**	**1.12**	**99**	*i* PA		04 01 56.4	
ORTG				IAML		04 02 31.4	
	comp=Z,430nm,1.0s						
VRLE	**La Escondida,**	**1.23**	**78**	*e*P	**Pn**	**04 01 57.7**	**-2.0**
VRLE	**La Escondida,**	**1.23**	**78**	*i* PA		04 01 59.0	
VRLE				IAML		04 02 42.1	
	comp=Z,350nm,1.0s						
PLVR	**Palo Verde**	**1.23**	**99**	*e*P	**Pn**	**04 01 57.8**	**-2.0**
CMARA	**Lajas Hojancha**	**1.26**	**114**	*e*P	**Pn**	**04 01 57.9**	**-2.2**
CMARA				*e*S	**Sn**	**04 02 13.2**	**-3.1**
INDI	**Punta indio, G**	**1.26**	**122**	*e*P	**Pn**	**04 01 57.9**	**-2.2**
INDI				*e*S	**Sn**	**04 02 12.8**	**-3.5**
INDI	**Punta indio, G**	**1.26**	**122**	*i* PA		04 01 58.0	
INDI				IAML		04 02 13.6	
	comp=Z,240nm,1.0s						
OMEN	**AI SSO del Vol**	**1.35**	**44**	*i* PA		04 02 02.2	
OMEN				IAML		04 02 23.4	
	comp=Z,740nm,1.0s						
MORN	**AI O del Volca**	**1.36**	**43**	*i* PA		04 02 00.6	
MORN				IAML		04 02 13.4	
	comp=Z,1μm,1.0s						
CONN	**Concepcion**	**1.39**	**43**	*i* PA		04 02 00.7	
CONN				IAML		04 02 29.3	
	comp=Z,3μm,1.0s						
CRUN	**El Crucero**	**1.46**	**11**	*i* P	**Pb**	**04 02 08.6**	**+4.2**
VMAR	**Armenia, Volca**	**1.47**	**79**	*e*P	**Pn**	**04 02 02.0**	**-1.0**
VMAR	**Armenia, Volca**	**1.47**	**79**	*i* PA		04 02 02.6	
VMAR				IAML		04 02 34.8	
	comp=Z,720nm,1.0s						
UNAN	**Cigeo UNAN**	**1.59**	**11**	*i* P	**Pb**	**04 02 09.7**	**+3.1**
JUNT	**Juntas**	**1.62**	**99**	*e*P	**Pn**	**04 02 03.0**	**-2.1**
JTS	**Las Juntas de**	**1.63**	**99**	*e*P	**Pn**	**04 02 03.4**	**-1.7**
JTS				*e*P	**Pn**	**04 02 03.5**	**-1.7**
SAPS	**Ciudad Sandino**	**1.63**	**6**	*i* PA		04 02 06.9	
SAPS				IAML		04 02 34.3	
	comp=Z,480nm,1.0s						
APQ2	**Apoyeque**	**1.67**	**9**	*i* PA		04 02 07.7	
APQ2				IAML		04 02 13.5	
	comp=Z,660nm,1.0s						
ARE1	**Arenal 1**	**1.84**	**92**	*e*P	**Pn**	**04 02 07.6**	**-0.5**
MOMN	**Momotombo**	**1.86**	**1**	*i* PA		04 02 10.0	
MOMN				IAML		04 02 29.6	
	comp=Z,8.7nm,1.0s						
VACR	**Volcan Arenal**	**1.88**	**92**	*e*P	**Pn**	**04 02 09.3**	**+0.7**
VACR	**Volcan Arenal**	**1.88**	**92**	*i* P	Pb	04 02 17.1	+5.6
MOM2	**El Cardon**	**1.89**	**3**	*i* PA		04 02 10.5	
MOM2				IAML		04 02 19.6	
	comp=Z,250nm,1.0s						
CNGA	**AI SSO del Vol**	**1.94**	**357**	*i* PA		04 02 06.9	
CNGA				IAML		04 02 28.9	
	comp=Z,170nm,1.0s						
ACON	**Acoyapa**	**1.98**	**44**	*e*P	**Pn**	**04 02 07.2**	**-2.8**
ACON	**Acoyapa**	**1.98**	**44**	*i* P	**Pb**	**04 02 13.0**	**-0.3**
JACO	**JACO, Garabito**	**2.09**	**115**	*e*P	**Pn**	**04 02 11.4**	**-0.1**
JACO	**JACO, Garabito**	**2.09**	**115**	*i* PA		04 02 12.2	
JACO				IAML		04 03 06.9	
	comp=Z,110nm,1.0s						
COVE	**Coope Vega, Sa**	**2.15**	**85**	*i* P	**Pb**	**04 02 20.5**	**+4.3**
CPMI	**Catarata Coope**	**2.19**	**97**	*e*P	**Pn**	**04 02 12.3**	**-0.7**
CPMI	**Catarata Coope**	**2.19**	**97**	*i* PA		04 02 15.2	
CPMI				IAML		04 03 07.2	
	comp=Z,170nm,1.0s						
CRIN	**San Cristobal**	**2.19**	**348**	*e*P	**Pn**	**04 02 11.1**	**-1.9**
MATN	**Matagalpa**	**2.46**	**15**	*e*P	**Pn**	**04 02 14.7**	**-2.0**
MATN	**Matagalpa**	**2.46**	**15**	*i* PA		04 02 19.3	
MATN				IAML		04 02 32.2	
	comp=Z,83nm,1.0s						
LIMN	**Finca el Limon**	**2.52**	**5**	*i* PA		04 02 17.7	
LIMN				IAML		04 02 27.2	
	comp=Z,110nm,1.0s						
CSGN	**Cosiguina Volc**	**2.60**	**339**	*i* PA		04 02 17.6	
CSGN				IAML		04 02 59.8	
	comp=Z,350nm,1.0s						
LCR2	**La Lucha 2**	**2.66**	**107**	*e*P	**Pn**	**04 02 19.6**	**0.0**
LCR2	**La Lucha 2**	**2.66**	**107**	*i* PA		04 02 22.1	
LCR2				IAML		04 04 09.6	
	comp=Z,63nm,1.0s						
OCM	**Ochomogo**	**2.66**	**104**	*e*P	**Pn**	**04 02 19.7**	**+0.1**
OCM	**Ochomogo**	**2.66**	**104**	*i* PA		04 02 21.9	
OCM				IAML		04 02 33.4	
	comp=Z,74nm,1.0s						
VICA	**Volcano Irazu**	**2.75**	**101**	*e*P	**Pn**	**04 02 22.6**	**+1.6**
HAYA	**Volcan Irazu**	**2.76**	**101**	*i* PA		04 02 23.2	
HAYA				IAML		04 02 38.2	
	comp=Z,160nm,1.0s						
RIMA	**Rio Macho**	**2.79**	**106**	*e*P	**Pn**	**04 02 21.3**	**0.0**
RIMA	**Rio Macho**	**2.79**	**106**	*i* PA		04 02 22.6	
RIMA				IAML		04 02 23.6	
	comp=Z,53nm,1.0s						
CDM	**Cerro de Muert**	**2.95**	**109**	*e*P	**Pn**	**04 02 23.1**	**-0.6**
CDM				*e*S	**Sn**	**04 02 58.1**	**-0.5**
CDM	**Cerro de Muert**	**2.95**	**109**	*i* PA		04 02 24.2	
CDM				IAML		04 03 30.1	
	comp=Z,63nm,1.0s						
CNCH	**Conchagua**	**2.98**	**336**	IAML		04 02 22.6	
	comp=Z,130nm,1.0s						
CNCH				*i* PA		04 02 22.7	
LCND	**La Caada**	**3.03**	**335**	*i* PA		04 02 23.1	
LCND				IAML		04 02 38.9	
	comp=Z,57nm,1.0s						
DRK0	**Durika**	**3.53**	**111**	*e*P	**Pn**	**04 02 31.3**	**-0.2**

DJA ***11*** *04:09:15.6±0.6, 20°.N×3°.×14°.6E±°, h61km±7km, M5.8/35, mB6.4/12, mb5.1/35, MLv5.5/2, Mw(mB)6.1/12*
GCMT ***11*** *04:09:23.4±0.2, 19°.67N±0°.02×145°.62E±0°.02, h130km±2km, MW5.1/119, Moment Tensor Solution. s56,c67; s119,c182; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.24±.12; Mθθ4.42±.13; Mφφ-2.18±.15; Mrθ-1.31±.10; Mrφ0.97±.14; Mθφ-2.55±.10; Best double couple: M♦4.87600×10^16 NP1:φ♦47.00000°, δ71.00000°, λ-134.00000°. NP2:φ♦298.00000°, δ47.00000°, λ-27.00000°. Principal axes: T 4.9840, Plg14.0000°, Azm167.0000°; N -0.2170, Plg41.0000°, Azm64.0000°; P -4.7670, Plg46.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***11*** *04:09:23.4±1.3, 19°.71N±0°.07×145°.5E±0°.1, h127km±7km, mb4.8/255 Error ellipse: s-maj=14.5km s-min=9.8km az=79.0*
IDC ***11*** *04:09:24.6±1.4, 19°.64N×145°.41E, h151km±12km, mb4.4/33, mbtmp4.8/37, MS3.7/33, Error ellipse: s-maj=13.9km s-min=8.5km az=79.0*
ISC 11 04:09:23.4±0.5, **19°.67N**±0°.04×**145°.45

comp=Z,22nm,2.2s
MDJ pmax pmax
comp=Z,380nm,3.5s
BNX BinXian 29.96 334 ⇓P **P** **04 15 19.2 +0.4**
BNX pmax pmax
comp=Z,12nm,0.9s
BNX pmax pmax
comp=Z,180nm,3.1s
TOLI2 Tolitoli 30.39 236 P **P** **04 15 23.5 +0.6**
TOLI2 IAmb IAmb 04 15 24.5
comp=Z,19nm,1.0s
TOLI2 Tolitoli 30.39 236 P **P** **04 15 23.6 +0.7**
MPSI Mapaga 31.56 236 P **P** **04 15 34.2 +1.0**
comp=Z,10nm,0.7s
HNS HongShan 32.07 310 ⇑P **P** **04 15 37.2 -0.3**
HNS pmax pmax
comp=Z,19nm,1.1s
HNR Honiara 32.25 152 LR LR 04 28 30.0
comp=Z,1µm,19.9s,baz=304,slow=36
BJT Baijiatuau 32.27 315 P **P** **04 15 36.1 -3.1**
BJI Beijing 32.28 315 P **P** **04 15 39.5 +0.3**
BJI pmax pmax
comp=Z,7.0nm,1.2s
HEH HeiHe 33.72 339 *e*P **P** **04 15 51.2 -0.4**
HEH pmax pmax
comp=Z,35nm,0.9s
TTSI Tana Toraja 33.82 231 P **P** **04 15 54.0 +1.1**
comp=Z,30nm,0.8s,comp=Z,2µm
XLT XiLinHaoTe 34.42 321 *e*P **P** **04 15 56.6 -1.3**
XLT pP pP 04 16 22.4 -4.0
XLT sP sP 04 16 41.9 +0.3
XLT PP **PnPn** **04 17 16.3 -1.4**
XLT PcP PcP 04 18 20.5 -10
XLT pmax pmax
comp=Z,32nm,1.2s
XLT pmax pmax
comp=Z,180nm,5.2s
PETK Petropavlovsk- 34.70 13 P **P** **04 16 01.0 +1.0**
comp=Z,6.9nm,0.9s,baz=152,slow=6.6,SNR=8.9
PETK LR LR 04 28 05.7
comp=Z,128nm,20.1s,baz=211,slow=32
comp=Z,6.9nm,0.9s
MTN Manton Dam 35.25 205 P **P** **04 16 06.0 +0.9**
MTN Manton Dam 35.25 205 P **P** **04 16 05.4 +0.2**
HHC Hu-ho-hao-te 35.76 314 *e*P **P** **04 16 11.9 +2.4**
HHC pP pP 04 16 38.2 +0.2
HHC *e*S **S** **04 21 41.1 +4.4**
HHC sS sS 04 22 29.1 +1.5
HHC SS **SnSn** **04 24 02.3 -12**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.0s
HHC LR LR
comp=N,470nm,13.7s
HHC LR LR
comp=E,680nm,12.3s
HHC LR LR
comp=Z,290nm,14.2s
SOEI Soe 35.92 217 P **P** **04 16 09.1 -2.0**
comp=Z,25nm,1.5s
MMRI Maumere 36.25 221 P **P** **04 16 14.8 +1.1**
comp=Z,106nm,1.1s
MTKI Muara Teweh, K 36.30 239 P **P** **04 16 15.2 +1.0**
comp=Z,73nm,0.5s,comp=Z,11µm
EDFI Ende, Flores 36.68 222 P **P** **04 16 17.1 -0.4**
comp=Z,13nm,1.2s,comp=Z,771nm
BTO Baotou 36.72 312 *e*P **P** **04 16 19.0 +1.4**
BTO pP **pP** **04 16 47.2 +0.9**
BTO sP **sP** **04 17 01.7 +0.3**
BTO PP **PnPn** **04 17 48.5 +2.8**
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,760nm,5.7s
MTSU Mount Surprise 37.59 182 P **P** **04 16 24.9 -0.1**
UBPT Khong Chiam 38.32 270 P **P** **04 16 31.6 +0.3**
UBPT Khong Chiam 38.32 270 P **P** **04 16 33.6 +2.3**
SLVN Son La 38.87 280 P **P** **04 16 36.1 +0.3**
SLVN IAmb IAmb 04 16 38.7
comp=Z,33nm,1.3s
KMI Kunming 39.74 286 ⇑P **P** **04 16 44.9 +1.7**
KMI pmax pmax
comp=Z,14nm,1.0s
SHEM Shemya Is, Ala 39.77 27 LR LR 04 29 31.1
comp=Z,151nm,21.3s,baz=287,slow=30
TWSI Taliwang, Sumb 39.86 228 P **P** **04 16 44.4 +0.4**
comp=Z,71nm,1.2s
LZH Lanzhou 39.92 303 *e*P **P** **04 16 45.0 +0.5**
LZH pP pP 04 16 57.8 -16
LZH pmax pmax
comp=Z,15nm,1.2s
NONG Nongkai 39.99 275 P **P** **04 16 47.1 +2.0**
QIS Mount Isa 40.39 188 P **P** **04 16 48.3 0.0**
PZH PanZhiHua 40.63 288 P **P** **04 16 51.4 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,170nm,4.3s
WB0 Warramunga Arr 40.67 196 P **P** **04 16 50.0 -0.6**
WR0 Warramunga Arr 40.81 196 P **P** **04 16 51.7 -0.1**
WRAB Tennant Creek 40.84 196 P **P** **04 16 51.9 0.0**
WB2 Warramunga Arr 40.85 196 P **P** **04 16 51.3 -0.7**
WRA Warramunga Arr 40.85 196 P **P** **04 16 51.2 -0.9**
WRA Warramunga Arr 40.85 196 P **P** **04 16 51.6 -0.4**
comp=Z,29nm,1.0s,baz=17,slow=8.9,SNR=78
WRA ScP **ScP** **04 22 24.3 -3.2**
comp=Z,1.4nm,0.8s,baz=18,slow=4.4,SNR=5.4
comp=Z,29nm,1.0s
ULN Ulaanbaatar 41.87 321 P **P** **04 17 00.4 +0.1**
ULN IAmb IAmb 04 17 01.3
comp=Z,17nm,0.7s
ULN Ulaanbaatar 41.87 321 P **P** **04 17 00.4 +0.1**
ULN pP **pP** **04 17 31.0 +1.2**
ULN Ulaanbaatar 41.87 321 P **P** **04 17 00.4 +0.1**
comp=Z,96nm,0.8s
SONM Songino Array 42.24 321 P **P** **04 17 02.8 -0.6**
SONM IAmb IAmb 04 17 04.2
comp=Z,16nm,0.8s
SONM Songino Array 42.24 321 P **P** **04 17 03.2 -0.1**
comp=Z,11nm,0.6s,baz=137,slow=9.5,SNR=93
SONM ScP **ScP** **04 22 31.1 -1.8**
comp=Z,0.6nm,0.7s,baz=126,slow=3.2,SNR=3.1
comp=Z,11nm,0.6s
CRAI Chiangrai 42.28 279 P **P** **04 17 04.3 +0.5**
CRAI IAmb IAmb 04 17 07.5
comp=Z,39nm,1.5s
NAYO Nakonayok 42.45 270 P **P** **04 17 07.1 +1.9**
SJI Sawahan 42.92 234 P **P** **04 17 09.7 +0.6**
comp=Z,50nm,0.5s,comp=Z,10µm
PWJI Pagerwojo 43.07 233 P **P** **04 17 11.0 +0.8**
comp=Z,31nm,1.1s
YAK Yakutsk 43.73 349 P **P** **04 17 14.2 -0.6**
GTA Gaotai 43.78 307 *e*P **P** **04 17 16.1 +0.3**
GTA PcP **PP** **04 19 01.4 +1.1**
GTA pmax pmax
comp=Z,16nm,1.6s
CMMT Chiang Mai 43.81 277 P **P** **04 17 17.0 +0.8**
comp=Z,28nm,0.5s
CHTO Chiang Mai 43.81 277 P **P** **04 17 17.1 +0.9**
comp=Z,12nm,1.4s
CM31 Chiang Mai Arr 43.87 276 P **P** **04 17 17.6 +0.9**
CMAR Chiang Mai Arr 43.87 276 P **P** **04 17 16.9 +0.2**
CMAR Chiang Mai Arr 43.87 276 P **P** **04 17 17.1 +0.5**
comp=Z,4.9nm,0.5s,baz=64,slow=7.2,SNR=13
CMAR LR LR 04 35 55.3
comp=Z,37nm,19.3s,baz=85,slow=36
comp=Z,4.9nm,0.5s
KOUNC Koumac, New Ca 44.02 154 P **P** **04 17 17.8 +0.1**
KOUNC IAmb IAmb 04 17 22.5
comp=Z,27nm,1.2s
MYKOM Kota Tinggi 44.38 252 P **P** **04 17 21.7 +1.0**
MYKOM Kota Tinggi 44.38 252 P **P** **04 17 22.2 +1.5**
comp=Z,94nm,2.1s,comp=Z,1µm
SRDT SRDT 44.52 271 P **P** **04 17 23.3 +1.5**
SRDT SRDT 44.52 271 P **P** **04 17 23.0 +1.2**
comp=Z,137nm,0.8s,comp=Z,7µm
AS31 Alice Springs 44.52 195 P **P** **04 17 20.6 -1.1**
ASAR Alice Springs 44.52 195 P **P** **04 17 20.9 -0.8**
ASAR Alice Springs 44.52 195 P **P** **04 17 21.1 -0.6**
comp=Z,5.3nm,0.7s,baz=18,slow=7.5,SNR=61
ASAR LR LR 04 35 45.1
comp=Z,89nm,18.4s,baz=7.0,slow=36
comp=Z,5.3nm,0.7s
SKLT Songkhla 45.20 260 P **P** **04 17 29.5 +2.3**
SKLT Songkhla 45.20 260 P **P** **04 17 29.5 +2.3**
comp=Z,228nm,1.1s
SURA Surathani 45.46 263 P **P** **04 17 31.9 +2.6**
SRIT Nakonsritamara 45.67 263 P **P** **04 17 31.6 +0.6**
SRIT Nakonsritamara 45.67 263 P **P** **04 17 33.7 +2.8**
KULM Kulim 45.85 258 P **P** **04 17 33.2 +0.9**
KULM Kulim 45.85 258 P **P** **04 17 34.3 +1.9**
comp=Z,79nm,1.2s
MND Mandalay 46.01 282 P **P** **04 17 34.7 +1.2**
DZM Mont Dzumac 46.28 153 P **P** **04 17 35.7 0.0**
DZM Mont Dzumac 46.28 153 *e*LR LR 04 30 52.3
comp=Z,361nm,31.5s
DZM Mont Dzumac 46.28 153 P **P** **04 17 35.3 -0.4**
comp=Z,7.0nm,0.6s,baz=281,slow=9.5,SNR=8.2
DZM LR LR 04 34 07.2
comp=Z,59nm,19.3s,baz=44,slow=32
comp=Z,7.0nm,0.6s
DZM Mont Dzumac 46.28 153 P **P** **04 17 36.0 +0.3**
DZM pP **pP** **04 18 05.4 -0.2**
DZM sP **sP** **04 18 19.4 -1.0**
OOD Oodnadatta 48.12 192 P **P** **04 17 49.8 +0.1**
PSI Prapat 48.41 256 P **P** **04 17 54.4 +2.0**
RPSI Rantau Prapat 48.45 256 P **P** **04 17 53.5 +0.9**
KCSI Kotacane, Aceh 49.18 257 P **P** **04 17 58.3 +0.2**
comp=Z,54nm,1.1s,comp=Z,5µm
LHMI Lhok Sumawe 49.30 260 P **P** **04 17 59.6 +0.6**
LHMI Lhok Sumawe 49.30 260 P **P** **04 18 02.1 +3.1**
LHMI Lhok Sumawe 49.30 260 P **P** **04 18 01.5 +2.5**
comp=Z,264nm,0.8s
SHL Shillong 49.53 287 P **P** **04 17 59.7 -1.2**
SHL IAmb IAmb 04 18 02.9
comp=Z,19nm,1.1s
LSA Lhasa 49.95 293 P **P** **04 18 03.7 -0.7**
LSA IAmb IAmb 04 18 07.5
comp=Z,16nm,0.7s
LSA Lhasa 49.95 293 P **P** **04 18 06.0 +1.7**
GSI Gunungsitoli 50.25 255 P **P** **04 18 06.9 +0.8**
GSI Gunungsitoli 50.25 255 P **P** **04 18 07.6 +1.4**
GSI Gunungsitoli 50.25 255 P **P** **04 18 07.1 +0.9**
comp=Z,122nm,1.0s,comp=Z,3µm
MULG Mulgathing 50.86 193 P **P** **04 18 09.8 -0.6**
SNSI Sinabang, Aceh 50.94 257 P **P** **04 18 12.9 +1.5**
comp=Z,78nm,1.2s
STKA Stephens Creek 51.39 184 P **P** **04 18 13.6 -0.7**
STKA Stephens Creek 51.39 184 P **P** **04 18 12.6 -1.7**
comp=Z,3.3nm,0.8s,baz=345,slow=9.1,SNR=3.1
comp=Z,3.3nm,0.8s
TIXI Tiksi 52.88 353 P **P** **04 18 24.3 -0.6**
TIXI IAmb IAmb 04 18 25.6
comp=Z,12nm,1.1s
TIXI Tiksi 52.88 353 P **P** **04 18 24.6 -0.2**
WMQ Urumqi 53.50 310 *e*P **P** **04 18 31.2 +1.2**
WMQ pmax pmax
comp=Z,69nm,1.1s
K13K Kusilvak Mount 54.41 26 P **P** **04 18 36.6 +0.5**
K13K IAmb IAmb 04 18 40.2
comp=Z,21nm,1.1s
K13K Kusilvak Mount 54.41 26 P **P** **04 18 38.3 +2.1**
baz=242
M14K Bethel 55.06 28 P **P** **04 18 41.7 +0.9**
ANM Nome 55.40 23 P **P** **04 18 44.6 +1.3**
baz=240
O15K Ungalikthiuk R 55.45 31 P **P** **04 18 45.0 +1.3**
baz=249
F14K Arctic Creek 55.52 22 P **P** **04 18 45.9 +1.8**
baz=238
F15K North Star Dit 56.24 22 P **P** **04 18 49.8 +0.6**
F15K IAmb IAmb 04 18 54.7
comp=Z,10nm,1.1s
F15K North Star Dit 56.24 22 P **P** **04 18 51.0 +1.8**
baz=240
N16K Nishlik Lake 56.41 29 P **P** **04 18 52.2 +1.6**
baz=249
O16K Kokwok River B 56.43 31 P **P** **04 18 52.1 +1.5**
baz=250
L16K Owhat River 56.55 28 P **P** **04 18 52.3 +0.9**
baz=248
H16K Elim 56.62 24 P **P** **04 18 52.7 +0.8**
baz=243
J16K Anvik River 56.69 26 P **P** **04 18 52.9 +0.4**
J16K Anvik River 56.69 26 P **P** **04 18 54.2 +1.8**
baz=246
I17K Unalakleet 56.90 25 P **P** **04 18 54.2 +0.3**
I17K IAmb IAmb 04 18 56.5
comp=Z,12nm,0.9s
I17K Unalakleet 56.90 25 P **P** **04 18 56.3 +2.4**
baz=245
O17K Koliganek Bris 56.97 31 P **P** **04 18 56.0 +1.5**
baz=251
ZAA0 Zalesovo Array 57.11 322 P **P** **04 18 55.0 -0.6**
ZALV Zalesovo Beam 57.11 322 P **P** **04 18 54.6 -0.9**
ZALV Zalesovo Beam 57.11 322 P **P** **04 18 55.0 -0.5**
comp=Z,21nm,0.6s,baz=106,slow=7.9,SNR=97
ZALV LR LR 04 43 18.9
comp=Z,54nm,18.2s,baz=178,slow=36
comp=Z,21nm,0.6s
L17K Donlin 57.22 28 P **P** **04 18 57.8 +1.6**
baz=249
C16K Lisburne Hills 57.33 20 P **P** **04 18 56.8 -0.1**
C16K IAmb IAmb 04 18 58.8
comp=Z,12nm,0.8s
C16K Lisburne Hills 57.33 20 P **P** **04 18 58.0 +1.1**
baz=238
K17K Iditarod 57.43 27 P **P** **04 18 58.5 +0.8**
K17K Iditarod 57.43 27 P **P** **04 18 59.7 +2.0**
baz=248,SNR=7.0
G17K Kiwalik Mounta 57.61 24 P **P** **04 19 00.2 +1.3**
baz=244
MK31 Makanchi Array 57.62 313 P **P** **04 18 59.5 +0.2**
MKAR Makanchi Array 57.62 313 P **P** **04 18 59.6 +0.2**
MKAR Makanchi Array 57.62 313 P **P** **04 18 59.3 -0.1**
comp=Z,28nm,0.6s,baz=90,slow=9.1,SNR=318
MKAR LR LR 04 44 32.9
comp=Z,56nm,20.0s,baz=78,slow=37
comp=Z,28nm,0.6s
H17K Granite Mounta 57.65 24 P **P** **04 18 58.9 -0.3**
H17K IAmb IAmb 04 19 01.6
comp=Z,10.0nm,0.8s
H17K Granite Mounta 57.65 24 P **P** **04 19 00.7 +1.5**
baz=245
D17K Noatak River 57.77 21 P **P** **04 19 01.3 +1.4**
baz=241
F17K Baldwin Pennin 57.81 22 P **P** **04 19 00.7 +0.5**
F17K IAmb IAmb 04 19 02.5
comp=Z,13nm,0.8s
F17K Baldwin Pennin 57.81 22 P **P** **04 19 01.5 +1.3**
baz=243
MAKZ Makanchi 57.84 313 P **P** **04 19 01.2 +0.3**
MAKZ Makanchi 57.84 313 P **P** **04 19 00.8 0.0**
E17K Hotham Inlet 57.90 22 P **P** **04 19 02.3 +1.4**
baz=242,SNR=12
O18K Koktuh Hills 57.90 31 P **P** **04 19 02.8 +1.8**
baz=253
RDOG Red Dog Mine 58.00 20 P **P** **04 19 02.2 +0.6**
RDOG IAmb IAmb 04 19 03.9
comp=Z,8.8nm,1.0s
RDOG Red Dog Mine 58.00 20 P **P** **04 19 03.3 +1.8**
baz=241,SNR=6.6
M18K Stony River 58.11 29 P **P** **04 19 04.5 +2.1**
baz=252
C17K DeLong Mountai 58.12 20 P **P** **04 19 04.3 +1.9**
baz=240
NIUE Niue 58.29 129 P **P** **04 19 04.7 +0.4**
H18K Honhosa River 58.34 24 P **P** **04 19 04.0 0.0**
H18K IAmb IAmb 04 19 06.9
comp=Z,8.9nm,0.7s
H18K Honhosa River 58.34 24 P **P** **04 19 05.0 +1.0**
baz=247
O19K Port Alsworth 58.42 31 P **P** **04 19 05.1 +0.5**
O19K Port Alsworth 58.42 31 P **P** **04 19 06.5 +1.9**
baz=254
E18K Tukpahlearik C 58.48 21 P **P** **04 19 05.5 +0.7**
E18K IAmb IAmb 04 19 07.3
comp=Z,9.8nm,0.8s
E18K Tukpahlearik C 58.48 21 P **P** **04 19 06.4 +1.5**
baz=243
G18K Tagagawik 58.52 23 P **P** **04 19 05.8 +0.5**
G18K IAmb IAmb 04 19 07.2
comp=Z,13nm,0.9s
G18K Tagagawik 58.52 23 P **P** **04 19 06.3 +1.0**
baz=246
KDAK Kodiak Island 58.68 34 LR LR 04 42 22.5
comp=Z,56nm,20.6s,baz=228,slow=34
C18K Utukok River 58.84 20 P **P** **04 19 07.6 +0.1**
C18K IAmb IAmb 04 19 09.3
comp=Z,6.6nm,0.8s
C18K Utukok River 58.84 20 P **P** **04 19 08.4 +0.9**
baz=242
B18K Kokolik River 58.99 19 P **P** **04 19 10.6 +2.2**
baz=241
J19K Poorman 59.02 26 P **P** **04 19 09.1 +0.4**
J19K IAmb IAmb 04 19 10.9
comp=Z,8.8nm,0.8s
J19K Poorman 59.02 26 P **P** **04 19 09.9 +1.3**
baz=250
G19K Purcell Mounta 59.21 24 P **P** **04 19 10.6 +0.6**
G19K IAmb IAmb 04 19 12.0
comp=Z,10.0nm,0.8s
G19K Purcell Mounta 59.21 24 P **P** **04 19 11.2 +1.2**
baz=248,SNR=11
H19K Roundabout Mou 59.23 24 P **P** **04 19 10.6 +0.6**
H19K IAmb IAmb 04 19 12.4
comp=Z,14nm,0.8s
H19K Roundabout Mou 59.23 24 P **P** **04 19 11.6 +1.5**
baz=249
SEM Semipalatinsk 59.33 318 *e*P **P** **04 19 10.0 -1.3**
baz=318
SHLS Shalkode 59.42 309 *e*P **P** **04 19 10.0 -2.0**
comp=Z,14nm,0.7s,baz=309
M20K Styx River 59.45 29 P **P** **04 19 13.3 +1.5**
baz=254
K20K Telida 59.47 27 P **P** **04 19 12.4 +0.6**
K20K IAmb IAmb 04 19 14.5
comp=Z,11nm,0.9s
K20K Telida 59.47 27 P **P** **04 19 13.7 +1.9**
baz=252
C19K Lookout Ridge 59.57 20 P **P** **04 19 13.4 +1.0**
C19K Lookout Ridge 59.57 20 P **P** **04 19 14.0 +1.6**
baz=244
WUS Wushi 59.59 307 P **P** **04 19 14.0 +0.8**
A19K Wainwright 59.62 19 P **P** **04 19 14.4 +1.7**
baz=241
E19K Redstone River 59.67 22 P **P** **04 19 13.4 +0.3**
E19K IAmb IAmb 04 19 17.9
comp=Z,11nm,1.0s
E19K Redstone River 59.67 22 P **P** **04 19 14.9 +1.8**
baz=247
J20K Nowinta River 59.69 26 P **P** **04 19 13.4 +0.1**
J20K Nowinta River 59.69 26 P **P** **04 19 15.2 +2.0**
baz=252
UZB Uzynbulak 59.75 309 *e*P **P** **04 19 14.2 -0.1**
comp=Z,10.0nm,0.8s,baz=309
D19K Kuna River 59.79 21 P **P** **04 19 14.3 +0.4**
D19K Kuna River 59.79 21 P **P** **04 19 15.0 +1.1**
baz=245
H20K Anotleneega Mo 59.83 25 P **P** **04 19 15.6 +1.4**
baz=250
KPKS Kokpek 60.00 309 *e*P **P** **04 19 15.9 0.0**
comp=Z,6.8nm,0.6s,baz=309
F20K Avaraart Lake 60.06 23 P **P** **04 19 16.2 +0.5**
F20K IAmb IAmb 04 19 19.4
comp=Z,7.9nm,1.1s
F20K Avaraart Lake 60.06 23 P **P** **04 19 17.0 +1.3**
baz=248
ZHN Zhinishke 60.18 309 *e*P **P** **04 19 17.2 +0.1**
baz=309
SATY Saty 60.20 309 *e*P **P** **04 19 17.4 +0.1**
comp=Z,7.2nm,0.7s,baz=309
PRZ Przheval'sk 60.20 308 P **P** **04 19 18.6 +1.2**
SKT Skwentna 60.20 29 P **P** **04 19 16.5 -0.4**
SKT IAmb IAmb 04 19 26.8
comp=Z,10nm,1.0s
SKT Skwentna 60.20 29 P **P** **04 19 17.0 +0.1**
baz=255
TDK Taldyorghan 60.23 311 *e*P **P** **04 19 17.5 +0.2**
comp=Z,8.0nm,0.4s,baz=311
CAST Castle Rocks 60.34 27 P **P** **04 19 18.1 +0.3**
CAST IAmb IAmb 04 19 19.8
comp=Z,14nm,0.9s
CAST Castle Rocks 60.34 27 P **P** **04 19 18.8 +1.1**
baz=254,SNR=8.2
E20K Nigu River 60.35 21 P **P** **04 19 19.1 +1.3**
baz=247
CHUM Lake Minchumin 60.37 27 P **P** **04 19 19.4 +1.5**
baz=254,SNR=6.2
D20K Etivluk River 60.38 21 P **P** **04 19 19.1 +1.2**
baz=247
KURK Kurchatov 60.40 318 P **P** **04 19 18.1 -0.3**
KURK Kurchatov 60.40 318 P **P** **04 19 18.0 -0.3**
IMAR Indian Mountai 60.43 24 P **P** **04 19 18.7 +0.4**
KURBB Kurchatov Arra 60.44 318 P **P** **04 19 18.2 -0.4**
comp=Z,29nm,0.5s,baz=92,slow=7.6,SNR=353
KURBB LR LR 04 45 08.5
comp=Z,84nm,20.2s,baz=172,slow=36
comp=Z,29nm,0.5s
NRIK Noril'sk 60.62 340 P **P** **04 19 18.7 -0.8**
NRIK Noril'sk 60.62 340 P **P** **04 19 18.5 -1.0**
comp=Z,7.7nm,0.5s,baz=106,slow=9.3,SNR=15
comp=Z,7.7nm,0.5s
TARG Taragay, Kyrgy 60.65 307 P **P** **04 19 20.9 +0.2**
TARG IAmb IAmb 04 19 23.4
comp=Z,12nm,0.7s
H21K Melozitna Rive 60.70 25 P **P** **04 19 20.8 +0.6**
H21K IAmb IAmb 04 19 22.6
comp=Z,9.2nm,0.9s
H21K Melozitna Rive 60.70 25 P **P** **04 19 21.5 +1.4**
baz=252
G21K Allakaket 60.70 24 P **P** **04 19 20.6 +0.5**
G21K IAmb IAmb 04 19 25.0
comp=Z,12nm,1.1s
B20K Meade River 60.73 19 P **P** **04 19 20.9 +0.7**
B20K Meade River 60.73 19 P **P** **04 19 21.6 +1.4**
baz=246
KTH Kantishna Hill 60.88 27 P **P** **04 19 22.0 +0.5**
KTH IAmb IAmb 04 19 23.7
comp=Z,16nm,1.0s
F21K Alatna River 60.94 23 P **P** **04 19 22.6 +0.8**
F21K Alatna River 60.94 23 P **P** **04 19 23.2 +1.4**
baz=251
BPAW Bear Paw Mtn. 60.99 27 P **P** **04 19 22.7 +0.5**
BPAW Bear Paw Mtn. 60.99 27 P **P** **04 19 23.1 +1.0**
baz=255,SNR=7.2
TRF Thorofare Moun 61.13 28 P **P** **04 19 22.9 -0.4**
TRF IAmb IAmb 04 19 26.3
comp=Z,15nm,0.8s
TRF Thorofare Moun 61.13 28 P **P** **04 19 23.6 +0.3**
baz=256,SNR=5.2
C21K Knifeblade Rid 61.16 21 P **P** **04 19 24.6 +1.4**
baz=248
MDOK Medeo 61.19 309 *e*P **P** **04 19 24.3 +0.2**
baz=309
CHKK Chushkaly 61.23 310 *e*P **P** **04 19 24.5 +0.3**
baz=310
TNSS Tian-Shan 61.27 309 *e*P **P** **04 19 25.5 +0.6**
baz=309
AAA Alma-Ata 61.29 309 *e*P **P** **04 19 24.9 +0.3**
baz=309
MLY Manley 61.34 26 P **P** **04 19 25.4 +0.8**
MLY IAmb IAmb 04 19 26.7
comp=Z,7.9nm,0.9s
MLY Manley 61.34 26 P **P** **04 19 26.1 +1.5**
baz=254,SNR=5.0
B21K Ikpikpuk River 61.39 20 P **P** **04 19 24.3 -0.4**
B21K IAmb IAmb 04 19 27.1
comp=Z,10nm,0.8s
B21K Ikpikpuk River 61.39 20 P **P** **04 19 25.9 +1.2**
baz=248
A21K Barrow 61.45 18 P **P** **04 19 26.2 +1.1**
baz=245
KNK Knik Glacier 61.50 30 P **P** **04 19 26.1 +0.4**
SML Sawmill 61.64 30 P **P** **04 19 26.8 +0.2**
SML Sawmill 61.64 30 P **P** **04 19 27.6 +1.0**
baz=258
BWN Browne 61.66 27 P **P** **04 19 27.5 +0.9**
KUU Kurty 61.70 310 *e*P **P** **04 19 27.5 +0.2**
baz=310
WAT1 Susitna Watana 61.75 28 P **P** **04 19 28.0 +0.7**
baz=258
D22K Ayikyak River 61.77 21 P **P** **04 19 28.4 +1.1**
D22K IAmb IAmb 04 19 30.0
comp=Z,16nm,0.9s
D22K Ayikyak River 61.77 21 P **P** **04 19 29.1 +1.7**
baz=251
ULHL Ulahol 61.80 308 P **P** **04 19 29.1 +0.9**
SNR=7.0
A22K Sinclair Lake 61.80 19 P **P** **04 19 28.9 +1.4**
baz=247
E22K Anaktuvuk Pass 61.84 22 P **P** **04 19 28.5 +0.7**
E22K IAmb IAmb 04 19 30.3
comp=Z,18nm,1.1s
E22K Anaktuvuk Pass 61.84 22 P **P** **04 19 29.3 +1.5**
baz=252
M23K Glacier View 61.92 30 P **P** **04 19 29.2 +0.7**
baz=259

NEA2 Nenana 61.92 26 IAmb IAmb 04 19 30.9
comp=Z,11nm,1.0s
I23K Minto, Yukon-K 61.94 26 P **P** **04 19 29.4 +0.9**
baz=256,SNR=6.4
NRN Naryn 62.01 307 IAmb IAmb 04 19 31.4
comp=Z,9.3nm,0.9s
B22K Teshekpuk Lake 62.04 20 P **P** **04 19 30.0 +1.0**
baz=249
WAT6 Susitna Watana 62.07 29 P **P** **04 19 29.8 +0.2**
baz=259
G23K Bananza Creek 62.08 24 IAmb IAmb 04 19 34.0
comp=Z,12nm,1.2s
KSH Kashi 62.12 305 P **P** **04 19 33.7 +3.4**
KSH pmax pmax
comp=Z,10.0nm,0.8s
COLD Coldfoot 62.16 23 P **P** **04 19 31.9 +2.0**
baz=254,SNR=6.6
TKM2 Tokmak 2 62.26 309 P **P** **04 19 31.5 +0.2**
SNR=21
D23K Nanushuk River 62.49 21 P **P** **04 19 33.9 +1.8**
baz=252
COLA College 62.50 26 P **P** **04 19 34.4 +2.2**
KZA Kyzart 62.55 308 P **P** **04 19 34.3 +0.9**
SNR=43
E23K Chandalar 62.60 23 P **P** **04 19 34.9 +1.9**
baz=254
H24K Noodor Dome 62.70 25 IAmb IAmb 04 19 36.3
comp=Z,14nm,1.4s
H24K Noodor Dome 62.70 25 P **P** **04 19 34.9 +1.3**
baz=257
KBK Karagaybulak 62.75 309 P **P** **04 19 34.8 +0.3**
SNR=7.5
C23K Itkillik River 62.78 21 P **P** **04 19 35.4 +1.4**
baz=252
HDA Harding Lake 62.78 27 IAmb IAmb 04 19 42.0
comp=Z,34nm,1.8s
ILAR Eielson Array 62.88 26 P **P** **04 19 33.6 -1.1**
comp=Z,5.9nm,1.0s,baz=256,slow=4.5,SNR=38
ILAR LR LR 04 45 32.5
comp=Z,53nm,19.9s,baz=161,slow=34
comp=Z,5.9nm,1.0s
SGDS Sogindy 62.95 309 *e*P **P** **04 19 35.6 -0.1**
baz=309
USP Ospenovka 63.05 309 P **P** **04 19 36.6 +0.3**
SNR=11
AAK Ala-Archa 63.08 309 P **P** **04 19 37.0 +0.3**
SNR=5.8
AAK Ala-Archa 63.08 309 LR LR 04 47 16.5
comp=Z,49nm,19.3s,baz=98,slow=36
AAK Ala-Archa 63.08 309 P **P** **04 19 36.8 +0.1**
UCH Uchtor 63.09 308 P **P** **04 19 37.6 +0.5**
SNR=21
F24K Squaw Lake 63.10 23 P **P** **04 19 38.2 +2.0**
baz=256
PAX Paxson 63.16 29 P **P** **04 19 37.3 +0.5**
baz=261
D24K Happy Valley 63.18 21 P **P** **04 19 38.2 +1.5**
baz=254
BTLS Baital 63.32 311 *e*P **P** **04 19 37.7 -0.3**
baz=311
C24K Franklin Bluff 63.38 21 P **P** **04 19 39.8 +1.9**
baz=254
J25K Salcha River, 63.49 27 IAmb IAmb 04 19 45.8
comp=Z,30nm,1.8s
J25K Salcha River, 63.49 27 P **P** **04 19 38.4 -0.5**
baz=260
AML Almayashu 63.70 308 P **P** **04 19 41.4 +0.4**
SNR=15
PALK Pallekele 63.84 269 LR LR 04 46 20.2
comp=Z,32nm,20.6s,baz=179,slow=35
F25K Christian Rive 63.95 23 P **P** **04 19 44.1 +2.3**
baz=258
SCRK Sand Creek 63.98 28 P **P** **04 19 42.4 +0.3**
SCRK IAmb IAmb 04 19 43.5
comp=Z,9.7nm,1.0s
SCRK Sand Creek 63.98 28 P **P** **04 19 42.8 +0.6**
baz=261,SNR=7.9
D25K Kavik River 64.07 22 IAmb IAmb 04 19 45.0
comp=Z,15nm,1.0s
D25K Kavik River 64.07 22 P **P** **04 19 43.9 +1.3**
baz=257
BRZS Berezniki 64.17 317 *e*P **P** **04 19 43.5 0.0**
comp=Z,8.5nm,0.7s,baz=317
J26L Joseph Creek 64.24 27 IAmb IAmb 04 19 45.2
comp=Z,13nm,1.0s
J26L Joseph Creek 64.24 27 P **P** **04 19 44.1 +0.3**
baz=262
F26K Sheenjek River 64.53 23 P **P** **04 19 47.4 +1.8**
baz=260
G26K Porcupine Rive 64.54 24 P **P** **04 19 47.0 +1.4**
baz=260
C26K Camden Bay 64.70 21 P **P** **04 19 48.7 +2.2**
baz=256
L27K Beaver Creek, 64.82 29 IAmb IAmb 04 19 56.1
comp=Z,22nm,1.7s
L27K Beaver Creek, 64.82 29 P **P** **04 19 48.3 +0.8**
baz=264
NIL Nilore 64.86 299 P **P** **04 19 49.0 +0.7**
RTZ Ruatahuna 65.09 153 P **P** **04 19 48.5 -1.0**
EGAK Eagle 65.31 27 IAmb IAmb 04 19 54.0
comp=Z,12nm,1.3s
H27K Steamboat Moun 65.33 25 P **P** **04 19 52.1 +1.3**
baz=263
DZA Taraz 65.39 309 *e*P **P** **04 19 51.8 +0.2**
baz=309
E27K Coleen River 65.57 23 IAmb IAmb 04 19 54.8
comp=Z,15nm,1.4s
E27K Coleen River 65.57 23 P **P** **04 19 54.2 +1.9**
baz=262
BVAR Borovoye Array 65.58 320 P **P** **04 19 52.6 0.0**
comp=Z,52nm,0.6s,baz=93,slow=7.8,SNR=263
comp=Z,52nm,0.6s
BRVK Borovoye 65.64 320 P **P** **04 19 52.9 -0.1**
BRVK Borovoye 65.64 320 P **P** **04 19 52.6 -0.4**
I28M Miner Creek 65.89 26 IAmb IAmb 04 19 58.5
comp=Z,12nm,1.4s
I28M Miner Creek 65.89 26 P **P** **04 19 55.6 +1.1**
baz=264
D27M Malcolm River 65.95 22 IAmb IAmb 04 19 57.4
comp=Z,8.2nm,0.8s
D27M Malcolm River 65.95 22 P **P** **04 19 56.5 +1.8**
baz=262
KK31 Karatay Array 65.97 309 IAmb IAmb 04 19 57.0
comp=Z,13nm,0.8s
KKAR Karatay Array 65.97 309 IAmb IAmb 04 19 57.0
comp=Z,13nm,0.8s
DAWY Dawson 66.00 28 IAmb IAmb 04 19 57.2
comp=Z,17nm,1.5s
DAWY Dawson 66.00 28 P **P** **04 19 56.5 +1.4**
baz=266
F28M Old Crow 66.14 24 P **P** **04 19 57.6 +1.7**
baz=264,SNR=6.7
YUK4 Talbot Arm 66.18 31 P **P** **04 19 58.5 +2.0**
baz=268,SNR=6.1
M29M Somme Creek 66.32 30 IAmb IAmb 04 20 01.9
comp=Z,25nm,1.5s
M29M Somme Creek 66.32 30 P **P** **04 19 58.8 +1.5**
baz=267
E28M Babbage River 66.38 23 IAmb IAmb 04 20 00.2
comp=Z,30nm,1.6s
E28M Babbage River 66.38 23 P **P** **04 19 59.3 +1.9**
baz=264,SNR=10.0
L29M L29M 66.50 29 P **P** **04 20 00.1 +1.8**
baz=267
I29M Ogilvie Camp, 66.56 26 P **P** **04 19 59.7 +1.1**
baz=266
H29M Whitestone 66.60 25 P **P** **04 19 59.9 +1.1**
baz=266
CHM Chimkent 66.71 308 *e*P **P** **04 20 00.4 +0.4**
baz=308
HYT Haines Junctio 66.72 31 IAmb IAmb 04 20 05.2
comp=Z,18nm,1.3s
K29M Barlow Dome 66.81 28 IAmb IAmb 04 20 03.0
comp=Z,25nm,1.6s
K29M Barlow Dome 66.81 28 P **P** **04 20 01.7 +1.3**
baz=267,SNR=5.8
E29M Blow River 66.96 23 IAmb IAmb 04 20 04.6
comp=Z,32nm,1.9s
M30M Minto, Yukon 67.10 29 P **P** **04 20 03.4 +1.3**
baz=269
RAR Rarotonga 67.25 124 LR LR 04 42 16.8
comp=Z,62nm,21.8s,baz=356,slow=29
EPYK Eagle Plains 67.27 25 IAmb IAmb 04 20 05.3
comp=Z,17nm,1.1s
RPZ Rata Peaks 67.31 160 P **P** **04 20 02.5 -1.0**
comp=Z,5.4nm,0.7s,baz=338,slow=5.4,SNR=1.6
RPZ LR LR 04 45 54.2
comp=Z,50nm,21.4s,baz=310,slow=32
comp=Z,5.4nm,0.7s
J30M Hart River 67.36 27 IAmb IAmb 04 20 06.1
comp=Z,15nm,1.4s
J30M Hart River 67.36 27 P **P** **04 20 05.3 +1.5**
baz=268
I30M Mount Dempster 67.36 27 IAmb IAmb 04 21 41.3
comp=Z,19nm,1.9s
I30M Mount Dempster 67.36 27 P **P** **04 20 04.7 +0.9**
baz=268
G30M tAoh Zraii Nji 67.50 25 IAmb IAmb 04 20 08.3
comp=Z,17nm,1.2s
G30M tAoh Zraii Nji 67.50 25 P **P** **04 20 05.5 +0.9**
baz=267
SIMJ Simiganj 67.60 305 P **P** **04 20 05.5 -0.4**
SIMJ IAmb IAmb 04 20 07.5
comp=Z,16nm,0.8s
SIMJ Simiganj 67.60 305 P **P** **04 20 05.3 -0.5**
SIMJ pP **pP** **04 20 36.9 -1.0**
F30M Barrier River 67.70 24 P **P** **04 20 07.3 +1.6**
baz=267
KBL Kabul 68.18 300 P **P** **04 20 09.0 -0.6**
KBL IAmb IAmb 04 20 11.3
comp=Z,17nm,0.9s
M31M Drury Creek, Y 68.22 30 IAmb IAmb 04 20 11.2
comp=Z,33nm,1.8s
M31M Drury Creek, Y 68.22 30 P **P** **04 20 10.5 +1.4**
baz=271
G31M Satah River 68.27 25 IAmb IAmb 04 20 11.0
comp=Z,17nm,0.9s
G31M Satah River 68.27 25 P **P** **04 20 09.9 +0.6**
baz=269,SNR=11
F31M Tsiigehtchic 68.48 24 P **P** **04 20 11.4 +0.8**
baz=269
INK Inuvik 68.57 23 P **P** **04 20 12.0 +0.9**
baz=269,SNR=8.2
S34M Telegraph Cree 70.08 34 P **P** **04 20 22.2 +1.6**
baz=275
A36M Sachs Harbour 71.24 19 IAmb IAmb 04 20 29.2
comp=Z,24nm,1.2s
A36M Sachs Harbour 71.24 19 P **P** **04 20 28.6 +1.2**
baz=276
C36M Paulatuk 71.94 22 IAmb IAmb 04 20 32.9
comp=Z,14nm,0.9s
C36M Paulatuk 71.94 22 P **P** **04 20 31.9 +0.3**
baz=278
ARU Arti 72.14 324 P **P** **04 20 31.9 -1.2**
ARU Arti 72.14 324 P **P** **04 20 32.7 -0.4**
comp=Z,22nm,0.6s,baz=292,slow=16,SNR=4.3
ARU LR LR 04 52 11.0
comp=Z,70nm,21.2s,baz=68,slow=36
comp=Z,22nm,0.6s
AKTO Aktyubinsk 73.49 318 P **P** **04 20 40.3 -0.8**
comp=Z,14nm,0.6s,baz=91,slow=8.9,SNR=42
AKTO LR LR 04 55 35.7
comp=Z,69nm,18.4s,baz=100,slow=38
comp=Z,14nm,0.6s
PPT Papeete 73.75 116 LR LR 04 49 17.3
comp=Z,101nm,18.3s,baz=300,slow=32
PPT2 Papeete2 73.75 116 *e*LR LR 04 43 22.0
comp=Z,260nm,23.8s
PPT2 *e*LR LR 04 43 32.0
comp=Z,186nm,24.0s
GEYT Alibeck 76.14 306 P **P** **04 20 57.0 +0.2**
comp=Z,5.0nm,0.6s,baz=100,slow=5.1,SNR=7.9
GEYT LR LR 04 57 33.7
comp=Z,30nm,21.4s,baz=40,slow=38
comp=Z,5.0nm,0.6s
KIRV Kirov 76.52 328 LR LR 04 54 57.9
comp=Z,57nm,20.4s,baz=78,slow=36
YKA Yellowknife Ar 77.24 28 P **P** **04 21 02.2 -0.1**
comp=Z,7.0nm,0.8s,baz=290,slow=5.5,SNR=54
comp=Z,7.0nm,0.8s
HOPEN Hopen 77.69 348 *e*P **P** **04 21 05.6 +1.0**
HOPEN IAmb IAmb 04 21 06.0
comp=Z,68nm,1.3s
H04A Detroit Lake 78.06 47 IAmb IAmb 04 21 09.4
comp=Z,16nm,1.2s
SPITS Spitsbergen Ar 78.17 351 P **P** **04 21 06.4 -0.9**
comp=Z,1.4nm,0.5s,baz=84,slow=4.5,SNR=1.1
SPITS LR LR 04 59 08.8
comp=Z,21nm,20.5s,baz=328,slow=38
comp=Z,1.4nm,0.5s
HOOD Mount Hood Mea 78.25 46 IAmb IAmb 04 21 12.8
comp=Z,13nm,1.0s
LTY Liberty 78.37 44 IAmb IAmb 04 21 16.0
comp=Z,35nm,1.8s
RES Resolute Bay 78.54 14 IAmb IAmb 04 21 10.9
comp=Z,16nm,0.8s
RES Resolute Bay 78.54 14 LR LR 05 03 02.4
comp=Z,38nm,18.0s,baz=6.0,slow=41
J05D Fort Rock, OR 79.11 48 IAmb IAmb 04 21 15.7
comp=Z,13nm,0.8s
PINE Pine Mountain 79.17 47 IAmb IAmb 04 21 16.3
comp=Z,20nm,0.8s
K05A Summer Lake 79.52 48 IAmb IAmb 04 21 12.8
comp=Z,12nm,0.6s
VADS Vadso 80.06 342 *e*P **P** **04 21 17.3 -0.2**
VADS IAmb IAmb 04 21 19.4
comp=Z,78nm,1.6s
NEW Newport 80.35 42 P **P** **04 21 20.5 +0.8**
baz=289
EDM Edmonton 80.95 37 IAmb IAmb 04 21 24.5
comp=Z,15nm,1.2s
MPK Martis Peak 81.17 52 IAmb IAmb 04 21 27.4
comp=Z,20nm,1.0s
HAMF Hammerfest 81.37 343 *e*P **P** **04 21 24.0 -0.6**
HAMF IAmb IAmb 04 21 28.1
comp=Z,922nm,3.2s
ARA0 ARCESS Array S 81.50 342 *e*P **P** **04 21 24.7 -0.6**
ARA0 IAML 04 21 25.8
comp=Z,7.6nm,0.5s
ARCES ARCESS Array B 81.50 342 P **P** **04 21 24.8 -0.5**
ARCES ARCESS Array B 81.50 342 P **P** **04 21 25.1 -0.3**
comp=Z,7.6nm,0.5s,baz=68,slow=7.6,SNR=89
ARCES LR LR 05 00 33.3
comp=Z,55nm,19.8s,baz=70,slow=38
comp=Z,7.6nm,0.5s
PNTR Pine Nut 81.55 52 IAmb IAmb 04 21 28.8
comp=Z,14nm,0.8s
KTK1 Kautokeino 82.46 342 *e*P **P** **04 21 29.8 -0.5**
KTK1 IAmb IAmb 04 21 37.4
comp=Z,1μm,4.3s
RYN Ryan 82.50 52 IAmb IAmb 04 21 33.5
comp=Z,10nm,0.9s
NEEM North Greenlan 82.59 4 *i*P **P** **04 21 31.8 +0.5**
NEEM IAmb IAmb 04 21 34.2
comp=Z,20nm,0.8s
LHV Little Huntoon 82.64 52 IAmb IAmb 04 21 34.5
comp=Z,9.3nm,0.9s
KVN Kaiserville 82.67 51 IAmb IAmb 04 21 34.2
comp=Z,14nm,1.1s
NVAR Mina Array Bea 82.72 52 P **P** **04 21 33.5 +0.9**
comp=Z,11nm,0.7s,baz=270,slow=5.6,SNR=87
comp=Z,11nm,0.7s
MFID Camas Ranch 82.82 47 IAmb IAmb 04 21 34.9
comp=Z,9.5nm,0.8s
NV11 Mina Array Sit 82.83 52 IAmb IAmb 04 21 35.2
comp=Z,9.8nm,0.8s
JETT Jettan, Norway 82.92 343 *e*P **P** **04 21 32.0 -0.7**
JETT IAmb IAmb 04 21 34.1
comp=Z,35nm,0.6s
VES Vestal, Richgr 82.98 55 P **P** **04 21 33.8 +0.1**
baz=289
TRO Tromso 83.27 344 *e*P **P** **04 21 33.0 -1.4**
TRO IAmb IAmb 04 21 34.2
comp=Z,18nm,0.5s
DAG Danmarks Havn 83.28 356 *i*P **P** **04 21 33.0 -1.4**
DAG IAmb IAmb 04 21 35.2
comp=Z,3.2nm,0.6s
CWC Cottonwood Cre 83.55 54 P **P** **04 21 38.0 +1.2**
baz=290
HLID Hailey 83.73 46 P **P** **04 21 38.3 +0.7**
baz=291
GMN Gold Mountain 83.88 53 IAmb IAmb 04 21 40.4
comp=Z,8.4nm,0.7s
GRAC Grapevine Rang 83.91 53 IAmb IAmb 04 21 40.5
comp=Z,15nm,1.4s
GRAC Grapevine Rang 83.91 53 P **P** **04 21 39.5 +1.0**
baz=290
MPMC Manual Prospec 84.13 54 P **P** **04 21 40.7 +0.8**
baz=290
ELK Elko 84.16 49 IAmb IAmb 04 21 41.9
comp=Z,8.8nm,0.8s
LRMC Laurel Mtn Rad 84.18 55 P **P** **04 21 40.8 +0.8**
baz=290
FURC Furnace Creek, 84.47 53 P **P** **04 21 42.3 +1.1**
baz=290
WCT Wildcat Mounta 84.53 53 IAmb IAmb 04 21 43.5
comp=Z,10nm,0.7s
GWY Greenwater Val 84.71 54 IAmb IAmb 04 21 44.4
comp=Z,7.9nm,0.8s
R11B Troy Canyon, C 84.76 51 P **P** **04 21 44.2 +1.2**
baz=291,SNR=6.5
TPNV Topopah Spring 84.76 53 IAmb IAmb 04 21 44.8
comp=Z,12nm,0.7s
TPNV Topopah Spring 84.76 53 P **P** **04 21 43.8 +0.8**
baz=291,SNR=8.5
BOZ Bozeman (W) 84.81 43 P **P** **04 21 43.8 +0.8**
baz=293,SNR=7.9
S11A Rachel 84.89 52 IAmb IAmb 04 21 52.2
comp=Z,24nm,1.4s
EGMT Eagleton 85.04 41 P **P** **04 21 44.9 +0.9**
baz=294
Q12A Willow Creek R 85.06 50 IAmb IAmb 04 21 46.5
comp=Z,13nm,1.1s
KBZ Khabaz 85.30 315 P **P** **04 21 44.4 -0.8**
comp=Z,4.8nm,0.7s,baz=113,slow=3.4,SNR=23
KBZ LR LR 05 03 15.2
comp=Z,66nm,18.1s,baz=80,slow=38
comp=Z,4.8nm,0.7s
GNI Garni 85.37 311 LR LR 05 04 35.9
comp=Z,29nm,18.0s,baz=86,slow=39
YHL Hebgen Lake 85.40 44 IAmb IAmb 04 21 48.6
comp=Z,16nm,0.8s
STEI Steigen 85.42 343 *e*P **P** **04 21 44.4 -0.9**
HEC Hector,Ludlow 85.44 55 P **P** **04 21 47.5 +1.2**
baz=291
TUQ Turquoise Moun 85.54 54 P **P** **04 21 47.8 +1.0**
baz=291,SNR=5.5
LOF Lofoten 85.73 344 *e*P **P** **04 21 45.2 -1.6**
LOF IAmb IAmb 04 21 51.4
comp=Z,56nm,1.3s
PFO Pinyon Flats O 85.77 56 P **P** **04 21 48.9 +1.0**
baz=291
TPFO Pinon Flats 85.78 56 P **P** **04 21 48.9 +0.9**
baz=291
YNR Norris Junctio 85.78 44 IAmb IAmb 04 21 51.8
comp=Z,16nm,1.0s
YFT Old Faithful 85.78 44 IAmb IAmb 04 21 51.8
comp=Z,12nm,0.7s
FAUS Fauske 85.78 343 *e*P **P** **04 21 45.8 -1.3**
FAUS IAmb IAmb 04 21 48.7
comp=Z,22nm,1.1s
FINES FINESS Array B 85.91 335 P **P** **04 21 45.9 -2.0**
comp=Z,12nm,0.4s,baz=68,slow=4.8,SNR=131
comp=Z,12nm,0.4s
SPUT South Promonto 85.91 48 IAmb IAmb 04 21 50.5
comp=Z,13nm,1.1s
IMW Indian Meadow 85.93 45 IAmb IAmb 04 21 51.2
comp=Z,9.3nm,0.8s
GMRC Granite Mounta 85.97 55 P **P** **04 21 49.9 +0.9**
baz=291
H17A Grant Village 85.97 44 IAmb IAmb 04 21 52.8
comp=Z,10.0nm,1.1s
H17A Grant Village 85.97 44 P **P** **04 21 52.4 +3.5**
baz=294,SNR=8.1
FLWY Flagg Ranch 86.02 45 IAmb IAmb 04 21 51.8
comp=Z,16nm,0.8s
DUG Dugway, Tooele 86.08 49 IAmb IAmb 04 21 51.2
comp=Z,9.8nm,0.7s
DUG Dugway, Tooele 86.08 49 P **P** **04 21 50.3 +0.9**
baz=292,SNR=15
YMP Mirror Lake PI 86.11 44 IAmb IAmb 04 21 52.6
comp=Z,15nm,0.8s
V12A Nelson 86.25 53 IAmb IAmb 04 21 52.4
comp=Z,9.0nm,0.8s
AHID Auburn Hatcher 86.27 46 IAmb IAmb 04 21 52.2
comp=Z,8.5nm,0.8s
FFC Flin Flon 86.40 32 P **P** **04 21 50.9 +0.4**
FFC IAmb IAmb 04 21 52.0
comp=Z,14nm,0.9s
HWUT Hardware Ranch 86.41 47 IAmb IAmb 04 21 52.9
comp=Z,12nm,0.8s
RLMT Red Lodge 86.53 43 IAmb IAmb 04 21 54.0
comp=Z,7.8nm,0.8s
RLMT Red Lodge 86.53 43 P **P** **04 21 53.1 +1.5**
baz=294,SNR=7.9
CTU Camp Tracy 86.64 48 P **P** **04 21 52.5 +0.3**
CTU IAmb IAmb 04 21 53.8
comp=Z,8.9nm,0.9s
TCUT Toone Canyon 86.71 47 IAmb IAmb 04 21 54.2
comp=Z,12nm,0.6s
MOR8 Moi Rana 86.87 342 *e*P **P** **04 21 50.5 -2.0**
MOR8 IAmb IAmb 04 21 54.1
comp=Z,14nm,1.1s
MPU Maple Canyon 86.99 49 IAmb IAmb 04 21 55.6
comp=Z,7.7nm,1.0s
KNB Kanab 87.29 52 IAmb IAmb 04 21 57.8
comp=Z,16nm,1.0s
BW06 Boulder Array 87.31 45 P **P** **04 21 56.7 +1.2**
baz=294
PDAR Pinedale Array 87.31 45 P **P** **04 21 55.7 +0.3**
comp=Z,0.8nm,0.5s,baz=211,slow=2.0,SNR=16
comp=Z,0.8nm,0.5s
PDMCI Parker Dam,Lak 87.32 55 P **P** **04 21 56.4 +1.1**
baz=292,SNR=8.6
Q16A Castle Valley 87.75 49 IAmb IAmb 04 21 59.7
comp=Z,9.7nm,0.8s
P17A Butcher Ranch, 87.83 49 IAmb IAmb 04 21 59.8
comp=Z,7.8nm,1.0s
FCC Fort Churchill 87.90 27 IAmb IAmb 04 22 00.7
comp=Z,24nm,1.4s
U15A North Rim 87.91 52 IAmb IAmb 04 22 00.7
comp=Z,5.5nm,0.8s
GURO Guroymak-BITLI 87.92 310 IAmb IAmb 04 21 58.2
comp=Z,31nm,2.0s
SUMG Summit 87.94 1 *i*P **P** **04 21 58.0 -0.1**
SUMG IAmb IAmb 04 21 60.0
comp=Z,4.9nm,0.7s
P18A Preston Nutter 88.12 48 IAmb IAmb 04 23 20.8
comp=Z,6.9nm,0.9s
SRU San Rafael Swe 88.13 49 IAmb IAmb 04 22 00.8
comp=Z,7.7nm,0.8s
Y14A Wickenburg 88.33 55 IAmb IAmb 04 22 02.3
comp=Z,12nm,0.8s
NSS Namsos 88.78 342 *e*P **P** **04 22 01.3 -0.2**
214A Organ Pipe Nat 89.24 56 IAmb IAmb 04 22 06.7
comp=Z,7.0nm,0.9s
214A Organ Pipe Nat 89.24 56 P **P** **04 22 05.8 +1.3**
baz=293,SNR=7.5
O20A White River Ci 89.31 47 P **P** **04 22 05.3 +0.4**
baz=295
AKASG Malin Array Be 90.38 325 P **P** **04 22 08.3 -1.0**
comp=Z,0.3nm,0.3s,baz=56,slow=2.4,SNR=5.9
comp=Z,0.3nm,0.3s
N23A Red Feather La 90.55 46 IAmb IAmb 04 22 13.1
comp=Z,12nm,0.9s
N23A Red Feather La 90.55 46 P **P** **04 22 12.6 +1.9**
baz=297,SNR=6.7
TUC Tucson 90.68 55 P **P** **04 22 10.6 -0.6**
TUC Tucson 90.68 55 P **P** **04 22 13.0 +1.7**
baz=294
ISCO Idaho Springs 91.27 47 P **P** **04 22 14.9 +0.8**
baz=297
S22A 4UR Ranch, Cre 91.34 49 IAmb IAmb 04 22 16.5
comp=Z,4.7nm,0.9s
S22A 4UR Ranch, Cre 91.34 49 P **P** **04 22 15.9 +1.4**
baz=296,SNR=5.7
HFS Hagfors 91.40 338 P **P** **04 22 11.5 -2.3**
comp=Z,1.5nm,0.4s,baz=89,slow=4.6,SNR=19
HFS LR LR 05 06 37.0
comp=Z,44nm,19.2s,baz=56,slow=38
comp=Z,1.5nm,0.4s
ICESG Greenland Ices 91.41 2 *i*P **P** **04 22 12.8 -1.4**
ICESG IAmb IAmb 04 22 16.3
comp=Z,3.8nm,0.8s
NB2 NORSAR Subarra 91.58 340 P **P** **04 22 12.3 -2.5**
comp=Z,5.2nm,1.1s,baz=46,slow=5.1
NB2 NORSAR Subarra 91.58 340 P **P** **04 22 12.3 -2.5**
baz=46,slow=5.1
NOA NORSAR Array B 91.58 340 P **P** **04 22 13.1 -1.7**
comp=Z,1.8nm,0.9s,baz=44,slow=4.6,SNR=5.5
NOA LR LR 05 06 20.8
comp=Z,27nm,19.4s,baz=15,slow=37
comp=Z,1.8nm,0.9s
ULM Lac du Bonnet 91.93 34 P **P** **04 22 15.2 -1.3**
comp=Z,3.3nm,0.8s,baz=255,slow=1.5,SNR=6.2
comp=Z,3.3nm,0.8s
SDCO Great Sand Dun 92.28 49 P **P** **04 22 20.0 +1.2**
baz=297,SNR=5.1
ANMO Albuquerque 92.84 51 P **P** **04 22 20.8 -0.6**
ANMO IAmb IAmb 04 22 23.3
comp=Z,14nm,1.6s
ANMO Albuquerque 92.84 51 P **P** **04 22 23.1 +1.7**
baz=296
BRTR Keskin Array B 93.27 314 P **P** **04 22 21.2 -2.0**

comp=Z,1.4nm,0.8s,baz=116,slow=2.9,SNR=3.8
comp=Z,1.4nm,0.8s

LPIG	**La Paz**	**94.36**	**63**	LR	LR	04 59 23.5		
	comp=Z,37nm,19.6s,baz=272,slow=32							
MLR	**Muntele Rosu**	**95.08**	**322**	LR	LR	05 09 18.0		
	comp=Z,75nm,18.7s,baz=78,slow=38							
MMAI	**Mount Meron Ar**	**95.16**	**308**	P	**P**	**04 22 30.6**	**-1.3**	
	comp=Z,1.2nm,0.5s,baz=61,slow=6.8,SNR=2.3							
MMAI				LR	LR	05 09 12.6		
	comp=Z,17nm,18.1s,baz=34,slow=38							
	comp=Z,1.2nm,0.5s							
EIL	**Elat**	**97.03**	**305**	LR	LR	05 12 43.7		
	comp=Z,20nm,19.6s,baz=22,slow=39							
TXAR	**Lajitas Array**	**97.48**	**55**	P	Pdif	04 22 43.1	+0.5	
	comp=Z,0.3nm,0.5s,baz=293,slow=3.9,SNR=4.8							
	comp=Z,0.3nm,0.5s							
VRAC	**Vranov**	**97.70**	**329**	LR	LR	05 13 12.1		
	comp=Z,40nm,19.2s,baz=34,slow=39							
GERES	**GERESS Array B**	**99.40**	**330**	LR	LR	05 10 22.5		
	comp=Z,50nm,18.6s,baz=42,slow=37							
TORD	**Torodi Ar. Bea**	**131.66**	**310**	PKP	**PKPdf**	**04 28 19.8**	**-1.3**	
	comp=Z,0.4nm,0.4s,baz=41,slow=2.2,SNR=6.4							
TORD				PP	**PP**	**04 30 38.5**	**-3.2**	
	comp=Z,0.5nm,0.7s,baz=24,slow=7.7,SNR=3.6							
TORD				SKPbc	**SKPbc**	**04 31 30.3**	**-4.1**	
	comp=Z,0.8nm,0.6s,baz=24,slow=4.8,SNR=5.7							

NOU ***11*** *04:11:34.2,37.°17S×179.°88E,h0km,MLv4.5/8, Off E. Coast of N. Island, N.Z.*
IDC ***11*** *04:11:41.0±1.3,36.°96S×178.°95E,h0km,mb4.1/3, mbtmp4.1/3,MS3.5/1, Error ellipse: s-maj=36.1km s-min=31.1km az=49.0*
WEL ***11*** *04:11:44.7±0.8,37.°S±5.°×17.°9E±.°,h12km,M4.1/19, ML4.3/19,MLv4.1/19, Error ellipse: s-maj=0.0km s-min=0.0km az=99.9,confirmed*

ISC 11 04:11:44.6±2.1,37.°35S±0.°06×179.°06E±0.°07,h17km±10km, n134,σ1§13/148,mb4.0/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.64**	**250**	P	**Pb**	**04 11 58.0**	**+0.7**
MXZ	**Matakaoa Point**	**0.64**	**250**	P	**Pb**	**04 11 57.8**	**+0.6**
MXZ				S	**Sg**	**04 12 05.3**	**-0.3**
WMGZ	**Waiomatatini S**	**0.69**	**227**	P	**Pn**	**04 12 00.9**	**+1.2**
WMGZ				S	**Sn**	**04 12 12.0**	**+2.0**
PUZ	**Puketiti**	**0.96**	**221**	P	**Pn**	**04 12 04.5**	**+1.2**
PUZ				S	**Sn**	**04 12 18.0**	**+1.4**
HAZ	**Te Kaha**	**1.09**	**248**	P	**Pb**	**04 12 04.7**	**-0.3**
HAZ				S	**Sn**	**04 12 20.1**	**+0.2**
TWGZ	**Tauwhareparae**	**1.19**	**226**	P	**Pn**	**04 12 07.7**	**+1.1**
TWGZ				S	**Sg**	**04 12 24.1**	**+1.0**
RUGZ	**Raukumara Rang**	**1.26**	**240**	P	**Pg**	**04 12 08.7**	**-0.2**
RUGZ				S	**Sg**	**04 12 25.2**	**-0.2**
CNGZ	**Carnagh Statio**	**1.32**	**211**	P	**Pn**	**04 12 10.0**	**+1.7**
TKGZ	**Te Karaka**	**1.45**	**221**	P	**Pn**	**04 12 10.8**	**+0.7**
WIZ	**White Island**	**1.50**	**263**	P	**Pn**	**04 12 09.7**	**-1.0**
WIZ				S	**Sb**	**04 12 29.8**	**-0.9**
WSRZ	**White Island S**	**1.51**	**263**	P	**Pn**	**04 12 09.9**	**-0.9**
MWZ	**Matawai**	**1.56**	**231**	P	**Pn**	**04 12 12.3**	**+0.6**
RIGZ	**Rimuhau**	**1.70**	**217**	P	**Pn**	**04 12 14.1**	**+0.6**
WHRZ	**Whale Island**	**1.73**	**252**	P	**Pn**	**04 12 14.5**	**+0.6**
WHRZ				S	**Sn**	**04 12 36.1**	**+0.4**
RAGZ	**Rawiri**	**1.73**	**228**	P	**Pn**	**04 12 14.8**	**+0.8**
RAGZ				S	**Sn**	**04 12 35.6**	**-0.2**
URZ	**Urewera**	**1.79**	**239**	P	**Pn**	**04 12 15.5**	**+0.8**
URZ	**Urewera**	**1.79**	**239**	Pn	**Pn**	**04 12 15.3**	**+0.6**
	140nm,0.3s,baz=257,slow=2.6,SNR=285						
URZ				Sn	**Sn**	**04 12 36.5**	**-0.6**
	216nm,0.3s,baz=350,slow=18,SNR=11						
URZ				LR	LR	04 12 46.1	
	comp=Z,78nm,18.4s,baz=120,slow=33						
URZ	**Urewera**	**1.79**	**239**	P	**Pn**	**04 12 15.4**	**+0.6**
PRGZ	**Paritu Road**	**1.82**	**210**	P	**Pn**	**04 12 15.9**	**+0.7**
SNGZ	**Shannon Statio**	**1.97**	**223**	P	**Pn**	**04 12 17.9**	**+0.7**
SNGZ				S	**Sn**	**04 12 41.6**	**0.0**
EDRZ	**Edgecumbe**	**1.99**	**247**	P	**Pn**	**04 12 18.2**	**+0.7**
KNZ	**Kokohu**	**1.99**	**213**	P	**Pn**	**04 12 17.5**	**-0.1**
MARZ	**Manawahe**	**2.00**	**251**	P	**Pn**	**04 12 17.8**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.01**	**206**	P	**Pn**	**04 12 18.5**	**+0.6**
OPRZ	**Ohinepanea**	**2.05**	**255**	P	**Pn**	**04 12 18.0**	**-0.3**
RTZ	**Ruatahuna**	**2.07**	**232**	P	**Pn**	**04 12 19.5**	**+0.7**
RTZ				S	**Sn**	**04 12 44.9**	**+0.7**
MUGZ	**Murupara**	**2.13**	**237**	P	**Pn**	**04 12 19.8**	**+0.4**
MUGZ				S	**Sn**	**04 12 45.5**	**0.0**
MKRZ	**Makatiti**	**2.20**	**248**	P	**Pn**	**04 12 21.5**	**+1.0**
RAHZ	**Arahi**	**2.21**	**224**	P	**Pn**	**04 12 21.2**	**+0.7**
RAHZ				S	**Sn**	**04 12 48.4**	**+1.0**
TARZ	**Mount Tarawera**	**2.21**	**246**	P	**Pn**	**04 12 21.3**	**+0.7**
LIRZ	**Lichensteins R**	**2.22**	**252**	P	**Pn**	**04 12 21.4**	**+0.7**
RRRZ	**Republican Roa**	**2.24**	**243**	P	**Pn**	**04 12 21.6**	**+0.6**
WHHZ	**Waihua**	**2.24**	**210**	P	**Pn**	**04 12 21.4**	**+0.4**
TGRZ	**Tauranga**	**2.26**	**260**	P	**Pn**	**04 12 21.1**	**-0.1**
OMRZ	**Omania**	**2.26**	**250**	P	**Pn**	**04 12 21.5**	**+0.2**
MTHZ	**Maungataniwha**	**2.30**	**229**	P	**Pn**	**04 12 22.7**	**+0.9**
HLRZ	**Highlands Stat**	**2.33**	**246**	P	**Pn**	**04 12 23.0**	**+0.9**
KARZ	**Kaharoa**	**2.33**	**253**	P	**Pn**	**04 12 22.3**	**+0.1**
NGRZ	**Ngongotaha**	**2.40**	**251**	P	**Pn**	**04 12 24.1**	**+0.9**
PRRZ	**Plateau Road**	**2.40**	**241**	P	**Pn**	**04 12 23.0**	**-0.1**
HSRZ	**Hossack Road**	**2.43**	**246**	P	**Pn**	**04 12 24.8**	**+1.2**
HRRZ	**Handcock Road**	**2.43**	**244**	P	**Pn**	**04 12 24.2**	**+0.6**
ALRZ	**Allen Road**	**2.46**	**240**	P	**Pn**	**04 12 24.5**	**+0.5**
NMHZ	**Naumai**	**2.49**	**225**	P	**Pn**	**04 12 25.2**	**+0.8**
ARHZ	**Aropaoanui**	**2.50**	**220**	P	**Pn**	**04 12 25.0**	**+0.4**
KMRZ	**Kaimai**	**2.52**	**258**	P	**Pn**	**04 12 24.6**	**-0.3**
MRHZ	**Matea Rd**	**2.56**	**234**	P	**Pn**	**04 12 25.9**	**+0.5**
BKZ	**Black Stump Fm**	**2.71**	**227**	P	**Pn**	**04 12 27.8**	**+0.3**
BKZ	**Black Stump Fm**	**2.71**	**227**	P	**Pn**	**04 12 27.7**	**+0.3**
KUZ	**Kuaotunu**	**2.74**	**282**	P	**Pn**	**04 12 26.0**	**-1.8**
KUZ	**Kuaotunu**	**2.74**	**282**	P	**Pn**	**04 12 26.1**	**-1.6**
CKHZ	**Cape Kidnapper**	**2.78**	**213**	P	**Pn**	**04 12 27.7**	**-0.6**
MCHZ	**McNeill Hill**	**2.79**	**221**	P	**Pn**	**04 12 28.7**	**+0.1**
HATZ	**Hinemaiaia**	**2.80**	**236**	P	**Pn**	**04 12 29.2**	**+0.5**
KUTZ	**Kaahu Road**	**2.80**	**245**	P	**Pn**	**04 12 29.4**	**+0.7**
TOZ	**Tahuroa Road**	**2.85**	**261**	P	**Pn**	**04 12 28.8**	**-0.5**
KWHZ	**Kaweka Forest**	**2.93**	**224**	P	**Pn**	**04 12 30.2**	**-0.3**
TLZ	**Tolley Road**	**2.95**	**250**	P	**Pn**	**04 12 31.0**	**+0.2**
WATZ	**Wairara**	**2.96**	**242**	P	**Pn**	**04 12 31.9**	**+1.1**
KAHZ	**Kahuranaki**	**2.98**	**214**	P	**Pn**	**04 12 30.5**	**-0.6**
RITZ	**Rihia Road**	**3.00**	**236**	P	**Pn**	**04 12 31.9**	**+0.5**
RATZ	**Rangitukua**	**3.00**	**239**	P	**Pn**	**04 12 32.5**	**+1.0**
GRZ	**Great Barrier**	**3.09**	**290**	P	**Pn**	**04 12 31.4**	**-1.3**
KATZ	**Kakaramea**	**3.11**	**238**	P	**Pn**	**04 12 33.8**	**+0.8**
KRHZ	**Kereru**	**3.11**	**222**	P	**Pn**	**04 12 32.2**	**-0.8**
MKAZ	**Moumakai**	**3.12**	**273**	P	**Pn**	**04 12 32.1**	**-1.0**
TMVZ	**Te Maari**	**3.17**	**235**	P	**Pn**	**04 12 33.8**	**-0.1**
BHHZ	**Black Hill Sta**	**3.18**	**227**	P	**Pn**	**04 12 33.8**	**-0.1**
PXZ	**Pawanui**	**3.18**	**212**	P	**Pn**	**04 12 32.6**	**-1.3**
ETVZ	**East Tongariro**	**3.18**	**235**	P	**Pn**	**04 12 33.8**	**-0.2**
NTVZ	**North Tongarir**	**3.18**	**236**	P	**Pn**	**04 12 34.0**	**0.0**
WIAZ	**Waiheke Island**	**3.19**	**279**	P	**Pn**	**04 12 32.9**	**-1.1**
KRVZ	**Karewarewa**	**3.21**	**236**	P	**Pn**	**04 12 34.7**	**+0.3**
OTVZ	**Oturere**	**3.23**	**235**	P	**Pn**	**04 12 34.4**	**-0.2**
NNVZ	**North Ngauruho**	**3.24**	**236**	P	**Pn**	**04 12 35.3**	**+0.4**
WTVZ	**West Tongariro**	**3.25**	**236**	P	**Pn**	**04 12 35.5**	**+0.6**
SNVZ	**South Ngauruho**	**3.25**	**235**	P	**Pn**	**04 12 34.9**	**-0.2**
NGZ	**Ngauruhoe**	**3.27**	**235**	P	**Pn**	**04 12 35.2**	**-0.1**
TUVZ	**Tukino**	**3.29**	**233**	P	**Pn**	**04 12 35.5**	**-0.1**
MOVZ	**Moawhango**	**3.31**	**231**	P	**Pn**	**04 12 35.1**	**-0.6**
ETAZ	**East Tamaki Re**	**3.33**	**276**	P	**Pn**	**04 12 34.8**	**-1.1**
COVZ	**Chateau Observ**	**3.33**	**235**	P	**Pn**	**04 12 36.3**	**+0.3**
TWVZ	**Taurewa**	**3.33**	**238**	P	**Pn**	**04 12 36.5**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.34**	**234**	P	**Pn**	**04 12 36.5**	**+0.1**
FWVZ	**Far West T-bar**	**3.35**	**234**	P	**Pn**	**04 12 36.3**	**-0.1**
MAVZ	**Matarangi**	**3.35**	**234**	P	**Pn**	**04 12 36.3**	**-0.2**
WNVZ	**Wahianoa**	**3.36**	**233**	P	**Pn**	**04 12 36.1**	**-0.4**
TRVZ	**Turoa**	**3.38**	**234**	P	**Pn**	**04 12 36.6**	**-0.2**
MBAZ	**Motutapu North**	**3.38**	**279**	P	**Pn**	**04 12 35.9**	**-0.7**
WPHZ	**Waipukurau**	**3.40**	**216**	P	**Pn**	**04 12 35.9**	**-0.9**
WPHZ				S	**Sn**	**04 13 15.3**	**-1.5**
PNHZ	**Pukenui**	**3.40**	**220**	P	**Pn**	**04 12 35.7**	**-1.2**
PNHZ				S	**Sn**	**04 13 14.8**	**-2.1**
ABAZ	**Army Bay**	**3.47**	**281**	P	**Pn**	**04 12 37.3**	**-0.5**
PRHZ	**Porangahau**	**3.47**	**212**	P	**Pn**	**04 12 36.3**	**-1.6**
PRHZ				S	**Sn**	**04 13 16.2**	**-2.4**
MTVZ	**Mangateitei**	**3.48**	**233**	P	**Pn**	**04 12 38.0**	**0.0**
EPAZ	**Eden Park BICE**	**3.48**	**277**	P	**Pn**	**04 12 37.9**	**-0.1**
HBAZ	**Herne Bay Bore**	**3.50**	**277**	P	**Pn**	**04 12 38.2**	**0.0**
PKVZ	**Pokaka**	**3.50**	**235**	P	**Pn**	**04 12 38.8**	**+0.4**
HIZ	**Hauiti**	**3.52**	**249**	P	**Pn**	**04 12 39.8**	**+1.3**
HIZ	**Hauiti**	**3.52**	**249**	P	**Pn**	**04 12 39.5**	**+1.0**
AWAZ	**Awhitu Peninsu**	**3.54**	**273**	P	**Pn**	**04 12 38.5**	**-0.2**
WTAZ	**Waiatarua**	**3.61**	**275**	P	**Pn**	**04 12 39.6**	**-0.2**
RVAZ	**Riverhead Bore**	**3.63**	**278**	P	**Pn**	**04 12 39.7**	**-0.3**
TSZ	**Takapari Road**	**3.63**	**221**	P	**Pn**	**04 12 38.4**	**-1.7**
ANWZ	**Angora Road**	**3.70**	**212**	P	**Pn**	**04 12 39.2**	**-1.8**
ANWZ				S	**Sn**	**04 13 21.6**	**-2.6**
DVHZ	**Dannevirke**	**3.71**	**217**	P	**Pn**	**04 12 39.4**	**-1.8**
VRZ	**Vera Road**	**3.82**	**241**	P	**Pn**	**04 12 43.5**	**+0.9**
POWZ	**Post Office Ro**	**3.98**	**219**	P	**Pn**	**04 12 42.9**	**-1.9**
POWZ				S	**Sn**	**04 13 27.8**	**-3.3**
BFZ	**Birch Farm**	**3.98**	**213**	P	**Pn**	**04 12 42.6**	**-2.3**
WAZ	**Wanganui**	**3.99**	**232**	P	**Pn**	**04 12 45.0**	**0.0**
PRWZ	**Pori Road**	**4.00**	**216**	P	**Pn**	**04 12 43.7**	**-1.5**
WCZ	**Waipu Caves**	**4.04**	**289**	P	**Pn**	**04 12 45.3**	**-0.4**
TIWZ	**Tintock**	**4.22**	**215**	P	**Pn**	**04 12 46.3**	**-1.9**
PREZ	**Palmer Road**	**4.33**	**241**	P	**Pn**	**04 12 52.3**	**+2.6**
NEZ	**North Egmont**	**4.35**	**242**	P	**Pn**	**04 12 52.4**	**+2.4**
PKE	**Pukeiti**	**4.39**	**244**	P	**Pn**	**04 12 53.1**	**+2.5**
KHEZ	**Kahui Hut**	**4.42**	**242**	P	**Pn**	**04 12 52.8**	**+1.9**
KHEZ	**Kahui Hut**	**4.42**	**242**	P	**Pn**	**04 12 53.2**	**+2.3**
NBEZ	**Newall Road No**	**4.51**	**243**	P	**Pn**	**04 12 54.9**	**+2.8**
OUZ	**Omahuta**	**4.90**	**294**	P	**Pn**	**04 12 57.4**	**0.0**
OUZ	**Omahuta**	**4.90**	**294**	P	**Pn**	**04 12 57.5**	**0.0**
KHZ	**Kahutara**	**6.60**	**218**	P	**Pn**	**04 13 19.2**	**-1.6**
KHZ				S	Sn	04 14 27.0	-8.7
CTZ	**Chatham Island**	**7.17**	**154**	P	**Pn**	**04 13 30.3**	**+1.6**
CTZ				S	Sn	04 14 44.4	-5.4
RPZ	**Rata Peaks**	**8.80**	**221**	Pn	Pn	04 13 46.8	-4.2
	2.8nm,0.3s,baz=169,slow=0.5,SNR=7.0						
RPZ				Sn	Sn	04 15 18.1	-12
	9.2nm,0.3s,baz=144,slow=21,SNR=14						
ASAR	**Alice Springs**	**40.85**	**276**	P	**P**	**04 19 23.9**	**-1.8**
	1.1nm,0.5s,baz=114,slow=6.9,SNR=6.5						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**42.48**	**281**	P	**P**	**04 19 36.4**	**-2.6**
	1.2nm,0.4s,baz=123,slow=7.0,SNR=6.2						
	1.2nm,0.4s						
NWAO	**Narrogin (SRO)**	**49.96**	**256**	LR	LR	04 39 36.2	
	comp=Z,54nm,21.3s,baz=112,slow=34						
QSPA	**South Pole Qui**	**52.77**	**180**	P	**P**	**04 21 00.7**	**+2.2**
	1.7nm,0.6s,baz=5.6,slow=2.5,SNR=7.2						
	1.7nm,0.6s						
H03N3	**Juan Fernandez**	**78.88**	**124**	T	T	05 50 33.7	
	baz=234,slow=72,SNR=30						
H03N2	**Juan Fernandez**	**78.89**	**124**	T	T	05 50 32.4	
	baz=234,slow=72,SNR=28						
H03N1	**Juan Fernandez**	**78.90**	**124**	T	T	05 50 23.9	
	baz=234,slow=72,SNR=33						
ARCES	**ARCESS Array B**	**144.73**	**344**	PKP	**PKPab**	**04 31 17.4**	**-0.8**
	1.2nm,0.7s,baz=32,slow=3.2,SNR=7.2						
DBIC	**Dimbokro**	**149.25**	**172**	PKPbc	**PKPbc**	**04 31 33.7**	**+0.9**
	1.1nm,0.5s,baz=180,slow=2.0,SNR=1.6						
FINES	**FINESS Array B**	**150.57**	**334**	PKPbc	**PKPdf**	**04 31 32.3**	**+3.2**
	0.9nm,0.4s,baz=46,slow=4.0,SNR=12						
TORD	**Torodi Ar. Bea**	**155.78**	**186**	PKPab	**PKPab**	**04 32 03.9**	**-0.6**
	1.4nm,1.2s,baz=156,slow=2.5,SNR=3.8						

IDC ***11*** *04:38:28.9±0.8,28.°00N×127.°89E,h0km,mb3.9/9, mbtmp3.9/10,ML3.7/1,MS3.6/10, Error ellipse: s-maj=37.7km s-min=13.0km az=69.0*
NIED ***11*** *04:38:29.8,28.°12N×128.°10E,h13km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.33; Mθθ0.37; Mϕϕ-0.04; Mrθ-0.59; Mθϕ1.18; Mϕr0.14; Fault plane solution: M₀1.37000×10¹⁵ NP1:φ91.00000°, δ79.00000°,λ-29.00000°. NP2:φ187.00000°,δ61.00000°, λ-168.00000°.*
JMA ***11*** *04:38:29.8±0.2,28.°1N±0.°3×128.°1E±0.°4,h13km±1km, MV3.8/15,NW OFF OKINAWAJIMA IS*
NEIC ***11*** *04:38:30.7±0.9,27.°96N±0.°05×127.°9E±0.°1,h10km±1km, mb4.4/15, Error ellipse: s-maj=20.9km s-min=8.9km az=262.0*

ISC 11 04:38:30.8±1.5,28.°02N±0.°04×128.°10E±0.°05,h15km±10km, n53,σ1§25/54,mb4.2/17,MS3.7/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.78**	**148**	P	**Pg**	**04 38 46.2**	**+0.3**
JTK	**Tokunoshima**	**0.78**	**107**	P	**Pb**	**04 38 45.2**	**-0.9**
JTK				S	**Sb**	**04 38 56.3**	**-0.4**
JAMN	**Amaminishikomi**	**0.97**	**76**	P	**Pb**	**04 38 47.7**	**-1.6**
JAMN				S	**Sb**	**04 39 00.7**	**-1.4**
JIH	**Iheya**	**0.99**	**187**	P	**Pn**	**04 38 50.0**	**-0.2**
JIH				S	**Sn**	**04 39 04.1**	**+0.2**
JYRO	**Yoronjima**	**1.04**	**163**	*i* P	**Pb**	**04 38 50.8**	**+0.4**
JYRO				S	**Sn**	**04 39 06.0**	**+0.9**
JOW	**Kunigami**	**1.19**	**173**		**Pn**	**04 38 53.2**	**+0.3**
JOW				Sn	**Sg**	**04 39 10.4**	**+1.1**
JOW	**Kunigami**	**1.19**	**173**	*i* P	**Pn**	**04 38 53.3**	**+0.3**
JOW				S	**Sg**	**04 39 10.2**	**+0.9**
JOW	**Kunigami**	**1.19**	**173**	Pn	**Pb**	**04 38 53.6**	**+0.5**
	292nm,0.3s,baz=48,slow=11,SNR=93						
JOW				Sn	**Sn**	**04 39 09.3**	**+0.3**
	73nm,0.3s,baz=19,slow=28,SNR=6.2						
JAM	**Amami Oshima**	**1.38**	**73**	P	**Pn**	**04 38 54.4**	**-1.1**
JTAJ	**Takarajima**	**1.49**	**40**	P	**Pn**	**04 38 55.1**	**-1.9**
JNTH	**Nagotoyohara**	**1.50**	**183**	*e*P	**Pb**	**04 38 58.1**	**-0.2**
JNTH				S	**Sg**	**04 39 17.7**	**-1.3**
JJT3	**Tamagusuku3**	**1.89**	**189**	*e*P	**Pb**	**04 39 04.7**	**-0.3**
JKE	**Kume jima 2**	**2.05**	**215**	*e*P	**Pb**	**04 39 05.3**	**-2.5**
JYAK	**Yakushimahirau**	**3.05**	**43**	*e*P	**Pn**	**04 39 18.1**	**-0.4**
JMZ	**Minamidaito 2**	**3.54**	**127**	Pn	**Pn**	**04 39 25.8**	**+0.5**
JNU	**Nakatsue**	**5.62**	**25**		**Pn**	**04 39 57.7**	**+3.8**
JNU	**Nakatsue**	**5.62**	**25**	Pn	**Pn**	**04 39 57.3**	**+3.4**
	2.1nm,0.3s,baz=175,slow=5.9,SNR=14						
JNU				Sn	**Sn**	**04 40 58.9**	**+0.6**
	baz=262,slow=22						
	51nm,0.9s						
JMN	**Monobe**	**7.55**	**40**	Pn	**Pn**	**04 40 22.7**	**+2.3**
KSRS	**Korea Array**	**9.41**	**359**	LR	LR	04 44 26.0	
	comp=Z,84nm,18.8s,baz=180,slow=38						
BJT	**Baijiatuan**	**15.51**	**324**	P	**P**	**04 42 13.5**	**+0.2**
BJT				IAmb	IAmb	04 42 15.9	
	comp=Z,12nm,0.8s						
GUMO	**Guam**	**21.21**	**129**	LR	LR	04 50 06.1	
	comp=Z,81nm,19.6s,baz=99,slow=33						
ULN	**Ulaanbaatar**	**25.70**	**326**	P	**P**	**04 44 00.6**	**+0.1**
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**04 44 03.0**	**-0.3**
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**04 44 03.0**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=144,slow=7.4,SNR=18						
SONM				LR	LR	04 55 14.2	
	comp=Z,61nm,18.9s,baz=41,slow=39						
	comp=Z,3.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.37**	**257**	LR	LR	04 56 51.4	
	comp=Z,48nm,18.5s,baz=85,slow=39						
MK31	**Makanchi Array**	**40.28**	**310**	P	**P**	**04 46 06.8**	**-0.5**
MKAR	**Makanchi Array**	**40.28**	**310**	P	**P**	**04 46 06.7**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=99,slow=10,SNR=12						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.77**	**322**	P	**P**	**04 46 10.2**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=112,slow=8.4,SNR=4.4						
	comp=Z,0.8nm,0.4s						
KURK	**Kurchatov**	**43.46**	**315**	P	**P**	**04 46 33.0**	**-0.2**
KURK				IAmb	IAmb	04 46 33.3	
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**43.50**	**315**	P	**P**	**04 46 32.5**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=103,slow=8.8,SNR=18						
	comp=Z,2.0nm,0.6s						
COEN	**Coen**	**44.21**	**159**	P	**P**	**04 46 38.9**	**-0.6**
COEN				IAmb	IAmb	04 47 09.8	
	comp=Z,8.5nm,1.1s						
AAK	**Ala-Archa**	**45.38**	**303**	LR	LR	05 07 28.1	
	comp=Z,58nm,18.0s,baz=64,slow=38						
NRIK	**Noril'sk**	**47.52**	**342**	P	**P**	**04 47 05.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=107,slow=3.5,SNR=1.9						
	comp=Z,1.2nm,0.3s						
WB0	**Warramunga Arr**	**47.89**	**172**	P	**P**	**04 47 08.0**	**-0.5**
WB0				IAmb	IAmb	04 47 47.4	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**04 47 10.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=354,slow=8.1,SNR=5.4						
	comp=Z,0.8nm,0.6s						
WB2	**Warramunga Arr**	**48.06**	**172**	P	**P**	**04 47 08.6**	**-1.2**
WB2				IAmb	IAmb	04 47 36.1	
	comp=Z,8.7nm,1.4s						
BVAR	**Borovoye Array**	**48.88**	**317**	P	**P**	**04 47 15.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=89,slow=9.3,SNR=7.3						
BVAR				LR	LR	05 09 01.0	
	comp=Z,117nm,18.0s,baz=56,slow=38						
	comp=Z,1.1nm,0.6s						
BRVK	**Borovoye**	**48.95**	**317**	P	**P**	**04 47 15.1**	**-1.3**
BRVK				IAmb	IAmb	04 47 25.2	
	comp=Z,3.3nm,1.1s						

ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**04 47 38.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=11,slow=14,SNR=4.4							
	comp=Z,0.5nm,0.7s							
ABKAR	**Akbulak array**	**55.35**	**312**	P	**P**	**04 48 03.2**	**-0.9**	
ABKAR				IAmb	IAmb	04 48 04.6		
	comp=Z,2.3nm,0.8s							
ABKAR	**Akbulak array**	**55.35**	**312**	P	**P**	**04 48 03.4**	**-0.7**	
AKTO	**Aktyubinsk**	**56.51**	**314**	LR	LR	05 13 35.3		
	comp=Z,63nm,19.1s,baz=133,slow=37							
E19K	**Redstone River**	**58.58**	**26**	P	**P**	**04 48 27.8**	**+1.2**	
E19K				IAmb	IAmb	04 48 59.8		
	comp=Z,5.0nm,1.5s							
E22K	**Anaktuvuk Pass**	**60.64**	**25**	P	**P**	**04 48 42.2**	**+1.3**	
E22K				IAmb	IAmb	04 48 52.8		
	comp=Z,4.1nm,1.5s							
PPLA	**Purkeypile**	**60.81**	**31**	P	**P**	**04 48 43.3**	**+1.0**	
CCB	**Clear Creek Bu**	**62.55**	**29**	P	**P**	**04 48 54.2**	**+0.4**	
M24K	**Tolsona, Glenn**	**63.68**	**32**	P	**P**	**04 49 02.7**	**+1.3**	
BCAR	**Beaver Creek A**	**65.47**	**30**	P	**P**	**04 49 14.6**	**+1.6**	
BCPM	**Bancas Point**	**67.28**	**33**	P	**P**	**04 49 27.2**	**+2.6**	
FINES	**FINESS Array B**	**71.26**	**330**	LR	LR	05 27 08.9		
	comp=Z,108nm,19.2s,baz=333,slow=41							
AKASG	**Malin Array Be**	**74.11**	**319**	LR	LR	05 25 18.2		
	comp=Z,133nm,19.3s,baz=21,slow=38							
YKA	**Yellowknife Ar**	**76.96**	**25**	P	**P**	**04 50 22.1**	**-0.4**	
	comp=Z,0.3nm,0.8s,baz=322,slow=3.9,SNR=2.9							
	comp=Z,0.3nm,0.8s							
NOA	**NORSAR Array B**	**77.67**	**334**	LR	LR	05 30 31.1		
	comp=Z,34nm,19.9s,baz=295,slow=40							

NEIC ***11*** *04:52:09.8±1.5,35.°8N±0.°1×21.°91E±0.°09,h20km±6km, mb4.6/18, Error ellipse: s-maj=14.9km s-min=10.6km az=196.0*
IDC ***11*** *04:52:10.8±1.1,36.°31N×21.°87E,h0km,mb3.8/16, mbtmp3.8/21,ML3.7/4,MS3.4/2, Error ellipse: s-maj=22.3km s-min=17.8km az=164.0*
BEO ***11*** *04:52:11.7±0.9,36.°06N×21.°29E,h8km±8km,ML3.9/4*
ATH ***11*** *04:52:13.4,36.°23N×21.°82E,h5km±2km,ML3.6/18, Manual Solution by M.Kolligri This location: 2020/04/28 23:16:06 ML Amplitudes are expressed in micrometers, All dist

SGRT	**San Giovanni R**	**7.22**	**321**	Pn		**Pn**	**04 53 58.5**	**+0.5**
UPM	**Unac-Piva**	**7.29**	**343**	*e*Pn		**Pn**	**04 53 59.3**	**+0.2**
STON	**Ston**	**7.32**	**336**	*e*Pn		**Pn**	**04 53 58.8**	**-0.5**
STON				*e*Sn		**Sn**	**04 55 18.4**	**-3.0**
STON	**Ston**	**7.32**	**336**	*e*Pn		**Pn**	**04 53 58.3**	**-1.0**
BOVS	**Bovan**	**7.38**	**360**	⇑P		**Pn**	**04 54 00.6**	**+0.4**
BOVS	**Bovan**	**7.38**	**360**	*e*Pn		**Pn**	**04 54 00.3**	**+0.1**
IVAS	**Ivanjica**	**7.43**	**351**	*e*Pn		**Pn**	**04 54 00.9**	**0.0**
ZAGS	**Zajecar**	**7.57**	**3**	*e*Pn		**Pn**	**04 54 03.1**	**+0.3**
NEVS	**Nevesinje**	**7.58**	**339**	*e*Pn		**Pn**	**04 54 01.8**	**-1.3**
RUDO	**Rudo**	**7.59**	**347**	*e*Pn		**Pn**	**04 54 02.3**	**-0.8**
GRUS	**Gruza**	**7.68**	**354**	*e*Pn		**Pn**	**04 54 04.6**	**+0.3**
BBLS	**Lazići**	**7.82**	**347**	*e*Pn		**Pn**	**04 54 06.4**	**+0.1**
BBLS	**Lazići**	**7.82**	**347**	*e*Pn		**Pn**	**04 54 06.1**	**-0.2**
DIVS	**Divibare**	**7.96**	**351**	*e*Pn		**Pn**	**04 54 08.2**	**0.0**
TRUS	**Trudelj**	**8.04**	**353**	*e*Pn		**Pn**	**04 54 09.2**	**0.0**
HAPS	**Han Pijesak,BI**	**8.12**	**346**	*e*Pn		**Pn**	**04 54 10.2**	**-0.3**
HAPS	**Han Pijesak,BI**	**8.12**	**346**	*e*Pn		**Pn**	**04 54 09.4**	**-1.1**
TEKS	**Tekeris**	**8.47**	**349**	*e*Pn		**Pn**	**04 54 14.3**	**-0.8**
TEKS	**Tekeris**	**8.47**	**349**	*e*Pn		**Pn**	**04 54 14.1**	**-1.0**
HERR	**Herculane**	**8.64**	**3**	⇓P		**Pn**	**04 54 18.8**	**+1.3**
MGRS	**Mrkonjic Grad**	**8.90**	**338**	*e*Pn		**Pn**	**04 54 19.5**	**-1.7**
FRGS	**Fruska Gora**	**9.03**	**351**	⇓P		**Pn**	**04 54 22.4**	**-0.4**
FRGS	**Fruska Gora**	**9.03**	**351**	*e*Pn		**Pn**	**04 54 22.1**	**-0.7**
FRGS	**Fruska Gora**	**9.03**	**351**	*e*Pn		**Pn**	**04 54 21.0**	**-1.8**
A050A	**Klekovaca**	**9.14**	**336**	*e*Pn		**Pn**	**04 54 23.8**	**-0.6**
GZR	**Gura Zlata**	**9.17**	**5**	⇓P		**Pn**	**04 54 25.7**	**+0.9**
BLY	**Banja Luka**	**9.18**	**339**	*e*Pn		Pn	04 54 20.4	-4.4
NRCA	**Norcia**	**9.36**	**317**			**Pn**	**04 54 30.1**	**+2.6**
BZS	**Buzias**	**9.37**	**359**	⇑P		**Pn**	**04 54 27.1**	**-0.3**
BZS	**Buzias**	**9.37**	**359**	*e*Pn		**Pn**	**04 54 26.9**	**-0.5**
GUMA	**Gualdo di Mace**	**9.40**	**319**	Pn		**Pn**	**04 54 30.4**	**+2.4**
A051A	**Mrakovica**	**9.50**	**339**	*e*Pn		**Pn**	**04 54 27.8**	**-1.5**
FDMO	**Fiordimonte**	**9.52**	**318**			**Pn**	**04 54 30.9**	**+1.4**
VOIR		**9.52**	**14**	⇑P		**Pn**	**04 54 31.2**	**+1.6**
MLR	**Muntele Rosu**	**9.77**	**18**	Pn		**Pn**	**04 54 30.8**	**-2.2**
	0.2nm,0.3s,baz=165,slow=18,SNR=1.8 0.8nm,0.5s							
MORH	**Mrgy, Hungar**	**10.23**	**348**	⇑P		**Pn**	**04 54 38.6**	**-0.7**
BOJS	**Bojanci**	**10.47**	**334**	*e*Pn		**Pn**	**04 54 41.3**	**-1.3**
CRES	**Cresnjev**	**10.68**	**336**	*e*Pn		**Pn**	**04 54 44.2**	**-1.3**
CEY	**Cerknica**	**10.97**	**332**	*e*Pn		**Pn**	**04 54 48.2**	**-1.3**
SOKA	**Soboth**	**11.57**	**336**	*e*Pn		**Pn**	**04 54 57.2**	**-0.5**
	1.7nm,0.3s							
OBKA	**Obir**	**11.59**	**334**	*e*Pn		**Pn**	**04 54 60.0**	**+2.0**
	1.9nm,0.3s							
OBKA	**Obir**	**11.59**	**334**	*e*Pn		**Pn**	**04 54 56.5**	**-1.4**
PSZ	**Piszkesteto**	**11.75**	**354**	⇓P		**Pn**	**04 55 00.2**	**+0.1**
ARSA	**Arzberg**	**11.93**	**339**	*e*Pn		**Pn**	**04 55 04.3**	**+1.7**
	1.1nm,0.3s							
CTI	**Castel Tesino**	**12.39**	**325**	Pn		**Pn**	**04 55 10.3**	**+1.3**
CONA	**Conrad Observa**	**12.46**	**341**	*e*Pn		**Pn**	**04 55 11.9**	**+2.1**
	0.7nm,0.5s							
ABTA	**Abfaltersbach**	**12.56**	**330**	*e*Pn		**Pn**	**04 55 14.8**	**+3.5**
	0.7nm,0.3s							
MOA	**Molln**	**12.85**	**337**	*e*Pn		**Pn**	**04 55 16.2**	**+1.1**
	1.1nm,0.3s							
LESA	**Schwarzleotal**	**13.05**	**332**	*e*Pn		**Pn**	**04 55 19.2**	**+1.3**
	1.0nm,0.3s							
WATA	**Walderalm**	**13.42**	**329**	*i* Pn		**Pn**	**04 55 25.8**	**+2.8**
	3.4nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**13.46**	**324**	Pn		**Pn**	**04 55 25.9**	**+2.2**
TUE	**Stuetta**	**13.81**	**322**	Pn		**Pn**	**04 55 30.0**	**+1.7**
GERES	**GERESS Array B**	**13.91**	**337**	Pn		**Pn**	**04 55 28.0**	**-1.6**
	0.2nm,0.3s,baz=154,slow=40,SNR=2.7							
GERES				Sn		**Sn**	**04 57 58.0**	**-5.0**
	0.2nm,0.3s,baz=157,slow=23,SNR=2.2 0.4nm,0.3s							
AKASG	**Malin Array Be**	**15.42**	**18**	Pn		**Pn**	**04 55 46.1**	**-3.8**
	0.4nm,0.3s,baz=208,slow=12,SNR=4.0 0.2nm,0.2s							
SUW	**Suwalki**	**17.80**	**3**	P		**Pn**	**04 56 18.6**	**-1.2**
SUW				IAmb	IAmb		04 56 20.2	
	comp=Z,30nm,1.0s							
KBZ	**Khabaz**	**17.82**	**59**	P		**Pn**	**04 56 18.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=230,slow=15,SNR=2.7 comp=Z,2.8nm,0.9s							
PABE	**Paberze**	**19.32**	**4**	P		**P**	**04 56 38.0**	**+0.8**
PABE				IAmb	IAmb		04 56 42.6	
	comp=Z,16nm,0.8s							
HFS	**Hagfors**	**24.46**	**350**	P		**P**	**04 57 30.8**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=156,slow=11,SNR=19 comp=Z,2.1nm,0.5s							
NC602	**NORSAR Array S**	**25.36**	**348**	P		**P**	**04 57 39.4**	**+0.6**
NC602				IAmb	IAmb		04 57 57.2	
	comp=Z,28nm,1.4s							
FINES	**FINESS Array B**	**25.37**	**5**	P		**P**	**04 57 39.0**	**+0.2**
FINES	**FINESS Array B**	**25.37**	**5**	P		**P**	**04 57 39.1**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=177,slow=9.6,SNR=19 comp=Z,0.8nm,0.3s							
FIA1	**FINESS Array S**	**25.37**	**5**	P		**P**	**04 57 37.8**	**-1.0**
EKA	**Eskdalemuir Ar**	**25.57**	**326**	P		**P**	**04 57 41.5**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=128,slow=9.8,SNR=4.6 comp=Z,0.4nm,0.4s							
NAO01	**NORSAR Array S**	**25.58**	**348**	P		**P**	**04 57 40.0**	**-0.7**
NAO01				IAmb	IAmb		04 58 22.8	
	comp=Z,24nm,1.4s							
NC405	**NORSAR Array S**	**25.69**	**349**	P		**P**	**04 57 41.3**	**-0.5**
NC405				IAmb	IAmb		04 57 55.2	
	comp=Z,8.4nm,1.0s							
NB201	**NORSAR Array S**	**25.70**	**348**	P		**P**	**04 57 42.4**	**+0.5**
NB201				IAmb	IAmb		04 58 04.9	
	comp=Z,33nm,1.4s							
NB2	**NORSAR Subarra**	**25.71**	**348**	P		**P**	**04 57 42.2**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=159,slow=11							
NOA	**NORSAR Array B**	**25.71**	**348**	P		**P**	**04 57 42.7**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=142,slow=10,SNR=6.0 comp=Z,0.5nm,0.5s							
NBO00	**NORSAR Array S**	**25.77**	**348**	P		**P**	**04 57 43.4**	**+0.9**
NBO00				IAmb	IAmb		04 58 23.2	
	comp=Z,29nm,1.5s							
NC204	**NORSAR Array S**	**26.00**	**348**	P		**P**	**04 57 45.7**	**+1.0**
NC204				IAmb	IAmb		04 58 28.8	
	comp=Z,19nm,1.4s							
TORD	**Torodi Ar. Bea**	**29.21**	**223**	P		**P**	**04 58 15.2**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=29,slow=10,SNR=6.9 comp=Z,0.7nm,0.7s							
ARCES	**ARCESS Array B**	**33.41**	**2**	P		**P**	**04 58 50.2**	**0.0**
ARCES				IAmb	IAmb		04 59 10.9	
	comp=Z,20nm,1.5s							
ARCES	**ARCESS Array B**	**33.41**	**2**	P		**P**	**04 58 50.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=188,slow=11,SNR=17 comp=Z,1.4nm,0.7s							
WSAR	**Wadi Sarin**	**34.34**	**102**	LR		LR	05 17 21.3	
	comp=Z,23nm,19.9s,baz=239,slow=44							
BVAR	**Borovoye Array**	**37.65**	**48**	P		**P**	**04 59 26.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=263,slow=5.8,SNR=4.6 comp=Z,0.5nm,0.4s							
SPB2	**Spitsbergen Ar**	**42.10**	**358**	P		**P**	**05 00 03.3**	**-0.1**
SPITS	**Spitsbergen Ar**	**42.10**	**358**	P		**P**	**05 00 04.6**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=153,slow=9.3,SNR=7.7 comp=Z,2.1nm,0.6s							
KURBB	**Kurchatov Arra**	**42.62**	**52**	P		**P**	**05 00 07.4**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=277,slow=8.6,SNR=5.4 comp=Z,0.6nm,0.5s							
MK31	**Makanchi Array**	**45.51**	**57**	P		**P**	**05 00 30.5**	**-0.7**
MKAR	**Makanchi Array**	**45.51**	**57**	P		**P**	**05 00 30.6**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=269,slow=7.9,SNR=16 comp=Z,0.6nm,0.3s							
ZALV	**Zalesovo Beam**	**46.28**	**47**	P		**P**	**05 00 36.4**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=268,slow=9.3,SNR=8.0 comp=Z,1.9nm,0.5s							
LSZ	**Lusaka**	**51.60**	**172**	LR		LR	05 23 01.0	
	comp=Z,81nm,18.4s,baz=196,slow=36							
SCHQ	**Schefferville**	**60.55**	**318**	P		**P**	**05 02 22.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=69,slow=14,SNR=1.1 comp=Z,1.4nm,0.7s							
PALK	**Pallekele**	**60.82**	**103**	P		P	05 02 17.8	-6.6
SONM	**Songino Array**	**60.94**	**50**	P		**P**	**05 02 24.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=270,slow=8.4,SNR=3.3 comp=Z,0.6nm,0.6s							
E29M	**Blow River**	**74.57**	**352**	P		**P**	**05 03 50.0**	**-0.2**
C18K	**Utukok River**	**75.40**	**1**	P		**P**	**05 03 56.5**	**+1.4**
YKA	**Yellowknife Ar**	**75.54**	**341**	P		**P**	**05 03 55.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=35,slow=5.5,SNR=4.1 comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**78.92**	**355**	P		**P**	**05 04 16.1**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=6.2,slow=3.3,SNR=2.6 comp=Z,0.2nm,0.8s							
KSRS	**Korea Array**	**79.79**	**51**	P		**P**	**05 04 20.6**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=319,slow=5.2,SNR=2.7 comp=Z,1.1nm,0.5s							

IDC 11 05:03:50.6±7.1,**17°98S**×**176°20W**,**h0**km,**mb3.8**/3,

mbtmp3.8/3,**Error ellipse: s-maj=312.6km s-min=36.7km az=142.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.69**	**259**	P	P	05 12 21.0	-0.6
	0.3nm,0.4s,baz=96,slow=7.7,SNR=4.6 0.3nm,0.4s						
ASAR	**Alice Springs**	**46.80**	**254**	P	P	05 12 22.6	+0.2
	1.8nm,0.5s,baz=91,slow=8.5,SNR=25 1.8nm,0.5s						
ILAR	**Eielson Array**	**85.49**	**12**	P	P	05 16 29.9	-0.1
	0.2nm,0.5s,baz=222,slow=5.5,SNR=7.4 0.2nm,0.5s						

*NEIC **11** 05:05:08.1±1.2,17°.4S±0°.1×178°.8W±0°.1,h533km±13km, mb4.5/32,Error ellipse: s-maj=23.6km s-min=15.2km az=211.0*

*IDC **11** 05:05:11.8±2.6,17°.39S×179°.03W,h575km,27km,mb3.7/6, mbtmp4.7/7,Error ellipse: s-maj=29.8km s-min=16.4km az=5.0*

ISC 11 05:05:07.8±0.6,**17°35S**±0°.09×**178°84W**±0°.08,**h539**km, **n58**,**σ0°93**/63,**mb4.5**/19,**1D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**64**	P	**P**	**05 07 00.5**	**-1.1**
NIUE	**Niue**	**8.64**	**103**	P	**P**	**05 07 11.7**	**0.0**
FUNA	**Funafuti**	**8.98**	**347**	P	**P**	**05 07 15.9**	**+0.6**
RAO	**Raoul Island**	**11.88**	**176**	P	**P**	**05 07 42.9**	**-2.1**
PINNC	**Pines Island,**	**13.91**	**246**	P	**P**	**05 08 06.4**	**+0.3**
OUENC	**Ouen Island, N**	**14.38**	**247**	P	**P**	**05 08 11.4**	**+0.4**
DZM	**Mont Dzumac**	**14.63**	**249**	P	**P**	**05 08 13.3**	**-0.4**
DZM	**Mont Dzumac**	**14.63**	**249**	P	**P**	**05 08 13.7**	**-0.1**
	7.5nm,0.6s,baz=81,slow=18,SNR=6.0						
KOUNC	**Koumac, New Ca**	**16.27**	**256**	P	**P**	**05 08 31.1**	**+0.7**
KOUNC				IAmb	IAmb	05 08 33.1	
	comp=Z,17nm,0.9s						
TOZ	**Tahuroa Road**	**20.90**	**193**	P	**P**	**05 09 13.7**	**+1.3**
TOZ				IAmb	IAmb	05 09 15.8	
	comp=Z,8.2nm,0.8s						
MRNZ	**Matariki Terra**	**25.03**	**195**	P	**P**	**05 09 48.0**	**-1.3**
LTZ	**Lake Taylor**	**26.45**	**195**	P	**P**	**05 10 00.4**	**-1.4**
LTZ				IAmb	IAmb	05 10 23.9	
	comp=Z,21nm,1.2s						
OXZ	**Oxford**	**27.02**	**195**	P	**P**	**05 10 05.3**	**-1.5**
EIDS	**Eidsvold**	**29.07**	**249**	P	**P**	**05 10 25.3**	**+0.3**
EIDS				IAmb	IAmb	05 10 25.8	
	comp=Z,7.7nm,0.7s						
ARMA	**Armidale**	**29.87**	**239**	P	**P**	**05 10 33.1**	**+1.2**
ARMA				IAmb	IAmb	05 10 33.4	
	comp=Z,13nm,0.6s						
MLZ	**Mavora Lakes**	**29.99**	**199**	P	**P**	**05 10 32.6**	**0.0**
WHZ	**Wether Hill Ro**	**30.51**	**198**	P	**P**	**05 10 37.4**	**+0.2**
CTAO	**Charters Tower**	**33.13**	**260**	P	**P**	**05 11 00.1**	**+0.3**
CAN	**Canberra**	**33.72**	**232**	P	**P**	**05 11 04.6**	**0.0**
CAN				IAmb	IAmb	05 11 06.1	
	comp=Z,8.3nm,0.7s						
TOO	**Toolangi**	**37.20**	**230**	P	**P**	**05 11 34.2**	**+0.7**
TOO				IAmb	IAmb	05 11 35.3	
	comp=Z,21nm,1.0s						
TAU	**Tasmania Unive**	**38.38**	**221**	P	**P**	**05 11 43.4**	**+0.4**
STKA	**Stephens Creek**	**38.54**	**240**	P	**P**	**05 11 45.4**	**+0.9**
STKA	**Stephens Creek**	**38.54**	**240**	P	**P**	**05 11 45.4**	**+0.9**
	comp=Z,8.5nm,0.5s,baz=89,slow=10,SNR=27 comp=Z,8.5nm,0.5s						
BBOO	**Buckleboo**	**43.32**	**240**	P	**P**	**05 12 22.8**	**+0.4**
BBOO				IAmb	IAmb	05 12 23.5	
	comp=Z,23nm,0.8s						
WR0	**Warramunga Arr**	**44.14**	**259**	P	**P**	**05 12 28.6**	**-0.3**
WB0	**Warramunga Arr**	**44.29**	**259**	P	**P**	**05 12 29.6**	**-0.6**
WB2	**Warramunga Arr**	**44.32**	**259**	P	**P**	**05 12 30.2**	**-0.2**
WB2				IAmb	IAmb	05 12 30.8	
	comp=Z,6.3nm,0.7s						
WRA	**Warramunga Arr**	**44.33**	**259**	P	**P**	**05 12 30.0**	**-0.5**
WRA	**Warramunga Arr**	**44.33**	**259**	P	**P**	**05 12 29.8**	**-0.6**
	comp=Z,3.6nm,0.5s,baz=97,slow=7.2,SNR=44						
WRA				PcP	**PcP**	**05 14 02.7**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=92,slow=3.4,SNR=5.7						
WRA				S	**S**	**05 18 22.3**	**-3.4**
	comp=Z,0.5nm,0.7s,baz=97,slow=14,SNR=2.2 comp=Z,3.6nm,0.5s						
AS31	**Alice Springs**	**44.55**	**254**	P	**P**	**05 12 32.4**	**+0.3**
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**05 12 32.5**	**+0.4**
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**05 12 32.3**	**+0.2**
	comp=Z,35nn1,0.4s,baz=89,slow=8.1,SNR=274						
ASAR				PcP	**PcP**	**05 14 03.8**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=101,slow=4.2,SNR=5.2						
ASAR				S	**S**	**05 18 26.2**	**-2.6**
	comp=Z,2.0nm,0.8s,baz=85,slow=16,SNR=14 comp=Z,35nn,0.4s						
MTN	**Manton Dam**	**48.40**	**268**	P	**P**	**05 13 01.6**	**+0.3**
MTN				IAmb	IAmb	05 13 02.5	
	comp=Z,15nm,1.1s						
FORT	**Forrest**	**49.87**	**244**	P	**P**	**05 13 11.9**	**-0.1**
KNRA	**Kununurra**	**50.14**	**264**	P	**P**	**05 13 14.8**	**+0.7**
KNRA				IAmb	IAmb	05 13 15.0	
	comp=Z,17nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.71**	**260**	P	**P**	**05 13 33.6**	**+0.9**
PSA00	**Pilbara Seismi**	**57.65**	**255**	P	**P**	**05 14 07.3**	**+0.1**
PSA00				IAmb	IAmb	05 14 08.2	
	comp=Z,23nn,1.0s						
NWAO	**Narrogin (SRO)**	**59.11**	**242**	P	**P**	**05 14 16.8**	**0.0**
NWAO				IAmb	IAmb	05 14 44.8	
	comp=Z,44nm,1.1s						
MORW	**Morawa**	**60.33**	**246**	P	**P**	**05 14 25.1**	**+0.1**
MORW				IAmb	IAmb	05 14 26.9	
	comp=Z,12nn,0.9s						
SBA	**Scott Base**	**60.95**	**183**	P	**P**	**05 14 30.3**	**+2.2**
SBA				IAmb	IAmb	05 14 32.7	
	comp=Z,15nm,1.1s						
VNDA	**Vanda**	**60.96**	**185**	P	**P**	**05 14 29.0**	**+0.7**
VNDA	**Vanda**	**60.96**	**185**	P	**P**	**05 14 29.2**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=180,slow=8.9,SNR=2.0 comp=Z,0.8nm,0.7s						
GIRL	**Giralia**	**62.66**	**253**	P	**P**	**05 14 41.2**	**+0.9**
UGM	**Wanagama**	**69.25**	**268**	P	**P**	**05 15 22.2**	**+0.6**
QSPA	**South Pole Qui**	**72.70**	**180**	P	**P**	**05 15 41.3**	**+0.3**
QSPA				IAmb	IAmb	05 15 42.3	
	comp=Z,12nn,1.1s						
QSPA	**South Pole Qui**	**72.70**	**180**	P	**P**	**05 15 41.6**	**+0.6**
	comp=Z,4.5nm,0.5s,baz=59,slow=9.6,SNR=33 comp=Z,4.5nm,0.5s						
BELA	**Belgrano 2**	**82.77**	**173**	P	**P**	**05 16 34.7**	**-0.2**
MAW	**Mawson**	**84.24**	**200**	P	**P**	**05 16 42.8**	**+0.5**
MAW	**Mawson**	**84.24**	**200**	P	**P**	**05 16 42.6**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=164,slow=7.4,SNR=1.8 comp=Z,3.0nm,0.5s						
TROLL	**Troll, Antarti**	**90.86**	**180**	⇓P	**P**	**05 17 13.3**	**-0.4**
	comp=Z,261nm,0.8s						
GERES	**GERESS Array B**	**146.97**	**345**	PKPbc	**PKPbc**	**05 23 50.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=11,slow=1.4,SNR=4.8						
CONA	**Conrad Observa**	**147.21**	**342**	*e*PKiKP	**PKiKP**	**05 23 51.9**	**-0.6**
	comp=Z,1.4nm,0.6s						
RONA	**Rosalia, Austr**	**147.28**	**341**	*e*PKiKP	**PKiKP**	**05 23 51.9**	**-0.7**
	comp=Z,1.1nm,0.4s						
LESA	**Schwarzleotal**	**148.54**	**345**	*e*PKiKP	**PKPbc**	**05 23 54.8**	**+0.6**
	comp=Z,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**148.69**	**344**	*e*PKiKP	**PKPbc**	**05 23 54.0**	**-0.7**
	comp=Z,1.1nm,0.5s						
WATA	**Walderalm**	**148.89**	**346**	*e*PKiKP	**PKPbc**	**05 23 55.3**	**+0.2**
	comp=Z,2.1nm,0.3s						
WTTA	**Wattenberg**	**148.94**	**346**	*e*PKiKP	**PKPbc**	**05 23 55.8**	**+0.5**
	comp=Z,2.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**175.79**	**187**	PKP	**PKPdf**	**05 24 15.5**	**-1.5**
	comp=Z,0.2nm,0.8s,baz=56,slow=2.5,SNR=1.2						
TORD				PKPab	**PKPab**	**05 25 58.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=195,slow=4.9,SNR=2.9						

ROM 11 05:06:48.4±0.0,**43°285N**±0°.003×**12°508E**±0°.004, **h10**km,**ML1.8**/62,**3C-3D**,**Error ellipse: s-maj=0.3km s-min=0.2km az=220.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.03**	**152**	⇓P	Pg	05 06 50.4	+0.1
MURB				S	Sg	05 06 51.5	-0.1
MURB				AML	AML		
	comp=N,15300μm,0.3s						
MURB				AML	AML		
	comp=E,17600μm,0.2s						
MURB				AML	AML		
	comp=E,16500μm,0.2s						
MURB				AML	AML		
	comp=N,15300μm,0.3s						
MURB				AML	AML		
	comp=N,15100μm,0.4s						
MURB				AML	AML		
	comp=N,15300μm,1.7s						
ATFO	**Monte Foce - G**	**0.09**	**30**	P	Pg	05 06 51.4	+0.4
ATFO				S	Sg	05 06 53.5	+0.7
ATFO				AML	AML		
	comp=N,608μm,0.6s						
ATFO				AML	AML		
	comp=E,859μm,0.3s						
ATVO	**AVT- Monte Val**	**0.12**	**323**	P	Pg	05 06 51.7	+0.4
ATVO				S	Sg	05 06 53.9	+0.5
ATVO				AML	AML		
	comp=N,326μm,0.4s						
ATVO				AML	AML		
	comp=E,750μm,1.4s						
ATVO				AML	AML		
	comp=N,326μm,1.6s						
ATCC	**AVT- Casa Cast**	**0.14**	**136**	⇓P	Pg	05 06 52.2	+0.7
ATCC				S	Sg	05 06 55.0	+1.2
ATCC				AML	AML		
	comp=N,1470μm,0.3s						
ATCC				AML	AML		
	comp=E,760μm,0.5s						
ATMI	**Monte Miggiano**	**0.18**	**286**	P	Pg	05 06 53.0	+0.8
ATMI				S	Sg	05 06 56.2	+1.3
ATMI				AML	AML		
	comp=E,414μm,0.3s						
ATMI				AML	AML		
	comp=N,390μm,0.3s						
ATPI	**Pietralunga -**	**0.18**	**335**	⇓P	Pg	05 06 52.9	+0.6
ATPI				S	Sg	05 06 56.0	+1.0
ATPI				AML	AML		
	comp=N,198μm,0.5s						
ATPI				AML	AML		
	comp=E,200μm,0.6s						
FOSV	**Fossato di Vic**	**0.18**	**87**	P	Pg	05 06 52.9	+0.6
FOSV				S	Sg	05 06 56.3	+1.3
FOSV				AML	AML		
	comp=N,259μm,1.1s						
FOSV				AML	AML		
	comp=E,449μm,0.3s						
FOSV				AML	AML		
	comp=N,259μm,0.9s						
SSFR	**Montelago di S**	**0.25**	**53**	⇑P	Pg	05 06 54.1	+0.6
SSFR				S	Sb	05 06 58.3	-1.2
SSFR				AML	AML		
	comp=E,440μm,0.2s						
SSFR				AML	AML		
	comp=N,722μm,0.7s						
SSFR				AML	AML		
	comp=N,722μm,1.3s						
SSFR				AML	AML		
	comp=N,840μm,0.2s						
SSFR				AML	AML		
	comp=E,591μm,0.2s						
PIEI	**Pieia**	**0.25**	**4**	P	Pg	05 06 54.2	+0.7
PIEI				S	Sb	05 06 58.5	-1.1
PIEI				AML	AML		
	comp=E,305μm,0.4s						
PIEI				AML	AML		
	comp=N,235μm,0.2s						
ASSB	**Assisi San Ben**	**0.27**	**156**	P	Pg	05 06 54.2	+0.4
ASSB				S	Sb	05 06 58.7	-1.2
ASSB				AML	AML		
	comp=E,191μm,0.2s						
ASSB				AML	AML		
	comp=N,217μm,0.1s						
FRON	**Frontone**	**0.28**	**34**	⇑P	Pg	05 06 54.6	+0.6
FRON				S	Sb	05 06 59.2	-1.1
FRON				AML	AML		
	comp=N,423μm,0.8s						
FRON				AML	AML		
	comp=E,368μm,0.1s						
FRON				AML	AML		
	comp=N,424μm,0.8s						
BADI	**Badiali**	**0.30**	**319**	P	Pg	05 06 55.0	+0.6
BADI				S	Sb	05 07 00.1	-0.7
BADI				AML	AML		
	comp=E,172μm,0.2s						
BADI				AML	AML		
	comp=N,156μm,1.2s						
SNTG	**Esanatoglia**	**0.32**	**95**	⇑P	Pg	05 06 55.3	+0.6
SNTG				S	Sb	05 07 00.5	-0.9
SNTG				AML	AML		
	comp=N,335μm,0.2s						
SNTG				AML	AML		
	comp=E,248μm,0.2s						
NARO	**Abbazia di Nar**	**0.33**	**9**	P	Pg	05 06 55.4	+0.4
NARO				AML	AML		
	comp=E,154μm,0.5s						
NARO				AML	AML		
	comp=E,154μm,1.5s						
NARO				AML	AML		
	comp=N,95μm,0.6s						
**

FDMO	**Fiordimonte**	**0.49**	**120**	P	Pg	05 06 58.1	+0.2
COR1	**Corinaldo**	**0.50**	**46**	P	Pb	05 06 59.2	-0.1
CING	**Cingoli**	**0.51**	**80**	P	Pg	05 06 58.7	+0.4
CING				AML	AML		
	comp=E,57μm,1.4s						
CING				AML	AML		
	comp=E,57μm,1.4s						
CING				AML	AML		
	comp=N,114μm,0.2s						
CING				AML	AML		
	comp=E,57μm,0.6s						
CRE	**Caprese Michel**	**0.53**	**310**	P	Pg	05 06 58.8	+0.1
CRE				AML	AML		
	comp=E,31μm,0.7s						
CRE				AML	AML		
	comp=N,71μm,0.3s						
CRE				AML	AML		
	comp=E,31μm,1.3s						
CSP1	**Cessapalombo**	**0.55**	**111**	P	Pg	05 06 59.4	+0.4
SACS	**San Casciano d**	**0.62**	**225**	P	Pg	05 07 00.8	+0.4
SACS				AML	AML		
	comp=E,47μm,1.2s						
SACS				AML	AML		
	comp=N,68μm,0.4s						

ROM 11 05:07:23.1±0.1,**42°643N**±0.003×**13°312E**±0.005,
h9km,**ML2.1**/58,**7C-1D**,**Error ellipse: s-maj=0.4km s-min=0.2km az=247.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.02**	**127**	P	Pg	05 07 25.2	+0.3
SMA1				S	Sg	05 07 26.2	+0.1
CAMP	**Campotosto**	**0.13**	**146**	⇑P	Pg	05 07 26.8	+0.7
CAMP				S	Sg	05 07 29.0	+0.8
MTRA	**Matera**	**0.13**	**29**	⇑P	Pg	05 07 26.7	+0.6
MTRA				S	Sg	05 07 28.9	+0.7
T1214	**Arquata del Tr**	**0.14**	**327**	P	Pg	05 07 27.1	+0.8
T1214				S	Sg	05 07 29.6	+1.1
T1214				AML	AML		
	comp=E,1140μm,0.9s						
T1214				AML	AML		
	comp=E,1080μm,0.9s						
T1214				AML	AML		
	comp=N,1270μm,0.4s						
T1214				AML	AML		
	comp=E,1140μm,0.9s						
T1214				AML	AML		
	comp=E,1080μm,0.9s						
T1214				AML	AML		
	comp=N,1255μm,0.4s						
RM33	**Pellescritta (**	**0.15**	**208**	⇑P	Pg	05 07 27.2	+0.7
RM33				S	Sg	05 07 29.9	+1.1
T1247	**Pizzolo (AQ)**	**0.20**	**183**	P	Pg	05 07 28.0	+0.7
LNSS	**Leonessa**	**0.20**	**259**	⇑P	Pg	05 07 28.0	+0.6
LNSS				S	Sg	05 07 31.5	+1.2
LNSS				AML	AML		
	comp=E,1180μm,0.9s						
LNSS				AML	AML		
	comp=N,1260μm,0.4s						
TERO	**Teramo**	**0.22**	**95**	P	Pg	05 07 28.3	+0.7
NRCA	**Norcia**	**0.24**	**323**	P	Pg	05 07 28.7	+0.6
NRCA				S	Sg	05 07 32.6	+1.3
NRCA				AML	AML		
	comp=E,3665μm,0.7s						
NRCA				AML	AML		
	comp=N,2615μm,1.0s						
NRCA				AML	AML		
	comp=N,2475μm,1.2s						
NRCA				AML	AML		
	comp=E,3860μm,0.7s						
NRCA				AML	AML		
	comp=E,3665μm,0.7s						
NRCA				AML	AML		
	comp=N,2615μm,1.0s						
NRCA				AML	AML		
	comp=N,2475μm,0.8s						
MMO1	**Montemonaco**	**0.26**	**2**	⇑P	Pg	05 07 29.0	+0.7
MMO1				S	Sb	05 07 33.3	-1.4
GIGS	**Gran Sasso**	**0.27**	**135**	P	Pg	05 07 29.0	+0.4
GIGS				S	Sg	05 07 33.3	+1.1
GIGS				AML	AML		
	comp=E,164μm,1.0s						
GIGS				AML	AML		
	comp=N,127μm,0.4s						
GIGS				AML	AML		
	comp=E,164μm,1.0s						
MC2	**Monte Cornacci**	**0.28**	**342**	P	Pg	05 07 29.3	+0.4
MF5	**Montefalcone A**	**0.36**	**17**	⇑P	Pb	05 07 31.4	-0.4
MF5				AML	AML		
	comp=E,412μm,1.3s						
MF5				AML	AML		
	comp=N,890μm,0.5s						
MF5				AML	AML		
	comp=E,412μm,0.7s						
FEMA	**Monte Fema**	**0.37**	**329**	P	Pb	05 07 31.3	-0.7
OFFI	**Offida**	**0.40**	**43**	⇑P	Pb	05 07 32.5	0.0
OFFI				AML	AML		
	comp=E,374μm,0.4s						
OFFI				AML	AML		
	comp=N,585μm,1.1s						
OFFI				AML	AML		
	comp=N,585μm,0.9s						
FIAM	**Fiamignano**	**0.40**	**201**	P	Pb	05 07 32.0	-0.6
T1221	**Campello sul C**	**0.41**	**303**	P	Pg	05 07 31.6	+0.4
GUMA	**Gualdo di Mace**	**0.42**	**2**	P	Pb	05 07 32.1	-0.7
GUMA				AML	AML		
	comp=E,1135μm,0.4s						
GUMA				AML	AML		
	comp=N,641μm,0.4s						
FDMO	**Fiordimonte**	**0.43**	**337**	P	Pg	05 07 32.1	+0.6
FDMO				S	Sb	05 07 38.5	-1.0
FDMO				AML	AML		
	comp=N,233μm,0.9s						
FDMO				AML	AML		
	comp=E,215μm,0.1s						
FAGN	**Fagnano**	**0.43**	**152**	P	Pb	05 07 32.5	-0.5
CESI	**CESI - Serrava**	**0.47**	**320**	⇓P	Pg	05 07 32.7	+0.4
CESI				S	Sb	05 07 40.0	-0.7
CESI				AML	AML		
	comp=N,567μm,0.5s						
CESI				AML	AML		
	comp=E,277μm,0.9s						
CESX	**Cesi**	**0.54**	**267**	P	Pg	05 07 33.6	-0.1
CESX				AML	AML		
	comp=N,160μm,0.2s						
CESX				AML	AML		
	comp=E,134μm,0.2s						
T0110	**Collepietro**	**0.54**	**140**	P	Pg	05 07 34.2	+0.5
T0110				AML	AML		
	comp=E,240μm,1.2s						
T0110				AML	AML		
	comp=N,280μm,0.3s						
EL6	**Elcito**	**0.70**	**347**	P	Pg	05 07 36.6	-0.1
EL6				AML	AML		
	comp=E,197μm,0.2s						
EL6				AML	AML		
	comp=N,205μm,0.2s						
CING	**Cingoli**	**0.74**	**353**	P	Pg	05 07 37.5	+0.1
CING				AML	AML		
	comp=N,125μm,1.2s						
CING				AML	AML		
	comp=E,156μm,0.8s						
CING				AML	AML		
	comp=N,125μm,0.8s						
INTR	**Introdacqua**	**0.77**	**145**	P	Pg	05 07 37.4	-0.6
INTR				AML	AML		
	comp=E,52μm,0.9s						
INTR				AML	AML		
	comp=N,83μm,1.3s						
INTR				AML	AML		
	comp=E,52μm,1.1s						
ARVD	**Arcevia**	**0.90**	**342**	P	Pg	05 07 40.5	0.0
ARVD				AML	AML		
	comp=E,46μm,0.4s						
ARVD				AML	AML		
	comp=N,44μm,1.6s						
ARVD				AML	AML		
	comp=N,44μm,0.4s						
MGAB	**Montegabbione**	**0.92**	**287**	P	Pg	05 07 40.5	-0.4

IDC 11 05:23:34.0±3.0,**59°11S**×**147°99E**,**h0**km,**mb3.9**/3,
mbtmp4.0/4,**ML3.7**/1,**MS3.9**/30,**Error ellipse: s-maj=278.3km s-min=21.2km az=78.0**,**West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.07**	**171**	P	P	05 27 56.2	-1.3
	0.2nm,0.3s,baz=331,slow=12,SNR=13						
VNDA				LR	LR	05 34 56.3	
	comp=Z,288nm,20.6s,baz=342,slow=36 8.6nm,1.0s						
RPZ	**Rata Peaks**	**20.92**	**53**	LR	LR	05 34 51.2	
	comp=Z,506nm,21.1s,baz=200,slow=32						
STKA	**Stephens Creek**	**27.58**	**348**	LR	LR	05 38 08.5	
	comp=Z,175nm,18.4s,baz=190,slow=32						
URZ	**Urewera**	**27.99**	**55**	LR	LR	05 39 30.2	
	comp=Z,400nm,19.7s,baz=302,slow=34						
QSPA	**South Pole Qui**	**30.98**	**180**	P	P	05 29 53.4	+0.7
	4.0nm,0.9s,baz=356,slow=6.2,SNR=10						
QSPA				LR	LR	05 43 18.9	
	comp=Z,333nm,18.5s,baz=12,slow=38 4.0nm,0.9s						
H01W1	**Cape Leeuwin H**	**32.85**	**302**	T	T	06 05 35.1	
	baz=146,slow=75						
H01W2	**Cape Leeuwin H**	**32.86**	**302**	T	T	06 05 34.2	
	baz=146,slow=75						
H01W3	**Cape Leeuwin H**	**32.87**	**302**	T	T	06 05 37.0	
	baz=146,slow=75						
NWAO	**Narrogin (SRO)**	**33.25**	**308**	LR	LR	05 40 33.5	
	comp=Z,169nm,20.2s,baz=177,slow=31						
MAW	**Mawson**	**36.09**	**220**	LR	LR	05 45 45.0	
	comp=Z,418nm,19.2s,baz=98,slow=37						
ASAR	**Alice Springs**	**36.80**	**338**	P	P	05 30 43.6	+0.2
	0.7nm,0.7s,baz=167,slow=9.8,SNR=7.3						
ASAR				LR	LR	05 44 28.6	
	comp=Z,110nm,20.0s,baz=173,slow=34 0.7nm,0.7s						
RAO	**Raoul Island**	**37.83**	**53**	LR	LR	05 44 35.5	
	comp=Z,252nm,18.6s,baz=138,slow=33						
CTA	**Charters Tower**	**39.00**	**357**	LR	LR	05 45 33.0	
	comp=Z,357nm,19.9s,baz=187,slow=34						
DZM	**Mont Dzumac**	**39.29**	**28**	LR	LR	05 44 14.3	
	comp=Z,386nm,18.4s,baz=204,slow=32						
WRA	**Warramunga Arr**	**40.35**	**340**	P	P	05 31 12.4	-0.8
	1.0nm,0.7s,baz=168,slow=6.4,SNR=5.4 1.0nm,0.7s						
PMG	**Port Moresby**	**49.60**	**359**	LR	LR	05 50 59.6	
	comp=Z,219nm,20.0s,baz=195,slow=33						
RAR	**Rarotonga**	**52.92**	**68**	LR	LR	05 52 11.1	
	comp=Z,46nm,19.0s,baz=146,slow=32						
H04S2	**CROZET ISLANDS**	**54.17**	**237**	T	T	06 33 02.4	
	baz=140,slow=75,SNR=15						
H04S1	**CROZET ISLANDS**	**54.17**	**237**	T	T	06 33 04.2	
	baz=140,slow=75,SNR=14						
H04S3	**CROZET ISLANDS**	**54.18**	**237**	T	T	06 33 01.7	
	baz=140,slow=75,SNR=15						
KAPI	**Kappang**	**58.19**	**326**	LR	LR	05 57 12.7	
	comp=Z,151nm,20.4s,baz=72,slow=35						
PPT	**Papeete**	**61.00**	**75**	LR	LR	05 54 57.2	
	comp=Z,34nm,21.5s,baz=202,slow=31						
GUMO	**Guam**	**72.49**	**357**	LR	LR	06 06 09.0	
	comp=Z,60nm,19.3s,baz=116,slow=35						
PLCA	**Paso Flores**	**75.51**	**151**	LR	LR	06 02 27.8	
	comp=Z,50nm,21.3s,baz=186,slow=31						
H08S2	**Diego Garcia H**	**76.04**	**279**	T	T	06 59 47.5	
	baz=147,slow=76						
H08S1	**Diego Garcia H**	**76.05**	**279**	T	T	06 59 51.2	
	baz=147						
H08S3	**Diego Garcia H**	**76.06**	**279**	T	T	06 59 49.0	
	baz=147,slow=76						
SUR	**Sutherland**	**78.89**	**223**	LR	LR	06 06 35.2	
	comp=Z,54nm,19.8s,baz=156,slow=33						
H03S2	**Juan Fernandez**	**79.54**	**142**	T	T	07 03 32.9	
	baz=201,slow=74,SNR=8.7						
H03S1	**Juan Fernandez**	**79.54**	**142**	T	T	07 03 32.9	
	baz=201,slow=74,SNR=9.9						
H03S3	**Juan Fernandez**	**79.56**	**142**	T	T	07 03 32.9	
	baz=201,slow=74,SNR=9.7						
BOSA	**Boshof**	**80.63**	**229**	LR	LR	06 07 35.8	
	comp=Z,85nm,19.8s,baz=190,slow=33						
LBTB	**Lobatse**	**83.72**	**230**	LR	LR	06 08 01.8	
	comp=Z,50nm,19.6s,baz=156,slow=32						
CFA	**Coronel Fontan**	**84.74**	**150**	LR	LR	06 07 44.4	
	comp=Z,35nm,21.3s,baz=123,slow=31						
PALK	**Pallekele**	**84.84**	**293**	LR	LR	06 07 17.5	
	comp=Z,46nm,21.4s,baz=239,slow=31						
JCJ	**Chichijima**	**86.02**	**355**	LR	LR	06 15 59.4	
	comp=Z,27nm,18.2s,baz=190,slow=37						
CMAR	**Chiang Mai Arr**	**87.06**	**314**	LR	LR	06 12 06.1	
	comp=Z,54nm,20.9s,baz=165,slow=34						
LSZ	**Lusaka**	**91.33**	**237**	LR	LR	06 13 05.2	
	comp=Z,88nm,18.1s,baz=156,slow=32						
TSUM	**Tsumeb**	**92.06**	**226**	LR	LR	06 14 25.6	
	comp=Z,60nm,19.8s,baz=154,slow=33						
CPUP	**Vila Florida**	**92.33**	**215**	LR	LR	06 15 04.0	
	comp=Z,44nm,18.7s,baz=210,slow=34						
LVC	**Limon Verde**	**93.08**	**146**	LR	LR	06 10 28.4	
	comp=Z,40nm,20.1s,baz=206,slow=30						
MJAR	**Matsushiro Arr**	**95.65**	**352**	LR	LR	06 18 17.4	
	comp=Z,36nm,20.2s,baz=162,slow=34						
KSRS	**Korea Array**	**97.65**	**344**	LR	LR	06 21 33.1	
	comp=Z,17nm,20.1s,baz=90,slow=36						
AKASG	**Malin Array Be**	**144.99**	**284**	PKP	PKPbc	05 43 11.1	-0.1
	0.2nm,0.3s,baz=106,slow=2.0,SNR=2.0						
FINES	**FINESS Array B**	**151.93**	**300**	PKPbc	PKiKP	05 43 29.4	-0.2
	1.1nm,0.7s,baz=84,slow=4.3,SNR=3.9						

NEIC 11 06:11:30.8±1.5,**37°29N**±0.01×**104°91W**±0.01,**h5**km±1km,
mb_Lg2.8/33,**ML2.5**/28,**Error ellipse: s-maj=3.0km s-min=2.3km az=336.0**,**Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.43**	**111**		Pg	06 11 39.9	+0.8
T25A				Sg	Sg	06 11 45.5	+0.8
T25A				IAML		06 11 46.2	
	comp=N,439nm,0.1s						
SDCO	**Great Sand Dun**	**0.65**	**314**		Pg	06 11 43.3	0.0
S22A	**4UR Ranch, Cre**	**1.59**	**287**		Pb	06 12 00.9	0.0
S22A				IAML		06 12 26.9	
	comp=N,26nm,0.7s						
S22A				IAML		06 12 27.4	
	comp=E,76nm,0.8s						
Q24A	**Divide**	**1.68**	**354**		Pb	06 12 01.9	-0.5
Q24A					Sn	06 12 23.4	+0.3
Q24A				IAML		06 12 25.1	
	comp=N,46nm,0.2s						
Q24A				IAML		06 12 29.3	
	comp=E,80nm,0.6s						
RTBA	**Rita Blanca**	**1.94**	**115**	Pn	Pb	06 12 07.1	+0.4
RTBA				IAmb_Lg		06 12 36.9	
	comp=Z,54nm,0.7s						
KSCO	**Kaye Shedlock'**	**2.48**	**46**	Pn	Pn	06 12 13.1	+1.1
SMCO	**Snowmass**	**2.49**	**320**		Pn	06 12 12.0	-0.3
SMCO				IAML		06 12 52.1	
	comp=Z,20nm,0.3s						
SMCO				IAML		06 12 56.0	
	comp=Z,28nm,0.3s						
ISCO	**Idaho Springs**	**2.56**	**348**		Pn	06 12 13.7	+0.4
ANMO	**Albuquerque**	**2.66**	**209**	Pn	Pn	06 12 15.4	+0.9
ANMO				IAML		06 12 59.8	
	comp=Z,7.5nm,4.0s						
MVCO	**Mesa Verde**	**2.87**	**269**		Pn	06 12 18.3	+1.0
PV15	**Paradox Valley**	**3.02**	**291**	Pn	Pn	06 12 18.8	-0.7
AMTX	**Amarillo**	**3.55**	**132**	IAmb_Lg		06 13 31.4	
	comp=Z,23nm,0.7s						
N23A	**Red Feather La**	**3.69**	**348**		Pn	06 12 27.1	-1.5
MSTX	**Muleshoe**	**3.75**	**152**	IAmb_Lg		06 13 34.7	
	comp=Z,17nm,0.9s						
OGNE	**Ogallala**	**4.28**	**31**	Pn	Pn	06 12 35.9	-0.7
HMU	**Henry Mountain**	**4.68**	**280**		Pn	06 12 42.0	-0.3
P18A	**Preston Nutter**	**4.79**	**301**		Pn	06 12 42.3	-1.7
DKNS	**Dickens**	**4.87**	**137**		Pn	06 12 44.0	-0.6
DKNS				IAmb_Lg		06 14 09.0	
	comp=Z,24nm,0.9s						
R32A	**Long Quarter,**	**5.03**	**75**	IAmb_Lg		06 14 14.9	
	comp=Z,13nm,0.7s						
APMT	**Aspermont**	**5.57**	**134**	IAmb_Lg		06 14 37.2	
	comp=Z,21nm,0.9s						
WMOK	**Wichita Mounta**	**5.58**	**115**	IAmb_Lg		06 14 35.9	
	comp=Z,12nm,1.1s						
TCRU	**Three Creeks R**	**6.10**	**285**	Pn	Pn	06 13 00.9	-0.9
MNHN	**Monahans**	**6.20**	**163**	IAmb_Lg		06 14 55.0	
	comp=Z,17nm,1.1s						
KNB	**Kanab**	**6.33**	**270**		Pn	06 13 04.1	-0.8
ABTX	**Abilene, Hawle**	**6.36**	**136**	IAmb_Lg		06 14 53.1	
	comp=Z,12nm,1.1s						
RSSD	**Black Hills**	**6.85**	**5**	Pn	Pn	06 13 11.5	-0.6
SAND	**Sanderson**	**7.68**	**162**	IAmb_Lg		06 15 48.6	
	comp=Z,8.4nm,0.9s						
BRDY	**Brady**	**7.73**	**139**	IAmb_Lg		06 15 35.4	
	comp=Z,6.5nm,0.8s						
JCT	**Junction City**	**8.01**	**147**	IAmb_Lg		06 15 55.9	
	comp=Z,8.4nm,0.9s						
N35A	**Tabor**	**8.04**	**61**	IAmb_Lg		06 15 52.2	
	comp=Z,12nm,0.7s						

UPP ***11*** *06:17:29.9±0.0,67°.82N×20°.22E,h0km,ML2.3,Confirmed Induced event*
HEL ***11*** *06:17:30.2±0.1,67°.81N×20°.17E,h0km,ML1.7,Explosion*
IDC ***11*** *06:17:31.6±1.2,67°.80N×20°.74E,h0km,mbtmp3.0/4, ML2.0/4,Error ellipse: s-maj=19.6km s-min=8.1km az=116.0*

ISC 11 06:17:30.2±0.8,**67°.82N**±0°.02×**20°.27E**±0°.03,**h0**km,**n34**,
σ0°89/53,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**10**	P	Pg	06 17 32.9	+0.1
KUA				S	Sg	06 17 34.8	+0.2
RATU	**Laukkuluspa**	**0.26**	**271**	P	Pg	06 17 34.6	-0.5
RATU				S	Sg	06 17 38.0	-0.5
KOVU	**Salmi**	**0.41**	**354**	P	Pg	06 17 37.3	-0.4
LANU	**Lannavaara**	**0.69**	**70**	PG	Pg	06 17 43.2	-0.2
LANU				SG	Sg	06 17 52.6	+0.3
LANU	**Lannavaara**	**0.69**	**70**	P	Pg	06 17 43.3	-0.2
DUNU	**Dundret**	**0.71**	**171**	P	Pg	06 17 43.4	-0.4
SALU	**Saltoluokta**	**0.81**	**238**	P	Pg	06 17 44.8	-0.8
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	Pg	06 17 53.2	-0.1
KIF	**Kilpisjarvi**	**1.21**	**9**	PB	Pg	06 17 53.0	-0.3
KIF				MSG		06 18 08.3	
	comp=Z,10.0nm,0.2s						
KIF				SG	Sb	06 18 09.2	-0.8
PAJU	**Pajala**	**1.36**	**125**	PG	Pg	06 17 54.9	-1.3
PAJU				SB	Sg	06 18 13.5	-0.2
PAJU	**Pajala**	**1.36**	**125**	P	Pg	06 17 55.2	-1.0
HEF	**Hetta**	**1.40**	**63**	*e*P	Pn	06 17 55.8	-1.2
HEF	**Hetta**	**1.40**	**63**	PG	Pn	06 17 55.7	-1.2
	baz=249						
HEF				MSG		06 18 13.5	
	comp=Z,5.1nm,0.2s						
HEF				SG	Sg	06 18 14.9	-0.2
ERTU	**Ertsjaerv**	**1.48**	**149**	PG	Pn	06 17 56.8	-1.2
ERTU				SN	Sg	06 18 17.5	0.0
ERTU	**Ertsjaerv**	**1.48**	**149**	P	Pn	06 17 57.1	-0.9
KLF	**Kolari**	**1.54**	**111**	PG	Pn	06 17 58.2	-0.7
KLF				MSG		06 18 17.1	
	comp=Z,6.5nm,0.2s						
KLF				SN	Sg	06 18 19.6	+0.1
KTK1	**Kautokeino**	**1.62**	**41**	PG	Pn	06 17 59.8	-0.3
KTK1				SN	Sg	06 18 22.1	-0.2
HARU	**Harads**	**1.69**	**170**	P	Pn	06 18 00.6	-0.3
TRO	**Tromso**	**1.89**	**346**	PG	Pn	06 18 04.0	+0.3
	baz=161						
TRO				SG	Sb	06 18 29.2	-0.4
KALU	**Kalix**	**2.32**	**147**	PG	Pn	06 18 10.4	+0.9
	baz=332						
KALU				SG	Sb	06 18 42.1	+0.2
TOF	**Tornio**	**2.37**	**136**	PG	Pn	06 18 11.5	+1.3
	baz=319						
TOF				MSG		06 18 40.7	
	comp=Z,5.1nm,0.2s						
TOF				SG	Sb	06 18 43.7	+0.4
SGF	**Sodankyl**	**2.42**	**96**	PG	Pb	06 18 13.0	-1.6
SGF				SG	Sb	06 18 45.8	+0.8
RNF	**Rovaniemi**	**2.54**	**116**	PB	Pn	06 18 14.2	+1.5
RNF				SB	Sb	06 18 47.7	-0.8
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	Pn	06 18 14.4	+1.3
	comp=Z,0.5nm,0.3s,baz=226,slow=16,SNR=70						
ARCES				Lg	Lg	06 18 47.9	
	comp=Z,0.5nm,0.3s,baz=230,slow=22,SNR=4.2 comp=Z,1.1nm,0.2s						
KEV	**Kevo**	**3.13**	**48**	PN	Pn	06 18 21.2	+0.5
KEV				SN	Sn	06 18 59.4	+0.8
BURU	**Burvik**	**3.28**	**172**	PB	Pn	06 18 24.1	+1.3
BURU				SB	Sn	06 19 04.7	+2.2
VRF	**Varrio**	**3.55**	**87**	PN	Pn	06 18 26.7	+0.2
	baz=271						
VRF				SB	Sb	06 19 16.9	-0.4
OUL	**Oulu**	**3.55**	**138**	PG	Pb	06 18 34.9	+1.0
	baz=324						
OUL				SG	Sb	06 19 18.4	+0.9
OLKF	**Oulanka, Finla**	**3.88**	**109**	PN	Pn	06 18 31.7	+0.7
MSF	**Maaselka**	**3.96**	**115**	PN	Pn	06 18 33.2	+1.2
KU6	**Riekki**	**4.19**	**111**	PN	Pn	06 18 36.0	+0.7
	baz=297						
FINES	**FINESS Array B**	**6.87**	**156**	Pn	Pn	06 19 12.9	+0.8
	comp=Z,0.1nm,0.3s,baz=346,slow=10,SNR=2.1						
FINES				Sn	Sn	06 20 29.2	-1.5
	comp=Z,0.2nm,0.3s,baz=349,slow=20,SNR=2.3						
FINES				Lg	Lg	06 21 03.1	
	comp=Z,0.2nm,0.3s,baz=351,slow=25,SNR=6.1 comp=Z,1.1nm,0.8s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	Pn	06 19 26.6	+1.2
	baz=20,slow=10,SNR=1.5						
NOA				Lg	Lg	06 21 34.8	
	baz=18,slow=19,SNR=2.0 comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**8.23**	**204**	Pn	Pn	06 19 29.7	-1.1
	comp=Z,0.1nm,0.3s,baz=358,slow=15,SNR=2.1 comp=Z,2.8nm,1.0s						

SJA ***11*** *06:25:31.9±0.7,30°.69S×71°.45W,h25km±2km,ML3.4, MW3.6*
GUC ***11*** *06:25:32.3±0.7,30°.70S×71°.43W,h49km±2km,ML3.5*

ISC 11 06:25:32.2±1.2,**30°.65S**±0°.02×**71°.38W**±0°.03,**h14**km±10km,
n40,σ1°34/62,**2C-1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.22**	**264**	⇑*i*P	Pb	06 25 40.0	+1.9
CO06				*i* S	Sb	06 25 45.2	+3.3
CO06				IAML		06 25 46.8	
	comp=E,7μm,0.1s						
CO03	**El Pedregal**	**0.62**	**108**	*e*P	Pb	06 25 45.5	+0.6
CO03				*e*S	Sn	06 25 55.2	-1.3
CO03				IAML		06 25 55.9	
	comp=Z,2μm,0.3s						
CO03	**El Pedregal**	**0.62**	**108**	*e*P	Pb	06 25 45.5	+0.6
CO03				*i* S	Sb	06 25 55.1	+1.6
CO03				IAML		06 25 56.7	
	comp=E,4μm,0.3s						
CO02	**Combarbal**	**0.64**	**150**	*e*P	Pg	06 25 44.8	0.0
CO02				*e*S	Sb	06 25 54.6	+0.5
CO02				IAML		06 25 55.4	
	comp=Z,6μm,0.1s						
CO02	**Combarbal**	**0.64**	**150**	*e*P	Pg	06 25 45.1	+0.3
CO02				*i* S	Sb	06 25 54.2	+0.1
GO04	**Tololo Observa**	**0.69**	**46**	*e*P	Pn	06 25 47.2	-0.6
GO04				*e*S	Sn	06 25 58.8	+0.4
GO04	**Tololo Observa**	**0.69**	**46**	⇑*e*P	Pn	06 25 47.1	-0.6
GO04				*i* S	Sn	06 25 57.9	-0.5
CO05	**La Serena**	**0.74**	**9**	*e*P	Pn	06 25 47.5	-0.7
CO05				*i* S	Sn	06 25 58.8	-0.5
CO05				IAML		06 26 04.0	
	comp=N,1μm,0.3s						
CO01	**Juntas del Tor**	**1.30**	**59**	*e*P	Pb	06 25 56.5	-0.1
CO01				*e*S	Sg	06 26 14.8	+0.7
CO01				IAML		06 26 19.5	
	comp=Z,456nm,0.1s						
CO01	**Juntas del Tor**	**1.30**	**59**	*e*P	Pb	06 25 56.5	-0.1
CO01				*i* S	Sn	06 26 13.7	+0.3
CO01				IAML		06 26 18.5	
	comp=N,814nm,0.2s						
AROD	**Rodeo**	**1.71**	**74**	*e*P	Pb	06 26 04.1	+0.4
AROD				*e*S	Sg	06 26 27.5	0.0
LCO	**Las Campanas**	**1.74**	**20**	*e*P	Pn	06 26 02.0	-0.2
LCO			

DOCA					*e*S	**Sg**	**06 26 38.0**	**+1.5**
ACDV	**Cuesta del Vie**	**2.01**	**77**		*e*P	**Pb**	**06 26 08.5**	**-0.2**
ACDV					*e*S	**Sg**	**06 26 36.9**	**+0.1**
RTLS	**Leoncito**	**2.12**	**123**		*e*P	**Pb**	**06 26 09.1**	**-1.4**
RTLS					*e*S	Sn	06 26 22.2	-12
RTLS					IAML		06 26 47.1	
	comp=Z,492nm,0.3s							
VA03	**San Esteban**	**2.22**	**162**		*e*P	**Pn**	**06 26 08.0**	**-0.8**
VA03					*e*S	**Sb**	**06 26 40.5**	**+0.9**
VA03					IAML		06 26 48.3	
	comp=Z,252nm,0.5s							
ROCH	**El Roble**	**2.33**	**172**		*e*P	**Pn**	**06 26 08.8**	**-1.6**
ROCH					*i* S	**Sn**	**06 26 39.3**	**+0.3**
ROC1	**El Roble**	**2.34**	**173**		*e*P	**Pn**	**06 26 09.1**	**-1.3**
ROC1					*e*S	**Sn**	**06 26 40.1**	**+1.0**
VA01	**Torpederas**	**2.38**	**185**		*e*P	**Pn**	**06 26 08.0**	**-2.7**
VA01					*e*S	**Sb**	**06 26 43.6**	**-0.3**
AC04	**Llanos de Chal**	**2.45**	**6**		*e*P	**Pn**	**06 26 11.4**	**-0.3**
AC04					IAML		06 26 56.4	
	comp=Z,140nm,0.8s							
AC04	**Llanos de Chal**	**2.45**	**6**		*e*P	**Pn**	**06 26 11.5**	**-0.3**
PEL	**Peldehue**	**2.55**	**167**		*e*P	**Pn**	**06 26 13.1**	**-0.2**
SJA	**San Juan**	**2.57**	**111**		*e*P	**Pn**	**06 26 15.7**	**+2.3**
SJA					IAML		06 27 05.8	
	comp=Z,122nm,0.8s							
RTLL	**Cerro Villicun**	**2.58**	**106**		*e*P	**Pn**	**06 26 14.2**	**+0.6**
MT02	**Curacav**	**2.61**	**176**		*e*P	**Pn**	**06 26 11.7**	**-2.2**
MT02					IAML		06 26 56.9	
	comp=Z,162nm,0.3s							
RTCV	**Cerro Valdivia**	**2.71**	**117**		*e*P	**Pb**	**06 26 18.1**	**-2.5**
RTCV					*e*S	**Sb**	**06 26 55.4**	**+1.7**
AGUA	**GUANDACOL**	**2.76**	**66**		*e*P	**Pb**	**06 26 20.3**	**-1.1**
AGUA					IAML		06 27 05.0	
	comp=Z,264nm,0.3s							
MT05	**Renca**	**2.79**	**169**		*e*P	**Pn**	**06 26 16.4**	**0.0**
MT05					IAML		06 27 04.0	
	comp=Z,158nm,0.8s							
CFA	**Coronel Fontan**	**2.85**	**110**		*e*P	Pn	**06 26 18.8**	**+1.4**
CFA					*e*S	**Sb**	**06 26 56.6**	**-1.2**
CFA					IAML		06 27 03.3	
	comp=Z,114nm,0.3s							
ASAL	**Salagasta**	**2.91**	**132**		*e*P	**Pn**	**06 26 20.2**	**+2.1**
ASAL					*e*S	**Sb**	**06 27 01.5**	**+2.2**
ASAL					IAML		06 27 17.6	
	comp=Z,74nm,0.5s							
MT03	**Universidad Ad**	**2.93**	**166**		*e*P	**Pn**	**06 26 18.2**	**-0.2**
MT03					IAML		06 27 04.1	
	comp=Z,198nm,0.3s							
ARCO	**CERRO ARCO**	**3.02**	**137**		*e*P	Pn	06 26 06.8	-13
ARCO					IAML		06 27 09.5	
	comp=Z,112nm,0.3s							
MT01	**Popeta**	**3.21**	**178**		*e*P	**Pn**	**06 26 20.1**	**-2.1**
MT01					IAML		06 27 14.5	
	comp=Z,71nm,0.6s							
GO03	**Copiap**	**3.21**	**18**		*e*P	**Pn**	**06 26 22.8**	**+0.6**
GO03					*e*S	**Sg**	**06 27 13.6**	**-1.7**
AAGR	**Agrelo**	**3.25**	**139**		*e*P	**Pn**	**06 26 25.0**	**+2.1**
AAGR					IAML		06 27 25.2	
	comp=Z,105nm,1.7s							
BO01	**Tunca**	**3.74**	**176**		*e*P	**Pn**	**06 26 26.6**	**-2.9**
BO01					IAML		06 27 29.3	
	comp=Z,37nm,0.3s							
BO02	**Sierra Bellavi**	**4.16**	**173**		*e*P	**Pn**	**06 26 34.1**	**-1.3**
BO02					IAML		06 27 37.1	
	comp=Z,78nm,0.5s							
AC01	**Pan de Azucar**	**4.54**	**9**		*e*P	**Pn**	**06 26 38.2**	**-2.4**
AC01					IAML		06 27 50.5	
	comp=Z,34nm,0.5s							

PDG **11** *06:59:21.7,33.˚72N×45.˚74E,h10km,mb5.5/3*
IDC **11** *06:59:28.1±0.4,33.˚71N×45.˚77E,h0km,mb5.2/37, mbtmp5.2/47,ML4.3/9,MS5.1/19,Error ellipse: s-maj=9.6km s-min=7.8km az=156.0*
ISN **11** *06:59:29.4±1.1,33.˚72N×45.˚68E,h8km±5km,ML5.7*
THR **11** *06:59:29.1±1.5,33.˚57N×45.˚66E,h15km±33km,ML5.1*
TEH **11** *06:59:29.8,33.˚71N×45.˚69E,h8km±45km,ML5.6*
NEIC **11** *06:59:30.5,33.˚93N×45.˚74E,h14km,Moment Tensor Solution. Duration: 29 Moment tensor: Scale 10^17Nm; Mrr2.28; Mθθ-0.44; Mφφ-1.84; Mrθ-0.15; Mθφ0.86; Mrφ0.40; Fault plane solution: Mo2.30000×10^17 NP1: φs335.52000°,δ50.36000°,λ91.15000°. NP2: φs153.72000°,δ39.66000°,λ88.61000°. Principal axes: T 2.3184, Plg85.0000°, Azm254.0000°; N -0.0298, Plg1.0000°, Azm155.0000°; P -2.2885, Plg5.0000°, Azm65.0000°;*
NEIC **11** *06:59:30.5,33.˚73N×45.˚74E,h14km*
GII **11** *06:59:30.1±0.3,33.˚76N×45.˚74E,h10km,confirmed*
AFAD **11** *06:59:30.4±0.0,33.˚72N×45.˚77E,h6km±5km,MW5.4*
NEIC **11** *06:59:30.5±1.2,33.˚71N±0.˚05×45.˚72E±0.˚08,h10km±1km, mb5.6/443,Ms_20 5.3/244,Mwb5.4/37,Mww5.5/33,Error ellipse: s-maj=11.0km s-min=8.5km az=97.0,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.36; Mθθ-0.23; Mφφ-1.13; Mrθ-0.27; Mθφ0.55; Mrφ-0.03; Fault plane solution: Mo1.40000×10^17 NP1: φs165.16000°,δ44.11000°,λ105.54000°. NP2: φs324.00000°,δ47.89000°,λ75.44000°. Principal axes: T 1.4079, Plg79.0000°, Azm164.0000°; N -0.0128, Plg11.0000°, Azm334.0000°; P -1.3951, Plg2.0000°, Azm64.0000°;*
DSN **11** *06:59:31.1±0.5,33.˚53N×45.˚79E,h15km,mb5.6/5 Error ellipse: s-maj=10.8km s-min=5.6km az=57.0*
IPGP **11** *06:59:31.0,33.˚76N×45.˚75E,h19km,Mw5.6, Fault plane solution: NP1:φs360.00000°,δ53.00000°,λ104.00000°. NP2:φs157.00000°,δ39.00000°,λ72.00000°.*
NEIC **11** *06:59:31.1,33.˚76N×45.˚75E,h10km*
BGR **11** *06:59:32.0,33.˚35N×45.˚46E,h33km,mb5.3,Ms4.9*
GCMT **11** *06:59:33.5±0.1,33.˚71N±0.˚01×45.˚57E±0.˚01,h12km, MW5.5/155,Moment Tensor Solution. s124,c208; s155,c328; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr2.39±.03; Mθθ-0.26±.03; Mφφ-2.14±.03; Mrθ0.29±.09; Mθφ1.20±.03; Mrφ0.47±.08; Best double couple: Mo2.62500×10^17 NP1:φs346.00000°,δ50.00000°, λ106.00000°. NP2:φs142.00000°,δ43.00000°,λ72.00000°. Principal axes: T 2.5080, Plg77.0000°, Azm319.0000°; N 0.2260, Plg12.0000°, Azm155.0000°; P -2.7410, Plg3.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS **11** *06:59:33.9±1.1,33.˚78N×45.˚67E,h15km,mb5.6/101, MS5.2/43 Error ellipse: s-maj=4.0km s-min=2.5km az=122.0*
SGS **11** *06:59:35.2,33.˚57N×45.˚65E,h10km,Ml5.7*
NAO **11** *06:59:37.5,34.˚52N×45.˚85E,h33km,mb5.7*
OMAN **11** *06:59:50.2±0.3,32.˚72N×47.˚18E,h10km,mb5.0/26, ms5.0/7,Mwp5.3/6,Error ellipse: s-maj=14.2km s-min=1.7km az=242.0*

ISC 11 06:59:31.6±0.4,33.74N±0.˚02×45.75E±0.˚02,h19km±1km, h20km:pP-P,n1990,σ1.957/1976,mb5.6/503,MS5.3/186, 144C-42D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**107**		*e*Sg	**Sg**	**06 59 44.9**	**-0.7**
ILBA					IAML		07 00 00.2	
	comp=N,94μm,0.5s							
ILBA	**Ilam Banvizeh**	**0.40**	**107**		Pg	**Pg**	**06 59 39.1**	**-0.9**
ILBA					Sg	**Sg**	**06 59 45.0**	**-0.7**
IBDR	**Badra**	**0.65**	**166**		*e*Pg	**Pb**	**06 59 42.0**	**-2.2**
IBDR					*e*Sg	**Sb**	**06 59 51.0**	**-1.7**
KGS1	**Ghasr-e-Shirin**	**0.78**	**350**		Pg	**Pb**	**06 59 45.5**	**-1.0**
IGHG	**Ghaleghazi**	**0.90**	**49**		Pg	**Pb**	**06 59 48.4**	**-0.4**
IDHR	**Dehrash**	**1.09**	**29**		Pg	**Pn**	**06 59 51.5**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.20**	**63**		Pg	**Pn**	**06 59 53.7**	**+0.2**
KCHF					Sg	**Sg**	**07 00 13.4**	**+2.8**
BHD	**Baghdad**	**1.24**	**248**		*e*Pg	**Pn**	**06 59 52.5**	**-1.3**
BHD					*e*Sg	**Sb**	**07 00 08.0**	**-1.8**
BHD					AML	AML	07 00 15.3	
	comp=E,179μm,0.6s							
IKOM	**Komasi**	**1.53**	**73**		Pg	**Pb**	**07 00 00.0**	**+0.7**
IKOM					Sg	**Sg**	**07 00 23.8**	**+2.8**
ILIN	**Lien**	**1.55**	**40**		Pg	**Pb**	**07 00 00.3**	**+0.5**
ILIN					Sg	**Sg**	**07 00 22.9**	**+1.2**
IKFM	**Kafar-mosalman**	**1.76**	**96**		Pn	**Pb**	**07 00 03.7**	**+0.4**
SNGE	**Sanandaj**	**1.89**	**44**		*e*Pn	**Pb**	**07 00 05.7**	**+0.1**
SNGE					*e*Sg	**Sg**	**07 00 33.3**	**+0.8**
SNGE					IAML		07 00 38.2	
	comp=N,25μm,0.6s							
SNGE					IAML		07 00 38.8	
	comp=E,34μm,0.6s							
IBZA	**Bozab**	**1.90**	**67**		Pn	**Pb**	**07 00 05.2**	**-0.6**
RAFI	**Al-Rafai**	**2.03**	**171**		*e*Pn	**Pn**	**07 00 05.0**	**+0.2**
RAFI					*e*Sn	**Sb**	**07 00 32.5**	**-0.3**
IALM	**Almabolaq**	**2.29**	**60**		Pn	**Pb**	**07 00 10.9**	**-1.6**
SDS1	**Sardasht. Az.**	**2.42**	**355**		Pn	**Pb**	**07 00 12.7**	**-1.9**
HSAM	**Samen**	**2.42**	**78**		Pn	**Pn**	**07 00 12.5**	**+2.2**
HAGD	**Aghdareh**	**3.01**	**68**		Pn	**Pn**	**07 00 20.4**	**+2.0**
MAHB	**Mahabad**	**3.02**	**359**		Pn	**Pn**	**07 00 20.3**	**+1.8**
NGD1	**Naghade .Az. G**	**3.21**	**355**		Pn	**Pn**	**07 00 23.5**	**+2.4**
AHWZ	**Ahwaz**	**3.43**	**134**		Pn	**Pn**	**07 00 25.7**	**+1.8**
KHMZ	**Khomeyn**	**3.51**	**89**		*e*Pn	**Pn**	**07 00 27.5**	**+2.2**
KHMZ					IAML		07 01 37.8	
	comp=E,2μm,0.8s							
KHMZ					IAML		07 01 39.4	
	comp=N,2μm,0.6s							
ASAO	**Ashtian**	**3.64**	**76**		*e*Pn	**Pn**	**07 00 30.2**	**+3.1**
ASAO					IAML		07 01 38.7	
	comp=E,3μm,0.7s							
ASAO					IAML		07 01 44.3	
	comp=N,3μm,0.7s							
IHSH	**Hashtrud**	**3.77**	**19**		Pn	**Pn**	**07 00 30.7**	**+1.8**
ZNJK	**Zanjan**	**3.79**	**39**		*e*Pn	**Pn**	**07 00 31.7**	**+2.5**
IRAZ	**Razeghan**	**3.83**	**63**		Pn	**Pn**	**07 00 32.1**	**+2.5**
CUKT	**Cukurca**	**3.91**	**334**		*e*P	**Pn**	**07 00 31.4**	**+0.6**
CUKT	**Cukurca**	**3.91**	**334**		P	**Pn**	**07 00 31.1**	**+0.4**
CUKT					S	**Sn**	**07 01 16.9**	**+0.6**
IAZR	**Azarshahr**	**3.94**	**3**		Pn	**Pn**	**07 00 33.1**	**+1.9**
QSDN	**Sirdan**	**3.94**	**45**		Pn	**Pn**	**07 00 33.5**	**+2.3**
YOVA	**Hakkari_Yksek**	**4.02**	**343**		P	**Pn**	**07 00 33.6**	**+1.3**
YOVA					S	**Sb**	**07 01 27.0**	**-3.2**
HAKT	**HAKKARI**	**4.16**	**337**		P	**Pn**	**07 00 34.7**	**+0.4**
HAKT					S	**Sn**	**07 01 22.6**	**+0.2**
ISRB	**Sarab**	**4.37**	**20**		Pn	**Pn**	**07 00 38.7**	**+1.6**
JHBN	**Jahan bin**	**4.40**	**109**		Pn	**Pn**	**07 00 38.5**	**+1.8**
IMHD	**Mahasht**	**4.49**	**63**		Pn	**Pn**	**07 00 40.5**	**+1.8**
ITBZ	**Tabriz**	**4.50**	**4**		Pn	**Pn**	**07 00 39.1**	**+0.3**
IQOM	**Qom**	**4.54**	**74**		Pn	**Pn**	**07 00 40.9**	**+1.4**
ZNGN	**Zangian**	**4.59**	**109**		Pn	**Pn**	**07 00 41.0**	**+0.8**
SIRN	**Sirnak**	**4.63**	**325**		P	**Pn**	**07 00 40.9**	**+0.3**
SIRN					S	**Sn**	**07 01 33.5**	**-0.3**
GIDE	**GILAN DEYLAMAN**	**4.65**	**46**		*e*Pn	**Pn**	**07 00 44.6**	**+3.6**
GIDE					IAML		07 02 20.7	
	comp=E,1μm,0.8s							
GIDE					IAML		07 02 22.2	
	comp=N,1μm,0.7s							
GHVR	**GHOM**	**4.66**	**79**		*e*Pn	**Pn**	**07 00 43.0**	**+2.0**
GHVR					IAML		07 02 16.8	
	comp=E,4μm,0.9s							
GHVR					IAML		07 02 18.0	
	comp=N,2μm,0.6s							
SARAR	**Arar**	**4.66**	**225**		P	**Pn**	**07 00 41.3**	**+0.3**
CSN1	**Caspian**	**4.69**	**35**		Pn	**Pn**	**07 00 43.1**	**+1.8**
IHRS	**Heris**	**4.69**	**13**		Pn	**Pn**	**07 00 43.5**	**+2.0**
QAMS	**Qamsar**	**4.71**	**88**		Pn	**Pn**	**07 00 43.9**	**+2.1**
AMD1	**Meshkindasht**	**4.74**	**63**		Pn	**Pn**	**07 00 44.5**	**+2.4**
THKV	**Tehran--Karaj**	**4.74**	**61**		*e*Pn	**Pn**	**07 00 44.2**	**+2.0**
THKV					IAML		07 02 13.5	
	comp=N,522nm,0.7s							
THKV					IAML		07 02 15.4	
	comp=E,500nm,0.4s							
SRFHA	**Rafha**	**4.79**	**192**		P	**Pn**	**07 00 44.4**	**+1.6**
IHSB	**Hasanabad**	**4.86**	**68**		Pn	**Pn**	**07 00 45.6**	**+1.8**
IKLH	**Kolahrood**	**4.89**	**93**		Pn	**Pn**	**07 00 45.8**	**+1.6**
LHJ2	**Lahijan - Gila**	**4.91**	**45**		Pn	**Pn**	**07 00 46.4**	**+2.1**
CHTH	**Charan**	**4.92**	**62**		*e*Pn	**Pn**	**07 00 46.5**	**+1.8**
CHTH					IAML		07 02 12.8	
	comp=E,347nm,0.7s							
CHTH					IAML		07 02 19.9	
	comp=N,474nm,0.8s							
PERV	**Siirt/Pervari-**	**4.94**	**329**		P	**Pn**	**07 00 45.6**	**+0.7**
PERV					S	**Sn**	**07 01 44.2**	**+2.6**
IMRD	**Marand**	**4.96**	**360**		Pn	**Pn**	**07 00 46.9**	**+1.7**
NARAR	**Arar**	**4.97**	**240**		P	**Pn**	**07 00 46.0**	**+0.8**
IBRJ	**Brojen**	**4.99**	**110**		Pn	**Pn**	**07 00 46.3**	**+0.6**
GEVA	**Gevas**	**5.06**	**335**		P	**Pn**	**07 00 47.4**	**+0.9**
GEVA					S	**Sn**	**07 01 46.2**	**+1.7**
MIDY	**Mardin/Midyat-**	**5.10**	**317**		P	**Pn**	**07 00 46.8**	**-0.2**
MIDY					S	**Sn**	**07 01 47.3**	**+2.0**
AKDM	**Akdamar-Van**	**5.10**	**335**		*e*P	**Pn**	**07 00 49.0**	**+1.9**
AKDM	**Akdamar-Van**	**5.10**	**335**		P	**Pn**	**07 00 48.4**	**+1.3**
AKDM					S	**Sn**	**07 01 45.2**	**-0.3**
IVRN	**Varamin**	**5.10**	**74**		Pn	**Pn**	**07 00 49.0**	**+1.9**
OZAP	**Van, Ozalp-Mer**	**5.11**	**344**		P	**Pn**	**07 00 48.9**	**+1.6**
OZAP					S	**Sb**	**07 01 57.4**	**-4.3**
TVAN	**Van**	**5.14**	**339**		P	**Pn**	**07 00 49.6**	**+1.8**
KLST	**Kelardasht - M**	**5.16**	**56**		Pn	**Pn**	**07 00 50.2**	**+2.1**
VANB	**Van**	**5.21**	**339**		*e*P	**Pn**	**07 00 49.6**	**+1.0**
VANB	**Van**	**5.21**	**339**		P	**Pn**	**07 00 48.9**	**+0.4**
VANB					S	**Sn**	**07 01 53.1**	**+2.0**
GAS1	**Astara - Iran**	**5.27**	**27**		Pn	**Pn**	**07 00 51.3**	**+2.0**
KRSH	**Karshahi**	**5.32**	**86**		Pn	**Pn**	**07 00 52.0**	**+1.9**
GRMI	**Germi**	**5.35**	**18**		*e*Pn	**Pn**	**07 00 52.6**	**+2.2**
GRMI					IAML		07 02 28.1	
	comp=N,315nm,0.7s							
GRMI					IAML		07 02 36.1	
	comp=E,452nm,0.5s							
GRMI	**Germi**	**5.35**	**18**		Pn	**Pn**	**07 00 52.2**	**+1.8**
ISFB	**Sefidab**	**5.42**	**82**		Pn	**Pn**	**07 00 52.3**	**+0.9**
IGAR	**Gharneh**	**5.45**	**102**		Pn	**Pn**	**07 00 53.0**	**+1.0**
DAMV	**Damavand**	**5.46**	**68**		*e*Pn	**Pn**	**07 00 53.5**	**+1.4**
MZPU	**Pul - Mazandar**	**5.48**	**59**		Pn	**Pn**	**07 00 55.0**	**+2.7**
IDMV	**Damavand**	**5.49**	**69**		Pn	**Pn**	**07 00 54.0**	**+1.3**
BTMN	**Batman**	**5.51**	**320**		P	**Pn**	**07 00 53.2**	**-0.5**
BTMN					S	**Sn**	**07 01 58.5**	**+2.9**
BLIS	**Bitlis-Merkez**	**5.52**	**329**		P	**Pn**	**07 00 51.5**	**-1.3**
BLIS					S	**Sn**	**07 01 53.4**	**-2.4**
VMUR	**Van-Muradiye**	**5.53**	**342**		P	**Pn**	**07 00 54.5**	**+1.5**
IZEF	**Zefreh**	**5.57**	**97**		Pn	**Pn**	**07 00 54.7**	**+1.0**
CLDR	**Caldiran**	**5.59**	**345**		*e*P	**Pn**	**07 00 55.9**	**+2.0**
CLDR	**Caldiran**	**5.59**	**345**		P	**Pn**	**07 00 55.2**	**+1.3**
CLDR					S	**Sb**	**07 02 12.9**	**-2.5**
ADCV	**BITLIS_Adilcev**	**5.62**	**335**		P	**Pn**	**07 00 55.9**	**+1.7**
ADCV					S	**Sn**	**07 02 00.4**	**+2.1**
KLNJ	**Kolanjah**	**5.64**	**117**		Pn	**Pn**	**07 00 55.8**	**+1.0**
GURO	**Guroymak-BITLI**	**5.67**	**329**		*e*P	**Pn**	**07 00 55.3**	**+0.4**
GURO	**Guroymak-BITLI**	**5.67**	**329**		Pn	**Pn**	**07 00 55.2**	**+0.4**
MAKU	**Maku**	**5.67**	**352**		*e*Pn	**Pn**	**07 00 56.9**	**+2.0**
MAKU	**Maku**	**5.67**	**352**		Pn	**Pn**	**07 00 56.5**	**+1.6**
MAZI	**Mazidag**	**5.70**	**312**		*e*P	**Pn**	**07 00 54.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**5.75**	**321**		*e*P	**Pn**	**07 00 56.2**	**+0.3**
KFJS2	**Khafji**	**5.83**	**156**		P	**Pn**	**07 00 57.8**	**+0.8**
IRAM	**Ramosheh**	**5.91**	**107**		Pn	**Pn**	**07 00 58.6**	**+0.3**
TRAF	**Turaif**	**5.94**	**247**		P	**Pn**	**07 00 57.5**	**-1.1**
QYSM	**Um Kedad**	**5.95**	**170**		P	**Pn**	**07 00 59.2**	**+0.6**
IPRN	**Peran**	**5.96**	**63**		Pn	**Pn**	**07 01 01.4**	**+2.5**
MLAZ	**Malazgirt-MUS**	**5.98**	**335**		*e*P	**Pn**	**07 01 02.1**	**+3.0**
NASN	**Na'in**	**5.99**	**97**		*e*Pn	**Pn**	**07 00 59.7**	**+0.3**
DYDN	**Diyadin**	**6.03**	**345**		P	**Pn**	**07 01 00.6**	**+0.7**
DYDN					S	**Sb**	**07 02 22.2**	**-5.7**
IFIR	**Firoozkooh**	**6.07**	**70**		Pn	**Pn**	**07 01 02.0**	**+1.4**
WELAS	**Turaif**	**6.08**	**253**		P	**Pn**	**07 01 01.5**	**+0.9**
DORK	**Agr/Tutak/Do**	**6.12**	**338**		P	**Pn**	**07 01 01.3**	**+0.1**
DORK					S	**Sn**	**07 02 12.9**	**+2.2**
ILAS	**Lasjerd**	**6.17**	**73**		Pn	**Pn**	**07 01 03.7**	**+1.9**
DYBB	**Diyarbakir**	**6.20**	**314**		*e*P	**Pn**	**07 01 02.1**	**0.0**
AGRB	**Hanur-Agry**	**6.23**	**340**		*e*P	**Pn**	**07 01 04.7**	**+2.0**
IALA	**Alasht**	**6.25**	**66**		Pn	**Pn**	**07 01 05.5**	**+2.4**
TASB	**TASBURUN-IGDIR**	**6.35**	**349**		*e*P	**Pn**	**07 01 06.5**	**+2.3**
RQBS	**RQBS**	**6.38**	**178**		P	**Pn**	**07 01 04.8**	**+0.2**
VRTB	**Varto-Mus**	**6.42**	**329**		*e*P	**Pn**	**07 01 05.9**	**+0.6**
GNI	**Garni**	**6.45**	**353**		Pn	**Pn**	**07 01 08.6**	**+3.0**
GNI	**Garni**	**6.45**	**353**	*c*	*i*P	**Pn**	**07 01 07.8**	**+2.2**
GNI					MLR	MLR		
	comp=Z,15μm,12.0s							
GNI	**Garni**	**6.45**	**353**		P	**Pn**	**07 01 08.6**	**+3.0**
GNI	**Garni**	**6.45**	**353**		Pn	**Pn**	**07 01 09.5**	**+3.9**
	comp=Z,8.1nm,0.3s,baz=19,slow=2.1,SNR=30							
GNI					Pg	**Pb**	**07 01 26.4**	**+3.1**
	comp=Z,16nm,0.3s,baz=340,slow=22,SNR=4.5							
GNI					Lg	Lg	07 02 55.0	
	baz=226,slow=16							
GNI					LR	LR	07 04 03.8	
	comp=Z,12μm,22.0s,baz=168,slow=42							
	comp=Z,113nm,0.8s							
GNI	**Garni**	**6.45**	**353**		S	Sg	07 03 10.4	+12
BNGB	**Bingl**	**6.65**	**323**		*e*P	**Pn**	**07 01 05.9**	**-2.4**
HANO	**Al Hamad**	**6.69**	**252**		P	**Pn**	**07 01 09.5**	**+0.6**
ANAR	**Anarak**	**6.69**	**92**		Pn	**Pn**	**07 01 08.9**	**0.0**
URFA	**Urfa**	**6.75**	**305**		*e*P	**Pn**	**07 01 09.3**	**-0.3**
IANJ	**Anjilo**	**6.95**	**73**		Pn	**Pn**	**07 01 13.6**	**+1.0**
KOPR	**Koprukoy-ERZUR**	**6.98**	**335**		*e*P	**Pn**	**07 01 14.6**	**+1.7**
SHI	**Shiraz**	**7.06**	**124**		Pn	**Pn**	**07 01 14.7**	**+0.6**
DSBU	**Dashti - Bushe**	**7.14**	**137**		Pn	**Pn**	**07 01 15.3**	**+0.2**
IGLO	**Ghaloghah**	**7.17**	**65**		Pn	**Pn**	**07 01 18.5**	**+2.9**
KARS	**Kars**	**7.20**	**344**		*e*P	**Pn**	**07 01 19.9**	**+4.0**
KARS	**Kars**	**7.20**	**344**			**Pn**	**07 01 18.2**	**+2.3**
KARS	**Kars**	**7.20**	**344**		P	**Pn**	**07 01 18.2**	**+2.3**
PTK	**Pertek**	**7.26**	**317**		*e*P	**Pn**	**07 01 16.7**	**-0.2**
SENK	**Senkaya-Erzuru**	**7.33**	**339**		*e*P	**Pn**	**07 01 19.4**	**+1.6**
ICHK	**Chekchek**	**7.42**	**99**		Pn	**Pn**	**07 01 20.3**	**+1.2**
YZKH	**Yazd**	**7.54**	**98**		*e*Pn	**Pn**	**07 01 20.5**	**-0.1**
ERZN	**Erzincan**	**7.58**	**322**		*e*P	**Pn**	**07 01 22.4**	**+1.2**
ASF	**Jabal al Asfar**	**7.60**	**261**		Pn	**Pn**	**07 01 20.4**	**-1.0**
	comp=Z,11nm,0.3s,baz=64,slow=23,SNR=43							
ASF					Pg	**Pb**	**07 01 47.2**	**+4.3**
	comp=Z,19nm,0.3s,baz=76,slow=1.9,SNR=7.3							
ASF					Lg	Lg	07 03 31.4	
	comp=Z,62nm,0.3s,baz=26,slow=16,SNR=2.5							
ASF					LR	LR	07 04 56.4	
	comp=Z,10μm,19.4s,baz=173,slow=43							
	comp=Z,28nm,0.3s							
ASF	**Jabal al Asfar**	**7.60**	**261**		P	**Pn**	**07 01 22.7**	**+1.3**
GAZ	**Gaziantep**	**7.76**	**299**		*e*P	**Pn**	**07 01 25.8**	**+2.2**
GAZ	**Gaziantep**	**7.76**	**299**		Pn	**Pn**	**07 01 23.1**	**-0.5**
IMEH	**Mehriz**	**7.84**	**105**		Pn	**Pn**	**07 01 26.7**	**+1.9**
AKH	**Akhalkalaki**	**7.86**	**347**		*e*P	**Pn**	**07 01 28.9**	**+3.8**
AKH	**Akhalkalaki**	**7.86**	**347**		Pn	**Pn**	**07 01 28.2**	**+3.1**
AKH	**Akhalkalaki**	**7.86**	**347**		P	**Pn**	**07 01 28.2**	**+3.1**
BAYT	**Aydıntepe-Bayb**	**8.01**	**328**		*e*P	**Pn**	**07 01 29.2**	**+2.1**
ARPR	**Arapgir-MALATY**	**8.02**	**314**		*e*P	**Pn**	**07 01 28.5**	**+1.4**
ARPR	**Arapgir-MALATY**	**8.02**	**314**			**Pn**	**07 01 27.6**	**+0.4**
ILIC	**ilic-Erzincan**	**8.11**	**317**		*e*P	**Pn**	**07 01 30.9**	**+2.5**
KMRS	**Kahramanmaras**	**8.13**	**300**		*e*P	**Pn**	**07 01 26.2**	**-2.3**
QIR1	**Qir**	**8.16**	**128**		Pn	**Pn**	**07 01 29.3**	**+0.3**
HSUJ	**Al Zarqa**	**8.20**	**261**		P	**Pn**	**07 01 29.3**	**-0.3**
DARE	**Darende-Malaty**	**8.24**	**308**		*e*P	**Pn**	**07 01 31.9**	**+1.7**
GHIR	**Ghir-Karzin**	**8.25**	**129**		*e*Pn	**Pn**	**07 01 29.3**	**-1.1**
TAHT	**Tahtakopru-Hat**	**8.27**	**291**		*e*P	**Pn**	**07 01 34.9**	**+4.4**
CHOM	**Cayeli-Rize**	**8.35**	**333**		*e*P	**Pn**	**07 01 33.7**	**+2.2**
KSHT	**Keshet**	**8.35**	**268**		P	**Pn**	**07 01 30.8**	**-0.8**
BCA	**Borcka**	**8.36**	**338**	⇑	P	**Pn**	**07 01 35.1**	**+3.4**
BCA	**Borcka**	**8.36**	**338**		*e*P	**Pn**	**07 01 36.0**	**+4.3**
NATI	**Neve Ativ**	**8.38**	**270**		P	**Pn**	**07 01 33.1**	**+1.2**
SHMJ	**Saham**	**8.43**	**266**		P	**Pn**	**07 01 35.1**	**+2.4**
GEM	**Giv'at Ha'Em**	**8.44**	**269**		P	**Pn**	**07 01 34.0**	**+1.1**
GEM	**Giv'at Ha'Em**	**8.44**	**269**		P	**Pn**	**07 01 33.1**	**+0.2**
**BAT

comp=Z,8µm,10.0s
KBZ Khabaz 10.22 348 Pn **Pn 07 02 01.8 +4.6**
comp=Z,0.7nm,0.3s,baz=165,slow=9.9,SNR=81
KBZ LR LR 07 06 49.4
comp=Z,7µm,20.5s,baz=152,slow=43
comp=Z,48nm,0.8s
KEBE Keben-Mersin 10.23 289 *e*P **Pn 07 01 56.7 -0.7**
BJRD Bojnurd 10.27 64 *e*Pn **Pn 07 01 60.0 +2.0**
KRM1 Kerman Provinc 10.29 105 Pn **Pn 07 01 59.1 +0.7**
CSS Mathiatis 10.34 280 *e*P Pn 07 02 03.5 +4.6
CSS Mathiatis 10.34 280 **Pn 07 01 59.8 +0.9**
KVAR Kislovodsk Arr 10.47 348 Pn **Pn 07 02 04.8 +4.1**
baz=278,slow=21
KVAR LR LR 07 05 54.8
comp=Z,14µm,21.8s,baz=32,slow=37
comp=Z,32nm,0.8s
KIV Kislovodsk 10.48 348 ⇑P Pn 07 02 05.5 +4.7
KIV Kislovodsk 10.48 348 Pn **Pn 07 02 01.0 +0.2**
KIV Kislovodsk 10.48 348 *e*P **Pn 07 02 04.9 +4.1**
KIV *e*S **Sn 07 04 03.0 +5.4**
KIV pmax pmax
comp=Z,194nm,1.1s
KIV MLR MLR
comp=Z,4µm,12.0s
KIV Kislovodsk 10.48 348 *i* P **Pn 07 02 05.0 +4.2**
SNR=80
ISFR Sfrayin 10.53 68 Pn **Pn 07 02 03.9 +2.1**
YESY Yesilyurt 10.56 296 *e*P **Pn 07 02 02.8 +0.9**
BERE Bereket-Mersin 10.60 288 *e*P **Pn 07 02 04.8 +2.3**
KVT Kavak 10.64 316 *e*P **Pn 07 02 04.4 +1.5**
LEF Lefka 10.71 281 *e*P **Pn 07 02 08.0 +4.1**
JRN Garnain Island 10.73 143 P **Pn 07 02 04.0 -0.2**
CHMN Cheshme madani 10.75 108 Pn **Pn 07 02 05.8 +1.0**
SULT Sultanhani-AKS 10.87 298 *e*P **Pn 07 02 07.2 +1.1**
GEYT Alibeck 10.87 64 Pn **Pn 07 02 07.5 +1.3**
GEYT Alibeck 10.87 64 P **Pn 07 02 07.5 +1.3**
GEYT Alibeck 10.87 64 Pn **Pn 07 02 06.1 0.0**
comp=Z,1.8nm,0.3s,baz=276,slow=13,SNR=42
GEYT Sn **Sn 07 04 07.2 -0.1**
comp=Z,0.5nm,0.3s,baz=325,slow=49,SNR=1.6
GEYT LR LR 07 07 10.8
comp=Z,13µm,18.4s,baz=294,slow=43
comp=Z,29nm,0.7s
GYA0 ALIBECK ARRAY 10.87 64 P **Pn 07 02 07.5 +1.3**
GYA0B ALIBECK ARRAY 10.87 64 Pn **Pn 07 02 06.9 +0.7**
SOC Sochi 10.90 336 *e*P **Pn 07 02 06.6 +0.2**
SOC *e* 07 04 09.9
SOC pmax pmax
comp=Z,23nm,0.6s
SOC MLR MLR
comp=Z,9µm,14.0s
ITEG Tejag 10.91 91 Pn **Pn 07 02 07.6 +0.7**
BNDS Bandar-Abbas 10.98 122 *e*Pn **Pn 07 02 05.0 -2.8**
GENO Geno 10.98 122 Pn **Pn 07 02 05.2 -2.6**
IAKL Akhelmad 11.02 71 Pn **Pn 07 02 10.9 +2.4**
AFRZ Afriz 11.07 88 Pn **Pn 07 02 09.7 +0.6**
SERE Sereflikochisa 11.11 301 *e*P **Pn 07 02 11.3 +1.8**
IEMG Emamgholi 11.13 67 Pn **Pn 07 02 13.0 +3.1**
IKOO Kooshah 11.20 93 Pn **Pn 07 02 12.4 +1.6**
IBND Bandar-abas 11.21 121 Pn **Pn 07 02 09.1 -1.6**
HDMB Hadim 11.30 290 *e*P **Pn 07 02 14.7 +2.5**
BSRN Basiran 11.39 95 *e*Pn **Pn 07 02 13.7 +0.3**
BSRN Basiran 11.39 95 Pn **Pn 07 02 13.4 0.0**
BR131 Keskin Array S 11.40 305 *e*P **Pn 07 02 13.7 +0.2**
BR131 Keskin Array S 11.40 305 Pn **Pn 07 02 12.7 -0.8**
BR131 Keskin Array S 11.40 305 *i* P **Pn 07 02 13.7 +0.2**
BRTR Keskin Array B 11.40 305 Pn **Pn 07 02 13.8 +0.3**
BRTR Keskin Array B 11.40 305 Pn **Pn 07 02 14.6 +1.1**
comp=Z,0.3nm,0.3s,baz=126,slow=12,SNR=49
BRTR Lg Lg 07 05 35.3
baz=6.3,slow=34
BRTR LR LR 07 07 08.2
comp=Z,15µm,18.9s,baz=118,slow=40
comp=Z,43nm,1.1s
DIKM Dikmen 11.46 317 *e*P **Pn 07 02 14.7 +0.6**
CHBY Cihanbeyli 11.46 299 *e*P **Pn 07 02 16.5 +2.2**
GOF Gofitskoye 11.49 350*c i*P **Pn 07 02 18.7 +4.1**
KULU Kulu 11.55 301 *e*P **Pn 07 02 18.2 +2.7**
IMON Monand 11.64 89 Pn **Pn 07 02 19.1 +2.3**
KONT Konya--Tatoy 11.65 295 *e*P **Pn 07 02 18.9 +2.1**
IKRD Kardeh 11.65 71 Pn **Pn 07 02 20.1 +3.0**
AFSR Afar-Bala (An 11.67 303 *e*P **Pn 07 02 17.7 +0.6**
LADK Ladik-KONYA 11.72 296 *e*P **Pn 07 02 20.1 +2.2**
KBAM BAM 11.78 110 Pn **Pn 07 02 19.2 +0.6**
KHNJ Kahnooj 11.78 116 Pn **Pn 07 02 16.7 -1.9**
SHME Shamm 11.83 128 *i* P **Pn 07 02 15.9 -3.3**
SNR=22
SHME Shamm 11.83 128 P **Pn 07 02 18.1 -1.1**
SNR=24
SHME S Sn 07 04 14.3 -16
IDAH Dahanechah 11.87 91 Pn **Pn 07 02 20.0 0.0**
UMQ Umm Al-Quwin 11.88 131 P **Pn 07 02 19.3 -0.7**
UMQ S Sn 07 04 15.0 -17
SEYD Seydisehir-KON 11.90 292 *e*P **Pn 07 02 23.1 +2.7**
BANOM Banah 12.02 128 *i* P **Pn 07 02 20.0 -1.9**
SNR=16
BANOM Banah 12.02 128 P **Pn 07 02 21.0 -0.9**
ANTO Ankara 12.05 304 ⇓P **Pn 07 02 25.7 +3.4**
ANTO Ankara 12.05 304 **Pn 07 02 22.4 +0.1**
ANTO Ankara 12.05 304 P **Pn 07 02 25.6 +3.4**
IMYA Miami 12.05 74 Pn **Pn 07 02 24.2 +1.8**
LOD Lodumlu 12.08 304 *e*P **Pn 07 02 23.8 +1.1**
SHRT Shahrakht 12.11 86 *e*Pn **Pn 07 02 24.0 +0.8**
SHRT Shahrakht 12.11 86 Pn **Pn 07 02 23.9 +0.6**
TBJM Torbat-e-JAM 12.12 79 Pn **Pn 07 02 25.1 +1.6**
AJN Ajban 12.19 136 *i* P **Pn 07 02 23.4 -0.8**
SNR=16
AJN Ajban 12.19 136 P **Pn 07 02 23.7 -0.5**
SNR=16
AJN S Sn 07 04 22.5 -17
JRKH Jarkhoshk 12.19 76 Pn **Pn 07 02 26.0 +1.7**
NAZ Nazwa, Dubai 12.27 133 *i* P **Pn 07 02 24.4 -1.0**
SNR=15
NAZ Nazwa, Dubai 12.27 133 P **Pn 07 02 23.7 -1.6**
SNR=15
NAZ P **Pn 07 02 23.7 -1.6**
SNR=15
NAZ P **Pn 07 02 23.7 -1.6**
SNR=15
NHDN Nehbandan 12.29 97 Pn **Pn 07 02 27.5 +1.8**
KIZT Kizilcal 12.30 299 *e*P **Pn 07 02 30.3 +4.5**
MASF Masafi 12.31 130 P **Pn 07 02 24.3 -1.5**
SNR=41
MASF S Sn 07 04 25.3 -17
MSFE Esma-Masafi 12.31 130 *i* P **Pn 07 02 23.7 -2.3**
SNR=41
ASUD Al Ashush, Dub 12.34 135 *i* P **Pn 07 02 24.6 -1.7**
SNR=17
ASUD Al Ashush, Dub 12.34 135 P **Pn 07 02 25.6 -0.7**
SNR=17
ASUD P **Pn 07 02 25.6 -0.7**
SNR=17
ASUD S Sn 07 04 27.3 -16
ASUD S Sn 07 04 27.3 -16
FAQ Al Faqa, Dubai 12.41 134 *i* P **Pn 07 02 25.4 -1.8**
SNR=12
FAQ Al Faqa, Dubai 12.41 134 P **Pn 07 02 27.0 -0.2**
SNR=12
FAQ P **Pn 07 02 27.0 -0.2**
SNR=12
FAQ S Sn 07 04 28.5 -16
FAQ S Sn 07 04 28.5 -16
MDH Madha 12.45 130 *i* P **Pn 07 02 25.4 -2.3**
SNR=31
MDH Madha 12.45 130 P **Pn 07 02 26.2 -1.5**
SNR=30
MDH P **Pn 07 02 26.2 -1.5**
SNR=30
MDH S Sn 07 04 30.1 -16
MDH S Sn 07 04 30.1 -16
ERBR Yeremizino-Bor 12.62 343 *e*P **Pn 07 02 33.0 +3.0**
ERBR *e*S **Sn 07 04 57.0 +7.0**
ERBR pmax pmax
comp=Z,75nm,1.3s
ERBR MLR MLR
comp=Z,18µm,19.0s
ERBR MLR MLR
comp=E,17µm,12.0s
ERBR MLR MLR
comp=N,36µm,19.0s
HATD Hatta, Dubai 12.68 132 *i* P **Pn 07 02 28.9 -2.1**
SNR=19
HATD Hatta, Dubai 12.68 132 P **Pn 07 02 28.5 -2.5**
SNR=14
HATD S Sn 07 04 35.0 -17
ASHO Ashiyiah 12.74 132 *i* P **Pn 07 02 29.2 -2.5**
SNR=37
ASHO Ashiyiah 12.74 132 P **Pn 07 02 29.1 -2.7**
SNR=37
ASHO S Sn 07 04 35.3 -18
SVRH Sivrihisar-ESK 12.77 301 *e*P **Pn 07 02 32.3 +0.2**
ANN Anapa 12.78 332 *e*P **Pn 07 02 31.1 -1.0**
ANN *e*S **Sn 07 04 54.5 +0.7**
ANN pmax pmax
comp=Z,31nm,1.0s
ANN MLR MLR
comp=E,10µm,12.0s
ANN MLR MLR
comp=N,14µm,14.0s
ANN MLR MLR
comp=Z,13µm,13.0s
KORT Korkueli 12.98 289 *e*P **Pn 07 02 39.1 +4.0**
ISP Isparta 13.02 293 **Pn 07 02 39.6 +4.0**
ISP Isparta 13.02 293*c e*P **Pn 07 02 38.6 +3.0**
ISP pmax pmax
comp=Z,363nm,1.3s
ALNE Al Ain 13.02 135 *i* P **Pn 07 02 33.6 -2.0**
SNR=18
ALNE Al Ain 13.02 135 P **Pn 07 02 33.2 -2.4**
SNR=30
ALNE S Sn 07 04 43.2 -17
YUVA Yuva-Kibriscik 13.04 305 *e*P **Pn 07 02 37.4 +1.5**
CIFT Cifteler, Eski 13.07 300 *e*P **Pn 07 02 37.1 +0.9**
KURC Kurucasile-Bar 13.08 312 *e*P **Pn 07 02 38.1 +1.9**
JASK Jask - Hormozg 13.12 124 Pn **Pn 07 02 34.5 -2.4**
JASK Jask - Hormozg 13.12 124 P **Pn 07 02 34.5 -2.4**
SNR=18
JASK S Sn 07 04 44.3 -18
SHUT Suhut-Afyon 13.19 296 *e*P **Pn 07 02 40.7 +2.8**
ELL Elmali 13.29 288 *e*P **Pn 07 02 42.5 +3.2**
ELL Elmali 13.29 288 Pn **Pn 07 02 39.9 +0.5**
ELL Elmali 13.29 288 P **Pn 07 02 39.9 +0.5**
MDUB Mudurnu 13.41 304 *e*P **Pn 07 02 44.1 +3.2**
MDUB Mudurnu 13.41 304 Pn **Pn 07 02 40.7 -0.2**
SOHO SOHO 13.43 133 *i* P **Pn 07 02 37.7 -3.5**
SNR=22
SOHO SOHO 13.43 133 P **Pn 07 02 38.2 -3.0**
SOHO P **Pn 07 02 38.2 -3.0**
SOHO P **Pn 07 02 38.2 -3.0**
SOHO S Sn 07 04 53.0 -17
SOHO S Sn 07 04 53.0 -17
SOHO S Sn 07 04 53.0 -17
ZHSF Zahedan 13.44 104 *e*Pn **Pn 07 02 42.4 +1.0**
ZHDN Zahedan 13.55 105 Pn **Pn 07 02 44.6 +1.7**
SRCK Saricakaya, Es 13.63 302 *e*P **Pn 07 02 45.9 +2.0**
HRA Herat 13.69 83 Pn **Pn 07 02 44.2 -0.7**
BORA Eskisehir 13.70 301 Pn **Pn 07 02 44.9 +0.1**
CAME Cameli-Denizli 13.80 288 *e*P **Pn 07 02 48.8 +2.5**
GULT Gulveren 13.87 303 *e*P **Pn 07 02 46.8 -0.3**
ARQ Araqi 14.03 135 P **Pn 07 02 47.0 -2.3**
SNR=20
ARQ P **Pn 07 02 47.0 -2.3**
SNR=20
ARQ S Sn 07 05 06.9 -18
ARQ S Sn 07 05 06.9 -18
SAUV Serdivan-Sakar 14.12 304 *e*P **Pn 07 02 50.2 -0.4**
GEDZ Gediz 14.18 297 *e*P **Pn 07 02 52.9 +1.5**
TVSB Tavsanli 14.27 298 *e*P **Pn 07 02 55.0 +2.4**
SIM Simferopol' 14.35 325 *e*P **Pn 07 02 54.5 +0.9**
SIM *e*S **Sn 07 05 40.8 +8.7**
SIM pmax pmax
comp=Z,140nm,1.2s
SIM smax smax
comp=N,2µm,9.0s
ADVT Abdulvahap 14.41 302 *e*P **Pn 07 02 53.3 -1.2**
SIMA Simav-Kutahya 14.51 296 *e*P **Pn 07 02 56.0 0.0**
KULA Kula-Manisa 14.61 294 *e*P **Pn 07 02 57.1 -0.2**
KULA Kula-Manisa 14.61 294 P **Pn 07 02 59.2 +1.9**
HRT Hereke 14.61 304 *e*P **Pn 07 02 57.1 -0.2**
TURN Turunc 14.62 287 *e*P **Pn 07 02 59.0 +1.6**
YER Yerkesik 14.64 288 *e*P **P 07 03 00.5 -3.4**
ARG Arkhangelos 14.66 285 *e*P **Pn 07 02 59.1 +1.2**
ARG Arkhangelos 14.66 285 Pn **Pn 07 02 58.0 +0.1**
ARG Arkhangelos 14.66 285 P **Pn 07 02 58.0 +0.1**
GEMT Gemlik 14.80 302 *e*P **Pn 07 02 58.2 -1.6**
BIDO Bidbid 14.88 130 P **Pn 07 03 01.0 0.0**
SNR=7.3
BIDO P **Pn 07 03 01.0 0.0**
SNR=7.3
BSY Bisya 14.88 134 P **Pn 07 02 58.0 -3.0**
SNR=43
BSY P **Pn 07 02 58.0 -3.0**
SNR=43
BSY S Sn 07 05 32.3 -13
BSY S Sn 07 05 32.3 -13
ISK Istanbul-Kandi 15.13 304 *e*P **Pn 07 03 02.8 -1.4**
CHBR Chabahar 15.15 119 *e*Pn **Pn 07 03 00.0 -4.5**
CHBR Chabahar 15.15 119 Pn **Pn 07 03 00.3 -4.2**
SMDO Samad 15.16 131 P **Pn 07 03 02.0 -2.9**
SNR=21
SMDO S Sn 07 05 38.3 -14
KLYT Kilyos 15.22 304 *e*P **Pn 07 03 06.2 +0.8**
KCTX Karacabey (Bur 15.34 300 *e*P **Pn 07 03 07.2 +0.2**
BODT Bodrum 15.40 288 *e*P **Pn 07 03 09.3 +1.5**
WSAR Wadi Sarin 15.40 129 Pn **Pn 07 03 03.9 -4.0**
comp=N,8.0nm,0.3s,baz=332,slow=9.8,SNR=47
WSAR Sn Sn 07 05 41.8 -16
comp=N,1.6nm,0.3s,baz=174,slow=21,SNR=1.2
WSAR LR LR 07 10 14.2
comp=N,12µm,19.0s,baz=332,slow=42
KARP Karpathos 15.41 282 *e*P **P 07 03 10.4 -2.0**
KARP Karpathos 15.41 282 IAmb IAmb 07 03 15.2
comp=Z,463nm,1.0s
KARP Karpathos 15.41 282 P **P 07 03 13.8 +1.4**
KARP Karpathos 15.41 282 P **Pn 07 03 09.0 +1.1**
BALB Balikesir 15.49 297 *e*P **Pn 07 03 08.3 -0.6**
BALB Balikesir 15.49 297 Pn **Pn 07 03 09.3 +0.4**
SRVN Saravan 15.66 109 Pn **Pn 07 03 09.5 -1.9**
JMDO Jabal Madar 15.71 133 P **Pn 07 03 08.1 -3.7**
SNR=16
JMDO P **Pn 07 03 08.1 -3.7**
SNR=16
JMDO S Sn 07 05 52.6 -13
JMDO S Sn 07 05 52.6 -13
NGCH Negor - Chabah 15.77 118 Pn **Pn 07 03 08.5 -4.1**
NGCH Negor - Chabah 15.77 118 P **Pn 07 03 09.0 -3.5**
SNR=13
WBK Wadi Bani Khal 16.07 130 Pn **Pn 07 03 12.8 -3.8**
WBK Wadi Bani Khal 16.07 130 P **Pn 07 03 13.9 -2.7**
SNR=8.7
WBK P **Pn 07 03 13.9 -2.7**
SNR=8.7
WBK S Sn 07 05 55.1 -19
WBK S Sn 07 05 55.1 -19
DKL Dikili 16.07 295 *e*P **Pn 07 03 17.4 +1.0**
KRBG Karabiga-Canak 16.14 300 *e*P **P 07 03 18.7 -1.8**
RKY Sarkoy-Tekirda 16.32 300 *e*P **Pn 07 03 20.3 +0.6**
LPK Lapseki 16.53 299 *e*P **Pn 07 03 22.2 -0.1**
PRK Paraskevi 16.59 295 P **P 07 03 24.4 -1.0**
JLN Jalan Bani Buh 16.68 130 P **Pn 07 03 20.5 -3.8**
SNR=21
JLN P **Pn 07 03 20.5 -3.8**
SNR=21
JLN S Sn 07 06 09.4 -20
JLN S Sn 07 06 09.4 -20
MHTO MHTO 16.69 136 P **Pn 07 03 21.0 -3.4**
SNR=64
MHTO S Sn 07 06 11.6 -18
SNR=13
GELI Tayfur-Gelibol 16.74 299 *e*P **P 07 03 26.9 -0.2**
ERIK Erikli-Kesan 16.80 300 *e*P **P 07 03 26.7 -1.0**
APE Apeiranthos 16.82 287 ⇓P **Pn 07 03 25.2 -0.8**
APE Apeiranthos 16.82 287 ⇓P **P 07 03 27.2 -0.8**
APE Apeiranthos 16.82 287 *i* P **Pn 07 03 25.8 -0.2**
UKOP Uzunkopru-Edir 16.86 301 *e*P **Pn 07 03 27.2 +0.7**
THR3 Thira Island, 16.87 285 P **Pn 07 03 25.9 -0.7**
THR6 Thira Island, 16.87 285 P **P 07 03 28.4 -0.2**
PSN Preselentsi 16.90 311 P **P 07 03 33.5 +4.6**
MFTR Murfatlar 17.00 313 ⇑P **P 07 03 30.0 0.0**
EDRB Edirne 17.04 304 *e*P **Pn 07 03 29.0 +0.3**
ENEZ Enez 17.08 300 *e*P **P 07 03 29.9 -0.9**
GADA Gvkgeada 17.11 298 *e*P **P 07 03 31.7 +0.5**
PRD Provadia 17.14 309 P **P 07 03 35.3 +3.8**
TIRR Tirgusor 17.16 314 ⇓P **P 07 03 31.9 +0.2**
TIRR Tirgusor 17.16 314 *e*P **Pn 07 03 30.3 +0.1**
TIRR Tirgusor 17.16 314 P **Pn 07 03 29.7 -0.5**
TIRR IAmb IAmb 07 03 34.7
comp=Z,570nm,1.2s
TIRR Tirgusor 17.16 314 P **P 07 03 31.9 +0.2**
ALN Alexandropoli 17.21 300 *e*P **P 07 03 32.7 +0.4**
ALN Alexandropoli 17.21 300 P **Pn 07 03 30.6 -0.2**
ALN Alexandropoli 17.21 300 P **P 07 03 32.1 -0.2**
ALN Alexandropoli 17.21 300 P **Pn 07 03 30.6 -0.2**
ALN pmax pmax
comp=Z,187nm,1.0s
IDI Anoyia 17.26 281 *e*P **P 07 03 33.3 +0.3**
IDI Anoyia 17.26 281 P **P 07 03 33.6 +0.6**
IDI Anoyia 17.26 281 P **Pn 07 03 31.2 -0.4**
IDI S **Sn 07 06 46.4 +3.2**
IDI Anoyia 17.26 281 LR LR 07 12 27.4
comp=Z,2µm,20.1s,baz=90,slow=45
DQM DQM 17.30 140 P **Pn 07 03 29.0 -3.0**
SNR=21
DQM S Sn 07 06 25.5 -19
TLCR 17.33 316 ⇑P **P 07 03 33.5 -0.1**
TLCR 17.33 316 P **P 07 03 33.4 -0.1**
ICOR Ion Corvin 17.36 312 ⇑P **P 07 03 33.5 -0.4**
TPGR Topolog 17.37 315 ⇓P **P 07 03 33.5 -0.6**
TLBR Topalu 17.43 313 ⇑P **P 07 03 35.0 +0.4**
SMTH Samothraki Isl 17.45 298 P **Pn 07 03 34.2 +0.3**
HARR Harsova 17.57 314 ⇓P **P 07 03 36.8 +0.6**
HARR Harsova 17.57 314 P **P 07 03 36.9 +0.6**
PURM Purcari 17.58 321 ⇑P **P 07 03 35.8 -0.5**
RDO Rodhopi 17.65 301 *e*P **P 07 03 37.4 +0.3**
RDO Rodhopi 17.65 301 **P 07 03 36.9 -0.3**
RDO Rodhopi 17.65 301 P **P 07 03 37.0 -0.1**
ABTO Aybut 17.67 156 S Sn 07 06 38.1 -15
VRH Novokhopyorsk 17.70 352 *e*P **Pn 07 03 34.5 -2.3**
VRH *e*S **Sn 07 06 48.3 -5.1**
VRH pmax pmax
comp=Z,424nm,1.7s
CFR Carcaliu 17.72 315 ⇓P **P 07 03 37.6 -0.3**
CFR Carcaliu 17.72 315 P **P 07 03 37.5 -0.3**
VORD Divnogorie 17.85 347 *e*P **Pn 07 03 37.1 -1.6**
VORD *e*S **Sn 07 06 53.3 -3.8**
VORD pmax pmax
comp=Z,100nm,0.6s
VORD smax smax
comp=E,290nm,4.4s
RAZG Razgrad 17.91 309 ⇑P **P 07 03 40.0 0.0**
SHAO Shalim 17.98 148 *i* P **Pn 07 03 37.0 -3.5**
SNR=26
IMMV Iera Moni Meta 18.00 282 *e*P **P 07 03 42.0 +0.8**
IMMV Iera Moni Meta 18.00 282 P **P 07 03 41.9 +0.8**
ELND Elena 18.06 306 ⇓P **P 07 03 42.6 +0.9**
VSR Storozhevoye 18.11 347 *e*P **Pn 07 03 40.2 -1.7**
VSR *e*S **Sn 07 07 01.9 -1.5**
VSR pmax pmax
comp=Z,230nm,0.6s
VSR smax smax
comp=E,2µm,11.8s
VSR MLR MLR
comp=Z,9µm,20.0s
SZH Strazhitsa 18.13 307 P **Pn 07 03 42.0 -0.2**
KYMI Kymi, Euboea I 18.13 292 P **P 07 03 42.9 +0.4**
RODP Rodopos 18.18 282 P **P 07 03 46.3 +3.2**
MILM Milestii Mici 18.39 321 ⇑*i*P **P 07 03 43.0 -2.2**
comp=Z,50nm,2.7s
MILM Milestii Mici 18.39 321 ⇑P **Pn 07 03 45.4 +0.1**
MILM Milestii Mici 18.39 321*c i*P **P 07 03 43.0 -2.2**
MILM *e*S **Sn 07 07 05.0 -5.1**
MILM pmax pmax
comp=Z,2µm,4.1s
MILM pmax pmax
comp=E,1µm,3.1s
MILM pmax pmax
comp=N,1µm,6.0s
RZN Rozhen 18.39 302 P **P 07 03 43.8 -1.8**
KIS Kishinev 18.44 321 ⇑*i*P **P 07 03 43.5 -2.3**
comp=N,3µm,5.9s
KIS Kishinev 18.44 321*c i*P **P 07 03 43.5 -2.3**
KIS *e*S **Sn 07 07 09.0 -2.3**
KIS pmax pmax
comp=Z,3µm,5.9s
PLD Plovdiv 18.54 303 *e*P **Pn 07 03 50.3 +3.1**
PLD Plovdiv 18.54 303 P **Pn 07 03 48.2 +1.0**
PLD pmax pmax
comp=Z,416nm,0.9s
VORR Voronezh 18.54 347 *e*P **P 07 03 46.1 -0.8**
VORR *e*S **Sn 07 07 09.5 -4.2**
VORR pmax pmax
comp=Z,520nm,0.7s
VORR smax smax
comp=E,40nm,1.5s
SGRR Singureni 18.55 310 ⇓P **Pn 07 03 47.8 +0.5**
OUR Ouranopolis 18.56 297 *e*P **Pn 07 03 47.9 +0.4**
SULR 18.59 312 ⇑P **Pn 07 03 48.2 +0.4**
ISR Istrita 18.64 313 ⇓P **Pn 07 03 49.5 +1.0**
ISR Istrita 18.64 313 P **Pn 07 03 49.4 +1.0**
KOKK Kokkinochori, 18.67 299 P **Pn 07 03 49.9 +1.1**
ODBI Odobesti 18.68 316 ⇑P **Pn 07 03 49.5 +0.6**
VILL Villia 18.68 290 P **Pn 07 03 49.5 +0.4**
PANC Panciu 18.68 316 ⇑P **Pn 07 03 49.1 +0.1**
BELG Belogornoye 18.70 4 *i* P **P 07 03 47.2 -1.3**
BELG pmax pmax
comp=Z,112nm,0.9s
BELG Belogornoye 18.70 4 P **P 07 03 47.1 -1.4**
comp=Z,648nm,0.9s,baz=170,slow=1.7,SNR=190
BELG S **Sn 07 07 16.7 -0.7**
comp=Z,234nm,0.8s,baz=260,slow=22,SNR=6.9
BELG LR LR 07 12 41.5
comp=Z,3µm,18.3s,baz=185,slow=42
PAIG Paliouri 18.70 296 *e*P **P 07 03 48.6 -0.1**
PAIG Paliouri 18.70 296 P **Pn 07 03 49.5 +0.4**
PAIG Paliouri 18.70 296 P **Pn 07 03 50.4 +1.3**
PAIG pmax pmax
comp=Z,148nm,1.0s
AB31 Akbulak array 18.75 30 *i* P **P 07 03 49.2 0.0**
ABKAR Akbulak array 18.75 30 **P 07 03 48.4 -0.7**
ABKAR Akbulak array 18.75 30 P **P 07 03 48.9 -0.3**
ABKAR IAmb IAmb 07 03 52.5
comp=Z,202nm,0.8s
VASR Vaslui 18.77 319 ⇓P **Pn 07 03 50.3 +0.3**
VLI Veliai 18.87 286 P **Pn 07 03 50.9 -0.3**
NVR Nevrokopi 18.92 300 P **Pn 07 03 52.4 +0.6**
VRI Vrincioaia 18.93 315 ⇑P **P 07 03 51.1 -0.1**
VRI Vrincioaia 18.93 315 *e*P **P 07 03 51.3 +0.1**
VRI Vrincioaia 18.93 315 P **Pn 07 03 51.5 -0.4**
LOUT Loutraki 18.93 289 P **Pn 07 03 53.2 +1.2**
NEHR Nehoiu 18.95 314 ⇑P **Pn 07 03 52.4 +0.2**
XOR Xorichti 18.95 294 P **Pn 07 03 52.2 -0.1**
AKTO Aktyubinsk 18.96 25 P **P 07 03 51.8 +0.3**
comp=Z,4.0nm,0.3s,baz=211,slow=10,SNR=73
AKTO S **Sn 07 07 20.4 -3.6**
comp=Z,10.0nm,0.8s,baz=190,slow=4.5,SNR=0.8
AKTO LR LR 07 14 06.4
comp=Z,6µm,18.3s,baz=216,slow=46
comp=Z,197nm,0.9s
PLOR Plostina 18.96 315 ⇑P **Pn 07 03 52.1 -0.2**
PLOR Plostina 18.96 315 P **Pn 07 03 52.1 -0.2**
SRS Serrai 19.05 299 *e*P **P 07 03 51.4 -1.2**
SRS Serrai 19.05 299 P **Pn 07 03 53.0 -0.4**
SRS Serrai 19.05 299 P **Pn 07 03 52.9 -0.4**
SRS pmax pmax
comp=Z,129nm,0.8s
MMB Musomishta 19.05 301 P **Pn 07 03 53.2 -0.3**
PGB Panagyurishte 19.06 304 P **Pn 07 03 53.8 +0.2**
PLVB Pleven 19.08 306 ⇑P **Pn 07 03 54.1 +0.3**
SOH Sokhos 19.14 298 P **Pn 07 03 54.8 +0.2**
SOH Sokhos 19.14 298 P **Pn 07 03 55.0 +0.4**
SOH pmax pmax
comp=Z,63nm,0.8s
THAL Thalero 19.18 290 P **P 07 03 54.1 +0.1**
MLR Muntele Rosu 19.19 314 ⇑P **Pn 07 03 55.5 +0.3**
MLR Muntele Rosu 19.19 314 *e*P **P 07 03 53.4 -0.9**
MLR Muntele Rosu 19.19 314 **P 07 03 54.7 -0.6**
MLR Muntele Rosu 19.19 314 P **Pn 07 03 55.7 +0.5**
MLR Muntele Rosu 19.19 314 P **Pn 07 03 55.6 +0.3**
comp=Z,30nm,0.6s,baz=28,slow=6.8,SNR=20
MLR S **Sn 07 07 29.5 -0.3**
comp=Z,8.7nm,0.8s,baz=137,slow=9.1,SNR=1.1
MLR LR LR 07 13 29.7
comp=Z,8µm,19.0s,baz=136,slow=44
COVR Voineasa-Covas 19.22 315 ⇑P **P 07 03 54.6 +0.1**
AXAR Agios Charalam 19.27 292 P **Pn 07 03 56.0 -0.1**
HORT Hortiatis 19.28 297 *e*P **Pn 07 03 57.8 +1.6**
HORT Hortiatis 19.28 297 P **Pn 07 03 55.6 -0.6**
KBL Kabul 19.29 81 P **P 07 03 56.0 +0.4**
KBL Kabul 19.29 81 P **P 07 03 56.0 +0.4**
KBL pmax pmax

comp=Z,252nm,1.1s
HUMR Humele 19.33 310 ⇓P P 07 03 55.8 +0.2
TESR Tescani 19.33 317 ⇓P P 07 03 55.8 +0.1
KBU Kabul Universi 19.37 81 P P 07 03 56.0 -0.4
KBU S Sn 07 07 33.6 -0.8
SIMJ Simiganj 19.38 69 P P 07 03 56.6 +0.1
THE Thessaloniki 19.39 297 P P 07 03 56.5 +0.3
THE Thessaloniki 19.39 297 P Pn 07 03 56.7 -0.7
THE pmax pmax
comp=Z,189nm,1.3s
SORM Soroca 19.42 323 ⇑P P 07 03 55.4 -1.1
SORM Soroca 19.42 323 P P 07 03 55.4 -1.1
GUR Goura 19.42 289 P Pn 07 03 57.4 -0.6
TURR Turia 19.45 315 ⇓P Pn 07 03 57.6 -0.6
VLAD Vladila 19.47 308 ⇓P Pn 07 03 58.2 -0.2
LPSR Galich'ya Gora 19.48 347 *eP* P 07 03 55.5 -1.7
LPSR eS S 07 07 28.6 -7.8
LPSR pmax pmax
comp=Z,1μm,0.8s
LPSR smax smax
comp=E,2μm,6.8s
LPSR MLR MLR
comp=Z,6μm,16.0s
STFAR Stefanesti-Arg 19.49 311 ⇓P P 07 03 57.4 -0.1
AGG Agios Georgios 19.56 292 *eP* Pn 07 03 59.1 -0.5
AGG Agios Georgios 19.56 292 P P 07 03 58.5 +0.3
AGG IAmb IAmb 07 04 01.6
comp=Z,312nm,1.0s
AGG Agios Georgios 19.56 292 P Pn 07 03 58.9 -0.7
AGG Agios Georgios 19.56 292 P P 07 03 58.5 +0.3
AGG pmax pmax
comp=Z,312nm,1.0s
KNT Kendrikon 19.56 299 P P 07 03 58.3 +0.1
KNT Kendrikon 19.56 299 P P 07 03 57.8 -0.4
KNT pmax pmax
comp=Z,122nm,1.2s
KLV Kalavryta, Ach 19.58 289 P Pn 07 03 59.6 -0.3
KKB Krupník 19.59 301 P P 07 03 57.4 -1.1
MTUR Matau 19.60 312 ⇑P Pn 07 04 00.2 +0.1
MTUR Matau 19.60 312 P Pn 07 04 00.7 +0.6
OZUR 19.60 315 ⇑P Pn 07 03 59.3 -0.7
MPEP Malo Peshtene 19.66 306 P Pn 07 04 00.2 -0.5
MAKR Makrakomi, Fth 19.71 292 P Pn 07 04 00.4 -1.0
VOIR 19.71 312 ⇑P Pn 07 04 01.1 -0.3
VOIR 19.71 312 P Pn 07 04 01.0 -0.3
PEHC Pehcevo 19.73 301 *i P* Pn 07 04 01.2 -0.5
TYRN Tyrnavos 19.75 294 P P 07 04 00.6 +0.4
VTS Vitosha 19.75 303 P P 07 04 00.9 +0.5
EFP Efpalio 19.81 290 P Pn 07 04 02.5 0.0
ANX Ano Chora 19.82 291 P P 07 04 01.5 +0.4
VAY Valandovo 19.84 299 *i P* P 07 04 01.1 -0.1
GRG Griva 19.88 298 *eP* P 07 04 01.6 -0.1
GRG Griva 19.88 298 P P 07 04 01.3 -0.4
GRG Griva 19.88 298 P P 07 04 01.5 -0.1
GRG pmax pmax
comp=Z,168nm,1.2s
THL Klokotos Trika 19.89 294 P P 07 04 01.6 -0.1
DRO Drossia 19.92 289 P Pn 07 04 03.0 -0.9
ARR Arges 19.93 312 ⇑P Pn 07 04 03.3 -0.7
EVR Evrytania 19.95 292 P Pn 07 04 04.3 0.0
VALD Valchedram 19.99 306 P Pn 07 04 03.7 -0.9
PRAR RASCA 20.06 319 ⇑P P 07 04 03.5 0.0
PVO Paravola 20.13 291 P P 07 04 04.8 +0.4
KPRO Kipourio 20.45 295 P P 07 04 08.2 +0.3
MDB Medias 20.46 314 ⇓P Pn 07 04 09.4 -0.7
MDB Medias 20.46 314 P Pn 07 04 09.4 -0.8
BLKB Belogradchik 20.48 306 ⇑P P 07 04 08.3 +0.1
LOT Lotru 20.51 311 ⇑P P 07 04 09.1 +0.5
SRE Strehaia 20.53 309 ⇓P Pn 07 04 09.7 -1.3
SRE Strehaia 20.53 309 P Pn 07 04 10.3 -0.7
TGMR Targu Mures 20.58 315 ⇑P Pn 07 04 10.4 -1.1
LTHK Lithakia 20.59 288 P P 07 04 08.6 -0.8
FNA Florina 20.60 297 *eP* P 07 04 07.9 -1.6
FNA Florina 20.60 297 P P 07 04 09.4 -0.1
FNA Florina 20.60 297 P P 07 04 09.5 0.0
FNA Florina 20.60 297 P P 07 04 09.4 -0.1
FNA pmax pmax
comp=Z,181nm,1.0s
FNA MLR MLR
comp=Z,2μm,19.0s
PENT Pentalofos 20.66 295 P Pn 07 04 11.9 -0.7
BURAR Bucovina Array 20.76 318 ⇓P P 07 04 11.9 +0.6
BURAR Bucovina Array 20.76 318 P P 07 04 10.9 -0.4
BURAR Bucovina Array 20.76 318 P P 07 04 11.9 +0.6
NEST Nestorio 20.77 296 P Pn 07 04 13.2 -0.7
AK05 Malin Array Si 20.77 329 P P 07 04 10.2 -1.0
AK05 IAmb IAmb 07 04 15.7
comp=Z,303nm,0.8s
NYDR Nydri-Lefkada 20.79 291 P P 07 04 10.7 -0.8
BUR08 Bucovina Ar. S 20.79 318 P P 07 04 11.2 -0.4
JAN Janina 20.79 294 P Pn 07 04 12.9 -1.1
EVGI Lefkada island 20.81 291 P P 07 04 11.0 -0.8
PSDA Pessada-Kefalo 20.82 289 P P 07 04 11.8 -0.1
LKD2 Lefkada island 20.82 291 *eP* P 07 04 11.0 -1.0
LKD2 Lefkada island 20.82 291 P P 07 04 11.2 -0.8
AKASG Malin Array Be 20.83 329 P P 07 04 10.7 -1.1
AKASG IAmb IAmb 07 04 16.1
comp=Z,240nm,0.8s
AKASG Malin Array Be 20.83 329 P P 07 04 10.7 -1.1
AKASG pmax pmax
comp=Z,240nm,0.9s
AKASG Malin Array Be 20.83 329 P P 07 04 10.5 -1.3
comp=Z,76nm,0.6s,baz=138,slow=9.9,SNR=103
AKASG S S 07 07 56.9 -6.3
comp=Z,2.3nm,0.6s,baz=198,slow=19,SNR=2.0
AKASG LR LR 07 14 57.4
comp=Z,6μm,18.1s,baz=134,slow=44
comp=Z,76nm,0.6s
AKBB Malin Array Si 20.83 329 P P 07 04 10.6 -1.2
AKBB IAmb IAmb 07 04 16.1
comp=Z,236nm,0.7s
AKBB Malin Array Si 20.83 329 *ceP* P 07 04 09.8 -2.0
AKBB pmax pmax
comp=Z,169nm,0.7s
KIEV Kiev 20.83 329 ⇓P P 07 04 11.1 -0.7
KIEV Kiev 20.83 329 P P 07 04 10.5 -1.4
KIEV IAmb IAmb 07 04 16.2
comp=Z,211nm,0.7s
KIEV Kiev 20.83 329 P P 07 04 11.1 -0.7
KIEV Kiev 20.83 329 *i P* P 07 04 10.8 -1.0
SNR=6.2
TSLK Tsoukalades, L 20.83 291 P P 07 04 11.2 -0.8
SKO Skopje 20.83 300 *i P* P 07 04 12.7 +0.7
FSK Fiskardo 20.86 290 P P 07 04 11.9 -0.5
DRAG Dragano-Lefkad 20.88 291 P P 07 04 11.2 -1.3
KEF4 Livadi, Kephal 20.96 290 P P 07 04 12.5 -0.8
ARCR ARCALIA 20.96 316 ⇑P P 07 04 14.1 +0.7
DJES Djerdap 20.98 308 P P 07 04 13.8 +0.2
BTK Batken 20.98 65 P P 07 04 14.6 +0.9
BTK Batken 20.98 65 P P 07 04 14.6 +0.9
BTK pmax pmax
comp=Z,174nm,0.9s
DMLN Damoulianata-K 20.99 290 P P 07 04 13.0 -0.8
KEF3 Kipouria, Keph 21.01 290 P P 07 04 13.3 -0.6
OHR Ohrid 21.09 298 P P 07 04 16.6 +1.7
OHR pmax pmax
comp=Z,270nm,1.0s
OHR Ohrid 21.09 298 *i P* P 07 04 15.1 +0.2
GZR Gura Zlata 21.11 310 ⇓P P 07 04 14.9 -0.2
HERR Herculane 21.13 309 ⇑P P 07 04 14.9 -0.3
BOVS Bovan 21.15 305 ⇑P P 07 04 14.6 -0.7
IGT Igoumenitsa 21.17 293 P P 07 04 14.6 -1.0
IGT Igoumenitsa 21.17 293 P P 07 04 14.1 -1.5
IGT pmax pmax
comp=Z,514nm,0.9s
CJR Cluj-Napoca 21.22 314 ⇓P P 07 04 17.2 +1.0
CJR Cluj-Napoca 21.22 314 P P 07 04 17.2 +1.0
DEV Deva 21.25 312 P P 07 04 15.8 -0.7
DEV pmax pmax
comp=Z,108nm,0.9s
KK31 Karatay Array 21.47 57 P P 07 04 19.3 +0.3
KK31 IAmb IAmb 07 04 25.0
comp=Z,159nm,0.7s
KK31 Karatay Array 21.47 57 *i P* P 07 04 19.2 +0.3
KKAR Karatay Array 21.47 57 P P 07 04 18.9 0.0
KKAR Karatay Array 21.47 57 P P 07 04 18.9 0.0
MARR Marisel-Cluj 21.49 314 ⇑P P 07 04 19.4 +0.3
MDVR Moldovita 21.55 308 ⇑P P 07 04 19.9 +0.1
KEK Kerkira 21.60 294 P P 07 04 17.6 -2.6
KEK Kerkira 21.60 294 P P 07 04 18.0 -2.3
SURR Surduc 21.68 311 ⇑P P 07 04 20.8 -0.3
MESR Meseseni 21.82 315 ⇑P P 07 04 23.6 +1.0

BZS Buzias 21.95 310 *eP* P 07 04 21.8 -2.1
DZA Taraz 21.99 58 *eP* P 07 04 25.1 +0.7
DZA pmax pmax
comp=Z,95nm,0.9s
DZA Taraz 21.99 58 *eP* P 07 04 25.2 +0.8
comp=Z,95nm,0.9s,baz=58
PVY Plav 22.05 301 ⇑ *iP* P 07 04 24.7 -0.6
ARK Arkit 22.17 61 P P 07 04 27.1 +0.6
IVA Berane 22.18 302 ⇑ *iP* P 07 04 25.6 -0.9
SIRR Siria 22.20 311 ⇑P P 07 04 26.1 -0.6
SJES Sjenica 22.23 303 ⇑ *iP* P 07 04 25.9 -1.2
ATD Arta Tunnel 22.27 188 P P 07 04 27.4 -0.2
ATD Arta Tunnel 22.27 188 LR LR 07 13 28.8
comp=Z,98nm,19.3s,baz=4.5,slow=38
ATD Arta Tunnel 22.27 188 *eP* P 07 04 26.3 -1.3
ATD *eS* Sn 07 08 50.6 +6.7
OBN Obninsk 22.32 346 P P 07 04 25.6 -2.2
OBN IAmb IAmb 07 04 35.0
comp=Z,302nm,1.0s
OBN Obninsk 22.32 346 *c iP* P 07 04 25.7 -2.1
OBN *e* 07 04 49.4
OBN pmax pmax
comp=Z,203nm,1.0s
OBN MLR MLR
comp=Z,6μm,19.0s
OBN Obninsk 22.32 346 P P 07 04 25.9 -1.9
comp=Z,233nm,0.7s,baz=68,slow=4.9,SNR=25
OBN S S 07 08 26.9 -5.2
comp=Z,435nm,1.0s,baz=71,slow=21,SNR=22
comp=Z,233nm,0.7s
ULC Ulcinj 22.42 299 ⇑ *iP* P 07 04 28.5 -0.6
KOME Kolasin 22.44 302 ⇑ *iP* P 07 04 29.1 -0.3
DRME Dracevica, Mon 22.51 300 ⇑ *iP* P 07 04 29.9 -0.1
DRME Dracevica, Mon 22.51 300 ⇑ *iP* P 07 04 28.2 -1.8
PLE Pljevlja 22.66 303 ⇑ *iP* P 07 04 31.4 -0.3
LVV L'vov 22.69 322 *i P* P 07 04 30.1 -1.7
LVV *e* 07 05 00.7
LVV *eS* S 07 08 33.3 -5.8
MOS Moscow 22.71 348 *eP* P 07 04 29.1 -2.9
MOS *e* 07 04 53.9
MOS *e* 07 05 18.7
MOS *eS* S 07 08 33.7 -5.6
MOS *e* 07 15 44.9
MOS pmax pmax
comp=Z,417nm,1.2s
MOS pmax pmax
comp=N,235nm,1.2s
MOS smax smax
comp=E,4μm,3.0s
MOS smax smax
comp=N,3μm,2.6s
MOS MLR MLR
comp=N,5μm,18.0s
MOS MLR MLR
comp=Z,6μm,18.0s
BUM Brajici-Budva 22.75 300 ⇑ *iP* P 07 04 31.9 -0.7
RUDO Rudo 22.75 303 ⇑ *iP* P 07 04 30.4 -2.2
CEME Cevo 22.79 301 ⇑ *iP* P 07 04 32.4 -0.6
BBLS Lazići 22.80 304 ⇑ *iP* P 07 04 31.7 -1.5
NKME Niksic 22.82 301 ⇑ *iP* P 07 04 32.5 -0.8
NIL Nilore 22.86 83 P P 07 04 33.6 -0.2
NIL Nilore 22.86 83 P P 07 04 33.6 -0.2
TEKS Tekeris 22.93 306 ⇑ *iP* P 07 04 32.6 -1.8
FRGS Fruska Gora 22.95 307 ⇓ *iP* P 07 04 35.4 +0.8
FRGS Fruska Gora 22.95 307 ⇑ *iP* P 07 04 33.5 -1.1
UPM Unac-Piva 22.96 302 ⇑ *iP* P 07 04 33.6 -1.4
UPM Unac-Piva 22.96 302 ⇑ *iP* P 07 04 34.1 -0.9
HCY Herceg Novi 23.07 300 ⇑ *iP* P 07 04 34.9 -1.0
HCY Herceg Novi 23.07 300 ⇑ *iP* P 07 04 34.6 -1.3
KOLS Kolonicke sedl 23.13 318 *eP* P 07 04 37.0 +0.5
KOLS pmax pmax
comp=Z,134nm,0.8s
KOLS Kolonicke sedl 23.13 318 *eP* P 07 04 37.0 +0.5
BRY Bratogost 23.14 301 ⇑ *iP* P 07 04 36.0 -0.8
BRY Bratogost 23.14 301 ⇑ *iP* P 07 04 35.8 -1.0
HAPS Han Pijesak,Bl 23.18 304 ⇑ *iP* P 07 04 35.7 -1.4
TREB Trebinje 23.23 301 ⇑ *iP* P 07 04 37.0 -0.6
KWP Kalwaria Pacla 23.28 320 *eP* P 07 04 37.2 -0.7
KWP *eS* S 07 08 48.2 -0.9
KWP *eL* L 07 18 27.8
comp=Z,5μm,15.0s
KWP Kalwaria Pacla 23.28 320 IAmb IAmb 07 04 46.2
comp=Z,117nm,0.8s
KWP Kalwaria Pacla 23.28 320 P P 07 04 37.2 -0.7
KWP pmax pmax
comp=Z,171nm,1.1s
AML Almayashu 23.50 61 P P 07 04 41.9 +1.2
SNR=44
AML Almayashu 23.50 61 P P 07 04 41.1 +0.4
NEVS Nevesinje 23.55 302 *eP* P 07 04 38.3 -2.5
CRVS Cervenica-Dubn 23.57 317 *eP* P 07 04 40.4 -0.4
CRVS pmax pmax
comp=Z,201nm,1.3s
CRVS Cervenica-Dubn 23.57 317 *eP* P 07 04 40.4 -0.4
EKS2 Erkin-Say 23.67 60 P P 07 04 40.9 -1.1
SNR=46
STON Ston 23.74 301 ⇑ *iP* P 07 04 41.0 -1.4
TIP Timpagrande 23.89 292 ⇑P P 07 04 43.3 -0.7
TIP Timpagrande 23.89 292 P P 07 04 43.3 -0.7
TIP IAmb IAmb 07 04 48.9
comp=Z,116nm,0.6s
KECS Kecovo 23.92 316 *eP* P 07 04 45.6 +1.4
KECS pmax pmax
comp=Z,175nm,1.1s
KECS Kecovo 23.92 316 *eP* P 07 04 45.6 +1.4
KECS *e* 07 06 07.8
STHS Stebnicka Huta 23.96 318 *eP* P 07 04 43.6 -1.0
STHS pmax pmax
comp=Z,38nm,0.8s
STHS Stebnicka Huta 23.96 318 *eP* P 07 04 43.6 -1.0
PSZ Piszkesteto 24.01 314 ⇓P P 07 04 44.8 -0.4
PSZ Piszkesteto 24.01 314 P P 07 04 44.7 -0.4
MATE Matera 24.07 295 ⇑P P 07 04 44.3 -1.3
MORH Mrgy, Hungar 24.09 309 ⇑P P 07 04 45.8 0.0
UCH Uchtor 24.12 61 P P 07 04 48.1 +1.5
SNR=28
AAK Ala-Archa 24.18 60 P P 07 04 48.9 +2.0
SNR=22
AAK Ala-Archa 24.18 60 P P 07 04 47.2 +0.3
AAK Ala-Archa 24.18 60 *c iP* P 07 04 47.4 +0.5
AAK pmax pmax
comp=Z,14nm,0.7s
AAK MLR MLR
comp=Z,6μm,15.0s
AAK Ala-Archa 24.18 60 P P 07 04 48.2 +1.2
MNK Minsk 24.27 334 *i P* P 07 04 45.5 -1.8
comp=E,52nm,1.0s
MNK *i P* P 07 04 45.5 -1.8
comp=N,133nm,1.0s
MNK *i P* P 07 04 45.5 -1.8
comp=Z,300nm,0.8s,baz=142
MNK *i* PP **PnPn** 07 05 14.4 -2.9
MNK *i* PPP PPP 07 05 22.3
MNK *i* S S 07 09 02.1 -2.8
MNK *i* SS **SnSn** 07 09 48.2 +0.4
MNK *i* SSS SSS 07 10 01.2
MNK *i* LQ LQ 07 12 18.1
MNK *i* LR LR 07 14 08.7
MNK *i* LRM MLR 07 15 34.6
comp=Z,3μm,16.5s
MNK *i* LRM MLR 07 15 39.9
comp=N,4μm,15.3s
MNK *i* LRM MLR 07 16 05.0
comp=E,1μm,17.4s
MNK Minsk 24.27 334 *i P* P 07 04 45.5 -1.8
MNK *i* PPP PPP 07 05 22.2
MNK *i* S S 07 09 02.1 -2.8
MNK *i* SS **SnSn** 07 09 48.2 +0.4
MNK pmax pmax
comp=Z,300nm,0.8s
MNK pmax pmax
comp=N,133nm,1.0s
MNK pmax pmax
comp=E,52nm,1.0s
MNK MLR MLR
comp=Z,3μm,16.0s
MNK MLR MLR
comp=N,4μm,15.0s
MNK MLR MLR
comp=E,1μm,17.0s
USP Ospenovka 24.33 59 P P 07 04 49.1 +1.1
SNR=94
ARU Arti 24.34 17 P P 07 04 48.2 +0.2
ARU Arti 24.34 17 *c iP* P 07 04 48.2 +0.2

ARU PPP PPP 07 05 26.7
ARU S S 07 09 08.2 +2.0
ARU SS SnSn 07 09 52.0 +2.2
ARU SSS SSS 07 10 10.6
ARU pmax pmax
comp=Z,298nm,2.7s
ARU MLR MLR
comp=Z,4μm,16.0s
ARU Arti 24.34 17 P P 07 04 48.4 +0.4
comp=Z,28nm,0.4s,baz=212,slow=6.5,SNR=54
ARU S S 07 09 04.4 -1.7
comp=Z,7.8nm,0.6s,baz=170,slow=23,SNR=1.1
comp=Z,28nm,0.4s
BUD Budapest 24.35 312 P P 07 04 48.4 +0.2
BUD pmax pmax
comp=Z,169nm,0.8s
HARA HARA 24.44 186 *eP* P 07 04 45.9 -3.6
HARA *eS* S 07 09 22.8 +14
CHMS Chumysh 24.45 59 P P 07 04 50.4 +1.2
SNR=40
SGDS Sogindy 24.46 58 *c iP* P 07 04 49.9 +0.6
SGDS *eS* S 07 09 12.1 +3.6
SGDS Sogindy 24.46 58 ⇑ *iP* P 07 04 50.0 +0.6
baz=58
SGDS *eS* S 07 09 12.2 +3.6
baz=58
BTLS Baital 24.49 54 *c iP* P 07 04 50.6 +1.2
BTLS *eS* S 07 09 11.8 +3.1
BTLS pmax pmax
comp=Z,59nm,0.7s
BTLS Baital 24.49 54 ⇑ *iP* P 07 04 50.6 +1.2
comp=Z,60nm,0.7s,baz=54
BTLS *eS* S 07 09 11.8 +3.1
baz=54
NIE Niedzica 24.49 317 *eP* P 07 04 49.8 +0.4
NIE *eS* S 07 09 16.7 +7.9
NIE *eL* L 07 16 56.2
comp=Z,3μm,17.6s
NIE Niedzica 24.49 317 P P 07 04 49.8 +0.4
NIE pmax pmax
comp=Z,37nm,1.3s
KBK Karagaybulak 24.52 60 P P 07 04 51.7 +1.7
SNR=24
GRD1 Great Renaissa 24.54 206 *eP* P 07 04 37.3 -13
GRD1 *eS* S 07 09 05.5 -4.6
MGRS Mrkonjic Grad 24.56 304 ⇑ *iP* P 07 04 48.2 -1.9
BLY Banja Luka 24.58 305 ⇑ *iP* P 07 04 49.8 -0.5
OTUK Ortayu 24.59 46 P P 07 04 50.6 +0.2
KZA Kyzart 24.63 62 P P 07 04 53.1 +1.9
SNR=32
CUC Castrocucco 24.68 293 P P 07 04 51.0 -0.3
LANS Liptovska Anna 24.83 316 *eP* P 07 04 53.3 +0.7
LANS pmax pmax
comp=Z,30nm,1.0s
LANS Liptovska Anna 24.83 316 *eP* P 07 04 53.3 +0.7
A051A Mrakovica 24.85 305 ⇑ *iP* P 07 04 52.2 -0.6
KSH Kashi 24.86 68 P P 07 04 51.1 -1.9
KSH pP pP 07 04 55.7 -3.5
KSH sP sP 07 04 58.2 -3.2
KSH PP PnPn 07 05 25.5 -0.2
KSH S S 07 09 10.6 -4.5
KSH sS pS 07 09 21.8 0.0
KSH pmax pmax
comp=Z,51nm,0.9s
KSH pmax pmax
comp=Z,2μm,10.1s
KSH LR LR
comp=Z,5μm,15.6s
KSH LR LR
comp=Z,11μm,14.9s
KSH LR LR
comp=Z,13μm,17.1s
VYHS Vyhne 24.90 314 *eP* P 07 04 53.3 +0.1
VYHS pmax pmax
comp=Z,528nm,2.8s
VYHS Vyhne 24.90 314 *eP* P 07 04 53.3 +0.1
SRO Srobarova 24.92 313 *eP* P 07 04 54.5 +1.2
SRO pmax pmax
comp=Z,130nm,1.3s
SRO Srobarova 24.92 313 *eP* P 07 04 54.5 +1.2
A050A Klekovaca 24.96 304 ⇑ *iP* P 07 04 52.8 -1.0
KIRV Kirov 24.97 5 P P 07 04 53.3 -0.3
comp=Z,238nm,0.6s,baz=199,slow=2.7,SNR=48
KIRV S S 07 09 14.1 -2.1
comp=Z,24nm,0.8s,baz=296,slow=22,SNR=1.6
comp=Z,238nm,0.6s
NACGM Naroch 24.98 334 *eP* P 07 04 53.1 -0.7
comp=E,16μm,1.1s
TKM2 Tokmak 2 25.04 60 P P 07 04 56.1 +1.4
SNR=58
TKM2 Tokmak 2 25.04 60 P P 07 04 56.0 +1.3
NRN Naryn 25.08 63 IAmb IAmb 07 04 58.1
comp=Z,132nm,0.8s
OJC Ojcow 25.18 319 *eP* P 07 04 55.6 0.0
OJC *eS* S 07 09 26.3 +6.6
OJC *eL* L 07 17 40.0
comp=Z,6μm,19.7s
OJC Ojcow 25.18 319 IAmb IAmb 07 04 59.3
comp=Z,136nm,1.0s
OJC Ojcow 25.18 319 P P 07 04 55.6 0.0
OJC pmax pmax
comp=Z,138nm,0.8s
BOOM Boomskoye usch 25.20 61 P P 07 04 56.0 -0.2
BOOM Boomskoye usch 25.20 61 P P 07 04 56.0 -0.2
BOOM pmax pmax
comp=Z,69nm,0.8s
SVE Sverdlovsk 25.24 19 *d iP* P 07 04 57.0 +0.9
SVE *eS* S 07 09 23.2 +2.6
SVE pmax pmax
comp=Z,293nm,1.0s
WLRA Wolmera 25.37 196 *eP* P 07 04 47.6 -10
WLRA *eS* S 07 09 29.6 +5.7
ULHL Ulahol 25.38 62 P P 07 05 00.3 +2.4
SNR=16
BEL Belsk 25.54 323 *eP* P 07 04 59.0 +0.1
BEL *eL* L 07 17 59.7
comp=Z,7μm,15.1s
BEL Belsk 25.54 323 P P 07 04 59.4 +0.5
FURI Furi 25.57 196 IAMs_20 IAMs_20 07 15 21.8
comp=Z,8μm,19.0s
FURI Furi 25.57 196 *eP* P 07 04 49.1 -11
FURI *eS* S 07 09 32.0 +5.1
FURI IAMs_20 IAMs_20 07 16 16.6
comp=Z,13μm,11.2s
BRZS Berezniki 25.60 43 *eP* P 07 05 00.3 +0.8
BRZS *eS* S 07 09 29.6 +3.1
BRZS Berezniki 25.60 43 *eP* P 07 05 00.4 +0.8
baz=43
BRZS *eS* S 07 09 29.6 +3.1
baz=43
VAE Valguarnera 25.69 287 P P 07 05 03.8 +3.3
comp=Z,223nm,1.0s,baz=52,slow=6.1,SNR=16
VAE S S 07 09 32.2 +4.1
comp=Z,6.7nm,0.3s,baz=146,slow=12,SNR=0.9
ISAL Salakas 25.74 334 *eP* P 07 05 01.4 +0.7
PTJ Puntijarka 25.75 307 P P 07 05 01.3 +0.4
JAVC Velka Javorina 25.75 314 *eP* P 07 05 01.2 +0.2
SMOL Smolenice 25.75 313 *eP* P 07 05 01.1 +0.2
SMOL pmax pmax
comp=Z,74nm,1.3s
KUU Kurty 25.77 58 *c iP* P 07 05 01.8 +0.7
KUU *eS* S 07 09 32.5 +3.2
KUU pmax pmax
comp=Z,93nm,1.0s
KUU MLR MLR
comp=Z,6μm,11.0s
KUU Kurty 25.77 58 ⇑ *iP* P 07 05 01.9 +0.7
comp=Z,93nm,1.0s,baz=58
KUU *eS* S 07 09 32.5 +3.2
baz=58
KUU LR LR 07 15 25.6
comp=Z,6μm,11.5s,baz=58
SUW Suwalki 25.79 329 *eP* P 07 04 58.3 -2.8
SUW *eS* S 07 09 38.8 +10
SUW *eL* L 07 17 25.3
comp=Z,5μm,17.7s
SUW Suwalki 25.79 329 P P 07 04 58.3 -2.8
SUW Suwalki 25.79 329 P P 07 04 58.3 -2.8
SUW pmax pmax
comp=Z,327nm,0.8s
SUW Suwalki 25.79 329 *eP* P 07 04 59.0 -2.1
MODS Modra-Piesok 25.79 313 *eP* P 07 05 01.1 -0.1
MODS pmax pmax
comp=Z,320nm,1.1s
MODS Modra-Piesok 25.79 313 *eP* P 07 05 01.1 -0.1

MODS *e* 07 06 24.5
MAUC Maruska 25.88 315 *eP* **P 07 05 02.7 +0.6**
MAUC *ex* x 07 05 08.0
MAUC *eS* **S 07 09 28.2 -2.8**
MAUC AMS AMS 07 18 00.0
comp=Z,11µm,14.3s
OKC Ostrava-Krasne 25.92 317 *eP* **P 07 05 02.0 -0.3**
OKC MLR MLR
comp=Z,4µm,10.7s
OKC Ostrava-Krasne 25.92 317 *eP* **P 07 05 02.0 -0.3**
OKC *epP* **pP 07 05 05.8 -2.5**
OKC *eS* S 07 09 43.0 +12
OKC AMS AMS 07 19 40.0
comp=Z,4µm,10.7s
SOP Sopron 25.96 311 P **P 07 05 03.4 +0.6**
SOP pmax pmax
comp=Z,161nm,1.1s
GOLS Golise 26.00 307 *i* P **P 07 05 03.2 0.0**
TNSS Tian-Shan 26.03 60 *eP* **P 07 05 04.6 +0.7**
TNSS *eS* **S 07 09 36.5 +2.4**
TNSS Tian-Shan 26.03 60 *eP* **P 07 05 04.7 +0.8**
baz=60
TNSS *eS* **S 07 09 36.6 +2.4**
baz=60
AAA Alma-Ata 26.04 60 *eP* **P 07 05 04.9 +1.3**
AAA Alma-Ata 26.04 60 *eP* **P 07 05 05.0 +1.3**
baz=60
BRVK Borovoye 26.06 35 P **P 07 05 03.9 +0.3**
BRVK IAmb IAmb 07 05 12.5
comp=Z,121nm,0.8s
BRVK Borovoye 26.06 35 *ceP* **P 07 05 04.1 +0.5**
BRVK pmax pmax
comp=Z,96nm,1.0s
CRES Cresnjev 26.06 307⇑ *iP* **P 07 05 03.7 0.0**
BVA0 Borovoye Array 26.09 35 *i* P **P 07 05 04.1 +0.2**
BVAR Borovoye Array 26.09 35 P **P 07 05 04.3 +0.4**
comp=Z,57nm,0.7s,baz=232,slow=7.3,SNR=74
BVAR PcP **PcP 07 08 31.4 +0.3**
comp=Z,14nm,0.6s,baz=178,slow=2.5,SNR=7.1
BVAR S **S 07 09 35.7 +1.6**
comp=Z,3.1nm,0.7s,baz=26,slow=44,SNR=1.2
BVAR ScP **ScP 07 12 09.6 -0.1**
comp=Z,4.4nm,0.8s,baz=259,slow=1.5,SNR=3.5
BVAR P3KPbc 07 37 53.8
comp=Z,1.2nm,0.7s,baz=73,slow=5.0,SNR=4.6
comp=Z,57nm,0.7s
BOJS Bojanci 26.11 306 *i* P **P 07 05 04.0 -0.1**
BOJS *i* PcP **PcP 07 08 32.2 +1.0**
BOJS *eS* **S 07 09 33.9 -0.6**
BOJS Bojanci 26.11 306⇑ *iP* **P 07 05 03.9 -0.2**
MDOK Medeo 26.13 60 *i* P **P 07 05 05.5 +1.0**
MDOK *eS* **S 07 09 38.2 +3.0**
MDOK MLR MLR
comp=Z,6µm,11.0s
MDOK Medeo 26.13 60 *i* P **P 07 05 05.5 +1.0**
baz=60
MDOK *eS* **S 07 09 38.2 +3.0**
baz=60
MDOK LR LR 07 16 43.9
comp=Z,6µm,11.3s,baz=60
RONA Rosalia, Austr 26.13 311 *i* P **P 07 05 04.4 0.0**
comp=Z,162nm,0.9s,SNR=51
RONA *ePcP* **PcP 07 08 32.6 +1.2**
comp=Z,23nm,1.1s
RONA S **S 07 09 34.3 -0.7**
comp=Z,322nm,3.6s
CHKK Chushkaly 26.22 58 *eP* **P 07 05 06.2 +1.0**
CHKK Chushkaly 26.22 58 *eP* **P 07 05 06.3 +1.0**
baz=58
GROS Grobnik 26.22 308 *i* P **P 07 05 05.1 -0.1**
GROS *i* PcP **PcP 07 08 32.2 +0.6**
MORC Moravsky Berou 26.24 316 ⇓P **P 07 05 05.2 -0.1**
MORC Moravsky Berou 26.24 316 P **P 07 05 05.2 -0.1**
MORC IAmb IAmb 07 05 15.7
comp=Z,132nm,1.3s
MORC Moravsky Berou 26.24 316 *eP* **P 07 05 04.8 -0.5**
MORC Moravsky Berou 26.24 316 P **P 07 05 05.3 0.0**
INTR Introdacqua 26.34 298 P **P 07 05 05.9 -0.5**
INTR IAmb IAmb 07 05 12.3
comp=Z,75nm,0.8s
PDKS Podkum 26.44 307 *i* P **P 07 05 07.4 +0.2**
ARSA Arzberg 26.47 310 *i* P **P 07 05 07.6 +0.3**
comp=Z,52nm,1.3s
ARSA *ePcP* **PcP 07 08 33.1 +1.0**
comp=Z,21nm,1.2s
CONA Conrad Observa 26.49 311 *i* P **P 07 05 07.6 -0.1**
comp=Z,51nm,1.4s,SNR=29
PABE Paberze 26.51 332 P **P 07 05 06.8 -0.8**
PABE IAmb IAmb 07 05 12.4
comp=Z,142nm,0.8s
PABE Paberze 26.51 332 *eP* **P 07 05 06.6 -1.0**
VRAC Vranov 26.59 315⇑P **P 07 05 08.6 +0.2**
VRAC Vranov 26.59 315 *eP* **P 07 05 08.4 0.0**
VRAC Vranov 26.59 315 P **P 07 05 08.7 +0.2**
VRAC Vranov 26.59 315 P **P 07 05 08.2 -0.3**
comp=Z,27nm,0.8s,baz=107,slow=8.5,SNR=30
VRAC S **S 07 09 41.8 -0.2**
comp=Z,1.6nm,0.3s,baz=17,slow=14,SNR=1.2
comp=Z,27nm,0.8s
SOKA Soboth 26.60 308 *i* P **P 07 05 08.2 -0.4**
comp=Z,33nm,1.0s,SNR=22
SOKA *ePcP* **PcP 07 08 33.8 +1.3**
comp=Z,24nm,1.0s
SOKA *eS* **S 07 09 41.8 -0.6**
comp=Z,478nm,4.5s
KRUC Moravsky 26.60 314 *eP* **P 07 05 08.4 -0.2**
KRUC Moravsky 26.60 314 P **P 07 05 08.7 +0.1**
CEY Cerknica 26.73 306⇑ *iP* **P 07 05 09.2 -0.6**
LJU Ljubljana 26.75 307 P **P 07 05 14.2 +4.3**
LJU pmax pmax
comp=Z,407nm,0.9s
LJU Ljubljana 26.75 307 *i* P **P 07 05 10.2 +0.4**
LJU *ePcP* **PcP 07 08 33.6 +0.9**
LJU *i* S **S 07 09 44.1 -0.5**
CAMP Campotosto 26.78 299 IAmb IAmb 07 05 13.8
comp=Z,238nm,1.2s
KRLC Kraliky 26.81 316 *eP* **P 07 05 10.0 -0.5**
KRLC *eS* **S 07 09 36.9 -8.7**
KRLC MLR MLR
comp=Z,5µm,13.1s
KRLC Kraliky 26.81 316 *eP* **P 07 05 10.0 -0.5**
KRLC *eS* **S 07 09 36.9 -8.7**
KRLC AMS AMS 07 18 40.0
comp=Z,5µm,13.1s
OBKA Obir 26.86 308 *i* P **P 07 05 11.6 +0.5**
comp=Z,106nm,1.3s
OBKA Obir 26.86 308⇑ *iP* **P 07 05 11.0 -0.1**
VSVD Vaisvydziai 26.87 332 *eP* **P 07 05 10.9 +0.1**
ARXS Arharly 26.89 58 *eP* **P 07 05 11.8 +0.5**
GUMA Gualdo di Mace 26.92 300 IAmb IAmb 07 05 49.0
comp=Z,152nm,1.2s
NRCA Norcia 27.04 299 IAmb IAmb 07 05 23.9
comp=Z,144nm,1.1s
SATY Saty 27.09 60 *cP* **P 07 05 14.7 +1.5**
SATY *eS* **S 07 09 53.6 +3.3**
SATY pmax pmax
comp=Z,55nm,1.0s
SATY Saty 27.09 60⇑ *iP* **P 07 05 14.7 +1.5**
comp=Z,54nm,1.0s,baz=60
SATY *eS* **S 07 09 53.7 +3.3**
baz=60
ZHN Zhinishke 27.13 60 *eP* **P 07 05 14.7 +1.2**
ZHN Zhinishke 27.13 60 *eP* **P 07 05 14.8 +1.2**
baz=60
GORS Gorjuse 27.18 307 *i* P **P 07 05 13.7 -0.2**
DPC Dobruska-Polom 27.20 316 *eP* **P 07 05 13.6 -0.3**
DPC MLR MLR
comp=Z,4µm,12.0s
DPC Dobruska-Polom 27.20 316 *eP* **P 07 05 13.6 -0.3**
DPC *epP* **pP 07 05 17.5 -2.4**
DPC *eS* S 07 09 30.1 -22
DPC AMS AMS 07 20 10.0
comp=Z,4µm,12.0s
TREC Trest 27.24 314 *eP* **P 07 05 15.2 +0.9**
TREC *eS* S 07 09 39.0 -13
TREC MLR MLR
comp=Z,7µm,14.6s
TREC Trest 27.24 314 *eP* **P 07 05 15.2 +0.9**
TREC *eS* S 07 09 39.0 -13
TREC AMS AMS 07 18 50.0
comp=Z,7µm,14.6s
OSTC Ostas 27.35 317 *eP* **P 07 05 14.3 -1.0**
OSTC Ostas 27.35 317 *eP* **P 07 05 14.3 -1.0**
OSTC *ex* x 07 05 17.4
SABO M.te Sabotino 27.35 306 IAmb IAmb 07 05 19.2
comp=Z,60nm,0.7s
KPKS Kokpek 27.36 59 *eP* **P 07 05 16.4 +0.9**
KPKS Kokpek 27.36 59 *eP* **P 07 05 16.5 +0.9**
baz=60
CESX Cesi 27.40 299 IAmb IAmb 07 05 27.7
comp=Z,108nm,1.0s
KLMR Klimovskoe 27.43 353 *ciP* **P 07 05 14.5 -1.3**
KLMR *iS* **S 07 09 56.6 +1.6**
KLMR pmax pmax
comp=Z,250nm,0.7s
KLMR MLR MLR
comp=Z,3µm,11.0s
KSP Ksiaz 27.43 317 *eP* **P 07 05 15.8 -0.2**
KSP *eL* L 07 18 08.5
comp=Z,4µm,19.2s
KSP Ksiaz 27.43 317 P **P 07 05 15.7 -0.3**
UPC Upice 27.44 317 *eP* **P 07 05 15.8 -0.3**
UPC *epP* **pP 07 05 18.1 -4.0**
UPC *eS* **S 07 09 55.3 -0.2**
UPC AMS AMS 07 20 00.0
comp=Z,6µm,11.6s
CHVC Chvalec 27.45 317 *eP* **P 07 05 15.3 -0.9**
CHVC MLR MLR
comp=Z,6µm,11.9s
CHVC Chvalec 27.45 317 *eP* **P 07 05 15.3 -0.9**
CHVC *ex* x 07 05 19.6
CHVC *eS* S 07 09 38.4 -17
CHVC AMS AMS 07 20 00.0
comp=Z,6µm,11.9s
TDK Taldyqorghan 27.46 56 *eP* **P 07 05 16.9 +0.6**
TDK pmax pmax
comp=Z,67nm,0.8s
TDK MLR MLR
comp=Z,5µm,12.0s
TDK Taldyqorghan 27.46 56 *eP* **P 07 05 17.0 +0.6**
comp=Z,66nm,0.8s,baz=56
TDK LR LR 07 17 46.3
comp=Z,5µm,11.8s,baz=56
MOA Molln 27.47 310 *i* P **P 07 05 16.4 0.0**
comp=Z,82nm,1.3s,SNR=25
PRED Cave del Predi 27.50 307 IAmb IAmb 07 05 25.7
comp=Z,80nm,0.7s
MYKA Terra Mystica 27.50 308 *i* P **P 07 05 16.7 0.0**
comp=Z,44nm,1.2s,SNR=18
UZB Uzynbulak 27.55 60 *eP* **P 07 05 18.3 +1.0**
UZB Uzynbulak 27.55 60 *eP* **P 07 05 18.4 +1.0**
baz=60
PBUR Paburge 27.69 331 *eP* **P 07 05 18.4 +0.1**
CKRC Cesky Krumlov 27.78 312 *eP* **P 07 05 18.2 -0.9**
CKRC *eS* **S 07 10 05.3 +4.4**
CKRC Cesky Krumlov 27.78 312 *eP* **P 07 05 18.2 -0.9**
CKRC *ex* x 07 05 25.3
CKRC *eS* **S 07 10 05.3 +4.4**
BIOA Bad Ischl, Aus 27.82 310 *i* P **P 07 05 19.5 0.0**
comp=Z,80nm,1.4s,SNR=22
KBA Koelnbreinsper 27.82 308 *i* P **P 07 05 19.9 +0.2**
comp=Z,58nm,1.3s
KBA Koelnbreinsper 27.82 308 P **P 07 05 19.9 +0.2**
VSU Vasula 27.82 338 *ceP* **P 07 05 18.6 -0.7**
VSU pmax pmax
comp=Z,127nm,1.0s
VSU Vasula 27.82 338 *eP* **P 07 05 19.0 -0.3**
SHLS Shalkode 27.87 60 *eP* **P 07 05 24.3 +4.2**
SHLS Shalkode 27.87 60 *eP* **P 07 05 24.4 +4.2**
baz=60
GOPC GO Pecny, Ondr 27.91 315 *eP* **P 07 05 20.0 -0.3**
GOPC *eS* **S 07 10 00.9 -2.0**
GOPC MLR MLR
comp=Z,4µm,14.7s
GOPC GO Pecny, Ondr 27.91 315 *eP* **P 07 05 20.0 -0.3**
GOPC *epP* **pP 07 05 23.6 -2.7**
GOPC *eS* **S 07 10 00.9 -2.0**
GOPC AMS AMS 07 19 20.0
comp=Z,4µm,14.7s
PDGK Podgornoye 27.91 60 P **P 07 05 20.0 -0.6**
CLUD Cludinico 27.96 307 IAmb IAmb 07 05 26.1
comp=Z,77nm,0.9s
STAL STALIGIAL 28.02 306 P **P 07 05 20.8 -0.6**
DILA Dilla 28.04 196 *eP* P 07 05 08.9 -13
DILA *eS* **S 07 10 08.8 +3.1**
ZVC Zvikov 28.08 313 *eP* **P 07 05 21.1 -0.7**
ZVC AMS AMS 07 19 50.0
comp=Z,5µm,14.6s
PRU Pruhonice 28.08 315 *eP* **P 07 05 22.5 +0.7**
PRU *eS* **S 07 10 05.2 -0.4**
PRU MLR MLR
comp=Z,4µm,16.4s
PRU Pruhonice 28.08 315 *eP* **P 07 05 22.5 +0.7**
PRU *eS* **S 07 10 05.2 -0.4**
PRU AMS AMS 07 19 10.0
comp=Z,4µm,16.4s
GKP Gorka Klasztor 28.14 323 *eP* **P 07 05 22.8 +0.5**
GEC2 GERESS Array S 28.16 312 P **P 07 05 22.1 -0.6**
GEC2 GERESS Array S 28.16 312 *eP* **P 07 05 21.6 -1.1**
comp=Z,40nm,1.3s,baz=112,slow=8.9
GERES GERESS Array B 28.16 312 P **P 07 05 22.1 -0.6**
GERES GERESS Array B 28.16 312 P **P 07 05 22.1 -0.6**
GERES GERESS Array B 28.16 312 P **P 07 05 21.8 -0.9**
comp=Z,2.1nm,0.4s,baz=110,slow=7.7,SNR=12
GERES PcP **PcP 07 08 36.9 +0.7**
comp=Z,4.9nm,0.5s,baz=148,slow=2.9,SNR=10
GERES ScP **ScP 07 12 16.1 -0.1**
comp=Z,3.3nm,0.9s,baz=122,slow=1.7,SNR=4.7
GERES LR LR 07 18 08.7
comp=Z,3µm,20.0s,baz=131,slow=40
comp=Z,2.1nm,0.4s
PRA Prague 28.18 315 *eP* **P 07 05 23.4 +0.7**
PRA *eS* S 07 09 56.4 -11
PRA MLR MLR
comp=Z,5µm,15.4s
PRA Prague 28.18 315 *eP* **P 07 05 23.4 +0.7**
PRA *ex* x 07 05 29.2
PRA *eS* S 07 09 56.4 -11
PRA AMS AMS 07 19 30.0
comp=Z,5µm,15.4s
CIMO Cimolais 28.21 306 P **P 07 05 22.6 -0.4**
CIMO IAmb IAmb 07 05 26.0
comp=Z,70nm,1.1s
ABTA Abfaltersbach 28.28 307 *eP* **P 07 05 24.0 +0.3**
comp=Z,40nm,1.3s,SNR=11
ABTA *eS* **S 07 10 07.9 -1.0**
comp=Z,74nm,1.7s
PVCC Panska Ves 28.29 316 *eS* **S 07 10 14.7 +5.9**
PVCC AMS AMS 07 19 40.0
comp=Z,6µm,15.2s
KHC Kasperske Hory 28.34 313 P **P 07 05 23.2 -1.0**
KHC Kasperske Hory 28.34 313 *ceP* **P 07 05 24.0 -0.2**
KHC pmax pmax
comp=Z,133nm,2.5s
KHC Kasperske Hory 28.34 313 *eP* **P 07 05 23.7 -0.5**
KHC *epP* **pP 07 05 26.7 -3.5**
KHC *ex* x 07 05 46.5
KHC *eS* **S 07 10 14.9 +5.2**
KHC AMS AMS 07 19 50.0
comp=Z,4µm,13.2s
LESA Schwarzleotal 28.36 309 *i* P **P 07 05 23.9 -0.5**
comp=Z,5.5nm,0.5s
LESA *ePcP* **PcP 07 08 36.9 +0.1**
comp=Z,17nm,0.4s
LESA *eS* **S 07 10 07.9 -2.2**
comp=Z,346nm,4.3s
RJOB Jochberg 28.37 309 *eP* **P 07 05 24.4 -0.2**
comp=Z,28nm,0.7s,baz=112,slow=8.9
OSSC Osservatorio P 28.49 300 P **P 07 05 25.1 -0.4**
TEOL Teolo 28.52 304 P **P 07 05 25.1 -0.7**
TEOL IAmb IAmb 07 06 06.9
comp=Z,88nm,0.8s
RICC Richard 28.57 316 AMS AMS 07 19 50.0
comp=Z,8µm,15.4s
CASP Castiglione de 28.67 299 IAmb IAmb 07 05 32.5
comp=Z,100nm,1.0s
SLIT Slitere, Latvi 28.69 334 *eP* **P 07 05 27.0 0.0**
WET Wettzell 28.77 312 P **P 07 05 26.7 -1.4**
WET Wettzell 28.77 312 *eP* **P 07 05 26.6 -1.4**
comp=Z,19nm,1.1s,baz=112,slow=8.9
BRG Berggiesshubel 28.79 316 *i* P **P 07 05 27.5 -0.6**
BRG Amp 07 05 30.4
comp=Z,37nm,1.4s
BRG Berggiesshubel 28.79 316 P P 07 05 35.4 +7.3
BRG Amp 07 05 36.4
comp=Z,15nm,1.1s
BRG Berggiesshubel 28.79 316 S **S 07 10 23.0 +6.3**
BRG ⇑SP **SS 07 12 19.7 +1.1**
BRG Amp 07 12 22.7
comp=Z,4.3nm,0.8s
BRG Berggiesshubel 28.79 316 *i* P **P 07 05 27.5 -0.6**
BRG 07 06 17.6
BRG pmax pmax
comp=Z,37nm,1.4s
BRG pmax pmax
comp=Z,34nm,1.5s
BRG Berggiesshubel 28.79 316 *eP* **P 07 05 27.4 -0.8**
comp=Z,37nm,1.4s,baz=112,slow=8.9
ZCCA Zocca 28.82 302 IAMs_20 IAMs_20 07 18 41.4
comp=Z,9µm,18.0s
MTSE Matsula 28.96 336 *eP* **P 07 05 29.4 -0.1**
HSKC Hora Svate Kat 28.98 315 *eS* S 07 10 46.0 +26
HSKC AMS AMS 07 20 00.0
comp=Z,7µm,15.2s
WTTA Wattenberg 28.99 308 *i* P **P 07 05 29.5 -0.6**
comp=Z,8.2nm,0.3s,SNR=19
WTTA *ePcP* **PcP 07 08 39.5 +1.0**
comp=Z,37nm,0.9s
WTTA Wattenberg 28.99 308 P **P 07 05 29.6 -0.6**
WATA Walderalm 29.05 308 *i* P **P 07 05 29.9 -0.7**
comp=Z,13nm,0.8s,SNR=20
WATA *ePcP* **PcP 07 08 39.4 +0.9**
comp=Z,29nm,0.6s
KURBB Kurchatov Arra 29.26 45 P **P 07 05 32.3 +0.1**
comp=Z,46nm,0.7s,baz=251,slow=9.0,SNR=4.6
KURBB PcP **PcP 07 08 39.1 +0.4**
comp=Z,6.5nm,0.6s,baz=245,slow=2.9,SNR=4.6
KURBB ScP **ScP 07 12 19.1 -0.3**
comp=Z,10nm,0.9s,baz=250,slow=4.4,SNR=10.0
KURBB PKiKP **PKiKP 07 16 11.5 -0.7**
comp=Z,0.9nm,0.3s,baz=246,slow=0.7,SNR=2.7
KURBB P3KPbc 07 37 36.6
comp=Z,0.5nm,0.7s,baz=64,slow=6.3,SNR=1.4
comp=Z,46nm,0.7s
SQTA Sankt Quirin 29.26 308 *i* P **P 07 05 31.8 -0.7**
comp=Z,17nm,0.4s,SNR=22
SQTA *ePcP* **PcP 07 08 39.9 +0.8**
comp=Z,25nm,0.7s
KURK Kurchatov 29.35 45 *ceP* **P 07 05 31.5 -1.5**
KURK pmax pmax
comp=Z,52nm,0.7s
SALO Salr 29.36 304 IAmb IAmb 07 05 42.3
comp=Z,104nm,0.9s
MOTA Moosalm 29.36 308 *i* P **P 07 05 32.4 -1.0**
comp=Z,15nm,0.6s,SNR=19
MOTA *ePcP* **PcP 07 08 40.0 +0.6**
comp=Z,13nm,0.6s
ROTZ Rotzenmuhle 29.40 313 *eP* **P 07 05 33.5 -0.1**
comp=Z,57nm,1.7s,baz=112,slow=8.9
ROTZ *eS* **S 07 10 25.7 -0.6**
NKC Novy Kostel 29.42 314 *eP* **P 07 05 32.5 -1.3**
NKC *eS* **S 07 10 24.0 -2.7**
NKC MLR MLR
comp=Z,5µm,12.9s
NKC Novy Kostel 29.42 314 *eP* **P 07 05 32.5 -1.3**
NKC *eS* **S 07 10 24.0 -2.7**
NKC AMS AMS 07 20 50.0
comp=Z,5µm,12.9s
FUR Furstenfeldbru 29.48 310 P **P 07 05 33.8 -0.5**
FUR Furstenfeldbru 29.48 310 *eP* **P 07 05 33.6 -0.7**
comp=Z,132nm,1.2s,baz=112,slow=8.9
CLL Collm 29.51 316⇑ *iP* **P 07 05 33.7 -0.7**
CLL pmax pmax
comp=Z,34nm,1.3s
CLL MLR MLR
comp=Z,3µm,20.2s
CLL Collm 29.51 316⇑ *iP* **P 07 05 33.7 -0.7**
comp=Z,34nm,1.3s
CLL *i* sP **pP 07 05 40.9 +0.4**
comp=Z,31nm,1.1s
CLL *ex* x 07 05 46.0
CLL *i* (PP) 07 06 24.8
CLL *ePPP* PPP 07 06 37.0
CLL *ex* x 07 06 51.0
CLL *eS* S 07 10 42.0 +14
CLL AMS AMS 07 18 00.0
comp=Z,3µm,20.2s
CLL AMS AMS 07 20 00.0
CLL Collm 29.51 316 *eP* **P 07 05 33.8 -0.7**
comp=Z,25nm,1.0s,baz=112,slow=8.9
FETA Feichten 29.53 307 *i* P **P 07 05 34.5 -0.5**
comp=Z,5.4nm,0.6s,SNR=22
FETA *ePcP* **PcP 07 08 40.9 +1.1**
comp=Z,28nm,0.8s
MANZ Manzenberg 29.54 313 *eP* **P 07 05 34.6 -0.2**
comp=Z,6.4nm,1.1s,baz=112,slow=8.9
MANZ *eS* **S 07 10 30.6 +2.0**
RUE Ruedersdorf 29.57 319 *eP* **P 07 05 37.4 +2.5**
RUE Ruedersdorf 29.57 319 *eP* **P 07 05 34.3 -0.7**
comp=Z,41nm,0.4s,baz=112,slow=8.9
VSL Villasalto 29.61 292 IAmb IAmb 07 05 41.7
comp=Z,68nm,0.6s
RETA Reutte 29.63 308 *i* P **P 07 05 34.4 -1.3**
comp=Z,7.6nm,0.4s,SNR=8.1
RETA *ePcP* **PcP 07 08 40.5 +0.6**
comp=Z,10nm,0.6s
RETA *eS* **S 07 10 26.8 -3.2**
comp=Z,471nm,3.4s
PLN Plauen 29.69 314 *eP* **P 07 05 35.3 -0.8**
comp=Z,22nm,1.3s,baz=112,slow=8.9
PLN *eS* **S 07 10 31.2 +0.4**
KEST Kesra 29.88 284 P **P 07 05 37.0 -1.0**
comp=Z,40nm,1.0s,baz=61,slow=0.9,SNR=16
KEST PcP **PcP 07 08 42.0 +1.3**
comp=Z,11nm,0.7s,baz=0.0,slow=1.0,SNR=1.5
comp=Z,40nm,1.0s
MEF Metsahovi 29.95 339 *eP* **P 07 05 38.0 -0.3**
GRA1 Grafenberg Arr 29.98 313 IAmb IAmb 07 05 47.1
comp=Z,98nm,1.2s
GRF Grafenberg Arr 29.98 313 *eP* **P 07 05 38.3 -0.4**
comp=Z,104nm,1.2s,baz=112,slow=8.9
GRF *eL* L 07 19 05.4
comp=Z,3µm,20.9s
GRFO Grafenberg 29.98 313 P **P 07 05 38.2 -0.5**
GRFO IAmb IAmb 07 05 47.1
comp=Z,103nm,1.2s
GRFO Grafenberg 29.98 313 P **P 07 05 38.2 -0.5**
GRFO pmax pmax
comp=Z,103nm,1.2s
PGF Pioggiola 30.02 298 *eP* **P 07 05 39.2 0.0**
PGF pmax pmax
comp=Z,66nm,0.7s
DAVOX Davos/Dischmat 30.04 306 P **P 07 05 38.4 -1.1**
comp=Z,5.8nm,0.4s,baz=159,slow=11,SNR=12
DAVOX S **S 07 10 34.2 -2.6**
comp=Z,6.7nm,0.8s,baz=162,slow=2.3,SNR=2.1
DAVOX LR LR 07 20 07.3
comp=Z,4µm,19.5s,baz=79,slow=41
comp=Z,5.8nm,0.4s
MOX Moxa 30.07 315 P **P 07 05 37.8 -1.6**
MOX Moxa 30.07 315 *eP* **P 07 05 39.9 +0.4**
comp=Z,12nm,1.0s,baz=112,slow=8.9
MOX *eS* **S 07 10 38.7 +1.9**
UBR Ueberruh 30.10 308 *eP* **P 07 05 39.0 -0.9**
comp=Z,175nm,1.6s,baz=112,slow=8.9
DAVA Damuels 30.16 307 *i* P **P 07 05 39.6 -0.9**
comp=Z,25nm,0.4s
DAVA *ePcP* **PcP 07 08 40.8 -0.6**
comp=Z,23nm,1.0s
NEUB Neuenburg 30.18 316 *eP* **P 07 05 39.4 -1.0**
comp=Z,27nm,0.9s,baz=112,slow=8.9
NEUB *ePcP* **PcP 07 08 41.2 +0.1**
SEM Semipalatinsk 30.20 46 *eP* **P 07 05 42.0 +1.1**
SEM Semipalatinsk 30.20 46 *eP* **P 07 05 42.1 +1.1**
baz=46
SEM LR LR 07 19 47.7
baz=46
BSD Bornholm Skovb 30.28 324 P **P 07 05 40.2 -1.0**
BSD Bornholm Skovb 30.28 324 *eP* **P 07 05 40.0 -1.3**
BSD Bornholm Skovb 30.28 324 *eP* **P 07 05 39.9 -1.3**
BSD IAmb IAmb 07 05 44.9
comp=Z,48nm,0.8s
MAKZ Makanchi 30.29 54 P **P 07 05 41.9 +0.4**
MAKZ IAmb IAmb 07 05 44.1
comp=Z,49nm,0.6s
MAKZ Makanchi 30.29 54 P **P 07 05 41.9 +0.4**
MAKZ pmax pmax
comp=Z,49nm,0.6s
TUE Stuetta 30.34 306 P **P 07 05 41.5 -0.6**
FIA1 FINESS Array S 30.47 341 P **P 07 05 42.3 -0.5**
FINES FINESS Array B 30.47 341 P **P 07 05 42.4 -0.5**
FINES FINESS Array B 30.47 341 P **P 07 05 42.4 -0.5**
FINES FINESS Array B 30.47 341 P **P 07 05 42.0 -0.9**
comp=Z,13nm,0.5s,baz=139,slow=10,SNR=56
FINES PKiKP **PKiKP 07 16 12.2 -0.5**
comp=Z,1.9nm,0.8s,baz=120,slow=4.1,SNR=4.0

comp=Z,13nm,0.5s
MK31 Makanchi Array 30.50 54 P **P** **07 05 44.3 +0.9**
MK31 IAmb IAmb 07 05 46.7
comp=Z,69nm,0.8s
MK31 Makanchi Array 30.50 54 *i* P **P** **07 05 44.2 +0.9**
MKAR Makanchi Array 30.50 54 P **P** **07 05 44.3 +1.0**
MKAR Makanchi Array 30.50 54 P **P** **07 05 44.4 +1.1**
comp=Z,60nm,0.5s,baz=250,slow=9.7,SNR=875
comp=Z,60nm,0.5s
BLEU Blekinge 30.52 327 *e*P **P** **07 05 42.2 -1.1**
RGN Rugen 30.79 322 *e*P **P** **07 05 44.6 -1.1**
RGN Rugen 30.79 322 *e*P **P** **07 05 45.7 0.0**
comp=Z,85nm,1.0s,baz=112,slow=8.9
FLTG Flechtingen 30.92 317 *e*P **P** **07 05 46.5 -0.4**
comp=Z,25nm,1.2s,baz=112,slow=8.9
FLTG *e*S **S** **07 10 49.6 -0.4**
STU Stuttgart 30.98 310 *e*P **P** **07 05 46.0 -1.5**
comp=Z,90nm,0.4s,baz=112,slow=8.9
UBBA Unterbreizbach 31.09 314 *e*P **P** **07 05 48.4 +0.1**
comp=Z,34nm,1.5s,baz=112,slow=8.9
GORT1 Trebel 31.15 319 *e*P **P** **07 05 49.2 +0.3**
comp=Z,90nm,1.0s,baz=112,slow=8.9
CLZ Clausthal 31.23 316 *e*P **P** **07 05 49.4 -0.3**
comp=Z,42nm,1.1s,baz=112,slow=8.9
CLZ *e*PcP **PcP** **07 08 44.7 +0.8**
SBF Sospel 31.28 300 *e*P **P** **07 05 49.8 -0.5**
SBF pmax pmax
comp=Z,173nm,0.9s
GTTG Gottingen 31.36 315 *e*P **P** **07 05 50.6 -0.2**
comp=Z,35nm,1.2s,baz=112,slow=8.9
RAF Rauma 31.40 338 *e*P **P** **07 05 50.4 -0.6**
BFO Black Forest 31.42 309 P **P** **07 05 51.2 -0.3**
BFO Black Forest 31.42 309 P **P** **07 05 51.2 -0.3**
BFO pmax pmax
comp=Z,23nm,1.0s
BFO Black Forest 31.42 309 *e*P **P** **07 05 50.3 -1.1**
comp=Z,21nm,1.0s,baz=112,slow=8.9
BFO *e*S **S** **07 10 57.9 -0.2**
DEL Delary 31.51 326 *e*P **P** **07 05 51.6 -0.4**
NRDL Niedersach Rie 31.62 317 *e*P **P** **07 05 53.5 +0.4**
comp=Z,52nm,1.3s,baz=112,slow=8.9
LODK Lodwar 31.68 200 P **P** **07 05 53.7 -0.3**
LODK IAMs_20 IAMs_20 07 18 20.8
comp=Z,5µm,18.0s
MBDF Montbardon 31.84 302 *e*P **P** **07 05 54.2 -1.2**
MBDF pmax pmax
comp=Z,178nm,0.8s
TNS Taunus Mts 31.85 312 P **P** **07 05 54.8 -0.4**
TNS Taunus Mts 31.85 312 *e*P **P** **07 05 54.8 -0.4**
comp=Z,41nm,1.3s,baz=112,slow=8.9
LPG La Plagne 31.95 303 *e*P **P** **07 05 55.3 -1.2**
LPG pmax pmax
comp=Z,114nm,0.8s
LPL La Plagne 31.97 303 *e*P **P** **07 05 56.0 -0.5**
LPL pmax pmax
comp=Z,103nm,0.8s
BSEG Bad Segeberg 32.08 320 *e*P **P** **07 05 57.5 +0.4**
BSEG Bad Segeberg 32.08 320 *e*P **P** **07 05 57.2 +0.1**
comp=Z,65nm,1.3s,baz=112,slow=8.9
CDF Champ du Feu 32.12 309 *e*P **P** **07 05 56.8 -0.9**
CDF pmax pmax
comp=Z,9.0nm,0.6s
RETH Rethem/Aller, 32.14 317 *e*P **P** **07 05 58.3 +0.7**
comp=Z,101nm,1.4s,baz=112,slow=8.9
KASTN Kahler Asten 32.16 314 *e*P **P** **07 05 58.1 +0.1**
comp=Z,109nm,1.4s,baz=112,slow=8.9
HINF Hinteralfeld 32.27 308 *e*P **P** **07 05 57.1 -1.9**
HINF pmax pmax
comp=Z,18nm,0.7s
ORIF Oris-en-Rattie 32.50 302 *e*P **P** **07 06 00.0 -1.0**
ORIF pmax pmax
comp=Z,43nm,0.8s
CABF La Chapelle 32.57 305 *e*P **P** **07 06 00.5 -1.2**
CABF pmax pmax
comp=Z,95nm,0.8s
BORU Boraas 32.64 327 *e*P **P** **07 06 02.1 +0.1**
HAU Haudompre 32.65 308 *e*P **P** **07 06 00.6 -1.6**
HAU pmax pmax
comp=Z,25nm,0.7s
AHRW Bad Neuenahr-A 32.78 313 *e*P **P** **07 06 03.2 -0.1**
comp=Z,70nm,1.4s,baz=112,slow=8.9
IBBN Ibbenburen 32.91 316 *e*P **P** **07 06 04.9 +0.6**
comp=Z,98nm,1.3s,baz=112,slow=8.9
ONAU Onsala 32.91 326 *e*P **P** **07 06 04.2 -0.1**
BUG Bochum--Univer 32.92 314 P **P** **07 06 05.0 +0.5**
BUG Bochum--Univer 32.92 314 *e*P **P** **07 06 04.5 0.0**
comp=Z,49nm,1.1s,baz=112,slow=8.9
SSRD Sdr. Stenderup 33.10 322 *e*P **P** **07 06 07.2 +1.2**
SSRD IAmb IAmb 07 06 13.9
comp=Z,124nm,0.9s
WLF Walferdange 33.13 311 IAmb IAmb 07 06 08.1
comp=Z,83nm,1.3s
WLF Walferdange 33.13 311 *d*P **P** **07 06 05.7 -0.6**
WLF Walferdange 33.13 311 P **P** **07 06 05.4 -1.0**
WLF Walferdange 33.13 311 *e*P **P** **07 06 05.1 -1.3**
comp=Z,91nm,1.3s,baz=112,slow=8.9
VIVF Saint-Julien-l 33.34 302 *e*P **P** **07 06 06.4 -2.0**
VIVF pmax pmax
comp=Z,132nm,1.1s
BTNL Ternell 33.37 312 *d*P **P** **07 06 07.3 -1.2**
MEM Membach 33.45 312 *d*P **P** **07 06 09.4 +0.2**
HYB Hyderabad 33.57 111⇑ *e*P **P** **07 06 11.1 +0.4**
HYB IVmB_BB 07 06 11.4
comp=Z,952nm,1.4s
HYB IVMs_BB IVMs_BB 07 22 21.1
comp=Z,2µm,19.8s
HFS Hagfors 33.69 331 P **P** **07 06 10.6 -0.5**
comp=Z,58nm,0.5s,baz=133,slow=10,SNR=242
HFS S **S** **07 11 29.3 -3.7**
comp=Z,16nm,0.9s,baz=115,slow=21,SNR=4.6
comp=Z,58nm,0.5s
MUD Monsted U'grnd 33.77 323 P **P** **07 06 11.5 -0.3**
MUD Monsted U'grnd 33.77 323 *e*P **P** **07 06 12.8 +1.1**
MUD IAmb IAmb 07 06 20.0
comp=Z,132nm,1.1s
RCHB Rochefort 33.83 311 *d*P **P** **07 06 12.1 -0.3**
BCLA Clavier 33.84 312 *d*P **P** **07 06 12.7 +0.1**
BCLA *d*PcP **PcP** **07 08 52.0 +0.9**
WMQ Urumqi 33.90 60 *e*P **P** **07 06 14.3 +1.1**
WMQ pP pP 07 06 18.1 -1.3
WMQ S **S** **07 11 39.7 +3.0**
WMQ sS sS 07 11 53.2 +6.6
WMQ pmax pmax
comp=Z,50nm,0.7s
WMQ pmax pmax
comp=Z,500nm,4.5s
WMQ LR LR
comp=Z,2µm,9.9s
WMQ LR LR
comp=Z,4µm,10.9s
WMQ LR LR
comp=Z,1µm,13.5s
BGES Gesves 33.97 312 *d*P **P** **07 06 13.0 -0.6**
BGES *d*PcP **PcP** **07 08 57.7 +6.2**
ZAA0 Zalesovo Array 34.07 42 P **P** **07 06 14.8 +0.2**
ZAA0 IAmb IAmb 07 06 18.8
comp=Z,60nm,0.8s
ZAA0 IAMs_20 IAMs_20 07 22 44.7
comp=Z,5µm,21.0s
ZALV Zalesovo Beam 34.07 42 P **P** **07 06 14.9 +0.4**
ZALV Zalesovo Beam 34.07 42 *i* P **P** **07 06 14.8 +0.3**
ZALV pmax pmax
comp=Z,38nm,0.4s
ZALV Zalesovo Beam 34.07 42 P **P** **07 06 14.8 +0.3**
comp=Z,94nm,0.8s,baz=260,slow=8.8,SNR=157
ZALV ScP **ScP** **07 12 35.4 -0.1**
comp=Z,5.0nm,0.8s,baz=270,slow=3.9,SNR=3.6
comp=Z,94nm,0.8s
BMRD Maredsous 34.15 311 *d*P **P** **07 06 15.2 0.0**
BMRD *d*PcP **PcP** **07 08 52.7 +0.7**
DOU Dourbes 34.21 311 *d*P **P** **07 06 15.2 -0.5**
DOU *d*PcP **PcP** **07 08 53.1 +0.9**
BAIF Baives 34.45 311 *e*P **P** **07 06 16.7 -1.1**
BAIF pmax pmax
comp=Z,31nm,0.8s
DGZ Jazzator, Alta 34.46 50 *i* P **P** **07 06 18.7 +0.6**
DGZ pmax pmax
comp=Z,94nm,0.7s
DGZ MLR MLR
comp=Z,5µm,12.0s
EJON La Jonquera 34.53 297 P **P** **07 06 17.7 -1.0**
APA Apatity 34.62 352⇓ *i*P **P** **07 06 17.4 -1.7**
APA *i* 07 07 35.0
APA *i* 07 08 46.0
APA *i* S **S** **07 11 44.0 -3.3**
APA pmax pmax
comp=Z,95nm,0.7s
APA MLR MLR
comp=Z,3µm,16.0s
ETOS Mallorca 34.67 293 P **P** **07 06 19.7 -0.2**
BGF Bois d'Agland 34.78 305 *e*P **P** **07 06 19.1 -1.7**
BGF pmax pmax
comp=Z,75nm,0.9s
OSL Oslo 34.80 330 *e*P **P** **07 06 20.2 -0.4**
OSL IAmb IAmb 07 06 20.3
comp=Z,74nm,0.9s
LVZ Lovozero 34.80 353 P **P** **07 06 20.7 0.0**
LVZ IAmb IAmb 07 06 23.4
comp=Z,60nm,0.7s
LVZ IAMs_20 IAMs_20 07 21 44.4
comp=Z,4µm,20.0s
LVZ Lovozero 34.80 353 *i* P **P** **07 06 20.6 -0.1**
LVZ pmax pmax
comp=Z,408nm,4.0s
NC602 NORSAR Array S 34.91 331 P **P** **07 06 20.9 -0.8**
NC602 NORSAR Array S 34.91 331 *e*P **P** **07 06 20.6 -1.1**
NC602 IAmb IAmb 07 06 25.9
comp=Z,29nm,1.0s
HOMB Homborsund 34.93 326 *e*P **P** **07 06 22.6 +0.8**
KONO Kongsberg 35.12 329 P **P** **07 06 22.9 -0.6**
KONO Kongsberg 35.12 329 *i* P **P** **07 06 22.7 -0.8**
KONO pmax pmax
comp=Z,37nm,1.1s
KONO Kongsberg 35.12 329 *e*P **P** **07 06 22.7 -0.8**
CAF Calviac 35.20 302 *e*P **P** **07 06 24.2 -0.2**
CAF pmax pmax
comp=Z,55nm,1.3s
NB2 NORSAR Subarra 35.21 331 P **P** **07 06 22.7 -1.6**
comp=Z,508nm,3.3s,baz=124,slow=9.3
NB2 NORSAR Subarra 35.21 331 P **P** **07 06 22.7 -1.6**
baz=124,slow=9.3
NOA NORSAR Array B 35.21 331 P **P** **07 06 22.9 -1.4**
comp=Z,6.0nm,0.6s,baz=125,slow=8.6,SNR=38
NOA PcP **PcP** **07 08 54.7 -0.3**
comp=Z,1.8nm,0.5s,baz=107,slow=5.1,SNR=4.4
NOA S **S** **07 11 58.9 +2.3**
comp=Z,8.0nm,0.9s,baz=124,slow=16,SNR=3.4
comp=Z,6.0nm,0.6s
CLF Chambon-Foret 35.35 307 IAMs_20 IAMs_20 07 23 21.3
comp=Z,4µm,19.0s
SNART Snartemo 35.56 326 *e*P **P** **07 06 28.2 +0.9**
KMBO Kilima Mbogo 35.59 195 P **P** **07 06 28.7 +0.4**
KMBO Kilima Mbogo 35.59 195 IAMs_20 IAMs_20 07 21 03.4
comp=Z,3µm,18.0s
KMBO Kilima Mbogo 35.59 195 *i* P **P** **07 06 28.0 -0.2**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 35.59 195 *i* P **P** **07 06 28.6 +0.4**
SNR=5.6
KMBO Kilima Mbogo 35.59 195 *e*P **P** **07 06 30.0 +1.8**
KMBO IAmb IAmb 07 06 31.0
comp=Z,722nm,2.9s
KMBO Kilima Mbogo 35.59 195 P **P** **07 06 27.6 -0.7**
comp=Z,5.2nm,0.9s,baz=357,slow=9.1,SNR=8.1
KMBO LR LR 07 21 13.6
comp=Z,3µm,18.3s,baz=5.0,slow=37
comp=Z,5.2nm,0.9s
RJF Les Rejaudoux 35.61 302 *e*P **P** **07 06 26.6 -1.3**
RJF pmax pmax
comp=Z,114nm,1.2s
EIBI Ibiza 35.87 292 P **P** **07 06 30.4 +0.2**
SKAR Skarslia 36.21 330 *e*P **P** **07 06 32.9 0.0**
SKAR IAmb IAmb 07 06 38.1
comp=Z,18nm,0.5s
BLS5 Blasjo 36.41 327 *e*P **P** **07 06 34.7 +0.1**
ODD1 Odda 36.56 328 *e*P **P** **07 06 36.2 +0.3**
KIBK Kibwezi 36.61 193 P **P** **07 06 37.3 +0.5**
KIBK IAMs_20 IAMs_20 07 22 44.0
comp=Z,4µm,19.0s
KIBK Kibwezi 36.61 193 P P 07 06 43.1 +6.3
DOMB Dombas 36.63 332 *e*P **P** **07 06 36.0 -0.4**
DOMB IAmb IAmb 07 06 36.3
comp=Z,34nm,1.2s
TAM Tamanrasset 36.86 263 P **P** **07 06 39.9 +0.9**
TAM Tamanrasset 36.86 263 P **P** **07 06 39.9 +0.9**
TAM pmax pmax
comp=Z,109nm,1.4s
TAM MLR MLR
comp=Z,2µm,19.0s
KMY Karmoy 36.87 326 *e*P **P** **07 06 38.5 0.0**
MBAR Mbarara 36.96 206*c**e*P **P** **07 06 41.3 +1.4**
MBAR pmax pmax
comp=Z,46nm,1.7s
LDF La Druitiere 37.00 308 *e*P **P** **07 06 37.5 -2.3**
LDF pmax pmax
comp=Z,69nm,1.2s
NSS Namsos 37.06 336 *e*P **P** **07 06 39.7 -0.3**
NSS IAmb IAmb 07 06 41.1
comp=Z,114nm,1.6s
WACR West Acre 37.21 315 *e*P **P** **07 06 41.1 -0.3**
WACR IAmb IAmb 07 06 44.1
comp=Z,136nm,1.0s
FLN La Foliniere 37.26 308 *e*P **P** **07 06 40.2 -1.7**
FLN pmax pmax
comp=Z,77nm,1.1s
HYA Hoyanger 37.35 329 IAmb IAmb 07 06 42.7
comp=Z,236nm,2.0s
HYA *e*P **P** **07 06 43.1 +0.6**
BER Bergen 37.35 328 P **P** **07 06 43.2 +0.7**
BER Bergen 37.35 328 *e*P **P** **07 06 43.1 +0.6**
BER IAmb IAmb 07 06 50.8
comp=Z,204nm,1.6s
MOR8 Moi Rana 37.40 340 *e*P **P** **07 06 42.1 -0.9**
MOR8 IAmb IAmb 07 06 49.1
comp=Z,36nm,0.8s
ASK Askoy 37.46 328 *e*P **P** **07 06 44.3 +0.9**
ASK *e*PP **PP** **07 08 07.1 -1.7**
MOL Molde 37.51 332 *e*P **P** **07 06 44.0 +0.1**
AKN Aaknes 37.52 331 *e*P **P** **07 06 44.9 +0.9**
KTK1 Kautokeino 37.53 347 *e*P **P** **07 06 43.5 -0.5**
KTK1 IAmb IAmb 07 06 44.3
comp=Z,90nm,1.2s
VADS Vadso 37.54 351 *e*P **P** **07 06 44.0 0.0**
VADS IAmb IAmb 07 06 49.1
comp=Z,141nm,0.9s
KEV Kevo 37.54 349 P **P** **07 06 44.1 +0.1**
KEV IAMs_20 IAMs_20 07 23 28.9
comp=Z,3µm,19.0s
KEV Kevo 37.54 349 P **P** **07 06 44.1 +0.1**
KEV pmax pmax
comp=Z,54nm,0.9s
KEV MLR MLR
comp=Z,3µm,19.0s
ARA0 ARCESS Array S 37.58 348 *e*P **P** **07 06 43.7 -0.7**
ARCES ARCESS Array B 37.58 348 P **P** **07 06 44.2 -0.2**
ARCES ARCESS Array B 37.58 348 P **P** **07 06 44.2 -0.2**
ARCES pmax pmax
comp=Z,76nm,1.1s
ARCES ARCESS Array B 37.58 348 P **P** **07 06 44.0 -0.4**
comp=Z,63nm,1.0s,baz=152,slow=5.5,SNR=56
comp=Z,63nm,1.0s
ECHE Chera 37.59 293 P **P** **07 06 46.0 +1.0**
STOK Stokkvaagen 37.93 339 *e*P **P** **07 06 46.4 -0.9**
KONS Konsvik 38.02 339 *e*P **P** **07 06 47.7 -0.3**
KONS IAmb IAmb 07 06 51.3
comp=Z,38nm,0.9s
EMUR La Murta 38.02 290 P **P** **07 06 48.6 0.0**
FAUS Fauske 38.04 341 *e*P **P** **07 06 47.5 -0.8**
WOL Wolverton 38.07 312 *e*P **P** **07 06 48.4 -0.4**
ETOB Tobarra 38.15 291 P **P** **07 06 50.2 +0.5**
CWF Charnwood Fore 38.37 314 *e*P **P** **07 06 50.2 -1.0**
TLOR Lorca, Murcia 38.41 290 P **P** **07 06 52.2 +0.4**
JSA Saint Aubin 38.41 308 *e*P **P** **07 06 50.2 -1.4**
JSA IAmb IAmb 07 06 52.7
comp=Z,195nm,1.2s
STEI Steigen 38.45 342 *e*P **P** **07 06 51.0 -0.7**
STEI IAmb IAmb 07 06 58.5
comp=Z,43nm,1.0s
JETT Jettan, Norway 38.54 346 *e*P **P** **07 06 52.1 -0.4**
LSA Lhasa 38.59 83 P **P** **07 06 54.3 +0.3**
LSA IAMs_20 IAMs_20 07 25 35.2
comp=Z,4µm,18.0s
LSA Lhasa 38.59 83 P **P** **07 06 54.3 +0.3**
LSA pmax pmax
comp=Z,100nm,1.2s
LSA MLR MLR
comp=Z,4µm,18.0s
STRD Stroud 38.72 313 *e*P **P** **07 06 53.6 -0.6**
STRD IAmb IAmb 07 06 58.5
comp=Z,155nm,0.8s
LBWR Ladybower, Pea 38.74 315 *e*P **P** **07 06 53.4 -0.9**
LBWR IAmb IAmb 07 06 59.5
comp=Z,118nm,0.9s
HPK Haverah Park 38.79 316 *e*P **P** **07 06 54.3 -0.4**
HAMF Hammerfest 38.86 348 *e*P **P** **07 06 55.1 0.0**
TRO Tromso 38.91 345 *e*P **P** **07 06 54.2 -1.3**
ENIJ Nijar 38.92 289 P **P** **07 06 56.7 +0.5**
OLDB Oldbury-Upon-S 38.94 312 *e*P **P** **07 06 55.1 -0.9**
OLDB IAmb IAmb 07 07 02.9
comp=Z,588nm,1.7s
QUIF Quistinic 38.97 306 *e*P **P** **07 06 54.0 -2.4**
QUIF pmax pmax
comp=Z,59nm,0.7s
LOF Lofoten 39.04 342 *e*P **P** **07 06 57.1 +0.4**
MONM Monmouth 39.13 313 *e*P **P** **07 06 56.7 -0.9**
MONM IAmb IAmb 07 07 02.1
comp=Z,133nm,1.2s
EDMD Edmundbyers 39.17 317 *e*P **P** **07 06 57.4 -0.5**
EDMD IAmb IAmb 07 06 58.5
comp=Z,99nm,1.2s
UCM Universidad Co 39.26 294 P **P** **07 06 59.1 +0.2**
MCH1 Michaelchurch 39.27 313 *e*P **P** **07 06 58.0 -0.8**
MCH1 IAmb IAmb 07 07 03.3
comp=Z,121nm,0.9s
CHAS Isla Isabel II 39.45 286 P **P** **07 07 02.5 +2.0**
EBER Berja 39.48 289 P **P** **07 07 01.5 +0.5**
FOEL Foel Wylfa 39.52 314 *e*P **P** **07 07 00.6 -0.4**
FOEL IAmb IAmb 07 07 05.7
comp=Z,126nm,0.8s
KESW Keswick, Cumbr 39.77 317 *e*P **P** **07 07 02.8 -0.1**
KESW IAmb IAmb 07 07 06.0
comp=Z,139nm,0.9s
EALB Alboran 39.77 287 P **P** **07 07 07.2 +4.0**
LLW Llanuwychllyn 39.80 314 *e*P **P** **07 07 02.7 -0.4**
EMLI Melilla 39.84 286 P **P** **07 07 05.2 +1.5**
EQTA Presa de Quent 39.86 289 P **P** **07 07 04.5 +0.5**
ESBB Sonseca Array 39.88 293 P **P** **07 07 04.1 0.0**
ESDC Sonseca Array 39.88 293 P **P** **07 07 03.5 -0.7**
ESDC Sonseca Array 39.88 293 P **P** **07 07 04.0 -0.2**
comp=Z,31nm,0.8s,baz=72,slow=7.3,SNR=59
ESDC PcP **PcP** **07 09 10.0 +0.3**
comp=Z,6.5nm,0.7s,baz=52,slow=3.5,SNR=5.0
comp=Z,31nm,0.8s
GUD Guadarrama 39.91 295 P **P** **07 07 03.6 -0.9**
GOMU GeErMu 39.94 72 P **P** **07 07 05.8 +0.7**
GOMU pP pP 07 07 10.8 -0.6
GOMU sP sP 07 07 13.3 -0.3
GOMU PP **PP** **07 08 39.0 +2.1**
GOMU pmax pmax
comp=Z,58nm,1.1s
GOMU LR LR
comp=Z,1µm,15.8s
GOMU LR LR
comp=Z,2µm,14.3s
GOMU LR LR
comp=Z,4µm,15.9s
DRUM Mains of Drumt 39.94 320 *e*P **P** **07 07 03.6 -0.7**
EKA Eskdalemuir Ar 39.95 318 P **P** **07 07 04.0 -0.4**
comp=Z,26nm,0.7s,baz=101,slow=8.4,SNR=97
EKA ScP **ScP** **07 12 57.2 -0.3**
comp=Z,2.4nm,1.0s,baz=111,slow=5.4,SNR=4.4
comp=Z,26nm,0.7s
EKB Eskdalemuir 39.97 318 P **P** **07 07 04.2 -0.4**
ESK Eskdalemuir 39.97 318 P **P** **07 07 04.0 -0.6**
ESK Eskdalemuir 39.97 318 *e*P **P** **07 07 03.7 -0.9**
ESK IAmb IAmb 07 07 06.8
comp=Z,62nm,0.9s
ESK Eskdalemuir 39.97 318 P **P** **07 07 04.0 -0.6**
ESK pmax pmax
comp=Z,61nm,0.9s
ELGU Los Guajares, 40.06 289 P **P** **07 07 06.0 +0.2**
EDI Edinburgh 40.09 319 *e*P **P** **07 07 05.2 -0.3**
SBD Saint Breward 40.16 310 *e*P **P** **07 07 05.4 -0.8**
PAB San Pablo 40.19 293 P **P** **07 07 06.5 -0.3**
PAB San Pablo 40.19 293 P **P** **07 07 06.5 -0.3**
PAB pmax pmax
comp=Z,91nm,1.3s
WLF1 Llynfaes 40.30 315 *e*P **P** **07 07 05.9 -1.4**
WPS Cemaes, Angles 40.37 315 *e*P **P** **07 07 07.0 -0.9**
WPS IAmb IAmb 07 07 10.0
comp=Z,148nm,1.2s
EGOR Sierra Gorda, 40.40 289 P **P** **07 07 07.4 -1.2**
NEWG New Galloway 40.51 317 *e*P **P** **07 07 08.6 -0.5**
NEWG IAmb IAmb 07 07 09.4
comp=Z,24nm,0.7s
MCD Coleburn Disti 40.52 321 *e*P **P** **07 07 08.7 -0.4**
MCD IAmb IAmb 07 07 09.2
comp=Z,107nm,0.8s
IOMK Kirk Michael 40.55 316 *e*P **P** **07 07 09.1 -0.3**
IOMK IAmb IAmb 07 07 13.9
comp=Z,180nm,1.0s
EADA Adamuz 40.58 291 P **P** **07 07 10.4 +0.5**
WIM Isle of Man 40.59 316 *e*P **P** **07 07 09.4 -0.4**
SHL Shillong 40.64 89 P **P** **07 07 10.0 -0.7**
SHL IAmb IAmb 07 07 18.9
comp=Z,114nm,0.9s
SHL Shillong 40.64 89 P **P** **07 07 10.0 -0.7**
SHL pmax pmax
comp=Z,113nm,0.9s
SHL MLR MLR
comp=Z,6µm,20.0s
INVG Invergeldie, C 40.67 319 *e*P **P** **07 07 09.7 -0.7**
INVG IAmb IAmb 07 07 15.2
comp=Z,152nm,0.9s
EMAL Malaga-Limoner 40.71 289 P **P** **07 07 10.6 -0.4**
GAL1 Galloway 40.73 317 *e*P **P** **07 07 10.4 -0.5**
GAL1 IAmb IAmb 07 07 11.4
comp=Z,54nm,0.8s
MALK Mahakanadarawa 40.77 120 P **P** **07 07 13.4 +1.7**
PGBU Glenifferbraes 40.78 318 *e*P **P** **07 07 10.9 -0.4**
PGBU IAmb IAmb 07 07 12.0
comp=Z,200nm,1.3s
EMIJ Mijas 41.02 289 P **P** **07 07 12.6 -1.0**
ECAB El Cabril 41.25 291 P **P** **07 07 15.5 0.0**
LAWE Loch Awe, Argy 41.37 319 *e*P **P** **07 07 15.6 -0.5**
LAWE IAmb IAmb 07 07 16.1
comp=Z,54nm,0.9s
DSB Dublin 41.47 314 P **P** **07 07 17.0 0.0**
ILTH Belurgan, Co L 41.54 315 *e*P **P** **07 07 16.9 -0.7**
ECEU Ceuta 41.64 288 P **P** **07 07 19.2 +0.5**
LINV Loch Inver, As 41.66 322 *e*P **P** **07 07 17.9 -0.5**
LINV IAmb IAmb 07 07 18.8
comp=Z,61nm,0.8s
ECAL Calabor 41.70 297 P **P** **07 07 18.9 -0.2**
PBRG Braganca 41.71 297 *e*P **P** **07 07 19.1 -0.1**
comp=Z,169nm,1.3s
KPL Plockton 41.72 320 *e*P **P** **07 07 17.9 -1.1**
MDT Midelt 41.77 283 P **P** **07 07 20.2 +0.3**
comp=Z,51nm,0.9s,baz=90,slow=8.3,SNR=48
comp=Z,51nm,0.9s
ESPR Espera 41.82 289 P **P** **07 07 19.3 -0.8**
IFR Ifrane 42.00 284 P **P** **07 07 23.3 +1.5**
MVO Moncorvo 42.01 296 *e*P **P** **07 07 21.7 0.0**
comp=Z,193nm,1.1s
SFS San Fernando 42.17 289 P **P** **07 07 23.8 +0.8**
SFS San Fernando 42.17 289 P **P** **07 07 24.0 +1.0**
EBAD Badajoz 42.36 293 P **P** **07 07 23.9 -0.6**
PBAR Barrancos 42.49 292⇑ *e*P **P** **07 07 25.1 -0.4**
comp=Z,272nm,1.2s
PBAR Barrancos 42.49 292 P **P** **07 07 25.4 -0.1**
NRIK Noril'sk 42.50 20 P **P** **07 07 26.4 +1.3**
NRIK IAmb IAmb 07 07 33.1
comp=Z,127nm,0.8s
NRIK Noril'sk 42.50 20*c**e*P **P** **07 07 25.6 +0.4**
NRIK pmax pmax
comp=Z,178nm,1.1s
NRIK Noril'sk 42.50 20 P **P** **07 07 26.5 +1.3**
comp=Z,123nm,0.9s,baz=229,slow=5.3,SNR=142
NRIK S **S** **07 13 48.8 +2.8**
comp=Z,2.7nm,0.8s,baz=52,slow=20,SNR=1.5
comp=Z,123nm,0.9s
MTE Manteigas 42.50 295 *e*P **P** **07 07 26.1 +0.4**
comp=Z,265nm,1.3s
MTE Manteigas 42.50 295 IAmb IAmb 07 07 28.6
comp=Z,197nm,1.2s
PVRL Vila Real 42.51 296 *e*P **P** **07 07 25.9 +0.2**
comp=Z,257nm,1.0s
PCBR Castelo Branco 42.54 294 *e*P **P** **07 07 26.1 +0.2**
comp=Z,296nm,1.0s
PMRV Marv??o 42.54 294 *e*P **P** **07 07 25.4 -0.6**
comp=Z,80nm,1.0s
POLO Lamas de Olo 42.55 296 *e*P **P** **07 07 26.0 -0.1**
comp=Z,158nm,1.2s
PVIS Viseu 42.72 296 *e*P **P** **07 07 27.9 +0.4**
PESTR Estremoz 42.79 293 *e*P **P** **07 07 27.6 -0.4**

comp=Z,144nm,1.1s
PESTR Estremoz 42.79 293 P P 07 07 26.9 -1.0
PESTR IAmb IAmb 07 07 30.0
comp=Z,120nm,1.0s
PESTR Estremoz 42.79 293 P P 07 07 27.4 -0.5
PGAV Gavieira, Arco 42.83 297 *e*P **P 07 07 26.7 -1.7**
comp=Z,391nm,1.1s
BJO1 Bjornoya 42.90 350 *e*P **P 07 07 27.9 -0.5**
BJO1 IAmb IAmb 07 07 34.7
comp=Z,69nm,0.8s
PBEJ Beja 43.16 292 *e*P **P 07 07 30.8 -0.2**
comp=Z,202nm,1.2s
PVAQ Vaqueiros 43.16 291 *e*P **P 07 07 30.7 -0.3**
PVAQ Vaqueiros 43.16 291 P P **07 07 30.5 -0.5**
EVO Evora 43.17 292 *e*P **P 07 07 31.4 +0.3**
comp=Z,75nm,1.3s
EVO Evora 43.17 292 P P **07 07 31.6 +0.5**
COI Coimbra 43.19 295 *e*P **P 07 07 31.8 +0.6**
comp=Z,270nm,1.2s
PTO Porto 43.19 296 *e*P **P 07 07 31.9 +0.8**
comp=Z,232nm,1.1s
PMTG Montargil 43.24 293 *e*P **P 07 07 31.9 +0.3**
comp=Z,117nm,1.2s
GTA Gaotai 43.24 66 ⇑P **P 07 07 32.3 +0.5**
GTA PP **PP 07 09 16.3 +4.0**
GTA PcP **PcP 07 09 23.9 +3.1**
GTA ScP **ScP 07 13 11.4 +0.3**
GTA S **S 07 14 00.2 +2.2**
GTA SS **SS 07 17 03.9 -7.3**
GTA pmax pmax
comp=Z,53nm,1.2s
GTA pmax pmax
comp=Z,570nm,10.5s
GTA LR LR
comp=Z,2μm,14.5s
GTA LR LR
comp=Z,2μm,14.2s
GTA LR LR
comp=Z,3μm,13.8s
MOY Mondy 43.25 48 *e*P **P 07 07 32.9 +1.2**
MOY pmax pmax
comp=Z,96nm,2.2s
IGLA Glengowla, Co 43.28 314 *e*P **P 07 07 31.2 -0.4**
PCAS Casmilo, Conde 43.28 295 *e*P **P 07 07 32.1 +0.2**
comp=Z,140nm,1.1s
PBDV Barranco-do-Ve 43.36 291 *e*P **P 07 07 33.1 +0.4**
comp=Z,160nm,1.3s
PBDV Barranco-do-Ve 43.36 291 P **P 07 07 32.7 0.0**
PCVE Castro Verde 43.37 291 *e*P **P 07 07 32.5 -0.2**
comp=Z,152nm,1.3s
PCVE Castro Verde 43.37 291 P **P 07 07 32.7 0.0**
MESJ Messejana 43.47 291 *e*P **P 07 07 33.4 -0.1**
comp=Z,81nm,1.4s
MESJ Messejana 43.47 291 *e*P **P 07 07 34.3 +0.9**
MESJ Messejana 43.47 291 *e*P **P 07 07 34.4 +0.9**
MESJ IAmb IAmb 07 07 36.4
comp=Z,191nm,1.8s
PNCL Nicolau / Gran 43.65 292 *e*P **P 07 07 35.5 +0.6**
comp=Z,137nm,1.2s
PNCL Nicolau / Gran 43.65 292 P **P 07 07 35.1 +0.2**
VAL Valentia 43.73 312 P **P 07 07 33.4 -1.9**
AVE Averroes 43.91 285 IAmb IAmb 07 07 47.6
comp=Z,72nm,0.7s
AVE Averroes 43.91 285 P **P 07 07 38.2 +1.1**
MORF Marmelete 43.91 291 *e*P **P 07 07 38.5 +1.4**
comp=Z,118nm,1.8s
MORF Marmelete 43.91 291 *e*P **P 07 07 37.9 +0.8**
MORF Marmelete 43.91 291 *e*P **P 07 07 38.0 +0.8**
MORF IAmb IAmb 07 07 43.2
comp=Z,258nm,2.0s
HOPEN Hopen 43.92 353 *e*P **P 07 07 37.0 +0.5**
HOPEN IAmb IAmb 07 07 38.7
comp=Z,146nm,0.8s
PTEO Sao Teotonio 43.92 291 *e*P **P 07 07 38.8 +1.7**
comp=Z,137nm,1.1s
LIS Lisbon 44.01 293 *e*P **P 07 07 39.9 +2.1**
comp=Z,287nm,1.4s
PFVI Vila Bisbo 44.09 291 *e*P **P 07 07 39.7 +1.2**
TIO Tiouine 44.48 282 P **P 07 07 42.4 +0.6**
ZAK Zakamensk 44.68 50 *e*P **P 07 07 43.4 +0.3**
ZAK pmax pmax
comp=Z,46nm,1.1s
TOA0 Torodi Ar. Sit 44.90 254 P **P 07 07 44.9 -0.4**
TOA0 IAmb IAmb 07 07 50.7
comp=Z,145nm,1.6s
TORD Torodi Ar. Bea 44.90 254 P **P 07 07 44.9 -0.4**
TORD IAmb IAmb 07 07 50.7
comp=Z,125nm,1.5s
TORD Torodi Ar. Bea 44.90 254 P **P 07 07 44.8 -0.4**
comp=Z,29nm,0.8s,baz=60,slow=6.5,SNR=112
comp=Z,29nm,0.8s
TOB5 Torodi Ar. Sit 44.91 254 IAMs_20 IAMs_20 07 29 14.9
comp=Z,3μm,18.0s
IRK Irkutsk 45.29 48 *e*P **P 07 07 47.3 -0.6**
IRK pmax pmax
comp=Z,163nm,1.1s
MND Mandalay 45.63 91 P **P 07 07 49.2 -1.7**
SPB2 Spitsbergen Ar 46.31 352 P **P 07 07 56.0 +0.5**
SPA0 Spitsbergen Ar 46.32 352 *e*P **P 07 07 56.1 +0.5**
SPA0 IAmb IAmb 07 07 57.5
comp=Z,162nm,1.0s
SPITS Spitsbergen Ar 46.32 352 P **P 07 07 56.1 +0.5**
comp=Z,32nm,0.4s,baz=136,slow=10,SNR=88
SPITS PP **PP 07 09 44.4 +0.1**
comp=Z,71nm,0.9s,baz=125,slow=12,SNR=3.6
comp=Z,32nm,0.4s
SONM Songino Array 46.86 54 P **P 07 08 00.5 0.0**
SONM Songino Array 46.86 54 P **P 07 08 01.0 +0.5**
comp=Z,15nm,0.7s,baz=280,slow=9.7,SNR=109
SONM ScP **ScP 07 13 25.7 -0.2**
comp=Z,7.3nm,1.1s,baz=233,slow=3.8,SNR=7.2
comp=Z,15nm,0.7s
LZH Lanzhou 47.08 70 ⇑P **P 07 08 03.1 +0.7**
LZH sP sP 07 08 10.6 -0.4
LZH PP **PP 07 09 56.4 +3.3**
LZH S **S 07 14 53.6 -0.1**
LZH SS **SS 07 18 13.8 -6.8**
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,240nm,4.1s
LZH LR LR
comp=Z,3μm,16.8s
LZH LR LR
comp=Z,3μm,16.8s
LZH LR LR
comp=Z,5μm,17.5s
ULN Ulaanbaatar 47.30 53 P **P 07 08 04.4 +0.5**
ULN Ulaanbaatar 47.30 53 IAMs_20 IAMs_20 07 31 48.8
comp=Z,3μm,19.0s
ULN Ulaanbaatar 47.30 53 *i* P **P 07 08 04.4 +0.5**
ULN pmax pmax
comp=Z,114nm,0.8s
ULN Ulaanbaatar 47.30 53 P **P 07 08 04.5 +0.5**
KBS Kingsbay 47.45 352 P **P 07 08 04.3 -0.1**
KBS IAmb IAmb 07 08 09.6
comp=Z,38nm,0.8s
KBS Kingsbay 47.45 352 IAMs_20 IAMs_20 07 29 43.4
comp=Z,2μm,18.0s
KBS Kingsbay 47.45 352 *ce*P **P 07 08 05.0 +0.6**
KBS pmax pmax
comp=Z,36nm,0.7s
KBS Kingsbay 47.45 352 *e*P **P 07 08 05.7 +1.2**
KBS IAmb IAmb 07 08 09.3
comp=Z,40nm,0.8s
PZH PanZhiHua 48.47 83 P **P 07 08 12.1 -1.1**
PZH sP **pP 07 08 20.2 +0.7**
PZH PP **PP 07 10 06.9 +1.0**
PZH S **S 07 15 16.0 +2.5**
PZH ScS **ScS 07 18 04.1 -1.3**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,360nm,10.9s
PZH LR LR
comp=Z,2μm,18.4s
PZH LR LR
comp=Z,2μm,17.8s
PZH LR LR
comp=Z,2μm,16.3s
CD2 Chengdu 48.55 77 P **P 07 08 13.2 -0.5**
CD2 PP **PP 07 10 09.2 +2.8**
CD2 S **S 07 15 14.0 -0.3**
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,390nm,10.5s
CD2 LR LR
comp=Z,2μm,11.8s
CD2 LR LR
comp=Z,1μm,13.2s
CD2 LR LR
comp=Z,3μm,13.7s
CHTO Chiang Mai 49.45 94 P **P 07 08 20.0 -0.7**
CHTO IAmb IAmb 07 08 29.6
comp=Z,55nm,0.8s
CHTO Chiang Mai 49.45 94 P **P 07 08 20.0 -0.7**
CHTO Chiang Mai 49.45 94 P **P 07 08 20.0 -0.7**
CHTO pmax pmax
comp=Z,55nm,0.8s
CHTO Chiang Mai 49.45 94 P **P 07 08 19.6 -1.1**
comp=Z,68nm,0.9s,comp=Z,809nm
CMMT Chiang Mai 49.45 94 P **P 07 08 19.7 -1.0**
comp=Z,187nm,0.8s,comp=Z,2μm
CM31 Chiang Mai Arr 49.62 94 P **P 07 08 21.6 -0.4**
CM31 IAmb IAmb 07 08 30.8
comp=Z,70nm,0.8s
CMAR Chiang Mai Arr 49.62 94 P **P 07 08 21.6 -0.4**
CMAR Chiang Mai Arr 49.62 94 *ce*P **P 07 08 21.2 -0.8**
CMAR pmax pmax
comp=Z,44nm,0.9s
CMAR Chiang Mai Arr 49.62 94 P **P 07 08 21.2 -0.8**
comp=Z,40nm,0.9s,baz=296,slow=8.6,SNR=104
CMAR PP **PP 07 10 16.6 +0.1**
comp=Z,11nm,0.8s,baz=290,slow=9.1,SNR=2.1
comp=Z,40nm,0.9s
KMI Kunming 49.84 84 ⇑P **P 07 08 23.2 -0.6**
KMI PP **PP 07 10 23.4 +4.8**
KMI S **S 07 15 33.8 +0.8**
KMI pmax pmax
comp=Z,45nm,1.5s
KMI pmax pmax
comp=Z,430nm,9.1s
KMI LR LR
comp=Z,2μm,17.2s
KMI LR LR
comp=Z,2μm,19.9s
KMI LR LR
comp=Z,2μm,20.9s
BTO Baotou 50.67 62 ⇑*i*P **P 07 08 29.2 -0.6**
BTO pP **pP 07 08 33.5 -2.5**
BTO sP **sP 07 08 36.2 -2.2**
BTO PP **PP 07 10 25.5 -0.1**
BTO S **S 07 15 44.5 +0.6**
BTO pmax pmax
comp=Z,160nm,0.9s
BTO pmax pmax
comp=Z,1μm,9.5s
BTO LR LR
comp=Z,6μm,19.0s
BTO LR LR
comp=Z,3μm,17.6s
BTO LR LR
comp=Z,4μm,20.1s
BOD Bodaibo 50.79 40 *e*P **P 07 08 29.7 -0.6**
BOD pmax pmax
comp=Z,56nm,1.8s
CIT Chita 51.01 47 *e*P **P 07 08 32.4 +0.3**
CIT *e* 07 08 50.4
CIT *e* 07 09 47.2
CIT *e* 07 10 27.0
CIT pmax pmax
comp=Z,149nm,3.2s
PMPS Porto Santo 51.11 288 *e*P **P 07 08 34.6 +1.5**
SCO Scoresbysund 51.17 336 P **P 07 08 33.2 +0.2**
SCO IAmb IAmb 07 10 01.7
comp=Z,130nm,1.8s
SCO Scoresbysund 51.17 336 P **P 07 08 33.2 +0.2**
SCO pmax pmax
comp=Z,129nm,1.8s
SCO Scoresbysund 51.17 336 *i* P **P 07 08 33.9 +0.9**
SCO IAmb IAmb 07 08 41.3
comp=Z,8.6nm,0.8s
LSZ Lusaka 51.54 202 P **P 07 08 37.6 +1.1**
LSZ IAMs_20 IAMs_20 07 33 44.0
comp=Z,2μm,19.0s
LSZ Lusaka 51.54 202 P **P 07 08 37.6 +1.1**
LSZ pmax pmax
comp=Z,21nm,0.8s
LSZ MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 51.54 202 LR LR 07 29 27.1
comp=Z,2μm,19.4s,baz=34,slow=35
DAG Danmarks Havn 51.62 345 P **P 07 08 35.7 -0.5**
DAG Danmarks Havn 51.62 345 *i* P **P 07 08 35.9 -0.4**
DAG IAmb IAmb 07 08 43.7
comp=Z,16nm,0.6s
XAN Xi'an 51.66 71 ⇑P **P 07 08 37.1 -0.2**
XAN pP pP 07 08 42.2 -1.5
XAN S **S 07 15 56.0 -1.7**
XAN pmax pmax
comp=Z,180nm,0.6s
XAN pmax pmax
comp=Z,700nm,10.6s
XAN LR LR
comp=Z,4μm,16.8s
XAN LR LR
comp=Z,4μm,15.5s
XAN LR LR
comp=Z,6μm,13.7s
PMAR Madeira 51.69 287 *e*P **P 07 08 38.4 +0.8**
comp=Z,373nm,1.2s
HHC Hu-ho-hao-te 51.74 62 ⇑*i*P **P 07 08 38.6 +0.7**
HHC sP pP 07 08 45.1 +1.0
HHC S **S 07 16 02.6 +3.8**
HHC sS sS 07 16 12.0 +3.1
HHC SS **SS 07 19 33.7 -1.3**
HHC pmax pmax
comp=Z,100nm,1.3s
HHC pmax pmax
comp=Z,650nm,4.0s
HHC LR LR
comp=Z,3μm,16.1s
HHC LR LR
comp=Z,4μm,13.7s
HHC LR LR
comp=Z,5μm,12.4s
SRDT SRDT 51.83 98 P **P 07 08 37.8 -0.8**
SRDT SRDT 51.83 98 P **P 07 08 37.6 -1.0**
comp=Z,56nm,0.9s,comp=Z,5μm
ABPO Ambohimpanom 52.48 178 P **P 07 08 43.3 -0.2**
ABPO Ambohimpanom 52.48 178 P **P 07 08 43.3 -0.2**
ABPO pmax pmax
comp=Z,29nm,0.9s
ABPO Ambohimpanom 52.48 178 *e*P **P 07 08 44.0 +0.6**
ABPO IAmb IAmb 07 08 49.0
comp=Z,39nm,1.1s
GYA Guiyang 52.55 81 ⇑*i*P **P 07 08 43.0 -1.0**
GYA sP sP 07 08 52.1 -0.6
GYA S **S 07 16 08.1 -2.0**
GYA pmax pmax
comp=Z,46nm,0.8s
GYA pmax pmax
comp=Z,480nm,5.0s
GYA LR LR
comp=Z,2μm,29.6s
GYA LR LR
comp=Z,1μm,30.1s
GYA LR LR
comp=Z,2μm,19.4s
TIY Taiyuan 53.25 65 ⇓P **P 07 08 49.6 +0.6**
TIY pP **sP 07 09 02.0 +4.3**
TIY pmax pmax
comp=Z,25nm,0.5s
TIY pmax pmax
comp=Z,470nm,5.9s
TIY LR LR
comp=Z,1μm,12.0s
TIY LR LR
comp=Z,2μm,17.5s
TIY LR LR
comp=Z,2μm,15.7s
NONG Nongkai 53.31 92 P **P 07 08 48.5 -1.1**
ENH Enshi 53.40 75 P **P 07 08 49.7 -0.5**
ENH IAmb IAmb 07 08 58.6
comp=Z,39nm,0.7s
ENH Enshi 53.40 75 P **P 07 08 50.1 -0.1**
NAYO Nakonayok 53.66 97 P **P 07 08 51.9 -0.3**
DBIC Dimbokro 53.91 252 P **P 07 08 53.2 -0.8**
DBIC IAMs_20 IAMs_20 07 34 33.4
comp=Z,2μm,20.0s
DBIC Dimbokro 53.91 252 *e*P **P 07 08 53.1 -0.9**
DBIC IAmb IAmb 07 08 58.3
comp=Z,43nm,1.0s
DBIC Dimbokro 53.91 252 P **P 07 08 53.5 -0.5**
comp=Z,13nm,0.5s,baz=43,slow=6.8,SNR=24
comp=Z,13nm,0.5s
KIC Kosan Boka 54.00 251 ⇑*i*P **P 07 08 54.4 -0.3**
comp=Z,29nm,0.5s
TIC Toumodi 54.05 252 ⇑*e*P **P 07 08 55.8 +0.7**
comp=Z,29nm,0.3s
XLT XiLinHaoTe 54.22 57 ⇑*i*P **P 07 08 56.6 +0.6**
XLT pP pP 07 09 01.1 -1.2
XLT sP sP 07 09 04.1 -0.6
XLT PcP **PcP 07 10 03.0 +2.7**
XLT PP **PP 07 10 59.6 +2.0**
XLT S **S 07 16 33.9 +1.6**
XLT pmax pmax
comp=Z,36nm,0.9s
XLT pmax pmax
comp=Z,630nm,6.0s
XLT LR LR
comp=Z,3μm,13.2s
XLT LR LR
comp=Z,3μm,14.5s
LYN LuoYang 54.27 69 ⇑*i*P **P 07 08 56.8 +0.4**
LYN sS sS 07 16 41.9 -1.4
LYN pmax pmax
comp=Z,120nm,0.8s
LYN LR LR
comp=Z,2μm,25.1s
LYN LR LR
comp=Z,3μm,22.3s
LIC Lamto 54.31 251 ⇑*i*P **P 07 08 56.5 -0.5**
comp=Z,92nm,0.6s
SOEG Soedalen 54.40 333 *i* P **P 07 08 57.9 +1.1**
SOEG IAmb IAmb 07 09 08.3
comp=Z,15nm,1.0s
HNS HongShan 55.07 65 ⇑P **P 07 09 02.3 +0.1**
HNS PP **PP 07 11 06.7 +1.4**
HNS S **S 07 16 48.4 +4.7**
HNS pmax pmax
comp=Z,19nm,1.0s
HNS pmax pmax
comp=Z,560nm,10.9s
HNS LR LR
comp=Z,2μm,20.7s
HNS LR LR
comp=Z,690nm,20.7s
HNS LR LR
comp=Z,870nm,19.1s
BJI Beijing 55.35 62 P **P 07 09 04.1 0.0**
BJI S **S 07 16 50.8 +3.4**
BJI pmax pmax
comp=Z,12nm,0.7s
BJI pmax pmax
comp=Z,210nm,7.1s
BJI LR LR
comp=Z,1μm,23.5s
BJI LR LR
comp=Z,530nm,19.9s
BJT Baijiatuao 55.35 62 P **P 07 09 04.0 -0.2**
BJT Baijiatuao 55.35 62 IAMs_20 IAMs_20 07 36 49.8
comp=Z,2μm,18.0s
BJT Baijiatuao 55.35 62 P **P 07 09 04.6 +0.4**
BJT Baijiatuao 55.35 62 P **P 07 09 04.0 -0.2**
BJT pmax pmax
comp=Z,17nm,0.6s
BJT MLR MLR
comp=Z,2μm,18.0s
HIA Hailar 55.37 50 P **P 07 09 04.5 +0.3**
HIA IAmb IAmb 07 09 13.0
comp=Z,64nm,1.2s
HIA Hailar 55.37 50 IAMs_20 IAMs_20 07 36 51.0
comp=Z,2μm,21.0s
HIA Hailar 55.37 50 P **P 07 09 04.9 +0.6**
HIA Hailar 55.37 50 P **P 07 09 04.5 +0.3**
HIA pmax pmax
comp=Z,64nm,1.2s
HIA MLR MLR
comp=Z,2μm,21.0s
SRIT Nakonsritamara 55.38 104 P **P 07 09 03.1 -1.6**
TIXI Tiksi 56.22 22 P **P 07 09 10.2 +0.2**
TIXI IAmb IAmb 07 09 16.4
comp=Z,77nm,0.9s
TIXI Tiksi 56.22 22 IAMs_20 IAMs_20 07 37 28.8
comp=Z,3μm,20.0s
TIXI Tiksi 56.22 22 *ce*P **P 07 09 08.5 -1.4**
TIXI pmax pmax
comp=Z,81nm,1.0s
SUMG Summit 56.46 339 P **P 07 09 12.4 +0.3**
SUMG IAmb IAmb 07 09 19.3
comp=Z,87nm,1.0s
SUMG Summit 56.46 339 P **P 07 09 12.4 +0.3**
SUMG pmax pmax
comp=Z,87nm,1.0s
SUMG Summit 56.46 339 *i* P **P 07 09 11.4 -0.7**
SUMG IAmb IAmb 07 09 19.7
comp=Z,42nm,0.8s
UBPT Khong Chiam 56.61 93 P **P 07 09 12.8 -0.7**
KCSI Kotacane, Aceh 56.94 110 P **P 07 09 12.9 -2.9**
CNSH ChangSha 56.98 76 ⇓P **P 07 09 15.0 -1.0**
CNSH S **S 07 17 09.1 -0.3**
CNSH pmax pmax
comp=Z,49nm,0.8s
CNSH LR LR
comp=Z,2μm,25.3s
CNSH LR LR
comp=Z,2μm,17.9s
CNSH LR LR
comp=Z,2μm,24.4s
WHN Wuhan 57.19 73 ⇑P **P 07 09 17.4 0.0**
WHN S **S 07 17 14.9 +2.8**
WHN pmax pmax
comp=Z,72nm,0.8s
WHN LR LR
comp=Z,8μm,23.1s
WHN LR LR
comp=Z,7μm,14.7s
WHN LR LR
comp=Z,10μm,15.7s
TIA Tai'an 57.29 66 ⇑P **P 07 09 17.9 -0.2**
TIA PP **PP 07 11 26.0 +0.8**
TIA S **S 07 17 10.0 -3.3**
TIA pmax pmax
comp=Z,32nm,0.9s
TIA pmax pmax
comp=Z,340nm,5.5s
TIA LR LR
comp=Z,880nm,16.5s
TIA LR LR
comp=Z,490nm,17.3s
TIA LR LR
comp=Z,250nm,17.2s
ICESG Greenland Ices 57.32 335 *i* P **P 07 09 18.0 -0.1**
ICESG IAmb IAmb 07 09 25.4
comp=Z,31nm,0.8s
YAK Yakutsk 58.06 34 P **P 07 09 22.6 -0.4**
YAK IAmb IAmb 07 09 31.3
comp=Z,46nm,0.9s
YAK Yakutsk 58.06 34 *e*P **P 07 09 20.3 -2.7**
YAK *e* 07 10 11.5
YAK *e*S **S 07 17 19.5 -3.1**
YAK *e**SS **sS 07 17 37.7 +4.9**
YAK *e* 07 19 09.6
YAK *e*SS **SS 07 21 11.1 -2.2**
YAK *e*SSS SSS 07 23 31.7
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK smax smax
comp=E,489nm,4.2s
YAK smax smax
comp=N,142nm,2.4s
YAK MLR MLR
comp=N,1μm,23.0s
KULM Kulim 58.15 106 P **P 07 09 22.5 -1.8**
comp=N,48nm,0.9s
GSI Gunungsitoli 58.17 112 P **P 07 09 24.0 -0.5**
GSI IAmb IAmb 07 09 30.0
comp=Z,46nm,0.9s
GSI Gunungsitoli 58.17 112 P **P 07 09 23.9 -0.6**
comp=Z,64nm,1.2s
MPHEP Siloam, Limpop 58.25 197 ⇑*i*P **P 07 09 25.8 +0.8**
MPHEP IAmb IAmb 07 09 30.7

comp=Z,32nm,0.9s
PSI Prapat 58.28 110 P P 07 09 24.4 -1.1
PSI Prapat 58.28 110 P P 07 09 24.3 -1.2
PSI pmax pmax
comp=Z,25nm,1.0s
RPSI Rantau Prapat 58.35 110 P P 07 09 24.3 -1.5
QIZ Qiongzhong 58.43 87 P P 07 09 25.2 -1.1
QIZ S S 07 17 26.6 -2.0
QIZ SS SS 07 21 24.1 +3.2
QIZ pmax pmax
comp=Z,89nm,1.6s
QIZ LR LR
comp=Z,2µm,15.1s
QIZ LR LR
comp=Z,1µm,9.0s
QIZ LR LR
comp=Z,2µm,20.2s
QIZ Qiongzhong 58.43 87 P P 07 09 25.4 -0.9
MOPA Mopani 58.56 195⇑*iP* P 07 09 27.9 +1.0
MOPA IAmb IAmb 07 09 28.4
comp=Z,100nm,0.7s
ZEA Zeya 58.81 43 *e*P P 07 09 29.5 +1.1
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA pmax pmax
comp=Z,200nm,7.3s
NEEM North Greenlan 58.81 345 *i*P P 07 09 27.8 -0.7
NEEM IAmb IAmb 07 09 33.5
comp=Z,11nm,0.6s
TSUM Tsumeb 59.10 211 P P 07 09 30.6 -0.4
TZAN Tzaneen,Limpop 59.23 197⇑*iP* P 07 09 32.2 +0.5
HOED Hoedspruit, Li 59.52 196⇑*iP* P 07 09 34.4 +0.7
HOED IAmb IAmb 07 09 35.2
comp=Z,128nm,1.6s
DL2 Dalian 59.71 61 P P 07 09 34.5 -0.4
DL2 S S 07 17 46.2 +1.5
DL2 pmax pmax
comp=Z,100nm,0.9s
DL2 LR LR
comp=Z,690nm,12.8s
LEPH Lephalale, Lim 59.77 199⇑*iP* P 07 09 36.0 +0.5
LEPH IAmb IAmb 07 09 40.9
comp=Z,81nm,1.5s
HEH HeiHe 59.90 47 *e*P P 07 09 35.0 -1.1
HEH PP PP 07 11 47.6 -0.4
HEH S S 07 17 44.7 -2.2
HEH pmax pmax
comp=Z,51nm,1.0s
HEH pmax pmax
comp=Z,580nm,4.0s
HEH LR LR
comp=Z,3µm,16.3s
HEH LR LR
comp=Z,2µm,15.4s
HEH LR LR
comp=Z,4µm,14.8s
PILG Pilgrimsrest, 60.08 196⇑*iP* P 07 09 38.4 +0.8
PILG IAmb IAmb 07 09 38.8
comp=Z,36nm,0.9s
NJ2 Nanjing 60.16 70 ⇑P P 07 09 37.5 -0.6
NJ2 sP pP 07 09 45.4 +0.9
NJ2 S S 07 17 51.6 +0.9
NJ2 pmax pmax
comp=Z,52nm,0.8s
NJ2 pmax pmax
comp=Z,340nm,3.5s
NJ2 LR LR
comp=Z,2µm,13.5s
NJ2 LR LR
comp=Z,1µm,16.1s
NJ2 LR LR
comp=Z,2µm,16.7s
DY2G Dye2 60.36 333 *i*P P 07 09 38.6 -0.6
DY2G IAmb IAmb 07 09 40.5
comp=Z,46nm,0.7s
CN2 Changchun 60.71 55 *e*P P 07 09 40.3 -1.4
CN2 *e*S S 07 17 53.6 -3.9
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,510nm,11.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,1µm,22.0s
CN2 LR LR
comp=Z,3µm,24.0s
RUST Rust De Winter 60.90 198⇑*iP* P 07 09 44.0 +0.9
RUST IAmb IAmb 07 09 48.9
comp=Z,102nm,1.6s
TSWA Tswaing Meteor 61.19 198⇑*iP* P 07 09 45.8 +0.7
TSWA IAmb IAmb 07 09 51.6
comp=Z,103nm,1.8s
CRLN Carolina, Mapu 61.26 196 *e*P P 07 09 46.1 +0.5
CRLN IAmb IAmb 07 09 46.9
comp=Z,17nm,1.0s
BNX BinXian 61.36 52 ⇓P P 07 09 44.8 -1.3
BNX PP PP 07 12 01.7 +0.8
BNX S S 07 18 07.5 +1.8
BNX pmax pmax
comp=Z,16nm,1.0s
BNX pmax pmax
comp=Z,790nm,5.3s
BNX LR LR
comp=Z,6µm,19.7s
BNX LR LR
comp=Z,2µm,17.6s
BNX LR LR
comp=Z,1µm,19.0s
BKNI Bangkinang 61.47 111 P P 07 09 45.1 -2.2
BKNI Bangkinang 61.47 111 P P 07 09 46.7 -0.5
BKNI Bangkinang 61.47 111 P P 07 09 45.9 -1.3
comp=Z,173nm,1.0s
LBTB Lobatse 61.49 201 P P 07 09 47.4 +0.2
LBTB IAmb IAmb 07 09 53.6
comp=Z,66nm,1.1s
LBTB IAMs_20 IAMs_20 07 36 23.8
comp=Z,2µm,18.0s
LBTB Lobatse 61.49 201 P P 07 09 47.4 +0.2
LBTB pmax pmax
comp=Z,67nm,1.1s
LBTB MLR MLR
comp=Z,2µm,18.0s
LBTB Lobatse 61.49 201⇑*iP* P 07 09 48.5 +1.3
LBTB IAmb IAmb 07 09 53.4
comp=Z,72nm,1.1s
UPNV Upernavik 61.53 341 *i*P P 07 09 46.5 -0.3
UPNV IAmb IAmb 07 09 54.8
comp=Z,23nm,0.9s
NRS Narsarsuaq 61.62 327 P P 07 09 47.5 -0.1
NRS Narsarsuaq 61.62 327 *i*P P 07 09 47.0 -0.6
NRS IAmb IAmb 07 09 48.5
comp=Z,44nm,0.7s
MRCO Marico , North 61.69 200⇑*iP* P 07 09 49.6 +1.1
MRCO IAmb IAmb 07 09 53.7
comp=Z,88nm,1.4s
HRAO HartRAO 61.74 198⇑*iP* P 07 09 49.6 +0.8
PDSI Padang 61.80 112 P P 07 09 48.0 -1.5
comp=Z,51nm,0.9s,comp=Z,5µm
SFJD Kangerlussuaq 61.84 334 P P 07 09 48.1 -0.8
SFJD IAmb IAmb 07 11 16.7
comp=Z,98nm,1.7s
SFJD Kangerlussuaq 61.84 334 P P 07 09 48.1 -0.8
SFJD pmax pmax
comp=Z,99nm,1.7s
SFJD Kangerlussuaq 61.84 334 *i*P P 07 09 47.9 -1.0
SFJD IAmb IAmb 07 09 53.4
comp=Z,9.9nm,0.7s
POGA Pongola 62.20 194 *e*P P 07 09 52.5 +0.8
WIN Windhoek 62.29 210 P P 07 09 53.4 +0.7
WIN IAmb IAmb 07 09 59.6
comp=Z,47nm,0.9s
WIN IAMs_20 IAMs_20 07 37 57.0
comp=Z,3µm,18.0s
WIN Windhoek 62.29 210 P P 07 09 53.4 +0.7
WIN pmax pmax
comp=Z,47nm,0.9s
WIN MLR MLR
comp=Z,2µm,18.0s
PRYS Parys 62.81 198⇑*iP* P 07 09 56.3 +0.3
PRYS IAmb IAmb 07 09 56.7
comp=Z,20nm,0.8s
IVI Ivigtut 62.86 327 P P 07 09 55.5 -0.4
IVI Ivigtut 62.86 327 *i*P P 07 09 54.3 -1.5
IVI IAmb IAmb 07 10 00.0
comp=Z,26nm,0.7s
KLR Kul'dur 62.90 47*ce*P P 07 09 55.5 -0.8
KLR pmax pmax
comp=Z,49nm,2.5s
QZH Quanzhou 62.93 77 P P 07 09 58.5 +1.6
QZH S S 07 18 27.3 +1.2
QZH LR LR
comp=Z,2µm,15.4s
QZH LR LR
comp=Z,2µm,17.7s
QZH LR LR
comp=Z,3µm,18.6s
NWCL Newcastle 62.96 196⇑*iP* P 07 09 57.4 +0.4
NWCL IAmb IAmb 07 10 02.1
comp=Z,22nm,0.7s
MDJ Mudanjiang 63.20 53 P P 07 09 59.1 +0.7
MDJ PcP PcP 07 10 38.2 +2.4
MDJ ScP 07 14 39.3
MDJ S S 07 18 28.8 -0.2
MDJ pmax pmax
comp=Z,15nm,2.0s
MDJ pmax pmax
comp=Z,540nm,3.5s
MDJ LR LR
comp=Z,640nm,10.6s
MDJ LR LR
comp=Z,710nm,9.9s
MDJ LR LR
comp=Z,6µm,16.2s
EUNU Eureka 63.44 352 P P 07 10 00.3 +0.8
SWZ Schweizer 63.61 200 *e*P P 07 10 01.5 +0.1
SWZ IAmb IAmb 07 10 06.2
comp=Z,55nm,1.3s
SNKL Senekal, Frees 63.99 198⇑*iP* P 07 10 04.4 +0.5
SNKL IAmb IAmb 07 10 04.7
comp=Z,63nm,0.6s
KS19 Wonju Array Si 64.78 61 P P 07 10 08.5 -0.4
KSAR Wonju Array Be 64.82 61 P P 07 10 07.5 -1.7
KSAR Wonju Array Be 64.82 61 P P 07 10 07.5 -1.7
KSRS Korea Array 64.84 61 P P 07 10 08.2 -1.1
comp=Z,9.1nm,0.5s,baz=286,slow=6.6,SNR=24
comp=Z,9.1nm,0.5s
USA0B Ussuriysk Arra 64.95 52 P P 07 10 08.5 -1.4
USA0B Ussuriysk Arra 64.95 52 P P 07 10 08.5 -1.4
USA0B pmax pmax
comp=Z,107nm,1.5s
USA0B MLR MLR
comp=Z,4µm,19.0s
USRK Ussuriysk Ar. 64.95 52 P P 07 10 08.1 -1.8
USRK Ussuriysk Ar. 64.95 52 P P 07 10 08.5 -1.4
comp=Z,17nm,0.6s,baz=285,slow=6.2,SNR=30
comp=Z,17nm,0.6s
BOSA Boshof 64.98 200 P P 07 10 09.6 -0.7
BOSA IAmb IAmb 07 11 33.8
comp=Z,51nm,0.8s
BOSA IAMs_20 IAMs_20 07 41 47.2
comp=Z,2µm,20.0s
BOSA Boshof 64.98 200⇑*iP* P 07 10 10.9 +0.6
BOSA IAmb IAmb 07 10 11.2
comp=Z,40nm,0.8s
BOSA Boshof 64.98 200 P P 07 10 10.9 +0.6
comp=Z,31nm,0.7s,baz=18,slow=6.2,SNR=68
comp=Z,31nm,0.7s
TATO Taipei 65.26 76 P P 07 10 12.1 -0.2
SSLB Suanglung 65.38 77 IAmb IAmb 07 10 22.0
comp=Z,61nm,1.1s
NACB Ninganchiao 65.72 76 IAMs_20 IAMs_20 07 44 22.2
comp=Z,2µm,18.0s
YULB Yu-li 65.84 77 IAMs_20 IAMs_20 07 41 47.3
comp=Z,2µm,19.0s
UPI Upington 65.98 204⇑*iP* P 07 10 17.8 +1.1
UPI IAmb IAmb 07 10 18.5
comp=Z,46nm,1.3s
HVD Gariep Dam 66.80 199 *i*P P 07 10 22.7 +0.7
HVD IAmb IAmb 07 10 23.3
comp=Z,65nm,1.4s
LWLI Liwa 67.17 113 P P 07 10 22.9 -1.8
comp=Z,217nm,0.6s,comp=Z,20µm
SEY Seymchan 67.51 28*ce*P P 07 10 27.0 +1.0
SEY pmax pmax
comp=Z,41nm,1.0s
KASI Kota Agung 67.82 113 P P 07 10 28.0 -0.7
comp=Z,69nm,1.3s
KSM Kuching 68.16 103 P P 07 10 30.2 -0.7
KSM IAmb IAmb 07 10 39.3
comp=Z,29nm,0.8s
KSM Kuching 68.16 103 P P 07 10 30.4 -0.5
comp=Z,34nm,0.9s
BFON Badsfontein, M 68.43 200⇑*iP* P 07 10 33.4 +1.2
BFON IAmb IAmb 07 10 33.8
comp=Z,40nm,0.7s
MA2 Magadan 68.53 32 P P 07 10 32.6 +0.1
MA2 IAmb IAmb 07 10 41.3
comp=Z,46nm,1.1s
MA2 Magadan 68.53 32 P P 07 10 32.9 +0.4
MA2 Magadan 68.53 32*ce*P P 07 10 33.5 +1.0
MA2 pmax pmax
comp=Z,48nm,1.7s
MA2 Magadan 68.53 32 LR LR 07 44 15.4
comp=Z,767nm,19.2s,baz=305,slow=39
BRAK Brakfontein 68.64 201⇑*iP* P 07 10 34.4 +0.9
BRAK IAmb IAmb 07 10 34.9
comp=Z,30nm,0.9s
TYV Tymovskoe 68.64 42 *e*P P 07 10 33.7 +0.4
TYV *e*S S 07 19 37.3 +2.3
TYV pmax pmax
comp=Z,300nm,3.2s
TYV pmax pmax
comp=Z,30nm,1.0s
TYV smax smax
comp=N,700nm,5.7s
GRAF Camdeboo Natio 68.65 199 *e*P P 07 10 34.0 +0.5
GRAF IAmb IAmb 07 10 35.5
comp=Z,25nm,0.9s
SOE Somerset East 68.78 198 *e*P P 07 10 35.1 +0.8
SOE IAmb IAmb 07 10 39.5
comp=Z,91nm,1.5s
RES Resolute Bay 68.80 350 P P 07 10 34.4 +0.5
RES IAmb IAmb 07 10 39.8
comp=Z,58nm,1.9s
RES Resolute Bay 68.80 350 P P 07 10 34.4 +0.5
RES pmax pmax
comp=Z,58nm,1.9s
ROOI Rooidraai Farm 69.12 200⇑*iP* P 07 10 37.7 +1.3
ROOI IAmb IAmb 07 10 38.5
comp=Z,233nm,1.7s
FRAZ Fraserburg 69.23 202 *e*P P 07 10 38.3 +1.1
BILL Bilibino 69.33 20 *i*P P 07 10 38.0 +0.7
BILL pmax pmax
comp=Z,51nm,0.9s
CVNA Calvinia 69.35 204 *e*P P 07 10 38.5 +0.5
CVNA IAmb IAmb 07 10 39.3
comp=Z,34nm,0.8s
CGJI Cibinong 69.43 113 P P 07 10 36.4 -2.3
SUR Sutherland 69.84 202 P P 07 10 40.9 -0.1
SUR Sutherland 69.84 202 *e*P P 07 10 42.3 +1.3
SUR IAmb IAmb 07 10 43.1
comp=Z,674nm,3.0s
STKI Sintang 69.93 104 P P 07 10 42.1 +0.3
comp=Z,101nm,0.7s
FRB Frobisher Bay 69.96 334 P P 07 10 41.1 -0.1
KKM Kota Kinabalu 70.43 96 P P 07 10 44.4 -0.6
KKM IAmb IAmb 07 10 54.4
comp=Z,56nm,0.9s
KKM IAMs_20 IAMs_20 07 47 31.5
comp=Z,1µm,20.0s
KKM Kota Kinabalu 70.43 96 P P 07 10 45.3 +0.2
KKM Kota Kinabalu 70.43 96 P P 07 10 44.7 -0.4
comp=Z,71nm,0.9s
YSS Yuzh-Sakhalins 70.54 46 P P 07 10 44.3 -0.8
YSS IAmb IAmb 07 10 53.0
comp=Z,37nm,1.0s
YSS Yuzh-Sakhalins 70.54 46 P P 07 10 44.7 -0.4
YSS Yuzh-Sakhalins 70.54 46 *e*P P 07 10 44.5 -0.6
YSS pmax pmax
comp=Z,30nm,1.2s
CNJI Cibinong 70.97 113 P P 07 10 45.0 -3.1
PRTV Porterville,We 71.03 203 *e*P P 07 10 48.8 +0.7
PRTV IAmb IAmb 07 10 50.6
comp=Z,318nm,2.1s
LEM Lembang 71.04 112 P P 07 10 48.2 -0.6
comp=Z,21nm,0.4s,baz=302,slow=22,SNR=2.3
comp=Z,21nm,0.4s
BBJI Bungbulang 71.47 113 P P 07 10 48.5 -2.7
JTM Tenmabayashi 72.48 52 IAMs_20 IAMs_20 07 45 56.9
comp=Z,2µm,19.0s
MJAR Matsushiro Arr 72.61 57 P P 07 10 56.4 -1.4
comp=Z,3.5nm,0.7s,baz=291,slow=5.1,SNR=4.6
comp=Z,3.5nm,0.7s
A21K Barrow 74.03 7 P P 07 11 06.6 +1.1
baz=341
A36M Sachs Harbour 74.38 357 P P 07 11 08.2 +0.7
A36M Sachs Harbour 74.38 357 P P 07 11 07.9 +0.4
baz=7.8,SNR=137
A19K Wainwright 74.55 9 P P 07 11 10.2 +1.7
baz=337
SCHQ Schefferville 74.59 326 P P 07 11 08.8 -0.2
SCHQ IAmb IAmb 07 11 09.5
comp=Z,43nm,0.8s
SCHQ Schefferville 74.59 326 P P 07 11 08.9 -0.2
comp=Z,31nm,0.6s,baz=50,slow=5.4,SNR=73
comp=Z,31nm,0.6s
BKB Balikpapan 75.10 102 IAMs_20 IAMs_20 07 48 15.2
comp=Z,1µm,20.0s
B20K Meade River 75.22 8 P P 07 11 13.7 +1.3
baz=340
B18K Kokolik River 75.22 10 P P 07 11 14.1 +1.6
baz=336
B22K Teshekpuk Lake 75.30 7 P P 07 11 13.8 +1.0
B22K IAmb IAmb 07 11 14.7
comp=Z,69nm,1.1s
B22K Teshekpuk Lake 75.30 7 P P 07 11 13.8 +1.0
baz=344
PETK Petropavlovsk- 75.33 35 P P 07 11 11.8 -1.5
PETK Petropavlovsk- 75.33 35 P P 07 11 11.9 -1.5
PETK Petropavlovsk- 75.33 35 P P 07 11 11.7 -1.7
comp=Z,10nm,1.0s,baz=284,slow=6.0,SNR=4.4
comp=Z,10nm,1.0s
C16K Lisburne Hills 75.67 11 P P 07 11 15.4 +0.3
baz=334
C19K Lookout Ridge 75.77 9 P P 07 11 16.9 +1.2
baz=338
C17K DeLong Mountai 75.84 11 P P 07 11 17.2 +1.1
baz=336
B21K Ikpikpuk River 75.87 7 IAMs_20 IAMs_20 07 49 23.5
comp=Z,1µm,19.0s
B21K Ikpikpuk River 75.87 7 P P 07 11 17.4 +1.3
baz=343
C18K Utukok River 75.97 10 IAMs_20 IAMs_20 07 50 52.3
comp=Z,2µm,18.0s
C18K Utukok River 75.97 10 P P 07 11 17.8 +1.0
baz=337
C23K Itkillik River 76.04 6 P P 07 11 18.5 +1.4
baz=346
RDOG Red Dog Mine 76.27 11 P P 07 11 18.8 +0.4
RDOG IAmb IAmb 07 11 25.0
comp=Z,70nm,0.9s
RDOG Red Dog Mine 76.27 11 P P 07 11 18.9 +0.4
baz=336
C21K Knifeblade Rid 76.30 7 P P 07 11 20.0 +1.4
baz=342
C24K Franklin Bluff 76.30 5 P P 07 11 20.0 +1.3
baz=348
C26K Camden Bay 76.35 4 P P 07 11 20.3 +1.3
baz=351
D20K Etivluk River 76.51 8 P P 07 11 21.0 +1.1
baz=341
D19K Kuna River 76.53 9 P P 07 11 21.0 +1.0
baz=340
D17K Noatak River 76.56 11 P P 07 11 20.9 +0.8
baz=336
MPSI Mapaga 76.65 99 P P 07 11 20.7 -0.8
comp=Z,71nm,1.0s,comp=Z,4µm
D22K Ayikyak River 76.78 7 P P 07 11 22.6 +1.2
baz=344
D24K Happy Valley 76.85 5 P P 07 11 22.9 +1.2
baz=348
D25K Kavik River 76.86 4 P P 07 11 22.7 +0.9
baz=350
C36M Paulatuk 76.94 356 P P 07 11 22.1 -0.1
C36M IAmb IAmb 07 11 27.8
comp=Z,51nm,0.8s
C36M Paulatuk 76.94 356 P P 07 11 22.0 -0.3
baz=8.7,SNR=81
TOLI2 Tolitoli 76.95 97 P P 07 11 21.9 -1.3
TOLI2 Tolitoli 76.95 97 P P 07 11 22.6 -0.6
E20K Nigu River 77.00 8 P P 07 11 23.6 +0.9
baz=341
D28M Stokes Point 77.18 2 P P 07 11 24.8 +1.2
baz=356
E18K Tukpahlearik C 77.20 10 P P 07 11 24.5 +0.7
baz=338
D27M Malcolm River 77.20 2 P P 07 11 24.8 +1.0
baz=354
E17K Hotham Inlet 77.33 11 P P 07 11 24.9 +0.5
baz=337,SNR=51
GBN Guysborough 77.40 316 P P 07 11 25.4 +0.2
GBN IAmb IAmb 07 11 28.2
comp=Z,66nm,1.0s
E22K Anaktuvuk Pass 77.58 7 P P 07 11 26.8 +0.8
baz=345
E19K Redstone River 77.63 9 P P 07 11 26.9 +0.8
E19K Redstone River 77.63 9 P P 07 11 27.0 +0.8
baz=341
TNA Tin City 77.63 14 P P 07 11 26.6 +0.5
baz=332,SNR=6.5
E23K Chandalar 77.86 6 P P 07 11 28.5 +0.9
baz=347
E28M Babbage River 77.89 2 IAmb IAmb 07 11 34.1
comp=Z,68nm,1.1s
E28M Babbage River 77.89 2 P P 07 11 28.6 +1.0
baz=356
F17K Baldwin Pennin 78.01 11 P P 07 11 28.6 +0.4
F17K IAmb IAmb 07 11 30.1
comp=Z,59nm,0.8s
F17K Baldwin Pennin 78.01 11 P P 07 11 28.9 +0.6
baz=337
F14K Arctic Creek 78.02 13 P P 07 11 29.0 +0.6
baz=333
E25K Arctic Village 78.10 4 IAmb IAmb 07 11 35.6
comp=Z,44nm,0.8s
E25K Arctic Village 78.10 4 P P 07 11 29.8 +1.0
baz=350
F15K North Star Dit 78.11 12 P P 07 11 29.6 +0.7
baz=334
E29M Blow River 78.14 1 P P 07 11 30.0 +1.0
baz=357
F19K Shaleruckik Mo 78.15 9 P P 07 11 29.2 +0.2
baz=340
F20K Avaraart Lake 78.20 8 IAmb IAmb 07 11 36.0
comp=Z,50nm,0.8s
F20K IAMs_20 IAMs_20 07 51 58.2
comp=Z,938nm,18.0s
F20K Avaraart Lake 78.20 8 P P 07 11 30.0 +0.7
baz=342
E27K Coleen River 78.24 3 P P 07 11 30.6 +1.1
baz=354
MRSI Marisa 78.26 97 P P 07 11 29.0 -1.5
comp=Z,37nm,1.2s,comp=Z,1µm
INK Inuvik 78.26 360 P P 07 11 29.4 -0.2
INK Inuvik 78.26 360 P P 07 11 29.4 -0.2
baz=0.6,SNR=26
F21K Alatna River 78.30 8 P P 07 11 31.0 +1.1
baz=344
F24K Squaw Lake 78.53 5 P P 07 11 32.6 +1.3
baz=348
F26K Sheenjek River 78.60 4 P P 07 11 33.0 +1.4
baz=352
F25K Christian Rive 78.61 4 P P 07 11 33.1 +1.4
baz=350
COLD Coldfoot 78.62 6 P P 07 11 32.5 +0.9
baz=346,SNR=52
G16K Koyuk River 78.80 12 IAMs_20 IAMs_20 07 53 12.0
comp=Z,2µm,18.0s
G16K Koyuk River 78.80 12 P P 07 11 33.5 +0.9
baz=336,SNR=21
BATG Bathurst New B 78.81 320 P P 07 11 33.4 +0.3
BATG IAmb IAmb 07 11 36.1
comp=Z,140nm,1.7s
BMAR Burnt Mountain 78.84 4 P P 07 11 34.0 +1.1
F28M Old Crow 78.87 2 P P 07 11 33.7 +0.6
baz=355,SNR=24
G19K Purcell Mounta 78.89 9 P P 07 11 33.9 +0.8
baz=341
G18K Tagagawik 78.91 10 IAmb IAmb 07 11 34.9
comp=Z,69nm,1.0s
G18K Tagagawik 78.91 10 P P 07 11 33.7 +0.4
baz=340
F30M Barrier River 78.96 1 P P 07 11 34.1 +0.6
baz=359
G17K Kiwalik Mounta 78.97 11 P P 07 11 34.1 +0.4
baz=338,SNR=38
G21K Allakaket 78.97 8 P P 07 11 34.3 +0.7

baz=344
ANM Nome 79.01 13 IAmb IAmb 07 11 36.1
comp=Z,77nm,1.0s
ANM Nome 79.01 13 P **P** **07 11 34.8 +0.9**
baz=334,SNR=22
HAL Halifax 79.04 317 P **P** **07 11 34.2 -0.1**
HAL IAmb IAmb 07 11 37.7
comp=Z,89nm,1.0s
HAL Halifax 79.04 317 P **P** **07 11 34.3 -0.1**
HAL pmax pmax
comp=Z,89nm,1.0s
F31M Tsiigehtchic 79.13 360 P **P** **07 11 34.8 +0.4**
F31M IAmb IAmb 07 11 40.6
comp=Z,68nm,0.8s
F31M Tsiigehtchic 79.13 360 P **P** **07 11 34.6 +0.2**
baz=0.4,SNR=49
G23K Bananza Creek 79.14 6 P **P** **07 11 35.7 +1.1**
baz=347
G26K Porcupine Rive 79.36 4 P **P** **07 11 37.2 +1.5**
baz=352
G24K Hadweenzic Riv 79.37 5 P **P** **07 11 37.1 +1.3**
baz=349
G25K Bearman Lake 79.40 5 P **P** **07 11 37.4 +1.5**
baz=350
H16K Elim 79.51 12 P **P** **07 11 37.3 +0.7**
baz=337,SNR=20
H19K Roundabout Mou 79.56 9 IAmb IAmb 07 11 43.8
comp=Z,77nm,1.1s
H19K Roundabout Mou 79.56 9 P **P** **07 11 37.7 +0.9**
baz=341
G30M tAoh Zraii Nji 79.58 1 IAmb IAmb 07 11 43.2
comp=Z,65nm,0.8s
G30M tAoh Zraii Nji 79.58 1 P **P** **07 11 37.2 +0.2**
baz=358
G27K Doyon Strip 79.61 3 P **P** **07 11 38.5 +1.3**
baz=354
H17K Granite Mounta 79.62 11 IAmb IAmb 07 11 38.8
comp=Z,58nm,0.8s
H17K IAMs_20 IAMs_20 07 52 55.6
comp=Z,1µm,19.0s
H17K Granite Mounta 79.62 11 P **P** **07 11 37.6 +0.5**
baz=338
G29M Pine Creek 79.62 2 IAmb IAmb 07 11 43.8
comp=Z,73nm,1.0s
G29M Pine Creek 79.62 2 P **P** **07 11 37.7 +0.5**
baz=357,SNR=28
H18K Honhosa River 79.65 10 IAmb IAmb 07 11 39.3
comp=Z,72nm,0.9s
H18K Honhosa River 79.65 10 P **P** **07 11 37.9 +0.5**
baz=340
G31M Satah River 79.66 0 IAmb IAmb 07 11 43.5
comp=Z,83nm,0.8s
G31M Satah River 79.66 0 P **P** **07 11 37.4 +0.1**
baz=360,SNR=66
FYU Fort Yukon 79.66 4 IAmb IAmb 07 11 40.1
comp=Z,157nm,1.5s
H20K Anotleneega Mo 79.80 9 P **P** **07 11 39.0 +0.9**
baz=343
H22K Ishtalitna Cre 79.81 7 P **P** **07 11 39.8 +1.7**
baz=346
H21K Melozitna Rive 79.88 8 IAmb IAmb 07 11 41.2
comp=Z,79nm,0.8s
H21K Melozitna Rive 79.88 8 P **P** **07 11 39.9 +1.3**
baz=344
BKSI Bulukumba 80.06 103 P **P** **07 11 39.0 -1.4**
comp=Z,47nm,1.0s,comp=Z,723nm
H24K Noodor Dome 80.19 6 IAmb IAmb 07 11 55.1
comp=Z,65nm,1.2s
H24K Noodor Dome 80.19 6 P **P** **07 11 41.4 +1.1**
baz=348
EPYK Eagle Plains 80.19 1 IAmb IAmb 07 11 54.7
comp=Z,107nm,1.2s
EPYK Eagle Plains 80.19 1 P **P** **07 11 40.4 +0.1**
baz=358,SNR=30
H27K Steamboat Moun 80.19 3 P **P** **07 11 41.6 +1.3**
baz=354
PLAI Plampang 80.22 107 P **P** **07 11 40.8 -0.4**
comp=Z,72nm,1.0s
PQI Presque Isle 80.23 320 IAmb IAmb 07 11 43.9
comp=Z,93nm,1.4s
GCSA Galena City Sc 80.25 10 P **P** **07 11 41.3 +0.8**
baz=341,SNR=25
H29M Whitestone 80.31 2 P **P** **07 11 41.6 +0.7**
baz=356
I17K Unalakleet 80.47 12 IAmb IAmb 07 11 48.8
comp=Z,66nm,1.0s
I17K IAMs_20 IAMs_20 07 54 03.2
comp=Z,1µm,19.0s
I17K Unalakleet 80.47 12 P **P** **07 11 42.7 +0.9**
baz=338,SNR=16
I20K Naaghedeneel 80.52 9 P **P** **07 11 43.2 +1.3**
baz=343
D62A Allapoint, All 80.52 321 P **P** **07 11 42.8 +0.5**
baz=50,SNR=17
D62A P **P** **07 11 42.8 +0.5**
baz=50,SNR=17
PRP Porcupine Dome 80.68 5 P **P** **07 11 43.8 +0.8**
PRP IAmb IAmb 07 11 58.8
comp=Z,95nm,1.8s
PRP Porcupine Dome 80.68 5 P **P** **07 11 43.8 +0.8**
baz=350,SNR=14
MLY Manley 80.71 7 IAmb IAmb 07 11 44.9
comp=Z,58nm,1.1s
MLY Manley 80.71 7 P **P** **07 11 44.1 +1.0**
baz=346,SNR=28
I23K Minto, Yukon-K 80.73 6 P **P** **07 11 44.3 +1.2**
baz=347,SNR=17
I27K Kandik River 80.81 3 P **P** **07 11 44.5 +0.8**
baz=354
LMQ La Malbaie 80.88 322 IAmb IAmb 07 11 47.4
comp=Z,137nm,1.4s
F64A Sherman 80.93 320 P **P** **07 11 45.2 +0.6**
baz=50
F64A P **P** **07 11 45.2 +0.6**
baz=50
POKR Poker Plat Res 80.93 6 IAmb IAmb 07 11 46.8
comp=Z,76nm,1.0s
POKR Poker Plat Res 80.93 6 P **P** **07 11 45.4 +1.2**
baz=349,SNR=25
J14K Nanvaranak Lak 81.01 13 IAmb IAmb 07 11 46.8
comp=Z,69nm,0.9s
J14K Nanvaranak Lak 81.01 13 P **P** **07 11 45.6 +0.9**
baz=336
MDM Murphy Dome 81.02 6 IAmb IAmb 07 11 47.0
comp=Z,104nm,1.1s
I26K Coal Creek Min 81.03 4 IAmb IAmb 07 11 46.9
comp=Z,58nm,1.1s
I26K Coal Creek Min 81.03 4 P **P** **07 11 45.6 +0.8**
baz=352,SNR=32
I28M Miner Creek 81.04 2 P **P** **07 11 45.0 +0.1**
baz=355
J16K Anvik River 81.05 12 IAmb IAmb 07 11 47.0
comp=Z,63nm,0.9s
J16K Anvik River 81.05 12 P **P** **07 11 45.8 +0.9**
baz=338,SNR=23
E62A Clayton Lake 81.06 321 IAmb IAmb 07 11 51.3
comp=Z,69nm,1.5s
E62A Clayton Lake 81.06 321 P **P** **07 11 45.5 +0.2**
baz=50,SNR=6.8
E62A P **P** **07 11 45.5 +0.2**
baz=50,SNR=6.8
LDAQ Lac Daran 81.07 323 P **P** **07 11 45.6 +0.2**
COLA College 81.14 6 P **P** **07 11 45.8 +0.5**
COLA IAmb IAmb 07 11 47.3
comp=Z,89nm,0.9s
COLA College 81.14 6 P **P** **07 11 46.5 +1.2**
COLA College 81.14 6 P **P** **07 11 45.8 +0.5**
COLA pmax pmax
comp=Z,89nm,1.0s
COLA College 81.14 6 P **P** **07 11 46.2 +0.9**
baz=349
J19K Poorman 81.14 9 IAmb IAmb 07 11 47.8
comp=Z,76nm,1.1s
J19K Poorman 81.14 9 P **P** **07 11 46.5 +1.2**
baz=342
J20K Nowinta River 81.15 9 P **P** **07 11 46.7 +1.3**
baz=343,SNR=39
I29M Ogilvie Camp, 81.17 2 P **P** **07 11 45.7 +0.1**
baz=357,SNR=26
NEA2 Nenana 81.30 6 P **P** **07 11 46.3 +0.1**
baz=348,SNR=5.7
ILAR Eielson Array 81.31 5 P **P** **07 11 46.3 0.0**
comp=Z,16nm,0.9s,baz=331,slow=4.1,SNR=125
ILAR PKKPbc **PKKPbc** **07 30 20.4 -1.0**
comp=Z,1.2nm,0.8s,baz=209,slow=2.9,SNR=4.8
comp=Z,16nm,0.9s
I30M Mount Dempster 81.35 1 P **P** **07 11 46.9 +0.3**
baz=358
CCB Clear Creek Bu 81.36 6 IAmb IAmb 07 11 52.1
comp=Z,69nm,1.4s
J18K Innoko River 81.49 10 IAmb IAmb 07 11 51.0
comp=Z,164nm,1.9s
J18K Innoko River 81.49 10 P **P** **07 11 48.1 +0.8**
baz=341
K13K Kusilvak Mount 81.54 14 P **P** **07 11 48.2 +0.7**
baz=335
J25K Salcha River, 81.58 5 P **P** **07 11 48.3 +0.5**
baz=351
BPAW Bear Paw Mtn. 81.59 7 IAmb IAmb 07 11 49.7
comp=Z,77nm,1.1s
BPAW Bear Paw Mtn. 81.59 7 P **P** **07 11 48.1 +0.3**
baz=346,SNR=26
CHUM Lake Minchumin 81.66 8 P **P** **07 11 49.1 +1.0**
baz=345,SNR=34
EGAK Eagle 81.66 3 IAmb IAmb 07 11 54.2
comp=Z,54nm,1.0s
EGAK Eagle 81.66 3 P **P** **07 11 48.5 +0.4**
baz=354,SNR=23
HDA Harding Lake 81.67 6 P **P** **07 11 47.9 -0.2**
baz=349,SNR=13
K15K Wolf Creek Mou 81.80 12 P **P** **07 11 50.1 +1.3**
baz=337
J26L Joseph Creek 81.81 4 P **P** **07 11 49.6 +0.6**
baz=352
K20K Telida 81.95 9 P **P** **07 11 50.6 +0.9**
baz=343
FCC Fort Churchill 81.95 340 P **P** **07 11 50.3 +0.6**
FCC Fort Churchill 81.95 340 P **P** **07 11 50.3 +0.6**
FCC pmax pmax
comp=Z,26nm,1.0s
K17K Iditarod 81.95 11 IAmb IAmb 07 11 56.6
comp=Z,68nm,1.1s
K17K Iditarod 81.95 11 P **P** **07 11 50.6 +1.0**
baz=340
J30M Hart River 82.00 1 P **P** **07 11 50.8 +0.8**
baz=358
J29N Klondike Camp 82.09 2 IAmb IAmb 07 11 56.9
comp=Z,42nm,1.0s
J29N Klondike Camp 82.09 2 P **P** **07 11 51.3 +0.9**
baz=357,SNR=19
TTA Tatalina 82.10 10 IAmb IAmb 07 11 53.0
comp=Z,98nm,1.6s
TTA Tatalina 82.10 10 P **P** **07 11 51.9 +1.4**
TTA Tatalina 82.10 10 P **P** **07 11 51.3 +0.8**
baz=342,SNR=12
CAST Castle Rocks 82.13 8 IAmb IAmb 07 11 52.7
comp=Z,76nm,1.0s
CAST Castle Rocks 82.13 8 P **P** **07 11 51.3 +0.6**
baz=345,SNR=45
MCK McKinley 82.16 7 P **P** **07 11 50.9 +0.1**
baz=348,SNR=19
SCRK Sand Creek 82.31 4 IAmb IAmb 07 11 54.1
comp=Z,83nm,1.0s
SCRK Sand Creek 82.31 4 P **P** **07 11 52.7 +1.0**
baz=352,SNR=52
K24K Donnelly Dome 82.36 5 P **P** **07 11 52.2 +0.3**
baz=350,SNR=39
K27K Chicken 82.36 3 P **P** **07 11 52.7 +0.9**
baz=353
L15K Ungalak Mounta 82.38 13 P **P** **07 11 52.8 +0.9**
baz=337,SNR=7.1
DAWY Dawson 82.44 2 P **P** **07 11 52.7 +0.4**
DAWY IAmb IAmb 07 11 54.2
comp=Z,46nm,1.2s
DAWY Dawson 82.44 2 P **P** **07 11 52.7 +0.4**
baz=356,SNR=21
L14K Kuka Creek 82.47 13 P **P** **07 11 53.2 +0.9**
baz=336
RIDG Independent Ri 82.49 5 P **P** **07 11 53.1 +0.6**
baz=351
RND Reindeer 82.49 7 IAmb IAmb 07 11 53.5
comp=Z,60nm,1.3s
L17K Donlin 82.50 11 P **P** **07 11 53.6 +1.1**
baz=340
G62A West of Eustis 82.51 320 P **P** **07 11 53.7 +0.8**
baz=49
G62A P **P** **07 11 53.7 +0.8**
baz=49
PPLA Purkeypile 82.63 8 P **P** **07 11 54.5 +1.1**
baz=345,SNR=8.4
L18K Granite Mounta 82.67 10 P **P** **07 11 54.6 +1.1**
baz=341
L16K Owhat River 82.71 12 P **P** **07 11 54.7 +1.1**
baz=339,SNR=7.7
K29M Barlow Dome 82.71 1 IAmb IAmb 07 12 00.5
comp=Z,31nm,0.8s
K29M Barlow Dome 82.71 1 P **P** **07 11 54.6 +0.8**
baz=357
YKA Yellowknife Ar 82.81 351 P **P** **07 11 54.0 -0.1**
YKA Yellowknife Ar 82.81 351 P **P** **07 11 54.0 -0.1**
comp=Z,11nm,0.9s,baz=17,slow=5.5,SNR=127
comp=Z,11nm,0.9s
L20K Farewell, AK 82.82 9 P **P** **07 11 55.2 +0.9**
baz=344
DHY Denali Highway 82.95 6 IAmb IAmb 07 11 58.9
comp=Z,28nm,0.8s
DHY Denali Highway 82.95 6 P **P** **07 11 55.2 +0.1**
baz=349,SNR=17
L19K White Mountain 82.97 10 P **P** **07 11 56.0 +0.9**
baz=343
WRGLY Wrigley 82.98 355 P **P** **07 11 56.0 +1.0**
baz=9.0,SNR=21
MAYO Mayo, Yukon 82.99 1 P **P** **07 11 55.9 +0.8**
baz=359,SNR=12
SANI Sanana 83.02 97 P **P** **07 11 54.3 -1.7**
comp=Z,16nm,1.2s
WAT1 Susitna Watana 83.08 7 P **P** **07 11 56.4 +0.7**
baz=348
M14K Bethel 83.15 13 IAmb IAmb 07 11 58.1
comp=Z,36nm,0.8s
M14K Bethel 83.15 13 P **P** **07 11 57.1 +1.2**
baz=337,SNR=5.2
PAX Paxson 83.20 5 P **P** **07 11 56.8 +0.5**
baz=351,SNR=8.5
BASI Baing, Sumba 83.27 107 P **P** **07 11 57.4 +0.2**
comp=Z,266nm,0.9s
L26K Log Cabin Wild 83.29 4 P **P** **07 11 58.1 +1.4**
baz=341,SNR=12
CUT Chulitna 83.32 7 IAmb IAmb 07 12 07.3
comp=Z,55nm,0.9s
CUT Chulitna 83.32 7 P **P** **07 11 57.0 +0.2**
baz=347
M17K Holitna River 83.33 11 IAmb IAmb 07 12 01.0
comp=Z,50nm,0.8s
M17K Holitna River 83.33 11 P **P** **07 11 58.4 +1.5**
baz=341
L27K Beaver Creek, 83.34 3 IAmb IAmb 07 12 04.2
comp=Z,37nm,0.9s
L27K Beaver Creek, 83.34 3 P **P** **07 11 58.2 +1.2**
baz=354,SNR=28
MENT Mentasta 83.36 4 IAmb IAmb 07 11 59.5
comp=Z,62nm,1.1s
MENT Mentasta 83.36 4 P **P** **07 11 58.8 +1.8**
WAT6 Susitna Watana 83.40 6 P **P** **07 11 58.0 +0.6**
baz=349,SNR=12
L29M L29M 83.44 2 IAmb IAmb 07 12 00.6
comp=Z,61nm,1.2s
L29M L29M 83.44 2 P **P** **07 11 58.4 +0.9**
baz=357
M15K Kasigluk River 83.44 13 P **P** **07 11 58.9 +1.5**
baz=338
M16K Timber Creek 83.44 12 P **P** **07 11 58.9 +1.4**
baz=340
LBMI Labuha 83.49 95 P **P** **07 11 59.3 +0.8**
comp=Z,62nm,1.1s,comp=Z,1µm
M20K Styx River 83.49 9 P **P** **07 11 59.5 +1.7**
baz=344
M18K Stony River 83.50 10 P **P** **07 11 58.9 +1.2**
baz=342
SKT Skwentna 83.59 8 IAmb IAmb 07 12 00.0
comp=Z,50nm,0.8s
SKT Skwentna 83.59 8 P **P** **07 11 58.6 +0.4**
baz=346,SNR=21
HARP HAARP 83.79 5 P **P** **07 12 00.4 +1.1**
baz=351,SNR=10
LBNH Lisbon 83.91 320 IAmb IAmb 07 12 03.9
comp=Z,42nm,1.1s
LBNH Lisbon 83.91 320 P **P** **07 12 01.3 +1.1**
baz=48
SVW2 Sparrevohn 83.91 10 IAmb IAmb 07 12 04.9
comp=Z,82nm,1.7s
SVW2 Sparrevohn 83.91 10 P **P** **07 12 01.0 +1.1**
TRQ Mont Tremblant 83.92 323 P **P** **07 11 59.9 -0.3**
TRQ IAmb IAmb 07 12 04.1
comp=Z,99nm,1.6s
M26K Nabesna, AK 83.94 4 P **P** **07 12 01.3 +1.2**
baz=353
N16K Nishlik Lake 83.99 12 P **P** **07 12 02.1 +1.8**
baz=340
M30M Minto, Yukon 84.00 1 P **P** **07 12 01.2 +0.9**
baz=358,SNR=8.4
M24K Tolsona, Glenn 84.00 6 P **P** **07 12 02.2 +1.8**
baz=350,SNR=13
BVCY Beaver Creek 84.03 3 P **P** **07 12 02.2 +1.7**
baz=354,SNR=9.0
M27K Edge Creek, AK 84.04 4 IAmb IAmb 07 12 08.2
comp=Z,55nm,1.1s
M27K Edge Creek, AK 84.04 4 P **P** **07 12 02.6 +1.9**
baz=354
GHO Glory Hole Cre 84.08 7 IAmb IAmb 07 12 02.3
comp=Z,74nm,1.2s
M29M Somme Creek 84.09 2 IAmb IAmb 07 12 03.4
comp=Z,47nm,1.4s
M29M Somme Creek 84.09 2 P **P** **07 12 02.1 +1.2**
baz=356,SNR=10
SML Sawmill 84.11 7 P **P** **07 12 01.7 +0.8**
baz=348,SNR=21
SCM Sheep Creek Mo 84.17 6 IAmb IAmb 07 12 05.9
comp=Z,48nm,0.8s
SCM Sheep Creek Mo 84.17 6 P **P** **07 12 02.6 +1.3**
baz=349,SNR=8.4
M23K Glacier View 84.18 6 P **P** **07 12 02.1 +0.9**
baz=349,SNR=7.1
SUA Susitna One 84.19 8 P **P** **07 12 02.0 +0.5**
baz=346,SNR=22
N17K Nushagak Hills 84.20 11 IAmb IAmb 07 13 31.4
comp=Z,99nm,1.8s
PMR Palmer 84.24 7 IAmb IAmb 07 12 03.4
comp=Z,47nm,0.9s
PMR Palmer 84.24 7 P **P** **07 12 02.8 +1.3**
PMR Palmer 84.24 7 P **P** **07 12 02.1 +0.6**
PMR Palmer 84.24 7 P **P** **07 12 02.0 +0.6**
baz=348,SNR=9.6
N18K Kilae Creek 84.26 11 P **P** **07 12 03.3 +1.7**
baz=342
N20K Mount Spurr 84.27 9 P **P** **07 12 02.5 +0.8**
baz=345
VT1 Waterbury 84.28 321 IAmb IAmb 07 12 10.9
comp=Z,40nm,1.2s
N19K Bonanza Creek 84.34 10 P **P** **07 12 03.3 +1.1**
baz=343,SNR=13
FARO Faro, Yukon 84.36 360 IAmb IAmb 07 12 05.9
comp=Z,55nm,1.2s
FARO Faro, Yukon 84.36 360 P **P** **07 12 03.3 +1.1**
baz=0.8,SNR=19
FRNY Flat Rock 84.38 321 P **P** **07 12 02.6 +0.1**
FRNY IAmb IAmb 07 12 05.9
comp=Z,53nm,1.2s
FRNY Flat Rock 84.38 321 P **P** **07 12 02.8 +0.3**
baz=47,SNR=9.7
M31M Drury Creek, Y 84.39 0 IAmb IAmb 07 12 08.6
comp=Z,57nm,1.2s
M31M Drury Creek, Y 84.39 0 P **P** **07 12 03.0 +0.7**
baz=360,SNR=18
HNH Hanover 84.46 320 IAmb IAmb 07 12 06.0
comp=Z,42nm,0.9s
KNK Knik Glacier 84.48 7 P **P** **07 12 03.7 +0.9**
baz=348,SNR=11
N25K Chitina, Valde 84.62 5 P **P** **07 12 04.5 +0.9**
baz=351
KLU Klutina 84.63 6 P **P** **07 12 04.8 +1.2**
baz=350,SNR=16
MCVT Middlebury Col 84.67 321 P **P** **07 12 04.7 +0.7**
baz=47,SNR=5.8
RC01 Rabbit Creek A 84.67 7 IAmb IAmb 07 12 10.7
comp=Z,37nm,0.7s
RC01 Rabbit Creek A 84.67 7 P **P** **07 12 04.2 +0.6**
baz=347,SNR=10
O14K Tigyukauivet M 84.67 14 P **P** **07 12 05.5 +1.8**
baz=338
YUK3 Moose Creek 84.69 3 P **P** **07 12 05.3 +1.2**
baz=355,SNR=17
BCX Boston College 84.77 318 IAmb IAmb 07 12 12.7
comp=Z,37nm,1.2s
J61A Chester 84.84 320 IAmb IAmb 07 12 08.4
comp=Z,78nm,1.6s
BMNY Brushton-Moira 84.85 322 P **P** **07 12 04.7 -0.2**
baz=46
HRV Adam Dziewonsk 84.87 319 P **P** **07 12 06.0 +1.0**
baz=48
O17K Koliganek Bris 84.93 11 P **P** **07 12 06.2 +1.2**
baz=341,SNR=10.0
O16K Kokwok River B 84.94 12 P **P** **07 12 06.1 +1.1**
baz=340
MCARA McCarthy VSAT 84.95 4 IAmb IAmb 07 12 24.0
comp=Z,31nm,0.9s
O19K Port Alsworth 84.96 10 P **P** **07 12 06.2 +1.0**
baz=343
O15K Ungalikthiuk R 85.02 13 P **P** **07 12 07.3 +1.8**
baz=339
LONY Lake Ozonia 85.04 322 IAmb IAmb 07 12 08.9
comp=Z,78nm,1.2s
LONY Lake Ozonia 85.04 322 P **P** **07 12 06.6 +0.7**
baz=46,SNR=15
VRDI Verde Repeater 85.08 4 IAmb IAmb 07 12 12.7
comp=Z,38nm,1.1s
VRDI IAMs_20 IAMs_20 07 48 13.8
comp=Z,918nm,20.0s
OTT Ottawa 85.08 323 P **P** **07 12 06.1 +0.1**
N31M Braeburn, Yuko 85.11 1 P **P** **07 12 07.1 +1.1**
baz=359
N30M Aishikik Lake 85.11 1 P **P** **07 12 06.6 +0.6**
baz=358
O18K Koktuh Hills 85.15 10 IAmb IAmb 07 12 08.6
comp=Z,57nm,1.0s
O18K Koktuh Hills 85.15 10 P **P** **07 12 07.9 +1.7**
baz=343,SNR=6.3
YUK4 Talbot Arm 85.19 2 P **P** **07 12 07.6 +1.0**
baz=356,SNR=13
BRYW Bryant College 85.25 318 IAmb IAmb 07 12 15.8
comp=Z,79nm,1.4s
O22K Cooper Landing 85.26 8 IAMs_20 IAMs_20 07 56 39.8
comp=Z,1µm,18.0s
O22K Cooper Landing 85.26 8 P **P** **07 12 08.4 +1.7**
baz=347
BARN Barnard Glacie 85.35 4 IAmb IAmb 07 12 09.2
comp=Z,106nm,1.8s
ACCN Adirondack Com 85.41 320 IAmb IAmb 07 12 11.2
comp=Z,48nm,1.1s
ACCN Adirondack Com 85.41 320 P **P** **07 12 08.3 +0.5**
baz=47,SNR=9.2
N32M Quiet Lake 85.45 359 P **P** **07 12 08.4 +0.7**
baz=1.0
QUA2 Belchertown 85.45 319 IAmb IAmb 07 12 09.3
comp=Z,40nm,1.2s
CTG Chitna Glacier 85.46 3 P **P** **07 12 09.3 +1.4**
baz=354
CTGM Chitina Glacie 85.46 3 IAmb IAmb 07 12 15.1
comp=Z,43nm,1.0s
P16K Nushagak River 85.48 12 P **P** **07 12 09.5 +1.8**
baz=340,SNR=7.8
L61B Northampton 85.52 319 P **P** **07 12 09.1 +0.8**
baz=47
L61B Northampton 85.52 319 P **P** **07 12 08.9 +0.6**
baz=47
CRQM Cirque 85.56 4 IAmb IAmb 07 12 12.7
comp=Z,69nm,1.1s
CRQE Cirque 85.57 4 P **P** **07 12 09.2 +0.8**
baz=353,SNR=6.6
EYAK Cordova Ski Ar 85.58 6 P **P** **07 12 10.9 +2.7**
TGL Tana Glacier 85.58 4 IAmb IAmb 07 12 22.8
comp=Z,51nm,1.0s
P17K Kvichak River 85.59 11 P **P** **07 12 09.6 +1.3**
baz=342,SNR=12
SEW Seward 85.66 8 P **P** **07 12 09.8 +1.2**
baz=347
GRNC Granite Creek 85.67 4 IAmb IAmb 07 12 24.3
comp=Z,80nm,1.2s
KRAI Karang Ratu 85.72 97 P **P** **07 12 09.2 -0.5**
comp=Z,60nm,1.1s
HYT Haines Junctio 85.74 2 IAmb IAmb 07 12 16.5
comp=Z,50nm,1.0s
HYT Haines Junctio 85.74 2 P **P** **07 12 10.8 +1.5**
baz=357,SNR=18
J59A Piesco 85.80 321 IAmb IAmb 07 12 13.1
comp=Z,57nm,1.1s
J59A Piesco 85.80 321 P **P** **07 12 10.0 +0.3**
baz=46,SNR=12
J59A P **P** **07 12 10.0 +0.3**
baz=46,SNR=12
O30N Mendenhall 85.82 1 P **P** **07 12 10.2 +0.6**
baz=358
TRY Troy 85.86 320 IAmb IAmb 07 13 30.8
comp=Z,51nm,1.6s

M63A Gales Ferry 85.88 318 IAmb IAmb 07 12 18.8
comp=Z,57nm,1.1s
WHY Whitehorse 85.94 0 P P 07 12 10.3 +0.1
baz=360
FLDN Fort Liard 85.94 355 IAmb IAmb 07 14 22.6
comp=Z,44nm,0.8s
SOEI Soe 85.96 104 IAMs_20 IAMs_20 07 55 50.2
comp=Z,1µm,22.0s
SOEI Soe 85.96 104 P P 07 12 11.1 +0.1
comp=Z,96nm,1.0s
WCNY West Carthage 86.04 322 P P 07 12 11.3 +0.5
baz=45,SNR=8.0
Q16K King Salmon 86.05 12 P P 07 12 11.3 +0.8
baz=342,SNR=8.3
KOTAN Kotaneelee Air 86.10 355 P P 07 12 12.3 +1.4
baz=8.5
O29M Mount Kennedy 86.23 2 IAmb IAmb 07 13 40.2
comp=Z,86nm,1.6s
O29M Mount Kennedy 86.23 2 P P 07 12 12.6 +0.9
baz=356
HCNY Howe Caverns 86.27 320 P P 07 12 12.9 +0.9
baz=46,SNR=10
J58A Remsen 86.28 321 IAmb IAmb 07 12 20.7
comp=Z,67nm,1.2s
J58A Remsen 86.28 321 P P 07 12 12.8 +0.7
baz=46,SNR=7.3
J58A P P 07 12 12.8 +0.7
baz=46,SNR=7.3
RCBR Riachuelo 86.30 261 IAMs_20 IAMs_20 07 54 58.5
comp=Z,992nm,18.0s
J57A Williamstown 86.61 322 IAmb IAmb 07 12 16.1
comp=Z,33nm,0.8s
J57A Williamstown 86.61 322 P P 07 12 13.7 0.0
baz=45
J57A P P 07 12 13.7 0.0
baz=45
DELO Deloro Mine 86.65 323 IAmb IAmb 07 12 16.8
comp=Z,56nm,1.1s
SWI Sorong 86.73 93 P P 07 12 14.3 -0.4
comp=Z,36nm,1.3s,comp=Z,2µm
SIJI Sorong 86.74 93 P P 07 12 14.4 -0.4
comp=Z,21nm,1.5s,comp=Z,1µm
Q20K Shuyak Island 86.76 9 P P 07 12 14.7 +0.6
baz=345
NPNY Mohonk Preserv 86.79 319 P P 07 12 14.6 0.0
baz=46
P29M Windy Craggy 86.93 2 IAmb IAmb 07 12 24.3
comp=Z,60nm,1.4s
L59A Walton 86.97 320 P P 07 12 15.9 +0.3
baz=46,SNR=8.5
L59A P P 07 12 15.9 +0.3
baz=46,SNR=8.5
N62A Caumsett State 86.98 319 IAmb IAmb 07 12 17.7
comp=Z,68nm,1.4s
N62A Caumsett State 86.98 319 P P 07 12 15.8 +0.3
baz=47
N62A P P 07 12 15.8 +0.3
baz=47
R33M Jennings River 87.17 358 P P 07 12 17.7 +1.4
baz=2.7,SNR=11
PAL Palisades 87.17 319 IAmb IAmb 07 12 18.9
comp=Z,76nm,1.5s
PAL Palisades 87.17 319 P P 07 12 16.7 +0.2
baz=46
SADO Sadowa 87.22 324 IAmb IAmb 07 12 24.6
comp=Z,37nm,1.1s
TRNY Table Rock, Ra 87.25 319 IAmb IAmb 07 12 19.7
comp=Z,68nm,1.6s
CPNY Central Park 87.35 319 IAMs_20 IAMs_20 07 54 46.4
comp=Z,1µm,19.0s
BINY Binghamton 87.46 321 P P 07 12 18.0 +0.1
baz=45
ODNJ Ogdensburg 87.50 319 IAmb IAmb 07 12 26.3
comp=Z,44nm,1.4s
KDAK Kodiak Island 87.53 10 P P 07 12 18.3 +0.4
KDAK Kodiak Island 87.53 10 P P 07 12 18.3 +0.4
KDAK pmax pmax
comp=Z,340nm,1.6s
KDAK Kodiak Island 87.53 10 P P 07 12 18.8 +1.0
baz=345
FFC Flin Flon 87.62 342 P P 07 12 18.0 -0.4
FFC IAmb IAmb 07 12 26.7
comp=Z,50nm,1.4s
FFC Flin Flon 87.62 342 P P 07 12 18.0 -0.4
FFC pmax pmax
comp=Z,50nm,1.5s
Q32M Nakina River 87.63 359 P P 07 12 19.8 +1.2
baz=1.6
KSPA Keystone Colle 87.80 320 IAmb IAmb 07 12 21.0
comp=Z,65nm,1.7s
DLBC Dease Lake 88.11 358 IAmb IAmb 07 13 50.8
comp=Z,86nm,1.8s
DLBC Dease Lake 88.11 358 P P 07 12 22.3 +1.5
baz=3.5,SNR=10.0
L56A Greenwood 88.33 322 IAmb IAmb 07 12 27.2
comp=Z,26nm,0.8s
L56A Greenwood 88.33 322 P P 07 12 22.1 0.0
baz=44,SNR=7.4
L56A P P 07 12 22.1 0.0
baz=44,SNR=7.4
JIS Juneau Island 88.33 0 IAmb IAmb 07 12 25.7
comp=Z,36nm,0.9s
JIS Juneau Island 88.33 0 P P 07 12 23.6 +2.0
R32K Eaglecrest 88.34 0 IAmb IAmb 07 12 24.2
comp=Z,44nm,1.0s
R32K Eaglecrest 88.34 0 P P 07 12 23.8 +2.1
baz=360,SNR=5.2
TUPA Temple Univers 88.46 319 P P 07 12 22.9 +0.3
baz=46,SNR=7.8
S34M Telegraph Cree 88.66 358 IAmb IAmb 07 12 25.6
comp=Z,38nm,1.0s
S34M Telegraph Cree 88.66 358 P P 07 12 24.9 +1.7
baz=2.6,SNR=12
WVNY West Valley, N 88.67 322 IAmb IAmb 07 13 50.6
comp=Z,31nm,1.1s
WVNY West Valley, N 88.67 322 P P 07 12 23.7 +0.1
baz=43,SNR=5.8
N58A Sunbury 88.81 320 P P 07 12 23.6 -0.7
baz=45
N58A P P 07 12 23.6 -0.7
baz=45
MVL Millersville 89.21 319 IAmb IAmb 07 12 34.2
comp=Z,71nm,1.7s
PSA00 Pilbara Seismi 89.40 116 IAmb IAmb 07 12 27.2
comp=Z,33nm,1.1s
PSA00 Pilbara Seismi 89.40 116 IAMs_20 IAMs_20 07 58 43.3
comp=Z,1µm,19.0s
M55A Ridgway 89.44 322 IAmb IAmb 07 12 30.5
comp=Z,44nm,1.0s
M55A Ridgway 89.44 322 P P 07 12 27.3 +0.1
baz=43,SNR=11
M55A P P 07 12 27.3 +0.1
baz=43,SNR=11
T35M Bob Quinn 89.57 358 P P 07 12 29.2 +1.6
baz=3.3
SSPA Standing Stone 89.58 321 P P 07 12 27.9 0.0
SSPA IAmb IAmb 07 12 31.3
comp=Z,86nm,1.9s
SSPA Standing Stone 89.58 321 IAMs_20 IAMs_20 07 53 51.2
comp=Z,1µm,20.0s
E43A Lone Tree Farm 89.58 329 IAmb IAmb 07 12 35.7
comp=Z,30nm,0.9s
E43A Lone Tree Farm 89.58 329 P P 07 12 27.5 -0.3
baz=38
ERPA Erie 89.58 323 P P 07 12 27.4 -0.5
ERPA Erie 89.58 323 P P 07 12 27.7 -0.2
baz=42
ERPA Erie 89.58 323 P P 07 12 27.8 -0.1
baz=42
D41A Chassel 89.69 331 IAmb IAmb 07 12 36.5
comp=Z,56nm,1.1s
ULM Lac du Bonnet 89.74 337 P P 07 12 27.3 -1.1
comp=Z,7.3nm,0.7s,baz=34,slow=3.6,SNR=17
comp=Z,7.3nm,0.7s
PAOC Oil Creek Stat 89.87 322 P P 07 12 29.4 +0.1
baz=43
ALLY Alegheny Colle 90.01 323 IAmb IAmb 07 12 30.2
comp=Z,27nm,0.8s
ALLY Alegheny Colle 90.01 323 P P 07 12 29.9 0.0
baz=42
EYMN Ely 90.12 333 IAmb IAmb 07 12 33.1
comp=Z,44nm,1.2s
EYMN Ely 90.12 333 P P 07 12 30.6 +0.3
baz=34
EYMN Ely 90.12 333 P P 07 12 30.6 +0.3
baz=34,SNR=13
K50A Casco 90.39 325 IAMs_20 IAMs_20 07 53 11.4
comp=Z,1µm,18.0s

M53A WI Miller and 90.43 323 IAmb IAmb 07 16 01.4
comp=Z,40nm,1.4s
P57A Homestead Farm 90.47 320 IAmb IAmb 07 12 42.1
comp=Z,81nm,1.9s
P57A Homestead Farm 90.47 320 P P 07 12 31.7 -0.4
baz=44
P57A P P 07 12 31.7 -0.4
baz=44
B35A Bob, Littlefor 90.60 334 IAmb IAmb 07 12 41.0
comp=Z,76nm,1.9s
B35A Bob, Littlefor 90.60 334 P P 07 12 32.1 -0.4
baz=33,SNR=6.9
M52A Chesterland 90.70 323 P P 07 12 32.9 -0.2
baz=42,SNR=7.1
M52A P P 07 12 32.9 -0.2
baz=42,SNR=7.1
N53A Lisbon 90.98 322 IAmb IAmb 07 12 37.0
comp=Z,43nm,1.1s
N53A Lisbon 90.98 322 P P 07 12 34.2 -0.3
baz=42,SNR=9.7
N53A P P 07 12 34.2 -0.3
baz=42,SNR=9.7
CBN Corbin Frederi 91.05 319 IAmb IAmb 07 13 57.5
comp=Z,20nm,0.7s
CBN Corbin Frederi 91.05 319 P P 07 12 34.7 0.0
baz=44
CBN Corbin Frederi 91.05 319 P P 07 12 34.8 0.0
baz=44
J47A Sunmer 91.07 326 P P 07 12 35.0 +0.2
baz=39,SNR=9.5
J47A P P 07 12 35.0 +0.2
baz=39,SNR=9.5
O54A Avella 91.21 322 IAmb IAmb 07 12 41.4
comp=Z,34nm,1.1s
AAM Ann Arbor 91.25 325 IAMs_20 IAMs_20 07 53 26.1
comp=Z,1µm,20.0s
AAM Ann Arbor 91.25 325 P P 07 12 35.5 -0.1
baz=40
E38A The Farm, Brul 91.25 332 P P 07 12 35.6 0.0
baz=34,SNR=16
MCWV Mont Chateau 91.32 321 P P 07 12 36.2 +0.2
baz=42,SNR=5.8
MCWV Mont Chateau 91.32 321 P P 07 12 35.7 -0.3
baz=42,SNR=5.8
BRLDA Berland Lookou 91.32 350 IAmb IAmb 07 12 45.1
comp=Z,74nm,1.8s
R58B Mineral 91.50 319 IAmb IAmb 07 12 39.1
comp=Z,32nm,1.4s
R58B Mineral 91.50 319 P P 07 12 36.5 -0.3
baz=44
R58B P P 07 12 36.5 -0.3
baz=44
EDM Edmonton 91.51 348 IAmb IAmb 07 12 42.2
comp=Z,81nm,1.8s
O53A New Philadelph 91.59 322 P P 07 12 37.7 +0.4
baz=42,SNR=9.6
M50A Fremont 91.63 324 P P 07 12 37.1 -0.4
baz=40
M50A P P 07 12 37.1 -0.4
baz=40
N51A Ashland 91.67 323 P P 07 12 36.8 -0.9
baz=41,SNR=8.1
N51A P P 07 12 36.8 -0.9
baz=41,SNR=8.1
G40A Rib Lake 91.81 331 P P 07 12 38.1 -0.1
baz=35,SNR=30
FITZ Fitzroy Crossi 91.81 110 P P 07 12 37.7 -0.8
L48A N Adams 91.89 325 IAMs_20 IAMs_20 07 55 57.1
comp=Z,1µm,19.0s
L48A N Adams 91.89 325 P P 07 12 38.2 -0.4
baz=40,SNR=12
L48A P P 07 12 38.2 -0.4
baz=40,SNR=12
O52A Adamsville 92.00 323 P P 07 12 38.7 -0.5
baz=41,SNR=17
O52A P P 07 12 38.7 -0.5
baz=41,SNR=17
T59A Double "B" Far 92.03 318 IAmb IAmb 07 12 41.8
comp=Z,48nm,1.6s
P53A Whipple 92.25 322 P P 07 12 40.6 +0.3
baz=42,SNR=12
P53A P P 07 12 40.6 +0.3
baz=42,SNR=12
Q54A Coxs Mills 92.33 321 IAmb IAmb 07 14 15.2
comp=Z,55nm,1.6s
I42A Draeger Farm, 92.38 329 P P 07 12 40.3 -0.6
baz=36
R55A Marlinton 92.47 320 P P 07 12 41.0 -0.5
baz=42
R55A P P 07 12 41.0 -0.5
baz=42
ACSO Alum Creek Sta 92.49 323 P P 07 12 41.7 +0.2
baz=40,SNR=12
ACSO Alum Creek Sta 92.49 323 P P 07 12 40.9 -0.5
baz=40,SNR=12
P52A Corning 92.52 322 P P 07 12 41.6 0.0
baz=41,SNR=17
N49A Columbus Grove 92.56 324 P P 07 12 41.4 -0.3
baz=40,SNR=13
N49A P P 07 12 41.4 -0.3
baz=40,SNR=13
U59A Littleton 92.61 318 IAMs_20 IAMs_20 07 51 33.5
comp=Z,1µm,20.0s
F36A Milaca 92.63 333 IAmb IAmb 07 12 44.3
comp=Z,32nm,1.1s
F36A Milaca 92.63 333 P P 07 12 41.3 -0.7
baz=33,SNR=22
SPMN Marine on St. 92.88 332 P P 07 12 43.4 +0.2
baz=33
SPMN Marine on St. 92.88 332 P P 07 12 43.0 -0.1
baz=33,SNR=14
KNRA Kununurra 92.91 107 P P 07 12 43.5 -0.2
KNRA Kununurra 92.91 107 P P 07 12 43.1 -0.5
T57A Hurt 92.95 319 IAmb IAmb 07 12 45.9
comp=Z,22nm,1.0s
Q52A Bidwell 93.09 322 P P 07 12 44.0 -0.2
baz=41,SNR=14
Q52A P P 07 12 44.0 -0.2
baz=41,SNR=14
P51A Williamsport 93.10 323 IAmb IAmb 07 12 45.7
comp=Z,26nm,0.8s
P51A Williamsport 93.10 323 P P 07 12 43.5 -0.8
baz=40,SNR=7.0
P51A P P 07 12 43.5 -0.8
baz=40,SNR=7.0
I40A Norwalk 93.10 330 IAmb IAmb 07 12 52.2
comp=Z,23nm,0.9s
O49A Covington 93.19 324 P P 07 12 44.4 -0.3
baz=40,SNR=20
O49A P P 07 12 44.4 -0.3
baz=40,SNR=20
N47A Urbana 93.31 325 P P 07 12 44.5 -0.7
baz=39,SNR=11
N47A P P 07 12 44.5 -0.7
baz=39,SNR=11
O48B Farmland 93.54 325 IAMs_20 IAMs_20 07 54 43.8
comp=Z,1µm,22.0s
O48B Farmland 93.54 325 P P 07 12 45.6 -0.7
baz=39,SNR=9.5
O48B Farmland 93.54 325 P P 07 12 45.8 -0.5
baz=39,SNR=9.5
Q51A Peebles 93.59 323 P P 07 12 46.3 -0.2
baz=40,SNR=18
Q51A P P 07 12 46.3 -0.2
baz=40,SNR=18
F33A 5 Mile Ranch, 93.67 334 IAmb IAmb 07 14 09.9
comp=Z,16nm,0.8s
JFWS Jewell Farm 93.74 329 IAmb IAmb 07 12 48.6
comp=Z,21nm,0.8s
JFWS Jewell Farm 93.74 329 P P 07 12 46.5 -0.7
baz=35
JFWS Jewell Farm 93.74 329 P P 07 12 46.5 -0.7
baz=35,SNR=6.2
V58A Windy Hill, Pi 93.75 318 IAmb IAmb 07 16 12.1
comp=Z,54nm,1.6s
DGMT Dagmar 93.86 340 IAmb IAmb 07 12 53.5
comp=Z,62nm,1.6s
P49A Miami Univ. Ec 93.88 324 IAmb IAmb 07 12 49.3
comp=Z,35nm,0.9s
P49A IAMs_20 IAMs_20 07 56 13.0
comp=Z,1µm,20.0s
P49A Miami Univ. Ec 93.88 324 P P 07 12 47.3 -0.7
baz=39,SNR=8.7
P49A Miami Univ. Ec 93.88 324 P P 07 12 47.2 -0.7
baz=39,SNR=8.7
M44A Midewin, Midew 94.00 327 P P 07 12 48.3 -0.1
baz=37
U56A King 94.04 319 IAmb IAmb 07 12 51.5
comp=Z,49nm,1.3s
I37B Waseca 94.13 332 P P 07 12 48.9 0.0
baz=33,SNR=12
L42A Oliver, Polo 94.23 328 IAmb IAmb 07 12 51.6
comp=Z,40nm,0.9s
L42A Oliver, Polo 94.23 328 P P 07 12 49.1 -0.3
baz=36,SNR=6.5
KDU Kakadu 94.25 102 P P 07 12 48.0 -1.8
P48A Milroy 94.29 324 P P 07 12 49.0 -0.7
baz=39,SNR=10.0
P48A P P 07 12 49.0 -0.7
baz=39,SNR=10.0
SFIN Lafayette 94.37 326 P P 07 12 49.5 -0.5
baz=38
TMAB Tom-Au,PA,Br 94.50 270 *e*P P 07 12 53.9 +2.8
Y60A Bolivia 94.53 316 IAMs_20 IAMs_20 07 55 39.7
comp=Z,934nm,20.0s
R50A Paris 94.65 323 P P 07 12 51.1 -0.3
baz=40,SNR=9.8
R50A P P 07 12 51.1 -0.3
baz=40,SNR=9.8
U54A Nelsons Funny 94.69 320 IAmb IAmb 07 12 54.5
comp=Z,26nm,1.1s
S51A Beattyville 94.77 322 IAmb IAmb 07 12 54.1
comp=Z,29nm,0.9s
S51A Beattyville 94.77 322 P P 07 12 52.1 +0.1
baz=40,SNR=6.9
S51A P P 07 12 52.1 +0.1
baz=40,SNR=6.9
BLO Bloomington 95.04 325 IAmb IAmb 07 12 54.7
comp=Z,20nm,0.9s
R49A Shelbyville 95.07 323 P P 07 12 52.9 -0.4
baz=39,SNR=7.7
R49A P P 07 12 52.9 -0.4
baz=39,SNR=7.7
O44A Mansfield 95.18 327 IAmb IAmb 07 12 59.6
comp=Z,42nm,1.2s
SABA Saba 95.30 295 IAMs_20 IAMs_20 07 49 52.5
comp=Z,794nm,19.0s
KMSC Kings Mountain 95.45 319 IAmb IAmb 07 13 10.0
comp=Z,32nm,1.4s
KMSC Kings Mountain 95.45 319 P P 07 12 55.6 +0.5
baz=42
TZTN Tazewell 95.58 321 IAmb IAmb 07 13 02.0
comp=Z,44nm,1.4s
TZTN Tazewell 95.58 321 P P 07 12 56.4 +0.7
baz=40
ECSD EROS Data Cent 95.60 334 IAmb IAmb 07 13 01.4
comp=Z,22nm,1.2s
ECSD EROS Data Cent 95.60 334 P P 07 12 55.8 +0.1
baz=31
ECSD EROS Data Cent 95.60 334 P P 07 12 55.7 0.0
baz=31
WCI Wyandotte Cave 95.67 324 P P 07 12 56.0 -0.1
WCI IAmb IAmb 07 13 04.5
comp=Z,26nm,1.3s
WCI Wyandotte Cave 95.67 324 P P 07 12 56.0 -0.1
WCI pmax pmax
comp=Z,26nm,1.3s
WCI MLR MLR
comp=Z,2µm,21.0s
SUSD Miller 95.82 335 IAMs_20 IAMs_20 07 57 40.5
comp=Z,1µm,22.0s
V53A Saluda 95.86 320 IAmb IAmb 07 12 59.8
comp=Z,18nm,0.9s
V53A Saluda 95.86 320 P P 07 12 56.2 -0.9
baz=41
V53A P P 07 12 56.2 -0.9
baz=41
T50A Nancy 95.88 322 P P 07 12 56.7 -0.4
baz=39
T50A P P 07 12 56.7 -0.4
baz=39
LAO LASA Array 96.05 341 P P 07 12 59.3 +1.5
baz=23
V52A Sevierville 96.14 321 P P 07 12 58.2 0.0
baz=40
OLIL Olney 96.14 325 P P 07 12 57.8 -0.4
baz=37,SNR=7.8
TKL Tuckaleechee C 96.37 321 IAmb IAmb 07 13 01.5
comp=Z,22nm,0.8s
TKL Tuckaleechee C 96.37 321 P P 07 12 59.7 +0.4
baz=40
BG3 Lake Jocassee 96.43 320 IAmb IAmb 07 13 02.0
comp=Z,12nm,0.8s
MCPB Macapa, AP 96.70 274 *e*P P 07 13 02.0 +0.8
N38A Joes South For 96.75 330 IAmb IAmb 07 13 12.3
comp=Z,14nm,0.7s
N38A IAMs_20 IAMs_20 07 58 54.5
comp=Z,1µm,20.0s
U49A Red Boiling Sp 96.75 323 P P 07 13 00.6 -0.4
baz=39
NEW Newport 96.94 349 P P 07 13 02.6 +0.9
baz=14
T47A Sharon Grove 97.04 324 IAmb IAmb 07 13 05.1
comp=Z,41nm,1.7s
SDBA SAO DESIDERIO 97.31 260 *e*P Pdif 07 13 06.4 +2.4
CLTN Cedars of Leba 97.36 323 IAMs_20 IAMs_20 08 00 06.1
comp=Z,1µm,20.0s
SIUC Southern Illin 97.48 326 IAmb IAmb 07 13 06.3
comp=Z,18nm,1.0s
SIUC IAMs_20 IAMs_20 07 59 29.2
comp=Z,1µm,20.0s
S44A Carbondale 97.52 326 IAmb IAmb 07 13 06.4
comp=Z,15nm,1.1s
W50A Signal Mountai 97.53 321 IAmb IAmb 07 13 06.4
comp=Z,15nm,1.1s
W50A Signal Mountai 97.53 321 P P 07 13 04.5 -0.2
baz=39
RSSD Black Hills 97.76 339 P P 07 13 04.7 -1.0
RSSD Black Hills 97.76 339 P P 07 13 04.7 -1.0
RSSD pmax pmax
comp=Z,11nm,1.2s
RSSD MLR MLR
comp=Z,2µm,18.0s
RSSD Black Hills 97.76 339 P Pdif 07 13 06.0 +0.3
baz=25
SWET Sewanee 97.84 322 IAMs_20 IAMs_20 07 56 17.8
comp=Z,830nm,21.0s
V48A Smith Brothers 97.88 323 IAMs_20 IAMs_20 08 00 22.9
comp=Z,1µm,20.0s
CCM Cathedral Cave 98.15 327 P P 07 13 07.0 -0.3
CCM Cathedral Cave 98.15 327 P P 07 13 07.0 -0.3
CCM pmax pmax
comp=Z,52nm,2.0s
CCM Cathedral Cave 98.15 327 P Pdif 07 13 07.4 +0.1
baz=35
RLMT Red Lodge 98.30 342 IAmb IAmb 07 13 14.2
comp=Z,16nm,1.4s
R40A Maddies Statio 98.41 328 IAmb IAmb 07 13 20.0
comp=Z,13nm,1.1s
PVMO Portageville 98.76 325 IAMs_20 IAMs_20 07 59 10.9
comp=Z,1µm,20.0s
MGMO Mountain Grove 99.35 327 IAmb IAmb 07 13 21.2
comp=Z,18nm,1.4s
WRA Warramunga Arr 99.68 107 *i* P Pdif 07 13 13.1 -1.2
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 99.68 107 P Pdif 07 13 12.9 -1.5
comp=Z,4.0nm,0.7s,baz=316,slow=4.0,SNR=41
WRA PP PP 07 17 18.3 -0.6
comp=Z,2.4nm,0.9s,baz=308,slow=7.5,SNR=5.6
WRA PKKPbc **PKKPbc** 07 29 34.2 -0.6
comp=Z,0.6nm,0.5s,baz=116,slow=2.9,SNR=6.3
comp=Z,4.0nm,0.7s
WB2 Warramunga Arr 99.69 107 IAMs_20 IAMs_20 08 02 51.0
comp=Z,609nm,19.0s
SDDR Presa de Saban 100.35 301 IAMs_20 IAMs_20 08 04 01.1
comp=Z,710nm,18.0s
PDAR Pinedale Array 100.57 342 P Pdif 07 13 17.8 -0.6
comp=Z,0.5nm,0.7s,baz=32,slow=5.9,SNR=3.8
PDAR PKiKP **PKiKP** 07 17 44.7 0.0
comp=Z,0.8nm,0.9s,baz=60,slow=4.3,SNR=1.7
PDAR PKKPbc **PKKPbc** 07 29 31.9 -0.9
comp=Z,0.4nm,0.7s,baz=164,slow=7.6,SNR=4.5
ASAR Alice Springs 101.31 111 P Pdif 07 13 20.1 -1.4
comp=Z,2.5nm,0.8s,baz=304,slow=4.6,SNR=24
ASAR PP PP 07 17 31.0 -0.3
comp=Z,2.4nm,0.9s,baz=308,slow=6.8,SNR=4.6
ASAR PKiKP **PKiKP** 07 17 46.2 +0.1
comp=Z,0.9nm,0.5s,baz=313,slow=1.2,SNR=11
ASAR PKKPbc **PKKPbc** 07 29 29.9 -0.3
comp=Z,1.3nm,0.5s,baz=120,slow=3.7,SNR=17
BDFB Brasilia 101.58 259 IAMs_20 IAMs_20 08 02 15.9
comp=Z,928nm,19.0s
QUOK Quay 102.11 330 IAMs_20 IAMs_20 07 56 49.3
comp=Z,961nm,18.0s
143A Socs Landing, 102.58 324 IAMs_20 IAMs_20 08 03 09.3

ISC 11 07:00:53.4±0.7, 33°.73N±0°.03×45°.67E±0°.03, h18km±3km, n446, σ1°.24/490, mb5.3/120, MS5.1/12, 11D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.46**	**103**	*e*Pg	**Pn**	**07 01 08.5**	**+3.3**
ILBA	**Ilam Banvizeh**	**0.46**	**103**	Pg	**Pb**	**07 01 02.7**	**-0.3**
ILBA				Sg	**Sb**	**07 01 08.1**	**-1.4**
IBDR	**Badra**	**0.65**	**160**	*e*Pg	**Pg**	**07 01 05.0**	**-1.2**
IBDR				*e*Sg	**Sg**	**07 01 13.0**	**-1.9**
KGS1	**Ghasr-e-Shirin**	**0.78**	**355**	Sg	**Sn**	**07 01 22.4**	**+1.5**
IDHR	**Dehrash**	**1.14**	**31**	Pg	**Pn**	**07 01 16.7**	**+2.0**
IDHR				Sg	**Sn**	**07 01 33.7**	**+3.7**
BHD	**Baghdad**	**1.17**	**247**	*e*Pg	**Pn**	**07 01 16.0**	**+1.1**
BHD				*e*Sg	**Sb**	**07 01 33.0**	**+3.1**
KCHF	**Cheshme Sefid,**	**1.26**	**64**	Pg	**Pn**	**07 01 17.8**	**+1.5**
KCHF				Sg	**Sn**	**07 01 37.3**	**+4.3**
IKOM	**Komasi**	**1.59**	**73**	Pg	**Pg**	**07 01 23.7**	**-0.4**
IKOM				Sg	**Sg**	**07 01 46.1**	**+1.3**
ILIN	**Lien**	**1.60**	**42**	Pg	**Pg**	**07 01 23.8**	**-0.4**
ILIN				Sg	**Sg**	**07 01 46.9**	**+1.8**
SNGE	**Sanandaj**	**1.94**	**45**	*e*Pn	Pg	07 01 32.6	+1.9
SNGE				*e*Sg	**Sg**	**07 01 57.2**	**+1.2**
SNGE				IAML		07 02 01.7	
	comp=E,15μm,0.7s						
SNGE				IAML		07 02 03.0	
	comp=N,16μm,0.6s						
IBZA	**Bozab**	**1.96**	**67**	Pn	**Pg**	**07 01 27.8**	**-3.3**
RAFI	**Al-Rafai**	**2.03**	**169**	*e*Pn	**Pn**	**07 01 29.0**	**+2.3**
RAFI				*e*Sn	**Sn**	**07 01 55.0**	**+3.3**
IALM	**Almabolaq**	**2.36**	**61**	Pn	**Pg**	**07 01 34.9**	**-3.7**
ASAO	**Ashtian**	**3.70**	**76**	*e*Pn	**Pb**	**07 01 57.4**	**-1.0**
GURO	**Guroymak-BITLI**	**5.64**	**330**	Pn	**Pn**	**07 02 15.0**	**-1.5**
GAZ	**Gaziantep**	**7.71**	**299**	Pn	**Pn**	**07 02 44.9**	**0.0**
CSS	**Mathiatis**	**10.28**	**280**	Pn	**Pn**	**07 03 20.6**	**+0.6**
KARP	**Karpathos**	**15.35**	**282**	Pn	**Pn**	**07 04 28.5**	**-0.6**
KARP				IAmb	IAmb	07 04 36.4	
	comp=Z,138nm,0.7s						
TIRR	**Tirgusor**	**17.12**	**314**	P	**P**	**07 04 52.6**	**-0.6**
TIRR				IAmb	IAmb	07 05 00.3	
	comp=Z,170nm,0.8s						
ALN	**Alexandroupoli**	**17.16**	**300**	P	**Pn**	**07 04 52.5**	**+0.3**
RDO	**Rodhopi**	**17.60**	**301**	P	**P**	**07 04 59.8**	**+1.2**
ABKAR	**Akbulak array**	**18.79**	**30**	P	**P**	**07 05 09.0**	**-2.7**
AKTO	**Aktyubinsk**	**19.00**	**25**	P	**Pn**	**07 05 15.0**	**+0.3**
	comp=Z,4.0nm,0.3s,baz=180,slow=8.1,SNR=1.0						
	comp=Z,29nm,0.6s						
MLR	**Muntele Rosu**	**19.15**	**314**	P	**P**	**07 05 14.6**	**-1.2**
MLR	**Muntele Rosu**	**19.15**	**314**	P	**Pn**	**07 05 16.2**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=108,slow=7.7,SNR=1.3						
	comp=Z,45nm,0.7s						
AGG	**Agios Georgios**	**19.50**	**292**	P	**P**	**07 05 19.6**	**0.0**
FNA	**Florina**	**20.54**	**297**	P	**P**	**07 05 31.2**	**+0.2**
BURAR	**Bucovina Array**	**20.73**	**318**	P	**P**	**07 05 32.1**	**-0.8**
BURAR				IAmb	IAmb	07 05 41.1	
	comp=Z,87nm,0.8s						
BUR08	**Bucovina Ar. S**	**20.75**	**318**	P	**P**	**07 05 31.5**	**-1.7**
BUR08				IAmb	IAmb	07 05 40.6	
	comp=Z,94nm,0.9s						
AKASG	**Malin Array Be**	**20.80**	**330**	P	**P**	**07 05 32.2**	**-1.4**
AKASG				IAmb	IAmb	07 05 34.1	
	comp=Z,133nm,0.8s						
AKASG	**Malin Array Be**	**20.80**	**330**	P	**P**	**07 05 33.2**	**-0.4**
	comp=Z,64nm,0.7s,baz=137,slow=9.9,SNR=5.9						
AKASG				PcP	**PcP**	**07 09 41.8**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=78,slow=2.5,SNR=3.5						
	comp=Z,64nm,0.7s						
AKBB	**Malin Array Si**	**20.80**	**330**	P	**P**	**07 05 32.6**	**-0.9**
AKBB				IAmb	IAmb	07 05 34.2	
	comp=Z,147nm,0.8s						
KIEV	**Kiev**	**20.80**	**330**	P	**P**	**07 05 32.8**	**-0.8**
KIEV				IAmb	IAmb	07 05 34.2	
	comp=Z,131nm,0.8s						
DJES	**Djerdap**	**20.93**	**308**	P	**P**	**07 05 34.8**	**-0.4**
OBN	**Obninsk**	**22.31**	**346**	S	**S**	**07 09 49.6**	**-4.6**
	comp=Z,98nm,0.8s,baz=95,slow=21,SNR=3.1						
KWP	**Kalwaria Pacla**	**23.24**	**320**	P	**P**	**07 05 59.6**	**0.0**
KWP				IAmb	IAmb	07 06 05.9	
	comp=Z,87nm,0.8s						
TIP	**Timpagrande**	**23.83**	**292**	P	**P**	**07 06 04.8**	**-0.7**
TIP				IAmb	IAmb	07 06 10.0	
	comp=Z,94nm,1.0s						
PSZ	**Piszkesteto**	**23.97**	**314**	P	**P**	**07 06 05.9**	**-0.8**
PSZ				IAmb	IAmb	07 06 09.0	
	comp=Z,69nm,0.9s						
CUC	**Castrocucco**	**24.62**	**293**	P	**P**	**07 06 12.7**	**-0.1**
SGRT	**San Giovanni R**	**24.89**	**298**	P	**P**	**07 06 14.4**	**-0.9**
SGRT				IAmb	IAmb	07 06 20.2	
	comp=Z,82nm,1.0s						
NRN	**Naryn**	**25.15**	**63**	P	**P**	**07 06 18.5**	**+0.6**
NRN				IAmb	IAmb	07 06 26.6	
	comp=Z,85nm,0.9s						
JAVC	**Velka Javorina**	**25.72**	**314**	*e*P	**P**	**07 06 25.2**	**+2.6**
SUW	**Suwalki**	**25.76**	**329**	P	**P**	**07 06 20.7**	**-2.2**
RONA	**Rosalia, Austr**	**26.09**	**311**	*e*pP	**P**	**07 06 29.1**	**+3.0**
	comp=Z,38nm,1.1s						
BVAR	**Borovoye Array**	**26.14**	**35**	P	**P**	**07 06 25.0**	**-1.3**
	comp=Z,25nm,0.9s,baz=229,slow=8.1,SNR=0.8						
BVAR				PcP	**PcP**	**07 09 53.8**	**+0.5**
	comp=Z,8.9nm,0.8s,baz=183,slow=2.8,SNR=2.9						
BVAR				P3KPbc		07 39 15.9	
	comp=Z,1.8nm,0.7s,baz=58,slow=5.6,SNR=4.6						
	comp=Z,25nm,0.9s						
MORC	**Moravsky Berou**	**26.20**	**316**	P	**P**	**07 06 26.6**	**-0.4**
MORC	**Moravsky Berou**	**26.20**	**316**	*e*P	**P**	**07 06 27.2**	**+0.2**
CONA	**Conrad Observa**	**26.45**	**311**	*e*P	**P**	**07 06 33.0**	**+3.7**
	comp=Z,20nm,0.7s						
VRAC	**Vranov**	**26.55**	**315**	*e*P	**P**	**07 06 30.4**	**+0.3**
VRAC	**Vranov**	**26.55**	**315**	P	**P**	**07 06 29.6**	**-0.5**
	comp=Z,20nm,1.0s,baz=122,slow=11,SNR=3.1						
	comp=Z,20nm,1.0s						
KRUC	**Moravsky**	**26.56**	**314**	*e*P	**P**	**07 06 30.4**	**+0.2**
CAMP	**Campotosto**	**26.73**	**299**	P	**P**	**07 06 33.5**	**+1.5**
CAMP				IAmb	IAmb	07 06 42.5	
	comp=Z,60nm,0.9s						
NRCA	**Norcia**	**26.99**	**299**	P	**P**	**07 06 34.5**	**+0.3**
NRCA				IAmb	IAmb	07 06 37.1	
	comp=Z,67nm,0.9s						
SABO	**M.te Sabotino**	**27.30**	**306**	P	**P**	**07 06 36.8**	**-0.2**
SABO				IAmb	IAmb	07 06 40.1	
	comp=Z,58nm,0.8s						
CESX	**Cesi**	**27.35**	**299**	P	**P**	**07 06 37.6**	**+0.2**
CESX				IAmb	IAmb	07 06 41.8	
	comp=Z,77nm,0.9s						
UPC	**Upice**	**27.41**	**317**	*e*P	**P**	**07 06 37.1**	**-0.7**
MYKA	**Terra Mystica**	**27.45**	**308**	*e*P	**P**	**07 06 42.9**	**+4.5**
	comp=Z,22nm,0.6s						
CKRC	**Cesky Krumlov**	**27.74**	**312**	*e*P	**P**	**07 06 42.6**	**+1.8**
PRU	**Pruhonice**	**28.04**	**315**	*e*P	**P**	**07 06 46.2**	**+2.7**
GERES	**GERESS Array B**	**28.12**	**312**	PcP	**PcP**	**07 09 58.9**	**+0.7**
	comp=Z,5.1nm,0.6s,baz=152,slow=2.6,SNR=7.2						
KHC	**Kasperske Hory**	**28.30**	**313**	*e*P	**P**	**07 06 46.3**	**+0.4**
WET	**Wettzell**	**28.73**	**312**	*e*P	**P**	**07 06 49.8**	**+0.1**
	comp=Z,20nm,0.9s,baz=112,slow=8.9						
BRG	**Berggiesshubel**	**28.75**	**316**	*e*P	**P**		
BRG				Amp		07 06 51.8	
	comp=Z,30nm,1.1s						
BRG	**Berggiesshubel**	**28.75**	**316**	*e*P	**P**	**07 06 50.5**	**+0.7**
	comp=Z,30nm,1.1s,baz=112,slow=8.9						
WTTA	**Wattenberg**	**28.95**	**308**	*e*P	**P**	**07 06 52.2**	**+0.4**
	comp=Z,13nm,0.5s						
SQTA	**Sankt Quirin**	**29.22**	**308**	*e*P	**P**	**07 06 54.2**	**+0.1**
	comp=Z,19nm,0.4s						
KURBB	**Kurchatov Arra**	**29.31**	**45**	P	**P**	**07 06 54.9**	**+0.2**
	comp=Z,17nm,1.0s,baz=252,slow=8.9,SNR=2.1						
KURBB				PcP	**PcP**	**07 10 01.2**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=249,slow=3.2,SNR=2.2						
KURBB				ScP	**ScP**	**07 13 41.5**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=244,slow=3.8,SNR=4.5						
KURBB				LR	LR	07 18 34.8	
	comp=Z,987nm,21.5s,baz=216,slow=36						
KURBB				P3KPbc		07 39 02.4	
	comp=Z,1.1nm,0.8s,baz=68,slow=3.4,SNR=5.2						
	comp=Z,17nm,1.0s						
MOTA	**Moosalm**	**29.32**	**308**	*e*P	**P**	**07 06 55.1**	**+0.1**
	comp=Z,8.6nm,0.3s						
ROTZ	**Rotzenmuhle**	**29.36**	**313**	*e*P	**P**	**07 06 55.9**	**+0.7**
	comp=Z,80nm,2.0s,baz=112,slow=8.9						
NKC	**Novy Kostel**	**29.38**	**314**	*e*P	P	07 06 42.7	-13
FUR	**Furstenfeldbru**	**29.43**	**310**	*e*P	**P**	**07 06 56.0**	**+0.1**
	comp=Z,55nm,0.7s,baz=112,slow=8.9						
CLL	**Collm**	**29.47**	**316**	*i* Px	Px	07 06 56.1	
	comp=Z,54nm,1.5s						
VSL	**Villasalto**	**29.56**	**292**	P	**P**	**07 06 56.9**	**-0.2**
VSL				IAmb	IAmb	07 06 59.9	
	comp=Z,41nm,0.8s						
KEST	**Kesra**	**29.82**	**284**	P	**P**	**07 07 00.8**	**+1.3**
	comp=Z,16nm,0.7s,baz=173,slow=11,SNR=1.7						
	comp=Z,16nm,0.7s						
GRFO	**Grafenberg**	**29.94**	**313**	P	**P**	**07 07 00.1**	**-0.3**
DAVOX	**Davos/Dischmat**	**30.00**	**306**	P	**P**	**07 07 01.8**	**+0.7**
	comp=Z,5.0nm,0.4s,baz=166,slow=21,SNR=1.2						
	comp=Z,5.0nm,0.4s						
MOX	**Moxa**	**30.03**	**315**	*e*P	**P**	**07 07 01.8**	**+0.7**
	comp=Z,6.4nm,0.9s,baz=112,slow=8.9						
FINES	**FINESS Array B**	**30.47**	**341**	P	**P**	**07 07 04.7**	**-0.1**
	comp=Z,16nm,0.6s,baz=129,slow=11,SNR=1.5						
	comp=Z,16nm,0.6s						
MK31	**Makanchi Array**	**30.56**	**54**	P	**P**	**07 07 05.7**	**-0.2**
MK31				IAmb	IAmb	07 07 13.3	
	comp=Z,27nm,0.7s						
MKAR	**Makanchi Array**	**30.56**	**54**	P	**P**	**07 07 05.9**	**0.0**
MKAR	**Makanchi Array**	**30.56**	**54**	P	**P**	**07 07 06.1**	**+0.2**
	comp=Z,15nm,0.6s,baz=250,slow=11,SNR=4.8						
MKAR				P3KPbc		07 38 57.4	
	comp=Z,1.0nm,1.0s,baz=64,slow=3.4,SNR=3.3						
	comp=Z,15nm,0.6s						
GORT1	**Trebel**	**31.12**	**319**	*e*P	**P**	**07 07 11.5**	**+0.9**
	comp=Z,121nm,1.2s,baz=112,slow=8.9						
ASSE	**Asse, Remlinge**	**31.13**	**317**	*e*P	**P**	**07 07 11.4**	**+0.7**
	baz=112,slow=8.9						
CLZ	**Clausthal**	**31.19**	**316**	*e*P	**P**	**07 07 12.0**	**+0.6**
	comp=Z,38nm,1.0s,baz=112,slow=8.9						
GTTG	**Gottingen**	**31.32**	**315**	*e*P	**P**	**07 07 13.8**	**+1.3**
	comp=Z,47nm,1.2s,baz=112,slow=8.9						
NRDL	**Niedersach Rie**	**31.59**	**317**	*e*P	**P**	**07 07 15.8**	**+1.0**
	comp=Z,36nm,1.0s,baz=112,slow=8.9						
BNI	**Bardonecchia**	**31.90**	**302**	P	**P**	**07 07 17.6**	**-0.2**
BSEG	**Bad Segeberg**	**32.05**	**320**	*e*P	**P**	**07 07 19.9**	**+1.1**
	comp=Z,58nm,1.0s,baz=112,slow=8.9						
RETH	**Rethem/Aller,**	**32.10**	**317**	*e*P	**P**	**07 07 20.6**	**+1.3**
	comp=Z,80nm,1.3s,baz=112,slow=8.9						
KASTN	**Kahler Asten**	**32.12**	**314**	*e*P	**P**	**07 07 20.9**	**+1.3**
	comp=Z,68nm,1.4s,baz=112,slow=8.9						
AHRW	**Bad Neuenahr-A**	**32.74**	**313**	*e*P	**P**	**07 07 25.7**	**+0.7**
	comp=Z,47nm,1.1s,baz=112,slow=8.9						
IBBN	**Ibbenburen**	**32.87**	**316**	*e*P	**P**	**07 07 27.5**	**+1.4**
	comp=Z,48nm,1.1s,baz=112,slow=8.9						
WLF	**Walferdange**	**33.09**	**311**	*d*P	**P**	**07 07 27.4**	**-0.6**
WLF	**Walferdange**	**33.09**	**311**	*e*P	**P**	**07 07 28.1**	**0.0**
	comp=Z,54nm,1.2s,baz=112,slow=8.9						
HYB	**Hyderabad**	**33.63**	**111**	*e*P	**P**	**07 07 33.1**	**-0.1**
HFS	**Hagfors**	**33.67**	**331**	P	**P**	**07 07 33.2**	**+0.2**
	comp=Z,58nm,0.5s,baz=131,slow=9.1,SNR=6.8						
	comp=Z,58nm,0.5s						
RCHB	**Rochefort**	**33.78**	**311**	*d*P	**P**	**07 07 34.0**	**-0.1**
BCLA	**Clavier**	**33.80**	**312**	*d*PcP	**PcP**	**07 10 13.9**	**+0.9**
BGES	**Gesves**	**33.93**	**312**	*d*P	**P**	**07 07 35.3**	**-0.1**
BGES				*d*PP	**PnPn**	**07 08 48.3**	**+0.1**
WMQ	**Urumqi**	**33.96**	**60**	*e*P	**P**	**07 07 39.3**	**+3.5**
WMQ				ScP	**ScP**	**07 13 52.3**	**-5.5**
WMQ				pmax	pmax		
	comp=Z,41nm,0.9s						
WMQ				LR	LR		
	comp=Z,2μm,13.7s						
WMQ				LR	LR		
	comp=Z,4μm,12.1s						
WMQ				LR	LR		
	comp=Z,2μm,18.9s						
BMRD	**Maredsous**	**34.11**	**312**	*d*P	**P**	**07 07 36.8**	**-0.1**
ZAA0	**Zalesovo Array**	**34.13**	**42**	P	**P**	**07 07 36.4**	**-0.7**
ZALV	**Zalesovo Beam**	**34.13**	**42**	P	**P**	**07 07 36.5**	**-0.5**
ZALV	**Zalesovo Beam**	**34.13**	**42**	P	**P**	**07 07 37.3**	**+0.3**
	comp=Z,19nm,0.6s,baz=251,slow=9.7,SNR=6.3						
	comp=Z,19nm,0.6s						
DOU	**Dourbes**	**34.17**	**311**	*d*P	**P**	**07 07 37.3**	**-0.1**
LVZ	**Lovozero**	**34.80**	**353**	P	**P**	**07 07 43.1**	**+0.3**
NOA	**NORSAR Array B**	**35.19**	**331**	P	**P**	**07 07 45.1**	**-1.1**
	comp=Z,7.1nm,0.6s,baz=129,slow=11,SNR=6.1						
NOA				PcP	**PcP**	**07 10 16.9**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=118,slow=3.9,SNR=3.8						
	comp=Z,7.1nm,0.6s						
ARCES	**ARCESS Array B**	**37.58**	**349**	P	**P**	**07 08 06.0**	**-0.5**
ARCES				IAmb	IAmb	07 08 09.4	
	comp=Z,51nm,0.8s						
ARCES	**ARCESS Array B**	**37.58**	**349**	P	**P**	**07 08 05.8**	**-0.6**
	comp=Z,43nm,0.8s,baz=148,slow=7.1,SNR=8.3						
ARCES				PcP	**PcP**	**07 10 24.4**	**+0.5**
	comp=Z,11nm,0.7s,baz=165,slow=5.0,SNR=3.7						
	comp=Z,43nm,0.8s						
WOL	**Wolverton**	**38.03**	**312**	*e*P	**P**	**07 08 10.6**	**+0.2**
CWF	**Charnwood Fore**	**38.33**	**314**	*e*P	**P**	**07 08 12.7**	**-0.2**
CWF				IAmb	IAmb	07 08 13.5	
	comp=Z,52nm,0.8s						
JSA	**Saint Aubin**	**38.37**	**308**	*e*P	**P**	**07 08 12.6**	**-0.7**
JSA				IAmb	IAmb	07 08 13.5	
	comp=Z,89nm,0.8s						
SWN1	**Swindon**	**38.42**	**312**	*e*P	**P**	**07 08 14.0**	**+0.3**
LBWR	**Ladybower, Pea**	**38.70**	**315**	*e*P	**P**	**07 08 15.7**	**-0.3**
LBWR				IAmb	IAmb	07 08 17.3	
	comp=Z,87nm,0.9s						
OLDB	**Oldbury-Upon-S**	**38.90**	**312**	*e*P	**P**	**07 08 17.4**	**-0.4**
OLDB				IAmb	IAmb	07 08 18.1	
	comp=Z,71nm,0.8s						
MONM	**Monmouth**	**39.09**	**313**	*e*P	**P**	**07 08 18.6**	**-0.8**
MONM				IAmb	IAmb	07 08 19.8	
	comp=Z,51nm,0.7s						
EDMD	**Edmundbyers**	**39.13**	**317**	*e*P	**P**	**07 08 19.3**	**-0.4**
EDMD				IAmb	IAmb	07 08 21.1	
	comp=Z,110nm,1.1s						
MCH1	**Michaelchurch**	**39.23**	**313**	*e*P	**P**	**07 08 20.1**	**-0.4**
MCH1				IAmb	IAmb	07 08 21.0	
	comp=Z,92nm,0.8s						
FOEL	**Foel Wylfa**	**39.48**	**314**	*e*P	**P**	**07 08 22.9**	**+0.2**
FOEL				IAmb	IAmb	07 08 23.9	
	comp=Z,131nm,0.9s						
KESW	**Keswick, Cumbr**	**39.73**	**317**	*e*P	**P**	**07 08 24.8**	**+0.1**
LLW	**Llanuwychllyn**	**39.76**	**314**	*e*P	**P**	**07 08 24.3**	**-0.6**
ESBB	**Sonseca Array**	**39.82**	**293**	P	**P**	**07 08 24.8**	**-0.9**
ESDC	**Sonseca Array**	**39.82**	**293**	P	**P**	**07 08 24.4**	**-1.3**
ESDC	**Sonseca Array**	**39.82**	**293**	P	**P**	**07 08 25.7**	**0.0**
	comp=Z,11nm,0.5s,baz=77,slow=8.2,SNR=12						
ESDC				PcP	**PcP**	**07 10 32.5**	**+1.0**
	comp=Z,6.9nm,0.7s,baz=43,slow=3.7,SNR=5.8						
	comp=Z,11nm,0.5s						
EKA	**Eskdalemuir Ar**	**39.91**	**318**	P	**P**	**07 08 25.9**	**-0.2**
	comp=Z,38nm,0.8s,baz=107,slow=8.2,SNR=7.7						
EKA				PcP	**PcP**	**07 10 32.5**	**+1.1**
	comp=Z,8.3nm,0.6s,baz=116,slow=5.5,SNR=5.5						
	comp=Z,38nm,0.8s						
EKB	**Eskdalemuir**	**39.93**	**318**	P	**P**	**07 08 25.2**	**-1.1**
ESK	**Eskdalemuir**	**39.93**	**318**	*e*P	**P**	**07 08 26.2**	**-0.1**
ESK				IAmb	IAmb	07 08 27.5	
	comp=Z,56nm,0.9s						
SBD	**Saint Breward**	**40.11**	**310**	*e*P	**P**	**07 08 27.8**	**-0.1**
PAB	**San Pablo**	**40.14**	**293**	P	**P**	**07 08 28.3**	**0.0**
NEWG	**New Galloway**	**40.47**	**317**	*e*P	**P**	**07 08 30.2**	**-0.5**
NEWG				IAmb	IAmb	07 08 31.6	
	comp=Z,50nm,1.1s						
MCD	**Coleburn Disti**	**40.48**	**321**	*e*P	**P**	**07 08 30.8**	**0.0**
IOMK	**Kirk Michael**	**40.51**	**316**	*e*P	**P**	**07 08 31.4**	**+0.2**
WIM	**Isle of Man**	**40.55**	**316**	*e*P	**P**	**07 08 31.1**	**-0.4**
INVG	**Invergeldie, C**	**40.63**	**319**	*e*P	**P**	**07 08 31.9**	**-0.3**
INVG				IAmb	IAmb	07 08 33.0	
	comp=Z,128nm,0.9s						
GAL1	**Galloway**	**40.70**	**317**	*e*P	**P**	**07 08 32.8**	**+0.1**
GAL1				IAmb	IAmb	07 08 33.6	
	comp=Z,56nm,0.9s						
PGBU	**Glenifferbraes**	**40.75**	**318**	*e*P	**P**	**07 08 33.5**	**+0.4**
PGBU				IAmb	IAmb	07 08 34.3	
	comp=Z,70nm,0.9s						
BIGH	**Upper Bighouse**	**41.05**	**323**	*e*P	**P**	**07 08 35.2**	**-0.3**
DSB	**Dublin**	**41.43**	**314**	P	**P**	**07 08 39.0**	**+0.2**
DSB				IAmb	IAmb	07 08 40.0	
	comp=Z,51nm,0.8s						
PBRG	**Braganca**	**41.66**	**297**	*e*P	**P**	**07 08 41.2**	**+0.3**
	comp=Z,84nm,0.6s						
MDT	**Midelt**	**41.71**	**283**	P	**P**	**07 08 41.7**	**+0.3**
	comp=Z,17nm,0.8s,baz=282,slow=22,SNR=5.0						
	comp=Z,17nm,0.8s						
PALK	**Pallekele**	**41.71**	**121**	P	**P**	**07 08 41.6**	**+0.1**
	comp=Z,8.1nm,0.8s,baz=320,slow=4.7,SNR=1.7						
	comp=Z,8.1nm,0.8s						
MVO	**Moncorvo**	**41.95**	**296**	*e*P	**P**	**07 08 43.8**	**+0.5**
	comp=Z,138nm,1.2s						
PBAR	**Barrancos**	**42.43**	**292**	*e*P	**P**	**07 08 47.7**	**+0.6**
	comp=Z,128nm,1.3s						
MTE	**Manteigas**	**42.45**	**295**	*e*P	**P**	**07 08 48.3**	**+1.0**
	comp=Z,172nm,1.4s						
PVRL	**Vila Real**	**42.45**	**296**	*e*P	**P**	**07 08 48.3**	**+1.0**
	comp=Z,169nm,1.4s						

*BJI **11** 07:00:50.0±0.0, 33°.80N×45°.80E, h10km, mb5.1/28, mB5.6/13, Ms5.6/12, Ms7 5.3/11*
*IDC **11** 07:00:50.6±0.5, 33°.74N×45°.72E, h0km, mb5.1/30, mbtmp5.1/32, ML4.9/2, MS4.9/7, Error ellipse: s-maj=15.0km s-min=12.2km az=176.0*
*NEIC **11** 07:00:52.4±1.6, 33°.86N±0°.08×45°.8E±0°.1, h10km±1km, mb5.3/92, Error ellipse: s-maj=15.1km s-min=12.8km az=118.0*
*ISN **11** 07:00:53.4±0.5, 33°.67N×45°.73E, h7km±2km, ML5.1*
*TEH **11** 07:00:53.9, 33°.67N×45°.71E, h12km±467km, ML5.1*
*THR **11** 07:00:59.8±0.3, 33°.84N×45°.77E, h15km±7km, ML5.1*
*BGR **11** 07:01:13.7, 34°.08N×42°.83E, h33km, mb5.2*

PCBR Castelo Branco 42.48 294 eP P 07 08 48.3 +0.8
comp=Z,135nm,1.4s
PMRV Marv??o 42.48 294 eP P 07 08 47.7 +0.2
comp=Z,74nm,1.3s
POLO Lamas de Olo 42.50 296 eP P 07 08 48.6 +0.9
comp=Z,94nm,1.2s
NRIK Noril'sk 42.53 21 P P 07 08 45.8 -1.7
NRIK IAmb IAmb 07 08 54.0
comp=Z,67nm,0.9s
NRIK Noril'sk 42.53 21 P P 07 08 47.6 +0.1
comp=Z,57nm,1.0s,baz=242,slow=5.2,SNR=4.5
comp=Z,57nm,1.0s
PVIS Viseu 42.66 296 eP P 07 08 50.1 +1.0
PESTR Estremoz 42.73 293 eP P 07 08 49.9 +0.3
comp=Z,139nm,1.2s
PESTR Estremoz 42.73 293 P P 07 08 48.8 -0.8
PESTR IAmb IAmb 07 08 50.6
comp=Z,40nm,0.8s
PGAV Gavieira, Arco 42.77 297 eP P 07 08 49.5 -0.5
comp=Z,272nm,1.3s
PBEJ Beja 43.10 292 eP P 07 08 53.2 +0.7
comp=Z,83nm,1.4s
PVAQ Vaqueiros 43.11 291 eP P 07 08 52.8 +0.2
PVAQ Vaqueiros 43.11 291 P P 07 08 52.1 -0.5
COI Coimbra 43.13 295 eP P 07 08 53.9 +1.1
PTO Porto 43.13 296 eP P 07 08 54.2 +1.4
comp=Z,152nm,1.0s
PMTG Montargil 43.18 293 eP P 07 08 53.9 +0.7
PCAS Casmilo, Conde 43.22 295 eP P 07 08 54.6 +1.1
comp=Z,203nm,1.9s
IGLA Glengowla, Co 43.24 314 eP P 07 08 53.6 +0.2
GTA Gaotai 43.31 66 eP P 07 08 54.9 +0.5
GTA S **S 07 15 23.7 +2.5**
GTA pmax pmax
comp=Z,16nm,1.3s
GTA LR LR
comp=Z,2µm,13.1s
GTA LR LR
comp=Z,2µm,14.2s
GTA LR LR
comp=Z,3µm,13.4s
PCVE Castro Verde 43.31 291 eP P 07 08 54.5 +0.2
PNCL Nicolau / Gran 43.59 292 eP P 07 08 57.3 +0.8
comp=Z,61nm,1.4s
TOA0 Torodi Ar. Sit 44.84 254 P P 07 09 06.3 -0.4
TOA0 IAmb IAmb 07 09 07.5
comp=Z,24nm,0.8s
TORD Torodi Ar. Bea 44.84 254 P P 07 09 06.1 -0.6
TORD IAmb IAmb 07 09 07.5
comp=Z,27nm,0.8s
TORD Torodi Ar. Bea 44.84 254 P P 07 09 06.8 +0.1
comp=Z,22nm,0.8s,baz=58,slow=6.5,SNR=9.8
comp=Z,22nm,0.8s
SPB2 Spitsbergen Ar 46.32 352 P P 07 09 16.7 -1.0
SPITS Spitsbergen Ar 46.32 352 P P 07 09 17.9 +0.2
comp=Z,84nm,0.9s,baz=145,slow=20,SNR=4.9
comp=Z,84nm,0.9s
TNCH TengChong 46.44 86 eP P 07 09 18.4 -1.2
TNCH pP pP 07 09 21.4 -3.8
TNCH S **S 07 16 04.3 -2.7**
TNCH pmax pmax
comp=Z,92nm,0.6s
TNCH pmax pmax
comp=Z,260nm,4.4s
TNCH LR LR
comp=Z,1µm,16.4s
TNCH LR LR
comp=Z,1µm,19.1s
TNCH LR LR
comp=Z,2µm,16.3s
SONM Songino Array 46.92 54 P P 07 09 23.3 +0.3
comp=Z,5.6nm,0.9s,baz=238,slow=8.2,SNR=1.5
SONM PcP **PcP 07 10 55.7 +0.3**
comp=Z,2.3nm,0.8s,baz=271,slow=2.5,SNR=1.2
comp=Z,5.6nm,0.9s
LZH Lanzhou 47.15 70 ⇓P P 07 09 25.7 +0.7
LZH pP sP 07 09 29.4 -3.3
LZH pmax pmax
comp=Z,36nm,1.2s
CHTO Chiang Mai 49.52 93 P P 07 09 40.0 -3.2
CHTO IAmb IAmb 07 09 48.7
comp=Z,24nm,0.8s
CM31 Chiang Mai Arr 49.69 94 P P 07 09 41.9 -2.6
CM31 IAmb IAmb 07 09 50.7
comp=Z,19nm,0.6s
CMAR Chiang Mai Arr 49.69 94 P P 07 09 42.0 -2.5
CMAR Chiang Mai Arr 49.69 94 P P 07 09 43.4 -1.1
comp=Z,16nm,0.7s,baz=288,slow=6.9,SNR=4.1
comp=Z,16nm,0.7s
XAN Xi'an 51.73 71 ⇓P P 07 09 59.5 -0.3
XAN pP sP 07 10 05.8 -1.8
XAN pmax pmax
comp=Z,59nm,0.9s
HHC Hu-ho-hao-te 51.81 62 eP P 07 10 01.0 +0.6
HHC S **S 07 17 22.0 +0.1**
HHC sS sS 07 17 28.2 -3.0
HHC ScS **ScS 07 19 49.3 -0.7**
HHC SS **SS 07 20 58.4 +0.1**
HHC pmax pmax
comp=Z,43nm,0.6s
HHC pmax pmax
comp=Z,330nm,3.9s
HHC LR LR
comp=Z,2µm,13.2s
HHC LR LR
comp=Z,2µm,15.2s
HHC LR LR
comp=Z,5µm,12.9s
OPO Ambohidratompo 52.02 178 LR LR 07 32 45.9
comp=Z,2µm,19.0s,baz=178,slow=37
DBIC Dimbokro 53.84 252 P P 07 10 15.0 -0.5
DBIC IAmb IAmb 07 10 16.0
comp=Z,23nm,0.7s
DBIC Dimbokro 53.84 252 P P 07 10 14.6 -0.9
comp=Z,19nm,0.7s,baz=33,slow=10,SNR=4.6
comp=Z,19nm,0.7s
LYN LuoYang 54.34 69 ⇓P P 07 10 16.1 -2.9
LYN pmax pmax
comp=Z,30nm,0.6s
VOI Vohitsoka 55.33 179 P P 07 10 26.3 0.0
SUMG Summit 56.45 339 P P 07 10 33.0 -1.1
TSUM Tsumeb 59.06 211 LR LR 07 36 52.8
comp=Z,3µm,18.2s,baz=6,0,slow=37
DL2 Dalian 59.77 61 P P 07 11 01.0 +3.6
DL2 pmax pmax
comp=Z,48nm,1.0s
NJ2 Nanjing 60.22 69 eP P 07 11 00.1 -0.5
NJ2 pP **sP 07 11 05.3 -3.1**
NJ2 sP **pP 07 11 11.0 +4.7**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,410nm,4.3s
NJ2 LR LR
comp=Z,1µm,10.5s
NJ2 LR LR
comp=Z,2µm,15.8s
NJ2 LR LR
comp=Z,1µm,16.9s
BNX BinXian 61.42 52 ⇓P P 07 11 07.4 -1.1
BNX pmax pmax
comp=Z,16nm,1.2s
BNX pmax pmax
comp=Z,420nm,4.5s
LBTB Lobatse 61.46 201 P P 07 11 09.3 +0.3
NRS Narsarsuaq 61.60 327 P P 07 11 08.8 -0.6
NRS IAmb IAmb 07 11 10.9
comp=Z,77nm,0.8s
EUNU Eureka 63.44 352 P P 07 11 21.4 -0.2
KSRS Korea Array 64.91 61 P P 07 11 30.7 -1.0
comp=Z,6.6nm,0.7s,baz=276,slow=6.0,SNR=1.8
KSRS LR LR 07 43 05.6
comp=Z,737nm,18.5s,baz=280,slow=39
comp=Z,6.6nm,0.7s
BOSA Boshof 64.95 200 P P 07 11 31.9 -0.2
BOSA Boshof 64.95 200 P P 07 11 32.8 +0.7
comp=Z,44nm,0.7s,baz=20,slow=7.0,SNR=11
comp=Z,44nm,0.7s
USA0B Ussuriysk Arra 65.01 52 P P 07 11 30.8 -1.6
USA0B IAmb IAmb 07 11 38.8
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 65.01 52 P P 07 11 31.2 -1.2
comp=Z,12nm,1.0s,baz=287,slow=5.9,SNR=1.9
comp=Z,12nm,1.0s
SOE Somerset East 68.74 198 P P 07 11 57.1 +1.0
SOE IAmb IAmb 07 11 57.9
comp=Z,24nm,0.9s
RES Resolute Bay 68.80 350 P P 07 11 56.5 +0.6
JNU Nakatsue 68.96 64 LR LR 07 46 21.1
comp=Z,852nm,19.1s,baz=300,slow=40
GRHM Grahamstown, E 69.07 197 P P 07 11 58.4 +0.2
GRHM IAmb IAmb 07 12 06.7
comp=Z,24nm,1.0s
DRLN Deer Lake 72.96 318 P P 07 12 21.4 -0.3
DRLN IAmb IAmb 07 12 23.4
comp=Z,23nm,0.9s
A21K Barrow 74.06 7 P P 07 12 28.9 +1.2
baz=341,SNR=6.1
A36M Sachs Harbour 74.39 357 P P 07 12 30.1 +0.5
baz=7.7
SCHQ Schefferville 74.56 326 P P 07 12 30.4 -0.6
SCHQ Schefferville 74.56 326 P P 07 12 31.2 +0.2
comp=Z,32nm,0.6s,baz=47,slow=5.1,SNR=10
comp=Z,32nm,0.6s
A19K Wainwright 74.57 9 P P 07 12 32.3 +1.5
baz=337
B20K Meade River 75.24 8 P P 07 12 35.9 +1.3
baz=340
B18K Kokolik River 75.25 10 P P 07 12 36.5 +1.8
baz=336
B22K Teshekpuk Lake 75.32 7 P P 07 12 36.3 +1.3
baz=344
C16K Lisburne Hills 75.70 11 P P 07 12 37.7 +0.5
baz=338
C19K Lookout Ridge 75.79 9 P P 07 12 39.3 +1.4
baz=335
C17K DeLong Mountai 75.86 11 P P 07 12 39.2 +1.0
baz=343
B21K Ikpikpuk River 75.89 7 P P 07 12 39.8 +1.5
baz=337
C18K Utukok River 76.00 10 P P 07 12 40.0 +0.9
baz=346
C23K Itkillik River 76.06 6 P P 07 12 41.3 +2.0
baz=340
RDOG Red Dog Mine 76.29 11 P P 07 12 41.1 +0.4
baz=336,SNR=7.5
C21K Knifeblade Rid 76.32 7 P P 07 12 42.4 +1.6
baz=342
C24K Franklin Bluff 76.32 5 P P 07 12 42.2 +1.4
baz=348
C26K Camden Bay 76.37 4 P P 07 12 42.4 +1.3
baz=351
D20K Etivluk River 76.53 8 P P 07 12 43.1 +1.0
baz=341
D19K Kuna River 76.56 9 P P 07 12 43.2 +1.0
baz=340
D17K Noatak River 76.59 11 P P 07 12 43.0 +0.7
baz=336
D22K Ayikyak River 76.80 7 P P 07 12 45.1 +1.5
baz=344
D24K Happy Valley 76.87 5 P P 07 12 45.2 +1.3
baz=348
D25K Kavik River 76.87 4 P P 07 12 45.2 +1.1
baz=350
C36M Paulatuk 76.95 356 P P 07 12 43.9 -0.5
C36M Paulatuk 76.95 356 P P 07 12 44.2 -0.2
baz=8.6
E20K Nigu River 77.02 8 P P 07 12 45.7 +0.8
baz=341
D28M Stokes Point 77.20 2 P P 07 12 47.0 +1.3
baz=356
D27M Malcolm River 77.22 2 P P 07 12 47.5 +1.6
baz=354
E18K Tukpahlearik C 77.22 10 P P 07 12 46.8 +0.8
baz=338
E17K Hotham Inlet 77.35 11 P P 07 12 47.0 +0.4
baz=337,SNR=6.3
GBN Guysborough 77.36 316 P P 07 12 47.5 +0.4
E22K Anaktuvuk Pass 77.61 7 P P 07 12 49.1 +0.9
baz=345
E19K Redstone River 77.65 9 P P 07 12 49.2 +0.9
baz=340
TNA Tin City 77.66 14 P P 07 12 49.7 +1.3
baz=332
DAV Davao City (W) 77.73 90 LR LR 07 51 00.4
comp=Z,567nm,21.1s,baz=340,slow=39
E28M Babbage River 77.91 2 P P 07 12 51.0 +1.2
baz=356
F17K Baldwin Pennin 78.03 11 P P 07 12 51.6 +1.2
baz=337
F14K Arctic Creek 78.04 13 P P 07 12 51.6 +1.1
baz=333
E25K Arctic Village 78.11 4 P P 07 12 51.4 +0.4
E25K IAmb IAmb 07 12 59.1
comp=Z,22nm,0.8s
E25K Arctic Village 78.11 4 P P 07 12 51.9 +1.0
baz=350
F15K North Star Dit 78.14 12 P P 07 12 52.1 +1.0
baz=334
E29M Blow River 78.16 1 P P 07 12 52.2 +1.0
baz=357
F19K Shaleruckik Mo 78.17 9 P P 07 12 51.4 +0.2
baz=340
F20K Avaraart Lake 78.23 8 P P 07 12 52.7 +1.2
baz=342
E27K Coleen River 78.25 3 P P 07 12 53.3 +1.5
baz=354
F21K Alatna River 78.32 7 P P 07 12 53.6 +1.5
baz=344
F24K Squaw Lake 78.55 5 P P 07 12 55.4 +2.0
baz=348
F25K Christian Rive 78.63 4 P P 07 12 55.8 +1.9
baz=350
COLD Coldfoot 78.64 6 P P 07 12 55.9 +2.1
baz=346
G16K Koyuk River 78.82 12 P P 07 12 56.1 +1.3
baz=336,SNR=7.1
G19K Purcell Mounta 78.91 9 P P 07 12 55.9 +0.5
G19K Purcell Mounta 78.91 9 P P 07 12 56.7 +1.4
baz=341
G18K Tagagawik 78.93 10 P P 07 12 56.8 +1.3
baz=340
F30M Barrier River 78.97 1 P P 07 12 56.8 +1.1
baz=359
G21K Allakaket 79.00 8 P P 07 12 57.4 +1.6
baz=344
G17K Kiwalik Mounta 79.00 11 P P 07 12 56.9 +1.0
baz=338,SNR=6.5
HAL Halifax 79.01 317 P P 07 12 56.9 +0.7
ANM Nome 79.04 13 P P 07 12 57.8 +1.8
baz=334,SNR=6.9
F31M Tsiigehtchic 79.15 360 P P 07 12 57.4 +0.8
baz=0.4,SNR=5.3
H16K Elim 79.54 12 P P 07 12 59.6 +0.8
baz=337
G27K Doyon Strip 79.63 3 P P 07 13 01.6 +2.3
baz=354
G29M Pine Creek 79.64 1 P P 07 13 01.0 +1.7
baz=357
H17K Granite Mounta 79.64 11 P P 07 12 59.6 +0.2
H17K IAmb IAmb 07 13 01.0
comp=Z,39nm,0.9s
H17K Granite Mounta 79.64 11 P P 07 13 00.3 +0.9
baz=338
G31M Satah River 79.67 360 P P 07 13 00.2 +0.8
baz=360
H18K Honbosa River 79.67 10 P P 07 13 00.4 +0.9
baz=340
H20K Anotleneega Mo 79.82 9 P P 07 13 01.7 +1.4
baz=343
H22K Ishtalitna Cre 79.83 7 P P 07 13 03.1 +2.7
baz=346
H21K Melozitna Rive 79.91 8 P P 07 13 01.7 +1.0
H21K Melozitna Rive 79.91 8 P P 07 13 02.7 +1.9
baz=344
PQI Presque Isle 80.20 320 P P 07 13 03.1 +0.4
PQI IAmb IAmb 07 13 04.5
comp=Z,33nm,0.9s
EPYK Eagle Plains 80.21 1 P P 07 13 03.5 +1.1
baz=358
H27K Steamboat Moun 80.21 3 P P 07 13 04.6 +2.1
baz=354
GCSA Galena City Sc 80.27 10 P P 07 13 04.2 +1.5
baz=341,SNR=6.1
H29M Whitestone 80.33 2 P P 07 13 04.8 +1.8
baz=356
D62A Allapoint, All 80.49 321 P P 07 13 05.5 +1.3
baz=50
D62A P P 07 13 05.5 +1.3
baz=50
I17K Unalakleet 80.50 11 P P 07 13 05.2 +1.3
baz=338,SNR=5.7
GGN Saint George 80.54 318 P P 07 13 04.8 +0.2
MLY Manley 80.73 7 P P 07 13 06.9 +1.6
baz=346
I27K Kandik River 80.83 3 P P 07 13 07.5 +1.7
baz=354
LMQ La Malbaie 80.85 322 P P 07 13 06.4 +0.2
LMQ IAmb IAmb 07 13 07.3
comp=Z,27nm,0.7s
F64A Sherman 80.89 320 P P 07 13 07.4 +1.0
baz=50
F64A P P 07 13 07.4 +1.0
baz=50
POKR Poker Plat Res 80.95 6 P P 07 13 08.7 +2.3
baz=349
E62A Clayton Lake 81.03 321 P P 07 13 08.2 +1.0
baz=50
E62A P P 07 13 08.2 +1.0
baz=50
J14K Nanvaranak Lak 81.04 13 P P 07 13 06.9 +0.1
J14K Nanvaranak Lak 81.04 13 P P 07 13 08.0 +1.2
baz=336
MDM Murphy Dome 81.04 6 P P 07 13 07.2 +0.3
LDAQ Lac Daran 81.04 323 P P 07 13 06.6 -0.7
LDAQ IAmb IAmb 07 13 08.6
comp=Z,23nm,0.8s
I26K Coal Creek Min 81.05 4 P P 07 13 07.0 +0.1
I26K IAmb IAmb 07 13 13.3
comp=Z,38nm,0.9s
I26K Coal Creek Min 81.05 4 P P 07 13 08.3 +1.4
baz=352,SNR=5.4
I28M Miner Creek 81.05 2 P P 07 13 08.3 +1.2
baz=355
J16K Anvik River 81.07 12 P P 07 13 08.9 +1.8
baz=338,SNR=5.4
COLA College 81.16 6 P P 07 13 09.4 +2.0
baz=348
J19K Poorman 81.16 9 P P 07 13 08.2 +0.7
J19K IAmb IAmb 07 13 10.0
comp=Z,46nm,1.0s
J19K Poorman 81.16 9 P P 07 13 09.3 +1.7
baz=342
J20K Nowinta River 81.17 9 P P 07 13 09.4 +1.8
baz=343
I29M Ogilvie Camp, 81.19 2 P P 07 13 09.0 +1.3
baz=357
NEA2 Nenana 81.32 6 P P 07 13 09.7 +1.4
baz=348
ILAR Eielson Array 81.33 5 P P 07 13 08.7 +0.3
ILAR Eielson Array 81.33 5 P P 07 13 08.5 +0.1
comp=Z,13nm,0.9s,baz=333,slow=4.6,SNR=7.2
comp=Z,13nm,0.9s
I30M Mount Dempster 81.36 1 P P 07 13 08.5 -0.2
I30M IAmb IAmb 07 13 10.5
comp=Z,31nm,0.8s
I30M Mount Dempster 81.36 1 P P 07 13 10.1 +1.3
baz=358
F63A Nahmakanta, Br 81.40 320 P P 07 13 09.5 +0.3
J18K Innoko River 81.51 10 P P 07 13 11.2 +1.7
baz=341
K13K Kusilvak Mount 81.57 14 P P 07 13 10.7 +1.0
baz=335
J25K Salcha River, 81.60 5 P P 07 13 11.6 +1.7
baz=351
BPAW Bear Paw Mtn. 81.61 7 P P 07 13 09.2 -0.7
BPAW Bear Paw Mtn. 81.61 7 P P 07 13 10.9 +0.9
baz=346,SNR=7.3
EGAK Eagle 81.68 3 P P 07 13 11.6 +1.4
baz=354
CHUM Lake Minchumin 81.68 8 P P 07 13 11.8 +1.6
baz=345,SNR=5.4
HDA Harding Lake 81.69 6 P P 07 13 10.9 +0.6
baz=349
J26L Joseph Creek 81.83 4 P P 07 13 12.5 +1.3
baz=352
K15K Wolf Creek Mou 81.83 12 P P 07 13 11.3 +0.2
K15K IAmb IAmb 07 13 13.0
comp=Z,22nm,1.0s
K15K Wolf Creek Mou 81.83 12 P P 07 13 12.8 +1.7
baz=337
K20K Telida 81.97 9 P P 07 13 13.2 +1.3
baz=343
K17K Iditarod 81.98 11 P P 07 13 12.2 +0.4
K17K IAmb IAmb 07 13 13.4
comp=Z,36nm,1.0s
K17K Iditarod 81.98 11 P P 07 13 13.3 +1.4
baz=340
TTA Tatalina 82.12 10 P P 07 13 13.9 +1.2
baz=342,SNR=5.8
CAST Castle Rocks 82.16 8 P P 07 13 12.9 +0.1
CAST IAmb IAmb 07 13 15.4
comp=Z,36nm,0.9s
CAST Castle Rocks 82.16 8 P P 07 13 14.4 +1.6
baz=345,SNR=5.6
SCRK Sand Creek 82.33 4 P P 07 13 15.3 +1.5
baz=352,SNR=7.6
K24K Donnelly Dome 82.38 5 P P 07 13 15.3 +1.3
baz=350,SNR=6.6
K27K Chicken 82.38 3 P P 07 13 15.9 +1.9
baz=353
L14K Kuka Creek 82.50 13 P P 07 13 14.9 +0.3
L14K IAmb IAmb 07 13 16.7
comp=Z,33nm,0.9s
L14K Kuka Creek 82.50 13 P P 07 13 16.1 +1.5
baz=336
RND Reindeer 82.51 7 P P 07 13 14.5 -0.2
K29M Barlow Dome 82.73 1 P P 07 13 17.2 +1.3
baz=357
YKA Yellowknife Ar 82.81 351 P P 07 13 15.9 -0.2
YKA Yellowknife Ar 82.81 351 P P 07 13 16.2 0.0
comp=Z,13nm,1.0s,baz=22,slow=5.5,SNR=6.9
comp=Z,13nm,1.0s
L20K Farewell, AK 82.84 9 P P 07 13 17.8 +1.4
baz=344
WRGLY Wrigley 82.99 355 P P 07 13 18.5 +1.4
baz=9.0
PAX Paxson 83.22 5 P P 07 13 19.7 +1.3
baz=351
BCAR Beaver Creek A 83.36 3 P P 07 13 20.1 +1.0
L27K Beaver Creek, 83.36 3 P P 07 13 20.4 +1.3
baz=354
M17K Holitna River 83.36 11 P P 07 13 21.0 +1.9
baz=341
WAT6 Susitna Watana 83.42 6 P P 07 13 20.5 +0.9
baz=349
M16K Timber Creek 83.47 12 P P 07 13 21.4 +1.8
baz=340
M18K Stony River 83.52 10 P P 07 13 21.2 +1.3
baz=342
SKT Skwentna 83.62 8 P P 07 13 21.2 +0.8
baz=346
HARP HAARP 83.81 5 P P 07 13 23.6 +2.2
baz=351
MNTQ Montreal, Queb 83.91 322 P P 07 13 21.4 -0.8
M24K Tolsona, Glenn 84.02 6 P P 07 13 24.6 +2.1
baz=350
SML Sawmill 84.13 7 P P 07 13 23.6 +0.5
SML Sawmill 84.13 7 P P 07 13 24.0 +0.9
baz=348
M23K Glacier View 84.20 6 P P 07 13 24.8 +1.4
baz=349
SUA Susitna One 84.21 8 P P 07 13 22.7 -0.9
SUA Susitna One 84.21 8 P P 07 13 24.9 +1.3
baz=346
PMR Palmer 84.26 7 P P 07 13 24.7 +1.1
baz=348
FRNY Flat Rock 84.35 321 P P 07 13 25.0 +0.6
baz=47
N19K Bonanza Creek 84.36 10 P P 07 13 26.4 +2.1
baz=343,SNR=5.2
KNK Knik Glacier 84.50 7 P P 07 13 24.3 -0.6
KNK IAmb IAmb 07 13 26.6
comp=Z,23nm,0.9s
KNK Knik Glacier 84.50 7 P P 07 13 26.5 +1.5
baz=348
N25K Chitina, Valde 84.64 5 P P 07 13 27.0 +1.3
baz=351
YUK3 Moose Creek 84.71 3 P P 07 13 27.9 +1.7
baz=355
J61A Chester 84.81 320 P P 07 13 27.8 +1.0
baz=47
J61A P P 07 13 27.8 +1.0
baz=47
BMNY Brushton-Moira 84.82 322 P P 07 13 26.9 +0.1
baz=46
HRV Adam Dziewonsk 84.83 319 P P 07 13 28.5 +1.6
baz=48
O17K Koliganek Bris 84.96 11 P P 07 13 28.7 +1.5
baz=341
O16K Kokwok River B 84.96 12 P P 07 13 28.8 +1.6

	baz=340						
LONY	Lake Ozonia	85.01	322	P	P	07 13 27.5	-0.3
LONY	Lake Ozonia	85.01	322	P	P	07 13 28.9	+1.1
	baz=46,SNR=6.5						
O15K	Ungalikthiuk R	85.05	13	P	P	07 13 29.1	+1.4
	baz=339						
K62A	Royalston	85.10	319	P	P	07 13 29.8	+1.5
	baz=47						
K62A				P	P	07 13 29.8	+1.5
	baz=47						
NCB	Newcomb	85.27	321	P	P	07 13 29.9	+0.7
	baz=46						
BARN	Barnard Glacie	85.36	4	P	P	07 13 28.8	-0.7
ACCN	Adirondack Com	85.38	320	P	P	07 13 31.0	+1.3
	baz=46						
QUA2	Belchertown	85.42	319	P	P	07 13 31.1	+1.2
	baz=47						
CTG	Chitna Glacier	85.48	3	P	P	07 13 31.7	+1.7
	baz=354						
L61B	Northampton	85.48	319	P	P	07 13 31.3	+1.1
	baz=47						
P16K	Nushagak River	85.51	12	P	P	07 13 32.1	+2.1
	baz=340						
P17K	Kvichak River	85.61	11	P	P	07 13 32.2	+1.7
	baz=342						
HYT	Haines Junctio	85.75	2	P	P	07 13 31.1	-0.3
HYT				IAmb	IAmb	07 13 33.9	
	comp=Z,26nm,1.0s						
J59A	Piesco	85.77	321	P	P	07 13 32.6	+0.9
	baz=46						
J59A				P	P	07 13 32.6	+0.9
	baz=46						
J58A	Remsen	86.25	321	P	P	07 13 33.8	-0.2
NPNY	Mohonk Preserv	86.75	319	P	P	07 13 36.6	+0.1
	baz=46						
HILA	High Level	86.93	351	P	P	07 13 36.5	-0.5
KDAK	Kodiak Island	87.56	10	P	P	07 13 41.5	+1.5
	baz=345						
L56A	Greenwood	88.30	322	P	P	07 13 44.3	+0.3
	baz=44						
L56A				P	P	07 13 44.3	+0.3
	baz=44						
R32K	Eaglecrest	88.35	0	P	P	07 13 46.2	+2.3
	baz=360						
E46A	Sault Ste Mari	88.40	328	P	P	07 13 44.3	0.0
	baz=40						
TUPA	Temple Univers	88.42	319	P	P	07 13 44.8	+0.3
	baz=45						
S34M	Telegraph Cree	88.67	358	P	P	07 13 47.7	+2.3
	baz=2.5						
ERPA	Erie	89.55	323	P	P	07 13 50.4	+0.6
	baz=42,SNR=6.7						
ERPA	Erie	89.55	323	P	P	07 13 49.9	+0.1
	baz=42						
E43A	Lone Tree Farm	89.56	329	P	P	07 13 49.0	-0.7
	baz=38						
T35M	Bob Quinn	89.58	358	P	P	07 13 51.8	+2.2
	baz=3.3						
D41A	Chassel	89.67	331	P	P	07 13 50.9	+0.6
	baz=36						
ULM	Lac du Bonnet	89.73	336	P	P	07 13 50.4	0.0
	comp=Z,5.8nm,0.7s,baz=33,slow=2.9,SNR=4.0						
ULM				LR	LR	07 54 23.1	
	comp=Z,609nm,19.5s,baz=34,slow=36						
	comp=Z,5.8nm,0.7s						
PAOC	Oil Creek Stat	89.84	322	P	P	07 13 50.6	-0.6
	baz=43						
SDMD	Soldier's Deli	89.86	319	P	P	07 13 51.3	-0.1
	baz=44						
ALLY	Alegheny Colle	89.98	323	P	P	07 13 52.1	+0.2
	baz=42						
EYMN	Ely	90.10	333	P	P	07 13 52.8	+0.5
	baz=34,SNR=6.4						
EYMN	Ely	90.10	333	P	P	07 13 52.7	+0.4
	baz=34						
K50A	Casco	90.36	325	P	P	07 13 54.0	+0.4
	baz=41						
K50A				P	P	07 13 54.0	+0.4
	baz=41						
B35A	Bob, Littlefor	90.59	334	P	P	07 13 54.7	+0.2
	baz=33						
M52A	Chesterland	90.67	323	P	P	07 13 54.9	-0.2
	baz=42						
M52A				P	P	07 13 54.9	-0.2
	baz=42						
N53A	Lisbon	90.95	322	P	P	07 13 56.4	0.0
	baz=42						
N53A				P	P	07 13 56.4	0.0
	baz=42						
CBN	Corbin Frederi	91.01	319	P	P	07 13 56.9	+0.2
	baz=44						
J47A	Sunmer	91.05	326	P	P	07 13 56.1	-0.6
J47A				IAmb	IAmb	07 13 57.6	
	comp=Z,20nm,0.9s						
J47A	Sunmer	91.05	326	P	P	07 13 56.9	+0.1
	baz=39						
J47A				P	P	07 13 56.9	+0.1
	baz=39						
O54A	Avella	91.18	322	P	P	07 13 57.7	+0.2
	baz=42						
O54A				P	P	07 13 57.7	+0.2
	baz=42						
AAM	Ann Arbor	91.22	325	P	P	07 13 58.0	+0.4
	baz=40						
E38A	The Farm, Brul	91.23	332	P	P	07 13 57.7	+0.2
	baz=34						
MCWV	Mont Chateau	91.29	321	P	P	07 13 58.8	+0.8
	baz=42						
O53A	New Philadelph	91.56	322	P	P	07 13 60.0	+0.8
	baz=42						
N51A	Ashland	91.64	323	P	P	07 13 58.7	-0.9
	baz=41						
N51A				P	P	07 13 58.7	-0.9
	baz=41						
G40A	Rib Lake	91.78	331	P	P	07 14 00.6	+0.5
	baz=35						
O52A	Adamsville	91.97	323	P	P	07 14 01.6	+0.4
	baz=41						
O52A				P	P	07 14 01.6	+0.4
	baz=41						
ACSO	Alum Creek Sta	92.46	323	P	P	07 14 03.9	+0.5
	baz=40,SNR=6.4						
ACSO	Alum Creek Sta	92.46	323	P	P	07 14 03.4	0.0
	baz=40						
P52A	Corning	92.49	322	P	P	07 14 03.9	+0.4
	baz=41,SNR=5.9						
N49A	Columbus Grove	92.53	324	P	P	07 14 03.6	-0.1
	baz=40						
N49A				P	P	07 14 03.6	-0.1
	baz=40						
SPMN	Marine on St.	92.86	332	P	P	07 14 05.7	+0.6
	baz=33,SNR=6.7						
SPMN	Marine on St.	92.86	332	P	P	07 14 05.4	+0.2
	baz=33						
Q52A	Bidwell	93.06	322	P	P	07 14 06.4	+0.2
	baz=41						
Q52A				P	P	07 14 06.4	+0.2
	baz=41						
O49A	Covington	93.17	324	P	P	07 14 06.6	0.0
	baz=40						
O49A				P	P	07 14 06.6	0.0
	baz=40						
O48B	Farmland	93.51	325	P	P	07 14 08.2	0.0
	baz=39,SNR=6.2						
O48B	Farmland	93.51	325	P	P	07 14 08.0	-0.2
	baz=39						
Q51A	Peebles	93.56	323	P	P	07 14 08.2	-0.3
	baz=40						
Q51A				P	P	07 14 08.2	-0.3
	baz=40						
JFWS	Jewell Farm	93.72	329	P	P	07 14 09.5	+0.4
	baz=35						
JFWS	Jewell Farm	93.72	329	P	P	07 14 09.1	0.0
	baz=35						
P49A	Miami Univ. Ec	93.86	324	P	P	07 14 09.8	0.0
	baz=39						
P49A	Miami Univ. Ec	93.86	324	P	P	07 14 09.2	-0.6
	baz=39						
M44A	Midewin, Midew	93.98	327	P	P	07 14 10.0	-0.3
	baz=37						
I37B	Waseca	94.11	332	P	P	07 14 11.4	+0.5
	baz=33						
L42A	Oliver, Polo	94.21	328	P	P	07 14 10.8	-0.6
	baz=36						
P48A	Milroy	94.26	324	P	P	07 14 10.7	-0.9
	baz=39						
P48A				P	P	07 14 10.7	-0.9
	baz=39						
SFIN	Lafayette	94.34	326	P	P	07 14 12.1	+0.1
	baz=38						
R50A	Paris	94.62	323	P	P	07 14 13.5	+0.2
	baz=40						
R50A				P	P	07 14 13.5	+0.2
	baz=40						
S51A	Beattyville	94.74	322	P	P	07 14 14.3	+0.4
	baz=40						
S51A				P	P	07 14 14.3	+0.4
	baz=40						
L40A	Anamosa	94.83	329	P	P	07 14 13.8	-0.4
	baz=35						
P46A	Rosedale	94.99	325	P	P	07 14 15.0	0.0
	baz=38						
R49A	Shelbyville	95.04	323	P	P	07 14 14.6	-0.7
	baz=39						
R49A				P	P	07 14 14.6	-0.7
	baz=39						
TZTN	Tazewell	95.55	321	P	P	07 14 18.7	+1.0
	baz=40						
ECSD	EROS Data Cent	95.58	334	P	P	07 14 17.4	-0.3
	baz=31						
V53A	Saluda	95.82	320	P	P	07 14 19.4	+0.4
	baz=41						
V53A				P	P	07 14 19.4	+0.4
	baz=41						
T50A	Nancy	95.85	322	P	P	07 14 19.0	0.0
	baz=39						
T50A				P	P	07 14 19.0	0.0
	baz=39						
V52A	Sevierville	96.11	321	P	P	07 14 19.8	-0.4
	baz=40						
OLIL	Olney	96.11	325	P	P	07 14 19.2	-0.9
	baz=37						
TKL	Tuckaleechee C	96.34	321	P	P	07 14 21.6	+0.3
	baz=40						
WRA	Warramunga Arr	99.74	107	P	Pdif	07 14 35.2	-1.4
	comp=Z,1.0nm,0.5s,baz=317,slow=3.9,SNR=4.9						
	comp=Z,1.0nm,0.5s						
QSPA	South Pole Qui	123.56	180	PKP	PKPdf	07 19 48.7	-0.2
	comp=Z,5.2nm,0.5s,baz=276,slow=2.6,SNR=3.4						
PLCA	Paso Flores	129.72	242	PKP	PKPdf	07 20 02.3	+0.8
	comp=Z,8.8nm,1.1s,baz=16,slow=3.9,SNR=4.5						

*IDC **11** 07:10:14.6±2.0, 33.77N×45.62E, h0km, mb3.8/7, mbtmp3.9/8, ML4.2/1, Error ellipse: s-maj=43.9km s-min=25.8km az=164.0*

ISC 11 07:10:16.2±1.8, 33.38N±0.2×45.6E±0.2, h10km, n8, σ0.62/8, mb4.0/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BELG	Belogornoye	18.67	4	P	P	07 14 34.8	+0.7
	0.7nm,0.3s,baz=316,slow=15,SNR=2.6						
	12m,0.9s						
AKASG	Malin Array Be	20.73	330	P	P	07 14 56.4	-0.2
	0.4nm,0.3s,baz=138,slow=9.8,SNR=2.1						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	29.32	45	P	P	07 16 18.7	-0.1
	1.0nm,0.8s,baz=254,slow=8.2,SNR=1.7						
	1.0nm,0.8s						
MKAR	Makanchi Array	30.57	54	P	P	07 16 30.1	0.0
	1.1nm,0.5s,baz=249,slow=9.9,SNR=12						
	1.1nm,0.5s						
HFS	Hagfors	33.59	331	P	P	07 16 55.8	-0.5
	1.1nm,0.4s,baz=123,slow=11,SNR=4.8						
	1.1nm,0.4s						
ZALV	Zalesovo Beam	34.13	42	P	P	07 17 00.1	-0.9
	0.9nm,0.3s,baz=241,slow=8.1,SNR=1.9						
	0.9nm,0.3s						
TORD	Torodi Ar. Bea	44.79	253	P	P	07 18 30.5	+0.1
	0.6nm,0.8s,baz=55,slow=5.1,SNR=2.2						
	0.6nm,0.8s						
SPITS	Spitsbergen Ar	46.26	352	P	P	07 18 41.8	+0.6
	2.4nm,0.8s,baz=147,slow=10,SNR=1.2						
	2.4nm,0.8s						

*IDC **11** 07:11:49.6±1.9, 33.80N×45.43E, h0km, mb3.8/11, mbtmp3.9/12, ML4.3/1, Error ellipse: s-maj=39.4km s-min=23.7km az=162.0*

ISC 11 07:11:50.1±1.0, 33.6N±0.1×45.6E±0.1, h13km, n13, σ1.33/13, mb3.8/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	Wadi Sarin	15.44	129	Pn	Pn	07 15 26.1	-1.6
	0.2nm,0.3s,baz=285,slow=16,SNR=1.2						
BELG	Belogornoye	18.83	4	P	P	07 16 08.2	-1.1
	1.0nm,0.3s,baz=359,slow=3.8,SNR=5.6						
	1.1nm,0.6s						
AKASG	Malin Array Be	20.85	330	P	P	07 16 29.4	-2.1
	2.1nm,0.6s,baz=140,slow=9.4,SNR=9.8						
	2.1nm,0.6s						
BVAR	Borovoye Array	26.28	35	P	P	07 17 27.6	+2.5
	1.5nm,0.6s,baz=224,slow=8.1,SNR=3.5						
	1.5nm,0.6s						
FINES	FINESS Array B	30.54	342	P	P	07 18 02.7	-0.3
	1.2nm,0.7s,baz=144,slow=12,SNR=1.4						
	1.2nm,0.7s						
MKAR	Makanchi Array	30.69	54	P	P	07 18 05.0	+0.5
	1.3nm,0.5s,baz=256,slow=9.8,SNR=11						
	1.3nm,0.5s						
HFS	Hagfors	33.72	332	P	P	07 18 30.7	-0.2
	2.5nm,0.4s,baz=128,slow=9.6,SNR=14						
	2.5nm,0.4s						
NOA	NORSAR Array B	35.25	332	P	P	07 18 43.0	-1.1
	0.3nm,0.5s,baz=152,slow=9.5,SNR=1.3						
	0.3nm,0.5s						
ESDC	Sonseca Array	39.79	293	P	P	07 19 23.6	+0.8
	0.7nm,0.7s,baz=67,slow=9.9,SNR=2.4						
	0.7nm,0.7s						
EKA	Eskdalemuir Ar	39.94	318	P	P	07 19 23.8	0.0
	1.3nm,0.7s,baz=97,slow=8.9,SNR=3.6						
	1.3nm,0.7s						
TORD	Torodi Ar. Bea	44.72	254	P	P	07 20 04.0	+0.8
	0.7nm,0.9s,baz=66,slow=7.1,SNR=3.4						
	0.7nm,0.9s						
SPITS	Spitsbergen Ar	46.42	352	P	P	07 20 16.2	+0.3
	1.4nm,0.5s,baz=123,slow=10,SNR=6.2						
	1.4nm,0.5s						
YKA	Yellowknife Ar	82.90	351	P	P	07 24 14.2	+0.1
	0.3nm,0.8s,baz=30,slow=5.1,SNR=2.8						
	0.3nm,0.8s						

*NAO **11** 07:13:45.6, 30.52N×47.85E, h33km, mb4.4*
*PDG **11** 07:14:00.7, 33.80N×47.76E, h10km, mb5.2/3*
*IDC **11** 07:14:13.3±0.4, 33.77N×45.76E, h0km, mb5.0/37, mbtmp4.9/47, ML4.1/8, MS4.8/24, Error ellipse: s-maj=9.7km s-min=9.0km az=162.0*
*TEH **11** 07:14:15.5, 33.72N×45.71E, h9km±33km, ML5.4*
*DSN **11** 07:14:15.6±0.6, 33.54N×45.66E, h15km, mb5.6/4, Error ellipse: s-maj=14.3km s-min=5.6km az=56.0*
*NEIC **11** 07:14:16.0±1.6, 33.80N±0.06×45.73E±0.08, h10km±1km, mb5.3/129, Mww5.3/16, Error ellipse: s-maj=12.0km s-min=10.2km az=129.0*
*NEIC **11** 07:14:16.3, 33.85N×45.76E, h14km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.03; $M_{\theta\theta}$-0.22; $M_{\phi\phi}$-0.81; $M_{r\theta}$-0.11; $M_{\theta\phi}$0.43; $M_{\theta r}$0.14; Fault plane solution: $M_0$1.05000×10^{17} NP1: ϕ_s330.39000°, δ49.94000°, λ87.78000°. NP2: ϕ_s153.84000°, δ40.11000°, λ92.64000°. Principal axes: T 1.0451, Plg85.0000°, Azm223.0000°; N 0.0075, Plg2.0000°, Azm332.0000°; P -1.0527, Plg5.0000°, Azm62.0000°;*
*THR **11** 07:14:16.9±1.2, 33.81N×45.81E, h15km±9km, ML4.8*
*ISN **11** 07:14:16.1±0.6, 33.75N×45.75E, h10km±3km, ML5.5*
*NEIC **11** 07:14:16.3, 33.85N×45.76E, h14km*
*OMAN **11** 07:14:17.1±0.6, 33.43N×46.03E, h10km, mb5.3/45, ms5.0/7, Error ellipse: s-maj=10.4km s-min=5.9km az=34.0*
*AFAD **11** 07:14:18.0±0.0, 33.73N×45.22E, h15km, MW5.3*
*GCMT **11** 07:14:19.0±0.2, 33.68N±0.01×45.59E±0.01, h17km, MW5.4/131, Moment Tensor Solution. s66,c82; s131,c249; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.39±.05; $M_{\theta\theta}$-0.26±.03; $M_{\phi\phi}$-1.14±.04; $M_{r\theta}$0.55±.09; $M_{\theta\phi}$0.83±.02; $M_{\phi r}$-0.33±.08; Best double couple: $M_0$1.65200×10^{17} NP1:ϕ_s137.00000°, δ57.00000°, λ75.00000°. NP2:ϕ_s342.00000°, δ36.00000°, λ111.00000°. Principal axes: T 1.5600, Plg74.0000°, Azm7.0000°; N 0.1800, Plg12.0000°, Azm145.0000°; P -1.7450, Plg10.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **11** 07:14:19.0±1.1, 33.85N×45.72E, h11km, mb5.3/96, MS4.9/14 Error ellipse: s-maj=3.8km s-min=2.7km az=118.2*

ISC 11 07:14:16.0±0.5, 33.75N±0.02×45.74E±0.02, h16km±2km, n1225, σ1.84/1337, mb5.2/300, MS4.8/43, 65C-20D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	Ilam Banvizeh	0.41	108	ePg	Pb	07 14 24.9	+0.1
ILBA				eSg	Sg	07 14 30.4	+0.4
ILBA				IAML		07 14 33.5	
	comp=N,156μm,0.4s						
ILBA	Ilam Banvizeh	0.41	108	Pg	Pg	07 14 24.5	+0.2
IBDR	Badra	0.66	166	ePg	Pb	07 14 29.0	-0.1
IBDR				eSg	Sb	07 14 38.0	0.0
IBDR				AML	AML	07 14 44.0	
	comp=N,276μm,0.6s						
IBDR				AML	AML	07 14 44.0	
	comp=E,231μm,0.5s						
KGS1	Ghasr-e-Shirin	0.76	350	Pg	Pb	07 14 30.3	-0.6
KGS1				Sg	Sn	07 14 43.5	+0.2
IGHG	Ghaleghazi	0.90	50	Pg	Pg	07 14 33.5	+0.1
IDHR	Dehrash	1.09	29	Pg	Pg	07 14 37.0	0.0
IDHR				Sg	Sn	07 14 53.6	+2.1
BHD	Baghdad	1.24	248	ePg	Pg	07 14 40.0	+0.2
BHD				eSg	Sg	07 14 57.0	+1.0
BHD				AML	AML	07 15 02.6	
	comp=E,129μm,0.4s						
IKOM	Komasi	1.53	73	Pg	Pg	07 14 45.4	0.0
IKOM				Sg	Sg	07 15 08.6	+3.2
ILIN	Lien	1.54	41	Pg	Pg	07 14 45.4	-0.3
IKFM	Kafar-mosalman	1.77	97	Pg	Pb	07 14 48.7	+0.6
SNGE	Sanandaj	1.88	44	ePg	Pb	07 14 49.8	-0.3
SNGE				IAML		07 15 20.3	
	comp=N,12μm,0.5s						
SNGE				IAML		07 15 23.7	
	comp=E,13μm,0.7s						
IBZA	Bozab	1.90	67	Pn	Pb	07 14 50.6	+0.2
RAFI	Al-Rafai	2.05	171	ePn	Pb	07 14 52.0	-0.7
RAFI				eSn	Sb	07 15 19.0	+1.1
RAFI				AML	AML	07 15 23.9	
	comp=N,44μm,0.4s						
IALM	Almabolaq	2.29	60	Pn	Pb	07 14 55.9	-1.2
SDS1	Sardasht. Az.	2.40	355	Pn	Pb	07 14 57.3	-1.6
HSAM	Samen	2.42	78	Pn	Pb	07 14 57.3	-1.9
HAGD	Aghdareh	3.01	68	Pn	Pn	07 15 05.7	+2.6
MAHB	Mahabad	3.01	359	Pn	Pn	07 15 05.2	+2.1
NGD1	Naghade .Az. G	3.20	355	Pn	Pn	07 15 08.5	+2.8
AHWZ	Ahwaz	3.44	134	Pn	Pn	07 15 11.3	+2.4
KHMZ	Khomeyn	3.51	89	ePn	Pn	07 15 12.4	+2.4
KHMZ				IAML		07 16 17.1	
	comp=E,3μm,0.6s						
KHMZ				IAML		07 16 18.3	
	comp=N,2μm,0.7s						
ASAO	Ashtian	3.64	76	ePn	Pn	07 15 15.0	+3.1
ASAO				IAML		07 16 24.6	
	comp=N,2μm,0.5s						
ASAO				IAML		07 16 27.0	
	comp=E,1μm,0.7s						
IHSH	Hashtrud	3.76	19	Pn	Pn	07 15 15.5	+2.0
ZNJK	Zanjan	3.78	39	ePn	Pn	07 15 16.3	+2.6
ZNJK				IAML		07 16 24.0	
	comp=N,276nm,0.7s						
ZNJK				IAML		07 16 29.6	
	comp=E,414nm,0.6s						
IRAZ	Razeghan	3.83	63	Pn	Pn	07 15 17.2	+2.8
CUKT	Cukurca	3.90	334	eP	Pn	07 15 16.6	+1.3
CUKT	Cukurca	3.90	334	P	Pn	07 15 16.1	+0.8
CUKT				S	Sn	07 16 01.4	+0.6
IAZR	Azarshahr	3.92	3	Pn	Pn	07 15 17.8	+2.0
QSDN	Sirdan	3.93	45	Pn	Pn	07 15 18.6	+2.7
YOVA	Hakkari_Yksek	4.01	343	P	Pn	07 15 19.3	+2.4
YOVA				S	Sn	07 16 08.6	+5.0
HAKT	HAKKARI	4.14	337	P	Pn	07 15 19.2	+0.4
HAKT				S	Sn	07 16 07.4	+0.4
ISRB	Sarab	4.36	20	Pn	Pn	07 15 24.2	+2.6
JHBN	Jahan bin	4.41	109	Pn	Pn	07 15 24.4	+1.9
IPIR	Pirpir	4.45	102	Pn	Pn	07 15 24.7	+1.7
TABZ	Tabriz	4.48	4	Pn	Pn	07 15 24.5	+1.1
IMHD	Mahdasht	4.49	63	Pn	Pn	07 15 25.3	+1.8
IQOM	Qom	4.54	75	Pn	Pn	07 15 25.9	+1.6
ZNGN	Zangian	4.60	109	Pn	Pn	07 15 26.5	+1.4
SIRN	Sirnak	4.62	325	P	Pn	07 15 26.1	+1.0
SIRN				S	Sn	07 16 16.6	-1.9
GIDE	GILAN DEYLAMAN	4.65	46	ePn	Pn	07 15 28.1	+2.4
GHVR	GHOM	4.66	79	ePn	Pn	07 15 28.2	+2.5
IHRS	Heris	4.68	13	Pn	Pn	07 15 28.5	+2.4
QAMS	Qamsar	4.71	89	Pn	Pn	07 15 29.0	+2.4
AMD1	Meshkindasht	4.74	64	Pn	Pn	07 15 30.0	+3.2
THKV	Tehran--Karaj	4.74	61	ePn	Pn	07 15 28.9	+2.0
IHSB	Hasanabad	4.86	68	Pn	Pn	07 15 30.6	+2.1
IKLH	Kolahrood	4.89	93	Pn	Pn	07 15 31.0	+1.9
CHTH	Charan	4.92	63	ePn	Pn	07 15 31.3	+1.8
PERV	Siirt/Pervari-	4.93	329	P	Pn	07 15 30.1	+0.6
PERV				S	Sn	07 16 25.8	-0.4
IMRD	Marand	4.95	360	Pn	Pn	07 15 31.7	+1.9
IBRJ	Brojen	5.00	110	Pn	Pn	07 15 32.1	+1.6
GEVA	Gevas	5.04	335	P	Pn	07 15 32.4	+1.3
GEVA				S	Sn	07 16 31.2	+2.1
TEH	Tehran	5.05	65	Pn	Pn	07 15 33.4	+2.3
TEHA	Amirabad Tehra	5.05	65	Pn	Pn	07 15 33.5	+2.2
MIDY	Mardin/Midyat-	5.08	317	P	Pn	07 15 32.6	+1.1
MIDY				S	Sn	07 16 31.7	+1.7
AKDM	Akdamar-Van	5.09	335	eP	Pn	07 15 33.1	+1.4
OZAP	Van, Ozalp-Mer	5.10	344	P	Pn	07 15 34.4	+2.5
OZAP				S	Sn	07 16 32.3	+1.8
IVRN	Varamin	5.10	74	Pn	Pn	07 15 33.9	+2.1
TVAN	Van	5.13	339	P	Pn	07 15 33.5	+1.2
TVAN				S	Sn	07 16 29.9	-1.3
KLST	Kelardasht - M	5.16	56	Pn	Pn	07 15 35.1	+2.3
VANB	Van	5.20	339	eP	Pn	07 15 34.4	+1.3
GAS1	Astara - Iran	5.26	28	Pn	Pn	07 15 36.6	+2.7
KRSH	Karshahi	5.32	86	Pn	Pn	07 15 37.3	+2.3
GRMI	Germi	5.34	18	Pn	Pn	07 15 37.2	+2.2
ISFB	Sefidab	5.43	82	Pn	Pn	07 15 38.3	+2.0
IGAR	Gharneh	5.46	103	Pn	Pn	07 15 38.7	+1.9
DAMV	Damavand	5.46	68	ePn	Pn	07 15 38.4	+1.5
MZPU	Pul - Mazandar	5.48	59	Pn	Pn	07 15 40.0	+2.9
IDMV	Damavand	5.49	69	Pn	Pn	07 15 38.9	+1.5
BTMN	Batman	5.50	320	P	Pn	07 15 39.3	+2.0
BTMN				S	Sb	07 16 51.3	-6.1
BLIS	Bitlis-Merkez	5.50	329	P	Pn	07 15 37.4	0.0
BLIS				S	Sn	07 16 38.8	-1.6
VMUR	Van-Muradiye	5.51	342	P	Pn	07 15 39.9	+2.3
VMUR				S	Sn	07 16 45.5	+4.9
CLDR	Caldiran	5.58	345	eP	Pn	07 15 40.3	+1.8
CLDR	Caldiran	5.58	345	P	Pn	07 15 40.5	+2.1
CLDR				S	Sn	07 16 49.2	+6.9
IZEF	Zefreh	5.58	97	Pn	Pn	07 15 40.5	+2.0
ADCV	BITLIS_Adilcev	5.60	335	P	Pn	07 15 40.2	+1.4
ADCV				S	Sn	07 16 42.2	-0.7
GURO	Guroymak-BITLI	5.65	329	eP	Pn	07 15 39.4	0.0
GURO	Guroymak-BITLI	5.65	329	Pn	Pn	07 15 39.2	-0.2
KLNJ	Kolanjah	5.65	117	Pn	Pn	07 15 41.6	+1.9
MAKU	Maku	5.66	352	ePn	Pn	07 15 41.9	+2.4
MAKU	Maku	5.66	352	Pn	Pn	07 15 41.9	+2.4
MAZI	Mazidag	5.68	312	eP	Pn	07 15 39.4	-0.4
SVAN	Silvan-Diyarba	5.73	321	eP	Pn	07 15 40.3	-0.1
IRAM	Ramesheh	5.92	107	Pn	Pn	07 15 45.0	+1.9
IPRN	Peran	5.96	63	Pn	Pn	07 15 46.9	+3.4
MLA

comp=E,21nm,0.5s
GNI Garni 6.44 353 P **Pn** 07 15 54.8 +4.6
BNGB Bingl 6.63 323 *e*P **Pn** 07 15 53.2 +0.3
ANAR Anarak 6.70 93 Pn **Pn** 07 15 54.7 +1.0
URFA Urfa 6.73 305 *e*P **Pn** 07 15 53.9 -0.3
IANJ Anjilo 6.95 73 Pn **Pn** 07 15 58.9 +1.6
KOPR Koprukoy-ERZUR 6.96 335 *e*P **Pn** 07 15 59.2 +1.8
SHI Shiraz 7.08 124 Pn **Pn** 07 16 00.5 +1.5
DSBU Dashti - Bushe 7.16 137 Pn **Pn** 07 16 01.3 +1.2
IGLO Ghaloghah 7.17 65 Pn **Pn** 07 16 03.9 +3.6
KARS Kars 7.18 344 *e*P **Pn** 07 16 03.2 +2.7
KARS Kars 7.18 344 Pn **Pn** 07 16 01.7 +1.2
KARS Kars 7.18 344 P **Pn** 07 16 01.7 +1.2
PTK Pertek 7.25 317 *e*P **Pn** 07 16 01.2 -0.2
SENK Senkaya-Erzuru 7.32 339 *e*P **Pn** 07 16 04.9 +2.6
ICHK Chekchek 7.43 99 Pn **Pn** 07 16 03.9 -0.1
YZKH Yazd 7.55 98 *e*Pn **Pn** 07 16 06.1 +0.7
ERZN Erzincan 7.57 322 *e*P **Pn** 07 16 05.9 +0.2
ASF Jabal al Asfar 7.60 260 **Pn** 07 16 04.9 -1.2
ASF Jabal al Asfar 7.60 260 P **Pn** 07 16 04.9 -1.2
ASF Jabal al Asfar 7.60 260 Pn **Pn** 07 16 04.9 -1.2
comp=E,7.4nm,0.3s,baz=110,slow=11,SNR=15
ASF Pg Pb 07 16 34.6 +7.2
comp=E,12nm,0.3s,baz=117,slow=14,SNR=3.6
ASF Lg Lg 07 18 11.8
comp=E,16nm,0.3s,baz=310,slow=21,SNR=2.1
ASF LR LR 07 19 55.9
comp=E,12µm,18.8s,baz=74,slow=45
comp=E,48nm,0.5s
ASF Jabal al Asfar 7.60 260 P **Pn** 07 16 05.1 -1.0
GAZ Gaziantep 7.75 299 *e*P **Pn** 07 16 06.3 -1.9
GAZ Gaziantep 7.75 299 **Pn** 07 16 06.9 -1.3
IMEH Mehriz 7.85 105 Pn **Pn** 07 16 10.4 +0.8
AKH Akhalkalaki 7.85 348 Pn **Pn** 07 16 10.4 +0.8
AKH Akhalkalaki 7.85 348 P **Pn** 07 16 10.4 +0.8
BAYT Aydıntepe-Bayb 8.00 328 *e*P **Pn** 07 16 12.1 +0.5
ARPR Arapgir-MALATY 8.00 314 *e*P **Pn** 07 16 11.6 -0.1
ARPR Arapgir-MALATY 8.00 314 **Pn** 07 16 11.2 -0.4
KMRS Kahramanmaras 8.11 300 *e*P **Pn** 07 16 12.0 -1.1
DARE Darende-Malaty 8.23 308 *e*P **Pn** 07 16 14.2 -0.5
TAHT Tahtakopru-Hat 8.26 291 *e*P **Pn** 07 16 13.2 -1.9
GHIR Ghir-Karzin 8.26 129 *e*Pn **Pn** 07 16 15.5 +0.2
CHOM Cayeli-Rize 8.33 333 *e*P **Pn** 07 16 16.6 +0.5
BCA Borcka 8.35 338 *e*P **Pn** 07 16 17.3 +1.0
NATI Neve Ativ 8.37 269 P Pn 07 16 24.8 +8.2
SHMJ Saham 8.42 266 P Pn 07 16 25.7 +8.4
BATM Batumi 8.47 339 *e*P **Pn** 07 16 19.5 +1.6
JHRM Jahrom 8.51 126 Pn **Pn** 07 16 19.0 +0.4
SWQJ Swaqa 8.55 256 P Pn 07 16 26.2 +7.0
IBAF Bafgh 8.56 102 Pn **Pn** 07 16 20.6 +1.3
IMND Minoodasht 8.62 63 Pn **Pn** 07 16 22.5 +2.5
QRNJ Al-Qirein 8.65 263 P Pn 07 16 28.6 +8.2
MMA0 Mount Meron ar 8.68 268 P Pn 07 16 28.9 +8.0
MMAI Mount Meron Ar 8.68 268 **Pn** 07 16 19.6 -1.3
MMAI Mount Meron Ar 8.68 268 Pn **Pn** 07 16 19.6 -1.3
comp=E,5.3nm,0.3s,baz=87,slow=14,SNR=6.2
MMAI Pg 07 17 01.7
comp=E,11nm,0.3s,baz=90,slow=14,SNR=7.8
MMAI Lg Lg 07 18 46.0
comp=E,20nm,0.3s,baz=90,slow=18,SNR=2.4
comp=E,8.4nm,0.5s
HMDT Nahal Hemdat 8.71 263 P Pn 07 16 29.4 +8.1
SHRO Shahrood 8.73 72 *e*Pn **Pn** 07 16 23.8 +2.2
CEYT Ceyhan 8.79 295 *e*P **Pn** 07 16 21.2 -1.1
SAKB Bahrain 8.79 151 P **Pn** 07 16 23.4 +1.0
SAKB S **Sn** 07 16 56.8 -4.4
SARI SarD1z-Kayseri 8.86 304 *e*P **Pn** 07 16 21.6 -1.9
KOZT Kozan 8.89 298 *e*P **Pn** 07 16 22.1 -1.6
KARJ KARJ 8.92 256 P Pn 07 16 30.0 +5.8
DSI Dead Sea 9.00 259 P Pn 07 16 33.4 +8.1
ONI Oni 9.01 349 Pn **Pn** 07 16 29.1 +3.8
ONI Oni 9.01 349 P **Pn** 07 16 29.1 +3.8
TNSJ Nastanj 9.04 86 Pn **Pn** 07 16 27.1 +1.2
SHMA Al-Shehemyia 9.08 149 P **Pn** 07 16 26.9 +0.5
SNR=11
SHMA S **Sn** 07 18 03.5 -4.8
ZEI Tsey 9.14 351 *e*P **Pn** 07 16 28.9 +1.6
ZEI pmax pmax
comp=Z,75nm,1.4s
TPRV Parvadeh(Tabas 9.18 91 Pn **Pn** 07 16 28.7 +0.9
MRVT Maraveh tapeh 9.27 62 Pn **Pn** 07 16 31.5 +2.5
MAK Makhachkala 9.30 8 *e*P **Pn** 07 16 26.9 -2.4
MAK *e*S **Sn** 07 18 11.9 -1.6
MAK pmax pmax
comp=Z,210nm,1.2s
MAK MLR MLR
comp=Z,7µm,13.0s
SVSK Karacayir 9.32 314 *e*P **Pn** 07 16 27.5 -2.1
BNN Bunyan 9.47 305 *e*P **Pn** 07 16 30.2 -1.6
BNN Bunyan 9.47 305 Pn **Pn** 07 16 32.8 +1.0
TKDS Koohdasht(Taba 9.48 88 Pn **Pn** 07 16 33.2 +1.2
ZRDN Zarand Kerman 9.54 104 Pn **Pn** 07 16 31.6 -1.3
CMRD Camardi-Nigde 9.57 297 *e*P **Pn** 07 16 31.9 -1.3
LAR1 LAR 9.59 127 Pn **Pn** 07 16 33.7 +0.4
MERS Mersin 9.68 292 *e*P **Pn** 07 16 32.6 -2.0
KHGB Koh Gabri 9.71 107 Pn **Pn** 07 16 36.5 +1.3
SMRA Abu-Samra 10.01 152 P **Pn** 07 16 39.4 +0.3
SNR=7.6
SMRA S **Sn** 07 18 24.0 -7.1
MBRI Mt Berech 10.03 250 P Pn 07 16 47.4 +8.0
EIL Elat 10.05 249 **Pn** 07 16 39.3 -0.4
EIL Elat 10.05 249 Pn **Pn** 07 16 39.3 -0.4
comp=Z,3.1nm,0.3s,baz=102,slow=5.9,SNR=17
EIL Pg 07 17 27.9
comp=Z,8.2nm,0.3s,baz=37,slow=10,SNR=6.2
EIL Lg Lg 07 19 29.9
comp=Z,12nm,0.3s,baz=328,slow=10,SNR=3.0
comp=Z,18nm,0.4s
SBZV Sabzevar 10.08 72 Pn **Pn** 07 16 42.9 +2.7
TVBK TV Kerman 10.09 109 Pn **Pn** 07 16 41.4 +0.9
TRNA Turayna 10.17 151 P **Pn** 07 16 42.0 +0.6
SNR=19
TRNA S **Sn** 07 18 28.5 -6.6
KBZ Khabaz 10.21 348 *ce*P **Pn** 07 16 46.3 +4.6
KBZ Khabaz 10.21 348 Pn **Pn** 07 16 45.5 +3.8
comp=Z,0.3nm,0.3s,baz=160,slow=11,SNR=14
KBZ Lg Lg 07 19 29.6
comp=Z,0.3nm,0.3s,baz=99,slow=9.3,SNR=1.4
comp=Z,8.8nm,0.7s
NGRK Negar Kerman 10.21 111 Pn **Pn** 07 16 43.7 +1.4
YOZ Yozgat 10.22 308 *e*P **Pn** 07 16 40.7 -1.4
KRM1 Kerman Provinc 10.30 105 Pn **Pn** 07 16 45.5 +2.3
CSS Mathiatis 10.33 280 **Pn** 07 16 46.2 +2.7
CSS Mathiatis 10.33 280 P Pn 07 16 51.2 +7.7
KVAR Kislovodsk Arr 10.46 348 Pn **Pn** 07 16 49.2 +3.8
baz=275,slow=21
KVAR Lg Lg 07 19 30.7
baz=148,slow=12
KVAR LR LR 07 20 30.5
comp=Z,6µm,20.9s,baz=30,slow=36
comp=Z,9.3nm,0.8s
KIV Kislovodsk 10.46 348 Pn **Pn** 07 16 46.2 +0.9
KIV Kislovodsk 10.46 348 *e*P **Pn** 07 16 47.2 +1.9
KIV *e*S **Sn** 07 18 44.9 +2.7
KIV pmax pmax
comp=Z,61nm,1.1s
KIV MLR MLR
comp=Z,3µm,13.0s
KIV Kislovodsk 10.46 348 P **Pn** 07 16 48.2 +2.8
KIV Kislovodsk 10.46 348 P **Pn** 07 16 49.4 +4.1
KIV P **Pn** 07 16 49.4 +4.1
ISFR Sfrayin 10.53 68 Pn **Pn** 07 16 47.4 +0.9
JRN Qarnain Island 10.74 143 P **Pn** 07 16 49.0 -0.2
JRN S **Sn** 07 18 41.0 -8.0
CHMN Cheshme madani 10.76 108 Pn **Pn** 07 16 51.5 +1.8
GEYT Alibeck 10.87 64 **Pn** 07 16 52.7 +1.8
GEYT Alibeck 10.87 64 P **Pn** 07 16 52.7 +1.8
GEYT Alibeck 10.87 64 Pn **Pn** 07 16 52.7 +1.8
comp=Z,1.7nm,0.3s,baz=240,slow=12,SNR=14
GEYT Lg Lg 07 20 00.1
baz=302,slow=2.8
GYA0 ALIBECK ARRAY 10.87 64 P **Pn** 07 16 52.3 +1.4
GYA0B ALIBECK ARRAY 10.87 64 **Pn** 07 16 51.2 +0.3
SOC Sochi 10.88 336 *e*P **Pn** 07 16 50.2 -0.8
SOC *e* 07 18 53.2
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,5µm,15.0s
ITEG Tejag 10.92 91 Pn **Pn** 07 16 52.9 +1.2
CORM Corum 10.96 309 *e*P **Pn** 07 16 50.5 -1.6
GENO Geno 10.99 122 Pn **Pn** 07 16 50.7 -2.0
AFRZ Afriz 11.08 88 Pn **Pn** 07 16 54.5 +0.7

IEMG Emamgholi 11.13 67 Pn **Pn** 07 16 57.7 +3.0
IKOO Kooshah 11.20 93 Pn **Pn** 07 16 56.3 +0.6
IBND Bandar-abas 11.22 121 Pn **Pn** 07 16 54.9 -0.7
BR131 Keskin Array S 11.39 305 Pn **Pn** 07 16 59.8 +1.7
BR131 Keskin Array S 11.39 305 *i* P **Pn** 07 16 59.1 +1.0
BRTR Keskin Array B 11.39 305 P **Pn** 07 16 59.4 +1.3
BRTR Keskin Array B 11.39 305 Pn **Pn** 07 16 59.4 +1.3
comp=Z,0.2nm,0.3s,baz=125,slow=17,SNR=3.9
BRTR Lg Lg 07 20 16.9
comp=Z,0.3nm,0.3s,baz=142,slow=40,SNR=2.1
comp=Z,6.7nm,0.8s
BSRN Basiran 11.40 95 Pn **Pn** 07 16 58.8 +0.6
GOF Gofitskoye 11.48 350 *ce*P **Pn** 07 17 03.3 +4.1
IMON Monand 11.64 89 Pn **Pn** 07 17 04.1 +2.4
IKRD Kardeh 11.65 71 Pn **Pn** 07 17 05.4 +3.5
KBAM BAM 11.79 110 Pn **Pn** 07 17 04.1 +0.6
KHNJ Kahnooj 11.79 116 Pn **Pn** 07 17 03.5 0.0
SHME Shamm 11.84 128 *i* P **Pn** 07 17 02.7 -1.4
SNR=15
SHME Shamm 11.84 128 P **Pn** 07 17 03.2 -1.0
SNR=20
SHME S **Sn** 07 19 07.8 -8.1
IDAH Dahanechah 11.87 91 Pn **Pn** 07 17 07.9 +3.1
UMQ Umm Al-Quwin 11.89 131 P **Pn** 07 17 04.6 -0.3
UMQ S **Sn** 07 19 10.7 -6.6
BANOM Banah 12.03 128 *i* P **Pn** 07 17 05.1 -1.7
SNR=20
BANOM Banah 12.03 128 P **Pn** 07 17 06.2 -0.6
BANOM S **Sn** 07 19 12.8 -7.8
ANTO Ankara 12.04 304 **Pn** 07 17 09.3 +2.5
ANTO Ankara 12.04 304 P **Pn** 07 17 09.3 +2.5
ANTO Ankara 12.04 304 P Pn 07 17 13.0 +6.1
IMYA Miami 12.05 74 Pn **Pn** 07 17 09.6 +2.4
SHRT Shahrakht 12.12 86 Pn **Pn** 07 17 10.1 +2.0
TBJM Torbat-e-JAM 12.13 79 Pn **Pn** 07 17 10.6 +2.3
JRKH Jarkhoshk 12.20 76 Pn **Pn** 07 17 11.1 +2.0
AJN Ajban 12.20 136 *i* P **Pn** 07 17 08.0 -1.1
SNR=20
AJN Ajban 12.20 136 P **Pn** 07 17 09.4 +0.2
SNR=20
AJN P **Pn** 07 17 09.4 +0.2
SNR=20
AJN S **Sn** 07 19 17.8 -7.0
AJN S **Sn** 07 19 17.8 -7.0
NAZ Nazwa, Dubai 12.28 133 *i* P **Pn** 07 17 09.2 -1.0
SNR=17
NAZ Nazwa, Dubai 12.28 133 P **Pn** 07 17 09.9 -0.4
SNR=17
NAZ S Sn 07 19 16.7 -10
MASF Masafi 12.32 130 P **Pn** 07 17 09.1 -1.7
SNR=30
MASF S Sn 07 19 18.1 -10
MSFE Esma-Masafi 12.33 130 *i* P **Pn** 07 17 10.0 -0.9
SNR=32
ASUD Al Ashush, Dub 12.35 135 *i* P **Pn** 07 17 10.7 -0.5
SNR=14
ASUD Al Ashush, Dub 12.35 135 P **Pn** 07 17 11.3 +0.1
SNR=14
ASUD S **Sn** 07 19 21.6 -7.0
FAQ Al Faqa, Dubai 12.42 134 *i* P **Pn** 07 17 11.1 -1.1
SNR=8.7
FAQ Al Faqa, Dubai 12.42 134 P **Pn** 07 17 11.2 -0.9
SNR=12
FAQ P **Pn** 07 17 11.2 -0.9
SNR=12
FAQ S **Sn** 07 19 22.4 -7.8
FAQ S **Sn** 07 19 22.4 -7.8
MDH Madha 12.46 130 *i* P **Pn** 07 17 11.6 -1.1
SNR=29
MDH Madha 12.46 130 P **Pn** 07 17 11.4 -1.2
SNR=29
MDH S Sn 07 19 21.1 -10
MZR Muzera 12.69 146 *i* P **Pn** 07 17 15.2 -0.5
SNR=8.1
MZR Muzera 12.69 146 P **Pn** 07 17 15.3 -0.5
SNR=7.7
MZR S **Sn** 07 19 30.9 -5.8
HATD Hatta, Dubai 12.69 132 *i* P **Pn** 07 17 14.7 -1.1
SNR=12
HATD Hatta, Dubai 12.69 132 P **Pn** 07 17 14.9 -1.0
SNR=12
HATD S **Sn** 07 19 28.2 -8.7
ASHO Ashiyiah 12.75 132 *i* P **Pn** 07 17 15.1 -1.5
SNR=5.4
ASHO Ashiyiah 12.75 132 P **Pn** 07 17 15.5 -1.2
SNR=7.0
ASHO ⇑S Sn 07 19 28.5 -10
ANN Anapa 12.76 332 *e*P **Pn** 07 17 16.3 -0.4
ANN *e*S **Sn** 07 19 40.2 +1.8
ANN pmax pmax
comp=Z,19nm,0.7s
ANN MLR MLR
comp=E,5µm,12.0s
ANN MLR MLR
comp=N,5µm,13.0s
ANN MLR MLR
comp=Z,8µm,15.0s
ISP Isparta 13.01 293 **Pn** 07 17 24.3 +4.1
ISP Isparta 13.01 293 *i* P **Pn** 07 17 23.7 +3.5
ALNE Al Ain 13.04 135 *i* P **Pn** 07 17 18.9 -1.7
SNR=19
ALNE Al Ain 13.04 135 P **Pn** 07 17 19.7 -0.9
SNR=19
ALNE S **Sn** 07 19 36.7 -8.6
JASK Jask - Hormozg 13.13 124 Pn **Pn** 07 17 18.8 -3.0
JASK Jask - Hormozg 13.13 124 P **Pn** 07 17 19.8 -1.9
JASK S **Sn** 07 19 41.5 -6.0
ELL Elmali 13.28 287 **Pn** 07 17 27.9 +4.0
ELL Elmali 13.28 287 P **Pn** 07 17 27.9 +4.0
MDUB Mudurnu 13.40 304 **Pn** 07 17 28.9 +3.4
SOHO SOHO 13.45 133 *i* P **Pn** 07 17 25.0 -1.1
SNR=8.4
SOHO SOHO 13.45 133 P **Pn** 07 17 24.7 -1.5
SOHO P **Pn** 07 17 24.7 -1.5
SOHO S **Sn** 07 19 47.7 -7.6
SOHO S **Sn** 07 19 47.7 -7.6
ZHDN Zahedan 13.56 105 Pn **Pn** 07 17 29.4 +1.6
HRA Herat 13.70 83 Pn **Pn** 07 17 31.4 +1.7
ARQ Araqi 14.04 135 P **Pn** 07 17 32.6 -1.6
SNR=19
ARQ S **Sn** 07 20 03.7 -6.1
SIM Simferopol' 14.33 325 *e*P **P** 07 17 43.8 -1.4
SIM *e*S **Sn** 07 20 24.9 +8.2
SIM pmax pmax
comp=Z,57nm,1.1s
SIM smax smax
comp=N,910nm,8.1s
BIDO Bidbid 14.89 130 P **Pn** 07 17 43.5 -2.3
SNR=9.7
BIDO S **Sn** 07 20 21.8 -8.7
BSY Bisya 14.89 134 P **Pn** 07 17 43.0 -2.9
SNR=38
BSY P **Pn** 07 17 43.0 -2.9
SNR=38
BSY S Sn 07 20 19.4 -11
BSY S Sn 07 20 19.4 -11
CHBR Chabahar 15.16 119 Pn **Pn** 07 17 45.1 -4.3
SMDO Samad 15.18 131 P **Pn** 07 17 47.0 -2.7
SNR=15
SMDO S **Sn** 07 20 28.5 -9.1
KARP Karpathos 15.40 282 P **P** 07 17 59.0 +1.9
WSAR Wadi Sarin 15.41 129 Pn **Pn** 07 17 49.1 -3.7
comp=N,13nm,0.3s,baz=313,slow=9.8,SNR=49
WSAR Sn Sn 07 20 30.5 -13
comp=N,5.9nm,0.3s,baz=210,slow=23,SNR=1.9
JMDO Jabal Madar 15.72 133 P **Pn** 07 17 54.2 -2.5
SNR=8.8
JMDO P **Pn** 07 17 54.2 -2.5
SNR=8.8
JMDO S **Sn** 07 20 43.7 -7.0
JMDO S **Sn** 07 20 43.7 -7.0
NGCH Negor - Chabah 15.78 118 Pn **Pn** 07 17 55.1 -2.4
NGCH Negor - Chabah 15.78 118 P **Pn** 07 17 55.6 -1.9
WBK Wadi Bani Khal 16.08 130 Pn **Pn** 07 17 59.1 -2.4
WBK Wadi Bani Khal 16.08 130 P **Pn** 07 17 59.3 -2.1
SNR=8.9
WBK S **Sn** 07 20 52.3 -7.2
JLN Jalan Bani Buh 16.70 130 P **Pn** 07 18 06.5 -2.8
SNR=9.5
MHTO MHTO 16.70 136 P **Pn** 07 18 06.1 -3.2
SNR=41
APE Apeiranthos 16.80 287 *i* P **P** 07 18 12.1 -0.6
MFTR Murfatlar 16.99 313 ⇓P **P** 07 18 15.4 +0.8
ALN Alexandroupoli 17.20 300 P **P** 07 18 17.7 +0.8

ALN Alexandroupoli 17.20 300 P **P** 07 18 17.7 +0.8
ALN pmax pmax
comp=Z,34nm,0.9s
IDI Anoyia 17.25 281 P **P** 07 18 19.9 +2.2
DQM DQM 17.31 140 P **Pn** 07 18 14.3 -2.7
SNR=19
WHFO Wadi Hawf 17.33 153 P **Pn** 07 18 13.6 -3.7
SNR=14
TPGR Topolog 17.36 315 ⇓P **P** 07 18 18.3 -0.5
TLBR Topalu 17.41 313 ⇓P **P** 07 18 20.2 +0.9
HARR Harsova 17.56 314 ⇓P **P** 07 18 22.0 +1.1
HARR Harsova 17.56 314 P **P** 07 18 22.0 +1.1
RDO Rodhopi 17.64 301 P **P** 07 18 23.0 +1.2
RDO Rodhopi 17.64 301 P **P** 07 18 25.4 +3.6
ABTO Aybut 17.68 156 P **Pn** 07 18 17.1 -4.5
SNR=17
VRH Novokhopyorsk 17.68 352 *e*P **P** 07 18 22.2 -0.1
VRH pmax pmax
comp=Z,77nm,1.4s
CFR Carcaliu 17.71 315 ⇑P **P** 07 18 23.8 +1.2
CFR Carcaliu 17.71 315 P **P** 07 18 23.7 +1.2
VORD Divnogorie 17.84 347 *e*P **Pn** 07 18 23.3 0.0
VORD pmax pmax
comp=Z,40nm,0.5s
RBK Rabkut 17.87 153 P **Pn** 07 18 20.8 -3.2
SNR=17
DMTO DMTO 17.98 150 P **Pn** 07 18 22.0 -3.2
SNR=31
SHAO Shalim 17.99 148 *i* P **Pn** 07 18 21.3 -4.1
SNR=26
SHAO Shalim 17.99 148 P **Pn** 07 18 22.2 -3.2
SNR=26
IMMV Iera Moni Meta 18.00 282 P **P** 07 18 27.6 +1.8
ELND Elena 18.04 306 ⇑P **P** 07 18 27.2 +0.8
VSR Storozhevoye 18.10 347 *e*P **Pn** 07 18 24.8 -1.7
VSR pmax pmax
comp=Z,50nm,0.4s
KIS Kishinev 18.42 321 *e*PP 07 26 17.0
KIS *e*L L 07 27 53.0
KIS LqM 07 29 57.0
comp=Z,2µm,13.5s
KIS LRM MLR 07 30 45.0
comp=Z,2µm,11.6s
VORR Voronezh 18.53 347 *e*P **P** 07 18 30.4 -1.1
VORR pmax pmax
comp=Z,158nm,1.5s
VILL Villia 18.67 290 P **Pn** 07 18 35.9 +2.2
BELG Belogornoye 18.68 4 P **P** 07 18 31.8 -1.5
BELG Belogornoye 18.68 4 *i* P **P** 07 18 32.1 -1.1
BELG pmax pmax
comp=Z,37nm,1.0s
BELG Belogornoye 18.68 4 P **P** 07 18 31.8 -1.5
comp=Z,120nm,0.5s,baz=29,slow=1.1,SNR=37
BELG S **Sn** 07 22 00.5 -1.6
comp=Z,26nm,0.8s,baz=287,slow=11,SNR=1.1
BELG LR LR 07 26 54.7
comp=Z,1µm,21.2s,baz=186,slow=41
AB31 Akbulak array 18.74 30 *e*P **Pn** 07 18 34.3 -0.1
ABKAR Akbulak array 18.74 30 P **Pn** 07 18 34.1 -0.2
VLI Veliai 18.86 286 P **Pn** 07 18 36.2 +0.3
NVR Nevrokopi 18.90 300 P **Pn** 07 18 37.4 +0.9
VRI Vrincioaia 18.91 315 ⇓P **Pn** 07 18 36.3 -0.2
VRI Vrincioaia 18.91 315 P **Pn** 07 18 36.3 -0.2
NEHR Nehoiu 18.93 314 ⇑P **Pn** 07 18 37.0 +0.2
PLOR Plostina 18.95 315 ⇓P **Pn** 07 18 37.0 0.0
PLOR Plostina 18.95 315 P **Pn** 07 18 37.0 0.0
AKTO Aktyubinsk 18.95 25 P **P** 07 18 36.5 +0.2
AKTO Aktyubinsk 18.95 25 P **P** 07 18 36.5 +0.2
comp=Z,2.6nm,0.3s,baz=206,slow=9.7,SNR=27
AKTO S **Sn** 07 22 07.5 -1.1
comp=Z,16nm,0.9s,baz=162,slow=9.7,SNR=2.1
AKTO LR LR 07 28 44.4
comp=Z,3µm,18.1s,baz=232,slow=46
comp=Z,15nm,0.6s
SRS Serrai 19.04 299 P **Pn** 07 18 38.5 +0.5
SRS pmax pmax
comp=Z,32nm,0.8s
SOH Sokhos 19.13 298 P **Pn** 07 18 40.8 +1.5
SOH pmax pmax
comp=Z,25nm,0.8s
MLR Muntele Rosu 19.18 314 ⇑P **Pn** 07 18 40.7 +0.8
MLR Muntele Rosu 19.18 314 P **Pn** 07 18 40.6 +0.7
MLR Muntele Rosu 19.18 314 P **Pn** 07 18 40.7 +0.8
MLR Muntele Rosu 19.18 314 P **Pn** 07 18 39.6 -0.3
comp=Z,10nm,0.5s,baz=8.0,slow=8.6,SNR=13
MLR S **Sn** 07 22 13.1 -1.3
comp=Z,6.0nm,0.7s,baz=195,slow=20,SNR=6.0
MLR LR LR 07 28 13.8
comp=Z,5µm,19.0s,baz=132,slow=44
COVR Voineasa-Covas 19.21 315 ⇓P **Pn** 07 18 40.3 +0.2
AXAR Agios Charalam 19.26 292 P **Pn** 07 18 41.7 +0.9
HORT Hortiatis 19.27 297 P **Pn** 07 18 43.1 +2.2
KBL Kabul 19.30 81 P **Pn** 07 18 41.5 0.0
KBL IAmb IAmb 07 18 47.0
comp=Z,261nm,1.2s
KBL Kabul 19.30 81 P **Pn** 07 18 41.5 0.0
KBL pmax pmax
comp=Z,261nm,1.2s
KBL Kabul 19.30 81 P **Pn** 07 18 42.3 +0.9
SNR=81
TESR Tescani 19.32 317 ⇑P **Pn** 07 18 40.9 -0.5
THE Thessaloniki 19.37 297 P **Pn** 07 18 41.9 -0.2
THE pmax pmax
comp=Z,64nm,1.0s
SIMJ Simiganj 19.39 69 P **P** 07 18 41.6 +0.4
SORM Soroca 19.40 323 ⇓P **P** 07 18 40.2 -1.0
SORM Soroca 19.40 323 P **P** 07 18 40.2 -1.0
GUR Goura 19.41 289 P **Pn** 07 18 42.3 -0.4
TURR Turia 19.43 315 ⇑P **Pn** 07 18 42.7 -0.1
LPSR Galich'ya Gora 19.47 347 *e*P **P** 07 18 39.3 -2.5
LPSR pmax pmax
comp=Z,460nm,0.7s
AGG Agios Georgios 19.55 292 P **Pn** 07 18 44.0 -0.2
AGG Agios Georgios 19.55 292 P **Pn** 07 18 44.2 0.0
AGG Agios Georgios 19.55 292 P **Pn** 07 18 44.0 -0.2
AGG pmax pmax
comp=Z,88nm,1.0s
KNT Kendrikon 19.55 299 P **P** 07 18 42.9 0.0
KNT pmax pmax
comp=Z,34nm,0.8s
VOIR 19.70 312 ⇑P **Pn** 07 18 45.9 -0.1
VOIR 19.70 312 P **Pn** 07 18 45.9 -0.1
MAKR Makrakomi, Fth 19.70 292 P **Pn** 07 18 45.6 -0.5
PEHC Pehcevo 19.72 301 *i* P **Pn** 07 18 45.7 -0.6
TYRN Tyrnavos 19.73 294 P **Pn** 07 18 45.7 -0.7
DOPR Dopca 19.76 314 ⇓P **Pn** 07 18 46.4 -0.3
EFP Efpalio 19.80 290 P **P** 07 18 46.3 +0.7
ANX Ano Chora 19.81 291 P **P** 07 18 46.2 +0.4
VAY Valandovo 19.83 299 *i* P **P** 07 18 42.2 -3.7
GRG Griva 19.87 298 P **P** 07 18 46.8 +0.4
THL Klokotos Trika 19.88 294 P **Pn** 07 18 48.6 +0.5
DRO Drossia 19.91 289 P **Pn** 07 18 47.9 -0.6
ARR Arges 19.92 312 ⇑P **Pn** 07 18 48.4 -0.2
EVR Evrytania 19.94 292 P **Pn** 07 18 48.7 -0.2
PRAR RASCA 20.04 318 ⇑P **P** 07 18 48.9 +0.7
MDB Medias 20.45 314 ⇓P Pn 07 18 54.4 -0.4
MDB Medias 20.45 314 P Pn 07 18 54.4 -0.4
BLKB Belogradchik 20.47 306 ⇓P **P** 07 18 53.5 +0.6
LOT Lotru 20.50 311 ⇓P **P** 07 18 54.0 +0.7
FNA Florina 20.59 297 P **P** 07 18 54.3 +0.1
FNA Florina 20.59 297 P **P** 07 18 54.4 +0.2
FNA Florina 20.59 297 P **P** 07 18 54.3 +0.1
FNA pmax pmax
comp=Z,96nm,1.4s
PENT Pentalofos 20.65 295 P Pn 07 18 56.5 -0.8
BURAR Bucovina Array 20.75 318 ⇓P **P** 07 18 56.6 +0.6
BURAR Bucovina Array 20.75 318 P **P** 07 18 55.5 -0.5
BURAR Bucovina Array 20.75 318 P **P** 07 18 56.6 +0.6
NYDR Nydri-Lefkada 20.77 291 P **P** 07 18 56.6 +0.4
BUR08 Bucovina Ar. S 20.77 318 P **P** 07 18 56.2 -0.1
JAN Janina 20.78 294 P Pn 07 18 57.6 -1.1
EVGI Lefkada island 20.80 291 P **P** 07 18 55.5 -1.0
AKASG Malin Array Be 20.81 329 P **P** 07 18 55.2 -1.2
AKASG Malin Array Be 20.81 329 P **P** 07 18 55.4 -1.1
AKASG Malin Array Be 20.81 329 P **P** 07 18 55.4 -1.1
comp=Z,16nm,0.4s,baz=139,slow=9.9,SNR=46
AKASG S **S** 07 22 43.5 -4.5
comp=Z,0.8nm,0.4s,baz=333,slow=16,SNR=2.2
AKASG LR LR 07 29 42.2
comp=Z,3µm,18.7s,baz=128,slow=45
comp=Z,16nm,0.4s
AKBB Malin Array Si 20.81 329 P **P** 07 18 55.1 -1.4
AKBB Malin Array Si 20.81 329 *i* P **P** 07 18 55.0 -1.4

AKBB pmax pmax
comp=Z,42nm,0.7s
KIEV Kiev 20.81 329 ⇓P **P 07 18 55.8 -0.7**
KIEV Kiev 20.81 329 P **P 07 18 55.5 -1.0**
KIEV Kiev 20.81 329 P **P 07 18 55.8 -0.7**
KIEV Kiev 20.81 329 P **P 07 18 55.3 -1.2**
LKD2 Lefkada island 20.81 291 P **P 07 18 56.0 -0.7**
SKO Skopje 20.82 300 *i* P Pn 07 18 58.9 -0.3
TSLK Tsoukalades, L 20.82 291 P **P 07 18 56.0 -0.7**
FSK Fiskardo 20.86 290 P **P 07 18 55.4 -1.7**
DRAG Dragano-Lefkad 20.87 291 P **P 07 18 56.3 -0.9**
ARCR ARCALIA 20.95 316 ⇑P **P 07 18 58.9 +0.8**
DJES Djerdap 20.97 308 ⇓P **P 07 18 58.8 +0.5**
DJES Djerdap 20.97 308 P **P 07 18 58.5 +0.3**
BTK Batken 20.98 65 P **P 07 18 59.4 +0.9**
BTK IAmb IAmb 07 19 12.8
comp=Z,273nm,1.2s
BTK Batken 20.98 65 P **P 07 18 59.4 +0.9**
BTK pmax pmax
comp=Z,273nm,1.2s
KEF3 Kipouria, Keph 21.00 289 P **P 07 18 58.3 -0.3**
OHR Ohrid 21.08 298 *i* P **P 07 19 00.7 +1.1**
GZR Gura Zlata 21.10 310 ⇑P **P 07 18 59.5 -0.3**
HERR Herculane 21.12 309 ⇑P **P 07 19 00.5 +0.6**
IGT Igoumenitsa 21.16 293 P **P 07 18 59.1 -1.2**
CJR Cluj-Napoca 21.21 314 ⇑P **P 07 19 02.3 +1.4**
CJR Cluj-Napoca 21.21 314 P **P 07 19 02.2 +1.4**
DEV Deva 21.24 312 P **P 07 19 03.6 +2.5**
DEV pmax pmax
comp=Z,39nm,0.9s
KK31 Karatay Array 21.47 57 P **P 07 19 04.0 +0.3**
KK31 IAmb IAmb 07 19 17.3
comp=Z,96nm,0.8s
KK31 Karatay Array 21.47 57 *e*P **P 07 19 04.9 +1.2**
KKAR Karatay Array 21.47 57 P **P 07 19 04.4 +0.7**
KKAR Karatay Array 21.47 57 P **P 07 19 04.4 +0.7**
MARR Marisel-Cluj 21.48 314 ⇑P **P 07 19 04.3 +0.5**
TRKS Terek-Say 21.51 61 P **P 07 19 05.2 +0.9**
MDVR Moldovita 21.54 308 ⇑P **P 07 19 04.9 +0.5**
KEK Kerkira 21.59 299 P **P 07 19 03.4 -1.6**
BZS Buzias 21.93 310 ⇓P **P 07 19 08.3 -0.3**
BZS Buzias 21.93 310 P **P 07 19 08.3 -0.3**
DZA Taraz 21.98 58 *e*P **P 07 19 09.8 +0.6**
DZA pmax pmax
comp=Z,31nm,0.7s
DZA Taraz 21.98 58 *e*P **P 07 19 09.8 +0.6**
comp=Z,31nm,0.7s,baz=58
PVY Plav 22.04 301 ⇑ *i*P **P 07 19 11.5 +1.5**
IVA Berane 22.16 302 ⇑ *i*P **P 07 19 12.8 +1.6**
ARK Arkit 22.17 61 P **P 07 19 12.3 +1.0**
SIRR Siria 22.18 311 ⇑P **P 07 19 11.9 +0.6**
SJES Sjenica 22.21 303 *e*P **P 07 19 09.6 -2.2**
ATD Arta Tunnel 22.28 188 P **P 07 19 15.5 +3.0**
ATD Arta Tunnel 22.28 188 P **P 07 19 14.1 +1.6**
comp=Z,1.2nm,0.9s,baz=315,slow=12,SNR=5.3
ATD Lg Lg 07 25 59.5
comp=Z,0.2nm,0.3s,baz=82,slow=20,SNR=3.9
ATD LR LR 07 28 10.5
comp=Z,60nm,21.7s,baz=6.5,slow=38
OBN Obninsk 22.30 346 P **P 07 19 10.2 -2.2**
OBN IAmb IAmb 07 19 19.6
comp=Z,85nm,0.7s
OBN Obninsk 22.30 346 *de*P **P 07 19 10.9 -1.5**
OBN *e* 07 19 39.0
OBN *e*S **S 07 23 11.2 -5.7**
OBN pmax pmax
comp=Z,46nm,0.6s
OBN MLR MLR
comp=Z,5μm,20.0s
OBN Obninsk 22.30 346 P **P 07 19 10.5 -1.9**
comp=Z,39nm,0.4s,baz=121,slow=4.1,SNR=11
OBN S **S 07 23 08.4 -8.5**
comp=Z,22nm,0.4s,baz=90,slow=5.1,SNR=1.7
OBN LR LR 07 29 16.4
comp=Z,4μm,18.8s,baz=157,slow=40
comp=Z,39nm,0.4s
ULC Ulcinj 22.41 299 ⇑ *i*P **P 07 19 14.9 +1.1**
KOME Kolasin 22.43 302 ⇑ *i*P **P 07 19 15.1 +1.1**
DRME Dracevica, Mon 22.50 300 ⇑ *i*P **P 07 19 16.5 +1.8**
DRME Dracevica, Mon 22.50 300 *e*P **P 07 19 15.4 +0.7**
OHH Osh 22.54 65 P **P 07 19 16.0 +0.7**
PLE Pljevlja 22.64 303 ⇑ *i*P **P 07 19 17.2 +0.8**
LVV L'vov 22.67 322 *e*P **P 07 19 15.5 -1.0**
LVV *e*S **S 07 23 18.7 -5.3**
MOS Moscow 22.70 348 *e*P **P 07 19 14.1 -2.5**
MOS *e*S **S 07 23 20.4 -3.8**
MOS pmax pmax
comp=Z,117nm,0.9s
MOS MLR MLR
comp=N,3μm,17.0s
MOS MLR MLR
comp=Z,4μm,17.0s
BUM Brajici-Budva 22.74 300 ⇑ *i*P **P 07 19 18.0 +0.7**
RUDO Rudo 22.74 303 *e*P **P 07 19 14.5 -2.8**
CEME Cevo 22.78 301 ⇑ *i*P **P 07 19 18.2 +0.5**
BBLS Lazići 22.79 304 *e*P **P 07 19 16.2 -1.6**
NKME Niksic 22.80 301 ⇑ *i*P **P 07 19 18.4 +0.4**
ARSB Arslanbob 22.82 63 P **P 07 19 18.3 0.0**
ARSB Arslanbob 22.82 63 P **P 07 19 18.3 0.0**
ARSB pmax pmax
comp=Z,68nm,1.2s
NIL Nilore 22.86 83 P **P 07 19 18.5 -0.2**
NIL Nilore 22.86 83 P **P 07 19 18.5 -0.2**
NIL pmax pmax
comp=Z,125nm,0.8s
NIL Nilore 22.86 83 P **P 07 19 20.4 +1.7**
TEKS Tekeris 22.92 306 *e*P **P 07 19 17.7 -1.4**
FRGS Fruska Gora 22.93 307 ⇑P **P 07 19 19.6 +0.3**
FRGS Fruska Gora 22.93 307 *e*P **P 07 19 19.9 +0.6**
UPM Unac-Piva 22.95 302 ⇑ *i*P **P 07 19 20.1 +0.4**
UPM Unac-Piva 22.95 302 *e*P **P 07 19 18.9 -0.8**
HCY Herceg Novi 23.06 300 ⇑ *i*P **P 07 19 20.6 0.0**
HCY Herceg Novi 23.06 300 *e*P **P 07 19 20.1 -0.5**
KOLS Kolonicke sedl 23.12 318 *e*P **P 07 19 22.1 +1.0**
KOLS pmax pmax
comp=Z,57nm,0.9s
KOLS Kolonicke sedl 23.12 318 *e*P **P 07 19 22.1 +1.0**
KOLS *e* 07 26 45.5
BRY Bratogost 23.13 301 ⇑ *i*P **P 07 19 20.8 -0.7**
BRY Bratogost 23.13 301 *e*P **P 07 19 21.5 0.0**
HAPS Han Pijesak,Bl 23.17 304 *e*P **P 07 19 20.1 -1.7**
TREB Trebinje 23.22 301 *e*P **P 07 19 20.6 -1.7**
KWP Kalwaria Pacla 23.26 320 P **P 07 19 24.3 +1.7**
KWP IAmb IAmb 07 19 46.9
comp=Z,53nm,0.9s
KWP Kalwaria Pacla 23.26 320 P **P 07 19 24.3 +1.7**
KWP pmax pmax
comp=Z,53nm,0.9s
AML Almayashu 23.50 61 P **P 07 19 26.8 +1.3**
SNR=27
AML Almayashu 23.50 61 P **P 07 19 26.2 +0.7**
NEVS Nevesinje 23.54 302 *e*P **P 07 19 24.4 -1.1**
CRVS Cervenica-Dubn 23.56 317 *e*P **P 07 19 26.9 +1.4**
CRVS pmax pmax
comp=Z,67nm,1.4s
CRVS Cervenica-Dubn 23.56 317 *e*P **P 07 19 26.9 +1.4**
CRVS *e* 07 26 50.3
EKS2 Erkin-Say 23.67 60 P **P 07 19 30.3 +3.4**
SNR=15
STON Ston 23.73 301 *e*P **P 07 19 25.1 -2.1**
TIP Timpagrande 23.88 291 ⇑P **P 07 19 28.2 -0.6**
TIP Timpagrande 23.88 291 P **P 07 19 28.4 -0.3**
KECS Kecovo 23.91 316 *e*P **P 07 19 30.9 +2.0**
KECS pmax pmax
comp=Z,42nm,0.8s
KECS Kecovo 23.91 316 *e*P **P 07 19 30.9 +2.0**
STHS Stebnicka Huta 23.95 318 *e*P **P 07 19 30.2 +0.9**
STHS pmax pmax
comp=Z,11nm,0.7s
STHS Stebnicka Huta 23.95 318 *e*P **P 07 19 30.2 +0.9**
PSZ Piszkesteto 24.00 314 ⇑P **P 07 19 29.2 -0.7**
PSZ Piszkesteto 24.00 314 P **P 07 19 29.4 -0.4**
PSZ Piszkesteto 24.00 314 P **P 07 19 29.4 -0.4**
PSZ pmax pmax
comp=Z,33nm,0.9s
MATE Matera 24.06 295 ⇑P **P 07 19 29.6 -0.8**
MORH Mrgy, Hungar 24.08 309 ⇑P **P 07 19 30.2 -0.3**
UCH Uchtor 24.12 61 P **P 07 19 32.7 +1.3**
SNR=14
AAK Ala-Archa 24.18 60 P **P 07 19 33.9 +2.2**
SNR=7.7
AAK Ala-Archa 24.18 60 P **P 07 19 33.4 +1.6**
AAK Ala-Archa 24.18 60 *ce*P **P 07 19 32.7 +1.0**
AAK pmax pmax
comp=Z,67nm,2.5s
AAK Ala-Archa 24.18 60 *i* P **P 07 19 33.3 +1.6**
SNR=8.8
AAK Ala-Archa 24.18 60 P **P 07 19 33.9 +2.2**
MNK Minsk 24.25 334 *i* P **P 07 19 29.5 -2.5**
comp=E,15nm,0.8s
MNK *i* P **P 07 19 29.5 -2.5**
comp=N,65nm,0.8s
MNK *i* P **P 07 19 29.5 -2.5**
comp=Z,90nm,0.8s
MNK *i* PP sP 07 19 58.7 +20
MNK *i* PPP PPP 07 20 05.8
MNK *i* S **S 07 23 46.5 -3.3**
MNK *i* SS **SnSn 07 24 26.4 -6.0**
MNK *i* SSS SSS 07 24 40.3
MNK *i* LQ LQ 07 27 23.0
MNK *i* LR LR 07 28 52.6
MNK *i* LRM MLR 07 30 13.3
comp=Z,3μm,16.3s
MNK *i* LRM MLR 07 30 25.7
comp=N,2μm,14.2s
MNK Minsk 24.25 334 *i* P **P 07 19 29.5 -2.5**
MNK *i* PPP PPP 07 20 05.8
MNK *i* S **S 07 23 46.5 -3.3**
MNK *i* SSS SSS 07 24 40.2
MNK pmax pmax
comp=E,15nm,0.8s
MNK pmax pmax
comp=Z,90nm,0.8s
MNK pmax pmax
comp=N,65nm,0.8s
MNK MLR MLR
comp=Z,3μm,16.0s
MNK MLR MLR
comp=N,2μm,14.0s
FRU1 Bishkek 24.32 60 P **P 07 19 34.3 +1.4**
FRU1 Bishkek 24.32 60 P **P 07 19 34.3 +1.4**
FRU1 pmax pmax
comp=Z,49nm,1.0s
USP Ospenovka 24.32 59 P **P 07 19 35.4 +2.5**
SNR=28
ARU Arti 24.34 17 P **P 07 19 32.6 -0.2**
ARU IAmb IAmb 07 19 48.0
comp=Z,63nm,0.8s
ARU Arti 24.34 17 *c i*P **P 07 19 32.7 -0.1**
ARU S **S 07 23 54.1 +3.0**
ARU SS **SnSn 07 24 39.7 +5.2**
ARU pmax pmax
comp=Z,157nm,2.0s
ARU MLR MLR
comp=Z,3μm,17.0s
ARU Arti 24.34 17 P **P 07 19 33.0 +0.2**
comp=Z,21nm,0.6s,baz=200,slow=5.4,SNR=26
ARU S **S 07 23 48.3 -2.9**
comp=Z,2.8nm,0.4s,baz=121,slow=23,SNR=1.2
comp=Z,21nm,0.6s
BUD Budapest 24.34 312 P **P 07 19 33.4 +0.5**
BUD pmax pmax
comp=Z,63nm,0.7s
SGDS Sogindy 24.46 58 *c i*P **P 07 19 35.0 +0.8**
SGDS *e*S **S 07 23 56.1 +2.5**
SGDS pmax pmax
comp=Z,31nm,1.0s
SGDS Sogindy 24.46 58 ⇑ *i*P **P 07 19 35.0 +0.8**
comp=Z,31nm,1.0s,baz=58
SGDS *e*S **S 07 23 56.2 +2.5**
baz=58
NIE Niedzica 24.48 317 P **P 07 19 34.5 +0.3**
NIE pmax pmax
comp=Z,15nm,1.6s
BTLS Baital 24.48 54 *c i*P **P 07 19 35.3 +1.1**
BTLS *e*S **S 07 23 56.3 +2.5**
BTLS pmax pmax
comp=Z,42nm,0.6s
BTLS Baital 24.48 54 ⇑ *i*P **P 07 19 35.4 +1.1**
comp=Z,42nm,0.6s,baz=54
BTLS *e*S **S 07 23 56.3 +2.5**
baz=54
KBK Karagaybulak 24.52 60 P **P 07 19 36.6 +1.8**
SNR=12
MGRS Mrkonjic Grad 24.55 304 *e*P **P 07 19 33.3 -1.6**
OTUK Ortayu 24.59 46 P **P 07 19 35.8 +0.6**
KZA Kyzart 24.63 62 P **P 07 19 39.8 +3.8**
SNR=12
CUC Castrocucco 24.67 293 P **P 07 19 37.1 +1.1**
CUC IAmb IAmb 07 19 39.5
comp=Z,58nm,0.7s
LANS Liptovska Anna 24.82 316 *e*P **P 07 19 38.7 +1.4**
LANS pmax pmax
comp=Z,27nm,1.7s
LANS Liptovska Anna 24.82 316 *e*P **P 07 19 38.7 +1.4**
A051A Mrakovica 24.84 305 *e*P **P 07 19 36.2 -1.3**
KSH Kashi 24.86 68 P **P 07 19 36.6 -1.3**
KSH sP pP 07 19 41.2 -1.7
KSH S **S 07 23 53.6 -6.7**
KSH pmax pmax
comp=Z,52nm,0.6s
KSH LR LR
comp=Z,4μm,10.4s
KSH LR LR
comp=Z,7μm,18.0s
KSH LR LR
comp=Z,7μm,18.1s
VYHS Vyhne 24.89 314 *e*P **P 07 19 40.7 +2.8**
VYHS Vyhne 24.89 314 *e*P **P 07 19 40.7 +2.8**
A050A Klekovaca 24.95 304 *e*P **P 07 19 37.3 -1.2**
KIRV Kirov 24.96 5 P **P 07 19 38.1 -0.3**
KIRV Kirov 24.96 5 *ce*P **P 07 19 38.3 -0.1**
KIRV Kirov 24.96 5 P **P 07 19 38.1 -0.3**
comp=Z,98nm,0.6s,baz=252,slow=0.3,SNR=31
KIRV S **S 07 24 00.2 -0.9**
comp=Z,12nm,0.5s,baz=334,slow=15,SNR=1.8
KIRV LR LR 07 31 22.5
comp=Z,2μm,18.1s,baz=192,slow=41
comp=Z,98nm,0.6s
NACGM Naroch 24.97 334 ⇑ *e*P **P 07 19 38.6 +0.1**
comp=E,89μm,20.1s
TKM2 Tokmak 2 25.04 60 P **P 07 19 40.7 +1.2**
SNR=42
TKM2 Tokmak 2 25.04 60 P **P 07 19 40.0 +0.5**
NRN Naryn 25.08 63 P **P 07 19 41.3 +1.2**
NRN Naryn 25.08 63 P **P 07 19 41.3 +1.2**
NRN pmax pmax
comp=Z,106nm,0.9s
OJC Ojcow 25.16 319 P **P 07 19 40.7 +0.4**
OJC Ojcow 25.16 319 P **P 07 19 40.7 +0.4**
OJC pmax pmax
comp=Z,27nm,0.8s
BOOM Boomskoye usch 25.20 61 P **P 07 19 42.1 +1.1**
BOOM IAmb IAmb 07 19 51.5
comp=Z,44nm,0.8s
BOOM Boomskoye usch 25.20 61 P **P 07 19 42.1 +1.1**
BOOM pmax pmax
comp=Z,44nm,0.8s
SVE Sverdlovsk 25.23 19 *de*P **P 07 19 41.6 +0.7**
SVE *e*S **S 07 24 07.8 +2.3**
SVE pmax pmax
comp=Z,106nm,1.1s
FURI Furi 25.58 196 P **P 07 19 48.2 +3.5**
FURI IAmb IAmb 07 19 57.1
comp=Z,129nm,1.1s
BRZS Berezniki 25.60 43 *e*P **P 07 19 44.9 +0.6**
BRZS Berezniki 25.60 43 *e*P **P 07 19 45.0 +0.6**
baz=43
VAE Valguarnera 25.68 287 P **P 07 19 47.3 +2.1**
comp=Z,24nm,0.7s,baz=182,slow=12,SNR=11
comp=Z,24nm,0.7s
KOGS Kog 25.72 308 *i* P **P 07 19 45.6 +0.2**
ISAL Salakas 25.72 334 *e*P **P 07 19 46.8 +1.5**
PTJ Puntijarka 25.73 307 P **P 07 19 47.1 +1.4**
SMOL Smolenice 25.74 313 *e*P **P 07 19 47.4 +1.8**
SMOL pmax pmax
comp=Z,35nm,1.2s
JAVC Velka Javorina 25.74 314 *e*P **P 07 19 46.6 +0.9**
KUU Kurty 25.77 58 *e*P **P 07 19 47.0 +1.1**
KUU *e*S **S 07 24 16.9 +2.5**
KUU MLR MLR
comp=Z,4μm,12.0s
KUU Kurty 25.77 58 *e*P **P 07 19 47.0 +1.1**
baz=58
KUU *e*S **S 07 24 17.0 +2.5**
baz=58
KUU LR LR 07 30 50.4
comp=Z,4μm,11.8s,baz=58
SUW Suwalki 25.77 329 *e*P **P 07 19 43.1 -2.8**
SUW Suwalki 25.77 329 P **P 07 19 43.0 -2.8**
SUW Suwalki 25.77 329 P **P 07 19 43.0 -2.8**
SUW pmax pmax
comp=Z,123nm,0.9s
SUW Suwalki 25.77 329 *e*P **P 07 19 43.6 -2.1**
MODS Modra-Piesok 25.77 313 *e*P **P 07 19 46.5 +0.6**
MODS pmax pmax
comp=Z,152nm,1.3s
MODS Modra-Piesok 25.77 313 *e*P **P 07 19 46.5 +0.6**
MODS *e* 07 27 10.3
ZST Bratislava 25.81 313 *e*P **P 07 19 46.5 +0.3**
ZST pmax pmax
comp=Z,131nm,1.0s
ZST Bratislava 25.81 313 *e*P **P 07 19 46.5 +0.3**
MAUC Maruska 25.87 315 *e*P **P 07 19 48.9 +2.1**
OKC Ostrava-Krasne 25.90 317 *e*P **P 07 19 46.7 -0.3**
OKC Ostrava-Krasne 25.90 317 *e*P **P 07 19 46.7 -0.3**
SOP Sopron 25.95 311 P **P 07 19 49.6 +2.1**
SOP pmax pmax
comp=Z,65nm,1.2s
TNSS Tian-Shan 26.03 60 *e*P **P 07 19 49.0 +0.3**
TNSS Tian-Shan 26.03 60 *e*P **P 07 19 49.0 +0.3**
baz=60
CRES Cresnjev 26.05 307 *e*P **P 07 19 49.4 +1.0**
BRVK Borovoye 26.05 35 P **P 07 19 48.3 -0.1**
BRVK IAmb IAmb 07 20 00.1
comp=Z,38nm,0.9s
BRVK Borovoye 26.05 35 *ce*P **P 07 19 48.9 +0.5**
BRVK pmax pmax
comp=Z,102nm,2.5s
BRVK Borovoye 26.05 35 P **P 07 19 49.3 +0.9**
BVA0 Borovoye Array 26.08 35 *i* P **P 07 19 48.9 +0.2**
BVAR Borovoye Array 26.08 35 P **P 07 19 49.0 +0.3**
BVAR 07 23 16.5
BVAR Borovoye Array 26.08 35 P **P 07 19 49.0 +0.3**
comp=Z,34nm,0.6s,baz=243,slow=6.8,SNR=44
BVAR PcP **PcP 07 23 16.5 +0.5**
comp=Z,7.7nm,0.6s,baz=162,slow=2.6,SNR=7.3
BVAR LR LR 07 32 16.2
comp=Z,992nm,20.6s,baz=249,slow=42
comp=Z,34nm,0.6s
BOJS Bojanci 26.10 306 *i* P **P 07 19 48.9 +0.1**
BOJS Bojanci 26.10 306 *e*P **P 07 19 48.2 -0.6**
RONA Rosalia, Austr 26.12 311 *i* P **P 07 19 49.3 +0.2**
comp=Z,11nm,0.6s,SNR=10
MDOK Medeo 26.13 60 *e*P **P 07 19 50.3 +1.0**
MDOK *e*S **S 07 24 22.6 +2.3**
MDOK MLR MLR
comp=Z,3μm,11.0s
MDOK Medeo 26.13 60 *e*P **P 07 19 50.4 +1.0**
baz=60
MDOK *e*S **S 07 24 22.7 +2.3**
baz=60
MDOK LR LR 07 31 13.8
comp=Z,3μm,10.8s,baz=60
CHKK Chushkaly 26.22 58 *e*P **P 07 19 50.8 +0.8**
CHKK Chushkaly 26.22 58 *e*P **P 07 19 50.9 +0.8**
baz=58
MORC Moravsky Berou 26.22 316 ⇑P **P 07 19 49.4 -0.6**
MORC Moravsky Berou 26.22 316 P **P 07 19 50.0 0.0**
MORC IAmb IAmb 07 19 59.7
comp=Z,59nm,1.4s
MORC Moravsky Berou 26.22 316 *e*P **P 07 19 49.8 -0.2**
MORC Moravsky Berou 26.22 316 P **P 07 19 50.0 0.0**
MORC pmax pmax
comp=Z,59nm,1.4s
INTR Introdacqua 26.33 298 P **P 07 19 51.6 +0.4**
ARSA Arzberg 26.45 310 *e*P **P 07 19 53.7 +1.6**
comp=Z,4.7nm,0.5s
CONA Conrad Observa 26.48 311 *e*P **P 07 19 52.4 0.0**
comp=Z,12nm,0.9s
PABE Paberze 26.49 332 P **P 07 19 52.1 -0.2**
PABE IAmb IAmb 07 20 01.1
comp=Z,56nm,0.9s
PABE Paberze 26.49 332 *e*P **P 07 19 52.4 +0.2**
VRAC Vranov 26.57 315 *e*P **P 07 19 53.0 -0.1**
VRAC Vranov 26.57 315 P **P 07 19 52.0 -1.1**
VRAC Vranov 26.57 315 P **P 07 19 52.0 -1.1**
comp=Z,8.8nm,0.8s,baz=104,slow=8.8,SNR=7.2
VRAC LR LR 07 32 59.2
comp=Z,2μm,18.6s,baz=118,slow=42
comp=Z,8.8nm,0.8s
SOKA Soboth 26.59 308 *e*P **P 07 19 54.8 +1.4**
comp=Z,4.9nm,0.8s
SOKA *e*PcP **PcP 07 23 18.6 +1.2**
comp=Z,7.2nm,0.6s
KRUC Moravsky 26.59 314 *e*P **P 07 19 52.8 -0.5**
KRUC Moravsky 26.59 314 P **P 07 19 53.6 +0.3**
KRUC pmax pmax
comp=Z,25nm,0.9s
CLTB Caltabellotta 26.63 288 P **P 07 19 55.8 +1.9**
CEY Cerknica 26.72 306 *e*P **P 07 19 53.8 -0.7**
CAMP Campotosto 26.77 299 P **P 07 19 55.5 +0.4**
CAMP IAmb IAmb 07 20 02.7
comp=Z,50nm,0.9s
KRLC Kraliky 26.80 316 *e*P **P 07 19 54.5 -0.7**
KRLC Kraliky 26.80 316 *e*P **P 07 19 54.5 -0.7**
OBKA Obir 26.85 308 *e*pP pP 07 19 58.4 -2.4
comp=Z,13nm,0.9s
OBKA Obir 26.85 308 *e*P **P 07 19 56.6 +0.8**
VSVD Vaisvydziai 26.86 332 *e*P **P 07 19 55.2 -0.4**
ARXS Arharly 26.89 58 *e*P **P 07 19 55.0 -1.1**
GUMA Gualdo di Mace 26.90 300 P **P 07 19 57.5 +1.3**
GUMA IAmb IAmb 07 20 27.0
comp=Z,39nm,0.8s
NRCA Norcia 27.03 299 P **P 07 19 57.2 -0.2**
FDMO Fiordimonte 27.08 300 P **P 07 19 58.1 +0.3**
FDMO IAmb IAmb 07 20 14.2
comp=Z,58nm,1.3s
SATY Saty 27.09 60 *e*P **P 07 19 59.5 +1.5**
SATY pmax pmax
comp=Z,40nm,1.1s
SATY Saty 27.09 60 *e*P **P 07 19 59.6 +1.5**
comp=Z,40nm,1.1s,baz=60
ZHN Zhinishke 27.13 60 *e*P **P 07 19 59.8 +1.5**
ZHN Zhinishke 27.13 60 *e*P **P 07 19 59.9 +1.5**
baz=60
DPC Dobruska-Polom 27.18 316 *e*P **P 07 19 58.4 -0.3**
DPC Dobruska-Polom 27.18 316 *e*P **P 07 19 58.4 -0.3**
OSTC Ostas 27.34 317 *e*P **P 07 20 00.4 +0.4**
OSTC Ostas 27.34 317 *e*P **P 07 20 00.4 +0.4**
SABO M.te Sabotino 27.34 306 P **P 07 19 59.6 -0.4**
SABO IAmb IAmb 07 20 08.7
comp=Z,26nm,0.6s
KPKS Kokpek 27.36 59 *e*P **P 07 20 01.2 +0.9**
KPKS Kokpek 27.36 59 *e*P **P 07 20 01.2 +0.9**
baz=60
CESX Cesi 27.39 299 P **P 07 20 01.8 +1.3**
CESX IAmb IAmb 07 20 09.8
comp=Z,34nm,0.8s
KLMR Klimovskoe 27.42 353 *c i*P **P 07 19 59.1 -1.4**
KLMR pmax pmax
comp=Z,61nm,0.7s
KSP Ksiaz 27.42 317 P **P 07 20 00.8 +0.1**
KSP pmax pmax
comp=Z,24nm,1.2s
UPC Upice 27.43 317 *e*P **P 07 20 02.1 +1.3**
UPC Upice 27.43 317 *e*P **P 07 20 02.1 +1.3**
CHVC Chvalec 27.44 317 *e*P **P 07 20 00.8 -0.2**
CHVC Chvalec 27.44 317 *e*P **P 07 20 00.8 -0.2**
MOA Molln 27.46 310 *e*P **P 07 20 01.1 0.0**
comp=Z,3.7nm,0.6s
TDK Taldyqorghan 27.46 56 *e*P **P 07 20 02.3 +1.2**
TDK pmax pmax
comp=Z,38nm,0.7s
TDK MLR MLR
comp=Z,3μm,12.0s
TDK Taldyqorghan 27.46 56 *e*P **P 07 20 02.3 +1.2**
comp=Z,38nm,0.7s,baz=56
TDK LR LR 07 31 51.1
comp=Z,3μm,11.9s,baz=56
MYKA Terra Mystica 27.49 307 *e*P **P 07 20 02.7 +1.2**
comp=Z,15nm,0.7s,SNR=6.8
MURB Monte Urbino 27.52 300 P **P 07 20 02.8 +0.9**
MURB IAmb IAmb 07 20 12.1
comp=Z,80nm,1.2s
UZB Uzynbulak 27.55 60 *e*P **P 07 20 03.1 +1.0**
UZB Uzynbulak 27.55 60 *e*P **P 07 20 03.1 +1.0**
baz=60
PBUR Paburge 27.68 331 *e*P **P 07 20 02.8 -0.1**
CKRC Cesky Krumlov 27.77 312 *e*P **P 07 20 04.5 +0.6**
CKRC Cesky Krumlov 27.77 312 *e*P **P 07 20 04.5 +0.6**
BIOA Bad Ischl, Aus 27.81 310 *i* P **P 07 20 04.4 +0.1**
comp=Z,7.4nm,0.4s

VSU Vasula 27.81 338 *ce* P **P 07 20 04.8 +0.7**
VSU pmax pmax
comp=Z,42nm,1.0s
VSU Vasula 27.81 338 *e* P **P 07 20 03.4 -0.7**
KBA Koelnbreinsper 27.81 308 *e* P **P 07 20 04.5 +0.1**
comp=Z,7.8nm,0.5s,SNR=6.7
KBA Koelnbreinsper 27.81 308 P **P 07 20 04.6 +0.1**
SHLS Shalkode 27.87 60 *e* P **P 07 20 08.9 +3.9**
SHLS Shalkode 27.87 60 *e* P **P 07 20 08.9 +3.9**
baz=60
PDGK Podgornoye 27.91 60 P **P 07 20 05.3 -0.1**
STAL STALIGIAL 28.01 306 P **P 07 20 07.2 +1.1**
ZVC Zvikov 28.07 313 *e* P **P 07 20 06.1 -0.4**
PRU Pruhonice 28.07 315 P **P 07 20 07.2 +0.7**
PRU pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 28.15 312 P **P 07 20 07.7 +0.3**
GERES GERESS Array B 28.15 312 P **P 07 20 07.4 0.0**
GERES GERESS Array B 28.15 312 P **P 07 20 07.4 0.0**
GERES GERESS Array B 28.15 312 P **P 07 20 06.4 -1.0**
comp=Z,1.5nm,0.5s,baz=110,slow=9.6,SNR=7.0
GERES PcP **PcP 07 23 20.6 -0.5**
comp=Z,3.6nm,0.5s,baz=163,slow=1.6,SNR=7.9
GERES ScP **ScP 07 27 00.7 -0.7**
comp=Z,1.5nm,0.8s,baz=116,slow=3.1,SNR=4.3
GERES LR LR 07 35 14.1
comp=Z,2µm,18.8s,baz=124,slow=45
comp=Z,1.5nm,0.5s
ABTA Abfaltersbach 28.27 307 *e* P **P 07 20 10.5 +2.0**
comp=Z,14nm,1.1s
ABTA *e* PcP **PcP 07 23 22.2 +0.8**
comp=Z,8.8nm,1.0s
PVCC Panska Ves 28.27 316 P **P 07 20 09.2 +0.9**
PVCC pmax pmax
comp=Z,20nm,1.1s
KHC Kasperske Hory 28.33 313 P **P 07 20 09.2 +0.3**
KHC Kasperske Hory 28.33 313 *e* P **P 07 20 08.9 0.0**
KHC Kasperske Hory 28.33 313 *e* P **P 07 20 08.9 0.0**
LESA Schwarzleotal 28.35 309 *i* P **P 07 20 08.7 -0.5**
comp=Z,8.2nm,0.7s
LESA *e* PcP **PcP 07 23 21.9 +0.3**
comp=Z,14nm,0.6s
SLIT Slitere, Latvi 28.67 333 *e* P **P 07 20 11.2 -0.6**
WET Wettzell 28.76 312 P **P 07 20 12.7 -0.1**
BRG Berggiesshubel 28.78 316 *e* P **P 07 20 14.6 +1.7**
BRG Amp 07 20 18.8
comp=Z,3.9nm,0.7s
BRG Berggiesshubel 28.78 316 P P 07 20 19.5 +6.7
BRG Amp 07 20 21.0
comp=E,5.5nm,14.4s
BRG Amp 07 20 21.6
comp=Z,4.0nm,0.9s
BRG Amp 07 20 23.0
comp=N,4.3nm,14.5s
BRG Amp 07 20 26.0
comp=Z,6.0nm,14.8s
BRG Berggiesshubel 28.78 316 *e* P **P 07 20 14.5 +1.7**
BRG pmax pmax
comp=Z,4.0nm,0.7s
MTSE Matsula 28.95 336 *e* P **P 07 20 13.8 -0.4**
HSKC Hora Svate Kat 28.97 315 *e* P **P 07 20 15.4 +0.8**
WTTA Wattenberg 28.98 308 *e* P **P 07 20 14.3 -0.6**
comp=Z,9.0nm,0.5s
WTTA Wattenberg 28.98 308 P **P 07 20 14.4 -0.5**
WATA Walderlen 29.04 308 *e* P **P 07 20 14.5 -0.9**
comp=Z,3.9nm,0.5s
WATA *e* PcP **PcP 07 23 25.4 +2.0**
comp=Z,9.0nm,0.6s
SQTA Sankt Quirin 29.25 308 *i* P **P 07 20 16.7 -0.5**
comp=Z,13nm,0.4s,SNR=11
SQTA *e* PcP **PcP 07 23 25.2 +1.3**
comp=Z,13nm,0.6s
KURBB Kurchatov Arra 29.25 45 P **P 07 20 18.3 +1.3**
comp=Z,13nm,0.6s,baz=252,slow=9.0,SNR=79
KURBB PcP **PcP 07 23 23.4 -0.2**
comp=Z,3.4nm,0.6s,baz=242,slow=3.0,SNR=5.2
KURBB ScP **ScP 07 27 03.6 -1.0**
comp=Z,2.6nm,0.7s,baz=252,slow=3.3,SNR=9.2
KURBB LR LR 07 32 34.5
comp=Z,984nm,20.2s,baz=279,slow=38
comp=Z,13nm,0.6s
KURK Kurchatov 29.34 45 P **P 07 20 18.5 +0.7**
KURK Kurchatov 29.34 45 *ce* P **P 07 20 19.0 +1.2**
KURK pmax pmax
comp=Z,78nm,2.5s
KURK Kurchatov 29.34 45 P **P 07 20 19.1 +1.3**
MOTA Moosalm 29.35 308 *e* P **P 07 20 17.2 -0.9**
comp=Z,7.5nm,0.5s
NKC Novy Kostel 29.41 314 *e* P **P 07 20 19.7 +1.2**
NKC Novy Kostel 29.41 314 *e* P **P 07 20 19.7 +1.2**
FUR Furstenfeldbru 29.46 310 P **P 07 20 18.9 -0.1**
CLL Collm 29.50 316 *e* P **P 07 20 20.0 +0.8**
CLL MLR MLR
comp=Z,2µm,19.5s
CLL Collm 29.50 316 *e* P **P 07 20 20.0 +0.8**
CLL *ex* x 07 20 25.0
CLL AMS AMS 07 33 00.0
comp=Z,2µm,19.5s
FETA Feichten 29.52 307 *e* P **P 07 20 19.3 -0.4**
comp=Z,2.9nm,0.5s
FETA *e* PcP **PcP 07 23 26.1 +1.5**
comp=Z,6.8nm,0.7s
RETA Reutte 29.61 308 *e* P **P 07 20 19.4 -1.0**
comp=Z,7.3nm,0.4s
KEST Kesra 29.87 284 P **P 07 20 25.1 +2.3**
KEST Kesra 29.87 284 P **P 07 20 24.3 +1.5**
comp=Z,9.6nm,0.6s,baz=22,slow=3.3,SNR=12
KEST PcP **PcP 07 23 25.9 +0.2**
comp=Z,5.9nm,0.8s,baz=209,slow=9.8,SNR=2.0
KEST LR LR 07 36 18.2
comp=Z,2µm,18.3s,baz=11,slow=44
comp=Z,9.6nm,0.6s
MEF Metsahovi 29.94 339 *e* P **P 07 20 23.1 +0.2**
GRF Grafenberg Arr 29.96 313 *e* P **P 07 20 22.8 -0.6**
comp=Z,28nm,1.1s,baz=109,slow=10
GRFO Grafenberg 29.96 313 P **P 07 20 23.6 +0.2**
GRFO IAmb IAmb 07 20 41.8
comp=Z,86nm,1.5s
GRFO Grafenberg 29.96 313 P **P 07 20 23.6 +0.2**
GRFO pmax pmax
comp=Z,87nm,1.5s
DAVOX Davos/Dischmat 30.03 306 P **P 07 20 23.8 -0.4**
DAVOX 07 23 25.7
DAVOX Davos/Dischmat 30.03 306 P **P 07 20 23.8 -0.4**
comp=Z,5.0nm,0.5s,baz=350,slow=11,SNR=9.4
DAVOX PcP **PcP 07 23 25.7 -0.3**
comp=Z,9.2nm,0.8s,baz=133,slow=12,SNR=2.4
DAVOX LR LR 07 34 42.2
comp=Z,1µm,19.5s,baz=112,slow=41
comp=Z,5.0nm,0.5s
DAVA Damuels 30.14 307 *i* P **P 07 20 24.5 -0.7**
comp=Z,15nm,0.5s,SNR=8.7
SEM Semipalatinsk 30.20 46 *e* P **P 07 20 26.7 +1.1**
SEM Semipalatinsk 30.20 46 *e* P **P 07 20 26.8 +1.1**
baz=46
SEM LR LR 07 33 54.0
baz=46
BSD Bornholm Skovb 30.27 324 *e* P **P 07 20 24.8 -1.2**
MAKZ Makanchi 30.29 54 P **P 07 20 26.9 +0.6**
MAKZ IAmb IAmb 07 20 28.9
comp=Z,26nm,0.6s
MAKZ Makanchi 30.29 54 P **P 07 20 26.9 +0.6**
MAKZ pmax pmax
comp=Z,26nm,0.6s
FIA1 FINESS Array S 30.46 341 P **P 07 20 27.9 +0.4**
FIA1 IAmb IAmb 07 21 31.1
comp=Z,69nm,1.2s
FINES FINESS Array B 30.46 341 P **P 07 20 27.3 -0.3**
FINES FINESS Array B 30.46 341 P **P 07 20 27.3 -0.3**
FINES FINESS Array B 30.46 341 P **P 07 20 26.9 -0.6**
comp=Z,4.8nm,0.4s,baz=146,slow=10.0,SNR=48
FINES PcP **PcP 07 23 26.7 +0.2**
comp=Z,8.7nm,0.7s,baz=150,slow=5.8,SNR=3.9
FINES LR LR 07 35 01.4
comp=Z,3µm,19.1s,baz=146,slow=41
comp=Z,4.8nm,0.4s
MK31 Makanchi Array 30.49 54 P **P 07 20 28.8 +0.6**
MK31 IAmb IAmb 07 20 30.6
comp=Z,48nm,0.7s
MK31 Makanchi Array 30.49 54 *e* P **P 07 20 29.0 +0.9**
MKAR Makanchi Array 30.49 54 P **P 07 20 28.8 +0.6**
MKAR Makanchi Array 30.49 54 P **P 07 20 29.2 +1.1**
MKAR 07 27 07.7
MKAR Makanchi Array 30.49 54 P **P 07 20 29.2 +1.1**
comp=Z,52nm,0.5s,baz=257,slow=9.5,SNR=284
MKAR ScP **ScP 07 27 07.7 -1.1**
comp=Z,1.4nm,0.8s,baz=258,slow=2.7,SNR=2.6
MKAR LR LR 07 35 50.8
comp=Z,1µm,20.6s,baz=262,slow=43
comp=Z,52nm,0.5s
SLE Schleitheim 31.17 308 P **P 07 20 34.1 0.0**
SBF Sospel 31.27 300 *e* P **P 07 20 36.2 +1.2**
SBF pmax pmax
comp=Z,94nm,0.7s
RAF Rauma 31.38 338 *e* P **P 07 20 34.9 -0.8**
LODK Lodwar 31.69 200 P **P 07 20 42.4 +3.4**
SNR=6.6
MBDF Montbardon 31.83 302 *e* P **P 07 20 40.4 +0.3**
MBDF pmax pmax
comp=Z,63nm,0.7s
BNI Bardonecchia 31.94 302 P **P 07 20 40.7 -0.3**
BNI Bardonecchia 31.94 302 P **P 07 20 40.7 -0.3**
BNI pmax pmax
comp=Z,117nm,0.8s
LPG La Plagne 31.94 303 *e* P **P 07 20 41.2 0.0**
LPG pmax pmax
comp=Z,49nm,0.7s
LPL La Plagne 31.96 303 *e* P **P 07 20 41.0 -0.3**
LPL pmax pmax
comp=Z,45nm,0.7s
ECH Echery 32.14 308 P **P 07 20 44.5 +1.9**
HINF Hinteralfeld 32.26 308 *e* P **P 07 20 42.5 -1.2**
HINF pmax pmax
comp=Z,6.0nm,0.6s
ZSN Zaisan 32.35 53 *e* P **P 07 20 43.0 -1.4**
ZSN Zaisan 32.35 53 *e* P **P 07 20 43.0 -1.4**
baz=53
ORIF Oris-en-Rattie 32.48 302 *e* P **P 07 20 45.3 -0.4**
ORIF pmax pmax
comp=Z,25nm,0.8s
CABF La Chapelle 32.56 305 *e* P **P 07 20 45.6 -0.8**
CABF pmax pmax
comp=Z,35nm,0.7s
VIVF Saint-Julien-l 33.33 302 *e* P **P 07 20 52.3 -0.8**
VIVF pmax pmax
comp=Z,21nm,0.8s
HYB Hyderabad 33.59 111⇑ *e* P **P 07 20 55.9 +0.3**
HYB IVmB_BB 07 20 56.4
comp=Z,1µm,2.4s
HYB *e* 07 22 13.5
OUL Oulu 33.60 345 P **P 07 20 54.9 -0.2**
HFS Hagfors 33.67 331 P **P 07 20 55.3 -0.5**
HFS Hagfors 33.67 331 P **P 07 20 55.3 -0.5**
comp=Z,31nm,0.4s,baz=132,slow=10,SNR=197
HFS LR LR 07 36 15.9
comp=Z,2µm,21.1s,baz=126,slow=39
comp=Z,31nm,0.4s
WMQ Urumqi 33.89 60 *e* P **P 07 20 59.4 +1.4**
WMQ sP sP 07 21 07.7 +2.4
WMQ S **S 07 26 26.6 +4.7**
WMQ pmax pmax
comp=Z,82nm,0.7s
WMQ pmax pmax
comp=Z,580nm,3.7s
WMQ LR LR
comp=Z,1µm,10.3s
WMQ LR LR
comp=Z,2µm,15.5s
WMQ LR LR
comp=Z,910nm,21.7s
GIVF Givet 34.05 311 *e* P **P 07 20 59.9 +0.6**
GIVF pmax pmax
comp=Z,15nm,0.9s
ZAA0 Zalesovo Array 34.07 42 P **P 07 21 00.1 +0.8**
ZAA0 IAmb IAmb 07 21 13.0
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 34.07 42 P **P 07 20 59.5 +0.2**
ZALV Zalesovo Beam 34.07 42 *i* P **P 07 20 59.5 +0.2**
ZALV pmax pmax
comp=Z,34nm,0.6s
ZALV Zalesovo Beam 34.07 42 P **P 07 20 59.5 +0.2**
comp=Z,19nm,0.3s,baz=260,slow=8.5,SNR=51
ZALV LR LR 07 37 42.2
comp=Z,2µm,21.7s,baz=254,slow=41
comp=Z,19nm,0.3s
LOR Lormes 34.17 306 *e* P **P 07 20 58.8 -1.5**
LOR pmax pmax
comp=Z,14nm,0.6s
SSF Saint Saulge 34.38 306 *e* P **P 07 21 02.0 -0.1**
SSF pmax pmax
comp=Z,31nm,0.6s
BAIF Baives 34.43 311 *e* P **P 07 21 03.6 +1.1**
BAIF pmax pmax
comp=Z,27nm,1.0s
DGZ Jazzator, Alta 34.45 50 *i* P **P 07 21 02.6 -0.3**
DGZ pmax pmax
comp=Z,16nm,1.0s
APA Apatity 34.61 352⇓ *i* P **P 07 21 03.2 -0.6**
APA *i* S **S 07 26 27.0 -5.2**
APA pmax pmax
comp=Z,32nm,1.0s
APA MLR MLR
comp=Z,2µm,15.0s
BGF Bois d'Agland 34.77 305 *e* P **P 07 21 05.2 -0.3**
BGF pmax pmax
comp=Z,44nm,0.7s
OSL Oslo 34.78 330 *e* P **P 07 21 04.3 -1.1**
LVZ Lovozero 34.78 353 *i* P **P 07 21 06.7 +1.3**
NC602 NORSAR Array S 34.89 331 P **P 07 21 05.3 -1.1**
NC602 IAmb IAmb 07 22 13.3
comp=Z,105nm,1.9s
NC602 NORSAR Array S 34.89 331 *e* P **P 07 21 05.3 -1.1**
NC602 IAmb IAmb 07 21 11.3
comp=Z,466nm,3.0s
HOMB Homborsund 34.91 326 *e* P **P 07 21 05.2 -1.3**
KONO Kongsberg 35.11 329 *e* P **P 07 21 07.2 -1.1**
TCF Toulx Ste Croi 35.18 304 *e* P **P 07 21 09.0 -0.1**
TCF pmax pmax
comp=Z,28nm,0.6s
CAF Calviac 35.19 302 *e* P **P 07 21 10.5 +1.3**
CAF pmax pmax
comp=Z,18nm,1.2s
NB2 NORSAR Subarra 35.20 331 P **P 07 21 07.5 -1.6**
comp=Z,2.9nm,0.5s,baz=125,slow=8.6
NB2 NORSAR Subarra 35.20 331 P **P 07 21 07.5 -1.6**
baz=125,slow=8.6
NOA NORSAR Array B 35.20 331 P **P 07 21 07.8 -1.3**
NOA NORSAR Array B 35.20 331 P **P 07 21 07.8 -1.3**
NOA 07 23 39.2
NOA NORSAR Array B 35.20 331 P **P 07 21 07.8 -1.3**
comp=Z,3.3nm,0.5s,baz=125,slow=8.6,SNR=20
NOA PcP **PcP 07 23 39.2 -0.6**
comp=Z,0.8nm,0.5s,baz=108,slow=2.8,SNR=2.2
NOA LR LR 07 37 12.7
comp=Z,2µm,20.6s,baz=135,slow=39
comp=Z,3.3nm,0.5s
RJF Les Rejaudoux 35.59 302 *e* P **P 07 21 12.0 -0.6**
RJF pmax pmax
comp=Z,31nm,1.0s
KMBO Kilima Mbogo 35.60 195 P **P 07 21 16.6 +3.4**
KMBO Kilima Mbogo 35.60 195 *i* P **P 07 21 14.3 +1.1**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 35.60 195 P **P 07 21 12.7 -0.5**
comp=Z,7.8nm,1.1s,baz=347,slow=10,SNR=3.4
KMBO LR LR 07 35 11.8
comp=Z,1µm,18.9s,baz=6.0,slow=35
comp=Z,7.8nm,1.1s
SKAR Skarslia 36.20 330 *e* P **P 07 21 17.7 0.0**
EPF Esparros 36.39 298 *e* P **P 07 21 18.1 -1.5**
EPF pmax pmax
comp=Z,59nm,1.8s
ODD1 Odda 36.54 328 *e* P **P 07 21 21.8 +1.2**
DOMB Dombas 36.62 332 *e* P **P 07 21 20.8 -0.4**
DOMB IAmb IAmb 07 21 23.8
comp=Z,7.4nm,0.6s
KIBK Kibwezi 36.62 193 P **P 07 21 25.0 +3.2**
KIBK Kibwezi 36.62 193 P **P 07 21 25.3 +3.5**
SNR=5.7
KMY Karmoy 36.85 326 *e* P **P 07 21 23.3 +0.1**
TAM Tamanrasset 36.86 263 P **P 07 21 25.8 +2.0**
TAM Tamanrasset 36.86 263 P **P 07 21 25.8 +2.0**
TAM pmax pmax
comp=Z,31nm,1.0s
MBAR Mbarara 36.97 205 *ce* P **P 07 21 27.6 +2.8**
MBAR pmax pmax
comp=Z,17nm,1.3s
LDF La Druitiere 36.99 308 *e* P **P 07 21 23.9 -0.6**
LDF pmax pmax
comp=Z,14nm,0.6s
NSS Namsos 37.05 336 *e* P **P 07 21 24.5 -0.3**
NSS IAmb IAmb 07 21 31.2
comp=Z,26nm,0.9s
ETSF Etsaut 37.05 298 *e* P **P 07 21 27.2 +2.0**
ETSF pmax pmax
comp=Z,11nm,0.7s
FLN La Foliniere 37.25 308 *e* P **P 07 21 25.7 -1.0**
FLN pmax pmax
comp=Z,14nm,0.4s
HYA Hoyanger 37.34 329 *e* P **P 07 21 28.1 +0.8**
BER Bergen 37.34 328 *e* P **P 07 21 27.8 +0.6**
MOR8 Moi Rana 37.39 340 *e* P **P 07 21 27.2 -0.4**
ASK Askoy 37.44 328 *e* P **P 07 21 28.9 +0.7**
GRR Gorron 37.46 307 *e* P **P 07 21 27.7 -0.7**
GRR pmax pmax
comp=Z,61nm,0.8s
MOL Molde 37.50 332 *e* P **P 07 21 28.6 0.0**
AKN Aaknes 37.51 331 *e* P **P 07 21 28.9 +0.2**
KTK1 Kautokeino 37.52 347 *e* P **P 07 21 28.3 -0.4**
VADS Vadso 37.52 351 *e* P **P 07 21 28.6 -0.1**
VADS IAmb IAmb 07 21 36.6
comp=Z,53nm,0.9s
KEV Kevo 37.53 349 P **P 07 21 28.8 +0.1**
KEV Kevo 37.53 349 P **P 07 21 28.8 +0.1**
KEV pmax pmax
comp=Z,41nm,1.2s
SJPF Ste Jean 37.54 299 *e* P **P 07 21 29.7 +0.5**
SJPF pmax pmax
comp=Z,30nm,0.7s
ARA0 ARCESS Array S 37.57 348 *e* P **P 07 21 28.9 -0.2**
ARCES ARCESS Array B 37.57 348 P **P 07 21 28.8 -0.4**
ARCES IAmb IAmb 07 21 36.7
comp=Z,40nm,1.1s
ARCES ARCESS Array B 37.57 348 P **P 07 21 28.8 -0.4**
ARCES pmax pmax
comp=Z,40nm,1.2s
ARCES ARCESS Array B 37.57 348 P **P 07 21 28.7 -0.4**
comp=Z,13nm,0.8s,baz=162,slow=8.3,SNR=34
ARCES PP **PP 07 22 51.4 -3.4**
comp=Z,8.7nm,0.7s,baz=143,slow=12,SNR=4.1
ARCES PcP **PcP 07 23 45.7 -1.0**
comp=Z,4.4nm,0.7s,baz=182,slow=4.5,SNR=1.6
ARCES LR LR 07 38 19.3
comp=Z,3µm,19.0s,baz=143,slow=38
comp=Z,13nm,0.8s
SUE Sulen 37.90 329 *e* P **P 07 21 32.4 +0.4**
SUE IAmb IAmb 07 21 34.5
comp=Z,67nm,1.4s
STOK Stokkvaagen 37.92 339 *e* P **P 07 21 31.7 -0.4**
KONS Konsvik 38.00 339 *e* P **P 07 21 32.1 -0.7**
FAUS Fauske 38.02 341 *e* P **P 07 21 32.7 -0.3**
FAUS IAmb IAmb 07 21 45.5
comp=Z,2µm,4.9s
WOL Wolverton 38.06 312 *e* P **P 07 21 33.8 +0.3**
CWF Charnwood Fore 38.35 314 *e* P **P 07 21 35.7 -0.2**
STEI Steigen 38.44 342 *e* P **P 07 21 35.8 -0.6**
JETT Jettan, Norway 38.52 346 *e* P **P 07 21 37.0 -0.3**
SGMF Saint Gilles 38.58 307 *e* P **P 07 21 37.2 -0.7**
SGMF pmax pmax
comp=Z,38nm,0.6s
LSA Lhasa 38.60 83 P **P 07 21 38.4 -0.5**
LSA IAmb IAmb 07 21 47.9
comp=Z,103nm,1.3s
LSA Lhasa 38.60 83 P **P 07 21 38.4 -0.5**
LSA pmax pmax
comp=Z,103nm,1.3s
LSA Lhasa 38.60 83 P **P 07 21 38.5 -0.4**
LBWR Ladybower, Pea 38.72 315 *e* P **P 07 21 38.0 -1.0**
LBWR IAmb IAmb 07 21 41.4
comp=Z,44nm,0.9s
HAMF Hammerfest 38.84 348 *e* P **P 07 21 40.4 +0.5**
HAMF IAmb IAmb 07 22 00.1
comp=Z,2µm,4.1s
TRO Tromso 38.89 345 *e* P **P 07 21 39.8 -0.4**
OLDB Oldbury-Upon-S 38.93 312 *e* P **P 07 21 40.3 -0.5**
OLDB IAmb IAmb 07 21 42.7
comp=Z,61nm,0.8s
QUIF Quistinic 38.96 306 *e* P **P 07 21 40.2 -0.9**
QUIF pmax pmax
comp=Z,311nm,1.7s
ROSF Rostrenen 39.06 307 *e* P **P 07 21 41.1 -0.8**
ROSF pmax pmax
comp=Z,38nm,0.6s
MONM Monmouth 39.11 313 *e* P **P 07 21 41.8 -0.6**
MONM IAmb IAmb 07 21 44.0
comp=Z,40nm,0.8s
MCH1 Michaelchurch 39.25 313 *e* P **P 07 21 42.7 -0.8**
MCH1 IAmb IAmb 07 21 45.2
comp=Z,56nm,0.7s
HLM1 Long Mynd 39.26 314 *e* P **P 07 21 43.0 -0.6**
HLM1 IAmb IAmb 07 21 46.0
comp=Z,37nm,0.9s
FOEL Foel Wylfa 39.51 314 *e* P **P 07 21 45.5 -0.2**
FOEL IAmb IAmb 07 21 48.1
comp=Z,51nm,0.8s
KESW Keswick, Cumbr 39.75 317 *e* P **P 07 21 47.5 -0.2**
KESW IAmb IAmb 07 21 49.3
comp=Z,58nm,0.7s
LLW Llanuwychllyn 39.78 314 *e* P **P 07 21 47.3 -0.6**
ESDC Sonseca Array 39.87 293 P **P 07 21 48.8 -0.1**
ESDC Sonseca Array 39.87 293 P **P 07 21 48.8 -0.1**
comp=Z,8.6nm,0.5s,baz=80,slow=8.3,SNR=59
ESDC PcP **PcP 07 23 55.0 +0.5**
comp=Z,4.9nm,0.6s,baz=45,slow=3.6,SNR=9.9
comp=Z,8.6nm,0.5s
DRUM Mains of Drumt 39.93 320 *e* P **P 07 21 48.7 -0.4**
EKA Eskdalemuir Ar 39.93 318 P **P 07 21 48.6 -0.6**
EKA Eskdalemuir Ar 39.93 318 P **P 07 21 48.6 -0.6**
EKA 07 23 54.8
EKA Eskdalemuir Ar 39.93 318 P **P 07 21 48.6 -0.6**
comp=Z,15nm,0.6s,baz=104,slow=8.4,SNR=54
EKA PcP **PcP 07 23 54.8 +0.4**
comp=Z,4.4nm,0.6s,baz=117,slow=5.2,SNR=5.7
comp=Z,15nm,0.6s
GOMU GeErMu 39.94 72 P **P 07 21 50.8 +0.9**
GOMU pP pP 07 21 54.9 -0.3
GOMU sP sP 07 21 56.7 -0.6
GOMU pmax pmax
comp=Z,31nm,1.3s
ESK Eskdalemuir 39.96 318 *e* P **P 07 21 48.4 -1.0**
EDI Edinburgh 40.08 319 *e* P **P 07 21 49.9 -0.4**
EDI IAmb IAmb 07 21 52.9
comp=Z,49nm,0.6s
SBD Saint Breward 40.14 310 *e* P **P 07 21 50.2 -0.7**
WPS Cemaes, Angles 40.36 315 *e* P **P 07 21 55.0 +2.4**
WPS IAmb IAmb 07 21 57.4
comp=Z,37nm,0.8s
NEWG New Galloway 40.49 317 *e* P **P 07 21 53.5 -0.3**
MCD Coleburn Disti 40.50 321 *e* P **P 07 21 53.3 -0.5**
MCD IAmb IAmb 07 21 56.0
comp=Z,66nm,0.7s
IOMK Kirk Michael 40.53 316 *e* P **P 07 21 53.8 -0.3**
IOMK IAmb IAmb 07 21 56.0
comp=Z,67nm,0.7s
WIM Isle of Man 40.58 316 *e* P **P 07 21 54.2 -0.4**
SHL Shillong 40.64 89 P **P 07 21 54.9 -0.7**
SHL Shillong 40.64 89 P **P 07 21 55.0 -0.7**
SNR=34
INVG Invergeldie, C 40.65 319 *e* P **P 07 21 54.5 -0.6**
INVG IAmb IAmb 07 21 57.6
comp=Z,55nm,0.8s
GAL1 Galloway 40.72 317 *e* P **P 07 21 55.2 -0.4**
GAL1 IAmb IAmb 07 21 57.7
comp=Z,35nm,0.8s
PGBU Glenifferbraes 40.77 318 *e* P **P 07 21 56.4 +0.3**
PGBU IAmb IAmb 07 21 58.4
comp=Z,36nm,0.7s
LAWE Loch Awe, Argy 41.36 319 *e* P **P 07 22 00.4 -0.5**
LAWE IAmb IAmb 07 22 02.6
comp=Z,26nm,0.7s
LINV Loch Inver, As 41.65 322 *e* P **P 07 22 02.3 -0.9**
PALK Pallekele 41.67 121 P **P 07 22 04.4 +0.4**
PALK Pallekele 41.67 121 P **P 07 22 04.4 +0.4**
comp=Z,10nm,0.8s,baz=72,slow=11,SNR=8.1
PALK LR LR 07 40 56.9
comp=Z,1µm,18.9s,baz=59,slow=38
comp=Z,10nm,0.8s
PALK Pallekele 41.67 121 P **P 07 22 05.1 +1.1**
PBRG Braganca 41.70 297 *e* P **P 07 22 04.1 +0.1**
comp=Z,78nm,1.5s
MDT Midelt 41.76 283 P **P 07 22 05.5 +0.8**
MDT Midelt 41.76 283 P **P 07 22 05.5 +0.8**
comp=Z,18nm,0.7s,baz=74,slow=11,SNR=39
comp=Z,18nm,0.7s
MVO Moncorvo 42.00 296 *e* P **P 07 22 06.7 +0.3**
comp=Z,69nm,0.7s

PBAR Barrancos 42.48 292 *e*P P 07 22 10.2 -0.1
comp=Z,67nm,0.9s
NRIK Noril'sk 42.49 21 P P 07 22 11.1 +1.1
NRIK IAmb IAmb 07 22 19.6
comp=Z,73nm,1.2s
NRIK Noril'sk 42.49 21 *ce*P P 07 22 10.6 +0.6
NRIK pmax pmax
comp=Z,72nm,1.2s
NRIK Noril'sk 42.49 21 P P 07 22 10.8 +0.8
comp=Z,13nm,0.5s,baz=236,slow=6.6,SNR=41
comp=Z,13nm,0.5s
MTE Manteigas 42.49 295 *e*P P 07 22 10.9 +0.4
comp=Z,86nm,1.5s
PVRL Vila Real 42.49 296 *e*P P 07 22 10.8 +0.3
PCBR Castelo Branco 42.53 294 *e*P P 07 22 11.1 +0.4
comp=Z,94nm,0.6s
PMRV Marv??o 42.53 294 *e*P P 07 22 10.7 0.0
POLO Lamas de Olo 42.54 296 *e*P P 07 22 11.2 +0.3
comp=Z,56nm,1.1s
PVIS Viseu 42.71 296 *e*P P 07 22 12.9 +0.7
PESTR Estremoz 42.78 293 *e*P P 07 22 12.7 0.0
comp=Z,56nm,1.8s
PESTR Estremoz 42.78 293 P P 07 22 12.9 +0.1
PESTR IAmb IAmb 07 22 14.9
comp=Z,35nm,0.7s
PGAV Gavieira, Arco 42.82 297 *e*P P 07 22 11.9 -1.2
comp=Z,149nm,1.6s
BJO1 Bjornoya 42.89 350 *e*P P 07 22 12.6 -0.5
PBEJ Beja 43.15 292 *e*P P 07 22 16.0 +0.3
comp=Z,68nm,2.0s
PVAQ Vaqueiros 43.15 291 *e*P P 07 22 16.0 +0.2
EVO Evora 43.16 292 *e*P P 07 22 18.0 +2.1
comp=Z,39nm,1.9s
COI Coimbra 43.18 295 *e*P P 07 22 16.7 +0.8
comp=Z,207nm,2.3s
PTO Porto 43.18 296 *e*P P 07 22 16.9 +1.0
PMTG Montargil 43.23 293 *e*P P 07 22 16.3 -0.1
comp=Z,40nm,2.3s
MOY Mondy 43.24 48 *e*P P 07 22 17.6 +1.1
MOY pmax pmax
comp=Z,103nm,2.9s
GTA Gaotai 43.24 66 ⇑P P 07 22 17.4 +0.7
GTA PcP **PcP** 07 24 11.5 +5.8
GTA S **S** 07 28 47.7 +4.5
GTA pmax pmax
comp=Z,23nm,1.9s
GTA LR LR
comp=Z,1μm,15.6s
GTA LR LR
comp=Z,880nm,17.1s
GTA LR LR
comp=Z,850nm,17.1s
IGLA Glengowla, Co 43.26 314 *e*P P 07 22 15.9 -0.5
PCAS Casmilo, Conde 43.27 295 *e*P P 07 22 16.4 -0.3
comp=Z,106nm,1.7s
PBDV Barranco-do-Ve 43.35 291 *e*P P 07 22 18.9 +1.4
PCVE Castro Verde 43.36 291 *e*P P 07 22 17.3 -0.1
MESJ Messejana 43.46 291 *e*P P 07 22 18.4 +0.1
MESJ Messejana 43.46 291 P P 07 22 18.4 +0.1
MESJ IAmb IAmb 07 22 41.4
comp=Z,87nm,1.6s
MESJ Messejana 43.46 291 P P 07 22 18.4 +0.1
MESJ pmax pmax
comp=Z,87nm,1.6s
MESJ Messejana 43.46 291 *e*P P 07 22 19.5 +1.2
MESJ IAmb IAmb 07 22 24.9
comp=Z,18nm,0.8s
PNCL Nicolau / Gran 43.64 292 *e*P P 07 22 20.1 +0.4
comp=Z,62nm,1.5s
AVE Averroes 43.90 285 P P 07 22 22.8 +1.0
AVE IAmb IAmb 07 22 28.5
comp=Z,39nm,0.7s
HOPEN Hopen 43.91 353 *e*P P 07 22 21.6 +0.3
ZAK Zakamensk 44.67 50 *e*P P 07 22 27.5 -0.5
ZAK pmax pmax
comp=Z,22nm,1.5s
TOA0 Torodi Ar. Sit 44.90 254 P P 07 22 30.3 +0.3
TOA0 IAmb IAmb 07 22 35.6
comp=Z,92nm,1.7s
TORD Torodi Ar. Bea 44.90 254 P P 07 22 30.3 +0.2
TORD Torodi Ar. Bea 44.90 254 P P 07 22 29.9 -0.1
comp=Z,12nm,0.6s,baz=54,slow=6.7,SNR=87
comp=Z,12nm,0.6s
IRK Irkutsk 45.28 48 *e*P P 07 22 32.6 -0.1
IRK pmax pmax
comp=Z,99nm,2.6s
MND Mandalay 45.64 91 P P 07 22 34.6 -1.2
SPB2 Spitsbergen Ar 46.30 352 P P 07 22 40.8 +0.5
SPA0 Spitsbergen Ar 46.30 352 *e*P P 07 22 40.5 +0.1
SPA0 IAmb IAmb 07 22 48.4
comp=Z,94nm,1.0s
SPITS Spitsbergen Ar 46.30 352 P P 07 22 40.9 +0.5
SPITS Spitsbergen Ar 46.30 352 P P 07 22 40.9 +0.5
SPITS Spitsbergen Ar 46.30 352 P P 07 22 40.9 +0.5
comp=Z,12nm,0.4s,baz=138,slow=10,SNR=56
comp=Z,12nm,0.4s
TNCH TengChong 46.38 86 P P 07 22 41.4 -0.5
TNCH pP pP 07 22 45.6 -1.6
TNCH pmax pmax
comp=Z,140nm,0.6s
TNCH pmax pmax
comp=Z,500nm,3.1s
SONM Songino Array 46.86 54 P P 07 22 45.9 +0.6
SONM IAmb IAmb 07 22 47.5
comp=Z,57nm,1.8s
SONM Songino Array 46.86 54 P P 07 22 45.9 +0.6
SONM pmax pmax
comp=Z,57nm,1.8s
SONM Songino Array 46.86 54 P P 07 22 45.8 +0.5
comp=Z,4.8nm,0.6s,baz=276,slow=9.2,SNR=36
SONM PcP **PcP** 07 24 16.8 -1.2
comp=Z,1.7nm,0.6s,baz=274,slow=4.5,SNR=2.0
SONM ScP **ScP** 07 28 11.5 +0.4
comp=Z,3.3nm,1.0s,baz=285,slow=2.2,SNR=4.7
comp=Z,4.8nm,0.6s
JMIC Jan Mayen 47.00 339 LR LR 07 44 08.1
comp=Z,1μm,19.1s,baz=93,slow=38
LZH Lanzhou 47.09 70 ⇑P P 07 22 47.8 +0.5
LZH pP pP 07 22 53.4 +0.8
LZH pmax pmax
comp=Z,42nm,1.3s
ULN Ulaanbaatar 47.30 53 P P 07 22 49.1 +0.3
ULN Ulaanbaatar 47.30 53 *i* P P 07 22 49.9 +1.1
ULN pmax pmax
comp=Z,36nm,0.8s
ULN Ulaanbaatar 47.30 53 P P 07 22 49.4 +0.7
ULN Ulaanbaatar 47.30 53 P P 07 22 49.2 +0.4
comp=Z,235nm,1.0s,comp=Z,4μmcomp=Z,90μm
KBS Kingsbay 47.44 352 *e*P P 07 22 49.2 0.0
KBS IAmb IAmb 07 23 08.7
comp=Z,143nm,1.8s
PZH PanZhiHua 48.47 83 P P 07 22 57.7 -0.4
PZH S **S** 07 30 04.2 +5.5
PZH pmax pmax
comp=Z,20nm,0.8s
PZH LR LR
comp=Z,950nm,18.1s
PZH LR LR
comp=Z,810nm,17.6s
PZH LR LR
comp=Z,1μm,20.6s
CD2 Chengdu 48.55 77 P P 07 22 58.2 -0.3
CD2 pmax pmax
comp=Z,40nm,1.0s
CHTO Chiang Mai 49.46 94 P P 07 23 05.3 -0.3
CHTO Chiang Mai 49.46 94 P P 07 23 04.8 -0.8
CHTO Chiang Mai 49.46 94 P P 07 23 05.3 -0.3
CHTO pmax pmax
comp=Z,60nm,1.0s
CHTO Chiang Mai 49.46 94 P P 07 23 04.8 -0.8
CHTO P P 07 23 04.8 -0.8
CMMT Chiang Mai 49.46 94 P P 07 23 04.8 -0.8
comp=Z,151nm,1.0s
CM31 Chiang Mai Arr 49.63 94 P P 07 23 06.1 -0.8
CM31 IAmb IAmb 07 23 06.8
comp=Z,24nm,0.7s
CMAR Chiang Mai Arr 49.63 94 P P 07 23 06.3 -0.6
CMAR Chiang Mai Arr 49.63 94 P P 07 23 06.2 -0.6
comp=Z,14nm,0.6s,baz=291,slow=8.4,SNR=55
comp=Z,14nm,0.6s
KMI Kunming 49.84 84 ⇑P P 07 23 08.1 -0.6
KMI pmax pmax
comp=Z,36nm,2.0s
KMI LR LR
comp=Z,2μm,17.2s
KMI LR LR
comp=Z,1μm,13.4s
KMI LR LR
comp=Z,1μm,17.7s
BTO Baotou 50.67 62 *e*P P 07 23 14.1 -0.5
BTO pP **pP** 07 23 18.7 -1.2
BTO sP **sP** 07 23 21.2 -0.8
BTO PP **PP** 07 25 10.9 +0.4
BTO S **S** 07 30 25.9 -3.1
BTO SS **SS** 07 33 55.5 -7.6
BTO pmax pmax
comp=Z,80nm,1.4s
BTO pmax pmax
comp=Z,1μm,11.5s
BTO LR LR
comp=Z,4μm,19.7s
BTO LR LR
comp=Z,2μm,11.8s
BTO LR LR
comp=Z,4μm,17.4s
PHRA Phrae 50.68 93 P P 07 23 14.9 0.0
BOD Bodaibo 50.78 40 *e*P P 07 23 14.0 -1.1
BOD pmax pmax
comp=Z,38nm,1.8s
CIT Chita 51.01 47 *e*P P 07 23 17.2 +0.3
CIT *e* 07 23 28.8
CIT *e* 07 23 37.2
CIT *e* 07 25 14.2
CIT pmax pmax
comp=Z,187nm,2.8s
LSZ Lusaka 51.55 202 LR LR 07 44 10.5
comp=Z,588nm,18.9s,baz=34,slow=35
LSZ Lusaka 51.55 202 P P 07 23 23.4 +2.0
DAG Danmarks Havn 51.61 345 P P 07 23 20.9 -0.1
DAG Danmarks Havn 51.61 345 *i* P P 07 23 20.0 -1.0
DAG IAmb IAmb 07 23 28.1
comp=Z,6.9nm,0.6s
XAN Xi'an 51.66 71 ⇑P P 07 23 21.9 -0.2
XAN pP pP 07 23 26.7 -0.8
XAN sP sP 07 23 31.7 +2.2
XAN pmax pmax
comp=Z,88nm,0.7s
PMAR Madeira 51.67 287 *e*P P 07 23 23.3 +0.9
comp=Z,134nm,1.8s
HHC Hu-ho-hao-te 51.74 62 ⇑*i*P P 07 23 23.4 +0.7
HHC sP sP 07 23 32.9 +2.8
HHC S **S** 07 30 36.9 -7.0
HHC SS **SS** 07 34 22.5 +2.3
HHC pmax pmax
comp=Z,66nm,1.3s
HHC pmax pmax
comp=Z,590nm,4.6s
HHC LR LR
comp=Z,2μm,15.7s
HHC LR LR
comp=Z,1μm,16.1s
HHC LR LR
comp=Z,2μm,14.7s
SRDT SRDT 51.84 98 P P 07 23 23.1 -0.5
SRDT SRDT 51.84 98 P P 07 23 22.7 -0.9
comp=Z,50nm,1.1s,comp=Z,16μmcomp=Z,878μm
ABPO Ambohimpanom 52.49 178 *e*P P 07 23 29.7 +1.3
ABPO IAmb IAmb 07 23 31.1
comp=Z,93nm,1.6s
GYA Guiyang 52.55 81 P P 07 23 27.5 -1.4
GYA pmax pmax
comp=Z,16nm,1.0s
NONG Nongkai 53.31 92 P P 07 23 33.6 -0.9
ENH Enshi 53.40 75 P P 07 23 34.0 -1.0
ENH IAmb IAmb 07 23 40.9
comp=Z,26nm,0.7s
NAYO Nakonayok 53.67 97 P P 07 23 36.8 -0.3
DBIC Dimbokro 53.91 252 P P 07 23 38.8 -0.1
DBIC IAmb IAmb 07 23 46.1
comp=Z,31nm,1.1s
DBIC Dimbokro 53.91 252 P P 07 23 38.8 -0.1
DBIC Dimbokro 53.91 252 *e*P P 07 23 37.8 -1.0
DBIC IAmb IAmb 07 23 45.7
comp=Z,30nm,1.1s
DBIC Dimbokro 53.91 252 P P 07 23 38.8 -0.1
comp=Z,12nm,0.6s,baz=33,slow=8.1,SNR=22
comp=Z,12nm,0.6s
KIC Kosan Boka 54.00 251⇑ *e*P P 07 23 39.4 -0.2
comp=Z,34nm,0.6s
TIC Toumodi 54.05 252⇑ *e*P P 07 23 40.4 +0.5
comp=Z,37nm,0.3s
XLT XiLinHaoTe 54.21 57 *e*P P 07 23 41.4 +0.5
XLT pP pP 07 23 46.1 -0.1
XLT sP sP 07 23 48.7 +0.4
XLT PcP **PcP** 07 24 44.6 -0.6
XLT PP **PP** 07 25 43.3 +0.9
XLT pmax pmax
comp=Z,15nm,0.7s
XLT pmax pmax
comp=Z,430nm,7.0s
LYN LuoYang 54.27 69 *e*P P 07 23 40.3 -1.0
LYN pP pP 07 23 45.1 -1.6
LYN PcP **PcP** 07 24 44.0 -1.4
LYN pmax pmax
comp=Z,51nm,0.7s
LIC Lamto 54.31 251⇑ *e*P P 07 23 41.6 -0.2
comp=Z,74nm,0.6s
HNS HongShan 55.07 65 ⇑P P 07 23 48.8 +1.8
HNS S **S** 07 31 35.2 +6.3
HNS LR LR
comp=Z,1μm,19.1s
HNS LR LR
comp=Z,1μm,17.6s
HNS LR LR
comp=Z,920nm,17.2s
BJI Beijing 55.35 62 P P 07 23 49.0 0.0
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJI LR LR
comp=Z,610nm,17.4s
BJI LR LR
comp=Z,370nm,17.8s
BJI LR LR
comp=Z,290nm,16.7s
BJT Baijiatuau 55.35 62 P P 07 23 48.7 -0.3
BJT IAmb IAmb 07 23 56.0
comp=Z,14nm,0.6s
BJT Baijiatuau 55.35 62 P P 07 23 48.7 -0.3
BJT pmax pmax
comp=Z,14nm,0.6s
VOI Vohitsoka 55.36 179 P P 07 23 50.2 +1.0
HIA Hailar 55.37 50 P P 07 23 49.2 +0.1
HIA IAmb IAmb 07 23 58.4
comp=Z,23nm,0.8s
HIA Hailar 55.37 50 *i* P P 07 23 49.8 +0.7
HIA pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 56.21 22 P P 07 23 54.5 -0.2
TIXI IAmb IAmb 07 24 01.4
comp=Z,38nm,1.0s
TIXI Tiksi 56.21 22 *ce*P P 07 23 54.6 -0.1
TIXI pmax pmax
comp=Z,89nm,2.5s
SUMG Summit 56.45 339 P P 07 23 56.8 -0.1
SUMG IAmb IAmb 07 24 06.9
comp=Z,54nm,1.3s
SUMG Summit 56.45 339 P P 07 23 56.8 -0.1
SUMG pmax pmax
comp=Z,54nm,1.3s
SUMG Summit 56.45 339 *i* P P 07 23 56.4 -0.5
SUMG IAmb IAmb 07 24 08.2
comp=Z,18nm,0.8s
KCSI Kotacane, Aceh 56.95 110 P P 07 24 01.1 +0.3
comp=Z,32nm,0.9s
WHN Wuhan 57.19 73 P P 07 24 02.5 +0.2
WHN S **S** 07 32 01.6 +4.3
WHN LR LR
comp=Z,6μm,21.4s
WHN LR LR
comp=Z,2μm,13.3s
WHN LR LR
comp=Z,5μm,13.9s
TIA Tai'an 57.29 66 P P 07 24 02.5 -0.5
TIA pmax pmax
comp=Z,11nm,0.9s
ICESG Greenland Ices 57.30 335 *i* P P 07 24 03.2 +0.2
ICESG IAmb IAmb 07 24 06.8
comp=Z,7.0nm,0.6s
YAK Yakutsk 58.05 34 *e*P P 07 24 05.0 -2.8
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.8s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,384nm,17.0s
YAK MLR MLR
comp=E,1μm,16.0s
KULM Kulim 58.16 106 P P 07 24 07.8 -1.5
comp=E,23nm,1.1s
MPHEP Siloam, Limpop 58.26 197 *e*P P 07 24 11.0 +1.2
MPHEP IAmb IAmb 07 24 12.8
comp=Z,21nm,0.8s
MOPA Mopani 58.57 195 *e*P P 07 24 13.2 +1.4
MOPA IAmb IAmb 07 24 14.9
comp=Z,83nm,0.6s
NEEM North Greenlan 58.80 345 *i* P P 07 24 13.4 +0.1
NEEM IAmb IAmb 07 24 19.8
comp=Z,5.6nm,0.6s
ZEA Zeya 58.80 43 *e*P P 07 24 14.1 +0.8
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,1μm,15.0s
TSUM Tsumeb 59.11 211 *e*P P 07 24 17.1 +1.3
HOED Hoedspruit, Li 59.53 196 *e*P P 07 24 18.9 +0.2
HOED IAmb IAmb 07 24 21.3
comp=Z,29nm,0.7s
DL2 Dalian 59.71 61 P P 07 24 18.9 -0.8
DL2 pmax pmax
comp=Z,60nm,0.7s
DL2 LR LR
comp=Z,2μm,15.0s
DL2 LR LR
comp=Z,2μm,16.0s
LEPH Lephalale, Lim 59.78 199 *e*P P 07 24 21.6 +1.2
LEPH IAmb IAmb 07 24 27.7
comp=Z,55nm,1.4s
WTBG Waterberg Wild 59.83 198 *e*P P 07 24 20.3 -0.6
WTBG IAmb IAmb 07 24 31.4
comp=Z,9.2nm,0.8s
HEH HeiHe 59.90 47 *e*P P 07 24 20.3 -0.6
HEH S **S** 07 32 31.3 -0.7
HEH SS **SS** 07 36 31.0 +3.1
HEH pmax pmax
comp=Z,23nm,0.8s
HEH pmax pmax
comp=Z,420nm,4.4s
HEH LR LR
comp=Z,860nm,13.5s
HEH LR LR
comp=Z,2μm,15.9s
HEH LR LR
comp=Z,4μm,14.3s
PILG Pilgrimsrest, 60.09 196 *e*P P 07 24 23.2 +0.6
PILG IAmb IAmb 07 24 25.8
comp=Z,29nm,0.8s
NJ2 Nanjing 60.16 70 *e*P P 07 24 22.8 -0.2
NJ2 pP **pP** 07 24 27.8 -0.6
NJ2 sP **sP** 07 24 30.2 -0.2
NJ2 pmax pmax
comp=Z,21nm,0.6s
NJ2 pmax pmax
comp=Z,330nm,3.9s
NJ2 LR LR
comp=Z,2μm,13.8s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,2μm,17.5s
DY2G Dye2 60.34 333 *i* P P 07 24 23.9 -0.1
DY2G IAmb IAmb 07 24 27.2
comp=Z,28nm,0.7s
DULL Dullstroom, Mp 60.62 196 *e*P P 07 24 27.2 +0.9
DULL IAmb IAmb 07 24 29.2
comp=Z,20nm,0.8s
RUST Rust De Winter 60.91 198 *e*P P 07 24 29.1 +1.0
RUST IAmb IAmb 07 24 30.8
comp=Z,24nm,0.6s
NHAM Northam, North 60.92 199 *e*P P 07 24 28.7 +0.5
NHAM IAmb IAmb 07 24 31.1
comp=Z,24nm,0.8s
TSWA Tswaing Meteor 61.20 198 *e*P P 07 24 30.8 +0.8
TSWA IAmb IAmb 07 24 38.4
comp=Z,28nm,1.1s
NYAT Nyati, Northwe 61.28 199 *e*P P 07 24 32.0 +1.4
NYAT IAmb IAmb 07 24 34.1
comp=Z,31nm,0.7s
BNX BinXian 61.36 52 ⇓P P 07 24 30.1 -0.8
BNX pmax pmax
comp=Z,13nm,0.7s
BNX pmax pmax
comp=Z,430nm,8.3s
BKNI Bangkinang 61.48 111 P P 07 24 31.0 -1.1
BKNI Bangkinang 61.48 111 P P 07 24 30.4 -1.7
comp=Z,125nm,1.1s
LBTB Lobatse 61.50 201 P P 07 24 33.0 +1.0
LBTB Lobatse 61.50 201 P P 07 24 33.1 +1.0
LBTB pmax pmax
comp=Z,61nm,1.2s
LBTB Lobatse 61.50 201 *e*P P 07 24 33.5 +1.4
LBTB IAmb IAmb 07 24 35.9
comp=Z,69nm,1.2s
NRS Narsarsuaq 61.61 327 *i* P P 07 24 31.9 -0.4
NRS IAmb IAmb 07 24 35.3
comp=Z,32nm,0.7s
HRAO HartRAO 61.75 198 *e*P P 07 24 33.8 0.0
PDSI Padang 61.81 112 P P 07 24 32.9 -1.5
comp=Z,39nm,1.0s
POGA Pongola 62.21 194 *e*P P 07 24 37.9 +1.2
PRYS Parys 62.82 198 *e*P P 07 24 40.4 -0.6
PRYS IAmb IAmb 07 24 43.5
comp=Z,50nm,1.4s
TULEG Thule 62.84 346 *i* P P 07 24 40.6 +0.2
TULEG IAmb IAmb 07 24 41.3
comp=Z,13nm,0.7s
IVI Ivigtut 62.85 327 *i* P P 07 24 40.9 +0.3
IVI IAmb IAmb 07 24 49.8
comp=Z,20nm,0.9s
KLR Kul'dur 62.89 47 *ce*P P 07 24 41.7 +0.5
KLR pmax pmax
comp=Z,28nm,2.5s
NWCL Newcastle 62.97 196 *e*P P 07 24 42.5 +0.5
NWCL IAmb IAmb 07 24 44.1
comp=Z,30nm,0.5s
NUUK Nuuk 63.27 331 *i* P P 07 24 43.4 0.0
NUUK IAmb IAmb 07 24 45.5
comp=Z,14nm,0.8s
SWZ Schweizer 63.62 200 *e*P P 07 24 46.4 +0.2
SWZ IAmb IAmb 07 24 48.7
comp=Z,28nm,1.0s
SNKL Senekal, Frees 64.00 198 *e*P P 07 24 49.4 +0.6
SNKL IAmb IAmb 07 24 51.5
comp=Z,84nm,1.0s
KSAR Wonju Array Be 64.82 61 P P 07 24 53.0 -1.0
KSAR Wonju Array Be 64.82 61 P P 07 24 53.1 -1.0
KSRS Korea Array 64.84 61 P P 07 24 53.2 -1.0
KSRS Korea Array 64.84 61 P P 07 24 53.2 -1.0
KSRS Korea Array 64.84 61 P P 07 24 53.2 -1.0
comp=Z,5.0nm,0.4s,baz=288,slow=6.8,SNR=22
comp=Z,5.0nm,0.4s
USRK Ussuriysk Ar. 64.95 52 P P 07 24 53.3 -1.5
USRK Ussuriysk Ar. 64.95 52 P P 07 24 53.3 -1.5
comp=Z,4.9nm,0.5s,baz=284,slow=6.1,SNR=13
comp=Z,4.9nm,0.5s
BOSA Boshof 64.99 200 P P 07 24 56.6 +1.4
BOSA Boshof 64.99 200 P P 07 24 56.6 +1.4
BOSA pmax pmax
comp=Z,34nm,0.7s
BOSA Boshof 64.99 200 ⇑*i* P P 07 24 55.9 +0.7
BOSA IAmb IAmb 07 24 57.7
comp=Z,36nm,0.7s
BOSA Boshof 64.99 200 P P 07 24 55.9 +0.7
comp=Z,28nm,0.6s,baz=15,slow=6.0,SNR=72
comp=Z,28nm,0.6s
YHNB Yeheng 65.31 76 P P 07 24 58.2 +0.7
YHNB Yeheng 65.31 76 P P 07 24 58.4 +0.8
SSLB Suanglung 65.38 77 P P 07 24 58.4 +0.5
YULB Yu-li 65.84 77 P P 07 25 00.5 -0.4
YULB Yu-li 65.84 77 P P 07 25 01.0 +0.1
KSTD Kokstad 65.88 195 *e*P P 07 25 02.4 +1.4
KSTD IAmb IAmb 07 25 03.7

comp=Z,19nm,1.2s
UPI **Upington** 65.99 204 *e*P **P** **07 25 01.5 -0.2**
UPI IAmb IAmb 07 25 04.5
comp=Z,35nm,1.1s
KEIM **Keimoes** 66.40 204 *e*P **PcP** **07 25 29.1 -4.8**
KEIM IAmb IAmb 07 25 30.7
comp=Z,150nm,2.2s
HVD **Gariep Dam** 66.81 199 *e*P **P** **07 25 07.5 +0.6**
LWLI **Liwa** 67.18 113 P **P** **07 25 10.2 +0.6**
comp=Z,166nm,0.7s,comp=Z,10µm
SEY **Seymchan** 67.50 28*c*eP **P** **07 25 11.8 +1.0**
SEY pmax pmax
comp=Z,57nm,2.5s
BFON **Badsfontein, M** 68.44 200 *e*P **P** **07 25 18.7 +1.6**
BFON IAmb IAmb 07 25 20.3
comp=Z,43nm,0.7s
BRAK **Brakfontein** 68.65 201 *e*P **P** **07 25 19.2 +0.8**
BRAK IAmb IAmb 07 25 21.3
comp=Z,25nm,0.8s
GRAF **Camdeboo Natio** 68.66 199 *e*P **P** **07 25 19.0 +0.5**
GRAF IAmb IAmb 07 25 21.2
comp=Z,89nm,1.6s
RES **Resolute Bay** 68.78 350 P **P** **07 25 19.3 +0.7**
GRHM **Grahamstown, E** 69.12 197 *e*P **P** **07 25 20.4 -0.9**
GRHM IAmb IAmb 07 25 28.6
comp=Z,25nm,0.9s
ROOI **Rooidraai Farm** 69.13 200 *e*P **P** **07 25 22.4 +1.1**
ROOI IAmb IAmb 07 25 25.0
comp=Z,46nm,0.8s
FRAZ **Fraserburg** 69.24 202 *e*P **P** **07 25 22.6 +0.4**
FRAZ IAmb IAmb 07 25 25.8
comp=Z,20nm,0.7s
BILL **Bilibino** 69.32 20 *i*P **P** **07 25 22.6 +0.5**
BILL pmax pmax
comp=Z,16nm,1.0s
CVNA **Calvinia** 69.36 204 *e*P **P** **07 25 23.4 +0.6**
CVNA IAmb IAmb 07 25 30.5
comp=Z,88nm,1.4s
SUR **Sutherland** 69.85 202 P **P** **07 25 27.7 +1.8**
STKI **Sintang** 69.94 104 P **P** **07 25 26.7 -0.1**
comp=Z,52nm,1.0s
FRB **Frobisher Bay** 69.95 334 P **P** **07 25 26.2 +0.2**
KKM **Kota Kinabalu** 70.44 96 P **P** **07 25 29.2 -0.8**
comp=Z,48nm,1.1s
YSS **Yuzh-Sakhalins** 70.54 46 *e*P **P** **07 25 32.8 +2.9**
YSS pmax pmax
comp=Z,20nm,1.3s
CNJI **Cibinong** 70.98 113 P **P** **07 25 30.6 -2.5**
KPJI **Karang Pucung** 72.38 112 P **P** **07 25 39.7 -1.8**
MJAR **Matsushiro Arr** 72.60 57 P **P** **07 25 41.1 -1.6**
MJAR **Matsushiro Arr** 72.60 57 P **P** **07 25 41.1 -1.6**
comp=Z,1.0nm,0.3s,baz=90,slow=29,SNR=1.8
comp=Z,1.0nm,0.3s
A21K **Barrow** 74.02 7 P **P** **07 25 51.2 +0.9**
baz=341
A36M **Sachs Harbour** 74.36 357 P **P** **07 25 52.5 +0.2**
A36M **Sachs Harbour** 74.36 357 P **P** **07 25 52.7 +0.4**
baz=7.8
A19K **Wainwright** 74.54 9 P **P** **07 25 55.0 +1.7**
baz=337
SCHQ **Schefferville** 74.57 326 P **P** **07 25 53.2 -0.7**
comp=Z,18nm,0.6s,baz=42,slow=6.4,SNR=29
comp=Z,18nm,0.6s
B20K **Meade River** 75.21 8 P **P** **07 25 58.4 +1.2**
baz=340
B18K **Kokolik River** 75.21 10 P **P** **07 25 58.9 +1.6**
baz=337
B22K **Teshekpuk Lake** 75.28 7 P **P** **07 25 58.7 +1.1**
baz=344
C16K **Lisburne Hills** 75.66 11 P **P** **07 25 59.6 -0.3**
C16K **Lisburne Hills** 75.66 11 P **P** **07 26 00.2 +0.3**
baz=334
C19K **Lookout Ridge** 75.76 9 P **P** **07 26 01.9 +1.4**
baz=338
C17K **DeLong Mountai** 75.83 11 P **P** **07 26 02.0 +1.1**
baz=336
B21K **Ikpikpuk River** 75.86 7 P **P** **07 26 02.2 +1.3**
baz=343
C18K **Utukok River** 75.96 10 P **P** **07 26 02.6 +0.9**
baz=337
C23K **Itkillik River** 76.03 6 P **P** **07 26 02.5 +0.6**
C23K **Itkillik River** 76.03 6 P **P** **07 26 03.3 +1.4**
baz=346
RDOG **Red Dog Mine** 76.25 11 P **P** **07 26 03.1 -0.2**
RDOG IAmb IAmb 07 26 16.2
comp=Z,28nm,0.9s
RDOG **Red Dog Mine** 76.25 11 P **P** **07 26 03.8 +0.5**
baz=336
C21K **Knifeblade Rid** 76.28 7 P **P** **07 26 04.9 +1.4**
baz=342
C24K **Franklin Bluff** 76.29 5 P **P** **07 26 04.5 +1.1**
baz=348
C26K **Camden Bay** 76.34 4 P **P** **07 26 05.1 +1.4**
baz=351
D20K **Etivluk River** 76.50 8 P **P** **07 26 05.8 +1.1**
baz=341
D19K **Kuna River** 76.52 9 P **P** **07 26 05.9 +1.0**
baz=340
D17K **Noatak River** 76.55 11 P **P** **07 26 05.3 +0.4**
baz=336
MPSI **Mapaga** 76.66 99 P **P** **07 26 05.4 -1.0**
comp=Z,33nm,1.2s,comp=Z,892nmcomp=Z,3µm
D22K **Ayikyak River** 76.77 7 P **P** **07 26 07.5 +1.3**
baz=344
D24K **Happy Valley** 76.84 5 P **P** **07 26 07.5 +0.9**
baz=348
D25K **Kavik River** 76.84 4 P **P** **07 26 07.7 +1.0**
baz=350
C36M **Paulatuk** 76.93 356 P **P** **07 26 06.7 -0.4**
baz=8.7,SNR=22
E20K **Nigu River** 76.98 8 P **P** **07 26 08.5 +1.0**
baz=341
D28M **Stokes Point** 77.17 2 P **P** **07 26 09.7 +1.3**
baz=356
E18K **Tukpahlearik C** 77.19 10 P **P** **07 26 08.4 -0.2**
E18K IAmb IAmb 07 26 20.1
comp=Z,36nm,0.8s
E18K **Tukpahlearik C** 77.19 10 P **P** **07 26 09.2 +0.7**
baz=338
D27M **Malcolm River** 77.19 2 P **P** **07 26 09.6 +1.0**
baz=354
E17K **Hotham Inlet** 77.31 11 P **P** **07 26 09.7 +0.4**
baz=337
MMSI **Mamuju** 77.57 102 P **P** **07 26 10.3 -1.3**
comp=Z,23nm,0.8s,comp=Z,508nm
E22K **Anaktuvuk Pass** 77.57 7 P **P** **07 26 11.7 +0.9**
baz=345
E19K **Redstone River** 77.61 9 P **P** **07 26 11.1 +0.1**
E19K **Redstone River** 77.61 9 P **P** **07 26 11.6 +0.6**
baz=341
TNA **Tin City** 77.62 14 P **P** **07 26 11.5 +0.5**
baz=332
E23K **Chandalar** 77.85 6 P **P** **07 26 13.5 +1.1**
baz=347
E28M **Babbage River** 77.88 2 P **P** **07 26 13.4 +1.0**
baz=356,SNR=21
F17K **Baldwin Pennin** 78.00 11 P **P** **07 26 13.5 +0.5**
baz=357
F14K **Arctic Creek** 78.00 13 P **P** **07 26 13.8 +0.6**
baz=333
E25K **Arctic Village** 78.08 4 P **P** **07 26 13.8 +0.2**
E25K IAmb IAmb 07 26 22.6
comp=Z,23nm,0.8s
E25K **Arctic Village** 78.08 4 P **P** **07 26 14.5 +0.9**
baz=350
F15K **North Star Dit** 78.10 12 P **P** **07 26 14.5 +0.8**
baz=334
E29M **Blow River** 78.13 1 P **P** **07 26 14.7 +0.9**
baz=357
F19K **Shaleruckih Mo** 78.13 9 P **P** **07 26 14.0 +0.1**
baz=340
F20K **Avaraart Lake** 78.19 8 P **P** **07 26 14.2 0.0**
F20K IAmb IAmb 07 26 25.7
comp=Z,23nm,0.7s
F20K **Avaraart Lake** 78.19 8 P **P** **07 26 14.9 +0.7**
baz=342
E27K **Coleen River** 78.22 3 P **P** **07 26 15.9 +1.6**
baz=354
F21K **Alatna River** 78.28 8 P **P** **07 26 15.8 +1.1**
baz=344
F24K **Squaw Lake** 78.52 5 P **P** **07 26 17.5 +1.4**
baz=348
F26K **Sheenjek River** 78.59 4 P **P** **07 26 17.7 +1.3**
baz=352
F25K **Christian Rive** 78.60 4 P **P** **07 26 17.8 +1.3**
baz=350,SNR=16
COLD **Coldfoot** 78.61 6 P **P** **07 26 17.4 +0.9**
baz=346
G16K **Koyuk River** 78.79 12 P **P** **07 26 18.3 +0.9**
baz=336
BMAR **Burnt Mountain** 78.83 4 P **P** **07 26 18.5 +0.8**
F28M **Old Crow** 78.86 2 P **P** **07 26 18.7 +0.9**
baz=355
G19K **Purcell Mounta** 78.88 9 P **P** **07 26 18.8 +0.8**
baz=341
G18K **Tagagawik** 78.90 10 P **P** **07 26 18.2 +0.1**
G18K IAmb IAmb 07 26 27.8
comp=Z,40nm,1.1s
G18K **Tagagawik** 78.90 10 P **P** **07 26 18.3 +0.2**
baz=340,SNR=11
F30M **Barrier River** 78.94 1 P **P** **07 26 18.8 +0.5**
baz=359,SNR=13
G17K **Kiwalik Mounta** 78.96 11 P **P** **07 26 19.3 +0.8**
baz=338
G21K **Aliakaket** 78.96 8 P **P** **07 26 19.3 +0.8**
baz=344
ANM **Nome** 79.00 13 P **P** **07 26 19.1 +0.4**
ANM IAmb IAmb 07 26 28.3
comp=Z,52nm,1.3s
ANM **Nome** 79.00 13 P **P** **07 26 19.1 +0.4**
ANM pmax pmax
comp=Z,52nm,1.3s
ANM **Nome** 79.00 13 P **P** **07 26 19.6 +0.9**
baz=334,SNR=5.8
GTOI **Gorontelo** 79.06 97 P **P** **07 26 18.3 -1.5**
comp=Z,8.3nm,0.7s
F31M **Tsiigehtchic** 79.12 360 P **P** **07 26 19.4 +0.2**
baz=0.5,SNR=19
G23K **Bananza Creek** 79.13 6 P **P** **07 26 20.2 +0.8**
baz=347
G26K **Porcupine Rive** 79.35 4 P **P** **07 26 22.4 +1.9**
baz=352
G24K **Hadweenzic Riv** 79.35 5 P **P** **07 26 22.2 +1.6**
baz=349
IMAR **Indian Mountai** 79.45 8 P **P** **07 26 21.4 +0.3**
H16K **Elim** 79.50 12 P **P** **07 26 22.1 +0.8**
baz=337
H19K **Roundabout Mou** 79.55 9 P **P** **07 26 22.8 +1.2**
baz=341
G30M **tAoh Zraii Nji** 79.57 1 P **P** **07 26 21.9 +0.1**
baz=358,SNR=10
G27K **Doyon Strip** 79.60 3 P **P** **07 26 23.3 +1.4**
baz=354
H17K **Granite Mounta** 79.61 11 P **P** **07 26 22.7 +0.8**
baz=338
G29M **Pine Creek** 79.61 2 P **P** **07 26 22.8 +0.8**
baz=357
H18K **Honhosa River** 79.64 10 P **P** **07 26 22.5 +0.4**
H18K IAmb IAmb 07 26 32.1
comp=Z,35nm,0.9s
H18K **Honhosa River** 79.64 10 P **P** **07 26 22.6 +0.5**
baz=340,SNR=13
G31M **Satah River** 79.64 0 P **P** **07 26 22.3 +0.2**
baz=341,SNR=15
H20K **Anotleneega Mo** 79.78 9 P **P** **07 26 24.0 +1.1**
baz=343
H22K **Ishtalitna Cre** 79.79 7 P **P** **07 26 24.7 +1.6**
baz=346
H21K **Melozitna Rive** 79.87 8 P **P** **07 26 24.2 +0.8**
H21K **Melozitna Rive** 79.87 8 P **P** **07 26 24.7 +1.3**
baz=344,SNR=19
H24K **Noodor Dome** 80.17 6 P **P** **07 26 26.3 +1.2**
baz=348,SNR=8.9
EPYK **Eagle Plains** 80.18 1 P **P** **07 26 25.2 +0.1**
baz=358,SNR=12
H27K **Steamboat Moun** 80.18 3 P **P** **07 26 26.3 +1.2**
baz=354
GCSA **Galena City Sc** 80.23 10 P **P** **07 26 26.3 +1.0**
baz=341
H29M **Whitestone** 80.30 2 P **P** **07 26 26.7 +1.0**
baz=356
I17K **Unalakleet** 80.46 12 P **P** **07 26 27.6 +1.0**
baz=338
I20K **Naaghedeneel** 80.50 9 P **P** **07 26 28.2 +1.5**
baz=343
PRP **Porcupine Dome** 80.67 5 P **P** **07 26 29.6 +1.7**
baz=350
MLY **Manley** 80.70 7 P **P** **07 26 29.0 +1.0**
baz=346,SNR=15
I23K **Minto, Yukon-K** 80.72 6 P **P** **07 26 29.2 +1.3**
baz=347,SNR=7.0
I27K **Kandik River** 80.80 3 P **P** **07 26 29.3 +0.8**
baz=354
POKR **Poker Plat Res** 80.92 6 P **P** **07 26 30.3 +1.2**
baz=349,SNR=13
J14K **Nanvaranak Lak** 81.00 13 P **P** **07 26 30.4 +1.0**
baz=336
I26K **Coal Creek Min** 81.02 4 P **P** **07 26 30.7 +1.1**
baz=352
I28M **Miner Creek** 81.02 2 P **P** **07 26 30.3 +0.5**
baz=355
J16K **Anvik River** 81.03 12 P **P** **07 26 30.5 +0.9**
baz=338
COLA **College** 81.12 6 P **P** **07 26 30.9 +0.8**
baz=349
J19K **Poorman** 81.12 9 P **P** **07 26 31.1 +1.0**
baz=342,SNR=9.8
J20K **Nowinta River** 81.14 9 P **P** **07 26 31.4 +1.2**
baz=343
I29M **Ogilvie Camp,** 81.16 2 P **P** **07 26 30.6 +0.2**
baz=357
ILAR **Eielson Array** 81.30 5 P **P** **07 26 31.1 0.0**
ILAR **Eielson Array** 81.30 5 P **P** **07 26 31.1 0.0**
ILAR **Eielson Array** 81.30 5 P **P** **07 26 31.1 0.0**
comp=Z,7.9nm,0.9s,baz=331,slow=4.4,SNR=40
ILAR PKKPbc **PKKPbc** **07 45 05.0 -1.3**
comp=Z,0.4nm,0.7s,baz=198,slow=3.5,SNR=4.6
comp=Z,7.9nm,0.9s
I30M **Mount Dempster** 81.34 1 P **P** **07 26 32.1 +0.7**
baz=358
J18K **Innoko River** 81.47 10 P **P** **07 26 32.8 +0.8**
J18K IAmb IAmb 07 26 41.8
comp=Z,44nm,1.3s
J18K **Innoko River** 81.47 10 P **P** **07 26 32.9 +0.8**
baz=341
K13K **Kusilvak Mount** 81.53 14 P **P** **07 26 33.4 +1.1**
baz=335
J25K **Salcha River,** 81.57 5 P **P** **07 26 33.8 +1.2**
baz=351
BPAW **Bear Paw Mtn.** 81.58 7 P **P** **07 26 33.1 +0.5**
baz=346,SNR=9.3
CHUM **Lake Minchumin** 81.64 8 P **P** **07 26 33.9 +1.0**
baz=345,SNR=9.5
EGAK **Eagle** 81.65 3 P **P** **07 26 33.6 +0.7**
baz=354,SNR=7.9
J26L **Joseph Creek** 81.80 4 P **P** **07 26 34.1 +0.3**
baz=352
K20K **Telida** 81.94 9 P **P** **07 26 35.5 +1.0**
baz=344
K17K **Iditarod** 81.94 11 P **P** **07 26 35.1 +0.6**
baz=340
J30M **Hart River** 81.99 1 P **P** **07 26 35.7 +0.8**
baz=358
J29N **Klondike Camp** 82.07 2 P **P** **07 26 37.2 +1.9**
baz=357
TTA **Tatalina** 82.08 10 P **P** **07 26 36.2 +0.9**
baz=342
CAST **Castle Rocks** 82.12 8 P **P** **07 26 36.1 +0.7**
baz=345,SNR=15
MCK **McKinley** 82.15 7 P **P** **07 26 36.6 +1.0**
baz=348,SNR=10
SCRK **Sand Creek** 82.30 4 P **P** **07 26 37.1 +0.6**
SCRK IAmb IAmb 07 26 50.7
comp=Z,38nm,1.1s
SCRK **Sand Creek** 82.30 4 P **P** **07 26 37.5 +1.0**
baz=352,SNR=19
K24K **Donnelly Dome** 82.34 5 P **P** **07 26 37.3 +0.7**
baz=350,SNR=14
K27K **Chicken** 82.35 3 P **P** **07 26 37.9 +1.3**
baz=354
DAWY **Dawson** 82.43 2 P **P** **07 26 38.0 +0.9**
baz=356,SNR=6.1
L14K **Kuka Creek** 82.46 13 P **P** **07 26 38.3 +1.1**
baz=336
RIDG **Independent Ri** 82.47 5 P **P** **07 26 39.0 +1.7**
baz=351
L18K **Granite Mounta** 82.66 10 P **P** **07 26 39.3 +1.0**
baz=341
L16K **Owhat River** 82.70 12 P **P** **07 26 40.3 +1.9**
baz=339
K29M **Barlow Dome** 82.70 1 P **P** **07 26 39.0 +0.4**
K29M IAmb IAmb 07 26 56.0
comp=Z,20nm,1.1s
K29M **Barlow Dome** 82.70 1 P **P** **07 26 39.6 +1.0**
baz=357,SNR=8.2
YKA **Yellowknife Ar** 82.79 351 P **P** **07 26 38.7 -0.2**
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA **Yellowknife Ar** 82.79 351 P **P** **07 26 38.8 -0.2**
comp=Z,5.3nm,0.8s,baz=18,slow=5.6,SNR=40
comp=Z,5.3nm,0.8s
L20K **Farewell, AK** 82.81 9 P **P** **07 26 40.3 +1.2**
baz=344
DHY **Denali Highway** 82.94 6 P **P** **07 26 40.2 +0.3**
DHY IAmb IAmb 07 26 52.3
comp=Z,13nm,0.8s
L19K **White Mountain** 82.96 10 P **P** **07 26 40.6 +0.7**
L19K IAmb IAmb 07 26 53.4
comp=Z,15nm,0.9s
L19K **White Mountain** 82.96 10 P **P** **07 26 41.9 +2.0**
baz=343
WRGLY **Wrigley** 82.97 355 P **P** **07 26 40.5 +0.7**
WRGLY IAmb IAmb 07 26 48.1
comp=Z,24nm,0.9s
WRGLY **Wrigley** 82.97 355 P **P** **07 26 41.0 +1.1**
baz=9.0
MAYO **Mayo, Yukon** 82.97 1 P **P** **07 26 41.7 +1.8**
baz=359
SANI **Sanana** 83.03 97 P **P** **07 26 40.4 -0.5**
comp=Z,20nm,1.0s
L26K **Log Cabin Wild** 83.28 4 P **P** **07 26 42.7 +1.2**
baz=352
M17K **Holitna River** 83.32 11 P **P** **07 26 42.9 +1.2**
M17K IAmb IAmb 07 26 54.4
comp=Z,26nm,0.8s
M17K **Holitna River** 83.32 11 P **P** **07 26 44.0 +2.3**
baz=341
BCAR **Beaver Creek A** 83.33 3 P **P** **07 26 42.9 +1.1**
L27K **Beaver Creek,** 83.33 3 P **P** **07 26 43.1 +1.3**
L27K IAmb IAmb 07 26 55.6
comp=Z,16nm,0.9s
L27K **Beaver Creek,** 83.33 3 P **P** **07 26 43.8 +2.0**
baz=354
WAT6 **Susitna Watana** 83.39 6 P **P** **07 26 43.2 +1.0**
baz=349
L29M **L29M** 83.42 2 P **P** **07 26 44.1 +1.8**
baz=357
M15K **Kasigluk River** 83.43 13 P **P** **07 26 44.0 +1.8**
baz=338
M16K **Timber Creek** 83.43 12 P **P** **07 26 43.0 +0.7**
M16K IAmb IAmb 07 26 49.2
comp=Z,31nm,1.1s
M16K **Timber Creek** 83.43 12 P **P** **07 26 43.5 +1.2**
baz=340
M20K **Styx River** 83.48 9 P **P** **07 26 44.2 +1.6**
baz=344
M18K **Stony River** 83.48 10 P **P** **07 26 44.4 +1.8**
baz=342
SKT **Skwentna** 83.58 8 P **P** **07 26 44.1 +1.0**
baz=346
HARP **HAARP** 83.78 5 P **P** **07 26 46.1 +2.0**
baz=351
M26K **Nabesna, AK** 83.92 4 P **P** **07 26 46.0 +1.1**
M26K IAmb IAmb 07 26 59.0
comp=Z,21nm,1.1s
M26K **Nabesna, AK** 83.92 4 P **P** **07 26 46.8 +1.9**
baz=353
VLDQ **Val d'Or** 83.99 326 P **P** **07 26 45.8 +0.4**
M24K **Tolsona, Glenn** 83.99 6 P **P** **07 26 45.8 +0.6**
M24K **Tolsona, Glenn** 83.99 6 P **P** **07 26 47.1 +1.8**
baz=350
M27K **Edge Creek, AK** 84.03 4 P **P** **07 26 46.6 +1.1**
baz=354
M29M **Somme Creek** 84.08 2 P **P** **07 26 47.7 +1.9**
baz=356
SML **Sawmill** 84.10 7 P **P** **07 26 46.0 +0.3**
SML **Sawmill** 84.10 7 P **P** **07 26 46.4 +0.7**
baz=348
M23K **Glacier View** 84.17 6 P **P** **07 26 47.3 +1.2**
baz=349
SUA **Susitna One** 84.18 8 P **P** **07 26 47.1 +0.8**
baz=346
PMR **Palmer** 84.23 7 P **P** **07 26 47.3 +1.0**
baz=348
N19K **Bonanza Creek** 84.33 10 P **P** **07 26 47.8 +0.8**
N19K **Bonanza Creek** 84.33 10 P **P** **07 26 48.3 +1.3**
baz=343
FARO **Faro, Yukon** 84.35 360 P **P** **07 26 48.0 +1.0**
FARO IAmb IAmb 07 27 00.8
comp=Z,19nm,1.1s
FARO **Faro, Yukon** 84.35 360 P **P** **07 26 48.4 +1.4**
baz=0.8
M31M **Drury Creek, Y** 84.38 0 P **P** **07 26 47.9 +0.8**
M31M IAmb IAmb 07 27 01.2
comp=Z,27nm,1.2s
M31M **Drury Creek, Y** 84.38 0 P **P** **07 26 48.7 +1.5**
baz=360
KNK **Knik Glacier** 84.47 7 P **P** **07 26 49.0 +1.4**
baz=348
KLU **Klutina** 84.62 6 P **P** **07 26 49.2 +0.8**
KLU **Klutina** 84.62 6 P **P** **07 26 50.7 +2.3**
baz=350
RC01 **Rabbit Creek A** 84.66 7 P **P** **07 26 49.1 +0.6**
RC01 **Rabbit Creek A** 84.66 7 P **P** **07 26 49.8 +1.3**
baz=347
YUK3 **Moose Creek** 84.68 3 P **P** **07 26 50.7 +1.8**
baz=355
O17K **Koliganek Bris** 84.92 11 P **P** **07 26 51.1 +1.3**
baz=341
O15K **Ungalikthiuk R** 85.01 13 P **P** **07 26 51.8 +1.5**
baz=339
YUK4 **Talbot Arm** 85.18 2 P **P** **07 26 52.2 +0.8**
baz=356
CTGM **Chitina Glacie** 85.45 3 P **P** **07 26 52.9 +0.2**
P16K **Nushagak River** 85.47 12 P **P** **07 26 53.7 +1.1**
baz=340
P17K **Kvichak River** 85.58 11 P **P** **07 26 54.9 +1.8**
baz=342
LOGN **Logan Glacier** 85.60 3 P **P** **07 26 53.6 +0.1**
LOGN IAmb IAmb 07 27 05.2
comp=Z,21nm,0.9s
HYT **Haines Junctio** 85.73 2 P **P** **07 26 55.2 +1.2**
HYT IAmb IAmb 07 27 08.5
comp=Z,18nm,0.9s
O30N **Mendenhall** 85.81 1 P **P** **07 26 55.8 +1.4**
baz=358
Q16K **King Salmon** 86.04 12 P **P** **07 26 57.0 +1.6**
baz=342
SWI **Sorong** 86.74 93 P **P** **07 26 59.4 -0.3**
comp=Z,22nm,0.6s,comp=Z,2µm
SIJI **Sorong** 86.75 93 P **P** **07 26 59.2 -0.5**
comp=Z,20nm,1.3s,comp=Z,3µm
KDAK **Kodiak Island** 87.52 10 P **P** **07 27 04.4 +1.7**
baz=345
FFC **Flin Flon** 87.60 342 P **P** **07 27 03.5 +0.3**
FFC IAmb IAmb 07 27 10.6
comp=Z,9.7nm,0.8s
FFC **Flin Flon** 87.60 342 P **P** **07 27 03.5 +0.3**
FFC pmax pmax
comp=Z,10.0nm,0.9s
PSA00 **Pilbara Seismi** 89.41 116 P **P** **07 27 11.7 -0.5**
PSA00 IAmb IAmb 07 27 14.1
comp=Z,30nm,1.2s
ULM **Lac du Bonnet** 89.73 337 P **P** **07 27 12.6 -0.7**
ULM **Lac du Bonnet** 89.73 337 P **P** **07 27 12.6 -0.7**
comp=Z,3.8nm,0.8s,baz=66,slow=3.8,SNR=7.8
comp=Z,3.8nm,0.8s
EYMN **Ely** 90.11 333 P **P** **07 27 14.8 -0.3**
EYMN IAmb IAmb 07 27 23.2
comp=Z,51nm,1.6s
AAM **Ann Arbor** 91.23 325 P **P** **07 27 19.5 -0.9**
AAM **Ann Arbor** 91.23 325 P **P** **07 27 19.5 -0.9**
AAM pmax pmax
comp=Z,38nm,1.3s
O53A **New Philadelph** 91.57 322 P **P** **07 27 22.8 +0.7**
baz=42
P53A **Whipple** 92.23 322 P **P** **07 27 25.0 -0.2**
ACSO **Alum Creek Sta** 92.48 323 P **P** **07 27 25.7 -0.6**
ACSO **Alum Creek Sta** 92.48 323 P **P** **07 27 26.4 +0.1**
baz=40
P52A **Corning** 92.50 322 P **P** **07 27 26.9 +0.5**
baz=41
SPMN **Marine on St.** 92.87 332 P **P** **07 27 28.1 +0.1**
baz=33
O48B **Farmland** 93.53 325 P **P** **07 27 31.2 +0.1**
baz=39
JFWS **Jewell Farm** 93.73 329 P **P** **07 27 32.0 0.0**
baz=35
P49A **Miami Univ. Ec** 93.87 324 P **P** **07 27 32.5 -0.2**
baz=39
S51A **Beattyville** 94.76 322 P **P** **07 27 36.9 +0.1**
S51A IAmb IAmb 07 27 39.7

comp=Z,17nm,0.9s
ECSD EROS Data Cent 95.58 334 P **P** **07 27 41.0 +0.5**
baz=31
WRA Warramunga Arr 99.69 107 *i* P **Pdif** **07 27 58.0 -1.2**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 99.69 107 P **Pdif** **07 27 58.1 -1.2**
comp=Z,2.1nm,0.5s,baz=316,slow=4.0,SNR=40
WRA PKiKP **PKiKP** **07 32 29.0 +0.9**
comp=Z,0.5nm,0.7s,baz=322,slow=1.8,SNR=1.9
WRA PKKPbc **PKKPbc** **07 44 17.8 -1.9**
comp=Z,0.5nm,0.7s,baz=127,slow=2.5,SNR=2.0
comp=Z,2.1nm,0.5s
PDAR Pinedale Array 100.56 342 PKKPbc PKKPbc 07 44 17.2 -0.6
comp=Z,0.3nm,0.7s,baz=168,slow=4.6,SNR=2.7
ASAR Alice Springs 101.32 111 P **Pdif** **07 28 05.3 -1.2**
ASAR Alice Springs 101.32 111 P **Pdif** **07 28 05.3 -1.2**
comp=Z,1.5nm,0.6s,baz=305,slow=4.5,SNR=26
ASAR PKiKP **PKiKP** **07 32 30.0 -0.9**
comp=Z,0.6nm,0.6s,baz=296,slow=1.3,SNR=2.0
ASAR PKKPbc **PKKPbc** **07 44 16.4 +1.2**
comp=Z,0.9nm,0.5s,baz=116,slow=3.9,SNR=16
NVAR Mina Array Bea 106.67 347 PKiKP **PKiKP** **07 32 42.1 +1.3**
comp=Z,0.4nm,0.6s,baz=323,slow=0.4,SNR=4.2
NVAR PKKPbc **PKKPbc** **07 43 59.3 -0.3**
comp=Z,0.4nm,0.6s,baz=200,slow=6.2,SNR=4.7
TXAR Lajitas Array 110.90 332 *i* PKiKP **PKiKP** **07 32 48.8 0.0**
TXAR Lajitas Array 110.90 332 PKiKP **PKiKP** **07 32 48.8 0.0**
comp=Z,0.6nm,0.9s,baz=349,slow=3.7,SNR=2.1
QSPA South Pole Qui 123.59 180 PKP **PKPdf** **07 33 11.1 -0.6**
comp=Z,3.7nm,0.5s,baz=258,slow=0.8,SNR=11
PLCA Paso Flores 129.79 242 PKIKP **PKiKP** **07 33 25.0 -0.2**
PLCA Paso Flores 129.79 242 PKP **PKiKP** **07 33 24.9 -0.2**
comp=Z,4.5nm,1.1s,baz=197,slow=3.4,SNR=5.0
CTZ Chatham Island 145.81 120 PKPdf **PKPab** **07 33 54.8 +0.2**

ROM 11 07:17:28.7±0.1, 42°.844N±0°.003×13°.040E±0°.004, h11km, ML1.9/84, 8C-1D, Error ellipse: s-maj=0.3km s-min=0.3km az=229.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.06**	**101**	⇓P	Pg	07 17 31.3	+0.3
NRCA				S	Sg	07 17 32.8	+0.1
NRCA				AML	AML		
	comp=N,6575μm,0.1s						
NRCA				AML	AML		
	comp=N,6085μm,0.1s						
NRCA				AML	AML		
	comp=E,7575μm,0.2s						
NRCA				AML	AML		
	comp=E,7320μm,0.2s						
NRCA				AML	AML		
	comp=E,7324μm,0.2s						
NRCA				AML	AML		
	comp=N,6085μm,0.1s						
NRCA				AML	AML		
	comp=N,6577μm,0.1s						
NRCA				AML	AML		
	comp=E,7575μm,0.2s						
FEMA	**Monte Fema**	**0.12**	**4**	P	Pg	07 17 32.2	+0.4
MC2	**Monte Cornacci**	**0.13**	**58**	⇑P	Pg	07 17 32.5	+0.5
MC2				S	Sg	07 17 34.9	+0.5
T1221	**Campello sul C**	**0.14**	**277**	⇑P	Pg	07 17 32.7	+0.6
T1221				S	Sg	07 17 35.3	+0.8
T1221				AML	AML		
	comp=E,674μm,0.1s						
T1221				AML	AML		
	comp=N,962μm,0.2s						
T1221				AML	AML		
	comp=E,650μm,0.3s						
T1221				AML	AML		
	comp=N,1035μm,0.2s						
T1221				AML	AML		
	comp=E,673μm,0.1s						
T1221				AML	AML		
	comp=N,962μm,0.2s						
T1221				AML	AML		
	comp=E,650μm,0.2s						
T1221				AML	AML		
	comp=E,673μm,0.1s						
T1221				AML	AML		
	comp=E,673μm,0.1s						
T1221				AML	AML		
	comp=N,1037μm,0.2s						
T1221				AML	AML		
	comp=E,647μm,0.1s						
T1221				AML	AML		
	comp=N,964μm,0.2s						
T1214	**Arquata del Tr**	**0.15**	**124**	P	Pg	07 17 32.7	+0.5
T1214				S	Sg	07 17 35.4	+0.6
T1214				AML	AML		
	comp=E,1835μm,0.2s						
T1214				AML	AML		
	comp=N,1760μm,0.3s						
T1214				AML	AML		
	comp=E,1710μm,0.2s						
T1214				AML	AML		
	comp=N,1795μm,0.3s						
T1214				AML	AML		
	comp=E,1835μm,0.2s						
T1214				AML	AML		
	comp=N,1430μm,0.1s						
T1214				AML	AML		
	comp=N,1353μm,0.1s						
T1214				AML	AML		
	comp=E,1832μm,0.2s						
T1214				AML	AML		
	comp=E,1713μm,0.2s						
CESI	**CESI - Serrava**	**0.19**	**328**	⇑P	Pg	07 17 33.4	+0.6
CESI				S	Sg	07 17 36.6	+0.9
CESI				AML	AML		
	comp=E,972μm,0.5s						
CESI				AML	AML		
	comp=E,972μm,1.5s						
CESI				AML	AML		
	comp=N,1705μm,0.4s						
CESI				AML	AML		
	comp=N,1422μm,0.1s						
CESI				AML	AML		
	comp=E,817μm,0.2s						
FDMO	**Fiordimonte**	**0.20**	**10**	P	Pg	07 17 33.4	+0.5
FDMO				S	Sg	07 17 36.6	+0.8
FDMO				AML	AML		
	comp=E,1840μm,0.1s						
FDMO				AML	AML		
	comp=N,844μm,0.3s						
FDMO				AML	AML		
	comp=N,845μm,0.3s						
FDMO				AML	AML		
	comp=E,1840μm,0.1s						
FDMO				AML	AML		
	comp=N,709μm,0.2s						
MMO1	**Montemonaco**	**0.22**	**75**	⇑P	Pg	07 17 33.8	+0.5
MMO1				S	Sg	07 17 37.2	+0.8
LNSS	**Leonessa**	**0.24**	**180**	⇑P	Pg	07 17 34.3	+0.6
LNSS				S	Sg	07 17 38.3	+1.2
LNSS				AML	AML		
	comp=N,529μm,0.4s						
LNSS				AML	AML		
	comp=E,520μm,0.9s						
LNSS				AML	AML		
	comp=E,401μm,0.2s						
LNSS				AML	AML		
	comp=N,453μm,0.2s						
CSP1	**Cessapalombo**	**0.28**	**26**	P	Pg	07 17 34.8	+0.4
CSP1				S	Sg	07 17 39.1	+0.9
CSP1				AML	AML		
	comp=N,236μm,0.6s						
CSP1				AML	AML		
	comp=E,490μm,0.5s						
CSP1				AML	AML		
	comp=E,374μm,0.2s						
CSP1				AML	AML		
	comp=N,229μm,0.1s						
MTRA	**Matera**	**0.28**	**108**	⇑P	Pg	07 17 34.8	+0.4
MTRA				S	Sg	07 17 39.2	+1.0
MTRA				AML	AML		
	comp=E,1231μm,0.9s						
MTRA				AML	AML		
	comp=N,1080μm,0.4s						
MTRA				AML	AML		
	comp=N,1106μm,0.4s						
MTRA				AML	AML		
	comp=E,1216μm,0.9s						
MTRA				AML	AML		
	comp=E,1231μm,1.1s						
MTRA				AML	AML		
	comp=E,1216μm,1.1s						
MTRA				AML	AML		
	comp=N,1080μm,1.6s						
MTRA				AML	AML		
	comp=N,1106μm,1.6s						
MTRA				AML	AML		
	comp=E,1183μm,0.2s						
MTRA				AML	AML		
	comp=N,1079μm,0.4s						
MTRA				AML	AML		
	comp=E,1182μm,0.2s						
MTRA				AML	AML		
	comp=N,1107μm,0.3s						
SMA1	**SAN MARTINO**	**0.30**	**134**	P	Pg	07 17 35.4	+0.5
SMA1				AML	AML		
	comp=E,442μm,0.4s						
SMA1				AML	AML		
	comp=N,316μm,0.9s						
SMA1				AML	AML		
	comp=N,316μm,1.1s						
SMA1				AML	AML		
	comp=E,442μm,0.4s						
SMA1				AML	AML		
	comp=N,297μm,0.3s						
GUMA	**Gualdo di Mace**	**0.31**	**45**	⇑P	Pb	07 17 35.7	-0.6
GUMA				S	Sb	07 17 40.6	-0.8
GUMA				AML	AML		
	comp=N,1156μm,0.9s						
GUMA				AML	AML		
	comp=E,1078μm,0.8s						
GUMA				AML	AML		
	comp=E,1065μm,0.9s						
GUMA				AML	AML		
	comp=N,1425μm,0.6s						
GUMA				AML	AML		
	comp=N,1156μm,1.1s						
GUMA				AML	AML		
	comp=E,928μm,0.3s						
GUMA				AML	AML		
	comp=N,1059μm,0.2s						
GUMA				AML	AML		
	comp=E,983μm,0.3s						
GUMA				AML	AML		
	comp=N,1098μm,0.4s						
PF6	**Pievefavera**	**0.33**	**20**	P	Pg	07 17 35.3	+0.1
ARRO	**Arrone**	**0.33**	**217**	P	Pg	07 17 35.9	+0.5
ARRO				AML	AML		
	comp=E,178μm,1.1s						
ARRO				AML	AML		
	comp=N,190μm,1.0s						
ARRO				AML	AML		
	comp=N,190μm,1.0s						
ARRO				AML	AML		
	comp=N,186μm,0.3s						
ARRO				AML	AML		
	comp=E,175μm,0.2s						
MF5	**Montefalcone A**	**0.34**	**65**	⇑P	Pb	07 17 36.4	-0.5
MF5				S	Sb	07 17 42.1	-0.2
MF5				AML	AML		
	comp=E,616μm,0.3s						
MF5				AML	AML		
	comp=N,480μm,0.3s						
MF5				AML	AML		
	comp=N,479μm,0.3s						
MF5				AML	AML		
	comp=E,616μm,0.3s						
MDAR	**Monte D'Aria**	**0.36**	**12**	P	Pg	07 17 36.1	+0.3
RM33	**Pellescritta (**	**0.36**	**159**	P	Pg	07 17 36.2	+0.4
RM33				AML	AML		
	comp=N,134μm,0.8s						
RM33				AML	AML		
	comp=E,136μm,0.7s						
RM33				AML	AML		
	comp=N,121μm,0.2s						
RM33				AML	AML		
	comp=E,125μm,0.3s						
RM33				AML	AML		
	comp=N,146μm,0.6s						
RM33				AML	AML		
	comp=E,126μm,0.2s						
GAG1	**Gagliole**	**0.39**	**3**	P	Pb	07 17 37.3	-0.5
CAMP	**Campotosto**	**0.41**	**138**	P	Pg	07 17 37.0	+0.2
CAMP				AML	AML		
	comp=N,72μm,1.3s						
CAMP				AML	AML		
	comp=E,79μm,0.2s						
CAMP				AML	AML		
	comp=E,79μm,0.2s						
CAMP				AML	AML		
	comp=N,68μm,0.3s						
CESX	**Cesi**	**0.41**	**236**	P	Pg	07 17 36.6	-0.2
CESX				AML	AML		
	comp=N,232μm,0.3s						
CESX				AML	AML		
	comp=N,232μm,0.3s						
CESX				AML	AML		
	comp=E,190μm,0.6s						
CESX				AML	AML		
	comp=E,184μm,0.3s						
CESX				AML	AML		
	comp=N,232μm,0.3s						
SNTG	**Esanatoglia**	**0.42**	**350**	P	Pg	07 17 37.0	+0.1
SNTG				AML	AML		
	comp=N,146μm,0.6s						
SNTG				AML	AML		
	comp=E,128μm,1.0s						
SNTG				AML	AML		
	comp=N,201μm,0.4s						
SNTG				AML	AML		
	comp=E,186μm,0.6s						
SNTG				AML	AML		
	comp=E,124μm,0.1s						
SNTG				AML	AML		
	comp=N,134μm,0.1s						
TERO	**Teramo**	**0.47**	**118**	P	Pg	07 17 38.0	0.0
TERO				AML	AML		
	comp=E,136μm,1.0s						
TERO				AML	AML		
	comp=E,136μm,1.0s						
TERO				AML	AML		
	comp=N,141μm,0.4s						
TERO				AML	AML		
	comp=E,201μm,1.2s						
TERO				AML	AML		
	comp=E,107μm,0.1s						
TERO				AML	AML		
	comp=N,109μm,0.1s						
TERO				AML	AML		
	comp=N,72μm,0.4s						
EL6	**Elcito**	**0.49**	**5**	P	Pg	07 17 38.3	0.0
EL6				AML	AML		
	comp=N,202μm,1.1s						
EL6				AML	AML		
	comp=E,232μm,1.3s						
EL6				AML	AML		
	comp=E,232μm,0.7s						
EL6				AML	AML		
	comp=N,174μm,0.1s						
EL6				AML	AML		
	comp=E,186μm,0.1s						
MURB	**Monte Urbino**	**0.56**	**318**	P	Pg	07 17 39.9	+0.2
MURB				AML	AML		
	comp=N,361μm,1.6s						
MURB				AML	AML		
	comp=E,346μm,0.6s						
MURB				AML	AML		
	comp=N,342μm,0.2s						
MURB				AML	AML		
	comp=E,268μm,0.2s						
MURB				AML	AML		
	comp=N,310μm,0.4s						
MURB				AML	AML		
	comp=E,305μm,0.2s						
SSFR	**Montelago di S**	**0.62**	**342**	P	Pg	07 17 40.7	-0.1
SSFR				AML	AML		
	comp=N,210μm,0.3s						
SSFR				AML	AML		
	comp=E,224μm,0.2s						
SSFR				AML	AML		
	comp=E,209μm,0.2s						
SSFR				AML	AML		
	comp=N,220μm,0.1s						
SSFR				AML	AML		
	comp=E,224μm,0.2s						
SSFR				AML	AML		
	comp=N,205μm,0.1s						
FRON	**Frontone**	**0.71**	**341**	P	Pg	07 17 42.7	+0.2
FRON				AML	AML		
	comp=N,62μm,0.1s						
FRON				AML	AML		
	comp=E,45μm,0.2s						
PIEI	**Pieia**	**0.78**	**332**	P	Pg	07 17 43.5	-0.4
PIEI				AML	AML		
	comp=N,39μm,0.3s						
PIEI				AML	AML		
	comp=E,49μm,0.1s						

IDC 11 07:21:31.5±0.7, 33°.71N×45°.70E, h0km, mb4.3/27, mbtmp4.3/30, ML4.1/3, Error ellipse: s-maj=17.8km s-min=13.9km az=168.0
TEH 11 07:21:33.8, 33°.70N×45°.72E, h12km±30km, ML5.2
ISN 11 07:21:33.9±1.8, 33°.71N×45°.68E, h0km±8km, ML5.1
NEIC 11 07:21:33.6±1.4, 33°.72N±0°.10×45°.7E±0°.1, h10km±2km, mb4.7/29, Error ellipse: s-maj=18.4km s-min=16.4km az=117.0
THR 11 07:21:39.9±0.5, 33°.75N×45°.75E, h10km±6km, ML4.9
ISC 11 07:21:35.1±0.7, 33°.71N±0°.03×45°.65E±0°.03, h16km±4km, n175, σ1§66/182, mb4.6/49, 1C-2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**101**	*e*Pg	**Pn**	**07 21 48.1**	**+0.8**
ILBA				*e*Sg	**Sn**	**07 21 54.1**	**-1.2**
ILBA	**Ilam Banvizeh**	**0.47**	**101**	Pg	**Pg**	**07 21 42.4**	**-2.2**
ILBA				Sg	**Sg**	**07 21 48.3**	**-2.7**
IBDR	**Badra**	**0.65**	**159**	*e*Pg	**Pg**	**07 21 46.0**	**-1.7**
IBDR				*e*Sg	**Sg**	**07 21 56.0**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.79**	**356**	Pg	**Pb**	**07 21 49.3**	**-1.2**
IGHG	**Ghaleghazi**	**0.98**	**51**	Pg	**Pb**	**07 21 52.5**	**-1.3**
BHD	**Baghdad**	**1.15**	**248**	*e*Pg	**Pg**	**07 21 57.0**	**-0.3**
BHD				*e*Sg	**Sg**	**07 22 15.5**	**+3.2**
BHD				AML	AML	07 22 36.2	
	comp=E,129μm,0.5s						
IDHR	**Dehrash**	**1.16**	**32**	Pg	**Pn**	**07 21 55.4**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.28**	**64**	Pg	**Pn**	**07 21 57.4**	**-1.1**
IKOM	**Komasi**	**1.61**	**73**	Pg	**Pn**	**07 22 03.2**	**+0.2**
ILIN	**Lien**	**1.62**	**42**	Pg	**Pn**	**07 22 03.9**	**+0.7**
IKFM	**Kafar-mosalman**	**1.84**	**95**	Pg	**Pb**	**07 22 07.5**	**-0.8**
SNGE	**Sanandaj**	**1.96**	**45**	*e*Pn	**Pg**	**07 22 14.3**	**+1.5**
SNGE				IAML		07 23 01.3	
	comp=E,9μm,0.8s						
SNGE				IAML		07 23 01.6	
	comp=N,10μm,0.5s						
IBZA	**Bozab**	**1.98**	**67**	Pn	**Pn**	**07 22 08.7**	**+0.5**
RAFI	**Al-Rafai**	**2.02**	**169**	*e*Pn	**Pb**	**07 22 12.0**	**+0.6**
RAFI				*e*Sn	**Sg**	**07 22 39.0**	**-1.1**
RAFI				AML	AML	07 23 00.3	
	comp=E,8μm,0.4s						
IALM	**Almabolaq**	**2.38**	**61**	Pn	**Pn**	**07 22 13.9**	**+0.3**
SDS1	**Sardasht. Az.**	**2.43**	**357**	Pn	**Pn**	**07 22 15.7**	**+1.3**
HSAM	**Samen**	**2.50**	**78**	Pn	**Pn**	**07 22 15.5**	**+0.1**
MAHB	**Mahabad**	**3.05**	**1**	Pn	**Pn**	**07 22 23.7**	**+1.0**
HAGD	**Aghdareh**	**3.09**	**68**	Pn	**Pn**	**07 22 23.7**	**+0.3**
ASAO	**Ashtian**	**3.72**	**76**	*e*Pn	**Pb**	**07 22 38.3**	**-2.2**
IRAZ	**Razeghan**	**3.91**	**63**	Pn	**Pn**	**07 22 35.4**	**+0.7**
ISRB	**Sarab**	**4.42**	**21**	Pn	**Pn**	**07 22 42.5**	**+0.9**
IMHD	**Mahdasht**	**4.58**	**63**	Pn	**Pn**	**07 22 44.4**	**+0.7**
IQOM	**Qom**	**4.63**	**74**	Pn	**Pn**	**07 22 44.7**	**+0.2**
ZNGN	**Zangian**	**4.66**	**109**	Pn	**Pn**	**07 22 46.4**	**+1.4**
GIDE	**GILAN DEYLAMAN**	**4.73**	**46**	*e*Pn	**Pg**	**07 23 07.4**	**+1.8**
GIDE				IAML		07 24 22.3	
	comp=N,599nm,0.8s						
IHRS	**Heris**	**4.73**	**13**	Pn	**Pn**	**07 22 47.0**	**+1.1**
QAMS	**Qamsar**	**4.79**	**88**	Pn	**Pn**	**07 22 47.2**	**+0.4**
IHSB	**Hasanabad**	**4.95**	**68**	Pn	**Pn**	**07 22 49.5**	**+0.7**
IKLH	**Kolahrood**	**4.97**	**93**	Pn	**Pn**	**07 22 50.4**	**+1.2**
IMRD	**Marand**	**4.99**	**0**	Pn	**Pn**	**07 22 50.6**	**+1.2**
GEVA	**Gevas**	**5.05**	**336**	Pn	**Pn**	**07 22 50.5**	**+0.2**
IVRN	**Varamin**	**5.19**	**74**	Pn	**Pn**	**07 22 52.3**	**+0.2**
KLST	**Kelardasht - M**	**5.24**	**56**	Pn	**Pn**	**07 22 53.7**	**+0.7**
MARD	**Mardin**	**5.36**	**313**	Pn	**Pn**	**07 22 54.0**	**-0.4**
GRMI	**Germi**	**5.40**	**19**	Pn	**Pn**	**07 22 55.8**	**+0.8**
ISFB	**Sefidab**	**5.51**	**82**	Pn	**Pn**	**07 22 57.1**	**+0.6**
IGAR	**Gharneh**	**5.52**	**102**	Pn	**Pn**	**07 22 57.7**	**+0.9**
MZPU	**Pul - Mazandar**	**5.56**	**59**	Pn	**Pn**	**07 22 58.5**	**+1.2**
GURO	**Guroymak-BITLI**	**5.65**	**330**	Pn	**Pn**	**07 22 56.1**	**-2.3**
IZEF	**Zefreh**	**5.65**	**96**	Pn	**Pn**	**07 22 58.9**	**+0.3**
MAKU	**Maku**	**5.68**	**352**	Pn	**Pn**	**07 23 00.1**	**+1.2**
IFIR	**Firoozkooh**	**6.16**	**70**	Pn	**Pn**	**07 23 05.7**	**+0.1**
KARP	**Karpathos**	**15.33**	**282**	Pn	**Pn**	**07 25 10.3**	**-0.5**
KARP				IAmb	IAmb	07 25 18.8	
	comp=Z,41nm,0.9s						
WSAR	**Wadi Sarin**	**15.45**	**129**	Pn	**Pn**	**07 25 09.9**	**-2.4**
	comp=Z,1.7nm,0.3s,baz=72,slow=23,SNR=1.0						
	comp=Z,28nm,0.9s						
BELG	**Belogornoye**	**18.73**	**4**	P	**P**	**07 25 49.8**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=199,slow=16,SNR=1.6						
	comp=Z,19nm,0.9s						
ABKAR	**Akbulak array**	**18.81**	**30**	P	**P**	**07 25 51.8**	**-1.9**
ABKAR	**Akbulak array**	**18.81**	**30**	P	**P**	**07 25 50.8**	**-3.0**
ABKAR				IAmb	IAmb	07 25 59.4	
	comp=Z,10.0nm,0.8s						
AKTO	**Aktyubinsk**	**19.02**	**25**	P	**Pn**	**07 25 56.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=56,slow=24,SNR=2.3						
	comp=Z,4.0nm,0.6s						
AGG	**Agios Georgios**	**19.49**	**292**	P	**P**	**07 26 01.6**	**+0.2**
AGG				IAmb	IAmb	07 26 07.9	
	comp=Z,27nm,1.0s						
FNA	**Florina**	**20.54**	**297**	P	**P**	**07 26 11.4**	**-1.4**
BUR08	**Bucovina Ar. S**	**20.75**	**318**	P	**P**	**07 26 14.2**	**-0.9**
AKASG	**Malin Array Be**	**20.81**	**330**	P	**P**	**07 26 13.1**	**-2.5**
AKASG	**Malin Array Be**	**20.81**	**330**	P	**P**	**07 26 13.7**	**-1.8**
	comp=Z,3.9nm,0.7s,baz=138,slow=9.7,SNR=12						
	comp=Z,3.9nm,0.7s						
ARSB	**Arslanbob**	**22.91**	**63**	P	**P**	**07 26 41.5**	**+3.2**
NIL	**Nilore**	**22.95**	**82**	P	**P**	**07 26 40.6**	**+2.0**
TIP	**Timpagrande**	**23.82**	**292**	P	**P**	**07 26 46.0**	**-1.3**
TIP				IAmb	IAmb	07 26 53.5	
	comp=Z,15nm,1.0s						
ARU	**Arti**	**24.39**	**17**	P	**P**	**07 26 49.7**	**-2.7**
ARU				IAmb	IAmb	07 26 58.6	
	comp=Z,19nm,1.0s						
ARU	**Arti**	**24.39**	**17**	P	**P**	**07 26 48.7**	**-3.7**
	comp=Z,2.8nm,0.4s,baz=104,slow=24,SNR=1.9						
KSH	**Kashi**	**24.95**	**68**	P	**P**	**07 27 01.0**	**+3.2**
KSH				pP	sP	07 27 04.3	-0.4
KSH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JAVC	**Velka Javorina**	**25.71**	**314**	*e*P	**P**	**07 27 09.6**	**+5.1**
BVAR	**Borovoye Array**	**26.16**	**35**	P	**P**	**07 27 06.8**	**-1.6**
	comp=Z,4.4nm,0.8s,baz=178,slow=3.9,SNR=4.2						
BVAR				PcP	**PcP**	**07 30 33.3**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=241,slow=3.0,SNR=1.2						
	comp=Z,4.4nm,0.8s						
MORC	**Moravsky Berou**	**26.20**	**316**	*e*P	**P**	**07 27 12.6**	**+3.7**
TARG	**Taragay, Kyrgy**	**26.55**	**63**	P	**P**	**07 27 12.0**	**-0.6**
VRAC	**Vranov**	**26.55**	**315**	*e*P	**P**	**07 27 16.3**	**+4.3**
KRUC	**Moravsky**	**26.56**	**314**	*e*P	**P**	**07 27 16.3**	**+4.2**
CAMP	**Campotosto**	**26.72**	**299**	P	**P**	**07 27 13.0**	**-0.8**
CAMP				IAmb	IAmb	07 27 20.2	
	comp=Z,39nm,1.2s						
KURBB	**Kurchatov Arra**	**29.33**	**45**	P	**P**	**07 27 36.3**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=252,slow=9.0,SNR=4.6						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**29.42**	**45**	P	**P**	**07 27 37.4**	**-0.2**
KURK				IAmb	IAmb	07 27 43.3	
	comp=Z,7.6nm,0.9s						
DAVOX	**Davos/Dischmat**	**29.99**	**307**	P	**P**	**07 27 42.3**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=175,slow=19,SNR=1.3						
	comp=Z,1.1nm,0.5s						
MAKZ	**Makanchi**	**30.37**	**54**	P	**P**	**07 27 45.3**	**-0.8**
FINES	**FINESS Array B**	**30.47**	**341**	P	**P**	**07 27 46.4**	**-0.4**
	comp=Z,6.8nm,1.0s,baz=146,slow=27,SNR=2.5						
	comp=Z,6.8nm,1.0s						
MK31	**Makanchi Array**	**30.58**	**54**	P	**P**	**07 27 47.3**	**-0.7**
MK31				IAmb	IAmb	07 27 54.6	
	comp=Z,7.5nm,0.8s						
MKAR	**Makanchi Array**	**30.58**	**54**	P	**P**	**07 27 47.6**	**-0.4**
MKAR	**Makanchi Array**	**30.58**	**54**	P	**P**	**07 27 47.2**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=249,slow=9.5,SNR=18						
	comp=Z,3.0nm,0.5s						
BNI	**Bardonecchia**	**31.89**	**302**	P	**P**	**07 27 59.0**	**-0.7**
HYB	**Hyderabad**	**33.64**	**111**	*e*P	**P**	**07 28 18.5**	**+3.4**
HFS	**Hagfors**	**33.67**	**331**	P	**P**	**07 28 13.8**	**-1.1**
	comp=Z,3.8nm,0.7s,baz=131,slow=6.7,SNR=5.2						
	comp=Z,3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**34.15**	**42**	P	**P**	**07 28 18.0**	**-1.1**

	comp=Z,3.8nm,0.5s,baz=248,slow=8.4,SNR=3.0								
	comp=Z,3.8nm,0.5s								
ARCES	**ARCESS Array B**	**37.59**	**349**	P		**P**	**07 28 48.4**	**-0.1**	
	comp=Z,10.0nm,1.1s,baz=55,slow=4.6,SNR=3.7								
	comp=Z,10.0nm,1.1s								
ESDC	**Sonseca Array**	**39.81**	**293**	P		**P**	**07 29 06.7**	**-0.9**	
	comp=Z,2.5nm,1.2s,baz=85,slow=8.1,SNR=4.0								
	comp=Z,2.5nm,1.2s								
EKA	**Eskdalemuir Ar**	**39.91**	**318**	P		**P**	**07 29 07.2**	**-0.9**	
	comp=Z,2.3nm,0.6s,baz=105,slow=8.6,SNR=4.7								
	comp=Z,2.3nm,0.6s								
SHL	**Shillong**	**40.72**	**89**	IAmb		IAmb	07 29 38.0		
	comp=Z,59nm,1.1s								
SHL	**Shillong**	**40.72**	**89**	P		**P**	**07 29 16.6**	**+1.2**	
NRIK	**Noril'sk**	**42.55**	**21**	P		**P**	**07 29 28.9**	**-0.7**	
	comp=Z,5.9nm,1.0s,baz=251,slow=3.4,SNR=3.5								
	comp=Z,5.9nm,1.0s								
GTA	**Gaotai**	**43.33**	**66**	*e*P		**P**	**07 29 40.8**	**+4.3**	
GTA				sP		sP	07 29 52.2	+8.6	
GTA				pmax		pmax			
	comp=Z,10.0nm,1.2s								
TORD	**Torodi Ar. Bea**	**44.82**	**254**	P		**P**	**07 29 48.2**	**-0.3**	
	comp=Z,5.3nm,0.8s,baz=63,slow=6.9,SNR=9.7								
	comp=Z,5.3nm,0.8s								
SPITS	**Spitsbergen Ar**	**46.33**	**352**	P		**P**	**07 29 58.8**	**-0.9**	
	comp=Z,9.9nm,0.9s,baz=110,slow=14,SNR=1.6								
	comp=Z,9.9nm,0.9s								
SONM	**Songino Array**	**46.94**	**54**	P		**P**	**07 30 03.6**	**-1.5**	
	comp=Z,0.5nm,0.3s,baz=254,slow=8.5,SNR=2.5								
	comp=Z,0.5nm,0.3s								
LZH	**Lanzhou**	**47.17**	**70**	*e*P		**P**	**07 30 11.4**	**+4.4**	
LZH				pP		sP	07 30 16.0	+1.8	
LZH				pmax		pmax			
	comp=Z,18nm,1.3s								
PZH	**PanZhiHua**	**48.55**	**83**	P		P	07 30 23.2	+5.4	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2	**Chengdu**	**48.63**	**76**	P		**P**	**07 30 22.4**	**+4.1**	
CD2				pmax		pmax			
	comp=Z,20nm,0.9s								
CHTO	**Chiang Mai**	**49.53**	**93**	P		**P**	**07 30 27.0**	**+1.8**	
CM31	**Chiang Mai Arr**	**49.70**	**94**	P		**P**	**07 30 28.7**	**+2.2**	
CMAR	**Chiang Mai Arr**	**49.70**	**94**	P		**P**	**07 30 28.7**	**+2.2**	
CMAR	**Chiang Mai Arr**	**49.70**	**94**	P		**P**	**07 30 24.4**	**-2.1**	
	comp=Z,1.4nm,0.3s,baz=295,slow=6.9,SNR=2.0								
	comp=Z,1.4nm,0.3s								
BTO	**Baotou**	**50.75**	**62**	*e*P		**P**	**07 30 36.5**	**+2.1**	
BTO				pP		**sP**	**07 30 41.1**	**-0.4**	
BTO				sP		**pP**	**07 30 43.6**	**+4.1**	
BTO				PP		**PP**	**07 32 32.7**	**+2.3**	
BTO				pmax		pmax			
	comp=Z,30nm,0.9s								
BTO				pmax		pmax			
	comp=Z,2μm,9.6s								
PHRA	**Phrae**	**50.75**	**93**	P		**P**	**07 30 36.8**	**+2.3**	
HHC	**Hu-ho-hao-te**	**51.83**	**62**	⇑P		P	07 30 47.8	+5.3	
HHC				sP		sP	07 30 58.3	+8.7	
HHC				eS		**S**	**07 38 04.5**	**+0.3**	
HHC				ScS		**ScS**	**07 40 34.7**	**+2.5**	
HHC				pmax		pmax			
	comp=Z,21nm,0.6s								
HHC				pmax		pmax			
	comp=Z,630nm,6.3s								
DBIC	**Dimbokro**	**53.82**	**252**	P		**P**	**07 30 56.5**	**-0.8**	
	comp=Z,5.7nm,0.8s,baz=63,slow=4.5,SNR=2.4								
	comp=Z,5.7nm,0.8s								
LYN	**LuoYang**	**54.36**	**69**	*e*P		**P**	**07 31 05.3**	**+4.3**	
LYN				pP		sP	07 31 09.8	+1.6	
LYN				PP		**PP**	**07 33 08.3**	**+5.4**	
LYN				pmax		pmax			
	comp=Z,18nm,0.5s								
HNS	**HongShan**	**55.15**	**65**	⇓P		**P**	**07 31 10.6**	**+3.9**	
TIA	**Tai'an**	**57.37**	**66**	⇓P		**P**	**07 31 26.0**	**+3.3**	
TIA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
HEH	**HeiHe**	**59.98**	**47**	*e*P		**P**	**07 31 43.2**	**+2.6**	
HEH				pmax		pmax			
	comp=Z,11nm,1.2s								
NJ2	**Nanjing**	**60.24**	**69**	*e*P		P	07 31 48.3	+5.7	
NJ2				sP		sP	07 31 58.5	+8.6	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,280nm,3.6s								
BNX	**BinXian**	**61.44**	**52**	pmax		pmax			
	comp=Z,500nm,9.8s								
PRYS	**Parys**	**62.76**	**198**	*e*P		**P**	**07 32 00.7**	**+1.1**	
KLR	**Kul'dur**	**62.98**	**47**	P		**P**	**07 31 59.3**	**-1.6**	
	comp=Z,1.2nm,0.8s,baz=129,slow=13,SNR=1.8								
	comp=Z,1.2nm,0.8s								
KSRS	**Korea Array**	**64.93**	**61**	P		**P**	**07 32 13.3**	**-0.5**	
	comp=Z,1.3nm,0.4s,baz=287,slow=6.4,SNR=4.2								
	comp=Z,1.3nm,0.4s								
BOSA	**Boshof**	**64.93**	**200**	P		**P**	**07 32 13.6**	**-0.3**	
	comp=Z,6.3nm,1.1s,baz=20,slow=5.6,SNR=4.8								
	comp=Z,6.3nm,1.1s								
USRK	**Ussuriysk Ar.**	**65.03**	**52**	P		**P**	**07 32 12.7**	**-1.7**	
	comp=Z,1.5nm,0.6s,baz=154,slow=19,SNR=4.4								
	comp=Z,1.5nm,0.6s								
RES	**Resolute Bay**	**68.81**	**350**	P		**P**	**07 32 37.1**	**-0.8**	
	comp=Z,1.1nm,0.4s,baz=56,slow=10,SNR=2.0								
	comp=Z,1.1nm,0.4s								
FRB	**Frobisher Bay**	**69.95**	**334**	P		**P**	**07 32 44.1**	**-1.0**	
	comp=Z,6.0nm,0.8s,baz=49,slow=7.1,SNR=8.5								
	comp=Z,6.0nm,0.8s								
A21K	**Barrow**	**74.07**	**7**	P		**P**	**07 33 09.9**	**+0.2**	
	baz=341								
A36M	**Sachs Harbour**	**74.40**	**357**	P		**P**	**07 33 11.5**	**-0.1**	
	baz=7.8,SNR=7.0								
SCHQ	**Schefferville**	**74.56**	**326**	P		**P**	**07 33 11.1**	**-1.8**	
	comp=Z,2.8nm,0.6s,baz=2.7,slow=5.2,SNR=4.5								
	comp=Z,2.8nm,0.6s								
B20K	**Meade River**	**75.25**	**8**	P		**P**	**07 33 16.1**	**-0.5**	
B20K				IAmb		IAmb	07 33 22.7		
	comp=Z,11nm,0.9s								
B20K	**Meade River**	**75.25**	**8**	P		**P**	**07 33 16.9**	**+0.3**	
	baz=340								
B18K	**Kokolik River**	**75.26**	**10**	P		**P**	**07 33 17.4**	**+0.7**	
	baz=337,SNR=22								
C16K	**Lisburne Hills**	**75.72**	**11**	P		**P**	**07 33 19.2**	**-0.1**	
	baz=334								
C19K	**Lookout Ridge**	**75.81**	**9**	P		**P**	**07 33 19.4**	**-0.5**	
C19K				IAmb		IAmb	07 33 28.0		
	comp=Z,8.8nm,1.1s								
C17K	**DeLong Mountai**	**75.88**	**11**	P		**P**	**07 33 20.7**	**+0.4**	
	baz=336,SNR=11								
C18K	**Utukok River**	**76.01**	**10**	P		**P**	**07 33 20.6**	**-0.5**	
C18K	**Utukok River**	**76.01**	**10**	P		**P**	**07 33 21.4**	**+0.3**	
	baz=337								
C21K	**Knifeblade Rid**	**76.33**	**7**	P		**P**	**07 33 23.5**	**+0.7**	
	baz=343								
D19K	**Kuna River**	**76.57**	**9**	P		**P**	**07 33 24.3**	**+0.1**	
D17K	**Noatak River**	**76.60**	**11**	P		**P**	**07 33 24.6**	**+0.3**	
	baz=336								
D22K	**Ayikyak River**	**76.81**	**7**	P		**P**	**07 33 25.3**	**-0.3**	
D22K				IAmb		IAmb	07 33 31.6		
	comp=Z,8.4nm,0.9s								
D22K	**Ayikyak River**	**76.81**	**7**	P		**P**	**07 33 26.2**	**+0.6**	
	baz=344								
D24K	**Happy Valley**	**76.88**	**5**	P		**P**	**07 33 26.5**	**+0.5**	
	baz=348								
C36M	**Paulatuk**	**76.97**	**356**	P		**P**	**07 33 25.6**	**-0.7**	
	baz=8.7								
E20K	**Nigu River**	**77.03**	**8**	P		**P**	**07 33 27.0**	**+0.1**	
	baz=341								
E18K	**Tukpahlearik C**	**77.24**	**10**	P		**P**	**07 33 27.7**	**-0.3**	
	baz=338								
E17K	**Hotham Inlet**	**77.37**	**11**	P		**P**	**07 33 28.5**	**-0.2**	
	baz=337,SNR=6.5								
E22K	**Anaktuvuk Pass**	**77.62**	**7**	P		**P**	**07 33 29.9**	**-0.2**	
E22K				IAmb		IAmb	07 33 35.9		
	comp=Z,14nm,1.1s								
E19K	**Redstone River**	**77.66**	**9**	P		**P**	**07 33 30.6**	**+0.3**	
	baz=341,SNR=8.5								
E23K	**Chandalar**	**77.89**	**6**	P		**P**	**07 33 32.0**	**+0.3**	
	baz=347								
E28M	**Babbage River**	**77.92**	**2**	P		**P**	**07 33 31.7**	**-0.1**	
	baz=356,SNR=7.7								
E25K	**Arctic Village**	**78.13**	**4**	P		**P**	**07 33 33.0**	**0.0**	
	baz=350,SNR=7.8								
F15K	**North Star Dit**	**78.16**	**12**	P		**P**	**07 33 32.1**	**-1.0**	
F15K				IAmb		IAmb	07 33 33.7		
	comp=Z,9.6nm,1.1s								
E29M	**Blow River**	**78.17**	**1**	P		**P**	**07 33 32.6**	**-0.6**	
E29M	**Blow River**	**78.17**	**1**	P		**P**	**07 33 33.7**	**+0.5**	
	baz=357								
F19K	**Shaleruckik Mo**	**78.18**	**9**	P		**P**	**07 33 33.0**	**-0.2**	
	baz=340								
F20K	**Avaraart Lake**	**78.24**	**8**	P		**P**	**07 33 33.6**	**0.0**	
	baz=342								
E27K	**Coleen River**	**78.27**	**3**	P		**P**	**07 33 34.1**	**+0.4**	
	baz=354								
F21K	**Alatna River**	**78.33**	**7**	P		**P**	**07 33 33.1**	**-1.0**	
F21K	**Alatna River**	**78.33**	**7**	P		**P**	**07 33 34.8**	**+0.7**	
	baz=344								
F24K	**Squaw Lake**	**78.56**	**5**	P		**P**	**07 33 35.5**	**+0.1**	
	baz=348								
COLD	**Coldfoot**	**78.65**	**6**	P		**P**	**07 33 36.2**	**+0.4**	
	baz=347,SNR=6.4								
G16K	**Koyuk River**	**78.84**	**12**	P		**P**	**07 33 37.2**	**+0.4**	
	baz=336								
F28M	**Old Crow**	**78.90**	**2**	P		**P**	**07 33 37.2**	**0.0**	
	baz=355								
G19K	**Purcell Mounta**	**78.93**	**9**	P		**P**	**07 33 37.7**	**+0.3**	
	baz=341								
G18K	**Tagagawik**	**78.95**	**10**	P		**P**	**07 33 37.5**	**0.0**	
	baz=340,SNR=7.8								
F30M	**Barrier River**	**78.98**	**1**	P		**P**	**07 33 37.8**	**+0.1**	
	baz=359,SNR=6.2								
G21K	**Allakaket**	**79.01**	**8**	P		**P**	**07 33 37.6**	**-0.3**	
G21K				IAmb		IAmb	07 33 44.1		
	comp=Z,15nm,1.1s								
G21K	**Allakaket**	**79.01**	**8**	P		**P**	**07 33 37.8**	**0.0**	
	baz=344								
G17K	**Kiwalik Mounta**	**79.02**	**11**	P		**P**	**07 33 37.8**	**-0.1**	
	baz=338								
H19K	**Roundabout Mou**	**79.60**	**9**	P		**P**	**07 33 41.4**	**+0.4**	
	baz=341,SNR=6.6								
G31M	**Satah River**	**79.68**	**360**	P		**P**	**07 33 41.1**	**-0.3**	
	baz=0.0,SNR=6.3								
H18K	**Honhosa River**	**79.69**	**10**	P		**P**	**07 33 41.1**	**-0.4**	
H20K	**Anoteneega Mo**	**79.83**	**9**	P		**P**	**07 33 42.7**	**+0.4**	
	baz=343								
H21K	**Melozitna River**	**79.92**	**8**	P		**P**	**07 33 43.5**	**+0.7**	
	baz=344,SNR=8.2								
D62A	**Allapoint, All**	**80.49**	**321**	P		**P**	**07 33 45.3**	**-0.9**	
MLY	**Manley**	**80.75**	**7**	P		**P**	**07 33 47.9**	**+0.6**	
	baz=346								
POKR	**Poker Plat Res**	**80.96**	**6**	P		**P**	**07 33 49.3**	**+0.9**	
	baz=349								
J19K	**Poorman**	**81.17**	**9**	P		**P**	**07 33 51.1**	**+1.6**	
	baz=342,SNR=5.2								
J20K	**Nowinta River**	**81.19**	**9**	P		**P**	**07 33 48.7**	**-0.9**	
J20K				IAmb		IAmb	07 33 55.8		
	comp=Z,17nm,1.1s								
ILAR	**Eielson Array**	**81.35**	**5**	P		**P**	**07 33 49.9**	**-0.5**	
	comp=Z,1.2nm,0.8s,baz=311,slow=4.2,SNR=6.3								
	comp=Z,1.2nm,0.8s								
I30M	**Mount Dempster**	**81.38**	**1**	P		**P**	**07 33 50.7**	**-0.1**	
	baz=358								
J25K	**Salcha River,**	**81.62**	**5**	P		**P**	**07 33 51.4**	**-0.6**	
CHUM	**Lake Minchumin**	**81.69**	**8**	P		**P**	**07 33 52.9**	**+0.7**	
	baz=345,SNR=5.5								
CAST	**Castle Rocks**	**82.17**	**8**	P		**P**	**07 33 55.1**	**+0.2**	
	baz=345,SNR=7.0								
YKA	**Yellowknife Ar**	**82.82**	**351**	P		**P**	**07 33 57.0**	**-1.2**	
	comp=Z,1.4nm,1.1s,baz=168,slow=18,SNR=3.6								
	comp=Z,1.4nm,1.1s								
KDAK	**Kodiak Island**	**87.57**	**10**	P		**P**	**07 34 21.1**	**-0.9**	
WRA	**Warramunga Arr**	**99.75**	**107**	P		**Pdif**	**07 35 15.9**	**-2.7**	
	comp=Z,0.8nm,0.9s,baz=303,slow=4.7,SNR=1.4								
	comp=Z,0.8nm,0.9s								

BJI ***11*** *07:21:35.9±0.0, 32.°80N×45.°99E, h10km, mb4.8/45, mB5.6/15, Ms5.3/18, Ms7 5.0/17*
NAO ***11*** *07:21:41.5, 32.°72N×46.°61E, h33km, mb4.8*
GII ***11*** *07:21:44.0±0.6, 33.°05N×46.°49E, h10km, confirmed*
NEIC ***11*** *07:21:43.5, 33.°80N×45.°46E, h16km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^16 Nm; Mrr6.59; Mθθ-1.39; Mφφ-5.20; Mrθ1.95; Mθφ2.12; Mφr-6.60; Fault plane solution: M0 9.38000×10^16 NP1: ϕs161.39000°, δs68.65000°, λs93.62000°. NP2: ϕs331.54000°, δs21.64000°, λs80.83000°. Principal axes: T 9.6276, Plg66.0000°, Azm78.0000°; N -0.5028, Plg3.0000°, Azm340.0000°; P -9.1248, Plg24.0000°, Azm249.0000°;*
PDG ***11*** *07:21:43.4, 33.°28N×46.°47E, h10km, mb5.4/3*
NEIC ***11*** *07:21:43.5, 33.°20N×46.°42E, h16km*
NEIC ***11*** *07:21:43.6±2.0, 33.°22N±0.°08×46.°42E±0.°10, h10km±1km, mb5.4/82, Mww5.2/16, Error ellipse: s-maj=14.0km s-min=12.8km az=87.0*
IDC ***11*** *07:21:48.6±0.4, 33.°81N×45.°76E, h0km, mb5.0/37, mbtmp5.0/48, ML4.2/7, Error ellipse: s-maj=10.0km s-min=8.1km az=116.0*
MOS ***11*** *07:21:50.5±1.3, 33.°81N×45.°78E, h24km, mb5.5/55, MS4.5/8, Error ellipse: s-maj=6.5km s-min=2.8km az=119.2*
AFAD ***11*** *07:21:50.0±0.0, 33.°95N×45.°78E, h15km, MW5.4*
GCMT ***11*** *07:21:53.6±0.2, 33.°77N±0.°02×45.56E±0.°01, h18km, MW5.3/130, Moment Tensor Solution. s38,c44; s130,c236; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr1.09±.05; Mθθ-0.21±.03; Mφφ-0.88±.03; Mrθ0.28±.07; Mθφ0.50±.02; Mφr-0.04±.06; Best double couple: M0 1.15400×10^17 NP1:ϕs141.00000°, δ50.00000°, λ75.00000°. NP2:ϕs343.00000°, δ42.00000°, λ107.00000°. Principal axes: T 1.1490, Plg78.0000°, Azm351.0000°; N 0.0060, Plg11.0000°, Azm150.0000°; P -1.1590, Plg4.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***11*** *07:21:59.2, 33.°61N×44.°44E, h33km, mb4.9*
ISC 11 07:21:50.8±1.3, 33.°78N±0.°04×45.°64E±0.°04, h13km±7km, n872, σ1s76/817, mb5.3/209, MS4.9/11, 64C-48D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**3.83**	**335**	*e*P		**Pn**	**07 22 48.9**	**-0.7**
CUKT	**Cukurca**	**3.83**	**335**	P		**Pn**	**07 22 51.2**	**+1.6**
CUKT				S		**Sn**	**07 23 38.7**	**+4.1**
YOVA	**Hakkari_Yksek**	**3.95**	**344**	P		**Pn**	**07 22 52.7**	**+1.4**
YOVA				S		**Sn**	**07 23 41.8**	**+4.2**
HAKT	**HAKKARI**	**4.08**	**338**	P		**Pn**	**07 22 55.1**	**+2.0**
HAKT				S		**Sn**	**07 23 43.5**	**+2.7**
SIRN	**Sırnak**	**4.54**	**326**	P		**Pn**	**07 23 02.4**	**+3.2**
SIRN				S		**Sn**	**07 23 57.5**	**+5.5**
GHVR	**GHOM**	**4.74**	**80**	IAML			07 24 13.8	
	comp=N,597nm,0.5s							
GHVR	**GHOM**	**4.74**	**80**	*e*Pn		Pn	07 22 52.2	-10
GHVR	**GHOM**	**4.74**	**80**	IAML			07 24 10.7	
	comp=E,714nm,0.5s							
PERV	**Siirt/Pervari-**	**4.86**	**330**	P		**Pn**	**07 23 07.9**	**+4.3**
PERV				S		**Sn**	**07 24 03.7**	**+3.9**
GEVA	**Gevas**	**4.98**	**336**	Pn		**Pn**	**07 23 08.7**	**+3.4**
GEVA	**Gevas**	**4.98**	**336**	P		**Pn**	**07 23 07.7**	**+2.3**
GEVA				S		**Sn**	**07 24 09.5**	**+6.6**
CHTH	**Charan**	**4.98**	**63**	*e*Pn		Pn	07 22 56.0	-10
MIDY	**Mardin/Midyat-**	**5.00**	**317**	P		**Pn**	**07 23 06.4**	**+0.8**
MIDY				S		**Sb**	**07 24 12.1**	**-6.1**
AKDM	**Akdamar-Van**	**5.02**	**335**	*e*P		**Pn**	**07 23 05.9**	**0.0**
OZAP	**Van, Ozalp-Mer**	**5.05**	**345**	P		**Pn**	**07 23 09.4**	**+3.0**
OZAP				S		**Sb**	**07 24 15.5**	**-4.2**
TVAN	**Van**	**5.07**	**340**	P		**Pn**	**07 23 09.8**	**+3.2**
TVAN				S		**Sb**	**07 24 13.5**	**-6.8**
VANB	**Van**	**5.13**	**340**	*e*P		**Pn**	**07 23 08.3**	**+0.8**
MARD	**Mardin**	**5.30**	**313**	Pn		Pn	**07 23 11.3**	**+1.6**
GRMI	**Germi**	**5.33**	**19**	*e*Pn		Pn	07 23 01.8	-8.4
BTMN	**Batman**	**5.42**	**320**	P		**Pn**	**07 23 10.7**	**-0.7**
BTMN				S		**Sn**	**07 24 19.3**	**+5.6**
BLIS	**Bitlis-Merkez**	**5.43**	**329**	P		**Pn**	**07 23 13.4**	**+1.8**
BLIS				S		**Sn**	**07 24 13.7**	**-0.3**
VMUR	**Van-Muradiye**	**5.46**	**343**	P		**Pn**	**07 23 15.5**	**+3.6**
VMUR				S		**Sb**	**07 24 26.6**	**-4.8**
CLDR	**Caldiran**	**5.53**	**346**	*e*P		**Pn**	**07 23 15.3**	**+2.4**
CLDR	**Caldiran**	**5.53**	**346**	P		**Pn**	**07 23 15.4**	**+2.5**
CLDR				S		**Sb**	**07 24 27.0**	**-6.5**
ADCV	**BITLIS_Adilcev**	**5.54**	**336**	P		**Pn**	**07 23 14.9**	**+1.8**
ADCV				S		**Sb**	**07 24 27.7**	**-6.1**
GURO	**Guroymak-BITLI**	**5.58**	**329**	*e*P		**Pn**	**07 23 13.8**	**+0.2**
GURO	**Guroymak-BITLI**	**5.58**	**329**			**Pn**	**07 23 16.2**	**+2.6**
MAZI	**Mazidag**	**5.60**	**312**	*e*P		**Pn**	**07 23 13.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**5.65**	**322**	*e*P		**Pn**	**07 23 14.8**	**+0.3**
MLAZ	**Malazgirt-MUS**	**5.90**	**336**	*e*P		**Pn**	**07 23 18.5**	**+0.5**
DYBB	**Diyarbakir**	**6.10**	**315**	*e*P		**Pn**	**07 23 19.5**	**-1.2**
AGRB	**Hanur-Agry**	**6.16**	**341**	*e*P		**Pn**	**07 23 23.4**	**+1.8**
TASB	**TASBURUN-IGDIR**	**6.29**	**350**	*e*P		**Pn**	**07 23 25.1**	**+1.8**
VRTB	**Varto-Mus**	**6.34**	**329**	*e*P		**Pn**	**07 23 23.6**	**-0.4**
GNI	**Garni**	**6.39**	**354**	Pn		**Pn**	**07 23 26.4**	**+1.6**
GNI	**Garni**	**6.39**	**354**	*i* P		**Pn**	**07 23 25.8**	**+1.0**
GNI	**Garni**	**6.39**	**354**	Pn		**Pn**	**07 23 26.7**	**+1.9**
	comp=E,2.8nm,0.3s,baz=168,slow=23,SNR=3.5							
GNI				Lg		Lg	07 25 17.4	
	baz=160,slow=14							
	comp=E,18nm,0.5s							
BNGB	**Bingl**	**6.56**	**324**	*e*P		**Pn**	**07 23 27.0**	**0.0**
URFA	**Urfa**	**6.64**	**305**	*e*P		**Pn**	**07 23 25.8**	**-2.4**
KOPR	**Koprukoy-ERZUR**	**6.90**	**335**	*e*P		**Pn**	**07 23 33.6**	**+1.9**
KARS	**Kars**	**7.13**	**344**	*e*P		**Pn**	**07 23 37.5**	**+2.6**
KARS	**Kars**	**7.13**	**344**			**Pn**	**07 23 37.1**	**+2.2**
KARS	**Kars**	**7.13**	**344**	P		**Pn**	**07 23 37.1**	**+2.2**
PTK	**Pertek**	**7.17**	**317**	*e*P		**Pn**	**07 23 35.5**	**0.0**
SENK	**Senkaya-Erzuru**	**7.26**	**340**	*e*P		**Pn**	**07 23 38.4**	**+1.7**
KOPT	**Kop Dagi**	**7.46**	**328**	Pn		Pn	07 23 44.1	+4.6
ERZN	**Erzincan**	**7.49**	**322**	*e*P		**Pn**	**07 23 40.1**	**+0.3**
ASF	**Jabal al Asfar**	**7.52**	**260**	P		**Pn**	**07 23 40.0**	**-0.2**
ASF	**Jabal al Asfar**	**7.52**	**260**	Pn		**Pn**	**07 23 40.0**	**-0.2**
	comp=E,6.9nm,0.3s,baz=156,slow=19,SNR=2.0							
ASF				Lg		Lg	07 25 48.5	
	comp=E,23nm,0.3s,baz=334,slow=18,SNR=6.2							
	comp=E,45nm,0.5s							
GAZ	**Gaziantep**	**7.66**	**299**	*e*P		**Pn**	**07 23 40.9**	**-1.2**
GAZ	**Gaziantep**	**7.66**	**299**	Pn		**Pn**	**07 23 46.3**	**+4.2**
AKH	**Akhalkalaki**	**7.80**	**348**	Pn		**Pn**	**07 23 46.2**	**+2.1**
AKH	**Akhalkalaki**	**7.80**	**348**	P		**Pn**	**07 23 46.2**	**+2.1**
ARPR	**Arapgir-MALATY**	**7.92**	**314**	*e*P		**Pn**	**07 23 43.9**	**-1.8**
ARPR	**Arapgir-MALATY**	**7.92**	**314**	Pn		**Pn**	**07 23 49.8**	**+4.1**
BAYT	**Aydıntepe-Bayb**	**7.92**	**328**	*e*P		**Pn**	**07 23 46.1**	**+0.3**
ILIC	**ilic-Erzincan**	**8.02**	**317**	*e*P		**Pn**	**07 23 46.3**	**-0.8**
KMRS	**Kahramanmaras**	**8.03**	**300**	*e*P		**Pn**	**07 23 45.9**	**-1.2**
HSUJ	**Al Zarqa**	**8.12**	**261**	P		**Pg**	**07 24 28.4**	**+2.2**
DARE	**Darende-Malaty**	**8.14**	**308**	*e*P		**Pn**	**07 23 45.3**	**-3.4**
TAHT	**Tahtakopru-Hat**	**8.17**	**291**	*e*P		**Pn**	**07 23 45.7**	**-3.3**
KSHT	**Keshet**	**8.26**	**267**	P		**Pn**	**07 23 53.9**	**+3.5**
CHOM	**Cayeli-Rize**	**8.27**	**333**	*e*P		**Pn**	**07 23 50.9**	**+0.6**
BCA	**Borcka**	**8.28**	**339**	⇓P		Pn	07 23 56.5	+5.9
BCA	**Borcka**	**8.28**	**339**	*e*P		**Pn**	**07 23 52.6**	**+2.0**
NATI	**Neve Ativ**	**8.29**	**269**	P		**Pn**	**07 23 54.2**	**+3.6**
SHMJ	**Saham**	**8.34**	**265**	P		Pg	07 24 36.0	+5.6
GEM	**Giv'at Ha'Em**	**8.35**	**269**	P		Pg	07 24 40.4	+10
GEM	**Giv'at Ha'Em**	**8.35**	**269**	P		**Pn**	**07 23 55.4**	**+3.9**
SWQJ	**Swaqa**	**8.48**	**255**	P		Pg	07 24 38.7	+5.6
QRNJ	**Al-Qirein**	**8.57**	**263**	P		Pg	07 24 40.6	+5.7
KTUT	**Trabzon**	**8.57**	**329**	⇑P		Pn	07 24 00.9	+6.3
MMA0	**Mount Meron ar**	**8.60**	**268**	P		**Pg**	**07 24 36.8**	**+1.5**
MMA0	**Mount Meron ar**	**8.60**	**268**	P		**Pn**	**07 23 59.3**	**+4.3**
MMAI	**Mount Meron Ar**	**8.60**	**268**	Pn		**Pn**	**07 23 56.1**	**+1.2**
	comp=E,4.9nm,0.3s,baz=81,slow=15,SNR=4.4							
MMAI				Lg		Lg	07 26 18.7	
	comp=E,40nm,0.3s,baz=111,slow=32,SNR=6.2							
	comp=E,3.5nm,0.3s							
HMDT	**Nahal Hemdat**	**8.63**	**263**	P		Pg	07 24 41.4	+5.4
CEYT	**Ceyhan**	**8.69**	**295**	*e*P		**Pn**	**07 23 53.6**	**-2.6**
UJAP	**Al Uja**	**8.75**	**261**	P		Pg	07 24 43.0	+4.7
SARI	**SarD1z-Kayseri**	**8.77**	**304**	*e*P		**Pn**	**07 23 55.7**	**-1.8**
HNTI	**Hanita**	**8.78**	**268**	P		Pg	07 24 42.6	+3.8
KOZT	**Kozan**	**8.80**	**298**	*e*P		**Pn**	**07 23 55.8**	**-1.9**
BLGI	**Bet Lehem HaGe**	**8.81**	**266**	P		Pg	07 24 43.6	+4.1
KARJ	**KARJ**	**8.85**	**255**	P		Pg	07 24 44.8	+4.7
DSI	**Dead Sea**	**8.93**	**258**	P		Pg	07 24 48.6	+7.0
DSI	**Dead Sea**	**8.93**	**258**	P		**Pn**	**07 24 00.6**	**+1.2**
LISJ	**El Lisan**	**8.95**	**256**	P		Pg	07 24 49.6	+7.6
ONI	**Oni**	**8.96**	**350**	*e*P		**Pn**	**07 24 02.9**	**+3.0**
ONI	**Oni**	**8.96**	**350**	Pn		**Pn**	**07 24 02.1**	**+2.2**
ONI	**Oni**	**8.96**	**350**	P		**Pn**	**07 24 02.1**	**+2.2**
OFRI	**`Ofer**	**9.01**	**266**	P			07 24 47

comp=Z,40nm,0.5s
MFTR Murfatlar 16.91 313 ⇑P **P** **07 25 50.2 +1.3**
JURR Jurilovca 16.96 315 ⇓P **P** **07 25 49.8 +0.3**
TIRR Tirgusor 17.06 314 ⇑P **P** **07 25 50.6 -0.1**
TIRR Tirgusor 17.06 314 **P** **07 25 51.6 +0.9**
TIRR Tirgusor 17.06 314 ⇑P **P** **07 25 50.6 -0.1**
ALN Alexandroupoli 17.11 300 **P** **07 25 52.6 +1.4**
ALN Alexandroupoli 17.11 300 P **P** **07 25 52.6 +1.4**
ALN pmax pmax
comp=Z,87nm,1.2s
IDI Anoyia 17.16 281 P **P** **07 25 54.9 +2.9**
IDI Anoyia 17.16 281 P **P** **07 25 54.0 +2.1**
TLCR 17.23 316 ⇓P **P** **07 25 53.1 +0.5**
TLCR 17.23 316 ⇓P **P** **07 25 53.1 +0.5**
TPGR Topolog 17.28 315 ⇓P **P** **07 25 54.0 +0.9**
TLBR Topalu 17.33 313 ⇑P **P** **07 25 54.6 +0.9**
RDO Rodhopi 17.55 301 P **P** **07 25 58.1 +2.0**
RDO Rodhopi 17.55 301 P **P** **07 26 00.4 +4.3**
CFR Carcaliu 17.62 315 ⇑P **P** **07 25 57.6 +0.7**
CFR Carcaliu 17.62 315 ⇑P **P** **07 25 57.6 +0.7**
VRH Novokhopyorsk 17.64 352 *eP* **Pn** **07 25 55.2 -0.9**
VRH pmax pmax
comp=Z,264nm,2.0s
LOZB Loznitsa 17.67 308 ⇓P **P** **07 25 57.3 -0.1**
VORD Divnogorie 17.79 347 *eP* **Pn** **07 25 57.7 -0.2**
VORD pmax pmax
comp=Z,70nm,0.5s
RAZG Razgrad 17.81 309 ⇑P **Pn** **07 25 57.1 -1.2**
IMMV Iera Moni Meta 17.91 281 P **P** **07 26 03.0 +2.9**
ELND Elena 17.96 306 ⇑P **P** **07 26 00.5 -0.1**
VLDR Vladesti 18.04 317 ⇑P **P** **07 26 02.2 +0.7**
VSR Storozhevoye 18.05 347 *eP* **Pn** **07 26 00.5 -0.6**
VSR *eS* **Sn** **07 29 23.4 +1.2**
VSR pmax pmax
comp=Z,130nm,0.5s
VSR smax smax
comp=N,150nm,1.0s
MILM Milestii Mici 18.30 321 *eP* **P** **07 26 04.5 +0.2**
comp=N,170nm,1.3s
MILM *eS* **S** **07 29 31.0 -2.1**
MILM *eL* L 07 30 16.0
MILM LRM MLR 07 30 44.0
comp=N,4μm,12.0s
MILM Milestii Mici 18.30 321 *eP* **P** **07 26 04.5 +0.2**
MILM *eS* **S** **07 29 31.0 -2.1**
MILM pmax pmax
comp=Z,170nm,1.3s
KIS Kishinev 18.34 321 *eP* **P** **07 26 05.0 +0.2**
KIS Kishinev 18.34 321 *eP* **P** **07 26 05.0 +0.2**
PLD Plovdiv 18.44 303 *eP* **Pn** **07 26 08.8 +2.9**
PLD pmax pmax
comp=Z,236nm,1.2s
VORR Voronezh 18.48 347 *eP* **P** **07 26 04.4 -1.8**
VORR *eS* **Sn** **07 29 32.2 -0.3**
VORR pmax pmax
comp=Z,240nm,0.5s
VORR smax smax
comp=N,340nm,1.1s
ISR Istrita 18.54 313 ⇓P **P** **07 26 06.2 -0.9**
ISR Istrita 18.54 313 ⇓P **P** **07 26 06.2 -0.9**
VILL Villia 18.58 290 P **Pn** **07 26 09.9 +2.1**
PANC Panciu 18.59 316 ⇓P **Pn** **07 26 10.1 +2.3**
BELG Belogornoye 18.66 4 P **P** **07 26 08.0 -0.2**
comp=N,185nm,0.5s,baz=294,slow=3.0,SNR=27
BELG S **Sn** **07 29 36.5 -0.3**
comp=N,87nm,0.9s,baz=213,slow=23,SNR=6.3
VLI Veliai 18.77 285 P **Pn** **07 26 11.3 +1.3**
NVR Nevrokopi 18.82 300 P **Pn** **07 26 13.1 +2.5**
VRI Vrincioaia 18.83 315 ⇑P **Pn** **07 26 13.6 +2.9**
VRI Vrincioaia 18.83 315 ⇑P **Pn** **07 26 13.6 +2.9**
NEHR Nehoiu 18.85 314 ⇓P **Pn** **07 26 12.6 +1.6**
PLOR Plostina 18.87 315 ⇓P **P** **07 26 10.5 -0.1**
PLOR Plostina 18.87 315 ⇓P **P** **07 26 10.5 -0.1**
SRS Serrai 18.95 299 P **Pn** **07 26 13.4 +1.2**
SRS pmax pmax
comp=Z,63nm,1.4s
AKTO Aktyubinsk 18.96 25 P **P** **07 26 10.9 -0.6**
comp=Z,2.3nm,0.3s,baz=224,slow=6.3,SNR=7.8
AKTO S **Sn** **07 29 43.7 -0.5**
comp=Z,5.4nm,0.9s,baz=333,slow=21,SNR=1.4
comp=Z,27nm,0.7s
PLVB Pleven 18.98 306 ⇑P **P** **07 26 10.5 -1.3**
SOH Sokhos 19.04 298 P **Pn** **07 26 15.6 +2.2**
SOH pmax pmax
comp=Z,28nm,0.9s
MLR Muntele Rosu 19.09 314 ⇑P **P** **07 26 10.9 -2.3**
MLR Muntele Rosu 19.09 314 **Pn** **07 26 15.4 +1.3**
MLR Muntele Rosu 19.09 314 ⇑P **P** **07 26 10.9 -2.3**
MLR Muntele Rosu 19.09 314 P **Pn** **07 26 14.8 +0.8**
comp=Z,25nm,0.5s,baz=242,slow=22,SNR=12
MLR S **Sn** **07 29 45.2 -2.6**
comp=Z,4.2nm,0.9s,baz=100,slow=19,SNR=1.4
COVR Voineasa-Covas 19.13 315 ⇑P **Pn** **07 26 16.1 +1.8**
AXAR Agios Charalam 19.17 292 P **Pn** **07 26 16.6 +1.7**
HUMR Humele 19.23 310 ⇓P **Pn** **07 26 17.4 +1.8**
TESR Tescani 19.24 317 ⇑P **Pn** **07 26 15.8 +0.2**
THE Thessaloniki 19.28 297 P **Pn** **07 26 17.4 +1.2**
THE pmax pmax
comp=Z,90nm,1.0s
GUR Goura 19.32 289 P **Pn** **07 26 17.8 +1.0**
SORM Soroca 19.33 323 ⇓P **Pn** **07 26 16.4 -0.2**
SORM Soroca 19.33 323 ⇓P **Pn** **07 26 16.4 -0.2**
TURR Turia 19.35 315 ⇓P **Pn** **07 26 19.2 +2.2**
STFAR Stefanesti-Arg 19.39 311 ⇑P **Pn** **07 26 18.9 +1.3**
LPSR Galich'ya Gora 19.42 348 *eP* **P** **07 26 14.0 -2.5**
LPSR *eS* **Sn** **07 29 48.2 -7.0**
LPSR pmax pmax
comp=Z,390nm,0.8s
LPSR smax smax
comp=E,160nm,1.1s
AGG Agios Georgios 19.46 292 P **Pn** **07 26 18.7 +0.3**
AGG IAmb IAmb 07 26 20.3
comp=Z,105nm,0.7s
AGG Agios Georgios 19.46 292 P **Pn** **07 26 19.8 +1.4**
AGG Agios Georgios 19.46 292 P **Pn** **07 26 18.7 +0.3**
AGG pmax pmax
comp=Z,105nm,0.7s
KNT Kendrikon 19.46 299 P **Pn** **07 26 20.6 +2.2**
KNT Kendrikon 19.46 299 P **Pn** **07 26 18.6 +0.2**
KNT pmax pmax
comp=Z,58nm,0.8s
KLV Kalavryta, Ach 19.48 289 P **Pn** **07 26 19.1 +0.4**
MTUR Matau 19.50 312 ⇓P **Pn** **07 26 20.1 +1.2**
MTUR Matau 19.50 312 ⇓P **Pn** **07 26 20.1 +1.2**
OZUR 19.51 315 ⇓P **P** **07 26 17.8 +0.2**
BOSR Bodos 19.57 315 ⇓P **Pn** **07 26 21.5 +1.8**
MAKR Makrakomi, Fth 19.61 292 P **Pn** **07 26 21.0 +0.8**
VOIR 19.61 312 ⇑P **Pn** **07 26 21.0 +0.8**
VOIR 19.61 312 ⇑P **Pn** **07 26 21.0 +0.8**
PEHC Pehcevo 19.63 301 *i* P P 07 26 10.4 -8.7
TYRN Tyrnavos 19.64 294 P **Pn** **07 26 21.1 +0.6**
DOPR Dopca 19.68 314 ⇓P **Pn** **07 26 22.1 +1.2**
ANX Ano Chora 19.72 291 P **Pn** **07 26 21.6 0.0**
GRG Griva 19.78 298 P **Pn** **07 26 22.3 +0.1**
THL Klokotos Trika 19.79 294 P **Pn** **07 26 22.4 +0.2**
DRO Drossia 19.82 289 P **Pn** **07 26 23.4 +0.7**
ARR Arges 19.84 312 ⇑P **Pn** **07 26 22.4 -0.5**
EVR Evrytania 19.85 292 P **Pn** **07 26 24.1 +1.0**
PRAR RASCA 19.96 319 ⇑P **Pn** **07 26 25.1 +0.8**
RLS Riolos of Patr 20.02 289 P Pn 07 26 24.8 -0.2
PVO Paravola 20.03 291 P Pn 07 26 25.2 +0.1
MDB Medias 20.37 314 ⇓P Pn 07 26 28.2 -0.9
MDB Medias 20.37 314 ⇓P Pn 07 26 28.2 -0.9
BLKB Belogradchik 20.38 306 ⇑P P 07 26 17.1 -10
LOT Lotru 20.41 311 ⇑P **P** **07 26 23.2 -4.4**
SRE Strehaia 20.43 309 ⇑P **P** **07 26 25.7 -2.0**
SRE Strehaia 20.43 309 ⇑P **P** **07 26 25.7 -2.0**
LTHK Lithakia 20.49 288 P **P** **07 26 28.2 -0.2**
FNA Florina 20.50 297 P Pn 07 26 29.7 -1.0
FNA IAmb IAmb 07 26 31.4
comp=Z,224nm,1.4s
FNA Florina 20.50 297 P Pn 07 26 30.0 -0.7
FNA Florina 20.50 297 P Pn 07 26 29.7 -1.0
FNA pmax pmax
comp=Z,224nm,1.4s
BURAR Bucovina Array 20.67 318 ⇑P Pn 07 26 31.5 -1.2
BURAR Bucovina Array 20.67 318 P **P** **07 26 30.8 +0.4**
BURAR Bucovina Array 20.67 318 ⇑P Pn 07 26 31.5 -1.2
NYDR Nydri-Lefkada 20.68 291 P **P** **07 26 30.8 +0.4**
EVGl Lefkada island 20.71 291 P **P** **07 26 30.8 +0.1**
PSDA Pessada-Kefalo 20.72 289 P **P** **07 26 30.4 -0.4**
VLS Valsamata 20.72 289 P **P** **07 26 31.1 +0.2**

LKD2 Lefkada island 20.72 291 P **P** **07 26 31.3 +0.4**
SKO Skopje 20.73 300 *i* P P 07 26 23.1 -7.9
AKASG Malin Array Be 20.74 330 P **P** **07 26 29.8 -1.1**
comp=Z,45nm,0.5s,baz=138,slow=10.0,SNR=41
AKASG S **S** **07 30 19.4 -2.7**
comp=Z,0.8nm,0.5s,baz=137,slow=21,SNR=4.1
AKASG PcP **PcP** **07 30 40.4 +0.4**
comp=Z,0.8nm,0.4s,baz=80,slow=3.2,SNR=4.4
comp=Z,45nm,0.5s
AKBB Malin Array Si 20.74 330 P **P** **07 26 30.7 -0.2**
AKBB Malin Array Si 20.74 330*ce*P **P** **07 26 30.8 -0.2**
AKBB pmax pmax
comp=Z,162nm,0.8s
KIEV Kiev 20.74 329 ⇓P **P** **07 26 29.9 -1.0**
KIEV Kiev 20.74 329 P **P** **07 26 31.2 +0.2**
KIEV IAmb IAmb 07 26 32.4
comp=Z,395nm,1.5s
KIEV Kiev 20.74 329 ⇓P **P** **07 26 29.9 -1.0**
FSK Fiskardo 20.77 290 P **P** **07 26 30.8 -0.5**
DRAG Dragano-Lefkad 20.78 291 P **P** **07 26 31.7 +0.2**
ARCR ARCALIA 20.87 316 ⇑P **P** **07 26 27.5 -4.9**
DJES Djerdap 20.88 308 ⇑P **P** **07 26 31.9 -0.6**
KEF3 Kipouria, Keph 20.91 289 P **P** **07 26 33.2 +0.3**
OHR Ohrid 20.99 298 P Pn 07 26 35.9 -0.6
OHR pmax pmax
comp=Z,156nm,0.7s
OHR Ohrid 20.99 298 *i* P P 07 26 22.4 -11
GZR Gura Zlata 21.02 310 ⇑P P 07 26 24.1 -10
HERR Herculane 21.03 309 ⇑P P 07 26 25.4 -8.8
IGT Igoumenitsa 21.07 293 P **P** **07 26 34.6 0.0**
CJR Cluj-Napoca 21.12 314 ⇓P **P** **07 26 37.3 +2.1**
CJR Cluj-Napoca 21.12 314 ⇓P **P** **07 26 37.3 +2.1**
MARR Marisel-Cluj 21.39 314 ⇓P P 07 26 28.6 -10
MDVR Moldovita 21.45 308 ⇑P P 07 26 28.7 -10
SURR Surduc 21.58 311 ⇓P **P** **07 26 39.3 -0.8**
BMR Baia Mare 21.67 316 ⇓P **P** **07 26 40.2 -0.8**
BMR Baia Mare 21.67 316 ⇓P **P** **07 26 40.2 -0.8**
BZS Buzias 21.85 310 ⇓P **P** **07 26 43.9 +1.0**
BZS Buzias 21.85 310 ⇓P **P** **07 26 43.9 +1.0**
PVY Plav 21.95 301 ⇑P **P** **07 26 45.4 +1.1**
IVA Berane 22.07 302 ⇑P **P** **07 26 46.8 +1.3**
SIRR Siria 22.10 311 ⇑P **P** **07 26 46.6 +1.0**
OBN Obninsk 22.25 346 ⇓P **P** **07 26 44.1 -3.0**
OBN Obninsk 22.25 346 P **P** **07 26 45.9 -1.2**
OBN IAmb IAmb 07 26 57.9
comp=Z,132nm,1.0s
OBN Obninsk 22.25 346*de*P **P** **07 26 45.9 -1.2**
OBN *e* 07 27 09.9
OBN pmax pmax
comp=Z,214nm,1.5s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 22.25 346 P **P** **07 26 45.4 -1.7**
comp=Z,62nm,0.4s,baz=226,slow=5.4,SNR=9.9
OBN S **S** **07 30 43.6 -7.8**
comp=Z,83nm,0.9s,baz=152,slow=3.2,SNR=3.2
comp=Z,62nm,0.4s
ATD Arta Tunnel 22.30 187 Lg Lg 07 33 43.6
baz=238,slow=21,SNR=1.1
ULC Ulcinj 22.32 299 ⇑*i*P **P** **07 26 49.5 +1.5**
KOME Kolasin 22.34 302 ⇑*i*P **P** **07 26 50.3 +2.0**
DRME Dracevica, Mon 22.41 300 ⇑*i*P **P** **07 26 50.5 +1.5**
PLE Pljevlja 22.55 303 ⇑*i*P **P** **07 26 51.6 +0.9**
LVV L'vov 22.60 322 *eP* **P** **07 26 50.0 -0.9**
LVV *e* 07 27 17.8
LVV *i* S **S** **07 30 55.0 -3.1**
LVV *e*SS Sn 07 31 28.3 +17
BUM Brajici-Budva 22.65 300 ⇑*i*P **P** **07 26 52.8 +1.2**
MOS Moscow 22.65 348 *eP* **P** **07 26 46.5 -4.9**
MOS *eS* **S** **07 30 52.8 -6.0**
MOS pmax pmax
comp=Z,270nm,1.3s
MOS pmax pmax
comp=Z,1μm,2.0s
MOS smax smax
comp=E,900nm,2.4s
MOS smax smax
comp=N,900nm,2.0s
MOS MLR MLR
comp=Z,2μm,16.0s
CEME Cevo 22.69 301 ⇑*i*P **P** **07 26 53.1 +1.1**
NKME Niksic 22.71 301 ⇑*i*P **P** **07 26 53.4 +1.1**
FRGS Fruska Gora 22.85 307 ⇑P **P** **07 26 54.1 +0.4**
UPM Unac-Piva 22.86 302 ⇑*i*P **P** **07 26 55.1 +1.1**
HCY Herceg Novi 22.97 300 ⇑*i*P **P** **07 26 55.7 +0.8**
KOLS Kolonicke sedl 23.04 318 *eP* **P** **07 26 57.7 +2.1**
KOLS pmax pmax
comp=Z,142nm,1.6s
KOLS Kolonicke sedl 23.04 318 *eP* **P** **07 26 57.7 +2.1**
BRY Bratogost 23.04 301 ⇑*i*P **P** **07 26 56.3 +0.5**
KWP Kalwaria Pacla 23.18 320 *eP* **P** **07 26 59.2 +2.2**
KWP Kalwaria Pacla 23.18 320 P **P** **07 26 57.8 +0.7**
KWP Kalwaria Pacla 23.18 320 P **P** **07 26 57.8 +0.7**
KWP pmax pmax
comp=Z,280nm,1.4s
CRVS Cervenica-Dubn 23.48 317 *eP* **P** **07 27 01.5 +1.5**
CRVS pmax pmax
comp=Z,92nm,1.1s
CRVS Cervenica-Dubn 23.48 317 *eP* **P** **07 27 01.5 +1.5**
TIP Timpagrande 23.79 291 P **P** **07 27 03.3 +0.2**
KECS Kecovo 23.83 316 *eP* **P** **07 27 05.3 +1.9**
KECS pmax pmax
comp=Z,85nm,0.8s
KECS Kecovo 23.83 316 *eP* **P** **07 27 05.3 +1.9**
STHS Stebnicka Huta 23.86 318 *eP* **P** **07 27 04.4 +0.6**
STHS pmax pmax
comp=Z,14nm,0.9s
STHS Stebnicka Huta 23.86 318 *eP* **P** **07 27 04.4 +0.6**
MORH Mrgy, Hungar 23.99 309 ⇑P **P** **07 27 05.1 +0.1**
MNK Minsk 24.19 334 *eP* **P** **07 27 03.6 -3.0**
comp=E,31nm,1.0s
MNK *eP* **P** **07 27 03.6 -3.0**
comp=N,96nm,1.0s
MNK *eP* **P** **07 27 03.6 -3.0**
comp=Z,89nm,0.8s,baz=142
MNK *i* PP sP 07 27 35.3 +23
MNK *i* PPP PPP 07 27 43.3
MNK *i* S **S** **07 31 24.6 +0.2**
MNK *i* SS **SnSn** **07 32 13.5 +7.3**
MNK *i* SSS SSS 07 32 27.4
MNK *i* LQ LQ 07 34 52.5
MNK *i* LR LR 07 36 35.1
MNK *i* LRM MLR 07 37 37.0
comp=Z,835nm,12.3s
MNK *i* LRM MLR 07 38 00.4
comp=N,901nm,14.4s
MNK *i* LRM MLR 07 38 39.4
comp=E,615nm,14.4s
MNK Minsk 24.19 334 *eP* **P** **07 27 03.6 -3.0**
MNK *i* PPP PPP 07 27 43.3
MNK *i* S **S** **07 31 24.5 +0.2**
MNK *i* SS **SnSn** **07 32 13.5 +7.3**
MNK *i* SSS SSS 07 32 27.4
MNK pmax pmax
comp=Z,89nm,0.8s
MNK pmax pmax
comp=N,96nm,1.0s
MNK pmax pmax
comp=E,31nm,1.0s
MNK MLR MLR
comp=Z,835nm,12.0s
MNK MLR MLR
comp=N,901nm,14.0s
MNK MLR MLR
comp=E,615nm,14.0s
AAK Ala-Archa 24.24 60 *i* P **P** **07 27 06.2 -1.3**
AAK pmax pmax
comp=Z,86nm,2.9s
BUD Budapest 24.25 312 P **P** **07 27 09.0 +1.6**
BUD pmax pmax
comp=Z,132nm,0.9s
ARU Arti 24.33 18*c* *i*P **P** **07 27 07.7 -0.3**
ARU 07 27 38.2
ARU S **S** **07 31 31.0 +4.4**
ARU SS **SnSn** **07 32 18.4 +8.7**
ARU pmax pmax
comp=Z,115nm,1.3s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 24.33 18 P **P** **07 27 08.3 +0.3**
comp=Z,20nm,0.6s,baz=208,slow=9.4,SNR=3.5
comp=Z,20nm,0.6s
NIE Niedzica 24.39 317 *eP* **P** **07 27 10.7 +2.0**
NIE Niedzica 24.39 317 P **P** **07 27 10.4 +1.7**

NIE pmax pmax
comp=Z,15nm,2.2s
SGDS Sogindy 24.52 58 *eP* P 07 27 00.7 -9.2
BTLS Baital 24.53 54 *eP* P 07 27 01.4 -8.6
BTLS pmax pmax
comp=Z,88nm,1.7s
CUC Castrocucco 24.58 293 P **P** **07 27 11.6 +1.1**
LANS Liptovska Anna 24.74 316 *eP* **P** **07 27 13.8 +2.0**
LANS Liptovska Anna 24.74 316 *eP* **P** **07 27 13.8 +2.0**
VYHS Vyhne 24.80 314 *eP* **P** **07 27 13.6 +1.2**
VYHS pmax pmax
comp=Z,344nm,2.8s
VYHS Vyhne 24.80 314 *eP* **P** **07 27 13.6 +1.2**
SRO Srobarova 24.83 313 *eP* **P** **07 27 14.4 +1.8**
SRO pmax pmax
comp=Z,53nm,0.8s
SRO Srobarova 24.83 313 *eP* **P** **07 27 14.4 +1.8**
NACGM Naroch 24.90 334⇓*eP* **P** **07 27 13.6 +0.4**
comp=E,13μm,1.4s
KSH Kashi 24.93 68 LR LR
comp=E,3μm,17.1s
KSH Kashi 24.93 68 LR LR
comp=E,3μm,13.2s
KSH Kashi 24.93 68 LR LR
comp=E,2μm,15.5s
KIRV Kirov 24.94 5*ce*P **P** **07 27 14.5 +1.1**
KIRV Kirov 24.94 5 P **P** **07 27 13.7 +0.3**
comp=E,158nm,0.6s,baz=23,slow=0.7,SNR=27
comp=E,158nm,0.6s
OJC Ojcow 25.08 319 *eP* **P** **07 27 15.4 +0.5**
OJC Ojcow 25.08 319 P **P** **07 27 15.7 +0.8**
OJC Ojcow 25.08 319 P **P** **07 27 15.7 +0.8**
OJC pmax pmax
comp=Z,253nm,1.6s
SVE Sverdlovsk 25.23 19*de*P **P** **07 27 16.6 +0.5**
SVE *eS* **S** **07 31 44.5 +3.4**
SVE pmax pmax
comp=Z,147nm,1.1s
BOOM Boomskoye usch 25.26 61 P P 07 27 05.1 -12
VAE Valguarnera 25.59 287 P **P** **07 27 22.5 +2.8**
comp=Z,125nm,0.9s,baz=171,slow=12,SNR=14
comp=Z,125nm,0.9s
KOGS Kog 25.63 308 *i* P **P** **07 27 21.2 +1.4**
PTJ Puntijarka 25.64 307 P **P** **07 27 21.6 +1.5**
ISAL Salakas 25.66 334 *eP* **P** **07 27 20.4 +0.4**
JAVC Velka Javorina 25.66 314 *eP* **P** **07 27 21.4 +1.2**
MODS Modra-Piesok 25.69 313 *eP* **P** **07 27 21.9 +1.5**
MODS pmax pmax
comp=Z,154nm,1.1s
MODS Modra-Piesok 25.69 313 *eP* **P** **07 27 21.9 +1.5**
SUW Suwalki 25.70 329 *eP* **P** **07 27 18.9 -1.5**
SUW Suwalki 25.70 329 P **P** **07 27 18.4 -2.0**
SUW pmax pmax
comp=Z,234nm,0.8s
SUW Suwalki 25.70 329 *eP* **P** **07 27 19.8 -0.6**
ZST Bratislava 25.73 313 *eP* **P** **07 27 21.9 +1.2**
ZST pmax pmax
comp=Z,260nm,1.3s
ZST Bratislava 25.73 313 *eP* **P** **07 27 21.9 +1.2**
MAUC Maruska 25.79 315 *eP* **P** **07 27 22.3 +1.0**
OKC Ostrava-Krasne 25.82 317 *eP* **P** **07 27 21.9 +0.3**
OKC Ostrava-Krasne 25.82 317 *eP* **P** **07 27 21.9 +0.3**
SOP Sopron 25.86 311 P **P** **07 27 23.6 +1.6**
SOP pmax pmax
comp=Z,102nm,1.0s
CRES Cresnjev 25.96 307 *i* P **P** **07 27 24.0 +1.1**
BOJS Bojanci 26.01 306 *i* P **P** **07 27 24.4 +1.1**
RONA Rosalia, Austr 26.04 311 *eP* **P** **07 27 25.2 +1.5**
comp=Z,69nm,1.1s
BRVK Borovoye 26.07 35 *i* P **P** **07 27 23.9 +0.1**
BRVK pmax pmax
comp=Z,73nm,1.6s
BVAR Borovoye Array 26.11 35 P **P** **07 27 26.5 +2.4**
comp=Z,28nm,0.6s,baz=213,slow=4.9,SNR=13
BVAR PcP **PcP** **07 30 52.0 +0.6**
comp=Z,5.3nm,0.6s,baz=193,slow=2.8,SNR=4.5
BVAR ScP **ScP** **07 34 30.7 0.0**
comp=Z,2.8nm,0.8s,baz=225,slow=1.3,SNR=4.5
MORC Moravsky Berou 26.14 316 *eP* **P** **07 27 25.1 +0.6**
ARSA Arzberg 26.37 310 *eP* **P** **07 27 28.1 +1.5**
baz=111,slow=8.9
CONA Conrad Observa 26.39 311 *i* P **P** **07 27 28.2 +1.3**
comp=Z,45nm,1.0s,SNR=7.2
PABE Paberze 26.43 332 *eP* **P** **07 27 27.7 +0.7**
VRAC Vranov 26.49 315 *eP* **P** **07 27 28.7 +1.0**
VRAC Vranov 26.49 315 P **P** **07 27 27.9 +0.3**
comp=Z,18nm,0.8s,baz=117,slow=8.8,SNR=15
comp=Z,18nm,0.8s
SOKA Soboth 26.50 308 *e*PKiKP **PcP** **07 30 53.6 +1.1**
comp=Z,1.8nm,0.3s
SOKA Soboth 26.50 308 *eP* **P** **07 27 29.3 +1.5**
comp=Z,24nm,1.3s
KRUC Moravsky 26.51 314 *eP* **P** **07 27 28.9 +1.1**
KRUC Moravsky 26.51 314 P **P** **07 27 29.3 +1.5**
KRUC pmax pmax
comp=Z,42nm,1.2s
LJU Ljubljana 26.65 307 P **P** **07 27 33.4 +4.3**
LJU pmax pmax
comp=Z,287nm,1.0s
KRLC Kraliky 26.71 316 *eP* **P** **07 27 29.5 -0.2**
KRLC Kraliky 26.71 316 *eP* **P** **07 27 29.5 -0.2**
OBKA Obir 26.77 308 *ep*P pP 07 27 33.3 -1.1
comp=Z,67nm,1.0s
VSVD Vaisvydziai 26.79 333 *eP* **P** **07 27 30.9 +0.7**
GUMA Gualdo di Mace 26.82 300 P **P** **07 27 31.8 +1.1**
GUMA IAmb IAmb 07 27 40.6
comp=Z,41nm,0.8s
NRCA Norcia 26.94 299 P **P** **07 27 33.0 +1.2**
NRCA IAmb IAmb 07 27 36.8
comp=Z,49nm,1.0s
DPC Dobruska-Polom 27.10 316 *eP* **P** **07 27 32.8 -0.4**
DPC Dobruska-Polom 27.10 316 *eP* **P** **07 27 32.8 -0.4**
DPC *ex* x 07 27 49.0
TREC Trest 27.14 314 P **P** **07 27 34.8 +1.2**
TREC pmax pmax
comp=Z,35nm,2.3s
OSTC Ostas 27.25 317 *eP* **P** **07 27 33.4 -1.1**
OSTC Ostas 27.25 317 *eP* **P** **07 27 33.4 -1.1**
CESX Cesi 27.30 299 P **P** **07 27 36.2 +1.2**
CESX IAmb IAmb 07 27 38.6
comp=Z,45nm,0.6s
KSP Ksiaz 27.34 317 *eP* **P** **07 27 35.3 0.0**
KSP Ksiaz 27.34 317 P **P** **07 27 36.2 +0.9**
KSP pmax pmax
comp=Z,39nm,1.7s
UPC Upice 27.35 317 *eP* **P** **07 27 35.8 +0.4**
UPC Upice 27.35 317 *eP* **P** **07 27 35.8 +0.4**
CHVC Chvalec 27.36 317 *eP* **P** **07 27 35.2 -0.3**
CHVC Chvalec 27.36 317 *eP* **P** **07 27 35.2 -0.3**
MOA Molln 27.37 310 *i* P **P** **07 27 36.7 +1.0**
comp=Z,26nm,0.7s,SNR=6.0
MOA Molln 27.37 310 *eP* **P** **07 27 36.6 +0.9**
baz=111,slow=8.9
KLMR Klimovskoe 27.37 353 *eP* **P** **07 27 33.7 -1.7**
KLMR pmax pmax
comp=Z,260nm,1.5s
MYKA Terra Mystica 27.40 307 *i* P **P** **07 27 37.8 +1.9**
comp=Z,27nm,0.6s,SNR=8.9
MURB Monte Urbino 27.43 300 P **P** **07 27 38.4 +2.1**
MURB IAmb IAmb 07 27 42.3
comp=Z,63nm,0.8s
PBUR Paburge 27.61 331 *eP* **P** **07 27 38.9 +1.3**
CKRC Cesky Krumlov 27.68 312 *eP* **P** **07 27 38.3 -0.1**
CKRC Cesky Krumlov 27.68 312 *eP* **P** **07 27 38.3 -0.1**
CKRC *ex* x 07 28 01.6
BIOA Bad Ischl, Aus 27.72 310 *i* P **P** **07 27 39.6 +0.8**
comp=Z,30nm,0.6s,SNR=7.0
KBA Koelnbreinsper 27.72 308 *i* P **P** **07 27 39.8 +0.8**
comp=Z,33nm,0.7s,SNR=7.4
KBA Koelnbreinsper 27.72 308 P **P** **07 27 40.4 +1.4**
KBA pmax pmax
comp=Z,61nm,0.7s
KBA Koelnbreinsper 27.72 308 *eP* **P** **07 27 39.6 +0.6**
baz=111,slow=8.9
VSU Vasula 27.75 339*ce*P **P** **07 27 39.5 +0.7**
VSU pmax pmax
comp=Z,96nm,1.7s
VSU Vasula 27.75 339 *eP* **P** **07 27 39.1 +0.3**
GOPC GO Pecny, Ondr 27.81 315 *eP* **P** **07 27 40.5 +1.0**
GOPC *e* 07 27 53.0
GOPC GO Pecny, Ondr 27.81 315 *eP* **P** **07 27 40.5 +1.0**
GOPC *ex* x 07 27 53.0
ZVC Zvikov 27.98 313 *eP* **P** **07 27 41.1 +0.1**
PRU Pruhonice 27.99 315 *eP* **P** **07 27 41.4 +0.3**

PRU **Pruhonice** 27.99 315 *e*P P 07 27 41.4 +0.3
GEC2 **GERESS Array S** 28.07 312 P P 07 27 42.3 +0.4
GEC2 **GERESS Array S** 28.07 312 *e*P P 07 27 41.3 -0.7
comp=Z,5.3nm,0.7s,baz=111,slow=8.9
GERES **GERESS Array B** 28.07 312 P P 07 27 42.7 +0.8
GERES **GERESS Array B** 28.07 312 P P 07 27 41.2 -0.7
comp=Z,2.7nm,0.5s,baz=113,slow=7.5,SNR=11
GERES PcP **PcP** 07 30 56.3 +0.1
comp=Z,3.1nm,0.6s,baz=131,slow=3.1,SNR=4.4
GERES ScP **ScP** 07 34 35.9 -0.9
comp=Z,0.3nm,0.3s,baz=354,slow=6.9,SNR=2.2
comp=Z,2.7nm,0.5s
ABTA **Abfaltersbach** 28.18 307 *e*P P 07 27 44.0 +1.1
comp=Z,10nm,0.8s
KHC **Kasperske Hory** 28.24 313 *ce*P P 07 27 44.8 +1.4
KHC pmax pmax
comp=Z,64nm,1.7s
KHC **Kasperske Hory** 28.24 313 *e*P P 07 27 43.3 -0.1
KHC *ex* x 07 28 08.5
LESA **Schwarzleotal** 28.26 309 *e*PKiKP **PcP** 07 30 57.3 +0.6
comp=Z,4.9nm,0.4s
LESA **Schwarzleotal** 28.26 309 *e*P P 07 27 44.1 +0.4
comp=Z,20nm,0.6s
TEOL **Teolo** 28.42 304 P P 07 27 45.7 +0.7
TEOL IAmb IAmb 07 28 31.3
comp=Z,42nm,0.7s
CTI **Castel Tesino** 28.58 306 P 07 27 46.3 -0.3
CTI IAmb IAmb 07 27 48.7
comp=Z,28nm,0.6s
CTI **Castel Tesino** 28.58 306 P P 07 27 46.3 -0.3
CTI pmax pmax
comp=Z,28nm,0.6s
SLIT **Slitere, Latvi** 28.61 334 *e*P P 07 27 46.3 -0.1
WET **Wettzell** 28.68 312 *e*P P 07 27 46.2 -1.1
comp=Z,39nm,1.6s,baz=111,slow=8.9
BRG **Berggiesshubel** 28.70 316 *e*P P 07 27 47.0 -0.4
BRG Amp 07 27 49.7
comp=Z,6.9nm,1.0s
BRG Amp 07 35 05.0
comp=E,2.5nm,15.2s
BRG Amp 07 35 08.0
comp=N,1.9nm,16.6s
BRG Amp 07 35 10.0
comp=Z,3.1nm,14.8s
BRG Amp 07 42 40.0
comp=E,1.8nm,13.0s
BRG Amp 07 42 42.0
comp=N,1.3nm,15.1s
BRG Amp 07 42 45.0
comp=Z,2.0nm,13.8s
BRG **Berggiesshubel** 28.70 316 *e*P P 07 27 47.0 -0.4
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG **Berggiesshubel** 28.70 316 *e*P P 07 27 46.9 -0.5
comp=Z,25nm,1.4s,baz=111,slow=8.9
ZCCA **Zocca** 28.71 302 P P 07 27 48.3 +0.6
ZCCA IAmb IAmb 07 27 59.7
comp=Z,77nm,0.8s
MTSE **Matsula** 28.88 336 *e*P P 07 27 50.1 +1.2
HSKC **Hora Svate Kat** 28.89 315 *e*P P 07 27 49.4 +0.3
WTTA **Wattenberg** 28.89 308 *e*PKiKP **PcP** 07 30 58.8 +0.4
comp=Z,9.0nm,0.7s
WTTA **Wattenberg** 28.89 308 *e*P P 07 27 49.6 +0.2
comp=Z,18nm,0.5s
WTTA **Wattenberg** 28.89 308 P P 07 27 46.8 -2.6
WTTA pmax pmax
comp=Z,35nm,0.6s
WATA **Walderalm** 28.95 308 *e*PKiKP **PcP** 07 30 58.9 +0.4
comp=Z,14nm,0.9s
WATA **Walderalm** 28.95 308 *e*P P 07 27 49.9 0.0
comp=Z,11nm,0.5s
SQTA **Sankt Quirin** 29.16 308 *e*PKiKP **PcP** 07 30 60.0 +1.0
comp=Z,11nm,0.7s
SQTA **Sankt Quirin** 29.16 308 *i*P P 07 27 51.9 +0.2
comp=Z,40nm,0.5s,SNR=10
MOTA **Moosalm** 29.27 308 *e*PKiKP **PcP** 07 31 00.3 +1.0
comp=Z,8.3nm,0.7s
MOTA **Moosalm** 29.27 308 *i*P P 07 27 52.5 -0.1
comp=Z,29nm,0.5s,SNR=8.2
KURBB **Kurchatov Arra** 29.29 45 P P 07 27 52.1 -0.5
comp=Z,6.6nm,0.7s,baz=252,slow=9.2,SNR=6.0
KURBB PcP **PcP** 07 30 58.5 -0.6
comp=Z,2.6nm,0.6s,baz=241,slow=2.9,SNR=7.9
KURBB ScP **ScP** 07 34 40.2 -0.3
comp=Z,5.7nm,0.9s,baz=252,slow=4.0,SNR=11
comp=Z,6.6nm,0.7s
ROTZ **Rotzenmuhle** 29.30 313 *e*P P 07 27 53.6 +0.8
comp=Z,8.9nm,0.9s,baz=111,slow=8.9
NKC **Novy Kostel** 29.32 314 P P 07 27 53.5 +0.5
NKC pmax pmax
comp=Z,28nm,1.1s
FUR **Furstenfeldbru** 29.38 310 P P 07 27 54.0 +0.5
FUR pmax pmax
comp=Z,137nm,0.6s
FUR **Furstenfeldbru** 29.38 310 *e*P P 07 27 53.5 0.0
comp=Z,73nm,0.6s,baz=111,slow=8.9
KURK **Kurchatov** 29.38 45 P P 07 27 52.1 -1.3
KURK 07 30 58.5
KURK 07 34 40.2
CLL **Collm** 29.41 316 P 07 27 54.2 +0.5
CLL **Collm** 29.41 316 *i*P P 07 27 53.7 -0.1
CLL *i* 07 28 07.3
CLL pmax pmax
comp=Z,40nm,1.4s
CLL **Collm** 29.41 316 *i*P P 07 27 53.7 -0.1
comp=Z,40nm,1.4s
CLL *i*x x 07 28 07.3
CLL *e*PP **PP** 07 28 56.0 -4.1
CLL **Collm** 29.41 316 *e*P P 07 27 53.6 -0.1
comp=Z,39nm,1.4s,baz=111,slow=8.9
FETA **Feichten** 29.43 307 *e*pPKiKP **PcP** 07 31 01.1 +1.4
comp=Z,10.0nm,0.7s
FETA **Feichten** 29.43 307 *i*P P 07 27 54.6 +0.4
comp=Z,11nm,0.5s
MANZ **Manzenberg** 29.44 313 *e*P P 07 27 54.3 +0.3
comp=Z,2.8nm,1.0s,baz=111,slow=8.9
VSL **Villasalto** 29.51 292 P P 07 27 55.2 +0.4
VSL IAmb IAmb 07 27 57.6
comp=Z,52nm,0.7s
RETA **Reutte** 29.53 308 *i*P P 07 27 54.6 -0.3
comp=Z,17nm,0.5s,SNR=6.4
FUORN **Ofenpass-Fuorn** 29.65 306 P 07 27 57.0 +0.8
KEST **Kesra** 29.78 284 P P 07 27 58.3 +1.0
comp=Z,13nm,0.6s,baz=27,slow=4.1,SNR=16
KEST PcP **PcP** 07 31 01.7 +0.9
comp=Z,8.5nm,0.8s,baz=333,slow=5.0,SNR=2.6
comp=Z,13nm,0.6s
MEF **Metsahovi** 29.88 339 *e*P P 07 27 58.3 +0.6
GRA1 **Grafenberg Arr** 29.88 313 P P 07 27 58.1 +0.2
GRF **Grafenberg Arr** 29.88 313 P P 07 27 58.1 +0.2
GRF pmax pmax
comp=Z,189nm,1.6s
GRF **Grafenberg Arr** 29.88 313 *e*P P 07 27 58.2 +0.3
comp=Z,118nm,1.4s,baz=111,slow=8.9
GRFO **Grafenberg** 29.88 313 P P 07 27 58.4 +0.5
GRFO **Grafenberg** 29.88 313 P P 07 27 58.4 +0.5
GRFO pmax pmax
comp=Z,175nm,1.6s
DAVOX **Davos/Dischmat** 29.94 306 P P 07 27 59.4 +0.7
comp=Z,9.2nm,0.5s,baz=137,slow=4.4,SNR=15
DAVOX PcP **PcP** 07 31 01.8 +0.7
comp=Z,5.2nm,0.7s,baz=74,slow=4.0,SNR=3.4
comp=Z,9.2nm,0.5s
MOX **Moxa** 29.97 315 *e*P P 07 27 58.0 -0.7
comp=Z,30nm,1.5s,baz=111,slow=8.9
UBR **Ueberruh** 30.00 308 *e*P P 07 27 58.6 -0.5
comp=Z,32nm,0.6s,baz=111,slow=8.9
DAVA **Damuels** 30.06 307 *i*P P 07 27 59.4 -0.3
comp=Z,58nm,0.5s,SNR=9.9
BSD **Bornholm Skovb** 30.19 324 *e*P P 07 27 60.0 -0.6
BSD **Bornholm Skovb** 30.19 324 *e*P P 07 28 00.6 0.0
TUE **Stuetta** 30.24 306 P P 07 28 01.6 +0.3
TUE IAmb IAmb 07 28 12.0
comp=Z,76nm,1.8s
FINES **FINESS Array B** 30.40 341 P P 07 28 02.1 -0.2
FINES **FINESS Array B** 30.40 341 P P 07 28 02.6 +0.3
comp=Z,11nm,0.5s,baz=146,slow=10,SNR=39
FINES PcP **PcP** 07 31 02.1 +0.4
comp=Z,5.5nm,0.7s,baz=112,slow=5.1,SNR=3.8
comp=Z,11nm,0.5s
FIA1 **FINESS Array S** 30.40 341 P P 07 28 01.8 -0.5
FIA1 IAmb IAmb 07 29 01.7
comp=Z,67nm,1.0s
MK31 **Makanchi Array** 30.54 54 *ce*P P 07 28 04.5 +0.7
MKAR **Makanchi Array** 30.54 54 P P 07 28 04.1 +0.2
comp=Z,33nm,0.5s,baz=259,slow=8.4,SNR=51
comp=Z,33nm,0.5s

FLTG **Flechtingen** 30.83 317 *e*P P 07 28 06.2 0.0
comp=Z,12nm,0.8s,baz=111,slow=8.9
UBBA **Unterbreizbach** 30.99 314 *e*P P 07 28 07.0 -0.6
comp=Z,29nm,1.6s,baz=111,slow=8.9
GORT1 **Trebel** 31.06 319 *e*P P 07 28 09.2 +1.1
comp=Z,149nm,1.5s,baz=111,slow=8.9
CLZ **Clausthal** 31.13 316 *e*P P 07 28 09.7 +0.7
baz=111,slow=8.9
LUNU **Lund** 31.18 324 *e*P P 07 28 09.3 0.0
GTTG **Gottingen** 31.26 315 *e*P P 07 28 10.5 +0.5
comp=Z,28nm,1.2s,baz=111,slow=8.9
RAF **Rauma** 31.32 338 *e*P P 07 28 10.5 +0.1
BFO **Black Forest** 31.32 309 P 07 28 11.0 +0.3
BFO IAmb IAmb 07 28 12.5
comp=Z,61nm,1.8s
BFO **Black Forest** 31.32 309 P P 07 28 11.0 +0.3
BFO pmax pmax
comp=Z,61nm,1.8s
BFO **Black Forest** 31.32 309 *e*P P 07 28 10.9 +0.3
comp=Z,13nm,1.0s,baz=111,slow=8.9
DEL **Delary** 31.42 326 *e*P P 07 28 11.6 +0.2
NRDL **Niedersach Rie** 31.53 317 *e*P P 07 28 13.9 +1.6
comp=Z,60nm,1.5s,baz=111,slow=8.9
SENIN **Lac Senin/Sane** 31.61 305 P 07 28 12.7 -0.8
TNS **Taunus Mts** 31.75 312 *e*P P 07 28 14.6 +0.1
comp=Z,69nm,1.5s,baz=111,slow=8.9
BSEG **Bad Segeberg** 31.99 320 *e*P P 07 28 17.9 +1.5
comp=Z,34nm,1.1s,baz=111,slow=8.9
RETH **Rethem/Aller,** 32.04 317 *e*P P 07 28 18.1 +1.2
comp=Z,123nm,1.5s,baz=111,slow=8.9
ECH **Echery** 32.06 308 P 07 28 17.6 +0.4
ECH IAmb IAmb 07 28 18.2
comp=Z,48nm,1.5s
ECH **Echery** 32.06 308 P P 07 28 17.6 +0.4
ECH pmax pmax
comp=Z,49nm,1.5s
KASTN **Kahler Asten** 32.06 314 *e*P P 07 28 17.6 +0.4
comp=Z,57nm,1.4s,baz=111,slow=8.9
FABU **Falkenberg** 32.24 326 *e*P P 07 28 19.0 +0.4
BORU **Boraas** 32.56 327 *e*P P 07 28 21.5 +0.1
AHRW **Bad Neuenahr-A** 32.68 313 *e*P P 07 28 23.1 +0.6
comp=Z,74nm,1.6s,baz=111,slow=8.9
IBBN **Ibbenburen** 32.81 316 *e*P P 07 28 25.2 +1.5
comp=Z,42nm,1.1s,baz=111,slow=8.9
ONAU **Onsala** 32.82 326 *e*P P 07 28 24.2 +0.6
BUG **Bochum--Univer** 32.82 314 *e*P P 07 28 24.9 +1.2
comp=Z,66nm,1.5s,baz=111,slow=8.9
WLF **Walferdange** 33.03 311 *d*P P 07 28 25.5 -0.1
WLF **Walferdange** 33.03 311 P P 07 28 25.7 +0.1
WLF **Walferdange** 33.03 311 *e*P P 07 28 25.7 +0.1
comp=Z,12nm,0.6s,baz=111,slow=8.9
BHOU **Houvegnez** 33.29 312 *d*P P 07 28 28.9 +0.9
SSB **Saint Sauveur** 33.38 302 P P 07 28 28.7 -0.1
SSB **Saint Sauveur** 33.38 302 P P 07 28 28.7 -0.1
SSB pmax pmax
comp=Z,24nm,0.9s
MAHO **Mahon** 33.45 293 P P 07 28 30.7 +1.4
HFS **Hagfors** 33.60 331 P P 07 28 30.5 0.0
comp=Z,75nm,0.4s,baz=123,slow=11,SNR=4.9
comp=Z,75nm,0.4s
MUD **Monsted U'grnd** 33.67 323 *i*P P 07 28 32.0 +0.9
MUD IAmb IAmb 07 28 33.8
comp=Z,44nm,0.6s
WMQ **Urumqi** 33.95 60 PP PP 07 29 35.7 -15
WMQ **Urumqi** 33.95 60 *s*P P 07 28 34.2 +0.4
WMQ **Urumqi** 33.95 60 *e*P P 07 28 25.9 -7.9
WMQ **Urumqi** 33.95 60 pmax pmax
comp=Z,20nm,1.1s
ZALV **Zalesovo Beam** 34.10 42 P P 07 28 34.3 -0.6
comp=Z,11nm,0.4s,baz=258,slow=7.4,SNR=4.1
comp=Z,11nm,0.4s
DOU **Dourbes** 34.11 311 *d*P P 07 28 35.3 +0.3
APA **Apatity** 34.57 352 *i*P P 07 28 36.7 -2.0
APA *i*S S 07 34 08.0 +0.9
APA pmax pmax
comp=Z,39nm,0.6s
APA MLR MLR
comp=Z,1μm,12.0s
OSL **Oslo** 34.71 330 *e*P P 07 28 40.0 0.0
OSL IAmb IAmb 07 28 40.5
comp=Z,100nm,1.3s
LVZ **Lovozero** 34.74 353 P P 07 28 39.4 -1.0
LVZ IAmb IAmb 07 28 42.4
comp=Z,55nm,0.6s
LVZ **Lovozero** 34.74 353 *i*P P 07 28 40.7 +0.4
LVZ pmax pmax
comp=Z,49nm,0.6s
NC602 **NORSAR Array S** 34.82 331 P P 07 28 40.3 -0.7
NC602 **NORSAR Array S** 34.82 331 *e*P P 07 28 40.8 -0.2
NC405 **NORSAR Array S** 34.97 332 P P 07 28 40.9 -1.5
KONO **Kongsberg** 35.04 329 P P 07 28 42.0 -0.9
KONO **Kongsberg** 35.04 329 *i*P P 07 28 43.4 +0.5
KONO pmax pmax
comp=Z,21nm,0.8s
KONO **Kongsberg** 35.04 329 *e*P P 07 28 43.0 +0.1
NB2 **NORSAR Subarra** 35.13 331 P P 07 28 42.8 -0.9
comp=Z,10nm,0.6s,baz=125,slow=8.6
NB2 **NORSAR Subarra** 35.13 331 P P 07 28 42.8 -0.9
baz=125,slow=8.6
NOA **NORSAR Array B** 35.13 331 P P 07 28 43.0 -0.7
comp=Z,6.6nm,0.5s,baz=124,slow=8.6,SNR=25
NOA PP **PP** 07 30 02.2 -1.2
comp=Z,2.7nm,0.6s,baz=123,slow=11,SNR=3.7
NOA PcP **PcP** 07 31 14.6 -0.3
comp=Z,1.9nm,0.6s,baz=145,slow=1.4,SNR=3.9
comp=Z,6.6nm,0.5s
CLF **Chambon-Foret** 35.26 307 P P 07 28 44.7 -0.2
NBO00 **NORSAR Array S** 35.30 331 P P 07 28 44.4 -0.8
KMBO **Kilima Mbogo** 35.61 195 *i*P P 07 28 50.0 +1.5
KMBO pmax pmax
comp=Z,2.0nm,0.3s
KMBO **Kilima Mbogo** 35.61 195 P P 07 28 47.5 -1.1
comp=Z,1.8nm,0.3s,baz=41,slow=15,SNR=3.5
comp=Z,1.8nm,0.3s
EIBI **Ibiza** 35.77 291 P P 07 28 50.7 +1.2
SKAR **Skarslia** 36.13 330 *e*P P 07 28 52.7 +0.4
BLS5 **Blasjo** 36.32 327 *e*P P 07 28 54.4 +0.5
ODD1 **Odda** 36.47 328 *e*P P 07 28 56.1 +0.8
DOMB **Dombas** 36.55 332 *e*P P 07 28 56.1 +0.2
KMY **Karmoy** 36.78 326 *e*P P 07 28 58.0 +0.2
TBLU **Trondheim** 36.79 334 *e*P P 07 28 58.5 +0.7
MBAR **Mbarara** 36.96 205 *ce*P P 07 29 02.9 +2.9
MBAR pmax pmax
comp=Z,9.0nm,1.0s
NSS **Namsos** 36.99 337 *e*P P 07 28 59.7 +0.1
NSS IAmb IAmb 07 29 00.4
comp=Z,34nm,0.6s
BER **Bergen** 37.26 328 *e*P P 07 29 02.8 +0.9
HYA **Hoyanger** 37.27 329 *e*P P 07 29 02.7 +0.8
MOR8 **Moi Rana** 37.33 340 *e*P P 07 29 02.0 -0.4
MOR8 IAmb IAmb 07 29 03.2
comp=Z,18nm,0.7s
ASK **Askoy** 37.37 328 *e*P P 07 29 04.1 +1.2
MOL **Molde** 37.43 332 *e*P P 07 29 03.6 +0.3
MOL IAmb IAmb 07 29 04.5
comp=Z,19nm,0.7s
AKN **Aaknes** 37.44 331 *e*P P 07 29 04.1 +0.6
KTK1 **Kautokeino** 37.46 347 *e*P P 07 29 03.7 +0.2
KEV **Kevo** 37.48 349 P P 07 29 02.6 -1.0
KEV IAmb IAmb 07 29 05.1
comp=Z,190nm,1.9s
KEV **Kevo** 37.48 349 P P 07 29 02.6 -1.0
KEV pmax pmax
comp=Z,190nm,1.9s
VADS **Vadso** 37.48 351 *e*P P 07 29 03.8 +0.2
ECHE **Chera** 37.49 293 P P 07 29 05.3 +1.1
ARA0 **ARCESS Array S** 37.52 349 *e*P P 07 29 03.8 -0.3
ARCES **ARCESS Array B** 37.52 349 P P 07 29 02.9 -1.1
ARCES **ARCESS Array B** 37.52 349 P P 07 29 03.3 -0.7
comp=Z,13nm,0.7s,baz=170,slow=8.4,SNR=18
ARCES PP **PP** 07 30 28.1 -1.4
comp=Z,7.7nm,0.6s,baz=146,slow=8.8,SNR=4.6
comp=Z,13nm,0.7s
SUE **Sulen** 37.82 329 *e*P P 07 29 07.3 +0.7
STOK **Stokkvaagen** 37.86 339 *e*P P 07 29 06.9 +0.1
KONS **Konsvik** 37.94 339 *e*P P 07 29 07.7 +0.2
FOO **Floro** 37.96 330 *e*P P 07 29 08.1 +0.3
FAUS **Fauske** 37.96 341 *e*P P 07 29 07.8 0.0
ETOB **Tobarra** 38.05 291 P P 07 29 10.2 +1.2
TLOR **Lorca, Murcia** 38.30 290 P P 07 29 11.3 +0.2
JSA **Saint Aubin** 38.31 308 *e*P P 07 29 10.8 -0.1
JSA IAmb IAmb 07 29 11.8
comp=Z,51nm,0.6s
GDLE **Glaisdale, N Y** 38.33 317 *e*P P 07 29 11.1 +0.1
GDLE IAmb IAmb 07 29 12.3
comp=Z,54nm,0.7s
SWN1 **Swindon** 38.36 312 *e*P P 07 29 12.3 +0.9
SWN1 IAmb IAmb 07 29 13.0
comp=Z,123nm,0.7s
STEI **Steigen** 38.38 342 *e*P P 07 29 10.9 -0.3
JETT **Jettan, Norway** 38.47 346 *e*P P 07 29 12.1 0.0
HAMF **Hammerfest** 38.80 349 *e*P P 07 29 14.2 -0.5
ENJJ **Nijar** 38.82 289 P P 07 29 15.5 +0.1
TRO **Tromso** 38.84 345 *e*P P 07 29 14.7 -0.4
LOF **Lofoten** 38.97 342 *e*P P 07 29 15.6 -0.6
MONM **Monmouth** 39.03 312 *e*P P 07 29 17.1 +0.2
MONM IAmb IAmb 07 29 18.2
comp=Z,45nm,0.8s
EDMD **Edmundbyers** 39.07 317 *e*P P 07 29 17.5 +0.2
UCM **Universidad Co** 39.15 294 P P 07 29 19.5 +1.3
MCH1 **Michaelchurch** 39.17 313 *e*P P 07 29 17.7 -0.4
MCH1 IAmb IAmb 07 29 19.0
comp=Z,66nm,0.7s
EBER **Berja** 39.38 289 P P 07 29 19.9 -0.3
FOEL **Foel Wylfa** 39.43 314 *e*P P 07 29 21.1 +0.8
FOEL IAmb IAmb 07 29 21.9
comp=Z,69nm,0.8s
LLW **Llanuwchllyn** 39.70 314 *e*P P 07 29 22.3 -0.2
EMLI **Melilla** 39.74 286 P P 07 29 23.8 +0.8
EQTA **Presa de Quent** 39.76 289 P P 07 29 23.4 0.0
ESBB **Sonseca Array** 39.78 293 P P 07 29 23.6 +0.2
ESBB IAmb IAmb 07 29 25.6
comp=Z,80nm,1.4s
ESDC **Sonseca Array** 39.78 293 P P 07 29 23.5 0.0
ESDC **Sonseca Array** 39.78 293 P P 07 29 23.8 +0.4
comp=Z,13nm,0.5s,baz=80,slow=8.3,SNR=43
ESDC PcP **PcP** 07 31 30.0 +0.4
comp=Z,3.9nm,0.7s,baz=45,slow=3.0,SNR=6.8
comp=Z,13nm,0.5s
DRUM **Mains of Drumt** 39.85 320 *e*P P 07 29 24.0 +0.3
DRUM IAmb IAmb 07 29 25.0
comp=Z,66nm,0.8s
EKA **Eskdalemuir Ar** 39.85 318 P P 07 29 23.8 0.0
comp=Z,17nm,0.6s,baz=101,slow=9.1,SNR=59
EKA PcP **PcP** 07 31 30.0 +0.6
comp=Z,3.7nm,0.6s,baz=115,slow=5.1,SNR=4.7
comp=Z,17nm,0.6s
ESK **Eskdalemuir** 39.88 318 P P 07 29 23.1 -0.8
ESK IAmb IAmb 07 29 32.4
comp=Z,106nm,1.6s
ESK **Eskdalemuir** 39.88 318 *e*P P 07 29 24.1 +0.2
ESK **Eskdalemuir** 39.88 318 P P 07 29 23.1 -0.8
ESK pmax pmax
comp=Z,106nm,1.7s
ELGU **Los Guajares,** 39.96 289 P P 07 29 26.1 +1.1
SBD **Saint Breward** 40.06 310 *e*P P 07 29 25.6 +0.1
PAB **San Pablo** 40.09 293 P P 07 29 26.0 0.0
PAB IAmb IAmb 07 29 28.1
comp=Z,73nm,1.4s
PAB **San Pablo** 40.09 293 P P 07 29 26.0 0.0
PAB pmax pmax
comp=Z,73nm,1.4s
WLF1 **Llynfaes** 40.20 315 *e*P P 07 29 26.9 +0.2
EGOR **Sierra Gorda,** 40.30 289 P P 07 29 27.2 -0.7
NEWG **New Galloway** 40.41 317 *e*P P 07 29 28.4 0.0
NEWG IAmb IAmb 07 29 29.8
comp=Z,14nm,0.5s
MCD **Coleburn Disti** 40.42 321 *e*P P 07 29 28.5 +0.1
MCD IAmb IAmb 07 29 29.8
comp=Z,86nm,0.6s
EADA **Adamuz** 40.48 291 P P 07 29 30.4 +1.2
WIM **Isle of Man** 40.50 316 *e*P P 07 29 29.2 +0.1
EMAL **Malagas Limoner** 40.61 289 P P 07 29 30.4 +0.1
GAL1 **Galloway** 40.64 317 *e*P P 07 29 29.6 -0.6
PVLZ **Peæn de** 40.84 287 P P 07 29 32.9 +0.7
EMIJ **Mijas** 40.92 289 P P 07 29 32.6 -0.3
ECAB **El Cabril** 41.15 291 P P 07 29 35.1 +0.4
LAWE **Loch Awe, Argy** 41.28 319 *e*P P 07 29 35.2 -0.3
LAWE IAmb IAmb 07 29 37.8
comp=Z,33nm,0.8s
ECEU **Ceuta** 41.54 288 P P 07 29 37.8 -0.1
ECAL **Calabor** 41.59 297 P P 07 29 38.9 +0.5
PBRG **Braganca** 41.61 297 *e*P P 07 29 39.8 +1.3
comp=Z,65nm,0.6s
ESPR **Espera** 41.72 289 P P 07 29 39.3 -0.1
IFR **Ifrane** 41.91 284 P P 07 29 43.2 +2.0
MVO **Moncorvo** 41.91 296 *e*P P 07 29 42.1 +1.1
comp=Z,90nm,0.9s
SFS **San Fernando** 42.07 289 P P 07 29 42.2 -0.1
EBAD **Badajoz** 42.26 292 P P 07 29 44.3 +0.5
PBAR **Barrancos** 42.39 292 *e*P P 07 29 44.7 -0.1
comp=Z,95nm,1.4s
PBAR **Barrancos** 42.39 292 P P 07 29 45.5 +0.6
MTE **Manteigas** 42.40 295 *e*P P 07 29 45.9 +0.9
PVRL **Vila Real** 42.41 296 *e*P P 07 29 45.8 +0.8
comp=Z,138nm,2.4s
PCBR **Castelo Branco** 42.44 294 *e*P P 07 29 46.2 +1.0
comp=Z,131nm,0.9s
PMRV **Marv??o** 42.44 293 *e*P P 07 29 45.9 +0.6
POLO **Lamas de Olo** 42.45 296 *e*P P 07 29 46.2 +0.8
comp=Z,47nm,2.2s
NRIK **Noril'sk** 42.49 21 *ce*P P 07 29 45.9 +0.7
NRIK pmax pmax
comp=Z,118nm,1.5s
NRIK **Noril'sk** 42.49 21 P P 07 29 46.0 +0.8
comp=Z,20nm,0.6s,baz=234,slow=7.6,SNR=17
comp=Z,20nm,0.6s
PVIS **Viseu** 42.62 295 *e*P P 07 29 47.7 +0.9
PESTR **Estremoz** 42.69 293 *e*P P 07 29 47.5 +0.3
comp=Z,61nm,1.5s
PESTR **Estremoz** 42.69 293 P P 07 29 47.0 -0.3
PESTR IAmb IAmb 07 29 48.8
comp=Z,41nm,0.7s
PESTR **Estremoz** 42.69 293 P P 07 29 47.6 +0.3
PGAV **Gavieira, Arco** 42.73 297 *e*P P 07 29 47.3 -0.4
comp=Z,199nm,1.3s
BJO1 **Bjornoya** 42.84 350 *e*P P 07 29 48.0 0.0
PBEJ **Beja** 43.05 292 *e*P P 07 29 50.8 +0.5
comp=Z,75nm,1.1s
PVAQ **Vaqueiros** 43.06 291 *e*P P 07 29 51.1 +0.8
PVAQ **Vaqueiros** 43.06 291 P P 07 29 51.1 +0.8
PVAQ **Vaqueiros** 43.06 291 P P 07 29 50.9 +0.6
EVO **Evora** 43.07 292 *e*P P 07 29 51.6 +1.2
comp=Z,46nm,2.0s
COI **Coimbra** 43.09 295 *e*P P 07 29 51.6 +1.1
COI **Coimbra** 43.09 295 P P 07 29 51.1 +0.6
COI **Coimbra** 43.09 295 P P 07 29 51.1 +0.6
COI pmax pmax
comp=Z,103nm,0.7s
PTO **Porto** 43.09 296 *e*P P 07 29 52.1 +1.6
PMTG **Montargil** 43.14 293 *e*P P 07 29 51.5 +0.6
PCAS **Casmilo, Conde** 43.17 295 *e*P P 07 29 52.5 +1.3
comp=Z,156nm,1.5s
IGLA **Glengowla, Co** 43.18 314 *e*P P 07 29 51.2 +0.2
PBDV **Barranco-do-Ve** 43.26 290 *e*P P 07 29 53.0 +1.0
comp=Z,82nm,1.4s
PCVE **Castro Verde** 43.27 291 *e*P P 07 29 52.6 +0.6
comp=Z,55nm,1.4s
PCVE **Castro Verde** 43.27 291 P P 07 29 52.5 +0.6
GTA **Gaotai** 43.31 66 LR LR
comp=Z,790nm,13.4s
GTA **Gaotai** 43.31 66 LR LR
comp=Z,660nm,13.4s
GTA **Gaotai** 43.31 66 LR LR
comp=Z,730nm,14.5s
MESJ **Messejana** 43.37 291 *e*P P 07 29 53.2 +0.4
comp=Z,59nm,1.7s
MESJ **Messejana** 43.37 291 P P 07 29 53.0 +0.2
MESJ IAmb IAmb 07 30 02.5
comp=Z,28nm,0.8s
MESJ **Messejana** 43.37 291 *e*P P 07 29 52.5 -0.3
MESJ pmax pmax
comp=Z,21nm,0.8s
MESJ **Messejana** 43.37 291 *e*P P 07 29 52.6 -0.3
MESJ IAmb IAmb 07 29 57.2
comp=Z,21nm,0.8s
PNCL **Nicolau / Gran** 43.55 292 *e*P P 07 29 55.4 +1.1
comp=Z,51nm,1.6s
AVE **Averroes** 43.81 285 P P 07 29 57.0 +0.6
AVE **Averroes** 43.81 285 P P 07 29 57.6 +1.2
HOPEN **Hopen** 43.86 353 *e*P P 07 29 56.7 +0.5
HOPEN IAmb IAmb 07 29 58.0
comp=Z,156nm,0.6s
PMAFR **Mafra** 43.97 293 *e*P P 07 29 56.6 -1.0
comp=Z,306nm,1.7s
PFVI **Vila Bisbo** 43.99 291 P P 07 29 58.2 +0.4
TIO **Tiouine** 44.38 281 P P 07 30 02.0 +0.8
TORD **Torodi Ar. Bea** 44.83 254 P P 07 30 05.5 +0.8
comp=Z,14nm,0.7s,baz=53,slow=6.5,SNR=40
TORD PcP **PcP** 07 31 46.3 -0.3

comp=Z,2.7nm,0.8s,baz=42,slow=5.0,SNR=1.7
comp=Z,14nm,0.7s
SPB2 Spitsbergen Ar 46.25 352 P **P** 07 30 14.6 -0.6
SPA0 Spitsbergen Ar 46.26 352 *e*P **P** 07 30 16.1 +0.7
SPA0 IAmb IAmb 07 30 23.5
comp=Z,243nm,1.5s
SPITS Spitsbergen Ar 46.26 352 P **P** 07 30 15.1 -0.2
SPITS pmax pmax
comp=Z,73nm,0.8s
SPITS Spitsbergen Ar 46.26 352 P **P** 07 30 16.2 +0.8
comp=Z,45nm,0.5s,baz=131,slow=8.9,SNR=54
SPITS PcP **PcP** 07 31 50.9 +0.4
comp=Z,3.8nm,0.6s,baz=152,slow=6.4,SNR=1.3
SPITS PP **PP** 07 32 01.1 -2.5
comp=Z,8.4nm,0.6s,baz=127,slow=17,SNR=2.6
comp=Z,45nm,0.5s
SONM Songino Array 46.91 54 P **P** 07 30 21.2 +0.3
comp=Z,4.4nm,0.5s,baz=278,slow=8.4,SNR=8.2
SONM ScP **ScP** 07 35 45.2 -1.7
comp=Z,2.7nm,0.9s,baz=286,slow=4.5,SNR=7.0
comp=Z,4.4nm,0.5s
LZH Lanzhou 47.15 70 LR LR
comp=Z,2μm,15.1s
LZH Lanzhou 47.15 70 LR LR
comp=Z,2μm,15.8s
LZH Lanzhou 47.15 70 LR LR
comp=Z,2μm,14.1s
ULN Ulaanbaatar 47.35 54 *i*P **P** 07 30 23.7 -0.7
ULN pmax pmax
comp=Z,34nm,0.7s
KBS Kingsbay 47.39 352 P **P** 07 30 23.0 -1.1
KBS IAmb IAmb 07 30 25.7
comp=Z,31nm,0.8s
KBS Kingsbay 47.39 352 *ce*P **P** 07 30 26.0 +1.9
KBS pmax pmax
comp=Z,24nm,0.7s
KBS Kingsbay 47.39 352 *e*P **P** 07 30 24.2 +0.1
KBS IAmb IAmb 07 30 25.5
comp=Z,62nm,1.2s
KBS Kingsbay 47.39 352 *e*P **P** 07 30 24.5 +0.3
CHTO Chiang Mai 49.54 93 IAmb IAmb 07 30 48.7
comp=Z,48nm,1.4s
CMAR Chiang Mai Arr 49.71 94 P **P** 07 30 41.2 -1.6
comp=Z,7.8nm,0.6s,baz=290,slow=8.8,SNR=5.7
comp=Z,7.8nm,0.6s
SCO Scoresbysund 51.10 336 P **P** 07 30 52.0 -0.5
SCO IAmb IAmb 07 31 54.5
comp=Z,112nm,2.0s
SCO Scoresbysund 51.10 336 P **P** 07 30 52.0 -0.5
SCO pmax pmax
comp=Z,112nm,2.0s
DAG Danmarks Havn 51.55 345 *e*P **P** 07 30 56.0 +0.1
DAG IAmb IAmb 07 30 56.9
comp=Z,152nm,1.9s
PMAR Madeira 51.59 287 *e*P **P** 07 30 58.5 +1.5
XAN Xi'an 51.73 71 ⇓P **P** 07 30 57.3 -0.6
XAN pP sP 07 31 05.1 +1.1
XAN pmax pmax
comp=Z,58nm,0.6s
HHC Hu-ho-hao-te 51.80 62 LR LR
comp=Z,2μm,13.9s
HHC Hu-ho-hao-te 51.80 62 LR LR
comp=Z,1μm,16.2s
HHC Hu-ho-hao-te 51.80 62 LR LR
comp=Z,1μm,14.7s
ABPO Ambohimpanom 52.53 178 *e*P P 07 30 52.0 -12
ABPO IAmb IAmb 07 31 16.7
comp=Z,409nm,3.0s
DBIC Dimbokro 53.84 252 *e*P P 07 31 05.4 -8.2
DBIC Dimbokro 53.84 252 P **P** 07 31 13.3 -0.3
comp=Z,26nm,0.8s,baz=37,slow=7.4,SNR=13
comp=Z,26nm,0.8s
KIC Kosan Boka 53.93 251 ⇓*e*PKP1 **P** 07 31 14.7 +0.4
comp=Z,89nm,0.7s
TIC Toumodi 53.98 252 ⇓*i*PKP1 **P** 07 31 14.9 +0.2
comp=Z,6.0nm,0.3s
LIC Lamto 54.24 251 ⇑*e*PKP1 **P** 07 31 15.8 -0.8
comp=Z,126nm,0.7s
XLT XiLinHaoTe 54.27 57 sP P 07 31 16.7 +0.1
XLT XiLinHaoTe 54.27 57 pmax pmax
comp=Z,520nm,5.6s
XLT XiLinHaoTe 54.27 57 pmax pmax
comp=Z,11nm,1.0s
XLT XiLinHaoTe 54.27 57 PcP PcP 07 32 12.7 -8.0
XLT XiLinHaoTe 54.27 57 *e*P P 07 31 09.3 -7.3
VOI Vohitsoka 55.39 179 P P 07 31 13.1 -12
VOI IAmb IAmb 07 31 13.4
comp=Z,48nm,1.3s
HIA Hailar 55.41 50 *i*P **P** 07 31 23.9 -0.8
HIA pmax pmax
comp=Z,16nm,0.9s
TIXI Tiksi 56.21 22 *ce*P **P** 07 31 31.7 +1.7
TIXI pmax pmax
comp=Z,30nm,1.3s
SUMG Summit 56.39 339 P **P** 07 31 31.7 -0.1
SUMG IAmb IAmb 07 31 33.8
comp=Z,27nm,0.9s
SUMG Summit 56.39 339 P **P** 07 31 31.7 -0.1
SUMG pmax pmax
comp=Z,27nm,0.9s
SUMG Summit 56.39 339 *e*P **P** 07 31 32.9 +1.2
SUMG IAmb IAmb 07 31 34.1
comp=Z,33nm,1.0s
ANGG Ammassalik, Gr 57.04 331 P **P** 07 31 36.3 +0.4
YAK Yakutsk 58.07 34 *e*P **P** 07 31 43.1 -0.2
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=N,337nm,23.0s
MPHEP Siloam, Limpop 58.27 197 *e*P P 07 31 33.6 -12
MPHEP IAmb IAmb 07 31 47.3
comp=Z,8.6nm,0.7s
MOPA Mopani 58.58 195 *e*P P 07 31 36.2 -11
MOPA IAmb IAmb 07 31 49.1
comp=Z,46nm,0.7s
NEEM North Greenlan 58.75 345 *e*P **P** 07 31 48.3 +0.1
NEEM IAmb IAmb 07 31 49.5
comp=Z,129nm,1.9s
ZEA Zeya 58.84 43 *e*P P 07 31 38.0 -11
TSUM Tsumeb 59.09 211 *e*P P 07 31 39.5 -12
TSUM IAmb IAmb 07 31 53.8
comp=Z,18nm,1.1s
HOED Hoedspruit, Li 59.54 196 *e*P P 07 31 41.8 -12
HOED IAmb IAmb 07 32 01.2
comp=Z,48nm,1.4s
DL2 Dalian 59.77 61 P **P** 07 31 54.4 -1.0
DL2 pmax pmax
comp=Z,47nm,0.9s
LEPH Lephalale, Lim 59.79 199 *e*P P 07 31 44.2 -11
LEPH IAmb IAmb 07 31 57.9
comp=Z,12nm,0.9s
HEH HeiHe 59.94 47 LR LR
comp=N,820nm,13.7s
HEH HeiHe 59.94 47 LR LR
comp=Z,2μm,13.2s
HEH HeiHe 59.94 47 LR LR
comp=E,1μm,12.7s
PILG Pilgrimsrest, 60.09 196 *e*P P 07 31 47.2 -11
PILG IAmb IAmb 07 31 59.7
comp=Z,17nm,0.7s
DY2G Dye2 60.28 332 *e*P **P** 07 31 60.0 +1.2
DY2G IAmb IAmb 07 32 00.3
comp=Z,228nm,1.5s
DULL Dullstroom, Mp 60.63 196 *e*P P 07 31 49.5 -12
DULL IAmb IAmb 07 32 04.0
comp=Z,65nm,1.9s
RUST Rust De Winter 60.91 198 *e*P P 07 31 51.8 -12
RUST IAmb IAmb 07 32 04.9
comp=Z,14nm,0.7s
NHAM Northam, North 60.92 199 *e*P P 07 31 52.3 -11
NHAM IAmb IAmb 07 32 05.9
comp=Z,17nm,1.0s
ILULI Ilulissat 61.18 336 P **P** 07 32 04.2 -0.4
ILULI Ilulissat 61.18 336 P **P** 07 32 04.2 -0.4
ILULI pmax pmax
comp=Z,88nm,1.4s
NYAT Nyati, Northwe 61.28 199 *e*P P 07 31 54.1 -12
NYAT IAmb IAmb 07 32 14.2
comp=Z,56nm,1.6s
BNX BinXian 61.40 52 ⇓P P 07 31 57.7 -8.8
comp=Z,12nm,0.5s
BNX BinXian 61.40 52 pmax pmax
LBTB Lobatse 61.50 201 P P 07 31 56.1 -11
LBTB IAmb IAmb 07 32 10.6
comp=Z,19nm,0.9s
LBTB Lobatse 61.50 201 *e*P P 07 31 56.3 -11
LBTB IAmb IAmb 07 32 14.7
comp=Z,28nm,1.1s
NRS Narsarsuaq 61.54 327 P **P** 07 32 05.7 -1.4
NRS Narsarsuaq 61.54 327 P **P** 07 32 05.7 -1.4
NRS pmax pmax
comp=Z,192nm,1.7s
HRAO HartRAO 61.75 198 *e*P P 07 31 57.0 -12
POGA Pongola 62.22 194 *e*P P 07 32 00.2 -12
POGA IAML 07 32 15.4
comp=Z,5.4nm,0.7s
WIN Windhoek 62.28 210 P P 07 32 02.4 -10
WIN IAmb IAmb 07 32 16.0
comp=Z,23nm,0.7s
IVI Ivigtut 62.77 327 P **P** 07 32 15.0 -0.4
KLR Kul'dur 62.93 47 P **P** 07 32 16.3 -0.4
comp=Z,2.1nm,0.7s,baz=308,slow=4.6,SNR=3.6
comp=Z,2.1nm,0.7s
NWCL Newcastle 62.98 196 *e*P P 07 32 04.8 -13
NWCL IAmb IAmb 07 32 18.8
comp=Z,44nm,1.4s
SWZ Schweizer 63.62 200 *e*P P 07 32 10.0 -12
SWZ IAmb IAmb 07 32 23.6
comp=Z,14nm,0.9s
SNKL Senekal, Frees 64.00 198 *e*P P 07 32 12.3 -12
SNKL IAmb IAmb 07 32 25.7
comp=Z,48nm,0.7s
KSRS Korea Array 64.90 61 P **P** 07 32 28.4 -1.4
comp=Z,3.3nm,0.4s,baz=285,slow=6.7,SNR=10
comp=Z,3.3nm,0.4s
BOSA Boshof 65.00 200 ⇓*i*P P 07 32 18.8 -12
BOSA IAmb IAmb 07 32 31.9
comp=Z,22nm,0.7s
BOSA Boshof 65.00 200 P **P** 07 32 31.1 +0.6
comp=Z,23nm,0.7s,baz=23,slow=6.8,SNR=20
comp=Z,23nm,0.7s
USRK Ussuriysk Ar. 65.00 52 P **P** 07 32 28.9 -1.5
comp=Z,3.6nm,0.5s,baz=283,slow=6.9,SNR=7.8
comp=Z,3.6nm,0.5s
UPI Upington 65.99 203 *e*P P 07 32 25.3 -12
UPI IAmb IAmb 07 32 49.8
comp=Z,2μm,4.7s
HVD Gariep Dam 66.81 199 *e*P P 07 32 30.4 -12
HVD IAmb IAmb 07 32 30.9
comp=Z,314nm,2.8s
SEY Seymchan 67.52 28 *ce*P **P** 07 32 47.4 +1.2
SEY pmax pmax
comp=Z,19nm,0.8s
BFON Badsfontein, M 68.44 200 *e*P P 07 32 41.5 -11
GRAF Camdeboo Natio 68.67 199 *e*P P 07 32 42.5 -11
RES Resolute Bay 68.73 350 P **P** 07 32 54.5 +0.8
comp=Z,3.6nm,0.6s,baz=42,slow=8.0,SNR=9.0
comp=Z,3.6nm,0.6s
FRAZ Fraserburg 69.24 202 *e*P P 07 32 45.3 -12
FRAZ IAmb IAmb 07 32 46.5
comp=Z,37nm,1.3s
BILL Bilibino 69.31 20 *i*P **P** 07 32 58.5 +1.1
BILL pmax pmax
comp=Z,64nm,1.3s
CVNA Calvinia 69.36 203 *e*P P 07 32 46.9 -11
CVNA IAmb IAmb 07 33 00.4
comp=Z,9.4nm,0.7s
SUR Sutherland 69.84 202 P P 07 32 50.3 -11
SUR IAmb IAmb 07 33 18.7
comp=Z,74nm,1.6s
FRB Frobisher Bay 69.88 334 P **P** 07 33 01.4 +0.4
comp=Z,35nm,0.6s,baz=51,slow=6.7,SNR=56
comp=Z,35nm,0.6s
A21K Barrow 74.00 7 P **P** 07 33 26.7 +1.2
baz=340
A36M Sachs Harbour 74.33 357 P **P** 07 33 28.7 +1.3
baz=7.2,SNR=6.3
SCHQ Schefferville 74.50 326 P **P** 07 33 28.7 -0.1
comp=Z,26nm,0.5s,baz=37,slow=5.7,SNR=47
comp=Z,26nm,0.5s
A19K Wainwright 74.52 9 P **P** 07 33 30.4 +1.8
baz=336
B20K Meade River 75.19 8 P **P** 07 33 33.8 +1.4
baz=340
B18K Kokolik River 75.20 10 P **P** 07 33 34.5 +2.0
baz=336
C16K Lisburne Hills 75.65 11 P **P** 07 33 36.1 +1.0
baz=333
C19K Lookout Ridge 75.74 9 P **P** 07 33 37.1 +1.4
baz=338
C17K DeLong Mountai 75.81 11 P **P** 07 33 37.4 +1.3
baz=335
B21K Ikpikpuk River 75.83 7 P **P** 07 33 37.7 +1.6
baz=342
C18K Utukok River 75.94 10 P **P** 07 33 38.0 +1.1
baz=336
C23K Itkillik River 76.00 6 P **P** 07 33 39.0 +1.9
baz=345
RDOG Red Dog Mine 76.24 11 P **P** 07 33 40.5 +2.0
baz=335
C21K Knifeblade Rid 76.26 7 P **P** 07 33 40.5 +1.8
baz=342
C24K Franklin Bluff 76.27 5 P **P** 07 33 40.2 +1.6
baz=347
C26K Camden Bay 76.31 4 P **P** 07 33 40.8 +1.9
baz=350
D20K Etivluk River 76.48 8 P **P** 07 33 41.0 +1.1
baz=340
D19K Kuna River 76.50 9 P **P** 07 33 41.5 +1.4
baz=339
D17K Noatak River 76.54 11 P **P** 07 33 41.5 +1.3
baz=335
D22K Ayikyak River 76.74 7 P **P** 07 33 43.0 +1.6
baz=344
D24K Happy Valley 76.81 5 P **P** 07 33 42.9 +1.2
baz=347
C36M Paulatuk 76.89 356 P **P** 07 33 42.3 +0.2
baz=8.2,SNR=11
E20K Nigu River 76.96 8 P **P** 07 33 43.8 +1.2
baz=341
D28M Stokes Point 77.14 2 P **P** 07 33 45.5 +2.0
baz=356
D27M Malcolm River 77.16 2 P **P** 07 33 45.7 +1.9
baz=354
E18K Tukpahlearik C 77.17 10 P **P** 07 33 45.1 +1.3
baz=337
E17K Hotham Inlet 77.30 11 P **P** 07 33 45.3 +0.8
baz=336
E22K Anaktuvuk Pass 77.55 7 P **P** 07 33 47.2 +1.2
baz=344
E19K Redstone River 77.59 9 P **P** 07 33 47.5 +1.3
baz=340
E23K Chandalar 77.82 6 P **P** 07 33 49.4 +1.8
baz=346
E28M Babbage River 77.85 2 P **P** 07 33 49.2 +1.6
baz=355
F17K Baldwin Pennin 77.98 11 P **P** 07 33 49.6 +1.4
baz=337
F14K Arctic Creek 77.99 13 P **P** 07 33 50.1 +1.7
baz=332
E25K Arctic Village 78.06 4 P **P** 07 33 50.3 +1.6
baz=350
E29M Blow River 78.10 1 P **P** 07 33 50.5 +1.6
baz=356
F19K Shaleruckik Mo 78.11 9 P **P** 07 33 49.8 +0.8
baz=340
F20K Avaraart Lake 78.17 8 P **P** 07 33 50.7 +1.3
baz=341
E27K Coleen River 78.19 3 P **P** 07 33 51.4 +1.9
baz=353
INK Inuvik 78.22 360 P **P** 07 33 50.7 +1.2
baz=0.1
INK Inuvik 78.22 360 P **P** 07 33 48.6 -1.0
comp=Z,6.6nm,0.6s,baz=4.9,slow=9.8,SNR=21
comp=Z,6.6nm,0.6s
F21K Alatna River 78.26 7 P **P** 07 33 51.8 +1.9
baz=343
F24K Squaw Lake 78.49 5 P **P** 07 33 53.2 +2.0
baz=348
F26K Sheenjek River 78.56 4 P **P** 07 33 53.4 +1.8
baz=351
COLD Coldfoot 78.58 6 P **P** 07 33 53.4 +1.7
baz=346
G16K Koyuk River 78.77 12 P **P** 07 33 54.2 +1.5
baz=336
G19K Purcell Mounta 78.86 9 P **P** 07 33 54.7 +1.5
baz=340
F30M Barrier River 78.91 1 P **P** 07 33 54.7 +1.2
baz=358,SNR=5.9
G21K Allakaket 78.94 8 P **P** 07 33 55.1 +1.4
baz=343
G17K Kiwalik Mounta 78.95 11 P **P** 07 33 54.8 +1.1
baz=337
F31M Tsiigehtchic 79.09 360 P **P** 07 33 55.4 +1.0
baz=360,SNR=9.6
G30M tAoh Zrail Nji 79.54 1 P **P** 07 33 58.1 +1.1
baz=358
G29M Pine Creek 79.58 1 P **P** 07 33 58.7 +1.5
baz=356
H17K Granite Mounta 79.59 11 P **P** 07 33 58.6 +1.4
baz=338
G31M Satah River 79.61 360 P **P** 07 33 54.0 -3.2
G31M IAmb IAmb 07 33 58.9
comp=Z,41nm,0.8s
G31M Satah River 79.61 360 P **P** 07 33 58.2 +0.9
baz=359,SNR=6.1
H20K Anotleneega Mo 79.77 9 P **P** 07 33 59.6 +1.5
baz=342
H22K Ishtalitna Cre 79.77 7 P **P** 07 34 00.6 +2.4
baz=345
H21K Melozitna Rive 79.85 8 P **P** 07 34 00.7 +2.1
baz=344
EPYK Eagle Plains 80.15 1 P **P** 07 34 01.2 +0.9
baz=357
GCSA Galena City Sc 80.22 10 P **P** 07 34 02.3 +1.8
baz=340
H29M Whitestone 80.27 2 P **P** 07 34 03.0 +2.1
baz=356
PRP Porcupine Dome 80.64 5 P **P** 07 34 05.2 +2.2
baz=350
MLY Manley 80.68 7 P **P** 07 34 05.0 +1.8
baz=346
LDAQ Lac Daran 80.98 323 P **P** 07 34 03.6 -1.5
LDAQ IAmb IAmb 07 34 11.1
comp=Z,113nm,1.9s
I28M Miner Creek 81.00 2 P **P** 07 34 06.6 +1.8
baz=355
J20K Nowinta River 81.12 9 P **P** 07 34 07.4 +2.0
baz=343
ILAR Eielson Array 81.28 5 P **P** 07 34 06.7 +0.4
comp=Z,4.8nm,0.8s,baz=316,slow=2.7,SNR=15
comp=Z,4.8nm,0.8s
I30M Mount Dempster 81.31 1 P **P** 07 34 08.5 +1.9
baz=358
J25K Salcha River, 81.55 5 P **P** 07 34 09.7 +1.9
baz=350
BPAW Bear Paw Mtn. 81.56 7 P **P** 07 34 09.4 +1.6
baz=345
CHUM Lake Minchumin 81.62 8 P **P** 07 34 09.8 +1.7
baz=344
HDA Harding Lake 81.63 5 P **P** 07 34 08.9 +0.8
baz=349
J26L Joseph Creek 81.77 4 P **P** 07 34 11.1 +2.0
baz=352
J30M Hart River 81.95 1 P **P** 07 34 12.3 +2.3
baz=358
J29N Klondike Camp 82.04 2 P **P** 07 34 12.4 +2.0
baz=356
CAST Castle Rocks 82.10 8 P **P** 07 34 13.0 +2.4
baz=344
SCRK Sand Creek 82.27 4 P **P** 07 34 14.3 +2.7
baz=351
K27K Chicken 82.32 3 P **P** 07 34 14.4 +2.6
baz=353
RND Reindeer 82.45 7 P **P** 07 34 09.1 -3.5
RND IAmb IAmb 07 34 20.6
comp=Z,41nm,1.2s
RND Reindeer 82.45 7 P **P** 07 34 09.1 -3.5
RND pmax pmax
comp=Z,41nm,1.2s
K29M Barlow Dome 82.67 1 P **P** 07 34 15.8 +2.0
baz=357
YKA Yellowknife Ar 82.75 351 P **P** 07 34 11.4 -2.6
YKA Yellowknife Ar 82.75 351 P **P** 07 34 11.4 -2.6
YKA Yellowknife Ar 82.75 351 P **P** 07 34 13.9 -0.1
comp=Z,4.7nm,0.6s,baz=19,slow=9.1,SNR=51
comp=Z,4.7nm,0.6s
L20K Farewell, AK 82.79 9 P **P** 07 34 15.9 +1.6
baz=343
WRGLY Wrigley 82.93 355 P **P** 07 34 16.6 +1.7
baz=8.5
L26K Log Cabin Wild 83.25 4 P **P** 07 34 19.3 +2.7
baz=352
CUT Chulitna 83.29 7 P **P** 07 34 17.7 +0.9
baz=346
L27K Beaver Creek, 83.30 3 P **P** 07 34 19.8 +2.8
baz=353
M17K Holitna River 83.31 11 P **P** 07 34 19.4 +2.4
baz=340
L29M L29M 83.39 2 P **P** 07 34 19.8 +2.3
baz=356
M16K Timber Creek 83.42 12 P **P** 07 34 19.5 +2.0
baz=339
M20K Styx River 83.46 9 P **P** 07 34 19.1 +1.2
baz=344
M18K Stony River 83.47 10 P **P** 07 34 19.5 +1.7
baz=341
SKT Skwentna 83.56 8 P **P** 07 34 19.5 +1.2
baz=345
M24K Tolsona, Glenn 83.97 6 P **P** 07 34 23.1 +2.7
baz=349
M29M Somme Creek 84.05 2 P **P** 07 34 23.1 +2.2
baz=356
SML Sawmill 84.07 7 P **P** 07 34 22.3 +1.4
baz=348
M23K Glacier View 84.14 6 P **P** 07 34 23.3 +2.0
baz=348
SUA Susitna One 84.16 8 P **P** 07 34 23.5 +2.1
baz=346
N18K Kilae Creek 84.23 10 P **P** 07 34 24.3 +2.6
baz=341
N19K Bonanza Creek 84.31 10 P **P** 07 34 24.9 +2.7
baz=343
FARO Faro, Yukon 84.32 360 P **P** 07 34 24.7 +2.5
baz=0.2
M31M Drury Creek, Y 84.35 0 P **P** 07 34 24.6 +2.3
baz=359
KNK Knik Glacier 84.45 7 P **P** 07 34 24.7 +1.9
baz=348
RC01 Rabbit Creek A 84.63 7 P **P** 07 34 25.4 +1.6
baz=346
YUK3 Moose Creek 84.65 3 P **P** 07 34 26.9 +2.8
baz=354
LONY Lake Ozonia 84.95 322 P **P** 07 34 26.9 +1.3
baz=46
YUK4 Talbot Arm 85.15 2 P **P** 07 34 28.8 +2.2
baz=356
L61B Northampton 85.42 319 P **P** 07 34 29.7 +1.7
baz=47
HYT Haines Junctio 85.70 2 P **P** 07 34 31.9 +2.7
baz=357
J59A Piesco 85.71 321 P **P** 07 34 27.6 -1.9
J59A IAmb IAmb 07 34 38.0
comp=Z,31nm,1.1s
M63A Gales Ferry 85.78 318 P **P** 07 34 27.1 -2.7
M63A IAmb IAmb 07 34 36.8
comp=Z,28nm,0.9s
KOTAN Kotaneelee Air 86.04 355 P **P** 07 34 33.0 +2.2
baz=8.0
FFC Flin Flon 87.55 342 P **P** 07 34 34.3 -3.9
FFC IAmb IAmb 07 34 39.8
comp=Z,35nm,1.5s
FFC Flin Flon 87.55 342 P **P** 07 34 34.3 -3.9
FFC pmax pmax
comp=Z,35nm,1.5s
ERPA Erie 89.49 323 P **P** 07 34 48.3 +0.7
baz=42
ULM Lac du Bonnet 89.67 336 P **P** 07 34 47.8 -0.6
comp=Z,5.4nm,0.7s,baz=44,slow=4.7,SNR=10
comp=Z,5.4nm,0.7s
MCWV Mont Chateau 91.23 321 P **P** 07 34 56.8 +1.0
baz=42
O53A New Philadelph 91.50 322 P **P** 07 34 58.0 +0.9
baz=42
N51A Ashland 91.58 323 P **P** 07 34 54.8 -2.7
N51A IAmb IAmb 07 34 58.6
comp=Z,26nm,0.9s
ACSO Alum Creek Sta 92.40 323 P **P** 07 35 01.9 +0.6
baz=40
SPMN Marine on St. 92.80 332 P **P** 07 35 03.8 +0.8
baz=33
O48B Farmland 93.45 325 P **P** 07 35 05.8 -0.3
baz=39
JFWS Jewell Farm 93.66 329 P **P** 07 35 07.3 +0.4
baz=35
SSFO Shawnee State 93.68 322 P **P** 07 35 05.0 -2.2

P49A	**Miami Univ. Ec**	**93.79**	**324**	P	**P**	07	**35**	**05.2 -2.5**
P49A				IAmb	IAmb	07	35	15.5
	comp=Z,28nm,1.1s							
P49A	**Miami Univ. Ec**	**93.79**	**324**	P	**P**	07	**35**	**07.8 +0.1**
	baz=39							
KMSC	**Kings Mountain**	**95.36**	**319**	P	**P**	07	**35**	**16.6 +1.7**
	baz=42							
ECSD	**ERQQ Data Cent**	**95.52**	**334**	P	**P**	07	**35**	**16.8 +1.3**
	baz=30							
WRA	**Warramunga Arr**	**99.78**	**107**	P	**Pdif**	07	**35**	**33.0 -2.0**
WRA	**Warramunga Arr**	**99.78**	**107**	P	**Pdif**	07	**35**	**33.0 -2.0**
	comp=Z,1.4nm,0.6s,baz=315,slow=4.1,SNR=11							
WRA				PKiKP	**PKiKP**	07	**40**	**03.1 -0.5**
	comp=Z,0.6nm,0.8s,baz=327,slow=1.5,SNR=2.0							
WRA				PKKPbc	**PKKPbc**	07	**51**	**55.6 +0.9**
	comp=Z,0.6nm,0.6s,baz=129,slow=2.4,SNR=6.4							
	comp=Z,1.4nm,0.6s							
PDAR	**Pinedale Array**	**100.50**	**342**	P	**Pdif**	07	**35**	**37.9 -0.3**
	comp=Z,0.1nm,0.4s,baz=210,slow=29,SNR=1.6							
PDAR				PKiKP	**PKiKP**	07	**40**	**05.6 +0.8**
	comp=Z,0.5nm,0.8s,baz=69,slow=4.9,SNR=2.3							
PDAR				PKKPbc	**PKKPbc**	07	**51**	**51.8 -1.5**
	comp=Z,0.4nm,0.7s,baz=145,slow=5.4,SNR=4.2							
ASAR	**Alice Springs**	**101.41**	**111**	P	**Pdif**	07	**35**	**40.6 -1.6**
	comp=Z,1.2nm,0.7s,baz=310,slow=4.8,SNR=12							
ASAR				PKiKP	**PKiKP**	07	**40**	**06.0 -0.5**
	comp=Z,0.6nm,0.7s,baz=295,slow=1.0,SNR=6.2							
ASAR				PKKPbc	**PKKPbc**	07	**51**	**50.5 +0.3**
	comp=Z,1.0nm,0.6s,baz=122,slow=3.8,SNR=13							
NVAR	**Mina Aray Bea**	**106.62**	**347**	PKiKP	**PKiKP**	07	**40**	**16.7 +0.7**
	comp=Z,0.8nm,0.6s,baz=28,slow=1.6,SNR=7.6							
NVAR				PKKPbc	**PKKPbc**	07	**51**	**35.2 +0.1**
	comp=Z,0.6nm,0.7s,baz=187,slow=3.3,SNR=6.8							
CPUP	**Villa Florida**	**114.33**	**254**	PKP	**PKiKP**	07	**40**	**32.1 +1.7**
	comp=Z,1.6nm,0.9s,baz=29,slow=10,SNR=3.4							
QSPA	**South Pole Qui**	**123.62**	**180**	PKP	**PKPdf**	07	**40**	**46.4 -0.8**
	comp=Z,5.9nm,0.7s,baz=270,slow=0.8,SNR=15							
VNDA	**Vanda**	**128.34**	**166**	PKP	**PKPdf**	07	**40**	**55.4 -0.4**
	comp=Z,1.1nm,0.9s,baz=55,slow=10.0,SNR=2.2							
PLCA	**Paso Flores**	**129.73**	**242**	PKP	**PKPdf**	07	**40**	**59.7 0.0**
	comp=Z,2.1nm,0.8s,baz=168,slow=4.5,SNR=6.7							
CTZ	**Chatham Island**	**145.91**	**120**	PKPbc	PKPdf	07	41	19.6 -9.4

NEIC ***11*** *07:25:57.4±0.4, 36.886N±0.005×97.93W±0.01, h5km±2km, Error ellipse: s-maj=1.3km s-min=0.6km az=64.0*

TUL 11 07:25:57.5±0.3, 36.883N±0.006×97.93W±0.01, h6km±1km, ML2.5, mb_Lg2.3/12(NEIC), **ML2.6**/48(NEIC), **Error ellipse: s-maj=1.3km s-min=0.7km az=113.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.06**	**119**		Pg	07 25 59.4	+0.3
GC02				Sg	Sg	07 26 00.7	+0.4
KAN14	**Manchester OK**	**0.08**	**340**		Pg	07 25 59.8	+0.4
KAN14				Sg	Sg	07 26 01.2	+0.6
KAN14				IAML		07 26 01.4	
	comp=E,4μm,0.2s						
KAN14				IAML		07 26 01.5	
	comp=N,4μm,0.1s						
KAN17	**Caldwell West**	**0.21**	**39**		Pg	07 26 02.1	+0.4
KAN17				Sg	Sg	07 26 05.1	+0.7
KAN17				IAML		07 26 05.4	
	comp=E,2μm,0.2s						
KAN17				IAML		07 26 05.4	
	comp=N,1μm,0.3s						
KAN05	**Bluff City Nor**	**0.23**	**11**		Pg	07 26 02.3	+0.3
KAN05				Sg	Sg	07 26 05.9	+0.7
KAN05				IAML		07 26 06.6	
	comp=N,1μm,0.2s						
OK032	**Salt Plains WL**	**0.24**	**251**	Pg	Pg	07 26 02.5	+0.3
OK032				IAML		07 26 08.2	
	comp=N,909nm,0.2s						
OK032				IAML		07 26 10.7	
	comp=N,850nm,0.2s						
KAN10	**Anthony SW Sta**	**0.28**	**331**		Pg	07 26 03.3	+0.4
KAN10				Sg	Sg	07 26 07.4	+0.9
KAN10				IAML		07 26 07.7	
	comp=E,821nm,0.1s						
KAN10				IAML		07 26 07.7	
	comp=N,631nm,0.1s						
KAN01	**Argonia South**	**0.30**	**27**		Pg	07 26 03.8	+0.4
KAN08	**Anthony NE Sta**	**0.34**	**355**	Pg	Pg	07 26 04.6	+0.4
KAN09	**Caldwell North**	**0.35**	**44**		Pg	07 26 04.7	+0.3
KAN09				IAML		07 26 13.8	
	comp=E,625nm,0.2s						
KAN09				IAML		07 26 15.1	
	comp=N,553nm,0.2s						
KAN06	**Argonia West S**	**0.37**	**9**	Pg	Pg	07 26 05.0	+0.3
KAN06				Sg	Sg	07 26 10.3	+0.8
CROK	**Carrier**	**0.38**	**187**	Pg	Pg	07 26 05.0	+0.2
CROK				IAML		07 26 15.4	
	comp=N,465nm,0.2s						
KAN13	**South Haven SW**	**0.39**	**70**	Pg	Pg	07 26 05.1	+0.1
KAN13				IAML		07 26 15.0	
	comp=N,451nm,0.2s						
KAN12	**Harper NE Stat**	**0.42**	**352**		Pg	07 26 05.8	+0.2
KAN12				IAML		07 26 14.0	
	comp=E,648nm,0.3s						
KAN12				IAML		07 26 18.6	
	comp=N,461nm,0.3s						
BLOK	**Blackwell**	**0.59**	**102**		Pg	07 26 08.8	0.0
BLOK				Sg	Sg	07 26 16.8	+0.4
BLOK				IAML		07 26 17.9	
	comp=E,378nm,0.2s						
BLOK				IAML		07 26 19.4	
	comp=N,455nm,0.2s						
OK035	**E0210 Rd and N**	**0.65**	**255**	Pg	Pg	07 26 10.0	0.0
OK038	**West end E0370**	**0.77**	**239**	Pg	Pg	07 26 12.2	-0.1
OK038				IAML		07 26 28.2	
	comp=N,221nm,0.3s						
OK038				IAML		07 26 31.6	
	comp=N,280nm,0.2s						
OK048	**Pawnee Station**	**0.92**	**120**	Pg	Pg	07 26 14.8	-0.4
OK048				IAML		07 26 27.3	
	comp=N,159nm,0.2s						
OK048				IAML		07 26 28.6	
	comp=N,131nm,0.2s						
OK051	**E0350 and S346**	**0.96**	**113**		Pg	07 26 15.8	0.0
U32A	**Winter Ranch,**	**1.00**	**240**	Pg	Pg	07 26 16.4	-0.3
T35A	**Sooner Cattle**	**1.14**	**88**	Pg	Pg	07 26 19.0	-0.3
T35A				IAML		07 26 35.2	
	comp=E,98nm,0.1s						
T35A				IAML		07 26 39.3	
	comp=N,89nm,0.2s						
OK029	**Liberty Lake**	**1.15**	**160**	Pg	Pg	07 26 19.2	-0.3
OK033	**Mehan**	**1.16**	**136**	Pg	Pg	07 26 19.5	-0.2
QUOK	**Quay**	**1.21**	**125**	Pg	Pg	07 26 20.3	-0.4
OK052	**Battle Ridge R**	**1.27**	**134**	Pg	Pn	07 26 21.2	-0.6
ELIS	**Ellis County**	**1.45**	**236**		Pn	07 26 24.4	+0.1
OKCSW	**OKLAHOMA CITY**	**1.53**	**165**		Pn	07 26 25.4	+0.1
OKCSW				IAmb_Lg		07 26 46.1	
	comp=Z,13nm,0.8s						
R32A	**Long Quarter,**	**1.66**	**338**		Pn	07 26 27.8	+0.6
FNO	**Franklin**	**1.68**	**165**		Pn	07 26 27.9	+0.5
W35A	**Tecumseh**	**1.93**	**153**	Pn	Pn	07 26 31.3	+0.5
KSU1	**Kansas State U**	**2.45**	**25**	IAmb_Lg		07 27 16.9	
	comp=Z,12nm,0.8s						
RLO	**Rose Lookout**	**2.45**	**106**	IAmb_Lg		07 27 16.6	
	comp=Z,13nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.79**	**100**	IAmb_Lg		07 28 28.1	
	comp=Z,6.8nm,1.1s						
N23A	**Red Feather La**	**7.42**	**305**	IAmb_Lg		07 30 02.0	
	comp=Z,2.9nm,0.8s						

IDC ***11*** *07:34:09.3±15.0, 33.21N×45.30E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=320.1km s-min=32.6km az=12.0*

TEH ***11*** *07:34:15.3, 33.74N×45.70E, h8km±85km, ML3.4*

ISN ***11*** *07:34:15.3±0.7, 33.72N×45.68E, h10km±3km, ML3.2*

ISC 11 07:34:15.2±1.4, 33.74N±0.04×45.66E±0.05, h10km±10km, n16, σ1ᵎ901/21, mb3.9/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**104**	Pg	**Pb**	**07 34 25.0**	**-0.7**
ILBA				Sg	**Sg**	**07 34 29.9**	**-0.8**
IBDR	**Badra**	**0.67**	**160**	*e*Pg	**Pg**	**07 34 28.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**07 34 37.0**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.76**	**356**	Pg	**Pg**	**07 34 30.1**	**+0.2**
IGHG	**Ghaleghazi**	**0.96**	**52**	Pg	**Pb**	**07 34 34.1**	**0.0**
IDHR	**Dehrash**	**1.13**	**32**	Pg	**Pg**	**07 34 36.5**	**-0.5**
BHD	**Baghdad**	**1.17**	**246**	*e*Pg	**Pn**	**07 34 38.0**	**+0.5**
BHD				*e*Sg	**Sn**	**07 34 54.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.27**	**65**	Pg	**Pn**	**07 34 39.0**	**-0.1**
ILIN	**Lien**	**1.59**	**42**	Pg	**Pb**	**07 34 45.1**	**+0.2**
IKOM	**Komasi**	**1.60**	**74**	Pg	**Pg**	**07 34 45.6**	**-0.2**
IKOM				Sg	**Sg**	**07 35 09.0**	**+2.4**
IBZA	**Bozab**	**1.97**	**68**	Pn	**Pb**	**07 34 50.9**	**-0.3**
RAFI	**Al-Rafai**	**2.05**	**169**	*e*Pn	**Pn**	**07 34 51.0**	**+1.3**
RAFI				*e*Sn	**Sb**	**07 35 18.0**	**0.0**
RAFI				AML	AML	07 35 24.9	
	comp=E,260nm,0.5s						
RAFI				AML	AML	07 35 27.3	
	comp=N,238nm,0.6s						
AKASG	**Malin Array Be**	**20.78**	**330**	P	**P**	**07 38 54.5**	**-1.7**
	comp=N,0.4nm,0.4s,baz=138,slow=10,SNR=2.7						
	comp=N,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**29.31**	**45**	P	**P**	**07 40 19.2**	**+1.5**
	comp=N,0.3nm,0.6s,baz=248,slow=9.7,SNR=2.1						
	comp=N,0.3nm,0.6s						
MKAR	**Makanchi Array**	**30.56**	**54**	P	**P**	**07 40 28.9**	**+0.1**
	comp=N,0.4nm,0.4s,baz=250,slow=8.3,SNR=8.8						
	comp=N,0.4nm,0.4s						
HFS	**Hagfors**	**33.65**	**331**	P	**P**	**07 40 54.5**	**-1.2**
	comp=N,1.3nm,0.4s,baz=126,slow=11,SNR=9.9						
	comp=N,1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**34.12**	**42**	P	**P**	**07 41 01.0**	**+1.0**
	comp=N,0.8nm,0.3s,baz=251,slow=9.0,SNR=2.0						
	comp=N,0.8nm,0.3s						

Gll 11 07:36:43.6±0.5, 31.72N×35.02E, h0km, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSI	**Dead Sea**	**0.34**	**116**	P	Pg	07 36 50.6	+0.5
DSI	**Dead Sea**	**0.34**	**116**	S	Sb	07 36 57.5	-0.9
YTIR	**Yattir**	**0.36**	**167**	P	Pg	07 36 51.4	+0.9
YTIR	**Yattir**	**0.36**	**167**	S	Sb	07 36 58.3	-0.9
SALP	**Salfit**	**0.38**	**22**	P	Pg	07 36 51.6	+0.7
SALP	**Salfit**	**0.38**	**22**	S	Sb	07 36 59.5	-0.1
MSBI	**Mazada**	**0.49**	**145**	P	Pb	07 36 54.3	-0.8
MSBI	**Mazada**	**0.49**	**145**	S	Sb	07 37 03.1	+0.2
SLTI	**Sal'it**	**0.52**	**1**	P	Pg	07 36 54.6	+1.0
SLTI	**Sal'it**	**0.52**	**1**	S	Sb	07 37 03.7	-0.1

IDC ***11*** *07:37:06.2±0.7, 33.66N×45.66E, h0km, mb4.1/21, mbtmp4.1/26, ML3.5/5, Error ellipse: s-maj=14.9km s-min=13.6km az=165.0*

MOS ***11*** *07:37:07.7±1.1, 33.67N×45.57E, h23km, mb4.4/22, Error ellipse: s-maj=7.8km s-min=6.0km az=87.7*

ISN ***11*** *07:37:08.7±1.0, 33.76N×45.73E, h6km±5km, ML3.9*

NEIC ***11*** *07:37:08.3±2.0, 33.68N±0.07×45.72E±0.07, h10km±1km, mb4.3/36, Error ellipse: s-maj=11.5km s-min=9.8km az=184.0*

TEH ***11*** *07:37:09.7, 33.76N×45.73E, h12km±70km, ML4.2*

ISC 11 07:37:09.1±1.1, 33.69N±0.03×45.71E±0.03, h18km±7km, n137, σ1ᵎ948/145, mb4.2/45, 12C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.42**	**99**	Pg	**Pb**	**07 37 18.0**	**-0.2**
IBDR	**Badra**	**0.61**	**162**	*e*Pg	**Pn**	**07 37 22.0**	**-0.9**
IBDR				*e*Sg	**Sn**	**07 37 31.0**	**-1.3**
IBDR				AML	AML	07 37 52.7	
	comp=N,2μm,0.4s						
IBDR				AML	AML	07 37 57.2	
	comp=E,2μm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.82**	**353**	Pg	**Pg**	**07 37 24.2**	**-1.0**
IGHG	**Ghaleghazi**	**0.96**	**48**	Pg	**Pb**	**07 37 27.6**	**+0.2**
IGHG				Sg	**Sn**	**07 37 42.1**	**+0.7**
IDHR	**Dehrash**	**1.15**	**29**	Pg	**Pb**	**07 37 30.4**	**-0.3**
BHD	**Baghdad**	**1.19**	**250**	*e*Pg	**Pg**	**07 37 32.5**	**+0.5**
BHD				*e*Sg	**Sn**	**07 37 49.0**	**+2.5**
BHD				AML	AML	07 37 53.3	
	comp=E,21μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.25**	**62**	Pg	**Pg**	**07 37 32.4**	**-1.0**
IKOM	**Komasi**	**1.57**	**72**	Pg	**Pg**	**07 37 38.9**	**-0.5**
IKOM				Sg	**Sg**	**07 38 01.1**	**+1.1**
ILIN	**Lien**	**1.61**	**40**	Pg	**Pb**	**07 37 38.8**	**+0.3**
ILIN				Sg	**Sg**	**07 38 00.0**	**-1.0**
IKFM	**Kafar-mosalman**	**1.79**	**95**	Pg	**Pg**	**07 37 42.3**	**-1.3**
IBZA	**Bozab**	**1.95**	**66**	Pn	**Pb**	**07 37 44.2**	**-0.1**
RAFI	**Al-Rafai**	**1.99**	**170**	*e*Pn	**Pb**	**07 37 45.0**	**+0.1**
RAFI				*e*Sn	**Sg**	**07 38 13.0**	**-0.3**
IALM	**Almabolaq**	**2.35**	**60**	Pn	**Pb**	**07 37 49.8**	**-1.3**
SDS1	**Sardasht. Az.**	**2.46**	**356**	Pn	**Pn**	**07 37 50.9**	**+2.3**
HSAM	**Samen**	**2.46**	**77**	Pn	**Pb**	**07 37 50.8**	**-2.2**
MAHB	**Mahabad**	**3.07**	**360**	Pn	**Pn**	**07 37 58.9**	**+2.0**
ISRB	**Sarab**	**4.42**	**21**	Pn	**Pn**	**07 38 17.6**	**+2.0**
IKLH	**Kolahrood**	**4.92**	**93**	Pn	**Pn**	**07 38 24.9**	**+2.5**
IMRD	**Marand**	**5.01**	**360**	Pn	**Pn**	**07 38 25.3**	**+1.7**
IVRN	**Varamin**	**5.15**	**74**	Pn	**Pn**	**07 38 27.2**	**+1.8**
KRSH	**Karshahi**	**5.36**	**85**	Pn	**Pn**	**07 38 30.3**	**+1.9**
MZPU	**Pul - Mazandar**	**5.53**	**59**	Pn	**Pn**	**07 38 33.0**	**+2.1**
IRAM	**Ramesheh**	**5.93**	**107**	Pn	**Pn**	**07 38 39.6**	**+3.3**
GNI	**Garni**	**6.49**	**353**	Pn	**Pn**	**07 38 48.0**	**+4.1**
	comp=E,0.7nm,0.3s,baz=27,slow=23,SNR=1.6						
GNI				Lg	Lg	07 40 36.3	
	comp=E,1.0nm,0.3s,baz=302,slow=23,SNR=1.6						
	comp=E,7.2nm,0.6s						
ASF	**Jabal al Asfar**	**7.56**	**261**	Pn	**Pn**	**07 38 57.8**	**-0.7**
	comp=E,0.8nm,0.3s,baz=289,slow=16,SNR=1.9						
ASF				Lg	Lg	07 41 07.1	
	comp=E,3.0nm,0.3s,baz=130,slow=15,SNR=2.3						
	comp=E,6.1nm,0.5s						
GAZ	**Gaziantep**	**7.75**	**299**	Pn	**Pn**	**07 39 00.2**	**-1.0**
ARPR	**Arapgir-MALATY**	**8.02**	**314**	Pn	**Pn**	**07 39 06.1**	**+1.2**
MMAI	**Mount Meron Ar**	**8.65**	**268**	Lg	Lg	07 41 42.0	
	comp=E,2.9nm,0.3s,baz=82,slow=40,SNR=1.8						
ONI	**Oni**	**9.06**	**349**	Pn	**Pn**	**07 39 21.4**	**+2.3**
ONI	**Oni**	**9.06**	**349**	P	**Pn**	**07 39 21.4**	**+2.3**
EIL	**Elat**	**10.00**	**249**	Pn	**Pn**	**07 39 34.2**	**+2.2**
	comp=E,0.5nm,0.3s,baz=51,slow=20,SNR=1.7						
EIL				Lg	Lg	07 42 23.4	
	comp=E,0.4nm,0.3s,baz=323,slow=13,SNR=3.6						
KBZ	**Khabaz**	**10.26**	**348**	*i* P	**Pn**	**07 39 35.8**	**+0.4**
KBZ	**Khabaz**	**10.26**	**348**	Pn	**Pn**	**07 39 38.7**	**+3.3**
	comp=E,0.1nm,0.3s,baz=165,slow=9.7,SNR=4.6						
	comp=E,2.2nm,0.9s						
KIV	**Kislovodsk**	**10.52**	**348**	*e*P	**Pn**	**07 39 39.3**	**+0.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GEYT	**Ailbeck**	**10.93**	**64**	Pn	**Pn**	**07 39 47.4**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=204,slow=3.3,SNR=2.0						
ISP	**Isparta**	**13.00**	**293**	*i* P	**Pn**	**07 40 10.4**	**-2.7**
WSAR	**Wadi Sarin**	**15.40**	**129**	Pn	**Pn**	**07 40 43.8**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=7.9,slow=13,SNR=2.0						
WSAR				Sn	Sn	07 43 22.9	-13
	comp=Z,0.2nm,0.3s,baz=114,slow=19,SNR=1.6						
	comp=Z,5.2nm,0.5s						
BELG	**Belogornoye**	**18.75**	**4**	*i* P	**Pn**	**07 41 27.8**	**+0.5**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	**18.81**	**30**	P	**P**	**07 41 27.8**	**+0.2**
ABKAR	**Akbulak array**	**18.81**	**30**	P	**P**	**07 41 27.6**	**0.0**
AKTO	**Aktyubinsk**	**19.02**	**25**	P	**P**	**07 41 28.2**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=183,slow=6.7,SNR=2.7						
	comp=Z,1.0nm,0.4s						
KBL	**Kabul**	**19.34**	**81**	P	**P**	**07 41 33.9**	**+0.1**
KBL				IAmb	IAmb	07 41 43.5	
	comp=Z,13nm,1.2s						
KBL	**Kabul**	**19.34**	**81**	P	**P**	**07 41 33.9**	**+0.1**
KBL				pmax	pmax		
	comp=Z,13nm,1.2s						
AGG	**Agios Georgios**	**19.55**	**293**	P	**P**	**07 41 36.2**	**+0.4**
AGG	**Agios Georgios**	**19.55**	**293**	P	**P**	**07 41 36.2**	**+0.4**
AGG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FNA	**Florina**	**20.59**	**297**		**P**	**07 41 46.6**	**-0.6**
FNA	**Florina**	**20.59**	**297**	P	**P**	**07 41 46.6**	**-0.6**
FNA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BURAR	**Bucovina Array**	**20.77**	**318**	P	**P**	**07 41 48.4**	**-0.8**
BURAR	**Bucovina Array**	**20.77**	**318**	P	**P**	**07 41 49.4**	**+0.2**
BURAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BUR08	**Bucovina Ar. S**	**20.80**	**318**	P	**P**	**07 41 48.4**	**-1.1**
AKASG	**Malin Array Be**	**20.85**	**330**	P	**P**	**07 41 48.0**	**-1.8**
AKASG	**Malin Array Be**	**20.85**	**330**	P	**P**	**07 41 48.7**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=139,slow=9.5,SNR=20						
	comp=Z,2.5nm,0.5s						
AKBB	**Malin Array Si**	**20.85**	**330**	P	**P**	**07 41 48.4**	**-1.4**
AKBB				IAmb	IAmb	07 41 49.5	
	comp=Z,13nm,1.1s						
AKBB	**Malin Array Si**	**20.85**	**330**	P	**P**	**07 41 48.4**	**-1.4**
AKBB				pmax	pmax		
	comp=Z,13nm,1.1s						
KIEV	**Kiev**	**20.85**	**330**	P	**P**	**07 41 47.8**	**-2.1**
KIEV				IAmb	IAmb	07 41 49.5	
	comp=Z,11nm,1.1s						
KIEV	**Kiev**	**20.85**	**330**	P	**P**	**07 41 47.8**	**-2.1**
KIEV				pmax	pmax		
	comp=Z,11nm,1.1s						
BTK	**Batken**	**21.03**	**65**	P	**P**	**07 41 51.9**	**-0.2**
BTK	**Batken**	**21.03**	**65**	P	**P**	**07 41 51.9**	**-0.2**
BTK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KK31	**Karatay Array**	**21.53**	**57**	P	**P**	**07 41 57.9**	**+0.6**
KK31				IAmb	IAmb	07 42 02.7	
	comp=Z,6.4nm,0.6s						
KK31	**Karatay Array**	**21.53**	**57**	P	**P**	**07 41 57.9**	**+0.6**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KKAR	**Karatay Array**	**21.53**	**57**	P	**P**	**07 41 58.5**	**+1.2**
KKAR	**Karatay Array**	**21.53**	**57**	P	**P**	**07 41 58.5**	**+1.2**
TRKS	**Terek-Say**	**21.56**	**61**	P	**P**	**07 41 57.4**	**-0.4**
TRKS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ARK	**Arkit**	**22.22**	**61**	P	**P**	**07 42 06.4**	**+1.5**
OBN	**Obninsk**	**22.35**	**346**	*e*P	**P**	**07 42 06.3**	**+0.4**
OBN				*e*		07 42 31.2	
OBN				*e*S	**S**	**07 46 01.3**	**-9.5**
OBN				pmax	pmax		
	comp=Z,11nm,0.6s						
OBN				MLR	MLR		
	comp=Z,248nm,15.0s						
AAK	**Ala-Archa**	**24.24**	**60**	*ce*P	**P**	**07 42 24.5**	**-0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ARU	**Arti**	**24.40**	**17**	*c i*P	**P**	**07 42 27.0**	**+0.7**
ARU						07 42 55.6	
ARU				S	**S**	**07 46 48.5**	**+3.5**
ARU				SS	**SnSn**	**07 47 30.2**	**+1.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NIE	**Niedzica**	**24.50**	**317**	P	**P**	**07 42 26.8**	**-0.6**
NIE				pmax	pmax		
	comp=Z,3.0nm,2.6s						
KSH	**Kashi**	**24.91**	**68**	P	**P**	**07 42 29.4**	**-1.9**
KSH				sP	pP	07 42 34.8	-1.9
NRN	**Naryn**	**25.14**	**63**	P	**P**	**07 42 34.5**	**+1.0**
NRN				IAmb	IAmb	07 42 35.9	
	comp=Z,6.0nm,0.7s						
NRN	**Naryn**	**25.14**	**63**	P	**P**	**07 42 34.5**	**+1.0**
NRN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOOM	**Boomskoye usch**	**25.26**	**61**	P	**P**	**07 42 35.7**	**+1.3**
BOOM				IAmb	IAmb	07 42 46.4	
	comp=Z,3.4nm,0.8s						
BOOM	**Boomskoye usch**	**25.26**	**61**	P	**P**	**07 42 35.7**	**+1.3**
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RONA	**Rosalia, Austr**	**26.14**	**311**	*e*pP	pP	07 42 48.3	+0.8
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**26.15**	**35**	P	**P**	**07 42 42.5**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=231,slow=9.0,SNR=6.1						
BVAR				PcP	**PcP**	**07 46 09.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=201,slow=2.4,SNR=3.7						
	comp=Z,1.1nm,0.3s						
ARSA	**Arzberg**	**26.47**	**310**	*e*P	**P**	**07 42 45.5**	**+0.3**
	comp=Z,4.9nm,1.1s						
VRAC	**Vranov**	**26.59**	**315**	P	**P**	**07 42 46.7**	**+0.4**
VRAC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MYKA	**Terra Mystica**	**27.50**	**308**	*e*pP	pP	07 42 57.2	-2.7
GERES	**GERESS Array B**	**28.17**	**312**	PcP	**PcP**	**07 46 14.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=57,slow=7.2,SNR=2.4						
KURBB	**Kurchatov Arra**	**29.32**	**45**	P	**P**	**07 43 11.6**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=251,slow=9.0,SNR=13						
KURBB				PcP	**PcP**	**07 46 16.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=242,slow=3.1,SNR=4.6						
	comp=Z,1.8nm,0.6s						
KURK	**Kurchatov**	**29.41**	**45**	P	**P**	**07 43 11.9**	**+0.6**
KURK	**Kurchatov**	**29.41**	**45**	*ce*P	**P**	**07 43 13.8**	**+2.5**
KURK				pmax	pmax		
	comp=Z,11nm,2.5s						
MAKZ	**Makanchi**	**30.34**	**54**	P	**P**	**07 43 20.1**	**+0.3**
MAKZ				IAmb	IAmb	07 43 21.8	
	comp=Z,2.6nm,0.7s						
MAKZ	**Makanchi**	**30.34**	**54**	P	**P**	**07 43 20.1**	**+0.3**
MAKZ				pmax	pmax		
	comp

	comp=Z,0.7nm,0.7s,baz=275,slow=12,SNR=4.1								
	comp=Z,0.7nm,0.7s								
CMAR	**Chiang Mai Arr**	**49.65**		**94**	*ce*P		**P**	**07 46 00.2**	**+0.2**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**49.65**		**94**	P		**P**	**07 45 59.6**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=291,slow=8.7,SNR=4.6								
	comp=Z,1.3nm,0.3s								
PHRA	**Phrae**	**50.70**		**93**	P		**P**	**07 46 07.5**	**-0.5**
HHC	**Hu-ho-hao-te**	**51.80**		**62**	⇑P		**P**	**07 46 17.5**	**+1.4**
HHC					pmax		pmax		
	comp=Z,14nm,0.5s								
HHC					pmax		pmax		
	comp=Z,730nm,7.4s								
HIA	**Hailar**	**55.43**		**50**	*i* P		**P**	**07 46 43.5**	**+1.0**
HIA					pmax		pmax		
	comp=Z,4.0nm,0.9s								
TIXI	**Tiksi**	**56.28**		**22**	P		**P**	**07 46 48.5**	**+0.3**
TIXI					IAmb		IAmb	07 46 55.1	
	comp=Z,2.9nm,0.8s								
TIXI	**Tiksi**	**56.28**		**22**	*ce*P		**P**	**07 46 48.6**	**+0.5**
TIXI					pmax		pmax		
	comp=Z,6.0nm,1.7s								
BOSA	**Boshof**	**64.92**		**200**	P		**P**	**07 47 47.9**	**+0.1**
BOSA	**Boshof**	**64.92**		**200**	P		**P**	**07 47 48.0**	**+0.3**
BOSA	**Boshof**	**64.92**		**200**	P		**P**	**07 47 48.0**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=27,slow=4.6,SNR=5.5								
	comp=Z,2.9nm,0.7s								
BILL	**Bilibino**	**69.38**		**20**	*i* P		**P**	**07 48 16.0**	**+0.5**
BILL					pmax		pmax		
	comp=Z,6.0nm,1.4s								
A36M	**Sachs Harbour**	**74.42**		**357**	P		**P**	**07 48 45.8**	**+0.2**
SCHQ	**Schefferville**	**74.61**		**326**	P		**P**	**07 48 46.2**	**-0.8**
SCHQ	**Schefferville**	**74.61**		**326**	P		**P**	**07 48 46.2**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=50,slow=6.5,SNR=5.2								
	comp=Z,2.1nm,0.6s								
C16K	**Lisburne Hills**	**75.73**		**11**	P		**P**	**07 48 53.3**	**+0.1**
C36M	**Paulatuk**	**76.99**		**356**	P		**P**	**07 48 59.8**	**-0.5**
C36M					IAmb		IAmb	07 49 05.6	
	comp=Z,5.0nm,0.9s								
E18K	**Tukpahlearik C**	**77.25**		**10**	P		**P**	**07 49 02.8**	**+0.9**
E18K					IAmb		IAmb	07 49 03.4	
	comp=Z,3.6nm,0.8s								
E19K	**Redstone River**	**77.68**		**9**	P		**P**	**07 49 05.2**	**+0.9**
E19K					IAmb		IAmb	07 49 10.4	
	comp=Z,3.7nm,0.8s								
E25K	**Arctic Village**	**78.15**		**4**	P		**P**	**07 49 07.1**	**+0.2**
E25K					IAmb		IAmb	07 49 11.8	
	comp=Z,1.8nm,0.8s								
INK	**Inuvik**	**78.31**		**360**	P		**P**	**07 49 09.6**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=315,slow=4.3,SNR=1.7								
	comp=Z,1.0nm,0.8s								
G31M	**Satah River**	**79.70**		**360**	P		**P**	**07 49 15.4**	**0.0**
YKA	**Yellowknife Ar**	**82.85**		**351**	*ce*P		**P**	**07 49 33.2**	**+1.1**
YKA	**Yellowknife Ar**	**82.85**		**351**	P		**P**	**07 49 31.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=19,slow=5.4,SNR=6.1								
	comp=Z,0.5nm,0.7s								
WRA	**Warramunga Arr**	**99.70**		**107**	P		**Pdif**	**07 50 51.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=316,slow=4.2,SNR=1.7								
	comp=Z,0.3nm,0.5s								

SJA 11 07:42:30.5±0.7, 24°04S×67°00W, h202km±4km, ML3.3, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.52**	**117**	*e*P	Pn	07 43 05.6	**+0.8**
SLA				*e*S	S	07 43 30.9	-0.2
LVC	**Limon Verde**	**2.26**	**309**	*e*P	Pn	07 43 13.3	+1.0
LVC				*e*S	S	07 43 44.2	0.0
FSA	**Cafayete**	**2.26**	**156**	*e*P	Pn	07 43 12.5	+0.4
FSA				*e*S	S	07 43 42.8	-1.4
YJA	**Yavi**	**2.30**	**37**	*e*P	Pn	07 43 14.4	+1.5
YJA				*e*S	S	07 43 46.1	+0.9
PB15	**IPOC Station P**	**2.41**	**289**	*e*P	Pn	07 43 14.7	+0.8
PB15				*e*S	S	07 43 47.1	+0.2
GO02	**Mina Guanaco**	**2.61**	**244**	*e*P	Pn	07 43 16.9	+0.7
GO02				*e*S	S	07 43 51.2	+0.1
PB06	**IPOC Station P**	**2.71**	**299**	*e*P	Pn	07 43 17.9	+0.8
PB06				*e*S	S	07 43 52.4	-0.4
PB06				IAML		07 43 54.7	
	comp=Z,135nm,0.2s						
PB09	**IPOC Station P**	**3.04**	**317**	*e*P	Pn	07 43 21.4	+0.4
PB09				*e*S	S	07 44 00.8	+1.0
PB09				IAML		07 44 06.7	
	comp=Z,44nm,0.2s						
AHML	**Horco Molle**	**3.12**	**152**	*e*P	Pn	07 43 23.2	+1.4
PB14	**IPOC Station P**	**3.16**	**259**	*e*P	Pn	07 43 23.3	+0.8
PB14				IAML		07 44 06.0	
	comp=Z,62nm,0.2s						
PB05	**IPOC Station P**	**3.17**	**291**	*e*P	Pn	07 43 23.0	+0.6
PB05				*e*S	S	07 44 01.9	-0.5
PB05				IAML		07 44 05.2	
	comp=Z,43nm,0.5s						
PB04	**IPOC Station P**	**3.36**	**300**	*e*P	Pn	07 43 25.5	+0.8
PB04				*e*S	S	07 44 05.6	-0.9
PB04				IAML		07 44 12.6	
	comp=Z,77nm,0.3s						
PB07	**IPOC Station P**	**3.52**	**310**	*e*P	Pn	07 43 26.9	+0.2
PB07				*e*S	S	07 44 08.6	-1.4
PB07				IAML		07 44 14.8	
	comp=Z,63nm,0.2s						
PB01	**IPOC Station P**	**3.76**	**322**	*e*P	Pn	07 43 29.9	+0.3
PB01				*e*S	S	07 44 15.3	0.0
PB01				IAML		07 44 17.9	
	comp=Z,38nm,0.2s						
AC01	**Pan de Azucar**	**3.88**	**236**	*e*P	Pn	07 43 30.3	-0.7
AC01				*e*S	S	07 44 15.3	-2.6
AC01				IAML		07 44 15.5	
	comp=Z,28nm,0.6s						
GO03	**Copiap**	**4.59**	**219**	*e*P	Pn	07 43 39.2	-0.6
GO03				*e*S	S	07 44 32.0	-1.9
HMBC	**Humberstone**	**4.60**	**324**	*e*P	Pn	07 43 39.7	-0.4
HMBC				*e*S	S	07 44 32.2	-2.1
PB11	**IPOC Station P**	**4.92**	**329**	*e*P	Pn	07 43 43.6	-0.5
PB11				*e*S	S	07 44 39.9	-1.9
PB11				IAML		07 44 43.4	
	comp=Z,16nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.37**	**180**	*e*P	Pn	07 43 50.6	+0.8
ACLC				*e*S	S	07 44 51.6	-0.6
ACLC				IAML		07 44 54.7	
	comp=Z,4.4nm,2.8s						

TEH 11 07:42:52.7, 33.70N×45.64E, h12km±16km, ML3.3
ISN 11 07:42:53.2±0.6, 33.73N×45.72E, h10km±3km, ML3.2
ISC 11 07:42:53.6±0.9, 33.74N±0.03×45.68E±0.04, h13km, n15, σ0.98/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.46**	**104**	Pg	**Pg**	**07 43 02.5**	**-0.2**
IBDR	**Badra**	**0.66**	**161**	*e*Pg	**Pg**	**07 43 06.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**07 43 15.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.77**	**355**	Pg	**Pg**	**07 43 08.4**	**-0.2**
KGS1				Sg	**Sn**	**07 43 20.4**	**-1.3**
IGHG	**Ghaleghazi**	**0.95**	**51**	Pg	**Pn**	**07 43 12.3**	**-0.5**
IDHR	**Dehrash**	**1.12**	**31**	Pg	**Pg**	**07 43 15.1**	**-0.2**
BHD	**Baghdad**	**1.18**	**247**	*e*Pg	**Pg**	**07 43 16.5**	**+0.2**
BHD				*e*Sg	**Sn**	**07 43 33.0**	**+1.3**
BHD				AML	AML	07 43 37.9	
	comp=E,1μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.25**	**64**	Pg	**Pg**	**07 43 17.7**	**-0.1**
IKOM	**Komasi**	**1.58**	**74**	Pg	**Pg**	**07 43 24.1**	**0.0**
ILIN	**Lien**	**1.59**	**42**	Pg	**Pg**	**07 43 23.9**	**-0.2**
IKFM	**Kafar-mosalman**	**1.82**	**96**	Pn	**Pb**	**07 43 26.6**	**-0.2**
IBZA	**Bozab**	**1.95**	**67**	Pn	**Pb**	**07 43 29.0**	**-0.2**
RAFI	**Al-Rafai**	**2.04**	**169**	*e*Pn	**Pb**	**07 43 29.0**	**-1.6**
RAFI				*e*Sn	**Sb**	**07 43 56.0**	**+0.1**
RAFI				AML	AML	07 43 57.8	
	comp=N,166nm,0.2s						
RAFI				AML	AML	07 44 10.2	
	comp=E,183nm,0.5s						
IALM	**Almabolaq**	**2.35**	**61**	Pn	**Pb**	**07 43 35.0**	**-1.0**
HSAM	**Samen**	**2.48**	**78**	Pn	**Pn**	**07 43 35.6**	**+1.7**
HAGD	**Aghdareh**	**3.06**	**68**	Pn	**Pn**	**07 43 44.2**	**+2.2**

TEH 11 07:45:30.9, 33.82N×45.70E, h11km±22km, ML3.5
ISN 11 07:45:30.6±0.5, 33.74N×45.58E, h10km±2km, ML3.3
ISC 11 07:45:30.8±0.9, 33.79N±0.04×45.62E±0.05, h10km, n18, σ1.9/16/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**108**	Pg	**Pg**	**07 45 40.4**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.71**	**358**	Pg	**Pg**	**07 45 44.1**	**-0.5**
IBDR	**Badra**	**0.73**	**159**	*e*Pg	**Pg**	**07 45 44.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**07 45 54.0**	**-0.4**
IBDR				AML	AML	07 46 13.8	
	comp=E,741nm,0.7s						
IBDR				AML	AML	07 46 15.5	
	comp=N,512nm,0.6s						
IGHG	**Ghaleghazi**	**0.96**	**56**	Pg	**Pg**	**07 45 48.3**	**-0.9**
IDHR	**Dehrash**	**1.11**	**35**	Pg	**Pg**	**07 45 50.9**	**-1.2**
BHD	**Baghdad**	**1.16**	**244**	*e*Pg	**Pb**	**07 45 52.0**	**-0.8**
BHD				*e*Sg	**Sb**	**07 46 07.0**	**-0.9**
BHD				AML	AML	07 46 24.1	
	comp=E,2μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.28**	**67**	Pg	**Pn**	**07 45 54.4**	**-0.5**
ILIN	**Lien**	**1.58**	**44**	Pg	**Pn**	**07 45 59.6**	**+0.5**
IKOM	**Komasi**	**1.62**	**76**	Pg	**Pn**	**07 46 01.0**	**+1.4**
IKFM	**Kafar-mosalman**	**1.88**	**98**	Pn	**Pn**	**07 46 04.6**	**+1.7**
IBZA	**Bozab**	**1.98**	**69**	Pn	**Pn**	**07 46 05.7**	**+1.1**
RAFI	**Al-Rafai**	**2.10**	**168**	*e*Pn	**Pn**	**07 46 07.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**07 46 34.0**	**+1.7**
RAFI				AML	AML	07 46 39.6	
	comp=E,444nm,0.5s						
RAFI				AML	AML	07 46 44.2	
	comp=N,251nm,0.5s						
SDS1	**Sardasht. Az.**	**2.35**	**357**	Pn	**Pn**	**07 46 11.9**	**+2.2**
IALM	**Almabolaq**	**2.37**	**63**	Pn	**Pn**	**07 46 10.9**	**+0.9**
HSAM	**Samen**	**2.52**	**80**	Pn	**Pn**	**07 46 12.4**	**+0.4**
HAGD	**Aghdareh**	**3.09**	**70**	Pn	**Pn**	**07 46 21.0**	**+1.1**
QAMS	**Qamsar**	**4.82**	**89**	Pn	**Pn**	**07 46 44.6**	**+1.0**
IKLH	**Kolahrood**	**5.00**	**94**	Pn	**Pn**	**07 46 46.9**	**+0.8**

IDC 11 07:47:19.4±4.1, 53.50N×90.69E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=39.4km s-min=27.3km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.52**	**280**	Pn	Pn	07 48 17.3	+2.0
	1.1nm,0.3s,baz=92,slow=16,SNR=8.4						
ZALV				Lg	Lg	07 49 09.2	
	2.0nm,0.3s,baz=96,slow=30,SNR=7.2						
	2.1nm,0.3s						
KURBB	**Kurchatov Arra**	**8.03**	**254**	Pn	Pn	07 49 16.4	-0.8
	0.2nm,0.3s,baz=67,slow=15,SNR=8.1						
KURBB				Sn	Sn	07 50 53.0	+4.3
	baz=69,slow=28,SNR=7.7						
KURBB				Lg	Lg	07 51 37.4	
	0.1nm,0.3s,baz=70,slow=33,SNR=9.0						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**8.61**	**222**	Pn	Pn	07 49 26.4	+1.2
	0.1nm,0.3s,baz=39,slow=13,SNR=3.8						
MKAR				Sn	Sn	07 51 09.5	+6.5
	0.1nm,0.3s,baz=43,slow=25,SNR=5.6						
MKAR				Lg	Lg	07 51 53.1	
	0.3nm,0.3s,baz=43,slow=34,SNR=6.7						
	0.4nm,0.5s						
SONM	**Songino Array**	**11.46**	**113**	Lg	Lg	07 53 14.7	
	0.1nm,0.3s,baz=304,slow=27,SNR=5.9						
I34MN	**SONGINO INFRAS**	**11.48**	**113**	I	I	08 53 40.0	
	baz=310,slow=334,SNR=1.5						

IDC 11 07:47:31.5±2.1, 59.27N×151.75W, h48km±35km, mb3.7/5, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=105.1km s-min=25.9km az=111.0
AEIC 11 07:47:31.9±1.3, 59.15N±0.03×151.23W±0.08, h38km±7km, ML3.2, ML3.4/122(NEIC), Error ellipse: s-maj=7.0km s-min=3.7km az=122.0
NEIC 11 07:47:31.6±1.1, 59.18N±0.03×151.33W±0.03, h32km±7km, Error ellipse: s-maj=3.8km s-min=2.4km az=169.0
ISC 11 07:47:31.3±0.9, 59.20N±0.04×151.28W±0.03, h46km±8km, n296, σ0.93/292, mb4.0/5, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNPM	**China Poot**	**0.33**	**4**		**Pn**	**07 47 40.0**	**-0.4**
CNPM				IAML		07 47 47.3	
	comp=E,2μm,0.4s						
CNPM	**China Poot**	**0.33**	**4**		**Sn**	**07 47 46.8**	**-0.1**
HOM	**Homer**	**0.50**	**338**		**Pn**	**07 47 42.0**	**-0.3**
HOM				IAML		07 47 53.9	
	comp=E,3μm,0.7s						
HOM	**Homer**	**0.50**	**338**		**Sn**	**07 47 51.1**	**+1.0**
HOM	**Homer**	**0.50**	**338**	P	**Pn**	**07 47 42.5**	**+0.2**
	baz=156						
HOM				S	**Sn**	**07 47 51.1**	**+1.0**
	baz=156						
BRLK	**Bradley Lake**	**0.60**	**19**	Pn	**Pn**	**07 47 43.6**	**-0.1**
BRLK	**Bradley Lake**	**0.60**	**19**		**Sn**	**07 47 53.2**	**+0.6**
BRSE	**Bradley Lake S**	**0.61**	**26**		**Pn**	**07 47 44.0**	**+0.2**
BRSE					**Sn**	**07 47 54.1**	**+1.4**
BRSE	**Bradley Lake S**	**0.61**	**26**	P	**Pn**	**07 47 44.0**	**+0.2**
	baz=203						
BRSE				S	**Sn**	**07 47 54.1**	**+1.4**
	baz=203						
SYI	**Shuyak Island**	**0.82**	**225**		**Pn**	**07 47 46.4**	**-0.2**
SYI				IAML		07 48 00.3	
	comp=N,1μm,0.6s						
SYI				IAML		07 48 00.8	
	comp=E,1μm,0.6s						
SYI	**Shuyak Island**	**0.82**	**225**		**Sn**	**07 47 58.1**	**+0.4**
Q20K	**Shuyak Island**	**0.83**	**225**	P	**Pn**	**07 47 46.5**	**0.0**
	baz=47						
Q20K				S	**Sn**	**07 47 58.1**	**+0.4**
	baz=47						
AU22	**Augustine Moun**	**1.08**	**280**		**Pn**	**07 47 50.2**	**+0.2**
AU22					**Sn**	**07 48 04.8**	**+1.0**
P19K	**Oil Pt**	**1.10**	**295**		**Pn**	**07 47 50.4**	**+0.2**
P19K	**Oil Pt**	**1.10**	**295**		**Sn**	**07 48 05.5**	**+1.1**
P19K	**Oil Pt**	**1.10**	**295**	P	**Pn**	**07 47 50.5**	**+0.2**
	baz=115						
P19K				S	**Sn**	**07 48 05.4**	**+1.1**
	baz=115						
O20K	**Slope Mountain**	**1.12**	**323**		**Pn**	**07 47 51.1**	**+0.5**
O20K	**Slope Mountain**	**1.12**	**323**	P	**Pn**	**07 47 51.1**	**+0.5**
	baz=142						
AUL	**Augustine Lava**	**1.12**	**280**		**Pn**	**07 47 51.0**	**+0.4**
AUCH	**Augustine Cone**	**1.12**	**279**		**Pn**	**07 47 51.0**	**+0.3**
AUCH					**Sn**	**07 48 06.9**	**+1.9**
IVE	**Iliamna Volcan**	**1.21**	**314**		**Pn**	**07 47 51.8**	**0.0**
Q19K	**Cape Douglas,**	**1.25**	**259**		**Pn**	**07 47 52.4**	**0.0**
Q19K	**Cape Douglas,**	**1.25**	**259**		**Sn**	**07 48 08.9**	**+0.9**
Q19K	**Cape Douglas,**	**1.25**	**259**	P	**Pn**	**07 47 52.3**	**-0.1**
	baz=78						
Q19K				S	**Sn**	**07 48 08.9**	**+0.9**
	baz=78						
SEW	**Seward**	**1.30**	**45**		**Pn**	**07 47 53.4**	**+0.4**
SEW	**Seward**	**1.30**	**45**	P	**Pn**	**07 47 53.5**	**+0.5**
	baz=224						
SLKM	**Skilak Lake**	**1.42**	**22**		**Pn**	**07 47 55.3**	**+0.6**
RED	**Redoubt Volcan**	**1.44**	**329**		**Pn**	**07 47 55.0**	**0.0**
RDSO	**Redoubt South**	**1.46**	**330**		**Pn**	**07 47 55.4**	**0.0**
RSO	**Redoubt South**	**1.47**	**330**		**Pn**	**07 47 56.0**	**+0.5**
RDT	**Redoubt**	**1.49**	**338**		**Pn**	**07 47 55.8**	**+0.1**
O22K	**Cooper Landing**	**1.51**	**31**		**Pn**	**07 47 56.6**	**+0.8**
O22K	**Cooper Landing**	**1.51**	**31**	P	**Pn**	**07 47 56.6**	**+0.8**
	baz=210						
RDWB	**Redoubt West**	**1.52**	**329**		**Pn**	**07 47 56.1**	**0.0**
DFR	**Drift River**	**1.57**	**334**		**Pn**	**07 47 56.8**	**+0.1**
KDAK	**Kodiak Island**	**1.57**	**206**	Pn	**Pn**	**07 47 56.8**	**+0.1**
KDAK	**Kodiak Island**	**1.57**	**206**	P	**Pn**	**07 47 56.5**	**-0.3**
	comp=E,25nm,0.3s,baz=55,slow=5.1,SNR=56						
KDAK				S	**Sn**	**07 48 19.4**	**+3.5**
	comp=E,151nm,0.5s,baz=199,slow=20,SNR=11						
CAPN	**Captain Cook N**	**1.58**	**2**		**Pn**	**07 47 58.3**	**+1.5**
CAPN	**Captain Cook N**	**1.58**	**2**	P	**Pn**	**07 47 59.0**	**+2.3**
	baz=181						
RDJH	**Redoubt Jeurge**	**1.60**	**332**		**Pn**	**07 47 57.4**	**+0.2**
NCT	**North Crescent**	**1.60**	**329**		**Pn**	**07 47 57.4**	**+0.1**
KAPH	**Katmai Pasha**	**1.70**	**251**		**Pn**	**07 47 59.1**	**+0.5**
KAHG	**Katmai Hook Gl**	**1.84**	**249**		**Pn**	**07 48 00.8**	**+0.4**
O19K	**Port Alsworth**	**1.84**	**304**	Pn	**Pn**	**07 48 00.1**	**-0.2**
O19K	**Port Alsworth**	**1.84**	**304**	P	**Pn**	**07 48 00.9**	**+0.6**
	baz=122						
KAHC	**Katmai Hardscr**	**2.01**	**256**		**Pn**	**07 48 02.6**	**-0.3**
KAHC	**Katmai Hardscr**	**2.01**	**256**		**Pn**	**07 48 02.5**	**-0.3**
KAHC	**Katmai Hardscr**	**2.01**	**256**	P	**Pn**	**07 48 03.2**	**+0.3**
	baz=74						
Q18K	**Katmai Hardscr**	**2.01**	**256**	P	**Pn**	**07 48 02.5**	**-0.3**
	baz=74						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P18K	**Big Mountain,**	**2.04**	**277**		**Pn**	**07 48 02.0**	**-1.1**
P18K	**Big Mountain,**	**2.04**	**277**		**Sn**	**07 48 29.5**	**+2.2**
P18K	**Big Mountain,**	**2.04**	**277**	P	**Pn**	**07 48 03.0**	**-0.1**
	baz=95						
P18K				S	**Sn**	**07 48 29.5**	**+2.2**
	baz=95						
RC01	**Rabbit Creek A**	**2.05**	**21**	Pn	**Pn**	**07 48 03.8**	**+0.6**
RC01				IAML		07 48 37.1	
	comp=E,315nm,0.3s						
RC01				IAML		07 48 38.1	
	comp=N,184nm,0.4s						
RC01	**Rabbit Creek A**	**2.05**	**21**	P	**Pn**	**07 48 04.2**	**+0.9**
	baz=202						
N20K	**Mount Spurr**	**2.06**	**347**	P	**Pn**	**07 48 04.1**	**+0.6**
	baz=166						
SPCR	**Spurr Chakacha**	**2.06**	**347**		**Pn**	**07 48 04.1**	**+0.6**
CKN	**Chakachatna No**	**2.08**	**348**		**Pn**	**07 48 04.8**	**+1.0**
SPCN	**Chakachatna No**	**2.08**	**348**		**Pn**	**07 48 04.6**	**+0.8**
O18K	**Koktuh Hills**	**2.11**	**290**	Pn	**Pn**	**07 48 04.3**	**+0.2**
O18K				IAML		07 48 44.9	
	comp=N,233nm,0.5s						
O18K	**Koktuh Hills**	**2.11**	**290**	P	**Pn**	**07 48 04.3**	**+0.2**
	baz=107						
SPCP	**Crater Peak Br**	**2.12**	**349**		**Pn**	**07 48 05.2**	**+0.9**
P23K	**Montague Islan**	**2.13**	**66**		**Pn**	**07 48 04.7**	**+0.3**
P23K	**Montague Islan**	**2.13**	**66**	P	**Pn**	**07 48 04.7**	**+0.3**
	baz=248						
SPCG	**Spurr Capps Gl**	**2.13**	**350**		**Pn**	**07 48 05.4**	**+0.8**
KVTA	**Katmai Vly 10**	**2.25**	**250**		**Pn**	**07 48 05.8**	**-0.1**
OHAK	**Old Harbor**	**2.25**	**209**		**Pn**	**07 48 05.2**	**-0.7**
OHAK				IAML		07 48 49.8	
	comp=N,164nm,1.6s						
OHAK	**Old Harbor**	**2.25**	**209**	P	Pn	07 47 51.9	-14
OHAK	**Old Harbor**	**2.25**	**209**	P	**Pn**	**07 48 05.3**	**-0.7**
	baz=28						
N19K	**Bonanza Creek**	**2.29**	**317**		**Pn**	**07 48 06.7**	**+0.1**
N19K				IAML		07 48 51.9	
	comp=N,146nm,0.7s						
N19K	**Bonanza Creek**	**2.29**	**317**	P	**Pn**	**07 48 06.9**	**+0.4**
	baz=134						
SPNN	**North Nagishla**	**2.29**	**343**		**Pn**	**07 48 08.0**	**+1.3**
SUA	**Susitna One**	**2.29**	**6**	Pn	**Pn**	**07 48 07.7**	**+1.1**
SUA	**Susitna One**	**2.29**	**6**	P	**Pn**	**07 48 07.7**	**+1.1**
	baz=186						
STLK	**Strandline Lak**	**2.33**	**353**		**Pn**	**07 48 08.6**	**+1.5**
R18K	**Karluk**	**2.34**	**227**		**Pn**	**07 48 07.8**	**+0.6**
R18K	**Karluk**	**2.34**	**227**	P	**Pn**	**07 48 07.8**	**+0.6**
	baz=45						
ANCK	**Angle Creek**	**2.42**	**247**		**Pn**	**07 48 08.6**	**+0.3**
CNTC	**Contact Creek**	**2.58**	**251**		**Pn**	**07 48 11.1**	**+0.5**
Q17K	**Contact Creek**	**2.58**	**251**	P	**Pn**	**07 48 11.1**	**+0.5**
	baz=68						
KNK	**Knik Glacier**	**2.63**	**31**		**Pn**	**07 48 11.3**	**+0.1**
KNK				IAML		07 48 58.1	
	comp=E,220nm,0.6s						
KNK				IAML		07 48 59.0	
	comp=N,188nm,0.6s						
KNK	**Knik Glacier**	**2.63**	**31**	P	**Pn**	**07 48 11.8**	**+0.6**
	baz=213						
PMR	**Palmer**	**2.63**	**23**	Pn	**Pn**	**07 48 11.4**	**+0.3**
PMR	**Palmer**	**2.63**	**23**	P	**Pn**	**07 48 11.9**	**+0.7**
PMR	**Palmer**	**2.63**	**23**	P	**Pn**	**07 48 11.8**	**+0.6**
	baz=204						
P17K	**Kvichak River**	**2.66**	**272**		**Pn**	**07 48 11.9**	**+0.4**
P17K	**Kvichak River**	**2.66**	**272**	P	**Pn**	**07 48 11.9**	**+0.4**
	baz=88						
GLI	**Glacier Island**	**2.69**	**49**		**Pn**	**07 48 12.0**	**-0.1**
GLI	**Glacier Island**	**2.69**	**49**	IAML		07 48 57.2	
	comp=N,168nm,0.8s						
GLI				IAML		07 48 58.0	
	comp=E,158nm,0.6s						
GLI	**Glacier Island**	**2.69**	**49**	P	**Pn**	**07 48 12.0**	**-0.1**
	baz=232						
HIN	**Hinchinbrook I**	**2.70**	**61**	Pn	**Pn**	**07 48 13.7**	**+1.5**
HIN				IAML		07 48 45.8	
	comp=E,150nm,2.6s						
HIN				IAML		07 49 02.4	
	comp=N,146nm,1.0s						
N18K	**Kilae Creek**	**2.76**	**305**		**Pn**	**07 48 12.7**	**-0.2**
N18K				IAML		07 49 02.5	
	comp=E,109nm,0.9s						
N18K				IAML		07 49 03.9	
	comp=N,95nm,0.9s						
N18K	**Kilae Creek**	**2.76**	**305**	P	**Pn**	**07 48 13.3**	**+0.3**
	baz=121						
SKT	**Skwentna**	**2.79**	**358**		**Pn**	**07 48 14.5**	**+1.0**
SKT				IAML		07 49 06.7	
	comp=E,122nm,0.7s						
SKT				IAML		07 49 08.3	
	comp=N,107nm,0.6s						
SKT	**Skwentna**	**2.79**	**358**	P	**Pn**	**07 48 14.8**	**+1.3**
	baz=177						
GHO	**Glory Hole Cre**	**2.83**	**23**		**Pn**	**07 48 15.1**	**+1.0**
Q16K	**King Salmon**	**2.84**	**262**		**Pn**	**07 48 14.7**	**+0.7**
Q16K	**King Salmon**	**2.84**	**262**	P	**Pn**	**07 48 14.7**	**

M17K	**Holitna River**	**3.78**	**308**	P		**Pn**	**07 48 27.6**	**+0.7**
	baz=123							
BMRM	**Bremner River**	**3.79**	**59**			**Pn**	**07 48 27.3**	**+0.2**
BMRM	**Bremner River**	**3.79**	**59**	P		**Pn**	**07 48 27.4**	**+0.3**
	baz=244							
WAT6	**Susitna Watana**	**3.81**	**25**			**Pn**	**07 48 28.7**	**+1.2**
WAT6	**Susitna Watana**	**3.81**	**25**	P		**Pn**	**07 48 28.7**	**+1.2**
	baz=208							
WAT7	**Susitna Watana**	**3.83**	**17**			**Pn**	**07 48 29.3**	**+1.5**
M24K	**Tolsona, Glenn**	**3.85**	**39**	Pn		**Pn**	**07 48 29.4**	**+1.4**
M24K				IAML			07 49 15.3	
	comp=N,74nm,2.4s							
M24K	**Tolsona, Glenn**	**3.85**	**39**	P		**Pn**	**07 48 29.7**	**+1.7**
	baz=222							
WAT1	**Susitna Watana**	**3.88**	**19**			**Pn**	**07 48 29.6**	**+1.2**
WAT1	**Susitna Watana**	**3.88**	**19**	P		**Pn**	**07 48 29.6**	**+1.2**
	baz=201							
N16K	**Nishlik Lake**	**3.99**	**292**			**Pn**	**07 48 30.5**	**+0.7**
N16K	**Nishlik Lake**	**3.99**	**292**	P		**Pn**	**07 48 30.6**	**+0.7**
	baz=106							
L18K	**Granite Mounta**	**4.03**	**321**			**Pn**	**07 48 30.3**	**-0.1**
L18K				IAML			07 49 48.2	
	comp=N,34nm,1.7s							
L18K				IAML			07 49 50.0	
	comp=E,41nm,2.9s							
L18K	**Granite Mounta**	**4.03**	**321**	P		**Pn**	**07 48 30.4**	**0.0**
	baz=136							
N25K	**Chitina, Valde**	**4.10**	**51**			**Pn**	**07 48 32.1**	**+0.6**
N25K	**Chitina, Valde**	**4.10**	**51**	IAML			07 49 38.6	
	comp=N,39nm,0.8s							
N25K	**Chitina, Valde**	**4.10**	**51**	P		**Pn**	**07 48 32.1**	**+0.6**
	baz=236							
KHIT	**Khitrov Hills**	**4.24**	**69**			**Pn**	**07 48 33.8**	**+0.4**
CAST	**Castle Rocks**	**4.25**	**355**	Pn		**Pn**	**07 48 34.7**	**+1.2**
CAST	**Castle Rocks**	**4.25**	**355**	P		**Pn**	**07 48 33.8**	**+0.3**
	baz=174							
M16K	**Timber Creek**	**4.26**	**299**			**Pn**	**07 48 34.3**	**+0.8**
M16K	**Timber Creek**	**4.26**	**299**	IAML			07 49 54.2	
	comp=N,40nm,1.9s							
M16K				IAML			07 51 25.6	
	comp=E,46nm,4.2s							
M16K	**Timber Creek**	**4.26**	**299**	P		**Pn**	**07 48 34.3**	**+0.8**
	baz=112							
TRF	**Thorofare Moun**	**4.29**	**6**	Pn		**Pn**	**07 48 34.6**	**+0.4**
TRF				IAML			07 49 36.8	
	comp=N,39nm,0.8s							
TRF				IAML			07 50 03.9	
	comp=E,35nm,1.1s							
TRF	**Thorofare Moun**	**4.29**	**6**	P		**Pn**	**07 48 35.6**	**+1.5**
	baz=186							
DHY	**Denali Highway**	**4.33**	**24**			**Pn**	**07 48 35.5**	**+0.9**
DHY				IAML			07 49 43.0	
	comp=N,28nm,1.3s							
DHY	**Denali Highway**	**4.33**	**24**	P		**Pn**	**07 48 36.0**	**+1.4**
	baz=207							
GLB	**Gilahina Butte**	**4.34**	**56**			**Pn**	**07 48 35.0**	**+0.3**
GLB				IAML			07 49 43.5	
	comp=N,38nm,2.5s							
GLB				IAML			07 50 04.1	
	comp=E,28nm,4.4s							
KTH	**Kantishna Hill**	**4.38**	**2**			**Pn**	**07 48 36.6**	**+1.4**
KTH				IAML			07 49 48.8	
	comp=E,29nm,1.3s							
KTH				IAML			07 50 08.8	
	comp=N,28nm,1.0s							
CRQM	**Cirque**	**4.38**	**66**			**Pn**	**07 48 36.0**	**+0.6**
CRQM	**Cirque**	**4.38**	**66**	IAML			07 50 36.6	
	comp=E,39nm,3.3s							
CRQM				IAML			07 50 37.0	
	comp=N,38nm,3.8s							
RND	**Reindeer**	**4.38**	**14**	Pn		**Pn**	**07 48 36.2**	**+0.9**
RND				IAML			07 50 02.3	
	comp=N,26nm,2.9s							
K20K	**Telida**	**4.39**	**343**			**Pn**	**07 48 36.2**	**+0.9**
K20K	**Telida**	**4.39**	**343**	P		**Pn**	**07 48 36.2**	**+0.9**
	baz=161							
HARP	**HAARP**	**4.39**	**40**			**Pn**	**07 48 37.0**	**+1.6**
HARP	**HAARP**	**4.39**	**40**	P		**Pn**	**07 48 37.0**	**+1.6**
	baz=225							
TTA	**Tatalina**	**4.39**	**330**	Pn		**Pn**	**07 48 35.7**	**+0.2**
TTA	**Tatalina**	**4.39**	**330**	P		**Pn**	**07 48 35.7**	**+0.2**
TTA	**Tatalina**	**4.39**	**330**	P		**Pn**	**07 48 35.9**	**+0.5**
	baz=146							
O15K	**Ungalikthiuk R**	**4.40**	**273**			**Pn**	**07 48 36.2**	**+0.8**
O15K	**Ungalikthiuk R**	**4.40**	**273**	P		**Pn**	**07 48 36.4**	**+1.0**
	baz=86							
CRQE	**Cirque**	**4.40**	**66**	P		**Pn**	**07 48 36.1**	**+0.5**
	baz=252							
VRDI	**Verde Repeater**	**4.40**	**59**			**Pn**	**07 48 35.8**	**+0.1**
VRDI	**Verde Repeater**	**4.40**	**59**	IAML			07 49 55.7	
	comp=N,27nm,3.4s							
WACK	**Wrangell Chich**	**4.42**	**48**			**Pn**	**07 48 36.9**	**+0.9**
WASW	**Wrangell South**	**4.45**	**49**			**Pn**	**07 48 37.4**	**+1.0**
TGL	**Tana Glacier**	**4.52**	**66**			**Pn**	**07 48 38.0**	**+0.8**
TGL	**Tana Glacier**	**4.52**	**66**	IAML			07 49 54.5	
	comp=E,29nm,3.8s							
TGL				IAML			07 50 20.6	
	comp=N,28nm,2.9s							
L17K	**Donlin**	**4.54**	**313**			**Pn**	**07 48 37.4**	**0.0**
L17K	**Donlin**	**4.54**	**313**	P		**Pn**	**07 48 37.4**	**0.0**
	baz=128							
N15K	**Kwethluk River**	**4.57**	**286**			**Pn**	**07 48 38.5**	**+0.6**
N15K	**Kwethluk River**	**4.57**	**286**	P		**Pn**	**07 48 38.5**	**+0.6**
	baz=99							
BARK	**Barkley Ridge**	**4.60**	**71**			**Pn**	**07 48 39.4**	**+1.0**
MCARA	**McCarthy VSAT**	**4.66**	**58**			**Pn**	**07 48 40.1**	**+1.1**
MCARA	**McCarthy VSAT**	**4.66**	**58**	IAML			07 50 20.1	
	comp=N,35nm,1.8s							
MCARA				IAML			07 50 22.4	
	comp=E,33nm,2.6s							
MCARA	**McCarthy VSAT**	**4.66**	**58**	P		**Pn**	**07 48 40.1**	**+1.1**
	baz=245							
MCK	**McKinley**	**4.69**	**13**			**Pn**	**07 48 41.2**	**+1.8**
MCK	**McKinley**	**4.69**	**13**	P		**Pn**	**07 48 41.2**	**+1.8**
	baz=194							
PAX	**Paxson**	**4.72**	**34**			**Pn**	**07 48 41.4**	**+1.4**
PAX	**Paxson**	**4.72**	**34**	P		**Pn**	**07 48 41.3**	**+1.4**
	baz=219							
L16K	**Owhat River**	**4.78**	**305**			**Pn**	**07 48 41.2**	**+0.6**
L16K	**Owhat River**	**4.78**	**305**	IAML			07 50 08.0	
	comp=N,34nm,2.9s							
L16K				IAML			07 50 30.1	
	comp=E,33nm,4.2s							
L16K	**Owhat River**	**4.78**	**305**	P		**Pn**	**07 48 41.5**	**+0.9**
	baz=118							
KIAG	**Kiagna River**	**4.79**	**65**			**Pn**	**07 48 42.0**	**+1.0**
BAGL	**Bagley Icefiel**	**4.81**	**70**			**Pn**	**07 48 42.6**	**+1.5**
PTPK	**Patty Peak**	**4.83**	**62**			**Pn**	**07 48 42.3**	**+0.7**
K17K	**Iditarod**	**4.92**	**319**			**Pn**	**07 48 42.9**	**+0.4**
K17K	**Iditarod**	**4.92**	**319**	P		**Pn**	**07 48 43.0**	**+0.5**
	baz=133							
BPAW	**Bear Paw Mtn.**	**4.92**	**1**	Pn		**Pn**	**07 48 43.3**	**+0.6**
BPAW				IAML			07 49 46.4	
	comp=E,24nm,3.6s							
BPAW				IAML			07 50 30.3	
	comp=N,18nm,3.9s							
BPAW	**Bear Paw Mtn.**	**4.92**	**1**	P		**Pn**	**07 48 43.5**	**+0.9**
	baz=181							
M15K	**Kasigluk River**	**4.96**	**292**			**Pn**	**07 48 44.1**	**+0.9**
M15K	**Kasigluk River**	**4.96**	**292**	P		**Pn**	**07 48 44.1**	**+0.9**
	baz=104							
J18K	**Innoko River**	**5.02**	**331**			**Pn**	**07 48 44.2**	**+0.3**
J18K	**Innoko River**	**5.02**	**331**	P		**Pn**	**07 48 44.9**	**+0.9**
	baz=146							
GRNC	**Granite Creek**	**5.03**	**68**			**Pn**	**07 48 45.5**	**+1.3**
GRNC	**Granite Creek**	**5.03**	**68**	IAML			07 49 58.1	
	comp=E,26nm,4.5s							
BWN	**Browne**	**5.07**	**9**			**Pn**	**07 48 45.6**	**+1.0**
O14K	**Tigyukauivet M**	**5.13**	**275**			**Pn**	**07 48 46.7**	**+1.2**
O14K	**Tigyukauivet M**	**5.13**	**275**	P		**Pn**	**07 48 46.8**	**+1.4**
	baz=87							
BARN	**Barnard Glacie**	**5.16**	**65**			**Pn**	**07 48 47.0**	**+0.9**
BARN	**Barnard Glacie**	**5.16**	**65**	IAML			07 50 07.1	
	comp=N,22nm,3.8s							
BARN				IAML			07 50 34.2	
	comp=E,26nm,3.5s							
M26K	**Nabesna, AK**	**5.17**	**48**			**Pn**	**07 48 47.5**	**+1.4**
M26K	**Nabesna, AK**	**5.17**	**48**	IAML			07 50 11.8	
	comp=N,15nm,3.5s							
M26K	**Nabesna, AK**	**5.17**	**48**	P		**Pn**	**07 48 47.5**	**+1.4**
	baz=235							
J20K	**Nowinta River**	**5.18**	**346**	P		**Pn**	**07 48 45.9**	**-0.2**
	baz=163							
J19K	**Poorman**	**5.24**	**339**			**Pn**	**07 48 47.6**	**+0.6**
J19K	**Poorman**	**5.24**	**339**	IAML			07 50 50.3	
	comp=E,14nm,4.6s							
J19K				IAML			07 52 02.0	
	comp=N,15nm,4.5s							
J19K	**Poorman**	**5.24**	**339**	P		**Pn**	**07 48 47.6**	**+0.6**
	baz=155							
CTG	**Chitna Glacier**	**5.28**	**66**	P		**Pn**	**07 48 49.3**	**+1.6**
	baz=254							
CTGM	**Chitina Glacie**	**5.29**	**66**			**Pn**	**07 48 49.3**	**+1.6**
CTGM	**Chitina Glacie**	**5.29**	**66**	IAML			07 51 19.5	
	comp=E,21nm,4.1s							
K24K	**Donnelly Dome**	**5.32**	**27**			**Pn**	**07 48 50.0**	**+1.9**
K24K	**Donnelly Dome**	**5.32**	**27**	P		**Pn**	**07 48 50.0**	**+1.9**
	baz=212							
N14K	**Kuskokwak Cree**	**5.34**	**282**			**Pn**	**07 48 48.8**	**+0.5**
N14K	**Kuskokwak Cree**	**5.34**	**282**	P		**Pn**	**07 48 48.8**	**+0.5**
	baz=94							
LOGN	**Logan Glacier**	**5.41**	**68**			**Pn**	**07 48 50.3**	**+0.8**
NEA2	**Nenana**	**5.51**	**10**			**Pn**	**07 48 51.4**	**+0.7**
NEA2	**Nenana**	**5.51**	**10**	P		**Pn**	**07 48 51.4**	**+0.7**
	baz=192							
M27K	**Edge Creek, AK**	**5.59**	**51**			**Pn**	**07 48 52.9**	**+1.0**
M27K	**Edge Creek, AK**	**5.59**	**51**	P		**Pn**	**07 48 53.0**	**+1.1**
	baz=239							
HDA	**Harding Lake**	**5.62**	**20**			**Pn**	**07 48 53.0**	**+0.8**
PCA	**Pinnacle**	**5.66**	**76**			**Pn**	**07 48 53.9**	**+1.0**
PINM	**Pinnacle**	**5.67**	**76**	P		**Pn**	**07 48 53.2**	**+0.3**
	baz=265							
YUK2	**White River**	**5.77**	**59**			**Pn**	**07 48 55.6**	**+1.2**
MLY	**Manley**	**5.86**	**2**	P		**Pn**	**07 48 56.8**	**+1.3**
	baz=182							
K15K	**Wolf Creek Mou**	**5.91**	**306**			**Pn**	**07 48 57.1**	**+1.0**
K15K	**Wolf Creek Mou**	**5.91**	**306**	P		**Pn**	**07 48 57.3**	**+1.2**
	baz=117							
COLA	**College**	**5.92**	**14**	P		**Pn**	**07 48 57.5**	**+1.2**
SCRK	**Sand Creek**	**5.92**	**33**			**Pn**	**07 48 57.1**	**+0.6**
SCRK	**Sand Creek**	**5.92**	**33**	P		**Pn**	**07 48 57.1**	**+0.6**
	baz=219							
YUK3	**Moose Creek**	**5.94**	**60**			**Pn**	**07 48 58.0**	**+1.3**
YUK3	**Moose Creek**	**5.94**	**60**	P		**Pn**	**07 48 57.7**	**+0.9**
	baz=248							
ILAR	**Eielson Array**	**5.96**	**18**	P		**Pn**	**07 48 57.1**	**+0.2**
	comp=E,2.8nm,0.3s,baz=204,slow=14,SNR=127							
ILAR				S		**Sn**	**07 50 02.1**	**-1.7**
	comp=E,1.6nm,0.4s,baz=195,slow=24,SNR=5.1							
	comp=E,9.3nm,0.4s							
L27K	**Beaver Creek,**	**6.00**	**46**			**Pn**	**07 48 58.7**	**+1.3**
L27K	**Beaver Creek,**	**6.00**	**46**	P		**Pn**	**07 48 58.7**	**+1.3**
	baz=234							
I23K	**Minto, Yukon-K**	**6.04**	**8**			**Pn**	**07 48 58.3**	**+0.4**
I23K	**Minto, Yukon-K**	**6.04**	**8**	P		**Pn**	**07 48 58.9**	**+1.0**
	baz=189							
PNL	**Peninsula**	**6.08**	**80**			**Pn**	**07 48 58.9**	**+0.2**
PNL	**Peninsula**	**6.08**	**80**	P		**Pn**	**07 48 59.4**	**+0.8**
PNL	**Peninsula**	**6.08**	**80**	P		**Pn**	**07 48 58.8**	**+0.2**
	baz=270							
J16K	**Anvik River**	**6.08**	**316**			**Pn**	**07 48 58.6**	**+0.1**
J16K	**Anvik River**	**6.08**	**316**	P		**Pn**	**07 48 58.8**	**+0.2**
	baz=128							
J25K	**Salcha River,**	**6.11**	**25**			**Pn**	**07 48 59.8**	**+0.9**
J25K	**Salcha River,**	**6.11**	**25**	P		**Pn**	**07 48 59.8**	**+0.9**
	baz=210							
GCSA	**Galena City Sc**	**6.16**	**337**			**Pn**	**07 49 00.3**	**+0.7**
GCSA	**Galena City Sc**	**6.16**	**337**	P		**Pn**	**07 49 00.3**	**+0.7**
	baz=152							
POKR	**Poker Plat Res**	**6.21**	**15**			**Pn**	**07 49 00.9**	**+0.6**
POKR	**Poker Plat Res**	**6.21**	**15**	P		**Pn**	**07 49 01.4**	**+1.2**
	baz=198							
J26L	**Joseph Creek**	**6.45**	**31**	P		**Pn**	**07 49 04.5**	**+0.8**
	baz=218							
O29M	**Mount Kennedy**	**6.52**	**75**	P		**Pn**	**07 49 05.8**	**+1.2**
	baz=265							
H21K	**Melozitna Rive**	**6.52**	**354**			**Pn**	**07 49 05.1**	**+0.5**
H21K	**Melozitna Rive**	**6.52**	**354**	P		**Pn**	**07 49 05.1**	**+0.5**
	baz=173							
K27K	**Chicken**	**6.54**	**38**			**Pn**	**07 49 06.3**	**+1.6**
K27K	**Chicken**	**6.54**	**38**	P		**Pn**	**07 49 06.3**	**+1.6**
	baz=226							
H20K	**Anotleneega Mo**	**6.54**	**347**			**Pn**	**07 49 05.4**	**+0.7**
H20K	**Anotleneega Mo**	**6.54**	**347**	P		**Pn**	**07 49 05.6**	**+0.8**
	baz=163							
YUK4	**Talbot Arm**	**6.64**	**66**	P		**Pn**	**07 49 08.7**	**+2.3**
	baz=256							
H22K	**Ishtalitna Cre**	**6.72**	**360**			**Pn**	**07 49 08.2**	**+0.9**
H22K	**Ishtalitna Cre**	**6.72**	**360**	P		**Pn**	**07 49 08.2**	**+0.9**
	baz=179							
H18K	**Honhosa River**	**6.83**	**334**			**Pn**	**07 49 09.5**	**+0.7**
H18K	**Honhosa River**	**6.83**	**334**	P		**Pn**	**07 49 09.5**	**+0.7**
	baz=148							
H24K	**Noodor Dome**	**6.85**	**12**			**Pn**	**07 49 10.0**	**+0.9**
H24K	**Noodor Dome**	**6.85**	**12**	P		**Pn**	**07 49 10.0**	**+0.9**
	baz=194							
PRP	**Porcupine Dome**	**6.88**	**20**	P		**Pn**	**07 49 10.5**	**+0.9**
	baz=205							
P29M	**Windy Craggy**	**6.93**	**81**	P		**Pn**	**07 49 10.5**	**+0.3**
	baz=248							
M29M	**Somme Creek**	**7.06**	**57**	P		**Pn**	**07 49 13.2**	**+1.2**
	baz=248							
I26K	**Coal Creek Min**	**7.20**	**28**			**Pn**	**07 49 14.9**	**+1.0**
I26K	**Coal Creek Min**	**7.20**	**28**	P		**Pn**	**07 49 14.9**	**+1.0**
	baz=215							
P30M	**Million Dollar**	**7.31**	**77**			**Pn**	**07 49 15.9**	**+0.5**
P30M	**Million Dollar**	**7.31**	**77**	P		**Pn**	**07 49 15.9**	**+0.5**
	baz=269							
G23K	**Bananza Creek**	**7.56**	**4**	P		**Pn**	**07 49 19.7**	**+0.9**
	baz=185							
G24K	**Hadweenzic Riv**	**7.73**	**11**			**Pn**	**07 49 21.4**	**+0.3**
G24K	**Hadweenzic Riv**	**7.73**	**11**	P		**Pn**	**07 49 21.4**	**+0.3**
	baz=194							
I27K	**Kandik River**	**7.83**	**31**			**Pn**	**07 49 22.8**	**+0.2**
I27K	**Kandik River**	**7.83**	**31**	P		**Pn**	**07 49 22.7**	**+0.2**
	baz=219							
M30M	**Minto, Yukon**	**7.83**	**58**			**Pn**	**07 49 22.9**	**+0.4**
M30M	**Minto, Yukon**	**7.83**	**58**	P		**Pn**	**07 49 22.9**	**+0.4**
	baz=250							
E19K	**Redstone River**	**8.71**	**345**	Pn		**Pn**	**07 49 36.3**	**+1.9**
BMAR	**Burnt Mountain**	**8.79**	**17**	Pn		**Pn**	**07 49 35.9**	**+0.3**
SPITS	**Spitsbergen Ar**	**42.66**	**4**	P		**P**	**07 55 21.8**	**-0.8**
	comp=E,7.4nm,1.0s,baz=359,slow=5.8,SNR=4.4							
	comp=E,7.4nm,1.0s							
ARCES	**ARCESS Array B**	**51.54**	**1**	P		**P**	**07 56 31.3**	**-0.5**
	comp=E,1.5nm,0.9s,baz=16,slow=6.8,SNR=1.3							
	comp=E,1.5nm,0.9s							
FINES	**FINESS Array B**	**59.67**	**1**	P		**P**	**07 57 29.4**	**-0.7**
	comp=E,0.8nm,0.7s,baz=0.0,slow=3.2,SNR=4.9							
	comp=E,0.8nm,0.7s							
HFS	**Hagfors**	**60.43**	**9**	P		**P**	**07 57 35.2**	**-0.1**
	comp=E,0.5nm,0.5s,baz=306,slow=5.0,SNR=1.5							
	comp=E,0.5nm,0.5s							
BVAR	**Borovoye Array**	**63.19**	**333**	P		**P**	**07 57 52.7**	**-1.3**
	comp=E,0.9nm,0.7s,baz=27,slow=6.6,SNR=3.8							
	comp=E,0.9nm,0.7s							

TEH ***11*** *07:49:18.9,33.˚68N×45.˚63E,h12km±31km,ML3.5*
ISN ***11*** *07:49:19.5±0.9,33.˚73N×45.˚71E,h11km±4km,ML3.3*
ISC 11 07:49:20.6±0.9**,33.74N**±0.˚04×**45.˚68E**±0.˚04**,h13**km**,n19,**
σ1§09/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.46**	**104**	Pg	**Pg**	**07 49 28.5**	**-1.1**
IBDR	**Badra**	**0.66**	**161**	*e*Pg	**Pg**	**07 49 32.0**	**-1.4**
IBDR				*e*Sg	**Sg**	**07 49 41.2**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**0.77**	**355**	Pg	**Pg**	**07 49 34.5**	**-1.1**
IGHG	**Ghaleghazi**	**0.95**	**51**	Pg	**Pg**	**07 49 38.5**	**-0.4**
IDHR	**Dehrash**	**1.13**	**31**	Pg	**Pg**	**07 49 41.2**	**-0.8**
BHD	**Baghdad**	**1.18**	**247**	*e*Pg	**Pn**	**07 49 43.0**	**+0.2**
BHD				*e*Sg	**Sb**	**07 49 59.0**	**+1.0**
BHD				AML	AML	07 50 04.1	
	comp=E,1μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.25**	**64**	Pg	**Pn**	**07 49 43.5**	**-0.4**
IKOM	**Komasi**	**1.58**	**73**	Pg	**Pn**	**07 49 49.7**	**+1.2**
ILIN	**Lien**	**1.59**	**42**	Pg	**Pn**	**07 49 49.6**	**+0.9**
IKFM	**Kafar-mosalman**	**1.82**	**96**	Pn	**Pn**	**07 49 53.5**	**+1.9**
IBZA	**Bozab**	**1.95**	**67**	Pn	**Pn**	**07 49 53.9**	**+0.2**
RAFI	**Al-Rafai**	**2.04**	**169**	*e*Pn	**Pn**	**07 49 55.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**07 50 22.0**	**+2.1**
RAFI				AML	AML	07 50 26.7	
	comp=N,223nm,0.2s						
RAFI				AML	AML	07 50 35.4	
	comp=E,278nm,0.3s						
IALM	**Almabolaq**	**2.35**	**61**	Pn	**Pn**	**07 50 00.4**	**+1.3**
SDS1	**Sardasht. Az.**	**2.41**	**356**	Pn	**Pn**	**07 50 01.0**	**+1.1**
HSAM	**Samen**	**2.48**	**78**	Pn	**Pn**	**07 50 01.4**	**+0.6**
IRAZ	**Razeghan**	**3.88**	**63**	Pn	**Pn**	**07 50 20.0**	**-0.1**
QAMS	**Qamsar**	**4.76**	**88**	Pn	**Pn**	**07 50 32.7**	**+0.3**
IKLH	**Kolahrood**	**4.95**	**93**	Pn	**Pn**	**07 50 36.0**	**+1.2**
IRAM	**Ramesheh**	**5.96**	**107**	Pn	**Pn**	**07 50 49.4**	**+0.6**

IDC ***11*** *07:52:44.9±0.8,33.˚77N×45.˚63E,h0km,mb4.2/25, mbtmp4.1/31,ML3.6/6,Error ellipse: s-maj=17.9km s-min=12.0km az=155.0*
MOS ***11*** *07:52:45.0±0.9,33.˚69N×45.˚58E,h13km,mb4.4/30,Error ellipse: s-maj=7.0km s-min=5.3km az=92.4*
TEH ***11*** *07:52:47.9,33.82N×45.˚75E,h12km±32km,ML4.3*
NEIC ***11*** *07:52:47.1±1.7,33.˚69N±0.˚08×45.˚61E±0.˚09,h10km±1km, mb4.3/34,Error ellipse: s-maj=14.1km s-min=10.7km az=141.0*
ISN ***11*** *07:52:48.0±1.1,33.˚78N×45.˚70E,h8km±6km,ML4.2*
AFAD ***11*** *07:52:53.0±0.0,34.˚27N×45.˚38E,h15km,MW4.4*
ISC 11 07:52:46.6±1.1**,33.74N**±0.˚03×**45.˚65E**±0.˚03**,h8**km±7km**,**
n197,σ1§31/211,mb4.3/58,6C-1D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**104**	Pg	**Pg**	**07 52 56.4**	**+0.4**
IBDR	**Badra**	**0.68**	**159**	*e*Pg	**Pn**	**07 53 02.0**	**-0.4**
IBDR				*e*Sg	**Sb**	**07 53 11.0**	**+0.9**
IBDR				AML	AML	07 53 15.9	
	comp=E,8μm,0.5s						
IBDR				AML	AML	07 53 18.2	
	comp=N,8μm,0.6s						
KGS1	**Ghasr-e-Shirin**	**0.76**	**356**	Pg	**Pg**	**07 53 01.3**	**+0.1**
IGHG	**Ghaleghazi**	**0.96**	**52**	Pg	**Pg**	**07 53 05.4**	**+0.3**
IDHR	**Dehrash**	**1.13**	**33**	Pg	**Pg**	**07 53 07.9**	**-0.5**
IDHR				Sg	**Sg**	**07 53 22.6**	**-0.5**
BHD	**Baghdad**	**1.16**	**246**	*e*Pg	**Pn**	**07 53 11.4**	**+2.4**
BHD				*e*Sg	**Sn**	**07 53 28.0**	**+3.0**
BHD				AML	AML	07 53 31.7	
	comp=E,11μm,0.5s						
KCHF	**Cheshme Sefid,**	**1.27**	**65**	Pg	**Pn**	**07 53 10.5**	**-0.4**
ILIN	**Lien**	**1.60**	**43**	Pg	**Pb**	**07 53 16.7**	**+0.2**
ILIN				Sg	**Sg**	**07 53 38.0**	**-0.1**
IKOM	**Komasi**	**1.61**	**74**	Pg	**Pg**	**07 53 17.4**	**0.0**
IKFM	**Kafar-mosalman**	**1.85**	**96**	Pg	**Pb**	**07 53 20.7**	**+0.1**
IBZA	**Bozab**	**1.98**	**68**	Pn	**Pb**	**07 53 22.4**	**-0.5**
RAFI	**Al-Rafai**	**2.05**	**169**	*e*Pn	**Pb**	**07 53 24.3**	**+0.2**
RAFI				*e*Sn	**Sg**	**07 53 52.5**	**-0.1**
RAFI				AML	AML	07 53 56.3	
	comp=E,2μm,0.2s						
RAFI				AML	AML	07 54 01.3	
	comp=N,3μm,0.7s						
IALM	**Almabolaq**	**2.37**	**61**	Pn	**Pn**	**07 53 27.4**	**+1.4**
SDS1	**Sardasht. Az.**	**2.40**	**357**	Pn	**Pn**	**07 53 28.6**	**+2.2**
HSAM	**Samen**	**2.50**	**78**	Pn	**Pn**	**07 53 29.0**	**+1.2**
MAHB	**Mahabad**	**3.02**	**1**	Pn	**Pn**	**07 53 37.3**	**+2.6**
HAGD	**Aghdareh**	**3.09**	**69**	Pn	**Pn**	**07 53 37.4**	**+1.6**
IHSH	**Hashtrud**	**3.79**	**20**	Pn	**Pn**	**07 53 46.9**	**+1.3**
CUKT	**Cukurca**	**3.87**	**335**	P	**Pn**	**07 53 47.4**	**+0.9**
CUKT				S	**Sn**	**07 54 30.8**	**-1.5**
IRAZ	**Razeghan**	**3.90**	**64**	Pn	**Pn**	**07 53 49.0**	**+2.0**
IAZR	**Azarshahr**	**3.94**	**4**	Pn	**Pn**	**07 53 49.0**	**+1.5**
YOVA	**Hakkari_Yksek**	**3.99**	**344**	P	**Pn**	**07 53 50.1**	**+1.9**
YOVA				S	**Sn**	**07 54 38.3**	**+3.0**
HAKT	**HAKKARI**	**4.12**	**338**	P	**Pn**	**07 53 53.1**	**+3.0**
HAKT				S	**Sn**	**07 54 37.5**	**-1.0**
ISRB	**Sarab**	**4.39**	**21**	Pn	**Pn**	**07 53 55.2**	**+1.4**
JHBN	**Jahan bin**	**4.48**	**108**	Pn	**Pn**	**07 53 56.8**	**+1.7**
IPIR	**Pirpir**	**4.52**	**102**	Pn	**Pn**	**07 53 56.7**	**+1.1**
IMHD	**Mahdasht**	**4.57**	**64**	Pn	**Pn**	**07 53 57.1**	**+1.0**
SIRN	**Sırnak**	**4.58**	**326**	P	**Pn**	**07 53 59.0**	**+2.8**
SIRN				S	**Sn**	**07 54 48.8**	**-0.8**
IQOM	**Qom**	**4.62**	**75**	Pn	**Pn**	**07 53 57.4**	**+0.5**
ZNGN	**Zangian**	**4.67**	**109**	Pn	**Pn**	**07 53 58.9**	**+1.

comp=Z,23nm,1.1s
SIMJ Simiganj 19.46 69 P **P** 07 57 13.4 -0.4
AGG Agios Georgios 19.48 292 P **P** 07 57 13.7 -0.2
AGG IAmb IAmb 07 57 30.5
comp=Z,17nm,1.1s
AGG Agios Georgios 19.48 292 P **P** 07 57 13.7 -0.2
AGG pmax pmax
comp=Z,17nm,1.1s
FNA Florina 20.52 297 P **P** 07 57 24.9 -0.3
FNA Florina 20.52 297 P **P** 07 57 24.9 -0.3
FNA pmax pmax
comp=Z,6.0nm,0.7s
BURAR Bucovina Array 20.70 318 **P** 07 57 27.4 +0.2
BUR08 Bucovina Ar. S 20.73 318 P **P** 07 57 27.4 -0.1
AKASG Malin Array Be 20.78 330 P **P** 07 57 25.8 -2.1
AKASG Malin Array Be 20.78 330 *i* P **P** 07 57 26.8 -1.1
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 20.78 330 P **P** 07 57 26.6 -1.3
comp=Z,5.4nm,0.7s,baz=141,slow=9.5,SNR=36
comp=Z,5.4nm,0.7s
AKBB Malin Array Si 20.78 330 P **P** 07 57 26.6 -1.3
AKBB IAmb IAmb 07 57 27.9
comp=Z,12nm,0.9s
AKBB Malin Array Si 20.78 330 P **P** 07 57 26.6 -1.3
AKBB pmax pmax
comp=Z,12nm,0.9s
KIEV Kiev 20.78 330 P **P** 07 57 27.0 -0.9
KIEV IAmb IAmb 07 57 27.9
comp=Z,10nm,0.9s
KIEV Kiev 20.78 330 P **P** 07 57 27.0 -0.9
KIEV pmax pmax
comp=Z,11nm,0.9s
BTK Batken 21.06 65 P **P** 07 57 32.0 +0.9
BTK IAmb IAmb 07 57 40.2
comp=Z,8.3nm,0.8s
BTK Batken 21.06 65 P **P** 07 57 32.0 +0.9
BTK pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 21.54 57 P **P** 07 57 36.5 +0.3
KK31 Karatay Array 21.54 57 P **P** 07 57 36.5 +0.3
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 21.54 57 P **P** 07 57 36.1 -0.1
KKAR Karatay Array 21.54 57 P **P** 07 57 36.6 +0.4
KKAR IAmb IAmb 07 57 46.9
comp=Z,8.1nm,0.9s
KKAR Karatay Array 21.54 57 P **P** 07 57 36.7 +0.4
KKAR pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 22.29 346 *ce*P **P** 07 57 44.8 +0.7
OBN *e* 07 58 05.4
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,767nm,18.0s
ARSB Arslanbob 22.90 63 P **P** 07 57 50.4 -0.5
ARSB Arslanbob 22.90 63 P **P** 07 57 50.4 -0.5
ARSB pmax pmax
comp=Z,4.0nm,1.2s
NIL Nilore 22.95 83 P **P** 07 57 51.3 0.0
NIL Nilore 22.95 83 P **P** 07 57 51.3 0.0
NIL pmax pmax
comp=Z,31nm,1.1s
KOLS Kolonicke sedl 23.07 318 *e*P **P** 07 57 54.0 +1.6
KOLS Kolonicke sedl 23.07 318 *e*P **P** 07 57 54.0 +1.6
PSZ Piszkesteto 23.94 314 P **P** 07 58 00.8 -0.4
PSZ IAmb IAmb 07 58 02.9
comp=Z,7.1nm,0.6s
PSZ Piszkesteto 23.94 314 P **P** 07 58 00.8 -0.4
PSZ pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 24.37 18 *d i* P **P** 07 58 05.4 +0.5
ARU 07 58 34.3
ARU S **S** 08 02 26.7 +2.4
ARU SS **SnSn** 08 03 08.9 +1.5
ARU pmax pmax
comp=Z,16nm,1.8s
ARU Arti 24.37 18 P **P** 07 58 02.4 -2.5
comp=Z,3.8nm,0.2s,baz=274,slow=15,SNR=1.1
comp=Z,3.8nm,0.2s
CUC Castrocucco 24.60 293 P **P** 07 58 07.7 +0.5
KSH Kashi 24.94 68 P **P** 07 58 09.2 -1.2
KSH pmax pmax
comp=Z,5.0nm,0.7s
KIRV Kirov 24.98 5 *i* P **P** 07 58 11.2 +0.9
NRN Naryn 25.16 63 P **P** 07 58 12.8 +0.2
NRN IAmb IAmb 07 58 21.2
comp=Z,10nm,1.1s
NRN Naryn 25.16 63 P **P** 07 58 12.8 +0.2
NRN pmax pmax
comp=Z,10.0nm,1.1s
JAVC Velka Javorina 25.69 314 *e*P **P** 07 58 18.3 +1.3
MODS Modra-Piesok 25.72 313 *e*P **P** 07 58 17.9 +0.6
MODS Modra-Piesok 25.72 313 *e*P **P** 07 58 17.9 +0.6
RONA Rosalia, Austr 26.07 311 *e*P **P** 07 58 22.9 +2.4
comp=Z,5.4nm,0.8s
BRVK Borovoye 26.11 35 P **P** 07 58 21.2 +0.5
BRVK IAmb IAmb 07 58 26.9
comp=Z,11nm,1.5s
BRVK Borovoye 26.11 35 *ce*P **P** 07 58 21.4 +0.7
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 26.14 35 P **P** 07 58 20.4 -0.6
comp=Z,2.6nm,0.5s,baz=202,slow=18,SNR=10
comp=Z,2.6nm,0.5s
MORC Moravsky Berou 26.17 316 *e*P **P** 07 58 20.6 -0.8
VRAC Vranov 26.52 315 *e*P **P** 07 58 24.4 -0.1
VRAC Vranov 26.52 315 P **P** 07 58 24.6 +0.1
comp=Z,1.8nm,0.4s,baz=24,slow=8.7,SNR=3.4
comp=Z,1.8nm,0.4s
SOKA Soboth 26.53 308 *e*pP pP 07 58 30.2 +3.0
comp=Z,5.3nm,1.2s
OBKA Obir 26.79 308 *i* P **P** 07 58 32.0 +4.9
comp=Z,6.5nm,0.6s
NRCA Norcia 26.96 299 P **P** 07 58 28.9 +0.3
NRCA IAmb IAmb 07 59 04.7
comp=Z,8.9nm,1.1s
KBA Koelnbreinsper 27.75 308 *e*P **P** 07 58 36.0 +0.2
comp=Z,4.9nm,1.0s
KURBB Kurchatov Arra 29.32 45 P **P** 07 58 49.7 +0.2
comp=Z,1.7nm,0.7s,baz=252,slow=8.9,SNR=13
comp=Z,1.7nm,0.7s
KURK Kurchatov 29.40 45 *ce*P **P** 07 58 51.1 +0.9
KURK pmax pmax
comp=Z,5.0nm,1.3s
VSL Villasalto 29.53 292 P **P** 07 58 51.6 +0.1
KEST Kesra 29.79 284 P **P** 07 58 53.7 -0.3
comp=Z,1.9nm,0.6s,baz=177,slow=22,SNR=1.4
comp=Z,1.9nm,0.6s
MAKZ Makanchi 30.36 54 P **P** 07 58 58.5 -0.3
MAKZ IAmb IAmb 07 59 00.5
comp=Z,8.4nm,1.4s
MAKZ Makanchi 30.36 54 P **P** 07 58 58.5 -0.3
MAKZ pmax pmax
comp=Z,8.0nm,1.5s
FINES FINESS Array B 30.44 341 P **P** 07 58 59.4 +0.1
FINES FINESS Array B 30.44 341 *i* P **P** 07 59 00.8 +1.5
FINES FINESS Array B 30.44 341 P **P** 07 58 59.0 -0.2
comp=Z,0.4nm,0.4s,baz=140,slow=9.7,SNR=4.9
comp=Z,0.4nm,0.4s
MK31 Makanchi Array 30.56 54 P **P** 07 59 00.8 +0.2
MK31 IAmb IAmb 07 59 02.9
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 30.56 54 *ce*P **P** 07 59 01.2 +0.6
MKAR Makanchi Array 30.56 54 P **P** 07 59 00.8 +0.2
MKAR Makanchi Array 30.56 54 P **P** 07 59 01.2 +0.7
comp=Z,2.6nm,0.6s,baz=254,slow=8.7,SNR=28
comp=Z,2.6nm,0.6s
BNI Bardonecchia 31.87 302 P **P** 07 59 12.1 -0.2
BNI Bardonecchia 31.87 302 P **P** 07 59 12.1 -0.2
BNI pmax pmax
comp=Z,13nm,0.8s
HFS Hagfors 33.64 331 P **P** 07 59 27.0 -0.4
HFS Hagfors 33.64 331 P **P** 07 59 27.0 -0.4
comp=Z,4.5nm,0.6s,baz=128,slow=9.7,SNR=35
comp=Z,4.5nm,0.6s
WMQ Urumqi 33.97 60 *e*P **P** 07 59 33.0 +2.5
ZALV Zalesovo Beam 34.13 42 *i* P **P** 07 59 32.2 +0.5
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 34.13 42 P **P** 07 59 31.2 -0.5
comp=Z,2.1nm,0.6s,baz=265,slow=7.4,SNR=5.5
comp=Z,2.1nm,0.6s
DGZ Jazzator, Alta 34.52 50 *i* P **P** 07 59 35.5 +0.1
DGZ pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 35.17 331 P **P** 07 59 38.5 -2.2
comp=Z,0.4nm,0.6s,baz=108,slow=7.1,SNR=1.6
comp=Z,0.4nm,0.6s
TAM Tamanrasset 36.78 263 P **P** 07 59 55.1 +0.1
TAM IAmb IAmb 08 00 02.5
comp=Z,9.1nm,1.3s
TAM Tamanrasset 36.78 263 P **P** 07 59 55.1 +0.1
TAM pmax pmax
comp=Z,9.0nm,1.3s
ARCES ARCESS Array B 37.56 349 P **P** 08 00 00.6 -0.4
comp=Z,3.5nm,1.0s,baz=166,slow=7.7,SNR=5.4
comp=Z,3.5nm,1.0s
LSA Lhasa 38.68 83 P **P** 08 00 11.0 -0.4
LSA IAmb IAmb 08 00 32.8
comp=Z,5.3nm,0.6s
LSA Lhasa 38.68 83 P **P** 08 00 11.0 -0.4
LSA pmax pmax
comp=Z,5.0nm,0.6s
ESDC Sonseca Array 39.80 293 P **P** 08 00 19.5 -0.7
comp=Z,2.0nm,0.8s,baz=80,slow=8.2,SNR=7.2
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 39.88 318 P **P** 08 00 19.8 -0.8
comp=Z,1.8nm,0.7s,baz=105,slow=8.9,SNR=6.6
comp=Z,1.8nm,0.7s
SHL Shillong 40.73 89 P **P** 08 00 26.8 -1.4
SHL Shillong 40.73 89 P **P** 08 00 26.8 -1.4
SHL pmax pmax
comp=Z,10.0nm,0.6s
NRIK Noril'sk 42.52 21 P **P** 08 00 43.2 +1.1
NRIK IAmb IAmb 08 00 44.1
comp=Z,12nm,1.4s
NRIK Noril'sk 42.52 21 *ce*P **P** 08 00 43.2 +1.1
NRIK pmax pmax
comp=Z,8.0nm,1.3s
NRIK Noril'sk 42.52 21 P **P** 08 00 42.1 0.0
comp=Z,3.3nm,0.7s,baz=232,slow=5.2,SNR=5.2
comp=Z,3.3nm,0.7s
GTA Gaotai 43.32 66 *e*P **P** 08 00 50.4 +1.2
GTA pmax pmax
comp=Z,4.0nm,1.2s
ZAK Zakamensk 44.74 50 *e*P **P** 08 01 00.9 +0.5
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TOA0 Torodi Ar. Sit 44.82 254 P **P** 08 01 00.9 -0.4
TOA0 IAmb IAmb 08 01 07.6
comp=Z,3.6nm,0.8s
TORD Torodi Ar. Bea 44.82 254 P **P** 08 01 01.2 -0.2
TORD IAmb IAmb 08 01 07.6
comp=Z,3.0nm,0.9s
TORD Torodi Ar. Bea 44.82 254 P **P** 08 01 01.1 -0.2
comp=Z,1.8nm,0.8s,baz=59,slow=6.0,SNR=16
comp=Z,1.8nm,0.8s
SPITS Spitsbergen Ar 46.30 352 P **P** 08 01 12.3 +0.1
comp=Z,7.6nm,0.8s,baz=140,slow=9.6,SNR=12
comp=Z,7.6nm,0.8s
SONM Songino Array 46.93 54 P **P** 08 01 17.5 -0.3
comp=Z,0.5nm,0.5s,baz=289,slow=9.2,SNR=3.9
comp=Z,0.5nm,0.5s
LZH Lanzhou 47.16 70 *e*P **P** 08 01 19.6 -0.2
LZH pP sP 08 01 28.2 +4.8
LZH pmax pmax
comp=Z,18nm,1.4s
ULN Ulaanbaatar 47.37 53 P **P** 08 01 21.4 +0.2
ULN Ulaanbaatar 47.37 53 *i* P **P** 08 01 21.2 0.0
ULN pmax pmax
comp=Z,7.0nm,1.1s
CMAR Chiang Mai Arr 49.71 94 P **P** 08 01 38.0 -1.4
comp=Z,2.2nm,0.3s,baz=291,slow=7.5,SNR=1.4
comp=Z,2.2nm,0.3s
HHC Hu-ho-hao-te 51.82 62 *e*P **P** 08 01 54.6 -0.6
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,380nm,5.2s
DBIC Dimbokro 53.83 252 P **P** 08 02 09.3 -0.9
comp=Z,2.3nm,0.7s,baz=43,slow=6.8,SNR=1.8
comp=Z,2.3nm,0.7s
HIA Hailar 55.44 50 *i* P **P** 08 02 21.7 +0.2
HIA pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 56.25 22 *ce*P **P** 08 02 26.7 -0.2
TIXI pmax pmax
comp=Z,5.0nm,1.1s
YAK Yakutsk 58.10 34 *i* P **P** 08 02 42.5 +2.4
YAK pmax pmax
comp=Z,6.0nm,0.8s
ZEA Zeya 58.87 43 *e*P P 08 02 36.9 -8.7
KLR Kul'dur 62.96 47 *i* P **P** 08 03 13.8 +0.3
KLR pmax pmax
comp=Z,1.0nm,1.1s
KSRS Korea Array 64.92 61 P **P** 08 03 24.4 -2.2
comp=Z,1.0nm,0.7s,baz=290,slow=6.2,SNR=1.8
comp=Z,1.0nm,0.7s
BOSA Boshof 64.96 200 P **P** 08 03 27.0 0.0
BOSA Boshof 64.96 200 P **P** 08 03 27.0 0.0
BOSA pmax pmax
comp=Z,5.0nm,1.0s
BOSA Boshof 64.96 200 P **P** 08 03 26.9 0.0
comp=Z,4.3nm,0.9s,baz=67,slow=5.9,SNR=4.3
comp=Z,4.3nm,0.9s
SEY Seymchan 67.55 28 *i* P **P** 08 03 43.7 +0.7
SEY pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 69.35 20 *i* P **P** 08 03 55.3 +1.0
BILL pmax pmax
comp=Z,10.0nm,1.3s
SCHQ Schefferville 74.53 326 P **P** 08 04 24.6 -1.0
comp=Z,3.1nm,0.8s,baz=42,slow=10,SNR=3.5
comp=Z,3.1nm,0.8s
ILAR Eielson Array 81.32 5 P **P** 08 05 02.9 -0.2
comp=Z,1.0nm,0.8s,baz=329,slow=4.0,SNR=6.2
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 82.79 351 *i* P **P** 08 05 10.3 -0.5
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 82.79 351 P **P** 08 05 09.9 -0.9
comp=Z,1.0nm,0.8s,baz=13,slow=5.3,SNR=7.9
comp=Z,1.0nm,0.8s

NAO **11** *07:54:45.6,32.19N×47.10E,h33km, mb4.4*
IDC **11** *07:54:58.0±0.4,33.73N×45.73E,h0km,mb4.8/35, mbtmp4.7/46,ML4.1/10,Error ellipse: s-maj=10.8km s-min=8.6km az=169.0*
MOS **11** *07:54:58.6±1.1,33.72N×45.73E,h14km,mb5.2/89, MS4.2/7,Error ellipse: s-maj=4.2km s-min=2.8km az=120.2*
DSN **11** *07:54:59.3±1.0,33.42N×45.44E,h15km,mb5.5/5,Error ellipse: s-maj=20.9km s-min=6.7km az=62.0*
THR **11** *07:55:00.8±0.6,33.75N×45.71E,h14km±7km,ML4.9*
NEIC **11** *07:55:00.4±1.5,33.71N±0.07×45.79E±0.08,h10km±1km, mb5.1/88,Error ellipse: s-maj=12.6km s-min=10.9km az=148.0*
TEH **11** *07:55:00.2,33.73N×45.70E,h8km±45km,ML5.1*
ISN **11** *07:55:01.3±0.4,33.75N×45.76E,h16km±2km,ML5.0*
GII **11** *07:55:03.2±0.5,33.71N×45.77E,h10km,confirmed*
AFAD **11** *07:55:03.0±0.0,34.03N×45.40E,h15km,MW5.1*
GCMT **11** *07:55:04.4±0.3,33.72N±0.04×45.65E±0.02,h12km, MW5.0/101,Moment Tensor Solution. s32,c35; s101,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.59±.14; Mθθ-0.35±.16; Mϕϕ-3.24±.11; Mrθ2.08±.57; Mθϕ1.19±.11; Mϕr1.22±.38; Best double couple: Mo4.25100×10^16 NP1:ϕs6.00000°,δ55.00000°, λ123.00000°. NP2:ϕs137.00000°,δ47.00000°,λ52.00000°. Principal axes: T 4.8020, Plg63.0000°, Azm334.0000°; N -1.1030, Plg26.0000°, Azm165.0000°; P -3.7010, Plg4.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
OMAN **11** *07:55:06.9±1.1,33.50N×46.67E,h10km,mb4.8/30, ms4.2/5 Error ellipse: s-maj=17.7km s-min=6.6km az=70.0*
BGR **11** *07:55:27.2,35.21N×43.00E,h33km,mb4.8*
ISC 11 07:55:01.2±0.6,33.73N±0.02×45.78E±0.02,h20km±2km, n908,σ1ş84/996,mb5.0/220,MS4.8/11,46C-20D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.37**	**106**	*e*Pg	**Pg**	**Pb**	**07 55 09.4**	**+0.2**
ILBA						*e*Sg	**Sb**	**07 55 16.0**	**+1.5**
ILBA	**Ilam Banvizeh**	**0.37**	**106**		Pg	**Pg**	**07 55 08.9**	**-0.2**
IBDR	**Badra**	**0.63**	**169**	*e*Pg	**Pg**	**Pg**	**07 55 14.0**	**+0.3**
IBDR						*e*Sg	**Sg**	**07 55 23.0**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**0.79**	**348**		Pg	**Pb**	**07 55 15.4**	**-1.0**
KGS1						Sg	**Sb**	**07 55 27.0**	**+0.3**
IGHG	**Ghaleghazi**	**0.89**	**47**		Pg	**Pg**	**07 55 18.6**	**0.0**
IGHG						Sg	**Sn**	**07 55 32.9**	**+1.6**
IDHR	**Dehrash**	**1.09**	**27**		Pg	**Pn**	**07 55 21.9**	**+0.3**
IDHR						Sg	**Sg**	**07 55 37.7**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.18**	**62**		Pg	**Pg**	**07 55 24.1**	**0.0**
BHD	**Baghdad**	**1.26**	**249**	*e*Pg		**Pb**	**07 55 24.0**	**-0.2**
BHD						*e*Sg	**Sg**	**07 55 41.0**	**-1.0**
BHD						AML	AML	07 55 45.4	
	comp=E,127μm,0.6s								
IKOM	**Komasi**	**1.50**	**72**		Pg	**Pg**	**07 55 30.0**	**-0.3**
ILIN	**Lien**	**1.54**	**39**		Pg	**Pb**	**07 55 29.9**	**+0.7**
IKFM	**Kafar-mosalman**	**1.73**	**96**		Pg	**Pb**	**07 55 33.1**	**+0.8**
IBZA	**Bozab**	**1.88**	**66**		Pn	**Pb**	**07 55 35.4**	**+0.5**
SNGE	**Sanandaj**	**1.88**	**43**	*e*Pn		**Pb**	**07 55 34.9**	**-0.1**
SNGE						*e*Sg	**Sg**	**07 56 01.1**	**-0.8**
SNGE						IAML		07 56 07.7	
	comp=N,11μm,0.4s								
SNGE						IAML		07 56 09.0	
	comp=E,10μm,0.4s								
RAFI	**Al-Rafai**	**2.02**	**172**	*e*Pn		**Pb**	**07 55 37.0**	**-0.2**
RAFI						*e*Sn	**Sb**	**07 56 03.0**	**+1.1**
RAFI						AML	AML	07 56 10.8	
	comp=N,8μm,0.4s								
RAFI						AML	AML	07 56 13.7	
	comp=E,9μm,0.6s								
IALM	**Almabolaq**	**2.27**	**60**		Pn	**Pb**	**07 55 41.2**	**-0.6**
HSAM	**Samen**	**2.39**	**78**		Pn	**Pb**	**07 55 42.1**	**-1.7**
SDS1	**Sardasht. Az.**	**2.43**	**354**		Pn	**Pb**	**07 55 42.3**	**-2.0**
HAGD	**Aghdareh**	**2.99**	**68**		Pn	**Pn**	**07 55 50.4**	**+2.8**
MAHB	**Mahabad**	**3.03**	**359**		Pn	**Pn**	**07 55 50.4**	**+2.1**
KHMZ	**Khomeyn**	**3.48**	**89**	*e*Pn		**Pn**	**07 55 57.5**	**+3.0**
ASAO	**Ashtian**	**3.61**	**76**	*e*Pn		**Pn**	**07 55 59.5**	**+3.3**
ASAO						IAML		07 56 48.1	
	comp=E,1μm,0.7s								
IHSH	**Hashtrud**	**3.77**	**18**		Pn	**Pn**	**07 56 01.5**	**+3.0**
ZNJK	**Zanjan**	**3.78**	**38**	*e*Pn		**Pn**	**07 56 01.4**	**+2.8**
IRAZ	**Razeghan**	**3.81**	**63**		Pn	**Pn**	**07 56 02.2**	**+3.2**
CUKT	**Cukurca**	**3.94**	**334**	*e*P		**Pn**	**07 56 00.5**	**-0.1**
CUKT	**Cukurca**	**3.94**	**334**		P	**Pn**	**07 56 00.9**	**+0.3**
CUKT						S	**Sn**	**07 56 46.0**	**-0.3**
IAZR	**Azarshahr**	**3.95**	**2**		Pn	**Pn**	**07 56 03.0**	**+2.1**
YOVA	**Hakkari_Yksek**	**4.04**	**343**		P	**Pn**	**07 56 01.7**	**-0.5**
YOVA						S	**Sn**	**07 56 49.9**	**+0.9**
HAKT	**HAKKARI**	**4.18**	**337**		P	**Pn**	**07 56 05.2**	**+1.1**
HAKT						S	**Sn**	**07 56 52.1**	**-0.3**
JHBN	**Jahan bin**	**4.37**	**109**		Pn	**Pn**	**07 56 09.5**	**+2.8**
ISRB	**Sarab**	**4.37**	**20**		Pn	**Pn**	**07 56 08.9**	**+2.3**
IPIR	**Pirpir**	**4.41**	**102**		Pn	**Pn**	**07 56 08.6**	**+1.3**
IMHD	**Mahdasht**	**4.47**	**63**		Pn	**Pn**	**07 56 10.9**	**+2.9**
ITBZ	**Tabriz**	**4.51**	**4**		Pn	**Pn**	**07 56 09.6**	**+1.1**
IQOM	**Qom**	**4.52**	**74**		Pn	**Pn**	**07 56 10.6**	**+1.9**
ISHB	**Shabestar**	**4.55**	**358**		Pn	**Pn**	**07 56 09.7**	**+0.5**
ZNGN	**Zangian**	**4.56**	**109**		Pn	**Pn**	**07 56 10.8**	**+1.5**
GHVR	**GHOM**	**4.63**	**79**	*e*Pn		**Pn**	**07 56 13.3**	**+3.1**
GHVR						IAML		07 57 41.5	
	comp=N,650nm,0.5s								
GHVR						IAML		07 57 50.2	
	comp=E,687nm,0.4s								
GIDE	**GILAN DEYLAMAN**	**4.64**	**45**	*e*Pn		**Pg**	**07 56 30.5**	**+0.4**
GIDE						IAML		07 57 50.2	
	comp=N,554nm,0.8s								
SIRN	**Sirnak**	**4.66**	**325**		P	**Pn**	**07 56 11.4**	**+0.9**
SIRN						S	**Sn**	**07 57 02.7**	**-1.4**
QAMS	**Qamsar**	**4.68**	**88**		Pn	**Pn**	**07 56 13.4**	**+2.4**
IHRS	**Heris**	**4.69**	**12**		Pn	**Pn**	**07 56 12.8**	**+1.7**
THKV	**Tehran--Karaj**	**4.73**	**61**	*e*Pn		**Pn**	**07 56 14.1**	**+2.6**
IHSB	**Hasanabad**	**4.84**	**68**		Pn	**Pn**	**07 56 15.8**	**+2.7**
IKLH	**Kolahrood**	**4.86**	**93**		Pn	**Pn**	**07 56 16.8**	**+3.3**
CHTH	**Charan**	**4.90**	**62**	*e*Pn		**Pn**	**07 56 17.2**	**+3.2**
PERV	**Siirt/Pervari-**	**4.97**	**329**		P	**Pn**	**07 56 15.3**	**+0.5**
PERV						S	**Sn**	**07 57 09.8**	**-1.9**
IMRD	**Marand**	**4.98**	**359**		Pn	**Pn**	**07 56 16.6**	**+1.7**
IVRN	**Varamin**	**5.08**	**74**		Pn	**Pn**	**07 56 18.3**	**+2.0**
GEVA	**Gevas**	**5.08**	**335**		P	**Pn**	**07 56 18.4**	**+2.0**
GEVA						S	**Sn**	**07 57 14.1**	**-0.5**
AKDM	**Akdamar-Van**	**5.12**	**334**	*e*P		**Pn**	**07 56 15.7**	**-1.3**
MIDY	**Mardin/Midyat-**	**5.12**	**317**		P	**Pn**	**07 56 17.3**	**+0.4**
MIDY						S	**Sn**	**07 57 13.9**	**-1.6**
OZAP	**Van, Ozalp-Mer**	**5.13**	**344**		P	**Pn**	**07 56 20.0**	**+2.9**
OZAP						S	**Sb**	**07 57 32.5**	**+0.8**
KLST	**Kelardasht - M**	**5.14**	**56**		Pn	**Pn**	**07 56 20.4**	**+3.0**
TVAN	**Van**	**5.16**	**339**		P	**Pn**	**07 56 19.8**	**+2.2**
TVAN						S	**Sn**	**07 57 16.1**	**-0.6**
VANB	**Van**	**5.23**	**339**	*e*P		**Pn**	**07 56 17.1**	**-1.3**
GAS1	**Astara - Iran**	**5.27**	**27**		Pn	**Pn**	**07 56 21.3**	**+2.6**
GRMI	**Germi**	**5.35**	**18**	*e*Pn		**Pn**	**07 56 22.1**	**+2.0**
GRMI	**Germi**	**5.35**	**18**		Pn	**Pn**	**07 56 22.3**	**+2.2**
ISFB	**Sefidab**	**5.40**	**82**		Pn	**Pn**	**07 56 22.5**	**+1.9**
IGAR	**Gharneh**	**5.42**	**102**		Pn	**Pn**	**07 56 23.9**	**+2.8**
MZPU	**Pul - Mazandar**	**5.46**	**59**		Pn	**Pn**	**07 56 25.1**	**+3.4**
IZEF	**Zefreh**	**5.54**	**97**		Pn	**Pn**	**07 56 25.6**	**+2.7**
VMUR	**Van-Muradiye**	**5.55**	**342**		P	**Pn**	**07 56 24.9**	**+2.1**
VMUR						S	**Sb**	**07 57 49.1**	**+5.4**
CLDR	**Caldiran**	**5.61**	**345**	*e*P		**Pn**	**07 56 24.3**	**+0.6**
CLDR	**Caldiran**	**5.61**	**345**		P	**Pn**	**07 56 25.8**	**+2.1**
CLDR						S	**Sb**	**07 57 42.0**	**-3.5**
MAKU	**Maku**	**5.69**	**351**	*e*Pn		**Pn**	**07 56 27.0**	**+2.2**
MAKU	**Maku**	**5.69**	**351**		Pn	**Pn**	**07 56 27.2**	**+2.4**
GURO	**Guroymak-BITLI**	**5.69**	**329**	*e*P		**Pn**	**07 56 23.7**	**-1.1**
GURO	**Guroymak-BITLI**	**5.69**	**329**		Pn	**Pn**	**07 56 24.8**	**+0.1**
MAZI	**Mazidag**	**5.72**	**312**	*e*P		**Pn**	**07 56 22.7**	**-2.5**
SVAN	**Silvan-Diyarba**	**5.77**	**321**	*e*P		**Pn**	**07 56 23.7**	**-2.1**
IRAM	**Ramesheh**	**5.88**	**107**		Pn	**Pn**	**07 56 31.0**	**+3.6**
MLAZ	**Malazgirt-MUS**	**6.00**	**335**	*e*P		**Pn**	**07 56 27.4**	**-1.6**
DYBB	**Diyarbakir**	**6.23**	**314**	*e*P		**Pn**	**07 56 29.6**	**-2.5**
AGRB	**Hanur-Agry**	**6.25**	**340**	*e*P		**Pn**	**07 56 32.6**	**+0.1**
TASB	**TASBURUN-IGDIR**	**6.37**	**349**	*e*P		**Pn**	**07 56 35.4**	**+1.4**
VRTB	**Varto-Mus**	**6.45**	**328**	*e*P		**Pn**	**07 56 32.6**	**-2.5**
GNI	**Garni**	**6.46**	**353**	Pn		**Pn**	**07 56 36.1**	**+0.7**
GNI	**Garni**	**6.46**	**353**	*i* P		**Pn**	**07 56 34.4**	**-1.0**
GNI	**Garni**	**6.46**	**353**	Pn		**Pn**	**07 56 38.6**	**+3.2**
	comp=N,1.5nm,0.3s,baz=78,slow=14,SNR=4.1								
GNI					Lg	Lg	07 58 22.8	
	comp=N,4.0nm,0.3s,baz=240,slow=18,SNR=1.4								
	comp=N,26nm,0.6s								
ANAR	**Anarak**	**6.66**	**92**		Pn	**Pn**	**07 56 40.7**	**+2.6**
BNGB	**Bingl**	**6.67**	**323**	*e*P		**Pn**	**07 56 36.0**	**-2.2**
URFA	**Urfa**	**6.78**	**305**	*e*P		**Pn**	**07 56 36.5**	**-3.1**
KOPR	**Koprukoy-ERZUR**	**7.00**	**334**	*e*P		**Pn**	**07 56 41.9**	**-0.9**
SHI	**Shiraz**	**7.03**	**124**		Pn	**Pn**	**07 56 45.1**	**+1.8**
DSBU	**Dashti - Bushe**	**7.12**	**137**		Pn	**Pn**	**07 56 46.0**	**+1.7**
KARS	**Kars**	**7.22**	**343**	*e*P		**Pn**	**07 56 46.8**	**+1.1**
KARS	**Kars**	**7.22**	**343**		Pn	**Pn**	**07 56 44.9**	**-0.8**
KARS	**Kars**	**7.22**	**343**		P	**Pn**	**07 56 44.9**	**-0.8**
PTK	**Pertek**	**7.29**	**317**	*e*P		**Pn**	**07 56 44.3**	**-2.5**
SENK	**Senkaya-Erzuru**	**7.35**	**339**	*e*P		**Pn**	**07 56 48.7**	**+1.1**
ERZN	**Erzincan**	**7.61**	**322**	*e*P		**Pn**	**07 56 50.6**	**-0.5**
ASF	**Jabal al Asfar**	**7.63**	**261**		Pn	**Pn**	**07 56 48.7**	**-2.6**
	comp=N,3.6nm,0.3s,baz=153,slow=10,SNR=2.7								
ASF					Lg	Lg	07 59 00.7	
	comp=N,19nm,0.3s,baz=155,slow=22,SNR=1.9								
	comp=N,36nm,0.7s								
ASF	**Jabal al Asfar**	**7.63**	**261**		P	Pb	07 57 02.9	-10
GAZ	**Gaziantep**	**7.79**	**299**	*e*P		**Pn**	**07 56 52.4**	**-1.2**
GAZ	**Gaziantep**	**7.79**	**299**		Pn	**Pn**	**07 56 52.4**	**-1.2**
AKH	**Akhalkalaki**	**7.88**	**347**		Pn	**Pn**	**07 56 56.3**	**+1.4**
AKH	**Akhalkalaki**	**7.88**	**347**		P	**Pn**	**07 56 56.3**	**+1.4**
BAYT	**Aydintepe-Bayb**	**8.04**	**328**	*e*P		**Pn**	**07 56 55.1**	**-1.9**
ARPR	**Arapgir-MALATY**	**8.04**	**314**	*e*P		**Pn**	**07 56 56.5**	**-2.6**
ARPR	**Arapgir-MALATY**	**8.04**	**314**	Pn		**Pn**	**07 56 56.9**	**-0.2**
ILIC	**ilic-Erzincan**	**8.14**	**317**	*e*P		**Pn**	**07 56 55.5**	**-2.9**
KMRS	**Kahramanmaras**	**8.16**	**300**	*e*P		**Pn**	**07 56 58.0**	**

MMA0 **Mount Meron ar** 8.71 268 P Pn 07 57 20.3 +14
MMAI **Mount Meron Ar** 8.71 268 Pn **Pn** **07 57 04.4 -1.7**
comp=N,2.5nm,0.3s,baz=96,slow=15,SNR=2.0
MMAI Pg 07 57 35.2
comp=N,6.6nm,0.3s,baz=75,slow=18,SNR=3.8
MMAI Lg Lg 07 59 34.5
comp=N,24nm,0.3s,baz=86,slow=40,SNR=2.5
comp=N,1.6nm,0.3s
HMDT **Nahal Hemdat** 8.74 263 P Pn 07 57 20.5 +14
SAKB **Bahrain** 8.75 151 P **Pn** **07 57 05.0 -1.7**
SAKB S **Sn** **07 58 41.5 -3.3**
MMLI **Mount Malkishu** 8.79 264 P **Pn** **07 57 10.5 +3.3**
CEYT **Ceyhan** 8.83 295 *e*P **Pn** **07 57 06.4 -1.2**
UJAP **Al Uja** 8.86 261 P Pn 07 57 36.5 +28
HNTI **Hanita** 8.89 269 P Pn 07 57 28.5 +20
SARI **SarD1z-Kayseri** 8.90 304 *e*P **Pn** **07 57 07.1 -1.8**
BLGI **Bet Lehem HaGe** 8.93 267 P Pn 07 57 38.0 +29
KOZT **Kozan** 8.93 298 *e*P **Pn** **07 57 07.4 -1.7**
KARJ **KARJ** 8.95 256 P Pn 07 57 36.2 +27
DSI **Dead Sea** 9.03 259 P Pn 07 57 49.7 +39
DSI **Dead Sea** 9.03 259 P **Pn** **07 57 12.9 +2.4**
ONI **Oni** 9.04 349 *e*P **Pn** **07 57 11.8 +1.2**
ONI **Oni** 9.04 349 Pn **Pn** **07 57 13.2 +2.6**
ONI **Oni** 9.04 349 P **Pn** **07 57 13.2 +2.6**
SHMA **Al-Shehemyia** 9.04 149 P **Pn** **07 57 07.5 -3.1**
SHMA S **Sn** **07 58 46.7 -5.2**
LISJ **El Lisan** 9.05 257 P Pn 07 57 44.6 +34
OFRI **`Ofer** 9.12 266 P Pn 07 57 20.8 +9.1
OFRI **`Ofer** 9.12 266 P **Pn** **07 57 15.0 +3.3**
MSBI **Mazada** 9.13 258 P Pn 07 57 49.2 +37
TPRV **Parvadeh(Tabas** 9.14 91 Pn **Pn** **07 57 13.3 +1.1**
SLTI **Sal'it** 9.15 264 P Pn 07 57 33.4 +21
ZEI **Tsey** 9.17 351 *e*P **Pn** **07 57 14.4 +1.9**
ZEI pmax pmax
comp=Z,45nm,1.1s
MRVT **Maraveh tapeh** 9.25 62 Pn **Pn** **07 57 15.9 +2.3**
YTIR **Yattir** 9.31 258 P Pn 07 57 52.0 +38
MAK **Makhachkala** 9.32 8 *e*P **Pn** **07 57 14.3 0.0**
MAK *e*S **Sn** **07 58 59.9 +1.4**
MAK pmax pmax
comp=Z,231nm,1.3s
MAK MLR MLR
comp=Z,2µm,10.0s
SVSK **Karacayir** 9.37 314 *e*P **Pn** **07 57 13.6 -1.4**
KARA **Karaisali** 9.43 295 *e*P **Pn** **07 57 14.2 -1.8**
TKDS **Koohdasht(Taba** 9.45 88 Pn **Pn** **07 57 17.8 +1.4**
BNN **Bunyan** 9.51 305 *e*P **Pn** **07 57 15.5 -1.7**
BNN **Bunyan** 9.51 305 Pn **Pn** **07 57 17.5 +0.3**
ZFRI **Zfri** 9.53 253 P **Pn** **07 57 21.3 +4.0**
PRNI **Paran** 9.75 253 P **Pn** **07 57 24.0 +3.7**
HRFI **Mount Harif** 9.85 251 P **Pn** **07 57 24.9 +3.2**
TOKT **Tokat** 9.89 314 *e*P **Pn** **07 57 20.5 -1.8**
SMRA **Abu-Samra** 9.97 153 P **Pn** **07 57 23.5 +0.2**
SMRA S **Sn** **07 59 10.4 -4.3**
MBRI **Mt Berech** 10.05 250 P **Pn** **07 57 28.1 +3.6**
SBZV **Sabzevar** 10.05 71 Pn **Pn** **07 57 27.2 +2.5**
KRMI **Paran Flat** 10.06 252 P **Pn** **07 57 27.3 +2.6**
EIL **Elat** 10.07 249 Pn **Pn** **07 57 25.1 +0.3**
comp=Z,2.2nm,0.3s,baz=176,slow=5.0,SNR=8.9
EIL Lg Lg 08 00 21.8
comp=Z,4.7nm,0.3s,baz=49,slow=12,SNR=2.7
comp=Z,20nm,0.8s
EIL **Elat** 10.07 249 P **Pn** **07 57 27.5 +2.7**
TRNA **Turayna** 10.13 151 P **Pn** **07 57 25.9 +0.3**
TRNA S **Sn** **07 59 17.0 -1.7**
KBZ **Khabaz** 10.24 348 *ce*P **Pn** **07 57 31.2 +4.3**
KBZ **Khabaz** 10.24 348 Pn **Pn** **07 57 30.8 +3.9**
comp=Z,0.3nm,0.3s,baz=187,slow=7.9,SNR=18
comp=Z,20nm,1.1s
YOZ **Yozgat** 10.26 308 *e*P **Pn** **07 57 26.8 -0.7**
CSS **Mathiatis** 10.37 280 Pn **Pn** **07 57 30.2 +1.3**
KVAR **Kislovodsk Arr** 10.49 348 Pn **Pn** **07 57 34.2 +3.6**
baz=74,slow=21
comp=Z,7.6nm,0.8s
KIV **Kislovodsk** 10.49 348 ⇑P **Pn** **07 57 35.0 +4.4**
KIV **Kislovodsk** 10.49 348 Pn **Pn** **07 57 30.5 -0.1**
KIV **Kislovodsk** 10.49 348 *e*P **Pn** **07 57 34.5 +3.9**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV MLR MLR
comp=Z,455nm,12.0s
KIV **Kislovodsk** 10.49 348 *i* P **Pn** **07 57 35.1 +4.5**
SNR=5.8
JRN **Qarnain Island** 10.70 143 P **Pn** **07 57 31.0 -2.4**
JRN S **Sn** **07 59 25.5 -7.2**
GEYT **Alibeck** 10.85 64 **Pn** **07 57 36.4 +0.9**
GEYT **Alibeck** 10.85 64 Pn **Pn** **07 57 37.3 +1.8**
comp=Z,0.6nm,0.3s,baz=248,slow=16,SNR=5.7
GEYT Lg Lg 08 00 43.4
comp=Z,0.2nm,0.3s,baz=323,slow=19,SNR=1.9
comp=Z,4.0nm,0.6s
GYA0 **ALIBECK ARRAY** 10.85 64 P **Pn** **07 57 37.8 +2.3**
GYA0B **ALIBECK ARRAY** 10.85 64 Pn **Pn** **07 57 37.4 +1.9**
SOC **Sochi** 10.92 336 *e*P **Pn** **07 57 37.5 +1.2**
SOC *e* 07 59 44.1
SOC pmax pmax
comp=Z,62nm,1.2s
BR131 **Keskin Array S** 11.43 305 Pn **Pn** **07 57 43.4 -0.1**
BR131 **Keskin Array S** 11.43 305 *i* P **Pn** **07 57 45.0 +1.5**
BRTR **Keskin Array B** 11.43 305 Pn **Pn** **07 57 46.2 +2.7**
BRTR **Keskin Array B** 11.43 305 Pn **Pn** **07 57 46.4 +2.9**
comp=Z,0.2nm,0.3s,baz=123,slow=14,SNR=8.2
BRTR Lg Lg 08 00 57.7
baz=128,slow=22
comp=Z,4.6nm,1.0s
GOF **Gofitskoye** 11.51 350 *ce*P **Pn** **07 57 47.4 +3.0**
SHME **Shamm** 11.80 128 *i* P **Pn** **07 57 47.8 -0.6**
SNR=11
SHME **Shamm** 11.80 128 P **Pn** **07 57 47.7 -0.6**
SNR=11
SHME S **Sn** **07 59 52.0 -7.5**
BANOM **Banah** 11.99 128 *i* P **Pn** **07 57 50.7 -0.3**
SNR=7.1
BANOM **Banah** 11.99 128 P **Pn** **07 57 47.7 -3.3**
BANOM S **Sn** **07 59 56.9 -7.3**
ANTO **Ankara** 12.08 304 ⇑P **Pn** **07 57 54.7 +2.5**
ANTO **Ankara** 12.08 304 **Pn** **07 57 54.6 +2.5**
ANTO **Ankara** 12.08 304 P **Pn** **07 57 54.7 +2.5**
BR231 **Keskin MP Arra** 12.08 304 Pn **Pn** **07 57 54.3 +2.0**
TBJM **Torbat-e-JAM** 12.10 79 Pn **Pn** **07 57 56.0 +3.3**
AJN **Ajban** 12.16 136 *i* P **Pn** **07 57 53.3 -0.1**
SNR=12
AJN **Ajban** 12.16 136 P **Pn** **07 57 53.8 +0.5**
SNR=7.2
AJN S **Sn** **08 00 03.4 -5.0**
NAZ **Nazwa, Dubai** 12.24 133 *i* P **Pn** **07 57 54.1 -0.4**
SNR=6.2
NAZ **Nazwa, Dubai** 12.24 133 P **Pn** **07 57 54.6 +0.1**
SNR=8.2
NAZ P **Pn** **07 57 54.6 +0.1**
SNR=8.2
NAZ S **Sn** **08 00 02.5 -7.8**
NAZ S **Sn** **08 00 02.5 -7.8**
MASF **Masafi** 12.28 130 P **Pn** **07 57 52.4 -2.6**
SNR=16
MASF S **Sn** **08 00 02.6 -8.7**
MSFE **Esma-Masafi** 12.29 130 *i* P **Pn** **07 57 53.9 -1.2**
SNR=16
ASUD **Al Ashush, Dub** 12.31 135 *i* P **Pn** **07 57 54.1 -1.3**
SNR=18
ASUD **Al Ashush, Dub** 12.31 135 P **Pn** **07 57 54.2 -1.3**
SNR=18
ASUD S **Sn** **08 00 04.1 -8.0**
FAQ **Al Faqa, Dubai** 12.38 134 P **Pn** **07 57 55.6 -0.7**
FAQ S **Sn** **08 00 08.0 -5.8**
MDH **Madha** 12.42 130 *i* P **Pn** **07 57 54.9 -2.0**
SNR=11
MDH **Madha** 12.42 130 P **Pn** **07 57 56.2 -0.7**
SNR=11
MDH S Sn 08 00 05.0 -10
HATD **Hatta, Dubai** 12.65 132 *i* P **Pn** **07 57 60.0 -0.1**
SNR=8.3
HATD **Hatta, Dubai** 12.65 132 P **Pn** **07 57 59.7 -0.4**
SNR=8.3
HATD S **Sn** **08 00 13.9 -6.5**
ASHO **Ashiyiah** 12.71 132 *i* P **Pn** **07 57 59.8 -1.1**
SNR=10
ASHO **Ashiyiah** 12.71 132 P **Pn** **07 58 00.0 -0.9**
SNR=18
ASHO S Sn 08 00 12.6 -9.2
ANN **Anapa** 12.80 332 *e*P **Pn** **07 58 00.1 -1.9**
ANN *e*S **Sn** **08 00 24.3 +0.4**
ANN pmax pmax
comp=Z,23nm,1.2s
ANN MLR MLR
comp=E,1µm,14.0s
ANN MLR MLR
comp=N,2µm,15.0s
ANN MLR MLR
comp=Z,2µm,15.0s
ALNE **Al Ain** 12.99 135 *i* P **Pn** **07 58 04.6 -0.2**
SNR=8.5
ALNE **Al Ain** 12.99 135 P **Pn** **07 58 04.8 0.0**
SNR=5.8
ALNE P **Pn** **07 58 04.8 0.0**
SNR=5.8
ALNE S **Sn** **08 00 20.7 -8.1**
ALNE S **Sn** **08 00 20.7 -8.1**
ISP **Isparta** 13.05 293 Pn **Pn** **07 58 06.9 +1.3**
ISP **Isparta** 13.05 293 *ce*P **Pn** **07 58 06.5 +1.0**
ISP pmax pmax
comp=Z,77nm,1.7s
JASK **Jask - Hormozg** 13.09 124 P **Pn** **07 58 04.2 -1.8**
JASK S Sn 08 00 20.9 -10
SOHO **SOHO** 13.40 133 P **Pn** **07 58 09.0 -1.4**
SOHO P **Pn** **07 58 09.0 -1.4**
SOHO S Sn 08 00 28.8 -10
SOHO S Sn 08 00 28.8 -10
MDUB **Mudurnu** 13.44 304 **Pn** **07 58 12.2 +1.4**
HRA **Herat** 13.67 83 Pn **Pn** **07 58 15.8 +1.7**
ARQ **Araqi** 14.00 135 P **Pn** **07 58 17.0 -1.5**
SNR=20
ARQ S **Sn** **08 00 46.6 -6.7**
SIM **Simferopol'** 14.37 325 *e*P **P** **07 58 27.8 -2.5**
SIM pmax pmax
comp=Z,22nm,0.9s
BIDO **Bidbid** 14.85 130 P **Pn** **07 58 27.5 -2.6**
BIDO P **Pn** **07 58 27.5 -2.6**
BIDO S Sn 08 01 03.6 -10
BIDO S Sn 08 01 03.6 -10
BSY **Bisya** 14.85 135 P **Pn** **07 58 27.5 -2.7**
SNR=20
BSY S **Sn** **08 01 07.4 -6.7**
SMDO **Samad** 15.13 131 P **Pn** **07 58 31.4 -2.6**
SMDO S **Sn** **08 01 11.3 -10**
WSAR **Wadi Sarin** 15.37 130 Pn **Pn** **07 58 34.0 -3.1**
comp=Z,4.6nm,0.3s,baz=316,slow=11,SNR=19
WSAR Sn Sn 08 01 15.5 -11
comp=Z,1.5nm,0.3s,baz=18,slow=22,SNR=1.7
BALB **Balikesir** 15.52 297 **P** **07 58 41.1 -2.0**
JMDO **Jabal Madar** 15.68 133 P **Pn** **07 58 39.2 -1.8**
JMDO S **Sn** **08 01 23.9 -10**
NGCH **Negor - Chabah** 15.74 118 P **Pn** **07 58 36.8 -5.0**
NGCH S Sn 08 01 24.5 -11
SNR=6.9
WBK **Wadi Bani Khal** 16.04 130 P **Pn** **07 58 43.0 -2.7**
SNR=26
WBK S Sn 08 01 32.0 -11
JLN **Jalan Bani Buh** 16.65 130 P **Pn** **07 58 50.1 -3.3**
JLN P **Pn** **07 58 50.1 -3.3**
JLN S Sn 08 01 46.0 -12
JLN S Sn 08 01 46.0 -12
MHTO **MHTO** 16.66 137 P **Pn** **07 58 51.0 -2.6**
SNR=20
MHTO S **Sn** **08 01 49.2 -8.9**
APE **Apeiranthos** 16.84 287 *i* P **Pn** **07 58 56.4 +0.5**
MFTR **Murfatlar** 17.03 313 ⇑P **P** **07 58 59.4 -0.5**
TIRR **Tirgusor** 17.19 314 P **P** **07 59 01.0 -0.6**
TIRR IAmb IAmb 07 59 02.5
comp=Z,166nm,1.1s
TIRR **Tirgusor** 17.19 314 P **P** **07 59 01.0 -0.6**
TIRR pmax pmax
comp=Z,166nm,1.1s
ALN **Alexandroupoli** 17.24 300 P **P** **07 59 01.8 -0.3**
ALN **Alexandroupoli** 17.24 300 P **P** **07 59 01.8 -0.3**
ALN pmax pmax
comp=Z,29nm,0.9s
DQM **DQM** 17.27 140 P **Pn** **07 58 58.0 -3.2**
WHFO **Wadi Hawf** 17.29 154 P **Pn** **07 58 58.0 -3.6**
SNR=20
TLCR 17.36 316 ⇑P **P** **07 59 03.6 +0.2**
TLCR 17.36 316 P **P** **07 59 03.6 +0.2**
TPGR **Topolog** 17.40 315 ⇑P **P** **07 59 04.2 +0.2**
HARR **Harsova** 17.60 314 ⇑P **P** **07 59 06.0 -0.1**
HARR **Harsova** 17.60 314 P **P** **07 59 06.0 -0.1**
ABTO **Aybut** 17.64 156 P **Pn** **07 59 01.6 -4.4**
RDO **Rodhopi** 17.68 301 **P** **07 59 07.3 +0.2**
VRH **Novokhopyorsk** 17.71 352 *e*P **Pn** **07 59 04.1 -2.5**
VRH *e*S **Sn** **08 02 21.8 -1.5**
VRH pmax pmax
comp=Z,73nm,1.6s
CFR **Carcaliu** 17.75 315 ⇓P **P** **07 59 08.1 +0.4**
CFR **Carcaliu** 17.75 315 P **P** **07 59 08.1 +0.4**
RBK **Rabkut** 17.84 153 P **Pn** **07 59 05.0 -3.3**
SNR=12
VORD **Divnogorie** 17.87 347 *e*P **Pn** **07 59 05.9 -2.6**
VORD pmax pmax
comp=Z,30nm,0.5s
DMTO **DMTO** 17.94 150 P **Pn** **07 59 05.7 -3.9**
SNR=53
RAZG **Razgrad** 17.94 309 ⇑P **P** **07 59 10.9 +1.0**
SHAO **Shalim** 17.95 148 *i* P **Pn** **07 59 06.1 -3.7**
SNR=23
SHAO **Shalim** 17.95 148 P **Pn** **07 59 06.1 -3.7**
SNR=23
ELND **Elena** 18.09 306 ⇑P **P** **07 59 12.3 +0.8**
VSR **Storozhevoye** 18.13 347 *e*P **Pn** **07 59 09.7 -2.0**
VSR pmax pmax
comp=Z,210nm,1.4s
MILM **Milestii Mici** 18.42 321 *e*P **P** **07 59 14.6 -0.5**
comp=Z,30nm,0.5s
MILM *e*L L 08 08 20.0
MILM LRM MLR 08 08 47.0
comp=Z,2µm,14.5s
MILM **Milestii Mici** 18.42 321 *e*P **P** **07 59 14.6 -0.5**
MILM pmax pmax
comp=Z,30nm,0.5s
MILM MLR MLR
comp=Z,2µm,14.5s
KIS **Kishinev** 18.46 321 *e*P **P** **07 59 15.0 -0.6**
KIS **Kishinev** 18.46 321 *e*P **P** **07 59 15.0 -0.6**
KIS MLR MLR
comp=Z,550nm,13.5s
VORR **Voronezh** 18.56 347 *e*P **P** **07 59 14.8 -1.8**
VORR *e*S **Sn** **08 02 41.5 -2.2**
VORR pmax pmax
comp=Z,196nm,1.4s
ISR **Istrita** 18.67 313 ⇓P **Pn** **07 59 18.4 0.0**
ISR **Istrita** 18.67 313 P **Pn** **07 59 18.3 0.0**
BELG **Belogornoye** 18.71 4 *i* P **P** **07 59 17.6 -0.6**
BELG pmax pmax
comp=Z,42nm,1.0s
BELG **Belogornoye** 18.71 4 P **P** **07 59 17.1 -1.0**
comp=Z,65nm,0.5s,baz=79,slow=0.6,SNR=33
BELG S **Sn** **08 02 43.5 -3.6**
comp=Z,22nm,0.9s,baz=147,slow=23,SNR=1.3
ABKAR **Akbulak array** 18.74 30 P **P** **07 59 19.0 +0.3**
VRI **Vrincioaia** 18.95 315 ⇑P **Pn** **07 59 22.9 +1.1**
VRI **Vrincioaia** 18.95 315 P **Pn** **07 59 22.9 +1.1**
AKTO **Aktyubinsk** 18.96 25 P **P** **07 59 21.1 +0.1**
comp=Z,2.0nm,0.3s,baz=205,slow=10,SNR=15
AKTO S **Sn** **08 02 50.8 -2.7**
comp=Z,3.4nm,0.8s,baz=174,slow=7.5,SNR=1.4
comp=Z,8.5nm,0.4s
NEHR **Nehoiu** 18.98 314 ⇑P **Pn** **07 59 22.4 +0.3**
PLOR **Plostina** 18.99 315 ⇑P **Pn** **07 59 23.5 +1.3**
PLOR **Plostina** 18.99 315 P **Pn** **07 59 23.5 +1.3**
SRS **Serrai** 19.08 299 P **Pn** **07 59 23.4 +0.1**
SRS pmax pmax
comp=Z,22nm,0.8s
MLR **Muntele Rosu** 19.22 314 ⇑P **P** **07 59 24.5 +0.3**
MLR **Muntele Rosu** 19.22 314 P **P** **07 59 23.7 -0.4**
MLR **Muntele Rosu** 19.22 314 P **P** **07 59 24.4 +0.3**
MLR **Muntele Rosu** 19.22 314 P **P** **07 59 24.0 -0.1**
comp=Z,1.0nm,0.3s,baz=348,slow=7.8,SNR=5.0
comp=Z,8.1nm,0.7s
COVR **Voineasa-Covas** 19.25 315 ⇑P **Pn** **07 59 25.5 +0.1**
KBL **Kabul** 19.27 81 P **Pn** **07 59 26.2 +0.3**
KBL **Kabul** 19.27 81 P **Pn** **07 59 26.2 +0.3**
KBL pmax pmax
comp=Z,67nm,1.1s
TESR **Tescani** 19.36 317 ⇑P **P** **07 59 25.9 +0.5**
SIMJ **Simiganj** 19.36 69 P **Pn** **07 59 27.4 +0.6**
SORM **Soroca** 19.44 323 ⇑P **Pn** **07 59 27.9 +0.3**
SORM **Soroca** 19.44 323 P **Pn** **07 59 27.9 +0.3**
GUR **Goura** 19.45 289 P **P** **07 59 27.2 +0.5**
TURR **Turia** 19.47 315 ⇑P **Pn** **07 59 28.7 +0.6**
LPSR **Galich'ya Gora** 19.50 347 *e*P **P** **07 59 24.1 -2.8**
LPSR pmax pmax
comp=Z,310nm,0.8s
AGG **Agios Georgios** 19.59 292 P **P** **07 59 28.2 +0.1**
AGG **Agios Georgios** 19.59 292 P **Pn** **07 59 30.0 +0.5**
AGG **Agios Georgios** 19.59 292 P **P** **07 59 28.2 +0.1**
AGG pmax pmax
comp=Z,34nm,0.9s
KNT **Kendrikon** 19.59 299 P **P** **07 59 28.3 +0.2**
KNT pmax pmax
comp=Z,15nm,1.1s
OZUR 19.63 315 ⇑P **Pn** **07 59 30.2 +0.2**
VOIR 19.74 312 ⇓P **Pn** **07 59 30.9 -0.4**
VOIR 19.74 312 P **Pn** **07 59 30.8 -0.4**
MAKR **Makrakomi, Fth** 19.74 292 P **Pn** **07 59 31.0 -0.3**
DOPR **Dopca** 19.80 314 ⇑P **P** **07 59 30.8 +0.4**
GRG **Griva** 19.91 298 P **P** **07 59 31.7 +0.1**
GRG pmax pmax
comp=Z,32nm,1.0s
THL **Klokotos Trika** 19.92 294 P **P** **07 59 32.0 +0.4**
DRO **Drossia** 19.95 289 P **P** **07 59 32.8 +0.8**
ARR **Arges** 19.96 312 ⇓P **Pn** **07 59 33.5 -0.4**
BLKB **Belogradchik** 20.51 306 ⇑P **P** **07 59 38.6 +0.5**
FNA **Florina** 20.63 297 P **P** **07 59 38.9 -0.5**
FNA **Florina** 20.63 297 P **P** **07 59 39.0 -0.4**
FNA **Florina** 20.63 297 P **P** **07 59 38.9 -0.5**
FNA pmax pmax
comp=Z,28nm,0.7s
PENT **Pentalofos** 20.69 295 P Pn 07 59 42.2 -0.3
BURAR **Bucovina Array** 20.79 318 ⇑P **P** **07 59 41.6 +0.5**
BURAR **Bucovina Array** 20.79 318 P **P** **07 59 40.6 -0.5**
BURAR **Bucovina Array** 20.79 318 P **P** **07 59 41.6 +0.5**
NYDR **Nydri-Lefkada** 20.82 291 P **P** **07 59 41.0 -0.3**
BUR08 **Bucovina Ar. S** 20.82 318 P **P** **07 59 40.8 -0.6**
EVGI **Lefkada island** 20.84 291 P **P** **07 59 41.6 0.0**
VLS **Valsamata** 20.85 290 P **P** **07 59 41.3 -0.5**
AKASG **Malin Array Be** 20.85 329 P **P** **07 59 39.8 -1.9**
AKASG IAmb IAmb 07 59 41.5
comp=Z,76nm,1.1s
AKASG **Malin Array Be** 20.85 329 P **P** **07 59 40.2 -1.5**
comp=Z,13nm,0.5s,baz=139,slow=11,SNR=50
AKASG S **S** **08 03 29.1 -4.1**
comp=Z,0.5nm,0.4s,baz=268,slow=23,SNR=3.0
AKASG PcP **PcP** **08 03 49.0 -0.6**
comp=Z,1.7nm,0.5s,baz=73,slow=2.2,SNR=4.7
comp=Z,13nm,0.5s
AKBB **Malin Array Si** 20.85 329 P **P** **07 59 40.3 -1.3**
AKBB IAmb IAmb 07 59 42.3
comp=Z,122nm,1.2s
AKBB **Malin Array Si** 20.85 329 *ce*P **P** **07 59 39.7 -1.9**
AKBB pmax pmax
comp=Z,99nm,1.0s
KIEV **Kiev** 20.85 329 P **P** **07 59 40.5 -1.2**
KIEV IAmb IAmb 07 59 42.3
comp=Z,109nm,1.2s
KIEV **Kiev** 20.85 329 P **P** **07 59 40.5 -1.2**
KIEV pmax pmax
comp=Z,109nm,1.2s
KIEV **Kiev** 20.85 329 *i* P **P** **07 59 40.3 -1.3**
SNR=7.3
LKD2 **Lefkada island** 20.86 291 P **P** **07 59 41.8 0.0**
DRAG **Dragano-Lefkad** 20.91 291 P **P** **07 59 41.7 -0.7**
BTK **Batken** 20.96 65 P **P** **07 59 43.0 0.0**
BTK IAmb IAmb 07 59 53.0
comp=Z,47nm,0.7s
BTK **Batken** 20.96 65 P **P** **07 59 43.0 0.0**
BTK pmax pmax
comp=Z,47nm,0.7s
ARCR **ARCALIA** 20.99 316 ⇓P **P** **07 59 44.7 +1.4**
DJES **Djerdap** 21.01 308 ⇑P **P** **07 59 43.8 +0.3**
DJES **Djerdap** 21.01 308 P **P** **07 59 43.8 -0.3**
GZR **Giura Zlata** 21.14 310 ⇓P **P** **07 59 46.2 +1.2**
HERR **Herculane** 21.16 309 ⇓P **P** **07 59 45.3 +0.2**
IGT **Igoumenitsa** 21.20 293 P **P** **07 59 44.1 -1.4**
CJR **Cluj-Napoca** 21.25 314 ⇑P **P** **07 59 47.4 +1.3**
CJR **Cluj-Napoca** 21.25 314 P **P** **07 59 47.3 +1.3**
KK31 **Karatay Array** 21.45 57 P **P** **07 59 49.2 +0.9**
KK31 IAmb IAmb 07 59 56.3
comp=Z,86nm,1.3s
KK31 **Karatay Array** 21.45 57 P **P** **07 59 49.2 +0.9**
KK31 pmax pmax
comp=Z,86nm,1.3s
KKAR **Karatay Array** 21.45 57 P **P** **07 59 48.5 +0.2**
KKAR **Karatay Array** 21.45 57 P **P** **07 59 48.9 +0.6**
KKAR IAmb IAmb 07 59 56.3
comp=Z,85nm,1.3s
KKAR **Karatay Array** 21.45 57 P **P** **07 59 48.9 +0.6**
KKAR pmax pmax
comp=Z,85nm,1.3s
MARR **Marisel-Cluj** 21.52 314 ⇓P **P** **07 59 50.4 +1.4**
MDVR **Moldovita** 21.58 308 ⇓P **P** **07 59 49.8 +0.1**
SURR **Surduc** 21.71 311 ⇓P **P** **07 59 53.1 +2.2**
DZA **Taraz** 21.97 58 *e*P **P** **07 59 54.4 +0.6**
DZA pmax pmax
comp=Z,23nm,0.7s
DZA **Taraz** 21.97 58 *e*P **P** **07 59 54.5 +0.6**
comp=Z,23nm,0.7s,baz=58
BZS **Buzias** 21.98 310 ⇑P **P** **07 59 53.4 -0.4**
BZS **Buzias** 21.98 310 P **P** **07 59 53.4 -0.4**
SIRR **Siria** 22.23 311 ⇑P **P** **07 59 56.9 +0.4**
OBN **Obninsk** 22.34 346 *de*P **P** **07 59 55.8 -1.7**
OBN *e* 08 00 19.7
OBN pmax pmax
comp=Z,106nm,1.3s
OBN MLR MLR
comp=Z,767nm,18.0s
OBN **Obninsk** 22.34 346 P **P** **07 59 55.0 -2.5**
comp=Z,24nm,0.3s,baz=246,slow=2.3,SNR=16
OBN S **S** **08 03 55.0 -6.9**
comp=Z,50nm,0.8s,baz=200,slow=23,SNR=13
comp=Z,24nm,0.3s
LVV **L'vov** 22.71 322 *e*P **P** **07 59 59.8 -1.9**
LVV *e* 08 00 24.4
LVV *e*S **S** **08 04 03.5 -5.6**
MOS **Moscow** 22.73 348 *e*P **P** **07 59 59.4 -2.3**
MOS *e*S **S** **08 04 03.6 -5.5**
MOS pmax pmax
comp=Z,400nm,1.5s
MOS pmax pmax
comp=Z,257nm,1.4s
ARSB **Arslanbob** 22.80 63 P **P** **08 00 04.5 +1.6**
ARSB **Arslanbob** 22.80 63 P **P** **08 00 04.5 +1.6**
ARSB pmax pmax
comp=Z,23nm,1.4s
NIL **Nilore** 22.84 83 P **P** **08 00 03.7 +0.6**
NIL **Nilore** 22.84 83 P **P** **08 00 03.7 +0.6**
NIL pmax pmax
comp=Z,146nm,1.2s
KOLS **Kolonicke sedl** 23.16 318 *e*P **P** **08 00 07.2 +0.9**
KOLS pmax pmax
comp=Z,22nm,0.9s
KOLS **Kolonicke sedl** 23.16 318 *e*P **P** **08 00 07.2 +0.9**
KWP **Kalwaria Pacla** 23.30 320 P **P** **08 00 07.5 -0.2**
KWP IAmb IAmb 08 00 10.5
comp=Z,70nm,1.3s
KWP **Kalwaria Pacla** 23.30 320 P **P** **08 00 07.6 -0.2**
KWP pmax pmax
comp=Z,70nm,1.3s
AML **Almayashu** 23.48 61 P **P** **08 00 12.8 +2.7**
SNR=11
CRVS **Cervenica-Dubn** 23.60 317 *e*P **P** **08 00 11.1 +0.5**
CRVS pmax pmax
comp=Z,60nm,1.3s
CRVS **Cervenica-Dubn** 23.60 317 *e*P **P** **08 00 11.1 +0.5**
EKS2 **Erkin-Say** 23.66 60 P **P** **08 00 15.2 +3.8**
SNR=8.8
KECS **Kecovo** 23.95 316 *e*P **P** **08 00 15.2 +1.2**
KECS pmax pmax
comp=Z,45nm,1.1s
KECS **Kecovo** 23.95 316 *e*P **P** **08 00 15.1 +1.1**
STHS **Stebnicka Huta** 23.99 318 *e*P **P** **08 00 14.3 -0.1**
STHS pmax pmax
comp=Z,13nm,1.3s
STHS **Stebnicka Huta** 23.99 318 *e*P **P** **08 00 14.3 -0.1**
PSZ **Piszkesteto** 24.04 314 ⇑P **P** **08 00 16.0 +1.1**
PSZ **Piszkesteto** 24.04 314 P **P** **08 00 15.6 +0.7**
PSZ **Piszkesteto** 24.04 314 P **P** **08 00 16.0 +1.1**
MORH **Mrgy, Hungar** 24.12 309 ⇑P **P** **08 00 14.8 -0.8**
AAK **Ala-Archa** 24.17 60 P **P** **08 00 17.7 +1.4**
AAK **Ala-Archa** 24.17 60 *ce*P **P** **08 00 17.7 +1.4**
AAK pmax pmax
comp=Z,12nm,0.9s
AAK **Ala-Archa** 24.17 60 P **P** **08 00 18.2 +1.9**
AAK **Ala-Archa** 24.17 60 P **P** **08 00 18.0 +1.7**

comp=Z,5.1nm,0.6s,baz=213,slow=2.0,SNR=10
AAK PcP **PcP** **08 03 57.2 +0.5**
comp=Z,5.1nm,0.6s,baz=190,slow=2.6,SNR=9.0
comp=Z,5.1nm,0.6s
FRU1 Bishkek 24.30 60 P **P** **08 00 18.5 +1.1**
FRU1 Bishkek 24.30 60 P **P** **08 00 18.5 +1.1**
FRU1 pmax pmax
comp=Z,48nm,0.5s
USP Ospenovka 24.31 58 P **P** **08 00 20.1 +2.7**
SNR=20
ARU Arti 24.35 17 P **P** **08 00 17.8 +0.2**
ARU IAmb IAmb 08 00 27.7
comp=Z,40nm,0.7s
ARU Arti 24.35 17*d* *i*P **P** **08 00 17.6 0.0**
ARU 08 00 50.0
ARU S **S** **08 04 40.4 +4.7**
ARU SS **SnSn** **08 05 24.5 +5.1**
ARU pmax pmax
comp=Z,106nm,1.8s
ARU MLR MLR
comp=Z,876nm,19.0s
ARU Arti 24.35 17 P **P** **08 00 17.4 -0.2**
comp=Z,15nm,0.6s,baz=205,slow=7.1,SNR=19
ARU PcP **PcP** **08 03 56.5 -0.1**
comp=Z,3.7nm,0.2s,baz=284,slow=4.2,SNR=1.5
comp=Z,15nm,0.6s
BUD Budapest 24.38 312 P **P** **08 00 18.2 +0.2**
BUD pmax pmax
comp=Z,20nm,0.4s
CHMS Chumysh 24.43 59 P **P** **08 00 20.3 +1.7**
SNR=6.7
SGDS Sogindy 24.45 58 *e*P **P** **08 00 19.2 +0.5**
SGDS pmax pmax
comp=Z,17nm,1.1s
SGDS Sogindy 24.45 58 *e*P **P** **08 00 19.2 +0.5**
comp=Z,17nm,1.1s,baz=58
BTLS Baital 24.47 54 *e*P **P** **08 00 19.2 +0.4**
BTLS pmax pmax
comp=Z,18nm,0.6s
BTLS Baital 24.47 54 *e*P **P** **08 00 19.3 +0.4**
comp=Z,18nm,0.6s,baz=54
KBK Karagaybulak 24.50 60 P **P** **08 00 21.8 +2.4**
SNR=7.8
NIE Niedzica 24.52 317 *e*P **P** **08 00 20.3 +1.0**
NIE Niedzica 24.52 317 P **P** **08 00 20.2 +1.0**
NIE pmax pmax
comp=Z,9.0nm,1.5s
KZA Kyzart 24.61 62 P **P** **08 00 22.6 +2.0**
SNR=7.1
CUC Castrocucco 24.71 293 P **P** **08 00 21.6 +0.5**
CUC IAmb IAmb 08 00 27.6
comp=Z,37nm,0.7s
KSH Kashi 24.84 68 P **P** **08 00 21.2 -1.2**
KSH pP pP 08 00 24.4 -4.2
KSH sP sP 08 00 28.9 -2.1
KSH PcP **PcP** **08 03 58.9 +0.7**
KSH pmax pmax
comp=Z,26nm,0.6s
KSH pmax pmax
comp=Z,380nm,7.6s
KSH LR LR
comp=Z,2µm,15.1s
KSH LR LR
comp=Z,3µm,18.5s
KSH LR LR
comp=Z,2µm,22.3s
LANS Liptovska Anna 24.86 316 *e*P **P** **08 00 22.9 +0.5**
LANS pmax pmax
comp=Z,23nm,1.5s
LANS Liptovska Anna 24.86 316 *e*P **P** **08 00 22.9 +0.5**
VYHS Vyhne 24.93 314 *e*P **P** **08 00 23.5 +0.5**
VYHS pmax pmax
comp=Z,94nm,2.5s
VYHS Vyhne 24.93 314 *e*P **P** **08 00 23.5 +0.5**
SRO Srobarova 24.95 313 *e*P **P** **08 00 24.1 +1.0**
SRO pmax pmax
comp=Z,64nm,1.7s
SRO Srobarova 24.95 313 *e*P **P** **08 00 24.1 +1.0**
KIRV Kirov 24.98 5 P **P** **08 00 23.3 0.0**
comp=Z,52nm,0.6s,baz=196,slow=6.8,SNR=24
KIRV PcP **PcP** **08 03 57.5 -0.4**
comp=Z,11nm,0.5s,baz=7.7,slow=1.5,SNR=2.1
comp=Z,52nm,0.6s
NACGM Naroch 25.01 334⇑ *e*P **P** **08 00 23.6 +0.1**
comp=E,6µm,1.1s
TKM2 Tokmak 2 25.02 60 P **P** **08 00 27.7 +3.6**
SNR=12
NRN Naryn 25.06 63 P **P** **08 00 25.7 +1.1**
NRN IAmb IAmb 08 00 28.2
comp=Z,39nm,0.8s
NRN Naryn 25.06 63 P **P** **08 00 25.7 +1.1**
NRN pmax pmax
comp=Z,39nm,0.8s
OJC Ojcow 25.20 319 *e*P **P** **08 00 26.2 +0.7**
OJC Ojcow 25.20 319 P **P** **08 00 26.1 +0.7**
OJC IAmb IAmb 08 00 27.7
comp=Z,53nm,1.2s
OJC Ojcow 25.20 319 P **P** **08 00 26.1 +0.7**
OJC pmax pmax
comp=Z,53nm,1.2s
SVE Sverdlovsk 25.24 19*de*P **P** **08 00 26.6 +0.9**
SVE pmax pmax
comp=Z,85nm,1.4s
BRZS Berezniki 25.59 43 *e*P **P** **08 00 29.4 +0.5**
BRZS Berezniki 25.59 43 *e*P **P** **08 00 29.4 +0.5**
baz=42
VAE Valguarnera 25.72 287 P **P** **08 00 31.1 +0.8**
comp=Z,35nm,1.0s,baz=222,slow=22,SNR=2.2
comp=Z,35nm,1.0s
KUU Kurty 25.75 58 *e*P **P** **08 00 31.1 +0.6**
KUU pmax pmax
comp=Z,26nm,1.3s
KUU Kurty 25.75 58 *e*P **P** **08 00 31.1 +0.6**
comp=Z,26nm,1.3s,baz=58
ISAL Salakas 25.76 334 *e*P **P** **08 00 31.4 +1.0**
PTJ Puntijarka 25.77 307 P **P** **08 00 33.1 +2.4**
JAVC Velka Javorina 25.78 314 *e*P **P** **08 00 31.4 +0.7**
SMOL Smolenice 25.78 313 *e*P **P** **08 00 31.9 +1.2**
SMOL pmax pmax
comp=Z,16nm,0.9s
SUW Suwalki 25.81 329 *e*P **P** **08 00 28.3 -2.5**
SUW Suwalki 25.81 329 P **P** **08 00 28.0 -2.8**
MODS Modra-Piesok 25.82 313 *e*P **P** **08 00 31.8 +0.8**
MODS pmax pmax
comp=Z,98nm,1.3s
MODS Modra-Piesok 25.82 313 *e*P **P** **08 00 31.8 +0.8**
ZST Bratislava 25.85 313 *e*P **P** **08 00 31.5 +0.2**
ZST Bratislava 25.85 313 *e*P **P** **08 00 31.5 +0.2**
MAUC Maruska 25.91 315 *e*P **P** **08 00 31.8 -0.1**
OKC Ostrava-Krasne 25.95 317 P **P** **08 00 31.8 -0.3**
OKC pmax pmax
comp=Z,25nm,1.5s
SOP Sopron 25.99 311 P **P** **08 00 33.2 +0.6**
SOP pmax pmax
comp=Z,35nm,0.8s
TNSS Tian-Shan 26.01 60 *e*P **P** **08 00 34.4 +1.1**
TNSS Tian-Shan 26.01 60 *e*P **P** **08 00 34.4 +1.1**
baz=60
AAA Alma-Ata 26.02 59 *e*P **P** **08 00 33.2 +0.2**
AAA Alma-Ata 26.02 59 *e*P **P** **08 00 33.3 +0.2**
baz=60
BRVK Borovoye 26.05 35 P **P** **08 00 33.4 +0.3**
BRVK IAmb IAmb 08 00 56.8
comp=Z,37nm,1.2s
BRVK Borovoye 26.05 35*ce*P **P** **08 00 33.8 +0.7**
BRVK pmax pmax
comp=Z,29nm,1.7s
BVAR Borovoye Array 26.09 35 P **P** **08 00 33.9 +0.5**
comp=Z,13nm,0.6s,baz=231,slow=8.2,SNR=24
BVAR PcP **PcP** **08 04 00.6 0.0**
comp=Z,5.0nm,0.5s,baz=194,slow=3.2,SNR=12
comp=Z,13nm,0.6s
MDOK Medeo 26.11 60 *e*P **P** **08 00 34.0 +0.1**
MDOK Medeo 26.11 60 *e*P **P** **08 00 34.1 +0.1**
baz=60
BOJS Bojanci 26.14 306 *i*P **P** **08 00 33.6 -0.3**
RONA Rosalia, Austr 26.16 311 *i*P **P** **08 00 34.4 +0.3**
comp=Z,19nm,1.0s,SNR=10.0
CHKK Chushkaly 26.20 58 *e*P **P** **08 00 35.2 +0.7**
CHKK Chushkaly 26.20 58 *e*P **P** **08 00 35.3 +0.7**
baz=58
MORC Moravsky Berou 26.26 316 P **P** **08 00 35.4 +0.3**
MORC IAmb IAmb 08 00 38.0
comp=Z,116nm,2.0s
MORC Moravsky Berou 26.26 316 *e*P **P** **08 00 34.4 -0.7**
MORC Moravsky Berou 26.26 316 P **P** **08 00 35.4 +0.3**
MORC pmax pmax
comp=Z,116nm,2.0s
INTR Introdacqua 26.37 298 P **P** **08 00 36.6 +0.4**
ARSA Arzberg 26.50 310 *e*P **P** **08 00 36.8 -0.4**
baz=110,slow=9.0
CONA Conrad Observa 26.52 311 *i*P **P** **08 00 37.7 +0.3**
comp=Z,31nm,1.8s,SNR=12
PABE Paberze 26.53 332 *e*P **P** **08 00 36.8 -0.6**
VRAC Vranov 26.61 315 *e*P **P** **08 00 37.9 -0.3**
VRAC Vranov 26.61 315 P **P** **08 00 37.5 -0.7**
comp=Z,7.2nm,0.8s,baz=106,slow=9.5,SNR=13
comp=Z,7.2nm,0.8s
SOKA Soboth 26.63 308 *e*P **P** **08 00 39.3 +0.9**
comp=Z,12nm,1.4s
SOKA *e*PcP **PcP** **08 04 02.8 +0.8**
comp=Z,5.1nm,0.7s
KRUC Moravsky 26.63 314 *e*P **P** **08 00 37.6 -0.7**
KRUC Moravsky 26.63 314 P **P** **08 00 38.2 -0.1**
KRUC pmax pmax
comp=Z,18nm,2.2s
CLTB Caltabellotta 26.67 288 P **P** **08 00 40.0 +1.1**
CAMP Campotosto 26.81 299 P **P** **08 00 40.5 +0.3**
CAMP IAmb IAmb 08 00 46.7
comp=Z,38nm,1.0s
KRLC Kraliky 26.84 316 *e*P **P** **08 00 39.2 -1.1**
KRLC Kraliky 26.84 316 *e*P **P** **08 00 39.2 -1.1**
OBKA Obir 26.89 308 *i*P **P** **08 00 41.4 +0.5**
comp=Z,30nm,1.4s,SNR=9.1
OBKA *e*PcP **PcP** **08 04 02.8 +0.1**
comp=Z,2.1nm,0.5s
OBKA Obir 26.89 308 *e*P **P** **08 00 40.1 -0.8**
baz=110,slow=9.0
CRNS Crni Vrh 26.96 307 *i*P **P** **08 00 41.4 0.0**
SATY Saty 27.07 60 *e*P **P** **08 00 43.6 +1.1**
SATY pmax pmax
comp=Z,14nm,0.8s
SATY Saty 27.07 60 *e*P **P** **08 00 43.7 +1.1**
comp=Z,14nm,0.8s,baz=60
ZHN Zhinishke 27.11 60 *e*P **P** **08 00 43.0 +0.1**
ZHN Zhinishke 27.11 60 *e*P **P** **08 00 43.0 +0.1**
baz=60
FDMO Fiordimonte 27.12 300 P **P** **08 00 43.2 +0.3**
DPC Dobruska-Polom 27.23 316 *e*P **P** **08 00 43.1 -0.6**
DPC Dobruska-Polom 27.23 316 *e*P **P** **08 00 43.1 -0.6**
KPKS Kokpek 27.34 59 *e*P **P** **08 00 45.5 +0.6**
KPKS Kokpek 27.34 59 *e*P **P** **08 00 45.5 +0.6**
baz=60
OSTC Ostas 27.38 317 *e*P **P** **08 00 51.3 +6.2**
OSTC Ostas 27.38 317 *e*P **P** **08 00 51.3 +6.2**
SABO M.te Sabotino 27.38 306 P **P** **08 00 44.9 -0.3**
SABO IAmb IAmb 08 00 45.9
comp=Z,73nm,1.6s
TDK Taldyqorghan 27.44 56 *e*P **P** **08 00 46.1 +0.4**
TDK pmax pmax
comp=Z,17nm,0.5s
TDK Taldyqorghan 27.44 56 *e*P **P** **08 00 46.1 +0.4**
comp=Z,17nm,0.5s,baz=56
KLMR Klimovskoe 27.45 353*c* *i*P **P** **08 00 44.0 -1.5**
KLMR pmax pmax
comp=Z,71nm,0.9s
KSP Ksiaz 27.46 317 *e*P **P** **08 00 45.9 +0.1**
KSP Ksiaz 27.46 317 P **P** **08 00 45.7 -0.1**
KSP pmax pmax
comp=Z,16nm,1.3s
UPC Upice 27.47 317 P **P** **08 00 46.1 +0.2**
UPC pmax pmax
comp=Z,21nm,1.5s
CHVC Chvalec 27.48 317 *e*P **P** **08 00 45.3 -0.7**
CHVC Chvalec 27.48 317 *e*P **P** **08 00 45.3 -0.7**
MOA Molln 27.50 310 *i*P **P** **08 00 45.8 -0.4**
comp=Z,18nm,1.1s,SNR=8.6
MOA *e*PcP **PcP** **08 04 03.2 -0.9**
comp=Z,1.1nm,0.3s
MOA Molln 27.50 310 *e*P **P** **08 00 45.4 -0.8**
comp=Z,42nm,1.4s,baz=110,slow=9.0
MYKA Terra Mystica 27.53 308 *e*P **P** **08 00 47.9 +1.4**
comp=Z,8.4nm,0.9s
UZB Uzynbulak 27.53 60 *e*P **P** **08 00 46.8 +0.1**
UZB Uzynbulak 27.53 60 *e*P **P** **08 00 46.9 +0.1**
baz=60
MURB Monte Urbino 27.56 300 P **P** **08 00 47.4 +0.5**
MURB IAmb IAmb 08 00 49.7
comp=Z,75nm,1.3s
CKRC Cesky Krumlov 27.81 312 *e*P P 08 00 57.9 +9.0
CKRC Cesky Krumlov 27.81 312 *e*P P 08 00 57.9 +9.0
VSU Vasula 27.84 338 *i*P **P** **08 00 49.0 -0.1**
VSU pmax pmax
comp=Z,24nm,0.8s
VSU Vasula 27.84 338 *e*P **P** **08 00 49.6 +0.5**
BIOA Bad Ischl, Aus 27.85 310 *i*P **P** **08 00 49.3 0.0**
comp=Z,22nm,1.2s,SNR=6.0
SHLS Shalkode 27.85 60 *e*P **P** **08 00 52.5 +3.0**
SHLS Shalkode 27.85 60 *e*P **P** **08 00 52.6 +3.0**
baz=60
KBA Koelnbreinsper 27.85 308 *i*P **P** **08 00 49.6 0.0**
comp=Z,24nm,1.7s,SNR=6.0
KBA *e*PcP **PcP** **08 04 05.4 +0.2**
comp=Z,1.3nm,0.2s
KBA Koelnbreinsper 27.85 308 P **P** **08 00 48.6 -1.0**
KBA pmax pmax
comp=Z,16nm,1.2s
KBA Koelnbreinsper 27.85 308 *e*P **P** **08 00 48.0 -1.5**
comp=Z,56nm,1.8s,baz=110,slow=9.0
ZVC Zvikov 28.11 313 *e*P **P** **08 00 51.4 -0.2**
PRU Pruhonice 28.11 315 P **P** **08 00 51.8 +0.2**
PRU pmax pmax
comp=Z,12nm,1.9s
GEC2 GERESS Array S 28.19 312 P **P** **08 00 52.3 -0.2**
GEC2 pmax pmax
comp=Z,6.0nm,1.2s
GERES GERESS Array B 28.19 312 P **P** **08 00 51.5 -0.9**
comp=Z,0.7nm,0.4s,baz=73,slow=9.1,SNR=4.7
GERES PcP **PcP** **08 04 06.0 +0.1**
comp=Z,2.6nm,0.5s,baz=149,slow=3.0,SNR=10
comp=Z,0.7nm,0.4s
KHC Kasperske Hory 28.37 313 *e*P **P** **08 00 53.5 -0.5**
KHC Kasperske Hory 28.37 313 *e*P **P** **08 00 53.5 -0.5**
LESA Schwarzleotal 28.39 309 *e*P **P** **08 00 54.0 -0.2**
comp=Z,7.5nm,0.7s
LESA *e*PcP **PcP** **08 04 06.5 +0.2**
comp=Z,11nm,0.4s
SLIT Slitere, Latvi 28.71 333 *e*P **P** **08 00 57.4 +0.6**
WET Wettzell 28.80 312 *e*P **P** **08 00 56.4 -1.4**
comp=Z,17nm,1.5s,baz=110,slow=9.0
BRG Berggiesshubel 28.82 316 *e*P **P** **08 00 58.2 +0.3**
BRG Amp 08 00 59.3
comp=Z,8.8nm,1.2s
BRG Berggiesshubel 28.82 316 *e*P **P** **08 00 58.2 +0.3**
BRG 08 01 07.9
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 28.82 316 *e*P **P** **08 00 57.6 -0.3**
comp=Z,24nm,1.8s,baz=110,slow=9.0
MTSE Matsula 28.98 336 *e*P **P** **08 00 58.6 -0.6**
WTTA Wattenberg 29.02 308 *i*P **P** **08 00 59.4 -0.6**
comp=Z,9.8nm,0.8s,SNR=7.3
WTTA *e*PcP **PcP** **08 04 08.7 +0.6**
comp=Z,3.8nm,0.3s
WTTA *e*S **S** **08 05 49.6 -0.8**
comp=Z,9.8nm,1.2s
WTTA Wattenberg 29.02 308 P **P** **08 00 59.8 -0.2**
WTTA pmax pmax
comp=Z,20nm,1.5s
WTTA Wattenberg 29.02 308 *e*P **P** **08 00 59.0 -1.0**
comp=Z,11nm,0.9s,baz=110,slow=9.0
WATA Walderalm 29.08 308 *e*P **P** **08 00 59.7 -0.8**
comp=Z,28nm,1.2s
WATA *e*PcP **PcP** **08 04 09.0 +0.8**
comp=Z,8.1nm,0.6s
KURBB Kurchatov Arra 29.25 45 P **P** **08 01 03.1 +1.4**
comp=Z,10nm,0.6s,baz=251,slow=8.9,SNR=51
KURBB PcP **PcP** **08 04 08.4 +0.1**
comp=Z,2.7nm,0.6s,baz=247,slow=2.8,SNR=6.9
comp=Z,10nm,0.6s
SQTA Sankt Quirin 29.29 308 *i*P **P** **08 01 01.6 -0.7**
comp=Z,9.7nm,0.4s,SNR=7.6
SQTA *e*PcP **PcP** **08 04 09.5 +0.9**
comp=Z,7.6nm,0.6s
KURK Kurchatov 29.34 45 P **P** **08 01 03.3 +0.9**
KURK Kurchatov 29.34 45*ce*P **P** **08 01 04.1 +1.6**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 29.34 45 P **P** **08 01 03.6 +1.1**
MOTA Moosalm 29.39 308 *e*P **P** **08 01 02.3 -1.0**
comp=Z,9.0nm,0.6s
MOTA *e*PcP **PcP** **08 04 09.5 +0.5**
comp=Z,4.4nm,0.5s
MOTA *e*S **S** **08 05 55.5 -0.6**
comp=Z,13nm,1.6s
ROTZ Rotzenmuhle 29.43 313 *e*P **P** **08 01 03.2 -0.2**
comp=Z,21nm,1.7s,baz=110,slow=9.0
FUR Furstenfeldbru 29.51 310 *e*P **P** **08 01 03.6 -0.5**
comp=Z,25nm,0.7s,baz=110,slow=9.0
CLL Collm 29.54 316 *i*P **P** **08 01 04.0 -0.3**
CLL *e* 08 01 14.0
CLL pmax pmax
comp=Z,21nm,1.4s
CLL Collm 29.54 316 *i*P **P** **08 01 04.0 -0.3**
comp=Z,21nm,1.4s
CLL *ex* x 08 01 14.0
CLL *e*PPP PPP 08 02 08.0
CLL Collm 29.54 316 *e*P **P** **08 01 03.0 -1.2**
comp=Z,24nm,1.5s,baz=110,slow=9.0
FETA Feichten 29.56 307 *e*P **P** **08 01 04.0 -0.7**
comp=Z,18nm,1.2s
FETA *e*PcP **PcP** **08 04 10.2 +0.8**
comp=Z,5.3nm,0.7s
FETA *e*S **S** **08 05 57.7 -1.0**
comp=Z,9.9nm,1.6s
MANZ Manzenberg 29.57 314 *e*P **P** **08 01 03.6 -1.0**
comp=Z,4.5nm,1.5s,baz=110,slow=9.0
KEST Kesra 29.91 284 P **P** **08 01 08.8 +1.0**
comp=Z,10nm,1.0s,baz=82,slow=5.1,SNR=4.0
comp=Z,10nm,1.0s
MEF Metsahovi 29.97 339 *e*P **P** **08 01 07.7 -0.2**
GRA1 Grafenberg Arr 30.01 313 P **P** **08 01 08.0 -0.5**
GRA1 IAmb IAmb 08 01 09.4
comp=Z,62nm,1.4s
GRF Grafenberg Arr 30.01 313 P **P** **08 01 08.0 -0.5**
GRF pmax pmax
comp=Z,62nm,1.4s
GRF Grafenberg Arr 30.01 313 *e*P **P** **08 01 08.7 +0.3**
comp=Z,72nm,1.5s,baz=110,slow=9.0
GRFO Grafenberg 30.01 313 P **P** **08 01 08.6 +0.1**
GRFO IAmb IAmb 08 01 09.4
comp=Z,66nm,1.5s
GRFO Grafenberg 30.01 313 P **P** **08 01 08.6 +0.1**
GRFO pmax pmax
comp=Z,66nm,1.5s
PGF Pioggiola 30.05 298 *e*P **P** **08 01 09.3 +0.3**
PGF pmax pmax
comp=Z,101nm,1.6s
DAVOX Davos/Dischmat 30.07 306 P **P** **08 01 08.2 -1.1**
comp=Z,3.2nm,0.5s,baz=136,slow=9.3,SNR=3.8
DAVOX PcP **PcP** **08 04 10.7 0.0**
comp=Z,3.4nm,0.6s,baz=126,slow=4.5,SNR=3.9
comp=Z,3.2nm,0.5s
MOX Moxa 30.10 315 *e*P **P** **08 01 08.6 -0.6**
comp=Z,15nm,1.5s,baz=110,slow=9.0
UBR Ueberruh 30.13 308 *e*P **P** **08 01 07.9 -1.7**
comp=Z,14nm,0.9s,baz=110,slow=9.0
DAVA Damuels 30.19 307 *i*P **P** **08 01 09.0 -1.2**
comp=Z,16nm,0.5s,SNR=8.3
DAVA *e*S **S** **08 06 08.0 -0.6**
comp=Z,15nm,1.7s
DAVA Damuels 30.19 307 *e*P **P** **08 01 08.5 -1.8**
comp=Z,20nm,0.5s,baz=110,slow=9.0
SEM Semipalatinsk 30.19 46 *e*P **P** **08 01 10.8 +0.5**
SEM Semipalatinsk 30.19 46 *e*P **P** **08 01 10.8 +0.5**
baz=46
MAKZ Makanchi 30.27 54 P **P** **08 01 11.5 +0.6**
MAKZ IAmb IAmb 08 01 13.5
comp=Z,21nm,0.5s
MAKZ Makanchi 30.27 54 P **P** **08 01 11.5 +0.6**
MAKZ pmax pmax
comp=Z,21nm,0.5s
BSD Bornholm Skovb 30.31 324 *e*P **P** **08 01 10.6 -0.4**
MK31 Makanchi Array 30.48 54 P **P** **08 01 13.6 +1.0**
MK31 Makanchi Array 30.48 54*ce*P **P** **08 01 13.7 +1.0**
MKAR Makanchi Array 30.48 54 P **P** **08 01 13.5 +0.8**
MKAR Makanchi Array 30.48 54 *i*P **P** **08 01 13.8 +1.1**
MKAR pmax pmax
comp=Z,35nm,0.5s
MKAR Makanchi Array 30.48 54 P **P** **08 01 13.9 +1.2**
comp=Z,35nm,0.5s,baz=250,slow=10,SNR=257
MKAR PcP **PcP** **08 04 10.9 -0.7**
comp=Z,1.6nm,0.8s,baz=272,slow=5.6,SNR=2.8
comp=Z,35nm,0.5s
FINES FINESS Array B 30.50 341 P **P** **08 01 12.1 -0.5**
comp=Z,3.1nm,0.3s,baz=144,slow=9.1,SNR=25
FINES PcP **PcP** **08 04 10.9 -0.4**
comp=Z,2.9nm,0.6s,baz=134,slow=4.0,SNR=3.1
comp=Z,3.1nm,0.3s
BLEU Blekinge 30.54 327 *e*P **P** **08 01 13.4 +0.3**
UBBA Unterbreizbach 31.12 314 *e*P **P** **08 01 18.3 +0.2**
comp=Z,30nm,1.8s,baz=110,slow=9.0
GORT1 Trebel 31.18 319 *e*P **P** **08 01 18.3 -0.4**
comp=Z,49nm,1.2s,baz=110,slow=9.0
SLE Schleitheim 31.21 308 P **P** **08 01 18.1 -1.1**
SLE pmax pmax
comp=Z,25nm,2.4s
CLZ Clausthal 31.26 316 *e*P **P** **08 01 18.9 -0.6**
comp=Z,11nm,1.0s,baz=110,slow=9.0
SBF Sospel 31.31 300 *e*P **P** **08 01 20.3 +0.2**
SBF pmax pmax
comp=Z,47nm,0.9s
RAF Rauma 31.42 338 *e*P **P** **08 01 19.8 -1.0**
DEL Delary 31.53 326 *e*P **P** **08 01 21.7 -0.1**
NRDL Niedersach Rie 31.65 317 *e*P **P** **08 01 22.7 -0.1**
comp=Z,24nm,1.4s,baz=110,slow=9.0
MBDF Montbardon 31.88 302 *e*P **P** **08 01 24.8 -0.4**
MBDF pmax pmax
comp=Z,17nm,0.7s
BNI Bardonecchia 31.98 302 P **P** **08 01 25.6 -0.5**
BNI pmax pmax
comp=Z,89nm,1.2s
LPG La Plagne 31.98 303 *e*P **P** **08 01 25.4 -0.9**
LPG pmax pmax
comp=Z,27nm,1.0s
LPL La Plagne 32.00 303 *e*P **P** **08 01 26.6 +0.3**
LPL pmax pmax
comp=Z,26nm,1.0s
BSEG Bad Segeberg 32.11 320 *e*P **P** **08 01 26.7 -0.2**
comp=Z,24nm,1.3s,baz=110,slow=9.0
RETH Rethem/Aller, 32.17 317 *e*P **P** **08 01 27.6 +0.2**
comp=Z,53nm,1.4s,baz=110,slow=9.0
ECH Echery 32.19 308 P **P** **08 01 26.9 -0.8**
ECH pmax pmax
comp=Z,22nm,1.8s
KASTN Kahler Asten 32.19 314 *e*P **P** **08 01 27.5 -0.2**
comp=Z,44nm,1.4s,baz=110,slow=9.0
HINF Hinteralfeld 32.30 308 *e*P **P** **08 01 28.1 -0.7**
HINF pmax pmax
comp=Z,30nm,1.5s
FABU Falkenberg 32.35 326 *e*P **P** **08 01 27.7 -1.3**
CABF La Chapelle 32.60 305 *e*P **P** **08 01 30.4 -1.1**
CABF pmax pmax
comp=Z,25nm,0.8s
BORU Boraas 32.67 327 *e*P **P** **08 01 30.6 -1.1**
HAU Haudompre 32.67 308 *e*P **P** **08 01 30.7 -1.3**
HAU pmax pmax
comp=Z,27nm,1.4s
AHRW Bad Neuenahr-A 32.81 313 *e*P **P** **08 01 33.8 +0.8**
comp=Z,49nm,1.7s,baz=110,slow=9.0
ONAU Onsala 32.93 326 *e*P **P** **08 01 33.6 -0.4**
IBBN Ibbenburen 32.93 316 *e*P **P** **08 01 34.3 +0.2**
comp=Z,54nm,1.4s,baz=110,slow=9.0
WLF Walferdange 33.16 311 *d*P **P** **08 01 35.7 -0.4**
VIVF Saint-Julien-l 33.38 302 *e*P **P** **08 01 37.9 -0.3**
VIVF pmax pmax
comp=Z,23nm,1.0s
HYB Hyderabad 33.54 111 *e*P **P** **08 01 40.0 +0.1**
OUL Oulu 33.63 345 P **P** **08 01 39.7 -0.4**
OUL pmax pmax
comp=Z,37nm,0.8s
HFS Hagfors 33.71 331 P **P** **08 01 40.0 -0.8**
comp=Z,22nm,0.4s,baz=132,slow=10,SNR=117
comp=Z,22nm,0.4s
MSF Maaselka 33.74 348 *e*P **P** **08 01 40.2 -0.9**
MSF pmax pmax
comp=Z,50nm,1.1s
MUD Monsted U'grnd 33.79 323 *i*P **P** **08 01 43.0 +1.5**
RCHB Rochefort 33.85 311 *d*P **P** **08 01 42.1 -0.1**
BCLA Clavier 33.87 312 *d*P **P** **08 01 43.2 +0.8**
BCLA *d*PP **PnPn** **08 02 54.6 -0.4**
WMQ Urumqi 33.88 60 *e*P **P** **08 01 44.6 +2.0**
WMQ pP pP 08 01 48.6 -0.3
WMQ PcS **PcS** **08 08 06.1 -0.9**
WMQ SS SS 08 09 13.5 -19
WMQ pmax pmax
comp=Z,30nm,1.1s
WMQ pmax pmax

WMQ comp=Z,89nm,3.7s LR LR
WMQ comp=Z,1µm,14.1s LR LR
WMQ comp=Z,2µm,10.3s LR LR
comp=Z,990nm,14.1s
ZAA0 Zalesovo Array 34.06 42 P **P** **08 01 44.2 +0.2**
ZAA0 IAmb IAmb 08 01 45.7
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 34.06 42 P **P** **08 01 43.9 -0.1**
ZALV Zalesovo Beam 34.06 42 *i* P **P** **08 01 44.2 +0.3**
ZALV pmax pmax
comp=Z,16nm,0.5s
ZALV Zalesovo Beam 34.06 42 P **P** **08 01 44.3 +0.3**
comp=Z,17nm,0.5s,baz=259,slow=8.8,SNR=39
comp=Z,17nm,0.5s
SMF Signal de Mont 34.14 305 *e*P **P** **08 01 44.0 -0.8**
SMF pmax pmax
comp=Z,19nm,0.6s
BMRD Maredsous 34.18 311 *d*P **P** **08 01 44.4 -0.6**
LOR Lormes 34.21 306 *e*P **P** **08 01 44.6 -0.8**
LOR pmax pmax
comp=Z,30nm,1.4s
DOU Dourbes 34.24 311 *d*P **P** **08 01 46.0 +0.4**
SSF Saint Saulge 34.42 306 *e*P **P** **08 01 46.4 -0.8**
SSF pmax pmax
comp=Z,79nm,1.5s
DGZ Jazzator, Alta 34.45 50 *i* P **P** **08 01 48.4 +0.9**
DGZ pmax pmax
comp=Z,13nm,0.8s
BAIF Baives 34.47 311 *e*P **P** **08 01 46.9 -0.7**
BAIF pmax pmax
comp=Z,44nm,1.5s
AVF Avril sur Loir 34.49 305 *e*P **P** **08 01 46.8 -1.0**
AVF pmax pmax
comp=Z,63nm,1.4s
APA Apatity 34.64 352⇓ *i*P **P** **08 01 52.3 +3.5**
APA pmax pmax
comp=Z,19nm,0.8s
APA MLR MLR
comp=Z,800nm,15.0s
BGF Bois d'Agland 34.81 305 *e*P **P** **08 01 49.6 -1.0**
BGF pmax pmax
comp=Z,30nm,1.1s
OSL Oslo 34.82 330 *e*P **P** **08 01 50.1 -0.3**
NC602 NORSAR Array S 34.93 331 *e*P **P** **08 01 50.5 -0.9**
HOMB Homborsund 34.95 326 *e*P **P** **08 01 52.2 +0.6**
TCF Toulx Ste Croi 35.23 304 *e*P **P** **08 01 53.4 -0.8**
TCF pmax pmax
comp=Z,53nm,1.4s
NB2 NORSAR Subarra 35.24 331 P **P** **08 01 52.5 -1.6**
comp=Z,3.5nm,0.6s,baz=124,slow=8.6
NB2 NORSAR Subarra 35.24 331 P **P** **08 01 52.5 -1.6**
baz=124,slow=8.6
NOA NORSAR Array B 35.24 331 P **P** **08 01 52.0 -2.1**
comp=Z,1.6nm,0.5s,baz=129,slow=8.0,SNR=11
NOA PP **PnPn** **08 03 10.8 -1.3**
comp=Z,1.4nm,0.7s,baz=130,slow=9.8,SNR=3.6
NOA PcP **PcP** **08 04 23.7 -0.8**
comp=Z,0.6nm,0.5s,baz=123,slow=3.6,SNR=6.3
comp=Z,1.6nm,0.5s
SGF Sodankyl 35.57 347 *e*P **P** **08 01 56.9 +0.1**
SGF pmax pmax
comp=Z,38nm,1.9s
RJF Les Rejaudoux 35.64 302 *e*P **P** **08 01 58.1 +0.4**
RJF pmax pmax
comp=Z,63nm,1.6s
LFF La Frestale 36.17 302 *e*P **P** **08 02 01.5 -0.7**
LFF pmax pmax
comp=Z,35nm,1.0s
SKAR Skarslia 36.24 330 *e*P **P** **08 02 03.0 +0.4**
SKAR IAmb IAmb 08 02 06.1
comp=Z,19nm,1.2s
ODD1 Odda 36.58 328 *e*P **P** **08 02 06.7 +1.1**
DOMB Dombas 36.65 332 *e*P **P** **08 02 06.1 -0.1**
MFF Saint Martin d 36.87 304 *e*P **P** **08 02 06.8 -1.4**
MFF pmax pmax
comp=Z,119nm,1.8s
TAM Tamanrasset 36.89 263 P **P** **08 02 10.3 +1.5**
TAM pmax pmax
comp=Z,41nm,1.4s
LDF La Druitiere 37.03 308 *e*P **P** **08 02 08.2 -1.4**
LDF pmax pmax
comp=Z,102nm,1.9s
NSS Namsos 37.09 336 *e*P **P** **08 02 09.1 -0.7**
NSS IAmb IAmb 08 02 09.8
comp=Z,9.4nm,0.6s
FLN La Foliniere 37.29 308 *e*P **P** **08 02 10.8 -0.9**
FLN pmax pmax
comp=Z,102nm,1.7s
HYA Hoyanger 37.38 329 *e*P **P** **08 02 14.0 +1.8**
BER Bergen 37.38 328 *e*P **P** **08 02 13.5 +1.3**
MOR8 Moi Rana 37.42 340 *e*P **P** **08 02 12.2 -0.4**
GRR Gorron 37.50 307 *e*P **P** **08 02 12.1 -1.4**
GRR pmax pmax
comp=Z,63nm,1.2s
MOL Molde 37.54 332 *e*P **P** **08 02 13.9 +0.3**
AKN Aaknes 37.55 331 *e*P **P** **08 02 14.2 +0.4**
KTK1 Kautokeino 37.55 347 *e*P **P** **08 02 14.4 +0.7**
KTK1 IAmb IAmb 08 02 18.8
comp=Z,56nm,1.5s
VADS Vadso 37.55 351 *e*P **P** **08 02 13.4 -0.3**
KEV Kevo 37.56 349 P **P** **08 02 14.7 +1.0**
KEV pmax pmax
comp=Z,115nm,1.8s
ARA0 ARCESS Array S 37.60 348 *e*P **P** **08 02 13.9 -0.2**
ARCES ARCESS Array B 37.60 348 P **P** **08 02 13.4 -0.7**
comp=Z,16nm,1.1s,baz=165,slow=8.5,SNR=15
ARCES PP **PP** **08 03 38.3 -1.6**
comp=Z,5.7nm,0.7s,baz=155,slow=9.4,SNR=4.2
ARCES PcP **PcP** **08 04 31.6 +0.1**
comp=Z,2.5nm,0.6s,baz=151,slow=3.9,SNR=1.7
comp=Z,16nm,1.1s
SUE Sulen 37.94 329 *e*P **P** **08 02 17.2 +0.2**
KONS Konsvik 38.04 339 *e*P **P** **08 02 17.4 -0.4**
FAUS Fauske 38.06 341 *e*P **P** **08 02 18.5 +0.6**
STEI Steigen 38.47 342 *e*P **P** **08 02 22.1 +0.6**
JETT Jettan, Norway 38.56 346 *e*P **P** **08 02 22.4 +0.2**
LSA Lhasa 38.57 83 P **P** **08 02 23.1 -0.2**
LSA IAmb IAmb 08 02 33.0
comp=Z,32nm,1.1s
LSA Lhasa 38.57 83 P **P** **08 02 23.1 -0.2**
LSA pmax pmax
comp=Z,32nm,1.1s
LSA Lhasa 38.57 83 P **P** **08 02 24.4 +1.1**
HAMF Hammerfest 38.88 348 *e*P **P** **08 02 25.2 +0.4**
TRO Tromso 38.92 345 *e*P **P** **08 02 25.1 -0.1**
QUIF Quistinic 39.00 306 *e*P **P** **08 02 24.5 -1.7**
QUIF pmax pmax
comp=Z,197nm,1.9s
ROSF Rostrenen 39.10 307 *e*P **P** **08 02 25.5 -1.5**
ROSF pmax pmax
comp=Z,93nm,1.4s
ESBB Sonseca Array 39.91 293 P **P** **08 02 34.2 +0.3**
ESDC Sonseca Array 39.91 293 P **P** **08 02 32.9 -1.0**
comp=Z,7.6nm,0.9s,baz=78,slow=8.2,SNR=18
ESDC PcP **PcP** **08 04 39.8 +0.5**
comp=Z,2.1nm,0.6s,baz=37,slow=3.5,SNR=9.5
comp=Z,7.6nm,0.9s
EKA Eskdalemuir Ar 39.98 318 P **P** **08 02 33.0 -1.1**
comp=Z,3.1nm,0.5s,baz=102,slow=8.4,SNR=24
EKA PcP **PcP** **08 04 39.5 +0.4**
comp=Z,2.1nm,0.5s,baz=115,slow=5.5,SNR=7.1
comp=Z,3.1nm,0.5s
SHL Shillong 40.61 89 P **P** **08 02 39.6 -0.5**
SHL IAmb IAmb 08 02 48.3
comp=Z,41nm,1.1s
SHL Shillong 40.61 89 P **P** **08 02 39.6 -0.5**
SHL pmax pmax
comp=Z,41nm,1.1s
SHL Shillong 40.61 89 P **P** **08 02 40.1 +0.1**
SNR=12
PBRG Braganca 41.74 297 *e*P **P** **08 02 48.7 -0.3**
comp=Z,48nm,1.6s
MDT Midelt 41.80 283 P **P** **08 02 49.6 -0.1**
comp=Z,9.2nm,0.9s,baz=78,slow=7.9,SNR=11
comp=Z,9.2nm,0.9s
MVO Moncorvo 42.04 296 *e*P **P** **08 02 51.4 -0.1**
comp=Z,75nm,1.4s
NRIK Noril'sk 42.50 20 P **P** **08 02 55.8 +1.0**
NRIK IAmb IAmb 08 03 04.0
comp=Z,58nm,1.4s
NRIK Noril'sk 42.50 20 *i* P **P** **08 02 55.5 +0.8**
NRIK pmax pmax
comp=Z,62nm,1.5s
NRIK Noril'sk 42.50 20 P **P** **08 02 54.9 +0.2**
comp=Z,13nm,0.6s,baz=231,slow=5.0,SNR=30
comp=Z,13nm,0.6s
PBAR Barrancos 42.52 292 *e*P **P** **08 02 54.8 -0.5**
comp=Z,88nm,1.4s
MTE Manteigas 42.53 295 *e*P **P** **08 02 55.6 +0.1**
comp=Z,118nm,1.5s
PVRL Vila Real 42.54 296 *e*P **P** **08 02 55.5 0.0**
comp=Z,82nm,2.3s
PCBR Castelo Branco 42.57 294 *e*P **P** **08 02 55.6 -0.1**
comp=Z,69nm,1.1s
PMRV Marv??o 42.57 294 *e*P **P** **08 02 56.4 +0.7**
POLO Lamas de Olo 42.58 296 *e*P **P** **08 02 55.8 -0.1**
comp=Z,58nm,1.8s
PESTR Estremoz 42.82 293 *e*P **P** **08 02 58.3 +0.5**
comp=Z,54nm,1.8s
PGAV Gavieira, Arco 42.86 297 *e*P **P** **08 02 56.9 -1.3**
comp=Z,133nm,1.5s
PBEJ Beja 43.19 292 *e*P **P** **08 03 00.6 -0.1**
comp=Z,60nm,1.6s
GTA Gaotai 43.22 66 *e*P **P** **08 03 02.6 +1.4**
GTA S **S** **08 09 31.0 +3.8**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA LR LR
comp=Z,440nm,14.9s
GTA LR LR
comp=Z,370nm,14.5s
GTA LR LR
comp=Z,720nm,16.4s
MOY Mondy 43.24 48 *e*P **P** **08 03 02.7 +1.6**
MOY pmax pmax
comp=Z,93nm,2.0s
PCAS Casmilo, Conde 43.31 295 *e*P **P** **08 03 02.2 +0.5**
PCVE Castro Verde 43.40 291 *e*P **P** **08 03 03.0 +0.5**
comp=Z,47nm,1.8s
MESJ Messejana 43.50 291 *e*P **P** **08 03 06.2 +2.9**
HOPEN Hopen 43.93 353 *e*P **P** **08 03 07.0 +0.8**
ZAK Zakamensk 44.66 50 *e*P **P** **08 03 12.8 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
TOA0 Torodi Ar. Sit 44.92 254 P **P** **08 03 14.8 -0.2**
TOA0 IAmb IAmb 08 03 24.4
comp=Z,19nm,1.1s
TORD Torodi Ar. Bea 44.92 254 P **P** **08 03 15.0 +0.1**
TORD IAmb IAmb 08 03 20.7
comp=Z,25nm,1.4s
TORD Torodi Ar. Bea 44.92 254 P **P** **08 03 14.3 -0.6**
comp=Z,5.8nm,0.7s,baz=55,slow=7.0,SNR=25
comp=Z,5.8nm,0.7s
SPB2 Spitsbergen Ar 46.33 352 P **P** **08 03 25.6 +0.4**
SPA0 Spitsbergen Ar 46.33 352 *e*P **P** **08 03 25.5 +0.2**
SPITS Spitsbergen Ar 46.33 352 P **P** **08 03 25.6 +0.3**
comp=Z,7.5nm,0.4s,baz=131,slow=10,SNR=53
SPITS PP **PP** **08 05 14.8 +0.9**
comp=Z,16nm,0.9s,baz=135,slow=14,SNR=3.5
comp=Z,7.5nm,0.4s
SONM Songino Array 46.85 54 P **P** **08 03 30.2 +0.3**
SONM Songino Array 46.85 54 P **P** **08 03 30.5 +0.6**
comp=Z,4.4nm,0.6s,baz=281,slow=8.7,SNR=21
SONM PcP **PcP** **08 05 02.4 -0.3**
comp=Z,1.3nm,0.6s,baz=283,slow=2.0,SNR=4.1
SONM ScP **ScP** **08 08 55.3 +0.1**
comp=Z,1.5nm,1.0s,baz=201,slow=2.5,SNR=4.1
comp=Z,4.4nm,0.6s
LZH Lanzhou 47.06 70 *e*P **P** **08 03 32.1 +0.3**
LZH pP pP 08 03 36.9 -1.3
LZH sP sP 08 03 40.2 -0.3
LZH pmax pmax
comp=Z,13nm,1.3s
LZH LR LR
comp=Z,610nm,14.1s
LZH LR LR
comp=Z,940nm,19.2s
ULN Ulaanbaatar 47.29 53 P **P** **08 03 33.8 +0.4**
ULN IAmb IAmb 08 03 36.4
comp=Z,21nm,0.8s
ULN Ulaanbaatar 47.29 53 *i* P **P** **08 03 34.0 +0.7**
ULN pmax pmax
comp=Z,22nm,0.7s
ULN Ulaanbaatar 47.29 53 P **P** **08 03 34.1 +0.7**
comp=Z,124nm,0.8s
KBS Kingsbay 47.47 352 *e*P **P** **08 03 34.4 +0.3**
CD2 Chengdu 48.52 77 P **P** **08 03 45.0 +2.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CHTO Chiang Mai 49.42 94 P **P** **08 03 49.4 -0.6**
comp=Z,22nm,0.8s
CMMT Chiang Mai 49.43 94 P **P** **08 03 49.3 -0.7**
comp=Z,62nm,0.8s
CM31 Chiang Mai Arr 49.59 94 P **P** **08 03 51.0 -0.3**
CM31 IAmb IAmb 08 03 59.8
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 49.59 94 P **P** **08 03 50.9 -0.4**
comp=Z,11nm,0.6s,baz=292,slow=8.4,SNR=27
CMAR PcP **PcP** **08 05 13.0 +0.2**
comp=Z,2.3nm,0.3s,baz=294,slow=5.2,SNR=2.0
CMAR PP **PP** **08 05 46.4 +0.7**
comp=Z,1.4nm,0.3s,baz=294,slow=10,SNR=1.9
comp=Z,11nm,0.6s
BTO Baotou 50.65 62 *e*P **P** **08 03 59.2 0.0**
BTO pP **pP** **08 04 03.8 -1.9**
BTO sP **sP** **08 04 06.2 -1.8**
BTO PP **PP** **08 05 55.4 +0.4**
BTO S **S** **08 11 14.8 +1.7**
BTO SS **SS** **08 14 41.7 -5.5**
BTO pmax pmax
comp=Z,19nm,0.8s
BTO pmax pmax
comp=Z,720nm,8.7s
BTO LR LR
comp=Z,3µm,18.3s
BTO LR LR
comp=Z,900nm,22.4s
BTO LR LR
comp=Z,2µm,18.8s
XAN Xi'an 51.64 71 ⇑P **P** **08 04 06.6 0.0**
XAN pP pP 08 04 10.8 -2.4
XAN pmax pmax
comp=Z,56nm,0.6s
DAG Danmarks Havn 51.64 345 P **P** **08 04 05.7 -0.2**
DAG pmax pmax
comp=Z,14nm,0.7s
DAG Danmarks Havn 51.64 345 *i* P **P** **08 04 05.5 -0.4**
DAG IAmb IAmb 08 04 06.9
comp=Z,9.3nm,1.0s
HHC Hu-ho-hao-te 51.72 62 ⇑P **P** **08 04 08.2 +0.9**
HHC sP sP 08 04 18.5 +2.4
HHC PcP **PcP** **08 05 26.2 +5.7**
HHC *e*S **S** **08 11 24.2 -3.8**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,250nm,4.3s
HHC LR LR
comp=Z,650nm,13.3s
HHC LR LR
comp=Z,910nm,17.1s
SLVN Son La 52.39 88 P **P** **08 04 12.4 0.0**
ABPO Ambohimpanom 52.47 178 *e*P **P** **08 04 13.9 +1.0**
ABPO IAmb IAmb 08 04 14.4
comp=Z,97nm,1.1s
DBIC Dimbokro 53.93 252 P **P** **08 04 23.7 0.0**
DBIC Dimbokro 53.93 252 P **P** **08 04 23.7 0.0**
DBIC pmax pmax
comp=Z,59nm,1.7s
DBIC Dimbokro 53.93 252 ⇑*i*P **P** **08 04 23.1 -0.6**
DBIC IAmb IAmb 08 04 31.3
comp=Z,56nm,1.6s
DBIC Dimbokro 53.93 252 P **P** **08 04 23.0 -0.6**
comp=Z,4.8nm,0.6s,baz=35,slow=7.6,SNR=8.0
comp=Z,4.8nm,0.6s
KIC Kosan Boka 54.02 251 ⇑*i*P **P** **08 04 23.8 -0.6**
comp=Z,62nm,1.0s
TIC Toumodi 54.07 252 ⇑*e*P **P** **08 04 24.6 -0.2**
comp=Z,7.9nm,0.4s
XLT XiLinHaoTe 54.20 57 *e*P P 08 04 30.3 +4.9
XLT pP sP 08 04 33.6 -0.7
XLT sP pP 08 04 39.2 +7.2
XLT PcP **PcP** **08 05 34.9 +5.1**
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,280nm,6.9s
XLT LR LR
comp=Z,1µm,15.7s
XLT LR LR
LYN LuoYang 54.25 69 ⇑P **P** **08 04 26.1 +0.3**
LYN pP pP 08 04 30.7 -1.7
LYN sP sP 08 04 32.9 -1.8
LYN PP **PP** **08 06 29.6 +2.1**
LYN ScS ScS 08 14 11.5 -2.8
LYN SS **SKiKP** **08 15 45.3 +9.3**
LYN pmax pmax
comp=Z,37nm,0.7s
LIC Lamto 54.33 252 ⇑*i*P **P** **08 04 25.9 -0.7**
comp=Z,77nm,1.0s
HNS HongShan 55.05 65 ⇑P **P** **08 04 31.4 -0.1**
LHMI Lhok Sumawe 55.21 109 P **P** **08 04 31.8 -1.2**
comp=Z,70nm,0.4s
BJI Beijing 55.33 62 P **P** **08 04 34.0 +0.5**
BJI pmax pmax
comp=Z,5.0nm,0.6s
BJT Baijiatuau 55.33 62 P **P** **08 04 34.1 +0.5**
BJT IAmb IAmb 08 04 36.4
comp=Z,7.5nm,0.6s
BJT Baijiatuau 55.33 62 P **P** **08 04 34.1 +0.5**
BJT pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 55.36 50 *i* P **P** **08 04 34.2 +0.5**
HIA pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 56.22 22 P **P** **08 04 40.2 +0.8**
TIXI Tiksi 56.22 22 *i* P **P** **08 04 40.9 +1.5**
TIXI pmax pmax
comp=Z,6.0nm,0.4s
SUMG Summit 56.48 339 *i* P **P** **08 04 42.0 +0.2**
TIA Tai'an 57.27 66 P **P** **08 04 48.2 +0.7**
TIA pmax pmax
comp=Z,10.0nm,0.7s
YAK Yakutsk 58.05 34 *e*P **P** **08 04 52.5 0.0**
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.3s
MPHEP Siloam, Limpop 58.25 197 *e*P **P** **08 04 55.2 +0.8**
MOPA Mopani 58.55 196 *e*P **P** **08 04 57.1 +0.7**
NEEM North Greenlan 58.83 345 *e*P **P** **08 04 58.4 +0.2**
IPM Ipoh 58.90 107 P **P** **08 04 59.0 -0.1**
comp=N,2µm,0.6s
TSUM Tsumeb 59.11 211 *e*P **P** **08 05 00.7 +0.2**
TSUM IAmb IAmb 08 05 11.1
comp=Z,68nm,2.2s
HOED Hoedspruit, Li 59.52 196 *e*P **P** **08 05 03.5 +0.3**
HOED IAmb IAmb 08 05 04.3
comp=Z,9.8nm,0.6s
DL2 Dalian 59.69 61 P **P** **08 05 04.4 +0.1**
DL2 pmax pmax
comp=Z,48nm,1.2s
WTBG Waterberg Wild 59.82 198 *e*P **P** **08 05 05.7 +0.3**
HEH HeiHe 59.89 47 *e*P **P** **08 05 05.1 -0.4**
HEH pmax pmax
comp=Z,15nm,0.9s
HEH pmax pmax
comp=Z,310nm,7.0s
HEH LR LR
comp=Z,560nm,10.2s
HEH LR LR
comp=Z,550nm,11.2s
HEH LR LR
comp=Z,750nm,12.7s
PILG Pilgrimsrest, 60.07 196 *e*P **P** **08 05 07.7 +0.5**
PILG IAmb IAmb 08 05 14.2
comp=Z,11nm,1.0s
NJ2 Nanjing 60.14 70 *e*P **P** **08 05 08.9 +1.4**
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 pmax pmax
comp=Z,400nm,6.1s
DY2G Dye2 60.38 333 *e*P **P** **08 05 08.9 0.0**
NHAM Northam, North 60.91 199 *e*P **P** **08 05 13.7 +0.9**
NHAM IAmb IAmb 08 05 14.5
comp=Z,8.4nm,0.7s
NYAT Nyati, Northwe 61.27 199 *e*P **P** **08 05 16.1 +1.0**
NYAT IAmb IAmb 08 05 17.0
comp=Z,13nm,0.8s
LBTB Lobatse 61.49 201 *e*P **P** **08 05 17.9 +1.2**
LBTB IAmb IAmb 08 05 22.4
comp=Z,17nm,1.2s
HRAO HartRAO 61.73 199 *e*P **P** **08 05 18.6 +0.2**
WIN Windhoek 62.29 210 P **P** **08 05 23.3 +1.0**
WIN IAmb IAmb 08 05 30.4
comp=Z,16nm,0.9s
WIN Windhoek 62.29 210 P **P** **08 05 23.3 +1.0**
WIN pmax pmax
comp=Z,15nm,0.9s
PRYS Parys 62.80 198 *e*P **P** **08 05 25.6 +0.1**
KLR Kul'dur 62.89 47 *i* P **P** **08 05 24.8 -1.0**
KLR pmax pmax
comp=Z,1.0nm,0.5s
NWCL Newcastle 62.96 196 *e*P **P** **08 05 26.9 +0.4**
NWCL IAmb IAmb 08 05 27.4
comp=Z,12nm,0.6s
EUNU Eureka 63.45 352 P **P** **08 05 30.0 +0.8**
SWZ Schweizer 63.61 200 *e*P **P** **08 05 31.0 +0.1**
SNKL Senekal, Frees 63.98 198 *e*P **P** **08 05 33.9 +0.6**
SNKL IAmb IAmb 08 05 34.5
comp=Z,30nm,0.6s
KSRS Korea Array 64.83 61 P **P** **08 05 38.0 -0.7**
comp=Z,3.9nm,0.5s,baz=286,slow=6.6,SNR=16
comp=Z,3.9nm,0.5s
USRK Ussuriysk Ar. 64.94 52 P **P** **08 05 38.1 -1.2**
comp=Z,3.8nm,0.5s,baz=287,slow=6.5,SNR=16
comp=Z,3.8nm,0.5s
BOSA Boshof 64.98 200 ⇑*i*P **P** **08 05 39.5 -0.3**
BOSA IAmb IAmb 08 05 41.0
comp=Z,17nm,0.7s
BOSA Boshof 64.98 200 P **P** **08 05 40.4 +0.5**
comp=Z,17nm,0.6s,baz=16,slow=5.7,SNR=44
comp=Z,17nm,0.6s
UPI Upington 65.98 204 *e*P **P** **08 05 46.2 -0.1**
HVD Gariep Dam 66.80 199 *e*P **P** **08 05 51.9 +0.4**
HVD IAmb IAmb 08 05 59.2
comp=Z,186nm,2.3s
PPBI Pangkal Pinang 66.97 109 P **P** **08 05 53.5 +0.7**
BFON Badsfontein, M 68.42 200 *e*P **P** **08 06 02.5 +0.7**
GRAF Camdeboo Natio 68.65 199 *e*P **P** **08 06 03.9 +0.8**
RES Resolute Bay 68.81 350 P **P** **08 06 04.5 +1.0**
ROOI Rooidraai Farm 69.12 200 *e*P **P** **08 06 06.9 +1.0**
FRAZ Fraserburg 69.23 202 *e*P **P** **08 06 05.8 -1.0**
BILL Bilibino 69.33 20 *i* P **P** **08 06 07.7 +0.9**
BILL pmax pmax
comp=Z,34nm,1.6s
CVNA Calvinia 69.35 204 *e*P **P** **08 06 08.8 +1.3**
FRB Frobisher Bay 69.98 334 P P 08 06 16.2 +5.3
FRB pmax pmax
comp=Z,26nm,0.7s
A21K Barrow 74.04 7 P **P** **08 06 36.0 +0.9**
baz=341
A36M Sachs Harbour 74.39 357 P **P** **08 06 37.2 +0.1**
A36M Sachs Harbour 74.39 357 P **P** **08 06 37.5 +0.4**
baz=7.7
A19K Wainwright 74.56 9 P **P** **08 06 39.7 +1.5**
baz=337
SCHQ Schefferville 74.61 326 P **P** **08 06 38.4 -0.4**
comp=Z,9.6nm,0.6s,baz=47,slow=4.5,SNR=31
comp=Z,9.6nm,0.6s
B20K Meade River 75.23 8 P **P** **08 06 43.3 +1.3**
baz=340
B18K Kokolik River 75.23 10 P **P** **08 06 43.7 +1.7**
baz=336
B22K Teshekpuk Lake 75.31 7 P **P** **08 06 43.1 +0.7**
B22K IAmb IAmb 08 06 49.7
comp=Z,29nm,0.9s
B22K Teshekpuk Lake 75.31 7 P **P** **08 06 43.6 +1.1**
baz=344
C16K Lisburne Hills 75.68 11 P **P** **08 06 44.6 0.0**
C16K IAmb IAmb 08 06 51.2
comp=Z,18nm,0.8s
C16K Lisburne Hills 75.68 11 P **P** **08 06 45.0 +0.4**
baz=334
C19K Lookout Ridge 75.78 9 P **P** **08 06 46.6 +1.3**
baz=338
C17K DeLong Mountai 75.85 11 P **P** **08 06 46.6 +1.0**
baz=335
B21K Ikpikpuk River 75.88 7 P **P** **08 06 47.0 +1.2**
baz=343
C18K Utukok River 75.98 10 P **P** **08 06 47.3 +0.9**
baz=337
C23K Itkillik River 76.05 6 P **P** **08 06 48.0 +1.3**

C23K	**Itkillik River** baz=346	76.05	6	P		P	08 06 48.2 +1.5
RDOG	**Red Dog Mine** baz=336	76.27	11	P		P	08 06 48.4 +0.3
C21K	**Knifeblade Rid** baz=342	76.30	7	P		P	08 06 49.9 +1.7
C24K	**Franklin Bluff** baz=348	76.31	5	P		P	08 06 49.8 +1.6
D20K	**Etivluk River** baz=341	76.52	8	P		P	08 06 50.5 +1.0
D19K	**Kuna River** baz=340	76.54	9	P		P	08 06 51.0 +1.4
D17K	**Noatak River** baz=336	76.57	11	P		P	08 06 50.7 +1.0
MPSI	**Mapaga** comp=Z,22nm,0.9s	76.62	99	P		P	08 06 50.5 -0.4
D22K	**Ayikyak River** baz=344	76.79	7	P		P	08 06 52.1 +1.2
D24K	**Happy Valley** baz=348	76.86	5	P		P	08 06 52.2 +0.9
D25K	**Kavik River** baz=350	76.87	4	P		P	08 06 52.3 +0.8
C36M	**Paulatuk** baz=8.7,SNR=9.9	76.96	356	P		P	08 06 51.4 -0.4
E20K	**Nigu River** baz=341	77.00	8	P		P	08 06 53.2 +0.9
D28M	**Stokes Point** baz=356	77.20	2	P		P	08 06 54.6 +1.4
E18K	**Tukpahlearik C** baz=338	77.20	10	P		P	08 06 54.0 +0.7
D27M	**Malcolm River** baz=354	77.22	2	P		P	08 06 55.0 +1.6
E17K	**Hotham Inlet** baz=337	77.33	11	P		P	08 06 54.8 +0.8
E22K	**Anaktuvuk Pass** baz=345	77.59	7	P		P	08 06 56.3 +0.8
E19K	**Redstone River**	77.63	9	P		P	08 06 56.1 +0.4
E19K	**Redstone River** baz=340	77.63	9	P		P	08 06 56.4 +0.7
E23K	**Chandalar** baz=347	77.87	6	P		P	08 06 58.2 +1.1
E28M	**Babbage River** baz=356	77.90	2	P		P	08 06 58.2 +1.0
F17K	**Baldwin Pennin**	78.02	11	P		P	08 06 58.2 +0.4
F17K	**Baldwin Pennin** baz=357	78.02	11	P		P	08 06 58.8 +1.0
E25K	**Arctic Village** E25K comp=Z,19nm,0.8s	78.11	4	P	IAmb	P IAmb	08 06 58.8 +0.4 08 07 05.5
E25K	**Arctic Village** baz=350	78.11	4	P		P	08 06 59.4 +1.0
F19K	**Shaleruckik Mo** baz=340	78.15	9	P		P	08 06 59.0 +0.4
E29M	**Blow River** baz=357	78.16	1	P		P	08 06 59.8 +1.2
F20K	**Avaraart Lake**	78.21	8	P		P	08 06 59.4 +0.5
F20K	**Avaraart Lake** baz=342	78.21	8	P		P	08 06 59.9 +1.0
E27K	**Coleen River** baz=354	78.25	3	P		P	08 07 00.4 +1.3
INK	**Inuvik**	78.28	360	P		P	08 06 59.4 +0.2
INK	**Inuvik** baz=0.6,SNR=9.9	78.28	360	P		P	08 06 59.9 +0.6
F21K	**Alatna River** baz=344	78.31	8	P		P	08 07 00.7 +1.2
F24K	**Squaw Lake** baz=348	78.54	5	P		P	08 07 02.4 +1.6
F25K	**Christian Rive** baz=350	78.62	4	P		P	08 07 02.7 +1.4
COLD	**Coldfoot** baz=346	78.63	6	P		P	08 07 02.5 +1.3
G16K	**Koyuk River** G16K comp=Z,19nm,0.8s	78.80	12	P	IAmb	P IAmb	08 07 02.8 +0.6 08 07 09.3
G16K	**Koyuk River** baz=336,SNR=9.7	78.80	12	P		P	08 07 03.8 +1.6
BMAR	**Burnt Mountain**	78.85	4	P		P	08 07 03.9 +1.4
F28M	**Old Crow** baz=355,SNR=14	78.88	2	P		P	08 07 04.2 +1.5
G19K	**Purcell Mounta** baz=341	78.90	9	P		P	08 07 03.9 +1.1
G18K	**Tagagawik** baz=339	78.92	10	P		P	08 07 03.5 +0.6
F30M	**Barrier River** baz=359	78.97	1	P		P	08 07 03.7 +0.5
G17K	**Kiwalik Mounta** baz=338,SNR=11	78.98	11	P		P	08 07 04.0 +0.8
G21K	**Allakaket** baz=344	78.98	8	P		P	08 07 04.2 +1.0
F31M	**Tsiigehtchic** baz=0.4,SNR=28	79.15	360	P		P	08 07 04.4 +0.4
G23K	**Bananza Creek** baz=347	79.15	6	P		P	08 07 05.2 +1.0
G26K	**Porcupine Rive** baz=352	79.37	4	P		P	08 07 07.1 +1.8
G24K	**Hadweenzic Riv** baz=349	79.38	5	P		P	08 07 06.9 +1.5
H16K	**Elim** baz=337	79.52	12	P		P	08 07 07.4 +1.3
G30M	**tAoh Zraii Nji** baz=358	79.60	1	P		P	08 07 07.3 +0.7
G27K	**Doyon Strip** baz=354	79.62	3	P		P	08 07 08.3 +1.6
G29M	**Pine Creek** baz=357	79.64	2	P		P	08 07 07.6 +0.8
H18K	**Honhosa River** baz=340	79.66	10	P		P	08 07 08.0 +1.0
G31M	**Satah River** baz=360,SNR=24	79.67	0	P		P	08 07 07.2 +0.3
H20K	**Anotleneega Mo** baz=343,SNR=36	79.81	9	P		P	08 07 08.9 +1.2
H22K	**Ishtalitna Cre** baz=346	79.81	7	P		P	08 07 09.8 +2.0
H21K	**Melozitna Rive** baz=344	79.89	8	P		P	08 07 09.8 +1.6
H27K	**Steamboat Moun** baz=354,SNR=13	80.20	3	P		P	08 07 11.4 +1.5
EPYK	**Eagle Plains** baz=358,SNR=15	80.20	1	P		P	08 07 10.3 +0.4
GCSA	**Galena City Sc** baz=341	80.25	10	P		P	08 07 11.3 +1.2
H29M	**Whitestone** baz=356	80.32	2	P		P	08 07 11.4 +0.9
I17K	**Unalakleet** baz=338	80.48	12	P		P	08 07 12.6 +1.3
PRP	**Porcupine Dome** baz=350	80.69	5	P		P	08 07 14.4 +1.7
MLY	**Manley** baz=346,SNR=12	80.72	7	P		P	08 07 14.1 +1.4
I23K	**Minto, Yukon-K** baz=347,SNR=5.6	80.74	6	P		P	08 07 14.1 +1.4
I27K	**Kandik River** baz=354	80.83	3	P		P	08 07 15.0 +1.7
POKR	**Poker Plat Res** baz=349,SNR=9.5	80.94	6	P		P	08 07 15.3 +1.5
J14K	**Nanvaranak Lak** baz=336	81.02	13	P		P	08 07 15.4 +1.2
I26K	**Coal Creek Min** baz=352	81.05	4	P		P	08 07 15.5 +1.1
I28M	**Miner Creek** baz=355,SNR=10	81.05	2	P		P	08 07 15.0 +0.5
J16K	**Anvik River** baz=338	81.05	12	P		P	08 07 15.7 +1.3
J19K	**Poorman** baz=342	81.14	9	P		P	08 07 16.4 +1.5
COLA	**College**	81.14	6	P		P	08 07 16.3 +1.5
COLA	**College** baz=348	81.14	6	P		P	08 07 16.0 +1.1
J20K	**Nowinta River** baz=343	81.16	9	P		P	08 07 16.5 +1.5
I29M	**Ogilvie Camp,** baz=357,SNR=6.9	81.19	2	P		P	08 07 15.4 +0.3
ILAR	**Eielson Array** comp=Z,3.8nm,0.8s,baz=322,slow=3.9,SNR=27	81.33	5	P	PP	P PP	08 07 15.9 0.0
ILAR	comp=Z,0.4nm,0.7s,baz=352,slow=5.5,SNR=2.1				PKKPbc	PKKPbc	08 10 21.9 +1.0
I30M	**Mount Dempster** baz=358,SNR=20	81.36	1	P		P	08 07 16.8 +0.6
J25K	**Salcha River,** J25K comp=Z,37nm,1.4s	81.59	5	P	IAmb	P IAmb	08 07 17.4 0.0 08 07 20.6
J25K	**Salcha River,** baz=351,SNR=9.1	81.59	5	P		P	08 07 18.0 +0.7
BPAW	**Bear Paw Mtn.** baz=346,SNR=8.6	81.60	7	P		P	08 07 18.3 +0.9
CHUM	**Lake Minchumin** baz=345,SNR=8.7	81.67	8	P		P	08 07 18.8 +1.1
EGAK	**Eagle** baz=354,SNR=7.5	81.67	3	P		P	08 07 18.9 +1.3
K15K	**Wolf Creek Mou** K15K comp=Z,31nm,1.1s	81.81	13	P	IAmb	P IAmb	08 07 20.0 +1.5 08 07 28.4
K15K	**Wolf Creek Mou** baz=337	81.81	13	P		P	08 07 20.5 +2.0
J26L	**Joseph Creek**	81.82	4	P		P	08 07 19.2 +0.5
J26L	**Joseph Creek** baz=352	81.82	4	P		P	08 07 19.9 +1.3
K20K	**Telida** K20K comp=Z,20nm,0.8s	81.96	9	P	IAmb	P IAmb	08 07 20.1 +0.8 08 07 26.6
K20K	**Telida** baz=343	81.96	9	P		P	08 07 20.3 +1.1
K17K	**Iditarod** baz=340	81.96	11	P		P	08 07 20.8 +1.6
J30M	**Hart River**	82.01	1	P		P	08 07 20.2 +0.5
J30M	**Hart River** baz=358,SNR=13	82.01	1	P		P	08 07 20.3 +0.7
J29N	**Klondike Camp** baz=357	82.10	2	P		P	08 07 21.4 +1.3
TTA	**Tatalina** TTA comp=Z,25nm,1.4s	82.10	10	P	IAmb	P IAmb	08 07 20.8 +0.7 08 07 30.4
TTA	**Tatalina** baz=342	82.10	10	P		P	08 07 21.8 +1.7
CAST	**Castle Rocks** CAST comp=Z,21nm,0.9s	82.14	8	P	IAmb	P IAmb	08 07 21.0 +0.8 08 07 27.7
CAST	**Castle Rocks** baz=345,SNR=10	82.14	8	P		P	08 07 21.4 +1.2
MCK	**McKinley** baz=348,SNR=6.3	82.17	7	P		P	08 07 21.4 +1.0
SCRK	**Sand Creek** baz=352,SNR=25	82.32	4	P		P	08 07 22.3 +1.0
K24K	**Donnelly Dome** baz=350,SNR=9.8	82.37	5	P		P	08 07 22.8 +1.4
K27K	**Chicken** baz=353	82.38	3	P		P	08 07 22.6 +1.2
DAWY	**Dawson** baz=356,SNR=8.5	82.45	2	P		P	08 07 23.3 +1.4
L14K	**Kuka Creek**	82.47	13	P		P	08 07 22.6 +0.7
PPLA	**Purkeypile** baz=345	82.64	8	P		P	08 07 23.9 +1.0
K29M	**Barlow Dome** baz=357	82.72	1	P		P	08 07 24.4 +1.0
YKA	**Yellowknife Ar**	82.82	351	P		P	08 07 23.7 0.0
YKA	**Yellowknife Ar** YKA comp=Z,1.0nm,0.5s	82.82	351	*i* P pmax		P pmax	08 07 23.2 -0.5
YKA	**Yellowknife Ar** comp=Z,2.3nm,0.8s,baz=21,slow=9.0,SNR=31 comp=Z,2.3nm,0.8s	82.82	351	P		P	08 07 23.2 -0.5
L20K	**Farewell, AK** baz=344	82.83	9	P		P	08 07 24.9 +1.1
DHY	**Denali Highway** baz=349	82.96	6	P		P	08 07 25.4 +0.8
WRGLY	**Wrigley** baz=9.0	83.00	355	P		P	08 07 25.8 +1.2
M17K	**Holitna River**	83.34	11	P		P	08 07 27.8 +1.3
M17K	**Holitna River** baz=341	83.34	11	P		P	08 07 28.7 +2.2
BCAR	**Beaver Creek A**	83.35	3	P		P	08 07 27.0 +0.5
L29M	**L29M** baz=357	83.45	2	P		P	08 07 28.8 +1.8
SKT	**Skwentna**	83.60	8	P		P	08 07 28.2 +0.4
SKT	**Skwentna** baz=346,SNR=9.9	83.60	8	P		P	08 07 29.2 +1.4
HARP	**HAARP** baz=351	83.80	5	P		P	08 07 30.8 +2.0
M26K	**Nabesna, AK** baz=353	83.95	4	P		P	08 07 31.7 +2.0
M29M	**Somme Creek** M29M comp=Z,20nm,1.4s	84.11	2	P	IAmb	P IAmb	08 07 30.9 +0.4 08 07 33.2
M29M	**Somme Creek** baz=356	84.11	2	P		P	08 07 31.7 +1.2
SML	**Sawmill** baz=348	84.12	7	P		P	08 07 31.9 +1.4
M23K	**Glacier View** baz=349	84.19	6	P		P	08 07 32.0 +1.2
SUA	**Susitna One**	84.20	8	P		P	08 07 31.9 +0.9
FARO	**Faro, Yukon** baz=0.7	84.38	360	P		P	08 07 33.0 +1.2
KLU	**Kluina** baz=350	84.64	6	P		P	08 07 34.8 +1.6
HYT	**Haines Junctio** HYT comp=Z,13nm,0.9s	85.75	2	P	IAmb	P IAmb	08 07 39.3 +0.5 08 07 46.9
R33M	**Jennings River** R33M comp=Z,16nm,1.4s	87.19	358	P	IAmb	P IAmb	08 07 47.0 +1.1 08 07 49.6
FAKI	**Fak Fak** comp=Z,31nm,1.4s	88.66	94	P		P	08 07 54.0 +0.5
S34M	**Telegraph Cree** S34M comp=Z,14nm,0.9s	88.67	358	P	IAmb	P IAmb	08 07 54.1 +1.3 08 08 00.8
ULM	**Lac du Bonnet** comp=Z,1.6nm,0.6s,baz=342,slow=8.5,SNR=3.2 comp=Z,1.6nm,0.6s	89.77	337	P		P	08 07 56.7 -1.4
O53A	**New Philadelph** baz=42	91.61	322	P		P	08 08 07.7 +0.7
G40A	**Rib Lake**	91.83	331	P		P	08 08 07.8 0.0
P53A	**Whipple**	92.27	322	P		P	08 08 10.3 +0.3
P52A	**Corning** baz=41	92.54	322	P		P	08 08 11.6 +0.4
SPMN	**Marine on St.** baz=33	92.91	332	P		P	08 08 13.1 +0.3
O48B	**Farmland** baz=39	93.57	325	P		P	08 08 15.8 -0.2
WRA	**Warramunga Arr** WRA comp=Z,2.0nm,0.5s	99.65	107	*i* P pmax		Pdif pmax	08 08 42.9 -0.8
WRA	**Warramunga Arr** comp=Z,1.7nm,0.6s,baz=316,slow=4.1,SNR=28	99.65	107	P		Pdif	08 08 42.5 -1.2
	WRA comp=Z,0.5nm,0.8s,baz=323,slow=1.4,SNR=2.2 comp=Z,1.7nm,0.6s				PKiKP	PKiKP	08 13 12.3 -0.4
OGNE	**Ogallala** baz=27	99.99	336	P		Pdif	08 08 42.3 -2.8
PDAR	**Pinedale Array** comp=Z,0.1nm,0.4s,baz=44,slow=2.7,SNR=2.2	100.59	342	P		Pdif	08 08 47.1 -0.8
PDAR	comp=Z,0.3nm,0.8s,baz=42,slow=1.5,SNR=1.8				PKiKP	PKiKP	08 13 13.5 -0.7
ASAR	**Alice Springs** comp=Z,0.9nm,0.6s,baz=306,slow=4.6,SNR=14	101.28	111	P		Pdif	08 08 49.9 -1.0
ASAR	comp=Z,0.4nm,0.5s,baz=307,slow=1.1,SNR=8.5				PKiKP	PKiKP	08 13 15.2 -0.3
ASAR	comp=Z,0.6nm,0.5s,baz=119,slow=4.0,SNR=13				PKKPbc	PKKPbc	08 25 01.1 +1.1
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.6s,baz=1.6,slow=0.6,SNR=5.3	106.70	347	PKiKP		PKiKP	08 13 26.4 +0.9
STKA	**Stephens Creek**	111.24	115	*i* PKiKP		PKiKP	08 13 33.0 -0.7
STKA	**Stephens Creek** comp=Z,0.7nm,0.6s,baz=23,slow=7.7,SNR=3.2	111.24	115	PKiKP		PKiKP	08 13 33.0 -0.7
QSPA	**South Pole Qui** comp=Z,1.9nm,0.2s,baz=275,slow=1.3,SNR=12	123.56	180	PKP		PKPdf	08 13 55.9 -0.4
PLCA	**Paso Flores** comp=Z,1.8nm,0.9s,baz=10,slow=3.3,SNR=3.9	129.81	242	PKP		PKPdf	08 14 08.8 -0.3

IDC ***11*** *08:00:37.5±0.4,33.7°74N×45.7°74E, h0km, mb5.0/36, mbtmp5.0/45, ML4.1/8, MS4.7/68, Error ellipse: s-maj=8.9km s-min=7.9km az=170.0*

DSN ***11*** *08:00:38.2±0.8,33.7°37N×45.7°35E, h15km, mb5.8/5, Error ellipse: s-maj=19.9km s-min=5.4km az=60.0*

GII ***11*** *08:00:38.8±0.5,33.7°76N×45.7°73E, h10km, confirmed*

NEIC ***11*** *08:00:39.9±1.2,33.7°72N±0.7°×45.7°70E±0.7°08, h10km±1km, mb5.5/105, Mww5.3/26, Error ellipse: s-maj=12.2km s-min=10.1km az=138.0*

MOS ***11*** *08:00:39.6±1.3,33.7°81N×45.7°74E, h17km, mb5.4/107, MS4.7/25, Error ellipse: s-maj=5.7km s-min=3.5km az=119.2*

TEH ***11*** *08:00:39.1,33.7°72N×45.7°69E, h11km±58km, ML5.4*

NEIC ***11*** *08:00:39.9,34.0°03N×45.7°71E, h18km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr1.03; Mθθ-0.14; Mφφ-0.89; Mrθ-0.51; Mθφ0.44; Mφr0.16; Fault plane solution: M0 1.19000×10^17 NP1: φs316.82000°, δs57.25000°, λs68.70000°. NP2: φs172.60000°, δs38.41000°, λs119.46000°. Principal axes: T 1.2201, Plg69.0000°, Azm180.0000°; N -0.0622, Plg18.0000°, Azm329.0000°; P -1.1579, Plg10.0000°, Azm62.0000°;*

NEIC ***11*** *08:00:39.9,33.7°73N×45.7°71E, h18km*

ISN ***11*** *08:00:40.9±0.9,33.7°72N×45.7°76E, h24km±5km, ML5.4*

OMAN ***11*** *08:00:41.5±0.1,33.4°43N×46.1°10E, h10km, mb5.3/42, ms4.8/10, Mwp5.6/3, Error ellipse: s-maj=4.0km s-min=2.4km az=248.0*

GCMT ***11*** *08:00:41.9±0.1,33.6°64N±0.1°01×45.5°59E±0.1°01, h13km, MW5.3/130, Moment Tensor Solution. s92,c141; s130,c249; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.92±.03; Mθθ0.02±.02; Mφφ-0.94±.02; Mrθ0.19±.05; Mθφ0.52±.01; Mφr-0.06±.04; Best double couple: M0 1.06900×10^17 NP1:φs145.00000°, δ50.00000°, λ74.00000°. NP2:φs348.00000°, δ43.00000°, λ108.00000°. Principal axes: T 0.9600, Plg78.0000°, Azm353.0000°; N 0.2180, Plg12.0000°, Azm155.0000°; P -1.1790, Plg4.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***11*** *08:00:43.9,33.7°73N×45.7°28E, h33km, mb5.3, Ms4.5*

NAO ***11*** *08:00:52.6,34.6°63N×44.7°53E, h33km, mb4.7*

ISC 11 08:00:40.4±0.5, 33.7°71N±0.1°02×45.7°74E±0.1°02, h19km±1km, h20km:pP-P,n1393,σ1°68/1499, mb5.4/314, MS4.8/108, 56C-32D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
ILBA	**Ilam Banvizeh**	0.40	101	*e*Pg		Pb	08 00 48.9	-0.1
ILBA				*e*Sg		Sb	08 00 55.4	+0.6
ILBA	comp=N,73μm,0.7s			IAML			08 01 01.2	
ILBA	**Ilam Banvizeh**	0.40	101	Pg		Pg	08 00 48.5	-0.3
ILBA				Sg		Sb	08 00 55.2	+0.4
IBDR	**Badra**	0.61	165	*e*Pg		Pb	08 00 53.0	+0.5
IBDR				*e*Sg		Sb	08 01 02.0	+1.3
IBDR	comp=N,159μm,0.6s			AML		AML	08 01 06.9	
IBDR	comp=E,92μm,0.7s			AML		AML	08 01 07.0	
KGS1	**Ghasr-e-Shirin**	0.81	351	Pg		Pb	08 00 54.6	-1.2
IGHG	**Ghaleghazi**	0.93	48	Pg		Pb	08 00 57.5	-0.6
IGHG				Sg		Sn	08 01 13.2	+1.6
IDHR	**Dehrash**	1.13	28	Pg		Pb	08 01 01.1	-0.4
IDHR				Sg		Sb	08 01 16.1	+0.2
BHD	**Baghdad**	1.21	249	*e*Pg		Pg	08 01 04.0	+0.1
BHD				*e*Sg		Sg	08 01 19.5	-0.3
BHD	comp=E,100μm,0.6s			AML		AML	08 01 25.2	
KCHF	**Cheshme Sefid,**	1.22	62	Pg		Pb	08 01 03.1	0.0
IKOM	**Komasi**	1.55	72	Pg		Pg	08 01 09.6	-0.8
IKOM				Sg		Sg	08 01 32.4	+1.9
ILIN	**Lien**	1.58	40	Pg		Pb	08 01 09.5	+0.3
IKFM	**Kafar-mosalman**	1.77	95	Pn		Pb	08 01 12.4	+0.1
SNGE	**Sanandaj**	1.92	43	*e*Pn		Pb	08 01 14.8	-0.2
SNGE	comp=N,17μm,0.5s			IAML			08 01 48.3	
SNGE	comp=E,12μm,0.5s			IAML			08 01 48.8	
IBZA	**Bozab**	1.92	66	Pn		Pb	08 01 14.7	-0.3
RAFI	**Al-Rafai**	2.00	171	*e*Pn		Pb	08 01 15.0	-1.2
RAFI				*e*Sn		Sb	08 01 41.0	+0.3
RAFI	comp=E,46μm,0.5s			AML		AML	08 01 47.0	
RAFI	comp=N,37μm,0.6s			AML		AML	08 01 52.6	
IALM	**Almabolaq**	2.32	60	Pn		Pb	08 01 20.6	-1.2
HSAM	**Samen**	2.44	77	Pn		Pn	08 01 21.3	+1.9
SDS1	**Sardasht. Az.**	2.45	355	Pn		Pn	08 01 21.6	+2.1
HAGD	**Aghdareh**	3.03	67	Pn		Pn	08 01 29.4	+1.8
MAHB	**Mahabad**	3.06	360	Pn		Pn	08 01 29.6	+1.8
KHMZ	**Khomeyn**	3.52	88	*e*Pn		Pn	08 01 36.6	+2.3
KHMZ	comp=E,2μm,0.7s			IAML			08 02 48.1	
KHMZ	comp=N,2μm,0.7s			IAML			08 02 49.5	
ASAO	**Ashtian**	3.66	76	*e*Pn		Pn	08 01 39.3	+3.1
ASAO	comp=N,2μm,0.6s			IAML			08 02 50.2	
ASAO	comp=E,2μm,0.6s			IAML			08 02 50.2	
IHSH	**Hashtrud**	3.80	19	Pn		Pn	08 01 39.8	+1.5
ZNJK	**Zanjan**	3.82	38	*e*Pn		Pn	08 01 40.9	+2.5
ZNJK	comp=N,410nm,0.6s			IAML			08 02 48.1	
ZNJK	comp=E,397nm,0.6s			IAML			08 02 52.5	
IRAZ	**Razeghan**	3.85	63	Pn		Pn	08 01 41.0	+2.1
CUKT	**Cukurca**	3.94	334	*e*P		Pn	08 01 37.9	-2.0
IAZR	**Azarshahr**	3.97	3	Pn		Pn	08 01 42.0	+1.5
JHBN	**Jahan bin**	4.40	108	Pn		Pn	08 01 48.1	+1.7
ISRB	**Sarab**	4.40	20	Pn		Pn	08 01 47.9	+1.6
IMHD	**Mahdasht**	4.52	63	Pn		Pn	08 01 49.7	+1.8
ITBZ	**Tabriz**	4.53	4	Pn		Pn	08 01 49.2	+1.0
IQOM	**Qom**	4.56	74	Pn		Pn	08 01 50.0	+1.3
ISHB	**Shabestar**	4.57	359	Pn		Pn	08 01 49.1	+0.4
ZNGN	**Zangian**	4.59	109	Pn		Pn	08 01 50.2	+1.1
GHVR	**GHOM**	4.68	79	*e*Pn		Pn	08 01 52.3	+2.2
GIDE	**GILAN DEYLAMAN**	4.69	46	*e*Pn		Pn	08 01 54.0	+3.7
GIDE	comp=E,512nm,0.6s			IAML			08 03 16.6	
GIDE	comp=N,999nm,0.8s			IAML			08 03 21.7	
QAMS	**Qamsar**	4.72	88	Pn		Pn	08 01 52.6	+1.8
IHRS	**Heris**	4.72	13	Pn		Pn	08 01 53.0	+2.2
THKV	**Tehran--Karaj**	4.77	61	*e*Pn		Pn	08 01 53.2	+1.7
THKV	comp=E,441nm,0.7s			IAML			08 03 34.5	
THKV	comp=N,588nm,0.7s			IAML			08 03 36.7	
IHSB	**Hasanabad**	4.89	68	Pn		Pn	08 01 54.5	+1.6
IKLH	**Kolahrood**	4.90	93	Pn		Pn	08 01 55.6	+2.4
CHTH	**Charan**	4.95	62	*e*Pn		Pn	08 01 55.5	+1.6
CHTH	comp=N,225nm,0.5s			IAML			08 03 33.6	
CHTH	comp=E,195nm,0.7s			IAML			08 03 34.0	
IBRJ	**Brojen**	4.99	110	Pn		Pn	08 01 55.2	+0.7
IMRD	**Marand**	5.00	360	Pn		Pn	08 01 55.9	+1.3
IVRN	**Varamin**	5.12	74	Pn		Pn	08 01 57.8	+1.6
AKDM	**Akdamar-Van**	5.13	335	*e*P		Pn	08 01 53.7	-2.6
KLST	**Kelardasht - M**	5.19	56	Pn		Pn	08 01 59.3	+2.0
VANB	**Van**	5.24	339	*e*P		Pn	08 01 57.9	+0.1
GAS1	**Astara - Iran**	5.30	27	Pn		Pn	08 02 00.3	+1.8
KRSH	**Karshahi**	5.33	85	Pn		Pn	08 02 01.0	+1.9
GRMI	**Germi**	5.38	18	*e*Pn		Pn	08 02 01.8	+2.0
GRMI	**Germi**	5.38	18	Pn		Pn	08 02 01.2	+1.4
ISFB	**Sefidab**	5.44	81	Pn		Pn	08 02 01.9	+1.4
IGAR	**Gharneh**	5.45	102	Pn		Pn	08 02 02.6	+1.8
DAMV	**Damavand**	5.49	68	*e*Pn		Pn	08 02 02.4	+1.1
MZPU	**Pul - Mazandar**	5.51	59	Pn		Pn	08 02 04.1	+2.6
IDMV	**Damavand**	5.52	68	Pn		Pn	08 02 03.3	+1.5
IZEF	**Zefreh**	5.58	97	Pn		Pn	08 02 04.4	+1.8
CLDR	**Caldiran**	5.62	345	*e*P		Pn	08 02 04.8	+1.6
KLNJ	**Kolanjah**	5.64	117	Pn		Pn	08 02 05.0	+1.5
GURO	**Guroymak-BITLI**	5.69	329	*i* P		Pn	08 01 59.9	-4.1
GURO	**Guroymak-BITLI**	5.69	329	Pn		Pn	08 02 04.0	0.0
MAKU	**Maku**	5.70	352	*e*Pn		Pn	08 02 06.5	+2.3
MAKU	**Maku**	5.70	352	Pn		Pn	08 02 05.9	+1.7
MAZI	**Mazidag**	5.71	312	*e*P		Pn	08 01 58.2	-6.1
SVAN	**Silvan-Diyarba**	5.76	322	*e*P		Pn	08 01 59.7	-5.3
IRAM	**Rameseh**	5.91	107	Pn		Pn	08 02 08.8	+1.6
IPRN	**Peran**	5.98	63	Pn		Pn	08 02 10.1	+2.1
NASN	**Na'in**	5.99	97	*e*Pn		Pn	08 02 09.4	+1.0
MLAZ	**Malazgirt-MUS**	6.00	336	*e*P		Pn	08 02 06.2	-2.1
IFIR	**Firoozkooh**	6.10	70	Pn		Pn	08 02 11.6	+1.9
ILAS	**Lasjerd**	6.19	72	Pn		Pn	08 02 12.4	+1.4
DYBB	**Diyarbakir**	6.21	315	*e*P		Pn	08 02 05.0	-6.2
AGRB	**Hanur-Agry**	6.26	340	*e*P		Pn	08 02 11.6	-0.3
TASB	**TASBURUN-IGDIR**	6.38	350	*e*P		Pn	08 02 18.7	+5.3
VRTB	**Varto-Mus**	6.44	329	*e*P		Pn	08 02 12.0	-2.4
GNI	**Garni**	6.48	353	Pn		Pn	08 02 15.9	+1.0
GNI	**Garni**	6.48	353	*i* P		Pn	08 02 16.1	+1.2
GNI	**Garni** comp=E,3.7nm,0.3s,baz=237,slow=1.0,SNR=5.5	6.48	353	Pn		Pn	08 02 17.9	+3.0
GNI	comp=E,6.3nm,0.3s,baz=11,slow=4.1,SNR=7.3			Pg		Pg	08 02 40.7	-3.8
GNI	comp=E,5.8nm,0.3s,baz=252,slow=16,SNR=3.4			Lg		Lg	08 03 58.8	
GNI	comp=E,6μm,21.6s,baz=156,slow=43			LR		LR	08 05 14.0	

comp=E,22nm,0.6s
BNGB Bingl 6.67 324 *e*P **Pn** **08 02 14.2 -3.2**
ANAR Anarak 6.70 92 Pn **Pn** **08 02 19.7 +1.8**
URFA Urfa 6.75 305 *e*P **Pn** **08 02 16.1 -2.5**
IANJ Anjilo 6.97 73 Pn **Pn** **08 02 22.8 +1.1**
KOPR Koprukoy-ERZUR 7.00 335 *e*P **Pn** **08 02 20.5 -1.6**
SHI Shiraz 7.05 123 Pn **Pn** **08 02 24.0 +1.2**
DSBU Dashti - Bushe 7.13 137 Pn **Pn** **08 02 25.3 +1.6**
IGLO Ghaloghah 7.20 65 Pn **Pn** **08 02 27.1 +2.3**
KARS Kars 7.23 344 *e*P **Pn** **08 02 26.1 +1.0**
KARS Kars 7.23 344 Pn **Pn** **08 02 24.5 -0.6**
KARS Kars 7.23 344 P **Pn** **08 02 24.5 -0.6**
PTK Pertek 7.28 317 *e*P **Pn** **08 02 21.6 -4.3**
SENK Senkaya-Erzuru 7.36 339 *e*P **Pn** **08 02 26.9 -0.1**
ICHK Chekchek 7.43 99 Pn **Pn** **08 02 28.4 +0.4**
YZKH Yazd 7.55 98 *e*Pn **Pn** **08 02 30.3 +0.7**
ASF Jabal al Asfar 7.58 261 Pn **Pn** **08 02 29.8 -0.2**
comp=E,11nm,0.3s,baz=315,slow=17,SNR=2.1
ASF Pg Pb 08 03 03.6 +12
comp=E,24nm,0.3s,baz=97,slow=11,SNR=3.7
ASF Lg Lg 08 04 32.8
comp=E,20nm,0.3s,baz=12,slow=13,SNR=1.9
ASF LR LR 08 06 12.8
comp=E,7µm,18.8s,baz=128,slow=44
comp=E,43nm,0.5s
ERZN Erzincan 7.60 322 *e*P **Pn** **08 02 26.7 -3.6**
GAZ Gaziantep 7.77 299 *e*P **Pn** **08 02 31.6 -0.9**
GAZ Gaziantep 7.77 299 Pn **Pn** **08 02 31.8 -0.7**
AKH Akhalkalaki 7.89 348 *e*P **Pn** **08 02 37.9 +3.6**
AKH Akhalkalaki 7.89 348 Pn **Pn** **08 02 36.3 +2.0**
AKH Akhalkalaki 7.89 348 P **Pn** **08 02 36.3 +2.0**
ARPR Arapgir-MALATY 8.03 314 *e*P **Pn** **08 02 32.0 -4.2**
ARPR Arapgir-MALATY 8.03 314 Pn **Pn** **08 02 37.2 +1.0**
BAYT Aydıntepe-Bayb 8.03 328 *e*P **Pn** **08 02 33.5 -2.7**
ILIC ilic-Erzincan 8.13 317 *e*P Pn 08 02 32.3 -5.2
KMRS Kahramanmaras 8.13 300 *e*P **Pn** **08 02 35.4 -2.1**
QIR1 Qir 8.15 128 Pn **Pn** **08 02 38.2 +0.4**
HSUJ Al Zarqa 8.18 267 P Pb 08 03 26.7 +25
GHIR Ghir-Karzin 8.24 129 *e*Pn **Pn** **08 02 39.1 +0.1**
DARE Darende-Malaty 8.25 308 *e*P Pn 08 02 33.8 -5.4
TAHT Tahtakopru-Hat 8.27 291 *e*P **Pn** **08 02 38.3 -1.1**
KSHT Keshet 8.34 268 P **Pn** **08 02 40.3 0.0**
NATI Neve Ativ 8.37 270 P Pb 08 03 25.3 +21
NATI Neve Ativ 8.37 270 P **Pn** **08 02 39.6 -1.0**
CHOM Cayeli-Rize 8.37 333 *e*P **Pn** **08 02 38.3 -2.4**
BCA Borcka 8.39 338 *e*P **Pn** **08 02 41.2 +0.3**
GEM Giv'at Ha'Em 8.43 269 P **Pn** **08 02 41.2 -0.4**
SWQJ Swaqa 8.54 256 P Pn 08 03 27.7 +45
MMA0 Mount Meron ar 8.67 268 P Pn 08 03 31.7 +47
MMA0B Mount Meron ar 8.67 268 P **Pn** **08 02 44.9 0.0**
MMAI Mount Meron Ar 8.67 268 Pn **Pn** **08 02 43.8 -1.1**
comp=E,5.7nm,0.3s,baz=96,slow=17,SNR=2.6
MMAI Pg 08 03 25.1
comp=E,18nm,0.3s,baz=83,slow=14,SNR=5.1
MMAI Lg Lg 08 05 08.7
comp=E,25nm,0.3s,baz=118,slow=32,SNR=2.3
MMAI LR LR 08 06 47.1
comp=E,5µm,18.6s,baz=74,slow=43
comp=E,5.2nm,0.4s
HMDT Nahal Hemdat 8.70 263 P Pn 08 03 29.2 +44
MMLI Mount Malkishu 8.75 265 P **Pn** **08 02 45.4 -0.5**
SAKB Bahrain 8.75 150 P **Pn** **08 02 45.9 0.0**
SAKB S **Sn** **08 04 17.2 -6.9**
CEYT Ceyhan 8.80 295 *e*P **Pn** **08 02 44.5 -2.0**
HNTI Hanita 8.85 269 P Pn 08 03 32.4 +45
HNTI Hanita 8.85 269 P **Pn** **08 02 47.9 +0.6**
SARI SarD1z-Kayseri 8.88 305 *e*P **Pn** **08 02 43.3 -4.6**
BLGI Bet Lehem HaGe 8.89 267 P Pn 08 03 33.4 +46
KARJ KARJ 8.90 256 P Pn 08 03 30.8 +43
KOZT Kozan 8.90 298 *e*P **Pn** **08 02 46.1 -1.9**
GHAJ Ghor Haditha 8.92 257 Pn **Pn** **08 02 47.8 -0.4**
DSI Dead Sea 8.99 259 P Pn 08 03 32.8 +44
DSI Dead Sea 8.99 259 P **Pn** **08 02 49.3 +0.2**
SHMA Al-Shehemyia 9.04 149 P **Pn** **08 02 48.9 -1.0**
TNSJ Nastanj 9.05 85 Pn **Pn** **08 02 51.0 +0.9**
ONI Oni 9.05 349 *e*P **Pn** **08 02 54.7 +4.6**
ONI Oni 9.05 349 Pn **Pn** **08 02 53.4 +3.3**
ONI Oni 9.05 349 P **Pn** **08 02 53.4 +3.3**
OFRI `Ofer 9.08 266 P Pn 08 03 33.1 +43
ZEI Tsey 9.18 352 *e*P **Pn** **08 02 54.9 +2.9**
ZEI pmax pmax
comp=Z,60nm,1.0s
TPRV Parvadeh(Tabas 9.18 91 Pn **Pn** **08 02 53.6 +1.6**
YTIR Yattir 9.26 258 P **Pn** **08 02 52.7 -0.3**
MAK Makhachkala 9.35 8 *e*P **Pn** **08 02 52.1 -1.9**
MAK *e*S **Sn** **08 04 35.8 -2.7**
MAK pmax pmax
comp=Z,365nm,1.6s
MAK MLR MLR
comp=Z,6µm,11.0s
SVSK Karacayir 9.35 314 *e*P **Pn** **08 02 50.7 -3.4**
TABS Tabas 9.49 87 *e*Pn **Pn** **08 02 57.5 +1.4**
BNN Bunyan 9.49 306 *e*P **Pn** **08 02 52.2 -4.0**
BNN Bunyan 9.49 306 Pn **Pn** **08 02 56.4 +0.2**
TKDS Koohdasht(Taba 9.49 87 Pn **Pn** **08 02 57.2 +1.0**
ZRDN Zarand Kerman 9.54 104 Pn **Pn** **08 02 59.7 +2.8**
CMRD Camardi-Nigde 9.59 297 *e*P **Pn** **08 02 56.5 -1.0**
MERS Mersin 9.69 292 P **Pn** **08 02 57.6 -1.3**
PRNI Paran 9.70 253 P **Pn** **08 02 58.6 -0.4**
SMRA Abu-Samra 9.97 152 P **Pn** **08 03 02.7 0.0**
SNR=7.1
SMRA S **Sn** **08 04 47.5 -6.5**
KRMI Paran Flat 10.02 252 P **Pn** **08 03 03.4 +0.1**
EIL Elat 10.03 249 Pn **Pn** **08 03 03.6 +0.2**
comp=Z,3.7nm,0.3s,baz=198,slow=6.6,SNR=9.4
EIL Lg Lg 08 05 55.4
comp=Z,12nm,0.3s,baz=298,slow=7.3,SNR=1.7
EIL LR LR 08 07 50.7
comp=Z,6µm,18.5s,baz=80,slow=43
comp=Z,47nm,0.8s
TRNA Turayna 10.13 150 P **Pn** **08 03 05.5 +0.6**
SNR=17
TRNA S **Sn** **08 04 51.3 -6.7**
IKL Isikli 10.21 288 *e*P **Pn** **08 03 04.7 -1.1**
KEBE Keben-Mersin 10.22 289 *e*P **Pn** **08 03 06.2 0.0**
YOZ Yozgat 10.25 308 *e*P Pn 08 03 00.5 -6.0
KBZ Khabaz 10.25 348 *i*P **Pn** **08 03 07.1 +0.7**
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 10.25 348 Pn **Pn** **08 03 08.8 +2.4**
comp=Z,0.3nm,0.3s,baz=162,slow=10.0,SNR=19
KBZ LR LR 08 07 59.4
comp=Z,4µm,21.7s,baz=153,slow=43
comp=Z,12nm,0.8s
KOZK Kozakli-Nevseh 10.33 305 *e*P **Pn** **08 03 03.5 -4.1**
GULA Gulagac 10.40 300 *e*P **Pn** **08 03 05.3 -3.3**
KVAR Kislovodsk Arr 10.51 348 Pn **Pn** **08 03 14.5 +4.5**
baz=273,slow=23
comp=Z,23nm,1.0s
KIV Kislovodsk 10.51 348 ⇑P **Pn** **08 03 14.3 +4.3**
KIV Kislovodsk 10.51 348 Pn **Pn** **08 03 10.7 +0.7**
KIV Kislovodsk 10.51 348 *e*P **Pn** **08 03 12.9 +2.9**
KIV *e*S **Sn** **08 05 11.2 +4.0**
KIV pmax pmax
comp=Z,62nm,1.1s
KIV MLR MLR
comp=Z,2µm,12.0s
KIV Kislovodsk 10.51 348 *i*P **Pn** **08 03 13.4 +3.4**
SNR=9.1
KIV Kislovodsk 10.51 348 P Pn 08 03 15.4 +5.4
KIV P Pn 08 03 15.4 +5.4
YESY Yesilyurt 10.56 296 *e*P **Pn** **08 03 09.2 -1.6**
BERE Bereket-Mersin 10.59 288 *e*P **Pn** **08 03 10.3 -1.0**
JRN Qarnain Island 10.71 143 P **Pn** **08 03 12.5 -0.2**
JRN S **Sn** **08 05 06.2 -5.9**
GEYT Alibeck 10.90 64 Pn **Pn** **08 03 16.8 +1.4**
GEYT Alibeck 10.90 64 P **Pn** **08 03 16.8 +1.4**
GEYT Alibeck 10.90 64 Pn **Pn** **08 03 17.2 +1.9**
comp=Z,1.7nm,0.3s,baz=242,slow=12,SNR=11
GEYT Lg Lg 08 06 25.9
comp=Z,0.4nm,0.3s,baz=40,slow=14,SNR=2.3
GYA0 ALIBECK ARRAY 10.90 64 P **Pn** **08 03 16.1 +0.7**
GYA0B ALIBECK ARRAY 10.90 64 Pn **Pn** **08 03 16.1 +0.7**
SOC Sochi 10.92 336 *e*P **Pn** **08 03 13.9 -1.7**
SOC *e* 08 05 17.8
SOC pmax pmax
comp=Z,81nm,0.6s
SOC MLR MLR
comp=Z,4µm,15.0s
YAYX Yaylak 10.94 302 *e*P **Pn** **08 03 12.1 -3.9**
CORM Corum 10.98 309 *e*P Pn 08 03 11.5 -5.1
IEMG Emamgholi 11.15 67 Pn **Pn** **08 03 21.4 +2.3**
IKOO Kooshah 11.21 93 Pn **Pn** **08 03 21.5 +1.7**

BR131 Keskin Array S 11.41 305 Pn **Pn** **08 03 24.8 +2.3**
BR131 Keskin Array S 11.41 305 *i*P **Pn** **08 03 24.5 +2.0**
BRTR Keskin Array B 11.41 305 Pn **Pn** **08 03 25.5 +3.0**
comp=Z,0.2nm,0.3s,baz=144,slow=9.1,SNR=4.1
BRTR Lg Lg 08 06 39.2
baz=131,slow=8.0
BRTR LR LR 08 08 17.3
comp=Z,6µm,19.4s,baz=119,slow=40
DIKM Dikmen 11.47 317 *e*P **Pn** **08 03 18.7 -4.5**
GOF Gofitskoye 11.53 350 *ce*P **Pn** **08 03 27.2 +3.3**
KULU Kulu 11.56 301 *e*P **Pn** **08 03 21.6 -2.9**
KONT Konya--Tatoy 11.65 295 *e*P **Pn** **08 03 25.2 -0.4**
AFSR Afar-Bala (An 11.68 303 *e*P **Pn** **08 03 23.1 -3.0**
LADK Ladik-KONYA 11.72 296 *e*P **Pn** **08 03 24.6 -2.1**
SHME Shamm 11.81 127 *i*P **Pn** **08 03 26.0 -1.9**
SNR=22
SHME Shamm 11.81 127 P **Pn** **08 03 26.7 -1.2**
SNR=26
SHME S Sn 08 05 30.4 -8.8
UMQ Umm Al-Quwin 11.87 131 P **Pn** **08 03 28.6 0.0**
UMQ S **Sn** **08 05 35.8 -4.8**
BANOM Banah 12.01 127 *i*P **Pn** **08 03 28.8 -1.7**
SNR=18
BANOM Banah 12.01 127 P **Pn** **08 03 30.1 -0.4**
BANOM S **Sn** **08 05 35.4 -8.6**
ANTO Ankara 12.06 304 ⇑P **Pn** **08 03 33.4 +2.1**
ANTO Ankara 12.06 304 **Pn** **08 03 32.8 +1.6**
ANTO Ankara 12.06 304 P **Pn** **08 03 33.3 +2.1**
ANTO Ankara 12.06 304 P **Pn** **08 03 35.7 +4.5**
AJN Ajban 12.17 136 *i*P **Pn** **08 03 32.1 -0.7**
SNR=22
AJN Ajban 12.17 136 P **Pn** **08 03 32.9 +0.1**
SNR=22
AJN S **Sn** **08 05 41.0 -7.0**
NAZ Nazwa, Dubai 12.26 133 P **Pn** **08 03 33.1 -0.9**
NAZ Nazwa, Dubai 12.26 133 P **Pn** **08 03 33.8 -0.2**
SNR=6.5
NAZ P **Pn** **08 03 33.8 -0.2**
SNR=6.5
MASF Masafi 12.29 130 P **Pn** **08 03 33.8 -0.7**
SNR=43
MASF S **Sn** **08 05 42.6 -8.4**
SNR=13
MSFE Esma-Masafi 12.30 130 *i*P **Pn** **08 03 33.9 -0.8**
SNR=26
ASUD Al Ashush, Dub 12.33 135 *i*P **Pn** **08 03 34.6 -0.3**
SNR=7.3
ASUD Al Ashush, Dub 12.33 135 P **Pn** **08 03 35.0 +0.1**
SNR=18
ASUD S **Sn** **08 05 45.8 -5.9**
FAQ Al Faqa, Dubai 12.39 134 P **Pn** **08 03 35.0 -0.8**
FAQ Al Faqa, Dubai 12.39 134 P **Pn** **08 03 35.1 -0.8**
FAQ S **Sn** **08 05 45.1 -8.3**
SNR=7.1
MDH Madha 12.43 130 *i*P **Pn** **08 03 34.9 -1.5**
SNR=11
MDH Madha 12.43 130 P **Pn** **08 03 35.1 -1.3**
SNR=23
MDH S Sn 08 05 45.3 -9.1
SNR=6.1
ERBR Yeremizino-Bor 12.65 343 *e*P **Pn** **08 03 36.7 -2.6**
ERBR *e*S **Sn** **08 05 57.9 -1.7**
ERBR MLR MLR
comp=Z,8µm,20.0s
HATD Hatta, Dubai 12.67 132 *i*P **Pn** **08 03 38.1 -1.5**
SNR=12
HATD Hatta, Dubai 12.67 132 P **Pn** **08 03 39.3 -0.3**
SNR=8.1
HATD S **Sn** **08 05 51.7 -8.4**
SNR=7.2
ASHO Ashiyiah 12.72 132 *i*P **Pn** **08 03 38.9 -1.5**
SNR=23
ASHO Ashiyiah 12.72 132 P **Pn** **08 03 39.5 -0.9**
SNR=23
ASHO S **Sn** **08 05 53.7 -7.8**
SNR=9.3
ANN Anapa 12.80 332 *e*P **Pn** **08 03 39.6 -1.7**
ANN *e*S **Sn** **08 06 03.3 +0.1**
ANN pmax pmax
comp=Z,71nm,1.3s
ANN MLR MLR
comp=N,6µm,15.0s
ANN MLR MLR
comp=Z,6µm,15.0s
ANN MLR MLR
comp=E,3µm,13.0s
ALNE Al Ain 13.01 135 *i*P **Pn** **08 03 42.8 -1.4**
SNR=7.4
ALNE Al Ain 13.01 135 P **Pn** **08 03 43.3 -0.9**
SNR=7.3
ISP Isparta 13.02 293 **Pn** **08 03 47.2 +2.8**
ISP Isparta 13.02 293 *ce*P **Pn** **08 03 47.2 +2.8**
ISP pmax pmax
comp=Z,216nm,1.3s
JASK Jask - Hormozg 13.11 123 P **Pn** **08 03 43.8 -1.8**
SNR=17
JASK S Sn 08 06 02.0 -8.9
MDUB Mudurnu 13.42 304 **Pn** **08 03 50.8 +0.9**
SOHO SOHO 13.42 132 *i*P **Pn** **08 03 47.6 -2.2**
SNR=6.4
SOHO SOHO 13.42 132 P **Pn** **08 03 48.8 -1.0**
SOHO P **Pn** **08 03 48.8 -1.0**
SOHO S **Sn** **08 06 10.2 -8.3**
SOHO S **Sn** **08 06 10.2 -8.3**
HRA Herat 13.71 83 Pn **Pn** **08 03 55.8 +1.8**
ARQ Araqi 14.01 135 P **Pn** **08 03 56.6 -1.4**
SNR=30
ARQ S **Sn** **08 06 25.3 -7.7**
SIM Simferopol' 14.37 325 *e*P **P** **08 04 09.0 -0.6**
SIM pmax pmax
comp=Z,62nm,1.0s
SIM pmax pmax
comp=Z,600nm,10.0s
KULA Kula-Manisa 14.61 294 P **P** **08 04 14.1 +1.7**
YER Yerkesik 14.64 288 P P 08 04 17.6 +4.9
YER pmax pmax
comp=Z,32nm,1.2s
BSY Bisya 14.86 134 P **Pn** **08 04 07.1 -2.5**
SNR=19
BSY P **Pn** **08 04 07.1 -2.5**
SNR=19
BSY S Sn 08 06 44.9 -8.9
BSY S Sn 08 06 44.9 -8.9
BIDO Bidbid 14.87 130 P **Pn** **08 04 06.2 -3.4**
BIDO P **Pn** **08 04 06.2 -3.4**
BIDO S Sn 08 06 42.9 -11
SNR=14
BIDO S Sn 08 06 42.9 -11
SNR=14
ISK Istanbul-Kandi 15.14 304 P **P** **08 04 19.9 +1.7**
ISK pmax pmax
comp=Z,60nm,1.3s
SMDO Samad 15.15 131 P **Pn** **08 04 11.1 -2.4**
SNR=11
SMDO P **Pn** **08 04 11.1 -2.4**
SNR=11
SMDO S **Sn** **08 06 52.9 -8.0**
SMDO S **Sn** **08 06 52.9 -8.0**
WSAR Wadi Sarin 15.39 129 Pn **Pn** **08 04 13.2 -3.4**
comp=Z,13nm,0.3s,baz=330,slow=6.8,SNR=19
WSAR Sn Sn 08 06 53.9 -13
comp=Z,3.6nm,0.3s,baz=197,slow=21,SNR=1.9
WSAR LR LR 08 11 12.5
comp=Z,5µm,19.3s,baz=330,slow=41
BALB Balikesir 15.49 298 P **P** **08 04 20.4 -1.8**
JMDO Jabal Madar 15.69 133 P **Pn** **08 04 18.8 -1.7**
SNR=10
JMDO P **Pn** **08 04 18.8 -1.7**
SNR=10
JMDO S **Sn** **08 07 06.0 -7.9**
JMDO S **Sn** **08 07 06.0 -7.9**
EDC Edincik 15.73 300 P **P** **08 04 27.0 +2.3**
EDC pmax pmax
comp=Z,70nm,1.4s
NGCH Negor - Chabah 15.76 118 P **Pn** **08 04 18.5 -2.8**
SNR=9.1
NGCH S **Sn** **08 07 05.6 -10**
WBK Wadi Bani Khal 16.06 130 P **Pn** **08 04 23.1 -2.1**
SNR=9.0
WBK P **Pn** **08 04 23.1 -2.1**
SNR=9.0
WBK S **Sn** **08 07 12.8 -10**
WBK S **Sn** **08 07 12.8 -10**
JLN Jalan Bani Buh 16.67 130 P **Pn** **08 04 31.1 -1.9**
SNR=11

JLN P **Pn** **08 04 31.1 -1.9**
SNR=11
MHTO MHTO 16.67 136 P **Pn** **08 04 30.0 -3.0**
SNR=22
EZN Ezine 16.70 297 P **P** **08 04 40.3 +4.8**
EZN pmax pmax
comp=Z,42nm,1.4s
APE Apeiranthos 16.81 287 ⇑P **P** **08 04 36.3 -0.6**
APE Apeiranthos 16.81 287 *i*P **P** **08 04 35.9 -0.9**
MFTR Murfatlar 17.02 313 ⇑P **P** **08 04 40.1 +1.1**
TIRR Tirgusor 17.17 314 ⇑P **P** **08 04 41.9 +1.2**
TIRR Tirgusor 17.17 314 P **Pn** **08 04 39.4 +0.2**
TIRR IAmb IAmb 08 04 46.2
comp=Z,490nm,1.4s
TIRR Tirgusor 17.17 314 P **P** **08 04 41.9 +1.2**
ALN Alexandroupoli 17.21 300 P **P** **08 04 41.4 +0.2**
ALN Alexandroupoli 17.21 300 P **P** **08 04 41.4 +0.2**
ALN pmax pmax
comp=Z,188nm,1.3s
IDI Anoyia 17.26 281 P **P** **08 04 43.5 +1.7**
IDI Anoyia 17.26 281 P **P** **08 04 41.6 -0.2**
DQM DQM 17.28 140 P **Pn** **08 04 38.4 -2.2**
SNR=19
WHFO Wadi Hawf 17.29 153 P **Pn** **08 04 37.8 -3.0**
SNR=12
TLCR 17.35 316 ⇑P **P** **08 04 43.7 +1.1**
TLCR 17.35 316 P **P** **08 04 43.7 +1.1**
ICOR Ion Corvin 17.37 312 ⇑P **P** **08 04 44.2 +1.4**
TPGR Topolog 17.39 315 ⇑P **P** **08 04 44.1 +1.0**
TLBR Topalu 17.44 314 ⇓P **P** **08 04 44.7 +1.0**
SMTH Samothraki Isl 17.46 299 P **P** **08 04 45.5 +1.6**
HARR Harsova 17.59 314 ⇑P **P** **08 04 46.7 +1.4**
HARR Harsova 17.59 314 P **P** **08 04 46.7 +1.4**
ABTO Aybut 17.64 156 P **Pn** **08 04 42.6 -2.7**
SNR=6.4
RDO Rodhopi 17.66 301 P **P** **08 04 46.1 0.0**
RDO IAmb IAmb 08 04 52.7
comp=Z,374nm,1.6s
RDO Rodhopi 17.66 301 P **P** **08 04 46.4 +0.3**
VRH Novokhopyorsk 17.73 352 *e*P **Pn** **08 04 44.9 -1.1**
VRH pmax pmax
comp=Z,122nm,1.7s
CFR Carcaliu 17.74 315 ⇑P **P** **08 04 47.4 +0.5**
CFR Carcaliu 17.74 315 P **P** **08 04 47.3 +0.5**
RBK Rabkut 17.84 153 P **Pn** **08 04 44.4 -3.2**
SNR=9.6
VORD Divnogorie 17.88 347 *e*P **Pn** **08 04 47.2 -0.7**
VORD pmax pmax
comp=Z,70nm,0.7s
RAZG Razgrad 17.92 309 ⇑P **P** **08 04 50.4 +1.4**
DMTO DMTO 17.94 150 P **Pn** **08 04 45.7 -3.1**
SNR=24
SHAO Shalim 17.96 148 *i*P **Pn** **08 04 46.0 -3.1**
SNR=28
SHAO Shalim 17.96 148 P **Pn** **08 04 46.2 -2.9**
SNR=29
IMMV Iera Moni Meta 18.00 282 P **P** **08 04 50.9 +1.0**
ELND Elena 18.07 306 ⇓P **P** **08 04 53.1 +2.5**
SCHLR Schela 18.08 316 ⇓P **P** **08 04 52.8 +2.1**
VSR Storozhevoye 18.14 347 *e*P **Pn** **08 04 49.7 -1.4**
VSR pmax pmax
comp=Z,70nm,0.4s
VSR MLR MLR
comp=Z,4µm,19.0s
MILM Milestii Mici 18.41 321 *e*P **P** **08 04 53.6 -0.7**
comp=Z,400nm,1.9s
MILM *e*S **Sn** **08 08 17.0 -2.4**
MILM *e*Lq LQ 08 12 17.0
comp=Z,2µm,13.6s
MILM LRM MLR 08 17 05.0
comp=Z,3µm,12.7s
MILM Milestii Mici 18.41 321 *e*P **P** **08 04 53.6 -0.7**
MILM *e*S **Sn** **08 08 17.0 -2.4**
MILM pmax pmax
comp=Z,400nm,1.9s
KIS Kishinev 18.45 321 ⇑ *i*P **P** **08 04 53.0 -1.8**
comp=Z,370nm,4.2s
KIS *e*S **Sn** **08 08 18.0 -2.6**
KIS *e*L L 08 15 19.0
KIS LQM 08 16 15.0
comp=Z,1µm,12.5s
KIS LRM MLR 08 17 13.0
comp=Z,1µm,11.5s
KIS Kishinev 18.45 321 *c i*P **P** **08 04 53.0 -1.8**
KIS *e*S **Sn** **08 08 18.0 -2.6**
KIS pmax pmax
comp=Z,400nm,4.2s
VORR Voronezh 18.57 347 *e*P **P** **08 04 54.3 -1.7**
VORR pmax pmax
comp=Z,388nm,1.5s
ISR Istrita 18.65 313 ⇓P **Pn** **08 04 58.8 +1.4**
ISR Istrita 18.65 313 P **Pn** **08 04 58.8 +1.4**
VILL Villia 18.68 290 P **Pn** **08 04 59.4 +1.5**
ODBI Odobesti 18.69 316 ⇓P **Pn** **08 05 00.0 +2.2**
PAIG Paliouri 18.70 296 P **Pn** **08 04 59.5 +1.5**
PAIG pmax pmax
comp=Z,102nm,1.4s
BELG Belogornoye 18.73 4 *i*P **P** **08 04 57.7 0.0**
BELG pmax pmax
comp=Z,99nm,1.4s
BELG Belogornoye 18.73 4 P **P** **08 04 57.0 -0.8**
comp=Z,241nm,0.9s,baz=20,slow=1.3,SNR=25
BELG S **Sn** **08 08 26.1 -0.9**
comp=Z,21nm,0.9s,baz=176,slow=22,SNR=0.9
BELG LR LR 08 13 51.4
comp=Z,1µm,21.1s,baz=184,slow=42
AB31 Akbulak array 18.78 30 *e*P **Pn** **08 04 59.2 +0.3**
ABKAR Akbulak array 18.78 30 P **Pn** **08 04 58.8 -0.2**
ABKAR Akbulak array 18.78 30 P **P** **08 04 58.3 -0.1**
ABKAR IAmb IAmb 08 05 00.3
comp=Z,68nm,0.7s
VLI Veliai 18.86 286 P **P** **08 04 59.5 +0.1**
NVR Nevrokopi 18.92 300 P **Pn** **08 05 02.4 +1.7**
VRI Vrincioaia 18.94 315 ⇑P **Pn** **08 05 01.3 +0.3**
VRI Vrincioaia 18.94 315 P **Pn** **08 05 01.2 +0.3**
NEHR Nehoiu 18.96 314 ⇑P **Pn** **08 05 02.2 +1.0**
AKTO Aktyubinsk 19.00 25 P **Pn** **08 05 01.3 -0.3**
comp=Z,6.0nm,0.3s,baz=206,slow=13,SNR=37
AKTO S **Sn** **08 08 31.2 -2.4**
comp=Z,9.3nm,0.8s,baz=95,slow=1.1,SNR=1.8
AKTO LR LR 08 15 07.4
comp=Z,2µm,19.5s,baz=211,slow=46
comp=Z,29nm,0.5s
SRS Serrai 19.05 299 P **P** **08 05 01.9 +0.4**
SRS pmax pmax
comp=Z,32nm,1.6s
SOH Sokhos 19.15 298 P **Pn** **08 05 04.0 +0.5**
SOH pmax pmax
comp=Z,43nm,1.1s
MLR Muntele Rosu 19.21 314 ⇓P **Pn** **08 05 05.3 +1.1**
MLR Muntele Rosu 19.21 314 P **Pn** **08 05 04.4 +0.2**
MLR Muntele Rosu 19.21 314 P **Pn** **08 05 05.3 +1.1**
MLR Muntele Rosu 19.21 314 P **Pn** **08 05 04.7 +0.5**
comp=Z,16nm,0.5s,baz=160,slow=12,SNR=21
MLR S **S** **08 08 40.3 +0.2**
comp=Z,6.6nm,1.1s,baz=167,slow=23,SNR=1.0
MLR LR LR 08 14 38.6
comp=Z,4µm,18.9s,baz=137,slow=44
COVR Voineasa-Covas 19.24 315 ⇑P **Pn** **08 05 05.3 +0.8**
AXAR Agios Charalam 19.27 292 P **Pn** **08 05 05.8 +0.9**
HORT Hortiatis 19.28 297 P **Pn** **08 05 05.4 +0.3**
KBL Kabul 19.31 81 P **P** **08 05 05.0 +0.4**
KBL IAmb IAmb 08 05 15.1
comp=Z,216nm,1.1s
KBL Kabul 19.31 81 P **P** **08 05 05.0 +0.4**
KBL pmax pmax
comp=Z,216nm,1.1s
KBL Kabul 19.31 81 P **Pn** **08 05 06.3 +0.6**
SNR=65
HUMR Humele 19.34 310 ⇑P **Pn** **08 05 07.0 +1.3**
TESR Tescani 19.35 317 ⇑P **Pn** **08 05 05.6 -0.2**
THE Thessaloniki 19.39 297 P **Pn** **08 05 06.3 0.0**
THE Thessaloniki 19.39 297 P **Pn** **08 05 06.3 0.0**
THE pmax pmax
comp=Z,165nm,1.3s
SIMJ Simiganj 19.41 69 P **P** **08 05 06.1 +0.6**
GUR Goura 19.42 289 P **Pn** **08 05 06.5 -0.3**
SORM Soroca 19.44 323 P **Pn** **08 05 06.6 -0.2**
TURR Turia 19.46 315 ⇑P **Pn** **08 05 07.9 +0.7**
LPSR Galich'ya Gora 19.51 348 *e*P **P** **08 05 04.3 -2.0**
LPSR pmax pmax
comp=Z,440nm,0.8s

LPSR MLR MLR
comp=Z,4μm,21.0s
AGG Agios Georgios 19.56 292 P **P** **08 05 07.7 +0.6**
AGG Agios Georgios 19.56 292 P **Pn** **08 05 08.6 +0.2**
AGG Agios Georgios 19.56 292 P **P** **08 05 07.7 +0.6**
AGG pmax pmax
comp=Z,129nm,1.1s
KNT Kendrikon 19.57 299 P **Pn** **08 05 08.8 +0.3**
KNT Kendrikon 19.57 299 P **P** **08 05 07.4 +0.3**
KNT pmax pmax
comp=Z,40nm,0.9s
OZUR 19.62 315 ⇑P **Pn** **08 05 09.4 +0.3**
BOSR Bodos 19.68 315 ⇑P **Pn** **08 05 10.3 +0.5**
VOIR 19.73 313 ⇓P **Pn** **08 05 11.5 +1.1**
VOIR 19.73 313 P **Pn** **08 05 11.5 +1.1**
PEHC Pehcevo 19.74 301 *i* P **Pn** **08 05 10.4 -0.1**
TYRN Tyrnavos 19.75 294 P **P** **08 05 09.5 +0.4**
DOPR Dopca 19.79 314 ⇓P **Pn** **08 05 10.9 -0.1**
ANX Ano Chora 19.82 291 P **P** **08 05 10.8 +0.8**
VAY Valandovo 19.85 299 *i* P **P** **08 05 10.2 0.0**
GRG Griva 19.88 298 P **P** **08 05 11.2 +0.6**
GRG Griva 19.88 298 P **P** **08 05 11.1 +0.5**
GRG pmax pmax
comp=Z,80nm,1.4s
THL Klokotos Trika 19.89 294 P **P** **08 05 11.3 +0.7**
DRO Drossia 19.92 289 P **Pn** **08 05 12.5 -0.2**
ARR Arges 19.95 312 ⇑P **Pn** **08 05 12.7 -0.3**
EVR Evrytania 19.95 292 P **Pn** **08 05 13.5 +0.4**
RLS Riolos of Patr 20.12 289 P **P** **08 05 13.9 +0.8**
PVO Paravola 20.13 291 P Pn 08 05 14.6 -0.5
MDB Medias 20.48 314 ⇑P Pn 08 05 18.6 -0.6
MDB Medias 20.48 314 P Pn 08 05 18.6 -0.6
BLKB Belogradchik 20.49 306 ⇑P Pn 08 05 18.5 -0.9
LOT Lotru 20.52 311 ⇑P Pn 08 05 19.0 -0.8
SRE Strehaia 20.54 309 ⇑P Pn 08 05 19.8 -0.1
SRE Strehaia 20.54 309 P Pn 08 05 19.8 -0.1
FNA Florina 20.60 297 P **P** **08 05 18.3 -0.1**
FNA Florina 20.60 297 P **P** **08 05 19.1 +0.7**
FNA Florina 20.60 297 P **P** **08 05 18.3 -0.1**
FNA pmax pmax
comp=Z,92nm,0.9s
PENT Pentalofos 20.66 295 P Pn 08 05 20.7 -0.8
BURAR Bucovina Array 20.78 318 ⇓P Pn 08 05 22.1 -0.7
BURAR Bucovina Array 20.78 318 P **P** **08 05 20.1 -0.2**
BURAR Bucovina Array 20.78 318 P Pn 08 05 22.0 -0.8
NYDR Nydri-Lefkada 20.79 291 P **P** **08 05 19.9 -0.4**
JAN Janina 20.79 294 P Pn 08 05 22.4 -0.5
BUR08 Bucovina Ar. S 20.80 318 P **P** **08 05 20.6 0.0**
EVGI Lefkada island 20.81 291 P **P** **08 05 20.1 -0.5**
VLS Valsamata 20.82 290 P **P** **08 05 20.5 -0.2**
LKD2 Lefkada island 20.82 291 P **P** **08 05 20.7 -0.1**
TSLK Tsoukalades, L 20.83 291 P **P** **08 05 20.7 -0.1**
SKO Skopje 20.84 300 *i* P **P** **08 05 21.9 +0.9**
AKASG Malin Array Be 20.85 329 P **P** **08 05 19.6 -1.3**
AKASG lAmb lAmb 08 05 21.1
comp=Z,366nm,1.6s
AKASG Malin Array Be 20.85 329 P **P** **08 05 19.7 -1.3**
comp=Z,35nm,0.6s,baz=138,slow=9.7,SNR=107
AKASG S **S** **08 09 05.9 -6.6**
comp=Z,3.8nm,0.9s,baz=142,slow=8.4,SNR=1.1
AKASG LR LR 08 16 16.0
comp=Z,2μm,18.9s,baz=134,slow=45
comp=Z,35nm,0.6s
AKBB Malin Array Si 20.85 329 P **P** **08 05 19.5 -1.4**
AKBB lAmb lAmb 08 05 21.2
comp=Z,377nm,1.6s
AKBB Malin Array Si 20.85 329*ce* P **P** **08 05 19.3 -1.6**
AKBB pmax pmax
comp=Z,273nm,1.5s
KIEV Kiev 20.85 329 P **P** **08 05 20.0 -0.9**
KIEV lAmb lAmb 08 05 21.2
comp=Z,367nm,1.6s
KIEV Kiev 20.85 329 P **P** **08 05 20.0 -0.9**
KIEV pmax pmax
comp=Z,367nm,1.6s
KIEV Kiev 20.85 329 *i* P **P** **08 05 19.6 -1.3**
SNR=12
FSK Fiskardo 20.87 290 P **P** **08 05 20.1 -1.1**
DRAG Dragano-Lefkad 20.88 291 P **P** **08 05 21.0 -0.4**
ARCR ARCALIA 20.98 316 ⇓P Pn 08 05 24.5 -0.5
DJES Djerdap 20.99 308 ⇓P Pn 08 05 24.2 -1.0
DJES Djerdap 20.99 308 P **P** **08 05 22.5 -0.1**
BTK Batken 21.01 65 P **P** **08 05 24.1 +1.3**
BTK lAmb lAmb 08 05 35.4
comp=Z,269nm,1.1s
BTK Batken 21.01 65 P **P** **08 05 24.1 +1.3**
BTK pmax pmax
comp=Z,269nm,1.1s
KEF3 Kipouria, Keph 21.01 290 P **P** **08 05 22.5 -0.3**
OHR Ohrid 21.10 298 *i* P **P** **08 05 24.0 +0.2**
GZR Gura Zlata 21.13 310 ⇓P **P** **08 05 25.1 +1.1**
BOVS Bovan 21.16 305 ⇑P **P** **08 05 24.7 +0.5**
IGT Igoumenitsa 21.17 293 P **P** **08 05 23.7 -0.8**
CJR Cluj-Napoca 21.23 314 ⇑P **P** **08 05 26.9 +1.7**
CJR Cluj-Napoca 21.23 314 P **P** **08 05 26.9 +1.7**
DEV Deva 21.26 312 P **P** **08 05 25.5 +0.1**
DEV pmax pmax
comp=Z,34nm,1.0s
KK31 Karatay Array 21.50 57 P **P** **08 05 28.1 +0.1**
KK31 Karatay Array 21.50 57 P **P** **08 05 28.8 +0.8**
KKAR Karatay Array 21.50 57 P **P** **08 05 28.0 0.0**
KKAR Karatay Array 21.50 57 P **P** **08 05 28.0 0.0**
MARR Marisel-Cluj 21.50 314 ⇑P **P** **08 05 29.3 +1.2**
TRKS Terek-Say 21.54 61 P **P** **08 05 29.5 +0.9**
TRKS pmax pmax
comp=Z,158nm,0.9s
MDVR Moldovita 21.57 308 ⇓P **P** **08 05 30.5 +1.8**
KEK Kerkira 21.60 294 P **P** **08 05 27.4 -1.7**
KEK lAmb lAmb 08 05 32.5
comp=Z,137nm,0.7s
KEK Kerkira 21.60 294 P **P** **08 05 26.9 -2.2**
SURR Surduc 21.70 311 ⇑P **P** **08 05 29.9 -0.2**
BMR Baia Mare 21.79 316 ⇑P **P** **08 05 32.9 +1.9**
BMR Baia Mare 21.79 316 P **P** **08 05 32.9 +1.9**
TIR Tirane 21.84 298 P **P** **08 05 35.0 +3.4**
BANR Banloc 22.18 309 ⇑P **P** **08 05 35.7 +0.5**
ARK Arkit 22.20 61 P **P** **08 05 37.0 +1.4**
ARK pmax pmax
comp=Z,128nm,0.9s
SIRR Siria 22.21 312 ⇑P **P** **08 05 36.9 +1.2**
ATD Arta Tunnel 22.23 188 P **P** **08 05 37.0 +1.0**
ATD Arta Tunnel 22.23 188 P **P** **08 05 36.2 +0.2**
comp=Z,1.3nm,0.9s,baz=323,slow=7.9,SNR=7.1
ATD Lg Lg 08 12 22.6
baz=286,slow=21,SNR=3.0
ATD LR LR 08 14 25.5
comp=Z,52nm,19.7s,baz=4.5,slow=37
SJES Sjenica 22.24 303 *eP* **P** **08 05 36.0 0.0**
OBN Obninsk 22.35 346 P **P** **08 05 34.8 -2.1**
OBN lAmb lAmb 08 05 39.8
comp=Z,227nm,1.2s
OBN Obninsk 22.35 346*c* *i* P **P** **08 05 34.6 -2.3**
OBN *e* 08 06 00.6
OBN pmax pmax
comp=Z,133nm,1.1s
OBN MLR MLR
comp=Z,3μm,19.0s
OBN Obninsk 22.35 346 P **P** **08 05 35.6 -1.3**
comp=Z,59nm,0.6s,baz=158,slow=4.4,SNR=8.5
OBN S **S** **08 09 35.1 -6.4**
comp=Z,31nm,0.4s,baz=29,slow=23,SNR=14
OBN LR LR 08 15 41.0
comp=Z,3μm,19.1s,baz=158,slow=40
comp=Z,59nm,0.6s
DRME Dracevica, Mon 22.52 300 *eP* **P** **08 05 38.5 -0.4**
OHH Osh 22.57 65 P **P** **08 05 40.7 +1.1**
OHH pmax pmax
comp=Z,142nm,1.1s
LVV L'vov 22.71 322 *i* P **P** **08 05 39.4 -1.5**
LVV *e* 08 06 07.4
LVV *i* S **S** **08 09 41.8 -6.4**
MOS Moscow 22.74 348 *eP* **P** **08 05 37.9 -3.2**
MOS *e* 08 06 01.9
MOS *eS* **S** **08 09 41.2 -7.5**
MOS pmax pmax
comp=Z,454nm,1.5s
MOS pmax pmax
comp=Z,1μm,1.8s
MOS smax smax
comp=E,800nm,2.7s
MOS smax smax
comp=N,700nm,2.3s
MOS MLR MLR
comp=Z,2μm,18.0s
RUDO Rudo 22.76 304 *eP* **P** **08 05 39.4 -2.1**
BBLS Lazići 22.81 304 *eP* **P** **08 05 41.5 -0.6**
ARSB Arslanbob 22.85 63 P **P** **08 05 43.2 +0.6**
ARSB Arslanbob 22.85 63 P **P** **08 05 43.2 +0.6**
ARSB pmax pmax
comp=Z,71nm,1.2s
NIL Nilore 22.88 82 P **P** **08 05 42.8 -0.1**
NIL lAmb lAmb 08 05 45.1
comp=Z,196nm,1.0s
NIL Nilore 22.88 82 P **P** **08 05 42.8 -0.1**
NIL pmax pmax
comp=Z,195nm,1.0s
NIL Nilore 22.88 82 P **P** **08 05 43.4 +0.6**
TEKS Tekeris 22.94 306 *eP* **P** **08 05 42.8 -0.6**
FRGS Fruska Gora 22.96 308 ⇓P **P** **08 05 44.4 +0.8**
FRGS Fruska Gora 22.96 308 *eP* **P** **08 05 42.1 -1.5**
UPM Unac-Piva 22.97 302 *eP* **P** **08 05 44.0 +0.1**
HCY Herceg Novi 23.08 300 *eP* **P** **08 05 44.9 +0.1**
KOLS Kolonicke sedl 23.15 318 *eP* **P** **08 05 46.0 +0.5**
KOLS pmax pmax
comp=Z,76nm,1.5s
KOLS Kolonicke sedl 23.15 318 *eP* **P** **08 05 46.0 +0.5**
HAPS Han Pijesak,Bl 23.19 304 *eP* **P** **08 05 44.9 -1.1**
TREB Trebinje 23.24 301 *eP* **P** **08 05 46.3 -0.2**
KWP Kalwaria Pacla 23.30 320 *eP* **P** **08 05 46.5 -0.4**
KWP Kalwaria Pacla 23.30 320 P **P** **08 05 46.3 -0.6**
KWP lAmb lAmb 08 06 05.4
comp=Z,210nm,1.5s
KWP Kalwaria Pacla 23.30 320 P **P** **08 05 46.3 -0.6**
KWP pmax pmax
comp=Z,210nm,1.5s
AML Almayashu 23.53 61 P **P** **08 05 50.9 +1.2**
SNR=22
AML Almayashu 23.53 61 *i* P **P** **08 05 50.1 +0.3**
AML pmax pmax
comp=Z,19nm,1.4s
NEVS Nevesinje 23.56 302 *eP* **P** **08 05 49.8 +0.1**
CRVS Cervenica-Dubn 23.59 317 *eP* **P** **08 05 49.5 -0.3**
CRVS pmax pmax
comp=Z,202nm,1.5s
CRVS Cervenica-Dubn 23.59 317 *eP* **P** **08 05 49.5 -0.3**
EKS2 Erkin-Say 23.70 60 P **P** **08 05 54.4 +3.2**
SNR=16
STON Ston 23.74 301 *eP* **P** **08 05 50.2 -1.1**
TIP Timpagrande 23.89 292 P **P** **08 05 52.5 -0.3**
ARLS Aral 23.93 62 P **P** **08 05 54.6 +1.2**
ARLS pmax pmax
comp=Z,45nm,0.9s
KECS Kecovo 23.94 316 *eP* **P** **08 05 54.7 +1.5**
KECS pmax pmax
comp=Z,200nm,1.6s
KECS Kecovo 23.94 316 *eP* **P** **08 05 54.6 +1.4**
STHS Stebnicka Huta 23.98 318 *eP* **P** **08 05 53.6 0.0**
STHS pmax pmax
comp=Z,15nm,1.1s
STHS Stebnicka Huta 23.98 318 *eP* **P** **08 05 53.6 0.0**
PSZ Piszkesteto 24.02 314 P **P** **08 05 53.5 -0.6**
PSZ lAmb lAmb 08 06 10.2
comp=Z,161nm,1.9s
PSZ Piszkesteto 24.02 314 P **P** **08 05 53.5 -0.6**
PSZ pmax pmax
comp=Z,161nm,1.9s
MATE Matera 24.08 295 ⇑P **P** **08 05 54.4 -0.1**
MORH Mrgy, Hungar 24.11 309 ⇑P **P** **08 05 54.1 -0.7**
UCH Uchtor 24.14 61 P **P** **08 05 58.4 +2.7**
SNR=12
AAK Ala-Archa 24.21 60 P **P** **08 05 59.2 +3.3**
SNR=12
AAK Ala-Archa 24.21 60 P **P** **08 05 57.2 +1.2**
AAK Ala-Archa 24.21 60*ce* **P** **08 05 56.8 +0.8**
AAK pmax pmax
comp=Z,101nm,2.5s
AAK Ala-Archa 24.21 60 *i* P **P** **08 05 58.8 +2.8**
SNR=10
AAK Ala-Archa 24.21 60 P **P** **08 05 57.6 +1.7**
comp=Z,15nm,0.8s,baz=237,slow=2.8,SNR=18
AAK PcP **PcP** **08 09 36.3 +0.1**
comp=Z,5.5nm,0.7s,baz=166,slow=4.2,SNR=2.3
AAK S **S** **08 10 10.0 -3.5**
comp=Z,4.4nm,0.8s,baz=181,slow=21,SNR=1.7
comp=Z,15nm,0.8s
AAK Ala-Archa 24.21 60 P **P** **08 05 59.1 +3.1**
MNK Minsk 24.29 334 *i* P **P** **08 05 54.3 -2.1**
comp=E,39nm,1.4s
MNK *i* P **P** **08 05 54.3 -2.1**
comp=N,121nm,1.2s
MNK *i* P **P** **08 05 54.3 -2.1**
comp=Z,66nm,0.8s,baz=141
MNK *i* PP sP 08 06 25.2 +20
MNK *i* PPP PPP 08 06 32.5
MNK *i* S **S** **08 10 12.5 -1.7**
MNK *i* SS **SnSn** **08 10 57.2 -0.2**
MNK *i* SSS SSS 08 11 10.4
MNK *i* LQ LQ 08 13 29.5
MNK *i* LR LR 08 15 17.9
MNK *i* LRM MLR 08 16 44.6
comp=Z,2μm,15.9s
MNK *i* LRM MLR 08 16 49.7
comp=N,1μm,15.0s
MNK *i* LRM MLR 08 17 29.7
comp=E,475nm,15.9s
MNK Minsk 24.29 334 *i* P **P** **08 05 54.3 -2.1**
MNK *i* PPP PPP 08 06 32.5
MNK *i* S **S** **08 10 12.4 -1.7**
MNK *i* SS **SnSn** **08 10 57.1 -0.2**
MNK pmax pmax
comp=Z,66nm,0.8s
MNK pmax pmax
comp=N,121nm,1.2s
MNK pmax pmax
comp=E,39nm,1.4s
MNK MLR MLR
comp=Z,2μm,16.0s
MNK MLR MLR
comp=N,1μm,15.0s
MNK MLR MLR
comp=E,475nm,16.0s
USP Ospenovka 24.36 58 P **P** **08 05 59.7 +2.5**
SNR=55
BUD Budapest 24.36 312 P **P** **08 05 57.5 +0.4**
BUD pmax pmax
comp=Z,89nm,0.6s
ARU Arti 24.38 17 P **P** **08 05 57.6 +0.4**
ARU Arti 24.38 17*d* *i* P **P** **08 05 57.0 -0.2**
ARU 08 06 26.6
ARU S **S** **08 10 20.0 +4.4**
ARU SS **SnSn** **08 11 08.4 +8.9**
ARU pmax pmax
comp=Z,265nm,1.6s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 24.38 17 P **P** **08 05 57.6 +0.4**
comp=Z,36nm,0.5s,baz=210,slow=5.5,SNR=25
ARU S **S** **08 10 14.1 -1.4**
comp=Z,4.0nm,0.2s,baz=264,slow=19,SNR=1.2
ARU LR LR 08 18 34.8
comp=Z,1μm,19.5s,baz=204,slow=44
comp=Z,36nm,0.5s
CHMS Chumysh 24.47 59 P **P** **08 05 59.3 +1.1**
SNR=19
SGDS Sogindy 24.49 58 *eP* **P** **08 05 59.0 +0.6**
SGDS *eS* **S** **08 10 20.0 +2.3**
SGDS pmax pmax
comp=Z,35nm,1.1s
SGDS Sogindy 24.49 58 *eP* **P** **08 05 59.0 +0.6**
comp=Z,35nm,1.1s,baz=58
SGDS *eS* **S** **08 10 20.1 +2.3**
baz=58
NIE Niedzica 24.51 317 *eP* **P** **08 05 59.3 +0.9**
NIE Niedzica 24.51 317 P **P** **08 05 59.0 +0.6**
NIE pmax pmax
comp=Z,16nm,1.4s
BTLS Baital 24.52 54 *eP* **P** **08 05 59.1 +0.6**
BTLS *eS* **S** **08 10 20.6 +2.6**
BTLS pmax pmax
comp=Z,36nm,0.7s
BTLS Baital 24.52 54 *eP* **P** **08 05 59.2 +0.6**
comp=Z,36nm,0.7s,baz=54
BTLS *eS* **S** **08 10 20.6 +2.6**
baz=54
KBK Karagaybulak 24.54 60 P **P** **08 06 01.3 +2.3**
SNR=20
MGRS Mrkonjic Grad 24.57 304 *eP* **P** **08 05 57.6 -1.4**
BLY Banja Luka 24.59 305 *eP* **P** **08 05 57.0 -2.2**
OTUK Ortayu 24.63 46 P **P** **08 05 59.4 -0.1**
KZA Kyzart 24.65 62 P **P** **08 06 02.6 +2.3**
SNR=15
LANS Liptovska Anna 24.85 316 *eP* **P** **08 06 02.6 +1.1**
LANS pmax pmax
comp=Z,42nm,1.5s
LANS Liptovska Anna 24.85 316 *eP* **P** **08 06 02.6 +1.1**
A051A Mrakovica 24.86 306 *eP* **P** **08 06 01.0 -0.7**
KSH Kashi 24.89 68 P **P** **08 06 00.5 -1.6**
KSH sP pP 08 06 06.5 -1.7
KSH PP **PnPn** **08 06 35.0 +0.1**
KSH PcP **PcP** **08 09 38.6 +1.0**
KSH sS S 08 10 23.0 -1.3
KSH SS **SnSn** **08 11 11.8 -0.5**
KSH pmax pmax
comp=Z,67nm,0.9s
KSH LR LR
comp=Z,3μm,10.4s
KSH LR LR
comp=Z,5μm,17.5s
KSH LR LR
comp=Z,5μm,17.6s
VYHS Vyhne 24.91 314 *eP* **P** **08 06 02.5 +0.4**
VYHS pmax pmax
comp=Z,236nm,2.6s
VYHS Vyhne 24.91 314 *eP* **P** **08 06 02.5 +0.4**
SRO Srobarova 24.94 313 *eP* **P** **08 06 03.4 +1.1**
SRO pmax pmax
comp=Z,118nm,1.5s
SRO Srobarova 24.94 313 *eP* **P** **08 06 03.4 +1.1**
A050A Klekovaca 24.97 304 *eP* **P** **08 06 01.7 -1.0**
NACGM Naroch 25.01 334‖ *eP* **P** **08 06 01.4 -1.4**
comp=E,9μm,1.1s
KIRV Kirov 25.01 5 *i* P **P** **08 06 02.1 -0.7**
KIRV Kirov 25.01 5 P **P** **08 06 02.8 0.0**
comp=E,131nm,0.5s,baz=210,slow=1.9,SNR=25
KIRV S **S** **08 10 23.7 -1.9**
comp=E,10nm,0.3s,baz=104,slow=7.3,SNR=1.3
KIRV LR LR 08 18 06.2
comp=E,1μm,18.2s,baz=193,slow=42
comp=E,131nm,0.5s
TKM2 Tokmak 2 25.06 60 P **P** **08 06 05.0 +1.2**
SNR=24
TKM2 Tokmak 2 25.06 60 P **P** **08 06 04.9 +1.2**
NRN Naryn 25.11 63 P **P** **08 06 04.9 +0.6**
NRN lAmb lAmb 08 06 14.8
comp=Z,91nm,0.9s
NRN Naryn 25.11 63 P **P** **08 06 04.9 +0.6**
NRN pmax pmax
comp=Z,91nm,0.9s
OJC Ojcow 25.20 319 *eP* **P** **08 06 04.8 +0.2**
OJC Ojcow 25.20 319 P **P** **08 06 05.0 +0.4**
OJC lAmb lAmb 08 06 06.7
comp=Z,91nm,1.2s
OJC Ojcow 25.20 319 P **P** **08 06 05.0 +0.4**
OJC pmax pmax
comp=Z,91nm,1.2s
BOOM Boomskoye usch 25.23 61 P **P** **08 06 06.0 +0.8**
BOOM pmax pmax
comp=Z,73nm,0.7s
SVE Sverdlovsk 25.28 19*de* P **P** **08 06 06.2 +0.9**
SVE pmax pmax
comp=Z,222nm,1.1s
ULHL Ulahol 25.41 61 P **P** **08 06 09.1 +2.2**
SNR=7.8
BEL Belsk 25.56 323 P **P** **08 06 07.9 0.0**
BEL pmax pmax
comp=Z,157nm,1.1s
BRZS Berezniki 25.64 43 *eP* **P** **08 06 09.2 +0.6**
BRZS Berezniki 25.64 43 *eP* **P** **08 06 09.2 +0.6**
baz=43
VAE Valguarnera 25.69 287 P **P** **08 06 06.8 -2.5**
comp=Z,7.1nm,0.4s,baz=222,slow=2.2,SNR=1.9
KOGS Kog 25.74 308 *i* P **P** **08 06 09.9 +0.3**
PTJ Puntijarka 25.75 307 P **P** **08 06 11.1 +1.2**
ISAL Salakas 25.76 334 *eP* **P** **08 06 11.1 +1.5**
SMOL Smolenice 25.77 314 *eP* **P** **08 06 10.2 +0.4**
SMOL pmax pmax
comp=Z,39nm,1.2s
JAVC Velka Javorina 25.77 314 *eP* **P** **08 06 10.4 +0.5**
KUU Kurty 25.80 58 *eP* **P** **08 06 10.9 +0.7**
KUU *eS* **S** **08 10 41.1 +2.6**
KUU pmax pmax
comp=Z,50nm,1.0s
KUU MLR MLR
comp=Z,3μm,12.0s
KUU Kurty 25.80 58 *eP* **P** **08 06 10.9 +0.7**
comp=Z,50nm,1.0s,baz=58
KUU *eS* **S** **08 10 41.2 +2.6**
baz=58
KUU LR LR 08 17 45.9
comp=Z,3μm,11.6s,baz=58
MODS Modra-Piesok 25.80 313 *eP* **P** **08 06 10.4 +0.2**
MODS pmax pmax
comp=Z,325nm,1.4s
MODS Modra-Piesok 25.80 313 *eP* **P** **08 06 10.4 +0.2**
SUW Suwalki 25.81 329 *eP* **P** **08 06 07.3 -2.8**
SUW Suwalki 25.81 329 P **P** **08 06 08.0 -2.1**
SUW pmax pmax
comp=Z,177nm,1.2s
SUW Suwalki 25.81 329 *eP* **P** **08 06 08.5 -1.6**
ZST Bratislava 25.84 313 *eP* **P** **08 06 11.4 +0.9**
ZST pmax pmax
comp=Z,276nm,1.3s
ZST Bratislava 25.84 313 *eP* **P** **08 06 11.4 +0.9**
MAUC Maruska 25.90 316 *eP* **P** **08 06 11.9 +0.8**
MAUC AMS AMS 08 19 10.0
comp=Z,4μm,13.1s
OKC Ostrava-Krasne 25.93 317 *eP* **P** **08 06 12.0 +0.7**
OKC MLR MLR
comp=Z,2μm,15.4s
OKC Ostrava-Krasne 25.93 317 *eP* **P** **08 06 12.0 +0.7**
OKC AMS AMS 08 18 10.0
comp=Z,2μm,15.4s
SOP Sopron 25.98 311 P **P** **08 06 12.7 +1.0**
SOP pmax pmax
comp=Z,74nm,1.5s
TNSS Tian-Shan 26.06 60 *eP* **P** **08 06 13.3 +0.3**
TNSS Tian-Shan 26.06 60 *eP* **P** **08 06 13.4 +0.3**
baz=60
AAA Alma-Ata 26.07 59 *eP* **P** **08 06 13.4 +0.7**
AAA Alma-Ata 26.07 59 *eP* **P** **08 06 13.4 +0.7**
baz=60
AAA LR LR 08 17 18.6
baz=60
CRES Cresnjev 26.07 307 *eP* **P** **08 06 09.3 -3.3**
BRVK Borovoye 26.10 35 P **P** **08 06 13.1 +0.3**
BRVK Borovoye 26.10 35*ce* **P** **08 06 12.3 -0.4**
BRVK pmax pmax
comp=Z,56nm,1.3s
BRVK Borovoye 26.10 35 P **P** **08 06 13.4 +0.6**
BRVK P **P** **08 06 13.4 +0.6**
BOJS Bojanci 26.12 306 *i* P **P** **08 06 13.1 +0.1**
BOJS Bojanci 26.12 306 *eP* **P** **08 06 12.8 -0.2**
BVA0 Borovoye Array 26.13 35 P **P** **08 06 13.1 +0.1**
BVAR Borovoye Array 26.13 35 P **P** **08 06 11.9 -1.1**
comp=Z,28nm,0.5s,baz=248,slow=6.2,SNR=54
BVAR PcP **PcP** **08 09 40.3 +0.3**
comp=Z,6.1nm,0.5s,baz=191,slow=2.3,SNR=7.2
BVAR S **S** **08 10 43.6 +0.2**
comp=Z,1.2nm,0.7s,baz=190,slow=41,SNR=1.4
BVAR P3KPbc 08 39 03.1
comp=Z,1.3nm,0.8s,baz=69,slow=4.9,SNR=5.8
comp=Z,28nm,0.5s
RONA Rosalia, Austr 26.15 311 *i* P **P** **08 06 14.0 +0.7**
comp=Z,77nm,1.4s,SNR=20
MDOK Medeo 26.16 60 *eP* **P** **08 06 14.1 +0.5**
MDOK *eS* **S** **08 10 46.6 +2.1**
MDOK MLR MLR
comp=Z,2μm,11.0s
MDOK Medeo 26.16 60 *eP* **P** **08 06 14.2 +0.5**
baz=60
MDOK *eS* **S** **08 10 46.6 +2.1**
baz=60
MDOK LR LR 08 17 48.9
comp=Z,2μm,11.2s,baz=60
CHKK Chushkaly 26.25 58 *eP* **P** **08 06 15.0 +0.8**
CHKK Chushkaly 26.25 58 *eP* **P** **08 06 15.1 +0.8**
baz=58
MORC Moravsky Berou 26.25 316 ⇑P **P** **08 06 15.2 +0.9**
MORC Moravsky Berou 26.25 316 P **P** **08 06 14.2 -0.1**
MORC lAmb lAmb 08 06 17.6
comp=Z,142nm,1.6s
MORC Moravsky Berou 26.25 316 *eP* **P** **08 06 13.4 -0.9**
MORC Moravsky Berou 26.25 316 P **P** **08 06 15.1 +0.9**

INTR Introdacqua 26.35 298 P P 08 06 15.6 +0.3
INTR IAmb IAmb 08 06 23.6
comp=Z,133nm,1.7s
ARSA Arzberg 26.48 310 *i* P **P 08 06 17.1 +0.8**
comp=Z,25nm,1.2s,SNR=13
ARSA *e*PcP **PcP 08 09 42.1 +1.2**
comp=Z,9.0nm,0.9s
ARSA Arzberg 26.48 310 *eP* **P 08 06 15.9 -0.4**
comp=Z,58nm,1.6s,baz=111,slow=8.7
TARG Taragay, Kyrgy 26.49 63 P **P 08 06 18.1 +1.2**
TARG Taragay, Kyrgy 26.49 63 P **P 08 06 18.1 +1.2**
TARG pmax pmax
comp=Z,47nm,1.0s
CONA Conrad Observa 26.50 311 *i* P **P 08 06 17.0 +0.4**
comp=Z,92nm,1.8s,SNR=28
PABE Paberze 26.53 332 *eP* **P 08 06 16.9 +0.3**
VRAC Vranov 26.60 315 *eP* **P 08 06 17.2 -0.2**
VRAC Vranov 26.60 315 P **P 08 06 15.2 -2.1**
comp=Z,19nm,1.1s,baz=108,slow=8.1,SNR=23
VRAC LR LR 08 19 14.6
comp=Z,2µm,18.3s,baz=118,slow=42
comp=Z,19nm,1.1s
SOKA Soboth 26.61 308 *i* P **P 08 06 17.6 0.0**
comp=Z,38nm,1.4s,SNR=16
SOKA *e*PcP **PcP 08 09 43.1 +1.7**
comp=Z,18nm,1.1s
KRUC Moravsky 26.62 314 *eP* **P 08 06 17.4 -0.1**
KRUC Moravsky 26.62 314 P **P 08 06 17.7 +0.2**
KRUC pmax pmax
comp=Z,31nm,1.5s
CEY Cerknica 26.74 306 *eP* **P 08 06 18.4 -0.3**
LJU Ljubljana 26.76 307 *eP* **P 08 06 19.5 +0.7**
CAMP Campotosto 26.79 299 P **P 08 06 19.4 +0.1**
KRLC Kraliky 26.83 316 *eP* **P 08 06 19.4 0.0**
KRLC MLR MLR
comp=Z,2µm,12.2s
KRLC Kraliky 26.83 316 *eP* **P 08 06 19.4 0.0**
KRLC AMS AMS 08 20 00.0
comp=Z,2µm,12.2s
OBKA Obir 26.88 308 *i* P **P 08 06 20.6 +0.6**
comp=Z,66nm,1.2s,SNR=22
OBKA Obir 26.88 308 *eP* **P 08 06 20.6 +0.6**
comp=Z,98nm,1.4s,baz=111,slow=8.7
OBKA Obir 26.88 308 *eP* **P 08 06 20.0 0.0**
VSVD Vaisvydziai 26.89 333 *eP* **P 08 06 20.7 +0.9**
NRCA Norcia 27.05 299 P **P 08 06 21.4 -0.1**
NRCA IAmb IAmb 08 06 24.3
comp=Z,84nm,1.2s
SATY Saty 27.12 60 *eP* **P 08 06 22.9 +0.7**
SATY pmax pmax
comp=Z,32nm,1.0s
SATY Saty 27.12 60 *eP* **P 08 06 22.1 -0.1**
comp=Z,32nm,1.0s,baz=60
ZHN Zhinishke 27.16 60 *eP* **P 08 06 23.2 +0.7**
ZHN Zhinishke 27.16 60 *eP* **P 08 06 23.3 +0.7**
baz=60
DPC Dobruska-Polom 27.21 317 *eP* **P 08 06 27.1 +4.2**
DPC MLR MLR
comp=Z,2µm,12.0s
DPC Dobruska-Polom 27.21 317 *eP* **P 08 06 27.1 +4.2**
DPC AMS AMS 08 20 20.0
comp=Z,2µm,12.0s
TREC Trest 27.26 314 P **P 08 06 23.4 +0.1**
TREC pmax pmax
comp=Z,27nm,1.8s
TREC Trest 27.26 314 AMS AMS 08 20 00.0
comp=Z,4µm,15.7s
SABO M.te Sabotino 27.36 306 P **P 08 06 24.2 -0.1**
SABO IAmb IAmb 08 06 30.4
comp=Z,286nm,2.0s
OSTC Ostas 27.37 317 *eP* **P 08 06 25.0 +0.7**
OSTC MLR MLR
comp=Z,2µm,12.6s
OSTC Ostas 27.37 317 *eP* **P 08 06 25.0 +0.7**
OSTC AMS AMS 08 21 00.0
comp=Z,2µm,12.6s
KPKS Kokpek 27.38 59 *eP* **P 08 06 25.2 +0.6**
KPKS pmax pmax
comp=Z,46nm,1.9s
KPKS Kokpek 27.38 59 *eP* **P 08 06 25.2 +0.6**
comp=Z,46nm,1.9s,baz=60
KSP Ksiaz 27.45 317 *eP* **P 08 06 25.1 +0.1**
KSP Ksiaz 27.45 317 P **P 08 06 25.2 +0.2**
KSP pmax pmax
comp=Z,44nm,1.4s
UPC Upice 27.46 317 *eP* **P 08 06 28.0 +2.9**
UPC MLR MLR
comp=Z,2µm,11.4s
UPC Upice 27.46 317 *eP* **P 08 06 28.0 +2.9**
UPC AMS AMS 08 21 00.0
comp=Z,2µm,11.4s
KLMR Klimovskoe 27.46 353*c i* P **P 08 06 23.9 -1.0**
KLMR S **S 08 11 09.6 +5.3**
KLMR pmax pmax
comp=Z,118nm,0.8s
KLMR pmax pmax
comp=Z,569nm,2.6s
KLMR MLR MLR
comp=Z,2µm,18.0s
CHVC Chvalec 27.47 317 *eP* **P 08 06 25.2 0.0**
CHVC MLR MLR
comp=Z,2µm,13.8s
CHVC Chvalec 27.47 317 *eP* **P 08 06 25.2 0.0**
CHVC AMS AMS 08 21 00.0
comp=Z,2µm,13.8s
MOA Molln 27.48 310 *i* P **P 08 06 25.5 +0.2**
comp=Z,66nm,1.4s,SNR=16
MOA Molln 27.48 310 *eP* **P 08 06 25.2 -0.1**
comp=Z,80nm,1.4s,baz=111,slow=8.7
TDK Taldyqorghan 27.49 56 *eP* **P 08 06 26.1 +0.7**
TDK pmax pmax
comp=Z,33nm,0.8s
TDK MLR MLR
comp=Z,2µm,11.0s
TDK Taldyqorghan 27.49 56 *eP* **P 08 06 26.1 +0.7**
comp=Z,33nm,0.8s,baz=56
TDK LR LR 08 18 52.1
comp=Z,2µm,11.5s,baz=56
MYKA Terra Mystica 27.51 308 *i* P **P 08 06 27.1 +1.4**
comp=Z,35nm,1.3s,SNR=14
MURB Monte Urbino 27.54 300 P **P 08 06 26.5 +0.6**
UZB Uzynbulak 27.58 60 *eP* **P 08 06 27.0 +0.6**
UZB pmax pmax
comp=Z,41nm,1.6s
UZB Uzynbulak 27.58 60 *eP* **P 08 06 27.0 +0.6**
comp=Z,41nm,1.6s,baz=60
CKRC Cesky Krumlov 27.79 312 *eP* **P 08 06 31.7 +3.6**
CKRC Cesky Krumlov 27.79 312 *eP* **P 08 06 31.7 +3.6**
BIOA Bad Ischl, Aus 27.83 310 *i* P **P 08 06 28.9 +0.5**
comp=Z,43nm,1.0s,SNR=11
KBA Koelnbreinsper 27.84 308 *i* P **P 08 06 29.2 +0.6**
comp=Z,31nm,0.9s,SNR=18
KBA *e*PcP **PcP 08 09 45.2 +0.8**
comp=Z,21nm,1.8s
KBA Koelnbreinsper 27.84 308 P **P 08 06 29.5 +0.8**
KBA pmax pmax
comp=Z,51nm,1.6s
KBA Koelnbreinsper 27.84 308 *eP* **P 08 06 28.8 +0.2**
comp=Z,130nm,1.6s,baz=111,slow=8.7
VSU Vasula 27.85 339*ce*P **P 08 06 27.6 -0.8**
VSU pmax pmax
comp=Z,62nm,1.3s
VSU Vasula 27.85 339 *eP* **P 08 06 28.1 -0.4**
SHLS Shalkode 27.90 60 *eP* **P 08 06 32.6 +3.4**
SHLS Shalkode 27.90 60 *eP* **P 08 06 32.7 +3.4**
baz=60
GOPC GO Pecny, Ondr 27.92 315 P **P 08 06 28.6 -0.6**
GOPC pmax pmax
comp=Z,30nm,1.5s
GOPC GO Pecny, Ondr 27.92 315 AMS AMS 08 20 40.0
comp=Z,2µm,12.7s
PDGK Podgornoye 27.94 60 P **P 08 06 29.6 0.0**
CLUD Cludinico 27.97 307 P **P 08 06 29.8 +0.1**
STAL STALIGIAL 28.03 306 P **P 08 06 29.9 -0.3**
ZVC Zvikov 28.09 314 *eP* **P 08 06 30.8 +0.1**
ZVC AMS AMS 08 21 00.0
comp=Z,3µm,15.9s
PRU Pruhonice 28.10 315 P **P 08 06 31.5 +0.7**
PRU pmax pmax
comp=Z,22nm,1.4s
PRU Pruhonice 28.10 315 AMS AMS 08 20 40.0
comp=Z,2µm,11.6s
GEC2 GERESS Array S 28.18 312 P **P 08 06 30.9 -0.7**
GEC2 GERESS Array S 28.18 312 P **P 08 06 30.9 -0.7**
GEC2 pmax pmax
comp=Z,12nm,1.2s
GEC2 GERESS Array S 28.18 312 *eP* **P 08 06 30.1 -1.5**
comp=Z,52nm,1.7s,baz=111,slow=8.7
GEC2 *e*PcP **PcP 08 09 45.7 +0.6**
GERES GERESS Array B 28.18 312 P **P 08 06 30.9 -0.7**
comp=Z,1.6nm,0.4s,baz=122,slow=10,SNR=9.7
GERES PcP **PcP 08 09 45.4 +0.3**
comp=Z,3.2nm,0.5s,baz=151,slow=2.7,SNR=8.2
GERES ScP **ScP 08 13 25.9 +0.9**
comp=Z,1.0nm,0.7s,baz=116,slow=3.1,SNR=4.0
GERES LR LR 08 19 26.9
comp=Z,1µm,18.9s,baz=124,slow=40
comp=Z,1.6nm,0.4s
PRA Prague 28.19 315 AMS AMS 08 20 40.0
comp=Z,2µm,13.4s
ABTA Abfaltersbach 28.29 307 *i* P **P 08 06 33.4 +0.7**
comp=Z,32nm,1.3s,SNR=9.2
ABTA *e*PcP **PcP 08 09 46.8 +1.4**
comp=Z,16nm,0.9s
PVCC Panska Ves 28.30 316 P **P 08 06 32.9 +0.3**
PVCC pmax pmax
comp=Z,15nm,1.5s
PVCC Panska Ves 28.30 316 AMS AMS 08 20 50.0
comp=Z,3µm,17.1s
KHC Kasperske Hory 28.35 313 P **P 08 06 32.8 -0.3**
KHC Kasperske Hory 28.35 313*ce*P **P 08 06 33.1 0.0**
KHC pmax pmax
comp=Z,66nm,1.3s
KHC Kasperske Hory 28.35 313 *eP* **P 08 06 33.4 +0.3**
KHC AMS AMS 08 21 00.0
comp=Z,2µm,12.1s
LESA Schwarzleotal 28.37 309 *eP* **P 08 06 33.3 0.0**
comp=Z,16nm,0.9s
RJOB Jochberg 28.39 309 *eP* **P 08 06 33.1 -0.3**
comp=Z,46nm,1.5s,baz=111,slow=8.7
RICC Richard 28.58 316 AMS AMS 08 21 00.0
comp=Z,4µm,15.9s
WET Wettzell 28.79 312 P **P 08 06 36.7 -0.3**
WET pmax pmax
comp=Z,15nm,1.7s
WET Wettzell 28.79 312 *eP* **P 08 06 35.3 -1.7**
comp=Z,35nm,1.6s,baz=111,slow=8.7
BRG Berggiesshubel 28.81 316 *i* P **P 08 06 37.2 +0.1**
BRG Amp 08 06 38.9
comp=Z,18nm,1.2s
BRG Berggiesshubel 28.81 316 *i* P **P 08 06 37.2 +0.1**
BRG 08 06 47.3
BRG pmax pmax
comp=Z,18nm,1.2s
BRG MLR MLR
comp=E,2µm,14.7s
BRG MLR MLR
comp=Z,3µm,15.1s
BRG Berggiesshubel 28.81 316 *eP* **P 08 06 36.4 -0.7**
comp=Z,32nm,1.5s,baz=111,slow=8.7
MTSE Matsula 28.99 336 *eP* **P 08 06 38.3 -0.3**
HSKC Hora Svate Kat 29.00 315 *eP* **P 08 06 42.3 +3.5**
HSKC AMS AMS 08 21 20.0
comp=Z,4µm,15.0s
WTTA Wattenberg 29.01 308 *i* P **P 08 06 39.0 -0.2**
comp=Z,31nm,0.9s,SNR=13
WTTA *e*PcP **PcP 08 09 48.8 +1.5**
comp=Z,24nm,1.1s
WTTA Wattenberg 29.01 308 P **P 08 06 38.9 -0.2**
WTTA pmax pmax
comp=Z,37nm,1.7s
WTTA Wattenberg 29.01 308 *eP* **P 08 06 37.8 -1.3**
comp=Z,173nm,1.8s,baz=111,slow=8.7
WTTA *e*PcP **PcP 08 09 47.0 -0.3**
WATA Walderalm 29.06 308 *i* P **P 08 06 38.7 -0.8**
comp=Z,63nm,1.4s,SNR=11
WATA *e*PcP **PcP 08 09 48.5 +1.1**
comp=Z,20nm,0.8s
VLC Villacollemand 29.21 301 P **P 08 06 41.4 +0.6**
SQTA Sankt Quirin 29.28 308 *i* P **P 08 06 41.3 -0.2**
comp=Z,16nm,0.4s,SNR=13
SQTA *e*PcP **PcP 08 09 49.2 +1.3**
comp=Z,13nm,0.7s
SQTA *e*S **S 08 11 34.3 +0.8**
comp=Z,8.4nm,1.0s
KURBB Kurchatov Arra 29.29 45 P **P 08 06 42.0 +0.6**
KURBB Kurchatov Arra 29.29 45 P **P 08 06 42.4 +1.1**
comp=Z,30nm,0.7s,baz=252,slow=9.0,SNR=70
KURBB PcP **PcP 08 09 48.1 +0.4**
comp=Z,7.9nm,0.9s,baz=247,slow=3.8,SNR=6.0
KURBB ScP **ScP 08 13 28.8 +0.5**
comp=Z,3.2nm,1.0s,baz=254,slow=4.2,SNR=4.7
KURBB LR LR 08 20 37.2
comp=Z,790nm,20.6s,baz=204,slow=41
KURBB P3KPbc 08 38 49.6
comp=Z,1.0nm,0.8s,baz=76,slow=3.8,SNR=6.4
comp=Z,30nm,0.7s
SALO Salr 29.37 304 P **P 08 06 42.1 0.0**
MOTA Moosalm 29.38 308 *eP* **P 08 06 41.9 -0.4**
comp=Z,14nm,0.6s,SNR=15
KURK Kurchatov 29.38 45 P **P 08 06 42.9 +0.8**
KURK IAmb IAmb 08 06 44.6
comp=Z,72nm,1.1s
KURK Kurchatov 29.38 45*ce*P **P 08 06 43.0 +0.8**
KURK pmax pmax
comp=Z,39nm,0.7s
KURK Kurchatov 29.38 45 P **P 08 06 43.4 +1.2**
ROTZ Rotzenmuhle 29.41 313 *eP* **P 08 06 42.2 -0.3**
comp=Z,46nm,1.6s,baz=111,slow=8.7
NKC Novy Kostel 29.44 314 P **P 08 06 43.4 +0.7**
NKC pmax pmax
comp=Z,19nm,1.4s
NKC Novy Kostel 29.44 314 AMS AMS 08 22 00.0
comp=Z,2µm,14.8s
FUR Furstenfeldbru 29.49 310 P **P 08 06 43.5 +0.3**
FUR pmax pmax
comp=Z,110nm,1.6s
FUR Furstenfeldbru 29.49 310 *eP* **P 08 06 42.4 -0.8**
comp=Z,228nm,1.5s,baz=111,slow=8.7
CLL Collm 29.52 316 *i* P **P 08 06 42.4 -1.0**
CLL *i* 08 06 47.8
CLL pmax pmax
comp=Z,45nm,1.5s
CLL MLR MLR
comp=Z,2µm,19.0s
CLL Collm 29.52 316 *i* P **P 08 06 42.4 -1.0**
comp=Z,45nm,1.5s
CLL *i* pP **pP 08 06 47.8 -1.7**
CLL AMS AMS 08 20 00.0
comp=Z,2µm,19.0s
CLL AMS AMS 08 22 00.0
CLL Collm 29.52 316 *eP* **P 08 06 42.4 -1.0**
comp=Z,40nm,1.4s,baz=111,slow=8.7
FETA Feichten 29.54 307 *eP* **P 08 06 43.8 -0.1**
comp=Z,2.7nm,0.5s
MANZ Manzenberg 29.55 314 *eP* **P 08 06 43.2 -0.6**
comp=Z,38nm,2.3s,baz=111,slow=8.7
RUE Ruedersdorf 29.59 319 *eP* **P 08 06 43.5 -0.5**
comp=Z,28nm,0.6s,baz=111,slow=8.7
RETA Reutte 29.64 308 *eP* **P 08 06 43.5 -1.1**
comp=Z,64nm,1.7s
RETA *e*S **S 08 11 35.9 -3.2**
comp=Z,25nm,1.6s
PLN Plauen 29.70 315 *e*PcP **PcP 08 09 48.7 -0.1**
KEST Kesra 29.87 284 P **P 08 06 48.2 +1.4**
comp=Z,8.3nm,0.6s,baz=53,slow=4.9,SNR=7.6
KEST PcP **PcP 08 09 50.9 +1.3**
comp=Z,12nm,1.0s,baz=316,slow=2.5,SNR=4.2
comp=Z,8.3nm,0.6s
MEF Metsahovi 29.98 339 *eP* **P 08 06 47.1 -0.2**
GRF Grafenberg Arr 29.99 313 *eP* **P 08 06 47.5 -0.1**
comp=Z,221nm,1.7s,baz=111,slow=8.7
GRF *e*L L 08 20 14.0
comp=Z,1µm,20.6s
PGF Pioggiola 30.02 298 P **P 08 06 47.2 -0.9**
PGF pmax pmax
comp=Z,72nm,1.5s
DAVOX Davos/Dischmat 30.05 307 P **P 08 06 48.1 -0.3**
comp=Z,4.9nm,0.4s,baz=150,slow=5.9,SNR=11
DAVOX PcP **PcP 08 09 51.3 +1.4**
comp=Z,4.9nm,0.6s,baz=118,slow=4.2,SNR=2.9
DAVOX LR LR 08 21 15.9
comp=Z,2µm,19.5s,baz=88,slow=41
comp=Z,4.9nm,0.4s
UBR Ueberruh 30.11 308 *eP* **P 08 06 47.4 -1.4**
comp=Z,109nm,1.5s,baz=111,slow=8.7
DAVA Damuels 30.17 307 *i* P **P 08 06 48.9 -0.5**
comp=Z,19nm,0.4s,SNR=16
DAVA *e*S **S 08 11 45.6 -2.0**
comp=Z,25nm,1.5s
DAVA Damuels 30.17 307 *eP* **P 08 06 48.4 -1.0**
comp=Z,41nm,0.5s,baz=111,slow=8.7
SEM Semipalatinsk 30.23 46 *eP* **P 08 06 50.5 +0.5**
SEM Semipalatinsk 30.23 46 *eP* **P 08 06 50.5 +0.5**
baz=46
SEM LR LR 08 20 48.2
baz=46
BSD Bornholm Skovb 30.30 324 *eP* **P 08 06 49.5 -0.8**
BSD IAmb IAmb 08 06 49.8
comp=Z,29nm,0.9s
MAKZ Makanchi 30.32 54 P **P 08 06 50.9 +0.3**
MAKZ IAmb IAmb 08 06 53.2
comp=Z,144nm,1.7s
MAKZ Makanchi 30.32 54 P **P 08 06 50.9 +0.3**
MAKZ pmax pmax
comp=Z,144nm,1.7s
FINES FINESS Array B 30.50 341 *i* P **P 08 06 51.5 -0.4**
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES FINESS Array B 30.50 341 P **P 08 06 51.1 -0.8**
comp=Z,6.0nm,0.5s,baz=146,slow=9.5,SNR=19
FINES PcP **PcP 08 09 51.0 +0.4**
comp=Z,11nm,1.0s,baz=140,slow=9.9,SNR=2.6
FINES LR LR 08 21 16.5
comp=Z,2µm,18.3s,baz=148,slow=41
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 30.52 54 P **P 08 06 53.0 +0.6**
MK31 IAmb IAmb 08 07 00.3
comp=Z,33nm,0.7s
MK31 Makanchi Array 30.52 54 P **P 08 06 53.0 +0.6**
MK31 pmax pmax
comp=Z,33nm,0.7s
MKAR Makanchi Array 30.52 54 P **P 08 06 52.6 +0.2**
MKAR Makanchi Array 30.52 54 *i* P **P 08 06 53.2 +0.8**
MKAR pmax pmax
comp=Z,30nm,0.5s
MKAR Makanchi Array 30.52 54 P **P 08 06 53.6 +1.2**
comp=Z,30nm,0.5s,baz=251,slow=9.4,SNR=199
MKAR S **S 08 11 55.6 +2.7**
comp=Z,1.6nm,0.9s,baz=294,slow=24,SNR=1.2
MKAR LR LR 08 22 11.8
comp=Z,873nm,19.4s,baz=266,slow=42
MKAR P3KPbc 08 38 50.1
comp=Z,0.9nm,1.0s,baz=63,slow=3.5,SNR=3.0
comp=Z,30nm,0.5s
FLTG Flechtingen 30.94 317 *eP* **P 08 06 54.9 -1.0**
comp=Z,25nm,1.4s,baz=111,slow=8.7
FLTG *e*PcP **PcP 08 09 51.6 -0.3**
UBBA Unterbreizbach 31.11 314 *eP* **P 08 06 56.8 -0.5**
comp=Z,67nm,1.9s,baz=111,slow=8.7
GORT1 Trebel 31.17 319 *eP* **P 08 06 58.4 +0.5**
comp=Z,126nm,1.3s,baz=111,slow=8.7
SLE Schleitheim 31.19 308 P **P 08 06 58.3 0.0**
SLE pmax pmax
comp=Z,64nm,1.6s
CLZ Clausthal 31.25 316 *eP* **P 08 06 58.4 -0.3**
comp=Z,116nm,1.8s,baz=111,slow=8.7
GTTG Gottingen 31.38 315 *eP* **P 08 06 59.3 -0.5**
comp=Z,96nm,1.8s,baz=111,slow=8.7
RAF Rauma 31.42 338 *eP* **P 08 06 59.8 -0.2**
BFO Black Forest 31.43 309 P **P 08 07 00.1 -0.3**
BFO pmax pmax
comp=Z,24nm,2.3s
DEL Delary 31.53 326 *eP* **P 08 07 01.3 +0.2**
NRDL Niedersach Rie 31.64 317 *eP* **P 08 07 02.6 +0.6**
comp=Z,37nm,1.3s,baz=111,slow=8.7
LODK Lodwar 31.65 200 P **P 08 07 04.2 +1.7**
LODK Lodwar 31.65 200 P **P 08 07 05.4 +2.9**
SNR=8.8
TNS Taunus Mts 31.86 313 P **P 08 07 03.9 -0.2**
TNS pmax pmax
comp=Z,19nm,1.4s
TNS Taunus Mts 31.86 313 *eP* **P 08 07 03.3 -0.9**
comp=Z,85nm,1.6s,baz=111,slow=8.7
BNI Bardonecchia 31.96 302 P **P 08 07 04.8 -0.3**
BNI Bardonecchia 31.96 302 P **P 08 07 05.5 +0.3**
BNI pmax pmax
comp=Z,189nm,1.4s
BSEG Bad Segeberg 32.10 320 P **P 08 07 07.3 +1.2**
BSEG pmax pmax
comp=Z,35nm,1.7s
BSEG Bad Segeberg 32.10 320 *eP* **P 08 07 05.7 -0.4**
comp=Z,153nm,1.9s,baz=111,slow=8.7
RETH Rethem/Aller, 32.15 317 *eP* **P 08 07 07.3 +0.7**
comp=Z,197nm,1.6s,baz=111,slow=8.7
KASTN Kahler Asten 32.18 314 *eP* **P 08 07 06.8 -0.1**
comp=Z,82nm,1.4s,baz=111,slow=8.7
FABU Falkenberg 32.35 326 *eP* **P 08 07 08.6 +0.4**
ORIF Oris-en-Rattie 32.50 302 P **P 08 07 08.9 -1.0**
ORIF pmax pmax
comp=Z,26nm,1.4s
BORU Boraas 32.67 327 *eP* **P 08 07 11.2 +0.1**
AHRW Bad Neuenahr-A 32.79 313 *eP* **P 08 07 11.2 -1.0**
comp=Z,70nm,1.5s,baz=111,slow=8.7
IBBN Ibbenburen 32.92 316 *eP* **P 08 07 14.4 +1.0**
comp=Z,272nm,1.9s,baz=111,slow=8.7
BUG Bochum--Univer 32.93 314 P **P 08 07 13.8 +0.4**
BUG pmax pmax
comp=Z,36nm,1.7s
BUG Bochum--Univer 32.93 314 *eP* **P 08 07 12.5 -1.0**
comp=Z,100nm,1.7s,baz=111,slow=8.7
SSRD Sdr. Stenderup 33.12 322 *eP* **P 08 07 16.5 +1.5**
SSRD IAmb IAmb 08 07 17.4
comp=Z,64nm,0.9s
WLF Walferdange 33.14 311 P **P 08 07 14.6 -0.7**
WLF pmax pmax
comp=Z,38nm,1.3s
WLF Walferdange 33.14 311 *dP* **P 08 07 14.7 -0.6**
WLF Walferdange 33.14 311 P **P 08 07 14.4 -0.9**
WLF Walferdange 33.14 311 *eP* **P 08 07 13.6 -1.7**
comp=Z,58nm,1.3s,baz=111,slow=8.7
BHOU Houvegnez 33.40 312 *dP* **P 08 07 18.6 +1.0**
MEM Membach 33.47 312 *dP* **P 08 07 19.4 +1.2**
MAHO Mahon 33.55 293 P **P 08 07 23.6 +4.6**
HYB Hyderabad 33.57 111*i eP* **P 08 07 20.0 +0.5**
HYB IVmB_BB 08 07 20.4
comp=Z,935nm,1.0s
HYB *e*S **S 08 12 43.5 +2.6**
HYB *e*ScP **ScP 08 13 44.5 +1.2**
HYB *e* 08 13 44.8
HYB *e*PcS **PcS 08 13 45.7 -0.2**
OUL Oulu 33.64 345 P **P 08 07 19.3 -0.1**
OUL pmax pmax
comp=Z,47nm,0.7s
HFS Hagfors 33.71 331 P **P 08 07 19.7 -0.4**
comp=Z,40nm,0.4s,baz=133,slow=10,SNR=108
HFS LR LR 08 22 40.7
comp=Z,2µm,21.7s,baz=130,slow=39
comp=Z,40nm,0.4s
MUD Monsted U'grnd 33.79 324 P **P 08 07 21.5 +0.7**
MUD pmax pmax
comp=Z,72nm,1.3s
MUD Monsted U'grnd 33.79 324 *i* P **P 08 07 22.0 +1.2**
MUD IAmb IAmb 08 07 22.7
comp=Z,102nm,1.3s
RCHB Rochefort 33.84 311 *dP* **P 08 07 21.6 +0.2**
comp=Z,14nm,0.0s
BCLA Clavier 33.85 312 *dP* **P 08 07 22.2 +0.7**
WMQ Urumqi 33.92 60 *eP* **P 08 07 23.7 +1.4**
WMQ pP pP 08 07 26.9 -1.5
WMQ S **S 08 12 48.5 +2.5**
WMQ sS sS 08 12 57.6 +1.7
WMQ ScS **ScS 08 17 46.9 +1.0**
WMQ pmax pmax
comp=Z,64nm,1.1s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ LR LR
comp=Z,2µm,12.1s
WMQ LR LR
comp=Z,2µm,8.3s
WMQ LR LR
comp=Z,580nm,24.0s
BGES Gesves 33.98 312 *dP* **P 08 07 23.0 +0.4**
ZALV Zalesovo Beam 34.11 42 P **P 08 07 22.9 -0.7**
ZALV Zalesovo Beam 34.11 42 *i* P **P 08 07 23.8 +0.2**
ZALV pmax pmax
comp=Z,33nm,0.5s
ZALV Zalesovo Beam 34.11 42 P **P 08 07 23.9 +0.2**
comp=Z,34nm,0.5s,baz=260,slow=8.8,SNR=72
ZALV LR LR 08 24 41.0
comp=Z,967nm,19.6s,baz=273,slow=42
comp=Z,34nm,0.5s
BMRD Maredsous 34.16 312 *dP* **P 08 07 24.6 +0.4**
comp=Z,12nm,1.3s
LOR Lormes 34.19 306 P **P 08 07 24.3 -0.2**
LOR pmax pmax
comp=Z,37nm,1.4s
DOU Dourbes 34.22 311 *dP* **P 08 07 25.0 +0.3**

comp=Z,19nm,1.4s
DGZ Jazzator, Alta 34.49 50 *i* P **P 08 07 28.2 +1.0**
DGZ pmax pmax
comp=Z,67nm,0.7s
APA Apatity 34.66 352 ⇓ *i* P **P 08 07 27.5 -0.7**
APA pmax pmax
comp=Z,34nm,0.8s
APA MLR MLR
comp=Z,2µm,11.0s
OSL Oslo 34.82 330 *eP* **P 08 07 29.6 -0.1**
OSL IAmb IAmb 08 07 29.9
comp=Z,92nm,1.3s
LVZ Lovozero 34.83 353 *i* P **P 08 07 30.3 +0.5**
LVZ pmax pmax
comp=Z,134nm,1.6s
NC602 NORSAR Array S 34.93 331 *eP* **P 08 07 29.8 -0.9**
HOMB Homborsund 34.95 326 *eP* **P 08 07 31.8 +1.0**
KONO Kongsberg 35.15 329 *eP* **P 08 07 32.0 -0.5**
NB2 NORSAR Subarra 35.24 331 P **P 08 07 32.4 -1.0**
comp=Z,9.6nm,0.8s,baz=126,slow=9.3
NB2 NORSAR Subarra 35.24 331 P **P 08 07 32.4 -1.0**
baz=126,slow=9.3
NOA NORSAR Array B 35.24 331 P **P 08 07 32.5 -1.0**
comp=Z,4.1nm,0.5s,baz=125,slow=8.6,SNR=28
NOA PP **PP 08 08 51.1 -2.2**
comp=Z,3.2nm,0.8s,baz=120,slow=13,SNR=4.2
NOA LR LR 08 23 37.3
comp=Z,2µm,21.5s,baz=130,slow=39
comp=Z,4.1nm,0.5s
KMBO Kilima Mbogo 35.55 195 *i* P **P 08 07 36.5 -0.3**
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 35.55 195 IAmb IAmb 08 07 39.4
comp=Z,83nm,1.4s
KMBO Kilima Mbogo 35.55 195 *eP* **P 08 07 39.8 +3.1**
KMBO IAmb IAmb 08 07 45.3
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 35.55 195 P **P 08 07 36.8 0.0**
comp=Z,2.9nm,0.5s,baz=10,slow=8.6,SNR=7.8
KMBO LR LR 08 22 02.2
comp=Z,1µm,18.1s,baz=350,slow=36
comp=Z,2.9nm,0.5s
KMBO Kilima Mbogo 35.55 195 *eP* **P 08 07 38.8 +2.0**
SGF Sodankyl 35.58 347 P **P 08 07 36.8 +0.6**
SGF pmax pmax
comp=Z,50nm,2.6s
SKAR Skarslia 36.23 330 *eP* **P 08 07 42.3 +0.3**
BLS5 Blasjo 36.43 327 *eP* **P 08 07 43.9 +0.3**
KIBK Kibwezi 36.58 193 P **P 08 07 46.0 +0.6**
KIBK Kibwezi 36.58 193 P **P 08 07 48.1 +2.7**
SNR=6.7
ODD1 Odda 36.58 328 *eP* **P 08 07 45.3 +0.4**
DOMB Dombas 36.65 332 *eP* **P 08 07 45.1 -0.4**
DOMB IAmb IAmb 08 07 46.2
comp=Z,98nm,1.8s
TAM Tamanrasset 36.85 263 P **P 08 07 48.4 +0.6**
TAM IAmb IAmb 08 07 55.9
comp=Z,83nm,1.2s
TAM Tamanrasset 36.85 263 P **P 08 07 48.4 +0.6**
TAM pmax pmax
comp=Z,83nm,1.2s
MFF Saint Martin d 36.85 304 P **P 08 07 46.9 -0.4**
MBAR Mbarara 36.92 206 P **P 08 07 48.9 +0.5**
MBAR Mbarara 36.92 206 *i* P **P 08 07 49.6 +1.2**
MBAR pmax pmax
comp=Z,13nm,1.1s
MBAR Mbarara 36.92 206 P **P 08 07 49.6 +1.2**
NSS Namsos 37.09 337 *eP* **P 08 07 49.2 +0.1**
BER Bergen 37.37 328 *eP* **P 08 07 50.9 -0.7**
HYA Hoyanger 37.37 329 *eP* **P 08 07 51.0 -0.5**
MOR8 Moi Rana 37.43 340 *eP* **P 08 07 51.3 -0.7**
MOR8 IAmb IAmb 08 07 52.9
comp=Z,143nm,2.0s
ASK Askoy 37.48 328 *eP* **P 08 07 54.0 +1.6**
MOL Molde 37.54 332 *eP* **P 08 07 53.7 +0.8**
AKN Aaknes 37.55 331 *eP* **P 08 07 54.4 +1.3**
KTK1 Kautokeino 37.56 347 *eP* **P 08 07 52.9 -0.2**
KTK1 IAmb IAmb 08 07 53.5
comp=Z,104nm,1.4s
VADS Vadso 37.57 351 *eP* **P 08 07 53.4 +0.3**
VADS IAmb IAmb 08 07 54.0
comp=Z,78nm,0.9s
KEV Kevo 37.57 349 P **P 08 07 52.7 -0.4**
KEV IAmb IAmb 08 07 54.7
comp=Z,120nm,1.8s
KEV Kevo 37.57 349 P **P 08 07 52.7 -0.4**
KEV pmax pmax
comp=Z,120nm,1.8s
ECHE Chera 37.59 293 P **P 08 07 54.8 +1.0**
ARA0 ARCESS Array S 37.61 349 *eP* **P 08 07 54.2 +0.7**
ARCES ARCESS Array B 37.61 349 P **P 08 07 53.6 +0.1**
ARCES IAmb IAmb 08 07 54.6
comp=Z,72nm,1.3s
ARCES ARCESS Array B 37.61 349 P **P 08 07 53.6 +0.1**
ARCES pmax pmax
comp=Z,72nm,1.3s
ARCES ARCESS Array B 37.61 349 P **P 08 07 53.1 -0.4**
comp=Z,8.6nm,0.6s,baz=144,slow=7.6,SNR=28
ARCES PP **PP 08 09 17.9 -1.4**
comp=Z,7.1nm,0.6s,baz=144,slow=11,SNR=2.7
ARCES PcP **PcP 08 10 11.0 +0.2**
comp=Z,9.0nm,0.8s,baz=176,slow=4.9,SNR=2.1
ARCES LR LR 08 24 43.9
comp=Z,2µm,19.4s,baz=146,slow=38
comp=Z,8.6nm,0.6s
STOK Stokkvaagen 37.96 339 *eP* **P 08 07 56.2 -0.2**
KONS Konsvik 38.04 339 *eP* **P 08 07 56.8 -0.4**
FOO Floro 38.06 330 *eP* **P 08 07 57.4 +0.1**
FAUS Fauske 38.06 341 *eP* **P 08 07 57.2 0.0**
FAUS IAmb IAmb 08 07 57.7
comp=Z,78nm,1.5s
WOL Wolverton 38.08 312 *eP* **P 08 07 57.8 +0.1**
ETOB Tobarra 38.16 291 P **P 08 07 59.3 +0.8**
GDLE Glaisdale, N Y 38.44 317 *eP* **P 08 08 00.7 0.0**
STEI Steigen 38.48 342 *eP* **P 08 08 00.7 -0.1**
JETT Jettan, Norway 38.57 346 *eP* **P 08 08 01.5 -0.1**
LSA Lhasa 38.61 83 P **P 08 08 03.4 +0.4**
LSA pmax pmax
comp=Z,60nm,1.3s
LSA Lhasa 38.61 83 *i* P **P 08 08 03.7 +0.8**
SNR=8.3
LSA Lhasa 38.61 83 P **P 08 08 04.1 +1.1**
LSA P **P 08 08 04.1 +1.1**
LBWR Ladybower, Pea 38.75 315 *eP* **P 08 08 03.1 -0.2**
LBWR IAmb IAmb 08 08 03.8
comp=Z,115nm,1.3s
HPK Haverah Park 38.80 316 *eP* **P 08 08 03.6 -0.1**
HAMF Hammerfest 38.89 348 *eP* **P 08 08 04.8 +0.7**
HAMF IAmb IAmb 08 08 05.7
comp=Z,110nm,1.3s
ENIJ Nijar 38.92 289 P **P 08 08 05.7 +0.8**
TRO Tromso 38.94 345 *eP* **P 08 08 04.4 -0.1**
TRO IAmb IAmb 08 08 04.9
comp=Z,250nm,1.6s
LOF Lofoten 39.07 342 *eP* **P 08 08 05.9 +0.2**
MONM Monmouth 39.14 313 *eP* **P 08 08 06.3 -0.2**
EDMD Edmundbyers 39.19 317 *eP* **P 08 08 06.7 -0.3**
EDMD IAmb IAmb 08 08 07.7
comp=Z,51nm,1.0s
UCM Universidad Co 39.26 294 P **P 08 08 08.6 +0.8**
MCH1 Michaelchurch 39.28 313 *eP* **P 08 08 07.1 -0.6**
MCH1 IAmb IAmb 08 08 08.4
comp=Z,50nm,0.8s
HLM1 Long Mynd 39.29 314 *eP* **P 08 08 07.2 -0.6**
HLM1 IAmb IAmb 08 08 08.5
comp=Z,52nm,1.0s
EBER Berja 39.48 289 P **P 08 08 10.4 +0.6**
FOEL Foel Wylfa 39.54 314 *eP* **P 08 08 10.2 +0.3**
FOEL IAmb IAmb 08 08 11.0
comp=Z,90nm,1.0s
KESW Keswick, Cumbr 39.78 317 *eP* **P 08 08 11.6 -0.2**
KESW IAmb IAmb 08 08 12.9
comp=Z,62nm,0.7s
LLW Llanuwchllyn 39.81 314 *eP* **P 08 08 11.3 -0.8**
EQTA Presa de Quent 39.86 289 P **P 08 08 13.4 +0.5**
ESBB Sonseca Array 39.88 293 P **P 08 08 13.3 +0.4**
ESDC Sonseca Array 39.88 293 P **P 08 08 12.7 -0.3**
comp=Z,15nm,1.0s,baz=82,slow=7.9,SNR=31
ESDC PcP **PcP 08 10 18.7 +0.2**
comp=Z,3.8nm,0.9s,baz=57,slow=3.7,SNR=7.7
ESDC LR LR 08 27 13.0
comp=Z,596nm,18.7s,baz=93,slow=40
comp=Z,15nm,1.0s
DRUM Mains of Drumt 39.96 320 *eP* **P 08 08 13.4 +0.1**
EKA Eskdalemuir Ar 39.96 318 P **P 08 08 13.0 -0.3**
comp=Z,14nm,0.6s,baz=102,slow=8.8,SNR=72
EKA PcP **PcP 08 10 19.3 +0.9**
comp=Z,7.9nm,0.8s,baz=99,slow=3.6,SNR=5.1
comp=Z,14nm,0.6s
GOMU GeErMu 39.97 72 P **P 08 08 15.0 +0.9**
GOMU pP pP 08 08 19.7 -0.7
GOMU sP sP 08 08 22.1 -0.6
GOMU pmax pmax
comp=Z,46nm,1.1s
GOMU LR LR
comp=Z,750nm,15.5s
GOMU LR LR
comp=Z,690nm,15.6s
GOMU LR LR
comp=Z,980nm,16.5s
ESK Eskdalemuir 39.99 318 P **P 08 08 13.6 0.0**
ESK pmax pmax
comp=Z,93nm,1.5s
ELGU Los Guajares, 40.06 289 P **P 08 08 15.1 +0.6**
EDI Edinburgh 40.11 319 *eP* **P 08 08 14.8 +0.2**
WPS Cemaes, Angles 40.39 315 *eP* **P 08 08 16.9 +0.1**
EGOR Sierra Gorda, 40.40 289 P **P 08 08 15.3 -2.1**
NEWG New Galloway 40.52 317 *eP* **P 08 08 17.2 -0.7**
NEWG IAmb IAmb 08 08 18.7
comp=Z,112nm,1.6s
MCD Coleburn Disti 40.53 321 *eP* **P 08 08 18.2 +0.1**
MCD IAmb IAmb 08 08 18.9
comp=Z,80nm,0.7s
IOMK Kirk Michael 40.56 316 *eP* **P 08 08 18.0 -0.4**
EADA Adamuz 40.58 291 P **P 08 08 18.6 -0.2**
WIM Isle of Man 40.61 316 *eP* **P 08 08 19.0 +0.3**
SHL Shillong 40.65 89 P **P 08 08 19.5 -0.2**
SHL IAmb IAmb 08 08 20.0
comp=Z,100nm,0.9s
SHL Shillong 40.65 89 P **P 08 08 19.5 -0.2**
SHL pmax pmax
comp=Z,100nm,0.9s
SHL Shillong 40.65 89 P **P 08 08 19.2 -0.4**
SNR=28
INVG Invergeldie, C 40.69 319 *eP* **P 08 08 19.2 -0.1**
INVG IAmb IAmb 08 08 20.0
comp=Z,88nm,1.0s
EMAL Malaga-Limoner 40.71 289 P **P 08 08 19.9 0.0**
GAL1 Galloway 40.75 317 *eP* **P 08 08 19.8 0.0**
PGBU Glenifferbraes 40.80 318 *eP* **P 08 08 20.4 +0.1**
PGBU IAmb IAmb 08 08 21.8
comp=Z,54nm,0.9s
EMIJ Mijas 41.02 289 P **P 08 08 21.4 -1.0**
ECAB El Cabril 41.25 291 P **P 08 08 24.4 +0.2**
LAWE Loch Awe, Argy 41.39 319 *eP* **P 08 08 25.1 0.0**
LAWE IAmb IAmb 08 08 25.8
comp=Z,158nm,1.6s
CEU Ceuta 41.64 288 P **P 08 08 27.7 +0.3**
ECEU Ceuta 41.64 288 P **P 08 08 27.6 +0.1**
PALK Pallekele 41.65 121 LR LR 08 27 10.1
comp=Z,1µm,18.4s,baz=55,slow=38
ECAL Calabor 41.70 297 P **P 08 08 27.1 -0.9**
PBRG Braganca 41.72 297 *eP* **P 08 08 28.2 +0.1**
comp=Z,98nm,1.5s
MDT Midelt 41.76 283 P **P 08 08 28.9 +0.3**
comp=Z,15nm,0.9s,baz=101,slow=12,SNR=13
comp=Z,15nm,0.9s
ESPR Espera 41.82 290 P **P 08 08 28.6 -0.3**
IFR Ifrane 42.00 284 P **P 08 08 31.9 +1.2**
MVO Moncorvo 42.01 296 *eP* **P 08 08 30.7 +0.2**
comp=Z,132nm,1.2s
PBAR Barrancos 42.49 292 *eP* **P 08 08 35.1 +0.7**
comp=Z,189nm,1.4s
PBAR Barrancos 42.49 292 P **P 08 08 34.7 +0.4**
MTE Manteigas 42.50 295 *eP* **P 08 08 35.2 +0.6**
comp=Z,140nm,1.6s
PVRL Vila Real 42.51 296 *eP* **P 08 08 34.9 +0.3**
comp=Z,204nm,1.4s
NRIK Noril'sk 42.53 20 P **P 08 08 35.5 +1.1**
NRIK IAmb IAmb 08 08 36.9
comp=Z,184nm,1.3s
NRIK Noril'sk 42.53 20 *i* P **P 08 08 35.3 +1.0**
NRIK pmax pmax
comp=Z,165nm,1.4s
NRIK Noril'sk 42.53 20 P **P 08 08 35.4 +1.1**
comp=Z,41nm,0.6s,baz=228,slow=5.0,SNR=57
NRIK LR LR 08 29 55.6
comp=Z,973nm,18.3s,baz=231,slow=41
comp=Z,41nm,0.6s
PCBR Castelo Branco 42.54 294 *eP* **P 08 08 35.2 +0.5**
comp=Z,155nm,1.2s
PMRV Marv??o 42.54 294 *eP* **P 08 08 35.3 +0.5**
comp=Z,65nm,1.3s
POLO Lamas de Olo 42.56 297 *eP* **P 08 08 35.4 +0.4**
comp=Z,113nm,1.4s
PVIS Viseu 42.72 296 *eP* **P 08 08 37.6 +1.3**
PESTR Estremoz 42.79 293 *eP* **P 08 08 37.3 +0.5**
comp=Z,96nm,1.3s
PESTR Estremoz 42.79 293 P **P 08 08 36.6 -0.2**
PGAV Gavieira, Arco 42.83 297 *eP* **P 08 08 36.4 -0.8**
comp=Z,282nm,1.3s
BJO1 Bjornoya 42.93 350 *eP* **P 08 08 37.5 +0.1**
PBEJ Beja 43.16 292 *eP* **P 08 08 40.7 +0.9**
comp=Z,148nm,1.4s
PVAQ Vaqueiros 43.16 291 *eP* **P 08 08 40.3 +0.4**
comp=Z,11nm,1.2s
PVAQ Vaqueiros 43.16 291 P **P 08 08 40.3 +0.4**
EVO Evora 43.17 292 P **P 08 08 41.7 +1.7**
COI Coimbra 43.19 295 *eP* **P 08 08 41.3 +1.3**
comp=Z,281nm,1.6s
PMTG Montargil 43.24 293 *eP* **P 08 08 41.1 +0.7**
comp=Z,76nm,1.5s
GTA Gaotai 43.27 66 *eP* **P 08 08 41.2 +0.3**
GTA S **S 08 15 10.7 +3.5**
GTA pmax pmax
comp=Z,44nm,1.3s
GTA LR LR
comp=Z,860nm,14.9s
GTA LR LR
comp=Z,560nm,13.5s
GTA LR LR
comp=Z,700nm,14.5s
PCAS Casmilo, Conde 43.28 295 *eP* **P 08 08 41.2 +0.4**
comp=Z,132nm,1.3s
IGLA Glengowla, Co 43.29 314 *eP* **P 08 08 40.9 +0.3**
PBDV Barranco-do-Ve 43.37 291 *eP* **P 08 08 42.1 +0.6**
comp=Z,107nm,1.3s
PBDV Barranco-do-Ve 43.37 291 P **P 08 08 42.1 +0.6**
PCVE Castro Verde 43.37 291 *eP* **P 08 08 41.3 -0.2**
comp=Z,110nm,1.6s
PCVE Castro Verde 43.37 291 P **P 08 08 41.3 -0.2**
MESJ Messejana 43.47 291 *eP* **P 08 08 42.8 +0.5**
comp=Z,66nm,1.6s
HOPEN Hopen 43.95 353 *eP* **P 08 08 46.3 +0.7**
TIO Tiouine 44.47 282 P **P 08 08 50.6 0.0**
ZAK Zakamensk 44.71 50 *eP* **P 08 08 52.4 +0.2**
ZAK pmax pmax
comp=Z,39nm,1.2s
TORD Torodi Ar. Bea 44.88 254 P **P 08 08 53.8 -0.1**
TORD IAmb IAmb 08 09 00.2
comp=Z,82nm,1.4s
TORD Torodi Ar. Bea 44.88 254 P **P 08 08 53.6 -0.3**
comp=Z,17nm,0.8s,baz=64,slow=6.6,SNR=81
TORD LR LR 08 30 03.9
comp=Z,475nm,19.5s,baz=50,slow=39
comp=Z,17nm,0.8s
IRK Irkutsk 45.32 48 *eP* **P 08 08 57.2 +0.3**
IRK pmax pmax
comp=Z,124nm,1.3s
MND Mandalay 45.64 91 P **P 08 08 59.1 -0.7**
SPB2 Spitsbergen Ar 46.34 352 P **P 08 09 05.2 +0.5**
SPA0 Spitsbergen Ar 46.35 352 *eP* **P 08 09 05.1 +0.4**
SPITS Spitsbergen Ar 46.35 352 P **P 08 09 05.3 +0.6**
comp=Z,30nm,0.5s,baz=141,slow=8.1,SNR=85
SPITS PcP **PcP 08 10 39.2 -0.3**
comp=Z,4.5nm,0.6s,baz=108,slow=11,SNR=1.4
SPITS PP **PP 08 10 52.2 -1.2**
comp=Z,11nm,0.7s,baz=134,slow=12,SNR=2.0
comp=Z,30nm,0.5s
TNCH TengChong 46.39 86 P **P 08 09 06.0 +0.1**
TNCH pP pP 08 09 09.4 -2.7
TNCH PP **PP 08 10 55.0 +0.1**
TNCH S **S 08 15 52.4 -0.4**
TNCH pmax pmax
comp=Z,82nm,0.6s
TNCH pmax pmax
comp=Z,300nm,3.0s
TNCH LR LR
comp=Z,530nm,12.5s
TNCH LR LR
comp=Z,730nm,13.2s
TNCH LR LR
comp=Z,870nm,15.8s
SONM Songino Array 46.89 54 P **P 08 09 10.2 +0.7**
comp=Z,9.8nm,0.9s,baz=280,slow=12,SNR=36
SONM PcP **PcP 08 10 42.0 -0.1**
comp=Z,3.4nm,0.7s,baz=262,slow=5.2,SNR=4.8
SONM ScP **ScP 08 14 34.5 -0.3**
comp=Z,3.9nm,1.1s,baz=243,slow=6.5,SNR=4.2
SONM LR LR 08 32 46.8
comp=Z,1µm,18.4s,baz=269,slow=41
comp=Z,9.8nm,0.9s
JMIC Jan Mayen 47.04 339 LR LR 08 30 41.0
comp=Z,1µm,18.5s,baz=96,slow=38
LZH Lanzhou 47.11 70 ⇑ P **P 08 09 12.3 +0.9**
LZH pP sP 08 09 18.1 -2.0
LZH pmax pmax
comp=Z,81nm,1.4s
LZH LR LR
comp=Z,1µm,15.8s
LZH LR LR
comp=Z,1µm,16.5s
LZH LR LR
comp=Z,2µm,16.5s
ULN Ulaanbaatar 47.33 53 P **P 08 09 13.0 0.0**
ULN IAmb IAmb 08 09 14.9
comp=Z,69nm,1.0s
ULN Ulaanbaatar 47.33 53 P **P 08 09 13.0 0.0**
ULN pmax pmax
comp=Z,69nm,1.0s
ULN Ulaanbaatar 47.33 53 P **P 08 09 13.6 +0.6**
ULN Ulaanbaatar 47.33 53 P **P 08 09 13.9 +0.9**
comp=Z,307nm,1.2s
KBS Kingsbay 47.48 352 *eP* **P 08 09 13.7 +0.1**
KBS IAmb IAmb 08 09 21.1
comp=Z,102nm,1.5s
KBS Kingsbay 47.48 352 *i* P **P 08 09 13.5 -0.1**
PZH PanZhiHua 48.49 83 P **P 08 09 21.5 -0.7**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,400nm,7.7s
PZH LR LR
comp=Z,860nm,18.2s
PZH LR LR
comp=Z,710nm,16.9s
PZH LR LR
comp=Z,840nm,18.3s
CD2 Chengdu 48.56 77 P **P 08 09 22.5 -0.1**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 LR LR
comp=Z,760nm,10.0s
CD2 LR LR
comp=Z,760nm,10.8s
CD2 LR LR
comp=Z,2µm,12.6s
CHTO Chiang Mai 49.46 93 P **P 08 09 29.1 -0.6**
CHTO Chiang Mai 49.46 93 P **P 08 09 29.0 -0.6**
CHTO pmax pmax
comp=Z,77nm,1.1s
CHTO Chiang Mai 49.46 93 P **P 08 09 29.3 -0.2**
CHTO P **P 08 09 29.3 -0.2**
CHTO Chiang Mai 49.46 93 P **P 08 09 29.0 -0.6**
comp=Z,77nm,1.1s,comp=Z,788nm
CMMT Chiang Mai 49.47 93 P **P 08 09 29.0 -0.6**
comp=Z,214nm,1.1s,comp=Z,2µm
CMAR Chiang Mai Arr 49.63 94 P **P 08 09 30.6 -0.3**
comp=Z,26nm,0.7s,baz=295,slow=8.4,SNR=86
CMAR PcP **PcP 08 10 53.1 +0.9**
comp=Z,11nm,0.9s,baz=289,slow=5.4,SNR=6.1
CMAR PP **PP 08 11 26.1 +0.8**
comp=Z,9.5nm,0.9s,baz=296,slow=8.9,SNR=4.0
CMAR LR LR 08 34 54.1
comp=Z,736nm,19.6s,baz=295,slow=41
comp=Z,26nm,0.7s
KMI Kunming 49.85 84 ⇓ P **P 08 09 32.6 -0.2**
KMI pmax pmax
comp=Z,32nm,0.9s
KMI LR LR
comp=Z,1µm,17.0s
KMI LR LR
comp=Z,780nm,17.8s
KMI LR LR
comp=Z,920nm,18.7s
BORG Borgarnes 50.34 329 LR LR 08 32 38.3
comp=Z,744nm,19.9s,baz=100,slow=38
PHRA Phrae 50.68 93 P **P 08 09 38.1 -0.8**
BTO Baotou 50.69 62 *eP* **P 08 09 38.8 0.0**
BTO pP **pP 08 09 43.3 -1.7**
BTO sP **sP 08 09 45.8 -1.7**
BTO PP **PP 08 11 35.5 +0.8**
BTO S **S 08 16 54.7 +1.6**
BTO SS **SS 08 20 21.3 -5.9**
BTO pmax pmax
comp=Z,130nm,0.9s
BTO pmax pmax
comp=Z,940nm,9.1s
BTO LR LR
comp=Z,3µm,17.6s
BTO LR LR
comp=Z,980nm,15.3s
BTO LR LR
comp=Z,2µm,20.1s
CIT Chita 51.04 47 *eP* **P 08 09 42.0 +0.8**
CIT pmax pmax
comp=Z,144nm,1.5s
SCO Scoresbysund 51.20 336 *i* P **P 08 09 43.0 +1.0**
SCO IAmb IAmb 08 09 45.6
comp=Z,4.0nm,0.8s
LSZ Lusaka 51.50 202 LR LR 08 34 09.5
comp=Z,512nm,18.3s,baz=28,slow=39
DAG Danmarks Havn 51.65 345 P **P 08 09 45.6 +0.3**
DAG pmax pmax
comp=Z,23nm,1.9s
DAG Danmarks Havn 51.65 345 *eP* **P 08 09 44.3 -1.0**
DAG IAmb IAmb 08 09 46.6
comp=Z,14nm,0.6s
DAG IAmb IAmb 08 09 47.2
comp=Z,8.0nm,0.5s
XAN Xi'an 51.68 71 ⇓ P **P 08 09 46.6 +0.3**
XAN pP pP 08 09 52.7 +0.2
XAN pmax pmax
comp=Z,140nm,0.8s
XAN pmax pmax
comp=Z,470nm,4.0s
XAN LR LR
comp=Z,2µm,16.5s
XAN LR LR
comp=Z,1µm,15.8s
XAN LR LR
comp=Z,2µm,12.4s
HHC Hu-ho-hao-te 51.77 62 ⇑ *i* P **P 08 09 47.8 +0.9**
HHC sP sP 08 09 55.8 +0.2
HHC S **S 08 17 08.0 0.0**
HHC ScS **ScS 08 19 34.4 -1.8**
HHC pmax pmax
comp=Z,850nm,6.1s
HHC LR LR
comp=Z,960nm,14.7s
HHC LR LR
comp=Z,2µm,14.3s
HHC LR LR
comp=Z,2µm,12.6s
SRDT SRDT 51.84 98 P **P 08 09 47.5 0.0**
SRDT SRDT 51.84 98 P **P 08 09 47.1 -0.4**
comp=Z,58nm,1.2s,comp=Z,7µm
SLVN Son La 52.44 88 P **P 08 09 51.9 -0.1**
SLVN IAmb IAmb 08 09 59.9
comp=Z,33nm,0.8s
ABPO Ambohimpanom 52.45 178 *eP* **P 08 09 54.1 +2.1**
ABPO IAmb IAmb 08 09 54.7
comp=Z,232nm,2.1s
GYA Guiyang 52.56 81 P **P 08 09 52.1 -0.9**
GYA pmax pmax
comp=Z,37nm,0.8s
TIY Taiyuan 53.28 65 ⇓ P **P 08 09 58.8 +0.8**
NONG Nongkai 53.32 92 P **P 08 09 58.1 -0.4**
ENH Enshi 53.42 75 P **P 08 09 59.7 +0.6**
NAYO Nakonayok 53.67 97 P **P 08 10 01.3 +0.2**
DBIC Dimbokro 53.88 252 P **P 08 10 02.8 +0.2**
DBIC IAmb IAmb 08 10 08.8
comp=Z,65nm,1.2s
DBIC Dimbokro 53.88 252 P **P 08 10 02.8 +0.2**
DBIC pmax pmax
comp=Z,65nm,1.3s
DBIC Dimbokro 53.88 252 *eP* **P 08 10 02.9 +0.3**

DBIC IAmb IAmb 08 10 08.5
comp=Z,294nm,2.1s
DBIC Dimbokro 53.88 252 P P 08 10 02.5 -0.1
comp=Z,11nm,0.6s,baz=32,slow=6.9,SNR=15
DBIC LR LR 08 35 30.3
comp=Z,612nm,18.5s,baz=44,slow=39
comp=Z,11nm,0.6s
KIC Kosan Boka 53.98 251⇑ eP P 08 10 03.3 -0.1
comp=Z,134nm,1.0s
TIC Toumodi 54.03 252⇑ eP P 08 10 02.5 -1.2
comp=Z,8.4nm,0.3s
XLT XiLinHaoTe 54.24 57 eP P 08 10 05.3 +0.2
XLT pP pP 08 10 10.2 -1.1
XLT sP sP 08 10 12.2 -1.6
XLT S S **08 17 39.8 -1.7**
XLT SS SS **08 21 20.5 -2.6**
XLT pmax pmax
comp=Z,21nm,0.9s
XLT pmax pmax
comp=Z,440nm,5.5s
XLT LR LR
comp=Z,1μm,15.7s
XLT LR LR
comp=Z,1μm,16.6s
LIC Lamto 54.29 252⇑ eP P 08 10 04.4 -1.2
comp=Z,74nm,0.8s
LYN LuoYang 54.29 69 eP P 08 10 05.7 +0.3
LYN pmax pmax
comp=Z,85nm,0.8s
LYN LR LR
comp=Z,1μm,14.4s
LYN LR LR
comp=Z,800nm,14.8s
LYN LR LR
comp=Z,1μm,17.5s
HNS HongShan 55.09 65 ⇓P P 08 10 11.8 +0.6
HNS PP PP **08 12 17.2 +2.9**
HNS S S **08 17 51.9 -1.0**
HNS pmax pmax
comp=Z,17nm,1.2s
HNS LR LR
comp=Z,510nm,17.5s
HNS LR LR
comp=Z,770nm,18.0s
HNS LR LR
comp=Z,770nm,14.2s
BJI Beijing 55.38 62 P P 08 10 13.5 +0.3
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI LR LR
comp=Z,550nm,22.1s
BJI LR LR
comp=Z,260nm,19.6s
BJI LR LR
comp=Z,280nm,17.4s
BJT Baijiatuau 55.38 62 P P 08 10 13.9 +0.7
BJT Baijiatuau 55.38 62 P P 08 10 13.1 -0.1
BJT pmax pmax
comp=Z,14nm,1.1s
SRIT Nakonsritamara 55.38 104 P P 08 10 12.4 -1.1
HIA Hailar 55.40 50 P P 08 10 14.1 +0.7
HIA Hailar 55.40 50 *i* P P 08 10 14.0 +0.7
HIA pmax pmax
comp=Z,27nm,1.0s
TIXI Tiksi 56.26 22 P P 08 10 19.6 +0.6
TIXI Tiksi 56.26 22 *i* P P 08 10 19.0 0.0
TIXI pmax pmax
comp=Z,42nm,1.0s
TIXI Tiksi 56.26 22 LR LR 08 38 58.2
comp=Z,43nm,19.2s,baz=290,slow=41
SUMG Summit 56.49 339 P P 08 10 21.5 +0.4
SUMG IAmb IAmb 08 10 23.3
comp=Z,85nm,1.4s
SUMG Summit 56.49 339 P P 08 10 21.5 +0.4
SUMG pmax pmax
comp=Z,85nm,1.4s
SUMG Summit 56.49 339 *eP* P 08 10 21.2 0.0
SUMG IAmb IAmb 08 10 23.6
comp=Z,66nm,1.3s
SUMG IAmb IAmb 08 10 24.5
comp=Z,12nm,0.8s
KCSI Kotacane, Aceh 56.94 110 P P 08 10 22.1 -2.6
CNSH ChangSha 56.99 76 ⇑P P 08 10 24.4 -0.5
CNSH pmax pmax
comp=Z,49nm,0.9s
WHN Wuhan 57.21 73 ⇓P P 08 10 26.7 +0.3
WHN pP **pP 08 10 32.7 0.0**
WHN S S **08 18 26.2 +5.0**
WHN LR LR
comp=Z,4μm,15.1s
TIA Tai'an 57.31 66 ⇓P P 08 10 27.4 +0.3
TIA S S **08 18 25.8 +3.3**
TIA pmax pmax
comp=Z,26nm,0.9s
TIA pmax pmax
comp=Z,190nm,3.7s
TIA LR LR
comp=Z,390nm,11.5s
TIA LR LR
comp=Z,140nm,12.2s
TIA LR LR
comp=Z,390nm,15.1s
ICESG Greenland Ices 57.34 335 *eP* P 08 10 27.1 0.0
ICESG IAmb IAmb 08 10 30.1
comp=Z,12nm,0.9s
YAK Yakutsk 58.09 34 *eP* P 08 10 29.9 -2.2
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=N,277nm,15.0s
YAK MLR MLR
comp=E,833nm,20.0s
YAK Yakutsk 58.09 34 LR LR 08 39 37.4
comp=E,60nm,18.3s,baz=278,slow=40
KULM Kulim 58.15 106 P P 08 10 31.9 -1.3
comp=E,34nm,1.0s
GSI Gunungsitoli 58.17 112 P P 08 10 33.3 0.0
GSI IAmb IAmb 08 10 34.3
comp=Z,50nm,0.9s
GSI Gunungsitoli 58.17 112 P P 08 10 33.4 0.0
GSI Gunungsitoli 58.17 112 P P 08 10 33.4 0.0
comp=Z,73nm,1.4s,comp=Z,23μm
PSI Prapat 58.28 110 P P 08 10 33.3 -1.0
QIZ Qiongzhong 58.44 87 P P 08 10 34.9 -0.3
QIZ S S **08 18 39.5 +1.9**
QIZ pmax pmax
comp=Z,860nm,3.9s
QIZ LR LR
comp=Z,700nm,16.0s
QIZ LR LR
comp=Z,610nm,14.3s
QIZ LR LR
comp=Z,890nm,18.5s
MOPA Mopani 58.52 195 *eP* P 08 10 36.8 +1.3
MOPA IAmb IAmb 08 10 37.9
comp=Z,119nm,0.8s
TRSI Tarutung 58.79 111 P P 08 10 31.3 -6.5
ZEA Zeya 58.84 43 *eP* P 08 10 38.5 +1.0
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=N,1μm,15.0s
NEEM North Greenlan 58.84 345 *eP* P 08 10 37.1 -0.4
NEEM IAmb IAmb 08 10 44.5
comp=Z,8.0nm,0.6s
TSUM Tsumeb 59.07 211 *eP* P 08 10 41.0 +1.4
HOED Hoedspruit, Li 59.49 196 *eP* P 08 10 43.5 +1.3
HOED IAmb IAmb 08 10 44.4
comp=Z,40nm,0.8s
DL2 Dalian 59.73 61 P P **08 10 44.1 +0.2**
DL2 pmax pmax
comp=Z,77nm,0.9s
LEPH Lephalale, Lim 59.74 199 *eP* P 08 10 45.0 +1.0
LEPH IAmb IAmb 08 10 46.0
comp=Z,51nm,1.2s
HEH HeiHe 59.94 47 *eP* P 08 10 44.8 -0.3

HEH pmax pmax
comp=Z,45nm,1.1s
HEH LR LR
comp=Z,920nm,12.3s
HEH LR LR
comp=Z,2μm,12.4s
HEH LR LR
comp=Z,2μm,15.8s
PILG Pilgrimsrest, 60.04 196 *eP* P 08 10 46.3 +0.1
PILG IAmb IAmb 08 10 48.4
comp=Z,51nm,0.9s
NJ2 Nanjing 60.18 69 *eP* P 08 10 46.7 -0.4
NJ2 pP **pP 08 10 51.9 -1.5**
NJ2 sP **sP 08 10 58.3 +2.5**
NJ2 pmax pmax
comp=Z,17nm,0.5s
DY2G Dye2 60.38 333 *eP* P 08 10 49.1 +0.9
DY2G IAmb IAmb 08 10 49.8
comp=Z,34nm,0.6s
DULL Dullstroom, Mp 60.58 196 *eP* P 08 10 51.1 +1.2
DULL IAmb IAmb 08 10 52.2
comp=Z,30nm,0.8s
RUST Rust De Winter 60.86 198 *eP* P 08 10 53.3 +1.5
RUST IAmb IAmb 08 10 53.8
comp=Z,32nm,0.8s
NHAM Northam, North 60.87 199 *eP* P 08 10 52.5 +0.7
NHAM IAmb IAmb 08 10 54.2
comp=Z,21nm,0.7s
TSWA Tswaing Meteor 61.15 198 *eP* P 08 10 54.2 +0.6
TSWA IAmb IAmb 08 10 56.1
comp=Z,68nm,1.4s
NYAT Nyati, Northwe 61.23 199 *eP* P 08 10 55.0 +0.7
NYAT IAmb IAmb 08 10 56.7
comp=Z,48nm,0.9s
BNX BinXian 61.39 52 ⇓P P 08 10 54.4 -0.7
BNX pmax pmax
comp=Z,18nm,1.1s
BNX pmax pmax
comp=Z,770nm,4.6s
LBTB Lobatse 61.46 201⇑ *i* P P 08 10 57.3 +1.5
LBTB IAmb IAmb 08 10 58.2
comp=Z,56nm,1.0s
BKNI Bangkinang 61.47 111 P P 08 10 55.8 -0.2
UPNV Upernavik 61.56 341 *i* P P 08 10 55.9 +0.1
UPNV IAmb IAmb 08 10 58.3
comp=Z,10.0nm,0.7s
NRS Narsarsuaq 61.65 327 P P 08 10 55.2 -1.3
NRS pmax pmax
comp=Z,89nm,1.5s
NRS Narsarsuaq 61.65 327 *i* P P 08 10 57.0 +0.4
NRS IAmb IAmb 08 10 58.2
comp=Z,36nm,0.7s
HRAO HartRAO 61.70 198 *eP* P 08 10 57.8 +0.3
PDSI Padang 61.80 112 P P 08 10 57.2 -1.1
comp=Z,61nm,1.0s,comp=Z,4μm
SFJD Kangerlussuaq 61.86 334 *eP* P 08 10 56.9 -0.9
SFJD IAmb IAmb 08 10 59.6
comp=Z,7.0nm,0.5s
KSR Koster 61.88 199 *eP* P 08 11 00.7 +2.0
KSR IAmb IAmb 08 11 20.8
comp=Z,99nm,1.7s
POGA Pongola 62.16 194 *eP* P 08 11 02.0 +1.7
WIN Windhoek 62.25 210 P P 08 11 03.5 +2.2
WIN pmax pmax
comp=Z,63nm,1.5s
SSE Sheshan 62.39 70 P P 08 11 02.1 +0.1
SSE S S **08 19 28.2 +0.3**
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,380nm,4.7s
SSE LR LR
comp=Z,380nm,18.2s
SSE LR LR
comp=Z,410nm,18.5s
PRYS Parys 62.77 198 *eP* P 08 11 05.0 +0.4
PRYS IAmb IAmb 08 11 06.1
comp=Z,29nm,0.9s
IVI Ivigtut 62.88 327 *eP* P 08 11 05.4 +0.6
IVI IAmb IAmb 08 11 06.5
comp=Z,20nm,0.6s
NWCL Newcastle 62.93 196 *eP* P 08 11 06.0 +0.4
NWCL IAmb IAmb 08 11 07.1
comp=Z,27nm,0.7s
KLR Kul'dur 62.93 47 *i* P P 08 11 07.2 +1.8
KLR pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 62.93 47 LR LR 08 42 28.2
comp=Z,584nm,20.4s,baz=287,slow=40
MDJ Mudanjiang 63.23 53 P P 08 11 06.8 -0.7
MDJ PcP **PcP 08 11 44.0 -0.7**
MDJ S S **08 19 39.3 +1.1**
MDJ pmax pmax
comp=Z,16nm,1.6s
MDJ pmax pmax
comp=Z,500nm,3.5s
NUUK Nuuk 63.31 331 *i* P P 08 11 07.4 -0.2
NUUK IAmb IAmb 08 11 12.5
comp=Z,20nm,0.9s
SWZ Schweizer 63.58 200 *eP* P 08 11 10.4 +0.5
SWZ IAmb IAmb 08 11 11.8
comp=Z,30nm,0.8s
SNKL Senekal, Frees 63.95 198 *eP* P 08 11 13.2 +0.8
SNKL IAmb IAmb 08 11 14.2
comp=Z,80nm,0.8s
KSRS Korea Array 64.87 61 P P 08 11 17.5 -0.8
comp=Z,5.6nm,0.4s,baz=286,slow=6.8,SNR=22
comp=Z,5.6nm,0.4s
BOSA Boshof 64.95 200 P P 08 11 19.4 +0.5
BOSA Boshof 64.95 200⇑ *i* P P 08 11 19.8 +0.9
BOSA IAmb IAmb 08 11 20.7
comp=Z,48nm,0.8s
BOSA Boshof 64.95 200 P P 08 11 19.6 +0.7
comp=Z,44nm,0.9s,baz=17,slow=6.4,SNR=63
BOSA LR LR 08 40 25.9
comp=Z,596nm,18.6s,baz=26,slow=37
comp=Z,44nm,0.9s
USRK Ussuriysk Ar. 64.98 52 P P 08 11 17.6 -1.4
comp=Z,8.7nm,0.5s,baz=284,slow=5.9,SNR=20
USRK LR LR 08 44 06.8
comp=Z,1μm,18.5s,baz=303,slow=40
comp=Z,8.7nm,0.5s
YHNB Yeheng 65.33 76 P P 08 11 23.2 +1.6
TPUB Ta-pu 65.36 78 P P 08 11 22.5 +0.8
TPUB Ta-pu 65.36 78 P P 08 11 22.7 +1.0
SSLB Suanglung 65.39 77 P P 08 11 23.0 +1.0
KSTD Kokstad 65.83 195 *eP* P 08 11 25.7 +1.1
YULB Yu-li 65.86 77 P P 08 11 25.9 +0.9
YULB IAmb IAmb 08 11 33.9
comp=Z,35nm,0.8s
YULB Yu-li 65.86 77 P P 08 11 25.9 +0.9
UPI Upington 65.95 204 *eP* P 08 11 25.8 +0.5
UPI IAmb IAmb 08 11 27.6
comp=Z,66nm,1.3s
HVD Gariep Dam 66.76 199 *eP* P 08 11 31.3 +0.7
HVD IAmb IAmb 08 11 32.5
comp=Z,35nm,0.8s
LWLI Liwa 67.16 113 P P 08 11 32.1 -1.4
comp=Z,196nm,0.7s
SEY Seymchan 67.55 28 *i* P P 08 11 37.1 +2.0
SEY pmax pmax
comp=Z,24nm,1.1s
SEY Seymchan 67.55 28 LR LR 08 47 29.0
comp=Z,406nm,18.8s,baz=318,slow=42
KASI Kota Agung 67.82 113 P P 08 11 35.9 -1.6
comp=Z,82nm,0.8s
KSM Kuching 68.17 103 P P 08 11 39.7 0.0
KSM Kuching 68.17 103 P P 08 11 39.4 -0.3
comp=Z,28nm,0.8s
BFON Badsfontein, M 68.39 200 *eP* P 08 11 41.6 +0.8
BFON IAmb IAmb 08 11 43.3
comp=Z,42nm,0.7s
MA2 Magadan 68.57 32 P P 08 11 42.1 +0.6
MA2 Magadan 68.57 32 *i* P P 08 11 41.5 0.0
MA2 pmax pmax
comp=Z,28nm,1.4s
MA2 Magadan 68.57 32 LR LR 08 45 45.2
comp=Z,496nm,19.4s,baz=303,slow=40
BRAK Brakfontein 68.61 201 *eP* P 08 11 43.2 +1.1
GRAF Camdeboo Natio 68.62 199 *eP* P 08 11 42.9 +0.8
GRAF IAmb IAmb 08 11 44.6
comp=Z,41nm,0.9s
TYV Tymovskoe 68.68 42 *eP* P 08 11 43.4 +1.0
TYV pmax pmax
comp=Z,400nm,3.6s
TYV pmax pmax
comp=Z,27nm,1.4s
RES Resolute Bay 68.83 350 P P 08 11 43.9 +1.0
RES Resolute Bay 68.83 350 P P 08 11 43.9 +1.0
RES pmax pmax
comp=Z,24nm,1.5s
RES Resolute Bay 68.83 350 LR LR 08 44 17.1
comp=Z,364nm,19.8s,baz=17,slow=38
JNU Nakatsue 68.92 64 LR LR 08 47 38.3
comp=Z,339nm,18.0s,baz=304,slow=41
GRHM Grahamstown, E 69.07 197 *eP* P 08 11 46.0 +1.1
GRHM IAmb IAmb 08 11 57.6
comp=Z,143nm,1.9s
ROOI Rooidraai Farm 69.08 200 *eP* P 08 11 46.8 +1.8
ROOI IAmb IAmb 08 11 47.7
comp=Z,69nm,0.9s
FRAZ Fraserburg 69.19 202 *eP* P 08 11 46.4 +0.5
FRAZ IAmb IAmb 08 11 48.5
comp=Z,42nm,1.0s
CVNA Calvinia 69.31 204 *eP* P 08 11 47.0 +0.5
CVNA IAmb IAmb 08 11 53.7
comp=Z,104nm,1.5s
BILL Bilibino 69.36 20 *i* P P 08 11 47.2 +0.9
BILL pmax pmax
comp=Z,85nm,1.3s
SUR Sutherland 69.80 202 *eP* P 08 11 49.3 -0.3
SUR IAmb IAmb 08 11 50.8
comp=Z,764nm,3.0s
SUR Sutherland 69.80 202 LR LR 08 44 35.7
comp=Z,970nm,18.0s,baz=32,slow=38
SUR Sutherland 69.80 202 P P 08 11 51.5 +1.9
JOW Kunigami 69.84 71 LR LR 08 45 07.3
comp=Z,425nm,19.7s,baz=328,slow=38
MERW Merweville 69.85 202 *eP* P 08 11 50.9 +1.0
MERW IAmb IAmb 08 11 53.0
comp=Z,77nm,1.3s
STKI Sintang 69.93 104 P P 08 11 51.2 +0.5
comp=Z,52nm,0.6s,comp=Z,13μm
FRB Frobisher Bay 69.99 334 P P 08 11 50.4 +0.2
FRB pmax pmax
comp=Z,92nm,1.1s
FRB Frobisher Bay 69.99 334 LR LR 08 44 19.1
comp=Z,482nm,18.1s,baz=36,slow=38
TGY Tagaytay City 70.10 86 LR LR 08 46 00.2
comp=Z,367nm,20.0s,baz=87,slow=39
KKM Kota Kinabalu 70.44 96 P P 08 11 54.0 +0.1
KKM IAmb IAmb 08 12 00.2
comp=Z,39nm,0.9s
KKM Kota Kinabalu 70.44 96 P P 08 11 54.2 +0.3
comp=Z,57nm,1.0s
YSS Yuzh-Sakhalins 70.57 46 P P 08 11 54.2 +0.1
YSS Yuzh-Sakhalins 70.57 46 *eP* P 08 11 54.2 +0.1
YSS pmax pmax
comp=Z,30nm,1.1s
MATJ Matjiesfontein 70.69 202 *eP* P 08 11 57.1 +2.2
CNJI Cibinong 70.97 113 P P 08 11 54.6 -2.3
PRTV Porterville,We 70.99 203 *eP* P 08 11 58.1 +1.4
LEM Lembang 71.04 112 LR LR 08 44 56.0
comp=Z,372nm,19.9s,baz=257,slow=37
BBJI Bungbulang 71.46 113 P P 08 11 57.9 -2.1
BBJI Bungbulang 71.46 113 P P 08 11 58.0 -2.1
ASAJ Asahikawa 71.86 49 LR LR 08 46 07.8
comp=Z,404nm,20.6s,baz=308,slow=38
MJAR Matsushiro Arr 72.64 57 P P 08 12 05.3 -1.5
comp=Z,7.6nm,1.1s,baz=310,slow=4.8,SNR=5.5
MJAR LR LR 08 47 14.9
comp=Z,379nm,18.8s,baz=298,slow=38
comp=Z,7.6nm,1.1s
A21K Barrow 74.07 7 P P 08 12 15.5 +1.0
baz=341
A36M Sachs Harbour 74.41 357 P P 08 12 17.0 +0.5
A36M Sachs Harbour 74.41 357 P P 08 12 16.8 +0.3
baz=7.8
A19K Wainwright 74.58 9 P P 08 12 19.1 +1.5
baz=337
SCHQ Schefferville 74.61 326 P P 08 12 17.9 -0.2
SCHQ IAmb IAmb 08 12 19.2
comp=Z,106nm,1.4s
SCHQ Schefferville 74.61 326 P P 08 12 17.7 -0.3
comp=Z,20nm,0.6s,baz=42,slow=3.7,SNR=50
SCHQ LR LR 08 46 16.2
comp=Z,498nm,19.7s,baz=62,slow=37
comp=Z,20nm,0.6s
B20K Meade River 75.25 8 P P 08 12 22.6 +1.1
baz=340
B18K Kokolik River 75.26 10 P P 08 12 23.1 +1.6
baz=337
B22K Teshekpuk Lake 75.33 7 P P 08 12 22.9 +1.0
baz=344
PETK Petropavlovsk- 75.36 35 LR LR 08 49 36.0
comp=Z,552nm,19.3s,baz=301,slow=39
C16K Lisburne Hills 75.71 11 P P 08 12 24.4 +0.3
baz=334
C19K Lookout Ridge 75.80 9 P P 08 12 26.0 +1.2
baz=338
C17K DeLong Mountai 75.87 11 P P 08 12 25.9 +0.9
baz=336
B21K Ikpikpuk River 75.90 7 P P 08 12 26.4 +1.2
baz=343
C18K Utukok River 76.01 10 P P 08 12 26.8 +0.9
baz=337
C23K Itkillik River 76.07 6 P P 08 12 27.6 +1.5
baz=346
BLJI Banyuglugur 76.27 109 P P 08 12 27.8 -0.3
RDOG Red Dog Mine 76.30 11 P P 08 12 27.8 +0.3
baz=336,SNR=12
C21K Knifeblade Rid 76.33 7 P P 08 12 28.9 +1.2
baz=342
C24K Franklin Bluff 76.34 5 P P 08 12 29.0 +1.4
baz=348
C26K Camden Bay 76.39 4 P P 08 12 29.2 +1.3
baz=351
D20K Etivluk River 76.55 8 P P 08 12 29.8 +0.9
baz=341
D19K Kuna River 76.57 9 P P 08 12 30.0 +1.0
baz=340
D17K Noatak River 76.60 11 P P 08 12 29.5 +0.4
baz=336
MPSI Mapaga 76.66 99 P P 08 12 30.3 -0.1
comp=Z,60nm,1.0s,comp=Z,1μm
D22K Ayikyak River 76.81 7 P P 08 12 31.6 +1.2
baz=344
D24K Happy Valley 76.89 5 P P 08 12 32.3 +1.6
baz=348
D25K Kavik River 76.89 4 P P 08 12 31.6 +0.7
baz=350
TOLI2 Tolitoli 76.96 97 P P 08 12 31.9 -0.2
C36M Paulatuk 76.98 356 P P 08 12 31.2 0.0
baz=8.7,SNR=39
E20K Nigu River 77.03 8 P P 08 12 33.0 +1.3
baz=341
D28M Stokes Point 77.22 2 P P 08 12 33.7 +1.1
baz=356
E18K Tukpahlearik C 77.23 10 P P 08 12 33.6 +0.9
baz=338,SNR=39
D27M Malcolm River 77.24 2 P P 08 12 33.9 +1.1
baz=354
E17K Hotham Inlet 77.36 11 P P 08 12 33.8 +0.3
baz=337,SNR=40
MMSI Mamuju 77.57 102 P P 08 12 34.8 -0.7
comp=Z,30nm,0.9s
E22K Anaktuvuk Pass 77.62 7 P P 08 12 35.7 +0.7
baz=345
E19K Redstone River 77.66 9 P P 08 12 35.9 +0.7
baz=341
TNA Tin City 77.67 14 P P 08 12 36.3 +1.1
baz=332
E23K Chandalar 77.89 6 P P 08 12 37.3 +0.7
baz=347
E28M Babbage River 77.92 2 P P 08 12 37.6 +0.9
baz=356
F17K Baldwin Pennin 78.04 11 P P 08 12 37.8 +0.5
baz=337
F14K Arctic Creek 78.05 13 P P 08 12 38.1 +0.8
baz=333
E25K Arctic Village 78.13 4 P P 08 12 38.7 +0.9
E25K IAmb IAmb 08 12 40.3
comp=Z,71nm,1.2s
E25K Arctic Village 78.13 4 P P 08 12 38.7 +0.9
baz=350,SNR=35
F15K North Star Dit 78.15 12 P P 08 12 38.7 +0.7
baz=334
E29M Blow River 78.18 1 P P 08 12 38.9 +0.8
baz=357
F19K Shaleruckik Mo 78.18 9 P P 08 12 37.8 -0.2
baz=340
F20K Avaraart Lake 78.24 8 P P 08 12 39.0 +0.6
baz=342

E27K **Coleen River** 78.27 3 P P 08 12 39.5 +1.0
baz=354
INK **Inuvik** 78.30 360 P P 08 12 37.9 -0.7
INK pmax pmax
comp=Z,23nm,1.5s
INK **Inuvik** 78.30 360 P P 08 12 38.8 +0.2
baz=0.7,SNR=16
INK **Inuvik** 78.30 360 LR LR 08 55 26.4
comp=Z,276nm,18.6s,baz=2.0,slow=42
F21K **Alatna River** 78.33 8 P P 08 12 40.0 +1.1
baz=344
F24K **Squaw Lake** 78.56 5 P P 08 12 41.4 +1.2
baz=348
F26K **Sheenjek River** 78.64 4 P P 08 12 42.3 +1.7
baz=352,SNR=16
F25K **Christian Rive** 78.65 4 P P 08 12 42.2 +1.5
baz=350
COLD **Coldfoot** 78.66 6 P P 08 12 41.7 +1.1
baz=346,SNR=37
G16K **Koyuk River** 78.83 12 P P 08 12 42.3 +0.6
baz=336,SNR=28
F28M **Old Crow** 78.91 2 P P 08 12 42.9 +0.8
baz=355,SNR=22
G19K **Purcell Mounta** 78.93 9 P P 08 12 42.8 +0.7
G19K **Purcell Mounta** 78.93 9 P P 08 12 42.9 +0.7
baz=341,SNR=62
G18K **Tagagawik** 78.94 10 P P 08 12 42.6 +0.3
baz=340
F30M **Barrier River** 78.99 1 P P 08 12 42.9 +0.3
baz=359
G17K **Kiwalik Mounta** 79.01 11 P P 08 12 43.2 +0.5
baz=338
G21K **Allakaket** 79.01 8 P P 08 12 43.2 +0.6
baz=344
ANM **Nome** 79.05 13 P P 08 12 44.5 +1.6
ANM IAmb IAmb 08 12 45.3
comp=Z,72nm,1.1s
ANM **Nome** 79.05 13 P P 08 12 44.5 +1.6
ANM pmax pmax
comp=Z,72nm,1.1s
ANM **Nome** 79.05 13 P P 08 12 43.7 +0.9
baz=334,SNR=20
F31M **Tsiigehtchic** 79.17 360 P P 08 12 43.9 +0.4
baz=0.5,SNR=28
G23K **Bananza Creek** 79.18 6 P P 08 12 45.1 +1.5
baz=347
G26K **Porcupine Rive** 79.40 4 P P 08 12 46.8 +2.1
baz=352
G24K **Hadweenzic Riv** 79.40 5 P P 08 12 46.4 +1.6
baz=349
G25K **Bearman Lake** 79.44 5 P P 08 12 46.1 +1.2
baz=350
H16K **Elim** 79.55 12 P P 08 12 46.2 +0.6
baz=337,SNR=12
KAPI **Kappang** 79.59 103 LR LR 08 52 58.0
comp=Z,222nm,19.1s,baz=300,slow=40
H19K **Roundabout Mou** 79.60 9 P P 08 12 46.8 +1.0
baz=341
G30M **tAoh Zraii Nji** 79.62 1 P P 08 12 46.3 +0.3
baz=358
G27K **Doyon Strip** 79.64 3 P P 08 12 47.4 +1.3
baz=354
H17K **Granite Mounta** 79.65 11 P P 08 12 47.3 +1.1
baz=338
G29M **Pine Creek** 79.66 2 P P 08 12 47.3 +1.1
baz=357
H18K **Honhosa River** 79.68 10 P P 08 12 47.1 +0.8
baz=340
G31M **Satah River** 79.69 0 P P 08 12 46.3 +0.1
baz=0.0,SNR=28
H20K **Anotleneega Mo** 79.83 9 P P 08 12 48.0 +0.8
baz=343
H22K **Ishtalitna Cre** 79.84 7 P P 08 12 48.8 +1.5
baz=346
H21K **Melozitna Rive** 79.92 8 P P 08 12 48.9 +1.3
baz=344
H24K **Noodor Dome** 80.22 6 P P 08 12 50.5 +1.2
baz=349
EPYK **Eagle Plains** 80.23 1 P P 08 12 49.7 +0.4
baz=358,SNR=17
H27K **Steamboat Moun** 80.23 3 P P 08 12 50.5 +1.2
baz=354
GCSA **Galena City Sc** 80.28 10 P P 08 12 50.2 +0.7
baz=341,SNR=22
H29M **Whitestone** 80.35 2 P P 08 12 50.5 +0.6
baz=357
JCJ **Chichijima** 80.40 64 LR LR 08 52 19.5
comp=Z,166nm,20.0s,baz=296,slow=39
I17K **Unalakleet** 80.50 12 P P 08 12 51.6 +0.8
baz=338,SNR=11
D62A **Allapoint, All** 80.54 321 P P 08 12 51.9 +0.7
baz=50
D62A P P 08 12 51.9 +0.7
baz=50
I20K **Naaghedeneel** 80.55 9 P P 08 12 52.3 +1.4
baz=343
PRP **Porcupine Dome** 80.71 5 P P 08 12 52.9 +0.8
baz=351,SNR=10
MLY **Manley** 80.75 7 P P 08 12 53.3 +1.2
baz=346,SNR=16
I23K **Minto, Yukon-K** 80.77 6 P P 08 12 53.5 +1.4
I23K IAmb IAmb 08 12 55.0
comp=Z,60nm,1.4s
I23K **Minto, Yukon-K** 80.77 6 P P 08 12 53.4 +1.2
baz=347,SNR=14
I27K **Kandik River** 80.85 3 P P 08 12 53.6 +0.9
baz=354
F64A **Sherman** 80.94 320 P P 08 12 54.2 +0.8
F64A IAmb IAmb 08 12 55.5
comp=Z,69nm,1.6s
F64A **Sherman** 80.94 320 P P 08 12 52.8 -0.6
baz=50
F64A P P 08 12 52.8 -0.6
baz=50
POKR **Poker Plat Res** 80.97 6 P P 08 12 54.4 +1.2
baz=349,SNR=25
J14K **Nanvaranak Lak** 81.05 13 P P 08 12 54.4 +0.7
J14K IAmb IAmb 08 12 56.0
comp=Z,55nm,1.0s
J14K **Nanvaranak Lak** 81.05 13 P P 08 12 54.8 +1.2
baz=336
I26K **Coal Creek Min** 81.07 4 P P 08 12 54.7 +1.0
baz=352
I28M **Miner Creek** 81.07 2 P P 08 12 54.4 +0.4
baz=355
J16K **Anvik River** 81.08 12 P P 08 12 54.7 +0.8
baz=338,SNR=15
COLA **College** 81.17 6 P P 08 12 55.6 +1.3
COLA **College** 81.17 6 P P 08 12 55.0 +0.8
COLA pmax pmax
comp=Z,71nm,1.0s
COLA **College** 81.17 6 P P 08 12 55.1 +0.8
baz=349
J19K **Poorman** 81.17 9 P P 08 12 55.4 +1.1
J19K IAmb IAmb 08 12 57.0
comp=Z,62nm,1.1s
J19K **Poorman** 81.17 9 P P 08 12 55.4 +1.1
baz=342
J20K **Nowinta River** 81.19 9 P P 08 12 55.7 +1.2
baz=343,SNR=24
I29M **Ogilvie Camp,** 81.21 2 P P 08 12 55.0 +0.4
baz=357,SNR=19
NEA2 **Nenana** 81.34 6 P P 08 12 55.7 +0.5
baz=348
ILAR **Eielson Array** 81.35 5 P P 08 12 55.9 +0.6
comp=Z,13nm,0.9s,baz=331,slow=4.1,SNR=63
ILAR PKKPbc PKKPbc 08 31 29.6 -0.5
comp=Z,0.4nm,0.5s,baz=176,slow=2.7,SNR=2.8
ILAR LR LR 08 51 37.6
comp=Z,234nm,21.1s,baz=316,slow=38
comp=Z,13nm,0.9s
I30M **Mount Dempster** 81.38 1 P P 08 12 55.9 +0.3
baz=358
J18K **Innoko River** 81.52 10 P P 08 12 57.2 +1.0
baz=341
K13K **Kusilvak Mount** 81.57 14 P P 08 12 57.2 +0.7
baz=335
J25K **Salcha River,** 81.62 5 P P 08 12 57.5 +0.6
baz=351
BPAW **Bear Paw Mtn.** 81.63 7 P P 08 12 57.3 +0.5
baz=346,SNR=21
CHUM **Lake Minchumin** 81.69 8 P P 08 12 58.2 +1.1
baz=345,SNR=20
EGAK **Eagle** 81.69 3 P P 08 12 57.7 +0.6
baz=354,SNR=11
HDA **Harding Lake** 81.70 6 P P 08 12 57.0 -0.2
baz=349,SNR=6.5
K15K **Wolf Creek Mou** 81.84 12 P P 08 12 59.7 +1.8
baz=337
J26L **Joseph Creek** 81.85 4 P P 08 12 58.6 +0.6
J26L IAmb IAmb 08 12 59.9
comp=Z,25nm,1.0s
J26L **Joseph Creek** 81.85 4 P P 08 12 58.4 +0.4
baz=352
K20K **Telida** 81.99 9 P P 08 13 00.4 +1.7
baz=344,SNR=20
K17K **Iditarod** 81.99 11 P P 08 13 00.1 +1.4
baz=340
J30M **Hart River** 82.03 1 P P 08 12 59.6 +0.5
J30M IAmb IAmb 08 13 06.5
comp=Z,83nm,1.2s
J30M **Hart River** 82.03 1 P P 08 13 00.5 +1.4
baz=358
J29N **Klondike Camp** 82.12 2 P P 08 13 00.5 +1.1
baz=357,SNR=12
TTA **Tatalina** 82.13 10 P P 08 13 01.3 +1.8
TTA **Tatalina** 82.13 10 P P 08 13 00.6 +1.1
baz=342,SNR=11
CAST **Castle Rocks** 82.17 8 P P 08 13 00.5 +0.8
baz=345,SNR=26
MCK **McKinley** 82.19 7 P P 08 12 59.9 +0.1
baz=348,SNR=11
SCRK **Sand Creek** 82.34 4 P P 08 13 01.6 +0.9
baz=352,SNR=38
K24K **Donnelly Dome** 82.39 5 P P 08 13 01.3 +0.5
baz=350,SNR=17
K27K **Chicken** 82.40 3 P P 08 13 02.0 +1.2
baz=354
DAWY **Dawson** 82.47 2 P P 08 13 02.4 +1.1
baz=356,SNR=14
L14K **Kuka Creek** 82.50 13 P P 08 13 03.1 +1.7
baz=336
RIDG **Independent Ri** 82.52 5 P P 08 13 02.2 +0.6
baz=351
L17K **Dolin** 82.54 11 P P 08 13 03.0 +1.4
baz=340
PPLA **Purkeypile** 82.66 8 P P 08 13 03.8 +1.4
baz=345
L18K **Granite Mounta** 82.71 10 P P 08 13 04.0 +1.6
baz=341
L16K **Owhat River** 82.74 12 P P 08 13 04.4 +1.7
baz=339,SNR=6.5
K29M **Barlow Dome** 82.75 1 P P 08 13 03.5 +0.7
K29M IAmb IAmb 08 13 05.1
comp=Z,21nm,0.9s
K29M **Barlow Dome** 82.75 1 P P 08 13 04.1 +1.3
baz=357
YKA **Yellowknife Ar** 82.84 351 P P 08 13 02.8 -0.3
comp=Z,4.7nm,0.6s,baz=14,slow=5.5,SNR=48
YKA LR LR 08 51 43.1
comp=Z,635nm,19.8s,baz=62,slow=37
comp=Z,4.7nm,0.6s
L20K **Farewell, AK** 82.86 9 P P 08 13 04.7 +1.4
baz=344
SHEM **Shemya Is, Ala** 82.89 29 LR LR 08 55 05.0
comp=Z,403nm,18.5s,baz=322,slow=39
DHY **Denali Highway** 82.98 6 P P 08 13 05.2 +1.1
baz=349
L19K **White Mountain** 83.01 10 P P 08 13 05.9 +1.9
baz=343
WRGLY **Wrigley** 83.01 355 P P 08 13 05.3 +1.3
baz=9.1,SNR=19
MAYO **Mayo, Yukon** 83.02 1 P P 08 13 05.9 +1.8
baz=359,SNR=6.3
WAT1 **Susitna Watana** 83.12 7 P P 08 13 05.4 +0.8
baz=348
M14K **Bethel** 83.19 13 P P 08 13 06.8 +1.9
baz=337
PAX **Paxson** 83.24 5 P P 08 13 06.6 +1.2
baz=351,SNR=5.4
L26K **Log Cabin Wild** 83.33 4 P P 08 13 07.6 +1.9
baz=352,SNR=10
M17K **Holitna River** 83.37 11 P P 08 13 07.4 +1.5
M17K IAmb IAmb 08 13 08.7
comp=Z,47nm,0.9s
M17K **Holitna River** 83.37 11 P P 08 13 08.1 +2.2
baz=341
BCAR **Beaver Creek A** 83.37 3 P P 08 13 06.3 +0.4
L27K **Beaver Creek,** 83.38 3 P P 08 13 07.5 +1.5
baz=354,SNR=19
MENT **Mentasta** 83.39 4 P P 08 13 08.0 +2.0
WAT6 **Susitna Watana** 83.44 6 P P 08 13 07.2 +0.7
baz=349,SNR=9.3
L29M **L29M** 83.47 2 P P 08 13 07.7 +1.3
baz=357
M16K **Timber Creek** 83.48 12 P P 08 13 07.8 +1.3
M16K IAmb IAmb 08 13 08.7
comp=Z,46nm,1.1s
M16K **Timber Creek** 83.48 12 P P 08 13 08.0 +1.6
baz=340
M18K **Stony River** 83.53 10 P P 08 13 08.3 +1.5
baz=342
SKT **Skwentna** 83.63 8 P P 08 13 08.3 +1.0
baz=346,SNR=13
HARP **HAARP** 83.83 5 P P 08 13 10.2 +1.9
baz=351,SNR=6.8
LBNH **Lisbon** 83.92 320 P P 08 13 10.5 +1.4
baz=48
M26K **Nabesna, AK** 83.97 4 P P 08 13 10.6 +1.6
baz=353
VLDQ **Val d'Or** 84.02 326 P P 08 13 10.4 +0.9
N16K **Nishlik Lake** 84.03 12 P P 08 13 11.2 +1.9
baz=340
M30M **Minto, Yukon** 84.03 1 P P 08 13 10.2 +0.9
baz=358,SNR=7.2
M24K **Tolsona, Glenn** 84.04 6 P P 08 13 11.6 +2.2
baz=350,SNR=7.0
BVCY **Beaver Creek** 84.07 3 P P 08 13 11.6 +2.1
baz=354,SNR=13
M27K **Edge Creek, AK** 84.08 4 P P 08 13 11.9 +2.2
baz=354
M29M **Somme Creek** 84.13 2 P P 08 13 11.6 +1.7
baz=356,SNR=7.5
SML **Sawmill** 84.14 7 P P 08 13 10.7 +0.8
SML **Sawmill** 84.14 7 P P 08 13 11.3 +1.3
baz=348,SNR=8.6
SCM **Sheep Creek Mo** 84.21 6 P P 08 13 11.7 +1.4
baz=349
M23K **Glacier View** 84.21 6 P P 08 13 11.7 +1.5
baz=349
SUA **Susitna One** 84.22 8 P P 08 13 11.0 +0.6
SUA **Susitna One** 84.22 8 P P 08 13 11.8 +1.4
baz=346,SNR=10.0
N17K **Nushagak Hills** 84.24 11 P P 08 13 12.2 +1.9
baz=341
PMR **Palmer** 84.27 7 P P 08 13 11.9 +1.4
PMR **Palmer** 84.27 7 P P 08 13 11.6 +1.1
baz=348,SNR=7.0
N18K **Kilae Creek** 84.30 11 P P 08 13 11.6 +0.9
N18K IAmb IAmb 08 13 18.5
comp=Z,50nm,1.2s
VT1 **Waterbury** 84.30 321 P P 08 13 12.5 +1.5
baz=47
N19K **Bonanza Creek** 84.38 10 P P 08 13 12.4 +1.3
N19K **Bonanza Creek** 84.38 10 P P 08 13 13.1 +1.9
baz=343,SNR=12
FRNY **Flat Rock** 84.40 321 P P 08 13 11.5 +0.1
baz=47
FARO **Faro, Yukon** 84.40 360 P P 08 13 12.8 +1.6
baz=0.8,SNR=12
M31M **Drury Creek, Y** 84.43 0 P P 08 13 12.3 +1.0
baz=360
KNK **Knik Glacier** 84.52 7 P P 08 13 13.5 +1.7
baz=348,SNR=7.6
N25K **Chitina, Valde** 84.66 5 P P 08 13 13.9 +1.3
baz=351
KLU **Klutina** 84.67 6 P P 08 13 14.6 +1.9
baz=350,SNR=13
RC01 **Rabbit Creek A** 84.70 7 P P 08 13 13.6 +0.9
RC01 **Rabbit Creek A** 84.70 7 P P 08 13 13.7 +1.0
baz=347,SNR=6.3
YUK3 **Moose Creek** 84.72 3 P P 08 13 14.6 +1.5
baz=355,SNR=15
J61A **Chester** 84.86 320 P P 08 13 15.0 +1.2
baz=47
J61A P P 08 13 15.0 +1.2
baz=47
BMNY **Brushton-Moira** 84.87 322 P P 08 13 13.8 0.0
baz=46
O17K **Koliganek Bris** 84.97 11 P P 08 13 16.0 +2.0
baz=341
O16K **Kokwok River B** 84.97 12 P P 08 13 15.7 +1.7
baz=340
MCARA **McCarthy VSAT** 84.98 4 P P 08 13 16.1 +2.0
baz=353
O19K **Port Alsworth** 84.99 10 P P 08 13 15.5 +1.4
baz=343
O15K **Ungalikthiuk R** 85.05 13 P P 08 13 16.5 +2.0
baz=339
LONY **Lake Ozonia** 85.06 322 P P 08 13 16.2 +1.3
baz=46
N30M **Aishikik Lake** 85.15 1 P P 08 13 16.6 +1.6
baz=358
K62A **Royalston** 85.15 319 P P 08 13 16.2 +0.9
baz=48
K62A P P 08 13 16.2 +0.9
baz=48
O18K **Koktuh Hills** 85.19 10 P P 08 13 17.1 +1.9
baz=343
YUK4 **Talbot Arm** 85.22 2 P P 08 13 16.6 +1.1
baz=356,SNR=8.6
NCB **Newcomb** 85.32 321 P P 08 13 15.9 -0.2
baz=46
ACCN **Adirondack Com** 85.43 320 P P 08 13 17.0 +0.3
ACCN **Adirondack Com** 85.43 320 P P 08 13 15.8 -0.9
baz=47
CTG **Chitna Glacier** 85.49 3 P P 08 13 18.4 +1.6
baz=354
P16K **Nushagak River** 85.52 12 P P 08 13 18.9 +2.1
baz=340
L61B **Northampton** 85.54 319 P P 08 13 18.6 +1.4
baz=47
L61B **Northampton** 85.54 319 P P 08 13 18.4 +1.2
baz=47
CRQE **Cirque** 85.61 4 P P 08 13 19.2 +1.8
baz=353
P17K **Kvichak River** 85.62 11 P P 08 13 19.5 +2.2
baz=342
SEW **Seward** 85.70 8 P P 08 13 19.5 +1.8
baz=347
HYT **Haines Junctio** 85.77 2 P P 08 13 19.9 +1.7
baz=357,SNR=11
J59A **Piesco** 85.82 321 P P 08 13 19.2 +0.5
baz=46
J59A P P 08 13 19.2 +0.5
baz=46
O30N **Mendenhall** 85.86 1 P P 08 13 20.1 +1.5
baz=358
M63A **Gales Ferry** 85.89 318 P P 08 13 19.6 +0.6
baz=48
M63A P P 08 13 19.6 +0.6
baz=48
SOEI **Soe** 85.96 104 P P 08 13 19.4 -0.5
SOEI **Soe** 85.96 104 P P 08 13 19.6 -0.3
comp=Z,78nm,0.9s
WHY **Whitehorse** 85.98 0 P P 08 13 19.8 +0.6
baz=360
WCNY **West Carthage** 86.06 322 P P 08 13 20.3 +0.6
baz=45
Q16K **King Salmon** 86.08 12 P P 08 13 21.2 +1.7
baz=342
KOTAN **Kotaneelee Air** 86.13 355 P P 08 13 21.6 +1.8
baz=8.5
O29M **Mount Kennedy** 86.27 2 P P 08 13 21.6 +0.9
baz=356
RCBR **Riachuelo** 86.28 261 LR LR 08 52 28.5
comp=Z,261nm,18.8s,baz=62,slow=36
HCNY **Howe Caverns** 86.29 320 P P 08 13 21.0 +0.1
baz=46
WTLY **Watson Lake, Y** 86.42 357 P P 08 13 22.8 +1.5
baz=4.6,SNR=5.6
P33M **Teslin, Yukon** 86.42 359 P P 08 13 21.7 +0.3
P33M IAmb IAmb 08 13 23.3
comp=Z,59nm,1.8s
P33M **Teslin, Yukon** 86.42 359 P P 08 13 22.0 +0.6
baz=1.2,SNR=5.5
SWI **Sorong** 86.75 93 P P 08 13 23.2 -0.4
comp=Z,36nm,1.5s
SIJI **Sorong** 86.75 93 P P 08 13 23.0 -0.7
comp=Z,29nm,1.2s,comp=Z,3um
NPNY **Mohonk Preserv** 86.81 319 P P 08 13 23.6 +0.1
baz=46
P29M **Windy Craggy** 86.97 2 P P 08 13 25.7 +1.7
baz=357
L59A **Walton** 86.99 320 P P 08 13 25.1 +0.6
baz=46
L59A P P 08 13 25.1 +0.6
baz=46
P32M **Atlin** 87.05 360 P P 08 13 25.6 +1.2
baz=0.5
PAL **Palisades** 87.19 319 P P 08 13 26.1 +0.7
baz=46
R33M **Jennings River** 87.21 358 P P 08 13 26.1 +0.8
R33M IAmb IAmb 08 13 33.1
comp=Z,76nm,1.7s
R33M **Jennings River** 87.21 358 P P 08 13 27.0 +1.7
baz=2.8,SNR=6.7
SADO **Sadowa** 87.24 324 LR LR 08 56 19.1
comp=Z,460nm,18.0s,baz=76,slow=38
ODNJ **Ogdensburg** 87.52 319 P P 08 13 26.2 -0.8
baz=46
KDAK **Kodiak Island** 87.57 10 P P 08 13 27.1 +0.2
KDAK **Kodiak Island** 87.57 10 P P 08 13 27.1 +0.2
KDAK pmax pmax
comp=Z,77nm,1.0s
KDAK **Kodiak Island** 87.57 10 P P 08 13 28.5 +1.7
baz=345
KDAK **Kodiak Island** 87.57 10 LR LR 08 59 25.4
comp=Z,286nm,18.1s,baz=21,slow=40
Q32M **Nakina River** 87.67 359 P P 08 13 29.5 +1.9
baz=1.7
KSPA **Keystone Colle** 87.82 320 P P 08 13 28.8 +0.4
baz=45
DLBC **Dease Lake** 88.14 358 P P 08 13 31.6 +1.9
baz=3.5
DLBC **Dease Lake** 88.14 358 LR LR 09 00 00.7
comp=Z,260nm,18.1s,baz=346,slow=40
L56A **Greenwood** 88.35 322 P P 08 13 31.3 +0.3
L56A IAmb IAmb 08 13 37.3
comp=Z,62nm,1.5s
L56A **Greenwood** 88.35 322 P P 08 13 31.5 +0.5
baz=44
L56A P P 08 13 31.5 +0.5
baz=44
R32K **Eaglecrest** 88.37 0 P P 08 13 32.6 +1.9
baz=360
E46A **Sault Ste Mari** 88.45 328 P P 08 13 31.2 -0.1
baz=40
TUPA **Temple Univers** 88.48 319 P P 08 13 31.6 0.0
baz=46
S34M **Telegraph Cree** 88.69 358 P P 08 13 34.8 +2.5
baz=2.6
FAKI **Fak Fak** 88.70 94 P P 08 13 33.0 0.0
comp=Z,28nm,1.3s
PSA00 **Pilbara Seismi** 89.40 116 P P 08 13 35.6 -0.4
M55A **Ridgway** 89.45 322 P P 08 13 36.9 +0.7
M55A IAmb IAmb 08 13 37.7
comp=Z,58nm,1.4s
M55A **Ridgway** 89.45 322 P P 08 13 35.7 -0.5
baz=43
M55A P P 08 13 35.7 -0.5
baz=43
SSPA **Standing Stone** 89.60 321 P P 08 13 37.5 +0.7
baz=44
T35M **Bob Quinn** 89.60 358 P P 08 13 37.8 +1.2
T35M IAmb IAmb 08 13 51.2
comp=Z,53nm,1.7s
T35M **Bob Quinn** 89.60 358 P P 08 13 38.8 +2.2
baz=3.4
E43A **Lone Tree Farm** 89.60 329 P P 08 13 36.3 -0.4
baz=38
ERPA **Erie** 89.60 323 P P 08 13 37.4 +0.6
baz=42
PSDB **Penn State Uni** 89.70 321 P P 08 13 38.3 +1.1
baz=43
ULM **Lac du Bonnet** 89.77 337 P P 08 13 35.6 -1.8
comp=Z,5.5nm,0.9s,baz=40,slow=4.2,SNR=8.2
comp=Z,5.5nm,0.9s
PAOC **Oil Creek Stat** 89.89 322 P P 08 13 37.9 -0.3
baz=43
GUMO **Guam** 89.98 74 LR LR 08 59 37.1
comp=Z,150nm,18.4s,baz=310,slow=39
EYMN **Ely** 90.15 333 P P 08 13 40.0 +0.8
baz=34
EYMN **Ely** 90.15 333 P P 08 13 39.6 +0.4
baz=34
B35A **Bob, Littlefor** 90.63 334 P P 08 13 41.3 -0.2
baz=33
M52A **Chesterland** 90.72 323 P P 08 13 42.1 +0.1
baz=42
M52A P P 08 13 42.1 +0.1
baz=42
N53A **Lisbon** 91.00 322 P P 08 13 44.3 +0.9
baz=42

N53A			P		P	08 13 44.3	+0.9
	baz=42						
J47A	**Sunmer**	**91.09 326**	P		P	08 13 44.6	+0.9
	baz=39						
J47A			P		P	08 13 44.6	+0.9
	baz=39						
O54A	**Avella**	**91.23 322**	P		P	08 13 43.8	-0.6
O54A	**Avella**	**91.23 322**	P		P	08 13 45.0	+0.6
	baz=42						
O54A			P		P	08 13 45.0	+0.6
	baz=42						
E38A	**The Farm, Brul**	**91.27 332**	P		P	08 13 44.3	-0.2
	baz=34						
MCWV	**Mont Chateau**	**91.34 321**	P		P	08 13 45.6	+0.6
	baz=43						
R58B	**Mineral**	**91.51 319**	P		P	08 13 45.8	0.0
	baz=44						
R58B			P		P	08 13 45.8	0.0
	baz=44						
O53A	**New Philadelph**	**91.61 322**	P		P	08 13 47.0	+0.8
	baz=42						
M50A	**Fremont**	**91.65 324**	P		P	08 13 46.5	+0.2
	baz=40						
M50A			P		P	08 13 46.5	+0.2
	baz=40						
N51A	**Ashland**	**91.69 323**	P		P	08 13 46.3	-0.3
	baz=41						
N51A			P		P	08 13 46.3	-0.3
	baz=41						
FITZ	**Fitzroy Crossi**	**91.81 110**	P		P	08 13 47.3	0.0
G40A	**Rib Lake**	**91.83 331**	P		P	08 13 47.1	0.0
G40A	**Rib Lake**	**91.83 331**	P		P	08 13 47.0	-0.1
	baz=35						
O52A	**Adamsville**	**92.02 323**	P		P	08 13 48.1	0.0
O52A	**Adamsville**	**92.02 323**	P		P	08 13 48.1	0.0
	baz=41						
O52A			P		P	08 13 48.1	0.0
	baz=41						
P53A	**Whipple**	**92.27 322**	P		P	08 13 49.3	+0.1
P53A	**Whipple**	**92.27 322**	P		P	08 13 49.9	+0.7
	baz=42						
P53A			P		P	08 13 49.9	+0.7
	baz=42						
ACSO	**Alum Creek Sta**	**92.51 323**	P		P	08 13 50.8	+0.4
	baz=40						
ACSO	**Alum Creek Sta**	**92.51 323**	P		P	08 13 50.4	0.0
	baz=40						
P52A	**Corning**	**92.54 322**	P		P	08 13 51.3	+0.8
	baz=41						
N49A	**Columbus Grove**	**92.58 324**	P		P	08 13 50.9	+0.2
	baz=40						
N49A			P		P	08 13 50.9	+0.2
	baz=40						
F36A	**Milaca**	**92.65 333**	P		P	08 13 50.6	-0.3
	baz=33						
SPMN	**Marine on St.**	**92.91 332**	P		P	08 13 52.8	+0.7
	baz=34						
SPMN	**Marine on St.**	**92.91 332**	P		P	08 13 51.7	-0.4
	baz=34						
Q52A	**Bidwell**	**93.11 322**	P		P	08 13 52.9	-0.2
	baz=41						
Q52A			P		P	08 13 52.9	-0.2
	baz=41						
O49A	**Covington**	**93.21 324**	P		P	08 13 53.1	-0.5
	baz=40						
O49A			P		P	08 13 53.1	-0.5
	baz=40						
N47A	**Urbana**	**93.33 325**	P		P	08 13 53.4	-0.7
	baz=39						
N47A			P		P	08 13 53.4	-0.7
	baz=39						
O48B	**Farmland**	**93.56 325**	P		P	08 13 54.6	-0.6
O48B	**Farmland**	**93.56 325**	P		P	08 13 55.3	+0.1
	baz=39						
O48B	**Farmland**	**93.56 325**	P		P	08 13 54.7	-0.6
	baz=39						
Q51A	**Peebles**	**93.61 323**	P		P	08 13 55.5	0.0
	baz=40						
Q51A			P		P	08 13 55.5	0.0
	baz=40						
DGMT	**Dagmar**	**93.89 340**	P		P	08 13 58.2	+1.6
	baz=25						
DGMT	**Dagmar**	**93.89 340**	P		P	08 13 57.6	+1.0
	baz=25						
P49A	**Miami Univ. Ec**	**93.90 324**	P		P	08 13 56.9	+0.1
	baz=39						
P49A	**Miami Univ. Ec**	**93.90 324**	P		P	08 13 56.4	-0.4
	baz=39						
MDP	**Montagnes des**	**94.14 279**	LR		LR	09 01 55.8	
	comp=Z,139nm,18.4s,baz=62,slow=39						
I37B	**Waseca**	**94.15 332**	P		P	08 13 57.6	-0.2
	baz=33						
L42A	**Oliver, Polo**	**94.25 328**	P		P	08 13 58.3	0.0
	baz=36						
P48A	**Milroy**	**94.31 324**	P		P	08 13 57.7	-1.0
	baz=39						
P48A			P		P	08 13 57.7	-1.0
	baz=39						
NWAO	**Narrogin (SRO)**	**94.38 127**	LR		LR	08 55 44.4	
	comp=Z,179nm,18.9s,baz=263,slow=35						
SFIN	**Lafayette**	**94.39 326**	P		P	08 13 59.0	0.0
	baz=38						
SFIN	**Lafayette**	**94.39 326**	P		P	08 13 58.3	-0.7
	baz=38						
R50A	**Paris**	**94.67 323**	P		P	08 14 00.3	0.0
	baz=40						
R50A			P		P	08 14 00.3	0.0
	baz=40						
S51A	**Beattyville**	**94.79 322**	P		P	08 14 01.2	+0.3
	baz=40						
S51A			P		P	08 14 01.2	+0.3
	baz=40						
K38A	**Parkersburg**	**95.04 331**	P		P	08 14 01.7	-0.3
	baz=34						
R49A	**Shelbyville**	**95.09 323**	P		P	08 14 02.5	+0.2
	baz=39						
R49A			P		P	08 14 02.5	+0.2
	baz=39						
TZTN	**Tazewell**	**95.60 321**	P		P	08 14 05.9	+1.3
	baz=40						
ECSD	**EROS Data Cent**	**95.62 334**	P		P	08 14 05.2	+0.6
	baz=31						
ECSD	**EROS Data Cent**	**95.62 334**	P		P	08 14 05.1	+0.5
	baz=31						
EGMT	**Eagleton**	**95.73 344**	P		P	08 14 06.0	+0.9
	baz=20						
TKL	**Tuckaleechee C**	**96.39 321**	LR		LR	08 58 53.9	
	comp=Z,286nm,21.2s,baz=44,slow=36						
U49A	**Red Boiling Sp**	**96.77 323**	P		P	08 14 09.7	-0.3
	baz=39						
NEW	**Newport**	**96.97 349**	P		P	08 14 11.2	+0.5
NEW			pmax		pmax		
	comp=Z,9.0nm,1.2s						
NEW	**Newport**	**96.97 349**	P		P	08 14 11.7	+1.1
	baz=14						
NEW	**Newport**	**96.97 349**	LR		LR	08 59 00.1	
	comp=Z,691nm,21.6s,baz=20,slow=36						
RSSD	**Black Hills**	**97.79 339**	P		Pdif	08 14 16.0	+1.2
	baz=25						
ALF01	**Guarapari-ES**	**98.34 251**	*eP*		**P**	08 14 15.2	-2.0
WRA	**Warramunga Arr**	**99.68 107**	*i* P		**Pdif**	08 14 22.2	-0.9
WRA			pmax		pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**99.68 107**	P		**Pdif**	08 14 22.3	-0.9
	comp=Z,2.8nm,0.7s,baz=317,slow=4.0,SNR=25						
WRA			PKiKP		**PKiKP**	08 18 50.7	-1.3
	comp=Z,0.5nm,0.7s,baz=310,slow=2.0,SNR=2.4						
WRA			LR		LR	09 04 39.0	
	comp=Z,223nm,18.2s,baz=122,slow=38						
	comp=Z,2.8nm,0.7s						
K22A	**Casper**	**99.87 340**	P		**Pdif**	08 14 24.5	+0.6
	baz=23						
PDAR	**Pinedale Array**	**100.60 342**	P		**Pdif**	08 14 27.7	+0.4
	comp=Z,0.4nm,0.8s,baz=86,slow=2.8,SNR=2.1						
PDAR			PKiKP		**PKiKP**	08 18 54.3	+0.8
	comp=Z,0.3nm,0.8s,baz=61,slow=4.4,SNR=1.5						
PDAR			PKKPbc		**PKKPbc**	08 30 41.1	-0.5
	comp=Z,0.2nm,0.6s,baz=174,slow=2.8,SNR=3.7						
ASAR	**Alice Springs**	**101.31 111**	P		**Pdif**	08 14 29.4	-0.9
	comp=Z,2.0nm,0.7s,baz=308,slow=4.5,SNR=13						
ASAR			PP		**PP**	08 18 37.4	-2.7
	comp=Z,1.0nm,0.9s,baz=306,slow=6.4,SNR=4.5						
ASAR			PKiKP		**PKiKP**	08 18 55.1	+0.2
	comp=Z,0.8nm,0.7s,baz=309,slow=1.5,SNR=8.1						
ASAR			PKKPbc		**PKKPbc**	08 30 39.1	0.0
	comp=Z,0.7nm,0.6s,baz=120,slow=3.6,SNR=12						
NVAR	**Mina Array Bea**	**106.71 347**	PKiKP		**PKiKP**	08 19 05.5	+0.7
	comp=Z,0.5nm,0.6s,baz=185,slow=0.3,SNR=4.0						
NVAR			PKKPbc		**PKKPbc**	08 30 23.1	-0.3
	comp=Z,0.3nm,0.7s,baz=188,slow=5.5,SNR=4.9						
TXAR	**Lajitas Array**	**110.94 332**	PKiKP		**PKiKP**	08 19 13.3	+0.5
	comp=Z,0.4nm,0.7s,baz=24,slow=4.9,SNR=2.1						
STKA	**Stephens Creek**	**111.27 115**	PKiKP		**PKiKP**	08 19 12.7	-0.3
	comp=Z,2.0nm,1.0s,baz=339,slow=9.7,SNR=3.4						
LVC	**Limon Verde**	**122.17 263**	*eP*		**PKPdf**	08 19 32.6	-2.0
QSPA	**South Pole Qui**	**123.54 180**	PKP		**PKiKP**	08 19 36.0	+0.2
	comp=Z,9.0nm,1.0s,baz=279,slow=2.2,SNR=12						
VNDA	**Vanda**	**128.24 166**	PKP		**PKiKP**	08 19 45.1	+0.3
	comp=Z,0.7nm,0.9s,baz=274,slow=9.0,SNR=3.0						
PMSA	**Palmer Station**	**128.31 211**	*eP*		**PKPdf**	08 19 44.4	-0.2
PLCA	**Paso Flores**	**129.76 242**	PKP		**PKiKP**	08 19 49.6	+0.6
	comp=Z,7.3nm,1.1s,baz=51,slow=3.2,SNR=8.6						
PLCA	**Paso Flores**	**129.76 242**	*eP*		**PKPdf**	08 19 47.8	-0.5

VIE 11 08:03:08.7±0.9, 47.95N×16.62E, h0km, ml1.3/3, Error ellipse: s-maj=5.9km s-min=3.6km az=54.0 11 km E of Deutsch Brodersdorf Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RONA	**Rosalia, Austr**	**0.34**	**221**	*i* Pg	Pg	08 03 15.3	+0.2
	0.3nm,0.1s						
RONA				*e*Sg	Sg	08 03 19.7	+0.2
	13nm,0.4s						
CONA	**Conrad Observa**	**0.51**	**268**	*e*Pg	Pg	08 03 18.5	-0.1
	0.4nm,0.1s						
CONA				*e*Sg	Sg	08 03 25.9	+0.7
	6.0nm,0.4s						
ARSA	**Arzberg**	**1.02**	**227**	Sg	Sb	08 03 42.5	-0.8
	5.0nm,0.5s						

*TEH **11** 08:05:56.9, 33.72N×45.67E, h12km±57km, ML3.8*
*ISN **11** 08:05:58.1±1.2, 33.74N×45.72E, h7km±6km, ML3.7*
ISC 11 08:05:57.6±1.4, 33.72N±0.03×45.73E±0.04, h2km±12km, n16, σ1s92/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.41**	**103**	Pg	**Pg**	**08 06 05.9**	**+0.5**
IBDR	**Badra**	**0.63**	**165**	*e*Pg	**Pb**	**08 06 11.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**08 06 20.0**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.80**	**351**	Pg	**Pg**	**08 06 12.4**	**-0.5**
IGHG	**Ghaleghazi**	**0.92**	**48**	Pg	**Pb**	**08 06 16.0**	**-0.5**
IDHR	**Dehrash**	**1.12**	**29**	Pg	**Pg**	**08 06 18.8**	**-0.3**
BHD	**Baghdad**	**1.22**	**249**	*e*Pg	**Pg**	**08 06 22.0**	**+1.0**
BHD				*e*Sg	**Sn**	**08 06 38.0**	**-0.6**
BHD				AML	AML	08 06 41.4	
	comp=E,6μm,0.5s						
KCHF	**Cheshme Sefid,**	**1.22**	**63**	Pg	**Pn**	**08 06 21.0**	**-0.8**
KCHF				Sg	**Sn**	**08 06 41.2**	**+2.2**
IKOM	**Komasi**	**1.55**	**72**	Pg	**Pg**	**08 06 27.4**	**+0.1**
ILIN	**Lien**	**1.57**	**40**	Pg	**Pb**	**08 06 27.2**	**-0.3**
ILIN				Sg	**Sg**	**08 06 49.7**	**+1.5**
IKFM	**Kafar-mosalman**	**1.77**	**96**	Pn	**Pg**	**08 06 31.8**	**+0.1**
IBZA	**Bozab**	**1.92**	**66**	Pn	**Pb**	**08 06 32.3**	**-1.2**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn	**Pb**	**08 06 34.0**	**-1.0**
RAFI				*e*Sn	**Sg**	**08 07 02.0**	**-0.4**
RAFI				AML	AML	08 07 04.3	
	comp=N,441nm,0.3s						
RAFI				AML	AML	08 07 04.6	
	comp=E,446nm,0.7s						
IALM	**Almabolaq**	**2.31**	**60**	Pn	**Pb**	**08 06 38.4**	**-1.9**
SDS1	**Sardasht. Az.**	**2.43**	**355**	Pn	**Pn**	**08 06 39.2**	**+0.6**
HSAM	**Samen**	**2.44**	**78**	Pn	**Pn**	**08 06 38.8**	**+0.2**
QAMS	**Qamsar**	**4.72**	**88**	Pn	**Pn**	**08 07 10.8**	**+0.7**

IDC 11 08:15:38.3±3.0, 54.29N×87.01E, h0km, mbtmp2.9/2, ML2.3/1, Error ellipse: s-maj=25.5km s-min=15.9km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**256**	I	I	08 26 00.0	
	0.1nm,0.9s,baz=75,slow=343,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.33**	**256**	Pg	Pg	08 16 02.0	-1.9
	1.8nm,0.3s,baz=75,slow=17,SNR=13						
ZALV				Lg	Lg	08 16 20.4	
	1.4nm,0.3s,baz=76,slow=28,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.35**	**238**	Pn	Pn	08 17 14.0	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=5.4						
KURBB				Lg	Lg	08 19 02.2	
	0.1nm,0.3s,baz=57,slow=34,SNR=1.7						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.08**	**204**	Pn	Pn	08 17 38.5	+1.6
	0.5nm,0.7s,baz=25,slow=14,SNR=5.4						
MKAR				Sn	Sn	08 19 08.4	-0.6
	baz=18,slow=24,SNR=3.5						
MKAR				Lg	Lg	08 19 55.1	
	baz=24,slow=34,SNR=2.3						

IDC 11 08:16:40.8±2.2, 33.76N×45.55E, h0km, mb3.6/4, mbtmp3.6/4, MS2.2/1, Error ellipse: s-maj=49.1km s-min=31.4km az=164.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**20.72**	**330**	P	P	08 21 22.6	0.0
	0.4nm,0.4s,baz=140,slow=9.8,SNR=4.6						
	0.4nm,0.4s						
ATD	**Arta Tunnel**	**22.27**	**187**	LR	LR	08 30 00.6	
	comp=Z,6.0nm,19.1s,baz=12,slow=36						
MKAR	**Makanchi Array**	**30.62**	**54**	P	P	08 22 56.5	0.0
	0.5nm,0.4s,baz=259,slow=7.6,SNR=10.0						
	0.5nm,0.4s						
HFS	**Hagfors**	**33.59**	**331**	P	P	08 23 22.3	0.0
	1.0nm,0.4s,baz=126,slow=9.7,SNR=9.2						
	1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**44.75**	**253**	P	P	08 24 56.0	-0.1
	0.3nm,0.6s,baz=47,slow=6.3,SNR=2.1						
	0.3nm,0.6s						

*IDC **11** 08:17:54.8±0.9, 33.67N×45.66E, h0km, mb4.0/15, mbtmp4.0/18, ML3.9/3, Error ellipse: s-maj=21.0km s-min=17.5km az=158.0*
*TEH **11** 08:17:55.9, 33.64N×45.62E, h8km±46km, ML4.1*
*ISN **11** 08:17:56.3±0.7, 33.69N×45.69E, h6km±3km, ML4.1*
*NEIC **11** 08:17:58.8±1.2, 33.78N±0.09×45.78E±0.1, h10km±2km, mb4.3/17, Error ellipse: s-maj=16.9km s-min=12.5km az=219.0*
ISC 11 08:17:57.4±0.5, 33.68N±0.03×45.65E±0.04, h13km, n64, σ1s31/68, mb4.2/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**97**	Pg	**Pg**	**08 18 05.8**	**-0.8**
IBDR	**Badra**	**0.62**	**158**	*e*Pg	**Pg**	**08 18 08.5**	**-1.0**
IBDR				*e*Sg	**Sg**	**08 18 17.0**	**-0.6**
IBDR				AML	AML	08 18 29.5	
	comp=N,9μm,0.4s						
IBDR				AML	AML	08 18 34.8	
	comp=E,9μm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.82**	**356**	Pg	**Pg**	**08 18 12.6**	**-0.8**
KGS1				Sg	**Sg**	**08 18 25.5**	**+1.3**
IGHG	**Ghaleghazi**	**1.00**	**49**	Pg	**Pg**	**08 18 16.5**	**-0.2**
BHD	**Baghdad**	**1.14**	**249**	*e*Pg	**Pg**	**08 18 19.0**	**-0.1**
BHD				*e*Sg	**Sb**	**08 18 35.0**	**+1.3**
IDHR	**Dehrash**	**1.18**	**31**	Pg	**Pb**	**08 18 19.2**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.29**	**62**	Pg	**Pn**	**08 18 21.6**	**+0.2**
IKOM	**Komasi**	**1.62**	**72**	Pg	**Pn**	**08 18 27.4**	**+1.5**
ILIN	**Lien**	**1.64**	**41**	Pg	**Pn**	**08 18 27.4**	**+1.2**
IKFM	**Kafar-mosalman**	**1.84**	**94**	Pn	**Pb**	**08 18 31.8**	**+0.9**
IBZA	**Bozab**	**1.99**	**66**	Pn	**Pn**	**08 18 32.5**	**+1.4**
RAFI	**Al-Rafai**	**1.99**	**169**	*e*Pn	**Pn**	**08 18 32.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**08 18 59.0**	**+3.4**
RAFI				AML	AML	08 19 05.3	
	comp=E,2μm,0.5s						
RAFI				AML	AML	08 19 09.5	
	comp=N,2μm,0.4s						
IALM	**Almabolaq**	**2.39**	**60**	Pn	**Pn**	**08 18 38.2**	**+1.6**
SDS1	**Sardasht. Az.**	**2.46**	**357**	Pn	**Pn**	**08 18 39.3**	**+1.8**
HSAM	**Samen**	**2.51**	**77**	Pn	**Pn**	**08 18 39.4**	**+1.3**
HAGD	**Aghdareh**	**3.10**	**68**	Pn	**Pn**	**08 18 47.9**	**+1.6**
ISRB	**Sarab**	**4.45**	**21**	Pn	**Pn**	**08 19 06.5**	**+1.7**
ZNGN	**Zangian**	**4.64**	**108**	Pn	**Pn**	**08 19 09.6**	**+2.0**
IVRN	**Varamin**	**5.19**	**74**	Pn	**Pn**	**08 19 16.3**	**+1.4**
GRMI	**Germi**	**5.42**	**19**	Pn	**Pn**	**08 19 19.7**	**+1.6**
MZPU	**Pul - Mazandar**	**5.58**	**59**	Pn	**Pn**	**08 19 22.1**	**+1.8**
GURO	**Guroymak-BITLI**	**5.67**	**330**	Pn	**Pn**	**08 19 22.5**	**+1.0**
DSBU	**Dashti - Bushe**	**7.16**	**136**	Pn	**Pn**	**08 19 42.8**	**+0.9**
GAZ	**Gaziantep**	**7.72**	**299**	Pn	**Pn**	**08 19 51.2**	**+1.7**
GEYT	**Alibeck**	**10.97**	**64**	Pn	**Pn**	**08 20 33.3**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**10.97**	**64**	Pn	**Pn**	**08 20 33.0**	**-1.1**
UOSS	**Minazif**	**12.66**	**131**	Pn	**Pn**	**08 21 00.3**	**+3.1**
WSAR	**Wadi Sarin**	**15.43**	**129**	Pn	**Pn**	**08 21 32.2**	**-2.6**
	comp=N,0.7nm,0.3s,baz=356,slow=12,SNR=4.9						
WSAR				Sn	Sn	08 24 12.4	-13
	comp=N,0.3nm,0.3s,baz=50,slow=21,SNR=1.5						
	comp=N,6.0nm,0.6s						
BELG	**Belogornoye**	**18.75**	**4**	P	**P**	**08 22 14.2**	**-1.7**
	comp=N,0.9nm,0.3s,baz=313,slow=7.7,SNR=2.5						
	comp=N,7.5nm,0.6s						
ABKAR	**Akbulak array**	**18.84**	**30**	P	**P**	**08 22 16.8**	**0.0**
AKTO	**Aktyubinsk**	**19.05**	**25**	P	**P**	**08 22 17.4**	**-1.7**
	comp=N,0.1nm,0.3s,baz=265,slow=3.3,SNR=1.5						
	comp=N,1.1nm,0.6s						
FNA	**Florina**	**20.55**	**297**		**P**	**08 22 38.6**	**+2.9**
BURAR	**Bucovina Array**	**20.75**	**318**	P	**P**	**08 22 39.5**	**+1.6**
BUR08	**Bucovina Ar. S**	**20.78**	**318**	P	**P**	**08 22 39.3**	**+1.2**
AKASG	**Malin Array Be**	**20.83**	**330**	P	**P**	**08 22 37.1**	**-1.5**
	comp=N,0.4nm,0.3s,baz=139,slow=9.7,SNR=10						
	comp=N,0.4nm,0.3s						
DJES	**Djerdap**	**20.95**	**308**	P	**P**	**08 22 40.9**	**+1.0**
BTK	**Batken**	**21.08**	**65**	P	**P**	**08 22 41.3**	**-0.2**
KK31	**Karatay Array**	**21.57**	**57**	P	**P**	**08 22 46.6**	**0.0**
KK31				IAmb	IAmb	08 22 55.5	
	comp=Z,7.9nm,0.8s						
KKAR	**Karatay Array**	**21.57**	**57**	P	**P**	**08 22 47.3**	**+0.6**
NIL	**Nilore**	**22.95**	**82**	P	**P**	**08 23 01.1**	**-0.4**
NIL				IAmb	IAmb	08 23 03.0	
	comp=Z,13nm,1.0s						
ARU	**Arti**	**24.42**	**17**	P	**P**	**08 23 16.8**	**+1.3**
ARU				IAmb	IAmb	08 23 21.2	
	comp=Z,13nm,1.4s						
ARU	**Arti**	**24.42**	**17**	P	**P**	**08 23 15.3**	**-0.2**
	comp=Z,3.6nm,0.2s,baz=276,slow=16,SNR=1.4						
	comp=Z,3.6nm,0.2s						
NRN	**Naryn**	**25.18**	**63**	P	**P**	**08 23 23.8**	**+0.9**
NRN				IAmb	IAmb	08 23 30.4	
	comp=Z,5.0nm,0.8s						
CESX	**Cesi**	**27.35**	**299**	P	**P**	**08 23 43.5**	**+1.3**
CLUD	**Cludinico**	**27.93**	**307**	P	**P**	**08 23 49.0**	**+1.7**
CLUD				IAmb	IAmb	08 24 16.5	
	comp=Z,11nm,1.3s						
KURBB	**Kurchatov Arra**	**29.36**	**45**	P	**P**	**08 24 00.1**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=252,slow=8.8,SNR=5.9						
	comp=Z,1.4nm,0.8s						
MAKZ	**Makanchi**	**30.39**	**54**	P	**P**	**08 24 09.2**	**+0.1**
MAKZ				IAmb	IAmb	08 24 10.9	
	comp=Z,3.0nm,1.1s						
MK31	**Makanchi Array**	**30.59**	**54**	P	**P**	**08 24 11.0**	**0.0**
MK31				IAmb	IAmb	08 24 12.8	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**30.59**	**54**	P	**P**	**08 24 11.4**	**+0.5**
MKAR	**Makanchi Array**	**30.59**	**54**	P	**P**	**08 24 11.1**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=250,slow=6.9,SNR=12						
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**33.70**	**331**	P	**P**	**08 24 37.1**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=128,slow=9.6,SNR=9.4						
	comp=Z,2.2nm,0.6s						
ZAA0	**Zalesovo Array**	**34.17**	**42**	P	**P**	**08 24 40.8**	**-1.4**
ZALV	**Zalesovo Beam**	**34.17**	**42**	P	**P**	**08 24 41.3**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=261,slow=7.2,SNR=2.7						
	comp=Z,0.9nm,0.3s						
ESDC	**Sonseca Array**	**39.83**	**293**	P	**P**	**08 25 30.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=71,slow=8.2,SNR=2.0						
	comp=Z,0.5nm,0.6s						
NRIK	**Noril'sk**	**42.58**	**21**	P	**P**	**08 25 53.3**	**+0.7**
NRIK				IAmb	IAmb	08 25 54.2	
	comp=Z,6.0nm,1.1s						
NRIK	**Noril'sk**	**42.58**	**21**	P	**P**	**08 25 52.9**	**+0.3**
	comp=Z,3.6nm,1.0s,baz=206,slow=4.3,SNR=5.0						
	comp=Z,3.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**44.81**	**254**	P	**P**	**08 26 10.7**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=67,slow=6.0,SNR=5.8						
	comp=Z,1.4nm,0.9s						
SONM	**Songino Array**	**46.96**	**54**	P	**P**	**08 26 28.0**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=283,slow=15,SNR=3.5						
	comp=Z,0.6nm,0.4s						
ULN	**Ulaanbaatar**	**47.40**	**53**	P	**P**	**08 26 31.4**	**-0.2**
ULN				IAmb	IAmb	08 26 36.0	
	comp=Z,2.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.70**	**94**	P	**P**	**08 26 47.4**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=293,slow=8.6,SNR=6.4						
	comp=Z,1.0nm,0.3s						
BOSA	**Boshof**	**64.90**	**200**	P	**P**	**08 28 36.4**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=312,slow=7.6,SNR=3.8						
	comp=Z,3.2nm,0.9s						
FRB	**Frobisher Bay**	**69.98**	**334**	P	**P**	**08 29 07.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=62,slow=7.0,SNR=5.9						
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**81.38**	**5**	P	**P**	**08 30 13.1**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=336,slow=6.3,SNR=4.7						
	comp=Z,0.7nm,0.9s						
YKA	**Yellowknife Ar**	**82.85**	**351**	P	**P**	**08 30 20.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=28,slow=5.1,SNR=5.3						
	comp=Z,0.4nm,0.8s						

*ISN **11** 08:25:35.5±0.4, 33.71N×45.61E, h15km±2km, ML3.4*
*IDC **11** 08:25:35.4±2.1, 33.86N×45.56E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=49.3km s-min=27.6km az=165.0*
*TEH **11** 08:25:35.0, 33.67N×45.63E, h9km±25km, ML3.7*
ISC 11 08:25:35.3±1.3, 33.71N±0.03×45.60E±0.03, h5km±10km, n37, σ1s92/39, mb3.5/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.51**	**99**

MKAR	**Makanchi Array**	**30.61**	**54**	P		**P**		**08 31 50.4**	**+0.1**
	comp=E,0.2nm,0.3s,baz=255,slow=8.7,SNR=9.9								
	comp=E,0.2nm,0.3s								
HFS	**Hagfors**	**33.66**	**331**	P		**P**		**08 32 16.4**	**-0.3**
	comp=E,1.3nm,0.7s,baz=124,slow=9.2,SNR=5.9								
	comp=E,1.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**44.77**	**254**	P		**P**		**08 33 50.9**	**+0.8**
	comp=E,0.3nm,0.5s,baz=59,slow=6.2,SNR=2.4								
	comp=E,0.3nm,0.5s								

*IDC **11** 08:29:01.8±1.0,33°.86N×45°.54E,h0km,mb3.9/18, mbtmp3.9/21,ML3.6/3,Error ellipse: s-maj=22.7km s-min=16.7km az=144.0*
*TEH **11** 08:29:03.5,33°.80N×45°.66E,h12km±3.4km,ML4.0*
*ISN **11** 08:29:04.2±1.0,33°.82N×45°.71E,h15km±6km,ML3.7*
ISC 11 08:29:03.2±0.5,**33°.83N**±0'.03×**45°.65E**±0'.04,**h10**km,**n62,** σ1§**63**/62,**mb4.0**/17,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.51**	**113**	Pg	**Pg**	**08 29 13.1**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.68**	**356**	Pg	**Pg**	**08 29 17.3**	**+1.0**
IBDR	**Badra**	**0.75**	**162**	*e*Pg	**Pg**	**08 29 18.8**	**+1.1**
IBDR				*e*Sg	**Sg**	**08 29 28.0**	**+0.5**
IBDR				AML	AML	08 29 33.0	
	comp=E,2μm,0.6s						
IBDR				AML	AML	08 29 35.5	
	comp=N,2μm,0.7s						
IGHG	**Ghaleghazi**	**0.91**	**56**	Pg	**Pg**	**08 29 21.3**	**+0.5**
IDHR	**Dehrash**	**1.06**	**35**	Pg	**Pg**	**08 29 23.7**	**0.0**
BHD	**Baghdad**	**1.20**	**243**	*e*Pg	**Pn**	**08 29 26.5**	**+0.5**
BHD				*e*Sg	**Sb**	**08 29 44.0**	**+2.5**
BHD				AML	AML	08 29 48.0	
	comp=E,9μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.24**	**68**	Pg	**Pb**	**08 29 26.7**	**0.0**
ILIN	**Lien**	**1.54**	**45**	Pg	**Pn**	**08 29 32.8**	**+1.8**
IKOM	**Komasi**	**1.58**	**77**	Pg	**Pn**	**08 29 33.6**	**+2.1**
IKFM	**Kafar-mosalman**	**1.86**	**99**	Pn	**Pn**	**08 29 36.9**	**+1.9**
IBZA	**Bozab**	**1.94**	**70**	Pn	**Pn**	**08 29 38.6**	**+2.1**
RAFI	**Al-Rafai**	**2.13**	**169**	*e*Pn	**Pn**	**08 29 41.0**	**+2.1**
RAFI				*e*Sn	**Sn**	**08 30 08.0**	**+2.6**
RAFI				AML	AML	08 30 12.9	
	comp=E,697nm,0.4s						
RAFI				AML	AML	08 30 24.2	
	comp=N,558nm,0.5s						
SDS1	**Sardasht. Az.**	**2.32**	**357**	Pn	**Pn**	**08 29 43.7**	**+2.1**
IALM	**Almabolaq**	**2.32**	**63**	Pn	**Pn**	**08 29 43.9**	**+2.2**
HSAM	**Samen**	**2.48**	**80**	Pn	**Pn**	**08 29 45.4**	**+1.5**
MAHB	**Mahabad**	**2.93**	**1**	Pn	**Pn**	**08 29 51.9**	**+1.9**
HAGD	**Aghdareh**	**3.05**	**70**	Pn	**Pn**	**08 29 53.3**	**+1.6**
IHSH	**Hashtrud**	**3.71**	**20**	Pn	**Pn**	**08 30 02.7**	**+1.8**
IAZR	**Azarshahr**	**3.85**	**4**	Pn	**Pn**	**08 30 04.7**	**+1.9**
IRAZ	**Razeghan**	**3.86**	**65**	Pn	**Pn**	**08 30 05.0**	**+2.1**
ISRB	**Sarab**	**4.31**	**22**	Pn	**Pn**	**08 30 11.6**	**+2.5**
ISHB	**Shabestar**	**4.45**	**360**	Pn	**Pn**	**08 30 12.1**	**+1.2**
JHBN	**Jahan bin**	**4.50**	**109**	Pn	**Pn**	**08 30 12.1**	**+0.3**
IQOM	**Qom**	**4.60**	**76**	Pn	**Pn**	**08 30 13.9**	**+0.9**
ZNGN	**Zangian**	**4.69**	**110**	Pn	**Pn**	**08 30 14.6**	**+0.2**
QAMS	**Qamsar**	**4.79**	**89**	Pn	**Pn**	**08 30 17.6**	**+2.0**
IMRD	**Marand**	**4.88**	**0**	Pn	**Pn**	**08 30 18.8**	**+2.0**
IKLH	**Kolahrood**	**4.97**	**94**	Pn	**Pn**	**08 30 20.1**	**+2.0**
IVRN	**Varamin**	**5.16**	**75**	Pn	**Pn**	**08 30 21.9**	**+1.3**
GRMI	**Germi**	**5.29**	**19**	Pn	**Pn**	**08 30 24.2**	**+1.8**
KRSH	**Karshahi**	**5.39**	**87**	Pn	**Pn**	**08 30 25.4**	**+1.6**
ISFB	**Sefidab**	**5.49**	**83**	Pn	**Pn**	**08 30 25.8**	**+0.6**
MZPU	**Pul - Mazandar**	**5.50**	**60**	Pn	**Pn**	**08 30 28.4**	**+2.9**
IDMV	**Damavand**	**5.54**	**70**	Pn	**Pn**	**08 30 26.9**	**+1.0**
IZEF	**Zefreh**	**5.67**	**98**	Pn	**Pn**	**08 30 29.8**	**+2.1**
IRAM	**Ramesheh**	**6.01**	**108**	Pn	**Pn**	**08 30 33.0**	**+0.6**
GNI	**Garni**	**6.35**	**354**	Pn	**Pn**	**08 30 40.7**	**+3.7**
	comp=N,0.5nm,0.3s,baz=70,slow=22,SNR=1.3						
GNI				Lg	Lg	08 32 30.2	
	comp=N,0.6nm,0.3s,baz=17,slow=21,SNR=1.2						
	comp=N,1.9nm,0.3s						
ASF	**Jabal al Asfar**	**7.54**	**260**	Lg	Lg	08 33 05.3	
	comp=N,2.9nm,0.3s,baz=123,slow=19,SNR=2.9						
MMAI	**Mount Meron Ar**	**8.61**	**267**	Lg	Lg	08 33 30.7	
	comp=N,2.4nm,0.3s,baz=100,slow=41,SNR=1.5						
TNSJ	**Nastanj**	**9.11**	**86**	Pn	**Pn**	**08 31 16.9**	**+2.0**
EIL	**Elat**	**10.01**	**248**	Lg	Lg	08 34 17.4	
	comp=N,1.0nm,0.3s,baz=72,slow=14,SNR=3.6						
WSAR	**Wadi Sarin**	**15.52**	**129**	Pn	**Pn**	**08 32 37.7**	**-4.5**
	comp=N,0.7nm,0.3s,baz=16,slow=14,SNR=4.3						
WSAR				Sn	Sn	08 35 22.4	-12
	comp=N,0.2nm,0.3s,baz=278,slow=7.6,SNR=1.5						
BELG	**Belogornoye**	**18.61**	**4**	P	**P**	**08 33 18.6**	**-1.9**
	comp=N,0.5nm,0.3s,baz=240,slow=13,SNR=1.8						
	comp=N,8.4nm,0.7s						
AKTO	**Aktyubinsk**	**18.92**	**25**	P	**P**	**08 33 23.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=197,slow=9.9,SNR=3.7						
	comp=N,0.8nm,0.3s						
AKASG	**Malin Array Be**	**20.71**	**329**	P	**P**	**08 33 41.8**	**-1.6**
	comp=N,0.4nm,0.3s,baz=138,slow=9.7,SNR=11						
	comp=N,0.4nm,0.3s						
BVAR	**Borovoye Array**	**26.07**	**35**	P	**P**	**08 34 37.6**	**+0.9**
	comp=N,1.8nm,0.5s,baz=234,slow=8.5,SNR=11						
	comp=N,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**29.25**	**45**	P	**P**	**08 35 06.0**	**+0.7**
	comp=N,0.7nm,0.7s,baz=251,slow=8.8,SNR=4.1						
	comp=N,0.7nm,0.7s						
FINES	**FINESS Array B**	**30.36**	**341**	P	**P**	**08 35 14.6**	**-0.3**
	comp=N,3.9nm,1.2s,baz=194,slow=29,SNR=3.6						
	comp=N,3.9nm,1.2s						
MKAR	**Makanchi Array**	**30.51**	**54**	P	**P**	**08 35 17.1**	**+0.7**
	comp=N,1.7nm,0.6s,baz=251,slow=11,SNR=24						
	comp=N,1.7nm,0.6s						
HFS	**Hagfors**	**33.57**	**331**	P	**P**	**08 35 42.4**	**-0.7**
	comp=N,1.8nm,0.6s,baz=140,slow=9.7,SNR=11						
	comp=N,1.8nm,0.6s						
ARCES	**ARCESS Array B**	**37.48**	**349**	P	**P**	**08 36 16.2**	**-0.4**
	comp=N,1.2nm,0.8s,baz=159,slow=7.7,SNR=1.7						
	comp=N,1.2nm,0.8s						
ESDC	**Sonseca Array**	**39.77**	**293**	P	**P**	**08 36 35.7**	**-0.6**
	comp=N,0.8nm,0.6s,baz=79,slow=7.7,SNR=5.6						
	comp=N,0.8nm,0.6s						
EKA	**Eskdalemuir Ar**	**39.83**	**318**	P	**P**	**08 36 36.0**	**-0.5**
	comp=N,0.9nm,0.6s,baz=84,slow=32,SNR=4.0						
	comp=N,0.9nm,0.6s						
NRIK	**Noril'sk**	**42.45**	**21**	P	**P**	**08 36 58.3**	**+0.5**
	comp=N,0.9nm,0.2s,baz=60,slow=3.8,SNR=2.1						
	comp=N,0.9nm,0.2s						
TORD	**Torodi Ar. Bea**	**44.85**	**253**	P	**P**	**08 37 17.6**	**-0.3**
	comp=N,0.9nm,0.5s,baz=57,slow=6.6,SNR=14						
	comp=N,0.9nm,0.5s						
SPITS	**Spitsbergen Ar**	**46.22**	**352**	P	**P**	**08 37 27.4**	**-0.5**
	comp=N,2.0nm,0.5s,baz=146,slow=11,SNR=7.9						
	comp=N,2.0nm,0.5s						
SONM	**Songino Array**	**46.88**	**54**	P	**P**	**08 37 33.8**	**+0.1**
	comp=N,0.3nm,0.5s,baz=99,slow=33,SNR=1.4						
	comp=N,0.3nm,0.5s						
BOSA	**Boshof**	**65.04**	**200**	P	**P**	**08 39 43.9**	**+0.1**
	comp=N,2.8nm,0.8s,baz=28,slow=6.7,SNR=3.9						
	comp=N,2.8nm,0.8s						
FRB	**Frobisher Bay**	**69.85**	**334**	P	**P**	**08 40 13.7**	**+0.1**
	comp=N,2.3nm,0.6s,baz=48,slow=7.1,SNR=10						
	comp=N,2.3nm,0.6s						
SCHQ	**Schefferville**	**74.47**	**326**	P	**P**	**08 40 41.0**	**-0.5**
	comp=N,1.9nm,0.6s,baz=34,slow=7.3,SNR=4.5						
	comp=N,1.9nm,0.6s						
ILAR	**Eielson Array**	**81.23**	**5**	P	**P**	**08 41 18.6**	**-0.4**
	comp=N,0.3nm,0.8s,baz=342,slow=5.7,SNR=3.0						
	comp=N,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**82.70**	**351**	P	**P**	**08 41 26.1**	**-0.6**
	comp=N,0.3nm,0.6s,baz=167,slow=19,SNR=6.9						
	comp=N,0.3nm,0.6s						

*IDC **11** 08:37:26.6±0.8,58°.96N×30°.81W,h0km,mb4.0/20, mbtmp4.0/24,ML3.0/3,MS3.7/10,Error ellipse: s-maj=22.8km s-min=12.7km az=1.0*
*REY **11** 08:37:33.2,59°.29N×30°.83W,h10km*
ISC 11 08:37:28.7±0.6,**59°.00N**±0'.09×**30°.81W**±0'.07,**h14**km,**n48,** σ1§**04**/47,**mb4.2**/19,**MS3.7**/10,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**6.20**	**35**	S	**Sn**	**08 40 09.7**	**-0.5**
	baz=37						
IGRV	**Grindav??k**	**6.30**	**36**	P	**Pn**	**08 39 02.0**	**+0.9**
	baz=38						
IVOG	**Vogar**	**6.41**	**35**	P	**Pn**	**08 39 02.4**	**-0.1**
	baz=37						
IKAS	**Kald??rsel**	**6.61**	**37**	P	**Pn**	**08 39 05.7**	**+0.4**
	baz=38						
IKAS				S	**Sn**	**08 40 19.9**	**-0.4**
	baz=38						
ISAN	**Sandskeio**	**6.72**	**37**	P	**Pn**	**08 39 07.0**	**+0.2**
	baz=39						
ISAN				S	**Sn**	**08 40 22.2**	**-0.9**
	baz=39						
IEDA	**Engidalur**	**6.80**	**37**	P	**Pn**	**08 39 07.6**	**-0.3**
	baz=39						
IEDA				S	**Sn**	**08 40 23.7**	**-1.3**
	baz=39						
ISOL	**Solvholt**	**6.83**	**40**	P	**Pn**	**08 39 07.8**	**-0.5**
	baz=41						
ISOL				S	**Sn**	**08 40 23.2**	**-2.7**
	baz=41						
IMOR	**Morastadir**	**6.84**	**35**	P	**Pn**	**08 39 10.6**	**+2.2**
	baz=37						
IMOR				S	**Sn**	**08 40 26.8**	**+0.7**
	baz=37						
IKRO	**Krokur**	**6.89**	**38**	P	**Pn**	**08 39 09.2**	**+0.1**
	baz=40						
IKRO				S	**Sn**	**08 40 26.1**	**-1.1**
	baz=40						
IHEI	**Heioarbar**	**6.93**	**37**	P	**Pn**	**08 39 10.1**	**+0.5**
	baz=39						
IHEI				S	**Sn**	**08 40 28.0**	**-0.1**
	baz=39						
ISAU	**Saurbar**	**7.05**	**40**	P	**Pn**	**08 39 10.9**	**-0.4**
	baz=42						
ISAU				S	**Sn**	**08 40 28.6**	**-2.5**
	baz=42						
IHAU	**Haukadalur**	**7.19**	**42**	P	**Pn**	**08 39 15.9**	**+2.6**
	baz=43						
BORG	**Borgarnes**	**7.30**	**34**	Pn	**Pn**	**08 39 15.5**	**+0.8**
	21nm,0.5s,baz=210,slow=6.6,SNR=18						
IGYG	**Gygjarholskot**	**7.31**	**39**	S	**Sn**	**08 40 36.6**	**-0.9**
	baz=41						
EKA	**Eskdalemuir Ar**	**15.38**	**92**	Pn	**Pn**	**08 41 06.4**	**+1.3**
	baz=307,slow=12						
	1.3nm,0.6s						
FRB	**Frobisher Bay**	**18.49**	**301**	P	**Pn**	**08 41 44.0**	**0.0**
	0.1nm,0.3s,baz=105,slow=12,SNR=4.4						
	2.5nm,0.9s						
SCHQ	**Schefferville**	**19.93**	**274**	P	**P**	**08 41 58.9**	**-1.0**
	0.1nm,0.3s,baz=51,slow=17,SNR=1.4						
	1.7nm,0.7s						
NOA	**NORSAR Array B**	**20.84**	**66**	P	**P**	**08 42 09.6**	**-0.1**
	0.9nm,0.8s,baz=281,slow=11,SNR=3.2						
NOA				LR	LR	08 49 32.4	
	comp=Z,132nm,18.1s,baz=295,slow=35						
	0.9nm,0.8s						
HFS	**Hagfors**	**22.25**	**68**	LR	LR	08 50 05.3	
	comp=Z,216nm,19.4s,baz=20,slow=34						
ARCES	**ARCESS Array B**	**25.59**	**43**	P	**P**	**08 42 56.7**	**-0.2**
	4.0nm,0.6s,baz=268,slow=7.3,SNR=19						
	4.0nm,0.6s						
ESDC	**Sonseca Array**	**25.78**	**127**	P	**P**	**08 42 58.2**	**-0.7**
	2.9nm,1.3s,baz=335,slow=9.1,SNR=2.7						
	2.9nm,1.3s						
DAVOX	**Davos/Dischmat**	**26.97**	**99**	LR	LR	08 53 21.4	
	comp=Z,186nm,18.7s,baz=313,slow=35						
FINES	**FINESS Array B**	**27.59**	**60**	P	**P**	**08 43 15.1**	**+0.1**
	4.2nm,0.8s,baz=274,slow=7.5,SNR=4.7						
FINES				LR	LR	08 53 38.6	
	comp=Z,162nm,18.0s,baz=198,slow=35						
	4.2nm,0.8s						
GERES	**GERESS Array B**	**27.60**	**92**	LR	LR	08 52 55.6	
	comp=Z,222nm,19.9s,baz=304,slow=34						
VRAC	**Vranov**	**28.81**	**89**	LR	LR	08 53 56.0	
	comp=Z,175nm,18.7s,baz=8.0,slow=34						
AKASG	**Malin Array Be**	**34.44**	**77**	P	**P**	**08 44 15.5**	**+0.2**
	0.2nm,0.3s,baz=304,slow=8.7,SNR=1.1						
	0.2nm,0.3s						
KEST	**Kesra**	**34.98**	**114**	LR	LR	08 56 38.1	
	comp=Z,126nm,20.5s,baz=256,slow=33						
MLR	**Muntele Rosu**	**36.12**	**86**	LR	LR	09 00 59.7	
	comp=Z,119nm,19.2s,baz=292,slow=39						
ULM	**Lac du Bonnet**	**37.24**	**286**	P	**P**	**08 44 39.0**	**-0.5**
	2.4nm,0.8s,baz=65,slow=5.1,SNR=5.1						
	2.4nm,0.8s						
YKA	**Yellowknife Ar**	**38.39**	**312**	P	**P**	**08 44 48.6**	**-0.3**
	0.9nm,0.7s,baz=57,slow=9.1,SNR=9.7						
	0.9nm,0.7s						
BELG	**Belogornoye**	**42.29**	**63**	P	**P**	**08 45 19.8**	**-1.5**
	6.0nm,0.8s,baz=301,slow=5.9,SNR=4.0						
	6.0nm,0.8s						
BRTR	**Keskin Array B**	**44.21**	**86**	LR	LR	09 04 49.6	
	comp=Z,90nm,19.9s,baz=314,slow=37						
ARU	**Arti**	**44.39**	**53**	P	**P**	**08 45 38.1**	**-0.1**
	4.8nm,0.2s,baz=323,slow=7.4,SNR=6.4						
	4.8nm,0.2s						
ILAR	**Eielson Array**	**47.50**	**329**	P	**P**	**08 46 03.4**	**+0.7**
	0.8nm,1.0s,baz=22,slow=4.8,SNR=6.2						
	0.8nm,1.0s						
AKTO	**Aktyubinsk**	**48.35**	**59**	P	**P**	**08 46 09.8**	**+0.4**
	9.5nm,0.7s,baz=314,slow=6.9,SNR=27						
	9.5nm,0.7s						
PDAR	**Pinedale Array**	**49.21**	**287**	P	**P**	**08 46 15.7**	**-0.8**
	0.5nm,0.8s,baz=62,slow=10,SNR=4.2						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**51.60**	**49**	P	**P**	**08 46 35.1**	**+1.0**
	2.8nm,0.7s,baz=316,slow=6.2,SNR=12						
	2.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.79**	**138**	P	**P**	**08 46 35.3**	**-0.5**
	1.2nm,0.9s,baz=352,slow=9.3,SNR=4.5						
	1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**56.60**	**46**	P	**P**	**08 47 10.2**	**-0.3**
	2.4nm,0.8s,baz=326,slow=7.0,SNR=6.7						
	2.4nm,0.8s						
NVAR	**Mina Array Bea**	**56.81**	**290**	P	**P**	**08 47 14.6**	**+2.1**
	0.2nm,0.5s,baz=51,slow=6.3,SNR=1.9						
	0.2nm,0.5s						
GEYT	**Alibeck**	**57.90**	**69**	P	**P**	**08 47 21.1**	**+1.1**
	0.6nm,0.3s,baz=325,slow=2.3,SNR=1.7						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**61.17**	**46**	P	**P**	**08 47 42.6**	**+0.2**
	2.1nm,0.9s,baz=338,slow=5.6,SNR=15						
	2.1nm,0.9s						
SONM	**Songino Array**	**67.89**	**30**	P	**P**	**08 48 26.7**	**+0.3**
	1.9nm,1.1s,baz=324,slow=7.3,SNR=7.5						
	1.9nm,1.1s						
KMBO	**Kilima Mbogo**	**79.83**	**110**	LR	LR	09 26 24.1	
	comp=Z,42nm,18.0s,baz=87,slow=37						
CMAR	**Chiang Mai Arr**	**92.57**	**47**	P	**P**	**08 50 39.7**	**0.0**
	1.1nm,0.3s,baz=311,slow=5.5,SNR=4.1						
	1.1nm,0.3s						
WRA	**Warramunga Arr**	**139.53**	**22**	PKP	**PKPdf**	**08 56 55.3**	**-0.3**
	0.7nm,0.9s,baz=296,slow=2.2,SNR=2.8						
ASAR	**Alice Springs**	**143.06**	**24**	PKhKP	PKPpre	08 56 52.5	
	0.5nm,1.0s,baz=320,slow=2.8,SNR=2.5						
QSPA	**South Pole Qui**	**148.90**	**180**	PKPbc	**PKiKP**	**08 57 14.9**	**-0.8**
	3.2nm,1.0s,baz=243,slow=2.7,SNR=2.5						

*TEH **11** 08:43:24.8,33°.68N×45°.64E,h9km±25km,ML3.3*
*ISN **11** 08:43:26.0±0.8,33°.69N×45°.71E,h7km±4km,ML3.3*
ISC 11 08:43:26.4±0.9,**33°.68N**±0'.03×**45°.69E**±0'.04,**h13**km,**n15,** σ1§**06**/19,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.44**	**97**	Pg	**Pg**	**08 43 34.5**	**-0.6**
IBDR	**Badra**	**0.60**	**160**	*e*Pg	**Pg**	**08 43 38.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**08 43 46.5**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.83**	**354**	Pg	**Pg**	**08 43 41.3**	**-1.2**
IGHG	**Ghaleghazi**	**0.98**	**48**	Pg	**Pg**	**08 43 44.1**	**-1.3**
BHD	**Baghdad**	**1.17**	**250**	*e*Pg	**Pg**	**08 43 49.0**	**+0.1**
BHD				*e*Sg	**Sn**	**08 44 05.0**	**+0.8**
BHD				AML	AML	08 44 09.7	
	comp=E,1μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.27**	**62**	Pg	**Pn**	**08 43 49.7**	**-0.4**
KCHF				Sg	**Sg**	**08 44 09.3**	**+1.8**
IKOM	**Komasi**	**1.59**	**71**	Pg	**Pb**	**08 43 55.9**	**+0.1**
ILIN	**Lien**	**1.63**	**40**	Pg	**Pb**	**08 43 56.0**	**-0.5**
IKFM	**Kafar-mosalman**	**1.81**	**94**	Pn	**Pb**	**08 43 59.1**	**-0.3**
RAFI	**Al-Rafai**	**1.98**	**169**	*e*Pn	**Pb**	**08 44 01.5**	**-0.8**
RAFI				*e*Sn	**Sg**	**08 44 28.5**	**-1.6**
RAFI				AML	AML	08 44 36.5	
	comp=E,198nm,0.4s						
RAFI				AML	AML	08 44 39.9	
	comp=N,349nm,0.4s						
HSAM	**Samen**	**2.48**	**77**	Pn	**Pn**	**08 44 08.0**	**+1.2**
HAGD	**Aghdareh**	**3.08**	**67**	Pn	**Pn**	**08 44 16.0**	**+1.0**
MAHB	**Mahabad**	**3.08**	**0**	Pn	**Pn**	**08 44 15.6**	**+0.7**
QAMS	**Qamsar**	**4.76**	**88**	Pn	**Pn**	**08 44 39.2**	**+1.2**
IKLH	**Kolahrood**	**4.94**	**93**	Pn	**Pn**	**08 44 42.0**	**+1.5**

*IDC **11** 08:44:59.7±1.1,34°.84N×23°.80E,h0km,mb4.0/14, mbtmp4.0/19,ML3.9/5,MS3.5/4,Error ellipse:*
s-maj=22.1km s-min=16.6km az=179.0
*THE **11** 08:45:06.8,34°.77N×23°.73E,h25km±1km,ML3.4/6,Error ellipse: s-maj=1.6km s-min=0.8km az=212.0*
*AFAD **11** 08:45:06.3±0.0,34°.81N×24°.37E,h5km±3km,ML3.8*
*ATH **11** 08:45:08.3,34°.89N×23°.84E,h28km±1km,ML3.6/5,Error ellipse: s-maj=4.1km s-min=1.6km az=215.0*
*NAO **11** 08:45:16.0,36°.47N×25°.28E,h33km,mb3.9*
ISC 11 08:45:04.2±0.9,**34°.67N**±0'.06×**23°.78E**±0'.04,**h35**km±1km, **n90,** σ1§**84**/103,**mb3.9**/14,**MS3.5**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.31**	**57**	P	**Pn**	**08 45 13.3**	**+1.0**
GVD				S	**Sn**	**08 45 19.3**	**+0.8**
	44μm,0.4s						
GVD	**Gavdhos**	**0.31**	**57**	P	**Pn**	**08 45 13.2**	**+1.0**
GVD				S	**Sn**	**08 45 19.3**	**+0.8**
GVD				AML	AML	08 45 20.0	
GVD				AML	AML	08 45 22.8	
	comp=E,65305μm,0.4s						
IMMV	**Iera Moni Meta**	**0.81**	**12**	P	**Pn**	**08 45 20.1**	**+1.0**
IMMV				S	**Sn**	**08 45 30.2**	**+0.3**
	comp=E,9μm,0.6s						
IMMV	**Iera Moni Meta**	**0.81**	**12**	P	**Pn**	**08 45 19.8**	**+0.7**
IMMV				AML	AML	08 45 32.3	
	comp=N,20435μm,0.8s						
IMMV				AML	AML	08 45 34.0	
	comp=E,15298μm,0.4s						
CHAN	**Chania**	**0.88**	**14**	P	**Pn**	**08 45 21.5**	**+1.5**
CHAN				S	**Sn**	**08 45 28.9**	**-2.6**
CHAN				AML	AML	08 45 35.8	
	comp=N,13036μm,0.7s						
CHAN				AML	AML	08 45 39.4	
	comp=E,16529μm,0.6s						
RODP	**Rodopos**	**0.89**	**359**	P	**Pn**	**08 45 21.6**	**+1.4**
RODP				S	**Sn**	**08 45 33.0**	**+1.1**
	comp=E,1μm,0.5s						
TMBK	**Timbaki Herakl**	**0.91**	**63**	P	**Pn**	**08 45 23.3**	**+2.9**
PRNS	**Prines Rethymn**	**0.91**	**40**	P	**Pn**	**08 45 21.2**	**+0.7**
PRNS				S	**Sn**	**08 45 33.3**	**+0.8**
	comp=E,2μm,0.8s						
IDI	**Anoyia**	**1.10**	**56**	P	**Pn**	**08 45 25.5**	**+2.3**
IDI				S	**Sn**	**08 45 40.2**	**+3.0**
	comp=E,1μm,0.8s						
IDI	**Anoyia**	**1.10**	**56**	P	**Pn**	**08 45 25.3**	**+2.1**
IDI				AML	AML	08 45 44.1	
	comp=N,2874μm,0.6s						
IDI				AML	AML	08 45 46.8	
	comp=E,1651μm,0.5s						
ANKY	**Antikythira Is**	**1.26**	**342**	P	**Pn**	**08 45 27.3**	**+2.0**
ANKY				S	**Sn**	**08 45 41.2**	**+0.3**
	comp=E,1μm,0.8s						
ANKY	**Antikythira Is**	**1.26**	**342**	P	**Pn**	**08 45 27.3**	**+2.0**
ANKY				AML	AML	08 45 50.1	
	comp=N,2627μm,0.5s						
ANKY				AML	AML	08 45 51.4	
	comp=E,2590μm,0.6s						
ZKR	**Zakros**	**2.06**	**77**	P	**Pn**	**08 45 39.9**	**+3.6**
THR9	**Santorini-Faro**	**2.12**	**37**	P	**Pn**	**08 45 38.9**	**+1.8**
THR6	**Thira Island,**	**2.14**	**38**	P	**Pn**	**08 45 39.2**	**+1.8**
THR6	**Thira Island,**	**2.14**	**38**	P	**Pn**	**08 45 39.5**	**+2.1**
VLI	**Veliai**	**2.15**	**342**	P	**Pn**	**08 45 38.4**	**+0.8**
VLI	**Veliai**	**2.15**	**342**	P	**Pn**	**08 45 40.4**	**+2.8**
THR5	**Thira Island,**	**2.16**	**36**	P	**Pn**	**08 45 39.2**	**+1.5**
THR5	**Thira Island,**	**2.16**	**36**	P	**Pn**	**08 45 39.1**	**+1.3**
SNT5	**Nea Kammeni, S**	**2.18**	**37**	P	**Pn**	**08 45 39.5**	**+1.6**
THR3	**Thira Island,**	**2.18**	**37**	P	**Pn**	**08 45 39.6**	**+1.6**
THR3	**Thira Island,**	**2.18**	**37**	P	**Pn**	**08 45 39.2**	**+1.2**
THR8	**Santorini-Mono**	**2.22**	**38**	P	**Pn**	**08 45 39.6**	**+1.1**
THR8	**Santorini-Mono**	**2.22**	**38**	P	**Pn**	**08 45 39.7**	**+1.2**
KRND	**KRANIDI**	**2.75**	**350**	P	**Pn**	**08 45 47.9**	**+2.0**
PYL	**PYLOS**	**2.77**	**324**	P	**Pn**	**08 45 47.8**	**+1.7**
APE	**Apeiranthos**	**2.79**	**30**	P	**Pn**	**08 45 46.7**	**+0.4**
KARP	**Karpathos**	**2.91**	**72**	P	**Pn**	**08 45 50.5**	**+2.5**
KARP	**Karpathos**	**2.91**	**72**	P	**Pn**	**08 45 50.4**	**+2.4**
VLY	**Voula,Athens**	**3.18**	**0**	P	**Pn**	**08 45 52.0**	**+0.3**
VLY	**Voula,Athens**	**3.18**	**0**	P	**Pn**	**08 45 51.8**	**+0.2**
PTL	**Penteli**	**3.37**	**1**	P	**Pn**	**08 45 56.0**	**+1.7**
PTL	**Penteli**	**3.37**	**1**	P	**Pn**	**08 45 56.1**	**+1.7**
LOUT	**Loutraki**	**3.37**	**349**	P	**Pn**	**08 45 55.8**	**+1.4**
DION	**Dionisos Attik**	**3.40**	**2**	P	**Pn**	**08 45 56.5**	**+1.7**
DION	**Dionisos Attik**	**3.40**	**2**	P	**Pn**	**08 45 56.6**	**

comp=Z,1.0nm,0.6s,baz=150,slow=9.7,SNR=8.1
NOA LR LR 09 04 50.8
comp=Z,38nm,18.3s,baz=60,slow=43
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 27.80 326 P **P 08 50 50.1 +0.4**
comp=Z,0.6nm,0.5s,baz=129,slow=6.5,SNR=6.9
comp=Z,0.6nm,0.5s
TORD Torodi Ar. Bea 29.31 228 P **P 08 51 05.2 +1.7**
comp=Z,0.9nm,0.4s,baz=34,slow=9.0,SNR=8.6
comp=Z,0.9nm,0.4s
AKTO Aktyubinsk 29.42 47 P **P 08 51 02.4 -1.8**
comp=Z,1.1nm,0.6s,baz=242,slow=7.9,SNR=4.2
comp=Z,1.1nm,0.6s
ARCES ARCESS Array B 34.93 1 P **P 08 51 50.3 -2.0**
comp=Z,1.0nm,0.5s,baz=176,slow=8.5,SNR=12
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 37.51 46 P **P 08 52 14.5 +0.1**
comp=Z,1.0nm,0.5s,baz=251,slow=4.5,SNR=5.1
comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra 42.31 51 P **P 08 52 54.0 -0.3**
comp=Z,1.7nm,0.4s,baz=273,slow=8.6,SNR=13
comp=Z,1.7nm,0.4s
SPITS Spitsbergen Ar 43.73 358 P **P 08 53 04.8 -0.7**
comp=Z,2.9nm,0.8s,baz=157,slow=11,SNR=5.6
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 44.99 56 P **P 08 53 16.4 +0.3**
comp=Z,3.8nm,0.4s,baz=268,slow=7.6,SNR=86
comp=Z,3.8nm,0.4s
ZALV Zalesovo Beam 46.16 46 P **P 08 53 24.2 -0.9**
comp=Z,1.4nm,0.4s,baz=260,slow=8.9,SNR=4.8
comp=Z,1.4nm,0.4s
SONM Songino Array 60.67 50 P **P 08 55 11.8 0.0**
comp=Z,0.5nm,0.5s,baz=291,slow=7.5,SNR=4.6
comp=Z,0.5nm,0.5s
RCBR Riachuelo 69.09 247 LR LR 09 26 26.4
comp=Z,82nm,18.5s,baz=157,slow=36

*TEH **11** 08:46:23.7, 33.68N×45.67E, h12km±36km, ML3.1*
*ISN **11** 08:46:23.8±0.9, 33.70N×45.71E, h10km±4km, ML3.3*
ISC 11 08:46:23.9±1.0, 33.69N±0.03×45.71E±0.04, h13km, n12,
σ0.985/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.42**	**99**	Pg		**Pg**	**08 46 32.9**	**+0.6**
IBDR	**Badra**	**0.61**	**162**	*e*Pg		**Pg**	**08 46 36.0**	**+0.3**
IBDR				*e*Sg		**Sb**	**08 46 44.5**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.82**	**353**	Pg		**Pg**	**08 46 40.0**	**+0.1**
KGS1				Sg		**Sn**	**08 46 52.3**	**-1.0**
IGHG	**Ghaleghazi**	**0.96**	**48**	Pg		**Pb**	**08 46 43.0**	**+0.4**
IDHR	**Dehrash**	**1.15**	**29**	Pg		**Pb**	**08 46 45.8**	**0.0**
BHD	**Baghdad**	**1.19**	**250**	*e*Pg		**Pg**	**08 46 47.0**	**+0.2**
BHD				*e*Sg		**Sn**	**08 47 03.0**	**+0.8**
BHD				AML		AML	08 47 08.5	
	comp=E,714nm,0.7s							
KCHF	**Cheshme Sefid,**	**1.25**	**62**	Pg		**Pg**	**08 46 49.0**	**+1.0**
IKOM	**Komasi**	**1.57**	**72**	Pg		**Pg**	**08 46 54.6**	**+0.4**
ILIN	**Lien**	**1.61**	**40**	Pg		**Pg**	**08 46 54.8**	**0.0**
IKFM	**Kafar-mosalman**	**1.79**	**95**	Pn		**Pg**	**08 46 58.5**	**+0.2**
RAFI	**Al-Rafai**	**1.99**	**170**	*e*Pn		**Pb**	**08 46 59.0**	**-0.9**
RAFI				*e*Sn		**Sb**	**08 47 26.0**	**+1.4**
RAFI				AML		AML	08 47 26.6	
	comp=N,233nm,0.2s							
RAFI				AML		AML	08 47 38.0	
	comp=E,378nm,0.4s							
HSAM	**Samen**	**2.46**	**77**	Pn		**Pb**	**08 47 06.5**	**-1.7**

JMA 11 08:50:33.1±0.2, 30.1°N×137.9°E±, h50km, MV3.9/30,
NEAR TORISHIMA IS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TTO1	**TONANKAI O.B.S**	**3.84**	**337**	P		Pn	08 51 31.4	+2.0
TTO1				S		Sn	08 52 16.3	+3.0
TTO2	**TONANKAI O.B.S**	**3.87**	**340**	*e*S		Sn	08 52 17.4	+3.5
TK02	**Tokai 2**	**3.91**	**350**	S		Sn	08 52 18.7	+3.8
JTNC	**Tanabenakahech**	**4.50**	**326**	P		Pn	08 51 40.6	+1.9
JTNC				S		Sn	08 52 30.6	+0.7
JIE	**Ise**	**4.58**	**340**	*e*P		Pn	08 51 41.6	+1.8
JIE				*e*S		Sn	08 52 33.5	+1.9
JKN2	**Miekihoku**	**4.58**	**335**	P		Pn	08 51 41.4	+1.5
JKN2				S		Sn	08 52 31.6	-0.2
JNY	**Yasuok**	**5.29**	**353**	S		Sn	08 52 51.6	+2.3
JTO	**Tosashimizu**	**5.67**	**301**	P		Pn	08 51 58.0	+3.2

*IDC **11** 08:53:33.3±1.1, 33.83N×45.65E, h0km, mb3.9/13,*
mbtmp3.9/15, ML3.9/2, Error ellipse: s-maj=26.8km
s-min=18.1km az=147.0
*TEH **11** 08:53:34.1, 33.70N×45.68E, h9km±15km, ML3.9*
*ISN **11** 08:53:34.7±1.0, 33.76N×45.73E, h6km±5km, ML3.4*
ISC 11 08:53:34.7±0.5, 33.77N±0.03×45.67E±0.04, h10km, n49,
σ1.939/52, mb3.9/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.48**	**108**	Pg		**Pg**	**08 53 43.5**	**-0.5**
IBDR	**Badra**	**0.70**	**161**	*e*Pg		**Pg**	**08 53 48.0**	**-0.1**
IBDR				*e*Sg		**Sg**	**08 53 57.0**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.73**	**355**	Pg		**Pb**	**08 53 49.8**	**+0.3**
IGHG	**Ghaleghazi**	**0.93**	**53**	Pg		**Pg**	**08 53 52.9**	**+0.2**
IDHR	**Dehrash**	**1.10**	**33**	Pg		**Pg**	**08 53 56.4**	**+0.5**
BHD	**Baghdad**	**1.19**	**245**	*e*Pg		**Pg**	**08 53 58.5**	**+1.1**
BHD				*e*Sg		**Sn**	**08 54 15.0**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.25**	**66**	Pg		**Pn**	**08 53 58.3**	**0.0**
ILIN	**Lien**	**1.57**	**43**	Pg		**Pg**	**08 54 05.3**	**+0.2**
IKOM	**Komasi**	**1.58**	**75**	Pg		**Pb**	**08 54 04.7**	**+0.5**
IKOM				Sg		**Sg**	**08 54 28.1**	**+2.5**
IKFM	**Kafar-mosalman**	**1.84**	**97**	Pn		**Pb**	**08 54 08.5**	**+0.2**
IBZA	**Bozab**	**1.95**	**69**	Pn		**Pb**	**08 54 10.0**	**-0.4**
RAFI	**Al-Rafai**	**2.08**	**169**	*e*Pn		**Pn**	**08 54 11.0**	**+1.4**
RAFI				*e*Sn		**Sb**	**08 54 39.0**	**+0.6**
RAFI				AML		AML	08 54 42.8	
	comp=E,407nm,0.3s							
RAFI				AML		AML	08 54 44.0	
	comp=N,424nm,0.4s							
IALM	**Almabolaq**	**2.34**	**62**	Pn		**Pb**	**08 54 15.8**	**-1.3**
SDS1	**Sardasht. Az.**	**2.37**	**356**	Pn		**Pb**	**08 54 16.4**	**-1.2**
HSAM	**Samen**	**2.48**	**79**	Pn		**Pn**	**08 54 17.1**	**+1.7**
MAHB	**Mahabad**	**2.99**	**1**	Pn		**Pn**	**08 54 24.7**	**+2.5**
HAGD	**Aghdareh**	**3.06**	**69**	Pn		**Pn**	**08 54 25.2**	**+1.9**
IHSH	**Hashtrud**	**3.76**	**20**	Pn		**Pn**	**08 54 35.0**	**+2.1**
IRAZ	**Razeghan**	**3.88**	**64**	Pn		**Pn**	**08 54 36.5**	**+2.0**
IPIR	**Pirpir**	**4.51**	**102**	Pn		**Pn**	**08 54 44.2**	**+0.8**
IQOM	**Qom**	**4.60**	**75**	Pn		**Pn**	**08 54 45.3**	**+0.9**
ZNGN	**Zangian**	**4.67**	**109**	Pn		**Pn**	**08 54 47.4**	**+2.0**
QAMS	**Qamsar**	**4.77**	**89**	Pn		**Pn**	**08 54 48.3**	**+1.4**
IKLH	**Kolahrood**	**4.96**	**94**	Pn		**Pn**	**08 54 51.7**	**+2.3**
IVRN	**Varamin**	**5.16**	**75**	Pn		**Pn**	**08 54 53.6**	**+1.6**
KRSH	**Karshahi**	**5.39**	**86**	Pn		**Pn**	**08 54 56.8**	**+1.6**
ISFB	**Sefidab**	**5.49**	**82**	Pn		**Pn**	**08 54 58.3**	**+1.7**
IDMV	**Damavand**	**5.55**	**69**	Pn		**Pn**	**08 54 59.1**	**+1.5**
IZEF	**Zefreh**	**5.65**	**97**	Pn		**Pn**	**08 55 00.5**	**+1.6**
KLNJ	**Kolanjah**	**5.72**	**117**	Pn		**Pn**	**08 55 01.3**	**+1.3**
DSBU	**Dashti - Bushe**	**7.22**	**137**	Pn		**Pn**	**08 55 21.2**	**+0.9**
ASF	**Jabal al Asfar**	**7.54**	**260**	Pn		**Pn**	**08 55 25.3**	**+0.6**
	comp=N,0.8nm,0.3s,baz=71,slow=24,SNR=1.9							
ASF				Pg		**Pb**	**08 55 43.5**	**-2.0**
	comp=N,0.8nm,0.3s,baz=240,slow=22,SNR=2.1							
ASF				Lg		Lg	08 57 22.3	
	comp=N,0.5nm,0.3s,baz=46,slow=18,SNR=1.2							
	comp=N,2.0nm,0.3s							
MMAI	**Mount Meron Ar**	**8.62**	**268**	Lg		Lg	08 58 02.2	
	comp=N,3.2nm,0.3s,baz=53,slow=50,SNR=2.5							
EIL	**Elat**	**10.00**	**249**	Pg		Pg	08 56 42.0	
	comp=N,0.7nm,0.3s,baz=57,slow=17,SNR=1.7							
EIL				Lg		Lg	08 58 54.5	
	comp=N,0.4nm,0.3s,baz=60,slow=5.7,SNR=2.6							
WSAR	**Wadi Sarin**	**15.48**	**129**	Pn		**Pn**	**08 57 08.6**	**-4.5**
	comp=N,0.5nm,0.3s,baz=228,slow=12,SNR=1.5							
WSAR				Sn		Sn	08 59 50.2	-14
	comp=N,0.2nm,0.3s,baz=229,slow=16,SNR=1.1							
BELG	**Belogornoye**	**18.66**	**4**	P		**P**	**08 57 51.5**	**-1.1**
	comp=N,0.9nm,0.3s,baz=349,slow=10,SNR=4.8							
	comp=N,4.7nm,0.4s							
AKASG	**Malin Array Be**	**20.76**	**329**	P		**P**	**08 58 14.7**	**-0.8**
	comp=N,1.0nm,0.4s,baz=140,slow=9.5,SNR=12							
	comp=N,1.0nm,0.4s							
BVAR	**Borovoye Array**	**26.10**	**35**	P		**P**	**08 59 08.5**	**+0.1**
	comp=N,0.5nm,0.4s,baz=217,slow=6.9,SNR=2.4							
	comp=N,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**29.28**	**45**	P		**P**	**08 59 36.4**	**-0.6**
	comp=N,0.7nm,0.7s,baz=251,slow=9.0,SNR=5.3							
	comp=N,0.7nm,0.7s							
FINES	**FINESS Array B**	**30.42**	**341**	P		**P**	**08 59 47.2**	**+0.4**
	comp=N,2.6nm,1.0s,baz=137,slow=8.8,SNR=1.1							
	comp=N,2.6nm,1.0s							
MKAR	**Makanchi Array**	**30.53**	**54**	P		**P**	**08 59 48.5**	**+0.4**
	comp=N,1.5nm,0.5s,baz=254,slow=9.9,SNR=20							
	comp=N,1.5nm,0.5s							
HFS	**Hagfors**	**33.62**	**331**	P		**P**	**09 00 14.7**	**-0.3**
	comp=N,1.2nm,0.4s,baz=124,slow=13,SNR=10							
	comp=N,1.2nm,0.4s							
ZALV	**Zalesovo Beam**	**34.09**	**42**	P		**P**	**09 00 18.7**	**-0.5**
	comp=N,0.9nm,0.3s,baz=250,slow=5.8,SNR=3.9							
	comp=N,0.9nm,0.3s							
EKA	**Eskdalemuir Ar**	**39.87**	**318**	P		**P**	**09 01 08.6**	**+0.3**
	comp=N,2.3nm,1.0s,baz=118,slow=6.7,SNR=3.8							
	comp=N,2.3nm,1.0s							
NRIK	**Noril'sk**	**42.49**	**21**	P		**P**	**09 01 29.9**	**+0.3**
	comp=N,1.6nm,0.6s,baz=152,slow=5.9,SNR=4.3							
	comp=N,1.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**44.84**	**254**	P		**P**	**09 01 48.8**	**-0.5**
	comp=N,0.5nm,0.7s,baz=51,slow=7.5,SNR=4.9							
	comp=N,0.5nm,0.7s							
BOSA	**Boshof**	**64.99**	**200**	P		**P**	**09 04 15.9**	**+1.0**
	comp=N,0.8nm,0.4s,baz=47,slow=5.5,SNR=3.1							
	comp=N,0.8nm,0.4s							
ILAR	**Eielson Array**	**81.29**	**5**	P		**P**	**09 05 50.7**	**-0.1**
	comp=N,0.4nm,0.8s,baz=324,slow=3.9,SNR=4.8							
	comp=N,0.4nm,0.8s							
YKA	**Yellowknife Ar**	**82.76**	**351**	P		**P**	**09 05 57.8**	**-0.6**
	comp=N,0.4nm,0.9s,baz=15,slow=4.5,SNR=4.4							
	comp=N,0.4nm,0.9s							

*ISN **11** 08:57:06.7±1.3, 33.70N×45.69E, h10km±6km, ML3.0*
*TEH **11** 08:57:07.3, 33.66N×45.70E, h19km±31km, ML3.2*
ISC 11 08:57:07.2±1.2, 33.67N±0.04×45.69E±0.04, h11km±12km,
n12, σ0.983/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.44**	**96**	Pg		**Pg**	**08 57 15.7**	**-0.2**
IBDR	**Badra**	**0.60**	**160**	*e*Pg		**Pg**	**08 57 18.5**	**-0.3**
IBDR				*e*Sg		**Sb**	**08 57 28.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.83**	**355**	Pg		**Pn**	**08 57 24.0**	**-0.9**
IGHG	**Ghaleghazi**	**0.98**	**48**	Pg		**Pg**	**08 57 25.9**	**-0.2**
BHD	**Baghdad**	**1.16**	**250**	*e*Pg		**Pg**	**08 57 30.0**	**+0.5**
BHD				*e*Sg		**Sg**	**08 57 45.0**	**+0.4**
IDHR	**Dehrash**	**1.18**	**29**	Pg		**Pg**	**08 57 29.6**	**-0.2**
IDHR				Sg		**Sn**	**08 57 46.5**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.28**	**62**	Pg		**Pg**	**08 57 31.3**	**-0.4**
KCHF				Sg		**Sg**	**08 57 49.9**	**+1.6**
IKOM	**Komasi**	**1.60**	**71**	Pg		**Pg**	**08 57 37.2**	**-0.6**
IKFM	**Kafar-mosalman**	**1.81**	**94**	Pg		**Pg**	**08 57 41.2**	**-0.7**
IBZA	**Bozab**	**1.97**	**66**	Pn		**Pn**	**08 57 41.3**	**+0.5**
RAFI	**Al-Rafai**	**1.98**	**169**	*e*Pn		**Pb**	**08 57 42.0**	**-1.2**
RAFI				*e*Sn		**Sb**	**08 58 09.0**	**+1.1**
RAFI				AML		AML	08 58 11.2	
	comp=E,148nm,0.5s							
RAFI				AML		AML	08 58 15.0	
	comp=N,153nm,0.2s							
HSAM	**Samen**	**2.48**	**77**	Pn		**Pn**	**08 57 48.5**	**+0.7**

*TEH **11** 09:06:48.8, 33.68N×45.70E, h16km±63km, ML3.9*
*ISN **11** 09:06:50.1±0.7, 33.75N×45.73E, h12km±3km, ML3.7*
*IDC **11** 09:06:52.8±2.7, 33.77N×45.52E, h33km±21km, mb3.8/17,*
mbtmp3.9/23, ML3.7/5, Error ellipse: s-maj=18.4km
s-min=11.9km az=146.0
ISC 11 09:06:48.6±0.5, 33.65N±0.04×45.58E±0.04, h13km, n60,
σ2.913/64, mb3.9/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.52**	**92**	Pg		**Pg**	**09 06 57.9**	**-1.0**
IBDR	**Badra**	**0.61**	**151**	*e*Pg		**Pn**	**09 07 03.0**	**0.0**
IBDR				*e*Sg		**Sn**	**09 07 12.5**	**-0.2**
IBDR				AML		AML	09 07 15.4	
	comp=E,1μm,0.5s							
IBDR				AML		AML	09 07 16.0	
	comp=N,1μm,0.3s							
KGS1	**Ghasr-e-Shirin**	**0.86**	**0**	Pg		**Pg**	**09 07 04.3**	**-0.9**
IGHG	**Ghaleghazi**	**1.06**	**50**	Pg		**Pb**	**09 07 07.4**	**-1.7**
BHD	**Baghdad**	**1.07**	**250**	*e*Pg		Pg	09 07 14.0	+4.7
BHD				*e*Sg		**Sn**	**09 07 30.5**	**+6.4**
BHD				AML		AML	09 07 33.8	
	comp=E,14μm,0.6s							
IDHR	**Dehrash**	**1.24**	**32**	Pg		**Pn**	**09 07 10.4**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.36**	**62**	Pg		**Pn**	**09 07 12.7**	**-0.8**
IKOM	**Komasi**	**1.69**	**71**	Pg		**Pb**	**09 07 19.1**	**-0.5**
ILIN	**Lien**	**1.71**	**42**	Pg		**Pb**	**09 07 19.1**	**-0.9**
IKFM	**Kafar-mosalman**	**1.90**	**93**	Pg		**Pn**	**09 07 20.2**	**-0.4**
RAFI	**Al-Rafai**	**1.97**	**167**	*e*Pn		**Pg**	**09 07 26.0**	**-0.4**
RAFI				*e*Sn		**Sg**	**09 07 53.0**	**+1.0**
RAFI				AML		AML	09 07 56.7	
	comp=E,540nm,0.3s							
RAFI				AML		AML	09 07 59.8	
	comp=N,463nm,0.2s							
IBZA	**Bozab**	**2.06**	**66**	Pn		**Pb**	**09 07 23.9**	**-2.1**
IALM	**Almabolaq**	**2.46**	**60**	Pn		**Pb**	**09 07 29.3**	**+0.6**
SDS1	**Sardasht. Az.**	**2.50**	**358**	Pn		**Pb**	**09 07 31.3**	**-2.1**
HSAM	**Samen**	**2.57**	**77**	Pn		**Pn**	**09 07 30.6**	**+0.4**
HAGD	**Aghdareh**	**3.17**	**67**	Pn		**Pn**	**09 07 39.0**	**+0.6**
IHSH	**Hashtrud**	**3.90**	**20**	Pn		**Pn**	**09 07 50.5**	**+2.0**
IRAZ	**Razeghan**	**3.99**	**63**	Pn		**Pn**	**09 07 49.9**	**+0.2**
IPIR	**Pirpir**	**4.56**	**101**	Pn		**Pn**	**09 07 57.9**	**+0.3**
ISHB	**Shabestar**	**4.63**	**0**	Pn		**Pn**	**09 07 58.9**	**+0.5**
ZNGN	**Zangian**	**4.69**	**108**	Pn		**Pn**	**09 07 59.6**	**+0.2**
IQOM	**Qom**	**4.70**	**74**	Pn		**Pn**	**09 07 60.0**	**+0.5**
IHRS	**Heris**	**4.81**	**14**	Pn		**Pn**	**09 08 02.3**	**+1.4**
QAMS	**Qamsar**	**4.85**	**87**	Pn		**Pn**	**09 08 02.3**	**+0.8**
IKLH	**Kolahrood**	**5.02**	**92**	Pn		**Pn**	**09 08 05.1**	**+1.2**
IVRN	**Varamin**	**5.26**	**73**	Pn		**Pn**	**09 08 07.5**	**+0.5**
GRMI	**Germi**	**5.48**	**19**	Pn		**Pn**	**09 08 11.5**	**+1.5**
ISFB	**Sefidab**	**5.58**	**81**	Pn		**Pn**	**09 08 11.8**	**+0.4**
MZPU	**Pul - Mazandar**	**5.65**	**59**	Pn		**Pn**	**09 08 13.7**	**+1.2**
IDMV	**Damavand**	**5.66**	**68**	Pn		**Pn**	**09 08 13.5**	**+0.9**
IZEF	**Zefreh**	**5.70**	**96**	Pn		**Pn**	**09 08 13.9**	**+0.7**
KLNJ	**Kolanjah**	**5.73**	**116**	Pn		**Pn**	**09 08 14.4**	**+0.7**
IRAM	**Ramesheh**	**6.02**	**106**	Pn		**Pn**	**09 08 18.3**	**+0.8**
GNI	**Garni**	**6.52**	**354**	Pg		**Pg**	**09 08 48.8**	**-4.7**
	comp=N,0.5nm,0.3s,baz=146,slow=13,SNR=4.5							
GNI				Lg		Lg	09 10 17.0	
	comp=N,0.6nm,0.3s,baz=7.8,slow=15,SNR=2.2							
DSBU	**Dashti - Bushe**	**7.18**	**136**	Pn		**Pn**	**09 08 34.3**	**+1.0**
ASF	**Jabal al Asfar**	**7.45**	**261**	Pn		**Pn**	**09 08 38.1**	**+1.1**
	comp=N,0.4nm,0.3s,baz=54,slow=23,SNR=1.6							
ASF				Pg		**Pg**	**09 09 08.3**	**-2.9**
	comp=N,0.7nm,0.3s,baz=245,slow=23,SNR=1.8							
ASF				Lg		Lg	09 10 50.0	
	comp=N,1.4nm,0.3s,baz=323,slow=21,SNR=2.3							
	comp=N,2.4nm,0.4s							
MMAI	**Mount Meron Ar**	**8.54**	**269**	Pn		**Pn**	**09 08 51.6**	**-0.5**
	comp=N,1.7nm,0.3s,baz=40,slow=37,SNR=1.8							
MMAI				Pg		**Pg**	**09 09 28.2**	**-3.9**
	comp=N,2.0nm,0.3s,baz=86,slow=20,SNR=1.4							
MMAI				Lg		Lg	09 11 20.8	
	comp=N,1.8nm,0.3s,baz=115,slow=26,SNR=1.9							
	comp=N,0.4nm,0.3s							
EIL	**Elat**	**9.89**	**249**	Pg		Pn	09 09 52.3	+42
	comp=N,0.4nm,0.3s,baz=48,slow=4.8,SNR=1.4							
EIL				Lg		Lg	09 12 09.3	
	comp=N,0.8nm,0.3s,baz=319,slow=2.9,SNR=4.0							
GEYT	**Alibeck**	**11.04**	**64**	Pn		**Pn**	**09 09 28.4**	**+2.2**
	comp=N,0.7nm,0.3s,baz=68,slow=42,SNR=1.4							
BRTR	**Keskin Array B**	**11.34**	**306**	Pn		**Pn**	**09 09 33.0**	**+2.6**
	comp=N,0.2nm,0.3s,baz=307,slow=37,SNR=1.5							
	comp=N,0.8nm,0.7s							
WSAR	**Wadi Sarin**	**15.45**	**129**	Pn		**Pn**	**09 10 26.8**	**+0.5**
	comp=N,0.5nm,0.3s,baz=322,slow=8.3,SNR=6.8							
WSAR				Sn		**Sn**	**09 13 06.8**	**-11**
	comp=N,0.2nm,0.3s,baz=88,slow=8.3,SNR=1.7							
BELG	**Belogornoye**	**18.80**	**4**	P		**Pn**	**09 11 09.2**	**+1.1**
	comp=N,0.9nm,0.3s,baz=56,slow=8.2,SNR=2.3							
	comp=N,7.9nm,0.6s							
AKTO	**Aktyubinsk**	**19.10**	**25**	P		**Pn**	**09 11 12.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=203,slow=7.8,SNR=5.9							
	comp=N,1.7nm,0.7s							
AKASG	**Malin Array Be**	**20.83**	**330**	P		**P**	**09 11 28.9**	**-0.9**
	comp=N,2.1nm,0.5s,baz=138,slow=9.8,SNR=21							
	comp=N,2.1nm,0.5s							
BVAR	**Borovoye Array**	**26.25**	**35**	P		**P**	**09 12 25.2**	**+2.0**
	comp=N,1.6nm,0.6s,baz=246,slow=11,SNR=8.8							
	comp=N,1.6nm,0.6s							
KURBB	**Kurchatov Arra**	**29.42**	**45**	P		**P**	**09 12 51.6**	**0.0**
	comp=N,0.5nm,0.5s,baz=251,slow=8.8,SNR=4.5							
	comp=N,0.5nm,0.5s							
MKAR	**Makanchi Array**	**30.66**	**54**	P		**P**	**09 13 02.8**	**0.0**
	comp=N,2.2nm,0.7s,baz=249,slow=7.4,SNR=17							
	comp=N,2.2nm,0.7s							
HFS	**Hagfors**	**33.70**	**332**	P		**P**	**09 13 29.1**	**0.0**
	comp=N,3.1nm,0.5s,baz=128,slow=9.3,SNR=11							
	comp=N,3.1nm,0.5s							
ZALV	**Zalesovo Beam**	**34.23**	**42**	P		**P**	**09 13 35.3**	**+1.4**
	comp=N,1.1nm,0.5s,baz=254,slow=10,SNR=3.7							
	comp=N,1.1nm,0.5s							
NOA	**NORSAR Array B**	**35.22**	**332**	P		**P**	**09 13 40.6**	**-1.9**
	comp=N,0.3nm,0.6s,baz=116,slow=9.4,SNR=2.5							
	comp=N,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**37.64**	**349**	P		**P**	**09 14 04.3**	**+1.3**
	comp=N,3.3nm,1.0s,baz=121,slow=4.7,SNR=4.7							
	comp=N,3.3nm,1.0s							
ESDC	**Sonseca Array**	**39.79**	**293**	P		**P**	**09 14 23.0**	**+1.6**
	comp=N,0.9nm,0.5s,baz=100,slow=29,SNR=7.5							
	comp=N,0.9nm,0.5s							
EKA	**Eskdalemuir Ar**	**39.92**	**318**	P		**P**	**09 14 22.2**	**+0.1**
	comp=N,1.4nm,0.6s,baz=104,slow=8.1,SNR=7.3							
	comp=N,1.4nm,0.6s							
NRIK	**Noril'sk**	**42.63**	**21**	P		**P**	**09 14 43.9**	**-0.4**
	comp=N,0.9nm,0.4s,baz=224,slow=5.7,SNR=2.0							
	comp=N,0.9nm,0.4s							
TORD	**Torodi Ar. Bea**	**44.74**	**254**	P		**P**	**09 15 03.2**	**+1.3**
	comp=N,0.8nm,0.5s,baz=56,slow=8.2,SNR=6.1							
	comp=N,0.8nm,0.5s							
SPITS	**Spitsbergen Ar**	**46.39**	**352**	P		**P**	**09 15 15.1**	**+0.9**
	comp=N,6.6nm,0.8s,baz=130,slow=11,SNR=6.9							
	comp=N,6.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**49.75**	**94**	P		**P**	**09 15 43.0**	**+2.0**
	comp=N,1.1nm,0.4s,baz=297,slow=8.0,SNR=4.6							
	comp=N,1.1nm,0.4s							
BOSA	**Boshof**	**64.85**	**200**	P		**P**	**09 17 29.2**	**+1.7**
	comp=N,1.7nm,0.5s,baz=21,slow=8.3,SNR=4.7							
	comp=N,1.7nm,0.5s							
ILAR	**Eielson Array**	**81.42**	**5**	P		**P**	**09 19 04.1**	**-0.8**
	comp=N,0.4nm,0.8s,baz=336,slow=4.2,SNR=5.0							
	comp=N,0.4nm,0.8s							
YKA	**Yellowknife Ar**	**82.87**	**351**	P		**P**	**09 19 12.7**	**+0.2**
	comp=N,0.4nm,0.8s,baz=23,slow=4.3,SNR=4.9							
	comp=N,0.4nm,0.8s							

IDC 11 09:10:48.9±60.0, 19.96S×179.59E, h0km, mb4.0/3,
mbtmp4.0/3, Error ellipse: s-maj=1075.0km
s-min=153.9km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.00**	**243**	P		P	09 17 51.9	+0.1
	1.3nm,0.7s,baz=96,slow=10,SNR=3.8							
	1.3nm,0.7s							
WRA	**Warramunga Arr**	**42.44**	**262**	P		P	09 18 45.7	0.0
	1.0nm,0.5s,baz=98,slow=7.7,SNR=16							
	1.0nm,0.5s							
ASAR	**Alice Springs**	**42.44**	**256**	P		P	09 18 45.5	-0.3
	1.3nm,0.5s,baz=94,slow=7.6,SNR=23							
	1.3nm,0.5s							

*IDC **11** 09:13:21.9±1.7, 39.24N×138.79E, h0km, mb3.5/3,*
*

RAFI AML AML 09 25 08.3
comp=N,821nm,0.2s
IALM Almabolaq 2.34 59 Pn **Pn** **09 24 36.2 +1.4**
HSAM Samen 2.45 77 Pn **Pn** **09 24 37.8 +1.4**
SDS1 Sardasht. Az. 2.46 356 Pn **Pn** **09 24 38.0 +1.6**
HAGD Aghdareh 3.05 67 Pn **Pn** **09 24 46.2 +1.6**
MAHB Mahabad 3.07 360 Pn **Pn** **09 24 45.9 +1.2**
IHSH Hashtrud 3.82 19 Pn **Pn** **09 24 56.7 +1.5**
IRAZ Razeghan 3.87 63 Pn **Pn** **09 24 57.8 +1.9**
IAZR Azarshahr 3.98 3 Pn **Pn** **09 24 59.0 +1.5**
QSDN Sirdan 3.99 44 Pn **Pn** **09 24 58.7 +1.2**
IPIR Pirpir 4.46 102 Pn **Pn** **09 25 05.5 +1.5**
IMHD Mahdasht 4.54 63 Pn **Pn** **09 25 06.0 +1.1**
IQOM Qom 4.58 74 Pn **Pn** **09 25 06.8 +1.2**
ZNGN Zangian 4.60 109 Pn **Pn** **09 25 06.7 +0.8**
QAMS Qamsar 4.73 88 Pn **Pn** **09 25 09.3 +1.5**
IHRS Heris 4.74 13 Pn **Pn** **09 25 08.8 +1.0**
IKLH Kolahrood 4.91 93 Pn **Pn** **09 25 11.6 +1.4**
IBRJ Brojen 5.00 109 Pn **Pn** **09 25 11.9 +0.5**
IMRD Marand 5.01 360 Pn **Pn** **09 25 12.7 +1.2**
IVRN Varamin 5.14 74 Pn **Pn** **09 25 14.5 +1.3**
KLST Kelardasht - M 5.21 56 Pn **Pn** **09 25 16.2 +1.8**
KRSH Karshahi 5.35 85 Pn **Pn** **09 25 17.1 +1.0**
GRMI Germi 5.40 18 Pn **Pn** **09 25 18.1 +1.4**
ISFB Sefidab 5.46 81 Pn **Pn** **09 25 18.4 +0.8**
MZPU Pul - Mazandar 5.53 59 Pn **Pn** **09 25 20.3 +1.6**
IDMV Damavand 5.54 68 Pn **Pn** **09 25 19.9 +1.1**
IZEF Zefreh 5.59 96 Pn **Pn** **09 25 20.4 +0.8**
KLNJ Kolanjah 5.65 117 Pn **Pn** **09 25 20.6 +0.2**
GURO Guroymak-BITLI 5.69 329 Pn **Pn** **09 25 21.6 +0.8**
IRAM Ramesheh 5.92 107 Pn **Pn** **09 25 25.5 +1.4**
GNI Garni 6.49 353 Pn **Pn** **09 25 35.2 +3.4**
comp=N,0.9nm,0.3s,baz=64,slow=19,SNR=1.9
GNI Pg **Pb** **09 25 53.7 +4.4**
comp=N,0.8nm,0.3s,baz=132,slow=16,SNR=2.2
GNI Lg Lg 09 27 23.2
comp=N,0.7nm,0.3s,baz=180,slow=11,SNR=1.1
comp=N,8.5nm,0.9s
DSBU Dashti - Bushe 7.13 137 Pn **Pn** **09 25 41.0 +0.5**
ASF Jabal al Asfar 7.57 261 Pn **Pn** **09 25 46.0 -0.5**
comp=N,1.0nm,0.3s,baz=245,slow=24,SNR=3.8
ASF Pg **Pg** **09 26 17.4 -3.9**
comp=N,1.2nm,0.3s,baz=285,slow=17,SNR=4.1
ASF Lg Lg 09 27 55.7
comp=N,3.1nm,0.3s,baz=108,slow=18,SNR=2.4
comp=N,2.9nm,0.4s
MMAI Mount Meron Ar 8.65 268 Pn **Pn** **09 26 04.9 +3.5**
comp=N,0.8nm,0.3s,baz=53,slow=15,SNR=1.5
MMAI Pg Pg 09 26 34.5 -7.5
comp=N,1.5nm,0.3s,baz=76,slow=18,SNR=2.4
MMAI Lg Lg 09 28 32.7
comp=N,3.9nm,0.3s,baz=137,slow=33,SNR=5.1
MMAI LR LR 09 29 03.5
comp=N,53nm,21.4s,baz=50,slow=35
EIL Elat 10.01 249 Pn **Pn** **09 26 20.6 +0.7**
comp=N,0.2nm,0.3s,baz=338,slow=19,SNR=1.8
EIL Pg 09 27 02.1
comp=N,0.4nm,0.3s,baz=84,slow=2.7,SNR=1.8
EIL Lg Lg 09 29 16.4
comp=N,0.9nm,0.3s,baz=43,slow=12,SNR=3.7
EIL LR LR 09 30 40.2
comp=N,61nm,18.1s,baz=30,slow=40
comp=N,3.8nm,0.7s
KBZ Khabaz 10.26 348 Pn **Pn** **09 26 24.2 +0.9**
comp=N,0.1nm,0.3s,baz=111,slow=17,SNR=2.1
comp=N,1.5nm,0.8s
GEYT Alibeck 10.92 64 Pn **Pn** **09 26 35.8 +3.4**
comp=N,0.7nm,0.3s,baz=245,slow=17,SNR=3.5
BRTR Keskin Array B 11.41 305 Pn **Pn** **09 26 43.6 +4.5**
comp=N,0.2nm,0.3s,baz=129,slow=11,SNR=1.7
comp=N,0.6nm,0.5s
WSAR Wadi Sarin 15.39 129 Pn **Pn** **09 27 29.9 -3.5**
WSAR Sn Sn 09 30 12.7 -11
comp=N,0.3nm,0.3s,baz=62,slow=17,SNR=1.9
ABKAR Akbulak array 18.80 30 P **P** **09 28 15.3 -0.2**
ABKAR Akbulak array 18.80 30 P **P** **09 28 15.7 +0.2**
ABKAR lAmb lAmb 09 28 16.7
comp=Z,4.9nm,0.7s
AKTO Aktyubinsk 19.02 25 P **P** **09 28 17.5 -0.3**
comp=Z,0.3nm,0.3s,baz=215,slow=11,SNR=4.5
comp=Z,1.3nm,0.4s
KBL Kabul 19.33 81 P **P** **09 28 22.3 +0.7**
KBL lAmb lAmb 09 28 30.1
comp=Z,16nm,1.3s
BUR08 Bucovina Ar. S 20.80 318 **P** **09 28 37.6 +0.1**
AKASG Malin Array Be 20.85 330 P **P** **09 28 36.2 -1.6**
comp=Z,2.0nm,0.5s,baz=138,slow=9.7,SNR=27
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 20.85 330 P **P** **09 28 36.3 -1.5**
AKBB lAmb lAmb 09 28 37.1
comp=Z,6.3nm,0.7s
KIEV Kiev 20.85 329 P **P** **09 28 36.0 -1.8**
KIEV lAmb lAmb 09 28 37.1
comp=Z,5.7nm,0.7s
BTK Batken 21.03 65 P **P** **09 28 41.6 +1.7**
BTK lAmb lAmb 09 28 47.4
comp=Z,4.8nm,0.8s
KK31 Karatay Array 21.52 57 P **P** **09 28 46.5 +1.3**
KK31 lAmb lAmb 09 28 53.3
comp=Z,5.2nm,0.7s
KKAR Karatay Array 21.52 57 P **P** **09 28 46.2 +1.1**
KKAR lAmb lAmb 09 28 53.3
comp=Z,5.2nm,0.7s
KKAR Karatay Array 21.52 57 P **P** **09 28 45.9 +0.8**
BOOM Boomskoye usch 25.25 61 P **P** **09 29 23.8 +1.4**
BVAR Borovoye Array 26.14 35 P **P** **09 29 28.1 -2.1**
comp=Z,1.7nm,0.5s,baz=217,slow=7.1,SNR=10
comp=Z,1.7nm,0.5s
KURBB Kurchatov Arra 29.31 45 P **P** **09 29 59.0 +0.5**
comp=Z,2.2nm,0.7s,baz=251,slow=9.0,SNR=12
comp=Z,2.2nm,0.7s
FINES FINESS Array B 30.51 341 P **P** **09 30 07.6 -1.3**
FINES FINESS Array B 30.51 341 P **P** **09 30 09.0 +0.1**
comp=Z,1.1nm,0.5s,baz=156,slow=10,SNR=5.4
comp=Z,1.1nm,0.5s
MK31 Makanchi Array 30.55 54 lAmb lAmb 09 30 11.1
comp=Z,2.3nm,0.7s
MKAR Makanchi Array 30.55 54 P **P** **09 30 09.9 +0.4**
comp=Z,2.7nm,0.5s,baz=250,slow=8.4,SNR=37
comp=Z,2.7nm,0.5s
BNI Bardonecchia 31.95 302 P **P** **09 30 21.7 -0.3**
HFS Hagfors 33.71 331 P **P** **09 30 36.3 -0.9**
comp=Z,2.8nm,0.5s,baz=128,slow=9.6,SNR=15
comp=Z,2.8nm,0.5s
ZALV Zalesovo Beam 34.13 42 P **P** **09 30 40.1 -0.6**
ZALV Zalesovo Beam 34.13 42 P **P** **09 30 40.5 -0.3**
comp=Z,2.5nm,0.3s,baz=258,slow=9.4,SNR=10.0
comp=Z,2.5nm,0.3s
NOA NORSAR Array B 35.24 331 P **P** **09 30 48.5 -1.8**
comp=Z,0.4nm,0.6s,baz=123,slow=8.2,SNR=1.7
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 37.62 349 P **P** **09 31 09.9 -0.7**
comp=Z,1.2nm,0.8s,baz=128,slow=8.1,SNR=1.4
comp=Z,1.2nm,0.8s
ESDC Sonseca Array 39.87 293 P **P** **09 31 29.7 -0.2**
comp=Z,2.0nm,1.0s,baz=69,slow=8.4,SNR=2.7
comp=Z,2.0nm,1.0s
EKA Eskdalemuir Ar 39.96 318 P **P** **09 31 29.6 -0.7**
comp=Z,1.2nm,0.6s,baz=99,slow=8.9,SNR=6.4
EKA PcP **PcP** **09 33 35.4 0.0**
comp=Z,0.3nm,0.4s,baz=101,slow=3.0,SNR=2.2
comp=Z,1.2nm,0.6s
NRIK Noril'sk 42.55 20 P **P** **09 31 51.8 +0.3**
NRIK lAmb lAmb 09 31 52.9
comp=Z,6.7nm,1.1s
NRIK Noril'sk 42.55 20 P **P** **09 31 51.8 +0.3**
comp=Z,3.9nm,0.7s,baz=231,slow=14,SNR=7.6
comp=Z,3.9nm,0.7s
TORD Torodi Ar. Bea 44.86 254 P **P** **09 32 10.3 -0.4**
comp=Z,0.6nm,0.7s,baz=61,slow=6.1,SNR=5.6
comp=Z,0.6nm,0.7s
SPITS Spitsbergen Ar 46.36 352 P **P** **09 32 21.7 -0.1**
comp=Z,12nm,0.9s,baz=143,slow=7.3,SNR=9.1
comp=Z,12nm,0.9s
SONM Songino Array 46.91 54 P **P** **09 32 26.8 +0.1**
comp=Z,0.4nm,0.5s,baz=291,slow=8.9,SNR=3.5
comp=Z,0.4nm,0.5s
CMAR Chiang Mai Arr 49.65 94 P **P** **09 32 47.0 -1.0**
comp=Z,1.3nm,0.6s,baz=301,slow=9.2,SNR=6.6
comp=Z,1.3nm,0.6s
BOSA Boshof 64.93 200 P **P** **09 34 35.9 +0.1**
comp=Z,1.8nm,0.6s,baz=342,slow=8.5,SNR=4.7
comp=Z,1.8nm,0.6s
SCHQ Schefferville 74.61 326 P **P** **09 35 34.3 -0.8**
comp=Z,2.8nm,0.6s,baz=42,slow=8.0,SNR=7.2
comp=Z,2.8nm,0.6s

ILAR Eielson Array 81.36 5 P **P** **09 36 12.3 -0.1**
comp=Z,0.9nm,0.9s,baz=328,slow=4.8,SNR=9.7
comp=Z,0.9nm,0.9s
YKA Yellowknife Ar 82.85 351 P **P** **09 36 18.6 -1.6**
comp=Z,0.4nm,0.7s,baz=18,slow=5.8,SNR=7.6
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 99.69 107 P **Pdif** **09 37 38.4 -1.9**
comp=Z,0.3nm,0.7s,baz=320,slow=3.9,SNR=1.3
comp=Z,0.3nm,0.7s

*MOS **11** 09:32:23.6±1.2,33.˚75N×45.˚58E,h13km,mb4.5/22,Error ellipse: s-maj=7.4km s-min=5.6km az=83.2*
*NEIC **11** 09:32:24.7±2.4,33.˚51N±0.˚07×45.˚75E±0.˚08,h10km±1km, mb4.5/17,Error ellipse: s-maj=14.0km s-min=7.0km az=222.0*
*TEH **11** 09:32:24.9,33.˚71N×45.˚65E,h8km±49km,ML4.2*
*ISN **11** 09:32:25.7±1.1,33.˚76N×45.˚71E,h7km±6km,ML4.1*
*IDC **11** 09:32:28.8±2.9,33.˚81N×45.˚62E,h32km±22km,mb3.8/19, mbtmp4.0/29,ML3.9/9,MS3.3/5,Error ellipse: s-maj=16.8km s-min=11.0km az=146.0*
*GII **11** 09:32:31.8±0.5,33.˚82N×45.˚66E,h10km,confirmed*
*OMAN **11** 09:32:35.7±1.6,32.˚66N×45.˚93E,h10km,mb3.9/16, ms3.3/2,Error ellipse: s-maj=32.9km s-min=14.6km az=31.0*
ISC 11 09:32:26.4±0.4,33.˚69N±0.˚03×45.˚75E±0.˚03,h20km±3km, n185,σ2^{2}46/205,mb4.3/39,14C-3D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.39**	**99**	Pg		**Pb**		**09 32 34.8**	**+0.3**
IBDR	**Badra**	**0.60**	**165**	*e*Pg		**Pb**		**09 32 39.0**	**+0.8**
IBDR				*e*Sg		**Sn**		**09 32 48.5**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.83**	**351**	Pg		**Pb**		**09 32 40.4**	**-1.6**
KGS1				Sg		**Sb**		**09 32 52.6**	**-0.1**
IGHG	**Ghaleghazi**	**0.93**	**47**	Pg		**Pb**		**09 32 44.0**	**0.0**
IGHG				Sg		**Sn**		**09 32 59.0**	**+1.5**
IDHR	**Dehrash**	**1.14**	**27**	Pg		**Pb**		**09 32 46.6**	**-0.7**
BHD	**Baghdad**	**1.22**	**250**	*e*Pg		**Pb**		**09 32 49.5**	**+0.8**
BHD				*e*Sg		**Sn**		**09 33 05.5**	**+1.4**
BHD				AML	AML			09 33 10.0	
	comp=E,15μm,0.6s								
KCHF	**Cheshme Sefid,**	**1.22**	**61**	Pg		**Pb**		**09 32 49.2**	**+0.3**
IKOM	**Komasi**	**1.54**	**71**	Pg		**Pb**		**09 32 55.6**	**+1.3**
ILIN	**Lien**	**1.58**	**39**	Pg		**Pb**		**09 32 55.5**	**+0.4**
IKFM	**Kafar-mosalman**	**1.76**	**95**	Pn		**Pb**		**09 32 59.1**	**+1.2**
IBZA	**Bozab**	**1.92**	**65**	Pn		**Pb**		**09 33 00.8**	**0.0**
RAFI	**Al-Rafai**	**1.98**	**171**	*e*Pn		**Pb**		**09 33 02.0**	**+0.2**
RAFI				*e*Sn		**Sb**		**09 33 30.0**	**+4.0**
RAFI				AML	AML			09 33 34.8	
	comp=E,1μm,0.5s								
RAFI				AML	AML			09 33 36.5	
	comp=N,1μm,0.3s								
IALM	**Almabolaq**	**2.32**	**59**	Pn		**Pb**		**09 33 06.3**	**-1.3**
HSAM	**Samen**	**2.43**	**77**	Pn		**Pn**		**09 33 07.5**	**+2.4**
SDS1	**Sardasht. Az.**	**2.46**	**355**	Pn		**Pn**		**09 33 07.5**	**+2.0**
HAGD	**Aghdareh**	**3.03**	**67**	Pn		**Pn**		**09 33 16.2**	**+2.8**
MAHB	**Mahabad**	**3.07**	**359**	Pn		**Pn**		**09 33 15.7**	**+1.8**
IHSH	**Hashtrud**	**3.81**	**18**	Pn		**Pn**		**09 33 26.9**	**+2.6**
IRAZ	**Razeghan**	**3.85**	**62**	Pn		**Pn**		**09 33 27.6**	**+3.0**
QSDN	**Sirdan**	**3.97**	**44**	Pn		**Pn**		**09 33 28.1**	**+1.8**
IAZR	**Azarshahr**	**3.98**	**3**	Pn		**Pn**		**09 33 28.5**	**+2.0**
ISRB	**Sarab**	**4.41**	**20**	Pn		**Pn**		**09 33 34.2**	**+1.9**
IPIR	**Pirpir**	**4.43**	**102**	Pn		**Pn**		**09 33 35.3**	**+2.6**
IMHD	**Mahdasht**	**4.51**	**62**	Pn		**Pn**		**09 33 36.1**	**+2.4**
IQOM	**Qom**	**4.55**	**74**	Pn		**Pn**		**09 33 36.4**	**+2.0**
ZNGN	**Zangian**	**4.57**	**109**	Pn		**Pn**		**09 33 37.3**	**+2.6**
QAMS	**Qamsar**	**4.71**	**88**	Pn		**Pn**		**09 33 38.7**	**+2.3**
IHRS	**Heris**	**4.74**	**12**	Pn		**Pn**		**09 33 39.2**	**+2.3**
IKLH	**Kolahrood**	**4.88**	**93**	Pn		**Pn**		**09 33 42.3**	**+3.5**
IBRJ	**Brojen**	**4.97**	**109**	Pn		**Pn**		**09 33 43.2**	**+3.2**
IMRD	**Marand**	**5.01**	**360**	Pn		**Pn**		**09 33 42.5**	**+1.9**
IVRN	**Varamin**	**5.11**	**74**	Pn		**Pn**		**09 33 43.6**	**+1.7**
KRSH	**Karshahi**	**5.32**	**85**	Pn		**Pn**		**09 33 47.3**	**+2.4**
GRMI	**Germi**	**5.39**	**18**	Pn		**Pn**		**09 33 46.7**	**+0.9**
ISFB	**Sefidab**	**5.43**	**81**	Pn		**Pn**		**09 33 48.3**	**+2.1**
MZPU	**Pul - Mazandar**	**5.50**	**58**	Pn		**Pn**		**09 33 50.3**	**+2.9**
IDMV	**Damavand**	**5.51**	**68**	Pn		**Pn**		**09 33 49.2**	**+1.7**
IZEF	**Zefreh**	**5.57**	**96**	Pn		**Pn**		**09 33 50.8**	**+2.5**
KLNJ	**Kolanjah**	**5.62**	**117**	Pn		**Pn**		**09 33 52.2**	**+3.1**
GURO	**Guroymak-BITLI**	**5.71**	**329**			**Pn**		**09 33 51.0**	**+1.0**
MAKU	**Maku**	**5.72**	**352**	Pn		**Pn**		**09 33 52.9**	**+2.6**
IRAM	**Ramesheh**	**5.89**	**107**	Pn		**Pn**		**09 33 56.5**	**+3.8**
IFIR	**Firoozkooh**	**6.09**	**69**	Pn		**Pn**		**09 33 57.6**	**+2.1**
GNI	**Garni**	**6.50**	**353**	Pn		**Pn**		**09 34 02.7**	**+1.8**
	comp=N,1.7nm,0.3s,baz=254,slow=23,SNR=2.3								
GNI				Pg		Pb		09 34 26.4	+7.6
	comp=N,0.7nm,0.3s,baz=42,slow=20,SNR=2.3								
GNI				Lg	Lg			09 35 53.8	
	comp=N,0.4nm,0.3s,baz=330,slow=20,SNR=1.3								
GNI				LR	LR			09 36 55.8	
	comp=N,152nm,18.6s,baz=160,slow=42								
	comp=N,2.6nm,0.4s								
DSBU	**Dashti - Bushe**	**7.11**	**137**	Pn		**Pn**		**09 34 12.4**	**+3.2**
ASF	**Jabal al Asfar**	**7.59**	**261**	Pn		**Pn**		**09 34 15.1**	**-0.9**
	comp=N,0.5nm,0.3s,baz=252,slow=22,SNR=2.1								
ASF				Lg	Lg			09 36 24.0	
	comp=N,1.7nm,0.3s,baz=122,slow=22,SNR=1.5								
	comp=N,3.8nm,0.3s								
KSHT	**Keshet**	**8.35**	**268**	P		Pn		09 34 31.9	+5.7
GEM	**Giv'at Ha'Em**	**8.44**	**270**	P		Pn		09 34 32.2	+4.6
MMA0B	**Mount Meron ar**	**8.68**	**268**	P		Pn		09 34 37.2	+6.4
MMAI	**Mount Meron Ar**	**8.68**	**268**	Pn		**Pn**		**09 34 30.5**	**-0.4**
	comp=N,1.3nm,0.3s,baz=1.2,slow=40,SNR=1.6								
MMAI				Pg				09 35 06.7	
	comp=N,1.2nm,0.3s,baz=52,slow=19,SNR=3.8								
MMAI				Lg	Lg			09 37 02.4	
	comp=N,5.8nm,0.3s,baz=97,slow=34,SNR=6.9								
	comp=N,0.5nm,0.3s								
MMLI	**Mount Malkishu**	**8.76**	**265**	P		Pn		09 34 36.8	+4.9
HNTI	**Hanita**	**8.87**	**269**	P		Pn		09 34 38.4	+5.1
MSBI	**Mazada**	**9.09**	**258**	P		Pn		09 34 41.6	+5.3
ZEI	**Tsey**	**9.20**	**351**	*e*P		Pn		09 34 43.6	+5.5
ZEI				pmax	pmax				
	comp=Z,8.0nm,1.4s								
YTIR	**Yattir**	**9.27**	**258**	P		Pn		09 34 44.8	+5.9
MRVT	**Maraveh tapeh**	**9.30**	**62**	Pn		**Pn**		**09 34 41.1**	**+1.9**
MAK	**Makhachkala**	**9.36**	**8**	*e*P		**Pn**		**09 34 35.7**	**-4.3**
MAK				*e*S		**Sn**		**09 36 20.9**	**-3.7**
MAK				pmax	pmax				
	comp=Z,159nm,1.4s								
MAK				MLR	MLR				
	comp=Z,258nm,13.0s								
EIL	**Elat**	**10.03**	**249**	Pn		**Pn**		**09 34 47.6**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=34,slow=7.4,SNR=1.8								
EIL				Pg				09 35 31.8	
	comp=Z,0.8nm,0.3s,baz=84,slow=14,SNR=1.9								
EIL				Lg	Lg			09 37 45.8	
	comp=Z,1.1nm,0.3s,baz=156,slow=20,SNR=1.5								
EIL				LR	LR			09 39 12.6	
	comp=Z,118nm,19.3s,baz=62,slow=40								
	comp=Z,1.9nm,0.5s								
TRNA	**Turayna**	**10.12**	**150**	P		**Pn**		**09 34 51.3**	**+0.8**
TRNA				S		**Sn**		**09 36 38.4**	**-5.0**
KBZ	**Khabaz**	**10.27**	**348**	*i* P		**Pn**		**09 34 52.1**	**-0.4**
KBZ				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KBZ	**Khabaz**	**10.27**	**348**	Pn		**Pn**		**09 34 55.2**	**+2.7**
	comp=Z,0.8nm,0.6s,baz=306,slow=8.7,SNR=1.8								
KIV	**Kislovodsk**	**10.53**	**348**	*e*P		**Pn**		**09 34 55.0**	**-1.1**
KIV				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,34nm,13.0s								
GEYT	**Alibeck**	**10.89**	**64**	Pn		**Pn**		**09 35 03.8**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=244,slow=27,SNR=2.1								
GEYT				Lg	Lg			09 38 20.1	
	comp=Z,0.6nm,0.3s,baz=218,slow=16,SNR=1.5								
	comp=Z,1.2nm,0.6s								
SOC	**Sochi**	**10.94**	**336**	*e*P		**Pn**		**09 34 57.5**	**-4.2**
SOC				*e*				09 36 59.2	
SOC				MLR	MLR				
	comp=Z,108nm,13.0s								
BRTR	**Keskin Array B**	**11.43**	**305**	Pn		**Pn**		**09 35 11.8**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=144,slow=40,SNR=1.8								
BRTR				LR	LR			09 39 30.2	
	comp=Z,130nm,20.1s,baz=116,slow=37								
	comp=Z,0.5nm,0.5s								
SHME	**Shamm**	**11.80**	**127**	Pn		**Pn**		**09 35 12.8**	**-0.6**
SHME				Sn		**Sn**		**09 37 17.9**	**-6.6**
SHME	**Shamm**	**11.80**	**127**	P		**Pn**		**09 35 14.4**	**+1.0**
SHME				S		**Sn**		**09 37 18.7**	**-5.9**
BANOM	**Banah**	**11.99**	**127**	Pn		**Pn**		**09 35 15.9**	**-0.2**
BANOM	**Banah**	**11.99**	**127**	P		**Pn**		**09 35 16.7**	**+0.6**
BANOM				S		**Sn**		**09 37 22.6**	**-6.7**
AJN	**Ajban**	**12.15**	**136**	P		**Pn**		**09 35 19.4**	**+1.1**
AJN				S		**Sn**		**09 37 27.0**	**-6.3**
MASF	**Masafi**	**12.28**	**130**	P		**Pn**		**09 35 20.2**	**+0.2**
MASF				S		Sn		09 37 29.0	-7.4
ASUD	**Al Ashush, Dub**	**12.31**	**135**	P		**Pn**		**09 35 21.8**	**+1.3**
ASUD				S		**Sn**		**09 37 31.7**	**-5.3**
	SNR=5.2								
FAQ	**Al Faqa, Dubai**	**12.37**	**134**	Pn		**Pn**		**09 35 20.0**	**-1.4**
FAQ	**Al Faqa, Dubai**	**12.37**	**134**	P		**Pn**		**09 35 21.0**	**-0.4**
FAQ				S		**Sn**		**09 37 33.8**	**-4.9**
MDH	**Madha**	**12.41**	**130**	Pn		**Pn**		**09 35 22.6**	**+0.7**
MDH	**Madha**	**12.41**	**130**	P		**Pn**		**09 35 22.5**	**+0.6**
MDH				S		Sn		09 37 32.7	-7.0
HATD	**Hatta, Dubai**	**12.65**	**132**	Pn		**Pn**		**09 35 24.7**	**-0.4**
HATD	**Hatta, Dubai**	**12.65**	**132**	P		**Pn**		**09 35 25.4**	**+0.3**
HATD				S		**Sn**		**09 37 38.6**	**-6.7**
ASHO	**Ashiyiah**	**12.70**	**132**	Pn		**Pn**		**09 35 25.6**	**-0.4**
ASHO	**Ashiyiah**	**12.70**	**132**	P		**Pn**		**09 35 26.2**	**+0.2**
	SNR=11								
ASHO				S		Sn		09 37 38.5	-8.3
ALNE	**Al Ain**	**12.99**	**135**	P		**Pn**		**09 35 30.1**	**+0.3**
ALNE				S		Sn		09 37 45.3	-8.5
ISP	**Isparta**	**13.04**	**293**	*i* P		**Pn**		**09 35 28.7**	**-1.8**
JASK	**Jask - Hormozg**	**13.09**	**123**	P		**Pn**		**09 35 28.4**	**-2.8**
SOHO	**SOHO**	**13.40**	**132**	Pn		**Pn**		**09 35 33.6**	**-1.8**
SOHO	**SOHO**	**13.40**	**132**	P		**Pn**		**09 35 35.3**	**-0.1**
SOHO				S		Sn		09 37 55.4	-8.3
ARQ	**Araqi**	**13.99**	**135**	P		**Pn**		**09 35 43.4**	**-0.1**
ARQ				S		**Sn**		**09 38 12.3**	**-5.9**
BSY	**Bisya**	**14.84**	**134**	P		**Pn**		**09 35 54.5**	**-0.6**
BSY				P		**Pn**		**09 35 54.5**	**-0.6**
BSY				S		**Sn**		**09 38 33.4**	**-5.6**
BSY				S		**Sn**		**09 38 33.4**	**-5.6**
BIDO	**Bidbid**	**14.85**	**130**	P		**Pn**		**09 35 54.8**	**-0.3**
SMDO	**Samad**	**15.13**	**131**	P		**Pn**		**09 35 59.2**	**+0.2**
SMDO				S		**Sn**		**09 38 40.5**	**-5.6**
WSAR	**Wadi Sarin**	**15.37**	**129**	Pn		**Pn**		**09 35 60.0**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=12,slow=10,SNR=8.7								
WSAR				Sn	Sn			09 38 40.5	-11
	comp=Z,0.4nm,0.3s,baz=150,slow=19,SNR=1.3								
WSAR				LR	LR			09 42 58.0	
	comp=Z,219nm,18.8s,baz=1.5,slow=40								
WSAR	**Wadi Sarin**	**15.37**	**129**	P		**Pn**		**09 36 01.5**	**-0.6**
WSAR				S		**Sn**		**09 38 44.0**	**-7.8**
JMDO	**Jabal Madar**	**15.67**	**133**	P		**Pn**		**09 36 05.7**	**-0.3**
JMDO				S		**Sn**		**09 38 54.0**	**-5.2**
WBK	**Wadi Bani Khal**	**16.04**	**130**	P		**Pn**		**09 36 10.5**	**-0.2**
	SNR=7.1								
WBK				S		**Sn**		**09 39 02.8**	**-5.3**
MHTO	**MHTO**	**16.65**	**136**	P		**Pn**		**09 36 17.1**	**-1.5**
	SNR=11								
MHTO				S		**Sn**		**09 39 15.3**	**-7.6**
DQM	**DQM**	**17.26**	**140**	P		**Pn**		**09 36 24.7**	**-1.5**
WHFO	**Wadi Hawf**	**17.27**	**153**	P		**Pn**		**09 36 24.1**	**-2.4**
ABTO	**Aybut**	**17.62**	**156**	P		**Pn**		**09 36 28.0**	**-2.8**
VRH	**Novokhopyorsk**	**17.75**	**352**	*e*P		**Pn**		**09 36 28.9**	**-3.2**
VRH				pmax	pmax				
	comp=Z,8.0nm,0.5s								
DMTO	**DMTO**	**17.92**	**150**	P		**Pn**		**09 36 32.5**	**-1.9**
SHAO	**Shalim**	**17.94**	**148**	P		**Pn**		**09 36 31.3**	**-3.4**
VSR	**Storozhevoye**	**18.16**	**347**	*e*P		**Pn**		**09 36 34.9**	**-2.3**
VSR				pmax	pmax				
	comp=Z,10.0nm,0.4s								
BELG	**Belogornoye**	**18.75**	**4**	*i* P		**Pn**		**09 36 45.8**	**+1.6**
BELG				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BELG	**Belogornoye**	**18.75**	**4**	P		**Pn**		**09 36 44.8**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=153,slow=2.3,SNR=6.8								
	comp=Z,12nm,0.6s								
ABKAR	**Akbulak array**	**18.79**	**30**	P		**Pn**		**09 36 45.5**	**+0.7**
ABKAR	**Akbulak array**	**18.79**	**30**	P		**Pn**		**09 36 45.4**	**+0.6**
ABKAR				lAmb	lAmb			09 36 53.4	
	comp=Z,4.9nm,0.9s								
AKTO	**Aktyubinsk**	**19.01**	**25**	P		**Pn**		**09 36 47.3**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=201,slow=11,SNR=5.5								
AKTO				S		**Sn**		**09 40 17.6**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=306,slow=8.7,SNR=1.0								
	comp=Z,1.3nm,0.4s								
MLR	**Muntele Rosu**	**19.23**	**314**	P		**P**		**09 36 48.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=148,slow=9.5,SNR=2.5								
	comp=Z,2.2nm,0.5s								
KBL	**Kabul**	**19.30**	**81**	P		**Pn**		**09 36 52.3**	**+0.9**
KBL				lAmb	lAmb			09 37 00.6	
	comp=Z,22nm,1.1s								
KBL	**Kabul**	**19.30**	**81**	P		**Pn**		**09 36 52.3**	**+0.9**
KBL				pmax	pmax				
	comp=Z,22nm,1.1s								
**

KSH					sP	sP	09 37 53.2	-3.8	
KSH					pmax	pmax			
	comp=Z,6.0nm,0.7s								
NACGM	**Naroch**	**25.03**	**334**	*e*P	**P**		**09 37 46.0**	**-2.8**	
	comp=E,652nm,0.8s								
BRVK	**Borovoye**	**26.10**	**35**	*ce*P	**P**		**09 37 59.8**	**+1.2**	
BRVK					pmax	pmax			
	comp=Z,4.0nm,1.3s								
BVAR	**Borovoye Array**	**26.13**	**35**	P	**P**		**09 37 59.8**	**+0.9**	
	comp=Z,2.3nm,0.6s,baz=230,slow=8.5,SNR=13								
	comp=Z,2.3nm,0.6s								
KURBB	**Kurchatov Arra**	**29.29**	**45**	P	**P**		**09 38 28.9**	**+1.7**	
	comp=Z,1.6nm,0.6s,baz=252,slow=8.9,SNR=11								
KURBB				PcP	**PcP**		**09 41 35.2**	**+1.8**	
	comp=Z,0.5nm,0.8s,baz=264,slow=3.5,SNR=4.3								
	comp=Z,1.6nm,0.6s								
KURK	**Kurchatov**	**29.38**	**45**	*ce*P	**P**		**09 38 29.7**	**+1.7**	
KURK					pmax	pmax			
	comp=Z,4.0nm,1.3s								
CLL	**Collm**	**29.55**	**316**	*e*P	**P**		**09 38 30.0**	**+0.6**	
CLL	**Collm**	**29.55**	**316**	*e*P	**P**		**09 38 30.0**	**+0.6**	
MAKZ	**Makanchi**	**30.32**	**54**	P	**P**		**09 38 37.5**	**+1.1**	
MAKZ					IAmb	IAmb	09 38 39.7		
	comp=Z,10nm,1.4s								
MAKZ	**Makanchi**	**30.32**	**54**	P	**P**		**09 38 37.5**	**+1.1**	
MAKZ					pmax	pmax			
	comp=Z,10.0nm,1.5s								
FINES	**FINESS Array B**	**30.52**	**341**	*ce*P	**P**		**09 38 37.0**	**-0.9**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.9s								
FINES	**FINESS Array B**	**30.52**	**341**	P	**P**		**09 38 38.1**	**+0.2**	
	comp=Z,1.5nm,0.8s,baz=134,slow=6.0,SNR=5.0								
	comp=Z,1.5nm,0.8s								
MK31	**Makanchi Array**	**30.52**	**54**	*ce*P	**P**		**09 38 39.6**	**+1.4**	
MKAR	**Makanchi Array**	**30.52**	**54**	P	**P**		**09 38 40.0**	**+1.8**	
MKAR	**Makanchi Array**	**30.52**	**54**	P	**P**		**09 38 39.7**	**+1.5**	
	comp=Z,3.3nm,0.4s,baz=255,slow=10.0,SNR=83								
MKAR					LR	LR	09 53 00.2		
	comp=Z,43nm,18.9s,baz=24,slow=40								
	comp=Z,3.3nm,0.4s								
BNI	**Bardonecchia**	**31.98**	**302**	P	**P**		**09 38 50.6**	**-0.5**	
BNI					IAmb	IAmb	09 38 51.7		
	comp=Z,12nm,1.1s								
BNI	**Bardonecchia**	**31.98**	**302**	P	**P**		**09 38 50.6**	**-0.5**	
BNI					pmax	pmax			
	comp=Z,12nm,1.1s								
HFS	**Hagfors**	**33.73**	**331**	P	**P**		**09 39 05.5**	**-0.6**	
	comp=Z,4.6nm,0.4s,baz=134,slow=10,SNR=38								
	comp=Z,4.6nm,0.4s								
ZALV	**Zalesovo Beam**	**34.11**	**42**	P	**P**		**09 39 10.1**	**+0.6**	
	comp=Z,2.3nm,0.6s,baz=251,slow=9.0,SNR=6.8								
	comp=Z,2.3nm,0.6s								
DGZ	**Jazzator, Alta**	**34.49**	**50**	*i* P	**P**		**09 39 14.5**	**+1.5**	
DGZ					pmax	pmax			
	comp=Z,9.0nm,1.2s								
NOA	**NORSAR Array B**	**35.26**	**331**	P	**P**		**09 39 18.3**	**-1.0**	
	comp=Z,0.3nm,0.5s,baz=135,slow=7.5,SNR=2.0								
	comp=Z,0.3nm,0.5s								
ARCES	**ARCESS Array B**	**37.63**	**349**	P	**P**		**09 39 38.5**	**-1.0**	
	comp=Z,3.4nm,1.1s,baz=141,slow=10,SNR=4.2								
	comp=Z,3.4nm,1.1s								
LSA	**Lhasa**	**38.60**	**83**	P	**P**		**09 39 47.1**	**-1.6**	
LSA	**Lhasa**	**38.60**	**83**	P	**P**		**09 39 47.1**	**-1.6**	
LSA					pmax	pmax			
	comp=Z,9.0nm,0.4s								
ESDC	**Sonseca Array**	**39.90**	**293**	P	**P**		**09 39 58.9**	**0.0**	
	comp=Z,1.0nm,0.8s,baz=78,slow=8.0,SNR=2.7								
	comp=Z,1.0nm,0.8s								
EKA	**Eskdalemuir Ar**	**39.98**	**318**	P	**P**		**09 39 58.5**	**-0.9**	
	comp=Z,0.9nm,0.5s,baz=102,slow=8.9,SNR=4.4								
	comp=Z,0.9nm,0.5s								
SHL	**Shillong**	**40.64**	**89**	P	**P**		**09 40 05.2**	**-0.2**	
SHL	**Shillong**	**40.64**	**89**	P	**P**		**09 40 05.2**	**-0.2**	
SHL					pmax	pmax			
	comp=Z,16nm,0.4s								
NRIK	**Noril'sk**	**42.55**	**20**	P	**P**		**09 40 21.5**	**+1.4**	
NRIK					IAmb	IAmb	09 40 23.2		
	comp=Z,8.9nm,1.1s								
NRIK	**Noril'sk**	**42.55**	**20**	*ce*P	**P**		**09 40 21.4**	**+1.2**	
NRIK					pmax	pmax			
	comp=Z,10.0nm,1.2s								
NRIK	**Noril'sk**	**42.55**	**20**	P	**P**		**09 40 21.9**	**+1.7**	
	comp=Z,1.4nm,0.3s,baz=256,slow=6.6,SNR=6.9								
	comp=Z,1.4nm,0.3s								
ZAK	**Zakamensk**	**44.71**	**50**	*e*P	**P**		**09 40 39.2**	**+1.2**	
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.4s								
TORD	**Torodi Ar. Bea**	**44.89**	**254**	P	**P**		**09 40 40.0**	**+0.2**	
	comp=Z,1.2nm,0.9s,baz=55,slow=6.7,SNR=4.9								
	comp=Z,1.2nm,0.9s								
SPB2	**Spitsbergen Ar**	**46.36**	**352**	P	**P**		**09 40 50.7**	**+0.1**	
SPITS	**Spitsbergen Ar**	**46.37**	**352**	P	**P**		**09 40 51.2**	**+0.6**	
SPITS					pmax	pmax			
	comp=Z,29nm,1.3s								
SPITS	**Spitsbergen Ar**	**46.37**	**352**	P	**P**		**09 40 50.9**	**+0.3**	
	comp=Z,1.4nm,0.4s,baz=126,slow=7.3,SNR=16								
	comp=Z,1.4nm,0.4s								
SONM	**Songino Array**	**46.89**	**54**	P	**P**		**09 40 56.4**	**+1.1**	
	comp=Z,1.0nm,0.8s,baz=119,slow=12,SNR=1.2								
	comp=Z,1.0nm,0.8s								
ULN	**Ulaanbaatar**	**47.33**	**53**	*i* P	**P**		**09 41 00.2**	**+1.4**	
ULN					pmax	pmax			
	comp=Z,9.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**49.62**	**94**	*ce*P	**P**		**09 41 16.8**	**+0.2**	
CMAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**49.62**	**94**	P	**P**		**09 41 17.1**	**+0.5**	
	comp=Z,1.1nm,0.4s,baz=297,slow=9.0,SNR=9.0								
	comp=Z,1.1nm,0.4s								
TIXI	**Tiksi**	**56.27**	**22**	*ce*P	**P**		**09 42 05.9**	**+1.1**	
TIXI					pmax	pmax			
	comp=Z,7.0nm,1.3s								
KLR	**Kul'dur**	**62.93**	**47**	*i* P	**P**		**09 42 52.8**	**+1.6**	
KLR					pmax	pmax			
	comp=Z,15nm,2.3s								
KSRS	**Korea Array**	**64.87**	**61**	P	**P**		**09 43 03.9**	**-0.2**	
	comp=Z,0.8nm,0.5s,baz=287,slow=6.6,SNR=4.3								
	comp=Z,0.8nm,0.5s								
SEY	**Seymchan**	**67.56**	**28**	*i* P	**P**		**09 43 22.5**	**+1.6**	
SEY					pmax	pmax			
	comp=Z,3.0nm,1.2s								
BILL	**Bilibino**	**69.37**	**20**	*i* P	**P**		**09 43 32.8**	**+0.6**	
BILL					pmax	pmax			
	comp=Z,4.0nm,1.0s								
ILAR	**Eielson Array**	**81.36**	**5**	P	**P**		**09 44 40.7**	**-0.4**	
	comp=Z,1.0nm,1.0s,baz=328,slow=2.6,SNR=6.7								
	comp=Z,1.0nm,1.0s								
YKA	**Yellowknife Ar**	**82.85**	**351**	P	**P**		**09 44 48.4**	**-0.5**	
	comp=Z,0.5nm,0.9s,baz=14,slow=5.1,SNR=7.2								
	comp=Z,0.5nm,0.9s								

DJA 11 09:38:24.9±1.2, 0°S±7°×13°2E±°, h10km±8km, M4.0/6, mb4.5/2, MLv3.7/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.70**	**235**	P	Pb	09 38 38.8	-0.4
SWI	**Sorong**	**0.70**	**236**	P	Pg	09 38 38.6	+0.2
FAKI	**Fak Fak**	**2.47**	**170**	P	Pn	09 39 05.2	0.0
KMPI	**Kaimana, Papua**	**3.68**	**150**	P	Pn	09 39 21.8	-0.1
NLAI	**Namlea**	**5.48**	**240**	P	Pn	09 39 46.6	0.0
	6.7nm,0.6s,0.1nm						

IDC 11 09:41:58.5±3.4, 54°44N×87°40E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=29.3km s-min=20.9km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**253**	I	I	09 52 30.0	
	0.1nm,0.5s,baz=68,slow=345,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.59**	**253**	Pg	Pn	09 42 27.4	-0.5
	3.0nm,0.3s,baz=73,slow=15,SNR=16						
ZALV				Lg	Lg	09 42 47.9	
	1.3nm,0.3s,baz=73,slow=29,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.62**	**238**	Pn	Pn	09 43 38.3	+1.3
	0.1nm,0.3s,baz=53,slow=13,SNR=7.3						
KURBB				Lg	Lg	09 45 29.9	
	0.1nm,0.3s,baz=54,slow=29,SNR=3.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.32**	**205**	Pn	Pn	09 44 00.1	-0.1
	0.1nm,0.3s,baz=26,slow=14,SNR=3.0						
	0.1nm,0.3s						

ISN 11 09:42:32.3±0.8, 33°.77N×45°.66E, h6km±4km, ML2.9
TEH 11 09:42:32.8, 33°.76N×45°.65E, h8km±772km, ML2.7
ISC 11 09:42:33.2±1.1, 33°.77N±0°.05×45°.61E±0°.05, h10km, n8, σ0s96/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**106**	Pg	**Pg**	**09 42 42.5**	**-0.8**
ILBA				Sg	**Sg**	**09 42 49.5**	**-0.6**
IBDR	**Badra**	**0.71**	**158**	*e*Pg	**Pg**	**09 42 46.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**09 42 55.5**	**-0.6**
IGHG	**Ghaleghazi**	**0.98**	**55**	Pg	**Pg**	**09 42 51.2**	**-0.8**
IDHR	**Dehrash**	**1.13**	**34**	Pg	**Pg**	**09 42 53.9**	**-1.1**
BHD	**Baghdad**	**1.14**	**245**	*e*Pg	**Pn**	**09 42 55.0**	**-0.2**
BHD				*e*Sg	**Sb**	**09 43 11.0**	**+1.2**
KCHF	**Cheshme Sefid,**	**1.29**	**66**	Pg	**Pb**	**09 42 58.0**	**+0.3**
IKOM	**Komasi**	**1.63**	**75**	Pg	**Pn**	**09 43 03.5**	**+1.3**
RAFI	**Al-Rafai**	**2.08**	**168**	*e*Pn	**Pn**	**09 43 09.0**	**+0.9**
RAFI				*e*Sn	**Sb**	**09 43 37.0**	**+0.1**
RAFI				AML	AML	09 43 37.7	
	comp=E,114nm,0.4s						
RAFI				AML	AML	09 43 37.9	
	comp=N,114nm,0.2s						

DJA 11 09:43:11.5±0.2, 8°S±2°×12°9E±°, h174km±5km, M4.8/19, mB5.2/8, mb4.7/19, MLv5.0/15, Mw(mB)4.5/8
NEIC 11 09:43:12.2±2.4, 7°.50S±0°.08×128°.69E±0°.08, h161km±8km, mb4.5/24, Error ellipse: s-maj=11.9km s-min=11.6km az=165.0
IDC 11 09:43:13.6±4.0, 7°.45S×128°.58E, h167km±37km, mb4.0/15, mbtmp4.5/17, Error ellipse: s-maj=22.8km s-min=10.0km az=71.0
ISC 11 09:43:11.4±0.4, 7°.50S±0°.05×128°.59E±0°.06, h151km, n106, σ1s64/106, mb4.5/28, 2C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.73**	**100**	Pn	**Pn**	**09 43 56.3**	**+0.9**
SAUI	**Saumlaki**	**2.73**	**100**	P	**Pn**	**09 43 56.2**	**+0.8**
BNDI	**Bandanaira**	**3.24**	**24**	P	**Pn**	**09 44 03.9**	**+2.0**
BNDI	**Bandanaira**	**3.24**	**24**	P	**Pn**	**09 44 03.1**	**+1.2**
NLAI	**Namlea**	**4.49**	**341**	P	**Pn**	**09 44 21.3**	**+3.2**
SOEI	**Soe**	**4.83**	**242**	Pn	**Pn**	**09 44 24.9**	**+2.2**
SOEI	**Soe**	**4.83**	**242**	P	**Pn**	**09 44 24.9**	**+2.2**
SOEI	**Soe**	**4.83**	**242**	P	**Pn**	**09 44 24.9**	**+2.2**
FAKI	**Fak Fak**	**5.83**	**39**	Pn	**Pn**	**09 44 33.9**	**-2.0**
FAKI	**Fak Fak**	**5.83**	**39**	P	**Pn**	**09 44 34.3**	**-1.6**
	86nm,0.5s,2µm0.6nm						
MTN	**Manton Dam**	**5.87**	**155**	Pn	**Pn**	**09 44 36.1**	**-0.3**
MTN	**Manton Dam**	**5.87**	**155**	P	**Pn**	**09 44 36.5**	**+0.1**
SANI	**Sanana**	**6.00**	**334**	P	**Pn**	**09 44 41.6**	**+3.4**
SANI	**Sanana**	**6.00**	**334**	P	**Pn**	**09 44 39.6**	**+1.4**
	24nm,0.8s,0.1nm						
KMPI	**Kaimana, Papua**	**6.36**	**53**	P	**Pn**	**09 44 41.4**	**-1.6**
	225nm,0.7s,5µm2.9nm						
MMRI	**Maumere**	**6.39**	**259**	Pn	**Pn**	**09 44 45.0**	**+1.6**
MMRI	**Maumere**	**6.39**	**259**	P	**Pn**	**09 44 44.7**	**+1.3**
	118nm,0.4s,0.8nm						
KDU	**Kakadu**	**6.42**	**144**	P	**Pn**	**09 44 43.5**	**-0.2**
LBMI	**Labuha**	**6.91**	**351**	P	**Pn**	**09 44 52.8**	**+2.5**
	144nm,0.8s,2µm0.5nm						
EDFI	**Ende, Flores**	**6.94**	**259**	P	**Pn**	**09 44 52.1**	**+1.3**
	47nm,0.7s,2µm0.3nm						
SIJI	**Sorong**	**7.11**	**22**	P	**Pn**	**09 44 52.2**	**-0.8**
	38nm,0.5s,3µm0.3nm						
SWI	**Sorong**	**7.11**	**22**	P	**Pn**	**09 44 52.4**	**-0.6**
	56nm,0.5s,2µm0.3nm						
KNRA	**Kununurra**	**8.13**	**179**	Pn	**Pn**	**09 45 05.6**	**-0.9**
KNRA	**Kununurra**	**8.13**	**179**	P	**Pn**	**09 45 05.9**	**-0.6**
BASI	**Baing, Sumba**	**8.36**	**251**	P	**Pn**	**09 45 10.5**	**+0.8**
	317nm,1.0s						
MWPI	**Manokwari, Pap**	**8.49**	**40**	P	**Pn**	**09 45 10.8**	**-0.7**
	128nm,0.7s						
DBNI	**Kabupaten Domp**	**10.23**	**264**	P	**Pn**	**09 45 34.8**	**+0.3**
	37nm,0.6s						
PLAI	**Plampang**	**10.79**	**262**	P	**Pn**	**09 45 40.4**	**-1.5**
	85nm,0.7s						
TWSI	**Taliwang, Sumb**	**11.66**	**263**	P	**Pn**	**09 45 52.1**	**-1.2**
	30nm,1.1s						
TABU	**Tabubil**	**12.75**	**81**	P	**Pn**	**09 46 09.0**	**+1.5**
WB0	**Warramunga Arr**	**13.43**	**156**		**Pn**	**09 46 12.7**	**-3.5**
WRAB	**Tennant Creek**	**13.56**	**156**	P	**Pn**	**09 46 15.7**	**-2.1**
WRA	**Warramunga Arr**	**13.56**	**156**	P	**Pn**	**09 46 14.9**	**-3.0**
	6.3nm,0.3s,baz=342,slow=12,SNR=60						
WRA				S	Sn	09 48 36.2	-12
	26nm,0.6s,baz=330,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.57**	**156**	P	**Pn**	**09 46 15.4**	**-2.5**
WR0	**Warramunga Arr**	**13.66**	**156**	P	**Pn**	**09 46 15.7**	**-3.4**
JAGI	**Jajag, Banyuwa**	**14.33**	**265**	P	**Pn**	**09 46 27.6**	**0.0**
	47nm,2.0s						
DAV	**Davao City (W)**	**14.78**	**348**	P	**Pn**	**09 46 31.0**	**-2.2**
	234nm,0.5s						
COEN	**Coen**	**15.70**	**115**	P	**P**	**09 46 45.9**	**+0.5**
PSA00	**Pilbara Seismi**	**16.34**	**210**	P	**P**	**09 46 52.5**	**+0.1**
PSA00	**Pilbara Seismi**	**16.34**	**210**	P	**P**	**09 46 53.1**	**+0.6**
PSA00				IAmb	IAmb	09 47 09.5	
	comp=Z,19nm,1.2s						
QIS	**Mount Isa**	**16.80**	**142**	P	**Pn**	**09 46 59.2**	**+1.3**
AS31	**Alice Springs**	**16.86**	**163**	P	**Pn**	**09 46 58.3**	**-0.3**
ASAR	**Alice Springs**	**16.86**	**163**		**Pn**	**09 46 58.8**	**+0.1**
ASAR	**Alice Springs**	**16.86**	**163**	P	**Pn**	**09 46 59.1**	**+0.4**
	comp=Z,11nm,0.5s,baz=334,slow=9.8,SNR=141						
ASAR				S	**S**	**09 49 56.2**	**-10**
	comp=Z,11nm,0.7s,baz=321,slow=17,SNR=5.1						
WRKA	**Warakurna**	**17.44**	**181**	P	**Pn**	**09 47 06.5**	**+0.9**
UGM	**Wanagama**	**17.91**	**267**	P	**P**	**09 47 09.2**	**-0.6**
	comp=Z,172nm,2.1s						
KKM	**Kota Kinabalu**	**18.26**	**317**	P	**Pn**	**09 47 15.2**	**-0.3**
KKM				IAmb	IAmb	09 47 27.0	
	comp=Z,47nm,1.3s						
KKM	**Kota Kinabalu**	**18.26**	**317**	P	**P**	**09 47 12.6**	**-1.1**
	comp=Z,27nm,0.9s						
PMG	**Port Moresby**	**18.46**	**97**	P	**Pn**	**09 47 17.9**	**+0.1**
	comp=Z,22nm,0.8s,baz=289,slow=17,SNR=3.3						
KSM	**Kuching**	**20.30**	**295**	P	**P**	**09 47 34.6**	**-1.1**
KSM	**Kuching**	**20.30**	**295**	P	Pn	09 47 38.9	-0.5
	comp=Z,54nm,0.8s						
CTA	**Charters Tower**	**21.20**	**128**	P	**P**	**09 47 46.7**	**+1.4**
	comp=Z,4.7nm,0.6s,baz=289,slow=8.8,SNR=6.3						
	comp=Z,4.7nm,0.6s						
OOD	**Oodnadatta**	**21.27**	**162**	P	**P**	**09 47 47.3**	**+1.3**
INKA	**Innaminka**	**23.19**	**152**	P	**P**	**09 48 06.6**	**+1.7**
MULG	**Mulgathing**	**23.24**	**168**	P	**P**	**09 48 06.4**	**+1.1**
QLP	**Quilpie**	**24.11**	**144**	P	**P**	**09 48 16.1**	**+2.8**
LCRK	**Leigh Creek**	**24.55**	**160**	P	**P**	**09 48 18.4**	**+1.2**
BBOO	**Buckleboo**	**26.12**	**166**	P	**P**	**09 48 32.0**	**+0.6**
STKA	**Stephens Creek**	**27.11**	**155**	P	**P**	**09 48 40.2**	**-0.1**
STKA	**Stephens Creek**	**27.11**	**155**	P	**P**	**09 48 41.3**	**+1.0**
STKA	**Stephens Creek**	**27.11**	**155**	P	**P**	**09 48 41.4**	**+1.0**
	comp=Z,7.4nm,0.5s,baz=324,slow=11,SNR=18						
	comp=Z,7.4nm,0.5s						
CMSA	**Cobar Meteorol**	**28.75**	**149**	P	**P**	**09 48 56.2**	**+1.3**
ARPS	**Mount Arapiles**	**31.54**	**159**	P	**P**	**09 49 21.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**39.00**	**312**	P	**P**	**09 50 24.1**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=148,slow=7.1,SNR=16						
CMAR				PcP	**PcP**	**09 52 31.9**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=159,slow=3.1,SNR=5.4						
	comp=Z,3.4nm,0.7s						
WHN	**Wuhan**	**40.22**	**341**	P	**P**	**09 50 33.8**	**+0.5**
ENH	**Enshi**	**41.80**	**335**	P	**P**	**09 50 44.4**	**-1.8**
KSRS	**Korea Array**	**44.73**	**359**	P	**P**	**09 51 09.9**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=169,slow=10.0,SNR=2.7						
	comp=Z,1.1nm,0.7s						
MJAR	**Matsushiro Arr**	**44.73**	**11**	P	**P**	**09 51 09.7**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=44,slow=20,SNR=1.4						
	comp=Z,1.5nm,0.8s						
XAN	**Xi'an**	**45.33**	**337**	P	**P**	**09 51 13.7**	**-0.8**
XAN				pP	pP	09 51 18.0	-29
XAN				pmax	pmax		
	comp=Z,38nm,0.7s						
LZH	**Lanzhou**	**49.20**	**333**	*e*P	**P**	**09 51 43.1**	**-1.5**
LZH				pP	pP	09 51 49.5	-28
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
USRK	**Ussuriysk Ar.**	**51.55**	**3**	P	**P**	**09 52 01.4**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=194,slow=6.8,SNR=5.7						
	comp=Z,2.1nm,0.6s						
GTA	**Gaotai**	**53.75**	**332**	*e*P	**P**	**09 52 18.4**	**+0.1**
GTA				pmax	pmax		
	comp=Z,15nm,0.8s						
ULN	**Ulaanbaatar**	**58.32**	**343**	P	**P**	**09 52 50.2**	**-0.4**
ULN				IAmb	IAmb	09 52 52.3	
	comp=Z,9.8nm,1.4s						

SONM	**Songino Array**	**58.49**	**343**	P	**P**		**09 52 52.0**	**+0.3**	
SONM				IAmb	IAmb		09 52 53.9		
	comp=Z,3.9nm,0.7s								
SONM	**Songino Array**	**58.49**	**343**	P	**P**		**09 52 52.4**	**+0.6**	
	comp=Z,3.7nm,0.6s,baz=161,slow=6.6,SNR=22								
	comp=Z,3.7nm,0.6s								
PETK	**Petropavlovsk-**	**65.24**	**19**	P	**P**		**09 53 36.9**	**+0.2**	
	comp=Z,3.7nm,0.6s,baz=186,slow=3.8,SNR=17								
	comp=Z,3.7nm,0.6s								
KSH	**Kashi**	**67.45**	**318**	P	**P**		**09 53 52.1**	**+0.9**	
KSH				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MK31	**Makanchi Array**	**67.89**	**328**	P	**P**		**09 53 53.7**	**+0.1**	
MK31				IAmb	IAmb		09 53 54.7		
	comp=Z,6.8nm,0.8s								
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**		**09 53 53.8**	**+0.2**	
	comp=Z,7.6nm,0.6s,baz=126,slow=7.6,SNR=110								
	comp=Z,7.6nm,0.6s								
MAKZ	**Makanchi**	**68.06**	**327**	P	**P**		**09 53 54.2**	**-0.5**	
MAKZ				IAmb	IAmb		09 53 55.6		
	comp=Z,5.8nm,0.7s								
AAK	**Ala-Archa**	**70.03**	**321**	P	**P**		**09 54 07.1**	**0.0**	
AAK				IAmb	IAmb		09 54 08.8		
	comp=Z,7.7nm,1.1s								
ZAA0	**Zalesovo Array**	**71.42**	**334**	P	**P**		**09 54 13.5**	**-1.5**	
ZAA0					IAmb	IAmb	09 54 15.0		
	comp=Z,5.8nm,0.7s								
ZALV	**Zalesovo Beam**	**71.42**	**334**	P	**P**		**09 54 14.2**	**-0.8**	
ZALV	**Zalesovo Beam**	**71.42**	**334**	P	**P**		**09 54 14.4**	**-0.6**	
	comp=Z,4.4nm,0.5s,baz=124,slow=5.3,SNR=18								
	comp=Z,4.4nm,0.5s								
SIMJ	**Simiganj**	**71.80**	**315**	P	**P**		**09 54 18.1**	**+0.3**	
VNDA	**Vanda**	**72.12**	**173**	P	**P**		**09 54 19.6**	**+0.7**	
VNDA	**Vanda**	**72.12**	**173**	P	**P**		**09 54 19.7**	**+0.7**	
	comp=Z,1.2nm,0.4s,baz=313,slow=7.9,SNR=20								
	comp=Z,1.2nm,0.4s								
KURBB	**Kurchatov Arra**	**72.21**	**329**	P	**P**		**09 54 19.9**	**+0.1**	
	comp=Z,5.4nm,0.6s,baz=129,slow=5.0,SNR=40								
	comp=Z,5.4nm,0.6s								
KURK	**Kurchatov**	**72.22**	**329**	P	**P**		**09 54 19.3**	**-0.6**	
KURK					IAmb	IAmb	09 54 20.9		
	comp=Z,15nm,1.2s								
SEY	**Seymchan**	**72.56**	**11**	P	**P**		**09 54 21.7**	**+0.1**	
	comp=Z,6.3nm,0.6s,baz=212,slow=4.7,SNR=28								
	comp=Z,6.3nm,0.6s								
KK31	**Karatay Array**	**72.80**	**319**	P	**P**		**09 54 23.8**	**+0.3**	
KK31				IAmb	IAmb		09 54 25.2		
	comp=Z,7.2nm,1.1s								
KKAR	**Karatay Array**	**72.80**	**319**	P	**P**		**09 54 23.5**	**-0.1**	
KKAR	**Karatay Array**	**72.80**	**319**	IAmb	IAmb		09 54 25.2		
	comp=Z,7.1nm,1.1s								
BVAR	**Borovoye Array**	**77.75**	**328**	P	**P**		**09 54 51.2**	**-0.3**	
	comp=Z,3.8nm,0.5s,baz=125,slow=8.2,SNR=20								
	comp=Z,3.8nm,0.5s								
BRVK	**Borovoye**	**77.82**	**328**	P	**P**		**09 54 51.5**	**-0.5**	
QSPA	**South Pole Qui**	**82.48**	**180**	P	**P**		**09 55 17.2**	**+0.3**	
QSPA					IAmb	IAmb	09 55 17.8		
	comp=Z,5.1nm,0.7s								
QSPA	**South Pole Qui**	**82.48**	**180**	P	**P**		**09 55 17.4**	**+0.5**	
	comp=Z,4.4nm,0.5s,baz=150,slow=0.2,SNR=12								
	comp=Z,4.4nm,0.5s								
TROLL	**Troll, Antarti**	**93.33**	**195**	⇑P	**P**		**09 56 10.7**	**+1.7**	
	comp=Z,111nm,0.6s								
VNA1	**Neumayer--Stat**	**96.83**	**193**	⇑P	**P**		**09 56 26.1**	**+1.4**	
	comp=Z,5.9nm,0.7s								
GERES	**GERESS Array B**	**111.90**	**320**	PKiKP	**PKiKP**		**10 01 28.4**	**-0.4**	
	comp=Z,0.9nm,0.5s,baz=83,slow=3.1,SNR=3.9								
PDAR	**Pinedale Array**	**118.23**	**45**	PKP	**PKPdf**		**10 01 41.1**	**-0.1**	
	comp=Z,0.3nm,0.5s,baz=316,slow=2.5,SNR=4.1								
EKA	**Eskdalemuir Ar**	**118.

baz=36
IMOR S Sn 09 49 04.5 -0.2
baz=36
ISOL Solvholt 6.81 41 P Pn 09 47 45.6 -2.1
baz=40
ISOL S Sn 09 49 01.4 -3.3
baz=40
IASM Asmuli 6.87 42 P Pn 09 47 46.2 -2.2
baz=42
IKRO Krokur 6.87 39 S Sn 09 49 03.7 -2.4
baz=39
IKRO P Pn 09 47 46.8 -1.6
baz=39
IHEI Heioarbar 6.90 38 P Pn 09 47 45.8 -3.1
baz=38
IHEI S Sn 09 49 05.9 -1.0
baz=38
ISAU Saurbar 7.03 42 P Pn 09 47 45.9 -4.8
baz=41
ISAU S Sn 09 49 06.6 -3.5
baz=41
IHAU Haukadalur 7.17 43 P Pn 09 47 47.5 -5.1
baz=42
ANGG Ammassalik, Gr 7.21 338 Pn 09 47 50.5 -2.6
ANGG Ammassalik, Gr 7.21 338 *e* Pn 09 47 48.1 -5.0
baz=143,slow=16
ANGG *i* P Pn 09 47 52.6 -0.5
ANGG *i* S Sn 09 49 03.7 -11
ANGG IAML 09 49 13.3
comp=Z,15nm,0.4s
BORG Borgarnes 7.26 35 Pn Pn 09 47 54.2 +0.4
BORG Borgarnes 7.26 35 P Pn 09 47 54.2 +0.4
BORG Borgarnes 7.26 35 *eP* Pn 09 47 56.4 +2.5
BORG *eS* Sb 09 49 29.8 -10
BORG Borgarnes 7.26 35 Pn Pn 09 47 52.6 -1.3
comp=Z,132nm,0.5s,baz=198,slow=7.0,SNR=77
BORG Sn Sn 09 49 14.4 -1.3
comp=Z,4.2nm,0.3s,baz=64,slow=15,SNR=12
IASB `sbjarnarst 7.26 35 P Pn 09 47 53.5 -0.3
baz=34
ISOG Isortoq, Green 7.43 334 *eP* Pn 09 47 56.1 0.0
ISOG *i* S Sn 09 49 08.4 -12
NRS Narsarsuaq 7.47 292 Pn Pn 09 47 58.0 +1.3
NRS Narsarsuaq 7.47 292 P Pn 09 47 58.1 +1.3
SOEG Soedalen 9.12 359 *i* P Pn 09 48 19.3 -0.1
SOEG IAML 09 48 27.0
comp=Z,173nm,0.5s
DY2G Dye2 10.12 323 *eP* Pn 09 48 34.6 +1.3
DY2G IAML 09 48 41.9
comp=Z,40nm,0.8s
DY2G *eS* Sn 09 50 16.1 -10
DY2G IAML 09 50 30.5
comp=Z,5.9nm,0.4s
ICESG Greenland Ices 10.68 343 *eP* Pn 09 48 40.4 -0.5
ICESG IAML 09 48 48.0
comp=Z,50nm,0.9s
NUUK Nuuk 11.04 306 *i* P Pn 09 48 47.0 +1.3
NUUK IAML 09 48 50.1
comp=Z,69nm,0.8s
SFJD Kangerlussuaq 11.83 320 Pn Pn 09 48 57.3 +0.9
SFJD Sn 09 51 04.7 -3.1
SFJD Kangerlussuaq 11.83 320 Pn Pn 09 48 57.6 +1.2
comp=Z,0.6nm,0.3s,baz=116,slow=11,SNR=7.0
SFJD Sn Sn 09 50 57.9 -10
comp=Z,0.9nm,0.3s,baz=24,slow=17,SNR=2.0
SFJD LR LR 09 52 52.2
comp=Z,19µm,18.1s,baz=128,slow=34
comp=Z,26nm,0.9s
SFJD Kangerlussuaq 11.83 320 *eP* Pn 09 48 57.4 +0.9
SFJD *eS* Sn 09 50 58.0 -10
SFJD IAML 09 51 02.7
comp=Z,2.4nm,0.4s
SFJD IVMs_BB IVMs_BB 09 52 32.8
comp=Z,8µm,16.3s
SFJD IAMs_20 IAMs_20 09 52 35.3
comp=Z,17µm,18.1s
SCO Scoresbysund 12.02 15 Pn Pn 09 48 58.9 -0.1
SCO Scoresbysund 12.02 15 P Pn 09 48 58.9 -0.1
ILULI Ilulissat 13.29 328 Pn 09 49 14.8 -1.5
ILULI Ilulissat 13.29 328 P Pn 09 49 14.8 -1.5
SUMG Summit 13.83 351 Pn 09 49 24.3 +0.3
SUMG Summit 13.83 351 P Pn 09 49 24.3 +0.3
SUMG Summit 13.83 351 *iP* Pn 09 49 23.7 -0.4
SUMG IAML 09 49 44.4
comp=Z,26nm,1.0s
LAWE Loch Awe, Argy 13.96 91 *eP* Pn 09 49 23.6 -1.9
INVG Invergeldie, C 14.60 89 *eP* Pn 09 49 34.2 0.0
INVG IAmb IAmb 09 49 34.9
comp=Z,307nm,2.4s
PGBU Glenifferbraes 14.61 92 *eP* P 09 49 38.6 -2.1
JMI Jan Mayen 14.99 29 *eP* Pn 09 49 39.7 +0.3
NEWG New Galloway 15.04 94 *eP* P 09 49 44.8 -0.6
NEWG IAmb IAmb 09 49 49.6
comp=Z,96nm,0.9s
JMIC Jan Mayen 15.08 29 LR LR 09 53 55.5
comp=Z,2µm,20.7s,baz=230,slow=31
IOMK Kirk Michael 15.27 97 *eP* P 09 49 48.5 +0.5
WIM Isle of Man 15.27 98 *eP* P 09 49 47.6 -0.5
ESK Eskdalemuir 15.48 92 Pn 09 49 47.4 +1.4
ESK Eskdalemuir 15.48 92 P Pn 09 49 47.4 +1.4
ESK pmax pmax
comp=Z,39nm,1.1s
EKA Eskdalemuir Ar 15.50 92 Pn Pn 09 49 44.2 -2.0
baz=297,slow=13
comp=Z,8.5nm,0.8s
WLF1 Llynfaes 15.85 100 *eP* Pn 09 49 50.6 -0.2
KESW Keswick, Cumbr 15.86 94 *eP* P 09 49 53.3 -1.2
KESW IAmb IAmb 09 49 58.6
comp=Z,184nm,1.0s
EDMD Edmundbyers 16.34 93 *eP* Pn 09 49 55.8 -1.2
LBWR Ladybower, Pea 17.16 97 *eP* P 09 50 08.3 -0.6
LBWR IAmb IAmb 09 50 15.2
comp=Z,57nm,0.8s
MCH1 Michaelchurch 17.28 102 *eP* Pn 09 50 09.0 +0.1
MCH1 IAmb IAmb 09 50 11.7
comp=Z,865nm,2.2s
CWF Charnwood Fore 17.72 98 *eP* Pn 09 50 13.7 -0.7
CWF IAmb IAmb 09 50 17.0
comp=Z,90nm,1.0s
SUE Sulen 17.81 68 *eP* P 09 50 16.0 -0.1
FOO Floro 17.86 67 *eP* P 09 50 18.0 +1.4
ASK Askoy 18.13 70 *eP* P 09 50 20.7 +1.2
BER Bergen 18.22 70 *eP* P 09 50 20.6 +0.1
BER IAmb IAmb 09 50 34.3
comp=Z,42nm,0.9s
DAG Danmarks Havn 18.25 9 P P 09 50 21.6 +0.8
DAG pmax pmax
comp=Z,34nm,1.7s
FRB Frobisher Bay 18.33 301 P P 09 50 21.8 +0.1
comp=Z,0.2nm,0.3s,baz=87,slow=12,SNR=14
FRB LR LR 09 56 35.5
comp=Z,12µm,19.2s,baz=88,slow=34
comp=Z,13nm,0.9s
KMY Karmoy 18.45 74 *eP* P 09 50 20.2 -2.9
HYA Hoyanger 18.48 68 *eP* P 09 50 23.4 +0.1
AKN Aaknes 18.70 64 *eP* P 09 50 23.8 -2.1
MOL Molde 18.90 63 *eP* P 09 50 27.9 -0.2
MOL IAmb IAmb 09 50 33.9
comp=Z,226nm,2.1s
ODD1 Odda 18.95 71 *eP* P 09 50 28.5 -0.2
ODD1 IAmb IAmb 09 50 33.9
comp=Z,209nm,1.9s
BLS5 Blasjo 18.99 73 *eP* P 09 50 29.3 +0.2
BLS5 IAmb IAmb 09 50 33.9
comp=Z,168nm,1.8s
ROSF Rostrenen 19.49 111 *eP* Pn 09 50 37.6 +1.7
ROSF pmax pmax
comp=Z,120nm,1.4s
SKAR Skarslia 19.59 69 *eP* P 09 50 34.7 -0.9
SKAR IAmb IAmb 09 50 40.6
comp=Z,241nm,2.4s
SKAR *eS* Sn 09 54 21.4 +5.2
NEEM North Greenlan 19.61 347 *iP* Pn 09 50 37.4 0.0
NEEM IAML 09 50 44.0
comp=Z,41nm,0.9s
DOMB Dombas 19.68 64 *eP* Pn 09 50 40.2 +2.1
DOMB IAmb IAmb 09 50 42.5
comp=Z,22nm,1.0s
DOMB *eS* Sn 09 54 25.9 +7.5
SNART Snartemo 19.69 76 *eP* P 09 50 35.7 -1.0
SCHQ Schefferville 19.82 273 P P 09 50 37.7 -0.5
comp=Z,0.4nm,0.3s,baz=67,slow=11,SNR=13
SCHQ LR LR 09 57 06.1
comp=Z,6µm,18.6s,baz=71,slow=33
comp=Z,16nm,0.8s

QUIF Quistinic 19.84 112 *eP* Pn 09 50 41.7 +1.7
QUIF pmax pmax
comp=Z,180nm,1.6s
SGMF Saint Gilles 19.89 111 *eP* Pn 09 50 42.4 +1.7
SGMF pmax pmax
comp=Z,92nm,1.4s
TBLU Trondheim 20.05 61 *eP* P 09 50 41.0 +0.3
KONO Kongsberg 20.47 71 P P 09 50 45.5 +0.3
KONO Kongsberg 20.47 71 *iP* P 09 50 45.2 0.0
KONO pmax pmax
comp=Z,38nm,1.2s
KONO Kongsberg 20.47 71 *eP* P 09 50 45.3 +0.1
KONO *eS* Sn 09 54 37.0 -0.5
NC204 NORSAR Array S 20.62 66 P P 09 50 46.4 -0.5
GRR Gorron 20.63 108 *eP* Pn 09 50 49.4 +0.1
GRR pmax pmax
comp=Z,216nm,1.5s
NSS Namsos 20.67 57 *eP* P 09 50 46.4 -0.9
NSS IAmb IAmb 09 50 49.4
comp=Z,422nm,2.6s
NSS IAMs_20 IAMs_20 09 56 56.6
comp=Z,2µm,23.0s
NBO00 NORSAR Array S 20.69 67 P Pn 09 50 49.1 -0.8
NAO01 NORSAR Array S 20.78 67 P Pn 09 50 50.3 -0.7
NB2 NORSAR Subarra 20.89 67 P P 09 50 47.6 -2.2
comp=Z,131nm,2.0s,baz=284,slow=11
NOA NORSAR Array B 20.89 67 P P 09 50 48.2 -1.6
comp=Z,4.4nm,0.8s,baz=282,slow=10,SNR=13
NOA LR LR 09 57 42.5
comp=Z,3µm,21.1s,baz=285,slow=33
comp=Z,4.4nm,0.8s
NC303 NORSAR Array S 20.92 66 P P 09 50 49.2 -0.9
NB201 NORSAR Array S 20.93 67 P P 09 50 50.1 -0.1
OSL Oslo 20.94 70 *eP* P 09 50 48.5 -1.7
STOK Stokkvaagen 21.02 51 *eP* P 09 50 50.5 -0.4
STOK *eS* Sn 09 54 54.5 +4.1
KONS Konsvik 21.05 51 *eP* P 09 50 50.4 -1.0
NC602 NORSAR Array S 21.12 67 IAmb IAmb 09 51 02.1
comp=Z,31nm,1.1s
NC602 NORSAR Array S 21.12 67 *eP* P 09 50 53.7 +1.5
NC602 IAmb IAmb 09 51 02.1
comp=Z,22nm,0.6s
NC602 *eS* Sn 09 54 56.6 +3.6
LOF Lofoten 21.25 46 *eP* P 09 50 52.5 -1.0
LOF IAmb IAmb 09 50 57.7
comp=Z,179nm,1.2s
LOF *eS* Sn 09 54 56.1 0.0
LOF IAMs_20 IAMs_20 09 57 16.6
comp=Z,2µm,17.7s
MUD Monsted U'grnd 21.36 80 P P 09 50 54.9 +0.1
MUD pmax pmax
comp=Z,93nm,1.6s
MUD Monsted U'grnd 21.36 80 *eP* P 09 50 54.7 -0.1
MUD IAmb IAmb 09 50 58.4
comp=Z,56nm,0.7s
MOR8 Moi Rana 21.60 52 *eP* P 09 50 58.4 +1.1
MOR8 IAmb IAmb 09 51 02.8
comp=Z,209nm,1.8s
MOR8 *eS* Sn 09 55 05.1 +0.7
TULEG Thule 21.82 337 P P 09 50 59.8 +0.2
TULEG IAmb IAmb 09 51 06.4
comp=Z,67nm,1.1s
STEI Steigen 21.88 47 *eP* P 09 51 03.2 +2.9
STEI IAmb IAmb 09 51 04.8
comp=Z,847nm,2.1s
STEI *eS* Sn 09 55 14.9 +3.7
FAUS Fauske 21.90 49 *eP* P 09 51 03.0 +2.5
FAUS IAmb IAmb 09 51 06.2
comp=Z,1µm,2.8s
FAUS *eS* Sn 09 55 12.7 +1.1
SSRD Sdr. Stenderup 22.01 82 *eP* P 09 51 00.7 -1.1
SSRD IAmb IAmb 09 51 06.1
comp=Z,101nm,0.7s
MFF Saint Martin d 22.22 111 *eP* P 09 51 04.8 +0.7
MFF pmax pmax
comp=Z,72nm,1.2s
BMRD Maredsous 22.23 98 *dP* P 09 51 03.6 -0.6
comp=Z,53nm,0.9s
PGAV Gavieira, Arco 22.26 130 *eP* P 09 51 07.6 +2.9
comp=Z,163nm,1.7s
PGAV *eS* Sn 09 55 19.1 -1.7
PGAV *eLR* LR 09 56 29.8
comp=Z,4µm,20.0s
DOU Dourbes 22.27 98 *dP* P 09 51 03.6 -0.9
comp=Z,35nm,0.9s
HFS Hagfors 22.31 68 P P 09 51 04.0 -1.0
HFS Hagfors 22.31 68 P P 09 51 04.0 -1.0
comp=Z,23nm,0.9s,baz=274,slow=8.5,SNR=17
HFS LR LR 09 58 35.3
comp=Z,3µm,20.6s,baz=282,slow=34
comp=Z,23nm,0.9s
BGES Gesves 22.34 97 *dP* P 09 51 04.1 -1.3
comp=Z,66nm,0.9s
GIVF Givet 22.38 98 *eP* P 09 51 04.3 -1.5
GIVF pmax pmax
comp=Z,47nm,1.0s
BCLA Clavier 22.43 97 *dP* P 09 51 03.5 -2.8
comp=Z,51nm,0.9s
BSTI Sart Tilman 22.47 96 *dP* P 09 51 05.7 -1.1
RCHB Rochefort 22.55 97 *dP* P 09 51 05.6 -2.1
comp=Z,63nm,0.9s
IBBN Ibbenburen 22.62 90 *eP* P 09 51 05.3 -3.0
comp=Z,63nm,0.8s,baz=305,slow=9.5
MEM Membach 22.68 96 *dP* P 09 51 07.3 -1.7
comp=Z,38nm,1.0s
BTNL Ternell 22.76 96 *dP* P 09 51 08.6 -1.2
comp=Z,41nm,1.0s
BHOU Houyoget 22.83 96 *dP* P 09 51 10.0 -0.7
comp=Z,26nm,1.1s
BUG Bochum--Univer 22.85 93 P P 09 51 10.3 -0.4
BUG pmax pmax
comp=Z,79nm,1.7s
BUG Bochum--Univer 22.85 93 *eP* P 09 51 08.4 -2.3
comp=Z,63nm,1.1s,baz=305,slow=9.5
POLO Lamas de Olo 22.95 130 *eP* P 09 51 16.7 +4.7
comp=Z,45nm,2.0s
PBRG Braganca 23.01 128 *eP* P 09 51 16.1 +3.6
comp=Z,118nm,1.6s
PVRL Vila Real 23.07 130 *eP* P 09 51 16.6 +3.5
comp=Z,107nm,1.7s
BSEG Bad Segeberg 23.09 85 *eP* P 09 51 10.6 -2.6
comp=Z,66nm,0.9s,baz=305,slow=9.5
RETH Rethem/Aller, 23.21 88 *eP* P 09 51 12.6 -1.8
comp=Z,280nm,2.0s,baz=305,slow=9.5
TRO Tromso 23.27 43 *eP* P 09 51 13.1 -1.7
TRO *e* 09 55 19.9
AHRW Bad Neuenahr-A 23.27 95 *eP* P 09 51 13.1 -2.0
comp=Z,59nm,1.1s,baz=305,slow=9.5
WLF Walferdange 23.33 97 P P 09 51 15.6 -0.1
WLF Walferdange 23.33 97 P P 09 51 15.6 -0.1
WLF pmax pmax
comp=Z,217nm,2.0s
WLF Walferdange 23.33 97 *dP* P 09 51 16.2 +0.5
WLF Walferdange 23.33 97 *eP* P 09 51 13.2 -2.5
comp=Z,211nm,1.9s,baz=305,slow=9.5
MVO Moncorvo 23.43 129 *eP* P 09 51 17.7 +0.9
comp=Z,103nm,1.6s
MVO *eS* Sn 09 55 41.5 -7.2
MVO *eLR* LR 09 56 56.4
comp=Z,3µm,20.0s
PVIS Viseu 23.48 131 *eP* P 09 51 16.0 -1.3
KASTN Kahler Asten 23.57 92 *eP* P 09 51 15.9 -2.3
comp=Z,141nm,1.9s,baz=305,slow=9.5
TCF Toulx Ste Croi 23.59 108 *eP* P 09 51 19.3 +1.0
TCF pmax pmax
comp=Z,45nm,1.0s
SSF Saint Saulge 23.69 105 *eP* P 09 51 20.2 +1.0
SSF pmax pmax
comp=Z,40nm,1.0s
BGF Bois d'Agland 23.71 107 *eP* P 09 51 19.4 -0.1
BGF pmax pmax
comp=Z,120nm,1.5s
LOR Lormes 23.72 105 *eP* P 09 51 19.7 +0.1
LOR pmax pmax
comp=Z,41nm,1.1s
NRDL Niedersach Rie 23.73 88 *eP* P 09 51 18.7 -0.8
comp=Z,227nm,1.9s,baz=305,slow=9.5
JETT Jettan, Norway 23.78 43 *eP* P 09 51 19.6 -0.4
JETT IAmb IAmb 09 51 22.7
comp=Z,57nm,1.0s
JETT *e* 09 55 51.1
BATG Bathurst New B 23.80 256 P P 09 51 21.4 +1.1
AVF Avril sur Loir 23.80 106 *eP* P 09 51 17.4 -2.9
AVF pmax pmax
comp=Z,47nm,0.8s

PCAS Casmilo, Conde 23.82 133 *eP* P 09 51 21.5 +1.0
comp=Z,160nm,1.7s
HSPB Hornsund (broa 23.83 24 *eP* P 09 51 22.3 +2.0
LFF La Frestale 23.86 112 *eP* P 09 51 21.9 +1.1
LFF pmax pmax
comp=Z,226nm,1.8s
MTE Manteigas 23.88 131 *eP* P 09 51 23.1 +1.9
comp=Z,93nm,1.5s
MTE *eS* Sn 09 55 48.9 -11
MTE *eLR* LR 09 57 21.4
comp=Z,3µm,20.0s
RJF Les Rejaudoux 23.96 111 *eP* P 09 51 24.5 +2.7
RJF pmax pmax
comp=Z,171nm,2.0s
BRBA Barentsburg A 24.00 21 *eP* P 09 51 22.9 +1.0
KBS Kingsbay 24.00 19 *e* 09 56 00.8
GORT1 Trebel 24.08 86 *eP* P 09 51 21.6 -1.2
comp=Z,473nm,2.2s,baz=305,slow=9.5
TNS Taunus Mts 24.17 94 *eP* P 09 51 23.0 -0.7
comp=Z,30nm,0.9s,baz=305,slow=9.5
GTTG Gottingen 24.18 90 *eP* P 09 51 24.3 +0.5
comp=Z,51nm,1.0s,baz=305,slow=9.5
ASSE Asse, Remlinge 24.22 88 *eP* P 09 51 23.0 -1.1
comp=Z,330nm,2.7s,baz=305,slow=9.5
CLZ Clausthal 24.22 89 *eP* P 09 51 23.4 -0.9
comp=Z,50nm,1.1s,baz=305,slow=9.5
PCBR Castelo Branco 24.39 132 *eP* P 09 51 27.3 +1.5
comp=Z,79nm,1.7s
FLTG Flechtingen 24.40 87 *eP* P 09 51 24.3 -1.5
comp=Z,85nm,1.4s,baz=305,slow=9.5
SPA0 Spitsbergen Ar 24.45 22 *eP* P 09 51 27.3 +1.2
SPA0 *eS* S 09 55 51.8 +6.8
SPITS Spitsbergen Ar 24.45 22 P P 09 51 27.5 +1.3
comp=Z,68nm,1.3s,baz=242,slow=9.3,SNR=7.4
comp=Z,68nm,1.3s
SPB2 Spitsbergen Ar 24.45 22 P P 09 51 28.2 +2.1
HAU Haudompre 24.48 100 *eP* P 09 51 25.6 -1.1
HAU pmax pmax
comp=Z,37nm,1.0s
CAF Calviac 24.50 111 *eP* P 09 51 27.3 +0.4
CAF pmax pmax
comp=Z,23nm,1.0s
UBBA Unterbreizbach 24.61 92 *eP* P 09 51 26.8 -0.9
comp=Z,302nm,2.7s,baz=305,slow=9.5
CDF Champ du Feu 24.69 99 *eP* P 09 51 28.8 +0.2
CDF pmax pmax
comp=Z,45nm,1.3s
ECH Echery 24.76 99 P P 09 51 28.1 -1.1
ECH IAmb IAmb 09 51 33.0
comp=Z,35nm,1.0s
ECH Echery 24.76 99 P P 09 51 28.1 -1.1
ECH pmax pmax
comp=Z,35nm,1.0s
PMRV Marv??o 24.78 132 *eP* P 09 51 33.4 +4.0
comp=Z,82nm,1.4s
PMRV *eS* S 09 56 00.6 +10
PMRV *eLR* LR 09 57 22.0
comp=Z,3µm,20.0s
PMTG Montargil 24.78 134 *eP* P 09 51 32.7 +3.3
ETSF Etsaut 24.80 117 *eP* P 09 51 29.2 -0.4
ETSF pmax pmax
comp=Z,14nm,0.9s
KTK1 Kautokeino 24.81 44 *eP* P 09 51 28.5 -0.8
KTK1 IAmb IAmb 09 51 32.7
comp=Z,1µm,3.4s
KTK1 *e* 09 56 11.7
HINF Hinteralfeld 24.86 100 *eP* P 09 51 29.5 -0.6
HINF pmax pmax
comp=Z,36nm,1.4s
HAMF Hammerfest 24.90 40 *eP* P 09 51 25.1 -5.1
HAMF IAmb IAmb 09 51 32.9
comp=Z,114nm,1.5s
HAMF *eS* S 09 55 58.7 +6.5
EPF Esparros 25.11 116 *eP* P 09 51 35.2 +2.8
EPF pmax pmax
comp=Z,22nm,1.0s
PQI Presque Isle 25.19 257 P P 09 51 33.6 +0.6
PQI IAmb IAmb 09 51 53.9
comp=Z,77nm,1.5s
PESTR Estremoz 25.20 133 *eP* P 09 51 33.5 +0.4
comp=Z,66nm,1.1s
PESTR Estremoz 25.20 133 P P 09 51 33.2 0.0
PESTR IAmb IAmb 09 51 43.6
comp=Z,54nm,1.0s
CABF La Chapelle 25.29 103 *eP* P 09 51 32.4 -1.6
CABF pmax pmax
comp=Z,24nm,0.9s
NEUB Neuenburg 25.30 89 *eP* P 09 51 33.4 -0.6
comp=Z,68nm,1.6s,baz=305,slow=9.5
EVO Evora 25.33 134 *eP* P 09 51 37.6 +3.2
comp=Z,40nm,1.2s
D62A Allapoint, All 25.43 259 IAmb IAmb 09 51 48.7
comp=Z,96nm,1.6s
PNCL Nicolau / Gran 25.52 136 *eP* P 09 51 36.5 +0.5
comp=Z,56nm,1.2s
MOX Moxa 25.55 90 *eP* P 09 51 35.3 -0.9
comp=Z,30nm,1.1s,baz=305,slow=9.5
ARA0 ARCESS Array S 25.57 43 *eP* P 09 51 33.5 -2.8
ARCES ARCESS Array B 25.57 43 P P 09 51 34.9 -1.4
ARCES ARCESS Array B 25.57 43 P P 09 51 35.0 -1.3
comp=Z,40nm,1.0s,baz=281,slow=5.3,SNR=31
ARCES LR LR 09 59 58.0
comp=Z,1µm,18.4s,baz=270,slow=32
comp=Z,40nm,1.0s
MTLF Montolieu 25.76 113 *eP* P 09 51 40.1 +1.9
MTLF pmax pmax
comp=Z,24nm,1.0s
LMQ La Malbaie 25.77 261 P P 09 51 40.1 +1.8
LMQ IAmb IAmb 09 51 58.6
comp=Z,55nm,1.2s
VIVF Saint-Julien-l 25.82 108 *eP* P 09 51 41.6 +2.8
VIVF pmax pmax
comp=Z,24nm,1.2s
PBEJ Beja 25.83 135 *eP* P 09 51 44.6 +5.7
comp=Z,69nm,1.4s
MESJ Messejana 25.87 135 *eP* P 09 51 39.5 +0.3
comp=Z,74nm,1.8s
CLL Collm 25.88 88 P P 09 51 37.5 -1.7
CLL Collm 25.88 88 *iP* P 09 51 37.9 -1.3
CLL *i* 09 51 45.2
CLL *eS* S 09 56 12.0 +3.9
CLL pmax pmax
comp=Z,35nm,1.7s
CLL Collm 25.88 88 *iP* P 09 51 37.9 -1.3
comp=Z,35nm,1.7s
CLL *i* x x 09 51 45.2
CLL *ePP* PnPn 09 52 12.0 -4.4
CLL *ePPP* PPP 09 52 27.0
CLL *eS* S 09 56 12.0 +3.9
CLL *eSSS* SSS 09 57 24.0
CLL AMS AMS 10 01 00.0
comp=Z,4µm,21.3s
CLL AMS AMS 10 03 00.0
CLL Collm 25.88 88 *eP* P 09 51 37.6 -1.6
comp=Z,18nm,1.2s,baz=305,slow=9.5
PAB San Pablo 25.89 127 P P 09 51 41.5 +2.0
PAB IAmb IAmb 09 51 46.2
comp=Z,35nm,1.3s
PAB San Pablo 25.89 127 P P 09 51 41.5 +2.0
PAB pmax pmax
comp=Z,35nm,1.3s
GRA1 Grafenberg Arr 25.91 93 IAmb IAmb 09 51 46.1
comp=Z,36nm,1.2s
GRF Grafenberg Arr 25.91 93 *eP* P 09 51 37.8 -1.9
comp=Z,34nm,1.2s,baz=305,slow=9.5
GRF *eL* L 10 00 52.7
comp=Z,5µm,21.5s
GRFO Grafenberg 25.91 93 P P 09 51 39.1 -0.5
GRFO IAmb IAmb 09 51 46.0
comp=Z,36nm,1.2s
GRFO Grafenberg 25.91 93 P P 09 51 39.1 -0.5
GRFO pmax pmax
comp=Z,36nm,1.2s
PLN Plauen 25.92 90 *eP* P 09 51 37.9 -1.7
comp=Z,18nm,0.9s,baz=305,slow=9.5
ESBB Sonseca Array 25.94 127 P P 09 51 40.1 +0.2
ESBB IAmb IAmb 09 51 43.1
comp=Z,40nm,1.2s
ESDC Sonseca Array 25.94 127 P P 09 51 39.1 -0.9
comp=Z,12nm,0.9s,baz=330,slow=9.7,SNR=26
ESDC LR LR 10 00 09.1
comp=Z,2µm,18.4s,baz=336,slow=33
comp=Z,12nm,0.9s
LDAQ Lac Daran 25.96 262 P P 09 51 39.2 -0.9
LDAQ IAmb IAmb 09 51 52.4
comp=Z,67nm,1.5s

E62A Clayton Lake 25.98 258 IAmb IAmb 09 51 55.8
comp=Z,36nm,1.1s
PBAR Barrancos 26.01 133 *e*P **P** **09 51 40.7 +0.2**
PCVE Castro Verde 26.12 135 *e*P **P** **09 51 44.6 +3.1**
comp=Z,74nm,1.7s
MORF Marmelete 26.19 137 *e*P **P** **09 51 46.7 +4.5**
comp=Z,95nm,1.9s
NKC Novy Kostel 26.22 91 AMS AMS 10 02 10.0
comp=Z,8µm,16.9s
LPL La Plagne 26.37 104 *e*P **P** **09 51 44.4 +0.4**
LPL pmax pmax
comp=Z,24nm,1.0s
ORIF Oris-en-Rattie 26.37 106 *e*P **P** **09 51 42.6 -1.3**
ORIF pmax pmax
comp=Z,30nm,0.8s
ROTZ Rotzenmuhle 26.38 92 *e*P **P** **09 51 42.8 -1.0**
comp=Z,2.7nm,1.1s,baz=305,slow=9.5
LPG La Plagne 26.39 104 *e*P **P** **09 51 44.8 +0.5**
LPG pmax pmax
comp=Z,44nm,1.4s
PVAQ Vaqueiros 26.44 135 *e*P **P** **09 51 48.2 +3.8**
PVAQ *e*S **S** **09 56 25.7 +8.6**
PVAQ A A 10 00 09.2
comp=Z,998nm,22.0s
OUL Oulu 26.45 53 P P **09 51 44.2 -0.1**
PBDV Barranco-do-Ve 26.50 135 *e*P **P** **09 51 45.7 +0.7**
comp=Z,63nm,1.6s
HSKC Hora Svate Kat 26.51 89 *e*P **P** **09 51 47.9 +2.9**
HSKC AMS AMS 10 03 00.0
comp=Z,6µm,15.7s
EUNU Eureka 26.54 341 P P **09 51 44.9 -0.2**
EUNU IAmb IAmb 09 52 00.5
comp=Z,24nm,0.9s
UBR Ueberruh 26.61 97 *e*P **P** **09 51 45.0 -1.0**
comp=Z,86nm,1.9s,baz=305,slow=9.5
BRG Berggiesshubel 26.61 88 *e*P **P** **09 51 45.3 -0.6**
BRG Amp 09 51 50.1
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 26.61 88 Amp 09 55 10.8
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 26.61 88 S **S** **09 56 24.0 +4.3**
BRG Amp 10 03 43.0
comp=E,1.6nm,17.6s
BRG Amp 10 03 43.0
comp=N,3.5nm,13.5s
BRG Amp 10 03 47.0
comp=Z,4.0nm,14.4s
BRG Berggiesshubel 26.61 88 *e*P **P** **09 51 45.3 -0.6**
BRG 09 55 09.5
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 26.61 88 *e*P **P** **09 51 47.0 +1.1**
comp=Z,102nm,2.4s,baz=305,slow=9.5
BRG Berggiesshubel 26.61 88 PP **PnPn** **09 52 21.0 -5.4**
BRG Berggiesshubel 26.61 88 ⇑PP **PcP** **09 55 09.5 +0.1**
DAVA Damuels 26.76 98 *e*P **P** **09 51 47.3 -0.1**
comp=Z,17nm,1.5s
RICC Richard 26.89 89 AMS AMS 10 03 30.0
comp=Z,4µm,13.4s
MBDF Montbardon 26.95 105 *e*P **P** **09 51 49.7 +0.5**
MBDF pmax pmax
comp=Z,21nm,0.9s
TUE Stuetta 27.03 100 P P **09 51 49.7 -0.2**
TUE IAmb IAmb 09 51 55.0
comp=Z,40nm,1.2s
RETA Reutte 27.07 97 *e*P **P** **09 51 54.0 +3.8**
comp=Z,8.0nm,0.9s
DAVOX Davos/Dischmat 27.09 99 P **P** **09 51 49.0 -1.4**
comp=Z,3.1nm,0.8s,baz=299,slow=19,SNR=5.6
DAVOX LR LR 10 02 01.8
comp=Z,5µm,20.1s,baz=292,slow=35
comp=Z,3.1nm,0.8s
WET Wettzell 27.11 92 *e*P **P** **09 51 51.0 +0.6**
comp=Z,20nm,1.3s,baz=305,slow=9.5
PVCC Panska Ves 27.14 88 AMS AMS 10 03 40.0
comp=Z,4µm,15.1s
PRA Prague 27.34 89 AMS AMS 10 03 20.0
comp=Z,7µm,15.6s
MOTA Moosalm 27.34 97 *e*P **P** **09 51 53.1 +0.4**
comp=Z,9.4nm,1.3s
FETA Feichten 27.37 98 *e*P **P** **09 51 52.8 -0.1**
comp=Z,14nm,1.4s
PRU Pruhonice 27.45 89 AMS AMS 10 03 20.0
comp=Z,7µm,16.0s
KHC Kasperske Hory 27.48 91 *ce*P **P** **09 51 53.7 0.0**
KHC pmax pmax
comp=Z,37nm,2.5s
KHC Kasperske Hory 27.48 91 *e*P **P** **09 51 52.6 -1.1**
KHC AMS AMS 10 02 30.0
comp=Z,5µm,18.6s
SQTA Sankt Quirin 27.48 97 *e*P **P** **09 51 53.8 0.0**
comp=Z,6.1nm,0.7s
WATA Walderalm 27.59 96 *e*P **P** **09 51 55.9 +1.0**
comp=Z,5.3nm,1.1s
RES Resolute Bay 27.59 329 P **P** **09 51 54.3 -0.1**
RES Resolute Bay 27.59 329 P **P** **09 51 54.9 +0.5**
comp=Z,2.6nm,1.0s,baz=102,slow=16,SNR=5.0
RES LR LR 10 02 24.9
comp=Z,2µm,18.2s,baz=96,slow=35
comp=Z,2.6nm,1.0s
ZVC Zvikov 27.60 90 *e*P **P** **09 51 54.2 -0.6**
ZVC AMS AMS 10 03 00.0
comp=Z,6µm,17.2s
GOPC GO Pecny, Ondr 27.62 89 AMS AMS 10 03 30.0
comp=Z,7µm,15.4s
FINES FINESS Array B 27.63 60 P **P** **09 51 53.7 -1.2**
comp=Z,21nm,0.7s,baz=302,slow=11,SNR=28
FINES LR LR 10 02 19.1
comp=Z,2µm,18.1s,baz=284,slow=35
comp=Z,21nm,0.7s
WTTA Wattenberg 27.67 96 *e*P **P** **09 51 56.8 +1.2**
comp=Z,8.0nm,1.1s
WTTA Wattenberg 27.67 96 *e*P **P** **09 51 54.7 -0.9**
baz=305,slow=9.5
GEC2 GERESS Array S 27.72 92 *e*P **P** **09 51 55.7 -0.2**
baz=305,slow=9.5
GERES GERESS Array B 27.72 92 P **P** **09 51 54.2 -1.7**
GERES GERESS Array B 27.72 92 P **P** **09 51 56.0 +0.1**
comp=Z,1.7nm,0.8s,baz=275,slow=4.8,SNR=5.3
GERES PcP **PcP** **09 55 11.2 -1.0**
comp=Z,0.9nm,0.7s,baz=350,slow=5.1,SNR=2.0
GERES S **S** **09 56 43.6 +6.2**
comp=Z,0.3nm,0.5s,baz=310,slow=14,SNR=3.5
GERES LR LR 10 02 58.3
comp=Z,5µm,18.3s,baz=299,slow=37
comp=Z,1.7nm,0.8s
KSP Ksiaz 27.84 86 *e*P **P** **09 51 56.7 -0.2**
KSP Ksiaz 27.84 86 P **P** **09 51 56.6 -0.3**
CHVC Chvalec 27.87 87 *e*P **P** **09 51 58.9 +1.7**
CHVC MLR MLR
comp=Z,4µm,17.3s
CHVC Chvalec 27.87 87 *e*P **P** **09 51 58.9 +1.7**
CHVC AMS AMS 10 03 10.0
comp=Z,4µm,17.3s
PMOZ Porto Moniz, M 27.88 155 *e*LR LR 09 59 14.2
comp=Z,2µm,20.0s
UPC Upice 27.90 87 *e*P **P** **09 51 58.6 +1.2**
UPC MLR MLR
comp=Z,4µm,18.2s
UPC Upice 27.90 87 *e*P **P** **09 51 58.6 +1.2**
UPC AMS AMS 10 03 20.0
comp=Z,4µm,18.2s
RJOB Jochberg 27.96 94 *e*P **P** **09 51 57.8 -0.2**
baz=305,slow=9.5
OSTC Ostas 27.97 87 *e*P **P** **09 52 00.6 +2.5**
OSTC MLR MLR
comp=Z,4µm,16.8s
OSTC Ostas 27.97 87 *e*P **P** **09 52 00.6 +2.5**
OSTC AMS AMS 10 03 20.0
comp=Z,4µm,16.8s
CKRC Cesky Krumlov 28.05 91 *e*P **P** **09 51 59.4 +0.6**
CKRC Cesky Krumlov 28.05 91 *e*P **P** **09 51 59.4 +0.6**
LESA Schwarzleotal 28.10 95 *e*P **P** **09 51 59.5 +0.1**
comp=Z,3.0nm,0.8s
DPC Dobruska-Polom 28.15 87 *e*P **P** **09 51 58.7 -1.0**
DPC MLR MLR
comp=Z,3µm,15.7s
DPC Dobruska-Polom 28.15 87 *e*P **P** **09 51 58.7 -1.0**
DPC AMS AMS 10 03 20.0
comp=Z,3µm,15.7s
TREC Trest 28.36 90 AMS AMS 10 03 50.0
comp=Z,7µm,15.6s
BIOA Bad Ischl, Aus 28.42 94 *e*P **P** **09 52 03.5 +1.4**
comp=Z,11nm,1.4s
ABTA Abfaltersbach 28.46 96 *ep*P **P** **09 52 04.7 +2.1**
comp=Z,7.6nm,1.0s
KRLC Kraliky 28.55 87 *e*P **P** **09 52 02.3 -1.0**
KRLC MLR MLR
comp=Z,4µm,14.5s
KRLC Kraliky 28.55 87 *e*P **P** **09 52 02.3 -1.0**
KRLC AMS AMS 10 04 40.0
comp=Z,4µm,14.5s
KBA Koelnbreinsper 28.67 95 *e*P **P** **09 52 05.5 +1.0**
comp=Z,14nm,1.1s
KBA Koelnbreinsper 28.67 95 *e*P **P** **09 52 04.2 -0.3**
baz=305,slow=9.5
CIMO Cimolais 28.72 97 IAmb IAmb 09 52 11.2
comp=Z,9.4nm,0.9s
APA Apatity 28.77 46 ⇓*i*P **P** **09 52 03.7 -1.3**
APA pmax pmax
comp=Z,19nm,0.8s
APA MLR MLR
comp=Z,2µm,14.0s
CLUD Cludinico 28.84 96 IAmb IAmb 09 52 10.0
comp=Z,31nm,0.9s
VRAC Vranov 28.92 89 *e*P **P** **09 52 05.1 -1.4**
VRAC Vranov 28.92 89 P **P** **09 52 05.3 -1.2**
comp=Z,2.9nm,0.6s,baz=316,slow=3.6,SNR=4.9
VRAC LR LR 10 04 07.2
comp=Z,4µm,18.4s,baz=306,slow=38
comp=Z,2.9nm,0.6s
VLDQ Val d'Or 29.06 268 IAmb IAmb 09 52 16.2
comp=Z,43nm,1.4s
MYKA Terra Mystica 29.12 95 *e*P **P** **09 52 08.1 -0.3**
comp=Z,15nm,1.4s
MORC Moravsky Berou 29.12 87 ⇓P P 09 52 03.3 -5.1
MORC Moravsky Berou 29.12 87 *e*P **P** **09 52 05.6 -2.8**
MORC Moravsky Berou 29.12 87 ⇓P P 09 52 03.3 -5.1
VSU Vasula 29.14 66 *ce*P **P** **09 52 07.7 -0.6**
VSU pmax pmax
comp=Z,33nm,1.3s
ZCCA Zocca 29.33 101 IAmb IAmb 09 52 15.8
comp=Z,31nm,0.9s
OKC Ostrava-Krasne 29.40 86 AMS AMS 10 05 20.0
comp=Z,4µm,14.1s
CONA Conrad Observa 29.41 91 *e*P **P** **09 52 10.6 -0.4**
comp=Z,8.9nm,1.8s
MAUC Maruska 29.52 87 *e*P **P** **09 52 10.9 -1.0**
MAUC AMS AMS 10 04 50.0
comp=Z,11µm,14.9s
PGF Pioggiola 29.65 106 *e*P **P** **09 52 14.2 +1.1**
PGF pmax pmax
comp=Z,23nm,1.0s
OBKA Obir 29.67 95 *e*P **P** **09 52 12.9 -0.3**
comp=Z,15nm,1.4s
OBKA Obir 29.67 95 *e*P **P** **09 52 12.0 -1.3**
baz=305,slow=9.5
ARSA Arzberg 29.68 93 *e*P **P** **09 52 13.2 0.0**
comp=Z,8.4nm,0.8s
ARSA Arzberg 29.68 93 *e*P **P** **09 52 13.5 +0.2**
baz=305,slow=9.5
RONA Rosalia, Austr 29.78 91 *e*P **P** **09 52 13.4 -0.8**
comp=Z,15nm,1.4s
SOKA Soboth 29.80 94 *e*P **P** **09 52 14.1 -0.4**
comp=Z,6.9nm,1.4s
SMOL Smolenice 29.85 89 *e*P **P** **09 52 14.8 +0.1**
MODS Modra-Piesok 29.86 89 *e*P **P** **09 52 15.1 +0.2**
MODS pmax pmax
comp=Z,52nm,1.5s
MODS Modra-Piesok 29.86 89 *e*P **P** **09 52 15.1 +0.2**
ZST Bratislava 29.88 90 *e*P **P** **09 52 15.3 +0.3**
ZST Bratislava 29.88 90 *e*P **P** **09 52 15.3 +0.3**
OJC Ojcow 30.02 85 *e*P **P** **09 52 15.7 -0.6**
OJC Ojcow 30.02 85 P **P** **09 52 18.5 +2.3**
LANS Liptovska Anna 30.50 86 *e*P **P** **09 52 20.8 +0.3**
LANS pmax pmax
comp=Z,7.0nm,1.2s
LANS Liptovska Anna 30.50 86 *e*P **P** **09 52 20.8 +0.3**
NIE Niedzica 30.76 85 P **P** **09 52 27.0 +4.2**
MURB Monte Urbino 30.89 101 IAmb IAmb 09 52 32.9
comp=Z,44nm,1.2s
NACGM Naroch 30.90 72 *e*P **P** **09 52 23.9 0.0**
STHS Stebnicka Huta 31.25 85 *e*P **P** **09 52 26.8 -0.3**
STHS Stebnicka Huta 31.25 85 *e*P **P** **09 52 26.8 -0.3**
FDMO Fiordimonte 31.34 101 IAmb IAmb 09 52 36.7
comp=Z,30nm,1.1s
FCC Fort Churchill 31.47 297 P **P** **09 52 28.7 -0.2**
FCC IAmb IAmb 09 52 36.1
comp=Z,24nm,0.9s
FCC Fort Churchill 31.47 297 P **P** **09 52 28.7 -0.2**
FCC pmax pmax
comp=Z,24nm,0.9s
PSZ Piszkesteto 31.50 88 ⇑P **P** **09 52 27.4 -2.0**
PSZ Piszkesteto 31.50 88 IAmb IAmb 09 52 33.6
comp=Z,20nm,1.0s
PSZ Piszkesteto 31.50 88 ⇑P **P** **09 52 27.4 -2.0**
NRCA Norcia 31.50 101 IAmb IAmb 09 52 36.3
comp=Z,25nm,1.0s
MDT Midelt 31.67 134 LR LR 10 04 30.1
comp=Z,2µm,18.5s,baz=355,slow=35
CRVS Cervenica-Dubn 31.68 85 *e*P **P** **09 52 31.9 +1.0**
CRVS pmax pmax
comp=Z,26nm,1.0s
CRVS Cervenica-Dubn 31.68 85 *e*P **P** **09 52 31.9 +1.0**
KWP Kalwaria Pacla 31.86 83 IAmb IAmb 09 52 36.3
comp=Z,18nm,1.0s
L59A Walton 31.91 258 IAmb IAmb 09 52 41.8
comp=Z,16nm,1.0s
MORH Mrgy, Hungar 31.97 92 ⇑P **P** **09 52 31.5 -1.9**
KOLS Kolonicke sedl 32.08 85 *e*P **P** **09 52 34.3 -0.1**
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 32.08 85 *e*P **P** **09 52 34.3 -0.1**
SADO Sadowa 32.16 265 IAmb IAmb 09 52 42.5
comp=Z,20nm,0.8s
SADO Sadowa 32.16 265 LR LR 10 04 16.3
comp=Z,8µm,19.2s,baz=56,slow=34
INTR Introdacqua 32.50 102 IAmb IAmb 09 52 48.8
comp=Z,32nm,1.4s
KSPA Keystone Colle 32.74 258 IAmb IAmb 09 52 48.8
comp=Z,50nm,1.6s
KLMR Klimovskoe 33.78 56 *e*P **P** **09 52 45.1 -4.0**
KLMR *e* 09 55 25.8
KLMR pmax pmax
comp=Z,176nm,1.6s
KLMR MLR MLR
comp=Z,1µm,14.0s
BZS Buzias 33.91 90 ⇑P **P** **09 52 50.3 -0.1**
BZS Buzias 33.91 90 ⇑P **P** **09 52 50.3 -0.1**
MARR Marisel-Cluj 33.97 87 ⇓P **P** **09 52 50.8 -0.3**
SURR Surduc 34.08 89 ⇓P **P** **09 52 52.1 +0.2**
MVL Millersville 34.20 256 IAmb IAmb 09 53 01.5
comp=Z,34nm,1.4s
M55A Ridgway 34.33 261 P **P** **09 52 55.6 +1.5**
BUR08 Bucovina Ar. S 34.41 84 P **P** **09 52 54.8 0.0**
BUR08 IAmb IAmb 09 52 59.6
comp=Z,24nm,1.1s
BURAR Bucovina Array 34.43 84 ⇓P **P** **09 52 55.7 +0.7**
BURAR Bucovina Array 34.43 84 P **P** **09 52 53.8 -1.3**
BURAR IAmb IAmb 09 53 00.1
comp=Z,17nm,1.0s
BURAR Bucovina Array 34.43 84 ⇓P **P** **09 52 55.7 +0.7**
comp=Z,41nm,1.4s
KIEV Kiev 34.51 77 ⇑P **P** **09 52 54.2 -1.4**
KIEV Kiev 34.51 77 P **P** **09 52 53.8 -1.8**
KIEV IAmb IAmb 09 52 55.8
comp=Z,37nm,1.4s
KIEV Kiev 34.51 77 ⇑P **P** **09 52 54.2 -1.4**
AKASG Malin Array Be 34.52 77 P **P** **09 52 52.9 -2.7**
comp=Z,2.5nm,0.7s,baz=302,slow=8.4,SNR=24
AKASG PcP **PcP** **09 55 27.6 -2.5**
comp=Z,1.4nm,0.6s,baz=282,slow=3.7,SNR=5.3
AKASG LR LR 10 06 20.0
comp=Z,899nm,19.0s,baz=287,slow=35
comp=Z,2.5nm,0.7s
AKBB Malin Array Si 34.52 77 IAmb IAmb 09 52 55.8
comp=Z,41nm,1.4s
AKBB Malin Array Si 34.52 77 *ce*P **P** **09 52 54.8 -0.8**
AKBB pmax pmax
comp=Z,19nm,1.1s
GZR Gura Zlata 34.66 89 ⇑P **P** **09 52 56.9 -0.1**
GZR Gura Zlata 34.66 89 ⇑P **P** **09 52 56.9 -0.1**
HERR Herculane 34.82 90 ⇑P **P** **09 52 57.9 -0.5**
KEST Kesra 35.13 114 IAmb IAmb 09 53 21.9
comp=Z,40nm,1.2s
KEST Kesra 35.13 114 P **P** **09 52 59.3 -1.9**
comp=Z,5.7nm,0.8s,baz=189,slow=4.1,SNR=2.3
KEST LR LR 10 06 43.1
comp=Z,4µm,18.6s,baz=282,slow=35
comp=Z,5.7nm,0.8s
P57A Homestead Farm 35.43 257 IAmb IAmb 09 53 12.4
comp=Z,57nm,1.5s
OBN Obninsk 35.49 66 *ce*P **P** **09 53 03.6 -0.3**
OBN *e* 09 54 25.5
OBN pmax pmax
comp=Z,84nm,2.5s
OBN MLR MLR
comp=Z,3µm,21.0s
OBN Obninsk 35.49 66 P **P** **09 53 03.4 -0.5**
comp=Z,10nm,0.4s,baz=270,slow=1.0,SNR=7.1
OBN LR LR 10 06 14.9
comp=Z,3µm,21.7s,baz=310,slow=34
comp=Z,10nm,0.4s
MOS Moscow 35.63 65 *e*P **P** **09 53 03.6 -1.6**
MOS MLR MLR
comp=Z,3µm,19.0s
SORM Soroca 35.70 81 ⇓P **P** **09 53 03.8 -2.0**
SORM Soroca 35.70 81 ⇓P **P** **09 53 03.8 -2.0**
VOIR 35.80 87 ⇓P **P** **09 53 07.8 +1.0**
VOIR 35.80 87 ⇓P **P** **09 53 07.8 +1.0**
O54A Avella 36.10 261 IAmb IAmb 09 53 19.5
comp=Z,26nm,1.2s
VAE Valguarnera 36.19 106 LR LR 10 07 22.7
comp=Z,2µm,18.0s,baz=358,slow=35
MLR Muntele Rosu 36.22 86 ⇓P **P** **09 53 10.0 -0.5**
MLR Muntele Rosu 36.22 86 ⇓P **P** **09 53 10.0 -0.5**
MLR Muntele Rosu 36.22 86 P **P** **09 53 11.4 +0.9**
comp=Z,1.5nm,0.4s,baz=222,slow=12,SNR=2.2
MLR LR LR 10 09 39.5
comp=Z,3µm,18.2s,baz=312,slow=39
PLOR Plostina 36.34 85 ⇑P P 09 53 16.4 +5.0
PLOR Plostina 36.34 85 ⇑P P 09 53 16.4 +5.0
VRI Vrincioaia 36.37 85 ⇑P **P** **09 53 09.1 -2.5**
VRI Vrincioaia 36.37 85 ⇑P **P** **09 53 09.1 -2.5**
EYMN Ely 36.38 280 IAmb IAmb 09 53 17.9
comp=Z,48nm,1.4s
EYMN Ely 36.38 280 P **P** **09 53 12.3 +0.6**
baz=49,SNR=14
M50A Fremont 36.56 265 IAmb IAmb 09 53 21.1
comp=Z,24nm,1.0s
A36M Sachs Harbour 36.64 329 P **P** **09 53 14.9 +1.3**
baz=60,SNR=8.3
KIS Kishinev 36.68 82 ⇑*i*P **P** **09 53 13.3 -0.9**
comp=Z,210nm,4.8s
KIS Kishinev 36.68 82 *e*PP PP 09 54 40.0 +2.4
KIS *e*L L 10 04 12.0
KIS LQM 10 06 12.0
comp=Z,700nm,26.0s
KIS LRM MLR 10 09 51.0
comp=Z,500nm,15.0s
KIS Kishinev 36.68 82 *c i*P **P** **09 53 13.3 -0.9**
KIS *e* 09 54 40.0
KIS pmax pmax
comp=Z,200nm,4.8s
KIS MLR MLR
comp=Z,500nm,15.0s
MILM Milestii Mici 36.73 82 ⇑*i*P **P** **09 53 13.5 -1.2**
comp=Z,300nm,3.4s
MILM Milestii Mici 36.73 82 *e*PP PP 09 54 40.0 +1.8
MILM *e*S **S** **09 58 49.0 -8.3**
MILM *e*L L 10 03 51.0
MILM LQM 10 07 41.0
comp=Z,1µm,16.0s
MILM LRM MLR 10 09 54.0
comp=Z,2µm,15.0s
MILM Milestii Mici 36.73 82 *c i*P **P** **09 53 13.5 -1.2**
MILM *e* 09 54 40.0
MILM *e*S **S** **09 58 49.0 -8.3**
MILM pmax pmax
comp=Z,300nm,3.4s
MILM MLR MLR
comp=Z,2µm,15.0s
O52A Adamsville 36.89 262 IAmb IAmb 09 53 29.0
comp=Z,56nm,1.4s
ULM Lac du Bonnet 37.10 286 *i*P **P** **09 53 18.3 +0.5**
ULM Lac du Bonnet 37.10 286 P **P** **09 53 17.9 +0.1**
comp=Z,15nm,0.8s,baz=63,slow=9.3,SNR=24
ULM LR LR 10 07 22.4
comp=Z,4µm,18.1s,baz=64,slow=34
comp=Z,15nm,0.8s
FNA Florina 37.21 96 P **P** **09 53 20.5 +1.6**
FNA pmax pmax
comp=Z,19nm,2.1s
B35A Bob, Littlefor 37.24 282 IAmb IAmb 09 53 25.4
comp=Z,27nm,1.1s
E38A The Farm, Brul 37.30 278 IAmb IAmb 09 53 29.3
comp=Z,70nm,1.9s
FFC Flin Flon 37.30 295 P **P** **09 53 19.5 +0.1**
FFC Flin Flon 37.30 295 P **P** **09 53 19.5 +0.1**
FFC pmax pmax
comp=Z,13nm,0.9s
ACSO Alum Creek Sta 37.39 263 P **P** **09 53 22.3 +1.9**
baz=42
G40A Rib Lake 37.51 275 IAmb IAmb 09 53 27.7
comp=Z,48nm,1.7s
IGT Igoumenitsa 37.60 98 P **P** **09 53 25.1 +2.9**
IGT pmax pmax
comp=Z,53nm,1.0s
LPSR Galich'ya Gora 38.12 68 *e*P **P** **09 53 23.5 -2.8**
LPSR pmax pmax
comp=Z,20nm,1.4s
LPSR MLR MLR
comp=Z,2µm,21.0s
YKA Yellowknife Ar 38.23 312 P **P** **09 53 26.9 -0.2**
YKA Yellowknife Ar 38.23 312 P **P** **09 53 26.9 -0.2**
YKA Yellowknife Ar 38.23 312 P **P** **09 53 26.6 -0.6**
comp=Z,4.3nm,0.9s,baz=57,slow=8.8,SNR=44
YKA PcP **PcP** **09 55 40.4 -0.6**
comp=Z,2.4nm,0.9s,baz=50,slow=3.2,SNR=6.7
YKA LR LR 10 08 29.3
comp=Z,4µm,18.3s,baz=60,slow=35
comp=Z,4.3nm,0.9s
VORR Voronezh 38.83 69 *e*P **P** **09 53 29.6 -2.7**
VORR pmax pmax
comp=Z,97nm,2.3s
SPMN Marine on St. 38.88 277 IAmb IAmb 09 53 42.4
comp=Z,88nm,1.9s
SPMN Marine on St. 38.88 277 P **P** **09 53 34.3 +1.5**
baz=46
VSR Storozhevoye 39.10 70 *e*P **P** **09 53 30.7 -3.9**
VSR pmax pmax
comp=Z,20nm,1.6s
VSR MLR MLR
comp=Z,2µm,18.0s
P48A Milroy 39.22 265 IAmb IAmb 09 53 47.8
comp=Z,63nm,1.6s
KIRV Kirov 39.23 55 *ce*P **P** **09 53 35.1 -0.4**
KIRV Kirov 39.23 55 P **P** **09 53 34.4 -1.1**
comp=Z,43nm,0.8s,baz=310,slow=7.0,SNR=15
KIRV LR LR 10 08 21.6
comp=Z,1µm,21.9s,baz=308,slow=34
comp=Z,43nm,0.8s
VORD Divnogorie 39.33 70 *e*P **P** **09 53 33.0 -3.5**
VORD pmax pmax
comp=Z,20nm,1.2s
VRH Novokhopyorsk 40.34 68 *e*P **P** **09 53 41.2 -3.7**
VRH pmax pmax
comp=Z,40nm,1.5s
VRH MLR MLR
comp=Z,3µm,18.0s
WCI Wyandotte Cave 40.59 264 P **P** **09 53 48.2 +1.1**
WCI Wyandotte Cave 40.59 264 P **P** **09 53 48.2 +1.1**
WCI pmax pmax
comp=Z,18nm,1.1s
K38A Parkersburg 40.67 274 P **P** **09 53 48.2 +0.4**
K38A IAmb IAmb 09 53 55.1
comp=Z,23nm,0.8s
INK Inuvik 41.08 326 P **P** **09 53 49.6 -1.2**
INK Inuvik 41.08 326 P **P** **09 53 50.8 0.0**
baz=50
INK Inuvik 41.08 326 P **P** **09 53 50.4 -0.4**
comp=Z,3.1nm,0.8s,baz=41,slow=7.5,SNR=8.1
INK PcP **PcP** **09 55 50.2 +0.2**
comp=Z,2.0nm,0.7s,baz=48,slow=3.5,SNR=2.5
INK LR LR 10 10 28.5
comp=Z,2µm,20.0s,baz=9.5,slow=36
comp=Z,3.1nm,0.8s
N41A Harden Midland 41.09 271 P **P** **09 53 51.2 -0.1**
N41A IAmb IAmb 09 54 03.8
comp=Z,45nm,1.2s
TKL Tuckaleechee C 41.28 259 LR LR 10 09 50.1
comp=Z,6µm,18.4s,baz=40,slow=34
SCIA State Center 41.44 274 P **P** **09 53 53.7 -0.4**
U49A Red Boiling Sp 41.64 262 IAmb IAmb 09 54 06.3
comp=Z,48nm,1.7s
F31M Tsiigehtchic 41.71 326 IAmb IAmb 09 54 01.6
comp=Z,38nm,1.3s
F31M Tsiigehtchic 41.71 326 P **P** **09 53 56.1 +0.1**
baz=49,SNR=16
ECSD EROS Data Cent 41.87 279 P **P** **09 53 58.3 +0.7**

ECSD **EROS Data Cent** 41.87 279 P **P** 09 53 58.8 +1.2
baz=45,SNR=7.8
T47A **Sharon Grove** 41.95 264 IAmb IAmb 09 54 08.8
comp=Z,42nm,1.6s
F30M **Barrier River** 42.18 327 P **P** 09 53 59.9 0.0
baz=48
G31M **Satah River** 42.20 325 P **P** 09 53 59.0 -1.0
G31M **Satah River** 42.20 325 P **P** 09 54 00.5 +0.5
baz=48,SNR=12
BELG **Belogornoye** 42.34 63 *i* P **P** 09 54 01.4 +0.2
BELG pmax pmax
comp=Z,12nm,0.9s
BELG **Belogornoye** 42.34 63 P **P** 09 53 59.6 -1.6
comp=Z,60nm,0.9s,baz=290,slow=3.0,SNR=7.9
BELG LR LR 10 10 40.2
comp=Z,1µm,20.5s,baz=319,slow=35
comp=Z,60nm,0.9s
DGMT **Dagmar** 42.37 289 P **P** 09 54 02.9 +1.3
DGMT IAmb IAmb 09 54 09.0
comp=Z,43nm,1.1s
D27M **Malcolm River** 42.46 330 P **P** 09 54 02.9 +0.7
baz=46
SIUC **Southern Illin** 42.48 266 IAmb IAmb 09 55 07.9
comp=Z,23nm,0.5s
E28M **Babbage River** 42.53 329 P **P** 09 54 03.7 +1.0
baz=46
ANN **Anapa** 42.57 78 *e*P **P** 09 54 03.0 -0.2
ANN *e**PP **pP** 09 54 05.0 -3.1
ANN *e*S **S** 10 00 24.2 -0.6
ANN pmax pmax
comp=Z,33nm,0.8s
ANN MLR MLR
comp=N,2µm,18.0s
ANN MLR MLR
comp=E,2µm,16.0s
ANN MLR MLR
comp=Z,3µm,16.0s
P40A **Paris** 42.58 271 IAmb IAmb 09 54 15.4
comp=Z,40nm,1.2s
G30M **tAoh Zraii Nji** 42.73 326 IAmb IAmb 09 54 13.4
comp=Z,55nm,2.0s
C26K **Camden Bay** 42.96 332 P **P** 09 54 08.2 +2.1
baz=44
IDI **Anoyia** 43.18 98 LR LR 10 13 37.0
comp=Z,872nm,18.8s,baz=321,slow=38
CCM **Cathedral Cave** 43.27 268 P **P** 09 54 08.5 -0.5
CCM IAmb IAmb 09 54 20.5
comp=Z,29nm,1.1s
CCM **Cathedral Cave** 43.27 268 P **P** 09 54 08.5 -0.5
CCM pmax pmax
comp=Z,29nm,1.1s
CCM **Cathedral Cave** 43.27 268 P **P** 09 54 09.5 +0.5
baz=41
G29M **Pine Creek** 43.30 327 IAmb IAmb 09 54 13.9
comp=Z,28nm,1.1s
EPYK **Eagle Plains** 43.30 326 P **P** 09 54 09.7 +0.7
baz=46
F28M **Old Crow** 43.32 328 P **P** 09 54 08.7 -0.4
F28M **Old Crow** 43.32 328 P **P** 09 54 09.6 +0.5
baz=45
E27K **Coleen River** 43.37 329 P **P** 09 54 10.5 +0.9
baz=45
EDM **Edmonton** 43.45 300 P **P** 09 54 10.5 +0.1
EDM IAmb IAmb 09 54 16.8
comp=Z,69nm,1.5s
EDM **Edmonton** 43.45 300 P **P** 09 54 10.5 +0.1
EDM pmax pmax
comp=Z,69nm,1.5s
ERBR **Yeremizino-Bor** 43.45 75 *e*P **P** 09 54 11.6 +1.2
ERBR *e**PP **pP** 09 54 13.7 -1.6
ERBR *e*S **S** 10 00 40.9 +3.1
ERBR pmax pmax
comp=Z,49nm,1.6s
ERBR MLR MLR
comp=Z,2µm,17.0s
PBMO **Poplar Bluff** 43.82 266 IAmb IAmb 09 54 20.7
comp=Z,26nm,1.1s
H29M **Whitestone** 43.88 326 IAmb IAmb 09 55 19.0
comp=Z,43nm,1.9s
H29M **Whitestone** 43.88 326 P **P** 09 54 14.5 +0.9
baz=45
C24K **Franklin Bluff** 43.99 334 P **P** 09 54 14.6 +0.1
baz=41
I30M **Mount Dempster** 44.00 324 P **P** 09 54 15.6 +0.9
baz=46,SNR=11
BR131 **Keskin Array S** 44.31 86 *i* P **P** 09 54 17.6 +0.1
BRTR **Keskin Array B** 44.31 86 P **P** 09 54 17.0 -0.6
BRTR **Keskin Array B** 44.31 86 *ce*P **P** 09 54 20.2 +2.7
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR **Keskin Array B** 44.31 86 P **P** 09 54 16.7 -0.8
comp=Z,2.2nm,0.8s,baz=300,slow=4.4,SNR=6.6
BRTR LR LR 10 13 17.4
comp=Z,3µm,21.9s,baz=312,slow=37
comp=Z,2.2nm,0.8s
C23K **Itkillik River** 44.34 334 P **P** 09 54 19.2 +2.0
baz=40,SNR=7.4
G27K **Doyon Strip** 44.38 328 IAmb IAmb 09 54 20.9
comp=Z,46nm,2.0s
G27K **Doyon Strip** 44.38 328 P **P** 09 54 18.4 +0.7
baz=44
ARU **Arti** 44.40 53 P **P** 09 54 16.6 -1.3
ARU **Arti** 44.40 53 *c i*P **P** 09 54 17.7 -0.2
ARU 09 55 55.9
ARU S **S** 10 00 55.6 +4.2
ARU SS **ScS** 10 04 14.5 -0.1
ARU pmax pmax
comp=Z,62nm,1.2s
ARU **Arti** 44.40 53 P **P** 09 54 16.6 -1.3
comp=Z,14nm,0.6s,baz=309,slow=7.3,SNR=27
ARU LR LR 10 11 41.4
comp=Z,2µm,18.1s,baz=308,slow=35
comp=Z,14nm,0.6s
A21K **Barrow** 44.41 338 P **P** 09 54 19.1 +1.4
baz=37,SNR=9.6
J30M **Hart River** 44.44 324 IAmb IAmb 09 54 24.2
comp=Z,22nm,1.2s
J30M **Hart River** 44.44 324 P **P** 09 54 19.8 +1.5
baz=45
D24K **Happy Valley** 44.45 333 IAmb IAmb 09 54 23.7
comp=Z,41nm,1.2s
D24K **Happy Valley** 44.45 333 P **P** 09 54 19.7 +1.6
baz=41
I29M **Ogilvie Camp,** 44.48 325 IAmb IAmb 09 54 23.6
comp=Z,21nm,0.9s
I29M **Ogilvie Camp,** 44.48 325 P **P** 09 54 19.6 +1.1
baz=45
MGMO **Mountain Grove** 44.48 268 IAmb IAmb 09 54 28.4
comp=Z,40nm,1.4s
NRIK **Noril'sk** 44.49 26 P **P** 09 54 18.2 -0.2
NRIK IAmb IAmb 09 54 20.5
comp=Z,41nm,1.5s
NRIK **Noril'sk** 44.49 26 *ce*P **P** 09 54 18.2 -0.2
NRIK pmax pmax
comp=Z,31nm,1.5s
NRIK **Noril'sk** 44.49 26 P **P** 09 54 18.3 -0.2
comp=Z,7.4nm,0.9s,baz=316,slow=6.3,SNR=15
NRIK LR LR 10 14 14.1
comp=Z,320nm,19.4s,baz=334,slow=38
comp=Z,7.4nm,0.9s
B22K **Teshekpuk Lake** 44.55 336 IAmb IAmb 09 54 32.7
comp=Z,48nm,1.4s
B22K **Teshekpuk Lake** 44.55 336 P **P** 09 54 20.3 +1.4
baz=38
TAM **Tamanrasset** 44.57 128 P **P** 09 54 18.5 -1.3
TAM IAmb IAmb 09 54 24.9
comp=Z,26nm,1.2s
TAM **Tamanrasset** 44.57 128 P **P** 09 54 18.5 -1.3
TAM pmax pmax
comp=Z,26nm,1.2s
SOC **Sochi** 44.59 78 *e*P **P** 09 54 17.7 -1.8
SOC *e* 09 56 00.8
SOC *e*PPP PPP 09 56 41.7
SOC *e*S **S** 10 00 54.0 -0.3
SOC *e*SS **SS** 10 04 13.8 -0.1
SOC *e*SSS SSS 10 04 56.5
SOC MLR MLR
comp=Z,1µm,18.0s
LAO **LASA Array** 44.59 289 P **P** 09 54 21.0 +1.4
S39A **Bolivar** 44.62 270 IAmb IAmb 09 54 31.1
comp=Z,31nm,1.2s
BRLDA **Berland Lookou** 44.65 303 IAmb IAmb 09 54 31.0
comp=Z,63nm,1.8s
BMAR **Burnt Mountain** 44.71 330 P **P** 09 54 20.0 -0.3
LCAR **Lake Charles** 44.74 266 P **P** 09 54 21.2 +0.4
LCAR IAmb IAmb 09 54 28.6
comp=Z,56nm,1.9s

F25K **Christian Rive** 44.86 330 P **P** 09 54 21.9 +0.4
baz=42
I28M **Miner Creek** 44.89 326 IAmb IAmb 09 54 26.8
comp=Z,17nm,1.1s
I28M **Miner Creek** 44.89 326 P **P** 09 54 22.8 +1.0
baz=44
SVE **Sverdlovsk** 44.97 51 *e*P **P** 09 54 22.5 +0.1
SVE *e*S **S** 10 01 04.5 +4.9
SVE pmax pmax
comp=Z,40nm,1.6s
WTLY **Watson Lake, Y** 45.04 315 P **P** 09 54 25.1 +2.1
baz=46
J29N **Klondike Camp** 45.10 324 P **P** 09 54 25.3 +1.9
baz=44
FARO **Faro, Yukon** 45.14 320 IAmb IAmb 09 54 30.4
comp=Z,30nm,1.2s
FARO **Faro, Yukon** 45.14 320 P **P** 09 54 25.4 +1.6
baz=45
KSU1 **Kansas State U** 45.25 274 IAmb IAmb 09 54 35.9
comp=Z,24nm,0.9s
K29M **Barlow Dome** 45.33 323 IAmb IAmb 09 54 31.2
comp=Z,21nm,1.4s
K29M **Barlow Dome** 45.33 323 P **P** 09 54 27.3 +1.9
baz=44
RSSD **Black Hills** 45.34 284 P **P** 09 54 29.8 +4.0
EGMT **Eagleton** 45.36 292 P **P** 09 54 27.3 +1.5
baz=45,SNR=16
B21K **Ikpikpuk River** 45.37 336 P **P** 09 54 27.0 +1.5
baz=37
F24K **Squaw Lake** 45.48 331 IAmb IAmb 09 54 32.4
comp=Z,19nm,1.1s
M31M **Drury Creek, Y** 45.51 320 IAmb IAmb 09 54 34.8
comp=Z,49nm,1.8s
D22K **Ayikyak River** 45.55 334 IAmb IAmb 09 54 29.4
comp=Z,49nm,1.9s
D22K **Ayikyak River** 45.55 334 P **P** 09 54 28.2 +1.4
baz=38
DAWY **Dawson** 45.74 324 P **P** 09 54 29.3 +0.8
DAWY IAmb IAmb 09 54 34.3
comp=Z,30nm,1.2s
DAWY **Dawson** 45.74 324 P **P** 09 54 30.2 +1.7
baz=43
C21K **Knifeblade Rid** 45.78 335 P **P** 09 54 30.4 +1.7
baz=37
KIV **Kislovodsk** 45.81 75 *e*P **P** 09 54 29.7 +0.4
KIV *e* 09 56 17.2
KIV *e*S **S** 10 01 13.9 +1.7
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,1µm,16.0s
KVAR **Kislovodsk Arr** 45.81 75 P **P** 09 54 30.5 +1.1
comp=Z,9.3nm,1.1s,baz=323,slow=10,SNR=4.4
KVAR LR LR 10 11 35.3
comp=Z,922nm,21.9s,baz=313,slow=33
WHAR **Wooly Hollow** 45.93 267 IAmb IAmb 09 54 40.6
comp=Z,40nm,1.2s
M30M **Minto, Yukon** 46.02 322 P **P** 09 54 32.7 +2.0
baz=44
KBZ **Khabaz** 46.08 75 *ce*P **P** 09 54 31.6 +0.3
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ **Khabaz** 46.08 75 P **P** 09 54 31.8 +0.5
comp=Z,6.3nm,0.9s,baz=307,slow=7.4,SNR=9.8
KBZ LR LR 10 14 40.2
comp=Z,2µm,18.3s,baz=322,slow=37
comp=Z,6.3nm,0.9s
BNN **Bunyan** 46.10 85 P **P** 09 54 29.4 -2.4
U38A **Gravette** 46.12 270 P **P** 09 54 31.9 +0.1
U38A IAmb IAmb 09 54 43.5
comp=Z,31nm,1.4s
A19K **Wainwright** 46.18 339 P **P** 09 54 32.6 +0.8
baz=33
R33M **Jennings River** 46.33 316 IAmb IAmb 09 54 40.1
comp=Z,24nm,1.2s
F22K **John River** 46.52 333 P **P** 09 54 36.2 +1.6
baz=37
D20K **Etivluk River** 46.53 336 P **P** 09 54 35.9 +1.3
baz=35
NCK **Nalchik** 46.59 75 *i* P **P** 09 54 36.9 +1.5
NCK pmax pmax
comp=Z,13nm,0.7s
G23K **Bananza Creek** 46.63 331 IAmb IAmb 09 54 41.4
comp=Z,26nm,1.2s
M29M **Somme Creek** 46.64 322 IAmb IAmb 09 54 42.4
comp=Z,21nm,1.0s
M29M **Somme Creek** 46.64 322 P **P** 09 54 38.4 +2.7
baz=42
DLBC **Dease Lake** 46.67 314 P P 09 54 41.4 +5.4
comp=Z,4.0nm,1.0s,baz=11,slow=10,SNR=4.3
DLBC LR LR 10 13 43.2
comp=Z,3µm,18.4s,baz=42,slow=35
E20K **Nigu River** 46.82 335 P **P** 09 54 38.0 +1.1
baz=35
C19K **Lookout Ridge** 46.82 337 P **P** 09 54 38.4 +1.5
baz=34
X40A **Basin Creek Fa** 46.83 267 IAmb IAmb 09 54 46.5
comp=Z,13nm,1.0s
B18K **Kokolik River** 47.03 338 P **P** 09 54 40.2 +1.7
baz=32
D19K **Kuna River** 47.03 336 IAmb IAmb 09 54 52.0
comp=Z,27nm,1.4s
F21K **Alatna River** 47.05 333 P **P** 09 54 40.1 +1.3
baz=36
O30N **Mendenhall** 47.11 320 P **P** 09 54 41.3 +2.0
baz=43
BCAR **Beaver Creek A** 47.20 325 P **P** 09 54 40.5 +0.5
RLMT **Red Lodge** 47.20 289 P **P** 09 54 41.7 +1.3
baz=43,SNR=11
TUL3 **Leonard** 47.25 270 IAmb IAmb 09 54 50.2
comp=Z,26nm,1.2s
KAN09 **Caldwell North** 47.26 273 IAmb IAmb 09 54 51.3
comp=Z,26nm,1.2s
ZEI **Tsey** 47.27 75 *e*P **P** 09 54 39.8 -1.1
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ILAR **Eielson Array** 47.34 328 P **P** 09 54 41.7 +0.7
comp=Z,5.2nm,0.9s,baz=26,slow=8.8,SNR=10
ILAR PcP **PcP** 09 56 10.1 -1.3
comp=Z,1.3nm,0.9s,baz=9.7,slow=2.6,SNR=1.7
ILAR LR LR 10 15 16.4
comp=Z,1µm,18.5s,baz=37,slow=37
comp=Z,5.2nm,0.9s
C18K **Utukok River** 47.52 338 IAmb IAmb 09 54 44.8
comp=Z,44nm,1.8s
C18K **Utukok River** 47.52 338 P **P** 09 54 42.9 +0.5
baz=32
HYT **Haines Junctio** 47.54 320 IAmb IAmb 09 54 49.3
comp=Z,26nm,1.2s
E19K **Redstone River** 47.70 335 P **P** 09 54 45.2 +1.5
baz=34
I23K **Minto, Yukon-K** 47.70 330 IAmb IAmb 09 54 47.7
comp=Z,38nm,1.6s
F20K **Avaraart Lake** 47.71 334 P **P** 09 54 46.1 +2.4
baz=35
YUK3 **Moose Creek** 47.77 323 P **P** 09 54 46.9 +2.3
baz=41
BOZ **Bozeman (W)** 48.00 291 P **P** 09 54 47.8 +1.3
baz=43,SNR=16
AKH **Akhalkalaki** 48.08 77 P **P** 09 54 48.8 +1.6
BRIGG **Briggsdale** 48.08 281 P **P** 09 54 46.3 -0.9
IMAR **Indian Mountai** 48.12 332 P **P** 09 54 45.4 -1.6
H21K **Melozitna Rive** 48.16 332 P **P** 09 54 50.1 +2.7
MSO **Missoula** 48.20 294 IAmb IAmb 09 55 31.1
comp=Z,30nm,1.9s
SJG **San Juan** 48.25 227 LR LR 10 11 16.7
comp=Z,435nm,21.7s,baz=44,slow=31
O29M **Mount Kennedy** 48.28 321 P **P** 09 54 51.8 +3.3
baz=41
TRLG **Trialeti** 48.29 76 P **P** 09 54 48.4 -0.4
YHL **Hebgen Lake** 48.33 290 IAmb IAmb 09 54 56.1
comp=Z,12nm,1.0s
RDOG **Red Dog Mine** 48.36 338 P **P** 09 54 49.5 +0.7
baz=31,SNR=6.8
H17A **Grant Village** 48.37 289 IAmb IAmb 09 55 03.5
comp=Z,23nm,1.1s
H17A **Grant Village** 48.37 289 P **P** 09 54 52.5 +3.0
baz=43,SNR=12
AKTO **Aktyubinsk** 48.38 59 P **P** 09 54 48.1 -1.1
comp=Z,54nm,0.7s,baz=322,slow=6.2,SNR=103
AKTO LR LR 10 15 00.7
comp=Z,1µm,19.8s,baz=332,slow=36
comp=Z,54nm,0.7s
E18K **Tukpahlearik C** 48.44 337 IAmb IAmb 09 55 03.4
comp=Z,14nm,1.1s
E18K **Tukpahlearik C** 48.44 337 P **P** 09 54 49.4 -0.1
baz=32

YFT **Old Faithful** 48.45 290 IAmb IAmb 09 54 58.9
comp=Z,17nm,1.1s
C16K **Lisburne Hills** 48.63 339 P **P** 09 54 51.6 +0.7
baz=29,SNR=7.9
NEW **Newport** 48.64 297 P **P** 09 54 52.2 +0.9
NEW **Newport** 48.64 297 LR LR 10 14 43.0
comp=Z,8µm,19.0s,baz=44,slow=35
D17K **Noatak River** 48.70 338 P **P** 09 54 52.3 +0.9
baz=31
TIXI **Tiksi** 48.76 8 P **P** 09 54 52.3 +0.5
TIXI IAmb IAmb 09 54 57.2
comp=Z,19nm,0.9s
TIXI **Tiksi** 48.76 8 *ce*P **P** 09 54 52.5 +0.7
TIXI pmax pmax
comp=Z,60nm,2.5s
TIXI **Tiksi** 48.76 8 LR LR 10 13 52.5
comp=Z,15nm,20.7s,baz=16,slow=34
G19K **Purcell Mounta** 48.77 334 IAmb IAmb 09 55 05.9
comp=Z,22nm,1.1s
H20K **Anotleneega Mo** 48.80 333 P **P** 09 54 53.8 +1.6
baz=35
IMW **Indian Meadow** 48.91 289 IAmb IAmb 09 55 06.9
comp=Z,14nm,1.2s
MAK **Makhachkala** 48.92 73 *e*P P 09 54 48.5 -4.9
MAK *e* 09 56 44.2
MAK *e*PPP PPP 09 57 35.1
MAK *e*S **S** 10 01 50.4 -5.9
MAK *e*SS **SS** 10 05 23.3 -3.2
MAK *e*SSS SSS 10 06 40.2
MAK pmax pmax
comp=Z,201nm,1.2s
MAK MLR MLR
comp=Z,2µm,16.0s
LOHW **Long Hollow** 48.96 289 IAmb IAmb 09 55 00.7
comp=Z,31nm,1.8s
E17K **Hotham Inlet** 48.98 337 P **P** 09 54 54.4 +0.8
baz=31,SNR=7.3
BW06 **Boulder Array** 49.07 287 P **P** 09 54 55.0 +0.1
baz=42
PD31 **Pinedale Array** 49.07 287 P **P** 09 54 52.7 -2.2
PDAR **Pinedale Array** 49.07 287 P **P** 09 54 53.1 -1.8
PDAR **Pinedale Array** 49.07 287 P **P** 09 54 54.0 -1.0
comp=Z,2.1nm,0.8s,baz=64,slow=6.3,SNR=14
PDAR PP **PP** 09 56 48.8 +0.6
comp=Z,3.3nm,1.1s,baz=47,slow=6.9,SNR=4.8
PDAR LR LR 10 14 39.1
comp=Z,3µm,19.4s,baz=27,slow=35
comp=Z,2.1nm,0.8s
ISCO **Idaho Springs** 49.32 282 IAmb IAmb 09 55 07.4
comp=Z,16nm,1.2s
ISCO **Idaho Springs** 49.32 282 P **P** 09 54 58.3 +1.3
baz=41
WAT1 **Susitna Watana** 49.33 328 P **P** 09 54 59.1 +2.7
baz=37
C09A **Chrisman Ranch** 49.50 298 IAmb IAmb 09 55 08.2
comp=Z,16nm,1.0s
GNI **Garni** 49.65 77 P **P** 09 54 58.7 -0.6
GNI **Garni** 49.65 77 *i* P **P** 09 54 59.8 +0.5
GNI pmax pmax
comp=Z,18nm,0.9s
GNI **Garni** 49.65 77 P **P** 09 54 58.9 -0.3
comp=Z,21nm,1.0s,baz=284,slow=4.2,SNR=7.6
GNI LR LR 10 15 55.8
comp=Z,982nm,21.4s,baz=324,slow=36
comp=Z,21nm,1.0s
WMOK **Wichita Mounta** 49.70 272 IAmb IAmb 09 55 09.0
comp=Z,29nm,1.4s
Q24A **Divide** 49.72 281 IAmb IAmb 09 55 12.6
comp=Z,51nm,1.9s
CAST **Castle Rocks** 49.80 330 IAmb IAmb 09 56 50.8
comp=Z,29nm,1.8s
CAST **Castle Rocks** 49.80 330 P **P** 09 55 02.5 +2.5
baz=35
H18K **Honhosa River** 49.89 334 IAmb IAmb 09 55 15.0
comp=Z,15nm,0.9s
H18K **Honhosa River** 49.89 334 P **P** 09 55 02.5 +2.0
baz=32
AB31 **Akbulak array** 50.09 59 *i* P **P** 09 55 01.2 -1.1
ABKAR **Akbulak array** 50.09 59 P **P** 09 55 01.3 -1.0
ABKAR **Akbulak array** 50.09 59 IAmb IAmb 09 55 06.8
comp=Z,34nm,0.8s
J19K **Poorman** 50.22 332 IAmb IAmb 09 55 06.6
comp=Z,41nm,1.5s
WTFS **Witchita Falls** 50.30 271 IAmb IAmb 09 55 14.5
comp=Z,46nm,1.4s
MMAI **Mount Meron Ar** 50.36 91 LR LR 10 18 59.1
comp=Z,912nm,19.0s,baz=293,slow=39
F10A **Beach Ranch, E** 50.37 295 P **P** 09 55 03.8 -0.8
F10A IAmb IAmb 09 55 14.8
comp=Z,20nm,1.1s
O20A **White River Ci** 50.39 284 IAmb IAmb 09 55 14.9
comp=Z,28nm,1.4s
RTBA **Rita Blanca** 50.42 277 IAmb IAmb 09 55 27.7
comp=Z,19nm,1.1s
PLID **Pearl Lake** 50.46 294 P **P** 09 55 04.0 -1.4
PLID IAmb IAmb 09 55 15.8
comp=Z,19nm,1.1s
BBB **Bella Bella** 50.52 308 LR LR 10 16 03.3
comp=Z,1µm,20.9s,baz=36,slow=36
G16K **Koyuk River** 50.55 336 P **P** 09 55 07.2 +1.6
baz=30
T25A **Trinidad** 50.74 278 IAmb IAmb 09 55 18.8
comp=Z,32nm,1.2s
F15K **North Star Dit** 50.75 337 IAmb IAmb 09 55 21.1
comp=Z,24nm,1.2s
SKT **Skwentna** 50.84 328 P **P** 09 55 08.5 +0.7
baz=35
HLID **Hailey** 50.84 291 P **P** 09 55 09.8 +1.6
baz=41,SNR=6.4
HWUT **Hardware Ranch** 50.93 288 IAmb IAmb 09 55 25.6
comp=Z,23nm,1.4s
J18K **Innoko River** 50.93 332 P **P** 09 55 08.4 -0.1
baz=33
SUA **Susitna One** 51.05 328 P **P** 09 55 10.0 +0.5
SUA **Susitna One** 51.05 328 P **P** 09 55 11.1 +1.6
baz=35
TTA **Tatalina** 51.21 331 IAmb IAmb 09 55 16.8
comp=Z,37nm,1.5s
TTA **Tatalina** 51.21 331 P **P** 09 55 11.5 +0.8
baz=33
TCUT **Toone Canyon** 51.22 287 IAmb IAmb 09 55 21.4
comp=Z,40nm,1.5s
MXC **Moxie City** 51.33 298 IAmb IAmb 09 55 49.8
comp=Z,48nm,1.9s
BSUT **Blindstream Ca** 51.34 286 IAmb IAmb 09 55 29.7
comp=Z,41nm,2.0s
S22A **4UR Ranch, Cre** 51.50 281 IAmb IAmb 09 55 24.1
comp=Z,27nm,1.5s
BRVK **Borovoye** 51.54 49 P **P** 09 55 12.1 -1.0
BRVK IAmb IAmb 09 55 14.8
comp=Z,46nm,1.5s
BRVK **Borovoye** 51.54 49 *ce*P **P** 09 55 13.5 +0.4
BRVK pmax pmax
comp=Z,40nm,1.7s
SPUT **South Promonto** 51.59 288 IAmb IAmb 09 55 24.2
comp=Z,23nm,1.3s
BVAR **Borovoye Array** 51.60 49 P **P** 09 55 12.8 -0.9
comp=Z,15nm,0.8s,baz=320,slow=7.6,SNR=35
BVAR LR LR 10 16 39.6
comp=Z,787nm,19.2s,baz=312,slow=36
comp=Z,15nm,0.8s
DKNS **Dickens** 51.65 273 IAmb IAmb 09 55 24.8
comp=Z,58nm,1.6s
P18A **Preston Nutter** 51.78 285 IAmb IAmb 09 55 25.9
comp=Z,22nm,1.3s
ASF **Jabal al Asfar** 51.80 90 P **P** 09 55 14.8 -0.6
comp=Z,7.0nm,0.8s,baz=245,slow=2.8,SNR=5.2
comp=Z,7.0nm,0.8s
ABTX **Abilene, Hawle** 51.80 271 IAmb IAmb 09 55 25.4
comp=Z,26nm,1.2s
TORD **Torodi Ar. Bea** 51.95 138 P **P** 09 55 13.1 -3.5
comp=Z,8.0nm,0.9s,baz=338,slow=9.0,SNR=14
TORD PcP **PcP** 09 56 29.2 +0.3
comp=Z,1.1nm,0.9s,baz=339,slow=7.4,SNR=1.0
TORD LR LR 10 15 23.9
comp=Z,585nm,21.4s,baz=350,slow=34
comp=Z,8.0nm,0.9s
HKT **Hockley** 51.97 266 P **P** 09 55 15.4 -1.1
HKT IAmb IAmb 09 55 27.1
comp=Z,31nm,1.3s
HKT **Hockley** 51.97 266 *i* P **P** 09 55 17.2 +0.7
HKT pmax pmax
comp=Z,35nm,1.6s
L18K **Granite Mounta** 51.98 331 P **P** 09 55 16.6 +0.3
L18K IAmb IAmb 09 55 21.8
comp=Z,18nm,0.9s
L18K **Granite Mounta** 51.98 331 P **P** 09 55 17.5 +1.2

baz=32
J16K Anvik River 52.00 334 P P 09 55 17.6 +1.2
baz=30
BGU Big Grassy Mou 52.16 288 P P 09 55 17.2 -0.9
MPU Maple Canyon 52.17 286 IAmb IAmb 09 55 28.8
comp=Z,27nm,1.3s
SRU San Rafael Swe 52.31 285 IAmb IAmb 09 55 29.7
comp=Z,38nm,1.7s
BILL Billbino 52.52 352 *i* **P P 09 55 20.2 0.0**
BILL pmax pmax
comp=Z,10.0nm,1.0s
BRDY Brady 52.53 269 IAmb IAmb 09 55 29.3
comp=Z,45nm,1.9s
DUG Dugway, Tooele 52.62 287 IAmb IAmb 09 55 32.5
comp=Z,35nm,1.8s
MVCO Mesa Verde 52.76 282 IAmb IAmb 09 55 36.1
comp=Z,57nm,1.9s
Q16A Castle Valley 52.78 285 IAmb IAmb 09 57 18.1
comp=Z,20nm,1.1s
ELK Elko 53.38 290 IAmb IAmb 09 55 38.2
comp=Z,44nm,1.8s
ELK Elko 53.38 290 P P 09 55 28.8 +1.5
ELK Elko 53.38 290 LR LR 10 17 38.3
comp=Z,2µm,18.1s,baz=38,slow=35
ANMO Albuquerque 53.48 278 P P 09 55 28.7 +0.7
ANMO Albuquerque 53.48 278 *i* **P P 09 55 28.3 +0.3**
ANMO pmax pmax
comp=Z,13nm,1.8s
ANMO Albuquerque 53.48 278 P P 09 55 29.6 +1.5
baz=38
ANMO Albuquerque 53.48 278 LR LR 10 17 00.9
comp=Z,2µm,20.9s,baz=134,slow=35
JCT Junction City 53.59 269 P P 09 55 26.8 -1.9
JCT IAmb IAmb 09 55 38.6
comp=Z,27nm,1.2s
JCT Junction City 53.59 269 P P 09 55 26.8 -1.9
JCT pmax pmax
comp=Z,27nm,1.3s
MVU Marysvale 53.62 286 P P 09 55 28.5 -0.5
H04A Detroit Lake 53.64 298 IAmb IAmb 09 55 34.6
comp=Z,26nm,1.3s
WVOR Wild Horse Val 53.71 293 IAmb IAmb 09 55 35.9
comp=Z,22nm,1.4s
WVOR Wild Horse Val 53.71 293 P P 09 55 29.8 +0.3
OZNA Ozona 53.92 271 IAmb IAmb 09 55 35.6
comp=Z,16nm,1.2s
J05D Fort Rock, OR 54.27 296 IAmb IAmb 09 55 45.3
comp=Z,26nm,1.1s
SPR3 Spring Creek 3 54.28 288 IAmb IAmb 09 55 40.6
comp=Z,31nm,1.6s
Q12A Willow Creek R 54.50 288 IAmb IAmb 09 56 07.0
comp=Z,26nm,1.4s
KDAK Kodiak Island 54.63 326 LR LR 10 19 54.5
comp=Z,1µm,18.3s,baz=61,slow=37
BRZS Berezniki 54.87 50 *eP* **P 09 55 37.7 0.0**
BRZS Berezniki 54.87 50 *eP* **P 09 55 37.7 0.0**
baz=50
PCRV Puerto La Cruz 55.02 222 LR LR 10 16 52.4
comp=Z,314nm,20.2s,slow=34
KNB Kanab 55.08 285 IAmb IAmb 09 55 49.7
comp=Z,21nm,1.3s
R11B Troy Canyon, C 55.41 288 P P 09 55 42.5 +0.6
baz=38,SNR=7.3
WUAZ Wupatki 55.53 283 IAmb IAmb 09 55 53.7
comp=Z,15nm,1.1s
WUAZ Wupatki 55.53 283 P P 09 55 43.8 +0.9
baz=38
ALPN Alpine 55.65 273 IAmb IAmb 09 55 53.5
comp=Z,27nm,1.3s
PRN Pahroc Range 55.88 287 IAmb IAmb 09 55 56.5
comp=Z,21nm,1.2s
DBIC Dimbokro 56.03 148 P P 09 55 43.2 -3.2
comp=Z,6.6nm,0.9s,baz=350,slow=6.1,SNR=2.5
DBIC LR LR 10 17 12.9
comp=Z,2µm,19.1s,baz=348,slow=33
comp=Z,6.6nm,0.9s
S11A Rachel 56.03 288 IAmb IAmb 09 55 57.0
comp=Z,34nm,1.2s
ZAA0 Zalesovo Array 56.07 40 P P 09 55 46.8 +0.6
ZALV Zalesovo Beam 56.07 40 P P 09 55 45.7 -0.6
ZALV Zalesovo Beam 56.07 40 *i* **P P 09 55 46.2 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 56.07 40 P P 09 55 44.8 -1.5
comp=Z,0.7nm,0.3s,baz=344,slow=9.0,SNR=5.5
ZALV PcP **PcP 09 56 43.8 -0.4**
comp=Z,4.5nm,0.9s,baz=338,slow=3.1,SNR=4.4
ZALV ScP **ScP 10 00 45.1 +2.8**
comp=Z,0.7nm,0.3s,baz=343,slow=4.6,SNR=3.9
ZALV LR LR 10 21 34.5
comp=Z,432nm,18.7s,baz=294,slow=38
comp=Z,0.7nm,0.3s
KVN Kaiserville 56.08 290 IAmb IAmb 09 55 52.3
comp=Z,26nm,1.2s
YBH Yreka Blue Hor 56.17 296 LR LR 10 19 33.7
comp=Z,5µm,18.0s,baz=20,slow=36
TEIG Tepich 56.19 252 LR LR 10 19 13.1
comp=Z,8µm,21.5s,baz=172,slow=35
MDP Montagnes des 56.41 206 LR LR 10 13 35.6
comp=Z,396nm,22.0s,baz=4.0,slow=29
TXAR Lajitas Array 56.50 272 P P 09 55 48.5 -1.3
comp=Z,0.9nm,0.8s,baz=46,slow=3.9,SNR=5.9
TXAR LR LR 10 19 27.8
comp=Z,1µm,19.0s,baz=38,slow=35
comp=Z,0.9nm,0.8s
KURK Kurchatov 56.56 46 P P 09 55 47.7 -2.0
KURK Kurchatov 56.56 46 *ce* **P P 09 55 49.5 -0.3**
KURK pmax pmax
comp=Z,44nm,1.3s
KURBB Kurchatov Arra 56.60 46 P P 09 55 48.3 -1.7
comp=Z,9.1nm,0.8s,baz=318,slow=6.7,SNR=26
KURBB PcP **PcP 09 56 46.0 -0.2**
comp=Z,2.6nm,0.9s,baz=320,slow=3.7,SNR=2.1
KURBB LR LR 10 19 48.4
comp=Z,762nm,19.2s,baz=279,slow=36
comp=Z,9.1nm,0.8s
NVAR Mina Array Bea 56.67 290 P P 09 55 51.7 +0.7
comp=Z,1.7nm,0.8s,baz=57,slow=6.6,SNR=9.4
NVAR PP **PP 09 57 58.8 +2.1**
comp=Z,2.3nm,1.1s,baz=42,slow=6.3,SNR=4.4
NVAR LR LR 10 19 34.1
comp=Z,2µm,19.5s,baz=34,slow=35
comp=Z,1.7nm,0.8s
YERR Yerington 56.68 291 IAmb IAmb 09 55 56.8
comp=Z,24nm,1.3s
PNTR Pine Nut 56.77 292 IAmb IAmb 09 56 01.8
comp=Z,10nm,0.8s
GMN Gold Mountain 57.05 289 IAmb IAmb 09 56 03.9
comp=Z,17nm,1.2s
WCT Wildcat Mounta 57.14 288 IAmb IAmb 09 56 03.8
comp=Z,18nm,1.4s
GRAC Grapevine Rang 57.34 288 P P 09 55 56.6 +1.0
baz=38
BAUV El Baul 57.37 225 P P 09 55 54.4 -1.5
SEM Semipalatinsk 57.41 45 *eP* **P 09 55 55.5 -0.6**
SEM Semipalatinsk 57.41 45 *eP* **P 09 55 55.5 -0.6**
baz=45
319A Douglas 57.75 278 IAmb IAmb 09 56 09.0
comp=Z,16nm,1.3s
TUC Tucson 57.77 280 P P 09 56 00.1 +1.4
GEYT Alibeck 57.96 69 IAmb IAmb 09 56 01.8
comp=Z,25nm,1.2s
GEYT Alibeck 57.96 69 P P 09 55 58.6 -1.3
comp=Z,11nm,1.1s,baz=303,slow=8.4,SNR=14
GEYT LR LR 10 21 42.5
comp=Z,678nm,21.3s,baz=342,slow=37
comp=Z,11nm,1.1s
GYA0 ALIBECK ARRAY 57.96 69 P P 09 55 59.3 -0.6
GYA0B ALIBECK ARRAY 57.96 69 IAmb IAmb 09 56 01.7
comp=Z,17nm,1.1s
MPMC Manual Prospec 58.14 288 P P 09 56 02.2 +0.8
baz=37
SEY Seymchan 58.25 358 *ce* **P P 09 56 02.7 +1.2**
SEY pmax pmax
comp=Z,16nm,1.7s
SEY Seymchan 58.25 358 P P 09 56 01.1 -0.4
comp=Z,3.0nm,0.9s,baz=176,slow=23,SNR=4.1
SEY LR LR 10 21 48.2
comp=Z,550nm,20.9s,baz=18,slow=37
comp=Z,3.0nm,0.9s
YAK Yakutsk 58.26 11 *eP* **P 09 56 01.0 -0.6**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 58.26 11 LR LR 10 19 12.5
comp=E,16nm,21.9s,baz=306,slow=34
SDV Santo Domingo 58.39 228 P P 09 55 59.6 -3.7
SDV IAmb IAmb 09 56 08.3
comp=Z,21nm,1.3s
SDV Santo Domingo 58.39 228 LR LR 10 19 17.4
comp=Z,97nm,21.8s,baz=46,slow=34
SDV Santo Domingo 58.39 228 *eP* **P 09 56 05.1 +1.8**
GSC Goldstone, Bar 58.41 287 IAmb IAmb 09 56 13.0
comp=Z,20nm,1.2s
ISA Isabella, Lake 58.94 288 IAmb IAmb 09 56 18.3
comp=Z,27nm,1.3s
SJCC San Jacinto, C 59.28 233 P P 09 56 08.8 -0.5
BBRC Big Bear Solar 59.29 286 P P 09 56 11.6 +2.1
baz=37
EDW2 Edwards Air Fo 59.33 287 P P 09 56 11.1 +1.6
baz=37
BTLS Baital 59.40 53 *eP* **P 09 56 09.8 +0.1**
BTLS pmax pmax
comp=Z,17nm,1.5s
BTLS Baital 59.40 53 *eP* **P 09 56 09.8 +0.1**
comp=Z,17nm,1.5s,baz=53
PFO Pinyon Flats O 59.58 285 P P 09 56 09.7 -1.7
PFO IAmb IAmb 09 56 32.2
comp=Z,32nm,1.4s
PFO Pinyon Flats O 59.58 285 P P 09 56 09.7 -1.7
PFO pmax pmax
comp=Z,32nm,1.5s
PFO Pinyon Flats O 59.58 285 P P 09 56 12.4 +1.0
baz=36
PFO Pinyon Flats O 59.58 285 LR LR 10 21 49.5
comp=Z,2µm,18.9s,baz=28,slow=36
PIX Pinacate 59.73 282 P P 09 56 13.2 +1.0
DZA Taraz 60.01 56 *eP* **P 09 56 14.2 +0.2**
DZA pmax pmax
comp=Z,10.0nm,1.1s
DZA Taraz 60.01 56 *eP* **P 09 56 14.2 +0.2**
comp=Z,10nm,1.1s,baz=56
60.50 278 P P 09 56 17.1 -0.4
HSIG IAmb IAmb 09 56 28.0
comp=Z,19nm,1.4s
DGZ Jazzator, Alta 60.53 41 *i* **P P 09 56 17.7 0.0**
DGZ pmax pmax
comp=Z,28nm,1.2s
SGDS Sogindy 60.94 53 *eP* **P 09 56 20.5 +0.1**
SGDS pmax pmax
comp=Z,19nm,1.8s
SGDS Sogindy 60.94 53 *eP* **P 09 56 20.5 +0.1**
comp=Z,19nm,1.8s,baz=53
MAKZ Makanchi 61.04 46 P P 09 56 19.1 -1.9
MAKZ Makanchi 61.04 46 P P 09 56 19.1 -1.9
MAKZ pmax pmax
comp=Z,38nm,1.5s
BOAV Boa Vista 61.05 214 *eP* **P 09 56 23.5 +2.1**
MK31 Makanchi Array 61.17 46 *ce* **P P 09 56 21.0 -0.9**
MKAR Makanchi Array 61.17 46 *ce* **P P 09 56 20.7 -1.2**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 61.17 46 P P 09 56 20.5 -1.4
comp=Z,9.4nm,0.8s,baz=325,slow=6.0,SNR=21
MKAR LR LR 10 23 05.6
comp=Z,515nm,19.2s,baz=322,slow=36
comp=Z,9.4nm,0.8s
TDK Taldyqorghan 61.18 50 *eP* **P 09 56 22.1 +0.1**
TDK pmax pmax
comp=Z,6.0nm,0.5s
TDK Taldyqorghan 61.18 50 *eP* **P 09 56 22.2 +0.1**
comp=Z,6.3nm,0.5s,baz=50
EKS2 Erkin-Say 61.23 54 P P 09 56 24.0 +1.4
SNR=12
KUU Kurty 61.27 52 *eP* **P 09 56 22.7 +0.1**
KUU pmax pmax
comp=Z,9.0nm,0.9s
KUU Kurty 61.27 52 *eP* **P 09 56 22.8 +0.1**
comp=Z,8.9nm,0.9s,baz=52
ZAIG Zacatecas 61.29 267 P P 09 56 21.5 -1.9
ZAIG IAmb IAmb 09 56 35.1
comp=Z,12nm,1.0s
AAK Ala-Archa 61.55 54 P P 09 56 25.9 +1.1
SNR=5.1
AAK Ala-Archa 61.55 54 P P 09 56 24.4 -0.3
AAK IAmb IAmb 09 56 27.2
comp=Z,34nm,1.6s
AAK Ala-Archa 61.55 54 *ce* **P P 09 56 25.7 +1.0**
AAK pmax pmax
comp=Z,27nm,2.0s
AAK Ala-Archa 61.55 54 LR LR 10 22 07.0
comp=Z,1µm,20.8s,baz=330,slow=35
ZSN Zaisan 61.55 44 *eP* **P 09 56 24.0 -0.4**
ZSN pmax pmax
comp=Z,10.0nm,1.5s
ZSN Zaisan 61.55 44 *eP* **P 09 56 24.1 -0.4**
comp=Z,9.6nm,1.5s,baz=44
CHKK Chushkaly 61.57 51 *eP* **P 09 56 24.2 -0.4**
CHKK Chushkaly 61.57 51 *eP* **P 09 56 24.3 -0.4**
baz=52
MCPB Macapa, AP 61.57 204 *eP* **P 09 56 24.6 -0.3**
AML Almayashu 61.63 55 P P 09 56 26.9 +1.4
SNR=10
MA2 Magadan 61.63 359 *i* **P P 09 56 25.2 +0.4**
MA2 pmax pmax
comp=Z,32nm,1.9s
MA2 Magadan 61.63 359 P P 09 56 24.4 -0.4
comp=Z,6.6nm,0.7s,baz=2.6,slow=14,SNR=2.4
MA2 LR LR 10 23 59.0
comp=Z,451nm,20.0s,baz=12,slow=37
comp=Z,6.6nm,0.7s
APG El Apazote 61.72 251 LR LR 10 23 11.3
comp=Z,44nm,20.0s,baz=72,slow=36
TKM2 Tokmak 2 61.77 53 P P 09 56 27.1 +0.8
SNR=7.6
UCH Ucor 61.90 54 P P 09 56 29.0 +1.6
SNR=9.2
ARSB Arslanbob 61.99 56 IAmb IAmb 09 56 33.1
comp=Z,22nm,1.9s
PTBC PUERTO BERRIO, 62.03 231 *eP* **P 09 56 27.2 -0.8**
AAA Alma-Ata 62.08 52 *eP* **P 09 56 28.2 +0.1**
AAA Alma-Ata 62.08 52 *eP* **P 09 56 28.2 +0.1**
baz=52
CMIG Matias Romero 62.12 256 LR LR 10 25 23.4
comp=Z,450nm,18.0s,baz=21,slow=38
MDOK Medeo 62.17 52 *eP* **P 09 56 28.8 0.0**
MDOK Medeo 62.17 52 *eP* **P 09 56 28.8 0.0**
baz=52
TNSS Tian-Shan 62.23 52 *eP* **P 09 56 30.0 +0.4**
TNSS Tian-Shan 62.23 52 *eP* **P 09 56 30.1 +0.4**
baz=52
DBBC Dabeiba 62.30 233 *eP* **P 09 56 33.0 +3.1**
SIMJ Simiganj 62.44 60 P P 09 56 28.2 -2.6
SIMJ IAmb IAmb 09 56 32.4
comp=Z,28nm,1.6s
KPKS Kokpek 62.57 51 *eP* **P 09 56 31.6 +0.1**
KPKS pmax pmax
comp=Z,9.0nm,1.4s
KPKS Kokpek 62.57 51 *eP* **P 09 56 31.6 +0.1**
comp=Z,9.3nm,1.4s,baz=51
ZHN Zhinishke 62.72 51 *eP* **P 09 56 32.4 -0.1**
ZHN Zhinishke 62.72 51 *eP* **P 09 56 32.4 -0.1**
baz=51
HRA Herat 62.78 68 IAmb IAmb 09 56 34.8
comp=Z,18nm,1.3s
SATY Saty 62.80 51 *eP* **P 09 56 33.0 0.0**
SATY pmax pmax
comp=Z,5.0nm,0.9s
SATY Saty 62.80 51 *eP* **P 09 56 33.1 0.0**
comp=Z,5.2nm,0.9s,baz=51
MOY Mondy 62.92 31 *eP* **P 09 56 32.0 -1.7**
MOY pmax pmax
comp=Z,69nm,3.8s
UZB Uzynbulak 62.97 51 *eP* **P 09 56 34.2 0.0**
UZB pmax pmax
comp=Z,7.0nm,1.5s
UZB Uzynbulak 62.97 51 *eP* **P 09 56 34.2 0.0**
comp=Z,7.4nm,1.5s,baz=51
SHLS Shalkode 63.14 50 *eP* **P 09 56 36.5 +1.2**
SHLS Shalkode 63.14 50 *eP* **P 09 56 36.5 +1.2**
baz=50
JTS Las Juntas de 63.20 243 LR LR 10 21 02.1
comp=Z,535nm,21.3s,baz=338,slow=33
CBOC Ciudad Bolivar 63.27 232 *eP* **P 09 56 36.2 -0.2**
MALB Monte Alegre 63.50 206 *eP* **P 09 56 38.6 +0.9**
ROSC El Rosal 63.52 230 P P 09 56 37.5 -0.9
comp=Z,6.5nm,0.4s,baz=22,slow=19,SNR=2.3
comp=Z,6.5nm,0.4s
GUY2C Guyana, Caldas 63.59 231 *eP* **P 09 56 38.5 -0.4**
LPIG La Paz 64.18 274 LR LR 10 24 07.4
comp=Z,854nm,19.2s,baz=32,slow=36
PLMC San Jos del P 64.25 232 *eP* **P 09 56 41.9 -0.9**
ZAK Zakamensk 64.69 30 *eP* **P 09 56 43.6 -1.8**
ZAK pmax pmax
comp=Z,13nm,1.3s
KSH Kashi 64.77 55 P P 09 56 47.4 +1.4
KSH SS SS 10 09 37.9 +1.8
KSH pmax pmax
comp=Z,25nm,1.9s
KSH pmax pmax
comp=Z,510nm,6.4s
KSH LR LR
comp=Z,1µm,19.5s
KSH LR LR
comp=Z,980nm,18.0s
KSH LR LR
comp=Z,2µm,19.9s
PRAC Prado 64.77 230 *eP* **P 09 56 44.6 -1.6**
RCBR Riachuelo 64.86 185 LR LR 10 17 33.0
comp=Z,264nm,21.9s,baz=34,slow=29
WMQ Urumqi 65.69 44 *eP* **P 09 56 52.8 +0.9**
WMQ PcP **PcP 09 57 27.9 +4.8**
WMQ pmax pmax
comp=Z,30nm,1.7s
WMQ pmax pmax
comp=Z,390nm,3.7s
WMQ LR LR
comp=Z,1µm,11.3s
WMQ LR LR
comp=Z,760nm,16.3s
WMQ LR LR
comp=Z,440nm,22.7s
KBL Kabul 65.85 63 P P 09 56 51.4 -1.9
KBL Kabul 65.85 63 P P 09 56 51.4 -1.9
KBL pmax pmax
comp=Z,40nm,1.7s
ZEA Zeya 66.14 14 *eP* **P 09 56 56.0 +1.5**
ITTB Itaituba 66.27 207 *eP* **P 09 56 55.7 -0.1**
SONM Songino Array 67.84 29 P P 09 57 04.2 -1.4
SONM Songino Array 67.84 29 P P 09 57 04.2 -1.4
comp=Z,12nm,1.2s,baz=320,slow=3.9,SNR=29
SONM PP **PP 09 59 38.8 +4.2**
comp=Z,0.3nm,0.3s,baz=315,slow=4.4,SNR=4.4
SONM LR LR 10 27 50.3
comp=Z,599nm,21.5s,baz=332,slow=37
comp=Z,12nm,1.2s
PETK Petropavlovsk- 67.91 354 P P 09 57 03.9 -1.8
comp=Z,6.5nm,1.0s,baz=123,slow=27,SNR=1.7
PETK LR LR 10 28 57.9
comp=Z,680nm,19.2s,baz=16,slow=38
comp=Z,6.5nm,1.0s
ULN Ulaanbaatar 67.98 29 P P 09 57 05.5 -0.9
ULN Ulaanbaatar 67.98 29 *i* **P P 09 57 06.6 +0.1**
ULN pmax pmax
comp=Z,56nm,1.6s
ULN Ulaanbaatar 67.98 29 P P 09 57 05.6 -0.9
comp=Z,131nm,1.7s,comp=Z,3µm
H10N2 ASCENSION HYDR 68.04 162 T T 11 10 42.1
baz=350,slow=75,SNR=21
H10N3 ASCENSION HYDR 68.05 162 T T 11 10 41.5
baz=350,slow=75,SNR=20
H10N1 ASCENSION HYDR 68.06 162 T T 11 10 43.7
baz=350,slow=75,SNR=21
NIL Nilore 68.50 60 P P 09 57 08.3 -1.6
NIL Nilore 68.50 60 P P 09 57 08.3 -1.6
NIL pmax pmax
comp=Z,37nm,1.4s
TULM Tulcn-Chalpat 68.66 231 P P 09 57 10.7 -0.8
NPGB Novo Progresso 68.77 206 *eP* **P 09 57 11.3 -0.3**
H10S3 ASCENSION HYDR 69.11 163 T T 11 12 06.1
baz=229,slow=74,SNR=55
H10S2 ASCENSION HYDR 69.12 163 T T 11 12 01.5
baz=351,slow=74,SNR=26
HIA Hailar 69.36 20 *i* **P P 09 57 15.2 +0.3**
HIA pmax pmax
comp=Z,9.0nm,1.1s
OTAV Otavalo 69.36 232 P P 09 57 14.9 -0.9
OTAV IAmb IAmb 09 57 21.4
comp=Z,23nm,1.4s
OTAV Otavalo 69.36 232 P P 09 57 14.9 -0.9
OTAV pmax pmax
comp=Z,23nm,1.5s
OTAV Otavalo 69.36 232 *eP* **P 09 57 16.4 +0.5**
HEH HeiHe 69.58 15 *eP* **P 09 57 15.7 -0.5**
HEH pmax pmax
comp=Z,13nm,1.2s
WSAR Wadi Sarin 70.19 78 LR LR 10 32 21.5
comp=Z,322nm,19.6s,baz=1.0,slow=40
TBTG Tabatinga, AM 70.23 222 *eP* **P 09 57 20.4 -0.2**
KLR Kul'dur 71.09 12 *i* **P P 09 57 25.8 +0.3**
KLR pmax pmax
comp=Z,16nm,2.1s
KLR Kul'dur 71.09 12 LR LR 10 27 11.5
comp=Z,181nm,21.1s,baz=5.0,slow=35
ATD Arta Tunnel 71.91 98 LR LR 10 32 09.5
comp=Z,12nm,19.1s,baz=356,slow=38
SDBA SAO DESIDERIO 72.17 194 *eP* **P 09 57 32.1 -0.2**
CLDB Colider 72.58 206 *eP* **P 09 57 36.5 +1.8**
SAML Samuel 72.60 213 P P 09 57 33.0 -1.9
SAML Samuel 72.60 213 P P 09 57 33.0 -1.9
SAML pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 73.71 38 *eP* **P 09 57 40.6 -0.9**
GTA pmax pmax
comp=Z,15nm,1.4s
GTA LR LR
comp=Z,400nm,15.6s
GTA LR LR
comp=Z,220nm,14.5s
GTA LR LR
comp=Z,540nm,16.7s
XLT XiLinHaoTe 73.81 24 *eP* **P 09 57 41.3 -0.6**
XLT pP pP 09 57 46.9 -0.1
XLT sP sP 09 57 48.4 -0.4
XLT PcP **PcP 09 57 58.6 +1.2**
XLT PP **PP 10 00 27.7 +1.9**
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,320nm,5.4s
BNX BinXian 74.00 16 ⇓ P **P 09 57 44.2 +1.3**
BNX pmax pmax
comp=Z,10.0nm,0.9s
BNX pmax pmax
comp=Z,280nm,3.0s
YSS Yuzh-Sakhalins 74.17 4 *eP* **P 09 57 44.1 +0.3**
YSS pmax pmax
comp=Z,30nm,1.3s
CZSB Cruzeiro do Su 74.50 223 IAmb IAmb 09 57 46.6
comp=Z,19nm,1.0s
CZSB Cruzeiro do Su 74.50 223 *eP* **P 09 57 46.5 +0.4**
GOMU GeErMu 74.96 43 P P 09 57 49.0 -0.1
GOMU pP pP 09 57 53.3 -0.9
GOMU sP sP 09 57 57.3 +1.3
GOMU pmax pmax
comp=Z,13nm,1.0s
GOMU LR LR
comp=Z,690nm,20.4s
GOMU LR LR
comp=Z,370nm,18.0s
GOMU LR LR
comp=Z,950nm,18.7s
LODK Lodwar 75.10 109 P P 09 57 49.0 -0.7
LODK IAmb IAmb 09 57 52.2
comp=Z,49nm,1.8s
BTO Baotou 75.52 30 *eP* **P 09 57 49.6 -2.3**
BTO pP **sP 09 58 00.0 +1.2**
BTO sP **PcP 09 58 04.0 -0.9**
BTO PP **PP 10 00 39.9 -0.5**
BTO S **S 10 07 25.8 -5.7**
BTO sS **sS 10 07 41.8 +2.0**
BTO pmax pmax
comp=Z,51nm,1.2s
BTO pmax pmax
comp=Z,730nm,4.8s
BTO LR LR
comp=Z,560nm,14.9s
BTO LR LR
comp=Z,770nm,17.5s
BTO LR LR
comp=Z,970nm,24.7s
CN2 Changchun 75.61 17 *eP* **P 09 57 47.8 -4.4**
VILB Vilhena 75.63 209 *eP* **P 09 57 53.2 +0.7**
HHC Hu-ho-hao-te 75.67 28 ⇑ P **P 09 57 53.0 +0.2**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax

comp=Z,510nm,4.8s
HHC LR LR
comp=Z,540nm,17.9s
HHC LR LR
comp=Z,470nm,14.6s
HHC LR LR
comp=Z,710nm,18.8s
BDFB Brasilia 75.78 197 P **P** **09 57 51.6 -1.8**
BDFB IAmb IAmb 09 57 58.1
comp=Z,27nm,1.5s
BDFB Brasilia 75.78 197 P **P** **09 57 52.1 -1.4**
comp=Z,6.0nm,0.9s,baz=4.8,slow=8.8,SNR=6.6
BDFB LR LR 10 26 24.4
comp=Z,283nm,19.2s,baz=33,slow=32
comp=Z,6.0nm,0.9s
ATAH Atahualpa 76.06 229 LR LR 10 29 28.7
comp=Z,419nm,22.0s,baz=3.1,slow=34
MBAR Mbarara 76.40 115 P **P** **09 57 56.8 -0.4**
MBAR Mbarara 76.40 115 *i* P **P** **09 57 57.7 +0.4**
MBAR pmax pmax
comp=Z,6.0nm,0.9s
SALV Santo Antonio 77.42 204 *e*P **P** **09 58 02.2 -0.5**
BJI Beijing 77.52 25 P **P** **09 58 02.9 -0.1**
BJI pmax pmax
comp=Z,100nm,5.7s
BJI LR LR
comp=Z,210nm,15.7s
BJI LR LR
comp=Z,210nm,17.8s
BJI LR LR
comp=Z,310nm,20.3s
PTLB Pontes e Lacer 77.77 208 P **P** **09 58 03.3 -1.2**
PTLB IAmb IAmb 09 58 09.7
comp=Z,18nm,1.5s
PTLB Pontes e Lacer 77.77 208 *e*P **P** **09 58 06.0 +1.5**
DIAM Diamantina, MG 77.83 192 *e*P **P** **09 58 05.8 +0.8**
SJMB Sao Joao De Ma 77.99 190 *e*P **P** **09 58 04.0 -1.7**
LZH Lanzhou 78.02 36 *e*P **P** **09 58 05.6 -0.5**
LZH pP pP 09 58 10.9 -0.3
LZH pmax pmax
comp=Z,29nm,1.4s
LZH LR LR
comp=Z,510nm,19.9s
LZH LR LR
comp=Z,510nm,21.0s
LZH LR LR
comp=Z,470nm,20.6s
IPMB Ipameri, GO 78.11 197 *e*P **P** **09 58 07.4 +0.9**
PMNB Patos De Minas 78.40 195 *e*P **P** **09 58 10.2 +2.1**
SIV San Ignacio 78.75 209 LR LR 10 28 44.0
comp=Z,614nm,20.0s,baz=64,slow=32
PP1B Ponte de Pedra 78.91 203 *e*P **P** **09 58 12.2 +1.3**
HNS HongShan 79.71 27 ⇓P **P** **09 58 16.1 +1.0**
HNS S **S** **10 08 16.2 -0.4**
HNS pmax pmax
comp=Z,26nm,1.7s
HNS LR LR
comp=Z,330nm,16.7s
HNS LR LR
comp=Z,550nm,17.5s
HNS LR LR
comp=Z,460nm,18.6s
BBSD Serra de San D 79.80 209 *e*P **P** **09 58 16.7 +1.0**
NNA Nana 79.92 225 LR LR 10 33 22.0
comp=Z,160nm,19.4s,baz=344,slow=36
KMBO Kilima Mbogo 79.97 109 LR LR 10 36 36.3
comp=Z,589nm,18.1s,baz=278,slow=38
ITRB Iturama 80.13 198 *e*P **P** **09 58 17.2 -0.2**
RVDE Rio Verde (Bra 80.31 203 *e*P **P** **09 58 18.9 +0.5**
BSCB Bom Sucesso 80.62 193 *e*P **P** **09 58 20.9 +0.8**
XAN Xi'an 81.40 33 P **P** **09 58 23.8 -0.6**
XAN pP sP 09 58 32.7 +1.3
XAN pmax pmax
comp=Z,16nm,1.3s
KIBK Kibwezi 81.41 109 P **P** **09 58 26.3 +1.7**
AQDB Aquidauana 81.86 203 P **P** **09 58 26.4 -0.3**
AQDB IAmb IAmb 09 58 31.8
comp=Z,24nm,1.3s
AQDB Aquidauana 81.86 203 *e*P **P** **09 58 27.2 +0.6**
LYN LuoYang 81.87 30 *e*P **P** **09 58 26.7 -0.1**
LYN pmax pmax
comp=Z,18nm,0.6s
BDQN Bodoquena, MS 82.06 204 *e*P **P** **09 58 29.1 +1.5**
KSRS Korea Array 82.20 17 P **P** **09 58 28.6 +0.2**
comp=Z,5.1nm,1.1s,baz=342,slow=6.4,SNR=5.3
comp=Z,5.1nm,1.1s
KSAR Wonju Array Be 82.21 17 P **P** **09 58 28.0 -0.5**
KSAR Wonju Array Be 82.21 17 P **P** **09 58 28.0 -0.5**
PB18 Visviri 82.65 217 P **P** **09 58 30.8 -0.7**
PB18 IAmb IAmb 09 59 32.3
comp=Z,20nm,1.2s
CD2 Chengdu 82.78 38 P **P** **09 58 31.2 -0.5**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,360nm,19.6s
MJAR Matsushiro Arr 84.27 9 P **P** **09 58 38.8 -0.4**
comp=Z,5.5nm,1.1s,baz=348,slow=5.9,SNR=5.4
comp=Z,5.5nm,1.1s
HYB Hyderabad 84.84 65 *e*P **P** **09 58 42.2 -0.2**
PB08 IPOC Station P 84.95 216 IAmb IAmb 09 58 58.7
comp=Z,12nm,1.0s
PTGB Pitanga 85.32 199 *e*P **P** **09 58 44.8 +0.4**
NJ2 Nanjing 85.78 25 *e*P **P** **09 58 46.6 -0.2**
NJ2 pP **PcP** **09 58 50.2 +0.6**
NJ2 sP **sP** **09 58 57.7 +3.9**
NJ2 pmax pmax
comp=Z,16nm,0.7s
NJ2 pmax pmax
comp=Z,430nm,4.2s
WHN Wuhan 86.16 29 P **P** **09 58 48.3 -0.4**
PZH PanZhiHua 86.19 41 P **P** **09 58 47.6 -1.5**
PZH S **SKSac** **10 09 18.3 +3.8**
PZH pmax pmax
comp=Z,20nm,1.6s
PZH pmax pmax
comp=Z,350nm,6.3s
PZH LR LR
comp=Z,290nm,16.2s
PZH LR LR
comp=Z,290nm,17.7s
PZH LR LR
comp=Z,360nm,17.6s
TNCH TengChong 86.41 45 P **P** **09 58 50.0 -0.3**
TNCH pP PcP 09 58 53.3 +0.5
TNCH pmax pmax
comp=Z,350nm,5.1s
FRBT Francisco Belt 86.72 200 *e*P **P** **09 58 52.9 +1.6**
LVC Limon Verde 87.21 215 P **P** **09 58 55.8 +1.7**
LVC Limon Verde 87.21 215 LR LR 10 34 36.9
comp=Z,188nm,20.5s,baz=350,slow=33
TSUM Tsumeb 87.58 135 LR LR 10 38 48.6
comp=Z,589nm,19.1s,baz=329,slow=36
GYA Guiyang 87.84 37 P **P** **09 58 57.4 +0.3**
GYA pmax pmax
comp=Z,21nm,1.2s
CPUP Villa Florida 87.88 203 P **P** **09 58 57.0 +0.2**
comp=Z,1.7nm,0.8s,baz=18,slow=8.9,SNR=2.9
CPUP LR LR 10 33 28.6
comp=Z,208nm,21.0s,baz=7.5,slow=32
comp=Z,1.7nm,0.8s
CNSH ChangSha 88.03 31 ⇓P **P** **09 58 57.8 0.0**
CNSH pmax pmax
comp=Z,35nm,1.3s
LSZ Lusaka 88.25 124 LR LR 10 40 26.3
comp=Z,2μm,19.2s,baz=334,slow=37
MND Mandalay 88.26 48 IAmb IAmb 09 58 59.9
comp=Z,135nm,1.7s
CHTO Chiang Mai 92.25 47 P **P** **09 59 16.5 -1.1**
CHTO Chiang Mai 92.25 47 P **P** **09 59 16.7 -0.9**
CMAR Chiang Mai Arr 92.57 47 *ce*P **P** **09 59 19.0 -0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 92.57 47 P **P** **09 59 17.9 -1.2**
comp=Z,1.7nm,0.3s,baz=326,slow=5.4,SNR=13
comp=Z,1.7nm,0.3s
PALK Pallekele 94.68 68 LR LR 10 46 44.0
comp=Z,425nm,18.6s,baz=89,slow=38
CFA Coronel Fontan 95.53 211 LR LR 10 39 08.2
comp=Z,407nm,21.9s,baz=26,slow=33
QIZ Qiongzhong 95.79 37 P **P** **09 59 32.7 -1.2**
QIZ S **S** **10 10 50.3 -0.5**
QIZ LR LR
comp=Z,450nm,17.7s
QIZ LR LR
comp=Z,510nm,18.5s
QIZ LR LR
comp=Z,570nm,26.9s
LBTB Lobatse 95.90 130 LR LR 10 41 30.1
comp=Z,640nm,20.6s,baz=348,slow=35
BOSA Boshof 99.00 132 LR LR 10 44 06.0
comp=Z,608nm,18.7s,baz=356,slow=35
WRA Warramunga Arr 139.46 21 *c i* PKIKP **PKiKP** **10 05 37.9 +0.7**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 139.46 21 PKP **PKPdf** **10 05 33.6 -1.2**
comp=Z,2.3nm,1.1s,baz=340,slow=2.8,SNR=6.3
ASAR Alice Springs 143.00 23 **PKPdf** **10 05 38.2 -3.0**
ASAR Alice Springs 143.00 23 PKIKP **PKPdf** **10 05 38.2 -3.0**
ASAR Alice Springs 143.00 23 PKhKP PKPpre 10 05 36.9
comp=Z,2.6nm,0.9s,baz=343,slow=2.1,SNR=12
EIDS Eidsvold 146.24 357 **PKPdf** **10 05 45.9 -0.8**
NWAO Narrogin (SRO) 146.34 53 PKPbc **PKPbc** **10 05 48.0 +0.1**
comp=Z,14nm,0.8s,baz=287,slow=5.8,SNR=5.2
QSPA South Pole Qui 149.02 180 PKPbc **PKPbc** **10 05 53.3 -0.9**
comp=Z,3.4nm,0.8s,baz=224,slow=2.3,SNR=5.3
STKA Stephens Creek 152.30 14 PKPdf **PKPdf** **10 05 53.4 -2.8**
STKA Stephens Creek 152.30 14 PKIKP **PKPdf** **10 05 53.4 -2.8**
STKA Stephens Creek 152.30 14 PKPbc **PKPbc** **10 06 02.5 -0.5**
comp=Z,14nm,1.2s,baz=330,slow=11,SNR=6.4
VNDA Vanda 161.01 189 PKPdf **PKPdf** **10 06 06.1 +0.1**
VNDA **PKPab** **10 06 49.1 -0.1**
VNDA Vanda 161.01 189 PKIKP **PKPdf** **10 06 06.1 +0.1**
VNDA Vanda 161.01 189 PKP **PKPdf** **10 06 04.9 -1.1**
comp=Z,0.7nm,0.9s,baz=153,slow=2.3,SNR=3.5
VNDA PKPab **PKPab** **10 06 49.0 -0.3**
comp=Z,3.2nm,0.9s,baz=144,slow=5.8,SNR=9.2

*TEH **11** 09:46:26.0,33.˙64N×45.˚48E,h7km,s22km,ML3.4*
*ISN **11** 09:46:28.4±1.0,33.˚71N×45.˚70E,h7km,s5km,ML3.2*
ISC 11 09:46:29.2±1.0,**33.72N**±0.˙04×**45.65E**±0.˙04,**h13km**,**n21,**
σ1§38/24,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**101**		Pg	**Pg**	**09 46 37.9**	**-0.7**
IBDR	**Badra**	**0.65**	**159**	*e*Pg		**Pg**	**09 46 41.0**	**-0.9**
IBDR				*e*Sg		**Sg**	**09 46 49.5**	**-1.0**
KGS1	**Ghasr-e-Shirin**	**0.78**	**357**		Pg	**Pg**	**09 46 42.9**	**-1.5**
IGHG	**Ghaleghazi**	**0.98**	**51**		Pg	**Pn**	**09 46 48.1**	**-0.8**
BHD	**Baghdad**	**1.15**	**247**	*e*Pg		**Pg**	**09 46 51.5**	**+0.2**
BHD				*e*Sg		**Sn**	**09 47 07.5**	**+1.0**
IDHR	**Dehrash**	**1.15**	**32**		Pg	**Pg**	**09 46 51.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.28**	**64**		Pg	**Pg**	**09 46 53.5**	**-0.4**
IKOM	**Komasi**	**1.61**	**73**		Pg	**Pg**	**09 46 59.8**	**-0.4**
ILIN	**Lien**	**1.62**	**42**		Pg	**Pg**	**09 46 59.5**	**-0.8**
IKFM	**Kafar-mosalman**	**1.85**	**95**		Pn	**Pg**	**09 47 03.7**	**-0.9**
IBZA	**Bozab**	**1.98**	**67**		Pn	**Pb**	**09 47 05.0**	**-0.3**
RAFI	**Al-Rafai**	**2.03**	**169**	*e*Pn		**Pb**	**09 47 04.0**	**-1.9**
RAFI				*e*Sn		**Sb**	**09 47 31.5**	**+0.4**
RAFI					AML	AML	09 47 41.8	
	comp=E,204nm,0.4s							
RAFI					AML	AML	09 47 42.1	
	comp=N,286nm,0.5s							
HSAM	**Samen**	**2.50**	**78**		Pn	**Pn**	**09 47 11.3**	**+1.4**
HAGD	**Aghdareh**	**3.09**	**68**		Pn	**Pn**	**09 47 19.8**	**+1.9**
IPIR	**Pirpir**	**4.52**	**102**		Pn	**Pn**	**09 47 38.9**	**+1.3**
ZNGN	**Zangian**	**4.66**	**109**		Pn	**Pn**	**09 47 40.6**	**+1.0**
QAMS	**Qamsar**	**4.79**	**88**		Pn	**Pn**	**09 47 43.2**	**+1.8**
IKLH	**Kolahrood**	**4.97**	**93**		Pn	**Pn**	**09 47 45.7**	**+1.9**
IVRN	**Varamin**	**5.19**	**74**		Pn	**Pn**	**09 47 48.3**	**+1.7**
IZEF	**Zefreh**	**5.66**	**97**		Pn	**Pn**	**09 47 55.6**	**+2.4**
IRAM	**Rameshe**	**5.99**	**107**		Pn	**Pn**	**09 47 59.5**	**+1.9**

*GCMT **11** 09:50:09.2±0.2,59.˚05N±0.˚03×30.˚76W±0.˚03,h12km,*
MW5.0/104,Moment Tension Solution. s27,c28;
s104,c161; Duration: 0 Moment tensor: Scale 10¹⁶Nm;
Mrr-4.25±.16; Mθθ-0.02±.19; Mϕϕ4.27±.12; Mrθ-0.01±.58;
Mθϕ1.21±.12; Mϕr-0.42±.48; Best double couple:
Mo4.43900×10¹⁶ NP1:ϕs13.00000°,δ48.00000°,
λ-92.00000°. NP2:ϕs196.00000°,δ42.00000°,
λ-88.00000°. Principal axes: T 4.6070, Pl93.0000°,
Azm105.0000°; N -0.3340, Plg1.0000°, Azm15.0000°; P
-4.2710, Plg87.0000°, Azm258.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*BJI **11** 09:50:10.7±0.0,59.˚26N×30.˚71W,h11km,mb4.8/37,*
mB5.5/15,Ms5.2/14,Ms7 4.9/15
*IDC **11** 09:50:10.1±0.5,59.02N×31.˚09W,h0km,mb4.2/34,*
mbtmp4.3/38,ML3.5/4,MS4.2/4,Error ellipse:
s-maj=14.9km s-min=9.9km az=2.0
*NEIC **11** 09:50:12.2±2.0,59.˚09N±0.˚08×30.˚9W±0.˚1,h10km±1km,*
mb4.9/162,Error ellipse: s-maj=13.5km s-min=11.8km
az=142.0
*REY **11** 09:50:21.0,59.˚32N×31.˚08W,h10km*
*BGR **11** 09:50:20.7,58.˚89N×29.˚91W,h33km,mb4.6*
ISC 11 09:50:11.9±0.3,**59.˚10N**±0.˚06×**30.˚95W**±0.˚04,**h10**km,**n222,**
σ1§37/163,**mb4.9**/121,**MS5.0**/9,**2C-16D,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**6.17**	**36**		P	**Pn**	**09 51 43.6**	**+0.8**
	baz=38							
IGRV	**Grindav??k**	**6.27**	**37**		P	**Pn**	**09 51 44.4**	**0.0**
	baz=38							
IVOG	**Vogar**	**6.37**	**36**		P	**Pn**	**09 51 46.8**	**+1.1**
	baz=38							
IKRI	**Krysuvik**	**6.41**	**38**		P	**Pn**	**09 51 46.0**	**-0.2**
	baz=39							
IVOS	**Vogsosar**	**6.51**	**39**		S	**Sn**	**09 53 00.3**	**-1.4**
	baz=40							
IKAS	**Kald??rsel**	**6.58**	**37**		P	**Pn**	**09 51 48.0**	**-0.6**
	baz=39							
IKAS					S	**Sn**	**09 53 02.7**	**-0.8**
	baz=39							
ISAN	**Sandskeio**	**6.69**	**38**		P	**Pn**	**09 51 47.4**	**-2.7**
	baz=39							
IEDA	**Engidalur**	**6.77**	**38**		P	**Pn**	**09 51 50.7**	**-0.5**
	baz=40							
IMOR	**Morastadir**	**6.81**	**36**		P	**Pn**	**09 51 53.0**	**+1.3**
	baz=37							
ISOL	**Solvholt**	**6.81**	**40**		P	**Pn**	**09 51 50.7**	**-1.0**
	baz=42							
ISOL					S	**Sn**	**09 53 05.9**	**-3.2**
	baz=42							
IHEI	**Heioarbar**	**6.90**	**38**		P	**Pn**	**09 51 52.9**	**0.0**
	baz=39							
ISAU	**Saurbar**	**7.03**	**41**		P	**Pn**	**09 51 54.8**	**+0.1**
	baz=43							
ANGG	**Ammassalik, Gr**	**7.24**	**337**			**Pn**	**09 51 56.0**	**-1.7**
ANGG	**Ammassalik, Gr**	**7.24**	**337**	*e*P		Pg	09 53 09.0	+39
BORG	**Borgarnes**	**7.26**	**35**			**Pn**	**09 51 58.8**	**+1.0**
BORG	**Borgarnes**	**7.26**	**35**		Pn	**Pn**	**09 51 58.3**	**+0.5**
	1.2nm,0.3s,baz=216,slow=9.9,SNR=3.1							
BORG					Sn	**Sn**	**09 53 19.3**	**-0.9**
	0.8nm,0.3s,baz=18,slow=20,SNR=13							
BORG					LR	LR	09 53 40.7	
	comp=Z,342nm,18.6s,baz=220,slow=29							
	59nm,0.4s							
NRS	**Narsarsuaq**	**7.51**	**292**		Pn	**Pn**	**09 52 03.2**	**+1.8**
NRS	**Narsarsuaq**	**7.51**	**292**	*i* P		Pg	09 53 34.0	+58
NRS				*e*S		**Sb**	**09 53 50.2**	**-1.5**
IVI	**Ivigtut**	**8.84**	**291**	*e*P			09 54 06.5	
SOEG	**Soedalen**	**9.15**	**359**	*e*	Pn		09 52 12.9	-10
SOEG				*e*P			09 52 22.5	
SCO	**Scoresbysund**	**12.04**	**15**		Pn	**Pn**	**09 53 01.4**	**-1.9**
SUMG	**Summit**	**13.86**	**351**		Pn	**Pn**	**09 53 28.7**	**+0.2**
EKA	**Eskdalemuir Ar**	**15.46**	**92**		Pn	**Pn**	**09 53 49.2**	**-0.6**
	baz=290,slow=10							
	4.2nm,0.9s							
FRB	**Frobisher Bay**	**18.38**	**301**		P	**Pn**	**09 54 27.1**	**+0.6**
	0.2nm,0.3s,baz=85,slow=13,SNR=7.2							
	6.2nm,0.9s							
SCHQ	**Schefferville**	**19.86**	**273**		P	**P**	**09 54 42.3**	**-0.5**
SCHQ	**Schefferville**	**19.86**	**273**		P	**P**	**09 54 43.2**	**+0.4**
	0.4nm,0.3s,baz=76,slow=7.9,SNR=8.8							
	6.5nm,0.7s							
NB2	**NORSAR Subarra**	**20.87**	**67**		P	**P**	**09 54 54.5**	**+0.8**
	comp=Z,53nm,2.5s,baz=284,slow=11							
NOA	**NORSAR Array B**	**20.87**	**67**		P	**P**	**09 54 55.0**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=283,slow=9.8,SNR=4.9							
	comp=Z,1.5nm,0.9s							
BMRD	**Maredsous**	**22.19**	**98**	*d*P		**P**	**09 55 11.1**	**+3.1**
BMRD				*dk*		x	09 55 15.4	
DOU	**Dourbes**	**22.23**	**98**	*dk*		x	09 55 15.8	
HFS	**Hagfors**	**22.29**	**68**		P	**P**	**09 55 11.0**	**+2.1**
	comp=Z,5.3nm,0.8s,baz=251,slow=9.0,SNR=5.6							
	comp=Z,5.3nm,0.8s							
BGES	**Gesves**	**22.30**	**97**	*dk*		x	09 55 15.2	
BCLA	**Clavier**	**22.39**	**97**	*dk*		x	09 55 17.4	
BCLA				*d*PP		**PnPn**	**09 55 31.5**	**-1.3**
BSTI	**Sart Tilman**	**22.43**	**96**	*d*P		**P**	**09 55 13.4**	**+2.8**
RCHB	**Rochefort**	**22.51**	**97**	*dk*		x	09 55 16.0	
MEM	**Membach**	**22.64**	**96**	*d*P		**P**	**09 55 11.4**	**-1.4**
MEM				*dk*		x	09 55 15.4	
BTNL	**Ternell**	**22.72**	**96**	*d*P		**P**	**09 55 11.5**	**-2.1**
BTNL				*dk*		x	09 55 19.9	
BHOU	**Houvegnez**	**22.79**	**96**	*d*P		**P**	**09 55 13.5**	**-0.9**
BHOU				*dk*		x	09 55 21.3	
WLF	**Walferdange**	**23.29**	**97**	*dk*		x	09 55 22.5	
BATG	**Bathurst New B**	**23.83**	**256**		P	**P**	**09 55 25.0**	**+0.2**
SPITS	**Spitsbergen Ar**	**24.46**	**21**		P	**P**	**09 55 32.7**	**+2.2**
	comp=Z,27nm,1.1s,baz=240,slow=5.8,SNR=3.1							
	comp=Z,27nm,1.1s							
SPB2	**Spitsbergen Ar**	**24.46**	**21**		P	**P**	**09 55 31.3**	**+0.8**
ARCES	**ARCESS Array B**	**25.57**	**43**		P	**P**	**09 55 39.8**	**-0.8**
ARCES	**ARCESS Array B**	**25.57**	**43**		P	**P**	**09 55 39.8**	**-0.8**
	comp=Z,8.3nm,0.9s,baz=269,slow=8.7,SNR=13							
	comp=Z,8.3nm,0.9s							
CLL	**Collm**	**25.84**	**88**	*e*P		**P**	**09 55 44.0**	**+0.8**
	comp=Z,26nm,1.8s							
CLL				*ex*		x	09 55 49.0	
GRF	**Grafenberg Arr**	**25.88**	**93**	*e*P		**P**	**09 55 44.0**	**+0.5**
	comp=Z,17nm,1.4s,baz=304,slow=8.9							
ESDC	**Sonseca Array**	**25.89**	**127**		P	**P**	**09 55 45.4**	**+1.6**
ESDC	**Sonseca Array**	**25.89**	**127**		P	**P**	**09 55 44.1**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=328,slow=9.9,SNR=5.7							
	comp=Z,2.2nm,0.8s							
KEV	**Kevo**	**26.07**	**42**		P	**P**	**09 55 45.6**	**+0.6**
BRG	**Berggiesshubel**	**26.58**	**88**	*e*P		**P**	**09 55 53.2**	**+3.4**
BRG				Amp			09 55 54.5	
	comp=Z,6.1nm,1.1s							
FIA1	**FINESS Array S**	**27.61**	**60**		P	**P**	**09 55 59.5**	**+0.5**
FINES	**FINESS Array B**	**27.61**	**60**		P	**P**	**09 56 00.9**	**+1.9**
	comp=Z,8.2nm,0.8s,baz=294,slow=10,SNR=12							
	comp=Z,8.2nm,0.8s							
RES	**Resolute Bay**	**27.63**	**329**		P	**P**	**09 55 57.5**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=86,slow=8.5,SNR=1.9							
	comp=Z,1.8nm,0.8s							
FCC	**Fort Churchill**	**31.51**	**297**		P	**P**	**09 56 34.1**	**+0.5**
FCC					IAmb	IAmb	09 56 38.0	
	comp=Z,13nm,0.9s							
BURAR	**Bucovina Array**	**34.40**	**84**		P	**P**	**09 56 58.9**	**-0.2**
KIEV	**Kiev**	**34.48**	**77**		P	**P**	**09 57 00.4**	**+0.8**
KIEV					IAmb	IAmb	09 57 08.3	
	comp=Z,22nm,1.3s							
AKASG	**Malin Array Be**	**34.49**	**77**		P	**P**	**09 56 59.4**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=293,slow=9.3,SNR=11							
AKASG					PcP	**PcP**	**09 59 32.7**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=291,slow=2.8,SNR=2.7							
	comp=Z,0.5nm,0.5s							
AKBB	**Malin Array Si**	**34.49**	**77**		P	**P**	**09 56 58.8**	**-0.9**
AKBB					IAmb	IAmb	09 57 08.2	
	comp=Z,24nm,1.3s							
KEST	**Kesra**	**35.09**	**114**		P	**P**	**09 57 05.3**	**+0.2**
KEST	**Kesra**	**35.09**	**114**		P	**P**	**09 57 06.2**	**+1.1**
	comp=Z,8.7nm,1.0s,baz=329,slow=5.9,SNR=3.9							
	comp=Z,8.7nm,1.0s							
EYMN	**Ely**	**36.42**	**280**		P	**P**	**09 57 16.4**	**+0.1**
EYMN					IAmb	IAmb	09 57 21.3	
	comp=Z,26nm,1.4s							
A36M	**Sachs Harbour**	**36.68**	**329**		P	**P**	**09 57 20.8**	**+2.6**
ULM	**Lac du Bonnet**	**37.14**	**286**		P	**P**	**09 57 22.6**	**+0.2**
ULM					IAmb	IAmb	09 57 26.5	
	comp=Z,30nm,1.6s							
ULM	**Lac du Bonnet**	**37.14**	**286**		P	**P**	**09 57 22.4**	**0.0**
	comp=Z,2.6nm,0.8s,baz=58,slow=13,SNR=3.9							
	comp=Z,2.6nm,0.8s							
FFC	**Flin Flon**	**37.34**	**295**		P	**P**	**09 57 23.7**	**-0.3**
YKA	**Yellowknife Ar**	**38.27**	**312**		P	**P**	**09 57 31.7**	**-0.1**
	comp=Z,7.2nm,1.0s,baz=56,slow=9.1,SNR=12							
YKA					PcP	**PcP**	**09 59 44.6**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=50,slow=3.5,SNR=6.4							
	comp=Z,7.2nm,1.0s							
KIRV	**Kirov**	**39.21**	**55**		P	**P**	**09 57 40.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=331,slow=1.2,SNR=5.2							
	comp=Z,1.1nm,0.6s							
L42A	**Oliver, Polo**	**39.58**	**271**		P	**P**	**09 57 44.8**	**+1.8**
INK	**Inuvik**	**41.12**	**327**		P	**P**	**09 57 55.7**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=26,slow=11,SNR=3.5							
	comp=Z,2.0nm,0.7s							
F31M	**Tsiigehtchic**	**41.75**	**326**		IAmb	IAmb	09 58 18.4	
	comp=Z,38nm,1.5s							
DGMT	**Dagmar**	**42.41**	**289**		P	**P**	**09 58 04.9**	**-1.4**
E28M	**Babbage River**	**42.58**	**329**		P	**P**	**09 58 08.1**	**+0.7**
CCM	**Cathedral Cave**	**43.31**	**268**		P	**P**	**09 58 12.6**	**-1.0**
CCM					IAmb	IAmb	09 58 18.3	
	comp=Z,27nm,1.4s							
EPYK	**Eagle Plains**	**43.34**	**326**		IAmb	IAmb	09 58 15.3	
	comp=Z,48nm,1.8s							
D25K	**Kavik River**	**43.79**	**332**		IAmb	IAmb	09 58 22.2	
	comp=Z,29nm,1.6s							
I30M	**Mount Dempster**	**44.04**	**324**		IAmb	IAmb	09 58 36.8	
	comp=Z,17nm,1.1s							
BRTR	**Keskin Array B**	**44.27**	**86**		P	**P**	**09 58 21.5**	**0.0**
BRTR	**Keskin Array B**	**44.27**	**86**		P	**P**	**09 58 22.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=340,slow=12,SNR=2.2							
	comp=Z,1.0nm,0.8s							
ARU	**Arti**	**44.39**	**53**		P	**P**	**09 58 22.6**	**+0.5**
ARU					IAmb	IAmb	09 58 25.7	
	comp=Z,20nm,1.2s							
ARU	**Arti**	**44.39**	**53**		P	**P**	**09 58 22.0**	**-0.1**
	comp=Z,3.0nm,0.3s,baz=290,slow=6.0,SNR=5.4							
	comp=Z,3.0nm,0.3s							
J30M	**Hart River**	**44.48**	**324**		IAmb	IAmb	09 58 26.6	
	comp=Z,54nm,2.0s							
E25K	**Arctic Village**	**44.48**	**331**		P	**P**	**09 58 23.9**	**+1.2**
D24K	**Happy Valley**	**44.49**	**333**		P	**P**	**09 58 22.8**	**0.0**
NRIK	**Noril'sk**	**44.49**	**26**		P	**P**	**09 58 24.1**	**+1.4**
	comp=Z,2.1nm,0.4s,baz=257,slow=3.5,SNR=6.3							
	comp=Z,2.1nm,0.4s							
I29M	**Ogilvie Camp,**	**44.52**	**325**		IAmb	IAmb	09 58 27.9	
	comp=Z,22nm,1.3s							
B22K	**Teshekpuk Lake**	**44.59**	**336**		IAmb	IAmb	09 58 26.9	
	comp=Z,38nm,1.6s							
BRLDA	**Berland Lookou**	**44.69**	**303**		P	**P**	**09 58 25.8**	**+1.2**
BRLDA					IAmb	IAmb	09 58 29.9	
	comp=Z,36nm,1.4s							
J29N	**Klondike Camp**	**45.14**	**324**		IAmb	IAmb	09 58 34.0	
	comp=Z,18nm,1.2s							
KSU1	**Kansas State U**	**45.29**	**274**		IAmb	IAmb	09 58 31.7	
	comp=Z,21nm,1.1s							
K29M	**Barlow Dome**	**45.37**	**323**		IAmb	IAmb	09 58 35.6	
	comp=Z,25nm,1.6s							
B21K	**Ikpikpuk River**	**45.41**	**336**		IAmb	IAmb	09 58 35.0	
	comp=Z,41nm,1.8s							
D22K	**Ayikyak River**	**45.58**	**334**		IAmb	IAmb	09 58 47.7	
	comp=Z,26nm,1.6s							
DAWY	**Dawson**	**45.78**	**324**		IAmb	IAmb	09 58 38.7	
	comp=Z,20nm,1.3s							
N32M	**Quiet Lake**	**45.86**	**319**		P	**P**	**09 58 35.2**	**+1.4**
KBZ	**Khabaz**	**46.05**	**75**		P	**P**	**09 58 37.5**	**+2.1**
	comp=Z,3.1nm,0.8s,baz=307,slow=5.1,SNR=6.1							
	comp=Z,3.1nm,0.8s							
BNN	**Bunyan**	**46.06**	**85**		P	**P**	**09 58 36.5**	**+0.8**
G23K	**Bananza Creek**	**46.67**	**331**		P	**P**	**09 58 42.5**	**+2.3**
G23K					IAm

comp=Z,16nm,1.6s
E19K Redstone River 47.74 335 IAmb IAmb 09 59 01.7
comp=Z,11nm,0.9s
I23K Minto, Yukon-K 47.74 330 IAmb IAmb 09 58 54.3
comp=Z,26nm,1.8s
IMAR Indian Mountai 48.16 332 P **P** **09 58 51.5 -0.2**
AKTO Aktyubinsk 48.36 59 P **P** **09 58 53.2 -0.2**
comp=Z,13nm,0.8s,baz=319,slow=8.9,SNR=14
comp=Z,13nm,0.8s
YHL Hebgen Lake 48.37 290 IAmb IAmb 09 58 59.3
comp=Z,29nm,1.7s
H17A Grant Village 48.41 289 IAmb IAmb 09 58 58.6
comp=Z,26nm,1.8s
E18K Tukpahlearik C 48.48 337 IAmb IAmb 09 59 00.7
comp=Z,17nm,1.4s
TIXI Tiksi 48.78 8 P **P** **09 58 56.6 +0.3**
TIXI IAmb IAmb 09 58 58.4
comp=Z,9.9nm,0.9s
G19K Purcell Mounta 48.80 334 IAmb IAmb 09 59 02.0
comp=Z,24nm,1.6s
LOHW Long Hollow 49.00 289 IAmb IAmb 09 59 01.8
comp=Z,18nm,1.8s
BW06 Boulder Array 49.12 287 IAmb IAmb 09 59 03.6
comp=Z,24nm,1.8s
PD31 Pinedale Array 49.12 287 P **P** **09 58 59.0 -0.6**
PD31 IAmb IAmb 09 59 03.6
comp=Z,23nm,1.8s
PDAR Pinedale Array 49.12 287 P **P** **09 58 58.8 -0.8**
comp=Z,2.4nm,1.0s,baz=57,slow=6.9,SNR=7.5
comp=Z,2.4nm,1.0s
G18K Tagagawik 49.36 335 IAmb IAmb 09 59 12.3
comp=Z,37nm,1.9s
ISCO Idaho Springs 49.36 282 P **P** **09 59 02.5 +0.9**
ISCO IAmb IAmb 09 59 08.6
comp=Z,27nm,1.8s
C09A Chrisman Ranch 49.55 298 IAmb IAmb 09 59 07.4
comp=Z,19nm,1.3s
GNI Garni 49.62 77 P **P** **09 59 05.3 +1.9**
comp=Z,3.4nm,0.7s,baz=7.5,slow=19,SNR=4.7
comp=Z,3.4nm,0.7s
Q24A Divide 49.76 281 IAmb IAmb 09 59 13.5
comp=Z,16nm,1.6s
ABKAR Akbulak array 50.08 59 P **P** **09 59 06.1 -0.4**
ABKAR Akbulak array 50.08 59 IAmb IAmb 09 59 08.2
comp=Z,16nm,1.1s
MMAI Mount Meron Ar 50.33 91 P **P** **09 59 09.1 +0.5**
comp=Z,0.7nm,0.3s,baz=353,slow=11,SNR=1.3
comp=Z,0.7nm,0.3s
PLID Pearl Lake 50.50 294 P **P** **09 59 10.2 +0.1**
PLID IAmb IAmb 09 59 14.9
comp=Z,24nm,1.4s
G16K Koyuk River 50.59 336 IAmb IAmb 09 59 15.6
comp=Z,29nm,1.6s
RDMU Red Mountain 50.77 285 P **P** **09 59 12.3 +0.2**
RDMU IAmb IAmb 09 59 15.2
comp=Z,25nm,1.5s
HLID Hailey 50.88 291 P **P** **09 59 14.3 +1.4**
HLID IAmb IAmb 09 59 18.5
comp=Z,22nm,1.8s
J18K Innoko River 50.97 332 IAmb IAmb 09 59 17.4
comp=Z,27nm,1.5s
MXC Moxie City 51.38 298 IAmb IAmb 09 59 19.4
comp=Z,35nm,1.7s
BRVK Borovoye 51.52 49 P **P** **09 59 17.9 +0.5**
BRVK IAmb IAmb 09 59 21.2
comp=Z,44nm,2.0s
BVAR Borovoye Array 51.59 49 P **P** **09 59 17.6 -0.2**
comp=Z,3.8nm,0.8s,baz=318,slow=8.5,SNR=9.6
comp=Z,3.8nm,0.8s
SPUT South Promonto 51.63 288 IAmb IAmb 09 59 23.2
comp=Z,35nm,1.7s
DKNS Dickens 51.68 273 IAmb IAmb 09 59 23.8
comp=Z,14nm,1.0s
ASF Jabal al Asfar 51.76 90 P **P** **09 59 20.5 +1.0**
comp=Z,1.4nm,0.3s,baz=319,slow=4.6,SNR=3.3
comp=Z,1.4nm,0.3s
TOA0 Torodi Ar. Sit 51.91 138 P **P** **09 59 19.8 -0.8**
TOA0 IAmb IAmb 10 01 07.7
comp=Z,18nm,1.0s
TORD Torodi Ar. Bea 51.91 138 P **P** **09 59 18.9 -1.8**
TORD Torodi Ar. Bea 51.91 138 P **P** **09 59 18.8 -1.8**
comp=Z,3.3nm,1.0s,baz=349,slow=8.1,SNR=9.9
comp=Z,3.3nm,1.0s
HKT Hockley 52.01 266 P **P** **09 59 20.6 -0.5**
HKT IAmb IAmb 09 59 25.3
comp=Z,34nm,1.8s
L18K Granite Mounta 52.02 331 IAmb IAmb 09 59 26.1
comp=Z,31nm,1.4s
P17A Butcher Ranch, 52.18 285 IAmb IAmb 09 59 26.5
comp=Z,38nm,2.0s
MPU Maple Canyon 52.21 286 IAmb IAmb 09 59 27.9
comp=Z,20nm,1.5s
J08A Circle Bar Ran 52.97 294 IAmb IAmb 09 59 32.8
comp=Z,31nm,1.8s
ELK Elko 53.42 290 IAmb IAmb 09 59 39.3
comp=Z,38nm,2.0s
ANMO Albuquerque 53.52 278 P **P** **09 59 33.7 +1.0**
WVOR Wild Horse Val 53.76 293 IAmb IAmb 09 59 37.0
comp=Z,20nm,1.6s
MTPU Mount Pierson 54.01 285 IAmb IAmb 09 59 41.9
comp=Z,30nm,1.9s
SPR3 Spring Creek 3 54.33 288 IAmb IAmb 09 59 45.0
comp=Z,13nm,1.3s
Q12A Willow Creek R 54.54 288 IAmb IAmb 09 59 43.8
comp=Z,24nm,1.7s
KNB Kanab 55.12 285 IAmb IAmb 09 59 48.6
comp=Z,21nm,1.6s
SAND Sanderson 55.24 271 P **P** **09 59 44.8 -0.3**
ZALV Zalesovo Beam 56.07 40 P **P** **09 59 51.0 +0.5**
comp=Z,0.6nm,0.3s,baz=346,slow=5.2,SNR=1.7
comp=Z,0.6nm,0.3s
KVN Kaiserville 56.12 290 IAmb IAmb 09 59 56.5
comp=Z,19nm,1.2s
TXAR Lajitas Array 56.54 272 P **P** **09 59 55.0 +0.6**
comp=Z,0.3nm,0.6s,baz=77,slow=4.0,SNR=2.7
comp=Z,0.3nm,0.6s
KURBB Kurchatov Arra 56.59 46 P **P** **09 59 53.9 -0.4**
comp=Z,3.3nm,0.8s,baz=322,slow=7.1,SNR=7.6
comp=Z,3.3nm,0.8s
NV11 Mina Array Sit 56.64 290 P **P** **09 59 55.9 +0.8**
NV11 IAmb IAmb 10 00 04.7
comp=Z,20nm,1.7s
NVAR Mina Array Bea 56.71 290 P **P** **09 59 55.5 -0.2**
comp=Z,1.7nm,0.8s,baz=48,slow=4.0,SNR=9.2
comp=Z,1.7nm,0.8s
YERR Yerington 56.73 291 IAmb IAmb 10 00 01.1
comp=Z,21nm,1.4s
PNTR Pine Nut 56.82 292 P **P** **09 59 56.4 0.0**
GMN Gold Mountain 57.09 289 IAmb IAmb 10 00 03.4
comp=Z,15nm,1.4s
EMB Emerald Bay 57.15 292 IAmb IAmb 10 00 04.1
comp=Z,16nm,1.2s
BAUV El Baul 57.38 225 P **P** **10 00 00.5 +0.2**
GWY Greenwater Val 57.68 287 IAmb IAmb 10 00 07.7
comp=Z,26nm,1.4s
GEYT Alibeck 57.93 69 P **P** **10 00 05.6 +1.5**
comp=Z,1.4nm,0.3s,baz=350,slow=3.4,SNR=1.6
comp=Z,1.4nm,0.3s
GSC Goldstone, Bar 58.45 287 IAmb IAmb 10 00 13.2
comp=Z,13nm,1.2s
ISA Isabella, Lake 58.98 288 P **P** **10 00 13.0 +1.6**
ISA IAmb IAmb 10 00 17.2
comp=Z,17nm,1.4s
KKAR Karatay Array 59.47 56 P **P** **10 00 15.0 +0.4**
MAKZ Makanchi 61.03 46 P **P** **10 00 26.2 +0.9**
TAMC Tame, Arauca 61.09 228 *e*P **P** **10 00 25.2 -0.9**
MK31 Makanchi Array 61.16 46 P **P** **10 00 25.4 -0.7**
MKAR Makanchi Array 61.16 46 P **P** **10 00 25.3 -0.9**
MKAR Makanchi Array 61.16 46 P **P** **10 00 25.5 -0.7**
comp=Z,4.3nm,0.9s,baz=333,slow=5.3,SNR=12
comp=Z,4.3nm,0.9s
ZARC Zaragoza, Cauc 61.34 232 *e*P **P** **10 00 28.3 +0.6**
DBBC Dabeiba 62.32 233 *e*P **P** **10 00 35.0 +0.6**
SPBC San Pablo de B 62.70 230 *e*P **P** **10 00 35.9 -1.0**
CMAN1 Manizales, Cal 63.80 231 *e*P P 10 00 52.8 +8.3
PLMC San Jos del P 64.26 232 *e*P **P** **10 00 47.8 +0.6**
KSH Kashi 64.75 55 P **P** **10 00 52.4 +2.1**
KSH sP sP 10 01 01.3 +7.2
KSH pmax pmax
comp=Z,13nm,1.6s
KSH LR LR
comp=Z,660nm,15.9s
KSH LR LR
comp=Z,850nm,16.8s
KSH LR LR
comp=Z,950nm,16.5s
ORTC Ortega, Tolima 64.75 230 *e*P **P** **10 00 49.1 -1.3**

PRAC Prado 64.78 230 *e*P **P** **10 00 48.2 -2.4**
YOTC Yotoco, Valle 65.12 232 *e*P **P** **10 00 49.8 -3.2**
WMQ Urumqi 65.68 44 *e*P **P** **10 00 59.5 +3.3**
WMQ pP sP 10 01 04.5 +4.5
WMQ pmax pmax
comp=Z,12nm,1.9s
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,750nm,16.3s
WMQ LR LR
comp=Z,410nm,19.3s
SONM Songino Array 67.84 30 P **P** **10 01 09.7 -0.3**
SONM IAmb IAmb 10 01 11.4
comp=Z,11nm,1.4s
SONM Songino Array 67.84 30 P **P** **10 01 09.6 -0.3**
comp=Z,2.3nm,1.1s,baz=339,slow=8.4,SNR=7.6
comp=Z,2.3nm,1.1s
ULN Ulaanbaatar 67.98 29 P **P** **10 01 11.0 +0.1**
ULN IAmb IAmb 10 01 15.7
comp=Z,16nm,1.3s
H10N2 ASCENSION HYDR 68.00 162 T T 11 14 46.2
baz=350,slow=75,SNR=8.7
H10N3 ASCENSION HYDR 68.01 162 T T 11 14 46.8
baz=350,slow=75,SNR=9.0
H10N1 ASCENSION HYDR 68.02 162 T T 11 14 47.2
baz=350,slow=75,SNR=6.5
H10S3 ASCENSION HYDR 69.08 163 T T 11 16 05.7
baz=351,slow=74,SNR=24
H10S2 ASCENSION HYDR 69.09 163 T T 11 16 09.1
baz=229,slow=74,SNR=13
OTAV Otavalo 69.38 232 P **P** **10 01 19.5 -0.8**
OTAV IAmb IAmb 10 01 22.3
comp=Z,13nm,1.3s
OTAV Otavalo 69.38 232 *e*P **P** **10 01 18.9 -1.4**
HEH HeiHe 69.59 15 *e*P **P** **10 01 20.5 -0.1**
HEH pmax pmax
comp=Z,12nm,1.1s
PIAT Ana Tenorio 70.42 231 *e*P **P** **10 01 26.6 0.0**
BOSC San Juan Bosco 72.47 231 P **P** **10 01 38.5 -0.3**
BOSC IAmb IAmb 10 01 41.3
comp=Z,14nm,1.8s
GTA Gaotai 73.71 38 *e*P **P** **10 01 46.4 +0.6**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=Z,290nm,15.3s
GTA LR LR
comp=Z,460nm,16.0s
GTA LR LR
comp=Z,480nm,16.0s
ETMB Extrema 74.32 216 P **P** **10 01 47.5 -1.8**
LODK Lodwar 75.06 109 P **P** **10 01 53.4 -0.4**
LODK IAmb IAmb 10 01 59.4
comp=Z,13nm,1.5s
BTO Baotou 75.52 30 *e*P **P** **10 01 55.1 -1.2**
BTO pP **PcP** **10 02 08.3 -1.0**
BTO PP **PP** **10 04 43.6 -1.1**
BTO S **S** **10 11 29.1 -7.5**
BTO sS sS 10 11 51.2 +10
BTO pmax pmax
comp=Z,19nm,1.1s
BTO pmax pmax
comp=Z,410nm,4.4s
BTO LR LR
comp=Z,950nm,15.1s
BTO LR LR
comp=Z,810nm,14.4s
BTO LR LR
comp=Z,1μm,15.7s
HHC Hu-ho-hao-te 75.68 28 ⇑*i*P **P** **10 01 56.8 -0.4**
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,360nm,4.7s
HHC LR LR
comp=Z,490nm,12.3s
HHC LR LR
comp=Z,740nm,14.8s
HHC LR LR
comp=Z,530nm,17.1s
BDFB Brasilia 75.77 197 P **P** **10 01 57.9 +0.1**
BDFB IAmb IAmb 10 02 04.3
comp=Z,32nm,1.9s
BDFB Brasilia 75.77 197 P **P** **10 01 56.1 -1.6**
comp=Z,1.7nm,0.3s,baz=28,slow=8.8,SNR=5.8
comp=Z,1.7nm,0.3s
LZH Lanzhou 78.01 36 *e*P **P** **10 02 10.5 0.0**
LZH pP pP 10 02 14.4 +1.1
LZH pmax pmax
comp=Z,16nm,1.4s
LZH LR LR
comp=Z,510nm,17.9s
LZH LR LR
comp=Z,390nm,14.8s
LZH LR LR
comp=Z,480nm,18.0s
HNS HongShan 79.71 27 ⇓P **P** **10 02 21.7 +2.2**
HNS pmax pmax
comp=Z,9.0nm,1.3s
LYN LuoYang 81.87 30 ⇑P **P** **10 02 31.3 +0.2**
LYN pP sP 10 02 36.0 +1.0
LYN SKS **S** **10 12 45.0 +0.6**
LYN SS **SS** **10 18 02.2 +1.0**
LYN pmax pmax
comp=Z,23nm,0.5s
LYN pmax pmax
comp=Z,310nm,4.7s
PB16 IPOC Station P 83.36 217 P **P** **10 02 40.3 +0.7**
MJAR Matsushiro Arr 84.29 9 LR LR 10 42 34.3
comp=Z,175nm,18.4s,baz=8.0,slow=37
NJ2 Nanjing 85.78 25 *e*P **P** **10 02 51.1 -0.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
PZH PanZhiHua 86.19 41 P **P** **10 02 54.5 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,280nm,5.9s
CMAR Chiang Mai Arr 92.56 47 P **P** **10 03 23.3 -0.2**
comp=Z,1.0nm,0.3s,baz=314,slow=6.1,SNR=4.7
comp=Z,1.0nm,0.3s
JOW Kunigami 92.68 18 LR LR 10 46 40.4
comp=Z,298nm,20.2s,baz=323,slow=36
JCJ Chichijima 93.95 6 LR LR 10 47 32.7
comp=Z,85nm,18.1s,baz=352,slow=37
ASAR Alice Springs 143.00 23 PKhKP PKPpre 10 09 38.2
comp=Z,1.0nm,0.9s,baz=339,slow=2.1,SNR=5.5
QSPA South Pole Qui 149.00 180 PKPbc **PKPbc** **10 09 58.5 0.0**
comp=Z,4.8nm,0.6s,baz=243,slow=1.6,SNR=7.4
VNDA Vanda 160.99 189 PKPab **PKPab** **10 10 52.1 -1.4**
comp=Z,1.8nm,0.8s,baz=154,slow=3.8,SNR=6.5

IDC 11 09:54:11.6±3.6, 58°.93N×30°.64W, h0km, mb3.5/4, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=76.5km s-min=30.6km az=168.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.31**	**33**	Pn	Pn	09 56 01.1	+1.6
	2.3nm,0.3s,baz=208,slow=7.2,SNR=6.2						
BORG				Sn	Sn	09 57 21.5	-1.5
	1.4nm,0.3s,baz=57,slow=23,SNR=7.6						
	8.8nm,0.5s						
ARCES	**ARCESS Array B**	**25.58**	**43**	P	P	09 59 41.4	-0.5
	1.6nm,0.7s,baz=260,slow=8.7,SNR=6.7						
	1.6nm,0.7s						
YKA	**Yellowknife Ar**	**38.51**	**312**	P	P	10 01 34.0	-1.0
	0.4nm,0.8s,baz=54,slow=8.7,SNR=4.1						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**47.61**	**329**	P	P	10 02 49.5	+0.9
	0.4nm,0.9s,baz=39,slow=7.4,SNR=3.4						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**61.16**	**46**	P	P	10 04 27.6	+0.1
	0.7nm,0.8s,baz=342,slow=5.3,SNR=2.8						
	0.7nm,0.8s						

IDC 11 10:00:25.3±0.7, 59°.04N×30°.90W, h0km, mb3.8/17, mbtmp3.8/21, ML3.1/3, MS3.9/10, Error ellipse: s-maj=21.2km s-min=12.7km az=1.0
REY 11 10:00:28.8, 59°.28N×30°.76W, h10km
ISC 11 10:00:27.4±0.6, 59°.06N±0°.09×30°.83W±0°.07, h14km, n44, σ1§04/40, mb3.9/16, MS3.8/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	**6.26**	**36**	P	**Pn**	**10 01 59.5**	**+0.4**
	baz=37						
IVOG	**Vogar**	**6.36**	**36**	P	**Pn**	**10 02 01.4**	**+0.9**
	baz=37						
IKRI	**Krysuvik**	**6.39**	**37**	P	**Pn**	**10 01 58.9**	**-2.1**
	baz=38						
IKAS	**Kald??rsel**	**6.56**	**37**	P	**Pn**	**10 02 03.5**	**+0.2**
	baz=38						
IKAS				S	**Sn**	**10 03 18.1**	**+0.2**
	baz=38						
ISAN	**Sandskeio**	**6.67**	**37**	P	**Pn**	**10 02 02.9**	**-2.0**
	baz=38						
ISAN				S	**Sn**	**10 03 20.2**	**-0.4**
	baz=38						
IEDA	**Engidalur**	**6.75**	**38**	P	**Pn**	**10 02 04.5**	**-1.4**
	baz=39						
IEDA				S	**Sn**	**10 03 21.6**	**-0.9**
	baz=39						
ISOL	**Solvholt**	**6.79**	**40**	P	**Pn**	**10 02 05.9**	**-0.5**
	baz=41						
ISOL				S	**Sn**	**10 03 20.8**	**-2.6**
	baz=41						
IMOR	**Morastadir**	**6.80**	**36**	P	**Pn**	**10 02 06.7**	**+0.3**
	baz=36						
IKRO	**Krokur**	**6.85**	**38**	P	**Pn**	**10 02 06.8**	**-0.4**
	baz=39						
IKRO				S	**Sn**	**10 03 24.1**	**-0.7**
	baz=39						
BORG	**Borgarnes**	**7.25**	**34**	Pn	**Pn**	**10 02 13.3**	**+0.6**
	32nm,0.5s,baz=158,slow=12,SNR=36						
BORG				Sn	**Sn**	**10 03 35.0**	**+0.4**
	0.5nm,0.3s,baz=114,slow=20,SNR=1.0						
SOEG	**Soedalen**	**9.18**	**359**	*e*P	**Pn**	**10 02 39.6**	**+0.5**
SCO	**Scoresbysund**	**12.05**	**14**	*i*P	Pn	10 03 08.0	-10
JMIC	**Jan Mayen**	**15.08**	**29**	LR	LR	10 07 50.4	
	comp=Z,33nm,19.4s,baz=291,slow=29						
EKA	**Eskdalemuir Ar**	**15.39**	**92**	Pn	**Pn**	**10 04 02.9**	**-1.0**
	baz=297,slow=14						
	1.3nm,0.8s						
FRB	**Frobisher Bay**	**18.45**	**301**	P	**Pn**	**10 04 42.7**	**+0.5**
	0.1nm,0.3s,baz=66,slow=12,SNR=4.2						
FRB				LR	LR	10 10 44.5	
	comp=Z,700nm,18.2s,baz=56,slow=34						
	3.1nm,1.1s						
SCHQ	**Schefferville**	**19.92**	**273**	P	**Pn**	**10 04 59.8**	**-0.3**
	0.1nm,0.3s,baz=74,slow=7.4,SNR=3.8						
SCHQ				LR	LR	10 11 04.8	
	comp=Z,412nm,18.7s,baz=80,slow=32						
	2.4nm,0.8s						
NOA	**NORSAR Array B**	**20.82**	**66**	P	**P**	**10 05 09.2**	**+1.1**
	1.3nm,0.9s,baz=280,slow=11,SNR=3.7						
NOA				LR	LR	10 12 01.5	
	comp=Z,267nm,20.2s,baz=290,slow=33						
	1.3nm,0.9s						
HFS	**Hagfors**	**22.24**	**68**	P	**P**	**10 05 25.3**	**+2.0**
	5.6nm,1.0s,baz=276,slow=13,SNR=3.9						
HFS				LR	LR	10 12 56.2	
	comp=Z,327nm,21.3s,baz=228,slow=34						
	5.6nm,1.0s						
ARCES	**ARCESS Array B**	**25.55**	**43**	P	**P**	**10 05 54.6**	**-0.5**
	4.8nm,0.8s,baz=269,slow=8.1,SNR=16						
	4.8nm,0.8s						
ESDC	**Sonseca Array**	**25.82**	**127**	P	**P**	**10 05 58.3**	**+0.3**
	1.7nm,1.0s,baz=325,slow=12,SNR=2.3						
	1.7nm,1.0s						
DAVOX	**Davos/Dischmat**	**26.98**	**99**	LR	LR	10 15 02.8	
	comp=Z,283nm,19.3s,baz=229,slow=32						
FINES	**FINESS Array B**	**27.57**	**60**	P	**P**	**10 06 14.4**	**+1.0**
	2.5nm,0.7s,baz=298,slow=9.0,SNR=4.4						
	2.5nm,0.7s						
RES	**Resolute Bay**	**27.69**	**329**	LR	LR	10 16 00.4	
	comp=Z,193nm,18.8s,baz=122,slow=34						
VRAC	**Vranov**	**28.82**	**89**	LR	LR	10 19 08.2	
	comp=Z,306nm,18.2s,baz=248,slow=39						
SADO	**Sadowa**	**32.26**	**265**	LR	LR	10 18 26.8	
	comp=Z,342nm,18.3s,baz=109,slow=34						
AKASG	**Malin Array Be**	**34.43**	**77**	P	**P**	**10 07 14.0**	**0.0**
	0.4nm,0.4s,baz=297,slow=8.2,SNR=1.5						
	0.4nm,0.4s						
ULM	**Lac du Bonnet**	**37.21**	**286**	P	**P**	**10 07 38.2**	**+0.3**
	1.8nm,0.7s,baz=100,slow=2.4,SNR=4.2						
ULM				LR	LR	10 20 20.4	
	comp=Z,233nm,20.2s,baz=20,slow=32						
	1.8nm,0.7s						
YKA	**Yellowknife Ar**	**38.34**	**312**	P	**P**	**10 07 47.0**	**-0.3**
	1.5nm,0.9s,baz=53,slow=9.2,SNR=11						
	1.5nm,0.9s						
BRTR	**Keskin Array B**	**44.21**	**86**	P	**P**	**10 08 37.9**	**+2.1**
	1.1nm,0.8s,baz=285,slow=10,SNR=1.9						
	1.1nm,0.8s						
ILAR	**Eielson Array**	**47.44**	**328**	P	**P**	**10 09 01.4**	**+0.5**
	0.4nm,0.9s,baz=20,slow=6.0,SNR=5.7						
ILAR				PcP	**PcP**	**10 10 30.4**	**-0.6**
	0.2nm,0.6s,baz=7.3,slow=4.0,SNR=4.2						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**49.19**	**287**	P	**P**	**10 09 12.8**	**-2.1**
	0.3nm,0.8s,baz=72,slow=8.6,SNR=2.6						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**51.56**	**49**	P	**P**	**10 09 33.0**	**+0.5**
	1.9nm,0.7s,baz=312,slow=7.6,SNR=11						
	1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.84**	**138**	P	**P**	**10 09 34.1**	**-0.8**
	0.9nm,0.8s,baz=355,slow=11,SNR=5.2						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**56.57**	**46**	P	**P**	**10 10 08.5**	**-0.4**
	1.6nm,0.8s,baz=328,slow=6.9,SNR=10						
	1.6nm,0.8s						
NVAR	**Mina Array Bea**	**56.78**	**290**	P	**P**	**10 10 10.8**	**-0.2**
	0.5nm,0.9s,baz=67,slow=6.9,SNR=3.7						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**61.13**	**46**	P	**P**	**10 10 41.1**	**+0.4**
	1.3nm,0.7s,baz=337,slow=3.7,SNR=14						
	1.3nm,0.7s						
SONM	**Songino Array**	**67.84**	**30**	P	**P**	**10 11 24.9**	**+0.2**
	1.8nm,1.1s,baz=333,slow=3.8,SNR=5.7						
	1.8nm,1.1s						
H10N2	**ASCENSION HYDR**	**67.95**	**163**	T	T	11 24 58.1	
	baz=349						
H10N3	**ASCENSION HYDR**	**67.96**	**163**	T	T	11 25 08.8	
	baz=349						
H10N1	**ASCENSION HYDR**	**67.97**	**162**	T	T	11 25 01.6	
	baz=349						
H10S3	**ASCENSION HYDR**	**69.03**	**163**	T	T	11 26 21.1	
	baz=350,slow=74,SNR=7.5						
H10S2	**ASCENSION HYDR**	**69.04**	**163**	T	T	11 26 24.1	
	baz=230,slow=74,SNR=6.1						
ASAR	**Alice Springs**	**143.01**	**24**	PKP	**PKPdf**	**10 20 00.6**	**+0.3**
	0.7nm,0.8s,baz=335,slow=3.0,SNR=4.0						
QSPA	**South Pole Qui**	**148.97**	**180**	PKPbc	**PKPbc**	**10 20 12.8**	**-0.4**
	4.6nm,0.9s,baz=226,slow=2.7,SNR=7.2						

TEH 11 10:03:41.8, 33°.70N×45°.72E, h12km±32km, ML3.7
ISN 11 10:03:41.5±0.8, 33°.73N×45°.75E, h11km±4km, ML3.4
ISC 11 10:03:42.0±1.5, 33°.70N±0°.04×45°.75E±0°.04, h8km±12km, n24, σ0§97/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.39**	**101**	Pg	**Pg**	**10 03 50.1**	**+0.5**
ILBA				Sg	**Sb**	**10 03 56.6**	**-0.7**
IBDR	**Badra**	**0.61**	**166**	*e*Pg	**Pg**	**10 03 54.0**	**+0.3**
IBDR				*e*Sg	**Sb**	**10 04 03.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.81**	**351**	Pg	**Pb**	**10 03 57.4**	**-1.0**
IGHG	**Ghaleghazi**	**0.92**	**47**	Pg	**Pb**	**10 04 00.0**	**-0.4**
IGHG				Sg	**Sn**	**10 04 14.1**	**-0.9**
IDHR	**Dehrash**	**1.13**	**28**	Pg	**Pb**	**10 04 02.9**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.22**	**62**	Pg	**Pg**	**10 04 05.2**	**-0.1**
KCHF				Sg	**Sn**	**10 04 22.5**	**+0.4**
BHD	**Baghdad**	**1.22**	**250**	*e*Pg	**Pg**	**10 04 05.5**	**+0.1**
BHD				*e*Sg	**Sn**	**10 04 22.0**	**0.0**
BHD				AML	AML	10 04 26.4	
	comp=E,1μm,0.6s						
IKOM	**Komasi**	**1.54**	**72**	Pg	**Pg**	**10 04 11.3**	**-0.1**
ILIN	**Lien**	**1.57**	**39**	Pg	**Pb**	**10 04 11.3**	**-0.2**
IKFM	**Kafar-mosalman**	**1.76**	**95**	Pg	**Pb**	**10 04 14.3**	**-0.1**
IBZA	**Bozab**	**1.91**	**66**	Pn	**Pb**	**10 04 16.1**	**-1.1**
RAFI	**Al-Rafai**	**2.00**	**171**	*e*Pn	**Pb**	**10 04 17.0**	**-1.5**
RAFI				*e*Sn	**Sb**	**10 04 44.0**	**+0.5**
RAFI				AML	AML	10 04 50.4	
	comp=E,252nm,0.2s						
RAFI				AML	AML	10 04 53.8	
	comp=N,282nm,0.8s						
IALM	**Almabolaq**	**2.31**	**59**	Pn	**Pb**	**10 04 22.3**	**-1.8**
HSAM	**Samen**	**2.42**	**77**	Pn	**Pb**	**10 04 23.1**	**+0.9**
HAGD	**Aghdareh**	**3.02**	**67**	Pn	**Pn**	**10 04 31.6**	**+1.3**

MAHB	**Mahabad**	**3.06**	**359**	Pn		**Pn**	**10 04 32.1**	**+1.4**
IRAZ	**Razeghan**	**3.84**	**63**	Pn		**Pn**	**10 04 43.0**	**+1.4**
IQOM	**Qom**	**4.55**	**74**	Pn		**Pn**	**10 04 51.6**	**+0.3**
QAMS	**Qamsar**	**4.71**	**88**	Pn		**Pn**	**10 04 54.4**	**+0.9**
IKLH	**Kolahrood**	**4.88**	**93**	Pn		**Pn**	**10 04 57.8**	**+1.9**
IVRN	**Varamin**	**5.11**	**74**	Pn		**Pn**	**10 04 59.0**	**+0.1**
KRSH	**Karshahi**	**5.32**	**85**	Pn		**Pn**	**10 05 02.2**	**+0.3**
IZEF	**Zefreh**	**5.57**	**96**	Pn		**Pn**	**10 05 06.0**	**+0.7**
KLNJ	**Kolanjah**	**5.62**	**117**	Pn		**Pn**	**10 05 07.5**	**+1.2**

*IDC **11** 10:05:10.6±1.9,33.87N×45.60E,h0km,mb3.6/7,*
mbtmp3.6/7,Error ellipse: s-maj=46.9km s-min=24.3km
az=168.0
*TEH **11** 10:05:12.3,33.78N×45.69E,h12km±26km,ML3.7*
*ISN **11** 10:05:12.3±0.8,33.80N×45.72E,h9km±4km,ML3.5*
ISC 11 10:05:12.8±1.2,33.80N±0.03×45.69E±0.04,h14km±9km,
n23,σ1°11/28,mb3.5/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**112**	Pg	**Pg**	**10 05 21.8**	**-0.3**
ILBA				Sg	**Sg**	**10 05 28.5**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.71**	**353**	Pg	**Pb**	**10 05 26.6**	**-0.4**
IBDR	**Badra**	**0.72**	**163**	*e*Pg	**Pg**	**10 05 26.5**	**-0.3**
IBDR				*e*Sg	**Sg**	**10 05 36.0**	**-0.3**
IGHG	**Ghaleghazi**	**0.90**	**54**	Pg	**Pb**	**10 05 30.6**	**+0.2**
IDHR	**Dehrash**	**1.07**	**33**	Pg	**Pg**	**10 05 32.7**	**-0.7**
BHD	**Baghdad**	**1.21**	**244**	*e*Pg	**Pg**	**10 05 36.0**	**-0.2**
BHD				*e*Sg	**Sn**	**10 05 53.0**	**+1.5**
BHD	comp=E,2µm,0.6s			AML	AML	10 06 00.9	
KCHF	**Cheshme Sefid,**	**1.22**	**67**	Pg	**Pg**	**10 05 35.8**	**-0.5**
ILIN	**Lien**	**1.54**	**43**	Pg	**Pg**	**10 05 42.0**	**-0.4**
ILIN				Sg	**Sg**	**10 06 04.7**	**+2.4**
IKOM	**Komasi**	**1.56**	**76**	Pg	**Pg**	**10 05 42.5**	**-0.3**
IKFM	**Kafar-mosalman**	**1.82**	**98**	Pn	**Pb**	**10 05 46.1**	**+0.2**
IBZA	**Bozab**	**1.92**	**69**	Pn	**Pb**	**10 05 47.0**	**-0.8**
RAFI	**Al-Rafai**	**2.10**	**170**	*e*Pn	**Pn**	**10 05 49.0**	**+1.4**
RAFI				*e*Sn	**Sb**	**10 06 17.0**	**+0.3**
RAFI	comp=E,296nm,0.4s			AML	AML	10 06 21.1	
RAFI	comp=N,264nm,0.5s			AML	AML	10 06 43.6	
IALM	**Almabolaq**	**2.31**	**62**	Pn	**Pb**	**10 05 52.7**	**-1.7**
HSAM	**Samen**	**2.46**	**80**	Pn	**Pb**	**10 05 54.1**	**+1.4**
MAHB	**Mahabad**	**2.96**	**0**	Pn	**Pn**	**10 06 01.4**	**+1.9**
HAGD	**Aghdareh**	**3.03**	**69**	Pn	**Pn**	**10 06 02.4**	**+1.7**
AKASG	**Malin Array Be**	**20.75**	**329**	P	**P**	**10 09 51.3**	**-1.6**
	comp=N,0.6nm,0.5s,baz=139,slow=10,SNR=4.8 comp=N,0.6nm,0.5s						
BVAR	**Borovoye Array**	**26.07**	**35**	P	**P**	**10 10 46.5**	**+0.8**
	comp=N,0.6nm,0.4s,baz=225,slow=8.0,SNR=4.4 comp=N,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**29.25**	**45**	P	**P**	**10 11 14.2**	**0.0**
	comp=N,0.3nm,0.5s,baz=251,slow=8.3,SNR=3.1 comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**30.50**	**54**	P	**P**	**10 11 25.7**	**+0.3**
	comp=N,0.9nm,0.4s,baz=259,slow=9.3,SNR=19 comp=N,0.9nm,0.4s						
HFS	**Hagfors**	**33.61**	**331**	P	**P**	**10 11 51.5**	**-0.9**
	comp=N,1.8nm,0.4s,baz=132,slow=10,SNR=12 comp=N,1.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**44.87**	**254**	P	**P**	**10 13 26.7**	**-0.2**
	comp=N,0.3nm,0.7s,baz=65,slow=6.5,SNR=1.7 comp=N,0.3nm,0.7s						
SONM	**Songino Array**	**46.87**	**54**	P	**P**	**10 13 41.3**	**-1.3**
	comp=N,0.3nm,0.7s,baz=293,slow=11,SNR=2.0 comp=N,0.3nm,0.7s						

*ISN **11** 10:06:37.3±1.2,33.70N×45.80E,h11km±6km,ML3.0*
*TEH **11** 10:06:38.0,33.71N×45.83E,h12km±599km,ML3.0*
ISC 11 10:06:38.6±0.9,33.69N±0.04×45.83E±0.04,h19km,n11,
σ0°66/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.32**	**102**	Pg	**Pg**	**10 06 44.9**	**-0.8**
ILBA				Sg	**Sg**	**10 06 50.7**	**+0.2**
IBDR	**Badra**	**0.59**	**172**	*e*Pg	**Pb**	**10 06 49.0**	**-1.1**
IBDR				*e*Sg	**Sb**	**10 06 57.5**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.84**	**346**	Pg	**Pb**	**10 06 54.5**	**-0.5**
IGHG	**Ghaleghazi**	**0.89**	**44**	Pg	**Pb**	**10 06 55.1**	**-0.4**
IDHR	**Dehrash**	**1.11**	**25**	Pg	**Pb**	**10 06 58.6**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.16**	**60**	Pg	**Pb**	**10 07 00.7**	**-0.5**
BHD	**Baghdad**	**1.28**	**251**	*e*Pg	**Pb**	**10 07 02.0**	**-0.1**
BHD				*e*Sg	**Sb**	**10 07 18.5**	**+0.4**
IKOM	**Komasi**	**1.48**	**71**	Pg	**Pb**	**10 07 05.8**	**+0.3**
ILIN	**Lien**	**1.54**	**37**	Pg	**Pn**	**10 07 05.7**	**+0.4**
IKFM	**Kafar-mosalman**	**1.69**	**95**	Pg	**Pb**	**10 07 09.4**	**+0.3**
RAFI	**Al-Rafai**	**1.98**	**173**	*e*Pn	**Pn**	**10 07 12.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**10 07 39.0**	**+0.8**
RAFI	comp=E,120nm,0.3s			AML	AML	10 07 47.6	
RAFI	comp=N,253nm,0.3s			AML	AML	10 08 04.8	

*NEIC **11** 10:08:24.4±1.1,51.0N±0.1×155.8W±0.2,h15km±9km,*
ML4.2(AEIC),Error ellipse: s-maj=18.1km s-min=13.6km
az=51.0
AEIC 11 10:08:27.2±1.1,50.9N±0.1×155.7W±0.2,h11km±9km,
Error ellipse: s-maj=21.7km s-min=17.2km az=172.0,
South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**4.61**	**331**		Pn	10 09 30.5	-6.1
SDPT	**Sand Point**	**5.33**	**329**		Pn	10 09 41.0	-5.5
DT1	**Dutton Round H**	**5.81**	**320**		Pn	10 09 47.7	-5.5
PVV	**Pavlof Volcano**	**5.81**	**323**		Pn	10 09 48.0	-5.2
PS4A	**Pavlof South-4**	**5.81**	**323**		Pn	10 09 48.2	-5.0
PS1A	**Pavlof South-1**	**5.83**	**324**		Pn	10 09 48.4	-5.0
PS1A					Sn	10 10 53.4	-6.7
VNFG	**Fog Glacier, M**	**5.89**	**339**		Pn	10 09 49.7	-4.7
PN7A	**Pavlof North-7**	**5.93**	**323**		Pn	10 09 50.3	-4.6
FALS	**False Pass**	**6.14**	**314**		Pn	10 09 52.3	-5.4
ISLZ	**Isanotski Laza**	**6.20**	**312**		Pn	10 09 52.9	-5.6
ISNN	**Isanotski Nort**	**6.29**	**312**		Pn	10 09 55.1	-4.7
SSLN	**Shishaldin Nor**	**6.38**	**312**		Pn	10 09 56.5	-4.6
WESE	**West Dahl East**	**6.49**	**307**		Pn	10 09 57.8	-4.8
OHAK	**Old Harbor**	**6.53**	**12**		Pn	10 09 57.1	-6.0
AKSA	**Akutan Strait**	**6.91**	**302**		Pn	10 10 03.4	-4.9
ZRO	**Akutan Zero**	**7.05**	**301**		Pn	10 10 05.5	-4.7
KDAK	**Kodiak Island**	**7.17**	**14**		Pn	10 10 06.3	-5.6
UNV	**Unalaska Valle**	**7.25**	**299**		Pn	10 10 07.5	-5.4
UNV					Sn	10 11 26.1	-8.9
MNAT	**Makushin Natee**	**7.36**	**299**		Pn	10 10 09.9	-4.6
MSW	**Makushin Switc**	**7.42**	**299**		Pn	10 10 10.0	-5.3
MAPS	**Pakushin South**	**7.48**	**298**		Pn	10 10 11.3	-4.8
OKTU	**Okmok Mt. Tuli**	**7.99**	**293**		Pn	10 10 18.6	-4.6
O15K	**Ungalikthiuk R**	**8.66**	**346**		Pn	10 10 27.4	-4.9
O14K	**Tigyukauivet M**	**8.99**	**341**		Pn	10 10 32.0	-4.7
CNPM	**China Poot**	**9.05**	**15**		Pn	10 10 32.3	-5.3
BRLK	**Bradley Lake**	**9.34**	**15**	Pn	Pn	10 10 36.0	-5.5
N15K	**Kwethluk River**	**9.65**	**347**	Pn	Pn	10 10 40.9	-4.9
RSO	**Redoubt South**	**9.77**	**9**	Pn	Pn	10 10 42.2	-5.4
M16K	**Timber Creek**	**10.35**	**351**	Pn	Pn	10 10 49.6	-5.7
SCM	**Sheep Creek Mo**	**11.93**	**20**	Pn	Pn	10 11 12.2	-4.8
N25K	**Chitina, Valde**	**12.40**	**25**	Pn	Pn	10 11 18.9	-4.6
J16K	**Anvik River**	**12.73**	**350**	Pn	Pn	10 11 22.9	-5.0

IDC 11 10:08:37.1±5.3,2.95S×138.09E,h0km,mb3.0/2,
mbtmp3.1/3,ML3.0/1,Error ellipse: s-maj=210.6km
s-min=21.8km az=89.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.28**	**192**	P	Pn	10 12 38.7	-1.3
	0.1nm,0.3s,baz=12,slow=12,SNR=4.6 0.5nm,0.9s						
ASAR	**Alice Springs**	**20.99**	**191**	P	P	10 13 20.4	-1.8
ASAR	0.1nm,0.3s,baz=11,slow=10,SNR=4.0 0.5nm,0.9s,baz=7.1,slow=31,SNR=1.6 0.1nm,0.3s			S	S	10 17 19.2	+2.2
MKAR	**Makanchi Array**	**69.60**	**323**	P	P	10 19 48.8	+0.5
	0.2nm,0.5s,baz=104,slow=4.6,SNR=1.2 0.2nm,0.5s						

*IDC **11** 10:13:05.3±1.5,33.81N×45.50E,h0km,mb3.7/8,*
mbtmp3.7/8,Error ellipse: s-maj=36.9km s-min=23.0km
az=176.0
*TEH **11** 10:13:05.8,33.64N×45.69E,h16km±41km,ML3.8*
*ISN **11** 10:13:06.8±0.9,33.70N×45.71E,h10km±4km,ML3.5*
ISC 11 10:13:06.6±1.1,33.65N±0.03×45.73E±0.03,h15km±8km,
n29,σ1°50/35,mb3.9/7,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**93**	Pg	**Pb**	**10 13 15.1**	**-0.4**
ILBA				Sg	**Sb**	**10 13 21.0**	**-0.5**
IBDR	**Badra**	**0.56**	**162**	*e*Pg	**Pn**	**10 13 19.0**	**-1.1**
IBDR				*e*Sg	**Sn**	**10 13 27.5**	**-1.7**
IBDR	comp=N,1µm,0.5s			AML	AML	10 13 39.4	
IBDR	comp=E,1µm,0.4s			AML	AML	10 13 44.8	
KGS1	**Ghasr-e-Shirin**	**0.86**	**352**	Pg	**Pb**	**10 13 22.1**	**-1.2**
IGHG	**Ghaleghazi**	**0.97**	**46**	Pg	**Pb**	**10 13 25.0**	**-0.4**
IDHR	**Dehrash**	**1.18**	**27**	Pg	**Pn**	**10 13 27.9**	**-0.9**
IDHR				Sg	**Sg**	**10 13 46.8**	**+1.8**
BHD	**Baghdad**	**1.19**	**252**	*e*Pg	**Pg**	**10 13 30.0**	**+0.5**
BHD				*e*Sg	**Sg**	**10 13 46.0**	**+1.0**
BHD	comp=E,5µm,0.4s			AML	AML	10 13 51.5	
KCHF	**Cheshme Sefid,**	**1.26**	**60**	Pg	**Pg**	**10 13 30.2**	**-0.7**
KCHF				Sg	**Sg**	**10 13 47.9**	**+0.5**
IKOM	**Komasi**	**1.57**	**70**	Pg	**Pg**	**10 13 36.1**	**-0.8**
ILIN	**Lien**	**1.63**	**39**	Pg	**Pb**	**10 13 36.8**	**+0.2**
IKFM	**Kafar-mosalman**	**1.77**	**93**	Pg	**Pg**	**10 13 39.6**	**-1.1**
RAFI	**Al-Rafai**	**1.95**	**170**	*e*Pn	**Pb**	**10 13 42.0**	**+0.2**
RAFI				*e*Sn	**Sg**	**10 14 09.0**	**-0.3**
RAFI	comp=E,492nm,0.5s			AML	AML	10 14 13.9	
RAFI	comp=N,351nm,0.3s			AML	AML	10 14 26.1	
IBZA	**Bozab**	**1.95**	**65**	Pn	**Pb**	**10 13 41.3**	**-0.8**
IALM	**Almabolaq**	**2.36**	**58**	Pn	**Pb**	**10 13 46.9**	**-2.1**
HSAM	**Samen**	**2.46**	**76**	Pn	**Pb**	**10 13 48.1**	**-2.6**
SDS1	**Sardasht. Az.**	**2.50**	**356**	Pn	**Pn**	**10 13 47.4**	**+0.5**
HAGD	**Aghdareh**	**3.06**	**67**	Pn	**Pn**	**10 13 56.4**	**+1.7**
QAMS	**Qamsar**	**4.73**	**87**	Pn	**Pn**	**10 14 19.6**	**+2.0**
IKLH	**Kolahrood**	**4.90**	**92**	Pn	**Pn**	**10 14 22.4**	**+2.3**
IVRN	**Varamin**	**5.14**	**73**	Pn	**Pn**	**10 14 24.9**	**+1.7**
KRSH	**Karshahi**	**5.35**	**85**	Pn	**Pn**	**10 14 28.1**	**+2.1**
IRAM	**Ramesheh**	**5.90**	**106**	Pn	**Pn**	**10 14 35.3**	**+1.5**
AKASG	**Malin Array Be**	**20.89**	**330**	P	**P**	**10 17 46.8**	**-1.4**
	comp=N,0.2nm,0.3s,baz=141,slow=9.4,SNR=5.7 comp=N,0.2nm,0.3s						
BVAR	**Borovoye Array**	**26.18**	**35**	P	**P**	**10 18 43.0**	**+2.6**
	comp=N,0.5nm,0.5s,baz=243,slow=9.5,SNR=3.0 comp=N,0.5nm,0.5s						
MKAR	**Makanchi Array**	**30.57**	**54**	P	**P**	**10 19 20.1**	**+0.5**
	comp=N,1.2nm,0.7s,baz=252,slow=8.5,SNR=5.1 comp=N,1.2nm,0.7s						
HFS	**Hagfors**	**33.76**	**331**	P	**P**	**10 19 45.3**	**-2.1**
	comp=N,1.4nm,0.7s,baz=126,slow=9.3,SNR=1.5 comp=N,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**34.15**	**42**	P	**P**	**10 19 51.0**	**+0.1**
	comp=N,0.8nm,0.3s,baz=284,slow=5.8,SNR=1.8 comp=N,0.8nm,0.3s						
EKA	**Eskdalemuir Ar**	**40.00**	**318**	P	**P**	**10 20 39.9**	**-0.6**
	comp=N,0.9nm,0.7s,baz=100,slow=10,SNR=1.7 comp=N,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**44.86**	**254**	P	**P**	**10 21 20.3**	**-0.3**
	comp=N,0.7nm,0.9s,baz=52,slow=7.3,SNR=4.5 comp=N,0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.63**	**94**	P	**P**	**10 22 00.7**	**+2.9**
	comp=N,0.6nm,0.4s,baz=286,slow=7.4,SNR=2.0 comp=N,0.6nm,0.4s						

*IDC **11** 10:14:09.1±2.1,33.83N×45.51E,h0km,mb3.8/8,*
mbtmp3.8/8,Error ellipse: s-maj=45.4km s-min=25.1km
az=167.0
*ISN **11** 10:14:09.8±1.2,33.69N×45.72E,h7km±6km,ML3.6*
*TEH **11** 10:14:10.0,33.70N×45.70E,h8km±61km,ML3.6*
ISC 11 10:14:10.3±0.6,33.71N±0.04×45.68E±0.04,h13km,n21,
σ0°85/25,mb3.9/7,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.45**	**101**	Pg	**Pg**	**10 14 19.0**	**-0.3**
ILBA				Sg	**Sg**	**10 14 25.0**	**-0.3**
IBDR	**Badra**	**0.63**	**161**	*e*Pg	**Pg**	**10 14 22.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**10 14 30.0**	**-1.1**
KGS1	**Ghasr-e-Shirin**	**0.80**	**355**	Pg	**Pg**	**10 14 25.4**	**-0.5**
IGHG	**Ghaleghazi**	**0.96**	**50**	Pg	**Pg**	**10 14 29.0**	**-0.1**
IDHR	**Dehrash**	**1.15**	**31**	Pg	**Pb**	**10 14 32.2**	**0.0**
BHD	**Baghdad**	**1.17**	**248**	*e*Pg	**Pg**	**10 14 33.0**	**+0.1**
BHD				*e*Sg	**Sn**	**10 14 49.0**	**+0.8**
BHD	comp=E,7µm,0.6s			AML	AML	10 14 54.6	
KCHF	**Cheshme Sefid,**	**1.27**	**63**	Pg	**Pb**	**10 14 34.2**	**+0.1**
IKOM	**Komasi**	**1.59**	**73**	Pg	**Pg**	**10 14 40.3**	**-0.6**
ILIN	**Lien**	**1.61**	**41**	Pg	**Pb**	**10 14 40.3**	**+0.3**
IKFM	**Kafar-mosalman**	**1.82**	**95**	Pg	**Pb**	**10 14 43.5**	**+0.1**
IBZA	**Bozab**	**1.96**	**67**	Pn	**Pn**	**10 14 44.0**	**+0.4**
RAFI	**Al-Rafai**	**2.02**	**169**	*e*Pn	**Pn**	**10 14 45.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**10 15 12.5**	**+0.7**
RAFI	comp=E,288nm,0.5s			AML	AML	10 15 16.8	
RAFI	comp=N,342nm,0.1s			AML	AML	10 15 21.3	
IALM	**Almabolaq**	**2.36**	**60**	Pn	**Pn**	**10 14 50.5**	**+1.4**
AKASG	**Malin Array Be**	**20.82**	**330**	P	**P**	**10 18 50.0**	**-1.5**
	comp=N,2.0nm,0.6s,baz=138,slow=9.7,SNR=11 comp=N,2.0nm,0.6s						
BVAR	**Borovoye Array**	**26.15**	**35**	P	**P**	**10 19 45.9**	**+1.8**
	comp=N,0.2nm,0.3s,baz=224,slow=8.1,SNR=2.1 comp=N,0.2nm,0.3s						
MKAR	**Makanchi Array**	**30.56**	**54**	P	**P**	**10 20 23.8**	**+0.2**
	comp=N,1.2nm,0.6s,baz=253,slow=8.9,SNR=4.4 comp=N,1.2nm,0.6s						
HFS	**Hagfors**	**33.68**	**331**	P	**P**	**10 20 50.1**	**-0.7**
	comp=N,1.7nm,0.4s,baz=132,slow=8.6,SNR=11 comp=N,1.7nm,0.4s						
ZALV	**Zalesovo Beam**	**34.13**	**42**	P	**P**	**10 20 56.1**	**+1.3**
	comp=N,0.8nm,0.3s,baz=267,slow=10,SNR=2.6 comp=N,0.8nm,0.3s						
EKA	**Eskdalemuir Ar**	**39.93**	**318**	P	**P**	**10 21 43.5**	**-0.5**
	comp=N,0.4nm,0.3s,baz=97,slow=9.4,SNR=5.2 comp=N,0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**44.84**	**254**	P	**P**	**10 22 24.2**	**-0.2**
	comp=N,0.3nm,0.5s,baz=50,slow=8.0,SNR=2.9 comp=N,0.3nm,0.5s						
SPITS	**Spitsbergen Ar**	**46.34**	**352**	P	**P**	**10 22 34.5**	**-1.1**
	comp=N,1.3nm,0.5s,baz=138,slow=12,SNR=4.2 comp=N,1.3nm,0.5s						

*IDC **11** 10:14:39.5±0.7,58.93N×30.81W,h0km,mb3.8/17,*
mbtmp3.9/20,MLB.3/6,MS3.8/11,Error ellipse:
s-maj=21.0km s-min=13.2km az=178.0
*REY **11** 10:14:52.1,59.19N×31.11W,h10km*
ISC 11 10:10:14:40.9±0.6,58.90N±0.09×30.73W±0.07,h10km,n40,
σ1°24/36,mb3.9/16,MS3.8/7,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	**6.36**	**35**	P	**Pn**	**10 16 16.0**	**+1.4**
	baz=38						
IKAS	**Kald??rsel**	**6.67**	**36**	P	**Pn**	**10 16 20.9**	**+2.1**
	baz=38						
ISAN	**Sandskeio**	**6.78**	**36**	P	**Pn**	**10 16 20.6**	**+0.3**
	baz=39						
IEDA	**Engidalur**	**6.85**	**37**	P	**Pn**	**10 16 21.7**	**+0.4**
	baz=39						
IEDA				S	**Sn**	**10 17 37.4**	**-1.9**
	baz=39						
ISOL	**Solvholt**	**6.89**	**39**	P	**Pn**	**10 16 21.8**	**0.0**
	baz=41						
ISOL				S	**Sn**	**10 17 36.9**	**-3.2**
	baz=41						
IMOR	**Morastadir**	**6.90**	**34**	P	**Pn**	**10 16 23.4**	**+1.5**
	baz=37						
IHEI	**Heioarbar**	**6.98**	**36**	P	**Pn**	**10 16 24.6**	**+1.6**
	baz=39						
ISAU	**Saurbar**	**7.10**	**40**	P	**Pn**	**10 16 24.7**	**0.0**
	baz=42						
BORG	**Borgarnes**	**7.36**	**33**	Pn	**Pn**	**10 16 29.4**	**+1.2**
	3.3nm,0.3s,baz=213,slow=7.3,SNR=9.8						
BORG				Sn	**Sn**	**10 17 50.8**	**-0.8**
	1.2nm,0.3s,baz=112,slow=22,SNR=8.5						
BORG				LR	LR	10 18 32.1	
	comp=Z,510nm,18.2s,baz=182,slow=32 13nm,0.5s						
SFJD	**Kangerlussuaq**	**12.10**	**320**	Sn	Sn	10 19 35.6	-12
	0.4nm,0.3s,baz=202,slow=13,SNR=1.4						
SFJD				LR	LR	10 21 18.1	
	comp=Z,250nm,18.7s,baz=153,slow=33						
SUMG	**Summit**		**14.07**	**350**	*i* P	**Pn**	**10 18 03.0**	**+2.6**
EKA	**Eskdalemuir Ar**	**15.34**	**92**	Pn	**Pn**	**10 18 18.1**	**+0.9**
	baz=293,slow=13 3.9nm,1.0s						
FRB	**Frobisher Bay**	**18.57**	**301**	P	**P**	**10 18 57.5**	**-0.2**
	0.1nm,0.3s,baz=74,slow=10,SNR=5.0						
FRB				LR	LR	10 25 19.3	
	comp=Z,319nm,18.4s,baz=24,slow=34 2.2nm,0.9s						
SCHQ	**Scheffer ville**	**19.98**	**274**	LR	LR	10 25 39.4	
	comp=Z,248nm,19.3s,baz=52,slow=33						
NOA	**NORSAR Array B**	**20.84**	**66**	P	**P**	**10 19 21.6**	**-0.9**
	0.5nm,0.8s,baz=282,slow=9.8,SNR=1.6						
NOA				LR	LR	10 26 28.3	
	comp=Z,131nm,18.7s,baz=300,slow=34 0.5nm,0.8s						
ARCES	**ARCESS Array B**	**25.63**	**43**	P	**P**	**10 20 09.3**	**-0.8**
	3.8nm,0.6s,baz=264,slow=8.1,SNR=27 3.8nm,0.6s						
ESDC	**Sonseca Array**	**25.68**	**127**	P	**P**	**10 20 11.7**	**+0.8**
	1.0nm,0.9s,baz=327,slow=9.2,SNR=1.5 1.0nm,0.9s						
FINES	**FINESS Array B**	**27.61**	**60**	P	**P**	**10 20 28.7**	**+0.7**
	3.1nm,0.9s,baz=282,slow=7.0,SNR=4.7						
FINES				LR	LR	10 31 04.2	
	comp=Z,169nm,18.9s,baz=206,slow=36 3.1nm,0.9s						
AKASG	**Malin Array Be**	**34.42**	**77**	P	**P**	**10 21 27.4**	**-0.7**
	0.2nm,0.4s,baz=308,slow=8.2,SNR=2.5 0.2nm,0.4s						
OBN	**Obninsk**	**35.44**	**66**	LR	LR	10 36 31.3	
	comp=Z,151nm,22.0s,baz=216,slow=37						
ULM	**Lac du Bonnet**	**37.31**	**286**	P	**P**	**10 21 51.7**	**-1.1**
	1.4nm,0.7s,baz=51,slow=6.5,SNR=4.0						
ULM				LR	LR	10 37 13.7	
	comp=Z,257nm,18.0s,baz=133,slow=36 1.4nm,0.7s						
YKA	**Yellowknife Ar**	**38.49**	**312**	P	**P**	**10 22 02.0**	**-0.6**
	1.1nm,0.8s,baz=57,slow=9.3,SNR=13						
YKA				PcP	**PcP**	**10 24 13.6**	**-1.6**
	0.3nm,0.6s,baz=55,slow=3.4,SNR=4.4 1.1nm,0.8s						
BRTR	**Keskin Array B**	**44.17**	**86**	LR	LR	10 42 21.5	
	comp=Z,103nm,19.0s,baz=266,slow=38						
ILAR	**Eielson Array**	**47.61**	**329**	P	**P**	**10 23 14.8**	**-1.6**
	0.4nm,0.8s,baz=39,slow=7.2,SNR=4.8						
ILAR				PcP	**PcP**	**10 24 45.7**	**-0.1**
	0.6nm,0.8s,baz=357,slow=2.5,SNR=5.4 0.4nm,0.8s						
AKTO	**Aktyubinsk**	**48.37**	**59**	P	**P**	**10 23 23.1**	**+0.7**
	7.2nm,0.7s,baz=325,slow=4.7,SNR=7.8 7.2nm,0.7s						
NEW	**Newport**	**48.87**	**298**	LR	LR	10 42 22.9	
	comp=Z,208nm,20.4s,baz=160,slow=34						
PDAR	**Pinedale Array**	**49.28**	**288**	P	**P**	**10 23 30.1**	**+0.2**
	0.4nm,0.7s,baz=58,slow=6.7,SNR=6.3						
PDAR				PcP	**PcP**	**10 24 54.1**	**+1.5**
	0.2nm,0.8s,baz=89,slow=3.7,SNR=2.2 0.4nm,0.7s						
BVAR	**Borovoye Array**	**51.63**	**49**	P	**P**	**10 23 47.9**	**+0.7**
	2.5nm,0.8s,baz=320,slow=9.0,SNR=9.9 2.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.68**	**138**	P	**P**	**10 23 47.1**	**-0.8**
	1.5nm,0.9s,baz=341,slow=8.8,SNR=6.6 1.5nm,0.9s						
YBH	**Yreka Blue Hor**	**56.40**	**296**	LR	LR	10 48 11.9	
	comp=Z,154nm,20.4s,baz=349,slow=36						
KURBB	**Kurchatov Arra**	**56.64**	**46**	P	**P**	**10 24 24.2**	**+0.5**
	0.8nm,0.3s,baz=325,slow=7.2,SNR=7.7 0.8nm,0.3s						
TXAR	**Lajitas Array**	**56.66**	**272**	P	**P**	**10 24 24.1**	**-0.1**
	0.4nm,0.8s,baz=26,slow=6.4,SNR=2.2 0.4nm,0.8s						
MKAR	**Makanchi Array**	**61.21**	**46**	P	**P**	**10 24 56.3**	**+0.8**
	1.8nm,0.8s,baz=338,slow=5.8,SNR=12 1.8nm,0.8s						
H10N2	**ASCENSION HYDR**	**67.78**	**163**	T	T	11 39 17.3	
	baz=349						
H10N3	**ASCENSION HYDR**	**67.79**	**163**	T	T	11 39 24.0	
	baz=349						
H10N1	**ASCENSION HYDR**	**67.80**	**163**	T	T	11 39 24.0	
	baz=349						
SONM	**Songino Array**	**67.95**	**30**	P	**P**	**10 25 40.0**	**+0.3**
	0.6nm,0.7s,baz=324,slow=7.1,SNR=5.4 0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.61**	**47**	P	**P**	**10 27 52.6**	**-0.1**
	0.4nm,0.3s,baz=324,slow=5.6,SNR=4.7 0.4nm,0.3s						
ASAR	**Alice Springs**	**143.14**	**24**	PKhKP	PKPpre	10 34 12.1	
	baz=195,slow=26,SNR=3.4						
QSPA	**South Pole Qui**	**148.80**	**180**	PKPbc	**PKPbc**	**10 34 27.8**	**+0.8**
	4.6nm,1.1s,baz=219,slow=2.6,SNR=5.9		

0.5nm,0.4s,baz=134,slow=9.8,SNR=5.9
0.5nm,0.4s
ARCES ARCESS Array B 40.97 337 P P 10 31 09.5 +1.0
3.4nm,1.1s,baz=114,slow=9.0,SNR=6.1
3.4nm,1.1s
HFS Hagfors 42.92 322 P P 10 31 25.3 +0.8
1.6nm,0.5s,baz=97,slow=12,SNR=7.1
1.6nm,0.5s
NB2 NORSAR Subarra 44.23 323 P P 10 31 35.1 +0.1
comp=Z,0.5nm,0.5s,baz=93,slow=7.9
NOA NORSAR Array B 44.23 323 P P 10 31 35.0 +0.1
comp=Z,0.6nm,0.5s,baz=99,slow=8.1,SNR=4.5
comp=Z,0.6nm,0.5s
TORD Torodi Ar. Bea 65.76 269 P P 10 34 06.9 -2.8
comp=Z,0.2nm,0.3s,baz=61,slow=8.1,SNR=1.8
comp=Z,0.2nm,0.3s

*ISN **11** 10:24:32.3±0.9, 33˚.80N×45˚.73E, h8km±5km, ML3.2*
*TEH **11** 10:24:33.0, 33˚.78N×45˚.69E, h11km±35km, ML3.4*
ISC 11 10:24:34.2±0.9, 33.77N±0˚.04×45.66E±0˚.05, h10km, n13, σ1s37/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**107**	Pg		**Pg**	**10 24 41.9**	**-1.6**
IBDR	**Badra**	**0.69**	**161**	*e*Pg		**Pg**	**10 24 46.0**	**-1.6**
IBDR				*e*Sg		**Sg**	**10 24 56.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.74**	**355**	Pg		**Pg**	**10 24 47.4**	**-1.1**
IGHG	**Ghaleghazi**	**0.94**	**53**	Pg		**Pg**	**10 24 51.3**	**-1.0**
IDHR	**Dehrash**	**1.11**	**33**	Pg		**Pg**	**10 24 53.6**	**-1.9**
BHD	**Baghdad**	**1.18**	**246**	*e*Pg		**Pb**	**10 24 56.5**	**-0.2**
BHD				*e*Sg		**Sb**	**10 25 13.0**	**+1.0**
BHD				AML		AML	10 25 17.9	
	comp=E,1μm,0.4s							
KCHF	**Cheshme Sefid,**	**1.25**	**66**	Pg		**Pn**	**10 24 56.9**	**-1.1**
ILIN	**Lien**	**1.57**	**43**	Pg		**Pn**	**10 25 03.0**	**+0.5**
IKOM	**Komasi**	**1.59**	**75**	Pg		**Pn**	**10 25 03.2**	**+0.6**
IKOM				Sg		**Sn**	**10 25 25.7**	**+2.4**
IKFM	**Kafar-mosalman**	**1.84**	**97**	Pn		**Pn**	**10 25 06.5**	**+0.7**
IBZA	**Bozab**	**1.95**	**68**	Pn		**Pn**	**10 25 08.7**	**+1.1**
RAFI	**Al-Rafai**	**2.07**	**169**	*e*Pn		**Pn**	**10 25 09.0**	**0.0**
RAFI				*e*Sn		**Sn**	**10 25 37.0**	**+2.1**
RAFI				AML		AML	10 25 47.9	
	comp=E,135nm,0.2s							
RAFI				AML		AML	10 25 52.9	
	comp=N,172nm,0.3s							
HSAM	**Samen**	**2.48**	**79**	Pn		**Pn**	**10 25 15.0**	**+0.1**

*KNET **11** 10:24:56.6±0.3, 42˚.37N×76˚.32E, h16km±1km, ml1.8, Error ellipse: s-maj=3.1km s-min=1.2km az=101.0*
*NNC **11** 10:24:56.1±0.6, 42˚.39N×76˚.45E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=4.0km s-min=2.7km az=4.0*
*SOME **11** 10:24:56.0, 42˚.37N×76˚.38E, h10km*
KRNET 11 10:24:55.5±0.1, 42.34N×76.43E, h21km, mb2.4, 26C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULHL	**Ulahol**	**0.17**	**237**	⇑P		Pb	10 25 00.6	-1.2
	60nm,0.1s,SNR=11							
ULHL				⇑S		Sb	10 25 04.0	-2.2
	98nm,0.1s							
ULHL	**Ulahol**	**0.17**	**237**	⇑*i*P		Pb	10 25 00.5	-1.3
	baz=37							
ULHL				⇑*i*S		Sb	10 25 03.9	-2.3
	baz=37							
BOOM	**Boomskoye usch**	**0.39**	**293**	⇓*i*P		Pb	10 25 03.7	-0.1
	baz=94							
BOOM				⇓*i*S		Sb	10 25 09.6	+0.2
	baz=94							
KDJ	**Kajisay**	**0.59**	**110**	⇑*i*P		Pb	10 25 07.4	0.0
	baz=10.0							
KDJ				⇑*i*S		Sb	10 25 15.7	+0.1
	baz=10.0							
IZV	**Izvestkoviy**	**0.71**	**11**	P		Pb	10 25 09.5	+0.1
	1.7nm,0.1s							
IZV				S		Sb	10 25 19.2	+0.4
	44nm,0.2s							
IZV	**Izvestkoviy**	**0.71**	**11**	*e*P		Pb	10 25 09.4	+0.1
	1.7nm,0.1s							
IZV				*e*S		Sb	10 25 19.2	+0.4
	44nm,0.2s							
IZV	**Izvestkoviy**	**0.71**	**11**	*e*P		Pb	10 25 09.5	+0.1
	baz=11							
IZV				*e*S		Sb	10 25 19.2	+0.4
	baz=11							
MTBS	**Maitube**	**0.79**	**0**	P		Pb	10 25 10.7	0.0
	2.8nm,0.1s							
MTBS				S		Sb	10 25 21.1	+0.1
	46nm,0.3s							
MTBS	**Maitube**	**0.79**	**0**	*e*P		Pb	10 25 10.7	0.0
	2.2nm,0.1s							
MTBS				*e*S		Sb	10 25 21.1	+0.1
	46nm,0.3s							
MTBS	**Maitube**	**0.79**	**0**	*e*P		Pb	10 25 10.7	0.0
	baz=0.0							
MTBS				*e*S		Sb	10 25 21.2	+0.2
	baz=0.0							
TNSS	**Tian-Shan**	**0.80**	**28**	P		Pb	10 25 11.0	0.0
	5.0nm,0.1s							
TNSS				S		Sb	10 25 21.4	-0.1
	9.6nm,0.1s							
TNSS	**Tian-Shan**	**0.80**	**28**	*e*P		Pb	10 25 10.8	-0.1
	4.6nm,0.1s							
TNSS				*e*S		Sb	10 25 21.4	-0.1
	18nm,0.1s							
TNSS	**Tian-Shan**	**0.80**	**28**	*e*P		Pb	10 25 10.8	-0.1
	baz=28							
TNSS				*e*S		Sb	10 25 21.3	-0.2
	baz=28							
TKM2	**Tokmak 2**	**0.85**	**314**	⇑P		Pb	10 25 11.9	+0.2
	5.4nm,0.2s,SNR=23							
TKM2				⇑S		Sb	10 25 23.4	+0.7
	62nm,0.1s							
TKM2	**Tokmak 2**	**0.85**	**314**	⇑*i*P		Pb	10 25 11.8	+0.1
	baz=14							
TKM2				⇑*i*S		Sb	10 25 23.2	+0.5
	baz=14							
TKM2	**Tokmak 2**	**0.85**	**314**	⇑P		Sb	10 25 23.3	+0.6
	10nm,0.2s							
KZA	**Kyzart**	**0.91**	**254**	⇑P		Pn	10 25 13.6	+0.1
	4.0nm,0.3s							
KZA				⇑S		Sn	10 25 26.3	+0.1
	5.6nm,0.1s							
KZA	**Kyzart**	**0.91**	**254**	⇑*i*P		Pb	10 25 13.0	+0.1
	baz=54							
KZA				⇑*i*S		Sb	10 25 25.3	+0.6
	baz=54							
MDOK	**Medeo**	**0.94**	**29**	Pg		Pb	10 25 13.3	0.0
	2.2nm,0.2s							
MDOK				Lg		Lg	10 25 25.7	
	15nm,0.4s							
MDOK	**Medeo**	**0.94**	**29**	*e*P		Pb	10 25 13.3	0.0
	2.4nm,0.4s							
MDOK				*e*S		Sb	10 25 25.7	+0.3
	15nm,0.2s							
MDOK	**Medeo**	**0.94**	**29**	*e*P		Pb	10 25 13.3	0.0
	baz=29							
MDOK				*e*S		Sb	10 25 25.7	+0.3
	baz=29							
NRN	**Naryn**	**0.96**	**200**	⇑*i*P		Pb	10 25 13.7	+0.1
	baz=1.0							
NRN				⇑*i*S		Sn	10 25 26.9	-0.3
	baz=1.0							
ANVS	**Anan'yevo**	**1.02**	**64**	⇑*i*P		Pb	10 25 14.4	-0.1
	baz=63							
ANVS				⇑*i*S		Sb	10 25 28.0	+0.4
	baz=63							
DGS	**Degeres**	**1.03**	**332**	P		Pn	10 25 15.3	+0.5
	2.6nm,0.1s							
DGS				S		Sn	10 25 28.7	+0.1
	12nm,0.1s							
DGS	**Degeres**	**1.03**	**332**	*e*P		Pn	10 25 15.1	+0.3
	2.6nm,0.1s							
DGS				*e*S		Sn	10 25 28.7	+0.1
	12nm,0.1s							
DGS	**Degeres**	**1.03**	**332**	*e*P		Pn	10 25 15.1	+0.3
	baz=32							
DGS				*e*S		Sn	10 25 28.7	+0.1
	baz=32							
KOTS	**Kotyrbulak**	**1.03**	**29**	P		Pn	10 25 14.9	0.0
	1.8nm,0.1s							
KOTS				S		Sn	10 25 28.6	-0.1
	18nm,0.4s							
KOTS	**Kotyrbulak**	**1.03**	**29**	*e*P		Pn	10 25 15.0	+0.1
	1.8nm,0.1s							
KOTS				*e*S		Sn	10 25 28.6	-0.1
	28nm,0.1s							
KOTS	**Kotyrbulak**	**1.03**	**29**	*e*P		Pn	10 25 15.0	+0.1
	baz=29							
KOTS				*e*S		Sn	10 25 28.6	-0.1
	baz=29							
TARG	**Taragay, Kyrgy**	**1.19**	**120**	⇑*i*P		Pb	10 25 17.7	+0.1
	baz=20							
TARG				⇑*i*S		Sn	10 25 33.6	+0.5
	baz=20							
KTBS	**Karatobe**	**1.39**	**8**	P		Pb	10 25 21.4	+0.7
	3.0nm,0.1s							
KTBS				S		Sb	10 25 39.6	+1.5
	26nm,0.3s							
KTBS	**Karatobe**	**1.39**	**8**	*e*P		Pb	10 25 21.4	+0.7
	3.3nm,0.1s							
KTBS				*e*S		Sb	10 25 39.6	+1.5
	26nm,0.3s							
KTBS	**Karatobe**	**1.39**	**8**	*e*P		Pb	10 25 21.4	+0.6
	baz=8.0							
KTBS				*e*S		Sb	10 25 39.6	+1.6
	baz=8.0							
CHMS	**Chumysh**	**1.40**	**299**	⇑*i*P		Pb	10 25 20.9	-0.1
	baz=99							
CHMS				⇑*i*S		Sb	10 25 39.5	+1.0
	baz=99							
AAK	**Ala-Archa**	**1.46**	**283**	⇓*i*P		Pb	10 25 22.0	-0.1
	baz=83							
AAK				⇓*i*S		Sb	10 25 41.3	+1.0
	baz=83							
KRBS	**Karabastau**	**1.47**	**338**	P		Pb	10 25 22.9	+0.7
	2.3nm,0.1s							
KRBS				S		Sb	10 25 41.7	+1.4
	11nm,0.1s							
KRBS	**Karabastau**	**1.47**	**338**	*e*P		Pb	10 25 22.6	+0.5
	2.4nm,0.1s							
KRBS				*e*S		Sb	10 25 41.7	+1.4
	11nm,0.1s							
KUU	**Kurty**	**1.56**	**358**	P		Pb	10 25 24.4	+0.7
	2.5nm,0.2s							
KUU				S		Sb	10 25 44.5	+1.6
	16nm,0.3s							
KUU	**Kurty**	**1.56**	**358**	*e*P		Pb	10 25 24.3	+0.6
	2.6nm,0.1s							
KUU				*e*S		Sb	10 25 44.5	+1.6
	16nm,0.1s							
KUU	**Kurty**	**1.56**	**358**	*e*P		Pb	10 25 24.3	+0.7
	baz=58							
KUU				*e*S		Sb	10 25 44.5	+1.6
	baz=58							
CHKK	**Chushkaly**	**1.57**	**15**	P		Pb	10 25 24.5	+0.6
	1.9nm,0.3s							
CHKK				S		Sb	10 25 44.9	+1.6
	31nm,0.1s							
CHKK	**Chushkaly**	**1.57**	**15**	*e*P		Pb	10 25 24.5	+0.7
	1.9nm,0.3s							
CHKK				*e*S		Sb	10 25 44.9	+1.6
	35nm,0.1s							
CHKK	**Chushkaly**	**1.57**	**15**	*e*P		Pb	10 25 24.5	+0.6
	baz=15							
CHKK				*e*S		Sb	10 25 44.9	+1.6
	baz=15							
SATY	**Saty**	**1.63**	**63**	P		Pb	10 25 25.1	+0.2
	2.9nm,0.2s							
SATY				S		Sb	10 25 45.5	+0.5
	13nm,0.1s							
SATY	**Saty**	**1.63**	**63**	*e*P		Pb	10 25 24.9	0.0
	2.9nm,0.1s							
SATY				*e*S		Sb	10 25 45.5	+0.5
	13nm,0.1s							
USP	**Ospenovka**	**1.70**	**304**	⇑P		Pb	10 25 26.1	+0.1
	0.3nm,0.1s,SNR=5.8							
USP				⇓S		Sb	10 25 49.2	+2.3
	15nm,0.3s							
USP	**Ospenovka**	**1.70**	**304**	⇓*i*P		Pb	10 25 25.6	-0.4
	baz=4.0							
USP				⇓*i*S		Sb	10 25 48.4	+1.5
	baz=4.0							
SGDS	**Sogindy**	**1.73**	**311**	P		Pb	10 25 27.2	+0.6
	2.1nm,0.1s							
SGDS				S		Sb	10 25 49.1	+1.2
	7.5nm,0.2s							
EKS2	**Erkin-Say**	**1.99**	**280**	⇑*i*P		Pb	10 25 29.8	-1.2
	baz=80							
EKS2				⇑*i*S		Sb	10 25 55.4	0.0
	baz=80							
KPKS	**Kokpek**	**2.01**	**55**	P		Pb	10 25 32.0	+0.7
	3.6nm,0.2s							
KPKS				S		Sb	10 25 57.4	+1.5
	8.2nm,0.3s							
KPKS	**Kokpek**	**2.01**	**55**	*e*P		Pb	10 25 31.8	+0.5
	3.6nm,0.2s							
KPKS				*e*S		Sb	10 25 57.4	+1.5
	10nm,0.2s							
UZB	**Uzynbulak**	**2.08**	**66**	Pg		Pb	10 25 33.2	+0.7
	2.2nm,0.1s							
UZB				Lg		Lg	10 25 59.4	
	6.1nm,0.3s							
UZB	**Uzynbulak**	**2.08**	**66**	*e*P		Pb	10 25 32.9	+0.4
	4.7nm,0.2s							
UZB				*e*S		Sb	10 25 59.5	+1.5
	7.5nm,0.3s							
ARXS	**Arharly**	**2.14**	**28**	Pg		Pb	10 25 35.0	+1.5
	1.0nm,0.2s							
ARXS				Lg		Lg	10 26 02.2	
	7.9nm,0.4s							
ARXS	**Arharly**	**2.14**	**28**	*e*P		Pb	10 25 34.6	+1.1
	2.0nm,0.1s							
ARXS				*e*S		Sb	10 26 02.2	+2.6
	7.9nm,0.4s							
MRKS	**Merke**	**2.40**	**281**	Pg		Pb	10 25 40.6	+2.5
	1.8nm,0.2s							
MRKS				Lg		Lg	10 26 11.1	
	9.6nm,0.3s							
MRKS	**Merke**	**2.40**	**281**	*e*P		Pb	10 25 39.7	+1.7
	5.0nm,0.2s							
MRKS				*e*S		Sb	10 26 11.1	+3.8
	9.6nm,0.3s							
PDGK	**Podgornoye**	**2.46**	**65**	Pg		Pb	10 25 39.7	+0.6
	0.2nm,0.2s							
PDGK				Lg		Lg	10 26 10.5	
	3.0nm,0.5s							
KNOS	**Konyrlen**	**2.85**	**44**	Pg		Pb	10 25 47.3	+1.6
	1.0nm,0.2s							
KNOS				Lg		Lg	10 26 23.5	
	2.1nm,0.3s							
KAPS	**Kapalarasan**	**3.63**	**35**	*e*P		Pb	10 26 00.5	+1.5
	1.0nm,0.2s							
KAPS				*e*S		Sb	10 26 46.6	+4.0
	2.2nm,0.1s							

*TEH **11** 10:25:46.6, 33˚.77N×45˚.76E, h8km±54km, ML3.2*
*ISN **11** 10:25:46.1±0.6, 33˚.75N×45˚.75E, h10km±3km, ML2.9*
ISC 11 10:25:47.0±1.0, 33.76N±0˚.04×45.72E±0˚.05, h10km, n13, σ0s97/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**108**	Pg		**Pg**	**10 25 54.7**	**-0.7**
IBDR	**Badra**	**0.67**	**165**	*e*Pg		**Pg**	**10 25 59.0**	**-0.9**
IBDR				*e*Sg		**Sg**	**10 26 08.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.76**	**352**	Pg		**Pg**	**10 26 01.2**	**-0.4**
IGHG	**Ghaleghazi**	**0.91**	**51**	Pg		**Pg**	**10 26 03.7**	**-0.8**
IDHR	**Dehrash**	**1.09**	**30**	Pg		**Pg**	**10 26 07.5**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.21**	**64**	Pg		**Pb**	**10 26 09.2**	**-0.9**
BHD	**Baghdad**	**1.22**	**247**	*e*Pg		**Pn**	**10 26 10.0**	**-0.1**
BHD				*e*Sg		**Sb**	**10 26 27.0**	**+1.0**
IKOM	**Komasi**	**1.54**	**74**	Pg		**Pn**	**10 26 15.8**	**+1.0**
ILIN	**Lien**	**1.55**	**41**	Pg		**Pn**	**10 26 15.4**	**+0.5**
IKFM	**Kafar-mosalman**	**1.79**	**97**	Pg		**Pn**	**10 26 19.5**	**+1.5**
IBZA	**Bozab**	**1.91**	**68**	Pn		**Pn**	**10 26 20.7**	**+0.8**
RAFI	**Al-Rafai**	**2.06**	**171**	*e*Pn		**Pn**	**10 26 22.0**	**+0.4**
RAFI				*e*Sn		**Sn**	**10 26 49.0**	**+1.7**
RAFI				AML		AML	10 26 55.1	
	comp=E,126nm,0.5s							
RAFI				AML		AML	10 26 57.2	
	comp=N,135nm,0.7s							
HSAM	**Samen**	**2.44**	**78**	Pn		**Pn**	**10 26 27.2**	**+0.1**

*IDC **11** 10:27:53.7±1.4, 33˚.56N×45˚.51E, h0km, mb3.8/10, mbtmp3.8/11, ML3.6/1, Error ellipse: s-maj=32.0km s-min=19.5km az=170.0*
*TEH **11** 10:27:56.9, 33˚.76N×45˚.69E, h11km±17km, ML3.7*
*ISN **11** 10:27:56.8±0.8, 33˚.74N×45˚.74E, h9km±4km, ML3.4*
ISC 11 10:27:57.0±0.6, 33.74N±0˚.03×45.68E±0˚.03, h13km, n37, σ1s25/39, mb3.6/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.46**	**104**	Pg		**Pg**	**10 28 06.1**	**0.0**
IBDR	**Badra**	**0.66**	**161**	*e*Pg		**Pg**	**10 28 10.0**	**+0.2**
IBDR				*e*Sg		**Sg**	**10 28 18.5**	**0.0**
IBDR				AML		AML	10 28 25.0	
	comp=E,1μm,0.4s							
IBDR				AML		AML	10 28 32.4	
	comp=N,1μm,0.6s							
KGS1	**Ghasr-e-Shirin**	**0.77**	**355**	Pg		**Pg**	**10 28 11.3**	**-0.7**
IGHG	**Ghaleghazi**	**0.95**	**51**	Pg		**Pg**	**10 28 15.3**	**0.0**
IDHR	**Dehrash**	**1.13**	**31**	Pg		**Pb**	**10 28 18.5**	**0.0**
BHD	**Baghdad**	**1.18**	**247**	*e*Pg		**Pg**	**10 28 20.0**	**+0.3**
BHD				*e*Sg		**Sg**	**10 28 37.5**	**+2.5**
KCHF	**Cheshme Sefid,**	**1.25**	**64**	Pg		**Pg**	**10 28 21.0**	**-0.2**
IKOM	**Komasi**	**1.59**	**73**	Pg		**Pg**	**10 28 27.1**	**-0.4**
IKOM				Sg		**Sg**	**10 28 49.7**	**+1.6**
ILIN	**Lien**	**1.59**	**42**	Pg		**Pb**	**10 28 26.9**	**+0.5**
IKFM	**Kafar-mosalman**	**1.82**	**96**	Pn		**Pb**	**10 28 30.2**	**0.0**
IBZA	**Bozab**	**1.96**	**67**	Pn		**Pb**	**10 28 32.0**	**-0.7**
RAFI	**Al-Rafai**	**2.04**	**169**	*e*Pn		**Pb**	**10 28 33.0**	**-0.9**
RAFI				*e*Sn		**Sb**	**10 29 00.0**	**+0.8**
RAFI				AML		AML	10 29 10.6	
	comp=N,558nm,0.4s							
RAFI				AML		AML	10 29 10.8	
	comp=E,568nm,0.5s							
IALM	**Almabolaq**	**2.35**	**61**	Pn		**Pb**	**10 28 37.8**	**-1.5**
SDS1	**Sardasht. Az.**	**2.41**	**356**	Pn		**Pn**	**10 28 38.1**	**+1.8**
HSAM	**Samen**	**2.48**	**78**	Pn		**Pn**	**10 28 38.6**	**+1.3**
MAHB	**Mahabad**	**3.02**	**0**	Pn		**Pn**	**10 28 46.6**	**+1.9**
HAGD	**Aghdareh**	**3.07**	**68**	Pn		**Pn**	**10 28 46.5**	**+1.1**
IRAZ	**Razeghan**	**3.88**	**63**	Pn		**Pn**	**10 28 58.6**	**+2.0**
IPIR	**Pirpir**	**4.50**	**102**	Pn		**Pn**	**10 29 06.3**	**+1.2**
ZNGN	**Zangian**	**4.64**	**109**	Pn		**Pn**	**10 29 08.3**	**+1.2**
QAMS	**Qamsar**	**4.77**	**88**	Pn		**Pn**	**10 29 10.5**	**+1.7**
IKLH	**Kolahrood**	**4.95**	**93**	Pn		**Pn**	**10 29 13.4**	**+2.1**
IVRN	**Varamin**	**5.16**	**74**	Pn		**Pn**	**10 29 15.0**	**+0.9**
KRSH	**Karshahi**	**5.38**	**86**	Pn		**Pn**	**10 29 18.7**	**+1.6**
ISFB	**Sefidab**	**5.49**	**82**	Pn		**Pn**	**10 29 19.3**	**+0.9**
ASF	**Jabal al Asfar**	**7.54**	**260**	Pn		Pn	10 29 39.9	-6.9
	comp=E,0.9nm,0.3s,baz=149,slow=20,SNR=1.9							
ASF				Lg		Lg	10 31 49.0	
	comp=E,0.2nm,0.3s,baz=230,slow=22,SNR=1.6							
EIL	**Elat**	**9.99**	**249**	Pn		Pn	10 30 14.9	-5.3
	comp=E,0.5nm,0.3s,baz=61,slow=8.0,SNR=2.2							
EIL				Lg		Lg	10 33 03.6	
	comp=E,0.2nm,0.3s,baz=80,slow=18,SNR=1.4							
	comp=E,3.7nm,0.7s							
AKASG	**Malin Array Be**	**20.80**	**330**	P		**P**	**10 32 36.4**	**-1.4**
	comp=E,0.7nm,0.4s,baz=138,slow=10,SNR=7.0							
	comp=E,0.7nm,0.4s							
BVAR	**Borovoye Array**	**26.13**	**35**	P		**P**	**10 33 32.2**	**+1.6**
	comp=E,0.2nm,0.3s,baz=259,slow=14,SNR=2.0							
	comp=E,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**29.30**	**45**	P		**P**	**10 34 00.1**	**+1.1**
	comp=E,0.3nm,0.3s,baz=252,slow=9.7,SNR=2.1							
	comp=E,0.3nm,0.3s							
FINES	**FINESS Array B**	**30.46**	**341**	P		**P**	**10 34 09.5**	**+0.5**
	comp=E,0.9nm,0.9s,baz=174,slow=14,SNR=1.1							
	comp=E,0.9nm,0.9s							
MKAR	**Makanchi Array**	**30.55**	**54**	P		**P**	**10 34 10.7**	**+0.5**
	comp=E,0.7nm,0.5s,baz=251,slow=6.5,SNR=10.0							
	comp=E,0.7nm,0.5s							
HFS	**Hagfors**	**33.66**	**331**	P		**P**	**10 34 36.1**	**-1.1**
	comp=E,9.0nm,1.1s,baz=123,slow=10,SNR=8.1							
	comp=E,9.0nm,1.1s							
ZALV	**Zalesovo Beam**	**34.12**	**42**	P		**P**	**10 34 40.9**	**-0.4**
	comp=E,0.5nm,0.3s,baz=233,slow=11,SNR=1.7							
	comp=E,0.5nm,0.3s							
EKA	**Eskdalemuir Ar**	**39.91**	**318**	P		**P**	**10 35 29.9**	**-0.6**
	comp=E,0.7nm,0.6s,baz=114,slow=8.8,SNR=1.5							
	comp=E,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**44.84**	**254**	P		**P**	**10 36 08.8**	**-2.3**
	comp=E,0.5nm,0.6s,baz=48,slow=8.1,SNR=4.2							
	comp=E,0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**49.68**	**94**	P		**P**	**10 36 48.1**	**-0.7**
	comp=E,0.6nm,0.3s,baz=297,slow=7.0,SNR=1.2							
	comp=E,0.6nm,0.3s							

*IDC **11** 10:30:42.8±2.3, 4˚.84S×129˚.42E, h0km, mb3.6/1, mbtmp4.0/3, ML4.0/2, Error ellipse: s-maj=132.1km s-min=31.4km az=69.0*
*DJA **11** 10:31:00.1±0.3, 4˚.S±3˚×13˚.0E±˚, h174km±4km, M4.2/13, mb4.2/6, mB5.9/2, MLv4.2/13, Mw(mB)5.4/2, MwMwp4.9/1, Mwp5.2/1*
ISC 11 10:30:57.1±1.1, 4.57S±0.07×129.86E±0.09, h200km, n16, σ2s28/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**0.07**	**43**	P		**Pn**	**10 31 22.5**	**-0.8**
BNDI				S		**Sn**	**10 31 42.9**	**-0.6**
KRAI	**Karang Ratu**	**1.92**	**310**	P		**Pn**	**10 31 32.9**	**-1.9**
FAKI	**Fak Fak**	**2.90**	**56**	P		**Pn**	**10 31 47.2**	**+1.6**
NLAI	**Namlea**	**3.05**	**296**	P		**Pn**	**10 31 46.9**	**-0.5**
SAUI	**Saumlaki**	**3.68**	**157**	P		**Pn**	**10 31 59.4**	**+4.5**
SIJI	**Sorong**	**3.94**	**21**	P		**Pn**	**10 31 58.7**	**+0.5**
KMPI	**Kaimana, Papua**	**3.94**	**77**	P		**Pn**	**10 32 00.5**	**+2.3**
SWI	**Sorong**	**3.94**	**21**	P		**Pn**	**10 31 58.7**	**+0.5**
LBMI	**Labuha**	**4.56**	**329**	P		**Pn**	**10 32 06.1**	**+0.1**
MWPI	**Manokwari, Pap**	**5.53**	**49**	P		**Pn**	**10 32 20.7**	**+2.4**
	45nm,1.4s,0.4nm							
BBSI	**Bau Bau**	**7.32**	**263**	P		**Pn**	**10 32 44.3**	**+2.8**
	50nm,0.8s,0.3nm							
KMSI	**Cibinong**	**7.79**	**311**	P		**Pn**	**10 32 49.1**	**+1.5**
	93nm,0.6s,0.5nm							
MPSI	**Mapaga**	**11.08**	**296**	P		**Pn**	**10 33 32.3**	**+1.9**
WRA	**Warramunga Arr**	**15.89**	**164**	Pn		**P**	**10 34 27.8**	**-2.1**
	0.4nm,0.3s,baz=342,slow=12,SNR=20							
WRA				Sn		S	10 37 14.6	-12

6.8nm,0.6s
PDGK Podgornoye 2.19 233 ⇓Pn **Pb** **10 39 41.5 -0.1**
3.0nm,0.3s
PDGK ⇓Sn **Sg** **10 40 11.8 +0.4**
12nm,0.6s
SHLS Shalkode 2.31 230 Pg **Pn** **10 39 41.1 +0.6**
18nm,0.2s
SHLS Lg Lg 10 40 09.6
21nm,0.4s
SHLS Shalkode 2.31 230 *e*P **Pn** **10 39 40.8 +0.4**
18nm,0.1s
SHLS *e*S **Sn** **10 40 09.5 -0.1**
21nm,0.4s
TDK Taldyqorghan 2.50 279 Pg **Pb** **10 39 47.9 +1.0**
9.4nm,0.1s
TDK Lg Lg 10 40 20.1
67nm,0.3s
TDK Taldyqorghan 2.50 279 *e*P **Pb** **10 39 48.1 +1.1**
23nm,0.1s
TDK *e*S **Sg** **10 40 22.1 +0.5**
76nm,0.2s
BLB Baldybastay 2.51 258 Pg **Pg** **10 39 49.0 -0.4**
15nm,0.1s
BLB Lg Lg 10 40 22.5
16nm,0.3s
UZB Uzynbulak 2.57 235 Pg **Pb** **10 39 47.0 -1.1**
10nm,0.3s
UZB Lg Lg 10 40 20.7
5.0nm,0.4s
UZB Uzynbulak 2.57 235 *e*P **Pb** **10 39 48.8 +0.7**
10nm,0.3s
UZB *e*S **Sg** **10 40 23.2 -0.5**
5.0nm,0.1s
KPKS Kokpek 2.60 244 *e*P **Pb** **10 39 49.5 +0.9**
16nm,0.1s
KPKS *e*S **Sg** **10 40 24.9 +0.1**
21nm,0.1s
ARXS Arharly 2.94 263 Pg **Pb** **10 39 55.3 +0.8**
5.0nm,0.3s
ARXS Lg Lg 10 40 33.8
15nm,0.6s
ARXS Arharly 2.94 263 *e*P **Pb** **10 39 55.3 +0.8**
5.1nm,0.2s
ARXS *e*S **Sg** **10 40 34.2 -1.6**
14nm,0.3s
SATY Saty 2.99 239 Pg **Pb** **10 39 55.4 +0.2**
4.9nm,0.3s
SATY Lg Lg 10 40 34.9
9.5nm,0.2s
SATY Saty 2.99 239 *e*P **Pb** **10 39 56.1 +0.9**
5.4nm,0.2s
SATY *e*S **Sg** **10 40 35.8 -1.3**
14nm,0.1s
CHKK Chushkaly 3.61 259 Pg **Pb** **10 40 06.3 +0.4**
2.5nm,0.2s
CHKK Lg Lg 10 40 53.2
9.6nm,0.2s
KTBS Karatobe 3.86 258 Pg **Pb** **10 40 11.1 +0.9**
2.3nm,0.3s
KTBS Lg Lg 10 41 00.9
7.3nm,0.6s
KTBS Karatobe 3.86 258 *e*P **Pg** **10 40 12.6 -2.7**
0.8nm,0.1s
KTBS *e*S **Sg** **10 41 04.2 -1.2**
4.6nm,0.2s
TNSS Tian-Shan 3.93 247 Pg **Pg** **10 40 15.9 -0.6**
2.6nm,0.2s

*IDC **11** 10:41:26.5±1.9,33.74N×45.61E,h0km,mb3.5/5, mbtmp3.6/5,MS3.4/1,Error ellipse: s-maj=57.4km s-min=24.8km az=154.0*
*TEH **11** 10:41:27.9,33.67N×45.68E,h13km±37km,ML3.6*
*ISN **11** 10:41:28.9±0.6,33.72N×45.74E,h6km±3km,ML3.6*
ISC 11 10:41:28.3±1.4,33.72N±0.03×45.71E±0.04,h10km±10km, n32,σ0s98/36,mb3.6/4,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.42**	**103**	Pg	**Pg**	**10 41 37.1**	**+0.4**
ILBA				Sg	**Sg**	**10 41 43.3**	**+1.0**
IBDR	**Badra**	**0.64**	**163**	*e*Pg	**Pb**	**10 41 41.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**10 41 50.0**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.79**	**353**	Pg	**Pb**	**10 41 44.0**	**-0.2**
IGHG	**Ghaleghazi**	**0.94**	**49**	Pg	**Pb**	**10 41 46.9**	**+0.1**
IGHG				Sg	**Sn**	**10 42 01.3**	**0.0**
IDHR	**Dehrash**	**1.12**	**30**	Pg	**Pg**	**10 41 49.7**	**-0.3**
BHD	**Baghdad**	**1.20**	**248**	*e*Pg	**Pn**	**10 41 52.5**	**+1.3**
BHD				*e*Sg	**Sn**	**10 42 09.0**	**+1.5**
BHD				AML	AML	10 42 13.5	
	comp=E,4μm,0.5s						
KCHF	**Cheshme Sefid,**	**1.23**	**63**	Pg	**Pg**	**10 41 51.9**	**-0.1**
IKOM	**Komasi**	**1.56**	**73**	Pg	**Pg**	**10 41 58.3**	**0.0**
ILIN	**Lien**	**1.58**	**41**	Pg	**Pg**	**10 41 58.4**	**-0.3**
IKFM	**Kafar-mosalman**	**1.79**	**96**	Pn	**Pb**	**10 42 00.8**	**-0.5**
IBZA	**Bozab**	**1.93**	**67**	Pn	**Pb**	**10 42 03.1**	**-0.7**
RAFI	**Al-Rafai**	**2.02**	**170**	*e*Pn	**Pb**	**10 42 05.0**	**-0.2**
RAFI				*e*Sn	**Sg**	**10 42 32.0**	**-1.3**
RAFI				AML	AML	10 42 38.6	
	comp=E,333nm,0.5s						
RAFI				AML	AML	10 42 43.0	
	comp=N,315nm,0.2s						
IALM	**Almabolaq**	**2.33**	**60**	Pn	**Pb**	**10 42 09.1**	**-1.4**
HSAM	**Samen**	**2.45**	**78**	Pn	**Pn**	**10 42 09.9**	**+1.3**
HAGD	**Aghdareh**	**3.04**	**68**	Pn	**Pn**	**10 42 18.3**	**+1.5**
IRAZ	**Razeghan**	**3.86**	**63**	Pn	**Pn**	**10 42 29.7**	**+1.7**
IQOM	**Qom**	**4.58**	**74**	Pn	**Pn**	**10 42 38.2**	**+0.3**
QAMS	**Qamsar**	**4.74**	**88**	Pn	**Pn**	**10 42 41.6**	**+1.5**
IKLH	**Kolahrood**	**4.92**	**93**	Pn	**Pn**	**10 42 43.8**	**+1.2**
IVRN	**Varamin**	**5.13**	**74**	Pn	**Pn**	**10 42 46.6**	**+1.2**
KRSH	**Karshahi**	**5.35**	**86**	Pn	**Pn**	**10 42 49.5**	**+1.1**
ISFB	**Sefidab**	**5.46**	**82**	Pn	**Pn**	**10 42 50.4**	**+0.6**
IZEF	**Zefreh**	**5.60**	**97**	Pn	**Pn**	**10 42 53.1**	**+1.2**
KLNJ	**Kolanjah**	**5.66**	**117**	Pn	**Pn**	**10 42 53.7**	**+0.8**
IRAM	**Ramesheh**	**5.93**	**107**	Pn	**Pn**	**10 42 57.4**	**+0.9**
DSBU	**Dashti - Bushe**	**7.15**	**137**	Pn	**Pn**	**10 43 13.9**	**+0.8**
AKASG	**Malin Array Be**	**20.82**	**329**	P	**P**	**10 46 08.7**	**-1.2**
	comp=N,0.3nm,0.3s,baz=139,slow=9.8,SNR=5.5 comp=N,0.3nm,0.3s						
BVAR	**Borovoye Array**	**26.12**	**35**	P	**P**	**10 47 02.8**	**+0.4**
	comp=N,0.6nm,0.4s,baz=243,slow=7.7,SNR=4.6 comp=N,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**29.29**	**45**	P	**P**	**10 47 30.8**	**+0.1**
	comp=N,0.7nm,0.7s,baz=252,slow=8.5,SNR=4.1 comp=N,0.7nm,0.7s						
KEST	**Kesra**	**29.85**	**284**	LR	LR	11 01 38.7	
	comp=N,72nm,20.9s,baz=176,slow=41						
MKAR	**Makanchi Array**	**30.53**	**54**	P	**P**	**10 47 41.8**	**+0.1**
	comp=N,0.6nm,0.5s,baz=247,slow=8.0,SNR=8.0 comp=N,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**44.87**	**254**	P	**P**	**10 49 42.2**	**-0.9**
	comp=N,0.4nm,0.6s,baz=53,slow=8.1,SNR=6.4 comp=N,0.4nm,0.6s						

*DJA **11** 10:47:28.8±0.5,7.5S×10.7E,h84km±8km,M3.8/12, MLv3.8/12*
*IDC **11** 10:47:28.7±3.2,6.13S×107.51E,h110km±26km,mb3.5/3, mbtmp3.9/3,Error ellipse: s-maj=120.7km s-min=44.7km az=40.0*
ISC 11 10:47:28.4±1.0,7.1S±0.1×106.85E±0.06,h100km,n17, σ0s85/20,mb3.6/3,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.32**	**294**	P	**Pn**	**10 47 43.5**	**+0.4**
CNJI	**Cibinong**	**0.33**	**122**	P	**Pn**	**10 47 43.4**	**+0.3**
DBJI	**Dramaga**	**0.59**	**350**	P	**Pn**	**10 47 45.1**	**+0.2**
LEM	**Lembang**	**0.82**	**68**	P	**Pn**	**10 47 48.0**	**+0.9**
	417nm,0.5s,baz=294,slow=5.8,SNR=59						
LEM				S	**Sn**	**10 48 02.4**	**+1.2**
	468nm,0.9s,baz=315,slow=20,SNR=8.1						
LEM	**Lembang**	**0.82**	**68**	P	**Pn**	**10 47 47.7**	**+0.6**
BBJI	**Bungbulang**	**0.86**	**112**	P	**Pn**	**10 47 47.9**	**+0.5**
SBJI	**Serang**	**1.24**	**325**	P	**Pn**	**10 47 52.1**	**+0.6**
JCJI	**Jatiwangi**	**1.55**	**66**	P	**Pn**	**10 47 54.5**	**-0.7**
CMJI	**Cimerak**	**1.71**	**112**	P	**Pn**	**10 47 57.7**	**+0.4**
KPJI	**Karang Pucung**	**2.07**	**96**	P	**Pn**	**10 48 02.8**	**+0.9**
KASI	**Kota Agung**	**2.84**	**304**	P	**Pn**	**10 48 12.7**	**+0.7**
SMRI	**Semarang**	**3.56**	**89**	P	**Pn**	**10 48 22.2**	**+0.5**
UGM	**Wanagama**	**3.72**	**102**	P	**Pn**	**10 48 24.5**	**+0.6**
EGSI	**Enggano, Bengk**	**4.88**	**291**	P	**Pn**	**10 48 40.0**	**+0.5**
WRA	**Warramunga Arr**	**29.54**	**118**	P	**P**	**10 53 22.9**	**-0.9**
	0.6nm,0.4s,baz=301,slow=8.7,SNR=9.4						
WRA				PcP	**PcP**	**10 56 24.6**	**-2.2**
	0.2nm,0.5s,baz=313,slow=2.0,SNR=4.9 0.6nm,0.4s						
ASAR	**Alice Springs**	**30.73**	**125**	P	**P**	**10 53 34.5**	**+0.1**
	0.5nm,0.7s,baz=301,slow=8.0,SNR=4.5						
ASAR				PcP	**PcP**	**10 56 29.6**	**-0.3**
	0.2nm,0.4s,baz=296,slow=1.7,SNR=2.3 0.5nm,0.7s						
STKA	**Stephens Creek**	**40.66**	**132**	P	**P**	**10 54 59.2**	**+0.2**
	1.3nm,0.4s,baz=300,slow=8.4,SNR=5.8 1.3nm,0.4s						

*SJA **11** 10:49:42.7±1.0,23.08S×66.31W,h205km±25km,ML3.6, MW3.6*
*GUC **11** 10:49:47.3±0.5,23.08S×66.90W,h241km±10km,ML3.6*
ISC 11 10:49:44.5±2.1,23.12S±0.04×66.71W±0.08, h240km±17km,n34,σ1s28/63,5C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.45**	**50**	*e*P	**Pn**	**10 50 21.6**	**-0.4**
LVC	**Limon Verde**	**2.09**	**284**	*e*P	**Pn**	**10 50 28.5**	**+1.0**
LVC				*e*S	**S**	**10 50 59.9**	**-1.2**
LVC	**Limon Verde**	**2.09**	**284**	⇑*e*P	**Pn**	**10 50 28.4**	**+1.0**
LVC				IAML		10 51 05.1	
	166nm,0.6s						
PB15	**IPOC Station P**	**2.54**	**267**	*e*P	**Pn**	**10 50 33.2**	**+1.4**
PB15				*e*S	**S**	**10 51 09.0**	**+0.2**
PB15	**IPOC Station P**	**2.54**	**267**	*e*P	**Pn**	**10 50 32.9**	**+1.2**
PB15				*e*S	**S**	**10 51 07.4**	**-1.4**
PB06	**IPOC Station P**	**2.67**	**278**	*e*P	**Pn**	**10 50 34.2**	**+1.2**
PB06				*e*S	**S**	**10 51 11.2**	**0.0**
PB06				IAML		10 51 14.7	
	comp=Z,125nm,0.1s						
PB06	**IPOC Station P**	**2.67**	**278**	*e*P	**Pn**	**10 50 34.0**	**+1.0**
PB06				*e*S	**S**	**10 51 09.3**	**-1.8**
PB06				IAML		10 51 11.2	
	comp=N,293nm,0.3s						
PB09	**IPOC Station P**	**2.69**	**299**	*e*P	**Pn**	**10 50 34.7**	**+1.4**
PB09				⇓*e*S	**S**	**10 51 12.4**	**+0.9**
PB09				IAML		10 51 15.0	
	comp=Z,48nm,0.2s						
PB09	**IPOC Station P**	**2.69**	**299**	*e*P	**Pn**	**10 50 34.6**	**+1.4**
PB09				*e*S	**S**	**10 51 10.2**	**-1.3**
PB09				IAML		10 51 15.1	
	comp=N,62nm,0.1s						
FSA	**Cafayete**	**3.05**	**168**	*e*P	**Pn**	**10 50 37.8**	**+0.7**
PB05	**IPOC Station P**	**3.23**	**274**	*e*P	**Pn**	**10 50 40.1**	**+1.0**
PB05				*e*S	**S**	**10 51 21.4**	**-0.8**
PB05				IAML		10 51 22.9	
	comp=Z,95nm,0.5s						
PB05	**IPOC Station P**	**3.23**	**274**	⇑*i*P	**Pn**	**10 50 40.0**	**+0.9**
PB05				*e*S	**S**	**10 51 20.4**	**-1.7**
PB07	**IPOC Station P**	**3.25**	**295**	*e*P	**Pn**	**10 50 40.3**	**+0.8**
PB07				*e*S	**S**	**10 51 21.7**	**-1.0**
PB07				IAML		10 51 22.6	
	comp=Z,94nm,0.5s						
PB07	**IPOC Station P**	**3.25**	**295**	⇑*i*P	**Pn**	**10 50 40.4**	**+1.0**
PB07				*e*S	**S**	**10 51 20.8**	**-1.8**
PB04	**IPOC Station P**	**3.27**	**283**	*e*P	**Pn**	**10 50 40.7**	**+1.0**
PB04				*e*S	**S**	**10 51 22.3**	**-0.8**
PB04				IAML		10 51 28.6	
	comp=Z,112nm,0.3s						
PB04	**IPOC Station P**	**3.27**	**283**	*e*P	**Pn**	**10 50 40.6**	**+1.0**
PB04				*e*S	**S**	**10 51 21.5**	**-1.6**
PB01	**IPOC Station P**	**3.30**	**308**	*e*P	**Pn**	**10 50 40.7**	**+0.8**
PB01				IAML		10 51 30.0	
	comp=Z,40nm,0.2s						
PB01	**IPOC Station P**	**3.30**	**308**	*e*P	**Pn**	**10 50 40.9**	**+0.9**
PB01				*e*S	**S**	**10 51 22.4**	**-1.3**
GO02	**Mina Guanaco**	**3.33**	**232**	*e*P	**Pn**	**10 50 41.7**	**+1.4**
GO02				*e*S	**S**	**10 51 24.7**	**+0.3**
GO02	**Mina Guanaco**	**3.33**	**232**	⇑*e*P	**Pn**	**10 50 41.8**	**+1.4**
GO02				*e*S	**S**	**10 51 25.1**	**+0.7**
PB02	**IPOC Station P**	**3.46**	**301**	*e*P	**Pn**	**10 50 42.3**	**+0.6**
PB02				*e*S	**S**	**10 51 25.4**	**-1.3**
PB02				IAML		10 51 27.4	
	comp=Z,100nm,0.4s						
PB02	**IPOC Station P**	**3.46**	**301**	*e*P	**Pn**	**10 50 42.3**	**+0.6**
PB02				*e*S	**S**	**10 51 24.6**	**-2.1**
PB14	**IPOC Station P**	**3.70**	**245**	*e*P	**Pn**	**10 50 46.2**	**+1.5**
PB14				*e*S	**S**	**10 51 30.8**	**-1.4**
PB14				IAML		10 51 33.5	
	comp=Z,148nm,0.2s						
PB08	**IPOC Station P**	**3.74**	**322**	*e*P	**Pn**	**10 50 46.9**	**+1.6**
PB08				*e*S	**S**	**10 51 35.1**	**+2.0**
PB08				IAML		10 51 36.5	
	comp=Z,45nm,0.2s						
PB08	**IPOC Station P**	**3.74**	**322**	⇑*e*P	**Pn**	**10 50 46.9**	**+1.6**
PB08				*e*S	**S**	**10 51 33.0**	**-0.1**
PATCX	**Punta Patache**	**3.93**	**305**	*e*P	**Pn**	**10 50 47.8**	**+0.6**
PATCX				*e*S	**S**	**10 51 37.0**	**+0.3**
PATCX	**Punta Patache**	**3.93**	**305**	*e*P	**Pn**	**10 50 47.5**	**+0.2**
PATCX				*e*S	**S**	**10 51 35.1**	**-1.6**
HMBC	**Humberstone**	**4.09**	**313**	*e*P	**Pn**	**10 50 49.0**	**-0.2**
HMBC				*e*S	**S**	**10 51 38.8**	**-1.5**
HMBC	**Humberstone**	**4.09**	**313**	*e*P	**Pn**	**10 50 49.2**	**+0.1**
HMBC				*e*S	**S**	**10 51 38.1**	**-2.2**
TAI01	**Diego Aracena**	**4.11**	**308**	*e*P	**Pn**	**10 50 48.2**	**-0.7**
GO01	**Chusmiza**	**4.14**	**326**	*e*P	**Pn**	**10 50 51.6**	**+1.5**
GO01				*e*S	**S**	**10 51 44.6**	**+2.6**
GO01	**Chusmiza**	**4.14**	**326**	*i*P	**Pn**	**10 50 51.3**	**+1.2**
GO01				*e*S	**S**	**10 51 40.3**	**-1.7**
PB11	**IPOC Station P**	**4.33**	**320**	*e*P	**Pn**	**10 50 51.9**	**-0.1**
PB11				*e*S	**S**	**10 51 44.1**	**-1.4**
PB11				IAML		10 51 46.1	
	comp=Z,85nm,0.2s						
AC01	**Pan de Azucar**	**4.65**	**229**	*e*P	**Pn**	**10 50 55.7**	**0.0**
AC01				*e*S	**S**	**10 51 49.9**	**-2.4**
AC01				IAML		10 51 50.5	
	comp=Z,36nm,0.2s						

*HEL **11** 10:51:30.7±0.3,67.60N×34.37E,h0km,ML2.2,Explosion*
*KOLA **11** 10:51:31.4,67.64N×34.31E,h0km,ML2.4,Error ellipse: s-maj=8.4km s-min=1.8km az=140.0,Murmansk region, Kirovsk district*
*IDC **11** 10:51:33.1±1.9,67.66N×33.61E,h0km,mbtmp3.4/4, ML2.6/4,Error ellipse: s-maj=21.0km s-min=9.8km az=83.0*
ISC 11 10:51:31.4±0.9,67.71N±0.04×34.13E±0.04,h0km,n33, σ1s33/59,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.28**	**46**	P	**Pg**	**10 51 36.6**	**-0.1**
LVZ				S	**Sg**	**10 51 40.7**	**+0.5**
LVZ	**Lovozero**	**0.28**	**46**	P	**Pg**	**10 51 36.3**	**-0.4**
LVZ				S	**Sg**	**10 51 40.2**	**0.0**
LVZ	**Lovozero**	**0.28**	**46**	PG	**Pg**	**10 51 36.3**	**-0.4**
LVZ				SG	**Sg**	**10 51 40.7**	**+0.5**
APA	**Apatity**	**0.31**	**244**	P	**Pg**	**10 51 37.5**	**+0.2**
APA				S	**Sg**	**10 51 42.3**	**+1.0**
APA	**Apatity**	**0.31**	**244**	P	**Pg**	**10 51 37.3**	**-0.1**
APA				S	**Sg**	**10 51 42.8**	**+1.4**
TERR	**Teriberka**	**1.54**	**13**	P	**Pn**	**10 51 59.7**	**-0.4**
TERR				S	**Sn**	**10 52 20.4**	**-0.4**
TERR	**Teriberka**	**1.54**	**13**	P	**Pn**	**10 51 59.5**	**-0.6**
TERR				S	**Sn**	**10 52 20.1**	**-0.7**
VRF	**Varrio**	**1.72**	**273**	PB	**Pn**	**10 52 02.4**	**-0.2**
VRF				MSG		10 52 25.1	
	comp=Z,35nm,0.2s						
VRF				SG	**Sn**	**10 52 25.4**	**+0.1**
OLKF	**Oulanka, Finla**	**2.32**	**235**	PG	**Pn**	**10 52 11.7**	**+0.9**
OLKF				MSG		10 52 39.9	
	comp=Z,9.1nm,0.2s						
OLKF				SG	**Sb**	**10 52 43.6**	**+0.4**
KU6	**Riekki**	**2.38**	**227**	PG	**Pn**	**10 52 12.0**	**+0.4**
KU6				MSG		10 52 40.9	
	comp=Z,7.6nm,0.2s						
KU6				SG	**Sb**	**10 52 44.6**	**-0.3**
MSF	**Maaselka**	**2.70**	**230**	PB	**Pn**	**10 52 17.4**	**+1.3**
	baz=47						
MSF				SG	**Sb**	**10 52 54.3**	**0.0**
SGF	**Sodankyl**	**2.93**	**268**	PN	**Pn**	**10 52 19.9**	**+0.7**
SGF				SB	**Sb**	**10 53 01.0**	**+0.4**
VADS	**Vadso**	**2.97**	**327**	P	**Pn**	**10 52 20.5**	**+0.7**
VADS				S	**Sn**	**10 52 57.2**	**+1.1**
VADS	**Vadso**	**2.97**	**327**	P	**Pn**	**10 52 20.0**	**+0.2**
VADS				S	**Sn**	**10 52 56.0**	**0.0**
KEV	**Kevo**	**3.31**	**312**	*e*P	**Pn**	**10 52 25.0**	**+0.6**
KEV	**Kevo**	**3.31**	**312**	PN	**Pn**	**10 52 24.8**	**+0.4**
	baz=126						
KEV				SN	**Sn**	**10 53 06.0**	**+1.6**
RNF	**Rovaniemi**	**3.35**	**255**	PN	**Pn**	**10 52 25.0**	**0.0**
	baz=70						
RNF				SN	**Sn**	**10 53 06.8**	**+1.4**
ARA0	**ARCESS Array S**	**3.65**	**304**	*e*P	**Pn**	**10 52 28.8**	**-0.3**
ARA0	**ARCESS Array S**	**3.65**	**304**	PN	**Pn**	**10 52 29.1**	**0.0**
	baz=121						
ARA0				SN	**Sn**	**10 53 14.3**	**+1.5**
ARCES	**ARCESS Array B**	**3.65**	**304**	P	**Pn**	**10 52 29.6**	**+0.5**
ARCES				S	**Sn**	**10 53 13.3**	**+0.5**
ARCES	**ARCESS Array B**	**3.65**	**304**	P	**Pn**	**10 52 29.1**	**0.0**
ARCES				S	**Sn**	**10 53 12.1**	**-0.7**
ARCES	**ARCESS Array B**	**3.65**	**304**	Pn	**Pn**	**10 52 29.1**	**0.0**
	comp=Z,1.1nm,0.3s,baz=120,slow=14,SNR=181						
ARCES				Sn	**Sn**	**10 53 09.9**	**-2.9**
	comp=Z,1.0nm,0.3s,baz=114,slow=35,SNR=6.7						
ARCES				Lg	Lg	10 53 23.0	
	comp=Z,2.8nm,0.3s,baz=116,slow=28,SNR=8.5 comp=Z,2.4nm,0.3s						
RMF	**Romuvaara**	**3.90**	**208**	PN	**Pn**	**10 52 31.8**	**-0.8**
	baz=29						
KLF	**Kolari**	**3.94**	**268**	PN	**Pn**	**10 52 33.0**	**-0.1**
KLF				SG	**Sg**	**10 53 34.0**	**-3.9**
HEF	**Hetta**	**3.99**	**285**	PN	**Pn**	**10 52 34.0**	**+0.2**
	baz=92						
HEF				SN	**Sn**	**10 53 22.0**	**+0.8**
TOF	**Tornio**	**4.20**	**252**	PN	**Pn**	**10 52 38.3**	**+1.8**
TOF				SN	**Sn**	**10 53 25.4**	**-0.8**
OUL	**Oulu**	**4.23**	**235**	PG	**Pb**	**10 52 47.9**	**+1.4**
OUL				SB	**Sb**	**10 53 37.8**	**-0.3**
KTK1	**Kautokeino**	**4.24**	**293**	PN	**Pn**	**10 52 37.6**	**+0.4**
KTK1				SB	**Sb**	**10 53 42.1**	**+3.7**
PAJU	**Pajala**	**4.31**	**266**	PN	**Pn**	**10 52 37.7**	**-0.5**
PAJU				SG	**Sg**	**10 53 46.9**	**-2.9**
FINES	**FINESS Array B**	**7.17**	**213**	Pn	**Pn**	**10 53 16.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=35,slow=12,SNR=4.6						
FINES				Sn	Sn	10 54 30.7	-8.8
	comp=Z,0.1nm,0.3s,baz=42,slow=17,SNR=1.8						
FINES				Lg	Lg	10 55 12.0	
	comp=Z,0.5nm,0.3s,baz=31,slow=28,SNR=5.4 comp=Z,0.5nm,0.4s						
FAUS	**Fauske**	**7.22**	**276**	P	**Pn**	**10 53 16.9**	**-1.1**
FAUS				S	**Sn**	**10 54 36.4**	**-4.1**
SPITS	**Spitsbergen Ar**	**11.64**	**342**	Pn	**Pn**	**10 54 15.9**	**-2.6**
	baz=131,slow=17 comp=Z,7.8nm,1.0s						
NOA	**NORSAR Array B**	**11.89**	**247**	Pn	Pn	10 54 17.1	-5.0
	baz=53,slow=19,SNR=1.6 comp=Z,0.2nm,0.5s						

HEL 11 10:59:30.0±0.1,61.65N×27.32E,h0km,ML0.9, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**0.63**	**251**	PG	Pg	10 59 41.4	-0.7
	baz=71						
FIA0				MSG		10 59 50.0	
	comp=Z,1.9nm,0.2s						
FIA0				SG	Sb	10 59 52.9	-0.3
KAF	**Kangasniemi**	**0.67**	**314**	PG	Pg	10 59 42.1	-0.7
	baz=134						
KAF				SG	Sg	10 59 50.7	-0.8
KAF				MSG		10 59 51.0	
	comp=Z,2.1nm,0.2s						
RUF	**Ruokolahti**	**0.81**	**105**	PG	Pg	10 59 44.6	-0.9
	baz=280						
RUF				MSG		10 59 55.2	
	comp=Z,1.2nm,0.2s						
VJF	**Virojoki**	**1.12**	**174**	MSG		11 00 04.0	
	comp=Z,2.9nm,0.2s						
VJF				SB	Sg	11 00 04.6	-1.3
KEF	**Keuruu**	**1.27**	**295**	PG	Pg	10 59 52.9	-1.5
	baz=105						
KEF				MSG		11 00 08.4	
	comp=Z,0.8nm,0.2s						
KEF				SB	Sg	11 00 10.0	-0.9
PVF	**Pernaja**	**1.32**	**213**	PG	Pg	10 59 53.6	-1.5
PVF				MSG		11 00 09.7	
	comp=Z,2.0nm,0.2s						
PVF				SB	Sg	11 00 11.2	-1.0
JOF	**Joensuu**	**2.26**	**54**	PG	Pb	11 00 10.3	-1.3
VAF	**Ylistaro**	**2.58**	**305**	MSG		11 00 46.2	
	comp=Z,0.5nm,0.2s						
VAF				SG	Sb	11 00 48.6	-0.7
BURU	**Burvik**	**4.00**	**320**	SG	Sg	11 01 34.5	-3.7

*TEH **11** 11:01:08.3,33.79N×45.68E,h8km±48km,ML3.3*
*ISN **11** 11:01:08.7±0.3,33.78N×45.71E,h6km±1km,ML3.4*
ISC 11 11:01:09.6±0.9,33.79N±0.03×45.68E±0.04,h10km,n19, σ1s14/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**111**	Pg	**Pg**	**11 01 17.7**	**-1.0**
IBDR	**Badra**	**0.71**	**163**	*e*Pg	**Pg**	**11 01 22.0**	**-1.4**
IBDR				*e*Sg	**Sg**	**11 01 32.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.71**	**354**	Pg	**Pg**	**11 01 22.5**	**-0.9**
IGHG	**Ghaleghazi**	**0.91**	**54**	Pg	**Pg**	**11 01 26.3**	**-0.8**
IDHR	**Dehrash**	**1.07**	**33**	Pg	**Pg**	**11 01 28.7**	**-1.6**
BHD	**Baghdad**	**1.21**	**245**	*e*Pg	**Pn**	**11 01 32.0**	**-0.5**
BHD				*e*Sg	**Sb**	**11 01 49.0**	**+0.8**
BHD				AML	AML	11 01 52.7	
	comp=E,2μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.22**	**67**	Pg	**Pb**	**11 01 32.2**	**-0.8**
ILIN	**Lien**	**1.54**	**43**	Pg	**Pn**	**11 01 37.5**	**+0.1**
IKOM	**Komasi**	**1.56**	**75**	Pg	**Pn**	**11 01 38.7**	**+1.1**
IKFM	**Kafar-mosalman**	**1.82**	**98**	Pn	**Pn**	**11 01 41.8**	**+0.7**
IBZA	**Bozab**	**1.93**	**69**	Pn	**Pn**	**11 01 43.2**	**+0.5**
RAFI	**Al-Rafai**	**2.10**	**170**	*e*Pn	**Pn**	**11 01 46.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**11 02 13.0**	**+2.1**
RAFI				AML	AML	11 02 14.5	
	comp=N,232nm,0.1s						
RAFI				AML	AML	11 02 15.0	
	comp=E,304nm,0.3s						
SDS1	**Sardasht. Az.**	**2.36**	**356**	Pn	**Pn**	**11 01 49.5**	**+1.0**
HSAM	**Samen**	**2.46**	**79**	Pn	**Pn**	**11 01 50.6**	**+0.5**
HAGD	**Aghdareh**	**3.04**	**69**	Pn	**Pn**	**11 01 59.0**	**+1.1**
IRAZ	**Razeghan**	**3.85**	**64**	Pn	**Pn**	**11 02 10.2**	**+1.1**
ISHB	**Shabestar**	**4.48**	**359**	Pn	**Pn**	**11 02 19.5**	**+1.7**
QAMS	**Qamsar**

*REY **11** 11:09:59.1,59°.27N×30°.91W,h10km*
ISC 11 11:09:49.2±0.6,**59°.1N**±0°.1×**30°.94W**±0°.07,**h10km**,**n32**,
σ0**76**/25,**mb3.8**/15,**MS3.1**/5,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAS	**Kald??rsel** baz=38	**6.58**	**38**	P	**Pn**	**11 11 26.1**	**+0.2**
ISAN	**Sandskeio** baz=39	**6.69**	**38**	P	**Pn**	**11 11 26.3**	**-1.1**
IEDA	**Engidalur** baz=39	**6.77**	**38**	P	**Pn**	**11 11 28.6**	**+0.1**
ISOL	**Solvholt** baz=41	**6.81**	**40**	P	**Pn**	**11 11 28.4**	**-0.6**
IHEI	**Heioarbar** baz=39	**6.90**	**38**	P	**Pn**	**11 11 30.4**	**+0.2**
BORG	**Borgarnes** 16nm,0.5s,baz=262,slow=2.1,SNR=14	**7.26**	**35**	Pn	**Pn**	**11 11 36.1**	**+0.9**
BORG	2.1nm,0.3s,baz=313,slow=16,SNR=2.0			Sn	**Sn**	**11 12 56.9**	**-0.6**
SFJD	**Kangerlussuaq** comp=Z,50nm,19.1s,baz=131,slow=30	**11.88**	**320**	LR	LR	11 15 45.4	
EKA	**Eskdalemuir Ar** 1.2nm,0.8s,baz=297,slow=9.3,SNR=1.5	**15.46**	**92**	Pn	**Pn**	**11 13 27.5**	**+0.4**
FRB	**Frobisher Bay** comp=Z,156nm,18.7s,baz=120,slow=35	**18.38**	**301**	LR	LR	11 20 36.1	
SCHQ	**Schefferville** 0.1nm,0.3s,baz=50,slow=17,SNR=2.6	**19.86**	**273**	P	**P**	**11 14 20.4**	**+0.3**
SCHQ	comp=Z,99nm,21.3s,baz=94,slow=32 4.3nm,1.0s			LR	LR	11 20 17.7	
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=269,slow=12,SNR=1.6	**20.86**	**67**	P	Pn	11 14 32.2	-1.2
NOA	comp=Z,82nm,19.4s,baz=280,slow=35 0.7nm,0.8s			LR	LR	11 21 54.4	
HFS	**Hagfors** 3.4nm,1.0s,baz=290,slow=11,SNR=3.7	**22.28**	**68**	P	**P**	**11 14 47.2**	**+1.0**
HFS	comp=Z,53nm,20.1s,baz=276,slow=37 3.4nm,1.0s			LR	LR	11 23 35.8	
ARCES	**ARCESS Array B** 7.8nm,1.1s,baz=316,slow=3.3,SNR=9.6 7.8nm,1.1s	**25.57**	**43**	P	**P**	**11 15 17.8**	**0.0**
ESDC	**Sonseca Array** 2.0nm,1.1s,baz=306,slow=15,SNR=3.3	**25.89**	**127**	P	**P**	**11 15 21.7**	**+0.6**
ESDC	comp=Z,50nm,19.1s,baz=328,slow=31 2.0nm,1.1s			LR	LR	11 23 13.8	
FINES	**FINESS Array B** 2.2nm,0.9s,baz=294,slow=10,SNR=3.3 2.2nm,0.9s	**27.61**	**60**	P	**P**	**11 15 36.4**	**+0.1**
GERES	**GERESS Array B** comp=Z,140nm,18.1s,baz=290,slow=36	**27.68**	**92**	LR	LR	11 26 30.5	
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=309,slow=8.2,SNR=1.9 0.3nm,0.4s	**34.48**	**77**	P	**P**	**11 16 37.1**	**+0.2**
ULM	**Lac du Bonnet** 0.8nm,0.7s,baz=355,slow=13,SNR=2.2 0.8nm,0.7s	**37.15**	**286**	P	**P**	**11 16 59.8**	**+0.1**
YKA	**Yellowknife Ar** 1.3nm,0.9s,baz=58,slow=8.8,SNR=10 1.3nm,0.9s	**38.28**	**312**	P	**P**	**11 17 09.6**	**+0.5**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=22,slow=5.8,SNR=3.8 0.3nm,0.8s	**47.39**	**328**	P	**P**	**11 18 22.5**	**-0.5**
PDAR	**Pinedale Array** 0.3nm,0.7s,baz=60,slow=8.8,SNR=3.8 0.3nm,0.7s	**49.12**	**287**	P	**P**	**11 18 35.5**	**-1.4**
BVAR	**Borovoye Array** 1.9nm,0.7s,baz=325,slow=7.4,SNR=8.9 1.9nm,0.7s	**51.59**	**49**	P	**P**	**11 18 56.0**	**+0.9**
TORD	**Torodi Ar. Bea** 0.9nm,0.8s,baz=335,slow=7.8,SNR=5.5 0.9nm,0.8s	**51.90**	**138**	P	**P**	**11 18 56.3**	**-1.5**
YBH	**Yreka Blue Hor** comp=Z,210nm,19.5s,baz=356,slow=34	**56.22**	**296**	LR	LR	11 41 26.2	
KURBB	**Kurchatov Arra** 1.1nm,0.6s,baz=323,slow=7.0,SNR=8.5 1.1nm,0.6s	**56.59**	**46**	P	**P**	**11 19 31.5**	**-0.1**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=79,slow=5.6,SNR=2.1	**56.71**	**290**	P	P	11 19 38.5	+5.5
MKAR	**Makanchi Array** 1.4nm,0.7s,baz=330,slow=5.7,SNR=12 1.4nm,0.7s	**61.16**	**46**	P	**P**	**11 20 03.0**	**-0.4**
SONM	**Songino Array** 0.5nm,0.6s,baz=319,slow=4.1,SNR=4.0 0.5nm,0.6s	**67.84**	**30**	P	**P**	**11 20 47.2**	**-0.1**
H10S3	**ASCENSION HYDR** baz=231	**69.08**	**163**	T	T	12 35 41.2	
H10S2	**ASCENSION HYDR** baz=349	**69.08**	**163**	T	T	12 35 40.5	
ASAR	**Alice Springs** 0.7nm,1.0s,baz=351,slow=3.2,SNR=3.2	**143.01**	**23**	PKP	**PKPdf**	**11 29 22.0**	**-0.9**
QSPA	**South Pole Qui** 3.0nm,0.9s,baz=193,slow=2.3,SNR=6.2	**148.99**	**180**	PKPbc	**PKPdf**	**11 29 33.0**	**+1.3**

*IDC **11** 11:10:55.5±1.6,59°.02N×31°.09W,h0km,mb3.7/8,*
mbtmp3.7/10,ML4.2/1,MS3.6/3,Error ellipse:
s-maj=33.2km s-min=26.6km az=59.0
*REY **11** 11:10:58.9,59°.31N×30°.82W,h10km*
ISC 11 11:10:58.0±1.2,**59°.1N**±0°.1×**31°.0W**±0°.1,**h14km**,**n21**,
σ1**90**/18,**mb3.8**/8,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAS	**Kald??rsel** baz=38	**6.58**	**38**	P	**Pn**	**11 12 34.2**	**+0.1**
IKAS	**Kald??rsel** baz=38	**6.58**	**38**	S	**Pn**	**11 12 34.3**	**+0.1**
ISAN	**Sandskeio** baz=39	**6.69**	**38**	P	**Pn**	**11 12 35.6**	**-0.1**
ISAN	**Sandskeio** baz=39	**6.69**	**38**	S	**Pn**	**11 12 35.4**	**-0.3**
IEDA	**Engidalur** baz=39	**6.77**	**38**	P	**Pn**	**11 12 36.5**	**-0.3**
IEDA	baz=39			S	**Sn**	**11 13 51.8**	**-1.8**
IHEI	**Heioarbar** baz=39	**6.90**	**38**	P	**Pn**	**11 12 38.9**	**+0.3**
BORG	**Borgarnes** 4.3nm,0.3s,baz=208,slow=6.6,SNR=7.5	**7.26**	**35**	Pn	**Pn**	**11 12 45.6**	**+2.1**
BORG	1.1nm,0.3s,baz=49,slow=22,SNR=6.6 11nm,0.4s			Sn	**Sn**	**11 14 05.5**	**-0.1**
JMIC	**Jan Mayen** comp=Z,142nm,19.6s,baz=136,slow=32	**15.09**	**29**	LR	LR	11 19 06.5	
EKA	**Eskdalemuir Ar** 0.5nm,0.6s,baz=288,slow=9.7,SNR=1.2	**15.47**	**92**	Pn	**Pn**	**11 14 36.7**	**+1.1**
ARCES	**ARCESS Array B** 1.4nm,0.6s,baz=298,slow=2.6,SNR=7.0 1.4nm,0.6s	**25.57**	**43**	P	**P**	**11 16 26.1**	**0.0**
ESDC	**Sonseca Array** 0.6nm,0.5s,baz=310,slow=9.9,SNR=2.3 0.6nm,0.5s	**25.90**	**127**	P	**P**	**11 16 30.8**	**+1.4**
FINES	**FINESS Array B** 1.3nm,0.8s,baz=284,slow=5.6,SNR=1.6 1.3nm,0.8s	**27.62**	**60**	P	**P**	**11 16 44.4**	**-0.2**
YKA	**Yellowknife Ar** 0.5nm,0.7s,baz=54,slow=9.2,SNR=3.6 0.5nm,0.7s	**38.26**	**312**	P	**P**	**11 18 17.2**	**0.0**
MMAI	**Mount Meron Ar** comp=Z,36nm,19.3s,baz=332,slow=38	**50.34**	**91**	LR	LR	11 42 50.6	
BVAR	**Borovoye Array** 1.0nm,0.6s,baz=331,slow=9.0,SNR=4.7 1.0nm,0.6s	**51.59**	**49**	P	**P**	**11 20 03.7**	**+0.3**
TORD	**Torodi Ar. Bea** 0.7nm,0.9s,baz=340,slow=9.1,SNR=2.7 0.7nm,0.9s	**51.91**	**138**	P	**P**	**11 20 04.2**	**-1.9**
KURBB	**Kurchatov Arra** 0.7nm,0.7s,baz=328,slow=7.0,SNR=4.2 0.7nm,0.7s	**56.59**	**46**	P	**P**	**11 20 39.9**	**+0.1**
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=324,slow=6.5,SNR=5.7 0.8nm,0.7s	**61.16**	**46**	P	**P**	**11 21 11.7**	**+0.1**
H10S3	**ASCENSION HYDR** baz=231	**69.09**	**163**	T	T	12 36 46.6	
H10S2	**ASCENSION HYDR** baz=349	**69.09**	**163**	T	T	12 36 46.7	
JHJ	**Hachijo jima 2** comp=Z,57nm,20.6s,baz=337,slow=35	**87.81**	**8**	LR	LR	12 02 04.2	

*SOME **11** 11:13:43.5,44°.70N×82°.00E,h10km*
*NNC **11** 11:13:44.7±1.5,44°.71N×81°.93E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=14.8km s-min=7.1km az=127.0
ISC 11 11:13:43.3±1.4,**44°.70N**±0°.05×**82°.04E**±0°.07,**h10km**,**n23**,
σ1**47**/37,**3C**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent** 9.6nm,0.2s	**1.65**	**258**	P	**Pg**	**11 14 14.6**	**-0.4**
DJR	24nm,0.3s			S	**Sg**	**11 14 37.4**	**+1.1**
DJR	**Jarkent** 9.6nm,0.2s	**1.65**	**258**	*e*P	**Pb**	**11 14 13.7**	**-0.1**
DJR	24nm,0.1s			*e*S	**Sg**	**11 14 35.6**	**-0.8**
KTMS	**Ketmen** 4.8nm,0.2s	**1.75**	**225**	*e*P	**Pg**	**11 14 16.2**	**-0.6**
KTMS	18nm,0.3s			*e*S	**Sg**	**11 14 39.5**	**0.0**
KAPS	**Kapalarasan** 2.3nm,0.2s	**1.99**	**288**	Pg	**Pb**	**11 14 19.6**	**0.0**
KAPS	13nm,0.2s			Lg	Lg	11 14 45.7	
KAPS	**Kapalarasan** 5.3nm,0.1s	**1.99**	**288**	*e*P	**Pb**	**11 14 19.9**	**+0.3**
KAPS	13nm,0.2s			*e*S	**Sg**	**11 14 45.9**	**-1.3**
KNOS	**Konyrlen** 22nm,0.2s	**2.07**	**261**	Pg	**Pb**	**11 14 21.6**	**+0.5**
KNOS	21nm,0.3s			Lg	Lg	11 14 49.0	
MK31	**Makanchi Array** 6.2nm,0.3s,baz=186,slow=14,SNR=222	**2.10**	**5**	Pn	**Pb**	**11 14 21.3**	**-0.2**
MK31	1.4nm,0.2s,baz=185,slow=30,SNR=16			⇑Sn	**Sg**	**11 14 49.1**	**-1.6**
PDGK	**Podgornoye** 5.3nm,0.3s	**2.29**	**234**	Pg	**Pb**	**11 14 24.2**	**-0.7**
PDGK	8.5nm,0.6s			Lg	Lg	11 14 53.6	
PDGK	**Podgornoye** 3.2nm,0.3s	**2.29**	**234**	⇑Pn	**Pb**	**11 14 24.1**	**-0.7**
PDGK	11nm,0.5s			⇑Sn	**Sg**	**11 14 54.7**	**-2.4**
SHLS	**Shalkode** 22nm,0.2s	**2.42**	**231**	Pg	**Pn**	**11 14 23.8**	**+0.8**
SHLS	31nm,0.4s			Lg	Lg	11 14 53.2	
SHLS	**Shalkode** 11nm,0.1s	**2.42**	**231**	*e*P	**Pn**	**11 14 24.1**	**+1.1**
SHLS	30nm,0.2s			*e*S	**Sn**	**11 14 53.3**	**+0.5**
BLB	**Baldybastay** 9.7nm,0.2s	**2.62**	**258**	Pg	**Pb**	**11 14 30.9**	**+0.4**
BLB	16nm,0.3s			Lg	Lg	11 15 04.8	
UZB	**Uzynbulak** 5.9nm,0.1s	**2.68**	**236**	*e*P	**Pb**	**11 14 30.6**	**-0.8**
UZB	7.1nm,0.2s			*e*S	**Sb**	**11 15 04.5**	**+0.1**
KPKS	**Kokpek** 11nm,0.2s	**2.71**	**244**	Pg	**Pb**	**11 14 31.8**	**-0.2**
KPKS	25nm,0.3s			Lg	Lg	11 15 06.8	
KPKS	**Kokpek** 11nm,0.2s	**2.71**	**244**	*e*P	**Pb**	**11 14 31.8**	**-0.2**
KPKS	25nm,0.1s			*e*S	**Sb**	**11 15 06.7**	**+1.3**
KURS	**Kuram** 0.8nm,0.1s	**3.04**	**248**	*e*P	**Pb**	**11 14 38.0**	**+0.5**
KURS	3.3nm,0.3s			*e*S	**Sb**	**11 15 17.0**	**+2.3**
ARXS	**Arharly** 3.7nm,0.3s	**3.06**	**262**	Pg	**Pb**	**11 14 37.8**	**+0.1**
ARXS	12nm,0.4s			Lg	Lg	11 15 17.0	
ARXS	**Arharly** 4.5nm,0.2s	**3.06**	**262**	*e*P	**Pb**	**11 14 38.5**	**+0.7**
ARXS	12nm,0.4s			*e*S	**Sg**	**11 15 18.0**	**-3.4**
SATY	**Saty** 2.9nm,0.2s	**3.10**	**239**	Pg	**Pb**	**11 14 39.2**	**+0.7**
SATY	22nm,0.3s			Lg	Lg	11 15 19.1	
SATY	**Saty** 2.9nm,0.1s	**3.10**	**239**	*e*P	**Pb**	**11 14 39.4**	**+0.9**
SATY	22nm,0.1s			*e*S	**Sg**	**11 15 19.6**	**-3.1**
CHKK	**Chushkaly** 2.2nm,0.4s	**3.73**	**259**	Pg	**Pb**	**11 14 49.1**	**-0.1**
CHKK	7.4nm,0.3s			Lg	Lg	11 15 36.6	
CHKK	**Chushkaly** 2.2nm,0.2s	**3.73**	**259**	*e*P	**Pb**	**11 14 48.9**	**-0.3**
CHKK	7.4nm,0.3s			*e*S	**Sb**	**11 15 36.0**	**+1.6**
MTBS	**Maitube** 2.0nm,0.1s	**4.35**	**251**	*e*P	**Pb**	**11 15 02.2**	**+2.4**
MTBS	6.3nm,0.1s			*e*S	**Sg**	**11 15 58.6**	**-4.2**

*IDC **11** 11:36:12.8±0.8,3°.71N×126°.11E,h0km,mb4.0/12,*
mbtmp4.0/12,MS3.5/3,Error ellipse: s-maj=59.4km
s-min=15.3km az=68.0
*DJA **11** 11:36:19.4±0.5,4°.1N±13°.×12°.7E±°,h29km±13km,M4.4/12,*
mb4.4/10,mB5.3/5,MLv4.3/12,Mw(mB)4.7/5
*NEIC **11** 11:36:20.1±1.8,3°.8N±0°.1×126°.6E±0°.1,h43km±12km,*
mb4.3/15,Error ellipse: s-maj=16.9km s-min=12.5km
az=45.0
ISC 11 11:36:19.0±0.6,**3°.92N**±0°.08×**126°.6E**±0°.1,**h45km**,**n46**,
σ1**15**/43,**mb4.2**/19,**MS3.8**/3,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.08**	**258**	P	**Pn**	**11 36 38.7**	**+1.0**
TNTI	**Ternate**	**3.22**	**166**	Pn	**Pn**	**11 37 05.6**	**-1.5**
LBMI	**Labuha**	**4.62**	**169**	P	**Pn**	**11 37 27.3**	**+1.0**
GTOI	**Gorontalo**	**4.83**	**228**	P	**Pn**	**11 37 30.8**	**+1.5**
MRSI	**Marisa** 59nm,0.6s,0.3nm	**5.76**	**234**	P	**Pn**	**11 37 44.9**	**+2.9**
SANI	**Sanana** 12nm,0.7s,518nm0.1nm	**5.96**	**186**	P	**Pn**	**11 37 45.4**	**+0.7**
LUWI	**Luwuk**	**6.23**	**218**	Pn	**Pn**	**11 37 48.5**	**+0.1**
LUWI	**Luwuk** 95nm,0.7s,4μm0.4nm	**6.23**	**218**	P	**Pn**	**11 37 49.2**	**+0.8**
TOLI2	**Tolitoli**	**6.43**	**244**		**Pn**	**11 37 52.1**	**+0.9**
SWI	**Sorong** 19nm,0.6s,0.1nm	**6.66**	**135**	P	**Pn**	**11 37 55.1**	**+0.7**
SIJI	**Sorong** 9.8nm,0.7s,929nm0.4nm	**6.67**	**135**	P	**Pn**	**11 37 55.2**	**+0.7**
NLAI	**Namlea** 9.2nm,0.6s,2μm0.1nm	**7.13**	**176**	P	**Pn**	**11 38 01.4**	**+0.7**
FAKI	**Fak Fak**	**8.84**	**140**	Pn	**Pn**	**11 38 23.5**	**-0.7**
FAKI	**Fak Fak** 23nm,1.1s	**8.84**	**140**	P	**Pn**	**11 38 25.6**	**+1.3**
BNDI	**Bandanaira**	**9.02**	**158**	P	**Pn**	**11 38 27.7**	**+1.0**
MTN	**Manton Dam** comp=Z,23nm,1.4s	**17.25**	**165**	Pn	**Pn**	**11 40 14.4**	**-2.4**
MTN				IAmb	IAmb	11 40 51.7	
KNRA	**Kununurra** comp=Z,49nm,1.3s	**19.59**	**174**	P	**P**	**11 40 42.7**	**-0.8**
KNRA				IAmb	IAmb	11 41 16.7	
GUMO	**Guam** comp=Z,47nm,21.5s,baz=148,slow=32	**20.45**	**61**	LR	LR	11 47 13.7	
FITZ	**Fitzroy Crossi** comp=Z,12nm,1.5s	**21.89**	**182**	P	**P**	**11 41 07.6**	**-0.7**
FITZ				IAmb	IAmb	11 41 48.7	
COEN	**Coen** comp=Z,14nm,1.5s	**24.21**	**137**	P	**P**	**11 41 32.0**	**+0.3**
COEN				IAmb	IAmb	11 41 50.6	
WB0	**Warramunga Arr** comp=Z,8.4nm,0.8s	**24.75**	**162**	P	**P**	**11 41 35.7**	**-0.9**
WB0				IAmb	IAmb	11 41 46.3	
WRAB	**Tennant Creek** comp=Z,8.9nm,1.0s	**24.90**	**162**	P	**P**	**11 41 37.6**	**-0.2**
WRAB				IAmb	IAmb	11 42 10.7	
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**11 41 36.8**	**-1.1**
WRA	**Warramunga Arr** comp=Z,2.4nm,0.7s,baz=343,slow=10,SNR=22 comp=Z,2.4nm,0.7s	**24.90**	**162**	P	**P**	**11 41 36.7**	**-1.2**
WB2	**Warramunga Arr**	**24.91**	**162**	P	**P**	**11 41 36.9**	**-1.1**
WB2	comp=Z,8.7nm,1.0s			IAmb	IAmb	11 41 47.7	
WR0	**Warramunga Arr** comp=Z,13nm,1.2s	**24.98**	**162**	P	**P**	**11 41 38.4**	**-0.3**
WR0				IAmb	IAmb	11 42 12.2	
AS31	**Alice Springs**	**28.33**	**166**	P	**P**	**11 42 08.4**	**-0.4**
ASAR	**Alice Springs**	**28.33**	**166**	P	**P**	**11 42 07.7**	**-1.1**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=339,slow=8.5,SNR=8.4 comp=Z,0.3nm,0.5s	**28.33**	**166**	P	**P**	**11 42 08.1**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.4s,baz=125,slow=7.8,SNR=1.7 comp=Z,0.4nm,0.4s	**30.65**	**300**	P	**P**	**11 42 26.5**	**-2.9**
KSRS	**Korea Array** comp=Z,0.9nm,0.7s,baz=184,slow=8.0,SNR=2.1 comp=Z,0.9nm,0.7s	**33.40**	**2**	P	**P**	**11 42 54.7**	**+1.4**
FORT	**Forrest**	**34.53**	**178**	P	**P**	**11 43 03.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.70**	**193**	P	**P**	**11 43 30.8**	**+0.5**
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**	**11 43 36.2**	**+0.4**
STKA	**Stephens Creek** comp=Z,1.3nm,0.5s,baz=333,slow=8.9,SNR=5.1 comp=Z,1.3nm,0.5s	**38.35**	**159**	P	**P**	**11 43 35.7**	**-0.1**
ARMA	**Armidale**	**41.70**	**147**	P	**P**	**11 44 04.2**	**+0.5**
ARMA	comp=Z,11nm,1.3s			IAmb	IAmb	11 44 15.5	
CAN	**Canberra**	**44.34**	**154**	P	**P**	**11 44 26.4**	**+1.5**
SONM	**Songino Array** comp=Z,0.6nm,0.6s,baz=158,slow=9.1,SNR=4.3 comp=Z,0.6nm,0.6s	**47.08**	**341**	P	**P**	**11 44 46.5**	**0.0**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.4s,baz=120,slow=7.6,SNR=32 comp=Z,0.9nm,0.4s	**57.32**	**325**	P	**P**	**11 46 02.3**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.4s,baz=127,slow=6.4,SNR=8.1 comp=Z,0.6nm,0.4s	**61.51**	**327**	P	**P**	**11 46 30.8**	**-0.4**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.5s,baz=146,slow=11,SNR=5.0 comp=Z,0.6nm,0.5s	**67.09**	**327**	P	**P**	**11 47 07.1**	**-0.6**
NRIK	**Noril'sk** comp=Z,2.0nm,0.4s,baz=129,slow=6.2,SNR=4.5 comp=Z,2.0nm,0.4s	**70.22**	**346**	P	**P**	**11 47 28.6**	**+1.7**
KDAK	**Kodiak Island** comp=Z,54nm,21.4s,baz=175,slow=31	**81.81**	**32**	LR	LR	12 18 13.3	
KBZ	**Khabaz** comp=Z,43nm,18.8s,baz=162,slow=40	**82.75**	**313**	LR	LR	12 30 52.4	
ARCES	**ARCESS Array B** comp=Z,1.6nm,0.8s,baz=90,slow=7.3,SNR=5.4 comp=Z,1.6nm,0.8s	**90.22**	**340**	P	**P**	**11 49 14.6**	**+0.1**
FINES	**FINESS Array B** comp=Z,1.5nm,0.8s,baz=27,slow=4.7,SNR=3.8 comp=Z,1.5nm,0.8s	**91.60**	**332**	P	**P**	**11 49 20.9**	**-0.1**

*NNC **11** 11:43:29.5±9.2,39°.09N×71°.32E,h143km±203km,mb2.3,*
mpv3.1,Error ellipse: s-maj=115.1km s-min=54.3km
az=8.0
*KRNET **11** 11:43:30.2±0.1,39°.60N×71°.03E,h14km,mb3.2*
*ISU **11** 11:43:34.0,39°.79N×71°.10E,h30km*
ISC 11 11:43:34.1±0.9,**39°.71N**±0°.04×**71°.16E**±0°.03,**h10km**,**n27**,
σ1**87**/52,**25C-14D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=41	**0.43**	**323**	⇑*i*P	**Pg**	**11 43 39.8**	**-2.8**
BTK				⇑*i*S	**Sg**	**11 43 46.2**	**-2.2**
DRK	**Karamyk** baz=1.0	**0.55**	**115**	⇑*e*P	**Pg**	**11 43 41.6**	**-3.2**
DRK				⇑*e*S	**Sg**	**11 43 50.5**	**-1.6**
MINT	**Mingtut**	**0.77**	**350**	P	**Pg**	**11 43 47.8**	**-1.1**
MINT				S	**Sg**	**11 43 57.7**	**-1.2**
TSTA	**Tashata**	**1.33**	**49**	P	**Pn**	**11 43 58.8**	**0.0**
TSTA				S	**Sg**	**11 44 18.0**	**+1.0**
OHH	**Osh** baz=55	**1.49**	**56**	⇑*i*P	**Pn**	**11 44 00.9**	**-0.1**
OHH	baz=55			⇑*i*S	**Sg**	**11 44 22.8**	**+0.8**
TRKS	**Terek-Say** baz=3.0	**1.82**	**360**	⇑*i*P	**Pn**	**11 44 04.9**	**-0.7**
TRKS	baz=3.0			⇑*i*S	**Sb**	**11 44 29.6**	**-0.8**
SFK	**Sufi-Kurgan** baz=77	**1.83**	**80**	⇑*e*P	**Pn**	**11 44 06.2**	**+0.4**
SFK	baz=77			⇑*e*S	**Sg**	**11 44 32.3**	**-0.7**
CHMG	**Chimgan**	**2.03**	**335**	P	**Pn**	**11 44 08.7**	**+0.2**
CHMG				S	**Sb**	**11 44 35.8**	**-0.8**
TGS	**TashGRES**	**2.12**	**324**	P	**Pn**	**11 44 10.5**	**+0.9**
TGS				S	**Sb**	**11 44 39.3**	**+0.4**
ARSB	**Arslanbob** baz=40	**2.13**	**40**	⇑*i*P	**Pn**	**11 44 10.9**	**+1.0**
ARSB	baz=40			⇑*i*S	**Sb**	**11 44 40.1**	**+0.7**
CHRV	**Charvak**	**2.13**	**335**	P	**Pn**	**11 44 10.1**	**+0.2**
CHRV				S	**Sb**	**11 44 38.5**	**-0.9**
ARK	**Arkit** baz=18	**2.17**	**16**	⇓*i*P	**Pn**	**11 44 11.5**	**+1.1**
ARK	baz=18			⇓*i*S	**Sb**	**11 44 40.9**	**+0.3**
BXML	**Bakhmal**	**2.41**	**270**	P	**Pb**	**11 44 17.7**	**0.0**
BXML				S	**Sg**	**11 44 52.2**	**+0.6**
AML	**Almayashu** 0.6nm,0.5s	**3.09**	**38**	⇑Pn	**Pn**	**11 44 24.8**	**+1.5**
AML	1.6nm,0.6s			⇑Sn	**Sb**	**11 45 04.5**	**-2.7**
AML	**Almayashu** baz=38	**3.09**	**38**	⇑*i*P	**Pn**	**11 44 24.6**	**+1.3**
AML	baz=38			⇑*i*S	**Sb**	**11 45 03.5**	**-3.7**
ARLS	**Aral** baz=47	**3.22**	**47**	⇓*i*P	**Pn**	**11 44 26.4**	**+1.5**
ARLS	baz=47			⇓*i*S	**Sn**	**11 45 06.7**	**+3.3**
KK31	**Karatay Array** 1.7nm,0.3s,baz=171,slow=12,SNR=38	**3.42**	**352**	⇓Pn	**Pn**	**11 44 28.0**	**+0.5**
KK31	17nm,0.4s,baz=173,slow=28,SNR=12			⇑Sn	**Sg**	**11 45 21.2**	**-2.8**
EKS2	**Erkin-Say** baz=33	**3.55**	**33**	⇑*i*P	**Pn**	**11 44 30.8**	**+1.4**
EKS2	baz=33			⇑*i*S	**Sn**	**11 45 14.1**	**+2.7**
UCH	**Uchtor** baz=44	**3.57**	**44**	⇑*i*P	**Pn**	**11 44 31.4**	**+1.4**
UCH	baz=44			⇑*i*S	**Sn**	**11 45 15.2**	**+2.7**
AAK	**Ala-Archa** baz=40	**3.86**	**40**	⇓*i*P	**Pn**	**11 44 35.0**	**+1.4**
AAK	baz=40			⇓*i*S	**Sn**	**11 45 21.6**	**+2.5**
KZA	**Kyzart** baz=51	**3.90**	**51**	⇓*i*P	**Pn**	**11 44 35.8**	**+1.4**
KZA	baz=51			⇓*i*S	**Sn**	**11 45 22.7**	**+2.2**
KBK	**Karagaybulak** baz=43	**4.10**	**43**	⇓*i*P	**Pn**	**11 44 38.3**	**+1.3**
KBK	baz=43			⇓*i*S	**Sn**	**11 45 27.6**	**+2.4**
ZRB	**Zarabog**	**4.13**	**248**	P	**Pn**	**11 44 37.7**	**+0.4**
ZRB				S	**Sn**	**11 45 30.1**	**+4.5**
USP	**Ospenovka** baz=34	**4.35**	**34**	⇑*i*P	**Pn**	**11 44 41.5**	**+1.2**
USP	baz=34			⇑*i*S	**Sn**	**11 45 33.5**	**+2.5**
TKM2	**Tokmak 2** 6.0nm,0.5s	**4.63**	**45**	⇓Pn	**Pn**	**11 44 45.7**	**+1.5**
TKM2	3.2nm,0.6s			⇑Sn	**Sn**	**11 45 41.4**	**+3.1**
TKM2	**Tokmak 2** baz=45	**4.63**	**45**	⇓*i*P	**Pn**	**11 44 45.8**	**+1.5**
TKM2	baz=45			⇓*i*S	**Sn**	**11 45 40.5**	**+2.3**
AB31	**Akbulak array** 0.2nm,0.4s,baz=126,slow=13,SNR=10	**12.44**	**324**	⇑P	Pn	11 46 25.6	-5.6

*ISN **11** 11:43:54.0±0.6,33°.74N×45°.68E,h11km±3km,ML3.0*
*TEH **11** 11:43:56.8,33°.81N×45°.88E,h12km±34km,ML3.0*
ISC 11 11:43:55.3±0.9,**33°.73N**±0°.04×**45°.71E**±0°.05,**h10km**,**n14**,
σ1**22**/17,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.43**	**104**	Pg	**Pg**	**11 44 03.4**	**-0.4**
IBDR	**Badra**	**0.65**	**163**	*e*Pg	**Pg**	**11 44 07.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**11 44 16.5**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.78**	**353**	Pg	**Pg**	**11 44 11.5**	**+1.1**
IGHG	**Ghaleghazi**	**0.93**	**50**	Pg	**Pg**	**11 44 12.1**	**-1.1**
IDHR	**Dehrash**	**1.12**	**30**	Pg	**Pb**	**11 44 15.6**	**-1.3**
BHD	**Baghdad**	**1.20**	**248**	*e*Pg	**Pb**	**11 44 17.0**	**-1.2**
BHD				*e*Sg	**Sb**	**11 44 33.0**	**-0.8**
BHD				AML	AML	11 44 37.8	
KCHF	**Cheshme Sefid,**	**1.23**	**63**	Pg	**Pn**	**11 44 17.6**	**-1.2**
IKOM	**Komasi**	**1.56**	**73**	Pg	**Pn**	**11 44 24.3**	**+1.0**
ILIN	**Lien**	**1.57**	**41**	Pg	**Pn**	**11 44 24.0**	**+0.4**

IKFM	Kafar-mosalman	1.79	96	Pg	Pn	11 44 27.8	+1.5
RAFI	Al-Rafai	2.03	170	*e*Pn	Pn	11 44 30.0	+0.4
RAFI				*e*Sn	Sn	11 44 57.0	+2.0
RAFI				AML	AML	11 45 09.1	
	comp=N,111nm,0.4s						
RAFI				AML	AML	11 45 09.4	
	comp=E,164nm,0.4s						
HSAM	Samen	2.45	78	Pn	Pn	11 44 36.2	+0.5
HAGD	Aghdareh	3.04	68	Pn	Pn	11 44 44.7	+1.0
IKLH	Kolahrood	4.92	93	Pn	Pn	11 45 11.4	+1.9

KRSC 11 11:55:55.9±0.8, 53°84N×169°55E, h68km±28km, MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.50	305	*e*S	Sn	11 57 05.6	+2.1
TUMD	Tumrok D	5.50	288	*e*S	Sn	11 58 18.5	+1.3
TUMR	Tumrok	5.66	289	*e*P	Pn	11 57 21.6	+4.1
KMNR	Kamenistaya	5.72	293	*e*P	Pn	11 57 22.4	+4.1
UGLR	Uglovaya	6.43	269	*e*P	Pn	11 57 31.6	+3.7
SMAR	Somma	6.43	269	*e*P	Pn	11 57 31.6	+3.5
AVH	Avacha	6.47	269	*e*P	Pn	11 57 32.3	+3.8
OSSR	Ossora	6.50	329	*e*P	Pn	11 57 32.8	+4.0
DALK	Dalny	6.50	267	*e*P	Pn	11 57 32.7	+3.8
KRX	Arik	6.51	270	*e*P	Pn	11 57 32.7	+3.6
KOK	Koryaka	6.53	270	*e*P	Pn	11 57 32.9	+3.6
KRMR	Karymshinskiy	6.92	266	*e*P	Pn	11 57 38.4	+3.9
KRMR				*e*S	Sn	11 58 52.9	+1.2
GRL	Gorelyy	7.02	264	*e*P	Pn	11 57 40.7	+4.7
ASAK	Asacha	7.17	263	*e*P	Pn	11 57 42.7	+4.7
ASAK				*e*S	Sn	11 59 00.5	+2.6

IDC 11 11:57:52.0±1.1, 59°.05N×30°.88W, h0km, mb3.6/13, mbtmp3.7/16, ML3.3/3, MS3.8/15, Error ellipse: s-maj=31.7km s-min=15.5km az=176.0
ISC 11 11:57:54.2±0.8, 59°.1N±0°.1×30°.87W±0°.09, h14km, n28, σ1§10/17, mb3.8/13, MS3.8/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	7.25	34	Pn	Pn	11 59 39.7	+0.2
	4.0nm,0.3s,baz=216,slow=4.5,SNR=14						
BORG				Sn	Sn	12 01 00.2	-1.2
	0.9nm,0.3s,baz=83,slow=23,SNR=12 10nm,0.5s						
EKA	Eskdalemuir Ar	15.42	92	Pn	Pn	12 01 29.5	-1.5
	baz=307,slow=9.6 0.9nm,0.7s						
SCHQ	Schefferville	19.90	273	P	P	12 02 22.9	-2.1
	0.2nm,0.3s,baz=49,slow=11,SNR=4.9 2.1nm,0.7s						
HFS	Hagfors	22.25	68	LR	LR	12 10 31.0	
	comp=Z,185nm,18.1s,baz=264,slow=34						
ARCES	ARCESS Array B	25.55	43	P	P	12 03 21.4	-0.6
	1.9nm,0.7s,baz=14,slow=5.5,SNR=4.1 1.9nm,0.7s						
FINES	FINESS Array B	27.58	60	P	P	12 03 41.2	+0.9
	2.0nm,1.0s,baz=315,slow=16,SNR=2.5						
FINES				LR	LR	12 13 54.8	
	comp=Z,155nm,18.6s,baz=296,slow=35 2.0nm,1.0s						
AKASG	Malin Array Be	34.45	77	P	P	12 04 42.9	+2.0
	0.1nm,0.2s,baz=311,slow=8.5,SNR=1.2 0.1nm,0.2s						
ULM	Lac du Bonnet	37.19	286	P	P	12 05 04.8	+0.3
	1.8nm,0.7s,baz=53,slow=10,SNR=3.9						
ULM				LR	LR	12 18 25.4	
	comp=Z,139nm,19.7s,baz=114,slow=33 1.8nm,0.7s						
YKA	Yellowknife Ar	38.31	312	P	P	12 05 13.9	+0.1
	0.9nm,0.9s,baz=93,slow=7.9,SNR=4.5 0.9nm,0.9s						
KIRV	Kirov	39.18	55	LR	LR	12 21 19.7	
	comp=Z,77nm,19.2s,baz=298,slow=36						
INK	Inuvik	41.16	327	LR	LR	12 20 53.0	
	comp=Z,119nm,18.9s,baz=36,slow=34						
TKL	Tuckaleechee C	41.36	259	LR	LR	12 22 04.0	
	comp=Z,164nm,18.6s,baz=3,slow=35						
ARU	Arti	44.36	53	LR	LR	12 24 45.4	
	comp=Z,75nm,19.4s,baz=326,slow=36						
ILAR	Eielson Array	47.42	328	P	P	12 06 28.5	+0.9
	0.5nm,0.9s,baz=36,slow=6.7,SNR=1.9						
ILAR				LR	LR	12 27 23.7	
	comp=Z,131nm,18.7s,baz=217,slow=37 0.5nm,0.9s						
PDAR	Pinedale Array	49.16	287	P	P	12 06 40.9	-0.7
	0.4nm,0.7s,baz=64,slow=6.1,SNR=2.3						
PDAR				LR	LR	12 26 05.1	
	comp=Z,192nm,19.6s,baz=328,slow=34 0.4nm,0.7s						
BVAR	Borovoye Array	51.57	49	P	P	12 06 59.1	-0.2
	1.1nm,0.7s,baz=335,slow=6.6,SNR=6.3						
BVAR				LR	LR	12 28 11.3	
	comp=Z,65nm,18.0s,baz=339,slow=35 1.1nm,0.7s						
TORD	Torodi Ar. Bea	51.87	138	P	P	12 07 01.6	-0.4
	0.3nm,0.6s,baz=334,slow=10,SNR=1.9 0.3nm,0.6s						
ELK	Elko	53.47	290	LR	LR	12 28 15.2	
	comp=Z,131nm,20.2s,baz=328,slow=34						
TEIG	Tepich	56.25	252	LR	LR	12 31 09.5	
	comp=Z,454nm,19.5s,baz=180,slow=36						
KURBB	Kurchatov Arra	56.57	46	P	P	12 07 35.2	-0.6
	0.6nm,0.5s,baz=328,slow=7.1,SNR=4.0 0.6nm,0.5s						
TXAR	Lajitas Array	56.58	272	LR	LR	12 31 24.4	
	comp=Z,64nm,18.0s,baz=318,slow=36						
NVAR	Mina Array Bea	56.75	290	P	P	12 07 38.9	+1.3
	0.3nm,0.8s,baz=57,slow=6.6,SNR=2.2 0.3nm,0.8s						
MKAR	Makanchi Array	61.14	46	P	P	12 08 07.6	-0.1
	0.4nm,0.5s,baz=314,slow=5.7,SNR=4.9 0.4nm,0.5s						
CMIG	Matias Romero	62.19	256	LR	LR	12 36 28.3	
	comp=Z,46nm,18.1s,baz=208,slow=37						
SONM	Songino Array	67.83	30	P	P	12 08 51.5	0.0
	0.4nm,0.5s,baz=300,slow=3.2,SNR=4.3 0.4nm,0.5s						
H10S3	ASCENSION HYDR	69.06	163	T	T	13 23 51.2	
	baz=231						
H10S2	ASCENSION HYDR	69.06	163	T	T	13 23 45.5	
	baz=349						
LBTB	Lobatse	95.81	131	LR	LR	12 54 08.1	
	comp=Z,48nm,18.3s,baz=354,slow=35						

IDC 11 11:59:37.9±1.1, 59°.01N×31°.01W, h0km, mb3.6/12, mbtmp3.7/14, ML4.1/2, MS3.7/14, Error ellipse: s-maj=25.8km s-min=18.6km az=11.0
ISC 11 11:59:40.2±0.9, 59°.0N±0°.1×30°.99W±0°.10, h14km, n27, σ1§20/16, mb3.8/11, MS3.7/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	7.32	34	Pn	Pn	12 01 26.8	+0.3
	3.4nm,0.3s,baz=205,slow=6.5,SNR=8.8						
BORG				Sn	Sn	12 02 47.8	-1.6
	2.9nm,0.3s,baz=119,slow=18,SNR=16 13nm,0.6s						
SFJD	Kangerlussuaq	11.91	320	LR	LR	12 06 26.3	
	comp=Z,543nm,18.7s,baz=126,slow=34						
SUMG	Summit	13.92	351	*i* P	Pn	12 02 58.0	+0.9
EKA	Eskdalemuir Ar	15.48	92	Pn	Pn	12 03 19.4	+1.6
	baz=279,slow=14 0.2nm,0.3s						
FRB	Frobisher Bay	18.39	301	LR	LR	12 09 48.2	
	comp=Z,354nm,19.8s,baz=74,slow=33						
SCHQ	Schefferville	19.84	273	LR	LR	12 09 54.7	
	comp=Z,198nm,19.6s,baz=78,slow=31						
NOA	NORSAR Array B	20.91	66	P	P	12 04 23.7	+1.7
	0.5nm,0.8s,baz=230,slow=13,SNR=4.1 0.5nm,0.8s						
ARCES	ARCESS Array B	25.63	43	P	P	12 05 07.9	-0.8
	2.1nm,0.6s,baz=264,slow=7.2,SNR=8.6						
ARCES				LR	LR	12 13 52.5	
	comp=Z,46nm,18.8s,baz=298,slow=33 2.1nm,0.6s						
ESDC	Sonseca Array	25.87	127	P	P	12 05 12.2	+0.9
	2.1nm,1.1s,baz=12,slow=6.6,SNR=3.7						
ESDC				LR	LR	12 13 11.8	
	comp=Z,129nm,18.3s,baz=336,slow=32 2.1nm,1.1s						
FINES	FINESS Array B	27.66	60	P	P	12 05 27.3	+0.2
	1.7nm,0.9s,baz=294,slow=14,SNR=1.9 1.7nm,0.9s						
RES	Resolute Bay	27.68	329	LR	LR	12 15 48.5	
	comp=Z,90nm,18.6s,baz=88,slow=35						
VRAC	Vranov	28.91	88	LR	LR	12 16 58.8	
	comp=Z,179nm,18.0s,baz=310,slow=36						
MDT	Midelt	31.60	134	LR	LR	12 17 22.2	
	comp=Z,111nm,18.6s,baz=334,slow=34						
SADO	Sadowa	32.17	265	LR	LR	12 17 39.7	
	comp=Z,274nm,18.9s,baz=339,slow=34						
AKASG	Malin Array Be	34.52	77	P	P	12 06 26.6	-1.0
	0.2nm,0.3s,baz=299,slow=8.4,SNR=5.2						
AKASG				LR	LR	12 20 59.3	
	comp=Z,37nm,19.5s,baz=15,slow=37 0.2nm,0.3s						
KEST	Kesra	35.08	114	LR	LR	12 18 38.1	
	comp=Z,194nm,21.4s,baz=326,slow=32						
YKA	Yellowknife Ar	38.30	312	P	P	12 07 00.3	+0.6
	1.0nm,0.9s,baz=57,slow=8.9,SNR=6.7						
YKA				LR	LR	12 21 33.1	
	comp=Z,182nm,19.7s,baz=322,slow=34 1.0nm,0.9s						
BRTR	Keskin Array B	44.30	86	LR	LR	12 27 56.6	
	comp=Z,94nm,18.7s,baz=303,slow=38						
ILAR	Eielson Array	47.43	328	P	P	12 08 14.5	+0.9
	0.8nm,1.0s,baz=33,slow=6.8,SNR=4.6 1.0nm,1.0s						
BBB	Bella Bella	50.58	308	LR	LR	12 27 17.6	
	comp=Z,83nm,20.6s,baz=190,slow=33						
BVAR	Borovoye Array	51.65	49	P	P	12 08 46.6	+0.7
	1.5nm,0.8s,baz=327,slow=7.8,SNR=6.5 1.5nm,0.8s						
TORD	Torodi Ar. Bea	51.87	138	P	P	12 08 47.4	-0.6
	0.7nm,1.0s,baz=353,slow=10,SNR=3.7 0.7nm,1.0s						
TXAR	Lajitas Array	56.52	272	P	P	12 09 20.5	-1.3
	0.2nm,0.5s,baz=51,slow=8.7,SNR=1.8 0.2nm,0.5s						
KURBB	Kurchatov Arra	56.65	46	P	P	12 09 20.5	-1.9
	0.7nm,0.7s,baz=323,slow=7.0,SNR=5.7 0.7nm,0.7s						
MKAR	Makanchi Array	61.22	46	P	P	12 09 53.8	-0.4
	1.1nm,0.9s,baz=324,slow=6.0,SNR=7.2 1.1nm,0.9s						
H10S3	ASCENSION HYDR	69.02	163	T	T	13 25 33.2	
	baz=233						
H10S2	ASCENSION HYDR	69.03	163	T	T	13 25 35.4	
	baz=347						

ISN 11 12:18:37.6±0.7, 33°.73N×45°.66E, h11km±3km, ML3.4
IDC 11 12:18:38.2±2.1, 33°.82N×45°.54E, h0km, mb3.7/6, mbtmp3.8/6, Error ellipse: s-maj=44.5km s-min=30.5km az=151.0
TEH 11 12:18:39.4, 33°.80N×45°.76E, h8km±37km, ML3.4
ISC 11 12:18:38.9±0.7, 33°.73N±0°.04×45°.66E±0°.04, h10km, n30, σ1§12/33, mb3.5/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.47	103	Pg	Pg	12 18 47.7	-0.4
ILBA				Sg	Sg	12 18 54.4	+0.1
IBDR	Badra	0.66	160	*e*Pg	Pg	12 18 50.0	-1.7
IBDR				*e*Sg	Sg	12 19 00.0	-0.4
KGS1	Ghasr-e-Shirin	0.77	356	Pg	Pg	12 18 53.1	-0.8
IGHG	Ghaleghazi	0.96	52	Pg	Pg	12 18 56.4	-1.1
IDHR	Dehrash	1.14	32	Pg	Pg	12 18 59.1	-1.7
BHD	Baghdad	1.17	247	*e*Pg	Pb	12 19 00.0	-1.1
BHD				*e*Sg	Sb	12 19 16.0	-0.3
BHD				AML	AML	12 19 24.0	
	comp=E,2μm,0.4s						
KCHF	Cheshme Sefid,	1.27	64	Pg	Pn	12 19 01.9	-1.0
IKOM	Komasi	1.60	74	Pg	Pn	12 19 08.4	+1.0
ILIN	Lien	1.60	42	Pg	Pn	12 19 08.4	+0.9
IKFM	Kafar-mosalman	1.84	96	Pg	Pn	12 19 11.6	+1.1
IBZA	Bozab	1.97	68	Pg	Pn	12 19 13.5	+0.9
RAFI	Al-Rafai	2.04	169	*e*Pn	Pn	12 19 14.0	+0.7
RAFI				*e*Sn	Sn	12 19 40.0	+1.2
RAFI				AML	AML	12 19 47.6	
	comp=E,287nm,0.5s						
RAFI				AML	AML	12 19 53.1	
	comp=N,192nm,0.4s						
IALM	Almabolaq	2.36	61	Pn	Pn	12 19 19.5	+1.5
SDS1	Sardasht. Az.	2.41	357	Pn	Pn	12 19 20.8	+2.2
HSAM	Samen	2.49	78	Pn	Pn	12 19 20.7	+0.9
MAHB	Mahabad	3.03	1	Pn	Pn	12 19 29.0	+2.0
HAGD	Aghdareh	3.08	68	Pn	Pn	12 19 28.9	+1.1
QAMS	Qamsar	4.78	88	Pn	Pn	12 19 52.5	+1.2
IKLH	Kolahrood	4.96	93	Pn	Pn	12 19 55.2	+1.4
IVRN	Varamin	5.17	74	Pn	Pn	12 19 57.0	+0.5
GRMI	Germi	5.38	19	Pn	Pn	12 20 00.5	+1.2
KRSH	Karshahi	5.39	86	Pn	Pn	12 20 00.5	+0.9
ISFB	Sefidab	5.50	82	Pn	Pn	12 20 01.1	+0.2
IRAM	Ramesheh	5.98	107	Pn	Pn	12 20 08.8	+1.1
AKASG	Malin Array Be	20.79	330	P	P	12 23 18.7	-1.4
	comp=N,0.6nm,0.4s,baz=139,slow=10.0,SNR=4.7 comp=N,0.6nm,0.4s						
MKAR	Makanchi Array	30.56	54	P	P	12 24 53.4	+0.7
	comp=N,0.4nm,0.5s,baz=251,slow=10,SNR=6.3 comp=N,0.4nm,0.5s						
HFS	Hagfors	33.66	331	P	P	12 25 18.7	-0.9
	comp=N,1.3nm,0.6s,baz=120,slow=8.4,SNR=7.0 comp=N,1.3nm,0.6s						
ARCES	ARCESS Array B	37.57	349	P	P	12 25 54.2	+1.1
	comp=N,0.3nm,0.4s,baz=153,slow=10,SNR=1.1 comp=N,0.3nm,0.4s						
TORD	Torodi Ar. Bea	44.83	254	P	P	12 26 53.6	+0.2
	comp=N,0.2nm,0.4s,baz=52,slow=7.0,SNR=5.0 comp=N,0.2nm,0.4s						
SPITS	Spitsbergen Ar	46.31	352	P	P	12 27 04.4	0.0
	comp=N,14nm,1.2s,baz=158,slow=12,SNR=4.3 comp=N,14nm,1.2s						

IDC 11 12:27:20.9±0.9, 58°.73N×30°.49W, h0km, mb3.6/13, mbtmp3.7/15, ML3.7/2, MS3.5/6, Error ellipse: s-maj=26.8km s-min=14.9km az=9.0
ISC 11 12:27:22.4±0.8, 58°.8N±0°.1×30°.48W±0°.09, h10km, n18, σ0§88/16, mb3.5/12, MS3.4/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	7.40	32	Pn	Pn	12 29 10.9	+0.7
	1.7nm,0.3s,baz=210,slow=5.5,SNR=1.8						
BORG				Sn	Sn	12 30 32.9	-1.2
	0.4nm,0.3s,baz=326,slow=3.6,SNR=2.1						
BORG				LR	LR	12 31 26.4	
	comp=Z,337nm,18.8s,baz=187,slow=33 12nm,0.6s						
SFJD	Kangerlussuaq	12.28	320	LR	LR	12 33 59.2	
	comp=Z,169nm,21.3s,baz=146,slow=32						
FRB	Frobisher Bay	18.75	301	P	P	12 31 40.3	-0.8
	0.2nm,0.3s,baz=98,slow=12,SNR=3.6						
FRB				LR	LR	12 37 50.6	
	comp=Z,132nm,18.3s,baz=341,slow=34 2.3nm,0.9s						
SCHQ	Schefferville	20.12	275	P	P	12 31 54.1	-2.0
	3.9nm,0.9s,baz=94,slow=4.2,SNR=4.1 3.9nm,0.9s						
ESDC	Sonseca Array	25.50	127	P	P	12 32 50.5	-0.2
	1.1nm,1.0s,baz=353,slow=8.1,SNR=3.1 1.1nm,1.0s						
ARCES	ARCESS Array B	25.64	42	P	P	12 32 51.2	-0.5
	2.2nm,0.9s,baz=298,slow=4.0,SNR=2.6 2.2nm,0.9s						
DAVOX	Davos/Dischmat	26.76	99	LR	LR	12 43 21.2	
	comp=Z,69nm,19.3s,baz=256,slow=36						
GERES	GERESS Array B	27.43	92	P	P	12 33 08.2	+0.1
	0.2nm,0.2s,baz=289,slow=4.5,SNR=1.3						
GERES				LR	LR	12 43 57.1	
	comp=Z,85nm,18.0s,baz=339,slow=36 0.2nm,0.2s						
FINES	FINESS Array B	27.56	60	P	P	12 33 09.7	+0.7
	0.6nm,0.6s,baz=311,slow=8.5,SNR=1.7 0.6nm,0.6s						
ULM	Lac du Bonnet	37.47	286	P	P	12 34 36.5	+0.9
	2.0nm,0.7s,baz=77,slow=5.5,SNR=4.8 2.0nm,0.7s						
YKA	Yellowknife Ar	38.67	312	P	P	12 34 46.5	+0.9
	1.0nm,0.7s,baz=56,slow=9.1,SNR=14 1.0nm,0.7s						
ILAR	Eielson Array	47.79	329	P	P	12 35 59.3	+0.1
	0.5nm,0.9s,baz=35,slow=7.7,SNR=6.9 0.5nm,0.9s						
NEW	Newport	49.05	298	LR	LR	12 55 02.3	
	comp=Z,116nm,18.0s,baz=258,slow=34						
PDAR	Pinedale Array	49.45	288	P	P	12 36 12.1	-0.5
	0.4nm,0.8s,baz=55,slow=7.1,SNR=3.8 0.4nm,0.8s						
TORD	Torodi Ar. Bea	51.50	138	P	P	12 36 27.9	-0.1
	0.4nm,0.8s,baz=334,slow=8.6,SNR=2.3 0.4nm,0.8s						
BVAR	Borovoye Array	51.62	49	P	P	12 36 27.8	-0.7
	0.4nm,0.6s,baz=323,slow=9.1,SNR=2.1 0.4nm,0.6s						
NVAR	Mina Array Bea	57.05	291	P	P	12 37 08.8	+0.3
	0.4nm,0.7s,baz=60,slow=5.4,SNR=2.8 0.4nm,0.7s						
MKAR	Makanchi Array	61.21	46	P	P	12 37 37.5	+0.5
	0.5nm,0.7s,baz=327,slow=6.1,SNR=6.4 0.5nm,0.7s						

ISN 11 12:29:31.8±0.8, 33°.75N×45°.77E, h12km±3km, ML3.1
TEH 11 12:29:32.1, 33°.74N×45°.81E, h17km±22km, ML3.0
ISC 11 12:29:32.5±1.0, 33°.74N±0°.03×45°.77E±0°.04, h19km, n16, σ0§94/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.38	107	Pg	Pg	12 29 39.3	-1.2
IBDR	Badra	0.64	168	*e*Pg	Pb	12 29 44.0	-1.0
IBDR				*e*Sg	Sg	12 29 54.0	+0.2
KGS1	Ghasr-e-Shirin	0.78	349	Pg	Pb	12 29 47.3	-0.3
IGHG	Ghaleghazi	0.89	48	Pg	Pb	12 29 49.2	-0.2
IDHR	Dehrash	1.08	28	Pg	Pn	12 29 52.7	-0.2
IDHR				Sg	Sg	12 30 07.7	-0.3
KCHF	Cheshme Sefid,	1.18	63	Pg	Pg	12 29 54.7	-0.7
BHD	Baghdad	1.25	248	*e*Pg	Pb	12 29 56.0	+0.4
BHD				*e*Sg	Sg	12 30 13.0	-0.2
IKOM	Komasi	1.51	73	Pg	Pb	12 30 00.4	+0.4
IKFM	Kafar-mosalman	1.74	96	Pg	Pb	12 30 04.0	+0.1
IBZA	Bozab	1.88	67	Pn	Pb	12 30 05.4	-1.0
RAFI	Al-Rafai	2.03	172	*e*Pn	Pb	12 30 08.0	-0.8
RAFI				*e*Sn	Sb	12 30 34.0	+0.3
RAFI				AML	AML	12 30 41.0	
	comp=N,212nm,0.4s						
RAFI				AML	AML	12 30 50.0	
	comp=E,163nm,0.2s						
HSAM	Samen	2.40	78	Pn	Pn	12 30 12.1	+1.1
HAGD	Aghdareh	2.99	68	Pn	Pn	12 30 20.3	+1.1
QAMS	Qamsar	4.69	88	Pn	Pn	12 30 43.4	+1.3
IKLH	Kolahrood	4.87	93	Pn	Pn	12 30 47.0	+2.1
KRSH	Karshahi	5.30	86	Pn	Pn	12 30 52.0	+1.1

IDC 11 12:34:14.9±2.2, 33°.79N×45°.63E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=60.3km s-min=32.0km az=155.0
ISN 11 12:34:15.8±0.5, 33°.76N×45°.70E, h11km±2km, ML3.3
TEH 11 12:34:16.0, 33°.76N×45°.65E, h17km±63km, ML3.4
ISC 11 12:34:16.7±0.8, 33°.78N±0°.04×45°.66E±0°.05, h10km, n23, σ0§86/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.48	108	Pg	Pg	12 34 25.3	-0.8
IBDR	Badra	0.70	161	*e*Pg	Pg	12 34 29.0	-1.3
IBDR				*e*Sg	Sg	12 34 38.5	-0.9
KGS1	Ghasr-e-Shirin	0.73	355	Pg	Pg	12 34 31.1	+0.3
IGHG	Ghaleghazi	0.93	54	Pg	Pg	12 34 34.3	-0.4
IDHR	Dehrash	1.10	33	Pg	Pg	12 34 37.0	-0.9
BHD	Baghdad	1.18	245	*e*Pg	Pb	12 34 39.0	-0.2
BHD				*e*Sg	Sb	12 34 55.5	+0.9
BHD				AML	AML	12 35 01.7	
	comp=E,2μm,0.4s						
KCHF	Cheshme Sefid,	1.25	66	Pg	Pn	12 34 40.1	-0.2
ILIN	Lien	1.57	43	Pg	Pn	12 34 46.0	+1.2
IKOM	Komasi	1.59	75	Pg	Pn	12 34 46.2	+1.2
IKFM	Kafar-mosalman	1.84	97	Pn	Pn	12 34 49.5	+1.2
IBZA	Bozab	1.95	69	Pn	Pn	12 34 51.2	+1.1
RAFI	Al-Rafai	2.08	169	*e*Pn	Pn	12 34 52.0	+0.3
RAFI				*e*Sn	Sn	12 35 19.0	+1.3
RAFI				AML	AML	12 35 24.9	
	comp=E,192nm,0.5s						
RAFI				AML	AML	12 35 27.8	
	comp=N,175nm,0.3s						
IALM	Almabolaq	2.34	62	Pn	Pn	12 34 57.0	+1.5
HSAM	Samen	2.48	79	Pn	Pn	12 34 58.4	+0.9
MAHB	Mahabad	2.98	1	Pn	Pn	12 35 03.9	-0.3
IRAZ	Razeghan	3.88	64	Pn	Pn	12 35 16.7	+0.1
IKLH	Kolahrood	4.96	94	Pn	Pn	12 35 32.4	+0.9
IVRN	Varamin	5.16	75	Pn	Pn	12 35 34.5	+0.5
KRSH	Karshahi	5.39	86	Pn	Pn	12 35 37.8	+0.5
ISFB	Sefidab	5.49	82	Pn	Pn	12 35 39.1	+0.5
AKASG	Malin Array Be	20.76	329	P	P	12 38 56.9	-0.6
	comp=N,0.2nm,0.3s,baz=141,slow=9.7,SNR=4.1 comp=N,0.2nm,0.3s						
MKAR	Makanchi Array	30.53	54	P	P	12 40 30.0	-0.1
	comp=N,0.4nm,0.5s,baz=255,slow=9.9,SNR=5.1 comp=N,0.4nm,0.5s						
TORD	Torodi Ar. Bea	44.84	254	P	P	12 42 30.8	-0.4
	comp=N,0.3nm,0.6s,baz=54,slow=7.2,SNR=4.7 comp=N,0.3nm,0.6s						

ISN 11 12:38:32.1±0.8, 33°.87N×45°.83E, h15km±5km, ML3.4
TEH 11 12:38:35.9, 33°.76N×45°.69E, h11km±27km, ML3.4
ISC 11 12:38:36.2±0.9, 33°.71N±0°.04×45°.63E±0°.04, h10km, n18, σ1§36/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.49	99	Pg	Pg	12 38 45.2	-0.6
ILBA				Sg	Sg	12 38 51.7	-0.5
IBDR	Badra	0.65	157	*e*Pg	Pg	12 38 47.0	-1.7
IBDR				*e*Sg	Sg	12 38 57.0	-0.1
KGS1	Ghasr-e-Shirin	0.80	358	Pg	Pg	12 38 50.6	-1.0
IGHG	Ghaleghazi	1.00	51	Pg	Pg	12 38 54.4	-1.0
BHD	Baghdad	1.13	248	*e*Pg	Pb	12 38 57.0	-0.8
BHD				*e*Sg	Sb	12 39 15.0	+2.5
BHD				AML	AML	12 39 20.9	
	comp=E,2μm,0.5s						
IDHR	Dehrash	1.17	32	Pg	Pb	12 38 57.0	-1.7
KCHF	Cheshme Sefid,	1.30	64	Pg	Pn	12 38 59.9	-0.7
IKOM	Komasi	1.63	73	Pg	Pn	12 39 06.2	+1.1
ILIN	Lien	1.64	42	Pg	Pn	12 39 06.0	+0.8
IKFM	Kafar-mosalman	1.86	95	Pn	Pn	12 39 09.4	+1.4
RAFI	Al-Rafai	2.02	168	*e*Pn	Pn	12 39 09.0	-1.3
RAFI				*e*Sn	Sn	12 39 37.0	+1.4
RAFI				AML	AML	12 39 44.8	
	comp=N,152nm,0.2s						
RAFI				AML	AML	12 39 54.1	
	comp=E,247nm,0.4s						
HSAM	Samen	2.52	78	Pn	Pn	12 39 18.2	+0.8
MAHB	Mahabad	3.05	1	Pn	Pn	12 39 25.3	+0.7
Q

σ1ꝑ03/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.44**	**111**	Pg	**Pg**	**12 48 47.0**	**-1.4**
ILBA				Sg	**Sg**	**12 48 53.4**	**-0.8**
IBDR	**Badra**	**0.70**	**165**	*e*Pg	**Pg**	**12 48 52.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**12 49 02.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.73**	**352**	Pg	**Pg**	**12 48 53.2**	**-0.6**
IGHG	**Ghaleghazi**	**0.90**	**52**	Pg	**Pg**	**12 48 56.8**	**-0.2**
IDHR	**Dehrash**	**1.07**	**31**	Pg	**Pg**	**12 48 59.1**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.21**	**66**	Pg	**Pb**	**12 49 02.6**	**-0.2**
BHD	**Baghdad**	**1.22**	**246**	*e*Pg	**Pn**	**12 49 02.5**	**-0.3**
BHD				*e*Sg	**Sb**	**12 49 19.0**	**+0.3**
IKOM	**Komasi**	**1.55**	**75**	Pg	**Pn**	**12 49 08.1**	**+0.7**
IKFM	**Kafar-mosalman**	**1.80**	**98**	Pn	**Pn**	**12 49 11.4**	**+0.7**
RAFI	**Al-Rafai**	**2.08**	**170**	*e*Pn	**Pn**	**12 49 15.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**12 49 43.0**	**+2.4**
RAFI				AML	AML	12 49 45.2	
	comp=N,157nm,0.6s						
RAFI				AML	AML	12 49 55.3	
	comp=E,108nm,0.4s						
HSAM	**Samen**	**2.44**	**79**	Pn	**Pn**	**12 49 20.0**	**+0.2**

ISN ***11*** *12:49:29.6±0.9, 33˚.72N×45˚.64E, h6km±5km, ML3.0*
TEH ***11*** *12:49:32.6, 33˚.67N×45˚.82E, h17km±28km, ML3.0*

ISC 11 12:49:30.6±1.0, 33˚.67N±0˚.04×45˚.63E±0˚.05, h13km, n11,
σ1ꝑ10/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**95**	Pg	**Pg**	**12 49 39.8**	**-0.3**
IBDR	**Badra**	**0.61**	**156**	*e*Pg	**Pg**	**12 49 42.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**12 49 52.0**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.83**	**358**	Pg	**Pn**	**12 49 49.0**	**+0.9**
IGHG	**Ghaleghazi**	**1.02**	**50**	Pg	**Pb**	**12 49 49.7**	**-0.6**
IGHG				Sg	**Sn**	**12 50 03.4**	**-1.7**
BHD	**Baghdad**	**1.12**	**249**	*e*Pg	**Pn**	**12 49 52.0**	**0.0**
BHD				*e*Sg	**Sb**	**12 50 07.0**	**+0.7**
BHD				AML	AML	12 50 15.3	
	comp=E,348nm,0.5s						
IDHR	**Dehrash**	**1.20**	**31**	Pg	**Pg**	**12 49 54.1**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.32**	**62**	Pg	**Pg**	**12 49 55.9**	**-0.1**
IKOM	**Komasi**	**1.64**	**72**	Pg	**Pg**	**12 50 00.8**	**-1.4**
RAFI	**Al-Rafai**	**1.98**	**168**	*e*Pn	**Pb**	**12 50 06.0**	**-0.6**
RAFI				*e*Sn	**Sb**	**12 50 33.0**	**+1.8**
RAFI				AML	AML	12 50 52.5	
	comp=N,215nm,0.3s						
RAFI				AML	AML	12 50 58.2	
	comp=E,137nm,0.4s						
QAMS	**Qamsar**	**4.81**	**88**	Pn	**Pn**	**12 50 44.7**	**+1.8**
IKLH	**Kolahrood**	**4.98**	**92**	Pn	**Pn**	**12 50 46.1**	**+0.8**

IDC ***11*** *13:14:21.6±0.9, 20˚.61S×172˚.27E, h0km, mb4.1/9, mbtmp4.3/12, ML3.8/2, MS3.9/26, Error ellipse: s-maj=24.7km s-min=21.8km az=112.0*
NEIC ***11*** *13:14:23.6±2.7, 20˚.9S±0˚.1×172˚.31E±0˚.10, h19km±6km, mb4.6/17, Error ellipse: s-maj=17.3km s-min=13.3km az=178.0*
GCMT ***11*** *13:14:25.6±0.3, 20˚.77S±0˚.02×172˚.40E±0˚.02, h20km±1km, MW4.9/91, Moment Tensor Solution. s23,c28; s91,c126; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.90±.16; Mθθ 0.08±.14; Mϕϕ 0.81±.13; Mrθ 0.61±.24; Mϕθ 2.96±.09; Mϕr -0.01±.22; Best double couple: M₀3.06300×10¹⁶ NP1:ϕ₁265.0000°, δ83.00000°, λ-14.00000°. NP2: ϕ₂357.00000°, δ76.00000°, λ-173.00000°. Principal axes: T 3.4690, Plg5.0000°, Azm312.0000°; N -0.8110, Plg74.0000°, Azm61.0000°; P -2.6570, Plg15.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***11*** *13:15:11.0, 21˚.82S×168˚.84E, h0km, MLv3.3/5, Loyalty Islands*

ISC 11 13:14:25.8±0.5, 20˚.75S±0˚.09×172˚.27E±0˚.07, h35km, n98,
σ1ꝑ87/73, **mb4.3**/15, **MS4.0**/24, **Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**4.03**	**259**	Pn	**Pn**	**13 15 23.6**	**-1.4**
LIFNC	**LIFOU**	**4.71**	**269**	Pn	**Pn**	**13 15 32.3**	**-2.1**
PINNC	**Pines Island,**	**4.86**	**247**		**Pn**	**13 15 37.2**	**+0.9**
PINNC	**Pines Island,**	**4.86**	**247**	P	**Pn**	**13 15 38.6**	**+2.2**
PINNC	**Pines Island,**	**4.86**	**247**	P	**Pn**	**13 15 38.5**	**+2.2**
YATNC	**Mamie plateau,**	**5.18**	**255**	P	**Pn**	**13 15 43.4**	**+2.5**
YATNC	**Mamie plateau,**	**5.18**	**255**	P	**Pn**	**13 15 43.3**	**+2.4**
OUENC	**Ouen Island, N**	**5.32**	**251**		**Pn**	**13 15 42.5**	**-0.3**
OUENC	**Ouen Island, N**	**5.32**	**251**	P	**Pn**	**13 15 45.2**	**+2.4**
DZM	**Mont Dzumac**	**5.59**	**255**		**Pn**	**13 15 47.0**	**+0.4**
DZM	**Mont Dzumac**	**5.59**	**255**	P	**Pn**	**13 15 49.5**	**+3.0**
DZM	**Mont Dzumac**	**5.59**	**255**	P	**Pn**	**13 15 49.3**	**+2.8**
DZM	**Mont Dzumac**	**5.59**	**255**	Pn	**Pn**	**13 15 48.8**	**+2.3**
	2.0nm,0.3s,baz=86,slow=16,SNR=26						
DZM				LR	LR	13 17 08.7	
	comp=Z,150nm,21.9s,baz=72,slow=30 25nm,0.6s						
ONTNC	**Ouen Toro**	**5.63**	**253**		**Pn**	**13 15 45.4**	**-1.7**
ONTNC	**Ouen Toro**	**5.63**	**253**	P	**Pn**	**13 15 49.8**	**+2.7**
NOUC	**Port Laguerre**	**5.72**	**255**	P	**Pn**	**13 15 51.1**	**+2.8**
NOUC	**Port Laguerre**	**5.72**	**255**	P	**Pn**	**13 15 51.0**	**+2.8**
KOUNC	**Koumac, New Ca**	**7.48**	**270**	Pn	**Pn**	**13 16 10.4**	**-2.1**
RAO	**Raoul Island**	**12.27**	**136**	LR	LR	13 20 56.4	
	comp=Z,1μm,19.4s,baz=305,slow=32						
HNR	**Honiara**	**16.37**	**312**	P	**P**	**13 18 14.9**	**-0.7**
HNR	**Honiara**	**16.37**	**312**	Pn	**Pn**	**13 18 11.1**	**-1.9**
	149nm,0.4s,baz=149,slow=17,SNR=1.5						
HNR				LR	LR	13 23 40.6	
	comp=Z,4μm,19.1s,baz=188,slow=34						
AFI	**Afiamalu**	**16.67**	**68**	Pn	**Pn**	**13 18 16.7**	**-0.3**
NIUE	**Niue**	**16.82**	**87**		**Pn**	**13 18 18.2**	**-0.5**
URZ	**Urewera**	**17.94**	**168**	P	**P**	**13 18 33.4**	**+0.7**
	0.4nm,0.3s,baz=55,slow=12,SNR=6.6						
URZ				LR	LR	13 23 46.6	
	comp=Z,470nm,20.9s,baz=104,slow=31 11nm,0.8s						
RTZ	**Ruatahuna**	**18.26**	**168**	P	**P**	**13 18 34.6**	**-1.8**
RTZ				IAmb	IAmb	13 18 39.9	
	comp=Z,57nm,1.4s						
EIDS	**Eidsvold**	**20.03**	**253**	P	**P**	**13 18 54.5**	**-1.3**
EIDS				IAmb	IAmb	13 19 07.0	
	comp=Z,24nm,1.0s						
MRZ	**Mangatainoka R**	**20.04**	**173**	P	**P**	**13 18 53.5**	**-2.4**
MRZ				IAmb	IAmb	13 18 58.5	
	comp=Z,50nm,1.2s						
BFZ	**Birch Farm**	**20.15**	**171**	P	**P**	**13 18 55.3**	**-1.7**
BFZ				IAmb	IAmb	13 19 06.2	
	comp=Z,23nm,0.8s						
TUWZ	**Tuamarina**	**20.66**	**176**	P	**P**	**13 18 58.2**	**-4.3**
PLWZ	**Palliser**	**20.91**	**174**	P	**P**	**13 19 01.7**	**-3.5**
ARMA	**Armidale**	**20.93**	**238**	P	**P**	**13 19 04.3**	**-1.4**
ARMA				IAmb	IAmb	13 19 14.4	
	comp=Z,23nm,1.1s						
LTZ	**Lake Taylor**	**21.96**	**180**	P	**P**	**13 19 12.8**	**-3.7**
RPZ	**Rata Peaks**	**22.92**	**182**	LR	LR	13 26 33.3	
	comp=Z,224nm,19.2s,baz=22,slow=32						
CTA	**Charters Tower**	**24.39**	**267**	LR	LR	13 28 25.6	
	comp=Z,139nm,20.4s,baz=87,slow=35						
RABL	**Rabaul**	**25.57**	**307**	P	**P**	**13 19 49.9**	**-1.9**
RABL				IAmb	IAmb	13 20 13.1	
	comp=Z,18nm,0.9s						
RAR	**Rarotonga**	**26.09**	**96**	LR	LR	13 27 49.7	
	comp=Z,156nm,21.1s,baz=254,slow=31						
PMG	**Port Moresby**	**26.70**	**291**	P	**P**	**13 20 01.8**	**-0.2**
PMG				IAmb	IAmb	13 20 29.0	
	comp=Z,14nm,0.9s						
PMG	**Port Moresby**	**26.70**	**291**	LR	LR	13 29 01.5	
	comp=Z,424nm,19.2s,baz=115,slow=33						
STKA	**Stephens Creek**	**29.55**	**242**	P	**P**	**13 20 28.6**	**+1.3**
STKA	**Stephens Creek**	**29.55**	**242**	P	**P**	**13 20 29.1**	**+1.8**
	comp=Z,5.4nm,0.9s,baz=81,slow=11,SNR=7.2						
STKA				LR	LR	13 31 58.2	
	comp=Z,267nm,19.1s,baz=61,slow=36 comp=Z,5.4nm,0.9s						
BBOO	**Buckleboo**	**34.32**	**242**	P	**P**	**13 21 06.7**	**-2.5**
WR0	**Warramunga Arr**	**35.33**	**264**	P	**P**	**13 21 17.8**	**-0.2**
WR0				IAmb	IAmb	13 21 27.6	
	comp=Z,16nm,1.5s						
TBI	**Tubuai**	**35.49**	**101**	*e*S	**S**	**13 26 50.9**	**-1.7**
	comp=Z,121nm,20.0s						
TBI				eLR	LR	13 31 00.1	
	comp=Z,2μm,28.0s						
WRA	**Warramunga Arr**	**35.52**	**264**	P	**P**	**13 21 19.0**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=100,slow=7.9,SNR=4.2 comp=Z,1.1nm,0.9s						
AS31	**Alice Springs**	**35.57**	**258**	P	**P**	**13 21 20.8**	**+0.7**
ASAR	**Alice Springs**	**35.57**	**258**	P	**P**	**13 21 20.5**	**+0.4**
ASAR	**Alice Springs**	**35.57**	**258**	P	**P**	**13 21 21.0**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=85,slow=8.7,SNR=18						
ASAR				LR	LR	13 35 15.5	
	comp=Z,325nm,18.4s,baz=98,slow=35 comp=Z,3.6nm,1.0s						
PPT2	**Papeete2**	**36.12**	**92**	*e*LR	LR	13 31 18.4	
	comp=Z,474nm,26.2s						
PPT2				*e*LR	LR	13 31 25.4	
	comp=Z,322nm,25.5s						
PPT	**Papeete**	**36.12**	**92**	LR	LR	13 34 23.0	
	comp=Z,76nm,19.0s,baz=256,slow=33						
GUMO	**Guam**	**43.48**	**319**	LR	LR	13 38 58.0	
	comp=Z,180nm,19.6s,baz=136,slow=34						
NWAO	**Narrogin (SRO)**	**50.09**	**244**	LR	LR	13 44 44.4	
	comp=Z,215nm,18.6s,baz=336,slow=36						
KAPI	**Kappang**	**53.28**	**279**	LR	LR	13 46 02.4	
	comp=Z,74nm,21.9s,baz=121,slow=36						
DAV	**Davao City (W)**	**53.56**	**296**	LR	LR	13 47 22.2	
	comp=Z,26nm,18.3s,baz=114,slow=37						
JCJ	**Chichijima**	**55.78**	**327**	LR	LR	13 43 58.8	
	comp=Z,73nm,21.9s,baz=134,slow=32						
VNDA	**Vanda**	**57.04**	**183**	P	**P**	**13 24 07.1**	**-0.7**
VNDA	**Vanda**	**57.04**	**183**	P	**P**	**13 24 10.1**	**+2.3**
	comp=Z,1.4nm,0.7s,baz=354,slow=8.4,SNR=3.1 comp=Z,1.4nm,0.7s						
JOW	**Kunigami**	**63.68**	**316**	LR	LR	13 51 34.4	
	comp=Z,94nm,19.1s,baz=121,slow=35						
LEM	**Lembang**	**63.93**	**273**	LR	LR	13 53 51.7	
	comp=Z,106nm,19.1s,baz=220,slow=37						
QSPA	**South Pole Qui**	**69.31**	**180**	P	**P**	**13 25 27.9**	**-1.6**
QSPA				IAmb	IAmb	13 26 00.9	
	comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**69.31**	**180**	P	**P**	**13 25 32.0**	**+2.5**
	comp=Z,2.2nm,0.9s,baz=105,slow=2.1,SNR=5.2						
QSPA				LR	LR	13 52 46.5	
	comp=Z,63nm,19.7s,baz=36,slow=33 comp=Z,2.2nm,0.9s						
KSRS	**Korea Array**	**71.38**	**324**	P	**P**	**13 25 43.0**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=141,slow=7.9,SNR=5.3 comp=Z,3.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**81.72**	**293**	LR	LR	14 02 57.1	
	comp=Z,70nm,20.2s,baz=305,slow=36						
PZH	**PanZhiHua**	**82.92**	**302**	P	**P**	**13 26 48.6**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
HHC	**Hu-ho-hao-te**	**83.23**	**318**	*e*P	**P**	**13 26 51.1**	**+2.3**
HHC				pmax	pmax		
	comp=Z,26nm,0.5s						
HHC				pmax	pmax		
	comp=Z,280nm,4.5s						
HHC				pmax	pmax		
	comp=Z,21nm,0.5s						
HHC				pmax	pmax		
	comp=Z,290nm,5.6s						
HHC				LR	LR		
	comp=E,730nm,14.5s						
HHC				LR	LR		
	comp=Z,1μm,18.2s						
LZH	**Lanzhou**	**85.86**	**311**	*e*P	**P**	**13 27 04.3**	**+2.0**
LZH				sP	pP	13 27 13.8	+1.6
LZH				pmax	pmax		
	comp=Z,8.0nm,1.4s						
PFO	**Pinyon Flats O**	**86.75**	**52**	LR	LR	13 58 33.9	
	comp=Z,113nm,20.1s,baz=303,slow=31						
LPIG	**La Paz**	**87.52**	**63**	LR	LR	14 00 16.4	
	comp=Z,74nm,18.2s,baz=238,slow=32						
NVAR	**Mina Array Bea**	**87.69**	**47**	P	**P**	**13 27 11.1**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=210,slow=5.2,SNR=3.0						
NVAR				LR	LR	13 57 07.8	
	comp=Z,91nm,21.9s,baz=269,slow=29 comp=Z,0.8nm,0.9s						
SONM	**Songino Array**	**90.15**	**322**	P	**P**	**13 27 23.8**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=87,slow=7.4,SNR=2.3 comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**90.85**	**16**	P	**P**	**13 27 26.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=232,slow=4.0,SNR=6.3 comp=Z,0.5nm,0.7s						
ELK	**Elko**	**90.86**	**46**	LR	LR	14 04 24.7	
	comp=Z,50nm,18.5s,baz=310,slow=33						
ANMO	**Albuquerque**	**94.83**	**55**	LR	LR	14 06 28.1	
	comp=Z,58nm,18.1s,baz=28,slow=33						
TXAR	**Lajitas Array**	**95.00**	**61**	LR	LR	14 01 44.9	
	comp=Z,74nm,21.5s,baz=291,slow=30						
PLCA	**Paso Flores**	**95.30**	**137**	LR	LR	14 01 07.5	
	comp=Z,78nm,20.8s,baz=237,slow=29						
WMQ	**Urumqi**	**100.31**	**313**	*e*P	**Pdif**	**13 28 10.7**	**+1.9**
MORC	**Moravsky Berou**	**144.78**	**331**	*e*PKP	**PKiKP**	**13 34 00.9**	**-1.8**
DPC	**Dobruska-Polom**	**144.89**	**333**	*e*PKP	**PKiKP**	**13 34 01.6**	**-1.3**
KRLC	**Kraliky**	**144.89**	**332**	*e*PKP	**PKiKP**	**13 34 01.6**	**-1.3**
VYHS	**Vyhne**	**145.07**	**329**	*e*PKP	**PKiKP**	**13 34 02.7**	**-0.6**
EKA	**Eskdalemuir Ar**	**145.30**	**355**	PKPbc	**PKPab**	**13 34 00.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=358,slow=2.4,SNR=3.5						
JAVC	**Velka Javorina**	**145.37**	**330**	*e*PKP	**PKPab**	**13 34 01.6**	**+1.5**
BRG	**Berggiesshubel**	**145.45**	**336**	*e*P	**PKPab**	**13 34 01.6**	**+1.4**
BRG				Amp		13 34 04.2	
	comp=Z,7.8nm,1.0s						
BRG	**Berggiesshubel**	**145.45**	**336**	P	**PKiKP**	**13 34 08.4**	**+4.5**
BRG				Amp		13 34 09.4	
	comp=Z,11nm,0.9s						
BRG	**Berggiesshubel**	**145.45**	**336**	P	PKiKP	13 34 13.7	+10
BRG				Amp		13 34 15.4	
	comp=Z,12nm,1.1s						
CLL	**Collm**	**145.45**	**337**	*i* PKPbc	**PKPab**	**13 34 00.6**	**+0.4**
CLL				*i* PKPbcmax		13 34 03.1	
	comp=Z,7.0nm,0.8s						
CLL				*i* x	x	13 34 07.5	
	comp=Z,17nm,1.0s						
VRAC	**Vranov**	**145.54**	**332**	*e*PKP	**PKPab**	**13 34 02.1**	**+1.5**
KRUC	**Moravsky**	**145.81**	**331**	*e*PKP	**PKPab**	**13 34 02.5**	**+0.9**
MODS	**Modra-Piesok**	**145.90**	**330**	*e*PKP	**PKiKP**	**13 34 05.2**	**+0.2**
ZVC	**Zvikov**	**146.47**	**334**	*e*PKP	**PKiKP**	**13 34 05.6**	**-0.5**
RONA	**Rosalia, Austr**	**146.84**	**330**	*e*pPKP	pPKPdf	13 34 14.1	+1.3
	comp=Z,5.5nm,1.3s						
CONA	**Conrad Observa**	**146.88**	**330**	*i* PKP	**PKPab**	**13 34 05.5**	**-0.4**
	comp=Z,4.8nm,1.1s						
CKRC	**Cesky Krumlov**	**146.90**	**333**	*e*PKP	**PKiKP**	**13 34 08.0**	**+0.9**
KHC	**Kasperske Hory**	**146.97**	**334**	*e*PKP	**PKiKP**	**13 34 07.4**	**+0.2**
GERES	**GERESS Array B**	**147.14**	**334**	PKPbc	**PKPbc**	**13 34 05.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=46,slow=2.8,SNR=2.3						
ARSA	**Arzberg**	**147.53**	**330**	*e*pPKP	pPKPdf	13 34 13.6	-0.4
	comp=Z,7.6nm,1.3s						
WTTA	**Wattenberg**	**149.24**	**334**	PKP	**PKPdf**	**13 34 04.3**	**-2.3**
	comp=Z,2.2nm,0.6s						
SQTA	**Sankt Quirin**	**149.45**	**334**	*e*pPKP	**PKPab**	**13 34 16.4**	**+0.1**
	comp=Z,3.1nm,0.7s						
DAVA	**Damuels**	**149.92**	**336**	*e*pPKP	pPKPdf	13 34 17.7	-0.3
	comp=Z,8.5nm,1.1s						

IDC ***11*** *13:15:34.8±1.1, 32˚.03N×95˚.26E, h0km, mb3.5/6, mbtmp3.4/8, ML3.3/2, MS4.0/2, Error ellipse: s-maj=46.7km s-min=20.7km az=59.0*

ISC 11 13:15:39.9±1.1, 32˚.1N±0˚.2×95˚.3E±0˚.2, h35km, n10,
σ1ꝑ15/8, **mb3.5**/6, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.74**	**330**	P	**Pn**	**13 19 43.5**	**-0.7**
	0.1nm,0.3s,baz=145,slow=5.3,SNR=2.2 comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**17.84**	**25**	P	**Pn**	**13 19 44.9**	**-0.5**
	0.1nm,0.3s,baz=212,slow=12,SNR=5.0 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**22.28**	**331**	P	**P**	**13 20 33.3**	**-0.6**
	0.5nm,0.8s,baz=139,slow=11,SNR=8.2 0.5nm,0.8s						
BVAR	**Borovoye Array**	**27.57**	**327**	P	**P**	**13 21 24.9**	**+1.4**
	0.7nm,0.6s,baz=134,slow=12,SNR=2.5 0.7nm,0.8s						
JOW	**Kunigami**	**29.12**	**92**	LR	LR	13 35 30.4	
	comp=Z,313nm,18.4s,baz=352,slow=41						
GNI	**Garni**	**41.15**	**296**	LR	LR	13 43 49.3	
	comp=Z,196nm,20.5s,baz=106,slow=41						
WRA	**Warramunga Arr**	**63.85**	**139**	P	**P**	**13 26 07.6**	**-1.4**
	0.4nm,0.7s,baz=278,slow=19,SNR=1.6 0.4nm,0.7s						
ASAR	**Alice Springs**	**66.61**	**141**	P	**P**	**13 26 27.8**	**+0.8**
	0.5nm,0.6s,baz=326,slow=6.7,SNR=8.0 0.5nm,0.6s						
ILAR	**Eielson Array**	**72.06**	**23**	P	**P**	**13 27 01.1**	**+1.0**
	0.3nm,0.8s,baz=270,slow=5.4,SNR=2.7 0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**86.12**	**283**	P	**P**	**13 28 17.6**	**-0.2**
	0.2nm,0.5s,baz=45,slow=8.2,SNR=1.8 0.2nm,0.5s						

NEIC ***11*** *13:16:39.5±2.8, 33˚.38N±0˚.09×45˚.43E±0˚.06, h10km±1km, mb4.4/42, Error ellipse: s-maj=15.5km s-min=8.2km az=183.0*
IDC ***11*** *13:16:40.9±0.7, 33˚.80N×45˚.61E, h0km, mb4.2/23, mbtmp4.2/31, ML3.2/6, MS3.4/8, Error ellipse: s-maj=14.7km s-min=11.2km az=161.0*
MOS ***11*** *13:16:40.8±1.3, 33˚.70N×45˚.56E, h17km, mb4.7/28, Error ellipse: s-maj=7.2km s-min=4.6km az=93.0*
TEH ***11*** *13:16:43.0, 33˚.72N×45˚.74E, h8km±45km, ML4.3*
ISN ***11*** *13:16:45.1±1.3, 33˚.66N×45˚.66E, h21km±9km, ML4.3*
AFAD ***11*** *13:17:31.8±0.0, 36˚.76N×44˚.09E, h42km±6km, MW4.1*
ISK ***11*** *13:17:39.4, 37˚.39N×43˚.72E, h12km, ML3.0/15*

ISC 11 13:16:45.4±0.4, 33˚.71N±0˚.03×45˚.72E±0˚.04, h35km, n283,
σ1ꝑ90/244, **mb4.3**/63, **MS3.5**/4, **20C-2D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.42**	**102**	Pg	**Pn**	**13 16 51.5**	**-3.5**
IBDR	**Badra**	**0.62**	**164**	*e*Pg	**Pn**	**13 16 57.0**	**-0.8**
IBDR				*e*Sg	**Sn**	**13 17 04.0**	**-2.5**
IBDR				AML	AML	13 17 21.3	
	comp=N,4μm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.80**	**352**	Pg	**Pn**	**13 16 58.1**	**-2.1**
IGHG	**Ghaleghazi**	**0.94**	**49**	Pg	**Pn**	**13 17 01.3**	**-1.0**
IGHG				Sg	**Sn**	**13 17 14.1**	**-0.5**
IDHR	**Dehrash**	**1.13**	**29**	Pg	**Pn**	**13 17 04.5**	**-0.4**
BHD	**Baghdad**	**1.20**	**249**	*e*Pn	**Pn**	**13 17 08.0**	**+2.3**
BHD				*e*Sn	**Sn**	**13 17 24.0**	**+3.2**
BHD				AML	AML	13 17 28.5	
	comp=E,18μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.23**	**63**	Pg	**Pn**	**13 17 06.3**	**0.0**
IKOM	**Komasi**	**1.56**	**72**	Pg	**Pn**	**13 17 13.1**	**+2.3**
ILIN	**Lien**	**1.58**	**40**	Pg	**Pn**	**13 17 13.3**	**+2.1**
IKFM	**Kafar-mosalman**	**1.78**	**95**	Pg	**Pn**	**13 17 16.0**	**+2.3**
IBZA	**Bozab**	**1.93**	**66**	Pn	**Pn**	**13 17 18.3**	**+2.3**
RAFI	**Al-Rafai**	**2.01**	**170**	*e*Pn	**Pn**	**13 17 20.0**	**+3.2**
RAFI				*e*Sn	**Sn**	**13 17 44.0**	**+3.3**
IKRK	**Kirkuk**	**2.03**	**326**	*e*Sn	**Sn**	**13 17 46.0**	**+4.7**
IKRK				AML	AML	13 17 50.9	
	comp=N,5μm,0.6s						
IALM	**Almabolaq**	**2.33**	**60**	Pn	**Pn**	**13 17 24.2**	**+2.8**
SDS1	**Sardasht. Az.**	**2.44**	**356**	Pn	**Pn**	**13 17 25.4**	**+2.5**
HSAM	**Samen**	**2.45**	**77**	Pn	**Pn**	**13 17 25.0**	**+2.0**
HAGD	**Aghdareh**	**3.04**	**68**	Pn	**Pn**	**13 17 33.6**	**+2.4**
MAHB	**Mahabad**	**3.05**	**360**	Pn	**Pn**	**13 17 33.8**	**+2.6**
IHSH	**Hashtrud**	**3.80**	**19**	Pn	**Pn**	**13 17 44.3**	**+2.5**
IRAZ	**Razeghan**	**3.86**	**63**	Pn	**Pn**	**13 17 45.1**	**+2.6**
CUKT	**Cukurca**	**3.93**	**335**	Pg	**Pn**	**13 17 43.6**	**+0.3**
CUKT	**Cukurca**	**3.93**	**335**	P	**Pn**	**13 17 43.5**	**+0.1**
CUKT				S	**Sn**	**13 18 28.9**	**+0.7**
IAZR	**Azarshahr**	**3.96**	**3**	Pn	**Pn**	**13 17 46.3**	**+2.4**
QSDN	**Sirdan**	**3.97**	**44**	Pn	**Pn**	**13 17 46.1**	**+2.1**
YOVA	**Hakkari_Yksek**	**4.04**	**344**	P	**Pn**	**13 17 46.5**	**+1.5**
HAKT	**HAKKARI**	**4.17**	**337**	P	**Pn**	**13 17 47.8**	**+1.1**
HAKT				S	**Sn**	**13 18 35.3**	**+0.9**
ISRB	**Sarab**	**4.40**	**21**	Pn	**Pn**	**13 17 52.0**	**+2.1**
IPIR	**Pirpir**	**4.46**	**102**	Pn	**Pn**	**13 17 52.2**	**+1.5**
IQOM	**Qom**	**4.57**	**74**	Pn	**Pn**	**13 17 53.6**	**+1.4**
ZNGN	**Zangian**	**4.60**	**109**	Pn	**Pn**	**13 17 54.1**	**+1.3**
SIRN	**Sirnak**	**4.64**	**325**	P	Pn	13 18 01.4	+8.4
IHRS	**Heris**	**4.72**	**13**	Pn	**Pn**	**13 17 56.3**	**+2.0**
QAMS	**Qamsar**	**4.73**	**88**	Pn	**Pn**	**13 17 56.2**	**+1.8**
IHSB	**Hasanabad**	**4.90**	**68**	Pn	**Pn**	**13 17 57.8**	**+1.2**
IKLH	**Kolahrood**	**4.91**	**93**	Pn	**Pn**	**13 17 58.8**	**+1.9**
PERV	**Siirt/Pervari-**	**4.95**	**329**	P	**Pn**	**13 17 59.1**	**+1.7**
IMRD	**Marand**	**4.99**	**360**	Pn	**Pn**	**13 17 59.5**	**+1.5**
IBRJ	**Brojen**	**5.00**	**110**	Pn	**Pn**	**13 17 59.0**	**+0.8**
MIDY	**Mardin/Midyat-**	**5.10**	**318**	P	**Pn**	**13 18 00.1**	**+0.7**
AKDM	**Akdamar-Van**	**5.11**	**335**	Pn	**Pn**	**13 18 01.1

GHAJ	**Ghor Haditha**	**8.90**	**257**	P	Pn	13 19 38.2	+47		
LISJ	**El Lisan**	**8.99**	**257**	P	Pg	13 19 39.4			
ONI	**Oni**	**9.04**	**349**	Pn	Pn	13 18 57.5	+4.0		
ONI	**Oni**	**9.04**	**349**	P	Pn	13 18 57.5	+4.1		
MSBI	**Mazada**	**9.07**	**258**	P	Pg	13 19 44.5			
ZEI	**Tsey**	**9.17**	**352**	*e*P	Pn	13 19 00.4	+5.0		
ZEI				pmax	pmax				
	comp=Z,8.0nm,0.9s								
YTIR	**Yattir**	**9.25**	**258**	P	Pg	13 19 48.5			
MAK	**Makhachkala**	**9.34**	**8**	*e*P	Pn	13 18 51.6	-5.8		
MAK				*e*S	**Sn**	**13 20 34.8**	**-6.4**		
MAK				pmax	pmax				
	comp=Z,149nm,1.3s								
MAK				MLR	MLR				
	comp=Z,383nm,16.0s								
ZFRI	**Zfri**	**9.48**	**253**	P	Pg	13 19 52.2			
PRNI	**Paran**	**9.69**	**253**	P	Pg	13 19 55.4			
KZIT	**Kziot**	**9.98**	**257**	P	Pg	13 19 59.4			
EIL	**Elat**	**10.02**	**249**	Lg	Lg	13 21 58.4			
	comp=Z,0.5nm,0.3s,baz=24,slow=14,SNR=2.2								
EIL				LR	LR	13 24 01.4			
	comp=Z,155nm,19.4s,baz=66,slow=44								
EIL	**Elat**	**10.02**	**249**	P	Pg	13 20 01.1			
KBZ	**Khabaz**	**10.24**	**348**	*i* P	**Pn**	**13 19 09.7**	**-0.1**		
KBZ	**Khabaz**	**10.24**	**348**	Pn	**Pn**	**13 19 09.2**	**-0.6**		
	baz=208,slow=5.2,SNR=2.4								
	comp=Z,1.4nm,0.7s								
CSS	**Mathiatis**	**10.32**	**280**	Pn	Pn	13 19 05.0	-5.9		
KIV	**Kislovodsk**	**10.50**	**348**	*e*P	**Pn**	**13 19 14.3**	**+0.9**		
KIV				pmax	pmax				
	comp=Z,16nm,1.1s								
KIV				MLR	MLR				
	comp=Z,53nm,12.0s								
GEYT	**Alibeck**	**10.91**	**64**	Pn	**Pn**	**13 19 21.9**	**+2.9**		
GEYT	**Alibeck**	**10.91**	**64**	Pn	**Pn**	**13 19 19.1**	**+0.1**		
	comp=Z,0.2nm,0.3s,baz=350,slow=16,SNR=2.0								
	comp=Z,2.3nm,0.6s								
SOC	**Sochi**	**10.91**	**336**	*e*P	**Pn**	**13 19 15.8**	**-3.2**		
SOC				*e*		13 21 18.5			
SOC				MLR	MLR				
	comp=Z,181nm,17.0s								
BRTR	**Keskin Array B**	**11.40**	**305**	Pn	**Pn**	**13 19 26.3**	**+0.5**		
	comp=Z,0.2nm,0.3s,baz=130,slow=5.8,SNR=1.3								
BRTR				LR	LR	13 24 10.3			
	comp=Z,155nm,21.0s,baz=120,slow=40								
	comp=Z,0.4nm,0.5s								
SHME	**Shamm**	**11.83**	**127**	Pn	**Pn**	**13 19 30.8**	**-0.8**		
BANOM	**Banah**	**12.02**	**127**	Pn	**Pn**	**13 19 33.6**	**-0.6**		
BANOM				Sn	Sn	13 21 37.0	-10		
MSFE	**Esma-Masafi**	**12.32**	**130**	Pn	**Pn**	**13 19 38.3**	**-0.1**		
MDH	**Madha**	**12.45**	**130**	Pn	**Pn**	**13 19 39.3**	**-0.8**		
HATD	**Hatta, Dubai**	**12.68**	**132**	Pn	**Pn**	**13 19 42.5**	**-0.7**		
ASHO	**Ashiyiah**	**12.74**	**132**	Pn	**Pn**	**13 19 42.5**	**-1.6**		
ELL	**Elmali**	**13.28**	**288**	Pn	Pn	13 19 44.5	-7.0		
ELL	**Elmali**	**13.28**	**288**	P	Pn	13 19 44.5	-7.0		
SOHO	**SOHO**	**13.43**	**132**	Pn	**Pn**	**13 19 51.7**	**-1.8**		
BALB	**Balikesir**	**15.48**	**299**	Pn	**Pn**	**13 20 14.8**	**-6.2**		
RDO	**Rodhopi**	**17.64**	**301**	Pn	**Pn**	**13 20 43.9**	**-4.4**		
VRH	**Novokhopyorsk**	**17.72**	**352**	*e*P	**Pn**	**13 20 47.6**	**-1.6**		
VRH				pmax	pmax				
	comp=Z,20nm,0.6s								
VORD	**Divnogorie**	**17.87**	**347**	*e*P	**P**	**13 20 50.9**	**-0.6**		
VORD				pmax	pmax				
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**18.14**	**347**	*e*P	**P**	**13 20 53.0**	**-1.4**		
VSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
VORR	**Voronezh**	**18.56**	**347**	*e*P	**P**	**13 20 57.1**	**-2.0**		
VORR				pmax	pmax				
	comp=Z,24nm,1.3s								
BELG	**Belogornoye**	**18.72**	**4**	*i* P	**Pn**	**13 21 00.0**	**-1.4**		
BELG				pmax	pmax				
	comp=Z,15nm,1.4s								
BELG	**Belogornoye**	**18.72**	**4**	P	**Pn**	**13 20 59.5**	**-1.8**		
	comp=Z,31nm,0.8s,baz=194,slow=6.2,SNR=8.8								
ABKAR	**Akbulak array**	**18.78**	**30**	P	**Pn**	**13 21 02.5**	**+0.3**		
ABKAR	**Akbulak array**	**18.78**	**30**		**Pn**	**13 21 02.8**	**+0.6**		
AKTO	**Aktyubinsk**	**19.00**	**25**	P	**Pn**	**13 21 04.1**	**-0.7**		
	comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=9.0								
AKTO				LR	LR	13 31 18.6			
	comp=Z,75nm,20.5s,baz=165,slow=46								
	comp=Z,7.4nm,1.1s								
KBL	**Kabul**	**19.32**	**81**		**P**	**13 21 07.7**	**-0.1**		
KBL				IAmb	IAmb	13 21 12.1			
	comp=Z,13nm,0.8s								
KBL	**Kabul**	**19.32**	**81**	P	**P**	**13 21 07.7**	**-0.1**		
KBL				pmax	pmax				
	comp=Z,13nm,0.9s								
SIMJ	**Simiganj**	**19.42**	**69**	P	**P**	**13 21 07.9**	**-0.8**		
SORM	**Soroca**	**19.42**	**323**	⇑P	**Pn**	**13 21 07.8**	**-2.0**		
SORM	**Soroca**	**19.42**	**323**	⇑P	**Pn**	**13 21 07.9**	**-2.0**		
LPSR	**Galich'ya Gora**	**19.50**	**348**	*e*P	**P**	**13 21 08.1**	**-1.2**		
LPSR				pmax	pmax				
	comp=Z,100nm,0.8s								
AGG	**Agios Georgios**	**19.55**	**292**	P	**P**	**13 21 08.1**	**-1.9**		
AGG				IAmb	IAmb	13 21 19.4			
	comp=Z,12nm,0.8s								
AGG	**Agios Georgios**	**19.55**	**292**	P	**P**	**13 21 08.1**	**-1.9**		
AGG				pmax	pmax				
	comp=Z,12nm,0.8s								
VOIR		**19.71**	**313**	⇑P	**Pn**	**13 21 14.3**	**+0.9**		
VOIR		**19.71**	**313**	⇑P	**Pn**	**13 21 14.3**	**+0.9**		
DOPR	**Dopca**	**19.77**	**314**	⇑P	**Pn**	**13 21 14.1**	**0.0**		
ARR	**Arges**	**19.93**	**312**	⇑P	**Pn**	**13 21 16.7**	**+0.7**		
FNA	**Florina**	**20.59**	**297**	P	**P**	**13 21 18.7**	**-2.6**		
FNA				IAmb	IAmb	13 21 28.1			
	comp=Z,20nm,1.5s								
BURAR	**Bucovina Array**	**20.77**	**318**	⇑P	Pn	13 21 24.6	-1.2		
BURAR	**Bucovina Array**	**20.77**	**318**	P	**P**	**13 21 23.0**	**-0.3**		
BURAR	**Bucovina Array**	**20.77**	**318**	⇑P	Pn	13 21 24.6	-1.2		
BUR08	**Bucovina Ar. S**	**20.79**	**318**		**P**	**13 21 19.9**	**-3.6**		
AKASG	**Malin Array Be**	**20.84**	**329**	P	**P**	**13 21 22.6**	**-1.2**		
AKASG	**Malin Array Be**	**20.84**	**329**	P	**P**	**13 21 22.6**	**-1.2**		
	comp=Z,6.4nm,0.6s,baz=139,slow=9.6,SNR=49								
	comp=Z,6.4nm,0.6s								
AKBB	**Malin Array Si**	**20.84**	**329**	P	**P**	**13 21 21.1**	**-2.8**		
AKBB				IAmb	IAmb	13 21 24.4			
	comp=Z,17nm,0.8s								
AKBB	**Malin Array Si**	**20.84**	**329**	P	**P**	**13 21 21.1**	**-2.8**		
AKBB				pmax	pmax				
	comp=Z,17nm,0.8s								
KIEV	**Kiev**	**20.84**	**329**	⇑P	Pn	13 21 24.1	-2.4		
KIEV	**Kiev**	**20.84**	**329**		**P**	**13 21 21.1**	**-2.8**		
KIEV				IAmb	IAmb	13 21 24.4			
	comp=Z,15nm,0.8s								
KIEV	**Kiev**	**20.84**	**329**	⇑P	Pn	13 21 24.1	-2.4		
BTK	**Batken**	**21.01**	**65**	P	**P**	**13 21 24.6**	**-1.4**		
BTK				IAmb	IAmb	13 21 36.0			
	comp=Z,13nm,0.8s								
BTK	**Batken**	**21.01**	**65**	P	**P**	**13 21 24.6**	**-1.4**		
BTK				pmax	pmax				
	comp=Z,13nm,0.9s								
GZR	**Gura Zlata**	**21.11**	**310**	⇓P	**P**	**13 21 29.9**	**+2.9**		
HERR	**Herculane**	**21.13**	**309**	⇑P	**P**	**13 21 27.4**	**+0.3**		
MARR	**Marisel-Cluj**	**21.49**	**314**	⇑P	**P**	**13 21 32.4**	**+1.4**		
KK31	**Karatay Array**	**21.51**	**57**	P	**P**	**13 21 32.1**	**+0.9**		
KK31				IAmb	IAmb	13 21 37.3			
	comp=Z,11nm,0.9s								
KK31	**Karatay Array**	**21.51**	**57**	P	**P**	**13 21 32.1**	**+0.9**		
KK31				pmax	pmax				
	comp=Z,11nm,1.0s								
KKAR	**Karatay Array**	**21.51**	**57**	P	**P**	**13 21 32.8**	**+1.6**		
KKAR				IAmb	IAmb	13 21 37.3			
	comp=Z,10nm,0.9s								
KKAR	**Karatay Array**	**21.51**	**57**	P	**P**	**13 21 32.8**	**+1.6**		
MDVR	**Moldovita**	**21.55**	**308**	⇑P	**P**	**13 21 32.5**	**+0.8**		
SIRR	**Siria**	**22.20**	**312**	⇑P	**P**	**13 21 39.8**	**+1.3**		
OBN	**Obninsk**	**22.34**	**346**	*ce*P	**P**	**13 21 39.3**	**-0.6**		
OBN				*e*		13 22 02.1			
OBN				*e*S	**S**	**13 25 34.6**	**-8.5**		
OBN				pmax	pmax				
	comp=Z,38nm,1.7s								
OBN				MLR	MLR				
	comp=Z,101nm,17.0s								
MOS	**Moscow**	**22.73**	**348**	*e*P	**P**	**13 21 44.4**	**+0.3**		
MOS				pmax	pmax				
	comp=Z,51nm,0.7s								
ARSB	**Arslanbob**	**22.86**	**63**	P	**P**	**13 21 45.6**	**-0.1**		
ARSB	**Arslanbob**	**22.86**	**63**	P	**P**	**13 21 45.6**	**-0.1**		
ARSB				pmax	pmax				
	comp=Z,3.0nm,1.1s								
NIL	**Nilore**	**22.89**	**82**	P	**P**	**13 21 44.9**	**-1.1**		
NIL				IAmb	IAmb	13 21 48.7			
	comp=Z,20nm,1.1s								
NIL	**Nilore**	**22.89**	**82**	P	**P**	**13 21 44.9**	**-1.1**		
NIL				pmax	pmax				
	comp=Z,20nm,1.1s								
KWP	**Kalwaria Pacla**	**23.28**	**320**	P	**P**	**13 21 49.5**	**-0.3**		
KWP	**Kalwaria Pacla**	**23.28**	**320**	P	**P**	**13 21 49.5**	**-0.3**		
KWP				pmax	pmax				
	comp=Z,24nm,1.2s								
PSZ	**Piszkesteto**	**24.01**	**314**	P	**P**	**13 21 55.7**	**-1.2**		
PSZ				IAmb	IAmb	13 21 59.4			
	comp=Z,10.0nm,1.0s								
PSZ	**Piszkesteto**	**24.01**	**314**	P	**P**	**13 21 55.7**	**-1.2**		
PSZ				pmax	pmax				
	comp=Z,10.0nm,1.0s								
AAK	**Ala-Archa**	**24.22**	**60**	P	**P**	**13 21 56.4**	**-2.6**		
AAK	**Ala-Archa**	**24.22**	**60**	*i* P	**P**	**13 22 00.7**	**+1.7**		
AAK				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ARU	**Arti**	**24.38**	**17**	P	**P**	**13 21 58.3**	**-1.8**		
ARU				IAmb	IAmb	13 22 10.6			
	comp=Z,10nm,0.7s								
ARU	**Arti**	**24.38**	**17**	*d i* P	**P**	**13 22 00.3**	**+0.3**		
ARU						13 22 30.1			
ARU				S	**S**	**13 26 21.8**	**+4.7**		
ARU				SS	**SnSn**	**13 27 03.1**	**+0.9**		
ARU				pmax	pmax				
	comp=Z,16nm,1.1s								
ARU	**Arti**	**24.38**	**17**	P	**P**	**13 22 00.1**	**0.0**		
	comp=Z,4.5nm,0.7s,baz=208,slow=6.4,SNR=9.2								
	comp=Z,4.5nm,0.7s								
KSH	**Kashi**	**24.89**	**68**	P	**P**	**13 22 04.7**	**-0.4**		
KSH				pP	pP	13 22 09.0	-6.4		
KSH				pmax	pmax				
	comp=Z,7.0nm,0.7s								
NACGM	**Naroch**	**25.00**	**334**	*e*P	**P**	**13 22 05.6**	**0.0**		
	comp=E,2μm,1.2s								
KIRV	**Kirov**	**25.00**	**5**	*ce*P	**P**	**13 22 06.8**	**+1.2**		
KIRV	**Kirov**	**25.00**	**5**	P	**P**	**13 22 04.0**	**-1.6**		
	comp=E,14nm,0.7s,baz=164,slow=15,SNR=5.8								
	comp=E,14nm,0.7s								
NRN	**Naryn**	**25.11**	**63**	P	**P**	**13 22 07.0**	**-0.3**		
NRN				IAmb	IAmb	13 22 11.2			
	comp=Z,9.1nm,0.8s								
NRN	**Naryn**	**25.11**	**63**	P	**P**	**13 22 07.0**	**-0.3**		
NRN				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SVE	**Sverdlovsk**	**25.27**	**19**	*e*P	**P**	**13 22 09.8**	**+1.6**		
SVE				pmax	pmax				
	comp=Z,25nm,1.1s								
JAVC	**Velka Javorina**	**25.75**	**314**	*e*P	**P**	**13 22 14.7**	**+2.0**		
BRVK	**Borovoye**	**26.10**	**35**	P	**P**	**13 22 15.1**	**-0.6**		
BRVK	**Borovoye**	**26.10**	**35**	*ce*P	**P**	**13 22 17.0**	**+1.3**		
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BVAR	**Borovoye Array**	**26.13**	**35**	P	**P**	**13 22 16.6**	**+0.7**		
	comp=Z,2.6nm,0.6s,baz=240,slow=7.3,SNR=16								
	comp=Z,2.6nm,0.6s								
RONA	**Rosalia, Austr**	**26.13**	**311**	*e*P	**P**	**13 22 19.6**	**+3.5**		
	comp=Z,10.0nm,1.2s								
MORC	**Moravsky Berou**	**26.24**	**316**	P	**P**	**13 22 13.9**	**-3.1**		
MORC				IAmb	IAmb	13 22 20.9			
	comp=Z,13nm,1.4s								
MORC	**Moravsky Berou**	**26.24**	**316**	*e*P	**P**	**13 22 17.6**	**+0.6**		
MORC	**Moravsky Berou**	**26.24**	**316**	P	**P**	**13 22 13.9**	**-3.1**		
MORC				pmax	pmax				
	comp=Z,13nm,1.4s								
CONA	**Conrad Observa**	**26.49**	**311**	*e*pP	**P**	**13 22 20.6**	**+1.2**		
	comp=Z,6.3nm,1.1s								
VRAC	**Vranov**	**26.59**	**315**	LR	LR	13 35 27.5			
	comp=Z,105nm,18.8s,baz=106,slow=43								
SOKA	**Soboth**	**26.60**	**308**	P	**P**	**13 22 18.8**	**-1.6**		
	comp=Z,7.0nm,1.4s								
CAMP	**Campotosto**	**26.77**	**299**	P	**P**	**13 22 17.0**	**-5.1**		
OBKA	**Obir**	**26.86**	**308**	*e*P	**P**	**13 22 26.5**	**+3.7**		
	comp=Z,7.7nm,1.0s								
FDMO	**Fiordimonte**	**27.08**	**300**	P	**P**	**13 22 21.0**	**-3.7**		
FDMO				IAmb	IAmb	13 22 26.8			
	comp=Z,22nm,1.5s								
KLMR	**Klimovskoe**	**27.45**	**353**	*e*P	**P**	**13 22 25.9**	**-1.9**		
KLMR				*e*		13 23 11.4			
KLMR				pmax	pmax				
	comp=Z,50nm,1.8s								
MYKA	**Terra Mystica**	**27.50**	**308**	pP	pP	13 22 33.8	-4.7		
	comp=Z,6.8nm,0.9s								
BIOA	**Bad Ischl, Aus**	**27.82**	**310**	*e*pP	**P**	**13 22 32.8**	**+1.6**		
	comp=Z,6.5nm,1.1s								
KBA	**Koelnbreinsper**	**27.82**	**308**	*e*P	**P**	**13 22 31.8**	**+0.3**		
	comp=Z,11nm,1.7s								
WTTA	**Wattenberg**	**28.99**	**308**	*e*pP	**P**	**13 22 44.1**	**+2.2**		
	comp=Z,8.2nm,1.1s								
KURBB	**Kurchatov Arra**	**29.30**	**45**	P	**P**	**13 22 45.4**	**+1.1**		
	comp=Z,3.9nm,0.8s,baz=251,slow=9.0,SNR=24								
	comp=Z,3.9nm,0.8s								
KURK	**Kurchatov**	**29.38**	**45**	P	**P**	**13 22 46.3**	**+1.3**		
KURK				IAmb	IAmb	13 22 48.0			
	comp=Z,5.3nm,0.9s								
KURK	**Kurchatov**	**29.38**	**45**	*ce*P	**P**	**13 22 47.1**	**+2.0**		
KURK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
FETA	**Feichten**	**29.53**	**307**	*e*pP	**P**	**13 22 47.8**	**+1.2**		
	comp=Z,6.2nm,1.1s								
GRA1	**Grafenberg Arr**	**29.98**	**313**	P	**P**	**13 22 47.8**	**-2.6**		
GRF	**Grafenberg Arr**	**29.98**	**313**	P	**P**	**13 22 47.8**	**-2.6**		
GRF				pmax	pmax				
	comp=Z,17nm,1.3s								
GRFO	**Grafenberg**	**29.98**	**313**	P	**P**	**13 22 47.8**	**-2.6**		
GRFO	**Grafenberg**	**29.98**	**313**	P	**P**	**13 22 47.8**	**-2.6**		
GRFO				pmax	pmax				
	comp=Z,15nm,1.2s								
MAKZ	**Makanchi**	**30.32**	**54**	P	**P**	**13 22 53.5**	**0.0**		
MAKZ				IAmb	IAmb	13 22 56.7			
	comp=Z,14nm,1.5s								
MAKZ	**Makanchi**	**30.32**	**54**	P	**P**	**13 22 53.5**	**0.0**		
MAKZ				pmax	pmax				
	comp=Z,14nm,1.5s								
FINES	**FINESS Array B**	**30.49**	**341**	P	**P**	**13 22 55.9**	**+1.1**		
	comp=Z,1.1nm,0.5s,baz=145,slow=14,SNR=7.7								
	comp=Z,1.1nm,0.5s								
MK31	**Makanchi Array**	**30.53**	**54**	P	**P**	**13 22 56.7**	**+1.3**		
MK31				IAmb	IAmb	13 22 58.9			
	comp=Z,6.2nm,0.9s								
MK31	**Makanchi Array**	**30.53**	**54**	P	**P**	**13 22 56.7**	**+1.3**		
MK31				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MKAR	**Makanchi Array**	**30.53**	**54**	P	**P**	**13 22 56.5**	**+1.2**		
MKAR	**Makanchi Array**	**30.53**	**54**	*i* P	**P**	**13 22 57.2**	**+1.9**		
MKAR				pmax	pmax				
	comp=Z,5.0nm,0.5s								
MKAR	**Makanchi Array**	**30.53**	**54**	P	**P**	**13 22 56.3**	**+1.0**		
	comp=Z,4.5nm,0.5s,baz=251,slow=10,SNR=76								
	comp=Z,4.5nm,0.5s								
LODK	**Lodwar**	**31.65**	**200**	P	P	13 22 59.1	-6.3		
LODK				IAmb	IAmb	13 23 09.2			
	comp=Z,4.4nm,1.3s								
BNI	**Bardonecchia**	**31.94**	**302**	P	**P**	**13 23 08.5**	**+0.6**		
BNI	**Bardonecchia**	**31.94**	**302**	P	**P**	**13 23 08.5**	**+0.6**		
BNI				pmax	pmax				
	comp=Z,19nm,1.0s								
HFS	**Hagfors**	**33.70**	**331**	P	**P**	**13 23 22.8**	**-0.1**		
	comp=Z,6.2nm,0.6s,baz=128,slow=9.6,SNR=16								
	comp=Z,6.2nm,0.6s								
WMQ	**Urumqi**	**33.93**	**60**	*e*P	**P**	**13 23 27.9**	**+2.7**		
ZAA0	**Zalesovo Array**	**34.11**	**42**	P	**P**	**13 23 25.9**	**-0.7**		
ZAA0				IAmb	IAmb	13 23 28.9			
	comp=Z,6.1nm,1.0s								
ZALV	**Zalesovo Beam**	**34.11**	**42**	P	**P**	**13 23 26.8**	**+0.3**		
ZALV	**Zalesovo Beam**	**34.11**	**42**	*i* P	**P**	**13 23 27.7**	**+1.2**		
ZALV				pmax	pmax				
	comp=Z,3.0nm,0.3s								
ZALV	**Zalesovo Beam**	**34.11**	**42**	P	**P**	**13 23 27.1**	**+0.6**		
	comp=Z,2.8nm,0.3s,baz=262,slow=8.8,SNR=15								
	comp=Z,2.8nm,0.3s								
DGZ	**Jazzator, Alta**	**34.49**	**50**	*i* P	**P**	**13 23 31.8**	**+1.7**		
DGZ				pmax	pmax				
	comp=Z,7.0nm,0.8s								
NOA	**NORSAR Array B**	**35.22**	**331**	P	**P**	**13 23 34.9**	**-1.2**		
	comp=Z,0.8nm,0.7s,baz=125,slow=8.6,SNR=3.5								
	comp=Z,0.8nm,0.7s								
NAO01	**NORSAR Array S**	**35.24**	**331**	P	**P**	**13 23 33.9**	**-2.4**		
ARCES	**ARCESS Array B**	**37.60**	**349**	P	**P**	**13 23 56.9**	**+0.6**		
	comp=Z,5.5nm,0.9s,baz=127,slow=5.2,SNR=7.0								
	comp=Z,5.5nm,0.9s								
ESDC	**Sonseca Array**	**39.87**	**293**	P	**P**	**13 24 15.8**	**+0.1**		
	comp=Z,1.3nm,0.6s,baz=78,slow=8.3,SNR=12								
ESDC				LR	LR	13 41 29.5			
	comp=Z,80nm,18.2s,baz=198,slow=38								
	comp=Z,1.3nm,0.6s								
EKA	**Eskdalemuir Ar**	**39.95**	**318**	P	**P**	**13 24 14.9**	**-1.2**		
	comp=Z,3.4nm,0.8s,baz=102,slow=8.0,SNR=9.3								
	comp=Z,3.4nm,0.8s								
NRIK	**Noril'sk**	**42.53**	**20**	P	**P**	**13 24 37.0**	**-0.2**		
NRIK				IAmb	IAmb	13 24 40.2			
	comp=Z,11nm,1.0s								
NRIK	**Noril'sk**	**42.53**	**20**	*ce*P	**P**	**13 24 38.5**	**+1.4**		
NRIK				pmax	pmax				
	comp=Z,14nm,1.1s								
NRIK	**Noril'sk**	**42.53**	**20**	P	**P**	**13 24 36.9**	**-0.2**		
	comp=Z,9.4nm,0.9s,baz=227,slow=5.3,SNR=8.8								
	comp=Z,9.4nm,0.9s								
GTA	**Gaotai**	**43.28**	**66**	*e*P	**P**	**13 24 45.9**	**+2.1**		
GTA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
ZAK	**Zakamensk**	**44.71**	**50**	*e*P	**P**	**13 24 54.8**	**-0.3**		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
TORD	**Torodi Ar. Bea**	**44.87**	**254**	P	**P**	**13 24 57.2**	**+0.6**		
TORD				IAmb	IAmb	13 25 03.2			
	comp=Z,4.7nm,1.4s								
TORD	**Torodi Ar. Bea**	**44.87**	**254**	P	**P**	**13 24 57.0**	**+0.4**		
	comp=Z,1.1nm,0.5s,baz=57,slow=6.7,SNR=20								
	comp=Z,1.1nm,0.5s								
SPITS	**Spitsbergen Ar**	**46.34**	**352**	P	**P**	**13 25 07.7**	**+0.2**		
	comp=Z,19nm,1.0s,baz=146,slow=8.1,SNR=3.7								
	comp=Z,19nm,1.0s								
SONM	**Songino Array**	**46.90**	**54**	P	**P**	**13 25 12.6**	**+0.2**		
	comp=Z,1.6nm,1.0s,baz=284,slow=12,SNR=6.3								
	comp=Z,1.6nm,1.0s								
ULN	**Ulaanbaatar**	**47.34**	**53**	P	**P**	**13 25 16.1**	**+0.2**		
ULN	**Ulaanbaatar**	**47.34**	**53**	P	**P**	**13 25 16.1**	**+0.2**		
ULN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
PZH	**PanZhiHua**	**48.50**	**83**	P	**P**	**13 25 26.4**	**+1.3**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.4s								
PZH				pmax	pmax				
	comp=Z,130nm,6.3s								
CMAR	**Chiang Mai Arr**	**49.64**	**94**	P	**P**	**13 25 34.4**	**+0.6**		
	comp=Z,2.4nm,0.7s,baz=297,slow=8.8,SNR=12								
	comp=Z,2.4nm,0.7s								
HHC	**Hu-ho-hao-te**	**51.78**	**62**	*e*P	**P**	**13 25 51.4**	**+1.7**		
TIXI	**Tiksi**	**56.26**	**22**	P	**P**	**13 26 22.4**	**+0.7**		
TIXI	**Tiksi**	**56.26**	**22**	*ce*P	**P**	**13 26 22.9**	**+1.2**		
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.0s								
TIXI	**Tiksi**	**56.26**	**22**	P	**P**	**13 26 22.4**	**+0.7**		
	comp=Z,0.3nm,0.7s,baz=357,slow=4.4,SNR=5.7								
	comp=Z,0.3nm,0.7s								
SUMG	**Summit**	**56.48**	**339**	P	**P**	**13 26 24.5**	**+0.7**		
SUMG	**Summit**	**56.48**	**339**	P	**P**	**13 26 24.5**	**+0.7**		
SUMG	**Summit**	**56.48**	**339**	*i* P	**P**	**13 26 24.0**	**+0.2**		
ZEA	**Zeya**	**58.85**	**43**	*e*P	P	13 26 49.8	+10		
KLR	**Kul'dur**	**62.94**	**47**	*i* P	**P**	**13 27 09.6**	**+1.5**		
KLR				pmax	pmax				
	comp=Z,2.0nm,1.1s								
KSRS	**Korea Array**	**64.88**	**61**	P	**P**	**13 27 21.1**	**0.0**		
	comp=Z,1.6nm,0.8s,baz=287,slow=6.4,SNR=3.0								
	comp=Z,1.6nm,0.8s								
BOSA	**Boshof**	**64.95**	**200**	P	**P**	**13 27 23.4**	**+1.8**		
	comp=Z,2.4nm,0.6s,baz=351,slow=5.0,SNR=6.3								
	comp=Z,2.4nm,0.6s								
BILL	**Bilibino**	**69.36**	**20**	*i* P	**P**	**13 27 50.8**	**+1.8**		
BILL				pmax	pmax				
	comp=Z,6.0nm,1.1s								
ILAR	**Eielson Array**	**81.34**	**5**	P	**P**	**13 28 58.5**	**+0.5**		
	comp=Z,1.3nm,0.9s,baz=330,slow=4.0,SNR=14								
	comp=Z,1.3nm,0.9s		

comp=Z,20nm,1.0s
ALPN Alpine 6.99 171 IAmb_Lg 13 31 07.7
comp=Z,14nm,1.3s
OZNA Ozona 7.10 153 IAmb_Lg 13 31 18.1
comp=Z,12nm,0.8s
TUL3 Leonard 7.46 98 IAmb_Lg 13 31 31.2
comp=Z,19nm,0.9s
SAND Sanderson 7.69 162 IAmb_Lg 13 31 40.3
comp=Z,12nm,0.8s
BRDY Brady 7.74 139 IAmb_Lg 13 31 34.3
comp=Z,11nm,0.8s
RLO Rose Lookout 8.02 95 IAmb_Lg 13 31 57.9
comp=Z,10nm,0.7s
DRIO Del Rio 8.64 154 IAmb_Lg 13 32 08.2
comp=Z,16nm,0.9s
HNDO Hondo 9.07 147 IAmb_Lg 13 32 23.1
comp=Z,13nm,0.9s

*IDC **11** 13:30:45.1±0.8,33°.74N×45°.64E, h0km, mb4.0/20, mbtmp3.9/26, ML3.3/6, MS4.5/1, Error ellipse: s-maj=17.4km s-min=12.6km az=170.0*
*ISN **11** 13:30:45.9±0.7, 33°.76N×45°.63E, h8km±3km, ML4.2*
*TEH **11** 13:30:46.7, 33°.74N×45°.65E, h8km±75km, ML4.1*
*NEIC **11** 13:30:46.5±2.6, 33°.60N±0°.08×45°.68E±0°.07, h10km±1km, mb4.1/29, Error ellipse: s-maj=14.0km s-min=9.3km az=157.0*
*DSN **11** 13:31:00.2±1.0, 33°.54N×47°.34E, h0km, Ms4.3/6, Error ellipse: s-maj=51.8km s-min=10.0km az=46.0*
ISC 11 13:30:48.2±0.5,**33°.69N**±0°.03×**45°.63E**±0°.04,**h22**km±4km, **n129,σ1s51**/120,**mb4.1**/32,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.49**	**98**	Pg	**Pb**		**13 30 56.8**	**-1.4**
IBDR	**Badra**	**0.63**	**156**	*e*Pg	**Pb**		**13 31 00.0**	**-0.6**
IBDR				*e*Sg	**Sb**		**13 31 09.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.81**	**358**	Pg	**Pb**		**13 31 00.7**	**-2.9**
KGS1				Sg	**Sb**		**13 31 13.7**	**-0.5**
IGHG	**Ghaleghazi**	**1.01**	**51**	Pg	**Pb**		**13 31 05.3**	**-1.8**
BHD	**Baghdad**	**1.12**	**248**	*e*Pg	**Pn**		**13 31 08.0**	**-0.6**
BHD				*e*Sg	**Sn**		**13 31 24.0**	**+0.6**
BHD	comp=E,10μm,0.7s			AML	AML		13 31 32.0	
IDHR	**Dehrash**	**1.19**	**32**	Pg	**Pn**		**13 31 08.2**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.31**	**63**	Pg	**Pn**		**13 31 10.6**	**-0.8**
KCHF				Sg	**Sb**		**13 31 31.0**	**+2.2**
IKOM	**Komasi**	**1.64**	**72**	Pg	**Pb**		**13 31 17.2**	**-0.6**
IKOM				Sg	**Sb**		**13 31 40.1**	**+2.0**
ILIN	**Lien**	**1.65**	**42**	Pg	**Pb**		**13 31 17.1**	**-1.0**
IKFM	**Kafar-mosalman**	**1.86**	**95**	Pn	**Pb**		**13 31 21.1**	**-0.4**
IKRK	**Kirkuk**	**2.01**	**328**	*e*Pn	**Pn**		**13 31 21.0**	**+0.2**
IKRK				*e*Sn	**Sn**		**13 31 47.0**	**+1.7**
IKRK	comp=E,2μm,0.2s			AML	AML		13 31 54.3	
IKRK	comp=N,2μm,0.6s			AML	AML		13 32 00.6	
RAFI	**Al-Rafai**	**2.01**	**168**	*e*Pn	**Pb**		**13 31 23.0**	**-1.0**
RAFI				*e*Sn	**Sb**		**13 31 50.0**	**+1.5**
IBZA	**Bozab**	**2.01**	**67**	Pn	**Pb**		**13 31 22.7**	**-1.6**
IALM	**Almabolaq**	**2.41**	**60**	Pn	**Pb**		**13 31 28.5**	**-2.5**
SDS1	**Sardasht. Az.**	**2.45**	**357**	Pn	**Pn**		**13 31 28.5**	**+1.4**
HSAM	**Samen**	**2.53**	**77**	Pn	**Pn**		**13 31 29.5**	**+1.3**
MAHB	**Mahabad**	**3.07**	**1**	Pn	**Pn**		**13 31 37.3**	**+1.8**
HAGD	**Aghdareh**	**3.12**	**68**	Pn	**Pn**		**13 31 37.9**	**+1.6**
IHSH	**Hashtrud**	**3.84**	**20**	Pn	**Pn**		**13 31 46.8**	**+0.4**
IRAZ	**Razeghan**	**3.94**	**63**	Pn	**Pn**		**13 31 48.9**	**+1.4**
IAZR	**Azarshahr**	**3.99**	**4**	Pn	**Pn**		**13 31 49.7**	**+1.5**
QSDN	**Sirdan**	**4.04**	**45**	Pn	**Pn**		**13 31 50.3**	**+1.3**
ISRB	**Sarab**	**4.45**	**21**	Pn	**Pn**		**13 31 56.7**	**+2.2**
IPIR	**Pirpir**	**4.53**	**101**	Pn	**Pn**		**13 31 57.2**	**+1.4**
ISHB	**Shabestar**	**4.58**	**360**	Pn	**Pn**		**13 31 56.4**	**0.0**
IQOM	**Qom**	**4.65**	**74**	Pn	**Pn**		**13 31 58.6**	**+1.2**
ZNGN	**Zangian**	**4.67**	**108**	Pn	**Pn**		**13 31 59.1**	**+1.4**
IHRS	**Heris**	**4.76**	**14**	Pn	**Pn**		**13 32 00.5**	**+1.7**
QAMS	**Qamsar**	**4.81**	**88**	Pn	**Pn**		**13 32 01.3**	**+1.8**
IKLH	**Kolahrood**	**4.99**	**93**	Pn	**Pn**		**13 32 03.8**	**+1.8**
IMRD	**Marand**	**5.01**	**1**	Pn	**Pn**		**13 32 03.9**	**+1.7**
IVRN	**Varamin**	**5.21**	**74**	Pn	**Pn**		**13 32 06.8**	**+1.9**
KLST	**Kelardasht - M**	**5.27**	**56**	Pn	**Pn**		**13 32 07.4**	**+1.5**
GRMI	**Germi**	**5.42**	**19**	Pn	**Pn**		**13 32 09.5**	**+1.6**
MZPU	**Pul - Mazandar**	**5.59**	**59**	Pn	**Pn**		**13 32 11.9**	**+1.7**
GURO	**Guroymak-BITLI**	**5.65**	**330**	Pn	**Pn**		**13 32 14.3**	**+3.3**
IZEF	**Zefreh**	**5.67**	**96**	Pn	**Pn**		**13 32 13.2**	**+1.8**
KLNJ	**Kolanjah**	**5.71**	**116**	Pn	**Pn**		**13 32 13.3**	**+1.2**
GNI	**Garni**	**6.48**	**354**	Pn	**Pn**		**13 32 23.3**	**+0.8**
GNI	**Garni**	**6.48**	**354**	Pn	**Pn**		**13 32 23.8**	**+1.3**
GNI	comp=N,0.4nm,0.3s,baz=64,slow=23,SNR=1.2			Pg	**Pb**		**13 32 42.9**	**+2.5**
GNI	comp=N,0.9nm,0.3s,baz=200,slow=6.8,SNR=4.9			Lg	Lg		13 34 08.4	
DSBU	**Dashti - Bushe**	**7.18**	**136**	Pn	**Pn**		**13 32 34.9**	**+2.9**
ASF	**Jabal al Asfar**	**7.49**	**261**	Pn	**Pn**		**13 32 34.6**	**-1.7**
ASF	comp=N,0.8nm,0.3s,baz=231,slow=16,SNR=4.3 comp=N,2.7nm,0.3s			Lg	Lg		13 34 43.5	
ASF	**Jabal al Asfar**	**7.49**	**261**	P	Pb		13 33 12.9	+15
GAZ	**Gaziantep**	**7.70**	**299**	Pn	**Pn**		**13 32 39.8**	**+0.8**
NATI	**Neve Ativ**	**8.27**	**270**	P	Pb		13 33 37.8	+27
SHMJ	**Saham**	**8.32**	**266**	P	Pb		13 33 43.0	+31
QRNJ	**Al-Qirein**	**8.55**	**264**	P	Pn		13 33 37.5	+47
MMAI	**Mount Meron Ar**	**8.58**	**268**	Pn	**Pn**		**13 32 51.6**	**+0.4**
MMAI	comp=N,1.5nm,0.3s,baz=99,slow=15,SNR=1.7			Lg	Lg		13 35 17.3	
MMAI	comp=N,2.5nm,0.3s,baz=348,slow=40,SNR=3.6			LR	LR		13 37 03.4	
HMDT	comp=N,86nm,19.1s,baz=125,slow=44 comp=N,0.6nm,0.3s **Nahal Hemdat**	**8.61**	**263**	P	Pn		13 33 40.2	+49
UJAP	**Al Uja**	**8.73**	**261**	P	Pn		13 33 47.6	+55
KARJ	**KARJ**	**8.81**	**256**	P	Pn		13 33 40.3	+46
GHAJ	**Ghor Haditha**	**8.82**	**257**	P	Pn		13 33 51.2	+57
LISJ	**El Lisan**	**8.91**	**257**	P	Pn		13 33 46.9	+51
MDBI	**Mazsada**	**8.99**	**257**	P			13 34 02.4	
MSBI	**Mazada**	**8.99**	**257**	P	Pn		13 33 56.5	+60
ONI	**Oni**	**9.05**	**350**	Pn	**Pn**		**13 33 01.5**	**+4.0**
ZFRI	**Zfri**	**9.40**	**253**	P	Pn		13 33 54.8	+53
PRNI	**Paran**	**9.61**	**253**	P	Pn		13 33 56.9	+52
MBRI	**Mt Berech**	**9.91**	**250**	P			13 34 11.5	
EIL	**Elat**	**9.94**	**249**	Lg	Lg		13 35 59.8	
EIL	comp=N,0.7nm,0.3s,baz=78,slow=19,SNR=1.8 comp=N,54nm,19.6s,baz=74,slow=43			LR	LR		13 37 52.5	
EIL	**Elat**	**9.94**	**249**	P	Pn		13 34 05.3	+56
KBZ	**Khabaz** baz=171,slow=8.4,SNR=2.2 comp=N,1.1nm,0.8s	**10.24**	**349**	Pn	**Pn**		**13 33 14.3**	**+0.4**
SHME	**Shamm**	**11.88**	**127**	P	**Pn**		**13 33 34.8**	**-1.5**
BANOM	**Banah**	**12.07**	**127**	P	**Pn**		**13 33 37.2**	**-1.8**
MSFE	**Esma-Masafi**	**12.37**	**129**	P	**Pn**		**13 33 42.1**	**-0.9**
ASUD	**Al Ashush, Dub**	**12.38**	**134**	P	**Pn**		**13 33 42.9**	**-0.3**
MDH	**Madha**	**12.50**	**129**	P	**Pn**		**13 33 43.6**	**-1.1**
UOSS	**Minazif**	**12.69**	**131**	Pn	**Pn**		**13 33 45.5**	**-1.9**
HATD	**Hatta, Dubai**	**12.73**	**131**	P	**Pn**		**13 33 46.6**	**-1.3**
HATD				S	Sn		13 35 58.7	-10
ASHO	**Ashiyiah**	**12.78**	**132**	P	**Pn**		**13 33 47.5**	**-1.2**
ALNE	**Al Ain**	**13.06**	**135**	P	**Pn**		**13 33 53.5**	**+0.9**
SOHO	**SOHO**	**13.48**	**132**	P	**Pn**		**13 33 57.0**	**-1.2**
WSAR	**Wadi Sarin** comp=N,0.5nm,0.3s,baz=340,slow=11,SNR=4.7	**15.45**	**129**	Pn	**Pn**		**13 34 22.6**	**-2.2**
WSAR	comp=N,2μm,19.9s,baz=348,slow=42 comp=N,7.7nm,0.7s			LR	LR		13 41 39.1	
RDO	**Rodhopi**	**17.58**	**301**	Pn	**Pn**		**13 34 49.9**	**-1.9**
ABKAR	**Akbulak array**	**18.84**	**30**	P	**P**		**13 35 05.0**	**-1.5**
ABKAR	**Akbulak array**	**18.84**	**30**	P	**P**		**13 35 06.4**	**0.0**
AKTO	**Aktyubinsk** comp=N,0.1nm,0.3s,baz=200,slow=11,SNR=2.6 comp=N,1.5nm,0.8s	**19.05**	**25**	P	**P**		**13 35 07.0**	**-1.8**
KBL	**Kabul**	**19.40**	**81**	P	**Pn**		**13 35 15.5**	**+1.2**
KBL	comp=Z,8.2nm,0.8s			IAmb	IAmb		13 35 22.3	
SIMJ	**Simiganj**	**19.50**	**69**	P	**P**		**13 35 13.4**	**-0.6**
FNA	**Florina**	**20.52**	**297**	P	**P**		**13 35 26.2**	**+1.1**
FNA	comp=Z,5.4nm,0.8s			IAmb	IAmb		13 35 30.8	
BURAR	**Bucovina Array**	**20.73**	**318**	P	**P**		**13 35 28.2**	**+1.0**
BUR08	**Bucovina Ar. S**	**20.75**	**318**	P	**P**		**13 35 28.1**	**+0.6**
BUR08				IAmb	IAmb		13 35 33.9	

comp=Z,6.2nm,0.8s
AKASG Malin Array Be 20.81 330 P **P** **13 35 26.5 -1.4**
AKASG Malin Array Be 20.81 330 P **P** **13 35 27.0 -1.0**
comp=Z,2.6nm,0.5s,baz=140,slow=9.5,SNR=20 comp=Z,2.6nm,0.5s
AKBB Malin Array Si 20.81 330 P **P** **13 35 27.0 -1.0**
AKBB IAmb IAmb 13 35 28.1
comp=Z,9.1nm,0.8s
KIEV Kiev 20.82 330 P **P** **13 35 27.0 -1.0**
KIEV IAmb IAmb 13 35 28.2
comp=Z,8.1nm,0.8s
BTK Batken 21.09 65 P **P** **13 35 27.6 -3.6**
BTK IAmb IAmb 13 35 42.4
comp=Z,6.0nm,0.8s
KK31 Karatay Array 21.58 57 P **P** **13 35 33.9 -2.4**
KK31 IAmb IAmb 13 35 42.4
comp=Z,6.9nm,1.1s
KKAR Karatay Array 21.58 57 P **P** **13 35 35.1 -1.2**
KKAR Karatay Array 21.58 57 P **P** **13 35 34.6 -1.8**
KKAR IAmb IAmb 13 35 42.4
comp=Z,6.9nm,1.1s
ARSB Arslanbob 22.93 63 P **P** **13 35 49.2 -1.8**
NIL Nilore 22.97 82 P **P** **13 35 51.4 +0.1**
TIP Timpagrande 23.81 292 P **P** **13 35 55.9 -3.6**
ARU Arti 24.42 18 P **P** **13 36 03.5 -1.5**
ARU IAmb IAmb 13 36 31.4
comp=Z,3.9nm,0.8s
CUC Castrocucco 24.60 293 P **P** **13 36 08.6 +1.8**
CUC IAmb IAmb 13 36 15.5
comp=Z,8.5nm,0.8s
SGRT San Giovanni R 24.88 298 P **P** **13 36 06.8 -2.6**
KSH Kashi 24.98 68 *e*P **P** **13 36 12.5 +2.2**
KSH pmax pmax
comp=Z,7.0nm,0.6s
NRN Naryn 25.19 63 P **P** **13 36 10.3 -2.2**
NRN IAmb IAmb 13 36 17.8
comp=Z,4.7nm,0.8s
BRVK Borovoye 26.16 35 P **P** **13 36 19.4 -1.3**
BRVK IAmb IAmb 13 36 58.8
comp=Z,4.2nm,1.1s
BVAR Borovoye Array 26.19 35 P **P** **13 36 20.5 -0.5**
comp=Z,1.3nm,0.6s,baz=181,slow=7.2,SNR=2.5 comp=Z,1.3nm,0.6s
CAMP Campotosto 26.71 299 P **P** **13 36 25.9 -0.1**
CAMP IAmb IAmb 13 36 39.2
comp=Z,9.4nm,1.0s
GERES GERESS Array B 28.12 312 P **P** **13 36 38.6 0.0**
comp=Z,0.3nm,0.3s,baz=104,slow=5.6,SNR=2.0 comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 29.36 45 P **P** **13 36 49.3 -0.2**
comp=Z,0.8nm,0.7s,baz=252,slow=9.0,SNR=8.1 comp=Z,0.8nm,0.7s
FINES FINESS Array B 30.48 342 P **P** **13 36 59.1 -0.2**
comp=Z,1.0nm,0.7s,baz=138,slow=9.2,SNR=4.3 comp=Z,1.0nm,0.7s
MK31 Makanchi Array 30.61 54 P **P** **13 37 01.1 +0.6**
MK31 IAmb IAmb 13 37 03.0
comp=Z,2.5nm,0.9s
MKAR Makanchi Array 30.61 54 P **P** **13 37 01.0 +0.5**
MKAR Makanchi Array 30.61 54 P **P** **13 37 01.1 +0.5**
comp=Z,1.7nm,0.5s,baz=257,slow=9.1,SNR=32 comp=Z,1.7nm,0.5s
BNI Bardonecchia 31.89 302 P **P** **13 37 12.8 +0.8**
HFS Hagfors 33.68 331 P **P** **13 37 26.8 -0.5**
comp=Z,3.9nm,0.4s,baz=133,slow=10,SNR=28 comp=Z,3.9nm,0.4s
WMQ Urumqi 34.01 60 *e*P P 13 37 24.3 -6.1
WMQ pmax pmax
WMQ comp=Z,20nm,1.1s LR LR
WMQ comp=N,550nm,6.9s LR LR
WMQ comp=Z,430nm,23.9s
ZALV Zalesovo Beam 34.18 42 P **P** **13 37 31.8 +0.1**
comp=Z,1.0nm,0.4s,baz=251,slow=9.2,SNR=4.0 comp=Z,1.0nm,0.4s
NAO01 NORSAR Array S 35.22 331 P **P** **13 37 41.4 +0.7**
ARCES ARCESS Array B 37.61 349 P **P** **13 38 01.2 +0.3**
comp=Z,2.7nm,0.8s,baz=167,slow=8.3,SNR=3.4 comp=Z,2.7nm,0.8s
ESDC Sonseca Array 39.80 293 P **P** **13 38 20.6 +0.8**
comp=Z,0.6nm,0.5s,baz=77,slow=8.2,SNR=6.3 comp=Z,0.6nm,0.5s
EKA Eskdalemuir Ar 39.91 318 P **P** **13 38 20.8 +0.4**
comp=Z,1.0nm,0.6s,baz=106,slow=8.8,SNR=4.1 comp=Z,1.0nm,0.6s
NRIK Noril'sk 42.58 21 P **P** **13 38 42.8 +0.7**
NRIK IAmb IAmb 13 38 44.2
comp=Z,3.4nm,0.9s
NRIK Noril'sk 42.58 21 P **P** **13 38 42.5 +0.4**
comp=Z,3.1nm,0.8s,baz=219,slow=6.4,SNR=5.2 comp=Z,3.1nm,0.8s
TORD Torodi Ar. Bea 44.79 254 P **P** **13 39 01.4 +0.9**
comp=Z,1.1nm,0.8s,baz=49,slow=8.5,SNR=5.4 comp=Z,1.1nm,0.8s
SPITS Spitsbergen Ar 46.35 352 P **P** **13 39 12.8 +0.6**
comp=Z,1.4nm,0.4s,baz=145,slow=12,SNR=9.3 comp=Z,1.4nm,0.4s
SONM Songino Array 46.97 54 P **P** **13 39 17.9 +0.3**
comp=Z,0.5nm,0.8s,baz=244,slow=9.7,SNR=3.7 comp=Z,0.5nm,0.8s
ULN Ulaanbaatar 47.41 53 P **P** **13 39 18.6 -2.5**
PZH PanZhiHua 48.58 83 P **P** **13 39 31.7 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.1s
CMAR Chiang Mai Arr 49.72 94 P **P** **13 39 38.1 -0.9**
comp=Z,1.4nm,0.6s,baz=303,slow=10,SNR=4.2 comp=Z,1.4nm,0.6s
HHC Hu-ho-hao-te 51.86 62 *e*P **P** **13 39 54.0 -0.9**
HHC pmax pmax
comp=Z,40nm,0.6s
HHC pmax pmax
comp=Z,180nm,5.0s
SEY Seymchan 67.60 28 P **P** **13 41 43.5 +0.7**
comp=Z,1.1nm,0.8s,baz=306,slow=14,SNR=2.6 comp=Z,1.1nm,0.8s
SCHQ Schefferville 74.57 326 P **P** **13 42 24.9 -0.3**
comp=Z,3.0nm,0.8s,baz=59,slow=12,SNR=4.3 comp=Z,3.0nm,0.8s
ILAR Eielson Array 81.37 5 P **P** **13 43 02.8 -0.1**
comp=Z,0.8nm,0.9s,baz=332,slow=2.9,SNR=7.6 comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 82.83 351 P **P** **13 43 10.8 +0.3**
comp=Z,0.6nm,0.8s,baz=16,slow=5.5,SNR=8.0 comp=Z,0.6nm,0.8s
QSPA South Pole Qui 123.53 180 PKP **PKiKP** **13 49 43.6 +0.4**
comp=Z,0.5nm,0.9s,baz=246,slow=2.2,SNR=1.2

*IDC **11** 13:35:30.8±0.6, 30°.65N×57°.23E, h0km, mb4.5/29, mbtmp4.4/37, ML3.9/8, MS4.2/37, Error ellipse: s-maj=13.2km s-min=11.5km az=4.0*
*TEH **11** 13:35:31.4, 30°.78N×57°.27E, h9km±33km, ML5.1*
*MOS **11** 13:35:32.0±0.9, 30°.70N×57°.27E, h13km, mb4.9/63, MS4.0/12, Error ellipse: s-maj=4.8km s-min=3.5km az=82.4*
*THR **11** 13:35:33.7±0.9, 30°.81N×57°.31E, h14km, ML4.6*
*NEIC **11** 13:35:33.5±2.0, 30°.70N±0°.06×57°.26E±0°.09, h10km±1km, mb4.9/104, Error ellipse: s-maj=13.2km s-min=10.0km az=121.0*
*GCMT **11** 13:35:33.5±0.3, 30°.59N±0°.02×57°.17E±0°.03, h12km, MW5.0/81, Moment Tensor Solution. s25,c33; s81,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.60±.11; $M_{\theta\theta}$-1.84±.10; $M_{\phi\phi}$-0.76±.10; $M_{r\theta}$0.61±.37; $M_{\theta\phi}$2.05±.08; $M_{\phi r}$2.46±.40; Best double couple: $M_0$3.95700×10^{16} NP1:ϕ_s339.00000°, δ64.00000°, λ126.00000°. NP2: ϕ_s100.00000°, δ44.00000°, λ40.00000°. Principal axes: T 4.2880, Plg56.0000°, Azm296.0000°; N -0.6620, Plg32.0000°, Azm141.0000°; P -3.6260, Plg11.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*OMAN **11** 13:35:35.0±1.1, 30°.85N×57°.05E, h9km, mb5.2/29, ml3.5/2, ms3.8/11 Error ellipse: s-maj=13.1km s-min=11.6km az=107.0*
*DSN **11** 13:35:35.6±2.0, 30°.92N×56°.92E, h14km±34km, ML4.2/10, Ms3.8/5, Error ellipse: s-maj=94.8km s-min=36.5km az=91.0*
ISC 11 13:35:32.8±0.5,**30°.77N**±0°.02×**57°.24E**±0°.02,**h6**km±2km, **h6km:pP-P,n516,σ1s93**/481,**mb4.8**/149,**MS4.2**/53,**16C-4D,**

Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRM1	**Kerman Provinc**	**0.27**	**175**	Pg	**Pb**		**13 35 38.8**	**-1.3**
ZRDN	**Zarand Kerman**	**0.64**	**288**	Pg	**Pb**		**13 35 45.4**	**-1.1**
KHGB	**Koh Gabri**	**0.77**	**239**	Pg	**Pb**		**13 35 47.8**	**-1.0**
TVBK	**TV Kerman**	**0.89**	**208**	Pg	**Pn**		**13 35 50.6**	**-1.5**
KRBR	**Kerman** comp=N,5μm,0.3s	**0.89**	**208**	IAML			13 36 10.5	
CHMN	**Cheshme madani**	**0.94**	**164**	Pg	**Pb**		**13 35 50.6**	**-1.1**
NGRK	**Negar Kerman**	**1.21**	**202**	Pg	**Pn**		**13 35 56.5**	**0.0**
NGRK				Sg	**Sn**		**13 36 13.0**	**-0.4**
IBAF	**Bafgh**	**1.65**	**300**	Pg	**Pg**		**13 36 03.8**	**-0.7**
KBAM	**BAM**	**1.94**	**147**	Pn	**Pb**		**13 36 07.5**	**-1.0**
BSRN	**Basiran**	**2.00**	**53**	*e*Pn	**Pb**		**13 36 08.0**	**-1.7**
BSRN	comp=E,8μm,0.3s			IAML			13 36 38.6	
BSRN	**Basiran**	**2.00**	**53**	Pn	**Pb**		**13 36 07.7**	**-2.0**
IKOO	**Kooshah**	**2.23**	**42**	Pn	**Pb**		**13 36 11.3**	**-2.3**
TPRV	**Parvadeh(Tabas**	**2.30**	**348**	Pn	**Pb**		**13 36 12.4**	**-2.3**
IMEH	**Mehriz**	**2.34**	**286**	Pn	**Pb**		**13 36 13.9**	**-1.6**
ITEG	**Tejag**	**2.48**	**31**	Pn	**Pb**		**13 36 14.6**	**-3.2**
NHDN	**Nehbandan**	**2.49**	**75**	Pn	**Pb**		**13 36 14.6**	**-3.3**
YZKH	**Yazd**	**2.78**	**306**	*e*Pn	**Pb**		**13 36 20.6**	**-2.3**
ICHK	**Chekchek**	**2.83**	**302**	Pn	**Pb**		**13 36 20.8**	**-3.1**
TKDS	**Koohdasht(Taba**	**2.84**	**358**	Pn	**Pb**		**13 36 19.8**	**-4.1**
KHNJ	**Kahnooj**	**2.84**	**172**	Pn	**Pb**		**13 36 21.3**	**-2.6**
TABS	**Tabas**	**2.87**	**358**	*e*Pn	**Pb**		**13 36 20.4**	**-4.2**
TABS	comp=N,7μm,0.6s			IAML			13 37 12.2	
TABS	comp=E,4μm,0.6s			IAML			13 37 14.6	
IDAH	**Dahanechah**	**2.98**	**48**	Pn	**Pn**		**13 36 21.5**	**+0.7**
AFRZ	**Afriz**	**3.04**	**29**	Pn	**Pn**		**13 36 22.2**	**+0.6**
TNSJ	**Nastanj**	**3.23**	**351**	Pn	**Pn**		**13 36 25.1**	**+1.0**
ISAD	**Sadrabad**	**3.25**	**291**	Pn	**Pb**		**13 36 27.2**	**-3.9**
ZHSF	**Zahedan**	**3.27**	**110**	*e*Pn	Pb		13 36 26.4	-4.9
ZHSF	comp=E,580nm,0.5s			IAML			13 37 31.4	
ZHSF	comp=N,540nm,0.6s			IAML			13 37 34.6	
IBND	**Bandar-abas**	**3.37**	**191**	Pn	**Pn**		**13 36 27.7**	**+1.8**
ZHDN	**Zahedan**	**3.38**	**113**	Pn	**Pn**		**13 36 27.3**	**+1.0**
GENO	**Geno**	**3.49**	**196**	Pn	**Pb**		**13 36 30.5**	**-4.5**
BNDS	**Bandar-Abbas**	**3.49**	**196**	*e*Pn	**Pb**		**13 36 30.5**	**-4.5**
BNDS	comp=N,310nm,0.5s			IAML			13 37 24.4	
BNDS	comp=E,303nm,0.4s			IAML			13 37 25.8	
ANAR	**Anarak**	**3.84**	**310**	Pn	**Pn**		**13 36 34.1**	**+1.6**
SHRT	**Shahrakht**	**3.86**	**41**	*e*Pn	**Pn**		**13 36 34.2**	**+1.5**
SHRT	comp=E,610nm,0.6s			IAML			13 37 44.8	
SHRT	comp=N,916nm,0.5s			IAML			13 37 54.5	
SHRT	**Shahrakht**	**3.86**	**41**	Pn	**Pn**		**13 36 34.2**	**+1.5**
SHI	**Shiraz**	**4.25**	**256**	Pn	**Pn**		**13 36 40.7**	**+2.5**
NASN	**Na'in**	**4.28**	**299**	*e*Pn	**Pn**		**13 36 42.1**	**+3.3**
NASN	comp=E,667nm,0.6s			IAML			13 37 57.8	
NASN	comp=N,1μm,0.8s			IAML			13 38 02.8	
IRAM	**Ramesheh**	**4.29**	**285**	Pn	**Pn**		**13 36 40.8**	**+2.0**
QIR1	**Qir**	**4.31**	**239**	Pn	**Pn**		**13 36 41.0**	**+2.0**
GHIR	**Ghir-Karzin**	**4.46**	**237**	*e*Pn	**Pn**		**13 36 43.3**	**+2.2**
IZEF	**Zefreh**	**4.69**	**298**	Pn	**Pn**		**13 36 46.0**	**+1.7**
SHME	**Shamm**	**4.80**	**192**	P	**Pn**		**13 36 46.4**	**+0.7**
SHME	**Shamm**	**4.80**	**192**	P	**Pn**		**13 36 48.7**	**+3.0**
SHME				S	**Sn**		**13 37 47.0**	**+5.4**
KLNJ	**Kolanjah**	**4.86**	**274**	Pn	Pn		13 36 50.5	+3.7
BANOM	**Banah**	**4.90**	**190**	P	Pn		13 36 50.7	+3.6
BANOM				S	**Sn**		**13 37 49.4**	**+5.3**
BANOM	**Banah**	**4.90**	**190**	P	Pb		13 36 51.7	-7.3
BANOM				S	**Sb**		**13 37 50.1**	**-8.2**
JASK	**Jask - Hormozg**	**4.92**	**173**	Pn	**Pn**		**13 36 48.3**	**+1.1**
JASK	**Jask - Hormozg** SNR=8.4	**4.92**	**173**	P	Pn		13 36 50.6	+3.4
LMD1	**Lamerd**	**4.94**	**227**	Pn	**Pn**		**13 36 49.6**	**+2.0**
TBJM	**Torbat-e-JAM**	**5.18**	**29**	Pn	**Pn**		**13 36 52.8**	**+1.8**
IBRJ	**Brojen**	**5.24**	**284**	Pn	**Pn**		**13 36 55.3**	**+3.4**
SHRO	**Shahrood**	**5.31**	**349**	*e*Pn	**Pn**		**13 36 54.7**	**+1.5**
SHRO	comp=E,3μm,0.9s			IAML			13 38 29.4	
KRSH	**Karshahi**	**5.37**	**308**	Pn	**Pn**		**13 36 54.9**	**+1.3**
UMQ	**Umm Al-Quwin**	**5.41**	**195**	P	Pb		13 36 59.6	-8.1
IKLH	**Kolahrood**	**5.44**	**299**	Pn	**Pn**		**13 36 57.5**	**+2.9**
IANJ	**Anjilo**	**5.45**	**330**	Pn	**Pn**		**13 36 55.8**	**+1.0**
MASF	**Masafi** SNR=11	**5.46**	**190**	P	Pn		13 36 59.8	+5.0
MASF				S	**Sn**		**13 38 04.2**	**+6.2**
MSFE	**Esma-Masafi**	**5.47**	**190**	P	Pn		13 36 58.6	+3.7
MDH	**Madha**	**5.51**	**189**	P	Pn		13 37 00.5	+5.1
MDH	**Madha**	**5.51**	**189**	P	Pn		13 37 00.8	+5.4
MDH				S	**Sn**		**13 38 04.3**	**+5.4**
ISFB	**Sefidab**	**5.53**	**312**	Pn	**Pn**		**13 36 57.2**	**+1.4**
HRA	**Herat**	**5.55**	**48**	Pn	**Pn**		**13 36 58.0**	**+1.9**
SBZV	**Sabzevar**	**5.61**	**3**	Pn	**Pn**		**13 36 59.0**	**+2.1**
SRVN	**Saravan**	**5.62**	**125**	Pn	**Pn**		**13 36 58.8**	**+1.8**
ZNGN	**Zangian**	**5.62**	**285**	Pn	**Pn**		**13 36 58.7**	**+1.5**
DSBU	**Dashti - Bushe**	**5.74**	**247**	Pn	**Pn**		**13 37 00.9**	**+2.3**
JRKH	**Jarkhoshk**	**5.75**	**26**	Pn	**Pn**		**13 37 00.6**	**+1.9**
QAMS	**Qamsar**	**5.77**	**302**	Pn	**Pn**		**13 37 00.7**	**+1.5**
JHBN	**Jahan bin**	**5.80**	**286**	Pn	**Pn**		**13 37 02.3**	**+2.6**
ILAS	**Lasjerd**	**5.84**	**323**	Pn	**Pn**		**13 37 01.4**	**+1.3**
CHBR	**Chabahar**	**5.89**	**150**	Pn	**Pn**		**13 37 00.8**	**+0.2**
NAZ	**Nazwa, Dubai**	**5.93**	**194**	P	Pn		13 37 05.1	+4.0
NAZ	**Nazwa, Dubai**	**5.93**	**194**	P	Pn		13 37 04.7	+3.6
NAZ				S	**Sn**		**13 38 14.

SHMA Al-Shehemyia 7.39 230 P Pn 13 37 24.5 +3.3
SHMA S Sn 13 38 44.5 -0.8
ARQ Araqi 7.43 185 P Pn 13 37 26.3 +4.5
ARQ P Pn 13 37 26.3 +4.5
SAKB Bahrain 7.59 233 P **Pn 13 37 22.4 -1.6**
SAKB S **Sn 13 38 50.9 +0.5**
WSAR Wadi Sarin 7.60 170 Pn **Pn 13 37 19.6 -4.5**
comp=E,0.3nm,0.3s,baz=37,slow=20,SNR=1.9
WSAR Sn **Sn 13 38 46.5 -4.2**
baz=328,slow=16
comp=E,5.7nm,0.8s
WSAR Wadi Sarin 7.60 170 P Pn 13 37 27.6 +3.5
SNR=17
IRAZ Razeghan 7.68 309 Pn **Pn 13 37 27.5 +2.1**
KLST Kelardasht - M 7.71 320 Pn **Pn 13 37 28.0 +2.1**
SMDO Samad 7.71 174 P Pn 13 37 30.2 +4.4
SMDO P Pn 13 37 30.2 +4.4
BSY Bisya 7.99 180 P Pn 13 37 36.2 +6.6
TRNA Turayna 8.04 223 P **Pn 13 37 30.9 +0.8**
SNR=13
TRNA S **Sn 13 39 00.8 -0.6**
HSAM Samen 8.06 297 Pn **Pn 13 37 33.8 +3.1**
SMRA Abu-Samra 8.27 225 P **Pn 13 37 34.2 +1.0**
SNR=14
SMRA S **Sn 13 39 05.9 -1.1**
WBK Wadi Bani Khal 8.27 169 P **Pn 13 37 35.0 +1.6**
WBK P **Pn 13 37 35.0 +1.6**
JMDO Jabal Madar 8.40 175 P Pn 13 37 41.0 +5.9
IKFM Kafar-mosalman 8.43 291 Pn **Pn 13 37 36.5 +1.1**
JLN Jalan Bani Buh 8.80 167 P **Pn 13 37 43.0 +2.4**
JLN P **Pn 13 37 43.0 +2.4**
IKOM Komasi 8.89 295 Pn **Pn 13 37 44.5 +2.5**
KBL Kabul 10.63 66 Pn **Pn 13 38 06.8 +0.9**
KBL Kabul 10.63 66 P **Pn 13 38 06.8 +0.9**
GRMI Germi 11.10 319 Pn **Pn 13 38 13.5 +1.3**
SIMJ Simiganj 12.47 48 Pn **Pn 13 38 31.4 +0.5**
SHAO Shalim 12.78 187 P **Pn 13 38 36.8 +1.8**
DMTO DMTO 13.16 190 P **Pn 13 38 40.9 +0.5**
WHFO Wadi Hawf 13.18 195 P **Pn 13 38 40.5 -0.1**
GNI Garni 13.82 316 *i* P **Pn 13 38 50.5 +1.1**
GNI Garni 13.82 316 Pn **Pn 13 38 50.2 +0.8**
comp=E,0.4nm,0.3s,baz=162,slow=20,SNR=1.1
comp=E,2.8nm,0.5s
ABTO Aybut 13.83 196 P **Pn 13 38 50.2 +0.6**
SNR=6.0
ABTO P **Pn 13 38 50.2 +0.6**
SNR=6.0
NIL Nilore 13.86 74 Pn **Pn 13 38 48.8 -1.0**
NIL Nilore 13.86 74 P **Pn 13 38 48.8 -1.0**
BTK Batken 14.42 46 **Pn 13 38 56.9 -0.6**
BTK Batken 14.42 46 P **Pn 13 38 56.9 -0.6**
MAK Makhachkala 14.44 330 *e*P **Pn 13 38 54.0 -3.6**
MAK *e*S **Sn 13 41 32.4 -5.5**
MAK pmax pmax
comp=Z,116nm,0.9s
MAK MLR MLR
comp=Z,637nm,11.0s
GURO Guroymak-BITLI 14.72 306 Pn **P 13 39 03.6 -4.2**
CHM Chimkent 15.20 37 *e*P **P 13 39 09.2 -3.8**
CHM Chimkent 15.20 37 *e*P **P 13 39 09.3 -3.8**
baz=37
AKH Akhalkalaki 15.35 318 Pn **Pn 13 39 10.9 +0.8**
AKH Akhalkalaki 15.35 318 P **Pn 13 39 10.9 +0.8**
AKH pmax pmax
comp=Z,23nm,1.2s
OHH Osh 15.93 48 P **P 13 39 24.0 +2.8**
OHH pmax pmax
comp=Z,36nm,1.8s
ZEI Tsey 16.04 322 *e*P **P 13 39 23.3 +0.7**
ZEI pmax pmax
comp=Z,30nm,1.6s
ONI Oni 16.15 321 Pn **Pn 13 39 20.3 0.0**
ONI Oni 16.15 321 P **Pn 13 39 20.3 0.0**
ONI pmax pmax
comp=Z,10.0nm,1.2s
KK31 Karatay Array 16.22 37 **P 13 39 22.3 -2.1**
KK31 Karatay Array 16.22 37 *i* P **P 13 39 22.6 -1.9**
KKAR Karatay Array 16.22 37 Pn **P 13 39 21.8 -2.7**
KKAR Karatay Array 16.22 37 **P 13 39 21.6 -2.9**
KKAR IAmb IAmb 13 39 26.8
comp=Z,56nm,1.6s
KKAR Karatay Array 16.22 37 P **P 13 39 21.8 -2.7**
ARSB Arslanbob 16.49 46 Pn **Pn 13 39 23.8 -1.1**
ARSB Arslanbob 16.49 46 P **Pn 13 39 23.8 -1.1**
ARSB pmax pmax
comp=Z,14nm,0.8s
DZA Taraz 16.51 39 *e*P **P 13 39 25.6 -2.1**
DZA Taraz 16.51 39 *e*P **P 13 39 25.6 -2.1**
baz=39
NCK Nalchik 16.70 323 *i* P **P 13 39 28.1 -1.6**
KBZ Khabaz 17.22 323 *i* P **P 13 39 35.3 -0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 17.22 323 P **P 13 39 33.2 -2.3**
comp=Z,0.1nm,0.3s,baz=101,slow=19,SNR=1.6
comp=Z,1.7nm,1.0s
AML Almayashu 17.39 45 P **P 13 39 36.0 -1.8**
ASF Jabal al Asfar 17.41 280 P **Pn 13 39 35.2 -1.2**
comp=Z,0.9nm,0.3s,baz=131,slow=9.3,SNR=7.4
comp=Z,12nm,0.7s
KIV Kislovodsk 17.49 323 P **P 13 39 38.6 0.0**
KIV Kislovodsk 17.49 323 *e*P **P 13 39 38.7 +0.2**
KIV *e*S **Sn 13 42 54.3 +2.0**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,119nm,14.0s
KIV Kislovodsk 17.49 323 P **P 13 39 39.9 +1.3**
KIV P **P 13 39 39.9 +1.3**
ARPR Arapgir-MALATY 17.57 303 P **P 13 39 38.6 -0.9**
KSH Kashi 17.61 55 P **Pn 13 39 34.4 -4.4**
KSH pP P 13 39 38.1 -1.8
KSH S Sn 13 42 41.3 -14
KSH sS S 13 42 48.3 -15
KSH pmax pmax
comp=Z,21nm,0.9s
KSH pmax pmax
comp=Z,260nm,6.2s
KSH LR LR
comp=N,920nm,10.0s
KSH LR LR
comp=E,1μm,10.9s
KSH LR LR
comp=Z,2μm,11.9s
EKS2 Erkin-Say 17.75 44 P **P 13 39 44.3 +2.8**
SNR=17
GAZ Gaziantep 17.79 296 **P 13 39 40.8 -1.1**
UCH Uchtor 17.95 46 P **P 13 39 44.2 +0.2**
SNR=10
AAK Ala-Archa 18.17 45 P **P 13 39 46.8 +0.6**
SNR=12
AAK Ala-Archa 18.17 45 Pn **Pn 13 39 43.8 -2.0**
AAK Ala-Archa 18.17 45 *ce*P **P 13 39 46.1 0.0**
AAK pmax pmax
comp=Z,71nm,2.5s
AAK Ala-Archa 18.17 45 P **P 13 39 44.9 -1.3**
comp=Z,0.2nm,0.3s,baz=240,slow=12,SNR=24
comp=Z,8.7nm,0.9s
AAK Ala-Archa 18.17 45 P **P 13 39 47.0 +0.8**
AAK P **P 13 39 47.0 +0.8**
KZA Kyzart 18.33 47 P **P 13 39 51.4 +3.2**
SNR=5.9
FRU1 Bishkek 18.35 44 **P 13 39 48.8 +0.8**
FRU1 IAmb IAmb 13 39 53.5
comp=Z,118nm,1.8s
FRU1 Bishkek 18.35 44 P **P 13 39 48.8 +0.8**
FRU1 pmax pmax
comp=Z,118nm,1.8s
KBK Karagaybulak 18.46 45 P **Pn 13 39 50.8 +1.5**
SNR=9.6
NRN Naryn 18.48 50 P **Pn 13 39 52.3 +2.5**
NRN Naryn 18.48 50 P **Pn 13 39 52.3 +2.5**
NRN pmax pmax
comp=Z,35nm,1.4s
AB31 Akbulak array 18.58 6 *i* P **Pn 13 39 50.6 +0.1**
ABKAR Akbulak array 18.58 6 P **Pn 13 39 49.6 -0.9**
ABKAR Akbulak array 18.58 6 P **Pn 13 39 50.1 -0.5**
ABKAR IAmb IAmb 13 39 56.9
comp=Z,20nm,1.1s
GHAJ Ghor Haditha 18.58 277 P **Pn 13 39 52.9 +2.1**
GHAJ IAmb IAmb 13 39 57.1
comp=Z,94nm,1.2s
MMAI Mount Meron Ar 18.68 283 P **Pn 13 39 51.9 -0.1**
comp=Z,2.5nm,0.3s,baz=66,slow=11,SNR=4.3
comp=Z,22nm,1.2s
SGDS Sogindy 18.73 43 *e*P **Pn 13 39 53.2 +0.7**
SGDS Sogindy 18.73 43 *e*P **Pn 13 39 53.3 +0.7**
baz=43
SOC Sochi 18.89 317 *e*P **Pn 13 39 54.2 -0.2**
SOC *e* 13 43 27.1
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC MLR MLR
comp=Z,219nm,13.0s
TKM2 Tokmak 2 19.00 45 P **Pn 13 39 58.4 +2.4**
SNR=16
TKM2 Tokmak 2 19.00 45 P **Pn 13 39 56.3 +0.3**
EIL Elat 19.30 272 P **Pn 13 39 59.5 +0.1**
comp=Z,42nm,1.1s,baz=98,slow=11,SNR=4.6
EIL LR LR 13 48 30.7
comp=Z,615nm,19.1s,baz=89,slow=40
BNN Bunyan 19.30 300 P **Pn 13 40 01.2 +1.6**
BNN IAmb IAmb 13 40 04.2
comp=Z,103nm,1.4s
BTLS Baital 19.41 38 *e*P **Pn 13 40 00.7 +0.1**
BTLS *e*S **S 13 43 39.3 +0.1**
BTLS pmax pmax
comp=Z,45nm,1.4s
BTLS Baital 19.41 38 *e*P **Pn 13 40 00.7 +0.1**
comp=Z,45nm,1.4s,baz=38
BTLS *e*S **S 13 43 39.3 +0.1**
baz=38
AKTO Aktyubinsk 19.65 1 P **Pn 13 40 02.8 -0.8**
comp=Z,3.3nm,0.3s,baz=182,slow=9.6,SNR=44
AKTO LR LR 13 48 31.5
comp=Z,1μm,20.1s,baz=154,slow=40
comp=Z,14nm,0.5s
TARG Taragay, Kyrgy 19.81 51 P **Pn 13 40 04.0 -1.9**
TARG Taragay, Kyrgy 19.81 51 P **Pn 13 40 04.1 -1.9**
TARG pmax pmax
comp=Z,43nm,1.3s
AAA Alma-Ata 19.97 46 LR LR 13 48 04.4
baz=46
KUU Kurty 19.99 44 *e*P **Pn 13 40 07.0 -0.6**
KUU *e*S **Sn 13 43 52.1 -0.6**
KUU pmax pmax
comp=Z,18nm,0.9s
KUU MLR MLR
comp=Z,542nm,10.0s
KUU Kurty 19.99 44 *e*P **Pn 13 40 07.1 -0.6**
comp=Z,18nm,0.9s,baz=44
KUU *e*S **Sn 13 43 52.2 -0.6**
baz=44
KUU LR LR 13 47 38.8
comp=Z,542nm,10.0s,baz=44
MDOK Medeo 20.03 46 *e*P Pn 13 40 07.4 -0.8
MDOK *e*S Sn 13 43 53.4 -0.3
MDOK MLR MLR
comp=Z,495nm,12.0s
MDOK Medeo 20.03 46 *e*P Pn 13 40 07.5 -0.7
baz=46
MDOK *e*S Sn 13 43 53.4 -0.3
baz=46
MDOK LR LR 13 47 40.7
comp=Z,495nm,11.6s,baz=46
CHKK Chushkaly 20.36 45 *e*P Pn 13 40 11.1 -0.9
CHKK Chushkaly 20.36 45 *e*P Pn 13 40 11.1 -0.9
baz=45
CSS Mathiatis 20.50 288 P **P 13 40 09.5 -2.1**
CSS IAmb IAmb 13 40 22.1
comp=Z,50nm,1.1s
SATY Saty 20.83 48 *e*P Pn 13 40 16.2 -1.4
SATY *e*S Sn 13 44 09.2 -3.9
SATY pmax pmax
comp=Z,33nm,1.5s
SATY Saty 20.83 48 *e*P Pn 13 40 16.2 -1.4
comp=Z,33nm,1.5s,baz=48
SATY *e*S Sn 13 44 09.3 -3.8
baz=48
ZHN Zhinishke 20.90 48 *e*P Pn 13 40 17.0 -1.5
ZHN Zhinishke 20.90 48 *e*P Pn 13 40 17.0 -1.4
baz=48
OTUK Ortayu 20.91 29 P Pn 13 40 17.4 -1.0
ANN Anapa 20.93 318 *e*P **P 13 40 13.7 -2.4**
ANN *e**PP **pP 13 40 17.8 -0.6**
ANN *e*S **S 13 44 07.1 -2.5**
ANN *e*SS **SnSn 13 44 29.2 -0.8**
ANN pmax pmax
comp=Z,84nm,1.7s
ARXS Arharly 21.06 45 *e*P **P 13 40 18.3 +0.6**
BR131 Keskin Array S 21.20 301 P **P 13 40 18.0 -1.2**
BR131 IAmb IAmb 13 40 24.4
comp=Z,138nm,1.8s
BR131 Keskin Array S 21.20 301 *d i* P **P 13 40 20.6 +1.4**
BR131 Keskin Array S 21.20 301 P **P 13 40 20.7 +1.4**
SNR=8.9
BRTR Keskin Array B 21.20 301 P **P 13 40 20.1 +0.8**
BRTR Keskin Array B 21.20 301 *i* P **P 13 40 20.7 +1.5**
BRTR pmax pmax
comp=Z,26nm,1.1s
BRTR Keskin Array B 21.20 301 P **P 13 40 19.1 -0.2**
comp=Z,26nm,1.1s,baz=124,slow=11,SNR=41
BRTR LR LR 13 49 36.6
comp=Z,708nm,18.4s,baz=102,slow=40
comp=Z,26nm,1.1s
KPKS Kokpek 21.21 47 *e*P **P 13 40 19.9 +0.7**
KPKS pmax pmax
comp=Z,44nm,1.8s
KPKS Kokpek 21.21 47 *e*P **P 13 40 20.0 +0.7**
comp=Z,44nm,1.8s,baz=47
UZB Uzynbulak 21.27 48 *e*P **P 13 40 21.0 +1.0**
UZB pmax pmax
comp=Z,31nm,1.5s
UZB Uzynbulak 21.27 48 *e*P **P 13 40 21.0 +1.0**
comp=Z,31nm,1.5s,baz=48
SHLS Shalkode 21.56 49 *e*P **P 13 40 26.8 +3.8**
SHLS Shalkode 21.56 49 *e*P **P 13 40 26.9 +3.9**
baz=49
PDGK Podgornoye 21.66 48 P **P 13 40 24.2 +0.1**
TDK Taldyqorghan 21.84 44 *e*P **P 13 40 26.9 +1.0**
TDK pmax pmax
comp=Z,65nm,1.4s
TDK MLR MLR
comp=Z,601nm,13.0s
TDK Taldyqorghan 21.84 44 *e*P **P 13 40 27.0 +1.0**
comp=Z,65nm,1.4s,baz=44
TDK LR LR 13 49 39.0
comp=Z,601nm,12.5s,baz=44
ANTO Ankara 21.86 301 P **P 13 40 24.0 -2.2**
ANTO IAmb IAmb 13 40 32.7
comp=Z,70nm,1.6s
ANTO Ankara 21.86 301 P **P 13 40 28.3 +2.0**
BRZS Berezniki 22.42 27 *e*P **P 13 40 33.5 +1.4**
BRZS Berezniki 22.42 27 *e*P **P 13 40 33.5 +1.4**
baz=27
BELG Belogornoye 22.73 345 *i* P **P 13 40 36.8 +1.5**
BELG pmax pmax
comp=Z,17nm,1.1s
BELG Belogornoye 22.73 345 P **P 13 40 35.4 +0.1**
comp=Z,80nm,1.1s,baz=134,slow=7.8,SNR=12
BELG LR LR 13 52 12.1
comp=Z,447nm,18.6s,baz=141,slow=44
comp=Z,80nm,1.1s
SIM Simferopol' 23.00 314 *e*P **P 13 40 40.9 +2.7**
SIM pmax pmax
comp=Z,80nm,1.2s
ISP Isparta 23.12 295 P **P 13 40 39.0 -0.7**
ISP Isparta 23.12 295 *ce*P **P 13 40 42.1 +2.4**
ISP pmax pmax
comp=Z,156nm,1.7s
MDUB Mudurnu 23.21 302 P **P 13 40 38.9 -1.7**
ATD Arta Tunnel 23.34 218 LR LR 13 51 47.4
comp=Z,46nm,19.7s,baz=36,slow=42
VRH Novokhopyorsk 23.44 335 *e*P **P 13 40 43.0 +0.4**
VRH pmax pmax
comp=Z,30nm,1.1s
ELL Elmali 23.45 292 P **P 13 40 42.4 -0.7**
ELL Elmali 23.45 292 P **P 13 40 42.4 -0.7**
ELL pmax pmax
comp=Z,676nm,1.9s
VORD Divnogorie 24.20 332 *e*P **P 13 40 49.6 -0.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 24.22 19 P **P 13 40 50.4 +0.3**
BRVK IAmb IAmb 13 40 55.4
comp=Z,85nm,1.7s
BRVK Borovoye 24.22 19 *ce*P **P 13 40 51.3 +1.2**
BRVK pmax pmax
comp=Z,46nm,1.7s
BRVK Borovoye 24.22 19 P **P 13 40 51.2 +1.1**
BRVK P **P 13 40 51.2 +1.1**
BVA0 Borovoye Array 24.22 20 *i* P **P 13 40 51.4 +1.3**
BVAR Borovoye Array 24.22 20 P **P 13 40 50.1 0.0**
comp=Z,14nm,0.5s,baz=204,slow=6.0,SNR=66
BVAR LR LR 13 51 35.9
comp=Z,1μm,19.3s,baz=207,slow=40
comp=Z,14nm,0.5s
VSR Storozhevoye 24.44 332 *e*P **P 13 40 47.5 -4.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 24.77 333 *e*P **P 13 40 55.5 +0.4**
VORR pmax pmax
comp=Z,34nm,1.4s
MAKZ Makanchi 24.91 43 P **P 13 40 57.1 +0.6**
MAKZ IAmb IAmb 13 41 03.8
comp=Z,20nm,0.9s
MAKZ Makanchi 24.91 43 P **P 13 40 57.1 +0.6**
MAKZ pmax pmax
comp=Z,20nm,0.9s
MK31 Makanchi Array 25.09 43 P **P 13 40 57.4 -0.7**
MK31 Makanchi Array 25.09 43 *ce*P **P 13 40 59.0 +0.9**
MKAR Makanchi Array 25.09 43 P **P 13 40 58.8 +0.7**
MKAR Makanchi Array 25.09 43 *i* P **P 13 40 59.4 +1.3**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 25.09 43 P **P 13 40 58.6 +0.5**
comp=Z,5.6nm,0.5s,baz=231,slow=9.1,SNR=49
comp=Z,5.6nm,0.5s
KURBB Kurchatov Arra 25.41 33 P **P 13 41 00.9 0.0**
comp=Z,7.0nm,0.7s,baz=232,slow=9.0,SNR=78
KURBB LR LR 13 52 26.1
comp=Z,1μm,20.1s,baz=217,slow=40
comp=Z,7.0nm,0.7s
BALB Balikesir 25.48 298 P **P 13 41 02.2 +0.5**
BALB IAmb IAmb 13 41 07.4
comp=Z,62nm,1.3s
KURK Kurchatov 25.51 33 P **P 13 41 02.6 +0.7**
KURK IAmb IAmb 13 41 08.8
comp=Z,26nm,1.1s
KURK Kurchatov 25.51 33 *ce*P **P 13 41 02.7 +0.9**
KURK pmax pmax
comp=Z,44nm,1.7s
KURK Kurchatov 25.51 33 P **P 13 41 03.4 +1.5**
KURK P **P 13 41 03.4 +1.5**
KARP Karpathos 25.58 289 P **P 13 41 01.9 -0.7**
LPSR Galich'ya Gora 25.60 334 *e*P **P 13 41 02.3 -0.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
EDC Edincik 25.64 300 P **P 13 41 02.7 -0.5**
ARU Arti 25.67 2 P **P 13 41 00.5 -2.7**
ARU IAmb IAmb 13 41 10.5
comp=Z,66nm,1.7s
ARU Arti 25.67 2 *c i* P **P 13 41 06.0 +2.8**
ARU 13 41 43.5
ARU 13 44 27.1
ARU S **S 13 45 38.5 +6.7**
ARU SS **SnSn 13 46 35.0 +9.2**
ARU pmax pmax
comp=Z,42nm,1.6s
ARU MLR MLR
comp=Z,520nm,18.0s
ARU Arti 25.67 2 LR LR 13 51 56.8
comp=Z,634nm,19.6s,baz=180,slow=38
SEM Semipalatinsk 26.08 35 *e*P **P 13 41 08.4 +1.1**
SEM pmax pmax
comp=Z,16nm,0.9s
SEM MLR MLR
comp=Z,203nm,12.0s
SEM Semipalatinsk 26.08 35 *e*P **P 13 41 08.4 +1.1**
comp=Z,16nm,0.9s,baz=35
SEM LR LR 13 51 31.4
comp=Z,203nm,12.1s,baz=35
SVE Sverdlovsk 26.16 4 *e*P **P 13 41 09.6 +2.0**
SVE pmax pmax
comp=Z,33nm,1.5s
SVE MLR MLR
comp=Z,654nm,16.0s
ALN Alexandroupoli 27.11 300 P **P 13 41 17.0 +0.6**
ALN IAmb IAmb 13 41 22.3
comp=Z,44nm,1.3s
ALN Alexandroupoli 27.11 300 P **P 13 41 17.0 +0.6**
ALN pmax pmax
comp=Z,44nm,1.3s
MILM Milestii Mici 27.19 314 *e*P **P 13 41 17.5 +0.5**
comp=Z,80nm,1.4s
MILM Milestii Mici 27.19 314 *e*P **P 13 41 17.5 +0.5**
MILM pmax pmax
comp=Z,80nm,1.4s
WMQ Urumqi 27.34 53 *e*P **P 13 41 23.2 +4.7**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ LR LR
comp=N,1μm,15.1s
WMQ LR LR
comp=Z,320nm,13.7s
RDO Rodhopi 27.54 301 IAmb IAmb 13 41 24.0
comp=Z,35nm,1.2s
KIRV Kirov 28.32 351 *ce*P **P 13 41 28.0 +1.0**
KIRV Kirov 28.32 351 LR LR 13 54 34.1
comp=Z,588nm,20.6s,baz=169,slow=40
PLD Plovdiv 28.33 303 P P 13 41 31.2 +3.9
PLD pmax pmax
comp=Z,63nm,1.6s
OBN Obninsk 28.44 335 *ce*P **P 13 41 29.4 +1.3**
OBN *e* 13 42 15.5
OBN *e*S **S 13 46 20.4 +4.9**
OBN pmax pmax
comp=Z,63nm,1.7s
OBN MLR MLR
comp=Z,240nm,16.0s
MLR Muntele Rosu 28.46 310 P **P 13 41 28.5 -0.1**
MLR Muntele Rosu 28.46 310 P **P 13 41 28.5 -0.1**
MLR pmax pmax
comp=Z,68nm,1.6s
MLR Muntele Rosu 28.46 310 P **P 13 41 28.0 -0.6**
comp=Z,3.2nm,0.7s,baz=102,slow=4.9,SNR=7.7
comp=Z,3.2nm,0.7s
MOS Moscow 28.55 337 *e*P **P 13 41 28.7 -0.4**
MOS *e* 13 42 21.8
MOS *e*S **S 13 46 14.7 -2.7**
MOS pmax pmax
comp=Z,47nm,0.9s
AKASG Malin Array Be 28.83 322 P **P 13 41 31.2 -0.4**
comp=Z,1.8nm,0.6s,baz=128,slow=7.8,SNR=19
AKASG LR LR 13 55 09.2
comp=Z,173nm,18.3s,baz=120,slow=41
comp=Z,1.8nm,0.6s
AKBB Malin Array Si 28.83 322 IAmb IAmb 13 42 20.3
comp=Z,34nm,0.9s
AKBB Malin Array Si 28.83 322 *ce*P **P 13 41 32.4 +0.8**
AKBB pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 28.83 322 P **P 13 41 30.7 -1.0**
KIEV IAmb IAmb 13 42 20.3
comp=Z,33nm,0.9s
KIEV Kiev 28.83 322 P **P 13 41 30.7 -1.0**
KIEV pmax pmax
comp=Z,33nm,1.0s
VOIR 29.03 309 P **P 13 41 35.6 +2.0**
VOIR pmax pmax
comp=Z,8.0nm,1.7s
DGZ Jazzator, Alta 29.51 42 *i* P **P 13 41 38.6 +0.6**
DGZ pmax pmax
comp=Z,28nm,1.9s
BUR08 Bucovina Ar. S 29.73 314 IAmb IAmb 13 41 44.5
comp=Z,23nm,1.4s
ZAA0 Zalesovo Array 30.50 33 IAmb IAmb 13 41 51.0
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 30.50 33 *i* P **P 13 41 47.2 +0.7**
ZALV pmax pmax
comp=Z,18nm,0.6s
ZALV Zalesovo Beam 30.50 33 P **P 13 41 46.5 +0.1**
comp=Z,18nm,0.6s,baz=238,slow=9.3,SNR=41
ZALV LR LR 13 55 36.6
comp=Z,728nm,18.3s,baz=20,slow=39
comp=Z,18nm,0.6s
FNA Florina 30.58 299 P **P 13 41 47.8 +0.4**
FNA Florina 30.58 299 P **P 13 41 47.8 +0.4**
FNA pmax pmax
comp=Z,7.0nm,1.0s
SHL Shillong 30.90 91 P **P 13 41 49.0 -1.5**
SHL Shillong 30.90 91 P **P 13 41 49.0 -1.5**
SHL pmax pmax
comp=Z,8.0nm,0.9s
GOMU GeErMu 31.66 70 P **P 13 41 56.9 -0.5**
GOMU pP sP 13 42 00.8 +0.2

GOMU sP pP 13 42 02.5 +2.9
GOMU S **S** **13 47 12.1 +4.7**
GOMU sS sS 13 47 26.6 +15
GOMU SS **SS** **13 49 28.0 +5.4**
GOMU pmax pmax
comp=Z,160nm,6.3s
GOMU LR LR
comp=Z,370nm,13.3s
MNK Minsk 31.67 327 *i* P **P** **13 41 57.0 +0.2**
comp=E,9.0nm,0.9s
MNK *i* P **P** **13 41 57.0 +0.2**
comp=N,16nm,1.0s
MNK *i* P **P** **13 41 57.0 +0.2**
comp=Z,18nm,0.9s,baz=126
MNK *i* PP **PnPn** **13 43 01.1 +0.8**
MNK *i* PPP PPP 13 43 10.3
MNK *i* S **S** **13 47 07.1 +0.8**
MNK *i* SS **SnSn** **13 48 54.5 +2.3**
MNK *i* SSS SSS 13 49 10.1
MNK *i* LQ LQ 13 52 26.9
MNK *i* LR LR 13 54 27.2
MNK *i* LRM MLR 13 55 46.7
comp=Z,121nm,14.6s
MNK *i* LRM MLR 13 55 56.6
comp=N,107nm,13.3s
MNK *i* LRM MLR 13 56 05.5
comp=E,57nm,14.6s
MNK Minsk 31.67 327 *i* P **P** **13 41 56.9 +0.2**
MNK *i* 13 43 01.1
MNK *i* S **S** **13 47 07.1 +0.8**
MNK *i* SS **SnSn** **13 48 54.4 +2.3**
MNK 13 52 26.9
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=Z,121nm,15.0s
MNK MLR MLR
comp=N,107nm,13.0s
MNK MLR MLR
comp=E,57nm,15.0s
KOLS Kolonicke sedl 32.02 315 *e*P **P** **13 42 02.6 +2.6**
KOLS pmax pmax
comp=Z,58nm,1.3s
KOLS Kolonicke sedl 32.02 315 *e*P **P** **13 42 02.6 +2.6**
KWP Kalwaria Pacla 32.03 316 *e*P **P** **13 42 01.3 +1.4**
KWP Kalwaria Pacla 32.03 316 P **P** **13 42 01.5 +1.5**
KWP Kalwaria Pacla 32.03 316 P **P** **13 42 01.5 +1.5**
KWP pmax pmax
comp=Z,61nm,1.3s
KLMR Klimovskoe 32.30 344 *e*P **P** **13 42 01.4 -0.8**
KLMR pmax pmax
comp=Z,54nm,1.5s
KLMR MLR MLR
comp=Z,451nm,10.0s
NACGM Naroch 32.43 327 *e*P **P** **13 42 03.0 -0.3**
comp=Z,20nm,1.3s,baz=125
CRVS Cervenica-Dubn 32.51 314 *e*P **P** **13 42 06.2 +1.9**
CRVS pmax pmax
comp=Z,38nm,1.4s
CRVS Cervenica-Dubn 32.51 314 *e*P **P** **13 42 06.2 +1.9**
PSZ Piszkesteto 33.18 312 P **P** **13 42 09.6 -0.6**
PSZ IAmb IAmb 13 42 16.3
comp=Z,11nm,1.2s
PSZ Piszkesteto 33.18 312 P **P** **13 42 09.6 -0.6**
PSZ pmax pmax
comp=Z,11nm,1.2s
SUW Suwalki 33.72 323 P **P** **13 42 13.6 -1.0**
SUW Suwalki 33.72 323 P **P** **13 42 13.6 -1.0**
SUW pmax pmax
comp=Z,40nm,1.1s
LANS Liptovska Anna 33.83 314 *e*P **P** **13 42 18.4 +2.6**
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 33.83 314 *e*P **P** **13 42 18.4 +2.6**
VYHS Vyhne 34.03 312 *e*P P 13 42 23.4 +5.9
VYHS pmax pmax
comp=Z,27nm,1.6s
VYHS Vyhne 34.03 312 *e*P P 13 42 23.4 +5.9
PABE Paberze 34.10 326 P **P** **13 42 17.2 -0.8**
LODK Lodwar 34.16 221 P **P** **13 42 17.4 -1.5**
VSU Vasula 34.63 332 *ce*P **P** **13 42 23.1 +0.6**
VSU pmax pmax
comp=Z,21nm,1.0s
JAVC Velka Javorina 34.87 313 *e*P **P** **13 42 24.6 -0.2**
MODS Modra-Piesok 34.99 312 *e*P **P** **13 42 28.9 +3.1**
MODS Modra-Piesok 34.99 312 *e*P **P** **13 42 28.9 +3.1**
MORC Moravsky Berou 35.22 314 P **P** **13 42 26.2 -1.6**
MORC Moravsky Berou 35.22 314 *e*P **P** **13 42 26.6 -1.2**
MORC Moravsky Berou 35.22 314 P **P** **13 42 26.2 -1.6**
MORC pmax pmax
comp=Z,8.0nm,0.9s
SOP Sopron 35.28 310 P **P** **13 42 29.7 +1.4**
SOP pmax pmax
comp=Z,22nm,1.2s
RONA Rosalia, Austr 35.46 310 *e*P **P** **13 42 30.7 +0.8**
comp=Z,9.0nm,1.0s
KLNR Kaliningrad 35.53 323 *i* P **P** **13 42 31.5 +1.2**
KLNR pmax pmax
comp=Z,97nm,1.1s
GTA Gaotai 35.61 64 *e*P **P** **13 42 33.6 +2.2**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA LR LR
comp=N,340nm,19.6s
GTA LR LR
comp=E,330nm,20.7s
GTA LR LR
comp=Z,510nm,20.0s
VRAC Vranov 35.68 313 *e*P **P** **13 42 32.6 +0.9**
KRUC Moravsky 35.74 313 *e*P **P** **13 42 33.2 +1.0**
KRUC Moravsky 35.74 313 P **P** **13 42 33.5 +1.3**
KRUC pmax pmax
comp=Z,12nm,1.9s
KRLC Kraliky 35.78 314 *e*P P 13 42 37.5 +4.9
KRLC Kraliky 35.78 314 *e*P **P** 13 42 37.5 +4.9
CONA Conrad Observa 35.80 311 *e*P **P** **13 42 33.4 +0.6**
comp=Z,9.6nm,1.1s
ARSA Arzberg 35.87 309 *e*P **P** **13 42 35.2 +1.7**
comp=Z,12nm,1.3s
DPC Dobruska-Polom 36.14 315 *e*P P 13 42 41.2 +5.5
DPC Dobruska-Polom 36.14 315 *e*P P 13 42 41.2 +5.5
KSP Ksiaz 36.31 315 *e*P **P** **13 42 38.4 +1.4**
CHVC Chvalec 36.38 315 *e*P P 13 42 43.6 +5.9
CHVC Chvalec 36.38 315 *e*P P 13 42 43.6 +5.9
OBKA Obir 36.38 308 *e*P **P** **13 42 39.6 +1.7**
comp=Z,4.6nm,1.0s
TNCH TengChong 36.77 89 P **P** **13 42 43.0 +1.4**
TNCH pP sP 13 42 46.3 +1.5
TNCH S **S** **13 48 25.3 -0.9**
TNCH sS sS 13 48 30.1 +0.1
TNCH pmax pmax
comp=Z,29nm,1.1s
TNCH pmax pmax
comp=Z,140nm,4.3s
TNCH LR LR
comp=N,230nm,12.9s
TNCH LR LR
comp=E,410nm,12.0s
TNCH LR LR
comp=Z,570nm,12.7s
MOA Molln 36.83 310 *e*P **P** **13 42 42.3 +0.7**
comp=Z,16nm,1.9s
FIA1 FINESS Array S 36.84 335 P **P** **13 42 41.4 0.0**
FIA1 IAmb IAmb 13 42 47.8
comp=Z,25nm,0.8s
FINES FINESS Array B 36.84 335 *i* P **P** **13 42 42.0 +0.6**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 36.84 335 P **P** **13 42 40.2 -1.2**
comp=Z,5.9nm,0.8s,baz=134,slow=9.5,SNR=23
comp=Z,5.9nm,0.8s
NRCA Norcia 36.94 302 P **P** **13 42 42.4 -0.2**
NRCA IAmb IAmb 13 42 54.6
comp=Z,34nm,1.6s
KMBO Kilima Mbogo 36.99 215 *i* P **P** **13 42 43.8 +0.3**
KMBO Kilima Mbogo 36.99 215 LR LR 13 59 16.0
comp=Z,286nm,19.3s,baz=79,slow=39
CKRC Cesky Krumlov 37.01 312 *e*P P 13 42 48.7 +5.6
CKRC Cesky Krumlov 37.01 312 *e*P P 13 42 48.7 +5.6
MYKA Terra Mystica 37.02 308 *e*pP pP 13 42 46.5 +0.8
comp=Z,10.0nm,1.3s

PRED Cave del Predi 37.04 308 P **P** **13 42 44.6 +1.2**
PRU Pruhonice 37.15 314 *e*P P 13 42 53.5 +9.3
PRU Pruhonice 37.15 314 *e*P P 13 42 53.5 +9.3
BIOA Bad Ischl, Aus 37.21 310 *e*P **P** **13 42 46.3 +1.4**
comp=Z,22nm,1.3s
ZVC Zvikov 37.23 313 *e*P P 13 42 49.6 +4.7
KBA Koelnbreinsper 37.30 309 *e*P **P** **13 42 47.5 +1.7**
comp=Z,18nm,1.7s
MURB Monte Urbino 37.40 302 P **P** **13 42 47.3 +0.7**
GEC2 GERESS Array S 37.41 311 IAmb IAmb 13 42 52.5
comp=Z,15nm,0.8s
GERES GERESS Array B 37.41 311 P **P** **13 42 46.7 +0.1**
comp=Z,5.3nm,0.9s,baz=95,slow=8.0,SNR=17
comp=Z,5.3nm,0.9s
CLUD Cludinico 37.51 307 P **P** **13 42 46.9 -0.5**
KHC Kasperske Hory 37.55 312 IAmb IAmb 13 42 53.7
comp=Z,19nm,1.1s
KHC Kasperske Hory 37.55 312 *ce*P **P** **13 42 48.4 +0.7**
KHC pmax pmax
comp=Z,78nm,1.7s
KHC Kasperske Hory 37.55 312 *e*P **P** **13 42 47.8 +0.1**
STAL STALIGIAL 37.60 307 P **P** **13 42 47.7 -0.4**
STAL IAmb IAmb 13 42 55.6
comp=Z,18nm,1.3s
BRG Berggiesshubel 37.75 315 *e*P P 13 42 52.6 +3.4
BRG Amp 13 42 55.7
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 37.75 315 *e*P P 13 42 52.6 +3.3
BRG pmax pmax
comp=Z,5.0nm,0.9s
CIMO Cimolais 37.79 307 IAmb IAmb 13 42 52.9
comp=Z,8.1nm,1.0s
LESA Schwarzleotal 37.80 309 *e*P **P** **13 42 50.1 +0.1**
comp=Z,8.5nm,0.6s
ABTA Abfaltersbach 37.81 308 *e*P **P** **13 42 50.4 +0.4**
comp=Z,11nm,1.3s
HSKC Hora Svate Kat 37.99 314 *e*P P 13 42 57.4 +6.0
TEOL Teolo 38.20 306 P **P** **13 42 52.8 -0.4**
TEOL IAmb IAmb 13 43 11.3
comp=Z,18nm,0.8s
MOY Mondy 38.23 44 *e*P **P** **13 42 55.0 +1.5**
MOY pmax pmax
comp=Z,45nm,2.3s
CTI Castel Tesino 38.30 307 P **P** **13 42 53.5 -0.7**
CTI Castel Tesino 38.30 307 P **P** **13 42 53.5 -0.7**
CTI pmax pmax
comp=Z,7.0nm,0.8s
OSSC Osservatorio P 38.35 303 P **P** **13 42 54.7 +0.2**
OSSC IAmb IAmb 13 44 10.2
comp=Z,56nm,1.8s
CLL Collm 38.43 315 P **P** **13 42 56.2 +1.2**
CLL IAmb IAmb 13 43 02.4
comp=Z,27nm,0.9s
CLL Collm 38.43 315 *i* P **P** **13 42 56.5 +1.4**
CLL *i* 13 43 00.9
CLL pmax pmax
comp=Z,67nm,1.6s
CLL Collm 38.43 315 *i* P **P** **13 42 56.5 +1.4**
comp=Z,67nm,1.6s
CLL *i* sP **sP** **13 43 00.9 +2.4**
comp=Z,29nm,0.9s
CLL *e*S S 13 49 00.0 +10
CLL AMS AMS 14 04 00.0
comp=Z,100nm,20.0s
WTTA Wattenberg 38.48 309 *e*P **P** **13 42 55.0 -0.8**
comp=Z,35nm,1.4s
WATA Walderalm 38.53 309 *e*P **P** **13 42 56.1 -0.1**
comp=Z,34nm,1.2s
SQTA Sankt Quirin 38.76 308 *e*P **P** **13 42 57.6 -0.5**
comp=Z,19nm,0.6s
MOTA Moosalm 38.85 309 *e*P **P** **13 42 58.2 -0.6**
comp=Z,20nm,1.2s
LZH Lanzhou 38.96 69 *e*P **P** **13 42 57.6 -2.3**
LZH pP sP 13 43 04.3 +1.1
LZH sP pP 13 43 08.1 +5.8
LZH pmax pmax
comp=Z,13nm,1.4s
FETA Feichten 39.06 308 *e*P **P** **13 43 00.2 -0.4**
comp=Z,17nm,0.9s
PZH PanZhiHua 39.10 85 P **P** **13 43 02.0 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,170nm,4.7s
RETA Reutte 39.10 309 *e*P **P** **13 43 00.0 -0.8**
comp=Z,6.9nm,0.6s
GRF Grafenberg Arr 39.17 312 *e*P **P** **13 43 02.2 +0.9**
comp=Z,7.6nm,1.0s,baz=101,slow=8.7
ZAK Zakamensk 39.32 47 *e*P **P** **13 43 02.1 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.9s
FUORN Ofenpass-Fuorn 39.32 307 IAmb IAmb 13 43 13.1
comp=Z,42nm,1.8s
CHTO Chiang Mai 39.47 98 P **P** **13 43 03.0 -1.2**
CHTO Chiang Mai 39.47 98 P **P** **13 43 03.0 -1.2**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 39.47 98 P **P** **13 43 05.0 +0.8**
comp=Z,16nm,1.5s
CMMT Chiang Mai 39.48 98 P **P** **13 43 05.1 +0.9**
comp=Z,42nm,0.9s
CMAR Chiang Mai Arr 39.63 98 P **P** **13 43 04.3 -1.2**
CMAR Chiang Mai Arr 39.63 98 *i* P **P** **13 43 06.0 +0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 39.63 98 P **P** **13 43 04.8 -0.7**
comp=Z,2.5nm,0.7s,baz=293,slow=7.9,SNR=14
comp=Z,2.5nm,0.7s
DAVA Damuels 39.66 308 *e*P **P** **13 43 05.3 -0.4**
comp=Z,28nm,1.6s
VSL Villasalto 39.71 296 P **P** **13 43 05.1 -0.9**
VSL IAmb IAmb 13 43 12.1
comp=Z,34nm,0.9s
KEST Kesra 40.05 290 P **P** **13 43 08.9 0.0**
KEST IAmb IAmb 13 43 15.8
comp=Z,51nm,1.4s
KEST Kesra 40.05 290 P **P** **13 43 08.9 0.0**
comp=Z,16nm,1.2s,baz=79,slow=4.1,SNR=4.8
comp=Z,16nm,1.2s
MBAR Mbarara 40.10 224 *i* P **P** **13 43 11.1 +1.5**
MBAR pmax pmax
comp=Z,5.0nm,1.0s
CRAI Chiangrai 40.10 95 P **P** **13 43 11.0 +1.6**
CRAI IAmb IAmb 13 43 15.7
comp=Z,36nm,1.6s
KMI Kunming 40.37 86 ||P **P** **13 43 13.3 +1.4**
KMI pmax pmax
comp=Z,24nm,0.6s
KMI LR LR
comp=N,420nm,18.0s
KMI LR LR
comp=E,340nm,16.1s
KMI LR LR
comp=Z,290nm,13.7s
PHRA Phrae 40.71 97 P **P** **13 43 14.8 +0.3**
SONM Songino Array 40.93 51 P **P** **13 43 16.9 +0.8**
SONM Songino Array 40.93 51 P **P** **13 43 16.9 +0.8**
SONM pmax pmax
comp=Z,8.0nm,1.3s
SONM Songino Array 40.93 51 P **P** **13 43 15.5 -0.6**
comp=Z,2.2nm,0.9s,baz=257,slow=8.2,SNR=12
comp=Z,2.2nm,0.9s
HFS Hagfors 41.15 328 P **P** **13 43 18.1 +0.5**
comp=Z,4.8nm,0.8s,baz=104,slow=12,SNR=5.4
HFS LR LR 14 02 10.7
comp=Z,151nm,19.9s,baz=86,slow=39
comp=Z,4.8nm,0.8s
SENIN Lac Senin/Sane 41.34 307 P **P** **13 43 21.5 +1.9**
ULN Ulaanbaatar 41.38 51 P **P** **13 43 20.2 +0.4**
ULN Ulaanbaatar 41.38 51 *i* P **P** **13 43 20.3 +0.4**
ULN pmax pmax
comp=Z,14nm,1.3s
ULN Ulaanbaatar 41.38 51 P **P** **13 43 20.2 +0.4**
comp=Z,45nm,1.9s
NRIK Noril'sk 42.30 15 P **P** **13 43 27.8 +1.0**
NRIK IAmb IAmb 13 43 32.0
comp=Z,30nm,1.5s
NRIK Noril'sk 42.30 15 *ce*P **P** **13 43 26.3 -0.5**
NRIK pmax pmax
comp=Z,8.0nm,1.0s
NRIK Noril'sk 42.30 15 P **P** **13 43 26.0 -0.8**
comp=Z,5.6nm,0.8s,baz=214,slow=7.7,SNR=10.0
NRIK LR LR 14 04 31.4
comp=Z,649nm,18.6s,baz=210,slow=41
comp=Z,5.6nm,0.8s
NB2 NORSAR Subarra 42.65 329 P **P** **13 43 30.0 +0.2**
comp=Z,3.7nm,1.2s,baz=116,slow=8.6
NOA NORSAR Array B 42.65 329 P **P** **13 43 29.0 -0.8**
NOA NORSAR Array B 42.65 329 P **P** **13 43 29.0 -0.8**
comp=Z,2.4nm,1.1s,baz=116,slow=7.9,SNR=2.4
NOA LR LR 14 03 52.0
comp=Z,104nm,19.5s,baz=115,slow=40
comp=Z,2.4nm,1.1s
ARCES ARCESS Array B 42.78 344 P **P** **13 43 32.1 +1.3**
ARCES IAmb IAmb 13 43 32.9
comp=Z,30nm,1.3s
ARCES ARCESS Array B 42.78 344 P **P** **13 43 32.1 +1.3**
ARCES pmax pmax
comp=Z,30nm,1.3s
ARCES ARCESS Array B 42.78 344 P **P** **13 43 30.1 -0.6**
comp=Z,5.0nm,0.8s,baz=133,slow=7.1,SNR=11
ARCES LR LR 14 04 02.0
comp=Z,260nm,18.8s,baz=119,slow=40
comp=Z,5.0nm,0.8s
BTO Baotou 43.41 62 *e*P **P** **13 43 34.0 -2.4**
BTO pP **sP** **13 43 38.6 -1.0**
BTO sP **pP** **13 43 41.0 +2.3**
BTO PP **PP** **13 45 16.3 -0.8**
BTO S **S** **13 49 57.9 -7.1**
BTO sS **sS** **13 50 07.5 -1.4**
BTO SS SS 13 53 05.0 -14
BTO pmax pmax
comp=Z,110nm,0.5s
BTO pmax pmax
comp=Z,570nm,5.7s
BTO LR LR
comp=N,1μm,16.7s
BTO LR LR
comp=E,1μm,19.5s
BTO LR LR
comp=Z,2μm,21.0s
HHC Hu-ho-hao-te 44.56 61 *e*P **P** **13 43 44.5 -1.1**
HHC sP sP 13 43 51.2 +2.3
HHC *e*S **S** **13 50 18.5 -3.3**
HHC sS sS 13 50 30.0 +4.3
HHC pmax pmax
comp=Z,26nm,0.6s
HHC pmax pmax
comp=Z,310nm,4.8s
HHC LR LR
comp=N,380nm,13.1s
HHC LR LR
comp=E,590nm,14.1s
HHC LR LR
comp=Z,820nm,16.5s
TIY Taiyuan 45.59 66 *e*P P 13 43 58.4 +4.6
TAM Tamanrasset 46.52 273 P **P** **13 44 01.6 +0.3**
TAM IAmb IAmb 13 44 05.6
comp=Z,11nm,1.5s
TAM Tamanrasset 46.52 273 P **P** **13 44 01.7 +0.3**
TAM pmax pmax
comp=Z,11nm,1.5s
BOD Bodaibo 46.96 38 *e*P **P** **13 44 04.3 +0.1**
BOD pmax pmax
comp=Z,77nm,1.6s
EKA Eskdalemuir Ar 48.65 319 P **P** **13 44 17.2 -0.1**
comp=Z,7.7nm,0.9s,baz=106,slow=8.8,SNR=10
comp=Z,7.7nm,0.9s
HIA Hailar 49.84 49 P **P** **13 44 26.9 +0.3**
HIA IAmb IAmb 13 44 28.4
comp=Z,9.0nm,1.1s
HIA Hailar 49.84 49 P **P** **13 44 26.9 +0.3**
HIA pmax pmax
comp=Z,9.0nm,1.1s
ESDC Sonseca Array 49.93 298 P **P** **13 44 26.8 -0.7**
comp=Z,2.6nm,0.9s,baz=63,slow=7.3,SNR=6.4
ESDC LR LR 14 09 24.2
comp=Z,115nm,18.9s,baz=60,slow=41
comp=Z,2.6nm,0.9s
SPITS Spitsbergen Ar 50.78 350 P **P** **13 44 34.0 +0.7**
comp=Z,33nm,1.1s,baz=120,slow=4.9,SNR=5.9
SPITS LR LR 14 09 54.7
comp=Z,240nm,18.3s,baz=104,slow=41
comp=Z,33nm,1.1s
MDT Midelt 51.94 289 LR LR 14 10 15.2
comp=Z,123nm,18.1s,baz=59,slow=40
NJ2 Nanjing 51.95 72 *e*P **P** **13 44 42.7 0.0**
NJ2 pP **sP** **13 44 46.6 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,300nm,3.5s
JMIC Jan Mayen 53.36 338 LR LR 14 07 53.8
comp=Z,80nm,22.0s,baz=99,slow=36
LSZ Lusaka 53.64 216 LR LR 14 09 37.0
comp=Z,494nm,19.6s,baz=352,slow=38
TOA0 Torodi Ar. Sit 53.89 264 P **P** **13 44 56.4 -0.8**
TORD Torodi Ar. Bea 53.89 264 P **P** **13 44 56.3 -0.9**
TORD IAmb IAmb 13 44 59.6
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 53.89 264 P **P** **13 44 56.1 -1.1**
comp=Z,9.4nm,0.7s,baz=53,slow=5.8,SNR=40
TORD LR LR 14 08 54.7
comp=Z,284nm,19.1s,baz=76,slow=37
comp=Z,9.4nm,0.7s
ZEA Zeya 54.24 43 *e*P **P** **13 45 01.2 +1.9**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,300nm,11.0s
ZEA MLR MLR
comp=Z,300nm,13.0s
HEH HeiHe 54.71 48 *e*P **P** **13 45 03.2 +0.5**
HEH pmax pmax
comp=Z,13nm,1.1s
HEH LR LR
comp=N,670nm,15.7s
HEH LR LR
comp=E,1μm,15.0s
HEH LR LR
comp=Z,2μm,16.4s
YAK Yakutsk 55.15 33 P **P** **13 45 04.9 -0.8**
YAK Yakutsk 55.15 33 *e*P **P** **13 45 05.3 -0.4**
YAK *e* 13 46 06.1
YAK *e* 13 47 13.0
YAK *e*PPP PPP 13 48 20.6
YAK *e*S **S** **13 52 45.4 -3.5**
YAK *e**SS sS 13 53 00.0 +7.1
YAK *e* 13 54 50.7
YAK pmax pmax
comp=Z,18nm,1.4s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,13nm,1.6s
YAK pmax pmax
comp=Z,175nm,6.9s
YAK pmax pmax
comp=N,146nm,5.3s
YAK pmax pmax
comp=E,163nm,5.9s
YAK smax smax
comp=E,185nm,4.0s
YAK smax smax
comp=N,157nm,4.4s
YAK Yakutsk 55.15 33 LR LR 14 11 04.1
comp=N,28nm,19.0s,baz=280,slow=39
TIXI Tiksi 55.33 21 P **P** **13 45 06.9 +0.1**
TIXI Tiksi 55.33 21 *ce*P **P** **13 45 07.1 +0.2**
TIXI pmax pmax
comp=Z,27nm,1.7s
TIXI Tiksi 55.33 21 LR LR 14 11 37.8
comp=Z,16nm,19.5s,baz=250,slow=39
DAG Danmarks Havn 57.06 345 *i* P **P** **13 45 19.0 -0.2**
KLR Kul'dur 57.65 48 *ce*P **P** **13 45 23.1 -0.6**
KLR pmax pmax
comp=Z,16nm,1.7s
KSRS Korea Array 57.66 63 P **P** **13 45 23.3 -0.7**
comp=Z,3.5nm,0.7s,baz=280,slow=7.3,SNR=4.9
comp=Z,3.5nm,0.7s
TSUM Tsumeb 62.63 223 P **P** **13 45 58.1 -0.3**
TSUM Tsumeb 62.63 223 LR LR 14 15 37.9
comp=Z,221nm,19.5s,baz=328,slow=38
SUMG Summit 62.63 340 P **P** **13 45 58.5 +0.5**
SUMG Summit 62.63 340 P **P** **13 45 58.6 +0.5**
SUMG pmax pmax
comp=Z,34nm,1.4s
SUMG Summit 62.63 340 *e*P **P** **13 45 59.8 +1.7**
DBIC Dimbokro 62.69 261 P **P** **13 45 55.9 -2.9**
comp=Z,6.8nm,1.1s,baz=109,slow=8.7,SNR=3.9
DBIC LR LR 14 14 59.8
comp=Z,404nm,19.0s,baz=42,slow=38
comp=Z,6.8nm,1.1s

KIC	**Kosan Boka**	**62.75**	**261**	⇓ *i* P		**P**	**13 45 59.9**	**+0.7**
	comp=Z,21nm,1.0s							
TIC	**Toumodi**	**62.84**	**261**	⇑ *i* P		**P**	**13 45 57.7**	**-2.1**
	comp=Z,12nm,0.4s							
LIC	**Lamto**	**63.06**	**261**	⇓ *e*P		**P**	**13 46 00.6**	**-0.7**
	comp=Z,6.1nm,0.5s							
LBTB	**Lobatse**	**63.21**	**212**	LR	LR		14 15 35.4	
	comp=Z,290nm,18.6s,baz=34,slow=38							
SEY	**Seymchan**	**65.33**	**30**	*c e*P		**P**	**13 46 16.2**	**+0.8**
SEY				pmax	pmax			
	comp=Z,15nm,1.3s							
SEY	**Seymchan**	**65.33**	**30**	LR	LR		14 17 56.6	
	comp=Z,528nm,19.4s,baz=278,slow=39							
YSS	**Yuzh-Sakhalins**	**65.36**	**49**	*e*P		**P**	**13 46 16.0**	**+0.2**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
BOSA	**Boshof**	**66.46**	**211**	P		**P**	**13 46 22.6**	**-0.7**
	comp=Z,6.4nm,1.1s,baz=31,slow=11,SNR=1.9							
BOSA				LR	LR		14 17 31.2	
	comp=Z,171nm,18.7s,baz=24,slow=38							
	comp=Z,6.4nm,1.1s							
DY2G	**Dye2**	**67.32**	**335**	*e*P		**P**	**13 46 29.6**	**+1.2**
EUNU	**Eureka**	**67.62**	**354**	P		**P**	**13 46 31.7**	**+1.7**
BILL	**Bilibino**	**68.52**	**22**	*i* P		**P**	**13 46 36.8**	**+1.1**
BILL				pmax	pmax			
	comp=Z,19nm,1.7s							
SFJD	**Kangerlussuaq**	**68.63**	**336**	LR	LR		14 18 30.3	
	comp=Z,137nm,19.2s,baz=18,slow=38							
SUR	**Sutherland**	**71.66**	**212**	LR	LR		14 20 55.3	
	comp=Z,376nm,18.2s,baz=16,slow=38							
RES	**Resolute Bay**	**73.23**	**353**	LR	LR		14 22 44.5	
	comp=Z,201nm,21.5s,baz=22,slow=39							
B20K	**Meade River**	**76.48**	**12**	P		**P**	**13 47 23.8**	**+0.7**
B20K				IAmb	IAmb		13 47 25.6	
	comp=Z,20nm,1.3s							
B22K	**Teshekpuk Lake**	**76.79**	**10**	P		**P**	**13 47 25.9**	**+1.1**
C19K	**Lookout Ridge**	**76.82**	**13**	P		**P**	**13 47 25.8**	**+0.7**
C18K	**Utukok River**	**76.89**	**14**	P		**P**	**13 47 25.9**	**+0.4**
C18K				IAmb	IAmb		13 47 27.5	
	comp=Z,25nm,1.4s							
B21K	**Ikpikpuk River**	**77.25**	**11**	P		**P**	**13 47 26.5**	**-0.9**
A36M	**Sachs Harbour**	**77.51**	**1**	P		**P**	**13 47 29.2**	**+0.4**
D19K	**Kuna River**	**77.62**	**13**	P		**P**	**13 47 30.8**	**+1.3**
D19K				IAmb	IAmb		13 47 31.7	
	comp=Z,24nm,1.2s							
C23K	**Itkillik River**	**77.67**	**10**	P		**P**	**13 47 31.8**	**+2.1**
E18K	**Tukpahlearik C**	**78.05**	**14**	P		**P**	**13 47 31.3**	**-0.6**
E18K				IAmb	IAmb		13 47 33.9	
	comp=Z,19nm,1.3s							
D24K	**Happy Valley**	**78.55**	**9**	P		**P**	**13 47 34.9**	**+0.3**
D24K				IAmb	IAmb		13 47 37.2	
	comp=Z,16nm,1.4s							
D25K	**Kavik River**	**78.71**	**8**	P		**P**	**13 47 35.3**	**-0.3**
D25K				IAmb	IAmb		13 47 38.1	
	comp=Z,21nm,1.4s							
F19K	**Shaleruckik Mo**	**79.13**	**13**	P		**P**	**13 47 37.7**	**-0.2**
F19K				IAmb	IAmb		13 47 39.1	
	comp=Z,15nm,1.2s							
F21K	**Alatna River**	**79.58**	**12**	P		**P**	**13 47 40.6**	**+0.2**
F21K				IAmb	IAmb		13 47 42.4	
	comp=Z,9.1nm,1.2s							
E25K	**Arctic Village**	**79.95**	**8**	IAmb	IAmb		13 47 44.7	
	comp=Z,21nm,1.4s							
E28M	**Babbage River**	**80.14**	**6**	IAmb	IAmb		13 47 45.8	
	comp=Z,11nm,1.4s							
C36M	**Paulatuk**	**80.17**	**0**	IAmb	IAmb		13 47 44.6	
	comp=Z,23nm,1.4s							
IMAR	**Indian Mountai**	**80.65**	**12**	P		**P**	**13 47 46.5**	**+0.3**
BMAR	**Burnt Mountain**	**80.73**	**8**	P		**P**	**13 47 47.8**	**+1.2**
INK	**Inuvik**	**80.90**	**4**	IAmb	IAmb		13 47 49.2	
	comp=Z,27nm,1.6s							
INK	**Inuvik**	**80.90**	**4**	LR	LR		14 28 03.6	
	comp=Z,72nm,20.8s,baz=3.0,slow=39							
F28M	**Old Crow**	**81.08**	**7**	IAmb	IAmb		13 47 52.0	
	comp=Z,19nm,1.6s							
F31M	**Tsiigehtchic**	**81.74**	**4**	P		**P**	**13 47 52.6**	**+0.7**
SCHQ	**Schefferville**	**82.17**	**331**	P		**P**	**13 47 54.4**	**0.0**
	comp=Z,3.5nm,0.8s,baz=26,slow=12,SNR=1.8							
	comp=Z,3.5nm,0.8s							
ILAR	**Eielson Array**	**82.92**	**10**	P		**P**	**13 47 57.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=321,slow=4.4,SNR=22							
ILAR				LR	LR		14 29 42.7	
	comp=Z,104nm,19.4s,baz=282,slow=39							
	comp=Z,1.1nm,0.7s							
SCRK	**Sand Creek**	**84.09**	**9**	P		**P**	**13 48 05.0**	**+0.7**
BCAR	**Beaver Creek A**	**85.26**	**9**	P		**P**	**13 48 11.0**	**+0.9**
YKA	**Yellowknife Ar**	**86.83**	**356**	P		**P**	**13 48 17.6**	**-0.2**
YKA	**Yellowknife Ar**	**86.83**	**356**	*i* P		**P**	**13 48 18.1**	**+0.3**
YKA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
YKA	**Yellowknife Ar**	**86.83**	**356**	P		**P**	**13 48 16.8**	**-1.0**
	comp=Z,3.2nm,1.2s,baz=359,slow=5.0,SNR=20							
YKA				LR	LR		14 31 25.6	
	comp=Z,139nm,20.8s,baz=12,slow=39							
	comp=Z,3.2nm,1.2s							
KDAK	**Kodiak Island**	**88.29**	**15**	LR	LR		14 33 51.0	
	comp=Z,211nm,21.9s,baz=358,slow=40							
WRA	**Warramunga Arr**	**89.53**	**114**	*i* P		P	13 48 34.5	+3.1
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**89.53**	**114**	P		**P**	**13 48 29.6**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=267,slow=2.7,SNR=3.7							
	comp=Z,0.9nm,0.9s							
ASAR	**Alice Springs**	**91.21**	**117**	P		**P**	**13 48 38.2**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=310,slow=4.0,SNR=5.2							
ASAR				LR	LR		14 33 31.3	
	comp=Z,32nm,18.4s,baz=321,slow=38							
	comp=Z,1.0nm,0.8s							
ULM	**Lac du Bonnet**	**95.89**	**343**	LR	LR		14 35 10.8	
	comp=Z,132nm,19.0s,baz=27,slow=37							
QSPA	**South Pole Qui**	**120.60**	**180**	PKP		**PKiKP**	**13 54 23.6**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=285,slow=1.5,SNR=7.3							

*IDC **11** 13:46:14.2±1.4, 12°.45N×85°.62W, h0km, mb3.3/5, mbtmp3.3/6, ML2.7/1, MS3.2/2, Error ellipse: s-maj=102.0km s-min=14.1km az=69.0*
*CATAC **11** 13:46:15.6±0.5, 11°.40N×87°.06W, h7km±3km, ML3.9*
ISC 11 13:46:15.0±1.5, 11°.36N±0°.04×87°.03W±0°.05, h14km±9km, n38, σ1§26/52, mb3.4/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MSHP	**Masachapa**	**0.67**	**46**	*i* P		**Pb**	**13 46 29.0**	**+0.4**
MSHP				IAML			13 46 42.6	
	comp=Z,600nm,1.0s							
ADRN	**Diriamba**	**0.92**	**57**	*i* P		**Pb**	**13 46 34.0**	**+1.2**
ADRN				*i* S		**Sb**	**13 46 47.0**	**+2.1**
ADRN				IAML			13 46 55.2	
	comp=Z,14μm,1.0s							
CRUN	**El Crucero**	**0.94**	**49**	*i* P		**Pg**	**13 46 33.7**	**+0.4**
CRUN				IAML			13 46 55.8	
	comp=Z,9.7nm,1.0s							
BC86	**Nagarote**	**1.01**	**27**	*i* P		**Pb**	**13 46 35.0**	**+0.7**
BC86				IAML			13 46 35.7	
	comp=Z,6μm,1.0s							
BC86				*i* S		**Sn**	**13 46 49.5**	**+0.7**
SAPS	**Ciudad Sandino**	**1.01**	**37**	*i* P		**Pg**	**13 46 34.6**	**+0.1**
SAPS				*i* S		**Sb**	**13 46 49.3**	**+1.8**
SAPS				IAML			13 46 53.3	
	comp=Z,4μm,1.0s							
UNAN	**Cigeo UNAN**	**1.05**	**45**	*i* P		**Pg**	**13 46 35.5**	**+0.2**
UNAN				IAML			13 46 36.8	
	comp=Z,11μm,1.0s							
UNAN				*i* S		**Sn**	**13 46 51.2**	**+1.2**
ENAN	**Enatrel Managu**	**1.06**	**45**	*i* P		**Pg**	**13 46 35.7**	**+0.2**
ENAN				*i* S		**Sn**	**13 46 51.2**	**+1.0**
ENAN				IAML			13 46 56.9	
	comp=Z,7μm,1.0s							
MASN	**Masaya**	**1.06**	**54**	*i* P		**Pg**	**13 46 35.1**	**-0.4**
MASN				IAML			13 46 57.1	
	comp=Z,460nm,1.0s							
MAS3	**Al N del Volca**	**1.06**	**52**	*i* P		**Pg**	**13 46 35.1**	**-0.5**
MAS3				IAML			13 47 05.6	
	comp=Z,2μm,1.0s							
APQ2	**Apoyeque**	**1.08**	**40**	*i* P		**Pg**	**13 46 35.3**	**-0.6**
APQ2				*i* S		**Sg**	**13 46 47.5**	**-2.5**
APQ2				IAML			13 47 01.4	
	comp=Z,2μm,1.0s							
APYN	**Apoyeque**	**1.09**	**37**	*i* P		**Pg**	**13 46 35.3**	**-0.8**
APYN				IAML			13 46 52.1	
	comp=Z,2μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.11**	**21**	*i* P		**Pg**	**13 46 36.4**	**0.0**
LEVN				*i* S		**Sn**	**13 46 52.9**	**+1.6**
LEVN				IAML			13 47 00.4	
	comp=Z,2μm,1.0s							

MOMN	**Momotombo**	**1.15**	**25**	*i* P		**Pg**	**13 46 36.7**	**-0.4**
MOMN				IAML			13 46 37.6	
	comp=Z,160nm,1.0s							
MOMN				*i* S		**Sb**	**13 46 52.1**	**+0.6**
WILN	**Americas 2**	**1.15**	**46**	*i* P		**Pg**	**13 46 36.5**	**-0.6**
WILN				*i* S		**Sg**	**13 46 52.1**	**+0.1**
WILN				IAML			13 46 54.0	
	comp=Z,2μm,1.0s							
AERN	**Aeropuerto Man**	**1.15**	**47**	*i* S		**Sg**	**13 46 52.1**	**0.0**
CNGA	**Al SSO del Vol**	**1.17**	**16**	*i* P		**Pg**	**13 46 36.5**	**-1.1**
CNGA				IAML			13 47 01.7	
	comp=Z,2μm,1.0s							
ROCN	**Rota Cerro Neg**	**1.18**	**14**	*i* P		**Pg**	**13 46 36.6**	**-1.3**
ROCN				IAML			13 46 58.4	
	comp=Z,2μm,1.0s							
MOM2	**El Cardon**	**1.19**	**26**	*i* P		**Pg**	**13 46 37.1**	**-1.0**
MOM2				IAML			13 46 38.6	
	comp=Z,4μm,1.0s							
MOM2				*i* S		**Sn**	**13 46 54.4**	**+0.9**
CRIN	**San Cristobal**	**1.33**	**359**	*i* P		**Pn**	**13 46 40.0**	**+0.7**
CRIN				*i* S		**Sn**	**13 46 57.9**	**+1.0**
CRIN				IAML			13 47 07.8	
	comp=Z,3μm,1.0s							
JAPN	**Al SSO del Vol**	**1.33**	**83**	*i* P		**Pn**	**13 46 38.0**	**-1.3**
JAPN				IAML			13 47 06.4	
	comp=Z,2μm,1.0s							
OMEN	**Al SSO del Vol**	**1.38**	**84**	*i* P		**Pn**	**13 46 40.1**	**+0.1**
OMEN				*i* S		**Sb**	**13 46 57.9**	**-0.4**
OMEN				IAML			13 47 01.7	
	comp=Z,3μm,1.0s							
BRAN	**Las Pilas**	**1.50**	**26**	*i* P		Pn	13 46 35.0	-6.7
BRAN				IAML			13 46 36.2	
	comp=Z,3μm,1.0s							
BRAN				*i* S		Sn	13 46 50.2	-11
CSGN	**Cosiguina Volc**	**1.69**	**342**	*i* P		**Pn**	**13 46 44.8**	**+0.6**
CSGN				IAML			13 47 13.0	
	comp=Z,4μm,1.0s							
LIMN	**Finca el Limon**	**1.81**	**21**	*i* P		**Pn**	**13 46 46.2**	**+0.2**
LIMN				IAML			13 47 11.4	
	comp=Z,670nm,1.0s							
ORTG	**Ortega, Santa**	**1.83**	**123**	*i* P		**Pn**	**13 46 48.4**	**+2.1**
ORTG				*i* S		**Sb**	**13 47 13.6**	**+2.2**
ORTG				IAML			13 47 23.3	
	comp=Z,980nm,1.0s							
MATN	**Matagalpa**	**1.90**	**35**	*i* P		**Pn**	**13 46 47.0**	**-0.1**
MATN				*i* S		**Sn**	**13 47 11.1**	**+0.2**
MATN				IAML			13 47 16.2	
	comp=Z,300nm,1.0s							
AMPH	**Amapala**	**2.01**	**342**	*i* P		**Pn**	**13 46 49.8**	**+1.2**
AMPH				*i* S		**Sn**	**13 47 14.2**	**+0.7**
CNCH	**Conchagua**	**2.06**	**338**	*i* P		**Pn**	**13 46 50.4**	**+1.0**
CNCH				IAML			13 47 20.4	
	comp=Z,1μm,1.0s							
INDI	**Punta indio, G**	**2.11**	**135**	*i* P		**Pn**	**13 46 49.1**	**-0.9**
INDI				*i* S		**Sg**	**13 47 24.9**	**+1.9**
INDI				IAML			13 47 36.4	
	comp=Z,820nm,1.0s							
JTS	**Las Juntas de**	**2.30**	**117**	Pn		**Pn**	**13 46 53.2**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=0.0,slow=20,SNR=10							
JTS				Sn		**Sn**	**13 47 18.3**	**-2.5**
	comp=Z,14nm,0.3s,baz=0.0,slow=20,SNR=3.4							
JTS				Lg	Lg		13 47 25.1	
	comp=Z,15nm,0.3s,baz=9.2,slow=19,SNR=14							
	comp=Z,31nm,0.3s							
RCPN	**Sur Rio San Ju**	**2.34**	**23**	*i* P		**Pn**	**13 46 53.5**	**+0.3**
RCPN				IAML			13 47 06.7	
	comp=Z,1.5nm,1.0s							
SDV	**Santo Domingo**	**16.33**	**97**	LR	LR		13 56 46.0	
	comp=Z,56nm,19.6s,baz=316,slow=42							
TXAR	**Lajitas Array**	**23.67**	**321**	P		**P**	**13 51 28.3**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=126,slow=10,SNR=5.3							
	comp=Z,1.1nm,0.7s							
PDAR	**Pinedale Array**	**36.92**	**332**	P		**P**	**13 53 23.1**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=127,slow=12,SNR=2.0							
	comp=Z,0.2nm,0.6s							
NVAR	**Mina Array Bea**	**38.79**	**319**	P		**P**	**13 53 41.5**	**+1.8**
	comp=Z,0.4nm,0.9s,baz=120,slow=9.8,SNR=2.0							
	comp=Z,0.4nm,0.9s							
RPN	**Rapa Nui**	**43.96**	**209**	LR	LR		14 07 34.3	
	comp=Z,37nm,19.5s,baz=15,slow=28							
YKA	**Yellowknife Ar**	**54.76**	**345**	P		**P**	**13 55 40.8**	**-3.3**
	comp=Z,0.3nm,0.8s,baz=138,slow=7.3,SNR=5.9							
	comp=Z,0.3nm,0.8s							
ILAR	**Eielson Array**	**67.18**	**336**	P		**P**	**13 57 06.7**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=147,slow=4.2,SNR=5.1							
	comp=Z,0.2nm,0.8s							

*TEH **11** 13:46:16.4, 33°.74N×45°.71E, h10km±70km, ML2.9*
*ISN **11** 13:46:16.1±0.5, 33°.75N×45°.73E, h16km±3km, ML2.2*
ISC 11 13:46:16.4±1.4, 33°.73N±0°.04×45°.71E±0°.05, h14km±13km, n10, σ0§61/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**104**	Pg		**Pg**	**13 46 25.1**	**+0.1**
ILBA				Sg		**Sb**	**13 46 31.7**	**-0.3**
IBDR	**Badra**	**0.64**	**163**	*e*Pg		**Pg**	**13 46 29.0**	**0.0**
IBDR				*e*Sg		**Sg**	**13 46 38.0**	**+0.5**
IBDR				AML	AML		13 46 52.9	
	comp=E,98nm,0.4s							
IBDR				AML	AML		13 46 53.1	
	comp=N,92nm,0.3s							
IGHG	**Ghaleghazi**	**0.93**	**50**	Pg		**Pb**	**13 46 34.6**	**+0.1**
IDHR	**Dehrash**	**1.12**	**30**	Pg		**Pn**	**13 46 38.2**	**+0.4**
BHD	**Baghdad**	**1.20**	**248**	*e*Pg		**Pn**	**13 46 39.0**	**+0.3**
BHD				*e*Sg		**Sn**	**13 46 55.0**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.23**	**63**	Pg		**Pg**	**13 46 40.2**	**0.0**
IKOM	**Komasi**	**1.56**	**73**	Pg		**Pg**	**13 46 46.1**	**-0.3**
ILIN	**Lien**	**1.58**	**41**	Pg		**Pg**	**13 46 45.9**	**-0.8**
IKRK	**Kirkuk**	**2.02**	**326**	*e*Pn		**Pn**	**13 46 51.0**	**+1.1**
IKRK				*e*Sn		**Sb**	**13 47 17.0**	**-0.7**
RAFI	**Al-Rafai**	**2.03**	**170**	*e*Pn		**Pb**	**13 46 52.0**	**-1.0**
RAFI				*e*Sn		**Sb**	**13 47 18.0**	**0.0**

*TEH **11** 13:52:04.9, 33°.76N×45°.73E, h15km±36km, ML3.0*
*ISN **11** 13:52:06.1±0.4, 33°.83N×45°.77E, h15km±2km, ML3.0*
ISC 11 13:52:06.7±1.0, 33°.82N±0°.03×45°.78E±0°.04, h10km, n12, σ0§95/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.41**	**119**	Pg		**Pg**	**13 52 13.4**	**-1.3**
KGS1	**Ghasr-e-Shirin**	**0.70**	**347**	Pg		**Pg**	**13 52 19.6**	**-0.7**
IBDR	**Badra**	**0.72**	**170**	*e*Pg		**Pg**	**13 52 20.0**	**-0.6**
IBDR				*e*Sg		**Sg**	**13 52 30.0**	**0.0**
IGHG	**Ghaleghazi**	**0.83**	**52**	Pg		**Pg**	**13 52 22.3**	**-0.5**
IDHR	**Dehrash**	**1.01**	**30**	Pg		**Pg**	**13 52 25.3**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.14**	**66**	Pg		**Pg**	**13 52 27.6**	**-1.0**
BHD	**Baghdad**	**1.29**	**245**	*e*Pg		**Pn**	**13 52 30.0**	**-0.7**
BHD				*e*Sg		**Sb**	**13 52 47.0**	**-0.6**
BHD				AML	AML		13 52 48.5	
	comp=E,529nm,0.4s							
ILIN	**Lien**	**1.47**	**42**	Pg		**Pn**	**13 52 33.5**	**0.0**
IKOM	**Komasi**	**1.48**	**76**	Pg		**Pn**	**13 52 34.4**	**+0.8**
IKRK	**Kirkuk**	**1.97**	**323**	*e*Pn		**Pn**	**13 52 41.0**	**+0.8**
IKRK				*e*Sn		**Sn**	**13 53 06.0**	**+1.1**
IKRK				AML	AML		13 53 10.3	
	comp=E,134nm,0.7s							
IKRK				AML	AML		13 53 17.9	
	comp=N,107nm,0.5s							
RAFI	**Al-Rafai**	**2.11**	**172**	*e*Pn		**Pn**	**13 52 43.0**	**+0.9**
RAFI				*e*Sn		**Sn**	**13 53 10.0**	**+1.6**
HSAM	**Samen**	**2.38**	**80**	Pn		**Pn**	**13 52 46.1**	**0.0**

*TEH **11** 13:56:40.1, 33°.76N×45°.68E, h8km±482km, ML2.5*
*ISN **11** 13:56:41.6±0.6, 33°.68N×45°.69E, h18km±116km, ML2.5*
ISC 11 13:56:40.6±1.1, 33°.74N±0°.05×45°.66E±0°.06, h13km, n7, σ0§67/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**104**	Pg		**Pg**	**13 56 49.4**	**-0.5**
ILBA				Sg		**Sg**	**13 56 56.2**	**+0.1**
IBDR	**Badra** baz=340	**0.67**	**160**	*e*Pg		**Pg**	**13 56 53.0**	**-0.5**
IBDR				*e*Sg		**Sg**	**13 57 02.0**	**-0.3**
IGHG	**Ghaleghazi**	**0.96**	**52**	Pg		**Pg**	**13 56 58.5**	**-0.6**
IDHR	**Dehrash**	**1.13**	**32**	Pg		**Pb**	**13 57 01.2**	**-1.0**
BHD	**Baghdad**	**1.17**	**247**	*e*Pg		**Pn**	**13 57 03.0**	**+0.4**
BHD				*e*Sg		**Sn**	**13 57 19.0**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.27**	**65**	Pg		**Pg**	**13 57 05.5**	**+0.6**

IKOM	**Komasi**	**1.60**	**74**	Pg		**Pb**	**13 57 10.6**	**+0.6**

Gll 11 14:02:41.3±0.4, 30°.901N±0°.002×35°.002E±0°.001, h0km, Md1.2/2, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ZFRI	**Zfri**	**0.38**	**156**	P		Pg	14 02 49.6	+1.1
ZFRI	**Zfri**	**0.38**	**156**	S		Sb	14 02 56.1	-1.1
YTIR	**Yattir**	**0.47**	**12**	P		Pg	14 02 51.4	+1.1
YTIR	**Yattir**	**0.47**	**12**	S		Sb	14 02 58.6	-1.5
MSBI	**Mazada**	**0.51**	**37**	P		Pg	14 02 52.0	+0.9
MSBI	**Mazada**	**0.51**	**37**	S		Sb	14 03 00.1	-1.0
KZIT	**Kziot**	**0.52**	**271**	P		Pb	14 02 52.8	-0.5
KZIT	**Kziot**	**0.52**	**271**	S		Sb	14 03 00.5	-0.9
PRNI	**Paran**	**0.55**	**180**	P		Pb	14 02 52.9	-0.9
PRNI	**Paran**	**0.55**	**180**	S		Sb	14 03 01.5	-0.7
GHAJ	**Ghor Haditha**	**0.63**	**50**	P		Pb	14 02 54.3	-0.9
AMAZ	**Amatzia**	**0.63**	**353**	P		Pb	14 02 54.8	-0.5
AMAZ	**Amatzia**	**0.63**	**353**	S		Sb	14 03 04.6	-0.2
DSI	**Dead Sea**	**0.74**	**26**	P		Pb	14 02 56.8	-0.4
KRMI	**Paran Flat**	**0.82**	**197**	P		Pg	14 02 57.3	+0.4
HRFI	**Mount Harif**	**0.86**	**178**	P		Pg	14 02 58.2	+0.4
HRFI	**Mount Harif**	**0.86**	**178**	S		Sb	14 03 12.1	+0.9
MBRI	**Mt Berech**	**1.11**	**184**	P		Pg	14 03 02.7	+0.3
EIL	**Elat**	**1.23**	**182**	S		Sn	14 03 22.5	-0.5
EIL	**Elat**	**1.23**	**182**	P		Pg	14 03 04.9	0.0
SLTI	**Sal'it**	**1.34**	**1**	S		Sn	14 03 27.0	+1.3
SLTI	**Sal'it**	**1.34**	**1**	P		Pn	14 03 07.1	-0.1
MMLI	**Mount Malkishu**	**1.57**	**13**	P		Pn	14 03 10.7	+0.2
MMLI	**Mount Malkishu**	**1.57**	**13**	P		Pn	14 03 10.4	-0.1
MMLI	**Mount Malkishu**	**1.57**	**13**	S		Sg	14 03 32.4	+0.5
OFRI	**`Ofer**	**1.71**	**360**	P		Pn	14 03 12.8	+0.3
OFRI	**`Ofer**	**1.71**	**360**	P		Pb	14 03 13.3	-0.5
OFRI	**`Ofer**	**1.71**	**360**	S		Sg	14 03 38.0	+1.6

*TEH **11** 14:28:09.5, 33°.75N×45°.73E, h11km±30km, ML3.5*
*ISN **11** 14:28:09.1±0.6, 33°.73N×45°.77E, h22km±3km, ML3.2*
*IDC **11** 14:28:11.7±11.0, 34°.44N×45°.68E, h0km, mb3.7/6, mbtmp3.7/6, MS3.2/2, Error ellipse: s-maj=235.9km s-min=32.6km az=12.0*
ISC 11 14:28:09.2±0.7, 33°.73N±0°.03×45°.67E±0°.04, h13km, n33, σ1§37/34, mb3.9/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.46**	**103**	Pg		**Pg**	**14 28 17.7**	**-0.6**
IBDR	**Badra**	**0.66**	**160**	*e*Pg		**Pg**	**14 28 21.5**	**-0.4**
IBDR				*e*Sg		**Sg**	**14 28 30.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.78**	**355**	Pg		**Pg**	**14 28 24.6**	**+0.4**
IGHG	**Ghaleghazi**	**0.96**	**51**	Pg		**Pg**	**14 28 27.3**	**-0.4**
IDHR	**Dehrash**	**1.14**	**31**	Pg		**Pb**	**14 28 30.5**	**-0.3**
BHD	**Baghdad**	**1.17**	**247**	*e*Pg		**Pn**	**14 28 32.0**	**+0.8**
BHD				*e*Sg		**Sg**	**14 28 48.0**	**+1.7**
KCHF	**Cheshme Sefid,**	**1.26**	**64**	Pg		**Pg**	**14 28 32.9**	**-0.5**
IKOM	**Komasi**	**1.59**	**73**	Pg		**Pg**	**14 28 39.2**	**-0.6**
ILIN	**Lien**	**1.60**	**42**	Pg		**Pg**	**14 28 39.0**	**-0.8**
IKFM	**Kafar-mosalman**	**1.83**	**96**	Pg		**Pb**	**14 28 42.8**	**+0.3**
IBZA	**Bozab**	**1.96**	**67**	Pn		**Pn**	**14 28 44.0**	**-1.0**
IKRK	**Kirkuk**	**2.00**	**327**	*e*Pn		**Pn**	**14 28 44.0**	**+1.4**
IKRK				*e*Sn		**Sb**	**14 29 10.0**	**-0.1**
IKRK				AML	AML		14 29 16.1	
	comp=N,158nm,0.4s							
IKRK				AML	AML		14 29 24.7	
	comp=E,264nm,0.4s							
RAFI	**Al-Rafai**	**2.04**	**169**	*e*Pn		**Pn**	**14 28 44.0**	**+0.9**
RAFI				*e*Sn		**Sn**	**14 29 09.5**	**+1.1**
RAFI				AML	AML		14 29 19.6	
	comp=E,262nm,0.6s							
RAFI				AML	AML		14 29 21.4	
	comp=N,244nm,0.4s							
IALM	**Almabolaq**	**2.36**	**61**	Pn		**Pb**	**14 28 49.9**	**-1.7**
HSAM	**Samen**

ASF					Lg	Lg	14 41 16.8		
	comp=N,0.8nm,0.3s,baz=222,slow=17,SNR=2.3 comp=N,0.9nm,0.3s								
MMAI	**Mount Meron Ar**	**8.58**	**268**		Pn	**Pn**	**14 39 25.0**	**+1.7**	
	comp=N,1.3nm,0.3s,baz=139,slow=46,SNR=1.7								
MMAI					Lg	Lg	14 41 53.7		
	comp=N,0.6nm,0.3s,baz=123,slow=48,SNR=1.4 comp=N,0.3nm,0.2s								
AKASG	**Malin Array Be**	**20.80**	**330**		P	**P**	**14 41 59.8**	**-0.6**	
	comp=N,1.1nm,0.5s,baz=139,slow=9.8,SNR=13 comp=N,1.1nm,0.5s								
BVAR	**Borovoye Array**	**26.18**	**35**		P	**P**	**14 42 53.5**	**-0.2**	
	comp=N,0.4nm,0.5s,baz=232,slow=8.2,SNR=2.6 comp=N,0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**29.36**	**45**		P	**P**	**14 43 23.2**	**+1.1**	
	comp=N,0.3nm,0.7s,baz=248,slow=9.0,SNR=2.1 comp=N,0.3nm,0.7s								
MKAR	**Makanchi Array**	**30.60**	**54**		P	**P**	**14 43 33.4**	**+0.2**	
	comp=N,0.4nm,0.4s,baz=253,slow=8.4,SNR=8.9 comp=N,0.4nm,0.4s								
ARCES	**ARCESS Array B**	**37.59**	**349**		P	**P**	**14 44 33.2**	**-0.3**	
	comp=N,1.3nm,0.8s,baz=158,slow=9.7,SNR=1.9 comp=N,1.3nm,0.8s								
EKA	**Eskdalemuir Ar**	**39.90**	**318**		P	**P**	**14 44 51.9**	**-1.2**	
	comp=N,0.2nm,0.3s,baz=103,slow=9.9,SNR=1.9 comp=N,0.2nm,0.3s								
TORD	**Torodi Ar. Bea**	**44.79**	**254**		P	**P**	**14 45 33.4**	**0.0**	
	comp=N,0.3nm,0.5s,baz=58,slow=7.5,SNR=4.5 comp=N,0.3nm,0.5s								
SPITS	**Spitsbergen Ar**	**46.34**	**352**		P	**P**	**14 45 44.7**	**-0.2**	
	comp=N,4.1nm,0.8s,baz=157,slow=7.8,SNR=1.6 comp=N,4.1nm,0.8s								

*IDC **11** 14:41:21.8±1.0,51.24N×178.03W,h0km,mb3.5/9, mbtmp3.6/10,ML4.1/1,MS3.2/1,Error ellipse: s-maj=34.0km s-min=20.0km az=160.0*
*AEIC **11** 14:41:27.8±2.1,51.22N±0.08×177.93W±0.07,h33km±8km, Error ellipse: s-maj=11.3km s-min=5.9km az=176.0*
*NEIC **11** 14:41:29.0±2.0,51.3N±0.1×177.99W±0.07,h54km±11km, mb3.9/52,ML4.1/8,ML3.5(AEIC),Error ellipse: s-maj=15.1km s-min=6.3km az=168.0*

ISC 11 14:41:26.3±0.8,51.12N±0.07×177.96W±0.04,h34km,n94, σ1§11/93,mb3.9/21,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.64**	**4**		**Pb**	**14 41 39.1**	**-0.1**
TAFL					**Sb**	**14 41 47.4**	**-0.6**
GAKI	**Gareloi-Kavalg**	**0.69**	**310**		**Pb**	**14 41 40.4**	**+0.4**
TAPA	**Tanaga Point A**	**0.70**	**8**		**Pb**	**14 41 40.1**	**-0.2**
TASE	**Tanaga Southea**	**0.72**	**356**		**Pb**	**14 41 40.6**	**+0.1**
TAFP	**Tanaga Falls P**	**0.78**	**359**		**Pb**	**14 41 41.2**	**-0.3**
TAFP					**Sb**	**14 41 51.4**	**-0.5**
TANO	**Tanaga North**	**0.80**	**353**		**Pb**	**14 41 41.6**	**-0.3**
GAEA	**Gareloi East**	**0.83**	**324**		**Pb**	**14 41 42.7**	**+0.5**
GASW	**Gareloi Southw**	**0.86**	**320**		**Pb**	**14 41 42.9**	**0.0**
GANO	**Gareloi North**	**0.88**	**323**		**Pb**	**14 41 43.1**	**0.0**
KIWB	**Kanaga Island**	**0.89**	**34**		**Pb**	**14 41 42.8**	**-0.6**
KIWB					**Sb**	**14 41 54.4**	**-0.6**
KICM	**Kanaga Island**	**0.93**	**31**		**Pb**	**14 41 43.9**	**-0.1**
KIRH	**Kanaga Island**	**0.95**	**34**		**Pb**	**14 41 43.6**	**-0.7**
ADK	**Adak**	**1.11**	**46**		**Pn**	**14 41 45.3**	**-0.1**
ADK	**Adak**	**1.11**	**46**		**Sn**	**14 41 59.8**	**+0.4**
GSCK	**Great Sitkin C**	**1.44**	**51**		**Pb**	**14 41 50.9**	**-1.5**
GSMY	**Great Sitkin M**	**1.51**	**51**		**Pn**	**14 41 51.9**	**+1.0**
GSTR	**Great Sitkin T**	**1.54**	**50**		**Pb**	**14 41 53.2**	**-0.9**
CERB	**Semis' Cerberu**	**1.71**	**299**		**Pb**	**14 41 55.7**	**-1.4**
AMKA	**Amchitka**	**1.74**	**280**		**Pb**	**14 41 55.3**	**-2.2**
CETU	**Semis' Tuman**	**1.80**	**299**		**Pb**	**14 41 57.1**	**-1.6**
LSPA	**Little Sitkin**	**2.32**	**293**		**Pn**	**14 42 04.1**	**+2.1**
ATKA	**Atka Island**	**2.58**	**64**		**Pn**	**14 42 07.0**	**+1.3**
ATKA	**Atka Island**	**2.58**	**64**	IAML		14 42 41.4	
	comp=N,271nm,1.2s						
ATKA				IAML		14 42 43.5	
	comp=E,227nm,0.8s						
KOKL	**Mount Kliuchef**	**2.63**	**61**		**Pn**	**14 42 08.4**	**+2.1**
KOFP	**Korovin Flat P**	**2.67**	**63**		**Pn**	**14 42 08.8**	**+1.9**
SMY	**Shemya**	**5.17**	**291**	Pn	**Pn**	**14 42 41.4**	**+0.3**
SMY				IAML		14 44 05.6	
	comp=E,354nm,4.8s						
SMY				IAML		14 45 42.4	
	comp=N,319nm,3.9s						
CLES	**Cleveland East**	**5.27**	**68**	Pn	**Pn**	**14 42 44.5**	**+1.9**
L14K	**Kuka Creek**	**13.27**	**34**	Pn	**Pn**	**14 44 31.1**	**-0.9**
ANM	**Nome**	**15.01**	**21**	Pn	**Pn**	**14 44 53.0**	**-2.5**
M17K	**Holitna River**	**15.29**	**40**	P	**P**	**14 45 04.3**	**+0.6**
J16K	**Anvik River**	**15.32**	**31**	P	**P**	**14 45 05.2**	**+1.1**
J16K				IAmb	IAmb	14 45 08.8	
	comp=Z,9.7nm,1.1s						
OHAK	**Old Harbor**	**15.63**	**57**	Pn	**Pn**	**14 45 04.2**	**+0.5**
K17K	**Iditarod**	**15.73**	**35**	Pn	**Pn**	**14 45 05.1**	**+0.1**
K17K				IAmb	IAmb	14 45 38.5	
	comp=Z,12nm,1.2s						
L18K	**Granite Mounta**	**16.04**	**38**		**Pn**	**14 45 09.9**	**+0.9**
L18K				IAmb	IAmb	14 45 36.9	
	comp=Z,11nm,1.4s						
KDAK	**Kodiak Island**	**16.13**	**56**	Pn	**Pn**	**14 45 11.0**	**+0.9**
KDAK	**Kodiak Island**	**16.13**	**56**	Pn	**Pn**	**14 45 09.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=203,slow=3.7,SNR=9.4 comp=Z,6.9nm,0.6s						
N19K	**Bonanza Creek**	**16.25**	**44**	P	**P**	**14 45 15.4**	**+1.0**
TTA	**Tatalina**	**16.70**	**37**	Pn	**Pn**	**14 45 17.3**	**-0.1**
TTA				IAmb	IAmb	14 45 41.5	
	comp=Z,12nm,1.4s						
L19K	**White Mountain**	**16.74**	**40**	P	**P**	**14 45 22.0**	**+2.1**
L19K				IAmb	IAmb	14 45 35.0	
	comp=Z,16nm,1.3s						
H18K	**Honhosa River**	**17.34**	**28**		**Pn**	**14 45 24.6**	**-0.7**
J19K	**Poorman**	**17.47**	**34**		**Pn**	**14 45 26.3**	**-0.7**
J19K				IAmb	IAmb	14 45 33.0	
	comp=Z,8.1nm,1.0s						
SKT	**Skwentna**	**18.03**	**43**		**P**	**14 45 35.2**	**+1.1**
SUA	**Susitna One**	**18.17**	**45**		**Pn**	**14 45 34.9**	**-0.7**
SUA				IAmb	IAmb	14 45 52.4	
	comp=Z,11nm,1.3s						
C16K	**Lisburne Hills**	**18.28**	**15**		**Pn**	**14 45 36.9**	**+0.1**
CAST	**Castle Rocks**	**18.47**	**38**	P	**P**	**14 45 36.3**	**-2.7**
KTH	**Kantishna Hill**	**18.99**	**39**	P	**Pn**	**14 45 46.0**	**+0.4**
KNK	**Knik Glacier**	**19.18**	**46**	P	**Pn**	**14 45 47.3**	**-0.4**
TRF	**Thorofare Moun**	**19.20**	**39**	P	**Pn**	**14 45 47.7**	**-0.4**
TRF				IAmb	IAmb	14 45 56.2	
	comp=Z,8.1nm,1.0s						
IMAR	**Indian Mountai**	**19.33**	**30**	P	**P**	**14 45 47.9**	**-0.3**
E19K	**Redstone River**	**19.33**	**24**	P	**Pn**	**14 45 48.6**	**-0.9**
E19K				IAmb	IAmb	14 45 54.8	
	comp=Z,6.5nm,0.9s						
C18K	**Utukok River**	**19.36**	**19**	P	**P**	**14 45 48.3**	**-0.3**
H21K	**Melozitna River**	**19.44**	**32**	P	**P**	**14 45 49.7**	**+0.2**
MA2	**Magadan**	**19.53**	**308**	LR	LR	14 53 13.1	
	comp=Z,66nm,18.1s,baz=102,slow=37						
G21K	**Allakaket**	**19.74**	**29**	P	**P**	**14 45 50.1**	**-2.7**
G21K				IAmb	IAmb	14 45 57.6	
	comp=Z,5.9nm,0.8s						
RND	**Reindeer**	**19.76**	**40**	P	**P**	**14 45 52.5**	**-0.6**
RND				IAmb	IAmb	14 46 19.4	
	comp=Z,7.9nm,1.2s						
SCM	**Sheep Creek Mo**	**19.82**	**45**	P	**P**	**14 45 52.8**	**-1.0**
D19K	**Kuna River**	**19.90**	**22**	P	**P**	**14 45 54.9**	**+0.3**
D19K				IAmb	IAmb	14 45 58.9	
	comp=Z,7.4nm,1.1s						
F21K	**Alatna River**	**20.20**	**28**	P	**P**	**14 45 57.0**	**-0.8**
DHY	**Denali Highway**	**20.24**	**42**	P	**P**	**14 45 58.1**	**-0.3**
I23K	**Minto, Yukon-K**	**20.36**	**36**	P	**P**	**14 45 59.9**	**+0.4**
I23K				IAmb	IAmb	14 46 04.6	
	comp=Z,5.4nm,0.8s						
M24K	**Tolsona, Glenn**	**20.43**	**45**	P	**P**	**14 46 00.3**	**-0.1**
MDM	**Murphy Dome**	**20.69**	**37**	P	Pn	14 46 04.9	-0.7
CCB	**Clear Creek Bu**	**20.71**	**38**	P	Pn	14 46 05.7	-0.1
CCB				IAmb	IAmb	14 46 24.6	
	comp=Z,6.9nm,1.4s						
E21K	**Killik River**	**20.90**	**25**	P	**P**	**14 46 04.4**	**-0.9**
N25K	**Chitina, Valde**	**21.00**	**47**	P	**P**	**14 46 05.4**	**-1.2**
N25K				IAmb	IAmb	14 46 16.7	
	comp=Z,8.0nm,1.1s						
ILAR	**Eielson Array**	**21.12**	**38**	P	**P**	**14 46 07.0**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=236,slow=9.8,SNR=7.6 comp=Z,0.5nm,0.9s						
H24K	**Noodor Dome**	**21.24**	**35**	P	**P**	**14 46 09.6**	**+0.5**
GLB	**Gilahina Butte**	**21.33**	**48**	P	**P**	**14 46 09.0**	**-1.0**
D22K	**Ayikyak River**	**21.54**	**25**	P	**P**	**14 46 12.9**	**+0.7**
D22K				IAmb	IAmb	14 46 26.5	
	comp=Z,4.6nm,1.1s						
B21K	**Ikpikpuk River**	**21.58**	**22**	P	**P**	**14 46 11.4**	**-1.2**
J25K	**Salcha River,**	**21.65**	**39**	P	**P**	**14 46 11.9**	**-1.5**
J25K				IAmb	IAmb	14 46 47.2	
	comp=Z,10.0nm,1.5s						
L26K	**Log Cabin Wild**	**21.95**	**44**	P	**P**	**14 46 15.9**	**-0.8**
SCRK	**Sand Creek**	**21.98**	**41**	P	**P**	**14 46 16.8**	**-0.2**
F24K	**Squaw Lake**	**22.11**	**31**	P	**P**	**14 46 18.9**	**+0.5**
F24K				IAmb	IAmb	14 46 23.9	
	comp=Z,4.4nm,0.9s						
J26L	**Joseph Creek**	**22.33**	**40**	P	**P**	**14 46 20.9**	**+0.1**
B22K	**Teshekpuk Lake**	**22.39**	**22**	P	**P**	**14 46 19.0**	**-2.3**
B22K				IAmb	IAmb	14 46 23.9	
	comp=Z,3.9nm,1.0s						
C23K	**Itkillik River**	**22.73**	**24**	P	**P**	**14 46 23.6**	**-1.2**
C23K				IAmb	IAmb	14 46 25.3	
	comp=Z,4.9nm,0.8s						
K27K	**Chicken**	**22.79**	**42**	P	**P**	**14 46 25.6**	**0.0**
BMAR	**Burnt Mountain**	**23.17**	**33**	P	**P**	**14 46 28.6**	**-0.8**
E25K	**Arctic Village**	**23.18**	**31**	P	**P**	**14 46 27.5**	**-2.0**
E25K				IAmb	IAmb	14 46 33.4	
	comp=Z,4.6nm,1.1s						
DAWY	**Dawson**	**23.94**	**43**	P	**P**	**14 46 36.4**	**-0.6**
DAWY				IAmb	IAmb	14 47 03.1	
	comp=Z,4.5nm,1.1s						
I28M	**Miner Creek**	**24.10**	**39**	P	**P**	**14 46 36.3**	**-2.2**
I28M				IAmb	IAmb	14 46 44.7	
	comp=Z,5.8nm,1.4s						
L29M	**L29M**	**24.28**	**45**	P	**P**	**14 46 39.5**	**-0.6**
L29M				IAmb	IAmb	14 46 41.1	
	comp=Z,3.8nm,1.0s						
K29M	**Barlow Dome**	**24.69**	**43**	P	**P**	**14 46 43.0**	**-0.8**
K29M				IAmb	IAmb	14 46 45.4	
	comp=Z,3.3nm,0.8s						
E28M	**Babbage River**	**25.39**	**32**	P	**P**	**14 46 50.6**	**+0.5**
E28M				IAmb	IAmb	14 46 55.5	
	comp=Z,3.1nm,0.9s						
I30M	**Mount Dempster**	**25.48**	**41**	P	**P**	**14 46 48.9**	**-2.1**
YKA	**Yellowknife Ar**	**35.03**	**46**	P	**P**	**14 48 14.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=284,slow=8.1,SNR=5.7 comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**43.06**	**83**	P	**P**	**14 49 22.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=282,slow=4.5,SNR=2.1 comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**45.89**	**72**	P	**P**	**14 49 46.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=308,slow=4.3,SNR=8.5 comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**60.61**	**309**	P	**P**	**14 51 32.1**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=45,slow=4.3,SNR=2.2 comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**61.42**	**320**	P	**P**	**14 51 39.1**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=47,slow=8.1,SNR=7.0 comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**82.19**	**225**	P	**P**	**14 53 45.0**	**+1.4**
	comp=Z,0.6nm,1.0s,baz=29,slow=6.7,SNR=2.4 comp=Z,0.6nm,1.0s						
BRTR	**Keskin Array B**	**85.40**	**336**	P	**P**	**14 54 00.5**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=8.7,slow=4.8,SNR=3.6 comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**85.66**	**223**	P	**P**	**14 54 02.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=30,slow=5.4,SNR=5.3 comp=Z,0.2nm,0.6s						

*NEIC **11** 14:41:44.1±2.1,29.8N±0.1×41.50W±0.08,h10km±1km, mb4.7/19,Error ellipse: s-maj=20.9km s-min=9.4km az=202.0*
*IDC **11** 14:41:46.9±0.9,30.68N×41.86W,h0km,mb3.8/13, mbtmp3.8/13,MS3.8/57,Error ellipse: s-maj=27.5km s-min=19.5km az=175.0*

ISC 11 14:41:45.3±0.6,30.1N±0.1×41.81W±0.10,h10km,n85, σ1§95/32,mb4.2/24,MS3.8/57,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**15.54**	**56**	Pn	**Pn**	**14 45 19.1**	**-5.4**
SJG	**San Juan**	**25.14**	**247**	LR	LR	14 55 24.5	
	comp=Z,30nm,19.9s,baz=161,slow=32						
CELP	**Cerrillos**	**25.50**	**248**	P	**P**	**14 47 13.5**	**-0.6**
MLPR	**Magueyes Islan**	**25.93**	**248**	P	**P**	**14 47 16.6**	**-1.3**
MLPR				IAmb	IAmb	14 47 42.1	
	comp=Z,38nm,1.1s						
LBNH	**Lisbon**	**27.69**	**309**	P	**P**	**14 47 34.6**	**+1.1**
BRNJ	**Basking Ridge**	**28.59**	**301**	P	**P**	**14 47 42.6**	**+1.0**
MVL	**Millersville**	**29.81**	**299**	P	**P**	**14 47 52.7**	**+0.2**
MVL				IAmb	IAmb	14 48 07.4	
	comp=Z,17nm,1.3s						
TRQ	**Mont Tremblant**	**30.13**	**312**	P	**P**	**14 47 55.5**	**+0.3**
TRQ				IAmb	IAmb	14 48 09.9	
	comp=Z,6.0nm,0.8s						
SCHQ	**Schefferville**	**30.57**	**331**	LR	LR	14 59 13.6	
	comp=Z,216nm,19.3s,baz=126,slow=35						
BAUV	**El Baul**	**32.29**	**235**	P	**P**	**14 48 12.2**	**-2.3**
BAUV				IAmb	IAmb	14 48 18.3	
	comp=Z,18nm,1.1s						
SADO	**Sadowa**	**32.77**	**307**	LR	LR	14 59 20.7	
	comp=Z,86nm,19.8s,baz=40,slow=33						
SDV	**Santo Domingo**	**34.20**	**238**	LR	LR	15 02 11.6	
	comp=Z,58nm,20.6s,baz=74,slow=36						
TKL	**Tuckaleechee C**	**35.49**	**290**	LR	LR	15 00 09.2	
	comp=Z,109nm,21.6s,baz=96,slow=31						
RCBR	**Riachuelo**	**36.12**	**170**	LR	LR	15 00 41.5	
	comp=Z,114nm,19.1s,baz=23,slow=31						
BORG	**Borgarnes**	**37.01**	**14**	LR	LR	14 59 57.3	
	comp=Z,166nm,19.7s,baz=185,slow=30						
EKA	**Eskdalemuir Ar**	**37.27**	**36**	P	**P**	**14 48 54.2**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=259,slow=18,SNR=1.6 comp=Z,0.1nm,0.3s						
SFJD	**Kangerlussuaq**	**37.35**	**354**	LR	LR	15 01 07.1	
	comp=Z,128nm,20.0s,baz=172,slow=32						
FRB	**Frobisher Bay**	**37.75**	**341**	LR	LR	15 02 28.7	
	comp=Z,102nm,20.3s,baz=170,slow=33						
ROSC	**El Rosal**	**39.62**	**237**	LR	LR	15 03 51.3	
	comp=Z,82nm,20.7s,baz=349,slow=33						
DBIC	**Dimbokro**	**41.78**	**116**	LR	LR	15 04 55.5	
	comp=Z,150nm,18.1s,baz=312,slow=33						
DAVOX	**Davis/Dischmat**	**43.00**	**52**	LR	LR	15 04 32.6	
	comp=Z,123nm,20.4s,baz=265,slow=32						
TORD	**Torodi Ar. Bea**	**43.52**	**103**	P	**P**	**14 49 52.5**	**+3.2**
	comp=Z,1.0nm,0.9s,baz=309,slow=8.8,SNR=3.9						
TORD				LR	LR	15 06 14.4	
	comp=Z,105nm,18.7s,baz=297,slow=34 comp=Z,1.0nm,0.9s						
ULM	**Lac du Bonnet**	**44.87**	**313**	LR	LR	15 07 29.4	
	comp=Z,126nm,19.1s,baz=108,slow=35						
JMIC	**Jan Mayen**	**44.91**	**15**	LR	LR	15 04 17.4	
	comp=Z,85nm,19.1s,baz=252,slow=30						
GERES	**GERESS Array B**	**45.70**	**50**	P	**P**	**14 50 08.0**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=268,slow=6.7,SNR=5.3 comp=Z,0.9nm,0.5s						
BDFB	**Brasilia**	**45.82**	**188**	LR	LR	15 07 16.4	
	comp=Z,150nm,19.2s,baz=33,slow=33						
H10N2	**ASCENSION HYDR**	**45.91**	**141**	T	T	15 38 59.2	
	baz=326,slow=75,SNR=897						
H10N3	**ASCENSION HYDR**	**45.91**	**141**	T	T	15 39 00.2	
	baz=326,slow=75,SNR=691						
H10N1	**ASCENSION HYDR**	**45.93**	**141**	T	T	15 39 00.7	
	baz=326,slow=75,SNR=905						
NOA	**NORSAR Array B**	**46.44**	**32**	P	**P**	**14 50 12.8**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=209,slow=7.3,SNR=3.5						
NOA				LR	LR	15 05 32.7	
	comp=Z,54nm,21.6s,baz=255,slow=31 comp=Z,1.1nm,0.9s						
H10S3	**ASCENSION HYDR**	**46.75**	**142**	T	T	15 40 02.9	
	baz=326,slow=74,SNR=800						
H10S2	**ASCENSION HYDR**	**46.77**	**142**	T	T	15 40 04.1	
	baz=254,slow=74,SNR=308						
HFS	**Hagfors**	**47.38**	**34**	LR	LR	15 06 28.3	
	comp=Z,75nm,18.2s,baz=253,slow=32						
SIV	**San Ignacio**	**49.40**	**205**	LR	LR	15 10 17.6	
	comp=Z,60nm,19.2s,baz=61,slow=34						
ATAH	**Atahualpa**	**50.99**	**230**	LR	LR	15 13 11.3	
	comp=Z,50nm,20.1s,baz=22,slow=37						
RES	**Resolute Bay**	**51.77**	**344**	LR	LR	15 09 39.8	
	comp=Z,68nm,21.2s,baz=174,slow=33						
TXAR	**Lajitas Array**	**53.13**	**286**	LR	LR	15 13 12.5	
	comp=Z,47nm,19.5s,baz=10.0,slow=36						
FINES	**FINESS Array B**	**53.57**	**34**	P	**P**	**14 51 05.8**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=168,slow=9.8,SNR=4.2						
FINES				LR	LR	15 10 09.1	
	comp=Z,73nm,19.3s,baz=290,slow=32 comp=Z,1.5nm,0.8s						
NNA	**Nana**	**53.71**	**224**	LR	LR	15 12 16.7	
	comp=Z,45nm,22.0s,baz=20,slow=34						
ANMO	**Albuquerque**	**53.91**	**293**	LR	LR	15 11 40.8	
	comp=Z,103nm,21.1s,baz=162,slow=34						
ARCES	**ARCESS Array B**	**54.27**	**24**	LR	LR	15 09 58.0	
	comp=Z,71nm,18.6s,baz=278,slow=32						
PD31	**Pinedale Array**	**54.63**	**303**	P	**P**	**14 51 15.0**	**+0.5**
PDAR	**Pinedale Array**	**54.63**	**303**	P	**P**	**14 51 13.4**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=85,slow=7.3,SNR=11						
PDAR				LR	LR	15 12 52.1	
	comp=Z,174nm,19.4s,baz=69,slow=34 comp=Z,2.1nm,0.8s						
BW06	**Boulder Array**	**54.63**	**303**	P	**P**	**14 51 15.8**	**+1.3**
AKASG	**Malin Array Be**	**55.69**	**47**	P	**P**	**14 51 21.9**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=277,slow=6.5,SNR=11						
AKASG				LR	LR	15 12 45.4	
	comp=Z,73nm,18.4s,baz=278,slow=34 comp=Z,1.4nm,0.6s						
YKA	**Yellowknife Ar**	**55.92**	**328**	P	**P**	**14 51 21.9**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=89,slow=7.2,SNR=7.3						
YKA				LR	LR	15 14 58.0	
	comp=Z,89nm,18.3s,baz=310,slow=36 comp=Z,0.6nm,0.9s						
GO01	**Chusmiza**	**56.03**	**212**	P	**P**	**14 51 23.6**	**-1.4**
GO01				IAmb	IAmb	14 51 41.7	
	comp=Z,13nm,1.4s						
PB11	**IPOC Station P**	**56.32**	**212**	P	**P**	**14 51 24.4**	**-2.3**
PB11				IAmb	IAmb	14 51 28.9	
	comp=Z,11nm,0.8s						
CPUP	**Villa Florida**	**58.00**	**196**	LR	LR	15 15 13.7	
	comp=Z,43nm,19.0s,baz=22,slow=34						
LVC	**Limon Verde**	**58.48**	**210**	LR	LR	15 16 11.3	
	comp=Z,52nm,18.7s,baz=5.0,slow=35						
PLID	**Pearl Lake**	**58.73**	**307**	P	**P**	**14 51 45.5**	**+1.8**
NEW	**Newport**	**58.83**	**311**	P	**P**	**14 51 45.0**	**+1.0**
NEW				IAmb	IAmb	14 51 47.1	
	comp=Z,5.5nm,0.9s						
NEW	**Newport**	**58.83**	**311**	LR	LR	15 16 00.2	
	comp=Z,80nm,19.0s,baz=205,slow=35						
MFID	**Camas Ranch**	**58.99**	**305**	P	**P**	**14 51 46.7**	**+1.4**
MFID				IAmb	IAmb	14 51 48.6	
	comp=Z,4.6nm,0.9s						
ELK	**Elko**	**59.21**	**302**	LR	LR	15 15 33.0	
	comp=Z,132nm,19.4s,baz=34,slow=34						
LPIG	**La Paz**	**60.48**	**282**	LR	LR	15 16 21.7	
	comp=Z,42nm,20.2s,baz=293,slow=34						
BRTR	**Keskin Array B**	**60.98**	**59**	P	**P**	**14 51 59.7**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=343,slow=4.5,SNR=3.2						
BRTR				LR	LR	15 17 13.4	
	comp=Z,35nm,18.8s,baz=302,slow=35 comp=Z,1.4nm,0.8s						
NVAR	**Mina Array Bea**	**62.13**	**300**	P	**P**	**14 52 07.5**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=81,slow=6.5,SNR=4.5						
NVAR				LR	LR	15 17 50.8	
	comp=Z,119nm,19.9s,baz=3.5,slow=35 comp=Z,0.9nm,0.9s						
PFO	**Pinyon Flats O**	**62.22**	**295**	LR	LR	15 16 49.3	
	comp=Z,124nm,19.7s,baz=321,slow=34						
INK	**Inuvik**	**63.07**	**335**	P	**P**	**14 52 13.2**	**+0.9**
INK				IAmb	IAmb	14 52 22.3	
	comp=Z,9.0nm,1.2s						
INK	**Inuvik**	**63.07**	**335**	LR	LR	15 18 08.3	
	comp=Z,189nm,20.8s,baz=6.0,slow=35						
YBH	**Yreka Blue Hor**	**64.34**	**305**	LR	LR	15 19 19.1	
	comp=Z,108nm,19.6s,baz=19,slow=35						
BBB	**Bella Bella**	**64.72**	**317**	LR	LR	15 20 13.6	
	comp=Z,163nm,18.0s,baz=192,slow=36						
D27M	**Malcolm River**	**65.39**	**337**	P	**P**	**14 52 29.2**	**+1.4**
D27M				IAmb	IAmb	14 52 39.8	
	comp=Z,5.2nm,1.2s						
KIRV	**Kirov**	**65.50**	**35**	LR	LR	15 19 36.5	
	comp=Z,73nm,18.7s,baz=319,slow=35						
BELG	**Belogornoye**	**66.48**	**42**	LR	LR	15 19 37.8	
	comp=Z,90nm,18.7s,baz=166,slow=34						
IL31		**69.30**	**334**	P	**P**	**14 52 54.6**	**+2.2**
IL31				IAmb	IAmb	14 52 55.5	
	comp=Z,9.1nm,1.4s						
ILAR	**Eielson Array**	**69.30**	**334**	P	**P**	**14 52 53.4**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=57,slow=4.2,SNR=11						
ILAR				LR	LR	15 22 12.2	
	comp=Z,190nm,19.0s,baz=82,slow=35 comp=Z,1.2nm,0.9s						
CCB	**Clear Creek Bu**	**69.70**	**334**	P	**P**	**14 52 56.4**	**+1.5**
ARU	**Arti**	**70.88**	**35**	LR	LR	15 21 18.9	
	comp=Z,53nm,18.5s,baz=326,slow=34						
AKTO	**Aktyubinsk**	**73.23**	**41**	LR	LR	15 24 51.4	
	comp=Z,51nm,18.1s,baz=95,slow=36						
KDAK	**Kodiak Island**	**75.17**	**329**	LR	LR	15 26 32.9	
	comp=Z,189nm,20.0s,baz=119,slow=36						
TSUM	**Tsumeb**

IDC ***11*** *14:47:15.3±0.7,33°.66N×45°.63E,h0km,mb4.0/22, mbtmp3.9/29,ML3.5/7,MS3.4/10,Error ellipse: s-maj=14.6km s-min=12.3km az=164.0*
TEH ***11*** *14:47:17.9,33°.72N×45°.70E,h8km±33km,ML4.0*
NEIC ***11*** *14:47:17.4±1.9,33°.61N±0°.09×45°.54E±0°.09,h10km±1km, mb4.0/29,Error ellipse: s-maj=15.3km s-min=12.6km az=153.0*
ISN ***11*** *14:47:18.6±0.7,33°.76N×45°.69E,h10km±3km,ML4.0*
AFAD ***11*** *14:47:20.0±0.0,34°.11N×45°.97E,h49km,MW3.8*
DSN ***11*** *14:47:29.1±2.6,33°.09N×46°.47E,h15km,Error ellipse: s-maj=103.9km s-min=20.1km az=32.0*

ISC 11 14:47:18.3±1.0,33°.75N±0°.03×45°.65E±0°.03,h18km±7km, n137,σ1s56/130,mb4.0/27,MS3.6/4,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.48**	**105**	Pg	**Pg**	**14 47 26.9**	**-1.3**
IBDR	**Badra**	**0.68**	**160**	*e*Pg	**Pg**	**14 47 32.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**14 47 41.0**	**+0.2**
IBDR	comp=N,5μm,0.4s			AML	AML	14 47 50.2	
IBDR	comp=E,5μm,0.8s			AML	AML	14 48 04.3	
KGS1	**Ghasr-e-Shirin**	**0.76**	**356**	Pg	**Pb**	**14 47 33.4**	**+0.4**
IGHG	**Ghaleghazi**	**0.96**	**53**	Pg	**Pb**	**14 47 36.3**	**-0.3**
IGHG				Sg	**Sn**	**14 47 51.0**	**+0.5**
IDHR	**Dehrash**	**1.13**	**33**	Pg	**Pb**	**14 47 39.2**	**-0.3**
BHD	**Baghdad**	**1.16**	**246**	*e*Pg	**Pg**	**14 47 42.0**	**+1.2**
BHD				*e*Sg	**Sg**	**14 47 58.0**	**+2.0**
KCHF	**Cheshme Sefid,**	**1.27**	**65**	Pg	**Pn**	**14 47 42.0**	**+0.6**
KCHF				Sg	**Sg**	**14 48 00.0**	**+0.5**
ILIN	**Lien**	**1.59**	**43**	Pg	**Pb**	**14 47 48.2**	**+0.7**
IKOM	**Komasi**	**1.60**	**74**	Pg	**Pb**	**14 47 48.1**	**+0.5**
IKOM				Sg	**Sg**	**14 48 10.4**	**+0.2**
IKFM	**Kafar-mosalman**	**1.85**	**96**	Pg	**Pb**	**14 47 51.4**	**-0.2**
IKRK	**Kirkuk**	**1.97**	**327**	*e*Pn	**Pb**	**14 47 54.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**14 48 20.0**	**-1.7**
IBZA	**Bozab**	**1.97**	**68**	Pn	**Pb**	**14 47 53.0**	**-0.9**
RAFI	**Al-Rafai**	**2.06**	**169**	*e*Pn	**Pb**	**14 47 55.0**	**-0.2**
RAFI				*e*Sn	**Sb**	**14 48 22.0**	**+1.5**
RAFI	comp=N,2μm,0.7s			AML	AML	14 48 32.0	
RAFI	comp=E,2μm,0.7s			AML	AML	14 48 32.2	
IALM	**Almabolaq**	**2.36**	**61**	Pn	**Pn**	**14 47 58.3**	**+1.8**
SDS1	**Sardasht. Az.**	**2.40**	**357**	Pn	**Pb**	**14 48 00.0**	**-1.1**
HSAM	**Samen**	**2.50**	**79**	Pn	**Pn**	**14 47 59.9**	**+1.5**
MAHB	**Mahabad**	**3.01**	**1**	Pn	**Pn**	**14 48 08.2**	**+2.9**
HAGD	**Aghdareh**	**3.08**	**69**	Pn	**Pn**	**14 48 08.4**	**+1.9**
IHSH	**Hashtrud**	**3.78**	**20**	Pn	**Pn**	**14 48 18.6**	**+2.4**
CUKT	**Cukurca**	**3.87**	**335**	*e*Pg	**Pn**	**14 48 16.7**	**-0.4**
CUKT				S	**Sn**	**14 49 11.6**	**-0.5**
CUKT	comp=E,302nm,0.8s			*i* AML	AML	14 49 33.0	
IRAZ	**Razeghan**	**3.90**	**64**	Pn	**Pn**	**14 48 19.8**	**+2.2**
YOVA	**Hakkari_Yksek**	**3.98**	**344**	P	**Pn**	**14 48 18.2**	**-0.6**
QSDN	**Sirdan**	**3.99**	**45**	Pn	**Pn**	**14 48 20.9**	**+2.0**
HAKT	**HAKKARI**	**4.11**	**338**	P	**Pn**	**14 48 22.2**	**+1.7**
SIRN	**Sırnak**	**4.57**	**326**	P	**Pn**	**14 48 28.8**	**+2.1**
SIRN				S	**Sn**	**14 49 20.4**	**+0.9**
SIRN	comp=E,80nm,0.5s			*i* AML	AML	14 49 49.0	
IQOM	**Qom**	**4.62**	**75**	Pn	**Pn**	**14 48 29.3**	**+1.7**
ZNGN	**Zangian**	**4.67**	**109**	Pn	**Pn**	**14 48 28.9**	**+0.6**
IHRS	**Heris**	**4.70**	**14**	Pn	**Pn**	**14 48 31.2**	**+2.6**
QAMS	**Qamsar**	**4.79**	**89**	Pn	**Pn**	**14 48 31.9**	**+1.9**
PERV	**Siirt/Pervari-**	**4.89**	**330**	P	**Pn**	**14 48 32.9**	**+1.8**
PERV				S	**Sn**	**14 49 27.7**	**+0.4**
PERV	comp=E,102nm,0.5s			*i* AML	AML	14 50 02.0	
IMRD	**Marand**	**4.95**	**1**	Pn	**Pn**	**14 48 34.4**	**+2.3**
IKLH	**Kolahrood**	**4.97**	**93**	Pn	**Pn**	**14 48 34.4**	**+2.0**
GEVA	**Gevas**	**5.01**	**336**	P	**Pn**	**14 48 35.1**	**+2.2**
MIDY	**Mardin/Midyat-**	**5.03**	**318**	P	**Pn**	**14 48 32.1**	**-0.9**
MIDY				S	**Sn**	**14 49 28.0**	**-2.8**
IVRN	**Varamin**	**5.18**	**74**	Pn	**Pn**	**14 48 36.0**	**+0.9**
KLST	**Kelardasht - M**	**5.22**	**57**	Pn	**Pn**	**14 48 37.6**	**+1.7**
MARD	**Mardin**	**5.33**	**313**	P	**Pn**	**14 48 34.5**	**-2.6**
GRMI	**Germi**	**5.36**	**19**	Pn	**Pn**	**14 48 40.1**	**+2.5**
KRSH	**Karshahi**	**5.40**	**86**	Pn	**Pn**	**14 48 40.0**	**+1.7**
ISFB	**Sefidab**	**5.51**	**82**	Pn	**Pn**	**14 48 41.0**	**+1.4**
MZPU	**Pul - Mazandar**	**5.55**	**59**	Pn	**Pn**	**14 48 42.7**	**+2.5**
IDMV	**Damavand**	**5.57**	**69**	Pn	**Pn**	**14 48 41.7**	**+1.1**
MAKU	**Maku**	**5.65**	**352**	Pn	**Pn**	**14 48 44.0**	**+2.4**
IZEF	**Zefreh**	**5.66**	**97**	Pn	**Pn**	**14 48 42.9**	**+1.0**
KLNJ	**Kolanjah**	**5.72**	**117**	Pn	**Pn**	**14 48 44.7**	**+1.9**
MUSM	**Mu-Merkez**	**5.98**	**327**	P	**Pn**	**14 48 42.7**	**-3.4**
IRAM	**Ramesheh**	**5.99**	**107**	Pn	**Pn**	**14 48 48.2**	**+1.8**
IPRN	**Peran**	**6.03**	**64**	Pn	**Pn**	**14 48 49.5**	**+2.7**
IFIR	**Firoozkooh**	**6.15**	**70**	Pn	**Pn**	**14 48 50.5**	**+1.9**
KOTA	**Agri, Merkez-K**	**6.35**	**343**	P	**Pn**	**14 48 52.5**	**+1.3**
SANL	**ŞANLIURFA_Merk**	**6.42**	**304**	P	Pn	14 48 45.2	-6.8
GNI	**Garni**	**6.43**	**354**	Pn	**Pn**	**14 48 57.0**	**+4.7**
GNI	comp=E,0.7nm,0.3s,baz=75,slow=20,SNR=2.3			Lg	Lg	14 50 44.1	
GNI	comp=E,0.3nm,0.3s,baz=183,slow=18,SNR=2.0			LR	LR	14 51 47.4	
KOVA	comp=E,97nm,19.1s,baz=203,slow=42 comp=E,1.9nm,0.4s **Elazig, Kovanc**	**6.83**	**318**	P	**Pn**	**14 48 57.5**	**-0.3**
DSBU	**Dashti - Bushe**	**7.21**	**137**	Pn	**Pn**	**14 49 05.3**	**+2.3**
ASF	**Jabal al Asfar**	**7.52**	**260**	Pn	**Pn**	**14 49 05.4**	**-1.9**
ASF	comp=E,0.6nm,0.3s,baz=61,slow=22,SNR=2.5			Lg	Lg	14 51 12.5	
ASF	comp=E,1.1nm,0.3s,baz=154,slow=20,SNR=2.2			LR	LR	14 52 52.9	
NATI	comp=E,251nm,19.5s,baz=130,slow=45 comp=E,1.6nm,0.3s **Neve Ativ**	**8.29**	**269**	P	Pb	14 50 10.1	+29
SHMJ	**Saham**	**8.34**	**266**	P	Pb	14 50 11.4	+29
GEM	**Giv'at Ha'Em**	**8.36**	**269**	P	Pb	14 50 10.9	+28
QRNJ	**Al-Qirein**	**8.57**	**263**	P	Pn	14 50 11.7	+50
MMAI	**Mount Meron Ar**	**8.60**	**268**	Pn	**Pn**	**14 49 20.6**	**-1.4**
MMAI	comp=E,1.2nm,0.3s,baz=38,slow=16,SNR=1.9			Lg	Lg	14 51 47.4	
MMAI	comp=E,2.1nm,0.3s,baz=120,slow=16,SNR=2.4			LR	LR	14 53 27.5	
HMDT	comp=E,164nm,19.1s,baz=78,slow=43 comp=E,0.6nm,0.3s **Nahal Hemdat**	**8.63**	**263**	P	Pn	14 50 12.0	+50
KARJ	**KARJ**	**8.84**	**255**	P	Pn	14 50 19.2	+54
GHAJ	**Ghor Haditha**	**8.85**	**257**	P	Pn	14 50 19.2	+54
LISJ	**El Lisan**	**8.94**	**257**	P	Pn	14 50 23.8	+57
PRNI	**Paran**	**9.64**	**252**	P		14 50 41.3	
MBRI	**Mt Berech**	**9.95**	**250**	P	Pn	14 50 38.1	+58
EIL	**Elat**	**9.97**	**249**	Lg	Lg	14 52 33.6	
EIL	comp=E,0.6nm,0.3s,baz=58,slow=14,SNR=2.3			LR	LR	14 54 31.3	
EIL	comp=E,220nm,18.5s,baz=68,slow=44 **Elat**	**9.97**	**249**	P	Pn	14 50 41.0	+60
KBZ	**Khabaz**	**10.19**	**349**	Pn	**Pn**	**14 49 47.5**	**+3.8**
GEYT	baz=177,slow=16,SNR=2.3 comp=E,1.2nm,0.8s **Alibeck**	**10.95**	**64**	LR	LR	14 54 57.1	
SHME	comp=E,169nm,19.6s,baz=272,slow=42 **Shamm**	**11.90**	**127**	P	**Pn**	**14 50 04.4**	**-2.8**
SHME				S	Sn	14 52 08.9	-11
BANOM	**Banah**	**12.09**	**127**	P	**Pn**	**14 50 09.0**	**-0.9**
MSFE	**Esma-Masafi**	**12.39**	**130**	P	**Pn**	**14 50 11.9**	**-2.0**
ASUD	**Al Ashush, Dub**	**12.41**	**135**	P	**Pn**	**14 50 13.8**	**-0.3**
MDH	**Madha**	**12.52**	**129**	P	**Pn**	**14 50 13.8**	**-1.9**
HATD	**Hatta, Dubai**	**12.75**	**131**	P	**Pn**	**14 50 16.8**	**-2.1**
ASHO	**Ashiyiah**	**12.81**	**132**	P	**Pn**	**14 50 16.9**	**-2.8**
ALNE	**Al Ain**	**13.09**	**135**	P	**Pn**	**14 50 20.2**	**-3.3**
SOHO	**SOHO**	**13.51**	**132**	P	**Pn**	**14 50 28.6**	**-0.5**
WSAR	**Wadi Sarin**	**15.47**	**129**	Pn	**Pn**	**14 50 53.8**	**-2.1**
RDO	comp=E,0.4nm,0.3s,baz=284,slow=4.2,SNR=1.5 comp=E,3.3nm,0.4s **Rodhopi**	**17.57**	**301**	P	**Pn**	**14 51 22.1**	**-0.2**
RDO				IAmb	IAmb	14 51 27.1	
BELG	comp=E,10.0nm,1.0s **Belogornoye**	**18.69**	**4**	P	**P**	**14 51 34.5**	**-1.0**
ABKAR	comp=E,1.4nm,0.3s,baz=172,slow=4.2,SNR=14 comp=E,9.1nm,0.5s **Akbulak array**	**18.78**	**30**	P	**Pn**	**14 51 37.7**	**+0.7**
AKTO	**Aktyubinsk**	**18.99**	**25**	P	**P**	**14 51 37.4**	**-1.4**
	comp=E,0.1nm,0.3s,baz=252,slow=7.7,SNR=1.8 comp=E,0.5nm,0.4s						
MLR	**Muntele Rosu**	**19.12**	**314**	P	**P**	**14 51 40.0**	**-0.4**
MLR				IAmb	IAmb	14 51 47.7	
	comp=E,9.2nm,1.3s						
MLR	**Muntele Rosu**	**19.12**	**314**	LR	LR	15 00 36.7	
	comp=E,56nm,21.9s,baz=99,slow=42						
KBL	**Kabul**	**19.38**	**81**		**P**	**14 51 43.0**	**-0.5**
KBL				IAmb	IAmb	14 51 53.4	
	comp=E,9.7nm,1.1s						
SIMJ	**Simiganj**	**19.46**	**69**	P	**P**	**14 51 44.6**	**+0.3**
AGG	**Agios Georgios**	**19.48**	**292**	P	**P**	**14 51 44.8**	**+0.4**
AGG				IAmb	IAmb	14 51 49.0	
	comp=E,9.4nm,1.1s						
FNA	**Florina**	**20.51**	**297**	P	**P**	**14 51 56.6**	**+0.9**
FNA				IAmb	IAmb	14 51 57.8	
	comp=E,4.6nm,0.8s						
BURAR	**Bucovina Array**	**20.70**	**318**	P	**P**	**14 51 57.6**	**0.0**
BUR08	**Bucovina Ar. S**	**20.72**	**318**	P	**P**	**14 51 58.2**	**+0.3**
AKASG	**Malin Array Be**	**20.77**	**330**	P	**P**	**14 51 58.0**	**-0.2**
AKASG	**Malin Array Be**	**20.77**	**330**	P	**P**	**14 51 58.1**	**-0.2**
	comp=E,2.2nm,0.5s,baz=138,slow=9.7,SNR=22						
	comp=E,2.2nm,0.5s						
AKBB	**Malin Array Si**	**20.77**	**330**		**P**	**14 51 56.1**	**-2.2**
AKBB				IAmb	IAmb	14 51 58.9	
	comp=E,14nm,1.2s						
KIEV	**Kiev**	**20.77**	**330**		**P**	**14 51 56.2**	**-2.1**
KIEV				IAmb	IAmb	14 51 58.9	
	comp=E,13nm,1.2s						
KK31	**Karatay Array**	**21.54**	**57**	P	**P**	**14 52 08.3**	**+1.7**
KK31				IAmb	IAmb	14 52 15.2	
	comp=E,5.5nm,0.9s						
KKAR	**Karatay Array**	**21.54**	**57**	P	**P**	**14 52 09.2**	**+2.6**
KKAR	**Karatay Array**	**21.54**	**57**	P	**P**	**14 52 08.0**	**+1.4**
KKAR				IAmb	IAmb	14 52 15.2	
	comp=E,5.5nm,0.9s						
NIL	**Nilore**	**22.95**	**83**	P	**P**	**14 52 22.5**	**+0.8**
TIP	**Timpagrande**	**23.80**	**291**	P	**P**	**14 52 28.9**	**-1.3**
AAK	**Ala-Archa**	**24.25**	**60**	LR	LR	15 03 45.5	
	comp=E,56nm,20.9s,baz=288,slow=41						
CUC	**Castrocucco**	**24.59**	**293**	P	**P**	**14 52 37.0**	**-0.6**
KIRV	**Kirov**	**24.97**	**5**	LR	LR	15 04 20.8	
	comp=E,72nm,18.8s,baz=335,slow=41						
NRN	**Naryn**	**25.15**	**63**	P	**P**	**14 52 44.3**	**+1.4**
NRN				IAmb	IAmb	14 52 49.6	
	comp=E,5.6nm,0.9s						
BRVK	**Borovoye**	**26.10**	**35**	P	**P**	**14 52 49.6**	**-1.4**
BRVK				IAmb	IAmb	14 53 04.6	
	comp=E,6.8nm,1.5s						
BVAR	**Borovoye Array**	**26.13**	**35**	P	**P**	**14 52 51.9**	**+0.6**
	comp=E,0.9nm,0.6s,baz=235,slow=8.6,SNR=6.8						
BVAR				PcP	**PcP**	**14 56 18.2**	**0.0**
	comp=E,0.5nm,0.5s,baz=184,slow=3.8,SNR=4.5						
	comp=E,0.9nm,0.6s						
MORC	**Moravsky Berou**	**26.17**	**316**	P	**P**	**14 52 51.4**	**-0.3**
MORC				IAmb	IAmb	14 53 03.9	
	comp=E,3.1nm,1.0s						
KURBB	**Kurchatov Arra**	**29.31**	**45**	P	**P**	**14 53 20.6**	**+0.8**
	comp=E,0.7nm,0.7s,baz=251,slow=8.9,SNR=5.6						
	comp=E,0.7nm,0.7s						
MAKZ	**Makanchi**	**30.35**	**54**	P	**P**	**14 53 30.1**	**+1.1**
FINES	**FINESS Array B**	**30.44**	**341**	P	**P**	**14 53 29.9**	**+0.3**
	comp=E,0.8nm,0.6s,baz=156,slow=9.6,SNR=5.4						
	comp=E,0.8nm,0.6s						
MK31	**Makanchi Array**	**30.56**	**54**	P	**P**	**14 53 31.7**	**+0.8**
MK31				IAmb	IAmb	14 53 40.1	
	comp=E,2.2nm,0.8s						
MKAR	**Makanchi Array**	**30.56**	**54**	P	**P**	**14 53 31.9**	**+1.0**
	comp=E,1.9nm,0.4s,baz=254,slow=10,SNR=40						
	comp=E,1.9nm,0.4s						
BNI	**Bardonecchia**	**31.87**	**302**	P	**P**	**14 53 40.9**	**-1.7**
HFS	**Hagfors**	**33.64**	**331**	P	**P**	**14 53 57.6**	**-0.1**
	comp=E,3.2nm,0.4s,baz=131,slow=10,SNR=32						
	comp=E,3.2nm,0.4s						
ZALV	**Zalesovo Beam**	**34.12**	**42**	P	**P**	**14 54 01.8**	**-0.2**
	comp=E,1.1nm,0.3s,baz=265,slow=10.0,SNR=1.9						
	comp=E,1.1nm,0.3s						
NOA	**NORSAR Array B**	**35.16**	**331**	P	**P**	**14 54 09.6**	**-1.3**
	comp=E,0.7nm,0.9s,baz=177,slow=14,SNR=2.1						
	comp=E,0.7nm,0.9s						
TAM	**Tamanrasset**	**36.78**	**263**	P	**P**	**14 54 24.6**	**-0.7**
TAM				IAmb	IAmb	14 54 28.9	
	comp=E,4.3nm,1.0s						
ARCES	**ARCESS Array B**	**37.55**	**349**	P	**P**	**14 54 31.9**	**+0.7**
	comp=E,2.1nm,0.9s,baz=163,slow=6.2,SNR=5.3						
	comp=E,2.1nm,0.9s						
ESDC	**Sonseca Array**	**39.80**	**293**	P	**P**	**14 54 51.0**	**+0.6**
	comp=E,0.4nm,0.3s,baz=76,slow=8.5,SNR=2.8						
	comp=E,0.4nm,0.3s						
EKA	**Eskdalemuir Ar**	**39.88**	**318**	P	**P**	**14 54 50.8**	**-0.1**
	comp=E,1.2nm,0.6s,baz=100,slow=9.4,SNR=5.3						
	comp=E,1.2nm,0.6s						
NRIK	**Noril'sk**	**42.52**	**21**	P	**P**	**14 55 13.9**	**+1.6**
	comp=E,1.2nm,0.4s,baz=253,slow=2.3,SNR=4.1						
	comp=E,1.2nm,0.4s						
TOA0	**Torodi Ar. Sit**	**44.82**	**254**	P	**P**	**14 55 31.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**44.82**	**254**	P	**P**	**14 55 31.6**	**-0.1**
TORD				IAmb	IAmb	14 55 34.0	
	comp=E,3.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**44.82**	**254**	P	**P**	**14 55 31.4**	**-0.2**
	comp=E,2.0nm,0.8s,baz=53,slow=8.2,SNR=10						
	comp=E,2.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**46.29**	**352**	P	**P**	**14 55 43.3**	**+0.8**
	comp=E,1.8nm,0.5s,baz=143,slow=13,SNR=15						
	comp=E,1.8nm,0.5s						
SONM	**Songino Array**	**46.92**	**54**	P	**P**	**14 55 48.8**	**+0.8**
	comp=E,0.4nm,0.5s,baz=305,slow=8.2,SNR=2.1						
	comp=E,0.4nm,0.5s						
ULN	**Ulaanbaatar**	**47.36**	**53**	P	**P**	**14 55 51.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**49.71**	**94**	P	**P**	**14 56 08.6**	**-1.1**
	comp=E,1.2nm,0.6s,baz=293,slow=8.8,SNR=8.2						
	comp=E,1.2nm,0.6s						
KSRS	**Korea Array**	**64.91**	**61**	P	**P**	**14 57 55.4**	**-1.4**
	comp=E,0.6nm,0.6s,baz=283,slow=7.0,SNR=1.9						
	comp=E,0.6nm,0.6s						
BOSA	**Boshof**	**64.96**	**200**	P	**P**	**14 57 57.0**	**-0.3**
	comp=E,4.1nm,0.7s,baz=0.5,slow=5.8,SNR=7.5						
	comp=E,4.1nm,0.7s						
SEY	**Seymchan**	**67.54**	**28**	P	**P**	**14 58 14.3**	**+1.0**
	comp=E,1.0nm,0.6s,baz=186,slow=10,SNR=2.4						
	comp=E,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**75.37**	**35**	LR	LR	15 36 16.1	
	comp=E,78nm,20.5s,baz=81,slow=39						
ILAR	**Eielson Array**	**81.31**	**5**	P	**P**	**14 59 34.1**	**+0.8**
	comp=E,0.6nm,0.9s,baz=335,slow=3.1,SNR=5.8						
	comp=E,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**82.78**	**351**	P	**P**	**14 59 40.6**	**-0.4**
	comp=E,0.3nm,0.6s,baz=17,slow=5.6,SNR=6.3						
	comp=E,0.3nm,0.6s						
SADO	**Sadowa**	**87.16**	**324**	LR	LR	15 40 26.5	
	comp=E,50nm,18.1s,baz=243,slow=37						
WRA	**Warramunga Arr**	**99.77**	**107**	P	**Pdif**	**15 01 00.5**	**-1.3**
	comp=E,0.6nm,1.0s,baz=316,slow=4.1,SNR=2.3						
	comp=E,0.6nm,1.0s						

TEH ***11*** *15:01:12.6,33°.74N×45°.63E,h10km±128km,ML2.6*
ISN ***11*** *15:01:12.7±0.6,33°.75N×45°.63E,h11km±2km,ML2.6*

ISC 11 15:01:13.0±1.1,33°.73N±0°.04×45°.63E±0°.05,h13km,n9, σ0s55/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.49**	**102**	Pg	**Pg**	**15 01 22.5**	**-0.3**
ILBA				Sg	**Sg**	**15 01 29.8**	**+0.5**
IBDR	**Badra**	**0.67**	**158**	*e*Pg	**Pg**	**15 01 26.0**	**0.0**
IBDR				*e*Sg	**Sb**	**15 01 36.0**	**+0.4**
IGHG	**Ghaleghazi**	**0.98**	**52**	Pg	**Pg**	**15 01 31.7**	**-0.3**
BHD	**Baghdad**	**1.14**	**247**	*e*Pg	**Pg**	**15 01 35.0**	**0.0**
BHD				*e*Sg	**Sn**	**15 01 50.5**	**+0.3**
IDHR	**Dehrash**	**1.15**	**33**	Pg	**Pb**	**15 01 34.3**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.29**	**65**	Pg	**Pg**	**15 01 38.4**	**+0.5**
ILIN	**Lien**	**1.62**	**42**	Pg	**Pb**	**15 01 43.0**	**+0.1**
IKOM	**Komasi**	**1.62**	**74**	Pg	**Pg**	**15 01 43.8**	**-0.4**
RAFI	**Al-Rafai**	**2.04**	**168**	*e*Pn	**Pb**	**15 01 49.0**	**-0.9**
RAFI				*e*Sn	**Sb**	**15 02 16.0**	**+0.8**

TEH ***11*** *15:23:44.3,33°.75N×45°.66E,h11km±59km,ML2.7*
ISN ***11*** *15:23:44.4±1.4,33°.71N×45°.65E,h6km±7km,ML2.7*

ISC 11 15:23:44.8±1.1,33°.74N±0°.04×45°.65E±0°.05,h13km,n10, σ0s87/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.48**	**104**	Sg	**Sg**	**15 24 01.0**	**+0.2**
IBDR	**Badra**	**0.68**	**159**	*e*Pg	**Pg**	**15 23 57.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**15 24 06.0**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**0.76**	**356**	Pg	**Pg**	**15 23 59.1**	**-0.6**
IGHG	**Ghaleghazi**	**0.96**	**52**	Pg	**Pg**	**15 24 02.6**	**-0.9**
IDHR	**Dehrash**	**1.13**	**32**	Pg	**Pb**	**15 24 05.6**	**-0.8**
BHD	**Baghdad**	**1.16**	**246**	*e*Pg	**Pg**	**15 24 07.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.27**	**65**	Pg	**Pg**	**15 24 09.3**	**0.0**
IKOM	**Komasi**	**1.61**	**74**	Pg	**Pg**	**15 24 15.3**	**-0.4**
RAFI	**Al-Rafai**	**2.05**	**169**	*e*Pn	**Pn**	**15 24 20.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**15 24 48.0**	**+0.6**
HSAM	**Samen**	**2.50**	**78**	Pn	**Pn**	**15 24 26.8**	**+1.4**

TEH ***11*** *15:24:34.8,33°.80N×45°.71E,h11km±38km,ML3.5*
ISN ***11*** *15:24:34.3±0.7,33°.79N×45°.69E,h12km±3km,ML3.2*

ISC 11 15:24:34.7±1.3,33°.78N±0°.03×45°.68E±0°.04,h8km±12km, n23,σ1s09/28,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**109**	Pg	**Pg**	**15 24 43.7**	**-0.1**
IBDR	**Badra**	**0.70**	**162**	*e*Pg	**Pg**	**15 24 48.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**15 24 58.0**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**0.73**	**354**	Pg	**Pb**	**15 24 49.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.92**	**53**	Pg	**Pb**	**15 24 52.3**	**-0.8**
IDHR	**Dehrash**	**1.09**	**33**	Pg	**Pg**	**15 24 55.0**	**-0.6**
BHD	**Baghdad**	**1.20**	**245**	*e*Pg	**Pg**	**15 24 58.0**	**+0.4**
BHD				*e*Sg	**Sn**	**15 25 14.0**	**0.0**
KCHF	**Cheshme Sefid,**	**1.24**	**66**	Pg	**Pg**	**15 24 58.2**	**-0.2**
ILIN	**Lien**	**1.56**	**43**	Pg	**Pg**	**15 25 04.1**	**-0.5**
ILIN				Sg	**Sg**	**15 25 26.3**	**+1.5**
IKOM	**Komasi**	**1.57**	**75**	Pg	**Pg**	**15 25 04.7**	**-0.2**
IKFM	**Kafar-mosalman**	**1.83**	**97**	Pg	**Pb**	**15 25 07.9**	**-0.4**
IBZA	**Bozab**	**1.94**	**69**	Pn	**Pb**	**15 25 08.8**	**-1.7**
IKRK	**Kirkuk**	**1.96**	**326**	*e*Pn	**Pb**	**15 25 09.0**	**-1.5**
IKRK				*e*Sn	**Sb**	**15 25 35.0**	**-0.1**
IKRK	comp=E,256nm,0.3s			AML	AML	15 25 40.4	
IKRK	comp=N,224nm,0.4s			AML	AML	15 25 40.4	
RAFI	**Al-Rafai**	**2.08**	**170**	*e*Pn	**Pb**	**15 25 11.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**15 25 38.0**	**-0.7**
RAFI	comp=N,242nm,0.5s			AML	AML	15 25 52.5	
RAFI	comp=E,239nm,0.4s			AML	AML	15 25 54.2	
IALM	**Almabolaq**	**2.33**	**62**	Pn	**Pb**	**15 25 15.1**	**-2.0**
HSAM	**Samen**	**2.47**	**79**	Pn	**Pn**	**15 25 16.2**	**+0.7**
QSDN	**Sirdan**	**3.95**	**46**	Pn	**Pn**	**15 25 36.8**	**+1.0**
IPIR	**Pirpir**	**4.51**	**103**	Pn	**Pn**	**15 25 44.5**	**+1.0**
QAMS	**Qamsar**	**4.77**	**89**	Pn	**Pn**	**15 25 48.0**	**+1.0**
IKLH	**Kolahrood**	**4.95**	**94**	Pn	**Pn**	**15 25 51.1**	**+1.5**
KRSH	**Karshahi**	**5.38**	**86**	Pn	**Pn**	**15 25 56.7**	**+1.3**
ISFB	**Sefidab**	**5.48**	**82**	Pn	**Pn**	**15 25 57.6**	**+0.9**
IZEF	**Zefreh**	**5.64**	**97**	Pn	**Pn**	**15 26 00.0**	**+1.0**
IRAM	**Ramesheh**	**5.98**	**107**	Pn	**Pn**	**15 26 05.0**	**+1.3**

ISN ***11*** *15:30:31.5±0.7,34°.00N×45°.90E,h10km±9km,ML2.5*
TEH ***11*** *15:30:43.2,34°.03N×45°.89E,h18km±145km,ML2.6*

ISC 11 15:30:38.2±1.0,33°.82N±0°.05×45°.58E±0°.07,h10km,n8, σ2s51/9,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.55**	**110**	Pg	**Pn**	**15 30 53.5**	**+1.3**
KGS1	**Ghasr-e-Shirin**	**0.69**	**0**	Pg	**Pb**	**15 30 54.1**	**+1.8**
IBDR	**Badra**	**0.76**	**158**	*e*Pg	Pg	15 30 49.0	-3.9
I

MIDY	**Mardin/Midyat-**	**1.87**	**229**	P		**Pb**	**15 40 26.8**	**-0.4**
ERZM	**Erzurum**	**1.87**	**312**	P		**Pg**	**15 40 29.1**	**0.0**
AMBZ	**Amberd**	**1.93**	**26**	*eP*		**Pb**	**15 40 26.9**	**-1.4**
AMBZ				*eS*		**Sg**	**15 40 55.2**	**0.0**
GNI	**Garni**	**1.93**	**39**	*eP*		**Pb**	**15 40 27.0**	**-1.3**
GNI				*eS*		**Sg**	**15 40 55.3**	**+0.1**
ISHB	**Shabestar**	**1.96**	**100**	Pn		**Pn**	**15 40 26.4**	**0.0**
BNGB	**Bingl**	**1.97**	**281**	Pn		**Pb**	**15 40 27.8**	**-1.2**
KARS	**Kars**	**1.97**	**358**	Pn		**Pn**	**15 40 27.4**	**+1.0**
IMRD	**Marand**	**1.99**	**88**	Pn		**Pn**	**15 40 27.4**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.01**	**342**	Pn		**Pb**	**15 40 28.1**	**-1.5**
KAPZ	**Kaputan**	**2.04**	**35**	*eP*		**Pb**	**15 40 29.3**	**-1.0**
KAPZ				*eS*		**Sg**	**15 40 59.3**	**+0.3**
EMRE	**Erzurum,Aziziy**	**2.18**	**310**	P		**Pb**	**15 40 33.8**	**+1.1**
ITBZ	**Tabriz**	**2.38**	**99**	Pn		**Pn**	**15 40 32.7**	**+0.7**
MAZI	**Mazidag**	**2.46**	**242**	Pn		**Pn**	**15 40 34.5**	**+1.5**
DYBB	**Diyarbakir**	**2.48**	**255**	Pn		**Pn**	**15 40 34.9**	**+1.6**
MAHB	**Mahabad**	**2.76**	**132**	Pn		**Pn**	**15 40 38.2**	**+0.9**
IHRS	**Heris**	**3.06**	**95**	Pn		**Pn**	**15 40 43.0**	**+1.6**

PRE 11 15:41:53.4±1.0, 25°47'S×28°82'E, h5km, ML2.1, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRLN	**Carolina, Mapu**	**1.20**	**116**	*eP*		Pb	15 42 16.7	-0.1
CRLN				*eS*		Sb	15 42 33.0	+0.3
CRLN				IAML			15 42 43.6	
	comp=Z,22nm,0.6s							
WDLM	**Western Deep L**	**1.58**	**233**	*eP*		Pb	15 42 22.9	-0.3
WDLM				*eS*		Sg	15 42 44.3	+0.1
WDLM				IAML			15 42 44.7	
	comp=Z,39nm,0.3s							
KSR	**Koster**	**1.78**	**257**	*eP*		Pn	15 42 24.9	-0.1
KSR				*eS*		Sb	15 42 48.9	-0.4
KSR				IAML			15 42 52.2	
	comp=Z,68nm,0.3s							
PILG	**Pilgrimsrest,**	**1.79**	**73**	*eP*		Pn	15 42 25.9	+0.7
PILG				*eS*		Sb	15 42 49.8	+0.1
PILG				IAML			15 42 52.7	
	comp=Z,54nm,0.5s							
LEPH	**Lephalale, Lim**	**1.86**	**330**	*eP*		Pn	15 42 26.9	+0.9
LEPH				*eS*		Sn	15 42 50.4	+0.5
LEPH				IAML			15 42 53.5	
	comp=Z,48nm,0.4s							
PRYS	**Parys**	**1.96**	**222**	*eP*		Pn	15 42 28.3	+0.9
PRYS				*eS*		Sn	15 42 53.1	+0.6
PRYS				IAML			15 42 54.7	
	comp=Z,12nm,0.6s							
SNKL	**Senekal, Frees**	**2.95**	**198**	*eS*		Sn	15 43 16.9	-0.1
SNKL				IAML			15 43 26.9	
	comp=Z,21nm,0.4s							
LBTB	**Lobatse**	**2.96**	**278**	*eP*		Pn	15 42 42.6	+1.5
LBTB				*eS*		Sn	15 43 17.2	+0.2
LBTB				IAML			15 43 34.0	
	comp=Z,9.8nm,0.3s							
SWZ	**Schweizer**	**3.57**	**241**	*eP*		Pn	15 42 51.0	+1.5
SWZ				*eS*		Sn	15 43 32.3	+0.1
SWZ				IAML			15 43 46.5	
	comp=Z,12nm,0.8s							
BOSA	**Boshof**	**4.46**	**225**	*eP*		Pn	15 43 03.6	+1.7
BOSA				*eS*		Sn	15 43 53.7	-0.6
BOSA				IAML			15 44 17.0	
	comp=Z,3.5nm,0.7s							
KSTD	**Kokstad**	**5.14**	**175**	*eP*		Pn	15 43 11.4	+0.1
KSTD				*eS*		Sn	15 44 09.9	-1.2
KSTD				IAML			15 44 47.1	
	comp=Z,2.4nm,0.5s							

*TEH **11** 15:50:36.5, 33°.71N×45°.72E, h8km±99km, ML2.9*
*ISN **11** 15:50:36.1±0.8, 33°.73N×45°.72E, h9km±3km, ML2.9*
ISC 11 15:50:36.6±1.4, 33°68N±0°.04×45°76E±0°.04, h6km±13km, n10, σ0°68/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.38**	**99**	Pg		**Pg**	**15 50 44.6**	**+0.7**
ILBA				Sg		**Sb**	**15 50 51.1**	**-0.9**
IBDR	**Badra**	**0.59**	**166**	*ePg*		**Pb**	**15 50 49.0**	**-0.3**
IBDR				*eSg*		**Sb**	**15 50 57.5**	**-0.4**
IGHG	**Ghaleghazi**	**0.93**	**46**	Pg		**Pb**	**15 50 55.1**	**-0.2**
IDHR	**Dehrash**	**1.14**	**27**	Pg		**Pg**	**15 50 58.2**	**-0.3**
BHD	**Baghdad**	**1.22**	**251**	*ePg*		**Pg**	**15 50 59.5**	**-0.6**
BHD				*eSg*		**Sg**	**15 51 18.0**	**+0.1**
IKOM	**Komasi**	**1.54**	**71**	Pg		**Pg**	**15 51 06.4**	**+0.4**
ILIN	**Lien**	**1.58**	**39**	Pg		**Pg**	**15 51 07.0**	**0.0**
IKFM	**Kafar-mosalman**	**1.75**	**95**	Pg		**Pg**	**15 51 10.1**	**0.0**
RAFI	**Al-Rafai**	**1.98**	**171**	*ePn*		**Pb**	**15 51 12.0**	**-1.0**
RAFI				*eSn*		**Sb**	**15 51 39.0**	**+1.1**
RAFI				AML	AML		15 51 48.8	
	comp=N,118nm,0.3s							
RAFI				AML	AML		15 51 49.0	
	comp=E,102nm,0.5s							
IKRK	**Kirkuk**	**2.07**	**326**	*ePn*		**Pn**	**15 51 12.0**	**+0.1**
IKRK				*eSn*		**Sn**	**15 51 39.0**	**+0.9**

*UCR **11** 16:00:25.1±0.8, 10°.66N×84°.99W, h5km±3km, MW5.1, MB4.6(NEIC), Fault plane solution: NP1:ϕs56.40000°, δ75.06000°, λ-1.34000°.*
*IDC **11** 16:00:25.5±0.8, 10°.67N×84°.83W, h0km, mb3.9/9, mbtmp4.0/12, ML3.7/3, MS3.8/26, Error ellipse: s-maj=22.3km s-min=6.1km az=100.0*
*CATAC **11** 16:00:26.0±0.2, 10°.65N×85°.00W, h6km±3km, ML4.5*
*NEIC **11** 16:00:26.1±2.6, 10°.67N±0°.04×84°.87W±0°.07, h7km±6km, mb4.6/49, Error ellipse: s-maj=10.1km s-min=5.3km az=66.0*
ISC 11 16:00:26.2±0.9, 10°64N±0°.02×84°97W±0°.02, h10km±6km, n176, σ0°96/169, mb4.5/34, MS3.9/22, 32C-16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CUI	**Cuipilapa**	**0.20**	**276**	*eP*		**Pg**	**16 00 29.9**	**-0.4**
VMAR	**Armenia, Volca**	**0.23**	**320**	*eP*		**Pg**	**16 00 30.5**	**-0.4**
VMAR	**Armenia, Volca**	**0.23**	**320**	*iP*		**Pg**	**16 00 30.4**	**-0.5**
VMAR				IAML			16 00 44.0	
	comp=Z,270μm,1.0s							
CAMAV	**Centro de Prod**	**0.23**	**286**	*eP*		**Pg**	**16 00 30.4**	**-0.6**
COLC	**Colonia**	**0.24**	**277**	*eP*		**Pg**	**16 00 30.6**	**-0.5**
VERA	**Finca Concepci**	**0.24**	**24**	*eP*		**Pg**	**16 00 30.9**	**-0.1**
VERA				*eS*		**Sg**	**16 00 35.5**	**+1.1**
CNAS	**Canas**	**0.24**	**211**	*eP*		**Pb**	**16 00 32.2**	**-0.4**
ARE1	**Arenal 1**	**0.30**	**126**			**Pb**	**16 00 33.1**	**-0.6**
ARE1				Sg		**Sg**	**16 00 36.8**	**+0.6**
ARE1	**Arenal 1**	**0.30**	**126**	*eP*		**Pb**	**16 00 33.0**	**-0.6**
VACR	**Volcan Arenal**	**0.33**	**120**	*eP*		**Pb**	**16 00 33.5**	**-0.6**
VACR				*eS*		**Sb**	**16 00 40.2**	**+0.7**
VACR	**Volcan Arenal**	**0.33**	**120**	*iP*		**Pb**	**16 00 33.6**	**-0.5**
VACR				*i* S		**Sb**	**16 00 39.7**	**+0.2**
VACR				IAML			16 00 47.4	
	comp=Z,110μm,1.0s							
JTS	**Las Juntas de**	**0.34**	**178**	Pg		**Pg**	**16 00 32.8**	**-0.3**
JTS				Sg		**Sg**	**16 00 38.1**	**+0.5**
JTS	**Las Juntas de**	**0.34**	**178**	Pg		**Pg**	**16 00 33.1**	**0.0**
	comp=Z,3μm,0.3s,baz=19,slow=17,SNR=3539							
JTS				Lg		Lg	16 00 38.4	
	comp=Z,2μm,0.3s,baz=172,slow=23,SNR=17							
JTS	**Las Juntas de**	**0.34**	**178**	*eP*		**Pg**	**16 00 32.7**	**-0.3**
JUNT	**Juntas**	**0.35**	**179**	*eP*		**Pg**	**16 00 33.0**	**-0.2**
TUNA	**La Fortuna**	**0.36**	**118**	*eP*		**Pb**	**16 00 34.9**	**+0.3**
GPS3	**Bodega del ICE**	**0.41**	**287**	*eP*		**Pb**	**16 00 35.9**	**+0.3**
VORI	**VORI**	**0.42**	**296**	*eP*		**Pg**	**16 00 33.7**	**-0.8**
VRLE	**La Escondida,**	**0.42**	**291**	*eP*		**Pg**	**16 00 33.8**	**-0.7**
VRLE	**La Escondida,**	**0.42**	**291**	*iP*		**Pg**	**16 00 33.9**	**-0.6**
VRLE				IAML			16 00 51.8	
	comp=Z,20μm,1.0s							
SOCE	**Pocosol**	**0.42**	**126**	Pg		**Pg**	**16 00 34.6**	**0.0**
SOCE				Sg		**Sg**	**16 00 40.6**	**+0.5**
SOCE	**Pocosol**	**0.42**	**126**	*eP*		**Pg**	**16 00 34.8**	**+0.3**
SOCE	**Pocosol**	**0.42**	**126**	*iP*		**Pg**	**16 00 34.8**	**+0.3**
SOCE				*i* S		**Sb**	**16 00 42.6**	**+0.3**
SOCE				IAML			16 00 45.2	
	comp=Z,53μm,1.0s							
GB1A	**Borinquen Arri**	**0.46**	**293**	*eP*		**Pg**	**16 00 34.6**	**-0.7**
LCHIL	**Los Chiles**	**0.47**	**32**	*eP*		**Pg**	**16 00 35.8**	**+0.4**
LCHIL				*eS*		**Sb**	**16 00 43.6**	**+0.1**
PLVR	**Palo Verde**	**0.47**	**233**	*eP*		**Pg**	**16 00 35.1**	**-0.4**
PLVR				*eS*		**Sg**	**16 00 41.8**	**-0.1**
ORTG	**Ortega, Santa**	**0.56**	**241**			**Pg**	**16 00 36.5**	**-0.5**
ORTG				Sg		**Sg**	**16 00 44.5**	**+0.1**
ORTG	**Ortega, Santa**	**0.56**	**241**	*eP*		**Pg**	**16 00 36.5**	**-0.5**
ORTG	**Ortega, Santa**	**0.56**	**241**	*iP*		**Pg**	**16 00 36.5**	**-0.5**
ORTG				*i* S		**Sg**	**16 00 44.6**	**+0.2**
ORTG				IAML			16 00 53.5	
	comp=Z,9μm,1.0s							
COVE	**Coope Vega, Sa**	**0.56**	**81**			**Pg**	**16 00 36.6**	**-0.5**
COVE	**Coope Vega, Sa**	**0.56**	**81**	*eP*		**Pg**	**16 00 36.6**	**-0.5**
COVE	**Coope Vega, Sa**	**0.56**	**81**	*iP*		**Pg**	**16 00 36.6**	**-0.5**
COVE				IAML			16 00 59.4	
	comp=Z,41μm,1.0s							
ELI1	**Hacienda Flor**	**0.58**	**271**	*eP*		**Pg**	**16 00 36.8**	**-0.6**
HZTE	**Horizontes, Gu**	**0.62**	**277**			**Pg**	**16 00 37.8**	**-0.5**
CPMI	**Catarata Coope**	**0.67**	**121**	*eP*		**Pg**	**16 00 39.3**	**0.0**
CPMI	**Catarata Coope**	**0.67**	**121**	*iP*		**Pg**	**16 00 39.3**	**0.0**
CPMI				*i* S		**Sb**	**16 00 50.6**	**+0.9**
CPMI				IAML			16 01 00.2	
	comp=Z,19μm,1.0s							
NYURE	**Nandayure**	**0.70**	**204**	*eP*		**Pg**	**16 00 39.8**	**+0.1**
ARZA	**Esparza**	**0.70**	**155**	*eP*		**Pb**	**16 00 40.5**	**-0.1**
ITAL	**Pital**	**0.71**	**105**	*eP*		**Pg**	**16 00 39.3**	**-0.6**
SACU	**Santa Cruz**	**0.71**	**239**	*eP*		**Pg**	**16 00 39.3**	**-0.6**
ZARE	**Zarcero**	**0.72**	**128**	*eP*		**Pb**	**16 00 40.5**	**-0.5**
JUD3	**Juan Diaz 3**	**0.73**	**230**	*eP*		**Pg**	**16 00 39.7**	**-0.7**
DUNO	**Dulce Nombre,**	**0.76**	**223**			**Pg**	**16 00 40.2**	**-0.7**
DUNO	**Dulce Nombre,**	**0.76**	**223**	*eP*		**Pg**	**16 00 40.2**	**-0.7**
DUNO	**Dulce Nombre,**	**0.76**	**223**	*iP*		**Pg**	**16 00 40.5**	**-0.4**
CMARA	**Lajas Hojancha**	**0.76**	**216**	*eP*		**Pg**	**16 00 40.3**	**-0.6**
POA5	**Crater Von Fra**	**0.84**	**121**	*eP*		**Pg**	**16 00 41.9**	**-0.6**
TCS1	**Tacares**	**0.88**	**132**	*i* PA			16 00 43.9	
INDI	**Punta indio, G**	**0.93**	**215**	*eP*		**Pg**	**16 00 43.2**	**-0.9**
INDI	**Punta indio, G**	**0.93**	**215**	*iP*		**Pg**	**16 00 43.3**	**-0.8**
INDI				*i* S		**Sb**	**16 00 57.0**	**+0.2**
INDI				IAML			16 00 58.4	
	comp=Z,7μm,1.0s							
JACO	**JACO, Garabito**	**1.01**	**163**			**Pg**	**16 00 44.9**	**-0.9**
JACO	**JACO, Garabito**	**1.01**	**163**	*eP*		**Pg**	**16 00 44.6**	**-1.1**
JACO	**JACO, Garabito**	**1.01**	**163**	*iP*		**Pg**	**16 00 44.8**	**-0.9**
JACO				IAML			16 00 48.5	
	comp=Z,5μm,1.0s							
JACO				*i* S		**Sb**	**16 00 59.3**	**+0.1**
CBL1	**Cabuya**	**1.05**	**187**	*eP*		**Pg**	**16 00 45.0**	**-1.3**
HDC	**Heredia**	**1.05**	**127**			**Pg**	**16 00 45.9**	**-0.5**
HDC3	**Heredia 3**	**1.05**	**127**	*iP*		**Pg**	**16 00 46.1**	**-0.3**
HDC3				IAML			16 01 06.7	
	comp=Z,10μm,1.0s							
RIFO	**Rio Frio, Sara**	**1.07**	**107**	*eP*		**Pg**	**16 00 45.2**	**-1.6**
RIFO	**Rio Frio, Sara**	**1.07**	**107**	*iP*		**Pg**	**16 00 45.4**	**-1.5**
RIFO				*i* S		**Sn**	**16 01 02.3**	**0.0**
RIFO				IAML			16 01 07.6	
	comp=Z,16μm,1.0s							
OMEN	**AI SSO del Vol**	**1.08**	**323**	*i* PA			16 00 47.4	
OMEN				IAML			16 01 12.6	
	comp=Z,9μm,1.0s							
MORN	**AI O del Volca**	**1.13**	**324**	*iP*		**Pb**	**16 00 46.7**	**-1.1**
MORN				IAML			16 01 10.0	
	comp=Z,14μm,1.0s							
CONN	**Concepcion**	**1.13**	**325**	*i* PA			16 00 47.0	
CONN				IAML			16 00 52.9	
	comp=Z,51μm,1.0s							
JAPN	**AI SSO del Vol**	**1.13**	**322**	*iP*		**Pb**	**16 00 47.0**	**-0.8**
JAPN				IAML			16 00 50.8	
	comp=Z,9μm,1.0s							
OCM	**Ochomogo**	**1.23**	**127**	*eP*		**Pb**	**16 00 48.3**	**-1.4**
OCM	**Ochomogo**	**1.23**	**127**	*iP*		**Pb**	**16 00 48.9**	**-0.8**
OCM				IAML			16 00 50.7	
	comp=Z,4μm,1.0s							
OCM				*i* S		**Sn**	**16 01 08.2**	**+1.7**
CARI	**Cariari**	**1.24**	**102**	*eP*		**Pn**	**16 00 48.5**	**-1.0**
TBLN	**Tablon, Guarco**	**1.25**	**130**	*i* PA			16 00 49.1	
TBLN				IAML			16 01 11.0	
	comp=Z,10μm,1.0s							
HAYA	**Volcan Irazu**	**1.28**	**120**	*i* PA			16 00 50.5	
HAYA				IAML			16 01 19.7	
	comp=Z,7μm,1.0s							
LCR2	**La Lucha 2**	**1.30**	**133**			**Pn**	**16 00 49.4**	**-1.2**
LCR2	**La Lucha 2**	**1.30**	**133**	*eP*		**Pn**	**16 00 49.1**	**-1.5**
ACON	**Acoyapa**	**1.34**	**351**			**Pn**	**16 00 49.6**	**-1.4**
ACON	**Acoyapa**	**1.34**	**351**	*eP*		**Pn**	**16 00 49.6**	**-1.4**
VTLO	**VTLO**	**1.35**	**116**	*eP*		**Pn**	**16 00 50.3**	**-1.1**
RIMA	**Rio Macho**	**1.39**	**128**			**Pn**	**16 00 51.0**	**-0.8**
RIMA	**Rio Macho**	**1.39**	**128**	*eP*		**Pn**	**16 00 50.5**	**-1.4**
CDM	**Cerro de Muert**	**1.60**	**132**	*eP*		**Pn**	**16 00 54.5**	**-0.5**
BUS1	**Rivas**	**1.61**	**132**	*eP*		**Pn**	**16 00 54.6**	**-0.6**
ESPN	**Las Esperanzas**	**1.68**	**23**			**Pn**	**16 00 55.5**	**-0.2**
ESPN	**Las Esperanzas**	**1.68**	**23**	*eP*		**Pn**	**16 00 54.8**	**-0.8**
SRBA	**San Rafael, Bu**	**2.11**	**131**			**Pn**	**16 01 02.4**	**+0.7**
DRK0	**Durika**	**2.18**	**129**			**Pn**	**16 01 01.6**	**-1.0**
MATN	**Matagalpa**	**2.47**	**338**	Pn		**Pn**	**16 01 05.8**	**-0.7**
CNGN	**Cerro Negro**	**2.51**	**318**			**Pn**	**16 01 07.2**	**0.0**
RGM0	**Gandoca**	**2.54**	**114**			**Pn**	**16 01 06.2**	**-1.4**
BRU2	**Volcan**	**2.89**	**129**			**Pn**	**16 01 11.4**	**-1.1**
CRIN	**San Cristobal**	**2.89**	**315**			**Pn**	**16 01 12.7**	**+0.2**
CDITO	**Copas**	**2.91**	**135**			**Pn**	**16 01 12.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**4.08**	**327**			**Pn**	**16 01 28.0**	**-0.8**
PRVC	**Isla de Provid**	**4.45**	**52**	Pn		**Pn**	**16 01 33.6**	**-0.2**
BCIP	**Isla Barro Col**	**5.26**	**106**	Pn		**Pn**	**16 01 43.9**	**-1.0**
MTO3	**Montecristo**	**5.69**	**312**			**Pn**	**16 01 50.4**	**-0.7**
APG	**El Apazote**	**6.90**	**310**	LR		LR	16 04 49.7	
	comp=Z,47nm,19.2s,baz=288,slow=38							
CAP2	**Capurgana**	**7.75**	**104**	Pn		**Pn**	**16 02 17.5**	**-1.7**
CCIG	**Comitan**	**8.95**	**310**	Pn		**Pn**	**16 02 34.5**	**-1.3**
FSCY	**Frank Sound, G**	**9.37**	**23**	Pn		Pn	16 02 35.1	-6.2
SJCC	**San Jacinto, C**	**9.66**	**93**	Pn		**Pn**	**16 02 43.8**	**-1.7**
TEIG	**Tepich**	**10.05**	**342**	Pn		**Pn**	**16 02 50.2**	**-0.5**
TEIG	**Tepich**	**10.05**	**342**	Pn		**Pn**	**16 02 51.0**	**+0.3**
	comp=Z,5.3nm,0.3s,baz=332,slow=14,SNR=1.8							
TEIG				LR		LR	16 06 42.9	
	comp=Z,3μm,20.3s,baz=335,slow=38							
	comp=Z,28nm,0.5s							
CMIG	**Matias Romero**	**11.57**	**305**	Pn		**Pn**	**16 03 15.0**	**+3.5**
	comp=Z,0.4nm,0.3s,baz=126,slow=9.4,SNR=2.3							
CMIG				LR		LR	16 07 50.4	
	comp=Z,429nm,19.9s,baz=154,slow=38							
	comp=Z,2.4nm,0.8s							
SOR	**Soroa**	**12.23**	**9**	Pn		**Pn**	**16 03 18.6**	**-1.9**
SDV	**Santo Domingo**	**14.23**	**96**	Pn		**Pn**	**16 03 46.4**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=0.1,slow=15,SNR=1.6							
SDV				LR		LR	16 10 18.6	
	comp=Z,259nm,19.0s,baz=280,slow=42							
	comp=Z,2.5nm,0.5s							
TLIG	**Tlapa**	**14.88**	**299**	Pn		**Pn**	**16 03 57.2**	**+0.4**
BOSC	**San Juan Bosco**	**15.14**	**154**			**Pn**	**16 04 00.9**	**+0.5**
MCRA	**Macar, Loja**	**15.72**	**161**			**Pn**	**16 04 08.2**	**+0.2**
BAUV	**El Baul**	**16.76**	**94**			**Pn**	**16 04 21.1**	**-0.2**
ATAH	**Atahualpa**	**18.83**	**159**	LR		LR	16 11 24.4	
	comp=Z,314nm,18.4s,baz=340,slow=35							
LRAL	**Lakeview Retre**	**22.37**	**356**	P		**P**	**16 05 25.6**	**+1.0**
Y52A	**Lilburn**	**23.14**	**2**	P		**P**	**16 05 33.9**	**+1.2**
Y52A				IAmb		IAmb	16 05 39.0	
	comp=Z,29nm,1.2s							
Y45A	**Yeager Farm, C**	**23.50**	**350**	P		**P**	**16 05 36.2**	**-0.1**
ABD	**La Joyeuse, An**	**23.54**	**73**	P		**P**	**16 05 35.6**	**-1.2**
HODGE	**Hodges**	**23.62**	**6**	P		**P**	**16 05 37.9**	**+0.4**
HODGE				IAmb		IAmb	16 05 43.6	
	comp=Z,9.3nm,0.7s							
DRIO	**Del Rio**	**23.73**	**324**	P		**P**	**16 05 37.0**	**-1.7**
NNA	**Nana**	**23.88**	**160**	LR		LR	16 14 16.9	
	comp=Z,103nm,18.6s,baz=330,slow=35							
BG3	**Lake Jocassee**	**24.32**	**4**	P		**P**	**16 05 46.1**	**+2.0**
BG3				IAmb		IAmb	16 05 50.3	
	comp=Z,15nm,0.9s							
BRDY	**Brady**	**24.32**	**330**	P		**P**	**16 05 44.3**	**+0.1**
W52A	**Murphy**	**24.36**	**2**	P		**P**	**16 05 45.2**	**+0.6**
W52A				IAmb		IAmb	16 05 47.5	
	comp=Z,16nm,1.1s							
PLAL	**Pickwick Lake**	**24.40**	**354**	P		**P**	**16 05 44.6**	**-0.3**
PLAL				IAmb		IAmb	16 05 52.4	
	comp=Z,16nm,1.2s							
W50A	**Signal Mountai**	**24.45**	**359**	P		**P**	**16 05 44.7**	**-0.7**
W50A				IAmb		IAmb	16 05 50.6	
	comp=Z,17nm,1.2s							
SWET	**Sewanee**	**24.48**	**358**	P		**P**	**16 05 45.7**	**0.0**
SWET				IAmb		IAmb	16 06 11.9	
	comp=Z,18nm,1.2s							
X40A	**Basin Creek Fa**	**24.81**	**344**	P		**P**	**16 05 46.8**	**-1.7**
TKL	**Tuckaleechee C**	**24.93**	**2**	LR		LR	16 15 19.1	
	comp=Z,152nm,19.8s,baz=194,slow=36							
UALR	**University of**	**24.95**	**345**	P		**P**	**16 05 49.5**	**-0.3**
UALR				IAmb		IAmb	16 06 11.6	
	comp=Z,7.0nm,0.8s							
V53A	**Saluda**	**25.00**	**4**	P		**P**	**16 05 50.0**	**-0.3**
V53A				IAmb		IAmb	16 05 59.2	
	comp=Z,15nm,1.0s							
V48A	**Smith Brothers**	**25.05**	**356**	P		**P**	**16 05 52.3**	**+1.6**
V48A				IAmb		IAmb	16 05 55.6	
	comp=Z,11nm,1.1s							
V51A	**Loudon**	**25.06**	**1**	P		**P**	**16 05 51.8**	**+1.0**
V51A				IAmb		IAmb	16 05 54.8	
	comp=Z,13nm,1.1s							
PLPT	**Palo Pinto**	**25.27**	**333**	P		**P**	**16 05 54.9**	**+2.2**
PLPT				IAmb		IAmb	16 06 33.7	
	comp=Z,16nm,1.0s							
V55A	**Taylorsville**	**25.33**	**7**	P		**P**	**16 05 53.1**	**-0.1**
V55A				IAmb		IAmb	16 06 35.5	
	comp=Z,19nm,1.4s							
CLTN	**Cedars of Leba**	**25.37**	**357**	P		**P**	**16 05 54.0**	**+0.4**
CLTN				IAmb		IAmb	16 05 58.7	
	comp=Z,17nm,1.1s							
WHAR	**Wooly Hollow**	**25.43**	**346**	P		**P**	**16 05 54.7**	**+0.5**
WHAR				IAmb		IAmb	16 06 02.6	
	comp=Z,12nm,1.1s							
WVT	**Waverly**	**25.51**	**355**	P		**P**	**16 05 55.3**	**+0.4**
TX31	**Lajitas Ar. Si**	**25.52**	**319**	P		**P**	**16 05 53.6**	**-1.5**
TXAR	**Lajitas Array**	**25.52**	**319**	P		**P**	**16 05 56.8**	**+1.6**
	comp=Z,5.3nm,0.9s,baz=139,slow=12,SNR=12							
TXAR				PcP		**PcP**	**16 09 28.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=134,slow=5.2,SNR=3.5							
TXAR				LR		LR	16 16 37.6	
	comp=Z,64nm,19.7s,baz=116,slow=38							
	comp=Z,5.3nm,0.9s							
BOAV	**Boa Vista**	**25.61**	**107**	P		**P**	**16 05 55.4**	**-0.6**
U54A	**Nelsons Funny**	**25.93**	**6**	P		**P**	**16 05 57.8**	**-0.9**
U56A	**King**	**25.93**	**8**	P		**P**	**16 05 56.1**	**-2.6**
U56A				IAmb		IAmb	16 06 32.6	
	comp=Z,21nm,1.2s							
LCAR	**Lake Charles**	**25.93**	**348**	P		**P**	**16 05 57.4**	**-1.3**
LCAR				IAmb		IAmb	16 06 02.6	
	comp=Z,13nm,1.3s							
T47A	**Sharon Grove**	**26.31**	**356**	P		**P**	**16 06 02.6**	**+0.5**
T47A				IAmb		IAmb	16 06 06.6	
	comp=Z,18nm,1.0s							
MNHN	**Monahans**	**26.39**	**324**	P		**P**	**16 06 03.7**	**+0.7**
MNHN				IAmb		IAmb	16 06 08.9	
	comp=Z,14nm,1.5s							
MGMO	**Mountain Grove**	**27.21**	**347**	P		**P**	**16 06 09.5**	**-0.8**
S44A	**Carbondale**	**27.22**	**353**	P		**P**	**16 06 09.2**	**-1.1**
S44A				IAmb		IAmb	16 06 17.8	
	comp=Z,27nm,1.4s							
SIUC	**Southern Illin**	**27.23**	**353**	P		**P**	**16 06 08.8**	**-1.6**
SIUC				IAmb		IAmb	16 06 14.7	
	comp=Z,14nm,1.0s							
VHRN	**Van Horn**	**27.34**	**320**	P		**P**	**16 06 11.2**	**-0.5**
WCI	**Wyandotte Cave**	**27.50**	**358**	P		**P**	**16 06 10.7**	**-2.2**
ETMB	**Extrema**	**27.58**	**137**	P		**P**	**16 06 12.9**	**-0.9**
CCM	**Cathedral Cave**	**27.88**	**349**	P		**P**	**16 06 14.8**	**-1.5**
CCM				IAmb		IAmb	16 06 19.7	
	comp=Z,6.0nm,0.8s							
SMWD	**Samnorwood**	**28.05**	**333**	P		**P**	**16 06 16.8**	**-1.1**
SMWD				IAmb		IAmb	16 06 20.1	
	comp=Z,11nm,0.7s							
Q51A	**Peebles**	**28.31**	**3**	P		**P**	**16 06 19.3**

comp=Z,11nm,0.8s
DZM Mont Dzumac 15.28 259 P P 16 06 06.6 +2.3
DZM Mont Dzumac 15.28 259 P P 16 06 06.0 +1.7
comp=Z,9.7nm,0.7s,baz=76,slow=18,SNR=8.2
URZ Urewera 19.00 193 P P 16 06 45.1 +1.6
comp=Z,2.0nm,0.4s,baz=347,slow=19,SNR=1.7
QRZ Quartz Range 22.66 200 P P 16 07 17.4 +0.3
LTZ Lake Taylor 24.51 199 P P 16 07 35.4 +1.5
LTZ IAmb IAmb 16 07 37.0
comp=Z,31nm,1.4s
EIDS Eidsvold 29.59 253 P P 16 08 18.0 -1.0
ARMA Armidale 29.89 243 P P 16 08 22.0 +0.4
ARMA IAmb IAmb 16 08 57.6
comp=Z,16nm,1.5s
CTAO Charters Tower 34.14 263 P P 16 08 57.8 -0.5
CTAO IAmb IAmb 16 09 17.5
comp=Z,20nm,1.3s
COEN Coen 38.12 272 P P 16 09 31.5 -0.2
STKA Stephens Creek 38.61 243 P P 16 09 35.0 -0.4
STKA Stephens Creek 38.61 243 P P 16 09 34.5 -1.0
comp=Z,2.0nm,0.5s,baz=90,slow=11,SNR=13
comp=Z,2.0nm,0.5s
BBOO Buckleboo 43.38 243 P P 16 10 12.7 -1.1
BBOO IAmb IAmb 16 10 47.5
comp=Z,26nm,1.4s
WR0 Warramunga Arr 45.08 261 P P 16 10 26.0 -1.3
WR0 IAmb IAmb 16 10 29.7
comp=Z,16nm,1.4s
AS31 Alice Springs 45.24 256 P P 16 10 27.9 -0.7
ASAR Alice Springs 45.24 256 P P 16 10 27.8 -0.8
comp=Z,8.8nm,0.6s,baz=90,slow=8.4,SNR=217
ASAR PcP **PcP 16 12 00.4 -0.3**
comp=Z,0.9nm,0.8s,baz=103,slow=5.2,SNR=3.7
comp=Z,8.8nm,0.6s
WB0 Warramunga Arr 45.25 261 P P 16 10 27.1 -1.4
WRA Warramunga Arr 45.27 261 P P 16 10 27.6 -1.2
comp=Z,2.7nm,0.3s,baz=97,slow=7.4,SNR=159
comp=Z,2.7nm,0.3s
MTN Manton Dam 49.74 270 P P 16 11 01.8 -0.9
MTN IAmb IAmb 16 11 09.7
comp=Z,20nm,1.1s
MTN PcP **PcP 16 12 15.6 -1.3**
FORT Forrest 50.10 246 P P 16 11 04.0 -1.2
FORT IAmb IAmb 16 11 04.5
comp=Z,20nm,0.8s
KNRA Kununurra 51.29 265 P P 16 11 12.5 -1.6
KNRA IAmb IAmb 16 11 15.1
comp=Z,41nm,1.4s
FAKI Fak Fak 51.91 282 P P 16 11 17.7 -1.0
FAKI IAmb IAmb 16 11 35.9
comp=Z,20nm,1.1s
FITZ Fitzroy Crossi 53.70 262 P P 16 11 31.0 -0.5
SOEI Soe 57.06 271 P P 16 11 56.4 +1.0
PSA00 Pilbara Seismi 58.39 256 P P 16 12 02.3 -2.1
PSA00 IAmb IAmb 16 12 07.9
comp=Z,16nm,1.4s
MJAR Matsushiro Arr 70.00 323 P P 16 13 18.1 -0.3
comp=Z,2.3nm,0.5s,baz=163,slow=5.9,SNR=12
comp=Z,2.3nm,0.5s
MAJO Matsushiro 70.00 323 P P 16 13 18.1 -0.3
MJB9 Matsu-Tunnel 70.00 323 P P 16 13 19.0 +0.5
MJB9 IAmb IAmb 16 13 31.0
comp=Z,24nm,1.3s
KKM Kota Kinabalu 70.14 284 P P 16 13 19.7 -0.2
QSPA South Pole Qui 70.26 180 P P 16 13 20.3 +0.5
QSPA South Pole Qui 70.26 180 P P 16 13 20.6 +0.9
comp=Z,1.5nm,1.1s,baz=81,slow=2.1,SNR=2.4
comp=Z,1.5nm,1.1s
AMKA Amchitka 70.93 358 P P 16 13 25.2 +1.6
NACB Ninganchiao 73.77 304 P P 16 13 39.8 -1.0
SSLB Suanglung 74.08 303 P P 16 13 41.5 -1.2
TPUB Ta-pu 74.09 302 P P 16 13 41.3 -1.4
KSRS Korea Array 76.75 318 P P 16 13 57.6 +0.3
comp=Z,0.8nm,0.5s,baz=161,slow=4.5,SNR=2.2
comp=Z,0.8nm,0.5s
PMPB Monarch Peak 77.22 44 P P 16 14 01.7 +1.7
NVAR Mina Array Bea 80.12 43 P P 16 14 17.8 +2.0
comp=Z,0.9nm,0.7s,baz=224,slow=9.0,SNR=9.6
comp=Z,0.9nm,0.7s
M16K Timber Creek 81.90 9 P P 16 14 25.4 +1.1
M16K IAmb IAmb 16 14 26.9
comp=Z,19nm,1.4s
X16A Lo Mia Camp, P 82.66 50 P P 16 14 30.3 +1.3
I07A Izee 82.69 38 P P 16 14 30.1 +1.2
I07A IAmb IAmb 16 14 46.3
comp=Z,12nm,1.5s
K15K Wolf Creek Mou 82.79 7 P P 16 14 29.8 +1.1
K15K IAmb IAmb 16 15 08.9
comp=Z,15nm,1.2s
L18K Granite Mounta 83.39 10 P P 16 14 32.2 +0.4
L18K IAmb IAmb 16 15 01.2
comp=Z,9.4nm,1.3s
SUA Susitna One 83.76 13 P P 16 14 33.5 -0.3
SUA IAmb IAmb 16 14 55.5
comp=Z,16nm,1.4s
J16K Anvik River 83.86 8 P P 16 14 34.8 +0.6
J16K IAmb IAmb 16 14 50.7
comp=Z,10nm,1.3s
GHO Glory Hole Cre 84.42 13 P P 16 14 36.8 -0.3
TXAR Lajitas Array 86.19 57 P P 16 14 48.0 +1.5
comp=Z,1.1nm,0.8s,baz=210,slow=7.2,SNR=4.2
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 90.43 289 P P 16 15 07.0 +0.5
comp=Z,1.3nm,0.9s,baz=125,slow=3.0,SNR=7.4
comp=Z,1.3nm,0.9s
SONM Songino Array 95.61 319 P P 16 15 29.2 -0.6
comp=Z,0.1nm,0.4s,baz=106,slow=3.1,SNR=1.8
comp=Z,0.1nm,0.4s
AKASG Malin Array Be 142.68 332 PKhKP PKPpre 16 21 30.6
comp=Z,0.8nm,0.5s,baz=42,slow=4.3,SNR=5.7
GERES GERESS Array B 149.68 345 PKPbc **PKPbc 16 21 50.5 -1.5**
comp=Z,0.5nm,0.6s,baz=38,slow=6.8,SNR=4.7

*CATAC **11** 16:03:59.8±0.3, 10°.63N×85°.00W, h5km±3km, ML3.6*
*UCR **11** 16:03:59.2±0.8, 10°.67N×84°.99W, h7km±3km, MW4.5,*
Fault plane solution: NP1:φs=61.58000°, δ75.00000°,
λ0.00000°.
ISC 11 16:04:00.2±0.9, 10°.65N±0°.02×84°.99W±0°.02, h18km±5km, n48, σ0°88/57, 16C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CUI	**Cuipilapa**	**0.17**	**273**	**⇑eP**		**Pg**	**16 04 03.9**	**-0.8**
VMAR	**Armenia, Volca**	**0.20**	**324**	**⇑eP**		**Pg**	**16 04 04.5**	**-0.7**
VMAR	**Armenia, Volca**	**0.20**	**324**	*i* P		**Pg**	**16 04 04.5**	**-0.7**
VMAR				*i* S		**Sg**	**16 04 08.8**	**+0.3**
VMAR				IAML			16 04 12.1	
	comp=Z,52µm,1.0s							
CAMAV	**Centro de Prod**	**0.20**	**284**	**⇑eP**		**Pg**	**16 04 04.4**	**-0.8**
COLC	**Colonia**	**0.21**	**274**	**⇑eP**		**Pg**	**16 04 04.5**	**-0.7**
VERA	**Finca Concepci**	**0.24**	**31**	**⇓eP**		**Pg**	**16 04 04.8**	**-0.8**
VERA				eS		**Sg**	**16 04 09.3**	**-0.1**
CNAS	**Canas**	**0.24**	**204**	**⇓eP**		**Pg**	**16 04 06.2**	**+0.5**
CNAS				eS		**Sg**	**16 04 10.7**	**+1.2**
ARE1	**Arenal 1**	**0.33**	**125**	**⇑eP**		**Pg**	**16 04 06.8**	**-0.4**
VACR	**Volcan Arenal**	**0.36**	**120**	**⇑eP**		**Pg**	**16 04 07.4**	**-0.3**
VACR	**Volcan Arenal**	**0.36**	**120**	*i* P		**Pg**	**16 04 07.5**	**-0.3**
VACR				*i* S		**Sg**	**16 04 12.1**	**-0.7**
VACR				IAML			16 04 16.0	
	comp=Z,15µm,1.0s							
JTS	**Las Juntas de**	**0.36**	**174**	**⇓eP**		**Pg**	**16 04 06.8**	**-1.0**
JUNT	**Juntas**	**0.37**	**175**	*eP*		**Pg**	**16 04 07.0**	**-0.9**
GPS3	**Bodega del ICE**	**0.38**	**286**	*eP*		**Pb**	**16 04 09.0**	**+0.5**
VORI	**VORI**	**0.39**	**296**	**⇑eP**		**Pg**	**16 04 07.5**	**-0.7**
TUNA	**La Fortuna**	**0.39**	**118**	*eP*		**Pg**	**16 04 08.8**	**+0.5**
VRLE	**La Escondida,**	**0.39**	**291**	**⇑eP**		**Pg**	**16 04 07.8**	**-0.5**
VRLE	**La Escondida,**	**0.39**	**291**	*i* P		**Pg**	**16 04 07.8**	**-0.5**
VRLE				*i* S		**Sb**	**16 04 13.6**	**-0.8**
VRLE				IAML			16 04 16.7	
	comp=Z,5µm,1.0s							
GB1A	**Borinquen Arri**	**0.43**	**293**	*eP*		**Pg**	**16 04 08.6**	**-0.5**
SOCE	**Pocosol**	**0.46**	**126**	**⇑eP**		**Pg**	**16 04 08.6**	**-0.8**
PLVR	**Palo Verde**	**0.46**	**230**	**⇓eP**		**Pg**	**16 04 09.1**	**-0.6**
LCHIL	**Los Chiles**	**0.47**	**36**	*eP*		**Pg**	**16 04 09.5**	**-0.2**
ORTG	**Ortega, Santa**	**0.54**	**238**	**⇑eP**		**Pg**	**16 04 10.4**	**-0.6**
ORTG	**Ortega, Santa**	**0.54**	**238**	*i* P		**Pg**	**16 04 10.4**	**-0.6**
ORTG				*i* S		**Sg**	**16 04 18.3**	**0.0**
ORTG				IAML			16 04 21.2	
	comp=Z,2µm,1.0s							
ELI1	**Hacienda Flor**	**0.55**	**270**	**⇑eP**		**Pg**	**16 04 10.8**	**-0.4**
COVE	**Coope Vega, Sa**	**0.59**	**83**	**⇑eP**		**Pg**	**16 04 10.5**	**-1.4**
NYURE	**Nandayure**	**0.70**	**201**	*eP*		**Pg**	**16 04 13.3**	**-0.6**
CPMI	**Catarata Coope**	**0.70**	**121**	**⇑eP**		**Pg**	**16 04 13.1**	**-1.0**
JUD3	**Juan Diaz 3**	**0.72**	**228**	*eP*		**Pg**	**16 04 13.8**	**-0.6**
LCRUZ	**La Cruz**	**0.76**	**304**	*eP*		**Pb**	**16 04 15.2**	**+0.3**
INDI	**Punta indio, G**	**0.93**	**213**	**⇓eP**		**Pg**	**16 04 17.1**	**-1.1**
INDI	**Punta indio, G**	**0.93**	**213**	*i* P		**Pg**	**16 04 17.1**	**-1.1**
INDI				*i* S		**Sg**	**16 04 30.4**	**0.0**
INDI				IAML			16 04 35.6	
	comp=Z,1µm,1.0s							
JACO	**JACO, Garabito**	**1.03**	**161**	**⇓eP**		**Pg**	**16 04 18.5**	**-1.8**
CBL1	**Cabuya**	**1.06**	**185**	*eP*		**Pg**	**16 04 18.9**	**-1.9**
JAPN	**Al SSO del Vol**	**1.10**	**322**	*i* P		**Pb**	**16 04 20.9**	**+0.2**
JAPN				IAML			16 04 25.7	
	comp=Z,2µm,1.0s							
OCM	**Ochomogo**	**1.26**	**126**	*eP*		**Pn**	**16 04 22.4**	**-0.8**
ACON	**Acoyapa**	**1.32**	**352**	*eP*		**Pn**	**16 04 23.2**	**-0.6**
LCR2	**La Lucha 2**	**1.33**	**133**	**⇑eP**		**Pn**	**16 04 23.0**	**-1.1**
VTLA	**Turrialba Volc**	**1.36**	**118**	*eP*		**Pn**	**16 04 23.8**	**-0.9**
VTLO	**VTLO**	**1.38**	**116**	**⇑eP**		**Pn**	**16 04 24.3**	**-0.7**
VTCV	**VTCV, Calle Va**	**1.41**	**118**	*eP*		**Pn**	**16 04 25.2**	**0.0**
RIMA	**Rio Macho**	**1.42**	**128**	*eP*		**Pn**	**16 04 24.6**	**-0.7**
RIMA	**Rio Macho**	**1.42**	**128**	*i* P		**Pn**	**16 04 24.8**	**-0.5**
RIMA				IAML			16 04 26.6	
	comp=Z,670nm,1.0s							
RIMA				*i* S		**Sn**	**16 04 45.2**	**+1.6**
LCOCO	**El Coco**	**1.52**	**112**	*eP*		**Pn**	**16 04 26.5**	**0.0**
CDM	**Cerro de Muert**	**1.63**	**132**	*eP*		**Pn**	**16 04 28.2**	**-0.2**
CDM	**Cerro de Muert**	**1.63**	**132**	*i* P		**Pn**	**16 04 28.5**	**+0.1**
CDM				IAML			16 04 30.1	
	comp=Z,800nm,1.0s							
CDM				*i* S		**Sn**	**16 04 50.8**	**+1.6**
BUS1	**Rivas**	**1.64**	**131**	**⇑eP**		**Pn**	**16 04 28.4**	**-0.2**
ESPN	**Las Esperanzas**	**1.68**	**24**	**⇓eP**		**Pn**	**16 04 28.9**	**+0.1**
POTG	**Potrero Grande**	**2.44**	**131**	*eP*		**Pn**	**16 04 41.8**	**+2.6**

*STR **11** 16:05:33.1±1.0, 49°.76N×5°.1°0E±°, h0km, MLv2.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=44.2, preliminary*
*PRU **11** 16:05:36.4, 48°.79N×10°.45E, h10km*
ISC 11 16:05:31.8±1.1, 48°.78N±0°.02×10°.25E±0°.02, h15km±10km, n60, σ1°53/90, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUT	**Gutenstein**	**1.04**	**227**	Sg		**Sb**	**16 06 04.7**	**-0.1**
GUT	**Gutenstein**	**1.04**	**227**	Sg		**Sb**	**16 05 59.6**	**-5.2**
GUT	**Gutenstein**	**1.04**	**227**	Pg		**Pb**	**16 05 49.0**	**-2.4**
GUT				Pg		**Pn**	**16 05 50.6**	**-1.2**
RETA	**Reutte**	**1.33**	**165**	*e*Pg		**Pb**	**16 05 57.5**	**+0.9**
	3.4nm,0.1s							
RETA				*i* Sg		**Sg**	**16 06 16.0**	**+1.2**
	9.7nm,0.2s							
BFO	**Black Forest**	**1.35**	**251**	Pg		**Pn**	**16 05 55.0**	**-1.1**
BFO				Sn		**Sn**	**16 06 14.2**	**+0.3**
BABA	**Baden-Baden-Ne**	**1.36**	**268**	Pg		**Pn**	**16 05 55.6**	**-0.6**
BABA	**Baden-Baden-Ne**	**1.36**	**268**	Sg		**Sn**	**16 06 14.5**	**+0.4**
BABA	**Baden-Baden-Ne**	**1.36**	**268**	Pg		**Pn**	**16 05 57.0**	**+0.8**
OPP	**Oppenau**	**1.40**	**259**	Pg		**Pn**	**16 05 55.9**	**-0.8**
OPP	**Oppenau**	**1.40**	**259**	Pn		**Pn**	**16 05 57.7**	**+0.9**
OPP	**Oppenau**	**1.40**	**259**	Sg		**Sn**	**16 06 15.7**	**+0.7**
NEEW	**Neewiller pres**	**1.43**	**278**	Pg		**Pb**	**16 05 59.2**	**+1.1**
NEEW				Sg		**Sb**	**16 06 18.8**	**+2.7**
DAVA	**Damuels**	**1.51**	**190**	*e*Pg		**Pn**	**16 05 58.4**	**0.0**
	SNR=9.9							
DAVA				*e*Sg		**Sb**	**16 06 20.6**	**+2.0**
	15nm,0.3s							
KTD	**Kalmit**	**1.53**	**292**	Pg		**Pn**	**16 05 56.1**	**-2.4**
KTD	**Kalmit**	**1.53**	**292**	Sn		**Sb**	**16 06 21.0**	**+2.0**
MOTA	**Moosalm**	**1.54**	**158**	*i* Pn		**Pb**	**16 06 00.9**	**+0.8**
	1.3nm,0.1s,SNR=12							
MOTA				*e*Sg		**Sg**	**16 06 22.3**	**+0.8**
	14nm,0.2s							
SLE	**Schleitheim**	**1.55**	**230**	Pg		**Pn**	**16 05 57.6**	**-1.3**
LEMB	**Lembach**	**1.67**	**280**	Pg		**Pb**	**16 06 02.7**	**+0.6**
SQTA	**Sankt Quirin**	**1.68**	**157**	*e*Pn		**Pb**	**16 06 03.4**	**+0.9**
	1.7nm,0.1s,SNR=4.5							
SQTA				*e*Sg		**Sb**	**16 06 24.4**	**+0.9**
	7.9nm,0.3s							
WATA	**Walderalm**	**1.69**	**148**	*e*Pn		**Pn**	**16 06 01.7**	**+0.8**
	0.8nm,0.1s,SNR=7.7							
WATA				*i* Sg		**Sg**	**16 06 26.8**	**+0.6**
	10.0nm,0.2s							
FELD	**Feldberg im Sc**	**1.75**	**240**	Pg		**Pn**	**16 06 00.3**	**-1.5**
KIZ	**Kirchzarten**	**1.76**	**243**	Pg		**Pn**	**16 05 59.2**	**-2.5**
KIZ	**Kirchzarten**	**1.76**	**243**	Pn		**Pn**	**16 06 00.6**	**-1.2**
WTTA	**Wattenberg**	**1.77**	**148**	Pn		**Pb**	**16 06 03.5**	**-0.7**
	1.2nm,0.2s,SNR=6.4							
WTTA				*e*Sg		**Sg**	**16 06 29.8**	**+0.9**
	11nm,0.4s							
FETA	**Feichten**	**1.79**	**169**	*i* Pn		**Pn**	**16 06 02.9**	**+0.6**
	0.6nm,0.1s,SNR=4.8							
FETA				*e*Sg		**Sb**	**16 06 26.5**	**0.0**
	3.9nm,0.2s							
ZUR	**Degenried**	**1.80**	**219**	Pn		**Pn**	**16 06 01.1**	**-1.2**
VOGT	**Vogtsburg - To**	**1.85**	**249**	Pg		**Pn**	**16 06 02.1**	**-1.0**
SULZ	**Cheisacher**	**1.90**	**230**	Pn		**Pn**	**16 06 02.2**	**-1.5**
SULZ	**Cheisacher**	**1.90**	**230**	Sn		**Sn**	**16 06 26.1**	**-1.3**
CIEL	**Dossenheim-sur**	**1.91**	**273**	Pn		**Pn**	**16 06 05.0**	**+1.2**
CIEL				Pg		**Pb**	**16 06 07.3**	**+1.0**
WLS	**Welschbruch**	**1.96**	**260**	Pg		**Pb**	**16 06 07.9**	**+0.7**
WLS				Sg		**Sb**	**16 06 33.8**	**+2.4**
ENDD	**Endenburg**	**1.99**	**239**	Pn		**Pn**	**16 06 03.2**	**-1.7**
NKC	**Novy Kostel**	**2.04**	**44**	*e*PG		**Pg**	**16 06 12.5**	**+1.5**
NKC				*e*SG		**Sg**	**16 06 37.5**	**0.0**
	comp=Z,12nm,0.3s							
LESA	**Schwarzleotal**	**2.11**	**129**	Pn		**Pg**	**16 06 12.0**	**-0.3**
	0.9nm,0.1s							
LESA				*e*Sg		**Sb**	**16 06 37.1**	**+1.2**
	3.3nm,0.2s							
ECH	**Echery**	**2.13**	**256**	Pn		**Pn**	**16 06 05.3**	**-1.6**
ECH				Pg		**Pb**	**16 06 11.2**	**+1.1**
KHC	**Kasperske Hory**	**2.22**	**80**	*e*PN		**Pn**	**16 06 09.3**	**+1.2**
KHC				*e*PG		**Pg**	**16 06 14.6**	**+0.3**
KHC				*e*SN		**Sn**	**16 06 35.2**	**-0.1**
KHC				*e*SG		**Sg**	**16 06 42.5**	**-0.6**
	comp=Z,5.7nm,0.4s							
BALST	**Balsthal**	**2.24**	**231**	Pn		**Pn**	**16 06 06.7**	**-1.7**
BIOA	**Bad Ischl, Aus**	**2.51**	**114**	*i* Pn		**Pg**	**16 06 20.0**	**+0.2**
	5.9nm,0.3s,SNR=14							
BIOA				*e*Sg		**Sg**	**16 06 54.5**	**+2.1**
	17nm,0.5s							
ABTA	**Abfaltersbach**	**2.54**	**142**	*e*Pn		**Pb**	**16 06 15.4**	**-1.6**
	0.1nm,0.1s							
ABTA				*e*Sg		**Sg**	**16 06 52.7**	**-0.6**
	1.9nm,0.2s							
ZVC	**Zvikov**	**2.67**	**74**	*e*PG		**Pg**	**16 06 22.4**	**-0.6**
ZVC				*e*SG		**Sg**	**16 06 57.6**	**0.0**
	comp=Z,9.6nm,0.5s							
CKRC	**Cesky Krumlov**	**2.68**	**88**	*e*PN		**Pn**	**16 06 15.9**	**+1.5**
CKRC				*e*PG		**Pg**	**16 06 22.1**	**-1.1**
CKRC				*e*SG		**Sg**	**16 06 57.7**	**-0.2**
KBA	**Koelnbreinsper**	**2.69**	**128**	*e*Pn		**Pb**	**16 06 17.5**	**-2.1**
	0.1nm,0.1s							
KBA				*e*Sg		**Sg**	**16 06 59.7**	**+1.7**
	1.0nm,0.2s							
HSKC	**Hora Svate Kat**	**2.76**	**47**	*e*PG		**Pg**	**16 06 23.9**	**-0.8**
HSKC				*e*SG		**Sg**	**16 07 00.5**	**+0.1**
	comp=Z,22nm,1.3s							
MOA	**Molln**	**2.83**	**108**	*i* Pn		**Pg**	**16 06 25.6**	**-0.5**
	2.5nm,0.2s,SNR=6.7							
PRU	**Pruhonice**	**3.05**	**65**	*e*PG		**Pg**	**16 06 29.5**	**-0.8**
PRU				*e*SG		**Sg**	**16 07 09.0**	**-0.8**
	comp=Z,6.6nm,0.8s							
CLL	**Collm**	**3.09**	**34**	*i* Pn		**Pn**	**16 06 20.2**	**+0.2**
CLL				*e*Pg		**Pg**	**16 06 31.0**	**0.0**
CLL				*e*Sg		**Sg**	**16 07 10.0**	**-1.1**
	comp=Z,7.0nm,0.5s							
GOPC	**GO Pecny, Ondr**	**3.18**	**67**	*e*SG		**Sg**	**16 07 13.3**	**-0.4**
	comp=Z,6.0nm,0.7s							
BRG	**Berggiesshubel**	**3.18**	**47**	Pg		**Pg**	**16 06 32.1**	**-0.6**
BRG				Sg		**Sg**	**16 07 13.0**	**-0.9**
BRG				Amp			16 07 17.6	
	comp=Z,3.6nm,0.5s							
PVCC	**Panska Ves**	**3.31**	**56**	*e*SG		**Sg**	**16 07 18.2**	**+0.2**
	comp=Z,10.0nm,0.4s							
OBKA	**Obir**	**3.69**	**126**	*e*Pn		**Pn**	**16 06 31.5**	**+3.2**
	comp=Z,0.3nm,0.1s,SNR=8.0							
CONA	**Conrad Observa**	**3.84**	**101**	*e*Sn		**Sn**	**16 07 17.2**	**+2.0**
	comp=Z,1.2nm,0.3s							
CONA				*e*Sg		**Sg**	**16 07 37.4**	**+2.5**
	comp=Z,1.0nm,0.2s							
ARSA	**Arzberg**	**3.85**	**111**	*i* Sn		**Sb**	**16 07 20.1**	**-5.8**
	comp=Z,2.7nm,0.4s							
KRUC	**Moravsky**	**4.06**	**84**	*e*SG		**Sg**	**16 07 40.8**	**-1.3**
UPC	**Upice**	**4.12**	**63**	*e*SG		**Sg**	**16 07 43.1**	**-1.0**
	comp=Z,16nm,1.2s							
CHVC	**Chvalec**	**4.18**	**62**	*e*SG		**Sg**	**16 07 45.9**	**0.0**
VRAC	**Vranov**	**4.21**	**80**	*e*SG		**Sg**	**16 07 44.2**	**-2.5**
DPC	**Dobruska-Polom**	**4.25**	**66**	*e*SG		**Sg**	**16 07 47.2**	**-1.0**
	comp=Z,3.3nm,0.5s							
OSTC	**Ostas**	**4.26**	**63**	*e*SG		**Sg**	**16 07 48.1**	**-0.5**
KRLC	**Kraliky**	**4.46**	**71**	*e*SG		**Sg**	**16 07 54.0**	**-0.7**
	comp=Z,22nm,1.7s							
MORC	**Moravsky Berou**	**4.88**	**75**	*e*SG		**Sg**	**16 08 08.7**	**+0.5**

*EAF **11** 16:13:51.2±1.0, 14°.64N×41°.58E, h1km±42km*
*IDC **11** 16:13:58.3±9.9, 12°.19N×41°.46E, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/23, Error ellipse: s-maj=370.0km s-min=27.9km az=154.0*
ISC 11 16:14:06.5±1.2, 13°.98N±0°.09×40°.8E±0°.1, h10km, n31, σ2°94/11, mb3.7/4, MS3.6/21, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DESE	**Dese**	**3.07**	**202**	*e*P		Pn	**16 14 50.5**	**-4.8**
DESE				*e*S		**Sn**	**16 15 33.5**	**+1.2**
HARA	**HARA**	**5.26**	**152**	*e*P		Pn	16 15 14.2	-11
HARA				*e*S		Sn	16 16 16.0	-10
WLRA	**Wolmera**	**5.27**	**203**	*e*P		**Pn**	**16 15 22.8**	**-2.9**
WLRA				*e*S		**Sn**	**16 16 29.6**	**+2.8**
FURI	**Furi**	**5.47**	**203**	*e*P		**Pn**	**16 15 26.6**	**-1.8**
FURI				*e*S		**Sn**	**16 16 34.7**	**+3.2**
GRD1	**Great Renaissa**	**6.29**	**244**	*e*P		**Pn**	**16 15 37.2**	**-2.2**
GRD1				*e*S		**Sn**	**16 16 55.7**	**+4.3**
KMBO	**Kilima Mbogo**	**15.42**	**193**	LR		LR	16 23 05.7	
	comp=Z,190nm,20.4s,baz=56,slow=40							
WSAR	**Wadi Sarin**	**19.22**	**59**	LR		LR	16 26 54.6	
	comp=Z,270nm,19.5s,baz=242,slow=39							
IDI	**Anoyia**	**25.61**	**329**	LR		LR	16 30 20.4	
	comp=Z,42nm,18.9s,baz=73,slow=36							
GNI	**Garni**	**26.30**	**7**	LR		LR	16 32 23.1	
	comp=Z,33nm,18.1s,baz=156,slow=40							
GEYT	**Ailbeck**	**28.38**	**30**	LR		LR	16 32 24.6	
	comp=Z,151nm,18.9s,baz=216,slow=37							
KBZ	**Khabaz**	**29.70**	**3**	LR		LR	16 32 39.8	
	comp=Z,118nm,19.1s,baz=208,slow=36							
LSZ	**Lusaka**	**31.64**	**204**	LR		LR	16 32 18.0	
	comp=Z,122nm,18.8s,baz=48,slow=36							
KEST	**Kesra**	**35.58**	**313**	LR		LR	16 37 59.2	
	comp=Z,149nm,18.6s,baz=328,slow=39							
TORD	**Torodi Ar. Bea**	**38.00**	**274**	P		**P**	**16 21 24.8**	**-0.3**
	1.3nm,1.1s,baz=85,slow=9.1,SNR=5.0							
	1.3nm,1.1s							
AKTO	**Aktyubinsk**	**38.96**	**18**	LR		LR	16 42 48.0	
	comp=Z,74nm,18.8s,baz=86,slow=43							
PALK	**Pallekele**	**39.73**	**95**	LR		LR	16 35 13.9	
	comp=Z,34nm,20.8s,baz=57,slow=33							
TSUM	**Tsumeb**	**40.13**	**215**	LR		LR	16 37 40.9	
	comp=Z,114nm,19.2s,baz=348,slow=36							
AAK	**Ala-Archa**	**40.70**	**39**	LR		LR	16 41 46.2	
	comp=Z,200nm,18.2s,baz=250,slow=40							
LBTB	**Lobatse**	**41.50**	**201**	LR		LR	16 39 08.0	
	comp=Z,210nm,20.1s,baz=35,slow=38							
ARU	**Arti**	**44.50**	**14**	LR		LR	16 43 37.1	
	comp=Z,50nm,18.1s,baz=202,slow=39							
BOSA	**Boshof**	**44.94**	**199**	LR		LR	16 41 11.5	
	comp=Z,162nm,20.8s,baz=27,slow=38							
DBIC	**Dimbokro**	**45.44**	**266**	P		**P**	**16 22 23.8**	**-2.3**
	2.2nm,0.6s,baz=97,slow=8.1,SNR=2.6							
	2.2nm,0.6s							
BVAR	**Borovoye Array**	**45.47**	**25**	LR		LR	16 44 39.1	
	comp=Z,73nm,18.6s,baz=198,slow=39							
KURBB	**Kurchatov Arra**	**47.61**	**32**	P		**P**	**16 22 45.4**	**+2.8**
	0.5nm,0.8s,baz=230,slow=9.6,SNR=3.3							
	0.5nm,0.8s							
MKAR	**Makanchi Array**	**47.62**	**38**	P		**P**	**16 22 43.7**	**+1.0**
	0.5nm,0.8s,baz=225,slow=6.7,SNR=3.8							
MKAR				LR		LR	16 47 30.5	
	comp=Z,109nm,18.2s,baz=228,slow=41							
	0.5nm,0.8s							
SUR	**Sutherland**	**49.92**	**202**	LR		LR	16 44 37.3	
	comp=Z,287nm,18.1s,baz=2.0,slow=38							
NOA	**NORSAR Array B**	**51.64**	**342**	LR		LR	16 48 02.6	
	comp=Z,28nm,20.2s,baz=20,slow=38							
SONM	**Songino Array**	**63.40**	**43**	LR		LR	16 56 10.1	
	comp=Z,113nm,18.1s,baz=7.5,slow=39							
KSRS	**Korea Array**	**79.38**	**54**	LR		LR	17 06 45.8	
	comp=Z,27nm,18.4s,baz=5.0,slow=40							
KLR	**Kul'dur**	**80.16**	**42**	LR		LR	17 07 12.7	
	comp=Z,75nm,19.2s,baz=350,slow=39							
MJAR	**Matsushiro Arr**	**87.61**	**53**	LR		LR	17 10 59.6	
	comp=

JIKH	**Ishinomakikobu**	**0.38**	**197**	*i* P		**Pn**	16 55 31.5	**0.0**	
JIKH				S		**Sn**	16 55 39.7	**-0.7**	
OFUJ	**Ofunato**	**0.41**	**7**	*i* P		**Pn**	16 55 32.2	**+0.4**	
OFUJ				S		**Sn**	16 55 40.9	**0.0**	
JMK	**Ichinoseki**	**0.41**	**313**	S		**Sn**	16 55 39.9	**-1.0**	
JOU	**Okura**	**0.80**	**248**	*i* P		**Pn**	16 55 35.1	**-0.6**	
JOU				S		**Sn**	16 55 46.5	**-1.3**	
JOM	**Ohasama**	**0.84**	**343**	*i* P		**Pn**	16 55 36.2	**+0.1**	
JOM				S		**Sn**	16 55 48.1	**-0.4**	
JYK	**Kaneyama**	**1.01**	**285**	*i* P		**Pn**	16 55 37.5	**-0.5**	
JYK				S		**Sn**	16 55 50.9	**-1.2**	
JMM	**Marumori**	**1.03**	**219**	*i* P		**Pn**	16 55 37.6	**-0.7**	
JMM				S		**Sn**	16 55 51.1	**-1.5**	
JRG	**Rokugo**	**1.05**	**314**	*i* P		**Pn**	16 55 38.5	**-0.1**	
JRG				S		**Sn**	16 55 52.9	**-0.1**	
JYS	**Shirataka**	**1.29**	**250**	P		**Pn**	16 55 41.3	**-0.4**	
JYS				S		**Sn**	16 55 57.8	**-0.8**	
JFK	**Kawauchi**	**1.43**	**204**	*i* P		**Pn**	16 55 43.4	**-0.1**	
JFK				*e*S		**Sn**	16 56 01.2	**-0.5**	
JYA	**Atsumi**	**1.48**	**268**	*e*P		**Pn**	16 55 44.0	**-0.2**	
JYA				*e*S		**Sn**	16 56 02.1	**-0.8**	
JOTO	**OTAMA OYAMA**	**1.50**	**223**	P		**Pn**	16 55 44.7	**+0.3**	
JOTO				S		**Sn**	16 56 03.8	**+0.4**	
MJAR	**Matsushiro Arr**	**3.44**	**233**	P		**Pn**	16 56 11.6	**+1.1**	
	2.1nm,0.3s,baz=114,slow=23,SNR=22								
ASAJ	**Asahikawa**	**5.49**	**7**	P		**Pn**	16 56 37.3	**-1.1**	
	17nm,1.1s,baz=281,slow=19,SNR=1.8								
JHJ	**Hachijo jima 2**	**5.74**	**196**	S		Sn	16 57 37.9	-8.4	
	87nm,0.6s,baz=53,slow=14,SNR=1.7								
USRK	**Ussuriysk Ar.**	**9.09**	**310**	P		**Pn**	16 57 28.1	**+0.5**	
	1.9nm,0.6s,baz=112,slow=14,SNR=6.4								
KSRS	**Korea Array**	**10.86**	**268**	P		**Pn**	16 57 55.0	**+3.2**	
	0.7nm,0.5s,baz=72,slow=14,SNR=1.3								
H11N2	**WAKE ISLAND Hy**	**28.89**	**124**	T		T	17 31 34.5		
	baz=316,slow=75,SNR=55								
H11N1	**WAKE ISLAND Hy**	**28.90**	**124**	T		T	17 31 36.2		
	baz=316,slow=75,SNR=58								
H11N3	**WAKE ISLAND Hy**	**28.91**	**124**	T		T	17 31 34.3		
	baz=316,slow=75,SNR=68								
H11S1	**WAKE ISLAND Hy**	**29.65**	**126**	T		T	17 32 30.5		
	baz=318,slow=76,SNR=42								
H11S3	**WAKE ISLAND Hy**	**29.65**	**126**	T		T	17 32 32.4		
	baz=318,slow=76,SNR=49								
H11S2	**WAKE ISLAND Hy**	**29.67**	**126**	T		T	17 32 31.8		
	baz=318,slow=76,SNR=46								
MKAR	**Makanchi Array**	**43.40**	**301**	P		**P**	**17 03 13.8**	**-0.6**	
	0.2nm,0.5s,baz=82,slow=12,SNR=5.7								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**45.13**	**307**	P		**P**	**17 03 28.3**	**+0.2**	
	1.2nm,0.5s,baz=82,slow=8.2,SNR=14								
	1.2nm,0.5s								
ILAR	**Eielson Array**	**48.04**	**33**	P		**P**	**17 03 50.5**	**-0.1**	
	0.1nm,0.5s,baz=268,slow=5.8,SNR=4.3								
	0.1nm,0.5s								
BVAR	**Borovoye Array**	**49.60**	**311**	P		**P**	**17 04 02.4**	**-0.3**	
	0.3nm,0.4s,baz=78,slow=9.0,SNR=1.9								
	0.3nm,0.4s								
WRA	**Warramunga Arr**	**58.70**	**188**	P		**P**	**17 05 08.8**	**-0.4**	
	0.9nm,0.6s,baz=7.8,slow=7.7,SNR=15								
	0.9nm,0.6s								
ASAR	**Alice Springs**	**62.43**	**188**	P		**P**	**17 05 34.5**	**0.0**	
	0.2nm,0.3s,baz=356,slow=4.4,SNR=18								
	0.2nm,0.3s								

*IDC **11** 17:02:39.9±1.7,54˚.27N×163˚.76W,h0km,mb3.6/9, mbtmp3.6/11,ML3.2/2,Error ellipse: s-maj=40.5km s-min=19.6km az=172.0*
*NEIC **11** 17:02:52.3±1.8,54˚.55N±0˚.09×163˚.1W±0˚.1,h80km±7km, mb3.6/15,ML3.7/16,ML3.6(AEIC),Error ellipse: s-maj=14.6km s-min=6.2km az=151.0*
*AEIC **11** 17:02:53.4±4.6,54˚.39N±0˚.06×163˚.00W±0˚.08,h56km±3km, Error ellipse: s-maj=9.9km s-min=6.0km az=155.0*

ISC 11 17:02:52.1±0.9,54˚58N±0˚.09×163˚14W±0˚.05,h88km±6km, n225,σ1°27/224,mb3.5/9,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.33**	**330**				**Pn**	**17 03 04.5**	**-0.9**
FALS							**Sn**	**17 03 13.7**	**-1.7**
FALS	**False Pass**	**0.33**	**330**	P			**Pn**	**17 03 04.4**	**-0.9**
FALS	**False Pass**	**0.33**	**330**	P			**Pn**	**17 03 04.5**	**-0.9**
	baz=152								
FALS				S			**Sn**	**17 03 13.7**	**-1.7**
	baz=152								
BRPK	**Brown Peak**	**0.36**	**282**				**Pn**	**17 03 04.7**	**-0.9**
ISNN	**Isanotski Nort**	**0.45**	**305**				**Pn**	**17 03 06.0**	**-0.3**
SSLN	**Shishaldin Nor**	**0.55**	**296**				**Pn**	**17 03 06.9**	**-0.2**
SSLN							**Sn**	**17 03 18.1**	**-0.2**
SSBA	**Shishaldin**	**0.60**	**290**				**Pn**	**17 03 06.9**	**-0.7**
SSBA							**Sn**	**17 03 18.4**	**-0.8**
DT1	**Dutton Round H**	**0.73**	**43**				**Pn**	**17 03 07.9**	**-0.8**
WESE	**West Dahl East**	**0.85**	**264**				**Pn**	**17 03 09.9**	**-0.1**
WEBT	**Westdahl Beart**	**0.94**	**272**				**Pn**	**17 03 10.9**	**0.0**
WEBT							**Sn**	**17 03 24.9**	**-0.2**
WECS	**Westdahl Cape**	**0.95**	**268**				**Pn**	**17 03 11.2**	**+0.1**
PS4A	**Pavlof South-4**	**1.07**	**43**				**Pn**	**17 03 12.8**	**+0.3**
PN7A	**Pavlof North-7**	**1.08**	**37**				**Pn**	**17 03 12.8**	**+0.2**
PVV	**Pavlof Volcano**	**1.12**	**44**				**Pn**	**17 03 13.3**	**+0.3**
PVV							**Sn**	**17 03 29.8**	**+1.1**
PS1A	**Pavlof South-1**	**1.17**	**43**				**Pn**	**17 03 14.0**	**+0.4**
PS1A							**Sn**	**17 03 31.3**	**+1.5**
AKSA	**Akutan Strait**	**1.56**	**255**				**Pn**	**17 03 19.0**	**+0.6**
AKSA							**Sn**	**17 03 39.3**	**+0.9**
AKSA	**Akutan Strait**	**1.56**	**255**				**Pn**	**17 03 19.0**	**+0.6**
AKUT	**Akutan**	**1.60**	**255**				**Pn**	**17 03 19.1**	**+0.2**
AKUT	**Akutan**	**1.60**	**255**				**Sn**	**17 03 39.6**	**+0.2**
AKUT	**Akutan**	**1.60**	**255**	P			**Pn**	**17 03 19.5**	**+0.5**
AHB	**Akutan Harbor**	**1.63**	**255**				**Pn**	**17 03 19.9**	**+0.5**
AKLV	**Akutan Long Va**	**1.70**	**257**				**Pn**	**17 03 20.4**	**+0.1**
AKGG	**Akutan Green G**	**1.71**	**258**				**Pn**	**17 03 20.8**	**+0.4**
AKV	**Akutan Volcano**	**1.71**	**256**				**Pn**	**17 03 20.7**	**+0.2**
SDPT	**Sand Point**	**1.72**	**62**				**Pn**	**17 03 20.4**	**-0.1**
SDPT					IAML			17 03 42.6	
	comp=N,516nm,0.5s								
SDPT					IAML			17 03 42.6	
	comp=E,832nm,0.6s								
SDPT	**Sand Point**	**1.72**	**62**				**Sn**	**17 03 42.2**	**+0.1**
SDPT	**Sand Point**	**1.72**	**62**	P			**Pn**	**17 03 20.9**	**+0.4**
SDPT	**Sand Point**	**1.72**	**62**	P			**Pn**	**17 03 20.9**	**+0.4**
	baz=238								
SDPT				S			**Sn**	**17 03 42.2**	**+0.1**
	baz=238								
CNBA	**Chernabura Isl**	**2.08**	**82**				**Pn**	**17 03 24.7**	**-0.5**
CHNA	**Chernabura Isl**	**2.08**	**81**	P			**Pn**	**17 03 24.7**	**-0.5**
	baz=259								
UNV	**Unalaska Valle**	**2.11**	**251**				**Pn**	**17 03 25.6**	**+0.1**
UNV							**Sn**	**17 03 50.0**	**-1.2**
UNV	**Unalaska Valle**	**2.11**	**251**	P			**Pn**	**17 03 25.5**	**-0.1**
UNV	**Unalaska Valle**	**2.11**	**251**	P			**Pn**	**17 03 25.6**	**+0.1**
	baz=74								
UNV				S			**Sn**	**17 03 50.0**	**-1.2**
	baz=74								
MNAT	**Makushin Natee**	**2.19**	**253**				**Sn**	**17 03 52.9**	**-0.4**
MSW	**Makushin Switc**	**2.24**	**254**				**Sn**	**17 03 54.1**	**-0.2**
MGOD	**Makushin Gods**	**2.33**	**252**				**Pn**	**17 03 29.0**	**+0.4**
MAPS	**Pakushin South**	**2.36**	**253**				**Sn**	**17 03 56.9**	**-0.4**
S14K	**Fog Glacier**	**2.67**	**49**	P			**Pn**	**17 03 34.7**	**+1.6**
	baz=227								
VNFG	**Fog Glacier, M**	**2.67**	**49**				**Pn**	**17 03 34.8**	**+1.6**
VNFG	**Fog Glacier, M**	**2.67**	**49**		IAML			17 04 23.4	
	comp=N,397nm,0.8s								
VNFG					IAML			17 04 26.7	
	comp=E,386nm,0.9s								
OKTU	**Okmok Mt. Tuli**	**3.13**	**250**				**Pn**	**17 03 40.2**	**+0.9**
CHGN	**Chignik**	**3.20**	**55**				**Pn**	**17 03 41.4**	**+1.3**
CHGN	**Chignik**	**3.20**	**55**		IAML			17 04 20.1	
	comp=E,192nm,0.1s								
CHGN					IAML			17 04 26.0	
	comp=N,161nm,0.5s								
CHGN	**Chignik**	**3.20**	**55**	P			**Pn**	**17 03 41.4**	**+1.3**
	baz=236								
ANNW	**Aniakchak Nort**	**3.67**	**47**				**Pn**	**17 03 48.0**	**+1.3**
CHIR	**Chirikof Islan**	**4.49**	**71**				**Pn**	**17 03 57.3**	**-0.3**
CHIR	**Chirikof Islan**	**4.49**	**71**	P			**Pn**	**17 03 57.3**	**-0.3**
	baz=254								
O14K	**Tigyukauivet M**	**4.80**	**12**				**Pn**	**17 04 02.9**	**+1.0**
O14K	**Tigyukauivet M**	**4.80**	**12**		IAML			17 04 46.9	
	comp=N,42nm,2.5s								
O14K					IAML			17 05 34.2	
	comp=E,37nm,3.4s								
O14K	**Tigyukauivet M**	**4.80**	**12**	P			**Pn**	**17 04 02.9**	**+1.0**
	baz=192								
R17K	**Ugashik Creek**	**4.87**	**48**	Pn			**Pn**	**17 04 03.4**	**+0.6**
O15K	**Ungalikthiuk R**	**4.96**	**20**				**Pn**	**17 04 04.7**	**+0.7**
O15K	**Ungalikthiuk R**	**4.96**	**20**	P			**Pn**	**17 04 04.7**	**+0.7**
	baz=201								
P16K	**Nushagak River**	**5.29**	**30**				**Pn**	**17 04 09.6**	**+1.1**
P16K	**Nushagak River**	**5.29**	**30**	P			**Pn**	**17 04 09.6**	**+1.1**
	baz=213								
N14K	**Kuskokwak Cree**	**5.42**	**8**				**Pn**	**17 04 11.6**	**+1.3**
N14K	**Kuskokwak Cree**	**5.42**	**8**	P			**Pn**	**17 04 11.6**	**+1.3**
	baz=188								
ANCK	**Angle Creek**	**5.59**	**46**				**Pn**	**17 04 13.6**	**+0.9**
O16K	**Kokwok River B**	**5.73**	**27**				**Pn**	**17 04 15.8**	**+1.3**
O16K	**Kokwok River B**	**5.73**	**27**	P			**Pn**	**17 04 15.8**	**+1.3**
	baz=209								
N15K	**Kwethluk River**	**5.85**	**15**				**Pn**	**17 04 17.4**	**+1.4**
N15K	**Kwethluk River**	**5.85**	**15**	P			**Pn**	**17 04 17.4**	**+1.4**
	baz=196								
M13K	**Dall Lake**	**5.86**	**359**				**Pn**	**17 04 18.0**	**+1.8**
M13K	**Dall Lake**	**5.86**	**359**	P			**Pn**	**17 04 18.0**	**+1.8**
	baz=178								
M11K	**Mekoryuk**	**6.05**	**345**				**Pn**	**17 04 20.4**	**+1.5**
M11K	**Mekoryuk**	**6.05**	**345**	P			**Pn**	**17 04 20.4**	**+1.5**
	baz=163								
OHAK	**Old Harbor**	**6.14**	**60**				**Pn**	**17 04 19.2**	**-0.9**
OHAK	**Old Harbor**	**6.14**	**60**	P			**Pn**	**17 04 19.3**	**-0.9**
OHAK	**Old Harbor**	**6.14**	**60**	P			**Pn**	**17 04 19.2**	**-0.9**
	baz=247								
O17K	**Koliganek Bris**	**6.16**	**30**	P			**Pn**	**17 04 21.5**	**+1.1**
	baz=213								
M14K	**Bethel**	**6.23**	**5**				**Pn**	**17 04 22.2**	**+1.0**
M14K	**Bethel**	**6.23**	**5**	P			**Pn**	**17 04 22.2**	**+1.0**
	baz=185								
M15K	**Kasigluk River**	**6.28**	**11**				**Pn**	**17 04 22.8**	**+0.9**
M15K	**Kasigluk River**	**6.28**	**11**	P			**Pn**	**17 04 22.8**	**+0.9**
	baz=192								
N16K	**Nishlik Lake**	**6.37**	**20**				**Pn**	**17 04 24.5**	**+1.3**
N16K	**Nishlik Lake**	**6.37**	**20**	P			**Pn**	**17 04 24.5**	**+1.3**
	baz=202								
KDAK	**Kodiak Island**	**6.71**	**57**				**Pn**	**17 04 26.8**	**-1.0**
KDAK	**Kodiak Island**	**6.71**	**57**	Pn			**Pn**	**17 04 26.6**	**-1.3**
	comp=E,0.9nm,0.3s,baz=213,slow=4.8,SNR=26								
KDAK							**Sn**	**17 05 36.5**	**-6.2**
	baz=245,slow=19								
	comp=E,13nm,0.8s								
N17K	**Nushagak Hills**	**6.77**	**26**				**Pn**	**17 04 29.8**	**+1.2**
N17K	**Nushagak Hills**	**6.77**	**26**	P			**Pn**	**17 04 29.8**	**+1.2**
	baz=210								
L14K	**Kuka Creek**	**6.79**	**2**				**Pn**	**17 04 30.1**	**+1.2**
L14K	**Kuka Creek**	**6.79**	**2**	P			**Pn**	**17 04 30.1**	**+1.2**
	baz=182								
O18K	**Koktuh Hills**	**6.82**	**36**				**Pn**	**17 04 31.0**	**+1.6**
O18K	**Koktuh Hills**	**6.82**	**36**	P			**Pn**	**17 04 31.0**	**+1.6**
	baz=221								
M16K	**Timber Creek**	**6.84**	**17**				**Pn**	**17 04 30.1**	**+0.6**
M16K	**Timber Creek**	**6.84**	**17**	P			**Pn**	**17 04 30.1**	**+0.6**
	baz=200								
L15K	**Ungalak Mounta**	**7.18**	**6**				**Pn**	**17 04 35.0**	**+0.8**
L15K	**Ungalak Mounta**	**7.18**	**6**	P			**Pn**	**17 04 35.0**	**+0.8**
	baz=187								
N18K	**Kilae Creek**	**7.25**	**29**				**Pn**	**17 04 35.8**	**+0.6**
N18K	**Kilae Creek**	**7.25**	**29**	P			**Pn**	**17 04 35.8**	**+0.6**
	baz=214								
L16K	**Owhat River**	**7.41**	**14**				**Pn**	**17 04 38.5**	**+1.1**
L16K	**Owhat River**	**7.41**	**14**	P			**Pn**	**17 04 38.5**	**+1.1**
	baz=196								
K13K	**Kusilvak Mount**	**7.42**	**354**				**Pn**	**17 04 38.8**	**+1.3**
K13K	**Kusilvak Mount**	**7.42**	**354**	P			**Pn**	**17 04 38.8**	**+1.3**
	baz=173								
M17K	**Holitna River**	**7.48**	**22**				**Pn**	**17 04 39.8**	**+1.4**
M17K	**Holitna River**	**7.48**	**22**	P			**Pn**	**17 04 39.8**	**+1.4**
	baz=205								
ILSW	**Iliamna Southw**	**7.66**	**41**				**Pn**	**17 04 41.3**	**+0.4**
SVW2	**Sparrevohn**	**7.68**	**29**	Pn			**Pn**	**17 04 41.4**	**+0.3**
SVW2	**Sparrevohn**	**7.68**	**29**	P			**Pn**	**17 04 41.5**	**+0.5**
IVE	**Iliamna Volcan**	**7.73**	**41**				**Pn**	**17 04 43.1**	**+1.3**
N19K	**Bonanza Creek**	**7.78**	**33**				**Pn**	**17 04 43.3**	**+0.8**
N19K	**Bonanza Creek**	**7.78**	**33**	P			**Pn**	**17 04 43.3**	**+0.8**
	baz=219								
K15K	**Wolf Creek Mou**	**7.79**	**6**				**Pn**	**17 04 44.2**	**+1.7**
K15K	**Wolf Creek Mou**	**7.79**	**6**	P			**Pn**	**17 04 44.2**	**+1.7**
	baz=186								
M18K	**Stony River**	**7.94**	**26**				**Pn**	**17 04 45.5**	**+1.0**
M18K	**Stony River**	**7.94**	**26**	P			**Pn**	**17 04 45.6**	**+1.0**
	baz=211								
L17K	**Donlin**	**8.00**	**17**				**Pn**	**17 04 46.0**	**+0.6**
L17K	**Donlin**	**8.00**	**17**	P			**Pn**	**17 04 45.9**	**+0.6**
	baz=200								
RSO	**Redoubt South**	**8.12**	**39**	Pn			**Pn**	**17 04 47.8**	**+0.5**
CNPM	**China Poot**	**8.16**	**48**				**Pn**	**17 04 47.7**	**+0.1**
J14K	**Nanvaranak Lak**	**8.20**	**359**				**Pn**	**17 04 49.2**	**+1.1**
J14K	**Nanvaranak Lak**	**8.20**	**359**	P			**Pn**	**17 04 49.2**	**+1.1**
	baz=178								
L18K	**Granite Mounta**	**8.38**	**21**				**Pn**	**17 04 51.3**	**+0.8**
L18K	**Granite Mounta**	**8.38**	**21**	P			**Pn**	**17 04 51.3**	**+0.8**
	baz=206								
BRLK	**Bradley Lake**	**8.44**	**47**	Pn			**Pn**	**17 04 51.2**	**-0.3**
BRSE	**Bradley Lake S**	**8.49**	**47**				**Pn**	**17 04 51.5**	**-0.6**
BRSE	**Bradley Lake S**	**8.49**	**47**	P			**Pn**	**17 04 51.5**	**-0.6**
	baz=236								
K17K	**Iditarod**	**8.54**	**15**				**Pn**	**17 04 53.5**	**+0.8**
K17K	**Iditarod**	**8.54**	**15**	P			**Pn**	**17 04 53.5**	**+0.8**
	baz=198								
ADK	**Adak**	**8.56**	**257**	Pn			**Pn**	**17 04 54.2**	**+1.1**
ADK	**Adak**	**8.56**	**257**	P			**Pn**	**17 04 56.0**	**+2.9**
L19K	**White Mountain**	**8.78**	**26**				**Pn**	**17 04 56.6**	**+0.7**
L19K	**White Mountain**	**8.78**	**26**	P			**Pn**	**17 04 56.6**	**+0.7**
	baz=212								
J16K	**Anvik River**	**8.83**	**7**				**Pn**	**17 04 57.9**	**+1.2**
J16K	**Anvik River**	**8.83**	**7**	P			**Pn**	**17 04 57.9**	**+1.2**
	baz=189								
KIWB	**Kanaga Island**	**8.84**	**258**	Pn			**Pn**	**17 04 58.9**	**+2.0**
M20K	**Styx River**	**9.02**	**32**				**Pn**	**17 05 00.9**	**+1.5**
M20K	**Styx River**	**9.02**	**32**	P			**Pn**	**17 05 00.9**	**+1.5**
	baz=219								
SLKM	**Skilak Lake**	**9.13**	**44**				**Pn**	**17 05 01.7**	**+0.8**
TTA	**Tatalina**	**9.15**	**21**				**Pn**	**17 05 02.1**	**+1.0**
TTA	**Tatalina**	**9.15**	**21**	P			**Pn**	**17 05 02.0**	**+0.8**
TTA	**Tatalina**	**9.15**	**21**	P			**Pn**	**17 05 02.2**	**+1.0**
	baz=206								
STLK	**Strandline Lak**	**9.16**	**36**				**Pn**	**17 05 02.4**	**+1.1**
SEW	**Seward**	**9.23**	**48**				**Pn**	**17 05 01.9**	**-0.3**
SEW	**Seward**	**9.23**	**48**	P			**Pn**	**17 05 01.9**	**-0.3**
	baz=238								
I17K	**Unalakleet**	**9.42**	**7**	Pn			**Pn**	**17 05 05.7**	**+1.0**
J18K	**Innoko River**	**9.51**	**18**	Pn			**Pn**	**17 05 06.3**	**+0.4**
SUA	**Susitna One**	**9.52**	**39**				**Pn**	**17 05 06.7**	**+0.5**
SUA	**Susitna One**	**9.52**	**39**	P			**Pn**	**17 05 06.7**	**+0.5**
	baz=228								
SKT	**Skwentna**	**9.60**	**35**	Pn			**Pn**	**17 05 08.1**	**+0.9**
RC01	**Rabbit Creek A**	**9.67**	**42**	Pn			**Pn**	**17 05 08.0**	**-0.1**
K20K	**Telida**	**9.96**	**24**				**Pn**	**17 05 13.2**	**+1.1**
ANM	**Nome**	**10.09**	**354**	Pn			**Pn**	**17 05 15.0**	**+1.3**
H16K	**Elim**	**10.11**	**2**				**Pn**	**17 05 14.8**	**+0.8**
H16K	**Elim**	**10.11**	**2**	P			**Pn**	**17 05 14.8**	**+0.8**
	baz=182								
J19K	**Poorman**	**10.19**	**19**				**Pn**	**17 05 16.4**	**+1.2**
J19K	**Poorman**	**10.19**	**19**	P			**Pn**	**17 05 16.4**	**+1.2**
	baz=205								
KNK	**Knik Glacier**	**10.36**	**43**	Pn			**Pn**	**17 05 15.7**	**-1.8**
GHO	**Glory Hole Cre**	**10.39**	**40**	Pn			**Pn**	**17 05 15.9**	**-2.1**
G15K	**Niukluk**	**10.46**	**358**				**Pn**	**17 05 20.3**	**+1.4**
G15K	**Niukluk**	**10.46**	**358**	P			**Pn**	**17 05 20.3**	**+1.4**
	baz=177								
CAST	**Castle Rocks**	**10.53**	**28**	Pn			**Pn**	**17 05 17.1**	**-2.7**
SML	**Sawmill**	**10.64**	**41**	Pn			**Pn**	**17 05 19.7**	**-1.6**
J20K	**Nowinta River**	**10.65**	**22**	Pn			**Pn**	**17 05 22.3**	**+0.8**
HIN	**Hinchinbrook I**	**10.67**	**50**	Pn			**Pn**	**17 05 18.9**	**-2.8**
FID	**Port Fidalgo**	**10.84**	**48**	Pn			**Pn**	**17 05 22.1**	**-1.9**
G16K	**Koyuk River**	**10.86**	**2**	Pn			**Pn**	**17 05 25.7**	**+1.4**
H18K	**Honhosa River**	**10.88**	**11**	Pn			**Pn**	**17 05 25.4**	**+0.8**
KTH	**Kantishna Hill**	**10.96**	**30**	Pn			**Pn**	**17 05 24.7**	**-1.0**
SCM	**Sheep Creek Mo**	**11.04**	**42**	Pn			**Pn**	**17 05 23.5**	**-3.4**
TRF	**Thorofare Moun**	**11.07**	**31**	Pn			**Pn**	**17 05 26.4**	**-0.9**
F15K	**North Star Dit**	**11.20**	**357**	Pn			**Pn**	**17 05 30.0**	**+1.2**
KLU	**Klutina**	**11.43**	**46**				**Pn**	**17 05 30.6**	**-1.6**
RND	**Reindeer**	**11.49**	**34**	Pn			**Pn**	**17 05 32.1**	**-0.7**
M24K	**Tolsona, Glenn**	**11.65**	**43**	Pn			**Pn**	**17 05 32.2**	**-2.8**
DHY	**Denali Highway**	**11.77**	**37**	Pn			**Pn**	**17 05 34.4**	**-2.3**
N25K	**Chitina, Valde**	**12.04**	**47**	Pn			**Pn**	**17 05 38.6**	**-1.8**
H21K	**Melozitna Rive**	**12.23**	**21**	Pn			**Pn**	**17 05 42.8**	**+0.1**
GLB	**Gilahina Butte**	**12.31**	**48**	Pn			**Pn**	**17 05 42.2**	**-1.7**
CRQM	**Cirque**	**12.34**	**52**	Pn			**Pn**	**17 05 42.6**	**-1.8**
VRDI	**Verde Repeater**	**12.38**	**50**	Pn			**Pn**	**17 05 43.0**	**-2.0**
TGL	**Tana Glacier**	**12.48**	**52**	Pn			**Pn**	**17 05 44.3**	**-2.0**
I23K	**Minto, Yukon-K**	**12.62**	**27**	Pn			**Pn**	**17 05 46.4**	**-1.6**
GRNC	**Granite Creek**	**12.97**	**53**	Pn			**Pn**	**17 05 51.8**	**-1.1**
IL31		**13.06**	**32**	Pn			**Pn**	**17 05 51.4**	**-2.4**
ILAR	**Eielson Array**	**13.06**	**32**	Pn			**Pn**	**17 05 51.3**	**-2.6**
	comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=5.7								
	comp=E,0.3nm,0.7s								
M26K	**Nabesna, AK**	**13.08**	**45**	Pn			**Pn**	**17 05 52.6**	**-1.7**
BARN	**Barnard Glacie**	**13.12**	**52**	Pn			**Pn**	**17 05 54.7**	**-0.1**
E19K	**Redstone River**	**13.23**	**10**	Pn			**Pn**	**17 05 58.3**	**+2.3**
CTGM	**Chitina Glacie**	**13.24**	**52**	Pn			**Pn**	**17 05 55.3**	**-1.1**
LOGN	**Logan Glacier**	**13.35**	**53**	Pn			**Pn**	**17 05 57.4**	**-0.5**
J25K	**Salcha River,**	**13.44**	**34**	Pn			**Pn**	17 05 54.4	-4.5
F21K	**Alatna River**	**13.50**	**16**	Pn			**Pn**	**17 06 00.1**	**+0.4**
SCRK	**Sand Creek**	**13.53**	**38**				**Pn**	**17 05 59.0**	**-1.1**
G23K	**Bananza Creek**	**13.72**	**22**	Pn			**Pn**	**17 06 03.7**	**+1.1**
C16K	**Lisburne Hills**	**13.79**	**357**	Pn			**Pn**	**17 06 04.4**	**+1.1**
L27K	**Beaver Creek,**	**13.87**	**44**	Pn			**Pn**	**17 06 03.7**	**-0.8**
J26L	**Joseph Creek**	**13.98**	**37**	Pn			**Pn**	**17 06 04.9**	**-1.1**
C18K	**Utukok River**	**14.15**	**3**	Pn			**Pn**	**17 06 10.5**	**+2.4**
K27K	**Chicken**	**14.26**	**40**	Pn			**Pn**	**17 06 08.9**	**-0.6**
O29M	**Mount Kennedy**	**14.36**	**57**	Pn			**Pn**	**17 06 11.7**	**+0.7**
P29M	**Windy Craggy**	**14.65**	**60**	Pn			**Pn**	**17 06 14.8**	**+0.2**
M29M	**Somme Creek**	**15.03**	**48**	Pn			**Pn**	**17 06 19.2**	**-0.2**
D22K	**Ayikyak River**	**15.15**	**15**	Pn			**Pn**	**17 06 22.0**	**+1.1**
D22K							IAmb	IAmb	17 06 28.0
	comp=Z,3.2nm,0.8s								
DAWY	**Dawson**	**15.30**	**42**	Pn			**Pn**	**17 06 22.1**	**-0.8**
DAWY							IAmb	IAmb	17 06 28.0
	comp=Z,6.2nm,1.2s								
N30M	**Aishikik Lake**	**15.35**	**53**				**Pn**	**17 06 23.4**	**-0.1**
I28M	**Miner Creek**	**15.79**	**37**	Pn			**Pn**	**17 06 28.4**	**-0.7**
I28M							IAmb	IAmb

BLUN	Bluefields	1.81	40	⇓	*i*	P	Pn	17 03 40.7	+0.5
OCHAL	Ojochal	1.99	139		*i*	P	Pn	17 03 40.6	-2.1
SRBA	San Rafael, Bu	2.09	131	⇓	*i*	P	Pb	17 03 46.6	-0.7
CTCR	Cotoan	2.76	128		*i*	P	Pn	17 03 50.3	-3.3
CSGN	Cosiguina Volc	3.46	313		*i*	P	Pn	17 04 05.6	+2.6

IDC ***11*** *17:03:16.0±0.5, 10°.68N×84°.80W, h0km, mb4.2/16, mbtmp4.2/20, ML3.6/3, MS3.9/41, Error ellipse: s-maj=16.1km s-min=5.8km az=107.0*

UCR ***11*** *17:03:17.2±1.0, 10°.68N×84°.99W, h6km±3km, MW5.1, MB5.0(NEIC), Fault plane solution: NP1:ϕs35.73000°, δ84.92000°, λ-19.37000°.*

NEIC ***11*** *17:03:18.5±2.5, 10°.66N±0°.05×84°.92W±0°.06, h10km±1km, mb5.0/69, Error ellipse: s-maj=11.6km s-min=3.9km az=230.0*

GCMT ***11*** *17:03:21.5±0.4, 10°.75N±0°.02×84°.88W±0°.02, h19km±2km, MW4.8/79, Moment Tensor Solution. s10,c11; s79,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.23±.11; Mθθ-1.61±.09; Mϕϕ 1.84±.10; Mrθ-0.40±.19; Mϕθ-0.13±.09; Mϕr-0.19±.21; Best double couple: Mo1.79300×10^{16} NP1:ϕs42.00000°, δ83.00000°, λ-14.00000°. NP2: ϕs134.00000°, δ76.00000°, λ-173.00000°. Principal axes: T 1.8600, Plg5.0000°, Azm88.0000°; N -0.1310, Plg74.0000°, Azm196.0000°; P -1.7260, Plg15.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 17:03:17.5±0.9, 10°.67N±0°.02×84°.92W±0°.02, h7km±6km, n380, σ1s66/312, mb4.9/54, MS4.0/37, 39C-30D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VERA	Finca Concepci	0.19	16		*eP*		Pg	17 03 22.8	+1.4
VMAR	Armenia, Volca	0.24	308	⇓	*eP*		Pg	17 03 22.1	-0.1
VMAR	Armenia, Volca	0.24	308		*i* S		Pg	17 03 22.6	+0.3
VMAR	Armenia, Volca	0.24	308		IAML			17 03 35.0	
	comp=Z,580μm,1.0s								
CUI	Cuipilapa	0.24	268	⇑	*eP*		Pg	17 03 21.9	-0.4
COLC	Colonia	0.28	270		*eP*		Pg	17 03 22.6	-0.4
COLC					*eS*		Sg	17 03 25.9	-0.8
ARE1	Arenal 1	0.29	136		Pg		Pg	17 03 23.9	+0.8
ARE1	Arenal 1	0.29	136		*eP*		Pg	17 03 24.7	+1.6
CNAS	Canas	0.29	215	⇓	*eP*		Pg	17 03 24.3	+1.1
CNAS					*eS*		Sg	17 03 28.8	+1.7
VACR	Volcan Arenal	0.31	129	⇑	*eP*		Pb	17 03 25.4	0.0
VACR	Volcan Arenal	0.31	129		*i* S		Pg	17 03 23.6	0.0
VACR	Volcan Arenal	0.31	129		IAML			17 03 34.5	
	comp=Z,290μm,1.0s								
TUNA	La Fortuna	0.34	126	⇑	*eP*		Pb	17 03 26.8	+1.0
JTS	Las Juntas de	0.38	185		Pg		Pg	17 03 24.7	-0.1
JTS	Las Juntas de	0.38	185		Pg		Pg	17 03 24.5	-0.4
	comp=Z,3μm,0.3s,baz=28,slow=15,SNR=127								
JTS					Lg		Lg	17 03 28.8	
	comp=Z,4μm,0.3s,baz=13,slow=18,SNR=35								
JTS	Las Juntas de	0.38	185		*eP*		Pg	17 03 24.8	-0.1
JTS	Las Juntas de	0.38	185	⇓	*eP*		Pg	17 03 24.7	-0.1
JUNT	Juntas	0.38	185	⇓	*eP*		Pg	17 03 24.9	-0.1
SOCE	Pocosol	0.41	133		Pg		Pg	17 03 25.1	-0.4
SOCE	Pocosol	0.41	133		*eP*		Pg	17 03 26.7	+1.2
SOCE	Pocosol	0.41	133		*i* S		Pg	17 03 26.6	+1.1
SOCE	Pocosol	0.41	133		IAML			17 03 34.6	
	comp=Z,78μm,1.0s								
LCHIL	Los Chiles	0.42	29	⇑	*eP*		Pb	17 03 27.7	+0.5
LCHIL					*eS*		Sb	17 03 35.1	+1.3
VORI	VORI	0.44	290		*eP*		Pg	17 03 25.6	-0.6
VRLE	La Escondida,	0.45	286		*i* S		Pg	17 03 26.8	+0.5
VRLE	La Escondida,	0.45	286		IAML			17 03 43.6	
	comp=Z,43μm,1.0s								
ERIA	Liberia	0.51	266	⇑	*eP*		Pg	17 03 27.2	-0.2
COVE	Coope Vega, Sa	0.51	84		Pg		Pg	17 03 28.1	+0.6
COVE						Sg	Sg	17 03 29.8	-4.4
COVE	Coope Vega, Sa	0.51	84	⇑	*eP*		Pg	17 03 28.4	+0.9
COVE	Coope Vega, Sa	0.51	84		*i* S		Sg	17 03 29.3	-4.9
COVE	Coope Vega, Sa	0.51	84		IAML			17 03 32.2	
	comp=Z,73μm,1.0s								
ORTG	Ortega, Santa	0.61	240		Pg		Pg	17 03 28.3	-1.0
ORTG	Ortega, Santa	0.61	240	⇑	*eP*		Pg	17 03 28.5	-0.8
ORTG					*eS*		Sg	17 03 36.7	-0.5
ORTG	Ortega, Santa	0.61	240		*i* S		Pg	17 03 28.3	-1.0
ORTG	Ortega, Santa	0.61	240		IAML			17 03 36.9	
	comp=Z,28μm,1.0s								
ELI1	Hacienda Flor	0.62	268	⇑	*eP*		Pg	17 03 28.6	-0.9
CPMI	Catarata Coope	0.66	126	⇑	*eP*		Pg	17 03 31.2	+1.1
CPMI					*eS*		Sb	17 03 41.0	+0.3
CPMI	Catarata Coope	0.66	126		*i* S		Pg	17 03 31.3	+1.1
CPMI	Catarata Coope	0.66	126		IAML			17 03 51.9	
	comp=Z,35μm,1.0s								
DELF	Filadelfia	0.66	251	⇑	*eP*		Pg	17 03 29.3	-0.9
HZTE	Horizontes, Gu	0.66	274		Pg		Pg	17 03 29.3	-1.0
ITAL	Pital	0.68	108	⇑	*eP*		Pg	17 03 31.0	+0.5
ARZA	Esparza	0.72	160	⇓	*eP*		Pg	17 03 32.4	+1.0
NYURE	Nandayure	0.74	206	⇓	*eP*		Pg	17 03 31.9	+0.1
SARCI	Sarchi	0.81	135	⇑	*eP*		Pg	17 03 33.8	+0.8
CMARA	Lajas Hojancha	0.81	218	⇓	*eP*		Pg	17 03 32.2	-0.9
POA5	Crater Von Fra	0.82	124	⇑	*eP*		Pg	17 03 33.7	+0.4
VPS6	Volcano Poas	0.83	125	⇑	*eP*		Pg	17 03 33.7	+0.2
TCS1	Tacares	0.87	135	⇑	*eP*		Pg	17 03 34.8	+0.5
TCS1	Tacares	0.87	135	⇑	*iP*		Pg	17 03 34.6	+0.3
TCS1					IAML			17 03 50.6	
	comp=Z,130μm,1.0s								
SARA	Sarapiqu	0.91	103		*eP*		Pg	17 03 35.0	0.0
INDI	Punta indio, G	0.98	216	⇓	*eP*		Pg	17 03 35.1	-1.2
INDI	Punta indio, G	0.98	216		*i* S		Pg	17 03 35.2	-1.2
INDI	Punta indio, G	0.98	216		IAML			17 03 53.2	
	comp=Z,20μm,1.0s								
BELE	Belen	1.00	133		*eP*		Pg	17 03 37.3	+0.7
JACO	JACO, Garabito	1.03	165		Pg		Pg	17 03 36.2	-1.1
JACO	JACO, Garabito	1.03	165	⇓	*eP*		Pg	17 03 36.5	-0.8
JACO	JACO, Garabito	1.03	165		*i* S		Pg	17 03 36.5	-0.8
JACO	JACO, Garabito	1.03	165		IAML			17 04 02.9	
	comp=Z,11μm,1.0s								
HDC	Heredia	1.03	130					17 03 37.7	+0.3
HDC	Heredia	1.03	130		*eP*		Pg	17 03 37.4	0.0
HDC3	Heredia 3	1.04	130	⇑	*eP*		Pg	17 03 37.4	-0.1
HDC3	Heredia 3	1.04	130	⇑	*iP*		Pg	17 03 37.0	-0.4
HDC3					IAML			17 04 09.3	
	comp=Z,17μm,1.0s								
RIFO	Rio Frio, Sara	1.04	109	⇑	*eP*		Pg	17 03 37.1	-0.4
RIFO	Rio Frio, Sara	1.04	109	⇑	*iS*		Pg	17 03 37.1	-0.4
RIFO	Rio Frio, Sara	1.04	109		IAML			17 04 02.0	
	comp=Z,31μm,1.0s								
CBL1	Cabuya	1.08	189	⇓	*eP*		Pg	17 03 37.3	-1.0
OMEN	AI SSO del Vol	1.09	321		*i* S		Pn	17 03 39.8	+0.7
OMEN	AI SSO del Vol	1.09	321		IAML			17 03 59.9	
	comp=Z,13μm,1.0s								
CONN	Concepcion	1.13	322		*i* S		Pg	17 03 38.0	-1.2
CONN	Concepcion	1.13	322		IAML			17 04 00.1	
	comp=Z,130μm,1.0s								
MORN	AI O del Volca	1.13	321		*i* S		Pg	17 03 38.5	-0.7
MORN	AI O del Volca	1.13	321		IAML			17 03 57.7	
	comp=Z,21μm,1.0s								
JAPN	AI SSO del Vol	1.13	319		*i* S		Pg	17 03 40.2	+1.0
JAPN	AI SSO del Vol	1.13	319		IAML			17 03 41.8	
	comp=Z,12μm,1.0s								
CORON	Coronado	1.14	127		*eP*		Pb	17 03 39.5	-0.1
CVIMO	Finca Echandi	1.16	123	⇑	*eP*		Pb	17 03 39.5	-0.4
CARI	Cariari	1.21	104		*eP*		Pb	17 03 40.4	-0.3
OCM	Ochomogo	1.22	129	⇑	*eP*		Pb	17 03 40.0	-1.0
OCM	Ochomogo	1.22	129		*i* S		Pn	17 03 41.7	+0.6
OCM	Ochomogo	1.22	129		IAML			17 03 41.9	
	comp=Z,8μm,1.0s								
TBLN	Tablon, Guarco	1.24	133		*i* S		Pn	17 03 41.7	+0.4
TBLN	Tablon, Guarco	1.24	133		IAML			17 04 03.0	
	comp=Z,12μm,1.0s								
VICA	Volcano Irazu	1.26	123	⇑	*eP*		Pn	17 03 41.2	-0.7
HAYA	Volcan Irazu	1.26	123		*i* S		Pn	17 03 42.9	+1.0
HAYA	Volcan Irazu	1.26	123		IAML			17 04 23.5	
	comp=Z,12μm,1.0s								
LCR2	La Lucha 2	1.29	135		Pn		Pn	17 03 41.2	-0.9
LCR2	La Lucha 2	1.29	135	⇑	*eP*		Pn	17 03 41.1	-0.9
LCR2	La Lucha 2	1.29	135		*i* S		Pn	17 03 42.1	0.0
LCR2	La Lucha 2	1.29	135		IAML			17 04 04.0	
	comp=Z,17μm,1.0s								
VTRT	Volcan Turrial	1.29	121	⇑	*eP*		Pn	17 03 41.7	-0.6
VTLA	Turrialba Volc	1.31	120	⇑	*eP*		Pn	17 03 42.0	-0.5
CVTR	Volcan Turrial	1.31	119	⇑	*eP*		Pn	17 03 42.0	-0.6
VTR0	Volcan Turrial	1.31	119	⇑	*eP*		Pn	17 03 42.1	-0.5
CVTQ	Turrialba Volc	1.31	120	⇑	*eP*		Pn	17 03 42.0	-0.5
ACON	Acoyapa	1.32	349		Pn		Pn	17 03 41.9	-0.4
ACON						Sg	Sb	17 03 59.6	0.0
ACON	Acoyapa	1.32	349	⇓	*iP*		Pn	17 03 41.4	-0.9
ACON	Acoyapa	1.32	349	⇓	*eP*		Pn	17 03 41.3	-1.0
ACON	Acoyapa	1.32	349		*i* S		Pn	17 03 41.7	-0.6
ACON	Acoyapa	1.32	349		IAML			17 04 05.6	
	comp=Z,38μm,1.0s								
VTLO	VTLO	1.33	118	⇑	*eP*		Pn	17 03 42.2	-0.6
REPA	Paraso	1.33	129		*eP*		Pb	17 03 43.4	+0.5
VTCV	VTCV, Calle Va	1.36	120	⇑	*eP*		Pn	17 03 42.7	-0.4
RIMA	Rio Macho	1.37	131		Pn		Pn	17 03 43.3	+0.1
RIMA	Rio Macho	1.37	131		*eP*		Pn	17 03 43.3	+0.1
RIMA	Rio Macho	1.37	131		*i* S		Pn	17 03 43.5	+0.3
RIMA	Rio Macho	1.37	131		IAML			17 04 08.2	
	comp=Z,12μm,1.0s								
VINA	Juan Vinas	1.39	123	⇑	*eP*		Pn	17 03 43.5	+0.1
VERB	Verbena	1.41	121		*eP*		Pn	17 03 43.7	+0.1
LLNJ	Naranjito	1.44	146	⇓	*eP*		Pn	17 03 44.2	+0.3
LCOCO	El Coco	1.46	113	⇑	*eP*		Pn	17 03 44.5	+0.2
IRES	Siquirres	1.50	112	⇑	*eP*		Pn	17 03 45.2	+0.4
NADN	Granada	1.53	315	⇓	*iP*		Pn	17 03 45.7	+0.5
NADN					IAML			17 04 21.6	
	comp=Z,10μm,1.0s								
CDM	Cerro de Muert	1.59	134	⇑	*eP*		Pn	17 03 46.4	0.0
CDM	Cerro de Muert	1.59	134		*i* S		Pn	17 03 47.9	+1.5
CDM	Cerro de Muert	1.59	134		IAML			17 04 13.4	
	comp=Z,15μm,1.0s								
BUS1	Rivas	1.60	134	⇑	*eP*		Pn	17 03 46.5	-0.1
ESPN	Las Esperanzas	1.64	22		Pn		Pn	17 03 46.9	+0.2
ESPN	Las Esperanzas	1.64	22	⇓	*eP*		Pn	17 03 47.2	+0.5
ESPN	Las Esperanzas	1.64	22		*i* S		Pn	17 03 47.5	+0.8
ESPN	Las Esperanzas	1.64	22		IAML			17 04 10.8	
	comp=Z,38μm,1.0s								
NANN	Nandasmo	1.73	317	⇓	*iP*		Pn	17 03 47.4	-0.6
NANN					IAML			17 04 38.3	
	comp=Z,73μm,1.0s								
BLUN	Bluefields	1.74	40		IAML			17 04 13.9	
	comp=Z,20μm,1.0s								
WILN	Americas 2	1.93	320	⇓	*iP*		Pn	17 03 49.8	-1.0
WILN					IAML			17 04 40.5	
	comp=Z,3μm,1.0s								
UNAN	Cigeo UNAN	1.95	317	⇓	*iP*		Pn	17 03 50.0	-1.0
OCHAL	Ojochal	2.00	141		IAML			17 04 29.9	
	comp=Z,44nm,1.0s								
APYN	Apoyeque	2.09	318		*i* P		Pn	17 03 53.1	+0.1
APYN					IAML			17 04 37.9	
	comp=Z,2μm,1.0s								
SRBA	San Rafael, Bu	2.10	133		Pn		Pn	17 03 53.3	+0.1
SRBA	San Rafael, Bu	2.10	133	⇑	*eP*		Pn	17 03 54.1	+0.9
SRBA	San Rafael, Bu	2.10	133		IAML			17 04 25.3	
	comp=Z,5μm,1.0s								
DRK0	Durika	2.16	130		Pn		Pn	17 03 54.8	+0.8
COPN	Copaltepe	2.22	313	⇓	*iP*		Pn	17 03 54.5	-0.3
COPN					IAML			17 04 51.7	
	comp=Z,5μm,1.0s								
EDPN	Palmar Norte	2.23	139		*eP*		Pb	17 03 57.0	-1.0
MOM2	El Cardon	2.33	319	⇓	*iP*		Pn	17 03 53.3	-3.0
MOM2					IAML			17 04 50.1	
	comp=Z,2μm,1.0s								
MOMN	Momotombo	2.35	318	⇓	*iP*		Pn	17 03 54.0	-2.5
MOMN					IAML			17 04 56.7	
	comp=Z,130nm,1.0s								
POTG	Potrero Grande	2.39	132	⇑	*iP*		Pn	17 03 58.5	+1.3
POTG					IAML			17 04 38.6	
	comp=Z,11μm,1.0s								
MATN	Matagalpa	2.45	337		Pn		Pn	17 03 57.7	-0.3
MATN	Matagalpa	2.45	337	⇓	*iP*		Pn	17 03 57.4	-0.6
MATN					IAML			17 04 40.1	
	comp=Z,3μm,1.0s								
RGM0	Gandoca	2.52	115				Pn	17 04 00.3	+1.5
CNGN	Cerro Negro	2.52	316				Pn	17 03 58.9	0.0
CNGN	Cerro Negro	2.52	316		*eP*		Pn	17 04 00.0	+1.1
CNGN	Cerro Negro	2.52	316	⇓	*iP*		Pn	17 04 00.3	+1.4
CNGN					IAML			17 04 59.8	
	comp=Z,2μm,1.0s								
ROCN	Rota Cerro Neg	2.56	316	⇓	*iP*		Pn	17 03 55.1	-4.4
ROCN					IAML			17 04 14.1	
	comp=Z,800nm,1.0s								
JIME	Puerto Jimenez	2.64	143		*eP*		Pb	17 04 04.2	-0.9
CTCR	Cotoan	2.76	129		IAML			17 04 56.6	
	comp=Z,12μm,1.0s								
LIMN	Finca el Limon	2.77	329	⇓	*iP*		Pn	17 04 00.9	-1.5
LIMN					IAML			17 04 54.6	
	comp=Z,3μm,1.0s								
BRU2	Volcan	2.88	130				Pn	17 04 04.9	+0.9
BRU2	Volcan	2.88	130	⇑	*iP*		Pn	17 04 05.5	+1.5
BRU2					IAML			17 05 18.4	
	comp=Z,5μm,1.0s								
CDITO	Canoas	2.90	136				Pn	17 04 04.4	+0.4
CDITO	Canoas	2.90	136		*i* P		Pn	17 04 03.2	-0.9
CDITO					IAML			17 05 12.3	
	comp=Z,8μm,1.0s								
CRIN	San Cristobal	2.90	314				Pn	17 04 05.6	+1.4
CRIN	San Cristobal	2.90	314		*eP*		Pn	17 04 05.8	+1.6
CRIN	San Cristobal	2.90	314	⇓	*iP*		Pn	17 04 05.8	+1.6
CRIN					IAML			17 05 05.7	
	comp=Z,3μm,1.0s								
CCOL	Caracol de Cor	2.96	139		*eP*		Pb	17 04 09.0	-1.6
CCOL	Caracol de Cor	2.96	139	⇓	*iP*		Pb	17 04 08.9	-1.6
CCOL					IAML			17 05 23.9	
	comp=Z,7μm,1.0s								
RCPN	Sur Rio San Ju	3.06	338		*i* P		Pn	17 04 06.1	-0.3
RCPN					IAML			17 04 55.7	
	comp=Z,13nm,1.0s								
CSGN	Cosiguina Volc	3.45	312		IAML			17 04 15.8	
	comp=Z,2μm,1.0s								
AMPH	Amapala	3.73	314	⇓	*iP*		Pn	17 04 16.7	+1.2
YUSH	Yuscaran	3.77	330	⇓	*iP*		Pn	17 04 15.9	-0.2
CNCH	Conchagua	3.85	313	⇓	*iP*		Pn	17 04 18.6	+1.3
CNCH					IAML			17 04 45.8	
	comp=Z,1μm,1.0s								
TGUH	Tegucigalpa,Un	4.08	326		Pn		Pn	17 04 21.5	+1.1
TGUH	Tegucigalpa,Un	4.08	326		*eP*		Pb	17 04 27.5	-2.2
PNME	Penonome	5.02	115		*eP*		Pn	17 04 32.9	-0.4
CACAO	El Cacao, Vera	5.20	129		*eP*		Pn	17 04 39.8	+4.1
BCIP	Isla Barro Col	5.23	106		Pn		Pn	17 04 36.3	+0.2
BCIP	Isla Barro Col	5.23	106		*eP*		Pn	17 04 36.3	+0.2
AZU	Azuero	5.41	122		*eP*		Pn	17 04 36.4	-2.2
UPA	Univ. de Panam	5.57	107		*eP*		Pn	17 04 38.7	-2.1
MTO3	Montecristo	5.70	311				Pn	17 04 44.4	+1.5
ESQI	Esquipulas	5.79	312		Pn		Pn	17 04 44.7	+0.7
APG	El Apazote	6.91	309		LR		LR	17 07 42.5	
	comp=Z,108nm,20.5s,baz=92,slow=38								
UPD2	Meseta	7.13	107		*eP*		Pn	17 04 56.2	-6.1
CAPC	Capurgana	7.73	104		*eP*		Pn	17 05 12.1	+1.5
PETF	Flores	7.85	323		Pn		Pn	17 05 12.5	+0.4
LCBC	Los crdobas,	8.62	101		*eP*		Pn	17 05 24.5	+1.8
APAC	Apartado, Choc	8.68	108		*eP*		Pn	17 05 29.7	+6.2
DBBC	Dabeiba	9.34	112		*eP*		Pn	17 05 32.5	-0.2
SJCC	San Jacinto, C	9.62	94				Pn	17 05 36.4	-0.1
SJCC	San Jacinto, C	9.62	94		*eP*		Pn	17 05 34.2	-2.3
UREC	San Jos de Ur	9.71	107		*eP*		Pn	17 05 36.6	-1.1
CBOC	Ciudad Bolivar	10.03	118		*eP*		Pn	17 05 41.4	-0.8
TEIG	Tepich	10.04	342		LR		LR	17 09 43.5	
	comp=Z,11μm,18.5s,baz=304,slow=38								
GR1C	Gorgona, Isla	10.14	138		*eP*		Pn	17 05 42.4	-1.2
PLMC	San Jos del P	10.30	123		*eP*		Pn	17 05 49.5	+3.7
ZARC	Zaragoza, Cauc	10.43	107		*eP*		Pn	17 05 45.1	-2.5
ARGC	Ariguani, Magd	10.54	93		*eP*		Pn	17 05 46.8	-2.2
YOTC	Yotoco, Valle	10.79	127		*eP*		Pn	17 05 59.9	+7.3
GUY2C	Guyana, Caldas	10.90	119		*eP*		Pn	17 05 54.7	+0.3
JAMC	Jamundi, Valle	11.04	132		*eP*		Pn	17 06 00.9	+4.9
PTBC	PUERTO BERRIO,	11.13	111		*eP*		Pn	17 05 54.8	-2.4
BBAC	Balboa, Cauca	11.48	138		*eP*		Pn	17 06 05.1	+2.9
OCAC	Ocana	11.70	101		*eP*		Pn	17 06 03.9	-1.2
ORTC	Ortega, Tolima	11.71	124		*eP*		Pn	17 06 06.8	+1.7
GCUF	Volcan Galeras	12.03	141		*eP*		Pn	17 06 00.9	-9.0
OTAV	Otavalo	12.20	148		*eP*		Pn	17 06 19.5	+7.3
BARC	Barichara	12.29	108		*eP*		Pn	17 06 14.3	+1.0
PAMC	Pamplona, Colo	12.52	104		*eP*		Pn	17 06 14.8	-1.7
PIAT	Ana Tenorio	13.35	150		*eP*		P	17 06 35.4	-2.3
TAMC	Tame, Arauca	13.65	107		*eP*		Pn	17 06 32.3	+0.7
SDV	Santo Domingo	14.19	96		Pn		Pn	17 06 37.6	-1.7
SDV	Santo Domingo	14.19	96		Pn		Pn	17 06 37.8	-1.5
	comp=Z,0.7nm,0.3s,baz=291,slow=5.4,SNR=8.6								
SDV					LR		LR	17 13 10.4	
	comp=Z,464nm,19.2s,baz=270,slow=42 comp=Z,5.9nm,0.6s								
SDV	Santo Domingo	14.19	96		*eP*		Pn	17 06 41.0	+1.8
COHC	Cochancay	14.21	156		*eP*		Pn	17 06 40.7	+1.3
PTLC	Puerto Leguiza	14.49	135		*eP*		P	17 06 55.1	+5.1
TLIG	Tlapa	14.90	299		Pn		Pn	17 06 49.4	+0.6
BOSC	San Juan Bosco	15.14	155		P		P	17 06 57.6	+0.2
MCRA	Macar, Loja	15.73	161		P		Pn	17 07 02.1	+2.3
MCRA	Macar, Loja	15.73	161		*eP*		P	17 07 06.7	+2.9
BAUV	El Baul	16.72	94		Pn		Pn	17 07 10.8	-1.7
ATAH	Atahualpa	18.84	160		P		P	17 07 38.5	-0.1
	comp=Z,0.3nm,0.3s,baz=8.3,slow=7.9,SNR=1.6								
ATAH						LR	LR	17 14 16.9	
	comp=Z,839nm,18.6s,baz=344,slow=35 comp=Z,2.2nm,0.6s								
SJG	San Juan	19.62	66		P		P	17 07 45.3	-1.3
	comp=Z,8.2nm,0.5s,baz=252,slow=20,SNR=1.3								
SJG						LR	LR	17 15 43.1	
	comp=Z,250nm,19.1s,baz=263,slow=38								
PCRV	Puerto La Cruz	19.96	90		P		P	17 07 50.4	0.0
	comp=Z,0.4nm,0.3s,baz=270,slow=11,SNR=2.9 comp=Z,15nm,1.0s								
HKT	Hockley	21.72	334		P		P	17 08 09.5	+0.3
HKT						IAmb	IAmb	17 08 21.9	
	comp=Z,71nm,1.6s								
152A	Waverly Hall	21.90	0		P		P	17 08 13.3	+2.1
	baz=180,SNR=5.6								
833A	Chaparral WMA,	22.20	324		P		P	17 08 18.7	+4.2
	baz=140								
833A	Chaparral WMA,	22.20	324		P		P	17 08 14.7	+0.2
	baz=140								
LRAL	Lakeview Retre	22.34	355		P		P	17 08 20.6	+4.6
	baz=175								
LRAL	Lakeview Retre	22.34	355		P		P	17 08 20.3	+4.3
	baz=175,SNR=7.8								
Y52A	Lilburn	23.10	2		P		P	17 08 27.1	+3.1
Y52A						IAmb	IAmb	17 08 31.4	
	comp=Z,76nm,1.1s								
Y52A	Lilburn	23.10	2		P		P	17 08 26.9	+2.9
	baz=182,SNR=7.3								
Y52A					P		P	17 08 26.9	+2.9
	baz=182,SNR=7.3								
Y49A	Blount Mountai	23.12	357		P		P	17 08 26.5	+2.3
Y49A						IAmb	IAmb	17 08 30.1	
	comp=Z,38nm,1.1s								
Y49A	Blount Mountai	23.12	357		P		P	17 08 26.6	+2.3
	baz=176,SNR=6.3								
435B	Jarrell	23.22	331		P		P	17 08 29.9	+4.7
	baz=147								
HODGE	Hodges	23.58	6		P		P	17 08 32.1	+3.3
HODGE						IAmb	IAmb	17 08 37.1	
	comp=Z,33nm,1.0s								
HODGE	Hodges	23.58	6		P		P	17 08 32.1	+3.3
	baz=186								
DRIO	Del Rio	23.73	324		P		P	17 08 30.9	+0.5
DRIO						IAmb	IAmb	17 08 35.9	
	comp=Z,45nm,1.3s								
NNA	Nana

ACSO	**Alum Creek Sta**	**29.50**	**3**	P	**P**	**17 09 23.9**	**+1.6**
	baz=184						
O53A	**New Philadelph**	**29.64**	**6**	IAmb	IAmb	17 09 30.6	
	comp=Z,42nm,1.1s						
O53A	**New Philadelph**	**29.64**	**6**	P	**P**	**17 09 25.9**	**+2.2**
	baz=187						
SFIN	**Lafayette**	**29.66**	**357**	P	**P**	**17 09 24.1**	**+0.4**
	baz=176						
SFIN	**Lafayette**	**29.66**	**357**	P	**P**	**17 09 23.7**	**0.0**
	baz=176,SNR=5.4						
N49A	**Columbus Grove**	**30.14**	**1**	P	**P**	**17 09 29.4**	**+1.4**
	baz=181,SNR=5.6						
N49A				P	**P**	**17 09 29.4**	**+1.4**
	baz=181,SNR=5.6						
N51A	**Ashland**	**30.21**	**4**	IAmb	IAmb	17 09 34.4	
	comp=Z,53nm,1.3s						
M50A	**Fremont**	**30.66**	**3**	IAmb	IAmb	17 10 45.2	
	comp=Z,24nm,0.8s						
M55A	**Ridgway**	**31.16**	**9**	P	**P**	**17 09 39.1**	**+2.1**
	baz=192,SNR=5.5						
M55A				P	**P**	**17 09 39.1**	**+2.1**
	baz=192,SNR=5.5						
L48A	**N Adams**	**31.16**	**1**	IAmb	IAmb	17 09 41.3	
	comp=Z,40nm,1.1s						
L42A	**Oliver, Polo**	**31.49**	**353**	P	**P**	**17 09 40.4**	**+0.5**
	baz=171,SNR=6.4						
L40A	**Anamosa**	**31.76**	**351**	P	**P**	**17 09 43.6**	**+1.4**
	baz=168,SNR=5.1						
TUC	**Tucson**	**32.13**	**316**	P	**P**	**17 09 49.1**	**+3.3**
JFWS	**Jewell Farm**	**32.46**	**353**	P	**P**	**17 09 51.1**	**+2.7**
	baz=170						
L59A	**Walton**	**32.57**	**14**	P	**P**	**17 09 50.9**	**+1.5**
	baz=198						
L59A				P	**P**	**17 09 50.9**	**+1.5**
	baz=198						
SADO	**Sadowa**	**34.34**	**7**	P	**P**	**17 10 05.2**	**+0.4**
SADO				IAmb	IAmb	17 10 17.0	
	comp=Z,37nm,1.3s						
SADO	**Sadowa**	**34.34**	**7**	LR	LR	17 23 56.2	
	comp=Z,373nm,21.4s,baz=74,slow=36						
113A	**Mohawk Valley,**	**34.47**	**314**	P	**P**	**17 10 08.0**	**+2.0**
ECSD	**EROS Data Cent**	**34.47**	**345**	IAmb	IAmb	17 10 17.2	
	comp=Z,21nm,1.6s						
ECSD	**EROS Data Cent**	**34.47**	**345**	P	**P**	**17 10 07.2**	**+1.3**
	baz=160						
WUAZ	**Wupatki**	**34.48**	**320**	P	**P**	**17 10 10.3**	**+3.9**
	baz=130						
LONY	**Lake Ozonia**	**34.99**	**13**	IAmb	IAmb	17 11 21.4	
	comp=Z,35nm,0.9s						
BMNY	**Brushton-Moira**	**35.21**	**13**	P	**P**	**17 10 14.2**	**+1.9**
	baz=198						
SIV	**San Ignacio**	**35.48**	**138**	LR	LR	17 25 33.4	
	comp=Z,297nm,18.4s,baz=318,slow=38						
PDMCI	**Parker Dam,Lak**	**35.58**	**316**	P	**P**	**17 10 18.0**	**+2.4**
	baz=125						
E43A	**Lone Tree Farm**	**35.63**	**358**	IAmb	IAmb	17 10 19.6	
	comp=Z,51nm,1.2s						
F36A	**Milaca**	**35.84**	**350**	IAmb	IAmb	17 11 29.0	
	comp=Z,33nm,1.1s						
W13A	**Hualapai Mount**	**35.86**	**317**	P	**P**	**17 10 18.0**	**-0.3**
W13A				IAmb	IAmb	17 10 24.5	
	comp=Z,21nm,1.6s						
BC3	**Big Chuckawall**	**36.13**	**314**	P	**P**	**17 10 24.6**	**+4.1**
	baz=122						
IRM	**Iron Mountain**	**36.19**	**315**	P	**P**	**17 10 24.9**	**+4.0**
	baz=123						
PTLB	**Pontes e Lacer**	**36.41**	**135**	P	**P**	**17 10 22.2**	**-0.7**
LVC	**Limon Verde**	**36.61**	**155**	LR	LR	17 25 51.8	
	comp=Z,104nm,21.8s,baz=331,slow=37						
PFO	**Pinyon Flats O**	**36.83**	**313**	P	**P**	**17 10 27.7**	**+1.2**
	baz=121						
MURC	**Murrieta**	**37.35**	**313**	P	**P**	**17 10 33.6**	**+2.8**
	baz=120						
HEC	**Hector,Ludlow**	**37.38**	**315**	P	**P**	**17 10 35.2**	**+4.1**
	baz=123						
TUQ	**Turquoise Moun**	**37.42**	**316**	P	**P**	**17 10 35.1**	**+3.5**
	baz=124						
VLDQ	**Val d'Or**	**37.85**	**8**	IAmb	IAmb	17 10 39.3	
	comp=Z,32nm,1.3s						
TPNV	**Topopah Spring**	**38.49**	**318**	P	**P**	**17 10 44.7**	**+4.1**
	baz=125						
PDAR	**Pinedale Array**	**38.52**	**330**	P	**P**	**17 10 40.8**	**0.0**
	comp=Z,0.5nm,0.9s,baz=146,slow=12,SNR=2.9						
PDAR				PcP	**PcP**	**17 12 55.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=147,slow=5.1,SNR=2.7						
	comp=Z,0.5nm,0.9s						
EDW2	**Edwards Air Fo**	**38.57**	**314**	P	**P**	**17 10 44.6**	**+3.5**
	baz=121						
FURC	**Furnace Creek,**	**38.63**	**317**	P	**P**	**17 10 45.9**	**+4.4**
	baz=124						
LRMC	**Laurel Mtn Rad**	**38.66**	**315**	P	**P**	**17 10 45.4**	**+3.5**
	baz=122						
R11B	**Troy Canyon, C**	**38.88**	**320**	P	**P**	**17 10 47.9**	**+4.0**
	baz=127						
GRAC	**Grapevine Rang**	**39.26**	**317**	P	**P**	**17 10 51.4**	**+4.6**
	baz=124						
CWC	**Cottonwood Cre**	**39.44**	**316**	P	**P**	**17 10 52.9**	**+4.3**
	baz=122						
ELK	**Elko**	**40.16**	**324**	LR	LR	17 31 37.3	
	comp=Z,144nm,19.8s,baz=180,slow=42						
ULM	**Lac du Bonnet**	**40.49**	**349**	P	**P**	**17 10 56.6**	**-0.2**
	comp=Z,8.5nm,1.0s,baz=165,slow=8.1,SNR=9.4						
	comp=Z,8.5nm,1.0s						
NVAR	**Mina Array Bea**	**40.67**	**318**	P	**P**	**17 11 00.1**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=126,slow=7.3,SNR=14						
NVAR				PcP	**PcP**	**17 13 01.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=130,slow=4.9,SNR=1.7						
NVAR				LR	LR	17 31 34.2	
	comp=Z,191nm,20.8s,baz=142,slow=42						
	comp=Z,0.0nm,0.6s						
KVN	**Kaiserville**	**40.89**	**319**	P	**P**	**17 11 01.3**	**+0.7**
RYN	**Ryan**	**40.92**	**319**	P	**P**	**17 11 01.7**	**+0.8**
BMN	**Battle Mountain**	**41.15**	**322**	P	**P**	**17 11 03.7**	**+1.1**
AQDB	**Aquidauana**	**42.24**	**137**	P	**P**	**17 11 11.3**	**-0.3**
BDFB	**Brasilia**	**44.93**	**125**	LR	LR	17 31 22.5	
	comp=Z,444nm,18.5s,baz=288,slow=38						
YBH	**Yreka Blue Hor**	**45.30**	**320**	LR	LR	17 31 36.5	
	comp=Z,147nm,19.0s,baz=143,slow=38						
CPUP	**Villa Florida**	**45.52**	**144**	P	**P**	**17 11 37.5**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=331,slow=5.1,SNR=5.0						
CPUP				LR	LR	17 33 01.2	
	comp=Z,62nm,19.4s,baz=323,slow=39						
	comp=Z,2.7nm,0.8s						
SCHQ	**Schefferville**	**46.32**	**14**	P	**P**	**17 11 43.5**	**-0.4**
	comp=Z,30nm,1.2s,baz=214,slow=6.1,SNR=15						
SCHQ				LR	LR	17 31 41.5	
	comp=Z,251nm,18.3s,baz=228,slow=37						
	comp=Z,30nm,1.2s						
FCC	**Fort Churchill**	**48.50**	**354**	P	**P**	**17 11 59.9**	**-0.8**
FCC				IAmb	IAmb	17 12 05.4	
	comp=Z,16nm,1.2s						
ITQB	**Itaqui**	**48.50**	**147**	P	**P**	**17 12 01.6**	**+0.5**
ITQB				IAmb	IAmb	17 12 02.9	
	comp=Z,22nm,1.1s						
RCBR	**Riachuelo**	**51.48**	**106**	LR	LR	17 35 01.1	
	comp=Z,241nm,18.8s,baz=280,slow=37						
PLTB	**Pedras Altas**	**51.76**	**146**	P	**P**	**17 12 25.8**	**-0.1**
PLTB				IAmb	IAmb	17 12 27.2	
	comp=Z,10nm,0.8s						
PLCA	**Paso Flores**	**52.84**	**166**	P	**P**	**17 12 35.0**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=334,slow=8.7,SNR=12						
PLCA				LR	LR	17 30 53.2	
	comp=Z,58nm,18.5s,baz=350,slow=31						
	comp=Z,3.9nm,0.8s						
BBB	**Bella Bella**	**54.12**	**329**	LR	LR	17 38 02.0	
	comp=Z,168nm,20.2s,baz=162,slow=38						
FRB	**Frobisher Bay**	**54.26**	**9**	LR	LR	17 34 55.3	
	comp=Z,202nm,21.0s,baz=198,slow=35						
YKA	**Yellowknife Ar**	**55.99**	**344**	P	**P**	**17 12 56.2**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=137,slow=7.5,SNR=17						
YKA				LR	LR	17 40 24.1	
	comp=Z,131nm,18.1s,baz=64,slow=40						
	comp=Z,1.6nm,0.9s						
DLBC	**Dease Lake**	**58.58**	**334**	LR	LR	17 40 19.2	
	comp=Z,151nm,22.0s,baz=105,slow=38						
SFJD	**Kangerlussuaq**	**60.77**	**15**	LR	LR	17 40 12.1	
	comp=Z,225nm,18.5s,baz=210,slow=36						
RES	**Resolute Bay**	**64.24**	**357**	LR	LR	17 42 04.2	
	comp=Z,78nm,18.3s,baz=11,slow=36						
ICESG	**Greenland Ices**	**65.17**	**16**	*eP*	**P**	**17 13 58.2**	**-1.1**
ICESG				IAmb	IAmb	17 13 58.9	
	comp=Z,10.0nm,0.8s						
INK	**Inuvik**	**65.64**	**342**	P	**P**	**17 14 01.0**	**-1.0**
	comp=Z,2.7nm,1.1s,baz=138,slow=7.4,SNR=3.5						
INK				LR	LR	17 45 48.6	
	comp=Z,84nm,18.6s,baz=178,slow=39						
	comp=Z,2.7nm,1.1s						
SUMG	**Summit**	**67.71**	**14**	P	**P**	**17 14 15.4**	**-0.2**
SUMG				IAmb	IAmb	17 14 19.9	
	comp=Z,17nm,1.2s						
SUMG	**Summit**	**67.71**	**14**	*eP*	**P**	**17 14 15.0**	**-0.6**
SUMG				IAmb	IAmb	17 14 20.3	
	comp=Z,15nm,1.0s						
ILAR	**Eielson Array**	**68.64**	**336**	P	**P**	**17 14 20.8**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=115,slow=4.5,SNR=8.2						
ILAR				LR	LR	17 49 33.1	
	comp=Z,163nm,19.7s,baz=112,slow=40						
	comp=Z,0.8nm,0.9s						
NEEM	**North Greenlan**	**69.02**	**8**	*eP*	**P**	**17 14 24.0**	**+0.3**
NEEM				IAmb	IAmb	17 14 25.1	
	comp=Z,14nm,1.0s						
BORG	**Borgarnes**	**69.29**	**24**	LR	LR	17 44 04.0	
	comp=Z,95nm,18.2s,baz=155,slow=35						
DAG	**Danmarks Havn**	**74.33**	**13**	*i* P	**P**	**17 14 53.0**	**-2.2**
DAG				IAmb	IAmb	17 14 55.6	
	comp=Z,3.2nm,0.8s						
JMIC	**Jan Mayen**	**75.56**	**19**	LR	LR	17 49 24.7	
	comp=Z,42nm,18.2s,baz=252,slow=37						
MDT	**Midelt**	**76.21**	**59**	LR	LR	17 47 47.5	
	comp=Z,88nm,18.3s,baz=332,slow=35						
ESDC	**Sonseca Array**	**76.34**	**52**	P	**P**	**17 15 05.7**	**-1.9**
	comp=Z,3.9nm,0.9s,baz=282,slow=4.8,SNR=13						
ESDC				LR	LR	17 46 01.3	
	comp=Z,96nm,18.5s,baz=268,slow=34						
	comp=Z,3.9nm,0.9s						
EKA	**Eskdalemuir Ar**	**76.62**	**36**	P	**P**	**17 15 06.8**	**-2.0**
	comp=Z,2.4nm,0.8s,baz=262,slow=5.7,SNR=6.7						
	comp=Z,2.4nm,0.8s						
DBIC	**Dimbokro**	**79.07**	**85**	LR	LR	17 52 38.5	
	comp=Z,48nm,18.2s,baz=248,slow=38						
SPITS	**Spitsbergen Ar**	**81.94**	**12**	LR	LR	17 52 28.7	
	comp=Z,189nm,20.2s,baz=250,slow=36						
NB2	**NORSAR Subarra**	**83.71**	**29**	P	**P**	**17 15 46.9**	**-0.1**
	comp=Z,8.3nm,1.1s,baz=281,slow=5.1						
NOA	**NORSAR Array B**	**83.71**	**29**	P	**P**	**17 15 45.4**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=283,slow=5.1,SNR=6.1						
NOA				LR	LR	17 53 22.7	
	comp=Z,25nm,18.7s,baz=285,slow=36						
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.37**	**78**	P	**P**	**17 15 49.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=298,slow=5.7,SNR=3.5						
TORD				LR	LR	17 52 02.4	
	comp=Z,68nm,19.2s,baz=314,slow=35						
	comp=Z,0.6nm,0.8s						
HFS	**Hagfors**	**85.09**	**30**	LR	LR	17 47 40.9	
	comp=Z,57nm,20.4s,baz=265,slow=31						
CLL	**Collm**	**86.67**	**39**	*eP*	**P**	**17 16 02.0**	**0.0**
ARCES	**ARCESS Array B**	**87.05**	**19**	P	**P**	**17 16 02.5**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=288,slow=6.5,SNR=3.9						
ARCES				LR	LR	17 55 39.0	
	comp=Z,44nm,19.5s,baz=322,slow=36						
	comp=Z,1.5nm,0.8s						
HSKC	**Hora Svate Kat**	**87.09**	**39**	*eP*	**P**	**17 16 03.2**	**-0.9**
KEST	**Kesra**	**87.28**	**54**	LR	LR	17 56 08.9	
	comp=Z,46nm,18.1s,baz=306,slow=36						
KHC	**Kasperske Hory**	**87.52**	**41**	*eP*	**P**	**17 16 05.3**	**-0.9**
GERES	**GERESS Array B**	**87.67**	**41**	P	**P**	**17 16 06.0**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=255,slow=7.6,SNR=5.9						
	comp=Z,1.0nm,0.7s						
OSTC	**Ostas**	**88.82**	**39**	*eP*	**P**	**17 16 12.4**	**0.0**
DPC	**Dobruska-Polom**	**88.94**	**39**	*eP*	**P**	**17 16 13.2**	**+0.2**
VRAC	**Vrancy**	**89.39**	**40**	LR	LR	17 52 53.5	
	comp=Z,68nm,20.6s,baz=288,slow=33						
VAE	**Valguarnera**	**90.88**	**52**	LR	LR	17 54 16.8	
	comp=Z,81nm,18.9s,baz=317,slow=34						
AKASG	**Malin Array Be**	**96.53**	**36**	LR	LR	18 00 34.9	
	comp=Z,53nm,19.6s,baz=336,slow=36						
MA2	**Magadan**	**97.10**	**335**	LR	LR	18 06 33.0	
	comp=Z,60nm,18.3s,baz=96,slow=39						
ASAR	**Alice Springs**	**140.85**	**246**	PKhKP	PKPpre	17 22 44.4	
	comp=Z,0.5nm,0.7s,baz=108,slow=3.2,SNR=8.2						
WRA	**Warramunga Arr**	**141.11**	**251**	PKhKP	PKPpre	17 22 44.5	
	comp=Z,1.0nm,0.7s,baz=95,slow=2.8,SNR=7.7						
CMAR	**Chiang Mai Arr**	**150.81**	**352**	PKPbc	**PKPbc**	**17 23 09.8**	**-1.9**
	comp=Z,1.1nm,1.0s,baz=335,slow=4.0,SNR=3.8						

*JMA **11** 17:09:11.2±0.7,33°N±2°×14°3E±°, h71km, MV3.7/20, FAR E OFF IZU ISLANDS*
*IDC **11** 17:09:17.6±6.0, 32°.90N×141°.44E, h0km, mb3.3/3, mbtmp3.2/4, ML2.5/1, Error ellipse: s-maj=216.1km s-min=27.7km az=67.0*
ISC 11 17:09:16.8±1.4, 33°.43N±0°.08×142°.70E±0°.10, h35km, n19, σ1s94/24, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.88**	**311**	*eP*		**Pn**	**17 09 44.3**	**-1.6**
BSO1				*eS*		**Sn**	**17 10 09.2**	**+1.2**
BSO2	**Boso 2**	**2.08**	**310**	*eS*		**Sn**	**17 10 14.8**	**+1.3**
BSO3	**Boso 3**	**2.27**	**308**	*eP*		**Pn**	**17 09 50.1**	**-1.4**
JHJ2	**Mitsune**	**2.44**	**263**	*eP*		**Pn**	**17 09 50.8**	**-3.3**
JHJ2				*eS*		**Sn**	**17 10 19.9**	**-2.7**
BSO4	**Boso 4**	**2.50**	**309**	*eP*		**Pn**	**17 09 53.8**	**-1.0**
JOD2	**Odawara 2**	**3.50**	**302**	*eP*		**Pn**	**17 10 06.2**	**-2.6**
JOD2				*eS*		**Sn**	**17 10 46.5**	**-2.5**
JAG	**Ashikaga**	**4.00**	**319**	*eP*		**Pn**	**17 10 13.9**	**-1.7**
JYN	**Shimob**	**4.00**	**302**	P		**Pn**	**17 10 15.2**	**-0.5**
JYN				*eS*		**Sn**	**17 11 02.5**	**+1.1**
JRY	**Ryogami san**	**4.05**	**311**	*eP*		**Pn**	**17 10 15.0**	**-1.3**
JRY				*eS*		**Sn**	**17 11 03.0**	**+0.4**
JOTO	**OTAMA OYAMA**	**4.55**	**336**	*eP*		**Pn**	**17 10 21.2**	**-2.0**
JOTO				*eS*		**Sn**	**17 11 13.2**	**-1.5**
MJAR	**Matsushiro Arr**	**4.81**	**311**	Pn		**Pn**	**17 10 25.6**	**-1.2**
	0.2nm,0.3s,baz=144,slow=9.6,SNR=18							
MJAR				*Sn*		**Sn**	**17 11 20.4**	**-0.9**
	0.2nm,0.3s,baz=105,slow=33,SNR=5.0							
	1.6nm,0.4s							
MAT	**Matsushiro**	**4.82**	**311**	*eP*		**Pn**	**17 10 26.8**	**0.0**
JMK	**Ichinoseki**	**5.63**	**348**	*eP*		**Pn**	**17 10 35.6**	**-2.5**
JMK				*eS*		**Sn**	**17 11 38.1**	**-3.4**
H11N2	**WAKE ISLAND Hy**	**25.51**	**116**	T		T	17 41 02.7	
	baz=308,slow=74,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	**25.51**	**116**	T		T	17 41 06.8	
	baz=308,slow=74,SNR=3.1							
H11N3	**WAKE ISLAND Hy**	**25.52**	**116**	T		T	17 40 59.8	
	baz=308							
SONM	**Songino Array**	**30.76**	**309**	P		**P**	**17 15 30.5**	**+1.5**
	0.3nm,0.6s,baz=116,slow=8.5,SNR=2.0							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**46.98**	**305**	P		**P**	**17 17 46.6**	**+2.2**
	0.2nm,0.6s,baz=76,slow=6.7,SNR=2.5							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**53.67**	**190**	P		**P**	**17 18 35.8**	**+0.7**
	0.2nm,0.7s,baz=6.2,slow=7.7,SNR=1.0							
	0.2nm,0.7s							

*UCR **11** 17:09:38.7±1.2, 10°.67N×84°.99W, h10km±4km, MW4.1*
*CATAC **11** 17:09:38.9±0.2, 10°.66N×84°.99W, h5km±2km, ML3.7*
ISC 11 17:09:39.2±0.9, 10°.66N±0°.02×84°.98W±0°.02, h13km±7km, n45, σ0s92/59, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VMAR	**Armenia, Volca**	**0.20**	**321**	*eP*		**Pg**	**17 09 43.9**	**+0.1**
VMAR	**Armenia, Volca**	**0.20**	**321**	*i* P		**Pg**	**17 09 43.7**	**-0.1**
VMAR				*i* S		**Sg**	**17 09 47.6**	**+0.8**
VMAR					IAML		17 09 51.7	
	comp=Z,39μm,1.0s							
VACR	**Volcan Arenal**	**0.35**	**121**	*i* P		**Pg**	**17 09 46.6**	**+0.2**
VACR					IAML		17 09 55.2	
	comp=Z,15μm,1.0s							
JTS	**Las Juntas de**	**0.36**	**175**	*eP*		**Pg**	**17 09 46.2**	**-0.4**
VRLE	**La Escondida,**	**0.40**	**289**	*i* P		**Pg**	**17 09 46.9**	**-0.3**
VRLE					IAML		17 09 55.9	
	comp=Z,3μm,1.0s							
SOCE	**Pocosol**	**0.45**	**127**	*eP*		**Pg**	**17 09 47.9**	**-0.3**
SOCE	**Pocosol**	**0.45**	**127**	*i* P		**Pg**	**17 09 47.8**	**-0.4**
SOCE					IAML		17 09 48.3	
	comp=Z,8μm,1.0s							
LCHIL	**Los Chiles**	**0.46**	**35**	*eP*		**Pb**	**17 09 49.0**	**-0.3**
ORTG	**Ortega, Santa**	**0.55**	**238**	*eP*		**Pg**	**17 09 49.8**	**-0.3**
ORTG				*eS*		**Sb**	**17 09 57.9**	**-0.8**
ORTG	**Ortega, Santa**	**0.55**	**238**	*i* P		**Pg**	**17 09 49.6**	**-0.5**
ORTG				*i* S		**Sg**	**17 09 57.6**	**+0.2**
ORTG					IAML		17 09 58.1	
	comp=Z,2μm,1.0s							
COVE	**Coope Vega, Sa**	**0.58**	**84**	*eP*		**Pg**	**17 09 49.7**	**-0.8**
COVE	**Coope Vega, Sa**	**0.58**	**84**	*i* P		**Pg**	**17 09 49.7**	**-0.8**
COVE					IAML		17 09 53.3	
	comp=Z,4μm,1.0s							
CPMI	**Catarata Coope**	**0.70**	**122**	*i* P		**Pg**	**17 09 52.4**	**-0.5**
CPMI				*i* S		**Sg**	**17 10 02.3**	**+0.1**
CPMI					IAML		17 10 07.3	
	comp=Z,2μm,1.0s							
ITAL	**Pital**	**0.73**	**106**	*eP*		**Pg**	**17 09 52.4**	**-1.0**
ARZA	**Esparza**	**0.73**	**155**	*eP*		**Pb**	**17 09 53.6**	**-0.2**
POA5	**Crater Von Fra**	**0.87**	**121**	*eP*		**Pg**	**17 09 55.1**	**-1.0**
TCS1	**Tacares**	**0.91**	**132**	*i* P		**Pg**	**17 09 56.0**	**-0.9**
TCS1					IAML		17 09 58.4	
	comp=Z,14μm,1.0s							
INDI	**Punta indio, G**	**0.94**	**213**	*eP*		**Pg**	**17 09 56.5**	**-0.8**
INDI	**Punta indio, G**	**0.94**	**213**	*i* P		**Pg**	**17 09 56.4**	**-0.9**
INDI				*i* S		**Sb**	**17 10 10.5**	**+0.8**
INDI					IAML		17 10 15.8	
	comp=Z,830nm,1.0s							
JACO	**JACO, Garabito**	**1.04**	**162**	*eP*		**Pg**	**17 09 58.1**	**-1.2**
JACO	**JACO, Garabito**	**1.04**	**162**	*i* P		**Pg**	**17 09 57.9**	**-1.4**
JACO				*i* S		**Sg**	**17 10 12.5**	**-0.3**
JACO					IAML		17 10 13.0	
	comp=Z,860nm,1.0s							
OMEN	**Al SSO del Vol**	**1.06**	**323**	*i* P		**Pb**	**17 09 59.2**	**-0.3**
OMEN					IAML		17 10 28.1	
	comp=Z,1μm,1.0s							
HDC	**Heredia**	**1.07**	**127**	*eP*		**Pn**	**17 10 00.5**	**+0.3**
HDC3	**Heredia 3**	**1.08**	**127**	*i* P		**Pb**	**17 10 00.0**	**+0.1**
HDC3					IAML		17 10 00.6	
	comp=Z,2μm,1.0s							
RIFO	**Rio Frio, Sara**	**1.10**	**108**	*i* PA			17 10 00.8	
RIFO					IAML		17 10 19.3	
	comp=Z,2μm,1.0s							
MORN	**Al O del Volca**	**1.10**	**324**	*i* P		**Pb**	**17 10 00.0**	**-0.2**
MORN					IAML		17 10 21.0	
	comp=Z,2μm,1.0s							
CONN	**Concepcion**	**1.10**	**325**	*i* P		**Pg**	**17 09 59.1**	**-1.4**
CONN					IAML		17 10 22.5	
	comp=Z,7μm,1.0s							
JAPN	**Al SSO del Vol**	**1.10**	**322**	*i* P		**Pn**	**17 10 00.6**	**+0.2**
JAPN					IAML		17 10 06.2	
	comp=Z,1μm,1.0s							
OCM	**Ochomogo**	**1.26**	**127**	*i* P		**Pn**	**17 10 01.9**	**-0.9**
OCM					IAML		17 10 03.1	
	comp=Z,2μm,1.0s							
OCM				*i* S		**Sn**	**17 10 22.7**	**+3.0**
TBLN	**Tablon, Guarco**	**1.27**	**130**	*i* P		**Pn**	**17 10 01.6**	**-1.4**
TBLN					IAML		17 10 03.4	
	comp=Z,1μm,1.0s							
TBLN				*i* S		**Sg**	**17 10 19.2**	**-1.2**
VICA	**Volcano Irazu**	**1.30**	**121**	*eP*		**Pn**	**17 10 02.5**	**-1.2**
HAYA	**Volcan Irazu**	**1.31**	**121**	*i* P		**Pn**	**17 10 02.1**	**-1.5**
HAYA					IAML		17 10 04.3	
	comp=Z,1μm,1.0s							
HAYA				*i* S		**Sn**	**17 10 22.8**	**+1.6**
ACON	**Acoyapa**	**1.32**	**352**	*i* P		**Pn**	**17 10 02.4**	**-1.0**
ACON				*i* S		**Sb**	**17 10 20.5**	**-0.2**
ACON					IAML		17 10 23.0	
	comp=Z,2μm,1.0s							
LCR2	**La Lucha 2**	**1.32**	**133**	*eP*		**Pn**	**17 10 02.4**	**-1.3**
LCR2	**La Lucha 2**	**1.32**	**133**	*i* P		**Pn**	**17 10 02.3**	**-1.3**
LCR2					IAML		17 10 05.6	
	comp=Z,760nm,1.0s							
LCR2				*i* S		**Sn**	**17 10 22.2**	**+0.9**
VTR0	**Volcan Turrial**	**1.36**	**118**	*eP*		**Pn**	**17 10 03.4**	**-1.0**
REPA	**Paraso**	**1.37**	**127**	*eP*		**Pn**	**17 10 04.9**	**+0.6**
RIMA	**Rio Macho**	**1.41**	**129**	*eP*		**Pn**	**17 10 04.1**	**-0.8**
RIMA	**Rio Macho**	**1.41**	**129**	*i* P		**Pn**	**17 10 04.5**	**-0.4**
RIMA					IAML		17 10 05.6	
	comp=Z,1μm,1.0s							
RIMA				*i* S		**Sb**	**17 10 24.0**	**+0.3**
LCOCO	**El Coco**	**1.52**	**112**	*eP*		**Pn**	**17 10 05.8**	**-0.3**
CDM	**Cerro de Muert**	**1.63**	**132**	*i* P		**Pn**	**17 10 07.8**	**-0.2**
CDM					IAML		17 10 09.2	
	comp=Z,1μm,1.0s							
CDM				*i* S		**Sb**	**17 10 31.1**	**+1.1**
BUS1	**Rivas**	**1.64**	**132**	*eP*		**Pn**	**17 10 07.7**	**-0.5**
BLUN	**Bluefields**	**1.79**	**41**	*i* P		**Pn**	**17 10 10.1**	**+0.2**
BLUN				*i* S		**Sn**	**17 10 33.2**	**+0.7**
BLUN					IAML		17 10 36.2	
	comp=Z,2μm,1.0s							
SRBA	**San Rafael, Bu**	**2.14**	**131**	*eP*		**Pn**	**17 10 15.7**	**+0.9**
SRBA	**San Rafael, Bu**	**2.14**	**131**	*i* P		**Pn**	**17 10 16.1**	**+1.3**
SRBA					IAML		17 10 16.6	

comp=Z,280nm,1.0s
JUD3 Juan Diaz 3 0.72 228 eP Pg 17 13 37.9 -0.2
INDI Punta indio, G 0.93 212 eP Pg 17 13 40.7 -1.3
JACO JACO, Garabito 1.04 161 eP Pg 17 13 42.9 -1.3
JACO eS Sg 17 13 57.1 -0.7
CBL1 Cabuya 1.06 185 eP Pg 17 13 42.8 -1.8
TRT2 Tortugero 1.24 94 iP Pn 17 13 46.6 +0.2
ACON Acoyapa 1.32 352 eP Pg 17 13 47.8 -1.6
LCR2 La Lucha 2 1.33 133 eP Pn 17 13 48.8 +0.9
VTLO VTLO 1.39 116 eP Pn 17 13 48.2 -0.5
RIMA Rio Macho 1.42 128 eP Pn 17 13 50.0 +0.9
NADN Granada 1.49 317 iP Pn 17 13 29.7 -21
CDM Cerro de Muert 1.63 132 eP Pn 17 13 52.7 +0.5
BUS1 Rivas 1.65 132 eP Pn 17 13 53.0 +0.6
MRVA Moravia de Chi 1.74 118 iP Pb 17 13 55.3 -0.1
RIOS Rincon, Osa 2.43 143 iP Pb 17 14 07.2 +0.1
HERN Volcan Telica 2.65 317 iP Pn 17 13 46.0 -20

IDC 11 17:25:10.8±1.5, 34°39N×142°65E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=51.4km s-min=32.4km az=89.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	46.41	304	P	P	17 33 39.9	+0.9
	0.2nm,0.5s,baz=70,slow=8.1,SNR=4.3						
	0.2nm,0.5s						
ILAR	Eielson Array	51.21	31	P	P	17 34 16.2	+0.6
	0.3nm,0.8s,baz=279,slow=8.1,SNR=1.9						
	0.3nm,0.8s						
ASAR	Alice Springs	58.33	189	P	P	17 35 07.5	-0.1
	0.3nm,0.8s,baz=17,slow=6.8,SNR=4.3						
	0.3nm,0.8s						
FINES	FINESS Array B	71.62	333	P	P	17 36 32.9	-0.8
	0.5nm,0.4s,baz=59,slow=4.3,SNR=10						
	0.5nm,0.4s						

CATAC 11 17:35:03.4±0.2, 10.66N×84.97W, h4km±2km, ML3.1
UCR 11 17:35:03.0±1.0, 10.67N×84.97W, h2km±3km, MW3.7
ISC 11 17:35:03.8±0.9, 10.67N±0.02×84.95W±0.02, h13km±8km, n43, σ0s98/55, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VERA	Finca Concepci	0.20	23	eP	Pg	17 35 08.7	+0.4
VMAR	Armenia, Volca	0.22	312	eP	Pg	17 35 08.5	-0.1
VMAR	Armenia, Volca	0.22	312	iP	Pg	17 35 08.5	-0.1
VMAR				IAML		17 35 23.4	
	comp=Z,4μm,1.0s						
COLC	Colonia	0.25	270	eP	Pg	17 35 08.9	-0.3
ARE1	Arenal 1	0.30	132	eP	Pb	17 35 11.0	-0.2
VACR	Volcan Arenal	0.33	126	eP	Pb	17 35 11.4	-0.2
VACR	Volcan Arenal	0.33	126	iP	Pb	17 35 11.3	-0.3
VACR				IAML		17 35 22.3	
	comp=Z,2μm,1.0s						
JTS	Las Juntas de	0.37	180	eP	Pg	17 35 10.9	-0.4
JUNT	Juntas	0.38	181	eP	Pg	17 35 11.1	-0.4
GPS3	Bodega del ICE	0.42	282	eP	Pb	17 35 14.1	+1.0
VRLE	La Escondida,	0.43	287	iP	Pg	17 35 12.0	-0.3
VRLE				IAML		17 35 25.0	
	comp=Z,320nm,1.0s						
SOCE	Pocosol	0.43	131	eP	Pg	17 35 12.6	+0.2
SOCE	Pocosol	0.43	131	iP	Pg	17 35 12.6	+0.2
SOCE				iS	Sg	17 35 18.3	+0.1
SOCE				IAML		17 35 20.0	
	comp=Z,2μm,1.0s						
PLVR	Palo Verde	0.51	231	eP	Pg	17 35 13.2	-0.6
COVE	Coope Vega, Sa	0.54	84	iP	Pg	17 35 14.4	0.0
COVE				IAML		17 35 21.4	
	comp=Z,840nm,1.0s						
ORTG	Ortega, Santa	0.58	239	iP	Pg	17 35 14.6	-0.7
ORTG				iS	Sg	17 35 22.2	-0.8
ORTG				IAML		17 35 22.8	
	comp=Z,250nm,1.0s						
CPMI	Catarata Coope	0.68	124	eP	Pg	17 35 17.1	+0.1
CPMI	Catarata Coope	0.68	124	iP	Pg	17 35 17.1	+0.1
CPMI				iS	Sb	17 35 27.2	+0.2
CPMI				IAML		17 35 32.8	
	comp=Z,530nm,1.0s						
TCS1	Tacares	0.89	134	iP	Pg	17 35 20.8	-0.3
TCS1				IAML		17 36 09.1	
	comp=Z,3μm,1.0s						
TRB2	Turrubares	0.90	146	eP	Pg	17 35 21.0	-0.1
INDI	Punta indio, G	0.96	214	eP	Pg	17 35 21.6	-0.8
INDI	Punta indio, G	0.96	214	iP	Pg	17 35 21.3	-1.1
INDI				iS	Sb	17 35 35.0	0.0
INDI				IAML		17 35 36.7	
	comp=Z,180nm,1.0s						
JACO	JACO, Garabito	1.04	164	eP	Pg	17 35 22.7	-1.1
JACO	JACO, Garabito	1.04	164	iP	Pg	17 35 22.7	-1.1
JACO				iS	Sg	17 35 36.8	-0.6
JACO				IAML		17 35 37.9	
	comp=Z,180nm,1.0s						
RIFO	Rio Frio, Sara	1.07	109	iP	Pg	17 35 22.1	-2.3
RIFO				iS	Sg	17 35 38.5	+0.1
RIFO				IAML		17 35 42.5	
	comp=Z,480nm,1.0s						
OMEN	Al SSO del Vol	1.07	322	iP	Pg	17 35 23.3	-1.2
OMEN				IAML		17 35 31.5	
	comp=Z,370nm,1.0s						
MORN	Al O del Volca	1.11	322	iP	Pg	17 35 24.2	-1.1
MORN				IAML		17 35 29.3	
	comp=Z,520nm,1.0s						
CONN	Concepcion	1.11	323	iP	Pg	17 35 24.6	-0.7
CONN				IAML		17 35 26.3	
	comp=Z,2μm,1.0s						
JAPN	Al SSO del Vol	1.11	320	iP	Pn	17 35 25.3	+0.1
JAPN				IAML		17 35 26.4	
	comp=Z,340nm,1.0s						
OCM	Ochomogo	1.24	128	iP	Pg	17 35 26.5	-1.2
OCM				IAML		17 35 27.8	
	comp=Z,240nm,1.0s						
TBLN	Tablon, Guarco	1.26	132	iP	Pg	17 35 26.4	-1.6
TBLN				iS	Sn	17 35 46.3	+2.1
TBLN				IAML		17 35 48.3	
	comp=Z,390nm,1.0s						
VICA	Volcano Irazu	1.28	122	eP	Pg	17 35 28.1	-0.5
HAYA	Volcan Irazu	1.28	122	iP	Pg	17 35 27.5	-1.1
HAYA				IAML		17 35 51.4	
	comp=Z,250nm,1.0s						
LCR2	La Lucha 2	1.31	135	eP	Pg	17 35 27.1	-1.9
LCR2	La Lucha 2	1.31	135	iP	Pg	17 35 27.1	-1.9
LCR2				iS	Sg	17 35 44.9	-1.2
LCR2				IAML		17 35 50.2	
	comp=Z,220nm,1.0s						
ACON	Acoyapa	1.31	350	eP	Pg	17 35 27.4	-1.7
ACON	Acoyapa	1.31	350	iP	Pg	17 35 27.2	-1.9
ACON				iS	Sg	17 35 45.4	-0.8
ACON				IAML		17 35 52.1	
	comp=Z,440nm,1.0s						
VTLO	VTLO	1.35	117	eP	Pn	17 35 28.4	-0.3
RIMA	Rio Macho	1.39	130	iP	Pn	17 35 28.8	-0.4
RIMA				IAML		17 35 30.6	
	comp=Z,220nm,1.0s						
RIMA				iS	Sn	17 35 49.1	+1.5
CDM	Cerro de Muert	1.61	133	eP	Pn	17 35 32.4	0.0
CDM	Cerro de Muert	1.61	133	iP	Pn	17 35 32.2	-0.2
CDM				IAML		17 35 33.9	
	comp=Z,210nm,1.0s						
CDM				iS	Sn	17 35 54.9	+1.7
BUS1	Rivas	1.62	133	eP	Pn	17 35 32.4	-0.1
SRBA	San Rafael, Bu	2.12	132	iP	Pn	17 35 40.1	+1.0
SRBA				IAML		17 35 41.8	
	comp=Z,52nm,1.0s						
SRBA				iS	Sb	17 36 08.8	+0.4

DJA 11 17:38:05.6±0.6, 9°S±8°×111°8E±°, h36km±9km, M4.0/9, mb4.7/3, MLv3.7/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.29	19	P	Pn	17 38 14.8	+1.1
DBNI	Kabupaten Domp	0.86	46	P	Pn	17 38 22.0	+0.8
TWSI	Taliwang, Sumb	0.87	294	P	Pn	17 38 21.3	0.0
SRBI	Singaraja	2.64	292	P	Pn	17 38 45.9	+0.2
JAGI	Jajag, Banyuwa	3.54	280	P	Pn	17 38 57.7	-0.4
EDFI	Ende, Flores	3.98	85	P	Pn	17 39 03.7	-0.5
BKSI	Bulukumba	4.47	33	P	Pn	17 39 11.0	+0.2
SJI	Sawahan	6.00	283	P	Pn	17 39 34.1	+2.1
NGJI	Ngawi	6.39	285	P	Pn	17 39 36.6	-0.7
SOEI	Soe	6.53	96	P	Pn	17 39 39.5	+0.2
	35nm,1.5s,0.2nm						
PKKI	Palangkaraya	7.75	331	P	Pn	17 39 55.8	-0.1
	37nm,0.7s,0.3nm						
CMJI	Cimerak	9.23	277	P	Pn	17 40 16.1	-0.1

IDC 11 17:43:41.9±1.1, 44.98N×106.84W, h0km, mbtmp3.2/3, ML2.6/2, Error ellipse: s-maj=42.9km s-min=8.9km az=134.0
NEIC 11 17:43:41.5±1.8, 45.03N±0.05×106.77W±0.06, h0km±1km, ML3.1/46, Error ellipse: s-maj=9.5km s-min=5.4km az=149.0
ISC 11 17:43:41.8±1.0, 45.07N±0.07×106.63W±0.08, h0km, n27, σ0s99/19, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	LASA Array	1.64	10		Pb	17 44 13.1	+0.1
LAO				IAML		17 44 56.7	
	206nm,0.7s						
RLMT	Red Lodge	1.87	272		Pn	17 44 14.8	-0.5
RLMT				IAML		17 44 45.7	
	100nm,0.8s						
RSSD	Black Hills	2.08	116	Pn	Pb	17 44 20.7	+0.1
RSSD				IAML		17 44 51.2	
	151nm,0.8s						
RSSD				IAML		17 44 58.3	
	128nm,0.8s						
K22A	Casper	2.42	178		Pn	17 44 21.7	-1.1
K22A				IAML		17 45 01.3	
	comp=N,137nm,0.6s						
K22A				IAML		17 45 05.1	
	comp=E,104nm,0.6s						
YMP	Mirror Lake Pl	2.53	264		Pn	17 44 24.3	-0.1
YMP				IAML		17 45 04.5	
	comp=N,123nm,0.9s						
H17A	Grant Village	2.90	258		Pn	17 44 28.3	-1.1
YNR	Norris Junctio	2.90	264		Pn	17 44 27.2	-2.3
YNR				IAML		17 45 14.5	
	comp=E,43nm,0.8s						
YHH	Holmes Hill	3.01	266		Pn	17 44 29.5	-1.6
YFT	Old Faithful	3.06	260		Pn	17 44 32.9	+1.2
FLWY	Flagg Ranch	3.07	253		Pn	17 44 31.1	-0.8
FLWY				IAML		17 45 47.5	
	comp=E,52nm,1.7s						
YMR	Madison River	3.11	264		Pn	17 44 33.3	+1.0
YMR				IAML		17 45 36.7	
	comp=E,69nm,1.2s						
YMR				IAML		17 45 36.9	
	comp=N,79nm,1.5s						
BW06	Boulder Array	3.13	224		Pn	17 44 33.3	+0.7
BW06				IAML		17 45 25.8	
	comp=N,30nm,0.8s						
PD31	Pinedale Array	3.13	224	Pn	Pn	17 44 32.5	-0.1
PDAR	Pinedale Array	3.13	224	Pn	Pn	17 44 33.8	+1.1
	comp=N,5.0nm,0.3s,baz=52,slow=17,SNR=198						
PDAR				Lg	Lg	17 45 13.4	
	comp=N,4.4nm,0.3s,baz=43,slow=30,SNR=13						
LOHW	Long Hollow	3.21	244		Pn	17 44 33.1	-0.5
YHL	Hebgen Lake	3.24	268		Pn	17 44 34.0	-0.3
YHL				IAML		17 45 30.6	
	comp=N,50nm,1.7s						
YHL				IAML		17 45 31.8	
	comp=E,55nm,1.0s						
IMW	Indian Meadow	3.30	251		Pn	17 44 35.0	-0.1
IMW				IAML		17 45 38.0	
	comp=E,34nm,0.7s						
IMW				IAML		17 45 44.4	
	comp=E,41nm,0.7s						
RWWY	Rawlins	3.41	187	IAML		17 45 27.5	
	comp=E,35nm,1.2s						
RWWY				IAML		17 45 35.1	
	comp=E,45nm,0.9s						
TPAW	Teton Pass	3.48	245	IAML		17 45 50.5	
	comp=E,25nm,1.1s						
BOZ	Bozeman (W)	3.57	280	IAML		17 45 34.8	
	comp=E,21nm,1.6s						
AHID	Auburn Hatcher	3.97	236	IAML		17 45 49.3	
	comp=E,36nm,1.3s						
AHID				IAML		17 46 12.2	
	comp=E,27nm,1.7s						
HWUT	Hardware Ranch	5.00	228	IAML		17 46 47.3	
	comp=E,18nm,1.1s						
MSO	Missoula	5.39	292	IAML		17 46 55.0	
	comp=E,15nm,3.3s						
NEW	Newport	7.89	298	Lg	Lg	17 47 42.4	
	comp=E,0.2nm,0.3s,baz=145,slow=18,SNR=1.7						
I10CA	LAC DU BONNET	8.80	51	I	I	18 35 40.0	
	baz=235,slow=353,SNR=8.1						
ULM	Lac du Bonnet	8.91	51	Pn	Pn	17 45 52.0	+0.2
	comp=E,0.5nm,0.3s,baz=244,slow=11,SNR=11						
ULM				Lg	Lg	17 48 18.0	
	comp=E,0.2nm,0.3s,baz=159,slow=16,SNR=2.8						
	comp=E,1.4nm,0.2s						
YKA	Yellowknife Ar	18.05	348	P	P	17 47 54.8	+0.4
	comp=E,0.1nm,0.3s,baz=163,slow=13,SNR=1.9						
	comp=E,0.1nm,0.3s						

NEIC 11 17:44:48.1±1.3, 16.38N±0.05×65.17W±0.04, h15km±8km, ML2.8/12, Md3.6/4(RSPR), Error ellipse: s-maj=7.6km s-min=5.0km az=161.0
RSPR 11 17:44:52.4, 19.18N×64.68W, h55km±28km, MD3.6/4
ISC 11 17:44:52.8±2.5, 19.1N±0.2×64.70W±0.08, h35km, n25, σ0s60/25, 3C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	San Juan	1.70	234	eP	Pn	17 45 19.1	-0.8
SJG	San Juan	1.70	234	eS	Sn	17 45 40.3	-0.1
SJG	San Juan	1.70	234		Pn	17 45 19.1	-0.8
SJG	San Juan	1.70	234	IAML		17 45 57.3	
	76nm,0.2s						
SJG				IAML		17 45 57.7	
	78nm,0.3s						
IGPR	InterUniversit	1.76	230	eP	Pn	17 45 20.3	-0.4
IGPR	InterUniversit	1.76	230	eS	Sn	17 45 43.1	+1.3
IGPR	InterUniversit	1.76	230		Pn	17 45 20.3	-0.4
IGPR					Sn	17 45 43.1	+1.3
SABA	Saba	2.03	137	Pn	Pn	17 45 24.3	-0.2
CELP	Cerrillos	2.06	240	eP	Pn	17 45 24.4	-0.5
CELP	Cerrillos	2.06	240	eS	Sn	17 45 49.5	+0.1
CELP	Cerrillos	2.06	240		Pn	17 45 24.4	-0.5
CELP	Cerrillos	2.06	240		Sn	17 45 49.5	+0.1
AOPR	Arecibo Observ	2.09	249	eP	Pn	17 45 25.3	-0.1
AOPR	Arecibo Observ	2.09	249	eS	Sn	17 45 50.2	0.0
AOPR	Arecibo Observ	2.09	249		Pn	17 45 25.3	-0.1
AOPR					Sn	17 45 50.2	0.0
AOPR	Arecibo Observ	2.09	249	IAML		17 46 09.5	
	comp=N,84nm,0.5s						
MLPR	Magueyes Islan	2.50	243	eP	Pn	17 45 30.0	-0.9
MLPR	Magueyes Islan	2.50	243	eS	Sn	17 46 00.0	-0.2
MLPR	Magueyes Islan	2.50	243		Pn	17 45 30.0	-0.9
MLPR					Sn	17 46 00.0	-0.2
MLPR	Magueyes Islan	2.50	243	IAML		17 46 32.0	
	comp=N,52nm,2.5s						
CRPR	Cabo Rojo, PR	2.54	245	eP	Pn	17 45 31.9	+0.5
CRPR	Cabo Rojo, PR	2.54	245	eS	Sn	17 46 01.6	+0.5
CRPR	Cabo Rojo, PR	2.54	245		Pn	17 45 31.9	+0.5
CRPR					Sn	17 46 01.6	+0.5
CRPR	Cabo Rojo, PR	2.54	245	IAML		17 46 17.8	
	comp=E,40nm,2.0s						
CRPR				IAML		17 46 27.0	
	comp=N,51nm,2.6s						
SDDR	Presa de Saban	6.24	270	Pn	Pn	17 46 22.5	+0.1

IDC 11 17:47:53.2±1.0, 36.82S×97.10W, h0km, mb3.9/5, mbtmp4.0/5, MS3.9/11, Error ellipse: s-maj=43.0km s-min=28.1km az=67.0
NEIC 11 17:47:55.9±2.1, 36.9S±0.1×96.7W±0.2, h10km±1km, mb4.5/49, Error ellipse: s-maj=24.0km s-min=20.2km az=107.0
ISC 11 17:47:55.2±0.7, 36.94S±0.10×96.7W±0.1, h10km, n72, σ1s45/54, mb4.5/26, MS3.8/10, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	14.51	309	LR	LR	17 55 07.5	
	comp=Z,584nm,18.2s,baz=129,slow=31						
H03S2	Juan Fernandez	14.80	83	T	T	18 06 57.9	
	baz=253,slow=74,SNR=75						
H03S1	Juan Fernandez	14.82	83	T	T	18 06 58.9	
	baz=253,slow=74,SNR=43						
H03S3	Juan Fernandez	14.82	83	T	T	18 06 58.1	
	baz=253,slow=74,SNR=49						
H03N2	Juan Fernandez	14.92	82	T	T	18 07 04.5	
	baz=257,slow=73,SNR=392						
H03N3	Juan Fernandez	14.92	82	T	T	18 07 05.6	
	baz=257,slow=73,SNR=356						
H03N1	Juan Fernandez	14.94	82	T	T	18 07 00.7	
	baz=257,slow=73,SNR=238						
GO07	Milladeo Hill,	18.64	116	P	P	17 52 13.1	+0.1
LL07	Hotel Espejo d	18.72	115	P	Pn	17 52 14.7	+0.5
LL01	San Ignacio de	19.42	114	P	P	17 52 16.9	-4.6
LR05	Currie	19.55	107	P	Pn	17 52 25.0	+0.8
AY01	Puyuhuapi	19.65	120	P	P	17 52 21.8	-2.2
AY01				IAmb	IAmb	17 52 38.8	
	comp=Z,32nm,1.4s						
GO06	Curarrehue	19.95	105	P	P	17 52 28.3	+0.9
LL02	Futaleuf	19.96	116	P	Pn	17 52 28.9	-0.3
LL02				IAmb	IAmb	17 52 42.8	
	comp=Z,25nm,1.3s						
COYC	Coyhaique	20.34	123	P	Pn	17 52 34.4	+0.8
COYC				IAmb	IAmb	17 52 46.8	
	comp=Z,28nm,1.1s						
PLCA	Paso Flores	20.67	109	P	P	17 52 34.7	-0.6
PLCA	Paso Flores	20.67	109	P	Pn	17 52 39.2	+1.6
	comp=Z,3.4nm,0.8s,baz=289,slow=11,SNR=11						
PLCA				LR	LR	17 58 41.8	
	comp=Z,408nm,19.4s,baz=292,slow=31						
	comp=Z,3.4nm,0.8s						
BO01	Tunca	20.93	91	P	P	17 52 35.4	-2.7
BO01				IAmb	IAmb	17 52 51.4	
	comp=Z,25nm,1.4s						
BO02	Sierra Bellavi	21.07	92	P	P	17 52 41.4	+1.7
BO02				IAmb	IAmb	17 52 49.2	
	comp=Z,25nm,1.4s						
BO04	La Punta	21.41	90	P	P	17 52 44.8	+1.5
BO04				IAmb	IAmb	17 52 57.4	
	comp=Z,16nm,1.1s						
MT05	Renca	21.47	88		P	17 52 48.5	+4.5
MT05				IAmb	IAmb	17 53 04.6	
	comp=Z,32nm,0.9s						
MT16	CCHEN	21.64	88	P	P	17 52 44.5	-1.3
MT13	San Alfonso	21.74	89	P	P	17 52 44.6	-2.3
MT13				IAmb	IAmb	17 53 14.6	
	comp=Z,28nm,1.4s						
LMEL	Las Melosas	21.77	90	P	P	17 52 46.6	-0.7
LMEL				IAmb	IAmb	17 52 59.4	
	comp=Z,26nm,1.1s						
VA03	San Esteban	21.81	87	P	P	17 52 48.2	+0.5
VA03				IAmb	IAmb	17 53 01.3	
	comp=Z,26nm,1.3s						
CO02	Combarbal	21.99	82	P	P	17 52 49.2	-0.4
CO02				IAmb	IAmb	17 53 00.6	
	comp=Z,47nm,1.5s						
CO05	La Serena	22.31	79	P	P	17 52 52.9	-0.1
CO03	El Pedregal	22.38	82	P	P	17 52 53.8	0.0
CO03				IAmb	IAmb	17 53 16.0	
	comp=Z,25nm,1.4s						
LCO	Las Campanas	23.13	78	P	P	17 53 00.6	-1.3
LCO				IAmb	IAmb	17 53 12.0	
	comp=Z,25nm,1.2s						
CO01	Juntas del Tor	23.19	80	P	P	17 53 02.0	-0.5
CFA	Coronel Fontan	24.05	86	LR	LR	18 00 29.7	
	comp=Z,291nm,21.6s,baz=348,slow=31						
AC06	Mina Casimiro	24.18	74	P	P	17 53 13.5	+1.6
AC06				IAmb	IAmb	17 53 15.9	
	comp=Z,14nm,1.2s						
AC01	Pan de Azucar	24.62	72	P	P	17 53 16.9	+1.1
AC01				IAmb	IAmb	17 53 18.0	
	comp=Z,10nm,0.9s						
GO02	Mina Guanaco	25.91	71	P	P	17 53 26.2	-1.7
GO02				IAmb	IAmb	17 53 37.3	
	comp=Z,16nm,1.3s						
PB15	IPOC Station P	27.12	67	P	P	17 53 36.9	-1.8
PB15				IAmb	IAmb	17 53 41.2	
	comp=Z,13nm,1.2s						
LVC	Limon Verde	27.89	67	P	P	17 53 45.4	-0.3
LVC				IAmb	IAmb	17 53 55.6	
	comp=Z,8.1nm,1.1s						
LVC	Limon Verde	27.89	67	LR	LR	18 01 56.9	
	comp=Z,307nm,21.9s,baz=212,slow=30						
PB09	IPOC Station P	28.14	65	P	P	17 53 49.3	+1.4
PB09				IAmb	IAmb	17 53 51.7	
	comp=Z,16nm,1.2s						
PB01	IPOC Station P	28.44	64	P	P	17 53 50.3	0.0
PB01				IAmb	IAmb	17 53 59.1	
	comp=Z,10nm,1.3s						
PB11	IPOC Station P	29.15	61	P	P	17 53 58.0	+1.2
PB08	IPOC Station P	29.26	63	P	P	17 53 59.1	+1.1
PB08				IAmb	IAmb	17 54 07.4	
	comp=Z,8.6nm,1.0s						
GO01	Chusmiza	29.54	62	P	P	17 53 59.9	-0.7
GO01				IAmb	IAmb	17 54 09.5	
	comp=Z,7.3nm,1.1s						
PB16	IPOC Station P	30.21	60	P	P	17 54 06.6	0.0
PB16				IAmb	IAmb	17 54 10.6	
	comp=Z,7.6nm,1.2s						
NNA	Nana	30.58	41	LR	LR	18 03 41.8	
	comp=Z,176nm,18.2s,baz=196,slow=31						
PB18	Visviri	30.74	59	P	P	17 54 09.2	-2.1
LPAZ	La Paz	32.57	58	P	P	17 54 28.6	+1.0
PMSA	Palmer Station	33.92	156	LR	LR	18 04 48.3	
	comp=Z,161nm,18.3s,baz=251,slow=30						
ATAH	Atahualpa	34.03	34	LR	LR	18 05 07.8	
	comp=Z,124nm,20.9s,baz=214,slow=30						
CPUP	Villa Florida	34.91	84	LR	LR	18 07 10.6	
	comp=Z,161nm,18.8s,baz=249,slow=33						
CZSB	Cruzeiro do Su	36.34	43	P	P	17 54 59.0	-0.5
COHC	Cochancay	37.88	29	P	P	17 55 12.8	+0.3
ETMB	Extrema	38.56	53	P	P	17 55 18.2	0.0
AQDB	Aquidauana	39.17	77	P	P	17 55 23.8	+0.4
PTLB	Pontes e Lacer	39.55	67	P	P	17 55 26.7	+0.2
SAML	Samuel	41.18	56	P	P	17 55 40.5	+0.4
ROSC	El Rosal	46.51	31	P	P	17 56 24.8	+1.4
ROSC	El Rosal	46.51	31	LR	LR	18 13 06.6	
	comp=Z,77nm,18.7s,baz=234,slow=32						
BDFB	Brasilia	47.92	77	LR	LR	18 15 48.0	
	comp=Z,177nm,18.5s,baz=173,slow=35						
BELA	Belgrano 2	48.37	166	P	P	17 56 37.7	+1.0
SJCC	San Jacinto, C	50.78	28	P	P	17 56 55.9	+0.1
QSPA	South Pole Qui	53.28	180	P	P	17 57 14.1	+0.1
QSPA	South Pole Qui	53.28	180	P	P	17 57 13.7	-0.3
	comp=Z,0.9nm,0.8s,baz=60,slow=4.8,SNR=2.4						
	comp=Z,0.9nm,0.8s						
VNDA	Vanda	56.67	195	P	P	17 57 39.2	+1.0
RCBR	Riachuelo	63.28	76	LR	LR	18 25 27.9	
	comp=Z,96nm,18.2s,baz=228,slow=36						
CCM	Cathedral Cave	74.80	4	P	P	17 59 35.1	-0.2
CCM				IAmb	IAmb	17 59 41.3	
	comp=Z,7.1nm,1.0s						
NVAR	Mina Arroy Bea	77.61	343	P	P	17 59 51.2	-0.5
	comp=Z,2.0nm,0.9s,baz=174,slow=6.8,SNR=7.4						
	comp=Z,2.0nm,0.9s						
PDAR	Pinedale Array	80.20	350	P	P	18 00 03.7	-2.1
	comp=Z,0.8nm,0.8s,baz=165,slow=6.2,SNR=6.2						
	comp=Z,0.8nm,0.8s						
HLID	Hailey	81.73	347	P	P	18 00 14.2	+0.3
HLID				IAmb	IAmb	18 00 15.8	
	comp=Z,4.4nm,1.1s						
L61B	Northampton	81.99	18	P	P	18 00 16.7	+1.7
ULM	Lac du Bonnet	86.82	1	P	P	18 00 37.5	-1.9
	comp=Z,1.4nm,0.6s,baz=156,slow=18,SNR=2.1						
	com

IGHG	Ghaleghazi	0.99	53	Pg	Pb	17 53 30.7	-0.4
IDHR	Dehrash	1.16	34	Pg	Pg	17 53 33.0	-0.9
KCHF	Cheshme Sefid,	1.31	65	Pg	Pg	17 53 36.8	+0.1
IKOM	Komasi	1.64	74	Pg	Pg	17 53 43.1	0.0

*BJI **11** 17:53:31.2±0.0,23.˙67S×179.˙60W,h505km,mb5.1/61, mB5.1/29*
*MOS **11** 17:53:32.0±0.9,23.˙96S×179.˙93E,h504km,mb5.3/24, Error ellipse: s-maj=8.5km s-min=7.6km az=128.9*
*NOU **11** 17:53:33.9,24.˙04S×179.˙96W,h525km,ML5.3/139,South of Fiji Islands*
*NEIC **11** 17:53:33.2,23.˙94S×179.˙96E,h509km*
*IDC **11** 17:53:33.0±0.3,23.˙96S×179.˙97E,h508km±3km,mb4.8/21, mbtmp5.6/24,Error ellipse: s-maj=8.8km s-min=8.1km az=33.0*
*BGR **11** 17:53:34.7,23.˙97S×179.˙27W,h534km±5km*
*NEIC **11** 17:53:34.2,23.˙95S×179.˙96E,h520km*
*NEIC **11** 17:53:34.2,23.˙75S×179.˙93W,h520km,Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^{17}Nm; M_{rr}1.38; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-1.12; $M_{r\theta}$-0.26; $M_{\theta\phi}$-0.63; $M_{\phi r}$-1.40; Fault plane solution: $M_0$2.01000×10^{17} NP1: ϕ_s195.67000°,δ67.84000°,λ80.31000°. NP2:ϕ_s40.03000°, δ24.08000°,λ112.46000°. Principal axes: T 2.0055, Plg66.0000°, Azm89.0000°; N 0.0035, Plg9.0000°, Azm199.0000°; P -2.0089, Plg22.0000°, Azm293.0000°;*
*NEIC **11** 17:53:34.1±1.9,23.˙95S±0.˙10×179.˙96E±0.˙10,h520km±4km, mb5.5/484,Mwb5.5/24,Mww5.5/19 Error ellipse: s-maj=14.1km s-min=12.9km az=152.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.49; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-1.06; $M_{r\theta}$-0.13; $M_{\theta\phi}$-0.50; $M_{\phi r}$-1.57; Fault plane solution: $M_0$2.12000×10^{17} NP1:ϕ_s192.01000°, δ69.41000°,λ79.81000°. NP2:ϕ_s39.09000°,δ22.88000°, λ115.22000°. Principal axes: T 2.2426, Plg64.0000°, Azm85.0000°; N -0.2651, Plg10.0000°, Azm196.0000°; P -1.9775, Plg24.0000°, Azm290.0000°;*
*GCMT **11** 17:53:37.1±0.2,24.˙07S±0.˙02×179.˙94W±0.˙02, h524km±1km,MW5.5/106,Moment Tensor Solution. s106,c175; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.08±.03; $M_{\theta\theta}$-0.25±.05; $M_{\phi\phi}$-0.82±.05; $M_{r\theta}$-0.45±.06; $M_{\theta\phi}$-0.76±.05; $M_{\phi r}$-1.69±.05; Best double couple: $M_0$2.13800×10^{17} NP1:ϕ_s198.00000°,δ73.00000°, λ78.00000°. NP2:ϕ_s55.00000°,δ21.00000°,λ126.00000°. Principal axes: T 2.0670, Plg60.0000°, Azm90.0000°; N 0.1450, Plg12.0000°, Azm201.0000°; P -2.2100, Plg27.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 11 17:53:33.2±0.2,24.˙05S±0.˙03×179.˙97W±0.˙03, h517km±2km,h518km:pP-P,n1602,σ1.˙35/1614,mb5.5/367, 105C-75D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.49**	**161**	P	**P**	**17 55 03.9**	**-1.5**
RIZ				S	**S**	**17 56 18.3**	**-2.6**
RAO	**Raoul Island**	**5.50**	**161**	P	**P**	**17 55 05.8**	**+0.3**
RAO	**Raoul Island**	**5.50**	**161**	P	**P**	**17 55 06.7**	**+1.2**
RAO	**Raoul Island**	**5.50**	**161**	P	**P**	**17 55 06.3**	**+0.8**
	3μm,0.5s,baz=83,slow=4.5,SNR=32						
RAO				S	**S**	**17 56 18.0**	**-3.1**
	598nm,0.5s,baz=306,slow=19,SNR=1.3						
GLKZ	**Green Lake**	**5.51**	**161**	P	**P**	**17 55 06.5**	**+0.9**
GLKZ				S	**S**	**17 56 20.9**	**-0.2**
TAVE	**Taveuni**	**7.30**	**0**	P	**P**	**17 55 24.2**	**+1.1**
YSA	**Yasawairara**	**7.66**	**342**	P	**P**	**17 55 27.3**	**+0.6**
DGTI	**Dogotuki**	**7.71**	**358**	P	**P**	**17 55 28.1**	**+0.9**
NIUE	**Niue**	**10.57**	**64**	P	**P**	**17 55 56.5**	**-0.2**
	baz=10,SNR=44						
NIUE	**Niue**	**10.57**	**64**	P	**P**	**17 55 55.7**	**-1.1**
NIUE	**Niue**	**10.57**	**64**	P	**P**	**17 55 56.4**	**-0.3**
MARNC	**Mare, Loyalty**	**11.37**	**281**	P	**P**	**17 56 05.0**	**-0.1**
MARNC	**Mare, Loyalty**	**11.37**	**281**	P	**P**	**17 56 05.9**	**+0.8**
PINNC	**Pines Island,**	**11.65**	**275**	P	**P**	**17 56 08.4**	**+0.3**
PINNC	**Pines Island,**	**11.65**	**275**	P	**P**	**17 56 10.0**	**+1.9**
NFK	**Norfolk Island**	**11.91**	**243**	P	**P**	**17 56 07.0**	**-3.7**
	baz=12,SNR=3.6						
OUENC	**Ouen Island, N**	**12.24**	**275**	P	**P**	**17 56 14.8**	**+0.5**
OUENC	**Ouen Island, N**	**12.24**	**275**	P	**P**	**17 56 15.9**	**+1.6**
YATNC	**Mamie plateau,**	**12.26**	**277**	P	**P**	**17 56 16.2**	**+1.7**
LIFNC	**LIFOU**	**12.27**	**283**	P	**P**	**17 56 14.6**	**0.0**
LIFNC	**LIFOU**	**12.27**	**283**	P	**P**	**17 56 14.8**	**+0.2**
OUZ	**Omahuta**	**12.46**	**205**	P	**P**	**17 56 19.0**	**+2.6**
ONTNC	**Ouen Toro**	**12.61**	**275**	P	**P**	**17 56 18.2**	**+0.1**
ONTNC	**Ouen Toro**	**12.61**	**275**	P	**P**	**17 56 19.7**	**+1.5**
DZM	**Mont Dzumac**	**12.66**	**276**	P	**P**	**17 56 18.8**	**0.0**
DZM	**Mont Dzumac**	**12.66**	**276**	P	**P**	**17 56 19.7**	**+0.8**
DZM	**Mont Dzumac**	**12.66**	**276**	*e*Pn	**P**	**17 56 18.3**	**-0.6**
	928nm,1.5s						
DZM				*e*Sn	**S**	**17 58 35.9**	**+0.6**
	263nm,1.4s						
DZM	**Mont Dzumac**	**12.66**	**276**	P	**P**	**17 56 19.3**	**+0.4**
	175nm,0.8s,baz=92,slow=13,SNR=89						
DZM				S	**S**	**17 58 33.4**	**-2.0**
	20nm,0.9s,baz=246,slow=19,SNR=1.0						
DZM				ScP	**ScP**	**18 03 58.0**	**+2.2**
	46nm,0.7s,baz=151,slow=2.3,SNR=18						
AFI	**Afiamalu**	**12.71**	**39**	P	**P**	**17 56 14.9**	**-4.4**
AFI	**Afiamalu**	**12.71**	**39**	P	**P**	**17 56 15.7**	**-3.7**
AFI				pmax	pmax		
	comp=Z,478nm,0.8s						
NOUC	**Port Laguerre**	**12.79**	**276**	P	**P**	**17 56 20.8**	**+0.8**
WCZ	**Waipu Caves**	**12.83**	**201**	P	**P**	**17 56 22.0**	**+1.7**
KUZ	**Kuaotunu**	**13.19**	**195**	P	**P**	**17 56 25.0**	**+1.0**
KUZ	**Kuaotunu**	**13.19**	**195**	P	**P**	**17 56 25.7**	**+1.7**
MXZ	**Matakaoa Point**	**13.55**	**186**	P	**P**	**17 56 26.0**	**-1.8**
MXZ	**Matakaoa Point**	**13.55**	**186**	P	**P**	**17 56 26.7**	**-1.1**
TGRZ	**Tauranga**	**14.02**	**192**	P	**P**	**17 56 36.9**	**+4.2**
TGRZ				S	**S**	**17 59 02.9**	**+2.3**
RUGZ	**Raukumara Rang**	**14.02**	**188**	P	**P**	**17 56 31.0**	**-1.9**
RUGZ				S	**S**	**17 58 57.2**	**-3.8**
TOZ	**Tahuroa Road**	**14.18**	**195**	P	**P**	**17 56 34.2**	**-0.2**
KMRZ	**Kaimai**	**14.20**	**193**	P	**P**	**17 56 36.9**	**+2.3**
KMRZ				S	**S**	**17 59 09.5**	**+5.3**
TWGZ	**Tauwhareparae**	**14.20**	**187**	P	**P**	**17 56 33.9**	**-0.7**
TWGZ				S	**S**	**17 58 58.1**	**-6.1**
KARZ	**Kaharoa**	**14.30**	**192**	P	**P**	**17 56 36.4**	**+0.7**
KARZ				S	**S**	**17 59 07.9**	**+1.7**
OMRZ	**Omania**	**14.36**	**192**	P	**P**	**17 56 38.7**	**+2.3**
OMRZ				S	**S**	**17 59 10.8**	**+3.4**
URZ	**Urewera**	**14.39**	**189**	P	**P**	**17 56 37.1**	**+0.6**
URZ	**Urewera**	**14.39**	**189**	P	**P**	**17 56 33.5**	**-3.0**
	comp=Z,46nm,0.6s,baz=75,slow=3.1,SNR=28						
URZ				S	**S**	**17 59 02.6**	**-5.2**
	comp=Z,86nm,0.6s,baz=267,slow=16,SNR=16						
URZ	**Urewera**	**14.39**	**189**	P	**P**	**17 56 33.1**	**-3.5**
URZ				S	**S**	**17 59 03.0**	**-4.8**
MWZ	**Matawai**	**14.40**	**188**	P	**P**	**17 56 37.6**	**+0.8**
MWZ				S	**S**	**17 59 02.5**	**-5.7**
TARZ	**Mount Tarawera**	**14.46**	**191**	P	**P**	**17 56 40.1**	**+2.6**
TARZ				S	**S**	**17 59 10.9**	**+1.5**
TKGZ	**Te Karaka**	**14.47**	**187**	P	**P**	**17 56 39.5**	**+2.1**
CNGZ	**Carnagh Statio**	**14.48**	**186**	P	**P**	**17 56 38.8**	**+1.3**
CNGZ				S	**S**	**17 59 09.5**	**0.0**
RAGZ	**Rawiri**	**14.58**	**188**	P	**P**	**17 56 38.2**	**-0.5**
RAGZ				S	**S**	**17 59 08.7**	**-2.9**
HRRZ	**Handcock Road**	**14.65**	**192**	P	**P**	**17 56 42.9**	**+3.5**
MUGZ	**Murupara**	**14.65**	**190**	P	**P**	**17 56 39.5**	**+0.2**
MUGZ				S	**S**	**17 59 07.1**	**-5.8**
RIGZ	**Rimuhau**	**14.74**	**187**	P	**P**	**17 56 41.9**	**+1.6**
RIGZ				S	**S**	**17 59 11.4**	**-3.2**
TLZ	**Tolley Road**	**14.75**	**194**	P	**P**	**17 56 41.0**	**+0.6**
RTZ	**Ruatahuna**	**14.76**	**189**	P	**P**	**17 56 38.5**	**-2.0**
RTZ	**Ruatahuna**	**14.76**	**189**	P	**P**	**17 56 41.5**	**+1.0**
RTZ				S	**S**	**17 59 10.6**	**-4.4**
SNGZ	**Shannon Statio**	**14.87**	**188**	P	**P**	**17 56 43.5**	**+1.9**
SNGZ				S	**S**	**17 59 14.2**	**-2.8**
PRGZ	**Paritu Road**	**14.95**	**187**	P	**P**	**17 56 43.9**	**+1.5**
PRGZ				S	**S**	**17 59 15.2**	**-3.2**
KOUNC	**Koumac, New Ca**	**14.98**	**280**	P	**P**	**17 56 42.2**	**-0.8**
KOUNC	**Koumac, New Ca**	**14.98**	**280**	P	**P**	**17 56 45.2**	**+2.1**
MTHZ	**Maungataniwha**	**15.01**	**190**	P	**P**	**17 56 42.5**	**-0.6**
MTHZ				S	**S**	**17 59 14.1**	**-5.6**
RAHZ	**Arahi**	**15.04**	**189**	P	**P**	**17 56 43.9**	**+0.6**
RAHZ				S	**S**	**17 59 20.8**	**+0.6**
KNZ	**Kokohu**	**15.06**	**187**	P	**P**	**17 56 43.5**	**-0.1**
KNZ				S	**S**	**17 59 16.9**	**-3.7**
WATZ	**Wairara**	**15.07**	**193**	P	**P**	**17 56 45.5**	**+1.8**
MHGZ	**Mahia Peninsul**	**15.17**	**186**	P	**P**	**17 56 46.3**	**+1.6**
RATZ	**Rangitukua**	**15.21**	**193**	P	**P**	**17 56 45.9**	**+0.7**
NMHZ	**Naumai**	**15.26**	**190**	P	**P**	**17 56 45.3**	**-0.4**
NMHZ				S	**S**	**17 59 22.9**	**-1.5**
KATZ	**Kakaramea**	**15.33**	**193**	P	**P**	**17 56 48.0**	**+1.4**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**17 56 45.4**	**-1.5**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**17 56 47.0**	**+0.1**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**17 56 46.6**	**-0.3**
FUNA	**Funafuti**	**15.45**	**357**		**P**	**17 56 44.8**	**-3.3**
FUNA	**Funafuti**	**15.45**	**357**	P	**P**	**17 56 46.7**	**-1.3**
NTVZ	**North Tongarir**	**15.46**	**193**	P	**P**	**17 56 48.1**	**+0.3**
KRVZ	**Karewarewa**	**15.46**	**193**	P	**P**	**17 56 48.7**	**+0.8**
TMVZ	**Te Maari**	**15.47**	**193**	P	**P**	**17 56 47.8**	**-0.2**
TWVZ	**Taurewa**	**15.48**	**194**	P	**P**	**17 56 48.7**	**+0.6**
ETVZ	**East Tongariro**	**15.49**	**193**	P	**P**	**17 56 47.8**	**-0.4**
WTVZ	**West Tongariro**	**15.49**	**193**	P	**P**	**17 56 48.4**	**+0.2**
NNVZ	**North Ngauruho**	**15.50**	**193**	P	**P**	**17 56 49.1**	**+0.7**
NGZ	**Ngauruhoe**	**15.55**	**193**	P	**P**	**17 56 49.0**	**+0.2**
SNVZ	**South Ngauruho**	**15.55**	**193**	P	**P**	**17 56 49.0**	**+0.2**
COVZ	**Chateau Observ**	**15.58**	**193**	P	**P**	**17 56 49.2**	**+0.1**
KWHZ	**Kaweka Forest**	**15.63**	**190**	P	**P**	**17 56 48.4**	**-1.3**
TRVZ	**Turoa**	**15.68**	**193**	P	**P**	**17 56 50.1**	**-0.1**
WNVZ	**Wahianoa**	**15.69**	**193**	P	**P**	**17 56 47.5**	**-2.9**
PKVZ	**Pokaka**	**15.71**	**194**	P	**P**	**17 56 50.5**	**+0.1**
KRHZ	**Kereru**	**15.86**	**190**	P	**P**	**17 56 50.5**	**-1.4**
KAHZ	**Kahuranaki**	**15.93**	**189**	P	**P**	**17 56 52.3**	**-0.3**
KHEZ	**Kahui Hut**	**16.04**	**197**	P	**P**	**17 56 54.3**	**+0.5**
BFZ	**Birch Farm**	**16.89**	**190**	P	**P**	**17 56 59.9**	**-2.3**
MRZ	**Mangatainoka R**	**16.99**	**192**	P	**P**	**17 56 59.6**	**-3.5**
SNZO	**South Karori**	**17.79**	**193**	P	**P**	**17 57 09.4**	**-1.1**
BHW	**Baring Head**	**17.84**	**193**	P	**P**	**17 57 09.2**	**-1.8**
QRZ	**Quartz Range**	**17.88**	**199**	P	**P**	**17 57 11.7**	**+0.3**
QRZ	**Quartz Range**	**17.88**	**199**	P	**P**	**17 57 11.6**	**+0.2**
TUWZ	**Tuamarina**	**18.07**	**195**	P	**P**	**17 57 11.9**	**-1.2**
THZ	**Tophouse**	**18.64**	**197**	P	**P**	**17 57 17.7**	**-0.7**
RAR	**Rarotonga**	**18.85**	**85**	P	**P**	**17 57 20.1**	**-0.4**
RAR	**Rarotonga**	**18.85**	**85**	P	**P**	**17 57 21.1**	**+0.6**
RAR	**Rarotonga**	**18.85**	**85**	P	**P**	**17 57 20.8**	**+0.3**
	comp=Z,118nm,0.8s,baz=244,slow=7.8,SNR=32						
RAR				ScP	**ScP**	**18 04 09.0**	**+1.4**
	comp=Z,26nm,0.9s,baz=208,slow=8.3,SNR=4.4						
KHZ	**Kahutara**	**19.10**	**195**	P	**P**	**17 57 20.6**	**-1.8**
KHZ	**Kahutara**	**19.10**	**195**	P	**P**	**17 57 21.2**	**-1.2**
GVZ	**Greta Valley S**	**19.74**	**195**	P	**P**	**17 57 26.1**	**-2.3**
LTZ	**Lake Taylor**	**19.76**	**197**	P	**P**	**17 57 25.9**	**-1.6**
CTZ	**Chatham Island**	**19.83**	**173**	P	**P**	**17 57 29.3**	**+0.2**
INZ	**Inchbonnie**	**19.94**	**199**	P	**P**	**17 57 29.2**	**-1.0**
LHI	**Lord Howe Isla**	**19.97**	**243**	P	**P**	**17 57 32.8**	**+2.2**
	baz=20,SNR=19						
LHI	**Lord Howe Isla**	**19.97**	**243**	P	**P**	**17 57 32.1**	**+1.5**
LHI	**Lord Howe Isla**	**19.97**	**243**	P	**P**	**17 57 32.5**	**+1.9**
OXZ	**Oxford**	**20.33**	**197**	P	**P**	**17 57 31.8**	**-1.9**
RPZ	**Rata Peaks**	**20.96**	**198**	P	**P**	**17 57 38.2**	**-1.2**
RPZ	**Rata Peaks**	**20.96**	**198**	P	**P**	**17 57 38.4**	**-1.0**
RPZ	**Rata Peaks**	**20.96**	**198**	P	**P**	**17 57 38.4**	**-1.0**
	comp=Z,16nm,0.5s,baz=286,slow=3.0,SNR=12						
RPZ				S	**S**	**18 00 52.9**	**-6.1**
	comp=Z,9.2nm,0.7s,baz=226,slow=19,SNR=1.7						
RPZ				ScP	**ScP**	**18 04 12.8**	**+0.5**
	comp=Z,13nm,0.6s,baz=302,slow=1.5,SNR=7.2						
RPZ				ScS	**ScS**	**18 07 57.3**	**+0.9**
	comp=Z,11nm,1.0s,baz=122,slow=23,SNR=2.1						
	comp=Z,16nm,0.5s						
JCZ	**Jackson Bay**	**22.00**	**202**	P	**P**	**17 57 48.4**	**-0.5**
ODZ	**Otahua Downs**	**22.30**	**198**	P	**P**	**17 57 50.0**	**-1.4**
ODZ	**Otahua Downs**	**22.30**	**198**	P	**P**	**17 57 50.3**	**-1.1**
WHZ	**Wether Hill Ro**	**23.89**	**201**	P	**P**	**17 58 06.2**	**+0.6**
HNR	**Honiara**	**24.06**	**304**	P	**P**	**17 58 05.5**	**-2.0**
HNR	**Honiara**	**24.06**	**304**	P	**P**	**17 58 06.4**	**-1.1**
HNR	**Honiara**	**24.06**	**304**	P	**P**	**17 58 06.5**	**-1.1**
	comp=Z,18μm,0.7s,baz=173,slow=2.5,SNR=162						
ARMA	**Armidale**	**26.00**	**250**	P	**P**	**17 58 25.9**	**+1.2**
	baz=26,SNR=228						
ARMA	**Armidale**	**26.00**	**250**	P	**P**	**17 58 23.9**	**-0.8**
ARMA	**Armidale**	**26.00**	**250**	P	**P**	**17 58 26.2**	**+1.5**
TARA	**Tarawa**	**26.18**	**344**	P	**P**	**17 58 22.8**	**-3.4**
EIDS	**Eidsvold**	**26.32**	**261**	P	**P**	**17 58 27.7**	**+0.4**
	baz=26,SNR=136						
EIDS	**Eidsvold**	**26.32**	**261**	P	**P**	**17 58 27.1**	**-0.4**
EIDS	**Eidsvold**	**26.32**	**261**	P	**P**	**17 58 27.8**	**+0.4**
MGCD	**Mangrove Creek**	**26.91**	**244**	P	**P**	**17 58 34.0**	**+1.5**
	baz=27,SNR=123						
MGCD	**Mangrove Creek**	**26.91**	**244**	P	**P**	**17 58 34.0**	**+1.5**
RIV	**Riverview**	**27.01**	**242**	P	**P**	**17 58 32.4**	**-1.0**
	baz=27,SNR=5.9						
RIV	**Riverview**	**27.01**	**242**	P	**P**	**17 58 35.0**	**+1.6**
RK1H	**Rockhampton Ha**	**27.03**	**265**	P	**P**	**17 58 34.2**	**+0.5**
SYDH	**Sydney Hard Ro**	**27.33**	**243**	P	**P**	**17 58 37.5**	**+1.3**
TBI	**Tubuai**	**27.92**	**95**	*e*P	**P**	**17 58 42.7**	**+1.2**
	comp=Z,287nm,0.8s						
TBI				*e*sP	**sP**	**18 01 00.0**	**-5.7**
TBI				*e*S	**S**	**18 02 42.3**	**-6.4**
	comp=Z,2μm,30.2s						
TBI				*e*sS	sS	18 05 06.5	-22
	comp=Z,2μm,28.8s						
CNB	**Canberra Magne**	**28.81**	**240**	P	**P**	**17 58 50.6**	**+1.4**
	baz=29,SNR=134						
CNB	**Canberra Magne**	**28.81**	**240**	P	**P**	**17 58 50.4**	**+1.2**
PAE	**Paea**	**29.06**	**83**	*e*P	**P**	**17 58 51.9**	**+0.4**
	comp=Z,101nm,1.1s						
PPT2	**Papeete2**	**29.08**	**83**	*e*P	**P**	**17 58 52.5**	**+0.7**
	comp=Z,260nm,1.1s						
PPT2				*e*S	S	18 02 54.4	-13
	comp=Z,359nm,26.0s						
PPT2				*e*sS	sS	18 05 32.3	-16
	comp=Z,1μm,26.2s						
PPT	**Papeete**	**29.09**	**83**	P	**P**	**17 58 52.7**	**+0.9**
	comp=Z,210nm,0.7s,baz=58,slow=2.0,SNR=30						
PPT				ScP	**ScP**	**18 04 37.7**	**+1.6**
	comp=Z,24nm,0.7s,baz=191,slow=4.0,SNR=4.3						
	comp=Z,210nm,0.7s						
PPTF	**Pamatai, Papee**	**29.09**	**83**	P	**P**	**17 58 51.0**	**-0.9**
PPTF	**Pamatai, Papee**	**29.09**	**83**	P	**P**	**17 58 52.8**	**+0.9**
CAN	**Canberra**	**29.10**	**240**	P	**P**	**17 58 52.0**	**+0.3**
CAN	**Canberra**	**29.10**	**240**	P	**P**	**17 58 52.5**	**+0.8**
CAN	**Canberra**	**29.10**	**240**	P	**P**	**17 58 52.0**	**+0.3**
TIAR	**Tiarei**	**29.30**	**83**	*e*P	**P**	**17 58 53.8**	**+0.1**
	comp=Z,20nm,1.0s						
TVO	**Taravao**	**29.32**	**84**	*e*P	**P**	**17 58 54.3**	**+0.4**
	comp=Z,113nm,0.8s						
YNG	**Young**	**29.35**	**242**	P	**P**	**17 58 54.7**	**+0.8**
MILA	**Mila**	**29.45**	**237**	P	**P**	**17 58 55.7**	**+1.0**
	baz=30,SNR=23						
MILA	**Mila**	**29.45**	**237**	P	**P**	**17 58 55.7**	**+1.0**
MEH	**Mehetia**	**30.37**	**84**	*e*P	**P**	**17 59 03.0**	**+0.1**
	comp=Z,98nm,1.2s						
CMSA	**Cobar Meteorol**	**31.19**	**248**	P	**P**	**17 59 10.0**	**+0.2**
	baz=31,SNR=349						
CMSA	**Cobar Meteorol**	**31.19**	**248**	P	**P**	**17 59 09.9**	**+0.2**
TV1H	**Townsville Har**	**31.21**	**272**	P	**P**	**17 59 10.4**	**+0.3**
PMOR	**Pomariorio Ree**	**31.48**	**79**	*e*P	**P**	**17 59 12.8**	**+0.4**
	comp=Z,326nm,0.9s						
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	**17 59 13.1**	**+0.4**
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	**17 59 13.0**	**+0.3**
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	**17 59 13.0**	**+0.3**
	comp=Z,683nm,0.5s,baz=95,slow=10.0,SNR=2112						
CTA				S	**S**	**18 03 42.0**	**-2.4**
	comp=Z,24nm,1.2s,baz=238,slow=17,SNR=8.7						
CTA				ScP	**ScP**	**18 04 46.0**	**+1.9**
	comp=Z,50nm,0.8s,baz=112,slow=2.2,SNR=16						
CTA				P3KPbc		18 30 38.5	
	comp=Z,6.5nm,0.9s,baz=303,slow=12,SNR=4.0						
CTAO	**Charters Tower**	**31.51**	**270**	P	**P**	**17 59 12.7**	**0.0**
CTAO	**Charters Tower**	**31.51**	**270**	P	**P**	**17 59 12.9**	**+0.3**
CTAO	**Charters Tower**	**31.51**	**270**	P	**P**	**17 59 12.7**	**0.0**
CTAO				pmax	pmax		
	comp=Z,1μm,1.0s						
CTAO	**Charters Tower**	**31.51**	**270**	P	**P**	**17 59 13.1**	**+0.4**
CTAO				ScP	**ScP**	**18 04 47.4**	**+3.3**
GLAD	**Gladstone**	**31.62**	**230**	P	**P**	**17 59 14.3**	**+1.0**
VAH	**Vaihoa**	**31.63**	**80**	*e*P	**P**	**17 59 13.8**	**+0.1**
	comp=Z,192nm,0.9s						
TOO	**Toolangi**	**32.40**	**237**	P	**P**	**17 59 20.7**	**+0.7**
	baz=32,SNR=127						
TOO	**Toolangi**	**32.40**	**237**	P	**P**	**17 59 20.2**	**+0.2**
TOO				IAmb	IAmb	17 59 21.7	
	comp=Z,105nm,0.7s						
TOO	**Toolangi**	**32.40**	**237**	P	**P**	**17 59 20.8**	**+0.7**
TOO	**Toolangi**	**32.40**	**237**	P	**P**	**17 59 20.2**	**+0.2**
TOO				pmax	pmax		
	comp=Z,105nm,0.7s						
QLP	**Quilpie**	**32.40**	**258**	P	**P**	**17 59 20.3**	**+0.1**
	baz=32,SNR=42						
QLP	**Quilpie**	**32.40**	**258**	P	**P**	**17 59 20.3**	**+0.1**
MOO	**Moorlands**	**32.76**	**228**	P	**P**	**17 59 23.8**	**+0.8**
	baz=33,SNR=6.9						
MOO	**Moorlands**	**32.76**	**228**	P	**P**	**17 59 24.1**	**+1.1**
TAU	**Tasmania Unive**	**32.86**	**227**	P	**P**	**17 59 24.2**	**+0.5**
TAU				IAmb	IAmb	17 59 25.6	
	comp=Z,55nm,0.7s						
TAU	**Tasmania Unive**	**32.86**	**227**	P	**P**	**17 59 24.7**	**+0.9**
TAU	**Tasmania Unive**	**32.86**	**227**	P	**P**	**17 59 24.3**	**+0.5**
TAU				pmax	pmax		
	comp=Z,55nm,0.7s						
TAU	**Tasmania Unive**	**32.86**	**227**	P	**P**	**17 59 24.6**	**+0.9**
TAU				PcP	**PcP**	**18 01 54.6**	**+1.3**
RABL	**Rabaul**	**33.34**	**302**	P	**P**	**17 59 25.9**	**-2.4**
RABL	**Rabaul**	**33.34**	**302**	P	**P**	**17 59 27.2**	**-1.1**
GEXS	**Deakin Univers**	**33.47**	**237**	P	**P**	**17 59 30.3**	**+1.2**
BRAT	**Ballarat**	**33.59**	**238**	P	**P**	**17 59 31.4**	**+1.3**
MTSU	**Mount Surprise**	**33.78**	**273**	P	**P**	**17 59 32.2**	**+0.3**
	baz=34,SNR=701						
MTSU	**Mount Surprise**	**33.78**	**273**	P	**P**	**17 59 32.3**	**+0.3**
XMAS	**Kiritimati**	**33.94**	**43**	P	**P**	**17 59 33.2**	**-0.1**
XMAS	**Kiritimati**	**33.94**	**43**	P	**P**	**17 59 33.5**	**+0.2**
XMAS	**Kiritimati**	**33.94**	**43**	P	**P**	**17 59 34.0**	**+0.7**
PMG	**Port Moresby**	**34.57**	**289**	P	**P**	**17 59 38.1**	**-0.5**
PMG	**Port Moresby**	**34.57**	**289**	P	**P**	**17 59 38.4**	**-0.2**
PMG	**Port Moresby**	**34.57**	**289**	P	**P**	**17 59 38.3**	**-0.3**
PMG	**Port Moresby**	**34.57**	**289**	*d*iP	**P**	**17 59 38.1**	**-0.5**
PMG				pmax	pmax		
	comp=Z,776nm,0.9s						
PMG	**Port Moresby**	**34.57**	**289**	S	**S**	**18 04 28.6**	**-2.4**
	comp=Z,9.9nm,0.9s,baz=140,slow=22,SNR=1.7						
PMG				ScP	**ScP**	**18 04 58.0**	**+3.1**
	comp=Z,77nm,0.9s,baz=63,slow=3.7,SNR=13						
PMG	**Port Moresby**	**34.57**	**289**	P	**P**	**17 59 38.6**	**0.0**
PMG				ScP	**ScP**	**18 04 58.3**	**+3.4**
PMG	**Port Moresby**	**34.57**	**289**	P	**P**	**17 59 37.9**	**-0.7**
	comp=Z,1μm,1.0s,comp=Z,9μm						
STKA	**Stephens Creek**	**34.70**	**248**	P	**P**	**17 59 40.0**	**+0.4**
	baz=35,SNR=98						
STKA	**Stephens Creek**	**34.70**	**248**	P	**P**	**17 59 39.5**	**0.0**
STKA	**Stephens Creek**	**34.70**	**248**	*d*iP	**P**	**17 59 39.9**	**+0.4**
STKA	**Stephens Creek**	**34.70**	**248**	P	**P**	**17 59 39.7**	**+0.2**
	comp=Z,84nm,0.8s,baz=94,slow=9.8,SNR=149						
STKA				ScP	**ScP**	**18 04 57.6**	**+2.5**
	comp=Z,21nm,1.0s,baz=78,slow=4.3,SNR=6.8						
STKA				ScS	**ScS**	**18 08 59.9**	**-0.2**
	comp=Z,4.6nm,1.0s,baz=32,slow=24,SNR=5.4						
STKA				P3KPbc		18 30 21.8	
	comp=Z,4.9nm,0.9s,baz=324,slow=5.3,SNR=5.2						
	comp=Z,84nm,0.8s						
ARPS	**Mount Arapiles**	**35.07**	**240**	P	**P**	**17 59 42.8**	**+0.2**
	baz=35,SNR=63						
ARPS	**Mount Arapiles**	**35.07**	**240**	P	**P**	**17 59 42.6**	**+0.1**
INKA	**Innamin

OPA **Opana** **50.23 27** IAmb IAmb 18 01 43.3
comp=Z,194nm,0.8s
FAKI **Fak Fak** **50.65 287** P **P** **18 01 43.0 -1.9**
FAKI IAmb IAmb 18 01 45.0
comp=Z,264nm,1.1s
FAKI **Fak Fak** **50.65 287** P **P** **18 01 43.9 -1.0**
FAKI **Fak Fak** **50.65 287** P **P** **18 01 43.6 -1.3**
comp=Z,271nm,1.0s,comp=Z,3µm
GUMO **Guam** **50.79 314** P **P** **18 01 45.0 -0.8**
GUMO **Guam** **50.79 314** P **P** **18 01 45.3 -0.4**
GUMO **Guam** **50.79 314** P **P** **18 01 45.0 -0.8**
GUMO pmax pmax
comp=Z,544nm,0.8s
GUMO **Guam** **50.79 314** P **P** **18 01 45.0 -0.8**
FITZ **Fitzroy Crossi** **50.85 266** P **P** **18 01 46.1 0.0**
baz=51,SNR=105
FITZ **Fitzroy Crossi** **50.85 266** P **P** **18 01 45.1 -1.1**
FITZ **Fitzroy Crossi** **50.85 266** P **P** **18 01 46.2 0.0**
KMBL **Kambalda** **51.50 248** P **P** **18 01 49.6 -1.2**
baz=52,SNR=11
KMBL **Kambalda** **51.50 248** P **P** **18 01 50.0 -0.8**
BNDI **Bandanaira** **51.98 284** P **P** **18 01 53.6 -0.8**
BNDI **Bandanaira** **51.98 284** P **P** **18 01 53.4 -1.0**
comp=Z,934nm,0.8s,comp=Z,7µm
SIJI **Sorong** **52.51 289** P **P** **18 01 57.6 -0.7**
comp=Z,901nm,0.9s,comp=Z,7µm
SWI **Sorong** **52.52 289** P **P** **18 01 57.6 -0.7**
comp=Z,1µm,0.8s,comp=Z,10µm
KRAI **Karang Ratu** **53.86 284** P **P** **18 02 07.5 -0.4**
comp=Z,364nm,0.9s,comp=Z,4µm
SBA **Scott Base** **54.23 183** P **P** **18 02 12.0 +2.5**
SBA **Scott Base** **54.23 183** P **P** **18 02 12.0 +2.5**
SBA pmax pmax
comp=Z,105nm,0.9s
SBA **Scott Base** **54.23 183** P **P** **18 02 12.4 +2.9**
SBA PcP **PcP** **18 03 07.7 +1.9**
SBA ScP **ScP** **18 06 16.4 +2.2**
VNDA **Vanda** **54.24 185** P **P** **18 02 11.4 +1.9**
comp=Z,13nm,0.8s,baz=5.7,slow=8.2,SNR=71
VNDA PcP **PcP** **18 03 07.0 +1.2**
comp=Z,16nm,0.7s,baz=341,slow=6.2,SNR=11
VNDA ScP **ScP** **18 06 15.6 +1.3**
comp=Z,5.6nm,0.7s,baz=359,slow=5.0,SNR=5.8
comp=Z,13nm,0.8s
VNDA **Vanda** **54.24 185** P **P** **18 02 11.3 +1.8**
VNDA PcP **PcP** **18 03 06.9 +1.1**
VNDA ScP **ScP** **18 06 15.5 +1.3**
SOEI **Soe** **54.89 275** P **P** **18 02 16.6 +1.3**
SOEI **Soe** **54.89 275** P **P** **18 02 16.1 +0.8**
comp=Z,753nm,1.0s,comp=Z,6µm
KLBR **Kellerberrin** **54.96 247** P **P** **18 02 14.9 -0.6**
baz=55,SNR=63
KLBR **Kellerberrin** **54.96 247** P **P** **18 02 14.8 -0.6**
NLAI **Namlea** **55.05 284** P **P** **18 02 15.9 -0.3**
comp=Z,195nm,1.1s,comp=Z,4µm
MEEK **Meekatharra** **55.10 253** P **P** **18 02 15.5 -1.0**
baz=55,SNR=34
MEEK **Meekatharra** **55.10 253** P **P** **18 02 15.5 -1.0**
PSA00 **Pilbara Seismi** **55.17 260** IAmb IAmb 18 02 17.3
comp=Z,210nm,1.4s
PSA00 **Pilbara Seismi** **55.17 260** IAmb IAmb 18 02 18.0
comp=Z,190nm,1.7s
PSA00 **Pilbara Seismi** **55.17 260** P **P** **18 02 16.2 -0.8**
RKGY **Rocky Gully** **55.20 244** P **P** **18 02 16.8 -0.2**
baz=55,SNR=15
RKGY **Rocky Gully** **55.20 244** P **P** **18 02 16.9 -0.1**
NWAO **Narrogin (SRO)** **55.20 246** P **P** **18 02 16.6 -0.4**
baz=55,SNR=36
NWAO P **P** **18 02 16.6 -0.4**
baz=55,SNR=36
NWAO **Narrogin (SRO)** **55.20 246** P **P** **18 02 16.0 -1.1**
NWAO **Narrogin (SRO)** **55.20 246** IAmb IAmb 18 02 17.7
comp=Z,393nm,1.3s
NWAO **Narrogin (SRO)** **55.20 246** P **P** **18 02 16.5 -0.6**
NWAO **Narrogin (SRO)** **55.20 246** P **P** **18 02 16.0 -1.1**
NWAO pmax pmax
comp=Z,121nm,1.3s
NWAO **Narrogin (SRO)** **55.20 246** P **P** **18 02 16.6 -0.4**
LBMI **Labuha** **55.90 287** P **P** **18 02 21.9 -0.3**
comp=Z,456nm,1.1s,comp=Z,5µm
MUN **Mundaring** **56.20 247** P **P** **18 02 23.5 -0.5**
baz=56,SNR=20
MUN **Mundaring** **56.20 247** P **P** **18 02 23.6 -0.5**
SANI **Sanana** **56.58 284** P **P** **18 02 25.8 -1.1**
SANI **Sanana** **56.58 284** P **P** **18 02 25.7 -1.1**
comp=Z,203nm,0.6s,comp=Z,3µm
TNTI **Ternate** **56.70 288** IAmb IAmb 18 02 28.2
comp=Z,256nm,0.9s
TNTI **Ternate** **56.70 288** P **P** **18 02 27.2 -0.5**
TNTI **Ternate** **56.70 288** P **P** **18 02 27.0 -0.7**
comp=Z,347nm,0.9s,comp=Z,3µm
MORW **Morawa** **56.85 250** P **P** **18 02 28.0 -0.6**
baz=57,SNR=93
MORW **Morawa** **56.85 250** P **P** **18 02 27.6 -1.0**
MORW IAmb IAmb 18 02 29.0
comp=Z,113nm,0.6s
MORW **Morawa** **56.85 250** P **P** **18 02 28.0 -0.6**
MMRI **Maumere** **57.17 275** IAmb IAmb 18 02 31.4
comp=Z,300nm,0.8s
MMRI **Maumere** **57.17 275** P **P** **18 02 30.6 -0.3**
MMRI **Maumere** **57.17 275** P **P** **18 02 30.0 -0.9**
comp=Z,388nm,0.9s,comp=Z,4µm
EDFI **Ende, Flores** **57.62 275** P **P** **18 02 33.3 -0.8**
comp=Z,560nm,0.8s,comp=Z,5µm
BASI **Baing, Sumba** **58.08 273** P **P** **18 02 37.1 0.0**
comp=Z,697nm,1.0s
BBSI **Bau Bau** **58.13 279** P **P** **18 02 37.1 -0.4**
comp=Z,146nm,0.8s,comp=Z,1µm
CCD **Concordia, Ant** **58.59 195** P **P** **18 02 40.7 +0.6**
CCD PcP **PcP** **18 03 24.1 +0.6**
CCD ScP **ScP** **18 06 34.4 +0.3**
KMSI **Cibinong** **59.57 286** P **P** **18 02 46.2 -1.0**
comp=Z,340nm,1.2s,comp=Z,4µm
LUWI **Luwuk** **59.89 284** P **P** **18 02 48.7 -0.6**
comp=Z,411nm,1.0s,comp=Z,4µm
GIRL **Giralia** **59.91 257** P **P** **18 02 50.3 +0.9**
baz=60,SNR=9.9
GIRL **Giralia** **59.91 257** P **P** **18 02 50.2 +0.9**
CASY **Casey** **59.99 206** P **P** **18 02 48.2 -0.9**
CASY **Casey** **59.99 206** P **P** **18 02 49.1 0.0**
BKSI **Bulukumba** **60.41 278** P **P** **18 02 51.7 -1.1**
comp=Z,363nm,0.8s,comp=Z,3µm
GTOI **Gorontalo** **60.45 285** P **P** **18 02 53.2 +0.2**
comp=Z,181nm,0.8s,comp=Z,1µm
DBNI **Kabupaten Domp** **60.80 274** P **P** **18 02 54.1 -1.2**
comp=Z,581nm,0.8s,comp=Z,6µm
KAPI **Kappang** **60.88 278** P **P** **18 02 54.6 -1.2**
KAPI IAmb IAmb 18 02 56.9
comp=Z,411nm,1.9s
KAPI **Kappang** **60.88 278** P **P** **18 02 54.6 -1.2**
KAPI pmax pmax
comp=Z,411nm,2.0s
MKS **Makassar** **61.05 278** P **P** **18 02 56.7 -0.3**
comp=Z,126nm,1.1s
PLAI **Plampang** **61.16 273** P **P** **18 02 57.1 -0.6**
PLAI **Plampang** **61.16 273** P **P** **18 02 57.2 -0.5**
comp=Z,723nm,1.0s,comp=Z,6µm
SPSI **Sidrap Palu** **61.30 279** P **P** **18 02 56.9 -1.7**
comp=Z,143nm,0.8s,comp=Z,1µm
TTSI **Tana Toraja** **61.65 280** P **P** **18 03 00.0 -0.9**
comp=Z,81nm,1.0s,comp=Z,1µm
TWSI **Taliwang, Sumb** **62.01 273** P **P** **18 03 02.2 -1.1**
comp=Z,261nm,1.3s,comp=Z,3µm
PMSI **Majene** **62.27 279** P **P** **18 03 04.3 -0.7**
comp=Z,309nm,1.2s,comp=Z,3µm
TOLI2 **Tolitoli** **62.64 285** P **P** **18 03 06.0 -1.3**
TOLI2 **Tolitoli** **62.64 285** P **P** **18 03 06.2 -1.2**
RPN **Rapa Nui** **63.00 109** P **P** **18 03 11.7 +2.3**
comp=Z,216nm,0.7s,baz=296,slow=3.3,SNR=19
comp=Z,216nm,0.7s
RPN **Rapa Nui** **63.00 109** P **P** **18 03 11.6 +2.1**
RPN PcP **PcP** **18 03 44.2 +2.4**
MPSI **Mapaga** **63.07 283** P **P** **18 03 09.0 -1.1**
comp=Z,293nm,0.9s,comp=Z,3µm
SRBI **Singaraja** **63.78 273** P **P** **18 03 13.7 -1.0**
comp=Z,215nm,1.1s,comp=Z,3µm
JAGI **Jajag, Banyuwa** **64.61 272** P **P** **18 03 18.4 -1.6**
JAGI **Jajag, Banyuwa** **64.61 272** P **P** **18 03 18.7 -1.2**
JAGI **Jajag, Banyuwa** **64.61 272** P **P** **18 03 18.2 -1.7**
comp=Z,249nm,1.2s,comp=Z,3µm
KMMI **Kalianget** **65.32 273** P **P** **18 03 24.5 +0.1**
comp=Z,273nm,1.1s
BLJI **Banyuglugur** **65.39 272** P **P** **18 03 23.8 -1.1**
comp=Z,226nm,0.8s
QSPA **South Pole Qui** **66.04 180** P **P** **18 03 29.9 +1.7**
comp=Z,166nm,0.7s,baz=28,slow=1.6,SNR=280
QSPA S **S** **18 11 36.5 +1.4**
comp=Z,2.7nm,1.0s,baz=153,slow=22,SNR=2.4
QSPA P3KP 18 30 48.4
comp=Z,0.7nm,0.7s,baz=237,slow=5.3,SNR=3.5
QSPA PKPPKP **P'P'df** **18 31 50.9 -6.8**
comp=Z,2.5nm,0.9s,baz=278,slow=2.9,SNR=4.5
comp=Z,166nm,0.7s
QSPA **South Pole Qui** **66.04 180** P **P** **18 03 29.8 +1.7**
QSPA PcP **PcP** **18 03 54.9 +1.0**
QSPA pP **pwP** **18 05 21.8 +4.7**
GRJI **Gresik** **66.73 273** P **P** **18 03 33.1 -0.1**
comp=Z,1µm,0.8s,comp=Z,11µm
MTKI **Muara Teweh, K** **66.99 280** P **P** **18 03 34.2 -0.6**
comp=Z,155nm,0.9s,comp=Z,3µm
SJI **Sawahan** **67.07 272** P **P** **18 03 35.0 -0.4**
comp=Z,148nm,0.8s
PKKI **Palangkaraya** **67.27 278** P **P** **18 03 36.5 -0.1**
comp=Z,703nm,0.9s,comp=Z,6µm
UGM **Wanagama** **68.14 271** P **P** **18 03 41.7 -0.2**
UGM **Wanagama** **68.14 271** P **P** **18 03 41.3 -0.6**
comp=Z,233nm,0.6s
YOGI **Yogyakarta** **68.38 271** P **P** **18 03 42.2 -1.2**
comp=Z,243nm,0.9s
SMRI **Semarang** **68.54 272** P **P** **18 03 43.7 -0.7**
comp=Z,199nm,0.7s
JHJ2 **Mitsune** **68.55 324** P **P** **18 03 44.8 +0.9**
KKM **Kota Kinabalu** **68.97 287** P **P** **18 03 46.9 -0.1**
KKM **Kota Kinabalu** **68.97 287** P **P** **18 03 46.3 -0.7**
comp=Z,249nm,0.9s,comp=Z,2µm
KPJI **Karang Pucung** **69.81 271** P **P** **18 03 51.4 -0.6**
comp=Z,196nm,0.7s
CMJI **Cimerak** **70.08 270** P **P** **18 03 52.0 -1.6**
comp=Z,150nm,1.1s
BBJI **Bungbulang** **70.94 270** P **P** **18 03 57.8 -0.9**
BBJI **Bungbulang** **70.94 270** P **P** **18 03 57.0 -1.7**
comp=Z,231nm,0.8s
JOW **Kunigami** **71.11 312** IAmb IAmb 18 04 00.9
comp=Z,224nm,0.9s
JOW **Kunigami** **71.11 312** P **P** **18 04 00.1 +0.8**
LEM **Lembang** **71.21 271** P **P** **18 04 00.3 -0.1**
comp=Z,366nm,0.9s
CNJI **Cibinong** **71.47 270** P **P** **18 04 00.1 -1.6**
comp=Z,119nm,0.8s,comp=Z,1µm
XMIS **Christmas Isla** **71.62 266** P **P** **18 04 02.4 -0.2**
INU **Inuyama** **71.76 324** P **P** **18 04 02.9 0.0**
MJAR **Matsushiro Arr** **72.03 326** P **P** **18 04 04.2 -0.3**
comp=Z,37nm,0.8s,baz=160,slow=5.6,SNR=63
MJAR pP **pP** **18 05 50.4 -1.4**
comp=Z,2.7nm,0.8s,baz=160,slow=6.1,SNR=2.5
comp=Z,37nm,0.8s
MAJO **Matsushiro** **72.04 326** P **P** **18 04 03.9 -0.7**
MAJO **Matsushiro** **72.04 326** P **P** **18 04 04.5 -0.1**
MAJO **Matsushiro** **72.04 326** P **P** **18 04 03.9 -0.7**
MAJO pmax pmax
comp=Z,60nm,0.9s
MAJO **Matsushiro** **72.04 326** P **P** **18 04 04.5 -0.1**
KSM **Kuching** **72.16 280** IAmb IAmb 18 04 06.8
comp=Z,187nm,0.8s
KSM **Kuching** **72.16 280** P **P** **18 04 05.1 -0.7**
comp=Z,259nm,1.0s,comp=Z,2µm
JMN **Monobe** **72.31 321** P **P** **18 04 06.9 +0.7**
YOJ **Yonaguni jima** **73.34 307** IAmb IAmb 18 04 13.1
comp=Z,205nm,0.9s
JNU **Nakatsue** **73.66 319** P **P** **18 04 13.6 -0.4**
JNU **Nakatsue** **73.66 319** P **P** **18 04 14.0 0.0**
TWGBT **Beinan** **73.81 305** P **P** **18 04 13.4 -1.6**
TWG **Pinlang** **73.82 305** IAmb IAmb 18 04 13.8
comp=Z,68nm,0.6s
JTM **Tenmabayashi** **73.97 330** P **P** **18 04 16.4 +0.9**
YULB **Yu-li** **73.98 305** P **P** **18 04 14.8 -1.2**
NACB **Ninganchiao** **74.21 306** IAmb IAmb 18 04 17.5
comp=Z,147nm,0.8s
NACB **Ninganchiao** **74.21 306** P **P** **18 04 16.9 -0.4**
TPUB **Ta-pu** **74.43 305** IAmb IAmb 18 04 18.0
comp=Z,134nm,0.9s
TPUB **Ta-pu** **74.43 305** P **P** **18 04 17.0 -1.5**
SSLB **Suanglung** **74.47 305** IAmb IAmb 18 04 18.8
comp=Z,105nm,0.8s
SSLB **Suanglung** **74.47 305** P **P** **18 04 17.8 -1.0**
KASI **Kota Agung** **74.57 271** P **P** **18 04 18.1 -1.5**
comp=Z,239nm,0.9s
YHNB **Yeheng** **74.67 306** IAmb IAmb 18 04 21.0
comp=Z,102nm,0.8s
YHNB **Yeheng** **74.67 306** P **P** **18 04 19.7 -0.2**
TATO **Taipei** **74.76 307** P **P** **18 04 19.1 -1.2**
TATO **Taipei** **74.76 307** P **P** **18 04 20.1 -0.2**
LWLI **Liwa** **75.17 271** P **P** **18 04 21.9 -1.2**
comp=Z,329nm,0.8s,comp=Z,3µm
ADK **Adak** **75.65 2** P **P** **18 04 24.3 -0.4**
ADK IAmb IAmb 18 04 25.5
comp=Z,82nm,0.6s
ADK **Adak** **75.65 2** P **P** **18 04 24.6 -0.1**
ADK **Adak** **75.65 2** P **P** **18 04 24.3 -0.4**
ADK pmax pmax
comp=Z,82nm,0.6s
JKA **Kamikawa-asahi** **76.01 333** P **P** **18 04 28.3 +1.4**
ASAJ **Asahikawa** **76.01 333** P **P** **18 04 28.3 +1.5**
ASAJ pmax pmax
comp=Z,47nm,0.9s
ATKA **Atka Island** **76.09 4** IAmb IAmb 18 04 27.7
comp=Z,108nm,0.9s
ATKA **Atka Island** **76.09 4** P **P** **18 04 26.9 -0.1**
BELA **Belgrano 2** **76.29 173** P **P** **18 04 28.0 0.0**
BELA IAmb IAmb 18 04 29.5
comp=Z,124nm,0.8s
EGSI **Enggano, Bengk** **76.67 270** P **P** **18 04 31.3 +0.1**
comp=Z,303nm,0.8s
TPRI **Tanjung Pinang** **77.16 277** P **P** **18 04 33.4 -0.5**
comp=Z,102nm,0.8s
NIKH **Nikolski High** **77.30 7** P **P** **18 04 33.9 +0.2**
NIKH **Nikolski High** **77.30 7** P **P** **18 04 33.5 -0.2**
baz=190,SNR=5.6
UBSI **University, Be** **77.30 272** P **P** **18 04 33.3 -1.4**
comp=Z,319nm,1.2s
MAW **Mawson** **77.62 200** P **P** **18 04 36.6 +1.2**
baz=78,SNR=22
MAW **Mawson** **77.62 200** P **P** **18 04 36.6 +1.2**
comp=Z,43nm,0.6s,baz=131,slow=6.1,SNR=48
comp=Z,43nm,0.6s
TJN **Taejon** **77.99 319** IAmb IAmb 18 04 39.5
comp=Z,200nm,0.8s
TJN **Taejon** **77.99 319** P **P** **18 04 38.9 +1.1**
TJN **Taejon** **77.99 319** *ce*P **P** **18 04 38.6 +0.8**
MYKOM **Kota Tinggi** **78.13 277** P **P** **18 04 38.8 -0.4**
comp=Z,106nm,1.0s
YSS **Yuzh-Sakhalins** **78.28 335** P **P** **18 04 41.4 +2.3**
YSS **Yuzh-Sakhalins** **78.28 335** *ke*P **P** **18 04 40.5 +1.4**
YSS *e**PP **pP** **18 06 30.4 +1.6**
YSS *e*S **S** **18 13 56.6 +5.0**
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=Z,200nm,2.5s
KSRS **Korea Array** **78.38 320** P **P** **18 04 40.9 +1.0**
comp=Z,20nm,0.7s,baz=131,slow=5.8,SNR=63
KSRS pP **pP** **18 06 29.9 +0.4**
comp=Z,2.0nm,0.9s,baz=128,slow=4.8,SNR=2.2
comp=Z,20nm,0.7s
UNV **Unalaska Valle** **78.44 8** P **P** **18 04 39.3 -0.5**
UNV **Unalaska Valle** **78.44 8** P **P** **18 04 39.5 -0.3**
baz=193
KRJI **Kerinci** **78.71 273** P **P** **18 04 41.0 -1.4**
PET **Petropavlovsk** **78.97 347** *i* P **P** **18 04 44.6 +1.9**
PET pmax pmax
comp=Z,40nm,1.2s
PETK **Petropavlovsk-** **79.25 347** P **P** **18 04 44.9 +0.7**
comp=Z,13nm,0.7s,baz=110,slow=8.2,SNR=21
PETK pP **pP** **18 06 33.1 -1.1**
comp=Z,12nm,0.7s,baz=151,slow=3.3,SNR=12
PETK PKiKP **PKiKP** **18 10 10.7 -1.2**
comp=Z,2.5nm,0.7s,baz=118,slow=3.2,SNR=6.7
PETK PKKPbc **PKKPbc** **18 23 29.1 -3.5**
comp=Z,3.2nm,1.0s,baz=45,slow=2.3,SNR=4.2
comp=Z,13nm,0.7s
PPSI **Pulau Pagai** **79.77 272** P **P** **18 04 47.8 -0.1**
comp=Z,189nm,1.2s
PDSI **Padang** **80.10 273** P **P** **18 04 48.1 -1.6**
comp=Z,45nm,0.7s
NJ2 **Nanjing** **80.78 311** *eP* **P** **18 04 53.6 +0.9**
NJ2 pmax pmax
comp=Z,47nm,0.7s
NJ2 pmax pmax
comp=Z,450nm,5.0s
SDPT **Sand Point** **80.81 11** P **P** **18 04 52.2 -0.1**
USA0B **Ussuriysk Arra** **80.90 327** *i* P **P** **18 04 53.6 +0.6**
USRK **Ussuriysk Ar.** **80.90 327** P **P** **18 04 54.1 +1.1**
comp=Z,25nm,0.7s,baz=147,slow=4.0,SNR=37
USRK pP **pP** **18 06 43.0 -0.5**
comp=Z,8.5nm,0.5s,baz=174,slow=2.8,SNR=15
comp=Z,25nm,0.7s
SISI **Saibi** **81.19 272** P **P** **18 04 55.1 -0.2**
comp=Z,50nm,1.1s
SCZ2 **Santa Cruz Isl** **81.34 47** P **P** **18 04 57.0 +1.4**
baz=234,SNR=9.2
SCI2 **San Clemente I** **81.48 48** P **P** **18 04 57.8 +1.5**
baz=234
MG04 **Isla Riesco** **81.53 144** IAmb IAmb 18 04 59.5
comp=Z,190nm,0.9s
TYV **Tymovskoe** **81.55 337** *e*P **P** **18 04 57.3 +1.1**
TYV *e*S **S** **18 14 22.4 -2.6**
TYV pmax pmax
comp=Z,32nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.3s
TYV smax smax
comp=N,400nm,6.0s
TYV smax smax
comp=E,900nm,6.0s
GO10 **Punta Arenas** **81.67 145** IAmb IAmb 18 05 00.4
comp=Z,232nm,1.1s
PKM **Mcpherson Peak** **81.76 46** P **P** **18 04 59.5 +1.5**
baz=233,SNR=16
MCCM **Marconi Confer** **81.81 42** IAmb IAmb 18 05 00.3
comp=Z,92nm,0.9s
CIS **Catalina Islan** **81.82 48** P **P** **18 04 59.3 +1.2**
baz=234,SNR=8.1
SAO **San Andreas Ge** **81.84 44** IAmb IAmb 18 05 00.8
comp=Z,120nm,0.9s
S14K **Fog Glacier** **81.87 11** P **P** **18 04 58.6 +0.7**
baz=199
SMMC **Simmler** **81.89 46** P **P** **18 05 00.2 +1.7**
baz=233,SNR=14
PMPB **Monarch Peak** **81.92 45** IAmb IAmb 18 05 01.4
comp=Z,156nm,1.1s
BBGB **Big Mountain B** **81.98 44** IAmb IAmb 18 05 02.2
comp=Z,167nm,1.2s
FMP **Fort Macarthur** **82.08 48** P **P** **18 05 00.7 +1.3**
baz=234
CHGN **Chignik** **82.09 12** IAmb IAmb 18 05 00.2
comp=Z,166nm,1.2s
CCX **Cicese** **82.15 50** IAmb IAmb 18 05 02.6
comp=Z,83nm,0.9s
HOPS **Hopland Field** **82.23 41** IAmb IAmb 18 05 02.7
comp=Z,182nm,0.9s
OSI **Osito Audit: C** **82.32 47** P **P** **18 05 02.1 +1.4**
baz=234,SNR=6.9
KCPM **Cahto Peak** **82.36 40** IAmb IAmb 18 05 03.8
comp=Z,144nm,0.9s
DECC **Green Verdugo** **82.37 47** P **P** **18 05 01.9 +1.0**
baz=234
CBX **Cerro Bola** **82.40 50** IAmb IAmb 18 05 03.9
comp=Z,114nm,0.7s
MDJ **Mudanjiang** **82.40 326** P **P** **18 05 01.8 +1.1**
109C **Camp Elliot, M** **82.42 49** IAmb IAmb 18 05 03.6
comp=Z,108nm,1.1s
109C **Camp Elliot, M** **82.42 49** P **P** **18 05 02.5 +1.4**
baz=235,SNR=6.4
KULM **Kulim** **82.50 279** IAmb IAmb 18 05 03.1
comp=Z,212nm,1.7s
KULM **Kulim** **82.50 279** P **P** **18 05 01.8 -0.1**
comp=Z,90nm,1.4s
MG01 **Puerto William** **82.51 147** IAmb IAmb 18 05 03.7
comp=Z,116nm,0.9s
ARVC **Arvin** **82.55 46** P **P** **18 05 03.0 +1.3**
baz=234,SNR=9.1
TKX **Tecate** **82.58 50** IAmb IAmb 18 05 04.7
comp=Z,200nm,1.4s
BAR **Barrett** **82.60 49** IAmb IAmb 18 05 04.8
comp=Z,255nm,1.9s
UBPT **Khong Chiam** **82.60 290** P **P** **18 05 03.4 +1.0**
KMRM **Mail Ridge** **82.63 40** IAmb IAmb 18 05 05.4
comp=Z,247nm,1.0s
MURC **Murrieta** **82.76 48** P **P** **18 05 04.3 +1.4**
baz=235,SNR=20
VES **Vestal, Richgr** **82.80 46** P **P** **18 05 04.0 +1.0**
baz=234,SNR=22
BFSC **Mount Baldy Ra** **82.81 48** P **P** **18 05 04.3 +1.0**
baz=235,SNR=53
JCC **Jacoby Creek,** **82.83 39** IAmb IAmb 18 05 06.1
comp=Z,290nm,1.4s
SLBS **Sierra La Lagu** **82.85 60** P **P** **18 05 05.2 +1.6**
SLBS IAmb IAmb 18 05 06.4
comp=Z,159nm,0.7s
MONP2 **Monument Peak** **82.89 49** P **P** **18 05 05.4 +1.7**
baz=236,SNR=69
CNSH **ChangSha** **82.90 305** ⇑P **P** **18 05 04.6 +1.0**
CNSH pmax pmax
comp=Z,36nm,1.2s
SRIG **Santa Rosalia** **82.91 56** IAmb IAmb 18 05 06.5
comp=Z,278nm,1.2s
ELIB **Princess Elisa** **82.92 187** *d*P **P** **18 05 03.3 +0.1**
comp=Z,51nm,0.7s
EDW2 **Edwards Air Fo** **82.96 47** P **P** **18 05 05.2 +1.3**
baz=234,SNR=56
RMX **La Rumorosa** **82.97 50** IAmb IAmb 18 05 07.0
comp=Z,186nm,1.1s
IKP **In-Ko-Pah, Jac** **82.98 50** P **P** **18 05 05.8 +1.8**
baz=236,SNR=48
KHMM **Horse Mountain** **83.04 39** IAmb IAmb 18 05 07.3
comp=Z,122nm,0.8s
KRPM **Rodgers** **83.05 39** IAmb IAmb 18 05 07.5
comp=Z,147nm,0.9s
GO08 **Villa O'Higgin** **83.09 140** P **P** **18 05 05.9 +1.6**
DL2 **Dalian** **83.09 318** P **P** **18 05 05.5 +1.2**
DL2 pmax pmax
comp=Z,47nm,1.3s
ISA **Isabella, Lake** **83.10 46** IAmb IAmb 18 05 07.1
comp=Z,164nm,0.8s
ISA **Isabella, Lake** **83.10 46** P **P** **18 05 06.1 +1.5**
baz=234,SNR=94
YUH **Yuha Desert** **83.11 50** IAmb IAmb 18 05 07.4
comp=Z,167nm,1.2s
WHN **Wuhan** **83.11 308** ⇓*i*P **P** **18 05 05.6 +1.0**
WHN pmax pmax
comp=Z,170nm,0.8s
SII **Sitkinak Islan** **83.20 14** P **P** **18 05 05.3 +0.8**
SII **Sitkinak Islan** **83.20 14** P **P** **18 05 05.2 +0.7**
baz=204
PFO **Pinyon Flats O** **83.28 49** P **P** **18 05 06.3 +0.7**
PFO IAmb IAmb 18 05 08.3
comp=Z,161nm,1.5s
PFO **Pinyon Flats O** **83.28 49** *i* P **P** **18 05 06.5 +0.9**
PFO pmax pmax
comp=Z,173nm,1.5s
PFO **Pinyon Flats O** **83.28 49** P **P** **18 05 06.8 +1.3**
baz=236,SNR=24
TPFO **Pinon Flats** **83.28 49** P **P** **18 05 07.0 +1.4**
baz=236,SNR=25
CMB **Columbia Colle** **83.28 43** IAmb IAmb 18 05 07.7
comp=Z,135nm,0.9s
SKLT **Songkhla** **83.31 281** P **P** **18 05 07.1 +1.1**
SKLT **Songkhla** **83.31 281** P **P** **18 05 06.1 +0.1**
comp=Z,185nm,1.1s
BBRC **Big Bear Solar** **83.33 48** P **P** **18 05 07.3 +1.3**
baz=235,SNR=5.2
KRMB **Red Mountain** **83.36 39** IAmb IAmb 18 05 08.9
comp=Z,119nm,0.9s
SWSC **Sam W. Stewart** **83.36 50** P **P** **18 05 07.4 +1.6**
baz=236,SNR=38
CPBX **Cerro Prieto** **83.41 50** IAmb IAmb 18 05 11.2
comp=Z,113nm,0.8s
AFDM **Forest Hills D** **83.48 42** IAmb IAmb 18 05 08.6
comp=Z,132nm,1.0s
LRMC **Laurel Mtn Rad** **83.52 47** P **P** **18 05 08.0 +1.3**
baz=234,SNR=63
ORV **Oroville** **83.53 42** P **P** **18 05 07.4 +0.9**
ORV IAmb IAmb 18 05 08.9
comp=Z,130nm,0.9s
ORV **Oroville** **83.53 42** P **P** **18 05 07.4 +0.9**
ORV pmax pmax
comp=Z,130nm,1.0s
KSXB **Camp Six Broad** **83.57 39** IAmb IAmb 18 05 09.9
comp=Z,123nm,0.8s
RRX **Edison Barstow** **83.63 47** P **P** **18 05 08.4 +1.3**
baz=235
GSI **Gunungsitoli** **83.64 274** IAmb IAmb 18 05 09.3
comp=Z,291nm,1.5s
GSI **Gunungsitoli** **83.64 274** P **P** **18 05 08.3 +0.6**
GSI **Gunungsitoli** **83.64 274** P **P** **18 05 08.3 +0.6**
comp=Z,144nm,0.8s,comp=Z,1µm
R17K **Ugashik Creek** **83.74 12** IAmb IAmb 18 05 08.7
comp=Z,160nm,1.1s
BELC **Belle Mtn. Jos** **83.81 49** P **P** **18 05 09.8 +1.6**
baz=236,SNR=116

CWC	Cottonwood Cre	83.81	46	P		P		18 05 09.4	+1.2
	baz=234								
GRNR	Gornyy	83.84	334	⇓*i*P		P		18 05 09.4	+1.6
GRNR				pmax		pmax			
	comp=N,6.0nm,1.1s								
GRNR				pmax		pmax			
	comp=Z,20nm,1.1s								
GRNR				MLR		MLR			
	comp=N,320nm,15.0s								
GRNR				MLR		MLR			
	comp=Z,600nm,11.0s								
MDPB	Devils Postpil	83.87	44	IAmb		IAmb		18 05 11.0	
	comp=Z,91nm,1.0s								
BC3	Big Chuckawall	83.99	49	P		P		18 05 10.9	+1.8
	baz=236,SNR=75								
GSC	Goldstone, Bar	84.00	47	IAmb		IAmb		18 05 11.5	
	comp=Z,112nm,0.9s								
GSC	Goldstone, Bar	84.00	47	P		P		18 05 10.2	+1.1
	baz=235,SNR=74								
OHAK	Old Harbor	84.01	14	P		P		18 05 08.9	+0.5
CN2	Changchun	84.02	324	*e*P		P		18 05 08.4	-0.4
CN2				*e*pP		pP		18 07 01.4	+1.0
CN2				*e*S		S		18 14 51.5	+1.6
CN2				pmax		pmax			
	comp=Z,40nm,1.0s								
MLAC	Mammoth, Mammo	84.02	44	P		P		18 05 10.8	+1.5
	baz=234,SNR=5.7								
EMB	Emerald Bay	84.03	43	IAmb		IAmb		18 05 11.7	
	comp=Z,90nm,1.0s								
HEC	Hector,Ludlow	84.05	48	P		P		18 05 10.6	+1.3
	baz=235,SNR=143								
TIN	Tinemaha, Big	84.07	45	P		P		18 05 10.8	+1.4
	baz=234,SNR=9.1								
GLA	Glamis	84.09	50	P		P		18 05 11.7	+2.1
	baz=236								
WAKR	Walker	84.16	43	IAmb		IAmb		18 05 12.7	
	comp=Z,118nm,0.9s								
YBH	Yreka Blue Hor	84.18	39	IAmb		IAmb		18 05 12.7	
	comp=Z,72nm,0.9s								
TROLL	Troll, Antarti	84.19	181	⇑P		P		18 05 09.8	+0.3
	comp=Z,9μm,0.7s								
TROLL				⇑pP		pwP		18 07 10.5	+5.6
	comp=Z,2μm,1.1s								
TROLL				⇑S		S		18 14 50.8	-0.3
	comp=Z,240nm,0.7s								
K02D	Willamette Mer	84.25	38	IAmb		IAmb		18 05 13.1	
	comp=Z,119nm,1.1s								
PIX	Pinacate	84.25	52	IAmb		IAmb		18 05 13.0	
	comp=Z,95nm,1.0s								
BNX	BinXian	84.30	326	⇓P		P		18 05 10.5	+0.4
BNX				pmax		pmax			
	comp=Z,40nm,0.9s								
BNX				pmax		pmax			
	comp=Z,240nm,2.6s								
TIA	Tai'an	84.35	314	⇓P		P		18 05 11.6	+0.9
TIA				pmax		pmax			
	comp=Z,53nm,0.8s								
PNTR	Pine Nut	84.41	43	IAmb		IAmb		18 05 13.7	
	comp=Z,175nm,1.0s								
Q17K	Contact Creek	84.42	13	P		P		18 05 10.7	+0.1
	baz=202,SNR=16								
GMRC	Granite Mounta	84.48	48	P		P		18 05 12.7	+1.1
	baz=236,SNR=70								
IRM	Iron Mountain	84.48	49	P		P		18 05 13.3	+1.9
	baz=236,SNR=116								
YERR	Yerington	84.57	43	IAmb		IAmb		18 05 14.3	
	comp=Z,95nm,1.0s								
HUMO	Hull Mountain	84.59	38	IAmb		IAmb		18 05 15.0	
	comp=Z,192nm,1.2s								
GWY	Greenwater Val	84.60	47	IAmb		IAmb		18 05 14.2	
	comp=Z,132nm,1.5s								
GRAC	Grapevine Rang	84.60	46	IAmb		IAmb		18 05 14.8	
	comp=Z,248nm,1.3s								
GRAC	Grapevine Rang	84.60	46	P		P		18 05 13.4	+1.5
	baz=235,SNR=100								
LHV	Little Huntoon	84.60	44	IAmb		IAmb		18 05 14.6	
	comp=Z,85nm,1.0s								
FURC	Furnace Creek,	84.63	46	P		P		18 05 13.0	+1.0
	baz=235,SNR=8.0								
Q16K	King Salmon	84.66	12	P		P		18 05 11.9	+0.4
	baz=201,SNR=15								
TUQ	Turquoise Moun	84.67	48	P		P		18 05 13.6	+1.2
	baz=236,SNR=83								
KLR	Kul'dur	84.67	331	*ce*P		P		18 05 11.3	-0.6
KLR				pmax		pmax			
	comp=Z,20nm,1.4s								
KDAK	Kodiak Island	84.68	14	*i* P		P		18 05 12.2	+0.5
KDAK				pmax		pmax			
	comp=Z,76nm,1.0s								
KDAK	Kodiak Island	84.68	14	P		P		18 05 12.6	+0.9
	baz=205								
113A	Mohawk Valley,	84.69	51	IAmb		IAmb		18 05 15.4	
	comp=Z,116nm,1.1s								
BLYC	Blythe	84.69	50	IAmb		IAmb		18 05 15.3	
	comp=Z,126nm,1.0s								
SHOC	Shoshone, Teco	84.69	47	P		P		18 05 13.6	+1.2
	baz=235,SNR=8.6								
L04D	Klamath Falls	84.72	39	IAmb		IAmb		18 05 15.1	
	comp=Z,165nm,1.0s								
DBO	Dodson Butte	84.76	38	IAmb		IAmb		18 05 15.5	
	comp=Z,96nm,0.9s								
COYC	Coyhaique	84.77	138	P		P		18 05 14.2	+1.5
NVAR	Mina Array Bea	84.83	44	P		P		18 05 14.3	+1.0
	comp=Z,40nm,0.7s,baz=223,slow=8.2,SNR=235								
NVAR				PKiKP		PKiKP		18 10 20.3	-1.3
	comp=Z,0.4nm,0.6s,baz=258,slow=4.2,SNR=2.0								
NVAR				PKKPbc		PKKPbc		18 23 19.4	+0.2
	comp=Z,0.8nm,0.7s,baz=74,slow=3.6,SNR=4.9								
NVAR				PKPPKP		P'P'df		18 31 25.6	+2.2
	comp=Z,0.2nm,0.3s,baz=78,slow=3.7,SNR=4.5								
	comp=Z,40nm,0.7s								
M11K	Mekoryuk	84.87	7	P		P		18 05 14.2	+1.7
	baz=195,SNR=5.3								
214A	Organ Pipe Nat	84.93	52	IAmb		IAmb		18 05 16.3	
	comp=Z,70nm,0.8s								
214A	Organ Pipe Nat	84.93	52	P		P		18 05 15.7	+2.0
	baz=238,SNR=45								
Q18K	Katmai Hardscr	84.95	13	P		P		18 05 13.3	+0.1
	baz=203,SNR=17								
WCT	Wildcat Mounta	84.97	46	IAmb		IAmb		18 05 16.4	
	comp=Z,146nm,1.6s								
AY01	Puyuhuapi	84.97	137	IAmb		IAmb		18 05 16.4	
	comp=Z,95nm,0.9s								
N14K	Kuskokwak Cree	85.00	9	P		P		18 05 14.5	+1.3
	baz=197								
I03D	Drain, OR	85.07	37	IAmb		IAmb		18 05 16.3	
	comp=Z,106nm,0.7s								
NVL	N'lazarevskaya	85.08	184	*e*P		P		18 05 11.2	-2.5
NVL				pmax		pmax			
	comp=Z,104nm,1.2s								
VNA2	Neumayer--Watz	85.15	178	⇑P		P		18 05 14.2	+0.2
	comp=Z,97nm,0.6s,baz=188,slow=5.0								
VNA2				⇑pP		pwP		18 07 14.5	+4.7
	comp=Z,42nm,0.8s,baz=188,slow=2.0								
VNA2				⇑S		S		18 14 55.2	-4.9
	comp=Z,3.4nm,0.8s,baz=188,slow=4.0								
P17K	Kvichak River	85.18	12	P		P		18 05 14.1	0.0
	baz=202,SNR=7.1								
NEE2	Needles Airpor	85.19	49	P		P		18 05 16.5	+1.7
	baz=236,SNR=22								
O16K	Kokwok River B	85.25	11	P		P		18 05 13.9	-0.5
	baz=200,SNR=5.4								
PDMCI	Parker Dam,Lak	85.26	49	P		P		18 05 16.9	+1.7
	baz=237,SNR=57								
K04D	Chiloquin, OR	85.29	39	IAmb		IAmb		18 05 17.9	
	comp=Z,124nm,0.8s								
TPNV	Topopah Spring	85.31	46	IAmb		IAmb		18 05 17.8	
	comp=Z,72nm,0.7s								
TPNV	Topopah Spring	85.31	46	P		P		18 05 16.7	+1.2
	baz=235,SNR=114								
KVN	Kaiserville	85.33	44	IAmb		IAmb		18 05 17.6	
	comp=Z,62nm,0.7s								
VNA1	Neumayer--Stat	85.39	177	⇑P		P		18 05 15.4	+0.2
	comp=Z,68nm,0.9s								
VNA1				⇑pP		pwP		18 07 16.8	+5.8
	comp=Z,58nm,1.0s								
N15K	Kwethluk River	85.47	10	IAmb		IAmb		18 05 17.7	
	comp=Z,109nm,0.8s								
N15K	Kwethluk River	85.47	10	P		P		18 05 17.0	+1.5
	baz=198								
Q19K	Cape Douglas,	85.49	13	P		P		18 05 15.6	-0.1
	baz=204								
P18K	Big Mountain,	85.60	12	P		P		18 05 15.8	-0.4
	baz=203								
I04A	Tendick Farm,	85.66	38	IAmb		IAmb		18 05 19.1	
	comp=Z,179nm,1.4s								
M14K	Bethel	85.75	9	IAmb		IAmb		18 05 20.8	
	comp=Z,162nm,1.7s								
Q09A	Carvers	85.78	44	IAmb		IAmb		18 05 19.9	
	comp=Z,100nm,0.8s								
NONG	Nongkai	85.85	292	P		P		18 05 19.6	+1.3
Y14A	Wickenburg	85.85	50	IAmb		IAmb		18 05 20.7	
	comp=Z,61nm,1.0s								
M15K	Kasigluk River	85.88	9	P		P		18 05 18.5	+1.0
	baz=198								
N16K	Nishlik Lake	85.97	10	P		P		18 05 19.1	+1.2
	baz=199								
J05D	Fort Rock, OR	86.00	39	P		P		18 05 19.4	+0.7
O18K	Koktuh Hills	86.03	12	P		P		18 05 18.2	0.0
	baz=203,SNR=16								
S11A	Rachel	86.03	46	IAmb		IAmb		18 05 21.1	
	comp=Z,73nm,0.9s								
LL02	Futaleuf	86.08	136	P		P		18 05 20.1	+1.0
L14K	Kuka Creek	86.22	8	IAmb		IAmb		18 05 20.9	
	comp=Z,130nm,1.9s								
L14K	Kuka Creek	86.22	8	P		P		18 05 20.1	+1.1
	baz=196								
P19K	Oil Pt	86.24	13	P		P		18 05 19.7	+0.4
	baz=204								
N17K	Nushagak Hills	86.29	11	P		P		18 05 20.6	+1.2
	baz=201								
H04A	Detroit Lake	86.34	37	P		P		18 05 20.8	+0.7
H04A				IAmb		IAmb		18 05 22.4	
	comp=Z,201nm,1.4s								
PRN	Pahroc Range	86.36	46	IAmb		IAmb		18 05 23.3	
	comp=Z,98nm,0.8s								
M16K	Timber Creek	86.46	10	IAmb		IAmb		18 07 20.2	
	comp=Z,111nm,1.6s								
M16K	Timber Creek	86.46	10	P		P		18 05 21.5	+1.2
	baz=199								
O19K	Port Alsworth	86.52	13	P		P		18 05 20.4	-0.1
	baz=203,SNR=18								
R11B	Troy Canyon, C	86.53	45	P		P		18 05 22.2	+0.8
	baz=236,SNR=33								
ENH	Enshi	86.55	305	IAmb		IAmb		18 05 23.3	
	comp=Z,89nm,1.0s								
K13K	Kusilvak Mount	86.56	7	P		P		18 05 22.0	+1.3
	baz=194								
CNPM	China Poot	86.56	14	IAmb		IAmb		18 05 22.3	
	comp=Z,108nm,0.9s								
TUC	Tucson	86.58	52	P		P		18 05 23.6	+2.0
TUC	Tucson	86.58	52	P		P		18 05 23.6	+2.0
TUC				pmax		pmax			
	comp=Z,155nm,0.9s								
TUC	Tucson	86.58	52	P		P		18 05 23.8	+2.2
	baz=239								
I05D	Terrebonne, OR	86.60	38	IAmb		IAmb		18 05 23.9	
	comp=Z,114nm,0.8s								
LYN	LuoYang	86.61	310	*e*P		P		18 05 23.0	+1.4
LYN				PP		PP		18 08 58.0	+4.7
LYN				SKS		SKSac		18 15 00.2	+1.4
LYN				S		S		18 15 17.0	+1.9
LYN				SS		SS		18 21 15.4	+3.5
LYN				pmax		pmax			
	comp=Z,53nm,1.0s								
LYN				pmax		pmax			
	comp=Z,450nm,5.2s								
HNS	HongShan	86.62	314	⇓P		P		18 05 22.9	+1.4
HNS				pP		pP		18 07 15.3	+1.2
HNS				S		S		18 15 13.0	-2.1
HNS				pmax		pmax			
	comp=Z,24nm,1.0s								
N18K	Kilae Creek	86.67	12	P		P		18 05 21.2	-0.1
	baz=202								
BMN	Battle Mountai	86.68	43	IAmb		IAmb		18 05 24.3	
	comp=Z,87nm,0.9s								
L15K	Ungalak Mounta	86.71	9	P		P		18 05 21.8	+0.4
	baz=197								
MA2	Magadan	86.72	346	P		P		18 05 21.1	-0.5
MA2	Magadan	86.72	346	*ce*P		P		18 05 21.3	-0.2
MA2				pmax		pmax			
	comp=Z,27nm,1.7s								
O20K	Slope Mountain	86.76	13	P		P		18 05 21.7	-0.1
	baz=205								
GYA	Guiyang	86.85	301	⇑*i*P		P		18 05 23.9	+0.8
GYA				pP		pwP		18 07 21.1	+0.2
GYA				SKS		SKSac		18 15 00.1	-0.8
GYA				S		ScS		18 15 21.3	-2.0
GYA				pmax		pmax			
	comp=Z,25nm,0.9s								
BRLK	Bradley Lake	86.85	14	IAmb		IAmb		18 05 23.4	
	comp=Z,81nm,1.0s								
BRSE	Bradley Lake S	86.86	14	P		P		18 05 22.7	+0.5
	baz=207,SNR=6.0								
WVOR	Wild Horse Val	87.00	41	IAmb		IAmb		18 05 25.9	
	comp=Z,138nm,1.1s								
L16K	Owhat River	87.03	10	P		P		18 05 23.6	+0.7
	baz=199,SNR=9.3								
HOOD	Mount Hood Mea	87.04	37	IAmb		IAmb		18 05 25.9	
	comp=Z,118nm,1.2s								
N19K	Bonanza Creek	87.06	12	P		P		18 05 22.8	-0.3
	baz=203								
M17K	Holitna River	87.07	11	P		P		18 05 24.2	+1.1
	baz=201								
SVW2	Sparrevohn	87.11	12	P		P		18 05 23.1	-0.2
HG4B	Hotspring	87.11	28	IAmb		IAmb		18 05 26.1	
	comp=Z,90nm,0.8s								
BJI	Beijing	87.16	316	P		P		18 05 24.9	+0.9
BJI				S		S		18 15 24.0	+4.0
BJI				pmax		pmax			
	comp=Z,9.0nm,0.7s								
NLWA	Neilton Lookou	87.18	34	IAmb		IAmb		18 05 26.9	
	comp=Z,154nm,1.3s								
X16A	Lo Mia Camp, P	87.21	50	IAmb		IAmb		18 05 27.7	
	comp=Z,69nm,0.9s								
DIB	Dawson Inlet,	87.25	26	IAmb		IAmb		18 05 27.1	
	comp=Z,133nm,1.1s								
K15K	Wolf Creek Mou	87.30	9	IAmb		IAmb		18 05 26.2	
	comp=Z,60nm,1.0s								
K15K	Wolf Creek Mou	87.30	9	P		P		18 05 25.1	+1.0
	baz=197,SNR=9.5								
LCMT	Little Creek M	87.34	47	IAmb		IAmb		18 05 27.8	
	comp=Z,67nm,0.9s								
HEH	HeiHe	87.39	329	*e*P		P		18 05 24.8	0.0
HEH				pP		pP		18 07 17.2	-0.4
HEH				S		S		18 15 24.6	+2.9
HEH				pmax		pmax			
	comp=Z,21nm,0.8s								
HEH				pmax		pmax			
	comp=Z,280nm,5.5s								
Q12A	Willow Creek R	87.41	45	IAmb		IAmb		18 05 27.7	
	comp=Z,73nm,0.8s								
M18K	Stony River	87.43	11	P		P		18 05 25.7	+0.9
	baz=202								
SEW	Seward	87.48	15	P		P		18 05 25.2	+0.1
	baz=208								
L17K	Donlin	87.62	10	P		P		18 05 26.8	+1.1
	baz=200								
KNB	Kanab	87.63	48	IAmb		IAmb		18 05 29.4	
	comp=Z,84nm,0.9s								
SRDT	SRDT	87.70	287	P		P		18 05 29.0	+1.9
O22K	Cooper Landing	87.76	14	P		P		18 05 26.4	+0.1
	baz=208								
SZCU	Shurtz Canyon	87.76	47	IAmb		IAmb		18 05 30.0	
	comp=Z,63nm,0.9s								
B04A	Port Angeles	87.80	34	IAmb		IAmb		18 05 29.8	
	comp=Z,118nm,1.0s								
HPIG		87.81	59	IAmb		IAmb		18 05 30.0	
	comp=Z,102nm,0.8s								
WUAZ	Wupatki	87.83	49	IAmb		IAmb		18 05 30.3	
	comp=Z,85nm,1.2s								
WUAZ	Wupatki	87.83	49	P		P		18 05 29.0	+1.4
	baz=238,SNR=40								
GNW	Green Mountain	87.83	35	IAmb		IAmb		18 05 29.6	
	comp=Z,103nm,0.8s								
LON	Longmire	87.85	36	IAmb		IAmb		18 05 29.2	
	comp=Z,71nm,0.8s								
N20K	Mount Spurr	87.86	13	P		P		18 05 26.2	-0.7
	baz=205,SNR=17								
L18K	Granite Mounta	87.96	11	P		P		18 05 28.2	+0.9
	baz=201								
CLRS	Cowichan Lake	87.98	33	IAmb		IAmb		18 05 30.2	
	comp=Z,111nm,1.0s								
ELK	Elko	88.10	43	IAmb		IAmb		18 05 30.8	
	comp=Z,107nm,1.4s								
GO06	Curarrehue	88.11	133	IAmb		IAmb		18 05 31.7	
	comp=Z,74nm,1.1s								
PLCA	Paso Flores	88.14	134	P		P		18 05 30.4	+1.5
	comp=Z,19nm,0.7s,baz=240,slow=5.1,SNR=48								
PLCA				pP		pP		18 07 22.5	0.0
	comp=Z,1.5nm,0.9s,baz=191,slow=2.5,SNR=1.3								
PLCA				PKiKP		PKiKP		18 10 25.7	-1.2
	comp=Z,0.4nm,0.5s,baz=225,slow=13,SNR=1.6								
PLCA				PKKPbc		PKKPbc		18 23 10.4	-0.3
	comp=Z,1.4nm,0.8s,baz=46,slow=6.3,SNR=3.4								
	comp=Z,19nm,0.7s								
K17K	Iditarod	88.17	10	P		P		18 05 28.8	+0.6
	baz=200								
L19K	White Mountain	88.25	11	IAmb		IAmb		18 05 30.3	
	comp=Z,93nm,0.9s								
L19K	White Mountain	88.25	11	P		P		18 05 29.5	+0.8
	baz=203,SNR=25								
RC01	Rabbit Creek A	88.30	14	P		P		18 05 29.0	+0.2
	baz=208,SNR=15								
M20K	Styx River	88.30	12	P		P		18 05 29.3	+0.3
	baz=204								
TIY	Taiyuan	88.31	313	⇑P		P		18 05 31.3	+1.7
TIY				pP		pP		18 07 21.0	-1.6
TIY				S		S		18 15 31.4	+0.4
TIY				pmax		pmax			
	comp=Z,69nm,0.7s								
X18A	Snowflake	88.32	51	IAmb		IAmb		18 05 32.5	
	comp=Z,59nm,0.7s								
F07A	Phinny Hill Vi	88.34	37	IAmb		IAmb		18 05 31.9	
	comp=Z,95nm,0.9s								
J16K	Anvik River	88.37	9	P		P		18 05 30.0	+0.9
	baz=198,SNR=8.7								
ZAIG	Zacatecas	88.39	64	IAmb		IAmb		18 05 33.7	
	comp=Z,73nm,1.0s								
SUA	Susitna One	88.41	14	P		P		18 05 29.5	-0.1
	baz=207,SNR=41								
MTPU	Mount Pierson	88.61	47	IAmb		IAmb		18 05 34.6	
	comp=Z,94nm,0.8s								
CRAG	Craig	88.68	25	P		P		18 05 32.7	+1.9
CRAG	Craig	88.68	25	P		P		18 05 32.6	+1.9
	baz=222								
L20K	Farewell, AK	88.70	12	P		P		18 05 31.1	+0.3
	baz=204								
SKT	Skwentna	88.71	13	P		P		18 05 30.0	-0.8
	baz=206,SNR=8.3								
GLI	Glacier Island	88.73	15	P		P		18 05 31.0	+0.2
	baz=201,SNR=9.8								
TCRU	Three Creeks R	88.73	46	IAmb		IAmb		18 05 34.8	
	comp=Z,141nm,1.6s								
TTA	Tatalina	88.74	11	P		P		18 05 31.4	+0.4
TTA	Tatalina	88.74	11	P		P		18 05 31.4	+0.4
	baz=202,SNR=15								
GRNB	Grenville Isla	88.75	27	IAmb		IAmb		18 05 33.9	
	comp=Z,107nm,0.9s								
W18A	Petrified Fore	88.77	51	IAmb		IAmb		18 05 34.5	
	comp=Z,105nm,1.3s								
W18A	Petrified Fore	88.77	51	P		P		18 05 33.3	+1.4
	baz=239,SNR=40								
EYAK	Cordova Ski Ar	88.78	16	P		P		18 05 31.4	+0.4
EYAK	Cordova Ski Ar	88.78	16	P		P		18 05 31.4	+0.4
	baz=211								
LTY	Liberty	88.78	36	IAmb		IAmb		18 05 33.5	
	comp=Z,86nm,0.9s								
KNK	Knik Glacier	88.87	15	IAmb		IAmb		18 05 32.8	
	comp=Z,76nm,0.8s								
KNK	Knik Glacier	88.87	15	P		P		18 05 31.8	+0.2
	baz=209,SNR=14								
PMR	Palmer	88.88	14	IAmb		IAmb		18 05 32.7	
	comp=Z,67nm,0.8s								
PMR	Palmer	88.88	14	P		P		18 05 31.7	+0.2
	baz=208,SNR=9.9								
121A	Cookes Peak, D	88.88	54	IAmb		IAmb		18 05 35.7	
	comp=Z,64nm,0.9s								
121A	Cookes Peak, D	88.88	54	P		P		18 05 34.5	+1.9
	baz=240,SNR=56								
121A	Cookes Peak, D	88.88	54	P		P		18 05 34.4	+1.8
	baz=240								
I17K	Unalakleet	88.94	8	P		P		18 05 32.8	+1.1
	baz=198								
EFI	East Falkland	89.07	148	P		P		18 05 33.5	+0.7
EFI	East Falkland	89.07	148	*i* P		P		18 05 33.2	+0.3
EFI				pmax		pmax			
	comp=Z,156nm,1.1s								
J18K	Innoko River	89.12	10	IAmb		IAmb		18 05 34.1	
	comp=Z,54nm,0.9s								
J18K	Innoko River	89.12	10	P		P		18 05 33.1	+0.5
	baz=201								
B06A	Marblemount	89.13	35	IAmb		IAmb		18 05 34.8	
	comp=Z,111nm,1.1s								
V35K	Ketchikan	89.16	25	P		P		18 05 34.4	+1.5
	baz=223								
U33K	Whale Pass	89.16	24	IAmb		IAmb		18 05 35.6	
	comp=Z,95nm,0.8s								
U33K	Whale Pass	89.16	24	P		P		18 05 34.6	+1.7
	baz=222								
E08A	Dider Farm, El	89.19	37	IAmb		IAmb		18 05 35.7	
	comp=Z,114nm,1.2s								
BMO	Blue Mountains	89.21	39	IAmb		IAmb		18 05 35.7	
	comp=Z,185nm,1.8s								
SML	Sawmill	89.25	14	IAmb		IAmb		18 05 43.9	
	comp=Z,42nm,1.0s								
DUG	Dugway, Tooele	89.34	45	IAmb		IAmb		18 05 36.7	
	comp=Z,47nm,1.1s								
DUG	Dugway, Tooele	89.34	45	P		P		18 05 35.4	+1.0
	baz=237,SNR=32								
CUT	Chulitna	89.36	13	P		P		18 05 33.6	-0.1
	baz=207,SNR=14								
KMI	Kunming	89.36	298	⇓P		P		18 05 36.7	+1.8
KMI				pmax		pmax			
	comp=Z,35nm,0.8s								
XLT	XiLinHaoTe	89.41	319	⇑*i*P		P		18 05 35.5	+0.9
XLT				pP		pwP		18 07 33.4	+0.7
XLT				sP		sP		18 08 20.1	+0.3
XLT				PP		PP		18 09 18.7	+3.3
XLT				pmax		pmax			
	comp=Z,26nm,0.7s								
XLT				pmax		pmax			
	comp=Z,140nm,5.2s								
SEY	Seymchan	89.42	348	*ce*P		P		18 05 33.6	-0.4
SEY				pmax		pmax			
	comp=Z,15nm,0.9s								
BMRM	Bremner River	89.43	16	P		P		18 05 34.4	+0.3
	baz=212,SNR=10.0								
H16K	Elim	89.46	8	P		P		18 05 34.5	+0.4
	baz=196,SNR=15								
KIDD	KIDD Seismic O	89.46	55	P		P		18 05 36.8	+1.7
	baz=241								
S31K	Pelican	89.47	22	IAmb		IAmb		18 05 36.7	
	comp=Z,75nm,0.9s								
S31K	Pelican	89.47	22	P		P		18 05 36.1	+1.8
	baz=219,SNR=5.2								
K20K	Telida	89.48	11	IAmb		IAmb		18 05 35.6	
	com

CHTO **Chiang Mai** 89.76 291 P **P** 18 05 38.3 +1.7
CHTO **Chiang Mai** 89.76 291 P **P** 18 05 37.6 +0.9
TNA **Tin City** 89.80 5 P **P** 18 05 36.3 +0.6
baz=191,SNR=9.4
J19K **Poorman** 89.80 10 P **P** 18 05 36.3 +0.6
baz=202
PNL **Peninsula** 89.81 19 P **P** 18 05 36.7 +0.8
PNL **Peninsula** 89.81 19 P **P** 18 05 36.7 +0.8
baz=216,SNR=5.6
F14K **Arctic Creek** 89.85 6 P **P** 18 05 36.4 +0.4
baz=192
ZEA **Zeya** 89.85 332 *e*P **P** 18 05 37.5 +1.3
ZEA *e* 18 07 31.8
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
PINM **Pinnacle** 89.90 19 P **P** 18 05 37.4 +1.0
baz=216
CAST **Castle Rocks** 89.90 12 IAmb IAmb 18 05 36.7
comp=Z,61nm,0.8s
CAST **Castle Rocks** 89.90 12 P **P** 18 05 35.2 -1.1
baz=205,SNR=37
F10A **Beach Ranch, E** 89.90 38 IAmb IAmb 18 05 38.4
comp=Z,74nm,0.8s
VRDI **Verde Repeater** 89.95 17 IAmb IAmb 18 05 38.3
comp=Z,69nm,1.2s
N25K **Chitina, Valde** 89.97 16 IAmb IAmb 18 05 39.1
comp=Z,137nm,1.6s
N25K **Chitina, Valde** 89.97 16 P **P** 18 05 37.4 +0.7
baz=212,SNR=9.5
M24K **Tolsona, Glenn** 90.01 15 IAmb IAmb 18 05 38.9
comp=Z,140nm,1.6s
M24K **Tolsona, Glenn** 90.01 15 P **P** 18 05 37.9 +1.0
baz=211
MPU **Maple Canyon** 90.02 46 IAmb IAmb 18 05 40.1
comp=Z,86nm,0.9s
GLB **Gilahina Butte** 90.03 16 IAmb IAmb 18 05 38.5
comp=Z,40nm,1.0s
H17K **Granite Mounta** 90.04 8 P **P** 18 05 36.9 0.0
baz=198
ML02 **Panimavida** 90.04 130 IAmb IAmb 18 05 39.8
comp=Z,89nm,1.0s
GO05 **Huala** 90.05 129 IAmb IAmb 18 05 39.7
comp=Z,38nm,0.9s
WAT6 **Susitna Watana** 90.06 14 P **P** 18 05 37.1 -0.1
baz=209,SNR=12
PLID **Pearl Lake** 90.10 40 IAmb IAmb 18 05 39.9
comp=Z,117nm,1.4s
WAT1 **Susitna Watana** 90.10 14 P **P** 18 05 36.9 -0.3
baz=208
VHRN **Van Horn** 90.14 56 IAmb IAmb 18 05 41.1
comp=Z,81nm,1.0s
Y22A **Socorro** 90.17 53 P **P** 18 05 40.1 +1.7
baz=241
G16K **Koyuk River** 90.18 7 P **P** 18 05 38.0 +0.5
baz=196
HLID **Hailey** 90.18 41 IAmb IAmb 18 05 40.8
comp=Z,67nm,0.9s
HLID **Hailey** 90.18 41 P **P** 18 05 39.6 +1.3
baz=236,SNR=110
J20K **Nowinta River** 90.22 11 P **P** 18 05 37.8 +0.1
baz=204
F15K **North Star Dit** 90.23 6 P **P** 18 05 38.2 +0.4
baz=194
KTH **Kantishna Hill** 90.25 13 IAmb IAmb 18 05 38.5
comp=Z,41nm,0.9s
Y22D **IRIS PASSCAL I** 90.27 53 P **P** 18 05 40.9 +2.0
baz=241
Y22F **Passcal Instru** 90.27 53 P **P** 18 05 40.9 +2.0
baz=241
MNTX **Cornudas Mount** 90.27 55 P **P** 18 05 40.3 +1.5
baz=242
MNTX **Cornudas Mount** 90.27 55 P **P** 18 05 40.4 +1.6
baz=242
CHUM **Lake Minchumin** 90.28 12 P **P** 18 05 37.1 -0.8
baz=205,SNR=12
P29M **Windy Craggy** 90.29 20 IAmb IAmb 18 05 40.0
comp=Z,37nm,0.8s
P29M **Windy Craggy** 90.29 20 P **P** 18 05 39.6 +1.5
baz=218
TRF **Thorofare Moun** 90.29 13 IAmb IAmb 18 05 38.7
comp=Z,61nm,0.8s
TRF **Thorofare Moun** 90.29 13 P **P** 18 05 37.9 -0.4
baz=207,SNR=19
BARN **Barnard Glacie** 90.29 18 IAmb IAmb 18 05 40.8
comp=Z,89nm,1.1s
GCSA **Galena City Sc** 90.30 10 P **P** 18 05 38.6 +0.6
baz=201,SNR=8.4
CTG **Chitna Glacier** 90.30 18 P **P** 18 05 38.9 +0.5
baz=215
H18K **Honhosa River** 90.46 9 P **P** 18 05 38.7 -0.2
baz=200
TX31 **Lajitas Ar. Si** 90.48 58 P **P** 18 05 41.8 +1.9
baz=243
TXAR **Lajitas Array** 90.48 58 P **P** 18 05 41.8 +1.9
comp=Z,70nm,0.7s,baz=214,slow=6.3,SNR=289
TXAR PP **PP** 18 09 23.9 -0.2
comp=Z,1.7nm,0.9s,baz=237,slow=6.9,SNR=3.4
TXAR PKiKP **PKiKP** 18 10 32.8 +1.8
comp=Z,0.6nm,0.7s,baz=256,slow=7.3,SNR=1.7
TXAR S **SKSac** 18 15 21.8 -0.1
comp=Z,1.1nm,0.7s,baz=212,slow=4.4,SNR=5.2
TXAR PKKPbc **PKKPbc** 18 23 05.2 +0.3
comp=Z,1.2nm,0.6s,baz=107,slow=3.1,SNR=6.5
comp=Z,70nm,0.7s
G17K **Kiwalik Mounta** 90.49 8 P **P** 18 05 39.2 +0.3
baz=198
HARP **HAARP** 90.51 15 P **P** 18 05 40.0 +0.9
baz=212
HHC **Hu-ho-hao-te** 90.54 315 ⇑P **P** 18 05 40.8 +0.9
HHC SKS **SKSac** 18 15 21.7 -0.1
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,320nm,4.5s
RND **Reindeer** 90.55 13 IAmb IAmb 18 05 40.2
comp=Z,64nm,0.9s
O29M **Mount Kennedy** 90.56 19 P **P** 18 05 40.6 +1.0
baz=217
DHY **Denali Highway** 90.58 14 P **P** 18 05 39.7 +0.1
baz=210
MVCO **Mesa Verde** 90.69 49 P **P** 18 05 41.7 +0.9
baz=240,SNR=7.7
P18A **Preston Nutter** 90.72 46 IAmb IAmb 18 05 43.3
comp=Z,56nm,0.8s
PZH **PanZhiHua** 90.78 299 P **P** 18 05 42.0 +0.6
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,250nm,5.4s
MCK **McKinley** 90.82 13 P **P** 18 05 40.5 -0.1
baz=208,SNR=9.8
T35M **Bob Quinn** 90.88 25 P **P** 18 05 42.7 +1.8
baz=224
P30M **Million Dollar** 90.92 20 P **P** 18 05 42.5 +1.4
baz=219
PAX **Paxson** 90.93 15 P **P** 18 05 40.8 -0.4
baz=211
ALPN **Alpine** 90.98 57 IAmb IAmb 18 05 44.6
comp=Z,69nm,0.8s
YUK8 **Steele Glacier** 91.01 18 P **P** 18 05 42.6 +0.9
baz=216,SNR=11
ANMO **Albuquerque** 91.02 52 P **P** 18 05 43.2 +0.8
ANMO IAmb IAmb 18 05 44.6
comp=Z,61nm,1.1s
ANMO **Albuquerque** 91.02 52 *i*P **P** 18 05 42.6 +0.2
ANMO pmax pmax
comp=Z,61nm,1.1s
ANMO **Albuquerque** 91.02 52 P **P** 18 05 43.5 +1.1
baz=241
ANMO **Albuquerque** 91.02 52 P **P** 18 05 43.7 +1.3
baz=241
M26K **Nabesna, AK** 91.05 16 P **P** 18 05 42.1 +0.5
baz=213,SNR=6.0
H19K **Roundabout Mou** 91.10 10 P **P** 18 05 42.2 +0.5
baz=202
G18K **Tagagawik** 91.12 9 P **P** 18 05 41.9 +0.1
baz=200
CD2 **Chengdu** 91.19 303 P **P** 18 05 44.4 +1.3
CD2 S **S** 18 15 58.9 +1.7
CD2 pmax pmax
comp=Z,60nm,0.9s
YUK3 **Moose Creek** 91.21 18 P **P** 18 05 43.2 +0.6
baz=216,SNR=35
S34M **Telegraph Cree** 91.23 24 IAmb IAmb 18 05 45.5
comp=Z,53nm,0.8s
S34M **Telegraph Cree** 91.23 24 P **P** 18 05 43.9 +1.4
baz=224,SNR=22
VA01 **Torpederas** 91.24 127 IAmb IAmb 18 05 44.9
comp=Z,33nm,0.8s
NEW **Newport** 91.30 36 P **P** 18 05 43.5 +0.4
NEW **Newport** 91.30 36 P **P** 18 05 43.5 +0.4
baz=234,SNR=9.7
HYT **Haines Junctio** 91.30 19 P **P** 18 05 43.6 +0.7
M27K **Edge Creek, AK** 91.31 17 IAmb IAmb 18 05 44.8
comp=Z,44nm,0.8s
M27K **Edge Creek, AK** 91.31 17 P **P** 18 05 43.8 +0.8
baz=214
H20K **Anotleneega Mo** 91.31 10 P **P** 18 05 43.2 +0.5
baz=203,SNR=16
F17K **Baldwin Pennin** 91.32 7 IAmb IAmb 18 05 44.1
comp=Z,37nm,0.9s
F17K **Baldwin Pennin** 91.32 7 P **P** 18 05 43.1 +0.4
baz=197
MENT **Mentasta** 91.32 16 IAmb IAmb 18 05 44.4
comp=Z,30nm,0.7s
YUK4 **Talbot Arm** 91.38 19 P **P** 18 05 44.5 +1.1
baz=217
BTO **Baotou** 91.42 314 *e*P **P** 18 05 43.1 -0.9
BTO pP **pP** 18 07 36.9 -0.6
BTO sP **sP** 18 08 27.4 -1.9
BTO PP **PP** 18 09 33.4 +2.2
BTO S **S** 18 15 53.4 -5.5
BTO sS **sS** 18 19 20.4 -2.6
BTO SS **SS** 18 22 23.3 +2.3
BTO pmax pmax
comp=Z,17nm,0.4s
BTO pmax pmax
comp=Z,160nm,6.9s
L26K **Log Cabin Wild** 91.49 16 P **P** 18 05 44.0 +0.4
baz=213,SNR=8.7
P32M **Atlin** 91.56 22 P **P** 18 05 45.4 +1.3
baz=221,SNR=5.7
K24K **Donnelly Dome** 91.57 14 P **P** 18 05 44.1 +0.1
baz=211,SNR=13
G19K **Purcell Mounta** 91.58 9 P **P** 18 05 44.4 +0.4
baz=201
Q32M **Nakina River** 91.59 23 IAmb IAmb 18 05 46.5
comp=Z,29nm,0.8s
Q32M **Nakina River** 91.59 23 P **P** 18 05 45.6 +1.2
baz=223,SNR=7.7
MLY **Manley** 91.62 12 P **P** 18 05 43.4 -0.9
baz=207,SNR=5.3
BVCY **Beaver Creek** 91.62 17 P **P** 18 05 45.0 +0.7
baz=215,SNR=21
RDMU **Red Mountain** 91.65 46 IAmb IAmb 18 05 47.1
comp=Z,52nm,0.7s
O30N **Mendenhall** 91.69 20 IAmb IAmb 18 05 46.5
comp=Z,82nm,1.7s
O30N **Mendenhall** 91.69 20 P **P** 18 05 45.7 +1.1
baz=219,SNR=6.0
AHID **Auburn Hatcher** 91.80 43 IAmb IAmb 18 05 48.7
comp=Z,68nm,0.8s
H21K **Melozitna Rive** 91.81 11 P **P** 18 05 45.3 +0.3
baz=205
HDA **Harding Lake** 91.84 14 IAmb IAmb 18 05 46.9
comp=Z,33nm,1.0s
HDA **Harding Lake** 91.84 14 P **P** 18 05 44.9 -0.3
baz=210,SNR=17
MT13 **San Alfonso** 91.86 128 IAmb IAmb 18 05 49.6
comp=Z,27nm,0.6s
E17K **Hotham Inlet** 91.87 7 P **P** 18 05 45.7 +0.5
baz=197,SNR=37
PEL **Peldehue** 91.88 128 IAmb IAmb 18 05 48.2
comp=Z,32nm,0.7s
PEL **Peldehue** 91.88 128 P **P** 18 05 47.3 +0.9
L27K **Beaver Creek,** 91.90 16 P **P** 18 05 46.3 +0.7
baz=214
N30M **Aishikik Lake** 91.93 19 P **P** 18 05 46.9 +1.1
baz=219
WHY **Whitehorse** 91.99 20 P **P** 18 05 47.1 +1.0
baz=220
DLBC **Dease Lake** 92.01 24 P **P** 18 05 47.2 +0.9
baz=224,SNR=9.1
COLA **College** 92.05 13 P **P** 18 05 45.4 -0.7
COLA **College** 92.05 13 P **P** 18 05 45.4 -0.7
COLA pmax pmax
comp=Z,50nm,0.3s
COLA **College** 92.05 13 P **P** 18 05 45.5 -0.6
baz=209
S22A **4UR Ranch, Cre** 92.11 49 IAmb IAmb 18 05 49.9
comp=Z,72nm,1.0s
S22A **4UR Ranch, Cre** 92.11 49 P **P** 18 05 48.6 +1.1
baz=241,SNR=69
F19K **Shaleruckik Mo** 92.13 9 P **P** 18 05 46.6 +0.1
baz=200,SNR=6.9
SCRK **Sand Creek** 92.14 15 P **P** 18 05 46.8 +0.1
baz=213,SNR=12
ILAR **Eielson Array** 92.16 14 P **P** 18 05 46.1 -0.6
comp=Z,8.3nm,0.8s,baz=219,slow=5.6,SNR=92
ILAR pP **pP** 18 07 40.5 -0.4
comp=Z,4.0nm,0.8s,baz=216,slow=5.4,SNR=3.4
ILAR PKiKP **PKiKP** 18 10 31.8 -0.9
comp=Z,1.2nm,0.6s,baz=270,slow=2.3,SNR=11
ILAR PKKPbc **PKKPdf** 18 22 59.3 -0.3
comp=Z,0.5nm,0.5s,baz=353,slow=2.8,SNR=9.5
ILAR PKPPKP **P'P'df** 18 31 05.7 -2.0
comp=Z,0.6nm,0.9s,baz=293,slow=1.7,SNR=5.1
comp=Z,8.3nm,0.8s
MSO **Missoula** 92.26 39 P **P** 18 05 47.5 -0.2
baz=237,SNR=8.8
TPAW **Teton Pass** 92.27 43 IAmb IAmb 18 05 50.5
comp=Z,85nm,1.6s
H22K **Ishtalitna Cre** 92.28 11 P **P** 18 05 47.2 0.0
baz=206
M29M **Somme Creek** 92.31 18 IAmb IAmb 18 05 49.2
comp=Z,25nm,0.8s
M29M **Somme Creek** 92.31 18 P **P** 18 05 48.3 +0.7
baz=217
O20A **White River Ci** 92.31 47 IAmb IAmb 18 05 50.1
comp=Z,32nm,0.7s
O20A **White River Ci** 92.31 47 P **P** 18 05 49.0 +0.8
baz=240,SNR=6.5
P33M **Teslin, Yukon** 92.33 21 P **P** 18 05 48.9 +1.2
baz=222,SNR=8.1
E18K **Tukpahlearik C** 92.33 7 P **P** 18 05 47.8 +0.4
baz=198
N31M **Braeburn, Yuko** 92.34 20 P **P** 18 05 48.7 +1.1
baz=220,SNR=5.1
POKR **Poker Plat Res** 92.35 13 P **P** 18 05 46.7 -0.8
baz=210,SNR=6.4
J25K **Salcha River,** 92.36 14 P **P** 18 05 47.5 -0.2
baz=211,SNR=11
R33M **Jennings River** 92.36 23 P **P** 18 05 48.9 +1.1
baz=224,SNR=5.4
BILL **Bilibino** 92.37 355 *i*P **P** 18 05 48.4 +0.8
BILL pmax pmax
comp=Z,16nm,0.9s
IMW **Indian Meadow** 92.49 43 IAmb IAmb 18 05 51.3
comp=Z,118nm,1.7s
LOHW **Long Hollow** 92.55 43 IAmb IAmb 18 05 52.4
comp=Z,20nm,0.7s
ODSA **Odessa** 92.60 56 IAmb IAmb 18 05 51.5
comp=Z,67nm,1.2s
F20K **Avaraart Lake** 92.62 9 P **P** 18 05 49.0 +0.3
baz=202
K27K **Chicken** 92.64 16 P **P** 18 05 49.7 +0.8
baz=214
C16K **Lisburne Hills** 92.68 5 P **P** 18 05 49.3 +0.4
baz=193
J26L **Joseph Creek** 92.68 15 IAmb IAmb 18 05 50.9
comp=Z,43nm,0.8s
J26L **Joseph Creek** 92.68 15 P **P** 18 05 49.9 +0.7
baz=213
RDOG **Red Dog Mine** 92.69 6 P **P** 18 05 49.6 +0.6
baz=196,SNR=6.3
SMCO **Smowass** 92.70 48 IAmb IAmb 18 05 54.0
comp=Z,41nm,0.8s
FLWY **Flagg Ranch** 92.73 42 IAmb IAmb 18 05 53.6
comp=Z,36nm,0.9s
TNCH **TengChong** 92.76 296 P **P** 18 05 51.1 +0.5
TNCH SKS **SKSac** 18 15 36.2 +1.3
TNCH S **ScS** 18 16 12.2 -0.4
TNCH pmax pmax
comp=Z,17nm,1.6s
TNCH pmax pmax
comp=Z,110nm,6.0s
BW06 **Boulder Array** 92.77 44 IAmb IAmb 18 05 52.5
comp=Z,29nm,0.8s
BW06 **Boulder Array** 92.77 44 P **P** 18 05 50.6 +0.3
baz=240,SNR=42
PDAR **Pinedale Array** 92.77 44 P **P** 18 05 50.8 +0.4
comp=Z,25nm,0.7s,baz=215,slow=4.0,SNR=138
PDAR pP **pP** 18 07 45.1 +0.4
comp=Z,2.4nm,0.9s,baz=248,slow=4.8,SNR=3.3
PDAR PP **PP** 18 09 37.6 -4.2
comp=Z,2.4nm,1.0s,baz=225,slow=6.1,SNR=4.9
PDAR PKiKP **PKiKP** 18 10 36.6 +1.9
comp=Z,0.6nm,0.8s,baz=132,slow=1.7,SNR=4.1
PDAR PKKPbc **PKKPdf** 18 22 58.2 +0.3
comp=Z,0.4nm,0.6s,baz=57,slow=5.5,SNR=3.9
comp=Z,25nm,0.7s
E19K **Redstone River** 92.79 9 P **P** 18 05 49.6 +0.1
baz=201
YHL **Hebgen Lake** 92.83 42 IAmb IAmb 18 05 53.3
comp=Z,29nm,0.9s
YMR **Madison River** 92.87 42 IAmb IAmb 18 05 54.5
comp=Z,26nm,0.7s
M30M **Minto, Yukon** 92.89 18 IAmb IAmb 18 05 51.5
comp=Z,76nm,1.5s
M30M **Minto, Yukon** 92.89 18 P **P** 18 05 50.6 +0.5
baz=219,SNR=16
L29M **L29M** 92.93 18 IAmb IAmb 18 05 52.2
comp=Z,40nm,0.8s
L29M **L29M** 92.93 18 P **P** 18 05 51.1 +0.8
baz=218
N32M **Quiet Lake** 92.94 21 P **P** 18 05 51.4 +1.0
baz=222
BOZ **Bozeman (W)** 92.95 41 IAmb IAmb 18 05 53.0
comp=Z,26nm,0.8s
BOZ **Bozeman (W)** 92.95 41 P **P** 18 05 51.8 +0.9
baz=238,SNR=30
H17A **Grant Village** 92.97 42 P **P** 18 05 53.4 +2.2
baz=239,SNR=22
SDCO **Great Sand Dun** 93.03 50 IAmb IAmb 18 05 53.5
comp=Z,32nm,0.8s
SDCO **Great Sand Dun** 93.03 50 P **P** 18 05 52.3 +0.6
baz=242,SNR=59
SDCO **Great Sand Dun** 93.03 50 P **P** 18 05 52.5 +0.8
baz=242
CO03 **El Pedregal** 93.03 126 IAmb IAmb 18 05 53.2
comp=Z,46nm,0.8s
C17K **DeLong Mountai** 93.07 6 P **P** 18 05 51.1 +0.3
baz=195
PRP **Porcupine Dome** 93.10 14 P **P** 18 05 51.3 +0.2
baz=211,SNR=9.0
F21K **Alatna River** 93.13 10 P **P** 18 05 50.9 -0.1
baz=204
OZNA **Ozona** 93.16 58 IAmb IAmb 18 05 53.7
comp=Z,34nm,0.7s
G22K **Bettles** 93.18 11 P **P** 18 05 51.6 +0.4
baz=206
MSTX **Muleshoe** 93.26 54 IAmb IAmb 18 05 54.5
comp=Z,27nm,0.8s
MSTX **Muleshoe** 93.26 54 P **P** 18 05 53.5 +0.8
baz=243
MSTX **Muleshoe** 93.26 54 P **P** 18 05 53.4 +0.8
baz=243
GO04 **Tololo Observa** 93.28 125 IAmb IAmb 18 05 55.5
comp=Z,22nm,0.7s
M31M **Drury Creek, Y** 93.32 20 P **P** 18 05 52.3 +0.3
baz=221
DAWY **Dawson** 93.36 17 IAmb IAmb 18 05 53.6
comp=Z,31nm,0.8s
DAWY **Dawson** 93.36 17 P **P** 18 05 52.6 +0.4
baz=217,SNR=32
833A **Chaparral WMA,** 93.39 61 IAmb IAmb 18 05 55.2
comp=Z,62nm,1.2s
833A **Chaparral WMA,** 93.39 61 P **P** 18 05 54.0 +0.8
baz=245
833A **Chaparral WMA,** 93.39 61 P **P** 18 05 54.3 +1.1
baz=245
C18K **Utukok River** 93.44 7 P **P** 18 05 52.5 0.0
baz=197
I26K **Coal Creek Min** 93.45 15 IAmb IAmb 18 05 53.9
comp=Z,36nm,1.4s
I26K **Coal Creek Min** 93.45 15 P **P** 18 05 52.9 +0.4
baz=213
EGAK **Eagle** 93.49 16 IAmb IAmb 18 05 53.9
comp=Z,35nm,0.8s
EGAK **Eagle** 93.49 16 P **P** 18 05 52.9 +0.2
baz=215,SNR=19
LZH **Lanzhou** 93.49 308 ⇓P **P** 18 05 54.9 +1.2
LZH pP pwP 18 07 50.1 -2.5
LZH SKS **SKSac** 18 15 37.3 -1.0
LZH S **ScS** 18 16 20.2 +2.0
LZH pmax pmax
comp=Z,28nm,1.3s
T25A **Trinidad** 93.52 51 IAmb IAmb 18 05 55.5
comp=Z,26nm,0.8s
T25A **Trinidad** 93.52 51 P **P** 18 05 54.4 +0.5
baz=242,SNR=5.1
SGCY **Sterling City** 93.59 57 IAmb IAmb 18 05 55.7
comp=Z,31nm,1.0s
F22K **John River** 93.60 10 P **P** 18 05 53.6 +0.4
baz=205
WTLY **Watson Lake, Y** 93.65 23 IAmb IAmb 18 06 57.0
comp=Z,33nm,0.9s
WTLY **Watson Lake, Y** 93.65 23 P **P** 18 05 54.6 +1.0
baz=226
D19K **Kuna River** 93.66 8 P **P** 18 05 53.7 +0.3
baz=200
K29M **Barlow Dome** 93.68 17 IAmb IAmb 18 05 55.5
comp=Z,28nm,0.8s
K29M **Barlow Dome** 93.68 17 P **P** 18 05 54.4 +0.6
baz=218
COLD **Coldfoot** 93.68 11 P **P** 18 05 54.1 +0.6
baz=207,SNR=5.0
RWWY **Rawlins** 93.75 46 IAmb IAmb 18 05 55.9
comp=Z,21nm,0.7s
POST **Post** 93.81 56 IAmb IAmb 18 05 56.3
comp=Z,24nm,0.7s
Q24A **Divide** 93.85 49 IAmb IAmb 18 05 57.4
comp=Z,44nm,0.8s
Q24A **Divide** 93.85 49 P **P** 18 05 56.5 +1.0
baz=242,SNR=23
ISCO **Idaho Springs** 93.92 48 P **P** 18 05 56.5 +0.8
baz=242,SNR=14
ISCO **Idaho Springs** 93.92 48 P **P** 18 05 56.8 +1.0
baz=242
LCO **Las Campanas** 93.94 124 P **P** 18 05 56.5 +0.3
LCO **Las Campanas** 93.94 124 P **P** 18 05 56.5 +0.3
LCO pmax pmax
comp=Z,64nm,0.8s
MAYO **Mayo, Yukon** 93.94 18 P **P** 18 05 55.7 +0.9
baz=220,SNR=7.1
J29N **Klondike Camp** 93.98 17 IAmb IAmb 18 05 56.9
comp=Z,29nm,0.8s
J29N **Klondike Camp** 93.98 17 P **P** 18 05 56.1 +1.0
baz=218,SNR=13
JCT **Junction City** 93.99 59 IAmb IAmb 18 05 57.4
comp=Z,41nm,0.8s
JCT **Junction City** 93.99 59 P **P** 18 05 56.3 +0.3
baz=245
JCT **Junction City** 93.99 59 P **P** 18 05 56.4 +0.4
baz=245
HNDO **Hondo** 94.00 60 IAmb IAmb 18 05 58.2
comp=Z,61nm,1.0s
C19K **Lookout Ridge** 94.06 7 P **P** 18 05 55.8 +0.5
baz=199
I27K **Kandik River** 94.06 15 P **P** 18 05 55.5 +0.1
baz=215
B18K **Kokolik River** 94.07 6 P **P** 18 05 55.9 +0.6
baz=197
RLMT **Red Lodge** 94.14 42 P **P** 18 05 57.5 +1.1
baz=240,SNR=17
N23A **Red Feather La** 94.21 47 P **P** 18 05 57.8 +0.9
baz=242,SNR=8.5
I28M **Miner Creek** 94.34 16 P **P** 18 05 56.8 0.0
baz=216,SNR=18
F24K **Squaw Lake** 94.36 12 P **P** 18 05 57.3 +0.6
baz=209
E23K **Chandalar** 94.53 11 P **P** 18 05 58.2 +0.6
baz=208
J30M **Hart River** 94.58 17 P **P** 18 05 58.5 +0.6
baz=219
H27K **Steamboat Moun** 94.60 15 P **P** 18 05 58.1 +0.3
baz=215
K22A **Casper** 94.66 45 IAmb IAmb 18 06 00.5
comp=Z,35nm,1.4s
K22A **Casper** 94.66 45 P **P** 18 05 59.3 +0.4
baz=242,SNR=5.7
I29M **Ogilvie Camp,** 94.67 16 P **P** 18 05 58.3 +0.1
baz=218,SNR=12
G26K **Porcupine Rive** 94.70 13 P **P** 18 05 58.8 +0.7
baz=213
C21K **Knifeblade Rid** 94.72 9 P **P** 18 05 58.9 +0.6
baz=203
YAK **Yakutsk** 94.72 339 *e*P **P** 18 05 58.2 -0.2
YAK *e**PP **pP** 18 07 54.4 +2.3
YAK *e* 18 09 53.2
YAK *e*PPP PPP 18 12 02.8

YAK eS SKSac 18 15 42.9 -0.4
YAK e 18 16 28.4
YAK eSS SS 18 23 07.4 +1.0
YAK eSSS SSS 18 26 52.1
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,1.0nm,0.6s
YAK pmax pmax
comp=Z,113nm,3.3s
YAK pmax pmax
comp=N,85nm,3.7s
YAK pmax pmax
comp=E,147nm,4.2s
YAK smax smax
comp=E,105nm,2.0s
YAK smax smax
comp=N,43nm,1.8s
D22K Ayikyak River 94.77 10 P P 18 05 59.1 +0.6
baz=205
F25K Christian Rive 94.86 13 P P 18 05 59.8 +0.7
baz=211
A19K Wainwright 94.95 6 P P 18 05 59.7 +0.5
baz=197
BRDY Brady 94.96 58 IAmb IAmb 18 06 01.9
comp=Z,37nm,1.2s
GO03 Copiap 95.00 123 IAmb IAmb 18 06 02.6
comp=Z,28nm,0.9s
ABTX Abilene, Hawle 95.03 57 IAmb IAmb 18 06 02.4
comp=Z,44nm,1.1s
ABTX Abilene, Hawle 95.03 57 P P 18 06 01.1 +0.5
baz=245
ABTX Abilene, Hawle 95.03 57 P P 18 06 01.3 +0.7
baz=245
AC06 Mina Casimiro 95.03 123 IAmb IAmb 18 06 02.9
comp=Z,51nm,1.6s
G27K Doyon Strip 95.05 14 P P 18 06 00.4 +0.6
baz=215
I30M Mount Dempster 95.07 17 IAmb IAmb 18 06 01.2
comp=Z,21nm,0.9s
I30M Mount Dempster 95.07 17 P P 18 06 00.2 +0.1
baz=219,SNR=21
TRQA Tornquist 95.16 136 P P 18 06 00.3 -0.9
TRQA Tornquist 95.16 136 P P 18 06 00.3 -0.9
TRQA pmax pmax
comp=Z,8.0nm,0.8s
B21K Ikpikpuk River 95.17 9 P P 18 06 00.7 +0.5
baz=203
B20K Meade River 95.20 8 P P 18 06 00.8 +0.5
baz=201
F26K Sheenjek River 95.25 13 P P 18 06 01.5 +0.7
baz=213
EGMT Eagleton 95.31 39 P P 18 06 02.0 +0.5
baz=240
E25K Arctic Village 95.33 12 P P 18 06 01.8 +0.8
baz=211,SNR=5.4
H29M Whitestone 95.34 16 P P 18 06 01.5 +0.3
baz=218
KSCO Kaye Shedlock' 95.62 50 P P 18 06 04.2 +1.0
baz=244
KSCO Kaye Shedlock' 95.62 50 P P 18 06 04.3 +1.1
baz=244
D24K Happy Valley 95.64 11 P P 18 06 03.2 +0.8
baz=208
435B Jarrell 95.86 59 P P 18 06 05.0 +0.7
baz=246
EPYK Eagle Plains 95.88 16 IAmb IAmb 18 06 04.7
comp=Z,22nm,0.8s
EPYK Eagle Plains 95.88 16 P P 18 06 03.8 +0.2
baz=219,SNR=6.4
C23K Itkillik River 95.95 10 P P 18 06 04.4 +0.6
baz=207
G29M Pine Creek 95.98 15 P P 18 06 04.3 +0.3
baz=218
B22K Teshekpuk Lake 96.00 9 P P 18 06 04.3 +0.3
baz=204
EDM Edmonton 96.06 34 IAmb IAmb 18 06 05.7
comp=Z,30nm,1.3s
F28M Old Crow 96.11 14 P P 18 06 04.8 +0.2
baz=216,SNR=7.7
PLPT Palo Pinto 96.13 57 IAmb IAmb 18 06 07.4
comp=Z,54nm,1.4s
C24K Franklin Bluff 96.16 10 P P 18 06 05.4 +0.7
baz=209
E27K Coleen River 96.19 13 P P 18 06 05.6 +0.6
baz=215
A22K Sinclair Lake 96.40 8 P P 18 06 06.2 +0.5
baz=203
WHTX Lake Whitney, 96.45 58 P P 18 06 07.4 +0.5
baz=246
G30M tAoh Zraii Nji 96.48 16 IAmb IAmb 18 06 07.3
comp=Z,34nm,0.8s
G30M tAoh Zraii Nji 96.48 16 P P 18 06 06.4 +0.1
baz=220
GO02 Mina Guanaco 96.73 121 IAmb IAmb 18 06 11.1
comp=Z,14nm,0.8s
LAO LASA Array 96.76 42 IAmb IAmb 18 06 12.1
comp=Z,27nm,0.8s
LAO LASA Array 96.76 42 P P 18 06 09.4 +1.3
baz=242,SNR=14
LAO LASA Array 96.76 42 P P 18 06 09.6 +1.5
baz=242
ULN Ulaanbaatar 96.86 320 P P 18 06 08.5 -0.1
ULN Ulaanbaatar 96.86 320 *i* P P 18 06 07.5 -1.1
ULN pmax pmax
comp=Z,4.0nm,0.7s
HKT Hockley 96.90 60 *i* P P 18 06 08.4 -0.5
HKT pmax pmax
comp=Z,5.0nm,1.0s
G31M Satah River 96.93 17 IAmb IAmb 18 06 09.2
comp=Z,26nm,0.8s
G31M Satah River 96.93 17 P P 18 06 08.3 +0.1
baz=221,SNR=17
RSSD Black Hills 96.95 45 P P 18 06 08.5 -0.7
RSSD IAmb IAmb 18 06 10.5
comp=Z,17nm,0.8s
RSSD Black Hills 96.95 45 P P 18 06 08.5 -0.7
RSSD pmax pmax
comp=Z,17nm,0.9s
RSSD Black Hills 96.95 45 P P 18 06 09.5 +0.3
baz=243
RSSD Black Hills 96.95 45 P P 18 06 09.4 +0.2
baz=243
E28M Babbage River 96.98 14 IAmb IAmb 18 06 09.9
comp=Z,18nm,0.8s
E28M Babbage River 96.98 14 P P 18 06 08.9 +0.5
baz=217
C26K Camden Bay 96.99 12 P P 18 06 09.4 +0.9
baz=212
F30M Barrier River 97.07 16 P Pdif 18 06 09.2 +0.3
baz=220
U32A Winter Ranch, 97.09 53 IAmb IAmb 18 06 11.4
comp=Z,24nm,0.7s
E29M Blow River 97.18 14 IAmb IAmb 18 06 11.0
comp=Z,31nm,1.9s
E29M Blow River 97.18 14 P P 18 06 09.4 0.0
baz=218
D27M Malcolm River 97.20 13 P P 18 06 10.2 +0.7
baz=216
SONM Songino Array 97.23 319 P Pdif 18 06 09.9 -0.4
comp=Z,1.8nm,0.7s,baz=139,slow=4.4,SNR=10
SONM pP pP 18 08 04.6 +0.2
comp=Z,2.3nm,1.1s,baz=132,slow=4.1,SNR=4.5
SONM PP PP 18 10 10.9 -4.7
comp=Z,4.4nm,0.9s,baz=116,slow=5.6,SNR=5.7
SONM S SKSac 18 15 56.4 -0.9
comp=Z,1.0nm,0.9s,baz=116,slow=4.7,SNR=5.3
SONM PKKPbc PKKPbc 18 22 46.5 -1.5
comp=Z,4.1nm,0.6s,baz=275,slow=3.0,SNR=24
SONM PKKPab PKKPab 18 23 20.6
comp=Z,3.4nm,0.9s,baz=280,slow=4.5,SNR=10.0
SONM PKPPKP P'P'df 18 30 56.9 -2.8
comp=Z,0.7nm,1.0s,baz=264,slow=6.0,SNR=3.9
comp=Z,1.8nm,0.7s
MCRA Macar, Loja 97.34 98 P P 18 06 12.4 +0.9
PB05 IPOC Station P 97.39 119 P P 18 06 12.8 +1.2
F31M Tsiigehtchic 97.45 16 P P 18 06 10.7 +0.1
baz=222,SNR=18
CBKS Cedar Bluff 97.57 51 P P 18 06 12.9 +1.0
baz=245
D28M Stokes Point 97.74 14 P P 18 06 12.1 +0.3
baz=218
GTA Gaotai 97.81 310 *e*P P 18 06 14.0 +0.9
GTA pP pwP 18 08 12.3 0.0
GTA SKS SKSac 18 15 59.0 -1.6
GTA pmax pmax
comp=Z,4.0nm,1.2s
R32A Long Quarter, 98.14 52 P P 18 06 15.6 +1.1
baz=246
INK Inuvik 98.16 16 P Pdif 18 06 13.5 -0.2
baz=222,SNR=9.6
LVC Limon Verde 98.55 119 P P 18 06 17.8 +0.6
comp=Z,3.5nm,0.5s,baz=256,slow=3.6,SNR=5.9
comp=Z,3.5nm,0.5s
DGMT Dagmar 98.79 41 P P 18 06 18.1 +1.0
baz=244,SNR=5.1
DGMT Dagmar 98.79 41 P P 18 06 18.0 +0.8
baz=244
GOMU GeErMu 100.17 305 Pdif **Pdif** 18 06 23.5 -0.4
YKA Yellowknife Ar 100.48 25 P **Pdif** 18 06 24.1 0.0
comp=Z,1.4nm,0.8s,baz=246,slow=4.4,SNR=14
YKA PP **PP** 18 10 35.3 -4.1
comp=Z,2.2nm,0.8s,baz=241,slow=7.5,SNR=9.7
YKA PKKPbc **PKKPbc** 18 22 36.1 -3.1
comp=Z,0.7nm,0.6s,baz=39,slow=2.4,SNR=11
YKA PKKPab PKKPab 18 23 03.4
comp=Z,1.8nm,1.0s,baz=50,slow=5.0,SNR=12
YKA PKPPKP **P'P'df** 18 30 53.3 +0.9
comp=Z,0.4nm,0.9s,baz=62,slow=2.4,SNR=4.1
ECSD EROS Data Cent 101.68 47 P **Pdif** 18 06 30.8 +0.9
baz=248
TIXI Tiksi 101.70 345 *i* P **Pdif** 18 06 29.8 +0.5
TIXI pmax pmax
comp=Z,2.0nm,0.7s
A36M Sachs Harbour 102.75 15 P **Pdif** 18 06 34.4 +0.4
baz=230
ULM Lac du Bonnet 104.49 41 Pdiff **Pdif** 18 06 43.1 +0.9
comp=Z,1.9nm,0.6s,baz=209,slow=14,SNR=2.9
ULM PKiKP **PKiKP** 18 10 53.6 -1.5
comp=Z,4.2nm,0.8s,baz=244,slow=4.1,SNR=5.3
ULM PKKPbc **PKKPbc** 18 22 24.8 -2.4
comp=Z,2.3nm,1.0s,baz=62,slow=1.7,SNR=3.5
CPUP Villa Florida 105.29 128 PKiKP **PKiKP** 18 10 57.0 -0.4
comp=Z,1.7nm,0.7s,baz=297,slow=2.3,SNR=3.0
HYB Hyderabad 107.11 282 *e*PKiKP **PKiKP** 18 11 00.8 -0.2
SIV San Ignacio 108.30 118 Pdiff **Pdif** 18 07 02.5 +2.4
comp=Z,0.4nm,0.4s,baz=260,slow=13,SNR=3.8
SIV PKiKP **PKiKP** 18 11 02.5 -0.8
comp=Z,1.4nm,0.5s,baz=194,slow=2.7,SNR=6.3
ZSN Zaisan 110.70 314 *i* PKiKP **PKiKP** 18 11 06.4 -0.4
ZSN Zaisan 110.70 314 *e*PKiKP **PKiKP** 18 11 06.5 -0.4
baz=314
O53A New Philadelph 111.55 54 P **PKiKP** 18 11 07.8 -0.8
baz=256
ZALV Zalesovo Beam 112.08 321 PKiKP **PKiKP** 18 11 08.5 -0.7
comp=Z,5.6nm,0.4s,baz=125,slow=1.2,SNR=12
ZALV SKP 18 13 55.7
comp=Z,4.7nm,0.7s,baz=236,slow=1.6,SNR=4.8
ZALV PKKPbc **PKKPbc** 18 22 03.1 -0.4
comp=Z,2.0nm,0.3s,baz=286,slow=2.2,SNR=7.2
MK31 Makanchi Array 112.27 313 *i* PKiKP **PKiKP** 18 11 09.1 -0.8
MKAR Makanchi Array 112.27 313 Pdiff **Pdif** 18 07 18.8 +1.7
comp=Z,0.8nm,0.7s,baz=94,slow=6.1,SNR=6.6
MKAR PKiKP **PKiKP** 18 11 09.1 -0.7
comp=Z,6.2nm,0.7s,baz=85,slow=2.2,SNR=54
MKAR PP **PP** 18 12 02.2 -3.1
comp=Z,3.5nm,0.9s,baz=98,slow=8.7,SNR=5.1
MKAR SKP 18 13 56.9
comp=Z,3.9nm,0.8s,baz=57,slow=3.0,SNR=6.1
MKAR S **SKSac** 18 17 02.8 -1.7
comp=Z,2.6nm,0.8s,baz=111,slow=5.3,SNR=9.3
MKAR PKKPbc **PKKPbc** 18 22 02.6 -0.1
comp=Z,4.7nm,0.6s,baz=281,slow=3.6,SNR=28
MKAR PKKPab **PKKPab** 18 22 12.1 +1.1
comp=Z,8.9nm,0.7s,baz=278,slow=4.1,SNR=25
MKAR SKKPbc **SKKPbc** 18 24 56.0 -3.0
comp=Z,1.4nm,0.9s,baz=322,slow=3.4,SNR=4.7
MAKZ Makanchi 112.49 313 PKiKP **PKiKP** 18 11 08.8 -1.5
NRIK Noril'sk 113.13 337 *c i* PKiKP **PKiKP** 18 11 10.9 +0.1
NRIK Noril'sk 113.13 337 PKiKP **PKiKP** 18 11 10.6 -0.2
comp=Z,4.0nm,0.5s,baz=83,slow=3.2,SNR=9.3
NRIK S **SKSac** 18 17 06.1 -0.8
comp=Z,0.6nm,0.3s,baz=226,slow=21,SNR=6.6
NRIK PKKPab **PKKPab** 18 22 08.4 +1.8
comp=Z,1.6nm,0.5s,baz=211,slow=2.8,SNR=3.8
SHLS Shalkode 113.51 308 *i* PKiKP **PKiKP** 18 11 11.5 -1.0
SHLS Shalkode 113.51 308 *e*PKiKP **PKiKP** 18 11 11.5 -1.0
baz=308
PDGK Podgornoye 113.52 309 PKiKP **PKiKP** 18 11 11.2 -1.3
KPKS Kokpek 114.13 309 *e*PKiKP PKPdf 18 11 13.1 -0.5
KPKS Kokpek 114.13 309 *e*PKP PKPdf 18 11 13.1 -0.5
baz=308
SATY Saty 114.25 308 *e*PKiKP PKPdf 18 11 13.6 -0.3
SATY Saty 114.25 308 *e*PKP PKPdf 18 11 13.6 -0.3
baz=308
ZHN Zhinishke 114.25 308 *e*PKiKP PKPdf 18 11 13.8 -0.1
ZHN Zhinishke 114.25 308 *e*PKP PKPdf 18 11 13.9 0.0
baz=308
SEM Semipalatinsk 114.25 316 *e*PKiKP PKPdf 18 11 12.5 -1.3
SEM Semipalatinsk 114.25 316 *e*PKP PKPdf 18 11 12.5 -1.3
baz=316
TDK Taldyqorghan 114.60 310 *e*PKiKP PKPdf 18 11 13.4 -1.0
TDK Taldyqorghan 114.60 310 *e*PKP PKPdf 18 11 13.4 -1.0
baz=310
MDOK Medeo 115.25 308 *e*PKiKP **PKPdf** 18 11 15.7 -0.1
MDOK Medeo 115.25 308 *e*PKP **PKPdf** 18 11 15.8 -0.1
baz=308
TNSS Tian-Shan 115.30 308 *e*PKiKP **PKPdf** 18 11 15.9 -0.4
TNSS Tian-Shan 115.30 308 *e*PKP **PKPdf** 18 11 15.1 -1.2
baz=308
KURK Kurchatov 115.33 316 PKPdf **PKPdf** 18 11 14.9 -0.6
KURK Kurchatov 115.33 316 *c i* PKiKP **PKPdf** 18 11 15.0 -0.6
KURK pmax pmax
comp=Z,27nm,1.3s
KURBB Kurchatov Arra 115.37 316 PKP **PKPdf** 18 11 14.9 -0.7
comp=Z,12nm,0.7s,baz=103,slow=1.8,SNR=110
KURBB PP **PP** 18 12 24.8 -1.9
comp=Z,4.6nm,0.8s,baz=97,slow=5.8,SNR=8.9
KURBB SKP 18 14 02.8
comp=Z,6.3nm,1.0s,baz=100,slow=1.8,SNR=7.0
KURBB S **SKSac** 18 17 14.2 -2.0
comp=Z,1.1nm,0.9s,baz=80,slow=2.6,SNR=3.3
KURBB PKKPbc **PKKPbc** 18 21 52.8 +0.4
comp=Z,7.6nm,1.0s,baz=279,slow=4.2,SNR=20
KURBB PKKPab **PKKPab** 18 21 58.9 +1.7
comp=Z,4.6nm,0.8s,baz=279,slow=5.1,SNR=13
KURBB SKKPbc **SKKPbc** 18 24 47.3 -2.5
comp=Z,2.0nm,0.9s,baz=277,slow=3.6,SNR=7.0
KSH Kashi 115.38 304 PKP **PKiKP** 18 11 17.2 +1.0
KSH PP **PP** 18 12 28.6 +1.3
KSH sPKP 18 14 00.3
CHKK Chushkaly 115.41 309 *e*PKiKP **PKPdf** 18 11 14.8 -1.1
CHKK Chushkaly 115.41 309 *e*PKP **PKPdf** 18 11 14.8 -1.1
baz=309
KUU Kurty 115.88 309 *e*PKiKP **PKPdf** 18 11 15.8 -1.1
KUU Kurty 115.88 309 *e*PKP **PKPdf** 18 11 15.8 -1.1
baz=309
TKM2 Tokmak 2 116.25 308 P **PKPdf** 18 11 17.4 -0.4
SNR=13
TKM2 Tokmak 2 116.25 308 PKiKP **PKPdf** 18 11 16.5 -1.4
ODNJ Ogdensburg 116.64 55 **PKPdf** 18 11 17.4 -1.0
KBK Karagaybulak 116.69 307 P **PKPdf** 18 11 18.5 -0.1
SNR=6.8
WBO Williamsburg 116.75 50 **PKPdf** 18 11 17.4 -1.0
CHMS Chiumysh 116.88 307 P **PKPdf** 18 11 18.4 -0.4
SNR=9.5
UCH Uchtor 116.94 307 P **PKiKP** 18 11 19.9 +0.3
SNR=9.9
AAK Ala-Archa 117.01 307 PKPdf **PKPdf** 18 11 18.6 -0.7
AAK Ala-Archa 117.01 307 *c i* PKiKP **PKiKP** 18 11 19.5 +0.2
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 117.01 307 PKPdf **PKPdf** 18 11 18.2 -1.1
SGDS Sogindy 117.03 308 *e*PKiKP **PKPdf** 18 11 18.6 -0.6
SGDS Sogindy 117.03 308 *e*PKP **PKPdf** 18 11 18.6 -0.6
baz=308
USP Ospenovka 117.10 308 P **PKPdf** 18 11 19.0 -0.3
SNR=8.6
PAL Palisades 117.14 55 P **PKPdf** 18 11 18.9 -0.5
baz=261
LONY Lake Ozonia 117.18 51 P **PKPdf** 18 11 18.6 -0.7
baz=262
AML Almayashu 117.52 306 P **PKiKP** 18 11 20.7 0.0
SNR=15
AML Almayashu 117.52 306 PKiKP **PKPdf** 18 11 20.1 -0.5
BTLS Baital 117.66 310 *e*PKiKP **PKPdf** 18 11 19.8 -0.4
BTLS Baital 117.66 310 *e*PKP **PKPdf** 18 11 19.8 -0.4
baz=310
BOAV Boa Vista 117.76 100 PKPdf **PKPdf** 18 11 20.7 -0.7
L61B Northampton 118.26 53 P **PKPdf** 18 11 21.0 -0.5
baz=262
SJG San Juan 118.44 82 **PKPdf** 18 11 21.9 -0.6
SJG San Juan 118.44 82 PKiKP **PKPdf** 18 11 21.9 -0.6
BDFB Brasilia 118.70 125 PKP **PKPdf** 18 11 23.1 -0.1
comp=Z,19nm,0.6s,baz=225,slow=1.1,SNR=28
LBNH Lisbon 119.03 51 PKPdf **PKPdf** 18 11 22.3 -0.6
LBNH Lisbon 119.03 51 PKiKP **PKPdf** 18 11 22.3 -0.6
LBNH Lisbon 119.03 51 P **PKPdf** 18 11 22.6 -0.3
baz=264
BRYW Bryant College 119.04 54 PKPdf **PKPdf** 18 11 22.5 -0.5
BRZS Berezniki 119.05 315 *e*PKiKP **PKPdf** 18 11 21.7 -1.0
BRZS Berezniki 119.05 315 *e*PKP **PKPdf** 18 11 21.8 -1.0
baz=315
HRV Adam Dziewonsk 119.09 53 P **PKPdf** 18 11 22.6 -0.5
baz=263
OTUK Ortayu 119.15 313 PKiKP **PKPdf** 18 11 22.1 -0.9
DZA Taraz 119.36 307 *e*PKiKP **PKPdf** 18 11 23.0 -0.6
DZA Taraz 119.36 307 *e*PKP **PKPdf** 18 11 23.1 -0.6
baz=307
KK31 Karatay Array 119.98 307 *i* PKiKP **PKPdf** 18 11 24.1 -0.7
LMQ La Malbaie 120.41 48 PKPdf **PKPdf** 18 11 24.6 -0.9
SUR Sutherland 120.48 200 PKPdf **PKiKP** 18 11 26.8 +0.2
BVA0 Borovoye Array 120.57 319 PKiKP **PKPdf** 18 11 24.7 -0.9
BVAR Borovoye Array 120.57 319 PKP **PKPdf** 18 11 25.2 -0.4
comp=Z,27nm,0.6s,baz=97,slow=1.1,SNR=109
BVAR PP **PP** 18 13 05.6 +3.5
comp=Z,2.0nm,0.4s,baz=86,slow=4.6,SNR=4.0
BVAR SKP 18 14 12.6
comp=Z,13nm,1.0s,baz=123,slow=2.5,SNR=6.2
BVAR S **SKSac** 18 17 32.5 -2.1
comp=Z,1.2nm,0.8s,baz=80,slow=3.5,SNR=2.4
BVAR PKKPbc **PKKPbc** 18 21 34.0 0.0
comp=Z,2.8nm,0.5s,baz=275,slow=3.9,SNR=20
SIMJ Simiganj 120.59 302 PKPdf **PKPdf** 18 11 25.4 -0.9
BRVK Borovoye 120.63 319 PKPdf **PKPdf** 18 11 24.8 -0.9
BRVK Borovoye 120.63 319 *c i* PKiKP **PKPdf** 18 11 25.4 -0.3
BRVK pmax pmax
comp=Z,18nm,0.7s
E62A Clayton Lake 120.91 49 **PKPdf** 18 11 25.5 -0.9
PKME Peaks-Kenny Pk 120.98 50 **PKPdf** 18 11 26.1 -0.5
PKME Peaks-Kenny Pk 120.98 50 P **PKPdf** 18 11 26.3 -0.2
baz=266
NEEM North Greenlan 121.40 12 *i* P **PKPdf** 18 11 26.5 -0.5
NEEM IAmb IAmb 18 11 27.6
comp=Z,38nm,0.7s
BOSA Boshof 122.29 206 PKP **PKiKP** 18 11 30.2 +0.1
comp=Z,17nm,0.8s,baz=129,slow=2.0,SNR=26
BOSA PKKPbc **PKKPbc** 18 21 27.2 -1.0
comp=Z,8.7nm,0.7s,baz=328,slow=3.3,SNR=24
SCHQ Schefferville 122.57 39 PKP **PKPdf** 18 11 28.6 -0.8
comp=Z,10nm,0.6s,baz=283,slow=3.6,SNR=26
UPNV Upernavik 122.57 17 *i* P **PKPdf** 18 11 28.2 -0.7
UPNV IAmb IAmb 18 11 29.5
comp=Z,73nm,0.7s
BATG Bathurst New B 123.30 48 PKPdf **PKPdf** 18 11 30.4 -0.6
KBS Kingsbay 124.78 357 *e*PKPdf **PKiKP** 18 11 33.4 +0.1
KBS IAmb IAmb 18 11 33.8
comp=Z,27nm,0.8s
KBS Kingsbay 124.78 357 *i* P **PKiKP** 18 11 33.2 -0.1
SPA0 Spitsbergen Ar 125.27 356 *e*PKPdf **PKPdf** 18 11 33.3 -0.7
SPITS Spitsbergen Ar 125.27 356 PKP **PKPdf** 18 11 33.8 -0.2
comp=Z,64nm,0.7s,baz=90,slow=4.2,SNR=38
SPITS PP **PP** 18 13 36.5 +4.0
comp=Z,16nm,0.9s,baz=78,slow=7.8,SNR=3.8
SPITS PKKPbc **PKKPbc** 18 21 15.7 -1.0
comp=Z,2.5nm,0.5s,baz=156,slow=4.4,SNR=11
ILULI Ilulissat 125.68 20 *i* P **PKPdf** 18 11 34.4 -0.5
ILULI IAmb IAmb 18 11 35.5
comp=Z,44nm,0.6s
SVE Sverdlovsk 125.81 324 *e*PKiKP **PKPdf** 18 11 35.7 +0.2
SVE pmax pmax
comp=Z,35nm,0.9s
HOPEN Hopen 126.04 353 *e*PKPdf **PKPdf** 18 11 35.6 +0.2
DAG Danmarks Havn 126.42 5 *i* P **PKPdf** 18 11 34.9 -1.2
DAG IAmb IAmb 18 11 36.2
comp=Z,16nm,0.6s
HSPB Hornsund (broa 126.45 356 *e*P **PKPdf** 18 11 35.8 -0.4
SFJD Kangerlussuaq 126.90 22 PKPdf **PKPdf** 18 11 36.7 -0.6
SFJD Kangerlussuaq 126.90 22 PKiKP **PKPdf** 18 11 36.7 -0.6
SFJD Kangerlussuaq 126.90 22 *i* P **PKPdf** 18 11 36.5 -0.7
SUMG Summit 127.01 14 PKPdf **PKPdf** 18 11 37.5 -0.4
SUMG Summit 127.01 14 PKiKP **PKPdf** 18 11 37.5 -0.4
SUMG Summit 127.01 14 *i* P **PKPdf** 18 11 37.5 -0.4
SUMG IAmb IAmb 18 11 40.4
comp=Z,28nm,1.1s
ARU Arti 127.02 324 PKPdf **PKPdf** 18 11 37.5 -0.3
ARU Arti 127.02 324 *i* PKiKP **PKPdf** 18 11 37.8 0.0
ARU 18 13 41.3
ARU 18 18 00.8
AB31 Akbulak array 127.33 315 *i* PKiKP **PKPdf** 18 11 37.9 -0.7
ABKAR Akbulak array 127.33 315 **PKPdf** 18 11 37.7 -1.0
NUUK Nuuk 127.74 26 *i* P **PKPdf** 18 11 38.9 0.0
NUUK IAmb IAmb 18 11 40.3
comp=Z,22nm,0.6s
AKTO Aktyubinsk 128.42 316 PKiKP **PKPdf** 18 11 40.0 -0.7
DY2G Dye2 128.66 22 *i* P **PKPdf** 18 11 40.9 -0.1
DY2G IAmb IAmb 18 11 42.4
comp=Z,57nm,0.6s
SOHO SOHO 128.74 282 *i* PKPdf **PKPdf** 18 11 41.1 -0.9
SNR=10
GEYT Alibeck 129.07 300 PKP **PKPdf** 18 11 42.4 0.0
comp=Z,12nm,0.7s,baz=132,slow=2.2,SNR=26
GEYT SKPbc SKPbc 18 14 17.2 +2.0
comp=Z,39nm,0.8s,baz=180,slow=1.2,SNR=36
ICESG Greenland Ices 129.10 17 *i* P **PKPdf** 18 11 41.4 -0.5
HATD Hatta, Dubai 129.24 283 *i* PKPdf **PKPdf** 18 11 42.4 -0.6
SNR=6.2
ASHO Ashiyiah 129.28 283 *i* PKPdf **PKPdf** 18 11 43.0 -0.2
SNR=16
MSFE Esma-Masafi 129.32 284 *i* PKPdf **PKPdf** 18 11 42.6 -0.7
SNR=17
ALNE Al Ain 129.42 282 *i* PKPdf **PKPdf** 18 11 42.6 -0.8
SNR=16
SHME Sharm 129.46 285 *i* PKPdf **PKPdf** 18 11 42.8 -0.6
SNR=9.3
NAZ Nazwa, Dubai 129.69 283 *i* PKPdf **PKPdf** 18 11 43.9 0.0
SNR=15
FAQ Al Faqa, Dubai 129.70 283 *i* PKPdf **PKPdf** 18 11 43.4 -0.5
SNR=31
ASUD Al Ashush, Dub 129.91 283 *i* PKiKP **PKPdf** 18 11 44.6 +0.3
SNR=18
IVI Ivigtut 130.50 28 *i* P **PKPdf** 18 11 43.9 -0.3
IVI IAmb IAmb 18 11 44.9
comp=Z,32nm,0.6s
VADS Vadso 130.80 347 *e*PKPdf **PKPdf** 18 11 44.8 +0.2
VADS IAmb IAmb 18 11 56.0
comp=Z,81nm,1.4s
KIRV Kirov 131.06 328 *i* PKiKP **PKiKP** 18 11 46.1 -0.3
LVZ Lovozero 131.28 343 *i* PKiKP **PKPdf** 18 11 45.5 -0.2
LVZ pmax pmax
comp=Z,13nm,0.8s
HAMF Hammerfest 131.39 350 *e*PKPdf **PKPdf** 18 11 45.0 -0.7
HAMF IAmb IAmb 18 11 46.1
comp=Z,24nm,0.6s
KEV Kevo 131.56 348 PKPdf **PKPdf** 18 11 44.8 -1.3
KEV Kevo 131.56 348 PKiKP **PKPdf** 18 11 44.8 -1.3
ISOG Isortoq, Green 131.61 21 *i* P **PKPdf** 18 11 45.9 -0.3
NRS Narsarsuaq 131.71 28 *i* P **PKPdf** 18 11 45.4 -1.1
NRS IAmb IAmb 18 11 48.0
comp=Z,30nm,0.7s
SCO Scoresbysund 131.80 10 PKPdf **PKPdf** 18 11 46.3 -0.2
SCO Scoresbysund 131.80 10 PKiKP **PKPdf** 18 11 46.3 -0.2
SCO Scoresbysund 131.80 10 *i* P **PKPdf** 18 11 45.9 -0.5
SCO IAmb IAmb 18 11 48.3
comp=Z,14nm,0.7s
ANGG Ammassalik, Gr 131.99 20 *i* P **PKPdf** 18 11 46.3 -0.7
ANGG IAmb IAmb 18 11 47.6
comp=Z,11nm,0.7s
ARA0 ARCESS Array S 132.03 348 *e*PKPdf **PKPdf** 18 11 47.0 0.0
ARCES ARCESS Array B 132.03 348 PKP **PKPdf** 18 11 46.8 -0.2
comp=Z,22nm,0.5s,baz=18,slow=1.1,SNR=32
ARCES SKPbc **SKPab** 18 14 26.0 -0.4
comp=Z,56nm,0.9s,baz=46,slow=3.7,SNR=27
LSZ Lusaka 132.21 218 **PKPdf** 18 11 48.6 -0.5
LSZ Lusaka 132.21 218 PKiKP **PKPdf** 18 11 48.6 -0.5
JETT Jettan, Norway 132.88 350 *e*PKPdf **PKPdf** 18 11 48.5 -0.2
KTK1 Kautokeino 132.90 349 *e*PKPdf **PKPdf** 18 11 47.6 -1.0
TRO Tromso 133.03 351 *e*PKPdf **PKPdf** 18 11 48.3 -0.5
TRO IAmb IAmb 18 11 58.6
comp=Z,440nm,2.8s
TSUM Tsumeb 133.74 203 PKPdf **PKPdf** 18 11 51.6 -0.3
RCBR Riachuelo 134.07 126 PKP **PKPdf** 18 11 52.7 +0.2
comp=Z,15nm,0.7s,baz=205,slow=3.7,SNR=11
RCBR SKPbc **SKPbc** 18 14 33.1 -0.4
comp=Z,18nm,0.8s,baz=166,slow=4.0,SNR=12
BELG Belogornoye 134.27 321 *i* PKiKP **PKPdf** 18 11 52.1 +0.5
BELG pmax pmax
comp=Z,13nm,0.9s

KLMR	**Klimovskoe**	**134.32**	**334**	*e*PKIKP	**PKPdf**	**18 11 50.6**	**-0.9**
KLMR				*e*		18 14 30.0		
KLMR				pmax	pmax			
	comp=Z,30nm,1.2s							
STEI	**Steigen**	**135.12**	**352**	*e*PKPdf	**PKPdf**	**18 11 50.6**	**-2.2**
LOF	**Lofoten**	**135.13**	**353**	*e*PKPdf	**PKPdf**	**18 11 53.3**	**+0.5**
FAUS	**Fauske**	**135.63**	**352**	*e*PKPdf	**PKPdf**	**18 11 52.0**	**-1.7**
KMBO	**Kilima Mbogo**	**136.05**	**241**		**PKPdf**	**18 11 56.1**	**-0.4**
KMBO	**Kilima Mbogo**	**136.05**	**241**	PKIKP	**PKPdf**	**18 11 56.1**	**-0.4**
KMBO	**Kilima Mbogo**	**136.05**	**241**	PKPdf	PKPdf	18 11 47.0	-10
KMBO	**Kilima Mbogo**	**136.05**	**241**	PKP	**PKPdf**	**18 11 55.3**	**-1.2**
	comp=Z,5.8nm,0.8s,baz=6.5,slow=1.7,SNR=9.2							
KMBO				SKPbc	**SKPbc**	**18 14 40.4**	**+0.5**	
	comp=Z,7.4nm,0.9s,baz=86,slow=0.9,SNR=8.0							
KMBO				SKP		18 14 45.7		
	comp=Z,11nm,1.0s,baz=71,slow=4.6,SNR=10							
LKRN	**Lenkeran, Azer**	**136.39**	**301**	PKIKP	**PKPdf**	**18 11 56.7**	**+0.7**
KONS	**Konsvik**	**136.74**	**352**	*e*PKPdf	**PKPdf**	**18 11 55.6**	**-0.2**
MAK	**Makhachkala**	**136.79**	**308**	*c i*P	**Pdif**	**18 09 02.5**	**-3.5**
MAK				*e*		18 14 44.1		
MAK				*e*		18 18 24.7		
MAK				*e*SS	SS	18 32 11.1	+1.0	
MOR8	**Moi Rana**	**136.88**	**351**	*e*PKPdf	**PKPdf**	**18 11 54.3**	**-1.9**
STOK	**Stokkvaagen**	**136.91**	**352**	*e*PKPdf	**PKPdf**	**18 11 55.8**	**-0.3**
SEKA	**Sheki**	**137.30**	**305**	PKIKP	**PKPdf**	**18 11 58.2**	**+0.4**
ZKTA	**Zakatala**	**137.66**	**306**	PKIKP	**PKPdf**	**18 11 58.9**	**+0.6**
GANJ	**Ganja**	**138.04**	**305**	PKIKP	**PKPdf**	**18 11 59.6**	**+0.5**
MOS	**Moscow**	**138.06**	**329**	*i* PKIKP	**PKPdf**	**18 11 58.2**	**-0.3**
MOS				*e*		18 13 49.2		
MOS				*e*		18 14 42.3		
VRH	**Novokhopyorsk**	**138.11**	**321**	*e*PKIKP	**PKPdf**	**18 11 57.7**	**-1.1**
VRH				*e*		18 14 43.3		
VRH				pmax	pmax			
	comp=Z,14nm,1.2s							
FINES	**FINESS Array B**	**138.59**	**341**	PKhKP	PKPpre	18 11 49.1		
	comp=Z,3.8nm,0.6s,baz=30,slow=4.0,SNR=14							
FINES				PKP	**PKPdf**	**18 12 00.1**	**+0.8**	
	comp=Z,10nm,0.5s,baz=66,slow=4.7,SNR=12							
FINES				SKPbc	**SKPbc**	**18 14 46.1**	**+0.9**	
	comp=Z,51nm,0.8s,baz=64,slow=4.4,SNR=38							
FINES				PP	**PP**	**18 14 56.6**	**-0.3**	
	comp=Z,8.5nm,0.8s,baz=67,slow=6.4,SNR=4.2							
FINES				SKKPbc	**SKKPbc**	**18 23 25.3**	**-5.1**	
	comp=Z,1.3nm,0.7s,baz=146,slow=3.7,SNR=3.7							
NSS	**Namsos**	**138.77**	**352**	*e*	**PKPdf**	**18 11 53.0**	**-6.6**
NAX	**Nakhchivan**	**138.88**	**303**	PKIKP	**PKPdf**	**18 12 01.1**	**+0.4**
OBN	**Obninsk**	**138.91**	**329**	*de*PKIKP	**PKPdf**	**18 12 00.2**	**+0.1**
OBN				*e*		18 14 56.8		
OBN				pmax	pmax			
	comp=Z,19nm,1.1s							
LPSR	**Galich'ya Gora**	**139.03**	**324**	*e*PKIKP	**PKPdf**	**18 11 57.3**	**-3.1**
LPSR				*e*		18 14 46.8		
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
VORR	**Voronezh**	**139.32**	**323**	*e*PKIKP	**PKPdf**	**18 12 01.1**	**+0.1**
VORR				*e*		18 14 47.2		
VORR				pmax	pmax			
	comp=Z,25nm,1.3s							
ZEI	**Tsey**	**139.41**	**308**	*e*PKHKP	PKPpre	18 11 55.0		
ZEI				pmax	pmax			
	comp=Z,18nm,1.0s							
VSR	**Storozhevoye**	**139.56**	**322**	*e*PKIKP	**PKPdf**	**18 11 59.4**	**-2.0**
VSR				*e*		18 14 48.3		
VSR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VORD	**Divnogorie**	**139.60**	**322**	*e*PKIKP	**PKPdf**	**18 11 58.2**	**-3.3**
VORD				*e*		18 14 47.7		
VORD				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KBZ	**Khabaz**	**139.90**	**310**	*i* PKIKP	**PKPdf**	**18 12 02.3**	**0.0**	
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**139.90**	**310**	PKhKP	PKPpre	18 11 54.7		
	comp=Z,1.6nm,0.8s,baz=114,slow=20,SNR=2.4							
KBZ				PKP	**PKPdf**	**18 12 02.1**	**-0.1**	
	comp=Z,4.9nm,0.9s,baz=88,slow=7.2,SNR=5.7							
KBZ				SKPbc	**SKiKP**	**18 14 51.2**	**-0.5**	
	comp=Z,8.0nm,0.8s,baz=136,slow=3.3,SNR=9.9							
KIV	**Kislovodsk**	**139.98**	**310**	*e*PKIKP	**PKPdf**	**18 12 01.8**	**-0.8**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
RAF	**Rauma**	**140.12**	**344**	*e*P	**PKPdf**	**18 12 01.3**	**-0.8**
LODK	**Lodwar**	**140.23**	**244**		PKPpre	18 11 57.7		
VSU	**Vasula**	**140.71**	**338**	*i* PKIKP	**PKPdf**	**18 12 02.3**	**-1.0**
VSU				pmax	pmax			
	comp=Z,28nm,1.1s							
VSU	**Vasula**	**140.71**	**338**	*e*P	**PKPdf**	**18 12 02.1**	**-1.1**
MOL	**Molde**	**141.16**	**354**	*e*PKPdf	**PKPdf**	**18 11 58.8**	**-5.1**
MBAR	**Mbarara**	**141.43**	**235**		PKPpre	18 12 00.9		
MBAR	**Mbarara**	**141.43**	**235**	PKHKP	PKPpre	18 12 00.9		
DOMB	**Dombas**	**141.53**	**353**	*e*PKPdf	**PKPdf**	**18 11 59.9**	**-4.8**
AKN	**Aaknes**	**141.59**	**355**	*e*PKPdf	**PKPdf**	**18 12 00.5**	**-4.3**
NB2	**NORSAR Subarra**	**142.23**	**351**	PKP	**PKPdf**	**18 12 01.6**	**-4.4**
	comp=Z,9.7nm,0.8s,baz=10,slow=3.2							
NB2				SKPa		18 14 54.1		
	comp=Z,61nm,1.4s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**142.23**	**351**	PKhKP	PKPpre	18 12 02.1		
	comp=Z,16nm,0.8s,baz=16,slow=4.8,SNR=72							
NOA				SKPbc	**SKiKP**	**18 14 55.8**	**-0.3**	
	comp=Z,10nm,0.9s,baz=16,slow=4.2,SNR=11							
FOO	**Floro**	**142.31**	**356**	*e*PKPdf	**PKPdf**	**18 12 01.7**	**-4.3**
NC602	**NORSAR Array S**	**142.47**	**351**	*e*PKPdf	**PKPdf**	**18 12 02.6**	**-3.7**
NC602				IAmb	IAmb	18 12 03.2		
	comp=Z,26nm,0.7s							
HYA	**Hoyanger**	**142.66**	**355**	*e*PKPdf	**PKPdf**	**18 12 03.8**	**-2.8**
HFS	**Hagfors**	**142.69**	**349**	PKhKP	PKPpre	18 12 03.5		
	comp=Z,72nm,0.5s,baz=64,slow=3.4,SNR=479							
HFS				SKPbc	**SKPbc**	**18 14 56.1**	**+0.3**	
	comp=Z,20nm,0.8s,baz=180,slow=0.6,SNR=9.4							
SUE	**Sulen**	**142.87**	**356**	*e*PKPdf	**PKPdf**	**18 12 04.1**	**-2.9**
SKAR	**Skarslia**	**142.94**	**353**	*e*PKPdf	**PKPdf**	**18 12 04.7**	**-2.6**
SKAR				IAmb	IAmb	18 12 05.6		
	comp=Z,40nm,0.9s							
ISAL	**Salakas**	**143.11**	**335**	*e*P	**PKPdf**	**18 12 06.8**	**-0.8**
MNK	**Minsk**	**143.19**	**333**	*i* PKIKP	PKPbc	18 12 06.5	+0.5	
MNK				*i*		18 14 04.9		
MNK				*i*		18 14 54.0		
MNK				*i*		18 15 24.7		
MNK				*i*		18 18 28.5		
MNK				*i* PPP	PPP	18 18 39.2		
MNK				*i* SS	SS	18 33 23.5	+0.9	
MNK				*i* SSS	SSS	18 38 58.8		
MNK				pmax	pmax			
	comp=Z,114nm,1.6s							
OSL	**Oslo**	**143.36**	**351**	*e*PKPbc	PKPab	18 12 06.0	0.0	
BER	**Bergen**	**143.50**	**356**	*e*PKPbc	PKPbc	18 12 06.6	-0.1	
VSVD	**Vaisvydziai**	**143.60**	**337**	*e*P	PKPbc	18 12 07.6	+0.4	
KONO	**Kongsberg**	**143.79**	**352**	PKPdf	PKPbc	18 12 07.1	-0.6	
KONO	**Kongsberg**	**143.79**	**352**	PKIKP	PKPbc	18 12 07.1	-0.6	
KONO	**Kongsberg**	**143.79**	**352**	*e*PKPbc	PKPbc	18 12 07.4	-0.3	
ODD1	**Odda**	**143.86**	**354**	*e*PKPbc	PKPbc	18 12 07.8	-0.2	
LRW	**Lerwick**	**143.92**	**1**	*e*P	PKPbc	18 12 06.7	-1.4	
PABE	**Paberze**	**143.96**	**337**	*e*P	**PKPdf**	**18 12 09.2**	**+0.1**	
PBUR	**Paburge**	**144.25**	**339**	*e*P	**PKPdf**	**18 12 09.8**	**+0.2**	
BLS5	**Blasjo**	**144.36**	**354**	*e*PKPbc	PKPbc	18 12 09.6	+0.1	
BLS5				IAmb	IAmb	18 12 10.5		
	comp=Z,75nm,0.9s							
KMY	**Karmoy**	**144.67**	**355**	*e*PKPbc	PKPbc	18 12 10.6	+0.1	
AKASG	**Malin Array Be**	**145.11**	**327**	PKPbc	**PKPdf**	**18 12 11.3**	**+0.1**	
	comp=Z,25nm,0.5s,baz=44,slow=3.8,SNR=196							
AKASG				pPKPbc	pPKPab	18 14 09.6	0.0	
	comp=Z,3.8nm,0.7s,baz=39,slow=2.9,SNR=3.3							
AKASG				SKPbc	**SKiKP**	**18 15 03.1**	**+0.8**	
	comp=Z,51nm,0.8s,baz=44,slow=2.6,SNR=36							
AKBB	**Malin Array Si**	**145.11**	**327**	*i* PKIKP	**PKPdf**	**18 12 10.9**	**-0.3**	
AKBB				pmax	pmax			
	comp=Z,28nm,0.8s							
KIEV	**Kiev**	**145.12**	**327**	⇑P	**PKPdf**	**18 12 11.2**	**-0.1**	
KIEV	**Kiev**	**145.12**	**327**	PKPdf	**PKPdf**	**18 12 10.6**	**-0.7**	
KIEV	**Kiev**	**145.12**	**327**	PKIKP	**PKPdf**	**18 12 10.6**	**-0.7**	
KIEV	**Kiev**	**145.12**	**327**	*i* PKPdf	**PKPdf**	**18 12 10.3**	**-0.9**	
	SNR=37							
HOMB	**Homborsund**	**145.27**	**352**	*e*PKPdf	**PKPdf**	**18 12 11.7**	**+0.4**	
SNART	**Snartemo**	**145.35**	**353**	*e*PKPbc	**PKPbc**	**18 12 12.7**	**+0.2**	
SNART				IAmb	IAmb	18 12 13.3		
	comp=Z,358nm,1.3s							
SIM	**Simferopol'**	**145.38**	**316**	*e*PKP2	**PKPab**	**18 12 13.8**	**-0.5**	
SIM				pmax	pmax			
	comp=Z,130nm,1.1s							
SUW	**Suwalki**	**145.41**	**336**	*e*PKP	**PKPdf**	**18 12 10.6**	**-1.1**	
SUW	**Suwalki**	**145.41**	**336**	*e*P	**PKPdf**	**18 12 11.3**	**-0.3**	
BIGH	**Upper Bighouse**	**145.47**	**4**	*e*P	**PKPdf**	**18 12 11.1**	**-0.5**	
LEWI	**Lewis, Hebride**	**145.57**	**6**	*e*P	**PKPdf**	**18 12 10.1**	**-1.7**	
LINV	**Loch Inver, As**	**145.72**	**5**	*e*P	**PKPdf**	**18 12 11.4**	**-0.6**	
KLNR	**Kaliningrad**	**145.98**	**339**	*i* PKIKP	**PKPdf**	**18 12 12.8**	**+0.2**	
KLNR				pmax	pmax			
	comp=Z,278nm,0.9s							
BNN	**Bunyan**	**146.31**	**305**	PKPdf	**PKPdf**	**18 12 13.7**	**-0.2**	
MCD	**Coleburn Disti**	**146.41**	**3**	*e*P	**PKPdf**	**18 12 12.9**	**-0.3**	
KPL	**Plockton**	**146.48**	**6**	*e*P	**PKPdf**	**18 12 13.1**	**-0.3**	
MUD	**Monsted U'grnd**	**146.94**	**351**	*i* P	**PKPbc**	**18 12 16.5**	**-0.5**	
MUD				IAmb	IAmb	18 12 18.0		
	comp=Z,42nm,0.6s							
BSD	**Bornholm Skovb**	**147.06**	**344**	*e*P	**PKPbc**	**18 12 17.9**	**+0.5**	
BSD	**Bornholm Skovb**	**147.06**	**344**	*i* P	**PKPbc**	**18 12 17.0**	**-0.4**	
BSD				IAmb	IAmb	18 12 18.6		
	comp=Z,66nm,0.7s							
SORM	**Soroca**	**147.14**	**324**	⇑P	**PKPdf**	**18 12 14.7**	**-0.1**	
SORM	**Soroca**	**147.14**	**324**	⇑PKIKP	**PKPdf**	**18 12 14.7**	**-0.1**	
PURM	**Purcari**	**147.21**	**321**	⇑P	**PKPbc**	**18 12 18.0**	**0.0**	
INVG	**Invergeldie, C**	**147.51**	**4**	*e*P	**PKPdf**	**18 12 15.0**	**-0.2**	
KIS	**Kishinev**	**147.55**	**322**	*e*PKP	**PKPbc**	**18 12 19.0**	**+0.1**	
	comp=Z,60nm,0.2s							
KIS				*e*pPKP	**pPKPab**	**18 14 25.0**	**+6.1**	
KIS	**Kishinev**	**147.55**	**322**	*e*PKP2	**PKPbc**	**18 12 19.0**	**+0.1**	
KIS				pmax	pmax			
	comp=Z,60nm,0.2s							
LAWE	**Loch Awe, Argy**	**147.57**	**6**	*e*P	**PKPdf**	**18 12 15.2**	**0.0**	
MILM	**Milestii Mici**	**147.60**	**322**	⇑*i*PKP	**PKPbc**	**18 12 18.8**	**-0.2**	
	comp=Z,90nm,0.7s							
MILM				*i* pPKP	**pPKPab**	**18 14 25.0**	**+5.9**	
MILM	**Milestii Mici**	**147.60**	**322**	⇑P	**PKPbc**	**18 12 19.0**	**0.0**	
MILM	**Milestii Mici**	**147.60**	**322**	*i* PKP2	**PKPbc**	**18 12 18.8**	**-0.2**	
MILM				pmax	pmax			
	comp=Z,90nm,0.7s							
BR131	**Keskin Array S**	**147.69**	**307**	*i* PKHKP	PKPpre	18 12 15.4		
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	**PKPbc**	**18 12 19.8**	**0.0**	
	comp=Z,9.4nm,0.6s,baz=138,slow=4.6,SNR=22							
BRTR				pPKPbc	**pPKPdf**	**18 14 18.2**	**+0.5**	
	comp=Z,7.5nm,0.9s,baz=86,slow=1.7,SNR=5.9							
MMAI	**Mount Meron Ar**	**147.79**	**294**	PKPbc	**PKPbc**	**18 12 20.6**	**+0.5**	
	comp=Z,36nm,0.5s,baz=72,slow=5.4,SNR=51							
MMAI				pPKPbc	**pPKPab**	**18 14 19.9**	**-0.5**	
	comp=Z,21nm,0.9s,baz=79,slow=4.5,SNR=5.2							
SSRD	**Sdr. Stenderup**	**147.81**	**350**	*i* P	**PKPbc**	**18 12 18.1**	**-1.1**	
SSRD				IAmb	IAmb	18 12 25.2		
	comp=Z,96nm,0.7s							
RGN	**Rugen**	**147.96**	**345**	*e*P	**PKPdf**	**18 12 14.5**	**-1.4**	
BEL	**Belsk**	**148.02**	**335**	*e*PKP	**PKiKP**	**18 12 20.8**	**-0.5**	
GKP	**Gorka Klasztor**	**148.05**	**340**	*e*PKP	**PKPbc**	**18 12 20.4**	**+0.5**	
GKP	**Gorka Klasztor**	**148.05**	**340**	*e*P	**PKiKP**	**18 12 21.1**	**-0.3**	
EDI	**Edinburgh**	**148.07**	**3**	*e*P	**PKPdf**	**18 12 16.0**	**0.0**	
PGBU	**Glenifferbraes**	**148.09**	**5**	*e*P	**PKPdf**	**18 12 17.4**	**+1.3**	
LVV	**L'vov**	**148.18**	**330**	*e*PKP2	**PKPbc**	**18 12 20.5**	**0.0**	
ANTO	**Ankara**	**148.26**	**308**	⇓P	**PKPbc**	**18 12 21.5**	**+0.4**	
ANTO	**Ankara**	**148.26**	**308**		**PKPdf**	**18 12 16.2**	**-0.8**	
ANTO	**Ankara**	**148.26**	**308**	⇓PKP2	**PKPbc**	**18 12 21.5**	**+0.4**	
VASR	**Vaslui**	**148.33**	**322**	⇑P	**PKPbc**	**18 12 21.5**	**+0.5**	
TLCR		**148.56**	**319**	⇑P	**PKPbc**	**18 12 21.9**	**+0.4**	
TLCR		**148.56**	**319**	⇑PKP2	**PKPbc**	**18 12 21.9**	**+0.4**	
VLDR	**Vladesti**	**148.62**	**321**	⇑P	**PKiKP**	**18 12 22.4**	**-0.3**	
EKA	**Eskdalemuir Ar**	**148.66**	**4**	PKP	**PKPdf**	**18 12 17.1**	**+0.1**	
	comp=Z,18nm,0.4s,baz=330,slow=1.4,SNR=56							
EKA				PKPbc	**PKPbc**	**18 12 21.1**	**-0.3**	
	comp=Z,18nm,0.4s,baz=320,slow=1.3,SNR=126							
EKA				pPKPbc	**pPKPbc**	**18 14 21.6**	**+0.1**	
	comp=Z,5.0nm,0.8s,baz=350,slow=3.2,SNR=2.7							
ESK	**Eskdalemuir**	**148.67**	**4**		**PKPbc**	**18 12 21.1**	**-0.4**	
ESK	**Eskdalemuir**	**148.67**	**4**	*e*P	**PKPdf**	**18 12 16.8**	**-0.3**	
ESK	**Eskdalemuir**	**148.67**	**4**	PKHKP	PKPpre	18 12 21.1		
VARL	**Varlezi**	**148.72**	**321**	⇑P	**PKiKP**	**18 12 22.7**	**-0.3**	
JURR	**Jurilovca**	**148.74**	**319**	⇓P	**PKiKP**	**18 12 22.8**	**-0.2**	
PRAR	**RASCA**	**148.74**	**325**	⇓P	**PKPbc**	**18 12 22.2**	**+0.3**	
SCTR	**Scanteiesti**	**148.77**	**321**	⇑P	**PKiKP**	**18 12 22.9**	**-0.2**	
TATR	**Tatarca**	**148.78**	**320**	⇑P	**PKiKP**	**18 12 22.8**	**-0.2**	
NEWG	**New Galloway**	**148.80**	**5**	*e*P	**PKPdf**	**18 12 17.3**	**+0.1**	
GHRR		**148.88**	**322**	⇑P	**PKiKP**	**18 12 23.6**	**+0.3**	
KWP	**Kalwaria Pacla**	**148.91**	**331**	*e*PKP	**PKiKP**	**18 12 22.8**	**-0.5**	
CFR	**Carcaliu**	**148.96**	**320**	⇓P	**PKPbc**	**18 12 22.7**	**+0.2**	
CFR	**Carcaliu**	**148.96**	**320**	⇓PKHKP	PKPpre	18 12 22.7		
TPGR	**Topolog**	**148.97**	**319**	⇑P	**PKiKP**	**18 12 23.8**	**+0.2**	
IZVR	**Izvoarele**	**148.97**	**321**	⇓P	**PKiKP**	**18 12 23.5**	**0.0**	
GAL1	**Galloway**	**149.01**	**5**	*e*P	**PKPdf**	**18 12 17.5**	**-0.1**	
TESR	**Tescani**	**149.04**	**323**	⇓P	**PKPbc**	**18 12 22.9**	**+0.2**	
BURAR	**Bucovina Array**	**149.11**	**326**	⇑P	**PKPdf**	**18 12 19.0**	**+0.9**	
BURAR	**Bucovina Array**	**149.11**	**326**	⇑PKHKP	PKPpre	18 12 19.0		
PANC	**Panciu**	**149.14**	**322**	⇑P	**PKiKP**	**18 12 23.9**	**+0.1**	
BSEG	**Bad Segeberg**	**149.16**	**348**	*e*PKPdf	**PKPdf**	**18 12 18.5**	**+0.7**	
	baz=30,slow=1.4							
BSEG				*e*PKPbc	**PKiKP**	**18 12 23.3**	**-0.3**	
	baz=22,slow=2.1							
TIRR	**Tirgusor**	**149.19**	**318**	⇑P	**PKiKP**	**18 12 24.1**	**+0.1**	
TIRR	**Tirgusor**	**149.19**	**318**	⇑PKP2	**PKiKP**	**18 12 24.1**	**+0.1**	
EDMD	**Edmundbyers**	**149.22**	**2**	*e*P	**PKPdf**	**18 12 17.5**	**-0.4**	
ODBI	**Odobesti**	**149.26**	**322**	⇓P	**PKiKP**	**18 12 24.7**	**+0.7**	
MFTR	**Murfatlar**	**149.33**	**318**	⇑P	**PKiKP**	**18 12 24.1**	**-0.1**	
HLG	**Helgoland**	**149.33**	**351**	*e*PKPbc	**PKiKP**	**18 12 24.0**	**+0.1**	
	baz=22,slow=2.1							
HARR	**Harsova**	**149.35**	**319**	⇑P	**PKiKP**	**18 12 24.7**	**+0.4**	
HARR	**Harsova**	**149.35**	**319**	⇑PKP2	**PKiKP**	**18 12 24.7**	**+0.4**	
TLBR	**Topalu**	**149.36**	**319**	⇑P	**PKiKP**	**18 12 25.2**	**+0.9**	
VRI	**Vrincioaia**	**149.38**	**322**	⇓P	**PKPbc**	**18 12 23.4**	**-0.1**	
VRI	**Vrincioaia**	**149.38**	**322**	⇓PKHKP	PKPpre	18 12 23.4		
KESW	**Keswick, Cumbr**	**149.41**	**4**	*e*P	**PKPdf**	**18 12 18.3**	**+0.1**	
PLOR	**Plostina**	**149.44**	**322**	⇑P	**PKPbc**	**18 12 23.7**	**0.0**	
PLOR	**Plostina**	**149.44**	**322**	⇑PKHKP	PKPpre	18 12 23.7		
KOLS	**Kolonicke sedl**	**149.61**	**330**	*e*PKHKP	PKPpre	18 12 19.7		
KOLS	**Kolonicke sedl**	**149.61**	**330**	*e*PKP	**PKPdf**	**18 12 19.7**	**+0.9**	
KOLS				*e*		18 12 25.5		
KOLS				*e*		18 14 29.4		
IOMK	**Kirk Michael**	**149.63**	**5**	*e*P	**PKPdf**	**18 12 18.6**	**0.0**	
TURR	**Turia**	**149.67**	**323**	⇑P	**PKiKP**	**18 12 25.5**	**+0.5**	
ILTH	**Belurgan, Co L**	**149.68**	**7**	*e*P	**PKPdf**	**18 12 18.5**	**-0.1**	
OJC	**Ojcow**	**149.68**	**335**	*e*PKP	**PKiKP**	**18 12 24.7**	**-0.1**	
COVR	**Voineasa-Covas**	**149.69**	**322**	⇑P	**PKiKP**	**18 12 24.7**	**-0.3**	
STHS	**Stebnicka Huta**	**149.71**	**332**	*e*PKIKP	**PKPdf**	**18 12 18.7**	**-0.2**	
STHS	**Stebnicka Huta**	**149.71**	**332**	*e*PKP	**PKPdf**	**18 12 18.7**	**-0.2**	
STHS				*e*		18 12 24.4		
STHS				*e*		18 14 28.8		
WIM	**Isle of Man**	**149.73**	**5**	*e*P	**PKPdf**	**18 12 18.8**	**0.0**	
RUE	**Ruedersdorf**	**149.74**	**343**	*e*P	**PKiKP**	**18 12 25.0**	**+0.2**	
RUE	**Ruedersdorf**	**149.74**	**343**	*e*PKPbc	**PKiKP**	**18 12 24.7**	**-0.1**	
	baz=22,slow=2.1							
RUE				*e*pPKPbc	**pPKPab**	**18 14 29.4**	**+2.1**	
ICOR	**Ion Corvin**	**149.74**	**318**	⇑P	**PKiKP**	**18 12 25.3**	**+0.2**	
OZUR		**149.77**	**323**	⇑P	**PKiKP**	**18 12 25.1**	**-0.1**	
IGLA	**Glengowla, Co**	**149.82**	**11**	*e*P	**PKPdf**	**18 12 18.2**	**-0.6**	
BOSR	**Bodos**	**149.85**	**323**	⇑P	**PKiKP**	**18 12 25.0**	**-0.3**	
GORT1	**Trebel**	**149.86**	**346**	*e*PKPdf	**PKPdf**	**18 12 19.5**	**+0.6**	
	baz=30,slow=1.4							
GORT1				*e*PKPbc	**PKiKP**	**18 12 25.0**	**0.0**	
	baz=22,slow=2.1							
NEHR	**Nehoiu**	**149.89**	**322**	⇓P	**PKiKP**	**18 12 25.5**	**0.0**	
ARCR	**ARCALIA**	**149.90**	**326**	⇓P	**PKiKP**	**18 12 25.3**	**-0.1**	
ISR	**Istrita**	**149.93**	**321**	⇑P	**PKiKP**	**18 12 25.4**	**-0.2**	
ISR	**Istrita**	**149.93**	**321**	⇑PKHKP	PKPpre	18 12 25.4		
BMR	**Baia Mare**	**149.93**	**328**	⇓P	**PKiKP**	**18 12 25.2**	**-0.2**	
BMR	**Baia Mare**	**149.93**	**328**	⇓PKHKP	PKPpre	18 12 25.2		
CRVS	**Cervenica-Dubn**	**150.00**	**331**	*e*PKHKP	PKPpre	18 12 20.1		
CRVS	**Cervenica-Dubn**	**150.00**	**331**	*e*PKP	**PKPdf**	**18 12 20.1**	**+0.7**	
CRVS				*e*		18 12 25.8		
CRVS				*e*		18 14 28.5		
MLR	**Muntele Rosu**	**150.05**	**322**	⇓P	**PKPbc**	**18 12 25.4**	**+0.1**	
MLR	**Muntele Rosu**	**150.05**	**322**	⇓PKHKP	PKPpre	18 12 25.4		
DOPR	**Dopca**	**150.06**	**323**	⇑P	**PKiKP**	**18 12 26.0**	**+0.2**	
HPK	**Haverah Park**	**150.10**	**2**	*e*P	**PKPdf**	**18 12 19.5**	**+0.2**	
SULR		**150.35**	**320**	⇑P	**PKPbc**	**18 12 25.5**	**-0.4**	
KSP	**Ksiaz**	**150.43**	**339**	*e*PKP	**PKiKP**	**18 12 26.8**	**+0.4**	
DSB	**Dublin**	**150.44**	**8**	PKPdf	**PKPdf**	**18 12 19.2**	**-0.6**	
RETH	**Rethem/Aller,**	**150.48**	**348**	*e*PKPbc	**PKiKP**	**18 12 26.4**	**+0.1**	
	baz=22,slow=2.1							
RETH				*e*pPKPbc	**pPKPab**	**18 14 30.3**	**0.0**	
PRD	**Provadia**	**150.49**	**317**	*i* P	**PKiKP**	**18 12 26.8**	**+0.1**	
WPS	**Cemaes, Angles**	**150.49**	**6**	*e*P	**PKPdf**	**18 12 19.8**	**-0.1**	
FLTG	**Flechtingen**	**150.49**	**346**	*e*PKPdf	**PKPdf**	**18 12 20.3**	**+0.4**	
	baz=30,slow=1.4							
FLTG				*e*PKPbc	**PKiKP**	**18 12 26.3**	**-0.1**	
	baz=22,slow=2.1							
FLTG				*e*pPKPbc	**pPKPab**	**18 14 30.4**	**0.0**	
MDB	**Medias**	**150.50**	**324**	⇑P	**PKiKP**	**18 12 27.3**	**+0.7**	
MDB	**Medias**	**150.50**	**324**	⇑PKIKP	**PKiKP**	**18 12 27.3**	**+0.7**	
CBBR	**Cluj-Babes-Bol**	**150.52**	**326**	⇑P	**PKPbc**	**18 12 23.9**	**-2.3**	
CJR	**Cluj-Napoca**	**150.53**	**326**	⇑P	**PKiKP**	**18 12 26.9**	**+0.2**	
CJR	**Cluj-Napoca**	**150.53**	**326**	⇑PKIKP	**PKiKP**	**18 12 26.9**	**+0.2**	
MESR	**Meseseni**	**150.56**	**327**	⇓P	**PKiKP**	**18 12 27.0**	**+0.2**	
NRDL	**Niedersach Rie**	**150.57**	**347**	*e*PKPdf	**PKPdf**	**18 12 20.8**	**+0.8**	
	baz=30,slow=1.4							
NRDL				*e*PKPbc	**PKiKP**	**18 12 26.6**	**+0.1**	
	baz=22,slow=2.1							
NRDL				*e*pPKPbc	**pPKPab**	**18 14 30.9**	**+0.3**	
VOIR		**150.58**	**323**	⇓P	**PKiKP**	**18 12 27.4**	**+0.4**	
VOIR		**150.58**	**323**	⇓PKIKP	**PKiKP**	**18 12 27.4**	**+0.4**	
WLF1	**Llynfaes**	**150.60**	**5**	*e*P	**PKPdf**	**18 12 19.9**	**-0.2**	
OKC	**Ostrava-Krasne**	**150.62**	**336**	*e*PKIKP	**PKPdf**	**18 12 21.4**	**+1.1**	
OKC	**Ostrava-Krasne**	**150.62**	**336

KRUC	**Moravsky**	**151.91**	**337**	*e*PKP	**PKPdf**	**18 12 22.0**	**-0.2**
KRUC				*e*		18 12 29.5	
KRUC				*e*		18 14 28.9	
SURR	**Surduc**	**151.93**	**326**	⇓P	**PKiKP**	**18 12 29.6**	**0.0**
MOX	**Moxa**	**151.97**	**344**	*e*PKPbc	**PKiKP**	**18 12 29.6**	**+0.1**
	baz=22,slow=2.1						
MOX				*e*PKPab	**PKPab**	**18 12 41.0**	**-0.1**
	baz=19,slow=3.9						
PLN	**Plauen**	**151.97**	**343**	*e*PKPbc	**PKiKP**	**18 12 30.0**	**+0.4**
	baz=22,slow=2.1						
SMOL	**Smolenice**	**151.97**	**335**	*e*PKIKP	**PKiKP**	**18 12 30.7**	**+1.1**
MCH1	**Michaelchurch**	**152.00**	**4**	*e*P	**PKPdf**	**18 12 22.1**	**-0.1**
PLVB	**Pleven**	**152.06**	**320**	⇑P	**PKiKP**	**18 12 30.5**	**+0.6**
SRE	**Strehaia**	**152.08**	**323**	⇓P	**PKiKP**	**18 12 30.9**	**+0.9**
SRE	**Strehaia**	**152.08**	**323**	⇓PKIKP	**PKiKP**	**18 12 30.9**	**+0.9**
BUG	**Bochum--Univer**	**152.09**	**350**	*e*PKPdf	**PKPdf**	**18 12 23.3**	**+0.9**
	baz=30,slow=1.4						
BUG				*e*PKPbc	**PKPbc**	**18 12 29.5**	**0.0**
	baz=22,slow=2.1						
BUG				*ep*PKPbc	**pPKPab**	**18 14 34.4**	**-2.5**
KASTN	**Kahler Asten**	**152.12**	**349**	*e*PKPdf	**PKPdf**	**18 12 23.0**	**+0.5**
	baz=30,slow=1.4						
KASTN				*e*PKPbc	**PKiKP**	**18 12 30.1**	**+0.2**
	baz=22,slow=2.1						
KASTN				*ep*PKPbc	**pPKPab**	**18 14 34.5**	**-2.6**
NKC	**Novy Kostel**	**152.13**	**343**	*e*PKIKP	**PKPdf**	**18 12 23.1**	**+0.5**
NKC				*e*		18 12 29.2	
NKC	**Novy Kostel**	**152.13**	**343**	*e*PKPDF	**PKPdf**	**18 12 23.1**	**+0.5**
NKC				⇑*e*PKP	**PKPbc**	**18 12 29.2**	**-0.5**
NKC				*ep*PKP	**pPKPab**	**18 14 34.2**	**-2.9**
MODS	**Modra-Piesok**	**152.15**	**335**	*e*PKIKP	**PKPdf**	**18 12 23.0**	**+0.4**
MODS	**Modra-Piesok**	**152.15**	**335**	*e*PKP	**PKPdf**	**18 12 23.0**	**+0.4**
MODS				*e*		18 12 30.7	
MODS				*e*		18 14 33.8	
MONM	**Monmouth**	**152.16**	**4**	*e*P	**PKPdf**	**18 12 22.5**	**0.0**
UBBA	**Unterbreizbach**	**152.18**	**346**	*e*PKPbc	**PKiKP**	**18 12 29.9**	**+0.1**
	baz=22,slow=2.1						
UBBA				*ep*PKPbc	**pPKPab**	**18 14 35.5**	**-1.7**
SRO	**Srobarova**	**152.18**	**333**	*e*PKIKP	**PKiKP**	**18 12 30.4**	**+0.4**
SRO	**Srobarova**	**152.18**	**333**	*e*PKP	**PKiKP**	**18 12 30.4**	**+0.4**
DIM	**Dimitrovgrad**	**152.22**	**316**	*i* P	**PKiKP**	**18 12 30.4**	**+0.1**
BZS	**Buzias**	**152.29**	**326**	⇓P	**PKPbc**	**18 12 29.7**	**-0.5**
BZS	**Buzias**	**152.29**	**326**	⇓PKIKP	**PKPbc**	**18 12 29.7**	**-0.5**
ZVC	**Zvikov**	**152.33**	**340**	*e*PKPDF	**PKPdf**	**18 12 23.8**	**+1.0**
ZVC				⇑*e*PKP	**PKPbc**	**18 12 30.0**	**-0.2**
ZVC				pPKP	**pPKPab**	**18 14 35.1**	**-3.0**
ZST	**Bratislava**	**152.36**	**335**	*e*PKIKP	**PKiKP**	**18 12 31.0**	**+0.6**
ZST	**Bratislava**	**152.36**	**335**	*e*PKP	**PKiKP**	**18 12 31.0**	**+0.6**
HERR	**Herculane**	**152.37**	**324**	⇑P	**PKPbc**	**18 12 30.3**	**0.0**
MANZ	**Manzenberg**	**152.44**	**343**	*e*PKPdf	**PKPdf**	**18 12 23.2**	**+0.1**
	baz=30,slow=1.4						
MANZ				*e*PKPbc	**PKiKP**	**18 12 30.9**	**+0.3**
	baz=22,slow=2.1						
MANZ				*ep*PKPbc	**pPKPab**	**18 14 35.6**	**-2.8**
ALN	**Alexandroupoli**	**152.51**	**314**		**PKPbc**	**18 12 29.9**	**-0.9**
ALN	**Alexandroupoli**	**152.51**	**314**	PKIKP	**PKPbc**	**18 12 29.9**	**-0.9**
SWN1	**Swindon**	**152.54**	**2**	*e*P	**PKPdf**	**18 12 24.4**	**+1.4**
VALD	**Valchedram**	**152.56**	**321**	*i* P	**PKiKP**	**18 12 31.0**	**0.0**
MPEP	**Malo Peshtene**	**152.59**	**320**	*i* P	**PKiKP**	**18 12 31.2**	**+0.1**
ROTZ	**Rotzenmuhle**	**152.62**	**343**	*e*PKPbc	**PKiKP**	**18 12 31.2**	**+0.3**
	baz=22,slow=2.1						
ROTZ				*e*PKPab	**PKPab**	**18 12 44.4**	**+0.5**
	baz=19,slow=3.9						
KHC	**Kasperske Hory**	**152.79**	**340**	*e*PKIKP	**PKPdf**	**18 12 23.9**	**+0.3**
KHC	**Kasperske Hory**	**152.79**	**340**	*e*PKPDF	**PKPdf**	**18 12 23.9**	**+0.3**
KHC				⇑*e*PKP	**PKiKP**	**18 12 31.4**	**+0.1**
KHC				*ep*PKP	**pPKPab**	**18 14 36.3**	**-3.8**
MDVR	**Moldovita**	**152.81**	**325**	⇑P	**PKPbc**	**18 12 31.3**	**0.0**
CKRC	**Cesky Krumlov**	**152.83**	**339**	*e*PKPDF	**PKPdf**	**18 12 23.6**	**0.0**
CKRC				⇑*e*PKP	**PKPbc**	**18 12 31.3**	**0.0**
CKRC				*ep*PKP	**pPKPbc**	**18 14 34.3**	**+2.4**
GRF	**Grafenberg Arr**	**152.94**	**344**	*e*PKPbc	**PKiKP**	**18 12 31.6**	**0.0**
	baz=22,slow=2.1						
GRF				*e*PKPab	**PKPab**	**18 12 44.6**	**-0.7**
	baz=19,slow=3.9						
GRF				*ep*PKPbc	**pPKPab**	**18 14 36.9**	**-3.6**
GRFO	**Grafenberg**	**152.94**	**344**		**PKiKP**	**18 12 31.9**	**+0.3**
GRFO	**Grafenberg**	**152.94**	**344**	PKIKP	**PKiKP**	**18 12 31.9**	**+0.3**
WET	**Wettzell**	**152.99**	**341**	*e*PKPdf	**PKPdf**	**18 12 23.8**	**-0.1**
	baz=30,slow=1.4						
WET				*e*PKPbc	**PKiKP**	**18 12 31.8**	**+0.1**
	baz=22,slow=2.1						
AHRW	**Bad Neuenahr-A**	**152.99**	**350**	*e*PKPdf	**PKPdf**	**18 12 24.3**	**+0.6**
	baz=30,slow=1.4						
AHRW				*e*PKPbc	**PKiKP**	**18 12 31.9**	**+0.3**
	baz=22,slow=2.1						
GEC2	**GERESS Array S**	**153.00**	**340**	*e*PKPbc	**PKiKP**	**18 12 32.0**	**+0.1**
	baz=22,slow=2.1						
GEC2				*ep*PKPbc	**pPKPab**	**18 14 37.0**	**-4.0**
GERES	**GERESS Array B**	**153.00**	**340**	PKP	**PKPdf**	**18 12 23.5**	**-0.5**
	comp=Z,5.4nm,1.1s,baz=29,slow=3.0,SNR=15						
GERES				PKPbc	**PKiKP**	**18 12 31.9**	**+0.1**
	comp=Z,12nm,0.7s,baz=45,slow=2.1,SNR=30						
GERES				*ep*PKPbc	**pPKPbc**	**18 14 32.2**	**-0.1**
	comp=Z,5.9nm,0.7s,baz=30,slow=2.7,SNR=19						
BLKB	**Belogradchik**	**153.04**	**322**	⇑P	**PKPbc**	**18 12 31.8**	**-0.1**
CONA	**Conrad Observa**	**153.05**	**336**	*e*PKP	**PKPdf**	**18 12 24.0**	**-0.1**
	comp=Z,9.3nm,1.0s						
CONA				*i* PKiKP	**PKiKP**	**18 12 32.4**	**+0.4**
	comp=Z,25nm,0.9s						
CONA	**Conrad Observa**	**153.05**	**336**	*e*PKP		18 14 30.3	
	comp=Z,7.2nm,1.1s						
TNS	**Taunus Mts**	**153.06**	**348**	*e*PKPbc	**PKiKP**	**18 12 32.2**	**+0.3**
	baz=22,slow=2.1						
TNS				*e*PKPab	**PKPab**	**18 12 45.4**	**-0.4**
	baz=19,slow=3.9						
TNS				*ep*PKPbc	**pPKPab**	**18 14 37.0**	**-4.1**
RONA	**Rosalia, Austr**	**153.08**	**335**	*e*PKP	**PKPdf**	**18 12 24.1**	**0.0**
	comp=Z,8.7nm,0.9s,SNR=5.3						
RONA				*i* PKiKP	**PKiKP**	**18 12 32.4**	**+0.4**
	comp=Z,31nm,0.7s						
RONA				*e*PKP	**PKPab**	**18 12 47.9**	**+1.9**
RONA	**Rosalia, Austr**	**153.08**	**335**	*e*PKP		18 14 28.5	
	comp=Z,9.2nm,1.3s						
RONA				*e*PKP	pPKPab	18 14 37.1	-4.2
	comp=Z,19nm,1.1s						
RONA				*e*PKP	pPKPbc	18 14 47.3	+15
	comp=Z,34nm,1.3s						
MEM	**Membach**	**153.08**	**352**	*d*PKiKP	**PKiKP**	**18 12 31.8**	**0.0**
MEM				*dp*PKP	**pPKPbc**	**18 14 36.6**	**+4.2**
BTNL	**Ternell**	**153.09**	**351**	*d*PKPdf	**PKPdf**	**18 12 24.8**	**+0.9**
BTNL				*d*PKiKP	**PKiKP**	**18 12 32.0**	**+0.1**
BTNL				*d*PKP	**PKPab**	**18 12 46.1**	**+0.2**
BTNL				*dp*PKP	**pPKPab**	**18 14 36.9**	**-4.2**
BSTI	**Sart Tilman**	**153.16**	**352**	*d*PKiKP	**PKiKP**	**18 12 32.3**	**+0.3**
BSTI				*dp*PKP	**pPKPab**	**18 14 37.3**	**-4.1**
MORH	**Mrgy, Hungar**	**153.28**	**330**	⇑P	**PKPbc**	**18 12 32.1**	**-0.2**
BHOU	**Houvegnez**	**153.33**	**351**	*d*PKiKP	**PKiKP**	**18 12 32.6**	**+0.2**
BHOU				*d*PKP	**PKPab**	**18 12 47.3**	**+0.4**
VTS	**Vitosha**	**153.33**	**320**	*i* P	**PKPbc**	**18 12 32.7**	**-0.1**
BCLA	**Clavier**	**153.35**	**352**	*d*PKiKP	**PKPbc**	**18 12 32.2**	**-0.1**
BCLA				*d*PKP	**PKPab**	**18 12 46.7**	**-0.3**
BGES	**Gesves**	**153.41**	**353**	*d*PKiKP	**PKPbc**	**18 12 32.3**	**-0.2**
BGES				*d*PKP	**PKPab**	**18 12 46.9**	**-0.3**
FRGS	**Fruska Gora**	**153.51**	**328**	⇓P	**PKiKP**	**18 12 33.1**	**+0.2**
BMRD	**Maredsous**	**153.53**	**353**	*d*PKiKP	**PKiKP**	**18 12 33.0**	**+0.2**
BMRD				*d*PKP	**PKPab**	**18 12 47.7**	**0.0**
BMRD				*dp*PKP	**pPKPbc**	**18 14 37.7**	**+4.2**
BOVS	**Bovan**	**153.57**	**323**	⇑P	**PKPbc**	**18 12 32.8**	**-0.2**
RCHB	**Rochefort**	**153.62**	**352**	*d*PKiKP	**PKPbc**	**18 12 32.9**	**0.0**
MMB	**Musomishta**	**153.64**	**317**	*i* P	**PKPbc**	**18 12 32.8**	**-0.5**
MOA	**Molln**	**153.69**	**338**	*e*PKP	**PKPdf**	**18 12 24.2**	**-0.7**
	comp=Z,17nm,1.6s						
ARSA	**Arzberg**	**153.74**	**336**	*e*PKP	**PKPdf**	**18 12 24.2**	**-0.8**
	comp=Z,6.3nm,1.1s						
DOU	**Dourbes**	**153.75**	**353**	*d*PKiKP	**PKiKP**	**18 12 33.3**	**+0.1**
DOU				*d*PKP	**PKPab**	**18 12 47.8**	**-0.9**
KKB	**Krupnik**	**153.85**	**318**	*i* P	**PKPbc**	**18 12 33.6**	**-0.1**
WLF	**Walferdange**	**153.98**	**351**	*d*PKiKP	**PKiKP**	**18 12 34.4**	**+0.7**
WLF				*d*PKP	**PKPab**	**18 12 50.2**	**+0.5**
WLF	**Walferdange**	**153.98**	**351**	*e*PKPbc	**PKiKP**	**18 12 34.6**	**+0.9**
	baz=22,slow=2.1						
WLF				*e*PKPab	**PKPab**	**18 12 48.6**	**-1.0**
	baz=19,slow=3.9						
BIOA	**Bad Ischl, Aus**	**154.03**	**339**	*e*PKP	**PKPdf**	**18 12 24.8**	**-0.6**
	comp=Z,11nm,1.3s						
BIOA				*e*PKP	**PKPbc**	**18 12 33.7**	**-0.2**
	comp=Z,12nm,0.9s						
BIOA				*e*PKP	**PKPab**	**18 12 51.1**	**+1.1**
	comp=Z,10nm,1.1s						
RJOB	**Jochberg**	**154.26**	**340**	*e*PKPdf	**PKPdf**	**18 12 25.2**	**-0.5**
	baz=30,slow=1.4						
RJOB				*e*PKPbc	**PKPbc**	**18 12 34.5**	**0.0**
	baz=22,slow=2.1						
STU	**Stuttgart**	**154.28**	**346**	*e*PKPdf	**PKPdf**	**18 12 25.7**	**+0.1**
	baz=30,slow=1.4						
STU				*e*PKPbc	**PKPbc**	**18 12 34.7**	**+0.3**
	baz=22,slow=2.1						
FUR	**Furstenfeldbru**	**154.33**	**342**	*e*PKPdf	**PKPdf**	**18 12 25.7**	**-0.1**
	baz=30,slow=1.4						
FUR				*e*PKPbc	**PKiKP**	**18 12 34.4**	**-0.1**
	baz=22,slow=2.1						
GROS	**Grobnik**	**154.41**	**335**	*e*PKPdf	**PKPdf**	**18 12 25.2**	**-0.8**
SOKA	**Soboth**	**154.41**	**336**	*i* PKP	**PKPdf**	**18 12 25.4**	**-0.6**
	comp=Z,12nm,1.1s,SNR=6.1						
SOKA				*i* PKP	**PKiKP**	**18 12 34.8**	**0.0**
	comp=Z,10nm,1.1s						
SOKA	**Soboth**	**154.41**	**336**	*e*PKP		18 14 31.1	
	comp=Z,9.2nm,1.2s						
LESA	**Schwarzleotal**	**154.58**	**340**	*e*PKP	**PKPdf**	**18 12 25.5**	**-0.8**
	comp=Z,19nm,1.0s						
KBA	**Koelnbreinsper**	**154.67**	**338**	*i* PKP	**PKPdf**	**18 12 25.8**	**-0.7**
	comp=Z,14nm,1.2s,SNR=6.7						
KBA				*e*PKP	**PKiKP**	**18 12 35.0**	**-0.4**
	comp=Z,17nm,1.0s						
KBA	**Koelnbreinsper**	**154.67**	**338**	*e*PKP		18 14 32.6	
	comp=Z,6.3nm,0.8s						
OBKA	**Obir**	**154.73**	**336**	*e*PKP		18 14 33.1	
	comp=Z,11nm,1.3s						
GCIS	**Gornji Cirnik**	**154.84**	**334**	*i* PKPdf	**PKPdf**	**18 12 26.3**	**-0.2**
GCIS				*i*		18 12 35.7	
GCIS				*i*		18 12 53.6	
GCIS				*e*		18 14 38.9	
GCIS				*i*		18 14 53.9	
BFO	**Black Forest**	**154.89**	**347**	PKPdf	**PKPdf**	**18 12 25.7**	**-0.8**
BFO	**Black Forest**	**154.89**	**347**	PKIKP	**PKPdf**	**18 12 25.7**	**-0.8**
BFO	**Black Forest**	**154.89**	**347**	*e*PKPbc	**PKiKP**	**18 12 35.5**	**-0.2**
	baz=22,slow=2.1						
BFO				*e*PKPab	**PKPab**	**18 12 52.4**	**-1.2**
	baz=19,slow=3.9						
MYKA	**Terra Mystica**	**154.95**	**337**	*e*PKP	**PKPdf**	**18 12 25.5**	**-1.2**
	comp=Z,7.8nm,1.0s						
MYKA				*e*PKP	**PKiKP**	**18 12 35.5**	**-0.5**
	comp=Z,7.5nm,0.6s						
WATA	**Walderalm**	**155.00**	**341**	*e*PKP	**PKPdf**	**18 12 26.5**	**-0.4**
	comp=Z,9.9nm,0.9s						
WATA				*ep*PKP	**PKPbc**	**18 12 36.2**	**0.0**
	comp=Z,7.4nm,0.5s						
CDF	**Champ du Feu**	**155.01**	**349**	*e*PKIKP	**PKPdf**	**18 12 26.9**	**+0.1**
CDF				pmax	pmax		
	comp=Z,19nm,1.4s						
WTTA	**Wattenberg**	**155.04**	**341**	*e*PKP	**PKPdf**	**18 12 26.9**	**-0.1**
	comp=Z,13nm,0.9s						
WTTA				*ep*PKP	PKPab	18 12 36.5	-18
	comp=Z,16nm,0.6s						
WTTA	**Wattenberg**	**155.04**	**341**	PKP		18 14 33.4	
	comp=Z,11nm,1.3s						
WTTA				*e*PKP	pPKPab	18 14 55.5	+6.0
	comp=Z,17nm,1.2s						
UBR	**Ueberruh**	**155.08**	**344**	*e*PKPdf	**PKPdf**	**18 12 26.3**	**-0.6**
	baz=30,slow=1.4						
UBR				*e*PKPbc	PKPab	18 12 35.7	-19
	baz=22,slow=2.1						
UBR				*ep*PKPbc	pPKPbc	18 14 41.0	+4.0
RETA	**Reutte**	**155.09**	**343**	*e*PKP	**PKPab**	**18 12 55.5**	**+0.9**
	comp=Z,9.0nm,0.7s						
RETA	**Reutte**	**155.09**	**343**	*e*PKP		18 14 55.8	
	comp=Z,14nm,1.0s						
MOTA	**Moosalm**	**155.12**	**342**	*e*PKP	**PKPdf**	**18 12 26.8**	**-0.3**
	comp=Z,17nm,0.9s						
MOTA				*e*PKP	**PKPab**	**18 12 56.0**	**+1.1**
	comp=Z,22nm,1.3s						
MOTA	**Moosalm**	**155.12**	**342**	*e*PKP		18 14 38.5	
	comp=Z,17nm,1.5s						
MOTA				*e*PKP	pPKPab	18 14 56.4	+6.5
	comp=Z,26nm,1.3s						
LJU	**Ljubljana**	**155.13**	**336**	*e*PKPdf	**PKPdf**	**18 12 26.2**	**-0.6**
LJU				*e*		18 12 36.2	
SQTA	**Sankt Quirin**	**155.21**	**342**	*e*PKP	**PKPdf**	**18 12 26.6**	**-0.5**
	comp=Z,13nm,0.8s						
SQTA				*ep*PKP	PKPab	18 12 36.7	-19
SQTA	comp=Z,12nm,0.7s			*e*PKP		18 12 56.5	
	comp=Z,24nm,1.4s						
SQTA	**Sankt Quirin**	**155.21**	**342**	*e*PKP		18 14 40.0	
	comp=Z,11nm,1.4s						
ABTA	**Abfaltersbach**	**155.23**	**339**	*i* PKP	**PKPdf**	**18 12 26.6**	**-0.6**
	comp=Z,20nm,0.8s,SNR=9.6						
ABTA				*ep*PKP	PKPab	18 12 36.3	-19
	comp=Z,12nm,0.6s						
ABTA	**Abfaltersbach**	**155.23**	**339**	*e*PKP		18 14 33.2	
	comp=Z,13nm,1.4s						
ABTA				*e*PKP	pPKPbc	18 14 41.5	+4.2
	comp=Z,16nm,1.0s						
ABTA				*e*PKP	pPKPab	18 14 55.3	+5.1
	comp=Z,20nm,1.1s						
FLN	**La Foliniere**	**155.33**	**1**	*e*PKIKP	**PKPdf**	**18 12 26.3**	**-0.7**
FLN				pmax	pmax		
	comp=Z,28nm,1.0s						
LDF	**La Druitiere**	**155.50**	**0**	*e*PKIKP	**PKPdf**	**18 12 26.4**	**-0.9**
LDF				pmax	pmax		
	comp=Z,26nm,1.1s						
DAVA	**Damuels**	**155.51**	**344**	*e*PKP	**PKPdf**	**18 12 27.9**	**+0.3**
	comp=Z,12nm,1.0s						
DAVA				*e*PKP	**PKPab**	**18 12 57.3**	**+0.8**
	comp=Z,10nm,0.6s						
DAVA	**Damuels**	**155.51**	**344**	PKP		18 14 34.4	
	comp=Z,9.2nm,1.3s						
FETA	**Feichten**	**155.52**	**342**	*i* PKP	**PKPdf**	**18 12 27.3**	**-0.3**
	comp=Z,21nm,0.9s,SNR=6.6						
FETA	**Feichten**	**155.52**	**342**	*e*PKP		18 14 33.3	
	comp=Z,16nm,1.3s						
HAU	**Haudompre**	**155.57**	**350**	*e*PKIKP	**PKPdf**	**18 12 27.9**	**+0.5**
HAU				pmax	pmax		
	comp=Z,21nm,1.4s						
HINF	**Hinteralfeld**	**155.66**	**349**	*e*PKIKP	**PKPdf**	**18 12 26.8**	**-0.8**
HINF				pmax	pmax		
	comp=Z,16nm,1.2s						
GRR	**Gorron**	**155.69**	**1**	*e*PKIKP	**PKPdf**	**18 12 26.8**	**-0.7**
GRR				pmax	pmax		
	comp=Z,59nm,1.5s						
QUIF	**Quistinic**	**156.04**	**5**	*e*PKIKP	**PKPdf**	**18 12 28.1**	**+0.1**
QUIF				pmax	pmax		
	comp=Z,184nm,2.0s						
LOR	**Lormes**	**156.62**	**353**	*e*PKIKP	**PKPdf**	**18 12 28.3**	**-0.5**
LOR				pmax	pmax		
	comp=Z,35nm,1.3s						
SSF	**Saint Saulge**	**156.87**	**354**	*e*PKIKP	**PKPdf**	**18 12 28.6**	**-0.5**
SSF				pmax	pmax		
	comp=Z,22nm,1.0s						
CABF	**La Chapelle**	**156.96**	**349**	*e*PKIKP	**PKPdf**	**18 12 30.2**	**+0.8**
CABF				pmax	pmax		
	comp=Z,67nm,1.7s						
BGF	**Bois d'Agland**	**157.42**	**355**	*e*PKIKP	**PKPdf**	**18 12 29.4**	**-0.4**
BGF				pmax	pmax		
	comp=Z,56nm,1.6s						
MFF	**Saint Martin d**	**157.49**	**0**	*e*PKIKP	**PKPdf**	**18 12 29.4**	**-0.5**
MFF				pmax	pmax		
	comp=Z,22nm,1.1s						
TCF	**Toulx Ste Croi**	**157.74**	**356**	*e*PKIKP	**PKPdf**	**18 12 29.7**	**-0.6**
TCF				pmax	pmax		
	comp=Z,17nm,0.9s						
LPL	**La Plagne**	**157.90**	**347**	*e*PKIKP	**PKPdf**	**18 12 34.5**	**+3.8**
LPL				pmax	pmax		
	comp=Z,48nm,1.8s						
LPG	**La Plagne**	**157.91**	**347**	*e*PKIKP	**PKPdf**	**18 12 30.4**	**-0.4**
LPG				pmax	pmax		
	comp=Z,47nm,1.7s						
ORIF	**Oris-en-Rattie**	**158.64**	**349**	*e*PKIKP	**PKPdf**	**18 12 35.3**	**+3.8**
ORIF				pmax	pmax		
	comp=Z,12nm,0.9s						
MBDF	**Montbardon**	**158.65**	**347**	*e*PKIKP	**PKPdf**	**18 12 34.1**	**+2.5**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RJF	**Les Rejaudoux**	**158.76**	**357**	*e*PKIKP	**PKPdf**	**18 12 31.0**	**-0.5**
RJF				pmax	pmax		
	comp=Z,65nm,1.4s						
VIVF	**Saint-Julien-l**	**158.90**	**351**	*e*PKIKP	**PKPdf**	**18 12 34.8**	**+3.1**
VIVF				pmax	pmax		
	comp=Z,119nm,2.3s						
CAF	**Calviac**	**159.10**	**356**	*e*PKIKP	**PKPdf**	**18 12 31.6**	**-0.3**
CAF				pmax	pmax		
	comp=Z,26nm,1.4s						
PGAV	**Gavieira, Arco**	**160.84**	**19**	*e*PKPdf	**PKPdf**	**18 12 33.1**	**-0.9**
EPF	**Esparros**	**161.06**	**359**	*e*PKIKP	**PKPdf**	**18 12 33.9**	**-0.3**
EPF				pmax	pmax		
	comp=Z,15nm,1.0s						
ETSF	**Etsaut**	**161.19**	**1**	*e*PKIKP	**PKPdf**	**18 12 34.9**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,14nm,1.1s						
PBRG	**Braganca**	**161.41**	**16**	*e*PKPdf	**PKPdf**	**18 12 34.8**	**+0.2**
PBRG	**Braganca**	**161.41**	**16**	*e*PKPab	**PKPab**	**18 13 22.9**	**+0.7**
POLO	**Lamas de Olo**	**161.52**	**19**	*e*PKPdf	**PKPdf**	**18 12 35.5**	**+0.8**
POLO	**Lamas de Olo**	**161.52**	**19**	*e*PKPab	**PKPab**	**18 13 23.3**	**+0.5**
LIC	**Lamto**	**161.62**	**164**	⇑*e*PKIKP	**PKPdf**	**18 12 35.0**	**-0.5**
	comp=Z,104nm,1.0s						
LIC	**Lamto**	**161.62**	**164**	⇓*i*PKP1	**PKPab**	**18 13 24.7**	**+1.0**
	comp=Z,139nm,0.8s						
PVRL	**Vila Real**	**161.64**	**19**	*e*PKPab	**PKPab**	**18 13 23.8**	**+0.6**
KIC	**Kosan Boka**	**161.83**	**165**	⇑*e*PKIKP	**PKPdf**	**18 12 35.1**	**-0.7**
	comp=Z,75nm,0.9s						
KIC	**Kosan Boka**	**161.83**	**165**	⇓*i*PKP1	**PKPab**	**18 13 25.6**	**+1.0**
	comp=Z,111nm,0.8s						
MVO	**Moncorvo**	**161.93**	**17**	*e*PKPdf	**PKPdf**	**18 12 36.4**	**+1.3**
MVO	**Moncorvo**	**161.93**	**17**	*e*PKPab	**PKPab**	**18 13 24.7**	**+0.1**
TIC	**Toumodi**	**162.03**	**164**	⇑*e*PKIKP	**PKPdf**	**18 12 35.5**	**-0.5**
	comp=Z,74nm,0.9s						
TIC	**Toumodi**	**162.03**	**164**	⇑*e*PKP1	**PKPab**	**18 13 26.1**	**+0.6**
	comp=Z,55nm,0.7s						
PVIS	**Viseu**	**162.09**	**20**	*e*PKPdf	**PKPdf**	**18 12 35.7**	**+0.4**
PVIS	**Viseu**	**162.09**	**20**	*e*PKPab	**PKPab**	**18 13 25.5**	**+0.2**
DBIC	**Dimbokro**	**162.10**	**164**	PKP	**PKPdf**	**18 12 35.8**	**-0.2**
	comp=Z,35nm,1.0s,baz=152,slow=1.1,SNR=33						
DBIC				PKPab	**PKPab**	**18 13 26.3**	**+0.6**
	comp=Z,40nm,1.0s,baz=164,slow=4.6,SNR=16						
MTE	**Manteigas**	**162.49**	**20**	*e*PKPdf	**PKPdf**	**18 12 36.3**	**+0.6**
MTE	**Manteigas**	**162.49**	**20**	*e*PKPab	**PKPab**	**18 13 27.0**	**0.0**
PCAS	**Casmilo, Conde**	**162.49**	**22**	*e*PKPdf	**PKPdf**	**18 12 36.5**	**+0.9**
PCAS	**Casmilo, Conde**	**162.49**	**22**	*e*PKPab	**PKPab**	**18 13 27.2**	**+0.2**
PMAR	**Madeira**	**162.78**	**56**	*e*PKPdf	**PKPdf**	**18 12 38.0**	**+1.6**
PCBR	**Castelo Branco**	**163.02**	**20**	*e*PKPdf	**PKPdf**	**18 12 36.4**	**+0.3**
PCBR	**Castelo Branco**	**163.02**	**20**	*e*PKPab	**PKPab**	**18 13 29.4**	**+0.1**
PMAFR	**Mafra**	**163.16**	**26**	*e*PKPab	**PKPab**	**18 13 29.7**	**-0.3**
PMRV	**Marv??o**	**163.43**	**21**	*e*PKPdf	**PKPdf**	**18 12 35.8**	**-0.8**
PMRV	**Marv??o**	**163.43**	**21**	*e*PKPab	**PKPab**	**18 13 28.1**	**+0.2**
PMTG	**Montargil**	**163.46**	**23**	*e*PKPdf	**PKPdf**	**18 12 36.8**	**+0.2**
PMTG	**Montargil**	**163.46**	**23**	*e*PKPab	**PKPab**	**18 13 31.1**	**-0.2**
PESTR	**Estremoz**	**163.87**	**22**	*e*PKPdf	**PKPdf**	**18 12 37.9**	**+0.9**
PESTR	**Estremoz**	**163.87**	**22**	*e*PKPab	**PKPab**	**18 13 33.0**	**-0.1**
PESTR	**Estremoz**	**163.87**	**22**		**PKPdf**	**18 12 36.7**	**-0.2**
EVO	**Evora**	**164.02**	**23**	*e*PKPdf	**PKPdf**	**18 12 38.1**	**+1.0**
EVO	**Evora**	**164.02**	**23**	*e*PKPab	**PKPab**	**18 13 34.1**	**+0.4**
ESDC	**Sonseca Array**	**164.06**	**11**	PKP	**PKPdf**	**18 12 38.0**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=351,slow=3.7,SNR=8.3						
ESDC				PKPab	**PKPab**	**18 13 34.1**	**+0.2**
	comp=Z,17nm,0.9s,baz=340,slow=4.1,SNR=31						
PNCL	**Nicolau / Gran**	**164.19**	**26**	*e*PKPdf	**PKPdf**	**18 12 38.5**	**+1.3**

SRS					AML	AML	17 54 04.1		
	comp=E,1491μm,0.2s								
SRS					AML	AML	17 54 05.0		
	comp=N,1008μm,0.1s								
SRS	**Serrai**	**0.63**	**79**	*i* Pg		**Pb**	**17 53 54.4**	**+0.1**	
SRS				*i* Sg		**Sb**	**17 54 03.0**	**+0.1**	
PEHC	**Pehcevo**	**0.78**	**7**	*i* Pg		**Pn**	**17 53 57.7**	**-0.5**	
PEHC				*i* Sg		**Sn**	**17 54 09.1**	**-0.6**	
STIP	**Stip**	**0.82**	**327**	⇓*i* Pg		**Pb**	**17 53 56.9**	**-0.8**	
STIP				*i* Sg		**Sb**	**17 54 10.2**	**-0.2**	
KKB	**Krupnik**	**0.88**	**17**	*i* Pg		**Pg**	**17 53 58.8**	**0.0**	
KKB				*i* Sg		**Sg**	**17 54 10.8**	**+0.4**	
KKB	**Krupnik**	**0.88**	**17**	⇑*i* Pg		**Pg**	**17 53 58.9**	**+0.1**	
KKB				*i* Sg		**Sn**	**17 54 11.2**	**-0.8**	
NVR	**Nevrokopi**	**0.89**	**66**	P		**Pn**	**17 54 00.1**	**+0.5**	
NVR				S		**Sn**	**17 54 12.2**	**0.0**	
	comp=N,405nm,0.2s								
NVR	**Nevrokopi**	**0.89**	**66**	P		**Pn**	**17 53 59.9**	**+0.3**	
NVR				S		**Sn**	**17 54 11.3**	**-0.8**	
NVR					AML	AML	17 54 13.7		
	comp=N,713μm,0.1s								
NVR					AML	AML	17 54 14.1		
	comp=E,893μm,0.4s								
MMB	**Musomishta**	**0.91**	**53**	*i* Pg		**Pn**	**17 53 59.8**	**-0.1**	
MMB				*i* Sg		**Sn**	**17 54 12.4**	**-0.4**	
MMB	**Musomishta**	**0.91**	**53**	*i* Pg		**Pn**	**17 53 59.6**	**-0.3**	
MMB				*i* Sg		**Sn**	**17 54 12.7**	**-0.1**	
KOKK	**Kokkinochori,**	**0.94**	**101**	P		**Pn**	**17 53 59.9**	**-0.4**	
KOKK				S		**Sn**	**17 54 12.9**	**-0.5**	
	comp=E,232nm,0.4s								
KOKK	**Kokkinochori,**	**0.94**	**101**	P		**Pg**	**17 53 59.7**	**-0.2**	
FNA	**Florina**	**1.08**	**259**	P		**Pb**	**17 54 01.8**	**-0.3**	
FNA				S		**Sn**	**17 54 18.4**	**+1.4**	
	comp=E,220nm,0.5s								
FNA	**Florina**	**1.08**	**259**	*e*Pg		**Pb**	**17 54 01.5**	**-0.6**	
FNA				*e*Sg		**Sb**	**17 54 15.9**	**-0.1**	
FNA	**Florina**	**1.08**	**259**	P		**Pb**	**17 54 01.5**	**-0.6**	
FNA					AML	AML	17 54 21.1		
	comp=N,402μm,0.4s								
FNA					AML	AML	17 54 24.4		
	comp=E,480μm,0.7s								
FNA	**Florina**	**1.08**	**259**	*i* Pn		**Pb**	**17 54 01.6**	**-0.6**	
OUR	**Ouranopolis**	**1.13**	**126**	P		**Pg**	**17 54 03.3**	**-0.2**	
OUR				S		**Sg**	**17 54 18.7**	**+0.4**	
OUR	**Ouranopolis**	**1.13**	**126**	P		**Pg**	**17 54 03.3**	**-0.2**	
OUR				S		**Sg**	**17 54 19.0**	**+0.7**	
OUR					AML	AML	17 54 21.7		
	comp=E,1713μm,0.4s								
OUR					AML	AML	17 54 21.8		
	comp=N,1632μm,0.4s								
PAIG	**Paliouri**	**1.27**	**147**	P		**Pb**	**17 54 05.2**	**0.0**	
PAIG				S		**Sg**	**17 54 21.9**	**-0.9**	
KAVA	**Kavala**	**1.31**	**90**	P		**Pg**	**17 54 06.3**	**-0.6**	
TYRN	**Tyrnavos**	**1.35**	**198**	P		**Pb**	**17 54 06.5**	**-0.1**	
SKO	**Skopje**	**1.40**	**314**	*e*Pg		**Pn**	**17 54 07.1**	**+0.6**	
SKO				*e*Sg		**Sb**	**17 54 25.4**	**+0.4**	
SKO	**Skopje**	**1.40**	**314**	*i* Pn		**Pb**	**17 54 07.2**	**-0.2**	
NEST	**Nestorio**	**1.44**	**247**	P		**Pb**	**17 54 08.1**	**0.0**	
PENT	**Pentalofos**	**1.48**	**238**	P		**Pb**	**17 54 08.6**	**-0.4**	
KPRO	**Kipourio**	**1.50**	**226**	P		**Pb**	**17 54 09.1**	**0.0**	
OHR	**Ohrid**	**1.50**	**275**	*e*Pg		**Pb**	**17 54 09.4**	**+0.2**	
OHR				*e*Sg		**Sb**	**17 54 29.0**	**+1.0**	
OHR	**Ohrid**	**1.50**	**275**	*i* Pn		**Pb**	**17 54 09.4**	**+0.2**	
BOSS	**Bosilegrad**	**1.51**	**352**	*e*Pg		**Pb**	**17 54 10.0**	**+0.6**	
BOSS				*e*Sg		**Sg**	**17 54 30.1**	**-0.3**	
THAS	**Thassos island**	**1.52**	**104**	P		**Pb**	**17 54 09.3**	**-0.3**	
THL	**Klokotos Trika**	**1.55**	**202**	P		**Pb**	**17 54 09.6**	**-0.3**	
THL					AML	AML	17 54 33.8		
	comp=E,356μm,0.8s								
THL					AML	AML	17 54 38.0		
	comp=N,195μm,0.7s								
PRVS	**Prvonek**	**1.60**	**341**	*e*Pg		**Pb**	**17 54 10.5**	**-0.3**	
PRVS				*e*Sg		**Sb**	**17 54 31.2**	**+0.4**	
RZN	**Rozhen**	**1.63**	**64**	*i* P		**Pg**	**17 54 12.6**	**-0.4**	
RZN				*i* S		**Sg**	**17 54 34.6**	**+0.3**	
VTS	**Vitosha**	**1.65**	**12**	*i* P		**Pg**	**17 54 12.8**	**-0.7**	
VTS				*i* S		**Sg**	**17 54 34.4**	**-0.6**	
VTS	**Vitosha**	**1.65**	**12**	*e*Pg		**Pb**	**17 54 11.2**	**-0.6**	
VTS				*e*Sg		**Sb**	**17 54 33.1**	**+0.6**	
XOR	**Xorichti**	**1.66**	**169**	P		**Pn**	**17 54 10.2**	**+0.1**	
XOR					AML	AML	17 54 32.0		
	comp=E,288μm,0.6s								
XOR					AML	AML	17 54 33.0		
	comp=N,348μm,0.4s								
NEO	**Neokhori**	**1.73**	**168**	P		**Pn**	**17 54 11.4**	**+0.4**	
NEO				S		**Sn**	**17 54 33.1**	**+0.3**	
NEO					AML	AML	17 54 35.8		
	comp=E,412μm,0.2s								
NEO					AML	AML	17 54 35.9		
	comp=N,418μm,0.3s								
PGB	**Panagyurishte**	**1.84**	**34**	*i* P		**Pg**	**17 54 16.7**	**-0.3**	
PGB				*i* S		**Sg**	**17 54 40.7**	**-0.1**	
PLD	**Plovdiv**	**1.87**	**52**	*i* P		**Pg**	**17 54 17.1**	**-0.5**	
PLD				*i* S		**Sg**	**17 54 42.9**	**+1.0**	
PLD	**Plovdiv**	**1.87**	**52**	*e*Pg		**Pg**	**17 54 16.7**	**-0.9**	
PLD				*e*Sg		**Sg**	**17 54 41.3**	**-0.6**	
BARS	**Barje**	**1.95**	**339**	*e*Pn		**Pn**	**17 54 14.8**	**+0.6**	
BARS				*e*Sn		**Sn**	**17 54 38.1**	**-0.3**	
BARS	**Barje**	**1.95**	**339**	*i* Pn		**Pn**	**17 54 15.0**	**+0.9**	
AGG	**Agios Georgios**	**2.00**	**190**	P		**Pn**	**17 54 15.5**	**+0.6**	
MAKR	**Makrakomi, Fth**	**2.04**	**194**	P		**Pn**	**17 54 16.2**	**+0.8**	
RDO	**Rodhopi**	**2.09**	**85**	P		**Pn**	**17 54 16.2**	**+0.2**	
LIA	**Limnos Island**	**2.14**	**120**	P		**Pn**	**17 54 17.9**	**+1.2**	
SMTH	**Samothraki Isl**	**2.16**	**103**	P		**Pn**	**17 54 17.8**	**+0.8**	
DIM	**Dimitrovgrad**	**2.35**	**63**	*i* P		**Pg**	**17 54 25.7**	**-1.0**	
DIM				*i* S		**Sg**	**17 54 58.1**	**+1.0**	
MPEP	**Malo Peshtene**	**2.46**	**17**	*i* P		**Pg**	**17 54 28.1**	**-0.7**	
ALN	**Alexandroupoli**	**2.48**	**91**	P		**Pn**	**17 54 22.4**	**+1.1**	
ANX	**Ano Chora**	**2.49**	**196**	P		**Pn**	**17 54 22.8**	**+1.1**	
SELS	**Selova**	**2.54**	**331**	*e*Pn		**Pn**	**17 54 22.3**	**+0.1**	
BLKB	**Belogradchik**	**2.62**	**358**	⇑P		**Pb**	**17 54 28.0**	**-0.3**	
EFP	**Efpalio**	**2.66**	**195**	P		**Pn**	**17 54 24.8**	**+1.0**	
VALD	**Valchedram**	**2.73**	**10**	*i* P		**Pg**	**17 54 32.2**	**-1.8**	
PLVB	**Pleven**	**2.75**	**29**	⇑P		**Pg**	**17 54 33.8**	**-0.6**	
BOVS	**Bovan**	**2.75**	**344**	⇑P		**Pn**	**17 54 25.3**	**+0.2**	
BOVS	**Bovan**	**2.75**	**344**	*e*Pn		**Pn**	**17 54 25.0**	**-0.1**	
ZAGS	**Zajecar**	**2.84**	**352**	*e*Pn		**Pn**	**17 54 26.7**	**+0.4**	
ELND	**Elena**	**3.01**	**49**	⇑P		**Pn**	**17 54 31.4**	**+2.8**	
SJES	**Sjenica**	**3.08**	**318**	*e*Pn		**Pn**	**17 54 30.5**	**+0.8**	
IVAS	**Ivanjica**	**3.23**	**324**	*e*Pn		**Pn**	**17 54 31.9**	**+0.1**	
GRUS	**Gruza**	**3.27**	**333**	*e*Pn		**Pn**	**17 54 31.8**	**-0.4**	
KUBS	**Kucevo**	**3.51**	**347**	*e*Pn		**Pn**	**17 54 34.8**	**-0.7**	
TRUS	**Trudelj**	**3.67**	**332**	*e*Pn		**Pn**	**17 54 37.8**	**+0.1**	
DIVS	**Divibare**	**3.72**	**327**	*e*Pn		**Pn**	**17 54 37.5**	**-1.0**	
MDVR	**Moldovita**	**3.86**	**349**	⇓P		**Pn**	**17 54 39.9**	**-0.5**	
HERR	**Herculane**	**3.89**	**356**	⇓P		**Pn**	**17 54 41.1**	**+0.4**	
GZR	**Gura Zlata**	**4.39**	**360**	⇓P		**Pn**	**17 54 49.9**	**+2.2**	
LOT	**Lotru**	**4.50**	**9**	⇑P		**Pn**	**17 54 50.8**	**+1.4**	
ARR	**Arges**	**4.57**	**17**	⇓P		Pb	17 54 56.4	-5.2	
BZS	**Buzias**	**4.69**	**350**	⇑P		**Pn**	**17 54 51.6**	**-0.1**	
VOIR		**4.74**	**20**	⇑P		**Pn**	**17 54 54.7**	**+2.2**	
MLR	**Muntele Rosu**	**5.05**	**26**	⇓P		Pn	17 55 03.0	+6.1	
PLOR	**Plostina**	**5.61**	**29**	⇑P		Pn	17 55 09.8	+5.4	
VRI	**Vrincioaia**	**5.65**	**29**	⇑P		Pn	17 55 10.7	+5.8	

UCR ***11*** *17:58:31.1±1.3, 10°.65N×85°.00W, h6km±4km, MW4.0*
CATAC ***11*** *17:58:31.6±0.2, 10°.65N×84°.98W, h2km±2km, ML3.4*

ISC 11 17:58:31.7±0.8, 10°.64N±0°.02×84°.99W±0°.02, h17km±6km, n76, σ1°21/104, 5C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUI	**Cuipilapa**	**0.17**	**276**	⇑*i* P	**Pg**	**17 58 35.4**	**-0.9**
CUI				*e*S	**Sg**	**17 58 38.5**	**-0.8**
VMAR	**Armenia, Volca**	**0.21**	**324**	*e*P	**Pg**	**17 58 36.1**	**-0.8**
VMAR	**Armenia, Volca**	**0.21**	**324**	*i* P	**Pg**	**17 58 36.0**	**-0.8**
VMAR				IAML		17 58 53.3	
	comp=E,19μm,1.0s						
COLC	**Colonia**	**0.21**	**277**	⇑*i* P	**Pg**	**17 58 36.1**	**-0.8**
CNAS	**Canas**	**0.23**	**207**	⇓*i* P	**Pg**	**17 58 37.5**	**+0.5**
VERA	**Finca Concepci**	**0.24**	**28**	⇓*i* P	**Pg**	**17 58 36.5**	**-0.7**
VERA				*e*S	**Sg**	**17 58 41.3**	**+0.3**
ARE1	**Arenal 1**	**0.32**	**124**	⇓*i* P	**Pg**	**17 58 38.4**	**-0.1**
VACR	**Volcan Arenal**	**0.35**	**118**	⇓*i* P	**Pg**	**17 58 38.9**	**-0.1**
VACR				*e*S	**Sb**	**17 58 45.1**	**+0.4**
VACR	**Volcan Arenal**	**0.35**	**118**	*i* P	**Pg**	**17 58 38.8**	**-0.2**
VACR				IAML		17 58 49.1	
	comp=Z,6μm,1.0s						
JTS	**Las Juntas de**	**0.35**	**174**	*e*P	**Pg**	**17 58 38.1**	**-0.9**
JUNT	**Juntas**	**0.35**	**176**	⇓*i* P	**Pg**	**17 58 38.3**	**-0.9**
JUNT				*e*S	**Sg**	**17 58 43.6**	**-0.6**
TUNA	**La Fortuna**	**0.38**	**117**	⇓*e*P	**Pb**	**17 58 40.5**	**+0.5**
GPS3	**Bodega del ICE**	**0.39**	**287**	⇑*i* P	**Pb**	**17 58 40.6**	**+0.3**
VORI	**VORI**	**0.40**	**297**	*e*P	**Pg**	**17 58 39.0**	**-0.9**
VRLE	**La Escondida,**	**0.40**	**292**	⇑*e*P	**Pg**	**17 58 39.3**	**-0.7**
VRLE				*e*S	**Sg**	**17 58 45.2**	**-0.4**
VRLE	**La Escondida,**	**0.40**	**292**	*i* P	**Pg**	**17 58 39.1**	**-0.9**
VRLE				*i* S	**Sg**	**17 58 45.6**	**0.0**
VRLE				IAML		17 58 50.9	
	comp=Z,2μm,1.0s						
GB1A	**Borinquen Arri**	**0.44**	**294**	*e*P	**Pg**	**17 58 40.0**	**-0.8**
SOCE	**Pocosol**	**0.44**	**125**	*e*P	**Pg**	**17 58 40.1**	**-0.6**
SOCE				*e*S	**Sg**	**17 58 47.4**	**+0.5**
SOCE	**Pocosol**	**0.44**	**125**	*i* P	**Pg**	**17 58 40.1**	**-0.6**
SOCE				*i* S	**Sg**	**17 58 47.3**	**+0.5**
SOCE				IAML		17 58 50.1	
	comp=Z,4μm,1.0s						
PLVR	**Palo Verde**	**0.46**	**231**	⇓*i* P	**Pg**	**17 58 40.5**	**-0.7**
PLVR				*e*S	**Sg**	**17 58 47.5**	**+0.1**
LCHIL	**Los Chiles**	**0.48**	**34**	*e*P	**Pg**	**17 58 40.7**	**-0.6**
ORTG	**Ortega, Santa**	**0.54**	**239**	*e*S	**Sg**	**17 58 50.0**	**+0.2**
ORTG				*e*P	**Pg**	**17 58 41.8**	**-0.7**
ORTG	**Ortega, Santa**	**0.54**	**239**	*i* P	**Pg**	**17 58 41.8**	**-0.7**
ORTG				*i* S	**Sg**	**17 58 50.1**	**+0.2**
ORTG				IAML		17 58 52.9	
	comp=Z,800nm,1.0s						
ELI1	**Hacienda Flor**	**0.56**	**271**	⇑*i* P	**Pg**	**17 58 42.2**	**-0.6**
ELI1				*e*S	**Sg**	**17 58 50.0**	**-0.2**
COVE	**Coope Vega, Sa**	**0.58**	**82**	*e*P	**Pg**	**17 58 42.2**	**-1.1**
COVE	**Coope Vega, Sa**	**0.58**	**82**	*i* P	**Pg**	**17 58 42.4**	**-0.9**
COVE				IAML		17 59 06.2	
	comp=Z,2μm,1.0s						
DELF	**Filadelfia**	**0.59**	**251**	*e*P	**Pg**	**17 58 42.6**	**-0.8**
NYURE	**Nandayure**	**0.69**	**202**	⇓*i* P	**Pg**	**17 58 45.2**	**-0.1**
NYURE				*e*S	**Sg**	**17 58 54.7**	**+0.2**
CPMI	**Catarata Coope**	**0.69**	**121**	⇓*i* P	**Pg**	**17 58 44.7**	**-0.7**
CPMI				*e*S	**Sb**	**17 58 55.3**	**+0.4**
CPMI	**Catarata Coope**	**0.69**	**121**	*i* P	**Pg**	**17 58 44.8**	**-0.7**
CPMI				*i* S	**Sb**	**17 58 55.3**	**+0.4**
CPMI				IAML		17 59 12.6	
	comp=Z,850nm,1.0s						
JUD3	**Juan Diaz 3**	**0.72**	**229**	*e*P	**Pg**	**17 58 45.0**	**-0.8**
JUD3				*e*S	**Sg**	**17 58 54.4**	**-1.0**
RAMO	**San Ramon**	**0.75**	**137**	*e*P	**Pb**	**17 58 47.2**	**+0.7**
CMARA	**Lajas Hojancha**	**0.75**	**215**	*e*P	**Pg**	**17 58 45.5**	**-1.0**
LCRUZ	**La Cruz**	**0.77**	**305**	*e*P	**Pb**	**17 58 47.8**	**+1.1**
SARCI	**Sarchi**	**0.83**	**131**	*e*P	**Pg**	**17 58 44.0**	**-4.0**
POA5	**Crater Von Fra**	**0.86**	**120**	*e*P	**Pg**	**17 58 47.6**	**-1.0**
VPS6	**Volcano Poas**	**0.87**	**121**	*e*P	**Pg**	**17 58 47.0**	**-1.7**
TCS1	**Tacares**	**0.90**	**131**	*e*P	**Pg**	**17 58 48.4**	**-0.9**
TCS1	**Tacares**	**0.90**	**131**	*i* P	**Pg**	**17 58 48.5**	**-0.8**
TCS1				IAML		17 59 08.0	
	comp=Z,4μm,1.0s						
INDI	**Punta indio, G**	**0.92**	**214**	*e*P	**Pg**	**17 58 48.5**	**-1.1**
INDI	**Punta indio, G**	**0.92**	**214**	*i* P	**Pg**	**17 58 48.4**	**-1.2**
INDI				*i* S	**Sg**	**17 59 01.4**	**-0.4**
INDI				IAML		17 59 09.4	
	comp=Z,560nm,1.0s						
SARA	**Sarapiqu**	**0.97**	**101**	*e*P	**Pg**	**17 58 49.4**	**-1.1**
JACO	**JACO, Garabito**	**1.02**	**162**	*e*P	**Pg**	**17 58 50.0**	**-1.6**
JACO	**JACO, Garabito**	**1.02**	**162**	*i* P	**Pg**	**17 58 49.9**	**-1.6**
JACO				IAML		17 58 50.5	
	comp=Z,360nm,1.0s						
JACO				*i* S	**Sg**	**17 59 04.3**	**-0.7**
CBL1	**Cabuya**	**1.05**	**186**	*e*P	**Pg**	**17 58 50.7**	**-1.4**
OMEN	**Al SSO del Vol**	**1.07**	**324**	*i* P	**Pg**	**17 58 51.9**	**-0.6**
OMEN				IAML		17 59 15.7	
	comp=Z,690nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.09**	**107**	*i* P	**Pg**	**17 58 52.0**	**-0.9**
RIFO				*i* S	**Sg**	**17 59 06.8**	**-0.5**
RIFO				IAML		17 59 18.0	
	comp=Z,870nm,1.0s						
MORN	**Al O del Volca**	**1.11**	**324**	*i* P	**Pg**	**17 58 52.3**	**-1.0**
MORN				IAML		17 59 14.3	
	comp=Z,900nm,1.0s						
CONN	**Concepcion**	**1.11**	**326**	*i* P	**Pg**	**17 58 52.6**	**-0.7**
CONN				IAML		17 59 21.4	
	comp=Z,4μm,1.0s						
JAPN	**Al SSO del Vol**	**1.11**	**322**	*i* P	**Pb**	**17 58 52.8**	**+0.2**
JAPN				IAML		17 58 54.5	
	comp=Z,600nm,1.0s						
OCM	**Ochomogo**	**1.25**	**126**	*e*P	**Pg**	**17 58 54.1**	**-1.8**
OCM	**Ochomogo**	**1.25**	**126**	*i* P	**Pg**	**17 58 54.3**	**-1.7**
OCM				IAML		17 58 56.7	
	comp=Z,310nm,1.0s						
OCM				*i* S	**Sn**	**17 59 14.0**	**+2.7**
TBLN	**Tablon, Guarco**	**1.27**	**130**	*i* P	**Pg**	**17 58 53.8**	**-2.4**
TBLN				*i* S	**Sn**	**17 59 13.7**	**+2.1**
TBLN				IAML		17 59 14.9	
	comp=Z,440nm,1.0s						
VICA	**Volcano Irazu**	**1.30**	**120**	*e*P	**Pg**	**17 58 54.7**	**-2.2**
HAYA	**Volcan Irazu**	**1.30**	**120**	*i* P	**Pg**	**17 58 54.3**	**-2.7**
HAYA				IAML		17 59 23.7	
	comp=Z,480nm,1.0s						
LCR2	**La Lucha 2**	**1.31**	**133**	*e*P	**Pg**	**17 58 54.7**	**-2.5**
LCR2	**La Lucha 2**	**1.31**	**133**	*i* P	**Pg**	**17 58 54.6**	**-2.5**
LCR2				*i* S	**Sg**	**17 59 13.1**	**-1.3**
LCR2				IAML		17 59 23.0	
	comp=Z,230nm,1.0s						
ACON	**Acoyapa**	**1.33**	**352**	⇓*i* P	**Pn**	**17 58 55.2**	**-0.5**
ACON				*e*S	**Sg**	**17 59 13.5**	**-1.4**
ACON	**Acoyapa**	**1.33**	**352**	*i* P	**Pn**	**17 58 55.2**	**-0.5**
ACON				*i* S	**Sg**	**17 59 13.7**	**-1.2**
ACON				IAML		17 59 20.2	
	comp=Z,1μm,1.0s						
VTLA	**Turrialba Volc**	**1.35**	**118**	*e*P	**Pn**	**17 58 55.4**	**-0.8**
CVTG	**Turrialba Volc**	**1.35**	**118**	*e*P	**Pn**	**17 58 55.6**	**-0.7**
VTLO	**VTLO**	**1.37**	**115**	*e*P	**Pn**	**17 58 56.0**	**-0.5**
VTCV	**VTCV, Calle Va**	**1.40**	**118**	*e*P	**Pn**	**17 58 57.0**	**+0.3**
RIMA	**Rio Macho**	**1.41**	**128**	*e*P	**Pn**	**17 58 56.4**	**-0.5**
RIMA	**Rio Macho**	**1.41**	**128**	*i* P	**Pn**	**17 58 56.3**	**-0.5**
RIMA				*i* S	**Sn**	**17 59 17.6**	**+2.5**
RIMA				IAML		17 59 22.0	
	comp=Z,300nm,1.0s						
LCOCO	**El Coco**	**1.51**	**111**	*e*P	**Pn**	**17 58 58.2**	**+0.1**
CDM	**Cerro de Muert**	**1.62**	**132**	*e*P	**Pn**	**17 59 00.0**	**+0.1**
CDM	**Cerro de Muert**	**1.62**	**132**	*i* P	**Pn**	**17 58 59.8**	**-0.1**
CDM				*i* S	**Sg**	**17 59 23.5**	**-0.5**
CDM				IAML		17 59 27.0	
	comp=Z,350nm,1.0s						
BUS1	**Rivas**	**1.63**	**131**	*e*P	**Pn**	**17 59 00.1**	**-0.1**
ESPN	**Las Esperanzas**	**1.69**	**23**	*i* P	**Pn**	**17 59 00.8**	**+0.3**
ESPN				*i* S	**Sn**	**17 59 22.8**	**+1.0**
ESPN				IAML		17 59 26.9	
	comp=Z,910nm,1.0s						
BLUN	**Bluefields**	**1.81**	**41**	*i* P	**Pn**	**17 59 02.0**	**-0.1**
BLUN				*i* S	**Sn**	**17 59 26.1**	**+1.4**
BLUN				IAML		17 59 30.2	
	comp=Z,760nm,1.0s						
SRBA	**San Rafael, Bu**	**2.13**	**131**	*i* P	**Pn**	**17 59 08.2**	**+1.5**
SRBA				*i* S	**Sb**	**17 59 37.3**	**+1.2**
SRBA				IAML		17 59 44.3	
	comp=Z,110nm,1.0s						
ROCN	**Rota Cerro Neg**	**2.54**	**318**	*i* PA		17 59 15.9	
ROCN				IAML		17 59 19.2	
	comp=Z,220nm,1.0s						
LIMN	**Finca el Limon**	**2.76**	**331**	*i* P	**Pb**	**17 59 22.5**	**+1.7**
LIMN				IAML		18 00 12.9	
	comp=Z,110nm,1.0s						
CTCR	**Cotoan**	**2.80**	**128**	*i* P	**Pb**	**17 59 19.8**	**-1.6**
CTCR				IAML		18 00 04.9	
	comp=Z,270nm,1.0s						
CHNN	**El Viejo**	**2.88**	**313**	*i* P	**Pn**	**17 59 13.3**	**-3.6**

IDC ***11*** *18:03:13.4±2.2, 24°.00S×179°.98E, h499km±21km, mb3.5/8, mbtmp4.4/10, Error ellipse: s-maj=22.2km s-min=17.8km az=25.0*
NEIC ***11*** *18:03:13.1±1.9, 24°.0S±0°.2×179°.9W±0°.1, h499km±9km, mb4.6/31, Error ellipse: s-maj=23.1km s-min=17.8km az=201.0*

ISC 11 18:03:15.2±0.6, 24°.0S±0°.1×179°.96E±0°.09, h526km, n55, σ1°32/56, mb4.5/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**11.58**	**274**	P	**P**	**18 05 49.0**	**-0.4**
DZM	**Mont Dzumac**	**12.59**	**276**	P	**P**	**18 05 58.3**	**-1.8**
DZM	**Mont Dzumac**	**12.59**	**276**	P	**P**	**18 05 59.8**	**-0.3**
	5.8nm,0.8s,baz=109,slow=18,SNR=2.2						
AFI	**Afiamalu**	**12.72**	**39**	P	**P**	**18 05 59.2**	**-2.3**
URZ	**Urewera**	**14.42**	**189**	P	**P**	**18 06 17.0**	**-1.8**
	8.7nm,0.5s,baz=60,slow=5.8,SNR=7.3						
BKZ	**Black Stump Fm**	**15.40**	**190**	P	**P**	**18 06 28.5**	**-0.6**
BKZ				IAmb	IAmb	18 06 31.1	
	comp=Z,8.6nm,0.9s						
BFZ	**Birch Farm**	**16.92**	**190**	P	**P**	**18 06 41.0**	**-3.1**
BFZ				IAmb	IAmb	18 07 08.6	
	comp=Z,37nm,1.4s						
MRZ	**Mangatainoka R**	**17.01**	**191**	P	**P**	**18 06 42.9**	**-2.1**
MRZ				IAmb	IAmb	18 07 10.2	
	comp=Z,29nm,1.4s						
TCW	**Tory Channel**	**17.80**	**194**	P	**P**	**18 06 51.9**	**-0.3**
QRZ	**Quartz Range**	**17.89**	**199**	P	**P**	**18 06 52.8**	**-0.3**
NNZ	**Nelson**	**18.02**	**196**	P	**P**	**18 06 53.4**	**-0.9**
TUWZ	**Tuamarina**	**18.09**	**195**	P	**P**	**18 06 53.0**	**-1.8**
MRNZ	**Matariki Terra**	**18.36**	**197**	P	**P**	**18 06 58.0**	**+0.7**
THZ	**Tophouse**	**18.66**	**197**	P	**P**	**18 06 59.0**	**-1.1**
KHZ	**Kahutara**	**19.12**	**195**	P	**P**	**18 07 03.4**	**-0.8**
GVZ	**Greta Valley S**	**19.76**	**195**	P	**P**	**18 07 07.8**	**-2.3**
LTZ	**Lake Taylor**	**19.78**	**197**	P	**P**	**18 07 08.4**	**-1.9**
RPZ	**Rata Peaks**	**20.98**	**198**	P	**P**	**18 07 19.5**	**-1.6**
RPZ				IAmb	IAmb	18 07 52.5	
	comp=Z,42nm,1.4s						
ARMA	**Armidale**	**25.95**	**250**	P	**P**	**18 08 06.1**	**+0.3**
EIDS	**Eidsvold**	**26.25**	**261**	P	**P**	**18 08 09.6**	**+1.3**
CAN	**Canberra**	**29.05**	**240**	P	**P**	**18 08 33.5**	**+0.6**
CAN				IAmb	IAmb	18 09 03.2	
	comp=Z,21nm,1.4s						
CTA	**Charters Tower**	**31.44**	**270**	P	**P**	**18 08 54.5**	**+0.9**
	comp=Z,16nm,0.4s,baz=95,slow=11,SNR=57						
	comp=Z,16nm,0.4s						
CTAO	**Charters Tower**	**31.44**	**270**	P	**P**	**18 08 54.4**	**+0.8**
PMG	**Port Moresby**	**34.49**	**289**	P	**P**	**18 09 19.0**	**-0.4**
PMG				IAmb	IAmb	18 09 20.6	
	comp=Z,15nm,0.8s						
PMG	**Port Moresby**	**34.49**	**289**	PKiKP	**P**	**18 09 19.4**	**0.0**
	comp=Z,14nm,0.7s,baz=127,slow=4.5,SNR=7.0						
STKA	**Stephens Creek**	**34.65**	**248**	P	**P**	**18 09 19.0**	**-1.5**
STKA	**Stephens Creek**	**34.65**	**248**	P	**P**	**18 09 20.7**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=100,slow=6.1,SNR=4.9						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**39.37**	**247**	P	**P**	**18 09 59.1**	**-0.2**
BBOO				IAmb	IAmb	18 10 37.9	
	comp=Z,27nm,1.4s						
AS31	**Alice Springs**	**41.98**	**261**	P	**P**	**18 10 19.6**	**-0.8**
ASAR	**Alice Springs**	**41.98**	**261**	P	**P**	**18 10 20.5**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=96,slow=7.4,SNR=20						
ASAR				ScP	**ScP**	**18 15 06.9**	**+3.2**
	comp=Z,1.6nm,0.9s,baz=110,slow=4.2,SNR=8.4						
	comp=Z,4.7nm,0.8s						
WR0	**Warramunga Arr**	**42.17**

PB06				*e*S	**Sn**	**18 16 11.2**	**+0.1**
PB06				IAML		18 16 11.8	
	comp=N,8μm,0.2s						
AF01	**San Pedro de A**	**0.88**	**68**⇑	*i*P	**Pn**	**18 15 59.8**	**0.0**
AF01				*e*S	**Sn**	**18 16 14.2**	**+0.3**
PB05	**IPOC Station P**	**1.13**	**292**	*e*P	**Pn**	**18 16 02.2**	**-0.2**
PB05				*e*S	**Sn**	**18 16 19.5**	**+1.0**
PB05				IAML		18 16 21.5	
	comp=Z,854nm,0.3s						
PB05	**IPOC Station P**	**1.13**	**292**⇑	*i*P	**Pn**	**18 16 02.2**	**-0.2**
PB05				*e*S	**Sn**	**18 16 18.7**	**+0.2**
PB05				IAML		18 16 21.2	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**1.38**	**313**	*e*P	**Pn**	**18 16 05.5**	**0.0**
PB04				*e*S	**Sn**	**18 16 24.7**	**+0.8**
PB04				IAML		18 16 25.0	
	comp=Z,1μm,0.3s						
PB04	**IPOC Station P**	**1.38**	**313**⇑	*i*P	**Pn**	**18 16 05.4**	**0.0**
PB04				*i*S	**Sn**	**18 16 23.8**	**-0.1**
PB04				IAML		18 16 27.5	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**1.49**	**354**	*e*P	**Pn**	**18 16 07.4**	**+0.5**
PB09				*e*S	**Sn**	**18 16 28.3**	**+1.8**
PB09				IAML		18 16 36.0	
	comp=Z,506nm,0.6s						
PB09	**IPOC Station P**	**1.49**	**354**	*e*P	**Pn**	**18 16 08.0**	**+1.1**
PB09				*e*S	**Sn**	**18 16 27.8**	**+1.3**
PB07	**IPOC Station P**	**1.73**	**334**⇓	*i*P	**Pn**	**18 16 10.1**	**+0.2**
PB07				*e*S	**Sn**	**18 16 31.9**	**+0.1**
PB07				IAML		18 16 40.0	
	comp=N,536nm,0.4s						
PB14	**IPOC Station P**	**1.81**	**222**	*e*P	**Pn**	**18 16 11.2**	**+0.1**
PB14				*e*S	**Sn**	**18 16 34.0**	**+0.1**
GO02	**Mina Guanaco**	**1.93**	**194**⇑	*i*P	**Pn**	**18 16 12.8**	**+0.2**
GO02				*e*S	**Sn**	**18 16 37.6**	**+1.0**
PB02	**IPOC Station P**	**2.10**	**338**	*e*P	**Pn**	**18 16 14.8**	**+0.1**
PB02				*e*S	**Sn**	**18 16 40.7**	**+0.3**
PB02				IAML		18 16 47.9	
	comp=E,823nm,0.2s						
PB01	**IPOC Station P**	**2.27**	**350**⇑	*i*P	**Pn**	**18 16 17.1**	**+0.3**
PB01				*e*S	**Sn**	**18 16 44.3**	**0.0**
PB01				IAML		18 16 50.5	
	comp=N,427nm,0.2s						
PATCX	**Punta Patache**	**2.65**	**338**	*e*P	**Pn**	**18 16 21.0**	**-0.9**
PATCX				IAML		18 17 02.9	
	comp=E,278nm,0.3s						
TA01	**Diego Aracena**	**2.90**	**339**	*e*P	**Pn**	**18 16 23.9**	**-1.3**
TA01				IAML		18 17 26.0	
	comp=E,164nm,0.3s						
PX03	**IPOC Station P**	**2.92**	**350**	*e*P	**Pn**	**18 16 25.5**	**-0.1**
HMBC	**Humberstone**	**3.09**	**346**	*e*P	**Pn**	**18 16 27.0**	**-0.9**
HMBC				IAML		18 17 31.2	
	comp=N,236nm,0.3s						
PB08	**IPOC Station P**	**3.13**	**359**	*e*P	**Pn**	**18 16 28.9**	**+0.2**
PB08				IAML		18 17 16.9	
	comp=N,111nm,0.2s						
AC01	**Pan de Azucar**	**3.17**	**206**	*e*P	**Pn**	**18 16 27.3**	**-1.5**
AC01				*e*S	**Sn**	**18 17 09.1**	**+3.3**
AC01				IAML		18 17 11.8	
	comp=E,228nm,0.7s						
PB11	**IPOC Station P**	**3.55**	**351**	*e*P	**Pn**	**18 16 33.6**	**-0.5**
PB11				*e*S	**Sn**	**18 17 15.8**	**+0.6**
GO01	**Chusmiza**	**3.60**	**358**	*e*P	**Pn**	**18 16 35.0**	**-0.1**
AC06	**Mina Casimiro**	**4.22**	**196**	*e*P	**Pn**	**18 16 40.9**	**-2.1**
AC06				*e*S	Sn	18 17 39.8	+8.7
GO03	**Copiap**	**4.42**	**194**	*e*P	**Pn**	**18 16 44.3**	**-1.5**
PB12	**IPOC Station P**	**4.79**	**346**	*e*P	**Pn**	**18 16 48.5**	**-2.4**
PB16	**IPOC Station P**	**4.94**	**355**⇑	*e*P	**Pn**	**18 16 54.6**	**+1.2**

DJA 11 18:19:23.5±0.8,**3°S**±3°×**13°1E**±°,**h26**km±8km,**M3.8**/12,
mb4.0/7,**MLv3.6**/12,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.27**	**74**	P	Pn	18 19 45.7	+0.1
BNDI	**Bandanaira**	**1.67**	**222**	P	Pn	18 19 51.0	-0.1
SIJI	**Sorong**	**2.41**	**6**	P	Pn	18 20 01.3	0.0
SWI	**Sorong**	**2.41**	**5**	P	Pn	18 20 01.4	+0.1
KMPI	**Kaimana, Papua**	**2.70**	**98**	P	Pn	18 20 05.2	0.0
NLAI	**Namlea**	**3.92**	**270**	P	Pn	18 20 22.2	+0.1
LBMI	**Labuha**	**4.40**	**307**	P	Pn	18 20 28.6	0.0
SAUI	**Saumlaki**	**4.68**	**177**	P	Pn	18 20 31.7	-0.8
SANI	**Sanana**	**5.18**	**284**	P	Pn	18 20 38.7	-0.7
	8.4nm,1.1s,0.1nm						
TNTI	**Ternate**	**5.44**	**318**	P	Pn	18 20 42.9	-0.1
	11nm,0.7s,0.1nm						

*SNET **11** 18:19:33.5±7.2,13°.65N×89°.21W,h4km,ML4.0*
*CATAC **11** 18:19:35.4±0.2,13°.69N×89°.16W,h4km±1km,ML4.0*
*NEIC **11** 18:19:35.9±2.6,13°.79N±0°.04×89°.12W±0°.04,h10km±2km,*
mb4.2/2,Error ellipse: s-maj=9.8km s-min=4.0km
az=222.0

ISC 11 18:19:34.9±0.7,**13°.71N**±0°.03×**89°.14W**±0°.02,**h9**km±4km,
n83,σ**0**.**95**/105,**11C-27D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDBS	**Universidad Do**	**0.01**	**281**⇑	*i*P	**Pg**	**18 19 36.9**	**+0.2**
UDBS				*i*S	**Sg**	**18 19 38.0**	**+0.1**
UDBS				IAML		18 19 39.0	
	comp=Z,460μm,1.0s						
AEIL	**Aeropuerto Ilo**	**0.03**	**124**	*i*P	**Pg**	**18 19 37.2**	**+0.5**
IGN	**Direccin Gen**	**0.03**	**273**	*i*P	**Pg**	**18 19 36.9**	**+0.1**
IGN	**Direccin Gen**	**0.03**	**273**⇓	*i*P	**Pg**	**18 19 36.8**	**+0.1**
IGN				*i*S	**Sg**	**18 19 38.2**	**+0.2**
IGN				IAML		18 19 40.4	
	comp=Z,870μm,1.0s						
UTEC	**Universidad Te**	**0.06**	**259**⇓	*i*P	**Pg**	**18 19 37.0**	**0.0**
UTEC				IAML		18 19 37.2	
	comp=Z,140μm,1.0s						
UTEC				*i*S	**Sg**	**18 19 38.6**	**+0.1**
LOMA	**Loma Larga**	**0.07**	**204**⇑	*i*P	**Pg**	**18 19 37.1**	**-0.1**
LOMA				IAML		18 19 39.9	
	comp=Z,170μm,1.0s						
SEMO	**Seminario San**	**0.08**	**264**	⇓*i*P	**Pg**	**18 19 37.3**	**0.0**
SEMO				*i*S	**Sg**	**18 19 38.9**	**-0.1**
SEMO				IAML		18 19 41.1	
	comp=Z,200μm,1.0s						
SNET	**Serv Nac Est T**	**0.09**	**254**	Pg	**Pg**	**18 19 37.4**	**-0.1**
SNET	**Serv Nac Est T**	**0.09**	**254**⇑	*i*P	**Pg**	**18 19 37.5**	**+0.1**
SNET				*i*S	**Sg**	**18 19 39.0**	**-0.2**
SNET				IAML		18 19 41.2	
	comp=Z,190μm,1.0s						
UEES	**Universidad Ev**	**0.10**	**272**⇓	*i*P	**Pg**	**18 19 37.7**	**+0.2**
UEES				*i*S	**Sg**	**18 19 39.5**	**+0.2**
UEES				IAML		18 19 40.8	
	comp=Z,57μm,1.0s						
PANCS	**Alcalda de**	**0.11**	**201**⇑	*i*P	**Pg**	**18 19 37.4**	**-0.2**
PANCS				*i*S	**Sg**	**18 19 38.8**	**-0.7**
PANCS				IAML		18 19 39.3	
	comp=Z,340μm,1.0s						
ITCA	**Escuela Especi**	**0.14**	**254**⇑	*i*P	**Pg**	**18 19 38.3**	**+0.2**
ITCA				*i*S	**Sg**	**18 19 40.5**	**+0.2**
ITCA				IAML		18 19 42.1	
	comp=Z,270μm,1.0s						
SJTE	**Alcalda de S**	**0.16**	**127**⇓	*i*P	**Pg**	**18 19 39.1**	**+0.6**
SJTE				*i*S	**Sg**	**18 19 41.8**	**+0.9**
SJTE				IAML		18 19 43.2	
	comp=Z,30μm,1.0s						
PMON	**Piamonte**	**0.17**	**270**⇓	*i*P	**Pg**	**18 19 39.1**	**+0.5**
PMON				*i*S	**Sg**	**18 19 41.8**	**+0.7**
PMON				IAML		18 19 42.1	
	comp=Z,160μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.18**	**313**⇓	*i*P	**Pg**	**18 19 39.3**	**+0.6**
QUEZ				*i*S	**Sg**	**18 19 41.9**	**+0.6**
QUEZ				IAML		18 19 52.3	
	comp=Z,170μm,1.0s						
PAVA	**Las Pavas**	**0.20**	**90**⇑	*i*P	**Pg**	**18 19 40.3**	**+1.2**
PAVA				*i*S	**Sg**	**18 19 43.9**	**+2.0**
PAVA				IAML		18 19 44.4	
	comp=Z,130μm,1.0s						
CEDA	**San Andres**	**0.26**	**290**	*i*P	**Pg**	**18 19 40.6**	**+0.3**
CEDA	**San Andres**	**0.26**	**290**⇓	*i*P	**Pg**	**18 19 40.6**	**+0.3**
CEDA				*i*S	**Sg**	**18 19 44.7**	**+0.8**
CEDA				IAML		18 19 59.7	
	comp=Z,39μm,1.0s						
COEG	**Centro de Oper**	**0.27**	**110**⇓	*i*P	**Pb**	**18 19 41.3**	**-0.7**
COEG				IAML		18 19 46.9	
	comp=Z,7μm,1.0s						
JAYA	**Jayaque - finc**	**0.31**	**259**⇑	*i*P	**Pg**	**18 19 41.2**	**+0.1**
JAYA				*i*S	**Sg**	**18 19 45.7**	**+0.5**
JAYA				IAML		18 19 46.9	
	comp=Z,39μm,1.0s						
UESV	**Universidad de**	**0.35**	**102**	*i*S	**Sb**	**18 19 48.4**	**-0.6**
TECO	**Alcaldia de Te**	**0.39**	**116**⇓	*i*P	**Pg**	**18 19 43.2**	**+0.6**
TECO				*i*S	**Sg**	**18 19 48.8**	**+1.0**
TECO				IAML		18 19 53.4	
	comp=Z,3μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.40**	**91**⇓	*i*P	**Pb**	**18 19 44.0**	**-0.2**
SCLA				*i*S	**Sb**	**18 19 50.2**	**-0.2**
SCLA				IAML		18 19 55.0	
	comp=Z,6μm,1.0s						
UNIC	**Universidad Ca**	**0.48**	**304**⇓	*i*P	**Pg**	**18 19 44.6**	**+0.3**
UNIC				*i*S	**Sg**	**18 19 51.4**	**+0.8**
UNIC				IAML		18 19 51.8	
	comp=Z,9μm,1.0s						
CEVE	**Cerro Verde**	**0.48**	**284**	*e*S	**Sb**	**18 19 54.1**	**+1.0**
CEVE	**Cerro Verde**	**0.48**	**284**⇓	*i*P	**Pb**	**18 19 45.4**	**-0.4**
CEVE				IAML		18 20 01.7	
	comp=Z,6μm,1.0s						
LLGN	**La Laguna**	**0.49**	**23**⇑	*i*P	**Pb**	**18 19 45.2**	**-0.5**
LLGN				*i*S	**Sb**	**18 19 52.5**	**-0.5**
LLGN				IAML		18 19 53.0	
	comp=Z,5μm,1.0s						
NUBE	**Las Nubes**	**0.65**	**287**	*i*S	**Sg**	**18 19 56.9**	**+0.8**
ALJI	**Alcalda de J**	**0.67**	**125**⇓	*i*P	**Pg**	**18 19 47.5**	**-0.4**
ALJI				IAML		18 19 50.0	
	comp=Z,2μm,1.0s						
LOAL	**Lomas de Alarc**	**0.68**	**295**	*i*PA		18 19 48.7	
LOAL				*i*SA		18 19 58.7	
LOAL				IAML		18 20 01.3	
	comp=Z,6μm,1.0s						
MTO3	**Montecristo**	**0.71**	**343**	Pg	**Pg**	**18 19 49.0**	**+0.1**
MTO3				Sg	**Sg**	**18 19 58.3**	**+0.1**
MTO3	**Montecristo**	**0.71**	**343**⇓	*i*P	**Pg**	**18 19 48.9**	**+0.1**
MTO3				*i*S	**Sb**	**18 19 59.2**	**-0.5**
MTO3				IAML		18 19 59.2	
	comp=Z,2μm,1.0s						
JUAM	**Asuncion Mita**	**0.83**	**318**⇓	*i*P	**Pg**	**18 19 50.8**	**-0.1**
JUAM				*i*S	**Sb**	**18 20 02.3**	**-0.5**
JUAM				IAML		18 20 04.4	
	comp=Z,3μm,1.0s						
PACA	**Pacayal**	**0.83**	**107**⇓	*i*P	**Pb**	**18 19 51.8**	**+0.2**
PACA				IAML		18 20 21.3	
	comp=Z,7μm,1.0s						
ESQI	**Esquipulas**	**0.86**	**347**	Pg	**Pg**	**18 19 51.9**	**+0.2**
ESQI					**Sb**	**18 20 04.2**	**+0.3**
ESQI	**Esquipulas**	**0.86**	**347**⇓	*i*P	**Pb**	**18 19 52.1**	**-0.1**
ESQI				IAML		18 20 10.4	
	comp=Z,4μm,1.0s						
CAHU	**Cacacuatique**	**0.90**	**86**	*e*P	**Pb**	**18 19 52.9**	**0.0**
SARH	**Santa Rosa de**	**1.12**	**19**⇑	*i*P	**Pn**	**18 19 56.8**	**0.0**
LCND	**La Caada**	**1.28**	**108**⇓	*i*P	**Pb**	**18 19 59.1**	**-0.1**
LCND				IAML		18 20 29.7	
	comp=Z,910nm,1.0s						
CNCH	**Conchagua**	**1.34**	**109**	*e*P	**Pb**	**18 20 00.5**	**+0.2**
CNCH	**Conchagua**	**1.34**	**109**⇓	*i*P	**Pb**	**18 20 00.1**	**-0.2**
CNCH				IAML		18 20 00.8	
	comp=Z,2μm,1.0s						
GUNB	**GUNB**	**1.46**	**307**	*i*PA		18 20 02.1	
GUNB				IAML		18 20 04.9	
	comp=Z,930nm,1.0s						
AMPH	**Amapala**	**1.50**	**106**⇓	*i*P	**Pn**	**18 20 01.9**	**-0.1**
COMHN	**El Horno**	**1.70**	**65**⇑	*i*P	**Pn**	**18 20 04.8**	**-0.1**
CSGN	**Cosiguina Volc**	**1.70**	**115**⇓	*i*P	**Pn**	**18 20 05.2**	**+0.3**
CSGN				IAML		18 20 09.0	
	comp=Z,2μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.84**	**79**		**Pb**	**18 20 08.0**	**-0.9**
TGUH					**Sb**	**18 20 32.7**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.84**	**79**	*i*P	**Pb**	**18 20 08.2**	**-0.7**
TGUH				IAML		18 20 36.1	
	comp=Z,3μm,1.0s						
YUSH	**Yuscaran**	**2.24**	**84**⇑	*i*P	**Pn**	**18 20 12.6**	**+0.3**
CRIN	**San Cristobal**	**2.27**	**116**	Pn	**Pn**	**18 20 13.5**	**+0.8**
CRIN	**San Cristobal**	**2.27**	**116**	*i*P	**Pb**	**18 20 15.6**	**-0.5**
CRIN				IAML		18 20 58.7	
	comp=Z,1μm,1.0s						
NISHN	**Nisperales Com**	**2.38**	**30**	*i*P	**Pb**	**18 20 17.9**	**-0.2**
HERN	**Volcan Telica**	**2.50**	**116**	*i*P	**Pn**	**18 20 17.7**	**+1.8**
HERN				IAML		18 20 53.8	
	comp=Z,390nm,1.0s						
PLRN	**Geotermica Pol**	**2.57**	**116**	*i*PA		18 20 58.6	
PLRN				IAML		18 21 02.3	
	comp=Z,630nm,1.0s						
RTAL	**Retalhuleu**	**2.61**	**288**	Pn	**Pn**	**18 20 18.7**	**+1.5**
CNGN	**Cerro Negro**	**2.67**	**117**	Pn	**Pn**	**18 20 19.1**	**+1.1**
LIMN	**Finca el Limon**	**2.77**	**103**⇓	*i*P	**Pn**	**18 20 20.0**	**+0.4**
LIMN				IAML		18 21 14.6	
	comp=Z,260nm,1.0s						
LIMN	**Finca el Limon**	**2.77**	**103**	*i*P	**Pn**	**18 20 20.5**	**+0.9**
LIMN				*i*S	**Sg**	**18 21 01.6**	**-2.6**
LIMN				IAML		18 21 14.6	
	comp=Z,260nm,1.0s						
HUEH	**Huehuetenango**	**2.79**	**305**	Pn	**Pn**	**18 20 20.3**	**+0.4**
MOMN	**Momotombo**	**2.85**	**117**⇓	*i*P	**Pn**	**18 20 21.1**	**+0.5**
MOMN	**Momotombo**	**2.85**	**117**	*i*P	**Pn**	**18 20 22.0**	**+1.4**
MOMN				*i*S	**Sb**	**18 20 58.2**	**-2.7**
MOM2	**El Cardon**	**2.88**	**116**⇓	*i*P	**Pn**	**18 20 21.7**	**+0.7**
MOM2				IAML		18 20 29.7	
	comp=Z,180nm,1.0s						
COPN	**Copaltepe**	**2.91**	**121**⇓	*i*P	**Pn**	**18 20 22.6**	**+1.1**
COPN				IAML		18 20 23.6	
	comp=Z,470nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.97**	**93**	*i*P	**Pn**	**18 20 23.1**	**+0.8**
RCPN				IAML		18 21 12.5	
	comp=Z,0.7nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.97**	**93**	*i*PA		18 21 07.5	
RCPN				IAML		18 21 12.5	
	comp=Z,0.7nm,1.0s						
SAPS	**Ciudad Sandino**	**3.08**	**120**	*i*P	**Pn**	**18 20 24.7**	**+1.0**
SAPS				*i*S	**Sn**	**18 21 01.2**	**+0.6**
SAPS				IAML		18 21 25.1	
	comp=Z,330nm,1.0s						
MATN	**Matagalpa**	**3.22**	**104**	Pn	**Pn**	**18 20 25.3**	**-0.5**
PETF	**Flores**	**3.26**	**348**	Pn	**Pn**	**18 20 27.1**	**+0.8**
NANN	**Nandasmo**	**3.43**	**121**⇓	*i*P	**Pn**	**18 20 31.2**	**+2.6**
NANN				IAML		18 20 33.7	
	comp=Z,5μm,1.0s						
NANN	**Nandasmo**	**3.43**	**121**	*i*P	**Pn**	**18 20 31.1**	**+2.5**
NANN				IAML		18 20 33.7	
	comp=Z,5μm,1.0s						
NANN				*i*S	**Sn**	**18 21 11.2**	**+1.8**
CCIG	**Comitan**	**3.86**	**312**	Pn	**Pn**	**18 20 34.9**	**+0.2**
CONN	**Concepcion**	**4.04**	**122**	*i*PA		18 20 39.0	
CONN				IAML		18 20 46.2	
	comp=Z,660nm,1.0s						
ACON	**Acoyapa**	**4.24**	**114**	Pn	**Pn**	**18 20 39.1**	**-0.6**
ORTG	**Ortega, Santa**	**4.90**	**132**	Pn	**Pn**	**18 20 51.6**	**+2.7**
ESPN	**Las Esperanzas**	**4.95**	**107**	Pn	**Pn**	**18 20 50.8**	**+1.3**
JTS	**Las Juntas de**	**5.32**	**129**	Pn	**Pn**	**18 20 54.3**	**-0.3**
ARE1	**Arenal 1**	**5.40**	**126**	Pn	**Pn**	**18 20 55.4**	**-0.3**
LCR2	**La Lucha 2**	**6.39**	**128**	Pn	**Pn**	**18 21 08.1**	**-1.4**
RIMA	**Rio Macho**	**6.49**	**127**	Pn	**Pn**	**18 21 13.2**	**+2.4**
SRBA	**San Rafael, Bu**	**7.21**	**128**	Pn	**Pn**	**18 21 22.8**	**+2.2**
BRU2	**Volcan**	**7.99**	**127**	Pn	**Pn**	**18 21 32.4**	**+1.0**
GTBY	**Guantanamo Bay**	**14.78**	**63**	Pn	**Pn**	**18 23 03.5**	**-0.8**
URIC	**Uribia, Colomb**	**16.85**	**95**	Pn	**Pn**	**18 23 30.6**	**-0.6**
URIC				IAmb	IAmb	18 23 35.5	
	comp=Z,16nm,0.8s						
PBMO	**Poplar Bluff**	**23.00**	**357**	P	**P**	**18 24 38.5**	**-1.5**
PBMO				IAmb	IAmb	18 24 46.3	
	comp=Z,9.0nm,1.1s						

*IDC **11** 18:26:14.8±1.4, 18°.15N×96°.01E,h0km,mb3.5/5,*
mbtmp3.5/6,ML3.0/1,Error ellipse: s-maj=51.9km
s-min=20.1km az=56.0

ISC 11 18:26:16.6±1.5,**18°2N**±0°.2×**96°.1E**±0°.2,**h10**km,**n6**,σ**0**.**92**/6,
mb3.5/5,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**2.71**	**85**	Pn	**Pn**	**18 27 00.3**	**+0.1**
	0.6nm,0.3s,baz=262,slow=14,SNR=6.0						
	2.7nm,0.6s						
MKAR	**Makanchi Array**	**30.67**	**341**	P	**P**	**18 32 31.4**	**+0.1**
	0.3nm,0.5s,baz=147,slow=10.0,SNR=5.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**35.22**	**341**	P	**P**	**18 33 10.5**	**-0.5**
	0.5nm,0.5s,baz=148,slow=9.5,SNR=4.6						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**40.08**	**336**	P	**P**	**18 33 52.4**	**+0.3**
	0.3nm,0.6s,baz=140,slow=8.7,SNR=2.0						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**53.36**	**133**	P	**P**	**18 35 35.5**	**-1.1**
	0.8nm,0.8s,baz=319,slow=7.7,SNR=3.8						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**55.64**	**137**	P	**P**	**18 35 54.1**	**+1.0**
	0.5nm,0.9s,baz=314,slow=6.5,SNR=4.6						
	0.5nm,0.9s						

*IDC **11** 18:26:22.2±0.3,18°.37N×96°.05E,h0km,mb5.7/39,*
mbtmp5.6/41,ML4.3/2,MS5.7/39,Error ellipse:
s-maj=10.5km s-min=7.3km az=37.0
*MOS **11** 18:26:22.2±1.0,18°.40N×96°.07E,h10km,mb6.2/91,*
MS5.7/59,Error ellipse: s-maj=5.7km s-min=2.9km
az=122.7
*BJI **11** 18:26:23.9±0.0,18°.38N×96°.10E,h10km,mb5.8/76,*
mB6.3/82,ML6.6/3,Ms6.4/94,Ms7 6.3/89
*IPGP **11** 18:26:24.0,18°.43N×96°.09E,h6km,Mw5.9,Fault plane*
solution: NP1:φs158.00000°,δ56.00000°,λ96.00000°.
NP2:φs328.00000°,δ35.00000°,λ81.00000°.
*NEIC **11** 18:26:24.4,18°.36N×96°.08E,h10km*
*NEIC **11** 18:26:24.2±2.1,18°.37N±0°.06×96°.07E±0°.06,h9km±1km,*
mb6.0/326,Ms_20 6.0/963,Mwb5.8/58,Mwr6.0/21,
Mww6.0/35,Error ellipse: s-maj=10.1km s-min=9.2km
az=239.0,Moment Tensor Solution. Moment tensor:
Scale 10¹⁸Nm; Mrr1.36; Mθθ-0.17; Mφφ-1.19; Mrθ-0.02;
Mθφ0.73; Mφr-0.04; Fault plane solution: M₀1.48000×10¹⁸
NP1:φs330.61000°,δ44.59000°,λ87.49000°. NP2:
φs154.13000°,δ45.47000°,λ92.47000°. Principal axes: T
1.3607, Plg88.0000°, Azm138.0000°; N 0.2117,
Plg2.0000°, Azm332.0000°; P -1.5724, Plg0.0000°,
Azm242.0000°; Moment Tensor Solution. Moment
tensor: Scale 10¹⁷ Nm; Mrr5.51; Mθθ-0.15; Mφφ-5.36;
Mrθ-1.21; Mθφ3.73; Mφr0.48; Fault plane solution:
M₀6.72000×10¹⁷ NP1:φs164.82000°,δ41.96000°,
λ108.20000°. NP2:φs320.97000°,δ50.57000°,λ74.32000°.
Principal axes: T 5.7672, Plg77.0000°, Azm172.0000°;
N 1.6144, Plg12.0000°, Azm331.0000°; P -7.3816,
Plg4.0000°, Azm62.0000°;
*NEIC **11** 18:26:24.4,18°.36N×96°.08E,h10km*
*NEIC **11** 18:26:25,18°.40N×96°.09E,h12km*
*DJA **11** 18:26:25.4±0.1,18°N±2°×9°6E±°,h10km,M5.9/95,*
mB6.3/84,mb5.8/95,MLv6.9/7,Mw6.0/121,Mw(mB)6.0/84,
MwMwp5.6/63,Mwp5.8/63
*NEIC **11** 18:26:25,18°.50N×95°.98E,h12km,Moment Tensor*
Solution. Duration: 5±1 Moment tensor: Scale 10¹⁸Nm;
Mrr0.90; Mθθ-0.13; Mφφ-0.77; Mrθ-0.15; Mθφ0.37; Mφr0.70;
Fault plane solution: M₀1.17000×10¹⁸ NP1:
φs343.30000°,δ64.04000°,λ97.42000°. NP2:
φs146.74000°,δ26.93000°,λ75.16000°. Principal axes: T
1.1605, Plg70.0000°, Azm269.0000°; N 0.0206,
Plg7.0000°, Azm160.0000°; P -1.1811, Plg19.0000°,
Azm68.0000°;
*BGR **11** 18:26:25.6,18°.71N×96°.79E,h33km,mb6.1,mB_BB6.5,*
Ms5.8
*GCMT **11** 18:26:26.2±0.1,18°.31N×96°.15E,h12km,MW5.9/165,*
Moment Tensor Solution. s143,c298; s165,c551;
Duration: 2±3 Moment tensor: Scale 10¹⁸Nm;
Mrr0.88±.01; Mθθ-0.08±.01; Mφφ-0.80±.01; Mrθ-0.28±.01;
Mθφ0.42±.00; Mφr0.05±.01; Best double couple:
M₀0.98800×10¹⁸ NP1:φs320.00000°,δ52.00000°,
λ70.00000°. NP2:φs171.00000°,δ42.00000°,λ113.00000°.
Principal axes: T 0.9640, Plg74.0000°, Azm172.0000°;
N 0.0480, Plg16.0000°, Azm333.0000°; P -1.0120,
Plg5.0000°, Azm64.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface/mantle waves,
cutoff=50s. Triangular moment-rate function
*NDI **11** 18:26:26.5±4.0,18°.23N×95°.99E,h10km,mb6.0,MW5.8,*
mb6.0(NEIC)

ISC 11 18:26:24.2±0.3,**18°.35N**±0°.03×**96°.00E**±0°.03,**h11**km±1km,
h11km:**pP-P,n2234,**σ**1**.**58**/1943,**mb6.0**/431,**MS6.0**/571,
132C-58D,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**2.80**	**87**	P	**Pn**	**18 27 06.9**	**-2.0**
	SNR=9890						
CMAR	**Chiang Mai Arr**	**2.80**	**87**	Pn	**Pn**	**18 27 06.7**	**-2.2**
	9.3nm,0.3s,baz=267,slow=14,SNR=55						
CMAR				Pg	**Pb**	**18 27 13.5**	**-0.7**
	634nm,0.3s,baz=265,slow=18,SNR=78						
CMAR				Lg	Lg	18 27 47.6	
	3μm,0.3s,baz=206,slow=36,SNR=5.1						
	537nm,0.8s						
CHTO	**Chiang Mai**	**2.83**	**80**	Pn	**Pn**	**18 27 07.2**	**-2.2**
CHTO	**Chiang Mai**	**2.83**	**80**	P	**Pb**	**18 27 13.3**	**-1.5**
CHTO	**Chiang Mai**	**2.83**	**80**	P	**Pn**	**18 27 07.2**	**-2.2**
CHTO	**Chiang Mai**	**2.83**	**80**	P	**Pn**	**18 27 08.0**	**-1.4**
CHTO	**Chiang Mai**	**2.83**	**80**	P	**Pn**	**18 27 06.6**	**-2.8**
CMMT	**Chiang Mai**	**2.84**	**80**	P	**Pn**	**18 27 06.6**	**-2.9**
MND	**Mandalay**	**3.65**	**2**	Pn	**Pn**	**18 27 19.6**	**-1.0**
MND	**Mandalay**	**3.65**	**2**	P	**Pn**	**18 27 23.0**	**+2.4**
PHRA	**Phrae**	**4.02**	**87**		**Pn**	**18 27 23.2**	**-2.5**
**C

PZH LR LR
comp=Z,185μm,7.7s
SURA Surathani 9.79 158 P **Pn 18 28 49.3 +4.3**
SRIT Nakonsritamara 10.31 160 Pn **Pn 18 28 51.5 -0.6**
SRIT Nakonsritamara 10.31 160 P Pn 18 28 57.1 +5.0
BOK Bokaro 10.88 302 *e*P **Pn 18 29 02.4 +2.5**
BOK *i* x x 18 30 55.0
GTK Tadong 11.23 324 *e*P **Pn 18 29 05.8 +1.0**
GTK *ex* x 18 31 09.6
SKLT Songkhla 11.99 157 P **Pn 18 29 18.8 +3.7**
SKLT Songkhla 11.99 157 P **Pn 18 29 19.4 +4.3**
271nm,1.0s,9μm
VIS Vishakhapatnam 12.07 269 *e*P **Pn 18 29 16.7 +0.5**
VIS *e*S **Sn 18 31 24.4 -6.4**
LSA Lhasa 12.13 340 **Pn 18 29 16.8 -0.6**
LSA Lhasa 12.13 340 P **Pn 18 29 16.8 -0.6**
LSA Lhasa 12.13 340 P **Pn 18 29 16.8 -0.6**
GYA Guiyang 12.74 49⇑*i*P **Pn 18 29 26.6 +1.1**
GYA PP **PnPn 18 29 38.2 +4.8**
GYA S **Sn 18 31 48.5 +1.1**
GYA pmax pmax
comp=Z,64nm,2.0s
GYA pmax pmax
comp=Z,9μm,7.3s
GYA LR LR
comp=N,100μm,9.8s
GYA LR LR
comp=E,90μm,7.2s
GYA LR LR
comp=Z,137μm,9.2s
LHMI Lhok Sumawe 13.08 176 **Pn 18 29 28.6 -1.4**
LHMI Lhok Sumawe 13.08 176 P Pn 18 29 35.6 +5.6
LHMI Lhok Sumawe 13.08 176 P **P 18 29 36.6 -3.7**
QIZ Qiongzhong 13.14 85 P **Pn 18 29 30.1 -0.7**
QIZ S **Sn 18 31 54.3 -2.8**
QIZ pmax pmax
comp=Z,71nm,1.4s
QIZ pmax pmax
comp=Z,7μm,9.2s
QIZ LR LR
comp=N,136μm,11.8s
QIZ LR LR
comp=E,57μm,11.8s
QIZ LR LR
comp=Z,75μm,12.8s
KULM Kulim 13.76 160 **Pn 18 29 40.2 +0.9**
KULM Kulim 13.76 160 P **Pn 18 29 43.0 +3.8**
107nm,1.4s,5μm13μm
MLSI Meulaboh, Aceh 14.00 178 P **Pn 18 29 46.0 +3.3**
459nm,1.1s,7μm1μm
CD2 Chengdu 14.35 28 P **Pn 18 29 48.3 +0.9**
CD2 S **Sn 18 32 28.6 +2.0**
CD2 pmax pmax
comp=Z,120nm,1.2s
CD2 pmax pmax
comp=Z,7μm,7.9s
CD2 LR LR
comp=N,291μm,8.6s
CD2 LR LR
comp=E,318μm,8.8s
CD2 LR LR
comp=Z,168μm,9.8s
KCSI Kotacane, Aceh 14.84 173 P **Pn 18 29 56.4 +2.3**
1μm,1.0s,13μm
GULI GuiLin 15.02 60 pmax pmax
comp=Z,9μm,4.9s
GULI GuiLin 15.02 60⇑P Pn 18 29 50.9 -5.6
GULI GuiLin 15.02 60 S **Sn 18 32 48.9 +6.0**
GULI GuiLin 15.02 60 LR LR
comp=Z,151μm,8.7s
GULI GuiLin 15.02 60 LR LR
comp=E,125μm,8.1s
GULI GuiLin 15.02 60 LR LR
comp=N,96μm,7.6s
PSI Prapat 15.72 169 P **Pn 18 30 08.1 +2.3**
SNSI Sinabang, Aceh 15.85 179 P **Pn 18 30 07.3 -0.1**
comp=N,569nm,1.1s,comp=N,11μmcomp=N,17μm
MDRS Chennai 16.04 253 *e*P **Pn 18 30 09.5 -0.4**
MDRS Chennai 16.04 253 *e*P S 18 34 11.1 +50
HYB Hyderabad 16.63 270 *e*Pn **Pn 18 30 17.6 +0.2**
HYB IVmB_BB 18 30 27.7
comp=Z,7μm,4.1s
HYB *e* 18 33 19.4
HYB IVMs_BB IVMs_BB 18 43 01.6
comp=Z,16μm,10.4s
GZH Guangzhou 16.90 71 P **P 18 30 24.0 +1.3**
GZH S **S 18 33 37.1 -1.8**
GZH LR LR
comp=Z,47μm,6.5s
GZH LR LR
comp=Z,102μm,7.2s
MCO Taipa Grande 16.90 74 P **P 18 30 22.0 -0.8**
GSI Gunungsitoli 17.01 175 Pn **Pn 18 30 19.4 -2.8**
GSI Gunungsitoli 17.01 175 P **Pn 18 30 22.4 +0.2**
GSI Gunungsitoli 17.01 175 P **Pn 18 30 20.2 -2.0**
comp=Z,346nm,1.0s,comp=Z,9μmcomp=Z,20μm
ENH Enshi 17.07 43 **Pn 18 30 21.8 -1.1**
ENH Enshi 17.07 43 P **P 18 30 23.5 -1.2**
HKPS Hong Kong Po S 17.46 74 Pn **Pn 18 30 24.8 -3.0**
HKPS Hong Kong Po S 17.46 74 P **P 18 30 29.7 +0.7**
HKC Hong Kong Obse 17.49 74⇑P **Pn 18 30 28.0 -0.2**
GOMU GeErMu 17.81 357 P **Pn 18 30 31.0 -1.4**
GOMU pP pP 18 30 36.4 0.0
GOMU sP sP 18 30 41.5 +3.6
GOMU pmax pmax
comp=Z,92nm,1.4s
GOMU LR LR
comp=Z,36μm,12.2s
GOMU LR LR
comp=Z,24μm,10.3s
GOMU LR LR
comp=Z,28μm,12.2s
MALK Mahakanadarawa 17.98 239 P **Pn 18 30 33.4 -0.9**
MYKOM Kota Tinggi 18.17 154 Pn **Pn 18 30 34.6 -2.0**
MYKOM Kota Tinggi 18.17 154 P **P 18 30 38.0 +1.1**
comp=Z,454nm,1.2s,comp=Z,10μmcomp=Z,19μm
CNSH ChangSha 18.36 55⇑P **P 18 30 39.0 +0.1**
CNSH pmax pmax
comp=Z,160nm,0.8s
CNSH pmax pmax
comp=Z,19μm,10.4s
CNSH LR LR
comp=Z,72μm,7.5s
CNSH LR LR
comp=Z,65μm,9.6s
CNSH LR LR
comp=Z,106μm,17.4s
PBSI Pulau Batu 18.43 173 P **Pn 18 30 40.5 +0.8**
comp=Z,558nm,1.4s,comp=Z,14μmcomp=Z,22μm
PALK Pallekele 18.52 235*d i*P **P 18 30 41.9 +1.2**
PALK pmax pmax
comp=Z,51nm,1.1s
PALK MLR MLR
comp=Z,43μm,20.0s
PALK Pallekele 18.52 235 P **P 18 30 42.0 +1.2**
comp=Z,1.5nm,0.3s,baz=126,slow=19,SNR=18
PALK S Sn 18 33 58.7 -9.4
comp=Z,26nm,0.8s,baz=128,slow=12,SNR=2.0
PALK LR LR 18 38 00.3
comp=Z,34μm,19.8s,baz=164,slow=38
comp=Z,23nm,0.9s
BKNI Bangkinang 18.59 164 P **P 18 30 40.8 -0.6**
BKNI Bangkinang 18.59 164 P **Pn 18 30 42.4 +0.7**
BKNI Bangkinang 18.59 164 P **P 18 30 39.9 -1.5**
BKNI Bangkinang 18.59 164 P **Pn 18 30 44.3 +2.6**
comp=Z,304nm,1.1s,comp=Z,9μmcomp=Z,20μm
LZH Lanzhou 18.98 20⇑P **Pn 18 30 47.6 +1.1**
LZH sP sP 18 30 53.6 +3.0
LZH sS S 18 34 21.6 +0.2
LZH pmax pmax
comp=Z,450nm,1.5s
LZH pmax pmax
comp=Z,24μm,4.8s
LZH LR LR
comp=Z,134μm,12.0s
LZH LR LR
comp=Z,166μm,12.0s
LZH LR LR
comp=Z,142μm,13.4s
TPRI Tanjung Pinang 19.24 153 P **Pn 18 30 51.9 +2.3**
comp=Z,147nm,1.2s,comp=Z,7μmcomp=Z,18μm
XAN Xi'an 19.43 34⇑P **P 18 30 50.7 +0.1**
XAN pP sP 18 30 57.5 +2.1
XAN S **Sn 18 34 27.4 -2.4**
XAN pmax pmax
comp=Z,340nm,1.2s
XAN pmax pmax
comp=Z,24μm,7.2s
XAN LR LR
comp=Z,189μm,10.3s
XAN LR LR
comp=Z,173μm,9.3s
XAN LR LR
comp=Z,76μm,7.2s
PDSI Padang 19.64 167 P **P 18 30 54.1 +1.1**
comp=Z,140nm,1.3s,comp=Z,3μmcomp=Z,13μm
DDI Dehra Dun 20.20 310 *e*P S 18 34 59.0 +13
DSRI Dabo 20.53 155 P Pn 18 31 04.1 -0.8
comp=Z,451nm,1.1s,comp=Z,6μmcomp=Z,18μm
WHN Wuhan 20.62 50*i*P Pn 18 31 04.4 -1.4
WHN pP sP 18 31 07.7 -0.6
WHN pmax pmax
comp=Z,2μm,1.2s
WHN pmax pmax
comp=Z,30μm,7.0s
WHN LR LR
comp=Z,82μm,6.1s
WHN LR LR
comp=Z,131μm,8.3s
WHN LR LR
comp=Z,144μm,10.1s
TRD Trivandrum 20.92 245 *e*P **P 18 31 08.9 +1.9**
TRD IAmb IAmb 18 31 14.4
comp=Z,125nm,1.1s
TRD Trivandrum 20.92 245 *e*P **S 18 35 08.3 +8.1**
POO Poona 21.01 274 *e*P **P 18 31 10.8 +2.8**
POO Poona 21.01 274 *e*P **S 18 35 09.3 +7.2**
KRJI Kerinci 21.01 165 P **P 18 31 11.5 +3.5**
comp=Z,356nm,1.0s,comp=Z,6μmcomp=Z,10μm
JMBI JAMBI 21.24 158 P **P 18 31 13.4 +3.1**
comp=Z,323nm,1.2s,comp=Z,9μm
GTA Gaotai 21.25 8⇑P **P 18 31 11.2 +0.8**
GTA pmax pmax
comp=Z,190nm,1.0s
GTA pmax pmax
comp=Z,10μm,8.7s
GTA LR LR
comp=Z,11μm,13.8s
GTA LR LR
comp=Z,37μm,14.5s
GTA LR LR
comp=Z,13μm,13.8s
SMLA Simla 21.27 310 *e*P **P 18 31 11.2 +0.6**
SMLA IAmb IAmb 18 31 19.6
comp=Z,12μm,1.5s
SMLA Simla 21.27 310 IAmb IAmb 18 35 16.1
comp=Z,173nm,1.7s
SMLA Simla 21.27 310 *e*P **S 18 35 10.2 +3.3**
PPSI Pulau Pagai 21.35 169 P **P 18 31 17.1 +5.6**
GOA Goa 21.40 266 *e*P **P 18 31 15.2 +3.0**
GOA IAmb IAmb 18 31 22.2
comp=Z,246nm,1.3s
GOA Goa 21.40 266 *e*P **S 18 35 13.4 +3.7**
LYN LuoYang 21.81 39⇑*i*P **P 18 31 17.4 +1.0**
LYN pP sP 18 31 21.4 +0.2
LYN sP pP 18 31 24.7 +5.0
LYN S **S 18 35 11.3 -6.1**
LYN sS sS 18 35 19.6 -3.1
LYN pmax pmax
comp=Z,430nm,0.7s
LYN pmax pmax
comp=Z,16μm,6.9s
LYN LR LR
comp=Z,325μm,15.1s
LYN LR LR
comp=Z,286μm,14.1s
KSM Kuching 21.88 138 P **P 18 31 17.9 +0.7**
KSM Kuching 21.88 138 P **P 18 31 18.3 +1.1**
comp=Z,223nm,1.3s,comp=Z,7μm
QZH Quanzhou 21.99 69⇑*i*P **P 18 31 18.8 +0.4**
QZH pmax pmax
comp=Z,260nm,0.9s
QZH pmax pmax
comp=Z,6μm,5.4s
QZH LR LR
comp=Z,65μm,7.7s
QZH LR LR
comp=Z,74μm,7.8s
QZH LR LR
comp=Z,94μm,8.4s
DHRM DHARAMSHALA 22.50 312 *e*P **P 18 31 24.1 0.0**
DHRM IAmb IAmb 18 31 38.1
comp=Z,669nm,0.9s
DHRM DHARAMSHALA 22.50 312 *e*P **S 18 35 37.6 +6.6**
DHRM DHARAMSHALA 22.50 312 *e*P **S 18 35 25.5 -5.6**
DHRM DHARAMSHALA 22.50 312 *e*P **S 18 35 33.6 +2.5**
PPBI Pangkal Pinang 22.70 153 P **P 18 31 27.0 +1.0**
comp=Z,328nm,1.3s,comp=Z,7μmcomp=Z,11μm
PMBI Palembang 22.84 157 P **P 18 31 29.8 +2.3**
PMBI Palembang 22.84 157 P **P 18 31 32.8 +5.3**
KKM Kota Kinabalu 23.21 119 P **P 18 31 31.6 +0.1**
KKM Kota Kinabalu 23.21 119 P **P 18 31 32.5 +1.1**
KKM Kota Kinabalu 23.21 119 P **P 18 31 33.3 +1.9**
comp=Z,281nm,1.7s,comp=Z,9μmcomp=Z,17μm
SZP Santa 23.28 88 P **P 18 31 33.5 +1.4**
TPUB Ta-pu 23.53 74 IAmb IAmb 18 31 37.3
comp=Z,630nm,1.2s
TPUB IAMs_20 IAMs_20 18 41 04.8
comp=Z,39μm,19.0s
TPUB Ta-pu 23.53 74 P **P 18 31 36.1 +1.5**
STKI Sintang 23.70 138 P **P 18 31 36.7 +0.5**
comp=Z,468nm,1.4s,comp=Z,11μm
TWGBT Beinan 23.89 75 P **P 18 31 39.7 +1.7**
SSLB Suanglung 23.89 73 P **P 18 31 39.4 +1.3**
SSLB IAmb IAmb 18 31 44.5
comp=Z,762nm,1.4s
SSLB Suanglung 23.89 73 P **P 18 31 39.4 +1.3**
TIY Taiyuan 24.07 33 P **P 18 31 40.2 +0.6**
TIY S **S 18 35 51.1 -5.9**
TIY pmax pmax
comp=Z,340nm,1.1s
TIY pmax pmax
comp=Z,8μm,5.1s
TIY LR LR
comp=Z,86μm,12.4s
TIY LR LR
comp=Z,81μm,11.0s
TIY LR LR
comp=Z,59μm,13.1s
YULB Yu-li 24.15 74 IAMs_20 IAMs_20 18 41 45.2
comp=Z,40μm,19.0s
YULB Yu-li 24.15 74 P **P 18 31 42.0 +1.5**
TGY Tagaytay City 24.31 96 P **P 18 31 42.6 +0.5**
comp=Z,689nm,0.8s,baz=239,slow=3.5,SNR=7.4
TGY LR LR 18 41 13.0
comp=Z,10μm,18.2s,baz=302,slow=37
comp=Z,689nm,0.8s
EGSI Enggano, Bengk 24.36 165 P **P 18 31 43.7 +1.4**
comp=Z,375nm,1.1s,comp=Z,9μmcomp=Z,13μm
YHNB Yeheng 24.41 71 IAmb IAmb 18 32 06.6
comp=Z,531nm,1.8s
YHNB Yeheng 24.41 71 P **P 18 31 44.6 +1.6**
NACB Ninganchiao 24.53 72 IAmb IAmb 18 31 54.3
comp=Z,641nm,1.3s
NACB IAMs_20 IAMs_20 18 41 46.2
comp=Z,38μm,19.0s
NACB Ninganchiao 24.53 72 P **P 18 31 45.9 +2.0**
LWLI Liwa 24.54 160 P **P 18 31 44.9 +0.7**
comp=Z,221nm,0.9s,comp=Z,3μmcomp=Z,6μm
TATO Taipei 24.57 70 P **P 18 31 42.6 -1.7**
TATO P **P 18 31 42.6 -1.7**
NJ2 Nanjing 24.71 52*i*P **P 18 31 44.8 -0.6**
NJ2 pP **sP 18 31 49.9 -0.5**
NJ2 sP **pP 18 31 53.3 +4.3**
NJ2 S **S 18 36 05.7 -1.5**
NJ2 pmax pmax
comp=Z,170nm,1.0s
NJ2 pmax pmax
comp=Z,6μm,3.5s
NJ2 LR LR
comp=Z,37μm,9.5s
NJ2 LR LR
comp=Z,78μm,9.3s
NJ2 LR LR
comp=Z,100μm,10.1s
HNS HongShan 25.09 37⇑P **P 18 31 48.9 +0.1**
HNS SS **SnSn 18 37 12.2 +10**
HNS pmax pmax
comp=Z,420nm,1.0s
HNS pmax pmax
comp=Z,9μm,7.5s
HNS LR LR
comp=Z,89μm,15.7s
HNS LR LR
comp=Z,91μm,16.2s
HNS LR LR
comp=Z,52μm,13.7s
KASI Kota Agung 25.16 160 P **P 18 31 51.4 +1.8**
comp=Z,85nm,1.0s,comp=Z,2μm
BTO Baotou 25.25 26 *e*P **P 18 31 51.3 +0.9**
BTO pP **sP 18 31 55.8 +0.5**
BTO sP **pP 18 31 58.4 +4.5**
BTO PP **PnPn 18 32 29.6 +4.9**
BTO S **S 18 36 18.7 +2.7**
BTO sS **sS 18 36 23.5 +1.7**
BTO SS **SnSn 18 37 15.7 +8.9**
BTO pmax pmax
comp=Z,990nm,0.8s
BTO pmax pmax
comp=Z,25μm,6.9s
BTO LR LR
comp=Z,117μm,17.2s
BTO LR LR
comp=Z,79μm,12.5s
BTO LR LR
comp=Z,119μm,12.5s
NIL Nilore 25.41 311 P **P 18 31 52.1 +0.2**
NIL Nilore 25.41 311 P **P 18 31 52.1 +0.2**
NIL pmax pmax
comp=Z,3μm,1.9s
NIL MLR MLR
comp=Z,13μm,18.0s
NIL Nilore 25.41 311 P **P 18 31 52.7 +0.8**
NIL P **P 18 31 52.7 +0.8**
TIA Tai'an 25.77 42⇑P **P 18 31 55.1 0.0**
TIA pmax pmax
comp=Z,130nm,1.0s
TIA pmax pmax
comp=Z,2μm,4.3s
TIA LR LR
comp=Z,30μm,13.7s
TIA LR LR
comp=Z,30μm,14.4s
TIA LR LR
comp=Z,10μm,14.4s
YOJ Yonaguni jima 25.85 72 IAMs_20 IAMs_20 18 42 39.2
comp=Z,34μm,19.0s
SSE Sheshan 26.09 56 P **P 18 31 55.6 -2.4**
SSE PcP **PcP 18 35 26.0 +0.4**
SSE S **S 18 36 27.2 -2.1**
SSE pmax pmax
comp=Z,72nm,1.0s
SSE pmax pmax
comp=Z,3μm,8.1s
HHC Hu-ho-hao-te 26.11 28⇑*i*P **P 18 31 59.0 +0.8**
HHC pP sP 18 32 02.2 -1.0
HHC sS sS 18 36 41.6 +6.2
HHC SS **SnSn 18 37 32.2 +4.4**
HHC pmax pmax
comp=Z,360nm,1.4s
HHC pmax pmax
comp=Z,14μm,5.2s
HHC LR LR
comp=Z,105μm,13.3s
HHC LR LR
comp=Z,111μm,13.5s
HHC LR LR
comp=Z,139μm,16.7s
WMQ Urumqi 26.34 346 *e*P **P 18 32 01.3 +1.1**
WMQ PP **PnPn 18 32 38.9 -0.6**
WMQ S **S 18 36 33.2 +0.1**
WMQ pmax pmax
comp=Z,690nm,1.5s
WMQ pmax pmax
comp=Z,7μm,3.7s
WMQ LR LR
comp=Z,18μm,12.9s
WMQ LR LR
comp=Z,22μm,12.9s
WMQ LR LR
comp=Z,7μm,14.5s
MTKI Muara Teweh, K 26.70 134 P **P 18 32 04.0 +0.3**
DBJI Dramaga 26.93 156 P **P 18 32 06.0 +0.3**
comp=Z,143nm,1.0s,comp=Z,7μm
PKKI Palangkaraya 27.05 137 P **P 18 32 07.1 +0.3**
comp=Z,582nm,1.1s,comp=Z,6μm
KSH Kashi 27.30 325 P **P 18 32 08.5 -0.5**
KSH pP sP 18 32 13.1 -0.9
KSH S **S 18 36 46.3 -2.2**
KSH sS sS 18 36 59.6 +5.2
KSH SS **SnSn 18 38 06.2 +9.2**
KSH pmax pmax
comp=Z,140nm,1.1s
KSH pmax pmax
comp=Z,3μm,5.6s
KSH LR LR
comp=Z,12μm,16.2s
KSH LR LR
comp=Z,19μm,21.9s
KSH LR LR
comp=Z,15μm,21.4s
BJT Baijiatuau 27.74 35 IAMs_20 IAMs_20 18 43 47.3
comp=Z,33μm,18.0s
BJT Baijiatuau 27.74 35 P **P 18 32 13.9 +1.2**
BJI Beijing 27.76 35 P **P 18 32 13.2 +0.3**
BJI pP **sP 18 32 16.4 -1.5**
BJI sP **pP 18 32 18.0 +1.6**
BJI S **S 18 36 57.5 +2.1**
BJI pmax pmax
comp=Z,2μm,7.7s
PRZ Przheval'sk 28.32 332 IAmb IAmb 18 32 22.8
comp=Z,408nm,1.5s
BKB Balikpapan 28.33 131 IAmb IAmb 18 32 26.1
comp=Z,260nm,1.0s
BKB Balikpapan 28.33 131 P **P 18 32 18.5 +0.3**
BKB Balikpapan 28.33 131 P **P 18 32 20.9 +2.7**
comp=Z,331nm,3.0s,comp=Z,9μmcomp=Z,9μm
SHLS Shalkode 28.41 334 *e*P **P 18 32 16.6 -2.3**
SHLS *e*S **S 18 37 03.4 -2.5**
SHLS pmax pmax
comp=Z,228nm,1.9s
SHLS Shalkode 28.41 334 *e*P **P 18 32 16.7 -2.2**
comp=Z,228nm,1.9s,baz=334
SHLS *e*S **S 18 37 03.5 -2.5**
baz=334
KPJI Karang Pucung 28.54 152 P **P 18 32 22.2 +2.2**
comp=Z,142nm,1.2s
PDGK Podgornoye 28.54 334 P **P 18 32 19.7 -0.3**
UZB Uzunbulak 28.59 333 *e*P **P 18 32 19.8 -0.7**
UZB *e*S **S 18 37 08.9 +0.2**
UZB Uzunbulak 28.59 333 *e*P **P 18 32 19.8 -0.7**
baz=333
UZB *e*S **S 18 37 09.0 +0.2**
baz=333
SATY Saty 28.78 333 *e*P **P 18 32 21.6 -0.5**
SATY *e*S **S 18 37 11.9 +0.2**
SATY Saty 28.78 333 *e*P **P 18 32 21.7 -0.5**
baz=332
SATY *e*S **S 18 37 12.0 +0.2**
baz=332
KBU Kabul Universi 28.82 309 P **P 18 32 22.4 -0.3**
ZHN Zhinishke 28.86 333 *e*P **P 18 32 22.3 -0.5**
ZHN Zhinishke 28.86 333 *e*P **P 18 32 22.4 -0.5**
baz=333
SMRI Semarang 28.99 149 P **P 18 32 25.8 +1.7**
SMRI Semarang 28.99 149 P P 18 32 30.8 +6.7
KPKS Kokpek 28.99 333 *e*P **P 18 32 23.4 -0.6**
KPKS *e*S **S 18 37 14.8 -0.1**
KPKS pmax pmax
comp=Z,331nm,2.9s
KPKS Kokpek 28.99 333 *e*P **P 18 32 23.4 -0.6**
comp=Z,331nm,2.9s,baz=333
KPKS *e*S **S 18 37 14.9 -0.1**
baz=333
ULHL Ulahol 29.15 329 P **P 18 32 27.0 +1.4**
SNR=11
TNSS Tian-Shan 29.42 331 *e*P **P 18 32 27.4 -0.8**
TNSS Tian-Shan 29.42 331 *e*P **P 18 32 27.4 -0.8**
baz=331
MDOK Medeo 29.47 331 *e*P **P 18 32 27.8 -0.5**
MDOK *e*S **S 18 37 22.4 -0.2**
MDOK MLR MLR
comp=Z,6μm,14.0s
MDOK Medeo 29.47 331 *e*P **P 18 32 27.8 -0.5**
baz=331
MDOK *e*S **S 18 37 22.4 -0.2**
baz=331

MDOK LR LR 18 45 14.7
comp=Z,6µm,13.9s,baz=331
KZA Kyzart 29.52 328 P **P** **18 32 30.4 +1.3**
SNR=36
MPSI Mapaga 29.53 125 P **P** **18 32 29.8 +0.9**
comp=Z,63nm,1.2s,comp=Z,2µmcomp=Z,6µm
AAA Alma-Ata 29.57 331 *e*P **P** **18 32 28.7 -0.4**
AAA Alma-Ata 29.57 331 *e*P **P** **18 32 28.7 -0.4**
baz=331
AAA LR LR 18 45 47.2
comp=Z,7µm,12.5s,baz=331
TOLI2 Tolitoli 29.76 122 P **P** **18 32 30.5 -0.5**
TOLI2 Tolitoli 29.76 122 P **P** **18 32 31.4 +0.5**
NGJI Ngawi 29.77 148 P P 18 32 37.0 +6.0
ARXS Arharly 29.96 333 *e*P **P** **18 32 32.4 -0.2**
TKM2 Tokmak 2 29.97 329 P **P** **18 32 34.1 +1.2**
SNR=59
TKM2 Tokmak 2 29.97 329 P **P** **18 32 32.4 -0.5**
UCH Uchtor 30.01 327 P **P** **18 32 34.9 +1.5**
SNR=26
CHKK Chushkaly 30.04 332 *e*P **P** **18 32 32.7 -0.5**
CHKK Chushkaly 30.04 332 *e*P **P** **18 32 32.8 -0.5**
baz=332
KBK Karagaybulak 30.10 328 P **P** **18 32 35.8 +1.9**
SNR=44
SJI Sawahan 30.23 148 P **P** **18 32 36.6 +1.4**
comp=Z,160nm,1.9s,comp=Z,4µm
DL2 Dalian 30.25 42 P **P** **18 32 35.8 +0.8**
DL2 PP **PnPn** **18 33 35.1 +2.4**
DL2 S **S** **18 37 33.7 -0.9**
DL2 pmax pmax
comp=Z,99nm,0.9s
DL2 pmax pmax
comp=Z,2µm,5.2s
DL2 LR LR
comp=Z,51µm,17.6s
DL2 LR LR
comp=Z,25µm,13.5s
DL2 LR LR
comp=Z,59µm,16.9s
AAK Ala-Archa 30.31 328 P **P** **18 32 36.9 +1.1**
SNR=94
AAK Ala-Archa 30.31 328 P **P** **18 32 36.3 +0.5**
AAK IAmb IAmb 18 32 43.0
comp=Z,344nm,1.4s
AAK Ala-Archa 30.31 328 *ce*P **P** **18 32 36.5 +0.7**
AAK pmax pmax
comp=Z,187nm,1.2s
AAK MLR MLR
comp=Z,4µm,17.0s
AAK Ala-Archa 30.31 328 *i* P **P** **18 32 36.5 +0.7**
SNR=55
AAK Ala-Archa 30.31 328 P **P** **18 32 36.9 +1.1**
comp=Z,114nm,1.1s,baz=139,slow=8.2,SNR=62
AAK PcP **PcP** **18 35 36.8 +0.8**
comp=Z,21nm,0.9s,baz=188,slow=20,SNR=1.5
comp=Z,114nm,1.1s
AAK Ala-Archa 30.31 328 P **P** **18 32 37.0 +1.2**
AAK P **P** **18 32 37.0 +1.2**
COCO West Island 30.36 178 P **P** **18 32 37.5 +1.3**
COCO IAmb IAmb 18 32 43.3
comp=Z,256nm,0.9s
COCO West Island 30.36 178 P **P** **18 32 37.5 +1.3**
COCO pmax pmax
comp=Z,256nm,1.0s
COCO MLR MLR
comp=Z,12µm,20.0s
TDK Taldyqorghan 30.36 335 *e*P **P** **18 32 35.6 -0.4**
TDK pmax pmax
comp=Z,413nm,2.0s
TDK MLR MLR
comp=Z,7µm,13.0s
TDK Taldyqorghan 30.36 335 *e*P **P** **18 32 35.6 -0.4**
comp=Z,413nm,2.0s,baz=335
TDK LR LR 18 47 18.5
comp=Z,7µm,13.0s,baz=335
KUU Kurty 30.36 331 *e*P **P** **18 32 35.6 -0.5**
KUU *e*S **S** **18 37 36.9 +0.5**
KUU pmax pmax
comp=Z,625nm,2.2s
KUU Kurty 30.36 331 *e*P **P** **18 32 35.6 -0.5**
comp=Z,625nm,2.2s,baz=331
KUU *e*S **S** **18 37 37.0 +0.5**
baz=331
KUU LR LR 18 46 34.7
comp=Z,5µm,10.5s,baz=331
AML Almayashu 30.37 326 P **P** **18 32 38.0 +1.4**
SNR=56
AML Almayashu 30.37 326 P **P** **18 32 36.0 -0.6**
FRU1 Bishkek 30.37 328 IAmb IAmb 18 32 40.5
comp=Z,281nm,1.4s
ZSN Zaisan 30.42 345 *e*P **P** **18 32 36.2 -0.3**
ZSN *e*S **S** **18 37 38.7 +1.5**
ZSN pmax pmax
comp=Z,185nm,1.4s
ZSN Zaisan 30.42 345 *e*P **P** **18 32 36.2 -0.3**
comp=Z,184nm,1.4s,baz=344
ZSN *e*S **S** **18 37 38.7 +1.5**
baz=344
CHMS Chumysh 30.45 328 P **P** **18 32 37.6 +0.7**
SNR=58
MK31 Makanchi Array 30.53 341 *ce*P **P** **18 32 37.1 -0.4**
MKAR Makanchi Array 30.53 341 P **P** **18 32 38.1 +0.6**
comp=Z,97nm,0.7s,baz=149,slow=9.3,SNR=281
MKAR PcP **PcP** **18 35 36.8 +0.5**
comp=Z,37nm,1.0s,baz=124,slow=2.2,SNR=4.0
MKAR S **S** **18 37 40.1 +1.2**
comp=Z,3.0nm,0.9s,baz=179,slow=7.3,SNR=1.4
MKAR ScP **ScP** **18 39 19.4 +0.4**
comp=Z,11nm,1.0s,baz=160,slow=3.9,SNR=5.2
MKAR LR LR 18 47 01.6
comp=Z,8µm,20.7s,baz=156,slow=41
MKAR P3KPbc 19 04 26.2
comp=Z,1.0nm,0.8s,baz=13,slow=4.3,SNR=6.8
comp=Z,97nm,0.7s
XLT XiLinHaoTe 30.57 29 *e*P **P** **18 32 38.2 +0.3**
XLT pP sP 18 32 43.7 +0.8
XLT sP pP 18 32 44.8 +3.3
XLT PP **PnPn** **18 33 37.5 +0.5**
XLT S **S** **18 37 41.9 +2.2**
XLT sS sS 18 37 50.8 +5.3
XLT pmax pmax
comp=Z,130nm,1.1s
XLT pmax pmax
comp=Z,3µm,5.4s
XLT LR LR
comp=Z,4µm,11.9s
XLT LR LR
comp=Z,37µm,12.3s
SONM Songino Array 30.61 14 P **P** **18 32 38.7 +0.3**
comp=Z,29nm,0.9s,baz=196,slow=9.7,SNR=62
SONM ScP **ScP** **18 39 19.9 +0.6**
comp=Z,8.0nm,1.0s,baz=232,slow=1.2,SNR=6.2
SONM LR LR 18 46 22.9
comp=Z,54µm,19.3s,baz=194,slow=39
SONM P3KPbc 19 04 25.0
comp=Z,0.4nm,0.6s,baz=1.4,slow=1.7,SNR=1.6
comp=Z,29nm,0.9s
MAKZ Makanchi 30.64 341 P **P** **18 32 37.8 -0.7**
MAKZ Makanchi 30.64 341 P **P** **18 32 38.3 -0.2**
EKS2 Erkin-Say 30.70 327 P **P** **18 32 40.0 +0.8**
SNR=32
USP Ospenovka 30.77 328 P **P** **18 32 40.8 +1.1**
SNR=71
ULN Ulaanbaatar 30.79 15 P **P** **18 32 40.1 +0.1**
ULN Ulaanbaatar 30.79 15 *c* *i* P **P** **18 32 39.8 -0.2**
ULN pmax pmax
comp=Z,94nm,1.5s
ULN MLR MLR
comp=Z,44µm,17.0s
ULN Ulaanbaatar 30.79 15 P **P** **18 32 41.1 +1.1**
ULN P **P** **18 32 41.1 +1.1**
ULN P **P** **18 32 41.1 +1.1**
ULN Ulaanbaatar 30.79 15 P **P** **18 32 40.6 +0.6**
comp=Z,375nm,1.7s,comp=Z,13µmcomp=Z,26µm
SGDS Sogindy 30.84 329 *e*P **P** **18 32 39.9 -0.4**
SGDS *e*S **S** **18 37 44.4 +0.4**
SGDS pmax pmax
comp=Z,334nm,2.9s
SGDS Sogindy 30.84 329 *e*P **P** **18 32 39.9 -0.4**
comp=Z,334nm,2.9s,baz=329
SGDS *e*S **S** **18 37 44.5 +0.4**
baz=329
KMMI Kalianget 30.85 143 P **P** **18 32 44.2 +3.7**
comp=Z,291nm,1.2s,comp=Z,5µmcomp=Z,7µm
DAV Davao City (W) 30.90 107 ⇓ *i* P P 18 32 47.0 +5.9
DAV Davao City (W) 30.90 107 LR LR 18 44 47.7
comp=Z,18µm,19.9s,baz=316,slow=36
JOW Kunigami 30.91 68 P **P** **18 32 40.6 -0.4**
JOW IAmb IAmb 18 32 46.6
comp=Z,240nm,1.1s
JOW Kunigami 30.91 68 P **P** **18 32 42.0 +1.0**
JOW Kunigami 30.91 68 LR LR 18 45 01.8
comp=Z,15µm,21.9s,baz=241,slow=36
SIMJ Simiganj 30.98 316 P **P** **18 32 41.3 -0.5**
SIMJ IAmb IAmb 18 32 46.6
comp=Z,389nm,1.2s
MRSI Marisa 31.06 122 P **P** **18 32 43.8 +1.3**
comp=Z,140nm,1.1s,comp=Z,3µmcomp=Z,6µm
BLJI Banyuglugur 31.21 145 P **P** **18 32 47.3 +3.6**
comp=Z,85nm,1.0s,comp=Z,3µm
ABJI Asem Bagus 31.61 144 P **P** **18 32 51.8 +4.6**
TTSI Tana Toraja 31.67 130 P **P** **18 32 49.5 +1.7**
comp=Z,130nm,1.5s,comp=Z,3µmcomp=Z,5µm
GTOI Gorontalo 31.84 121 P **P** **18 32 48.2 -1.1**
comp=Z,140nm,0.9s,comp=Z,2µm
DGZ Jazzator, Alta 32.02 349 *c* *i* P **P** **18 32 51.0 +0.2**
DGZ pmax pmax
comp=Z,135nm,0.8s
DGZ MLR MLR
comp=Z,10µm,11.0s
JAGI Jajag, Banyuwa 32.12 145 P **P** **18 32 53.7 +2.0**
JAGI Jajag, Banyuwa 32.12 145 P **P** **18 32 55.4 +3.7**
comp=Z,121nm,1.0s,comp=Z,5µm
DZA Taraz 32.16 325 *e*P **P** **18 32 51.4 -0.5**
DZA pmax pmax
comp=Z,267nm,2.6s
DZA Taraz 32.16 325 *e*P **P** **18 32 51.5 -0.5**
comp=Z,267nm,2.6s,baz=325
SPSI Sidrap Palu 32.26 131 P **P** **18 32 54.8 +1.8**
comp=Z,164nm,2.8s,comp=Z,8µm
BTLS Baital 32.30 330 *e*P **P** **18 32 52.6 -0.5**
BTLS Baital 32.30 330 *e*P **P** **18 32 52.7 -0.5**
baz=330
SRBI Singaraja 32.40 143 P **P** **18 32 56.7 +2.5**
comp=Z,124nm,1.1s,comp=Z,5µmcomp=Z,7µm
ZAK Zakamensk 32.48 9 *e*P **P** **18 32 55.9 +1.2**
ZAK *e* 18 35 39.8
ZAK pmax pmax
comp=Z,74nm,1.0s
HJU Haeju 32.52 47 P **P** **18 32 54.5 -0.6**
HJU S **S** **18 38 07.8 -2.3**
HJU AmB
comp=Z,2µm,3.2s
HJU AMS AMS
comp=Z,19µm,7.6s
LUWI Luwuk 32.63 123 P **P** **18 32 57.1 +0.7**
LUWI Luwuk 32.63 123 P **P** **18 32 55.0 -1.3**
LUWI Luwuk 32.63 123 P **P** **18 32 57.0 +0.7**
comp=Z,364nm,1.3s,comp=Z,5µmcomp=Z,5µm
KMSI Cibinong 32.67 120 P **P** **18 32 59.1 +2.5**
comp=Z,737nm,1.0s,comp=Z,7µmcomp=Z,6µm
KK31 Karatay Array 32.75 324 *i* P **P** **18 32 56.3 -0.8**
SUJ Sinuiju 32.75 43 P **P** **18 32 56.6 -0.5**
SUJ S **S** **18 38 11.9 -1.8**
SUJ AmB
comp=Z,3µm,3.3s
SUJ AMS AMS
comp=Z,38µm,11.2s
CHM Chimkent 32.77 322 *e*P **P** **18 32 56.9 -0.3**
CHM pmax pmax
comp=Z,285nm,1.8s
CHM Chimkent 32.77 322 *e*P **P** **18 32 56.9 -0.3**
comp=Z,285nm,1.8s,baz=322
CHM LR LR 18 46 55.2
baz=322
INCN Inchon 32.89 48 IAMs_20 IAMs_20 18 47 51.3
comp=Z,27µm,20.0s
TJN Taejon 32.94 51 P **P** **18 32 57.7 -1.1**
TJN Taejon 32.94 51 P **P** **18 32 58.7 -0.1**
TJN Taejon 32.94 51 *ce*P **P** **18 32 57.6 -1.1**
KAPI Kappang 32.98 133 P **P** **18 32 58.0 -1.3**
KAPI IAmb IAmb 18 33 02.9
comp=Z,220nm,1.1s
KAPI Kappang 32.98 133 P **P** **18 32 58.0 -1.3**
KAPI pmax pmax
comp=Z,220nm,1.1s
KAPI MLR MLR
comp=Z,7µm,19.0s
KAPI Kappang 32.98 133 LR LR 18 46 43.4
comp=Z,7µm,19.3s,baz=310,slow=37
NGCH Negor - Chabah 33.03 288 P **P** **18 33 02.7 +3.0**
PYAG Pyongyang 33.03 45 P **P** **18 32 59.3 -0.3**
PYAG S **S** **18 38 16.0 -2.1**
PYAG AmB
comp=Z,1µm,3.6s
PYAG AMS AMS
comp=Z,19µm,8.7s
JMZ Minamidaito 2 33.40 71 IAMs_20 IAMs_20 18 46 53.2
comp=Z,33µm,19.0s
BKSI Bulukumba 33.46 132 P **P** **18 33 05.0 +1.5**
comp=Z,88nm,1.1s,comp=Z,3µmcomp=Z,4µm
MOY Mondy 33.48 6 *e*P **P** **18 33 04.0 +0.6**
MOY pmax pmax
comp=Z,388nm,2.9s
JSU Suzuyama 33.73 60 P **P** **18 33 07.3 +1.5**
JTU Tsushima 33.78 55 P **P** **18 33 08.1 +2.0**
KSRS Korea Array 33.80 49 P **P** **18 33 05.1 -1.2**
comp=Z,24nm,0.8s,baz=243,slow=9.3,SNR=40
KSRS LR LR 18 48 32.5
comp=Z,52µm,18.2s,baz=245,slow=40
comp=Z,24nm,0.8s
SEM Semipalatinsk 34.37 342 *e*P **P** **18 33 10.6 -0.7**
SEM pmax pmax
comp=Z,152nm,1.4s
SEM Semipalatinsk 34.37 342 *e*P **P** **18 33 10.6 -0.7**
comp=Z,152nm,1.4s,baz=342
SEM LR LR 18 48 25.5
baz=342
IRK Irkutsk 34.44 9 *e*P **P** **18 33 12.7 +1.0**
IRK pmax pmax
comp=E,686nm,3.2s
JLN Jalan Bani Buh 34.48 283 P **P** **18 33 15.0 +2.6**
SNR=20
JLN P **P** **18 33 15.0 +2.6**
SNR=20
JNU Nakatsue 34.51 58 IAmb IAmb 18 33 18.5
comp=Z,393nm,1.4s
JNU Nakatsue 34.51 58 P **P** **18 33 14.1 +1.5**
JNU Nakatsue 34.51 58 LR LR 18 48 01.8
comp=Z,18µm,18.9s,baz=247,slow=38
PLAI Plampang 34.52 140 P **P** **18 33 11.4 -1.3**
PLAI Plampang 34.52 140 P **P** **18 33 12.5 -0.2**
comp=Z,191nm,1.0s,comp=Z,3µmcomp=Z,5µm
DBNI Kabupaten Domp 34.60 139 P **P** **18 33 13.7 +0.3**
comp=Z,387nm,1.4s,comp=Z,9µm
HHU Hamhung 34.66 45 P **P** **18 33 12.8 -0.8**
HHU AmB
comp=Z,503nm,1.8s
HHU AMS AMS
comp=Z,20µm,9.9s
WBK Wadi Bani Khal 34.88 283 P **P** **18 33 18.8 +2.9**
SNR=10
WBK P **P** **18 33 18.8 +2.9**
SNR=10
KURBB Kurchatov Arra 35.08 341 P **P** **18 33 17.3 +0.1**
comp=Z,136nm,0.6s,baz=150,slow=8.8,SNR=217
KURBB S **S** **18 38 49.9 +0.3**
comp=Z,4.1nm,1.0s,baz=173,slow=2.7,SNR=3.2
KURBB ScP **ScP** **18 39 35.2 +0.7**
comp=Z,15nm,0.9s,baz=157,slow=3.3,SNR=8.0
KURBB LR LR 18 52 05.1
comp=Z,7µm,18.6s,baz=154,slow=44
KURBB P3KPbc 19 04 07.3
comp=Z,1.7nm,0.9s,baz=326,slow=4.9,SNR=8.3
comp=Z,136nm,0.6s
KURK Kurchatov 35.13 341 P **P** **18 33 16.8 -0.9**
KURK IAmb IAmb 18 33 25.0
comp=Z,213nm,0.9s
KURK Kurchatov 35.13 341 *ce*P **P** **18 33 17.4 -0.2**
KURK pmax pmax
comp=Z,401nm,1.3s
KURK MLR MLR
comp=Z,11µm,11.0s
KURK Kurchatov 35.13 341 P **P** **18 33 17.7 0.0**
KURK P **P** **18 33 17.7 0.0**
WSAR Wadi Sarin 35.20 284 P **P** **18 33 21.1 +2.4**
SNR=16
TNTI Ternate 35.41 116 P **P** **18 33 17.8 -2.6**
TNTI Ternate 35.41 116 P **P** **18 33 19.4 -1.0**
TNTI Ternate 35.41 116 P **P** **18 33 19.4 -1.0**
comp=Z,101nm,1.0s,comp=Z,2µmcomp=Z,2µm
CN2 Changchun 35.45 38 *e*P **P** **18 33 19.7 -0.7**
CN2 *e*pP sP 18 33 26.5 +1.1
CN2 *e*PP **PnPn** **18 34 39.5 +0.4**
CN2 *e*S **S** **18 38 52.0 -3.3**
CN2 *es*S sS 18 39 01.9 +0.7
CN2 pmax pmax
comp=Z,80nm,1.0s
CN2 LR LR
comp=Z,48µm,18.0s
CN2 LR LR
comp=Z,32µm,18.0s
CN2 LR LR
comp=Z,52µm,19.0s
OTUK Ortayu 35.48 332 P **P** **18 33 20.7 -0.1**
BIDO Bidbid 35.67 285 P **P** **18 33 24.9 +2.3**
SNR=24
BIDO P **P** **18 33 24.9 +2.3**
SNR=24
JMDO Jabal Madar 35.69 283 P **P** **18 33 24.6 +1.8**
SNR=11
JMDO P **P** **18 33 24.6 +1.8**
SNR=11
JMDO P **P** **18 33 24.6 +1.8**
SNR=11
SMDO Samad 35.74 284 P **P** **18 33 25.5 +2.2**
SNR=24
SMDO P **P** **18 33 25.5 +2.2**
SNR=24
SMDO P **P** **18 33 25.5 +2.2**
SNR=24
SANI Sanana 35.81 121 P **P** **18 33 22.3 -1.6**
SANI Sanana 35.81 121 P **P** **18 33 21.1 -2.8**
SANI Sanana 35.81 121 P **P** **18 33 22.8 -1.1**
comp=Z,54nm,2.4s,comp=Z,2µmcomp=Z,4µm
MHTO MHTO 35.85 281 P **P** **18 33 25.9 +1.7**
SNR=13
MHTO P **P** **18 33 25.9 +1.7**
SNR=13
JASK Jask - Hormozg 36.01 289 P **P** **18 33 28.2 +2.7**
LBMI Labuha 36.27 118 P **P** **18 33 29.4 +1.6**
comp=Z,174nm,1.0s,comp=Z,4µm
HIA Hailar 36.30 26 IAMs_20 IAMs_20 18 49 53.1
comp=Z,26µm,21.0s
HIA Hailar 36.30 26 P **P** **18 33 29.3 +1.6**
DQM DQM 36.31 279 P **P** **18 33 31.6 +3.5**
SNR=8.1
DQM P **P** **18 33 31.6 +3.5**
SNR=8.1
CIT Chita 36.33 18 *e*P **P** **18 33 28.5 +0.5**
CIT *e* 18 39 00.1
CIT pmax pmax
comp=Z,576nm,2.9s
BSY Bisya 36.52 284 P **P** **18 33 32.9 +2.9**
SNR=20
BSY P **P** **18 33 32.9 +2.9**
SNR=20
BSY P **P** **18 33 32.9 +2.9**
SNR=20
ZALV Zalesovo Beam 36.56 349 *i* P **P** **18 33 30.1 +0.2**
ZALV pmax pmax
comp=Z,294nm,0.9s
ZALV Zalesovo Beam 36.56 349 P **P** **18 33 30.1 +0.2**
comp=Z,289nm,0.9s,baz=175,slow=8.8,SNR=158
ZALV ScS ScS 18 43 43.3 -2.8
comp=Z,1.7nm,0.4s,baz=156,slow=7.6,SNR=4.7
ZALV P3KPbc 19 03 59.6
comp=Z,0.8nm,0.3s,baz=333,slow=1.6,SNR=2.0
comp=Z,289nm,0.9s
BRZS Berezniki 36.67 335 *e*P **P** **18 33 30.5 -0.4**
BRZS pmax pmax
comp=Z,331nm,2.3s
BRZS Berezniki 36.67 335 *e*P **P** **18 33 30.5 -0.4**
comp=Z,331nm,2.3s,baz=335
JHS Saijyo 36.83 56 P **P** **18 33 34.8 +2.3**
EDFI Ende, Flores 36.99 135 P **P** **18 33 32.1 -2.0**
comp=Z,143nm,0.8s,comp=Z,3µm
JMN Monobe 37.09 58 P **P** **18 33 36.5 +1.8**
JMN Monobe 37.09 58 P **P** **18 33 37.0 +2.3**
SOHO SOHO 37.14 286 *i* P **P** **18 33 36.8 +1.5**
SNR=42
SOHO SOHO 37.14 286 P **P** **18 33 36.7 +1.5**
SOHO P **P** **18 33 36.7 +1.5**
SOHO P **P** **18 33 36.7 +1.5**
ARQ Araqi 37.14 285 P **P** **18 33 37.6 +2.4**
SNR=23
ARQ P **P** **18 33 37.6 +2.4**
SNR=23
MMRI Maumere 37.28 134 P **P** **18 33 34.8 -1.6**
MMRI IAmb IAmb 18 33 39.8
comp=Z,580nm,1.2s
MMRI Maumere 37.28 134 P **P** **18 33 37.4 +1.0**
MMRI Maumere 37.28 134 P **P** **18 33 38.0 +1.6**
comp=Z,435nm,1.1s,comp=Z,6µmcomp=Z,5µm
BASI Baing, Sumba 37.34 138 P **P** **18 33 37.1 +0.2**
comp=Z,712nm,0.9s,comp=Z,8µm
MDH Madha 37.39 288 *i* P **P** **18 33 38.1 +0.8**
SNR=30
MDH Madha 37.39 288 P **P** **18 33 38.3 +1.0**
SNR=12
MDH P **P** **18 33 38.3 +1.0**
SNR=12
NLAI Namlea 37.40 122 P P 18 33 44.3 +6.8
MSFE Esma-Masafi 37.52 288 *i* P **P** **18 33 37.1 -1.4**
SNR=20
MASF Masafi 37.52 288 P **P** **18 33 40.6 +2.1**
SNR=9.7
HATD Hatta, Dubai 37.52 287 *i* P **P** **18 33 40.6 +2.2**
SNR=31
HATD Hatta, Dubai 37.52 287 P **P** **18 33 40.6 +2.2**
SNR=33
HATD P **P** **18 33 40.6 +2.2**
SNR=33
HATD P **P** **18 33 40.6 +2.2**
SNR=33
SHME Shamm 37.57 289 *i* P **P** **18 33 40.8 +1.9**
SNR=10.0
SHME Shamm 37.57 289 P **P** **18 33 41.0 +2.1**
SNR=6.7
SHME P **P** **18 33 41.0 +2.1**
SNR=6.7
ASHO Ashiyiah 37.59 287 *i* P **P** **18 33 40.6 +1.6**
SNR=104
ASHO Ashiyiah 37.59 287 P **P** **18 33 41.4 +2.4**
SNR=53
ASHO P **P** **18 33 41.4 +2.4**
SNR=53
JAD Aida 37.64 56 P **P** **18 33 40.6 +1.3**
BNX BinXian 37.71 37 ⇓ P **P** **18 33 39.2 -0.6**
BNX pP **sP** **18 33 43.5 -1.3**
BNX sP **pP** **18 33 44.6 +1.3**
BNX S **S** **18 39 32.6 +2.7**
BNX pmax pmax
comp=Z,180nm,0.9s
BNX pmax pmax
comp=Z,3µm,7.8s
BNX LR LR
comp=Z,25µm,14.9s
BNX LR LR
comp=Z,30µm,13.7s
BNX LR LR
comp=Z,24µm,22.6s
ALNE Al Ain 37.85 286 *i* P **P** **18 33 43.7 +2.5**
SNR=34
ALNE Al Ain 37.85 286 P **P** **18 33 43.5 +2.3**
SNR=38
ALNE P **P** **18 33 43.5 +2.3**
SNR=38
ALNE P **P** **18 33 43.5 +2.3**
SNR=38
NAZ Nazwa, Dubai 37.96 287 *i* P **P** **18 33 44.7 +2.6**
SNR=11
NAZ Nazwa, Dubai 37.96 287 P **P** **18 33 43.9 +1.8**
SNR=15
NAZ P **P** **18 33 43.9 +1.8**
SNR=15
NAZ P **P** **18 33 43.9 +1.8**
SNR=15
FAQ Al Faqa, Dubai 38.01 287 *i* P **P** **18 33 42.8 +0.2**
SNR=35
FAQ Al Faqa, Dubai 38.01 287 P **P** **18 33 44.3 +1.7**
SNR=10
FAQ P **P** **18 33 44.3 +1.7**
SNR=10
FAQ P **P** **18 33 44.3 +1.7**
SNR=10
ASUD Al Ashush, Dub 38.25 287 *i* P **P** **18 33 44.6 0.0**
SNR=27

ASUD Al Ashush, Dub 38.25 287 P **P** **18 33 47.4 +2.9**
SNR=21
ASUD P **P** **18 33 47.4 +2.9**
SNR=21
ASUD P **P** **18 33 47.4 +2.9**
SNR=21
SHAO Shalim 38.30 276 *i* P **P** **18 33 43.3 -1.8**
SNR=7.1
SHAO Shalim 38.30 276 P **P** **18 33 47.0 +1.9**
SNR=6.6
SHAO P **P** **18 33 47.0 +1.9**
SNR=6.6
SHAO P **P** **18 33 47.0 +1.9**
SNR=6.6
MSHR Mys Shultsa 38.33 43*c i* P **P** **18 33 44.7 -0.3**
MSHR pmax pmax
comp=Z,46nm,1.0s
MSHR MLR MLR
comp=Z,17μm,12.0s
GEYT Alibeck 38.34 308 P **P** **18 33 47.1 +1.8**
comp=Z,466nm,0.9s,baz=125,slow=7.2,SNR=4.8
GEYT S **S** **18 39 41.1 +1.5**
comp=Z,1.6nm,0.7s,baz=147,slow=8.2,SNR=1.5
GEYT LR LR 18 53 11.3
comp=Z,9μm,20.6s,baz=138,slow=42
comp=Z,466nm,0.9s
GYA0 ALIBECK ARRAY 38.34 308 P **P** **18 33 47.0 +1.8**
MDJ Mudanjiang 38.37 40 P **P** **18 33 45.7 +0.4**
MDJ pP pP 18 33 48.4 -0.5
MDJ S **S** **18 39 38.1 -1.7**
MDJ PcS **PcS** **18 39 47.4 -0.5**
MDJ ScS **ScS** **18 43 58.9 +2.2**
MDJ pmax pmax
comp=Z,47nm,1.9s
MDJ pmax pmax
comp=Z,3μm,7.8s
MDJ LR LR
comp=Z,21μm,15.5s
MDJ LR LR
comp=Z,21μm,17.8s
MDJ LR LR
comp=Z,47μm,17.9s
MDJ Mudanjiang 38.37 40 P **P** **18 33 44.5 -0.8**
MDJ Mudanjiang 38.37 40 P **P** **18 33 45.6 +0.3**
KRAI Karang Ratu 38.50 121 P P 18 33 52.5 +5.7
AJN Ajban 38.56 287 *i* P **P** **18 33 47.1 -0.1**
SNR=35
AJN Ajban 38.56 287 P **P** **18 33 48.8 +1.6**
SNR=16
AJN P **P** **18 33 48.8 +1.6**
SNR=16
AJN P **P** **18 33 48.8 +1.6**
SNR=16
DMTO DMTO 38.98 276 P **P** **18 33 52.4 +1.7**
SNR=6.1
DMTO P **P** **18 33 52.4 +1.7**
SNR=6.1
DMTO P **P** **18 33 52.4 +1.7**
SNR=6.1
SOEI Soe 39.48 133 IAmb IAmb 18 34 09.6
comp=Z,581nm,1.0s
SOEI Soe 39.48 133 P **P** **18 33 53.5 -1.5**
SOEI Soe 39.48 133 P **P** **18 33 52.5 -2.6**
SOEI Soe 39.48 133 P **P** **18 33 53.6 -1.5**
comp=Z,625nm,1.4s,comp=Z,7μmcomp=Z,5μm
JIE Ise 39.53 58 P **P** **18 33 56.1 +0.9**
SWI Sorong 39.58 115 P **P** **18 33 55.5 -0.3**
comp=Z,197nm,1.0s,comp=Z,4μmcomp=Z,6μm
SIJI Sorong 39.59 115 P **P** **18 33 55.4 -0.5**
comp=Z,145nm,1.0s,comp=Z,3μmcomp=Z,4μm
USA0B Ussuriysk Arra 39.63 42*c i* P **P** **18 33 55.7 -0.2**
USRK Ussuriysk Ar. 39.63 42 P **P** **18 33 55.9 0.0**
comp=Z,65nm,0.8s,baz=238,slow=7.8,SNR=37
USRK LR LR 18 51 49.8
comp=Z,22μm,18.4s,baz=234,slow=39
comp=Z,65nm,0.8s
RBK Rabkut 39.71 276 P **P** **18 33 58.7 +1.7**
SNR=17
RBK P **P** **18 33 58.7 +1.7**
SNR=17
RBK P **P** **18 33 58.7 +1.7**
SNR=17
BVA0 Borovoye Array 39.94 336 P **P** **18 33 55.3 -3.0**
BVAR Borovoye Array 39.94 336 P **P** **18 33 58.0 -0.3**
comp=Z,38nm,0.7s,baz=132,slow=10,SNR=119
BVAR PcP **PcP** **18 36 03.4 -0.3**
comp=Z,33nm,0.7s,baz=144,slow=3.3,SNR=6.9
BVAR S **S** **18 40 02.0 -1.2**
comp=Z,15nm,1.1s,baz=146,slow=13,SNR=3.7
BVAR LR LR 18 54 29.8
comp=Z,8μm,19.1s,baz=136,slow=42
BVAR P3KPbc 19 03 49.0
comp=Z,0.9nm,0.8s,baz=286,slow=5.5,SNR=4.2
comp=Z,38nm,0.7s
MZR Muzera 39.95 284 P **P** **18 34 00.6 +1.8**
INU Inuyama 40.00 57 P **P** **18 33 59.7 +0.6**
BRVK Borovoye 40.00 336 P **P** **18 33 58.0 -0.8**
BRVK Borovoye 40.00 336*ce* P **P** **18 33 58.3 -0.6**
BRVK pmax pmax
comp=Z,123nm,1.3s
BRVK MLR MLR
comp=Z,6μm,12.0s
BRVK Borovoye 40.00 336 P **P** **18 33 58.5 -0.4**
WHFO Wadi Hawf 40.06 276 P **P** **18 34 00.1 +0.2**
SNR=7.7
WHFO P **P** **18 34 00.1 +0.2**
SNR=7.7
BNDI Bandanaira 40.42 121 P **P** **18 34 01.6 -1.2**
BNDI Bandanaira 40.42 121 P **P** **18 34 02.5 -0.3**
comp=Z,521nm,0.8s,comp=Z,11μmcomp=Z,8μm
JGN Niukaw 40.45 55 P **P** **18 34 03.3 +0.4**
JRN Qarnain Island 40.51 287 P **P** **18 34 03.4 0.0**
SNR=7.8
JRN P **P** **18 34 03.4 0.0**
SNR=7.8
HEH HeiHe 40.51 31 *e* P **P** **18 34 02.7 -0.4**
HEH pP **pP** **18 34 05.9 -0.8**
HEH PP **PP** **18 35 35.6 -0.8**
HEH S **S** **18 40 16.1 +4.2**
HEH sS **sS** **18 40 18.9 +1.1**
HEH pmax pmax
comp=Z,200nm,1.0s
HEH pmax pmax
comp=Z,4μm,5.2s
HEH LR LR
comp=Z,50μm,14.7s
HEH LR LR
comp=Z,40μm,13.7s
HEH LR LR
comp=Z,48μm,14.0s
ABTO Aybut 40.59 275 P **P** **18 34 05.1 +0.8**
SNR=5.9
ABTO P **P** **18 34 05.1 +0.8**
SNR=5.9
ABTO P **P** **18 34 05.1 +0.8**
SNR=5.9
JSG Sagara 40.78 58 P **P** **18 34 04.6 -1.0**
JSG IAmb IAmb 18 34 11.7
comp=Z,367nm,1.1s
JSG Sagara 40.78 58 P **P** **18 34 08.0 +2.4**
MAJO Matsushiro 41.23 55 P **P** **18 34 09.3 0.0**
MAJO Matsushiro 41.23 55 IAMs_20 IAMs_20 18 52 59.3
comp=Z,16μm,19.0s
MAJO Matsushiro 41.23 55 P **P** **18 34 10.0 +0.7**
MAJO Matsushiro 41.23 55 P **P** **18 34 09.7 +0.4**
MAT Matsushiro 41.23 55 P **P** **18 34 09.7 +0.4**
MJAR Matsushiro Arr 41.23 55 P **P** **18 34 09.7 +0.3**
comp=Z,64nm,0.9s,baz=269,slow=9.5,SNR=73
MJAR PcP **PcP** **18 36 07.6 -0.6**
comp=Z,4.6nm,1.0s,baz=276,slow=2.9,SNR=2.8
MJAR LR LR 18 53 11.5
comp=Z,15μm,18.4s,baz=228,slow=39
comp=Z,64nm,0.9s
FAKI Fak Fak 41.49 117 P **P** **18 34 10.2 -1.4**
FAKI Fak Fak 41.49 117 P **P** **18 34 11.2 -0.4**
FAKI Fak Fak 41.49 117 P **P** **18 34 11.1 -0.5**
comp=Z,188nm,0.8s,comp=Z,5μmcomp=Z,5μm
BOD Bodaibo 41.60 14 *e* P **P** **18 34 12.5 +0.5**
BOD pmax pmax
comp=Z,163nm,1.5s
JOD2 Odawara 2 41.63 57 P **P** **18 34 12.8 +0.2**
JRY Ryogami san 41.65 56 P **P** **18 34 12.8 0.0**
JHJ Hachijo jima 2 41.79 61 LR LR 18 53 19.1
comp=Z,11μm,18.3s,baz=288,slow=39
JHJ2 Mitsune 41.82 61 IAMs_20 IAMs_20 18 53 25.9
comp=Z,14μm,18.0s

TRNA Turayna 41.99 287 P **P** **18 34 16.4 +0.7**
SNR=17
KLR Kul'dur 42.13 35*ce* P **P** **18 34 16.1 -0.4**
KLR pmax pmax
comp=Z,219nm,1.7s
KLR MLR MLR
comp=Z,20μm,14.0s
KLR Kul'dur 42.13 35 LR LR 18 52 49.4
comp=Z,24μm,18.8s,baz=234,slow=38
SHMA Al-Shehemyia 42.22 288 P **P** **18 34 18.5 +1.0**
SNR=21
AB31 Akbulak array 42.31 325 *i* P **P** **18 34 18.2 +0.3**
SMRA Abu-Samra 42.35 287 P **P** **18 34 19.4 +0.8**
SNR=18
SAKB Bahrain 42.61 289 P **P** **18 34 21.6 +0.9**
ZEA Zeya 42.77 27 *e* P **P** **18 34 22.6 +1.0**
ZEA *e* 18 36 04.3
ZEA *e*S **S** **18 40 46.7 +1.4**
ZEA *e* 18 43 54.8
ZEA pmax pmax
comp=E,800nm,7.5s
ZEA pmax pmax
comp=N,1μm,6.2s
ZEA pmax pmax
comp=Z,2μm,7.3s
ZEA pmax pmax
comp=E,80nm,1.1s
ZEA pmax pmax
comp=N,80nm,1.2s
ZEA pmax pmax
comp=Z,170nm,1.1s
ZEA pmax pmax
comp=E,500nm,6.2s
ZEA pmax pmax
comp=N,700nm,6.3s
ZEA pmax pmax
comp=Z,1μm,6.2s
ZEA smax smax
comp=E,1μm,10.0s
ZEA smax smax
comp=N,2μm,16.0s
ZEA MLR MLR
comp=N,20μm,11.0s
ZEA MLR MLR
comp=E,13μm,11.0s
ZEA MLR MLR
comp=Z,19μm,11.0s
KMPI Kaimana, Papua 43.11 117 P **P** **18 34 28.8 +4.0**
comp=Z,204nm,1.6s,comp=Z,5μm
JCJ Chichijima 43.29 70 LR LR 18 51 33.5
comp=Z,9μm,21.6s,baz=273,slow=35
JMM Marumori 43.56 54 IAmb IAmb 18 34 31.6
comp=Z,350nm,1.0s
JMM Marumori 43.56 54 P **P** **18 34 28.3 +0.1**
AKTO Aktyubinsk 44.00 325 P **P** **18 34 30.3 -1.3**
AKTO Aktyubinsk 44.00 325 LR LR 18 56 55.3
comp=Z,7μm,19.3s,baz=134,slow=42
JOM Ohasama 44.34 52 P **P** **18 34 34.5 +0.1**
JTM Tenmabayashi 44.52 50 P **P** **18 34 37.2 +1.3**
JTM Tenmabayashi 44.52 50 P **P** **18 34 36.1 +0.2**
GRNR Gornyy 45.50 35⇧ *i* P **P** **18 34 44.1 +0.5**
GRNR *e* 18 36 23.9
GRNR *e*S **S** **18 41 30.2 +5.0**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR smax smax
comp=N,2.0nm,0.8s
GRNR MLR MLR
comp=E,11μm,13.0s
GRNR MLR MLR
comp=Z,17μm,13.0s
LKRN Lenkeran, Azer 45.60 307 P **P** **18 34 46.3 +1.8**
MSEY Mahe Island 46.03 244 P **P** **18 34 51.4 +3.2**
PSA00 Pilbara Seismi 46.04 148 IAmb IAmb 18 34 51.8
comp=Z,179nm,1.4s
PSA00 Pilbara Seismi 46.04 148 IAmb IAmb 18 34 51.9
comp=Z,160nm,1.6s
PSA00 Pilbara Seismi 46.04 148 P **P** **18 34 47.8 -0.3**
FITZ Fitzroy Crossi 46.49 140 P **P** **18 34 50.5 -1.1**
baz=47,SNR=22
FITZ Fitzroy Crossi 46.49 140 P **P** **18 34 50.2 -1.4**
MTN Manton Dam 46.50 129 P **P** **18 34 51.1 -0.7**
baz=47,SNR=5.0
MTN Manton Dam 46.50 129 P **P** **18 34 50.7 -1.1**
SVE Sverdlovsk 46.59 334*d i* P **P** **18 34 52.0 0.0**
SVE *e* 18 36 42.3
SVE *e*S **S** **18 41 40.4 -0.2**
SVE pmax pmax
comp=Z,437nm,1.0s
SVE pmax pmax
comp=Z,539nm,5.6s
SVE MLR MLR
comp=E,10μm,17.0s
SVE MLR MLR
comp=Z,11μm,17.0s
ASAJ Asahikawa 46.60 46 LR LR 18 55 48.0
comp=Z,6μm,19.8s,baz=262,slow=38
JKA Kamikawa-asahi 46.60 46 IAmb IAmb 18 34 58.3
comp=Z,155nm,1.1s
KNRA Kununurra 46.74 134 P **P** **18 34 52.6 -1.1**
baz=47,SNR=20
KNRA Kununurra 46.74 134 IAmb IAmb 18 34 58.4
comp=Z,106nm,0.8s
KNRA Kununurra 46.74 134 P **P** **18 34 52.7 -1.0**
ARU Arti 47.22 333 P **P** **18 34 55.8 -1.2**
ARU IAmb IAmb 18 34 59.1
comp=Z,153nm,1.0s
ARU Arti 47.22 333*c i* P **P** **18 34 56.3 -0.6**
ARU 18 36 28.3
ARU 18 36 47.3
ARU S **S** **18 41 49.6 0.0**
ARU 18 44 41.5
ARU SS **SS** **18 45 16.8 0.0**
ARU pmax pmax
comp=Z,192nm,1.0s
ARU MLR MLR
comp=Z,9μm,18.0s
ARU Arti 47.22 333 LR LR 18 57 13.3
comp=Z,11μm,20.1s,baz=126,slow=39
MNGR Mingechevir, A 47.34 309 P **P** **18 34 59.7 +1.6**
SEKA Sheki 47.36 309 P **P** **18 34 58.7 +0.3**
KDU Kakadu 47.39 128 P **P** **18 34 57.3 -1.5**
baz=48,SNR=3.1
KDU Kakadu 47.39 128 P **P** **18 34 57.6 -1.2**
MAK Makhachkala 47.58 312 *e* P **P** **18 34 57.0 -2.9**
MAK *e* 18 36 49.5
MAK *e*PPP PPP 18 37 33.8
MAK *e*S **S** **18 41 51.5 -3.6**
MAK *e*SS **SS** **18 45 20.0 -3.0**
MAK pmax pmax
comp=Z,460nm,1.4s
YSS Yuzh-Sakhalins 47.65 42 P **P** **18 34 59.7 -0.7**
YSS IAmb IAmb 18 35 04.1
comp=Z,170nm,1.3s
YSS IAMs_20 IAMs_20 18 54 14.2
comp=Z,19μm,19.0s
YSS Yuzh-Sakhalins 47.65 42 P **P** **18 35 01.0 +0.6**
YSS Yuzh-Sakhalins 47.65 42*ce* P **P** **18 35 00.2 -0.2**
YSS *e* 18 36 50.9
YSS *e*S **S** **18 41 56.3 +0.3**
YSS *e*SS **SS** **18 45 23.1 -0.9**
YSS pmax pmax
comp=Z,90nm,1.3s
YSS pmax pmax
comp=Z,4μm,7.3s
YSS pmax pmax
comp=N,600nm,6.3s
YSS pmax pmax
comp=E,1μm,6.6s
YSS pmax pmax
comp=Z,2μm,7.2s
YSS pmax pmax
comp=E,900nm,7.6s
YSS MLR MLR
comp=Z,17μm,16.0s
YSS MLR MLR
comp=E,10μm,15.0s
GANJ Ganja 47.88 309 P **P** **18 35 03.9 +1.5**
UGL Uglegorsk 48.01 40*c i* P **P** **18 35 04.0 +0.9**
UGL *e*S **S** **18 42 05.2 +4.2**
UGL pmax pmax
comp=Z,300nm,1.1s
UGL pmax pmax
comp=E,2μm,5.0s
UGL pmax pmax
comp=Z,3μm,6.0s
UGL smax smax
comp=E,3μm,6.5s
UGL smax smax
comp=N,2μm,8.0s
UGL MLR MLR
comp=E,34μm,14.0s
UGL MLR MLR
comp=N,18μm,10.0s
UGL MLR MLR
comp=Z,30μm,15.0s
GENI Genyem 48.20 111 P **P** **18 35 05.7 +0.5**
GENI Genyem 48.20 111 P **P** **18 35 05.5 +0.3**
comp=Z,192nm,1.4s,comp=Z,4μmcomp=Z,6μm
NAX Nakhchivan 48.20 306 P **P** **18 35 06.8 +1.8**
YUK Yuzh-Kuril'sk 48.83 47 *e* P P 18 35 02.6 -7.0
YUK *e* 18 37 02.4
YUK *e*S **S** **18 42 17.0 +4.2**
YUK *e*SS **SS** **18 45 42.2 -1.0**
YUK pmax pmax
comp=Z,336nm,1.2s
YUK pmax pmax
comp=E,198nm,1.9s
YUK pmax pmax
comp=N,159nm,1.7s
YUK pmax pmax
comp=Z,823nm,2.0s
YUK MLR MLR
comp=N,12μm,15.0s
YUK MLR MLR
comp=Z,18μm,15.0s
YUK MLR MLR
comp=E,18μm,13.0s
GNI Garni 48.96 308 P **P** **18 35 11.5 +0.6**
GNI Garni 48.96 308*c i* P **P** **18 35 12.2 +1.3**
GNI pmax pmax
comp=Z,197nm,1.1s
GNI MLR MLR
comp=Z,8μm,23.0s
GNI Garni 48.96 308 P **P** **18 35 10.7 -0.1**
GNI Garni 48.96 308 P **P** **18 35 12.6 +1.7**
GNI P **P** **18 35 12.6 +1.7**
GNI P **P** **18 35 12.6 +1.7**
NKL Nikolayevsk 48.96 34 *e* P P 18 35 05.0 -5.4
NKL *e* 18 37 00.7
NKL *e*S **S** **18 42 15.2 +0.8**
NKL *e*SS **SS** **18 45 45.2 +0.1**
NKL pmax pmax
comp=N,170nm,1.0s
NKL pmax pmax
comp=E,197nm,1.0s
NKL pmax pmax
comp=Z,735nm,1.1s
NKL smax smax
comp=E,226nm,3.0s
NKL smax smax
comp=N,223nm,2.9s
NKL MLR MLR
comp=E,47μm,14.0s
NKL MLR MLR
comp=N,42μm,12.0s
NKL MLR MLR
comp=Z,72μm,13.0s
TYV Tymovskoe 49.07 38 *e* P **P** **18 35 13.2 +1.9**
TYV *e*S **S** **18 42 23.2 +7.3**
TYV pmax pmax
comp=Z,2μm,4.3s
TYV pmax pmax
comp=Z,151nm,1.5s
TYV smax smax
comp=N,900nm,6.9s
TYV smax smax
comp=E,800nm,6.9s
YAK Yakutsk 49.57 20 P **P** **18 35 13.5 -1.4**
YAK Yakutsk 49.57 20*c i* P **P** **18 35 14.0 -0.9**
YAK *e**PP **sP** **18 35 19.4 -0.6**
YAK *e* 18 36 35.6
YAK *e* 18 37 07.9
YAK *e*PPP PPP 18 38 00.6
YAK *e*S **S** **18 42 22.4 -0.2**
YAK *e* 18 45 01.3
YAK *e*SS **SS** **18 45 56.4 +1.9**
YAK *e*SSS SSS 18 47 14.6
YAK pmax pmax
comp=Z,148nm,0.8s
YAK pmax pmax
comp=N,58nm,1.1s
YAK pmax pmax
comp=E,87nm,1.4s
YAK pmax pmax
comp=Z,1μm,4.9s
YAK pmax pmax
comp=N,408nm,3.5s
YAK pmax pmax
comp=E,198nm,2.6s
YAK smax smax
comp=N,1μm,6.3s
YAK smax smax
comp=E,953nm,5.8s
YAK MLR MLR
comp=Z,20μm,20.0s
YAK MLR MLR
comp=N,10μm,23.0s
YAK MLR MLR
comp=E,8μm,16.0s
YAK Yakutsk 49.57 20 LR LR 18 57 40.2
comp=E,1μm,18.1s,baz=218,slow=38
ROCAM **Rodrigues Isla 49.59 222** P **P** **18 35 15.7 +0.1**
ROCAM IAMs_20 IAMs_20 18 54 39.0
comp=Z,13μm,19.0s
GUDG Gudauri 49.62 311 P **P** **18 35 17.4 +1.4**
TRLG Trialeti 49.70 309 P **P** **18 35 17.9 +1.4**
MEEK Meekatharra 49.82 153 P **P** **18 35 17.0 -0.3**
baz=50,SNR=4.2
MEEK Meekatharra 49.82 153 P **P** **18 35 18.3 +0.9**
ZEI Tsey 50.11 311 *e* P **P** **18 35 15.8 -3.9**
ZEI pmax pmax
comp=Z,735nm,1.3s
AKH Akhalkalaki 50.13 309 P **P** **18 35 21.3 +1.5**
AKH IAMs_20 IAMs_20 19 00 20.4
comp=Z,15μm,20.0s
AKH Akhalkalaki 50.13 309 P **P** **18 35 21.3 +1.5**
AKH pmax pmax
comp=Z,995nm,1.0s
AKH MLR MLR
comp=Z,15μm,20.0s
TABU Tabubil 50.39 113 P **P** **18 35 21.8 -0.1**
ONI Oni 50.39 310 IAmb IAmb 18 35 34.8
comp=Z,160nm,0.8s
NCK Nalchik 50.48 312 *i* P **P** **18 35 23.0 +0.8**
NCK pmax pmax
comp=Z,184nm,1.2s
NCK MLR MLR
comp=Z,1μm,15.0s
KUR Kuril'sk 50.52 46 *e* P **P** **18 35 22.2 -0.2**
KUR *e* 18 37 18.7
KUR S **S** **18 42 36.1 -0.3**
KUR pmax pmax
comp=Z,658nm,1.1s
KUR MLR MLR
comp=Z,14μm,16.0s
KUR MLR MLR
comp=E,8μm,14.0s
BELG Belogornoye 50.66 324*c i* P **P** **18 35 22.7 -0.6**
BELG pmax pmax
comp=Z,87nm,1.1s
BELG Belogornoye 50.66 324 LR LR 19 00 15.6
comp=Z,11μm,19.5s,baz=106,slow=40
GURO Guroymak-BITLI 50.78 305 P **P** **18 35 26.2 +1.5**
MORW Morawa 50.96 157 P **P** **18 35 27.4 +1.5**
baz=51,SNR=7.0
MORW Morawa 50.96 157 P **P** **18 35 25.6 -0.3**
MORW Morawa 50.96 157 P **P** **18 35 27.8 +1.9**
KBZ Khabaz 51.02 312*ce* P **P** **18 35 26.6 +0.3**
KBZ pmax pmax
comp=Z,127nm,0.9s
KBZ MLR MLR
comp=Z,4μm,20.0s
KBZ Khabaz 51.02 312 P **P** **18 35 26.8 +0.6**
comp=Z,95nm,0.8s,baz=114,slow=7.5,SNR=61
KBZ S **S** **18 42 46.0 +2.5**
comp=Z,5.9nm,1.1s,baz=82,slow=22,SNR=3.8
KBZ LR LR 19 02 00.4

comp=Z,3µm,19.0s,baz=122,slow=42
comp=Z,95nm,0.8s
GOF Gofitskoye 51.22 313*c* iP P 18 35 28.6 +0.8
GOF eS S 18 42 49.0 +2.8
KIV Kislovodsk 51.22 312 ⇑P P 18 35 29.2 +1.2
KIV Kislovodsk 51.22 312 P P 18 35 28.2 +0.3
KIV Kislovodsk 51.22 312 *e*P P 18 35 28.4 +0.5
KIV eS S 18 42 47.8 +1.4
KIV pmax pmax
comp=Z,668nm,4.0s
KIV pmax pmax
comp=Z,510nm,1.1s
KIV Kislovodsk 51.22 312 *i* P P 18 35 26.7 -1.2
SNR=145
KIV Kislovodsk 51.22 312 P P 18 35 29.0 +1.1
KIV P P 18 35 29.0 +1.1
NRIK Noril'sk 51.24 356*ce*P P 18 35 26.8 -0.7
NRIK pmax pmax
comp=Z,122nm,1.0s
NRIK MLR MLR
comp=Z,11µm,13.0s
NRIK Noril'sk 51.24 356 P P 18 35 27.1 -0.4
comp=Z,49nm,0.6s,baz=156,slow=6.2,SNR=64
NRIK S S 18 42 45.9 +0.2
comp=Z,1.3nm,0.4s,baz=113,slow=4.4,SNR=1.7
NRIK LR LR 18 58 32.2
comp=Z,6µm,18.1s,baz=169,slow=38
comp=Z,49nm,0.6s
BATM Batumi 51.49 309 P P 18 35 31.6 +1.8
BCA Borcka 51.52 309 ⇑P P 18 35 31.0 +0.9
ATD Arta Tunnel 51.65 270 LR LR 18 54 58.6
comp=Z,330nm,21.2s,baz=76,slow=33
ATD Arta Tunnel 51.65 270 P P 18 35 34.4 +2.9
SNR=5.5
HARA HARA 51.83 267 *e*P P 18 35 41.1 +8.1
HARA eS S 18 43 09.5 +14
KIRV Kirov 52.52 331*ce*P P 18 35 36.3 -0.8
KTUT Trabzon 52.83 308 ⇓P P 18 35 40.7 +0.9
ERBR Yeremizino-Bor 53.12 314 *e*P P 18 35 39.3 -2.6
ERBR *e**PP pP 18 35 42.2 -3.4
ERBR eS S 18 43 10.9 -1.4
ERBR pmax pmax
comp=Z,152nm,1.9s
SOC Sochi 53.26 311 *e*P P 18 35 40.0 -3.0
SOC *e*PPP PPP 18 38 51.4
SOC eS S 18 43 12.0 -2.2
SOC eSSS SSS 18 48 33.2
WRKA Warakurna 53.38 143 P P 18 35 43.3 -0.7
baz=54,SNR=46
WRKA Warakurna 53.38 143 P P 18 35 43.0 -1.0
MTKN Mount Kenneth 53.47 159 P P 18 35 45.2 +0.7
WRA Warramunga Arr 53.51 133 *i* P P 18 35 43.7 -1.3
WRA pmax pmax
comp=Z,136nm,0.8s
WRA Warramunga Arr 53.51 133 P P 18 35 43.8 -1.3
comp=Z,127nm,0.8s,baz=320,slow=7.3,SNR=278
WRA PcP PcP 18 36 51.8 -0.2
comp=Z,8.1nm,0.7s,baz=326,slow=7.4,SNR=2.6
WRA PKPPKP P'P'df 19 06 08.2 +4.2
comp=Z,2.7nm,0.9s,baz=121,slow=1.7,SNR=2.2
comp=Z,127nm,0.8s
WRAB Tennant Creek 53.51 133 P P 18 35 43.1 -1.9
WRAB IAmb IAmb 18 35 47.3
comp=Z,202nm,0.8s
WRAB Tennant Creek 53.51 133 P P 18 35 43.1 -1.9
WRAB pmax pmax
comp=Z,202nm,0.8s
WRAB MLR MLR
comp=Z,4µm,21.0s
MUN Mundaring 53.66 159 P P 18 35 45.9 -0.1
baz=54,SNR=14
MUN Mundaring 53.66 159 P P 18 35 46.8 +0.9
MUN Mundaring 53.66 159 P P 18 35 45.4 -0.5
VRH Novokhopyorsk 53.69 321 *e*P P 18 35 45.1 -0.8
VRH eS S 18 43 16.9 -2.8
VRH pmax pmax
comp=Z,549nm,1.5s
KLBR Kellerberrin 53.87 157 P P 18 35 47.6 +0.1
baz=54,SNR=8.8
KLBR Kellerberrin 53.87 157 P P 18 35 48.1 +0.6
MANU Manus Island 54.45 106 P P 18 35 51.2 -0.9
MANU IAmb IAmb 18 35 58.7
comp=Z,305nm,1.9s
MANU Manus Island 54.45 106 P P 18 35 53.9 +1.9
GAZ Gaziantep 54.45 303 IAmb IAmb 18 35 57.9
comp=Z,191nm,0.9s
DESE Dese 54.81 271 eS S 18 43 00.6 -36
DESE Dese 54.81 271 *e*P P 18 35 38.7 -16
NWAO Narrogin (SRO) 54.88 158 P P 18 35 56.1 +1.3
baz=55,SNR=4.1
NWAO P P 18 35 56.1 +1.3
baz=55,SNR=4.1
NWAO Narrogin (SRO) 54.88 158 P P 18 35 53.9 -0.9
NWAO Narrogin (SRO) 54.88 158 IAmb IAmb 18 36 00.5
comp=Z,397nm,1.2s
NWAO Narrogin (SRO) 54.88 158 P P 18 35 56.2 +1.4
NWAO Narrogin (SRO) 54.88 158 P P 18 35 53.9 -0.9
NWAO pmax pmax
comp=Z,133nm,1.3s
NWAO MLR MLR
comp=Z,4µm,20.0s
NWAO Narrogin (SRO) 54.88 158 P P 18 35 58.3 +3.5
ANN Anapa 55.08 312 *e*P P 18 35 50.5 -5.7
ANN *e**PP pP 18 35 56.2 -3.7
ANN eS S 18 43 31.8 -6.9
ANN pmax pmax
comp=Z,139nm,1.9s
VORD Divnogorie 55.10 320 *e*P P 18 35 55.6 -0.6
VORD *e* 18 35 56.9
VORD eS S 18 43 29.5 -9.3
VORD pmax pmax
comp=Z,210nm,0.9s
VORD smax smax
comp=N,490nm,5.5s
VSR Storozhevoye 55.24 320 *e*P P 18 35 55.6 -1.6
VSR *e* 18 35 57.2
VSR eS S 18 43 31.4 -9.3
VSR pmax pmax
comp=Z,330nm,1.4s
VSR smax smax
comp=N,3µm,16.2s
VSR MLR MLR
comp=Z,8µm,18.0s
KMBL Kambalda 55.33 153 P P 18 35 59.6 +1.5
baz=56,SNR=7.4
KMBL Kambalda 55.33 153 P P 18 35 59.3 +1.2
VORR Voronezh 55.33 321 *e*P P 18 35 57.6 -0.3
VORR eS S 18 43 38.8 -3.0
VORR pmax pmax
comp=Z,467nm,1.3s
BNN Bunyan 55.62 305 IAmb IAmb 18 36 05.6
comp=Z,195nm,0.9s
RER Riviere de l'E 55.65 227 P P 18 36 06.1 +5.4
GHAJ Ghor Haditha 55.74 296 IAmb IAmb 18 36 08.4
comp=Z,275nm,1.6s
LPSR Galich'ya Gora 55.74 322 *e*P P 18 35 59.8 -1.0
LPSR *e* 18 36 01.2
LPSR eS S 18 43 38.1 -9.2
LPSR pmax pmax
comp=Z,310nm,0.7s
LPSR smax smax
comp=N,810nm,6.7s
ASAR Alice Springs 55.79 137 P P 18 36 00.6 -1.0
comp=N,73nm,0.8s,baz=318,slow=6.9,SNR=292
ASAR PcP PcP 18 37 00.2 -0.4
comp=N,10.0nm,0.8s,baz=319,slow=6.5,SNR=1.3
ASAR PKPPKP P'P'df 19 05 57.2 -3.0
comp=N,1.8nm,1.1s,baz=134,slow=3.7,SNR=4.6
comp=N,73nm,0.8s
MMAI Mount Meron Ar 55.84 298 P P 18 36 03.1 +1.2
comp=N,66nm,0.8s,baz=79,slow=8.6,SNR=28
MMAI S S 18 43 49.9 +0.5
comp=N,0.2nm,0.3s,baz=158,slow=0.8,SNR=1.5
comp=N,66nm,0.8s
WLRA Wolmera 56.22 269 *e*P P 18 35 53.2 -12
WLRA eS S 18 43 29.6 -26
DIKM Dikmen 56.28 308 ⇓P P 18 36 06.2 +1.3
FURI Furi 56.30 269 IAMs_20 IAMs_20 18 58 00.2
comp=Z,13µm,21.0s
FURI Furi 56.30 269 *e*P P 18 35 57.8 -8.0
FURI eS S 18 43 32.5 -24
FURI IAMs_20 IAMs_20 18 56 25.7
comp=Z,4µm,23.2s
TIXI Tiksi 56.67 12 IAMs_20 IAMs_20 18 58 46.4
comp=Z,15µm,18.0s
TIXI Tiksi 56.67 12*ce*P P 18 36 05.8 -1.3
TIXI pmax pmax
comp=Z,307nm,1.7s
TIXI MLR MLR
comp=Z,9µm,11.0s
MA2 Magadan 56.76 30 P P 18 36 07.0 -1.0
MA2 IAMs_20 IAMs_20 19 01 34.9
comp=Z,9µm,18.0s
MA2 Magadan 56.76 30 P P 18 36 07.9 0.0
MA2 Magadan 56.76 30*ce*P P 18 36 07.3 -0.6
MA2 pmax pmax
comp=Z,254nm,0.8s
MA2 MLR MLR
comp=Z,10µm,16.0s
MA2 Magadan 56.76 30 LR LR 19 03 15.8
comp=Z,8µm,18.8s,baz=247,slow=39
MOS Moscow 57.33 325 *e*P P 18 36 11.1 -1.0
MOS *e* 18 37 05.4
MOS *e* 18 38 19.7
MOS eS S 18 44 05.7 -2.5
MOS eSS SS 18 47 54.3 -3.1
MOS eSSS SSS 18 50 19.0
MOS pmax pmax
comp=Z,2µm,3.2s
MOS pmax pmax
comp=Z,489nm,1.4s
MOS pmax pmax
comp=E,2µm,4.2s
MOS smax smax
comp=N,2µm,4.5s
DILA Dilla 57.38 266 *e*P P 18 36 08.1 -5.2
BR131 Keskin Array S 57.38 306*c* iP P 18 36 12.5 -0.4
BR131 Keskin Array S 57.38 306 P P 18 36 13.0 +0.1
SNR=47
BR131 P P 18 36 13.0 +0.1
SNR=47
BRTR Keskin Array B 57.38 306 *i* P P 18 36 13.6 +0.7
BRTR pmax pmax
comp=Z,71nm,1.0s
BRTR Keskin Array B 57.38 306 P P 18 36 13.0 +0.1
comp=Z,73nm,1.0s,baz=115,slow=8.0,SNR=44
BRTR PP PP 18 38 20.7 +0.5
comp=Z,9.6nm,1.1s,baz=135,slow=7.2,SNR=2.2
comp=Z,73nm,1.0s
SIM Simferopol' 57.44 312 *e*P P 18 36 13.7 +0.7
SIM eS S 18 44 11.4 +1.4
SIM pmax pmax
comp=Z,190nm,1.1s
SIM smax smax
comp=N,2µm,8.0s
PMG Port Moresby 57.53 114 P P 18 36 13.9 -0.1
PMG IAmb IAmb 18 36 19.1
comp=Z,132nm,1.0s
PMG Port Moresby 57.53 114 P P 18 36 15.0 +1.0
PMG Port Moresby 57.53 114 P P 18 36 15.1 +1.0
PMG Port Moresby 57.53 114*c* iP P 18 36 13.1 -1.0
PMG pmax pmax
comp=Z,29nm,0.9s
PMG Port Moresby 57.53 114 P P 18 36 13.6 -0.5
comp=Z,80nm,0.8s,baz=7.7,slow=2.4,SNR=12
PMG LR LR 19 04 22.1
comp=Z,1µm,19.7s,baz=302,slow=40
comp=Z,80nm,0.8s
PMG Port Moresby 57.53 114 P P 18 36 14.7 +0.6
comp=Z,158nm,1.0s,comp=Z,4µmcomp=Z,5µm
CSS Mathiatis 57.54 300 IAmb IAmb 18 36 19.7
comp=Z,197nm,0.9s
QIS Mount Isa 57.64 130 P P 18 36 14.0 -0.8
baz=58,SNR=101
QIS Mount Isa 57.64 130 P P 18 36 14.4 -0.4
OBN Obninsk 57.74 324 ⇑P P 18 36 14.7 -0.3
OBN Obninsk 57.74 324 P P 18 36 13.9 -1.0
OBN Obninsk 57.74 324*c* iP P 18 36 14.1 -0.9
OBN *i* 18 37 09.2
OBN *e* 18 38 22.0
OBN eS S 18 44 10.9 -2.8
OBN pmax pmax
comp=Z,440nm,1.3s
OBN MLR MLR
comp=Z,7µm,19.0s
FORT Forrest 57.77 147 P P 18 36 17.1 +1.7
KAVG Kavieng 57.81 105 P P 18 36 17.7 +1.6
KLMR Klimovskoe 58.02 331*c* iP P 18 36 16.6 -0.2
KLMR *e* 18 37 09.9
KLMR *e* 18 38 25.2
KLMR S S 18 44 14.9 -2.2
KLMR pmax pmax
comp=Z,258nm,1.3s
KLMR MLR MLR
comp=Z,8µm,15.0s
ANTO Ankara 58.04 306 ⇓P P 18 36 18.7 +1.2
ANTO Ankara 58.04 306 P P 18 36 17.1 -0.4
ANTO IAmb IAmb 18 36 22.9
comp=Z,260nm,1.0s
ANTO Ankara 58.04 306 P P 18 36 18.7 +1.2
ANTO Ankara 58.04 306 P P 18 36 17.7 +0.2
ANTO P P 18 36 17.7 +0.2
PEA0B Petropavlovsk- 58.59 38*ce*P P 18 36 21.5 +0.5
PETK Petropavlovsk- 58.59 38 P P 18 36 20.0 -1.0
PETK Petropavlovsk- 58.59 38 P P 18 36 20.0 -1.0
comp=Z,22nm,0.9s,baz=197,slow=4.5,SNR=14
PETK LR LR 19 03 51.2
comp=Z,22µm,18.9s,baz=259,slow=38
PETK PKP2bc 19 06 11.1
comp=Z,18nm,1.1s,baz=88,slow=14,SNR=7.0
comp=Z,22nm,0.9s
SEY Seymchan 58.75 26*ce*P P 18 36 21.7 -0.2
SEY pmax pmax
comp=Z,133nm,1.7s
SEY MLR MLR
comp=Z,15µm,12.0s
PET Petropavlovsk 59.14 39 P P 18 36 24.6 -0.2
PET IAmb IAmb 18 36 28.2
comp=Z,124nm,1.1s
PET IAMs_20 IAMs_20 19 01 55.0
comp=Z,16µm,22.0s
PET Petropavlovsk 59.14 39 P P 18 36 25.5 +0.7
PET Petropavlovsk 59.14 39⇓*i* P P 18 36 24.9 +0.1
PET eS S 18 44 28.2 -3.8
PET pmax pmax
comp=Z,145nm,1.0s
PET pmax pmax
comp=Z,2µm,12.7s
PET MLR MLR
comp=Z,17µm,16.0s
RABL Rabaul 59.69 106 IAmb IAmb 18 36 31.4
comp=Z,112nm,0.9s
RABL Rabaul 59.69 106 P P 18 36 30.2 +1.0
MTSU Mount Surprise 59.75 125 P P 18 36 29.8 +0.3
baz=60,SNR=20
MTSU Mount Surprise 59.75 125 P P 18 36 30.2 +0.7
ISP Isparta 59.78 304*ce*P P 18 36 30.3 +0.7
ISP pmax pmax
comp=Z,383nm,1.7s
OOD Oodnadatta 59.85 139 P P 18 36 29.6 -0.4
ELL Elmali 60.29 302 IAMs_20 IAMs_20 19 06 51.9
comp=Z,9µm,20.0s
OPO Ambohidratompo 60.38 235 LR LR 18 59 39.9
comp=Z,7µm,19.3s,baz=190,slow=33
PURM Purcari 60.54 314 ⇓P P 18 36 34.9 +0.4
KSL Kastellorizon 60.57 302 P P 18 36 33.2 -1.7
KIBK Kibwezi 60.60 256 P P 18 36 35.6 0.0
KIBK IAmb IAmb 18 36 41.7
comp=Z,208nm,1.9s
KIBK Kibwezi 60.60 256 P P 18 36 35.3 -0.2
KIBK Kibwezi 60.60 256 P P 18 36 37.6 +2.0
SNR=9.2
ABPO Ambohimpanom 60.60 235 P P 18 36 35.9 +0.4
ABPO IAmb IAmb 18 36 41.1
comp=Z,208nm,1.1s
ABPO IAMs_20 IAMs_20 18 59 00.0
comp=Z,14µm,20.0s
ABPO Ambohimpanom 60.60 235 P P 18 36 35.9 +0.4
ABPO pmax pmax
comp=Z,208nm,1.2s
ABPO MLR MLR
comp=Z,14µm,20.0s
MULG Mulgathing 60.67 142 P P 18 36 35.8 +0.2
KMBO Kilima Mbogo 60.88 258 P P 18 36 38.3 +0.6
KMBO IAmb IAmb 18 36 43.2
comp=Z,119nm,1.2s
KMBO Kilima Mbogo 60.88 258 IAMs_20 IAMs_20 19 00 16.0
comp=Z,8µm,21.0s
KMBO Kilima Mbogo 60.88 258 *i* P P 18 36 37.7 0.0
KMBO pmax pmax
comp=Z,74nm,1.1s
KMBO Kilima Mbogo 60.88 258 *i* P P 18 36 36.1 -1.6
SNR=17
KMBO Kilima Mbogo 60.88 258 P P 18 36 36.0 -1.6
comp=Z,74nm,1.1s,baz=46,slow=8.3,SNR=30
KMBO LR LR 19 00 26.3
comp=Z,8µm,21.4s,baz=54,slow=34
comp=Z,74nm,1.1s
KMBO Kilima Mbogo 60.88 258 P P 18 36 38.7 +1.0
KMBO Kilima Mbogo 60.88 258 *e*P P 18 36 41.0 +3.3
KMBO eS S 18 45 15.1 +19
ISK Istanbul-Kandi 60.91 307 P P 18 36 36.6 -0.6
ISK Istanbul-Kandi 60.91 307 P P 18 36 37.2 0.0
LODK Lodwar 61.09 264 P P 18 36 38.2 -0.7
LODK IAmb IAmb 18 36 45.5
comp=Z,254nm,1.5s
LODK IAMs_20 IAMs_20 19 01 08.2
comp=Z,13µm,20.0s
LODK Lodwar 61.09 264 P P 18 36 40.0 +1.1
SNR=62
LODK Lodwar 61.09 264 *e*P P 18 36 30.8 -8.0
LODK eS S 18 44 42.6 -16
TLCR 61.20 312 ⇓P P 18 36 39.5 +0.5
TLCR 61.20 312 P P 18 36 39.5 +0.5
KULA Kula-Manisa 61.24 304 P P 18 36 38.9 -0.7
MILM Milestii Mici 61.29 314⇑*i* P P 18 36 38.0 -1.6
comp=Z,3µm,4.7s
MILM Milestii Mici 61.29 314 *e*PP PP 18 38 58.0 +3.5
MILM *i* S S 18 44 56.0 -3.8
comp=Z,1µm,5.5s
MILM *e*L L 19 00 21.0
MILM LQM 19 04 54.0
comp=Z,4µm,22.0s
MILM LRM MLR 19 11 25.0
comp=Z,1µm,13.5s
MILM Milestii Mici 61.29 314 *i* P P 18 36 38.0 -1.6
MILM *e* 18 38 58.0
MILM *i* S S 18 44 56.0 -3.8
MILM pmax pmax
comp=Z,3µm,4.7s
MILM pmax pmax
comp=E,800nm,3.2s
MILM smax smax
comp=E,1µm,5.5s
KIS Kishinev 61.30 314⇑*i* P P 18 36 39.0 -0.7
comp=E,800nm,4.7s
KIS Kishinev 61.30 314 *e*PP PP 18 38 58.0 +3.5
KIS Kishinev 61.30 314*c* iP P 18 36 39.0 -0.7
KIS *e* 18 38 58.0
KIS *e*PPP PPP 18 40 27.0
KIS *i* S S 18 44 58.0 -1.8
KIS *e*PS PnS 18 45 07.0 -6.6
KIS pmax pmax
comp=Z,800nm,4.7s
KIS smax smax
comp=E,700nm,5.2s
AKASG Malin Array Be 61.33 318 P P 18 36 38.8 -1.1
comp=E,10.0nm,0.4s,baz=83,slow=6.4,SNR=87
AKASG S S 18 44 57.5 -2.7
comp=E,2.1nm,0.8s,baz=88,slow=11,SNR=7.7
comp=E,10.0nm,0.4s
AKBB Malin Array Si 61.33 318*ce*P P 18 36 38.7 -1.1
AKBB pmax pmax
comp=Z,128nm,1.0s
AKBB MLR MLR
comp=Z,4µm,15.0s
KIEV Kiev 61.34 318 ⇑P P 18 36 39.5 -0.4
KIEV Kiev 61.34 318 P P 18 36 38.7 -1.2
KIEV IAmb IAmb 18 36 44.1
comp=Z,126nm,1.0s
KIEV Kiev 61.34 318 P P 18 36 39.5 -0.4
KIEV Kiev 61.34 318 *i* P P 18 36 36.3 -3.6
SNR=56
TIRR Tirgusor 61.46 311 ⇓P P 18 36 41.7 +0.8
TIRR Tirgusor 61.46 311 P P 18 36 41.0 +0.2
TIRR IAMs_20 IAMs_20 19 07 36.1
comp=Z,9µm,21.0s
TIRR Tirgusor 61.46 311 P P 18 36 41.6 +0.8
TPGR Topolog 61.47 312 ⇑P P 18 36 41.3 +0.4
YER Yerkesik 61.58 303 P P 18 36 41.0 -0.8
YER Yerkesik 61.58 303 P P 18 36 41.8 0.0
LEOM Leova 61.66 313 ⇑P P 18 36 42.2 +0.1
LEOM Leova 61.66 313 P P 18 36 42.2 +0.1
CFR Carcaliu 61.68 312 ⇑P P 18 36 42.9 +0.6
CFR Carcaliu 61.68 312 P P 18 36 43.0 +0.7
SORM Soroca 61.68 315 ⇑P P 18 36 42.2 0.0
SORM Soroca 61.68 315 P P 18 36 42.2 0.0
TLBR Topalu 61.72 311 ⇓P P 18 36 42.4 -0.2
ARG Arkhangelos 61.74 302 P P 18 36 46.2 +3.3
VLDR Vladesti 61.74 313 ⇓P P 18 36 43.3 +0.6
TATR Tatarca 61.76 312 ⇑P P 18 36 44.0 +1.2
SCTR Scanteiesti 61.80 312 ⇑P P 18 36 44.1 +1.0
HARR Harsova 61.81 311 ⇓P P 18 36 43.5 +0.3
HARR Harsova 61.81 311 P P 18 36 44.8 +1.6
EDC Edincik 61.82 306 P P 18 36 43.5 +0.1
ICOR Ion Corvin 61.89 311 ⇓P P 18 36 44.4 +0.7
VARL Varlezi 61.91 313 ⇑P P 18 36 44.8 +0.9
SLCR Slobozia Conac 61.95 312 ⇓P P 18 36 44.7 +0.6
VASR Vaslui 61.98 314 ⇓P P 18 36 45.1 +0.8
TUDR 62.02 312 ⇑P P 18 36 45.5 +1.0
BIR Birlad 62.08 313 ⇑P P 18 36 46.2 +1.3
BIR Birlad 62.08 313 P P 18 36 46.2 +1.3
PUL Pulkovo 62.10 329*ce*P P 18 36 45.4 +0.6
PUL pmax pmax
comp=Z,351nm,0.8s
PUL MLR MLR
comp=Z,6µm,16.0s
PRD Provadia 62.16 310 *i* P P 18 36 46.0 +0.5
IAS Iasi 62.17 314 ⇓P P 18 36 45.2 -0.4
IAS Iasi 62.17 314 P P 18 36 45.1 -0.4
GHRR 62.22 313 ⇑P P 18 36 46.5 +0.6
AMRR Amara 62.23 311 ⇓P P 18 36 47.1 +1.1
AMRR Amara 62.23 311 P P 18 36 47.1 +1.1
TV1H Townsville Har 62.32 124 P P 18 36 47.3 +0.4
PETR Petresti 62.34 313 ⇓P P 18 36 25.1 -22
BODT Bodrum 62.36 303 P P 18 36 46.2 -0.8
CTA Charters Tower 62.36 125 P P 18 36 48.0 +0.8
CTA Charters Tower 62.36 125 P P 18 36 46.9 -0.4
comp=Z,31nm,0.8s,baz=306,slow=7.1,SNR=24
comp=Z,31nm,0.8s
CTAO Charters Tower 62.36 125 P P 18 36 46.5 -0.7
CTAO IAmb IAmb 18 36 53.0
comp=Z,95nm,1.1s
CTAO Charters Tower 62.36 125 P P 18 36 48.0 +0.8
CTAO Charters Tower 62.36 125 P P 18 36 46.5 -0.7
CTAO pmax pmax
comp=Z,95nm,1.1s
CTAO MLR MLR
comp=Z,2µm,20.0s
ODBI Odobesti 62.46 313 ⇑P P 18 36 49.1 +1.6
LVZ Lovozero 62.48 338 P P 18 36 46.2 -1.1
LVZ Lovozero 62.48 338 *i* P P 18 36 48.2 +0.9
LVZ pmax pmax
comp=Z,183nm,1.2s
LVZ MLR MLR
comp=Z,7µm,19.0s
KARP Karpathos 62.56 301 P P 18 36 48.3 -0.2
KARP Karpathos 62.56 301 P P 18 36 48.1 -0.4
MNK Minsk 62.57 322 *i* P P 18 36 46.9 -1.2
MNK *i* 18 39 03.6
MNK *i* PPP PPP 18 40 31.6
MNK *i* S S 18 45 14.3 -1.4
MNK *i* SS SS 18 49 20.1 +0.5
MNK pmax pmax
comp=E,130nm,1.3s
MNK pmax pmax
comp=Z,337nm,0.8s
MNK pmax pmax
comp=N,58nm,1.3s
MNK MLR MLR
comp=N,4µm,22.0s
MNK MLR MLR
comp=E,2µm,22.0s
MNK MLR MLR
comp=Z,6µm,22.0s
VOI Vohitsoka 62.60 232 P P 18 36 47.8 -1.1
VOI IAmb IAmb 18 36 54.6
comp=Z,157nm,0.9s
VOI Vohitsoka 62.60 232 P P 18 36 51.5 +2.6
VOI Vohitsoka 62.60 232 P P 18 36 52.5 +3.5
SNR=10.0
EDRB Edirne 62.65 308 P P 18 36 48.5 -0.4
VRI Vrincioaia 62.69 313 ⇑P P 18 36 50.1 +1.0
VRI Vrincioaia 62.69 313 P P 18 36 50.1 +1.0

BISRR	Bisoca	62.70 312	⇓	P		P	18 36 50.8	+1.6
SMG	Samos	62.70 303		P		P	18 36 48.9	-0.4
PLOR	Plostina	62.74 313	⇓	P		P	18 36 50.8	+1.3
PLOR	Plostina	62.74 313		P		P	18 36 50.8	+1.3
LOZB	Loznitsa	62.76 310	⇓	P		P	18 36 49.6	0.0
ISR	Istrita	62.80 312	⇑	P		P	18 36 51.3	+1.3
ISR	Istrita	62.80 312		P		P	18 36 51.2	+1.3
JMB	Yambol	62.80 309	*i*	P		P	18 36 50.1	+0.2
RAZG	Razgrad	62.82 310	⇓	P		P	18 36 50.5	+0.5
APA	Apatity	62.82 337	⇓	*i*P		P	18 36 47.8	-1.7
APA				*i*			18 39 17.0	
APA				*i*	S	S	18 45 15.0	-3.5
APA				*i*			18 45 32.0	
APA					pmax	pmax		
	comp=Z,108nm,1.2s							
SULR		63.01 311	⇑	P		P	18 36 52.8	+1.6
EZN	Ezine	63.02 306		P		P	18 36 51.4	+0.1
COVR	Voineasa-Covas	63.06 313	⇑	P		P	18 36 52.3	+0.8
INKA	Innaminka	63.07 136		P		P	18 36 51.9	+0.2
PRAR	RASCA	63.08 314	⇓	P		P	18 36 51.7	+0.1
PRK	Paraskevi	63.08 305		P		P	18 36 50.6	-1.2
ENEZ	Enez	63.12 307		P		P	18 36 51.7	-0.3
TURR	Turia	63.19 313	⇑	P		P	18 36 53.2	+0.8
ALN	Alexandroupoli	63.20 307		P		P	18 36 51.9	-0.6
ALN	Alexandroupoli	63.20 307		P		P	18 36 53.3	+0.8
SGRR	Singureni	63.20 311	⇓	P		P	18 36 53.9	+1.4
SZH	Strazhitsa	63.21 310	*i*	P		P	18 36 52.4	-0.2
MLR	Muntele Rosu	63.23 312	⇑	P		P	18 36 53.6	+0.7
MLR	Muntele Rosu	63.23 312		P		P	18 36 54.6	+1.7
MLR	Muntele Rosu	63.23 312		LR		LR	19 13 14.2	
	comp=Z,6µm,18.1s,baz=94,slow=44							
LCRK	Leigh Creek	63.28 139		P		P	18 36 53.2	+0.1
ELND	Elena	63.28 309	⇓	P		P	18 36 54.2	+1.1
CHOS	Chios island	63.29 304		P		P	18 36 53.1	-0.2
OZUR		63.35 313	⇑	P		P	18 36 53.9	+0.3
ZKR	Zakros	63.36 301		P		P	18 36 48.3	-5.5
SIGR	SIGRI	63.40 305		P		P	18 36 53.3	-0.6
BOSR	Bodos	63.44 313	⇓	P		P	18 36 54.8	+0.7
DIM	Dimitrovgrad	63.52 308	*i*	P		P	18 36 55.9	+1.3
RDO	Rodhopi	63.57 307		P		P	18 36 54.6	-0.4
SMTH	Samothraki Isl	63.60 307		P		P	18 36 54.6	-0.7
DOPR	Dopca	63.63 313	⇑	P		P	18 36 55.4	+0.1
BBOO	Buckleboo	63.68 143		P		P	18 36 55.3	-0.4
	baz=64,SNR=10							
BBOO	Buckleboo	63.68 143		P		P	18 36 55.2	-0.6
BBOO				IAmb		IAmb	18 36 57.0	
	comp=Z,89nm,1.1s							
BBOO	Buckleboo	63.68 143		P		P	18 36 56.3	+0.6
ISAL	Salakas	63.69 323	*e*	P		P	18 36 57.9	+2.4
VSU	Vasula	63.70 327	*ce*	P		P	18 36 55.1	-0.4
VSU					pmax	pmax		
	comp=Z,283nm,1.3s							
VSU	Vasula	63.70 327	*e*	P		P	18 36 56.1	+0.5
KDZ	Kurdzhali	63.71 308	*i*	P		P	18 36 56.3	+0.4
COPA	Copaceanca	63.75 311	⇓	P		P	18 36 56.6	+0.5
BURAR	Bucovina Array	63.77 315	⇑	P		P	18 36 57.2	+0.9
BURAR	Bucovina Array	63.77 315		P		P	18 36 57.2	+0.9
APE	Apeiranthos	63.78 303	⇑	P		P	18 36 57.0	+0.4
APE	Apeiranthos	63.78 303		P		P	18 36 56.9	+0.4
PVL	Pavlikeni	63.80 310	*i*	P		P	18 36 57.2	+0.8
MTUR	Matau	63.85 312	⇓	P		P	18 36 57.8	+0.9
MTUR	Matau	63.85 312		P		P	18 36 57.8	+0.9
VOIR		63.86 312	⇑	P		P	18 36 57.0	+0.1
VOIR		63.86 312		P		P	18 36 57.0	+0.1
THR8	Santorini-Mono	63.87 302		P		P	18 36 55.8	-1.2
LIA	Limnos Island	63.89 306		P		P	18 36 57.1	0.0
HUMR	Humele	63.91 311	⇑	P		P	18 36 57.8	+0.6
STFAR	Stefanesti-Arg	63.93 312	⇓	P		P	18 36 58.7	+1.3
THR3	Thira Island,	63.93 302		P		P	18 36 56.0	-1.4
THR6	Thira Island,	63.94 302		P		P	18 36 56.5	-1.0
MSF	Maaselka	64.03 335		P		P	18 36 55.9	-1.7
PLD	Plovdiv	64.13 309	*i*	P		P	18 36 59.1	+0.4
RZN	Rozhen	64.16 308	*i*	P		P	18 36 59.8	+0.7
ARR	Arges	64.16 312	⇑	P		P	18 36 59.4	+0.5
PLVB	Pleven	64.19 310	⇓	P		P	18 37 00.3	+1.2
THAS	Thassos island	64.21 307		P		P	18 36 58.8	-0.4
TGMR	Targu Mures	64.23 313	⇓	P		P	18 36 59.9	+0.7
FOMA	Nahampoana Res	64.28 230		P		P	18 36 59.7	-0.1
FOMA				IAmb		IAmb	18 37 05.1	
	comp=Z,99nm,0.8s							
FOMA				IAMs_20		IAMs_20	18 59 30.0	
	comp=Z,8µm,20.0s							
FOMA	Nahampoana Res	64.28 230		P		P	18 37 03.3	+3.4
ARCR	ARCALIA	64.35 314	⇓	P		P	18 37 01.1	+1.1
KAVA	Kavala	64.35 307		P		P	18 36 59.8	-0.3
IDI	Anoyia	64.43 301		P		P	18 37 00.9	0.0
IDI	Anoyia	64.43 301		P		P	18 37 00.8	-0.1
FINES	FINESS Array B	64.46 330	*i*	P		P	18 37 00.2	-0.2
FINES					pmax	pmax		
	comp=Z,115nm,0.8s							
FINES	FINESS Array B	64.46 330		P		P	18 37 00.4	-0.1
	comp=Z,115nm,0.8s,baz=102,slow=8.0,SNR=141							
	comp=Z,115nm,0.8s							
PGB	Panagyurishte	64.55 309	*i*	P		P	18 37 02.1	+0.6
LVV	L'vov	64.60 317	*i*	P		P	18 37 01.1	-0.5
LVV			*e*				18 39 29.3	
LVV			*i*	S		S	18 45 36.7	-4.5
QLP	Quilpie	64.71 132		P		P	18 37 02.9	+0.3
	baz=65,SNR=53							
QLP	Quilpie	64.71 132		P		P	18 37 02.9	+0.3
WHYH	Whyalla	64.72 142		P		P	18 37 03.5	+1.0
KOKK	Kokkinochori,	64.75 307		P		P	18 37 03.8	+1.0
LOT	Lotru	64.76 312	⇓	P		P	18 37 03.8	+0.9
OUR	Ouranopolis	64.79 307		P		P	18 37 02.3	-0.7
OUR	Ouranopolis	64.79 307		P		P	18 37 02.9	-0.1
KYMI	Kymi, Euboea I	64.80 305		P		P	18 37 02.3	-0.9
NVR	Nevrokopi	64.83 308		P		P	18 37 03.8	+0.5
MPEP	Malo Peshtene	64.84 310	*i*	P		P	18 37 03.7	+0.4
CJR	Cluj-Napoca	64.87 314	⇓	P		P	18 37 04.3	+0.7
CJR	Cluj-Napoca	64.87 314		P		P	18 37 04.2	+0.7
MMB	Musomishta	64.90 308	*i*	P		P	18 37 02.9	-0.9
PABE	Paberze	64.91 323		P		P	18 37 02.6	-0.9
PABE	Paberze	64.91 323	*e*	P		P	18 37 04.2	+0.8
BMR	Baia Mare	64.93 315	⇑	P		P	18 37 04.0	+0.1
BMR	Baia Mare	64.93 315		P		P	18 37 03.9	+0.1
VSVD	Vaisvydziai	64.96 324	*e*	P		P	18 37 04.8	+1.0
DION	Dionisos Attik	64.97 304		P		P	18 37 01.1	-3.2
VADS	Vadso	64.98 340	*e*	P		P	18 37 04.0	+0.2
VADS			*ep*	P		sP	18 37 07.9	-1.0
VADS			*e*	S		S	18 45 45.4	+0.2
VADS				IVMs_BB		IVMs_BB	19 15 07.6	
	comp=Z,3µm,16.3s							
PTL	Penteli	65.03 304		P		P	18 37 04.0	-0.7
SRS	Serrai	65.04 307		P		P	18 37 05.3	+0.6
PAIG	Paliouri	65.05 306		P		P	18 37 06.0	+1.3
PAIG	Paliouri	65.05 306		P		P	18 37 04.8	+0.1
VALD	Valchedram	65.05 310	*i*	P		P	18 37 05.2	+0.6
ATHU	Athens Univers	65.10 304		P		P	18 37 04.0	-1.1
VLY	Voula,Athens	65.10 304		P		P	18 37 03.6	-1.5
BAIL	Bailesti	65.10 311	⇑	P		P	18 37 06.7	+1.8
MEF	Metsahovi	65.11 329	*e*	P		P	18 37 05.5	+0.8
OUL	Oulu	65.14 334		P		P	18 37 05.1	+0.3
IMMV	Iera Moni Meta	65.16 301		P		P	18 37 06.1	+0.6
SRE	Strehaia	65.18 311	⇑	P		P	18 37 06.1	+0.6
SRE	Strehaia	65.18 311		P		P	18 37 06.1	+0.6
MARR	Marisel-Cluj	65.20 314	⇑	P		P	18 37 05.8	+0.1
VTS	Vitosha	65.23 309	*i*	P		P	18 37 06.3	+0.2
SOH	Sokhos	65.24 307		P		P	18 37 06.5	+0.5
MTSE	Matsula	65.25 327	*e*	P		P	18 37 06.5	+0.8
SUW	Suwalki	65.28 322	*e*	P		P	18 37 03.2	-2.7
SUW			*e*	L		L	19 09 02.0	
	comp=Z,7µm,19.9s							
SUW	Suwalki	65.28 322		P		P	18 37 03.4	-2.5
SUW	Suwalki	65.28 322		P		P	18 37 03.4	-2.5
SUW					pmax	pmax		
	comp=Z,574nm,1.0s							
SUW				MLR		MLR		
	comp=Z,7µm,21.0s							
SUW	Suwalki	65.28 322	*e*	P		P	18 37 04.2	-1.7
MESR	Meseseni	65.31 314	⇓	P		P	18 37 07.3	+1.1
RODP	Rodopos	65.33 301		P		P	18 37 15.1	+8.5
SGF	Sodankyl	65.34 337		P		P	18 37 06.3	+0.2
KKB	Krupnik	65.35 308	*i*	P		P	18 37 06.3	-0.4
DEV	Deva	65.36 313	⇓	P		P	18 37 07.9	+1.3
DEV	Deva	65.36 313		P		P	18 37 07.9	+1.3
PUNG	Punghina	65.39 311	⇑	P		P	18 37 07.9	+1.1
NEO	Neokhori	65.44 305		P		P	18 37 05.9	-1.4
HORT	Hortiatis	65.45 307		P		P	18 37 06.7	-0.7
VILL	Villia	65.45 304		P		P	18 37 05.1	-2.4
XOR	Xorichti	65.46 306		P		P	18 37 06.5	-0.9
KWP	Kalwaria Pacla	65.46 317	*e*	P		P	18 37 07.3	+0.1
KWP			*e*	S		S	18 45 50.4	-1.4
KWP			*e*	L		L	19 10 19.8	
	comp=Z,5µm,20.9s							
KWP	Kalwaria Pacla	65.46 317		P		P	18 37 09.1	+1.9
GZR	Gura Zlata	65.46 312	⇑	P		P	18 37 07.9	+0.5
PEHC	Pehcevo	65.53 308	*i*	P		P	18 37 07.2	-0.8
THE	Thessaloniki	65.55 307		P		P	18 37 06.8	-1.1
KNT	Kendrikon	65.56 307		P		P	18 37 07.2	-0.9
BLKB	Belogradchik	65.60 310	⇑	P		P	18 37 08.2	-0.1
KRND	KRANIDI	65.65 303		P		P	18 37 06.8	-1.8
DJES	Djerdap	65.67 311	⇑	P		P	18 37 09.5	+0.8
KEV	Kevo	65.67 339		P		P	18 37 07.7	-0.5
KEV				IAMs_20		IAMs_20	19 10 58.2	
	comp=Z,8µm,21.0s							
KEV	Kevo	65.67 339		P		P	18 37 07.7	-0.5
KEV					pmax	pmax		
	comp=Z,385nm,1.0s							
KEV				MLR		MLR		
	comp=Z,8µm,21.0s							
LOUT	Loutraki	65.73 304		P		P	18 37 07.6	-1.6
HERR	Herculane	65.74 312	⇑	P		P	18 37 09.5	+0.4
KOLS	Kolonicke sedl	65.75 316	*e*	P		P	18 37 09.6	+0.5
KOLS					pmax	pmax		
	comp=Z,39nm,0.7s							
KOLS	Kolonicke sedl	65.75 316	*e*	P		P	18 37 09.6	+0.5
BILL	Bilibino	65.76 23	*i*	P		P	18 37 08.0	-0.8
BILL					pmax	pmax		
	comp=Z,147nm,1.2s							
HTT	Hallett	65.80 141		P		P	18 37 09.7	+0.1
	baz=66,SNR=11							
HTT	Hallett	65.80 141		P		P	18 37 10.6	+1.0
HTT	Hallett	65.80 141		P		P	18 37 11.5	+1.9
VAY	Valandovo	65.80 308	*i*	P		P	18 37 10.0	+0.4
SURR	Surduc	65.91 313	⇓	P		P	18 37 11.1	+1.0
AXAR	Agios Charalam	65.92 305		P		P	18 37 09.0	-1.4
GRG	Griva	65.95 307		P		P	18 37 09.3	-1.3
THAL	Thalero	65.98 304		P		P	18 37 10.1	-0.6
STIP	Stip	66.06 308	*i*	P		P	18 37 09.6	-1.7
PBUR	Paburge	66.09 324	*e*	P		P	18 37 11.7	+0.6
BORR	Bors	66.10 314	⇑	P		P	18 37 12.2	+0.8
ARA0	ARCESS Array S	66.14 339	*e*	P		P	18 37 11.3	+0.1
ARA0			*ep*	P		sP	18 37 15.4	-1.0
ARA0			*e*	S		S	18 46 00.5	+1.0
ARA0				IVMs_BB		IVMs_BB	19 12 10.3	
	comp=Z,5µm,14.4s							
ARCES	ARCESS Array B	66.14 339		P		P	18 37 11.4	+0.1
	comp=Z,208nm,1.1s,baz=95,slow=5.0,SNR=112							
	comp=Z,208nm,1.1s							
AGG	Agios Georgios	66.15 305		P		P	18 37 10.3	-1.6
TYRN	Tyrnavos	66.17 306		P		P	18 37 10.7	-1.3
SIRR	Siria	66.22 313	⇑	P		P	18 37 13.0	+0.8
GUR	Goura	66.24 304		P		P	18 37 09.9	-2.7
MDVR	Moldovita	66.24 311	⇓	P		P	18 37 12.5	+0.1
BZS	Buzias	66.27 312	⇓	P		P	18 37 13.1	+0.6
BZS	Buzias	66.27 312		P		P	18 37 13.1	+0.6
CRVS	Cervenica-Dubn	66.28 316	*e*	P		P	18 37 13.1	+0.6
CRVS					pmax	pmax		
	comp=Z,598nm,1.3s							
CRVS	Cervenica-Dubn	66.28 316	*e*	P		P	18 37 13.1	+0.6
BOVS	Bovan	66.30 310	⇑	P		P	18 37 13.5	+0.7
MAKR	Makrakomi, Fth	66.31 305		P		P	18 37 10.9	-2.0
THL	Klokotos Trika	66.35 306		P		P	18 37 11.6	-1.5
STKA	Stephens Creek	66.37 138		P		P	18 37 12.7	-0.5
	baz=66,SNR=55							
STKA	Stephens Creek	66.37 138		P		P	18 37 13.0	-0.2
STKA	Stephens Creek	66.37 138		P		P	18 37 12.5	-0.7
	comp=Z,32nm,0.8s,baz=318,slow=7.7,SNR=59							
STKA				PKP2bc			19 05 52.3	
	comp=Z,9.3nm,1.1s,baz=113,slow=7.0,SNR=7.0							
	comp=Z,32nm,0.8s							
KLV	Kalavryta, Ach	66.38 304		P		P	18 37 12.4	-1.0
STHS	Stebnicka Huta	66.42 317	*e*	P		P	18 37 13.4	0.0
STHS					pmax	pmax		
	comp=Z,29nm,1.0s							
STHS	Stebnicka Huta	66.42 317	*e*	P		P	18 37 13.4	0.0
RAF	Rauma	66.48 329	*e*	P		P	18 37 13.7	+0.2
ANX	Ano Chora	66.51 305		P		P	18 37 13.6	-0.7
EFP	Efpalio	66.53 305		P		P	18 37 12.6	-1.7
EVR	Evrytania	66.57 305		P		P	18 37 13.9	-0.8
SKO	Skopje	66.60 308	*i*	P		P	18 37 14.8	+0.1
BANR	Banloc	66.62 312	⇑	P		P	18 37 16.5	+1.8
BEL	Belsk	66.68 319	*e*	P		P	18 37 15.1	+0.1
BEL			*e*	S		S	18 46 06.2	-0.3
BEL			*e*	L		L	19 11 42.5	
	comp=Z,7µm,20.0s							
BEL	Belsk	66.68 319		P		P	18 37 17.0	+2.0
FNA	Florina	66.74 307		P		P	18 37 14.5	-1.2
FNA	Florina	66.74 307		P		P	18 37 14.9	-0.8
MBAR	Mbarara	66.78 261		P		P	18 37 16.5	0.0
MBAR	Mbarara	66.78 261	*i*	P		P	18 37 17.2	+0.7
MBAR					pmax	pmax		
	comp=Z,286nm,1.0s							
MBAR				MLR		MLR		
	comp=Z,6µm,20.0s							
MBAR	Mbarara	66.78 261		P		P	18 37 17.5	+1.0
PVO	Paravola	66.81 305		P		P	18 37 14.5	-1.6
PYL	PYLOS	66.82 303		P		P	18 37 15.1	-1.1
KPRO	Kipourio	66.82 306		P		P	18 37 16.0	-0.2
KTK1	Kautokeino	66.84 338	*e*	P		P	18 37 15.5	-0.2
KTK1			*e*	S		S	18 46 08.2	+0.2
KTK1				IVMs_BB		IVMs_BB	19 08 34.8	
	comp=Z,3µm,16.6s							
AMBH	Ambrzfalva	66.86 313	⇑	P		P	18 37 17.6	+1.3
KECS	Kecovo	66.94 316	*e*	P		P	18 37 18.6	+1.9
KECS					pmax	pmax		
	comp=Z,96nm,1.2s							
KECS	Kecovo	66.94 316	*e*	P		P	18 37 18.6	+1.9
HAMF	Hammerfest	66.97 340	*e*	P		P	18 37 16.8	+0.3
HAMF			*ep*	P		sP	18 37 20.7	-0.9
HAMF			*e*	S		S	18 46 10.1	+0.7
HAMF				IVMs_BB		IVMs_BB	19 16 17.1	
	comp=Z,3µm,15.9s							
PENT	Pentalofos	66.97 307		P		P	18 37 16.2	-1.0
NEST	Nestorio	67.02 307		P		P	18 37 15.8	-1.7
KLNR	Kaliningrad	67.03 322	*i*	P		P	18 37 16.9	-0.3
KLNR					pmax	pmax		
	comp=Z,417nm,1.2s							
KLNR				MLR		MLR		
	comp=Z,5µm,20.0s							
OHR	Ohrid	67.15 308	*i*	P		P	18 37 17.7	-0.6
OJC	Ojcow	67.33 317	*e*	P		P	18 37 19.4	+0.2
OJC			*e*	S		S	18 46 13.9	-0.6
OJC			*e*	L		L	19 14 07.3	
	comp=Z,3µm,23.0s							
OJC	Ojcow	67.33 317		IAmb		IAmb	18 37 25.6	
	comp=Z,147nm,1.1s							
OJC	Ojcow	67.33 317		P		P	18 37 19.9	+0.7
PSZ	Piszkesteto	67.36 315	⇓	P		P	18 37 20.8	+1.3
PSZ	Piszkesteto	67.36 315		P		P	18 37 20.7	+1.3
LTHK	Lithakia	67.45 304		P		P	18 37 18.1	-2.0
NYDR	Nydri-Lefkada	67.45 305		P		P	18 37 17.9	-2.2
RK1H	Rockhampton Ha	67.46 126		P		P	18 37 20.5	+0.1
LKD2	Lefkada island	67.47 305		P		P	18 37 18.7	-1.6
EVGI	Lefkada island	67.49 305		P		P	18 37 18.3	-2.1
FRGS	Fruska Gora	67.57 312	⇓	P		P	18 37 20.8	0.0
FRGS	Fruska Gora	67.57 312	⇑	P		P	18 37 20.8	0.0
LANS	Liptovska Anna	67.58 316	*e*	P		P	18 37 21.8	+0.9
LANS					pmax	pmax		
	comp=Z,36nm,1.1s							
LANS	Liptovska Anna	67.58 316	*e*	P		P	18 37 21.8	+0.9
SJES	Sjenica	67.59 310	⇑	P		P	18 37 20.2	-0.9
VLS	Valsamata	67.59 304		P		P	18 37 19.7	-2.0
IGT	Igoumenitsa	67.65 306		P		P	18 37 17.0	-4.4
PVY	Plav	67.65 309	⇑	P		P	18 37 21.0	-0.5
IVA	Berane	67.68 310	⇑	P		P	18 37 21.3	-0.3
KEF4	Livadi, Kephal	67.71 305		P		P	18 37 20.8	-1.0
TEKS	Tekeris	67.81 311	⇑	P		P	18 37 21.9	-0.5
TIR	Tirane	67.83 308	⇑	P		P	18 37 24.2	+1.6
TIR	Tirane	67.83 308		IAmb		IAmb	18 37 26.1	
	comp=Z,164nm,1.2s							
TIR	Tirane	67.83 308		P		P	18 37 24.1	+1.6
HOPEN	Hopen	67.86 346	*e*	P		P	18 37 22.6	+0.6
HOPEN			*ep*	P		sP	18 37 26.4	-0.8
HOPEN			*e*	S		S	18 46 21.5	+1.5
JETT	Jettan, Norway	67.91 338	*e*	P		P	18 37 22.9	+0.4
JETT			*e*	S		S	18 46 19.9	-1.0
BBLS	Lazići	67.95 311	⇑	P		P	18 37 23.5	+0.2
KOME	Kolasin	67.95 310	⇑	P		P	18 37 22.9	-0.5
BUD	Budapest	67.97 315		P		P	18 37 23.7	+0.5
RUDO	Rudo	68.00 310	*e*	P		P	18 37 23.2	-0.3
PLE	Pljevlja	68.01 310	⇑	P		P	18 37 23.3	-0.4
VYHS	Vyhne	68.03 316	*e*	P		P	18 37 24.1	+0.4
VYHS					pmax	pmax		
	comp=Z,481nm,2.3s							
VYHS	Vyhne	68.03 316	*e*	P		P	18 37 24.1	+0.4
KEK	Kerkira	68.04 306		IAmb		IAmb	18 37 25.6	
	comp=Z,130nm,1.1s							
ULC	Ulcinj	68.23 309	⇑	*i*P		P	18 37 25.1	0.0
DRME	Dracevica, Mon	68.26 309	⇑	*i*P		P	18 37 25.0	-0.2
DRME	Dracevica, Mon	68.26 309	⇑	*i*P		P	18 37 24.4	-0.8
HAPS	Han Pijesak,Bl	68.26 311	⇑	*i*P		P	18 37 25.5	+0.2
MORH	Mrgy, Hungar	68.31 313	⇑	P		P	18 37 26.1	+0.7
UPM	Unac-Piva	68.37 310	⇑	*i*P		P	18 37 25.4	-0.7
UPM	Unac-Piva	68.37 310	*e*	P		P	18 37 25.9	-0.2
NKME	Niksic	68.37 309	⇑	*i*P		P	18 37 25.3	-0.7
OKC	Ostrava-Krasne	68.41 317	*e*	P		P	18 37 26.7	+0.7
OKC				MLR		MLR		
	comp=Z,4µm,14.8s							
OKC	Ostrava-Krasne	68.41 317	*e*	P		P	18 37 26.7	+0.7
OKC			*e*	S		S	18 46 15.6	-12
OKC				AMS		AMS	19 11 10.0	
	comp=Z,4µm,14.8s							
CEME	Cevo	68.42 309	⇑	*i*P		P	18 37 25.5	-0.8
SRO	Srobarova	68.42 315	*e*	P		P	18 37 27.4	+1.3
SRO					pmax	pmax		
	comp=Z,117nm,1.0s							
SRO	Srobarova	68.42 315	*e*	P		P	18 37 27.4	+1.3
TRO	Tromso	68.44 338	*e*	P		P	18 37 26.0	+0.3
TRO			*ep*	P		pP	18 37 29.6	+0.1
TRO			*e*	S		S	18 46 27.4	+0.4
TRO			*e*	SKSac		SKSac	18 47 23.7	-0.7
TRO				IVMs_BB		IVMs_BB	19 10 17.6	
	comp=Z,3µm,19.3s							
SHEM	Shemya Is, Ala	68.44 40		LR		LR	19 10 29.9	
	comp=Z,4µm,19.4s,baz=280,slow=39							
SMY	Shemya	68.44 40		P		P	18 37 25.8	-0.3
SMY	Shemya	68.44 40		P		P	18 37 27.3	+1.2
SMY	Shemya	68.44 40		P		P	18 37 25.8	-0.3
SMY					pmax	pmax		
	comp=Z,246nm,1.0s							
BUM	Brajici-Budva	68.46 309	⇑	*i*P		P	18 37 26.0	-0.6
MAUC	Maruska	68.65 317	*e*	P		P	18 37 27.9	+0.4
MAUC			*e*	S		S	18 46 26.9	-3.4
MAUC				AMS		AMS	19 12 40.0	
	comp=Z,6µm,15.8s							
BRY	Bratogost	68.67 310	⇑	*i*P		P	18 37 27.1	-0.8
BRY	Bratogost	68.67 310	⇑	*i*P		P	18 37 26.4	-1.5
HCY	Herceg Novi	68.74 309	⇑	*i*P		P	18 37 27.9	-0.3
HCY	Herceg Novi	68.74 309	⇑	*i*P		P	18 37 26.7	-1.5
JAVC	Velka Javorina	68.78 316	*e*	P		P	18 37 29.1	+0.7
JAVC			*e*	PKPPKP		P'P'df	19 05 43.8	-2.5
CMSA	Cobar Meteorol	68.80 136		P		P	18 37 28.6	0.0
	baz=69,SNR=91							
CMSA	Cobar Meteorol	68.80 136		P		P	18 37 29.1	+0.5
MORC	Moravsky Berou	68.81 317	⇓	P		P	18 37 29.1	+0.6
MORC	Moravsky Berou	68.81 317	*e*	P		P	18 37 28.6	+0.1
MORC			*e*	PKPPKP		P'P'df	19 05 42.8	-3.5
MORC	Moravsky Berou	68.81 317		P		P	18 37 29.1	+0.6
GKP	Gorka Klasztor	68.81 321	*e*	P		P	18 37 28.4	0.0
GKP			*e*	S		S	18 46 33.1	+1.1
GKP			*e*	L		L	19 11 19.0	
	comp=Z,9µm,19.2s							
GKP	Gorka Klasztor	68.81 321	*e*	P		P	18 37 30.6	+2.2
TREB	Trebinje	68.82 309	*e*	P		P	18 37 26.5	-2.2
HNR	Honiara	68.86 108		P		P	18 37 28.4	-1.0
HNR				IAmb		IAmb	18 37 43.7	
	comp=Z,90nm,0.8s							
HNR	Honiara	68.86 108		P		P	18 37 29.3	-0.1
HNR	Honiara	68.86 108		P		P	18 37 28.4	-1.0
HNR					pmax	pmax		
	comp=Z,90nm,0.8s							
HNR				MLR		MLR		
	comp=Z,3µm,22.0s							
HNR	Honiara	68.86 108		LR		LR	19 05 31.0	
	comp=Z,25µm,21.9s,baz=294,slow=34							
NEVS	Nevesinje	68.94 310	*e*	P		P	18 37 27.4	-2.1
SMOL	Smolenice	68.97 316	*e*	P		P	18 37 30.1	+0.6
SMOL					pmax	pmax		
	comp=Z,41nm,1.4s							
BJO1	Bjornoya	68.97 344

RONA S S 18 46 43.0 -0.9
comp=Z,457nm,5.3s
ARPS Mount Arapiles 69.83 142 P P 18 37 35.3 +0.5
baz=70,SNR=15
ARPS Mount Arapiles 69.83 142 P P 18 37 35.7 +0.8
KOGS Kog 69.94 314 *i* P P 18 37 35.5 0.0
KOGS *i* S S 18 46 45.5 -0.2
A050A Klekovaca 69.95 311⇑ *i* P P 18 37 35.0 -0.8
MOR8 Moi Rana 69.96 335 *e*P P 18 37 34.8 -0.5
MOR8 *ep*P **pP** 18 37 38.8 -0.3
MOR8 *e*S S 18 46 44.8 -0.4
MOR8 IVMs_BB IVMs_BB 19 11 00.0
comp=Z,3μm,19.8s
SPA0 Spitsbergen Ar 70.03 348 *e*P P 18 37 36.2 +0.6
SPA0 *e*S S 18 46 47.4 +1.7
SPITS Spitsbergen Ar 70.03 348 P P 18 37 35.7 +0.1
comp=Z,121nm,0.8s,baz=109,slow=7.1,SNR=52
comp=Z,121nm,0.8s
CONA Conrad Observa 70.06 315 *i* P P 18 37 36.3 0.0
comp=Z,27nm,0.8s,SNR=83
CONA *e*PcP **PcP** 18 37 59.7 +1.2
comp=Z,267nm,2.0s
CONA *e*PP **PP** 18 40 07.0 -4.2
comp=Z,431nm,3.1s
CONA *e*S S 18 46 49.1 +2.0
comp=Z,593nm,5.8s
BSD Bornholm Skovb 70.08 323 *e*P P 18 37 34.5 -1.7
BSD Bornholm Skovb 70.08 323 *e*P P 18 37 33.3 -2.9
BSD IAmb IAmb 18 37 35.8
comp=Z,74nm,1.1s
BSD IVmB_BB 18 37 38.7
comp=Z,2μm,4.5s
BSD IAMs_20 IAMs_20 19 13 29.8
comp=Z,7μm,16.6s
HSPB Hornsund (broa 70.10 346 *e*P P 18 37 36.3 +0.3
HSPB *e*S S 18 46 46.8 +0.4
HSPB *e*L L 19 15 02.9
comp=Z,7μm,19.9s
HSPB Hornsund (broa 70.10 346 *e*P P 18 37 36.8 +0.8
TREC Trest 70.18 317 *e*S S 18 46 43.7 -4.7
TREC AMS AMS 19 12 20.0
comp=Z,5μm,14.6s
LOF Lofoten 70.31 337 *e*P P 18 37 37.0 -0.4
ARSA Arzberg 70.36 314 *e*P P 18 37 38.0 -0.1
comp=Z,26nm,0.8s,SNR=30
ARSA *e*S S 18 46 48.6 -1.9
comp=Z,1μm,7.8s
GCIS Gornji Cirnik 70.43 313 *e*P P 18 37 38.9 +0.3
GCIS *i* S S 18 46 51.6 +0.2
HFS Hagfors 70.45 328 P P 18 37 38.3 -0.1
comp=Z,115nm,0.7s,baz=94,slow=5.9,SNR=107
comp=Z,115nm,0.7s
KONS Konsvik 70.49 335 *e*P P 18 37 38.9 +0.4
STOK Stokkvaagen 70.54 335 *e*P P 18 37 39.1 +0.3
STOK *ep*P **sP** 18 37 43.2 -0.8
STOK *e*S S 18 46 51.8 -0.1
STOK IVMs_BB IVMs_BB 19 10 53.3
comp=Z,3μm,18.2s
CRES Cresnjev 70.56 313⇑ *i* P P 18 37 39.7 +0.3
GOPC GO Pecny, Ondr 70.57 317 *e*P P 18 37 39.8 +0.4
GOPC *e*S S 18 46 49.3 -3.7
GOPC MLR MLR
comp=Z,5μm,15.6s
GOPC GO Pecny, Ondr 70.57 317 *e*P P 18 37 39.8 +0.4
GOPC *e*S S 18 46 49.3 -3.7
GOPC AMS AMS 19 15 10.0
comp=Z,5μm,15.6s
DEL Delary 70.58 324 *i* P P 18 37 39.5 +0.3
PVCC Panska Ves 70.65 318 *e*P P 18 37 40.8 +1.0
PVCC MLR MLR
comp=Z,4μm,15.5s
PVCC Panska Ves 70.65 318 *e*P P 18 37 40.8 +1.0
PVCC AMS AMS 19 14 10.0
comp=Z,4μm,15.5s
PRU Pruhonice 70.72 317 *e*P P 18 37 40.4 +0.1
PRU *e*S S 18 46 50.3 -4.4
PRU MLR MLR
comp=Z,5μm,17.5s
PRU Pruhonice 70.72 317 *e*P P 18 37 40.4 +0.1
PRU *e*S S 18 46 50.3 -4.4
PRU AMS AMS 19 12 40.0
comp=Z,5μm,17.5s
BOJS Bojanci 70.74 313⇑ *i* P P 18 37 40.5 +0.1
SOKA Soboth 70.75 314 *e*P P 18 37 40.8 +0.2
comp=Z,23nm,0.7s,SNR=26
PRA Prague 70.79 318 *e*P P 18 37 42.4 +1.8
PRA *e*S S 18 46 52.0 -3.3
PRA MLR MLR
comp=Z,5μm,16.1s
PRA Prague 70.79 318 *e*P P 18 37 42.4 +1.8
PRA *e*S S 18 46 52.0 -3.3
PRA AMS AMS 19 12 40.0
comp=Z,5μm,16.1s
SGRT San Giovanni R 70.86 309 IAmb IAmb 18 37 45.2
comp=Z,123nm,1.0s
RICC Richard 70.95 318 *e*P P 18 37 41.4 -0.2
RICC AMS AMS 19 12 50.0
comp=Z,4μm,13.4s
RUE Ruedersdorf 70.96 320 *e*P P 18 37 43.4 +1.8
RUE Ruedersdorf 70.96 320 *e*P P 18 37 41.4 -0.2
comp=Z,405nm,1.1s,baz=82,slow=6.0
KBS Kingsbay 70.97 348 P P 18 37 40.6 -0.7
KBS IAmb IAmb 18 37 46.2
comp=Z,230nm,1.4s
KBS Kingsbay 70.97 348 *ce*P P 18 37 42.2 +0.9
KBS pmax pmax
comp=Z,181nm,1.3s
KBS Kingsbay 70.97 348 *e*P P 18 37 41.7 +0.4
KBS *ep*P **sP** 18 37 45.5 -0.9
KBS IVmB_BB 18 37 46.2
comp=Z,2μm,2.4s
KBS *e*PP **PP** 18 40 18.7 +0.5
KBS *e*S S 18 46 58.0 +1.4
KBS IVMs_BB IVMs_BB 19 16 13.4
comp=Z,2μm,17.5s
KBS Kingsbay 70.97 348 *i* P P 18 37 40.8 -0.5
CKRC Cesky Krumlov 71.00 316 *e*P P 18 37 42.3 +0.3
CKRC *e*S S 18 46 55.4 -2.5
CKRC Cesky Krumlov 71.00 316 *e*P P 18 37 42.3 +0.3
CKRC *e*S S 18 46 55.4 -2.5
ZVC Zvikov 71.01 317 *e*P P 18 37 42.4 +0.4
ZVC *e*S S 18 46 53.6 -4.4
ZVC AMS AMS 19 12 50.0
comp=Z,4μm,16.4s
BRG Berggiesshubel 71.02 318 *i* P P 18 37 42.3 +0.3
BRG Amp 18 37 47.3
comp=Z,118nm,0.9s
BRG Berggiesshubel 71.02 318 SS SS 18 51 38.0 +7.3
BRG Berggiesshubel 71.02 318 *i* P P 18 37 42.3 +0.3
BRG 18 38 06.6
BRG 18 42 09.0
BRG S S 18 46 58.0 0.0
BRG pmax pmax
comp=Z,118nm,0.9s
BRG Berggiesshubel 71.02 318 *e*P P 18 37 41.9 -0.1
comp=Z,118nm,0.9s,baz=82,slow=6.0
NSS Namsos 71.04 333 *e*P P 18 37 41.6 -0.3
NSS *ep*P **pP** 18 37 46.0 +0.3
NSS IVmBBB 18 37 46.6
comp=Z,2μm,1.5s
NSS *e*S S 18 46 59.0 +1.2
NSS IVMs_BB IVMs_BB 19 14 50.9
comp=Z,3μm,15.4s
RGN Rugen 71.04 322 *e*P P 18 37 46.0 +3.9
RGN Rugen 71.04 322 *e*P P 18 37 42.1 0.0
comp=Z,273nm,1.1s,baz=82,slow=6.0
RGN *e*S S 18 46 59.0 +0.9
OBKA Obir 71.10 314 *e*P P 18 37 43.7 +0.9
comp=Z,25nm,0.7s,SNR=31
OBKA S S 18 46 58.7 -0.7
comp=Z,2μm,7.7s
OBKA Obir 71.10 314⇑ *i* P P 18 37 42.7 -0.1
MOA Molln 71.14 315 *e*P P 18 37 43.0 +0.1
comp=Z,43nm,0.7s,SNR=24
LJU Ljubljana 71.17 313 *e*P P 18 37 43.5 +0.4
LJU *e*S S 18 47 00.7 +0.6
AUDCS Dubbo College 71.19 135 P P 18 37 44.3 +1.0
CEY Cerknica 71.28 313⇑ *i* P P 18 37 42.8 -1.0
HSKC Hora Svate Kat 71.37 318 *e*P P 18 37 44.4 +0.2
HSKC AMS AMS 19 13 00.0
comp=Z,5μm,15.4s
GEC2 GERESS Array S 71.39 316 *e*P P 18 37 44.3 -0.2
comp=Z,123nm,0.9s,baz=82,slow=6.0
GEC2 *e*S S 18 47 03.4 +0.8

GERES GERESS Array B 71.39 316 P P 18 37 44.6 +0.2
comp=Z,129nm,1.0s,baz=76,slow=6.0,SNR=105
comp=Z,129nm,1.0s
KHC Kasperske Hory 71.44 317 *ce*P P 18 37 45.7 +1.0
KHC pmax pmax
comp=Z,247nm,1.7s
KHC Kasperske Hory 71.44 317 *e*P P 18 37 44.7 0.0
KHC *ex* x 18 37 59.0
KHC *e*S S 18 46 57.8 -5.3
KHC AMS AMS 19 13 00.0
comp=Z,4μm,17.6s
NC602 NORSAR Array S 71.48 329 *e*P P 18 37 44.6 -0.1
NC602 *ep*P **pP** 18 37 48.6 +0.2
NC602 *e*PP **PP** 18 40 23.3 +0.3
NC602 *e*S S 18 47 03.0 -0.1
NC602 IVMs_BB IVMs_BB 19 13 57.4
comp=Z,3μm,18.1s
CLL Collm 71.56 319 IAmb IAmb 18 37 50.7
comp=Z,147nm,1.2s
CLL Collm 71.56 319 *i* P P 18 37 45.8 +0.5
CLL *e*S S 18 47 05.0 +0.7
CLL pmax pmax
comp=Z,307nm,1.7s
CLL Collm 71.56 319 *e*P P 18 37 44.9 -0.4
comp=Z,145nm,1.2s,baz=82,slow=6.0
ONAU Onsala 71.57 325 *i* P P 18 37 44.4 -0.8
BIOA Bad Ischl, Aus 71.58 315 *i* P P 18 37 45.3 -0.3
comp=Z,16nm,0.7s,SNR=27
BRAT Ballarat 71.59 142 P P 18 37 47.3 +1.8
NOA NORSAR Array B 71.61 329 P P 18 37 45.2 -0.3
comp=Z,88nm,0.9s,baz=90,slow=5.8,SNR=150
comp=Z,88nm,0.9s
AMKA Amchitka 71.75 41 P P 18 37 44.8 -1.6
PRED Cave del Predi 71.79 314 IAmb IAmb 18 37 52.0
comp=Z,104nm,0.9s
STRU Stroemstad 71.81 327 *i* P P 18 37 46.1 -0.5
SABO M.te Sabotino 71.82 313 IAmb IAmb 18 37 53.4
comp=Z,488nm,1.6s
SABO IAMs_20 IAMs_20 19 14 09.2
comp=Z,3μm,21.0s
KBA Koelnbreinsper 71.85 314 *e*P P 18 37 46.6 -0.8
comp=Z,17nm,0.7s,SNR=25
KBA S S 18 47 08.1 -0.2
comp=Z,305nm,4.6s
TBLU Trondheim 71.88 332 *e*P P 18 37 47.1 +0.1
TBLU *e*S S 18 47 08.0 +0.5
WET Wettzell 71.90 317 *e*P P 18 37 47.4 0.0
comp=Z,116nm,1.0s,baz=82,slow=6.0
WET *e*S S 18 47 08.9 +0.6
OSL Oslo 71.95 328 *e*P P 18 37 48.2 +0.8
OSL IAmb IAmb 18 37 52.5
comp=Z,439nm,1.0s
OSL *e*S S 18 47 09.6 +1.1
NKC Novy Kostel 72.04 318 *e*P P 18 37 48.8 +0.6
NKC MLR MLR
comp=Z,6μm,17.0s
NKC Novy Kostel 72.04 318 *e*P P 18 37 48.8 +0.6
NKC AMS AMS 19 13 30.0
comp=Z,6μm,17.0s
AUPHS Peel High Scho 72.08 132 P P 18 37 49.8 +1.1
RJOB Jochberg 72.13 315 *e*P P 18 37 48.4 -0.6
comp=Z,58nm,1.0s,baz=82,slow=6.0
INTR Introdacqua 72.18 309 IAmb IAmb 18 38 02.0
comp=Z,216nm,1.6s
PLN Plauen 72.19 318 *e*P P 18 37 48.9 -0.2
comp=Z,84nm,1.0s,baz=82,slow=6.0
ARMA Armidale 72.21 132 P P 18 37 51.1 +1.5
baz=72,SNR=20
ARMA Armidale 72.21 132 P P 18 37 49.8 +0.1
ARMA IAmb IAmb 18 37 57.0
comp=Z,316nm,1.7s
ARMA Armidale 72.21 132 P P 18 37 50.5 +0.9
ROTZ Rotzenmuhle 72.25 317 *e*P P 18 37 49.7 +0.2
comp=Z,55nm,1.0s,baz=82,slow=6.0
ROTZ *e*S S 18 47 14.6 +2.2
CLUD Cludinico 72.25 314 IAmb IAmb 18 37 54.4
comp=Z,150nm,1.1s
LESA Schwarzleotal 72.26 315 *i* P P 18 37 49.1 -0.6
comp=Z,51nm,0.7s
MANZ Manzenberg 72.28 318 *e*P P 18 37 49.9 +0.2
comp=Z,108nm,1.6s,baz=82,slow=6.0
MANZ *e*S S 18 47 14.8 +2.0
YNG Young 72.29 136 P P 18 37 50.6 +0.7
GC1S Gold Coast 1 S 72.33 129 P P 18 37 52.0 +1.8
NEUB Neuenburg 72.34 319 *e*P P 18 37 49.6 -0.4
comp=Z,144nm,1.0s,baz=82,slow=6.0
NEUB *e*S S 18 47 11.6 -1.6
GORT1 Trebel 72.40 321 *e*P P 18 37 50.1 -0.1
comp=Z,526nm,1.4s,baz=82,slow=6.0
STAL STALIGIAL 72.40 314 IAmb IAmb 18 37 55.3
comp=Z,249nm,1.2s
GUMA Gualdo di Mace 72.43 310 IAmb IAmb 18 37 58.7
comp=Z,224nm,0.9s
GUMA IAMs_20 IAMs_20 19 15 52.2
comp=Z,4μm,20.0s
CAMP Campotosto 72.46 310 IAmb IAmb 18 37 56.2
comp=Z,253nm,1.5s
ABTA Abfaltersbach 72.46 314 *i* P P 18 37 50.6 -0.4
comp=Z,28nm,1.0s,SNR=24
ABTA S S 18 47 08.9 -6.2
comp=Z,289nm,4.3s
MOX Moxa 72.51 318 *e*P P 18 37 50.8 -0.2
comp=Z,86nm,1.0s,baz=82,slow=6.0
MOX *e*S S 18 47 13.6 -1.7
MOX *e*L L 19 15 33.6
comp=Z,5μm,19.1s
FLTG Flechtingen 72.52 320 *e*P P 18 37 50.3 -0.8
comp=Z,404nm,1.8s,baz=82,slow=6.0
FLTG *e*S S 18 47 13.8 -1.4
TOO Toolangi 72.53 141 P P 18 37 52.0 +0.7
baz=73,SNR=6.7
TOO Toolangi 72.53 141 IAmb IAmb 18 37 57.9
comp=Z,179nm,1.7s
TOO Toolangi 72.53 141 P P 18 37 52.3 +1.0
DOMB Dombas 72.54 330 *e*P P 18 37 51.5 +0.4
DOMB IVmB_BB 18 37 55.5
comp=Z,2μm,1.2s
DOMB *e*S S 18 47 14.2 -1.2
DOMB IVMs_BB IVMs_BB 19 13 12.8
comp=Z,3μm,10.8s
KONO Kongsberg 72.55 328 P P 18 37 51.5 +0.5
KONO IAmb IAmb 18 37 56.2
comp=Z,251nm,1.3s
KONO Kongsberg 72.55 328 IAMs_20 IAMs_20 19 13 15.7
comp=Z,7μm,21.0s
KONO Kongsberg 72.55 328 P P 18 37 51.5 +0.5
KONO pmax pmax
comp=Z,251nm,1.3s
KONO Kongsberg 72.55 328 *e*P P 18 37 51.2 +0.1
KONO *e*S S 18 47 16.0 +0.6
CIMO Cimolais 72.58 314 IAmb IAmb 18 37 56.4
comp=Z,193nm,1.1s
BSEG Bad Segeberg 72.86 322 *e*P P 18 37 53.3 +0.3
comp=Z,289nm,1.2s,baz=82,slow=6.0
BSEG *e*S S 18 47 19.3 +0.2
ASSE Asse, Remlinge 72.89 320 *e*P P 18 37 52.9 -0.3
comp=Z,344nm,2.0s,baz=82,slow=6.0
ASSE *e*S S 18 47 18.3 -1.1
GRF Grafenberg Arr 72.89 317 *e*P P 18 37 53.7 +0.3
comp=Z,409nm,1.4s,baz=82,slow=6.0
GRF *e*L L 19 13 43.0
comp=Z,5μm,21.4s
GRFO Grafenberg 72.89 317 P P 18 37 53.9 +0.5
GRFO Grafenberg 72.89 317 P P 18 37 53.9 +0.5
GRFO pmax pmax
comp=Z,350nm,1.3s
GRFO MLR MLR
comp=Z,5μm,20.0s
WTTA Wattenberg 72.98 315 *i* P P 18 37 53.4 -0.7
comp=Z,29nm,0.5s,SNR=40
WATA Walderalm 73.01 315 *i* P P 18 37 53.4 -0.9
comp=Z,36nm,0.8s,SNR=40
SSRD Sdr. Stenderup 73.05 324 *i* P P 18 37 55.1 +1.0
SSRD IAmb IAmb 18 37 59.9
comp=Z,2μm,2.3s
SSRD IVmBBB 18 38 01.8
comp=Z,4μm,2.5s
CESX Cesi 73.05 310 IAmb IAmb 18 38 01.3
comp=Z,307nm,1.6s
SKAR Skarslia 73.07 329 *e*P P 18 37 54.6 +0.4
SKAR *e*S S 18 47 23.5 +2.1
SKAR IVMs_BB IVMs_BB 19 15 06.2
comp=Z,3μm,16.8s
FUR Furstenfeldbru 73.08 316 *e*P P 18 37 54.3 -0.3
comp=Z,162nm,1.0s,baz=82,slow=6.0
CLZ Clausthal 73.12 320 *e*P P 18 37 54.6 -0.1
comp=Z,186nm,1.1s,baz=82,slow=6.0
CLZ *e*S S 18 47 21.3 -1.0
MUD Monsted U'grnd 73.17 325 P P 18 37 55.9 +1.1
MUD Monsted U'grnd 73.17 325 *i* P P 18 37 55.0 +0.2
MUD *i* P pP 18 37 55.4 -3.2
MUD IAmb IAmb 18 37 59.9
comp=Z,354nm,1.3s
MUD IVmB_BB 18 38 01.0
comp=Z,3μm,1.8s
MUD IAmb IAmb 18 38 01.0
comp=Z,69nm,0.9s
MUD IAMs_20 IAMs_20 19 16 30.8
comp=Z,5μm,17.6s
MOL Molde 73.19 331 *e*P P 18 37 55.1 +0.3
MOL IVmB_BB 18 38 00.4
comp=Z,2μm,3.2s
MOL *e*S SKiKP 18 47 26.3 -0.5
MOL IVMs_BB IVMs_BB 19 17 53.2
comp=Z,3μm,14.2s
NRDL Niedersach Rie 73.19 320 *e*P P 18 37 55.2 +0.3
comp=Z,682nm,1.6s,baz=82,slow=6.0
TEOL Teolo 73.25 313 IAmb IAmb 18 38 00.2
comp=Z,123nm,1.1s
SQTA Sankt Quirin 73.27 315 *i* P P 18 37 55.0 -0.8
comp=Z,42nm,0.6s,SNR=35
HOMB Homborsund 73.28 327 *e*P P 18 37 55.6 +0.2
HOMB IVmB_BB 18 37 58.7
comp=Z,3μm,4.5s
HOMB *e*S S 18 47 24.3 +0.6
HOMB IVMs_BB IVMs_BB 19 12 44.4
comp=Z,3μm,19.2s
HOMB Homborsund 73.28 327 *i* P P 18 37 55.8 +0.4
CAN Canberra 73.31 137 IAmb IAmb 18 38 02.1
comp=Z,356nm,1.9s
CAN Canberra 73.31 137 P P 18 37 56.1 +0.1
CAN Canberra 73.31 137 P P 18 37 57.4 +1.4
MOTA Moosalm 73.33 315 *i* P P 18 37 55.4 -0.8
comp=Z,99nm,0.9s,SNR=66
GTTG Gottingen 73.41 319 *e*P P 18 37 56.2 -0.1
comp=Z,243nm,1.2s,baz=82,slow=6.0
GTTG *e*S S 18 47 25.2 -0.3
CLTB Caltabellotta 73.45 305 IAmb IAmb 18 38 01.3
comp=Z,189nm,1.2s
MGCD Mangrove Creek 73.45 134 P P 18 37 58.0 +1.2
baz=74,SNR=18
MGCD Mangrove Creek 73.45 134 P P 18 37 57.7 +0.9
AKN Aaknes 73.49 331 *e*P P 18 37 57.8 +1.1
AKN *e* 18 38 01.7
AKN *e*S SKiKP 18 47 30.3 +2.9
UBBA Unterbreizbach 73.50 319 *e*P P 18 37 56.7 -0.1
comp=Z,316nm,1.6s,baz=82,slow=6.0
UBBA *e*S S 18 47 24.7 -1.6
SYDH Sydney Hard Ro 73.53 135 P P 18 37 58.2 +1.0
RETA Reutte 73.53 315 *i* P P 18 37 56.9 -0.3
comp=Z,90nm,0.8s,SNR=39
CNB Canberra Magne 73.54 137 P P 18 37 57.4 +0.1
baz=74,SNR=24
CNB Canberra Magne 73.54 137 P P 18 37 57.3 -0.1
RETH Rethem/Aller, 73.60 321 *e*P P 18 37 57.5 +0.1
comp=Z,345nm,1.8s,baz=82,slow=6.0
FETA Feichten 73.63 315 *e*P P 18 37 57.5 -0.4
comp=Z,58nm,1.2s,SNR=49
AUSMG Snowy Mountain 73.73 138 P P 18 37 59.6 +1.1
OSSC Osservatorio P 73.86 311 IAmb IAmb 18 38 16.9
comp=Z,147nm,1.1s
OSSC IAMs_20 IAMs_20 19 16 35.0
comp=Z,6μm,20.0s
KIWB Kanaga Island 73.87 40 P P 18 37 57.9 -1.1
UBR Ueberruh 73.94 315 *e*P P 18 37 58.8 -0.9
comp=Z,111nm,1.0s,baz=82,slow=6.0
SNART Snartemo 73.95 327 *e*P P 18 38 00.0 +0.7
SNART IVmBBB 18 38 06.5
comp=Z,7μm,2.5s
SNART *e*S S 18 47 33.2 +2.0
SNART Snartemo 73.95 327 *i* P P 18 38 00.3 +0.9
WOLH Wollongong Har 73.99 135 P P 18 38 00.8 +0.9
ODD1 Odda 74.00 328 *e*P P 18 37 59.5 -0.2
ODD1 *e*S S 18 47 34.2 +2.3
ODD1 IVMs_BB IVMs_BB 19 14 40.4
comp=Z,3μm,10.1s
HYA Hoyanger 74.02 330 *e*P P 18 38 00.5 +0.8
HYA *ep*P **sP** 18 38 04.3 -0.6
HYA IVmBBB 18 38 05.5
comp=Z,3μm,2.3s
HYA *e*S S 18 47 34.2 +2.3
HYA *e*SS SS 18 52 19.8 +3.7
HYA IVMs_BB IVMs_BB 19 15 29.7
comp=Z,3μm,16.1s
DAVA Damuels 74.16 315 *i* P P 18 38 00.4 -0.6
comp=Z,27nm,0.7s,SNR=45
BLS5 Blasjo 74.17 328 *e*P P 18 38 01.0 +0.4
BLS5 IVmBBB 18 38 06.3
comp=Z,3μm,1.3s
BLS5 *e*S S 18 47 36.7 +3.0
BLS5 IVMs_BB IVMs_BB 19 14 53.7
comp=Z,3μm,10.9s
HLG Helgoland 74.24 322 *e*P P 18 38 01.6 +0.4
comp=Z,201nm,1.4s,baz=82,slow=6.0
STU Stuttgart 74.35 317 IAmb IAmb 18 38 07.6
comp=Z,197nm,1.2s
STU Stuttgart 74.35 317 P P 18 38 03.5 +1.6
STU Stuttgart 74.35 317 *e*P P 18 38 01.8 -0.2
comp=Z,385nm,1.1s,baz=82,slow=6.0
VLC Villacollemand 74.36 312 P P 18 38 02.2 +0.1
KASTN Kahler Asten 74.43 319 *e*P P 18 38 02.3 -0.1
comp=Z,59nm,1.1s,baz=82,slow=6.0
FOO Floro 74.50 330 *e*P P 18 38 03.0 +0.5
FOO IVmB_BB 18 38 06.0
comp=Z,3μm,4.7s
FOO *e*S S 18 47 39.1 +1.9
FOO IVMs_BB IVMs_BB 19 13 37.3
comp=Z,3μm,18.1s
BER Bergen 74.56 329 *e*P P 18 38 03.5 +0.7
BER IVmBBB 18 38 08.6
comp=Z,2μm,2.0s
BER *e*S S 18 47 40.3 +2.2
BER IVMs_BB IVMs_BB 19 14 47.9
comp=Z,3μm,19.1s
TNS Taunus Mts 74.58 318 *e*P P 18 38 03.2 -0.1
comp=Z,169nm,1.2s,baz=82,slow=6.0
ASK Askoy 74.61 329 *e*P P 18 38 04.3 +1.1
IBBN Ibbenburen 74.64 320 *e*P P 18 38 03.4 -0.1
comp=Z,596nm,1.7s,baz=82,slow=6.0
IBBN *e*S S 18 47 36.1 -3.1
LSZ Lusaka 74.67 248 P P 18 38 05.0 +0.5
LSZ IAMs_20 IAMs_20 19 08 23.7
comp=Z,8μm,19.0s
LSZ Lusaka 74.67 248 P P 18 38 05.0 +0.5
LSZ pmax pmax
comp=Z,88nm,0.7s
LSZ Lusaka 74.67 248 P P 18 38 05.6 +1.2
LSZ P P 18 38 05.6 +1.2
SUE Sulen 74.72 330 *e*P P 18 38 04.0 +0.2
SUE *e*S S 18 47 41.7 +1.9
SUE IVMs_BB IVMs_BB 19 16 33.4
comp=Z,3μm,12.1s
GAMB Gambell 74.73 27 P P 18 38 02.9 -0.8
baz=280
KMY Karmoy 74.81 328 *e*P P 18 38 04.8 +0.4
KMY *e*S S 18 47 41.1 +0.2
KMY IVMs_BB IVMs_BB 19 15 13.9
comp=Z,3μm,10.2s
MSSA Maissana 74.94 312 IAmb IAmb 18 38 10.3
comp=Z,144nm,1.2s
SLE Schleitheim 75.00 316 P P 18 38 07.0 +1.3
BFO Black Forest 75.00 316 P P 18 38 05.6 -0.1
BFO IAMs_20 IAMs_20 19 15 40.5
comp=Z,5μm,18.0s
BFO Black Forest 75.00 316 P P 18 38 05.6 -0.1
BFO pmax pmax
comp=Z,86nm,1.3s
BFO Black Forest 75.00 316 *e*P P 18 38 05.2 -0.5
comp=Z,90nm,1.3s,baz=82,slow=6.0
BUG Bochum--Univer 75.09 320 *e*P P 18 38 06.1 -0.1
comp=Z,162nm,1.1s,baz=82,slow=6.0
AHRW Bad Neuenahr-A 75.38 319 *e*P P 18 38 08.0 +0.2
comp=Z,159nm,1.1s,baz=82,slow=6.0
ATKA Atka Island 75.61 39 IAMs_20 IAMs_20 19 13 43.5
comp=Z,7μm,20.0s
CRZF Crozet Islands 75.79 210 P P 18 38 10.5 +0.5
TNA Tin City 75.95 25 P P 18 38 10.1 -0.7
baz=283,SNR=17
BTNL Ternell 75.96 319 *d*P P 18 38 12.0 +0.8
comp=Z,41nm,1.3s
BTNL *d*PcP **PcP** 18 38 21.9 -1.7

VSL Villasalto 76.02 307 IAmb IAmb 18 38 18.5
comp=Z,273nm,1.5s
MEM Membach 76.04 319 *d*P **P** **18 38 12.3 +0.7**
comp=Z,37nm,1.2s
BHOU Houvegnez 76.09 319 *d*P **P** **18 38 13.1 +1.2**
comp=Z,39nm,1.3s
WLF Walferdange 76.14 318 *d*P **P** **18 38 14.0 +1.8**
comp=Z,129nm,1.2s
WLF Walferdange 76.14 318 P **P** **18 38 11.6 -0.6**
WLF Walferdange 76.14 318 *e*P **P** **18 38 12.6 +0.4**
comp=Z,285nm,1.1s,baz=82,slow=6.0
C16K Lisburne Hills 76.28 22 IAmb IAmb 18 38 17.1
comp=Z,146nm,1.1s
C16K Lisburne Hills 76.28 22 P **P** **18 38 12.2 -0.4**
baz=285
BSTI Sart Tilman 76.32 319 *d*P **P** **18 38 14.4 +1.3**
comp=Z,11nm,1.2s
BCLA Clavier 76.52 319 *d*P **P** **18 38 15.2 +0.9**
comp=Z,37nm,1.3s
MATP Matopo 76.56 243 LR LR 19 08 19.1
comp=Z,3μm,21.8s,baz=56,slow=33
F14K Arctic Creek 76.62 25 P **P** **18 38 14.9 +0.3**
baz=285
RCHB Rochefort 76.62 319 *d*P **P** **18 38 15.5 +0.6**
BGES Gesves 76.66 319 *d*P **P** **18 38 15.9 +0.8**
comp=Z,36nm,1.3s
TAMR Tamra 76.76 305 P **P** **18 38 16.2 +0.2**
BNI Bardonecchia 76.78 313 P **P** **18 38 17.7 +1.6**
KEST Kesra 76.87 303 P **P** **18 38 17.2 +0.5**
comp=Z,190nm,1.1s,baz=43,slow=3.5,SNR=17
comp=Z,190nm,1.1s
KEST Kesra 76.87 303 P **P** **18 38 17.9 +1.2**
SNR=19
KEST P **P** **18 38 17.9 +1.2**
SNR=19
BMRD Maredsous 76.88 319 *d*P **P** **18 38 15.8 -0.6**
comp=Z,41nm,1.1s
C17K DeLong Mountai 77.00 22 P **P** **18 38 16.5 -0.2**
baz=287
DOU Dourbes 77.03 319 P **P** **18 38 19.1 +1.9**
DOU Dourbes 77.03 319 *d*P **P** **18 38 17.6 +0.4**
comp=Z,42nm,1.4s
A19K Wainwright 77.19 20 P **P** **18 38 18.2 +0.5**
baz=288
B18K Kokolik River 77.21 21 P **P** **18 38 18.4 +0.6**
baz=288
RDOG Red Dog Mine 77.22 22 IAmb IAmb 18 38 23.2
comp=Z,276nm,1.8s
RDOG Red Dog Mine 77.22 22 P **P** **18 38 17.5 -0.5**
baz=287
F15K North Star Dit 77.23 25 IAmb IAmb 18 38 21.4
comp=Z,112nm,1.1s
F15K IAMs_20 IAMs_20 19 13 19.1
comp=Z,9μm,22.0s
F15K North Star Dit 77.23 25 P **P** **18 38 17.7 -0.4**
baz=286
ANM Nome 77.25 26 P **P** **18 38 17.8 -0.4**
baz=286,SNR=36
KOUNC Koumac, New Ca 77.29 117 P **P** **18 38 19.3 +0.2**
KOUNC IAmb IAmb 18 38 26.2
comp=Z,126nm,1.2s
KOUNC Koumac, New Ca 77.29 117 P **P** **18 38 20.4 +1.3**
C18K Utukok River 77.64 21 P **P** **18 38 20.2 -0.2**
baz=288
G15K Niukluk 77.68 25 P **P** **18 38 19.9 -0.6**
baz=287
DAG Danmarks Havn 77.68 348 P **P** **18 38 19.4 -1.0**
DAG Danmarks Havn 77.68 348 *i* P **P** **18 38 19.0 -1.4**
DAG IAmb IAmb 18 38 25.3
comp=Z,34nm,0.8s
E17K Hotham Inlet 77.91 23 P **P** **18 38 21.3 -0.5**
baz=288
CLES Cleveland East 78.03 38 IAMs_20 IAMs_20 19 15 44.6
comp=Z,8μm,19.0s
C19K Lookout Ridge 78.04 21 P **P** **18 38 22.8 +0.2**
baz=290
A21K Barrow 78.18 18 P **P** **18 38 23.1 -0.1**
baz=292,SNR=56
SSB Saint Sauveur 78.19 314 IAmb IAmb 18 38 30.4
comp=Z,302nm,1.8s
LHI Lord Howe Isla 78.19 129 P **P** **18 38 25.1 +1.2**
baz=78,SNR=8.9
LHI Lord Howe Isla 78.19 129 IAmb IAmb 18 38 26.2
comp=Z,86nm,0.8s
LHI Lord Howe Isla 78.19 129 P **P** **18 38 24.8 +0.9**
G16K Koyuk River 78.23 25 IAmb IAmb 18 38 27.0
comp=Z,176nm,1.2s
G16K IAMs_20 IAMs_20 19 16 31.8
comp=Z,8μm,20.0s
G16K Koyuk River 78.23 25 P **P** **18 38 23.3 -0.4**
baz=288
E18K Tukpahlearik C 78.25 23 P **P** **18 38 23.5 -0.2**
baz=289
K13K Kusilvak Mount 78.30 28 P **P** **18 38 24.1 0.0**
baz=287
F17K Baldwin Pennin 78.33 24 P **P** **18 38 24.0 -0.1**
baz=289
B20K Meade River 78.51 20 P **P** **18 38 25.4 +0.3**
baz=292
H16K Elim 78.52 25 P **P** **18 38 24.3 -0.9**
baz=288,SNR=46
J14K Nanvaranak Lak 78.55 28 P **P** **18 38 25.2 -0.2**
baz=288
D19K Kuna River 78.75 21 P **P** **18 38 26.6 +0.1**
baz=291
WACR West Acre 78.79 322 *e*P **P** **18 38 27.3 +0.4**
A22K Sinclair Lake 78.80 18 P **P** **18 38 26.7 +0.1**
baz=294
G17K Kiwalik Mounta 78.87 24 P **P** **18 38 26.8 -0.4**
baz=290
CLF Chambon-Foret 79.02 317 IAmb IAmb 18 38 33.4
comp=Z,235nm,1.0s
H17K Granite Mounta 79.36 25 IAMs_20 IAMs_20 19 16 14.5
comp=Z,7μm,18.0s
H17K Granite Mounta 79.36 25 P **P** **18 38 29.9 0.0**
baz=290,SNR=43
M13K Dall Lake 79.36 30 IAMs_20 IAMs_20 19 11 46.7
comp=Z,7μm,20.0s
L14K Kuka Creek 79.38 29 IAmb IAmb 18 38 34.0
comp=Z,133nm,1.0s
L14K IAMs_20 IAMs_20 19 14 58.0
comp=Z,7μm,19.0s
L14K Kuka Creek 79.38 29 P **P** **18 38 30.0 0.0**
baz=289
I17K Unalakleet 79.41 26 IAmb IAmb 18 38 36.8
comp=Z,153nm,1.4s
I17K IAMs_20 IAMs_20 19 16 11.6
comp=Z,7μm,21.0s
I17K Unalakleet 79.41 26 P **P** **18 38 30.3 +0.2**
baz=290,SNR=20
E19K Redstone River 79.45 22 P **P** **18 38 30.2 -0.2**
baz=292
B21K Ikpikpuk River 79.48 20 P **P** **18 38 30.4 +0.1**
baz=294
F19K Shaleruckik Mo 79.49 23 P **P** **18 38 30.0 -0.5**
baz=292
G18K Tagagawik 79.51 24 IAMs_20 IAMs_20 19 16 36.4
comp=Z,7μm,19.0s
G18K Tagagawik 79.51 24 P **P** **18 38 29.7 -0.9**
baz=291
B22K Teshekpuk Lake 79.55 19 P **P** **18 38 30.8 +0.1**
baz=295
MCD Coleburn Disti 79.55 327 *e*P **P** **18 38 31.2 +0.2**
MCD IAmb IAmb 18 38 36.0
comp=Z,198nm,1.0s
K15K Wolf Creek Mou 79.58 28 P **P** **18 38 31.5 +0.4**
baz=289
C21K Knifeblade Rid 79.61 20 P **P** **18 38 31.8 +0.6**
baz=294
NOUC Port Laguerre 79.64 117 P **P** **18 38 33.8 +1.7**
J16K Anvik River 79.65 27 IAmb IAmb 18 38 35.0
comp=Z,151nm,1.1s
J16K IAMs_20 IAMs_20 19 14 55.0
comp=Z,7μm,21.0s
J16K Anvik River 79.65 27 P **P** **18 38 31.4 -0.1**
baz=290
EDMD Edmundbyers 79.68 324 *e*P **P** **18 38 31.8 0.0**
EDMD IAmb IAmb 18 38 36.5
comp=Z,210nm,1.1s
HPK Haverah Park 79.75 323 *e*P **P** **18 38 33.0 +0.9**
HPK IAmb IAmb 18 38 37.8
comp=Z,512nm,1.4s
DZM Mont Dzumac 79.75 117 P **P** **18 38 33.7 +0.9**
DZM Mont Dzumac 79.75 117 *e*P **P** **18 38 33.6 +0.8**
comp=Z,130nm,1.7s
ONTNC Ouen Toro 79.86 118 P **P** **18 38 35.2 +1.9**
H18K Honhosa River 79.90 24 IAMs_20 IAMs_20 19 17 51.6
comp=Z,7μm,18.0s
H18K Honhosa River 79.90 24 P **P** **18 38 32.6 -0.2**
baz=292
LIFNC LIFOU 79.90 116 P **P** **18 38 32.9 -0.6**
LIFNC IAmb IAmb 18 38 39.0
comp=Z,172nm,0.8s
LIFNC LIFOU 79.90 116 P **P** **18 38 36.0 +2.5**
M14K Bethel 79.91 29 IAmb IAmb 18 38 36.0
comp=Z,145nm,1.1s
M14K IAMs_20 IAMs_20 19 14 21.9
comp=Z,6μm,20.0s
M14K Bethel 79.91 29 P **P** **18 38 32.4 -0.5**
baz=289,SNR=14
CWF Charnwood Fore 79.92 322 *e*P **P** **18 38 33.6 +0.5**
CWF IAmb IAmb 18 38 38.0
comp=Z,78nm,1.0s
LBWR Ladybower, Pea 79.97 323 *e*P **P** **18 38 34.1 +0.7**
LBWR IAmb IAmb 18 38 38.7
comp=Z,282nm,1.3s
G19K Purcell Mounta 80.01 23 P **P** **18 38 32.6 -0.8**
baz=293
EDI Edinburgh 80.02 326 *e*P **P** **18 38 33.8 +0.2**
EDI IAmb IAmb 18 38 39.0
comp=Z,278nm,1.2s
AKUT Akutan 80.04 36 IAMs_20 IAMs_20 19 13 31.7
comp=Z,9μm,22.0s
EJON La Jonquera 80.08 311 P **P** **18 38 33.3 -1.0**
YATNC Mamie plateau, 80.12 117 P **P** **18 38 36.8 +2.1**
F20K Avaraart Lake 80.15 22 P **P** **18 38 33.6 -0.5**
baz=294
E21K Kilik River 80.18 21 P **P** **18 38 33.7 -0.6**
baz=295
EKA Eskdalemuir Ar 80.18 325 P **P** **18 38 34.8 +0.3**
comp=Z,37nm,0.6s,baz=83,slow=5.9,SNR=155
comp=Z,37nm,0.6s
ESK Eskdalemuir 80.21 325 P **P** **18 38 34.8 +0.1**
ESK IAmb IAmb 18 38 39.8
comp=Z,145nm,1.1s
ESK Eskdalemuir 80.21 325 IAMs_20 IAMs_20 19 19 18.7
comp=Z,5μm,18.0s
ESK Eskdalemuir 80.21 325 *e*P **P** **18 38 34.8 +0.1**
ESK IAmb IAmb 18 38 39.5
comp=Z,149nm,1.0s
ESK Eskdalemuir 80.21 325 P **P** **18 38 34.8 +0.1**
ESK pmax pmax
comp=Z,145nm,1.1s
WOL Wolverton 80.29 321 *e*P **P** **18 38 35.9 +0.8**
N14K Kuskokwak Cree 80.31 30 P **P** **18 38 35.0 0.0**
baz=290
KESW Keswick, Cumbr 80.38 324 *e*P **P** **18 38 35.4 -0.2**
KESW IAmb IAmb 18 38 40.5
comp=Z,138nm,1.0s
D22K Ayikyak River 80.42 20 P **P** **18 38 35.5 0.0**
baz=296
H19K Roundabout Mou 80.49 24 IAmb IAmb 18 38 42.7
comp=Z,297nm,1.4s
H19K IAMs_20 IAMs_20 19 19 58.2
comp=Z,6μm,20.0s
H19K Roundabout Mou 80.49 24 P **P** **18 38 36.4 +0.5**
baz=293
M15K Kasigluk River 80.51 29 P **P** **18 38 36.0 -0.2**
baz=290
C23K Itkillik River 80.63 19 IAMs_20 IAMs_20 19 15 26.8
comp=Z,9μm,21.0s
C23K Itkillik River 80.63 19 P **P** **18 38 36.8 +0.2**
baz=298
GCSA Galena City Sc 80.64 25 P **P** **18 38 36.4 -0.3**
baz=293,SNR=11
L16K Owhat River 80.70 28 IAmb IAmb 18 38 42.7
comp=Z,265nm,1.9s
L16K Owhat River 80.70 28 P **P** **18 38 37.2 +0.1**
baz=291,SNR=11
STRD Stroud 80.71 321 *e*P **P** **18 38 38.0 +0.6**
STRD IAmb IAmb 18 38 42.0
comp=Z,177nm,1.0s
O14K Tigyukauivet M 80.74 31 IAMs_20 IAMs_20 19 20 36.2
comp=Z,5μm,18.0s
PGBU Glenifferbraes 80.75 326 *e*P **P** **18 38 37.9 +0.4**
PGBU IAmb IAmb 18 38 43.3
comp=Z,289nm,1.3s
K17K Iditarod 80.83 27 IAmb IAmb 18 38 41.4
comp=Z,212nm,1.1s
K17K IAMs_20 IAMs_20 19 17 14.5
comp=Z,6μm,22.0s
K17K Iditarod 80.83 27 P **P** **18 38 37.8 0.0**
baz=292
NEWG New Galloway 80.83 325 *e*P **P** **18 38 39.0 +1.0**
KPL Plockton 80.85 327 *e*P **P** **18 38 38.8 +0.8**
KPL IAmb IAmb 18 38 43.1
comp=Z,106nm,1.1s
F21K Alatna River 80.87 22 P **P** **18 38 37.7 -0.3**
baz=296
OLDB Oldbury-Upon-S 80.97 321 *e*P **P** **18 38 39.2 +0.5**
N15K Kwethluk River 80.98 29 IAmb IAmb 18 38 42.0
comp=Z,112nm,1.0s
N15K IAMs_20 IAMs_20 19 14 44.2
comp=Z,7μm,20.0s
N15K Kwethluk River 80.98 29 P **P** **18 38 38.2 -0.5**
baz=291,SNR=14
E22K Anaktuvuk Pass 81.04 21 IAMs_20 IAMs_20 19 15 43.8
comp=Z,8μm,21.0s
E22K Anaktuvuk Pass 81.04 21 P **P** **18 38 38.8 -0.1**
baz=297
MONM Monmouth 81.07 322 *e*P **P** **18 38 39.8 +0.5**
LAWE Loch Awe, Argy 81.08 326 *e*P **P** **18 38 39.5 +0.2**
LAWE IAmb IAmb 18 38 44.4
comp=Z,87nm,1.0s
H20K Anotleneega Mo 81.11 24 P **P** **18 38 38.7 -0.6**
baz=295
MCH1 Michaelchurch 81.13 322 *e*P **P** **18 38 40.2 +0.5**
MCH1 IAmb IAmb 18 38 46.0
comp=Z,152nm,1.1s
GAL1 Galloway 81.18 325 *e*P **P** **18 38 40.2 +0.4**
GAL1 IAmb IAmb 18 38 45.4
comp=Z,236nm,1.4s
M16K Timber Creek 81.18 28 IAMs_20 IAMs_20 19 15 30.8
comp=Z,8μm,21.0s
M16K Timber Creek 81.18 28 P **P** **18 38 40.1 +0.4**
baz=292
F22K Jon River 81.20 21 P **P** **18 38 39.7 0.0**
baz=297
J18K Innoko River 81.21 26 IAmb IAmb 18 38 46.0
comp=Z,297nm,1.6s
J18K IAMs_20 IAMs_20 19 16 36.4
comp=Z,7μm,18.0s
J18K Innoko River 81.21 26 P **P** **18 38 39.8 0.0**
baz=293
LLW Llanuwychllyn 81.25 323 *e*P **P** **18 38 40.1 -0.1**
C24K Franklin Bluff 81.27 19 P **P** **18 38 40.2 +0.1**
baz=300
IOMK Kirk Michael 81.30 324 *e*P **P** **18 38 41.7 +1.2**
WIM Isle of Man 81.39 324 *e*P **P** **18 38 41.5 +0.5**
J19K Poorman 81.44 25 IAMs_20 IAMs_20 19 18 34.4
comp=Z,7μm,18.0s
J19K Poorman 81.44 25 P **P** **18 38 41.1 0.0**
baz=294,SNR=36
YLL Llanberis 81.44 323 *e*P **P** **18 38 42.3 +1.0**
O15K Ungalikthiuk R 81.46 30 P **P** **18 38 40.5 -0.8**
baz=291
N16K Nishlik Lake 81.48 29 P **P** **18 38 41.2 -0.1**
baz=292
JSA Saint Aubin 81.51 319 *e*P **P** **18 38 41.9 +0.3**
JSA IAmb IAmb 18 38 46.2
comp=Z,115nm,1.1s
D24K Happy Valley 81.52 19 P **P** **18 38 41.2 -0.1**
baz=300
WLF1 Llynfaes 81.52 323 *e*P **P** **18 38 42.2 +0.5**
WPS Cemaes, Angles 81.54 323 *e*P **P** **18 38 42.4 +0.6**
I20K Naaghedeneel 81.55 24 IAMs_20 IAMs_20 19 18 39.5
comp=Z,6μm,18.0s
I20K Naaghedeneel 81.55 24 P **P** **18 38 42.0 +0.4**
baz=295
SCO Scoresbysund 81.65 343 IAmb IAmb 18 38 49.5
comp=Z,210nm,1.6s
SCO Scoresbysund 81.65 343 *i* P **P** **18 38 42.8 +0.7**
SCO IAmb IAmb 18 38 48.2
comp=Z,22nm,0.9s
G22K Bettles 81.70 22 P **P** **18 38 42.0 -0.3**
baz=298
TTA Tatalina 81.72 26 P **P** **18 38 42.9 +0.3**
TTA IAMs_20 IAMs_20 19 16 06.8
comp=Z,8μm,19.0s
TTA Tatalina 81.72 26 P **P** **18 38 42.7 0.0**
TTA Tatalina 81.72 26 P **P** **18 38 42.3 -0.4**
baz=294,SNR=24
M17K Holitna River 81.72 28 IAmb IAmb 18 38 49.5
comp=Z,292nm,1.7s
M17K Holitna River 81.72 28 P **P** **18 38 42.3 -0.3**
baz=293
L18K Granite Mounta 81.72 27 IAmb IAmb 18 38 49.1
comp=Z,171nm,1.6s
E23K Chandalar 81.80 20 P **P** **18 38 43.2 +0.2**
baz=299
H21K Melozitna Rive 81.81 23 IAmb IAmb 18 38 46.6
comp=Z,182nm,1.1s
H21K Melozitna Rive 81.81 23 P **P** **18 38 43.1 +0.1**
baz=296
J20K Nowinta River 81.95 25 IAMs_20 IAMs_20 19 16 32.9
comp=Z,7μm,21.0s
J20K Nowinta River 81.95 25 P **P** **18 38 43.6 -0.1**
baz=296
COLD Coldfoot 82.01 21 P **P** **18 38 43.9 -0.1**
baz=299
O16K Kokwok River B 82.13 30 IAmb IAmb 18 38 51.0
comp=Z,116nm,1.2s
O16K IAMs_20 IAMs_20 19 20 13.5
comp=Z,7μm,18.0s
N17K Nushagak Hills 82.18 29 IAmb IAmb 18 38 48.6
comp=Z,110nm,1.1s
N17K IAMs_20 IAMs_20 19 15 48.8
comp=Z,7μm,22.0s
N17K Nushagak Hills 82.18 29 P **P** **18 38 44.4 -0.6**
baz=293
D25K Kavik River 82.18 19 P **P** **18 38 45.2 +0.3**
baz=302
H22K Ishtalitna Cre 82.23 22 P **P** **18 38 45.3 0.0**
baz=298
C26K Camden Bay 82.29 18 P **P** **18 38 45.9 +0.5**
baz=303
G23K Bananza Creek 82.32 22 IAmb IAmb 18 38 52.5
comp=Z,142nm,1.2s
G23K Bananza Creek 82.32 22 P **P** **18 38 45.5 -0.2**
baz=299
HTL Hartland 82.34 321 *e*P **P** **18 38 46.9 +0.9**
K20K Telida 82.34 25 IAmb IAmb 18 38 52.6
comp=Z,346nm,1.6s
K20K IAMs_20 IAMs_20 19 19 24.1
comp=Z,6μm,20.0s
K20K Telida 82.34 25 P **P** **18 38 46.0 +0.2**
baz=296
NEEM North Greenlan 82.47 353 *i* P **P** **18 38 46.4 -0.2**
NEEM IAmb IAmb 18 38 52.0
comp=Z,142nm,0.8s
L19K White Mountain 82.52 27 IAmb IAmb 18 38 53.6
comp=Z,115nm,1.2s
L19K White Mountain 82.52 27 P **P** **18 38 46.6 -0.2**
baz=295
O17K Koliganek Bris 82.52 29 P **P** **18 38 46.6 -0.2**
baz=294,SNR=10
SDPT Sand Point 82.53 34 IAMs_20 IAMs_20 19 15 35.5
comp=Z,6μm,20.0s
F24K Squaw Lake 82.64 20 P **P** **18 38 47.5 +0.1**
baz=301
DSB Dublin 82.66 324 IAmb IAmb 18 38 55.0
comp=Z,191nm,1.8s
SVW2 Sparrevohn 82.66 28 IAmb IAmb 18 38 51.6
comp=Z,139nm,1.4s
SVW2 Sparrevohn 82.66 28 P **P** **18 38 48.9 +1.3**
N18K Kilae Creek 82.70 28 IAmb IAmb 18 38 50.3
comp=Z,138nm,1.6s
N18K IAMs_20 IAMs_20 19 18 24.8
comp=Z,7μm,20.0s
BOSA Boshof 82.74 237 P **P** **18 38 48.2 -0.5**
comp=Z,140nm,0.9s,baz=75,slow=4.0,SNR=51
BOSA LR LR 19 14 34.3
comp=Z,4μm,18.2s,baz=58,slow=35
comp=Z,140nm,0.9s
L20K Farewell, AK 82.80 26 P **P** **18 38 47.9 -0.3**
baz=296,SNR=15
CHUM Lake Minchumin 82.80 24 P **P** **18 38 48.5 +0.3**
baz=297,SNR=31
MLY Manley 82.87 23 IAmb IAmb 18 38 55.1
comp=Z,87nm,1.0s
MLY IAMs_20 IAMs_20 19 18 21.1
comp=Z,9μm,20.0s
MLY Manley 82.87 23 P **P** **18 38 48.4 -0.2**
baz=298,SNR=55
P17K Kvichak River 83.06 30 P **P** **18 38 49.4 -0.2**
baz=294
E25K Arctic Village 83.07 19 IAmb IAmb 18 38 55.5
comp=Z,281nm,1.6s
E25K Arctic Village 83.07 19 P **P** **18 38 49.3 -0.3**
baz=303
CAST Castle Rocks 83.11 25 IAmb IAmb 18 38 53.1
comp=Z,132nm,1.1s
CAST Castle Rocks 83.11 25 P **P** **18 38 49.5 -0.3**
baz=297,SNR=58
IWEX Carrickbyrne, 83.19 323 *e*P **P** **18 38 51.8 +1.4**
CNBA Chernabura Isl 83.20 34 IAmb IAmb 18 38 52.0
comp=Z,84nm,0.8s
G24K Hadweenzic Riv 83.20 21 IAmb IAmb 18 38 55.3
comp=Z,141nm,1.1s
G24K Hadweenzic Riv 83.20 21 P **P** **18 38 50.8 +0.5**
baz=301
BPAW Bear Paw Mtn. 83.22 24 P **P** **18 38 49.9 -0.5**
baz=298,SNR=16
CHGN Chignik 83.25 33 IAMs_20 IAMs_20 19 17 10.5
comp=Z,9μm,21.0s
N19K Bonanza Creek 83.27 28 IAmb IAmb 18 38 56.1
comp=Z,114nm,1.1s
PPLA Purkeypile 83.31 25 P **P** **18 38 50.4 -0.7**
baz=297,SNR=15
I23K Minto, Yukon-K 83.32 23 IAMs_20 IAMs_20 19 21 28.2
comp=Z,7μm,18.0s
I23K Minto, Yukon-K 83.32 23 P **P** **18 38 50.6 -0.2**
baz=300,SNR=45
F25K Christian Rive 83.33 20 P **P** **18 38 51.7 +0.7**
baz=303
O18K Koktuh Hills 83.36 29 IAMs_20 IAMs_20 19 18 26.2
comp=Z,5μm,21.0s
O18K Koktuh Hills 83.36 29 P **P** **18 38 51.4 +0.2**
baz=295
M20K Styx River 83.38 26 P **P** **18 38 50.9 -0.4**
baz=297
TAM Tamanrasset 83.49 292 IAmb IAmb 18 38 59.3
comp=Z,253nm,1.5s
KTH Kantishna Hill 83.51 24 IAmb IAmb 18 38 58.8
comp=Z,164nm,1.6s
KTH IAMs_20 IAMs_20 19 17 19.0
comp=Z,8μm,20.0s
H24K Noodor Dome 83.51 22 P **P** **18 38 51.9 0.0**
baz=301,SNR=32
P18K Big Mountain, 83.54 29 IAMs_20 IAMs_20 19 21 18.1
comp=Z,6μm,19.0s
P18K Big Mountain, 83.54 29 P **P** **18 38 54.0 +1.8**
baz=295
O19K Port Alsworth 83.61 28 IAmb IAmb 18 38 56.4
comp=Z,205nm,1.4s
O19K IAMs_20 IAMs_20 19 16 09.9
comp=Z,6μm,21.0s
G25K Bearman Lake 83.63 21 P **P** **18 38 52.8 +0.4**
baz=302
ECHE Chera 83.70 309 P **P** **18 38 54.3 +0.8**
NEA2 Nenana 83.71 23 P **P** **18 38 52.2 -0.7**
baz=300,SNR=9.4
R17K Ugashik Creek 83.73 31 IAMs_20 IAMs_20 19 21 24.1
comp=Z,7μm,18.0s
F26K Sheenjek River 83.76 19 P **P** **18 38 53.3 +0.2**
baz=304
BWN Browne 83.77 24 IAmb IAmb 18 38 58.9
comp=Z,170nm,1.2s
TRF Thorofare Moun 83.81 24 IAMs_20 IAMs_20 19 17 28.9
comp=Z,7μm,19.0s
TRF Thorofare Moun 83.81 24 P **P** **18 38 54.1 +0.5**
baz=299,SNR=14
D27M Malcolm River 83.81 17 P **P** **18 38 53.7 +0.3**
baz=307
MDM Murphy Dome 83.83 23 IAMs_20 IAMs_20 19 18 53.6
comp=Z,7μm,20.0s
SKT Skwentna 84.01 26 IAmb IAmb 18 38 56.6
comp=Z,130nm,1.1s
SKT Skwentna 84.01 26 P **P** **18 38 53.3 -1.2**
baz=298,SNR=26
COLA College 84.02 23 P **P** **18 38 53.1 -1.3**
COLA IAmb IAmb 18 41 46.6
comp=Z,58nm,0.3s
COLA College 84.02 23 IAMs_20 IAMs_20 19 18 58.4
comp=Z,8μm,19.0s
COLA College 84.02 23 P **P** **18 38 54.2 -0.2**
COLA College 84.02 23 P **P** **18 38 53.1 -1.3**
COLA pmax pmax
comp=Z,58nm,0.4s
COLA College 84.02 23 P **P** **18 38 53.8 -0.6**
baz=301
POKR Poker Plat Res 84.04 22 IAmb IAmb 18 38 57.7
comp=Z,147nm,1.1s

POKR IAMs_20 IAMs_20 19 19 11.1
comp=Z,7μm,20.0s
POKR Poker Plat Res 84.04 22 P **P** **18 38 53.8 -0.8**
baz=301,SNR=29
N20K Mount Spurr 84.09 27 P **P** **18 38 54.3 -0.6**
baz=298,SNR=6.9
WRH Wood River Hil 84.14 23 IAMs_20 IAMs_20 19 15 26.6
comp=Z,5μm,19.0s
CCB Clear Creek Bu 84.15 23 IAMs_20 IAMs_20 19 23 40.0
comp=Z,6μm,20.0s
MCK McKinley 84.19 24 P **P** **18 38 54.4 -1.0**
baz=300,SNR=30
ILSW Iliamna Southw 84.23 28 IAMs_20 IAMs_20 19 16 28.4
comp=Z,8μm,22.0s
E27K Coleen River 84.26 18 P **P** **18 38 55.6 -0.1**
baz=306
SOE Somerset East 84.27 233 IAMs_20 IAMs_20 19 12 03.4
comp=Z,6μm,20.0s
G26K Porcupine Rive 84.29 20 P **P** **18 38 56.4 +0.6**
baz=304
P19K Oil Pt 84.34 28 IAMs_20 IAMs_20 19 15 00.3
comp=Z,6μm,20.0s
CART Cartagena 84.37 308 IAmb IAmb 18 39 01.5
comp=Z,101nm,1.0s
CART Cartagena 84.37 308 P **P** **18 38 56.6 -0.1**
SUMG Summit 84.38 348 IAMs_20 IAMs_20 19 21 27.8
comp=Z,6μm,19.0s
SUMG Summit 84.38 348 *i* P **P** **18 38 55.6 -1.0**
SUMG IAmb IAmb 18 38 59.9
comp=Z,96nm,0.7s
SUMG IAMs_20 IAMs_20 19 21 21.0
comp=Z,5μm,18.0s
D28M Stokes Point 84.39 17 P **P** **18 38 56.5 +0.3**
baz=309
RND Reindeer 84.39 24 IAmb IAmb 18 38 58.7
comp=Z,124nm,1.2s
RND IAMs_20 IAMs_20 19 19 24.3
comp=Z,7μm,19.0s
ILAR Eielson Array 84.42 23 P **P** **18 38 54.9 -1.6**
comp=Z,21nm,0.9s,baz=299,slow=4.4,SNR=104
ILAR PP **PP** **18 42 12.7 +1.6**
comp=Z,21nm,1.1s,baz=287,slow=5.1,SNR=10
ILAR PKPPKP **P'P'df** **19 05 11.2 -6.7**
comp=Z,1.7nm,1.1s,baz=156,slow=0.8,SNR=5.5
ILAR LR LR 19 19 32.4
comp=Z,7μm,19.7s,baz=298,slow=38
comp=Z,21nm,0.9s
EMUR La Murta 84.46 308 P **P** **18 38 57.3 -0.1**
PRP Porcupine Dome 84.51 22 P **P** **18 38 56.9 -0.3**
baz=303,SNR=88
SUA Susitna One 84.58 26 IAmb IAmb 18 39 03.0
comp=Z,104nm,1.1s
SUA Susitna One 84.58 26 P **P** **18 38 55.7 -1.8**
baz=299,SNR=17
HDA Harding Lake 84.59 23 IAMs_20 IAMs_20 19 21 27.7
comp=Z,5μm,19.0s
HDA Harding Lake 84.59 23 P **P** **18 38 55.8 -1.5**
baz=302,SNR=10
E28M Babbage River 84.61 18 IAmb IAmb 18 39 02.2
comp=Z,90nm,1.0s
E28M Babbage River 84.61 18 P **P** **18 38 57.3 -0.1**
baz=308
WAT1 Susitna Watana 84.80 25 P **P** **18 38 56.9 -1.6**
baz=300
TLOR Lorca, Murcia 84.86 308 P **P** **18 38 59.3 0.0**
HOM Homer 85.06 28 IAMs_20 IAMs_20 19 23 12.0
comp=Z,7μm,18.0s
J25K Salcha River, 85.06 22 IAMs_20 IAMs_20 19 19 40.8
comp=Z,6μm,19.0s
J25K Salcha River, 85.06 22 P **P** **18 38 58.3 -1.5**
baz=303
G27K Doyon Strip 85.06 20 P **P** **18 38 59.4 -0.4**
baz=306
CASY Casey 85.08 174 P **P** **18 38 57.4 -2.2**
CASY IAmb IAmb 18 39 05.0
comp=Z,204nm,1.2s
F28M Old Crow 85.13 19 P **P** **18 38 59.9 -0.2**
baz=308,SNR=49
DHY Denali Highway 85.13 24 IAmb IAmb 18 39 05.1
comp=Z,163nm,1.8s
DHY Denali Highway 85.13 24 P **P** **18 38 59.1 -1.2**
baz=302
GHO Glory Hole Cre 85.19 26 IAmb IAmb 18 39 10.9
comp=Z,108nm,1.2s
GHO IAMs_20 IAMs_20 19 19 27.5
comp=Z,7μm,20.0s
RC01 Rabbit Creek A 85.19 26 IAmb IAmb 18 39 03.2
comp=Z,125nm,1.0s
RC01 Rabbit Creek A 85.19 26 P **P** **18 38 59.8 -0.6**
baz=300,SNR=14
PMR Palmer 85.19 26 P **P** **18 38 59.6 -0.8**
PMR Palmer 85.19 26 P **P** **18 38 59.7 -0.7**
baz=300,SNR=9.1
SYI Shuyak Island 85.21 29 IAMs_20 IAMs_20 19 22 08.1
comp=Z,7μm,19.0s
E29M Blow River 85.22 17 P **P** **18 39 00.1 -0.3**
baz=310,SNR=73
WAT6 Susitna Watana 85.25 25 P **P** **18 38 59.8 -1.1**
baz=301,SNR=23
CNPM China Poot 85.30 28 IAMs_20 IAMs_20 19 19 43.6
comp=Z,6μm,20.0s
BRLK Bradley Lake 85.34 28 IAmb IAmb 18 39 02.9
comp=Z,93nm,0.9s
K24K Donnelly Dome 85.35 23 P **P** **18 39 00.2 -1.0**
baz=303,SNR=52
SML Sawmill 85.41 25 IAMs_20 IAMs_20 19 18 24.4
comp=Z,7μm,22.0s
SML Sawmill 85.41 25 P **P** **18 39 00.7 -0.9**
baz=301,SNR=13
OHAK Old Harbor 85.42 31 IAmb IAmb 18 39 07.0
comp=Z,294nm,1.6s
OHAK Old Harbor 85.42 31 P **P** **18 39 02.7 +1.1**
I26K Coal Creek Min 85.45 21 IAmb IAmb 18 39 08.2
comp=Z,120nm,1.2s
I26K Coal Creek Min 85.45 21 P **P** **18 39 01.5 -0.2**
baz=305,SNR=36
H27K Steamboat Moun 85.45 20 P **P** **18 39 01.8 +0.1**
baz=306
ENIJ Nijar 85.48 307 P **P** **18 39 01.9 -0.5**
O22K Cooper Landing 85.50 27 IAMs_20 IAMs_20 19 20 23.8
comp=Z,6μm,19.0s
KDAK Kodiak Island 85.50 30 IAMs_20 IAMs_20 19 21 20.9
comp=Z,7μm,19.0s
EKNA AfricaArray - 85.53 273 *eP* **P** **18 39 07.5 +4.4**
TSUM Tsumeb 85.53 248 P **P** **18 39 03.0 0.0**
TSUM IAmb IAmb 18 39 10.4
comp=Z,85nm,1.0s
TSUM Tsumeb 85.53 248 IAMs_20 IAMs_20 19 16 40.2
comp=Z,7μm,19.0s
KNK Knik Glacier 85.56 26 IAmb IAmb 18 39 06.5
comp=Z,87nm,1.0s
KNK IAMs_20 IAMs_20 19 19 56.4
comp=Z,7μm,21.0s
KNK Knik Glacier 85.56 26 P **P** **18 39 01.5 -0.9**
baz=301,SNR=10
M23K Glacier View 85.67 25 P **P** **18 39 02.0 -0.9**
baz=301,SNR=6.9
A36M Sachs Harbour 85.69 12 IAMs_20 IAMs_20 19 24 08.5
comp=Z,5μm,19.0s
A36M Sachs Harbour 85.69 12 P **P** **18 39 01.9 -0.8**
baz=321,SNR=169
SOEG Soedalen 85.70 343 *i* P **P** **18 39 02.7 -0.2**
SOEG IAmb IAmb 18 39 08.0
comp=Z,46nm,0.8s
RIDG Independent Ri 85.73 23 IAmb IAmb 18 39 07.4
comp=Z,98nm,0.9s
RIDG IAMs_20 IAMs_20 19 23 31.8
comp=Z,5μm,20.0s
RIDG Independent Ri 85.73 23 P **P** **18 39 02.6 -0.6**
baz=304
J26L Joseph Creek 85.77 22 IAmb IAmb 18 39 09.5
comp=Z,194nm,1.2s
J26L IAMs_20 IAMs_20 19 22 45.7
comp=Z,7μm,20.0s
J26L Joseph Creek 85.77 22 P **P** **18 39 02.8 -0.6**
baz=305
I27K Kandik River 85.79 21 P **P** **18 39 03.6 +0.1**
baz=306,SNR=49
SCM Sheep Creek Mo 85.81 25 IAMs_20 IAMs_20 19 24 12.8
comp=Z,5μm,20.0s
SCM Sheep Creek Mo 85.81 25 P **P** **18 39 05.6 +2.0**
baz=302,SNR=7.1
ESDC Sonseca Array 85.86 310 P **P** **18 39 04.2 -0.2**
comp=Z,25nm,1.0s,baz=54,slow=4.8,SNR=36
comp=Z,25nm,1.0s
SCRK Sand Creek 85.91 23 IAmb IAmb 18 39 10.2
comp=Z,231nm,1.4s
SCRK IAMs_20 IAMs_20 19 20 17.6
comp=Z,7μm,19.0s
SCRK Sand Creek 85.91 23 P **P** **18 39 03.8 -0.4**
baz=304,SNR=53
PAX Paxson 85.92 24 P **P** **18 39 03.6 -0.6**
baz=303,SNR=14
EBER Berja 86.02 307 P **P** **18 39 04.8 -0.5**
M24K Tolsona, Glenn 86.12 25 IAmb IAmb 18 39 10.1
comp=Z,214nm,1.1s
M24K IAMs_20 IAMs_20 19 24 37.1
comp=Z,6μm,18.0s
M24K Tolsona, Glenn 86.12 25 P **P** **18 39 05.8 +0.6**
baz=303,SNR=13
G29M Pine Creek 86.13 19 IAMs_20 IAMs_20 19 22 27.2
comp=Z,7μm,18.0s
G29M Pine Creek 86.13 19 P **P** **18 39 04.5 -0.6**
baz=310
PAB San Pablo 86.18 310 P **P** **18 39 04.3 -1.6**
EQTA Presa de Quent 86.33 308 P **P** **18 39 06.0 -0.8**
F30M Barrier River 86.33 18 P **P** **18 39 05.7 -0.3**
baz=312
HARP HAARP 86.36 24 P **P** **18 39 06.6 +0.4**
baz=304,SNR=12
GLI Glacier Island 86.41 26 IAmb IAmb 18 39 11.7
comp=Z,178nm,1.3s
GLI IAMs_20 IAMs_20 19 20 32.7
comp=Z,7μm,20.0s
GLI Glacier Island 86.41 26 P **P** **18 39 06.1 -0.4**
baz=302
EGAK Eagle 86.44 21 IAmb IAmb 18 39 12.7
comp=Z,163nm,1.7s
EGAK Eagle 86.44 21 P **P** **18 39 06.1 -0.5**
baz=307,SNR=18
I28M Miner Creek 86.44 20 IAmb IAmb 18 39 12.9
comp=Z,186nm,1.6s
I28M Miner Creek 86.44 20 P **P** **18 39 06.2 -0.5**
baz=308
H29M Wiseone 86.47 19 P **P** **18 39 06.2 -0.5**
baz=309
INK Inuvik 86.49 16 IAmb IAmb 18 39 10.8
comp=Z,114nm,1.1s
INK Inuvik 86.49 16 P **P** **18 39 05.8 -0.9**
baz=314,SNR=79
KLU Klutina 86.56 25 IAMs_20 IAMs_20 19 20 38.6
comp=Z,8μm,21.0s
KLU Klutina 86.56 25 P **P** **18 39 06.6 -0.7**
baz=303,SNR=18
K27K Chicken 86.57 22 IAMs_20 IAMs_20 19 20 15.0
comp=Z,7μm,20.0s
K27K Chicken 86.57 22 P **P** **18 39 07.8 +0.5**
baz=306
ELGU Los Guajares, 86.58 308 P **P** **18 39 07.6 -0.4**
MENT Mentasta 86.61 23 IAmb IAmb 18 39 11.2
comp=Z,144nm,1.1s
MENT Mentasta 86.61 23 P **P** **18 39 08.8 +1.3**
G30M tAoh Zraii Nji 86.62 18 IAmb IAmb 18 39 11.3
comp=Z,84nm,1.1s
G30M IAMs_20 IAMs_20 19 17 50.3
comp=Z,7μm,22.0s
G30M tAoh Zraii Nji 86.62 18 P **P** **18 39 06.1 -1.4**
baz=311,SNR=49
L26K Log Cabin Wild 86.69 23 IAmb IAmb 18 39 13.8
comp=Z,242nm,1.4s
L26K Log Cabin Wild 86.69 23 P **P** **18 39 08.2 +0.3**
baz=305,SNR=34
FID Port Fidalgo 86.73 26 IAmb IAmb 18 39 12.6
comp=Z,87nm,0.9s
EADA Adamuz 86.83 309 P **P** **18 39 08.8 -0.3**
EGOR Sierra Gorda, 86.86 308 P **P** **18 39 09.1 -0.3**
EPYK Eagle Plains 86.88 19 IAmb IAmb 18 39 14.4
comp=Z,340nm,2.0s
EPYK Eagle Plains 86.88 19 P **P** **18 39 07.6 -1.1**
baz=311,SNR=24
RES Resolute Bay 86.91 3 LR LR 19 23 09.9
comp=Z,2μm,18.5s,baz=338,slow=39
ECAL Calabor 87.01 313 P **P** **18 39 09.6 -0.4**
N25K Chitina, Valde 87.02 25 IAMs_20 IAMs_20 19 21 58.9
comp=Z,6μm,18.0s
N25K Chitina, Valde 87.02 25 P **P** **18 39 10.1 +0.5**
baz=304,SNR=20
F31M Tsiigehtchic 87.03 17 P **P** **18 39 08.3 -1.1**
baz=313,SNR=49
I29M Ogilvie Camp, 87.03 20 P **P** **18 39 08.9 -0.6**
baz=309,SNR=16
EYAK Cordova Ski Ar 87.14 26 P **P** **18 39 11.6 +1.6**
EYAK Cordova Ski Ar 87.14 26 P **P** **18 39 11.1 +1.1**
baz=303,SNR=6.1
M26K Nabesna, AK 87.19 24 IAmb IAmb 18 39 14.8
comp=Z,152nm,1.1s
M26K IAMs_20 IAMs_20 19 21 00.2
comp=Z,8μm,21.0s
M26K Nabesna, AK 87.19 24 P **P** **18 39 10.4 0.0**
baz=305
UPNV Upernavik 87.21 352 *i* P **P** **18 39 10.0 -0.2**
UPNV IAmb IAmb 18 39 14.9
comp=Z,80nm,0.8s
EMAL Malaga-Limoner 87.22 308 P **P** **18 39 10.7 -0.2**
G31M Satah River 87.23 18 IAMs_20 IAMs_20 19 22 50.4
comp=Z,7μm,18.0s
G31M Satah River 87.23 18 P **P** **18 39 08.9 -1.5**
baz=313,SNR=50
ICESG Greenland Ices 87.23 345 *i* P **P** **18 39 10.5 -0.3**
ICESG IAmb IAmb 18 39 17.1
comp=Z,149nm,0.9s
L27K Beaver Creek, 87.23 23 IAmb IAmb 18 39 15.9
comp=Z,118nm,1.2s
L27K IAMs_20 IAMs_20 19 23 06.6
comp=Z,6μm,19.0s
L27K Beaver Creek, 87.23 23 P **P** **18 39 11.2 +0.6**
baz=306
BMRM Bremner River 87.38 25 P **P** **18 39 10.9 -0.4**
baz=304,SNR=32
GLB Gilahina Butte 87.43 25 IAmb IAmb 18 39 16.2
comp=Z,190nm,1.4s
ECAB El Cabril 87.49 309 P **P** **18 39 11.9 -0.4**
DAWY Dawson 87.49 21 IAmb IAmb 18 39 16.8
comp=Z,159nm,1.6s
DAWY Dawson 87.49 21 P **P** **18 39 10.8 -1.0**
baz=308,SNR=27
MVO Moncorvo 87.50 313 *eP* **P** **18 39 12.2 -0.1**
comp=Z,118nm,1.9s
MVO Moncorvo 87.50 313 *e*LQ LQ 19 07 52.0
MVO A A 19 23 08.1
comp=Z,2μm,22.0s
EMIJ Mijas 87.55 308 P **P** **18 39 11.7 -0.9**
M27K Edge Creek, AK 87.64 23 IAmb IAmb 18 39 17.7
comp=Z,178nm,1.3s
M27K Edge Creek, AK 87.64 23 P **P** **18 39 13.3 +0.7**
baz=306
J29N Klondike Camp 87.64 21 IAmb IAmb 18 39 17.4
comp=Z,54nm,1.1s
J29N IAMs_20 IAMs_20 19 21 14.2
comp=Z,11μm,21.0s
J29N Klondike Camp 87.64 21 P **P** **18 39 12.2 -0.3**
baz=310
VRDI Verde Repeater 87.69 25 IAmb IAmb 18 39 19.6
comp=Z,175nm,1.4s
VRDI IAMs_20 IAMs_20 19 22 19.6
comp=Z,7μm,19.0s
I30M Mount Dempster 87.74 20 IAmb IAmb 18 39 18.9
comp=Z,70nm,1.1s
I30M Mount Dempster 87.74 20 P **P** **18 39 12.3 -0.8**
baz=311
SUR Sutherland 87.78 235 P **P** **18 39 13.5 -0.4**
SUR IAmb IAmb 18 39 19.5
comp=Z,76nm,1.1s
SUR Sutherland 87.78 235 IAMs_20 IAMs_20 19 17 20.5
comp=Z,6μm,20.0s
SUR Sutherland 87.78 235 P **P** **18 39 14.6 +0.7**
PVRL Vila Real 87.94 313 *eP* **P** **18 39 15.7 +1.3**
POLO Lamas de Olo 87.96 313 *eP* **P** **18 39 18.6 +4.1**
comp=Z,63nm,2.0s
BVCY Beaver Creek 87.98 23 P **P** **18 39 14.8 +0.6**
baz=307
C36M Paulatuk 88.01 13 IAmb IAmb 18 39 17.6
comp=Z,105nm,1.0s
C36M Paulatuk 88.01 13 P **P** **18 39 12.6 -1.4**
baz=322,SNR=56
PGAV Gavieira, Arco 88.06 314 *eP* **P** **18 39 15.6 +0.6**
comp=Z,169nm,2.0s
PGAV Gavieira, Arco 88.06 314 *e*LQ LQ 19 09 39.0
PGAV A A 19 23 45.3
comp=Z,2μm,20.0s
BERG Berg Lake 88.07 25 IAMs_20 IAMs_20 19 17 23.8
comp=Z,7μm,18.0s
CRQE Cirque 88.11 25 P **P** **18 39 15.2 +0.3**
baz=305
MTE Manteigas 88.15 312 *eP* **P** **18 39 16.9 +1.4**
comp=Z,190nm,1.9s
MTE Manteigas 88.15 312 *e*SKS **SKSac** **18 49 43.7 -0.7**
MTE Manteigas 88.15 312 *e*LQ LQ 19 17 17.6
MTE A A 19 24 06.8
comp=Z,1μm,20.0s
MTE Manteigas 88.15 312 IAmb IAmb 18 39 21.1
comp=Z,111nm,1.1s
J30M Hart River 88.18 20 P **P** **18 39 14.3 -0.9**
baz=311
TGL Tana Glacier 88.21 25 IAMs_20 IAMs_20 19 21 40.6
comp=Z,7μm,21.0s
ECEU Ceuta 88.25 307 P **P** **18 39 16.1 +0.2**
ESPR Espera 88.25 308 P **P** **18 39 16.4 +0.5**
K29M Barlow Dome 88.27 21 P **P** **18 39 15.4 -0.2**
baz=310
PVIS Viseu 88.28 312 *eP* **P** **18 39 16.9 +0.9**
PCBR Castelo Branco 88.32 311 *eP* **P** **18 39 17.2 +1.0**
comp=Z,129nm,1.2s
EBAD Badajoz 88.40 310 P **P** **18 39 16.7 +0.1**
PMRV Marv??o 88.42 311 *eP* **P** **18 39 17.0 +0.3**
comp=Z,104nm,1.2s
PMRV Marv??o 88.42 311 *e*LQ LQ 19 05 24.2
PMRV A A 19 25 22.7
comp=Z,2μm,20.0s
BARN Barnard Glacie 88.49 24 IAmb IAmb 18 39 24.0
comp=Z,151nm,1.4s
BARN IAMs_20 IAMs_20 19 18 42.8
comp=Z,6μm,21.0s
YUK3 Moose Creek 88.52 23 P **P** **18 39 17.9 +0.9**
baz=308
EMIN Mina Concepcio 88.52 309 P **P** **18 39 18.3 +1.1**
L29M L29M 88.53 22 IAmb IAmb 18 39 23.8
comp=Z,190nm,1.6s
L29M L29M 88.53 22 P **P** **18 39 17.2 +0.4**
baz=310,SNR=27
PBAR Barrancos 88.64 310 *eP* **P** **18 39 18.3 +0.6**
comp=Z,222nm,1.8s
PBAR Barrancos 88.64 310 P **P** **18 39 18.0 +0.3**
CTG Chitna Glacier 88.68 24 P **P** **18 39 18.1 +0.5**
baz=307
CTGM Chitina Glacie 88.68 24 IAMs_20 IAMs_20 19 18 46.8
comp=Z,7μm,19.0s
PESTR Estremoz 88.77 311 *eP* **P** **18 39 19.5 +1.1**
comp=Z,84nm,1.3s
PESTR Estremoz 88.77 311 IAmb IAmb 18 39 35.2
comp=Z,154nm,1.8s
PESTR Estremoz 88.77 311 P **P** **18 39 18.6 +0.3**
M29M Somme Creek 88.84 22 IAmb IAmb 18 39 25.5
comp=Z,70nm,1.1s
M29M IAMs_20 IAMs_20 19 22 20.8
comp=Z,6μm,18.0s
M29M Somme Creek 88.84 22 P **P** **18 39 18.8 +0.5**
baz=309
LOGN Logan Glacier 88.89 24 IAMs_20 IAMs_20 19 23 02.5
comp=Z,6μm,21.0s
IFR Ifrane 88.92 305 P **P** **18 39 19.4 0.0**
PCAS Casmilo, Conde 88.96 312 *eP* **P** **18 39 20.0 +0.8**
comp=Z,94nm,1.7s
MAYO Mayo, Yukon 88.98 21 IAmb IAmb 18 39 24.1
comp=Z,94nm,1.0s
YUK8 Steele Glacier 89.09 24 P **P** **18 39 22.5 +2.8**
baz=308,SNR=6.0
MAW Mawson 89.10 192 P **P** **18 39 20.1 +1.1**
baz=89,SNR=8.6
MAW Mawson 89.10 192 P **P** **18 39 20.0 +1.1**
MAW Mawson 89.10 192 P **P** **18 39 20.0 +1.0**
comp=Z,49nm,1.2s,baz=39,slow=6.6,SNR=12
comp=Z,49nm,1.2s
PMTG Montargil 89.15 311 *eP* **P** **18 39 20.6 +0.5**
comp=Z,134nm,1.3s
EGRO El Granado 89.21 309 P **P** **18 39 21.7 +1.4**
EVO Evora 89.21 310 *eP* **P** **18 39 21.1 +0.7**
comp=Z,150nm,1.7s
EVO Evora 89.21 310 P **P** **18 39 20.0 -0.4**
ANGG Ammassalik, Gr 89.28 343 IAmb IAmb 18 39 25.0
comp=Z,78nm,0.9s
ANGG Ammassalik, Gr 89.28 343 *i* P **P** **18 39 20.2 +0.1**
ANGG IAmb IAmb 18 39 25.2
comp=Z,45nm,0.8s
PBEJ Beja 89.30 310 *eP* **P** **18 39 21.8 +1.0**
comp=Z,149nm,2.0s
DGTI Dogotuki 89.30 107 P **P** **18 39 22.9 +1.8**
M30M Minto, Yukon 89.34 22 IAMs_20 IAMs_20 19 25 15.3
comp=Z,7μm,20.0s
M30M Minto, Yukon 89.34 22 P **P** **18 39 21.0 +0.4**
baz=311,SNR=19
PSBE So Bento 89.38 312 *eP* P 18 39 26.3 +5.1
PVAQ Vaqueiros 89.43 309 *eP* **P** **18 39 22.5 +1.1**
comp=Z,23nm,1.3s
PVAQ Vaqueiros 89.43 309 *e*SKS **S** **18 50 12.8 +0.9**
PVAQ Vaqueiros 89.43 309 P **P** **18 39 21.3 -0.2**
YUK4 Talbot Arm 89.47 23 P **P** **18 39 21.7 +0.3**
baz=309,SNR=8.1
ILULI Ilulissat 89.56 349 IAMs_20 IAMs_20 19 26 29.8
comp=Z,5μm,19.0s
PCVE Castro Verde 89.58 310 *eP* **P** **18 39 23.1 +1.0**
PCVE Castro Verde 89.58 310 P **P** **18 39 23.8 +1.7**
MESJ Messejana 89.63 310 *eP* **P** **18 39 23.4 +1.0**
MESJ Messejana 89.63 310 IAmb IAmb 18 39 28.1
comp=Z,94nm,1.0s
MESJ Messejana 89.63 310 *eP* **P** **18 39 22.9 +0.6**
MESJ IAmb IAmb 18 39 28.2
comp=Z,106nm,1.0s
PBDV Barranco-do-Ve 89.65 309 *eP* **P** **18 39 23.4 +0.9**
comp=Z,221nm,1.3s
PBDV Barranco-do-Ve 89.65 309 P **P** **18 39 23.2 +0.7**
PNCL Nicolau / Gran 89.75 310 *eP* **P** **18 39 22.8 -0.1**
comp=Z,182nm,1.8s
PNCL Nicolau / Gran 89.75 310 P **P** **18 39 23.2 +0.3**
TAVE Taveuni 89.76 108 P **P** **18 39 24.8 +1.5**
YUK6 Outpost Mounta 89.83 23 P **P** **18 39 23.0 -0.2**
baz=310,SNR=10
TOA0 Torodi Ar. Sit 89.92 284 P **P** **18 39 24.6 +0.5**
TOA0 P **P** **18 39 24.6 +0.5**
TORD Torodi Ar. Bea 89.92 284 P **P** **18 39 24.0 -0.2**
comp=Z,31nm,1.1s,baz=63,slow=4.6,SNR=29
TORD PP **PP** **18 42 57.6 +0.8**
comp=Z,20nm,1.1s,baz=56,slow=7.0,SNR=7.7
TORD S **SKSac** **18 49 52.0 -3.5**
comp=Z,0.2nm,0.5s,baz=26,slow=3.7,SNR=1.9
comp=Z,31nm,1.1s
PMAFR **Mafra 89.95 311** *eP* P 18 39 29.2 +5.3
PMAFR **Mafra 89.95 311** P **P** **18 39 24.5 +0.7**
BCPM Bancas Point 89.97 25 IAMs_20 IAMs_20 19 23 08.7
comp=Z,6μm,22.0s
N30M Aishikik Lake 89.97 23 IAMs_20 IAMs_20 19 21 26.7
comp=Z,7μm,20.0s
N30M Aishikik Lake 89.97 23 P **P** **18 39 24.0 +0.4**
baz=311
PTEO Sao Teotonio 90.11 310 *eP* **P** **18 39 25.6 +1.0**
comp=Z,23nm,1.5s
MORF Marmelete 90.15 310 *eP* **P** **18 39 25.6 +0.7**
comp=Z,188nm,1.9s
MORF Marmelete 90.15 310 IAmb IAmb 18 39 31.2
comp=Z,154nm,1.2s
MORF Marmelete 90.15 310 *eP* **P** **18 39 25.4 +0.6**
MORF IAmb IAmb 18 39 31.6
comp=Z,191nm,1.3s
HYT Haines Junctio 90.23 23 P **P** **18 39 25.3 +0.4**
baz=310
PFVI Vila Bisbo 90.35 309 *eP* **P** **18 39 27.0 +1.3**
comp=Z,248nm,1.4s
PFVI Vila Bisbo 90.35 309 IAmb IAmb 18 39 31.5
comp=Z,118nm,1.0s
PFVI Vila Bisbo 90.35 309 P **P** **18 39 26.0 +0.3**
N31M Braeburn, Yuko 90.43 22 P **P** **18 39 25.8 +0.2**
baz=312,SNR=12
M31M Drury Creek, Y 90.43 21 IAMs_20 IAMs_20 19 22 27.9
comp=Z,8μm,22.0s
M31M Drury Creek, Y 90.43 21 P **P** **18 39 25.8 +0.2**
baz=313,SNR=16
FARO Faro, Yukon 90.76 21 IAMs_20 IAMs_20 19 25 51.8
comp=Z,6μm,20.0s
FARO Faro, Yukon 90.76 21 P **P** **18 39 28.3 +1.1**
baz=314,SNR=9.9
AVE Averroes 90.77 305 IAmb IAmb 18 39 57.4
comp=Z,148nm,1.2s
AVE Averroes 90.77 305 P **P** **18 39 27.7 -0.1**
O30N Mendenhall 90.79 23 IAmb IAmb 18 39 34.5
comp=Z,76nm,1.1s
O30N IAMs_20 IAMs_20 19 21 51.5
comp=Z,6μm,19.0s
O30N Mendenhall 90.79 23 P **P** **18 39 27.6 +0.2**
baz=311,SNR=17
DY2G Dye2 90.85 346 *i* P **P** **18 39 27.2 -0.5**
DY2G IAmb IAmb 18 39 32.7
comp=Z,162nm,1.4s

WHY	Whitehorse baz=312	91.31	22	P	P	18 39 30.2	+0.4			
SFJD	Kangerlussuaq	91.37	348	P	P	18 39 29.6	-0.2			
SFJD	Kangerlussuaq comp=Z,5µm,19.0s	91.37	348	IAms_20	IAms_20	19 24 18.6				
SFJD	Kangerlussuaq SFJD	91.37	348	P pmax	P pmax	18 39 29.6	-0.2			
	comp=Z,275nm,1.1s									
SFJD	Kangerlussuaq comp=Z,4µm,20.9s,baz=24,slow=38	91.37	348	LR	LR	19 24 41.8				
SFJD	Kangerlussuaq SFJD	91.37	348	*i* P IAmb	P IAmb	18 39 30.4 18 39 35.1	+0.5			
	comp=Z,96nm,0.8s									
TIO	Tiouine	91.56	303	P	P	18 39 31.5	-0.1			
N32M	Quiet Lake comp=Z,7µm,21.0s	91.61	22	IAms_20	IAms_20	19 21 30.9				
N32M	Quiet Lake baz=314	91.61	22	P	P	18 39 31.7	+0.6			
SKAG	Skagway	91.95	24	P	P	18 39 34.4	+1.7			
RPZ	Rata Peaks comp=Z,20nm,1.0s,baz=237,slow=17,SNR=3.8	92.17	135	P	P	18 39 32.9	-1.0			
	comp=Z,20nm,1.0s									
P33M	Teslin, Yukon comp=Z,5µm,19.0s	92.36	22	IAms_20	IAms_20	19 21 53.0				
P33M	Teslin, Yukon baz=314	92.36	22	P	P	18 39 35.4	+0.7			
P32M	Atlin baz=314	92.47	23	P	P	18 39 36.1	+0.9			
S31K	Pelican comp=Z,7µm,19.0s	92.60	25	IAms_20	IAms_20	19 24 18.4				
KUZ	Kuaotunu	92.89	128	P	P	18 39 38.6	+1.3			
WRGLY	Wrigley comp=Z,5µm,20.0s	93.04	17	IAms_20	IAms_20	19 22 21.0				
TOZ	Tahuroa Road comp=Z,50nm,1.1s	93.07	129	IAmb	IAmb	18 39 45.0				
JIS	Juneau Island comp=Z,7µm,20.0s	93.11	24	IAms_20	IAms_20	19 25 44.0				
R33M	Jennings River comp=Z,7µm,21.0s	93.60	22	IAms_20	IAms_20	19 24 04.6				
R33M	Jennings River baz=316	93.60	22	P	P	18 39 41.8	+1.3			
WTLY	Watson Lake, Y comp=Z,6µm,19.0s	93.82	21	IAms_20	IAms_20	19 28 07.7				
NUUK	Nuuk	94.03	346	*i* P	P	18 39 41.9	-0.2			
NUUK	comp=Z,48nm,0.9s			IAmb	IAmb	18 39 48.2				
MRZ	Mangatainoka R comp=Z,94nm,1.3s	94.16	131	IAmb	IAmb	18 39 51.5				
BKZ	Black Stump Fm comp=Z,72nm,1.5s	94.30	130	IAmb	IAmb	18 39 48.7				
BKZ	Black Stump Fm	94.30	130	P	P	18 39 43.0	-0.9			
URZ	Urewera	94.44	129	P	P	18 39 44.2	-0.3			
RTZ	Ruatahuna comp=Z,99nm,1.0s	94.47	129	IAmb	IAmb	18 39 48.0				
S34M	Telegraph Cree comp=Z,7µm,20.0s	94.61	23	IAMs_20	IAMs_20	19 27 15.4				
S34M	Telegraph Cree baz=316	94.61	23	P	P	18 39 46.3	+1.4			
BFZ	Birch Farm	94.64	131	P	P	18 39 46.0	+0.7			
NRS	Narsarsuaq comp=Z,41nm,0.9s	94.95	342	IAmb	IAmb	18 39 50.2				
NRS	Narsarsuaq NRS	94.95	342	*i* P IAmb	P IAmb	18 39 46.1 18 39 50.6	-0.3			
	comp=Z,23nm,0.8s									
WRAK	Wrangell Islan comp=Z,5µm,20.0s	95.20	25	IAMs_20	IAMs_20	19 28 12.2				
KOTAN	Kotaneelee Air baz=322	95.34	19	P	P	18 39 49.5	+1.2			
CRAG	Craig comp=Z,6µm,18.0s	95.55	26	IAMs_20	IAMs_20	19 29 24.5				
T35M	Bob Quinn comp=Z,6µm,18.0s	95.61	23	IAMs_20	IAMs_20	19 28 12.9				
IVI	Ivigtut comp=Z,5µm,19.0s	95.68	343	IAMs_20	IAMs_20	19 27 34.9				
YKA	Yellowknife Ar YKA	95.88	14	*i* P pmax	P pmax	18 39 50.0	-0.6			
	comp=Z,5.0nm,0.8s									
YKA	Yellowknife Ar comp=Z,4.1nm,0.7s,baz=329,slow=4.1,SNR=68	95.88	14	P PP	P PP	18 39 49.8 18 43 42.0	-0.8 +0.1			
YKA	comp=Z,3.3nm,0.8s,baz=335,slow=7.7,SNR=7.8			PKKPbc	PKKPdf	18 56 38.9	-1.8			
YKA	comp=Z,1.9nm,0.9s,baz=142,slow=2.3,SNR=10			PKPPKP	P'P'df	19 04 51.9	-4.4			
	comp=Z,1.4nm,1.1s,baz=144,slow=2.0,SNR=3.7 comp=Z,4.1nm,0.7s									
V35K	Ketchikan comp=Z,6µm,20.0s	96.26	25	IAMs_20	IAMs_20	19 26 46.3				
U35K	Hyder comp=Z,6µm,21.0s	96.47	24	IAMs_20	IAMs_20	19 25 09.7				
KIC	Kosan Boka comp=Z,12nm,0.8s	98.13	279⇑	*e*P	P	18 40 02.1	+0.2			
DBIC	Dimbokro comp=Z,30nm,1.1s,baz=60,slow=4.8,SNR=10	98.14	280	P PP	P PP	18 40 01.8 18 44 01.9	-0.1 +0.7			
DBIC	comp=Z,6.8nm,0.9s,baz=81,slow=9.8,SNR=3.5			S	SKSac	18 50 35.7	-4.5			
	comp=Z,1.0nm,0.4s,baz=38,slow=12,SNR=6.5 comp=Z,30nm,1.1s									
TIC	Toumodi comp=Z,45nm,1.2s	98.30	280⇑	*e*P	Pdif	18 40 04.8	+2.1			
LIC	Lamto comp=Z,8.3nm,0.6s	98.44	279⇑	*e*P	P	18 40 03.5	+0.2			
BBB	Bella Bella comp=Z,6µm,20.0s	99.98	26	IAMs_20	IAMs_20	19 28 18.6				
BBB	Bella Bella comp=Z,5µm,19.4s,baz=326,slow=37	99.98	26	LR	LR	19 28 29.0				
HOLB	Holberg comp=Z,6µm,21.0s	101.11	27	IAMs_20	IAMs_20	19 25 43.7				
FCC	Fort Churchill comp=Z,4µm,20.0s	102.72	5	IAMs_20	IAMs_20	19 33 15.9				
VNDA	Vanda comp=Z,1.9nm,0.9s,baz=305,slow=9.1,SNR=5.3	102.76	168	P PP	Pdif PP	18 40 23.8 18 44 36.0	+2.8 +1.0			
VNDA	comp=Z,1.8nm,0.8s,baz=252,slow=2.8,SNR=3.0									
CLRS	Cowichan Lake comp=Z,5µm,20.0s	104.19	26	IAMs_20	IAMs_20	19 28 46.0				
B04A	Port Angeles comp=Z,6µm,21.0s	105.05	26	IAMs_20	IAMs_20	19 29 22.6				
NLWA	Neilton Lookou comp=Z,5µm,20.0s	105.41	27	IAMs_20	IAMs_20	19 34 04.3				
B06A	Marblemount comp=Z,6µm,21.0s	105.51	25	IAMs_20	IAMs_20	19 29 32.8				
FFC	Flin Flon comp=Z,4µm,19.0s	105.61	11	IAMs_20	IAMs_20	19 34 35.3				
SCHQ	Schefferville comp=Z,6.6nm,0.8s,baz=35,slow=5.3,SNR=3.8	105.65	350	PP PKKPbc	PP PKKPbc	18 44 53.1 18 56 10.3	-2.7 -2.9			
SCHQ	comp=Z,6.8nm,0.8s,baz=207,slow=3.2,SNR=5.6			PKKP	PKKPdf	18 56 25.4	+2.4			
WISH	comp=Z,5.5nm,0.8s,baz=302,slow=7.8,SNR=3.0 Wishkah comp=Z,5µm,19.0s	105.66	27	IAMs_20	IAMs_20	19 34 13.1				
GNW	Green Mountain comp=Z,6µm,21.0s	105.72	26	IAMs_20	IAMs_20	19 30 25.4				
SHEL	Horse Pasture comp=Z,4µm,21.0s	105.75	258	IAMs_20	IAMs_20	19 26 06.2				
RADR	Rader Ridge comp=Z,4µm,21.0s	106.19	27	IAMs_20	IAMs_20	19 32 41.0				
E03A	Lebam comp=Z,5µm,21.0s	106.20	27	IAMs_20	IAMs_20	19 29 32.2				
MBO	M'Bour comp=Z,6µm,21.0s	106.36	292	IAMs_20	IAMs_20	19 32 00.5				
D05A	Enumclaw comp=Z,4µm,20.0s	106.36	26	IAMs_20	IAMs_20	19 32 37.5				
LON	Longmire comp=Z,4µm,22.0s	106.78	26	IAMs_20	IAMs_20	19 28 24.7				
F04D	Rainier, OR comp=Z,5µm,22.0s	106.80	27	IAMs_20	IAMs_20	19 29 27.1				
LTY	Liberty comp=Z,4µm,20.0s	106.85	25	IAMs_20	IAMs_20	19 32 05.4				
HEBO	Mount Hebo comp=Z,4µm,18.0s	107.14	28	IAMs_20	IAMs_20	19 34 02.3				
F04A	Amboy comp=Z,4µm,20.0s	107.17	27	IAMs_20	IAMs_20	19 29 28.0				
G03D	McMinnville, O comp=Z,5µm,20.0s	107.37	28	IAMs_20	IAMs_20	19 33 08.1				
D08A	Wollman Farm, comp=Z,5µm,20.0s	107.70	24	IAMs_20	IAMs_20	19 33 44.9				
E07A	Sunnyside comp=Z,4µm,22.0s	107.74	25	IAMs_20	IAMs_20	19 32 51.9				
COR	Corvallis comp=Z,3µm,19.0s	107.83	28	IAMs_20	IAMs_20	19 33 13.5				
HOOD	Mount Hood Mea comp=Z,4µm,21.0s	107.98	27	IAMs_20	IAMs_20	19 29 43.5				
HAWA	Hanford comp=Z,4µm,21.0s	108.01	25	IAMs_20	IAMs_20	19 29 25.1				
E08A	Dider Farm, El comp=Z,4µm,22.0s	108.11	25	IAMs_20	IAMs_20	19 29 26.8				
H04D	Lebanon comp=Z,4µm,20.0s	108.14	28	IAMs_20	IAMs_20	19 33 32.5				
QSPA	South Pole Qui comp=Z,4µm,20.0s	108.19	180	IAMs_20	IAMs_20	19 25 56.0				
QSPA	South Pole Qui comp=Z,0.4nm,0.3s,baz=4.4,slow=0.6,SNR=1.7	108.19	180	Pdiff	Pdif	18 40 46.2	+0.7			
QSPA	comp=Z,26nm,1.0s,baz=240,slow=1.0,SNR=11			PKiKP	PKiKP	18 44 51.5	-0.3			
QSPA	comp=Z,2.6nm,0.8s,baz=152,slow=1.4,SNR=5.4			PKKPbc	PKKPbc	18 56 03.1	-3.3			
QSPA	comp=Z,5.5nm,0.8s,baz=193,slow=1.5,SNR=4.1			PKKPab	PKKPab	18 56 16.6	+0.8			
F07A	Phinny Hill Vi comp=Z,5µm,20.0s	108.25	26	IAMs_20	IAMs_20	19 31 23.4				
BUCK	Buck Mountain comp=Z,3µm,19.0s	108.28	28	IAMs_20	IAMs_20	19 33 28.3				
TROLL	Troll, Antarti comp=Z,559nm,1.1s	108.38	199	⇓PKiKP	PKiKP	18 44 52.4	+0.2			
E09A	Wood Farm, Sta comp=Z,4µm,19.0s	108.45	24	IAMs_20	IAMs_20	19 34 07.7				
G06A	Carlson Farm, comp=Z,5µm,22.0s	108.49	26	IAMs_20	IAMs_20	19 30 11.7				
I05D	Terrebonne, OR comp=Z,4µm,21.0s	108.90	27	IAMs_20	IAMs_20	19 34 18.7				
DBO	Dodson Butte comp=Z,4µm,21.0s	109.00	29	IAMs_20	IAMs_20	19 34 14.3				
K02D	Willamette Mer comp=Z,4µm,22.0s	109.12	30	IAMs_20	IAMs_20	19 27 18.8				
G08A	Pilot Rock comp=Z,4µm,20.0s	109.14	25	IAMs_20	IAMs_20	19 31 49.9				
F10A	Beach Ranch, E comp=Z,4µm,20.0s	109.26	24	IAMs_20	IAMs_20	19 34 43.8				
PINE	Pine Mountain comp=Z,5µm,21.0s	109.51	27	IAMs_20	IAMs_20	19 34 37.8				
KSXB	Camp Six Broad comp=Z,3µm,19.0s	109.68	31	IAMs_20	IAMs_20	19 34 20.6				
J05D	Fort Rock, OR comp=Z,5µm,21.0s	109.78	28	IAMs_20	IAMs_20	19 33 20.0				
I07A	Izee comp=Z,5µm,21.0s	109.89	26	IAMs_20	IAMs_20	19 31 06.0				
EGMT	Eagleton comp=Z,4µm,19.0s	110.02	18	IAMs_20	IAMs_20	19 34 30.9				
EGMT	Eagleton baz=334	110.02	18	P	PKiKP	18 44 56.0	0.0			
K04D	Chiloquin, OR comp=Z,4µm,20.0s	110.07	29	IAMs_20	IAMs_20	19 34 00.7				
BMO	Blue Mountains comp=Z,4µm,21.0s	110.16	25	IAMs_20	IAMs_20	19 35 11.9				
YBH	Yreka Blue Hor comp=Z,4µm,21.0s	110.32	30	IAMs_20	IAMs_20	19 29 38.4				
K05A	Summer Lake comp=Z,4µm,20.0s	110.38	28	IAMs_20	IAMs_20	19 34 57.8				
ULM	Lac du Bonnet comp=Z,0.9nm,0.4s,baz=259,slow=9.6,SNR=3.0	110.90	8	Pdiff	Pdif	18 40 58.3	+0.4			
ULM	comp=Z,3.4nm,0.7s,baz=16,slow=4.9,SNR=5.0			PKiKP	PKiKP	18 44 55.8	-1.7			
ULM	comp=Z,4.6nm,0.8s,baz=202,slow=3.1,SNR=5.3			PKKPbc	PKKPbc	18 55 54.9	-1.6			
J08A	Circle Bar Ran comp=Z,4µm,21.0s	110.92	26	IAMs_20	IAMs_20	19 31 38.0				
KMRM	Mail Ridge comp=Z,4µm,20.0s	110.99	32	IAMs_20	IAMs_20	19 31 33.7				
KCPM	Cahto Peak comp=Z,3µm,20.0s	111.46	32	IAMs_20	IAMs_20	19 32 41.7				
VNA2	Neumayer--Watz comp=Z,19nm,0.8s,baz=70,slow=2.0	111.58	200	⇑PKiKP	PKiKP	18 44 58.2	+0.2			
BOZ	Bozeman (W) baz=332	111.59	20	P	PKiKP	18 44 59.3	+0.2			
WVOR	Wild Horse Val comp=Z,4µm,21.0s	111.60	27	IAMs_20	IAMs_20	19 32 52.4				
ASCN	Ascension comp=Z,3µm,20.0s	111.73	269	IAMs_20	IAMs_20	19 30 56.4				
VNA1	Neumayer--Stat comp=Z,19nm,0.9s	111.90	200	⇑PKiKP	PKiKP	18 44 55.8	-2.9			
SACV	Santiago Islan comp=Z,3µm,20.0s	111.91	295	IAMs_20	IAMs_20	19 37 14.3				
LAO	LASA Array baz=337	112.23	16	P	PKiKP	18 45 00.9	+0.7			
HOPS	Hopland Field comp=Z,3µm,21.0s	112.24	32	IAMs_20	IAMs_20	19 35 49.4				
HLID	Hailey baz=329	112.37	23	P	PKiKP	18 45 01.1	+0.4			
YHL	Hebgen Lake comp=Z,5µm,18.0s	112.40	21	IAMs_20	IAMs_20	19 39 40.9				
YMR	Madison River comp=Z,4µm,19.0s	112.63	21	IAMs_20	IAMs_20	19 39 48.1				
MDND	Maddock comp=Z,4µm,20.0s	112.64	11	IAMs_20	IAMs_20	19 38 24.0				
YNM	Yellowstone No comp=Z,5µm,20.0s	112.67	20	IAMs_20	IAMs_20	19 31 37.0				
YMP	Mirror Lake Pl comp=Z,5µm,19.0s	112.83	20	IAMs_20	IAMs_20	19 36 59.4				
B35A	Bob, Littlefor comp=Z,3µm,21.0s	113.03	7	IAMs_20	IAMs_20	19 39 18.6				
FLWY	Flagg Ranch comp=Z,5µm,20.0s	113.24	21	IAMs_20	IAMs_20	19 37 20.2				
IMW	Indian Meadow comp=Z,3µm,19.0s	113.32	21	IAMs_20	IAMs_20	19 31 19.4				
VLDQ	Val d'Or comp=Z,4µm,21.0s	113.58	355	IAMs_20	IAMs_20	19 34 50.0				
EYMN	Ely comp=Z,3µm,20.0s	113.67	5	IAMs_20	IAMs_20	19 39 51.4				
TPAW	Teton Pass comp=Z,4µm,20.0s	113.68	21	IAMs_20	IAMs_20	19 37 10.0				
LOHW	Long Hollow comp=Z,4µm,20.0s	113.69	21	IAMs_20	IAMs_20	19 37 33.3				
SNOW	Snow King Moun comp=Z,4µm,20.0s	113.77	21	IAMs_20	IAMs_20	19 40 48.3				
ELK	Elko comp=Z,3µm,21.0s	114.43	26	IAMs_20	IAMs_20	19 35 36.0				
KVN	Kaiserville comp=Z,3µm,21.0s	114.59	29	IAMs_20	IAMs_20	19 34 48.5				
HAL	Halifax comp=Z,4µm,20.0s	114.61	344	IAMs_20	IAMs_20	19 44 29.5				
D41A	Chassel comp=Z,4µm,21.0s	114.77	3	IAMs_20	IAMs_20	19 39 05.5				
BW06	Boulder Array comp=Z,3µm,20.0s	114.79	20	IAMs_20	IAMs_20	19 38 08.3				
BW06	Boulder Array baz=333	114.79	20	P	PKiKP	18 45 05.0	-0.4			
PDAR	Pinedale Array comp=Z,3.8nm,0.7s,baz=59,slow=0.8,SNR=22	114.79	20	PKiKP PP	PKiKP PP	18 45 04.3 18 46 01.5	-1.1 -0.9			
PDAR	comp=Z,2.9nm,0.8s,baz=0.9,slow=2.4,SNR=4.1			PKKPbc	PKKPbc	18 55 43.4	-0.3			
PDAR	comp=Z,1.3nm,0.9s,baz=136,slow=7.4,SNR=5.3			PKKPab	PKKPab	18 55 49.1	-1.8			
NVAR	comp=Z,2.8nm,0.8s,baz=144,slow=5.4,SNR=13 Mina Array Bea comp=Z,4.1nm,0.7s,baz=287,slow=1.4,SNR=17	114.99	29	PKiKP	PKiKP	18 45 05.4	-0.5			
NVAR	comp=Z,2.5nm,0.8s,baz=138,slow=3.8,SNR=5.0			PKKPbc	PKKPbc	18 55 38.5	-4.2			
G65A	Princeton comp=Z,4µm,21.0s	115.01	347	IAMs_20	IAMs_20	19 35 23.8				
SPUT	South Promonto comp=Z,5µm,22.0s	115.05	23	IAMs_20	IAMs_20	19 36 02.2				
HWUT	Hardware Ranch comp=Z,5µm,19.0s	115.11	23	IAMs_20	IAMs_20	19 38 57.9				
BGU	Big Grassy Mou comp=Z,4µm,22.0s	115.16	24	IAMs_20	IAMs_20	19 36 08.2				
TRQ	Mont Tremblant comp=Z,4µm,20.0s	115.17	353	IAMs_20	IAMs_20	19 39 21.8				
RSSD	Black Hills comp=Z,5µm,20.0s	115.19	16	IAMs_20	IAMs_20	19 38 15.6				
RSSD	Black Hills baz=339	115.19	16	P	PKiKP	18 45 05.6	-0.6			
PKME	Peaks-Kenny Pk comp=Z,4µm,22.0s	115.29	349	IAMs_20	IAMs_20	19 35 14.1				
EMMW	East Machias comp=Z,3µm,22.0s	115.45	347	IAMs_20	IAMs_20	19 41 38.6				
F36A	Milaca comp=Z,5µm,20.0s	115.51	7	IAMs_20	IAMs_20	19 40 13.2				
E43A	Lone Tree Farm comp=Z,3µm,20.0s	115.52	2	IAMs_20	IAMs_20	19 39 18.6				
PMPB	Monarch Peak comp=Z,3µm,20.0s	115.53	32	IAMs_20	IAMs_20	19 37 44.5				
G62A	West of Eustis comp=Z,4µm,19.0s	115.56	349	IAMs_20	IAMs_20	19 36 11.2				
E46A	Sault Ste Mari comp=Z,4µm,19.0s	115.59	0	IAMs_20	IAMs_20	19 41 35.4				
TCUT	Toone Canyon comp=Z,4µm,19.0s	115.60	23	IAMs_20	IAMs_20	19 39 13.8				
MNTQ	Montreal, Queb comp=Z,4µm,20.0s	115.76	352	IAMs_20	IAMs_20	19 45 22.3				
CTU	Camp Tracy comp=Z,3µm,21.0s	115.84	23	IAMs_20	IAMs_20	19 41 26.3				
K22A	Casper comp=Z,4µm,18.0s	115.85	18	IAMs_20	IAMs_20	19 40 09.3				
K22A	Casper baz=336	115.85	18	P	PKiKP	18 45 07.1	-0.3			
DUG	Dugway, Tooele comp=Z,4µm,20.0s	115.87	24	IAMs_20	IAMs_20	19 36 21.0				
DUG	Dugway, Tooele baz=329	115.87	24	P	PKiKP	18 45 07.6	+0.1			
BELA	Belgrano 2 comp=Z,3µm,21.0s	115.89	190	IAMs_20	IAMs_20	19 29 29.9				
F42A	Maple Grove Fa comp=Z,4µm,22.0s	116.09	3	IAMs_20	IAMs_20	19 41 48.5				
SPMN	Marine on St. comp=Z,4µm,21.0s	116.23	7	IAMs_20	IAMs_20	19 41 21.1				
R11B	Troy Canyon, C comp=Z,3µm,19.0s	116.28	27	IAMs_20	IAMs_20	19 38 24.2				
R11B	Troy Canyon, C baz=326	116.28	27	P	PKPdf	18 45 09.1	+0.7			
H62A	Milan comp=Z,4µm,18.0s	116.29	350	IAMs_20	IAMs_20	19 45 46.5				
BSUT	Blindstream Ca comp=Z,4µm,20.0s	116.34	23	IAMs_20	IAMs_20	19 42 06.5				
NLU	North Lily Min comp=Z,4µm,22.0s	116.36	24	IAMs_20	IAMs_20	19 36 56.0				
FRNY	Flat Rock comp=Z,3µm,20.0s	116.41	352	IAMs_20	IAMs_20	19 45 51.5				
G40A	Rib Lake comp=Z,5µm,21.0s	116.44	5	IAMs_20	IAMs_20	19 36 01.7				
MPU	Maple Canyon comp=Z,4µm,19.0s	116.47	23	IAMs_20	IAMs_20	19 39 12.0				
RWWY	Rawlins comp=Z,3µm,19.0s	116.52	19	IAMs_20	IAMs_20	19 41 32.9				
GRAC	Grapevine Rang comp=Z,3µm,21.0s	116.59	29	IAMs_20	IAMs_20	19 40 32.4				
I63A	Otisfield comp=Z,4µm,20.0s	116.70	349	IAMs_20	IAMs_20	19 41 41.4				
RDMU	Red Mountain comp=Z,5µm,22.0s	116.74	22	IAMs_20	IAMs_20	19 34 37.9				
LBNH	Lisbon comp=Z,4µm,19.0s	116.74	350	IAMs_20	IAMs_20	19 44 26.4				
LONY	Lake Ozonia comp=Z,3µm,19.0s	116.75	352	IAMs_20	IAMs_20	19 44 43.4				
VT1	Waterbury comp=Z,4µm,21.0s	116.78	351	IAMs_20	IAMs_20	19 39 50.7				
G45A	Suttons Bay comp=Z,4µm,19.0s	116.90	1	IAMs_20	IAMs_20	19 38 42.0				
I62A	Tamworth comp=Z,4µm,21.0s	117.00	350	IAMs_20	IAMs_20	19 37 03.3				
GLMI	Grayling comp=Z,5µm,22.0s	117.13	0	IAMs_20	IAMs_20	19 43 35.1				
TPNV	Topopah Spring baz=325	117.14	29	P	PKPdf	18 45 10.0	0.0			
ECSD	EROS Data Cent	117.15	10	PKPdf	PKPdf	18 45 08.2	-1.5			
ECSD	EROS Data Cent baz=346	117.15	10	P	PKPdf	18 45 09.5	-0.2			
ECSD	EROS Data Cent baz=346	117.15	10	P	PKPdf	18 45 08.6	-1.0			
DELO	Deloro Mine comp=Z,3µm,21.0s	117.17	355	IAMs_20	IAMs_20	19 37 01.4				
MPMC	Manual Prospec baz=324	117.29	30	P	PKiKP	18 45 11.1	+0.7			
PRN	Pahroc Range comp=Z,3µm,20.0s	117.30	28	IAMs_20	IAMs_20	19 38 56.1				
HNH	Hanover comp=Z,3µm,19.0s	117.32	350	IAMs_20	IAMs_20	19 44 50.7				
P18A	Preston Nutter comp=Z,4µm,21.0s	117.33	23	IAMs_20	IAMs_20	19 38 41.6				
NCB	Newcomb comp=Z,3µm,20.0s	117.34	352	IAMs_20	IAMs_20	19 40 11.1				
I37A	Lemond, Waseca comp=Z,4µm,20.0s	117.35	8	IAMs_20	IAMs_20	19 41 11.7				
TCRU	Three Creeks R comp=Z,3µm,20.0s	117.38	25	IAMs_20	IAMs_20	19 35 40.9				
H43A	Windswept, Lux comp=Z,3µm,19.0s	117.39	3	IAMs_20	IAMs_20	19 44 21.0				
PHWY	Pilot Hill comp=Z,4µm,21.0s	117.40	18	IAMs_20	IAMs_20	19 38 04.4				
O20A	White River Ci comp=Z,3µm,20.0s	117.58	21	IAMs_20	IAMs_20	19 43 11.2				
O20A	White River Ci baz=334	117.58	21	P	PKPdf	18 45 10.7	-0.2			
Q16A	Castle Valley comp=Z,3µm,20.0s	117.61	24	IAMs_20	IAMs_20	19 39 59.8				
N23A	Red Feather La comp=Z,3µm,19.0s	117.63	19	IAMs_20	IAMs_20	19 41 16.4				
SRU	San Rafael Swe comp=Z,3µm,22.0s	117.68	23	IAMs_20	IAMs_20	19 34 23.9				
J61A	Chester comp=Z,4µm,19.0s	117.71	351	IAMs_20	IAMs_20	19 46 41.1				
CCAC	Calif City Air comp=Z,4µm,22.0s	117.76	31	IAMs_20	IAMs_20	19 35 27.5				
I40A	Norwalk comp=Z,5µm,22.0s	117.77	5	IAMs_20	IAMs_20	19 44 54.9				
J59A	Piesco comp=Z,3µm,19.0s	117.87	352	IAMs_20	IAMs_20	19 45 09.3				
I42A	Draeger Farm, comp=Z,4µm,20.0s	117.90	4	IAMs_20	IAMs_20	19 40 53.5				
PPT2	Papeete2 comp=Z,331nm,24.2s	117.94	101	*e*PKIKP	PKiKP	18 45 20.1	+8.2			
PPT2	Papeete2 comp=Z,1µm,26.5s	117.94	101	*e*SS	SS	19 02 34.4	-6.4			
PPT2	Papeete2 comp=Z,3µm,36.0s	117.94	101	*e*LR	LR	19 20 52.5				
PPT2	comp=Z,3µm,24.8s			*e*LR	LR	19 21 06.7				
MTPU	Mount Pierson comp=Z,3µm,21.0s	117.97	25	IAMs_20	IAMs_20	19 38 24.6				
I49A	Point Hope comp=Z,4µm,18.0s	118.01	359	IAMs_20	IAMs_20	19 44 11.4				
J58A	Remsen comp=Z,3µm,20.0s	118.07	353	IAMs_20	IAMs_20	19 45 30.5				
J57A	Williamstown comp=Z,4µm,20.0s	118.11	353	IAMs_20	IAMs_20	19 47 03.3				
GSC	Goldstone, Bar baz=324	118.23	30	P	PKiKP

	comp=Z,4µm,20.0s									
GMRC	Granite Mounta	119.19	30	P		PKiKP		18 45 15.5	+1.4	
	baz=325									
L59A	Walton	119.20	352	IAMs_20	IAMs_20		19 41 14.3			
	comp=Z,3µm,20.0s									
U15A	North Rim	119.31	26	IAMs_20	IAMs_20		19 45 54.9			
	comp=Z,3µm,19.0s									
WVNY	West Valley, N	119.34	355	IAMs_20	IAMs_20		19 42 55.0			
	comp=Z,3µm,20.0s									
KSCT	Kent School, K	119.44	351	IAMs_20	IAMs_20		19 47 17.8			
	comp=Z,3µm,19.0s									
L40A	Anamosa	119.52	6	IAMs_20	IAMs_20		19 42 49.3			
	comp=Z,5µm,21.0s									
L40A	Anamosa	119.52	6	P		PKPdf		18 45 13.3	-1.0	
	baz=352									
L56A	Greenwood	119.52	354	IAMs_20	IAMs_20		19 42 00.8			
	comp=Z,3µm,20.0s									
M63A	Gales Ferry	119.52	350	IAMs_20	IAMs_20		19 42 13.1			
	comp=Z,3µm,18.0s									
Q24A	Divide	119.64	19	IAMs_20	IAMs_20		19 42 31.7			
	comp=Z,4µm,19.0s									
AAM	Ann Arbor	119.65	360	IAMs_20	IAMs_20		19 42 59.0			
	comp=Z,3µm,21.0s									
L44A	Lake County Fo	119.67	3	IAMs_20	IAMs_20		19 42 17.3			
	comp=Z,3µm,22.0s									
BELC	Belle Mtn. Jos	119.67	30	P		PKiKP		18 45 16.3	+1.3	
	baz=325									
L42A	Oliver, Polo	119.72	5	IAMs_20	IAMs_20		19 44 59.7			
	comp=Z,4µm,20.0s									
L42A	Oliver, Polo	119.72	5	P		PKPdf		18 45 13.6	-1.0	
	baz=354									
W13A	Hualapai Mount	119.74	28	IAMs_20	IAMs_20		19 40 55.8			
	comp=Z,3µm,19.0s									
PFO	Pinyon Flats O	119.76	31	IAMs_20	IAMs_20		19 33 33.5			
	comp=Z,4µm,22.0s									
L46A	Eue Claire	119.91	2	IAMs_20	IAMs_20		19 47 33.5			
	comp=Z,4µm,19.0s									
KSPA	Keystone Colle	119.91	353	IAMs_20	IAMs_20		19 47 57.1			
	comp=Z,3µm,19.0s									
IRM	Iron Mountain	119.95	30	P		PKiKP		18 45 17.0	+1.5	
	baz=326									
WSPT	Westport, CT	119.96	351	PKPdf		PKPdf		18 45 14.3	-0.8	
WSPT				IAMs_20	IAMs_20		19 46 35.5			
	comp=Z,4µm,18.0s									
L48A	N Adams	120.01	0	IAMs_20	IAMs_20		19 38 35.4			
	comp=Z,5µm,21.0s									
L48A	N Adams	120.01	0	P		PKPdf		18 45 14.3	-0.9	
	baz=359									
L48A				P		PKPdf		18 45 14.3	-0.9	
	baz=359									
HQIL	Hanson Quary C	120.05	3	IAMs_20	IAMs_20		19 42 28.3			
	comp=Z,4µm,19.0s									
MVCO	Mesa Verde	120.11	22	IAMs_20	IAMs_20		19 42 09.4			
	comp=Z,4µm,20.0s									
PAL	Palisades	120.21	351	IAMs_20	IAMs_20		19 42 13.1			
	comp=Z,3µm,19.0s									
S22A	4UR Ranch, Cre	120.21	21	IAMs_20	IAMs_20		19 37 03.8			
	comp=Z,4µm,20.0s									
S22A	4UR Ranch, Cre	120.21	21	P		PKiKP		18 45 16.8	+0.6	
	baz=335									
BC3	Big Chuckawall	120.21	30	P		PKiKP		18 45 17.4	+1.3	
	baz=325									
N62A	Caumsett State	120.22	351	IAMs_20	IAMs_20		19 46 49.3			
	comp=Z,4µm,18.0s									
ODNJ	Ogdensburg	120.23	352	IAMs_20	IAMs_20		19 45 42.6			
	comp=Z,4µm,21.0s									
M57A	Sunshine Farm,	120.28	354	IAMs_20	IAMs_20		19 45 36.7			
	comp=Z,4µm,20.0s									
M55A	Ridgway	120.29	355	IAMs_20	IAMs_20		19 43 04.9			
	comp=Z,4µm,20.0s									
PDMCI	Parker Dam,Lak	120.29	29	P		PKiKP		18 45 16.8	+0.8	
	baz=326									
PAOC	Oil Creek Stat	120.30	356	P		PKPdf		18 45 14.8	-1.0	
	baz=4.7									
KSCO	Kaye Shedlock'	120.33	17	IAMs_20	IAMs_20		19 42 19.9			
	comp=Z,4µm,20.0s									
MONP2	Monument Peak	120.36	32	P		PKiKP		18 45 17.9	+1.4	
	baz=324									
M52A	Chesterland	120.36	358	IAMs_20	IAMs_20		19 46 07.8			
	comp=Z,3µm,19.0s									
M53A	Wi Miller and	120.44	357	IAMs_20	IAMs_20		19 46 50.8			
	comp=Z,4µm,18.0s									
M44A	Midewin, Midew	120.45	4	IAMs_20	IAMs_20		19 46 07.6			
	comp=Z,3µm,20.0s									
M50A	Fremont	120.54	359	IAMs_20	IAMs_20		19 43 46.6			
	comp=Z,3µm,21.0s									
SWSC	Sam W. Stewart	120.62	31	P		PKiKP		18 45 18.1	+1.3	
	baz=324									
SDCO	Great Sand Dun	120.65	20	IAMs_20	IAMs_20		19 37 08.3			
	comp=Z,5µm,22.0s									
SDCO	Great Sand Dun	120.65	20	P		PKPdf		18 45 17.2	+0.2	
	baz=336									
SDCO	Great Sand Dun	120.65	20	P		PKPdf		18 45 15.4	-1.5	
	baz=336									
CBX	Cerro Bola	120.70	32	IAMs_20	IAMs_20		19 39 55.5			
	comp=Z,3µm,21.0s									
N58A	Sunbury	120.72	354	IAMs_20	IAMs_20		19 38 56.6			
	comp=Z,4µm,21.0s									
RMX	La Rumorosa	120.76	31	IAMs_20	IAMs_20		19 40 18.7			
	comp=Z,3µm,21.0s									
YUH	Yuha Desert	120.80	31	IAMs_20	IAMs_20		19 40 51.1			
	comp=Z,3µm,22.0s									
LUPA	Lehigh Univers	120.81	352	IAMs_20	IAMs_20		19 48 28.9			
	comp=Z,4µm,20.0s									
N51A	Ashland	121.02	359	IAMs_20	IAMs_20		19 42 52.1			
	comp=Z,5µm,21.0s									
SSPA	Standing Stone	121.04	355			PKPdf		18 45 15.9	-1.4	
SSPA	Standing Stone	121.04	355	IAMs_20	IAMs_20		19 41 33.0			
	comp=Z,4µm,21.0s									
SSPA	Standing Stone	121.04	355	P		PKPdf		18 45 17.0	-0.2	
	baz=6.7									
N47A	Urbana	121.05	1	IAMs_20	IAMs_20		19 43 20.9			
	comp=Z,4µm,21.0s									
N53A	Lisbon	121.07	357	IAMs_20	IAMs_20		19 45 13.7			
	comp=Z,4µm,20.0s									
N53A	Lisbon	121.07	357	P		PKPdf		18 45 16.5	-0.8	
	baz=3.4									
N53A				P		PKPdf		18 45 16.5	-0.8	
	baz=3.4									
X16A	Lo Mia Camp, P	121.39	27	IAMs_20	IAMs_20		19 40 03.2			
	comp=Z,3µm,22.0s									
PSUB	Penn St. - Bra	121.48	352	P		PKPdf		18 45 17.4	-0.7	
	baz=9.4									
W18A	Petrified Fore	121.48	25	IAMs_20	IAMs_20		19 40 44.5			
	comp=Z,3µm,20.0s									
SFIN	Lafayette	121.50	3	P		PKPdf		18 45 18.1	0.0	
	baz=356									
SFIN	Lafayette	121.50	3	P		PKPdf		18 45 16.9	-1.2	
	baz=356									
MVL	Millersville	121.52	353	PKPdf		PKPdf		18 45 15.9	-2.2	
MVL				IAMs_20	IAMs_20		19 38 38.6			
	comp=Z,4µm,20.0s									
T25A	Trinidad	121.55	19	IAMs_20	IAMs_20		19 44 29.1			
	comp=Z,3µm,20.0s									
T25A	Trinidad	121.55	19	P		PKPdf		18 45 18.7	+0.1	
	baz=337									
P61A	Hammonton	121.64	352	IAMs_20	IAMs_20		19 45 50.0			
	comp=Z,3µm,20.0s									
KSU1	Kansas State U	121.64	12	P		PKPdf		18 45 18.1	-0.4	
	baz=346									
P38A	Dawn	121.64	9	P		PKPdf		18 45 17.2	-1.2	
	baz=349									
O53A	New Philadelph	121.65	357	IAMs_20	IAMs_20		19 46 46.8			
	comp=Z,3µm,18.0s									
O44A	Mansfield	121.65	4	IAMs_20	IAMs_20		19 42 46.7			
	comp=Z,4µm,21.0s									
O54A	Avella	121.67	357	IAMs_20	IAMs_20		19 41 55.5			
	comp=Z,5µm,20.0s									
O48B	Farmland	121.69	1	IAMs_20	IAMs_20		19 44 01.7			
	comp=Z,4µm,21.0s									
O48B	Farmland	121.69	1	P		PKPdf		18 45 17.9	-0.6	
	baz=359									
ACSO	Alum Creek Sta	121.71	359	IAMs_20	IAMs_20		19 49 29.5			
	comp=Z,3µm,19.0s									
ACSO	Alum Creek Sta	121.71	359	P		PKPdf		18 45 17.9	-0.7	
	baz=1.1									
ACSO	Alum Creek Sta	121.71	359	P		PKPdf		18 45 17.6	-1.0	
	baz=1.1									
O52A	Adamsville	121.80	358	IAMs_20	IAMs_20		19 46 11.9			
	comp=Z,3µm,19.0s									
R32A	Long Quarter,	121.86	14	P		PKPdf		18 45 17.9	-1.0	
	baz=344,SNR=7.5									
X18A	Snowflake	121.91	25	IAMs_20	IAMs_20		19 39 31.9			
	comp=Z,4µm,22.0s									
P40A	Paris	121.93	7	P		PKPdf		18 45 18.2	-0.7	
	baz=351									
P43A	Skaggs, Pawnee	122.08	5	IAMs_20	IAMs_20		19 46 40.1			
	comp=Z,4µm,18.0s									
P57A	Homestead Farm	122.20	355	IAMs_20	IAMs_20		19 47 34.5			
	comp=Z,4µm,21.0s									
P46A	Rosedale	122.26	3	P		PKPdf		18 45 18.6	-1.0	
	baz=356									
P52A	Corning	122.29	358	IAMs_20	IAMs_20		19 43 51.9			
	comp=Z,4µm,22.0s									
P52A	Corning	122.29	358	P		PKPdf		18 45 18.7	-1.0	
	baz=2.0									
P53A	Whipple	122.41	358	IAMs_20	IAMs_20		19 48 04.1			
	comp=Z,3µm,20.0s									
P49A	Miami Univ. Ec	122.41	1	IAMs_20	IAMs_20		19 40 15.0			
	comp=Z,3µm,20.0s									
P49A	Miami Univ. Ec	122.41	1	P		PKPdf		18 45 19.2	-0.7	
	baz=359									
P51A	Williamsport	122.46	359	IAMs_20	IAMs_20		19 43 26.4			
	comp=Z,3µm,22.0s									
P48A	Milroy	122.48	1	IAMs_20	IAMs_20		19 45 11.6			
	comp=Z,4µm,19.0s									
P48A	Milroy	122.48	1	P		PKPdf		18 45 18.7	-1.3	
	baz=358									
P48A				P		PKPdf		18 45 18.7	-1.3	
	baz=358									
Q56A	Snyder Ridge,	122.73	356			PKPdf		18 45 20.0	-0.5	
Q56A				IAMs_20	IAMs_20		19 44 56.6			
	comp=Z,4µm,18.0s									
Q56A	Snyder Ridge,	122.73	356	P		PKPdf		18 45 20.2	-0.3	
	baz=5.3,SNR=7.5									
Q56A				P		PKPdf		18 45 20.2	-0.3	
	baz=5.3,SNR=7.5									
Q44A	Meyer Farm, Va	122.86	5	IAMs_20	IAMs_20		19 47 22.6			
	comp=Z,4µm,19.0s									
214A	Organ Pipe Nat	122.86	29	IAMs_20	IAMs_20		19 35 30.4			
	comp=Z,4µm,22.0s									
ANMO	Albuquerque	122.86	22	PKPdf		PKPdf		18 45 20.6	-0.6	
ANMO	Albuquerque	122.86	22	IAMs_20	IAMs_20		19 44 11.1			
	comp=Z,3µm,20.0s									
ANMO	Albuquerque	122.86	22	PKiKP		PKPdf		18 45 20.6	-0.6	
ANMO	Albuquerque	122.86	22	P		PKiKP		18 45 21.9	+0.5	
	baz=334									
ANMO	Albuquerque	122.86	22	P		PKPdf		18 45 21.3	+0.2	
	baz=334									
Q54A	Coxs Mills	122.89	357	IAMs_20	IAMs_20		19 47 52.8			
	comp=Z,4µm,20.0s									
Q51A	Peebles	122.92	359	IAMs_20	IAMs_20		19 40 15.5			
	comp=Z,4µm,21.0s									
Q51A	Peebles	122.92	359	P		PKPdf		18 45 19.8	-1.1	
	baz=0.7									
Q51A				P		PKPdf		18 45 19.8	-1.1	
	baz=0.7									
Q52A	Bidwell	122.97	358	IAMs_20	IAMs_20		19 44 21.7			
	comp=Z,3µm,21.0s									
R61A	Willards	123.04	352	IAMs_20	IAMs_20		19 45 39.9			
	comp=Z,3µm,18.0s									
OLIL	Olney	123.09	4	IAMs_20	IAMs_20		19 46 59.7			
	comp=Z,4µm,22.0s									
OLIL	Olney	123.09	4	P		PKPdf		18 45 20.9	-0.3	
	baz=355									
R40A	Maddies Statio	123.13	8	IAMs_20	IAMs_20		19 41 29.7			
	comp=Z,5µm,22.0s									
R40A	Maddies Statio	123.13	8	P		PKPdf		18 45 20.0	-1.3	
	baz=351									
CBN	Corbin Frederi	123.40	354	IAMs_20	IAMs_20		19 40 06.5			
	comp=Z,3µm,22.0s									
TUC	Tucson	123.47	27	IAMs_20	IAMs_20		19 44 43.5			
	comp=Z,3µm,20.0s									
TUC	Tucson	123.47	27	P		PKiKP		18 45 23.3	+0.9	
	baz=329									
Y22D	IRIS PASSCAL I	123.48	23	IAMs_20	IAMs_20		19 46 37.4			
	comp=Z,4µm,20.0s									
CCM	Cathedral Cave	123.48	7	PKPdf		PKPdf		18 45 20.4	-1.6	
CCM	Cathedral Cave	123.48	7	PKiKP		PKPdf		18 45 20.4	-1.6	
CCM	Cathedral Cave	123.48	7	P		PKPdf		18 45 21.7	-0.3	
	baz=352									
CCM	Cathedral Cave	123.48	7	P		PKPdf		18 45 20.1	-1.9	
	baz=352									
R55A	Marlinton	123.55	356	IAMs_20	IAMs_20		19 41 12.2			
	comp=Z,5µm,22.0s									
S39A	Bolivar	123.57	9	P		PKPdf		18 45 20.8	-1.4	
	baz=349,SNR=26									
R53A	Hurricane	123.59	358	IAMs_20	IAMs_20		19 41 01.1			
	comp=Z,3µm,19.0s									
FVM	French Village	123.64	6	IAMs_20	IAMs_20		19 44 13.4			
	comp=Z,5µm,22.0s									
R49A	Shelbyville	123.65	1	IAMs_20	IAMs_20		19 45 55.6			
	comp=Z,4µm,20.0s									
R49A	Shelbyville	123.65	1	P		PKPdf		18 45 21.1	-1.2	
	baz=359									
R49A				P		PKPdf		18 45 21.1	-1.2	
	baz=359									
R50A	Paris	123.67	0	IAMs_20	IAMs_20		19 44 56.2			
	comp=Z,3µm,19.0s									
WCI	Wyandotte Cave	123.68	2	PKPdf		PKPdf		18 45 21.5	-0.9	
WCI	Wyandotte Cave	123.68	2	IAMs_20	IAMs_20		19 48 10.5			
	comp=Z,4µm,20.0s									
WCI	Wyandotte Cave	123.68	2	PKiKP		PKPdf		18 45 21.5	-0.9	
WCI	Wyandotte Cave	123.68	2	P		PKPdf		18 45 21.8	-0.5	
	baz=357									
R58B	Mineral	123.69	354	IAMs_20	IAMs_20		19 43 09.1			
	comp=Z,3µm,19.0s									
OK038	West end E0370	123.72	14			PKPdf		18 45 22.3	-0.3	
S61A	Accomac	123.72	352	IAMs_20	IAMs_20		19 50 17.0			
	comp=Z,3µm,21.0s									
U32A	Winter Ranch,	123.75	15			PKPdf		18 45 22.1	-0.6	
U32A				IAMs_20	IAMs_20		19 42 46.3			
	comp=Z,3µm,20.0s									
T35B	Sooner Cattle	123.78	12	P		PKPdf		18 45 21.9	-0.7	
	baz=346,SNR=6.2									
BLOK	Blackwell	123.78	13	IAMs_20	IAMs_20		19 50 02.1			
	comp=Z,4µm,20.0s									
CROK	Carrier	123.86	14	IAMs_20	IAMs_20		19 45 18.3			
	comp=Z,4µm,19.0s									
USIN	University of	123.88	3	IAMs_20	IAMs_20		19 48 59.7			
	comp=Z,4µm,19.0s									
ELIS	Ellis County	123.95	15	IAMs_20	IAMs_20		19 50 59.5			
	comp=Z,3µm,18.0s									
S57A	Dark Hollow, R	123.99	355	P		PKPdf		18 45 22.5	-0.5	
	baz=5.7,SNR=9.1									
S57A				P		PKPdf		18 45 22.5	-0.5	
	baz=5.7,SNR=9.1									
S54A	Dingess, Beckl	124.09	357	IAMs_20	IAMs_20		19 44 16.6			
	comp=Z,3µm,21.0s									
S51A	Beattyville	124.31	360	IAMs_20	IAMs_20		19 40 58.2			
	comp=Z,4µm,20.0s									
S51A	Beattyville	124.31	360	P		PKPdf		18 45 22.4	-1.2	
	baz=0.4,SNR=10									
S51A				P		PKPdf		18 45 22.4	-1.2	
	baz=0.4,SNR=10									
T60A	Surry	124.38	353	IAMs_20	IAMs_20		19 49 06.5			
	comp=Z,3µm,20.0s									
AMTX	Amarillo	124.46	18	IAMs_20	IAMs_20		19 41 15.1			
	comp=Z,3µm,20.0s									
121A	Cookes Peak, D	124.52	24	IAMs_20	IAMs_20		19 41 14.0			
	comp=Z,3µm,22.0s									
121A	Cookes Peak, D	124.52	24	P		PKPdf		18 45 24.8	+0.4	
	baz=332									
OK033	Mehan	124.53	13			PKPdf		18 45 23.2	-0.8	
U38A	Gravette	124.63	10	P		PKPdf		18 45 23.0	-1.3	
	baz=348,SNR=8.4									
BLA	Blacksburg	124.63	357	IAMs_20	IAMs_20		19 44 45.9			
	comp=Z,3µm,22.0s									
BLA	Blacksburg	124.63	357	P		PKPdf		18 45 24.3	0.0	
	baz=4.0									
T59A	Double "B" Far	124.64	354	IAMs_20	IAMs_20		19 48 03.3			
	comp=Z,3µm,18.0s									
OK029	Liberty Lake	124.66	13			PKPdf		18 45 23.5	-0.8	
OK029				IAMs_20	IAMs_20		19 39 28.4			
	comp=Z,4µm,22.0s									
T57A	Hurt	124.77	355	IAMs_20	IAMs_20		19 48 09.5			
	comp=Z,4µm,19.0s									
PBMO	Poplar Bluff	124.83	6	IAMs_20	IAMs_20		19 47 41.9			
	comp=Z,4µm,20.0s									
PBMO	Poplar Bluff	124.83	6	P		PKPdf		18 45 23.6	-1.1	
	baz=352,SNR=9.8									
T47A	Sharon Grove	124.88	3	IAMs_20	IAMs_20		19 50 08.3			
	comp=Z,4µm,19.0s									
T47A	Sharon Grove	124.88	3	P		PKPdf		18 45 24.1	-0.6	
	baz=356,SNR=14									
TUL3	Leonard	124.89	12	P		PKPdf		18 45 24.2	-0.6	
	baz=346									
TUL3	Leonard	124.89	12	P		PKPdf		18 45 24.1	-0.6	
	baz=346									
319A	Douglas	124.92	26	IAMs_20	IAMs_20		19 44 00.8			
	comp=Z,3µm,20.0s									
T50A	Nancy	124.92	1	P		PKPdf		18 45 23.9	-0.9	
	baz=359									
T50A				P		PKPdf		18 45 23.9	-0.9	
	baz=359									
U40A	Yellville	124.95	9	P		PKPdf		18 45 23.8	-1.1	
	baz=350,SNR=23									
U40A				P		PKPdf		18 45 23.8	-1.1	
	baz=350,SNR=23									
MSTX	Muleshoe	124.98	19	IAMs_20	IAMs_20		19 43 24.0			
	comp=Z,4µm,22.0s									
MSTX	Muleshoe	124.98	19	P		PKPdf		18 45 24.7	-0.5	
	baz=338									
MSTX	Muleshoe	124.98	19	P		PKPdf		18 45 25.5	+0.4	
	baz=338									
FNO	Franklin	125.19	13	IAMs_20	IAMs_20		19 41 33.4			
	comp=Z,4µm,22.0s									
U59A	Littleton	125.28	354	IAMs_20	IAMs_20		19 47 48.1			
	comp=Z,3µm,21.0s									
WMOK	Wichita Mounta	125.37	15	IAMs_20	IAMs_20		19 46 08.1			
	comp=Z,4µm,20.0s									
U54A	Nelsons Funny	125.39	358	IAMs_20	IAMs_20		19 45 04.8			
	comp=Z,4µm,22.0s									
TZTN	Tazewell	125.40	360	IAMs_20	IAMs_20		19 46 16.1			
	comp=Z,4µm,21.0s									
TZTN	Tazewell	125.40	360	P		PKPdf		18 45 25.3	-0.5	
	baz=0.4									
TZTN	Tazewell	125.40	360	P		PKPdf		18 45 25.0	-0.8	
	baz=0.4									
U49A	Red Boiling Sp	125.41	2	IAMs_20	IAMs_20		19 47 02.2			
	comp=Z,4µm,20.0s									
U49A	Red Boiling Sp	125.41	2	P		PKPdf		18 45 24.7	-1.1	
	baz=358,SNR=11									
LCAR	Lake Charles	125.45	7	P		PKPdf		18 45 24.7	-1.1	
	baz=352,SNR=20									
U56A	King	125.49	356	IAMs_20	IAMs_20		19 40 55.7			
	comp=Z,4µm,22.0s									
EPT	El Paso	125.69	24	IAMs_20	IAMs_20		19 48 56.7			
	comp=Z,2µm,20.0s									
V61A	Roper	125.70	353	IAMs_20	IAMs_20		19 42 29.3			
	comp=Z,3µm,19.0s									
WVT	Waverly	125.70	4			PKPdf		18 45 24.9	-1.4	
WVT	Waverly	125.70	4	PKiKP		PKPdf		18 45 24.9	-1.4	
WVT	Waverly	125.70	4	P		PKPdf		18 45 25.7	-0.5	
	baz=355									
WVT	Waverly	125.70	4	P		PKPdf		18 45 25.1	-1.2	
	baz=355,SNR=18									
V58A	Windy Hill, Pi	125.95	355	IAMs_20	IAMs_20		19 44 44.9			
	comp=Z,4µm,20.0s									
V55A	Taylorsville	126.03	357	IAMs_20	IAMs_20		19 44 38.8			
	comp=Z,4µm,21.0s									
V52A	Sevierville	126.10	360	P		PKPdf		18 45 26.7	-0.4	
	baz=0.4									
V51A	Loudon	126.14	0	IAMs_20	IAMs_20		19 47 25.7			
	comp=Z,4µm,20.0s									
MNTX	Cornudas Mount	126.17	23	IAMs_20	IAMs_20		19 43 25.6			
	comp=Z,4µm,20.0s									
MNTX	Cornudas Mount	126.17	23	P		PKPdf		18 45 27.5	+0.1	
	baz=335									
MNTX	Cornudas Mount	126.17	23	P		PKPdf		18 45 26.7	-0.6	
	baz=335									
V53A	Saluda	126.26	359	P		PKPdf		18 45 26.9	-0.6	
	baz=1.3,SNR=14									
V53A				P		PKPdf		18 45 26.9	-0.6	
	baz=1.3,SNR=14									
TKL	Tuckaleechee C	126.29	360	P		PKPdf		18 45 26.9	-0.5	
	baz=0.2									
CNNC	Cliffs of the	126.39	354	IAMs_20	IAMs_20		19 51 07.6			
	comp=Z,4µm,19.0s									
W59A	Clinton	126.52	354	IAMs_20	IAMs_20		19 41 32.9			
	comp=Z,3µm,22.0s									
W57A	Gilead	126.66	356	IAMs_20	IAMs_20		19 47 05.5			
	comp=Z,3µm,20.0s									
W50A	Signal Mountai	126.73	1	IAMs_20	IAMs_20		19 50 09.2			
	comp=Z,4µm,20.0s									
W50A	Signal Mountai	126.73	1	P		PKPdf		18 45 28.3	-0.1	
	baz=358									
KMSC	Kings Mountain	126.74	357	IAMs_20	IAMs_20		19 47 39.7			
	comp=Z,4µm,20.0s									
KMSC	Kings Mountain	126.74	357	P		PKPdf		18 45 27.9	-0.4	
	baz=3.0									
KMSC	Kings Mountain	126.74	357	P		PKPdf		18 45 27.9	-0.4	
	baz=3.0									
W52A	Murphy	126.85	360	IAMs_20	IAMs_20		19 44 24.5			
	comp=Z,5µm,22.0s									
CASEE	Lake Jocassee	126.94	359	P		PKPdf		18 45 28.8	0

	comp=Z,3µm,22.0s						
UNM	Universidad Na	139.70	22	IAMs_20	IAMs_20	19 53 52.8	
	comp=Z,2µm,21.0s						
SDDR	Presa de Saban	140.85	341	IAMs_20	IAMs_20	20 01 39.5	
	comp=Z,3µm,20.0s						
SDDR	Presa de Saban	140.85	341	*e*P	PKPdf	18 45 50.6	-4.6
GTBY	Guantanamo Bay	140.97	347	IAMs_20	IAMs_20	20 00 32.0	
	comp=Z,2µm,20.0s						
GTBY	Guantanamo Bay	140.97	347	*e*P	PKPdf	18 45 47.7	-7.6
TEIG	Tepich	141.43	6	IAMs_20	IAMs_20	20 00 39.3	
	comp=Z,2µm,20.0s						
TEIG	Tepich	141.43	6	*e*P	PKPdf	18 45 47.6	-8.6
TLIG	Tlapa	141.54	23	IAMs_20	IAMs_20	19 58 46.7	
	comp=Z,3µm,19.0s						
MTDJ	Mount Denham	143.10	350	IAMs_20	IAMs_20	20 00 03.1	
	comp=Z,3µm,21.0s						
MTDJ	Mount Denham	143.10	350	*e*P	PKPab	18 45 51.1	-3.5
PETF	Flores	144.48	10		PKPab	18 45 58.5	-1.3
CCIG	Comitan	144.66	14	IAMs_20	IAMs_20	20 00 21.0	
	comp=Z,3µm,22.0s						
BDFB	Brasilia	145.51	269	PKPbc	PKPdf	18 46 03.7	+0.2
	comp=Z,296nm,1.1s,baz=96,slow=4.3,SNR=62						
HATO	Hato, Curacao	146.22	333	IAMs_20	IAMs_20	19 52 57.8	
	comp=Z,2µm,21.0s						
TGUH	Tegucigalpa,Un	147.64	6	IAMs_20	IAMs_20	19 58 28.6	
	comp=Z,2µm,21.0s						
TGUH	Tegucigalpa,Un	147.64	6	*e*P	PKPdf	18 46 04.1	-3.0
SNET	Serv Nac Est T	147.75	10	IAMs_20	IAMs_20	20 00 27.7	
	comp=Z,2µm,22.0s						
URIC	Uribia, Colomb	147.87	337	*e*P	PKPdf	18 46 03.3	-4.1
PRVC	Isla de Provid	148.37	355	*e*P	PKPdf	18 46 06.8	-1.4
GO08	Villa O'Higgin	148.55	195	PKPdf	PKPdf	18 46 07.6	+0.1
BAUV	El Baul	148.63	329	PKPdf	PKPdf	18 46 07.0	-1.7
CRJC	Cerrejon, Guaj	148.82	339	*e*P	PKPdf	18 46 05.8	-3.3
CRIN	San Cristobal	149.00	6	*e*P	PKPdf	18 45 58.6	-11
BOAV	Boa Vista	149.02	309	*e*P	PKPdf	18 46 08.7	-0.6
SMRC	Santa Marta, M	149.12	341	*e*P	PKPdf	18 46 10.0	+0.6
CNGN	Cerro Negro	149.23	5	*e*P	PKPdf	18 46 09.2	-0.4
ITAB	Concordia	149.38	247	PKPdf	PKPdf	18 46 09.2	-0.3
ACON	Acoyapa	149.85	2	*e*P	PKPdf	18 46 08.1	-2.6
SDV	Santo Domingo	149.89	333	PKPdf	PKPdf	18 46 08.2	-2.8
SDV				IAMs_20	IAMs_20	20 04 11.0	
	comp=Z,2µm,22.0s						
SDV	Santo Domingo	149.89	333	*e*P	PKPdf	18 46 08.1	-2.8
LL6C	La Loma 6 Bece	150.15	338	*e*P	PKPdf	18 46 08.7	-2.4
LL5C	La Loma 5 El P	150.29	339	*e*P	PKPdf	18 46 08.2	-3.1
ARGC	Ariguani, Magd	150.36	340	*e*P	PKPdf	18 46 13.3	+1.9
SJCC	San Jacinto, C	150.61	342	*e*P	PKPdf	18 46 09.3	-2.6
ARE1	Arenal 1	151.36	1	IAMs_20	IAMs_20	20 04 17.5	
	comp=Z,2µm,22.0s						
ORTG	Ortega, Santa	151.43	3	IAMs_20	IAMs_20	20 03 45.3	
	comp=Z,3µm,20.0s						
JTS	Las Juntas de	151.53	2	IAMs_20	IAMs_20	20 03 49.8	
	comp=Z,2µm,19.0s						
OCAC	Ocana	151.55	337	*e*P	PKPdf	18 46 11.6	-1.9
LCBC	Los crdobas,	151.93	344	*e*P	PKPdf	18 46 16.2	+2.4
RIMA	Rio Macho	152.06	360	IAMs_20	IAMs_20	19 57 45.0	
	comp=Z,2µm,22.0s						
LCR2	La Lucha 2	152.09	0	IAMs_20	IAMs_20	20 05 41.7	
	comp=Z,2µm,21.0s						
PAMC	Pamplona, Colo	152.14	335	*e*P	PKPdf	18 46 13.0	-1.8
AY01	Puyuhuapi	152.32	198	IAMs_20	IAMs_20	19 47 16.9	
	comp=Z,3µm,22.0s						
BCIP	Isla Barro Col	152.35	351	IAMs_20	IAMs_20	20 06 26.2	
	comp=Z,2µm,22.0s						
BCIP	Isla Barro Col	152.35	351	*e*P	PKPdf	18 46 13.7	-0.8
CAPC	Capurgana	152.39	346	*e*P	PKPdf	18 46 12.9	-1.7
UPA	Univ. de Panam	152.49	350	*e*P	PKPdf	18 46 13.0	-1.7
TRQA	Tornquist	152.52	220	IAMs_20	IAMs_20	19 46 01.9	
	comp=Z,2µm,21.0s						
TAMC	Tame, Arauca	152.58	333	*e*P	PKPdf	18 46 09.8	-5.1
MACA	Manacapuru-AM	152.62	301	PKPdf	PKPdf	18 46 13.9	-1.0
UPD2	Meteti	152.63	347	*e*P	PKPdf	18 46 14.6	-0.3
ITQB	Itaqui	152.64	241	IAMs_20	IAMs_20	19 51 58.9	
	comp=Z,3µm,20.0s						
UREC	San Jos de Ur	152.75	341	*e*P	PKPdf	18 46 14.6	-0.4
ZARC	Zaragoza, Cauc	152.78	340	*e*P	PKPdf	18 46 09.8	-5.3
APAC	Apartado, Choc	152.91	344	*e*P	PKPdf	18 46 14.3	-1.0
BRU2	Volcan	153.00	357	IAMs_20	IAMs_20	20 00 40.9	
	comp=Z,2µm,20.0s						
BARC	Barichara	153.01	336	*e*P	PKPdf	18 46 13.4	-2.4
PNME	Penonome	153.09	352	*e*P	PKPdf	18 46 14.4	-1.1
LL02	Futaleuf	153.19	200	IAMs_20	IAMs_20	19 48 19.1	
	comp=Z,3µm,20.0s						
CDITO	Canoas	153.22	358	IAMs_20	IAMs_20	20 00 58.9	
	comp=Z,3µm,21.0s						
PTBC	PUERTO BERRIO,	153.53	338	*e*P	PKPdf	18 46 13.7	-2.5
DBBC	Dabeiba	153.65	342	*e*P	PKPdf	18 46 16.7	+0.3
AZU	Azuero	153.76	352	*e*P	PKPdf	18 46 13.4	-3.1
GO07	Milladeo Hill,	153.81	197	IAMs_20	IAMs_20	19 52 53.3	
	comp=Z,3µm,22.0s						
PTAC	Punta Ardita,	153.94	346	*e*P	PKPdf	18 46 17.1	+0.3
LL01	San Ignacio de	154.10	200	IAMs_20	IAMs_20	19 56 15.2	
	comp=Z,3µm,21.0s						
CPUP	Villa Florida	154.12	247	PKP	PKPdf	18 46 17.4	+0.8
	comp=Z,34nm,1.2s,baz=90,slow=3.3,SNR=14						
CPUP				PKPbc	PKPbc	18 46 23.9	-0.8
	comp=Z,32nm,1.0s,baz=128,slow=2.1,SNR=11						
CPUP				PKPab	PKPab	18 46 38.8	+0.4
	comp=Z,75nm,1.1s,baz=85,slow=4.3,SNR=8.9						
SPBC	San Pablo de B	154.22	337	*e*P	PKPdf	18 46 18.0	+0.7
CACAO	El Cacao, Vera	154.28	353	*e*P	PKPdf	18 46 13.8	-3.5
LL06	Loncomilla	154.62	198	IAMs_20	IAMs_20	19 48 36.0	
	comp=Z,2µm,20.0s						
CBOC	Ciudad Bolivar	154.68	341	*e*P	PKPdf	18 46 13.4	-4.7
PTGC	Puerto Gaitan,	154.72	331	*e*P	PKPdf	18 46 14.8	-3.1
PLCA	Paso Flores	154.87	205	PKP	PKPdf	18 46 18.0	+0.6
	comp=Z,55nm,1.2s,baz=168,slow=4.3,SNR=20						
PLCA				PKPab	PKPab	18 46 40.3	-0.8
	comp=Z,22nm,1.0s,baz=189,slow=6.6,SNR=5.7						
ROSC	El Rosal	155.06	337	PKP	PKPdf	18 46 19.9	+1.0
	comp=Z,31nm,0.7s,baz=96,slow=6.3,SNR=16						
ROSC				PKPab	PKPab	18 46 43.2	+0.2
	comp=Z,37nm,0.5s,baz=120,slow=20,SNR=3.2						
GUY2C	Guyana, Caldas	155.07	339	*e*P	PKPdf	18 46 14.4	-4.5
CVER	Cruz Verde, Cu	155.25	336	*e*P	PKPdf	18 46 20.6	+1.3
VILC	Villavicencio,	155.47	335	*e*P	PKPdf	18 46 20.7	+1.6
PLMC	San Jos del P	155.67	341	*e*P	PKPdf	18 46 15.1	-4.2
LR05	Currie	155.86	203	IAMs_20	IAMs_20	19 52 44.3	
	comp=Z,3µm,22.0s						
PIZC	Pizarro, Choco	155.92	344	*e*P	PKPdf	18 46 20.4	+0.9
GO06	Curarrehue	156.22	205	IAMs_20	IAMs_20	19 55 19.9	
	comp=Z,2µm,20.0s						
ORTC	Ortega, Tolima	156.26	338	*e*P	PKPdf	18 46 16.3	-3.7
PRAC	Prado	156.30	337	*e*P	PKPdf	18 46 14.8	-5.3
MACC	Macarena, Meta	157.31	333	*e*P	PKPab	18 46 56.3	+4.1
JAMC	Jamundi, Valle	157.39	341	*e*P	PKPdf	18 46 17.2	-4.5
BETC	Betania	157.46	337	*e*P	PKPdf	18 46 20.3	-1.3
SAML	Samuel	157.74	292	PKPdf	PKPdf	18 46 20.8	-1.0
SAML	Samuel	157.74	292	PKIKP	PKPdf	18 46 20.8	-1.0
SAML	Samuel	157.74	292	*e*P	PKPdf	18 46 18.2	-3.6
GR1C	Gorgona, Isla	158.01	344	*e*P	PKPab	18 46 52.5	-2.6
BBAC	Balboa, Cauca	158.69	341	*e*P	PKPdf	18 46 21.7	-1.6
BI05	Punta Hualpn	159.35	205	IAMs_20	IAMs_20	19 50 03.8	
	comp=Z,2µm,22.0s						
ML02	Panimavida	159.39	210	IAMs_20	IAMs_20	19 55 04.4	
	comp=Z,2µm,21.0s						
GCUF	Volcan Galeras	159.47	341	*e*P	PKPdf	18 46 23.1	-1.4
PTLC	Puerto Leguiza	159.49	333	*e*P	PKPab	18 47 00.8	-0.8
BO02	Sierra Bellavi	159.84	213	IAMs_20	IAMs_20	19 54 51.7	
	comp=Z,2µm,22.0s						
BONI	La Bonita	160.26	340	*e*P	PKPdf	18 46 23.1	-2.1
TBTG	Tabatinga, AM	160.30	314	*e*P	PKPdf	18 46 21.6	-3.2
CUSE	Cuicocha Este	160.66	343	*e*P	PKPdf	18 46 22.9	-2.9
OTAV	Otavalo	160.74	343	*e*P	PKPdf	18 46 23.3	-2.7
MT01	Popeta	160.80	214	PKPdf	PKPdf	18 46 24.1	-0.7
MT01					PKPab	18 47 05.9	-0.9
PAC1	Pacto, Paraso	160.80	344	*e*P	PKPdf	18 46 21.6	-4.0
PIAT	Ana Tenorio	161.86	341	*e*P	PKPdf	18 46 24.3	-2.7
PPLP	Puerto Lpez	163.00	349	*e*P	PKPdf	18 46 24.2	-3.5
COHC	Cochancay	163.54	343	*e*P	PKPdf	18 46 23.8	-4.4
CZSB	Cruzeiro do Su	164.76	312	*e*P	PKPdf	18 46 23.8	-5.4
MCRA	Macar, Loja	165.55	344	*e*P	PKPdf	18 46 26.0	-4.0
NNA	Nana	170.63	311	*e*P	PKPdf	18 46 26.2	-7.2

*IDC **11** 18:28:35.9±0.6, 18.28N×96.03E, h0km, mb4.9/28, mbtmp4.9/29, MS5.4/3, Error ellipse: s-maj=17.5km s-min=11.9km az=12.0*

*NEIC **11** 18:28:38.4±1.4, 18.42N±0.10×95.96E±0.06, h10km±1km, mb5.2/102, Error ellipse: s-maj=17.0km s-min=8.4km az=199.0*

ISC 11 18:28:37.4±0.3, **18.28N**±0.07×**95.97E**±0.05, **h10**km, **n175**, σ**1.22**/177, **mb5.2**/77, **MS5.4**/3, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	2.83	86	Pn	Pb	18 29 23.5	-4.5
CMAR	Chiang Mai Arr	2.83	86	Pn	Pn	18 29 19.6	-3.0
	853nm,1.0s,baz=310,slow=18,SNR=0.6						
CMAR				Pg	Pb	18 29 25.8	-2.2
	baz=261,slow=17						
CMAR				Lg	Lg	18 30 02.1	
	246nm,0.3s,baz=264,slow=15,SNR=1.3						
RPSI	Rantau Prapat	15.75	169		P	18 32 24.5	+1.0
PALK	Pallekele	18.46	236	P	P	18 32 51.8	-1.6
PALK	Pallekele	18.46	236	P	Pn	18 32 56.2	+2.7
	20nm,0.8s,baz=345,slow=20,SNR=1.0						
PALK				S	Sn	18 36 11.1	-8.9
	4.9nm,0.8s,baz=53,slow=15,SNR=0.7						
TPUB	Ta-pu	23.57	74	P	P	18 33 50.0	+1.7
TPUB				IAmb	IAmb	18 33 52.8	
	comp=Z,59nm,0.9s						
YULB	Yu-li	24.19	74	P	P	18 33 55.0	+0.7
YULB				IAmb	IAmb	18 33 59.3	
	comp=Z,48nm,0.8s						
AAK	Ala-Archa	30.36	328	P	P	18 34 51.0	+1.4
	comp=Z,19nm,0.8s,baz=131,slow=11,SNR=1.3						
	comp=Z,19nm,0.8s						
MK31	Makanchi Array	30.59	341	P	P	18 34 51.5	0.0
MKAR	Makanchi Array	30.59	341	P	P	18 34 51.7	+0.2
	comp=Z,22nm,0.7s,baz=161,slow=6.8,SNR=6.9						
MKAR				PcP	PcP	18 37 49.2	-0.7
	comp=Z,7.3nm,1.1s,baz=191,slow=2.9,SNR=2.1						
	comp=Z,22nm,0.7s						
SONM	Songino Array	30.69	14	P	P	18 34 53.4	+1.0
	comp=Z,16nm,1.1s,baz=200,slow=7.6,SNR=1.6						
	comp=Z,16nm,1.1s						
KAPI	Kappang	32.95	132	P	P	18 35 14.8	+2.4
KAPI				IAmb	IAmb	18 35 47.4	
	comp=Z,35nm,0.9s						
KSRS	Korea Array	33.86	49	P	P	18 35 20.2	0.0
	comp=Z,3.6nm,0.7s,baz=242,slow=8.2,SNR=4.3						
	comp=Z,3.6nm,0.7s						
KURBB	Kurchatov Arra	35.15	341	P	P	18 35 30.9	-0.3
	comp=Z,22nm,0.5s,baz=152,slow=8.7,SNR=7.9						
KURBB				PcP	PcP	18 38 02.4	0.0
	comp=Z,6.1nm,0.8s,baz=165,slow=2.5,SNR=4.0						
	comp=Z,22nm,0.5s						
KURK	Kurchatov	35.20	341	P	P	18 35 31.3	-0.3
KURK				IAmb	IAmb	18 35 36.2	
	comp=Z,46nm,0.9s						
HIA	Hailar	36.38	26	P	P	18 35 42.0	+0.3
HIA				IAmb	IAmb	18 35 48.8	
	comp=Z,30nm,0.9s						
ZAA0	Zalesovo Array	36.63	349	P	P	18 35 43.6	-0.2
ZALV	Zalesovo Beam	36.63	349	P	P	18 35 44.8	+0.9
	comp=Z,75nm,0.8s,baz=174,slow=8.5,SNR=5.7						
	comp=Z,75nm,0.8s						
JMN	Monobe	37.15	58	P	P	18 35 50.3	+1.7
GEYT	Alibeck	38.37	309	P	P	18 35 59.7	+0.8
	comp=Z,59nm,1.0s,baz=165,slow=4.6,SNR=5.2						
GEYT				PcP	PcP	18 38 12.8	+0.3
	comp=Z,4.6nm,0.7s,baz=151,slow=3.3,SNR=1.7						
	comp=Z,59nm,1.0s						
USRK	Ussuriysk Ar.	39.70	41	P	P	18 36 11.0	+1.2
	comp=Z,14nm,0.8s,baz=261,slow=4.7,SNR=4.4						
	comp=Z,14nm,0.8s						
BVAR	Borovoye Array	40.00	336	PcP	PcP	18 38 17.1	-0.1
	comp=Z,7.8nm,0.8s,baz=134,slow=2.5,SNR=3.5						
FAKI	Fak Fak	41.47	117	P	P	18 36 25.5	+0.7
ABKAR	Akbulak array	42.36	325	P	P	18 36 31.4	-0.2
ABKAR				IAmb	IAmb	18 36 38.4	
	comp=Z,46nm,0.9s						
JMM	Marumori	43.62	54	P	P	18 36 43.3	+1.2
JMM				IAmb	IAmb	18 36 44.2	
	comp=Z,32nm,0.8s						
ARU	Arti	47.28	333	P	P	18 37 10.2	-0.5
YAK	Yakutsk	49.64	20	P	P	18 37 28.8	-0.1
AKH	Akhalkalaki	50.16	309	P	P	18 37 33.8	+0.4
GURO	Guroymak-BITLI	50.80	305	P	P	18 37 38.3	0.0
KVAR	Kislovodsk Arr	51.25	312	LR	LR	19 04 19.9	
	comp=Z,5µm,19.4s,baz=135,slow=42						
NRIK	Noril'sk	51.32	356	P	P	18 37 41.3	-0.2
NRIK				IAmb	IAmb	18 38 05.7	
	comp=Z,25nm,0.9s						
NRIK	Noril'sk	51.32	356	P	P	18 37 40.5	-0.9
	comp=Z,12nm,0.5s,baz=205,slow=9.7,SNR=1.3						
	comp=Z,12nm,0.5s						
WRA	Warramunga Arr	53.48	133	P	P	18 37 57.8	-0.4
	comp=Z,19nm,0.7s,baz=321,slow=7.5,SNR=5.6						
WRA				LR	LR	19 03 05.5	
	comp=Z,3µm,18.8s,baz=300,slow=39						
	comp=Z,19nm,0.7s						
WRAB	Tennant Creek	53.48	133	P	P	18 37 58.6	+0.4
WB2	Warramunga Arr	53.48	133	P	P	18 37 58.6	+0.4
WR0	Warramunga Arr	53.62	133	P	P	18 37 59.5	+0.3
WR0				IAmb	IAmb	18 38 01.5	
	comp=Z,31nm,0.8s						
AS31	Alice Springs	55.75	137	P	P	18 38 15.5	+0.7
ASAR	Alice Springs	55.75	137	P	P	18 38 15.1	+0.4
	comp=Z,12nm,0.7s,baz=317,slow=7.2,SNR=4.5						
ASAR				LR	LR	19 03 56.1	
	comp=Z,3µm,21.3s,baz=315,slow=38						
	comp=Z,12nm,0.7s						
MMAI	Mount Meron Ar	55.85	298	P	P	18 38 16.1	+0.6
	comp=Z,3.7nm,0.7s,baz=24,slow=6.4,SNR=2.5						
	comp=Z,3.7nm,0.7s						
TIXI	Tiksi	56.74	12	P	P	18 38 20.3	-0.7
TIXI				IAmb	IAmb	18 38 30.6	
	comp=Z,28nm,0.8s						
MA2	Magadan	56.83	30	P	P	18 38 22.4	+0.5
BR131	Keskin Array S	57.41	306	P	P	18 38 26.5	0.0
BRTR	Keskin Array B	57.41	306	P	P	18 38 27.0	+0.5
	comp=Z,8.8nm,0.8s,baz=120,slow=8.4,SNR=3.6						
	comp=Z,8.8nm,0.8s						
PMG	Port Moresby	57.52	114	P	P	18 38 28.5	+1.1
CSS	Mathiatis	57.56	300	P	P	18 38 26.8	-0.6
CSS				IAmb	IAmb	18 38 35.2	
	comp=Z,22nm,0.8s						
PETK	Petropavlovsk-	58.66	38	P	P	18 38 35.1	+0.2
	comp=Z,3.3nm,0.8s,baz=220,slow=8.7,SNR=2.1						
	comp=Z,3.3nm,0.8s						
ELL	Elmali	60.31	302	P	P	18 38 46.7	0.0
ABPO	Ambohimpanom	60.54	235	P	P	18 38 49.9	+1.4
ABPO				IAmb	IAmb	18 38 51.3	
	comp=Z,20nm,0.9s						
KMBO	Kilima Mbogo	60.85	258	P	P	18 38 50.3	-0.5
KMBO	Kilima Mbogo	60.85	258	P	P	18 38 49.9	-0.9
	comp=Z,13nm,1.0s,baz=50,slow=11,SNR=3.5						
	comp=Z,13nm,1.0s						
AKASG	Malin Array Be	61.37	318	P	P	18 38 51.9	-1.6
	comp=Z,4.3nm,0.5s,baz=82,slow=6.9,SNR=5.1						
	comp=Z,4.3nm,0.5s						
AKBB	Malin Array Si	61.37	318	P	P	18 38 52.4	-1.1
AKBB				IAmb	IAmb	18 38 54.7	
	comp=Z,23nm,0.9s						
KIEV	Kiev	61.38	318	P	P	18 38 52.6	-1.0
KIEV				IAmb	IAmb	18 38 54.7	
	comp=Z,21nm,0.9s						
VOI	Vohitsoka	62.54	232	P	P	18 39 03.1	+1.2
VOI				IAmb	IAmb	18 39 05.2	
	comp=Z,19nm,0.9s						
LVZ	Lovozero	62.54	338	P	P	18 38 59.9	-1.3
BUR08	Bucovina Ar. S	63.82	315	P	P	18 39 09.3	-0.8
BUR08				IAmb	IAmb	18 39 13.5	
	comp=Z,16nm,0.9s						
FINES	FINESS Array B	64.51	330	P	P	18 39 13.8	-0.3
	comp=Z,15nm,0.7s,baz=92,slow=8.9,SNR=3.3						
	comp=Z,15nm,0.7s						
KWP	Kalwaria Pacla	65.50	317	P	P	18 39 21.3	+0.5
AGG	Agios Georgios	66.18	305	P	P	18 39 23.7	-1.7
ARCES	ARCESS Array B	66.20	339	P	P	18 39 24.7	-0.3
	comp=Z,14nm,0.7s,baz=101,slow=5.1,SNR=6.3						
	comp=Z,14nm,0.7s						
MBAR	Mbarara	66.75	261	P	P	18 39 31.2	+1.5
FNA	Florina	66.77	307	P	P	18 39 27.7	-1.6
SCTE	Santa Cesarea	69.05	307	P	P	18 39 43.6	0.0
SPITS	Spitsbergen Ar	70.10	348	P	P	18 39 49.5	+0.1
	comp=Z,12nm,0.6s,baz=110,slow=7.2,SNR=7.4						
	comp=Z,12nm,0.6s						
HFS	Hagfors	70.50	328	P	P	18 39 52.1	0.0
	comp=Z,13nm,0.6s,baz=92,slow=4.0,SNR=5.2						
	comp=Z,13nm,0.6s						
BRG	Berggiesshubel	71.06	318	*e*P	P	18 39 56.2	+0.5
BRG				Amp		18 40 00.2	
	comp=Z,9.0nm,0.8s						
NC405	NORSAR Array S	71.42	329	P	P	18 39 56.1	-1.6
NC405				IAmb	IAmb	18 40 00.0	
	comp=Z,21nm,0.8s						
GEC2	GERESS Array S	71.43	316	P	P	18 39 57.7	-0.4
GEC2				IAmb	IAmb	18 40 02.8	
	comp=Z,13nm,0.8s						
GERES	GERESS Array B	71.43	316	P	P	18 39 58.1	0.0
	comp=Z,6.9nm,0.6s,baz=73,slow=5.4,SNR=6.3						
	comp=Z,6.9nm,0.6s						
NB2	NORSAR Subarra	71.67	329	P	P	18 39 58.6	-0.6
	comp=Z,5.7nm,0.7s,baz=85,slow=6.2						
NOA	NORSAR Array B	71.67	329	P	P	18 39 58.8	-0.4
	comp=Z,8.3nm,0.8s,baz=90,slow=5.9,SNR=5.7						
	comp=Z,8.3nm,0.8s						
PRED	Cave del Predi	71.82	314	P	P	18 39 59.0	-1.5
PRED				IAmb	IAmb	18 40 17.1	
	comp=Z,14nm,0.8s						
NC204	NORSAR Array S	71.86	330	P	P	18 39 59.4	-1.1
NC204				IAmb	IAmb	18 40 28.1	
	comp=Z,24nm,0.9s						
STAL	STALIGIAL	72.43	314	P	P	18 40 03.7	-0.4
STAL				IAmb	IAmb	18 40 10.0	
	comp=Z,26nm,1.0s						
GUMA	Gualdo di Mace	72.46	310	P	P	18 40 05.1	+0.8
GUMA				IAmb	IAmb	18 40 22.6	
	comp=Z,43nm,1.0s						
CIMO	Cimolais	72.61	314	P	P	18 40 05.2	0.0
CIMO				IAmb	IAmb	18 40 20.5	
	comp=Z,15nm,0.9s						
FDMO	Fiordimonte	72.65	310	P	P	18 40 05.0	-0.4
LSZ	Lusaka	74.63	248	P	P	18 40 18.8	+1.3
C16K	Lisburne Hills	76.36	22	P	P	18 40 26.9	+0.4
	baz=285						
F14K	Arctic Creek	76.70	25	P	P	18 40 29.4	+1.0
	baz=285						
C17K	DeLong Mountai	77.07	22	P	P	18 40 31.1	+0.6
	baz=287						
C18K	Utukok River	77.72	21	P	P	18 40 34.4	+0.2
C18K	Utukok River	77.72	21	P	P	18 40 34.8	+0.6
	baz=289						
A21K	Barrow	78.26	18	P	P	18 40 38.1	+1.1
	baz=292						
G16K	Koyuk River	78.31	25	P	P	18 40 38.0	+0.6
G16K				IAmb	IAmb	18 40 41.9	
	comp=Z,19nm,0.9s						
G16K	Koyuk River	78.31	25	P	P	18 40 38.7	+1.2
	baz=288						
E18K	Tukpahlearik C	78.33	23	P	P	18 40 37.8	+0.3
E18K				IAmb	IAmb	18 40 42.9	
	comp=Z,21nm,0.8s						
K13K	Kusilvak Mount	78.38	28	P	P	18 40 41.1	+3.2
	baz=287						
F17K	Baldwin Pennin	78.41	24	P	P	18 40 39.0	+1.0
	baz=289						
B20K	Meade River	78.59	20	P	P	18 40 39.9	+1.0
H16K	Elim	78.60	25	P	P	18 40 42.1	+3.0
	baz=288						
J14K	Nanvaranak Lak	78.63	27	P	P	18 40 38.6	-0.6
J14K				IAmb	IAmb	18 40 43.4	
	comp=Z,19nm,0.9s						
D19K	Kuna River	78.83	21	P	P	18 40 40.1	-0.2
D19K				IAmb	IAmb	18 41 36.2	
	comp=Z,28nm,1.0s						
D19K	Kuna River	78.83	21	P	P	18 40 41.1	+0.7
	baz=291						
A22K	Sinclair Lake	78.88	18	P	P	18 40 41.7	+1.2
	baz=294						
L14K	Kuka Creek	79.46	29	P	P	18 40 44.0	+0.2
L14K				IAmb	IAmb	18 40 51.2	
	comp=Z,23nm,0.9s						
B22K	Teshekpuk Lake	79.62	19	P	P	18 40 44.5	0.0
B22K				IAmb	IAmb	18 41 38.0	
	comp=Z,26nm,0.9s						
B22K	Teshekpuk Lake	79.62	19	P	P	18 40 45.7	+1.1
	baz=295						
J16K	Anvik River	79.73	27	P	P	18 40 45.6	+0.4
J16K				IAmb	IAmb	18 40 49.9	
	comp=Z,23nm,0.9s						
J16K	Anvik River	79.73	27	P	P	18 40 46.1	+0.8
	baz=290						
L15K	Ungalak Mounta	79.89	28	P	P	18 40 46.8	+0.6
	baz=290						
H18K	Honhosa River	79.97	24	P	P	18 40 46.3	-0.3
M14K	Bethel	79.98	29	P	P	18 40 47.6	+0.9
	baz=290						
G19K	Purcell Mounta	80.09	23	P	P	18 40 48.5	+1.4
G19K				IAmb	IAmb	18 40 51.8	
	comp=Z,22nm,0.9s						
G19K	Purcell Mounta	80.09	23	P	P	18 40 47.6	+0.4
	baz=293						
F20K	Avaraart Lake	80.23	22	P	P	18 40 48.0	+0.1
EKA	Eskdalemuir Ar	80.23	325	P	P	18 40 48.6	+0.4
	comp=Z,9.3nm,0.7s,baz=77,slow=5.1,SNR=5.6						
	comp=Z,9.3nm,0.7s						
EKB	Eskdalemuir	80.25	325	P	P	18 40 48.1	-0.1
ESK	Eskdalemuir	80.26	325	P	P	18 40 48.7	+0.4
ESK				IAmb	IAmb	18 40 56.4	
	comp=Z,23nm,1.0s						
C23K	Itkillik River	80.71	19	P	P	18 40 50.4	0.0
C23K				IAmb	IAmb	18 40 57.7	
	comp=Z,32nm,0.9s						
C23K	Itkillik River	80.71	19	P	P	18 40 51.7	+1.2
	baz=298						
L16K	Owhat River	80.77	28	P	P	18 40 51.1	+0.2
LBTB	Lobatse	80.88	240	P	P	18 40 53.4	+1.1
LBTB				IAmb	IAmb	18 41 03.4	
	comp=Z,20nm,0.9s						
K17K	Iditarod	80.91	27	P	P	18 40 52.1	+0.5
K17K				IAmb	IAmb	18 41 02.6	
	comp=Z,35nm,1.0s						
N15K	Kwethluk River	81.05	29	P	P	18 40 52.3	-0.2
N15K				IAmb	IAmb	18 40 57.7	
	comp=Z,23nm,0.9s						
M16K	Timber Creek	81.26	28	P	P	18 40 53.5	-0.1
N16K	Nishlik Lake	81.55	29	P	P	18 40 55.7	+0.5
	baz=292						
D24K	Happy Valley	81.59	19	P	P	18 40 56.0	+0.9
D25K	Kavik River	82.26	19	P	P	18 40 59.6	+0.9
D25K	Kavik River	82.26	19	P	P	18 40 59.7	+0.9
	baz=302						
K20K	Telida	82.41	25	P	P	18 41 00.7	+1.0
	baz=296						
L19K	White Mountain	82.59	27	P	P	18 41 01.3	+0.7
BOSA	Boshof	82.68	237	P	P	18 41 03.0	+1.2
BOSA				IAmb	IAmb	18 41 08.4	
	comp=Z,20nm,0.9s						
BOSA	Boshof	82.68	237	P	P	18 41 03.4	+1.7
	comp=Z,25nm,1.0s,baz=64,slow=3.8,SNR=6.5						
	comp=Z,25nm,1.0s						
CAST	Castle Rocks	83.19	25	P	P	18 41 04.3	+0.7
	baz=298						
F25K	Christian Rive	83.41	20	P	P	18 41 06.1	+1.4
	baz=303						
O18K	Koktuh Hills	83.43	29	P	P	18 41 05.4	+0.5
O18K				IAmb	IAmb	18 41 11.3	
	comp=Z,16nm,0.8s						
M20K	Styx River	83.46	26	P	P	18 41 05.6	+0.5
D27M	Malcolm River	83.89	17	P	P	18 41 06.7	-0.5
MDM	Murphy Dome	83.91	23	P	P	18 41 07.2	-0.2
SKT	Skwentna	84.08	26	P	P	18 41 07.0	-1.2
SKT				IAmb	IAmb	18 41 12.8	
	comp=Z,16nm,0.9s						
SKT	Skwentna	84.08	26	P	P	18 41 07.7	-0.5
	baz=298						
POKR	Poker Plat Res	84.12	22	P	P	18 41 09.6	+1.2
	baz=301						
SUMG	Summit	84.44	348	P	P	18 41 09.9	-0.4
IL31		84.50	23	P	P	18 41 10.6	+0.4
IL31				IAmb	IAmb	18 42 21.6	
	comp=Z,15nm,1.0s						
ILAR	Eielson Array	84.50	23	P	P	18 41 10.6	+0.3
	comp=Z,5.0nm,0.7s,baz=297,slow=4.6,SNR=4.9						
	comp=Z,5.0nm,0.7s						
PRP	Porcupine Dome	84.58	22	P	P	18 41 09.9	-1.0
PRP	Porcupine Dome	84.58	22	P	P	18 41 11.8	+0.9
	baz=303						
SUA	Susitna One	84.66	26	P	P	18 41 11.2	-0.1
SUA				IAmb	IAmb	18 41 13.7	
	comp=Z,20nm,0.9s						
SUA	Susitna One	84.66	26	P	P	18 41 11.6	+0.2
	baz=299						
E28M	Babbage River	84.69	18	P	P	18 41 11.4	+0.2
J25K	Salcha River,	85.13	22	P	P	18 41 12.4	-1.2
J25K				IAmb	IAmb	18 41 16.1	
	comp=Z,15nm,1.0s						
RC01	Rabbit Creek A	85.27	26	P	P	18 41 13.3	-1.0
RC01				IAmb	IAmb	18 41 15.2	
	comp=Z,23nm,0.9s						
E29M	Blow River	85.30	17	P	P	18 41 14.2	0.0
E29M				IAmb	IAmb	18 41 17.2	

	comp=Z,12nm,0.8s							
BRLK	**Bradley Lake**	**85.42**	**28**	P	**P**	**18 41 14.4**	**-0.7**	
OHAK	**Old Harbor**	**85.50**	**31**	P	**P**	**18 41 14.6**	**-0.8**	
OHAK				IAmb	IAmb	18 41 18.7		
	comp=Z,23nm,0.9s							
KNK	**Knik Glacier**	**85.64**	**26**	P	**P**	**18 41 16.0**	**-0.1**	
KNK				IAmb	IAmb	18 41 20.8		
	comp=Z,14nm,0.8s							
A36M	**Sachs Harbour**	**85.76**	**12**	P	**P**	**18 41 16.4**	**-0.1**	
J26L	**Joseph Creek**	**85.84**	**22**	P	**P**	**18 41 17.2**	**+0.1**	
J26L				IAmb	IAmb	18 41 24.6		
	comp=Z,18nm,0.9s							
ESDC	**Sonseca Array**	**85.89**	**310**	P	**P**	**18 41 18.3**	**+0.4**	
	comp=Z,2.2nm,0.7s,baz=54,slow=4.4,SNR=2.2							
	comp=Z,2.2nm,0.7s							
SCRK	**Sand Creek**	**85.99**	**23**	P	**P**	**18 41 18.1**	**+0.1**	
SCRK				IAmb	IAmb	18 41 23.1		
	comp=Z,16nm,0.8s							
SCRK	**Sand Creek**	**85.99**	**23**	P	**P**	**18 41 18.4**	**+0.5**	
	baz=305							
H29M	**Whitestone**	**86.54**	**19**	P	**P**	**18 41 21.9**	**+1.4**	
	baz=309							
KLU	**Klutina**	**86.63**	**25**	P	**P**	**18 41 20.9**	**-0.2**	
KLU				IAmb	IAmb	18 41 26.3		
	comp=Z,17nm,0.9s							
N25K	**Chitina, Valde**	**87.10**	**25**	P	**P**	**18 41 24.0**	**+0.6**	
N25K				IAmb	IAmb	18 41 28.6		
	comp=Z,19nm,0.8s							
N25K	**Chitina, Valde**	**87.10**	**25**	P	**P**	**18 41 24.5**	**+1.2**	
	baz=304							
BMRM	**Bremner River**	**87.45**	**25**	P	**P**	**18 41 25.6**	**+0.5**	
	baz=304							
GLB	**Gilahina Butte**	**87.50**	**25**	P	**P**	**18 41 25.7**	**+0.4**	
GLB				IAmb	IAmb	18 41 30.4		
	comp=Z,14nm,1.0s							
M27K	**Edge Creek, AK**	**87.71**	**23**	P	**P**	**18 41 25.0**	**-1.4**	
M27K				IAmb	IAmb	18 41 32.9		
	comp=Z,21nm,0.9s							
M27K	**Edge Creek, AK**	**87.71**	**23**	P	**P**	**18 41 28.7**	**+2.3**	
	baz=306							
VRDI	**Verde Repeater**	**87.77**	**25**	P	**P**	**18 41 26.3**	**-0.4**	
VRDI				IAmb	IAmb	18 41 32.1		
	comp=Z,13nm,0.8s							
C36M	**Paulatuk**	**88.09**	**13**	P	**P**	**18 41 27.2**	**-0.6**	
C36M	**Paulatuk**	**88.09**	**13**	P	**P**	**18 41 27.6**	**-0.2**	
	baz=322							
TGL	**Tana Glacier**	**88.29**	**25**	P	**P**	**18 41 29.5**	**+0.4**	
BARN	**Barnard Glacie**	**88.57**	**24**		**P**	**18 41 32.2**	**+1.6**	
BARN				IAmb	IAmb	18 41 45.9		
	comp=Z,15nm,0.9s							
TORD	**Torodi Ar. Bea**	**89.92**	**284**	P	**P**	**18 41 37.9**	**+0.4**	
	comp=Z,2.2nm,0.6s,baz=61,slow=6.4,SNR=2.2							
	comp=Z,2.2nm,0.6s							
O30N	**Mendenhall**	**90.87**	**23**	P	**P**	**18 41 41.6**	**+0.5**	
WHY	**Whitehorse**	**91.38**	**22**		**P**	**18 41 44.5**	**+0.9**	
YKA	**Yellowknife Ar**	**95.95**	**14**	P	**P**	**18 42 04.1**	**-0.3**	
	comp=Z,0.9nm,0.8s,baz=331,slow=5.0,SNR=2.0							
	comp=Z,0.9nm,0.8s							
PDAR	**Pinedale Array**	**114.87**	**20**	PKiKP	PKPdf	18 47 18.0	-1.1	
	comp=Z,1.3nm,0.8s,baz=256,slow=3.6,SNR=2.0							
NVAR	**Mina Array Bea**	**115.07**	**29**	PKP	**PKPdf**	**18 47 20.6**	**+1.1**	
	comp=Z,1.4nm,0.8s,baz=249,slow=2.5,SNR=2.5							
TXAR	**Lajitas Array**	**129.01**	**22**	PKP	**PKiKP**	**18 47 46.4**	**-0.6**	
	comp=Z,6.0nm,1.1s,baz=324,slow=1.7,SNR=4.7							
BDFB	**Brasilia**	**145.49**	**269**	PKPbc	**PKiKP**	**18 48 17.7**	**-3.2**	
	comp=Z,24nm,0.8s,baz=83,slow=5.0,SNR=3.4							
CPUP	**Villa Florida**	**154.07**	**247**	PKPbc	**PKiKP**	**18 48 37.0**	**-1.2**	
	comp=Z,2.9nm,0.7s,baz=63,slow=4.7,SNR=3.2							
ROSC	**El Rosal**	**155.12**	**336**	PKPab	**PKPab**	**18 48 57.1**	**+0.5**	
	comp=Z,26nm,0.7s,baz=10.0,slow=17,SNR=2.4							

DJA 11 18:34:02.7±0.3,**1°N**±3°×**12°2E**±°,**h71**km±5km,**M4.2/14,**
mb4.3/6,MLv4.1/14,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.39**	**267**	P	Pn	18 34 16.0	+1.4
MRSI				S	Sn	18 34 26.4	+3.0
GTOI	**Gorontalo**	**0.69**	**79**	P	Pn	18 34 18.2	+0.6
GTOI				S	Sn	18 34 30.9	+2.3
LUWI	**Luwuk**	**1.59**	**164**	P	Pn	18 34 30.3	+1.3
KMSI	**Cibinong**	**1.65**	**87**	P	Pn	18 34 30.3	+0.6
MPSI	**Mapaga**	**2.44**	**266**	P	Pn	18 34 40.0	-0.3
TTSI	**Tana Toraja**	**4.32**	**215**	P	Pn	18 35 06.0	0.0
SANI	**Sanana**	**4.45**	**125**	P	Pn	18 35 05.6	-2.1
SPSI	**Sidrap Palu**	**5.12**	**210**	P	Pn	18 35 17.2	+0.3
	40nm,1.3s,0.2nm						
LBMI	**Labuha**	**5.29**	**102**	P	Pn	18 35 18.4	-0.9
	55nm,1.5s,0.4nm						
BKB	**Balikpapan**	**5.71**	**252**	P	Pn	18 35 23.9	-1.0
	72nm,0.8s,0.4nm						
BBSI	**Bau Bau**	**5.95**	**178**	P	Pn	18 35 29.2	+0.9
	38nm,1.0s,0.2nm						
NLAI	**Namlea**	**6.04**	**128**	P	Pn	18 35 29.5	0.0
	17nm,1.1s,0.1nm						
BKSI	**Bulukumba**	**6.19**	**201**	P	Pn	18 35 32.2	+0.7
	29nm,1.1s,0.2nm						
KKM	**Kota Kinabalu**	**8.22**	**312**	P	Pn	18 36 01.1	+1.7

*TEH **11** 18:35:49.5,33.7°N×45.6°E,h11km±10km,ML3.1*
*ISN **11** 18:35:50.7±1.4,33.7°N×45.6°E,h41km±6km,ML3.0*
ISC 11 18:35:49.7±1.2,**33.7°N**±0.04×**45.6°E**±0.04,**h13**km±11km,
n13,σ**9°76/19,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.50**	**107**	Pg	**Pg**	**18 35 59.1**	**-0.5**
ILBA				Sg	**Sg**	**18 36 06.6**	**+0.2**
IBDR	**Badra**	**0.70**	**159**	*e*Pg	**Pn**	**18 36 05.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**18 36 16.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.73**	**357**	Pg	**Pb**	**18 36 03.6**	**-0.8**
IGHG	**Ghaleghazi**	**0.96**	**54**	Pg	**Pb**	**18 36 07.6**	**-0.7**
IDHR	**Dehrash**	**1.12**	**34**	Pg	**Pb**	**18 36 10.5**	**-0.6**
BHD	**Baghdad**	**1.16**	**245**	*e*Pg	**Pb**	**18 36 12.0**	**+0.4**
BHD				*e*Sg	**Sg**	**18 36 28.0**	**+0.9**
BHD				AML	AML	18 36 34.0	
	comp=E,891nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.27**	**66**	Pg	**Pb**	**18 36 13.6**	**-0.1**
ILIN	**Lien**	**1.59**	**44**	Pg	**Pb**	**18 36 19.5**	**+0.4**
IKOM	**Komasi**	**1.61**	**75**	Pg	**Pg**	**18 36 20.2**	**-0.5**
IKOM				Sg	**Sg**	**18 36 42.9**	**+1.2**
IKFM	**Kafar-mosalman**	**1.87**	**97**	Pn	**Pb**	**18 36 23.0**	**-0.6**
IKRK	**Kirkuk**	**1.94**	**327**	*e*Pn	**Pn**	**18 36 22.0**	**-0.4**
IKRK				*e*Sn	**Sn**	**18 36 47.0**	**+0.3**
IKRK				AML	AML	18 36 54.7	
	comp=N,90nm,0.4s						
IKRK				AML	AML	18 36 55.7	
	comp=E,98nm,0.3s						
RAFI	**Al-Rafai**	**2.08**	**169**	*e*Pn	**Pn**	**18 36 24.0**	**-0.3**
RAFI				*e*Sn	**Sn**	**18 36 50.0**	**-0.1**
RAFI				AML	AML	18 36 58.5	
	comp=E,183nm,0.5s						
RAFI				AML	AML	18 37 03.9	
	comp=N,116nm,0.2s						
HSAM	**Samen**	**2.51**	**79**	Pn	**Pn**	**18 36 32.2**	**+1.7**

*CATAC **11** 18:38:04.8±0.2,10°.65N×84°.98W,h8km±2km,ML3.5*
*UCR **11** 18:38:04.3±0.9,10°.68N×84°.97W,h4km±4km,MW3.9*
ISC 11 18:38:05.1±0.9,**10°.65N**±0°.02×**84°.96W**±0°.02,**h14**km±8km,
n38,σ**9°78/52,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMAR	**Armenia, Volca**	**0.22**	**317**	*e*P	**Pg**	**18 38 09.8**	**-0.2**
VMAR	**Armenia, Volca**	**0.22**	**317**	*i*P	**Pg**	**18 38 09.9**	**-0.2**
VMAR				*i*S	**Sg**	**18 38 14.0**	**+0.6**
VMAR				IAML		18 38 18.0	
	comp=Z,21μm,1.0s						
VACR	**Volcan Arenal**	**0.33**	**122**	*i*P	**Pb**	**18 38 12.5**	**-0.2**
VACR				*i*S	**Sb**	**18 38 18.7**	**+0.8**
VACR				IAML		18 38 21.4	
	comp=Z,11μm,1.0s						
JTS	**Las Juntas de**	**0.36**	**179**	*e*P	**Pg**	**18 38 12.1**	**-0.3**
VRLE	**La Escondida,**	**0.42**	**289**	*i*P	**Pg**	**18 38 13.1**	**-0.5**
VRLE				IAML		18 38 22.3	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**0.43**	**128**	*e*P	**Pg**	**18 38 13.9**	**+0.3**
SOCE	**Pocosol**	**0.43**	**128**	*i*P	**Pg**	**18 38 13.9**	**+0.3**
SOCE				*i*S	**Sb**	**18 38 20.9**	**+0.2**
SOCE				IAML		18 38 22.9	
	comp=Z,7μm,1.0s						
COVE	**Coope Vega, Sa**	**0.55**	**83**	*e*P	**Pg**	**18 38 15.6**	**-0.4**
COVE	**Coope Vega, Sa**	**0.55**	**83**	*i*P	**Pg**	**18 38 15.5**	**-0.4**
COVE				IAML		18 38 39.3	
	comp=Z,3μm,1.0s						
ORTG	**Ortega, Santa**	**0.57**	**240**	*e*P	**Pg**	**18 38 15.8**	**-0.5**
ORTG	**Ortega, Santa**	**0.57**	**240**	*i*P	**Pg**	**18 38 15.8**	**-0.5**
ORTG				*i*S	**Sg**	**18 38 23.9**	**0.0**
ORTG				IAML		18 38 24.2	
	comp=Z,1μm,1.0s						
CPMI	**Catarata Coope**	**0.68**	**123**	*i*P	**Pg**	**18 38 18.3**	**0.0**
CPMI				*i*S	**Sb**	**18 38 29.0**	**+1.0**
CPMI				IAML		18 38 32.1	
	comp=Z,2μm,1.0s						
TCS1	**Tacares**	**0.89**	**133**	*i*P	**Pg**	**18 38 22.2**	**-0.1**
TCS1				IAML		18 38 40.7	
	comp=Z,6μm,1.0s						
INDI	**Punta indio, G**	**0.94**	**215**	*e*P	**Pg**	**18 38 22.7**	**-0.7**
INDI	**Punta indio, G**	**0.94**	**215**	*i*P	**Pg**	**18 38 22.7**	**-0.7**
INDI				*i*S	**Sb**	**18 38 36.7**	**+1.1**
INDI				IAML		18 38 42.6	
	comp=Z,800nm,1.0s						
JACO	**JACO, Garabito**	**1.02**	**163**	*e*P	**Pg**	**18 38 23.9**	**-1.0**
JACO	**JACO, Garabito**	**1.02**	**163**	*i*P	**Pg**	**18 38 23.8**	**-1.1**
JACO				*i*S	**Sg**	**18 38 38.4**	**+0.1**
JACO				IAML		18 38 39.1	
	comp=Z,480nm,1.0s						
CBL1	**Cabuya**	**1.06**	**187**	*e*P	**Pg**	**18 38 24.7**	**-0.9**
RIFO	**Rio Frio, Sara**	**1.07**	**108**	*i*P	**Pg**	**18 38 24.3**	**-1.5**
RIFO				*i*S	**Sg**	**18 38 39.7**	**-0.1**
RIFO				IAML		18 38 43.5	
	comp=Z,840nm,1.0s						
OMEN	**AI SSO del Vol**	**1.08**	**323**	*i*P	**Pb**	**18 38 25.5**	**0.0**
OMEN				IAML		18 38 48.5	
	comp=Z,1μm,1.0s						
MORN	**AI O del Volca**	**1.12**	**323**	*i*P	**Pg**	**18 38 25.8**	**-0.9**
MORN				IAML		18 38 49.1	
	comp=Z,1μm,1.0s						
CONN	**Concepcion**	**1.12**	**324**	*i*P	**Pg**	**18 38 25.5**	**-1.2**
CONN				IAML		18 38 29.3	
	comp=Z,5μm,1.0s						
JAPN	**AI SSO del Vol**	**1.12**	**321**	*i*P	**Pb**	**18 38 26.0**	**-0.2**
JAPN				IAML		18 38 30.5	
	comp=Z,810nm,1.0s						
OCM	**Ochomogo**	**1.24**	**127**	*i*P	**Pg**	**18 38 27.7**	**-1.2**
OCM				IAML		18 38 29.1	
	comp=Z,270nm,1.0s						
TBLN	**Tablon, Guarco**	**1.25**	**131**	*i*P	**Pg**	**18 38 27.4**	**-1.8**
TBLN				*i*S	**Sg**	**18 38 44.6**	**-1.0**
TBLN				IAML		18 38 50.0	
	comp=Z,1μm,1.0s						
VICA	**Volcano Irazu**	**1.28**	**121**	*e*P	**Pg**	**18 38 28.4**	**-1.4**
HAYA	**Volcan Irazu**	**1.28**	**121**	*i*PA		18 38 32.0	
HAYA				IAML		18 38 58.8	
	comp=Z,590nm,1.0s						
LCR2	**La Lucha 2**	**1.30**	**134**	*e*P	**Pn**	**18 38 28.3**	**-0.8**
LCR2	**La Lucha 2**	**1.30**	**134**	*i*P	**Pn**	**18 38 28.2**	**-0.8**
LCR2				*i*S	**Sg**	**18 38 46.6**	**-0.6**
LCR2				IAML		18 38 51.7	
	comp=Z,470nm,1.0s						
ACON	**Acoyapa**	**1.33**	**351**	*i*P	**Pn**	**18 38 28.7**	**-0.5**
ACON				*i*S	**Sg**	**18 38 46.9**	**-1.0**
ACON				IAML		18 38 53.1	
	comp=Z,1μm,1.0s						
RIMA	**Rio Macho**	**1.39**	**129**	*e*P	**Pn**	**18 38 30.1**	**-0.1**
RIMA	**Rio Macho**	**1.39**	**129**	*i*P	**Pn**	**18 38 29.9**	**-0.3**
RIMA				*i*S	**Sb**	**18 38 49.7**	**+1.1**
RIMA				IAML		18 38 54.3	
	comp=Z,380nm,1.0s						
LCOCO	**El Coco**	**1.49**	**112**	*e*P	**Pn**	**18 38 31.7**	**+0.3**
CDM	**Cerro de Muert**	**1.60**	**133**	*i*P	**Pn**	**18 38 33.5**	**+0.1**
CDM				*i*S	**Sb**	**18 38 56.0**	**+1.0**
CDM				IAML		18 39 00.3	
	comp=Z,330nm,1.0s						
BUS1	**Rivas**	**1.61**	**132**	*e*P	**Pn**	**18 38 33.6**	**+0.1**
ESPN	**Las Esperanzas**	**1.67**	**23**	*i*P	**Pn**	**18 38 34.2**	**+0.4**
ESPN				*i*S	**Sb**	**18 38 56.4**	**0.0**
ESPN				IAML		18 38 58.0	
	comp=Z,1μm,1.0s						
BLUN	**Bluefields**	**1.78**	**41**	*i*P	**Pn**	**18 38 35.8**	**+0.4**
BLUN				*i*S	**Sn**	**18 38 59.3**	**+1.5**
BLUN				IAML		18 39 02.5	
	comp=Z,1μm,1.0s						
SRBA	**San Rafael, Bu**	**2.11**	**132**	*e*P	**Pn**	**18 38 41.2**	**+1.1**

*MOS **11** 18:38:10.6±0.9, 18°.41N×96°.10E, h11km, mb5.3/42, Error ellipse: s-maj=8.5km s-min=4.7km az=120.6*
*IDC **11** 18:38:10.2±0.5, 18°.34N×96°.05E, h0km, mb4.7/30, mbtmp4.7/31, ML4.3/1, Error ellipse: s-maj=14.4km s-min=10.0km az=26.0*
*BJI **11** 18:38:11.7±0.0, 17°.98N×96°.03E, h37km, mb4.8/42, mB4.6/3, Ms5.6/6, Ms7 5.5/7*
*NEIC **11** 18:38:12.0±2.1, 18°.32N±0°.03×96°.11E±0°.07, h10km±1km, mb5.3/109, Mww4.9/9, Error ellipse: s-maj=11.0km s-min=4.9km az=74.0*
*NEIC **11** 18:38:12, 18°.32N×96°.10E, h12km*
*NEIC **11** 18:38:12, 18°.12N×96°.10E, h12km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13; $M_{\theta\theta}$-0.59; $M_{\phi\phi}$-1.54; $M_{r\theta}$1.31; $M_{r\phi}$1.12; $M_{\theta\phi}$1.09; Fault plane solution: M_o2.70000×10^{16} NP1: ϕ_s354.00000°, δ55.02000°, λ127.06000°. NP2: ϕ_s121.21000°, δ49.17000°, λ49.26000°. Principal axes: T 3.1079, Plg60.0000°, Azm323.0000°; N -0.8149, Plg30.0000°, Azm151.0000°; P -2.2930, Plg3.0000°, Azm59.0000°;*
*DJA **11** 18:38:12.9±2.3, 18°N±4°×9°6E±°, h19km±19km, M5.6/12, mb5.0/12, MLv6.0/6*
*BGR **11** 18:38:14.1, 17°.88N×96°.06E, h33km, mb5.1*
*NDI **11** 18:38:15.7±3.6, 18°.38N×96°.09E, h10km, MW5.4, mb5.3(NEIC)*
ISC 11 18:38:12.2±0.3,**18°.30N**±0°.04×**96°.09E**±0°.05,**h10**km,**n371,**
σ**1°21/310,mb5.1/171,32C-8D,Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.72**	**86**	Pn	**Pn**	**18 38 55.5**	**-0.5**
	14nm,0.3s,baz=265,slow=14,SNR=15						
CMAR				Pg	**Pb**	**18 39 01.9**	**+0.9**
	149nm,0.3s,baz=264,slow=17,SNR=32						
CMAR				Lg	Lg	18 39 36.7	
	460nm,0.3s,baz=248,slow=19,SNR=18						
	30nm,0.3s						
CHTO	**Chiang Mai**	**2.76**	**79**		**Pn**	**18 38 55.2**	**-1.3**
CHTO	**Chiang Mai**	**2.76**	**79**	P	**Pn**	**18 38 56.4**	**-0.1**
CHTO	**Chiang Mai**	**2.76**	**79**	P	**Pn**	**18 38 55.2**	**-1.3**
CHTO	**Chiang Mai**	**2.76**	**79**	P	**Pn**	**18 38 55.7**	**-0.8**
CMMT	**Chiang Mai**	**2.76**	**79**	P	**Pn**	**18 38 55.5**	**-1.1**
MND	**Mandalay**	**3.70**	**0**	Pn	Pn	18 39 08.1	-1.4
MND	**Mandalay**	**3.70**	**0**	P	Pn	18 39 08.1	-1.3
PHRA	**Phrae**	**3.94**	**86**	Pn	**Pn**	**18 39 13.1**	**+0.3**
CRAI	**Chiangrai**	**4.48**	**64**	Pn	**Pn**	**18 39 20.2**	**0.0**
SRDT	**SRDT**	**4.89**	**143**	P	**Pn**	**18 39 24.4**	**-1.5**
SRDT	**SRDT**	**4.89**	**143**	P	Pn	18 39 23.7	-2.2
SAIH	**SAIHA**	**5.08**	**326**	*e*P	**Pn**	**18 39 30.7**	**+2.1**
SAIH				*ex*	x	18 40 40.9	
DGPR	**DIGLIPUR**	**5.93**	**211**	*e*P	**Pn**	**18 39 43.5**	**+3.4**
DGPR				*e*S	**Sn**	**18 40 50.3**	**+2.1**
NAYO	**Nakonayok**	**6.40**	**128**	P	**Pn**	**18 39 46.1**	**-0.5**
IMP	**Imphal**	**6.80**	**343**	*e*P	**Pn**	**18 39 55.5**	**+3.4**
TNCH	**TengChong**	**7.07**	**18**	Pg	**Pg**	**18 40 28.0**	**+0.4**
TNCH				Sg	**Sg**	**18 41 55.5**	**-3.6**
TNCH				*smax*	*smax*		
	comp=N,2μm,1.4s						
TNCH				*smax*	*smax*		
	comp=E,2μm,1.4s						
AGT	**Agartala**	**7.16**	**322**	*e*P	**Pn**	**18 39 58.3**	**+1.3**
PBA	**Port Blair**	**7.35**	**207**	Pn	**Pn**	**18 40 00.7**	**+1.0**
KOHI	**KOHIMA**	**7.61**	**346**	*e*P	**Pn**	**18 40 06.7**	**+3.3**
MOKO	**MOKOCHONG**	**8.11**	**350**	*e*P	**Pn**	**18 40 14.1**	**+3.8**
SHL	**Shillong**	**8.21**	**332**		Pn	18 40 10.1	-1.6
SHL	**Shillong**	**8.21**	**332**	P	Pn	18 40 10.1	-1.6
SHL	**Shillong**	**8.21**	**332**	*e*P	**Pn**	**18 40 11.5**	**-0.2**
SHL				*e*S	**Sn**	**18 41 42.2**	**-2.5**
TEZP	**TEZPUR**	**8.82**	**340**	*e*P	**Pn**	**18 40 21.0**	**+1.2**
ITAN	**ITANAGAR**	**9.07**	**347**	*e*P	**Pn**	**18 40 24.8**	**+1.5**
KMI	**Kunming**	**9.18**	**41**	||P	**Pn**	**18 40 28.2**	**+3.2**
KMI				pmax	pmax		
	comp=E,44nm,1.3s						
ZIRO	**ZIRO**	**9.41**	**348**	*e*P	**Pn**	**18 40 29.3**	**+1.2**
UBPT	**Khong Chiam**	**9.47**	**107**	Pn	**Pn**	**18 40 29.1**	**+0.3**
UBPT	**Khong Chiam**	**9.47**	**107**	P	**Pn**	**18 40 29.5**	**+0.7**
PZH	**PanZhiHua**	**9.69**	**32**	P	**Pn**	**18 40 35.8**	**+3.9**
PZH				pmax	pmax		
	comp=E,50nm,2.0s						
BOK	**Bokaro**	**10.98**	**302**	*e*P	**Pn**	**18 40 52.1**	**+2.7**
GTK	**Tadong**	**11.32**	**324**	*e*P	Pn	18 40 52.4	-1.8
GTK				*ex*	x	18 42 54.6	
LSA	**Lhasa**	**12.21**	**339**		Pn	18 41 04.4	-2.3
LSA	**Lhasa**	**12.21**	**339**	P	Pn	18 41 04.4	-2.3
KCSI	**Kotacane, Aceh**	**14.78**	**173**	P	**Pn**	**18 41 41.8**	**+0.3**
	comp=E,108nm,1.2s						
SNSI	**Sinabang, Aceh**	**15.80**	**179**	P	**Pn**	**18 41 54.7**	**-0.2**
	comp=E,59nm,1.8s						
GSI	**Gunungsitoli**	**16.95**	**175**		**Pn**	**18 42 10.0**	**+0.4**
GSI	**Gunungsitoli**	**16.95**	**175**	P	**Pn**	**18 42 09.1**	**-0.6**
	comp=E,83nm,2.4s						
ENH	**Enshi**	**17.05**	**43**		**Pn**	**18 42 09.3**	**-1.5**
MYKOM	**Kota Tinggi**	**18.09**	**154**	P	**Pn**	**18 42 24.1**	**+0.3**
PBSI	**Pulau Batu**	**18.37**	**173**	P	**Pn**	**18 42 26.6**	**-0.6**
	comp=E,134nm,1.5s						
PALK	**Pallekele**	**18.56**	**236**	P	**P**	**18 42 32.0**	**+2.6**
	comp=E,2.3nm,0.3s,baz=337,slow=17,SNR=2.6						
LZH	**Lanzhou**	**19.00**	**20**	*e*P	**P**	**18 42 35.8**	**+1.6**
LZH				pmax	pmax		
	comp=E,70nm,1.8s						
PDSI	**Padang**	**19.57**	**167**	P	**P**	**18 42 39.8**	**-0.7**
	comp=E,17nm,0.9s						
WHN	**Wuhan**	**20.58**	**50**	P	Pn	18 42 55.8	+2.2
GTA	**Gaotai**	**21.28**	**8**	*e*P	**P**	**18 43 00.0**	**+1.0**
GTA				pmax	pmax		
	comp=E,31nm,1.1s						
PPSI	**Pulau Pagai**	**21.29**	**169**	P	**P**	**18 42 58.6**	**-0.4**
	comp=E,180nm,1.4s						
LYN	**LuoYang**	**21.79**	**39**	*e*P	**P**	**18 43 07.1**	**+2.7**
LYN				pP	pP	18 43 11.1	+3.8
LYN				pmax	pmax		
	comp=E,67nm,0.8s						
PPBI	**Pangkal Pinang**	**22.61**	**153**	P	**P**	**18 43 13.4**	**+0.1**
	comp=E,68nm,1.2s						
STKI	**Sintang**	**23.60**	**138**	P	**P**	**18 43 24.0**	**+0.5**
	comp=E,88nm,1.2s						
NJ2	**Nanjing**	**24.67**	**52**	*e*P	**P**	**18 43 32.1**	**-1.2**
NJ2				pmax	pmax		
	comp=E,9.0nm,0.6s						
HNS	**HongShan**	**25.07**	**37**	||P	**P**	**18 43 38.7**	**+1.8**
HNS				pmax	pmax		
	comp=E,69nm,1.5s						
KASI	**Kota Agung**	**25.09**	**160**	P	**P**	**18 43 34.2**	**-3.0**
BTO	**Baotou**	**25.26**	**25**	*e*P	**P**	**18 43 40.2**	**+1.5**
BTO				pP	**pP**	**18 43 44.3**	**+2.5**
BTO				PP	**PnPn**	**18 44 18.4**	**+5.4**
BTO				sS	sS	18 48 18.5	+8.9
BTO				SS	**SnSn**	**18 49 01.6**	**+6.4**
BTO				LR	LR		
	comp=E,9μm,14.0s						
BTO				LR	LR		
	comp=E,13μm,13.3s						
BTO				LR	LR		
	comp=E,11μm,13.4s						
NIL	**Nilore**	**25.51**	**311**	P	**P**	**18 43 40.5**	**-0.5**
NIL	**Nilore**	**25.51**	**311**	P	**P**	**18 43 40.5**	**-0.5**
NIL				pmax	pmax		
	comp=Z,385nm,2.0s						
TIA	**Tai'an**	**25.75**	**42**	*e*P	**P**	**18 43 44.2**	**+1.1**
TIA				pmax	pmax		
	comp=Z,25nm,1.7s						
HHC	**Hu-ho-hao-te**	**26.11**	**27**	*e*P	**P**	**18 43 50.0**	**+3.6**
WMQ	**Urumqi**	**26.41**	**346**	*e*P	**P**	**18 43 50.0**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,28nm,1.1s						
WMQ				LR	LR		
	comp=Z,2μm,11.3s						
KSH	**Kashi**	**27.39**	**325**	P	**P**	**18 43 59.7**	**+1.7**
KSH				sS	sS	18 48 47.7	+4.2
KSH				pmax	pmax		
	comp=Z,30nm,0.9s						
ARLS	**Aral**	**29.94**	**326**	P	**P**	**18 44 22.0**	**+1.3**
ARLS				pmax	pmax		
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**30.40**	**328**	P	**P**	**18 44 24.7**	**-0.2**
AAK	**Ala-Archa**	**30.40**	**328**	*ce*P	**P**	**18 44 25.2**	**+0.4**
AAK				pmax	pmax		
	comp=Z,31nm,1.3s						
AAK	**Ala-Archa**	**30.40**	**328**	P	**P**	**18 44 24.9**	**+0.1**
	comp=Z,14nm,1.1s,baz=166,slow=6.8,SNR=7.6						
	comp=Z,14nm,1.1s						
MK31	**Makanchi Array**	**30.61**	**341**	*ce*P	**P**	**18 44 25.9**	**-0.5**
MKAR	**Makanchi Array**	**30.61**	**341**	P	**P**	**18 44 25.9**	**-0.5**
	comp=Z,3.8nm,0.4s,baz=159,slow=8.6,SNR=46						
MKAR				PcP	**PcP**	**18 47 24.7**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=140,slow=2.7,SNR=4.5						
	comp=Z,3.8nm,0.4s						
SONM	**Songino

KLR pmax pmax
comp=Z,16nm,1.3s
ABKAR Akbulak array 42.40 325 P **P** **18 46 05.7 -1.2**
ZEA Zeya 42.78 27 *eP* **P** **18 46 10.9 +1.1**
ZEA pmax pmax
comp=E,10.0nm,1.6s
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.7s
LKRN Lenkeran, Azer 45.70 307 P **P** **18 46 34.4 +0.9**
SVE Sverdlovsk 46.67 334 *eP* **P** **18 46 40.1 -0.8**
SVE pmax pmax
comp=Z,48nm,1.1s
ARU Arti 47.30 333 P P 18 46 44.4 -1.4
ARU Arti 47.30 333 *c i* P **P** **18 46 44.7 -1.1**
ARU 18 48 31.3
ARU S **S** **18 53 39.5 +0.3**
ARU pmax pmax
comp=Z,25nm,1.5s
MNGR Mingechevir, A 47.44 309 P **P** **18 46 48.0 +0.9**
SEKA Sheki 47.46 310 P **P** **18 46 47.5 +0.1**
YSS Yuzh-Sakhalins 47.62 42 *i* P **P** **18 46 48.7 +0.3**
YSS pmax pmax
comp=Z,15nm,1.3s
GANJ Ganja 47.98 309 P **P** **18 46 52.1 +0.7**
ZKTA Zakatala 47.98 310 P **P** **18 46 51.5 +0.2**
NAX Nakhchivan 48.30 306 P **P** **18 46 54.8 +0.8**
YAK Yakutsk 49.58 20 P **P** **18 47 02.2 -1.1**
YAK IAmb IAmb 18 47 03.8
comp=Z,24nm,0.8s
YAK Yakutsk 49.58 20 *eP* **P** **18 47 03.2 -0.1**
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.3s
ZEI Tsey 50.21 311 *eP* P 18 47 06.6 -2.0
ZEI pmax pmax
comp=Z,69nm,1.3s
AKH Akhalkalaki 50.23 309 P **P** **18 47 07.7 -1.1**
AKH Akhalkalaki 50.23 309 P **P** **18 47 07.7 -1.1**
AKH pmax pmax
comp=Z,123nm,1.0s
BELG Belogornoye 50.75 324 *i* P **P** **18 47 11.2 -1.1**
BELG pmax pmax
comp=Z,9.0nm,1.0s
GURO Guroymak-BITLI 50.88 305 P **P** **18 47 14.4 +0.7**
GURO IAmb IAmb 18 47 18.0
comp=Z,49nm,1.1s
KBZ Khabaz 51.12 312 *ceP* **P** **18 47 15.5 +0.3**
KBZ pmax pmax
comp=Z,20nm,1.5s
KBZ Khabaz 51.12 312 P P 18 47 13.9 -1.4
comp=Z,6.4nm,0.9s,baz=140,slow=5.4,SNR=8.2
comp=Z,6.4nm,0.9s
NRIK Noril'sk 51.30 356 *ceP* **P** **18 47 15.9 -0.3**
NRIK pmax pmax
comp=Z,13nm,0.9s
NRIK Noril'sk 51.30 356 P **P** **18 47 15.3 -0.9**
comp=Z,4.6nm,0.3s,baz=175,slow=5.8,SNR=8.7
comp=Z,4.6nm,0.3s
GOF Gofitskoye 51.32 313 *ceP* **P** **18 47 17.7 +1.0**
KIV Kislovodsk 51.32 312 ⇑P **P** **18 47 18.0 +1.1**
KIV Kislovodsk 51.32 312 P **P** **18 47 16.0 -0.9**
KIV Kislovodsk 51.32 312 *eP* **P** **18 47 16.8 -0.1**
KIV pmax pmax
comp=Z,57nm,1.1s
KIRV Kirov 52.60 331 *ceP* **P** **18 47 25.6 -0.4**
WRA Warramunga Arr 53.41 134 *i* P **P** **18 47 32.9 +0.3**
WRA pmax pmax
comp=Z,16nm,0.9s
WRA Warramunga Arr 53.41 134 P **P** **18 47 32.7 +0.2**
comp=Z,18nm,0.9s,baz=320,slow=7.4,SNR=41
comp=Z,18nm,0.9s
WRAB Tennant Creek 53.41 133 P **P** **18 47 31.9 -0.6**
WRAB IAmb IAmb 18 47 36.3
comp=Z,39nm,1.1s
WRAB Tennant Creek 53.41 133 P **P** **18 47 31.9 -0.6**
WRAB pmax pmax
comp=Z,39nm,1.1s
VRH Novokhopyorsk 53.78 321 *eP* P 18 47 33.2 -1.6
VRH pmax pmax
comp=Z,46nm,1.4s
VSR Storozhevoye 55.34 320 *eP* P 18 47 42.6 -3.5
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 55.43 321 *eP* P 18 47 45.3 -1.5
VORR pmax pmax
comp=Z,43nm,1.3s
ASAR Alice Springs 55.70 137 P **P** **18 47 49.7 +0.6**
comp=Z,11nm,0.9s,baz=316,slow=6.9,SNR=102
comp=Z,11nm,0.9s
LPSR Galich'ya Gora 55.84 322 *eP* P 18 47 46.8 -2.9
LPSR pmax pmax
comp=Z,30nm,0.9s
MMAI Mount Meron Ar 55.94 298 P **P** **18 47 51.2 +0.3**
comp=Z,5.1nm,0.8s,baz=52,slow=5.4,SNR=6.4
comp=Z,5.1nm,0.8s
TIXI Tiksi 56.70 12 P **P** **18 47 54.3 -1.2**
TIXI IAmb IAmb 18 47 58.7
comp=Z,25nm,1.1s
TIXI Tiksi 56.70 12 *ceP* **P** **18 47 54.8 -0.7**
TIXI pmax pmax
comp=Z,28nm,1.3s
MA2 Magadan 56.76 30 P **P** **18 47 55.5 -0.6**
MA2 IAmb IAmb 18 47 57.3
comp=Z,23nm,0.9s
MA2 Magadan 56.76 30 *ceP* **P** **18 47 56.3 +0.1**
MA2 pmax pmax
comp=Z,19nm,0.8s
MOS Moscow 57.42 325 *eP* P 18 47 58.7 -2.2
MOS pmax pmax
comp=Z,36nm,1.0s
BRTR Keskin Array B 57.48 306 P **P** **18 48 00.8 -1.1**
comp=Z,8.0nm,1.1s,baz=120,slow=7.3,SNR=12
comp=Z,8.0nm,1.1s
ANTO Ankara 58.14 306 P **P** **18 48 05.1 -1.2**
MILM Milestii Mici 61.39 314 *eP* P 18 48 26.0 -2.5
comp=Z,100nm,2.0s
MILM Milestii Mici 61.39 314 *eP* P 18 48 26.0 -2.5
AKASG Malin Array Be 61.43 318 P P 18 48 27.2 -1.5
comp=Z,1.1nm,0.3s,baz=78,slow=6.0,SNR=13
comp=Z,1.1nm,0.3s
KIEV Kiev 61.44 318 ⇓P **P** **18 48 27.7 -1.1**
KIEV Kiev 61.44 318 P P 18 48 26.3 -2.4
KIEV IAmb IAmb 18 48 28.4
comp=Z,27nm,1.4s
KIEV Kiev 61.44 318 ⇓P **P** **18 48 27.7 -1.1**
SORM Soroca 61.78 315 ⇑P **P** **18 48 30.0 -1.1**
SORM Soroca 61.78 315 ⇑P **P** **18 48 30.0 -1.1**
MNK Minsk 62.66 322 *i* P **P** **18 48 36.1 -0.8**
MNK *i* P **P** **18 48 36.1 -0.8**
comp=N,19nm,1.3s
MNK *i* P **P** **18 48 36.1 -0.8**
comp=Z,38nm,0.9s,baz=97
MNK *i* S **S** **18 57 06.4 +1.2**
MNK *i* LRM MLR 19 18 14.2
MNK Minsk 62.66 322 *i* P **P** **18 48 36.1 -0.8**
MNK *i* S **S** **18 57 06.4 +1.2**
MNK pmax pmax
comp=N,18nm,1.3s
MNK pmax pmax
comp=Z,38nm,0.9s
VRI Vrincioaia 62.79 313 ⇑P **P** **18 48 37.9 -0.1**
VRI Vrincioaia 62.79 313 ⇑P **P** **18 48 37.9 -0.1**
PLOR Plostina 62.84 313 ⇑P **P** **18 48 38.9 +0.5**
PLOR Plostina 62.84 313 ⇑P **P** **18 48 38.9 +0.5**
ALN Alexandroupoli 63.30 307 P **P** **18 48 41.0 -0.4**
ALN IAmb IAmb 18 48 44.3
comp=Z,37nm,1.2s
ALN Alexandroupoli 63.30 307 P **P** **18 48 41.0 -0.4**
ALN pmax pmax
comp=Z,37nm,1.2s
MLR Muntele Rosu 63.33 312 ⇓P **P** **18 48 42.4 +0.7**
MLR Muntele Rosu 63.33 312 P **P** **18 48 40.8 -1.0**
MLR Muntele Rosu 63.33 312 ⇓P **P** **18 48 42.4 +0.7**
RDO Rodhopi 63.67 307 P P 18 48 41.7 -2.2
VSU Vasula 63.79 327 *ceP* **P** **18 48 43.4 -0.9**
VSU pmax pmax
comp=Z,50nm,1.7s
VSU Vasula 63.79 327 *eP* **P** **18 48 43.7 -0.6**
BURAR Bucovina Array 63.87 315 ⇑P **P** **18 48 45.1 -0.1**
BURAR Bucovina Array 63.87 315 ⇑P **P** **18 48 45.1 -0.1**

ARR Arges 64.25 312 ⇑P **P** **18 48 47.2 -0.5**
FINES FINESS Array B 64.55 330 *i* P **P** **18 48 48.7 -0.5**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 64.55 330 P **P** **18 48 48.1 -1.1**
comp=Z,9.0nm,0.8s,baz=101,slow=9.9,SNR=15
comp=Z,9.0nm,0.8s
LVV L'vov 64.70 317 *eP* **P** **18 48 49.4 -1.1**
PABE Paberze 65.00 323 P **P** **18 48 51.5 -0.8**
PABE Paberze 65.00 323 *eP* **P** **18 48 52.3 0.0**
VADS Vadso 65.06 340 *eP* **P** **18 48 52.4 0.0**
VADS IAmb IAmb 18 48 53.6
comp=Z,52nm,1.0s
MARR Marisel-Cluj 65.30 314 ⇑P **P** **18 48 54.6 0.0**
MTSE Matsula 65.34 327 *eP* **P** **18 48 55.1 +0.6**
SUW Suwalki 65.37 322 *eP* P 18 48 51.8 -3.0
SUW Suwalki 65.37 322 P P 18 48 51.5 -3.2
SUW Suwalki 65.37 322 P P 18 48 51.5 -3.2
SUW pmax pmax
comp=Z,80nm,1.1s
SUW Suwalki 65.37 322 *eP* P 18 48 51.8 -2.9
KWP Kalwaria Pacla 65.56 317 *eP* **P** **18 48 55.9 -0.2**
BLKB Belogradchik 65.70 310 ⇑P **P** **18 48 56.1 -1.1**
BILL Bilibino 65.77 23 *i* P **P** **18 48 56.7 -0.4**
BILL pmax pmax
comp=Z,14nm,1.2s
HERR Herculane 65.83 312 ⇓P **P** **18 48 58.6 +0.7**
SURR Surduc 66.01 313 ⇑P **P** **18 48 59.1 +0.1**
ARA0 ARCESS Array S 66.22 339 *eP* **P** **18 48 59.9 -0.1**
ARCES ARCESS Array B 66.22 339 P **P** **18 48 59.6 -0.3**
comp=Z,7.7nm,0.8s,baz=96,slow=6.3,SNR=36
comp=Z,7.7nm,0.8s
AGG Agios Georgios 66.25 305 IAmb IAmb 18 49 02.0
comp=Z,28nm,1.4s
STKA Stephens Creek 66.27 138 P **P** **18 49 01.0 +0.1**
STKA Stephens Creek 66.27 138 P **P** **18 49 00.9 +0.1**
comp=Z,8.6nm,1.1s,baz=293,slow=9.4,SNR=6.3
comp=Z,8.6nm,1.1s
SIRR Siria 66.31 313 ⇑P **P** **18 49 01.3 +0.2**
MDVR Moldovita 66.34 312 ⇑P **P** **18 49 00.8 -0.4**
BZS Buzias 66.37 312 ⇑P **P** **18 49 01.1 -0.3**
BZS Buzias 66.37 312 ⇑P **P** **18 49 01.1 -0.3**
CRVS Cervenica-Dubn 66.38 316 *eP* **P** **18 49 02.3 +0.9**
CRVS Cervenica-Dubn 66.38 316 *eP* **P** **18 49 02.3 +0.9**
RAF Rauma 66.57 329 *eP* **P** **18 49 01.6 -0.8**
KTK1 Kautokeino 66.92 338 *eP* **P** **18 49 04.0 -0.4**
KTK1 IAmb IAmb 18 49 09.1
comp=Z,44nm,1.4s
HAMF Hammerfest 67.04 340 *eP* **P** **18 49 05.1 -0.1**
HAMF IAmb IAmb 18 49 08.0
comp=Z,242nm,2.2s
LANS Liptovska Anna 67.68 316 *eP* **P** **18 49 10.3 +0.6**
LANS Liptovska Anna 67.68 316 *eP* **P** **18 49 10.3 +0.6**
HOPEN Hopen 67.93 346 *eP* **P** **18 49 11.5 +0.8**
VYHS Vyhne 68.13 316 *eP* **P** **18 49 12.6 +0.1**
VYHS Vyhne 68.13 316 *eP* **P** **18 49 12.6 +0.1**
MORH Mrgy, Hungar 68.41 313 ⇑P **P** **18 49 13.8 -0.4**
TRO Tromso 68.51 338 *eP* **P** **18 49 14.0 -0.4**
MAUC Maruska 68.74 317 *eP* **P** **18 49 16.1 -0.3**
JAVC Velka Javorina 68.88 316 *eP* **P** **18 49 16.0 -1.2**
EIDS Eidsvold 68.90 127 P **P** **18 49 17.7 +0.2**
EIDS IAmb IAmb 18 49 20.0
comp=Z,24nm,1.3s
MORC Moravsky Berou 68.90 317 IAmb IAmb 18 49 20.6
comp=Z,24nm,1.6s
MORC Moravsky Berou 68.90 317 *eP* **P** **18 49 17.0 -0.4**
MODS Modra-Piesok 69.17 316 *eP* **P** **18 49 20.5 +1.5**
MODS Modra-Piesok 69.17 316 *eP* **P** **18 49 20.5 +1.5**
KRLC Kraliky 69.37 317 *eP* **P** **18 49 19.8 -0.5**
KRLC Kraliky 69.37 317 *eP* **P** **18 49 19.8 -0.5**
VRAC Vranov 69.55 317 *eP* **P** **18 49 20.9 -0.5**
DPC Dobruska-Polom 69.65 318 *eP* **P** **18 49 21.6 -0.4**
DPC Dobruska-Polom 69.65 318 *eP* **P** **18 49 21.6 -0.4**
KRUC Moravsky 69.70 316 *eP* **P** **18 49 21.3 -1.0**
FAUS Fauske 69.72 336 *eP* **P** **18 49 21.3 -0.7**
STEI Steigen 69.75 337 *eP* **P** **18 49 21.8 -0.4**
RONA Rosalia, Austr 69.89 315 *eP* **P** **18 49 23.0 -0.5**
comp=Z,4.0nm,0.9s
MOR8 Moi Rana 70.05 335 *eP* P 18 49 22.7 -1.4
SPA0 Spitsbergen Ar 70.10 348 *eP* **P** **18 49 24.3 +0.1**
SPITS Spitsbergen Ar 70.10 348 P **P** **18 49 23.4 -0.8**
comp=Z,15nm,0.8s,baz=113,slow=7.4,SNR=37
comp=Z,15nm,0.8s
CONA Conrad Observa 70.16 315 *eP* **P** **18 49 25.5 +0.3**
comp=Z,14nm,1.5s
LOF Lofoten 70.39 337 *eP* **P** **18 49 25.7 -0.4**
ARSA Arzberg 70.45 315 *eP* **P** **18 49 27.0 0.0**
comp=Z,5.4nm,1.1s
HFS Hagfors 70.54 328 P **P** **18 49 26.6 -0.6**
comp=Z,4.7nm,0.4s,baz=96,slow=4.5,SNR=24
comp=Z,4.7nm,0.4s
PVCC Panska Ves 70.75 318 *eP* **P** **18 49 29.3 +0.7**
PVCC Panska Ves 70.75 318 *eP* **P** **18 49 29.3 +0.7**
PRU Pruhonice 70.82 317 *eP* **P** **18 49 31.1 +2.0**
PRU Pruhonice 70.82 317 *eP* **P** **18 49 31.1 +2.0**
SOKA Soboth 70.85 314 *eP* **P** **18 49 28.9 -0.5**
comp=Z,7.1nm,1.1s
RUE Ruedersdorf 71.05 320 *eP* **P** **18 49 30.7 +0.3**
RUE Ruedersdorf 71.05 320 *eP* **P** **18 49 30.5 +0.1**
comp=Z,63nm,1.2s,baz=82,slow=5.9
CKRC Cesky Krumlov 71.09 316 *eP* **P** **18 49 30.4 -0.4**
CKRC Cesky Krumlov 71.09 316 *eP* **P** **18 49 30.4 -0.4**
ZVC Zvikov 71.10 317 *eP* **P** **18 49 31.0 +0.2**
BRG Berggiesshubel 71.11 318 *eP* **P** **18 49 31.1 +0.2**
BRG Amp 18 49 34.2
comp=Z,20nm,1.1s
BRG Berggiesshubel 71.11 318 *eP* **P** **18 49 31.0 +0.2**
BRG pmax pmax
comp=Z,20nm,1.1s
BRG Berggiesshubel 71.11 318 *eP* **P** **18 49 30.0 -0.9**
comp=Z,20nm,1.1s,baz=82,slow=5.9
NSS Namsos 71.12 333 *eP* **P** **18 49 30.3 -0.3**
OBKA Obir 71.20 314 *eP* P 18 49 30.1 -1.5
comp=Z,9.4nm,1.2s
MOA Molln 71.23 315 *eP* P 18 49 29.9 -1.8
comp=Z,16nm,1.1s
GEC2 GERESS Array S 71.49 316 *eP* **P** **18 49 32.7 -0.6**
comp=Z,15nm,1.0s,baz=82,slow=5.9
GERES GERESS Array B 71.49 316 P **P** **18 49 32.2 -1.1**
comp=Z,9.5nm,0.9s,baz=60,slow=5.4,SNR=17
comp=Z,9.5nm,0.9s
KHC Kasperske Hory 71.54 317 *ceP* **P** **18 49 34.1 +0.6**
KHC pmax pmax
comp=Z,33nm,1.7s
KHC Kasperske Hory 71.54 317 *eP* P 18 49 32.0 -1.5
NC602 NORSAR Array S 71.57 329 *eP* **P** **18 49 32.4 -1.0**
CLL Collm 71.65 319 *i* P **P** **18 49 34.6 +0.5**
CLL pmax pmax
comp=Z,19nm,1.3s
CLL Collm 71.65 319 *i* P **P** **18 49 34.6 +0.5**
comp=Z,19nm,1.3s
CLL *i* x x 18 49 47.0
CLL Collm 71.65 319 *eP* **P** **18 49 34.0 -0.1**
comp=Z,14nm,1.1s,baz=82,slow=5.9
BIOA Bad Ischl, Aus 71.67 315 *eP* **P** **18 49 34.0 -0.4**
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 71.70 329 P **P** **18 49 33.2 -1.1**
comp=Z,31nm,1.2s,baz=86,slow=6.5
NB2 NORSAR Subarra 71.70 329 P **P** **18 49 33.2 -1.1**
baz=86,slow=6.5
NOA NORSAR Array B 71.70 329 P P 18 49 32.7 -1.5
comp=Z,8.8nm,1.0s,baz=90,slow=5.9,SNR=14
comp=Z,8.8nm,1.0s
KBA Koelnbreinsper 71.95 315 *ep*P **P** **18 49 37.4 +1.2**
comp=Z,3.7nm,0.7s
WET Wettzell 71.99 317 *eP* **P** **18 49 35.1 -1.2**
comp=Z,12nm,1.1s,baz=82,slow=5.9
OSL Oslo 72.04 328 *eP* **P** **18 49 36.2 0.0**
ARMA Armidale 72.11 132 P **P** **18 49 36.9 -0.4**
ARMA IAmb IAmb 18 49 41.0
comp=Z,41nm,1.4s
PLN Plauen 72.28 318 *eP* **P** **18 49 37.4 -0.5**
comp=Z,10nm,1.1s,baz=82,slow=5.9
ROTZ Rotzenmuhle 72.35 317 *eP* **P** **18 49 37.9 -0.4**
comp=Z,6.1nm,1.1s,baz=82,slow=5.9
LESA Schwarzleotal 72.35 315 *eP* **P** **18 49 37.6 -0.9**
comp=Z,22nm,1.1s
MANZ Manzenberg 72.38 318 *eP* **P** **18 49 38.2 -0.3**
comp=Z,6.6nm,1.3s,baz=82,slow=5.9
NEUB Neuenburg 72.43 319 *eP* P 18 49 36.2 -2.6
comp=Z,17nm,1.0s,baz=82,slow=5.9
GORT1 Trebel 72.49 321 *eP* **P** **18 49 38.6 -0.4**
comp=Z,46nm,1.2s,baz=82,slow=5.9
STAL STALIGIAL 72.50 314 IAmb IAmb 18 49 39.4
comp=Z,37nm,1.5s

GUMA Gualdo di Mace 72.53 310 IAmb IAmb 18 49 53.0
comp=Z,59nm,1.3s
ABTA Abfaltersbach 72.56 314 *eP* P 18 49 38.0 -1.8
comp=Z,5.7nm,1.0s
MOX Moxa 72.61 318 *eP* **P** **18 49 39.7 -0.1**
comp=Z,7.7nm,1.0s,baz=82,slow=5.9
FLTG Flechtingen 72.62 320 *eP* **P** **18 49 39.4 -0.5**
comp=Z,29nm,1.4s,baz=82,slow=5.9
DOMB Dombas 72.63 330 *eP* **P** **18 49 39.4 -0.4**
DOMB IAmb IAmb 18 49 42.1
comp=Z,18nm,1.0s
CIMO Cimolais 72.67 314 IAmb IAmb 18 49 42.7
comp=Z,14nm,1.1s
FDMO Fiordimonte 72.72 310 IAmb IAmb 18 49 43.5
comp=Z,42nm,1.2s
NRCA Norcia 72.73 310 IAmb IAmb 18 49 41.7
comp=Z,33nm,1.3s
BSEG Bad Segeberg 72.95 322 *eP* **P** **18 49 41.2 -0.5**
comp=Z,25nm,1.1s,baz=82,slow=5.9
ASSE Asse, Remlinge 72.99 320 *eP* **P** **18 49 41.8 -0.2**
comp=Z,300nm,3.3s,baz=82,slow=5.9
GRA1 Grafenberg Arr 72.99 317 IAmb IAmb 18 49 45.9
comp=Z,51nm,1.4s
GRF Grafenberg Arr 72.99 317 *eP* **P** **18 49 42.0 -0.2**
comp=Z,56nm,1.4s,baz=82,slow=5.9
GRFO Grafenberg 72.99 317 P **P** **18 49 42.1 0.0**
GRFO IAmb IAmb 18 49 45.8
comp=Z,53nm,1.4s
GRFO Grafenberg 72.99 317 P **P** **18 49 42.1 0.0**
GRFO pmax pmax
comp=Z,53nm,1.4s
WTTA Wattenberg 73.08 315 P P 18 49 41.6 -1.3
comp=Z,14nm,1.3s
WATA Walderalm 73.11 315 *eP* **P** **18 49 41.9 -1.1**
comp=Z,11nm,1.1s
SKAR Skarslia 73.16 329 *eP* **P** **18 49 42.9 0.0**
SKAR IAmb IAmb 18 49 45.2
comp=Z,85nm,1.8s
CLZ Clausthal 73.21 320 *eP* **P** **18 49 42.8 -0.7**
comp=Z,27nm,1.2s,baz=82,slow=5.9
NRDL Niedersach Rie 73.28 320 *eP* **P** **18 49 43.7 0.0**
comp=Z,26nm,1.2s,baz=82,slow=5.9
SQTA Sankt Quirin 73.37 315 *eP* **P** **18 49 43.5 -1.1**
comp=Z,15nm,1.4s
MOTA Moosalm 73.42 315 *eP* P 18 49 43.6 -1.4
comp=Z,14nm,1.1s
GTTG Gottingen 73.51 319 *eP* **P** **18 49 44.6 -0.5**
comp=Z,22nm,1.1s,baz=82,slow=5.9
AKN Aaknes 73.58 331 *eP* **P** **18 49 45.9 +0.5**
RETA Reutte 73.63 315 *eP* **P** **18 49 45.2 -0.8**
comp=Z,22nm,1.6s
RETH Rethem/Aller, 73.69 321 *eP* **P** **18 49 45.1 -1.0**
comp=Z,17nm,1.3s,baz=82,slow=5.9
FETA Feichten 73.73 315 *eP* **P** **18 49 45.6 -1.1**
comp=Z,15nm,1.4s
SALO Salr 74.10 313 IAmb IAmb 18 49 52.2
comp=Z,32nm,0.9s
BLS5 Blasjo 74.25 328 *eP* **P** **18 49 49.5 +0.1**
BLS5 IAmb IAmb 18 49 50.1
comp=Z,36nm,1.2s
KASTN Kahler Asten 74.52 319 *eP* **P** **18 49 50.5 -0.6**
comp=Z,20nm,1.6s,baz=82,slow=5.9
TNS Taunus Mts 74.67 318 *eP* **P** **18 49 51.3 -0.7**
comp=Z,26nm,1.4s,baz=82,slow=5.9
IBBN Ibbenburen 74.73 320 *eP* **P** **18 49 51.4 -0.8**
comp=Z,40nm,1.4s,baz=82,slow=5.9
LSZ Lusaka 74.74 248 P **P** **18 49 53.3 +0.2**
LSZ IAmb IAmb 18 49 57.2
comp=Z,22nm,0.7s
LSZ Lusaka 74.74 248 P **P** **18 49 53.3 +0.2**
LSZ pmax pmax
comp=Z,22nm,0.7s
AHRW Bad Neuenahr-A 75.48 319 *eP* **P** **18 49 56.6 0.0**
comp=Z,23nm,1.1s,baz=82,slow=5.9
WLF Walferdange 76.23 318 IAmb IAmb 18 50 04.8
comp=Z,40nm,1.2s
WLF Walferdange 76.23 318 *eP* **P** **18 50 00.7 -0.2**
comp=Z,45nm,1.4s,baz=82,slow=5.9
C16K Lisburne Hills 76.29 22 IAmb IAmb 18 50 05.0
comp=Z,52nm,1.6s
F15K North Star Dit 77.24 25 IAmb IAmb 18 50 09.8
comp=Z,26nm,1.4s
ANM Nome 77.26 26 IAmb IAmb 18 50 08.7
comp=Z,61nm,1.8s
DAG Danmarks Havn 77.75 348 *i* P P 18 50 07.0 -2.0
DAG IAmb IAmb 18 50 09.5
comp=Z,4.5nm,1.0s
G16K Koyuk River 78.24 25 IAmb IAmb 18 50 15.4
comp=Z,33nm,1.4s
F17K Baldwin Pennin 78.34 24 IAmb IAmb 18 50 16.0
comp=Z,47nm,1.3s
H17K Granite Mounta 79.37 25 IAmb IAmb 18 50 19.6
comp=Z,42nm,1.6s
B22K Teshekpuk Lake 79.56 19 IAmb IAmb 18 50 22.7
comp=Z,62nm,1.6s
J16K Anvik River 79.66 27 IAmb IAmb 18 50 23.4
comp=Z,29nm,1.2s
H18K Honhosa River 79.91 24 IAmb IAmb 18 50 24.4
comp=Z,63nm,1.9s
EKA Eskdalemuir Ar 80.28 325 P **P** **18 50 22.9 -0.3**
comp=Z,5.2nm,0.8s,baz=85,slow=5.5,SNR=19
comp=Z,5.2nm,0.8s
H19K Roundabout Mou 80.50 24 IAmb IAmb 18 50 28.8
comp=Z,29nm,1.4s
K17K Iditarod 80.84 27 IAmb IAmb 18 50 29.7
comp=Z,46nm,1.3s
J18K Innoko River 81.22 26 IAmb IAmb 18 50 31.3
comp=Z,44nm,1.6s
J19K Poorman 81.45 25 IAmb IAmb 18 50 33.0
comp=Z,27nm,1.2s
NEEM North Greenlan 82.53 353 *i* P P 18 50 33.3 -1.9
NEEM IAmb IAmb 18 50 38.2
comp=Z,13nm,1.0s
BOSA Boshof 82.79 237 P **P** **18 50 36.5 -0.7**
comp=Z,7.2nm,0.4s,baz=71,slow=3.5,SNR=22
comp=Z,7.2nm,0.4s
E25K Arctic Village 83.09 19 IAmb IAmb 18 50 39.4
comp=Z,35nm,1.7s
CAST Castle Rocks 83.12 25 P **P** **18 50 37.9 -0.2**
H24K Noodor Dome 83.52 22 IAmb IAmb 18 50 43.9
comp=Z,27nm,1.5s
MDM Murphy Dome 83.85 23 IAmb IAmb 18 50 45.0
comp=Z,31nm,1.1s
SKT Skwentna 84.01 26 IAmb IAmb 18 50 43.3
comp=Z,18nm,1.1s
POKR Poker Plat Res 84.05 22 IAmb IAmb 18 50 46.1
comp=Z,26nm,1.2s
RND Reindeer 84.40 24 P **P** **18 50 43.5 -1.3**
RND IAmb IAmb 18 50 47.2
comp=Z,28nm,1.4s
RND Reindeer 84.40 24 P **P** **18 50 43.5 -1.3**
RND pmax pmax
comp=Z,28nm,1.4s
ILAR Eielson Array 84.43 23 P P 18 50 43.1 -1.7
comp=Z,2.2nm,0.8s,baz=302,slow=4.4,SNR=13
ILAR PP **PP** **18 54 00.3 +0.9**
comp=Z,3.3nm,1.2s,baz=310,slow=8.4,SNR=7.6
comp=Z,2.2nm,0.8s
SUMG Summit 84.44 348 P P 18 50 43.4 -1.9
SUMG IAmb IAmb 18 50 49.0
comp=Z,13nm,0.9s
SUMG Summit 84.44 348 P P 18 50 43.4 -1.8
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 84.44 348 *i* P **P** **18 50 44.0 -1.2**
SUMG IAmb IAmb 18 50 49.6
comp=Z,9.2nm,0.8s
PRP Porcupine Dome 84.52 22 P **P** **18 50 44.7 -0.7**
PRP IAmb IAmb 18 50 48.9
comp=Z,29nm,1.1s
E28M Babbage River 84.64 18 IAmb IAmb 18 50 49.3
comp=Z,35nm,1.6s
F28M Old Crow 85.15 19 P P 18 50 46.2 -2.2
I26K Coal Creek Min 85.46 21 P **P** **18 50 49.9 -0.1**
I26K IAmb IAmb 18 50 52.6
comp=Z,28nm,1.5s
A36M Sachs Harbour 85.72 12 P **P** **18 50 50.4 -0.7**
A36M IAmb IAmb 18 50 51.7
comp=Z,15nm,0.8s
J26L Joseph Creek 85.78 22 IAmb IAmb 18 50 52.5
comp=Z,19nm,1.1s
SCRK Sand Creek 85.93 23 P **P** **18 50 51.8 -0.7**
ESDC Sonseca Array 85.96 310 P P 18 50 51.2 -1.8
comp=Z,3.5nm,1.1s,baz=8.5,slow=8.9,SNR=4.1
comp=Z,3.5nm,1.1s
INK Inuvik 86.51 16 P **P** **18 50 54.2 -0.9**
INK Inuvik 86.51 16 P **P** **18 50 54.2 -0.9**

INK					pmax	pmax				
	comp=Z,18nm,1.5s									
L26K	**Log Cabin Wild**	**86.70**	**23**		IAmb	IAmb	18 50 58.7			
	comp=Z,28nm,1.4s									
RES	**Resolute Bay**	**86.96**	**3**		P	**P**	**18 50 57.1**	**-0.1**		
RES	**Resolute Bay**	**86.96**	**3**		P	**P**	**18 50 57.1**	**-0.1**		
RES					pmax	pmax				
	comp=Z,6.0nm,1.0s									
N25K	**Chitina, Valde**	**87.03**	**25**		P	**P**	**18 50 58.2**	**+0.3**		
N25K					IAmb	IAmb	18 53 28.6			
	comp=Z,41nm,1.5s									
F31M	**Tsiigehtchic**	**87.05**	**17**		IAmb	IAmb	18 51 01.2			
	comp=Z,33nm,1.6s									
M26K	**Nabesna, AK**	**87.20**	**24**		IAmb	IAmb	18 51 03.3			
	comp=Z,32nm,1.4s									
WIN	**Windhoek**	**87.21**	**245**		P	**P**	**18 51 00.3**	**+0.8**		
WIN	**Windhoek**	**87.21**	**245**		P	**P**	**18 51 00.3**	**+0.8**		
WIN					pmax	pmax				
	comp=Z,49nm,1.8s									
ICESG	**Greenland Ices**	**87.30**	**345**	*i*	P	P	18 50 57.6	-1.8		
ICESG					IAmb	IAmb	18 51 04.0			
	comp=Z,16nm,0.9s									
I30M	**Mount Dempster**	**87.76**	**20**		IAmb	IAmb	18 51 09.6			
	comp=Z,25nm,1.5s									
TORD	**Torodi Ar. Bea**	**90.02**	**284**		P	**P**	**18 51 12.3**	**-0.5**		
	comp=Z,2.6nm,1.1s,baz=38,slow=5.8,SNR=6.2									
TORD					PP	**PP**	**18 54 43.9**	**-2.0**		
	comp=Z,2.0nm,1.1s,baz=55,slow=7.7,SNR=5.4									
	comp=Z,2.6nm,1.1s									
DY2G	**Dye2**	**90.92**	**346**	*i*	P	**P**	**18 51 16.1**	**-0.2**		
DY2G					IAmb	IAmb	18 51 20.2			
	comp=Z,9.4nm,1.2s									
SFJD	**Kangerlussuaq**	**91.44**	**348**		P	**P**	**18 51 17.4**	**-0.9**		
SFJD	**Kangerlussuaq**	**91.44**	**348**		P	**P**	**18 51 17.5**	**-0.9**		
SFJD					pmax	pmax				
	comp=Z,35nm,1.2s									
SFJD	**Kangerlussuaq**	**91.44**	**348**	*i*	P	**P**	**18 51 17.1**	**-1.3**		
SFJD					IAmb	IAmb	18 51 19.2			
	comp=Z,9.5nm,0.9s									
TOZ	**Tahuroa Road**	**92.97**	**129**		P	**P**	**18 51 27.0**	**+1.1**		
RTZ	**Ruatahuna**	**94.37**	**129**		P	**P**	**18 51 31.9**	**-0.6**		
YKA	**Yellowknife Ar**	**95.91**	**14**	*i*	P	**P**	**18 51 39.2**	**+0.2**		
YKA	**Yellowknife Ar**	**95.91**	**14**		P	**P**	18 51 36.9	-2.1		
	comp=Z,0.5nm,0.8s,baz=334,slow=4.1,SNR=4.4									
YKA					PP	**PP**	**18 55 31.8**	**+1.5**		
	comp=Z,0.4nm,0.9s,baz=328,slow=7.9,SNR=4.3									
	comp=Z,0.5nm,0.8s									
VNDA	**Vanda**	**102.70**	**168**		PP	**PP**	**18 56 20.0**	**-2.6**		
	comp=Z,2.1nm,1.0s,baz=279,slow=2.2,SNR=3.9									
PDAR	**Pinedale Array**	**114.81**	**21**		PKIKP	**PKiKP**	**18 56 52.7**	**-1.0**		
	comp=Z,0.1nm,0.4s,baz=270,slow=0.9,SNR=2.1									
ANMO	**Albuquerque**	**122.88**	**22**			**PKPdf**	**18 57 08.8**	**-0.6**		
ANMO	**Albuquerque**	**122.88**	**22**		PKIKP	**PKPdf**	**18 57 08.8**	**-0.6**		
TXAR	**Lajitas Array**	**128.95**	**22**		PKP	**PKPdf**	**18 57 19.1**	**-2.0**		
	comp=Z,1.1nm,0.8s,baz=1.1,slow=6.3,SNR=4.8									
BDFB	**Brasilia**	**145.60**	**269**		PKPbc	**PKPdf**	**18 57 51.4**	**-0.5**		
	comp=Z,24nm,1.2s,baz=92,slow=4.2,SNR=12									
TGUH	**Tegucigalpa,Un**	**147.68**	**6**			**PKPdf**	**18 57 54.8**	**-0.7**		
BAUV	**El Baul**	**148.72**	**329**			**PKPdf**	**18 57 58.6**	**+1.6**		
BOAV	**Boa Vista**	**149.12**	**309**			**PKPdf**	**18 57 57.7**	**-0.1**		
RIMA	**Rio Macho**	**152.11**	**360**			**PKPdf**	**18 58 01.1**	**-1.5**		
ITQB	**Itaqui**	**152.69**	**240**			**PKPdf**	**18 58 00.3**	**-2.4**		
CPUP	**Villa Florida**	**154.18**	**247**		PKPbc	**PKPdf**	**18 58 11.6**	**+6.6**		
	comp=Z,2.9nm,0.8s,baz=108,slow=9.6,SNR=3.2									
CPUP					PKPab	**PKPab**	**18 58 26.0**	**-0.9**		
	comp=Z,2.8nm,0.8s,baz=100,slow=4.0,SNR=3.9									
PLCA	**Paso Flores**	**154.86**	**204**		PKP	**PKPdf**	**18 58 05.7**	**+0.1**		
	comp=Z,3.8nm,1.1s,baz=166,slow=5.9,SNR=3.9									
PLCA					PKPab	**PKPab**	**18 58 29.0**	**-0.4**		
	comp=Z,3.2nm,0.9s,baz=139,slow=5.6,SNR=4.9									

*IDC **11** 18:40:27.3±1.0, 18°.26N×95°.83E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=38.1km s-min=18.5km az=44.0*

ISC 11 18:40:28.7±1.0, 18°.3N±0°.2×95°.9E±0°.1, h10km, n12, σ1§01/12, mb4.1/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.88**	**86**	Pg		**Pb**	**18 41 19.5**	**-0.8**
	baz=264,slow=18							
CMAR				Lg		Lg	18 41 54.8	
	40nm,0.3s,baz=265,slow=32,SNR=2.9							
MKAR	**Makanchi Array**	**30.56**	**341**	P		**P**	**18 46 43.3**	**+0.8**
	0.5nm,0.6s,baz=157,slow=8.1,SNR=1.3							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**35.11**	**341**	P		**P**	**18 47 22.7**	**+0.5**
	0.6nm,0.3s,baz=156,slow=7.8,SNR=2.2							
	0.6nm,0.3s							
ZALV	**Zalesovo Beam**	**36.61**	**349**	P		**P**	**18 47 35.6**	**+0.7**
	1.8nm,0.6s,baz=144,slow=5.2,SNR=1.8							
	1.8nm,0.6s							
GEYT	**Alibeck**	**38.31**	**309**	P		**P**	**18 47 47.6**	**-2.1**
	4.7nm,1.0s,baz=104,slow=6.1,SNR=2.7							
	4.7nm,1.0s							
WRA	**Warramunga Arr**	**53.53**	**133**	P		**P**	**18 49 50.3**	**+0.4**
	2.0nm,0.8s,baz=319,slow=7.5,SNR=4.4							
	2.0nm,0.8s							
ASAR	**Alice Springs**	**55.80**	**137**	P		**P**	**18 50 07.2**	**+0.8**
	1.3nm,0.8s,baz=316,slow=6.3,SNR=4.4							
	1.3nm,0.8s							
ARCES	**ARCESS Array B**	**66.17**	**339**	P		**P**	**18 51 16.3**	**+0.1**
	3.7nm,1.1s,baz=81,slow=6.6,SNR=2.2							
	3.7nm,1.1s							
SPITS	**Spitsbergen Ar**	**70.07**	**348**	P		**P**	**18 51 41.3**	**+0.7**
	13nm,1.0s,baz=121,slow=10,SNR=2.9							
	13nm,1.0s							
HFS	**Hagfors**	**70.46**	**328**	P		**P**	**18 51 44.2**	**+1.0**
	0.9nm,0.5s,baz=79,slow=9.1,SNR=1.4							
	0.9nm,0.5s							
EKA	**Eskdalemuir Ar**	**80.19**	**325**	P		**P**	**18 52 38.8**	**-0.4**
	1.0nm,0.8s,baz=80,slow=5.1,SNR=1.6							
	1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**89.86**	**284**	P		**P**	**18 53 28.3**	**-0.3**
	0.2nm,0.5s,baz=76,slow=8.2,SNR=1.4							
	0.2nm,0.5s							

IDC 11 18:41:33.3±1.7, 18°.05N×95°.53E, h0km, mb3.6/4, mbtmp3.6/5, Error ellipse: s-maj=57.9km s-min=23.9km az=57.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**3.27**	**82**	Pn		Pn	18 42 26.3	+0.4
	30nm,0.8s,baz=262,slow=18,SNR=1.4							
MKAR	**Makanchi Array**	**30.68**	**342**	P		P	18 47 49.8	+0.1
	0.6nm,0.6s,baz=149,slow=8.7,SNR=1.5							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**35.22**	**341**	P		P	18 48 28.7	-0.6
	0.6nm,0.4s,baz=150,slow=8.8,SNR=1.4							
	0.6nm,0.4s							
WRA	**Warramunga Arr**	**53.63**	**133**	P		P	18 50 56.7	-0.1
	0.7nm,0.7s,baz=328,slow=8.9,SNR=1.3							
	0.7nm,0.7s							
ASAR	**Alice Springs**	**55.88**	**137**	P		P	18 51 13.4	+0.2
	0.4nm,0.8s,baz=318,slow=7.6,SNR=2.6							
	0.4nm,0.8s							

*IDC **11** 18:42:13.1±1.3, 18°.22N×96°.08E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=22.8km s-min=15.9km az=49.0*

ISC 11 18:42:15.4±1.6, 18°.5N±0°.2×96°.3E±0°.2, h10km, n6, σ0§44/6, mb3.9/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.54**	**89**	Pg		**Pb**	**18 43 01.0**	**-0.1**
	17nm,0.3s,baz=263,slow=32,SNR=1.2							
CMAR				Lg		Lg	18 43 39.7	
	14nm,0.3s,baz=263,slow=30,SNR=2.2							
MKAR	**Makanchi Array**	**30.52**	**341**	P		**P**	**18 48 28.7**	**-0.2**
	0.7nm,0.5s,baz=151,slow=9.5,SNR=4.1							
	0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**35.07**	**340**	P		**P**	**18 49 08.1**	**-0.4**
	1.0nm,0.6s,baz=151,slow=8.6,SNR=4.2							
	1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**36.52**	**349**	P		**P**	**18 49 21.5**	**+0.6**
	1.2nm,0.3s,baz=155,slow=7.9,SNR=2.4							
	1.2nm,0.3s							
WRA	**Warramunga Arr**	**53.39**	**134**	P		**P**	**18 51 35.7**	**0.0**
	1.3nm,0.8s,baz=321,slow=7.0,SNR=4.6							
	1.3nm,0.8s							
ASAR	**Alice Springs**	**55.69**	**137**	P		**P**	**18 51 52.4**	**+0.1**
	0.6nm,0.7s,baz=320,slow=6.8,SNR=4.4							
	0.6nm,0.7s							

*IDC **11** 18:42:27.3±1.5, 18°.13N×95°.97E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=42.0km s-min=20.3km az=56.0*

ISC 11 18:42:29.1±1.6, 18°.2N±0°.2×96°.0E±0°.2, h10km, n6, σ0§71/6, mb3.9/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.77**	**85**	Pg		**Pb**	**18 43 18.6**	**-0.1**
	13nm,0.3s,baz=262,slow=18,SNR=1.2							
MKAR	**Makanchi Array**	**30.68**	**341**	P		**P**	**18 48 43.1**	**-0.8**
	1.1nm,0.6s,baz=146,slow=8.2,SNR=3.1							
	1.1nm,0.6s							
KURBB	**Kurchatov Arra**	**35.23**	**341**	P		**P**	**18 49 23.7**	**+0.2**
	1.2nm,0.6s,baz=153,slow=8.4,SNR=1.6							
	1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**36.71**	**349**	P		**P**	**18 49 36.8**	**+0.7**
	0.9nm,0.3s,baz=152,slow=6.5,SNR=1.6							
	0.9nm,0.3s							
WRA	**Warramunga Arr**	**53.38**	**133**	P		**P**	**18 51 48.8**	**-0.4**
	1.1nm,0.8s,baz=318,slow=7.6,SNR=2.5							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**55.66**	**137**	P		**P**	**18 52 06.2**	**+0.4**
	0.4nm,0.6s,baz=318,slow=6.4,SNR=4.6							
	0.4nm,0.6s							

*IDC **11** 18:42:57.7±0.5, 18°.36N×96°.08E, h0km, mb4.6/30, mbtmp4.6/30, Error ellipse: s-maj=14.9km s-min=10.3km az=30.0*

*BJI **11** 18:42:57.0±0.0, 17°.99N×96°.10E, h20km, mb4.7/40, mB5.2/2, Ms5.5/5, Ms7 5.4/5*

*NEIC **11** 18:42:59.5±2.1, 18°.45N±0°.07×96°.17E±0°.07, h10km±1km, mb5.2/63, Error ellipse: s-maj=12.0km s-min=9.9km az=217.0*

*MOS **11** 18:43:00.0±0.9, 18°.61N×95°.94E, h14km, mb5.1/28, Error ellipse: s-maj=9.9km s-min=6.5km az=108.3*

*NDI **11** 18:43:02.0±4.2, 18°.23N×96°.09E, h10km, mb5.1*

ISC 11 18:42:58.8±0.3, 18°.25N±0°.04×96°.14E±0°.04, h10km, n343, σ1§53/354, mb4.8/92, 3C-2D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.67**	**85**	P		**Pb**	**18 43 47.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**2.67**	**85**	Pg		**Pb**	**18 43 47.7**	**+0.9**
	184nm,0.3s,baz=263,slow=18,SNR=16							
CMAR				Lg		Lg	18 44 23.7	
	813nm,0.3s,baz=343,slow=9.5,SNR=7.6							
CHTO	**Chiang Mai**	**2.72**	**78**	Pn		**Pn**	**18 43 41.4**	**-1.2**
CHTO	**Chiang Mai**	**2.72**	**78**	P		**Pn**	**18 43 45.7**	**-1.9**
MND	**Mandalay**	**3.74**	**360**	Pn		**Pn**	**18 43 52.4**	**-4.2**
PHRA	**Phrae**	**3.89**	**86**			**Pg**	**18 44 12.3**	**-1.1**
CRAI	**Chiangrai**	**4.46**	**63**	Pn		**Pn**	**18 44 05.5**	**-1.0**
SAIH	**SAIHA**	**5.15**	**325**	*e*P		**Pn**	**18 44 18.5**	**+2.5**
SAIH				*e*S		**Sn**	**18 45 18.0**	**+2.4**
DGPR	**DIGLIPUR**	**5.92**	**212**	*e*P		**Pn**	**18 44 30.4**	**+3.8**
DGPR				*e*S		**Sn**	**18 45 31.1**	**-3.3**
IMP	**Imphal**	**6.86**	**343**	*e*P		**Pn**	**18 44 43.4**	**+3.9**
TNCH	**TengChong**	**7.10**	**18**	Pg		**Pg**	**18 45 13.9**	**-0.8**
TNCH				Sg		**Sg**	**18 46 44.0**	**-2.7**
TNCH				smax		smax		
	comp=N,1μm,1.0s							
TNCH				smax		smax		
	comp=E,1μm,1.1s							
AGT	**Agartala**	**7.22**	**322**	*e*P		**Pn**	**18 44 47.8**	**+3.3**
PBA	**Port Blair**	**7.33**	**207**	Pn		**Pn**	**18 44 48.6**	**+2.6**
PBA	**Port Blair**	**7.33**	**207**	*e*P		**Pn**	**18 44 50.1**	**+4.1**
PBA				*ex*		x	18 45 51.8	
KOHI	**KOHIMA**	**7.67**	**346**	*e*P		**Pn**	**18 44 54.0**	**+3.3**
MOKO	**MOKOCHONG**	**8.17**	**350**	*e*P		**Pn**	**18 45 00.8**	**+3.3**
SHL	**Shillong**	**8.28**	**332**			**Pn**	**18 44 56.9**	**-2.2**
SHL	**Shillong**	**8.28**	**332**	P		**Pn**	**18 44 56.9**	**-2.2**
SHL	**Shillong**	**8.28**	**332**	*e*P		**Pn**	**18 44 59.7**	**+0.5**
TEZP	**TEZPUR**	**8.88**	**340**	*e*P		**Pn**	**18 45 07.9**	**+0.7**
ITAN	**ITANAGAR**	**9.12**	**346**	*e*P		**Pn**	**18 45 13.8**	**+3.3**
UBPT	**Khong Chiam**	**9.41**	**107**	Pn		**Pn**	**18 45 14.1**	**-0.5**
ZIRO	**ZIRO**	**9.47**	**348**	*e*P		**Pn**	**18 45 18.2**	**+2.7**
PZH	**PanZhiHua**	**9.71**	**31**	P		**Pn**	**18 45 20.1**	**+1.4**
PZH				pmax		pmax		
	comp=E,80nm,1.0s							
GTK	**Tadong**	**11.38**	**324**	*e*P		**Pn**	**18 45 42.7**	**+1.0**
LSA	**Lhasa**	**12.27**	**339**			**Pn**	**18 45 53.2**	**-0.9**
LSA	**Lhasa**	**12.27**	**339**	P		**Pn**	**18 45 53.2**	**-0.9**
GSI	**Gunungsitoli**	**16.90**	**175**			**Pn**	**18 46 54.0**	**-1.7**
ENH	**Enshi**	**17.05**	**43**			**Pn**	**18 46 53.0**	**-4.4**
GOMU	**GeErMu**	**17.91**	**357**	P		**P**	**18 47 10.1**	**+1.0**
GOMU				pP		sP	18 47 14.4	+1.1
GOMU				sP		pP	18 47 16.5	+4.5
PALK	**Pallekele**	**18.57**	**236**	*i* P		**Pn**	**18 47 20.1**	**+3.7**
PALK				pmax		pmax		
	comp=Z,49nm,1.0s							
LZH	**Lanzhou**	**19.03**	**19**	*e*P		**Pn**	**18 47 24.0**	**+2.2**
LZH				pP		sP	18 47 29.1	+3.7
LZH				pmax		pmax		
	comp=Z,28nm,1.4s							
XAN	**Xi'an**	**19.43**	**34**	⇑P		**Pn**	**18 47 29.5**	**+2.9**
XAN				pP		sP	18 47 37.4	+7.7
XAN				pmax		pmax		
	comp=Z,30nm,1.7s							
GTA	**Gaotai**	**21.32**	**8**	*e*P		**P**	**18 47 47.1**	**+1.1**
GTA				pmax		pmax		
	comp=Z,11nm,1.2s							
SMLA	**Simla**	**21.44**	**310**	*e*P		**P**	**18 47 46.8**	**-0.3**
SMLA				IAmb		IAmb	18 47 49.9	
	comp=Z,56nm,0.7s							
LYN	**LuoYang**	**21.80**	**39**	*e*P		**P**	**18 47 53.5**	**+2.5**
LYN				pmax		pmax		
	comp=Z,70nm,0.6s							
NJ2	**Nanjing**	**24.66**	**52**	*e*P		**P**	**18 48 18.4**	**-1.4**
NJ2				pmax		pmax		
	comp=Z,17nm,0.5s							
BTO	**Baotou**	**25.28**	**25**	⇓*i*P		**P**	**18 48 27.1**	**+1.6**
BTO				pP		**sP**	**18 48 31.4**	**+1.5**
BTO				sP		**pP**	**18 48 34.3**	**+5.7**
BTO				PP		**PnPn**	**18 49 05.7**	**+5.8**
BTO				S		**S**	**18 52 51.8**	**+0.4**
BTO				SS		**SnSn**	**18 53 49.0**	**+6.6**
BTO				pmax		pmax		
	comp=Z,130nm,1.0s							
BTO				LR		LR		
	comp=Z,12μm,10.9s							
BTO				LR		LR		
	comp=Z,8μm,12.1s							
BTO				LR		LR		
	comp=Z,9μm,17.1s							
NIL	**Nilore**	**25.58**	**311**	P		**P**	**18 48 25.4**	**-2.8**
NIL	**Nilore**	**25.58**	**311**	P		**P**	**18 48 25.4**	**-2.8**
NIL				pmax		pmax		
	comp=Z,28nm,0.8s							
TIA	**Tai'an**	**25.75**	**42**	*e*P		**P**	**18 48 32.1**	**+2.4**
TIA				pmax		pmax		
	comp=Z,13nm,2.0s							
HHC	**Hu-ho-hao-te**	**26.13**	**27**	*e*P		**P**	**18 48 33.6**	**+0.4**
WMQ	**Urumqi**	**26.46**	**346**	*e*P		**P**	**18 48 37.5**	**+1.4**
WMQ				pmax		pmax		
	comp=Z,57nm,1.5s							
KSH	**Kashi**	**27.46**	**325**	P		**P**	**18 48 47.0**	**+1.8**
KSH				sP		sP	18 48 53.8	+4.2
KSH				pmax		pmax		
	comp=Z,22nm,0.8s							
BJT	**Baijiatuau**	**27.74**	**34**	P		**P**	**18 48 44.9**	**-2.7**
BJT	**Baijiatuau**	**27.74**	**34**	P		**P**	**18 48 44.9**	**-2.7**
BJT				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ARSB	**Arslanbob**	**30.36**	**324**	P		**P**	**18 49 09.6**	**-1.4**
ARSB	**Arslanbob**	**30.36**	**324**	P		**P**	**18 49 09.6**	**-1.4**
ARSB				pmax		pmax		
	comp=Z,13nm,1.9s							
AAK	**Ala-Archa**	**30.47**	**328**	P		**P**	**18 49 10.6**	**-1.4**
AAK	**Ala-Archa**	**30.47**	**328**	*i* P		**P**	**18 49 12.5**	**+0.5**
AAK	**Ala-Archa**	**30.47**	**328**	P		**P**	**18 49 12.0**	**+0.1**
	comp=Z,8.2nm,1.0s,baz=124,slow=8.4,SNR=6.5							
	comp=Z,8.2nm,1.0s							
XLT	**XiLinHaoTe**	**30.58**	**29**	*e*P		**P**	**18 49 16.2**	**+3.3**
XLT				pP		sP	18 49 20.6	+3.3
XLT				sP		pP	18 49 23.4	+7.4
XLT				pmax		pmax		
	comp=Z,12nm,0.9s							
MK31	**Makanchi Array**	**30.66**	**341**	*i* P		**P**	**18 49 12.9**	**-0.6**
MKAR	**Makanchi Array**	**30.66**	**341**	P		**P**	**18 49 13.0**	**-0.5**
MKAR	**Makanchi Array**	**30.66**	**341**	P		**P**	**18 49 13.0**	**-0.5**
	comp=Z,8.2nm,0.6s,baz=138,slow=11,SNR=23							
	comp=Z,8.2nm,0.6s							
SONM	**Songino Array**	**30.67**	**14**	P		**P**	**18 49 14.4**	**+0.7**
SONM	**Songino Array**	**30.67**	**14**	P		**P**	**18 49 14.4**	**+0.7**
	comp=Z,3.6nm,1.0s,baz=201,slow=7.8,SNR=6.6							
	comp=Z,3.6nm,1.0s							
MAKZ	**Makanchi**	**30.77**	**341**	P		**P**	**18 49 13.4**	**-1.1**
MAKZ	**Makanchi**	**30.77**	**341**	P		**P**	**18 49 13.4**	**-1.1**
MAKZ				pmax		pmax		
	comp=Z,13nm,1.1s							
BTK	**Batken**	**30.81**	**320**	P		**P**	**18 49 12.2**	**-2.7**
BTK	**Batken**	**30.81**	**320**	P		**P**	**18 49 12.2**	**-2.7**
BTK				pmax		pmax		
	comp=Z,14nm,0.9s							
ULN	**Ulaanbaatar**	**30.85**	**14**	*i* P		**P**	**18 49 15.4**	**+0.1**
SIMJ	**Simiganj**	**31.15**	**316**	P		**P**	**18 49 16.9**	**-1.0**
DGZ	**Jazzator, Alta**	**32.15**	**349**	P		**P**	**18 49 26.9**	**+0.3**
DGZ							18 50 27.6	
CUR	**Chagan-Uzun**	**32.38**	**351**	P		**P**	**18 49 29.3**	**+0.6**
CUR							18 50 28.9	
LUWI	**Luwuk**	**32.47**	**123**	P		**P**	**18 49 29.0**	**-0.6**
ZAK	**Zakamensk**	**32.56**	**9**	*e*P		**P**	**18 49 30.6**	**+0.4**
ZAK				pmax		pmax		
	comp=Z,9.0nm,0.9s							
AKAR	**Aktash**	**32.71**	**350**	P		**P**	**18 49 31.9**	**+0.3**
AKAR							18 50 32.3	
CHBI	**Chibit, Altay**	**32.72**	**350**	P		**P**	**18 49 32.9**	**+1.3**
CHBI							18 50 32.3	
KKAR	**Karatay Array**	**32.91**	**324**	P		**P**	**18 49 30.3**	**-3.0**
KKAR	**Karatay Array**	**32.91**	**324**	P		**P**	**18 49 30.3**	**-3.0**
KKAR				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ULGR	**Ulagan, Altay**	**32.95**	**350**	P		**P**	**18 49 36.4**	**+2.8**
ULGR							18 50 35.9	
KSRS	**Korea Array**	**33.76**	**49**	*e*P		**P**	**18 49 42.9**	**+2.2**
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KSRS	**Korea Array**	**33.76**	**49**	P		**P**	**18 49 40.5**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=242,slow=8.6,SNR=6.5							
	comp=Z,2.5nm,0.8s							
KURBB	**Kurchatov Arra**	**35.22**	**340**	P		**P**	**18 49 52.6**	**-0.6**
	comp=Z,9.9nm,0.6s,baz=150,slow=8.7,SNR=24							
KURBB				PcP		**PcP**	**18 52 24.6**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=156,slow=2.7,SNR=3.7							
	comp=Z,9.9nm,0.6s							
TNTI	**Ternate**	**35.24**	**116**	P		**P**	**18 49 52.9**	**-0.9**
KURK	**Kurchatov**	**35.27**	**341**	P		**P**	**18 49 52.5**	**-1.1**
KURK	**Kurchatov**	**35.27**	**341**	*i* P		**P**	**18 49 53.3**	**-0.3**
KURK				pmax		pmax		
	comp=Z,19nm,0.9s							
HIA	**Hailar**	**36.33**	**26**	P		**P**	**18 50 01.9**	**-0.8**
HIA	**Hailar**	**36.33**	**26**	*i* P		**P**	**18 50 04.1**	**+1.3**
HIA				pmax		pmax		
	comp=Z,57nm,1.2s							
ZALV	**Zalesovo Beam**	**36.69**	**349**	*e*P		**P**	**18 50 08.3**	**+2.6**
ZALV				pmax		pmax		
	comp=Z,27nm,0.9s							
ZALV	**Zalesovo Beam**	**36.69**	**349**	P		**P**	**18 50 05.5**	**-0.2**
	comp=Z,27nm,0.9s,baz=170,slow=9.0,SNR=17							
	comp=Z,27nm,0.9s							
BNX	**BinXian**	**37.71**	**36**	⇑P		**P**	**18 50 17.6**	**+3.1**
BNX				pmax		pmax		
	comp=Z,23nm,0.8s							
GEYT	**Alibeck**	**38.50**	**309**	P		**P**	**18 50 22.2**	**+0.8**
GEYT	**Alibeck**	**38.50**	**309**	P		**P**	**18 50 22.2**	**+0.8**
	comp=Z,19nm,0.9s,baz=169,slow=10,SNR=18							
	comp=Z,19nm,0.9s							
USRK	**Ussuriysk Ar.**	**39.62**	**41**	P		**P**	**18 50 30.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**39.62**	**41**	P		**P**	**18 50 30.4**	**-0.2**
	comp=Z,6.0nm,0.9s,baz=250,slow=7.1,SNR=4.2							
	comp=Z,6.0nm,0.9s							
BVAR	**Borovoye Array**	**40.08**	**336**	P		**P**	**18 50 33.0**	**-1.3**
BVAR							18 52 38.8	
BVAR	**Borovoye Array**	**40.08**	**336**	P		**P**	**18 50 33.0**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=141,slow=9.4,SNR=14							
BVAR				PcP		**PcP**	**18 52 38.8**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=177,slow=2.5,SNR=2.3							
	comp=Z,2.6nm,0.6s							
BRVK	**Borovoye**	**40.15**	**336**	P		**P**	**18 50 34.7**	**-0.1**
BRVK	**Borovoye**	**40.15**	**336**	*i* P		**P**	**18 50 34.4**	**-0.4**
BRVK				pmax		pm

comp=Z,6.6nm,0.9s,baz=76,slow=7.0,SNR=6.7
comp=Z,6.6nm,0.9s
TIXI **Tiksi** **56.73 12** *i* P **P** **18 52 42.0 -0.4**
TIXI pmax pmax
comp=Z,10.0nm,1.2s
MA2 **Magadan** **56.77 30** P **P** **18 52 42.1 -0.8**
MA2 **Magadan** **56.77 30** P **P** **18 52 42.1 -0.8**
MA2 pmax pmax
comp=Z,29nm,0.8s
MOS **Moscow** **57.49 325** *e*P **P** **18 52 48.1 +0.1**
BR131 **Keskin Array S** **57.55 306** *i* P **P** **18 52 49.3 +0.4**
BRTR **Keskin Array B** **57.55 306** P **P** **18 52 48.5 -0.4**
BRTR **Keskin Array B** **57.55 306** P **P** **18 52 48.5 -0.4**
comp=Z,3.8nm,0.8s,baz=119,slow=10,SNR=10
comp=Z,3.8nm,0.8s
OBN **Obninsk** **57.90 324** P **P** **18 52 49.0 -1.9**
OBN **Obninsk** **57.90 324** ⇓*e*P **P** **18 52 50.3 -0.6**
OBN *e* 18 53 48.6
OBN *e* 18 54 58.9
OBN *e*S S 19 00 40.2 -10
OBN pmax pmax
comp=Z,14nm,1.1s
KLMR **Klimovskoe** **58.17 331** *e*P **P** **18 52 50.3 -2.4**
KLMR pmax pmax
comp=Z,12nm,1.3s
ANTO **Ankara** **58.20 306** P **P** **18 52 51.7 -1.7**
ANTO **Ankara** **58.20 306** P **P** **18 52 51.7 -1.7**
ANTO pmax pmax
comp=Z,17nm,0.8s
MDUB **Mudurnu** **59.45 307** P **P** **18 52 58.9 -3.2**
ELL **Elmali** **60.45 302** P **P** **18 53 07.8 -1.3**
ELL **Elmali** **60.45 302** P **P** **18 53 07.8 -1.3**
ELL pmax pmax
comp=Z,234nm,0.8s
AKASG **Malin Array Be** **61.49 318** P **P** **18 53 14.3 -1.4**
AKASG **Malin Array Be** **61.49 318** P **P** **18 53 14.3 -1.4**
comp=Z,1.5nm,0.5s,baz=81,slow=6.6,SNR=12
comp=Z,1.5nm,0.5s
KIEV **Kiev** **61.50 318** P **P** **18 53 11.1 -4.7**
KIEV **Kiev** **61.50 318** P **P** **18 53 11.1 -4.7**
KIEV pmax pmax
comp=Z,16nm,0.6s
MLR **Muntele Rosu** **63.40 312** P **P** **18 53 28.4 -0.4**
MLR **Muntele Rosu** **63.40 312** P **P** **18 53 28.4 -0.4**
MLR pmax pmax
comp=Z,85nm,1.6s
RDO **Rodhopi** **63.74 307** P **P** **18 53 30.6 -0.3**
FINES **FINESS Array B** **64.61 330** P **P** **18 53 35.6 -0.6**
FINES **FINESS Array B** **64.61 330** P **P** **18 53 35.6 -0.6**
comp=Z,7.0nm,0.7s,baz=100,slow=7.0,SNR=17
comp=Z,7.0nm,0.7s
PABE **Paberze** **65.06 323** P **P** **18 53 37.8 -1.5**
VADS **Vadso** **65.12 340** *e*P **P** **18 53 39.7 +0.3**
SUW **Suwalki** **65.44 322** P **P** **18 53 38.5 -3.2**
SUW **Suwalki** **65.44 322** P **P** **18 53 38.5 -3.2**
SUW pmax pmax
comp=Z,47nm,0.9s
KWP **Kalwaria Pacla** **65.62 317** *e*P **P** **18 53 42.4 -0.7**
KWP **Kalwaria Pacla** **65.62 317** P **P** **18 53 42.1 -1.0**
KWP **Kalwaria Pacla** **65.62 317** P **P** **18 53 42.1 -1.0**
KWP pmax pmax
comp=Z,84nm,1.4s
BILL **Bilibino** **65.80 23** *i* P **P** **18 53 43.7 -0.2**
BILL pmax pmax
comp=Z,9.0nm,1.0s
DJES **Djerdap** **65.83 311** P **P** **18 53 42.9 -1.7**
KOLS **Kolonicke sedl** **65.91 316** *e*P **P** **18 53 44.9 0.0**
KOLS **Kolonicke sedl** **65.91 316** *e*P **P** **18 53 44.9 0.0**
STKA **Stephens Creek** **66.20 138** *e*P **P** **18 53 48.8 +1.8**
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA **Stephens Creek** **66.20 138** P **P** **18 53 48.5 +1.5**
comp=Z,3.9nm,0.7s,baz=311,slow=7.9,SNR=11
comp=Z,3.9nm,0.7s
ARA0 **ARCESS Array S** **66.28 339** *e*P **P** **18 53 47.0 0.0**
ARCES **ARCESS Array B** **66.28 339** P **P** **18 53 46.7 -0.3**
ARCES **ARCESS Array B** **66.28 339** P **P** **18 53 46.6 -0.3**
comp=Z,6.1nm,0.7s,baz=37,slow=0.6,SNR=18
comp=Z,6.1nm,0.7s
CRVS **Cervenica-Dubn** **66.44 316** *e*P **P** **18 53 49.2 +0.8**
CRVS **Cervenica-Dubn** **66.44 316** *e*P **P** **18 53 49.2 +0.8**
MBAR **Mbarara** **66.90 261** P **P** **18 53 50.7 -1.4**
MBAR **Mbarara** **66.90 261** P **P** **18 53 50.7 -1.4**
MBAR pmax pmax
comp=Z,24nm,0.8s
KTK1 **Kautokeino** **66.98 338** IAmb IAmb 18 53 58.2
comp=Z,403nm,3.1s
KTK1 **Kautokeino** **66.98 338** *e*P **P** **18 53 51.3 -0.1**
HAMF **Hammerfest** **67.10 340** *e*P **P** **18 53 52.2 +0.1**
OJC **Ojcow** **67.49 317** P **P** **18 53 54.3 -0.7**
OJC **Ojcow** **67.49 317** P **P** **18 53 54.3 -0.7**
OJC pmax pmax
comp=Z,12nm,1.0s
HOPEN **Hopen** **67.99 346** *e*P **P** **18 53 58.5 +0.9**
JETT **Jettan, Norway** **68.05 338** *e*P **P** **18 53 58.2 -0.1**
VYHS **Vyhne** **68.20 316** *e*P **P** **18 53 59.5 0.0**
VYHS **Vyhne** **68.20 316** *e*P **P** **18 53 59.5 0.0**
TRO **Tromso** **68.58 338** IAmb IAmb 18 54 04.5
comp=Z,107nm,1.6s
TRO **Tromso** **68.58 338** *e*P **P** **18 54 01.2 -0.2**
JAVC **Velka Javorina** **68.94 316** *e*P **P** **18 54 06.1 +1.9**
MORC **Moravsky Berou** **68.97 317** *e*P **P** **18 54 06.6 +2.2**
BJO1 **Bjornoya** **69.10 344** *e*P **P** **18 54 04.8 +0.1**
KRLC **Kraliky** **69.44 317** *e*P **P** **18 54 06.1 -1.2**
KRLC **Kraliky** **69.44 317** *e*P **P** **18 54 06.1 -1.2**
VRAC **Vranov** **69.62 317** *e*P **P** **18 54 08.6 +0.3**
VRAC **Vranov** **69.62 317** P **P** **18 54 09.0 +0.7**
DPC **Dobruska-Polom** **69.71 318** *e*P **P** **18 54 09.2 +0.2**
DPC **Dobruska-Polom** **69.71 318** *e*P **P** **18 54 09.2 +0.2**
KRUC **Moravsky** **69.77 316** *e*P **P** **18 54 09.3 +0.1**
FAUS **Fauske** **69.78 336** *e*P **P** **18 54 08.5 -0.4**
STEI **Steigen** **69.81 337** *e*P **P** **18 54 08.9 -0.2**
RONA **Rosalia, Austr** **69.95 315** *e*P **P** **18 54 09.6 -0.9**
comp=Z,3.9nm,1.1s
MOR8 **Moi Rana** **70.11 335** *e*P **P** **18 54 09.7 -1.3**
SPA0 **Spitsbergen Ar** **70.16 348** *e*P **P** **18 54 11.1 -0.1**
SPITS **Spitsbergen Ar** **70.16 348** P **P** **18 54 10.9 -0.2**
SPITS **Spitsbergen Ar** **70.16 348** P **P** **18 54 10.9 -0.2**
comp=Z,8.6nm,0.7s,baz=120,slow=7.8,SNR=9.5
comp=Z,8.6nm,0.7s
CONA **Conrad Observa** **70.22 315** *e*P **P** **18 54 11.8 -0.3**
comp=Z,3.9nm,1.1s
LOF **Lofoten** **70.45 337** *e*P **P** **18 54 12.6 -0.4**
HFS **Hagfors** **70.61 328** P **P** **18 54 13.8 -0.3**
HFS **Hagfors** **70.61 328** P **P** **18 54 13.8 -0.3**
comp=Z,6.3nm,0.5s,baz=115,slow=5.6,SNR=27
comp=Z,6.3nm,0.5s
STOK **Stokkvaagen** **70.68 335** *e*P **P** **18 54 14.6 +0.1**
PRU **Pruhonice** **70.89 317** *e*P **P** **18 54 17.8 +1.7**
PRU **Pruhonice** **70.89 317** *e*P **P** **18 54 17.8 +1.7**
CKRC **Cesky Krumlov** **71.16 316** *e*P **P** **18 54 13.5 -4.3**
CKRC **Cesky Krumlov** **71.16 316** *e*P **P** **18 54 13.5 -4.3**
ZVC **Zvikov** **71.17 317** *e*P **P** **18 54 17.9 +0.1**
BRG **Berggiesshubel** **71.18 318** *e*P **P** **18 54 17.9 +0.1**
BRG Amp 18 54 20.3
comp=Z,7.1nm,0.9s
BRG **Berggiesshubel** **71.18 318** *e*P **P** **18 54 17.9 +0.1**
BRG pmax pmax
comp=Z,7.0nm,0.9s
NSS **Namsos** **71.19 333** IAmb IAmb 18 54 17.9
comp=Z,112nm,2.1s
NSS **Namsos** **71.19 333** *e*P **P** **18 54 17.2 -0.3**
GERES **GERESS Array B** **71.56 316** *e*P **P** **18 54 20.4 +0.1**
GERES pmax pmax
comp=Z,3.0nm,0.5s
GERES **GERESS Array B** **71.56 316** P **P** **18 54 20.2 -0.1**
comp=Z,3.4nm,0.5s,baz=72,slow=6.0,SNR=15
comp=Z,3.4nm,0.5s
KHC **Kasperske Hory** **71.60 317** *e*P **P** **18 54 19.7 -0.8**
KHC **Kasperske Hory** **71.60 317** *e*P **P** **18 54 19.7 -0.8**
NC602 **NORSAR Array S** **71.63 329** *e*P **P** **18 54 19.7 -0.7**
CLL **Collm** **71.72 319** *i* P **P** **18 54 20.1 -1.0**
CLL pmax pmax
comp=Z,15nm,1.6s
CLL **Collm** **71.72 319** *i* P **P** **18 54 20.1 -1.0**
comp=Z,15nm,1.6s
NB2 **NORSAR Subarra** **71.77 329** P **P** **18 54 20.3 -0.9**
comp=Z,3.1nm,0.7s,baz=84,slow=6.5
NB2 **NORSAR Subarra** **71.77 329** P **P** **18 54 20.3 -0.9**
baz=84,slow=6.5
NOA **NORSAR Array B** **71.77 329** *e*P **P** **18 54 20.3 -0.9**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA **NORSAR Array B** **71.77 329** P **P** **18 54 20.4 -0.9**
comp=Z,6.5nm,0.8s,baz=90,slow=5.9,SNR=15
comp=Z,6.5nm,0.8s
KBA **Koelnbreinsper** **72.02 315** *e*P **P** **18 54 22.2 -1.0**
comp=Z,5.7nm,1.0s
OSL **Oslo** **72.11 328** *e*P **P** **18 54 23.6 +0.4**
LESA **Schwarzleotal** **72.42 315** *e*P **P** **18 54 24.7 -0.7**
comp=Z,4.4nm,0.6s
DOMB **Dombas** **72.69 330** *e*P **P** **18 54 26.6 -0.2**
MOL **Molde** **73.33 331** *e*P **P** **18 54 30.3 -0.2**
SQTA **Sankt Quirin** **73.44 315** *e*P **P** **18 54 30.6 -0.9**
comp=Z,4.0nm,0.6s
MOTA **Moosalm** **73.49 315** *e*P **P** **18 54 31.3 -0.6**
comp=Z,7.1nm,0.8s
RETA **Reutte** **73.69 315** *e*P **P** **18 54 32.4 -0.6**
comp=Z,5.4nm,0.6s
FETA **Feichten** **73.79 315** *e*P **P** **18 54 33.5 -0.3**
comp=Z,4.6nm,1.2s
BLS5 **Blasjo** **74.32 328** *e*P **P** **18 54 36.5 +0.1**
DAVA **Damuels** **74.32 315** *e*P **P** **18 54 34.2 -2.6**
comp=Z,10nm,1.1s
LSZ **Lusaka** **74.76 248** P **P** **18 54 40.8 +1.0**
LSZ **Lusaka** **74.76 248** P **P** **18 54 40.8 +1.0**
LSZ pmax pmax
comp=Z,39nm,0.9s
C16K **Lisburne Hills** **76.32 22** P **P** **18 54 47.9 +0.3**
baz=285
C17K **DeLong Mountai** **77.04 22** P **P** **18 54 52.4 +0.7**
baz=287
B18K **Kokolik River** **77.25 21** P **P** **18 54 53.9 +1.0**
baz=288
F15K **North Star Dit** **77.26 25** P **P** **18 54 54.1 +1.0**
baz=286
C18K **Utukok River** **77.68 21** P **P** **18 54 55.8 +0.4**
baz=288
DAG **Danmarks Havn** **77.81 348** *i* P **P** **18 54 54.0 -1.9**
DAG IAmb IAmb 18 54 58.6
comp=Z,3.1nm,0.7s
E17K **Hotham Inlet** **77.94 23** P **P** **18 54 57.7 +0.9**
baz=288
C19K **Lookout Ridge** **78.08 21** P **P** **18 54 58.3 +0.7**
baz=290
G16K **Koyuk River** **78.27 25** P **P** **18 54 59.0 +0.4**
baz=288
E18K **Tukpahlearik C** **78.29 23** P **P** **18 54 59.4 +0.7**
baz=289
F17K **Baldwin Pennin** **78.36 24** P **P** **18 54 59.9 +0.8**
baz=289
H16K **Elim** **78.55 25** P **P** **18 55 00.7 +0.5**
baz=288
D19K **Kuna River** **78.80 21** P **P** **18 55 02.2 +0.7**
baz=291
A22K **Sinclair Lake** **78.85 18** P **P** **18 55 02.4 +0.7**
baz=294
H17K **Granite Mounta** **79.39 25** P **P** **18 55 05.6 +0.8**
baz=290
E19K **Redstone River** **79.49 22** P **P** **18 55 05.7 +0.3**
baz=292
B21K **Ikpikpuk River** **79.52 20** P **P** **18 55 06.3 +0.9**
baz=294
B22K **Teshekpuk Lake** **79.59 19** P **P** **18 55 06.6 +0.8**
baz=295
C21K **Knifeblade Rid** **79.66 20** P **P** **18 55 07.1 +0.9**
baz=294
J16K **Anvik River** **79.68 27** P **P** **18 55 07.3 +0.9**
baz=290
M14K **Bethel** **79.92 29** P **P** **18 55 08.4 +0.7**
baz=289
H18K **Honhosa River** **79.93 24** P **P** **18 55 08.1 +0.3**
baz=292
G19K **Purcell Mounta** **80.05 23** P **P** **18 55 08.8 +0.4**
baz=293
F20K **Avaraart Lake** **80.19 22** P **P** **18 55 09.4 +0.3**
baz=294
E21K **Killik River** **80.22 21** P **P** **18 55 09.9 +0.6**
baz=295
EKA **Eskdalemuir Ar** **80.34 325** P **P** **18 55 10.4 +0.2**
EKA **Eskdalemuir Ar** **80.34 325** P **P** **18 55 10.4 +0.2**
comp=Z,6.8nm,0.8s,baz=80,slow=5.4,SNR=27
comp=Z,6.8nm,0.8s
D22K **Ayikyak River** **80.46 20** P **P** **18 55 11.4 +0.8**
baz=296
H19K **Roundabout Mou** **80.53 24** P **P** **18 55 12.3 +1.4**
baz=293
C23K **Itkilik River** **80.68 19** P **P** **18 55 12.3 +0.6**
baz=298
K17K **Iditarod** **80.86 27** P **P** **18 55 14.0 +1.2**
baz=292
F21K **Alatna River** **80.91 22** P **P** **18 55 13.2 +0.1**
baz=296
E22K **Anaktuvuk Pass** **81.08 21** P **P** **18 55 14.3 +0.3**
baz=297
M16K **Timber Creek** **81.20 28** P **P** **18 55 18.4 +3.7**
baz=298
G21K **Allakaket** **81.21 22** P **P** **18 55 14.9 +0.3**
baz=296
F22K **John River** **81.24 21** P **P** **18 55 15.3 +0.5**
baz=297
C24K **Franklin Bluff** **81.32 19** P **P** **18 55 15.9 +0.8**
baz=300
J19K **Poorman** **81.47 25** P **P** **18 55 16.8 +0.8**
baz=294
D24K **Happy Valley** **81.56 19** P **P** **18 55 17.1 +0.7**
baz=300
H21K **Melozitna Rive** **81.85 23** P **P** **18 55 18.6 +0.6**
baz=296
D25K **Kavik River** **82.23 19** P **P** **18 55 20.7 +0.7**
baz=302
H22K **Ishtalitna Cre** **82.27 23** P **P** **18 55 21.3 +1.1**
baz=298
C26K **Camden Bay** **82.34 18** P **P** **18 55 21.5 +1.1**
baz=303
O17K **Kolignek Bris** **82.54 29** P **P** **18 55 22.1 +0.4**
baz=294
NEEM **North Greenlan** **82.59 353** *i* P **P** **18 55 21.3 -0.7**
NEEM IAmb IAmb 18 55 26.2
comp=Z,8.0nm,0.8s
F24K **Squaw Lake** **82.69 20** P **P** **18 55 23.1 +0.7**
baz=301
BOSA **Boshof** **82.80 237** P **P** **18 55 24.2 +0.4**
BOSA **Boshof** **82.80 237** P **P** **18 55 24.1 +0.4**
comp=Z,4.4nm,0.5s,baz=61,slow=3.9,SNR=14
comp=Z,4.4nm,0.5s
MLY **Manley** **82.91 23** P **P** **18 55 24.5 +0.9**
baz=298
CAST **Castle Rocks** **83.14 25** P **P** **18 55 24.6 -0.2**
CAST **Castle Rocks** **83.14 25** P **P** **18 55 25.4 +0.5**
baz=297
F25K **Christian Rive** **83.38 20** P **P** **18 55 27.4 +1.4**
baz=303
H24K **Noodor Dome** **83.55 22** P **P** **18 55 27.6 +0.7**
baz=301
F26K **Sheenjek River** **83.80 19** P **P** **18 55 28.9 +0.8**
baz=304
MCK **McKinley** **84.23 24** P **P** **18 55 30.5 +0.1**
baz=300
E27K **Coleen River** **84.31 19** P **P** **18 55 30.8 +0.1**
baz=306
G26K **Porcupine Rive** **84.34 20** P **P** **18 55 31.9 +1.1**
baz=304
D28M **Stokes Point** **84.44 17** P **P** **18 55 32.2 +1.0**
baz=309
ILAR **Eielson Array** **84.46 23** P **P** **18 55 30.7 -0.8**
ILAR **Eielson Array** **84.46 23** P **P** **18 55 30.7 -0.8**
comp=Z,1.7nm,0.8s,baz=302,slow=4.0,SNR=11
ILAR PP **PP** **18 58 48.2 +2.1**
comp=Z,2.3nm,1.2s,baz=285,slow=7.8,SNR=4.9
comp=Z,1.7nm,0.8s
SUMG **Summit** **84.50 348** P **P** **18 55 31.4 -0.6**
SUMG **Summit** **84.50 348** P **P** **18 55 31.4 -0.6**
SUMG pmax pmax
comp=Z,27nm,1.1s
SUMG **Summit** **84.50 348** *i* P **P** **18 55 31.0 -1.1**
SUMG IAmb IAmb 18 55 36.6
comp=Z,7.0nm,0.7s
PRP **Porcupine Dome** **84.55 22** P **P** **18 55 32.2 +0.1**
PRP **Porcupine Dome** **84.55 22** P **P** **18 55 32.3 +0.1**
baz=303
E28M **Babbage River** **84.67 18** P **P** **18 55 33.1 +0.6**
baz=308
E29M **Blow River** **85.27 18** P **P** **18 55 35.6 +0.1**
baz=310
K24K **Donnelly Dome** **85.39 23** P **P** **18 55 36.3 +0.1**
baz=303
SML **Sawmill** **85.44 25** P **P** **18 55 37.1 +0.6**
baz=301
A36M **Sachs Harbour** **85.75 12** P **P** **18 55 37.5 -0.3**
baz=321
J26L **Joseph Creek** **85.81 22** P **P** **18 55 39.0 +0.6**
baz=305
SCRK **Sand Creek** **85.95 23** P **P** **18 55 39.2 0.0**
baz=304
ESDC **Sonseca Array** **86.02 310** P **P** **18 55 39.9 -0.1**
comp=Z,1.2nm,0.8s,baz=54,slow=4.2,SNR=5.0
comp=Z,1.2nm,0.8s
INK **Inuvik** **86.54 16** P **P** **18 55 41.0 -0.8**
INK **Inuvik** **86.54 16** P **P** **18 55 41.0 -0.8**
INK pmax pmax
comp=Z,12nm,1.3s
INK **Inuvik** **86.54 16** P **P** **18 55 41.7 -0.1**
baz=314
G30M **tAoh Zraii Nji** **86.67 18** P **P** **18 55 42.5 -0.1**
baz=311
EPYK **Eagle Plains** **86.93 19** P **P** **18 55 43.0 -0.8**
baz=311
N25K **Chitina, Valde** **87.05 25** P **P** **18 55 45.4 +0.9**
baz=304
ICESG **Greenland Ices** **87.36 345** *i* P **P** **18 55 45.2 -1.0**
ICESG IAmb IAmb 18 55 49.9
comp=Z,10nm,0.9s
C36M **Paulatuk** **88.07 13** P **P** **18 55 48.6 -0.6**
baz=322
TORD **Torodi Ar. Bea** **90.08 284** P **P** **18 55 59.6 -0.1**
comp=Z,1.2nm,0.8s,baz=54,slow=5.8,SNR=4.5
TORD PP **PP** **18 59 33.0 +0.1**
comp=Z,1.9nm,1.0s,baz=38,slow=7.5,SNR=4.6
comp=Z,1.2nm,0.8s
DY2G **Dye2** **90.98 346** *i* P **P** **18 56 03.2 0.0**
DY2G IAmb IAmb 18 56 08.3
comp=Z,6.0nm,0.7s
YKA **Yellowknife Ar** **95.94 14** P **P** **18 56 25.2 -0.5**
YKA **Yellowknife Ar** **95.94 14** P **P** **18 56 25.2 -0.5**
comp=Z,0.3nm,0.6s,baz=328,slow=4.5,SNR=3.7
comp=Z,0.3nm,0.6s
PDAR **Pinedale Array** **114.83 21** PKiKP **PKiKP** **19 01 38.3 -2.1**
comp=Z,0.4nm,0.8s,baz=281,slow=1.5,SNR=2.7
NVAR **Mina Array Bea** **115.01 29** PKP **PKPdf** **19 01 42.4 +1.6**
comp=Z,0.7nm,0.8s,baz=306,slow=3.2,SNR=3.0
WUAZ **Wupatki** **120.50 26** PKPdf **PKPdf** **19 01 50.4 -1.0**
ANMO **Albuquerque** **122.90 22** **PKPdf** **19 01 55.3 -0.8**
ANMO **Albuquerque** **122.90 22** PKIKP **PKPdf** **19 01 55.3 -0.8**
R49A **Shelbyville** **123.74 1** PKPdf **PKPdf** **19 01 56.7 -0.6**
TXAR **Lajitas Array** **128.97 22** PKIKP **PKiKP** **19 02 08.2 -0.2**
TXAR **Lajitas Array** **128.97 22** PKP **PKiKP** **19 02 08.2 -0.2**
comp=Z,1.4nm,1.0s,baz=291,slow=2.5,SNR=4.0
BDFB **Brasilia** **145.64 269** PKiKP **PKPab** **19 02 39.5 +0.4**
BDFB **Brasilia** **145.64 269** PKPbc **PKPab** **19 02 39.5 +0.4**
comp=Z,14nm,0.9s,baz=49,slow=2.4,SNR=8.8
BAUV **El Baul** **148.79 329** **PKPbc** **19 02 46.9 -0.6**
BOAV **Boa Vista** **149.19 309** **PKPdf** **19 02 42.8 -1.6**
SDV **Santo Domingo** **150.04 333** **PKPbc** **19 02 49.7 -1.2**
SJCC **San Jacinto, C** **150.74 342** *e*P **PKPbc** **19 02 52.5 +0.1**
PAMC **Pamplona, Colo** **152.28 336** *e*P **PKPbc** **19 02 54.7 -1.8**
PTBC **PUERTO BERRIO** **153.67 339** *e*P **PKPdf** **19 02 49.1 -2.1**
CPUP **Villa Florida** **154.20 247** PKIKP **PKPbc** **19 02 58.9 -0.9**
CPUP **Villa Florida** **154.20 247** PKPbc **PKPbc** **19 02 58.9 -0.9**
comp=Z,2.4nm,0.7s,baz=121,slow=2.0,SNR=4.3
CBOC **Ciudad Bolivar** **154.81 341** *e*P **PKPab** **19 03 15.4 -1.1**
PLCA **Paso Flores** **154.84 204** PKIKP **PKPdf** **19 02 53.1 +0.9**
PLCA 19 03 16.3
PLCA **Paso Flores** **154.84 204** PKP **PKPdf** **19 02 53.1 +0.9**
comp=Z,2.2nm,1.2s,baz=113,slow=7.7,SNR=2.4
PLCA PKPab **PKPab** **19 03 16.3 +0.5**
comp=Z,2.8nm,1.0s,baz=136,slow=6.6,SNR=4.4

IDC ***11*** *18:43:56.8±0.4, 18.29N×96.09E, h0km, mb4.9/32, mbtmp4.9/32, Error ellipse: s-maj=13.4km s-min=10.1km az=27.0*

NEIC ***11*** *18:43:59.6±2.2, 18.42N±0.06×96.07E±0.06, h10km±1km, mb5.2/115, Mww4.9/10, Error ellipse: s-maj=11.2km s-min=8.8km az=230.0*

NEIC ***11*** *18:43:59.8, 18.24N×96.06E, h12km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 1016Nm; Mrr2.50; Mθθ-0.83; Mφφ-1.67; Mrθ-0.06; Mrφ1.34; Mθφ-0.19; Fault plane solution: M02.58000×1016 NP1: φs147.64000°, δ46.45000°, λ95.47000°. NP2: φs319.74000°, δ43.82000°, λ84.28000°. Principal axes: T 2.5149, Plg86.0000°, Azm125.0000°; N 0.1380, Plg4.0000°, Azm324.0000°; P -2.6529, Plg1.0000°, Azm234.0000°;*

NEIC ***11*** *18:43:59.8, 18.44N×96.06E, h12km*

MOS ***11*** *18:43:59.6±0.9, 18.59N×95.98E, h15km, mb5.3/44, Error ellipse: s-maj=10.9km s-min=6.4km az=111.1*

BGR ***11*** *18:44:01.4, 17.62N×95.76E, h33km, mb5.1*

NDI ***11*** *18:44:01.6±3.6, 18.23N×95.94E, h10km, mb5.1, mb5.2(NEIC)*

ISC 11 18:43:59.7±0.7, 18.25N±0.04×96.04E±0.05, h18km±3km, n444, σ1$27/404, mb5.1/183, 32C-18D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**2.77**	**85**	P	**Pb**	**Pb**	**18 44 48.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**2.77**	**85**	Pg	**Pb**	**Pb**	**18 44 48.0**	**-0.7**
	384nm,0.3s,baz=264,slow=19,SNR=4.7							
CMAR				Lg	Lg	Lg	18 45 22.2	
	477nm,0.3s,baz=261,slow=32,SNR=9.1							
MND	**Mandalay**	**3.75**	**1**	Pn	**Pn**	**Pn**	**18 44 52.7**	**-4.0**
PHRA	**Phrae**	**3.99**	**86**	Pn	**Pn**	**Pn**	**18 45 00.1**	**+0.1**
CRAI	**Chiangrai**	**4.54**	**64**	Pn	**Pn**	**Pn**	**18 45 07.8**	**+0.1**
IMP	**Imphal**	**6.83**	**344**	*e*P	**Pn**	**Pn**	**18 45 43.0**	**+3.8**
AGT	**Agartala**	**7.17**	**322**	*e*P	**Pn**	**Pn**	**18 45 45.5**	**+1.7**
PBA	**Port Blair**	**7.29**	**206**	Pn	**Pn**	**Pn**	**18 45 47.0**	**+1.6**
KOHI	**KOHIMA**	**7.65**	**347**	*e*P	**Pn**	**Pn**	**18 45 53.5**	**+3.1**
SHL	**Shillong**	**8.24**	**333**		**Pn**	**Pn**	**18 45 57.2**	**-1.4**
SHL	**Shillong**	**8.24**	**333**	P	**Pn**	**Pn**	**18 45 57.2**	**-1.4**
SHL	**Shillong**	**8.24**	**333**	*e*P	**Pn**	**Pn**	**18 45 59.9**	**+1.3**
TEZP	**TEZPUR**	**8.85**	**341**	*e*P	**Pn**	**Pn**	**18 46 09.0**	**+2.2**
KMI	**Kunming**	**9.25**	**41**	⇓P	**Pn**	**Pn**	**18 46 13.3**	**+0.8**
KMI				pmax	pmax			
	comp=Z,28nm,1.7s							
PZH	**PanZhiHua**	**9.76**	**32**	P	**Pn**	**Pn**	**18 46 20.0**	**+0.6**
PZH				S	**Sn**	**Sn**	**18 48 14.9**	**+6.2**
PZH				pmax	pmax			
	comp=Z,50nm,0.9s							
PZH				LR	LR			
	comp=N,7μm,9.8s							
PZH				LR	LR			
	comp=E,10μm,8.0s							
PZH				LR	LR			
	comp=Z,6μm,9.6s							
BOK	**Bokaro**	**10.97**	**302**	*e*P	**Pn**	**Pn**	**18 46 38.5**	**+2.6**
LSA	**Lhasa**	**12.24**	**340**	Pn	**Pn**	**Pn**	**18 46 50.4**	**-3.3**
LSA	**Lhasa**	**12.24**	**340**	P	**Pn**	**Pn**	**18 46 50.4**	**-3.3**
PSI	**Prapat**	**15.61**	**169**	P	**P**	**P**	**18 47 45.5**	**+2.2**
PSI				pmax	pmax			
	comp=Z,84nm,1.2s							
RPSI	**Rantau Prapat**	**15.72**	**169**	P	**P**	**P**	**18 47 45.5**	**+1.2**
GSI	**Gunungsitoli**	**16.91**	**175**	Pn	**Pn**	**Pn**	**18 47 55.0**	**-0.6**
MYKOM	**Kota Tinggi**	**18.07**	**154**	P	**P**	**P**	**18 48 11.0**	**+0.7**
PALK	**Pallekele**	**18.50**	**236**	*i* P	Pn	18 48 23.5		**+8.2**
PALK				pmax	pmax			
	comp=Z,132nm,1.5s							
LZH	**Lanzhou**	**19.06**	**20**	⇓P	**Pn**	**Pn**	**18 48 23.6**	**+1.4**
LZH				sP	sP	18 48 31.9		+3.1
LZH				pmax	pmax			
	comp=Z,41nm,1.4s							
XAN	**Xi'an**	**19.49**	**34**	⇑P	**Pn**	**Pn**	**18 48 28.1**	**+0.9**
XAN				pP	sP	18 48 36.6		+3.2
XAN				pmax	pmax			
	comp=Z,34nm,1.7s							
WHN	**Wuhan**	**20.65**	**50**	⇑P	Pn	18 48 41.8		+0.9
POO	**Poona**	**21.06**	**274**	*e*P	**P**	**P**	**18 48 45.6**	**+2.5**
POO				IAmb	IAmb	18 48 49.7		
	comp=Z,60nm,1.0s							
GTA	**Gaotai**	**21.34**	**8**	*e*P	**P**	**P**	**18 48 46.3**	**+0.3**
GTA				pmax	pmax			
	comp=Z,39nm,0.9s							
SMLA	**Simla**	**21.37**	**310**	*e*P	**P**	**P**	**18 48 47.1**	**+0.9**
SMLA				IAmb	IAmb	18 48 49.5		
	comp=Z,299nm,1.3s							
GOA	**Goa**	**21.43**	**266**	*e*P	**P**	**P**	**18 48 50.0**	**+2.9**
GOA				IAmb	IAmb	18 48 52.4		
	comp=Z,82nm,1.3s							
LYN	**LuoYang**	**21.86**	**39**	*e*P	**P**	**P**	**18 48 51.8**	**+0.3**
LYN				pmax	pmax			
	comp=Z,84nm,0.8s							
DHRM	**DHARAMSHALA**	**22.60**	**312**	*e*P	**P**	**P**	**18 48 59.4**	**-0.3**
DHRM				IAmb	IAmb	18 49 01.6		
	comp=Z,72nm,0.9s							
TPUB	**Ta-pu**	**23.52**	**73**	P	**P**	**P**	**18 49 10.2**	**+1.2**

TPUB IAmb IAmb 18 49 14.2
comp=Z,153nm,1.3s
TWG Pinlang 23.87 75 P **P** **18 49 12.8 +0.4**
SSLB Suanglung 23.89 72 P **P** **18 49 12.4 -0.2**
SSLB IAmb IAmb 18 49 17.0
comp=Z,84nm,1.2s
TIY Taiyuan 24.13 33 P **P** **18 49 17.3 +2.5**
TIY pmax pmax
comp=Z,71nm,1.2s
YULB Yu-li 24.14 73 P **P** **18 49 14.1 -0.9**
NJ2 Nanjing 24.74 52 *e*P **P** **18 49 20.7 +0.4**
NJ2 pmax pmax
comp=Z,28nm,0.7s
HNS HongShan 25.14 37 ⇑P **P** **18 49 24.9 +1.0**
HNS pmax pmax
comp=Z,88nm,1.2s
BTO Baotou 25.32 25 *e*P **P** **18 49 26.4 +0.8**
BTO pP **pP** **18 49 30.6 -0.5**
BTO sP **sP** **18 49 33.4 0.0**
BTO PP **PnPn** **18 50 04.6 +4.1**
BTO S **S** **18 53 53.2 +2.1**
BTO sS **sS** **18 53 59.5 -0.6**
BTO SS **SnSn** **18 54 47.8 +4.9**
BTO LR LR
comp=Z,12µm,12.1s
BTO LR LR
comp=Z,8µm,12.1s
BTO LR LR
comp=Z,9µm,15.3s
NIL Nilore 25.51 311 P **P** **18 49 27.1 -0.2**
NIL Nilore 25.51 311 P **P** **18 49 27.1 -0.2**
NIL Nilore 25.51 311 IAmb IAmb 18 48 30.7
comp=Z,28nm,0.8s
TIA Tai'an 25.82 42 ⇑P **P** **18 49 31.8 +1.7**
TIA pmax pmax
comp=Z,19nm,0.8s
HHC Hu-ho-hao-te 26.18 27 *e*P **P** **18 49 33.5 +0.1**
HHC pmax pmax
comp=Z,130nm,1.1s
WMQ Urumqi 26.45 346 *e*P **P** **18 49 36.7 +1.0**
WMQ sP sP 18 49 44.7 +1.2
WMQ PcP **PcP** **18 53 02.8 +2.0**
WMQ pmax pmax
comp=Z,54nm,1.5s
KSH Kashi 27.41 325 P **P** **18 49 44.0 -0.5**
KSH pmax pmax
comp=Z,32nm,1.0s
BJT Baijiatuan 27.80 35 P **P** **18 49 48.7 +0.9**
BJT Baijiatuan 27.80 35 P **P** **18 49 48.7 +0.9**
BJT pmax pmax
comp=Z,17nm,1.1s
BJI Beijing 27.82 34 P **P** **18 49 49.2 +1.2**
TOLI2 Tolitoli 29.67 122 P **P** **18 50 03.2 -1.6**
AAK Ala-Archa 30.42 328 P **P** **18 50 11.6 +0.4**
AAK Ala-Archa 30.42 328*ce*P **P** **18 50 11.8 +0.5**
AAK pmax pmax
comp=Z,20nm,1.3s
AAK Ala-Archa 30.42 328 P **P** **18 50 11.7 +0.4**
comp=Z,13nm,1.1s,baz=153,slow=9.9,SNR=6.0
AAK PcP **PcP** **18 53 11.0 +0.2**
comp=Z,1.5nm,0.4s,baz=113,slow=2.7,SNR=5.2
comp=Z,13nm,1.1s
XLT XiLinHaoTe 30.63 29 *e*P **P** **18 50 14.1 +1.0**
XLT pP pP 18 50 18.7 +0.1
XLT sP sP 18 50 21.6 +0.7
XLT PP **PnPn** **18 51 14.2 +1.6**
XLT pmax pmax
comp=Z,21nm,1.0s
MK31 Makanchi Array 30.64 341*ce*P **P** **18 50 12.7 -0.3**
MKAR Makanchi Array 30.64 341 P **P** **18 50 12.8 -0.2**
MKAR 18 53 10.8
MKAR Makanchi Array 30.64 341 P **P** **18 50 12.8 -0.2**
comp=Z,11nm,0.6s,baz=143,slow=11,SNR=24
MKAR PcP **PcP** **18 53 10.8 -0.2**
comp=Z,2.2nm,0.8s,baz=180,slow=2.3,SNR=4.8
comp=Z,11nm,0.6s
SONM Songino Array 30.70 14 P **P** **18 50 12.3 -1.4**
SONM Songino Array 30.70 14 P **P** **18 50 12.3 -1.4**
comp=Z,8.6nm,1.2s,baz=195,slow=11,SNR=6.5
comp=Z,8.6nm,1.2s
MAKZ Makanchi 30.75 341 P **P** **18 50 12.9 -1.1**
MAKZ Makanchi 30.75 341 P **P** **18 50 12.9 -1.1**
MAKZ pmax pmax
comp=Z,13nm,1.1s
SIMJ Simiganj 31.08 316 P **P** **18 50 16.3 -0.9**
SIMJ IAmb IAmb 18 50 17.8
comp=Z,19nm,0.8s
SIMJ Simiganj 31.08 316 IAmb IAmb 18 50 17.8
comp=Z,19nm,0.8s
DGZ Jazzator, Alta 32.13 349 *i*P **P** **18 50 26.3 0.0**
DGZ pmax pmax
comp=Z,23nm,0.8s
LUWI Luwuk 32.54 123 P **P** **18 50 30.4 +0.3**
ZAK Zakamensk 32.58 9 *e*P **P** **18 50 29.4 -0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
MOY Mondy 33.57 6 *e*P **P** **18 50 39.8 +1.0**
KSRS Korea Array 33.83 49 P **P** **18 50 39.7 -1.4**
KSRS Korea Array 33.83 49 P **P** **18 50 39.7 -1.4**
comp=Z,3.6nm,0.8s,baz=244,slow=9.4,SNR=7.9
comp=Z,3.6nm,0.8s
KURBB Kurchatov Arra 35.19 341 P **P** **18 50 52.4 -0.3**
comp=Z,19nm,0.5s,baz=150,slow=8.8,SNR=24
KURBB PcP **PcP** **18 53 23.3 -0.3**
comp=Z,4.6nm,0.5s,baz=156,slow=2.3,SNR=9.5
comp=Z,19nm,0.5s
KURK Kurchatov 35.24 341 P **P** **18 50 52.4 -0.7**
KURK IAmb IAmb 18 50 53.3
comp=Z,26nm,0.6s
KURK Kurchatov 35.24 341*ce*P **P** **18 50 52.5 -0.6**
KURK pmax pmax
comp=Z,30nm,1.0s
KURK Kurchatov 35.24 341 IAmb IAmb 18 50 53.3
comp=Z,26nm,0.6s
TNTI Ternate 35.33 116 P **P** **18 50 53.0 -1.3**
TNTI IAmb IAmb 18 50 57.5
comp=Z,30nm,1.1s
TNTI Ternate 35.33 116 IAmb IAmb 18 50 57.5
comp=Z,30nm,1.1s
HIA Hailar 36.37 26 P **P** **18 51 01.5 -1.4**
HIA IAmb IAmb 18 51 06.8
comp=Z,65nm,1.1s
HIA Hailar 36.37 26 *i*P **P** **18 51 03.5 +0.6**
HIA pmax pmax
comp=Z,73nm,1.1s
HIA Hailar 36.37 26 IAmb IAmb 18 51 06.8
comp=Z,65nm,1.1s
ZALV Zalesovo Beam 36.67 349 P **P** **18 51 05.3 0.0**
ZALV Zalesovo Beam 36.67 349 P **P** **18 51 05.3 0.0**
comp=Z,36nm,0.8s,baz=176,slow=8.7,SNR=20
comp=Z,36nm,0.8s
JMN Monobe 37.11 58 P **P** **18 51 08.0 -1.4**
GEYT Alibeck 38.43 309 P **P** **18 51 22.1 +1.5**
GEYT 18 53 34.1
GEYT Alibeck 38.43 309 P **P** **18 51 22.1 +1.5**
comp=Z,46nm,0.9s,baz=106,slow=11,SNR=17
GEYT PcP **PcP** **18 53 34.1 +0.4**
comp=Z,2.3nm,0.5s,baz=150,slow=3.3,SNR=2.4
comp=Z,46nm,0.9s
SOEI Soe 39.38 133 P **P** **18 51 29.1 +0.3**
SWI Sorong 39.50 115 P **P** **18 51 32.9 +3.2**
SWI pmax pmax
comp=Z,33nm,1.6s
USRK Ussuriysk Ar. 39.68 41 P **P** **18 51 30.1 -0.7**
USRK Ussuriysk Ar. 39.68 41 P **P** **18 51 30.1 -0.7**
comp=Z,12nm,0.9s,baz=248,slow=7.4,SNR=6.6
comp=Z,12nm,0.9s
BVAR Borovoye Array 40.04 336 P **P** **18 51 32.4 -1.4**
BVAR 18 53 38.1
BVAR Borovoye Array 40.04 336 P **P** **18 51 32.4 -1.4**
comp=Z,5.0nm,0.6s,baz=130,slow=10,SNR=9.6
BVAR PcP **PcP** **18 53 38.1 -0.3**
comp=Z,6.9nm,0.7s,baz=145,slow=4.0,SNR=9.2
comp=Z,5.0nm,0.6s
BRVK Borovoye 40.11 336 P **P** **18 51 33.2 -1.1**
BRVK Borovoye 40.11 336*ce*P **P** **18 51 33.6 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
MJAR Matsushiro Arr 41.26 55 P **P** **18 51 44.3 +0.2**
MJAR Matsushiro Arr 41.26 55 P **P** **18 51 44.3 +0.2**
comp=Z,27nm,1.1s,baz=266,slow=8.8,SNR=17
comp=Z,27nm,1.1s
KLR Kul'dur 42.19 35*ce*P **P** **18 51 51.7 +0.2**
KLR pmax pmax
comp=Z,19nm,1.3s

ABKAR Akbulak array 42.41 325 P **P** **18 51 52.7 -0.5**
ABKAR IAmb IAmb 18 51 54.3
comp=Z,38nm,0.7s
ABKAR Akbulak array 42.41 325 IAmb IAmb 18 51 54.3
comp=Z,38nm,0.7s
ZEA Zeya 42.84 27 *e*P **P** **18 51 57.3 +0.6**
ZEA pmax pmax
comp=Z,20nm,1.6s
JMM Marumori 43.58 54 P **P** **18 52 02.0 -0.9**
JMM IAmb IAmb 18 52 07.3
comp=Z,55nm,1.0s
LKRN Lenkeran, Azer 45.70 307 P **P** **18 52 20.3 +0.5**
SVE Sverdlovsk 46.70 334*de*P **P** **18 52 27.3 -0.1**
SVE pmax pmax
comp=Z,57nm,0.8s
ARU Arti 47.33 333 P **P** **18 52 30.6 -1.7**
ARU IAmb IAmb 18 52 32.7
comp=Z,20nm,0.6s
ARU Arti 47.33 333*c i*P **P** **18 52 31.6 -0.7**
ARU 18 54 15.2
ARU S **S** **18 59 26.8 +1.8**
ARU SS **SS** **19 02 44.7 -7.8**
ARU pmax pmax
comp=Z,17nm,0.6s
ARU Arti 47.33 333 IAmb IAmb 18 52 32.6
comp=Z,20nm,0.6s
MNGR Mingechevir, A 47.43 309 P **P** **18 52 33.8 +0.4**
SEKA Sheki 47.45 310 P **P** **18 52 33.3 -0.3**
ZKTA Zakatala 47.98 310 P **P** **18 52 37.8 +0.2**
NAX Nakhchivan 48.30 306 P **P** **18 52 40.6 +0.4**
YAK Yakutsk 49.65 20 P **P** **18 52 49.3 -0.7**
YAK Yakutsk 49.65 20 *e*P **P** **18 52 49.9 -0.1**
YAK pmax pmax
comp=Z,24nm,0.7s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.2s
ZEI Tsey 50.20 311 *e*P **P** **18 52 55.3 +0.4**
ZEI pmax pmax
comp=Z,87nm,1.4s
AKH Akhalkalaki 50.22 309 P **P** **18 52 56.9 +1.9**
AKH Akhalkalaki 50.22 309 P **P** **18 52 56.9 +1.9**
AKH pmax pmax
comp=Z,127nm,1.1s
ONI Oni 50.48 311 P **P** **18 52 57.1 +0.2**
ONI Oni 50.48 311 P **P** **18 52 57.1 +0.2**
ONI pmax pmax
comp=Z,20nm,1.1s
BELG Belogornoye 50.76 324 *i*P **P** **18 52 57.9 -0.8**
BELG pmax pmax
comp=Z,8.0nm,0.9s
GURO Guroymak-BITLI 50.87 305 P **P** **18 53 01.1 +1.2**
KBZ Khabaz 51.12 312*ce*P **P** **18 53 01.8 +0.3**
KBZ pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 51.12 312 P **P** **18 53 01.9 +0.4**
comp=Z,7.8nm,0.9s,baz=136,slow=11,SNR=5.2
comp=Z,7.8nm,0.9s
GOF Gofitskoye 51.32 314*ce*P **P** **18 53 03.5 +0.5**
KIV Kislovodsk 51.32 312 P **P** **18 53 03.1 0.0**
KIV Kislovodsk 51.32 312 *e*P **P** **18 53 03.6 +0.4**
KIV pmax pmax
comp=Z,53nm,1.1s
NRIK Noril'sk 51.35 356 P **P** **18 53 02.4 -0.4**
NRIK Noril'sk 51.35 356 P **P** **18 53 02.4 -0.4**
comp=Z,9.6nm,0.4s,baz=152,slow=6.1,SNR=9.4
comp=Z,9.6nm,0.4s
KIRV Kirov 52.62 331*ce*P **P** **18 53 11.9 -0.6**
WRA Warramunga Arr 53.41 133 P **P** **18 53 18.7 -0.1**
WRA 18 54 25.9
WRA Warramunga Arr 53.41 133 P **P** **18 53 18.7 -0.1**
comp=Z,24nm,0.9s,baz=320,slow=7.4,SNR=21
WRA PcP **PcP** **18 54 25.9 -0.1**
comp=Z,2.5nm,0.9s,baz=304,slow=5.4,SNR=1.1
comp=Z,24nm,0.9s
WRAB Tennant Creek 53.41 133 P **P** **18 53 19.0 +0.2**
WRAB IAmb IAmb 18 53 20.1
comp=Z,39nm,0.9s
WRAB Tennant Creek 53.41 133 P **P** **18 53 19.0 +0.2**
WRAB pmax pmax
comp=Z,39nm,1.0s
WRAB Tennant Creek 53.41 133 IAmb IAmb 18 53 20.1
comp=Z,39nm,0.9s
VRH Novokhopyorsk 53.79 321 *e*P **P** **18 53 19.3 -1.9**
VRH pmax pmax
comp=Z,36nm,1.4s
ARPR Arapgir-MALATY 53.80 305 P **P** **18 53 23.3 +1.6**
ARPR IAmb IAmb 18 55 05.5
comp=Z,2µm,0.5s
GAZ Gaziantep 54.53 303 IAmb IAmb 18 53 28.9
comp=Z,19nm,1.0s
VORD Divnogorie 55.20 320 *e*P **P** **18 53 28.9 -2.6**
VORD pmax pmax
comp=Z,30nm,0.5s
VSR Storozhevoye 55.34 320 *e*P **P** **18 53 29.4 -3.1**
VSR pmax pmax
comp=Z,20nm,1.4s
VORR Voronezh 55.44 321 *e*P **P** **18 53 31.2 -1.9**
VORR pmax pmax
comp=Z,43nm,1.3s
ASAR Alice Springs 55.69 137 P **P** **18 53 35.8 +0.4**
ASAR Alice Springs 55.69 137 P **P** **18 53 35.8 +0.4**
comp=Z,16nm,0.8s,baz=316,slow=6.8,SNR=19
comp=Z,16nm,0.8s
LPSR Galich'ya Gora 55.84 322 *e*P **P** **18 53 33.9 -2.2**
LPSR pmax pmax
comp=Z,40nm,0.7s
MMAI Mount Meron Ar 55.92 298 P **P** **18 53 37.8 +0.7**
comp=Z,6.3nm,0.8s,baz=94,slow=12,SNR=6.2
comp=Z,6.3nm,0.8s
TIXI Tiksi 56.76 12 P **P** **18 53 41.0 -1.3**
TIXI IAmb IAmb 18 53 45.2
comp=Z,55nm,1.6s
TIXI Tiksi 56.76 12*ce*P **P** **18 53 41.4 -0.8**
TIXI pmax pmax
comp=Z,27nm,1.3s
MA2 Magadan 56.82 30 P **P** **18 53 42.6 -0.3**
MA2 IAmb IAmb 18 53 43.9
comp=Z,29nm,0.8s
MA2 Magadan 56.82 30*ce*P **P** **18 53 42.4 -0.5**
MA2 pmax pmax
comp=Z,46nm,1.3s
MA2 Magadan 56.82 30 IAmb IAmb 18 53 43.9
comp=Z,29nm,0.8s
MOS Moscow 57.44 325 *e*P **P** **18 53 46.0 -1.3**
MOS pmax pmax
comp=Z,31nm,0.6s
BR131 Keskin Array S 57.47 306 *i*P **P** **18 53 48.1 0.0**
BRTR Keskin Array B 57.47 306 P **P** **18 53 48.0 0.0**
BRTR Keskin Array B 57.47 306 P **P** **18 53 48.0 0.0**
comp=Z,5.3nm,0.8s,baz=122,slow=6.4,SNR=9.9
comp=Z,5.3nm,0.8s
OBN Obninsk 57.85 324 P **P** **18 53 49.3 -0.9**
OBN IAmb IAmb 18 53 50.1
comp=Z,19nm,0.7s
OBN Obninsk 57.85 324*ce*P **P** **18 53 49.5 -0.7**
OBN *i* 18 54 42.3
OBN *e* 18 56 03.8
OBN *eS* **S** **19 01 51.1 +2.2**
OBN pmax pmax
comp=Z,36nm,1.3s
OBN MLR MLR
comp=Z,1µm,16.0s
OBN Obninsk 57.85 324 IAmb IAmb 18 53 50.1
comp=Z,19nm,0.7s
KLMR Klimovskoe 58.12 331 *e*P **P** **18 53 50.2 -1.9**
KLMR *e* 18 54 42.6
KLMR pmax pmax
comp=Z,28nm,0.9s
ANTO Ankara 58.13 306 P **P** **18 53 52.5 -0.1**
ANTO IAmb IAmb 18 53 53.4
comp=Z,17nm,0.8s
ANTO Ankara 58.13 306 P **P** **18 53 52.5 -0.1**
ANTO pmax pmax
comp=Z,17nm,0.8s
ANTO Ankara 58.13 306 IAmb IAmb 18 53 53.4
comp=Z,17nm,0.8s
SEY Seymchan 58.82 26*ce*P **P** **18 53 56.2 -0.7**
SEY pmax pmax
comp=Z,20nm,2.5s
ISP Isparta 59.87 304*ce*P **P** **18 54 04.5 -0.3**
ISP pmax pmax
comp=Z,16nm,0.6s
ELL Elmali 60.38 302 IAmb IAmb 18 54 11.7
comp=Z,234nm,0.8s
KMBO Kilima Mbogo 60.90 258 P **P** **18 54 11.1 -1.2**
KMBO Kilima Mbogo 60.90 258 P **P** **18 54 11.1 -1.2**
comp=Z,6.3nm,0.9s,baz=57,slow=10,SNR=5.7
comp=Z,6.3nm,0.9s
LODK Lodwar 61.12 264 P **P** **18 54 14.8 +1.2**
MILM Milestii Mici 61.39 314 *e*P **P** **18 54 14.0 -0.8**
comp=Z,30nm,0.6s
MILM Milestii Mici 61.39 314 ⇓P **P** **18 54 13.6 -1.3**
MILM Milestii Mici 61.39 314 *e*P **P** **18 54 14.0 -0.8**
MILM pmax pmax
comp=Z,30nm,0.6s
AKASG Malin Array Be 61.43 318 P **P** **18 54 14.0 -1.0**
AKASG Malin Array Be 61.43 318 P **P** **18 54 14.0 -1.0**
comp=Z,5.0nm,0.5s,baz=83,slow=6.4,SNR=27
comp=Z,5.0nm,0.5s
KIEV Kiev 61.44 318 ⇓P **P** **18 54 13.9 -1.2**
KIEV Kiev 61.44 318 P **P** **18 54 13.6 -1.5**
KIEV IAmb IAmb 18 54 14.5
comp=Z,16nm,0.6s
KIEV Kiev 61.44 318 P **P** **18 54 13.6 -1.5**
KIEV pmax pmax
comp=Z,16nm,0.6s
KIEV Kiev 61.44 318 IAmb IAmb 18 54 14.5
comp=Z,16nm,0.6s
SORM Soroca 61.78 315 ⇓P **P** **18 54 16.0 -1.5**
VLDR Vladesti 61.84 313 ⇓P **P** **18 54 18.4 +0.5**
ICOR Ion Corvin 61.98 311 ⇑P **P** **18 54 20.0 +1.1**
VOI Vohitsoka 62.57 232 P **P** **18 54 22.9 -0.4**
MNK Minsk 62.67 322 *e*P **P** **18 54 21.2 -2.1**
comp=E,11nm,1.1s
MNK *e*P **P** **18 54 21.2 -2.1**
comp=N,8.0nm,0.8s
MNK *e*P **P** **18 54 21.2 -2.1**
comp=Z,34nm,0.8s,baz=96
MNK *i* S **S** **19 02 48.8 -2.0**
MNK Minsk 62.67 322 *e*P **P** **18 54 21.2 -2.1**
MNK *i* S **S** **19 02 48.8 -2.0**
MNK pmax pmax
comp=E,11nm,1.1s
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=Z,34nm,0.8s
VRI Vrincioaia 62.79 313 ⇓P **P** **18 54 25.6 +1.3**
PLOR Plostina 62.84 313 ⇑P **P** **18 54 25.2 +0.6**
TESR Tescani 62.86 313 ⇑P **P** **18 54 24.5 -0.2**
RAZG Razgrad 62.91 310 ⇓P **P** **18 54 24.5 -0.6**
COVR Voineasa-Covas 63.15 313 ⇓P **P** **18 54 27.3 +0.5**
TURR Turia 63.29 313 ⇓P **P** **18 54 27.6 0.0**
ALN Alexandroupoli 63.29 307 IAmb IAmb 18 54 31.0
comp=Z,30nm,1.2s
MLR Muntele Rosu 63.33 312 ⇑P **P** **18 54 29.0 +1.0**
MLR Muntele Rosu 63.33 312 P **P** **18 54 28.2 +0.2**
MLR Muntele Rosu 63.33 312 P **P** **18 54 28.2 +0.2**
MLR pmax pmax
comp=Z,85nm,1.6s
BOSR Bodos 63.54 313 ⇓P **P** **18 54 29.3 +0.1**
RDO Rodhopi 63.67 307 IAmb IAmb 18 54 31.4
comp=Z,19nm,1.1s
RDO Rodhopi 63.67 307 IAmb IAmb 18 54 31.4
comp=Z,19nm,1.1s
VSU Vasula 63.81 327*ce*P **P** **18 54 29.7 -1.0**
VSU pmax pmax
comp=Z,64nm,2.5s
VSU Vasula 63.81 327 *e*P **P** **18 54 30.8 0.0**
COPA Copaceanca 63.84 311 ⇑P **P** **18 54 30.7 -0.6**
BURAR Bucovina Array 63.87 315 ⇓P **P** **18 54 31.7 +0.2**
VOIR 63.96 312 ⇓P **P** **18 54 32.1 0.0**
HUMR Humele 64.01 311 ⇓P **P** **18 54 31.4 -1.0**
ARR Arges 64.25 312 ⇓P **P** **18 54 33.4 -0.6**
ARCR ARCALIA 64.45 314 ⇑P **P** **18 54 35.5 +0.3**
FINES FINESS Array B 64.57 330 P **P** **18 54 35.4 -0.3**
FINES FINESS Array B 64.57 330 P **P** **18 54 35.4 -0.3**
comp=Z,18nm,0.7s,baz=98,slow=6.0,SNR=22
comp=Z,18nm,0.7s
LVV L'vov 64.70 317 *e*P **P** **18 54 36.2 -0.6**
CJR Cluj-Napoca 64.97 314 ⇑P **P** **18 54 40.3 +1.7**
PABE Paberze 65.01 323 P **P** **18 54 38.4 -0.3**
PABE Paberze 65.01 323 *e*P **P** **18 54 39.0 +0.3**
VADS Vadso 65.09 340 *e*P **P** **18 54 39.1 +0.2**
VADS IAmb IAmb 18 54 39.8
comp=Z,61nm,0.9s
MEF Metsahovi 65.22 329 *e*P **P** **18 54 39.9 0.0**
MTSE Matsula 65.36 327 *e*P **P** **18 54 40.8 -0.1**
SUW Suwalki 65.38 322 *e*P **P** **18 54 38.6 -2.5**
SUW Suwalki 65.38 322 IAmb IAmb 18 54 39.2
comp=Z,47nm,0.9s
SUW Suwalki 65.38 322 *e*P **P** **18 54 38.6 -2.5**
KWP Kalwaria Pacla 65.56 317 *e*P **P** **18 54 42.4 0.0**
KWP Kalwaria Pacla 65.56 317 IAmb IAmb 18 54 43.5
comp=Z,84nm,1.4s
BLKB Belogradchik 65.69 310 ⇑P **P** **18 54 43.7 +0.3**
CEI Carei 65.73 315 ⇑P P 18 54 38.0 -5.5
KEV Kevo 65.78 339 P **P** **18 54 42.5 -0.9**
KEV Kevo 65.78 339 P **P** **18 54 42.5 -0.9**
KEV pmax pmax
comp=Z,38nm,1.0s
HERR Herculane 65.83 312 ⇑P **P** **18 54 44.7 +0.5**
KOLS Kolonicke sedl 65.84 316 *e*P **P** **18 54 44.9 +0.7**
KOLS Kolonicke sedl 65.84 316 *e*P **P** **18 54 44.8 +0.6**
SURR Surduc 66.01 313 ⇓P **P** **18 54 44.4 -0.9**
AGG Agios Georgios 66.24 305 IAmb IAmb 18 54 48.5
comp=Z,14nm,1.2s
ARA0 ARCESS Array S 66.25 339 *e*P **P** **18 54 46.6 +0.2**
ARCES ARCESS Array B 66.25 339 P **P** **18 54 46.6 +0.2**
ARCES ARCESS Array B 66.25 339 P **P** **18 54 46.6 +0.2**
comp=Z,14nm,0.6s,baz=84,slow=7.2,SNR=30
comp=Z,14nm,0.6s
STKA Stephens Creek 66.26 138 P **P** **18 54 46.9 -0.2**
STKA Stephens Creek 66.26 138 P **P** **18 54 46.9 -0.2**
comp=Z,9.4nm,0.9s,baz=312,slow=8.5,SNR=7.5
comp=Z,9.4nm,0.9s
SIRR Siria 66.31 313 ⇑P **P** **18 54 46.8 -0.5**
BZS Buzias 66.37 312 ⇑P **P** **18 54 47.8 +0.2**
CRVS Cervenica-Dubn 66.38 316 *e*P **P** **18 54 48.7 +1.0**
CRVS pmax pmax
comp=Z,34nm,1.1s
CRVS Cervenica-Dubn 66.38 316 *e*P **P** **18 54 48.7 +1.0**
RAF Rauma 66.59 329 *e*P **P** **18 54 48.8 +0.1**
MBAR Mbarara 66.81 261 P **P** **18 54 52.5 +1.3**
MBAR IAmb IAmb 18 54 53.6
comp=Z,24nm,0.8s
MBAR Mbarara 66.81 261 P **P** **18 54 52.5 +1.3**
MBAR pmax pmax
comp=Z,24nm,0.8s
MBAR Mbarara 66.81 261 IAmb IAmb 18 54 53.6
comp=Z,24nm,0.8s
FNA Florina 66.83 307 IAmb IAmb 18 54 50.2
comp=Z,5.5nm,0.9s
FNA Florina 66.83 307 IAmb IAmb 18 54 50.2
comp=Z,5.5nm,0.9s
KTK1 Kautokeino 66.94 338 *e*P **P** **18 54 51.1 +0.2**
HAMF Hammerfest 67.08 340 *e*P **P** **18 54 52.0 +0.4**
OJC Ojcow 67.43 317 IAmb IAmb 18 54 59.0
comp=Z,12nm,1.0s
OJC Ojcow 67.43 317 IAmb IAmb 18 54 59.0
comp=Z,12nm,1.0s
LANS Liptovska Anna 67.69 316 *e*P **P** **18 54 56.6 +0.6**
LANS pmax pmax
comp=Z,5.0nm,1.3s
LANS Liptovska Anna 67.69 316 *e*P **P** **18 54 56.6 +0.6**
HOPEN Hopen 67.97 346 *e*P **P** **18 54 57.8 +0.5**
JETT Jettan, Norway 68.02 338 *e*P **P** **18 54 58.0 +0.2**
VYHS Vyhne 68.13 316 *e*P **P** **18 54 58.6 -0.2**
VYHS pmax pmax
comp=Z,47nm,2.4s
VYHS Vyhne 68.13 316 *e*P **P** **18 54 58.6 -0.2**
MORH Mrgy, Hungar 68.41 313 ⇓P **P** **18 55 00.5 0.0**
OKC Ostrava-Krasne 68.51 317 *e*P **P** **18 54 59.6 -1.5**
OKC Ostrava-Krasne 68.51 317 *e*P **P** **18 54 59.6 -1.5**
TRO Tromso 68.54 338 *e*P **P** **18 55 00.9 0.0**
TRO IAmb IAmb 18 55 01.2
comp=Z,40nm,0.6s
MAUC Maruska 68.75 317 *e*P **P** **18 55 03.0 +0.3**
JAVC Velka Javorina 68.88 316 *e*P **P** **18 55 04.2 +0.7**
MORC Moravsky Berou 68.91 317 *e*P **P** **18 55 03.7 0.0**
BJO1 Bjornoya 69.08 344 *e*P **P** **18 55 04.2 0.0**
KRLC Kraliky 69.38 317 *e*P **P** **18 55 06.9 +0.3**
KRLC Kraliky 69.38 317 *e*P **P** **18 55 06.9 +0.3**
VRAC Vranov 69.56 317 *e*P **P** **18 55 07.7 0.0**
KSP Ksiaz 69.64 318 *e*P **P** **18 55 08.5 +0.4**
DPC Dobruska-Polom 69.65 318 *e*P **P** **18 55 08.7 +0.4**
DPC Dobruska-Polom 69.65 318 *e*P **P** **18 55 08.7 +0.4**

KRUC	Moravsky	69.70 316	eP		P		18 55 08.1	-0.5
FAUS	Fauske	69.75 336	eP		P		18 55 07.8	-0.7
STEI	Steigen	69.78 337	eP		P		18 55 08.4	-0.2
STEI				IAmb	IAmb		18 55 13.8	
	comp=Z,1μm,3.8s							
UPC	Upice	69.84 318	eP		P		18 55 09.6	+0.2
UPC	Upice	69.84 318	eP		P		18 55 09.6	+0.2
RONA	Rosalia, Austr	69.89 315	eP		P		18 55 09.7	-0.1
	comp=Z,3.8nm,0.8s							
MOR8	Moi Rana	70.07 335	eP		P		18 55 09.2	-1.3
MOR8				IAmb	IAmb		18 55 09.9	
	comp=Z,30nm,0.7s							
SPA0	Spitsbergen Ar	70.14 348	eP		P		18 55 10.7	0.0
SPITS	Spitsbergen Ar	70.14 348	P		P		18 55 10.1	-0.6
SPITS	Spitsbergen Ar	70.14 348	P		P		18 55 10.1	-0.6
	comp=Z,14nm,0.7s,baz=112,slow=6.7,SNR=13							
	comp=Z,14nm,0.7s							
CONA	Conrad Observa	70.16 315	eP		P		18 55 11.5	0.0
	comp=Z,7.3nm,0.8s,SNR=5.2							
HSPB	Hornsund (broa	70.20 346	eP		P		18 55 11.3	+0.2
LOF	Lofoten	70.42 337	eP		P		18 55 12.2	-0.3
ARSA	Arzberg	70.45 315	eP		P		18 55 13.3	+0.1
	comp=Z,5.9nm,0.8s							
HFS	Hagfors	70.56 328	P		P		18 55 13.3	-0.2
HFS	Hagfors	70.56 328	P		P		18 55 13.3	-0.2
	comp=Z,16nm,0.5s,baz=104,slow=6.3,SNR=28							
	comp=Z,16nm,0.5s							
KONS	Konsvik	70.60 335	eP		P		18 55 13.8	+0.1
STOK	Stokkvaagen	70.64 335	eP		P		18 55 14.0	+0.1
PVCC	Panska Ves	70.75 318	eP		P		18 55 15.5	+0.6
PVCC	Panska Ves	70.75 318	eP		P		18 55 15.5	+0.6
PRU	Pruhonice	70.83 317	eP		P		18 55 15.5	+0.1
PRU	Pruhonice	70.83 317	eP		P		18 55 15.5	+0.1
SOKA	Soboth	70.85 314	i P		P		18 55 16.0	+0.3
	comp=Z,7.2nm,0.8s,SNR=4.8							
RUE	Ruedersdorf	71.06 320	eP		P		18 55 16.9	+0.2
	comp=Z,31nm,0.9s,baz=82,slow=5.9							
CKRC	Cesky Krumlov	71.10 316	eP		P		18 55 15.1	-2.0
CKRC	Cesky Krumlov	71.10 316	eP		P		18 55 15.1	-2.0
ZVC	Zvikov	71.11 317	eP		P		18 55 17.5	+0.4
BRG	Berggiesshubel	71.12 318	i P		P		18 55 17.6	+0.5
BRG				Amp			18 55 18.9	
	comp=Z,12nm,0.6s							
BRG				PKPPKP			19 05 41.0	
BRG				Amp			19 05 46.4	
	comp=Z,10nm,1.4s							
BRG	Berggiesshubel	71.12 318	i P		P		18 55 17.6	+0.5
BRG				pmax	pmax			
	comp=Z,12nm,0.6s							
BRG	Berggiesshubel	71.12 318	eP		P		18 55 17.1	0.0
	comp=Z,12nm,0.6s,baz=82,slow=5.9							
NSS	Namsos	71.15 333	eP		P		18 55 16.7	-0.3
NSS				IAmb	IAmb		18 55 17.2	
	comp=Z,40nm,1.2s							
OBKA	Obir	71.20 314	i P		P		18 55 16.5	-1.3
	comp=Z,9.5nm,0.9s							
HSKC	Hora Svate Kat	71.47 318	eP		P		18 55 19.6	+0.3
GEC2	GERESS Array S	71.49 316	eP		P		18 55 19.7	+0.1
	comp=Z,14nm,0.7s,baz=82,slow=5.9							
GERES	GERESS Array B	71.49 316	P		P		18 55 19.9	+0.3
GERES	GERESS Array B	71.49 316	P		P		18 55 19.9	+0.3
	comp=Z,11nm,0.7s,baz=74,slow=5.9,SNR=21							
	comp=Z,11nm,0.7s							
KHC	Kasperske Hory	71.54 317	ceP		P		18 55 20.4	+0.6
KHC				pmax	pmax			
	comp=Z,19nm,1.3s							
KHC	Kasperske Hory	71.54 317	eP		P		18 55 18.3	-1.5
NC602	NORSAR Array S	71.58 329	eP		P		18 55 19.3	-0.5
CLL	Collm	71.66 319	i P		P		18 55 20.2	-0.2
CLL				pmax	pmax			
	comp=Z,13nm,1.2s							
CLL	Collm	71.66 319	i P		P		18 55 20.2	-0.2
	comp=Z,13nm,1.2s							
CLL				i (PcP)	PcP		18 55 37.4	-2.1
CLL				ePP	PP		18 58 00.0	+0.7
CLL	Collm	71.66 319	eP		P		18 55 20.6	+0.2
	comp=Z,10.0nm,1.1s,baz=82,slow=5.9							
BIOA	Bad Ischl, Aus	71.67 315	eP		P		18 55 20.6	0.0
	comp=Z,2.7nm,0.7s							
NB2	NORSAR Subarra	71.72 329	P		P		18 55 20.4	-0.2
	comp=Z,5.3nm,0.5s,baz=85,slow=6.5							
NB2	NORSAR Subarra	71.72 329	P		P		18 55 20.4	-0.2
	baz=85,slow=6.5							
NOA	NORSAR Array B	71.72 329	P		P		18 55 20.0	-0.7
NOA	NORSAR Array B	71.72 329	P		P		18 55 20.0	-0.7
	comp=Z,8.1nm,0.6s,baz=90,slow=5.8,SNR=15							
	comp=Z,8.1nm,0.6s							
MYKA	Terra Mystica	71.81 314	eP		P		18 55 21.1	-0.4
	comp=Z,6.1nm,0.9s							
PRED	Cave del Predi	71.88 314	IAmb		IAmb		18 55 25.0	
	comp=Z,9.5nm,0.8s							
PRED	Cave del Predi	71.88 314	IAmb		IAmb		18 55 25.0	
	comp=Z,9.5nm,0.8s							
KBA	Koelnbreinsper	71.95 315	eP		P		18 55 22.0	-0.5
	comp=Z,4.3nm,0.6s							
WET	Wettzell	72.00 317	eP		P		18 55 22.7	+0.2
	comp=Z,8.0nm,0.8s,baz=82,slow=5.9							
OSL	Oslo	72.06 328	eP		P		18 55 22.9	+0.3
OSL				IAmb	IAmb		18 55 23.1	
	comp=Z,41nm,0.7s							
ARMA	Armidale	72.12 132	P		P		18 55 25.2	+1.6
ARMA				IAmb	IAmb		18 55 27.1	
	comp=Z,16nm,1.1s							
PLN	Plauen	72.29 318	eP		P		18 55 23.6	-0.6
	comp=Z,7.0nm,0.8s,baz=82,slow=5.9							
ROTZ	Rotzenmuhle	72.35 317	eP		P		18 55 25.0	+0.4
	comp=Z,3.2nm,0.8s,baz=82,slow=5.9							
LESA	Schwarzleotal	72.36 315	eP		P		18 55 24.5	-0.3
	comp=Z,10nm,0.5s							
MANZ	Manzenberg	72.39 318	eP		P		18 55 24.8	0.0
	comp=Z,2.1nm,1.1s,baz=82,slow=5.9							
STAL	STALIGIAL	72.50 314	IAmb		IAmb		18 55 25.6	
	comp=Z,16nm,0.7s							
GORT1	Trebel	72.50 321	eP		P		18 55 25.5	+0.2
	comp=Z,38nm,1.2s,baz=82,slow=5.9							
MOX	Moxa	72.61 318	eP		P		18 55 26.0	-0.2
	comp=Z,9.4nm,1.0s,baz=82,slow=5.9							
DOMB	Dombas	72.65 330	eP		P		18 55 26.2	0.0
DOMB				IAmb	IAmb		18 55 26.7	
	comp=Z,25nm,1.0s							
KONO	Kongsberg	72.66 328	eP		P		18 55 26.2	+0.1
CIMO	Cimolais	72.67 314	IAmb		IAmb		18 55 26.7	
	comp=Z,11nm,0.8s							
FDMO	Fiordimonte	72.71 310	IAmb		IAmb		18 55 28.2	
	comp=Z,29nm,0.8s							
NRCA	Norcia	72.72 310	IAmb		IAmb		18 55 28.3	
	comp=Z,31nm,1.2s							
BSEG	Bad Segeberg	72.97 322	eP		P		18 55 27.8	-0.3
	comp=Z,12nm,0.9s,baz=82,slow=5.9							
GRF	Grafenberg Arr	72.99 317	eP		P		18 55 29.2	+0.8
	comp=Z,94nm,1.9s,baz=82,slow=5.9							
WTTA	Wattenberg	73.08 315	i P		P		18 55 28.7	-0.5
	comp=Z,12nm,0.8s,SNR=4.7							
WATA	Walderalm	73.11 315	eP		P		18 55 28.8	-0.6
	comp=Z,13nm,1.0s							
SKAR	Skarslia	73.17 329	eP		P		18 55 30.0	+0.6
CLZ	Clausthal	73.22 320	eP		P		18 55 30.5	+0.7
	comp=Z,36nm,1.5s,baz=82,slow=5.9							
NRDL	Niedersach Rie	73.29 320	eP		P		18 55 30.9	+0.9
	comp=Z,36nm,1.5s,baz=82,slow=5.9							
MOL	Molde	73.29 331	eP		P		18 55 30.4	+0.5
SQTA	Sankt Quirin	73.37 315	i P		P		18 55 30.3	-0.6
	comp=Z,9.3nm,0.6s,SNR=6.6							
MOTA	Moosalm	73.42 315	eP		P		18 55 30.5	-0.7
	comp=Z,15nm,0.8s,SNR=9.0							
GTTG	Gottingen	73.52 319	eP		P		18 55 31.7	+0.3
	comp=Z,14nm,1.0s,baz=82,slow=5.9							
AKN	Aaknes	73.60 331	eP		P		18 55 31.9	+0.2
RETA	Reutte	73.63 315	eP		P		18 55 31.9	-0.4
	comp=Z,12nm,0.6s,SNR=7.6							
RETH	Rethem/Aller,	73.70 321	eP		P		18 55 32.7	+0.2
	comp=Z,19nm,1.5s,baz=82,slow=5.9							
FETA	Feichten	73.73 315	eP		P		18 55 32.5	-0.5
	comp=Z,8.5nm,0.8s,SNR=6.5							
UBR	Ueberruh	74.04 315	eP		P		18 55 34.0	-0.7
	comp=Z,9.8nm,0.8s,baz=82,slow=5.9							
SALO	Salr	74.10 313	IAmb		IAmb		18 55 36.8	
	comp=Z,37nm,0.9s							
DAVA	Damuels	74.25 315	eP		P		18 55 34.7	-1.4
	comp=Z,16nm,0.9s							
BLS5	Blasjo	74.27 328	eP		P		18 55 36.3	+0.5
BLS5				IAmb	IAmb		18 55 37.4	
	comp=Z,19nm,0.9s							
STU	Stuttgart	74.45 317	eP		P		18 55 36.7	-0.3
	comp=Z,67nm,1.3s,baz=82,slow=5.9							
LSZ	Lusaka	74.67 248	P		P		18 55 40.1	+1.2
LSZ				pmax	pmax			
	comp=Z,39nm,0.9s							
TNS	Taunus Mts	74.68 318	eP		P		18 55 38.2	-0.2
	comp=Z,338nm,3.5s,baz=82,slow=5.9							
IBBN	Ibbenburen	74.74 320	eP		P		18 55 38.6	0.0
	comp=Z,21nm,1.2s,baz=82,slow=5.9							
BUG	Bochum-Univer	75.19 320	eP		P		18 55 41.5	+0.3
	comp=Z,14nm,1.0s,baz=82,slow=5.9							
AHRW	Bad Neuenahr-A	75.48 319	eP		P		18 55 43.3	+0.4
	comp=Z,16nm,1.0s,baz=82,slow=5.9							
WLF	Walferdange	76.24 318	IAmb		IAmb		18 55 49.4	
	comp=Z,29nm,1.1s							
WLF	Walferdange	76.24 318	eP		P		18 55 47.6	+0.4
	comp=Z,31nm,1.2s,baz=82,slow=5.9							
C16K	Lisburne Hills	76.36 22	IAmb		IAmb		18 55 48.6	
	comp=Z,25nm,1.3s							
KEST	Kesra	76.96 304	P		P		18 55 51.9	+0.2
	comp=Z,11nm,1.0s,baz=54,slow=19,SNR=6.2							
	comp=Z,11nm,1.0s							
F15K	North Star Dit	77.30 25	IAmb		IAmb		18 55 53.5	
	comp=Z,18nm,1.2s							
E18K	Tukpahlearik C	78.33 23	IAmb		IAmb		18 55 60.0	
	comp=Z,18nm,1.1s							
F17K	Baldwin Pennin	78.41 24	IAmb		IAmb		18 56 49.5	
	comp=Z,16nm,0.8s							
L14K	Kuka Creek	79.45 29	IAmb		IAmb		18 56 06.7	
	comp=Z,72nm,1.7s							
B22K	Teshekpuk Lake	79.63 19	IAmb		IAmb		18 56 07.0	
	comp=Z,51nm,1.4s							
B22K	Teshekpuk Lake	79.63 19	IAmb		IAmb		18 56 07.0	
	comp=Z,51nm,1.4s							
DZM	Mont Dzumac	79.67 117	P		P		18 56 07.6	+0.8
DZM				IAmb	IAmb		18 56 10.1	
	comp=Z,37nm,1.4s							
J16K	Anvik River	79.72 27	IAmb		IAmb		18 56 07.7	
	comp=Z,18nm,0.8s							
G19K	Purcell Mounta	80.08 23	IAmb		IAmb		18 56 09.3	
	comp=Z,10.0nm,0.9s							
EKA	Eskdalemuir Ar	80.29 325	P		P		18 56 09.9	+0.3
EKA	Eskdalemuir Ar	80.29 325	P		P		18 56 09.9	+0.3
	comp=Z,10nm,0.6s,baz=81,slow=5.6,SNR=32							
	comp=Z,10nm,0.6s							
ESK	Eskdalemuir	80.32 325	P		P		18 56 09.2	-0.5
ESK				IAmb	IAmb		18 56 10.8	
	comp=Z,18nm,0.8s							
ESK	Eskdalemuir	80.32 325	P		P		18 56 09.2	-0.5
ESK				pmax	pmax			
	comp=Z,18nm,0.8s							
H19K	Roundabout Mou	80.57 24	IAmb		IAmb		18 56 15.3	
	comp=Z,57nm,1.9s							
C23K	Itkillik River	80.71 19	IAmb		IAmb		18 56 13.2	
	comp=Z,36nm,1.2s							
K17K	Iditarod	80.91 27	IAmb		IAmb		18 56 14.0	
	comp=Z,37nm,1.2s							
J19K	Poorman	81.51 25	IAmb		IAmb		18 56 20.1	
	comp=Z,32nm,1.6s							
EUNU	Eureka	81.87 0	P		P		18 56 17.9	+0.2
H21K	Melozitna Rive	81.89 23	IAmb		IAmb		18 56 19.3	
	comp=Z,20nm,1.1s							
BOSA	Boshof	82.72 237	P		P		18 56 23.8	+0.8
BOSA	Boshof	82.72 237	P		P		18 56 23.8	+0.8
	comp=Z,17nm,0.7s,baz=70,slow=2.9,SNR=18							
	comp=Z,17nm,0.7s							
MLY	Manley	82.95 23	IAmb		IAmb		18 56 24.6	
	comp=Z,13nm,1.0s							
CAST	Castle Rocks	83.18 25	P		P		18 56 24.4	-0.4
CAST				IAmb	IAmb		18 56 25.8	
	comp=Z,17nm,1.0s							
CAST	Castle Rocks	83.18 25	IAmb		IAmb		18 56 25.8	
	comp=Z,17nm,1.0s							
I23K	Minto, Yukon-K	83.40 23	IAmb		IAmb		18 56 29.1	
	comp=Z,37nm,1.8s							
TAM	Tamanrasset	83.57 292	P		P		18 56 28.4	+0.7
TAM	Tamanrasset	83.57 292	P		P		18 56 28.4	+0.7
TAM				pmax	pmax			
	comp=Z,13nm,1.2s							
MDM	Murphy Dome	83.91 23	IAmb		IAmb		18 56 29.3	
	comp=Z,27nm,1.1s							
SKT	Skwentna	84.08 26	IAmb		IAmb		18 56 29.4	
	comp=Z,19nm,1.0s							
POKR	Poker Plat Res	84.12 22	IAmb		IAmb		18 56 32.3	
	comp=Z,40nm,1.6s							
SUMG	Summit	84.48 348	P		P		18 56 31.1	-0.5
SUMG				IAmb	IAmb		18 56 32.5	
	comp=Z,27nm,1.1s							
SUMG	Summit	84.48 348	P		P		18 56 31.1	-0.5
SUMG				pmax	pmax			
	comp=Z,27nm,1.1s							
SUMG	Summit	84.48 348	IAmb		IAmb		18 56 32.4	
	comp=Z,27nm,1.1s							
ILAR	Eielson Array	84.50 23	P		P		18 56 29.8	-1.6
ILAR	Eielson Array	84.50 23	P		P		18 56 29.8	-1.6
	comp=Z,2.8nm,0.8s,baz=298,slow=3.8,SNR=9.4							
ILAR				PP	PP		18 59 46.3	+0.1
	comp=Z,2.2nm,1.0s,baz=290,slow=6.3,SNR=3.9							
ILAR				PKKPbc	PKKPbc		19 14 42.0	-2.3
	comp=Z,0.3nm,0.5s,baz=144,slow=1.2,SNR=7.3							
	comp=Z,2.8nm,0.8s							
PRP	Porcupine Dome	84.58 22	P		P		18 56 32.1	+0.1
PRP				IAmb	IAmb		18 56 33.2	
	comp=Z,24nm,1.1s							
PRP	Porcupine Dome	84.58 22	IAmb		IAmb		18 56 33.2	
	comp=Z,24nm,1.1s							
A36M	Sachs Harbour	85.78 12	IAmb		IAmb		18 56 38.2	
	comp=Z,22nm,0.8s							
J26L	Joseph Creek	85.84 22	IAmb		IAmb		18 56 39.0	
	comp=Z,12nm,0.9s							
J26L	Joseph Creek	85.84 22	IAmb		IAmb		18 56 39.0	
	comp=Z,12nm,0.9s							
ESDC	Sonseca Array	85.95 310	P		P		18 56 39.0	-0.3
	comp=Z,2.9nm,0.9s,baz=57,slow=4.6,SNR=9.2							
	comp=Z,2.9nm,0.9s							
I28M	Miner Creek	86.52 20	IAmb		IAmb		18 57 01.3	
	comp=Z,24nm,1.8s							
INK	Inuvik	86.57 16	IAmb		IAmb		18 57 06.8	
	comp=Z,12nm,1.2s							
L26K	Log Cabin Wild	86.77 23	IAmb		IAmb		18 56 46.5	
	comp=Z,44nm,1.6s							
N25K	Chitina, Valde	87.09 25	IAmb		IAmb		18 56 45.5	
	comp=Z,20nm,0.8s							
F31M	Tsiigehtchic	87.11 17	IAmb		IAmb		18 57 04.0	
	comp=Z,12nm,1.1s							
WIN	Windhoek	87.15 245	IAmb		IAmb		18 56 48.3	
	comp=Z,21nm,1.2s							
M26K	Nabesna, AK	87.26 24	IAmb		IAmb		18 56 47.5	
	comp=Z,26nm,1.2s							
M26K	Nabesna, AK	87.26 24	IAmb		IAmb		18 56 47.5	
	comp=Z,26nm,1.2s							
L27K	Beaver Creek,	87.31 23	IAmb		IAmb		18 56 49.9	
	comp=Z,44nm,1.8s							
L29M	L29M	88.61 22	IAmb		IAmb		18 57 01.3	
	comp=Z,20nm,1.1s							
TORD	Torodi Ar. Bea	89.99 284	P		P		18 56 58.6	-0.3
	comp=Z,2.4nm,0.7s,baz=42,slow=5.5,SNR=6.9							
TORD				PP	PP		19 00 31.0	-0.9
	comp=Z,3.9nm,1.1s,baz=53,slow=8.1,SNR=6.9							
	comp=Z,2.4nm,0.7s							
SFJD	Kangerlussuaq	91.48 348	P		P		18 57 04.2	-0.6
SFJD	Kangerlussuaq	91.48 348	P		P		18 57 04.2	-0.6
SFJD				pmax	pmax			
	comp=Z,38nm,1.1s							
RTZ	Ruatahuna	94.37 129	P		P		18 57 18.6	-0.1
YKA	Yellowknife Ar	95.96 14	i P		P		18 57 24.3	-1.2
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	Yellowknife Ar	95.96 14	P		P		18 57 24.4	-1.2
	comp=Z,0.8nm,0.7s,baz=325,slow=4.1,SNR=5.9							
	comp=Z,0.8nm,0.7s							
PDAR	Pinedale Array	114.87 21	PKiKP		PKiKP		19 02 39.5	-0.6
	comp=Z,0.7nm,0.7s,baz=120,slow=0.4,SNR=5.7							
ANMO	Albuquerque	122.94 22			PKPdf		19 02 55.8	+0.1
ANMO	Albuquerque	122.94 22	PKIKP		PKPdf		19 02 55.8	+0.1
S39A	Bolivar	123.66 9	PKPdf		PKPdf		19 02 55.5	-1.4
TXAR	Lajitas Array	129.01 22	PKIKP		PKPdf		19 03 07.4	0.0
TXAR	Lajitas Array	129.01 22	PKP		PKPdf		19 03 07.4	0.0
	comp=Z,1.5nm,0.7s,baz=286,slow=0.9,SNR=6.1							
BDFB	Brasilia	145.55 269	PKIKP		PKPab		19 03 38.3	-0.1
BDFB	Brasilia	145.55 269	PKPbc		PKPab		19 03 38.3	-0.1
	comp=Z,19nm,0.7s,baz=108,slow=4.7,SNR=11							
URIC	Uribia, Colomb	147.98 337	eP		PKPbc		19 03 43.6	-1.4
CRIN	San Cristobal	149.09 6	eP		PKPab		19 03 58.7	+6.6
BOAV	Boa Vista	149.12 309	PKPdf		PKPdf		19 03 44.1	+0.1
BOAV	Boa Vista	149.12 309	eP		PKPdf		19 03 45.3	+1.3
PLTB	Pedras Altas	149.49 238			PKPbc		19 03 48.8	+0.3
SDV	Santo Domingo	150.00 333	PKPdf		PKPdf		19 03 44.8	-0.8
SJCC	San Jacinto, C	150.72 342			PKPbc		19 03 52.0	0.0
COYC	Coyhaique	151.02 197	PKPdf		PKPdf		19 03 44.5	-1.4
OCAC	Ocana	151.66 337	eP		PKPdf		19 03 41.8	-6.3
RIMA	Rio Macho	152.16 360			PKPab		19 04 02.3	-2.6
LCR2	La Lucha 2	152.19 0			PKPbc		19 03 54.6	-1.0
TRQA	Tornquist	152.47 220			PKPbc		19 03 55.2	0.0
TRQA	Tornquist	152.47 220	PKIKP		PKPbc		19 03 55.3	0.0
UREC	San Jos de Ur	152.86 341	eP		PKPbc		19 03 56.4	-0.4
ZARC	Zaragoza, Cauc	152.89 340	eP		PKPbc		19 03 56.9	0.0
LL02	Futaleuf	153.11 200			PKPbc		19 03 54.2	-2.3
CPUP	Villa Florida	154.12 247	PKIKP		PKPbc		19 03 58.3	-0.9
CPUP							19 04 12.7	
CPUP	Villa Florida	154.12 247	PKPbc		PKPbc		19 03 58.3	-0.9
	comp=Z,4.8nm,0.7s,baz=55,slow=3.0,SNR=6.7							
CPUP				PKPab	PKPab		19 04 12.7	-0.2
	comp=Z,4.2nm,0.9s,baz=60,slow=5.7,SNR=3.0							
PLCA	Paso Flores	154.80 204	PKIKP		PKPdf		19 03 51.1	-0.7
PLCA							19 04 01.0	
PLCA							19 04 14.8	
PLCA	Paso Flores	154.80 204	PKP		PKPdf		19 03 51.1	-0.7
	comp=Z,8.1nm,1.3s,baz=234,slow=8.7,SNR=3.9							
PLCA				PKPbc	PKiKP		19 04 01.0	+0.6
	comp=Z,6.2nm,1.2s,baz=111,slow=3.2,SNR=3.5							
PLCA				PKPab	PKPab		19 04 14.8	-0.6
	comp=Z,3.4nm,0.9s,baz=175,slow=7.2,SNR=6.2							
ROSC	El Rosal	155.16 337	PKIKP		PKPdf		19 03 52.6	-0.8
ROSC							19 04 18.7	
ROSC	El Rosal	155.16 337	PKP		PKPdf		19 03 52.6	-0.8
	comp=Z,10nm,0.6s,baz=43,slow=8.6,SNR=4.1							
ROSC				PKPab	PKPab		19 04 18.7	+0.8
	comp=Z,12nm,0.5s,baz=323,slow=10,SNR=2.1							
PTLB	Pontes e Lacer	156.08 273	PKPab		PKPab		19 04 22.4	+0.9

*IDC **11** 18:52:45.2±1.2, 18°.29N×96°.01E, h0km, mb3.7/8, mbtmp3.7/9, ML3.2/1, Error ellipse: s-maj=38.1km s-min=17.1km az=36.0*

ISC 11 18:52:46.5±1.1, 18°.2N±0°.2×96°.2E±0°.1, h10km, n11, σ1s40/12, mb3.6/8, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	2.66	84	Pn		Pn	18 53 30.1	+0.7
	1.1nm,0.3s,baz=264,slow=14,SNR=3.5							
CMAR				Pg		Pg	18 53 37.5	+0.1
	15nm,0.3s,baz=264,slow=18,SNR=23							
	2.9nm,0.4s							
SAIH	SAIHA	5.20	326	eP		Pn	18 54 06.0	+1.5
IMP	Imphal	6.91	343	eP		Pn	18 54 30.3	+2.3
MKAR	Makanchi Array	30.72	341	P		P	18 59 00.9	-0.8
	0.5nm,0.6s,baz=150,slow=9.7,SNR=5.7							
	0.5nm,0.6s							
KURBB	Kurchatov Arra	35.27	340	P		P	18 59 40.0	-1.3
	0.6nm,0.6s,baz=150,slow=8.9,SNR=3.7							
	0.6nm,0.6s							
GEYT	Alibeck	38.55	309	P		P	19 00 09.2	-0.3
	1.8nm,0.9s,baz=115,slow=7.0,SNR=4.2							
	1.8nm,0.9s							
BVAR	Borovoye Array	40.13	336	P		P	19 00 20.6	-1.9
	0.3nm,0.6s,baz=134,slow=10,SNR=1.4							
	0.3nm,0.6s							
WRA	Warramunga Arr	53.30	134	P		P	19 02 07.3	+1.3
	0.5nm,0.7s,baz=322,slow=7.1,SNR=2.9							
	0.5nm,0.7s							
ASAR	Alice Springs	55.58	137	P		P	19 02 23.6	+1.0
	0.2nm,0.5s,baz=308,slow=7.7,SNR=4.4							
	0.2nm,0.5s							
ARCES	ARCESS Array B	66.33	339	P		P	19 03 34.1	-0.9
	2.6nm,0.9s,baz=93,slow=5.5,SNR=1.4							
	2.6nm,0.9s							
HFS	Hagfors	70.66	328	P		P	19 04 02.1	-0.1
	1.7nm,0.9s,baz=116,slow=6.6,SNR=1.5							
	1.7nm,0.9s							

*IDC **11** 18:53:03.9±0.7, 18°.42N×96°.05E, h0km, mb4.1/25, mbtmp4.1/25, Error ellipse: s-maj=19.3km s-min=11.7km az=29.0*

*MOS **11** 18:53:04.3±1.2, 18°.48N×96°.07E, h13km, mb4.6/25, Error ellipse: s-maj=12.4km s-min=6.6km az=115.8*

*NEIC **11** 18:53:05.3±1.3, 18°.43N±0°.06×96°.13E±0°.08, h10km±1km, mb4.6/35, Error ellipse: s-maj=13.8km s-min=8.6km az=237.0*

*NDI **11** 18:53:09.9±4.4, 18°.48N×95°.81E, h10km±78km, mb4.6, mb4.6(NEIC)*

ISC 11 18:53:05.7±0.4, 18°.53N±0°.05×96°.17E±0°.05, h10km, n119, σ1s51/123, mb4.5/61, 12C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	Chiang Mai Arr	2.63	91			Pn	18 53 48.8	+0.5
CMAR	Chiang Mai Arr	2.63	91	Pn		Pb	18 53 52.1	-0.8
	5.4n

KK31 Karatay Array 32.71 324 P **P** 18 59 38.4 0.0
KK31 Karatay Array 32.71 324 P **P** 18 59 38.4 0.0
KK31 pmax pmax
comp=Z,3.0nm,1.3s
KSRS Korea Array 33.56 49 P **P** 18 59 47.1 +1.2
comp=Z,0.6nm,0.6s,baz=220,slow=9.2,SNR=1.7
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 34.97 340 P **P** 18 59 58.3 +0.4
comp=Z,2.4nm,0.6s,baz=151,slow=8.5,SNR=16
KURBB PcP **PcP** 19 02 30.3 +0.1
comp=Z,0.7nm,0.7s,baz=142,slow=2.5,SNR=2.7
comp=Z,2.4nm,0.6s
KURK Kurchatov 35.02 340 P **P** 18 59 58.1 -0.2
KURK lAmb lAmb 19 00 04.9
comp=Z,10.0nm,1.3s
KURK Kurchatov 35.02 340*ce*P **P** 18 59 59.4 +1.0
HIA Hailar 36.07 26 P **P** 19 00 07.4 0.0
HIA lAmb lAmb 19 00 15.1
comp=Z,8.6nm,1.0s
HIA Hailar 36.07 26 *i* P **P** 19 00 09.6 +2.2
HIA pmax pmax
comp=Z,13nm,1.2s
ZAA0 Zalesovo Array 36.43 349 P **P** 19 00 11.1 +0.7
ZAA0 lAmb lAmb 19 00 12.6
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 36.43 349 P **P** 19 00 11.6 +1.3
comp=Z,6.1nm,0.7s,baz=177,slow=8.9,SNR=15
comp=Z,6.1nm,0.7s
GEYT Alibeck 38.36 308 P **P** 19 00 28.3 +1.2
comp=Z,7.3nm,1.0s,baz=132,slow=8.2,SNR=11
comp=Z,7.3nm,1.0s
GYA0B ALIBECK ARRAY 38.36 308 P **P** 19 00 27.3 +0.3
GYA0B lAmb lAmb 19 00 32.2
comp=Z,8.5nm,0.8s
USA0B Ussuriysk Arra 39.40 42 P **P** 19 00 34.4 -1.2
USA0B lAmb lAmb 19 00 34.7
comp=Z,9.8nm,0.8s
USA0B Ussuriysk Arra 39.40 42 P **P** 19 00 34.4 -1.2
USA0B pmax pmax
comp=Z,10.0nm,0.9s
BVAR Borovoye Array 39.84 336 P **P** 19 00 39.1 -0.1
comp=Z,1.3nm,0.8s,baz=134,slow=11,SNR=6.5
comp=Z,1.3nm,0.8s
BRVK Borovoye 39.91 336 P **P** 19 00 39.2 -0.5
BRVK Borovoye 39.91 336*ce*P **P** 19 00 39.7 -0.1
BRVK pmax pmax
comp=Z,6.0nm,1.7s
ABKAR Akbulak array 42.26 325 P **P** 19 00 59.1 -0.1
ZEA Zeya 42.54 27 *e*P **P** 19 01 05.8 +4.4
AKTO Aktyubinsk 43.95 325 P **P** 19 01 12.8 0.0
comp=Z,5.1nm,0.7s,baz=121,slow=6.2,SNR=13
comp=Z,5.1nm,0.7s
SVE Sverdlovsk 46.50 334 *e*P **P** 19 01 33.9 +0.9
SVE pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 47.14 332 P **P** 19 01 37.2 -0.8
ARU lAmb lAmb 19 02 02.0
comp=Z,8.8nm,1.5s
ARU Arti 47.14 332*d i* P **P** 19 01 38.6 +0.6
ARU 19 03 23.7
ARU S **S** 19 08 33.5 +3.2
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 47.14 332 P **P** 19 01 38.3 +0.3
comp=Z,1.9nm,0.4s,baz=146,slow=5.3,SNR=5.9
comp=Z,1.9nm,0.4s
YAK Yakutsk 49.35 20 P **P** 19 01 54.4 -0.5
YAK Yakutsk 49.35 20*ce*P **P** 19 01 55.1 +0.2
YAK pmax pmax
comp=Z,4.0nm,0.9s
ZEI Tsey 50.12 311 *e*P **P** 19 02 01.8 +0.4
ZEI pmax pmax
comp=Z,11nm,1.4s
BELG Belogornoye 50.62 324 *i* P **P** 19 02 03.6 -1.1
BELG pmax pmax
comp=Z,1.0nm,0.9s
BELG Belogornoye 50.62 324 P **P** 19 02 03.9 -0.8
comp=Z,6.0nm,0.8s,baz=35,slow=2.9,SNR=6.2
comp=Z,6.0nm,0.8s
KBZ Khabaz 51.03 312 P **P** 19 02 08.8 +0.8
comp=Z,1.7nm,0.9s,baz=124,slow=12,SNR=2.2
comp=Z,1.7nm,0.9s
NRIK Noril'sk 51.08 356 P **P** 19 02 07.9 -0.1
NRIK Noril'sk 51.08 356 P **P** 19 02 07.9 -0.1
NRIK pmax pmax
comp=Z,6.0nm,1.5s
KIV Kislovodsk 51.23 312 P **P** 19 02 10.8 +1.2
KIV lAmb lAmb 19 02 12.1
comp=Z,8.8nm,1.0s
KIV Kislovodsk 51.23 312 *e*P **P** 19 02 10.3 +0.7
KIV pmax pmax
comp=Z,9.0nm,1.1s
WB0 Warramunga Arr 53.43 133 P **P** 19 02 25.3 -0.8
WB0 lAmb lAmb 19 02 38.5
comp=Z,12nm,1.4s
WRA Warramunga Arr 53.51 134*ce*P **P** 19 02 29.1 +2.4
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 53.51 134 P **P** 19 02 25.9 -0.8
comp=Z,2.3nm,0.8s,baz=321,slow=7.4,SNR=14
comp=Z,2.3nm,0.8s
WRAB Tennant Creek 53.51 134 P **P** 19 02 25.6 -1.1
WRAB lAmb lAmb 19 02 57.7
comp=Z,12nm,1.5s
WRAB Tennant Creek 53.51 134 P **P** 19 02 25.6 -1.1
WRAB pmax pmax
comp=Z,12nm,1.5s
WB2 Warramunga Arr 53.52 134 P **P** 19 02 26.6 -0.2
WR0 Warramunga Arr 53.66 134 P **P** 19 02 27.0 -0.8
ASAR Alice Springs 55.81 137 P **P** 19 02 43.2 -0.2
comp=Z,1.2nm,0.6s,baz=318,slow=7.0,SNR=18
comp=Z,1.2nm,0.6s
TIXI Tiksi 56.46 12 *i* P **P** 19 02 48.0 +0.7
TIXI pmax pmax
comp=Z,2.0nm,1.1s
MA2 Magadan 56.52 30*ce*P **P** 19 02 50.2 +2.2
MA2 pmax pmax
comp=Z,16nm,1.7s
MOS Moscow 57.28 325 *e*P **P** 19 02 56.3 +2.9
BRTR Keskin Array B 57.41 306*ce*P **P** 19 02 57.0 +2.2
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 57.41 306 P **P** 19 02 51.7 -3.1
comp=Z,0.4nm,0.5s,baz=112,slow=6.7,SNR=2.4
OBN Obninsk 57.70 324⇑ *e*P **P** 19 02 54.7 -1.6
OBN *e* 19 05 06.4
OBN *e*S S 19 11 15.9 +21
OBN pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 57.94 331 *e*P **P** 19 02 56.4 -1.6
KLMR pmax pmax
comp=Z,19nm,1.6s
ELL Elmali 60.33 302 P **P** 19 03 14.0 -1.2
ELL Elmali 60.33 302 P **P** 19 03 14.0 -1.2
ELL pmax pmax
comp=Z,57nm,0.9s
AKASG Malin Array Be 61.31 318*ce*P **P** 19 03 21.7 +0.3
AKASG Malin Array Be 61.31 318 P **P** 19 03 19.5 -1.8
comp=Z,0.2nm,0.3s,baz=80,slow=5.1,SNR=5.0
comp=Z,0.2nm,0.3s
MLR Muntele Rosu 63.24 312 P **P** 19 03 34.8 +0.3
comp=Z,2.6nm,0.7s,baz=145,slow=12,SNR=4.2
comp=Z,2.6nm,0.7s
BUR08 Bucovina Ar. S 63.77 315 P **P** 19 03 37.5 -0.6
BUR08 lAmb lAmb 19 04 00.5
comp=Z,8.0nm,1.5s
FIA1 FINESS Array S 64.39 330 P **P** 19 03 41.2 -0.5
FINES FINESS Array B 64.39 330*ce*P **P** 19 03 42.0 +0.3
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 64.39 330 P **P** 19 03 41.3 -0.4
comp=Z,2.4nm,0.8s,baz=134,slow=5.5,SNR=6.2
comp=Z,2.4nm,0.8s
PABE Paberze 64.86 323 P **P** 19 03 42.9 -1.9
BILL Bilibino 65.54 23 *i* P **P** 19 03 51.6 +2.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
ARCES ARCESS Array B 66.04 339 P **P** 19 03 52.4 +0.2
comp=Z,2.3nm,0.8s,baz=68,slow=8.0,SNR=4.7
comp=Z,2.3nm,0.8s
MBAR Mbarara 66.97 261*ce*P **P** 19 04 00.2 +0.8
MBAR pmax pmax
comp=Z,9.0nm,1.7s
HFS Hagfors 70.39 328 P **P** 19 04 18.5 -1.2
comp=Z,2.3nm,0.7s,baz=123,slow=7.8,SNR=5.0
comp=Z,2.3nm,0.7s

NC405 NORSAR Array S 71.30 329 P **P** 19 04 24.8 -0.4
NC405 lAmb lAmb 19 04 39.6
comp=Z,9.2nm,1.2s
GEC2 GERESS Array S 71.38 316 P **P** 19 04 26.1 0.0
GEC2 lAmb lAmb 19 04 53.5
comp=Z,8.8nm,1.4s
GERES GERESS Array B 71.38 316 P **P** 19 04 25.9 -0.1
comp=Z,1.2nm,0.7s,baz=76,slow=7.0,SNR=4.7
comp=Z,1.2nm,0.7s
NC303 NORSAR Array S 71.46 329 P **P** 19 04 24.6 -1.6
NB2 NORSAR Subarra 71.55 329 P **P** 19 04 26.5 -0.3
comp=Z,0.5nm,0.5s,baz=85,slow=6.5
NOA NORSAR Array B 71.55 329 P **P** 19 04 25.4 -1.4
comp=Z,2.0nm,0.9s,baz=90,slow=5.8,SNR=4.3
comp=Z,2.0nm,0.9s
LSZ Lusaka 74.89 248 P **P** 19 04 45.9 -1.5
LSZ lAmb lAmb 19 04 53.6
comp=Z,7.7nm,0.8s
LSZ Lusaka 74.89 248 P **P** 19 04 45.9 -1.5
LSZ pmax pmax
comp=Z,8.0nm,0.8s
C19K Lookout Ridge 77.82 21 P **P** 19 05 03.3 +0.3
C19K lAmb lAmb 19 05 30.0
comp=Z,8.1nm,1.3s
H17K Granite Mounta 79.13 25 P **P** 19 05 10.5 +0.2
H17K lAmb lAmb 19 05 48.0
comp=Z,3.8nm,0.6s
EKA Eskdalemuir Ar 80.14 325 P **P** 19 05 14.0 -1.9
comp=Z,1.0nm,0.6s,baz=93,slow=5.5,SNR=7.8
comp=Z,1.0nm,0.6s
LBTB Lobatse 81.17 240 P **P** 19 05 20.4 -1.7
LBTB lAmb lAmb 19 05 32.2
comp=Z,9.3nm,1.3s
LBTB Lobatse 81.17 240 P **P** 19 05 20.4 -1.7
LBTB pmax pmax
comp=Z,9.0nm,1.3s
D24K Happy Valley 81.30 19 P **P** 19 05 21.3 -0.6
D24K lAmb lAmb 19 05 37.8
comp=Z,7.4nm,1.3s
BOSA Boshof 82.97 237 P **P** 19 05 32.5 +1.0
comp=Z,3.1nm,0.6s,baz=121,slow=5.1,SNR=8.3
comp=Z,3.1nm,0.6s
ILAR Eielson Array 84.20 23 P **P** 19 05 36.6 -0.5
comp=Z,1.1nm,1.0s,baz=305,slow=4.0,SNR=4.6
comp=Z,1.1nm,1.0s
TORD Torodi Ar. Bea 90.04 284 P **P** 19 06 05.6 -0.8
comp=Z,0.6nm,1.0s,baz=121,slow=2.1,SNR=1.8
comp=Z,0.6nm,1.0s
BDFB Brasilia 145.68 269 PKPbc **PKPdf** 19 12 44.9 -0.6
comp=Z,3.9nm,1.0s,baz=133,slow=6.8,SNR=3.7

*TEH **11** 18:53:48.7,33.74N×45.75E,h14km±50km,ML3.0*
*ISN **11** 18:53:48.2±1.5,33.71N×45.68E,h10km±6km,ML3.0*
ISC 11 18:53:48.0±0.9**,33.71N**±0.04×**45.65E**±0.04**,h13**km**,n14,**
σ0.83/18,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.48**	**100**	Pg		**Pg**	**18 53 57.1**	**-0.4**
IBDR	**Badra**	**0.64**	**158**	*e*Pg		**Pg**	**18 54 01.0**	**+0.4**
IBDR				*e*Sg		**Sb**	**18 54 11.0**	**+1.0**
KGS1	**Ghasr-e-Shirin**	**0.80**	**357**	Pg		**Pg**	**18 54 03.6**	**+0.1**
IGHG	**Ghaleghazi**	**0.98**	**51**	Pg		**Pg**	**18 54 06.6**	**-0.5**
BHD	**Baghdad**	**1.14**	**248**	*e*Pg		**Pn**	**18 54 09.0**	**-0.7**
BHD				*e*Sg		**Sb**	**18 54 26.0**	**+1.6**
IDHR	**Dehrash**	**1.16**	**32**	Pg		**Pb**	**18 54 09.9**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.29**	**64**	Pg		**Pn**	**18 54 11.5**	**-0.4**
IKOM	**Komasi**	**1.62**	**73**	Pg		**Pb**	**18 54 16.8**	**-1.0**
IKFM	**Kafar-mosalman**	**1.85**	**95**	Pg		**Pb**	**18 54 21.2**	**-0.4**
IKRK	**Kirkuk**	**2.00**	**328**	*e*Pn		**Pn**	**18 54 21.0**	**-0.5**
IKRK				*e*Sn		**Sn**	**18 54 47.0**	**+0.5**
IKRK				AML		AML	18 55 02.5	
	comp=E,157nm,0.6s							
IKRK				AML		AML	18 55 03.5	
	comp=N,158nm,0.6s							
RAFI	**Al-Rafai**	**2.02**	**169**	*e*Pn		**Pn**	**18 54 21.0**	**-0.8**
RAFI				*e*Sn		**Sn**	**18 54 46.0**	**-0.9**
HSAM	**Samen**	**2.51**	**78**	Pn		**Pn**	**18 54 29.4**	**+0.6**
QAMS	**Qamsar**	**4.79**	**88**	Pn		**Pn**	**18 55 01.5**	**+1.3**
IKLH	**Kolahrood**	**4.97**	**93**	Pn		**Pn**	**18 55 03.1**	**+0.5**

*IDC **11** 18:55:03.1±0.6,18°.35N×96°.05E,h0km,mb4.2/28, mbtmp4.2/29,Error ellipse: s-maj=18.6km s-min=11.1km az=25.0*
*MOS **11** 18:55:03.7±0.9,18°.34N×96°.02E,h16km,mb4.7/23,Error ellipse: s-maj=16.4km s-min=7.9km az=106.5*
*NEIC **11** 18:55:04.8±1.9,18°.35N±0°.07×96°.02E±0°.08,h10km±1km, mb4.7/42,Error ellipse: s-maj=13.1km s-min=11.4km az=229.0*
*NDI **11** 18:55:06.7±3.8,18°.33N×96°.04E,h10km,mb4.6, mb4.7(NEIC)*
ISC 11 18:55:04.6±0.4**,18°.31N**±0°.07×**96°.09E**±0°.05**,h10**km**,n117,**
σ1.11/124,mb4.6/64,10C-1D,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.71**	**86**	Pn		**Pb**	**18 55 53.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**2.71**	**86**	Pn		**Pn**	**18 55 48.1**	**-0.3**
	22nm,0.8s,baz=269,slow=22,SNR=0.8							
CMAR				Pg		**Pb**	**18 55 54.1**	**+0.8**
	30nm,0.3s,baz=264,slow=18,SNR=5.3							
CMAR				Lg		Lg	18 56 29.9	
	110nm,0.3s,baz=262,slow=32,SNR=15							
CHTO	**Chiang Mai**	**2.75**	**79**	Pn		**Pb**	**18 55 54.6**	**+0.6**
CHTO						**Sb**	**18 56 28.5**	**+0.7**
MND	**Mandalay**	**3.69**	**0**	Pn		**Pn**	**18 56 03.6**	**+1.9**
SAIH	**SAIHA**	**5.07**	**326**	*e*P		**Pn**	**18 56 23.8**	**+2.9**
IMP	**Imphal**	**6.79**	**343**	*e*P		**Pn**	**18 56 46.9**	**+2.5**
PBA	**Port Blair**	**7.36**	**207**	Pn		**Pn**	**18 56 54.7**	**+2.4**
UBPT	**Khong Chiam**	**9.47**	**107**	Pn		**Pn**	**18 57 22.2**	**+1.0**
GTK	**Tadong**	**11.31**	**324**	*e*P		**Pn**	**18 57 47.5**	**+1.0**
SMLA	**Simla**	**21.37**	**310**	*e*P		**P**	**18 59 52.8**	**+0.5**
SMLA				lAmb		lAmb	18 59 58.7	
	comp=Z,62nm,1.4s							
DHRM	**DHARAMSHALA**	**22.59**	**312**	*e*P		**P**	**19 00 05.3**	**-0.4**
DHRM				lAmb		lAmb	19 00 09.8	
	comp=Z,12nm,0.9s							
AAK	**Ala-Archa**	**30.39**	**328**	P		**P**	**19 01 15.7**	**-1.5**
AAK				lAmb		lAmb	19 01 20.3	
	comp=Z,12nm,1.4s							
AAK	**Ala-Archa**	**30.39**	**328**	*ce*P		**P**	**19 01 18.4**	**+1.2**
AAK				pmax		pmax		
	comp=Z,11nm,1.7s							
AAK	**Ala-Archa**	**30.39**	**328**	P		**P**	**19 01 17.3**	**+0.1**
	comp=Z,5.2nm,1.2s,baz=211,slow=8.9,SNR=4.0							
	comp=Z,5.2nm,1.2s							
FRU1	**Bishkek**	**30.45**	**328**	P		**P**	**19 01 15.1**	**-2.4**
FRU1	**Bishkek**	**30.45**	**328**	P		**P**	**19 01 15.1**	**-2.4**
FRU1				pmax		pmax		
	comp=Z,15nm,0.2s							
MK31	**Makanchi Array**	**30.60**	**341**	P		**P**	**19 01 17.8**	**-0.9**
MK31	**Makanchi Array**	**30.60**	**341**	*ce*P		**P**	**19 01 18.6**	**-0.1**
MKAR	**Makanchi Array**	**30.60**	**341**	*ce*P		**P**	**19 01 18.8**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**30.60**	**341**	P		**P**	**19 01 18.6**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=150,slow=9.3,SNR=6.7							
	comp=Z,2.3nm,0.8s							
SONM	**Songino Array**	**30.63**	**14**	P		**P**	**19 01 19.8**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=209,slow=12,SNR=5.2							
	comp=Z,1.3nm,1.0s							
ULN	**Ulaanbaatar**	**30.81**	**14**	*i* P		**P**	**19 01 20.9**	**+0.2**
SIMJ	**Simiganj**	**31.07**	**316**	P		**P**	**19 01 21.0**	**-2.2**
DGZ	**Jazzator, Alta**	**32.08**	**349**	*i* P		**P**	**19 01 32.4**	**+0.5**
DGZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KURBB	**Kurchatov Arra**	**35.15**	**340**	P		**P**	**19 01 58.0**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=153,slow=8.9,SNR=6.7							
KURBB				PcP		**PcP**	**19 04 29.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=169,slow=2.5,SNR=6.5							
	comp=Z,2.1nm,0.6s							
KURK	**Kurchatov**	**35.20**	**341**	P		**P**	**19 01 58.1**	**-0.8**
KURK	**Kurchatov**	**35.20**	**341**	*ce*P		**P**	**19 01 58.9**	**0.0**
KURK				pmax		pmax		
	comp=Z,10.0nm,1.7s							
HIA	**Hailar**	**36.30**	**26**	*i* P		**P**	**19 02 09.1**	**+0.8**
HIA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
ZALV	**Zalesovo Beam**	**36.62**	**349**	*i* P		**P**	**19 02 11.5**	**+0.5**
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.6s							
ZALV	**Zalesovo Beam**	**36.62**	**349**	P		**P**	**19 02 11.2**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=171,slow=10,SNR=9.5							
	comp=Z,8.2nm,0.9s							
GEYT	**Alibeck**	**38.43**	**308**	P		**P**	**19 02 27.8**	**+1.2**
	comp=Z,7.1nm,1.0s,baz=150,slow=6.8,SNR=9.4							
	comp=Z,7.1nm,1.0s							
SOEI	**Soe**	**39.39**	**133**	P		**P**	**19 02 34.2**	**-0.7**
BVAR	**Borovoye Array**	**40.01**	**336**	P		**P**	**19 02 38.7**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=126,slow=9.3,SNR=4.3							
BVAR				PcP		**PcP**	**19 04 44.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=139,slow=5.0,SNR=5.3							
	comp=Z,1.5nm,0.9s							
BRVK	**Borovoye**	**40.08**	**336**	P		**P**	**19 02 38.9**	**-1.2**
BRVK	**Borovoye**	**40.08**	**336**	*i* P		**P**	**19 02 40.4**	**+0.3**
MJAR	**Matsushiro Arr**	**41.18**	**55**	P		**P**	**19 02 50.4**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=270,slow=12,SNR=3.5							
	comp=Z,2.0nm,0.8s							
KLR	**Kul'dur**	**42.11**	**35**	*i* P		**P**	**19 02 57.2**	**+0.3**
ABKAR	**Akbulak array**	**42.39**	**325**	P		**P**	**19 02 58.8**	**-0.4**
ZEA	**Zeya**	**42.77**	**27**	*e*P		**P**	**19 03 03.8**	**+1.6**
ZEA				pmax		pmax		
	comp=Z,10.0nm,1.4s							
AKTO	**Aktyubinsk**	**44.08**	**325**	P		**P**	**19 03 11.9**	**-0.9**
	comp=Z,4.5nm,0.8s,baz=124,slow=4.7,SNR=7.6							
	comp=Z,4.5nm,0.8s							
SVE	**Sverdlovsk**	**46.66**	**334**	*e*P		**P**	**19 03 33.3**	**+0.1**
SVE				pmax		pmax		
	comp=Z,11nm,1.1s							
ARU	**Arti**	**47.30**	**333**			**P**	**19 03 36.3**	**-1.9**
ARU				lAmb		lAmb	19 03 40.8	
	comp=Z,12nm,1.5s							
ARU	**Arti**	**47.30**	**333**	*d i*	P	**P**	**19 03 37.6**	**-0.6**
ARU							19 05 23.2	
ARU				S		**S**	**19 10 34.7**	**+3.2**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.8s							
ARU	**Arti**	**47.30**	**333**	P		**P**	**19 03 37.2**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=117,slow=6.6,SNR=3.3							
	comp=Z,1.4nm,0.4s							
YAK	**Yakutsk**	**49.57**	**20**	*ce*P		**P**	**19 03 54.2**	**-1.4**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ZEI	**Tsey**	**50.20**	**311**	*e*P		**P**	**19 03 59.3**	**-1.7**
ZEI				pmax		pmax		
	comp=Z,15nm,1.3s							
BELG	**Belogornoye**	**50.74**	**324**	*i* P		**P**	**19 04 04.2**	**-0.4**
BELG				pmax		pmax		
	comp=Z,2.0nm,0.9s							
BELG	**Belogornoye**	**50.74**	**324**	P		**P**	**19 04 03.2**	**-1.5**
	comp=Z,8.6nm,0.9s,baz=77,slow=0.9,SNR=6.3							
	comp=Z,8.6nm,0.9s							
GURO	**Guroymak-BITLI**	**50.87**	**305**	P		**P**	**19 04 07.5**	**+1.4**
GURO				lAmb		lAmb	19 04 08.5	
	comp=Z,8.2nm,0.9s							
KBZ	**Khabaz**	**51.12**	**312**	P		**P**	**19 04 07.9**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=140,slow=5.6,SNR=2.2							
	comp=Z,1.9nm,1.0s							
NRIK	**Noril'sk**	**51.29**	**356**	*ce*P		**P**	**19 04 07.1**	**-1.4**
NRIK	**Noril'sk**	**51.29**	**356**	P		**P**	**19 04 08.0**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=167,slow=5.3,SNR=4.2							
	comp=Z,3.0nm,0.7s							
KIV	**Kislovodsk**	**51.32**	**312**	*e*P		**P**	**19 04 08.6**	**-0.7**
KIV				pmax		pmax		
	comp=Z,10.0nm,1.1s							
WB0	**Warramunga Arr**	**53.34**	**133**	P		**P**	**19 04 24.8**	**+0.4**
WB0				lAmb		lAmb	19 04 25.6	
	comp=Z,9.5nm,0.9s							
WRA	**Warramunga Arr**	**53.42**	**134**	*i* P		**P**	**19 04 25.7**	**+0.7**
WRA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
WRA	**Warramunga Arr**	**53.42**	**134**	P		**P**	**19 04 25.1**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=320,slow=7.3,SNR=22							
	comp=Z,6.7nm,0.8s							
WRAB	**Tennant Creek**	**53.42**	**133**	P		**P**	**19 04 25.4**	**+0.4**
WRAB	**Tennant Creek**	**53.42**	**133**	P		**P**	**19 04 25.4**	**+0.4**
WRAB				pmax		pmax		
	comp=Z,32nm,1.5s							
WB2	**Warramunga Arr**	**53.43**	**133**	P		**P**	**19 04 24.5**	**-0.6**
WB2				lAmb		lAmb	19 04 26.6	
	comp=Z,9.1nm,0.8s							
WR0	**Warramunga Arr**	**53.57**	**133**	P		**P**	**19 04 26.4**	**+0.3**
WR0				lAmb		lAmb	19 04 27.4	
	comp=Z,8.9nm,0.8s							
AS31	**Alice Springs**	**55.70**	**137**	P		**P**	**19 04 41.8**	**+0.2**
ASAR	**Alice Springs**	**55.70**	**137**	P		**P**	**19 04 42.2**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=317,slow=7.0,SNR=21							
	comp=Z,3.1nm,0.7s							
TIXI	**Tiksi**	**56.69**	**12**	P		**P**	**19 04 48.3**	**+0.4**
TIXI				lAmb		lAmb	19 04 49.9	
	comp=Z,10nm,1.5s							
TIXI	**Tiksi**	**56.69**	**12**	*ce*P		**P**	**19 04 47.8**	**-0.1**
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.3s							
MA2	**Magadan**	**56.75**	**30**	*i* P		**P**	**19 04 48.3**	**-0.2**
MA2				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BRTR	**Keskin Array B**	**57.48**	**306**	P		**P**	**19 04 54.4**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=124,slow=7.9,SNR=4.7							
	comp=Z,1.4nm,0.8s							
OBN	**Obninsk**	**57.83**	**324**⇑	*e*P		**P**	**19 04 57.2**	**+1.0**
OBN				*e*			19 07 06.8	
OBN				*e*S		**S**	**19 12 52.9**	**-2.6**
OBN				pmax		pmax		
	comp=Z,10.0nm,1.6s							
OBN				MLR		MLR		
	comp=Z,874nm,17.0s							
KLMR	**Klimovskoe**	**58.10**	**331**	*e*P		**P**	**19 04 56.6**	**-1.4**
KLMR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ELL	**Elmali**	**60.38**	**302**	P		**P**	**19 05 14.7**	**+0.2**
ELL	**Elmali**	**60.38**	**302**	P		**P**	**19 05 14.7**	**+0.2**
ELL				pmax		pmax		
	comp=Z,58nm,0.9s							
AKASG	**Malin Array Be**	**61.42**	**318**	*ce*P		**P**	**19 05 21.3**	**+0.2**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**61.42**	**318**	P		**P**	**19 05 18.8**	**-2.2**
	comp=Z,0.3nm,0.2s,baz=83,slow=5.6,SNR=5.4							
	comp=Z,0.3nm,0.2s							
MLR	**Muntele Rosu**	**63.33**	**312**	P		**P**	**19 05 34.1**	**0.0**
	comp=Z,2.9nm,0.7s,baz=103,slow=9.2,SNR=3.9							
	comp=Z,2.9nm,0.7s							
BUR08	**Bucovina Ar. S**	**63.87**	**315**	P		**P**	**19 05 37.2**	**-0.5**
FIA1	**FINESS Array S**	**64.54**	**330**	P		**P**	**19 05 41.5**	**-0.1**
FINES	**FINESS Array B**	**64.54**	**330**	*ce*P		**P**	**19 05 41.5**	**-0.1**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**64.54**	**330**	P		**P**	**19 05 41.2**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=100,slow=11,SNR=7.5							
	comp=Z,3.8nm,0.8s							
KWP	**Kalwaria Pacla**	**65.55**	**317**	P		**P**	**19 05 48.5**	**0.0**
KWP	**Kalwaria Pacla**	**65.55**	**317**	P		**P**	**19 05 48.5**	**0.0**
KWP				pmax		pmax		
	comp=Z,33nm,1.5s							
BILL	**Bilibino**	**65.76**	**23**	*i* P		**P**	**19 05 50.3**	**+0.8**
BILL				pmax		pmax		
	comp=Z,33nm,1.7s							
ARCES	**ARCESS Array B**	**66.21**	**339**	P		**P**	**19 05 52.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=76,slow=5.1,SNR=4.4							
	comp=Z,2.5nm,0.8s							
EIDS	**Eidsvold**	**68.90**	**127**	P		**P**	**19 06 07.8**	**-2.2**
HFS	**Hagfors**	**70.53**	**328**	P		**P**	**19 06 18.7**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=88,slow=11,SNR=8.0							
	comp=Z,2.7nm,0.8s							
BRG	**Berggiesshubel**	**71.11**	**318**	P		**P**	**19 06 23.8**	**+0.6**
BRG				Amp			19 06 25.3	
	comp=Z,6.5nm,1.2s							
BRG				Amp			19 13 04.0	
	comp=N,4.0nm,24.8s							
BRG				Amp			19 13 04.0	
	comp=E,5.1nm,16.5s							
BRG				Amp			19 13 07.0	
	comp

	comp=Z,11nm,1.5s							
E19K	**Redstone River**	**79.45**	**22**	P	**P**	**19 07 10.9**	**-0.1**
B22K	**Teshekpuk Lake**	**79.55**	**19**	P	**P**	**19 07 11.7**	**+0.3**
B22K				IAmb	IAmb	19 07 16.8	
	comp=Z,9.7nm,1.4s						
J16K	**Anvik River**	**79.65**	**27**	P	**P**	**19 07 12.8**	**+0.7**
G19K	**Purcell Mounta**	**80.01**	**23**	P	**P**	**19 07 14.6**	**+0.6**
G19K				IAmb	IAmb	19 07 47.3	
	comp=Z,7.4nm,1.4s						
EKA	**Eskdalemuir Ar**	**80.27**	**325**	P	**P**	**19 07 16.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=77,slow=5.5,SNR=6.9						
	comp=Z,1.1nm,0.6s						
L16K	**Owhat River**	**80.69**	**28**	P	**P**	**19 07 17.5**	**-0.2**
L16K				IAmb	IAmb	19 07 51.1	
	comp=Z,12nm,1.3s						
K17K	**Iditarod**	**80.83**	**27**	P	**P**	**19 07 19.2**	**+0.7**
K17K				IAmb	IAmb	19 07 23.0	
	comp=Z,11nm,1.4s						
LBTB	**Lobatse**	**81.00**	**240**	P	**P**	**19 07 19.2**	**-0.9**
LBTB				IAmb	IAmb	19 07 19.9	
	comp=Z,7.3nm,1.2s						
LBTB	**Lobatse**	**81.00**	**240**	P	**P**	**19 07 19.2**	**-0.9**
LBTB				pmax	pmax		
	comp=Z,7.0nm,1.3s						
L18K	**Granite Mounta**	**81.72**	**27**	P	**P**	**19 07 22.0**	**-1.2**
L18K				IAmb	IAmb	19 08 04.0	
	comp=Z,8.6nm,1.2s						
D25K	**Kavik River**	**82.19**	**19**	P	**P**	**19 07 25.0**	**-0.6**
D25K				IAmb	IAmb	19 07 27.2	
	comp=Z,6.2nm,0.9s						
BOSA	**Boshof**	**82.79**	**237**	P	**P**	**19 07 29.9**	**+0.4**
BOSA				IAmb	IAmb	19 07 33.1	
	comp=Z,6.4nm,0.8s						
BOSA	**Boshof**	**82.79**	**237**	P	**P**	**19 07 29.9**	**+0.4**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BOSA	**Boshof**	**82.79**	**237**	P	**P**	**19 07 29.3**	**-0.3**
	comp=Z,5.8nm,0.8s,baz=52,slow=5.4,SNR=8.3						
	comp=Z,5.8nm,0.8s						
MDM	**Murphy Dome**	**83.84**	**23**	P	**P**	**19 07 33.0**	**-1.2**
MDM				IAmb	IAmb	19 07 37.7	
	comp=Z,7.1nm,1.0s						
ILAR	**Eielson Array**	**84.42**	**23**	P	**P**	**19 07 36.5**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=307,slow=4.7,SNR=4.9						
ILAR				PP	**PP**	**19 10 54.3**	**+2.6**
	comp=Z,0.8nm,1.0s,baz=253,slow=2.6,SNR=3.6						
	comp=Z,0.6nm,0.8s						
E28M	**Babbage River**	**84.62**	**18**	P	**P**	**19 07 38.0**	**-0.1**
E29M	**Blow River**	**85.23**	**17**	P	**P**	**19 07 41.0**	**-0.1**
BRLK	**Bradley Lake**	**85.34**	**28**	P	**P**	**19 07 41.0**	**-0.9**
A36M	**Sachs Harbour**	**85.71**	**12**	P	**P**	**19 07 43.0**	**-0.4**
A36M				IAmb	IAmb	19 07 44.2	
	comp=Z,4.6nm,0.8s						
J26L	**Joseph Creek**	**85.77**	**22**	P	**P**	**19 07 42.5**	**-1.6**
J26L				IAmb	IAmb	19 07 45.1	
	comp=Z,3.4nm,0.9s						
SCRK	**Sand Creek**	**85.92**	**23**	P	**P**	**19 07 43.2**	**-1.6**
SCRK				IAmb	IAmb	19 08 01.2	
	comp=Z,7.8nm,1.4s						
I28M	**Miner Creek**	**86.45**	**20**	P	**P**	**19 07 45.0**	**-2.4**
I28M				IAmb	IAmb	19 08 02.9	
	comp=Z,5.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**90.02**	**284**	P	**P**	**19 08 05.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=56,slow=6.7,SNR=3.2						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**95.89**	**14**	P	**P**	**19 08 29.5**	**-1.9**
	comp=Z,0.1nm,0.5s,baz=338,slow=4.8,SNR=2.7						
	comp=Z,0.1nm,0.5s						
BDFB	**Brasilia**	**145.60**	**269**	PKPbc	**PKPdf**	**19 14 44.2**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=355,slow=1.8,SNR=4.7						

*UCR **11** 19:03:35.7±1.0, 10.°65N×85.°01W, h6km±18km, MW3.6*
*CATAC **11** 19:03:36.1±0.2, 10.°66N×85.°00W, h6km±2km, ML2.8*
ISC 11 19:03:36.4±1.0,**10.°62N**±0.°02×**84.°99W**±0.°02,**h10**km±9km,
n34,σ1⁰**24**/50,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VMAR	**Armenia, Volca**	**0.23**	**327**	*e*P		**Pg**	**19 03 41.0**	**-0.2**
VMAR	**Armenia, Volca**	**0.23**	**327**	*i* P		**Pg**	**19 03 41.0**	**-0.2**
VMAR				IAML			19 03 58.2	
	comp=Z,4μm,1.0s							
JTS	**Las Juntas de**	**0.33**	**174**	*e*P		**Pg**	**19 03 42.7**	**-0.2**
JTS	**Las Juntas de**	**0.33**	**174**	*e*P		**Pg**	**19 03 43.0**	**+0.1**
VACR	**Volcan Arenal**	**0.34**	**115**	*i* P		**Pg**	**19 03 43.5**	**+0.4**
VACR				*i* S		**Sb**	**19 03 50.1**	**+0.2**
VACR				IAML			19 03 59.9	
	comp=Z,1μm,1.0s							
VRLE	**La Escondida,**	**0.41**	**295**	*i* P		**Pg**	**19 03 44.1**	**-0.4**
VRLE				*i* S		**Sg**	**19 03 50.5**	**+0.6**
VRLE				IAML			19 03 55.4	
	comp=Z,510nm,1.0s							
SOCE	**Pocosol**	**0.43**	**123**	*e*P		**Pg**	**19 03 44.9**	**+0.1**
SOCE	**Pocosol**	**0.43**	**123**	*i* P		**Pg**	**19 03 44.9**	**+0.1**
SOCE				*i* S		**Sb**	**19 03 52.6**	**-0.1**
SOCE				IAML			19 03 55.0	
	comp=Z,1μm,1.0s							
ORTG	**Ortega, Santa**	**0.53**	**241**			**Pg**	**19 03 46.4**	**-0.3**
ORTG	**Ortega, Santa**	**0.53**	**241**	*e*P		**Pg**	**19 03 46.7**	**0.0**
ORTG				*e*S		**Sg**	**19 03 54.9**	**+1.2**
ORTG	**Ortega, Santa**	**0.53**	**241**	*i* P		**Pg**	**19 03 46.7**	**0.0**
ORTG				*i* S		**Sg**	**19 03 54.6**	**+0.9**
ORTG				IAML			19 04 01.8	
	comp=Z,190nm,1.0s							
COVE	**Coope Vega, Sa**	**0.58**	**80**	*i* P		**Pg**	**19 03 47.1**	**-0.6**
COVE				IAML			19 04 08.8	
	comp=Z,570nm,1.0s							
HZTE	**Horizontes, Gu**	**0.61**	**279**	*e*P		**Pg**	**19 03 48.1**	**-0.1**
HZTE	**Horizontes, Gu**	**0.61**	**279**	*i* P		**Pg**	**19 03 48.0**	**-0.1**
HZTE				*i* S		**Sg**	**19 03 56.8**	**+0.7**
HZTE				IAML			19 04 02.5	
	comp=Z,330nm,1.0s							
CPMI	**Catarata Coope**	**0.68**	**119**	*i* P		**Pg**	**19 03 49.6**	**0.0**
CPMI				*i* S		**Sb**	**19 04 00.6**	**+0.5**
CPMI				IAML			19 04 13.2	
	comp=Z,250nm,1.0s							
INDI	**Punta indio, G**	**0.90**	**214**	*e*P		**Pg**	**19 03 53.4**	**-0.4**
INDI	**Punta indio, G**	**0.90**	**214**	*i* P		**Pg**	**19 03 53.2**	**-0.6**
INDI				*i* S		**Sb**	**19 04 07.7**	**+1.5**
INDI				IAML			19 04 12.9	
	comp=Z,130nm,1.0s							
JACO	**JACO, Garabito**	**1.00**	**161**			**Pg**	**19 03 54.9**	**-0.8**
JACO	**JACO, Garabito**	**1.00**	**161**	*e*P		**Pg**	**19 03 54.9**	**-0.8**
JACO	**JACO, Garabito**	**1.00**	**161**	*i* P		**Pg**	**19 03 54.7**	**-1.0**
JACO				IAML			19 03 55.7	
	comp=Z,84nm,1.0s							
MORN	**Al O del Volca**	**1.13**	**325**	*i* P		**Pg**	**19 03 57.2**	**-0.9**
MORN				IAML			19 04 22.8	
	comp=Z,230nm,1.0s							
CONN	**Concepcion**	**1.13**	**326**	*i* P		**Pg**	**19 03 56.6**	**-1.5**
CONN				IAML			19 04 26.2	
	comp=Z,1μm,1.0s							
OCM	**Ochomogo**	**1.24**	**125**	*i* P		**Pb**	**19 03 58.8**	**-1.2**
OCM				IAML			19 04 02.6	
	comp=Z,93nm,1.0s							
OCM				*i* S		**Sn**	**19 04 19.2**	**+2.4**
TBLN	**Tablon, Guarco**	**1.25**	**129**	*i* P		**Pn**	**19 03 57.8**	**-2.3**
TBLN				*i* S		**Sn**	**19 04 18.0**	**+0.9**
TBLN				IAML			19 04 21.0	
	comp=Z,100nm,1.0s							
LCR2	**La Lucha 2**	**1.30**	**132**	*i* P		**Pn**	**19 03 59.8**	**-1.0**
LCR2				*i* S		**Sb**	**19 04 18.2**	**+0.3**
LCR2				IAML			19 04 39.3	
	comp=Z,80nm,1.0s							
ACON	**Acoyapa**	**1.35**	**352**	*e*P		**Pn**	**19 03 58.7**	**-2.7**
ACON	**Acoyapa**	**1.35**	**352**	*i* P		**Pn**	**19 03 59.8**	**-1.6**
ACON				*i* S		**Sb**	**19 04 18.2**	**-1.1**
ACON				IAML			19 04 28.1	
	comp=Z,230nm,1.0s							
RIMA	**Rio Macho**	**1.39**	**127**	*e*P		**Pn**	**19 04 01.2**	**-0.8**
RIMA	**Rio Macho**	**1.39**	**127**	*i* P		**Pn**	**19 04 01.3**	**-0.8**
RIMA				IAML			19 04 03.8	
	comp=Z,120nm,1.0s							
RIMA				*i* S		**Sg**	**19 04 22.7**	**+1.5**
CDM	**Cerro de Muert**	**1.60**	**131**	*i* P		**Pn**	**19 04 04.0**	**-1.2**
CDM				IAML			19 04 06.5	
	comp=Z,67nm,1.0s							
CDM				*i* S		**Sg**	**19 04 29.1**	**+1.1**
BUS1	**Rivas**	**1.61**	**131**	*e*P		**Pn**	**19 04 04.8**	**-0.5**
BLUN	**Bluefields**	**1.82**	**41**	*i* P		**Pn**	**19 04 08.2**	**+0.4**
BLUN				*i* S		**Sn**	**19 04 31.9**	**+1.0**
BLUN				IAML			19 04 34.7	
	comp=Z,210nm,1.0s							
SRBA	**San Rafael, Bu**	**2.11**	**131**	*i* P		**Pn**	**19 04 09.3**	**-2.6**
SRBA				*i* S		**Sb**	**19 04 42.3**	**+1.1**
SRBA				IAML			19 04 53.0	
	comp=Z,29nm,1.0s							
CNGN	**Cerro Negro**	**2.51**	**318**	*e*P		**Pg**	**19 04 28.9**	**+4.3**

*TEH **11** 19:07:11.7, 33.°74N×45.°67E, h9km±114km, ML2.5*
*ISN **11** 19:07:12.7±0.3, 33.°72N×45.°67E, h8km, ML2.1*
ISC 11 19:07:11.4±2.1,**33.°74N**±0.°07×**45.°6E**±0.°1,**h13**km,**n5**,
σ0⁰**45**/7,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.51**	**103**	Pg		**Pg**	**19 07 21.1**	**-0.4**
ILBA				Sg		**Sg**	**19 07 28.0**	**-0.2**
IBDR	**Badra**	**0.68**	**157**	*e*Pg		**Pn**	**19 07 27.0**	**+0.2**
	baz=340							
IBDR				*e*Sg		**Sn**	**19 07 37.0**	**-0.3**
IBDR				AML		AML	19 07 47.1	
	comp=N,79nm,0.5s							
IBDR				AML		AML	19 07 57.5	
	comp=E,85nm,0.6s							
IGHG	**Ghaleghazi**	**0.99**	**53**	Pg		**Pg**	**19 07 30.4**	**-0.2**
IDHR	**Dehrash**	**1.15**	**34**	Pg		**Pb**	**19 07 33.3**	**0.0**
IKOM	**Komasi**	**1.64**	**74**	Pg		**Pb**	**19 07 42.2**	**+0.7**

DJA 11 19:08:23.7±0.3,**0.°S**±3.°×**12.°3E**±.°,**h10**km,**M3.6**/12,**mb4.3**/3,
MLv3.2/12,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LUWI	**Luwuk**	**0.78**	**181**	P		Pg	19 08 38.5	-0.2
GTOI	**Gorontalo**	**0.92**	**15**	P		Pn	19 08 43.3	+0.6
MRSI	**Marisa**	**1.11**	**311**	P		Pb	19 08 44.2	-0.9
KMSI	**Cibinong**	**1.46**	**55**	P		Pn	19 08 49.7	-0.4
MPSI	**Mapaga**	**2.94**	**282**	P		Pn	19 09 10.1	-0.4
TTSI	**Tana Toraja**	**4.05**	**227**	P		Pn	19 09 27.3	+1.5
SPSI	**Sidrap Palu**	**4.75**	**219**	P		Pn	19 09 35.2	-0.3
PMSI	**Majene**	**5.03**	**230**	P		Pn	19 09 38.8	-0.5
	194nm,1.0s,0.6nm							
NLAI	**Namlea**	**5.23**	**124**	P		Pn	19 09 42.2	+0.1
	14nm,1.0s,0.1nm							
BKSI	**Bulukumba**	**5.69**	**208**	P		Pn	19 09 48.1	-0.2

*ISN **11** 19:22:55.6±1.0, 33.°69N×45.°50E, h5km±3km, ML3.2*
*TEH **11** 19:22:56.2, 33.°80N×45.°76E, h9km±16km, ML3.4*
ISC 11 19:22:55.5±1.5,**33.74N**±0.°04×**45.67E**±0.°05,**h5**km±13km,
n25,σ0⁰**91**/30,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**104**	Pg		**Pg**	**19 23 06.6**	**+0.1**
ILBA				Sg		**Sg**	**19 23 10.9**	**+0.4**
IBDR	**Badra**	**0.67**	**161**	*e*Pg		**Pn**	**19 23 11.0**	**-0.6**
IBDR				*e*Sg		**Sb**	**19 23 21.0**	**+1.9**
IBDR				AML		AML	19 23 23.9	
	comp=E,745nm,0.3s							
IBDR				AML		AML	19 23 28.0	
	comp=N,703nm,0.4s							
KGS1	**Ghasr-e-Shirin**	**0.77**	**355**	Pg		**Pg**	**19 23 10.4**	**+0.2**
IGHG	**Ghaleghazi**	**0.95**	**52**	Pg		**Pg**	**19 23 13.2**	**-0.6**
IDHR	**Dehrash**	**1.13**	**32**	Pg		**Pg**	**19 23 16.2**	**-1.0**
BHD	**Baghdad**	**1.17**	**247**	*e*Pg		**Pb**	**19 23 18.0**	**-0.2**
BHD				*e*Sg		**Sn**	**19 23 34.0**	**-0.9**
BHD				AML		AML	19 23 40.1	
	comp=E,2μm,0.4s							
KCHF	**Cheshme Sefid,**	**1.26**	**65**	Pg		**Pn**	**19 23 18.7**	**-1.3**
ILIN	**Lien**	**1.59**	**42**	Pg		**Pn**	**19 23 25.1**	**+0.5**
IKOM	**Komasi**	**1.59**	**74**	Pg		**Pn**	**19 23 25.3**	**+0.8**
IKFM	**Kafar-mosalman**	**1.83**	**96**	Pg		**Pn**	**19 23 28.6**	**+1.0**
IKRK	**Kirkuk**	**1.98**	**327**	*e*Pn		**Pb**	**19 23 31.0**	**-1.1**
IKRK				*e*Sn		**Sn**	**19 23 54.0**	**-1.0**
IKRK				AML		AML	19 24 01.9	
	comp=E,272nm,0.7s							
IKRK				AML		AML	19 24 02.0	
	comp=N,183nm,0.5s							
RAFI	**Al-Rafai**	**2.05**	**169**	*e*Pn		**Pn**	**19 23 31.0**	**+0.4**
RAFI				*e*Sn		**Sn**	**19 23 56.0**	**-0.5**
RAFI				AML		AML	19 24 03.7	
	comp=E,255nm,0.4s							
RAFI				AML		AML	19 24 04.3	
	comp=N,294nm,0.4s							
IALM	**Almabolaq**	**2.35**	**61**	Pn		**Pn**	**19 23 36.1**	**+1.1**
SDS1	**Sardasht. Az.**	**2.41**	**356**	Pn		**Pn**	**19 23 37.4**	**+1.7**
HSAM	**Samen**	**2.48**	**78**	Pn		**Pn**	**19 23 37.2**	**+0.3**
MAHB	**Mahabad**	**3.02**	**1**	Pn		**Pn**	**19 23 45.6**	**+1.5**
HAGD	**Aghdareh**	**3.07**	**68**	Pn		**Pn**	**19 23 45.7**	**+0.8**
IRAZ	**Razeghan**	**3.89**	**64**	Pn		**Pn**	**19 23 56.8**	**+0.7**
IPIR	**Pirpir**	**4.50**	**102**	Pn		**Pn**	**19 24 04.4**	**-0.3**
QAMS	**Qamsar**	**4.77**	**88**	Pn		**Pn**	**19 24 08.9**	**+0.6**
IKLH	**Kolahrood**	**4.96**	**93**	Pn		**Pn**	**19 24 11.6**	**+0.8**
IVRN	**Varamin**	**5.17**	**74**	Pn		**Pn**	**19 24 14.0**	**+0.4**
KRSH	**Karshahi**	**5.39**	**86**	Pn		**Pn**	**19 24 17.1**	**+0.4**
ISFB	**Sefidab**	**5.49**	**82**	Pn		**Pn**	**19 24 17.9**	**-0.1**
IRAM	**Ramesheh**	**5.97**	**107**	Pn		**Pn**	**19 24 25.3**	**+0.5**

*TEH **11** 19:28:34.7, 29.°72N×50.°48E, h6km±176km, ML3.2*
*OMAN **11** 19:28:43.3±1.3, 29.°33N×50.°86E, h10km, mb3.4/2, Error ellipse: s-maj=11.6km s-min=7.4km az=4.0*
*DSN **11** 19:28:44.1±1.1, 29.°92N×51.°91E, h10km, ML3.1/5, Error ellipse: s-maj=56.7km s-min=10.4km az=51.0*
ISC 11 19:28:38.3±1.4,**29.61N**±0.°06×**50.73E**±0.°08,**h10**km,**n38**,
σ1⁰**64**/55,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DSBU	**Dashti - Bushe**	**1.33**	**159**	Pg		**Pn**	**19 29 04.5**	**+1.6**
SHI	**Shiraz**	**1.56**	**88**	Pg		**Pn**	**19 29 08.7**	**+1.4**
KLNJ	**Kolanjah**	**1.58**	**28**	Pg		**Pn**	**19 29 06.3**	**-0.4**
IBRJ	**Brojen**	**2.33**	**11**	Pn		**Pn**	**19 29 16.2**	**-0.8**
ZNGN	**Zangian**	**2.50**	**2**	Pn		**Pn**	**19 29 17.8**	**-1.5**
IRAM	**Ramesheh**	**2.61**	**33**	Pn		**Pn**	**19 29 21.7**	**+0.9**
IGAR	**Gharneh**	**3.00**	**22**	Pn		**Pn**	**19 29 26.1**	**0.0**
IPIR	**Pirpir**	**3.06**	**3**	Pn		**Pn**	**19 29 26.1**	**-1.0**
IZEF	**Zefreh**	**3.55**	**22**	Pn		**Pn**	**19 29 33.4**	**-0.3**
SAKB	**Bahrain**	**3.62**	**183**	P		**Pn**	**19 29 35.5**	**+1.0**
SAKB				S		**Sn**	**19 30 18.5**	**+1.2**
IKLH	**Kolahrood**	**3.77**	**11**	Pn		**Pn**	**19 29 35.7**	**-0.9**
IMEH	**Mehriz**	**3.79**	**61**	Pn		**Pn**	**19 29 38.9**	**+1.9**
QAMS	**Qamsar**	**4.15**	**8**	Pn		**Pn**	**19 29 41.0**	**-0.9**
KRSH	**Karshahi**	**4.51**	**15**	Pn		**Pn**	**19 29 45.8**	**-0.9**
TRNA	**Turayna**	**4.88**	**175**	P		**Pn**	**19 29 52.6**	**+0.9**
	SNR=9.4							
TRNA				S		**Sn**	**19 30 47.9**	**-0.3**
ISFB	**Sefidab**	**4.90**	**15**	Pn		**Pn**	**19 29 50.6**	**-1.5**
IQOM	**Qom**	**5.22**	**3**	Pn		**Pn**	**19 29 54.7**	**-2.0**
NGRK	**Negar Kerman**	**5.23**	**88**	Pn		**Pn**	**19 29 59.6**	**+2.7**
SHME	**Shamm**	**5.96**	**125**	P		**Pn**	**19 30 09.4**	**+2.8**
SHME				S		**Sn**	**19 31 15.4**	**+0.3**
NAZ	**Nazwa, Dubai**	**6.36**	**135**	P		**Pn**	**19 30 12.5**	**+0.4**
NAZ	**Nazwa, Dubai**	**6.36**	**135**	P		**Pn**	**19 30 13.9**	**+1.8**
NAZ				S		**Sn**	**19 31 24.4**	**-0.4**
MASF	**Masafi**	**6.41**	**130**	P		**Pn**	**19 30 15.3**	**+2.4**
MASF				S		**Sn**	**19 31 25.8**	**-0.4**
ASUD	**Al Ashush, Dub**	**6.44**	**139**	P		**Pn**	**19 30 14.8**	**+1.6**
ASUD	**Al Ashush, Dub**	**6.44**	**139**	P		**Pn**	**19 30 15.0**	**+1.8**
	SNR=14							
ASUD				S		**Sn**	**19 31 27.7**	**+0.9**
FAQ	**Al Faqa, Dubai**	**6.50**	**137**	P		**Pn**	**19 30 16.1**	**+2.1**
FAQ				S		**Sn**	**19 31 26.5**	**-1.8**
MDH	**Madha**	**6.55**	**130**	P		**Pn**	**19 30 16.1**	**+1.3**
MDH				S		**Sn**	**19 31 28.6**	**-1.0**
HATD	**Hatta, Dubai**	**6.77**	**133**	P		**Pn**	**19 30 18.2**	**+0.4**
HATD	**Hatta, Dubai**	**6.77**	**133**	P		**Pn**	**19 30 19.3**	**+1.5**
HATD				S		**Sn**	**19 31 31.7**	**-3.4**
ASHO	**Ashiyiah**	**6.83**	**135**	P		**Pn**	**19 30 17.9**	**-0.7**
ASHO				S		**Sn**	**19 31 32.8**	**-3.7**
ASHO	**Ashiyiah**	**6.83**	**135**	P		**Pn**	**19 30 19.7**	**+1.1**
	SNR=7.6							
ASHO				S		**Sn**	**19 31 34.2**	**-2.3**
MZR	**Muzera**	**7.03**	**159**	P		**Pn**	**19 30 22.2**	**+0.9**
MZR				S		**Sn**	**19 31 39.9**	**-1.5**
ALNE	**Al Ain**	**7.12**	**140**	P		**Pn**	**19 30 23.3**	**+0.7**
ALNE	**Al Ain**	**7.12**	**140**	P		**Pn**	**19 30 23.6**	**+1.0**
ALNE				S		**Sn**	**19 31 42.8**	**-0.9**
SOHO	**SOHO**	**7.53**	**135**	P		**Pn**	**19 30 27.5**	**-0.6**
SOHO	**SOHO**	**7.53**	**135**	P		**Pn**	**19 30 28.0**	**-0.1**
SOHO				S		**Sn**	**19 31 51.2**	**-2.3**
ARQ	**Araqi**	**8.12**	**139**	P		**Pn**	**19 30 37.4**	**+1.1**
	SNR=5.8							
ARQ				S		**Sn**	**19 32 07.0**	**-1.3**
BSY	**Bisya**	**8.97**	**138**	P		**Pn**	**19 30 48.6**	**+0.6**
BSY				S		**Sn**	**19 32 25.4**	**-3.8**
SMDO	**Samad**	**9.26**	**133**	P		**Pn**	**19 30 51.1**	**-0.8**
SMDO				S		**Sn**	**19 32 33.2**	**-3.0**

*TEH **11** 19:32:45.3, 33.°64N×45.°65E, h9km±46km, ML3.1*
*ISN **11** 19:32:45.1±0.6, 33.°68N×45.°48E, h2km±2km, ML3.0*
ISC 11 19:32:44.7±1.6,**33.°64N**±0.°04×**45.°57E**±0.°04,**h1**km±13km,
n16,σ0⁰**69**/22,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.53**	**92**	Pg		**Pg**	**19 32 55.2**	**+0.4**
ILBA				Sg		**Sg**	**19 33 01.7**	**-0.1**
IBDR	**Badra**	**0.61**	**150**	*e*Pg		**Pn**	**19 33 00.5**	**0.0**
IBDR				*e*Sg		**Sn**	**19 33 10.5**	**-0.5**
IBDR				AML		AML	19 33 13.1	
	comp=N,611nm,0.4s							
IBDR				AML		AML	19 33 14.8	
	comp=E,776nm,0.5s							
KGS1	**Ghasr-e-Shirin**	**0.86**	**1**	Pg		**Pb**	**19 33 02.1**	**-0.4**
BHD	**Baghdad**	**1.06**	**250**	*e*Pg		**Pn**	**19 33 07.0**	**+0.3**
BHD				*e*Sg		**Sn**	**19 33 23.0**	**+0.8**
BHD				AML		AML	19 33 32.6	
	comp=E,436nm,0.8s							
IGHG	**Ghaleghazi**	**1.07**	**50**	Pg		**Pg**	**19 33 05.4**	**+0.1**
IDHR	**Dehrash**	**1.25**	**32**	Pg		**Pg**	**19 33 08.4**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.37**	**62**	Pg		**Pn**	**19 33 10.3**	**-0.9**
KCHF				Sg		**Sn**	**19 33 30.2**	**0.0**
IKOM	**Komasi**	**1.70**	**71**	Pg		**Pb**	**19 33 16.7**	**-0.2**
ILIN	**Lien**	**1.72**	**42**	Pg		**Pb**	**19 33 16.9**	**-0.3**
IKFM	**Kafar-mosalman**	**1.90**	**93**	Pn		**Pb**	**19 33 20.1**	**-0.2**
RAFI	**Al-Rafai**	**1.97**	**166**	*e*Pn		**Pb**	**19 33 21.0**	**-0.3**
RAFI				*e*Sn		**Sb**	**19 33 46.0**	**-0.3**
IKRK	**Kirkuk**	**2.03**	**330**	*e*Pn		**Pn**	**19 33 20.0**	**-0.1**
IKRK				*e*Sn		**Sn**	**19 33 45.0**	**-1.0**
HSAM	**Samen**	**2.58**	**76**	Pn		**Pn**	**19 33 28.5**	**+0.6**
MAHB	**Mahabad**	**3.12**	**2**	Pn		**Pn**	**19 33 36.9**	**+1.7**
HAGD	**Aghdareh**	**3.18**	**67**	Pn		**Pn**	**19 33 37.1**	**+0.9**
QAMS	**Qamsar**	**4.86**	**87**	Pn		**Pn**	**19 34 00.1**	**+0.9**

*IDC **11** 19:35:41.4±2.5, 11.°21S×163.°34E, h0km, mb3.7/4, mbtmp3.6/4, ML6.0/1, Error ellipse: s-maj=48.4km s-min=38.4km az=103.0*
ISC 11 19:35:42.6±1.8,**11.°3S**±0.°2×**163.°4E**±0.°2,**h10**km,**n11**,
σ0⁰**81**/6,**mb3.6**/4,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**3.86**	**298**	Pn		**Pn**	**19 36 42.0**	**0.0**
	1μm,0.3s,baz=155,slow=1.3,SNR=55							
HNR				Sn		**Sn**	**19 37 27.5**	**+0.1**
	459nm,0.3s,baz=139,slow=7.4,SNR=3.5							
WRA	**Warramunga Arr**	**29.24**	**249**	P		**P**	**19 41 44.1**	**-0.9**
	0.5nm,0.5s,baz=78,slow=8.8,SNR=9.0							
	0.5nm,0.5s							
H11S2	**WAKE ISLAND Hy**	**29.77**	**6**	T		T	20 12 46.3	
	baz=188,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	**29.77**	**6**	T		T	20 12 43.6	
	baz=188,slow=76,SNR=15							
H11S1	**WAKE ISLAND Hy**	**29.78**	**6**	T		T	20 12 54.2	
	baz=188,slow=76,SNR=15							
ASAR	**Alice Springs**	**30.63**	**242**	P		**P**	**19 41 58.1**	**+0.8**
	0.5nm,0.7s,baz=64,slow=10,SNR=9.6							
	0.5nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**30.99**	**6**	T		T	20 14 18.3	
	baz=188,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**31.00**	**6**	T		T	20 14 19.2	
	baz=188,slow=76,SNR=9.4	

MQZ	McQueen's Vall	20.72 195	P		P		19 42 33.1	-0.3
RPZ	Rata Peaks	21.15 198	P		P		19 42 38.7	+1.3
	9.7nm,0.6s,baz=32,slow=7.9,SNR=2.7							
	9.7nm,0.6s							
FOZ	Fox Glacier	21.37 201	P		P		19 42 38.6	-0.7
LBZ	Lake Benmore	22.02 199	P		P		19 42 43.2	-2.0
JCZ	Jackson Bay	22.20 202	P		P		19 42 47.6	+0.7
ODZ	Otahua Downs	22.49 198	P		P		19 42 48.6	-0.8
WKZ	Wanaka	22.79 201	P		P		19 42 52.9	+0.8
MLZ	Mavora Lakes	23.56 202	P		P		19 43 00.7	+1.7
DCZ	Deep Cove	23.98 203	P		P		19 43 02.2	-0.4
WHZ	Wether Hill Ro	24.08 201	P		P		19 43 04.8	+1.3
ARMA	Armidale	26.14 249	P		P		19 43 23.2	+1.0
ARMA	Armidale	26.14 249	P		P		19 43 24.1	+1.9
EIDS	Eidsvold	26.43 261	P		P		19 43 24.9	+0.3
MGCD	Mangrove Creek	27.07 243	P		P		19 43 32.3	+2.2
	24nm,0.8s							
CAN	Canberra	29.26 240	P		P		19 43 51.0	+1.6
CAN	Canberra	29.26 240	P		P		19 43 51.0	+1.6
CTA	Charters Tower	31.59 270	P		P		19 44 10.1	+0.5
	18nm,0.4s,baz=93,slow=11,SNR=42							
	18nm,0.4s							
CTAO	Charters Tower	31.59 270	P		P		19 44 10.1	+0.5
CTAO			IAmb		IAmb		19 44 11.1	
	comp=Z,23nm,0.8s							
CTAO	Charters Tower	31.59 270	P		P		19 44 10.3	+0.7
TOO	Toolangi	32.56 237	P		P		19 44 17.9	+0.3
TOO			IAmb		IAmb		19 44 31.7	
	comp=Z,47nm,1.6s							
TAU	Tasmania Unive	33.04 227	P		P		19 44 22.6	+1.0
STKA	Stephens Creek	34.84 248	P		P		19 44 37.6	+0.6
STKA	Stephens Creek	34.84 248	P		P		19 44 37.0	+0.1
	comp=Z,2.5nm,0.8s,baz=93,slow=11,SNR=7.7							
	comp=Z,2.5nm,0.5s							
BBOO	Buckleboo	39.56 247	P		P		19 45 14.9	-0.8
BBOO			IAmb		IAmb		19 45 50.7	
	comp=Z,91nm,2.0s							
AS31	Alice Springs	42.16 261	P		P		19 45 36.6	+0.1
ASAR	Alice Springs	42.16 261	P		P		19 45 36.6	+0.1
	comp=Z,6.3nm,0.4s,baz=96,slow=7.7,SNR=102							
ASAR			ScP		ScP		19 50 21.1	+0.9
	comp=Z,1.9nm,0.8s,baz=107,slow=3.9,SNR=6.9							
ASAR			S		S		19 51 17.7	-1.2
	comp=Z,0.9nm,0.8s,baz=96,slow=18,SNR=3.7							
	comp=Z,6.3nm,0.4s							
WR0	Warramunga Arr	42.34 266	P		P		19 45 37.4	-0.6
WR0			IAmb		IAmb		19 46 03.8	
	comp=Z,52nm,1.4s							
WB2	Warramunga Arr	42.52 266	P		P		19 45 38.9	-0.5
WB2			IAmb		IAmb		19 46 04.9	
	comp=Z,22nm,0.8s							
WRAB	Tennant Creek	42.52 266	P		P		19 45 38.8	-0.6
WB0	Warramunga Arr	42.52 266	P		P		19 45 38.9	-0.5
WB0			IAmb		IAmb		19 45 39.6	
	comp=Z,27nm,0.8s							
WRA	Warramunga Arr	42.53 266	P		P		19 45 38.9	-0.6
	comp=Z,8.1nm,0.3s,baz=97,slow=8.4,SNR=554							
	comp=Z,8.1nm,0.3s							
FORT	Forrest	46.43 250	P		P		19 46 08.8	-0.6
MTN	Manton Dam	47.57 274	P		P		19 46 17.6	-0.6
MTN			IAmb		IAmb		19 48 00.3	
	comp=Z,67nm,1.7s							
KNRA	Kununurra	48.81 270	P		P		19 46 26.3	-1.1
FAKI	Fak Fak	50.69 287	P		P		19 46 39.9	-1.4
FAKI			IAmb		IAmb		19 47 35.3	
	comp=Z,52nm,1.3s							
FITZ	Fitzroy Crossi	50.95 266	P		P		19 46 43.4	+0.2
FITZ			IAmb		IAmb		19 47 29.1	
	comp=Z,42nm,2.0s							
SOEI	Soe	54.96 275	P		P		19 47 11.1	-0.9
NWAO	Narrogin (SRO)	55.35 246	P		P		19 47 13.5	-0.8
NWAO	Narrogin (SRO)	55.35 246	P		P		19 47 13.3	-1.1
NWAO			IAmb		IAmb		19 48 18.8	
	comp=Z,56nm,1.3s							
MORW	Morawa	57.00 250	P		P		19 47 24.4	-1.3
MORW			IAmb		IAmb		19 49 03.0	
	comp=Z,123nm,1.9s							
CCD	Concordia, Ant	58.78 195	P		P		19 47 38.5	+0.9
QSPA	South Pole Qui	66.21 180	P		P		19 48 26.9	+1.4
	comp=Z,1.4nm,0.6s,baz=317,slow=1.7,SNR=4.8							
	comp=Z,1.4nm,0.6s							
MJAR	Matsushiro Arr	71.94 326	P		P		19 48 59.6	-0.6
	comp=Z,2.9nm,0.8s,baz=163,slow=6.0,SNR=5.7							
	comp=Z,2.9nm,0.8s							
KIWB	Kanaga Island	75.43 2	P		P		19 49 19.9	+0.2
ADK	Adak	75.48 2	P		P		19 49 19.9	0.0
KSRS	Korea Array	78.30 320	P		P		19 49 36.6	+1.0
	comp=Z,2.1nm,0.8s,baz=133,slow=5.9,SNR=6.2							
	comp=Z,2.1nm,0.8s							
PETK	Petropavlovsk-	79.10 346	P		P		19 49 39.7	0.0
	comp=Z,4.1nm,0.7s,baz=123,slow=5.5,SNR=6.1							
	comp=Z,4.1nm,0.7s							
USRK	Ussuriysk Ar.	80.81 327	P		P		19 49 49.1	+0.4
	comp=Z,3.3nm,0.8s,baz=160,slow=4.6,SNR=3.3							
	comp=Z,3.3nm,0.8s							
NVAR	Mina Array Bea	84.65 44	P		P		19 50 08.9	+0.3
	comp=Z,0.9nm,0.7s,baz=219,slow=7.4,SNR=6.2							
	comp=Z,0.9nm,0.7s							
GMN	Gold Mountain	84.66 45	P		P		19 50 09.5	+0.8
TPNV	Topopah Spring	85.12 46	P		P		19 50 11.9	+1.1
KVN	Kaiserville	85.14 44	P		P		19 50 11.8	+0.8
N15K	Kwethluk River	85.29 10	P		P		19 50 11.9	+1.0
N15K			IAmb		IAmb		19 52 22.5	
	comp=Z,32nm,1.2s							
U15A	North Rim	87.50 48	P		P		19 50 23.1	+0.8
MTPU	Mount Pierson	88.42 47	P		P		19 50 28.5	+1.8
MTPU			IAmb		IAmb		19 50 29.6	
	comp=Z,14nm,1.7s							
CMAR	Chiang Mai Arr	89.63 290	P		P		19 50 33.2	+0.9
	comp=Z,2.8nm,0.9s,baz=132,slow=2.3,SNR=4.6							
	comp=Z,2.8nm,0.9s							
TMUT	Trail Mountain	89.73 46	P		P		19 50 34.5	+1.8
TMUT			IAmb		IAmb		19 50 34.8	
	comp=Z,4.4nm,0.8s							
TXAR	Lajitas Array	90.32 58	P		P		19 50 35.8	+0.4
	comp=Z,1.1nm,0.8s,baz=207,slow=8.1,SNR=5.3							
	comp=Z,1.1nm,0.8s							
ILAR	Eielson Array	91.98 14	P		P		19 50 41.1	-0.9
	comp=Z,0.4nm,0.6s,baz=217,slow=6.0,SNR=6.3							
	comp=Z,0.4nm,0.6s							
PDAR	Pinedale Array	92.59 44	P		P		19 50 45.6	0.0
	comp=Z,0.5nm,0.7s,baz=200,slow=4.0,SNR=4.9							
	comp=Z,0.5nm,0.7s							
MKAR	Makanchi Array	112.22 313	PKiKP		PKiKP		19 56 04.5	-1.5
	comp=Z,0.4nm,0.6s,baz=98,slow=2.2,SNR=6.1							
KURBB	Kurchatov Arra	115.31 316	PKP		PKPdf		19 56 09.8	-1.9
	comp=Z,0.6nm,0.5s,baz=98,slow=1.9,SNR=8.9							
BVAR	Borovoye Array	120.50 319	PKP		PKPdf		19 56 20.5	-1.1
	comp=Z,1.2nm,0.3s,baz=107,slow=2.8,SNR=15							
ARCES	ARCESS Array B	131.88 348	PKP		PKPdf		19 56 41.9	-1.0
	comp=Z,2.2nm,0.9s,baz=88,slow=2.4,SNR=11							
FINES	FINESS Array B	138.46 342	PKiKP		PKPpre		19 56 45.9	
	comp=Z,1.5nm,0.9s,baz=64,slow=4.4,SNR=4.2							
FINES			PKP		PKPdf		19 56 56.1	+0.8
	comp=Z,0.7nm,0.3s,baz=99,slow=3.1,SNR=8.3							
FINES			SKPbc		SKPbc		19 59 39.5	-1.5
	comp=Z,1.2nm,0.6s,baz=49,slow=5.8,SNR=5.3							
NB2	NORSAR Subarra	142.07 351	PKP		PKPdf		19 56 58.0	-3.9
	comp=Z,0.7nm,0.6s,baz=7.1,slow=3.2							
NOA	NORSAR Array B	142.07 351	PKiKP		PKPpre		19 56 58.0	
	comp=Z,1.8nm,0.8s,baz=16,slow=4.5,SNR=6.3							
HFS	Hagfors	142.54 349	PKiKP		PKPpre		19 56 58.8	
	comp=Z,5.5nm,0.3s,baz=64,slow=3.4,SNR=69							
KONO	Kongsberg	143.63 352			PKPab		19 57 02.1	-1.2
PABE	Paberze	143.84 337			PKPbc		19 57 02.5	-1.6
ARPR	Arapgir-MALATY	144.34 304			PKPdf		19 57 06.8	+0.1
AKASG	Malin Array Be	145.01 327	PKP		PKPdf		19 57 06.9	-0.4
	comp=Z,2.5nm,0.3s,baz=42,slow=4.2,SNR=30							
AKASG			SKPbc		SKPbc		19 59 57.5	-0.3
	comp=Z,0.3nm,0.3s,baz=54,slow=1.5,SNR=5.9							
AKBB	Malin Array Si	145.01 327	PKPdf		PKPdf		19 57 06.2	-1.0
KIEV	Kiev	145.02 327			PKPdf		19 57 06.4	-0.9
AK05	Malin Array Si	145.07 327	PKPdf		PKPdf		19 57 05.7	-1.7
SUW	Suwalki	145.29 336			PKPdf		19 57 06.0	-1.6
GAZ	Gaziantep	145.64 301	PKPbc		PKPbc		19 57 10.7	+0.3
BNN	Bunyan	146.28 305			PKPbc		19 57 12.6	+0.4
BRTR	Keskin Array B	147.66 307	PKPbc		PKPbc		19 57 15.6	-0.3
	comp=Z,2.2nm,0.8s,baz=138,slow=3.7,SNR=5.6							
MMAI	Mount Meron Ar	147.80 294	PKPbc		PKPbc		19 57 16.9	+0.6
	comp=Z,4.1nm,0.4s,baz=74,slow=7.3,SNR=22							
EKA	Eskdalemuir Ar	148.48 4	PKPbc		PKPbc		19 57 16.6	-0.6
	comp=Z,0.8nm,0.3s,baz=335,slow=2.5,SNR=20							
KWP	Kalwaria Pacla	148.80 331			PKPbc		19 57 18.3	+0.1
OJC	Ojcow	149.56 335			PKPbc		19 57 19.6	-0.4
OSTC	Ostas	150.57 339	ePKP		PKiKP		19 57 22.8	-0.1
CHVC	Chvalec	150.60 339	ePKP		PKPbc		19 57 22.2	-0.3
UPC	Upice	150.68 339	ePKP		PKPbc		19 57 22.8	+0.1
DPC	Dobruska-Polom	150.72 339	ePKP		PKPbc		19 57 22.9	+0.1
KRLC	Kraliky	150.79 338	ePKP		PKPbc		19 57 22.4	-0.6
CLL	Collm	150.86 343			PKPbc		19 57 23.1	+0.1
MAUC	Maruska	151.01 336	ePKP		PKiKP		19 57 24.1	+0.3
KHC	Kasperske Hory	152.66 341	ePKP		PKPab		19 57 40.9	+0.6
GERES	GERESS Array B	152.87 340	PKPbc		PKiKP		19 57 27.9	+0.1
	comp=Z,0.3nm,0.4s,baz=336,slow=2.9,SNR=3.6							
FUORN	Ofenpass-Fuorn	155.88 343			PKPab		19 57 55.0	+0.5
TORD	Torodi Ar. Bea	169.23 188	PKP		PKPdf		19 57 36.8	-1.1
	comp=Z,1.2nm,1.1s,baz=129,slow=2.1,SNR=4.1							
TORD			PKPab		PKPab		19 58 53.2	-0.2
	comp=Z,0.1nm,0.4s,baz=238,slow=2.2,SNR=2.1							

*IDC **11** 19:41:33.8±0.5,4.°93S×150.°69E,h278^{km}±5^{km},mb3.8/17, mbtmp4.4/19,Error ellipse: s-maj=13.8km s-min=8.7km az=105.0*

*NEIC **11** 19:41:34.4±1.1,4.°95S±0.°08×150.°63E±0.°09,h279^{km}±4^{km}, mb4.4/35,Error ellipse: s-maj=13.8km s-min=11.9km az=70.0*

ISC 11 19:41:35.4±0.5,4.°97S±0.°05×150.°70E±0.°07,h300^{km},n81, σ1°45/86,mb4.3/34,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.48	63	P		P	Pn	19 42 15.8	-2.7
	baz=253,slow=19								
KRVT				S		S		19 42 46.8	-6.0
	baz=218,slow=19								
RABL	Rabaul	1.65	62	Pn		Pn		19 42 16.3	-3.4
RABL	Rabaul	1.65	62	P		Pn		19 42 16.8	-2.9
KAVG	Kavieng	2.38	3	P		Pn		19 42 24.1	-1.3
MANU	Manus Island	4.42	311	Pn		Pn		19 42 44.4	-2.0
MANU	Manus Island	4.42	311	P		Pn		19 42 45.6	-0.8
PMG	Port Moresby	5.63	218			Pn		19 42 58.0	-2.4
PMG	Port Moresby	5.63	218	P		Pn		19 42 59.1	-1.4
PMG	Port Moresby	5.63	218	P		Pn		19 42 59.0	-1.4
PMG	Port Moresby	5.63	218	P		Pn		19 42 58.7	-1.8
	131nm,0.6s,baz=50,slow=6.0,SNR=64								
PMG				S		S		19 44 07.4	-1.5
	37nm,0.8s,baz=13,slow=14,SNR=0.9								
GENI	Genyem	10.77	282	P		P		19 44 04.3	-1.5
	33nm,1.5s								
COEN	Coen	11.61	219	P		P		19 44 13.0	-2.1
TV1H	Townsville Har	14.70	195	P		Pn		19 44 50.7	+0.3
CTA	Charters Tower	15.64	196	P		Pn		19 45 00.7	-0.7
	11nm,0.6s,baz=23,slow=11,SNR=10								
CTAO	Charters Tower	15.64	196	P		Pn		19 45 00.5	-0.9
CTAO				IAmb		IAmb		19 45 03.0	
	comp=Z,15nm,0.8s								
RK1H	Rockhampton Ha	18.31	181	P		P		19 45 29.3	+0.9
QIS	Mount Isa	18.88	214	P		P		19 45 35.8	+1.2
EIDS	Eidsvold	20.29	179	P		P		19 45 48.5	-0.8
EIDS				IAmb		IAmb		19 45 50.8	
	comp=Z,11nm,0.8s								
EIDS	Eidsvold	20.29	179	P		P		19 45 49.5	+0.2
WB0	Warramunga Arr	21.64	226	P		P		19 46 02.1	-0.3
WB0				IAmb		IAmb		19 46 03.6	
	comp=Z,25nm,1.2s								
WR0	Warramunga Arr	21.66	225	P		P		19 46 02.1	-0.5
WRAB	Tennant Creek	21.78	226	P		P		19 46 03.5	-0.1
WRAB				IAmb		IAmb		19 46 04.8	
	comp=Z,20nm,0.8s								
WB2	Warramunga Arr	21.79	226	P		P		19 46 03.8	+0.1
WRA	Warramunga Arr	21.80	226	P		P		19 46 04.0	+0.3
	comp=Z,12nm,0.3s,baz=48,slow=9.4,SNR=73								
WRA				S		S		19 49 41.4	-1.8
	comp=Z,2.7nm,0.8s,baz=54,slow=15,SNR=6.6								
	comp=Z,12nm,0.3s								
QLP	Quilpie	22.36	195	P		P		19 46 09.6	+0.9
DZM	Mont Dzumac	22.83	140	P		P		19 46 13.6	+0.4
DZM	Mont Dzumac	22.83	140	P		P		19 46 14.4	+1.2
DZM	Mont Dzumac	22.83	140	P		P		19 46 14.4	+1.2
	comp=Z,46nm,0.6s,baz=256,slow=9.5,SNR=51								
	comp=Z,46nm,0.6s								
ONTNC	Ouen Toro	23.01	140	P		P		19 46 15.2	+0.5
YATNC	Mamie plateau,	23.11	139	P		P		19 46 18.2	+2.5
OUENC	Ouen Island, N	23.34	140	P		P		19 46 18.6	+0.9
OUENC				IAmb		IAmb		19 46 19.7	
	comp=Z,15nm,0.8s								
AULRC	Lightning Ridg	24.46	186	P		P		19 46 27.9	+0.1
	comp=Z,131nm,1.0s								
INKA	Innaminka	24.55	202	P		P		19 46 29.0	+0.4
AS31	Alice Springs	24.65	219	P		P		19 46 29.6	0.0
AS31				IAmb		IAmb		19 46 30.3	
	comp=Z,4.0nm,0.3s								
ASAR	Alice Springs	24.65	219	P		P		19 46 29.8	+0.2
	comp=Z,5.1nm,0.5s,baz=53,slow=8.4,SNR=39								
ASAR				S		S		19 50 27.2	-1.4
	comp=Z,0.8nm,0.8s,baz=33,slow=16,SNR=3.4								
ASAR				ScP		ScP		19 53 11.2	+2.9
	comp=Z,1.5nm,0.7s,baz=40,slow=2.9,SNR=10								
	comp=Z,1.5nm,0.5s								
ARMA	Armidale	25.33	178			P		19 46 36.6	+0.9
CMSA	Cobar Meteorol	26.84	190	P		P		19 46 49.5	+0.5
STKA	Stephens Creek	28.09	197	P		P		19 47 00.0	-0.1
STKA	Stephens Creek	28.09	197	P		P		19 46 59.7	-0.5
	comp=Z,3.7nm,0.5s,baz=40,slow=16,SNR=12								
	comp=Z,3.7nm,0.5s								
CAN	Canberra	30.24	183	P		P		19 47 19.9	+0.9
FORT	Forrest	33.36	217	P		P		19 47 46.0	-0.2
URZ	Urewera	40.93	148	P		P		19 48 49.8	+0.6
	comp=Z,7.3nm,0.5s,baz=25,slow=2.2,SNR=7.1								
	comp=Z,7.3nm,0.5s								
TKNZ	Takaka Hill	41.08	154	P		P		19 48 52.1	+1.7
RTZ	Ruatahuna	41.12	148	P		P		19 48 51.9	+0.9
RTZ				IAmb		IAmb		19 48 53.7	
	comp=Z,19nm,0.7s								
TCW	Tory Channel	41.80	153	P		P		19 48 57.7	+1.4
TUWZ	Tuamarina	41.83	154	P		P		19 48 57.5	+1.0
BSWZ	Blackbirch Sta	42.03	154	P		P		19 48 59.0	+0.9
PLWZ	Palliser	42.53	153	P		P		19 49 02.3	+0.1
RPZ	Rata Peaks	42.56	158	P		P		19 49 03.1	+0.8
	comp=Z,16nm,0.9s,baz=254,slow=13,SNR=5.4								
	comp=Z,16nm,0.9s								
GVZ	Greta Valley S	42.70	156	P		P		19 49 04.1	+0.6
PETK	Petropavlovsk-	58.16	5	P		P		19 50 58.7	+0.5
	comp=Z,3.9nm,0.7s,baz=160,slow=6.1,SNR=12								
	comp=Z,3.9nm,0.7s								
SONM	Songino Array	65.37	329	P		P		19 51 47.9	+1.6
	comp=Z,1.9nm,0.6s,baz=144,slow=5.3,SNR=28								
	comp=Z,1.9nm,0.6s								
VNDA	Vanda	72.74	177	P		P		19 52 31.9	+1.2
	comp=Z,1.4nm,0.6s,baz=336,slow=7.1,SNR=11								
	comp=Z,1.4nm,0.6s								
L14K	Kuka Creek	75.26	21	P		P		19 52 47.0	+1.6
G16K	Koyuk River	78.08	18	P		P		19 53 02.2	+1.2
G16K				IAmb		IAmb		19 53 37.9	
	comp=Z,14nm,1.4s								
MK31	Makanchi Array	79.09	319	P		P		19 53 08.3	+1.3
MKAR	Makanchi Array	79.09	319	P		P		19 53 07.7	+0.7
	comp=Z,0.3nm,0.4s,baz=92,slow=9.9,SNR=5.9								
	comp=Z,0.3nm,0.4s								
ZALV	Zalesovo Beam	80.14	327	P		P		19 53 11.1	-1.3
	comp=Z,1.3nm,0.3s,baz=106,slow=5.1,SNR=2.4								
	comp=Z,1.3nm,0.3s								
G19K	Purcell Mounta	80.23	19	P		P		19 53 13.8	+1.2
G19K				IAmb		IAmb		19 53 16.5	
	comp=Z,5.3nm,1.0s								
E19K	Redstone River	80.98	18	P		P		19 53 17.8	+1.2
E19K				IAmb		IAmb		19 53 19.1	
	comp=Z,5.3nm,0.9s								
C19K	Lookout Ridge	81.33	16	P		P		19 53 19.6	+1.2
C19K				IAmb		IAmb		19 53 20.7	
	comp=Z,3.3nm,0.6s								
KURBB	Kurchatov Arra	82.65	322	P		P		19 53 26.2	+0.6
	comp=Z,1.2nm,1.0s,baz=110,slow=4.6,SNR=5.8								
	comp=Z,1.2nm,1.0s								
IL31		83.11	22	P		P		19 53 27.3	-0.2
IL31				IAmb		IAmb		19 53 56.9	
	comp=Z,12nm,1.5s								
ILAR	Eielson Array	83.11	22	P		P		19 53 27.2	-0.4
	comp=Z,2.6nm,0.7s,baz=249,slow=5.4,SNR=28								
	comp=Z,2.6nm,0.7s								
D22K	Ayikyak River	83.20	18	P		P		19 53 27.6	-0.4
J25K	Salcha River,	83.62	23	P		P		19 53 30.7	+0.4
J25K				IAmb		IAmb		19 53 31.7	
	comp=Z,7.8nm,0.9s								
L26K	Log Cabin Wild	83.77	25	P		P		19 53 32.3	+1.3
F24K	Squaw Lake	84.04	20	P		P		19 53 34.1	+1.8
M27K	Edge Creek, AK	84.13	26	P		P		19 53 34.5	+1.5
M27K				IAmb		IAmb		19 53 35.6	
	comp=Z,6.7nm,0.8s								
QSPA	South Pole Qui	84.99	180	P		P		19 53 38.5	+1.2
QSPA				IAmb		IAmb		19 53 40.1	
	comp=Z,4.4nm,0.8s								
QSPA	South Pole Qui	84.99	180	P		P		19 53 38.0	+0.8
	comp=Z,3.2nm,0.6s,baz=288,slow=0.9,SNR=16								
	comp=Z,3.2nm,0.6s								
I28M	Miner Creek	86.07	23	P		P		19 53 43.8	+1.3
I28M				IAmb		IAmb		19 54 24.6	
	comp=Z,11nm,1.5s								
E27K	Coleen River	86.48	20	P		P		19 53 46.2	+1.9
E27K				IAmb		IAmb		19 53 46.5	
	comp=Z,3.2nm,0.6s								
K29M	Barlow Dome	86.51	25	P		P		19 53 46.6	+2.0
K29M				IAmb		IAmb		19 53 47.5	
	comp=Z,6.7nm,0.8s								
J30M	Hart River	87.23	24	P		P		19 53 49.9	+1.9
EPYK	Eagle Plains	87.62	23	P		P		19 53 50.8	+1.0
EPYK				IAmb		IAmb		19 53 51.6	
	comp=Z,3.3nm,0.8s								
BVAR	Borovoye Array	88.13	323	P		P		19 53 52.5	+0.1
	comp=Z,0.5nm,0.6s,baz=104,slow=3.1,SNR=3.9								
	comp=Z,0.5nm,0.6s								
NVAR	Mina Array Bea	93.84 52	P		P		19 54 20.1	+0.6
	comp=Z,0.9nm,0.8s,baz=260,slow=6.8,SNR=5.8								
	comp=Z,0.9nm,0.8s								
YKA	Yellowknife Ar	96.55 28	P		P		19 54 31.6	+0.6
	comp=Z,0.4nm,0.6s,baz=270,slow=4.7,SNR=8.8								
	comp=Z,0.4nm,0.6s								
EKA	Eskdalemuir Ar	125.57 342	PKP		PKiKP		20 00 01.5	0.0
	comp=Z,0.2nm,0.4s,baz=355,slow=3.1,SNR=1.4								
TORD	Torodi Ar. Bea	148.36 287	PKPbc		PKiKP		20 00 47.6	-1.4
	comp=Z,1.0nm,0.5s,baz=59,slow=3.9,SNR=8.2								

DJA 11 19:46:15.8±0.5,1.°N±5.°×122.°2E±.°,h10^{km},M3.9/10,mb4.2/3, MLv3.7/10,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.02	195	P		P	Pg	19 46 34.2	-1.2
GTOI	Gorontalo	1.16	136	P		P	Pb	19 46 33.6	-4.3
KMSI	Cibinong	1.99	117	P		Pn		19 46 49.5	0.0
LUWI	Luwuk	2.56	167	P		Pn		19 46 58.6	+1.2
LUWI	Luwuk	2.56	167	P		Pn		19 46 58.5	+1.2
MPSI	Mapaga	2.56	244	P		Pn		19 46 56.9	-0.5
TTSI	Tana Toraja	5.08	208	P		Pn		19 47 33.5	+1.5
	30nm,0.8s,0.1nm								
SANI	Sanana	5.15	133	P		Pn		19 47 33.1	0.0

*IDC **11** 19:51:16.7±1.4,18.°19N×95.°90E,h0^{km},mb3.7/5, mbtmp3.6/6,ML3.1/1,MS4.4/4,Error ellipse: s-maj=32.8km s-min=17.9km az=52.0*

ISC 11 19:51:18.8±1.6,18.°3N±0.°2×96.°0E±0.°1,h10^{km},n10, σ0°49/7,mb3.6/5,MS4.5/4,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	2.80	87	Pn		Pn		19 52 03.2	-0.5
	0.8nm,0.3s,baz=264,slow=14,SNR=11								
CMAR						Pg	Pb	19 52 09.2	+0.3
	6.4nm,0.3s,baz=262,slow=18,SNR=36								
CMAR						Lg	Lg	19 52 45.2	
	9.3nm,0.3s,baz=262,slow=16,SNR=3.3								
CMAR						LR	LR	19 53 17.2	
	comp=Z,241nm,19.7s,baz=40,slow=42								
	1.9nm,0.4s								
MKAR	Makanchi Array	30.56	341	P		P		19 57 32.5	0.0
	0.5nm,0.5s,baz=148,slow=8.5,SNR=8.4								
	0.5nm,0.5s								
KURBB	Kurchatov Arra	35.11	341	P		P		19 58 11.9	-0.3
	0.7nm,0.6s,baz=149,slow=8.7,SNR=9.5								
	0.7n

comp=Z,9µm,0.3s,baz=342,slow=20,SNR=47
JTS LR LR 19 57 56.4
comp=Z,51µm,21.8s,baz=189,slow=79
JTS Las Juntas de 0.37 183⇓ eP Pg 19 57 30.7 -0.6
JTS eS Sg 19 57 36.1 -0.5
JUNT Juntas 0.38 183⇓ eP Pg 19 57 30.9 -0.6
JUNT eS Sg 19 57 36.4 -0.4
SOCE Pocosol 0.42 132 eP Pg 19 57 32.3 0.0
SOCE Pocosol 0.42 132⇑ eP Pg 19 57 32.2 0.0
SOCE Pocosol 0.42 132⇑ iP Pg 19 57 32.4 +0.2
SOCE IAML 19 57 40.2
comp=Z,73µm,1.0s
LCHIL Los Chiles 0.43 30 eP Pb 19 57 33.2 +0.2
GPS3 Bodega del ICE 0.43 282 eP Pb 19 57 33.7 +0.7
VORI VORI 0.43 291⇑ eP Pg 19 57 31.7 -0.9
VRLE La Escondida, 0.44 286⇑ eP Pg 19 57 31.8 -0.9
VRLE La Escondida, 0.44 286⇑ iP Pg 19 57 31.9 -0.8
VRLE IAML 19 57 39.7
comp=Z,27µm,1.0s
GB1A Borinquen Arri 0.48 289⇑ eP Pg 19 57 32.6 -0.7
ERIA Liberia 0.50 267 eP Pg 19 57 33.5 -0.1
PLVR Palo Verde 0.52 233⇓ eP Pg 19 57 33.2 -0.9
PLVR eS Sg 19 57 39.8 -1.2
COVE Coope Vega, Sa 0.53 84 eP Pg 19 57 34.0 -0.2
COVE Coope Vega, Sa 0.53 84⇑ eP Pg 19 57 33.8 -0.4
COVE Coope Vega, Sa 0.53 84⇑ iP Pg 19 57 34.0 -0.2
COVE IAML 19 57 57.1
comp=Z,70µm,1.0s
ORTG Ortega, Santa 0.59 240 eP Pg 19 57 34.6 -1.0
ORTG Ortega, Santa 0.59 240⇓ eP Pg 19 57 34.5 -1.0
ORTG eS Sg 19 57 43.0 -0.5
ORTG Ortega, Santa 0.59 240⇓ iP Pg 19 57 34.6 -0.9
ORTG i S Sg 19 57 43.0 -0.5
ORTG IAML 19 57 43.7
comp=Z,20µm,1.0s
ELI1 Hacienda Flor 0.61 268⇑ eP Pg 19 57 35.0 -0.7
DELF Filadelfia 0.64 251 eP Pg 19 57 35.5 -0.9
DELF eS Sg 19 57 44.9 -0.1
HZTE Horizontes, Gu 0.65 274 eP Pg 19 57 35.9 -0.6
HZTE Horizontes, Gu 0.65 274⇑ eP Pg 19 57 35.7 -0.8
HZTE Horizontes, Gu 0.65 274⇑ iP Pg 19 57 35.9 -0.6
HZTE IAML 19 57 58.8
comp=Z,22µm,1.0s
CPMI Catarata Coope 0.66 125⇑ eP Pg 19 57 36.7 -0.1
CPMI Catarata Coope 0.66 125⇑ iP Pb 19 57 36.8 -0.3
CPMI i S Sb 19 57 46.7 +0.5
CPMI IAML 19 57 49.4
comp=Z,41µm,1.0s
ITAL Pital 0.69 108 eP Pg 19 57 36.7 -0.5
ARZA Esparza 0.72 158⇓ eP Pg 19 57 38.4 +0.6
ARZA eS Sb 19 57 48.5 +1.0
ZARE Zarcero 0.72 132 eP Pb 19 57 37.9 -0.1
SRA1 San Ramn 0.73 142 eP Pg 19 57 37.7 -0.4
NYURE Nandayure 0.73 205⇓ eP Pb 19 57 38.0 -0.2
RAMO San Ramon 0.73 141⇑ eP Pn 19 57 38.9 -0.7
SACU Santa Cruz 0.75 238 eP Pb 19 57 37.7 -0.8
JUD3 Juan Diaz 3 0.77 230⇓ eP Pb 19 57 37.8 -1.1
JUD3 eS Sb 19 57 48.9 -0.3
NARAN Naranjo de Ala 0.79 136⇑ eP Pb 19 57 38.9 -0.2
LCRUZ La Cruz 0.80 301 eP Pb 19 57 39.4 +0.2
CMARA Lajas Hojancha 0.80 217⇓ eP Pb 19 57 38.3 -1.0
CMARA eS Sb 19 57 49.5 -0.4
SARCI Sarchi 0.81 134 eP Pb 19 57 39.4 -0.2
POA5 Crater Von Fra 0.83 123⇑ eP Pb 19 57 39.4 -0.6
VPS6 Volcano Poas 0.84 124⇑ eP Pb 19 57 39.5 -0.6
GREC Grecia 0.85 133 eP Pn 19 57 40.8 -0.4
TCS1 Tacares 0.88 135⇑ eP Pb 19 57 40.4 -0.3
TCS1 Tacares 0.88 135⇑ iP Pb 19 57 40.6 -0.1
TCS1 IAML 19 57 57.2
comp=Z,86µm,1.0s
TRB2 Turrubares 0.89 147⇑ eP Pb 19 57 40.6 -0.2
INDI Punta indio, G 0.97 215⇓ eP Pb 19 57 41.2 -0.9
INDI Punta indio, G 0.97 215⇓ iP Pb 19 57 41.4 -0.8
INDI i S Sb 19 57 55.3 +0.6
INDI IAML 19 57 56.5
comp=Z,16µm,1.0s
BELE Belen 1.00 133 eP Pg 19 57 43.1 -0.1
JACO JACO, Garabito 1.03 165 eP Pb 19 57 42.5 -0.8
JACO JACO, Garabito 1.03 165⇓ eP Pb 19 57 42.5 -0.8
JACO JACO, Garabito 1.03 165⇓ iP Pb 19 57 42.7 -0.5
JACO i S Sb 19 57 56.6 0.0
JACO IAML 19 58 00.9
comp=Z,11µm,1.0s
HDC Heredia 1.04 129 Pb 19 57 42.7 -0.8
HDC Heredia 1.04 129⇑ eP Pb 19 57 42.8 -0.7
HDC3 Heredia 3 1.04 129⇓ iP Pb 19 57 43.2 -0.3
HDC3 IAML 19 58 09.2
comp=Z,10µm,1.0s
RIFO Rio Frio, Sara 1.05 109⇑ eP Pb 19 57 42.7 -0.9
DOMI Santo Domingo 1.07 129 eP Pb 19 57 43.9 -0.1
CBL1 Cabuya 1.08 188⇓ eP Pb 19 57 43.4 -0.7
OMEN Al SSO del Vol 1.08 321⇑ iP Pb 19 57 43.6 -0.5
OMEN i S Sn 19 57 59.2 +0.3
OMEN IAML 19 58 03.7
comp=Z,19µm,1.0s
MORN Al O del Volca 1.12 322⇓ iP Pn 19 57 44.1 -0.8
MORN IAML 19 57 46.9
comp=Z,19µm,1.0s
CONN Concepcion 1.12 323⇑ iP Pn 19 57 43.7 -1.2
CONN IAML 19 58 11.1
comp=Z,110µm,1.0s
JAPN Al SSO del Vol 1.12 320⇑ iP Pn 19 57 44.8 -0.1
JAPN IAML 19 57 49.4
comp=Z,14µm,1.0s
CORON Coronado 1.15 127 eP Pb 19 57 45.0 -0.3
CARI Cariari 1.22 104 eP Pn 19 57 45.9 -0.2
OCM Ochomogo 1.23 128⇓ eP Pn 19 57 45.5 -0.9
OCM Ochomogo 1.23 128⇓ iP Pn 19 57 45.6 -0.9
OCM IAML 19 57 47.5
comp=Z,6µm,1.0s
TBLN Tablon, Guarco 1.24 132⇑ iP Pn 19 57 45.9 -0.8
TBLN i S Sg 19 58 03.8 -0.2
TBLN IAML 19 58 14.7
comp=Z,9µm,1.0s
VICA Volcano Irazu 1.27 122⇑ eP Pn 19 57 46.7 -0.6
HAYA Volcan Irazu 1.27 122⇑ iP Pn 19 57 47.0 -0.3
HAYA i S Sg 19 58 07.7 +2.7
HAYA IAML 19 58 12.8
comp=Z,15µm,1.0s
TAGO Cartago 1.27 128 eP Pn 19 57 46.9 -0.1
LCR2 La Lucha 2 1.29 135 Pn Pn 19 57 46.6 -0.7
LCR2 La Lucha 2 1.29 135⇑ eP Pn 19 57 46.7 -0.7
LCR2 La Lucha 2 1.29 135⇑ iP Pn 19 57 46.9 -0.5
LCR2 i S Sn 19 58 04.5 0.0
LCR2 IAML 19 58 10.3
comp=Z,10µm,1.0s
VTRT Volcan Turrial 1.30 120⇑ eP Pn 19 57 47.3 -0.3
ACON Acoyapa 1.32 350 Pn 19 57 46.8 -0.8
ACON Acoyapa 1.32 350⇓ eP Pn 19 57 47.1 -0.4
ACON eS Sb 19 58 05.2 +0.4
ACON Acoyapa 1.32 350⇓ iP Pn 19 57 47.3 -0.2
ACON i S Sb 19 58 05.0 +0.2
ACON IAML 19 58 11.7
comp=Z,26µm,1.0s
VTLA Turrialba Volc 1.32 120⇑ eP Pn 19 57 47.6 -0.2
CVTR Volcan Turrial 1.32 119⇑ eP Pn 19 57 47.7 -0.3
CVTQ Turrialba Volc 1.32 120⇑ eP Pn 19 57 47.7 -0.2
VTR0 Volcan Turrial 1.32 119⇑ eP Pn 19 57 47.7 -0.3
PCAYA Pacayas 1.33 124 eP Pb 19 57 48.7 +0.2
CVTV Tajo 1.34 119⇑ eP Pn 19 57 47.8 -0.3
REPA Paraso 1.34 128 eP Pb 19 57 48.9 +0.3
VTLO VTLO 1.34 117⇑ eP Pn 19 57 47.8 -0.3
VTCV VTCV, Calle Va 1.37 120 eP Pn 19 57 48.3 -0.1
RIMA Rio Macho 1.38 130 Pn 19 57 48.5 -0.1
RIMA Rio Macho 1.38 130⇑ eP Pn 19 57 48.1 -0.4
RIMA Rio Macho 1.38 130⇑ iP Pn 19 57 48.4 -0.1
RIMA i S Sg 19 58 07.7 -0.7
RIMA IAML 19 58 12.9
comp=Z,8µm,1.0s
VERB Verbena 1.41 120 eP Pb 19 57 49.3 -0.6
LLNJ Naranjito 1.44 145 eP Pn 19 57 49.6 +0.4
TURIB Turrialba 1.44 121 eP Pb 19 57 50.4 +0.2
LCOCO El Coco 1.47 113⇑ eP Pb 19 57 50.1 -0.7
LCOCO eS Sg 19 58 10.7 -0.6
IRES Siquirres 1.52 112⇑ eP Pb 19 57 50.8 -0.7
CDM Cerro de Muert 1.60 134⇑ eP Pn 19 57 51.8 +0.1
CDM Cerro de Muert 1.60 134⇑ iP Pn 19 57 52.0 +0.2
CDM i S Sg 19 58 15.1 -0.3
CDM IAML 19 58 18.2
comp=Z,10µm,1.0s
BUS1 Rivas 1.61 133⇑ eP Pn 19 57 52.1 +0.1
ESPN Las Esperanzas 1.65 22 Pn 19 57 52.1 +0.1
ESPN Las Esperanzas 1.65 22⇓ eP Pn 19 57 52.1 +0.1
ESPN Las Esperanzas 1.65 22⇓ iP Pn 19 57 52.1 +0.1
ESPN i S Sb 19 58 14.4 +0.2
ESPN IAML 19 58 16.0
comp=Z,13µm,1.0s
AMYN Masaya 1.74 319 *i* PA 19 57 53.9
AMYN IAML 19 58 55.9
comp=Z,7µm,1.0s
BLUN Bluefields 1.75 40⇓ iP Pb 19 57 54.3 -1.3
BLUN i S Sb 19 58 17.4 0.0
BLUN IAML 19 58 22.4
comp=Z,14µm,1.0s
MSHP Masachapa 1.95 307⇑ iP Pn 19 57 57.0 +0.8
MSHP IAML 19 58 06.4
comp=Z,550nm,1.0s
MSHP i S Sb 19 58 24.3 +1.2
SRBA San Rafael, Bu 2.10 132 Pn 19 57 59.6 +1.2
SRBA San Rafael, Bu 2.10 132⇑ eP Pn 19 57 59.7 +1.2
DRK0 Durika 2.17 130 Pn 19 58 00.4 +1.0
DRK0 Durika 2.17 130⇑ eP Pn 19 58 00.8 +1.3
EDBA Buenos Aires 2.21 132 eP Pb 19 58 01.7 -1.7
MATN Matagalpa 2.45 337 Pn 19 58 03.3 0.0
MATN Matagalpa 2.45 337⇑ eP Pn 19 58 03.2 0.0
CNGN Cerro Negro 2.51 317 Pn 19 58 03.7 -0.3
CNGN Cerro Negro 2.51 317 eP Pn 19 58 04.6 +0.6
RGM0 Ganoca 2.53 115 Pn 19 58 04.2 0.0
MLIR3 Monte Lirio, C 2.79 132 eP Pb 19 58 13.9 +0.6
MLIR3 eS Sg 19 58 50.8 -2.7
BRU2 Volcan 2.89 130 Pn Pn 19 58 10.5 +1.2
BRU2 Volcan 2.89 130 eP Pn 19 58 11.7 +2.4
BRU2 eS Sb 19 58 50.0 -0.3
BRU2 Volcan 2.89 130 eP Pn 19 58 10.8 +1.5
CRIN San Cristobal 2.90 315 Pn 19 58 10.2 +0.9
CRIN San Cristobal 2.90 315 eP Pn 19 58 10.8 +1.4
CDITO Canoas 2.91 135 Pn 19 58 10.0 +0.6
CDITO Canoas 2.91 135 eP Pn 19 58 11.8 +2.4
BC3P Paso Ancho 2.94 128 eP Pn 19 58 10.8 +0.8
BCO2 Palmira 3.06 129 eP Pn 19 58 14.0 +2.3
PTPM Petroterminale 3.18 140 eP Pb 19 58 18.2 -1.7
PTPM eS Sb 19 59 01.8 +3.4
LIMO3 Limones 3.26 141 eP Pb 19 58 18.2 -3.1
LIMO3 eS Sb 19 59 02.5 +1.6
DVD David 3.30 132 eP Pb 19 58 18.5 -3.5
GUAL3 Gualaca, Chiri 3.35 129 eP Pb 19 58 20.0 -2.9
GUAL3 eS Sg 19 59 07.3 -4.3
TGUH Tegucigalpa,Un 4.07 326 Pn 19 58 26.1 +0.5
BCIP Isla Barro Col 5.24 106 Pn Pn 19 58 41.4 0.0
BCIP Isla Barro Col 5.24 106 eP Pn 19 58 42.1 +0.7
BCIP eS Sn 19 59 40.2 -1.4
MTO3 Montecristo 5.70 311 Pn 19 58 48.7 +0.7
CCIG Comitan 8.96 309 Pn Pn 19 59 32.9 +0.2
SJCC San Jacinto, C 9.63 94 Pn Pn 19 59 41.5 -0.3
TEIG Tepich 10.04 342 Pn Pn 19 59 54.2 +6.9
comp=Z,0.4nm,0.3s,baz=140,slow=24,SNR=1.8
ROSC El Rosal 12.00 118 Pn **Pn 20 00 16.7 +2.0**
comp=Z,1.3nm,0.3s,baz=15,slow=21,SNR=1.4
ROSC LR LR 20 05 05.4
comp=Z,3µm,20.0s,baz=74,slow=39
SLOR San Lorenzo - 13.01 150 Pn **P 20 00 34.6 -4.3**
CHSH Refugio Sur-Vo 13.50 153 Pn **Pn 20 00 38.6 +3.3**
SDV Santo Domingo 14.21 96 Pn 20 00 46.1 +1.4
SDV Santo Domingo 14.21 96 Pn Pn **20 00 46.3 +1.7**
comp=Z,0.6nm,0.3s,baz=305,slow=11,SNR=6.6
SDV Sn **Sn 20 03 17.8 -4.3**
comp=Z,0.5nm,0.3s,baz=243,slow=23,SNR=1.5
COHC Cochancay 14.22 156 Pn 20 00 44.0 -0.6
TLIG Tlapa 14.89 299 Pn Pn **20 00 53.9 +0.1**
BOSC San Juan Bosco 15.15 155 P P 20 01 02.5 0.0
MCRA Macar, Loja 15.74 161 P P 20 01 07.9 -1.0
BAUV El Baul 16.74 94 P P 20 01 19.7 -0.2
BAUV IAmb IAmb 20 01 24.4
comp=Z,37nm,0.8s
ATAH Atahualpa 18.84 160 P **Pn 20 01 46.8 +2.7**
comp=Z,6.8nm,0.8s,baz=74,slow=6.2,SNR=4.0
PCRV Puerto La Cruz 19.97 90 P **Pn 20 01 58.2 +0.9**
comp=Z,14nm,0.9s,baz=244,slow=6.1,SNR=3.0
Z47A Carrollton 22.61 353 IAmb IAmb 20 02 40.0
comp=Z,28nm,1.0s
DRIO Del Rio 23.73 324 IAmb IAmb 20 03 02.5
comp=Z,18nm,0.8s
OXF Oxford 24.09 351 P P 20 02 36.7 -1.9
UALR University of 24.94 345 IAmb IAmb 20 02 53.3
comp=Z,17nm,1.0s
WHAR Wooly Hollow 25.41 346 P P 20 02 48.3 -2.4
TXAR Lajitas Array 25.52 319 P P 20 02 54.2 +2.4
comp=Z,6.3nm,0.8s,baz=142,slow=11,SNR=18
TXAR PcP **PcP 20 06 24.0 +0.6**
comp=Z,0.8nm,0.9s,baz=145,slow=2.2,SNR=2.8
comp=Z,6.3nm,0.8s
BOAV Boa Vista 25.59 107 P P 20 02 52.2 -0.2
T47A Sharon Grove 26.28 356 IAmb IAmb 20 03 06.2
comp=Z,18nm,0.9s
MGMO Mountain Grove 27.19 347 IAmb IAmb 20 03 14.4
comp=Z,38nm,1.6s
WCI Wyandotte Cave 27.48 358 P P 20 03 08.8 -0.5
WCI IAmb IAmb 20 03 13.0
comp=Z,16nm,0.8s
ETMB Extrema 27.58 137 P P 20 03 11.3 +0.9
CCM Cathedral Cave 27.86 349 P P 20 03 12.7 0.0
CCM IAmb IAmb 20 03 18.8
comp=Z,20nm,1.4s
Q51A Peebles 28.28 3 P P 20 03 15.9 -0.6
Q51A IAmb IAmb 20 03 21.5
comp=Z,23nm,0.8s
Q52A Bidwell 28.28 4 P P 20 03 17.2 +0.7
Q52A IAmb IAmb 20 03 25.8
comp=Z,27nm,1.0s
P48A Milroy 28.68 359 P P 20 03 21.6 +1.6
P51A Williamsport 28.75 3 P P 20 03 22.5 +1.9
P53A Whipple 28.88 6 P P 20 03 21.3 -0.4
P53A IAmb IAmb 20 03 26.8
comp=Z,24nm,1.0s
P52A Corning 28.96 4 P P 20 03 24.0 +1.5
P52A IAmb IAmb 20 03 27.3
comp=Z,21nm,0.9s
SAML Samuel 29.12 131 P P 20 03 22.6 -1.6
O52A Adamsville 29.46 5 P P 20 03 27.0 0.0
O52A IAmb IAmb 20 03 45.0
comp=Z,27nm,1.1s
O48B Farmland 29.47 360 P P 20 03 27.1 0.0
O48B IAmb IAmb 20 03 34.3
comp=Z,37nm,1.4s
ACSO Alum Creek Sta 29.50 3 P P 20 03 28.0 +0.7
ACSO IAmb IAmb 20 03 31.5
comp=Z,18nm,0.9s
O53A New Philadelph 29.65 6 P P 20 03 28.9 +0.3
O53A IAmb IAmb 20 03 33.2
comp=Z,21nm,1.0s
SFIN Lafayette 29.66 357 P P 20 03 28.9 +0.3
SFIN IAmb IAmb 20 03 37.2
comp=Z,18nm,1.0s
P38A Dawn 29.84 347 P P 20 03 30.7 +0.4
N49A Columbus Grove 30.14 1 P P 20 03 32.3 -0.7
M53A Wt Miller and 30.88 6 IAmb IAmb 20 03 50.2
comp=Z,19nm,0.9s
HQIL Hanson Quary C 31.12 356 P P 20 03 40.1 -1.5
ANMO Albuquerque 31.13 324 P 20 03 39.5 -2.5
L40A Anamosa 31.76 351 P P 20 03 47.0 -0.2
JFWS Jewell Farm 32.46 353 P P 20 03 51.5 -1.9
JFWS IAmb IAmb 20 04 07.7
comp=Z,14nm,0.9s
PB16 IPOC Station P 32.59 152 P P 20 03 57.7 +2.3
PB16 IAmb IAmb 20 04 02.2
comp=Z,5.9nm,0.8s
PDAR Pinedale Array 38.52 330 P P 20 04 47.5 +1.7
comp=Z,0.5nm,0.7s,baz=128,slow=9.6,SNR=5.0
PDAR PcP **PcP 20 07 00.9 +2.4**
comp=Z,0.2nm,0.5s,baz=159,slow=2.8,SNR=2.1
comp=Z,0.5nm,0.7s
ULM Lac du Bonnet 40.49 349 P P 20 05 02.2 +0.5
comp=Z,2.9nm,0.9s,baz=169,slow=9.1,SNR=3.7
comp=Z,2.9nm,0.9s
NVAR Mina Array Bea 40.66 318 P P 20 05 05.0 +1.3
comp=Z,0.9nm,0.6s,baz=128,slow=6.7,SNR=9.2
NVAR PcP **PcP 20 07 08.1 +2.7**
comp=Z,0.2nm,0.3s,baz=141,slow=3.3,SNR=2.1
comp=Z,0.9nm,0.6s
KVN Kaiserville 40.88 319 P P 20 05 05.5 0.0
BDFB Brasilia 44.94 125 P P 20 05 39.7 +1.2
comp=Z,2.9nm,0.7s,baz=292,slow=15,SNR=3.7
comp=Z,2.9nm,0.7s
CPUP Villa Florida 45.52 144 P P 20 05 43.5 +0.6
comp=Z,1.9nm,0.7s,baz=341,slow=11,SNR=4.0
comp=Z,1.9nm,0.7s
SCHQ Schefferville 46.33 14 P P 20 05 49.6 +0.8
comp=Z,4.5nm,0.6s,baz=211,slow=5.3,SNR=8.8
comp=Z,4.5nm,0.6s
PLTB Pedras Altas 51.77 146 P P 20 06 29.8 -1.0
PLTB IAmb IAmb 20 06 34.3
comp=Z,10nm,0.8s
PLCA Paso Flores 52.84 166 P P 20 06 39.9 +1.2
comp=Z,4.9nm,0.7s,baz=333,slow=8.6,SNR=15
comp=Z,4.9nm,0.7s
YKA Yellowknife Ar 55.99 344 P P 20 07 00.9 -0.3
comp=Z,0.5nm,0.8s,baz=138,slow=7.1,SNR=8.8
comp=Z,0.5nm,0.8s
SUMG Summit 67.72 14 P P 20 08 20.0 -0.5
ILAR Eielson Array 68.64 336 P P 20 08 26.9 +0.9
comp=Z,0.3nm,0.6s,baz=136,slow=4.4,SNR=5.3
comp=Z,0.3nm,0.6s
ESDC Sonseca Array 76.35 52 P P 20 09 13.1 +0.6
comp=Z,1.6nm,0.8s,baz=289,slow=6.0,SNR=8.8
comp=Z,1.6nm,0.8s
EKA Eskdalemuir Ar 76.63 36 P P 20 09 12.9 -0.8
comp=Z,0.4nm,0.5s,baz=271,slow=5.4,SNR=3.8
comp=Z,0.4nm,0.5s
SPITS Spitsbergen Ar 81.94 12 P P 20 09 42.0 -0.3
comp=Z,20nm,1.1s,baz=6.0,slow=8.7,SNR=3.5
NOA NORSAR Array B 83.72 29 P P 20 09 52.5 +0.6
comp=Z,1.1nm,0.9s,baz=283,slow=5.0,SNR=3.6
comp=Z,1.1nm,0.9s
TORD Torodi Ar. Bea 84.39 78 P P 20 09 55.5 -0.7
comp=Z,0.6nm,1.0s,baz=268,slow=3.8,SNR=2.3
comp=Z,0.6nm,1.0s
CLL Collm 86.68 39 eP P 20 10 06.0 -0.8
CLL e(PP) 20 13 24.0
WMQ Urumqi 125.36 7 eP PKiKP 20 16 24.6 -0.1
HHC Hu-ho-hao-te 126.53 344 eP PKPdf 20 16 21.5 -5.2
ASAR Alice Springs 140.84 246 PKhKP PKPpre 20 16 48.6
comp=Z,0.2nm,0.5s,baz=124,slow=3.1,SNR=2.7
ASAR PKP **PKPdf 20 16 55.0 +1.1**
comp=Z,0.7nm,0.7s,baz=103,slow=2.0,SNR=6.6
WRA Warramunga Arr 141.09 251 PKhKP PKPpre 20 16 51.1
comp=Z,0.6nm,0.7s,baz=101,slow=3.3,SNR=3.2
PZH PanZhiHua 142.49 350 PKP PKPdf 20 16 55.5 -1.4

IDC 11 20:01:51.4±1.5, 18°.15N×95°.74E, h0km, mb3.8/4, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=24.3km s-min=15.6km az=30.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**3.06**	**84**	Pn	Pn	20 02 42.0	+0.9
	7.2nm,0.3s,baz=265,slow=15,SNR=24						
CMAR				Pg	Pb	20 02 46.5	-0.3
	11nm,0.3s,baz=266,slow=18,SNR=60						
CMAR				Sn	Sn	20 03 20.8	+2.4
	5.6nm,0.3s,baz=287,slow=16,SNR=4.9						
CMAR				Lg	Lg	20 03 28.5	
	8.3nm,0.3s,baz=266,slow=29,SNR=8.2						
	3.7nm,0.4s						
MKAR	**Makanchi Array**	**30.64**	**342**	P	P	20 08 08.4	+1.0
	0.5nm,0.5s,baz=140,slow=11,SNR=9.1						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**35.19**	**341**	P	P	20 08 46.8	-0.3
	0.8nm,0.5s,baz=149,slow=8.5,SNR=8.1						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**36.71**	**349**	P	P	20 08 59.0	-1.1
	0.8nm,0.3s,baz=159,slow=12,SNR=1.5						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**53.55**	**133**	P	P	20 11 14.0	-0.4
	0.6nm,0.9s,baz=321,slow=7.5,SNR=1.6						
	0.6nm,0.9s						

IDC 11 20:04:34.0±1.9, 3°.19N×97°.98E, h0km, mb3.7/8, mbtmp3.7/8, MS4.3/2, Error ellipse: s-maj=91.8km s-min=21.2km az=55.0
DJA 11 20:04:52.1±0.5, 3°.1N±3°×9°.8E±°, h110km±7km, M4.2/10, mb4.7/1, MLv4.0/10
ISC 11 20:04:48.3±0.8, 3°.43N±0°.07×98°.62E±0°.10, h100km, n19, σ2s42/17, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCSI	**Kotacane, Aceh**	**0.85**	**276**	P	**Pn**	**20 05 11.0**	**+3.9**
KCSI				S	**Sn**	**20 05 25.3**	**+3.9**
TRSI	**Tarutung**	**1.43**	**166**	P	**Pn**	**20 05 17.6**	**+3.7**
GSI	**Gunungsitoli**	**2.35**	**206**	P	**Pn**	**20 05 26.2**	**+0.7**
MLSI	**Meulaboh, Aceh**	**2.36**	**291**	P	**Pn**	**20 05 26.8**	**+1.2**
LHMI	**Lhok Sumawe**	**2.45**	**317**	P	**Pn**	**20 05 30.2**	**+3.5**
SNSI	**Sinabang, Aceh**	**2.50**	**246**	P	**Pn**	**20 05 27.2**	**-0.2**
KULM	**Kulim**	**2.74**	**48**	P	Pn	20 05 39.7	+9.1
PBSI	**Pulau Batu**	**3.48**	**186**	P	**Pn**	**20 05 41.6**	**+1.2**
SKLT	**Songkhla**	**4.22**	**28**	P	Pn	20 05 59.0	+8.6
PPSI	**Pulau Pagai**	**6.30**	**167**	P	**Pn**	**20 06 20.7**	**+2.0**
WRA	**Warramunga Arr**	**42.07**	**125**	P	**P**	**20 12 31.4**	**+0.9**
	0.3nm,0.7s,baz=306,slow=9.1,SNR=4.8						
WRA				LR	LR	20 31 04.6	
	comp=Z,532nm,21.0s,baz=168,slow=38						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**43.66**	**130**	P	**P**	**20 12 43.2**	**-0.3**
	0.3nm,0.6s,baz=300,slow=9.6,SNR=2.0						
	0.3nm,0.6s						
SONM	**Songino Array**	**44.74**	**7**	P	**P**	**20 12 51.3**	**-0.5**
	0.4nm,0.6s,baz=187,slow=9.1,SNR=6.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.47**	**344**	P	**P**	**20 12 56.0**	**-1.3**
	0.6nm,0.7s,baz=154,slow=9.1,SNR=7.8						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**49.99**	**343**	P	**P**	**20 13 31.1**	**-1.1**
	0.6nm,0.3s,baz=155,slow=6.8,SNR=1.2						
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**51.62**	**350**	P	**P**	**20 13 42.2**	**-2.2**
	1.0nm,0.3s,baz=183,slow=6.5,SNR=1.9						
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**54.65**	**339**	P	**P**	**20 14 04.7**	**-2.0**
	1.0nm,0.5s,baz=136,slow=9.8,SNR=14						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**78.70**	**332**	P	**P**	**20 16 37.0**	**-2.3**
	0.6nm,0.4s,baz=101,slow=7.2,SNR=9.3						
	0.6nm,0.4s						
HFS	**Hagfors**	**84.51**	**330**	LR	LR	20 57 21.7	
	comp=Z,150nm,20.9s,baz=261,slow=38						

IDC 11 20:08:28.9±9.0, 18°.72N×96°.33E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=765.4km s-min=25.2km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**30.29**	**341**	P	P	20 14 41.5	-0.2
	0.3nm,0.6s,baz=142,slow=8.1,SNR=2.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**34.85**	**340**	P	P	20 15 21.7	+0.2
	0.3nm,0.3s,baz=132,slow=7.0,SNR=1.2						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**53.53**	**134**	P	P	20 17 51.6	-0.1
	0.7nm,0.9s,baz=317,slow=6.8,SNR=2.6						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**55.84**	**137**	P	P	20 18 08.3	-0.1
	0.3nm,0.6s,baz=310,slow=7.4,SNR=4.5						
	0.3nm,0.6s						

NDI 11 20:08:32.6±3.2, 18°.22N×96°.51E, h10km, mb4.8, mb4.6(NEIC)
IDC 11 20:08:38.7±0.6, 18°.37N×96°.12E, h0km, mb4.2/27, mbtmp4.2/28, ML4.1/1, MS2.6/1, Error ellipse: s-maj=17.2km s-min=10.8km az=23.0
NEIC 11 20:08:41.1±1.4, 18°.54N±0°.06×96°.11E±0°.05, h10km±1km, mb4.6/26, Error ellipse: s-maj=11.6km s-min=6.5km az=156.0
MOS 11 20:08:41.7±1.2, 18°.49N×96°.14E, h29km, mb4.7/24, Error ellipse: s-maj=11.6km s-min=7.2km az=114.1
DJA 11 20:08:47.8±0.5, 20°.N±6°×9°.7E±°, h10km, M4.9/7, mB6.6/2, mb4.9/5, MLv4.9/7, Mw(mB)6.4/2
ISC 11 20:08:40.7±0.4, 18°.41N±0°.05×96°.04E±0°.05, h10km, n128, σ2s16/138, mb4.5/67, 11C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.76**	**89**	Pn	**Pn**	**20 09 21.6**	**-3.4**
	8.0nm,0.3s,baz=263,slow=19,SNR=23						
CMAR				Pg	**Pb**	**20 09 27.1**	**-3.0**
	7.8nm,0.3s,baz=264,slow=19,SNR=14						
CMAR				LR	LR	20 09 59.5	
	comp=Z,104nm,20.4s,baz=245,slow=30						

CMAR					Lg		Lg	20 10 05.2		
	52nm,0.3s,baz=261,slow=17,SNR=7.0									
	14nm,0.6s									
CHTO	**Chiang Mai**	**2.78**	**81**		Pn		**Pn**	**20 09 23.4**	**-2.0**	
CHTO	**Chiang Mai**	**2.78**	**81**		P		**Pn**	**20 09 23.4**	**-2.0**	
CHTO	**Chiang Mai**	**2.78**	**81**		P		**Pn**	**20 09 21.3**	**-4.1**	
CMMT	**Chiang Mai**	**2.79**	**81**		P		**Pn**	**20 09 21.6**	**-3.9**	
MND	**Mandalay**	**3.59**	**1**				**Pn**	**20 09 34.5**	**-1.9**	
PHRA	**Phrae**	**3.98**	**88**		Pn		**Pn**	**20 09 41.6**	**-0.2**	
CRAI	**Chiangrai**	**4.47**	**65**		Pn		**Pn**	**20 09 48.4**	**-0.3**	
SAIH	**SAIHA**	**4.97**	**325**	*eP*			Pn	20 09 49.4	-6.1	
SAIH				*i*	x		x	20 09 59.1		
SAIH				*eS*			**Sn**	**20 10 53.1**	**0.0**	
SRDT	**SRDT**	**5.00**	**143**		P		**Pb**	**20 10 10.3**	**+1.8**	
	109nm,0.8s,2.4nm									
DGPR	**DIGLIPUR**	**6.00**	**210**	*eP*			Pn	20 10 03.0	-6.6	
IMP	**Imphal**	**6.68**	**343**	*eP*			**Pn**	**20 10 15.2**	**-3.8**	
IMP				*i*	x		x	20 10 23.8		
TNCH	**TengChong**	**6.98**	**19**		Pg		**Pg**	**20 10 52.9**	**-1.5**	
TNCH					Sg		**Sg**	**20 12 25.0**	**+0.1**	
TNCH					smax		smax			
	comp=N,420nm,1.3s									
TNCH					smax		smax			
	comp=E,410nm,1.2s									
TNCH					LR		LR			
	comp=N,1μm,3.9s									
TNCH					LR		LR			
	comp=E,1μm,4.3s									
TNCH					LR		LR			
	comp=Z,510nm,6.2s									
PBA	**Port Blair**	**7.43**	**206**		Pn		**Pn**	**20 10 31.3**	**+2.0**	
KOHI	**KOHIMA**	**7.49**	**347**	*eP*			**Pn**	**20 10 26.3**	**-4.0**	
KOHI				*i*	x		x	20 10 35.0		
KOHI				*ex*			x	20 12 01.2		
SHL	**Shillong**	**8.10**	**332**		Pn		**Pn**	**20 10 37.4**	**-1.2**	
SHL	**Shillong**	**8.10**	**332**		P		**Pn**	**20 10 37.4**	**-1.2**	
SHL	**Shillong**	**8.10**	**332**	*eP*			**Pn**	**20 10 34.0**	**-4.6**	
SHL				*i*	x		x	20 10 39.2		
SHL				*eS*			**Sn**	**20 12 04.3**	**-6.1**	
ITAN	**ITANAGAR**	**8.95**	**347**	*eP*			**Pn**	**20 10 46.8**	**-3.4**	
KMI	**Kunming**	**9.13**	**42**	⇑	P		**Pn**	**20 10 55.0**	**+2.2**	
KMI					PP		**PnPn**	**20 11 01.5**	**+0.9**	
KMI					smax		smax			
	comp=N,41nm,2.0s									
KMI					smax		smax			
	comp=E,61nm,1.3s									
KMI					LR		LR			
	comp=N,720nm,11.0s									
KMI					LR		LR			
	comp=E,580nm,7.8s									
KMI					LR		LR			
	comp=Z,280nm,7.6s									
ZIRO	**ZIRO**	**9.30**	**348**	*eP*			Pn	20 10 49.5	-5.5	
PZH	**PanZhiHua**	**9.63**	**32**		P		Pn	20 11 07.4	+7.9	
PZH					S		**Sn**	**20 12 47.5**	**-0.3**	
PZH					pmax		pmax			
	comp=Z,20nm,1.4s									
PZH					pmax		pmax			
	comp=Z,260nm,8.0s									
PZH					LR		LR			
	comp=N,480nm,6.3s									
PZH					LR		LR			
	comp=E,430nm,7.1s									
PZH					LR		LR			
	comp=Z,500nm,7.1s									
LSA	**Lhasa**	**12.09**	**339**				**Pn**	**20 11 30.2**	**-3.4**	
LSA	**Lhasa**	**12.09**	**339**		P		**Pn**	**20 11 30.2**	**-3.4**	
ENSH	**Enshi**	**17.00**	**43**		Pn		**Pn**	**20 12 33.1**	**-5.6**	
GOMU	**GeErMu**	**17.75**	**357**		P		**P**	**20 12 50.3**	**+1.0**	
GOMU					pP		sP	20 12 54.1	+0.6	
GOMU					sP		pP	20 12 55.4	+3.2	
LZH	**Lanzhou**	**18.91**	**20**	*eP*			**Pn**	**20 13 06.0**	**+3.6**	
LZH					pP		sP	20 13 10.7	+4.6	
LZH					pmax		pmax			
	comp=Z,7.0nm,1.4s									
GTA	**Gaotai**	**21.18**	**8**	*eP*			**P**	**20 13 28.3**	**+1.8**	
GTA					pmax		pmax			
	comp=Z,7.0nm,1.1s									
SMLA	**Simla**	**21.27**	**310**	*i*	x		Pn	20 13 28.6		
SMLA					IAmb		IAmb	20 13 30.4		
	comp=Z,131nm,1.7s									
DHRM	**DHARAMSHALA**	**22.49**	**312**	*ex*			Pn	20 13 34.5		
DHRM					IAmb		IAmb	20 13 44.3		
	comp=Z,25nm,1.3s									
NJ2	**Nanjing**	**24.64**	**52**	*eP*			**P**	**20 14 00.6**	**-1.0**	
NJ2					pmax		pmax			
	comp=Z,9.0nm,0.5s									
NJ2					pmax		pmax			
	comp=Z,280nm,4.2s									
HNS	**HongShan**	**25.02**	**37**	⇑	P		**P**	**20 14 08.1**	**+3.2**	
HNS					pmax		pmax			
	comp=Z,16nm,1.3s									
BTO	**Baotou**	**25.18**	**26**	*eP*			**P**	**20 14 08.1**	**+1.6**	
BTO					pP		**sP**	**20 14 12.1**	**+1.2**	
BTO					sP		**pP**	**20 14 15.3**	**+5.7**	
BTO					PP		**PnPn**	**20 14 46.4**	**+5.9**	
BTO					S		**S**	**20 18 35.9**	**+4.2**	
BTO					sS		**sS**	**20 18 39.4**	**+2.5**	
BTO					SS		**SnSn**	**20 19 32.8**	**+11**	
BTO					pmax		pmax			
	comp=Z,42nm,1.0s									
BTO					pmax		pmax			
	comp=Z,520nm,12.0s									
NIL	**Nilore**	**25.41**	**311**		P		**P**	**20 14 06.2**	**-2.3**	
NIL					IAmb		IAmb	20 14 15.1		
	comp=Z,15nm,0.8s									
NIL	**Nilore**	**25.41**	**311**		P		**P**	**20 14 06.2**	**-2.3**	
NIL					pmax		pmax			
	comp=Z,15nm,0.9s									
TIA	**Tai'an**	**25.70**	**42**	*eP*			**P**	**20 14 16.5**	**+5.4**	
TIA					pmax		pmax			
	comp=Z,5.0nm,1.3s									
HHC	**Hu-ho-hao-te**	**26.04**	**28**	*eP*			**P**	**20 14 15.8**	**+1.5**	
HHC					pmax		pmax			
	comp=Z,21nm,0.5s									
HHC					pmax		pmax			
	comp=Z,160nm,4.1s									
WMQ	**Urumqi**	**26.29**	**346**	*eP*			**P**	**20 14 19.9**	**+3.4**	
WMQ					pmax		pmax			
	comp=Z,12nm,1.3s									
KSH	**Kashi**	**27.28**	**325**		P		**P**	**20 14 26.1**	**+0.6**	
KSH					pP		pP	20 14 28.4	-0.3	
KSH					sP		sP	20 14 35.6	+5.6	
KSH					pmax		pmax			
	comp=Z,5.0nm,0.8s									
AAK	**Ala-Archa**	**30.29**	**327**	*ceP*			**P**	**20 14 53.9**	**+1.6**	
AAK					pmax		pmax			
	comp=Z,4.0nm,1.1s									
MK31	**Makanchi Array**	**30.49**	**341**	*ceP*			**P**	**20 14 54.3**	**+0.4**	
MKAR	**Makanchi Array**	**30.49**	**341**		P		**P**	**20 14 54.7**	**+0.8**	
	comp=Z,2.6nm,0.6s,baz=150,slow=9.2,SNR=34									
	comp=Z,2.6nm,0.6s									
SONM	**Songino Array**	**30.55**	**14**		P		**P**	**20 14 55.0**	**+0.5**	
	comp=Z,1.8nm,1.1s,baz=214,slow=8.6,SNR=7.1									
	comp=Z,1.8nm,1.1s									
BTK	**Batken**	**30.63**	**320**		P		**P**	**20 14 54.3**	**-1.0**	
BTK	**Batken**	**30.63**	**320**		P		**P**	**20 14 54.3**	**-1.0**	
BTK					pmax		pmax			
	comp=Z,4.0nm,1.0s									
ULN	**Ulaanbaatar**	**30.73**	**15**	*i*	P		**P**	**20 14 53.4**	**-2.7**	
ULN					pmax		pmax			
	comp=Z,8.0nm,2.4s									
SIMJ	**Simiganj**	**30.97**	**316**		P		**P**	**20 14 57.5**	**-0.8**	
SIMJ					IAmb		IAmb	20 14 59.9		
	comp=Z,7.7nm,1.1s									
DGZ	**Jazzator, Alta**	**31.98**	**349**	*i*	P		**P**	**20 15 07.4**	**+0.3**	
DGZ					pmax		pmax			
	comp=Z,6.0nm,0.9s									
KSRS	**Korea Array**	**33.73**	**49**		P		**P**	**20 15 20.4**	**-2.0**	
	comp=Z,0.7nm,0.6s,baz=272,slow=27,SNR=1.4									
	comp=Z,0.7nm,0.6s									
KURBB	**Kurchatov Arra**	**35.04**	**341**		P		**P**	**20 15 33.6**	**0.0**	
	comp=Z,4.0nm,0.6s,baz=151,slow=8.4,SNR=23									
KURBB					PcP		**PcP**	**20 18 05.7**	**+0.3**	
	comp=Z,1.1nm,0.9s,baz=156,slow=2.5,SNR=6.7									
	comp=Z,4.0nm,0.6s									
KURK	**Kurchatov**	**35.09**	**341**		P		**P**	**20 15 33.8**	**-0.3**	
KURK					IAmb		IAmb	20 15 34.9		
	comp=Z,4.6nm,0.7s									
KURK	**Kurchatov**	**35.09**	**341**		P		**P**	**20 15 33.8**	**-0.3**	
KURK					pmax		pmax			
	comp=Z,5.0nm,0.7s									
HIA	**Hailar**	**36.23**	**26**		P		**P**	**20 15 43.3**	**-0.6**	
HIA					IAmb		IAmb	20 15 49.7		
	comp=Z,7.3nm,0.9s									
HIA	**Hailar**	**36.23**	**26**		P		**P**	**20 15 43.3**	**-0.6**	
HIA					pmax		pmax			
	comp=Z,7.0nm,0.9s									
ZALV	**Zalesovo Beam**	**36.52**	**349**	*i*	P		**P**	**20 15 47.0**	**+0.8**	
ZALV					pmax		pmax			
	comp=Z,10.0nm,0.8s									
ZALV	**Zalesovo Beam**	**36.52**	**349**		P		**P**	**20 15 47.0**	**+0.8**	
	comp=Z,8.8nm,0.8s,baz=170,slow=9.0,SNR=21									
	comp=Z,8.8nm,0.8s									
GEYT	**Alibeck**	**38.34**	**308**		P		**P**	**20 16 03.7**	**+1.8**	
	comp=Z,7.7nm,0.9s,baz=153,slow=10.0,SNR=11									
	comp=Z,7.7nm,0.9s									
BVAR	**Borovoye Array**	**39.90**	**336**		P		**P**	**20 16 13.8**	**-0.9**	
	comp=Z,1.2nm,0.6s,baz=134,slow=11,SNR=9.0									
BVAR					PcP		**PcP**	**20 18 20.0**	**-0.3**	
	comp=Z,1.2nm,0.7s,baz=151,slow=3.3,SNR=5.8									
	comp=Z,1.2nm,0.6s									
BRVK	**Borovoye**	**39.97**	**336**		P		**P**	**20 16 13.7**	**-1.6**	
BRVK	**Borovoye**	**39.97**	**336**	*ceP*			**P**	**20 16 15.5**	**+0.2**	
BRVK					pmax		pmax			
	comp=Z,1.0nm,0.6s									
KLR	**Kul'dur**	**42.06**	**35**	*i*	P		**P**	**20 16 31.5**	**-1.1**	
KLR					pmax		pmax			
	comp=Z,13nm,2.3s									
ABKAR	**Akbulak array**	**42.29**	**325**		P		**P**	**20 16 34.8**	**+0.3**	
ZEA	**Zeya**	**42.70**	**27**	*eP*			**P**	**20 16 39.7**	**+2.0**	
SVE	**Sverdlovsk**	**46.56**	**334**	*eP*			**P**	**20 17 09.4**	**+0.9**	
SVE					pmax		pmax			
	comp=Z,13nm,0.9s									
ARU	**Arti**	**47.19**	**333**		P		**P**	**20 17 12.8**	**-0.6**	
ARU					IAmb		IAmb	20 17 14.3		
	comp=Z,4.3nm,0.9s									
ARU	**Arti**	**47.19**	**333**	*c*	*i*P		**P**	**20 17 13.7**	**+0.3**	
ARU								20 19 02.9		
ARU					S		**S**	**20 24 08.6**	**+2.6**	
ARU					pmax		pmax			
	comp=Z,5.0nm,0.9s									
YAK	**Yakutsk**	**49.50**	**20**		P		**P**	**20 17 29.9**	**-1.3**	
YAK					IAmb		IAmb	20 17 34.7		
	comp=Z,6.8nm,0.8s									
YAK	**Yakutsk**	**49.50**	**20**	*eP*			**P**	**20 17 31.8**	**+0.7**	
YAK					pmax		pmax			
	comp=Z,6.0nm,0.8s									
ZEI	**Tsey**	**50.10**	**311**	*eP*			**P**	**20 17 37.3**	**+1.0**	
ZEI					pmax		pmax			
	comp=Z,15nm,1.5s									
AKH	**Akhalkalaki**	**50.12**	**309**		P		**P**	**20 17 37.3**	**+0.8**	
AKH	**Akhalkalaki**	**50.12**	**309**		P		**P**	**20 17 37.3**	**+0.8**	
AKH					pmax		pmax			
	comp=Z,25nm,0.8s									
ONI	**Oni**	**50.38**	**310**		P		**P**	**20 17 38.2**	**0.0**	
ONI					IAmb		IAmb	20 17 49.6		
	comp=Z,4.3nm,0.8s									
ONI	**Oni**	**50.38**	**310**		P		**P**	**20 17 38.3**	**0.0**	
ONI					pmax		pmax			
	comp=Z,4.0nm,0.8s									
GURO	**Guroymak-BITLI**	**50.78**	**305**		P		**P**	**20 17 41.6**	**+0.2**	
GURO					IAmb		IAmb	20 17 44.4		
	comp=Z,9.1nm,0.9s									
KBZ	**Khabaz**	**51.02**	**312**	*i*	P		**P**	**20 17 45.0**	**+2.1**	
KBZ					pmax		pmax			
	comp=Z,4.0nm,0.9s									
KBZ	**Khabaz**	**51.02**	**312**		P		**P**	**20 17 43.6**	**+0.7**	
	comp=Z,3.6nm,1.0s,baz=181,slow=5.4,SNR=4.9									
	comp=Z,3.6nm,1.0s									
NRIK	**Noril'sk**	**51.19**	**356**	*ceP*			**P**	**20 17 44.1**	**+0.3**	
NRIK					pmax		pmax			
	comp=Z,5.0nm,1.0s									
NRIK	**Noril'sk**	**51.19**	**356**		P		**P**	**20 17 43.5**	**-0.3**	
	comp=Z,2.3nm,0.6s,baz=171,slow=7.5,SNR=4.1									
	comp=Z,2.3nm,0.6s									
KIV	**Kislovodsk**	**51.22**	**312**		P		**P**	**20 17 44.9**	**+0.3**	
KIV					IAmb		IAmb	20 17 46.8		
	comp=Z,13nm,0.9s									
KIV	**Kislovodsk**	**51.22**	**312**	*eP*			**P**	**20 17 45.9**	**+1.3**	
KIV					pmax		pmax			
	comp=Z,13nm,1.1s									
KIV					MLR		MLR			
	comp=Z,85nm,17.0s									
KIRV	**Kirov**	**52.49**	**331**	*ceP*			**P**	**20 17 54.4**	**+0.7**	
WRA	**Warramunga Arr**	**53.52**	**134**		P		**P**	**20 18 01.5**	**-0.4**	
	comp=Z,5.5nm,0.8s,baz=320,slow=7.3,SNR=17									
WRA					PcP		**PcP**	**20 19 07.3**	**-1.4**	
	comp=Z,0.3nm,0.7s,baz=303,slow=4.7,SNR=6.6									
	comp=Z,5.5nm,0.8s									
WRAB	**Tennant Creek**	**53.52**	**134**		P		**P**	**20 18 01.6**	**-0.2**	
WRAB					IAmb		IAmb	20 18 05.4		
	comp=Z,10nm,0.9s									
WRAB	**Tennant Creek**	**53.52**	**134**		P		**P**	**20 18 01.6**	**-0.2**	
WRAB					pmax		pmax			
	comp=Z,10.0nm,1.0s									
ASF	**Jabal al Asfar**	**54.60**	**297**		P		**P**	**20 18 10.8**	**+1.0**	
	comp=Z,3.6nm,0.8s,baz=244,slow=24,SNR=5.3									
	comp=Z,3.6nm,0.8s									
ASAR	**Alice Springs**	**55.81**	**137**		P		**P**	**20 18 17.9**	**-0.6**	
	comp=Z,2.7nm,0.8s,baz=317,slow=6.7,SNR=16									
	comp=Z,2.7nm,0.8s									
EIL	**Elat**	**56.35**	**294**		P		**P**	**20 18 22.6**	**+0.3**	
	comp=Z,2.9nm,0.6s,baz=38,slow=6.5,SNR=3.8									
	comp=Z,2.9nm,0.6s									
TIXI	**Tiksi**	**56.60**	**12**		P		**P**	**20 18 22.8**	**-0.6**	
TIXI	**Tiksi**	**56.60**	**12**		P		**P**	**20 18 22.8**	**-0.6**	
TIXI					pmax		pmax			
	comp=Z,3.0nm,1.1s									
MA2	**Magadan**	**56.69**	**30**	*ceP*			**P**	**20 18 24.2**	**0.0**	
MA2					pmax		pmax			
	comp=Z,6.0nm,1.0s									
BRTR	**Keskin Array B**	**57.38**	**306**		P		**P**	**20 18 29.6**	**-0.1**	
	comp=Z,1.4nm,0.8s,baz=147,slow=2.5,SNR=5.3									
	comp=Z,1.4nm,0.8s									
ELL	**Elmali**	**60.29**	**302**		P		**P**	**20 18 49.0**	**-0.9**	
ELL	**Elmali**	**60.29**	**302**		P		**P**	**20 18 49.0**	**-0.9**	
ELL					pmax		pmax			
	comp=Z,77nm,0.9s									
KMBO	**Kilima Mbogo**	**60.94**	**258**		P		**P**	**20 18 55.1**	**+0.3**	
KMBO					IAmb		IAmb	20 19 15.6		
	comp=Z,4.7nm,1.2s									
KMBO	**Kilima Mbogo**	**60.94**	**258**		P		**P**	**20 18 55.1**	**+0.3**	
KMBO					pmax		pmax			
	comp=Z,5.0nm,1.3s									
KMBO	**Kilima Mbogo**	**60.94**	**258**		P		**P**	**20 18 53.6**	**-1.2**	
	comp=Z,2.5nm,0.9s,baz=109,slow=3.5,SNR=3.8									
	comp=Z,2.5nm,0.9s									
AKASG	**Malin Array Be**	**61.32**	**318**		P		**P**	**20 18 55.0**	**-1.5**	
	comp=Z,0.5nm,0.4s,baz=82,slow=6.4,SNR=8.8									
	comp=Z,0.5nm,0.4s									
KIEV	**Kiev**	**61.33**	**318**		P		**P**	**20 18 55.3**	**-1.2**	
KIEV					IAmb		IAmb	20 18 56.7		
	comp=Z,10nm,1.4s									
KIEV	**Kiev**	**61.33**	**318**		P		**P**	**20 18 55.3**	**-1.2**	
KIEV					pmax		pmax			
	comp=Z,10.0nm,1.5s									
MLR	**Muntele Rosu**	**63.23**	**312**		P		**P**	**20 19 10.4**	**+0.9**	
	comp=Z,2.3nm,0.7s,baz=156,slow=20,SNR=3.1									
	comp=Z,2.3nm,0.7s									
FINES	**FINESS Array B**	**64.43**	**330**	*i*	P		**P**	**20 19 20.7**	**+3.7**	
FINES					pmax		pmax			
	comp=Z,4.0nm,0.9s									
FINES	**FINESS Array B**	**64.43**	**330**		P		**P**	**20 19 17.1**	**+0.1**	
	comp=Z,3.8nm,0.9s,baz=98,slow=4.9,SNR=8.4									
	comp=Z,3.8nm,0.9s									
KWP	**Kalwaria Pacla**	**65.45**	**317**		P		**P**	**20 19 23.5**	**-0.4**	
KWP	**Kalwaria Pacla**	**65.45**	**317**		P		**P**	**20 19 23.5**	**-0.4**	
KWP					pmax		pmax			
	comp=Z,17nm,1.3s									
BILL	**Bilibino**	**65.69**	**23**	*i*	P		**P**	**20 19 24.1**	**-1.0**	
BILL					pmax		pmax			
	comp=Z,2.0nm,1.1s									
ARCES	**ARCESS Array B**	**66.10**	**339**		P		**P**	**20 19 27.5**	**-0.3**	
	comp=Z,2.0nm,0.6s,baz=90,slow=7.5,SNR=9.7									
	comp=Z,2.0nm,0.6s									
MBAR	**Mbarara**	**66.83**	**261**		P		**P**	**20 19 34.3**	**+0.8**	
MBAR					IAmb		IAmb	20 19 35.5		
	comp=Z,5.9nm,0.8s									
MBAR	**Mbarara**	**66.83**	**261**	*ceP*			**P**	**20 19 35.3**	**+1.7**	
MBAR					pmax		pmax			
	comp=Z,11nm,1.7s									
SPITS	**Spitsbergen Ar**	**69.99**	**348**		P		**P**	**20 19 52.0**	**-0.1**	
	comp=Z,11nm,1.0s,baz=94,slow=16,SNR=2.7									
	comp=Z,11nm,1.0s									
HFS	**Hagfors**	**70.42**	**328**		P		**P**	**20 19 54.7**	**-0.3**	
	comp=Z,2.6nm,0.6s,baz=79,slow=3.2,SNR=4.5									
	comp=Z,2.6nm,0.6s									
GERES	**GERESS Array B**	**71.38**	**316**		P		**P**	**20 20 01.3**	**+0.2**	
	comp=Z,1.4nm,0.5s,baz=69,slow=7.3,SNR=9.9									
	comp=Z,1.4nm,0.5s									
KHC	**Kasperske Hory**	**71.43**	**317**	*ceP*			**P**	**20 20 03.2**	**+1.8**	
KHC					pmax		pmax			
	comp=Z,6.0nm,1.7s									
NB2	**NORSAR Subarra**	**71.59**	**329**		P		**P**	**20 20 02.1**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=85,slow=6.5									
NOA	**NORSAR Array B**	**71.59**	**329**		P		**P**	**20 20 01.6**	**-0.4**	
	comp=Z,2.2nm,0.9s,baz=90,slow=6.0,SNR=5.7									
	comp=Z,2.2nm,0.9s									
GRA1	**Grafenberg Arr**	**72.88**	**317**		P		**P**	**20 20 09.5**	**-0.5**	
GRF	**Grafenberg Arr**	**72.88**	**317**		P		**P**	**20 20 09.5**	**-0.5**	
GRF					pmax		pmax			
	comp=Z,30nm,1.5s									
WLF	**Walferdange**	**76.12**	**318**		P		**P**	**20 20 28.0**	**-0.8**	
WLF	**Walferdange**	**76.12**	**318**		P		**P**	**20 20 28.0**	**-0.8**	
WLF					pmax		pmax			
	comp=Z,28nm,1.3s									
EKA	**Eskdalemuir Ar**	**80.16**	**325**		P		**P**	**20 20 51.3**	**+0.2**	
	comp=Z,2.4nm,0.8s,baz=86,slow=5.2,SNR=8.8									
	comp=Z,2.4nm,0.8s									
NEEM	**North Greenlan**	**82.42**	**353**	*i*	P		**P**	**20 21 03.4**	**+0.3**	
BOSA	**Boshof**	**82.81**	**237**		P		**P**	**20 21 05.8**	**+0.1**	
	comp=Z,3.7nm,0.8s,baz=83,slow=7.4,SNR=5.2									
	comp=Z,3.7nm,0.8s									
SUMG	**Summit**	**84.33**	**348**		P		**P**	**20 21 12.0**	**-1.1**	
SUMG	**Summit**	**84.33**	**348**		P		**P**	**20 21 12.0**	**-1.1**	
SUMG					pmax		pmax			
	comp=Z,2.0nm,0.9s									
SUMG	**Summit**	**84.33**	**348**	*i*	P		**P**	**20 21 11.0**	**-2.1**	
ILAR	**Eielson Array**	**84.35**	**23**		P		**P**	**20 21 12.2**	**-0.7**	
	comp=Z,0.8nm,0.9s,baz=299,slow=4.1,SNR=6.3									
	comp=Z,0.8nm,0.9s									
A36M	**Sachs Harbour**	**85.62**	**12**		P		**P**	**20 21 19.0**	**-0.1**	
A36M					IAmb		IAmb	20 21 20.2		
	comp=Z,5.1nm,0.8s									
C36M	**Paulatuk**	**87.94**	**13**		P		**P**	**20 21 30.0**	**-0.5**	
TORD	**Torodi Ar. Bea**	**89.95**	**284**		P		**P**	**20 21 40.4**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=48,slow=5.7,SNR=2.2									
	comp=Z,0.3nm,0.5s									

IDC ***11*** *20:19:38.9±0.7, 33.74N×45.70E, h0km, mb4.0/22, mbtmp3.9/30, ML3.8/8, Error ellipse: s-maj=16.2km s-min=10.6km az=161.0*

NEIC ***11*** *20:19:40.4±2.2, 33.56N±0.07×45.70E±0.10, h10km±1km, mb4.1/27, Error ellipse: s-maj=13.7km s-min=12.4km az=117.0*

TEH ***11*** *20:19:40.2, 33.65N×45.70E, h8km±43km, ML4.0*

ISN ***11*** *20:19:43.3±1.2, 33.77N×45.77E, h33km±5km, ML4.0*

NAO ***11*** *20:19:43.9, 33.58N×45.31E, h33km, mb3.5*

AFAD ***11*** *20:19:49.0±0.0, 34.39N×45.66E, h196km±95km, MW4.1*

OMAN ***11*** *20:19:49.0±1.6, 32.75N×45.92E, h10km, mb4.0/13, Error ellipse: s-maj=20.7km s-min=12.1km az=6.0*

ISC 11 20:19:42.3±1.0, 33.69N±0.03×45.80E±0.03, h29km±8km, n142, s272/163, mb4.0/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
ILBA	**Ilam Banvizeh**	**0.35**	**101**	Pg		**Pb** **20 19 49.3**	**-1.1**
IBDR	**Badra**	**0.59**	**169**	*e*Pg		**Pn** **20 19 56.0**	**+1.2**
IBDR				*e*Sg		**Sn** **20 20 07.0**	**+3.5**
IBDR				AML	AML	20 20 08.4	
	comp=N,3μm,0.6s						
IBDR				AML	AML	20 20 16.5	
	comp=E,2μm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.83**	**348**	Pg		**Pb** **20 19 56.8**	**-1.4**
KGS1				Sg		**Sn** **20 20 09.8**	**+0.4**
IGHG	**Ghaleghazi**	**0.90**	**45**	Pg		**Pn** **20 19 59.5**	**+0.2**
IGHG				Sg		**Sn** **20 20 14.2**	**+2.7**
IDHR	**Dehrash**	**1.12**	**26**	Pg		**Pn** **20 20 02.3**	**0.0**
KCHF	**Cheshme Sefid,**	**1.19**	**60**	Pg		**Pb** **20 20 04.3**	**0.0**
BHD	**Baghdad**	**1.26**	**251**	*e*Pg		**Pb** **20 20 06.0**	**+0.7**
BHD				*e*Sg		**Sb** **20 20 23.0**	**+1.9**
BHD				AML	AML	20 20 26.2	
	comp=E,15μm,0.7s						
IKOM	**Komasi**	**1.50**	**71**	Pg		**Pb** **20 20 10.4**	**+0.7**
ILIN	**Lien**	**1.56**	**38**	Pg		**Pb** **20 20 11.1**	**+0.5**
IKFM	**Kafar-mosalman**	**1.72**	**95**	Pg		**Pb** **20 20 13.6**	**+0.4**
IBZA	**Bozab**	**1.88**	**65**	Pn		**Pn** **20 20 14.6**	**+1.7**
RAFI	**Al-Rafai**	**1.98**	**172**	*e*Pn		**Pb** **20 20 17.0**	**-0.7**
RAFI				*e*Sn		**S

MBRI	**Mt Berech**	**10.05**	**250**	P	Pn	20 22 44.8	+40
EIL	**Elat**	**10.07**	**249**	Pn	**Pn**	**20 22 04.1**	**-0.9**
	comp=E,0.3nm,0.3s,baz=31,slow=17,SNR=1.6						
EIL				Pg		20 22 40.8	
	comp=E,0.7nm,0.3s,baz=47,slow=11,SNR=1.9						
EIL				Lg	Lg	20 24 56.6	
	comp=E,0.7nm,0.3s,baz=336,slow=20,SNR=3.0						
	comp=E,1.6nm,0.7s						
KIV	**Kislovodsk**	**10.53**	**348**	Pn	**Pn**	**20 22 13.1**	**+1.7**
GEYT	**Alibeck**	**10.86**	**64**	Pn	**Pn**	**20 22 16.0**	**+0.1**
	comp=E,0.2nm,0.3s,baz=228,slow=15,SNR=1.1						
	comp=E,0.4nm,0.3s						
SHME	**Shamm**	**11.77**	**128**	P	**Pn**	**20 22 28.7**	**+0.4**
SHME				S	**Sn**	**20 24 32.1**	**-6.6**
BANOM	**Banah**	**11.96**	**128**	P	**Pn**	**20 22 30.6**	**-0.4**
BANOM				S	**Sn**	**20 24 38.2**	**-5.2**
NAZ	**Nazwa, Dubai**	**12.21**	**133**	P	**Pn**	**20 22 33.5**	**-0.9**
ASUD	**Al Ashush, Dub**	**12.28**	**135**	P	**Pn**	**20 22 35.2**	**-0.1**
ASUD				S	**Sn**	**20 24 47.2**	**-4.1**
FAQ	**Al Faqa, Dubai**	**12.35**	**134**	P	**Pn**	**20 22 36.8**	**+0.6**
FAQ				S	**Sn**	**20 24 47.1**	**-5.9**
MDH	**Madha**	**12.39**	**130**	P	**Pn**	**20 22 36.7**	**-0.1**
MDH				S	**Sn**	**20 24 48.4**	**-5.4**
HATD	**Hatta, Dubai**	**12.62**	**132**	P	**Pn**	**20 22 40.5**	**+0.5**
HATD				S	**Sn**	**20 24 54.4**	**-5.2**
ASHO	**Ashiyiah**	**12.68**	**132**	P	**Pn**	**20 22 41.0**	**+0.2**
	SNR=7.6						
ASHO				S	**Sn**	**20 24 55.0**	**-6.0**
SOHO	**SOHO**	**13.37**	**133**	P	**Pn**	**20 22 49.6**	**-0.6**
SOHO				S	**Sn**	**20 25 10.3**	**-7.6**
ARQ	**Araqi**	**13.97**	**135**	P	**Pn**	**20 22 59.0**	**+0.7**
	SNR=7.5						
ARQ				S	**Sn**	**20 25 26.3**	**-6.1**
BSY	**Bisya**	**14.82**	**134**	P	**Pn**	**20 23 08.0**	**-1.9**
	SNR=6.0						
BSY				S	**Sn**	**20 25 49.3**	**-3.9**
SMDO	**Samad**	**15.10**	**131**	P	**Pn**	**20 23 12.8**	**-1.0**
SMDO				S	**Sn**	**20 25 51.3**	**-9.0**
WSAR	**Wadi Sarin**	**15.34**	**129**	Pn	**Pn**	**20 23 15.2**	**-1.7**
	comp=E,1.2nm,0.3s,baz=341,slow=13,SNR=9.8						
WSAR				Sn	Sn	20 25 54.9	-11
	comp=E,0.2nm,0.3s,baz=72,slow=20,SNR=1.0						
WSAR	**Wadi Sarin**	**15.34**	**129**	P	**Pn**	**20 23 16.9**	**0.0**
JMDO	**Jabal Madar**	**15.65**	**133**	P	**Pn**	**20 23 20.0**	**-0.9**
WBK	**Wadi Bani Khal**	**16.01**	**130**	P	**Pn**	**20 23 22.7**	**-2.9**
JLN	**Jalan Bani Buh**	**16.62**	**130**	P	**Pn**	**20 23 32.4**	**-0.9**
MHTO	**MHTO**	**16.63**	**136**	P	**Pn**	**20 23 30.6**	**-2.8**
	SNR=6.3						
MHTO				S	**Sn**	**20 26 28.0**	**-9.2**
WHFO	**Wadi Hawf**	**17.26**	**154**	P	**Pn**	**20 23 40.4**	**-0.9**
WHFO				S	**Sn**	**20 26 44.7**	**-7.9**
ABTO	**Aybut**	**17.61**	**156**	P	**Pn**	**20 23 42.5**	**-3.2**
ABTO				S	**Sn**	**20 26 52.3**	**-8.8**
RDO	**Rodhopi**	**17.71**	**301**	Pn	**Pn**	**20 23 45.3**	**-1.4**
DMTO	**DMTO**	**17.90**	**150**	P	**Pn**	**20 23 48.0**	**-1.3**
	SNR=7.0						
BELG	**Belogornoye**	**18.74**	**3**	P	**P**	**20 23 57.7**	**-0.9**
	comp=E,1.9nm,0.3s,baz=7.0,slow=1.2,SNR=8.1						
	comp=E,7.7nm,0.6s						
ABKAR	**Akbulak array**	**18.77**	**30**	P	**Pn**	**20 23 59.5**	**-0.1**
AKTO	**Aktyubinsk**	**18.99**	**25**	P	**P**	**20 24 01.5**	**+0.1**
	comp=E,0.4nm,0.3s,baz=209,slow=12,SNR=5.2						
	comp=E,1.3nm,0.4s						
MLR	**Muntele Rosu**	**19.25**	**314**	P	**P**	**20 24 03.6**	**-0.9**
	comp=E,0.2nm,0.3s,baz=90,slow=18,SNR=2.3						
	comp=E,0.5nm,0.5s						
KBL	**Kabul**	**19.26**	**81**	P	**P**	**20 24 04.4**	**-0.5**
KBL				IAmb	IAmb	20 24 14.8	
	comp=Z,13nm,1.3s						
SIMJ	**Simiganj**	**19.37**	**69**	P	**P**	**20 24 05.5**	**-0.4**
AGG	**Agios Georgios**	**19.61**	**292**	P	**Pn**	**20 24 09.0**	**-0.9**
AGG				IAmb	IAmb	20 24 20.7	
	comp=Z,12nm,1.5s						
FNA	**Florina**	**20.65**	**297**	P	**P**	**20 24 19.3**	**-0.5**
BUR08	**Bucovina Ar. S**	**20.85**	**318**	P	**P**	**20 24 22.2**	**+0.4**
AKASG	**Malin Array Be**	**20.89**	**329**	P	**P**	**20 24 21.4**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=137,slow=10,SNR=21						
	comp=Z,2.1nm,0.5s						
AKBB	**Malin Array Si**	**20.89**	**329**	P	**P**	**20 24 21.8**	**-0.2**
AKBB				IAmb	IAmb	20 24 26.1	
	comp=Z,5.4nm,0.6s						
KIEV	**Kiev**	**20.89**	**329**	P	**P**	**20 24 20.6**	**-1.5**
KIEV				IAmb	IAmb	20 24 26.0	
	comp=Z,4.8nm,0.6s						
BTK	**Batken**	**20.96**	**65**		**P**	**20 24 24.3**	**+1.1**
BTK				IAmb	IAmb	20 24 29.5	
	comp=Z,4.5nm,0.8s						
KK31	**Karatay Array**	**21.46**	**57**	P	**P**	**20 24 30.4**	**+1.9**
KK31				IAmb	IAmb	20 24 34.9	
	comp=Z,4.7nm,0.7s						
KKAR	**Karatay Array**	**21.46**	**57**	P	**P**	**20 24 31.1**	**+2.7**
KKAR				IAmb	IAmb	20 24 34.8	
	comp=Z,4.6nm,0.7s						
ARU	**Arti**	**24.38**	**17**	P	**P**	**20 24 58.7**	**+0.9**
ARU				IAmb	IAmb	20 25 01.0	
	comp=Z,8.4nm,1.3s						
KSH	**Kashi**	**24.84**	**68**	*e*P	**P**	**20 25 02.7**	**+0.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NRN	**Naryn**	**25.07**	**63**	P	**P**	**20 25 06.4**	**+1.8**
NRN				IAmb	IAmb	20 25 08.2	
	comp=Z,4.5nm,0.7s						
BRVK	**Borovoye**	**26.08**	**35**	P	**P**	**20 25 16.1**	**+2.9**
BRVK				IAmb	IAmb	20 25 23.1	
	comp=Z,2.9nm,0.9s						
BVAR	**Borovoye Array**	**26.11**	**35**	P	**P**	**20 25 14.6**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=231,slow=7.8,SNR=14						
BVAR				PcP	**PcP**	**20 28 42.1**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=245,slow=3.0,SNR=3.8						
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**29.26**	**45**	P	**P**	**20 25 44.0**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=247,slow=9.3,SNR=4.8						
	comp=Z,0.7nm,0.3s						
KURK	**Kurchatov**	**29.35**	**45**	P	**P**	**20 25 44.5**	**+2.0**
KURK				IAmb	IAmb	20 25 46.1	
	comp=Z,3.1nm,1.1s						
MAKZ	**Makanchi**	**30.29**	**54**	P	**P**	**20 25 53.0**	**+2.0**
MK31	**Makanchi Array**	**30.49**	**54**	P	**P**	**20 25 54.6**	**+1.8**
MK31				IAmb	IAmb	20 25 56.4	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**30.49**	**54**	P	**P**	**20 25 54.9**	**+2.1**
	comp=Z,2.3nm,0.5s,baz=252,slow=10,SNR=56						
	comp=Z,2.3nm,0.5s						
FINES	**FINESS Array B**	**30.53**	**341**	P	**P**	**20 25 53.6**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=149,slow=9.8,SNR=7.7						
	comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**33.75**	**331**	P	**P**	**20 26 21.3**	**+0.2**
	comp=Z,3.3nm,0.4s,baz=133,slow=10,SNR=21						
	comp=Z,3.3nm,0.4s						
ZALV	**Zalesovo Beam**	**34.08**	**42**	P	**P**	**20 26 24.4**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=260,slow=9.0,SNR=5.9						
	comp=Z,2.6nm,0.3s						
NB2	**NORSAR Subarra**	**35.27**	**331**	P	**P**	**20 26 34.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=126,slow=9.3						
NOA	**NORSAR Array B**	**35.27**	**331**	P	**P**	**20 26 32.8**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=126,slow=8.6,SNR=3.9						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**37.64**	**348**	P	**P**	**20 26 52.9**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=164,slow=8.3,SNR=7.5						
	comp=Z,1.4nm,0.8s						
ESDC	**Sonseca Array**	**39.93**	**293**	P	**P**	**20 27 14.0**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=72,slow=8.5,SNR=7.4						
	comp=Z,0.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**40.01**	**318**	P	**P**	**20 27 14.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=101,slow=9.1,SNR=13						
	comp=Z,0.5nm,0.3s						
SHL	**Shillong**	**40.60**	**89**	P	**P**	**20 27 19.0**	**-0.9**
NRIK	**Noril'sk**	**42.53**	**20**	P	**P**	**20 27 36.1**	**+1.3**
NRIK				IAmb	IAmb	20 27 37.8	
	comp=Z,6.7nm,1.1s						
NRIK	**Noril'sk**	**42.53**	**20**	P	**P**	**20 27 36.7**	**+1.8**
	comp=Z,4.2nm,0.9s,baz=250,slow=6.2,SNR=5.0						
	comp=Z,4.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**44.93**	**254**	P	**P**	**20 27 54.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=56,slow=6.6,SNR=7.3						
	comp=Z,0.5nm,0.5s						
SPITS	**Spitsbergen Ar**	**46.37**	**352**	P	**P**	**20 28 06.7**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=137,slow=12,SNR=15						
	comp=Z,1.7nm,0.4s						
SONM	**Songino Array**	**46.86**	**54**	P	**P**	**20 28 11.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=269,slow=9.6,SNR=4.8						
	comp=Z,0.4nm,0.6s						
ULN	**Ulaanbaatar**	**47.30**	**53**	P	**P**	**20 28 14.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**49.58**	**94**	P	**P**	**20 28 31.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=292,slow=8.7,SNR=9.2						
	comp=Z,1.5nm,0.6s						
CRAI	**Chiangrai**	**49.94**	**91**	P	**P**	**20 28 34.4**	**+0.5**
KSRS	**Korea Array**	**64.83**	**61**	P	**P**	**20 30 18.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=276,slow=7.2,SNR=1.9						
	comp=Z,0.5nm,0.3s						
BOSA	**Boshof**	**64.95**	**200**	P	**P**	**20 30 21.4**	**+2.0**
BOSA	**Boshof**	**64.95**	**200**	P	**P**	**20 30 20.8**	**+1.3**
	comp=Z,6.1nm,0.9s,baz=24,slow=5.5,SNR=8.7						
	comp=Z,6.1nm,0.9s						
SCHQ	**Schefferville**	**74.65**	**326**	P	**P**	**20 31 19.7**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=46,slow=7.9,SNR=5.0						
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**81.36**	**5**	P	**P**	**20 31 57.1**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=328,slow=4.1,SNR=8.3						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**82.86**	**351**	P	**P**	**20 32 04.7**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=11,slow=5.6,SNR=4.5						
	comp=Z,0.2nm,0.4s						
WRA	**Warramunga Arr**	**99.63**	**107**	P	**Pdif**	**20 33 23.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=319,slow=4.2,SNR=1.5						
	comp=Z,0.2nm,0.5s						

ATH 11 20:36:37.6, 39.01N×23.61E, h12km±2km, ML1.4/3, Error ellipse: s-maj=2.2km s-min=0.8km az=29.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.42**	**315**	P	Pg	20 36 45.6	-0.4
NEO				S	Sg	20 36 52.3	+0.6
NEO				AML	AML	20 36 53.2	
	comp=E,159μm,0.2s						
NEO				AML	AML	20 36 53.6	
	comp=N,173μm,0.3s						
XOR	**Xorichti**	**0.48**	**318**	P	Pg	20 36 46.9	-0.2
XOR				S	Sg	20 36 53.4	-0.2
XOR				AML	AML	20 36 58.8	
	comp=E,47μm,0.1s						
XOR				AML	AML	20 36 59.1	
	comp=N,79μm,0.1s						
KYMI	**Kymi, Euboea I**	**0.53**	**134**	P	Pg	20 36 48.0	-0.1
KYMI				S	Sg	20 36 55.1	0.0
SKY	**Skiros Island**	**0.74**	**100**	P	Pg	20 36 51.5	-0.5
SKY				S	Sg	20 37 01.7	-0.1
AXAR	**Agios Charalam**	**0.78**	**252**	P	Pg	20 36 52.1	-0.6
AXAR				S	Sg	20 37 03.0	0.0
VIL2	**Platees**	**0.84**	**199**	P	Pg	20 36 53.7	-0.1
VIL2				S	Sb	20 37 06.3	+1.0
VIL2				AML	AML	20 37 09.0	
	comp=N,78μm,0.4s						
VIL2				AML	AML	20 37 09.8	
	comp=E,96μm,0.6s						
DION	**Dionisos Attik**	**0.96**	**165**	P	Pn	20 36 56.6	-0.3
DION				S	Sg	20 37 08.5	-0.1
PTL	**Penteli**	**0.98**	**168**	P	Pg	20 36 55.9	-0.6
AGG	**Agios Georgios**	**1.00**	**271**	P	Pb	20 36 55.7	-1.1
ATHU	**Athens Univers**	**1.05**	**172**	P	Pb	20 36 56.8	-0.9
MAKR	**Makrakomi, Fth**	**1.15**	**271**	P	Pb	20 36 58.7	-0.7
VLY	**Voula,Athens**	**1.16**	**173**	P	Pb	20 36 58.8	-0.8
VLY				S	Sb	20 37 13.8	-0.8
ANX	**Ano Chora**	**1.38**	**253**	P	Pn	20 37 02.6	-0.2

ATH 11 20:37:24.5, 39.88N×22.20E, h17km±2km, ML1.7/6, Manual Solution by N.Liadopoulou This location: 2020/05/05 15:44:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYRN	**Tyrnavos**	**0.17**	**170**	P	Pb	20 37 29.1	-0.1
LRSO	**Larissa Observ**	**0.25**	**143**	P	Pg	20 37 30.4	+0.2
LRSO				S	Sg	20 37 34.2	+0.1
GINA	**Giannouli**	**0.26**	**144**	P	Pg	20 37 30.2	0.0
GINA				S	Sb	20 37 34.4	-0.3
THL	**Klokotos Trika**	**0.34**	**204**	P	Pg	20 37 31.8	+0.2
THL				S	Sg	20 37 35.1	-1.4
AGG	**Agios Georgios**	**0.86**	**173**	P	Pn	20 37 41.8	0.0
AGG				S	Sg	20 37 52.7	+0.1
MAKR	**Makrakomi, Fth**	**0.86**	**183**	P	Pn	20 37 41.8	-0.1
MAKR				S	Sb	20 37 52.4	+0.1
EVR	**Evrytania**	**1.00**	**197**	P	Pn	20 37 43.7	-0.2
EVR				S	Sb	20 37 56.5	0.0
ANX	**Ano Chora**	**1.30**	**190**	P	Pn	20 37 48.2	+0.2

*TEH **11** 20:40:17.2, 33.77N×45.85E, h5km, ML3.2*
*ISN **11** 20:40:17.3±1.5, 33.77N×45.75E, h10km±7km, ML2.9*
ISC 11 20:40:18.5±0.9, 33.75N±0.03×45.76E±0.04, h10km, n16, σ1§18/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**109**	Pg	**Pg**	**20 40 24.1**	**-2.3**
IBDR	**Badra**	**0.66**	**167**	*e*Pg	**Pg**	**20 40 31.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**20 40 39.0**	**-0.8**
IBDR				AML	AML	20 40 45.2	
	comp=N,193nm,0.6s						
KGS1	**Ghasr-e-Shirin**	**0.76**	**349**	Pg	**Pg**	**20 40 33.3**	**+0.1**
IGHG	**Ghaleghazi**	**0.89**	**49**	Pg	**Pg**	**20 40 34.2**	**-1.4**
IDHR	**Dehrash**	**1.08**	**29**	Pg	**Pg**	**20 40 38.4**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.19**	**64**	Pg	**Pb**	**20 40 40.3**	**-0.9**
BHD	**Baghdad**	**1.25**	**248**	*e*Pg	**Pg**	**20 40 42.0**	**-0.5**
BHD				*e*Sg	**Sg**	**20 40 58.0**	**-0.7**
BHD				AML	AML	20 41 02.9	
	comp=E,727nm,0.5s						
IKOM	**Komasi**	**1.52**	**73**	Pg	**Pb**	**20 40 47.4**	**+0.5**
ILIN	**Lien**	**1.53**	**40**	Pg	**Pg**	**20 40 48.1**	**+0.2**
IKFM	**Kafar-mosalman**	**1.76**	**97**	Pg	**Pb**	**20 40 51.9**	**+1.1**
IBZA	**Bozab**	**1.89**	**67**	Pn	**Pn**	**20 40 52.2**	**+1.2**
IKRK	**Kirkuk**	**2.02**	**325**	*e*Pn	**Pn**	**20 40 53.0**	**+0.4**
IKRK				*e*Sn	**Sb**	**20 41 19.0**	**-1.4**
RAFI	**Al-Rafai**	**2.05**	**171**	*e*Pn	**Pn**	**20 40 54.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**20 41 21.0**	**-0.3**
IALM	**Almabolaq**	**2.28**	**60**	Pn	**Pn**	**20 40 58.2**	**+1.7**
HSAM	**Samen**	**2.41**	**78**	Pn	**Pn**	**20 40 59.6**	**+1.4**
QAMS	**Qamsar**	**4.70**	**89**	Pn	**Pn**	**20 41 31.3**	**+1.6**

*NEIC **11** 20:46:45.8±1.5, 50.71N±0.05×173.2W±0.1, h21km±11km, mb3.7/15, ML2.8(AEIC), Error ellipse: s-maj=14.6km s-min=5.1km az=66.0*
AEIC 11 20:46:45.9±2.8, 50.66N±0.05×173.37W±0.09, h18km±8km, Error ellipse: s-maj=8.5km s-min=7.5km az=103.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.63**	**342**		Pn	20 47 13.3	-0.3
ATKA					Sn	20 47 34.8	+0.7
KOFP	**Korovin Flat P**	**1.68**	**345**		Pn	20 47 14.3	-0.1
KOKL	**Mount Kliuchef**	**1.75**	**343**		Pn	20 47 15.1	-0.2
KOWE	**Korovin West**	**1.80**	**343**		Pn	20 47 16.3	+0.4
KOWE					Sb	20 47 39.6	-0.9
GSMY	**Great Sitkin M**	**2.18**	**311**		Pn	20 47 21.4	+0.2
GSCK	**Great Sitkin C**	**2.22**	**309**		Pn	20 47 21.9	+0.2
GSCK					Sn	20 47 50.0	+1.5
GSTR	**Great Sitkin T**	**2.22**	**312**	Pn	Pn	20 47 20.9	-0.8
GSSP	**Great Sitkin S**	**2.27**	**310**		Pn	20 47 22.9	+0.5
ADK	**Adak**	**2.42**	**302**		Pn	20 47 24.3	-0.1
ADK					Sn	20 47 54.4	+0.8
ADAG	**Mount Adagdak**	**2.42**	**304**		Pn	20 47 25.4	+0.9
KIWB	**Kanaga Island**	**2.66**	**298**		Pn	20 47 28.2	+0.5
TASE	**Tanaga Southea**	**3.16**	**294**		Pn	20 47 34.7	0.0
F19K	**Shaleruckik Mo**	**18.03**	**20**		Pn	20 50 53.3	-1.8
E19K	**Redstone River**	**18.67**	**20**	P	P	20 50 58.8	-3.7
F20K	**Avaraart Lake**	**18.67**	**22**	P	P	20 50 59.1	-3.4
F20K				IAmb	IAmb	20 51 32.9	
	comp=Z,6.7nm,1.5s						
D19K	**Kuna River**	**19.38**	**17**	P	P	20 51 08.0	-2.3
H24K	**Noodor Dome**	**20.05**	**31**	P	P	20 51 16.2	-1.5
H24K				IAmb	IAmb	20 51 25.3	
	comp=Z,7.0nm,1.5s						
J25K	**Salcha River,**	**20.25**	**36**	P	P	20 51 16.3	-3.6
J25K				IAmb	IAmb	20 51 21.4	
	comp=Z,4.4nm,1.2s						
D22K	**Ayikyak River**	**20.83**	**21**	P	P	20 51 24.9	-1.2
D22K				IAmb	IAmb	20 51 26.0	
	comp=Z,8.9nm,1.5s						
J26L	**Joseph Creek**	**20.88**	**37**	P	P	20 51 23.9	-2.8
J26L				IAmb	IAmb	20 51 44.5	
	comp=Z,3.5nm,1.3s						
I26K	**Coal Creek Min**	**21.41**	**35**	P	P	20 51 31.7	-0.7
B22K	**Teshekpuk Lake**	**21.84**	**18**	P	P	20 51 35.1	-1.7
B22K				IAmb	IAmb	20 51 43.7	
	comp=Z,3.4nm,1.4s						
C23K	**Itkillik River**	**22.04**	**21**	P	P	20 51 37.8	-1.2
C23K				IAmb	IAmb	20 51 39.9	
	comp=Z,3.1nm,1.1s						
I28M	**Miner Creek**	**22.68**	**37**	P	P	20 51 43.2	-2.9
I28M				IAmb	IAmb	20 52 02.5	
	comp=Z,6.5nm,1.5s						
K29M	**Barlow Dome**	**23.07**	**41**	P	P	20 51 48.8	-1.3
K29M				IAmb	IAmb	20 52 13.9	
	comp=Z,4.3nm,1.4s						
H29M	**Whitestone**	**23.59**	**36**	P	P	20 51 54.6	-0.5
I30M	**Mount Dempster**	**23.98**	**39**	P	P	20 51 56.4	-2.7

*CATAC **11** 20:47:20.6±0.6, 9.59N×84.64W, h18km±3km, ML3.3*
*UCR **11** 20:47:21.4±0.7, 9.62N×84.67W, h24km±2km, MW3.7*
ISC 11 20:47:20.9±1.1, 9.61N±0.05×84.67W±0.03, h26km±6km, n41, σ0§39/46, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.06**	**11**	*e*P	**Pb**	**20 47 25.4**	**-0.2**
JACO				*e*S	**Sb**	**20 47 28.4**	**-0.1**
JACO	**JACO, Garabito**	**0.06**	**11**	*i* P	**Pb**	**20 47 25.3**	**-0.2**
JACO				*i* S	**Sb**	**20 47 28.4**	**-0.1**
JACO				IAML		20 47 29.6	
	comp=Z,5μm,1.0s						
TRB2	**Turrubares**	**0.38**	**35**	*e*P	**Pb**	**20 47 29.4**	**+0.1**
ARZA	**Esparza**	**0.38**	**0**	*e*P	**Pn**	**20 47 30.4**	**-0.5**
CBL1	**Cabuya**	**0.42**	**268**	*e*P	**Pb**	**20 47 30.0**	**+0.2**
SRA1	**San Ramn**	**0.51**	**21**	*e*P	**Pb**	**20 47 31.4**	**-0.1**
TCS1	**Tacares**	**0.57**	**40**	*e*P	**Pb**	**20 47 32.6**	**+0.2**
TCS1	**Tacares**	**0.57**	**40**	*i* P	**Pb**	**20 47 32.4**	**0.0**
TCS1				IAML		20 47 45.1	
	comp=Z,13μm,1.0s						
BELE	**Belen**	**0.60**	**52**	*e*P	**Pn**	**20 47 33.9**	**0.0**
LCR2	**La Lucha 2**	**0.67**	**78**	*e*P	**Pb**	**20 47 33.8**	**-0.4**
LCR2	**La Lucha 2**	**0.67**	**78**	*i* P	**Pb**	**20 47 33.7**	**-0.4**
LCR2				IAML		20 47 34.0	
	comp=Z,840nm,1.0s						
LCR2				*i* S	**Sb**	**20 47 42.9**	**-0.3**
HDC	**Heredia**	**0.68**	**54**	*e*P	**Pb**	**20 47 34.0**	**-0.2**
HDC3	**Heredia 3**	**0.68**	**54**	*e*P	**Pb**	**20 47 34.2**	**-0.1**
HDC3	**Heredia 3**	**0.68**	**54**	*i* P	**Pb**	**20 47 34.3**	**0.0**
HDC3				IAML		20 47 45.9	
	comp=Z,960nm,1.0s						
TBLN	**Tablon, Guarco**	**0.70**	**72**	*i* P	**Pb**	**20 47 34.2**	**-0.4**
TBLN				*i* S	**Sb**	**20 47 43.3**	**-0.6**
TBLN				IAML		20 47 44.3	
	comp=Z,2μm,1.0s						
VPS6	**Volcano Poas**	**0.72**	**37**	*e*P	**Pb**	**20 47 35.1**	**0.0**
CPMI	**Catarata Coope**	**0.73**	**23**	*e*P	**Pb**	**20 47 35.4**	**+0.1**
CPMI	**Catarata Coope**	**0.73**	**23**	*i* P	**Pb**	**20 47 35.3**	**+0.1**
CPMI				IAML		20 47 47.2	
	comp=Z,910nm,1.0s						
JTS	**Las Juntas de**	**0.74**	**338**	*e*P	**Pb**	**20 47 34.7**	**-0.4**
OCM	**Ochomogo**	**0.76**	**68**	*e*P	**Pb**	**20 47 35.2**	**-0.4**
OCM	**Ochomogo**	**0.76**	**68**	*i* P	**Pb**	**20 47 35.2**	**-0.4**
OCM				IAML		20 47 35.5	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**0.78**	**4**	*i* P	**Pn**	**20 47 36.4**	**+0.2**
SOCE				*i* S	**Sn**	**20 47 47.2**	**+0.1**
SOCE				IAML		20 47 49.6	
	comp=Z,3μm,1.0s						
RIMA	**Rio Macho**	**0.81**	**79**	*e*P	**Pb**	**20 47 36.0**	**-0.6**
RIMA	**Rio Macho**	**0.81**	**79**	*i* P	**Pb**	**20 47 36.0**	**-0.6**
RIMA				IAML		20 47 50.7	
	comp=Z,490nm,1.0s						
ARE1	**Arenal 1**	**0.85**	**357**	*e*P	**Pn**	**20 47 37.7**	**+0.4**
INDI	**Punta indio, G**	**0.86**	**288**	*e*P	**Pb**	**20 47 36.7**	**-0.5**
INDI	**Punta indio, G**	**0.86**	**288**	*i* P	**Pb**	**20 47 36.9**	**-0.3**
INDI				IAML		20 47 54.3	
	comp=Z,1μm,1.0s						
VACR	**Volcan Arenal**	**0.86**	**360**	*i* P	**Pn**	**20 47 38.0**	**+0.6**
VACR				IAML		20 47 53.7	
	comp=Z,1μm,1.0s						
CDM	**Cerro de Muert**	**0.90**	**93**	*e*P	**Pb**	**20 47 37.8**	**-0.3**
HAYA	**Volcan Irazu**	**0.90**	**65**	*i* P	**Pb**	**20 47 37.9**	**-0.2**
HAYA				IAML		20 47 55.5	
	comp=Z,930nm,1.0s	

*DJA **11** 21:10:14.7±0.4,2˚N±4˚×12˚6E±˚, h10km, M3.9/13, mb3.7/3, MLv4.0/13*

ISC 11 21:10:16.5±1.1, **1˚72N**±0˚07×**126˚19E**±0˚07, **h54**km, **n13**, σ0**86**/14, **mb3.4**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.51**	**129**	P	**Pn**	**21 10 42.0**	**+0.8**
SGSI	**Sangihe**	**2.06**	**341**	P	**Pn**	**21 10 49.3**	**+0.6**
KMSI	**Cibinong**	**2.48**	**243**	P	**Pn**	**21 10 55.8**	**+1.3**
LBMI	**Labuha**	**2.69**	**151**	P	**Pn**	**21 10 58.2**	**+0.9**
GTOI	**Gorontalo**	**3.35**	**251**	P	**Pn**	**21 11 07.8**	**+1.4**
SANI	**Sanana**	**3.75**	**183**	P	**Pn**	**21 11 11.7**	**-0.2**
LUWI	**Luwuk**	**4.38**	**231**	P	**Pn**	**21 11 20.8**	**+0.3**
MRSI	**Marisa**	**4.42**	**254**	P	**Pn**	**21 11 21.6**	**+0.6**
NLAI	**Namlea**	**5.01**	**169**	P	**Pn**	**21 11 30.2**	**+1.0**
	9.1nm,1.2s,0.1nm						
TTSI	**Tana Toraja**	**7.93**	**233**	P	**Pn**	**21 12 08.8**	**-0.4**
WRA	**Warramunga Arr**	**22.97**	**160**	P	**P**	**21 15 16.1**	**-0.5**
	0.6nm,0.3s,baz=338,slow=11,SNR=22						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**26.33**	**164**	P	**P**	**21 15 47.6**	**+0.1**
	0.2nm,0.6s,baz=346,slow=11,SNR=2.3						
ASAR				PcP	**PcP**	**21 19 12.4**	**-0.2**
	0.4nm,1.0s,baz=339,slow=2.3,SNR=2.4						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.90**	**326**	P	**P**	**21 20 09.2**	**-0.7**
	0.1nm,0.3s,baz=135,slow=7.2,SNR=4.4						
	0.1nm,0.3s						

DJA 11 21:12:48.0±0.4, **1˚N**±5˚×**12˚2E**±˚, **h58**km±9km, **M3.7**/11, **mb4.5**/3, **MLv3.4**/11, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.40**	**252**	P	Pn	21 13 00.1	+1.3
GTOI	**Gorontalo**	**0.69**	**87**	P	Pn	21 13 02.4	+0.4
KMSI	**Cibinong**	**1.66**	**91**	P	Pn	21 13 14.9	+0.1
LUWI	**Luwuk**	**1.69**	**165**	P	Pn	21 13 14.9	-0.4
MPSI	**Mapaga**	**2.44**	**264**	P	Pn	21 13 25.4	0.0
TTSI	**Tana Toraja**	**4.40**	**215**	P	Pn	21 13 52.2	-0.1
SPSI	**Sidrap Palu**	**5.20**	**209**	P	Pn	21 14 03.0	-0.3
PMSI	**Majene**	**5.31**	**220**	P	Pn	21 14 05.0	+0.2
	95nm,1.1s,0.5nm						
BKSI	**Bulukumba**	**6.28**	**200**	P	Pn	21 14 18.3	+0.2

*TEH **11** 21:13:05.5, 33˚82N×45˚67E, h16km±15km, ML3.1*
*ISN **11** 21:13:07.5±1.0, 33˚85N×45˚70E, h39km±4km, ML3.1*

ISC 11 21:13:06.6±1.3, **33˚86N**±0˚03×**45˚70E**±0˚04, **h12**km±11km, **n20**, σ0**54**/25, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.48**	**119**	Pg	**Pg**	**21 13 15.3**	**-0.7**
ILBA				Sg	**Sg**	**21 13 22.8**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.66**	**352**	Pg	**Pg**	21 13 19.0	-0.4
IBDR	**Badra**	**0.77**	**166**	*e*Pg	**Pg**	**21 13 22.0**	**+0.5**
IBDR				*e*Sg	**Sn**	**21 13 34.0**	**-0.7**
IGHG	**Ghaleghazi**	**0.86**	**56**	Pg	**Pg**	**21 13 23.2**	**0.0**
IDHR	**Dehrash**	**1.01**	**34**	Pg	**Pb**	**21 13 25.4**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.19**	**69**	Pg	**Pn**	**21 13 28.7**	**-0.4**
BHD	**Baghdad**	**1.25**	**242**	*e*Pg	**Pn**	**21 13 30.0**	**+0.2**
BHD				*e*Sg	**Sn**	**21 13 47.0**	**+0.4**
BHD				AML	AML	21 13 50.6	
	comp=E,418nm,0.6s						
ILIN	**Lien**	**1.48**	**44**	Pg	**Pb**	**21 13 34.3**	**+0.1**
IKOM	**Komasi**	**1.53**	**78**	Pg	**Pb**	**21 13 35.1**	**0.0**
IKFM	**Kafar-mosalman**	**1.82**	**100**	Pn	**Pn**	**21 13 38.4**	**+0.8**
IKRK	**Kirkuk**	**1.91**	**324**	*e*Pn	**Pn**	**21 13 39.0**	**+0.1**
IKRK				*e*Sn	**Sn**	**21 14 03.0**	**+0.2**
RAFI	**Al-Rafai**	**2.15**	**171**	*e*Pn	**Pn**	**21 13 42.0**	**-0.3**
RAFI				*e*Sn	**Sn**	**21 14 08.0**	**-0.9**
HSAM	**Samen**	**2.43**	**81**	Pn	**Pn**	**21 13 47.0**	**+0.6**
MAHB	**Mahabad**	**2.90**	**0**	Pn	**Pn**	**21 13 53.4**	**+0.6**
QAMS	**Qamsar**	**4.74**	**90**	Pn	**Pn**	**21 14 18.5**	**+0.4**
IKLH	**Kolahrood**	**4.93**	**95**	Pn	**Pn**	**21 14 21.4**	**+0.6**
IVRN	**Varamin**	**5.11**	**75**	Pn	**Pn**	**21 14 23.3**	**+0.3**
IZEF	**Zefreh**	**5.62**	**98**	Pn	**Pn**	**21 14 30.8**	**+0.6**
KLNJ	**Kolanjah**	**5.73**	**118**	Pn	**Pn**	**21 14 31.9**	**+0.1**
IRAM	**Ramesheh**	**5.98**	**108**	Pn	**Pn**	**21 14 35.6**	**+0.5**

IDC 11 21:15:08.2±1.7, **18˚16N×95˚97E, h0**km, **mb3.7**/3, **mbtmp3.5**/4, **ML2.6**/1, **Error ellipse: s-maj=23.5km s-min=17.2km az=36.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.84**	**84**	Pn	Pn	21 15 55.7	+0.9
	0.2nm,0.3s,baz=267,slow=15,SNR=1.2						
CMAR				Pg	Pb	21 16 01.0	+1.2
	6.5nm,0.3s,baz=264,slow=18,SNR=15						
CMAR				Lg	Lg	21 16 36.1	
	6.8nm,0.3s,baz=263,slow=32,SNR=8.9						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**30.70**	**341**	P	P	21 21 23.2	-1.5
	0.4nm,0.7s,baz=156,slow=9.2,SNR=5.2						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**36.75**	**349**	P	P	21 22 17.3	+0.1
	0.8nm,0.4s,baz=159,slow=6.2,SNR=1.5						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**53.40**	**133**	P	P	21 24 31.1	+1.1
	0.5nm,0.7s,baz=320,slow=7.2,SNR=2.8						
	0.5nm,0.7s						

*TEH **11** 21:22:45.6, 33˚81N×45˚72E, h8km±62km, ML3.4*
*ISN **11** 21:22:46.8±1.5, 33˚74N×45˚63E, h38km±6km, ML3.3*

ISC 11 21:22:45.0±0.8, **33˚71N**±0˚03×**45˚69E**±0˚04, **h13**km, **n22**, σ1**36**/26, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.44**	**101**	Pg	**Pb**	**21 22 54.7**	**0.0**
IBDR	**Badra**	**0.63**	**161**	*e*Pg	Pn	**21 23 00.0**	**+0.3**
IBDR				*e*Sg	**Sn**	**21 23 11.0**	**+1.4**
IBDR				AML	AML	21 23 16.6	
	comp=N,386nm,0.6s						
KGS1	**Ghasr-e-Shirin**	**0.80**	**354**	Pg	**Pg**	**21 22 59.3**	**-1.2**
IGHG	**Ghaleghazi**	**0.95**	**50**	Pg	**Pb**	**21 23 03.3**	**-0.3**
IDHR	**Dehrash**	**1.14**	**30**	Pg	**Pb**	**21 23 05.6**	**-1.1**
BHD	**Baghdad**	**1.18**	**248**	*e*Pg	**Pb**	**21 23 07.0**	**-0.3**
BHD				*e*Sg	**Sg**	**21 23 24.0**	**+0.9**
BHD				AML	AML	21 23 29.6	
	comp=E,2μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.25**	**63**	Pg	**Pg**	**21 23 08.5**	**-0.7**
IKOM	**Komasi**	**1.58**	**73**	Pg	**Pg**	**21 23 14.8**	**-0.6**
ILIN	**Lien**	**1.60**	**41**	Pg	**Pb**	**21 23 15.0**	**-0.8**
IKFM	**Kafar-mosalman**	**1.81**	**95**	Pg	**Pn**	**21 23 18.4**	**-1.4**
IBZA	**Bozab**	**1.95**	**67**	Pn	**Pb**	**21 23 20.3**	**-0.3**
RAFI	**Al-Rafai**	**2.02**	**170**	*e*Pn	**Pb**	**21 23 21.0**	**-0.5**
RAFI				*e*Sn	**Sb**	**21 23 45.0**	**-1.5**
IKRK	**Kirkuk**	**2.02**	**327**	*e*Pn	**Pn**	**21 23 19.0**	**+0.2**
IKRK				*e*Sn	**Sn**	**21 23 44.0**	**+0.1**
SDS1	**Sardasht. Az.**	**2.44**	**356**	Pn	**Pn**	**21 23 26.7**	**+2.0**
HSAM	**Samen**	**2.47**	**78**	Pn	**Pb**	**21 23 27.1**	**-2.4**
MAHB	**Mahabad**	**3.05**	**0**	Pn	**Pn**	**21 23 35.1**	**+2.0**
IRAZ	**Razeghan**	**3.88**	**63**	Pn	**Pn**	**21 23 46.7**	**+2.1**
ISHB	**Shabestar**	**4.56**	**359**	Pn	**Pn**	**21 23 54.8**	**+0.8**
IQOM	**Qom**	**4.59**	**74**	Pn	**Pn**	**21 23 55.4**	**+0.9**
QAMS	**Qamsar**	**4.76**	**88**	Pn	**Pn**	**21 23 59.0**	**+2.4**
KRSH	**Karshahi**	**5.37**	**85**	Pn	**Pn**	**21 24 06.9**	**+1.9**
ISFB	**Sefidab**	**5.48**	**81**	Pn	**Pn**	**21 24 07.7**	**+1.3**

*NAO **11** 21:50:33.7, 32˚78N×47˚26E, h33km, mb3.9*
*IDC **11** 21:50:42.1±0.5, 33˚77N×45˚74E, h0km, mb4.3/26, mbtmp4.3/36, ML3.4/8, MS3.5/12, Error ellipse: s-maj=11.2km s-min=9.2km az=152.0*
*MOS **11** 21:50:43.0±1.5, 33˚76N×45˚74E, h13km, mb4.5/34, Error ellipse: s-maj=6.0km s-min=3.7km az=109.7*
*NEIC **11** 21:50:44.9±1.2, 33˚68N±0˚05×45˚67E±0˚08, h10km±1km, mb4.7/122, Error ellipse: s-maj=11.6km s-min=6.5km az=118.0*
*TEH **11** 21:50:44.2, 33˚78N×45˚69E, h8km±45km, ML4.4*
*GII **11** 21:50:46.4±0.5, 33˚58N×45˚75E, h10km, Mws4.5, confirmed*
*ISN **11** 21:50:47.2±0.9, 33˚84N×45˚73E, h32km±4km, ML4.3*
*AFAD **11** 21:50:48.0±0.0, 34˚07N×45˚07E, h15km, MW4.3*
*OMAN **11** 21:50:51.1±1.4, 33˚20N×46˚22E, h7km, mb4.4/28, ms3.3/6, Error ellipse: s-maj=23.6km s-min=11.5km az=34.0*

ISC 11 21:50:45.5±0.7, **33˚76N**±0˚03×**45˚78E**±0˚03, **h18**km±3km, **n531**, σ1**53**/556, **mb4.6**/146, **MS3.4**/5, **25C-15D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.39**	**111**	Pg	**Pg**	**21 50 53.7**	**+0.1**
IBDR	**Badra**	**0.67**	**169**	*e*Pg	**Pn**	**21 51 02.0**	**+2.0**
IBDR				*e*Sg	**Sn**	**21 51 12.0**	**+2.0**
IBDR				AML	AML	21 51 14.1	
	comp=E,6μm,0.6s						
IBDR				AML	AML	21 51 20.6	
	comp=N,5μm,0.4s						
KGS1	**Ghasr-e-Shirin**	**0.76**	**348**	Pg	**Pg**	**21 50 58.8**	**-1.5**
IGHG	**Ghaleghazi**	**0.87**	**49**	Pg	**Pg**	**21 51 02.0**	**-0.5**
IDHR	**Dehrash**	**1.06**	**28**	Pg	**Pg**	**21 51 05.0**	**-1.1**
KCHF	**Cheshme Sefid,**	**1.17**	**64**	Pg	**Pb**	**21 51 08.0**	**+0.7**
BHD	**Baghdad**	**1.27**	**247**	*e*Pg	**Pg**	**21 51 10.0**	**+0.1**
BHD				*e*Sg	**Sn**	**21 51 27.0**	**+2.2**
BHD				AML	AML	21 51 30.1	
	comp=E,26μm,0.5s						
IKOM	**Komasi**	**1.50**	**74**	Pg	**Pn**	**21 51 14.2**	**+2.5**
IKOM				Sg	**Sg**	**21 51 37.8**	**+3.8**
ILIN	**Lien**	**1.51**	**40**	Pg	**Pn**	**21 51 14.0**	**+2.0**
IKFM	**Kafar-mosalman**	**1.75**	**97**	Pn	**Pn**	**21 51 17.8**	**+2.9**
IBZA	**Bozab**	**1.87**	**67**	Pn	**Pn**	**21 51 19.5**	**+2.6**
IKRK	**Kirkuk**	**2.02**	**324**	*e*Pn	**Pn**	**21 51 20.0**	**+1.4**
IKRK				*e*Sn	**Sn**	**21 51 44.0**	**+0.6**
RAFI	**Al-Rafai**	**2.06**	**172**	*e*Pn	**Pn**	**21 51 22.0**	**+2.9**
RAFI				*e*Sn	**Sb**	**21 51 49.0**	**+1.5**
IALM	**Almabolaq**	**2.26**	**60**	Pn	**Pn**	**21 51 25.3**	**+3.0**
HSAM	**Samen**	**2.39**	**78**	Pn	**Pn**	**21 51 26.5**	**+2.4**
SDS1	**Sardasht. Az.**	**2.39**	**354**	Pn	**Pn**	**21 51 26.0**	**+2.1**
HAGD	**Aghdareh**	**2.98**	**68**	Pn	**Pn**	**21 51 35.0**	**+2.9**
MAHB	**Mahabad**	**3.00**	**359**	Pn	**Pn**	**21 51 34.1**	**+1.9**
IRAZ	**Razeghan**	**3.80**	**63**	Pn	**Pn**	**21 51 46.3**	**+3.0**
CUKT	**Cukurca**	**3.90**	**334**	P	**Pn**	**21 51 44.1**	**-0.5**
QSDN	**Sirdan**	**3.90**	**45**	Pn	**Pn**	**21 51 47.1**	**+2.3**
IAZR	**Azarshahr**	**3.91**	**2**	Pn	**Pn**	**21 51 47.1**	**+2.2**
YOVA	**Hakkari_Yksek**	**4.00**	**343**	P	**Pn**	**21 51 47.2**	**+1.1**
HAKT	**HAKKARI**	**4.14**	**337**	P	**Pn**	**21 51 47.5**	**-0.6**
HAKT				*i* AML	AML	21 52 28.0	
	comp=E,153nm,0.6s						
HAKT				S	**Sn**	**21 52 35.0**	**-1.2**
ISRB	**Sarab**	**4.33**	**20**	Pn	**Pn**	**21 51 52.7**	**+2.0**
IPIR	**Pirpir**	**4.42**	**103**	Pn	**Pn**	**21 51 54.0**	**+2.0**
IMHD	**Mahdasht**	**4.46**	**63**	Pn	**Pn**	**21 51 54.6**	**+2.2**
ITBZ	**Tabriz**	**4.47**	**4**	Pn	**Pn**	**21 51 53.6**	**+1.1**
IQOM	**Qom**	**4.51**	**75**	Pn	**Pn**	**21 51 54.8**	**+1.6**
ZNJN	**Zangian**	**4.58**	**115**	Pn	**Pn**	**21 51 55.4**	**+1.3**
SIRN	**Sirnak**	**4.62**	**325**	P	**Pn**	**21 51 55.2**	**+0.7**
SIRN				S	**Sn**	**21 52 43.5**	**-4.3**
IHRS	**Heris**	**4.66**	**12**	Pn	**Pn**	**21 51 57.6**	**+2.4**
QAMS	**Qamsar**	**4.68**	**89**	Pn	**Pn**	**21 51 57.7**	**+2.2**
IKLH	**Kolahrood**	**4.87**	**94**	Pn	**Pn**	**21 52 00.0**	**+2.0**
PERV	**Siirt/Pervari-**	**4.93**	**329**	P	**Pn**	**21 51 59.9**	**+1.1**
IMRD	**Marand**	**4.94**	**359**	Pn	**Pn**	**21 52 00.6**	**+1.6**
IBRJ	**Brojen**	**4.97**	**110**	Pn	**Pn**	**21 52 00.6**	**+1.1**
GEVA	**Gevas**	**5.04**	**335**	P	**Pn**	**21 52 01.5**	**+1.1**
IVRN	**Varamin**	**5.07**	**74**	Pn	**Pn**	**21 52 02.4**	**+1.7**
MIDY	**Mardin/Midyat-**	**5.09**	**317**	P	**Pn**	**21 52 00.7**	**-0.3**
OZAP	**Van, Ozalp-Mer**	**5.09**	**344**	P	**Pn**	**21 52 02.9**	**+1.8**
TVAN	**Van**	**5.13**	**339**	P	**Pn**	**21 52 04.0**	**+2.4**
KLST	**Kelardasht - M**	**5.13**	**56**	Pn	**Pn**	**21 52 04.3**	**+2.6**
GAS1	**Astara - Iran**	**5.24**	**27**	Pn	**Pn**	**21 52 05.4**	**+2.6**
KRSH	**Karshahi**	**5.30**	**86**	Pn	**Pn**	**21 52 05.9**	**+2.0**
GRMI	**Germi**	**5.32**	**18**	Pn	**Pn**	**21 52 06.0**	**+1.8**
MARD	**Mardin**	**5.40**	**312**	P	**Pn**	**21 52 04.0**	**-1.2**
MARD				S	**Sn**	**21 53 04.9**	**-2.1**
MARD				*i* AML	AML	21 53 40.0	
	comp=E,517nm,0.8s						
NAX	**Nakhchivan**	**5.40**	**358**	P	**Pn**	**21 52 07.2**	**+1.9**
IGAR	**Gharneh**	**5.43**	**103**	Pn	**Pn**	**21 52 07.3**	**+1.5**
MZPU	**Pul - Mazandar**	**5.45**	**59**	Pn	**Pn**	**21 52 08.9**	**+2.9**
IDMV	**Damavand**	**5.46**	**69**	Pn	**Pn**	**21 52 08.0**	**+1.7**
LKRN	**Lenkeran, Azer**	**5.50**	**25**	P	**Pn**	**21 52 11.0**	**+4.5**
IZEF	**Zefreh**	**5.55**	**97**	Pn	**Pn**	**21 52 09.4**	**+1.9**
CLDR	**Caldiran**	**5.57**	**345**	P	**Pn**	**21 52 07.9**	**+0.2**
ADCV	**BITLIS_Adilcev**	**5.60**	**335**	P	**Pn**	**21 52 07.9**	**-0.2**
KLNJ	**Kolanjah**	**5.64**	**118**	Pn	**Pn**	**21 52 10.6**	**+1.9**
MAKU	**Maku**	**5.65**	**351**	Pn	**Pn**	**21 52 10.6**	**+1.9**
GURO	**Guroymak-BITLI**	**5.66**	**329**	Pn	**Pn**	**21 52 08.7**	**-0.1**
SVAN	**Siivan-Diyarba**	**5.74**	**321**	P	**Pn**	**21 52 11.8**	**+1.7**
IRAM	**Ramesheh**	**5.90**	**108**	Pn	**Pn**	**21 52 13.8**	**+1.7**
IPRN	**Peran**	**5.93**	**64**	Pn	**Pn**	**21 52 15.6**	**+3.1**
MUSM	**Mu-Merkez**	**6.03**	**326**	P	**Pn**	**21 52 13.1**	**-0.8**
IFIR	**Firoozkooh**	**6.05**	**70**	Pn	**Pn**	**21 52 16.9**	**+2.6**
DORK	**Agr/Tutak/Do**	**6.11**	**338**	P	**Pn**	**21 52 15.6**	**+0.6**
ILAS	**Lasjerd**	**6.14**	**73**	Pn	**Pn**	**21 52 17.4**	**+1.8**
IGDI	**IGDIR**	**6.24**	**348**	P	**Pn**	**21 52 19.2**	**+2.4**
HANI	**Diyarbakir_Han**	**6.36**	**318**	P	**Pn**	**21 52 17.8**	**-0.6**
KOTA	**Agri, Merkez-K**	**6.37**	**342**	P	**Pn**	**21 52 19.8**	**+1.2**
GNI	**Garni**	**6.43**	**353**	Pn	**Pn**	**21 52 22.2**	**+2.9**
GNI	**Garni**	**6.43**	**353**	P	**Pn**	**21 52 22.3**	**+2.9**
GNI	**Garni**	**6.43**	**353**	Pn	**Pn**	**21 52 20.5**	**+1.1**
	comp=E,0.6nm,0.3s,baz=76,slow=14,SNR=3.0						
GNI				Lg	Lg	21 54 07.3	
	baz=52,slow=19						
GNI				LR	LR	21 54 41.0	
	comp=E,79nm,19.1s,baz=172,slow=37						
	comp=E,41nm,1.3s						
SANL	**SANLIURFA_Merk**	**6.50**	**303**	P	**Pn**	**21 52 18.1**	**-2.1**
ANAR	**Anarak**	**6.67**	**93**	Pn	**Pn**	**21 52 23.9**	**+1.2**
GANJ	**Ganja**	**6.88**	**3**	P	**Pn**	**21 52 28.2**	**+2.7**
KOVA	**Elazig, Kovanc**	**6.89**	**317**	P	**Pn**	**21 52 25.3**	**-0.4**
IANJ	**Anjilo**	**6.92**	**74**	Pn	**Pn**	**21 52 27.9**	**+1.6**
SHI	**Shiraz**	**7.06**	**124**	Pn	**Pn**	**21 52 29.5**	**+1.4**
ATAB	**Bozova**	**7.12**	**303**	P	**Pn**	**21 52 27.4**	**-1.5**
DSBU	**Dashti - Bushe**	**7.15**	**137**	Pn	**Pn**	**21 52 30.0**	**+0.7**
TNCL	**Tunceli-Merkez**	**7.33**	**319**	P	**Pn**	**21 52 32.2**	**+0.5**
MAYA	**Malatya/Merkez**	**7.49**	**309**	P	**Pn**	**21 52 33.3**	**-1.7**
GZTP	**Gaziantep**	**7.59**	**300**	P	**Pn**	**21 52 33.3**	**-2.0**
ASF	**Jabal al Asfar**	**7.63**	**260**	Pn	**Pn**	**21 52 34.5**	**-1.3**
	comp=E,2.0nm,0.3s,baz=47,slow=6.7,SNR=16						
ASF				Sn	**Sn**	**21 53 57.9**	**-4.0**
	comp=E,3.3nm,0.3s,baz=138,slow=15,SNR=1.9						
ASF				Lg	Lg	21 54 43.5	
	comp=E,6.6nm,0.3s,baz=171,slow=18,SNR=2.2						
ASF				LR	LR	21 56 18.8	
	comp=E,461nm,20.4s,baz=345,slow=44						
	comp=E,4.1nm,0.3s						
AKCA	**Adyaman/G¶l**	**7.70**	**304**	P	**Pn**	**21 52 35.0**	**-1.9**
GAZ	**Gaziantep**	**7.77**	**298**		**Pn**	**21 52 38.0**	**+0.3**
AKCD	**Akcadag**	**7.80**	**308**	P	**Pn**	**21 52 38.2**	**0.0**
IMEH	**Mehriz**	**7.83**	**105**	Pn	**Pn**	**21 52 39.6**	**+0.9**
ZKTA	**Zakatala**	**7.89**	**5**	P	**Pn**	**21 52 42.0**	**+2.7**
ARPR	**Arapgir-MALATY**	**8.01**	**314**	Pn	**Pn**	**21 52 41.5**	**+0.3**
HCB	**Kahramanmara**	**8.06**	**299**	P	Pn	21 52 37.7	-4.0
KHMR	**Kahramanmara**	**8.06**	**299**	P	**Pn**	**21 52 38.8**	**-2.9**
HASA	**Hatay-Hassa-Ha**	**8.16**	**294**	P	**Pn**	**21 52 42.0**	**-1.0**
QIR1	**Qir**	**8.16**	**128**	Pn	**Pn**	**21 52 43.9**	**+0.7**
NATI	**Neve Ativ**	**8.40**	**269**	S	**Sn**	**21 54 23.9**	**+3.2**
NATI	**Neve Ativ**	**8.40**	**269**	P	**Pn**	**21 52 48.0**	**+1.7**
GEM	**Giv'at Ha'Em**	**8.46**	**269**	S	**Sn**	**21 54 25.4**	**+3.0**
GEM	**Giv'at Ha'Em**	**8.46**	**269**	P	**Pn**	**21 52 48.8**	**+1.5**
SWQJ	**Swaqa**	**8.58**	**256**	P		21 53 32.4	
MMA0B	**Mount Meron ar**	**8.71**	**268**	P	**Pn**	**21 52 51.8**	**+1.2**
MMAI	**Mount Meron Ar**	**8.71**	**268**	Pn	**Pn**	**21 52 49.0**	**-1.6**
	comp=E,1.3nm,0.3s,baz=72,slow=14,SNR=7.0						
MMAI				Sn	**Sn**	**21 54 27.4**	**-1.0**
	comp=E,2.3nm,0.3s,baz=82,slow=15,SNR=1.2						
MMAI				Lg	Lg	21 55 17.6	
	comp=E,6.7nm,0.3s,baz=72,slow=37,SNR=2.6						
MMAI				LR	LR	21 57 09.5	
	comp=E,423nm,18.1s,baz=72,slow=45						
	comp=E,0.6nm,0.3s						
HMDT	**Nahal Hemdat**	**8.74**	**263**	P		21 53 34.1	
HMDT				S		21 55 19.0	
HMDT	**Nahal Hemdat**	**8.74**	**263**	P	**Pn**	**21 52 53.3**	**+2.3**
MMLI	**Mount Malkishu**	**8.79**	**264**	P	**Pn**	**21 52 53.3**	**+1.6**
SAKB	**Bahrain**	**8.79**	**151**	P	**Pn**	**21 52 53.2**	**+0.6**
SAKB				S	**Sn**	**21 54 27.0**	**-3.3**
UJAP	**Al Uja**	**8.86**	**261**	P		21 53 36.2	
KARJ	**KARJ**	**8.95**	**256**	P		21 53 36.6	
GHAJ	**Ghor Haditha**	**8.96**	**257**	Pn	**Pn**	**21 52 52.9**	**-1.1**
GHAJ	**Ghor Haditha**	**8.96**	**257**	P		21 53 43.8	
ONI	**Oni**	**9.00**	**349**	Pn	**Pn**	**21 52 57.8**	**+3.2**
ONI	**Oni**	**9.00**	**349**	P	**Pn**	**21 52 57.8**	**+3.2**
TNSJ	**Nastanj**	**9.01**	**86**	Pn	**Pn**	**21 52 56.7**	**+1.8**
SHMA	**Al-Shehemyia**	**9.08**	**149**	P	**Pn**	**21 52 56.5**	**+0.8**
SHMA				S	Sn	21 54 29.2	-8.1
OFRI	**`Ofer**	**9.11**	**266**	P	**Pn**	**21 52 57.3**	**+1.1**
ZEI	**Tsey**	**9.13**	**351**	*e*P	Pn	21 53 05.7	+9.2
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
SLTI	**Sal'it**	**9.14**	**263**	P	**Pn**	**21 52 58.3**	**+1.8**
TPRV	**Parvadeh(Tabas**	**9.15**	**92**	Pn	**Pn**	**21 52 58.9**	**+2.1**
MAK	**Makhachkala**	**9.28**	**8**	*e*P	**Pn**	**21 52 56.2**	**-2.2**
MAK				*e*S	**Sn**	**21 54 40.2**	**-2.1**
MAK				pmax	pmax		
	comp=Z,556nm,1.4s						
MAK				MLR	MLR		
	comp=Z,485nm,15.0s						
YTIR	**Yattir**	**9.31**	**258**	P	**Pn**	**21 53 01.3**	**+2.4**
BNN	**Bunyan**	**9.48**	**305**	Pn	**Pn**	**21 53 01.2**	**-0.1**
PRNI	**Paran**	**9.75**	**253**	P	**Pn**	**21 53 05.5**	**+0.6**
HRFI	**Mount Harif**	**9.85**	**251**	P	**Pn**	**21 53 07.8**	**+1.5**
SMRA	**Abu-Samra**	**10.01**	**153**	P	**Pn**	**21 53 08.6**	**+0.2**
SMRA				S	Sn	21 54 53.3	-6.9
KZIT	**Kziot**	**10.04**	**257**	P	**Pn**	**21 53 10.1**	**+1.2**
EIL	**Elat**	**10.08**	**249**	Pn	**Pn**	**21 53 08.3**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=156,slow=6.8,SNR=8.2						
EIL				Lg	Lg	21 56 01.8	
	comp=Z,1.3nm,0.3s,baz=270,slow=20,SNR=2.1						
EIL				LR	LR	21 57 56.9	
	comp=Z,279nm,18.2s,baz=70,slow=43						
	comp=Z,2.0nm,0.3s						
TRNA	**Turayna**	**10.17**	**151**	P	**Pn**	**21 53 11.1**	**+0.5**
	SNR=17						
NGRK	**Negar Kerman**	**10.19**	**111**	Pn	**Pn**	**21 53 13.1**	**+1.8**
KBZ	**Khabaz**	**10.20**	**348**	*i* P	**Pn**	**21 53 11.5**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**10.20**	**348**	Pn	**Pn**	**21 53 13.1**	**+2.2**
	baz=162,slow=6.4,SNR=2.3						
KBZ				LR	LR	21 57 47.7	
	comp=Z,145nm,18.6s,baz=156,slow=42						
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**10.46**	**348**	Pn	**Pn**	**21 53 16.9**	**+2.3**
KIV	**Kislovodsk**	**10.46**	**348**	*e*P	**Pn**	**21 53 14.4**	**-0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,50nm,13.0s						
JRN	**Qarnain Island**	**10.74**	**143**	P	**Pn**	**21 53 18.5**	**+0.1**
GEYT	**Alibeck**	**10.84**	**64**	Pn	**Pn**	**21 53 18.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=250,slow=21,SNR=1.2						
	comp=Z,0.7nm,0.4s						
SOC	**Sochi**

VRH Novokhopyorsk 17.68 352 *e*P **Pn** **21 54 49.2 -1.4**
VRH pmax pmax
comp=Z,20nm,0.5s
ABTO Aybut 17.68 156 P **Pn** **21 54 47.0 -4.0**
SNR=13
VORD Divnogorie 17.83 347 *e*P **Pn** **21 54 51.0 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.6s
RBK Rabkut 17.87 153 P **Pn** **21 54 51.2 -2.1**
DMTO DMTO 17.97 151 P **Pn** **21 54 51.0 -3.5**
SNR=44
SHAO Shalim 17.99 148 *i* Pn **Pn** **21 54 51.0 -3.7**
SNR=33
SHAO Shalim 17.99 148 P **Pn** **21 54 51.0 -3.7**
SNR=34
SHAO S Sn 21 58 06.0 -9.0
VSR Storozhevoye 18.09 347 *e*P **Pn** **21 54 52.8 -3.0**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VORR Voronezh 18.52 347 *e*P **P** **21 54 58.2 -2.6**
VORR pmax pmax
comp=Z,20nm,0.4s
BELG Belogornoye 18.67 4 *i* P **P** **21 55 01.8 -0.5**
BELG pmax pmax
comp=Z,4.0nm,0.6s
BELG Belogornoye 18.67 4 P **P** **21 55 01.6 -0.7**
comp=Z,27nm,0.5s,baz=359,slow=0.9,SNR=21
BELG S **Sn** **21 58 32.1 +1.1**
comp=Z,17nm,0.8s,baz=82,slow=5.5,SNR=2.8
ABKAR Akbulak array 18.71 30 P **P** **21 55 03.8 +0.9**
AKTO Aktyubinsk 18.93 25 P **P** **21 55 05.2 -0.1**
comp=Z,0.5nm,0.3s,baz=207,slow=10,SNR=12
AKTO LR LR 22 04 52.8
comp=Z,147nm,18.1s,baz=5.0,slow=45
comp=Z,3.8nm,0.6s
NEHR Nehoiu 18.95 314 ⇓P **P** **21 55 06.4 +0.9**
PLOR Plostina 18.96 315 ⇓P **Pn** **21 55 07.9 +1.5**
PLOR Plostina 18.96 315 ⇓P **Pn** **21 55 07.9 +1.5**
SRS Serrai 19.05 299 P **P** **21 55 07.7 +1.0**
SRS pmax pmax
comp=Z,16nm,1.0s
MLR Muntele Rosu 19.19 313 ⇑P **P** **21 55 09.8 +1.5**
MLR Muntele Rosu 19.19 313 P **P** **21 55 08.1 -0.2**
MLR Muntele Rosu 19.19 313 ⇑P **P** **21 55 09.8 +1.5**
MLR Muntele Rosu 19.19 313 P **P** **21 55 08.9 +0.5**
comp=Z,4.4nm,0.6s,baz=12,slow=5.8,SNR=12
MLR LR LR 22 04 23.1
comp=Z,193nm,18.6s,baz=137,slow=43
COVR Voineasa-Covas 19.22 315 ⇓P **P** **21 55 08.3 -0.3**
SIMJ Simiganj 19.36 69 P **P** **21 55 11.2 +1.0**
SORM Soroca 19.41 323 ⇓P **P** **21 55 09.3 -1.2**
SORM Soroca 19.41 323 ⇓P **P** **21 55 09.3 -1.2**
TURR Turia 19.44 315 ⇑P **P** **21 55 11.9 +1.0**
LPSR Galich'ya Gora 19.46 347 *e*P **P** **21 55 08.5 -2.6**
LPSR pmax pmax
comp=Z,80nm,0.7s
AGG Agios Georgios 19.57 292 P **P** **21 55 13.3 +0.9**
AGG Agios Georgios 19.57 292 P **P** **21 55 13.3 +0.9**
AGG pmax pmax
comp=Z,13nm,0.8s
KNT Kendrikon 19.57 299 P **P** **21 55 13.7 +1.3**
KNT pmax pmax
comp=Z,6.0nm,0.8s
OZUR 19.60 315 ⇓P **P** **21 55 12.9 +0.2**
BOSR Bodos 19.66 315 ⇑P **P** **21 55 14.1 +0.7**
VOIR 19.71 312 ⇑P **P** **21 55 15.2 +1.2**
VOIR 19.71 312 ⇑P **P** **21 55 15.2 +1.2**
DOPR Dopca 19.77 314 ⇓P **P** **21 55 15.3 +0.8**
GRG Griva 19.88 298 P **P** **21 55 16.2 +0.4**
GRG pmax pmax
comp=Z,14nm,1.1s
ARR Arges 19.93 312 ⇓P **P** **21 55 17.2 +0.8**
BLKB Belogradchik 20.48 305 ⇓P **P** **21 55 22.4 0.0**
LOT Lotru 20.51 311 ⇑P **P** **21 55 22.5 -0.2**
FNA Florina 20.60 297 P **P** **21 55 23.4 -0.2**
FNA Florina 20.60 297 P **P** **21 55 23.5 -0.2**
FNA pmax pmax
comp=Z,10.0nm,0.6s
BURAR Bucovina Array 20.76 318 ⇓P **P** **21 55 25.3 -0.1**
BURAR Bucovina Array 20.76 318 ⇓P **P** **21 55 25.3 -0.1**
AKASG Malin Array Be 20.82 329 P **P** **21 55 24.2 -1.6**
comp=Z,8.6nm,0.6s,baz=137,slow=10,SNR=56
comp=Z,8.6nm,0.6s
AKBB Malin Array Si 20.82 329*ce*P **P** **21 55 23.9 -1.9**
AKBB pmax pmax
comp=Z,13nm,0.6s
KIEV Kiev 20.82 329 ⇑P **P** **21 55 24.8 -1.0**
KIEV Kiev 20.82 329 P **P** **21 55 24.7 -1.1**
KIEV IAmb IAmb 21 55 25.7
comp=Z,12nm,0.6s
KIEV Kiev 20.82 329 ⇑P **P** **21 55 24.8 -1.0**
KIEV Kiev 20.82 329 *i* P **P** **21 55 24.3 -1.5**
SNR=9.7
BTK Batken 20.95 65 P **P** **21 55 29.0 +1.5**
BTK Batken 20.95 65 P **P** **21 55 29.0 +1.5**
BTK pmax pmax
comp=Z,9.0nm,0.6s
DJES Djerdap 20.98 308 P **P** **21 55 27.4 -0.3**
OHR Ohrid 21.10 298 P **P** **21 55 32.5 +3.4**
OHR pmax pmax
comp=Z,26nm,1.0s
GZR Gura Zlata 21.11 310 ⇑P **P** **21 55 29.6 +0.5**
HERR Herculane 21.13 309 ⇑P **P** **21 55 29.1 -0.2**
IGT Igoumenitsa 21.18 293 P **P** **21 55 28.2 -1.6**
IGT pmax pmax
comp=Z,54nm,0.6s
KK31 Karatay Array 21.44 57 P **P** **21 55 32.3 -0.4**
KK31 Karatay Array 21.44 57 P **P** **21 55 32.3 -0.4**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 21.44 57 P **P** **21 55 34.9 +2.2**
KKAR Karatay Array 21.44 57 P **P** **21 55 34.9 +2.2**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
MARR Marisel-Cluj 21.49 314 ⇑P **P** **21 55 33.5 +0.3**
MDVR Moldovita 21.55 308 ⇑P **P** **21 55 33.9 0.0**
KEK Kerkira 21.61 293 P **P** **21 55 32.6 -1.9**
BMR Baia Mare 21.77 316 P **P** **21 55 37.3 +1.2**
BMR pmax pmax
comp=Z,16nm,0.7s
BZS Buzias 21.95 310 ⇓P **P** **21 55 38.7 +0.6**
BZS Buzias 21.95 310 ⇓P **P** **21 55 38.7 +0.6**
SIRR Siria 22.20 311 ⇓P **P** **21 55 40.6 -0.1**
OBN Obninsk 22.30 346 P **P** **21 55 40.2 -1.4**
OBN IAmb IAmb 21 55 52.2
comp=Z,20nm,0.5s
OBN Obninsk 22.30 346*ce*P **P** **21 55 40.0 -1.7**
OBN *e* 21 56 03.1
OBN pmax pmax
comp=Z,13nm,0.7s
OBN MLR MLR
comp=Z,117nm,15.0s
SCTE Santa Cesarea 22.67 294 P **P** **21 55 43.7 -2.1**
SCTE IAmb IAmb 21 55 45.1
comp=Z,32nm,0.7s
MOS Moscow 22.69 348 *e*P **P** **21 55 44.0 -1.9**
ARSB Arslanbob 22.79 63 P **P** **21 55 48.2 +0.9**
ARSB Arslanbob 22.79 63 P **P** **21 55 48.2 +0.9**
ARSB pmax pmax
comp=Z,2.0nm,1.1s
NIL Nilore 22.84 83 P **P** **21 55 49.1 +1.4**
NIL IAmb IAmb 21 55 52.0
comp=Z,16nm,1.2s
NIL Nilore 22.84 83 P **P** **21 55 49.1 +1.4**
NIL pmax pmax
comp=Z,17nm,1.2s
KOLS Kolonicke sedl 23.12 318 *e*P **P** **21 55 52.3 +1.8**
KOLS pmax pmax
comp=Z,10.0nm,0.6s
KOLS Kolonicke sedl 23.12 318 *e*P **P** **21 55 52.3 +1.8**
KWP Kalwaria Pacla 23.27 320 *e*P **P** **21 55 53.5 +1.5**
KWP Kalwaria Pacla 23.27 320 P **P** **21 55 51.8 -0.2**
KWP Kalwaria Pacla 23.27 320 P **P** **21 55 51.8 -0.2**
KWP pmax pmax
comp=Z,13nm,1.2s
CRVS Cervenica-Dubn 23.57 317 *e*P **P** **21 55 56.4 +1.5**
CRVS pmax pmax
comp=Z,20nm,1.6s
CRVS Cervenica-Dubn 23.57 317 *e*P **P** **21 55 56.3 +1.4**
PSZ Piszkesteto 24.01 314 P **P** **21 55 58.3 -0.9**
PSZ Piszkesteto 24.01 314 P **P** **21 55 58.3 -0.9**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
MORH Mrgy, Hungar 24.09 309 ⇑P **P** **21 55 59.6 -0.3**

AAK Ala-Archa 24.15 60 P **P** **21 56 03.0 +2.3**
AAK Ala-Archa 24.15 60 P **P** **21 56 03.0 +2.3**
AAK pmax pmax
comp=Z,7.0nm,1.5s
MNK Minsk 24.25 334 *i* P **P** **21 55 59.3 -2.0**
comp=E,7.0nm,1.2s
MNK *i* P **P** **21 55 59.3 -2.0**
comp=N,5.0nm,0.8s
MNK *i* P **P** **21 55 59.3 -2.0**
comp=Z,17nm,0.8s,baz=142
MNK *i* PP **PnPn** **21 56 28.4 -2.8**
MNK *i* PPP PPP 21 56 35.5
MNK *i* S **S** **22 00 17.6 -1.4**
MNK *i* SS **SnSn** **22 01 01.4 -0.3**
MNK *i* SSS SSS 22 01 15.8
MNK *i* LQ LQ 22 03 30.8
MNK *i* LR LR 22 05 15.9
MNK *i* LRM MLR 22 06 32.4
comp=N,59nm,13.3s
MNK *i* LRM MLR 22 06 34.5
comp=E,56nm,12.4s
MNK *i* LRM MLR 22 07 08.4
comp=E,27nm,13.3s
MNK Minsk 24.25 334 *i* P **P** **21 55 59.2 -2.0**
MNK *i* PPP PPP 21 56 35.4
MNK *i* S **S** **22 00 17.5 -1.4**
MNK *i* SSS SSS 22 01 15.7
MNK pmax pmax
comp=E,7.0nm,1.2s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK MLR MLR
comp=N,59nm,13.0s
MNK MLR MLR
comp=Z,56nm,12.0s
MNK MLR MLR
comp=E,27nm,13.0s
ARU Arti 24.32 17 P **P** **21 56 02.2 +0.4**
ARU IAmb IAmb 21 56 18.5
comp=Z,7.7nm,0.7s
ARU Arti 24.32 17*c i* P **P** **21 56 01.8 0.0**
ARU 21 56 32.5
ARU S **S** **22 00 24.5 +4.6**
ARU SS **SnSn** **22 01 06.8 +3.6**
ARU pmax pmax
comp=Z,6.0nm,0.8s
BUD Budapest 24.35 312 P **P** **21 56 03.1 +0.8**
BUD pmax pmax
comp=Z,23nm,0.6s
CUC Castrocucco 24.69 293 P **P** **21 56 05.7 +0.2**
CUC IAmb IAmb 21 56 07.2
comp=Z,19nm,0.7s
LANS Liptovska Anna 24.83 316 *e*P **P** **21 56 08.2 +1.5**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 24.83 316 *e*P **P** **21 56 08.2 +1.5**
KSH Kashi 24.83 68 P **P** **21 56 05.8 -1.1**
KSH pmax pmax
comp=Z,9.0nm,0.5s
VYHS Vyhne 24.90 314 *e*P **P** **21 56 09.0 +1.8**
VYHS Vyhne 24.90 314 *e*P **P** **21 56 09.0 +1.8**
KIRV Kirov 24.95 5*ce*P **P** **21 56 07.3 -0.2**
KIRV Kirov 24.95 5 LR LR 22 06 21.6
comp=Z,107nm,18.9s,baz=122,slow=38
SGRT San Giovanni R 24.95 297 P **P** **21 56 06.7 -1.3**
SGRT IAmb IAmb 21 56 33.2
comp=Z,21nm,1.3s
NACGM Naroch 24.97 334 *e*P **P** **21 56 07.4 -0.4**
comp=E,617nm,0.7s
SVE Sverdlovsk 25.21 19 *e*P **P** **21 56 10.9 +1.0**
SVE pmax pmax
comp=Z,9.0nm,1.0s
JAVC Velka Javorina 25.75 314 *e*P **P** **21 56 16.0 +1.0**
SMOL Smolenice 25.75 313 *e*P **P** **21 56 16.6 +1.6**
SMOL pmax pmax
comp=Z,3.0nm,0.8s
SUW Suwalki 25.78 329 *e*P **P** **21 56 13.2 -1.9**
MODS Modra-Piesok 25.79 313 *e*P **P** **21 56 16.9 +1.6**
MODS pmax pmax
comp=Z,10.0nm,0.9s
MODS Modra-Piesok 25.79 313 *e*P **P** **21 56 16.9 +1.6**
ZST Bratislava 25.82 313 *e*P **P** **21 56 16.8 +1.2**
ZST Bratislava 25.82 313 *e*P **P** **21 56 16.8 +1.2**
MAUC Maruska 25.88 315 *e*P **P** **21 56 18.0 +1.8**
BRVK Borovoye 26.03 35 P **P** **21 56 20.1 +2.6**
BRVK Borovoye 26.03 35*ce*P **P** **21 56 18.0 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
BVAR Borovoye Array 26.06 35 P **P** **21 56 17.9 +0.2**
comp=Z,4.1nm,0.5s,baz=244,slow=5.4,SNR=45
BVAR PcP **PcP** **21 59 45.4 +0.2**
comp=Z,1.3nm,0.4s,baz=197,slow=2.4,SNR=9.9
comp=Z,4.1nm,0.5s
RONA Rosalia, Austr 26.13 311 *e*P **P** **21 56 19.6 +1.1**
comp=Z,2.6nm,0.5s
MORC Moravsky Berou 26.23 316 P **P** **21 56 18.9 -0.5**
MORC Moravsky Berou 26.23 316 *e*P **P** **21 56 18.8 -0.5**
MORC Moravsky Berou 26.23 316 P **P** **21 56 18.9 -0.5**
MORC pmax pmax
comp=Z,3.0nm,0.7s
INTR Introdacqua 26.35 298 P **P** **21 56 21.2 +0.7**
INTR IAmb IAmb 21 56 48.3
comp=Z,22nm,1.5s
ARSA Arzberg 26.47 310 *e*P **P** **21 56 22.3 +0.8**
comp=Z,1.8nm,0.5s
CONA Conrad Observa 26.49 311 *i* P **P** **21 56 23.0 +1.3**
comp=Z,3.1nm,0.7s,SNR=5.5
PABE Paberze 26.50 332 P **P** **21 56 20.9 -0.7**
PABE IAmb IAmb 21 56 53.7
comp=Z,10.0nm,0.7s
PABE Paberze 26.50 332 *e*P **P** **21 56 20.8 -0.7**
VRAC Vranov 26.58 315 *e*P **P** **21 56 22.1 -0.4**
KRUC Moravsky 26.60 314 *e*P **P** **21 56 22.0 -0.6**
CLTB Caltabellotta 26.65 288 P **P** **21 56 24.9 +1.6**
KRLC Kraliky 26.80 316 *e*P **P** **21 56 24.7 +0.2**
KRLC Kraliky 26.80 316 *e*P **P** **21 56 24.7 +0.2**
OBKA Obir 26.87 308 *e*P **P** **21 56 26.3 +1.1**
comp=Z,2.2nm,0.6s
DPC Dobruska-Polom 27.19 316 *e*P **P** **21 56 27.2 -0.8**
DPC Dobruska-Polom 27.19 316 *e*P **P** **21 56 27.2 -0.8**
OSTC Ostas 27.34 317 *e*P P 21 56 41.4 +12
SABO M.te Sabotino 27.35 306 P **P** **21 56 29.3 -0.2**
SABO IAmb IAmb 21 56 39.3
comp=Z,42nm,1.5s
CESX Cesi 27.40 299 P **P** **21 56 30.3 +0.3**
CESX IAmb IAmb 21 57 02.4
comp=Z,28nm,1.5s
KLMR Klimovskoe 27.41 353 *e*P **P** **21 56 28.1 -1.6**
KLMR *e* 21 57 13.0
KLMR pmax pmax
comp=Z,17nm,0.6s
CHVC Chvalec 27.45 317 *e*P **P** **21 56 29.5 -0.8**
CHVC Chvalec 27.45 317 *e*P **P** **21 56 29.5 -0.8**
PRED Cave del Predi 27.50 307 P **P** **21 56 31.7 +0.9**
PRED IAmb IAmb 21 56 36.3
comp=Z,6.0nm,0.8s
MYKA Terra Mystica 27.50 307 *e*pP pP 21 56 34.3 -2.1
comp=Z,4.3nm,0.5s
MURB Monte Urbino 27.54 300 P **P** **21 56 31.1 -0.1**
MURB IAmb IAmb 21 56 33.7
comp=Z,30nm,1.4s
PBUR Paburge 27.68 331 *e*P **P** **21 56 31.4 -0.8**
VSU Vasula 27.81 338 *e*P **P** **21 56 33.0 -0.3**
BIOA Bad Ischl, Aus 27.82 310 *e*P **P** **21 56 33.5 -0.1**
comp=Z,4.5nm,0.5s
KBA Koelnbreinsper 27.82 308 *e*P **P** **21 56 34.2 +0.4**
comp=Z,4.4nm,0.6s
CLUD Cludinico 27.96 307 P **P** **21 56 36.2 +1.3**
ZVC Zvikov 28.08 313 *e*P **P** **21 56 34.9 -1.0**
GERES GERESS Array B 28.16 312 P **P** **21 56 35.0 -1.8**
GERES GERESS Array B 28.16 312 P **P** **21 56 35.0 -1.8**
comp=Z,0.5nm,0.4s,baz=129,slow=7.8,SNR=4.3
comp=Z,0.5nm,0.4s
CIMO Cimolais 28.22 306 P **P** **21 56 37.0 -0.2**
CIMO IAmb IAmb 21 56 48.9
comp=Z,4.1nm,1.0s
KHC Kasperske Hory 28.34 312 P **P** **21 56 37.9 -0.4**
KHC Kasperske Hory 28.34 312 *e*P **P** **21 56 37.4 -0.9**
KHC Kasperske Hory 28.34 312 *e*P **P** **21 56 37.4 -0.9**
LESA Schwarzleotal 28.36 309 *e*P **P** **21 56 37.8 -0.7**
comp=Z,3.3nm,0.5s
LESA *e*PcP **PcP** **21 59 51.3 +0.5**
comp=Z,1.3nm,0.4s

CTI Castel Tesino 28.69 306 P **P** **21 56 41.4 -0.1**
CTI IAmb IAmb 21 56 42.2
comp=Z,5.3nm,0.6s
CTI Castel Tesino 28.69 306 P **P** **21 56 41.4 -0.1**
CTI pmax pmax
comp=Z,5.0nm,0.6s
MTSE Matsula 28.95 336 *e*P **P** **21 56 42.2 -1.2**
WTTA Wattenberg 29.00 308 *e*P **P** **21 56 43.6 -0.7**
comp=Z,2.3nm,0.4s
WTTA *e*PcP **PcP** **21 59 53.0 +0.4**
comp=Z,1.0nm,0.3s
WATA Walderalm 29.05 308 *e*P **P** **21 56 44.0 -0.8**
comp=Z,1.8nm,0.4s
KURBB Kurchatov Arra 29.23 45 P **P** **21 56 46.1 0.0**
comp=Z,1.9nm,0.7s,baz=250,slow=8.9,SNR=16
KURBB PcP **PcP** **21 59 53.1 +0.3**
comp=Z,0.5nm,0.5s,baz=240,slow=3.1,SNR=7.0
comp=Z,1.9nm,0.7s
SQTA Sankt Quirin 29.27 308 *i* P **P** **21 56 45.8 -0.8**
comp=Z,7.6nm,0.5s,SNR=11
SQTA *e*PcP **PcP** **21 59 54.1 +0.9**
comp=Z,1.1nm,0.4s
KURK Kurchatov 29.31 45 P **P** **21 56 48.4 +1.6**
KURK Kurchatov 29.31 45 *i* P **P** **21 56 47.8 +0.9**
KURK pmax pmax
comp=Z,3.0nm,1.0s
MOTA Moosalm 29.37 308 *i* P **P** **21 56 46.5 -1.1**
comp=Z,4.9nm,0.5s,SNR=7.8
MOTA *e*PcP **PcP** **21 59 54.2 +0.7**
comp=Z,0.6nm,0.4s
FETA Feichten 29.53 307 *i* P **P** **21 56 48.4 -0.6**
comp=Z,1.7nm,0.5s,SNR=5.5
MSSA Maissana 29.85 301 P **P** **21 56 52.3 +0.5**
KEST Kesra 29.89 284 P **P** **21 56 53.3 +1.1**
comp=Z,5.4nm,0.9s,baz=38,slow=7.8,SNR=5.9
comp=Z,5.4nm,0.9s
MEF Metsahovi 29.93 339 *e*P **P** **21 56 52.7 +0.5**
DAVA Damuels 30.16 307 *e*P **P** **21 56 53.5 -1.1**
comp=Z,9.5nm,0.5s
MAKZ Makanchi 30.26 54 P **P** **21 56 56.5 +1.2**
MAKZ IAmb IAmb 21 56 57.8
comp=Z,3.2nm,0.6s
MAKZ Makanchi 30.26 54 P **P** **21 56 56.5 +1.2**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
TUE Stuetta 30.34 306 P **P** **21 56 57.0 +0.8**
FINES FINESS Array B 30.46 341 P **P** **21 56 55.5 -1.4**
comp=Z,1.6nm,0.3s,baz=145,slow=14,SNR=29
comp=Z,1.6nm,0.3s
MK31 Makanchi Array 30.46 54*ce*P **P** **21 56 58.5 +1.4**
MKAR Makanchi Array 30.46 54 P **P** **21 56 58.2 +1.0**
comp=Z,8.1nm,0.5s,baz=254,slow=9.6,SNR=184
MKAR LR LR 22 12 16.7
comp=Z,75nm,19.6s,baz=146,slow=42
comp=Z,8.1nm,0.5s
RAF Rauma 31.38 338 *e*P **P** **21 57 03.6 -1.3**
SENIN Lac Senin/Sane 31.71 305 P **P** **21 57 07.5 -0.9**
BNI Bardonecchia 31.95 302 P **P** **21 57 10.3 -0.1**
BNI Bardonecchia 31.95 302 P **P** **21 57 10.3 -0.1**
BNI pmax pmax
comp=Z,21nm,0.7s
HFS Hagfors 33.67 331 P **P** **21 57 24.2 -0.9**
comp=Z,13nm,0.4s,baz=132,slow=10,SNR=116
comp=Z,13nm,0.4s
WMQ Urumqi 33.86 60 *e*P **P** **21 57 30.2 +3.1**
ZALV Zalesovo Beam 34.04 42 *i* P **P** **21 57 29.1 +0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 34.04 42 P **P** **21 57 26.9 -1.4**
comp=Z,1.9nm,0.3s,baz=260,slow=8.0,SNR=8.5
comp=Z,1.9nm,0.3s
DGZ Jazzator, Alta 34.43 50 *i* P **P** **21 57 32.7 +0.7**
DGZ pmax pmax
comp=Z,3.0nm,0.6s
LVZ Lovozero 34.78 353 P **P** **21 57 34.9 +0.3**
LVZ Lovozero 34.78 353 P **P** **21 57 34.9 +0.3**
LVZ pmax pmax
comp=Z,60nm,1.5s
OSL Oslo 34.78 330 *e*P **P** **21 57 34.1 -0.6**
NC602 NORSAR Array S 34.89 331 *e*P **P** **21 57 35.2 -0.4**
HOMB Homborsund 34.92 326 *e*P **P** **21 57 36.8 +1.0**
NB2 NORSAR Subarra 35.20 331 P **P** **21 57 36.8 -1.5**
comp=Z,1.1nm,0.5s,baz=124,slow=8.6
NB2 NORSAR Subarra 35.20 331 P **P** **21 57 36.8 -1.5**
baz=124,slow=8.6
NOA NORSAR Array B 35.20 331 P **P** **21 57 36.9 -1.4**
comp=Z,1.2nm,0.5s,baz=125,slow=8.6,SNR=9.4
comp=Z,1.2nm,0.5s
SKAR Skarslia 36.20 330 *e*P **P** **21 57 47.5 +0.5**
DOMB Dombas 36.62 332 *e*P **P** **21 57 50.4 -0.1**
TAM Tamanrasset 36.89 263 P **P** **21 57 53.1 -0.3**
TAM Tamanrasset 36.89 263 P **P** **21 57 53.1 -0.3**
TAM pmax pmax
comp=Z,7.0nm,1.5s
NSS Namsos 37.05 336 *e*P **P** **21 57 53.7 -0.3**
NSS IAmb IAmb 21 57 53.9
comp=Z,7.2nm,0.5s
MOR8 Moi Rana 37.38 340 *e*P **P** **21 57 56.5 -0.5**
MOR8 IAmb IAmb 21 57 58.0
comp=Z,314nm,2.9s
KTK1 Kautokeino 37.51 347 *e*P **P** **21 57 58.1 +0.2**
KTK1 IAmb IAmb 21 58 06.1
comp=Z,43nm,1.6s
AKN Aaknes 37.51 331 *e*P **P** **21 57 58.6 +0.6**
VADS Vadso 37.52 351 *e*P **P** **21 57 57.7 -0.2**
KEV Kevo 37.52 349 P **P** **21 57 57.3 -0.6**
KEV Kevo 37.52 349 P **P** **21 57 57.3 -0.6**
KEV pmax pmax
comp=Z,36nm,1.3s
ARA0 ARCESS Array S 37.56 348 *e*P **P** **21 57 58.8 +0.5**
ARCES ARCESS Array B 37.56 348 P **P** **21 57 57.1 -1.2**
comp=Z,2.4nm,0.7s,baz=165,slow=8.0,SNR=21
comp=Z,2.4nm,0.7s
SUE Sulen 37.90 329 *e*P **P** **21 58 01.6 +0.3**
STOK Stokkvaagen 37.91 339 *e*P **P** **21 58 01.1 -0.2**
KONS Konsvik 38.00 339 *e*P **P** **21 58 01.9 -0.1**
FAUS Fauske 38.02 341 *e*P **P** **21 58 02.7 +0.5**
STEI Steigen 38.43 342 *e*P **P** **21 58 05.8 +0.1**
JETT Jettan, Norway 38.52 346 *e*P **P** **21 58 06.1 -0.3**
HAMF Hammerfest 38.84 348 *e*P **P** **21 58 09.7 +0.7**
HAMF IAmb IAmb 21 58 11.4
comp=Z,31nm,1.1s
TRO Tromso 38.89 345 *e*P **P** **21 58 09.1 -0.4**
ESDC Sonseca Array 39.89 293 P **P** **21 58 17.3 -1.1**
comp=Z,1.8nm,0.5s,baz=81,slow=8.4,SNR=26
comp=Z,1.8nm,0.5s
EKA Eskdalemuir Ar 39.94 318 P **P** **21 58 17.1 -1.4**
comp=Z,2.2nm,0.4s,baz=102,slow=8.7,SNR=42
comp=Z,2.2nm,0.4s
PBRG Braganca 41.72 297 *e*P **P** **21 58 33.4 0.0**
comp=Z,10nm,0.8s
PBRG Braganca 41.72 297 *e*PP **PP** **22 00 11.6 +1.8**
MVO Moncorvo 42.01 296 *e*P **P** **21 58 35.7 -0.2**
comp=Z,11nm,0.8s
MVO Moncorvo 42.01 296 *e*PP **PP** **22 00 12.2 -0.8**
NRIK Noril'sk 42.47 21*ce*P **P** **21 58 39.9 +0.8**
NRIK pmax pmax
comp=Z,4.0nm,0.8s
NRIK Noril'sk 42.47 21 P **P** **21 58 38.7 -0.4**
comp=Z,5.1nm,0.7s,baz=111,slow=3.6,SNR=6.7
comp=Z,5.1nm,0.7s
PBAR Barrancos 42.50 292 *e*P **P** **21 58 39.4 -0.3**
comp=Z,6.1nm,0.5s
PBAR Barrancos 42.50 292 *e*PP **PP** **22 00 17.8 -0.4**
MTE Manteigas 42.51 295 A A 21 58 39.7
comp=Z,40nm,0.6s
MTE Manteigas 42.51 295 *e*P **P** **21 58 39.7 -0.2**
MTE Manteigas 42.51 295 P **P** **21 58 39.9 0.0**
MTE IAmb IAmb 21 59 01.1
comp=Z,26nm,1.2s
PVRL Vila Real 42.51 296⇑ *i*P **P** **21 58 39.9 0.0**
comp=Z,17nm,0.6s
PVRL Vila Real 42.51 296 *e*PP **PP** **22 00 18.3 -0.1**
PCBR Castelo Branco 42.55 294‖ *e*P **P** **21 58 40.2 +0.1**
comp=Z,5.9nm,2.0s
PCBR Castelo Branco 42.55 294 *e*PP **PP** **22 00 18.1 -0.6**
PMRV Marv??o 42.55 294 *e*P **P** **21 58 40.0 -0.1**
PMRV Marv??o 42.55 294 *e*PP **PP** **22 00 19.1 +0.3**
POLO Lamas de Olo 42.56 296 *e*P **P** **21 58 40.1 -0.2**
comp=Z,4.4nm,1.0s
POLO Lamas de Olo 42.56 296 *e*PP **PP** **22 00 17.9 -1.0**
PVIS Viseu 42.73 296 *e*PP **PP** **22 00 20.2 -0.5**
PESTR Estremoz 42.80 293 *e*P **P** **21 58 41.5 -0.7**
comp=Z,6.8nm,0.6s
PESTR Estremoz 42.80 293 P **P** **21 58 41.6 -0.5**
PESTR IAmb IAmb 21 58 44.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,38nm,1.5s						
PGAV	**Gavieira, Arco**	**42.84**	**297**	*e*P	**P**	**21 58 41.2**	**-1.4**
PGAV	**Gavieira, Arco**	**42.84**	**297**	*e*PP	**PP**	**22 00 19.4**	**-2.5**
PBEJ	**Beja**	**43.16**	**292**	*e*P	**P**	**21 58 44.7**	**-0.5**
	comp=Z,7.5nm,0.6s						
PVAQ	**Vaqueiros**	**43.17**	**291**	*e*P	**P**	**21 58 44.7**	**-0.5**
PMTG	**Montargil**	**43.25**	**293**	*e*P	**P**	**21 58 45.9**	**+0.1**
PCAS	**Casmilo, Conde**	**43.28**	**295**	*e*P	**P**	**21 58 46.2**	**+0.1**
	comp=Z,9.5nm,0.9s						
PBDV	**Barranco-do-Ve**	**43.37**	**291**	*e*P	**P**	**21 58 48.0**	**+1.1**
PCVE	**Castro Verde**	**43.38**	**291**⇑	*e*P	**P**	**21 58 46.3**	**-0.6**
	comp=Z,5.8nm,0.6s						
PCVE	**Castro Verde**	**43.38**	**291**	*e*PP	**PP**	**22 00 28.3**	**+0.6**
MESJ	**Messejana**	**43.48**	**291**	*e*P	**P**	**21 58 47.6**	**-0.1**
	comp=Z,5.3nm,0.7s						
PACT	**Alcochete**	**43.77**	**293**	*e*PP	**PP**	**22 00 32.5**	**+0.7**
HOPEN	**Hopen**	**43.90**	**353**	*e*P	**P**	**21 58 51.5**	**+1.0**
HOPEN				IAmb	IAmb	21 58 51.7	
	comp=Z,33nm,0.6s						
AVE	**Averroes**	**43.92**	**285**	P	**P**	**21 58 50.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**44.93**	**254**	P	**P**	**21 58 58.5**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=54,slow=6.7,SNR=36						
	comp=Z,2.5nm,0.6s						
SPA0	**Spitsbergen Ar**	**46.29**	**352**	*e*P	**P**	**21 59 09.6**	**0.0**
SPITS	**Spitsbergen Ar**	**46.29**	**352**	P	**P**	**21 59 09.4**	**-0.1**
	comp=Z,8.2nm,0.5s,baz=137,slow=8.7,SNR=33						
	comp=Z,8.2nm,0.5s						
SONM	**Songino Array**	**46.83**	**54**	P	**P**	**21 59 14.6**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=281,slow=8.8,SNR=14						
	comp=Z,0.9nm,0.5s						
ULN	**Ulaanbaatar**	**47.27**	**54**	P	**P**	**21 59 18.6**	**+0.8**
ULN				IAmb	IAmb	21 59 19.9	
	comp=Z,3.8nm,0.6s						
ULN	**Ulaanbaatar**	**47.27**	**54**	*i* P	**P**	**21 59 18.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,14nm,2.2s						
KBS	**Kingsbay**	**47.43**	**352**	P	**P**	**21 59 17.9**	**-0.5**
KBS	**Kingsbay**	**47.43**	**352**	P	**P**	**21 59 17.9**	**-0.5**
KBS				pmax	pmax		
	comp=Z,70nm,1.5s						
KBS	**Kingsbay**	**47.43**	**352**	*e*P	**P**	**21 59 19.2**	**+0.8**
PZH	**PanZhiHua**	**48.45**	**83**	P	**P**	**21 59 29.0**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,210nm,5.2s						
CHTO	**Chiang Mai**	**49.43**	**94**	P	**P**	**21 59 34.9**	**+0.2**
CHTO				IAmb	IAmb	21 59 35.4	
	comp=Z,6.6nm,0.5s						
CHTO	**Chiang Mai**	**49.43**	**94**	P	**P**	**21 59 34.9**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**49.60**	**94**	*ce*P	**P**	**21 59 35.7**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**49.60**	**94**	P	**P**	**21 59 35.1**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=291,slow=8.4,SNR=8.9						
	comp=Z,3.1nm,0.5s						
BTO	**Baotou**	**50.64**	**62**	*e*P	**P**	**21 59 43.1**	**-0.6**
BTO				pP	**pP**	**21 59 47.7**	**-1.9**
BTO				sP	**sP**	**21 59 50.0**	**-1.9**
BTO				PP	**PP**	**22 01 39.6**	**+0.1**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BTO				pmax	pmax		
	comp=Z,290nm,8.1s						
PHRA	**Phrae**	**50.65**	**93**	P	**P**	**21 59 43.6**	**-0.3**
DAG	**Danmarks Havn**	**51.60**	**345**	*i* P	**P**	**21 59 49.0**	**-1.2**
HHC	**Hu-ho-hao-te**	**51.71**	**62**	*e*P	**P**	**21 59 52.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,23nm,0.5s						
HHC				pmax	pmax		
	comp=Z,290nm,4.9s						
DBIC	**Dimbokro**	**53.93**	**252**	P	**P**	**22 00 07.5**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=35,slow=8.5,SNR=5.9						
	comp=Z,2.5nm,0.5s						
TIXI	**Tiksi**	**56.19**	**22**	P	**P**	**22 00 24.7**	**+0.9**
TIXI				IAmb	IAmb	22 00 31.0	
	comp=Z,3.7nm,0.9s						
TIXI	**Tiksi**	**56.19**	**22**	P	**P**	**22 00 24.7**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NJ2	**Nanjing**	**60.13**	**70**	*e*P	**P**	**22 00 52.1**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KLR	**Kul'dur**	**62.87**	**47**	*i* P	**P**	**22 01 10.9**	**+0.7**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KSRS	**Korea Array**	**64.81**	**61**	P	**P**	**22 01 22.1**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=283,slow=6.7,SNR=6.7						
	comp=Z,0.9nm,0.4s						
USRK	**Ussuriysk Ar.**	**64.92**	**52**	P	**P**	**22 01 22.4**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=305,slow=4.3,SNR=4.4						
	comp=Z,1.2nm,0.7s						
BOSA	**Boshof**	**65.01**	**200**	P	**P**	**22 01 24.3**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=6.1,slow=6.0,SNR=13						
	comp=Z,3.2nm,0.6s						
BILL	**Bilibino**	**69.30**	**20**	*i* P	**P**	**22 01 53.8**	**+2.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SUR	**Sutherland**	**69.87**	**202**	LR	LR	22 32 42.0	
	comp=Z,70nm,19.2s,baz=62,slow=36						
A36M	**Sachs Harbour**	**74.35**	**357**	P	**P**	**22 02 22.2**	**+0.7**
SCHQ	**Schefferville**	**74.58**	**326**	P	**P**	**22 02 22.4**	**-0.7**
	comp=Z,4.1nm,0.6s,baz=28,slow=6.2,SNR=11						
	comp=Z,4.1nm,0.6s						
B20K	**Meade River**	**75.19**	**8**	P	**P**	**22 02 27.7**	**+1.3**
B20K				IAmb	IAmb	22 02 28.9	
	comp=Z,6.8nm,0.9s						
B22K	**Teshekpuk Lake**	**75.27**	**7**	P	**P**	**22 02 27.9**	**+1.0**
B22K				IAmb	IAmb	22 02 29.3	
	comp=Z,7.6nm,1.1s						
C16K	**Lisburne Hills**	**75.65**	**11**	P	**P**	**22 02 29.7**	**+0.7**
C19K	**Lookout Ridge**	**75.74**	**9**	P	**P**	**22 02 31.1**	**+1.4**
C19K				IAmb	IAmb	22 02 42.0	
	comp=Z,10.0nm,1.5s						
B21K	**Ikpikpuk River**	**75.84**	**7**	P	**P**	**22 02 31.5**	**+1.4**
B21K				IAmb	IAmb	22 02 32.3	
	comp=Z,4.8nm,0.8s						
C18K	**Utukok River**	**75.94**	**10**	P	**P**	**22 02 32.1**	**+1.2**
C23K	**Itkillik River**	**76.01**	**6**	P	**P**	**22 02 32.3**	**+1.2**
RDOG	**Red Dog Mine**	**76.24**	**11**	P	**P**	**22 02 31.7**	**-0.7**
RDOG				IAmb	IAmb	22 02 41.0	
	comp=Z,11nm,1.4s						
D19K	**Kuna River**	**76.50**	**9**	P	**P**	**22 02 35.2**	**+1.2**
D19K				IAmb	IAmb	22 02 36.3	
	comp=Z,6.1nm,0.7s						
D22K	**Ayikyak River**	**76.75**	**7**	P	**P**	**22 02 36.7**	**+1.3**
D22K				IAmb	IAmb	22 02 43.0	
	comp=Z,4.7nm,0.8s						
C36M	**Paulatuk**	**76.92**	**356**	P	**P**	**22 02 36.2**	**-0.1**
C36M				IAmb	IAmb	22 02 36.8	
	comp=Z,6.6nm,0.7s						
E18K	**Tukpahlearik C**	**77.17**	**10**	P	**P**	**22 02 38.7**	**+1.0**
E18K				IAmb	IAmb	22 02 39.7	
	comp=Z,5.8nm,0.7s						
E22K	**Anaktuvuk Pass**	**77.56**	**7**	P	**P**	**22 02 40.9**	**+1.0**
E22K				IAmb	IAmb	22 02 41.6	
	comp=Z,4.4nm,0.6s						
E19K	**Redstone River**	**77.60**	**9**	P	**P**	**22 02 41.2**	**+1.0**
E19K				IAmb	IAmb	22 02 41.5	
	comp=Z,5.8nm,0.6s						
E28M	**Babbage River**	**77.86**	**2**	P	**P**	**22 02 42.5**	**+0.9**
F17K	**Baldwin Pennin**	**77.98**	**11**	P	**P**	**22 02 43.3**	**+1.1**
F17K				IAmb	IAmb	22 02 43.9	
	comp=Z,8.0nm,0.7s						
E25K	**Arctic Village**	**78.07**	**4**	P	**P**	**22 02 43.9**	**+1.1**
E25K				IAmb	IAmb	22 02 45.0	
	comp=Z,7.4nm,1.1s						
F15K	**North Star Dit**	**78.08**	**12**	P	**P**	**22 02 43.7**	**+0.9**
F15K				IAmb	IAmb	22 02 51.3	
	comp=Z,5.7nm,1.1s						
E29M	**Blow River**	**78.12**	**1**	P	**P**	**22 02 44.2**	**+1.2**
E29M				IAmb	IAmb	22 02 45.2	
	comp=Z,5.9nm,0.9s						
F20K	**Avaraart Lake**	**78.18**	**8**		**P**	**22 02 44.4**	**+1.1**
F20K				IAmb	IAmb	22 02 45.3	
	comp=Z,3.6nm,0.7s						
E27K	**Coleen River**	**78.21**	**3**	P	**P**	**22 02 44.7**	**+1.1**
E27K				IAmb	IAmb	22 02 45.3	
	comp=Z,2.9nm,0.7s						
F21K	**Alatna River**	**78.27**	**8**	P	**P**	**22 02 45.1**	**+1.2**
F21K				IAmb	IAmb	22 02 53.5	
	comp=Z,5.3nm,1.1s						
F24K	**Squaw Lake**	**78.50**	**5**	P	**P**	**22 02 46.8**	**+1.6**
G16K	**Koyuk River**	**78.77**	**12**	P	**P**	**22 02 47.7**	**+1.1**
G16K				IAmb	IAmb	22 02 47.9	
	comp=Z,6.2nm,1.1s						
BATG	**Bathurst New B**	**78.80**	**320**	P	**P**	**22 02 46.9**	**-0.3**
F28M	**Old Crow**	**78.84**	**2**	P	**P**	**22 02 48.2**	**+1.2**
G19K	**Purcell Mounta**	**78.86**	**9**		**P**	**22 02 48.1**	**+0.9**
G19K				IAmb	IAmb	22 02 48.9	
	comp=Z,6.8nm,0.6s						
G21K	**Allakaket**	**78.95**	**8**	P	**P**	**22 02 48.4**	**+0.8**
G21K				IAmb	IAmb	22 02 49.6	
	comp=Z,5.7nm,0.8s						
HAL	**Halifax**	**79.04**	**317**	P	**P**	**22 02 49.0**	**+0.5**
HAL	**Halifax**	**79.04**	**317**	P	**P**	**22 02 49.0**	**+0.5**
HAL				pmax	pmax		
	comp=Z,58nm,1.4s						
F31M	**Tsiigehtchic**	**79.11**	**360**	P	**P**	**22 02 49.3**	**+0.9**
F31M				IAmb	IAmb	22 02 49.7	
	comp=Z,5.4nm,0.7s						
G30M	**tAoh Zraii Nji**	**79.56**	**1**	P	**P**	**22 02 51.5**	**+0.5**
G30M				IAmb	IAmb	22 02 59.6	
	comp=Z,5.5nm,1.0s						
G27K	**Doyon Strip**	**79.58**	**3**	P	**P**	**22 02 52.6**	**+1.5**
H18K	**Honhosa River**	**79.62**	**10**	P	**P**	**22 02 52.0**	**+0.7**
H18K				IAmb	IAmb	22 02 53.4	
	comp=Z,3.8nm,0.8s						
G31M	**Satah River**	**79.63**	**0**	P	**P**	**22 02 51.8**	**+0.5**
G31M				IAmb	IAmb	22 02 52.7	
	comp=Z,4.8nm,0.7s						
H21K	**Melozitna Rive**	**79.86**	**8**	P	**P**	**22 02 53.8**	**+1.2**
H21K				IAmb	IAmb	22 02 55.3	
	comp=Z,5.1nm,0.8s						
H24K	**Noodor Dome**	**80.16**	**6**	P	**P**	**22 02 55.8**	**+1.5**
EPYK	**Eagle Plains**	**80.17**	**1**	P	**P**	**22 02 55.2**	**+0.9**
EPYK				IAmb	IAmb	22 03 09.6	
	comp=Z,14nm,1.4s						
PQI	**Presque Isle**	**80.23**	**320**	P	**P**	**22 02 53.4**	**-1.6**
H29M	**Whitestone**	**80.28**	**2**	P	**P**	**22 02 56.5**	**+1.6**
D62A	**Allapoint, All**	**80.51**	**321**	P	**P**	**22 02 56.6**	**+0.2**
LMQ	**La Malbaie**	**80.87**	**322**	P	**P**	**22 02 58.6**	**+0.2**
LMQ				IAmb	IAmb	22 03 40.4	
	comp=Z,16nm,1.3s						
F64A	**Sherman**	**80.92**	**320**	P	**P**	**22 02 58.9**	**+0.2**
J14K	**Nanvaranak Lak**	**80.98**	**13**		**P**	**22 03 00.3**	**+1.7**
ILAR	**Eielson Array**	**81.29**	**5**	P	**P**	**22 02 59.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=320,slow=3.2,SNR=11						
	comp=Z,0.8nm,0.7s						
I30M	**Mount Dempster**	**81.32**	**1**		**P**	**22 03 01.2**	**+0.6**
I30M				IAmb	IAmb	22 03 02.4	
	comp=Z,3.8nm,0.8s						
J25K	**Salcha River,**	**81.56**	**5**	P	**P**	**22 03 02.4**	**+0.6**
J25K				IAmb	IAmb	22 03 18.8	
	comp=Z,7.6nm,1.5s						
J30M	**Hart River**	**81.97**	**1**	P	**P**	**22 03 05.5**	**+1.4**
J30M				IAmb	IAmb	22 03 06.9	
	comp=Z,7.8nm,1.4s						
TTA	**Tatalina**	**82.07**	**10**	P	**P**	**22 03 06.0**	**+1.5**
TTA				IAmb	IAmb	22 03 15.1	
	comp=Z,9.5nm,1.4s						
TTA	**Tatalina**	**82.07**	**10**	P	**P**	**22 03 06.0**	**+1.5**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CAST	**Castle Rocks**	**82.11**	**8**	P	**P**	**22 03 06.1**	**+1.5**
CAST				IAmb	IAmb	22 03 07.2	
	comp=Z,5.2nm,0.9s						
KTH	**Kantishna Hill**	**82.11**	**7**	P	**P**	**22 03 05.4**	**+0.7**
TRF	**Thorofare Moun**	**82.27**	**7**	P	**P**	**22 03 07.6**	**+1.9**
SCRK	**Sand Creek**	**82.28**	**4**	P	**P**	**22 03 07.7**	**+2.0**
SCRK				IAmb	IAmb	22 03 32.2	
	comp=Z,6.9nm,1.4s						
K29M	**Barlow Dome**	**82.69**	**1**	P	**P**	**22 03 09.0**	**+1.2**
K29M				IAmb	IAmb	22 03 30.1	
	comp=Z,8.0nm,1.5s						
YKA	**Yellowknife Ar**	**82.78**	**351**	*i* P	**P**	**22 03 08.3**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**82.78**	**351**	P	**P**	**22 03 07.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=19,slow=9.2,SNR=15						
	comp=Z,0.7nm,0.6s						
DHY	**Denali Highway**	**82.92**	**6**	P	**P**	**22 03 10.4**	**+1.4**
DHY				IAmb	IAmb	22 03 38.5	
	comp=Z,10nm,1.3s						
M17K	**Holitna River**	**83.31**	**11**	P	**P**	**22 03 12.3**	**+1.4**
L27K	**Beaver Creek,**	**83.31**	**3**	P	**P**	**22 03 12.9**	**+1.9**
L27K				IAmb	IAmb	22 03 35.5	
	comp=Z,8.0nm,1.4s						
L29M	**L29M**	**83.41**	**2**	P	**P**	**22 03 13.6**	**+2.2**
L29M				IAmb	IAmb	22 03 41.2	
	comp=Z,5.4nm,1.2s						
M20K	**Styx River**	**83.47**	**9**	P	**P**	**22 03 13.4**	**+1.6**
SKT	**Skwentna**	**83.57**	**8**	P	**P**	**22 03 13.4**	**+1.1**
MMPY	**Sheldon Lake,**	**83.92**	**359**	P	**P**	**22 03 15.8**	**+1.7**
MMPY				IAmb	IAmb	22 03 55.1	
	comp=Z,4.8nm,1.2s						
M27K	**Edge Creek, AK**	**84.02**	**4**	P	**P**	**22 03 16.9**	**+2.3**
M29M	**Somme Creek**	**84.07**	**2**	P	**P**	**22 03 16.0**	**+1.0**
M29M				IAmb	IAmb	22 03 48.8	
	comp=Z,8.3nm,1.4s						
SML	**Sawmill**	**84.08**	**7**	P	**P**	**22 03 16.4**	**+1.5**
SUA	**Susitna One**	**84.16**	**8**	P	**P**	**22 03 16.8**	**+1.4**
N18K	**Kilae Creek**	**84.23**	**11**	P	**P**	**22 03 16.4**	**+0.7**
WRA	**Warramunga Arr**	**99.67**	**107**	P	**Pdif**	**22 04 27.1**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=317,slow=4.0,SNR=12						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**101.30**	**111**	P	**Pdif**	**22 04 34.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=309,slow=5.0,SNR=4.9						

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*NAO **11** 21:52:11.0, 32.°74N×47.°47E, h33^{km}, mb3.6*
*IDC **11** 21:52:20.6±0.7, 33.°76N×45.°68E, h0^{km}, mb4.1/20, mbtmp4.1/25, ML3.9/3, MS3.6/4, Error ellipse: s-maj=17.2km s-min=14.9km az=15.0*
*TEH **11** 21:52:22.8, 33.°78N×45.°65E, h8^{km}±52^{km}, ML4.3*
*NEIC **11** 21:52:22.4±2.3, 33.°65N±0.°03×45.°6E±0.°1, h10^{km}±1^{km}, mb4.4/36, Error ellipse: s-maj=14.8km s-min=4.7km az=84.0*
*ISN **11** 21:52:24.7±0.9, 33.°86N×45.°70E, h31^{km}±4^{km}, ML4.2*
ISC 11 21:52:23.1±1.3**, 33.°78N**±0.°03×**45.°69E**±0.°03**, h16**^{km}±9^{km}**, n87, σ0^{s}95**/91**, mb4.3**/37**, MS3.4**/4**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.46**	**110**	Pg	**Pg**	**21 52 32.3**	**-0.1**
IBDR	**Badra**	**0.70**	**163**	*e*Pg	**Pn**	**21 52 40.0**	**+1.6**
IBDR				*e*Sg	**Sn**	**21 52 50.0**	**+1.1**
KGS1	**Ghasr-e-Shirin**	**0.72**	**354**	Pg	**Pb**	**21 52 37.4**	**0.0**
IGHG	**Ghaleghazi**	**0.91**	**53**	Pg	**Pb**	**21 52 41.4**	**+0.7**
IGHG				Sg	**Sn**	**21 52 55.1**	**+0.7**
IDHR	**Dehrash**	**1.08**	**32**	Pg	**Pg**	**21 52 43.6**	**-0.4**
BHD	**Baghdad**	**1.21**	**245**	*e*Pg	**Pg**	**21 52 47.0**	**+0.6**
BHD				*e*Sg	**Sn**	**21 53 04.0**	**+2.6**
BHD				AML	AML	21 53 08.0	
	comp=E,13µm,0.5s						
KCHF	**Cheshme Sefid,**	**1.23**	**66**	Pg	**Pg**	**21 52 46.8**	**0.0**
ILIN	**Lien**	**1.55**	**43**	Pg	**Pg**	**21 52 52.7**	**-0.2**
IKOM	**Komasi**	**1.56**	**75**	Pg	**Pg**	**21 52 53.5**	**+0.3**
IKFM	**Kafar-mosalman**	**1.82**	**98**	Pn	**Pg**	**21 52 57.5**	**-0.5**
IBZA	**Bozab**	**1.93**	**69**	Pn	**Pb**	**21 52 58.5**	**+0.5**
IKRK	**Kirkuk**	**1.96**	**326**	*e*Pn	**Pn**	**21 52 57.0**	**+1.3**
IKRK				*e*Sn	**Sn**	**21 53 21.0**	**+1.0**
RAFI	**Al-Rafai**	**2.09**	**170**	*e*Pn	**Pb**	**21 53 00.0**	**-0.6**
RAFI				*e*Sn	**Sb**	**21 53 27.0**	**+0.8**
IALM	**Almabolaq**	**2.32**	**62**	Pn	**Pb**	**21 53 04.1**	**-0.6**
SDS1	**Sardasht. Az.**	**2.37**	**356**	Pn	**Pb**	**21 53 04.1**	**-1.3**
HSAM	**Samen**	**2.46**	**79**	Pn	**Pb**	**21 53 05.4**	**-1.7**
MAHB	**Mahabad**	**2.98**	**0**	Pn	**Pn**	**21 53 12.2**	**+2.4**
ASF	**Jabal al Asfar**	**7.56**	**260**	Lg	Lg	21 56 20.4	
	comp=E,0.9nm,0.3s,baz=150,slow=20,SNR=0.9						
MMAI	**Mount Meron Ar**	**8.63**	**268**	Lg	Lg	21 56 55.3	
	comp=E,0.9nm,0.3s,baz=69,slow=30,SNR=0.8						
KBZ	**Khabaz**	**10.16**	**348**	Pn	**Pn**	**21 54 50.1**	**+1.8**
	comp=E,2.4nm,0.8s,baz=157,slow=15,SNR=2.6						
WSAR	**Wadi Sarin**	**15.47**	**129**	Pn	**Pn**	**21 55 59.1**	**-1.6**
	comp=E,0.7nm,0.3s,baz=0.1,slow=13,SNR=1.9						
	comp=E,6.0nm,0.5s						
RDO	**Rodhopi**	**17.58**	**301**		**Pn**	**21 56 27.4**	**0.0**
BELG	**Belogornoye**	**18.65**	**4**	P	**P**	**21 56 39.9**	**-0.2**
	comp=E,15nm,0.5s,baz=216,slow=23,SNR=6.4						
ABKAR	**Akbulak array**	**18.73**	**30**	P	**P**	**21 56 41.6**	**+0.6**
AKTO	**Aktyubinsk**	**18.94**	**25**	P	**P**	**21 56 43.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=210,slow=16,SNR=1.2						
	comp=E,2.0nm,0.6s						
MLR	**Muntele Rosu**	**19.12**	**314**	P	**Pn**	**21 56 47.0**	**+0.6**
MLR	**Muntele Rosu**	**19.12**	**314**	P	**P**	**21 56 46.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=143,slow=10,SNR=1.5						
	comp=E,2.4nm,0.6s						
KBL	**Kabul**	**19.34**	**81**		**P**	**21 56 48.9**	**+0.9**
KBL				IAmb	IAmb	21 56 52.1	
	comp=Z,12nm,1.4s						
SIMJ	**Simiganj**	**19.42**	**69**	P	**P**	**21 56 49.3**	**+0.5**
AGG	**Agios Georgios**	**19.50**	**292**		**Pn**	**21 56 51.0**	**+0.2**
AGG				IAmb	IAmb	21 56 55.3	
	comp=Z,7.6nm,0.7s						
FNA	**Florina**	**20.53**	**297**	P	**P**	**21 57 00.6**	**-0.2**
BUR08	**Bucovina Ar. S**	**20.72**	**318**	P	**P**	**21 57 02.5**	**-0.4**
AKASG	**Malin Array Be**	**20.76**	**329**	P	**P**	**21 57 02.6**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=137,slow=10,SNR=7.4						
AKASG				LR	LR	22 06 11.0	
	comp=Z,146nm,18.5s,baz=48,slow=40						
	comp=Z,3.8nm,0.5s						
AKBB	**Malin Array Si**	**20.76**	**329**	P	**P**	**21 57 02.1**	**-1.0**
AKBB				IAmb	IAmb	21 57 03.5	
	comp=Z,9.5nm,0.7s						
KIEV	**Kiev**	**20.76**	**329**	P	**P**	**21 57 02.4**	**-0.7**
KIEV				IAmb	IAmb	21 57 03.5	
	comp=Z,8.4nm,0.7s						
DJES	**Djerdap**	**20.91**	**308**	P	**P**	**21 57 05.5**	**+0.7**
KK31	**Karatay Array**	**21.49**	**57**	P	**P**	**21 57 13.3**	**+2.2**
KKAR	**Karatay Array**	**21.49**	**57**	P	**P**	**21 57 12.6**	**+1.5**
KEK	**Kerkira**	**21.54**	**293**	P	**P**	**21 57 10.1**	**-1.4**
KEK				IAmb	IAmb	21 57 19.1	
	comp=Z,18nm,0.7s						
SCTE	**Santa Cesarea**	**22.60**	**294**	P	**P**	**21 57 22.3**	**-0.7**
NIL	**Nilore**	**22.91**	**83**	P	**P**	**21 57 27.8**	**+1.5**
NIL				IAmb	IAmb	21 57 28.8	
	comp=Z,6.7nm,0.7s						
BVAR	**Borovoye Array**	**26.08**	**35**	P	**P**	**21 57 56.2**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=232,slow=8.3,SNR=5.4						
BVAR				PcP	**PcP**	**22 01 23.3**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=176,slow=2.4,SNR=6.4						
	comp=Z,2.4nm,0.6s						
KBA	**Koelnbreinsper**	**27.75**	**308**	*e*P	**P**	**21 58 12.6**	**+1.5**
	comp=Z,2.9nm,0.5s						
GERES	**GERESS Array B**	**28.09**	**312**	P	**P**	**21 58 14.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=110,slow=8.5,SNR=1.7						
	comp=Z,0.3nm,0.4s						
WTTA	**Wattenberg**	**28.93**	**308**	*e*P	**P**	**21 58 21.9**	**+0.3**
	comp=Z,1.2nm,0.3s						
SQTA	**Sankt Quirin**	**29.20**	**308**	*e*P	**P**	**21 58 23.9**	**0.0**
	comp=Z,3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**29.26**	**45**	P	**P**	**21 58 24.8**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=251,slow=9.0,SNR=5.2						
KURBB				PcP	**PcP**	**22 01 30.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=241,slow=3.1,SNR=3.3						
	comp=Z,1.2nm,0.7s						
MOTA	**Moosalm**	**29.30**	**308**	*e*P	**P**	**21 58 24.5**	**-0.4**
	comp=Z,1.3nm,0.4s						
FETA	**Feichten**	**29.46**	**307**	*e*P	**P**	**21 58 26.8**	**+0.4**
	comp=Z,0.7nm,0.5s						
GRFO	**Grafenberg**	**29.91**	**313**	P	**P**	**21 58 30.4**	**+0.3**
GRFO				IAmb	IAmb	21 58 37.4	
	comp=Z,7.6nm,1.1s						
DAVA	**Damuels**	**30.09**	**307**	*e*P	**P**	**21 58 31.7**	**-0.2**
	comp=Z,3.7nm,0.5s						
TUE	**Stuetta**	**30.27**	**306**	P	**P**	**21 58 34.3**	**+0.7**
TUE				IAmb	IAmb	21 58 52.6	
	comp=Z,6.3nm,1.3s						
MAKZ	**Makanchi**	**30.30**	**54**	P	**P**	**21 58 34.8**	**+1.1**
MAKZ				IAmb	IAmb	21 58 36.0	
	comp=Z,2.1nm,0.6s						
FINES	**FINESS Array B**	**30.41**	**341**	P	**P**	**21 58 34.1**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=140,slow=12,SNR=4.4						
	comp=Z,1.1nm,0.4s						
MK31	**Makanchi Array**	**30.51**	**54**	P	**P**	**21 58 36.8**	**+1.3**
MK31				IAmb	IAmb	21 58 38.2	
	comp=Z,3.1nm,0.6s						
MKAR	**Makanchi Array**	**30.51**	**54**	P	**P**	**21 58 35.9**	**+0.4**
	comp=Z,4.1nm,0.4s,baz=255,slow=10.0,SNR=19						
	comp=Z,4.1nm,0.4s						
SENIN	**Lac Senin/Sane**	**31.64**	**305**	P	**P**	**21 58 45.8**	**+0.1**
BNI	**Bardonecchia**	**31.88**	**302**	P	**P**	**21 58 48.4**	**+0.7**
HFS	**Hagfors**	**33.62**	**331**	P	**P**	**21 59 02.7**	**+0.1**
	comp=Z,8.2nm,0.4s,baz=128,slow=9.6,SNR=21						
	comp=Z,8.2nm,0.4s						
ZALV	**Zalesovo Beam**	**34.07**	**42**	P	**P**	**21 59 06.0**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=254,slow=6.9,SNR=4.0						
	comp=Z,1.2nm,0.4s						
LVZ	**Lovozero**	**34.75**	**353**	P	**P**	**21 59 13.1**	**+0.8**
NB2	**NORSAR Subarra**	**35.15**	**331**	P	**P**	**21 59 15.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**35.15**	**331**	P	**P**	**21 59 15.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=121,slow=9.1,SNR=3.3						
NOA				LR	LR	22 13 39.3	
	comp=Z,77nm,20.5s,baz=310,slow=36						
	comp=Z,0.5nm,0.5s						
NBO00	**NORSAR Array S**	**35.32**	**331**	P	**P**	**21 59 16.9**	**-0.4**
NBO00				IAmb	IAmb	21 59 30.6	
	comp=Z,11nm,1.1s						
NC204	**NORSAR Array S**	**35.46**	**332**	P	**P**	**21 59 16.3**	**-2.2**
KEV	**Kevo**	**37.49**	**349**	P	**P**	**21 59 35.5**	**-0.1**
ARCES	**ARCESS Array B**	**37.53**	**349**	P	**P**	**21 59 37.1**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=155,slow=11,SNR=1.5						
	comp=Z,1.1nm,0.6s						
ESDC	**Sonseca Array**	**39.81**	**293**	P	**P**	**21 59 55.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=78,slow=8.4,SNR=5.0						
ESDC				PcP	**PcP**	**22 02 02.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=34,slow=3.6,SNR=2.1						
	comp=Z,0.9nm,0.6s						
EKA	**Eskdalemuir Ar**	**39.88**	**318**	P	**P**	**21 59 55.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=103,slow=8.5,SNR=7.9						
	comp=Z,0.9nm,0.4s						
EKB	**Eskdalemuir**	**39.90**	**318**	P	**P**	**21 59 56.2**	**+0.2**
EKB				IAmb	IAmb	22 00 14.5	
	comp=Z,16nm,1.3s						
ESK	**Eskdalemuir**	**39.90**	**318**	P	**P**	**21 59 55.4**	**-0.7**
ESK				IAmb	IAmb	22 00 24.5	
	comp=Z,13nm,1.3s						
TORD	**Torodi Ar. Bea**	**44.87**	**254**	P	**P**	**22 00 36.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=58,slow=6.3,SNR=4.7						
	comp=Z,0.9nm,0.5s						
SPITS	**Spitsbergen Ar**	**46.27**	**352**	P	**P**	**22 00 47.8**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=147,slow=11,SNR=11						
	comp=Z,3.6nm,0.5s						
SONM	**Songino Array**	**46.88**	**54**	P	**P**	**22 00 52.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=274,slow=8.4,SNR=5.0						
	comp=Z,0.5nm,0.5s						
JMIC	**Jan Mayen**	**46.95**	**339**	LR	LR	22 19 19.6	
	comp=Z,27nm,21.2s,baz=244,slow=34						
ULN	**Ulaanbaatar**	**47.32**	**54**	P	**P**	**22 00 56.9**	**+0.8**
ULN				IAmb	IAmb	22 00 57.7	
	comp=Z,3.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.67**	**94**	P	**P**	**22 01 13.9**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=294,slow=8.5,SNR=6.8						
	comp=Z,2.2nm,0.5s						
PHRA	**Phrae**	**50.72**	**93**	P	**P**	**22 01 22.1**	**-0.3**
SCO	**Scoresbysund**	**51.11**	**336**	P	**P**	**22 01 23.2**	**-1.4**
SCO				IAmb	IAmb	22 02 06.0	
	comp=Z,12nm,1.4s						
DBIC	**Dimbokro**	**53.87**	**252**	P	**P**	**22 01 43.2**	**-2.6**
DBIC				IAmb	IAmb	22 01 51.5	
	comp=Z,4.8nm,1.1s						
TIXI	**Tiksi**	**56.20**	**22**	P	**P**	**22 02 02.2**	**+0.4**
TIXI				IAmb	IAmb	22 02 03.1	
	comp=Z,3.3nm,0.8s						
BOSA	**Boshof**	**65.01**	**200**	P	**P**	**22 03 02.5**	**0.0**
BOSA	**Boshof**	**65.01**	**200**	P	**P**	**22 03 02.7**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=2.9,slow=6.1,SNR=5.4						
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**81.28**	**5**	P	**P**	**22 04 38.1**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=321,slow=3.6,SNR=6.0						
	comp=Z,0.7nm,0.9s						
YKA	**Yellowknife Ar**	**82.75**	**351**	P	**P**	**22 04 45.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=22,slow=9.1,SNR=4.8						
	comp=Z,0.5nm,0.7s						
TKL	**Tuckaleechee C**	**96.31**	**321**	LR	LR	22 53 27.8	
	comp=Z,68nm,18.9s,baz=344,slow=38						
WRA	**Warramunga Arr**	**99.74**	**107**	P	**Pdif**	**22 06 05.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=314,slow=4.2,SNR=5.4						
	comp=Z,0.3nm,0.5s						

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*TEH **11** 21:57:07.8, 33.°80N×45.°71E, h13^{km}±36^{km}, ML3.4*
*ISN **11** 21:57:08.8±0.5, 33.°85N×45.°75E, h28^{km}±2^{km}, ML3.3*
ISC 11 21:57:08.8±0.9**, 33.°84N**±0.°03×**45.°71E**±0.°04**, h10**^{km}**, n19, σ0^{s}69**/23**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**117**	Pg	**Pg**	**21 57 16.9**	**-1.1**
KGS1	**Ghasr-e-Shirin**	**0.68**	**352**	Pg	**Pg**	**21 57 21.6**	**-0.3**
IBDR	**Badra**	**0.75**	**166**	*e*Pg	**Pg**	**21 57 23.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**21 57 34.0**	**+1.0**

IBDR					AML	AML	21 57 36.3	
	comp=E,333nm,0.7s							
IGHG	**Ghaleghazi**	**0.87**	**55**	Pg		**Pg**	**21 57 25.2**	**-0.3**
IDHR	**Dehrash**	**1.03**	**33**	Pg		**Pg**	**21 57 27.4**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.19**	**68**	Pg		**Pb**	**21 57 30.9**	**-0.7**
BHD	**Baghdad**	**1.25**	**243**	*e*Pg		**Pn**	**21 57 32.0**	**-0.3**
BHD				*e*Sg		**Sb**	**21 57 49.0**	**+0.5**
BHD					AML	AML	21 57 52.0	
	comp=E,2μm,0.6s							
ILIN	**Lien**	**1.50**	**43**	Pg		**Pn**	**21 57 36.8**	**+0.8**
IKOM	**Komasi**	**1.53**	**77**	Pg		**Pn**	**21 57 37.1**	**+0.7**
IKFM	**Kafar-mosalman**	**1.81**	**99**	Pn		**Pn**	**21 57 40.5**	**+0.5**
IBZA	**Bozab**	**1.89**	**70**	Pn		**Pn**	**21 57 42.5**	**+1.0**
IKRK	**Kirkuk**	**1.93**	**324**	*e*Pn		**Pn**	**21 57 42.0**	**+0.3**
IKRK				*e*Sn		**Sn**	**21 58 06.0**	**0.0**
RAFI	**Al-Rafai**	**2.14**	**171**	*e*Pn		**Pn**	**21 57 45.0**	**+0.5**
RAFI				*e*Sn		**Sn**	**21 58 11.0**	**-0.1**
HSAM	**Samen**	**2.43**	**80**	Pn		**Pn**	**21 57 49.2**	**+0.3**
MAHB	**Mahabad**	**2.92**	**360**	Pn		**Pn**	**21 57 56.5**	**+1.0**
QAMS	**Qamsar**	**4.74**	**90**	Pn		**Pn**	**21 58 21.0**	**+0.4**
IKLH	**Kolahrood**	**4.93**	**94**	Pn		**Pn**	**21 58 23.8**	**+0.6**
IZEF	**Zefreh**	**5.62**	**98**	Pn		**Pn**	**21 58 33.1**	**+0.4**
IRAM	**Ramesheh**	**5.97**	**108**	Pn		**Pn**	**21 58 38.0**	**+0.5**

IDC ***11*** *22:06:41.6±0.6, 19°.97S×169°.33E, h0km, mb4.4/12, mbtmp4.5/13, ML4.4/1, MS3.7/16, Error ellipse: s-maj=22.9km s-min=16.8km az=124.0*

NOU ***11*** *22:06:46.9, 20°.14S×169°.09E, h0km, MLv4.8/11, Vanuatu Islands*

NEIC ***11*** *22:06:49.0±1.8, 20°.01S±0°.07×169°.18E±0°.07, h36km±7km, mb4.9/34, Error ellipse: s-maj=12.0km s-min=6.9km az=216.0*

ISC 11 22:06:47.3±0.5, 20°.07S±0°.06×169°.19E±0°.06, h31km±3km, h31km:pP-P,n158,σ1s38/156, mb4.9/39, MS3.7/16, 1C-17D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.77**	**218**		**Pb**	**22 07 16.5**	**-2.6**
MARNC	**Mare, Loyalty**	**1.77**	**218**	P	**Pb**	**22 07 16.8**	**-2.3**
LIFNC	**LIFOU**	**1.96**	**249**		**Pn**	**22 07 18.7**	**+0.4**
LIFNC				Sn	**Sn**	**22 07 40.4**	**-1.5**
LIFNC	**LIFOU**	**1.96**	**249**	P	**Pb**	**22 07 18.9**	**-3.4**
YATNC	**Mamie plateau,**	**2.92**	**227**	P	**Pn**	**22 07 31.9**	**+0.3**
PINNC	**Pines Island,**	**3.00**	**212**		**Pn**	**22 07 34.0**	**+1.2**
OUENC	**Ouen Island, N**	**3.20**	**223**		**Pn**	**22 07 37.1**	**+1.7**
OUENC	**Ouen Island, N**	**3.20**	**223**	P	**Pn**	**22 07 37.3**	**+1.9**
DZM	**Mont Dzumac**	**3.24**	**232**	Pn	**Pn**	**22 07 37.0**	**+0.9**
DZM	**Mont Dzumac**	**3.24**	**232**	P	**Pn**	**22 07 37.4**	**+1.3**
DZM	**Mont Dzumac**	**3.24**	**232**	*e*Pn	**Pn**	**22 07 37.2**	**+1.1**
	539nm,0.7s						
DZM				*e*Sn	**Sn**	**22 08 12.3**	**-1.4**
	743nm,0.8s						
DZM	**Mont Dzumac**	**3.24**	**232**	Pn	**Pn**	**22 07 36.7**	**+0.6**
	35nm,0.3s,baz=62,slow=6.0,SNR=334						
DZM				Sn	**Sn**	**22 08 13.4**	**-0.3**
	93nm,0.3s,baz=357,slow=23,SNR=9.1						
	120nm,0.3s						
ONTNC	**Ouen Toro**	**3.38**	**228**		**Pn**	**22 07 39.9**	**+1.9**
ONTNC	**Ouen Toro**	**3.38**	**228**	P	**Pn**	**22 07 39.9**	**+1.9**
KOUNC	**Koumac, New Ca**	**4.62**	**263**	Pn	**Pn**	**22 07 56.6**	**+1.6**
KOUNC	**Koumac, New Ca**	**4.62**	**263**	P	**Pn**	**22 07 57.6**	**+2.5**
HNR	**Honiara**	**13.84**	**319**	LR	LR	22 14 29.5	
	comp=Z,1μm,21.7s,baz=147,slow=34						
ARMA	**Armidale**	**18.91**	**234**	P	**Pn**	**22 11 09.2**	**+2.8**
RTZ	**Ruatahuna**	**19.67**	**162**	P	**Pn**	**22 11 17.1**	**+1.8**
RTZ				IAmb	IAmb	22 11 30.2	
	comp=Z,34nm,0.9s						
MRZ	**Mangatainoka R**	**21.23**	**166**	P	**P**	**22 11 33.1**	**+2.5**
BFZ	**Birch Farm**	**21.41**	**165**	P	**P**	**22 11 34.9**	**+2.4**
CTA	**Charters Tower**	**21.54**	**266**	P	**P**	**22 11 35.0**	**+0.9**
	comp=Z,20nm,0.5s,baz=94,slow=11,SNR=32						
CTA				LR	LR	22 19 10.8	
	comp=Z,99nm,21.8s,baz=84,slow=35						
	comp=Z,20nm,0.5s						
CTAO	**Charters Tower**	**21.54**	**266**	P	**P**	**22 11 36.7**	**+2.6**
CTAO				IAmb	IAmb	22 11 38.8	
	comp=Z,22nm,0.6s						
THZ	**Tophouse**	**21.85**	**173**	P	**P**	**22 11 39.1**	**+1.8**
RPZ	**Rata Peaks**	**23.62**	**177**	LR	LR	22 20 31.9	
	comp=Z,176nm,19.8s,baz=359,slow=35						
MQZ	**McQueen's Vall**	**23.74**	**174**	P	**P**	**22 11 57.3**	**+0.6**
PMG	**Port Moresby**	**23.77**	**293**	P	**P**	**22 11 58.2**	**+1.0**
LBZ	**Lake Benmore**	**24.26**	**178**	P	**P**	**22 12 03.2**	**+1.7**
STKA	**Stephens Creek**	**27.37**	**239**	P	**P**	**22 12 31.1**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=53,slow=7.4,SNR=5.4						
STKA				LR	LR	22 22 49.8	
	comp=Z,131nm,20.5s,baz=29,slow=35						
	comp=Z,3.5nm,0.8s						
RAR	**Rarotonga**	**29.05**	**98**	LR	LR	22 22 04.2	
	comp=Z,33nm,19.9s,baz=344,slow=32						
BBOO	**Buckleboo**	**32.12**	**240**	P	**P**	**22 13 12.9**	**+0.9**
WRA	**Warramunga Arr**	**32.71**	**264**	P	**P**	**22 13 16.3**	**-1.0**
	comp=Z,3.7nm,0.5s,baz=90,slow=8.5,SNR=68						
WRA				PcP	**PcP**	**22 16 01.9**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=95,slow=3.2,SNR=6.8						
	comp=Z,3.7nm,0.5s						
AS31	**Alice Springs**	**32.89**	**257**	P	**P**	**22 13 18.9**	**0.0**
AS31				IAmb	IAmb	22 13 20.0	
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	**32.89**	**257**	P	**P**	**22 13 19.1**	**+0.2**
ASAR	**Alice Springs**	**32.89**	**257**	P	**P**	**22 13 18.7**	**-0.1**
	comp=Z,21nm,0.7s,baz=85,slow=9.0,SNR=132						
ASAR				PcP	**PcP**	**22 16 02.0**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=88,slow=2.5,SNR=4.1						
ASAR				LR	LR	22 27 02.5	
	comp=Z,143nm,18.3s,baz=83,slow=37						
	comp=Z,21nm,0.7s						
MTN	**Manton Dam**	**37.13**	**275**	P	**P**	**22 13 55.4**	**0.0**
MTN				IAmb	IAmb	22 13 56.1	
	comp=Z,12nm,0.6s						
FORT	**Forrest**	**38.45**	**246**	P	**P**	**22 14 06.4**	**0.0**
FORT				IAmb	IAmb	22 14 10.6	
	comp=Z,34nm,1.1s						
TBI	**Tubuai**	**38.47**	**103**	*e*LR	LR	22 24 43.2	
	comp=Z,591nm,30.8s						
KNRA	**Kununurra**	**38.66**	**270**	P	**P**	**22 14 07.6**	**-0.7**
KNRA				IAmb	IAmb	22 14 27.6	
	comp=Z,20nm,1.1s						
PPT2	**Papeete2**	**39.04**	**93**	*e*LR	LR	22 24 55.8	
	comp=Z,181nm,27.8s						
PPT	**Papeete**	**39.04**	**93**	LR	LR	22 28 47.8	
	comp=Z,65nm,18.5s,baz=343,slow=34						
FAKI	**Fak Fak**	**39.86**	**291**	P	**P**	**22 14 18.2**	**-0.2**
FAKI				IAmb	IAmb	22 14 18.8	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.12**	**265**	P	**P**	**22 14 29.4**	**+0.7**
PSA00	**Pilbara Seismi**	**45.99**	**259**	P	**P**	**22 15 08.3**	**+0.3**
PSA00				IAmb	IAmb	22 15 08.8	
	comp=Z,20nm,1.1s						
NWAO	**Narrogin (SRO)**	**47.79**	**243**	P	**P**	**22 15 22.1**	**+0.2**
NWAO				IAmb	IAmb	22 15 34.8	
	comp=Z,10nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.79**	**243**	P	**P**	**22 15 22.2**	**+0.2**
NWAO				IAmb	IAmb	22 15 34.8	
	comp=Z,31nm,0.8s						
NWAO	**Narrogin (SRO)**	**47.79**	**243**	LR	LR	22 35 39.9	
	comp=Z,136nm,19.6s,baz=228,slow=36						
NWAO	**Narrogin (SRO)**	**47.79**	**243**	P	**P**	**22 15 22.9**	**+0.9**
TOLI2	**Tolitoli**	**51.88**	**288**	P	**P**	**22 15 53.1**	**-0.1**
TOLI2				IAmb	IAmb	22 15 54.0	
	comp=Z,16nm,0.9s						
VNDA	**Vanda**	**57.60**	**182**	P	**P**	**22 16 34.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=351,slow=5.7,SNR=6.3						
	comp=Z,0.9nm,0.8s						
VNDA	**Vanda**	**57.60**	**182**	P	**P**	**22 16 34.3**	**+0.5**
VNDA				pP	**sP**	**22 16 44.3**	**-2.3**
CCD	**Concordia, Ant**	**60.08**	**192**	P	**P**	**22 16 51.4**	**-0.1**
CCD				sP	**sP**	**22 17 04.5**	**0.0**
MJAR	**Matsushiro Arr**	**63.46**	**332**	P	**P**	**22 17 12.1**	**-2.2**
	comp=Z,1.7nm,0.7s,baz=173,slow=6.4,SNR=4.7						
	comp=Z,1.7nm,0.7s						
NACB	**Ninganchiao**	**63.89**	**311**	P	**P**	**22 17 16.9**	**-0.5**
JNU	**Nakatsue**	**64.31**	**325**	LR	LR	22 41 26.8	
	comp=Z,30nm,21.8s,baz=82,slow=32						
YHNB	**Yeheng**	**64.36**	**312**	P	**P**	**22 17 20.6**	**0.0**
ASAJ	**Asahikawa**	**68.36**	**340**	LR	LR	22 42 29.9	
	comp=Z,46nm,21.5s,baz=148,slow=31						
QSPA	**South Pole Qui**	**69.98**	**180**	P	**P**	**22 17 56.2**	**+0.5**
QSPA				IAmb	IAmb	22 17 56.9	
	comp=Z,10nm,0.9s						
QSPA	**South Pole Qui**	**69.98**	**180**	P	**P**	**22 17 55.4**	**-0.2**
	comp=Z,8.3nm,0.9s,baz=23,slow=1.9,SNR=19						
	comp=Z,8.3nm,0.9s						
QSPA	**South Pole Qui**	**69.98**	**180**	P	**P**	**22 17 56.1**	**+0.5**
QSPA				pP	**sP**	**22 18 06.1**	**-2.6**
QSPA				sP	sP	22 18 09.8	+1.0
NJ2	**Nanjing**	**70.77**	**316**	*e*P	**P**	**22 18 04.2**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,4.4s						
PETK	**Petropavlovsk-**	**73.55**	**353**	P	**P**	**22 18 16.4**	**-0.6**
	comp=Z,4.4nm,0.7s,baz=142,slow=7.5,SNR=5.3						
PETK				LR	LR	22 44 29.1	
	comp=Z,51nm,20.1s,baz=96,slow=31						
	comp=Z,4.4nm,0.7s						
LYN	**LuoYang**	**76.52**	**315**	*e*P	**P**	**22 18 34.5**	**0.0**
LYN				pP	PcP	22 18 48.0	+2.0
LYN				S	**S**	**22 28 14.5**	**-3.9**
LYN	**LuoYang**	**76.52**	**315**	SS	SS	22 33 13.9	-0.4
LYN				pmax	pmax		
	comp=Z,31nm,0.8s						
LYN				pmax	pmax		
	comp=Z,230nm,5.2s						
LYN				LR	LR		
	comp=N,400nm,10.6s						
LYN				LR	LR		
	comp=E,420nm,10.0s						
KLR	**Kul'dur**	**76.61**	**336**	P	**P**	**22 18 34.3**	**-0.3**
	comp=E,2.3nm,1.0s,baz=88,slow=1.3,SNR=5.6						
	comp=E,2.3nm,1.0s						
HNS	**HongShan**	**76.79**	**318**	⇑P	**P**	**22 18 36.9**	**+1.0**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BJI	**Beijing**	**77.55**	**321**	P	**P**	**22 18 40.2**	**+0.1**
MAW	**Mawson**	**77.65**	**202**	LR	LR	22 48 16.7	
	comp=Z,55nm,21.2s,baz=30,slow=32						
PZH	**PanZhiHua**	**80.12**	**303**	P	**P**	**22 18 55.6**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,220nm,4.4s						
MA2	**Magadan**	**80.78**	**351**	LR	LR	22 49 48.4	
	comp=Z,50nm,18.9s,baz=109,slow=32						
HHC	**Hu-ho-hao-te**	**80.82**	**320**	*e*P	**P**	**22 18 59.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,5.6s						
BELA	**Belgrano 2**	**81.28**	**175**	P	**P**	**22 18 59.0**	**-1.0**
BELA				IAmb	IAmb	22 18 59.8	
	comp=Z,10nm,0.5s						
BTO	**Baotou**	**81.63**	**319**	*e*P	**P**	**22 19 05.4**	**+2.9**
BTO				pP	**sP**	**22 19 18.5**	**+2.9**
BTO				sP	sP	22 19 23.8	+8.2
BTO				PP	**PP**	**22 22 15.4**	**+5.7**
BTO				pmax	pmax		
	comp=Z,11nm,0.9s						
BTO				pmax	pmax		
	comp=Z,340nm,6.5s						
LZH	**Lanzhou**	**83.25**	**312**	*e*P	**P**	**22 19 12.6**	**+1.5**
LZH				pP	sP	22 19 26.6	+2.3
LZH				sP	sP	22 19 36.1	+12
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
SEY	**Seymchan**	**83.79**	**352**	LR	LR	22 52 10.5	
	comp=Z,59nm,18.9s,baz=346,slow=33						
KDAK	**Kodiak Island**	**83.83**	**19**	P	**P**	**22 19 13.3**	**-0.1**
M14K	**Bethel**	**83.85**	**14**	P	**P**	**22 19 13.0**	**-0.4**
M14K				IAmb	IAmb	22 19 14.5	
	comp=Z,14nm,1.1s						
O18K	**Koktuh Hills**	**84.77**	**17**	P	**P**	**22 19 17.4**	**-0.7**
O18K				IAmb	IAmb	22 19 27.1	
	comp=Z,17nm,1.1s						
ELIB	**Princess Elisa**	**85.31**	**190**	*d*P	**P**	**22 19 20.6**	**-0.5**
ELIB				*d*PcP	**PcP**	**22 19 24.1**	**0.0**
ULN	**Ulaanbaatar**	**87.50**	**323**	P	**P**	**22 19 30.5**	**-1.6**
ULN				IAmb	IAmb	22 19 33.3	
	comp=Z,6.4nm,1.1s						
GTA	**Gaotai**	**87.66**	**313**	*e*P	**P**	**22 19 33.7**	**+0.7**
GTA				pP	sP	22 19 47.5	+1.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TROLL	**Troll, Antarti**	**87.70**	**184**	⇓P	**P**	**22 19 32.3**	**-0.4**
	comp=Z,419nm,0.8s						
SONM	**Songino Array**	**87.86**	**323**	P	**P**	**22 19 33.3**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=146,slow=5.5,SNR=25						
SONM				LR	LR	22 56 07.9	
	comp=Z,26nm,20.7s,baz=257,slow=34						
	comp=Z,3.5nm,0.9s						
VNA3	**Neumayer Olymp**	**88.92**	**180**	⇓P	**P**	**22 19 37.7**	**-0.7**
	comp=Z,16nm,0.6s						
VNA2	**Neumayer--Watz**	**89.21**	**181**	⇓P	**P**	**22 19 39.2**	**-0.5**
	comp=Z,17nm,0.6s,baz=180,slow=6.0						
NVAR	**Mina Array Bea**	**89.39**	**49**	P	**P**	**22 19 40.7**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=226,slow=8.0,SNR=7.0						
	comp=Z,1.6nm,0.7s						
VNA1	**Neumayer--Stat**	**89.50**	**181**	⇓P	**P**	**22 19 39.2**	**-1.8**
	comp=Z,9.4nm,0.9s						
GMN	**Gold Mountain**	**89.64**	**50**	P	**P**	**22 19 41.9**	**-0.7**
KVN	**Kaiserville**	**89.81**	**48**	P	**P**	**22 19 43.6**	**+0.4**
KVN				IAmb	IAmb	22 19 44.0	
	comp=Z,3.4nm,0.6s						
WCT	**Wildcat Mounta**	**89.88**	**51**	P	**P**	**22 19 43.8**	**+0.4**
WCT				IAmb	IAmb	22 19 44.1	
	comp=Z,4.0nm,0.7s						
PINE	**Pine Mountain**	**90.06**	**43**	P	**P**	**22 19 45.0**	**+0.7**
ILAR	**Eielson Array**	**91.04**	**17**	P	**P**	**22 19 45.8**	**-2.3**
	comp=Z,0.8nm,0.7s,baz=238,slow=4.9,SNR=13						
ILAR				LR	LR	22 58 10.1	
	comp=Z,58nm,18.9s,baz=210,slow=34						
	comp=Z,0.8nm,0.7s						
PRN	**Pahroc Range**	**91.28**	**51**	P	**P**	**22 19 50.8**	**+0.7**
PRN				IAmb	IAmb	22 19 51.4	
	comp=Z,6.1nm,0.8s						
WMQ	**Urumqi**	**97.75**	**314**	*e*P	**P**	**22 20 17.0**	**-2.4**
WMQ				pmax	pmax		
	comp=Z,49nm,1.1s						
YKA	**Yellowknife Ar**	**101.43**	**27**	P	**Pdif**	**22 20 34.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=258,slow=4.8,SNR=5.8						
MKAR	**Makanchi Array**	**102.30**	**315**	P	**Pdif**	**22 20 39.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=93,slow=4.4,SNR=7.6						
SPITS	**Spitsbergen Ar**	**120.42**	**354**	PKP	**PKPdf**	**22 25 33.0**	**-1.7**
	comp=Z,2.9nm,0.6s,baz=20,slow=4.6,SNR=5.6						
ARCES	**ARCESS Array B**	**125.86**	**345**	PKP	**PKPdf**	**22 25 43.7**	**-1.7**
	comp=Z,2.7nm,0.7s,baz=67,slow=1.5,SNR=17						
BDFB	**Brasilia**	**129.04**	**131**	PKP	**PKPdf**	**22 25 51.8**	**-1.4**
	comp=Z,2.9nm,0.7s,baz=355,slow=3.6,SNR=5.6						
FINES	**FINESS Array B**	**131.34**	**337**	PKhKP	PKPpre	22 25 47.0	
	comp=Z,2.8nm,1.0s,baz=171,slow=25,SNR=2.2						
FINES				PKP	**PKPdf**	**22 25 55.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=90,slow=1.4,SNR=8.7						
NB2	**NORSAR Subarra**	**136.23**	**345**	PKPdf	**PKPdf**	**22 26 05.7**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**136.23**	**345**	PKP	**PKPdf**	**22 26 05.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=36,slow=2.1,SNR=3.9						
DPC	**Dobruska-Polom**	**142.93**	**331**	*e*PKP	**PKPdf**	**22 26 13.5**	**-4.3**
BRG	**Berggiesshubel**	**143.59**	**333**	*e*PKP	PKPab	22 26 15.2	-0.2
	baz=39,slow=3.1						
CLL	**Collm**	**143.65**	**335**	*e*PKP	PKPab	22 26 15.0	-0.6
	baz=39,slow=3.1						
HSKC	**Hora Svate Kat**	**144.01**	**334**	*e*PKP	PKPab	22 26 17.2	+0.2
NEUB	**Neuenburg**	**144.21**	**336**	*e*PKP	**PKPab**	**22 26 18.0**	**+0.3**
	baz=39,slow=3.1						
EKA	**Eskdalemuir Ar**	**144.32**	**353**	PKP	**PKPab**	**22 26 17.1**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=348,slow=2.6,SNR=20						
ZVC	**Zvikov**	**144.54**	**332**	*e*PKP	**PKPab**	**22 26 18.9**	**-0.1**
GTTG	**Gottingen**	**144.62**	**338**	*e*PKP	**PKPab**	**22 26 19.4**	**+0.2**
	baz=39,slow=3.1						
PLN	**Plauen**	**144.62**	**334**	*e*PKP	**PKPab**	**22 26 19.2**	**-0.1**
	baz=39,slow=3.1						
NKC	**Novy Kostel**	**144.70**	**334**	*e*PKP	**PKPab**	**22 26 19.5**	**-0.1**
MOX	**Moxa**	**144.72**	**335**	*e*PKP	**PKPab**	**22 26 19.3**	**-0.3**
	baz=39,slow=3.1						
RONA	**Rosalia, Austr**	**144.76**	**328**	*i* PKP	**PKPab**	**22 26 20.4**	**+0.5**
	comp=Z,5.4nm,0.5s,SNR=8.3						
CONA	**Conrad Observa**	**144.83**	**328**	*i* PKP	**PKPab**	**22 26 20.6**	**+0.3**
	comp=Z,6.2nm,0.6s,SNR=6.2						
CKRC	**Cesky Krumlov**	**144.94**	**331**	*e*PKP	**PKPab**	**22 26 19.9**	**-0.6**
MANZ	**Manzenberg**	**145.03**	**334**	*e*PKP	**PKPbc**	**22 26 20.7**	**-0.1**
	baz=39,slow=3.1						
KHC	**Kasperske Hory**	**145.04**	**332**	*e*PKP	**PKPbc**	**22 26 20.7**	**-0.2**
ROTZ	**Rotzenmuhle**	**145.16**	**334**	*e*PKP	**PKPbc**	**22 26 21.4**	**+0.2**
	baz=39,slow=3.1						
UBBA	**Unterbreizbach**	**145.20**	**337**	*e*PKP	**PKPbc**	**22 26 21.0**	**-0.1**
	baz=39,slow=3.1						
GEC2	**GERESS Array S**	**145.20**	**331**	*e*PKP	**PKPbc**	**22 26 21.2**	**-0.3**
	baz=39,slow=3.1						
GERES	**GERESS Array B**	**145.20**	**331**	PKPbc	**PKPbc**	**22 26 21.1**	**-0.3**
	comp=Z,8.2nm,0.5s,baz=38,slow=5.0,SNR=52						
WET	**Wettzell**	**145.34**	**332**	*e*PKP	**PKPbc**	**22 26 21.8**	**-0.1**
	baz=39,slow=3.1						
ARSA	**Arzberg**	**145.46**	**328**	*i* PKP	**PKPbc**	**22 26 22.4**	**+0.2**
	comp=Z,5.1nm,0.8s,SNR=5.3						
GRF	**Grafenberg Arr**	**145.62**	**334**	*e*PKP	**PKPdf**	**22 26 22.8**	**+0.4**
	baz=39,slow=3.1						
BUG	**Bochum--Univer**	**145.63**	**340**	*e*PKP	**PKPdf**	**22 26 21.9**	**-0.4**
	baz=39,slow=3.1						
MOA	**Molln**	**145.65**	**330**	*e*PKP	**PKPdf**	**22 26 22.9**	**+0.3**
	comp=Z,15nm,0.7s,SNR=11						
BIOA	**Bad Ischl, Aus**	**146.06**	**330**	*i* PKP	**PKPab**	**22 26 25.0**	**+0.3**
	comp=Z,1.6nm,0.4s						
SOKA	**Soboth**	**146.09**	**327**	*e*PKP	**PKPdf**	**22 26 23.6**	**+0.2**
	comp=Z,2.3nm,0.5s						
TNS	**Taunus Mts**	**146.25**	**338**	*e*PKP	**PKPdf**	**22 26 24.5**	**+0.9**
	baz=39,slow=3.1						
RJOB	**Jochberg**	**146.42**	**331**	*e*PKP	**PKPdf**	**22 26 24.5**	**+0.6**
	baz=39,slow=3.1						
KBA	**Koelnbreinsper**	**146.64**	**329**	*e*PKP	**PKPdf**	**22 26 25.1**	**+0.7**
	comp=Z,2.5nm,0.4s						
LESA	**Schwarzleotal**	**146.71**	**330**	*e*PKP	**PKPdf**	**22 26 25.5**	**+1.0**
	comp=Z,7.7nm,0.6s						
BTNL	**Ternell**	**146.73**	**340**	*d*PKP	**PKPdf**	**22 26 25.5**	**+1.2**
MEM	**Membach**	**146.75**	**340**	*d*PKP	**PKPdf**	**22 26 25.5**	**+1.3**
FUR	**Furstenfeldbru**	**146.78**	**333**	*e*PKP	**PKPbc**	**22 26 26.8**	**+0.6**
	baz=39,slow=3.1						
MYKA	**Terra Mystica**	**146.82**	**329**	*i* PKP	**PKPdf**	**22 26 25.3**	**+0.6**
	comp=Z,7.6nm,0.6s						
BSTI	**Sart Tilman**	**146.91**	**341**	*d*PKP	**PKPbc**	**22 26 26.3**	**-0.2**
BCLA	**Clavier**	**147.13**	**341**	*d*PKP	**PKPdf**	**22 26 24.4**	**+1.5**
BCLA				*dp*PKP	**sPKPab**	**22 26 44.4**	**+2.4**
STU	**Stuttgart**	**147.16**	**335**	*e*PKP	**PKPbc**	**22 26 26.8**	**-0.4**
	baz=39,slow=3.1						
BGES	**Gesves**	**147.23**	**341**	*d*PKP	**PKPdf**	**22 26 26.5**	**+1.4**
WATA	**Walderalm**	**147.28**	**331**	*e*PKP	**PKPdf**	**22 26 27.1**	**+1.6**
	comp=Z,3.4nm,0.6s						
ABTA	**Abtaferbach**	**147.28**	**330**	*e*PKP	**PKPdf**	**22 26 26.6**	**+1.1**
	comp=Z,5.4nm,0.6s						
WTTA	**Wattenberg**	**147.30**	**331**	*e*PKP	**PKPdf**	**22 26 26.6**	**+1.0**
	comp=Z,2.6nm,0.4s,SNR=7.2						
RCHB	**Rochefort**	**147.39**	**341**	*d*PKP	**PKPbc**	**22 26 27.4**	**-0.5**
BMRD	**Maredsous**	**147.40**	**341**	*d*PKP	**PKPdf**	**22 26 26.8**	**+1.4**
MOTA	**Moosalm**	**147.48**	**332**	*i* PKP	**PKPdf**	**22 26 27.7**	**+1.8**
	comp=Z,7.6nm,0.6s,SNR=6.5						
WLF	**Walferdange**	**147.52**	**339**	*d*PKP	**PKPbc**	**22 26 27.9**	**-0.2**
WLF	**Walferdange**	**147.52**	**339**	*e*PKP	**PKPbc**	**22 26 28.3**	**+0.1**
	baz=39,slow=3.1						
RETA	**Reutte**	**147.52**	**332**	*e*PKP	**PKPbc**	**22 26 27.9**	**-0.5**
	comp=Z,3.0nm,0.4s						
SQTA	**Sankt Quirin**	**147.53**	**332**	*i* PKP	**PKPbc**	**22 26 28.0**	**-0.5**
	comp=Z,11nm,0.5s,SNR=5.5						
DOU	**Dourbes**	**147.63**	**341**	*d*PKP	**PKPbc**	**22 26 28.1**	**-0.4**
DOU				*dp*PKP	**sPKPab**	**22 26 44.8**	**+0.8**
UBR	**Ueberruh**	**147.65**	**333**	*e*PKP	**PKPdf**	**22 26 27.8**	**+1.8**
	baz=39,slow=3.1						
BFO	**Black Forest**	**147.86**	**336**	*e*PKP	**PKPbc**	**22 26 28.7**	**-0.5**
	baz=39,slow=3.1						
FETA	**Feichten**	**147.89**	**332**	*i* PKP	**PKPbc**	**22 26 29.1**	**-0.4**
	comp=Z,8.0nm,0.6s,SNR=7.5						
DAVA	**Damuels**	**148.06**	**333**	*e*PKP	**PKPbc**	**22 26 29.4**	**-0.5**
	comp=Z,5.3nm,0.5s					

comp=Z,12nm,1.4s
K29M **Barlow Dome** 36.73 44 P P 22 23 58.8 +0.6
I30M **Mount Dempster** 36.84 42 P P 22 23 59.5 +0.5
YULB **Yu-li** 37.50 232 P P 22 24 05.5 +0.7
YULB IAmb IAmb 22 24 38.0
comp=Z,19nm,1.0s
KURBB **Kurchatov Arra** 44.24 299 P P 22 24 58.7 +0.5
comp=Z,1.3nm,0.5s,baz=61,slow=7.3,SNR=10.0
comp=Z,1.3nm,0.5s
MKAR **Makanchi Array** 44.26 292 P P 22 24 59.0 +0.5
comp=Z,0.5nm,0.4s,baz=62,slow=6.8,SNR=15
comp=Z,0.5nm,0.4s
BVAR **Borovoye Array** 47.16 305 P P 22 25 20.6 +0.1
comp=Z,1.7nm,0.5s,baz=56,slow=7.6,SNR=9.6
comp=Z,1.7nm,0.5s
CRAI **Chiangrai** 51.36 252 P P 22 25 48.0 -4.0
CRAI IAmb IAmb 22 25 50.5
comp=Z,17nm,1.1s
TNTI **Ternate** 55.58 211 P P 22 26 23.2 +1.3
BOZ **Bozeman (W)** 58.73 55 P P 22 26 44.7 +1.3
FINES **FINESS Array B** 58.83 333 P P 22 26 43.1 -0.5
comp=Z,0.6nm,0.5s,baz=44,slow=8.2,SNR=4.3
comp=Z,0.6nm,0.5s
S11A **Rachel** 62.22 64 P P 22 27 07.3 +0.7
RWWY **Rawlins** 63.77 55 P P 22 27 18.5 +1.8
KNB **Kanab** 64.27 62 P 22 27 21.0 +1.2
KNB IAmb IAmb 22 27 32.9
comp=Z,6.4nm,0.8s
EKA **Eskdalemuir Ar** 70.80 346 P P 22 27 58.7 -0.6
comp=Z,0.2nm,0.3s,baz=16,slow=5.9,SNR=1.9
comp=Z,0.2nm,0.3s
WRA **Warramunga Arr** 73.74 198 P P 22 28 17.2 +0.5
comp=Z,0.4nm,0.6s,baz=20,slow=6.6,SNR=4.6
comp=Z,0.4nm,0.6s
HICK **Hickman** 76.41 47 P P 22 28 30.9 -0.8

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*IDC **11** 22:24:45.2±1.0,27.°63N×142.°83E, h0km, mb3.8/11, mbtmp3.8/13, ML3.1/2, Error ellipse: s-maj=25.4km s-min=13.4km az=108.0*
*JMA **11** 22:24:46.5±0.2,28.°N±2.°×14.°3E±.°, h26km, MV3.9/13, NEAR CHICHIJIMA ISLAND*
*NEIC **11** 22:24:48.7±1.5,27.°78N±0.°10×143.°0E±0.°2, h14km±3km, mb4.4/10, Error ellipse: s-maj=25.2km s-min=7.6km az=120.0*
ISC 11 22:24:48.8±0.8,**27.°76N**±0.°08×**142.°9E**±0.°1,**h22km**,**n30**, σ1s**47**/33,**mb4.0**/17,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.94**	**225**	*eP*	**Pn**	**22 25 06.9**	**+0.3**
CBIJ				*eS*	**Sn**	**22 25 21.8**	**+2.4**
JCJ	**Chichijima**	**0.94**	**225**		**Pn**	**22 25 06.8**	**+0.2**
JCJ				Sn	**Sn**	**22 25 20.9**	**+1.5**
JCJ	**Chichijima**	**0.94**	**225**	Pn	**Pb**	**22 25 02.6**	**-3.7**
	71nm,0.3s,baz=260,slow=23,SNR=13						
JCJ				Sn	**Sb**	**22 25 17.9**	**-0.4**
	108nm,0.3s,baz=270,slow=20,SNR=5.8						
JHH2	**Haha-jima-NKT2**	**1.31**	**211**	*eP*	**Pb**	**22 25 13.0**	**+0.3**
JRY	**Ryogami san**	**8.92**	**338**	*eP*	**Pn**	**22 26 57.6**	**+1.2**
JAG	**Ashikaga**	**9.13**	**342**	*eP*	**Pn**	**22 26 57.9**	**-1.3**
MJAR	**Matsushiro Arr**	**9.63**	**337**	Pn	**Pn**	**22 27 05.1**	**-1.0**
	0.1nm,0.3s,baz=164,slow=12,SNR=4.7						
	0.7nm,0.3s						
JMM	**Marumori**	**10.24**	**350**	Pn	**Pn**	**22 27 13.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**18.61**	**335**	P	**Pn**	**22 29 06.3**	**+1.3**
	0.1nm,0.3s,baz=158,slow=13,SNR=5.0						
	2.7nm,0.8s						
SSLB	**Suanglung**	**20.18**	**264**	P	**P**	**22 29 23.4**	**+1.4**
SONM	**Songino Array**	**34.71**	**315**	P	**P**	**22 31 36.9**	**-0.3**
	0.4nm,0.6s,baz=124,slow=9.1,SNR=5.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**48.14**	**191**	P	**P**	**22 33 26.8**	**-0.6**
WRA	**Warramunga Arr**	**48.14**	**191**	P	**P**	**22 33 26.4**	**-0.9**
	3.3nm,0.6s,baz=12,slow=8.4,SNR=25						
	3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**49.43**	**319**	P	**P**	**22 33 36.2**	**-0.7**
	0.6nm,0.3s,baz=76,slow=6.1,SNR=2.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**50.57**	**309**	P	**P**	**22 33 45.2**	**-0.5**
	0.9nm,0.9s,baz=93,slow=10,SNR=2.3						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**51.86**	**191**	P	**P**	**22 33 54.4**	**-1.2**
	0.5nm,0.5s,baz=5.8,slow=6.9,SNR=7.1						
	0.5nm,0.5s						
H18K	**Honhosa River**	**52.09**	**27**	P	**P**	**22 33 58.0**	**+1.2**
H18K				IAmb	IAmb	22 34 04.4	
	comp=Z,2.0nm,1.1s						
C19K	**Lookout Ridge**	**52.89**	**22**	P	**P**	**22 34 03.7**	**+0.9**
C19K				IAmb	IAmb	22 34 19.7	
	comp=Z,6.5nm,1.4s						
KURK	**Kurchatov**	**53.00**	**314**	P	**P**	**22 34 04.4**	**+0.6**
KURK				IAmb	IAmb	22 34 16.5	
	comp=Z,8.1nm,1.2s						
KURBB	**Kurchatov Arra**	**53.06**	**314**	P	**P**	**22 34 04.5**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=89,slow=7.9,SNR=27						
	comp=Z,2.3nm,0.8s						
D19K	**Kuna River**	**53.19**	**23**	P	**P**	**22 34 07.3**	**+2.3**
E19K	**Redstone River**	**53.19**	**25**	P	**P**	**22 34 05.8**	**+0.9**
E19K				IAmb	IAmb	22 34 07.7	
	comp=Z,3.9nm,1.3s						
ILAR	**Eielson Array**	**56.81**	**29**	P	**P**	**22 34 30.1**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=259,slow=7.2,SNR=2.9						
	comp=Z,0.5nm,1.0s						
BVAR	**Borovoye Array**	**58.01**	**317**	P	**P**	**22 34 40.7**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=89,slow=6.2,SNR=16						
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**64.31**	**322**	P	**P**	**22 35 22.8**	**+0.4**
ARU				IAmb	IAmb	22 35 34.4	
	comp=Z,3.5nm,0.8s						
A36M	**Sachs Harbour**	**64.44**	**20**	P	**P**	**22 35 19.8**	**-3.1**
ABKAR	**Akbulak array**	**65.11**	**314**	P	**P**	**22 35 28.8**	**+1.1**
ABKAR				IAmb	IAmb	22 35 31.3	
	comp=Z,3.8nm,1.1s						
YKA	**Yellowknife Ar**	**71.24**	**29**	P	**P**	**22 36 08.4**	**+2.4**
	comp=Z,0.3nm,0.8s,baz=296,slow=5.9,SNR=3.8						
	comp=Z,0.3nm,0.8s						
FINES	**FINESS Array B**	**77.65**	**334**	P	**P**	**22 36 42.6**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=197,slow=2.0,SNR=5.0						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**83.08**	**337**	P	**P**	**22 37 13.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=57,slow=5.3,SNR=1.4						
	comp=Z,1.0nm,0.8s						

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*IDC **11** 22:25:32.7±1.9,0.°15N×126.°97E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=174.5km s-min=23.7km az=66.0*
*DJA **11** 22:25:49.3±0.5,0.°N±4.°×12.°7E±.°, h103km±7km, M3.6/10, MLv3.6/10*
ISC 11 22:25:47.6±1.0,**0.°01S**±0.°06×**126.°93E**±0.°06,**h100km**,**n12**, σ2s**89**/13,**mb3.3**/4,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.84**	**138**	P	**Pn**	**22 26 09.0**	**+2.5**
LBMI				S	**Sn**	**22 26 24.3**	**+3.7**
TNTI	**Ternate**	**0.89**	**29**	P	**Pn**	**22 26 09.1**	**+2.2**
TNTI				S	**Sn**	**22 26 23.8**	**+2.5**
SANI	**Sanana**	**2.24**	**205**	P	**Pn**	**22 26 25.2**	**+1.9**
KMSI	**Cibinong**	**3.01**	**281**	P	**Pn**	**22 26 36.2**	**+2.7**
NLAI	**Namlea**	**3.21**	**177**	P	**Pn**	**22 26 38.1**	**+1.8**
KRAI	**Karang Ratu**	**3.60**	**156**	P	**Pn**	**22 26 43.5**	**+2.0**
LUWI	**Luwuk**	**4.29**	**256**	P	**Pn**	**22 26 52.7**	**+2.0**
SWI	**Sorong**	**4.41**	**101**	P	**Pn**	**22 26 53.4**	**+1.0**
WRA	**Warramunga Arr**	**21.10**	**160**	P	**P**	**22 30 20.6**	**-3.7**
	0.8nm,0.5s,baz=339,slow=10,SNR=9.4						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**24.47**	**164**	P	**P**	**22 30 54.9**	**-2.6**
	0.5nm,0.6s,baz=345,slow=12,SNR=9.1						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**60.74**	**326**	P	**P**	**22 35 45.9**	**-2.9**
	0.1nm,0.3s,baz=124,slow=7.8,SNR=2.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**64.99**	**328**	P	P	22 36 13.4	-3.5
	0.3nm,0.5s,baz=125,slow=7.0,SNR=2.5						
	0.3nm,0.5s						

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*IDC **11** 22:30:41.1±0.7,18.°28N×96.°06E, h0km, mb4.1/18, mbtmp4.0/19, ML3.4/1, MS3.1/2, Error ellipse: s-maj=23.3km s-min=13.9km az=41.0*
*NDI **11** 22:30:42.1±3.9,18.°23N×96.°46E, h10km, mb4.3, mb4.3(NEIC)*

*NEIC **11** 22:30:43.3±2.7,18.°32N±0.°07×96.°06E±0.°04, h10km±1km, mb4.3/14, Error ellipse: s-maj=12.3km s-min=5.7km az=182.0*
ISC 11 22:30:42.8±0.5,**18.°24N**±0.°05×**96.°08E**±0.°04,**h10km**,**n66**, σ1s**37**/74,**mb4.2**/30,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.73**	**85**		**Pn**	**22 31 27.1**	**+0.4**
CM31				Pg	**Pg**	**22 31 34.3**	**-0.9**
CM31					**Sb**	**22 32 05.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**2.73**	**85**		**Pn**	**22 31 26.7**	**-0.1**
CMAR				Pg	**Pb**	**22 31 33.5**	**+1.7**
CMAR				Sg	**Sb**	**22 32 06.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**2.73**	**85**	Pn	**Pn**	**22 31 26.1**	**-0.7**
	1.6nm,0.3s,baz=264,slow=14,SNR=41						
CMAR				Pg	**Pb**	**22 31 31.4**	**-0.4**
	38nm,0.3s,baz=263,slow=19,SNR=90						
CMAR				Lg	Lg	22 32 06.1	
	47nm,0.3s,baz=263,slow=31,SNR=16						
	7.9nm,0.6s						
CHTO	**Chiang Mai**	**2.78**	**78**	Pn	**Pn**	**22 31 27.7**	**+0.3**
CHTO				Pg	**Pg**	**22 31 35.7**	**-0.4**
MND	**Mandalay**	**3.76**	**1**		**Pn**	**22 31 39.0**	**-1.8**
PHRA	**Phrae**	**3.95**	**86**		**Pn**	**22 31 45.8**	**+2.2**
PHRA				Pg	**Pg**	**22 31 58.0**	**-0.5**
PHRA				Sg	**Sb**	**22 32 40.7**	**+0.2**
CRAI	**Chiangrai**	**4.52**	**63**		**Pn**	**22 31 51.6**	**+0.3**
SAIH	**SAIHA**	**5.12**	**326**	*eP*	**Pn**	**22 32 01.9**	**+2.1**
DGPR	**DIGLIPUR**	**5.87**	**211**	*eP*	**Pn**	**22 32 11.8**	**+1.9**
DGPR				*eS*	**Sn**	**22 33 17.9**	**+0.6**
IMP	**Imphal**	**6.85**	**344**	*eP*	**Pn**	**22 32 24.4**	**+0.9**
TNCH	**TengChong**	**7.13**	**18**	Pg	**Pg**	**22 33 01.5**	**+2.2**
TNCH				Sg	**Sg**	**22 34 30.5**	**-1.2**
TNCH				smax	smax		
	comp=N,140nm,1.2s						
TNCH				smax	smax		
	comp=E,170nm,1.1s						
TNCH				LR	LR		
	comp=N,490nm,4.7s						
TNCH				LR	LR		
	comp=E,550nm,4.3s						
TNCH				LR	LR		
	comp=Z,210nm,5.8s						
PBA	**Port Blair**	**7.29**	**207**	Pn	**Pn**	**22 32 31.7**	**+2.3**
KOHI	**KOHIMA**	**7.67**	**347**	*eP*	**Pn**	**22 32 37.4**	**+2.7**
SHL	**Shillong**	**8.26**	**333**		**Pn**	**22 32 42.2**	**-0.7**
SHL	**Shillong**	**8.26**	**333**	*eP*	**Pn**	**22 32 43.0**	**+0.1**
SHL				*eS*	**Sn**	**22 34 15.0**	**-1.5**
UBPT	**Khong Chiam**	**9.47**	**107**	Pn	**Pn**	**22 33 00.3**	**+1.0**
ZIRO	**ZIRO**	**9.47**	**348**	*ex*	**Pn**	**22 33 03.4**	**+4.0**
PZH	**PanZhiHua**	**9.75**	**31**	P	Pn	22 33 10.0	+6.7
PZH				S	**Sn**	**22 34 53.8**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PZH				pmax	pmax		
	comp=Z,160nm,5.7s						
PZH				LR	LR		
	comp=N,340nm,5.3s						
PZH				LR	LR		
	comp=E,500nm,8.9s						
PZH				LR	LR		
	comp=Z,220nm,8.6s						
GTK	**Tadong**	**11.36**	**324**	*eP*	**Pn**	**22 33 26.1**	**+0.7**
LSA	**Lhasa**	**12.26**	**339**		**Pn**	**22 33 37.4**	**-0.6**
PALK	**Pallekele**	**18.52**	**236**	LR	LR	22 41 46.5	
	comp=Z,43nm,19.8s,baz=163,slow=36						
LZH	**Lanzhou**	**19.06**	**20**	*eP*	**Pn**	**22 35 09.3**	**+3.1**
LZH				pP	sP	22 35 22.8	+13
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
GTA	**Gaotai**	**21.34**	**8**	*eP*	**P**	**22 35 31.1**	**+0.9**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SMLA	**Simla**	**21.40**	**310**	*eP*	**P**	**22 35 31.4**	**+0.6**
DHRM	**DHARAMSHALA**	**22.63**	**312**	*eP*	**P**	**22 35 44.1**	**-0.1**
DHRM				IAmb	IAmb	22 35 45.5	
	comp=Z,11nm,1.1s						
NIL	**Nilore**	**25.54**	**311**	P	**P**	**22 36 09.9**	**-1.9**
NIL				IAmb	IAmb	22 36 22.7	
	comp=Z,5.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**26.17**	**27**	*eP*	**P**	**22 36 18.2**	**+0.7**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.6s						
WMQ	**Urumqi**	**26.46**	**346**	*eP*	**P**	**22 36 20.2**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH	**Kashi**	**27.44**	**325**	P	**P**	**22 36 30.9**	**+1.9**
KSH				pP	sP	22 36 35.6	+2.2
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	**Makanchi Array**	**30.66**	**341**	P	P	22 36 51.1	-6.3
MKAR	**Makanchi Array**	**30.66**	**341**	P	P	22 36 51.5	-5.9
MKAR	**Makanchi Array**	**30.66**	**341**	P	**P**	**22 36 58.6**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=158,slow=8.8,SNR=9.6						
	comp=Z,1.5nm,0.6s						
SONM	**Songino Array**	**30.70**	**14**	P	**P**	**22 36 58.1**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=182,slow=8.5,SNR=4.3						
	comp=Z,0.6nm,0.9s						
MAKZ	**Makanchi**	**30.77**	**341**	P	**P**	**22 36 56.4**	**-2.0**
MAKZ				IAmb	IAmb	22 36 58.9	
	comp=Z,1.5nm,0.6s						
SIMJ	**Simiganj**	**31.12**	**316**	P	**P**	**22 37 00.3**	**-1.4**
SIMJ				IAmb	IAmb	22 37 03.0	
	comp=Z,2.6nm,0.9s						
KSRS	**Korea Array**	**33.81**	**49**	LR	LR	22 52 28.4	
	comp=Z,33nm,18.3s,baz=65,slow=39						
KURBB	**Kurchatov Arra**	**35.21**	**341**	P	**P**	**22 37 35.9**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=150,slow=8.7,SNR=16						
KURBB				PcP	**PcP**	**22 40 06.8**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=152,slow=2.4,SNR=4.0						
	comp=Z,2.4nm,0.7s						
ZAA0	**Zalesovo Array**	**36.69**	**349**	P	**P**	**22 37 48.0**	**-1.7**
ZAA0				IAmb	IAmb	22 37 51.5	
	comp=Z,5.2nm,0.9s						
ZALV	**Zalesovo Beam**	**36.69**	**349**	P	**P**	**22 37 47.6**	**-2.1**
ZALV	**Zalesovo Beam**	**36.69**	**349**	P	**P**	**22 37 49.6**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=169,slow=8.6,SNR=13						
	comp=Z,4.4nm,0.7s						
GEYT	**Alibeck**	**38.47**	**309**	P	**P**	**22 38 04.2**	**-0.9**
GEYT				IAmb	IAmb	22 38 08.5	
	comp=Z,6.6nm,0.8s						
GEYT	**Alibeck**	**38.47**	**309**	P	**P**	**22 38 05.6**	**+0.6**
	comp=Z,6.0nm,0.9s,baz=139,slow=9.7,SNR=11						
	comp=Z,6.0nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**38.47**	**309**	P	**P**	**22 38 04.4**	**-0.7**
GYA0B				IAmb	IAmb	22 38 08.4	
	comp=Z,6.9nm,0.9s						
BVAR	**Borovoye Array**	**40.07**	**336**	P	**P**	**22 38 16.5**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=134,slow=10,SNR=3.3						
	comp=Z,0.7nm,0.6s						
ABKAR	**Akbulak array**	**42.44**	**325**	P	**P**	**22 38 36.7**	**-1.1**
GURO	**Guroymak-BITLI**	**50.90**	**305**	P	**P**	**22 39 42.6**	**-1.8**
GURO				IAmb	IAmb	22 39 48.4	
	comp=Z,4.6nm,0.8s						
KBZ	**Khabaz**	**51.16**	**312**	P	**P**	**22 39 45.7**	**-0.3**
	comp=Z,3.6nm,1.1s,baz=144,slow=14,SNR=3.3						
	comp=Z,3.6nm,1.1s						
NRIK	**Noril'sk**	**51.36**	**356**	P	**P**	**22 39 45.8**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=153,slow=6.8,SNR=2.2						
	comp=Z,1.3nm,0.4s						
WB0	**Warramunga Arr**	**53.30**	**133**	P	**P**	**22 39 59.0**	**-3.3**
WRA	**Warramunga Arr**	**53.38**	**133**	P	**P**	**22 40 00.9**	**-2.0**
WRA	**Warramunga Arr**	**53.38**	**133**	P	**P**	**22 40 02.5**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=320,slow=7.3,SNR=14						
	comp=Z,2.9nm,0.8s						
WRAB	**Tennant Creek**	**53.38**	**133**	P	**P**	**22 40 02.1**	**-0.8**
WB2	**Warramunga Arr**	**53.39**	**133**	P	**P**	**22 40 03.2**	**+0.3**
WB2				IAmb	IAmb	22 40 09.4	
	comp=Z,5.8nm,1.4s						
ASAR	**Alice Springs**	**55.66**	**137**	P	**P**	**22 40 19.9**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=320,slow=7.4,SNR=12						
	comp=Z,1.8nm,0.9s						
ELL	**Elmali**	**60.41**	**302**	P	**P**	**22 40 53.3**	**+0.5**
BURAR	**Bucovina Array**	**63.90**	**315**	P	**P**	**22 41 15.5**	**-0.5**
FINES	**FINESS Array B**	**64.59**	**330**	P	**P**	**22 41 18.9**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=105,slow=4.9,SNR=5.3						
	comp=Z,3.3nm,0.8s						
ARCES	**ARCESS Array B**	**66.27**	**339**	P	**P**	**22 41 30.1**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=90,slow=7.3,SNR=5.5						
	comp=Z,1.4nm,0.7s						
HFS	**Hagfors**	**70.59**	**328**	P	**P**	**22 41 57.1**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=108,slow=4.7,SNR=4.6						
	comp=Z,1.4nm,0.7s						
GERES	**GERESS Array B**	**71.53**	**316**	P	**P**	**22 42 03.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=95,slow=7.1,SNR=5.6						
	comp=Z,1.3nm,0.7s						
NOA	**NORSAR Array B**	**71.75**	**329**	P	**P**	**22 42 03.8**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=90,slow=5.9,SNR=2.8						
	comp=Z,0.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**80.32**	**325**	P	**P**	**22 42 54.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=70,slow=6.2,SNR=4.6						
	comp=Z,1.1nm,0.7s						
BOSA	**Boshof**	**82.74**	**237**	P	**P**	**22 43 08.0**	**+0.5**
	comp=Z,3.9nm,1.0s,baz=100,slow=6.3,SNR=3.7						
	comp=Z,3.9nm,1.0s						
ILAR	**Eielson Array**	**84.50**	**23**	P	**P**	**22 43 16.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=298,slow=6.1,SNR=4.3						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**129.01**	**22**	PKP	**PKPdf**	**22 49 51.5**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=303,slow=5.0,SNR=2.5						
BDFB	**Brasilia**	**145.58**	**269**	PKPbc	**PKPdf**	**22 50 22.0**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=98,slow=15,SNR=3.4						

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*ISN **11** 22:43:35.1±0.9,33.°76N×45.°73E, h30km±4km, ML3.0*
*TEH **11** 22:43:35.4,33.°68N×45.°74E, h17km±19km, ML3.2*
ISC 11 22:43:34.6±1.6,**33.°70N**±0.°04×**45.°65E**±0.°05,**h3km**±14km, **n16**,σ0s**53**/21,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**99**	Pg	**Pg**	**22 43 43.3**	**-0.3**
ILBA				Sg	**Sg**	**22 43 49.9**	**+0.1**
IBDR	**Badra**	**0.63**	**158**	*e*Pg	**Pb**	**22 43 48.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**22 43 58.0**	**+0.5**
IBDR				AML	AML	22 44 03.6	
	comp=N,402nm,0.6s						
KGS1	**Ghasr-e-Shirin**	**0.81**	**357**	Pg	**Pb**	**22 43 51.8**	**+0.6**
IGHG	**Ghaleghazi**	**0.99**	**50**	Pg	**Pg**	**22 43 53.4**	**-0.2**
BHD	**Baghdad**	**1.14**	**248**	*e*Pg	**Pb**	**22 43 57.0**	**+0.1**
BHD				*e*Sg	**Sn**	**22 44 14.0**	**+0.4**
BHD				AML	AML	22 44 19.2	
	comp=E,560nm,0.5s						
IDHR	**Dehrash**	**1.17**	**31**	Pg	**Pg**	**22 43 57.2**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.29**	**63**	Pg	**Pn**	**22 43 59.2**	**-0.5**
IKOM	**Komasi**	**1.62**	**72**	Pg	**Pb**	**22 44 04.9**	**-0.3**
ILIN	**Lien**	**1.63**	**41**	Pg	**Pn**	**22 44 04.5**	**+0.1**
IKFM	**Kafar-mosalman**	**1.84**	**95**	Pg	**Pn**	**22 44 07.2**	**+0.1**
IKRK	**Kirkuk**	**2.01**	**328**	*e*Pn	**Pn**	**22 44 09.0**	**-0.4**
IKRK				*e*Sn	**Sn**	**22 44 34.0**	**-1.1**
RAFI	**Al-Rafai**	**2.01**	**169**	*e*Pn	**Pn**	**22 44 09.0**	**-0.3**
RAFI				*e*Sn	**Sn**	**22 44 35.0**	**0.0**
HSAM	**Samen**	**2.51**	**77**	Pn	**Pn**	**22 44 16.5**	**0.0**
QAMS	**Qamsar**	**4.79**	**88**	Pn	**Pn**	**22 44 47.2**	**-0.7**
IKLH	**Kolahrood**	**4.97**	**93**	Pn	**Pn**	**22 44 51.5**	**+1.2**
KLNJ	**Kolanjah**	**5.70**	**116**	Pn	**Pn**	**22 45 00.8**	**+0.4**

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*IDC **11** 22:59:28.6±4.3,33.°74N×45.°70E, h0km, mb3.7/5, mbtmp3.7/5, MS3.0/2, Error ellipse: s-maj=97.2km s-min=31.4km az=0.0*
*TEH **11** 22:59:30.6,33.°72N×45.°69E, h11km±33km, ML3.4*
ISC 11 22:59:30.9±1.0,**33.°77N**±0.°06×**45.°68E**±0.°06,**h10km**,**n29**, σ1s**28**/29,**mb3.6**/5,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.46**	**109**	Pg	**Pg**	**22 59 40.1**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.73**	**354**	Pg	**Pb**	**22 59 46.0**	**+0.3**
IGHG	**Ghaleghazi**	**0.92**	**53**	Pg	**Pb**	**22 59 49.2**	**+0.1**
IGHG				Sg	**Sn**	**23 00 03.6**	**+0.1**
IDHR	**Dehrash**	**1.09**	**32**	Pg	**Pg**	**22 59 51.5**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.23**	**66**	Pg	**Pb**	**22 59 54.3**	**0.0**
ILIN	**Lien**	**1.56**	**43**	Pg	**Pg**	**23 00 00.6**	**-0.2**
IKOM	**Komasi**	**1.57**	**75**	Pg	**Pg**	**23 00 00.6**	**-0.4**
IKFM	**Kafar-mosalman**	**1.82**	**97**	Pn	**Pb**	**23 00 03.9**	**-0.4**
IBZA	**Bozab**	**1.94**	**68**	Pn	**Pb**	**23 00 05.8**	**-0.6**
IALM	**Almabolaq**	**2.33**	**62**	Pn	**Pb**	**23 00 11.6**	**-1.4**
SDS1	**Sardasht. Az.**	**2.38**	**356**	Pn	**Pb**	**23 00 12.8**	**-1.1**
HSAM	**Samen**	**2.46**	**79**	Pn	**Pn**	**23 00 12.5**	**+1.1**
MAHB	**Mahabad**	**2.99**	**0**	Pn	**Pn**	**23 00 20.9**	**+2.4**
HAGD	**Aghdareh**	**3.05**	**69**	Pn	**Pn**	**23 00 20.9**	**+1.5**
IRAZ	**Razeghan**	**3.86**	**64**	Pn	**Pn**	**23 00 32.8**	**+2.3**
QSDN	**Sirdan**	**3.95**	**45**	Pn	**Pn**	**23 00 34.2**	**+2.4**
IQOM	**Qom**	**4.58**	**75**	Pn	**Pn**	**23 00 41.1**	**+0.6**
QAMS	**Qamsar**	**4.76**	**89**	Pn	**Pn**	**23 00 44.3**	**+1.3**
IKLH	**Kolahrood**	**4.95**	**94**	Pn	**Pn**	**23 00 47.3**	**+1.8**
IVRN	**Varamin**	**5.14**	**75**	Pn	**Pn**	**23 00 49.2**	**+1.2**
ISFB	**Sefidab**	**5.47**	**82**	Pn	**Pn**	**23 00 53.4**	**+0.9**
KLNJ	**Kolanjah**	**5.71**	**117**	Pn	**Pn**	**23 00 58.4**	**+2.4**
IRAM	**Ramesheh**	**5.97**	**107**	Pn	**Pn**	**23 01 00.7**	**+1.2**
MMAI	**Mount Meron Ar**	**8.63**	**

1.6nm,0.3s,baz=22,slow=5.3,SNR=7.0
2.9nm,0.3s

WRA Warramunga Arr 45.96 261 P P 23 35 34.1 -0.2
2.6nm,0.3s,baz=97,slow=7.6,SNR=90
2.6nm,0.3s

ASAR Alice Springs 45.98 255 P P 23 35 34.2 -0.1
4.7nm,0.5s,baz=95,slow=7.6,SNR=79
4.7nm,0.5s

BVAR Borovoye Array 118.83 321 PKP PKPdf 23 45 59.0 -0.3
0.5nm,0.4s,baz=105,slow=3.3,SNR=4.8

AKASG Malin Array Be 142.42 333 PKP PKPdf 23 46 41.8 -1.9
0.8nm,0.4s,baz=42,slow=3.6,SNR=10

MMAI Mount Meron Ar 148.16 302 PKPbc PKPbc 23 46 57.2 -0.3
0.6nm,0.4s,baz=36,slow=7.5,SNR=4.8

IDC 11 23:28:48.1±5.5, 29°10S×177°88W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=260.3km s-min=84.6km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.30**	**266**	P	P	23 36 51.5	-0.4
	0.5nm,0.5s,baz=109,slow=8.2,SNR=4.4						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.17**	**271**	P	P	23 36 59.0	0.0
	2.1nm,0.4s,baz=111,slow=7.3,SNR=18						
	2.1nm,0.4s						
FINES	**FINESS Array B**	**143.96**	**341**	PKP	PKPdf	23 48 24.6	-0.3
	1.3nm,0.7s,baz=46,slow=4.0,SNR=5.9						

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*JMA **11** 23:31:03.2±0.1, 39°7N±0°2×142°1E±0°4, h51km, MV3.7/40, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
*IDC **11** 23:31:05.4±2.6, 39°68N×142°09E, h83km±23km, mb3.4/10, mbtmp3.7/13, Error ellipse: s-maj=26.0km s-min=20.9km az=123.0*
ISC 11 23:31:02.7±0.9, 39°68N±0°04×142°15E±0°07, h53km±7km, n31, σ1°02/39, mb3.8/10, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.27**	**248**	⇓*iP*	**Pn**	**23 31 11.9**	**0.0**
MIYJ				⇓S	**Sn**	**23 31 18.0**	**-0.5**
JTH	**Tanohata**	**0.34**	**320**	⇓*iP*	**Pn**	**23 31 12.5**	**0.0**
JTH				⇓S	**Sn**	**23 31 19.0**	**-0.4**
JKEN	**Kujiedanarisaw**	**0.62**	**327**	⇓*iP*	**Pn**	**23 31 15.5**	**-0.1**
JKEN				⇓S	**Sn**	**23 31 23.9**	**-1.1**
JOM	**Ohasama**	**0.69**	**253**	⇓*iP*	**Pn**	**23 31 16.4**	**-0.1**
JOM				⇓S	**Sn**	**23 31 25.9**	**-0.6**
JKZ	**Kuzumaki**	**0.70**	**296**	⇓*iP*	**Pn**	**23 31 16.6**	**0.0**
JKZ				⇓S	**Sn**	**23 31 25.9**	**-0.8**
OFUJ	**Ofunato**	**0.71**	**212**	*iP*	**Pn**	**23 31 16.6**	**0.0**
OFUJ				S	**Sn**	**23 31 26.2**	**-0.6**
JANG	**Nango**	**0.84**	**325**	⇓*iP*	**Pn**	**23 31 18.3**	**-0.2**
JANG				⇓S	**Sn**	**23 31 29.3**	**-0.7**
JMK	**Ichinoseki**	**1.02**	**225**	⇓*iP*	**Pn**	**23 31 20.9**	**+0.1**
JMK				⇓S	**Sn**	**23 31 33.7**	**-0.5**
JRG	**Rokugo**	**1.21**	**257**	⇓*iP*	**Pn**	**23 31 23.1**	**-0.2**
JRG				⇓*eS*	**Sn**	**23 31 38.3**	**-0.3**
JAH	**Hinai**	**1.27**	**294**	*iP*	**Pn**	**23 31 24.1**	**0.0**
JAH				S	**Sn**	**23 31 39.6**	**-0.5**
JIO	**Ouri**	**1.37**	**207**	*iP*	**Pn**	**23 31 25.6**	**+0.1**
JIO				S	**Sn**	**23 31 41.9**	**-0.8**
JTM	**Tenmabayashi**	**1.38**	**324**	*iP*	**Pn**	**23 31 26.0**	**+0.4**
JTM				S	**Sn**	**23 31 42.6**	**-0.2**
MJAR	**Matsushiro Arr**	**4.41**	**226**	P	**Pn**	**23 32 10.0**	**+2.8**
	5.3nm,0.7s,baz=31,slow=13,SNR=11						
MJAR				S	**Sn**	**23 32 57.8**	**+0.6**
	1.4nm,0.4s,baz=91,slow=17,SNR=1.7						
ASAJ	**Asahikawa**	**4.44**	**4**	P	**Pn**	**23 32 08.6**	**+1.0**
	3.5nm,0.4s,baz=225,slow=6.4,SNR=5.6						
ASAJ				S	**Sn**	**23 32 58.4**	**+0.4**
	6.2nm,0.4s,baz=30,slow=20,SNR=1.8						
KSRS	**Korea Array**	**11.36**	**263**	P	**Pn**	**23 33 45.6**	**+3.4**
	1.0nm,0.4s,baz=69,slow=13,SNR=4.6						
SONM	**Songino Array**	**26.89**	**299**	P	**P**	**23 36 39.3**	**+0.7**
	0.3nm,0.7s,baz=97,slow=10,SNR=2.4						
	0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy 29.12**	**126**		T	T	00 07 39.1	
	baz=318,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy 29.13**	**126**		T	T	00 07 40.5	
	baz=318,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy 29.14**	**126**		T	T	00 07 41.2	
	baz=318,slow=75,SNR=71						
H11S1	**WAKE ISLAND Hy 29.92**	**128**		T	T	00 08 45.1	
	baz=319,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy 29.92**	**128**		T	T	00 08 43.5	
	baz=319,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy 29.93**	**128**		T	T	00 08 38.3	
	baz=319,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**40.60**	**310**	P	**P**	**23 38 36.1**	**-0.9**
	1.1nm,0.4s,baz=84,slow=7.4,SNR=4.5						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**44.87**	**306**	P	**P**	**23 39 11.2**	**-0.4**
	1.0nm,0.4s,baz=80,slow=8.3,SNR=6.3						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**46.96**	**34**	P	**P**	**23 39 29.0**	**+1.1**
	0.2nm,0.5s,baz=262,slow=5.6,SNR=6.3						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**49.25**	**311**	P	**P**	**23 39 45.0**	**-0.7**
	0.5nm,0.5s,baz=59,slow=7.3,SNR=3.8						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**59.76**	**189**	P	**P**	**23 41 00.7**	**-1.5**
	0.6nm,0.9s,baz=6.4,slow=6.9,SNR=2.6						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**66.75**	**332**	P	**P**	**23 41 46.6**	**-1.4**
	0.6nm,0.5s,baz=38,slow=7.2,SNR=5.0						
	0.6nm,0.5s						
HFS	**Hagfors**	**71.92**	**336**	P	**P**	**23 42 18.7**	**-1.2**
	0.6nm,0.4s,baz=73,slow=11,SNR=5.6						
	0.6nm,0.4s						
NOA	**NORSAR Array B**	**71.97**	**337**	P	**P**	**23 42 19.2**	**-1.1**
	0.4nm,0.6s,baz=50,slow=5.4,SNR=1.4						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**75.41**	**46**	P	**P**	**23 42 41.0**	**-0.1**
	0.1nm,0.4s,baz=287,slow=9.2,SNR=2.0						
	0.1nm,0.4s						

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*IDC **11** 23:43:58.4±1.9, 33°83N×45°58E, h0km, mb3.7/9, mbtmp3.7/9, MS3.0/4, Error ellipse: s-maj=47.1km s-min=20.6km az=167.0*
*TEH **11** 23:44:00.3, 33°82N×45°73E, h12km±20km, ML3.6*
*ISN **11** 23:44:02.7±1.4, 33°83N×45°71E, h33km±6km, ML3.4*
ISC 11 23:44:00.7±1.3, 33°84N±0°03×45°71E±0°03, h13km±9km, n53, σ1°17/50, mb3.8/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**117**	Pg	**Pg**	**23 44 09.3**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.68**	**352**	Pg	**Pg**	**23 44 13.7**	**-0.2**
IBDR	**Badra**	**0.75**	**166**	*ePg*	**Pn**	**23 44 17.0**	**0.0**
IBDR				*eSg*	**Sn**	**23 44 28.0**	**-0.2**
IBDR				AML	AML	23 44 29.0	
	comp=N,2μm,0.4s						
IGHG	**Ghaleghazi**	**0.87**	**55**	Pg	**Pg**	**23 44 17.2**	**-0.4**
IDHR	**Dehrash**	**1.03**	**33**	Pg	**Pb**	**23 44 20.0**	**-0.5**
IDHR				Sg	**Sn**	**23 44 35.6**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.19**	**68**	Pg	**Pn**	**23 44 23.2**	**-0.1**
BHD	**Baghdad**	**1.24**	**243**	*ePg*	**Pg**	**23 44 25.0**	**+0.3**
BHD				*eSg*	**Sg**	**23 44 42.0**	**+1.1**
BHD				AML	AML	23 44 44.8	
	comp=E,2μm,0.7s						
ILIN	**Lien**	**1.50**	**43**	Pg	**Pg**	**23 44 29.5**	**-0.1**
IKOM	**Komasi**	**1.54**	**77**	Pg	**Pb**	**23 44 29.9**	**+0.8**
IKFM	**Kafar-mosalman**	**1.81**	**99**	Pg	**Pb**	**23 44 33.1**	**-0.6**
IBZA	**Bozab**	**1.89**	**70**	Pn	**Pn**	**23 44 34.1**	**+1.0**
IKRK	**Kirkuk**	**1.93**	**325**	*ePn*	**Pb**	**23 44 35.0**	**-0.7**
IKRK				*eSn*	**Sb**	**23 45 00.0**	**+0.3**
IKRK				AML	AML	23 45 19.0	
	comp=Z,146nm,0.5s						
RAFI	**Al-Rafai**	**2.13**	**171**	*ePn*	**Pn**	**23 44 37.0**	**+0.9**
RAFI				*eSn*	**Sn**	**23 45 04.0**	**+1.6**
IALM	**Almabolaq**	**2.28**	**63**	Pn	**Pb**	**23 44 40.7**	**-1.2**
SDS1	**Sardasht. Az.**	**2.31**	**356**	Pn	**Pn**	**23 44 40.7**	**+2.0**
HSAM	**Samen**	**2.43**	**80**	Pn	**Pn**	**23 44 41.7**	**+1.3**
MAHB	**Mahabad**	**2.92**	**360**	Pn	**Pn**	**23 44 49.3**	**+2.2**
HAGD	**Aghdareh**	**3.00**	**70**	Pn	**Pn**	**23 44 49.9**	**+1.6**
IRAZ	**Razeghan**	**3.82**	**65**	Pn	**Pn**	**23 45 00.8**	**+1.4**
ISRB	**Sarab**	**4.29**	**21**	Pn	**Pn**	**23 45 08.0**	**+2.1**
IMHD	**Mahdasht**	**4.48**	**64**	Pn	**Pn**	**23 45 09.6**	**+1.1**
IPIR	**Pirpir**	**4.49**	**103**	Pn	**Pn**	**23 45 09.6**	**+0.8**
IQOM	**Qom**	**4.55**	**76**	Pn	**Pn**	**23 45 10.4**	**+0.8**
ZNGN	**Zangian**	**4.65**	**110**	Pn	**Pn**	**23 45 10.9**	**-0.1**
QAMS	**Qamsar**	**4.74**	**90**	Pn	**Pn**	**23 45 13.4**	**+1.2**
IMRD	**Marand**	**4.87**	**360**	Pn	**Pn**	**23 45 16.0**	**+2.2**
IKLH	**Kolahrood**	**4.93**	**94**	Pn	**Pn**	**23 45 16.4**	**+1.6**
IBRJ	**Brojen**	**5.05**	**111**	Pn	**Pn**	**23 45 16.4**	**-0.1**
GRMI	**Germi**	**5.27**	**19**	Pn	**Pn**	**23 45 21.4**	**+2.1**
KRSH	**Karshahi**	**5.35**	**87**	Pn	**Pn**	**23 45 20.9**	**+0.5**
ISFB	**Sefidab**	**5.44**	**83**	Pn	**Pn**	**23 45 22.8**	**+1.1**
MZPU	**Pul - Mazandar**	**5.46**	**60**	Pn	**Pn**	**23 45 24.4**	**+2.4**
IZEF	**Zefreh**	**5.62**	**98**	Pn	**Pn**	**23 45 25.3**	**+1.1**
KLNJ	**Kolanjah**	**5.72**	**118**	Pn	**Pn**	**23 45 26.2**	**+0.5**
IRAM	**Ramesheh**	**5.97**	**108**	Pn	**Pn**	**23 45 29.3**	**+0.3**
DSBU	**Dashti - Bushe**	**7.24**	**137**	Pn	**Pn**	**23 45 46.0**	**-0.3**
ASF	**Jabal al Asfar**	**7.58**	**260**	P	Pg	23 46 29.0	+3.0
QRNJ	**Al-Qirein**	**8.63**	**263**	P	Pg	23 46 48.9	+2.9
KARJ	**KARJ**	**8.91**	**255**	P	Pg	23 46 54.3	+2.9
LISJ	**El Lisan**	**9.01**	**256**	P	Pn	23 46 55.6	+45
EIL	**Elat**	**10.05**	**249**	LR	LR	23 51 06.4	
	comp=Z,33nm,19.5s,baz=99,slow=43						
KBZ	**Khabaz**	**10.12**	**348**	LR	LR	23 51 15.6	
	comp=Z,52nm,18.4s,baz=286,slow=43						
AKASG	**Malin Array Be**	**20.73**	**329**	P	**P**	**23 48 39.0**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=138,slow=10.0,SNR=5.5						
	comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**26.03**	**35**	P	**P**	**23 49 34.6**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=238,slow=8.3,SNR=7.5						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**29.21**	**45**	P	**P**	**23 50 02.7**	**+0.7**
	comp=Z,1.5nm,0.2s,baz=250,slow=9.3,SNR=1.6						
	comp=Z,1.5nm,0.2s						
MKAR	**Makanchi Array**	**30.47**	**54**	P	**P**	**23 50 13.6**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=258,slow=9.1,SNR=24						
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**33.59**	**331**	P	**P**	**23 50 39.6**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=119,slow=12,SNR=8.2						
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**34.02**	**42**	P	**P**	**23 50 43.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=249,slow=6.0,SNR=1.9						
	comp=Z,0.6nm,0.3s						
KMBO	**Kilima Mbogo**	**35.68**	**195**	LR	LR	00 05 39.4	
	comp=Z,28nm,20.1s,baz=86,slow=36						
ESDC	**Sonseca Array**	**39.81**	**293**	P	**P**	**23 51 32.7**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=79,slow=9.3,SNR=1.2						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**44.90**	**254**	P	**P**	**23 52 13.9**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=58,slow=7.5,SNR=1.6						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**46.83**	**54**	P	**P**	**23 52 30.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=280,slow=8.5,SNR=3.4						
	comp=Z,0.3nm,0.6s						
KLR	**Kul'dur**	**62.86**	**47**	LR	LR	00 25 31.4	
	comp=Z,42nm,18.5s,baz=62,slow=40						

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*BER **11** 23:49:06.0±3.2, 81°12N×3°24W, h10km, mb(Pn)3.4, ML1.8(DNK), Confirmed Earthquake*
*DNK **11** 23:49:07.0±2.3, 81°09N×2°71W, h29km±23km, ML1.8*
*FCIAR **11** 23:49:11.7, 81°42N×0°53W, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.40*
ISC 11 23:49:00.5±1.1, 81°16N±0°09×3°56W±0°05, h10km, n18, σ3°08/42, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**3.50**	**122**	*iP*	**Pn**	**23 49 57.2**	**+2.4**
KBS				*eP*	**Pn**	**23 49 57.5**	**+2.7**
KBS				*i* S	**Sn**	**23 50 33.6**	**-2.6**
KBS				*e*S	**Sn**	**23 50 33.8**	**-2.3**
KBS				IAML		23 50 36.4	
	comp=Z,13nm,0.4s						
KBS	**Kingsbay**	**3.50**	**122**	*eP*	**Pn**	**23 49 57.2**	**+2.4**
KBS				*e*S	**Sn**	**23 50 34.0**	**-2.2**
KBS	**Kingsbay**	**3.50**	**122**	*i* P	**Pn**	**23 49 57.2**	**+2.4**
KBS				*i* S	**Sn**	**23 50 33.6**	**-2.6**
BRBB	**Barentsburg B**	**4.43**	**125**	*eP*	**Pn**	**23 50 11.1**	**+3.5**
BRBB				*e*S	**Sn**	**23 50 58.0**	**-1.1**
BRBA	**Barentsburg A**	**4.46**	**125**	*eP*	**Pn**	**23 50 12.3**	**+4.3**
BRBA				*e*S	**Sn**	**23 50 56.5**	**-3.3**
BRBA				IAML		23 51 05.2	
	comp=Z,8.8nm,0.3s						
SPA0	**Spitsbergen Ar**	**4.65**	**120**	*eP*	**Pn**	**23 50 13.6**	**+2.9**
SPA0				*e*S	**Sn**	**23 51 02.6**	**-1.9**
SPA0				IAML		23 51 07.2	
	comp=Z,4.9nm,0.5s						
SPA0	**Spitsbergen Ar**	**4.65**	**120**	*eP*	**Pn**	**23 50 13.5**	**+2.9**
SPA0				*e*S	**Sn**	**23 51 03.4**	**-1.2**
DAG	**Danmarks Havn**	**5.25**	**221**	*e*	**Pn**	**23 50 20.9**	**+2.0**
	baz=38,slow=16						
DAG				*i* P	**Pn**	**23 50 23.0**	**+4.0**
DAG				*i* P	**Pn**	**23 50 23.4**	**+4.5**
DAG				*e*P	**Pn**	**23 50 23.6**	**+4.7**
DAG				*e*S	**Sn**	**23 51 19.1**	**-0.3**
DAG				*e*S	**Sn**	**23 51 19.2**	**-0.3**
DAG				IAML		23 51 30.3	
	comp=Z,4.1nm,0.4s						
DAG	**Danmarks Havn**	**5.25**	**221**	*e*	**Pn**	**23 50 20.9**	**+2.0**
	baz=38,slow=16						
DAG				*i* P	**Pn**	**23 50 23.0**	**+4.0**
DAG				*i* P	**Pn**	**23 50 23.4**	**+4.5**
DAG				*e*S	**Sn**	**23 51 19.2**	**-0.3**
DAG				IAML		23 51 30.3	
	comp=Z,4.1nm,0.4s						
HSPB	**Hornsund (broa**	**5.50**	**129**	*eP*	**Pn**	**23 50 26.1**	**+3.8**
HSPB				*e*S	**Sn**	**23 51 22.9**	**-2.4**
HSPB				IAML		23 51 35.4	
	comp=Z,4.0nm,0.7s						
HOPEN	**Hopen**	**7.14**	**115**	*eP*	**Pn**	**23 50 47.3**	**+2.4**
HOPEN				*e*S	**Sn**	**23 52 02.6**	**-3.3**
HOPEN				IAML		23 52 06.3	
	comp=Z,3.6nm,0.4s						
HOPEN	**Hopen**	**7.14**	**115**	*eP*	**Pn**	**23 50 47.4**	**+2.6**
HOPEN				*e*S	**Sn**	**23 52 02.3**	**-3.5**
ZFI2	**Zemlya Franca-**	**7.82**	**67**	*eP*	**Pn**	**23 50 55.7**	**+1.6**
ZFI2				*e*S	Sn	23 52 14.2	-8.4
	comp=Z,13nm,2.3s						
OMEGA	**Omega**	**7.85**	**67**	*eP*	**Pn**	**23 50 55.9**	**+1.5**
OMEGA				*e*S	Sn	23 52 15.1	-8.0
	comp=Z,11nm,2.0s						
NEEM	**North Greenlan**	**9.29**	**272**	*i* P	**Pn**	**23 51 17.0**	**+2.6**
NEEM				*e*S	**Sn**	**23 52 54.9**	**-4.0**
NEEM				IAML		23 53 04.5	
	comp=Z,1.6nm,0.4s						
NEEM	**North Greenlan**	**9.29**	**272**	*i* P	**Pn**	**23 51 17.0**	**+2.6**
NEEM				*e*S	**Sn**	**23 52 54.9**	**-4.0**
NEEM				IAML		23 53 04.5	
	comp=Z,1.6nm,0.4s						
SUMG	**Summit**	**11.40**	**241**	*i* P	**Pn**	**23 51 45.4**	**+1.9**
SUMG				*e*S	**Sn**	**23 53 46.2**	**-4.6**
SUMG				IAML		23 53 50.2	
	comp=Z,2.0nm,0.3s						
SUMG	**Summit**	**11.40**	**241**	*i* P	**Pn**	**23 51 45.4**	**+1.9**
SUMG				*e*S	**Sn**	**23 53 46.2**	**-4.6**
SUMG				IAML		23 53 50.2	
	comp=Z,2.0nm,0.3s						

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*FUNV **11** 23:57:21.0, 9°10N×70°04W, h10km, MW3.6*
ISC 11 23:57:20.3±1.2, 9°07N±0°03×69°99W±0°03, h8km±10km, n17, σ1°54/34, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANV	**Sanarito**	**0.62**	**46**	*eP*	**Pg**	**23 57 33.4**	**+1.1**
SANV				*e*S	**Sg**	**23 57 41.3**	**+0.9**
SDV	**Santo Domingo**	**0.67**	**254**	⇓*iP*	**Pg**	**23 57 33.1**	**0.0**
SDV				*e*S	**Sg**	**23 57 41.0**	**-0.8**
SDV				*i*		23 57 45.9	
	comp=Z,111nm,0.4s						
CURV	**Curarigua**	**0.94**	**1**	*eP*	**Pb**	**23 57 38.0**	**-0.9**
CURV				*e*S	**Sg**	**23 57 49.6**	**-1.0**
SOCV	**Socops**	**1.16**	**228**	*eP*	**Pn**	**23 57 42.6**	**-0.3**
SOCV				*e*S	**Sb**	**23 57 57.7**	**-0.2**
TEPV	**Terepaima**	**1.19**	**41**	*eP*	**Pn**	**23 57 42.9**	**-0.3**
TEPV				*e*S	**Sn**	**23 57 58.9**	**-0.8**
SIQV	**Siquisique**	**1.58**	**6**	*eP*	**Pb**	**23 57 49.4**	**-0.5**
SIQV				*e*S	**Sb**	**23 58 09.1**	**-1.0**
BAUV	**El Baul**	**1.93**	**94**	*eP*	**Pn**	**23 57 53.9**	**+0.5**
BAUV				*e*S	**Sn**	**23 58 18.0**	**+0.2**
BENV	**Beln**	**2.52**	**69**	*eP*	**Pn**	**23 58 02.3**	**+0.6**
BENV				*e*S	**Sn**	**23 58 31.8**	**-0.8**
TURV	**Turiamo**	**2.52**	**57**	*eP*	**Pn**	**23 58 01.6**	**0.0**
TURV				*e*S	**Sn**	**23 58 32.2**	**-0.4**
CAPV	**Capacho**	**2.59**	**243**	*eP*	**Pn**	**23 58 02.7**	**-0.2**
CAPV				*e*S	**Sn**	**23 58 31.8**	**-2.9**
TAMC	**Tame, Arauca**	**3.17**	**214**	*eP*	**Pn**	**23 58 12.8**	**+2.2**
TAMC				*e*S	**Sn**	**23 58 50.9**	**+2.3**
TAMC				*i*		23 59 12.3	
	comp=Z,38nm,0.2s						
PAMC	**Pamplona, Colo**	**3.19**	**238**	*eP*	**Pn**	**23 58 13.0**	**+1.8**
PAMC				*e*S	**Sb**	**23 58 53.7**	**-3.1**
PAMC				*i*		23 59 05.8	
	comp=Z,23nm,0.2s						
LL6C	**La Loma 6 Bece**	**3.31**	**282**	*eP*	**Pn**	**23 58 14.1**	**+1.7**
LL6C				*e*S	**Sn**	**23 58 50.8**	**-1.3**
LL6C				*i*		23 59 06.2	
	comp=Z,16nm,0.3s						
OCAC	**Ocana**	**3.40**	**256**	*eP*	**Pb**	**23 58 19.2**	**-1.7**
OCAC				*e*S	**Sb**	**23 59 05.3**	**+2.8**
OCAC				*i*		23 59 13.6	
	comp=Z,138nm,0.4s						
CRJC	**Cerrejon, Guaj**	**3.45**	**304**	*eP*	**Pn**	**23 58 15.5**	**+1.0**
CRJC				*e*S	**Sn**	**23 58 55.4**	**-0.2**
CRJC				*i*		23 59 12.5	
	comp=Z,33nm,0.7s						
CACV	**CAICARA DEL OR**	**3.72**	**113**	*eP*	**Pb**	**23 58 24.8**	**-1.5**
CACV				*e*S	**Sb**	**23 59 12.9**	**+1.3**
SJCC	**San Jacinto, C**	**5.19**	**280**	*eP*	**Pn**	**23 58 41.0**	**+2.6**
SJCC				*e*S	**Sn**	**23 59 40.8**	**+2.2**
SJCC				*i*		23 59 46.3	
	comp=Z,20nm,0.6s						

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*IDC **11** 23:57:04.3±5.0, 43°91N×140°86E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=142.8km s-min=25.3km az=175.0*
*JMA **11** 23:57:29.1±0.3, 44°0N±0°9×14°1E±°, h235km±3km, MV3.0/27, NW OFF HOKKAIDO*
ISC 11 23:57:30.1±0.8, 43°98N±0°08×140°6E±0°1, h233km±8km, n19, σ0°79/24, mb3.3/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHR	**Hokuryu**	**0.82**	**106**	*eP*	**Pn**	**23 58 02.4**	**+0.1**
JHR				*e*S	**S**	**23 58 28.0**	**+0.6**
JISS	**Ishikarishitsu**	**0.90**	**141**	*eP*	**Pn**	**23 58 02.8**	**0.0**
JSS	**Shosan**	**0.97**	**64**	*eP*	**Pn**	**23 58 03.1**	**0.0**
JAB	**Ashibetsu**	**1.24**	**112**	*eP*	**Pn**	**23 58 04.7**	**-0.1**
JAB				*e*S	**S**	**23 58 32.2**	**+0.2**
JEW	**Eniwo**	**1.28**	**152**	*e*S	**S**	**23 58 33.1**	**+0.6**
JRBN	**Rebuntou**	**1.48**	**12**	*eP*	**Pn**	**23 58 05.5**	**-1.0**
JKK2	**Kamakawa 2**	**1.53**	**93**	*eP*	**Pn**	**23 58 06.6**	**-0.3**
JKK2				*e*S	**S**	**23 58 34.8**	**-1.0**
JWK2	**Keihoku**	**1.61**	**33**	*eP*	**Pn**	**23 58 07.7**	**+0.1**
JWK2				*e*S	**S**	**23 58 37.8**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.30**	**137**	*e*S	**S**	**23 58 48.0**	**-0.4**
JAR	**Ashorobuto**	**2.37**	**106**	*eP*	**Pn**	**23 58 14.5**	**-0.2**
JAR				*e*S	**S**	**23 58 50.0**	**+0.3**
JOT	**Ohata**	**2.61**	**173**	*e*S	**S**	**23 58 54.1**	**-0.2**
SONM	**Songino Array**	**24.02**	**291**	P	**P**	**00 02 24.1**	**+0.2**
	0.3nm,0.5s,baz=85,slow=8.1,SNR=2.8						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**37.07**	**306**	P	**P**	**00 04 15.4**	**-2.4**
	0.7nm,0.3s,baz=104,slow=12,SNR=1.8						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**40.27**	**295**	P	**P**	**00 04 44.3**	**0.0**
	0.2nm,0.6s,baz=83,slow=10,SNR=5.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**41.54**	**302**	P	**P**	**00 04 54.2**	**-0.4**
	1.1nm,0.4s,baz=70,slow=8.7,SNR=4.4						
	1.1nm,0.4s						
ILAR	**Eielson Array**	**44.08**	**36**	P	**P**	**00 05 14.2**	**-0.6**
	0.5nm,1.0s,baz=280,slow=11,SNR=4.1						
	0.5nm,1.0s						
BVAR	**Borovoye Array**	**45.67**	**307**	P	**P**	**00 05 27.7**	**+0.3**
	0.4nm,0.4s,baz=81,slow=7.1,SNR=6.4						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**62.44**	**330**	P	**P**	**00 07 29.6**	**+1.5**
	0.5nm,0.5s,baz=51,slow=7.3,SNR=6.0						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**73.26**	**46**	P	**P**	**00 08 36.5**	**+0.5**
	0.3nm,0.4s,baz=336,slow=4.0,SNR=5.6						
	0.3nm,0.4s						

IDC 11 23:57:47.5±1.8, 18°07N×96°08E, h0km, mb3.3/3, mbtmp3.2/4, ML3.1/1, MS2.5/1, Error ellipse: s-maj=22.4km s-min=17.7km az=48.0, Myanmar

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

	comp=Z,3.4nm,0.6s							
SONM	**Songino Array**	**42.15**	**320**	P	**P**	**00 10 40.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=127,slow=6.4,SNR=6.1							
SONM				LR	LR	00 28 00.7		
	comp=Z,47nm,21.3s,baz=302,slow=36							
	comp=Z,0.5nm,0.5s							
ASAR	**Alice Springs**	**45.38**	**196**	P	**P**	**00 11 06.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=14,slow=7.9,SNR=14							
	comp=Z,1.2nm,0.7s							
DZM	**Mont Dzumac**	**46.59**	**154**	LR	LR	00 31 38.1		
	comp=Z,43nm,18.1s,baz=49,slow=37							
STKA	**Stephens Creek**	**52.13**	**185**	P	**P**	**00 11 57.8**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=19,slow=7.8,SNR=3.4							
	comp=Z,2.1nm,0.6s							
BBOO	**Buckleboo**	**53.76**	**191**	P	**P**	**00 12 10.7**	**+0.5**
BBOO				IAmb	IAmb	00 12 15.6		
	comp=Z,12nm,1.1s							
O18K	**Koktuh Hills**	**56.95**	**31**	P	**P**	**00 12 32.0**	**-0.9**
ZALV	**Zalesovo Beam**	**56.99**	**322**	P	**P**	**00 12 33.7**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=96,slow=8.5,SNR=1.6							
ZALV				LR	LR	00 37 04.9		
	comp=Z,30nm,18.7s,baz=66,slow=36							
	comp=Z,0.5nm,0.4s							
TOO	**Toolangi**	**57.63**	**181**	P	**P**	**00 12 36.9**	**-1.0**
TOO				IAmb	IAmb	00 12 38.9		
	comp=Z,11nm,1.1s							
MK31	**Makanchi Array**	**57.65**	**313**	P	**P**	**00 12 37.8**	**-0.3**
MKAR	**Makanchi Array**	**57.65**	**313**	P	**P**	**00 12 37.5**	**-0.6**
MKAR	**Makanchi Array**	**57.65**	**313**	P	**P**	**00 12 37.0**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=89,slow=8.8,SNR=6.7							
	comp=Z,0.5nm,0.6s							
P19K	**Oil Pt**	**57.85**	**31**	P	**P**	**00 12 37.8**	**-1.4**
MAKZ	**Makanchi**	**57.87**	**313**	P	**P**	**00 12 39.5**	**-0.2**
XMAS	**Kiritimati**	**57.89**	**101**	P	**P**	**00 12 38.4**	**-1.8**
NRIK	**Noril'sk**	**60.21**	**340**	P	**P**	**00 12 56.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=91,slow=7.2,SNR=3.7							
	comp=Z,0.7nm,0.3s							
KURBB	**Kurchatov Arra**	**60.40**	**317**	P	**P**	**00 12 56.0**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=93,slow=7.6,SNR=10							
	comp=Z,1.4nm,0.6s							
ILAR	**Eielson Array**	**61.95**	**27**	P	**P**	**00 13 09.1**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=261,slow=5.8,SNR=2.7							
	comp=Z,0.5nm,0.8s							
URZ	**Urewera**	**65.15**	**154**	LR	LR	00 40 59.0		
	comp=Z,31nm,19.1s,baz=119,slow=35							
RTZ	**Ruatahuna**	**65.40**	**154**	P	**P**	**00 13 31.0**	**+0.6**
BVAR	**Borovoye Array**	**65.49**	**320**	P	**P**	**00 13 30.3**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=94,slow=7.0,SNR=16							
	comp=Z,3.9nm,0.6s							
BRVK	**Borovoye**	**65.56**	**320**	P	**P**	**00 13 31.2**	**0.0**
BRVK				IAmb	IAmb	00 13 34.3		
	comp=Z,2.6nm,0.8s							
OXZ	**Oxford**	**67.69**	**160**	P	**P**	**00 13 44.2**	**-0.6**
SIMJ	**Simiganj**	**67.77**	**304**	P	**P**	**00 13 45.1**	**-0.7**
SIMJ				IAmb	IAmb	00 13 52.2		
	comp=Z,2.8nm,0.7s							
KBL	**Kabul**	**68.43**	**300**	P	**P**	**00 13 48.4**	**-1.7**
KBL				IAmb	IAmb	00 13 54.4		
	comp=Z,5.0nm,0.8s							
ARU	**Arti**	**71.98**	**324**	LR	LR	00 48 36.7		
	comp=Z,24nm,18.1s,baz=9.5,slow=38							
ABKAR	**Akbulak array**	**72.44**	**317**	P	**P**	**00 14 13.0**	**-1.1**
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**00 14 37.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=290,slow=5.8,SNR=2.5							
	comp=Z,0.2nm,0.6s							
ARCES	**ARCESS Array B**	**81.05**	**342**	P	**P**	**00 15 02.5**	**+0.3**
	comp=Z,4.6nm,1.1s,baz=46,slow=9.1,SNR=1.7							
	comp=Z,4.6nm,1.1s							
NVAR	**Mina Array Bea**	**81.75**	**52**	P	**P**	**00 15 09.0**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=263,slow=6.3,SNR=2.9							
	comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**85.57**	**335**	P	**P**	**00 15 25.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=38,slow=3.0,SNR=6.8							
	comp=Z,1.1nm,0.7s							
NOA	**NORSAR Array B**	**91.17**	**340**	LR	LR	01 01 59.5		
	comp=Z,18nm,18.1s,baz=310,slow=39							

TEH ***12*** *00:03:59.8,33.71N×45.57E,h10km±113km,ML2.5*
ISN ***12*** *00:04:00.3±1.2,33.71N×45.63E,h16km±6km,ML2.6*

ISC 12 00:04:00.1±1.2**,33.73N**±0.03**×45.60E**±0.04**,h12**km±13km**,**
n9,σ**0≧55/**14**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.52**	**101**	Pg	**Pb**	**00 04 10.8**	**-0.3**
ILBA				Sg	**Sb**	**00 04 18.5**	**-0.1**
IBDR	**Badra**	**0.67**	**156**	*e*Pg	**Pg**	**00 04 13.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**00 04 22.0**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.78**	**359**	Pg	**Pg**	**00 04 15.0**	**-0.2**
IGHG	**Ghaleghazi**	**1.00**	**53**	Pg	**Pn**	**00 04 20.0**	**-0.2**
BHD	**Baghdad**	**1.12**	**246**	*e*Pg	**Pg**	**00 04 22.0**	**+0.4**
BHD				*e*Sg	**Sg**	**00 04 36.0**	**-0.1**
IDHR	**Dehrash**	**1.17**	**34**	Pg	**Pg**	**00 04 23.5**	**+0.9**
IKOM	**Komasi**	**1.65**	**74**	Pg	**Pg**	**00 04 31.9**	**+0.2**
IKRK	**Kirkuk**	**1.97**	**328**	*e*Pn	**Pb**	**00 04 35.0**	**-0.9**
IKRK				*e*Sn	**Sb**	**00 05 01.0**	**+0.6**
IKRK				AML	AML	00 05 07.5	
	comp=E,74nm,0.5s						
IKRK				AML	AML	00 05 12.2	
	comp=N,49nm,0.3s						
RAFI	**Al-Rafai**	**2.04**	**168**	*e*Pn	**Pn**	**00 04 35.0**	**+0.7**
RAFI				*e*Sn	**Sb**	**00 05 02.0**	**-0.5**

JMA ***12*** *00:05:09.9±0.1,24.2N±0.2×121.9E±0.3,h12km±1km,*
MV3.0/11,TAIWAN REGION
TAP ***12*** *00:05:09.8,24.27N×121.85E,h12km,ML3.6,B*
ASIES ***12*** *00:05:09.8,24.27N×121.85E,h12km,ML3.6,Mw3.4,*
Moment Tensor Solution. Moment tensor: Scale 10²¹Nm;
Mrr-1.10; Mθθ0.92; Mφφ0.18; Mrθ-0.91; Mrφ0.72; Mθφ0.49;
Fault plane solution: M₀1.61999×10²¹ NP1:φ88.56000°,
δ64.44000°,λ-58.01000°. NP2:φ213.21000°,δ40.08000°,
λ-137.92000°. Principal axes: T Plg13.6460°,
Azm155.8980°; N Plg28.5470°, Azm253.4880°; P
Plg57.7950°, Azm43.2260°;

ISC 12 00:05:09.8±0.8**,24.27N**±0.01×**121.87E**±0.02**,h12**km±5km**,**
n151,σ**0≧67/**217**,20C-9D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.12**	**290**	*i* P	**Pg**	**00 05 12.9**	**0.0**
	baz=292						
EHP				*i* S	**Sg**	**00 05 15.4**	**+0.3**
	baz=292						
EAHA	**Aohua**	**0.13**	**298**	⇑*i* P	**Pg**	**00 05 13.1**	**+0.1**
	baz=300						
EAHA				*i* S	**Sg**	**00 05 15.6**	**+0.3**
	baz=300						
EWUT	**Wuta**	**0.19**	**336**	⇑*i* P	**Pg**	**00 05 14.2**	**+0.2**
	baz=339						
EWUT				*i* S	**Sg**	**00 05 17.2**	**+0.3**
	baz=339						
ENA	**Nanau**	**0.20**	**325**	⇑*i* P	**Pg**	**00 05 14.1**	**+0.1**
	baz=329						
ENA				S	**Sg**	**00 05 17.0**	**0.0**
	baz=329						
ETL	**Fush Village**	**0.25**	**244**	⇓*i* P	**Pg**	**00 05 15.0**	**+0.1**
	baz=244						
ETL				*i* S	**Sg**	**00 05 18.9**	**+0.5**
	baz=244						
NACB	**Ninganchiao**	**0.27**	**249**	P	**Pg**	**00 05 15.1**	**-0.1**
NACB	**Ninganchiao**	**0.27**	**249**	⇓*i* P	**Pg**	**00 05 15.2**	**0.0**
	baz=245						
NACB				*i* S	**Sg**	**00 05 19.1**	**+0.2**
	baz=245						
ESAO	**Su ao**	**0.31**	**356**	P	**Pg**	**00 05 16.1**	**+0.1**
	baz=359						
ESAO				*e*S	**Sg**	**00 05 20.4**	**+0.2**
	baz=359						
TWD	**Chiawan**	**0.31**	**233**	⇓*i* P	**Pg**	**00 05 16.0**	**0.0**
	baz=236						
TWD				S	**Sg**	**00 05 20.5**	**+0.2**
	baz=236						
TWC	**Suao**	**0.34**	**357**	⇓*i* P	**Pg**	**00 05 16.6**	**0.0**
	baz=9.0						
TWC				S	**Sg**	**00 05 21.2**	**0.0**
	baz=9.0						
ETLH	**Xiulin Townshi**	**0.36**	**260**	⇓*i* P	**Pg**	**00 05 17.1**	**+0.1**
	baz=261						
ETLH				*i* S	**Sb**	**00 05 22.4**	**-1.3**
	baz=261						
EOS2	**EOS2**	**0.37**	**66**	⇓*e*P	**Pb**	**00 05 18.0**	**-0.1**
	baz=54						
EOS2				*e*S	**Sb**	**00 05 24.9**	**+1.0**
	baz=54						
HWA	**Hwalien**	**0.38**	**220**	*e*P	**Pb**	**00 05 18.4**	**0.0**
	baz=229						
NDS	**Dongshan**	**0.39**	**339**	P	**Pg**	**00 05 17.8**	**+0.2**
NDS				S	**Sg**	**00 05 23.1**	**+0.4**
	baz=341						
LATG	**Datong**	**0.41**	**311**	⇑*i* P	**Pg**	**00 05 18.2**	**+0.3**
	baz=312						
LATG				*i* S	**Sg**	**00 05 23.7**	**+0.3**
	baz=312						
EOS3	**EOS3**	**0.41**	**87**	*e*P	**Pb**	**00 05 18.8**	**-0.1**
	baz=78						
EOS3				*e*S	**Sb**	**00 05 25.0**	**-0.1**
	baz=78						
EOS4	**EOS4**	**0.44**	**109**	*e*P	**Pg**	**00 05 18.5**	**+0.2**
	baz=99						
ETM	**Tongmen**	**0.46**	**229**	*e*P	**Pg**	**00 05 18.7**	**0.0**
	baz=229						
ETM				*e*S	**Sb**	**00 05 25.4**	**-1.1**
	baz=229						
ENTT	**Nioudou**	**0.46**	**324**	⇑*i* P	**Pb**	**00 05 19.3**	**-0.6**
	baz=325						
ENTT				S	**Sg**	**00 05 25.5**	**+0.5**
	baz=325						
NDT	**Datong Townshi**	**0.46**	**316**	⇑P	**Pb**	**00 05 19.3**	**-0.6**
	baz=317						
NDT				*e*S	**Sg**	**00 05 25.5**	**+0.4**
	baz=317						
NNSB	**Datong**	**0.47**	**290**	⇑*i* P	**Pb**	**00 05 19.3**	**-0.7**
	baz=291						
NNSB				*i* S	**Sg**	**00 05 25.5**	**+0.2**
	baz=291						
NNSH	**Datong**	**0.47**	**290**	*e*P	**Pb**	**00 05 19.3**	**-0.7**
	baz=291						
NNSH				*e*S	**Sg**	**00 05 25.5**	**+0.2**
	baz=291						
LXIB	**Xiulin Townshi**	**0.48**	**239**	⇓*i* P	**Pg**	**00 05 19.1**	**-0.2**
	baz=251						
LXIB				S	**Sb**	**00 05 26.4**	**-1.0**
	baz=251						
NNS	**Nan Shan**	**0.48**	**291**	⇑P	**Pg**	**00 05 19.5**	**+0.2**
	baz=292						
NNS				S	**Sb**	**00 05 26.5**	**-0.9**
	baz=292						
TWE	**Neicheng**	**0.49**	**338**	⇑*i* P	**Pg**	**00 05 19.7**	**+0.3**
	baz=340						
TWE				S	**Sg**	**00 05 26.1**	**+0.3**
	baz=340						
ILA	**Ilan**	**0.51**	**348**	*e*P	**Pb**	**00 05 20.4**	**-0.2**
	baz=340						
FUSB	**Fushanzhiwuyua**	**0.55**	**333**	⇑*i* P	**Pb**	**00 05 21.1**	**-0.4**
	baz=326						
FUSB				S	**Sb**	**00 05 28.4**	**-1.0**
	baz=326						
SHUL	**Shoufeng**	**0.55**	**210**	*e*P	**Pb**	**00 05 21.9**	**+0.6**
	baz=212						
WHF	**Hehuan Shan**	**0.56**	**258**	P	**Pg**	**00 05 21.0**	**+0.2**
	baz=258						
WHF				S	**Sg**	**00 05 28.6**	**+0.2**
	baz=258						
FUSS	**Fushou**	**0.57**	**268**	⇑P	**Pb**	**00 05 21.3**	**-0.5**
	baz=269						
FUSS				*e*S	**Sb**	**00 05 28.8**	**-1.2**
	baz=269						
EGS	**EGS**	**0.58**	**6**	*e*P	**Pg**	**00 05 21.4**	**+0.3**
	baz=7.0						
EGS				*e*S	**Sg**	**00 05 29.2**	**+0.5**
	baz=7.0						
NTC	**Toucheng**	**0.58**	**357**	*e*P	**Pg**	**00 05 21.2**	**+0.1**
	baz=6.0						
ESL	**Shilin**	**0.60**	**221**	*e*P	**Pg**	**00 05 21.5**	**+0.1**
	baz=229						
YHNB	**Yeheng**	**0.60**	**312**	P	**Pb**	**00 05 22.0**	**-0.2**
YHNB	**Yeheng**	**0.60**	**312**	⇑*i* P	**Pb**	**00 05 22.1**	**-0.2**
	baz=312						
YHNB				S	**Sg**	**00 05 29.5**	**+0.1**
	baz=312						
NWLT	**Wulai**	**0.61**	**327**	⇑*i* P	**Pb**	**00 05 22.1**	**-0.2**
	baz=327						
NWLT				*i* S	**Sg**	**00 05 29.9**	**+0.3**
	baz=327						
NSK	**Sanguang**	**0.62**	**311**	⇑*i* P	**Pb**	**00 05 22.3**	**-0.3**
	baz=312						
NSK				S	**Sb**	**00 05 30.3**	**-0.9**
	baz=312						
TWT	**Tachien**	**0.63**	**269**	*e*P	**Pb**	**00 05 22.7**	**-0.2**
	baz=269						
TWT				*e*S	**Sb**	**00 05 30.8**	**-1.0**
	baz=269						
TEGC	**Jichi Village**	**0.63**	**208**	*e*P	**Pb**	**00 05 23.4**	**+0.7**
	baz=208						
TDCB	**Techi**	**0.65**	**269**	P	**Pb**	**00 05 22.9**	**-0.2**
	baz=269						
TDCB				S	**Sg**	**00 05 30.7**	**-0.2**
	baz=269						
CHGB	**Renai**	**0.67**	**252**	⇓*i* P	**Pb**	**00 05 23.0**	**-0.4**
	baz=246						
CHGB				*e*S	**Sg**	**00 05 31.2**	**-0.3**
	baz=246						
WARBT	**Fenglin Townsh**	**0.70**	**219**	*e*P	**Pg**	**00 05 22.9**	**-0.5**
	baz=234						
TIPB	**Shuangxi**	**0.70**	**357**	P	**Pb**	**00 05 23.7**	**-0.3**
	baz=357						
TIPB				S	**Sg**	**00 05 32.5**	**-0.1**
	baz=357						
OWD	**Renai**	**0.70**	**244**	⇑*e*P	**Pg**	**00 05 23.5**	**+0.1**
	baz=245						
WUSB	**Renai**	**0.74**	**248**	*e*P	**Pb**	**00 05 24.2**	**-0.4**
	baz=243						
WUSB				*e*S	**Sb**	**00 05 34.1**	**-0.6**
	baz=243						
TWB1	**Santiao Chiao**	**0.75**	**9**	*e*P	**Pb**	**00 05 24.6**	**-0.1**
	baz=9.0						
TWB1				*e*S	**Sg**	**00 05 32.9**	**-1.1**
	baz=9.0						
TWA	**Mucha**	**0.76**	**340**	⇑*i* P	**Pb**	**00 05 25.0**	**+0.1**
	baz=341						
TWA				S	**Sg**	**00 05 34.5**	**+0.2**
	baz=341						
NHDH	**Xindian Distri**	**0.76**	**336**	*e*P	**Pb**	**00 05 25.1**	**+0.2**
	baz=336						
NHDH				*e*S	**Sg**	**00 05 34.3**	**-0.1**
	baz=336						
NFF	**Wufeng Townshi**	**0.77**	**298**	*e*P	**Pb**	**00 05 25.2**	**0.0**
	baz=298						
TATO	**Taipei**	**0.78**	**334**	P	**Pb**	**00 05 25.8**	**+0.4**
TATO	**Taipei**	**0.78**	**334**	⇑*i* P	**Pb**	**00 05 25.4**	**+0.1**
	baz=334						
TATO				S	**Sg**	**00 05 35.0**	**-0.2**
	baz=334						
NWF	**Wu-fen Shan**	**0.80**	**354**	P	**Pb**	**00 05 25.9**	**+0.2**
	baz=347						
NWF				*i* S	**Sg**	**00 05 36.1**	**+0.2**
	baz=347						
WFSB	**Wu-fen Shan**	**0.80**	**354**	⇑P	**Pb**	**00 05 26.0**	**+0.3**
	baz=347						
WFSB				*i* S	**Sb**	**00 05 36.1**	**-0.4**
	baz=347						
NHY	**Taipei**	**0.81**	**341**	*e*P	**Pn**	**00 05 29.0**	**+1.9**
	baz=340						
SXI1	**Grass Mountain**	**0.82**	**1**	⇑P	**Pb**	**00 05 26.3**	**+0.2**
	baz=6.0						
SXI1				*e*S	**Sg**	**00 05 36.3**	**-0.2**
	baz=6.0						
TAP	**Taipei**	**0.83**	**337**	*e*P	**Pb**	**00 05 26.2**	**-0.1**
	baz=337						
TAP				*e*S	**Sb**	**00 05 37.3**	**-0.1**
	baz=337						
VWDT	**VWDT**	**0.84**	**232**	*e*P	**Pg**	**00 05 25.9**	**0.0**
	baz=239						
VWDT				*e*S	**Sn**	**00 05 38.9**	**-0.7**
	baz=239						
WHP	**Taichung City**	**0.84**	**271**	P	**Pn**	**00 05 26.8**	**-0.7**
	baz=272						
WHP				S	**Sb**	**00 05 37.6**	**0.0**
	baz=272						
LIOB	**Emei**	**0.86**	**296**	*e*P	**Pn**	**00 05 27.3**	**-0.5**
	baz=296						
NSTT	**Nanjuang**	**0.87**	**295**	⇑*i* P	**Pn**	**00 05 27.3**	**-0.5**
	baz=295						
NSTT				*e*S	**Sb**	**00 05 38.0**	**-0.4**
	baz=295						
WPL	**Puli Township**	**0.87**	**253**	*e*P	**Pb**	**00 05 26.9**	**+0.1**
	baz=254						
WPL				*e*S	**Sb**	**00 05 38.4**	**0.0**
	baz=254						
HGSD	**Ruisui**	**0.87**	**208**	*e*P	**Pn**	**00 05 27.6**	**-0.3**
	baz=201						
TNOU	**National Taiwa**	**0.88**	**355**	P	**Pb**	**00 05 27.3**	**+0.3**
	baz=347						
TNOU				S	**Sg**	**00 05 37.9**	**-0.4**
	baz=347						
DPDB	**Guoxing**	**0.89**	**255**	*e*P	**Pb**	**00 05 27.1**	**-0.1**
	baz=256						
WCS	**Beigang Elemen**	**0.90**	**257**	*e*P	**Pn**	**00 05 27.8**	**-0.4**
	baz=258						
WCS				*e*S	**Sb**	**00 05 39.3**	**+0.1**
	baz=258						
EHY	**Hungye**	**0.91**	**213**	*e*P	**Pg**	**00 05 26.8**	**-0.5**
	baz=215						
YM01	**YM01**	**0.92**	**343**	*e*P	**Pn**	**00 05 28.1**	**-0.4**
	baz=341						
TWS1	**Kuangyinshan**	**0.92**	**334**	*e*P	**Pn**	**00 05 28.8**	**+0.2**
	baz=334						
TWS1				*e*S	**Sn**	**00 05 41.1**	**-0.8**
	baz=334						
HSN1	**Hsinchu**	**0.93**	**304**	*e*P	**Pn**	**00 05 28.8**	**+0.2**
	baz=292						
NCU	**National Centr**	**0.93**	**319**	*e*P	**Pn**	**00 05 28.7**	**0.0**
	baz=318						
NCUH	**Zhongli**	**0.93**	**319**	*e*P	**Pn**	**00 05 28.6**	**-0.1**
	baz=318						
NWRT	**Kuosheng**	**0.95**	**349**	*e*P	**Pb**	**00 05 28.2**	**0.0**
	baz=336						
YM08	**YM08**	**0.95**	**345**	P	**Pb**	**00 05 28.5**	**+0.3**
	baz=343						
SSLB	**Suanglung**	**0.96**	**240**	P	**Pb**	**00 05 28.2**	**-0.2**
SSLB	**Suanglung**	**0.96**	**240**	⇓P	**Pg**	**00 05 28.1**	**-0.2**
	baz=250						
SSLB				S	**Sg**	**00 05 40.1**	**-0.7**
	baz=250						
SMLT	**Sun Moon Lake**	**0.96**	**247**	P	**Pb**	**00 05 28.6**	**+0.1**
	baz=248						
SMLT				*e*S	**Sb**	**00 05 41.1**	**-0.2**
	baz=248						
ANP	**Anpu**	**0.97**	**341**	P	**Pn**	**00 05 28.9**	**-0.4**
	baz=340						
NTST	**Danshui**	**0.97**	**337**	*e*P	**Pn**	**00 05 29.3**	**+0.1**
	baz=336						
HSN	**Hsinchu**	**0.97**	**303**	*e*P	**Pn**	**00 05 29.9**	**+0.6**
	baz=295						
TYC	**Yuchr**	**0.99**	**249**	*e*P	**Pn**	**00 05 29.1**	**-0.4**
	baz=243						
TYC				*e*S	**Sb**	**00 05 41.9**	**0.0**
	baz=243						
NJN	**Zhunan**	**1.00**	**295**	*e*P	**Pn**	**00 05 30.0**	**+0.4**
	baz=287						
TWQ1	**Liyutan**	**1.00**	**275**	*e*P	**Pn**	**00 05 30.0**	**+0.3**
	baz=275						
JYNG	**Yonagunijimaku**	**1.00**	**79**	P	**Pb**	**00 05 28.8**	**-0.2**
JYNG					S	**Sb**	**00 05 42.6**	**+0.4**
YULB	**Yu-li**	**1.01**	**211**	P	**Pn**	**00 05 29.5**	**-0.4**
YULB	**Yu-li**	**1.01**	**211**	*e*P	**Pb**	**00 05 28.6**	**-0.8**
	baz=223						
YULB				*e*S	**Sn**	**00 05 44.0**	**-0.1**
	baz=223						
NMLH	**Miaoli**	**1.02**	**286**	*e*P	**Pn**	**00 05 31.1**	**+1.2**
	baz=286						
NSY	**Sanyi**	**1.02**	**279**	*e*P	**Pn**	**00 05 30.8**	**+0.9**
	baz=279						
ECBN	**Changbin**	**1.02**	**202**	*e*P	**Pn**	**00 05 30.1**	**+0.2**
	baz=205						
TWY	**Chenhua**	**1.03**	**346**	*e*P	**Pn**	**00 05 30.2**	**+0.2**
	baz=346						
TWY				*e*S	**Sg**	**00 05 43.3**	**+0.2**
	baz=346						
EYUL	**Yuli**	**1.04**	**209**	*e*P	**Pn**	**00 05 30.1**	**-0.1**
	baz=220						
NHW	**Xinwu Township**	**1.05**	**315**	*e*P	**Pn**	**00 05 30.5**	**+0.2**
	baz=314						
TWF1	**Yuli**	**1.05**	**210**	*e*P	**Pb**	**00 05 29.7**	**-0.2**
	baz=211						
TWF1				*e*S	**Sn**	**00 05 44.6**	**-0.3**
	baz=211						
YOJ	**Yonaguni jima**	**1.06**	**79**	P	**Pb**	**00 05 30.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.06**	**79**	P	**Pb**	**00 05 29.9**	**-0.3**
YOJ					*e*S	**Sb**	**00 05 44.1**	**+0.1**
YOJ	**Yonaguni jima**	**1.06**	**79**	P	**Pb**	**00 05 29.8**	**-0.3**
	baz=65						
YOJ				*e*S	**Sb**	**00 05 43.4**	**-0.5**
	baz=65						
WHYT	**Xinyi Township**	**1.09**	**239**	*e*P	**Pn**	**00 05 32.1**	**+1.3**
	baz=240						
WWF	**Wufeng**	**1.09**	**258**	*e*P	**Pn**	**00 05 32.1**	**+1.2**
	baz=254						
TCU	**Taichung**	**1.09**	**264**	*e*P	**Pn**	**00 05 32.9**	**+1.9**
	baz=265						
WDJ	**Dajia District**	**1.12**	**274**	*e*P	**Pg**	**00 05 33.0**	**+1.6**
	baz=275						
WJS	**Zhushan**	**1.13**	**247**	*e*P	**Pg**	**00 05 33.2**	**+1.6**
	baz=242						
WNT1	**Nantou City**	**1.14**	**252**	*e*P	**Pb**	**00 05 30.1**	**-1.3**
	baz=253						
WNT	**Mingjian**	**1.15**	**250**	*e*P	**Pg**	**00 05 33.2**	**+1.4**
	baz=244						
CHKH	**Chenggong**	**1.15**	**202**	*e*P	**Pn**	**00 05 31.8**	**0.0**
	baz=205						
FULB	**Fuli**	**1.19**	**206**	*e*P	**Pb**	**00 05 32.2**	**0.0**
	baz=225						
WCHH	**Zhanghua**	**1.21**	**261**	*e*P	**Pg**	**00 05 34.6**	**+1.6**
	baz=263						
WYL	**Yuanlin Townsh**	**1.21**	**256**	*e*P	**Pb**	**00 05 32.5**	**-0.2**
	baz=258						
ALS	**Alishan**	**1.23**	**232**	*e*P	**Pg**	**00 05 33.5**	**+0.1**
	baz=242						
CHKT	**Chengkung**	**1.25**	**202**	*e*P	**Pb**	**00 05 33.4**	**0.0**
	baz=187						
ELDTW	**Lidau**	**1.33**	**216**	*e*P	**Pn**	**00 05 33.9**	**-0.3**
	baz=206						
WDLH	**Douliu**	**1.34**	**245**	*e*P	**Pg**	**00 05 36.6**	**+1.0**
	baz=247						
PCYT	**Pengchaiyu**	**1.37**	**8**	*e*P	**Pb**	**00 05 35.6**	**+0.2**
	baz=4.0						
EDH	**Donghe**	**1.39**	**202**	*e*P	**Pn**	**00 05 32.9**	**-2.1**
	baz=205						
WRL	**Guolierlin Hig**	**1.41**	**255**	*e*P	**Pg**	**00 05 36.6**	**-0.2**
	baz=257						
WCKO	**Fanlu**	**1.42**	**235**	*e*P	**Pg**	**00 05 37.4**	**+0.4**
	baz=238						
WCKO				*e*S	**Sg**	**00 05 58.5**	**+3.0**
	baz=238						
RLNB	**Erlin**	**1.43**	**255**	*e*P	**Pg**	**00 05 37.9**	**+0.8**
	baz=257						
WTK	**Tuku**	**1.47**	**247**	*e*P	**Pb**	**00 05 37.2**	**+0.2**
	baz=251						
CHN4	**Tsaushan**	**1.48**	**232**	*e*P	**Pg**	**00 05 38.2**	**0.0**
	baz=236						
STYH	**Taoyuan**	**1.48**	**223**	*e*P	**Pb**	**00 05 36.9**	**-0.3**
	baz=227						
TPUB	**Ta-

JKRS	**Kuro-shima**	**1.96**	**90**	*e*P	**Pn**	**00 05 43.5**	**+0.7**
JKRS				S	**Sn**	**00 06 07.3**	**0.0**
MASBT	**Mashibuluo**	**2.00**	**215**	*e*P	**Pb**	**00 05 45.1**	**-1.0**
	baz=217						
MASBT				*e*S	**Sb**	**00 06 12.2**	**+1.2**
	baz=217						
JIJ	**Ishigaki jima**	**2.08**	**87**	*e*P	**Pn**	**00 05 45.0**	**+0.5**
JIJ				S	**Sn**	**00 06 09.2**	**-1.1**
EAST	**Anshuo**	**2.10**	**207**	*e*P	**Pn**	**00 05 45.5**	**+0.8**
	baz=199						
SCZT	**Fangliau**	**2.21**	**212**	*e*P	**Pb**	**00 05 48.4**	**-1.2**
	baz=218						
PNG	**Penghu**	**2.23**	**252**	*e*P	**Pn**	**00 05 47.7**	**+1.2**
	baz=257						
PHUB	**P'eng-hu**	**2.23**	**251**	*e*P	**Pn**	**00 05 46.3**	**-0.2**
	baz=255						
JISG	**Ishigakijimahi**	**2.25**	**81**	*e*P	**Pn**	**00 05 47.0**	**+0.2**
JISG				S	**Sn**	**00 06 13.5**	**-1.1**
SLIU	**Shizi**	**2.27**	**206**	*e*P	**Pb**	**00 05 49.0**	**-1.6**
	baz=200						
LYUB	**Lan-yu**	**2.27**	**187**	*e*P	**Pn**	**00 05 47.5**	**+0.4**
	baz=192						
VWUC	**VWUC**	**2.31**	**289**	*e*P	**Pn**	**00 05 48.6**	**+0.9**
	baz=290						
VCHM	**Qimei**	**2.47**	**245**	*e*P	**Pn**	**00 05 51.5**	**+1.6**
	baz=236						
MATB	**Ma-tsu**	**2.56**	**318**	*e*P	**Pn**	**00 05 51.8**	**+0.7**
	baz=316						
XPSS	**Dashiqiu**	**3.05**	**331**	*e*P	**Pn**	**00 05 58.1**	**+0.2**
	baz=328						
MHZQ	**Yeshan**	**3.15**	**306**	*e*P	**Pn**	**00 06 00.0**	**+0.8**
	baz=306						
KNMB	**Chin-men Tao**	**3.18**	**274**	*e*P	**Pn**	**00 06 00.4**	**+0.8**
	baz=276						
AXDP	**Jialang**	**3.60**	**281**	*e*P	**Pn**	**00 06 06.3**	**+0.9**
	baz=282						

TEH **12** *00:11:31.3,33.˚79N×45.˚70E,h10km±112km,ML2.9*
ISN **12** *00:11:31.0±0.6,33.˚80N×45.˚73E,h11km±2km,ML2.8*
ISC 12 00:11:31.2±1.3**,33.˚79N**±0.˚03×**45.˚73E**±0.˚04**,h11**km±12km**,**
n10,σ**0°61/15,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.43**	**112**	Pg	**Pb**	**00 11 40.5**	**-0.4**
ILBA				Sg	**Sb**	**00 11 47.1**	**-0.3**
IBDR	**Badra**	**0.70**	**166**	*e*Pg	**Pg**	**00 11 45.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**00 11 54.5**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.72**	**351**	Pg	**Pb**	**00 11 45.5**	**-0.3**
IGHG	**Ghaleghazi**	**0.88**	**52**	Pg	**Pn**	**00 11 49.7**	**0.0**
IDHR	**Dehrash**	**1.06**	**31**	Pg	**Pg**	**00 11 51.5**	**-0.1**
BHD	**Baghdad**	**1.24**	**246**	*e*Pg	**Pg**	**00 11 55.0**	**0.0**
BHD				*e*Sg	**Sn**	**00 12 12.0**	**+1.0**
BHD				AML	AML	00 12 15.9	
	comp=E,319nm,0.4s						
ILIN	**Lien**	**1.52**	**42**	Pg	**Pg**	**00 12 00.6**	**+0.2**
IKOM	**Komasi**	**1.53**	**75**	Pg	**Pg**	**00 12 00.9**	**+0.3**
IKRK	**Kirkuk**	**1.97**	**325**	*e*Pn	**Pb**	**00 12 06.0**	**-1.0**
IKRK				*e*Sn	**Sb**	**00 12 32.0**	**+0.4**
IKRK				AML	AML	00 12 37.5	
	comp=E,90nm,0.3s						
IKRK				AML	AML	00 12 44.1	
	comp=N,61nm,0.4s						
RAFI	**Al-Rafai**	**2.09**	**171**	*e*Pn	**Pb**	**00 12 08.0**	**-1.0**
RAFI				*e*Sn	**Sb**	**00 12 35.0**	**0.0**

ISN **12** *00:14:46.6±0.6,33.˚83N×45.˚77E,h8km±3km,ML3.0*
TEH **12** *00:14:47.4,33.˚74N×45.˚69E,h8km±56km,ML3.1*
ISC 12 00:14:47.3±1.3**,33.˚81N**±0.˚03×**45.˚69E**±0.˚03**,h6**km±12km**,**
n19,σ**1°79/26,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**113**	Pg	**Pb**	**00 14 56.7**	**-1.3**
ILBA				Sg	**Sb**	**00 15 02.9**	**-2.3**
KGS1	**Ghasr-e-Shirin**	**0.70**	**353**	Pg	**Pn**	**00 15 02.3**	**-1.6**
IBDR	**Badra**	**0.72**	**164**	*e*Pg	**Pg**	**00 15 01.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**00 15 11.0**	**+0.5**
IGHG	**Ghaleghazi**	**0.90**	**54**	Pg	**Pn**	**00 15 06.6**	**-0.1**
IDHR	**Dehrash**	**1.06**	**33**	Pg	**Pn**	**00 15 08.4**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.21**	**67**	Pg	**Pn**	**00 15 11.5**	**+0.4**
KCHF				Sg	**Sn**	**00 15 30.0**	**+2.1**
BHD	**Baghdad**	**1.22**	**244**	*e*Pg	**Pg**	**00 15 11.5**	**+0.8**
BHD				*e*Sg	**Sn**	**00 15 29.0**	**+1.2**
BHD				AML	AML	00 15 32.7	
	comp=E,583nm,0.5s						
ILIN	**Lien**	**1.53**	**43**	Pg	**Pg**	**00 15 17.7**	**+1.0**
IKOM	**Komasi**	**1.55**	**76**	Pg	**Pg**	**00 15 18.0**	**+0.8**
IKOM				Sg	**Sg**	**00 15 40.2**	**+2.9**
IKFM	**Kafar-mosalman**	**1.82**	**98**	Pn	**Pg**	**00 15 21.0**	**-1.2**
IKRK	**Kirkuk**	**1.94**	**325**	*e*Pn	**Pb**	**00 15 22.0**	**-1.2**
IKRK				*e*Sn	**Sb**	**00 15 48.0**	**+0.3**
RAFI	**Al-Rafai**	**2.11**	**170**	*e*Pn	**Pb**	**00 15 24.0**	**-1.9**
RAFI				*e*Sn	**Sb**	**00 15 52.0**	**-0.4**
RAFI				AML	AML	00 15 56.7	
	comp=E,106nm,0.2s						
RAFI				AML	AML	00 16 00.1	
	comp=N,120nm,0.4s						
SDS1	**Sardasht. Az.**	**2.34**	**356**	Pn	**Pb**	**00 15 29.4**	**-0.7**
HSAM	**Samen**	**2.45**	**80**	Pn	**Pb**	**00 15 29.8**	**-2.1**
MAHB	**Mahabad**	**2.96**	**0**	Pn	**Pb**	**00 15 37.5**	**-3.0**
HAGD	**Aghdareh**	**3.03**	**69**	Pn	**Pb**	**00 15 38.3**	**-3.5**
QAMS	**Qamsar**	**4.75**	**89**	Pn	**Pn**	**00 16 01.5**	**+1.7**
IKLH	**Kolahrood**	**4.94**	**94**	Pn	**Pn**	**00 16 04.5**	**+2.1**
IRAM	**Ramesheh**	**5.97**	**108**	Pn	**Pn**	**00 16 18.3**	**+1.8**

INMG **12** *00:17:12.5±1.5,36.˚86N×10.˚89W,h31km,ML1.7,Error ellipse: s-maj=9.3km s-min=6.0km az=62.0*
CNRM **12** *00:17:18.7,36.˚30N×9.˚88W,h0km,ML3.6*
ISC 12 00:17:13.0±2.2**,36.˚67N**±0.˚04×**10.˚6W**±0.˚1**,h42**km**,n30,**
σ2°39/25,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.47**	**71**	*e*Pn	**Pn**	**00 17 38.3**	**+1.3**
PFVI				*e*Sn	**Sn**	**00 17 56.5**	**+1.5**
PFVI				A	A	00 17 57.4	
	4.2nm,0.1s						
PTEO	**Sao Teotonio**	**1.71**	**59**	*e*Sn	**Sn**	**00 18 02.0**	**+1.0**
PNCL	**Nicolau / Gran**	**2.17**	**48**	*e*Pn	**Pn**	**00 17 46.6**	**0.0**
PNCL				*e*Sn	**Sn**	**00 18 11.8**	**-0.5**
PNCL				A	A	00 18 13.4	
	2.5nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.19**	**74**	*e*Sn	**Sn**	**00 18 14.8**	**+2.0**
PCVE	**Castro Verde**	**2.24**	**64**	*e*Sn	**Sn**	**00 18 15.1**	**+1.2**
PVAQ	**Vaqueiros**	**2.40**	**71**	*e*Sn	**Sn**	**00 18 19.8**	**+2.0**
PMAFR	**Mafra**	**2.50**	**24**	*e*Pn	Pn	00 17 48.8	-2.3
PMAFR				*e*Sn	Sn	00 18 15.7	-4.7
PMAFR				A	A	00 18 17.0	
	16nm,0.1s						
PACT	**Alcochete**	**2.51**	**33**	*e*Pn	Pn	00 17 49.8	-1.4
PACT				*e*Sn	**Sn**	**00 18 19.0**	**-1.5**
PACT				A	A	00 18 19.5	
	10nm,0.3s						
EVO	**Evora**	**2.75**	**47**	*e*Sn	**Sn**	**00 18 25.0**	**-1.6**
EVO				A	A	00 18 27.4	
	3.7nm,0.1s						
PMTG	**Montargil**	**3.03**	**37**	*e*Pn	Pn	00 17 56.9	-1.5
PMTG				*e*Sn	**Sn**	**00 18 30.7**	**-2.7**
PMTG				A	A	00 18 32.3	
	1.9nm,0.1s						
PSBE	**So Bento**	**3.17**	**26**	*e*Pn	Pn	00 17 58.1	-2.2
PSBE				*e*Sn	Sn	00 18 32.9	-4.0
PBAR	**Barrancos**	**3.19**	**61**	*e*Pn	**Pn**	**00 18 02.0**	**+1.4**
PBAR				*e*Sn	**Sn**	**00 18 37.3**	**0.0**
PBAR				A	A	00 18 39.2	
	0.5nm,0.1s						
PESTR	**Estremoz**	**3.22**	**46**	*e*Sn	**Sn**	**00 18 36.4**	**-1.8**
PMRV	**Marv??o**	**3.73**	**41**	*e*Pn	Pn	00 18 06.9	-1.1
PMRV				*e*Sn	**Sn**	**00 18 46.8**	**-3.8**
PMRV				A	A	00 18 49.5	
	1.2nm,0.1s						
PCAS	**Casmilo, Conde**	**3.75**	**25**	*e*Pn	Pn	00 18 06.0	-2.3
PCAS				*e*Sn	Sn	00 18 46.3	-4.9
PCBR	**Castelo Branco**	**3.99**	**37**	*e*Sn	Sn	00 18 53.1	-4.1
PVIS	**Viseu**	**4.55**	**27**	*e*Sn	Sn	00 19 05.7	-5.3
PVIS				A	A	00 19 08.1	
	1.7nm,0.1s						
SICH	**Sidi Chahed**	**5.00**	**119**	P	**Pn**	**00 18 23.8**	**-1.6**
SICH	**Sidi Chahed**	**5.00**	**119**	S	**Sn**	**00 19 14.6**	**-7.3**
POLO	**Lamas de Olo**	**5.17**	**24**	*e*Sn	Sn	00 19 18.0	-8.3
MVO	**Moncorvo**	**5.27**	**31**	*e*Pn	Pn	00 18 26.2	-3.0
MVO				*e*Sn	Sn	00 19 22.4	-6.3
PGAV	**Gavieira, Arco**	**5.58**	**18**	*e*Pn	Pn	00 18 28.8	-4.7
PGAV				*e*Sn	Sn	00 19 27.5	-8.9
OUK	**Oukaimeden**	**5.89**	**157**	P	**Pn**	**00 18 40.0**	**+1.9**
OUK	**Oukaimeden**	**5.89**	**157**	S	**Sn**	**00 19 43.4**	**-1.1**
MD31	**MD31**	**6.10**	**127**	P	**Pn**	**00 18 42.5**	**+1.8**
MD31	**MD31**	**6.10**	**127**	S	**Sn**	**00 19 47.7**	**-1.6**
MDT	**Midelt**	**6.24**	**126**	P	**Pn**	**00 18 44.4**	**+1.8**
MDT	**Midelt**	**6.24**	**126**	S	**Sn**	**00 19 50.7**	**-1.9**
OUZM	**OUZ**	**6.56**	**150**	P	**Pn**	**00 18 49.3**	**+2.2**
OUZM	**OUZ**	**6.56**	**150**	S	**Sn**	**00 20 00.1**	**-0.6**

AUST 12 00:27:20.8±4.8**,32.˚33S×149.˚96E,h27**km±43km**,Error ellipse: s-maj=26.5km s-min=11.1km az=104.0,New South Wales**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGCD	**Mangrove Creek**	**1.31**	**132**	P	Pn	00 27 42.0	-1.3
	baz=1.3						
MGCD				S	Sb	00 28 00.8	-0.2
	baz=1.3						
AUPHS	**Peel High Scho**	**1.46**	**33**	P	Pn	00 27 45.1	-0.3
	baz=1.5						
AUPHS				S	Sb	00 28 04.7	-0.8
	baz=1.5						

UCR **12** *00:36:16.1±1.1,10.˚67N×84.˚96W,h1km±2km,MW4.4*
CATAC **12** *00:36:17.3±0.2,10.˚65N×84.˚97W,h6km±2km,ML3.2*
ISC 12 00:36:17.7±0.8**,10.˚66N**±0.˚02×**84.˚95W**±0.˚02**,h17**km±6km**,**
n70,σ**1°43/90,15C-6D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VERA	**Finca Concepci**	**0.21**	**22**	*e*P	**Pg**	**00 36 21.9**	**-0.9**
CUI	**Cuipilapa**	**0.21**	**270**	*e*P	**Pg**	**00 36 21.5**	**-1.3**
VMAR	**Armenia, Volca**	**0.22**	**313**	*e*P	**Pg**	**00 36 22.0**	**-1.1**
VMAR	**Armenia, Volca**	**0.22**	**313**	*i* P	**Pg**	**00 36 21.9**	**-1.1**
VMAR				*i* S	**Sg**	**00 36 29.1**	**+2.5**
VMAR				IAML		00 36 33.9	
	comp=Z,13μm,1.0s						
CAMAV	**Centro de Prod**	**0.24**	**280**	*e*P	**Pg**	**00 36 22.1**	**-1.3**
COLC	**Colonia**	**0.25**	**272**	*e*P	**Pg**	**00 36 22.2**	**-1.2**
CEDE	**Laguna Cedeo**	**0.29**	**125**	*i* P	**Pb**	**00 36 24.3**	**-0.3**
CEDE				*e*S	**Sb**	**00 36 30.4**	**+1.2**
ARE1	**Arenal 1**	**0.30**	**131**	*i* P	**Pb**	**00 36 24.4**	**-0.3**
VACR	**Volcan Arenal**	**0.32**	**125**	*i* P	**Pb**	**00 36 24.7**	**-0.4**
VACR	**Volcan Arenal**	**0.32**	**125**	*i* P	**Pb**	**00 36 24.7**	**-0.4**
VACR				*i* S	**Sb**	**00 36 30.6**	**+0.6**
VACR				IAML		00 36 40.3	
	comp=Z,5μm,1.0s						
JTS	**Las Juntas de**	**0.36**	**181**	*e*P	**Pg**	**00 36 24.4**	**-1.0**
JUNT	**Juntas**	**0.37**	**182**	*i* P	**Pg**	**00 36 24.5**	**-1.0**
JUNT				*e*S	**Sg**	**00 36 30.2**	**-0.6**
GPS3	**Bodega del ICE**	**0.42**	**283**	*e*P	**Pn**	**00 36 29.0**	**-0.1**
VORI	**VORI**	**0.42**	**292**	*e*P	**Pg**	**00 36 25.4**	**-1.0**
SOCE	**Pocosol**	**0.42**	**130**	*i* P	**Pg**	**00 36 26.0**	**-0.4**
SOCE	**Pocosol**	**0.42**	**130**	*i* P	**Pg**	**00 36 26.0**	**-0.4**
SOCE				IAML		00 36 36.5	
	comp=Z,2μm,1.0s						
VRLE	**La Escondida,**	**0.43**	**288**	*e*P	**Pg**	**00 36 25.4**	**-1.1**
VRLE	**La Escondida,**	**0.43**	**288**	*i* P	**Pg**	**00 36 25.3**	**-1.2**
VRLE				IAML		00 36 37.3	
	comp=Z,1μm,1.0s						
GB1A	**Borinquen Arri**	**0.47**	**290**	*e*P	**Pb**	**00 36 27.3**	**-0.3**
PLVR	**Palo Verde**	**0.50**	**232**	*e*P	**Pg**	**00 36 26.8**	**-1.1**
PLVR				*e*S	**Sb**	**00 36 34.4**	**-0.9**
COVE	**Coope Vega, Sa**	**0.54**	**83**	*e*P	**Pg**	**00 36 27.5**	**-1.0**
COVE	**Coope Vega, Sa**	**0.54**	**83**	*i* P	**Pg**	**00 36 27.5**	**-1.0**
COVE				*i* S	**Sb**	**00 36 36.3**	**0.0**
COVE				IAML		00 36 39.5	
	comp=Z,2μm,1.0s						
ORTG	**Ortega, Santa**	**0.58**	**240**	*e*P	**Pg**	**00 36 28.1**	**-1.2**
ORTG	**Ortega, Santa**	**0.58**	**240**	*i* P	**Pg**	**00 36 28.0**	**-1.3**
ORTG				*i* S	**Sg**	**00 36 36.4**	**-0.7**
ORTG				IAML		00 36 41.1	
	comp=Z,540nm,1.0s						
ELI1	**Hacienda Flor**	**0.59**	**269**	*e*P	**Pg**	**00 36 28.4**	**-1.2**
HZTE	**Horizontes, Gu**	**0.64**	**275**	*e*P	**Pg**	**00 36 29.3**	**-1.0**
HZTE	**Horizontes, Gu**	**0.64**	**275**	*i* P	**Pg**	**00 36 29.2**	**-1.2**
HZTE				*i* S	**Sb**	**00 36 39.1**	**0.0**
HZTE				IAML		00 37 13.0	
	comp=Z,1μm,1.0s						
CPMI	**Catarata Coope**	**0.67**	**124**	*i* P	**Pg**	**00 36 30.4**	**-0.6**
CPMI				*e*S	**Sb**	**00 36 40.8**	**+0.5**
CPMI	**Catarata Coope**	**0.67**	**124**	*i* P	**Pg**	**00 36 30.4**	**-0.6**
CPMI				*i* S	**Sb**	**00 36 40.7**	**+0.5**
CPMI				IAML		00 36 43.0	
	comp=Z,1μm,1.0s						
NYURE	**Nandayure**	**0.72**	**205**	*e*P	**Pb**	**00 36 32.3**	**+0.4**
SRA1	**San Ramn**	**0.73**	**141**	*i* P	**Pg**	**00 36 29.7**	**-2.4**
JUD3	**Juan Diaz 3**	**0.76**	**230**	*e*P	**Pg**	**00 36 31.4**	**-1.2**
JUD3				*e*S	**Sb**	**00 36 43.1**	**+0.5**
CMARA	**Lajas Hojancha**	**0.79**	**216**	*e*P	**Pg**	**00 36 31.9**	**-1.3**
CMARA				*e*S	**Sb**	**00 36 44.6**	**+1.2**
LCRUZ	**La Cruz**	**0.79**	**302**	*e*P	**Pb**	**00 36 32.8**	**-0.2**
POA5	**Crater Von Fra**	**0.84**	**122**	*e*P	**Pg**	**00 36 32.4**	**-1.8**
TCS1	**Tacares**	**0.88**	**134**	*e*P	**Pg**	**00 36 34.0**	**-1.0**
INDI	**Punta indio, G**	**0.96**	**215**	*e*P	**Pg**	**00 36 35.1**	**-1.2**
INDI	**Punta indio, G**	**0.96**	**215**	*i* P	**Pg**	**00 36 34.8**	**-1.5**
INDI				IAML		00 36 37.9	
	comp=Z,290nm,1.0s						
INDI				*i* S	**Sb**	**00 36 48.9**	**+0.6**
JACO	**JACO, Garabito**	**1.03**	**164**	*e*P	**Pg**	**00 36 36.2**	**-1.6**
JACO	**JACO, Garabito**	**1.03**	**164**	*i* P	**Pg**	**00 36 36.1**	**-1.6**
JACO				*i* S	**Sg**	**00 36 50.5**	**-0.7**
JACO				IAML		00 36 59.8	
	comp=Z,220nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.06**	**108**	*e*P	**Pg**	**00 36 36.5**	**-1.8**
CBL1	**Cabuya**	**1.07**	**188**	*e*P	**Pg**	**00 36 37.1**	**-1.4**
OMEN	**AI SSO del Vol**	**1.08**	**322**	*i* P	**Pg**	**00 36 36.5**	**-2.1**
OMEN				IAML		00 37 00.3	
	comp=Z,510nm,1.0s						
MORN	**AI O del Volca**	**1.12**	**322**	*i* P	**Pg**	**00 36 36.9**	**-2.5**
MORN				IAML		00 36 47.6	
	comp=Z,710nm,1.0s						
CONN	**Concepcion**	**1.12**	**324**	*i* P	**Pg**	**00 36 37.3**	**-2.1**
CONN				*i* S	**Sn**	**00 36 56.1**	**+2.4**
CONN				IAML		00 37 00.8	
	comp=Z,4μm,1.0s						
JAPN	**AI SSO del Vol**	**1.12**	**320**	*i* P	**Pg**	**00 36 38.1**	**-1.4**
JAPN				IAML		00 36 38.9	
	comp=Z,830nm,1.0s						
CVIMO	**Finca Echandi**	**1.17**	**122**	*e*P	**Pg**	**00 36 39.7**	**-0.8**
OCM	**Ochomogo**	**1.23**	**128**	*e*P	**Pg**	**00 36 38.6**	**-3.0**
OCM	**Ochomogo**	**1.23**	**128**	*i* P	**Pg**	**00 36 38.3**	**-3.3**
OCM				*i* S	**Sn**	**00 36 59.3**	**+2.5**
OCM				IAML		00 37 08.8	
	comp=Z,190nm,1.0s						
TBLN	**Tablon, Guarco**	**1.25**	**131**	*i* P	**Pg**	**00 36 39.5**	**-2.4**
TBLN				*i* S	**Sn**	**00 36 59.4**	**+2.3**
TBLN				IAML		00 37 01.9	
	comp=Z,320nm,1.0s						
VICA	**Volcano Irazu**	**1.28**	**122**	*e*P	**Pg**	**00 36 40.2**	**-2.2**
HAYA	**Volcan Irazu**	**1.28**	**122**	*i* P	**Pg**	**00 36 39.9**	**-2.6**
HAYA				*i* S	**Sb**	**00 36 59.2**	**+1.2**
HAYA				IAML		00 37 05.2	
	comp=Z,400nm,1.0s						
ICR3	**Volcano Irazu**	**1.29**	**121**	*e*P	**Pg**	**00 36 40.4**	**-2.4**
LCR2	**La Lucha 2**	**1.30**	**134**	*e*P	**Pg**	**00 36 40.5**	**-2.5**
LCR2	**La Lucha 2**	**1.30**	**134**	*i* P	**Pg**	**00 36 40.4**	**-2.5**
LCR2				*i* S	**Sg**	**00 36 59.0**	**-0.9**
LCR2				IAML		00 37 03.6	
	comp=Z,270nm,1.0s						
ACON	**Acoyapa**	**1.32**	**350**	*i* P	**Pn**	**00 36 40.7**	**-0.7**
ACON	**Acoyapa**	**1.32**	**350**	*i* P	**Pn**	**00 36 40.5**	**-0.9**
ACON				*i* S	**Sb**	**00 36 59.2**	**+0.4**
ACON				IAML		00 37 02.8	
	comp=Z,700nm,1.0s						
VTLA	**Turrialba Volc**	**1.32**	**119**	*i* P	**Pg**	**00 36 41.1**	**-2.3**
CVTQ	**Turrialba Volc**	**1.33**	**119**	*e*P	**Pg**	**00 36 41.5**	**-2.0**
VTLO	**VTLO**	**1.35**	**117**	*e*P	**Pn**	**00 36 41.5**	**-0.6**
RIMA	**Rio Macho**	**1.39**	**130**	*i* P	**Pn**	**00 36 41.8**	**-0.8**
VERB	**Verbena**	**1.42**	**120**	*e*P	**Pn**	**00 36 43.1**	**+0.1**
LCOCO	**El Coco**	**1.48**	**112**	*e*P	**Pn**	**00 36 43.6**	**0.0**
CDM	**Cerro de Muert**	**1.60**	**133**	*i* P	**Pn**	**00 36 45.6**	**0.0**
CDM	**Cerro de Muert**	**1.60**	**133**	*i* P	**Pn**	**00 36 45.8**	**+0.1**
CDM				*i* S	**Sg**	**00 37 10.5**	**+0.9**
CDM				IAML		00 37 12.4	
	comp=Z,200nm,1.0s						
BUS1	**Rivas**	**1.61**	**133**	*e*P	**Pn**	**00 36 45.6**	**-0.2**
ESPN	**Las Esperanzas**	**1.66**	**23**	*i* PA		00 36 46.8	
ESPN				IAML		00 37 10.8	
	comp=Z,840nm,1.0s						
DRK0	**Durika**	**2.18**	**129**	*e*P	**Pn**	**00 36 55.3**	**+1.9**
EDBA	**Buenos Aires**	**2.22**	**132**	*e*P	Pn	00 36 26.3	-28
MATN	**Matagalpa**	**2.45**	**337**	*i* P	**Pn**	**00 36 56.7**	**-0.4**
MATN				*i* S	**Sb**	**00 37 32.3**	**+0.8**
MATN				IAML		00 37 44.3	
	comp=Z,100nm,1.0s						

TEH **12** *00:54:40.6,33.˚67N×45.˚66E,h8km±220km,ML3.2*
ISN **12** *00:54:41.6±0.5,33.˚73N×45.˚74E,h10km±2km,ML3.0*
ISC 12 00:54:41.3±1.4**,33.˚73N**±0.˚03×**45.˚68E**±0.˚04**,h1**km±13km**,**
n15,σ**0°59/21,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.46**	**103**	Pg	**Pg**	**00 54 50.2**	**+0.2**
ILBA				Sg	**Sg**	**00 54 56.2**	**+0.2**
IBDR	**Badra**	**0.65**	**161**	*e*Pg	**Pg**	**00 54 54.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**00 55 03.0**	**+0.9**
IGHG	**Ghaleghazi**	**0.96**	**51**	Pg	**Pb**	**00 55 00.2**	**-0.7**
IDHR	**Dehrash**	**1.14**	**31**	Pg	**Pg**	**00 55 03.1**	**0.0**
BHD	**Baghdad**	**1.17**	**248**	*e*Pg	**Pn**	**00 55 05.0**	**+0.1**
BHD				*e*Sg	**Sn**	**00 55 22.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.26**	**64**	Pg	**Pg**	**00 55 05.5**	**+0.1**
KCHF				Sg	**Sn**	**00 55 24.6**	**+0.7**
IKOM	**Komasi**	**1.59**	**73**	Pg	**Pg**	**00 55 11.9**	**+0.1**
ILIN	**Lien**	**1.60**	**41**	Pg	**Pg**	**00 55 11.9**	**0.0**
IKFM	**Kafar-mosalman**	**1.82**	**96**	Pn	**Pb**	**00 55 14.7**	**-0.8**
IKRK	**Kirkuk**	**2.00**	**327**	*e*Pn	**Pb**	**00 55 18.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**00 55 44.0**	**0.0**
IKRK				AML	AML	00 55 50.4	
	comp=N,181nm,0.5s						
IKRK				AML	AML	00 55 56.7	
	comp=E,109nm,0.5s						
RAFI	**Al-Rafai**	**2.03**	**169**	*e*Pn	**Pb**	**00 55 18.0**	**-1.0**
RAFI				*e*Sn	**Sb**	**00 55 44.0**	**-0.7**
HSAM	**Samen**	**2.48**	**78**	Pn	**Pn**	**00 55 23.6**	**+0.5**
HAGD	**Aghdareh**	**3.07**	**68**	Pn	**Pn**	**00 55 31.2**	**0.0**
QAMS	**Qamsar**	**4.77**	**88**	Pn	**Pn**	**00 55 54.1**	**-0.4**
IKLH	**Kolahrood**	**4.95**	**93**	Pn	**Pn**	**00 55 58.0**	**+1.0**

IDC **12** *01:07:27.0±2.0,48.˚28N×155.˚10E,h0km,mb3.6/6, mbtmp3.6/7,ML2.7/1,Error ellipse: s-maj=54.7km s-min=27.9km az=154.0*
MOS **12** *01:07:30.0±1.1,48.˚21N×155.˚12E,h33km,mb4.0/1,Error ellipse: s-maj=31.5km s-min=6.1km az=75.1*
SKHL **12** *01:07:31.4±0.4,48.˚40N×155.˚30E,h44km±5km,mb4.5/3*
KRSC **12** *01:07:31.3±2.6,48.˚45N×156.˚16E,h7km±37km,ML4.3*
ISC 12 01:07:33.1±1.2**,48.˚3N**±0.˚1×**155.˚4E**±0.˚1**,h36**km**,n54,**
σ1°58/52,mb3.6/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.42**	**11**	*e*PN	**Pn**	**01 08 10.9**	**+0.9**
SKR				*e*S	**Sn**	**01 08 38.6**	**+0.3**
SKR				pmax	pmax		
	comp=Z,113nm,0.7s						
SKR				smax	smax		
	comp=N,264nm,0.7s						
SKR				smax	smax		
	comp=E,347nm,0.7s						
SKR				MLR	MLR		
	comp=Z,700nm,10.0s						
SKR	**Severo-Kuril's**	**2.42**	**11**	*e*P	**Pn**	**01 08 08.9**	**-1.1**
SKR				*e*S	**Sn**	**01 08 37.2**	**-1.2**
SKR	**Severo-Kuril's**	**2.42**	**11**	*i* P	**Pn**	**01 08 08.9**	**-1.1**
SKR				AMB	AMB	01 08 14.0	
	comp=Z,110nm,0.7s						
SKR				*e*S	**Sn**	**01 08 38.6**	**+0.3**
SKR				A	A	01 08 40.8	
	comp=Z,260nm,0.7s						
SKR				A	A	01 08 40.8	
	comp=Z,350nm,0.7s						
PAU	**Pauzhetka**	**3.29**	**16**	PN	**Pn**	**01 08 24.2**	**+2.

MMAI	**Mount Meron Ar**	**82.92**	**313**	P		**P**	**01 19 53.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=40,slow=7.5,SNR=2.0							
	comp=Z,0.7nm,0.6s							

ISN ***12*** *01:18:19.7±1.1,33.75N×45.66E,h10km±5km, ML2.9*
TEH ***12*** *01:18:20.9,33.80N×45.62E,h12km±33km, ML3.1*
ISC 12 01:18:20.5±1.3, 33.75N±0.03×45.61E±0.03, h5km±14km, n22,σ1§60/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.51**	**104**	Pg	**Pb**	**01 18 31.5**	**-0.5**
ILBA				Sg	**Sb**	**01 18 39.0**	**-0.7**
IBDR	**Badra**	**0.69**	**157**	*e*Pg	**Pg**	**01 18 33.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**01 18 42.0**	**-0.6**
IBDR				AML	AML	01 18 53.0	
	comp=E,359nm,0.5s						
IBDR				AML	AML	01 18 59.7	
	comp=N,449nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.76**	**358**	Pg	**Pb**	**01 18 35.0**	**-1.1**
IGHG	**Ghaleghazi**	**0.98**	**53**	Pg	**Pn**	**01 18 39.7**	**-1.5**
BHD	**Baghdad**	**1.14**	**246**	*e*Pg	**Pg**	**01 18 43.0**	**+0.8**
BHD				*e*Sg	**Sg**	**01 18 58.0**	**+1.1**
BHD				AML	AML	01 19 07.7	
	comp=E,290nm,0.7s						
IDHR	**Dehrash**	**1.15**	**34**	Pg	**Pb**	**01 18 41.4**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.30**	**66**	Pg	**Pg**	**01 18 45.4**	**0.0**
ILIN	**Lien**	**1.62**	**43**	Pg	**Pg**	**01 18 51.6**	**+0.1**
IKOM	**Komasi**	**1.63**	**74**	Pg	**Pg**	**01 18 51.9**	**+0.1**
IKOM				Sg	**Sg**	**01 19 15.7**	**+2.7**
IKFM	**Kafar-mosalman**	**1.88**	**96**	Pn	**Pg**	**01 18 55.2**	**-1.2**
IKRK	**Kirkuk**	**1.96**	**328**	*e*Pn	**Pb**	**01 18 55.0**	**-1.6**
IKRK				*e*Sn	**Sb**	**01 19 21.0**	**-0.3**
IKRK				AML	AML	01 19 33.5	
	comp=E,118nm,0.4s						
IKRK				AML	AML	01 19 37.4	
	comp=N,94nm,0.6s						
RAFI	**Al-Rafai**	**2.06**	**168**	*e*Pn	**Pn**	**01 18 56.0**	**+0.3**
RAFI				*e*Sn	**Sb**	**01 19 23.0**	**-1.2**
RAFI				AML	AML	01 19 49.3	
	comp=N,164nm,0.5s						
RAFI				AML	AML	01 19 49.4	
	comp=E,150nm,0.3s						
HSAM	**Samen**	**2.53**	**79**	Pn	**Pb**	**01 19 04.0**	**-2.5**
MAHB	**Mahabad**	**3.01**	**1**	Pn	**Pn**	**01 19 09.6**	**+0.6**
HAGD	**Aghdareh**	**3.11**	**69**	Pn	**Pn**	**01 19 12.0**	**+1.6**
ISHB	**Shabestar**	**4.53**	**0**	Pn	**Pn**	**01 19 30.6**	**+0.7**
IPIR	**Pirpir**	**4.55**	**102**	Pn	**Pn**	**01 19 33.0**	**+2.8**
QAMS	**Qamsar**	**4.82**	**89**	Pn	**Pn**	**01 19 35.6**	**+1.7**
IKLH	**Kolahrood**	**5.00**	**93**	Pn	**Pn**	**01 19 38.6**	**+2.2**
IVRN	**Varamin**	**5.21**	**74**	Pn	**Pn**	**01 19 40.4**	**+1.3**
KRSH	**Karshahi**	**5.43**	**86**	Pn	**Pn**	**01 19 44.1**	**+1.9**
IRAM	**Ramesheh**	**6.02**	**107**	Pn	**Pn**	**01 19 53.3**	**+3.0**

TEH ***12*** *01:35:47.3,33.80N×45.65E,h10km±104km, ML2.8*
ISN ***12*** *01:35:47.6±0.3,33.81N×45.79E,h22km±6km, ML2.7*
ISC 12 01:35:47.7±1.0, 33.81N±0.04×45.66E±0.04, h10km, n9, σ0§66/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.50**	**112**	Pg	**Pg**	**01 35 57.5**	**+0.1**
ILBA				Sg	**Sg**	**01 36 04.5**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.69**	**355**	Pg	**Pg**	**01 36 00.9**	**-0.2**
IBDR	**Badra**	**0.74**	**162**	*e*Pg	**Pg**	**01 36 01.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**01 36 11.0**	**-0.5**
IGHG	**Ghaleghazi**	**0.92**	**56**	Pg	**Pb**	**01 36 05.6**	**-0.2**
IDHR	**Dehrash**	**1.07**	**34**	Pg	**Pg**	**01 36 07.8**	**-0.5**
BHD	**Baghdad**	**1.20**	**243**	*e*Pg	**Pg**	**01 36 11.0**	**+0.4**
BHD				*e*Sg	**Sn**	**01 36 28.0**	**+1.3**
BHD				AML	AML	01 36 31.7	
	comp=E,335nm,0.5s						
ILIN	**Lien**	**1.54**	**44**	Pg	**Pg**	**01 36 17.3**	**0.0**
IKOM	**Komasi**	**1.58**	**76**	Pg	**Pg**	**01 36 18.4**	**+0.4**
IKRK	**Kirkuk**	**1.92**	**326**	*e*Pn	**Pb**	**01 36 22.0**	**-0.8**
IKRK				*e*Sn	**Sb**	**01 36 47.0**	**+0.2**
IKRK				AML	AML	01 36 59.5	
	comp=E,76nm,0.6s						
IKRK				AML	AML	01 37 03.8	
	comp=N,45nm,0.8s						

TEH ***12*** *01:42:25.8,33.78N×45.68E,h10km±145km, ML2.8*
ISN ***12*** *01:42:25.0±0.9,33.79N×45.74E,h9km±4km, ML2.8*
ISC 12 01:42:25.9±1.3, 33.75N±0.04×45.71E±0.04, h12km±13km, n9, σ0§75/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.44**	**107**	Pg	**Pb**	**01 42 35.1**	**-0.4**
ILBA				Sg	**Sb**	**01 42 42.1**	**0.0**
IBDR	**Badra**	**0.67**	**164**	*e*Pg	**Pg**	**01 42 39.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**01 42 48.0**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.76**	**353**	Pg	**Pb**	**01 42 40.2**	**-0.9**
IGHG	**Ghaleghazi**	**0.92**	**51**	Pg	**Pn**	**01 42 44.1**	**-0.8**
IDHR	**Dehrash**	**1.10**	**31**	Pg	**Pb**	**01 42 46.2**	**-0.7**
BHD	**Baghdad**	**1.21**	**247**	*e*Pg	**Pg**	**01 42 49.0**	**-0.1**
BHD				*e*Sg	**Sn**	**01 43 06.0**	**+1.0**
IKOM	**Komasi**	**1.56**	**74**	Pg	**Pg**	**01 42 56.5**	**+0.8**
IKRK	**Kirkuk**	**1.99**	**326**	*e*Pn	**Pn**	**01 43 00.0**	**+0.6**
IKRK				*e*Sn	**Sb**	**01 43 27.0**	**+0.1**
RAFI	**Al-Rafai**	**2.05**	**170**	*e*Pn	**Pb**	**01 43 02.0**	**-1.1**
RAFI				*e*Sn	**Sb**	**01 43 29.0**	**+0.4**

IDC ***12*** *01:49:03.5±0.5,1.76N×126.49E,h0km,mb4.2/15, mbtmp4.2/15,MS3.4/4,Error ellipse: s-maj=44.3km s-min=10.1km az=72.0*
DJA ***12*** *01:49:07.3±0.3,2.3°N×12.6°E±°,h10km,M4.4/12,mb4.6/7, MLv4.3/12*
NEIC ***12*** *01:49:07.9±1.3,1.77N±0.08×126.40E±0.07,h30km±4km, mb4.6/39,Error ellipse: s-maj=13.8km s-min=7.8km az=220.0*
ISC 12 01:49:09.6±0.4, 1.77N±0.05×126.43E±0.06, h47km, n81, σ1§48/82, mb4.5/35, MS3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.37**	**136**	Pn	**Pn**	**01 49 31.4**	**-0.9**
TNTI				Sn	**Sn**	**01 49 48.9**	**-0.4**
TNTI	**Ternate**	**1.37**	**136**	P	**Pn**	**01 49 31.0**	**-1.3**
SGSI	**Sangihe**	**2.10**	**335**	P	**Pn**	**01 49 41.5**	**-0.9**
LBMI	**Labuha**	**2.62**	**156**	P	**Pn**	**01 49 51.3**	**+1.8**
KMSI	**Cibinong**	**2.72**	**244**	P	**Pn**	**01 49 52.5**	**+1.7**
GTOI	**Gorontalo**	**3.59**	**252**	P	**Pn**	**01 50 04.8**	**+1.9**
SANI	**Sanana**	**3.82**	**187**	P	**Pn**	**01 50 06.0**	**0.0**
LUWI	**Luwuk**	**4.60**	**233**		**Pn**	**01 50 15.3**	**-1.3**
LUWI	**Luwuk**	**4.60**	**233**	P	**Pn**	**01 50 17.8**	**+1.1**
NLAI	**Namlea**	**5.02**	**172**	P	**Pn**	**01 50 23.9**	**+1.4**
	18nm,0.7s,0.1nm						
TOLI2	**Tolitoli**	**5.68**	**263**		**Pn**	**01 50 30.9**	**-0.7**
SPSI	**Sidrap Palu**	**8.76**	**229**	P	**Pn**	**01 51 15.4**	**+1.6**
	19nm,0.5s						
BKSI	**Bulukumba**	**9.45**	**222**	P	**Pn**	**01 51 26.0**	**+2.8**
	28nm,0.7s						
KKM	**Kota Kinabalu**	**11.04**	**293**	Pn	**Pn**	**01 51 42.8**	**-2.2**
KKM	**Kota Kinabalu**	**11.04**	**293**	P	**Pn**	**01 51 46.5**	**+1.4**
	28nm,1.1s						
KMMI	**Kalianget**	**15.21**	**235**	P	**Pn**	**01 52 42.4**	**+0.9**
MTN	**Manton Dam**	**15.25**	**162**	Pn	**Pn**	**01 52 39.1**	**-2.9**
KNRA	**Kununurra**	**17.49**	**172**	Pn	**Pn**	**01 53 06.3**	**-3.9**
KNRA				IAmb	IAmb	01 53 20.3	
	comp=Z,47nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.76**	**182**	P	**P**	**01 53 34.4**	**-1.4**
YULB	**Yu-li**	**22.06**	**347**	P	**P**	**01 53 57.0**	**-3.6**
YULB				IAmb	IAmb	01 54 02.4	
	comp=Z,24nm,1.1s						
WB0	**Warramunga Arr**	**22.79**	**160**	P	**P**	**01 54 07.0**	**-1.4**
WB0				IAmb	IAmb	01 54 09.6	
	comp=Z,36nm,1.2s						
WRAB	**Tennant Creek**	**22.93**	**161**	P	**P**	**01 54 09.1**	**-0.8**
WRAB				IAmb	IAmb	01 54 12.5	
	comp=Z,18nm,0.6s						
WRA	**Warramunga Arr**	**22.93**	**161**	P	**P**	**01 54 09.3**	**-0.6**
WRA	**Warramunga Arr**	**22.93**	**161**	P	**P**	**01 54 09.7**	**-0.2**
	comp=Z,19nm,0.7s,baz=338,slow=11,SNR=52						
WRA				S	**S**	**01 58 20.4**	**+3.6**
	comp=Z,0.9nm,0.8s,baz=342,slow=15,SNR=4.5						
	comp=Z,19nm,0.7s						
PSA00	**Pilbara Seismi**	**24.07**	**195**	P	**P**	**01 54 20.0**	**-0.8**

AS31	**Alice Springs**	**26.31**	**164**	P	**P**	**01 54 40.3**	**-0.8**
ASAR	**Alice Springs**	**26.31**	**164**	P	**P**	**01 54 40.6**	**-0.6**
ASAR	**Alice Springs**	**26.31**	**164**	P	**P**	**01 54 42.1**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=346,slow=7.7,SNR=33						
ASAR				PcP	**PcP**	**01 58 07.4**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=353,slow=2.0,SNR=6.6						
ASAR				S	**S**	**01 59 14.8**	**+3.9**
	comp=Z,0.4nm,0.8s,baz=347,slow=18,SNR=2.2						
	comp=Z,1.8nm,0.4s						
SRIT	**Nakonsritamara**	**27.55**	**285**	P	**P**	**01 54 51.5**	**-0.8**
SRIT				IAmb	IAmb	01 55 19.4	
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**29.16**	**139**	LR	LR	02 09 15.2	
	comp=Z,55nm,18.8s,baz=244,slow=42						
NJ2	**Nanjing**	**30.95**	**347**	*e*P	**P**	**01 55 23.7**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CRAI	**Chiangrai**	**31.37**	**308**	P	**P**	**01 55 24.9**	**-1.3**
FORT	**Forrest**	**32.41**	**177**	P	**P**	**01 55 33.0**	**-2.2**
PZH	**PanZhiHua**	**34.16**	**318**	P	**P**	**01 55 53.3**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,150nm,4.3s						
KSRS	**Korea Array**	**35.54**	**2**	P	**P**	**01 56 03.2**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=170,slow=8.0,SNR=2.3						
	comp=Z,1.0nm,0.7s						
BBOO	**Buckleboo**	**35.58**	**166**	P	**P**	**01 56 01.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**35.59**	**193**	P	**P**	**01 56 02.7**	**0.0**
MJAR	**Matsushiro Arr**	**36.28**	**16**	P	**P**	**01 56 08.4**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=179,slow=9.1,SNR=6.1						
	comp=Z,1.6nm,0.6s						
STKA	**Stephens Creek**	**36.43**	**158**	P	**P**	**01 56 08.4**	**-1.6**
STKA	**Stephens Creek**	**36.43**	**158**	P	**P**	**01 56 10.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=351,slow=9.3,SNR=3.8						
STKA				LR	LR	02 14 05.1	
	comp=Z,36nm,18.2s,baz=20,slow=41						
	comp=Z,1.1nm,0.3s						
JMM	**Marmuri**	**38.27**	**18**	P	**P**	**01 56 24.5**	**-1.0**
BJT	**Baijiatuau**	**39.20**	**348**	P	**P**	**01 56 34.4**	**+1.2**
BJT				IAmb	IAmb	01 56 38.0	
	comp=Z,17nm,1.4s						
LZH	**Lanzhou**	**40.05**	**331**	*e*P	**P**	**01 56 41.7**	**+1.2**
LZH				sP	pP	01 56 49.3	-3.4
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
SHL	**Shillong**	**40.82**	**308**	P	**P**	**01 56 44.8**	**-2.3**
SHL				IAmb	IAmb	01 57 05.1	
	comp=Z,7.1nm,0.5s						
HHC	**Hu-ho-hao-te**	**41.16**	**343**	*e*P	**P**	**01 56 49.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,240nm,4.5s						
USRK	**Ussuriysk Ar.**	**42.54**	**6**	P	**P**	**01 56 59.1**	**-1.5**
SONM	**Songino Array**	**49.05**	**342**	P	**P**	**01 57 52.2**	**0.0**
SONM	**Songino Array**	**49.05**	**342**	P	**P**	**01 57 52.6**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=154,slow=8.5,SNR=6.6						
SONM				PcP	**PcP**	**01 59 16.4**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=116,slow=3.4,SNR=3.6						
	comp=Z,1.2nm,0.6s						
WMQ	**Urumqi**	**54.16**	**326**	*e*P	**P**	**01 58 33.6**	**+3.3**
MK31	**Makanchi Array**	**58.99**	**326**	P	**P**	**01 59 04.6**	**0.0**
MKAR	**Makanchi Array**	**58.99**	**326**	P	**P**	**01 59 04.6**	**0.0**
MKAR	**Makanchi Array**	**58.99**	**326**	P	**P**	**01 59 04.7**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=120,slow=7.4,SNR=28						
	comp=Z,1.4nm,0.4s						
MAKZ	**Makanchi**	**59.17**	**326**	P	**P**	**01 59 05.5**	**-0.3**
MAKZ				IAmb	IAmb	01 59 14.4	
	comp=Z,6.9nm,1.4s						
ZAA0	**Zalesovo Array**	**62.19**	**334**	P	**P**	**01 59 27.2**	**+1.0**
ZAA0				IAmb	IAmb	01 59 44.8	
	comp=Z,3.4nm,1.1s						
ZALV	**Zalesovo Beam**	**62.19**	**334**	P	**P**	**01 59 27.7**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=122,slow=6.4,SNR=4.3						
	comp=Z,0.6nm,0.4s						
KBL	**Kabul**	**62.48**	**308**	P	**P**	**01 59 27.7**	**-1.1**
KBL				IAmb	IAmb	01 59 32.7	
	comp=Z,3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**63.22**	**328**	P	**P**	**01 59 33.3**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=128,slow=6.2,SNR=9.8						
	comp=Z,3.7nm,0.7s						
KURK	**Kurchatov**	**63.23**	**328**	P	**P**	**01 59 32.5**	**-0.7**
KURK				IAmb	IAmb	01 59 37.6	
	comp=Z,7.4nm,1.0s						
KK31	**Karatay Array**	**64.46**	**318**	P	**P**	**01 59 41.4**	**-0.1**
KKAR	**Karatay Array**	**64.46**	**318**	P	**P**	**01 59 41.4**	**-0.1**
BVAR	**Borovoye Array**	**68.79**	**327**	P	**P**	**02 00 10.0**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=133,slow=8.1,SNR=4.2						
	comp=Z,1.5nm,0.6s						
TIXI	**Tiksi**	**69.79**	**1**	P	**P**	**02 00 14.7**	**0.0**
TIXI				IAmb	IAmb	02 00 16.4	
	comp=Z,7.9nm,1.4s						
NRIK	**Noril'sk**	**72.25**	**346**	P	**P**	**02 00 30.7**	**+1.1**
NRIK				IAmb	IAmb	02 00 35.7	
	comp=Z,4.5nm,0.9s						
NRIK	**Noril'sk**	**72.25**	**346**	P	**P**	**02 00 30.2**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=164,slow=8.4,SNR=4.5						
	comp=Z,2.8nm,0.3s						
ABKAR	**Abkulak array**	**73.47**	**321**	P	**P**	**02 00 36.6**	**-0.7**
ARU	**Arti**	**76.42**	**328**	P	**P**	**02 00 53.7**	**-0.5**
ARU				IAmb	IAmb	02 00 54.9	
	comp=Z,3.4nm,0.8s						
VNDA	**Vanda**	**81.53**	**173**	P	**P**	**02 01 21.0**	**-0.7**
VNDA				IAmb	IAmb	02 01 44.6	
	comp=Z,11nm,1.5s						
VNDA	**Vanda**	**81.53**	**173**	P	**P**	**02 01 22.6**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=319,slow=6.9,SNR=12						
	comp=Z,2.6nm,0.8s						
BELG	**Belogornoye**	**81.77**	**323**	LR	LR	02 42 53.8	
	comp=Z,22nm,18.3s,baz=262,slow=40						
C19K	**Lookout Ridge**	**82.67**	**20**	IAmb	IAmb	02 01 31.4	
	comp=Z,4.9nm,0.8s						
G19K	**Purcell Mounta**	**82.93**	**23**	P	**P**	**02 01 29.9**	**+0.6**
G19K				IAmb	IAmb	02 01 32.5	
	comp=Z,7.2nm,0.8s						
D19K	**Kuna River**	**83.05**	**21**	IAmb	IAmb	02 01 32.9	
	comp=Z,7.0nm,0.9s						
KBZ	**Khabaz**	**84.10**	**314**	P	**P**	**02 01 37.6**	**+1.9**
	comp=Z,4.9nm,1.1s,baz=112,slow=11,SNR=3.6						
	comp=Z,4.9nm,1.1s						
B21K	**Ikpikpuk River**	**84.50**	**20**	P	**P**	**02 01 37.3**	**+0.1**
D24K	**Happy Valley**	**86.48**	**21**	P	**P**	**02 01 46.9**	**-0.2**
D24K				IAmb	IAmb	02 01 51.1	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**86.99**	**25**	P	**P**	**02 01 49.8**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=237,slow=5.9,SNR=5.0						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**93.40**	**332**	P	**P**	**02 02 21.1**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=70,slow=8.5,SNR=5.1						
FINES				LR	LR	02 45 53.7	
	comp=Z,39nm,20.3s,baz=317,slow=36						
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**123.22**	**287**	PKP	**PKiKP**	**02 08 03.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=73,slow=1.2,SNR=3.7						
VA03	**San Esteban**	**145.28**	**154**	PKPbc	**PKPdf**	**02 08 43.2**	**+0.2**
CO01	**Juntas del Tor**	**147.86**	**152**	PKPbc	**PKPdf**	**02 08 48.8**	**+1.2**
DRK0	**Durika**	**148.47**	**69**	PKPbc	**PKPdf**	**02 08 49.4**	**+0.4**

ISN ***12*** *01:55:01.8±1.2,33.76N×45.73E,h9km±6km, ML2.6*
TEH ***12*** *01:55:02.8,33.73N×45.70E,h12km±543km, ML2.6*
ISC 12 01:55:02.6±1.3, 33.74N±0.04×45.74E±0.04, h12km±12km, n9, σ0§34/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.41**	**106**	Pg	**Pb**	**01 55 11.4**	**-0.3**
ILBA				Sg	**Sb**	**01 55 18.0**	**0.0**
IBDR	**Badra**	**0.65**	**165**	*e*Pg	**Pg**	**01 55 16.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**01 55 24.0**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.78**	**351**	Pg	**Pb**	**01 55 17.8**	**-0.2**
IGHG	**Ghaleghazi**	**0.91**	**49**	Pg	**Pn**	**01 55 21.4**	**0.0**
IDHR	**Dehrash**	**1.10**	**29**	Pg	**Pn**	**01 55 23.8**	**-0.2**
BHD	**Baghdad**	**1.22**	**248**	*e*Pg	**Pg**	**01 55 26.0**	**-0.1**
BHD				*e*Sg	**Sn**	**01 55 42.0**	**+0.1**
IKOM	**Komasi**	**1.54**	**73**	Pg	**Pg**	**01 55 32.4**	**+0.2**
IKRK	**Kirkuk**	**2.02**	**326**	*e*Pn	**Pn**	**01 55 37.0**	**+0.6**
IKRK				*e*Sn	**Sb**	**01 56 04.0**	**-0.3**
RAFI	**Al-Rafai**	**2.03**	**171**	*e*Pn	**Pb**	**01 55 39.0**	**-0.4**
RAFI				*e*Sn	**Sb**	**01 56 05.0**	**+0.4**

JMA ***12*** *02:01:28.6±0.1,24.1N±0.7×122.7E±0.3,h17km±2km, MV2.3/11,NW OFF ISHIGAKIJIMA IS*

TAP ***12*** *02:01:28.1,24.10N×122.67E,h20km,ML2.6,C*
ISC 12 02:01:27.9±1.1, 24.07N±0.03×122.67E±0.02, h18km±5km, n53, σ0§70/97, 4C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.33**	**280**	⇑P	**Pg**	**02 01 34.8**	**+0.1**
	baz=274						
EOS4				S	**Sb**	**02 01 40.4**	**+0.6**
	baz=274						
EOS3	**EOS3**	**0.39**	**305**	⇑P	**Pb**	**02 01 36.3**	**+0.1**
	baz=302						
EOS3				*e*S	**Sb**	**02 01 42.8**	**+1.0**
	baz=302						
JYNG	**Yonagunijimaku**	**0.46**	**33**	P	**Pb**	**02 01 37.5**	**0.0**
JYNG				*e*S	**Sb**	**02 01 43.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.50**	**38**	P	**Pb**	**02 01 38.3**	**+0.1**
YOJ				*e*S	**Sb**	**02 01 45.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.50**	**38**	P	**Pb**	**02 01 38.3**	**+0.1**
	baz=48						
YOJ				*i* S	**Sb**	**02 01 44.9**	**-0.3**
	baz=48						
EOS2	**EOS2**	**0.53**	**312**	⇑P	**Pb**	**02 01 39.4**	**+0.7**
	baz=311						
EOS2				S	**Sn**	**02 01 47.7**	**-1.3**
	baz=311						
EWUT	**Wuta**	**0.90**	**295**	*i* P	**Pb**	**02 01 44.6**	**-0.3**
	baz=303						
EWUT				*i* S	**Sg**	**02 01 57.5**	**+0.2**
	baz=303						
ESAO	**Su ao**	**0.91**	**304**	*e*P	**Pg**	**02 01 45.5**	**-0.1**
	baz=304						
ESAO				S	**Sb**	**02 01 56.1**	**-0.8**
	baz=304						
ENA	**Nanau**	**0.92**	**293**	⇓*i* P	**Pb**	**02 01 45.0**	**-0.3**
	baz=301						
ENA				S	**Sg**	**02 01 58.2**	**+0.2**
	baz=301						
TWC	**Suao**	**0.92**	**306**	⇓P	**Pb**	**02 01 45.2**	**-0.2**
	baz=306						
TWC				*e*S	**Sb**	**02 01 56.3**	**-1.1**
	baz=306						
NACB	**Ninganchiao**	**0.99**	**277**	*e*P	**Pb**	**02 01 46.6**	**+0.1**
	baz=276						
NACB				*e*S	**Sn**	**02 02 01.1**	**+0.7**
	baz=276						
HATJ	**Hateruma jima**	**1.04**	**90**	P	**Pn**	**02 01 47.9**	**+0.3**
HATJ				S	**Sn**	**02 02 01.6**	**0.0**
ETM	**Tongmen**	**1.08**	**265**	P	**Pb**	**02 01 47.6**	**-0.5**
	baz=252						
ETM				*e*S	**Sb**	**02 02 02.5**	**+0.6**
	baz=252						
ETLH	**Xiulin Townshi**	**1.09**	**278**	⇑*e*P	**Pb**	**02 01 48.5**	**+0.1**
	baz=286						
ETLH				*e*S	**Sg**	**02 02 03.7**	**+0.3**
	baz=286						
TWE	**Neicheng**	**1.12**	**306**	*e*P	**Pn**	**02 01 48.3**	**-0.4**
	baz=306						
LATG	**Datong**	**1.14**	**294**	*e*P	**Pb**	**02 01 49.4**	**+0.2**
	baz=301						
LATG				*e*S	**Sb**	**02 02 04.0**	**+0.2**
	baz=301						
LXIB	**Xiulin Townshi**	**1.15**	**268**	*e*P	**Pn**	**02 01 49.3**	**+0.1**
	baz=256						
LXIB				*e*S	**Sg**	**02 02 06.0**	**+0.8**
	baz=256						
ENTT	**Nioudou**	**1.16**	**300**	*e*P	**Pb**	**02 01 49.8**	**+0.4**
	baz=300						
NDT	**Datong Townshi**	**1.18**	**297**	⇓P	**Pg**	**02 01 50.5**	**-0.3**
	baz=297						
NDT				*e*S	**Sg**	**02 02 06.0**	**-0.3**
	baz=297						
TIPB	**Shuangxi**	**1.19**	**320**	⇓*e*P	**Pg**	**02 01 50.8**	**-0.1**
	baz=320						
TIPB				S	**Sn**	**02 02 05.5**	**+0.2**
	baz=320						
FUSB	**Fushanzhiwuyua**	**1.21**	**305**	*e*P	**Pg**	**02 01 50.9**	**-0.3**
	baz=306						
FUSB				*i* S	**Sg**	**02 02 07.0**	**-0.1**
	baz=306						
WARBT	**Fenglin Townsh**	**1.22**	**254**	*e*P	**Pn**	**02 01 49.4**	**-0.7**
	baz=240						
WARBT				*e*S	**Sb**	**02 02 05.4**	**-0.6**
	baz=240						
NNSB	**Datong**	**1.23**	**287**	P	**Pb**	**02 01 51.3**	**+0.6**
	baz=287						
NNSB				*e*S	**Sg**	**02 02 07.3**	**-0.5**
	baz=287						
JKRS	**Kuro-shima**	**1.24**	**82**	P	**Pb**	**02 01 51.3**	**+0.6**
JKRS				S	**Sg**	**02 02 08.0**	**0.0**
NNS	**Nan Shan**	**1.24**	**288**	P	**Pb**	**02 01 51.5**	**+0.7**
	baz=288						
NNS				*e*S	**Sb**	**02 02 06.4**	**-0.2**
	baz=288						
SXI1	**Grass Mountain**	**1.25**	**325**	P	**Pb**	**02 01 51.5**	**+0.4**
	baz=326						
SXI1	

CHN5	**Tsauling**	**1.88**	**256**	*e*P	**Pb**	**02 02 02.2**	**+0.4**
	baz=243							
CHN5				*e*S	**Sb**	**02 02 27.2**	**+2.1**
	baz=243							
CHN4	**Tsaushan**	**2.03**	**250**	*e*P	**Pb**	**02 02 04.3**	**0.0**
	baz=249							
CHN4				*e*S	**Sb**	**02 02 31.1**	**+1.8**
	baz=249							
WTP	**Ta-pu**	**2.05**	**247**	*e*P	**Pb**	**02 02 04.1**	**-0.6**
	baz=234							
WTP				*e*S	**Sb**	**02 02 29.6**	**-0.4**
	baz=234							
SLGT	**Liugui**	**2.14**	**241**	*e*P	**Pb**	**02 02 06.0**	**-0.2**
	baz=229							
SLGT				*e*S	**Sb**	**02 02 33.5**	**+1.0**
	baz=229							
TWK	**Hsinying**	**2.15**	**249**	*e*P	**Pb**	**02 02 05.8**	**-0.6**
	baz=247							
TWK				*e*S	**Sb**	**02 02 33.7**	**+0.9**
	baz=247							

IDC ***12*** *02:04:57.2±2.2,37.˝55N×142.˝06E,h0km,mb3.8/5, mbtmp3.7/6,ML2.2/1,Error ellipse: s-maj=60.6km s-min=26.0km az=66.0*

JMA ***12*** *02:05:01.4±0.1,37.˝5N±0.˝3×141.˝7E±0.˝6,h28km±1km, MV3.5/39,E OFF FUKUSHIMA PREF*

ISC 12 02:04:59.8±1.9,37.˝55N±0.˝05×141.˝79E±0.˝07,h11km±10km, n26,σ0s78/28,mb3.8/5,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMST	**Minamisoumatoc**	**0.73**	**284**	*i* P	**Pg**	**02 05 14.5**	**+0.4**
JMST				S	**Sg**	**02 05 23.4**	**-0.3**
JFK	**Kawauchi**	**0.75**	**256**	⇓*i*P	**Pg**	**02 05 14.6**	**+0.4**
JFK				⇓S	**Sg**	**02 05 23.6**	**-0.4**
JIKH	**Ishinomakikobu**	**0.80**	**342**	*i* P	**Pn**	**02 05 16.1**	**-0.9**
JIKH				*e*S	**Sb**	**02 05 26.7**	**0.0**
JMM	**Marumori**	**0.85**	**292**	*i* P	**Pb**	**02 05 16.4**	**-0.2**
JMM				*e*S	**Sb**	**02 05 26.8**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.90**	**241**	⇓*i*P	**Pb**	**02 05 16.9**	**-0.6**
ONAJ				⇓*e*S	**Sb**	**02 05 27.6**	**-2.0**
JIO	**Ouri**	**0.97**	**339**	*i* P	**Pg**	**02 05 18.8**	**+0.3**
JIO				S	**Sb**	**02 05 31.0**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.15**	**271**	P	**Pn**	**02 05 21.6**	**-0.3**
JOTO				S	**Sb**	**02 05 35.9**	**-0.9**
JOU	**Okura**	**1.21**	**313**	*i* P	**Pb**	**02 05 22.9**	**+0.2**
JOU				S	**Sb**	**02 05 38.0**	**-0.3**
JMK	**Ichinoseki**	**1.47**	**343**	*i* P	**Pb**	**02 05 26.7**	**-0.5**
JMK				S	**Sn**	**02 05 45.0**	**-0.5**
JYS	**Shirataka**	**1.52**	**297**	P	**Pb**	**02 05 28.1**	**+0.1**
JYS				S	**Sn**	**02 05 47.0**	**+0.3**
JFY	**Yanaizu**	**1.66**	**266**	P	**Pn**	**02 05 29.9**	**+1.0**
JFY				S	**Sn**	**02 05 50.0**	**-0.2**
MJAR	**Matsushiro Arr**	**3.03**	**252**	Pn	**Pn**	**02 05 49.5**	**+1.8**
	0.2nm,0.3s,baz=74,slow=17,SNR=6.2 1.4nm,0.3s						
SONM	**Songino Array**	**27.75**	**303**	P	**P**	**02 10 48.5**	**0.0**
	0.2nm,0.3s,baz=101,slow=7.5,SNR=2.0 0.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	02 40 18.7	
	baz=315,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	02 40 24.0	
	baz=315,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**28.18**	**122**	T	T	02 40 24.8	
	baz=315,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	02 41 18.3	
	baz=316,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	02 41 12.8	
	baz=316,slow=76,SNR=47						
H11S2	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	02 41 19.1	
	baz=316,slow=76,SNR=65						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**02 13 08.2**	**+0.2**
	0.7nm,0.8s,baz=86,slow=8.8,SNR=6.5 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**02 13 22.7**	**+0.3**
	0.7nm,0.6s,baz=82,slow=8.2,SNR=6.9 0.7nm,0.6s						
ASAR	**Alice Springs**	**61.34**	**188**	P	**P**	**02 15 14.9**	**-0.6**
	1.0nm,0.6s,baz=6.3,slow=11,SNR=18 1.0nm,0.6s						
KBZ	**Khabaz**	**70.79**	**311**	P	**P**	**02 16 17.1**	**+0.9**
	2.1nm,0.9s,baz=80,slow=6.1,SNR=2.3 2.1nm,0.9s						
H03N2	**Juan Fernandez**	**146.78**	**95**	T	T	05 08 44.0	
	baz=292,slow=76,SNR=3.4						
H03N3	**Juan Fernandez**	**146.79**	**95**	T	T	05 08 46.6	
	baz=292,slow=76,SNR=5.2						
H03N1	**Juan Fernandez**	**146.79**	**95**	T	T	05 08 46.4	
	baz=292,slow=76,SNR=3.2						

IDC 12 02:18:28.6±2.2,18.˝07N×95.˝82E,h0km,mb3.6/3, mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=34.5km s-min=20.8km az=34.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.99**	**82**	Pn	Pn	02 19 16.3	-1.0
	1.0nm,0.3s,baz=262,slow=14,SNR=4.8						
CMAR				Pg	Pb	02 19 23.3	+0.5
	5.6nm,0.3s,baz=264,slow=19,SNR=30						
CMAR				Sn	Sn	02 19 56.7	+2.8
	6.7nm,0.3s,baz=265,slow=29,SNR=11 1.3nm,0.3s						
MKAR	**Makanchi Array**	**30.74**	**342**	P	P	02 24 45.6	0.0
	0.3nm,0.6s,baz=137,slow=11,SNR=4.2 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**35.29**	**341**	P	P	02 25 25.0	-0.2
	0.3nm,0.5s,baz=150,slow=9.1,SNR=2.4 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**36.81**	**349**	P	P	02 25 38.3	+0.1
	0.8nm,0.6s,baz=182,slow=8.4,SNR=1.9 0.8nm,0.6s						

PDG ***12*** *02:20:35.0±0.1,43.˝05N×18.˝04E,h12km,MD3.7/12, ML3.7/11,Error ellipse: s-maj=0.4km s-min=0.2km az=90.0*

RHSSO ***12*** *02:20:35.8±0.2,43.˝03N×18.˝05E,h3km±1km,ML3.7/19*

BEO ***12*** *02:20:35.5±0.3,43.˝04N×17.˝98E,h10km±1km,ML3.5/21*

LDG ***12*** *02:20:35.5±0.0,43.˝03N×18.˝05E,h3km,Ml3.9/22,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

PRU ***12*** *02:20:38.0,43.˝03N×17.˝89E,h1km*

IDC ***12*** *02:20:38.9±1.8,43.˝28N×17.˝83E,h0km,mbtmp3.6/8, ML3.3/8,Error ellipse: s-maj=20.3km s-min=12.9km az=21.0*

ISC 12 02:20:35.3±0.8,43.˝03N±0.˝02×18.˝00E±0.˝02,h15km±6km, n175,σ2s44/286,30C-17D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.28**	**234**	*e*Pg	**Pg**	**02 20 41.2**	**0.0**
STON				*e*Sg	**Sg**	**02 20 45.7**	**+0.6**
STON	**Ston**	**0.28**	**234**	*i* Pg	**Pg**	**02 20 41.0**	**-0.2**
STON				Sg	**Sg**	**02 20 46.0**	**+0.8**
STON	**Ston**	**0.28**	**234**	⇓*i*Pg	**Pg**	**02 20 41.0**	**-0.2**
STON				*e*Sg	**Sg**	**02 20 45.8**	**+0.6**
NEVS	**Nevesinje**	**0.28**	**15**	*e*Pg	**Pg**	**02 20 40.8**	**-0.5**
NEVS				*e*Sg	**Sg**	**02 20 45.1**	**-0.3**
DBRK	**Dubrovnik**	**0.38**	**164**	*e*Pg	**Pg**	**02 20 42.4**	**-0.6**
DBRK				Sg	**Sg**	**02 20 48.7**	**+0.4**
TREB	**Trebinje**	**0.41**	**141**	*e*Pg	**Pg**	**02 20 42.8**	**-0.8**
TREB				*e*Sg	**Sg**	**02 20 49.3**	**+0.2**
TREB	**Trebinje**	**0.41**	**141**	⇑*i*Pg	**Pg**	**02 20 42.7**	**-0.8**
TREB				*e*Sg	**Sg**	**02 20 49.0**	**-0.1**
BRY	**Bratogost**	**0.41**	**108**	⇑*i*Pg	**Pg**	**02 20 42.7**	**-1.0**
BRY				*i* Sg	**Sg**	**02 20 49.1**	**-0.3**
BRY	**Bratogost**	**0.41**	**108**	⇑*i*Pg	**Pg**	**02 20 42.7**	**-1.0**
BRY				*e*Sg	**Sg**	**02 20 48.9**	**-0.5**
KLINJ	**Klinje**	**0.45**	**72**	*e*Pg	**Pg**	**02 20 43.1**	**-1.2**
KLINJ				*e*Sg	**Sg**	**02 20 49.6**	**-0.8**
UPM	**Unac-Piva**	**0.68**	**75**	⇓*i*Pg	**Pg**	**02 20 47.1**	**-1.6**
UPM				*i* Sg	**Sg**	**02 20 57.9**	**+0.1**
UPM	**Unac-Piva**	**0.68**	**75**	⇓*i*Pg	**Pg**	**02 20 47.1**	**-1.6**
UPM				*e*Sg	**Sg**	**02 20 57.3**	**-0.5**
HCY	**Herceg Novi**	**0.69**	**148**	⇑*i*Pg	**Pg**	**02 20 47.6**	**-1.2**
HCY				*i* Sg	**Sg**	**02 20 58.5**	**+0.6**
HCY	**Herceg Novi**	**0.69**	**148**	⇑*i*Pg	**Pg**	**02 20 47.6**	**-1.2**
HCY				*e*Sg	**Sg**	**02 20 57.9**	**0.0**
NKME	**Niksic**	**0.75**	**111**	⇑*i*Pg	**Pg**	**02 20 48.5**	**-1.4**
NKME				*i* Sg	**Sb**	**02 21 00.3**	**+0.2**
MAKA	**Makarska**	**0.76**	**290**	*i* Pg	**Pg**	**02 20 49.4**	**-0.8**
MAKA				Sg	**Sg**	**02 21 00.4**	**+0.1**
RICI	**Ricice**	**0.79**	**306**	*e*Pg	**Pg**	**02 20 49.7**	**-0.9**
RICI				Sg	**Sb**	**02 21 02.1**	**+0.9**
CEME	**Cevo**	**0.83**	**126**	⇑*i*Pg	**Pg**	**02 20 49.6**	**-1.9**
CEME				*i* Sg	**Sg**	**02 21 02.8**	**+0.4**
LSTV	**Lastovo**	**0.86**	**252**	*i* Pg	**Pg**	**02 20 50.6**	**-1.3**
LSTV				Sg	**Sb**	**02 21 04.4**	**+1.2**
BUM	**Brajici-Budva**	**0.98**	**138**	⇑*i*Pg	**Pg**	**02 20 52.9**	**-1.5**
BUM				*i* Sg	**Sb**	**02 21 08.4**	**+1.5**
PLE	**Pljevlja**	**1.06**	**73**	⇓*i*Pg	**Pb**	**02 20 54.1**	**-1.3**
PLE				*i* Sg	**Sn**	**02 21 10.4**	**+0.2**
KOME	**Kolasin**	**1.12**	**99**	⇓*i*Pg	**Pb**	**02 20 55.3**	**-1.2**
KOME				*i* Sg	**Sn**	**02 21 12.8**	**+0.9**
HVAR	**Hvar**	**1.15**	**278**	*e*Pn	**Pb**	**02 20 55.9**	**-1.0**
HVAR				Sg	**Sn**	**02 21 13.5**	**+1.2**
RUDO	**Rudo**	**1.16**	**59**	⇑*i*Pg	**Pb**	**02 20 55.1**	**-1.9**
RUDO				*e*Sg	**Sb**	**02 21 10.7**	**-1.1**
DRME	**Dracevica, Mon**	**1.22**	**134**	⇑*i*Pg	**Pn**	**02 20 57.0**	**-0.8**
DRME				*i* Sg	**Sn**	**02 21 16.3**	**+2.4**
DRME	**Dracevica, Mon**	**1.22**	**134**	⇑*i*Pg	**Pn**	**02 20 56.9**	**-0.8**
DRME				*e*Sg	**Sb**	**02 21 13.9**	**+0.4**
HAPS	**Han Pijesak,Bl**	**1.26**	**33**	*e*Pg	**Pn**	**02 20 58.9**	**+0.4**
HAPS				*e*Sg	**Sn**	**02 21 15.7**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.26**	**33**	⇓*i*Pg	**Pn**	**02 20 58.3**	**-0.2**
HAPS				*e*Sg	**Sn**	**02 21 15.6**	**+0.4**
BBLS	**Lazići**	**1.32**	**50**	*e*Pg	**Pn**	**02 20 59.6**	**+0.3**
BBLS				*e*Sg	**Sg**	**02 21 18.5**	**+0.6**
BBLS	**Lazići**	**1.32**	**50**	*e*Pg	**Pn**	**02 20 59.3**	**0.0**
BBLS				*e*Sg	**Sn**	**02 21 17.1**	**+0.5**
IVA	**Berane**	**1.40**	**96**	⇓*i*Pg	**Pn**	**02 21 00.3**	**-0.1**
IVA				*i* Sg	**Sg**	**02 21 21.8**	**+1.4**
ULC	**Ulcinj**	**1.41**	**139**	⇑*i*Pg	**Pg**	**02 21 00.2**	**-0.3**
ULC				*i* Sg	**Sg**	**02 21 22.5**	**+1.7**
SJES	**Sjenica**	**1.46**	**80**	*e*Pg	**Pb**	**02 21 02.2**	**-0.1**
SJES				*e*Sg	**Sg**	**02 21 23.0**	**+0.6**
SJES	**Sjenica**	**1.46**	**80**	*e*Pg	**Pn**	**02 21 01.2**	**0.0**
SJES				*e*Sg	**Sn**	**02 21 20.9**	**+0.7**
PVY	**Plav**	**1.50**	**106**	⇑*i*Pg	**Pn**	**02 21 02.7**	**+0.8**
PVY				*i* Sg	**Sg**	**02 21 24.5**	**+0.7**
KIJV	**Kijevo**	**1.52**	**310**	*e*Pn	**Pn**	**02 21 02.3**	**+0.4**
KIJV				Sn	**Sn**	**02 21 21.3**	**-0.1**
MGRS	**Mrkonjic Grad**	**1.54**	**335**	*e*Pn	**Pb**	**02 21 03.6**	**+0.1**
MGRS				*e*Sn	**Sg**	**02 21 25.6**	**+0.8**
IVAS	**Ivanjica**	**1.66**	**70**	*e*Pn	**Pn**	**02 21 04.7**	**+0.7**
IVAS				*e*Sn	**Sb**	**02 21 26.4**	**0.0**
DOB	**Doboj**	**1.70**	**2**	*e*Pn	**Pb**	**02 21 05.8**	**-0.5**
DOB				*e*Sn	**Sg**	**02 21 29.2**	**-0.9**
DIVS	**Divibare**	**1.79**	**53**	*e*Pn	**Pn**	**02 21 06.7**	**+0.9**
DIVS				*e*Sn	**Sn**	**02 21 28.7**	**+0.3**
A050A	**Klekovaca**	**1.80**	**324**	⇓*i*Pn	**Pb**	**02 21 08.3**	**+0.3**
A050A				*e*Sn	**Sb**	**02 21 31.8**	**+1.4**
BLY	**Banja Luka**	**1.81**	**341**	*e*Pg	**Pb**	**02 21 07.9**	**-0.3**
BLY	**Banja Luka**	**1.81**	**341**	⇑*i*Pn	**Pb**	**02 21 07.8**	**-0.4**
BLY				*e*Sn	**Sb**	**02 21 32.1**	**+1.3**
TEKS	**Tekeris**	**1.88**	**36**	*e*Pn	**Pn**	**02 21 07.3**	**+0.4**
TEKS				*e*Sn	**Sn**	**02 21 31.8**	**+1.5**
TEKS	**Tekeris**	**1.88**	**36**	*e*Pn	**Pn**	**02 21 08.4**	**+1.5**
TEKS				*e*Sn	**Sb**	**02 21 32.8**	**+0.2**
BLJ	**Bijeljina**	**1.97**	**27**	*e*Pn	**Pn**	**02 21 09.4**	**+1.2**
BLJ				*e*Sn	**Sn**	**02 21 33.9**	**+1.3**
A052A	**Srbac**	**2.10**	**350**	*e*Pn	**Pb**	**02 21 12.2**	**-0.9**
TRUS	**Trudelj**	**2.11**	**55**	*e*Pn	**Pn**	**02 21 10.9**	**+0.8**
TRUS				*e*Sn	**Sb**	**02 21 38.3**	**-1.0**
A051A	**Mrakovica**	**2.13**	**339**	*e*Pn	**Pn**	**02 21 12.2**	**+1.8**
A051A				*e*Sn	**Sb**	**02 21 39.0**	**-0.2**
GRUS	**Gruza**	**2.15**	**66**	*e*Pn	**Pn**	**02 21 11.5**	**+0.8**
GRUS				*e*Sn	**Sn**	**02 21 37.5**	**+0.4**
PRIJ	**Prijedor**	**2.15**	**335**	*e*Pn	**Pn**	**02 21 12.6**	**+1.9**
PRIJ				*e*Sn	**Sb**	**02 21 39.8**	**-0.7**
TIR	**Tirane**	**2.18**	**140**	⇑P	**Pb**	**02 21 13.6**	**-0.9**
TIR	**Tirane**	**2.18**	**140**	*e*Pn	**Pn**	**02 21 12.5**	**+1.5**
TIR				*e*Sn	**Sn**	**02 21 38.8**	**+1.1**
SELS	**Selova**	**2.29**	**84**	*e*Pn	**Pn**	**02 21 13.9**	**+1.3**
SELS				*e*Sn	**Sn**	**02 21 41.1**	**+0.6**
FRGS	**Fruska Gora**	**2.49**	**31**	⇑P	**Pn**	**02 21 15.3**	**0.0**
FRGS	**Fruska Gora**	**2.49**	**31**	*e*Pn	**Pn**	**02 21 15.2**	**-0.1**
FRGS				*e*Sn	**Sn**	**02 21 45.5**	**0.0**
FRGS	**Fruska Gora**	**2.49**	**31**	*e*Pn	**Pn**	**02 21 17.1**	**+1.8**
FRGS				*e*Sn	**Sn**	**02 21 47.8**	**+2.3**
MATE	**Matera**	**2.57**	**203**	⇑P	**Pn**	**02 21 18.0**	**+1.6**
SKO	**Skopje**	**2.75**	**111**	*i* Pn	**Pn**	**02 21 21.8**	**+2.9**
BOVS	**Bovan**	**2.77**	**76**	⇑P	**Pn**	**02 21 21.1**	**+2.0**
BOVS	**Bovan**	**2.77**	**76**	*e*Pn	**Pn**	**02 21 19.6**	**+0.5**
BOVS				*e*Sn	**Sn**	**02 21 54.2**	**+2.0**
BARS	**Barje**	**2.81**	**93**	*e*Pn	**Pn**	**02 21 21.6**	**+1.9**
BARS				*e*Sn	**Sn**	**02 21 53.8**	**+0.5**
OHR	**Ohrid**	**2.83**	**132**	*e*Pn	**Pn**	**02 21 22.4**	**+2.4**
OHR	**Ohrid**	**2.83**	**132**	*i* Pn	**Pb**	**02 21 23.5**	**-2.1**
KUBS	**Kucevo**	**3.00**	**61**	*e*Pn	**Pn**	**02 21 23.3**	**+1.0**
PRVS	**Prvonek**	**3.04**	**99**	*e*Pn	**Pn**	**02 21 24.9**	**+1.9**
PRVS				*e*Sn	**Sn**	**02 22 00.7**	**+1.6**
BOJS	**Bojanci**	**3.16**	**322**	*i* Pn	**Pn**	**02 21 27.4**	**+2.8**
BOJS				*i* Sn	**Sb**	**02 22 07.1**	**-2.5**
BOJS					IAML	02 22 27.5	
	comp=Z,292nm,0.6s						
BOJS	**Bojanci**	**3.16**	**322**	*e*Pn	**Pn**	**02 21 27.0**	**+2.4**
BOJS				*e*Sn	**Sn**	**02 22 05.4**	**+3.4**
ZAGS	**Zajecar**	**3.18**	**74**	*e*Pn	**Pn**	**02 21 25.9**	**+1.1**
ZAGS				*e*Sn	**Sn**	**02 22 03.0**	**+0.6**
MDVR	**Moldovita**	**3.20**	**56**	⇓P	**Pn**	**02 21 26.1**	**+1.0**
MORH	**Mrgy, Hungar**	**3.21**	**8**	⇑P	**Pn**	**02 21 26.2**	**+1.0**
MORH	**Mrgy, Hungar**	**3.21**	**8**	*e*Pn	**Pn**	**02 21 27.0**	**+1.8**
MORH				*e*Sn	**Sn**	**02 22 05.0**	**+1.8**
CRES	**Cresnjev**	**3.33**	**328**	*e*Pn	**Pn**	**02 21 29.4**	**+2.5**
CRES				*e*Sn	**Sn**	**02 22 08.4**	**+2.1**
FNA	**Florina**	**3.37**	**131**	P	**Pn**	**02 21 29.9**	**+2.4**
FNA	**Florina**	**3.37**	**131**	*e*Pn	**Pn**	**02 21 29.5**	**+2.0**
ZAPS	**Zavoj**	**3.40**	**84**	*e*Pn	**Pn**	**02 21 29.6**	**+1.8**
ZAPS				*e*Sn	**Sn**	**02 22 08.9**	**+1.1**
BLKB	**Belogradchik**	**3.46**	**79**	⇑P	**Pn**	**02 21 31.0**	**+2.4**
NEST	**Nestorio**	**3.47**	**138**	P	**Pn**	**02 21 31.7**	**+2.8**
BEHE	**Becsehely**	**3.55**	**346**	⇑*i*Pn	**Pn**	**02 21 31.2**	**+1.4**
BEHE				*e*Sn	**Sn**	**02 22 14.2**	**+2.7**
BZS	**Buzias**	**3.66**	**44**	⇑P	**Pn**	**02 21 33.5**	**+2.1**
BZS	**Buzias**	**3.66**	**44**	*e*Pn	**Pn**	**02 21 32.4**	**+1.0**
HERR	**Herculane**	**3.68**	**58**	⇑P	**Pn**	**02 21 32.9**	**+1.3**
CEY	**Cerknica**	**3.73**	**318**	⇑*i*Pn	**Pn**	**02 21 34.8**	**+2.5**
CEY				*e*Sn	**Sn**	**02 22 18.6**	**+2.6**
VAY	**Valandovo**	**3.80**	**115**	*i* Pn	**Pn**	**02 21 36.0**	**+2.7**
PEHC	**Pehcevo**	**3.84**	**107**	*i* Pn	**Pn**	**02 21 37.5**	**+3.6**
GRG	**Griva**	**3.88**	**121**	P	**Pn**	**02 21 36.6**	**+2.2**
IGT	**Igoumenitsa**	**3.91**	**153**	P	**Pn**	**02 21 35.2**	**+0.3**
JAN	**Janina**	**4.00**	**147**	P	**Pn**	**02 21 38.4**	**+2.4**
SURR	**Surduc**	**4.02**	**46**	⇑P	**Pn**	**02 21 38.0**	**+1.8**
SIRR	**Siria**	**4.16**	**38**	⇑P	**Pn**	**02 21 38.3**	**+0.1**
GZR	**Gura Zlata**	**4.17**	**54**	⇓P	**Pn**	**02 21 39.5**	**+1.1**
SOKA	**Soboth**	**4.21**	**331**	*i* Pn	**Pn**	**02 21 41.5**	**+2.4**
	comp=Z,58nm,0.6s,SNR=34						
SOKA				*e*Sn	**Sn**	**02 22 30.3**	**+2.3**
	comp=Z,29nm,0.6s						
OBKA	**Obir**	**4.26**	**326**	*e*Pn	**Pn**	**02 21 43.0**	**+3.4**
	comp=Z,18nm,0.5s,SNR=15						
OBKA				*i* Sn	**Sn**	**02 22 32.8**	**+3.7**
	comp=Z,30nm,0.4s						
OBKA	**Obir**	**4.26**	**326**	⇓*i*Pn	**Pn**	**02 21 41.7**	**+2.0**
OBKA				*e*Sn	**Sn**	**02 22 31.0**	**+1.9**
ARSA	**Arzberg**	**4.57**	**338**	*e*Pn	**Pn**	**02 21 46.0**	**+2.1**
	comp=Z,23nm,0.3s,SNR=72						
ARSA				*e*Sn	**Sn**	**02 22 37.7**	**+1.0**
	comp=Z,20nm,0.8s						
ARSA	**Arzberg**	**4.57**	**338**	⇓*i*Pn	**Pn**	**02 21 45.7**	**+1.8**
SRS	**Serrai**	**4.58**	**113**	P	**Pn**	**02 21 46.4**	**+2.4**
NVR	**Nevrokopi**	**4.67**	**109**	P	**Pn**	**02 21 48.9**	**+3.7**
MYKA	**Terra Mystica**	**4.75**	**321**	*e*Pn	**Pn**	**02 21 48.6**	**+2.1**
	comp=Z,4.8nm,0.3s,SNR=6.8						
MYKA				*i* Sn	**Sn**	**02 22 44.8**	**+3.6**
	comp=Z,13nm,0.4s						
NYDR	**Nydri-Lefkada**	**4.77**	**154**	P	**Pn**	**02 21 46.4**	**-0.3**
SRO	**Srobarova**	**4.79**	**3**	*e*PN	**Pn**	**02 21 49.6**	**+2.8**
SRO				*e*SN	**Sb**	**02 22 52.1**	**-4.1**
LOT	**Lotru**	**4.79**	**58**	⇑P	**Pn**	**02 21 49.4**	**+2.3**
RONA	**Rosalia, Austr**	**4.82**	**346**	*i* Pn	**Pn**	**02 21 49.8**	**+2.4**
	comp=Z,6.3nm,0.3s,SNR=14						
RONA				*e*Sn	**Sn**	**02 22 46.4**	**+3.4**
	comp=Z,18nm,0.5s						
PLVB	**Pleven**	**4.85**	**84**	⇓P	**Pn**	**02 21 50.1**	**+2.3**
CONA	**Conrad Observa**	**5.12**	**344**	*e*Pn	**Pn**	**02 21 53.9**	**+2.4**
	comp=Z,4.1nm,0.3s,SNR=18						
CONA				*i* Sn	**Sn**	**02 22 51.2**	**+0.8**
	comp=Z,8.7nm,0.4s						
MARR	**Marisel-Cluj**	**5.15**	**43**	⇑P	**Pn**	**02 21 53.9**	**+2.0**
ZST	**Bratislava**	**5.20**	**353**	*e*PN	**Pn**	**02 21 55.3**	**+2.7**
ZST				*e*SN	**Sn**	**02 22 54.0**	**+1.8**
KBA	**Koelnbreinsper**	**5.22**	**322**	*e*Pn	**Pn**	**02 21 55.7**	**+2.8**
	comp=Z,12nm,0.6s,SNR=19						
KBA				*e*Sn	**Sn**	**02 22 57.8**	**+4.9**
	comp=Z,9.9nm,0.5s						
ARR	**Arges**	**5.31**	**62**	⇑P	**Pn**	**02 21 56.6**	**+2.6**
MODS	**Modra-Piesok**	**5.37**	**355**	*e*PN	**Pn**	**02 21 56.6**	**+1.8**
ABTA	**Abfaltersbach**	**5.39**	**315**	*e*Pn	**Pn**	**02 21 56.8**	**+1.7**
	comp=Z,8.3nm,0.3s,SNR=19						
ABTA				*e*Sn	**Sn**	**02 23 00.2**	**+3.3**
	comp=Z,26nm,0.6s						
MOA	**Molln**	**5.49**	**333**	*e*Pn	**Pn**	**02 21 59.7**	**+3.2**
	comp=Z,16nm,0.3s,SNR=49						
MOA				*i* Sn	**Sn**	**02 23 02.1**	**+2.7**
	comp=Z,37nm,0.6s						
VYHS	**Vyhne**	**5.49**	**6**	*e*PN	**Pn**	**02 21 59.0**	**+2.4**
VYHS				*e*SN	**Sn**	**02 23 01.4**	**+1.9**
BIOA	**Bad Ischl, Aus**	**5.58**	**328**	*i* Pn	**Pn**	**02 22 00.8**	**+3.0**
	comp=Z,15nm,0.3s,SNR=28						
BIOA				*i* Sn	**Sn**	**02 23 05.4**	**+3.7**
	comp=Z,14nm,0.5s						
VOIR		**5.60**	**62**	⇓P	**Pn**	**02 22 00.7**	**+2.5**
LESA	**Schwarzleotal**	**5.78**	**321**	*i* Pn	**Pn**	**02 22 03.5**	**+2.9**
	comp=Z,7.8nm,0.3s						
LESA				*e*Sn	**Sn**	**02 23 10.0**	**+3.3**
	comp=Z,16nm,0.7s						
JAVC	**Velka Javorina**	**5.83**	**358**	*e*PN	**Pn**	**02 22 04.4**	**+3.1**
KRUC	**Moravsky**	**6.13**	**350**	*e*PN	**Pn**	**02 22 05.7**	**+0.4**
KRUC				*e*SN	**Sn**	**02 23 14.2**	**-1.0**
WTTA	**Wattenberg**	**6.18**	**315**	*i* Pn	**Pn**	**02 22 09.0**	**+2.9**
	comp=Z,30nm,0.4s,SNR=53						
WTTA				*i* Sn	**Sn**	**02 23 20.9**	**+4.3**
	comp=Z,21nm,0.4s						
VAE	**Valguarnera**	**6.19**	**208**	Pn	Pn	02 22 14.9	+8.7
	comp=Z,0.4nm,0.3s,baz=18,slow=13,SNR=1.8 comp=Z,1nm,1.0s						
MLR	**Muntele Rosu**	**6.21**	**64**	⇓P	**Pn**	**02 22 09.1**	**+2.6**
MLR	**Muntele Rosu**	**6.21**	**64**	Pn	Pn	02 22 13.2	+6.7
	comp=Z,0.2nm,0.3s,baz=289,slow=14,SNR=3.7						
MLR				Sn	**Sn**	**02 23 24.4**	**+7.1**
	comp=Z,0.4nm,0.3s,baz=269,slow=18,SNR=1.7 comp=Z,3.5nm,0.7s						
WATA	**Walderalm**	**6.25**	**316**	*i* Pn	**Pn**	**02 22 09.8**	**+2.7**
	comp=Z,7.8nm,0.3s,SNR=36						
WATA				*i* Sn	**Sn**	**02 23 22.6**	**+4.2**
	comp=Z,3.6nm,0.5s						
CKRC	**Cesky Krumlov**	**6.33**	**337**	*e*PN	**Pn**	**02 22 11.2**	**+3.1**
CKRC				*e*SN	**Sn**	**02 23 21.1**	**+0.9**
MAUC	**Maruska**	**6.34**	**

SSF	**Saint Saulge**	**11.02**	**296**	*e*Pn		**Pn**	**02 23 11.0**	**-1.3**
SSF				*e*Sn		**Sn**	**02 25 09.0**	**-6.2**
	comp=Z,2.5nm,0.4s							
AVF	**Avril sur Loir**	**11.05**	**295**	*e*Pn		**Pn**	**02 23 11.8**	**-0.9**
AVF				*e*Sn		**Sn**	**02 25 09.3**	**-6.6**
	comp=Z,2.2nm,0.5s							
BGF	**Bois d'Agland**	**11.33**	**293**	*e*Pn		**Pn**	**02 23 15.7**	**-0.9**
BGF				*e*Sn		**Sn**	**02 25 15.9**	**-7.0**
	comp=Z,4.9nm,0.4s							
CAF	**Calviac**	**11.64**	**285**	*e*Pn		**Pn**	**02 23 20.1**	**-0.8**
HYF	**Humbligny**	**11.64**	**297**	*e*Pn		**Pn**	**02 23 19.5**	**-1.4**
HYF				*e*Sn		**Sn**	**02 25 23.1**	**-7.4**
	comp=Z,58nm,0.6s							
TCF	**Toulx Ste Croi**	**11.71**	**292**	*e*Pn		**Pn**	**02 23 20.9**	**-0.9**
TCF				*e*Sn		**Sn**	**02 25 24.9**	**-7.3**
	comp=Z,2.4nm,0.3s							
EKA	**Eskdalemuir Ar**	**18.42**	**319**	P		**Pn**	**02 24 51.2**	**+1.2**
	baz=115,slow=8.7							
	comp=Z,0.8nm,0.8s							
NOA	**NORSAR Array B**	**18.49**	**350**	P		**Pn**	**02 24 52.3**	**+1.5**
	baz=160,slow=10,SNR=2.5							
	comp=Z,0.9nm,0.9s							
FINES	**FINESS Array B**	**19.06**	**12**	P		**Pn**	**02 24 58.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=6.6							
	comp=Z,2.1nm,0.8s							

ISN ***12*** *02:34:49.7±0.8, 33°.71N×45°.68E, h1*$^{km}_{\pm}$*3km, ML2.7*
TEH ***12*** *02:34:51.5, 33°.68N×45°.68E, h8*$^{km}_{\pm}$*180km, ML2.9*
ISC 12 02:34:51.4±2.3, 33°.66N±0°.05×45°.7E±0°.1, h6$^{km}_{\pm}$**29km, n8, σ0s77/13, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.46**	**95**	Pg	**Pg**	**02 35 00.4**	**+0.1**
ILBA				Sg	**Sg**	**02 35 07.1**	**+0.8**
IBDR	**Badra**	**0.60**	**158**	*e*Pg	**Pg**	**02 35 03.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**02 35 11.5**	**+0.9**
IGHG	**Ghaleghazi**	**1.01**	**48**	Pg	**Pg**	**02 35 10.9**	**+0.2**
BHD	**Baghdad**	**1.14**	**250**	*e*Pg	**Pn**	**02 35 14.0**	**+0.1**
BHD				*e*Sg	**Sn**	**02 35 31.0**	**+1.1**
BHD				AML	AML	02 35 36.2	
	comp=E,326nm,0.7s						
IDHR	**Dehrash**	**1.20**	**30**	Pg	**Pb**	**02 35 14.0**	**-0.7**
IKOM	**Komasi**	**1.62**	**71**	Pg	**Pg**	**02 35 22.3**	**-0.2**
RAFI	**Al-Rafai**	**1.97**	**169**	*e*Pn	**Pb**	**02 35 27.0**	**-0.7**
RAFI				*e*Sn	**Sg**	**02 35 54.0**	**-0.8**
IKRK	**Kirkuk**	**2.05**	**328**	*e*Pn	**Pn**	**02 35 27.0**	**+0.6**
IKRK				*e*Sn	**Sb**	**02 35 54.0**	**-0.8**
IKRK				AML	AML	02 36 06.6	
	comp=N,61nm,0.5s						
IKRK				AML	AML	02 36 12.5	
	comp=E,46nm,0.3s						

ISN ***12*** *02:44:50.5±0.6, 33°.82N×45°.70E, h10*$^{km}_{\pm}$*9km, ML2.5*
TEH ***12*** *02:44:51.3, 33°.80N×45°.61E, h8*$^{km}_{\pm}$*658km, ML2.8*
ISC 12 02:44:51.9±1.0, 33°.76N±0°.05×45°.68E±0°.05, h10^{km}**, n7, σ0s70/11, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.46**	**107**	Pg	**Pb**	**02 45 01.8**	**-0.3**
ILBA				Sg	**Sb**	**02 45 09.7**	**+0.6**
IBDR	**Badra**	**0.68**	**162**	*e*Pg	**Pg**	**02 45 05.0**	**0.0**
IBDR				*e*Sg	**Sb**	**02 45 15.0**	**-0.3**
IGHG	**Ghaleghazi**	**0.93**	**52**	Pg	**Pg**	**02 45 10.2**	**+0.4**
IDHR	**Dehrash**	**1.11**	**32**	Pg	**Pg**	**02 45 12.3**	**-0.9**
BHD	**Baghdad**	**1.19**	**246**	*e*Pg	**Pn**	**02 45 14.0**	**-0.6**
BHD				*e*Sg	**Sb**	**02 45 31.0**	**+1.0**
IKOM	**Komasi**	**1.58**	**74**	Pg	**Pg**	**02 45 22.7**	**+0.5**
IKRK	**Kirkuk**	**1.97**	**326**	*e*Pn	**Pn**	**02 45 25.0**	**-0.4**
IKRK				*e*Sn	**Sn**	**02 45 51.0**	**+0.8**
IKRK				AML	AML	02 45 57.2	
	comp=E,45nm,0.3s						
IKRK				AML	AML	02 46 01.1	
	comp=N,53nm,0.3s						

TEH ***12*** *02:51:30.9, 33°.71N×45°.73E, h10*$^{km}_{\pm}$*113km, ML2.5*
ISN ***12*** *02:51:30.8±1.5, 33°.70N×45°.79E, h7*$^{km}_{\pm}$*8km, ML2.4*
ISC 12 02:51:31.1±1.3, 33°.72N±0°.03×45°.76E±0°.04, h6$^{km}_{\pm}$**12km, n9, σ0s71/14, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.39**	**104**	Pg	**Pg**	**02 51 39.0**	**+0.4**
ILBA				Sg	**Sb**	**02 51 45.2**	**-1.4**
IBDR	**Badra**	**0.62**	**167**	*e*Pg	**Pg**	**02 51 43.0**	**0.0**
IBDR				*e*Sg	**Sg**	**02 51 51.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.80**	**350**	Pg	**Pg**	**02 51 46.7**	**+0.2**
IGHG	**Ghaleghazi**	**0.91**	**48**	Pg	**Pg**	**02 51 49.3**	**-0.2**
IDHR	**Dehrash**	**1.11**	**28**	Pg	**Pg**	**02 51 52.3**	**-0.1**
BHD	**Baghdad**	**1.23**	**249**	*e*Pg	**Pg**	**02 51 55.0**	**+0.2**
BHD				*e*Sg	**Sn**	**02 52 12.0**	**+0.1**
IKOM	**Komasi**	**1.53**	**72**	Pg	**Pg**	**02 52 01.3**	**+0.9**
RAFI	**Al-Rafai**	**2.01**	**171**	*e*Pn	**Pn**	**02 52 06.0**	**+0.4**
RAFI				*e*Sn	**Sb**	**02 52 33.0**	**-0.4**
IKRK	**Kirkuk**	**2.05**	**326**	*e*Pn	**Pn**	**02 52 07.0**	**+0.9**
IKRK				*e*Sn	**Sg**	**02 52 36.0**	**-0.9**
IKRK				AML	AML	02 52 38.7	
	comp=N,40nm,0.4s						
IKRK				AML	AML	02 52 40.4	
	comp=E,37nm,0.5s						

OMAN ***12*** *03:03:28.4±1.2, 31°.23N×57°.66E, h10km, mb5.0/17, ml4.0/1, ms2.4/4, Error ellipse: s-maj=12.2km s-min=11.7km az=134.0*
DSN ***12*** *03:03:29.6±1.0, 30°.93N×58°.33E, h10km, ML3.5/10, Error ellipse: s-maj=45.4km s-min=9.1km az=106.0*
IDC ***12*** *03:03:33.7±0.9, 30°.69N×57°.22E, h0km, mb3.9/12, mbtmp3.9/17, ML3.8/5, MS3.3/4, Error ellipse: s-maj=19.0km s-min=17.5km az=139.0*
TEH ***12*** *03:03:33.5, 30°.69N×57°.34E, h12*$^{km}_{\pm}$*32km, ML4.2*
MOS ***12*** *03:03:34.8±0.8, 30°.75N×57°.28E, h15km, mb4.2/13, Error ellipse: s-maj=12.2km s-min=7.5km az=90.8*
NEIC ***12*** *03:03:35.4±1.2, 30°.68N±0°.03×57°.3E±0°.1, h10*$^{km}_{\pm}$*1km, mb4.2/15, Error ellipse: s-maj=18.3km s-min=3.8km az=82.0*
ISC 12 03:03:35.5±0.4, 30°.68N±0°.03×57°.34E±0°.04, h15^{km}**, n147, σ2s04/168, mb4.1/27, MS3.2/4, 4C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.19**	**198**	Pg	**Pg**	**03 03 38.3**	**-1.9**
KRM1				Sg	**Sg**	**03 03 41.5**	**-1.8**
ZRDN	**Zarand Kerman**	**0.75**	**293**	Pg	**Pg**	**03 03 48.4**	**-1.7**
KHGB	**Koh Gabri**	**0.80**	**248**	Pg	**Pg**	**03 03 49.5**	**-1.7**
KHGB				Sg	**Sg**	**03 03 59.7**	**-2.1**
CHMN	**Cheshme madani**	**0.84**	**168**	Pg	**Pg**	**03 03 49.5**	**-2.4**
TVBK	**TV Kerman**	**0.85**	**216**	Pg	**Pg**	**03 03 51.0**	**-1.2**
NGRK	**Negar Kerman**	**1.16**	**207**	Pg	**Pn**	**03 03 56.5**	**-1.1**
IBAF	**Bafgh**	**1.77**	**301**	Pg	**Pb**	**03 04 06.7**	**-1.1**
KBAM	**BAM**	**1.82**	**148**	Pn	**Pn**	**03 04 06.7**	**+0.3**
BSRN	**Basiran**	**2.00**	**50**	Pn	**Pn**	**03 04 08.4**	**-0.5**
IKOO	**Kooshah**	**2.25**	**39**	Pn	**Pn**	**03 04 12.0**	**-0.4**
TPRV	**Parvadeh(Tabas**	**2.41**	**347**	Pn	**Pn**	**03 04 14.5**	**0.0**
NHDN	**Nehbandan**	**2.44**	**72**	Pn	**Pn**	**03 04 15.1**	**+0.2**
IMEH	**Mehriz**	**2.44**	**288**	Pn	**Pn**	**03 04 15.9**	**+0.8**
ITEG	**Tejag**	**2.52**	**28**	Pn	**Pn**	**03 04 15.7**	**-0.4**
BAGH	**Bagheran - Bir**	**2.63**	**37**	Pn	**Pn**	**03 04 16.9**	**-0.8**
KHNJ	**Kahnooj**	**2.74**	**173**	Pn	**Pn**	**03 04 20.3**	**+1.3**
TKDS	**Koohdasht(Taba**	**2.93**	**356**	Pn	**Pn**	**03 04 21.7**	**0.0**
ICHK	**Chekchek**	**2.95**	**303**	Pn	**Pn**	**03 04 22.6**	**+0.5**
IDAH	**Dahanechah**	**2.98**	**46**	Pn	**Pn**	**03 04 22.4**	**-0.1**
AFRZ	**Afriz**	**3.08**	**27**	Pn	**Pn**	**03 04 24.0**	**+0.1**
TNSJ	**Nastanj**	**3.33**	**350**	Pn	**Pn**	**03 04 27.1**	**-0.1**
ISAD	**Sadrabad**	**3.36**	**292**	Pn	**Pn**	**03 04 28.6**	**+0.8**
SHRT	**Shahrakht**	**3.88**	**40**	Pn	**Pn**	**03 04 35.2**	**+0.5**
ANAR	**Anarak**	**3.96**	**310**	Pn	**Pn**	**03 04 36.6**	**+0.8**
IRAM	**Ramesheh**	**4.39**	**286**	Pn	**Pn**	**03 04 43.0**	**+1.1**
SHME	**Shamm**	**4.73**	**193**	P	**Pn**	**03 04 48.1**	**+1.7**
SHME	**Shamm**	**4.73**	**193**	P	**Pn**	**03 04 48.6**	**+2.2**
SHME				S	**Sb**	**03 05 50.2**	**-4.9**
IZEF	**Zefreh**	**4.80**	**299**	Pn	**Pn**	**03 04 48.7**	**+1.1**
JASK	**Jask - Hormozg**	**4.82**	**174**	Pn	**Pn**	**03 04 49.0**	**+1.4**
JASK	**Jask - Hormozg**	**4.82**	**174**	P	**Pn**	**03 04 49.9**	**+2.3**
	SNR=13						
BANOM	**Banah**	**4.83**	**191**	P	**Pn**	**03 04 50.0**	**+2.3**
BANOM				S	**Sn**	**03 05 51.6**	**+8.2**
TBJM	**Torbat-e-JAM**	**5.22**	**28**	Pn	**Pn**	**03 04 53.7**	**+0.5**
MASF	**Masafi**	**5.39**	**191**	P	**Pn**	**03 04 58.1**	**+2.6**
	SNR=6.8						
MASF				S	**Sn**	**03 06 04.9**	**+7.5**
MSFE	**Esma-Masafi**	**5.40**	**191**	P	**Pn**	**03 04 57.3**	**+1.7**
MDH	**Madha**	**5.44**	**190**	P	**Pn**	**03 04 57.3**	**+1.1**
MDH	**Madha**	**5.44**	**190**	P	**Pn**	**03 04 57.7**	**+1.6**
MDH				S	**Sb**	**03 06 08.5**	**-6.9**
KRSH	**Karshahi**	**5.49**	**308**	Pn	**Pn**	**03 04 57.6**	**+0.6**
SRVN	**Saravan**	**5.50**	**125**	Pn	**Pn**	**03 04 58.1**	**+1.0**
HRA	**Herat**	**5.55**	**47**	Pn	**Pn**	**03 04 58.6**	**+0.8**
IKLH	**Kolahrood**	**5.55**	**300**	Pn	**Pn**	**03 04 58.9**	**+1.0**
IANJ	**Anjilo**	**5.57**	**330**	Pn	**Pn**	**03 04 58.3**	**+0.2**
ISFB	**Sefidab**	**5.65**	**312**	Pn	**Pn**	**03 04 59.8**	**+0.7**
SBZV	**Sabzevar**	**5.70**	**2**	Pn	**Pn**	**03 05 00.5**	**+0.7**
ZNGN	**Zangian**	**5.72**	**286**	Pn	**Pn**	**03 05 02.1**	**+1.8**
JRKH	**Jarkhoshk**	**5.79**	**25**	Pn	**Pn**	**03 05 01.5**	**+0.5**
NAZ	**Nazwa, Dubai**	**5.86**	**195**	P	**Pn**	**03 05 04.0**	**+2.1**
NAZ	**Nazwa, Dubai**	**5.86**	**195**	P	**Pn**	**03 05 05.0**	**+3.1**
	SNR=15						
NAZ				S	Sb	03 06 19.5	-8.0
HATD	**Hatta, Dubai**	**5.93**	**191**	P	**Pn**	**03 05 04.3**	**+1.5**
HATD	**Hatta, Dubai**	**5.93**	**191**	P	**Pn**	**03 05 05.0**	**+2.2**
HATD				S	**Sn**	**03 06 19.2**	**+8.6**
ASHO	**Ashiyiah**	**6.08**	**191**	P	**Pn**	**03 05 06.3**	**+1.4**
ASHO				S	**Sn**	**03 06 22.3**	**+7.9**
ASHO	**Ashiyiah**	**6.08**	**191**	P	**Pn**	**03 05 07.1**	**+2.1**
	SNR=24						
ASHO				S	**Sb**	**03 06 26.9**	**-7.0**
IMYA	**Miami**	**6.10**	**22**	Pn	**Pn**	**03 05 06.0**	**+0.7**
FAQ	**Al Faqa, Dubai**	**6.11**	**195**	P	**Pn**	**03 05 06.6**	**+1.3**
FAQ	**Al Faqa, Dubai**	**6.11**	**195**	P	**Pn**	**03 05 07.3**	**+1.9**
	SNR=10.0						
IFIR	**Firoozkooh**	**6.26**	**323**	Pn	**Pn**	**03 05 08.0**	**+0.4**
ASUD	**Al Ashush, Dub**	**6.29**	**197**	P	**Pn**	**03 05 09.7**	**+1.9**
ASUD	**Al Ashush, Dub**	**6.29**	**197**	P	**Pn**	**03 05 11.0**	**+3.2**
	SNR=12						
ASUD				S	Sn	03 06 28.9	+9.5
IKRD	**Kardeh**	**6.34**	**16**	Pn	**Pn**	**03 05 09.5**	**+0.7**
ISFR	**Sfrayin**	**6.38**	**5**	Pn	**Pn**	**03 05 09.8**	**+0.5**
IVRN	**Varamin**	**6.39**	**314**	Pn	**Pn**	**03 05 10.5**	**+1.3**
AJN	**Ajban**	**6.44**	**199**	P	**Pn**	**03 05 12.5**	**+2.6**
IGLO	**Ghaloghah**	**6.50**	**334**	Pn	**Pn**	**03 05 12.0**	**+1.1**
SOHO	**SOHO**	**6.56**	**186**	P	**Pn**	**03 05 11.4**	**-0.1**
SOHO	**SOHO**	**6.56**	**186**	P	**Pn**	**03 05 11.6**	**+0.1**
IDMV	**Damavand**	**6.61**	**319**	Pn	**Pn**	**03 05 13.3**	**+0.9**
IQOM	**Qom**	**6.71**	**310**	Pn	**Pn**	**03 05 14.8**	**+1.0**
ALNE	**Al Ain**	**6.75**	**192**	P	**Pn**	**03 05 16.3**	**+2.2**
IEMG	**Emamgholi**	**6.81**	**9**	Pn	**Pn**	**03 05 15.3**	**+0.1**
IPRN	**Peran**	**6.94**	**324**	Pn	**Pn**	**03 05 17.6**	**+0.8**
MRVT	**Maraveh tapeh**	**7.04**	**352**	Pn	**Pn**	**03 05 18.9**	**+0.8**
BIDO	**Bidbid**	**7.17**	**174**	P	**Pn**	**03 05 20.0**	**+0.2**
GEYT	**Alibeck**	**7.26**	**5**	Pn	**Pn**	**03 05 20.6**	**-0.5**
GEYT	**Alibeck**	**7.26**	**5**	Pn	**Pn**	**03 05 22.2**	**+1.1**
	1.0nm,0.3s,baz=186,slow=16,SNR=14						
	2.1nm,0.2s						
GYA0B	**ALIBECK ARRAY**	**7.26**	**5**	Pn	**Pn**	**03 05 22.5**	**+1.4**
ARQ	**Araqi**	**7.35**	**186**	P	**Pn**	**03 05 24.9**	**+2.5**
	SNR=23						
ARQ				P	**Pn**	**03 05 24.9**	**+2.5**
	SNR=23						
SHMA	**Al-Shehemyia**	**7.39**	**231**	P	**Pn**	**03 05 23.9**	**+0.9**
WSAR	**Wadi Sarin**	**7.50**	**171**	Pn	**Pn**	**03 05 25.0**	**+0.5**
	6.0nm,0.3s,baz=6.3,slow=10,SNR=26						
WSAR				Sn	**Sn**	**03 06 52.4**	**+3.0**
	baz=81,slow=13						
	23nm,0.5s						
WSAR	**Wadi Sarin**	**7.50**	**171**	P	**Pn**	**03 05 25.0**	**+0.5**
	SNR=17						
SMDO	**Samad**	**7.62**	**175**	P	**Pn**	**03 05 26.8**	**+0.6**
BSY	**Bisya**	**7.91**	**181**	P	**Pn**	**03 05 31.9**	**+1.9**
BSY				P	**Pn**	**03 05 31.9**	**+1.9**
TRNA	**Turayna**	**8.03**	**224**	P	**Pn**	**03 05 33.0**	**+1.3**
	SNR=7.9						
WBK	**Wadi Bani Khal**	**8.17**	**169**	P	**Pn**	**03 05 34.3**	**+0.6**
SMRA	**Abu-Samra**	**8.26**	**226**	P	**Pn**	**03 05 35.4**	**+0.6**
JMDO	**Jabal Madar**	**8.31**	**175**	P	**Pn**	**03 05 37.8**	**+2.3**
JLN	**Jalan Bani Buh**	**8.70**	**167**	P	**Pn**	**03 05 41.6**	**+0.7**
MHTO	**MHTO**	**9.67**	**176**	P	**Pn**	**03 05 55.5**	**+1.3**
MHTO				P	**Pn**	**03 05 55.5**	**+1.3**
ZEI	**Tsey**	**16.16**	**322**	*e*P	**P**	**03 07 25.6**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ASF	**Jabal al Asfar**	**17.51**	**280**	P	**Pn**	**03 07 39.0**	**-0.3**
ASF	**Jabal al Asfar**	**17.51**	**280**	P	**Pn**	**03 07 39.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=246,slow=19,SNR=4.8						
	comp=Z,3.4nm,0.8s						
KSH	**Kashi**	**17.59**	**55**	P	**Pn**	**03 07 35.8**	**-4.4**
KSH				pP	P	03 07 42.1	+0.9
KSH				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KIV	**Kislovodsk**	**17.61**	**323**	*e*P	**P**	**03 07 41.6**	**+0.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AAK	**Ala-Archa**	**18.18**	**44**	P	**P**	**03 07 49.7**	**+1.9**
AAK	**Ala-Archa**	**18.18**	**44**	*i* P	**P**	**03 07 47.4**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**18.18**	**44**	P	**P**	**03 07 49.3**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=217,slow=13,SNR=7.3						
	comp=Z,1.8nm,0.6s						
ABKAR	**Akbulak array**	**18.66**	**5**	P	**P**	**03 07 52.2**	**-0.6**
ABKAR	**Akbulak array**	**18.66**	**5**	P	**P**	**03 07 52.2**	**-0.6**
ABKAR				IAmb	IAmb	03 07 56.3	
	comp=Z,5.2nm,1.0s						
AKTO	**Aktyubinsk**	**19.74**	**1**	P	**Pn**	**03 08 05.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=182,slow=9.8,SNR=19						
AKTO				LR	LR	03 16 39.9	
	comp=Z,56nm,19.3s,baz=190,slow=40						
	comp=Z,4.6nm,0.6s						
CSS	**Mathiatis**	**20.61**	**288**	P	**P**	**03 08 14.4**	**+0.2**
CSS				IAmb	IAmb	03 08 20.9	
	comp=Z,12nm,0.7s						
ANN	**Anapa**	**21.05**	**318**	*e*P	**P**	**03 08 12.4**	**-6.5**
ANN				pmax	pmax		
	comp=Z,81nm,1.4s						
BRTR	**Keskin Array B**	**21.32**	**301**	*e*P	**P**	**03 08 22.5**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**21.32**	**301**	P	**P**	**03 08 22.0**	**0.0**
	comp=Z,1.3nm,0.7s,baz=113,slow=11,SNR=4.9						
BRTR				LR	LR	03 17 32.9	
	comp=Z,44nm,18.2s,baz=246,slow=40						
	comp=Z,1.3nm,0.7s						
BELG	**Belogornoye**	**22.84**	**345**	*i* P	**P**	**03 08 39.1**	**+1.2**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ELL	**Elmali**	**23.56**	**292**	P	**P**	**03 08 45.4**	**-0.2**
ELL	**Elmali**	**23.56**	**292**	P	**P**	**03 08 45.4**	**-0.2**
ELL				pmax	pmax		
	comp=Z,38nm,1.1s						
BRVK	**Borovoye**	**24.27**	**19**	*ce*P	**P**	**03 08 51.5**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BVAR	**Borovoye Array**	**24.27**	**19**	P	**P**	**03 08 52.8**	**+0.7**
	comp=Z,7.4nm,0.8s,baz=199,slow=7.8,SNR=21						
BVAR				LR	LR	03 19 33.4	
	comp=Z,56nm,19.4s,baz=344,slow=40						
	comp=Z,7.4nm,0.8s						
MAKZ	**Makanchi**	**24.92**	**43**	P	**P**	**03 08 58.2**	**+0.2**
MAKZ				IAmb	IAmb	03 08 59.9	
	comp=Z,6.9nm,1.1s						
MAKZ	**Makanchi**	**24.92**	**43**	P	**P**	**03 08 58.2**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MK31	**Makanchi Array**	**25.10**	**43**	P	**P**	**03 09 00.2**	**+0.6**
MK31	**Makanchi Array**	**25.10**	**43**	*ce*P	**P**	**03 08 59.8**	**+0.2**
MKAR	**Makanchi Array**	**25.10**	**43**	P	**P**	**03 08 59.7**	**+0.1**
MKAR	**Makanchi Array**	**25.10**	**43**	*e*P	**P**	**03 09 00.1**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**25.10**	**43**	P	**P**	**03 09 00.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=227,slow=9.0,SNR=15						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**25.44**	**32**	P	**P**	**03 09 03.2**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=232,slow=9.3,SNR=25						
	comp=Z,2.4nm,0.8s						
KURK	**Kurchatov**	**25.54**	**32**	P	**P**	**03 09 04.4**	**+0.9**
KURK				IAmb	IAmb	03 09 06.8	
	comp=Z,3.1nm,0.9s						
KURK	**Kurchatov**	**25.54**	**32**	*ce*P	**P**	**03 09 04.2**	**+0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**25.75**	**2**	*d* iP	**P**	**03 09 06.3**	**+0.9**
ARU						03 09 42.5	
ARU				S	**S**	**03 13 36.9**	**+3.2**
ARU				SS	**SnSn**	**03 14 29.8**	**+0.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIRV	**Kirov**	**28.42**	**351**	*ce*P	**P**	**03 09 30.6**	**+1.3**
OBN	**Obninsk**	**28.55**	**335**	*i* P	**P**	**03 09 30.3**	**-0.2**
OBN				*i*		03 10 24.5	
OBN				pmax	pmax		
	comp=Z,15nm,1.1s						
KIEV	**Kiev**	**28.95**	**322**	P	**P**	**03 09 34.0**	**-0.2**
KIEV				IAmb	IAmb	03 09 35.1	
	comp=Z,3.3nm,0.8s						
KIEV	**Kiev**	**28.95**	**322**	P	**P**	**03 09 34.0**	**-0.2**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DGZ	**Jazzator, Alta**	**29.53**	**41**	*i* P	**P**	**03 09 40.2**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,10.0nm,3.2s						
BUR08	**Bucovina Ar. S**	**29.85**	**314**	P	**P**	**03 09 41.9**	**-0.4**
BUR08				IAmb	IAmb	03 09 55.7	
	comp=Z,9.4nm,1.5s						
ZAA0	**Zalesovo Array**	**30.54**	**32**	P	**P**	**03 09 48.0**	**-0.2**
ZAA0				IAmb	IAmb	03 09 48.9	
	comp=Z,4.7nm,0.9s						
ZALV	**Zalesovo Beam**	**30.54**	**32**	P	**P**	**03 09 47.7**	**-0.5**
ZALV	**Zalesovo Beam**	**30.54**	**32**	*e*P	**P**	**03 09 48.2**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**30.54**	**32**	P	**P**	**03 09 48.4**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=239,slow=10,SNR=14						
	comp=Z,3.2nm,0.7s						
MNK	**Minsk**	**31.79**	**327**	*i* P	**P**	**03 09 58.6**	**-0.6**
	comp=E,4.0nm,0.8s						
MNK				*i* P	**P**	**03 09 58.6**	**-0.6**
	comp=N,7.0nm,0.9s						
MNK				*i* P	**P**	**03 09 58.6**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=126						
MNK				*i* PP	**PnPn**	**03 11 02.7**	**-0.8**
MNK				*i* PPP	PPP	03 11 12.0	
MNK				*i* S	**S**	**03 15 09.5**	**+0.7**
MNK				*i* SS	**SnSn**	**03 16 57.8**	**+1.6**
MNK				*i* SSS	SSS	03 17 12.9	
MNK				*i* LQ	LQ	03 20 29.6	
MNK				*i* LR	LR	03 21 16.4	
MNK				*i* LRM	MLR	03 22 46.6	
	comp=Z,64nm,14.9s						
MNK				*i* LRM	MLR	03 23 40.9	
	comp=E,25nm,15.6s						
MNK				*i* LRM	MLR	03 23 43.6	
	comp=N,79nm,18.3s						
MNK	**Minsk**	**31.79**	**327**	*i* P	**P**	**03 09 58.5**	**-0.6**
MNK				*i*		03 11 02.7	
MNK				*i*		03 12 49.5	
MNK				*i* S	**S**	**03 15 09.4**	**+0.7**
MNK				*i* SS	**SnSn**	**03 16 57.7**	**+1.6**
MNK						03 20 29.5	
MNK				pmax	pmax		
	comp=E,4.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,7.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,64nm,15.0s						
MNK				MLR	MLR		
	comp=E,25nm,16.0s						
MNK				MLR	MLR		
	comp=N,79nm,18.0s						
FINES	**FINESS Array B**	**36.95**	**335**	P	**P**	**03 10 44.0**	**+0.3**
FINES	**FINESS Array B**	**36.95**	**335**	*e*P	**P**	**03 10 44.9**	**+1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**36.95**	**335**	P	**P**	**03 10 43.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=118,slow=11,SNR=5.4						
	comp=Z,1.3nm,0.6s						
GERES	**GERESS Array B**	**37.53**	**312**	*e*P	**P**	**03 10 49.3**	**+0.3**
GERES				pmax	pmax		
	comp=Z,1.

RAFI	**Al-Rafai**	**2.00**	**168**	*e*Pn	**Pn**	**03 29 42.0**	**+0.7**
RAFI				*e*Sn	**Sb**	**03 30 08.0**	**-0.9**
IKRK	**Kirkuk**	**2.02**	**328**	*e*Pn	**Pn**	**03 29 42.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**03 30 09.0**	**-0.6**
HSAM	**Samen**	**2.52**	**77**	Pn	**Pn**	**03 29 49.4**	**+0.5**
QAMS	**Qamsar**	**4.80**	**88**	Pn	**Pn**	**03 30 21.6**	**+1.4**
IKLH	**Kolahrood**	**4.98**	**93**	Pn	**Pn**	**03 30 24.0**	**+1.4**

IDC ***12*** *03:40:47.3±0.5, 38°.32N×70°.11E, h0km, mb4.4/28, mbtmp4.5/36, ML3.8/7, MS3.8/42, Error ellipse: s-maj=10.7km s-min=8.1km az=146.0*

NEIC ***12*** *03:40:51.1±1.7, 38°.50N±0°.04×70°.02E±0°.06, h18km±4km, mb4.9/85, Error ellipse: s-maj=7.7km s-min=4.0km az=54.0*

NNC ***12*** *03:40:51.1±2.2, 38°.55N×70°.11E, h6km±8km, mb4.9, mpv4.6, Error ellipse: s-maj=16.9km s-min=11.2km az=166.0*

BJI ***12*** *03:40:52.0±0.0, 38°.72N×70°.16E, h34km, mb4.7/50, mB5.1/26, ML4.4/4, Ms4.2/23, Ms7 3.9/24*

MOS ***12*** *03:40:53.8±1.0, 38°.59N×70°.14E, h56km, mb4.9/37, MS4.0/12, Error ellipse: s-maj=4.5km s-min=3.1km az=69.6*

ISC 12 03:40:52.3±0.7,**38°.50N**±0°.03×**70°.03E**±0°.03,**h29**km±4km, **n444**, σ1°**79**/460, **mb4.7**/134, **MS3.9**/45, **55C-25D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMJ	**Simiganj**	**0.82**	**281**		**Pb**	**03 41 06.7**	**-1.3**
BTK	**Batken**	**1.67**	**21**		**Pb**	**03 41 21.1**	**-1.3**
BTK	**Batken**	**1.67**	**21**	⇓*i* Pn	**Pb**	**03 41 20.7**	**-1.7**
BTK				*i* S	**Sb**	**03 41 42.8**	**-0.3**
OHH	**Osh**	**2.94**	**46**	*i* Pn	**Pn**	**03 41 38.9**	**+1.8**
OHH				*i* S	**Sn**	**03 42 14.5**	**+3.1**
SFK	**Sufi-Kurgan**	**3.09**	**60**	*i* Pn	**Pn**	**03 41 41.6**	**+2.2**
SFK				*i* S	**Sn**	**03 42 19.3**	**+3.8**
TRKS	**Terek-Say**	**3.14**	**15**	*i* Pn	**Pn**	**03 41 40.1**	**+0.1**
TRKS				*i* S	**Sn**	**03 42 16.3**	**-0.4**
ARK	**Arkit**	**3.61**	**24**	*i* Pn	**Pn**	**03 41 47.8**	**+1.4**
ARK				*i* S	**Sn**	**03 42 29.6**	**+1.5**
KBL	**Kabul**	**4.03**	**192**	Pn	**Pn**	**03 41 55.9**	**+3.6**
KBL	**Kabul**	**4.03**	**192**	PN	**Pn**	**03 41 55.9**	**+3.6**
DZA	**Taraz**	**4.50**	**12**	Pg	**Pn**	**03 42 02.6**	**+4.1**
	1μm,0.6s						
DZA				Lg	Lg	03 42 57.4	
	3μm,0.8s						
AML	**Almayashu**	**4.58**	**37**	P	**Pn**	**03 42 01.4**	**+1.4**
	SNR=18						
AML	**Almayashu**	**4.58**	**37**	⇑Pn	**Pn**	**03 42 01.1**	**+1.1**
	2.9nm,0.6s						
AML				⇓Pg	**Pb**	**03 42 12.0**	**-0.2**
	27nm,0.6s						
AML				⇓Sn	**Sn**	**03 42 53.0**	**+0.6**
	31nm,0.6s						
AML				⇑Lg	Lg	03 43 16.7	
	116nm,0.8s						
AML	**Almayashu**	**4.58**	**37**	PN	**Pn**	**03 42 01.1**	**+1.1**
AML						03 42 52.8	
KK31	**Karatay Array**	**4.61**	**4**	⇓Pn	**Pn**	**03 42 02.1**	**+2.1**
	52nm,0.5s,baz=168,slow=12,SNR=1016						
KK31				Pg	**Pb**	**03 42 14.5**	**+2.1**
	112nm,0.6s,baz=176,slow=12,SNR=11						
KK31				⇑Lg	Lg	03 43 14.4	
	645nm,0.7s,baz=180,slow=24,SNR=3.9						
KK31	**Karatay Array**	**4.61**	**4**		**Pn**	**03 42 02.2**	**+2.1**
KK31	**Karatay Array**	**4.61**	**4**	*e*PN	**Pn**	**03 42 02.1**	**+2.1**
KKAR	**Karatay Array**	**4.61**	**4**	Pn	**Pn**	**03 42 02.2**	**+2.1**
KKAR	**Karatay Array**	**4.61**	**4**	PN	**Pn**	**03 42 02.2**	**+2.1**
ARLS	**Aral**	**4.70**	**43**	⇓*i* PN	**Pn**	**03 42 02.8**	**+1.4**
ARLS				*i* S	**Sn**	**03 42 56.8**	**+1.8**
KSH	**Kashi**	**4.74**	**76**	P	**Pn**	**03 41 58.9**	**-3.0**
KSH				S	**Sn**	**03 42 52.0**	**-4.0**
KSH				smax	smax		
	comp=N,750nm,1.2s						
KSH				smax	smax		
	comp=E,680nm,1.3s						
MRKS	**Merke**	**4.89**	**29**	Pg	**Pb**	**03 42 18.2**	**+1.0**
	164nm,0.6s						
MRKS				Lg	Lg	03 43 24.0	
	426nm,0.6s						
EKS2	**Erkin-Say**	**5.04**	**33**	P	**Pn**	**03 42 06.7**	**+0.6**
	SNR=16						
UCH	**Uchtor**	**5.06**	**41**	P	**Pn**	**03 42 08.1**	**+1.5**
	SNR=51						
UCH	**Uchtor**	**5.06**	**41**	*i* PN	**Pn**	**03 42 08.1**	**+1.5**
UCH				*i* S	**Sn**	**03 43 05.4**	**+1.1**
AAK	**Ala-Archa**	**5.35**	**38**	P	**Pn**	**03 42 10.5**	**+0.2**
	SNR=23						
AAK	**Ala-Archa**	**5.35**	**38**	Pn	**Pn**	**03 42 12.0**	**+1.7**
AAK	**Ala-Archa**	**5.35**	**38**	*ce*PN	**Pn**	**03 42 13.0**	**+2.7**
AAK				pmax	pmax		
	comp=Z,15nm,0.5s						
AAK	**Ala-Archa**	**5.35**	**38**	Pn	**Pn**	**03 42 11.7**	**+1.4**
	comp=Z,8.8nm,0.3s,baz=212,slow=5.9,SNR=46						
AAK				Sn	**Sn**	**03 43 15.9**	**+4.8**
	comp=Z,12nm,0.3s,baz=243,slow=17,SNR=3.5						
AAK				Lg	Lg	03 43 38.8	
	comp=Z,14nm,0.3s,baz=327,slow=22,SNR=6.0						
AAK				LR	LR	03 44 41.5	
	comp=Z,799nm,19.4s,baz=229,slow=43 comp=Z,23nm,0.5s						
KZA	**Kyzart**	**5.36**	**47**	P	**Pn**	**03 42 12.6**	**+1.9**
	SNR=18						
NRN	**Naryn**	**5.44**	**56**	Pn	**Pn**	**03 42 11.9**	**+0.2**
NRN	**Naryn**	**5.44**	**56**	PN	**Pn**	**03 42 12.0**	**+0.2**
NIL	**Nilore**	**5.50**	**151**	Pn	**Pn**	**03 42 15.7**	**+3.4**
NIL	**Nilore**	**5.50**	**151**	PN	**Pn**	**03 42 15.7**	**+3.4**
FRU1	**Bishkek**	**5.54**	**38**		**Pn**	**03 42 17.0**	**+4.1**
FRU1	**Bishkek**	**5.54**	**38**	PN	**Pn**	**03 42 17.0**	**+4.1**
KBK	**Karagaybulak**	**5.59**	**40**	P	**Pn**	**03 42 15.9**	**+2.3**
	SNR=16						
KBK	**Karagaybulak**	**5.59**	**40**	⇓*i* PN	**Pn**	**03 42 15.4**	**+1.8**
KBK				*i* S	**Sn**	**03 43 17.7**	**+0.7**
CHMS	**Chumysh**	**5.75**	**37**	P	**Pn**	**03 42 17.1**	**+1.4**
	SNR=15						
CHMS	**Chumysh**	**5.75**	**37**	⇑Pn	**Pn**	**03 42 16.6**	**+1.0**
	comp=Z,4.8nm,0.4s						
CHMS				⇑Sn	**Sn**	**03 43 25.1**	**+4.4**
	comp=Z,61nm,0.6s						
CHMS				⇓Lg	Lg	03 43 53.8	
	comp=Z,331nm,0.8s						
CHMS	**Chumysh**	**5.75**	**37**	PN	**Pn**	**03 42 16.6**	**+1.0**
CHMS				S	**Sn**	**03 43 25.9**	**+5.2**
USP	**Ospenovka**	**5.84**	**34**	P	**Pn**	**03 42 18.1**	**+1.1**
	SNR=16						
ULHL	**Ulahol**	**6.04**	**50**	P	**Pn**	**03 42 20.8**	**+0.9**
	SNR=29						
SGDS	**Sogindy**	**6.05**	**34**	Pg	**Pb**	**03 42 38.4**	**+1.5**
	comp=Z,67nm,1.0s						
SGDS				Lg	Lg	03 43 58.5	
	comp=Z,192nm,0.9s						
SGDS	**Sogindy**	**6.05**	**34**	*e*PN	**Pn**	**03 42 20.8**	**+1.0**
SGDS				*e*S	**Sn**	**03 43 29.9**	**+1.8**
SGDS				pmax	pmax		
	comp=Z,12nm,0.7s						
SGDS	**Sogindy**	**6.05**	**34**	*e*P	**Pn**	**03 42 20.8**	**+1.0**
	comp=Z,12nm,0.7s,baz=33						
SGDS				*e*S	**Sn**	**03 43 30.0**	**+1.8**
	baz=33						
TKM2	**Tokmak 2**	**6.11**	**42**	P	**Pn**	**03 42 22.1**	**+1.3**
	SNR=31						
TKM2	**Tokmak 2**	**6.11**	**42**	⇑Pn	**Pn**	**03 42 22.0**	**+1.1**
	comp=Z,10nm,0.5s						
TKM2				⇓Sn	**Sn**	**03 43 30.3**	**+0.4**
	comp=Z,63nm,0.6s						
TKM2				⇑Lg	Lg	03 44 07.5	
	comp=Z,149nm,1.1s						
TKM2	**Tokmak 2**	**6.11**	**42**	PN	**Pn**	**03 42 22.0**	**+1.1**
KST	**Kastek**	**6.39**	**43**	Pg	Pb	03 42 46.5	+3.7
	comp=Z,72nm,0.9s						
KST				Lg	Lg	03 44 12.8	
	comp=Z,193nm,0.8s						
IZV	**Izvestkoviy**	**6.74**	**46**	Pg	**Pb**	**03 42 52.3**	**+3.5**
	comp=Z,21nm,1.2s						
IZV				Lg	Lg	03 44 23.2	
	comp=Z,161nm,0.7s						
TARG	**Taragay, Kyrgy**	**6.77**	**59**		**Pn**	**03 42 30.2**	**+0.1**
TARG	**Taragay, Kyrgy**	**6.77**	**59**	PN	**Pn**	**03 42 30.2**	**+0.1**
TNSS	**Tian-Shan**	**6.93**	**47**	*e*PN	**Pn**	**03 42 33.7**	**+1.4**
TNSS	**Tian-Shan**	**6.93**	**47**	*e*P	**Pn**	**03 42 33.8**	**+1.4**
	baz=47						
AAA	**Alma-Ata**	**7.02**	**46**	*e*PN	**Pn**	**03 42 35.1**	**+1.9**
	baz=45						
KNDC	**Almaty**	**7.06**	**46**	⇑Pn	**Pn**	**03 42 35.3**	**+1.6**
	comp=Z,17nm,0.4s						
KNDC				⇓Lg	Lg	03 44 32.3	
	comp=Z,649nm,1.1s						
KNDC	**Almaty**	**7.06**	**46**	PN	**Pn**	**03 42 35.3**	**+1.6**
MDOK	**Medeo**	**7.07**	**47**	⇑Pn	**Pn**	**03 42 35.2**	**+1.2**
	comp=Z,4.5nm,0.5s						
MDOK				Lg	Lg	03 44 32.8	
	comp=Z,328nm,1.1s						
MDOK	**Medeo**	**7.07**	**47**	*e*PN	**Pn**	**03 42 34.7**	**+0.8**
MDOK				*e*S	**Sn**	**03 43 54.8**	**+1.4**
MDOK				MLR	MLR		
	comp=Z,377nm,10.0s						
MDOK	**Medeo**	**7.07**	**47**	*e*P	**Pn**	**03 42 34.8**	**+0.8**
	baz=46						
MDOK				*e*S	**Sn**	**03 43 54.9**	**+1.4**
	baz=46						
MDOK				LR	LR	03 44 38.8	
	comp=Z,377nm,10.3s,baz=46						
KUU	**Kurty**	**7.18**	**39**	Pg	**Pb**	**03 42 58.7**	**+2.5**
	comp=Z,65nm,0.9s						
KUU				Lg	Lg	03 44 33.5	
	comp=Z,189nm,0.7s						
KUU	**Kurty**	**7.18**	**39**	*e*PN	**Pn**	**03 42 35.8**	**+0.4**
KUU				*e*S	**Sn**	**03 43 57.9**	**+1.9**
KUU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KUU				MLR	MLR		
	comp=Z,431nm,12.0s						
KUU	**Kurty**	**7.18**	**39**	*e*P	**Pn**	**03 42 35.8**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=39						
KUU				*e*S	**Sn**	**03 43 58.0**	**+1.9**
	baz=39						
KUU				LR	LR	03 45 06.5	
	comp=Z,431nm,11.9s,baz=39						
BTLS	**Baital**	**7.19**	**23**	Pg	**Pb**	**03 42 55.4**	**-0.9**
	comp=Z,48nm,2.2s						
BTLS				Lg	Lg	03 44 27.3	
	comp=Z,65nm,0.8s						
BTLS	**Baital**	**7.19**	**23**	*e*PN	**Pn**	**03 42 36.8**	**+1.4**
BTLS	**Baital**	**7.19**	**23**	*e*P	**Pn**	**03 42 36.8**	**+1.4**
	baz=23						
CHKK	**Chushkaly**	**7.49**	**42**	*e*P	**Pn**	**03 42 40.5**	**+1.0**
CHKK	**Chushkaly**	**7.49**	**42**	*e*P	**Pn**	**03 42 40.6**	**+1.0**
	baz=42						
HRA	**Herat**	**7.50**	**239**	Pn	**Pn**	**03 42 40.5**	**+0.6**
SATY	**Saty**	**7.81**	**52**	*e*P	**Pn**	**03 42 45.0**	**+0.9**
SATY				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SATY	**Saty**	**7.81**	**52**	*e*P	**Pn**	**03 42 45.1**	**+0.9**
	comp=Z,6.1nm,0.7s,baz=51						
ZHN	**Zhinishke**	**7.89**	**51**	*e*P	**Pn**	**03 42 46.3**	**+1.1**
ZHN	**Zhinishke**	**7.89**	**51**	*e*P	**Pn**	**03 42 46.3**	**+1.1**
	baz=51						
DHRM	**DHARAMSHALA**	**8.07**	**139**	*e*P	**Pn**	**03 42 49.4**	**+1.7**
DHRM				*e*S	**Sn**	**03 44 18.3**	**+0.2**
ARXS	**Arharly**	**8.18**	**43**	*e*P	**Pn**	**03 42 50.4**	**+1.3**
KPKS	**Kokpek**	**8.21**	**50**	*e*P	**Pn**	**03 42 50.4**	**+0.9**
KPKS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KPKS	**Kokpek**	**8.21**	**50**	*e*P	**Pn**	**03 42 50.5**	**+0.9**
	comp=Z,4.8nm,0.7s,baz=50						
UZB	**Uzynbulak**	**8.24**	**53**	*e*P	**Pn**	**03 42 51.1**	**+1.0**
UZB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
UZB	**Uzynbulak**	**8.24**	**53**	*e*P	**Pn**	**03 42 51.1**	**+1.0**
	comp=Z,4.8nm,0.7s,baz=52						
SHLS	**Shalkode**	**8.53**	**54**	*e*P	Pn	03 42 58.6	+4.7
SHLS	**Shalkode**	**8.53**	**54**	*e*P	Pn	03 42 58.6	+4.7
	baz=55						
PDGK	**Podgornoye**	**8.63**	**53**	⇓P	**Pn**	**03 42 56.0**	**+0.7**
	comp=Z,46nm,0.8s						
PDGK	**Podgornoye**	**8.63**	**53**	P	**Pn**	**03 42 56.0**	**+0.7**
BHK	**Bhakra**	**8.80**	**142**	*e*P	**Pn**	**03 43 01.9**	**+4.3**
TDK	**Taldyqorghan**	**9.02**	**41**	*e*P	**Pn**	**03 43 01.8**	**+1.3**
TDK				MLR	MLR		
	comp=Z,198nm,12.0s						
TDK	**Taldyqorghan**	**9.02**	**41**	*e*P	**Pn**	**03 43 01.8**	**+1.3**
	baz=41						
TDK				LR	LR	03 45 50.1	
	comp=Z,198nm,11.6s,baz=41						
GEYT	**Alibeck**	**9.39**	**270**		**Pn**	**03 43 05.2**	**-0.6**
GEYT	**Alibeck**	**9.39**	**270**	P	**Pn**	**03 43 05.2**	**-0.6**
GEYT	**Alibeck**	**9.39**	**270**	Pn	**Pn**	**03 43 04.5**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=131,slow=8.1,SNR=11						
GEYT				Sn	**Sn**	**03 44 46.6**	**-3.9**
	comp=Z,14nm,0.3s,baz=85,slow=16,SNR=1.5						
GEYT				LR	LR	03 47 37.0	
	comp=Z,509nm,21.1s,baz=115,slow=43 comp=Z,3.4nm,0.4s						
GYA0	**ALIBECK ARRAY**	**9.39**	**270**	P	**Pn**	**03 43 06.8**	**+1.1**
GYA0B	**ALIBECK ARRAY**	**9.39**	**270**		**Pn**	**03 43 06.8**	**+1.0**
SMLA	**Simla**	**9.40**	**139**	*e*P	**Pn**	**03 43 05.2**	**-0.6**
SMLA				*e*S	**Sn**	**03 44 48.8**	**-1.9**
OTUK	**Ortayu**	**9.88**	**9**	⇑P	**Pn**	**03 43 14.2**	**+1.9**
	comp=Z,15nm,0.7s						
OTUK	**Ortayu**	**9.88**	**9**	P	**Pn**	**03 43 14.2**	**+1.9**
BRZS	**Berezniki**	**11.63**	**9**	*e*P	**Pn**	**03 43 37.2**	**+1.0**
BRZS	**Berezniki**	**11.63**	**9**	*e*P	**Pn**	**03 43 37.3**	**+1.0**
	baz=8.3						
MAKZ	**Makanchi**	**12.08**	**43**	⇓P	**Pn**	**03 43 43.1**	**+0.6**
	comp=Z,15nm,1.1s						
MAKZ	**Makanchi**	**12.08**	**43**	Pn	**Pn**	**03 43 43.1**	**+0.6**
MAKZ	**Makanchi**	**12.08**	**43**	P	**Pn**	**03 43 43.1**	**+0.6**
MK31	**Makanchi Array**	**12.24**	**43**	⇑P	**Pn**	**03 43 44.7**	**0.0**
	comp=Z,37nm,0.9s,baz=226,slow=10.0,SNR=146						
MK31	**Makanchi Array**	**12.24**	**43**		**Pn**	**03 43 45.1**	**+0.5**
MK31	**Makanchi Array**	**12.24**	**43**	*i* P	**Pn**	**03 43 44.3**	**-0.3**
MKAR	**Makanchi Array**	**12.24**	**43**	Pn	**Pn**	**03 43 44.7**	**+0.1**
MKAR	**Makanchi Array**	**12.24**	**43**	Pn	**Pn**	**03 43 45.3**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=228,slow=12,SNR=146						
MKAR				Lg	Lg	03 47 19.1	
	comp=Z,0.4nm,0.3s,baz=235,slow=26,SNR=2.3						
MKAR				LR	LR	03 48 30.4	
	comp=Z,150nm,19.7s,baz=244,slow=38 comp=Z,25nm,0.9s						
AJM	**Ajmer**	**12.60**	**161**	*e*P	Pn	03 43 54.2	+4.5
AB31	**Akbulak array**	**12.97**	**329**	P	**Pn**	**03 43 52.4**	**-2.2**
	comp=Z,32nm,0.4s,baz=141,slow=13,SNR=2007						
AB31				⇑S	**Sn**	**03 46 18.4**	**+0.7**
	comp=Z,136nm,1.1s,baz=154,slow=22,SNR=6.6						
AB31	**Akbulak array**	**12.97**	**329**	P	**Pn**	**03 43 52.3**	**-2.2**
ABKAR	**Akbulak array**	**12.97**	**329**	Pn	**Pn**	**03 43 53.2**	**-1.3**
KURBB	**Kurchatov Arra**	**13.54**	**24**	Pn	**Pn**	**03 44 00.3**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=16						
KURBB				Sn	**Sn**	**03 46 26.7**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=228,slow=21,SNR=3.7						
KURBB				Lg	Lg	03 47 55.4	
	comp=Z,0.4nm,0.3s,baz=227,slow=32,SNR=6.4						
KURBB				LR	LR	03 49 42.9	
	comp=Z,457nm,20.2s,baz=168,slow=39 comp=Z,1.2nm,0.5s						
KURK	**Kurchatov**	**13.64**	**24**	Pn	**Pn**	**03 44 03.6**	**-0.1**
KURK	**Kurchatov**	**13.64**	**24**	*ce*P	**Pn**	**03 44 06.8**	**+3.1**
KURK				pmax	pmax		
	comp=Z,17nm,1.3s						
SEM	**Semipalatinsk**	**13.95**	**28**	*e*P	**Pn**	**03 44 08.9**	**+0.9**
SEM				MLR	MLR		
	comp=Z,428nm,10.0s						
SEM	**Semipalatinsk**	**13.95**	**28**	*e*P	**Pn**	**03 44 09.0**	**+0.9**
	baz=28						
SEM				LR	LR	03 49 05.4	
	comp=Z,428nm,10.0s,baz=28						
ZSN	**Zaisan**	**14.05**	**46**	*e*P	**Pn**	**03 44 06.7**	**-2.6**
ZSN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZSN	**Zaisan**	**14.05**	**46**	*e*P	**Pn**	**03 44 06.7**	**-2.6**
	comp=Z,4.7nm,0.5s,baz=45						
WMQ	**Urumqi**	**14.32**	**63**	*e*P	**Pn**	**03 44 12.2**	**-0.9**
WMQ				pP	P	03 44 18.7	-1.2
WMQ				PP	**PnPn**	**03 44 26.3**	**+5.3**
WMQ				pmax	pmax		
	comp=Z,39nm,1.1s						
WMQ				LR	LR		
	comp=Z,440nm,12.7s						
WMQ				LR	LR		
	comp=Z,260nm,11.3s						
WMQ				LR	LR		
	comp=Z,160nm,14.9s						
BVA0	**Borovoye Array**	**14.53**	**1**	P	**Pn**	**03 44 15.0**	**-0.8**
	comp=Z,14nm,0.6s,baz=178,slow=11,SNR=74						
BVA0	**Borovoye Array**	**14.53**	**1**	*i* P	**Pn**	**03 44 15.0**	**-0.8**
BVAR	**Borovoye Array**	**14.53**	**1**	Pn	**Pn**	**03 44 13.9**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=166,slow=14,SNR=62						
BVAR				Lg	Lg	03 48 34.4	
	comp=Z,0.1nm,0.3s,baz=181,slow=26,SNR=2.5						
BVAR				LR	LR	03 50 19.8	
	comp=Z,442nm,20.1s,baz=180,slow=39 comp=Z,10nm,0.4s						
BRVK	**Borovoye**	**14.56**	**1**	⇑P	**Pn**	**03 44 14.7**	**-1.5**
	comp=Z,14nm,0.7s						
BRVK	**Borovoye**	**14.56**	**1**	Pn	**Pn**	**03 44 15.7**	**-0.5**
BRVK	**Borovoye**	**14.56**	**1**	*ce*P	**Pn**	**03 44 16.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,27nm,1.3s						
AKTO	**Aktyubinsk**	**14.67**	**328**	⇑P	**Pn**	**03 44 17.2**	**-0.6**
	comp=Z,7.3nm,0.5s						
AKTO				⇑S	**Sn**	**03 47 01.7**	**+2.5**
	comp=Z,32nm,1.1s						
AKTO	**Aktyubinsk**	**14.67**	**328**	Pn	**Pn**	**03 44 17.0**	**-0.7**
	comp=Z,24nm,0.6s,baz=137,slow=13,SNR=92						
AKTO				Sn	**Sn**	**03 46 54.0**	**-5.2**
	comp=Z,3.0nm,0.3s,baz=347,slow=17,SNR=2.4						
AKTO				Lg	Lg	03 48 46.1	
	comp=Z,1.1nm,0.3s,baz=33,slow=16,SNR=1.5						
AKTO				LR	LR	03 50 30.1	
	comp=Z,396nm,20.0s,baz=228,slow=39						
LKRN	**Lenkeran, Azer**	**16.61**	**277**	P	**P**	**03 44 46.9**	**+1.6**
DGZ	**Jazzator, Alta**	**16.73**	**42**	*i* P	**Pn**	**03 44 43.0**	**-1.7**
DGZ				pmax	pmax		
	comp=Z,41nm,0.6s						
MAK	**Makhachkala**	**17.63**	**292**	*d i* P	**Pn**	**03 44 55.4**	**-0.3**
MAK				*e*S	**Sn**	**03 48 10.7**	**-0.4**
MAK				pmax	pmax		
	comp=Z,1μm,2.6s						
MAK				MLR	MLR		
	comp=Z,2μm,15.0s						
SEKA	**Sheki**	**17.73**	**286**	P	**P**	**03 44 59.7**	**+2.0**
MNGR	**Mingechevir, A**	**17.81**	**285**	P	**P**	**03 45 01.3**	**+2.8**
WSAR	**Wadi Sarin**	**18.06**	**216**	LR	LR	03 53 36.0	
	comp=Z,95nm,20.9s,baz=64,slow=43						
ZKTA	**Zakatala**	**18.18**	**287**	P	**P**	**03 45 05.2**	**+2.6**
GANJ	**Ganja**	**18.39**	**284**	P	**Pn**	**03 45 07.8**	**+2.7**
ZAA0	**Zalesovo Array**	**18.47**	**28**	⇓P	**P**	**03 45 03.4**	**-2.3**
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**18.47**	**28**	P	**P**	**03 45 03.9**	**-1.7**
ZALV	**Zalesovo Beam**	**18.47**	**28**	*i* P	**P**	**03 45 04.0**	**-1.7**
ZALV				pmax	pmax		
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**18.47**	**28**	P	**P**	**03 45 04.2**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=222,slow=12,SNR=23						
ZALV				LR	LR	03 52 40.9	
	comp=Z,324nm,21.0s,baz=174,slow=38 comp=Z,12nm,0.6s						
AKL	**Akola**	**18.74**	**159**	*e*P	**Pn**	**03 45 09.7**	**+0.3**
NAX	**Nakhchivan**	**19.11**	**280**	P	**Pn**	**03 45 16.3**	**+2.4**
SVE	**Sverdlovsk**	**19.36**	**344**	*e*P	**Pn**	**03 45 16.4**	**-0.2**
SVE				*e*S	**Sn**	**03 48 48.0**	**-4.8**
SVE				pmax	pmax		
	comp=Z,23nm,0.8s						
SVE				MLR	MLR		
	comp=Z,901nm,11.0s						
ARU	**Arti**	**19.49**	**341**	P	**P**	**03 45 16.0**	**-0.8**
ARU	**Arti**	**19.49**	**341**	*c i* P	**Pn**	**03 45 19.1**	**+0.9**
ARU				pmax	pmax		
	comp=Z,27nm,0.8s						
ARU				MLR	MLR		
	comp=Z,1μm,14.0s						
ARU	**Arti**	**19.49**	**341**	P	**P**	**03 45 16.3**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=166,slow=7.2,SNR=20						
ARU				S	**S**	**03 48 47.1**	**-8.2**
	comp=Z,9.8nm,0.4s,baz=72,slow=22,SNR=3.6						
ARU				Lg	Lg	03 51 14.2	
	comp=Z,0.4nm,0.3s,baz=159,slow=23,SNR=1.0						
ARU				LR	LR	03 53 45.9	
	comp=Z,540nm,20.2s,baz=148,slow=40 comp=Z,15nm,0.4s						
LSA	**Lhasa**	**19.54**	**110**	P	**P**	**03 45 15.7**	**-2.3**
LSA	**Lhasa**	**19.54**	**110**	P	**P**	**03 45 15.7**	**-2.3**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s						
GNI	**Garni**	**19.62**	**283**	*i* P	**Pn**	**03 45 21.7**	**+1.7**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GNI	**Garni**	**19.62**	**283**	P	**Pn**	**03 45 21.9**	**+1.9**
	comp=Z,17nm,0.9s,baz=191,slow=12,SNR=3.9						
GNI				LR	LR	03 54 21.3	
	comp=Z,187nm,18.5s,baz=78,slow=41						
GOMU	**GeErMu**	**19.82**	**89**	P	**P**	**03 45 21.6**	**+0.6**
GOMU				pP	pP	03 45 29.1	-0.3
GOMU				sP	sP	03 45 34.5	+1.2
GOMU				S	**S**	**03 48 57.3**	**-5.7**
GOMU				pmax	pmax		
	comp=Z,11nm,0.7s						
GOMU				LR	LR		
	comp=Z,150nm,12.9s						
GOMU				LR	LR		
	comp=Z,220nm,12.8s						
GOMU				LR	LR		
	comp=Z,270nm,12.6s						
BOK	**Bokaro**	**19.93**	**133**	*e*P	**P**	**03 45 21.5**	**-0.4**
ZEI	**Tsey**	**20.25**	**291**	*e*P	Pn	03 45 28.1	+0.6
ZEI				pmax	pmax		
	comp=Z,28nm,1.5s						
**A

comp=Z,165nm,6.0s
GTA Gaotai 23.14 78 *e*P **P** **03 45 55.6 -0.6**
GTA pP pP 03 46 02.1 -2.7
GTA pmax pmax
comp=Z,21nm,1.0s
GTA LR LR
comp=Z,250nm,16.4s
GTA LR LR
comp=Z,220nm,17.8s
GTA LR LR
comp=Z,270nm,18.5s
SOC Sochi 23.35 292 *e*P **P** **03 45 55.6 -2.5**
SOC *e*PPP PPP 03 46 30.2
SOC *e*S **S** **03 50 06.6 -2.4**
SOC *e*SSS SSS 03 50 58.9
SOC MLR MLR
comp=Z,211nm,15.0s
VRH Novokhopyorsk 23.58 312 *e*P **P** **03 46 05.2 +4.9**
VRH pmax pmax
comp=Z,60nm,0.7s
VIS Vishakhapatnam 23.74 147 *e*P **P** **03 46 01.5 -0.6**
VIS IAmb IAmb 03 46 03.5
comp=Z,8.3nm,0.8s
MOKO MOKOCHONG 23.90 113 *e*P **P** **03 46 01.8 -1.9**
MOKO IAmb IAmb 03 46 03.8
comp=Z,16nm,0.8s
KOHI KOHIMA 23.97 115 *e*P **P** **03 46 03.8 -0.7**
KOHI IAmb IAmb 03 46 06.6
comp=Z,52nm,1.2s
KIRV Kirov 24.11 333 *ce*P **P** **03 46 06.3 +1.1**
KIRV Kirov 24.11 333 LR LR 03 56 23.5
comp=Z,157nm,21.9s,baz=111,slow=38
AZL Aizawl 24.26 121 *e*P **P** **03 46 07.0 -0.1**
AZL IAmb IAmb 03 46 11.2
comp=Z,16nm,1.0s
IMP Imphal 24.41 117 *e*P **P** **03 46 09.2 +0.8**
IMP IAmb IAmb 03 46 15.1
comp=Z,16nm,0.6s
ARPR Arapgir-MALATY 24.65 281 IAmb IAmb 03 46 25.9
comp=Z,22nm,0.9s
ANN Anapa 25.04 295 *e*P **P** **03 46 12.4 -1.5**
ANN *e**PP **sP** **03 46 23.0 -3.4**
ANN *e*S **S** **03 50 37.4 +1.2**
ANN pmax pmax
comp=Z,114nm,1.4s
ANN MLR MLR
comp=Z,708nm,19.0s
VSR Storozhevoye 25.10 310 *e*P **P** **03 46 13.4 -0.9**
VSR pmax pmax
comp=Z,30nm,0.7s
VORR Voronezh 25.22 312 *e*P **P** **03 46 15.0 -0.4**
VORR pmax pmax
comp=Z,30nm,1.1s
MOY Mondy 25.30 49 *e*P **P** **03 46 16.8 +0.5**
MOY pmax pmax
comp=Z,31nm,1.8s
LPSR Galich'ya Gora 25.70 313 *e*P **P** **03 46 20.3 +0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
ZAK Zakamensk 26.32 52 *e*P **P** **03 46 24.8 -0.7**
ZAK pmax pmax
comp=Z,14nm,1.2s
LZH Lanzhou 26.92 85 *e*P **P** **03 46 32.1 +0.9**
LZH sP sP 03 46 40.5 -3.4
LZH pmax pmax
comp=Z,22nm,1.1s
LZH LR LR
comp=Z,350nm,17.2s
LZH LR LR
comp=Z,440nm,17.9s
LZH LR LR
comp=Z,370nm,15.5s
SIM Simferopol' 27.41 295 *e*P **P** **03 46 33.2 -2.0**
SIM pmax pmax
comp=Z,68nm,1.1s
SIM MLR MLR
comp=Z,41nm,15.1s
TNCH TengChong 27.57 111 P **P** **03 46 38.2 +1.1**
TNCH pmax pmax
comp=Z,280nm,4.1s
MOS Moscow 27.63 319 *e*P **P** **03 46 37.0 -0.1**
MOS *e* 03 47 23.5
MOS pmax pmax
comp=Z,35nm,0.6s
SONM Songino Array 27.89 59 P **P** **03 46 39.7 0.0**
SONM Songino Array 27.89 59 P **P** **03 46 39.7 0.0**
SONM pmax pmax
comp=Z,11nm,1.5s
SONM Songino Array 27.89 59 P **P** **03 46 39.5 -0.2**
comp=Z,2.4nm,0.7s,baz=259,slow=8.9,SNR=16
SONM PcP **PcP** **03 49 54.8 0.0**
comp=Z,1.0nm,0.6s,baz=216,slow=3.1,SNR=4.2
SONM LR LR 03 58 45.0
comp=Z,248nm,19.1s,baz=166,slow=39
comp=Z,2.4nm,0.7s
OBN Obninsk 27.93 317 P **P** **03 46 39.9 +0.1**
OBN Obninsk 27.93 317 *i* P **P** **03 46 38.5 -1.3**
OBN *i* 03 46 58.1
OBN *i* 03 47 51.0
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,127nm,15.0s
BR131 Keskin Array S 28.14 284 P **P** **03 46 42.6 +0.5**
BR131 Keskin Array S 28.14 284 P **P** **03 46 42.6 +0.5**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 28.14 284 P **P** **03 46 42.9 +0.8**
comp=Z,0.7nm,0.6s,baz=97,slow=10,SNR=1.8
comp=Z,0.7nm,0.6s
ULN Ulaanbaatar 28.34 59 P **P** **03 46 43.2 -0.6**
ULN Ulaanbaatar 28.34 59 ⇑P **P** **03 46 43.1 -0.6**
ULN Ulaanbaatar 28.34 59 P **P** **03 46 42.4 -1.3**
comp=Z,43nm,1.0s
CD2 Chengdu 28.62 95 P **P** **03 46 45.9 -0.4**
PZH PanZhiHua 29.16 105 P **P** **03 46 51.8 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,170nm,6.3s
KLMR Klimovskoe 29.36 330 *e*P **P** **03 46 51.8 -0.7**
KLMR pmax pmax
comp=Z,20nm,1.5s
EIL Elat 30.21 264 LR LR 04 01 50.0
comp=Z,163nm,18.3s,baz=67,slow=42
KMI Kunming 30.66 106 ⇑P **P** **03 47 05.8 +1.2**
KMI pmax pmax
comp=Z,17nm,0.7s
AKASG Malin Array Be 31.11 306 *i* P **P** **03 47 08.5 +0.4**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 31.11 306 P **P** **03 47 08.6 +0.6**
comp=Z,1.8nm,0.6s,baz=81,slow=7.6,SNR=15
AKASG PcP **PcP** **03 50 02.6 -0.2**
comp=Z,1.4nm,0.6s,baz=75,slow=2.6,SNR=4.1
AKASG LR LR 04 02 07.1
comp=Z,190nm,18.3s,baz=36,slow=41
comp=Z,1.8nm,0.6s
AKBB Malin Array Si 31.11 306 P **P** **03 47 07.3 -0.8**
AKBB IAmb IAmb 03 47 17.1
comp=Z,14nm,0.8s
AKBB Malin Array Si 31.11 306 *ce*P **P** **03 47 08.6 +0.5**
AKBB pmax pmax
comp=Z,13nm,0.7s
KIEV Kiev 31.12 306 ⇑P **P** **03 47 08.9 +0.8**
KIEV Kiev 31.12 306 P **P** **03 47 07.5 -0.6**
KIEV IAmb IAmb 03 47 17.1
comp=Z,12nm,0.7s
KIEV Kiev 31.12 306 ⇑P **P** **03 47 08.9 +0.8**
SORM Soroca 31.47 301 ⇑P **P** **03 47 12.0 +0.7**
SORM Soroca 31.47 301 ⇑P **P** **03 47 12.0 +0.7**
VLDR Vladesti 31.65 297 ⇑P **P** **03 47 14.9 +2.1**
HHC Hu-ho-hao-te 31.84 72 *e*P **P** **03 47 16.6 +1.9**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.5s
PANC Panciu 32.30 297 ⇑P **P** **03 47 21.1 +2.6**
NRIK Noril'sk 32.31 12 P **P** **03 47 18.9 +0.5**
NRIK IAmb IAmb 03 47 25.0
comp=Z,12nm,1.1s
NRIK Noril'sk 32.31 12 *ce*P **P** **03 47 18.6 +0.2**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 32.31 12 P **P** **03 47 19.0 +0.6**
comp=Z,4.7nm,0.6s,baz=198,slow=5.2,SNR=9.1
comp=Z,4.7nm,0.6s
DGPR DIGLIPUR 32.39 135 *e*P **P** **03 47 20.4 +0.8**
DGPR IAmb IAmb 03 47 22.4
comp=Z,34nm,0.8s
MNK Minsk 32.55 313 *i* P **P** **03 47 19.8 -0.9**
comp=E,4.0nm,0.8s
MNK *i* P **P** **03 47 19.8 -0.9**
comp=N,11nm,0.9s
MNK *i* P **P** **03 47 19.8 -0.9**
comp=Z,6.0nm,0.9s,baz=102
MNK *i* PP **PnPn** **03 48 28.1 -0.3**
MNK *i* PPP PPP 03 48 38.8
MNK *i* S **S** **03 52 34.1 +0.1**
MNK *i* SS **SnSn** **03 54 31.4 +2.4**
MNK *i* SSS SSS 03 54 47.7
MNK *i* LQ LQ 03 59 07.2
MNK *i* LR LR 04 00 36.4
MNK *i* LRM MLR 04 03 06.9
comp=E,147nm,19.3s
MNK *i* LRM MLR 04 03 11.4
comp=N,140nm,16.1s
MNK *i* LRM MLR 04 03 20.5
comp=Z,351nm,16.8s
MNK Minsk 32.55 313 *i* P **P** **03 47 19.7 -0.9**
MNK *i* 03 48 28.0
MNK *i* 03 50 05.1
MNK *i* S **S** **03 52 34.1 +0.1**
MNK *i* SS **SnSn** **03 54 31.3 +2.4**
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK MLR MLR
comp=E,147nm,19.0s
MNK MLR MLR
comp=N,140nm,16.0s
MNK MLR MLR
comp=Z,351nm,17.0s
PALK Palkekele 32.55 160 LR LR 04 01 06.1
comp=Z,216nm,19.3s,baz=89,slow=38
VRI Vrincioaia 32.59 297 ⇑P **P** **03 47 23.8 +2.6**
VRI Vrincioaia 32.59 297 ⇑P **P** **03 47 23.8 +2.6**
TESR Tescani 32.63 298 ⇑P **P** **03 47 22.9 +1.5**
PLOR Plostina 32.65 297 ⇑P **P** **03 47 24.0 +2.3**
PLOR Plostina 32.65 297 ⇑P **P** **03 47 24.0 +2.3**
COVR Voineasa-Covas 32.96 297 ⇑P **P** **03 47 26.3 +1.9**
TURR Turia 33.08 298 ⇑P **P** **03 47 27.5 +2.1**
MLR Muntele Rosu 33.16 297 ⇓P **P** **03 47 28.9 +2.6**
MLR Muntele Rosu 33.16 297 ⇓P **P** **03 47 28.9 +2.6**
NACGM Naroch 33.26 314 *e*P P 03 47 34.2 +7.3
comp=E,1μm,1.0s
ELND Elena 33.47 292 ⇑P **P** **03 47 30.6 +1.8**
DOPR Dopca 33.52 297 ⇓P **P** **03 47 31.2 +1.9**
BURAR Bucovina Array 33.58 300 ⇑P **P** **03 47 31.4 +1.6**
BURAR Bucovina Array 33.58 300 P **P** **03 47 29.9 +0.1**
BURAR IAmb IAmb 03 47 40.3
comp=Z,8.7nm,0.8s
BURAR Bucovina Array 33.58 300 ⇑P **P** **03 47 31.4 +1.6**
VOIR 33.80 297 ⇓P **P** **03 47 33.4 +1.7**
VOIR 33.80 297 ⇓P **P** **03 47 33.4 +1.7**
ARR Arges 34.09 296 ⇓P **P** **03 47 36.1 +1.8**
LYN LuoYang 34.11 83 ⇑P **P** **03 47 35.0 +0.5**
LYN pP sP 03 47 45.1 -2.2
LYN sP pP 03 47 51.7 +8.1
LYN PP **PnPn** **03 48 48.6 +0.2**
LYN pmax pmax
comp=Z,16nm,1.2s
LYN pmax pmax
comp=Z,320nm,5.7s
LYN LR LR
comp=Z,270nm,13.7s
LYN LR LR
comp=Z,480nm,15.5s
LYN LR LR
comp=Z,350nm,12.2s
VSU Vasula 34.15 320 *i* P **P** **03 47 35.7 +1.2**
VSU pmax pmax
comp=Z,14nm,0.9s
VSU Vasula 34.15 320 *e*P **P** **03 47 34.9 +0.4**
BOD Bodaibo 34.32 41 *e*P **P** **03 47 35.3 -0.7**
BOD pmax pmax
comp=Z,25nm,0.9s
LVV L'vov 34.37 304 *e*P P 03 47 42.8 +6.2
LVV *e*S **S** **03 53 05.2 +2.8**
LVV *e*SS **SnSn** **03 55 10.8 -2.5**
LVV MLR MLR
comp=Z,200nm,14.0s
LOT Lotru 34.69 297 ⇓P **P** **03 47 41.6 +2.1**
CJR Cluj-Napoca 34.72 299 ⇑P **P** **03 47 42.1 +2.4**
CJR Cluj-Napoca 34.72 299 ⇑P **P** **03 47 42.1 +2.4**
MARR Marisel-Cluj 35.05 299 ⇑P **P** **03 47 44.3 +1.7**
SRDT SRDT 35.19 125 P **P** **03 47 42.2 -1.8**
comp=Z,43nm,1.0s
DEV Deva 35.26 298 ⇓P **P** **03 47 46.7 +2.4**
DEV Deva 35.26 298 ⇓P **P** **03 47 46.7 +2.4**
FIA1 FINESS Array S 35.40 325 P **P** **03 47 45.2 0.0**
FINES FINESS Array B 35.40 325 P **P** **03 47 45.0 -0.3**
FINES FINESS Array B 35.40 325 P **P** **03 47 45.0 -0.3**
FINES FINESS Array B 35.40 325 P **P** **03 47 45.9 +0.6**
comp=Z,5.3nm,0.5s,baz=115,slow=9.4,SNR=55
FINES LR LR 04 02 55.0
comp=Z,286nm,18.2s,baz=139,slow=37
comp=Z,5.3nm,0.5s
BJI Beijing 35.45 73 P **P** **03 47 46.4 +0.4**
APA Apatity 35.49 337 ⇓*i*P **P** **03 47 44.3 -1.7**
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,1μm,10.0s
KOLS Kolonicke sedl 35.52 303 *e*P **P** **03 47 48.9 +2.4**
KOLS Kolonicke sedl 35.52 303 *e*P **P** **03 47 48.9 +2.4**
BLKB Belogradchik 35.69 294 ⇓P **P** **03 47 49.7 +1.7**
MTSE Matsula 35.69 320 *e*P **P** **03 47 48.5 +0.7**
MEF Metsahovi 35.80 322 *e*P **P** **03 47 49.4 +0.7**
SURR Surduc 35.81 297 ⇑P **P** **03 47 51.4 +2.3**
SIRR Siria 36.09 298 ⇑P **P** **03 47 54.0 +2.6**
BZS Buzias 36.18 297 ⇑P **P** **03 47 54.0 +1.9**
BZS Buzias 36.18 297 ⇑P **P** **03 47 54.1 +1.9**
BOVS Bovan 36.38 294 ⇑P **P** **03 47 55.2 +1.3**
WHN Wuhan 37.08 89 ⇓P **P** **03 48 00.6 +0.6**
WHN pP **pP** **03 48 09.2 0.0**
WHN pmax pmax
comp=Z,70nm,1.0s
OJC Ojcow 37.10 305 P **P** **03 48 00.0 0.0**
OJC Ojcow 37.10 305 P **P** **03 48 00.0 0.0**
OJC pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 37.81 302 *e*P P 03 48 11.7 +5.6
VYHS Vyhne 37.81 302 *e*P P 03 48 11.7 +5.6
VADS Vadso 38.17 339 *e*P **P** **03 48 09.5 +0.8**
MORH Mrgy, Hungar 38.17 299 ⇑P **P** **03 48 11.3 +2.2**
JAVC Velka Javorina 38.56 303 *e*P P 03 48 19.8 +7.4
MORC Moravsky Berou 38.58 304 *e*P P 03 48 17.4 +4.9
ARA0 ARCESS Array S 39.00 337 *e*P **P** **03 48 16.3 +0.5**
ARCES ARCESS Array B 39.00 337 P **P** **03 48 15.0 -0.8**
ARCES ARCESS Array B 39.00 337 P **P** **03 48 15.0 -0.8**
ARCES pmax pmax
comp=Z,106nm,2.0s
ARCES ARCESS Array B 39.00 337 P **P** **03 48 16.3 +0.6**
comp=Z,3.9nm,0.5s,baz=106,slow=7.6,SNR=39
ARCES LR LR 04 05 15.1
comp=Z,353nm,18.4s,baz=125,slow=38
comp=Z,3.9nm,0.5s
VRAC Vranov 39.23 304 *e*P **P** **03 48 20.8 +2.9**
VRAC Vranov 39.23 304 LR LR 04 05 30.2
comp=Z,92nm,20.1s,baz=82,slow=38
DPC Dobruska-Polom 39.33 305 *e*P **P** **03 48 23.1 +4.3**
DPC Dobruska-Polom 39.33 305 *e*P **P** **03 48 23.1 +4.3**
KRUC Moravsky 39.38 303 *e*P P 03 48 24.2 +5.1
KTK1 Kautokeino 39.48 336 *e*P **P** **03 48 19.9 +0.2**
KTK1 IAmb IAmb 03 48 20.4
comp=Z,12nm,0.5s
CHVC Chvalec 39.48 306 *e*P P 03 48 26.2 +6.2
CHVC Chvalec 39.48 306 *e*P P 03 48 26.2 +6.2
RONA Rosalia, Austr 39.59 301 *i* pP **P** **03 48 24.0 +3.0**
comp=Z,3.5nm,0.8s
RONA *e*PP **PP** **03 49 51.1 -0.8**
comp=Z,0.8nm,0.5s
CONA Conrad Observa 39.85 302 *i* pP **P** **03 48 26.1 +2.9**
comp=Z,9.0nm,1.2s
NJ2 Nanjing 40.00 84 *e*P **P** **03 48 24.3 -0.2**
NJ2 pmax pmax
comp=Z,14nm,0.9s
HAMF Hammerfest 40.08 338 *e*P **P** **03 48 25.6 +0.8**
HAMF IAmb IAmb 03 48 30.5
comp=Z,48nm,1.0s
ARSA Arzberg 40.16 301 *i* pP **P** **03 48 27.6 +1.9**
comp=Z,5.5nm,1.0s
ARSA *e*PP **PnPn** **03 50 05.0 +3.1**
comp=Z,2.0nm,0.6s
SOKA Soboth 40.58 300 *i* P **P** **03 48 29.0 -0.2**
comp=Z,12nm,1.2s
JETT Jettan, Norway 40.62 336 *e*P **P** **03 48 29.4 +0.2**
CKRC Cesky Krumlov 40.77 303 *e*P **P** **03 48 35.1 +4.4**
CKRC Cesky Krumlov 40.77 303 *e*P **P** **03 48 35.1 +4.4**
ZVC Zvikov 40.78 304 *e*P **P** **03 48 34.6 +3.9**
BRG Berggiesshubel 40.80 306 *e*P **P** **03 48 34.3 +3.3**
BRG Amp 03 48 34.6
comp=Z,3.5nm,0.9s
BRG Berggiesshubel 40.80 306 P P 03 48 37.6 +6.7
BRG Amp 03 48 39.9
comp=Z,7.9nm,0.8s
BRG Amp 04 08 11.0
comp=E,0.2nm,13.0s
BRG Amp 04 08 15.0
comp=Z,0.3nm,15.8s
BRG Amp 04 08 20.0
comp=N,0.3nm,17.6s
BRG Berggiesshubel 40.80 306 *e*P **P** **03 48 34.2 +3.3**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=E,240nm,13.0s
BRG MLR MLR
comp=Z,252nm,15.8s
BRG MLR MLR
comp=N,254nm,17.6s
MOA Molln 40.92 302 *e*P **P** **03 48 31.2 -0.8**
comp=N,3.0nm,0.7s
OBKA Obir 40.94 300 *e*P **P** **03 48 30.9 -1.3**
comp=N,15nm,1.3s
HFS Hagfors 41.02 321 P **P** **03 48 33.0 +0.4**
comp=N,23nm,0.5s,baz=98,slow=11,SNR=125
HFS LR LR 04 06 46.6
comp=N,129nm,19.6s,baz=89,slow=38
comp=N,23nm,0.5s
TRO Tromso 41.13 336 *e*P **P** **03 48 33.7 +0.3**
GEC2 GERESS Array S 41.17 303 P **P** **03 48 35.3 +1.3**
GERES GERESS Array B 41.17 303 P **P** **03 48 34.5 +0.5**
GERES GERESS Array B 41.17 303 P **P** **03 48 34.7 +0.6**
comp=N,0.4nm,0.5s,baz=48,slow=8.0,SNR=2.8
GERES PcP **PcP** **03 50 33.1 +0.2**
comp=N,1.6nm,0.6s,baz=72,slow=4.3,SNR=5.7
GERES LR LR 04 09 44.5
comp=N,88nm,19.5s,baz=81,slow=42
comp=N,0.4nm,0.5s
KHC Kasperske Hory 41.21 304 P **P** **03 48 34.9 +0.5**
KHC Kasperske Hory 41.21 304 P **P** **03 48 34.9 +0.5**
KHC pmax pmax
comp=Z,25nm,1.8s
KHC Kasperske Hory 41.21 304 *e*P **P** **03 48 35.8 +1.4**
KHC *e*PCP **PcP** **03 50 32.0 -1.0**
ZEA Zeya 41.32 49 *e*P **P** **03 48 36.3 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
BORU Boraas 41.33 317 *i* P **P** **03 48 34.9 -0.3**
CLL Collm 41.35 307 *e*P **P** **03 48 35.0 -0.4**
CLL *i* 03 48 44.9
CLL Collm 41.35 307 *e*P **P** **03 48 35.0 -0.4**
CLL *i* x x 03 48 44.9
comp=Z,6.0nm,1.0s
CLL *e*PP **PP** **03 50 13.0 +2.0**
CLL *i* PPP PPP 03 50 36.5
CLL *e*PcS **PcS** **03 54 24.0 -0.3**
BIOA Bad Ischl, Aus 41.37 302 *e*P **P** **03 48 36.2 +0.5**
comp=Z,2.9nm,0.9s
MYKA Terra Mystica 41.53 300 *e*P **P** **03 48 34.5 -2.6**
comp=Z,6.3nm,1.0s
KBA Koelnbreinsper 41.66 301 *i* pP **P** **03 48 40.7 +2.4**
comp=Z,2.5nm,0.5s
KBA *e*PP **PnPn** **03 50 22.2 +2.6**
comp=Z,5.0nm,1.3s
FAUS Fauske 41.68 332 *e*P **P** **03 48 37.9 +0.1**
FAUS IAmb IAmb 03 48 40.7
comp=Z,50nm,1.4s
HEH HeiHe 41.68 54 *e*P **P** **03 48 37.5 -0.6**
HEH pmax pmax
comp=Z,23nm,0.8s
MOR8 Moi Rana 41.70 330 *e*P **P** **03 48 37.9 -0.2**
STEI Steigen 41.84 332 *e*P **P** **03 48 39.5 +0.3**
LESA Schwarzleotal 42.05 301 *i* pP **P** **03 48 44.0 +2.6**
comp=Z,2.6nm,0.7s
LESA *e*P **PP** **03 50 20.7 +2.0**
comp=Z,1.1nm,0.5s
NC602 NORSAR Array S 42.14 321 *e*P **P** **03 48 41.4 -0.4**
STRU Stroemstad 42.22 319 *e*P **P** **03 48 42.2 -0.2**
ABTA Abfaltersbach 42.28 300 *e*P **P** **03 48 41.8 -1.4**
comp=Z,1.7nm,0.6s
ABTA *e*PP **PP** **03 50 22.7 +1.5**
comp=Z,1.4nm,0.6s
KONS Konsvik 42.29 330 *e*P **P** **03 48 43.2 +0.3**
NB2 NORSAR Subarra 42.33 322 P **P** **03 48 42.9 -0.4**
comp=Z,4.6nm,0.5s,baz=95,slow=8.6
NB2 NORSAR Subarra 42.33 322 P **P** **03 48 42.9 -0.4**
baz=95,slow=8.6
NOA NORSAR Array B 42.33 322 P **P** **03 48 43.4 0.0**
comp=Z,5.3nm,0.6s,baz=95,slow=8.2,SNR=42
NOA LR LR 04 08 30.8
comp=Z,75nm,18.8s,baz=105,slow=39
comp=Z,5.3nm,0.6s
NAO01 NORSAR Array S 42.47 321 IAmb IAmb 03 48 54.0
comp=Z,18nm,0.9s
OSL Oslo 42.50 320 *e*P **P** **03 48 44.9 +0.2**
LOF Lofoten 42.51 332 *e*P **P** **03 48 44.8 +0.1**
NBO00 NORSAR Array S 42.54 322 P **P** **03 48 45.2 +0.2**
NBO00 IAmb IAmb 03 48 57.7
comp=Z,25nm,1.0s
WTTA Wattenberg 42.78 301 *e*P **P** **03 48 47.4 0.0**
comp=Z,8.7nm,1.2s
WTTA *e*P **PP** **03 50 29.8 +3.1**
comp=Z,3.3nm,0.7s
WATA Walderalm 42.80 301 *e*P **P** **03 48 47.3 -0.2**
comp=Z,4.0nm,0.9s
YAK Yakutsk 42.81 37 P **P** **03 48 46.7 -0.4**
YAK Yakutsk 42.81 37 *e*P **P** **03 48 46.2 -0.9**
YAK *e* 03 50 26.0
YAK *e* 03 50 34.0
YAK *e*S **S** **03 55 08.0 -1.2**
YAK *e**SS sS 03 55 33.5 +9.0
YAK *e*SS **SS** **03 58 13.9 -6.4**
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK smax smax
comp=E,64nm,2.5s
YAK smax smax
comp=N,12nm,1.1s
YAK MLR MLR
comp=Z,132nm,13.0s
YAK MLR MLR
comp=N,67nm,15.0s
YAK MLR MLR
comp=E,94nm,14.0s
KONO Kongsberg 43.05 320 *e*P **P** **03 48 49.5 +0.3**
SQTA Sankt Quirin 43.07 301 *e*pP **P** **03 48 53.2 +3.5**
comp=E,7.1nm,1.0s
SQTA *e*PcP **PcP** **03 50 40.1 +0.8**
comp=E,2.7nm,0.5s
MOTA Moosalm 43.12 302 *e*pP **P** **03 48 53.5 +3.4**
comp=E,3.6nm,0.7s
MOTA *e*PcP **PcP** **03 50 39.9 +0.5**
comp=E,1.3nm,0.5s
BJO1 Bjornoya 43.13 342 *e*P **P** **03 48 50.0 +0.4**
SNSI Sinabang, Aceh 43.22 140 P **P** **03 48 50.3 -0.7**
comp=E,102nm,0.8s
RETA Reutte 43.32 302 *e*P **P** **03 48 52.9 +1.3**
comp=E,5.0nm,1.5s
DOMB Dombas 43.42 323 *e*P **P** **03 48 52.8 +0.5**
DOMB IAmb IAmb 03 49 01.4
comp=Z,15nm,0.8s
FETA Feichten 43.43 301 *e*P **P** **03 48 53.1 +0.5**
comp=Z,9.8nm,1.3s
FETA *e*PcP **PcP** **03 50 41.1 +0.6**

comp=Z,3.9nm,0.9s
SKAR Skarslia 43.73 321 *e*P **P 03 48 55.3 +0.6**
SKAR IAmb IAmb 03 49 01.8
comp=Z,649nm,4.3s
DAVA Damuels 43.95 302 *e*pP **P 03 48 59.1 +2.3**
comp=Z,5.4nm,1.1s
DAVOX Davos/Dischmat 44.05 301 LR LR 04 12 15.8
comp=Z,123nm,18.3s,baz=62,slow=43
TIXI Tiksi 44.22 23 P **P 03 48 58.2 -0.3**
TIXI IAmb IAmb 03 49 07.0
comp=Z,14nm,0.6s
TIXI Tiksi 44.22 23*ce*P **P 03 48 58.1 -0.3**
TIXI pmax pmax
comp=Z,12nm,1.0s
SNART Snartemo 44.30 318 *i* P **P 03 48 59.7 +0.5**
AKN Aaknes 44.40 323 *e*P **P 03 49 01.9 +1.9**
ODD1 Odda 44.56 320 *e*P **P 03 49 02.4 +1.1**
KLR Kul'dur 44.61 55*ce*P **P 03 49 01.3 -0.5**
KLR pmax pmax
comp=Z,13nm,2.5s
KLR Kul'dur 44.61 55 P **P 03 49 01.4 -0.5**
comp=Z,4.7nm,0.9s,baz=279,slow=8.5,SNR=10
KLR LR LR 04 10 21.6
comp=Z,77nm,18.3s,baz=288,slow=40
comp=Z,4.7nm,0.9s
BLS5 Blasjo 44.66 319 *e*P **P 03 49 03.2 +1.1**
GSI Gunungsitoli 44.80 139 P **P 03 49 03.9 +0.1**
GSI Gunungsitoli 44.80 139 P **P 03 49 02.9 -0.8**
comp=Z,31nm,1.0s,comp=Z,2µm
KSAR Wonju Array Be 44.96 73 P **P 03 49 04.7 -0.1**
KSAR Wonju Array Be 44.96 73 P **P 03 49 04.7 -0.1**
KSRS Korea Array 44.98 72 P **P 03 49 04.0 -1.0**
KSRS Korea Array 44.98 72 P **P 03 49 04.0 -1.0**
comp=Z,6.5nm,1.0s,baz=283,slow=6.7,SNR=9.8
KSRS LR LR 04 10 41.9
comp=Z,117nm,18.3s,baz=280,slow=40
comp=Z,6.5nm,1.0s
SPITS Spitsbergen Ar 45.37 347 P **P 03 49 07.9 +0.3**
comp=Z,3.9nm,0.8s,baz=100,slow=12,SNR=4.9
SPITS LR LR 04 10 37.4
comp=Z,155nm,19.1s,baz=82,slow=39
comp=Z,3.9nm,0.8s
USRK Ussuriysk Ar. 45.89 62 P **P 03 49 11.7 -0.4**
comp=Z,2.1nm,0.9s,baz=157,slow=10,SNR=4.1
USRK LR LR 04 10 11.2
comp=Z,121nm,20.2s,baz=198,slow=38
comp=Z,2.1nm,0.9s
JNU Nakatsue 48.86 77 LR LR 04 12 42.2
comp=Z,86nm,18.8s,baz=319,slow=39
KMBO Kilima Mbogo 49.65 225 *i* P **P 03 49 41.9 +0.1**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 49.65 225 P **P 03 49 40.4 -1.4**
comp=Z,1.5nm,0.6s,baz=31,slow=13,SNR=3.6
comp=Z,1.5nm,0.6s
KIBK Kibwezi 50.22 224 P **P 03 49 46.1 +0.2**
KIBK IAmb IAmb 03 49 48.5
comp=Z,8.4nm,0.8s
EKA Eskdalemuir Ar 50.32 315 P **P 03 49 46.0 -0.1**
comp=Z,6.7nm,0.9s,baz=86,slow=7.7,SNR=16
EKA PcP **PcP 03 51 04.6 +0.1**
comp=Z,2.4nm,0.7s,baz=95,slow=4.2,SNR=3.8
comp=Z,6.7nm,0.9s
JMIC Jan Mayen 50.44 335 LR LR 04 11 26.3
comp=Z,136nm,19.5s,baz=252,slow=36
DAG Danmarks Havn 52.59 343 *i* P **P 03 50 02.0 -0.8**
DAG IAmb IAmb 03 50 04.3
comp=Z,7.1nm,0.7s
MJAR Matsushiro Arr 52.96 69 P **P 03 50 05.3 -0.8**
comp=Z,3.7nm,0.8s,baz=302,slow=9.3,SNR=7.4
comp=Z,3.7nm,0.8s
MA2 Magadan 53.28 39*ce*P **P 03 50 08.1 0.0**
MA2 pmax pmax
comp=Z,29nm,2.5s
MA2 Magadan 53.28 39 LR LR 04 13 59.5
comp=Z,103nm,19.6s,baz=158,slow=37
SCO Scoresbysund 54.91 336 *i* P **P 03 50 21.4 +1.6**
SCO IAmb IAmb 03 50 22.5
comp=Z,2.9nm,0.7s
ESDC Sonseca Array 55.86 296 P **P 03 50 27.7 +0.5**
comp=Z,2.9nm,0.7s,baz=58,slow=7.3,SNR=28
comp=Z,2.9nm,0.7s
NEEM North Greenlan 58.91 347 *i* P **P 03 50 48.8 +0.2**
NEEM IAmb IAmb 03 50 59.3
comp=Z,4.8nm,0.7s
SUMG Summit 58.92 341 P **P 03 50 48.9 +0.2**
SUMG Summit 58.92 341 P **P 03 50 48.9 +0.2**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 58.92 341 *i* P **P 03 50 49.0 +0.3**
SUMG IAmb IAmb 03 50 59.4
comp=Z,12nm,0.8s
TNTI Ternate 64.42 111 P **P 03 51 26.0 -0.2**
DY2G Dye2 64.64 337 *i* P **P 03 51 27.3 +0.2**
DY2G IAmb IAmb 03 51 37.7
comp=Z,11nm,0.5s
TOA0 Torodi Ar. Sit 65.02 267 P **P 03 51 28.9 -1.2**
TORD Torodi Ar. Bea 65.02 267 P **P 03 51 28.9 -1.2**
TORD IAmb IAmb 03 51 30.7
comp=Z,5.5nm,0.7s
TORD Torodi Ar. Bea 65.02 267 P **P 03 51 29.9 -0.2**
comp=Z,7.4nm,0.6s,baz=49,slow=6.2,SNR=105
comp=Z,7.4nm,0.6s
SFJD Kangerlussuaq 65.61 338 LR LR 04 20 07.8
comp=Z,110nm,18.5s,baz=23,slow=36
C16K Lisburne Hills 65.83 20 IAmb IAmb 03 51 35.4
comp=Z,5.7nm,0.9s
LSZ Lusaka 66.31 225 LR LR 04 24 04.3
comp=Z,86nm,20.1s,baz=151,slow=39
B20K Meade River 66.50 16 IAmb IAmb 03 51 51.0
comp=Z,11nm,1.1s
C18K Utukok River 66.61 18 P **P 03 51 39.3 -0.3**
C18K IAmb IAmb 03 51 48.9
comp=Z,6.2nm,0.9s
C19K Lookout Ridge 66.65 17 IAmb IAmb 03 51 48.1
comp=Z,16nm,1.5s
B22K Teshekpuk Lake 67.01 15 IAmb IAmb 03 51 51.6
comp=Z,9.2nm,0.8s
B21K Ikpikpuk River 67.35 15 IAmb IAmb 03 52 00.9
comp=Z,9.5nm,0.9s
C23K Itkillik River 67.97 14 IAmb IAmb 03 51 58.5
comp=Z,9.6nm,1.0s
D22K Ayikyak River 68.35 15 IAmb IAmb 03 52 19.5
comp=Z,11nm,1.2s
E22K Anaktuvuk Pass 69.15 16 P **P 03 51 56.0 +0.4**
E22K IAmb IAmb 03 52 13.4
comp=Z,5.3nm,0.8s
D25K Kavik River 69.19 13 IAmb IAmb 03 52 08.8
comp=Z,6.2nm,0.9s
G19K Purcell Mounta 69.56 19 IAmb IAmb 03 52 22.4
comp=Z,8.4nm,1.1s
J16K Anvik River 70.85 22 IAmb IAmb 03 52 07.8
comp=Z,9.0nm,0.8s
E28M Babbage River 70.95 11 IAmb IAmb 03 52 33.5
comp=Z,22nm,1.9s
BMAR Burnt Mountain 71.18 13 P **P 03 52 08.5 +0.5**
E29M Blow River 71.39 11 IAmb IAmb 03 52 24.1
comp=Z,20nm,1.6s
C36M Paulatuk 71.96 5 IAmb IAmb 03 52 18.9
comp=Z,8.7nm,0.9s
I23K Minto, Yukon-K 72.20 16 IAmb IAmb 03 52 16.2
comp=Z,18nm,1.3s
G27K Doyon Strip 72.25 13 P **P 03 52 14.6 +0.2**
G27K IAmb IAmb 03 52 23.2
comp=Z,24nm,1.9s
MDM Murphy Dome 72.61 16 P **P 03 52 17.4 +0.7**
POKR Poker Plat Res 72.65 16 IAmb IAmb 03 52 18.2
comp=Z,17nm,1.4s
FRB Frobisher Bay 72.92 342 LR LR 04 25 43.2
comp=Z,26nm,18.1s,baz=352,slow=37
CAST Castle Rocks 73.03 18 P **P 03 52 18.4 -0.7**
CAST IAmb IAmb 03 52 20.3
comp=Z,11nm,1.1s
IL31 73.06 16 IAmb IAmb 03 52 25.6
comp=Z,14nm,1.4s
ILAR Eielson Array 73.06 16 P **P 03 52 18.9 -0.3**
comp=Z,2.9nm,0.9s,baz=323,slow=4.6,SNR=22
ILAR LR LR 04 28 38.5
comp=Z,77nm,18.3s,baz=266,slow=39
comp=Z,2.9nm,0.9s
DBIC Dimbokro 74.05 266 P **P 03 52 25.6 -0.2**
comp=Z,3.5nm,0.8s,baz=66,slow=5.1,SNR=4.4
DBIC LR LR 04 30 41.5
comp=Z,40nm,18.3s,baz=32,slow=40
comp=Z,3.5nm,0.8s
SCRK Sand Creek 74.36 15 P **P 03 52 27.6 +0.6**
SCRK IAmb IAmb 03 52 34.9
comp=Z,31nm,1.8s
I30M Mount Dempster 74.57 11 **P 03 52 30.5 +2.3**
DAWY Dawson 75.15 13 P **P 03 52 31.1 -0.4**
TSUM Tsumeb 75.57 231 LR LR 04 28 13.7
comp=Z,50nm,18.3s,baz=60,slow=38
L27K Beaver Creek, 75.62 14 IAmb IAmb 03 52 44.2
comp=Z,29nm,1.9s
BCAR Beaver Creek A 75.62 14 P **P 03 52 34.8 +0.6**
M27K Edge Creek, AK 76.25 15 IAmb IAmb 03 52 40.5
comp=Z,16nm,1.1s
L29M L29M 76.25 13 IAmb IAmb 03 52 45.5
comp=Z,25nm,1.7s
M31M Drury Creek, Y 77.72 11 IAmb IAmb 03 53 07.6
comp=Z,20nm,1.6s
BOSA Boshof 78.79 219 P **P 03 52 52.1 -0.3**
comp=Z,4.7nm,0.9s,baz=26,slow=7.0,SNR=6.1
BOSA LR LR 04 30 03.8
comp=Z,28nm,18.4s,baz=20,slow=38
comp=Z,4.7nm,0.9s
YKA Yellowknife Ar 79.28 2 P **P 03 52 54.6 0.0**
comp=Z,2.3nm,0.8s,baz=351,slow=5.6,SNR=37
comp=Z,2.3nm,0.8s
SCHQ Schefferville 79.96 336 P **P 03 52 58.6 +0.1**
comp=Z,2.1nm,0.6s,baz=75,slow=5.6,SNR=5.4
SCHQ LR LR 04 26 42.0
comp=Z,71nm,20.5s,baz=294,slow=34
comp=Z,2.1nm,0.6s
FCC Fort Churchill 82.19 352 P **P 03 53 11.1 +0.9**
FCC IAmb IAmb 03 53 12.3
comp=Z,9.4nm,1.2s
FCC Fort Churchill 82.19 352 P **P 03 53 11.1 +0.9**
FCC pmax pmax
comp=Z,9.0nm,1.2s
WRA Warramunga Arr 83.70 121 P **P 03 53 16.9 -1.6**
WRA Warramunga Arr 83.70 121 *i* P **P 03 53 17.7 -0.9**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 83.70 121 P **P 03 53 17.2 -1.3**
comp=Z,7.3nm,0.8s,baz=323,slow=4.8,SNR=42
comp=Z,7.3nm,0.8s
SUR Sutherland 84.08 220 LR LR 04 36 23.8
comp=Z,49nm,18.1s,baz=52,slow=40
AS31 Alice Springs 86.03 124 P **P 03 53 29.7 -0.5**
ASAR Alice Springs 86.03 124 P **P 03 53 28.6 -1.6**
ASAR Alice Springs 86.03 124 P **P 03 53 29.2 -1.0**
comp=Z,4.3nm,0.7s,baz=310,slow=5.1,SNR=52
comp=Z,4.3nm,0.7s
FFC Flin Flon 86.89 355 P **P 03 53 33.7 -0.3**
FFC IAmb IAmb 03 53 35.5
comp=Z,11nm,1.2s
FFC Flin Flon 86.89 355 P **P 03 53 33.7 -0.3**
FFC pmax pmax
comp=Z,11nm,1.3s
SADO Sadowa 92.57 339 LR LR 04 36 41.7
comp=Z,42nm,18.3s,baz=264,slow=36
PDAR Pinedale Array 99.11 360 LR LR 04 41 59.8
comp=Z,52nm,20.3s,baz=26,slow=37
QSPA South Pole Qui 128.29 180 PKP **PKPdf 03 59 55.0 0.0**
comp=Z,1.2nm,0.3s,baz=255,slow=3.2,SNR=6.0
PLCA Paso Flores 149.72 253 PKPbc **PKPbc 04 00 38.9 -0.2**
comp=Z,3.6nm,1.1s,baz=94,slow=2.8,SNR=4.7

NDI ***12*** *04:15:58.1±4.1, 18°.26N×96°.82E, h10km±89km, mb4.8, mb4.4(NEIC)*
IDC ***12*** *04:16:01.8±0.6, 18°.41N×96°.13E, h0km, mb4.1/20, mbtmp4.1/21,ML3.8/1,MS3.2/5, Error ellipse: s-maj=19.4km s-min=11.6km az=27.0*
DJA ***12*** *04:16:02.1±0.5, 18°.N±5°×9°.6E±°, h10km, M5.3/6, mB6.6/3, mb5.1/5, MLv5.3/6, Mw(mB)6.4/3*
NEIC ***12*** *04:16:03.8±1.7, 18°.34N±0°.08×96°.08E±0°.07, h10km±1km, mb4.4/19, Error ellipse: s-maj=14.2km s-min=10.2km az=216.0*

ISC 12 04:16:03.3±0.5, 18°.32N±0°.04×96°.13E±0°.06, h10km, n77, σ1°.44/83, mb4.3/33, MS3.3/4, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.68**	**87**		**Pn**	**04 16 46.5**	**0.0**
CMAR	**Chiang Mai Arr**	**2.68**	**87**		**Pn**	**04 16 48.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**2.68**	**87**	Pn	**Pn**	**04 16 46.4**	**-0.2**
	4.4nm,0.3s,baz=264,slow=14,SNR=59						
CMAR				Pg	**Pb**	**04 16 52.4**	**+1.0**
	38nm,0.3s,baz=265,slow=20,SNR=42						
CMAR				Lg	Lg	04 17 26.5	
	51nm,0.3s,baz=268,slow=22,SNR=4.2						
	13nm,0.4s						
CHTO	**Chiang Mai**	**2.72**	**79**	Pn	**Pn**	**04 16 46.7**	**-0.4**
CHTO	**Chiang Mai**	**2.72**	**79**	P	**Pn**	**04 16 46.0**	**-1.1**
CMMT	**Chiang Mai**	**2.72**	**79**	P	**Pn**	**04 16 46.7**	**-0.5**
MND	**Mandalay**	**3.68**	**360**		**Pn**	**04 16 59.2**	**-1.1**
CRAI	**Chiangrai**	**4.44**	**64**		**Pn**	**04 17 11.7**	**+0.9**
SRDT	**SRDT**	**4.88**	**143**	P	**Pn**	**04 17 14.3**	**-2.6**
SAIH	**SAIHA**	**5.09**	**325**	*e*P	**Pn**	**04 17 21.2**	**+1.4**
DGPR	**DIGLIPUR**	**5.96**	**211**	*e*P	**Pn**	**04 17 32.9**	**+1.2**
DGPR				*e*S	**Sn**	**04 18 40.2**	**0.0**
AZL	**Aizawl**	**6.28**	**330**	*e*P	**Pn**	**04 17 37.6**	**+1.6**
AZL				*e*S	**Sn**	**04 18 50.7**	**+2.8**
TNCH	**TengChong**	**7.04**	**18**	Pn	**Pn**	**04 17 48.6**	**+1.9**
TNCH				Pg	**Pg**	**04 18 20.4**	**+2.2**
TNCH				Sn	**Sb**	**04 19 33.2**	**+3.2**
TNCH				Sg	**Sg**	**04 19 47.2**	**-2.2**
TNCH				smax	smax		
	comp=N,1µm,3.4s						
TNCH				smax	smax		
	comp=E,1µm,4.1s						
TNCH				LR	LR		
	comp=N,250nm,7.2s						
TNCH				LR	LR		
	comp=E,360nm,5.7s						
KOHI	**KOHIMA**	**7.60**	**346**	*e*P	**Pn**	**04 17 54.9**	**+0.6**
SHL	**Shillong**	**8.22**	**332**		**Pn**	**04 18 01.8**	**-1.0**
SHL	**Shillong**	**8.22**	**332**	*e*P	**Pn**	**04 18 02.0**	**-0.8**
SHL				*e*S	**Sn**	**04 19 35.4**	**-0.5**
PZH	**PanZhiHua**	**9.66**	**32**	P	Pn	04 18 28.4	+5.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,5.2s						
LSA	**Lhasa**	**12.21**	**339**	Pn	**Pn**	**04 18 55.6**	**-2.2**
LHMI	**Lhok Sumawe**	**13.04**	**176**	P	**Pn**	**04 19 07.2**	**-1.5**
ENH	**Enshi**	**17.01**	**43**	Pn	**Pn**	**04 19 57.6**	**-3.9**
ENH				IAmb	IAmb	04 20 06.3	
	comp=Z,13nm,1.0s						
PALK	**Pallekele**	**18.60**	**236**	P	**Pn**	**04 20 28.0**	**+6.8**
	comp=Z,7.8nm,0.9s,baz=158,slow=8.4,SNR=5.6						
PALK				LR	LR	04 28 51.5	
	comp=Z,46nm,18.4s,baz=164,slow=41						
LZH	**Lanzhou**	**18.97**	**20**	*e*P	**Pn**	**04 20 27.9**	**+2.2**
LZH				pP	pP	04 20 33.6	+5.7
LZH				sP	sP	04 20 37.8	+8.5
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=N,510nm,10.0s						
LZH				LR	LR		
	comp=E,330nm,10.0s						
LZH				LR	LR		
	comp=Z,400nm,9.6s						
GTA	**Gaotai**	**21.26**	**8**	*e*P	**P**	**04 20 50.8**	**+0.9**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SMLA	**Simla**	**21.39**	**310**	*e*P	**P**	**04 20 51.1**	**-0.1**
SMLA				IAmb	IAmb	04 20 53.7	
	comp=Z,34nm,0.9s						
NIL	**Nilore**	**25.52**	**311**	P	**P**	**04 21 31.9**	**-0.3**
NIL				IAmb	IAmb	04 21 33.7	
	comp=Z,8.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**26.08**	**27**	⇑P	**P**	**04 21 38.8**	**+1.5**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,290nm,4.5s						
WMQ	**Urumqi**	**26.40**	**346**	*e*P	**P**	**04 21 37.4**	**-2.7**
WMQ				pP	pP	04 21 48.6	+5.4
WMQ				sP	sP	04 21 55.6	+11
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
KSH	**Kashi**	**27.40**	**325**	P	**P**	**04 21 50.4**	**+1.2**
KSH				sP	sP	04 22 02.3	+8.7
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBL	**Kabul**	**29.01**	**309**	P	**P**	**04 22 04.1**	**+0.4**
KBL				IAmb	IAmb	04 22 10.9	
	comp=Z,4.2nm,0.7s						
MK31	**Makanchi Array**	**30.60**	**341**	P	**P**	**04 22 16.3**	**-1.2**
MKAR	**Makanchi Array**	**30.60**	**341**	P	**P**	**04 22 16.5**	**-1.0**
MKAR	**Makanchi Array**	**30.60**	**341**	P	**P**	**04 22 17.0**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=150,slow=9.3,SNR=24						
MKAR				PcP	**PcP**	**04 25 16.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=126,slow=2.9,SNR=2.6						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**30.61**	**14**	P	**P**	**04 22 17.1**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=195,slow=9.0,SNR=4.2						
	comp=Z,0.8nm,0.9s						
SIMJ	**Simiganj**	**31.09**	**316**	P	**P**	**04 22 21.6**	**-0.5**
SIMJ				IAmb	IAmb	04 22 22.3	
	comp=Z,7.1nm,1.1s						
KK31	**Karatay Array**	**32.85**	**324**	P	**P**	**04 22 36.6**	**-0.7**
KKAR	**Karatay Array**	**32.85**	**324**	P	**P**	**04 22 36.3**	**-1.0**
KSRS	**Korea Array**	**33.73**	**49**	LR	LR	04 36 36.4	
	comp=Z,20nm,18.7s,baz=230,slow=37						
HRA	**Herat**	**34.12**	**305**	P	**P**	**04 22 49.1**	**+0.4**
HRA				IAmb	IAmb	04 22 54.4	
	comp=Z,1.9nm,0.8s						
JNU	**Nakatsue**	**34.42**	**58**	LR	LR	04 39 01.4	
	comp=Z,68nm,18.3s,baz=184,slow=40						
KURBB	**Kurchatov Arra**	**35.15**	**340**	P	**P**	**04 22 56.3**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=152,slow=8.4,SNR=18						
KURBB				PcP	**PcP**	**04 25 28.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=162,slow=2.6,SNR=5.2						
KURBB				ScP	**ScP**	**04 29 14.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=160,slow=3.4,SNR=5.4						
	comp=Z,2.7nm,0.7s						
KURK	**Kurchatov**	**35.21**	**341**	P	**P**	**04 22 56.0**	**-1.6**
KURK				IAmb	IAmb	04 22 59.3	
	comp=Z,3.0nm,0.6s						
HIA	**Hailar**	**36.27**	**26**	P	**P**	**04 23 07.5**	**+0.7**
HIA				IAmb	IAmb	04 23 15.1	
	comp=Z,5.9nm,0.8s						
ZAA0	**Zalesovo Array**	**36.62**	**349**	P	**P**	**04 23 08.7**	**-1.0**
ZAA0				IAmb	IAmb	04 23 10.3	
	comp=Z,8.9nm,0.9s						
ZALV	**Zalesovo Beam**	**36.62**	**349**	P	**P**	**04 23 09.3**	**-0.4**
ZALV	**Zalesovo Beam**	**36.62**	**349**	P	**P**	**04 23 09.1**	**-0.6**
	comp=Z,6.6nm,0.8s,baz=174,slow=8.8,SNR=24						
	comp=Z,6.6nm,0.8s						
GEYT	**Alibeck**	**38.45**	**308**	P	**P**	**04 23 25.3**	**-0.2**
GEYT				IAmb	IAmb	04 23 29.6	
	comp=Z,15nm,1.1s						
GEYT	**Alibeck**	**38.45**	**308**	P	**P**	**04 23 26.3**	**+0.8**
	comp=Z,8.5nm,1.0s,baz=122,slow=7.2,SNR=14						
	comp=Z,8.5nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**38.45**	**308**	P	**P**	**04 23 23.9**	**-1.6**
GYA0B				IAmb	IAmb	04 23 29.6	
	comp=Z,16nm,1.1s						
BVAR	**Borovoye Array**	**40.02**	**336**	P	**P**	**04 23 37.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=140,slow=9.7,SNR=4.9						
BVAR				PcP	**PcP**	**04 25 43.0**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=176,slow=4.3,SNR=3.2						
	comp=Z,0.9nm,0.6s						
KLR	**Kul'dur**	**42.09**	**35**	LR	LR	04 41 10.1	
	comp=Z,39nm,19.3s,baz=231,slow=36						

JMA 12 03:58:39.4±0.2, 24°.2N±0°.3×123°.6E±0°.7, h14km±1km, MV1.3/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**41**	P	Pg	03 58 42.9	0.0
IRIF				S	Sg	03 58 45.5	+0.2
HATJ	**Hateruma jima**	**0.23**	**139**	P	Pg	03 58 44.4	-0.1
HATJ				S	Sg	03 58 48.0	0.0
JKRS	**Kuro-shima**	**0.34**	**89**	P	Pg	03 58 46.3	0.0
JKRS				*e*S	Sg	03 58 51.5	+0.4
JIJ	**Ishigaki jima**	**0.48**	**74**	P	Pg	03 58 48.7	-0.2
JIJ				S	Sg	03 58 55.0	-0.3
JISG	**Ishigakijimahi**	**0.71**	**60**	P	Pg	03 58 53.1	-0.1
JISG				*e*S	Sg	03 59 02.8	+0.2

TAP 12 03:59:20.9, 24°.26N×121°.67E, h8km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**54**	*e*P	Pg	03 59 24.4	+1.3
	baz=57						
EAHA	**Aohua**	**0.10**	**44**	*e*P	Pg	03 59 22.9	-0.3
	baz=43						
EAHA				*e*S	Sg	03 59 25.4	+0.5
	baz=43						
NACB	**Ninganchiao**	**0.11**	**217**	*i* P	Pg	03 59 23.9	+0.6
	baz=217						
NACB				*i* S	Sg	03 59 26.3	+1.2
	baz=217						
ETL	**Fush Village**	**0.11**	**201**	P	Pg	03 59 24.8	+1.4
	baz=201						
ETL				S	Sg	03 59 26.3	+1.2
	baz=201						
ETLH	**Xiulin Townshi**	**0.17**	**253**	P	Pg	03 59 25.5	+0.9
	baz=252						
ETLH				*e*S	Sg	03 59 28.7	+1.7
	baz=252						
ENA	**Nanau**	**0.18**	**22**	*e*P	Pg	03 59 25.9	+1.3
	baz=24						
ENA				*e*S	Sg	03 59 26.8	-0.4
	baz=24						
TWD	**Chiawan**	**0.19**	**199**	*e*P	Pg	03 59 25.7	+0.9
	baz=197						
TWD				S	Sg	03 59 29.1	+1.7
	baz=197						
EWUT	**Wuta**	**0.21**	**29**	*e*P	Pg	03 59 26.1	+0.9
	baz=28						
LATG	**Datong**	**0.30**	**335**	*e*P	Pb	03 59 29.1	+0.4
	baz=335						
LATG				*e*S	Sb	03 59 33.0	-0.9
	baz=335						
LXIB	**Xiulin Townshi**	**0.33**	**224**	*e*P	Pb	03 59 28.3	-0.8
	baz=224						
LXIB				S	Sb	03 59 34.1	-0.6
	baz=224						
ETM	**Tongmen**	**0.33**	**208**	P	Pb	03 59 28.5	-0.6
	baz=208						
ETM				S	Sb	03 59 33.9	-0.8
	baz=208						
NDT	**Datong Townshi**	**0.37**	**338**	*e*P	Pb	03 59 29.1	-0.6
	baz=337						
NDT				*e*S	Sb	03 59 34.5	-1.2
	baz=337						
FUSS	**Fushou**	**0.39**	**268**	*e*P	Pb	03 59 29.8	-0.3
	baz=268						
FUSB	**Fushanzhiwuyua**	**0.50**	**352**	*e*P	Pb	03 59 32.3	+0.2
	baz=351						
NWLT	**Wulai**	**0.54**	**344**	*e*P	Pb	03 59 33.1	+0.5
	baz=343						
NWLT				*e*S	Sb	03 59 40.6	+0.1
	baz=343						
WARBT	**Fenglin Townsh**	**0.60**	**205**	*e*P	Pb	03 59 33.9	+0.3
	baz=205						

ISN ***12*** *04:05:56.1±0.8, 33°.71N×45°.62E, h6km±11km, ML2.8*
TEH ***12*** *04:05:56.1, 33°.79N×45°.62E, h8km±89km, ML2.9*

ISC 12 04:05:56.7±0.9, 33°.78N±0°.04×45°.63E±0°.04, h10km, n11, σ0°.60/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.51**	**108**	Pg	**Pg**	**04 06 06.7**	**+0.1**
ILBA				Sg	**Sg**	**04 06 13.8**	**+0.5**
IBDR	**Badra**	**0.72**	**159**	*e*Pg	**Pg**	**04 06 10.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**04 06 19.0**	**-0.9**
KGSH	**Ghasr-e-Shirin**	**0.72**	**358**	Pg	**Pg**	**04 06 10.0**	**-0.7**
IGHG	**Ghaleghazi**	**0.95**	**55**	Pg	**Pg**	**04 06 15.1**	**0.0**
IDHR	**Dehrash**	**1.11**	**34**	Pg	**Pg**	**04 06 17.3**	**-0.8**
BHD	**Baghdad**	**1.16**	**244**	*e*Pg	**Pb**	**04 06 19.0**	**+0.2**
BHD				*e*Sg	**Sn**	**04 06 36.0**	**+1.1**
BHD				AML	AML	04 06 44.5	
	comp=E,385nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.27**	**67**	Pg	**Pn**	**04 06 20.6**	**-0.1**
ILIN	**Lien**	**1.58**	**44**	Pg	**Pb**	**04 06 26.4**	**+0.2**
IKOM	**Komasi**	**1.61**	**75**	Pg	**Pb**	**04 06 27.1**	**+0.5**
IKFM	**Kafar-mosalman**	**1.87**	**97**	Pn	**Pb**	**04 06 30.5**	**-0.4**
IKRK	**Kirkuk**	**1.93**	**327**	*e*Pn	**Pb**	**04 06 32.0**	**0.0**
IKRK				*e*Sn	**Sg**	**04 06 59.0**	**+0.2**
IKRK				AML	AML	04 07 05.4	
	comp=N,67nm,0.5s						
IKRK				AML	AML	04 07 08.6	
	comp=E,85nm,0.6s						

ABKAR	**Akbulak array**	**42.41**	**325**	P		**P**	**04 23 57.2**	**-0.8**
AKH	**Akhalkalaki**	**50.24**	**309**	P		**P**	**04 24 59.3**	**-0.7**
GURO	**Guroymak-BITLI**	**50.90**	**305**	P		**P**	**04 25 05.1**	**+0.2**
KBZ	**Khabaz**	**51.14**	**312**	P		**P**	**04 25 06.6**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=135,slow=8.6,SNR=1.9							
	comp=Z,1.3nm,0.8s							
WRA	**Warramunga Arr**	**53.40**	**134**	P		**P**	**04 25 23.6**	**0.0**
	comp=Z,3.4nm,0.8s,baz=320,slow=7.3,SNR=19							
	comp=Z,3.4nm,0.8s							
ARPR	**Arapgir-MALATY**	**53.83**	**305**	P		**P**	**04 25 26.3**	**-0.4**
AS31	**Alice Springs**	**55.69**	**137**	P		**P**	**04 25 39.6**	**-0.6**
ASAR	**Alice Springs**	**55.69**	**137**	P		**P**	**04 25 39.6**	**-0.6**
ASAR	**Alice Springs**	**55.69**	**137**	P		**P**	**04 25 40.3**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=319,slow=6.8,SNR=17							
	comp=Z,1.6nm,0.7s							
BRTR	**Keskin Array B**	**57.50**	**306**	P		**P**	**04 25 52.2**	**-0.9**
BRTR	**Keskin Array B**	**57.50**	**306**	P		**P**	**04 25 52.9**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=119,slow=5.6,SNR=5.3							
	comp=Z,1.9nm,0.9s							
KMBO	**Kilima Mbogo**	**61.00**	**258**	LR		LR	04 49 30.9	
	comp=Z,24nm,21.1s,baz=93,slow=33							
AKASG	**Malin Array Be**	**61.44**	**318**	P		**P**	**04 26 18.2**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=78,slow=6.4,SNR=4.7							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**64.55**	**330**	P		**P**	**04 26 39.4**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=119,slow=12,SNR=4.7							
	comp=Z,1.4nm,0.7s							
ARCES	**ARCESS Array B**	**66.22**	**339**	P		**P**	**04 26 50.5**	**-0.6**
	comp=Z,4.8nm,1.1s,baz=96,slow=6.1,SNR=4.9							
	comp=Z,4.8nm,1.1s							
HFS	**Hagfors**	**70.54**	**328**	P		**P**	**04 27 17.6**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=119,slow=5.8,SNR=10							
	comp=Z,3.5nm,0.9s							
GERES	**GERESS Array B**	**71.50**	**316**	P		**P**	**04 27 24.2**	**-0.3**
GERES	**GERESS Array B**	**71.50**	**316**	P		**P**	**04 27 24.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=79,slow=7.2,SNR=5.7							
	comp=Z,1.3nm,0.6s							
NB2	**NORSAR Subarra**	**71.70**	**329**	P		**P**	**04 27 24.4**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=85,slow=6.5							
NOA	**NORSAR Array B**	**71.70**	**329**	P		**P**	**04 27 24.6**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=86,slow=5.8,SNR=5.0							
	comp=Z,1.0nm,0.6s							
LSZ	**Lusaka**	**74.78**	**248**	P		**P**	**04 27 44.9**	**+0.5**
EKA	**Eskdalemuir Ar**	**80.28**	**325**	P		**P**	**04 28 13.9**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=76,slow=5.3,SNR=5.9							
	comp=Z,1.6nm,0.8s							
BOSA	**Boshof**	**82.83**	**237**	P		**P**	**04 28 29.2**	**+0.8**
	comp=Z,5.8nm,0.7s,baz=64,slow=3.1,SNR=14							
	comp=Z,5.8nm,0.7s							
BMAR	**Burnt Mountain**	**83.76**	**20**	P		**P**	**04 28 33.5**	**+1.0**
ILAR	**Eielson Array**	**84.41**	**23**	P		**P**	**04 28 34.8**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=315,slow=4.5,SNR=4.7							
	comp=Z,0.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**90.05**	**284**	P		**P**	**04 29 04.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=62,slow=4.7,SNR=4.4							
	comp=Z,0.7nm,0.6s							
BDFB	**Brasilia**	**145.63**	**269**	PKPbc		**PKPdf**	**04 35 43.0**	**0.0**
	comp=Z,6.1nm,0.9s,baz=101,slow=4.4,SNR=9.1							

CATAC ***12*** *04:23:22.1±0.9, 12°.52N×88°.83W, h4km±6km, ML4.5*
NEIC ***12*** *04:23:25±2.2, 12°.58N±0°.03×88°.81W±0°.07, h35km±1km, mb4.6/77, Error ellipse: s-maj=11.6km s-min=4.5km az=253.0*
SNET ***12*** *04:23:26.0±1.0, 12°.66N×88°.83W, h28km±4km, ML4.3*
IDC ***12*** *04:23:28.0±1.8, 13°.01N×88°.42W, h58km±18km, mb3.8/11, mbtmp4.1/14, ML3.6/3, MS3.4/3, Error ellipse: s-maj=33.6km s-min=11.2km az=38.0*
ISC 12 04:23:26.4±1.0, **12°.67N**±0°.05×**88°.76W**±0°.04, **h55**km±8km, **n223**, σ0**99**/185, **mb4.5**/44, **28C-24D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.68**	**16**	⇑*iP*		**Pn**	**04 23 39.0**	**-1.2**
ALJI				*eS*		**Sn**	**04 23 50.2**	**+0.1**
ALJI	**Alcalda de J**	**0.68**	**16**	⇑*iP*		**Pn**	**04 23 38.6**	**-1.5**
ALJI				IAML			04 23 50.3	
	comp=Z,6μm,1.0s							
TECA	**Tecapa**	**0.86**	**17**	⇑*iP*		**Pn**	**04 23 42.3**	**-0.3**
TECO	**Alcaldia de Te**	**0.86**	**359**	⇑*iP*		**Pn**	**04 23 41.8**	**-0.7**
TECO	**Alcaldia de Te**	**0.86**	**359**	⇑*iP*		**Pn**	**04 23 41.5**	**-1.0**
TECO				*iS*		**Sn**	**04 23 54.4**	**+0.1**
TECO				IAML			04 23 59.2	
	comp=Z,3μm,1.0s							
LCY	**Lacayo**	**0.88**	**31**	⇓*iP*		**Pn**	**04 23 42.9**	**+0.2**
RANC	**El Ranchito**	**0.89**	**31**	*eP*		**Pn**	**04 23 42.8**	**-0.1**
PACA	**Pacayal**	**0.90**	**28**	*eP*		**Pn**	**04 23 43.3**	**+0.2**
PACA	**Pacayal**	**0.90**	**28**	⇑*iP*		**Pn**	**04 23 43.1**	**0.0**
PACA				*iS*		**Sn**	**04 23 56.8**	**+1.4**
PACA				IAML			04 23 59.2	
	comp=Z,65μm,1.0s							
COEG	**Centro de Oper**	**0.95**	**353**	⇑*eP*		**Pn**	**04 23 42.8**	**-0.9**
COEG				IAML			04 24 02.8	
	comp=Z,6μm,0.5s							
COEG	**Centro de Oper**	**0.95**	**353**	⇑*iP*		**Pn**	**04 23 42.7**	**-1.0**
COEG				IAML			04 24 02.6	
	comp=Z,5μm,1.0s							
UESV	**Universidad de**	**0.96**	**358**	⇑*eP*		**Pn**	**04 23 43.4**	**-0.5**
UESV	**Universidad de**	**0.96**	**358**	⇑*iP*		**Pn**	**04 23 43.3**	**-0.5**
UESV				IAML			04 24 01.8	
	comp=Z,8μm,1.0s							
PQSS	**Presa 15 de Se**	**0.97**	**12**	*eP*		**Pn**	**04 23 43.7**	**-0.1**
PQSS	**Presa 15 de Se**	**0.97**	**12**	*iPx*		Px	04 23 43.7	
PQSS				IAML			04 23 59.6	
	comp=Z,5μm,1.0s							
SJTE	**Alcalda de S**	**0.97**	**346**	⇑*eP*		**Pn**	**04 23 42.8**	**-1.2**
SJTE				*eS*		**Sn**	**04 23 56.9**	**0.0**
SJTE	**Alcalda de S**	**0.97**	**346**	⇑*iP*		**Pn**	**04 23 42.6**	**-1.4**
SJTE				IAML			04 24 04.6	
	comp=Z,3μm,1.0s							
CNRM	**Centro Naciona**	**0.98**	**36**	*eP*		**Pn**	**04 23 44.3**	**+0.2**
CNRM	**Centro Naciona**	**0.98**	**36**	*iPx*		Px	04 23 44.0	
CNRM				IAML			04 24 01.7	
	comp=Z,68μm,1.0s							
PANCS	**Alcalda de**	**1.02**	**336**	*eP*		**Pn**	**04 23 43.3**	**-1.4**
PANCS	**Alcalda de**	**1.02**	**336**	⇑*iP*		**Pn**	**04 23 43.1**	**-1.5**
PANCS				IAML			04 23 58.2	
	comp=Z,28μm,1.0s							
SCLA	**Alcaldia de Sa**	**1.03**	**2**	⇑*eP*		**Pn**	**04 23 44.7**	**0.0**
SCLA	**Alcaldia de Sa**	**1.03**	**2**	⇑*iP*		**Pn**	**04 23 44.5**	**-0.2**
SCLA				IAML			04 24 05.4	
	comp=Z,4μm,1.0s							
LOMA	**Loma Larga**	**1.05**	**338**	*eP*		**Pn**	**04 23 44.0**	**-1.0**
LOMA	**Loma Larga**	**1.05**	**338**	⇑*iP*		**Pn**	**04 23 44.0**	**-1.0**
LOMA				IAML			04 23 59.6	
	comp=Z,14μm,1.0s							
PAVA	**Las Pavas**	**1.05**	**351**	⇑*iP*		**Pn**	**04 23 44.5**	**-0.5**
PAVA	**Las Pavas**	**1.05**	**351**	⇑*iP*		**Pn**	**04 23 44.4**	**-0.7**
PAVA				IAML			04 24 02.1	
	comp=Z,13μm,1.0s							
LCND	**La Caada**	**1.06**	**53**	⇓*eP*		**Pn**	**04 23 45.0**	**-0.1**
LCND				*eS*		**Sn**	**04 24 00.0**	**+1.1**
LCND	**La Caada**	**1.06**	**53**	⇓*iP*		**Pn**	**04 23 44.8**	**-0.2**
LCND				IAML			04 24 01.7	
	comp=Z,8μm,1.0s							
AEIL	**Aeropuerto Ilo**	**1.08**	**341**	*eP*		**Pn**	**04 23 44.8**	**-0.6**
CNCH	**Conchagua**	**1.08**	**56**	*eP*		**Pn**	**04 23 45.3**	**-0.2**
CNCH	**Conchagua**	**1.08**	**56**	⇓*iP*		**Pn**	**04 23 45.0**	**-0.5**
CNCH				IAML			04 24 09.2	
	comp=Z,10μm,1.0s							
UDBS	**Universidad Do**	**1.11**	**340**	*eP*		**Pn**	**04 23 45.0**	**-0.8**
SNET	**Serv Nac Est T**	**1.11**	**336**			**Pn**	**04 23 44.9**	**-1.0**
SNET	**Serv Nac Est T**	**1.11**	**336**	⇑*eP*		**Pn**	**04 23 44.8**	**-1.0**
SNET	**Serv Nac Est T**	**1.11**	**336**	*iPx*		Px	04 23 44.7	
SNET				IAML			04 24 02.5	
	comp=Z,9μm,1.0s							
IGN	**Direccin Gen**	**1.11**	**339**	*eP*		**Pn**	**04 23 45.0**	**-0.8**
IGN	**Direccin Gen**	**1.11**	**339**	⇓*iP*		**Pn**	**04 23 44.9**	**-0.9**
IGN				IAML			04 24 00.5	
	comp=Z,22μm,1.0s							
UTEC	**Universidad Te**	**1.11**	**337**	*iPx*		Px	04 23 44.7	
UTEC				IAML			04 24 06.4	
	comp=Z,4μm,1.0s							
ITCA	**Escuela Especi**	**1.12**	**333**	*iP*		**Pn**	**04 23 44.8**	**-1.1**
ITCA				IAML			04 24 00.5	
	comp=Z,16μm,1.0s							
LFU	**La Fuente**	**1.13**	**342**	*eP*		**Pn**	**04 23 45.5**	**-0.5**
UESS	**Universidad de**	**1.13**	**338**	*eP*		**Pn**	**04 23 45.2**	**-0.8**
UEES	**Universidad Ev**	**1.14**	**336**	⇑*eP*		**Pn**	**04 23 45.3**	**-0.9**
UEES	**Universidad Ev**	**1.14**	**336**	⇑*iP*		**Pn**	**04 23 45.1**	**-1.1**
UEES				IAML			04 24 05.1	
	comp=Z,3μm,1.0s							
PMON	**Piamonte**	**1.17**	**333**	*eP*		**Pn**	**04 23 45.7**	**-0.9**
PMON	**Piamonte**	**1.17**	**333**	⇑*iP*		**Pn**	**04 23 45.5**	**-1.1**
PMON				IAML			04 24 06.4	
	comp=Z,11μm,1.0s							
PIC2	**El Picacho**	**1.17**	**336**	⇑*eP*		**Pn**	**04 23 46.2**	**-0.6**
BOQS	**Boqueron**	**1.17**	**334**	*eP*		**Pn**	**04 23 46.1**	**-0.7**
JAYA	**Jayaque - finc**	**1.19**	**326**	⇓*eP*		**Pn**	**04 23 45.7**	**-1.2**
JAYA	**Jayaque - finc**	**1.19**	**326**	⇓*iP*		**Pn**	**04 23 45.6**	**-1.3**
JAYA				IAML			04 24 03.1	
	comp=Z,13μm,1.0s							
CSGN	**Cosiguina Volc**	**1.21**	**75**	⇓*iP*		**Pn**	**04 23 46.3**	**-0.8**
CSGN				IAML			04 24 09.3	
	comp=Z,24μm,1.0s							
CAHU	**Cacacuatique**	**1.22**	**26**	⇓*eP*		**Pn**	**04 23 48.1**	**+0.7**
AMPH	**Amapala**	**1.23**	**60**	*eP*		**Pn**	**04 23 47.8**	**+0.4**
AMPH	**Amapala**	**1.23**	**60**	⇓*iP*		**Pn**	**04 23 47.5**	**+0.1**
QUEZ	**Alcaldia de Qu**	**1.26**	**337**	*eP*		**Pn**	**04 23 47.2**	**-0.6**
QUEZ	**Alcaldia de Qu**	**1.26**	**337**	⇓*iP*		**Pn**	**04 23 47.1**	**-0.7**
QUEZ				IAML			04 24 12.6	
	comp=Z,16μm,1.0s							
CEDA	**San Andres**	**1.28**	**331**	*eP*		**Pn**	**04 23 47.4**	**-0.7**
CEDA				IAML			04 24 09.3	
	comp=Z,8μm,0.7s							
CEDA	**San Andres**	**1.28**	**331**	*iPx*		Px	04 23 47.4	
CEDA				IAML			04 24 07.3	
	comp=Z,17μm,1.0s							
CEVE	**Cerro Verde**	**1.43**	**324**	*eP*		**Pn**	**04 23 49.4**	**-0.8**
CEVE	**Cerro Verde**	**1.43**	**324**	⇓*iP*		**Pn**	**04 23 49.4**	**-0.8**
CEVE				IAML			04 24 11.9	
	comp=Z,5μm,1.0s							
SNJE	**San Jose**	**1.45**	**325**	⇓*eP*		**Pn**	**04 23 49.7**	**-0.8**
RTR	**El Retiro**	**1.49**	**325**	*eP*		**Pn**	**04 23 50.6**	**-0.5**
LLGN	**La Laguna**	**1.50**	**353**	*eP*		**Pn**	**04 23 51.4**	**+0.4**
LLGN	**La Laguna**	**1.50**	**353**	⇑*iP*		**Pn**	**04 23 51.2**	**+0.2**
LLGN				IAML			04 24 13.7	
	comp=Z,3μm,1.0s							
UNIC	**Universidad Ca**	**1.51**	**330**	*iPx*		Px	04 23 50.9	
UNIC				IAML			04 24 12.8	
	comp=Z,2μm,1.0s							
NUBE	**Las Nubes**	**1.58**	**321**	⇓*eP*		**Pn**	**04 23 51.1**	**-1.1**
NUBE	**Las Nubes**	**1.58**	**321**	⇓*iP*		**Pn**	**04 23 50.9**	**-1.3**
NUBE				IAML			04 24 12.7	
	comp=Z,4μm,1.0s							
LOAL	**Lomas de Alarc**	**1.65**	**323**	⇑*iP*		**Pn**	**04 23 52.9**	**-0.2**
LOAL				IAML			04 24 24.2	
	comp=Z,5μm,1.0s							
CRIN	**San Cristobal**	**1.67**	**89**			**Pn**	**04 23 53.5**	**+0.2**
CRIN	**San Cristobal**	**1.67**	**89**	⇓*iP*		**Pn**	**04 23 53.3**	**0.0**
CRIN				IAML			04 24 27.7	
	comp=Z,12μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.68**	**324**	*eP*		**Pn**	**04 23 53.0**	**-0.5**
MTO3	**Montecristo**	**1.82**	**341**			**Pn**	**04 23 55.5**	**0.0**
MTO3	**Montecristo**	**1.82**	**341**	⇑*eP*		**Pn**	**04 23 55.6**	**+0.1**
MTO3	**Montecristo**	**1.82**	**341**	⇑*iP*		**Pn**	**04 23 55.3**	**-0.2**
MTO3				IAML			04 24 25.8	
	comp=Z,890nm,1.0s							
POLN	**Al Sur del Vol**	**1.90**	**90**	⇓*iP*		**Pn**	**04 23 56.0**	**-0.4**
POLN				IAML			04 24 21.9	
	comp=Z,28nm,1.0s							
ESQI	**Esquipulas**	**1.96**	**343**			**Pn**	**04 23 58.1**	**+0.7**
ESQI	**Esquipulas**	**1.96**	**343**	*iPx*		Px	04 23 57.7	
ESQI				IAML			04 24 30.4	
	comp=Z,2μm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.00**	**46**	Pn		**Pn**	**04 23 58.8**	**+0.9**
CNGA	**Al SSO del Vol**	**2.02**	**95**	*iPx*		Px	04 23 57.5	
CNGA				IAML			04 24 27.6	
	comp=Z,4μm,1.0s							
SARH	**Santa Rosa de**	**2.09**	**360**	*iP*		**Pn**	**04 24 00.3**	**+1.2**
LEVN	**Ruinas Leon Vi**	**2.11**	**97**	*iP*		**Pn**	**04 23 58.4**	**-0.9**
LEVN				IAML			04 24 33.0	
	comp=Z,3μm,1.0s							
COMHN	**El Horno**	**2.12**	**33**	⇑*iP*		**Pn**	**04 23 59.7**	**+0.1**
JAMO	**Monjas**	**2.12**	**329**	*iP*		**Pn**	**04 24 00.9**	**+1.4**
JAMO				IAML			04 24 41.0	
	comp=Z,3μm,1.0s							
MOMN	**Momotombo**	**2.18**	**97**	⇓*iP*		**Pn**	**04 23 59.5**	**-0.8**
MOMN				IAML			04 24 28.9	
	comp=Z,110nm,1.0s							
MOM2	**El Cardon**	**2.23**	**96**	⇓*iP*		**Pn**	**04 24 00.5**	**-0.5**
MOM2				IAML			04 24 30.7	
	comp=Z,2μm,1.0s							
MSHP	**Masachapa**	**2.33**	**111**	⇓*iP*		**Pn**	**04 24 01.9**	**-0.4**
MSHP				IAML			04 24 36.2	
	comp=Z,610nm,1.0s							
BRAN	**Las Pilas**	**2.35**	**89**	*iP*		**Pn**	**04 24 03.2**	**+0.6**
BRAN				IAML			04 24 33.8	
	comp=Z,3μm,1.0s							
SAPS	**Ciudad Sandino**	**2.35**	**102**	⇓*iP*		**Pn**	**04 24 01.7**	**-0.9**
SAPS				IAML			04 24 37.1	
	comp=Z,4μm,1.0s							
LIMN	**Finca el Limon**	**2.37**	**80**	⇓*iP*		**Pn**	**04 24 02.4**	**-0.5**
LIMN				IAML			04 24 32.8	
	comp=Z,1μm,1.0s							
APYN	**Apoyeque**	**2.39**	**100**	⇓*iP*		**Pn**	**04 24 02.3**	**-0.9**
APYN				IAML			04 24 35.5	
	comp=Z,3μm,1.0s							
APQ2	**Apoyeque**	**2.42**	**101**	*iP*		**Pn**	**04 24 02.9**	**-0.7**
APQ2				IAML			04 24 35.2	
	comp=Z,3μm,1.0s							
ABCN	**Banco Central**	**2.45**	**103**	*iP*		**Pn**	**04 24 04.0**	**0.0**
ABCN				IAML			04 24 39.9	
	comp=Z,8μm,1.0s							
GUNB	**GUNB**	**2.46**	**321**	*iP*		**Pn**	**04 24 03.5**	**-0.8**
GUNB				IAML			04 24 56.3	
	comp=Z,420nm,1.0s							
TISN	**Laguna Tiscapa**	**2.49**	**102**	*iP*		**Pn**	**04 24 03.9**	**-0.6**
TISN				IAML			04 24 34.9	
	comp=Z,220nm,1.0s							
UNAN	**Cigeo UNAN**	**2.49**	**103**	*iP*		**Pn**	**04 24 04.4**	**-0.2**
UNAN				IAML			04 24 44.4	
	comp=Z,10μm,1.0s							
MAS3	**Al N del Volca**	**2.60**	**104**	*iP*		**Pn**	**04 24 05.5**	**-0.6**
MAS3				IAML			04 24 40.8	
	comp=Z,3μm,1.0s							
RCPN	**Sur Rio San Ju**	**2.73**	**72**	*iP*		**Pn**	**04 24 07.6**	**-0.3**
RCPN				IAML			04 24 53.0	
	comp=Z,3.1nm,1.0s							
MATN	**Matagalpa**	**2.78**	**84**	Pn		**Pn**	**04 24 08.5**	**0.0**
MATN	**Matagalpa**	**2.78**	**84**	⇓*iP*		**Pn**	**04 24 08.1**	**-0.4**
MATN				IAML			04 24 50.0	
	comp=Z,310nm,1.0s							
OMEN	**Al SSO del Vol**	**3.27**	**110**	IAML			04 24 56.6	
	comp=Z,2μm,1.0s							
OMEN	**Al SSO del Vol**	**3.27**	**110**	*iP*		**Sn**	**04 24 51.3**	**-1.7**
RTAL	**Retalhuleu**	**3.40**	**303**	Pn		**Pn**	**04 24 16.3**	**-0.7**
ACON	**Acoyapa**	**3.57**	**101**			**Pn**	**04 24 17.8**	**-1.5**
HZTE	**Horizontes, Gu**	**3.66**	**122**	Pn		**Pn**	**04 24 20.4**	**-0.1**
HUEH	**Huehuetenango**	**3.74**	**315**	Pn		**Pn**	**04 24 23.1**	**+1.2**
ORTG	**Ortega, Santa**	**3.96**	**125**			**Pn**	**04 24 25.3**	**+0.5**
PETF	**Flores**	**4.36**	**346**			**Pn**	**04 24 28.6**	**-1.5**
ESPN	**Las Esperanzas**	**4.38**	**96**			**Pn**	**04 24 29.6**	**-0.8**
JTS	**Las Juntas de**	**4.42**	**122**	Pn		**Pn**	**04 24 29.5**	**-1.4**
JTS	**Las Juntas de**	**4.42**	**122**	P		**Pn**	**04 24 31.5**	**+0.6**
	comp=Z,15nm,0.3s,baz=120,slow=12,SNR=157							
JTS				S		**Sn**	**04 25 21.5**	**+0.3**
	comp=Z,50nm,0.3s,baz=358,slow=22,SNR=6.4							
	comp=Z,49nm,0.2s							
ARE1	**Arenal 1**	**4.53**	**119**			**Pn**	**04 24 33.7**	**+1.2**
SOCE	**Pocosol**	**4.65**	**119**			**Pn**	**04 24 35.5**	**+1.3**
SOCE	**Pocosol**	**4.65**	**119**	IAML			04 24 40.0	
	comp=Z,190nm,1.0s							
SOCE	**Pocosol**	**4.65**	**119**	*iP*		**Pn**	**04 24 35.2**	**+1.0**
COVE	**Coope Vega, Sa**	**4.69**	**114**			**Pn**	**04 24 36.6**	**+2.0**
CCIG	**Comitan**	**4.86**	**318**	Pn		**Pn**	**04 24 38.9**	**+1.8**
CPMI	**Catarata Coope**	**4.90**	**118**	IAML			04 24 44.0	
	comp=Z,110nm,1.0s							
CPMI	**Catarata Coope**	**4.90**	**118**	*iP*		**Pn**	**04 24 37.8**	**0.0**
JACO	**JACO, Garabito**	**5.01**	**126**	*iS*		Sn	04 24 49.1	-47
JACO	**JACO, Garabito**	**5.01**	**126**	*iP*		**Pn**	**04 24 39.7**	**+0.6**
JACO	**JACO, Garabito**	**5.01**	**126**	IAML			04 24 42.5	
	comp=Z,120nm,1.0s							
TCS1	**Tacares**	**5.09**	**120**	IAML			04 24 43.3	
	comp=Z,2μm,1.0s							
TCS1	**Tacares**	**5.09**	**120**	*iP*		**Pn**	**04 24 41.5**	**+1.2**
HDC	**Heredia**	**5.27**	**120**			**Pn**	**04 24 41.0**	**-1.7**
RIFO	**Rio Frio, Sara**	**5.29**	**116**	IAML			04 24 49.0	
	comp=Z,150nm,1.0s							
RIFO	**Rio Frio, Sara**	**5.29**	**116**	*iP*		**Pn**	**04 24 44.0**	**+1.2**
OCM	**Ochomogo**	**5.46**	**120**	IAML			04 24 49.4	
	comp=Z,300nm,1.0s							
OCM	**Ochomogo**	**5.46**	**120**	*iP*		**Pn**	**04 24 45.7**	**+0.4**
LCR2	**La Lucha 2**	**5.50**	**121**	Pn		**Pn**	**04 24 47.5**	**+1.5**
LCR2	**La Lucha 2**	**5.50**	**121**	IAML			04 25 52.4	
	comp=Z,270nm,1.0s							
LCR2	**La Lucha 2**	**5.50**	**121**	*iP*		**Pn**	**04 24 46.9**	**+1.0**
HAYA	**Volcan Irazu**	**5.51**	**119**	IAML			04 25 57.7	
	comp=Z,360nm,1.0s							
HAYA	**Volcan Irazu**	**5.51**	**119**	*iP*		**Pn**	**04 24 47.4**	**+1.1**
RIMA	**Rio Macho**	**5.60**	**120**			**Pn**	**04 24 48.6**	**+1.3**
RIMA	**Rio Macho**	**5.60**	**120**	IAML			04 24 52.9	
	comp=Z,410nm,1.0s							
RIMA	**Rio Macho**	**5.60**	**120**	*iP*		**Pn**	**04 24 48.0**	**+0.6**
CDM	**Cerro de Muert**	**5.80**	**122**	IAML			04 24 53.1	
	comp=Z,320nm,1.0s							
CDM	**Cerro de Muert**	**5.80**	**122**	*iP*		**Pn**	**04 24 51.2**	**+0.9**
OCHAL	**Ojochal**	**6.15**	**125**	IAML			04 24 58.2	
	comp=Z,3.7nm,1.0s							
OCHAL	**Ojochal**	**6.15**	**125**	*iP*		**Pn**	**04 24 55.4**	**+0.7**
POTG	**Potrero Grande**	**6.60**	**122**	IAML			04 25 03.5	
	comp=Z,550nm,1.0s							
POTG	**Potrero Grande**	**6.60**	**122**	*iP*		**Pn**	**04 25 02.3**	**+1.3**
PIRO	**Carate, Puerto**	**6.81**	**128**	IAML			04 25 06.6	
	comp=Z,600nm,1.0s							
PIRO	**Carate, Puerto**	**6.81**	**128**	*iP*		**Pn**	**04 25 05.2**	**+1.4**
CDITO	**Canoas**	**7.07**	**125**			**Pn**	**04 25 04.9**	**-2.4**
CDITO	**Canoas**	**7.07**	**125**	IAML			04 25 11.5	
	comp=Z,230nm,1.0s							
CDITO	**Canoas**	**7.07**	**125**	*iP*		**Pn**	**04 25 08.3**	**+0.9**
BRU2	**Volcan**	**7.10**	**122**	IAML			04 25 12.4	
	comp=Z,230nm,1.0s							
BRU2	**Volcan**	**7.10**	**122**	*iP*		**Pn**	**04 25 08.7**	**+0.9**
CMIG	**Matias Romero**	**7.37**	**307**	P		**Pn**	**04 25 12.2**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=120,slow=11,SNR=12							
CMIG				S		**Sn**	**04 26 38.8**	**+5.0**
	comp=Z,3.6nm,0.8s,baz=283,slow=24,SNR=1.2							
	comp=Z,5.9nm,0.5s							
TEIG	**Tepich**	**7.53**	**3**	Pn		**Pn**	**04 25 16.6**	**+3.0**
TEIG	**Tepich**	**7.53**	**3**	P		**Pn**	**04 25 15.4**	**+1.8**
	comp=Z,83nm,0.6s,baz=338,slow=2.9,SNR=15							
TEIG				LR		LR	04 28 34.5	
	comp=Z,1μm,21.1s,baz=350,slow=43							
TLIG	**Tlapa**	**10.64**	**298**	Pn		**Pn**	**04 25 58.3**	**+1.9**
SDV	**Santo Domingo**	**18.20**	**100**	P		**P**	**04 27 35.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=270,slow=4.8,SNR=6.4							
SDV				LR		LR	04 36 00.2	
	comp=Z,39nm,19.1s,baz=273,slow=42							
	comp=Z,3.3nm,0.6s							
352A	**Blakely**	**19.05**	**10**	P		**Pn**	**04 27 46.2**	**+0.8**
352A				IAmb		IAmb	04 27 47.7	
	comp=Z,37nm,0.8s							
HNDO	**Hondo**	**19.41**	**331**	P		**P**	**04 27 47.8**	**-0.4**
435B	**Jarrell**	**19.79**	**337**	P		**P**	**04 27 52.7**	**+0.6**
435B				IAmb		IAmb	04 27 54.0	
	comp=Z,20nm,0.6s							
146A	**Union**	**19.88**	**359**	P		**P**	**04 27 54.0**	**+0.9**
146A				IAmb		IAmb	04 27 56.5	
	comp=Z,26n

RES				IAmb	IAmb	04 33 40.7	
	comp=Z,3.7nm,0.7s						
INK	**Inuvik**	**62.62**	**343**	P	**P**	**04 33 44.5**	**-0.1**
INK				IAmb	IAmb	04 33 44.9	
	comp=Z,3.9nm,0.7s						
A36M	**Sachs Harbour**	**63.18**	**348**	IAmb	IAmb	04 33 47.6	
	comp=Z,3.3nm,0.7s						
F28M	**Old Crow**	**64.15**	**341**	P	**P**	**04 33 55.4**	**+0.6**
ILAR	**Eielson Array**	**65.31**	**336**	P	**P**	**04 34 01.9**	**-0.5**
ILAR	**Eielson Array**	**65.31**	**336**	P	**P**	**04 34 02.6**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=173,slow=5.2,SNR=16						
	comp=Z,1.7nm,1.1s						
BMAR	**Burnt Mountain**	**65.63**	**339**	P	**P**	**04 34 04.0**	**-0.5**
E25K	**Arctic Village**	**66.28**	**340**	P	**P**	**04 34 09.5**	**+0.8**
E25K				IAmb	IAmb	04 34 16.6	
	comp=Z,2.4nm,0.4s						
D25K	**Kavik River**	**67.08**	**341**	IAmb	IAmb	04 34 25.7	
	comp=Z,4.0nm,0.7s						
F21K	**Alatna River**	**68.72**	**338**	IAmb	IAmb	04 34 25.3	
	comp=Z,5.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**77.19**	**36**	P	**P**	**04 35 11.8**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=259,slow=7.7,SNR=1.8						
	comp=Z,0.9nm,0.8s						
ESDC	**Sonseca Array**	**78.06**	**52**	P	**P**	**04 35 18.7**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=267,slow=5.4,SNR=1.3						
	comp=Z,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**80.75**	**12**	P	**P**	**04 35 32.8**	**-0.7**
	comp=Z,9.7nm,1.0s,baz=184,slow=1.3,SNR=4.0						
	comp=Z,9.7nm,1.0s						
ARCES	**ARCESS Array B**	**86.39**	**19**	P	**P**	**04 36 02.4**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=270,slow=6.3,SNR=1.5						
	comp=Z,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**116.00**	**9**	PKP	**PKiKP**	**04 42 02.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=353,slow=2.2,SNR=7.1						
MKAR	**Makanchi Array**	**120.27**	**7**	PKP	**PKPdf**	**04 42 10.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=321,slow=2.7,SNR=5.1						
WRA	**Warramunga Arr**	**138.10**	**254**	PKP	**PKiKP**	**04 42 47.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=89,slow=2.4,SNR=2.6						
ASAR	**Alice Springs**	**138.16**	**249**	PKP	**PKiKP**	**04 42 48.5**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=115,slow=1.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**148.15**	**346**	PKPbc	**PKPbc**	**04 43 07.3**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=340,slow=3.7,SNR=5.8						

AFAD ***12*** *04:39:59.8±0.0, 38.70N×43.67E, h7km±2km, ML2.3*
ISK ***12*** *04:40:00.0, 38.80N×43.53E, h12km, ML2.6/8*
ISC 12 04:39:59.5±1.1, 38.77N±0.03×43.62E±0.04, h14km±9km, n19, σ0.963/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VMUR	**Van-Muradiye**	**0.22**	**351**	P		**Pb**	**04 40 05.9**	**+0.5**
VMUR				S		**Sb**	**04 40 10.6**	**+1.2**
VMUR				*i* AML		AML	04 40 13.0	
	comp=N,916nm,0.2s							
VANB	**Van**	**0.25**	**226**	Pg		**Pb**	**04 40 06.6**	**+0.7**
VANB				Sg		**Sb**	**04 40 11.7**	**+1.6**
TVAN	**Van**	**0.29**	**214**	P		**Pg**	**04 40 05.6**	**-0.1**
TVAN				S		**Sg**	**04 40 10.1**	**+0.1**
TVAN				*i* AML		AML	04 40 12.0	
	comp=E,1μm,0.3s							
TVAN				*i* AML		AML	04 40 13.0	
	comp=N,862nm,0.5s							
OZAP	**Van, Ozalp-Mer**	**0.31**	**110**	P		**Pn**	**04 40 08.8**	**-1.1**
CLDR	**Caldiran**	**0.44**	**32**	Pg		**Pb**	**04 40 09.5**	**+0.3**
CLDR	**Caldiran**	**0.44**	**32**	P		**Pb**	**04 40 09.3**	**+0.2**
GEVA	**Gevas**	**0.63**	**224**	P		**Pg**	**04 40 12.0**	**0.0**
GEVA				S		**Sb**	**04 40 22.4**	**+1.2**
AKDM	**Akdamar-Van**	**0.67**	**229**	Pg		**Pb**	**04 40 12.9**	**-0.1**
AKDM				Sg		**Sb**	**04 40 22.4**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.70**	**273**	P		**Pn**	**04 40 14.4**	**-0.7**
ADCV				S		**Sn**	**04 40 25.2**	**-0.6**
ADCV				*i* AML		AML	04 40 28.0	
	comp=E,79nm,0.4s							
DYDN	**Diyadin**	**0.77**	**4**	P		**Pb**	**04 40 15.5**	**+0.7**
DORK	**Agr/Tutak/Do**	**0.90**	**314**	P		**Pn**	**04 40 17.5**	**-0.3**
DORK				S		**Sn**	**04 40 30.3**	**-0.4**
DORK				*i* AML		AML	04 40 38.0	
	comp=E,70nm,0.9s							
MLAZ	**Malazgirt-MUS**	**0.91**	**294**	Pg		**Pg**	**04 40 16.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.94**	**329**	Pg		**Pg**	**04 40 17.5**	**-0.2**
AGRB				Sg		**Sg**	**04 40 30.0**	**0.0**
HAKT	**HAKKARI**	**1.21**	**177**	P		**Pn**	**04 40 22.1**	**-0.1**
BLIS	**Bitlis-Merkez**	**1.23**	**254**	P		**Pn**	**04 40 22.5**	**+0.1**
BLIS				S		**Sb**	**04 40 38.2**	**-0.1**
BLIS				*i* AML		AML	04 40 42.0	
	comp=E,51nm,0.3s							
GURO	**Guroymak-BITLI**	**1.26**	**260**	Pn		**Pg**	**04 40 23.4**	**-0.4**
GURO				Sn		**Sg**	**04 40 39.9**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.30**	**21**	Pn		**Pg**	**04 40 24.6**	**0.0**
CUKT	**Cukurca**	**1.52**	**180**	Pn		**Pg**	**04 40 28.4**	**-0.3**
MUSM	**Mu-Merkez**	**1.65**	**269**	P		**Pb**	**04 40 29.7**	**+0.1**

TEH ***12*** *04:49:01.6, 33.79N×45.57E, h10km±67km, ML2.5*
ISN ***12*** *04:49:03.1±1.2, 33.83N×45.53E, h16km±7km, ml2.5*
ISC 12 04:49:02.5±1.1, 33.86N±0.05×45.55E±0.07, h10km, n8, σ1.926/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.60**	**113**	Pg		**Pg**	**04 49 12.2**	**-1.9**
IBDR	**Badra**	**0.82**	**157**	*e*Pg		**Pg**	**04 49 18.0**	**-0.3**
IBDR				*e*Sg		**Sg**	**04 49 29.0**	**+0.1**
IGHG	**Ghaleghazi**	**0.96**	**61**	Pg		**Pg**	**04 49 20.8**	**-0.4**
IDHR	**Dehrash**	**1.08**	**40**	Pg		**Pg**	**04 49 23.4**	**-0.1**
BHD	**Baghdad**	**1.14**	**239**	*e*Pg		**Pb**	**04 49 23.0**	**-1.4**
BHD				*e*Sg		**Sb**	**04 49 39.0**	**-0.2**
IKOM	**Komasi**	**1.66**	**79**	Pg		**Pn**	**04 49 32.7**	**+0.9**
IKFM	**Kafar-mosalman**	**1.94**	**99**	Pn		**Pn**	**04 49 36.6**	**+1.0**
RAFI	**Al-Rafai**	**2.19**	**167**	*e*Pn		**Pn**	**04 49 41.0**	**+2.0**
RAFI				*e*Sn		**Sn**	**04 50 07.0**	**+0.9**

IDC 12 04:54:19.2±1.6, 1.06S×128.33E, h0km, mb3.6/4, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=121.3km s-min=21.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.67**	**163**	P		P	04 58 50.0	0.0
	0.2nm,0.3s,baz=343,slow=11,SNR=7.4							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**23.12**	**167**	P		P	04 59 26.5	-0.6
	1.0nm,0.6s,baz=347,slow=12,SNR=11							
	1.0nm,0.6s							
STKA	**Stephens Creek**	**33.12**	**159**	P		P	05 00 57.7	+0.6
	1.1nm,0.5s,baz=339,slow=8.6,SNR=3.2							
	1.1nm,0.5s							
MKAR	**Makanchi Array**	**62.38**	**326**	P		P	05 04 44.1	+0.3
	0.2nm,0.5s,baz=119,slow=8.3,SNR=4.0							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**66.61**	**328**	P		P	05 05 11.1	-0.3
	0.2nm,0.4s,baz=124,slow=6.6,SNR=2.2							
	0.2nm,0.4s							

TEH 12 05:01:06.5, 30.73N×57.30E, h11km±28km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRM1	**Kerman Provinc**	**0.23**	**187**	Pg		Pb	05 01 12.3	-0.5
ZRDN	**Zarand Kerman**	**0.70**	**290**	Pg		Pg	05 01 20.5	+0.3
KHGB	**Koh Gabri**	**0.80**	**244**	Pg		Pb	05 01 22.2	-0.3
KHGB				Sg		Sb	05 01 33.8	+0.5
TVBK	**TV Kerman**	**0.88**	**212**	Pg		Pn	05 01 24.7	-0.4
CHMN	**Cheshme madani**	**0.89**	**167**	Pg		Pg	05 01 23.8	+0.1
NGRK	**Negar Kerman**	**1.19**	**205**	Pg		Pg	05 01 30.0	+0.5
NGRK				Sg		Sn	05 01 46.8	+1.0
IBAF	**Bafgh**	**1.72**	**300**	Pg		Pg	05 01 39.2	-0.3
KBAM	**BAM**	**1.88**	**148**	Pn		Pb	05 01 40.8	0.0
BSRN	**Basiran**	**1.98**	**51**	Pn		Pb	05 01 41.8	-0.9
IKOO	**Kooshah**	**2.23**	**40**	Pn		Pn	05 01 45.6	-1.3
TPRV	**Parvadeh(Tabas**	**2.35**	**347**	Pn		Pn	05 01 47.0	+1.9
IMEH	**Mehriz**	**2.40**	**287**	Pn		Pb	05 01 48.7	-1.1
NHDN	**Nehbandan**	**2.45**	**74**	Pn		Pb	05 01 48.7	-1.8
ITEG	**Tejag**	**2.48**	**29**	Pn		Pn	05 01 49.0	+1.9
TKDS	**Koohdasht(Taba**	**2.88**	**357**	Pn		Pn	05 01 54.3	+1.9
ICHK	**Chekchek**	**2.90**	**302**	Pn		Pn	05 01 55.2	+2.5
AFRZ	**Afriz**	**3.05**	**28**	Pn		Pn	05 01 57.0	+2.1
TNSJ	**Nastanj**	**3.27**	**350**	Pn		Pn	05 01 59.7	+1.8
ISAD	**Sadrabad**	**3.31**	**292**	Pn		Pn	05 02 01.2	+2.7
SHRT	**Shahrakht**	**3.85**	**40**	Pn		Pn	05 02 07.9	+2.1
ANAR	**Anarak**	**3.90**	**310**	Pn		Pn	05 02 08.6	+2.0
IRAM	**Ramesheh**	**4.35**	**286**	Pn		Pn	05 02 16.0	+3.2
IZEF	**Zefreh**	**4.75**	**298**	Pn		Pn	05 02 21.1	+2.8
TBJM	**Torbat-e-JAM**	**5.19**	**29**	Pn		Pn	05 02 26.3	+2.1
KRSH	**Karshahi**	**5.43**	**308**	Pn		Pn	05 02 29.9	+2.3
ISFB	**Sefidab**	**5.59**	**311**	Pn		Pn	05 02 31.8	+2.0
JRKH	**Jarkhoshk**	**5.76**	**25**	Pn		Pn	05 02 35.0	+3.1
IGLO	**Ghaloghah**	**6.44**	**334**	Pn		Pn	05 02 44.4	+2.9
IDMV	**Damavand**	**6.55**	**319**	Pn		Pn	05 02 45.6	+2.6
MRVT	**Maraveh tapeh**	**6.98**	**352**	Pn		Pn	05 02 51.7	+3.0

UCR ***12*** *05:05:20.0±0.8, 9.45N×83.90W, h65km±3km, MW3.5*
UPA ***12*** *05:05:20.5±3.1, 9.48N×83.74W, h0km±56km, MW3.2*
CATAC ***12*** *05:05:21.1±0.2, 9.47N×83.88W, h38km±3km, ML3.2*
ISC 12 05:05:21.7±1.3, 9.48N±0.04×83.91W±0.04, h52km±6km, n61, σ1.901/74, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CDM	**Cerro de Muert**	**0.16**	**63**	*i* P		**Pn**	**05 05 29.9**	**-0.7**
CDM					IAML		05 05 38.9	
	comp=Z,420nm,1.0s							
BUS1	**Rivas**	**0.17**	**65**	*e*P		**Pn**	**05 05 29.9**	**-0.7**
LLNJ	**Naranjito**	**0.19**	**268**	*e*P		**Pn**	**05 05 29.9**	**-0.2**
LLNJ				*e*S		**Sn**	**05 05 37.6**	**+1.4**
LCR2	**La Lucha 2**	**0.28**	**340**	*e*P		**Pn**	**05 05 30.4**	**-0.7**
LCR2				*e*S		**Sn**	**05 05 38.2**	**+0.5**
LCR2	**La Lucha 2**	**0.28**	**340**	*i* P		**Pn**	**05 05 30.3**	**-0.8**
LCR2				*i* S		**Sn**	**05 05 37.8**	**+0.1**
LCR2					IAML		05 05 38.3	
	comp=Z,4μm,1.0s							
RIMA	**Rio Macho**	**0.29**	**9**	*e*P		**Pn**	**05 05 30.5**	**-0.7**
RIMA				*e*S		**Sn**	**05 05 38.4**	**+0.5**
RIMA	**Rio Macho**	**0.29**	**9**	*i* P		**Pn**	**05 05 30.4**	**-0.7**
RIMA				*i* S		**Sn**	**05 05 37.9**	**0.0**
RIMA					IAML		05 05 39.1	
	comp=Z,2μm,1.0s							
REPA	**Paraso**	**0.35**	**7**	*e*P		**Pn**	**05 05 32.2**	**+0.5**
OCM	**Ochomogo**	**0.41**	**353**	*i* P		**Pn**	**05 05 31.8**	**-0.6**
OCM					IAML		05 05 32.1	
	comp=Z,2μm,1.0s							
OCM				*i* S		**Sn**	**05 05 40.8**	**+0.8**
OCHAL	**Ojochal**	**0.46**	**146**	*i* P		**Pn**	**05 05 31.6**	**-1.0**
OCHAL					IAML		05 05 31.8	
	comp=Z,43nm,1.0s							
OCHAL				*i* S		**Sn**	**05 05 40.8**	**+0.3**
SJS3	**Mercedes San J**	**0.48**	**343**	*e*P		**Pn**	**05 05 32.8**	**-0.2**
CORON	**Coronado**	**0.50**	**349**	*e*P		**Pn**	**05 05 33.1**	**-0.2**
HAYA	**Volcan Irazu**	**0.50**	**7**	*i* P		**Pn**	**05 05 33.1**	**-0.4**
HAYA					IAML		05 05 43.8	
	comp=Z,980nm,1.0s							
VICA	**Volcano Irazu**	**0.51**	**7**	*e*P		**Pn**	**05 05 33.0**	**-0.6**
VERB	**Verbena**	**0.51**	**25**	*e*P		**Pn**	**05 05 32.9**	**-0.4**
VTR0	**Volcan Turrial**	**0.55**	**15**	*e*P		**Pn**	**05 05 33.7**	**-0.4**
HDC	**Heredia**	**0.56**	**339**	*e*P		**Pn**	**05 05 33.4**	**-0.5**
HDC3	**Heredia 3**	**0.56**	**339**	*i* P		**Pn**	**05 05 33.4**	**-0.5**
HDC3					IAML		05 05 48.4	
	comp=Z,670nm,1.0s							
EDPN	**Palmar Norte**	**0.68**	**139**	*e*P		**Pn**	**05 05 34.1**	**-1.2**
JACO	**JACO, Garabito**	**0.76**	**284**	*e*P		**Pn**	**05 05 35.2**	**-1.1**
JACO	**JACO, Garabito**	**0.76**	**284**	*i* P		**Pn**	**05 05 34.8**	**-1.5**
JACO					IAML		05 05 49.6	
	comp=Z,720nm,1.0s							
POA5	**Crater Von Fra**	**0.79**	**336**	*e*P		**Pn**	**05 05 36.4**	**-0.5**
SRA1	**San Ramn**	**0.82**	**317**	*e*P		**Pn**	**05 05 36.5**	**-0.8**
RIFO	**Rio Frio, Sara**	**0.83**	**359**	*i* P		**Pn**	**05 05 36.7**	**-0.6**
RIFO					IAML		05 05 53.6	
	comp=Z,730nm,1.0s							
POTG	**Potrero Grande**	**0.89**	**119**	*i* P		**Pn**	**05 05 36.9**	**-1.2**
POTG					IAML		05 05 51.9	
	comp=Z,1μm,1.0s							
CARI	**Cariari**	**0.89**	**11**	*e*P		**Pn**	**05 05 38.0**	**-0.1**
CPMI	**Catarata Coope**	**0.92**	**330**	*i* P		**Pn**	**05 05 38.0**	**-0.7**
CPMI					IAML		05 05 54.8	
	comp=Z,420nm,1.0s							
SARA	**Sarapiqu**	**0.97**	**353**	*e*P		**Pn**	**05 05 38.7**	**-0.4**
ITAL	**Pital**	**1.03**	**340**	*e*P		**Pn**	**05 05 39.7**	**-0.2**
BRIBI	**Bribri**	**1.05**	**82**	*e*P		**Pn**	**05 05 40.2**	**+0.1**
JIME	**Puerto Jimenez**	**1.10**	**148**	*e*P		**Pn**	**05 05 41.7**	**-0.1**
SOCE	**Pocosol**	**1.14**	**322**	*e*P		**Pn**	**05 05 41.6**	**+0.3**
SOCE	**Pocosol**	**1.14**	**322**	*i* P		**Pn**	**05 05 41.5**	**+0.1**
SOCE					IAML		05 06 00.4	
	comp=Z,2μm,1.0s							
CBL1	**Cabuya**	**1.17**	**275**	*e*P		**Pn**	**05 05 39.6**	**-2.2**
PIRO	**Carate, Puerto**	**1.21**	**152**	*i* P		**Pn**	**05 05 41.9**	**-0.4**
PIRO					IAML		05 06 05.8	
	comp=Z,860nm,1.0s							
VACR	**Volcan Arenal**	**1.24**	**323**	*i* P		**Pn**	**05 05 42.8**	**0.0**
VACR					IAML		05 06 03.3	
	comp=Z,750nm,1.0s							
MLIR3	**Monte Lirio, C**	**1.27**	**122**	*e*P		**Pn**	**05 05 43.8**	**+0.6**
MLIR3				*e*S		**Sn**	**05 06 01.1**	**+1.8**
JTS	**Las Juntas de**	**1.31**	**308**	*e*P		**Pn**	**05 05 42.9**	**-0.8**
COVE	**Coope Vega, Sa**	**1.32**	**339**	*e*P		**Pn**	**05 05 43.2**	**-0.7**
COVE	**Coope Vega, Sa**	**1.32**	**339**	*i* P		**Pn**	**05 05 43.2**	**-0.7**
COVE					IAML		05 06 09.0	
	comp=Z,240nm,1.0s							
CDITO	**Canoas**	**1.36**	**131**	*e*P		**Pn**	**05 05 42.1**	**-2.3**
CDITO				*e*S		**Sn**	**05 06 01.3**	**-0.1**
CDITO	**Canoas**	**1.36**	**131**	*i* P		**Pn**	**05 05 43.4**	**-1.0**
CDITO					IAML		05 06 08.5	
	comp=Z,290nm,1.0s							
BRU2	**Volcan**	**1.38**	**119**	*e*P		**Pn**	**05 05 43.6**	**-1.2**
BRU2				*e*S		**Sn**	**05 06 01.3**	**-0.8**
BRU2	**Volcan**	**1.38**	**119**	*i* P		**Pn**	**05 05 43.6**	**-1.2**
BRU2					IAML		05 06 04.2	
	comp=Z,370nm,1.0s							
CNI2	**El Empalme, Bo**	**1.42**	**92**	*e*P		**Pn**	**05 05 44.0**	**-1.2**
CNI2				*e*S		**Sn**	**05 06 01.7**	**-1.0**
BCO2	**Palmira**	**1.56**	**119**	*e*P		**Pn**	**05 05 45.7**	**-1.5**
BCO2				*e*S		**Sn**	**05 06 05.9**	**-0.5**
INDI	**Punta indio, G**	**1.62**	**284**	*e*P		**Pn**	**05 05 45.2**	**-2.6**
INDI	**Punta indio, G**	**1.62**	**284**	*i* P		**Pn**	**05 05 49.4**	**+1.6**
INDI					IAML		05 06 19.6	
	comp=Z,330nm,1.0s							
PTPM	**Petroterminale**	**1.63**	**141**	*i* P		**Pn**	**05 05 48.7**	**+0.7**
PTPM				*e*S		**Sn**	**05 06 11.7**	**+4.0**
LIMO	**Limones**	**1.72**	**143**	*e*P		**Pn**	**05 05 50.2**	**+1.1**
ORTG	**Ortega, Santa**	**1.76**	**300**	*i* P		**Pn**	**05 05 48.9**	**-1.0**
ORTG					IAML		05 06 22.0	
	comp=Z,100nm,1.0s							
DVD	**David**	**1.78**	**126**	*e*S		**Sn**	**05 06 12.1**	**+0.7**
VMAR	**Armenia, Volca**	**1.78**	**318**	*e*P		**Pn**	**05 05 49.9**	**-0.2**
VMAR	**Armenia, Volca**	**1.78**	**318**	*i* P		**Pn**	**05 05 49.8**	**-0.3**
VMAR					IAML		05 06 23.4	
	comp=Z,160nm,1.0s							
CHGR2	**Aguacate**	**1.82**	**107**	*e*P		**Pn**	**05 05 50.5**	**-0.2**
VRLE	**La Escondida,**	**1.94**	**312**	*i* P		**Pn**	**05 05 51.9**	**-0.4**
VRLE					IAML		05 06 27.0	
	comp=Z,96nm,1.0s							
HZTE	**Horizontes, Gu**	**2.06**	**307**	*e*P		**Pn**	**05 05 53.7**	**-0.3**
HZTE	**Horizontes, Gu**	**2.06**	**307**	*i* P		**Pn**	**05 05 54.2**	**+0.2**
HZTE					IAML		05 06 27.6	
	comp=Z,100nm,1.0s							
BLUN	**Bluefields**	**2.51**	**3**	*i* P		**Pn**	**05 05 59.3**	**-0.8**
BLUN					IAML		05 06 00.7	
	comp=Z,46nm,1.0s							
ACON	**Acoyapa**	**2.77**	**333**	*i* P		**Pn**	**05 06 02.9**	**-0.7**
ACON					IAML		05 06 03.7	
	comp=Z,93nm,1.0s							
LIMN	**Finca el Limon**	**4.30**	**326**	*i* P		**Pn**	**05 06 24.8**	**+0.1**
LIMN					IAML		05 06 25.5	
	comp=Z,53nm,1.0s							

ISN ***12*** *05:09:36.7±0.5, 33.78N×45.85E, h9km±7km, ML2.7*
TEH ***12*** *05:09:42.7, 33.77N×45.82E, h8km±96km, ML2.8*
ISC 12 05:09:40.0±0.9, 33.62N±0.04×45.72E±0.04, h10km, n10, σ1.932/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.40**	**90**	Pg		**Pb**	**05 09 49.4**	**+0.1**
ILBA				Sg		**Sb**	**05 09 55.9**	**+0.3**
IBDR	**Badra**	**0.54**	**161**	*e*Pg		**Pg**	**05 09 50.0**	**-0.5**
IBDR				*e*Sg		**Sb**	**05 09 59.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.89**	**353**	Pg		**Pg**	**05 09 58.0**	**+0.9**
IGHG	**Ghaleghazi**	**0.99**	**45**	Pg		**Pg**	**05 09 59.2**	**0.0**
BHD	**Baghdad**	**1.18**	**253**	*e*Pg		**Pn**	**05 10 02.0**	**-0.5**
BHD				*e*Sg		**Sg**	**05 10 20.6**	**+2.8**
IDHR	**Dehrash**	**1.21**	**27**	Pg		**Pn**	**05 10 02.2**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.27**	**59**	Pg		**Pn**	**05 10 03.9**	**-0.1**
IKOM	**Komasi**	**1.58**	**69**	Pg		**Pb**	**05 10 10.5**	**+1.1**
IKFM	**Kafar-mosalman**	**1.77**	**93**	Pg		**Pg**	**05 10 14.1**	**+0.1**
IKRK	**Kirkuk**	**2.11**	**328**	*e*Pn		**Pn**	**05 10 13.0**	**-2.4**
IKRK				*e*Sn		**Sn**	**05 10 40.0**	**-1.7**
IKRK					AML	AML	05 10 50.7	
	comp=E,68nm,0.4s							
IKRK					AML	AML	05 10 53.2	
	comp=N,72nm,0.5s							

TRN ***12*** *05:36:16.8, 14.56N×60.41W, h30km, MD4.2*
IDC ***12*** *05:36:23.3±2.6, 14.49N×61.13W, h0km, mb3.3/4, mbtmp3.4/6, ML3.3/2, MS2.7/1, Error ellipse: s-maj=52.4km s-min=31.2km az=106.0*
ISC 12 05:36:18.1±1.8, 14.56N±0.04×60.39W±0.08, h34km±3km, n45, σ1.904/54, mb3.3/4, 1C-4D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H05S1	**Guadeloupe/Mar**	**0.45**	**253**	Pg		**Pb**	**05 36 28.1**	**+0.2**
H05S1				Lg		Lg	05 36 35.9	
MVM	**Montagne Vaucl**	**0.49**	**270**	*e*P		**Pb**	**05 36 28.4**	**-0.2**
ILAM	**Ilet Lapin Mar**	**0.51**	**295**	*e*P		**Pb**	**05 36 28.3**	**-0.6**
ILAM				*e*S		**Sb**	**05 36 36.3**	**-0.1**
LPMF	**Morne Lapointe**	**0.56**	**272**	*e*P		**Pn**	**05 36 29.1**	**-0.5**
ZAM	**Aeronautique**	**0.62**	**271**	*e*P		**Pn**	**05 36 30.1**	**-0.4**
TRMF	**Trois Ilets**	**0.64**	**268**	*e*P		**Pn**	**05 36 30.5**	**-0.2**
BIM	**Bigot**	**0.66**	**267**	*e*P		**Pn**	**05 36 31.1**	**0.0**
BIM				*e*S		**Sn**	**05 36 41.5**	**+1.2**
BAMF	**Morne Balai**	**0.78**	**289**	*e*P		**Pn**	**05 36 32.8**	**+0.1**
SLBI	**Saint Lucia, B**	**0.78**	**227**	*e*P		**Pn**	**05 36 31.8**	**-0.9**
SLBI				*e*S		**Sn**	**05 36 42.9**	**-0.3**
GBMF	**Grand Be**	**0.79**	**288**	*e*P		**Pn**	**05 36 32.9**	**0.0**
CXM	**Morne La Croix**	**0.79**	**289**	*e*P		**Pn**	**05 36 33.3**	**+0.2**
SLCP	**Castries, St.**	**0.80**	**227**	*e*P		**Pn**	**05 36 32.6**	**-0.4**
SLCP				*e*S		**Sn**	**05 36 43.8**	**+0.1**
PML	**Morne Lenard**	**0.80**	**286**	*e*P		**Pn**	**05 36 33.1**	**+0.1**
SVN	**Savane Anatole**	**0.80**	**291**	*e*P		**Pn**	**05 36 32.8**	**-0.2**
SVN				*e*S		**Sn**	**05 36 44.8**	**+0.9**
PCM	**Pelee Case Pet**	**0.83**	**288**	*e*P		**Pn**	**05 36 33.7**	**+0.2**
SVV	**Soufriere Volc**	**1.47**	**213**	*e*P		**Pn**	**05 36 42.3**	**0.0**
SVV				*e*S		**Sn**	**05 37 00.9**	**+0.6**
SVB	**Belmont**	**1.53**	**213**	*e*P		**Pn**	**05 36 43.3**	**+0.2**
BCHC	**Barbados, Cave**	**1.60**	**152**	*e*P		**Pn**	**05 36 45.0**	**+1.0**
SVOC	**Richmond Hill,**	**1.61**	**210**	*e*P		**Pn**	**05 36 43.7**	**-0.5**
SVOC				*e*S		**Sn**	**05 37 03.5**	**-0.4**
BBGH	**Gun Hill**	**1.62**	**150**	*e*P		**Pn**	**05 36 44.5**	**+0.2**
MAGL	**Barre de l'ile**	**1.63**	**328**	*e*P		**Pn**	**05 36 43.5**	**-1.0**
TDBA	**Terre de Bas,**	**1.76**	**317**	*e*P		**Pn**	**05 36 46.9**	**+0.7**
H05N1	**Guadeloupe/Mar**	**1.86**	**340**	Pn		**Pn**	**05 36 47.3**	**-0.4**
H05N1				Sn		**Sn**	**05 37 08.3**	**-1.8**
CBE	**Ff, Capester**	**1.91**	**322**	*e*P		**Pn**	**05 36 48.6**	**+0.3**
ABD	**La Joyeuse, An**	**2.18**	**331**	*e*P		**Pn**	**05 36 51.6**	**-0.4**
GCMP	**Grenada, Carri**	**2.29**	**206**	*e*P		**Pn**	**05 36 53.

IDC 12 06:06:13.5±2.9, **21°09S**×**179°86E, h0km, mb4.2**/3, **mbtmp4.2/3, Error ellipse: s-maj=297.6km s-min=34.0km az=162.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.43**	**258**	P	P	06 14 09.2	-1.1
	2.1nm,0.5s,baz=105,slow=9.7,SNR=7.3 2.1nm,0.5s						
WRA	**Warramunga Arr**	**42.53**	**263**	P	P	06 14 11.9	+0.7
	5.2nm,0.5s,baz=96,slow=8.3,SNR=84 5.2nm,0.5s						
TXAR	**Lajitas Array**	**89.06**	**58**	P	P	06 19 11.0	0.0
	0.3nm,0.7s,baz=217,slow=6.6,SNR=4.8 0.3nm,0.7s						

IDC ***12*** *06:12:49.8±1.6,4.°81S×129.°20E, h0km, mb3.8/3, mbtmp4.2/5, ML4.7/2, Error ellipse: s-maj=122.1km s-min=25.9km az=69.0*

DJA ***12*** *06:13:14.4±0.3,6.°S±3.°×12.°9E±.°, h274km±5km, M4.3/14, mb4.2/10, mB4.9/5, MLv4.5/14, Mw(mB)4.2/5*

ISC 12 06:13:15.0±0.8, 5°59S±0.°07×129°25E±0.°09, h250km, n26, σ1ᵍ**39/28, mb3.5/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.25**	**31**	P	**Pn**	**06 13 52.7**	**+1.1**
BNDI	**Bandanaira**	**1.25**	**31**	P	**Pn**	**06 13 53.4**	**+1.8**
BNDI				S	**S**	06 14 23.5	+3.1
KRAI	**Karang Ratu**	**2.42**	**339**	P	**Pn**	**06 14 01.8**	**+0.3**
SAUI	**Saumlaki**	**3.13**	**140**	P	**Pn**	**06 14 10.2**	**+1.3**
NLAI	**Namlea**	**3.17**	**317**	P	**Pn**	**06 14 12.3**	**+2.9**
FAKI	**Fak Fak**	**4.00**	**48**	P	**Pn**	**06 14 18.9**	**0.0**
FAKI	**Fak Fak**	**4.00**	**48**	P	**Pn**	**06 14 18.8**	**-0.1**
SANI	**Sanana**	**4.79**	**317**	P	**Pn**	**06 14 27.0**	**-1.4**
KMPI	**Kaimana, Papua**	**4.83**	**67**	P	**Pn**	**06 14 28.0**	**-0.9**
SIJI	**Sorong**	**5.11**	**23**	P	**Pn**	**06 14 31.2**	**-1.0**
SWI	**Sorong**	**5.11**	**23**	P	**Pn**	**06 14 30.9**	**-1.3**
	31nm,0.6s,3μm0.8nm						
LBMI	**Labuha**	**5.22**	**340**	P	**Pn**	**06 14 33.1**	**-0.5**
	113nm,0.7s,2μm0.4nm						
SOEI	**Soe**	**6.44**	**230**	P	**Pn**	**06 14 50.0**	**+1.1**
	26nm,1.4s,0.2nm						
MTN	**Manton Dam**	**7.44**	**166**	P	**Pn**	**06 15 02.3**	**+1.0**
KDU	**Kakadu**	**7.73**	**156**	P	**Pn**	**06 15 06.1**	**+1.1**
LUWI	**Luwuk**	**7.89**	**305**	P	**Pn**	**06 15 06.5**	**-0.5**
	30nm,0.5s,0.2nm						
EDFI	**Ende, Flores**	**8.13**	**247**	P	**Pn**	**06 15 09.9**	**-0.3**
	23nm,0.8s						
KNRA	**Kununurra**	**10.03**	**183**	P	**Pn**	**06 15 35.5**	**+1.4**
PLAI	**Plampang**	**11.83**	**254**	P	**Pn**	**06 15 56.4**	**-0.2**
	30nm,1.3s						
WRA	**Warramunga Arr**	**15.10**	**161**	Pn	**Pn**	**06 16 36.4**	**-0.1**
	2.0nm,0.3s,baz=341,slow=12,SNR=35						
WRA				Sn	**S**	**06 19 20.6**	**-2.4**
	0.3nm,0.3s,baz=340,slow=23,SNR=3.5 7.8nm,0.6s						
QIS	**Mount Isa**	**17.95**	**147**	P	**Pn**	**06 17 09.6**	**-0.6**
ASAR	**Alice Springs**	**18.52**	**166**	P	**Pn**	**06 17 15.8**	**-1.1**
	5.0nm,0.3s,baz=347,slow=11,SNR=58 21nm,0.5s						
WRKA	**Warakurna**	**19.36**	**183**	P	**P**	**06 17 23.9**	**+1.6**
MKAR	**Makanchi Array**	**66.65**	**327**	P	**P**	**06 23 38.7**	**-0.3**
	0.4nm,0.4s,baz=121,slow=7.1,SNR=8.5 0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**70.00**	**334**	P	**P**	**06 23 58.0**	**-1.5**
	0.3nm,0.3s,baz=131,slow=5.9,SNR=1.5 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**70.93**	**329**	P	**P**	**06 24 04.5**	**-0.7**
	0.4nm,0.4s,baz=120,slow=5.1,SNR=5.9 0.4nm,0.4s						

IDC ***12*** *06:26:40.2±1.1,35.°65S×101.°75W, h0km, mb4.0/7, mbtmp4.0/7, MS3.9/25, Error ellipse: s-maj=37.8km s-min=24.6km az=60.0*

NEIC ***12*** *06:26:40.5±1.7,36.°0S±0.°1×101.°7W±0.°2, h10km±1km, mb4.7/36, Error ellipse: s-maj=27.4km s-min=21.1km az=283.0*

GCMT ***12*** *06:26:41.5±0.4,36.°02S±0.°03×101.°78W±0.°02, h18km±1km, MW4.8/86, Moment Tensor Solution. s13,c14; s86,c108; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.52±.14; Mθθ=0.43±.11; Mφφ0.94±.11; Mrθ=0.51±.25; Mθφ=-1.86±.08; Mφr0.51±.23; Best double couple: M₀2.14900×10¹⁶ NP1:ϕs187.00000°, δ75.00000°, λ-20.00000°. NP2: ϕs283.00000°, δ71.00000°, λ-164.00000°. Principal axes: T 2.2480, Plg3.0000°, Azm236.0000°; N -0.1980, Plg65.0000°, Azm332.0000°; P -2.0500, Plg25.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 06:26:40.5±0.7, 35.°8S±0.°1×101.°7W±0.°1, h10km, n89, σ1ᵍ**03/56, mb4.6/26, MS3.9/24, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**10.85**	**321**	LR	LR	06 32 14.1	
	comp=Z,844nm,19.2s,baz=114,slow=31						
H03S2	**Juan Fernandez**	**18.76**	**91**	T	T	06 50 32.6	
	baz=255,slow=76,SNR=20						
H03S1	**Juan Fernandez**	**18.78**	**91**	T	T	06 50 35.0	
	baz=255,slow=76,SNR=17						
H03S3	**Juan Fernandez**	**18.78**	**91**	T	T	06 50 30.9	
	baz=255,slow=76,SNR=11						
GO05	**Huala**	**24.20**	**97**	P	**P**	**06 31 56.0**	**-1.2**
GO05				IAmb	IAmb	06 31 59.5	
	comp=Z,16nm,1.1s						
VA05	**Santo Domingo**	**24.74**	**94**	P	**P**	**06 32 02.2**	**+0.1**
PLCA	**Paso Flores**	**24.84**	**111**	P	**P**	**06 32 06.8**	**+3.7**
	comp=Z,2.9nm,0.9s,baz=259,slow=9.1,SNR=6.7						
PLCA				LR	LR	06 38 52.3	
	comp=Z,115nm,19.6s,baz=270,slow=29 comp=Z,2.9nm,0.9s						
BO01	**Tunca**	**25.01**	**96**		**P**	**06 32 05.3**	**+0.8**
BO01				IAmb	IAmb	06 32 07.3	
	comp=Z,14nm,0.9s						
MT09	**Talagante**	**25.22**	**94**	P	**P**	**06 32 06.4**	**-0.2**
MT02	**Curacav**	**25.22**	**93**	P	**P**	**06 32 06.0**	**-0.5**
MT02				IAmb	IAmb	06 32 07.6	
	comp=Z,21nm,1.2s						
BO04	**La Punta**	**25.48**	**95**	P	**P**	**06 32 08.1**	**-0.7**
BO04				IAmb	IAmb	06 32 12.2	
	comp=Z,19nm,1.1s						
MT03	**Universidad Ad**	**25.67**	**94**	P	**P**	**06 32 09.7**	**-1.0**
MT03				IAmb	IAmb	06 32 22.4	
	comp=Z,16nm,0.9s						
MT16	**CCHEN**	**25.68**	**94**	P	**P**	**06 32 10.3**	**-0.4**
MT16				IAmb	IAmb	06 32 22.4	
	comp=Z,22nm,1.1s						
MT13	**San Alfonso**	**25.80**	**95**	P	**P**	**06 32 11.5**	**-0.3**
MT13				IAmb	IAmb	06 32 15.4	
	comp=Z,21nm,1.1s						
LMEL	**Las Melosas**	**25.84**	**95**	P	**P**	**06 32 12.0**	**-0.2**
LMEL				IAmb	IAmb	06 32 16.8	
	comp=Z,26nm,1.0s						
CO01	**Juntas del Tor**	**27.06**	**87**	P	**P**	**06 32 23.8**	**+0.3**
CFA	**Coronel Fontan**	**28.04**	**91**	LR	LR	06 40 30.1	
	comp=Z,131nm,20.6s,baz=251,slow=30						
PB06	**IPOC Station P**	**30.74**	**74**	P	**P**	**06 32 56.8**	**+0.7**
PB06				IAmb	IAmb	06 33 06.0	
	comp=Z,12nm,0.7s						
LVC	**Limon Verde**	**31.31**	**74**	LR	LR	06 42 26.2	
	comp=Z,253nm,19.1s,baz=244,slow=30						
PB09	**IPOC Station P**	**31.49**	**73**	P	**P**	**06 33 03.9**	**+1.1**
AF01	**San Pedro de A**	**31.70**	**75**	P	**P**	**06 33 05.5**	**+0.8**
NNA	**Nana**	**32.64**	**50**	LR	LR	06 43 26.8	
	comp=Z,382nm,18.8s,baz=228,slow=31						
LPAZ	**La Paz**	**35.60**	**66**	P	**P**	**06 33 40.1**	**+1.1**
ATAH	**Atahualpa**	**35.62**	**42**	LR	LR	06 44 38.2	
	comp=Z,266nm,20.8s,baz=224,slow=30						
PMSA	**Palmer Station**	**36.65**	**154**	LR	LR	06 44 40.0	
	comp=Z,357nm,18.8s,baz=296,slow=29						
MCRA	**Macar, Loja**	**37.14**	**38**	P	**P**	**06 33 50.8**	**-0.8**
MCRA	**Macar, Loja**	**37.14**	**38**	*eP*	**P**	**06 33 51.7**	**+0.1**
ARNL	**Arenillas**	**37.80**	**37**	P	**P**	**06 33 57.1**	**0.0**
ARNL				IAmb	IAmb	06 34 00.7	
	comp=Z,9.0nm,0.7s						
CPUP	**Villa Florida**	**38.85**	**89**	LR	LR	06 48 01.8	
	comp=Z,95nm,18.5s,baz=256,slow=33						
BOSC	**San Juan Bosco**	**38.92**	**39**	P	**P**	**06 34 06.5**	**-0.2**
BOSC				IAmb	IAmb	06 34 08.2	
	comp=Z,9.0nm,0.7s						
COHC	**Cochancay**	**39.13**	**37**	P	**P**	**06 34 08.2**	**-0.1**
PLTB	**Pedras Altas**	**39.83**	**98**	P	**P**	**06 34 13.9**	**-0.2**
CHSH	**Refugio Sur-Vo**	**40.16**	**37**	P	**P**	**06 34 18.6**	**+1.0**
PIAT	**Ana Tenorio**	**40.89**	**37**	*eP*	**P**	**06 34 25.0**	**+1.6**
SLOR	**San Lorenzo -**	**41.01**	**37**		**P**	**06 34 24.6**	**+0.2**
SLOR				IAmb	IAmb	06 34 27.0	
	comp=Z,7.3nm,0.6s						
SIV	**San Ignacio**	**41.13**	**72**	LR	LR	06 49 19.7	
	comp=Z,174nm,20.4s,baz=274,slow=33						
PULU	**Pululahua**	**41.66**	**36**	P	**P**	**06 34 30.7**	**+1.0**
OTAV	**Otavalo**	**41.87**	**36**	P	**P**	**06 34 31.8**	**+0.3**
OTAV	**Otavalo**	**41.87**	**36**	*eP*	**P**	06 34 19.3	-12
IMBA	**Imbabura, San**	**42.02**	**36**	P	**P**	**06 34 33.9**	**+1.1**
TULM	**Tulcn-Chalpat**	**42.61**	**37**	P	**P**	**06 34 38.8**	**+1.3**
TULM				IAmb	IAmb	06 34 39.8	
	comp=Z,11nm,0.8s						
AQDB	**Aquidauana**	**42.91**	**82**	P	**P**	**06 34 39.5**	**0.0**
TBI	**Tubuai**	**43.00**	**273**	*e*LR	LR	06 46 04.5	
	comp=Z,720nm,25.5s						
TBI				*e*LR	LR	06 46 30.0	
	comp=Z,915nm,28.2s						
GCUF	**Volcan Galeras**	**43.26**	**37**	*eP*	**P**	**06 34 44.1**	**+1.2**
VILB	**Vilhena**	**43.65**	**69**	P	**P**	**06 34 45.2**	**-0.3**
VILB				IAmb	IAmb	06 34 46.5	
	comp=Z,11nm,1.0s						
SAML	**Samuel**	**44.05**	**62**	P	**P**	**06 34 48.7**	**0.0**
SAML				IAmb	IAmb	06 34 50.0	
	comp=Z,10.0nm,1.1s						
SAML	**Samuel**	**44.05**	**62**	*eP*	**P**	**06 34 49.2**	**+0.6**
TAOE	**Nuku Hiva Isla**	**44.13**	**298**	*e*LR	LR	06 47 23.7	
	comp=Z,90nm,24.3s						
JAMC	**Jamundi, Valle**	**45.32**	**36**	*eP*	**P**	**06 34 59.1**	**+0.1**
PPT2	**Papeete 2**	**46.01**	**280**	*e*LR	LR	06 47 45.9	
	comp=Z,141nm,25.8s						
PPT	**Papeete**	**46.02**	**280**	LR	LR	06 48 19.1	
	comp=Z,65nm,20.4s,baz=200,slow=28						
ROSC	**El Rosal**	**47.88**	**38**		**P**	**06 35 20.8**	**+1.5**
ROSC	**El Rosal**	**47.88**	**38**	P	**P**	**06 35 20.4**	**+1.1**
	comp=Z,32nm,0.9s,baz=187,slow=3.9,SNR=14						
ROSC				LR	LR	06 52 01.9	
	comp=Z,216nm,20.4s,baz=234,slow=32						
MACA	**Manacapuru-AM**	**49.86**	**59**		**P**	**06 35 33.6**	**-0.5**
BELA	**Belgrano 2**	**50.48**	**165**	P	**P**	**06 35 36.5**	**-1.5**
BELA				IAmb	IAmb	06 35 37.8	
	comp=Z,8.6nm,1.3s						
BDFB	**Brasilia**	**51.66**	**82**	P	**P**	**06 35 47.6**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=234,slow=8.9,SNR=5.4						
BDFB				LR	LR	06 56 58.1	
	comp=Z,72nm,18.6s,baz=188,slow=35 comp=Z,3.0nm,0.8s						
SDV	**Santo Domingo**	**53.21**	**39**	LR	LR	06 54 54.9	
	comp=Z,44nm,22.0s,baz=74,slow=32						
BOAV	**Boa Vista**	**54.02**	**54**	P	**P**	**06 36 03.8**	**-1.3**
QSPA	**South Pole Qui**	**54.40**	**180**	P	**P**	**06 36 09.4**	**+1.9**
	comp=Z,0.7nm,0.2s,baz=104,slow=3.0,SNR=1.1 comp=Z,0.7nm,0.2s						
BAUV	**El Baul**	**54.63**	**42**	P	**P**	**06 36 08.6**	**-0.9**
VNDA	**Vanda**	**56.73**	**195**	P	**P**	**06 36 22.8**	**-1.1**
VNDA				IAmb	IAmb	06 36 54.1	
	comp=Z,9.2nm,1.5s						
VNDA	**Vanda**	**56.73**	**195**	LR	LR	06 54 27.3	
	comp=Z,66nm,21.0s,baz=122,slow=29						
URZ	**Urwera**	**62.82**	**241**	LR	LR	06 57 34.5	
	comp=Z,81nm,21.8s,baz=120,slow=30						
RPZ	**Rata Peaks**	**64.60**	**233**	LR	LR	06 58 21.6	
	comp=Z,107nm,20.2s,baz=95,slow=29						
TXAR	**Lajitas Array**	**64.82**	**358**	P	**P**	**06 37 21.5**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=184,slow=7.0,SNR=1.3 comp=Z,0.3nm,0.8s						
MVCO	**Mesa Verde**	**72.93**	**354**	P	**P**	**06 38 10.4**	**+0.4**
MVCO				IAmb	IAmb	06 38 27.3	
	comp=Z,7.0nm,1.2s						
TKL	**Tuckaleechee C**	**73.03**	**15**	LR	LR	07 04 59.4	
	comp=Z,45nm,20.5s,baz=186,slow=32						
NVAR	**Mina Array Bea**	**75.46**	**347**	P	**P**	**06 38 25.2**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=175,slow=6.3,SNR=10 comp=Z,1.9nm,0.9s						
PDAR	**Pinedale Array**	**78.53**	**354**	P	**P**	**06 38 41.3**	**-0.7**
PDAR	**Pinedale Array**	**78.53**	**354**	P	**P**	**06 38 41.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=152,slow=6.7,SNR=6.5 comp=Z,0.8nm,0.8s						
DZM	**Mont Dzumac**	**78.89**	**251**	*e*LR	LR	07 03 12.3	
	comp=Z,188nm,23.8s						
DZM	**Mont Dzumac**	**78.89**	**251**	LR	LR	07 04 58.1	
	comp=Z,102nm,19.6s,baz=195,slow=29						
YBH	**Yreka Blue Hor**	**79.54**	**344**	LR	LR	07 08 38.9	
	comp=Z,59nm,20.4s,baz=82,slow=32						
HLID	**Hailey**	**79.85**	**351**	P	**P**	**06 38 49.8**	**+0.7**
ULM	**Lac du Bonnet**	**85.84**	**4**	P	**P**	**06 39 18.8**	**-1.0**
	comp=Z,3.9nm,1.0s,baz=174,slow=4.0,SNR=3.6 comp=Z,3.9nm,1.0s						
STKA	**Stephens Creek**	**90.29**	**229**	LR	LR	07 11 45.6	
	comp=Z,97nm,20.4s,baz=193,slow=30						
HNR	**Honiara**	**91.28**	**258**	LR	LR	07 13 44.0	
	comp=Z,419nm,18.7s,baz=148,slow=31						
SUR	**Sutherland**	**93.37**	**134**	LR	LR	07 14 47.4	
	comp=Z,33nm,20.9s,baz=224,slow=31						
CTA	**Charters Tower**	**95.07**	**241**	LR	LR	07 16 02.4	
	comp=Z,46nm,20.0s,baz=86,slow=31						
SCHQ	**Schefferville**	**95.11**	**19**	LR	LR	07 18 35.8	
	comp=Z,63nm,19.1s,baz=226,slow=33						
BOSA	**Boshof**	**98.72**	**135**	LR	LR	07 18 23.1	
	comp=Z,21nm,19.4s,baz=198,slow=31						
H01W1	**Cape Leeuwin H**	**102.13**	**209**	T	T	08 34 58.4	
	baz=150,slow=76,SNR=6.1						
H01W2	**Cape Leeuwin H**	**102.13**	**209**	T	T	08 34 59.6	
	baz=150,slow=76,SNR=6.0						
H01W3	**Cape Leeuwin H**	**102.15**	**209**	T	T	08 34 59.9	
	baz=150,slow=76,SNR=5.1						
BRTR	**Keskin Array B**	**144.72**	**70**	PKPdf	**PKPab**	**06 46 16.6**	**+0.2**
BRTR	**Keskin Array B**	**144.72**	**70**	PKP	**PKiKP**	**06 46 19.7**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=216,slow=4.6,SNR=4.3						
OBN	**Obninsk**	**145.59**	**43**	PKPdf	**PKPdf**	**06 46 18.0**	**-0.3**
NRIK	**Noril'sk**	**146.03**	**354**	PKPdf	**PKPdf**	**06 46 19.3**	**+0.6**
NRIK	**Noril'sk**	**146.03**	**354**	PKPbc	**PKPab**	**06 46 20.9**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=75,slow=4.6,SNR=3.5						

IDC ***12*** *06:40:41.5±2.4,6.°11N×127.°17E, h64km±20km, mb4.0/16, mbtmp4.3/16, MS3.3/7, Error ellipse: s-maj=30.4km s-min=12.1km az=62.0*

DJA ***12*** *06:40:42.5±0.8,6.°N±7.°×12.°7E±.°, h102km±16km, M4.5/9, mB4.9/7, mb4.5/9, MLv4.8/8, Mw(mB)4.2/7*

NEIC ***12*** *06:40:46.6±1.3,5.°94N±0.°08×126.°6E±0.°1, h97km±6km, mb4.4/31, Error ellipse: s-maj=19.5km s-min=9.6km az=68.0*

ISC 12 06:40:45.6±0.5, 5.°90N±0.°06×126.°7E±0.°1, h100km, n77, σ1ᵍ**54/66, mb4.3/31, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.62**	**316**	P	**Pn**	**06 41 12.5**	**-0.9**
	2μm,0.5s,baz=107,slow=1.6,SNR=18						
DAV				S	**Sn**	**06 41 33.5**	**-1.0**
	2μm,0.6s,baz=240,slow=15,SNR=11						
DAV	**Davao City (W)**	**1.62**	**316**	P	**Pn**	**06 41 12.2**	**-1.2**
SGSI	**Sangihe**	**2.50**	**208**	P	**Pn**	**06 41 22.5**	**-2.2**
TNTI	**Ternate**	**5.13**	**173**	Pn	**Pn**	**06 42 00.1**	**-0.1**
GTOI	**Gorontalo**	**6.40**	**215**	P	**Pn**	**06 42 16.1**	**-1.3**
	43nm,0.6s,408nm0.1nm						
LBMI	**Labuha**	**6.54**	**173**	P	**Pn**	**06 42 16.6**	**-2.8**
	82nm,0.7s,0.6nm						
MRSI	**Marisa**	**7.19**	**222**	P	**Pn**	**06 42 26.5**	**-1.7**
	229nm,0.6s,2μm0.8nm						
TOLI2	**Tolitoli**	**7.59**	**231**	Pn	**Pn**	**06 42 31.2**	**-2.4**
SANI	**Sanana**	**7.93**	**185**	P	**Pn**	**06 42 34.7**	**-3.5**
	27nm,0.4s,925nm0.2nm						
SIJI	**Sorong**	**8.12**	**146**	P	Pn	06 42 35.6	-5.2
	11nm,0.8s,850nm						
NLAI	**Namlea**	**9.09**	**178**	P	**Pn**	**06 42 51.0**	**-3.0**
	16nm,0.8s,2μm						
FAKI	**Fak Fak**	**10.36**	**148**	P	**Pn**	**06 43 06.9**	**-4.4**
	17nm,0.9s						
GUMO	**Guam**	**19.45**	**66**	LR	LR	06 51 35.3	
	comp=Z,34nm,20.3s,baz=160,slow=34						
KNRA	**Kununurra**	**21.53**	**175**	P	**P**	**06 45 26.9**	**0.0**
KNRA				IAmb	IAmb	06 45 45.5	
	comp=Z,18nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.87**	**183**	P	**P**	**06 45 52.6**	**+2.6**
COEN	**Coen**	**25.62**	**140**	P	**P**	**06 46 06.9**	**+1.0**
COEN				IAmb	IAmb	06 46 39.9	
	comp=Z,4.6nm,0.8s						
WB0	**Warramunga Arr**	**26.60**	**164**	P	**P**	**06 46 15.6**	**+0.8**
WB0				IAmb	IAmb	06 46 45.1	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**26.75**	**164**	P	**P**	**06 46 17.0**	**+0.8**
WRA	**Warramunga Arr**	**26.75**	**164**	P	**P**	**06 46 15.7**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=343,slow=10.0,SNR=13						
WRA				PcP	**PcP**	**06 49 36.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=325,slow=2.7,SNR=2.0						
WRA				ScP	**ScP**	**06 53 11.7**	**+3.3**
	comp=Z,0.7nm,0.7s,baz=344,slow=3.0,SNR=3.8 comp=Z,1.1nm,0.6s						
PSA00	**Pilbara Seismi**	**28.12**	**194**	P	**P**	**06 46 30.0**	**+1.7**
GSI	**Gunungsitoli**	**29.43**	**262**	P	**P**	**06 46 39.1**	**-1.0**
AS31	**Alice Springs**	**30.21**	**167**	P	**P**	**06 46 47.9**	**+0.9**
ASAR	**Alice Springs**	**30.21**	**167**	P	**P**	**06 46 47.2**	**+0.3**
ASAR	**Alice Springs**	**30.21**	**167**	P	**P**	**06 46 46.3**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=350,slow=7.2,SNR=8.9						
ASAR				PcP	**PcP**	**06 49 47.0**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=340,slow=2.0,SNR=4.9						
ASAR				LR	LR	06 59 03.8	
	comp=Z,20nm,20.9s,baz=41,slow=36 comp=Z,0.7nm,0.5s						
STKA	**Stephens Creek**	**40.16**	**160**	P	**P**	**06 48 12.6**	**+0.5**
STKA	**Stephens Creek**	**40.16**	**160**	P	**P**	**06 48 12.1**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=319,slow=10,SNR=2.7 comp=Z,1.6nm,0.4s						
ASAJ	**Asahikawa**	**40.54**	**18**	LR	LR	07 05 59.4	
	comp=Z,29nm,18.8s,baz=104,slow=38						
H11S3	**WAKE ISLAND Hy**	**40.92**	**69**	T	T	07 32 25.1	
	baz=258,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**40.94**	**69**	T	T	07 32 21.2	
	baz=258,slow=75,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**40.94**	**69**	T	T	07 32 24.1	
	baz=258,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**41.39**	**67**	T	T	07 33 30.0	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**41.40**	**67**	T	T	07 33 34.4	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**41.40**	**67**	T	T	07 33 36.4	
	baz=265						
SONM	**Songino Array**	**45.25**	**341**	P	**P**	**06 48 51.4**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=148,slow=8.5,SNR=2.1 comp=Z,0.2nm,0.4s						
PETK	**Petropavlovsk-**	**53.45**	**23**	P	**P**	**06 49 54.2**	**-1.0**
PETK	**Petropavlovsk-**	**53.45**	**23**	P	**P**	**06 49 51.1**	**-4.2**
	comp=Z,3.3nm,0.9s,baz=228,slow=4.5,SNR=2.8 comp=Z,3.3nm,0.9s						
MK31	**Makanchi Array**	**55.78**	**324**	P	**P**	**06 50 12.3**	**-0.1**
MK31				IAmb	IAmb	06 50 13.4	
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**55.78**	**324**	P	**P**	**06 50 13.0**	**+0.6**
MKAR	**Makanchi Array**	**55.78**	**324**	P	**P**	**06 50 13.2**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=118,slow=8.1,SNR=43						
MKAR				PcP	**PcP**	**06 51 12.8**	**+2.5**
	comp=Z,1.8nm,0.6s,baz=114,slow=4.2,SNR=7.2						
MKAR				LR	LR	07 15 28.3	
	comp=Z,38nm,18.9s,baz=64,slow=37 comp=Z,2.4nm,0.5s						
ZALV	**Zalesovo Beam**	**58.66**	**332**	P	**P**	**06 50 32.0**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=152,slow=6.6,SNR=4.5 comp=Z,1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**59.92**	**327**	P	**P**	**06 50 41.7**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=126,slow=6.5,SNR=132 comp=Z,5.0nm,0.5s						
KURK	**Kurchatov**	**59.92**	**327**	P	**P**	**06 50 41.4**	**+0.3**
BVAR	**Borovoye Array**	**65.51**	**326**	P	**P**	**06 51 18.6**	**+0.4**
	comp=Z,3.9nm,0.4s,baz=122,slow=6.3,SNR=28 comp=Z,3.9nm,0.4s						
BRVK	**Borovoye**	**65.58**	**326**	P	**P**	**06 51 18.8**	**+0.1**
BRVK				IAmb	IAmb	06 51 19.6	
	comp=Z,4.9nm,0.6s						
NRIK	**Noril'sk**	**68.33**	**346**	P	**P**	**06 51 37.1**	**+1.3**
NRIK				IAmb	IAmb	06 51 40.0	
	comp=Z,4.5nm,0.6s						
NRIK	**Noril'sk**	**68.33**	**346**	P	**P**	**06 51 35.6**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=120,slow=7.1,SNR=7.5 comp=Z,3.8nm,0.6s						
ABKAR	**Akbulak array**	**70.47**	**320**	P	**P**	**06 51 49.0**	**-0.4**
AKTO	**Aktyubinsk**	**71.96**	**321**	P	**P**	**06 51 58.7**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=86,slow=6.9,SNR=12 comp=Z,3.8nm,0.7s						
CASY	**Casey**	**72.95**	**187**	P	**P**	**06 52 05.8**	**+1.9**
CASY				IAmb	IAmb	06 52 09.6	
	comp=Z,16nm,1.3s						
ARU	**Arti**	**73.11**	**327**	P	**P**	**06 52 05.5**	**+0.4**
ARU	**Arti**	**73.11**	**327**	P	**P**	**06 52 04.8**	**-0.2**
	comp=Z,11nm,0.5s,baz=101,slow=4.9,SNR=19 comp=Z,11nm,0.5s						
L16K	**Owhat River**	**77.18**	**28**	P	**P**	**06 52 29.4**	**+1.1**
M16K	**Timber Creek**	**77.29**	**29**	P	**P**	**06 52 30.2**	**+1.3**
M16K				IAmb	IAmb	06 53 01.0	
	comp=Z,12nm,1.2s						
C18K	**Utukok River**	**78.05**	**21**	P	**P**	**06 52 33.0**	**-0.1**
C18K				IAmb	IAmb	06 52 40.9	
	comp=

PAVE					*e*S		**Sn**	**06 46 28.5 +0.8**
CHUJ	**Union Juarez**	**2.04**	**89**	*e*P			**Pn**	**06 46 05.9 +1.5**
CHUJ					eS		**Sn**	**06 46 28.4 -0.8**
SMCA	**Catarina**	**2.08**	**95**	*i* PA				06 46 06.7
SMCA					IAML			06 46 37.6
	comp=Z,1μm,1.0s							
CMIG	**Matias Romero**	**2.12**	**343**	P	n		**Pn**	**06 46 06.6 +1.2**
	comp=Z,53nm,0.3s,baz=178,slow=11,SNR=345							
CMIG					Sn		**Sn**	**06 46 31.0 +0.1**
	comp=Z,157nm,0.3s,baz=84,slow=18,SNR=43							
CMIG					LR		LR	06 47 00.6
	comp=Z,159nm,21.0s,baz=162,slow=38							
	comp=Z,126nm,0.3s							
CMIG	**Matias Romero**	**2.12**	**343**	*i* P			**Pn**	**06 46 06.5 +1.2**
CMIG					eS		**Sn**	**06 46 31.1 +0.1**
UXUV	**UXUV**	**2.25**	**2**	*e*P			**Pn**	**06 46 09.6 +2.5**
UXUV					eS		**Sn**	**06 46 36.7 +2.6**
CCIG	**Comitan**	**2.35**	**58**	*e*P			**Pb**	**06 46 12.2 -0.9**
CCIG					eS		**Sb**	**06 46 40.1 -1.6**
CCIG	**Comitan**	**2.35**	**58**	*i* PA				06 46 12.4
CCIG					IAML			06 46 48.6
	comp=Z,1μm,1.0s							
SMSP	**San Marcos**	**2.36**	**92**	*e*S			**Sn**	**06 46 36.6 -0.5**
SMSP	**San Marcos**	**2.36**	**92**	*i* PA				06 46 12.4
SMSP					IAML			06 46 43.7
	comp=Z,5μm,1.0s							
RTAL	**Retalhuleu**	**2.50**	**102**	*e*S			**Sn**	**06 46 39.7 -0.5**
QUEO	**Labor Ovalle**	**2.62**	**94**	*i* P			**Pn**	**06 46 15.1 +2.6**
QUEO				*i* S			**Sn**	**06 46 46.3 +2.6**
QUEO					IAML			06 46 55.4
	comp=Z,2μm,1.0s							
HUEH	**Huehuetenango**	**2.63**	**84**	*i* P			**Pn**	**06 46 16.0 +3.4**
HUEH				*i* S			**Sb**	**06 46 48.6 -1.4**
HUEH	**Huehuetenango**	**2.63**	**84**	*i* PA				06 46 17.0
HUEH					IAML			06 46 52.2
	comp=Z,6μm,1.0s							
SOKI	**Kika Raxquin**	**2.73**	**95**	*i* PA				06 46 19.2
SOKI					IAML			06 47 03.8
	comp=Z,480nm,1.0s							
TUIG	**Tuzandepetl**	**2.97**	**356**	*e*P			**Pn**	**06 46 17.2 +0.2**
TUIG					eS		**Sn**	**06 46 51.9 +0.1**
PEIG	**Puerto Escondi**	**2.98**	**289**	*i* P			Pn	06 46 17.0 -0.1
PEIG					eS		Sn	06 46 46.7 -5.3
QUIS	**Sacapulas**	**3.03**	**85**	*i* PA				06 46 23.1
QUIS					IAML			06 47 01.1
	comp=Z,1μm,1.0s							
NEUV	**Arroyo Zacate**	**3.05**	**330**	*e*P			**Pn**	**06 46 18.7 +0.6**
NEUV					eS		**Sn**	**06 46 53.5 -0.3**
OXLC	**Oaxaca**	**3.12**	**310**	*e*S			**Sn**	**06 46 53.2 -2.5**
VHO	**Vista Hermosa**	**3.14**	**310**	*e*P			**Pn**	**06 46 21.8 +2.3**
VHO					eS		**Sn**	**06 46 55.6 -0.8**
PMUV	**Sontecomapan**	**3.58**	**346**	*e*P			Pn	06 46 22.5 -2.9
PMUV					eS		**Sn**	**06 47 01.0 -6.0**
YOIG	**Yosondua**	**3.67**	**300**	*e*P			**Pn**	**06 46 28.9 +2.0**
YOIG					eS		Sn	06 47 05.8 -3.8
GUNB	**GUNB**	**3.77**	**96**	*i* PA				06 46 29.6
GUNB					IAML			06 47 21.5
	comp=Z,210nm,1.0s							
PNIG	**Pinotepa**	**3.99**	**290**	*i* P			**Pn**	**06 46 31.9 +0.8**
PNIG					eS		Sn	06 47 11.1 -6.1
TXIG	**Tlaxiaco**	**4.05**	**303**	*e*P			**Pn**	**06 46 34.7 +2.6**
TXIG					eS		**Sn**	**06 47 15.8 -3.2**
TOIG	**Toxpalan**	**4.07**	**318**	*e*P			**Pn**	**06 46 36.6 +4.3**
TOIG					eS		**Sn**	**06 47 19.1 -0.2**
HLIG	**Huajuapan de L**	**4.41**	**309**	*e*P			**Pn**	**06 46 40.7 +3.7**
HLIG					eS		**Sn**	**06 47 23.9 -3.9**
NUBE	**Las Nubes**	**4.45**	**104**	*i* PA				06 46 41.9
NUBE					IAML			06 47 40.0
	comp=Z,120nm,1.0s							
TPIG	**Tehuac#an**	**4.50**	**318**	*e*P			**Pn**	**06 46 38.1 -0.1**
TPIG					eS		**Sn**	**06 47 26.1 -3.8**
PETF	**Flores**	**4.58**	**66**	*e*P			**Pn**	**06 46 41.6 +2.5**
PETF					eS		**Sn**	**06 47 31.0 -0.6**
PETF	**Flores**	**4.58**	**66**	*i* PA				06 46 42.9
PETF					IAML			06 47 40.5
	comp=Z,360nm,1.0s							
FTIG	**Fresnillo de T**	**4.71**	**308**	*e*P			**Pn**	**06 46 44.2 +3.2**
FTIG					eS		Sn	06 47 29.8 -5.2
MTO3	**Montecristo**	**4.75**	**97**	*i* PA				06 46 46.0
MTO3					IAML			06 48 06.2
	comp=Z,56nm,1.0s							
MGIG	**Malinaltepec**	**4.76**	**298**	*e*P			**Pn**	**06 46 44.6 +2.8**
MGIG					eS		Sn	06 47 30.8 -5.6
JAYA	**Jayaque - finc**	**4.83**	**106**	*i* PA				06 46 51.1
JAYA					IAML			06 47 41.3
	comp=Z,240nm,1.0s							
TLIG	**Tlapa**	**4.86**	**301**	*e*P			Pn	06 46 50.6 +7.5
TLIG					eS		Sn	06 47 32.0 -6.8
PMON	**Piamonte**	**4.94**	**105**	*i* P			Pb	06 46 54.2 -3.0
JAUV	**Jalcomulco**	**4.95**	**330**	*e*P			**Pn**	**06 46 43.7 -0.5**
JAUV					eS		**Sn**	**06 47 36.1 -4.7**
CRIG	**Cruz Grande**	**5.01**	**290**	*e*P			**Pn**	**06 46 46.5 +1.4**
CRIG					eS		Sn	06 47 35.0 -7.3
SJTE	**Alcalda de S**	**5.25**	**105**	*i* P			**Pb**	**06 47 00.9 -1.6**
SARH	**Santa Rosa de**	**5.28**	**92**	*i* PA				06 46 53.1
COEG	**Centro de Oper**	**5.37**	**105**	*i* P			Pb	06 47 01.8 -2.7
DAIG	**Los Arroyos**	**5.58**	**291**	*e*P			**Pn**	**06 46 54.2 +1.4**
DAIG					eS		Sn	06 47 49.1 -7.1
PPM	**Popocatepetl**	**5.80**	**314**	*e*P			**Pn**	**06 47 01.2 +4.8**
PPM					eS		**Sn**	**06 47 59.0 -3.6**
MEIG	**Mezcala**	**5.92**	**300**	*e*P			**Pn**	**06 47 01.0 +3.4**
MEIG					eS		**Sn**	**06 48 01.5 -3.2**
YAIG	**Yautepec**	**5.99**	**310**	*e*P			**Pn**	**06 47 00.8 +2.1**
YAIG					eS		Sn	06 48 00.5 -6.1
PLIG	**Platanillo**	**6.05**	**304**	*e*P			**Pn**	**06 47 02.1 +2.6**
PLIG					eS		Sn	06 48 00.4 -7.7
CAIG	**El Cayaco**	**6.14**	**290**	*e*P			Pn	06 47 01.0 +0.3
CAIG					eS		Sn	06 48 02.3 -7.9
NISHN	**Nisperales Com**	**6.15**	**82**	*i* PA				06 47 04.4
CNCH	**Conchagua**	**6.44**	**105**	*i* P			Pb	06 47 18.7 -4.1
ARIG	**Puente Sto Nin**	**6.69**	**299**	*e*P			**Pn**	**06 47 11.8 +3.6**
ARIG					eS		**Sn**	**06 48 20.9 -2.9**
ZIIG	**Zihuatanejo**	**7.41**	**291**	*e*P			**Pn**	**06 47 20.9 +3.0**
ZIIG					eS		Sn	06 48 35.8 -5.5
TEIG	**Tepich**	**7.65**	**47**	P	n		**Pn**	**06 47 22.0 +0.7**
	comp=Z,99nm,0.3s,baz=242,slow=1.9,SNR=39							
TEIG					Sn		**Sn**	**06 48 43.7 -3.6**
	comp=Z,34nm,0.3s,baz=89,slow=22,SNR=2.5							
TEIG					LR		LR	06 50 54.2
	comp=Z,788nm,18.6s,baz=22,slow=42							
MMIG	**Aquila**	**9.32**	**291**	*i* P			**Pn**	**06 47 47.5 +3.2**
MMIG					eS		Sn	06 49 23.8 -4.6
COIG	**Colima**	**9.94**	**296**	*e*P			Pn	06 47 57.8 +5.0
EZ5V		**9.98**	**297**	*e*P			**Pn**	**06 47 56.4 +2.8**
MNGA	**Volcan de Coli**	**9.99**	**297**	*e*P			Pn	06 48 01.4 +7.6
CEGR	**Campo Tres**	**10.17**	**296**	*e*P			**Pn**	**06 48 00.8 +4.7**
CEGR					eS		**Sn**	**06 49 49.3 -0.2**
TXAR	**Lajitas Array**	**16.67**	**330**	P			**Pn**	**06 49 26.1 +2.5**
	baz=151,slow=13,SNR=3.1							
	comp=Z,0.4nm,0.9s							
ANMO	**Albuquerque**	**22.66**	**333**	P			**P**	**06 50 31.6 +0.4**
	comp=Z,0.3nm,0.3s,baz=127,slow=10,SNR=1.8							
	comp=Z,0.3nm,0.3s							
PFO	**Pinyon Flats O**	**27.32**	**317**	LR			LR	07 02 54.7
	comp=Z,63nm,20.0s,baz=188,slow=38							
ELK	**Elko**	**31.46**	**329**	LR			LR	07 06 33.2
	comp=Z,111nm,20.3s,baz=294,slow=40							
NVAR	**Mina Array Bea**	**31.52**	**322**	P			**P**	**06 51 53.4 +1.6**
	comp=Z,0.4nm,0.7s,baz=119,slow=9.4,SNR=3.4							
	comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**49.53**	**348**	P			**P**	**06 54 19.8 -0.1**
	comp=Z,0.8nm,0.8s,baz=147,slow=7.8,SNR=7.4							
	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**61.03**	**337**	P			**P**	**06 55 42.9 +0.1**
	comp=Z,0.6nm,0.8s,baz=155,slow=4.8,SNR=8.6							
	comp=Z,0.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**78.37**	**36**	P			**P**	**06 57 28.7 -1.0**
	comp=Z,1.4nm,0.6s,baz=294,slow=6.2,SNR=3.7							
	comp=Z,1.4nm,0.6s							
ESDC	**Sonseca Array**	**80.75**	**51**	LR			LR	07 27 40.6
	comp=Z,51nm,19.2s,baz=278,slow=31							
MDT	**Midelt**	**81.68**	**58**	LR			LR	07 25 43.4
	comp=Z,50nm,20.8s,baz=316,slow=30							
NOA	**NORSAR Array B**	**84.24**	**28**	P			**P**	**06 57 59.9 -1.0**
	comp=Z,0.6nm,0.8s,baz=291,slow=5.2,SNR=3.8							
	comp=Z,0.6nm,0.8s							
ARCES	**ARCESS Array B**	**85.81**	**18**	P			**P**	**06 58 07.8 -0.7**
	comp=Z,4.0nm,1.1s,baz=280,slow=5.0,SNR=3.9							
	comp=Z,4.0nm,1.1s							
DAVOX	**Davos/Dischmat**	**88.52**	**42**	LR			LR	07 34 08.1
	comp=Z,51nm,20.7s,baz=284,slow=33							
TORD	**Torodi Ar. Bea**	**92.21**	**76**	P			P	06 58 38.2 -1.7
	comp=Z,0.4nm,1.0s,baz=280,slow=7.1,SNR=1.8							
	comp=Z,0.4nm,1.0s							

KNET **12** *06:48:35.1±0.2,43.05N×74.93E,h12km±1km, ml1.3, Error ellipse: s-maj=1.7km s-min=1.0km az=47.0*
NNC **12** *06:48:35.9±0.3,43.00N×74.92E,h0km,mb3.0,mpv2.9, Error ellipse: s-maj=5.7km s-min=1.5km az=179.0, Suspected Mining explosion.*
SOME **12** *06:48:35.3,43.07N×74.90E,h0km*
ISC 12 06:48:35.8±0.8,43.04N±0.03×74.91E±0.02,h0km,n33, σ0s74/61,15C-5D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.12**	**252**	⇑P			**Pg**	**06 48 37.9**	**-0.2**
	72nm,0.1s,SNR=110								
CHMS				⇑S			**Sg**	**06 48 40.6**	**+0.9**
	80nm,0.1s								
CHMS	**Chumysh**	**0.12**	**252**	⇑P			**Pg**	**06 48 37.8**	**-0.2**
	8.2nm,0.3s								
CHMS				⇑S			**Sg**	**06 48 40.7**	**+1.0**
	61nm,0.5s								
USP	**Ospenovka**	**0.38**	**308**	⇑P			**Pg**	**06 48 42.8**	**-0.3**
	28nm,0.1s,SNR=142								
USP				⇓S			**Sg**	**06 48 48.9**	**+0.9**
	15nm,0.1s								
KBK	**Karagaybulak**	**0.38**	**176**	⇑P			**Pg**	**06 48 43.3**	**+0.3**
	30nm,0.1s,SNR=47								
KBK				⇓S			**Sg**	**06 48 49.5**	**+1.5**
	24nm,0.1s								
SGDS	**Sogindy**	**0.46**	**334**	P			**Pg**	**06 48 44.7**	**0.0**
	3.2nm,0.1s								
SGDS				S			**Sg**	**06 48 51.5**	**+0.8**
	22nm,0.8s								
AAK	**Ala-Archa**	**0.50**	**218**	⇓P			**Pg**	**06 48 45.4**	**0.0**
	3.9nm,0.1s,SNR=13								
TKM2	**Tokmak 2**	**0.52**	**103**	⇑P			**Pg**	**06 48 45.5**	**-0.2**
	6.8nm,0.1s,SNR=73								
TKM2				⇑S			**Sg**	**06 48 52.6**	**+0.3**
	21nm,0.1s								
TKM2	**Tokmak 2**	**0.52**	**103**	⇑P			**Pg**	**06 48 45.5**	**-0.2**
	0.6nm,0.2s								
TKM2				⇑S			**Sg**	**06 48 52.7**	**+0.3**
	5.3nm,0.5s								
DGS	**Degeres**	**0.66**	**72**	P			**Pg**	**06 48 48.5**	**0.0**
	5.1nm,0.2s								
DGS				S			**Sg**	**06 48 58.4**	**+1.3**
	13nm,0.4s								
DGS	**Degeres**	**0.66**	**72**	*e*P			**Pg**	**06 48 48.7**	**+0.2**
	3.5nm,0.1s								
DGS				*e*S			**Sg**	**06 48 58.4**	**+1.3**
	8.1nm,0.1s								
KST	**Kastek**	**0.77**	**89**	P			**Pg**	**06 48 50.4**	**-0.2**
	3.5nm,0.1s								
KST				S			**Sg**	**06 49 01.4**	**+0.9**
	5.6nm,0.3s								
KST	**Kastek**	**0.77**	**89**	*e*P			**Pg**	**06 48 50.4**	**-0.2**
	3.5nm,0.1s								
KST				*e*S			**Sg**	**06 49 01.4**	**+0.9**
	5.6nm,0.3s								
UCH	**Uchtor**	**0.86**	**200**	⇓P			**Pg**	**06 48 52.4**	**+0.2**
	1.7nm,0.1s								
EKS2	**Erkin-Say**	**0.91**	**246**	⇑P			**Pg**	**06 48 53.0**	**-0.3**
	7.0nm,0.1s,SNR=30								
MTBS	**Maitube**	**1.12**	**85**	P			**Pg**	**06 48 57.1**	**0.0**
MTBS				S			**Sb**	**06 49 13.0**	**-0.2**
MTBS	**Maitube**	**1.12**	**85**	*e*P			**Pg**	**06 48 57.1**	**0.0**
	2.5nm,0.1s								
MTBS				*e*S			**Sb**	**06 49 13.0**	**-0.2**
	3.5nm,0.1s								
IZV	**Izvestkoviy**	**1.25**	**89**	P			**Pg**	**06 48 59.4**	**-0.3**
	4.2nm,0.1s								
IZV				S			**Sb**	**06 49 16.8**	**-0.2**
	3.9nm,0.2s								
IZV	**Izvestkoviy**	**1.25**	**89**	*e*P			**Pg**	**06 48 59.4**	**-0.3**
	4.2nm,0.1s								
IZV				*e*S			**Sb**	**06 49 16.8**	**-0.2**
	3.9nm,0.2s								
ULHL	**Ulahol**	**1.26**	**128**	⇑P			**Pg**	**06 48 59.1**	**-0.8**
	SNR=16								
MRKS	**Merke**	**1.27**	**257**	*e*P			**Pg**	**06 48 60.0**	**-0.2**
	2.6nm,0.1s								
MRKS				*e*S			**Sb**	**06 49 17.7**	**+0.1**
	2.7nm,0.1s								
AML	**Almayashu**	**1.27**	**225**	⇑P			**Pg**	**06 48 59.6**	**-0.6**
	1.5nm,0.1s,SNR=11								
AML	**Almayashu**	**1.27**	**225**	⇑P			**Pg**	**06 48 59.9**	**-0.3**
AML				⇑S			**Sg**	**06 49 17.1**	**+0.4**
	0.2nm,0.7s								
KUU	**Kurty**	**1.35**	**50**	*e*P			**Pg**	**06 49 01.4**	**-0.2**
	2.3nm,0.1s								
KUU				*e*S			**Sn**	**06 49 20.3**	**-0.2**
	3.4nm,0.2s								
KTBS	**Karatobe**	**1.46**	**62**	P			**Pn**	**06 49 02.7**	**-0.7**
	2.7nm,0.2s								
KTBS				S			**Sb**	**06 49 22.8**	**-0.1**
	9.1nm,0.3s								
KTBS	**Karatobe**	**1.46**	**62**	*e*P			**Pn**	**06 49 02.7**	**-0.7**
	2.7nm,0.2s								
KTBS				*e*S			**Sb**	**06 49 22.8**	**-0.1**
	3.6nm,0.3s								
TNSS	**Tian-Shan**	**1.49**	**89**	P			**Pn**	**06 49 03.5**	**-0.8**
	12nm,0.1s								
TNSS				S			**Sg**	**06 49 23.8**	**0.0**
	8.3nm,1.4s								
TNSS	**Tian-Shan**	**1.49**	**89**	*e*P			**Pn**	**06 49 03.5**	**-0.8**
	12nm,0.1s								
TNSS				*e*S			**Sg**	**06 49 23.8**	**0.0**
	8.3nm,1.4s								
MDOK	**Medeo**	**1.57**	**85**	Pg			**Pn**	**06 49 04.9**	**-0.2**
	6.9nm,0.2s								
MDOK				Pn			**Pb**	**06 49 05.0**	**-0.8**
	2.0nm,0.3s								
MDOK				Lg			Lg	06 49 26.4	
	6.1nm,0.5s								
MDOK				⇓Sn			**Sb**	**06 49 29.8**	**+3.5**
	6.9nm,0.6s								
MDOK	**Medeo**	**1.57**	**85**	*e*P			**Pn**	**06 49 04.9**	**-0.2**
	6.9nm,0.2s								
MDOK				*e*S			**Sb**	**06 49 26.4**	**+0.1**
	3.0nm,0.2s								
KOTS	**Kotyrbulak**	**1.62**	**82**	P			**Pg**	**06 49 06.7**	**-0.2**
	7.6nm,0.2s								
KOTS				S			**Sg**	**06 49 29.3**	**+1.4**
	16nm,0.3s								
KOTS	**Kotyrbulak**	**1.62**	**82**	*e*P			**Pg**	**06 49 06.7**	**-0.2**
	7.6nm,0.2s								
KOTS				*e*S			**Sg**	**06 49 29.3**	**+1.4**
	16nm,0.3s								
BTLS	**Baital**	**2.10**	**343**	Pg			**Pb**	**06 49 15.0**	**+0.3**
	2.4nm,0.1s								
BTLS				Lg			Lg	06 49 43.5	
	6.0nm,0.3s								
BTLS	**Baital**	**2.10**	**343**	*e*P			**Pb**	**06 49 14.8**	**+0.1**
	2.7nm,0.1s								
BTLS				*e*S			**Sg**	**06 49 43.1**	**-0.1**
	6.0nm,0.2s								

TRN **12** *06:55:25.5, 10.72N×62.62W,h27km, MD3.9*
FUNV **12** *06:55:27.0, 10.64N×62.43W,h83km, MW4.1*
ISC 12 06:55:25.4±1.3,10.65N±0.04×62.57W±0.05,h91km±14km, n29,σ1s70/47,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.65**	**273**	*e*P			**Pn**	**06 55 43.5**	**+2.0**
CRUV				*e*S			**Sn**	**06 55 55.3**	**+1.7**
TRN	**Trinidad (W)**	**1.15**	**90**	*e*P			**Pn**	**06 55 47.3**	**+0.4**
TRN				*e*S			**Sn**	**06 56 01.4**	**-1.7**
TPP	**Pointe-a-Pierr**	**1.15**	**106**	*e*P			**Pn**	**06 55 47.6**	**+0.7**
TBH	**Brigand Hill**	**1.49**	**96**	*e*P			**Pn**	**06 55 51.4**	**+0.3**
GRFF	**Grenada Fort F**	**1.62**	**30**	*e*P			**Pn**	**06 55 52.3**	**-0.4**
GRFF				*e*S			**Sn**	**06 56 11.1**	**-2.3**
GRGR	**Grenville**	**1.73**	**31**	*e*P			**Pn**	**06 55 54.0**	**-0.1**
GRGR				*e*S			**Sn**	**06 56 14.5**	**-1.5**
GRHS	**Sauteurs**	**1.81**	**30**	*e*P			**Pn**	**06 55 55.0**	**-0.2**
GRHS				*e*S			**Sn**	**06 56 16.1**	**-1.9**
PCRV	**Puerto La Cruz**	**2.08**	**257**	*e*P			**Pn**	**06 56 01.0**	**+2.3**
PCRV				*e*S			**Sn**	**06 56 26.1**	**+1.8**
GCMP	**Grenada, Carri**	**2.15**	**31**	*e*P			**Pn**	**06 55 59.3**	**-0.2**
GCMP				*e*S			**Sn**	**06 56 24.3**	**-1.4**
SVOC	**Richmond Hill,**	**2.82**	**28**	*e*P			**Pn**	**06 56 08.8**	**+0.2**
SVOC				*e*S			**Sn**	**06 56 41.3**	**-0.4**
SVB	**Belmont**	**2.91**	**26**	*e*P			**Pn**	**06 56 10.8**	**+1.0**
SVB				*e*S			**Sn**	**06 56 43.4**	**-0.6**
SVV	**Soufriere Volc**	**2.97**	**26**	*e*P			**Pn**	**06 56 11.0**	**+0.4**
SLCP	**Castries, St.**	**3.68**	**25**	*e*P			**Pn**	**06 56 21.3**	**+1.1**
SLCP				*e*S			**Sn**	**06 57 02.5**	**0.0**
SLBI	**Saint Lucia, B**	**3.70**	**25**	*e*P			**Pn**	**06 56 20.0**	**-0.4**
SLBI				*e*S			**Sn**	**06 57 01.8**	**-1.2**
BBGH	**Gun Hill**	**3.86**	**50**	*e*P			**Pn**	**06 56 23.8**	**+1.3**
BBGH				*e*S			**Sn**	**06 57 06.5**	**-0.3**
BIM	**Bigot**	**4.12**	**21**	*e*P			**Pn**	**06 56 26.1**	**+0.1**
BIM				*e*S			**Sn**	**06 57 10.3**	**-2.9**
SVN	**Savane Anatole**	**4.39**	**18**	*e*P			**Pn**	**06 56 29.8**	**0.0**
SVN	**Savane Anatole**	**4.39**	**18**	*e*S			**Sn**	**06 57 17.9**	**-1.9**
LUEV	**Luepa**	**4.90**	**167**	*e*P			**Pn**	**06 56 36.3**	**-0.5**
LUEV				*e*S			**Sn**	**06 57 28.3**	**-4.0**
CACV	**CAICARA DEL OR**	**4.97**	**232**	*e*P			Pn	06 56 33.6	-4.0
CACV				*e*S			Sn	06 57 24.2	-10
BENV	**Beln**	**4.99**	**263**	*e*P			**Pn**	**06 56 40.4**	**+2.4**
BENV				*e*S			**Sn**	**06 57 33.7**	**-0.8**
TURV	**Turiamo**	**5.18**	**268**	*e*P			**Pn**	**06 56 42.5**	**+2.0**
TURV				*e*S			**Sn**	**06 57 38.5**	**-0.6**
BAUV	**El Baul**	**5.65**	**253**	*e*P			**Pn**	**06 56 48.0**	**+1.1**
BAUV				*e*S			**Sn**	**06 57 49.1**	**-1.3**
BAUV	**El Baul**	**5.65**	**253**	*e*P			**Pn**	**06 56 48.2**	**+1.4**
MBFL	**Flemmings, Mon**	**6.08**	**3**	*e*P			**Pn**	**06 56 53.9**	**+1.2**
MBFL	**Flemmings, Mon**	**6.08**	**3**	*e*S			**Sn**	**06 57 58.6**	**-2.3**
ANBD	**Bethesda, Anti**	**6.41**	**7**	*e*P			**Pn**	**06 56 57.7**	**+0.5**
TEPV	**Terepaima**	**6.55**	**265**	*e*P			**Pn**	**06 57 00.9**	**+1.7**
TEPV				*e*S			**Sn**	**06 58 10.7**	**-1.8**
SOCV	**Socops**	**8.50**	**255**	*e*P			**Pn**	**06 57 26.3**	**+0.5**
SOCV				*e*S			**Sn**	**06 58 54.7**	**-5.4**

IDC 12 06:58:18.5±7.3,18.35S×174.43W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=314.1km s-min=38.4km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.27**	**259**	P			P	07 07 01.1	-0.6
	1.6nm,0.5s,baz=98,slow=7.0,SNR=20								
	1.6nm,0.5s								
ASAR	**Alice Springs**	**48.31**	**254**	P			P	07 07 02.5	+0.4
	5.7nm,0.7s,baz=88,slow=8.9,SNR=57								
	5.7nm,0.7s								
ILAR	**Eielson Array**	**85.52**	**11**	P			P	07 10 57.9	0.0
	0.2nm,0.6s,baz=223,slow=6.2,SNR=4.8								
	0.2nm,0.6s								

TEH **12** *07:06:55.5, 33.82N×45.68E,h8km±191km, ML2.9*
ISN **12** *07:06:55.5±0.9, 33.82N×45.71E,h23km±5km, ML2.8*
ISC 12 07:06:55.6±1.5,33.81N±0.04×45.70E±0.05,h16km±14km, n9,σ0s74/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.46**	**113**		Pg		**Pg**	**07 07 05.2**	**+0.4**
ILBA					Sg		**Sb**	**07 07 12.3**	**+0.2**
IBDR	**Badra**	**0.72**	**164**	*e*Pg			**Pg**	**07 07 09.0**	**-0.6**
IBDR				*e*Sg			**Sb**	**07 07 20.0**	**+0.6**
IBDR					AML		AML	07 07 25.0	
	comp=E,285nm,0.5s								
IBDR					AML		AML	07 07 28.1	
	comp=N,224nm,0.8s								
IGHG	**Ghaleghazi**	**0.89**	**54**	Pg			**Pn**	**07 07 13.3**	**-0.5**
IDHR	**Dehrash**	**1.06**	**32**	Pg			**Pb**	**07 07 15.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.21**	**67**	Pg			**Pg**	**07 07 19.3**	**+0.3**
BHD	**Baghdad**	**1.22**	**244**	*e*Pg			**Pn**	**07 07 18.0**	**0.0**
BHD				*e*Sg			**Sb**	**07 07 34.0**	**+0.1**
BHD					AML		AML	07 07 39.3	
	comp=E,556nm,0.2s								
IKOM	**Komasi**	**1.55**	**76**	Pg			**Pg**	**07 07 24.8**	**-0.6**
IKRK	**Kirkuk**	**1.95**	**325**	*e*Pn			**Pn**	**07 07 29.0**	**+1.0**
IKRK				*e*Sn			**Sb**	**07 07 54.0**	**-0.7**
IKRK					AML		AML	07 08 03.0	
	comp=N,114nm,0.6s								
IKRK					AML		AML	07 08 05.6	
	comp=E,98nm,0.4s				

MKAR	**Makanchi Array**	**24.18**	**338**	P		**P**	**07 34 54.1**	**+1.7**
	comp=Z,1.6nm,0.4s,baz=149,slow=10,SNR=29							
	comp=Z,1.6nm,0.4s							
MK31	**Makanchi Array**	**24.18**	**338**	P		**P**	**07 34 53.4**	**+1.0**
SONM	**Songino Array**	**24.57**	**18**	P		**P**	**07 34 56.6**	**+0.6**
SONM				IAmb		IAmb	07 35 19.8	
	comp=Z,3.2nm,1.3s							
SONM	**Songino Array**	**24.57**	**18**	P		**P**	**07 34 55.9**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=198,slow=10,SNR=6.7							
SONM				S		**S**	**07 39 05.2**	**-2.5**
	comp=Z,1.9nm,1.1s,baz=297,slow=26,SNR=5.4							
	comp=Z,0.5nm,0.5s							
KBL	**Kabul**	**24.61**	**299**	P		**P**	**07 34 58.5**	**+1.8**
KURBB	**Kurchatov Arra**	**28.74**	**338**	P		**P**	**07 35 34.2**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=148,slow=8.6,SNR=4.2							
	comp=Z,0.3nm,0.4s							
BVAR	**Borovoye Array**	**33.75**	**333**	P		**P**	**07 36 18.1**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=136,slow=10,SNR=5.0							
	comp=Z,0.6nm,0.4s							
ABKAR	**Akbulak array**	**36.67**	**321**	P		**P**	**07 36 43.9**	**+1.6**
ABKAR				IAmb		IAmb	07 36 44.7	
	comp=Z,2.1nm,0.7s							
MMAI	**Mount Meron Ar**	**52.35**	**293**	LR		LR	08 05 38.8	
	comp=Z,27nm,18.8s,baz=238,slow=41							
AKASG	**Malin Array Be**	**56.08**	**316**	P		**P**	**07 39 13.8**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=78,slow=6.7,SNR=5.0							
	comp=Z,0.5nm,0.4s							
FINES	**FINESS Array B**	**58.50**	**328**	P		**P**	**07 39 31.1**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=114,slow=4.6,SNR=5.3							
	comp=Z,0.6nm,0.5s							
WB0	**Warramunga Arr**	**58.52**	**136**	P		**P**	**07 39 31.1**	**-0.1**
WB0				IAmb		IAmb	07 40 12.4	
	comp=Z,5.6nm,1.2s							
WRA	**Warramunga Arr**	**58.61**	**136**	P		**P**	**07 39 31.5**	**-0.4**
WRA	**Warramunga Arr**	**58.61**	**136**	P		**P**	**07 39 31.3**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=322,slow=7.4,SNR=24							
	comp=Z,0.7nm,0.4s							
ARCES	**ARCESS Array B**	**59.83**	**338**	P		**P**	**07 39 40.1**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=112,slow=7.2,SNR=1.8							
	comp=Z,3.1nm,0.9s							
ASAR	**Alice Springs**	**61.13**	**139**	P		**P**	**07 39 49.4**	**+0.3**
ASAR	**Alice Springs**	**61.13**	**139**	P		**P**	**07 39 48.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=318,slow=6.7,SNR=13							
	comp=Z,0.8nm,0.6s							
HFS	**Hagfors**	**64.57**	**327**	P		**P**	**07 40 11.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=103,slow=6.4,SNR=9.1							
	comp=Z,1.2nm,0.5s							
NOA	**NORSAR Array B**	**65.68**	**328**	P		**P**	**07 40 18.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=102,slow=4.1,SNR=2.2							
	comp=Z,0.3nm,0.5s							
NC204	**NORSAR Array S**	**65.86**	**328**	P		**P**	**07 40 19.6**	**-0.2**
NC204				IAmb		IAmb	07 40 54.0	
	comp=Z,8.4nm,1.0s							
B22K	**Teshekpuk Lake**	**73.64**	**19**	P		**P**	**07 41 06.5**	**-0.6**
B22K				IAmb		IAmb	07 41 48.7	
	comp=Z,6.4nm,1.3s							
C23K	**Itkillik River**	**74.73**	**19**	P		**P**	**07 41 12.3**	**-1.1**
C23K				IAmb		IAmb	07 41 49.2	
	comp=Z,4.8nm,1.3s							
TORD	**Torodi Ar. Bea**	**87.68**	**283**	P		**P**	**07 42 22.6**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=67,slow=4.6,SNR=2.1							
	comp=Z,0.5nm,0.9s							

ISN ***12*** *07:29:48.4±0.3,33°.82N×45°.77E,h14km±2km, ML2.5*
TEH ***12*** *07:29:48.4,33°.81N×45°.66E,h10km±230km, ML2.5*
ISC 12 07:29:49.3±1.1**,33°.81N**±0°.05×**45°.66E**±0°.06**,h10**km**,n7,**
σ1§05/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.49**	**112**	Pg		**Pg**	**07 29 58.3**	**-0.6**
ILBA				Sg		**Sg**	**07 30 05.4**	**+0.1**
IBDR	**Badra**	**0.73**	**162**	*e*Pg		**Pg**	**07 30 02.0**	**-1.4**
IBDR				*e*Sg		**Sg**	**07 30 12.0**	**-1.0**
IGHG	**Ghaleghazi**	**0.92**	**55**	Pg		**Pg**	**07 30 06.8**	**-0.2**
IDHR	**Dehrash**	**1.07**	**34**	Pg		**Pg**	**07 30 08.5**	**-1.5**
BHD	**Baghdad**	**1.20**	**244**	*e*Pg		**Pn**	**07 30 12.0**	**-0.1**
BHD				*e*Sg		**Sb**	**07 30 29.0**	**+1.3**
IKOM	**Komasi**	**1.58**	**76**	Pg		**Pb**	**07 30 19.2**	**+0.5**
RAFI	**Al-Rafai**	**2.11**	**170**	*e*Pn		**Pn**	**07 30 25.0**	**+0.3**
RAFI				*e*Sn		**Sn**	**07 30 52.0**	**+1.0**

IDC ***12*** *07:49:25.7±16.0,33°.87N×45°.67E,h0km, mb3.7/4, mbtmp3.8/4, MS3.2/3, Error ellipse: s-maj=343.3km s-min=34.4km az=13.0*
ISN ***12*** *07:49:26.6±0.4,33°.74N×45°.79E,h12km±2km, ML3.2*
TEH ***12*** *07:49:26.7,33°.71N×45°.75E,h8km±17km, ML3.4*
ISC 12 07:49:27.1±1.2**,33°.73N**±0°.03×**45°.74E**±0°.04**,h9**km±10km**,**
n32,σ1§06/35,mb4.0/3,MS3.1/3,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.40**	**105**	Pg		**Pg**	**07 49 34.8**	**-0.2**
ILBA				Sg		**Sg**	**07 49 40.7**	**+0.4**
IBDR	**Badra**	**0.64**	**165**	*e*Pg		**Pg**	**07 49 39.0**	**-0.4**
IBDR				*e*Sg		**Sg**	**07 49 48.3**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.79**	**351**	Pg		**Pg**	**07 49 42.2**	**0.0**
IGHG	**Ghaleghazi**	**0.91**	**49**	Pg		**Pg**	**07 49 44.7**	**+0.1**
IDHR	**Dehrash**	**1.11**	**29**	Pg		**Pg**	**07 49 48.2**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.21**	**63**	Pg		**Pg**	**07 49 50.3**	**-0.1**
BHD	**Baghdad**	**1.23**	**248**	*e*Pg		**Pn**	**07 49 51.0**	**+0.6**
BHD				*e*Sg		**Sn**	**07 50 08.5**	**+1.5**
IKOM	**Komasi**	**1.54**	**73**	Pg		**Pg**	**07 49 56.3**	**-0.3**
ILIN	**Lien**	**1.56**	**40**	Pg		**Pb**	**07 49 56.4**	**+0.1**
IKFM	**Kafar-mosalman**	**1.77**	**96**	Pg		**Pb**	**07 49 59.2**	**-0.5**
IBZA	**Bozab**	**1.91**	**67**	Pn		**Pb**	**07 50 01.8**	**-0.4**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn		**Pn**	**07 50 02.5**	**+1.1**
RAFI				*e*Sn		**Sn**	**07 50 29.0**	**+2.2**
RAFI				AML		AML	07 50 37.4	
	comp=E,230nm,0.7s							
RAFI				AML		AML	07 50 39.4	
	comp=N,211nm,0.4s							
IKRK	**Kirkuk**	**2.03**	**326**	*e*Pn		**Pn**	**07 50 03.0**	**+1.5**
IKRK				*e*Sn		**Sb**	**07 50 29.0**	**-0.5**
IKRK				AML		AML	07 50 34.8	
	comp=N,368nm,0.2s							
IKRK				AML		AML	07 50 39.6	
	comp=E,190nm,0.8s							
IALM	**Almabolaq**	**2.31**	**60**	Pn		**Pn**	**07 50 06.7**	**+1.2**
HSAM	**Samen**	**2.43**	**78**	Pn		**Pn**	**07 50 08.1**	**+0.9**
HAGD	**Aghdareh**	**3.02**	**68**	Pn		**Pn**	**07 50 15.9**	**+0.6**
MAHB	**Mahabad**	**3.03**	**359**	Pn		**Pn**	**07 50 17.2**	**+1.9**
IRAZ	**Razeghan**	**3.84**	**63**	Pn		**Pn**	**07 50 28.4**	**+1.8**
IPIR	**Pirpir**	**4.44**	**102**	Pn		**Pn**	**07 50 35.7**	**+0.8**
ISHB	**Shabestar**	**4.55**	**359**	Pn		**Pn**	**07 50 37.5**	**+1.2**
QAMS	**Qamsar**	**4.71**	**88**	Pn		**Pn**	**07 50 39.1**	**+0.5**
IKLH	**Kolahrood**	**4.89**	**93**	Pn		**Pn**	**07 50 42.6**	**+1.5**
KRSH	**Karshahi**	**5.33**	**86**	Pn		**Pn**	**07 50 48.2**	**+1.2**
IZEF	**Zefreh**	**5.58**	**97**	Pn		**Pn**	**07 50 51.8**	**+1.2**
KLNJ	**Kolanjah**	**5.64**	**117**	Pn		**Pn**	**07 50 51.7**	**+0.2**
IRAM	**Ramesheh**	**5.91**	**107**	Pn		**Pn**	**07 50 56.0**	**+1.0**
AKASG	**Malin Array Be**	**20.83**	**329**	P		**P**	**07 54 07.3**	**-1.5**
	comp=E,0.8nm,0.5s,baz=136,slow=10,SNR=8.7							
	comp=E,0.8nm,0.5s							
VRAC	**Vranov**	**26.59**	**315**	LR		LR	08 08 29.0	
	comp=E,45nm,18.2s,baz=156,slow=43							
MKAR	**Makanchi Array**	**30.51**	**54**	P		**P**	**07 55 40.3**	**-0.2**
	comp=E,0.5nm,0.6s,baz=257,slow=9.9,SNR=6.1							
	comp=E,0.5nm,0.6s							
HFS	**Hagfors**	**33.69**	**331**	P		**P**	**07 56 06.8**	**-1.4**
	comp=E,1.3nm,0.5s,baz=153,slow=13,SNR=6.8							
	comp=E,1.3nm,0.5s							
ZALV	**Zalesovo Beam**	**34.09**	**42**	P		**P**	**07 56 11.1**	**-0.7**
	comp=E,0.5nm,0.3s,baz=253,slow=10,SNR=2.5							
ZALV				LR		LR	08 10 18.7	
	comp=E,23nm,20.5s,baz=52,slow=37							
	comp=E,0.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**49.63**	**94**	LR		LR	08 22 56.8	
	comp=E,53nm,18.2s,baz=280,slow=40							

IDC ***12*** *07:50:30.2±4.3,0°.20N×97°.76E,h0km, mb3.6/3, mbtmp3.6/3, MS3.1/1, Error ellipse: s-maj=177.6km s-min=29.5km az=60.0*
DJA ***12*** *07:50:35.0±0.5,1°.4×9°.8E±°,h21km±8km, M4.2/9, mb4.1/1, MLv4.2/9*
ISC 12 07:50:35.1±1.0**,0°.44N**±0°.06×**98°.1E**±0°.1**,h29**km**,n22,**
σ1§04/12,mb3.8/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.54**	**156**	P		**Pn**	**07 50 47.4**	**+0.6**
GSI	**Gunungsitoli**	**0.99**	**330**	P		**Pn**	**07 50 53.0**	**-0.1**
TRSI	**Tarutung**	**1.81**	**30**	P		**Pn**	**07 51 04.2**	**-0.3**
SISI	**Saibi**	**2.03**	**150**	P		**Pb**	**07 51 08.9**	**-2.5**
PDSI	**Padang**	**2.75**	**119**	P		**Pn**	**07 51 18.0**	**+0.7**
BKNI	**Bangkinang**	**2.98**	**92**	P		**Pn**	**07 51 20.8**	**+0.4**
KCSI	**Kotacane, Aceh**	**3.08**	**355**	P		**Pn**	**07 51 21.6**	**-0.2**
PPSI	**Pulau Pagai**	**3.73**	**149**	P		**Pn**	**07 51 31.3**	**+0.5**
KULM	**Kulim**	**5.46**	**28**	P		**Pn**	**07 51 54.7**	**0.0**
PALK	**Pallekele**	**18.60**	**292**	LR		LR	08 01 10.8	
	comp=Z,55nm,20.2s,baz=226,slow=35							
H08S2	**Diego Garcia H**	**26.74**	**252**	T		T	08 23 38.0	
	baz=73,slow=76							
H08S3	**Diego Garcia H**	**26.74**	**252**	T		T	08 23 36.3	
	baz=73,slow=76							
H08S1	**Diego Garcia H**	**26.75**	**252**	T		T	08 23 37.3	
	baz=73,slow=76							
ASAR	**Alice Springs**	**42.25**	**127**	P		**P**	**07 58 26.4**	**+0.1**
	0.2nm,0.4s,baz=295,slow=7.6,SNR=6.8							
	0.2nm,0.4s							
SONM	**Songino Array**	**47.76**	**8**	P		**P**	**07 59 11.0**	**+1.2**
	0.7nm,0.5s,baz=187,slow=8.1,SNR=6.2							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**48.19**	**345**	P		**P**	**07 59 13.7**	**+0.7**
	0.4nm,0.4s,baz=169,slow=9.3,SNR=7.1							
	0.4nm,0.4s							
H04N2	**CROZET ISLANDS**	**61.64**	**215**	T		T	09 07 35.9	
	baz=55,slow=75,SNR=54							
H04N1	**CROZET ISLANDS**	**61.65**	**215**	T		T	09 07 37.1	
	baz=55,slow=75,SNR=59							
H04N3	**CROZET ISLANDS**	**61.66**	**215**	T		T	09 07 35.7	
	baz=55,slow=75,SNR=68							
H04S1	**CROZET ISLANDS**	**61.97**	**214**	T		T	09 07 56.9	
	baz=57,slow=74							
H04S3	**CROZET ISLANDS**	**61.98**	**214**	T		T	09 07 56.5	
	baz=57,slow=74							
H04S2	**CROZET ISLANDS**	**61.98**	**214**	T		T	09 07 59.6	
	baz=57							

IDC ***12*** *07:54:20.3±1.2,2°.42N×126°.71E,h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=139.6km s-min=17.8km az=67.0*
ISC 12 07:54:27.6±1.2**,2°.4N**±0°.5×**12°7E**±°**,h55**km**,n6,**σ0§58/**7,**
mb3.7/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.43**	**162**	P		**P**	**07 59 31.1**	**-1.0**
	1.6nm,0.6s,baz=341,slow=11,SNR=18							
	1.6nm,0.6s							
ASAR	**Alice Springs**	**26.83**	**165**	P		**P**	**08 00 03.3**	**+0.2**
	0.5nm,0.8s,baz=346,slow=7.1,SNR=5.1							
ASAR				PcP		**PcP**	**08 03 25.3**	**+0.4**
	0.2nm,0.6s,baz=1.9,slow=2.8,SNR=1.6							
	0.5nm,0.8s							
STKA	**Stephens Creek**	**36.90**	**159**	P		**P**	**08 01 31.5**	**+0.3**
	2.1nm,0.7s,baz=2.9,slow=11,SNR=5.4							
	2.1nm,0.7s							
SONM	**Songino Array**	**48.55**	**342**	P		**P**	**08 03 05.5**	**0.0**
	0.3nm,0.4s,baz=162,slow=6.1,SNR=1.8							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**58.63**	**326**	P		**P**	**08 04 19.2**	**0.0**
	0.2nm,0.3s,baz=118,slow=7.3,SNR=6.8							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**62.84**	**328**	P		**P**	**08 04 47.5**	**-0.2**
	0.5nm,0.5s,baz=126,slow=6.9,SNR=7.5							
	0.5nm,0.5s							

ISN ***12*** *08:09:03.8±0.6,33°.76N×45°.76E,h10km±3km, ML2.6*
TEH ***12*** *08:09:04.1,33°.76N×45°.75E,h9km±65km, ML2.7*
ISC 12 08:09:04.0±1.3**,33°.75N**±0°.03×**45°.75E**±0°.04**,h11**km±13km**,**
n9,σ0§74/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.40**	**108**	Pg		**Pb**	**08 09 12.6**	**-0.6**
ILBA				Sg		**Sb**	**08 09 18.6**	**-0.8**
IBDR	**Badra**	**0.66**	**167**	*e*Pg		**Pg**	**08 09 17.0**	**+0.3**
IBDR				*e*Sg		**Sg**	**08 09 26.0**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.77**	**350**	Pg		**Pg**	**08 09 18.7**	**-0.1**
IGHG	**Ghaleghazi**	**0.89**	**49**	Pg		**Pb**	**08 09 21.8**	**+0.1**
IDHR	**Dehrash**	**1.08**	**29**	Pg		**Pb**	**08 09 24.8**	**-0.1**
BHD	**Baghdad**	**1.24**	**248**	*e*Pg		**Pg**	**08 09 28.0**	**+0.2**
BHD				*e*Sg		**Sn**	**08 09 45.0**	**+1.0**
IKOM	**Komasi**	**1.52**	**73**	Pg		**Pg**	**08 09 33.4**	**+0.1**
IKRK	**Kirkuk**	**2.01**	**325**	*e*Pn		**Pb**	**08 09 39.5**	**-1.1**
IKRK				*e*Sn		**Sb**	**08 10 06.0**	**+0.3**
IKRK				AML		AML	08 10 11.2	
	comp=N,77nm,0.2s							
IKRK				AML		AML	08 10 16.1	
	comp=E,58nm,0.4s							
RAFI	**Al-Rafai**	**2.05**	**171**	*e*Pn		**Pb**	**08 09 40.0**	**-1.1**
RAFI				*e*Sn		**Sb**	**08 10 07.0**	**+0.4**

IDC ***12*** *08:10:46.8±0.5,27°.95N×140°.17E,h421km±5km, mb3.6/23, mbtmp4.4/29, Error ellipse: s-maj=13.8km s-min=8.0km az=70.0*
NEIC ***12*** *08:10:49.0±1.1,27°.98N±0°.10×140°.1E±0°.1,h429km±9km, mb4.1/54, Error ellipse: s-maj=18.0km s-min=14.5km az=87.0*
JMA ***12*** *08:10:48.3±0.1,28°N±1°×14°0E±°,h448km, MV4.2/29, W OFF OGASAWARA*
ISC 12 08:10:49.4±0.5**,27°.95N**±0°.06×**140°.12E**±0°.08**,h450**km**,**
n135,σ1§57/147,mb4.1/54,1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.02**	**114**	P		**P**	**08 11 48.5**	**-1.5**
CBIJ				*e*S		**S**	**08 12 35.2**	**-4.1**
JCJ	**Chichijima**	**2.02**	**114**			**P**	**08 11 47.7**	**-2.4**
JCJ				S		**S**	**08 12 35.3**	**-3.9**
JCJ	**Chichijima**	**2.02**	**114**	P		**P**	**08 11 48.8**	**-1.3**
JCJ	**Chichijima**	**2.02**	**114**	P		P	08 11 44.8	-5.3
	302nm,0.3s,baz=278,slow=23,SNR=38							
JCJ				S		**S**	**08 12 30.9**	**-8.3**
	680nm,0.4s,baz=288,slow=24,SNR=14							
JHH2	**Haha-jima-NKT2**	**2.25**	**125**	P		**P**	**08 11 50.5**	**-1.0**
JHH2				S		**S**	**08 12 39.2**	**-2.5**
JHJ2	**Mitsune**	**5.15**	**357**	P		**P**	**08 12 13.3**	**-1.8**
JHJ2				S		**S**	**08 13 22.0**	**-3.0**
JHJ2	**Mitsune**	**5.15**	**357**	P		**P**	**08 12 14.2**	**-0.9**
JHJ2	**Mitsune**	**5.15**	**357**	*e*P		**P**	**08 12 13.9**	**-1.1**
JHJ2				*e*S		**S**	**08 13 22.1**	**-2.9**
JHJ	**Hachijo jima 2**	**5.16**	**357**	P		**P**	**08 12 13.3**	**-1.9**
	94nm,0.5s,baz=39,slow=24,SNR=9.6							
JHJ				S		**S**	**08 13 20.3**	**-4.9**
	100nm,0.3s,baz=77,slow=23,SNR=9.7							
BSO1	**Boso 1**	**6.72**	**6**	*e*P		**P**	**08 12 30.3**	**-0.1**
BSO1				S		**S**	**08 13 51.5**	**-1.8**
BSO3	**Boso 3**	**6.84**	**3**	*e*P		**P**	**08 12 32.1**	**+0.1**
JIE	**Ise**	**7.05**	**336**	*e*P		**P**	**08 12 35.3**	**+0.8**
JOD2	**Odawara 2**	**7.34**	**353**	P		**P**	**08 12 37.3**	**-0.3**
JOD2				*e*S		**S**	**08 14 01.5**	**-4.9**
INU	**Inuyama**	**7.83**	**341**	P		**P**	**08 12 42.5**	**-0.4**
JMN	**Monobe**	**7.87**	**319**	P		**P**	**08 12 43.9**	**+0.6**
JMN	**Monobe**	**7.87**	**319**	P		**P**	**08 12 44.5**	**+1.2**
JTO	**Tosashimizu**	**7.99**	**310**	*e*P		**P**	**08 12 45.5**	**+0.9**
JRY	**Ryogami san**	**8.11**	**353**	P		**P**	**08 12 45.7**	**-0.1**
JRY				*e*S		**S**	**08 14 19.0**	**-2.4**
MJAR	**Matsushiro Arr**	**8.71**	**350**	P		**P**	**08 12 50.0**	**-2.4**
	1.7nm,0.3s,baz=168,slow=10,SNR=12							
MJAR				S		**S**	**08 14 31.4**	**-2.1**
	2.0nm,0.6s,baz=146,slow=28,SNR=2.3							
MAJO	**Matsushiro**	**8.72**	**350**			**P**	**08 12 51.3**	**-1.1**
MAJO	**Matsushiro**	**8.72**	**350**	P		**P**	**08 12 53.1**	**+0.7**
MJB9	**Matsu-Tunnel**	**8.72**	**350**	P		**P**	**08 12 51.9**	**-0.6**
JHS	**Saijyo**	**9.22**	**321**	*e*P		**P**	**08 12 58.8**	**+0.8**
JNU	**Nakatsue**	**9.49**	**305**	P		**P**	**08 13 00.3**	**-0.5**
JNU	**Nakatsue**	**9.49**	**305**	P		**P**	**08 13 02.4**	**+1.5**
JNU	**Nakatsue**	**9.49**	**305**	P		**P**	**08 12 59.7**	**-1.2**
	15nm,0.9s,baz=141,slow=6.5,SNR=12							
JAMN	**Amamishikomi**	**9.67**	**274**	*e*P		**P**	**08 13 04.4**	**+1.5**
JSJ	**Shimokoshiki**	**9.77**	**295**	P		**P**	**08 13 04.7**	**+0.7**
JMM	**Marumori**	**9.90**	**3**	P		**P**	**08 13 04.7**	**-0.6**
JMM	**Marumori**	**9.90**	**3**	P		**P**	**08 13 05.2**	**-0.1**
JSD	**Sado**	**10.18**	**352**	P		**P**	**08 13 07.9**	**-0.4**
JOW	**Kunigami**	**10.59**	**267**	P		**P**	**08 13 12.7**	**-0.3**
JOW	**Kunigami**	**10.59**	**267**	P		**P**	**08 13 14.2**	**+1.3**
JOW	**Kunigami**	**10.59**	**267**	*e*P		**P**	**08 13 14.1**	**+1.2**
JOW	**Kunigami**	**10.59**	**267**	P		**P**	**08 13 13.2**	**+0.3**
	75nm,0.7s,baz=116,slow=9.7,SNR=8.1							
JMK	**Ichinoseki**	**11.01**	**5**	*e*S		**S**	**08 15 19.1**	**-0.1**
JTM	**Tenmabayashi**	**12.83**	**3**	P		**P**	**08 13 36.6**	**-0.4**
JTM	**Tenmabayashi**	**12.83**	**3**	P		**P**	**08 13 37.9**	**+0.9**
JOT	**Ohata**	**13.42**	**3**	P		**P**	**08 13 44.7**	**+1.3**
KSRS	**Korea Array**	**13.96**	**316**	P		**P**	**08 13 48.8**	**-0.4**
	2.6nm,0.4s,baz=130,slow=11,SNR=10							
KS19	**Wonju Array Si**	**14.02**	**316**	P		**P**	**08 13 49.0**	**-1.0**
JOSM	**Okushiri--Mats**	**14.11**	**358**	*e*P		**P**	**08 13 51.1**	**+0.4**
JCH	**Churui**	**14.87**	**9**	P		**P**	**08 14 00.2**	**+1.3**
USA0B	**Ussuriysk Arra**	**17.48**	**340**	P		**P**	**08 14 26.8**	**+0.3**
USA0B				IAmb		IAmb	08 14 50.0	
	comp=Z,8.2nm,0.8s							
USRK	**Ussuriysk Ar.**	**17.48**	**340**	P		**P**	**08 14 25.6**	**-0.9**
USRK	**Ussuriysk Ar.**	**17.48**	**340**	P		**P**	**08 14 26.4**	**-0.1**
	comp=Z,8.3nm,0.6s,baz=164,slow=10,SNR=14							
YULB	**Yu-li**	**17.56**	**259**	P		**P**	**08 14 26.1**	**-1.6**
BNX	**BinXian**	**20.42**	**334**	||P		**P**	**08 14 55.3**	**+1.0**
BNX				pmax		pmax		
	comp=Z,24nm,0.8s							
BNX				pmax		pmax		
	comp=Z,150nm,4.6s							
HEH	**HeiHe**	**24.29**	**340**	*e*P		**P**	**08 15 29.4**	**+0.2**
HEH				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC	**Hu-ho-hao-te**	**26.71**	**306**	*e*P		**P**	**08 15 50.4**	**-0.6**
HHC				pmax		pmax		
	comp=Z,11nm,0.5s							
HHC				pmax		pmax		
	comp=Z,170nm,4.4s							
LZH	**Lanzhou**	**31.67**	**294**	*e*P		**P**	**08 16 32.7**	**-1.7**
LZH				pP		pP	08 17 48.8	-4.2
LZH				pmax		pmax		
	comp=Z,13nm,1.1s							
ULN	**Ulaanbaatar**	**32.44**	**317**	P		**P**	**08 16 40.7**	**-0.1**
SONM	**Songino Array**	**32.83**	**316**	P		**P**	**08 16 44.2**	**0.0**
SONM				IAmb		IAmb	08 16 44.8	
	comp=Z,8.1nm,0.5s							
SONM	**Songino Array**	**32.83**	**316**	P		**P**	**08 16 44.1**	**0.0**
	comp=Z,9.2nm,0.6s,baz=126,slow=8.7,SNR=48							
	comp=Z,9.2nm,0.6s							
PZH	**PanZhiHua**	**34.06**	**277**	P		**P**	**08 16 54.4**	**-0.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.4s							
PZH				pmax		pmax		
	comp=Z,270nm,5.4s							
GTA	**Gaotai**	**35.17**	**300**	*e*P		**P**	**08 17 03.7**	**-0.3**
GTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
COEN	**Coen**	**41.77**	**176**	P		**P**	**08 17 58.5**	**+0.5**
COEN				IAmb		IAmb	08 18 03.4	
	comp=Z,9.2nm,1.3s							
TIXI	**Tiksi**	**44.19**	**355**	P		**P**	**08 18 16.4**	**0.0**
TIXI				IAmb		IAmb	08 18 16.8	
	comp=Z,4.3nm,0.8s							
WMQ	**Urumqi**	**44.59**	**305**	*e*P		**P**	**08 18 20.9**	**+0.9**
WMQ				pmax		pmax		
	comp=Z,11nm,0.7s							
ZAA0	**Zalesovo Array**	**47.64**	**319**	P		**P**	**08 18 42.7**	**-0.4**
ZAA0				IAmb		IAmb	08 18 43.2	
	comp=Z,5.7nm,0.9s							
ZALV	**Zalesovo Beam**	**47.64**	**319**	P		**P**	**08 18 42.5**	**-0.6**
ZALV	**Zalesovo Beam**	**47.64**	**319**	P		**P**	**08 18 42.4**	**-0.7**
	comp=Z,5.3nm,0.7s,baz=101,slow=7.2,SNR=16							
	comp=Z,5.3nm,0.7s							
WB0	**Warramunga Arr**	**47.76**	**187**	P		**P**	**08 18 45.0**	**+0.5**
WR0	**Warramunga Arr**	**47.94**	**187**	P		**P**	**08 18 46.4**	**+0.7**
WRA	**Warramunga Arr**	**47.94**	**187**	P		**P**	**08 18 46.3**	**+0.5**
WRA	**Warramunga Arr**	**47.94**	**187**	P		**P**	**08 18 45.8**	**0.0**
	comp=Z,1.2nm,0.4s,baz=6.9,

E28M	**Babbage River**	**60.78**	**24**	P	**P**	**08 20 17.9**	**+1.9**
E28M				IAmb	IAmb	08 20 18.8	
	comp=Z,3.4nm,0.7s						
DAWY	**Dawson**	**61.12**	**30**	P	**P**	**08 20 19.8**	**+1.4**
G29M	**Pine Creek**	**61.45**	**26**	P	**P**	**08 20 22.8**	**+2.3**
G29M				IAmb	IAmb	08 20 23.3	
	comp=Z,6.2nm,0.6s						
L29M	**L29M**	**61.77**	**31**	P	**P**	**08 20 25.1**	**+2.4**
L29M				IAmb	IAmb	08 20 32.7	
	comp=Z,11nm,1.4s						
EPYK	**Eagle Plains**	**62.02**	**27**	P	**P**	**08 20 26.1**	**+1.8**
ARU	**Arti**	**62.62**	**322**	P	**P**	**08 20 27.7**	**-0.5**
	comp=Z,4.7nm,0.3s,baz=56,slow=3.6,SNR=2.4						
	comp=Z,4.7nm,0.3s						
ABKAR	**Akbulak array**	**63.18**	**314**	P	**P**	**08 20 32.0**	**0.0**
ABKAR				IAmb	IAmb	08 20 32.4	
	comp=Z,9.3nm,1.3s						
AKTO	**Aktyubinsk**	**64.14**	**315**	P	**P**	**08 20 37.8**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=80,slow=13,SNR=4.5						
	comp=Z,1.7nm,0.6s						
A36M	**Sachs Harbour**	**65.11**	**20**	P	**P**	**08 20 45.0**	**+1.1**
A36M				IAmb	IAmb	08 20 46.2	
	comp=Z,4.8nm,0.8s						
HRA	**Herat**	**65.43**	**297**	P	**P**	**08 20 47.2**	**+0.3**
HRA				IAmb	IAmb	08 20 48.2	
	comp=Z,4.7nm,0.6s						
T35M	**Bob Quinn**	**66.84**	**37**	P	**P**	**08 20 56.7**	**+1.6**
SPITS	**Spitsbergen Ar**	**69.21**	**349**	P	**P**	**08 21 10.0**	**+0.7**
	comp=Z,6.7nm,0.9s,baz=29,slow=3.3,SNR=7.0						
	comp=Z,6.7nm,0.9s						
ARCES	**ARCESS Array B**	**72.13**	**340**	P	**P**	**08 21 26.9**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=74,slow=8.9,SNR=16						
	comp=Z,2.9nm,0.6s						
YKA	**Yellowknife Ar**	**72.26**	**28**	P	**P**	**08 21 28.1**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=299,slow=6.2,SNR=39						
	comp=Z,1.9nm,0.7s						
KBZ	**Khabaz**	**76.08**	**312**	P	**P**	**08 21 49.9**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=104,slow=3.2,SNR=7.0						
	comp=Z,4.1nm,0.7s						
FINES	**FINESS Array B**	**76.36**	**333**	P	**P**	**08 21 50.6**	**-0.2**
	comp=Z,3.5nm,0.4s,baz=72,slow=5.1,SNR=44						
	comp=Z,3.5nm,0.4s						
NVAR	**Mina Array Bea**	**81.42**	**51**	P	**P**	**08 22 20.1**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=300,slow=5.7,SNR=4.3						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**81.91**	**336**	P	**P**	**08 22 19.6**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=90,slow=4.3,SNR=11						
	comp=Z,1.3nm,0.4s						
NB2	**NORSAR Subarra**	**82.13**	**338**	P	**P**	**08 22 20.5**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=46,slow=5.1						
NOA	**NORSAR Array B**	**82.13**	**338**	P	**P**	**08 22 20.8**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=47,slow=4.9,SNR=7.1						
	comp=Z,1.9nm,0.7s						
BRTR	**Keskin Array B**	**84.07**	**312**	P	**P**	**08 22 31.7**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=132,slow=2.1,SNR=2.5						
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**84.88**	**44**	P	**P**	**08 22 36.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=304,slow=2.1,SNR=2.3						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**96.54**	**52**	P	**P**	**08 23 30.0**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=326,slow=4.4,SNR=1.8						
	comp=Z,0.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**122.63**	**310**	PKP	**PKPdf**	**08 28 53.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=64,slow=2.3,SNR=4.1						

JMA 12 08:11:46.5±0.1, 34.1N±0.3×135.1E±0.3, h9km±1km, MV0.8/22, NW WAKAYAMA PREF, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.43**	**75**	P	Pg	08 11 54.7	-0.2
JTNC	**Tanabenakahech**	**0.52**	**124**	*e*P	Pg	08 11 56.9	+0.3
JTNC				*e*S	Sg	08 12 03.6	+0.2
JAI	**Aioi**	**0.62**	**240**	*e*P	Pg	08 11 57.7	-0.8
JAI				*e*S	Sg	08 12 05.9	-0.7
JKS	**Kasai**	**0.90**	**347**	*e*P	Pg	08 12 03.7	0.0
JKN2	**Miekihoku**	**0.99**	**82**	*e*P	Pb	08 12 05.8	0.0

ISN 12 08:16:28.0±0.5, 33.83N×45.72E, h8km, ML2.0
TEH 12 08:16:29.6, 33.82N×45.71E, h8km±457km, ML2.5
ISC 12 08:16:28.3±2.2, 33.78N±0.06×45.6E±0.1, h10km, n5, σ0s88/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.54**	**107**	Pg	**Pg**	**08 16 38.7**	**-0.1**
ILBA				Sg	**Sg**	**08 16 45.4**	**-0.5**
IBDR	**Badra**	**0.73**	**157**	*e*Pg	**Pg**	**08 16 42.0**	**-0.4**
	baz=346						
IBDR				*e*Sg	**Sb**	**08 16 53.0**	**-0.1**
IBDR				AML	AML	08 16 58.4	
	comp=N,57nm,0.5s						
IBDR				AML	AML	08 16 58.5	
	comp=E,82nm,0.3s						
IGHG	**Ghaleghazi**	**0.98**	**56**	Pg	**Pg**	**08 16 46.9**	**-0.4**
IDHR	**Dehrash**	**1.13**	**36**	Pg	**Pb**	**08 16 49.4**	**-0.7**
IKOM	**Komasi**	**1.65**	**76**	Pg	**Pn**	**08 16 58.9**	**+1.4**

TEH 12 08:18:56.5, 33.80N×45.65E, h8km±279km, ML2.9
ISN 12 08:18:56.4±1.0, 33.80N×45.64E, h10km±5km, ML2.8
ISC 12 08:18:56.5±1.2, 33.80N±0.03×45.65E±0.04, h13km±13km, n9, σ0s43/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.50**	**111**	Pg	**Pg**	**08 19 06.3**	**0.0**
ILBA				Sg	**Sg**	**08 19 13.6**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.70**	**356**	Pg	**Pg**	**08 19 10.2**	**-0.1**
IBDR	**Badra**	**0.73**	**161**	*e*Pg	**Pb**	**08 19 11.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**08 19 20.5**	**+0.2**
IGHG	**Ghaleghazi**	**0.93**	**55**	Pg	**Pb**	**08 19 14.9**	**+0.2**
IDHR	**Dehrash**	**1.08**	**34**	Pg	**Pg**	**08 19 17.0**	**-0.4**
BHD	**Baghdad**	**1.19**	**244**	*e*Pg	**Pg**	**08 19 19.5**	**+0.1**
BHD				*e*Sg	**Sn**	**08 19 35.0**	**+0.2**
BHD				AML	AML	08 19 44.7	
	comp=E,367nm,0.5s						
IKOM	**Komasi**	**1.59**	**76**	Pg	**Pg**	**08 19 26.7**	**-0.4**
IKRK	**Kirkuk**	**1.92**	**326**	*e*Pn	**Pb**	**08 19 31.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**08 19 56.0**	**+0.5**
IKRK				AML	AML	08 20 06.3	
	comp=N,93nm,0.4s						
IKRK				AML	AML	08 20 06.3	
	comp=E,92nm,0.5s						
RAFI	**Al-Rafai**	**2.11**	**169**	*e*Pn	**Pb**	**08 19 34.0**	**-0.7**
RAFI				*e*Sn	**Sb**	**08 20 01.0**	**+0.2**

NEIC 12 08:19:40.5±0.5, 39.387N±0.008×119.74W±0.01, h10km±4km, Error ellipse: s-maj=1.6km s-min=0.9km az=131.0
REN 12 08:19:40.6±0.5, 39.383N±0.008×119.75W±0.01, h7km, ML2.0/16, ML1.9/32(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=86.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPK	**Martis Peak**	**0.23**	**248**		Pg	08 19 46.0	+0.7
MPK					Sg	08 19 49.7	+1.2
MPK	**Martis Peak**	**0.23**	**248**	IAML		08 19 49.9	
	comp=E,463nm,0.3s						
MPK				IAML		08 19 50.6	
	comp=N,449nm,0.4s						
PEAR	**Peavine Mounta**	**0.28**	**324**		Pg	08 19 46.6	+0.5
PEAR					Sg	08 19 50.9	+1.1
PNTR	**Pine Nut**	**0.32**	**158**		Pg	08 19 47.3	+0.5
PNTR					Sg	08 19 52.4	+1.3
PNTR	**Pine Nut**	**0.32**	**158**	IAML		08 19 53.2	
	comp=N,136nm,0.4s						
PNTR				IAML		08 19 53.6	
	comp=E,126nm,0.6s						
PAHR	**Pah Rah Range**	**0.43**	**41**		Pg	08 19 49.3	+0.3
PAHR					Sg	08 19 55.4	+0.8
PAHR	**Pah Rah Range**	**0.43**	**41**	IAML		08 19 55.9	
	comp=N,115nm,0.3s						
PAHR				IAML		08 19 57.3	
	comp=E,114nm,0.3s						
RUBR	**Rubicon Trail**	**0.46**	**224**		Pg	08 19 50.0	+0.6
LOY	**Loyalton**	**0.47**	**306**		Pg	08 19 49.9	+0.2
EMB	**Emerald Bay**	**0.49**	**214**		Pg	08 19 49.7	-0.4
EMB	**Emerald Bay**	**0.49**	**214**		Sg	08 19 57.7	+1.1
EMB	**Emerald Bay**	**0.49**	**214**	IAML		08 19 58.1	
	comp=E,101nm,0.3s						
EMB				IAML		08 20 00.3	
	comp=N,57nm,0.4s						
YERR	**Yerington**	**0.56**	**135**		Pg	08 19 51.7	+0.3
YERR					Sg	08 19 59.6	+0.8
YERR	**Yerington**	**0.56**	**135**	IAML		08 19 59.8	
	comp=N,108nm,0.4s						
YERR				IAML		08 20 00.0	
	comp=E,147nm,0.3s						
BEKR	**Beckworth**	**0.67**	**316**		Pg	08 19 53.5	-0.1
BEKR					Sg	08 20 02.5	+0.2
BMRR	**Black Mountain**	**0.84**	**330**		Pg	08 19 56.6	-0.1
WAKR	**Walker**	**0.91**	**164**		Pg	08 19 58.4	+0.3
WAKR	**Walker**	**0.91**	**164**	IAML		08 20 01.6	
	comp=N,8.1nm,0.5s						
WAKR				IAML		08 20 08.4	
	comp=E,8.7nm,4.9s						
AFDM	**Forest Hills D**	**1.04**	**246**		Pg	08 20 00.3	-0.3
AFDM	**Forest Hills D**	**1.04**	**246**	IAML		08 20 17.2	
	comp=N,28nm,0.2s						
AFDM				IAML		08 20 19.7	
	comp=E,23nm,0.5s						
RYN	**Ryan**	**1.22**	**128**		Pg	08 20 03.8	-0.1
RYN	**Ryan**	**1.22**	**128**	IAML		08 20 23.3	
	comp=N,41nm,0.3s						
KVN	**Kaiserville**	**1.32**	**104**		Pn	08 20 05.4	-0.3
ORV	**Oroville**	**1.36**	**278**		Pn	08 20 05.7	-0.4
ORV	**Oroville**	**1.36**	**278**		Pn	08 20 05.3	-0.8
CMB	**Columbia Colle**	**1.44**	**200**		Pb	08 20 07.6	0.0
CMB	**Columbia Colle**	**1.44**	**200**		Pn	08 20 05.7	-1.4
NV09	**Mina Array Sit**	**1.45**	**130**		Pb	08 20 07.9	-0.2
NVAR	**Mina Array Bea**	**1.48**	**130**		Pn	08 20 07.5	-0.3
NV08	**Mina Array Sit**	**1.48**	**131**		Pb	08 20 08.3	-0.3
LHV	**Little Huntoon**	**1.49**	**139**		Pg	08 20 09.1	0.0
LHV	**Little Huntoon**	**1.49**	**139**	IAML		08 20 31.0	
	comp=E,16nm,0.3s						
LHV				IAML		08 20 32.9	
	comp=N,21nm,0.5s						
NV11	**Mina Array Sit**	**1.57**	**127**		Pn	08 20 08.8	-0.1
NV11				IAML		08 20 32.9	
	comp=N,8.0nm,0.3s						

IDC 12 08:20:57.6±7.3, 19.06N×96.20E, h0km, mb3.8/3, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=174.0km s-min=17.3km az=27.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**2.67**	**103**	Pn	Pn	08 21 42.1	+0.2
	7.5nm,0.3s,baz=262,slow=18,SNR=42						
CMAR				Lg	Lg	08 22 22.3	
	11nm,0.3s,baz=262,slow=31,SNR=6.7						
	13nm,0.7s						
MKAR	**Makanchi Array**	**29.92**	**341**	P	P	08 27 07.4	+0.1
	0.6nm,0.5s,baz=148,slow=8.8,SNR=6.4						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**34.48**	**340**	P	P	08 27 46.6	-0.6
	0.5nm,0.4s,baz=153,slow=8.3,SNR=5.1						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**35.91**	**349**	P	P	08 27 59.7	+0.3
	0.8nm,0.6s,baz=169,slow=8.7,SNR=1.6						
	0.8nm,0.6s						

NOU 12 08:48:12.6, 10.68S×161.97E, h0km, mb4.3/6, Solomon Islands
IDC 12 08:48:15.8±2.6, 10.81S×161.94E, h56km±22km, mb3.6/8, mbtmp4.0/10, ML4.0/2, MS3.5/14, Error ellipse: s-maj=27.6km s-min=14.1km az=62.0
ISC 12 08:48:15.4±0.8, 10.74S±0.09×162.1E±0.1, h54km, n25, σ1s79/18, mb3.7/8, MS3.3/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.47**	**302**	P	**Pn**	**08 48 52.2**	**-1.0**
HNR	**Honiara**	**2.47**	**302**	P	**Pn**	**08 48 51.6**	**-1.6**
	9μm,0.5s,baz=180,slow=6.3,SNR=22						
HNR				S	**Sn**	**08 49 21.9**	**-0.2**
	15μm,0.3s,baz=335,slow=22,SNR=7.1						
HNR				LR	LR	08 50 07.3	
	comp=Z,9μm,21.2s,baz=202,slow=47						
DZM	**Mont Dzumac**	**12.02**	**160**	P	**Pn**	**08 51 05.4**	**+1.2**
	0.5nm,0.3s,baz=18,slow=9.0,SNR=15						
DZM				S	**Sn**	**08 53 12.7**	**-4.1**
	2.9nm,0.8s,baz=40,slow=22,SNR=1.3						
DZM				LR	LR	08 55 00.6	
	comp=Z,166nm,19.4s,baz=28,slow=34						
	4.6nm,0.8s						
PMG	**Port Moresby**	**14.75**	**274**	LR	LR	08 56 51.1	
	comp=Z,304nm,21.1s,baz=147,slow=35						
CTA	**Charters Tower**	**17.84**	**237**	P	**P**	**08 52 21.3**	**+1.1**
CTA	**Charters Tower**	**17.84**	**237**	P	**Pn**	**08 52 20.3**	**+0.2**
	0.5nm,0.3s,baz=72,slow=11,SNR=14						
CTA				LR	LR	08 58 57.5	
	comp=Z,74nm,18.5s,baz=83,slow=36						
	12nm,0.8s						
CTAO	**Charters Tower**	**17.84**	**237**	P	**P**	**08 52 21.4**	**+1.2**
EIDS	**Eidsvold**	**17.89**	**214**	P	**Pn**	**08 52 22.9**	**+2.3**
MTSU	**Mount Surprise**	**18.69**	**245**	P	**Pn**	**08 52 32.2**	**+1.8**
WRA	**Warramunga Arr**	**28.23**	**248**	P	**P**	**08 54 01.4**	**-2.1**
	1.2nm,0.8s,baz=75,slow=9.8,SNR=6.7						
	1.2nm,0.8s						
STKA	**Stephens Creek**	**28.29**	**219**	LR	LR	09 05 17.7	
	comp=Z,134nm,18.6s,baz=28,slow=36						
GUMO	**Guam**	**29.59**	**324**	LR	LR	09 05 04.1	
	comp=Z,75nm,21.9s,baz=131,slow=34						
ASAR	**Alice Springs**	**29.75**	**241**	P	**P**	**08 54 14.6**	**-2.5**
	0.6nm,0.8s,baz=56,slow=11,SNR=5.5						
ASAR				LR	LR	09 06 00.6	
	comp=Z,125nm,18.1s,baz=63,slow=36						
	0.6nm,0.8s						
URZ	**Urewera**	**30.54**	**156**	LR	LR	09 05 20.3	
	comp=Z,67nm,19.1s,baz=118,slow=34						
RAR	**Rarotonga**	**38.03**	**111**	LR	LR	09 10 29.2	
	comp=Z,50nm,18.4s,baz=155,slow=35						
PPT	**Papeete**	**47.27**	**104**	LR	LR	09 12 50.6	
	comp=Z,37nm,19.7s,baz=62,slow=31						
JNU	**Nakatsue**	**52.79**	**327**	LR	LR	09 18 23.8	
	comp=Z,14nm,20.4s,baz=89,slow=34						
ASAJ	**Asahikawa**	**57.40**	**343**	LR	LR	09 19 47.6	
	comp=Z,21nm,21.3s,baz=230,slow=33						
KSRS	**Korea Array**	**57.65**	**328**	LR	LR	09 20 53.7	
	comp=Z,16nm,20.0s,baz=55,slow=34						
VNDA	**Vanda**	**66.76**	**180**	P	**P**	**08 59 01.6**	**+0.9**
	1.7nm,0.7s,baz=339,slow=6.3,SNR=10						
	1.7nm,0.7s						
SONM	**Songino Array**	**76.32**	**325**	P	**P**	**08 59 58.6**	**-0.2**
	0.7nm,0.7s,baz=113,slow=3.9,SNR=4.4						
SONM				LR	LR	09 32 58.1	
	comp=Z,26nm,18.9s,baz=94,slow=35						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**79.26**	**180**	P	**P**	**09 00 15.4**	**+0.5**
	0.8nm,0.3s,baz=327,slow=1.5,SNR=4.7						
	0.8nm,0.3s						
ILAR	**Eielson Array**	**84.40**	**20**	P	**P**	**09 00 42.8**	**+1.0**
	0.5nm,0.9s,baz=222,slow=6.6,SNR=2.1						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**90.85**	**317**	P	**P**	**09 01 14.0**	**+0.8**
	0.3nm,0.5s,baz=116,slow=3.4,SNR=1.9						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**96.37**	**28**	P	**P**	**09 01 37.1**	**-1.0**
	0.1nm,0.6s,baz=259,slow=4.9,SNR=2.6						
	0.1nm,0.6s						

UCR 12 08:49:05.6±1.2, 10.71N×85.01W, h0km±7km, MW3.9
CATAC 12 08:49:06.3±0.2, 10.69N×85.05W, h12km±3km, ML3.5
ISC 12 08:49:06.6±0.9, 10.69N±0.03×85.03W±0.02, h15km±7km, n50, σ0s80/58, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMAR	**Armenia, Volca**	**0.15**	**326**	*e*P	**Pg**	**08 49 10.6**	**-0.1**
VMAR				*e*S	**Sg**	**08 49 13.8**	**+0.4**
VMAR	**Armenia, Volca**	**0.15**	**326**	*i* P	**Pg**	**08 49 10.2**	**-0.5**
VMAR				IAML		08 49 17.8	
	comp=Z,34μm,1.0s						
VRLE	**La Escondida,**	**0.35**	**287**	*i* P	**Pb**	**08 49 14.0**	**-0.6**
VRLE				*i* S	**Sg**	**08 49 18.6**	**-0.2**
VRLE				IAML		08 49 19.9	
	comp=Z,4μm,1.0s						
JTS	**Las Juntas de**	**0.40**	**169**	*e*P	**Pg**	**08 49 14.6**	**-0.1**
VACR	**Volcan Arenal**	**0.40**	**121**	*i* P	**Pb**	**08 49 15.5**	**0.0**
VACR				IAML		08 49 15.8	
	comp=Z,4μm,1.0s						
VACR				*i* S	**Sb**	**08 49 25.6**	**+4.1**
LCHIL	**Los Chiles**	**0.47**	**41**	*e*P	**Pb**	**08 49 16.8**	**+0.2**
LCHIL				*e*S	**Sb**	**08 49 23.9**	**+0.7**
SOCE	**Pocosol**	**0.50**	**127**	*e*P	**Pb**	**08 49 16.7**	**-0.5**
SOCE	**Pocosol**	**0.50**	**127**	*i* P	**Pg**	**08 49 16.6**	**0.0**
SOCE				IAML		08 49 19.0	
	comp=Z,2μm,1.0s						
ORTG	**Ortega, Santa**	**0.53**	**233**	*e*P	**Pb**	**08 49 17.2**	**-0.5**
ORTG	**Ortega, Santa**	**0.53**	**233**	*i* P	**Pg**	**08 49 16.9**	**-0.3**
ORTG				*i* S	**Sb**	**08 49 25.2**	**0.0**
ORTG				IAML		08 49 27.0	
	comp=Z,850nm,1.0s						
HZTE	**Horizontes, Gu**	**0.56**	**273**	*e*P	**Pb**	**08 49 18.1**	**0.0**
HZTE	**Horizontes, Gu**	**0.56**	**273**	*i* P	**Pb**	**08 49 17.9**	**-0.2**
HZTE				*i* S	**Sb**	**08 49 26.4**	**+0.5**
HZTE				IAML		08 49 27.9	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**0.62**	**87**	*e*P	**Pg**	**08 49 18.1**	**-0.7**
COVE	**Coope Vega, Sa**	**0.62**	**87**	*i* P	**Pg**	**08 49 18.0**	**-0.7**
COVE				IAML		08 49 21.9	
	comp=Z,3μm,1.0s						
COVE				*i* S	**Sb**	**08 49 28.5**	**+1.0**
LCRUZ	**La Cruz**	**0.71**	**304**	*e*P	**Pb**	**08 49 21.2**	**+0.6**
CPMI	**Catarata Coope**	**0.75**	**122**	*i* P	**Pg**	**08 49 20.9**	**-0.4**
CPMI				*i* S	**Sb**	**08 49 31.5**	**-0.1**
CPMI				IAML		08 49 42.7	
	comp=Z,830nm,1.0s						
ARZA	**Esparza**	**0.78**	**153**	*e*P	**Pb**	**08 49 22.4**	**+0.6**
ITAL	**Pital**	**0.78**	**107**	*e*P	**Pg**	**08 49 21.0**	**-0.8**
SRA1	**San Ramn**	**0.80**	**138**	*e*P	**Pg**	**08 49 21.9**	**-0.4**
POA5	**Crater Von Fra**	**0.92**	**121**	*e*P	**Pg**	**08 49 23.8**	**-0.7**
INDI	**Punta indio, G**	**0.94**	**210**	*e*P	**Pg**	**08 49 24.5**	**-0.4**
INDI	**Punta indio, G**	**0.94**	**210**	*i* P	**Pg**	**08 49 24.4**	**-0.4**
INDI				IAML		08 49 42.2	
	comp=Z,460nm,1.0s						
OMEN	**AI SSO del Vol**	**1.01**	**324**	*i* P	**Pb**	**08 49 25.5**	**-0.3**
OMEN				IAML		08 49 42.0	
	comp=Z,870nm,1.0s						
SARA	**Sarapiqu**	**1.02**	**103**	*e*P	**Pg**	**08 49 24.9**	**-1.4**
MORN	**AI O del Volca**	**1.05**	**325**	*i* P	**Pb**	**08 49 26.5**	**0.0**
MORN				IAML		08 49 36.8	
	comp=Z,1μm,1.0s						
JAPN	**AI SSO del Vol**	**1.05**	**323**	*i* P	**Pn**	**08 49 27.2**	**+0.4**
JAPN				IAML		08 49 30.9	
	comp=Z,680nm,1.0s						
CONN	**Concepcion**	**1.05**	**326**	*i* P	**Pb**	**08 49 26.4**	**-0.1**
CONN				IAML		08 49 48.8	
	comp=Z,5μm,1.0s						
JACO	**JACO, Garabito**	**1.08**	**160**	*e*P	**Pg**	**08 49 26.6**	**-0.9**
JACO	**JACO, Garabito**	**1.08**	**160**	*i* P	**Pg**	**08 49 26.8**	**-0.7**
JACO				IAML		08 49 30.6	
	comp=Z,450nm,1.0s						
CBL1	**Cabuya**	**1.09**	**183**	*e*P	**Pg**	**08 49 27.2**	**-0.5**
HDC	**Heredia**	**1.13**	**127**	*e*P	**Pg**	**08 49 27.4**	**-1.1**
HDC3	**Heredia 3**	**1.13**	**127**	*i* P	**Pg**	**08 49 27.9**	**-0.6**
HDC3				IAML		08 49 29.2	
	comp=Z,440nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.15**	**108**	*i* P	**Pg**	**08 49 27.6**	**-1.2**
RIFO				IAML		08 49 52.6	
	comp=Z,1μm,1.0s						
CORON	**Coronado**	**1.23**	**125**	*e*P	**Pg**	**08 49 29.7**	**-0.7**
TRT2	**Tortugero**	**1.28**	**96**	*i* P	**Pn**	**08 49 29.2**	**-0.7**
TRT2				IAML		08 49 30.1	
	comp=Z,1μm,1.0s						
ACON	**Acoyapa**	**1.28**	**354**	*i* P	**Pn**	**08 49 29.5**	**-0.5**
ACON				IAML		08 49 54.2	
	comp=Z,1μm,1.0s						
CARI	**Cariari**	**1.31**	**104**	*e*P	**Pn**	**08 49 30.2**	**-0.2**
OCM	**Ochomogo**	**1.31**	**127**	*i* P	**Pn**	**08 49 30.5**	**-0.1**
OCM				IAML		08 49 31.5	
	comp=Z,750nm,1.0s						
VICA	**Volcano Irazu**	**1.36**	**121**	*e*P	**Pn**	**08 49 31.1**	**-0.3**
HAYA	**Volcan Irazu**	**1.36**	**121**	*i* P	**Pn**	**08 49 31.2**	**-0.2**
HAYA				IAML		08 49 35.4	
	comp=Z,510nm,1.0s						
LCR2	**La Lucha 2**	**1.38**	**133**	*e*P	**Pn**	**08 49 31.0**	**-0.4**
LCR2	**La Lucha 2**	**1.38**	**133**	*i* P	**Pn**	**08 49 31.1**	**-0.4**
LCR2				IAML		08 49 33.9	
	comp=Z,590nm,1.0s						
REPA	**Paraso**	**1.42**	**127**	*e*P	**Pg**	**08 49 33.6**	**-0.5**
RIMA	**Rio Macho**	**1.47**	**128**	*e*P	**Pn**	**08 49 32.6**	**0.0**
RIMA	**Rio Macho**	**1.47**	**128**	*i* P	**Pn**	**08 49 32.8**	**+0.1**
RIMA				IAML		08 49 34.8	
	comp=Z,530nm,1.0s						
VERB	**Verbena**	**1.50**	**119**	*e*P	**Pn**	**08 49 33.7**	**+0.5**
LLNJ	**Naranjito**	**1.51**	**143**	*e*P	**Pb**	**08 49 34.2**	**-0.1**
LCOCO	**El Coco**	**1.56**	**112**	*e*P	**Pn**	**08 49 34.5**	**+0.7**
BUS1	**Rivas**	**1.69**	**132**	*e*P	**Pn**	**08 49 36.5**	**+0.5**
EDPN	**Palmar Norte**	**2.31**	**138**	*e*P	**Pb**	**08 49 46.9**	**-1.1**

NEIC 12 08:55:42.4±0.5, 20.01N±0.03×154.73W±0.06, h26km±7km, Error ellipse: s-maj=8.4km s-min=3.7km az=82.0
HVO 12 08:55:44.1±1.9, 20.06N±0.04×154.63W±0.07, h16km±5km, ML3.0/22, ML3.1/46(NEIC), Error ellipse: s-maj=9.4km s-min=5.7km az=107.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.71**	**210**		Pg	08 55 55.5	-2.5
NPOC	**North of Pu'u**	**0.80**	**215**	Pg	Pg	08 55 58.2	-1.5
NPOC				IAML		08 56 20.0	
	comp=E,525nm,0.9s						
JCUZ	**Jacuzzi**	**0.80**	**214**	Pg	Pg	08 55 58.4	-1.

MLOA				IAML		08 56 13.4	
	comp=E,398nm,0.1s						
AIN	**Ainahou**	**1.04 229**			Sb	08 56 12.3	-5.0
AIN	**Ainahou**	**1.04 229**			Pb	08 56 00.2	-3.6
AIN	**Ainahou**	**1.04 229**		IAML		08 56 23.4	
	comp=N,494nm,0.6s						
AIN				IAML		08 56 27.9	
	comp=E,444nm,0.4s						
MWH	**Moku'aweowe**	**1.07 238**			Pb	08 56 00.7	-3.9
MWH				IAML		08 56 37.5	
	comp=E,380nm,1.6s						
MWH				IAML		08 56 42.9	
	comp=N,470nm,1.1s						
ALEP	**Alea Permanent**	**1.08 242**			Pb	08 56 00.8	-3.9
ALEP					Sb	08 56 13.7	-5.2
HTC	**Hot Caves**	**1.09 222**			Pb	08 56 00.8	-3.8
KHU	**Kahuku**	**1.23 229**			Pn	08 56 02.8	-4.2
KHU				Pg	Pb	08 56 03.2	-4.0
KHU				IAML		08 56 23.3	
	comp=E,323nm,2.9s						
KHU				IAML		08 56 26.7	
	comp=N,267nm,4.3s						
KHLU	**Kahalu`u**	**1.28 249**		Pn	Pn	08 56 02.9	-4.5
KHLU					Pb	08 56 03.3	-4.6
KHLH	**Kahului Airpor**	**1.88 297**		Pn	Pn	08 56 11.7	-3.9
KHLH				IAML		08 57 01.8	
	comp=N,122nm,3.9s						
KHLH				IAML		08 57 08.2	
	comp=E,154nm,3.9s						
KHLH	**Kahului Airpor**	**1.88 297**			Sn	08 56 33.3	-5.8
HON	**Honolulu**	**3.40 292**		Pn	Pn	08 56 32.5	-4.0
HON					Pn	08 56 32.6	-3.9
KEKH	**Kekaha**	**5.12 293**		Pn	Pn	08 56 56.2	-4.0

TAP ***12*** *08:55:48.4, 24˚.44N×121˚.91E, h22km, ML3.5, C*
JMA ***12*** *08:55:48.4±0.1, 24˚.4N±0˚.8×121˚.9E±1˚.0, h34km±4km, MV2.8/12, TAIWAN REGION*
ISC 12 08:55:48.1±0.9**, 24˚.42N**±0˚.01×**121˚.95E**±0˚.02**, h18**km±2km**, n124, σ0°56/204, 7C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.16**	**280**	⇓P		**Pg**	**08 55 52.8**	**+0.3**
	baz=275							
EWUT				S		**Sg**	**08 55 56.0**	**+0.5**
	baz=275							
ESAO	**Su ao**	**0.18**	**329**	⇓P		**Pg**	**08 55 53.2**	**+0.3**
	baz=337							
ESAO				S		**Sg**	**08 55 56.2**	**+0.1**
	baz=337							
ENA	**Nanau**	**0.19**	**273**	P		**Pg**	**08 55 53.2**	**+0.2**
	baz=266							
ENA				S		**Sg**	**08 55 56.6**	**+0.4**
	baz=266							
EAHA	**Aohua**	**0.21**	**245**	*e*P		**Pg**	**08 55 53.6**	**+0.3**
	baz=238							
EAHA				S		**Sg**	**08 55 57.4**	**+0.6**
	baz=238							
TWC	**Suao**	**0.21**	**335**	⇓*i*P		**Pg**	**08 55 53.6**	**+0.3**
	baz=344							
TWC				S		**Sg**	**08 55 57.0**	**+0.1**
	baz=344							
EHP	**Heping Village**	**0.22**	**240**	*e*P		**Pg**	**08 55 53.8**	**+0.4**
	baz=232							
EHP				S		**Sg**	**08 55 57.8**	**+0.8**
	baz=232							
NDS	**Dongshan**	**0.30**	**315**	P		**Pb**	**08 55 55.1**	**+0.1**
	baz=318							
NDS				*e*S		**Sg**	**08 55 58.8**	**-0.5**
	baz=318							
EOS3	**EOS3**	**0.36**	**111**	⇑P		**Pn**	**08 55 57.2**	**-1.1**
	baz=112							
EOS3				*e*S		**Sn**	**08 56 03.5**	**-1.3**
	baz=112							
ILA	**Ilan**	**0.39**	**332**	⇓*i*P		**Pb**	**08 55 56.8**	**+0.2**
	baz=333							
ILA				*i* S		**Sb**	**08 56 02.6**	**+0.3**
	baz=333							
ETL	**Fush Village**	**0.39**	**229**	*e*P		**Pg**	**08 55 56.5**	**+0.2**
	baz=229							
ETL				*e*S		**Sb**	**08 56 02.7**	**+0.3**
	baz=229							
TWE	**Neicheng**	**0.40**	**320**	⇓*i*P		**Pg**	**08 55 56.5**	**+0.1**
	baz=324							
TWE				S		**Sg**	**08 56 01.4**	**-0.5**
	baz=324							
LATG	**Datong**	**0.40**	**287**	⇑P		**Pg**	**08 55 56.5**	**0.0**
	baz=287							
LATG				*e*S		**Sg**	**08 56 02.2**	**0.0**
	baz=287							
NACB	**Ninganchiao**	**0.40**	**233**	P		**Pb**	**08 55 56.9**	**+0.1**
NACB	**Ninganchiao**	**0.40**	**233**	*e*P		**Pg**	**08 55 56.4**	**-0.1**
	baz=233							
NACB				S		**Sb**	**08 56 02.7**	**+0.1**
	baz=233							
ENTT	**Nioudou**	**0.41**	**302**	⇑*i*P		**Pg**	**08 55 56.7**	**0.0**
	baz=304							
ENTT				*e*S		**Sg**	**08 56 02.3**	**-0.1**
	baz=304							
EGS		**0.43**	**358**	*i* P		**Pb**	**08 55 57.5**	**+0.3**
	baz=3.0							
EGS				*e*S		**Sb**	**08 56 03.5**	**+0.3**
	baz=3.0							
NDT	**Datong Townshi**	**0.44**	**295**	⇑P		**Pb**	**08 55 57.3**	**0.0**
	baz=295							
NDT				S		**Sg**	**08 56 03.1**	**-0.1**
	baz=295							
EOS4	**EOS4**	**0.45**	**131**	P		**Pb**	**08 55 58.1**	**+0.8**
	baz=123							
EOS4				*e*S		**Sn**	**08 56 05.8**	**-0.9**
	baz=123							
TWD	**Chiawan**	**0.47**	**224**	*e*P		**Pb**	**08 55 57.9**	**+0.1**
	baz=220							
TWD				*e*S		**Sb**	**08 56 05.2**	**+0.9**
	baz=220							
FUSB	**Fushanzhiwuyua**	**0.47**	**316**	⇑P		**Pg**	**08 55 57.9**	**+0.1**
	baz=318							
FUSB				S		**Sg**	**08 56 04.0**	**-0.3**
	baz=318							
ETLH	**Xiulin Townshi**	**0.47**	**244**	*e*P		**Pg**	**08 55 57.6**	**-0.2**
	baz=245							
ETLH				*e*S		**Sb**	**08 56 04.8**	**+0.1**
	baz=245							
NNSB	**Datong**	**0.52**	**271**	*e*P		**Pb**	**08 55 58.5**	**-0.2**
	baz=276							
NNSB				S		**Sg**	**08 56 04.8**	**-0.8**
	baz=276							
NNS	**Nan Shan**	**0.53**	**273**	*i* P		**Pb**	**08 55 58.8**	**-0.1**
	baz=272							
NNS				*e*S		**Sb**	**08 56 04.9**	**-1.2**
	baz=272							
HWA	**Hwalien**	**0.54**	**216**	*e*P		**Pn**	**08 56 00.1**	**-0.7**
	baz=219							
HWA				*e*S		**Sn**	**08 56 10.6**	**+1.1**
	baz=219							
NWLT	**Wulai**	**0.54**	**311**	*i* P		**Pb**	**08 55 59.0**	**-0.1**
	baz=313							
NWLT				S		**Sb**	**08 56 05.8**	**-0.7**
	baz=313							
TIPB	**Shuangxi**	**0.56**	**349**	⇓*i*P		**Pb**	**08 55 59.4**	**0.0**
	baz=356							
TIPB				S		**Sb**	**08 56 06.6**	**-0.5**
	baz=356							
YHNB	**Yeheng**	**0.58**	**296**	P		**Pg**	**08 55 59.9**	**+0.2**
YHNB	**Yeheng**	**0.58**	**296**	⇑*i*P		**Pb**	**08 55 59.6**	**-0.1**
	baz=296							
YHNB				S		**Sb**	**08 56 06.6**	**-0.9**
	baz=296							
TWB1	**Santiao Chiao**	**0.59**	**3**	⇓P		**Pg**	**08 55 60.0**	**+0.1**
	baz=2.0							
TWB1				S		**Sb**	**08 56 07.5**	**-0.3**
	baz=2.0							
NSK	**Sanguang**	**0.60**	**296**	⇑P		**Pb**	**08 55 59.8**	**-0.2**
	baz=296							
NSK				*e*S		**Sb**	**08 56 07.4**	**-0.7**
	baz=296							
ETM	**Tongmen**	**0.61**	**223**	*e*P		**Pg**	**08 56 00.5**	**+0.1**
	baz=227							
ETM				*e*S		**Sg**	**08 56 09.3**	**+0.8**
	baz=227							
LXIB	**Xiulin Townshi**	**0.63**	**231**	P		**Pb**	**08 56 00.4**	**-0.2**
	baz=228							
LXIB				S		**Sn**	**08 56 10.9**	**-1.0**
	baz=228							
TWA	**Mucha**	**0.65**	**329**	*e*P		**Pg**	**08 56 01.6**	**+0.6**
	baz=323							
TWA				S		**Sb**	**08 56 09.4**	**-0.2**
	baz=323							
NHDH	**Xindian Distri**	**0.67**	**325**	*e*P		**Pg**	**08 56 01.6**	**+0.3**
	baz=319							
NHDH				*e*S		**Sb**	**08 56 09.3**	**-0.7**
	baz=319							
NWF	**Wu-fen Shan**	**0.67**	**347**	*e*P		**Pg**	**08 56 01.6**	**+0.2**
	baz=342							
NWF				S		**Sb**	**08 56 09.9**	**-0.2**
	baz=342							
WFSB	**Wu-fen Shan**	**0.67**	**347**	*i* P		**Pg**	**08 56 01.6**	**+0.2**
	baz=342							
WFSB				*e*S		**Sb**	**08 56 10.0**	**-0.1**
	baz=342							
SXI1	**Grass Mountain**	**0.68**	**354**	⇓P		**Pg**	**08 56 01.7**	**+0.1**
	baz=359							
SXI1				S		**Sg**	**08 56 10.6**	**0.0**
	baz=359							
WHF	**Hehuan Shan**	**0.68**	**247**	*e*P		**Pb**	**08 56 01.7**	**+0.1**
	baz=251							
WHF				*e*S		**Sg**	**08 56 11.2**	**+0.3**
	baz=251							
TATO	**Taipei**	**0.70**	**323**	P		**Pg**	**08 56 02.4**	**+0.5**
SHUL	**Shoufeng**	**0.72**	**209**	P		**Pn**	**08 56 03.1**	**-0.2**
	baz=199							
SHUL				S		**Sn**	**08 56 15.7**	**+1.8**
	baz=199							
TWT	**Tachien**	**0.72**	**257**	*e*P		**Pn**	**08 56 03.4**	**-0.1**
	baz=256							
TWT				S		**Sg**	**08 56 12.6**	**+0.5**
	baz=256							
TAP	**Taipei**	**0.74**	**327**	*e*P		**Pn**	**08 56 03.2**	**-0.4**
	baz=329							
TAP				*e*S		**Sb**	**08 56 12.4**	**+0.2**
	baz=329							
TDCB	**Techi**	**0.74**	**257**	*e*P		**Pg**	**08 56 03.1**	**+0.4**
	baz=252							
TDCB				*e*S		**Sb**	**08 56 10.9**	**-1.4**
	baz=252							
TNOU	**National Taiwa**	**0.75**	**348**	*e*P		**Pg**	**08 56 02.8**	**0.0**
	baz=346							
TNOU				*e*S		**Sb**	**08 56 12.5**	**+0.1**
	baz=346							
ESL	**Shilin**	**0.76**	**218**	*e*P		**Pg**	**08 56 03.2**	**+0.1**
	baz=229							
ESL				*e*S		**Sn**	**08 56 15.1**	**+0.1**
	baz=229							
NFF	**Wufeng Townshi**	**0.79**	**286**	*e*P		**Pg**	**08 56 04.0**	**+0.4**
	baz=290							
NFF				S		**Sb**	**08 56 13.4**	**-0.2**
	baz=290							
CHGB	**Renai**	**0.79**	**243**	P		**Pg**	**08 56 03.8**	**+0.1**
	baz=248							
CHGB				S		**Sg**	**08 56 15.1**	**+0.8**
	baz=248							
YM01	**YM01**	**0.80**	**335**	P		**Pg**	**08 56 04.1**	**+0.2**
	baz=336							
YM01				*e*S		**Sb**	**08 56 14.2**	**+0.1**
	baz=336							
YM08	**YM08**	**0.83**	**337**	P		**Pb**	**08 56 04.2**	**+0.2**
	baz=339							
YM08				*e*S		**Sb**	**08 56 15.1**	**+0.2**
	baz=339							
TWS1	**Kuangyinshan**	**0.83**	**325**	*e*P		**Pn**	**08 56 04.8**	**-0.2**
	baz=321							
TWS1				*e*S		**Sg**	**08 56 15.6**	**+0.1**
	baz=321							
OWD	**Renai**	**0.84**	**237**	P		**Pg**	**08 56 04.6**	**-0.1**
	baz=239							
OWD				*e*S		**Sn**	**08 56 16.8**	**-0.4**
	baz=239							
ANP	**Anpu**	**0.86**	**333**	*e*P		**Pg**	**08 56 04.8**	**-0.1**
	baz=335							
WARBT	**Fenglin Townsh**	**0.87**	**217**	P		**Pb**	**08 56 04.1**	**-0.5**
	baz=228							
WARBT				*e*S		**Sn**	**08 56 17.1**	**-0.4**
	baz=228							
WUSB	**Renai**	**0.87**	**241**	*i* P		**Pg**	**08 56 05.1**	**0.0**
	baz=245							
WUSB				*e*S		**Sg**	**08 56 17.2**	**+0.5**
	baz=245							
NTST	**Danshui**	**0.87**	**329**	*e*P		**Pn**	**08 56 06.1**	**+0.6**
	baz=330							
NTST				*e*S		**Sb**	**08 56 16.3**	**+0.3**
	baz=330							
LIOB	**Emei**	**0.88**	**285**	*i* P		**Pn**	**08 56 06.1**	**+0.5**
	baz=288							
NCU	**National Centr**	**0.88**	**309**	*e*P		**Pn**	**08 56 05.8**	**+0.2**
	baz=315							
NCU				*e*S		**Sg**	**08 56 17.6**	**+0.4**
	baz=315							
EGFH	**Guangfu**	**0.89**	**213**	P		**Pg**	**08 56 05.3**	**-0.1**
	baz=224							
NCUH	**Zhongli**	**0.89**	**308**	*e*P		**Pn**	**08 56 06.0**	**+0.3**
	baz=294							
NCUH				*e*S		**Sg**	**08 56 17.6**	**+0.4**
	baz=294							
NSTT	**Nanjuang**	**0.89**	**284**	P		**Pn**	**08 56 06.1**	**+0.4**
	baz=284							
NSTT				*e*S		**Sb**	**08 56 16.4**	**-0.1**
	baz=284							
JYNG	**Yonagunijimaku**	**0.91**	**88**	P		**Pg**	**08 56 06.2**	**+0.3**
JYNG				*e*S		**Sn**	**08 56 18.4**	**-0.2**
WHP	**Taichung City**	**0.93**	**262**	*e*P		**Pg**	**08 56 06.7**	**+0.5**
	baz=260							
SBCB	**Hsinchu**	**0.95**	**293**	*e*P		**Pg**	**08 56 07.5**	**+0.9**
	baz=293							
YOJ	**Yonaguni jima**	**0.97**	**87**	P		**Pg**	**08 56 07.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.97**	**87**	P		**Pn**	**08 56 06.8**	**0.0**
YOJ				*e*S		**Sg**	**08 56 19.9**	**+0.2**
HSN	**Hsinchu**	**0.97**	**293**	*e*P		**Pn**	**08 56 06.8**	**0.0**
	baz=296							
VWDT	**VWDT**	**0.99**	**228**	*e*P		**Pn**	**08 56 07.1**	**+0.1**
	baz=227							
VWDT				*e*S		**Sb**	**08 56 19.9**	**+0.5**
	baz=227							
WCS	**Beigang Elemen**	**1.01**	**249**	*e*P		**Pg**	**08 56 08.0**	**+0.2**
	baz=255							
WCS				*e*S		**Sb**	**08 56 20.4**	**+0.3**
	baz=255							
HGSD	**Ruisui**	**1.04**	**208**	*e*P		**Pn**	**08 56 07.7**	**-0.1**
	baz=221							
NMLH	**Miaoli**	**1.06**	**277**	*e*P		**Pg**	**08 56 09.6**	**+0.8**
	baz=277							
NMLH				*e*S		**Sn**	**08 56 22.5**	**+0.1**
	baz=277							
EHY	**Hungye**	**1.07**	**212**	*e*P		**Pb**	**08 56 06.7**	**-1.5**
	baz=209							
TWQ1	**Liyutan**	**1.07**	**267**	P		**Pg**	**08 56 09.8**	**+0.8**
	baz=266							
TWQ1				*e*S		**Sn**	**08 56 22.8**	**+0.1**
	baz=266							
NSY	**Sanyi**	**1.08**	**270**	*e*P		**Pg**	**08 56 10.2**	**+1.1**
	baz=281							
SMLT	**Sun Moon Lake**	**1.10**	**241**	P		**Pn**	**08 56 09.0**	**+0.3**
	baz=230							
SSLB	**Suanglung**	**1.10**	**236**	P		**Pb**	**08 56 09.0**	**+0.3**
SSLB	**Suanglung**	**1.10**	**236**	P		**Pb**	**08 56 08.7**	**0.0**
	baz=235							
SSLB				*e*S		**Sn**	**08 56 23.5**	**0.0**
	baz=235							
TYC	**Yuchr**	**1.12**	**243**	*e*P		**Pb**	**08 56 09.6**	**-0.3**
	baz=251							
TYC				*e*S		**Sb**	**08 56 22.7**	**-0.5**
	baz=251							
YULB	**Yu-li**	**1.18**	**210**	P		**Pb**	**08 56 10.2**	**+0.2**
YULB	**Yu-li**	**1.18**	**210**	*e*P		**Pn**	**08 56 08.4**	**-1.3**
	baz=208							
EYUL	**Yuli**	**1.21**	**209**	*e*P		**Pg**	**08 56 11.2**	**-0.4**
	baz=220							
TWF1	**Yuli**	**1.22**	**209**	*e*P		**Pn**	**08 56 09.4**	**-0.8**
	baz=219							
WHYT	**Xinyi Township**	**1.23**	**235**	*e*P		**Pg**	**08 56 11.8**	**-0.2**
	baz=233							
WJS	**Zhushan**	**1.26**	**242**	*i* P		**Pg**	**08 56 13.2**	**+0.6**
	baz=244							
WJS				*e*S		**Sg**	**08 56 29.9**	**+0.8**
	baz=244							
WNT	**Mingjian**	**1.27**	**245**	*e*P		**Pg**	**08 56 13.5**	**+0.7**
	baz=244							
WCHH	**Zhanghua**	**1.31**	**255**	*e*P		**Pg**	**08 56 13.1**	**-0.4**
	baz=254							
CHKH	**Chenggong**	**1.32**	**203**	*e*P		**Pb**	**08 56 12.4**	**0.0**
	baz=186							
FULB	**Fuli**	**1.35**	**206**	*e*P		**Pb**	**08 56 12.6**	**-0.3**
	baz=218							
ALS	**Alishan**	**1.38**	**229**	*e*P		**Pb**	**08 56 13.5**	**-0.1**
	baz=216							
ALS				*e*S		**Sg**	**08 56 32.5**	**-0.5**
	baz=216							
CHN5	**Tsauling**	**1.42**	**235**	*e*P		**Pg**	**08 56 15.0**	**-0.6**
	baz=235							
CHN5				*e*S		**Sg**	**08 56 35.0**	**+0.8**
	baz=235							
WDLH	**Douliu**	**1.48**	**241**	*e*P		**Pg**	**08 56 16.4**	**-0.3**
	baz=240							
WDLH				*e*S		**Sg**	**08 56 37.0**	**+1.0**
	baz=240							
ELDTW	**Lidau**	**1.49**	**215**	*e*P		**Pn**	**08 56 13.9**	**-0.2**
	baz=200							
ELDTW				*e*S		**Sb**	**08 56 34.7**	**+0.7**
	baz=200							
WRL	**Guolierlin Hig**	**1.52**	**251**	*e*P		**Pg**	**08 56 16.8**	**-0.7**
	baz=262							
WRL				*e*S		**Sg**	**08 56 36.4**	**-1.0**
	baz=262							
EDH	**Donghe**	**1.56**	**202**	*e*P		**Pn**	**08 56 14.9**	**0.0**
	baz=188							
WCKO	**Fanlu**	**1.57**	**232**	*e*P		**Pg**	**08 56 18.5**	**+0.1**
	baz=219							
WCKO				*e*S		**Sg**	**08 56 38.8**	**-0.1**
	baz=219							
WTK	**Tuku**	**1.60**	**243**	*e*P		**Pb**	**08 56 17.9**	**+0.8**
	baz=243							
WTK				*i* S		**Sg**	**08 56 39.8**	**0.0**
	baz=243							
IRIF	**Iriomote-Funau**	**1.63**	**93**	*e*P		**Pn**	**08 56 16.3**	**+0.5**
IRIF				*e*S		**Sn**	**08 56 36.0**	**-0.3**
CHN4	**Tsaushan**	**1.63**	**230**	P		**Pb**	**08 56 17.9**	**+0.1**
	baz=229							
CHN4				*e*S		**Sg**	**08 56 41.5**	**+0.6**
	baz=229							
STYH	**Taoyuan**	**1.64**	**221**	*e*P		**Pn**	**08 56 16.9**	**+0.9**
	baz=220							
STYH				*e*S		**Sb**	**08 56 38.9**	**+0.7**
	baz=220							
TPUB	**Ta-pu**	**1.64**	**228**	P		**Pb**	**08 56 18.5**	**+0.6**
TPUB	**Ta-pu**	**1.64**	**228**	*e*P		**Pb**	**08 56 17.9**	**0.0**
	baz=227							
TPUB				*e*S		**Sg**	**08 56 40.8**	**-0.4**
	baz=227							
CHY	**Chiayi**	**1.67**	**237**	*e*P		**Pb**	**08 56 19.3**	**+1.0**
	baz=237							
CHY				*e*S		**Sg**	**08 56 41.6**	**-0.4**
	baz=237							
WTP	**Ta-pu**	**1.69**	**227**	*e*P		**Pb**	**08 56 17.9**	**-0.8**
	baz=226							
WTP				S		**Sg**	**08 56 42.6**	**-0.1**
	baz=226							
TWK	**Hsinying**	**1.76**	**230**	*e*P		**Pb**	**08 56 20.2**	**+0.3**
	baz=227							
TWG	**Pinlang**	**1.78**	**207**	*e*P		**Pb**	**08 56 19.2**	**-1.0**
	baz=192							
CHN1	**Nanshi**	**1.79**	**227**	*e*P		**Pb**	**08 56 20.1**	**-0.2**
	baz=226							
CHN1				*e*S		**Sg**	**08 56 44.8**	**-1.1**
	baz=226							
SGST	**Jiashian**	**1.83**	**224**	*e*P		**Pb**	**08 56 19.9**	**-1.2**
	baz=222							
SLGT	**Liugui**	**1.85**	**220**	*e*P		**Pb**	**08 56 20.7**	**-0.7**
	baz=220							
SLGT				*e*S		**Sb**	**08 56 45.2**	**+0.9**
	baz=220							
ICHU	**Yijhu**	**1.85**	**236**	*e*P		**Pb**	**08 56 21.6**	**+0.2**
	baz=219							
ICHU				S		**Sg**	**08 56 47.4**	**-0.6**
	baz=219							
JKRS	**Kuro-shima**	**1.89**	**95**	*e*S		**Sn**	**08 56 42.9**	**+0.1**
JIJ	**Ishigaki jima**	**2.00**	**91**	*e*S		**Sn**	**08 56 45.3**	**-0.2**
SCST	**Cishan**	**2.03**	**221**	*e*P		**Pb**	**08 56 23.8**	**-0.7**
	baz=219							
TSMG	**Majia**	**2.08**	**215**	*e*P		**Pb**	**08 56 24.3**	**-1.1**
	baz=213							
JISG	**Ishigakijimahi**	**2.16**	**85**	*e*S		**Sn**	**08 56 50.2**	**+0.8**
MASBT	**Mashibuluo**	**2.17**	**214**	*e*P		**Pb**	**08 56 25.7**	**-1.1**
	baz=212							
EAST	**Anshuo**	**2.26**	**207**	*e*P		**Pn**	**08 56 25.1**	**+0.5**
	baz=195							
VWUC	**VWUC**	**2.34**	**285**	*e*P		**Pn**	**08 56 25.2**	**-0.5**
	baz=285							
PHUB	**P'eng-hu**	**2.35**	**248**	*e*P		**Pn**	**08 56 26.5**	**+0.7**
	baz=247							
SCZT	**Fangliau**	**2.37**	**211**	*e*P		**Pn**	**08 56 28.2**	**+2.1**
	baz=209							
SCZT				*e*S		**Sb**	**08 56 59.5**	**+0.2**
	baz=209							
MATB	**Ma-tsu**	**2.50**	**314**	*e*P		**Pn**	**08 56 27.6**	**-0.3**
	baz=314							
LYJJ	**Jianjiangzhen**	**2.90**	**317**	*e*P		**Pn**	**08 56 32.9**	**-0.5**
	baz=317							
XPSS	**Dashiqiu**	**2.96**	**328**	*e*P		**Pn**	**08 56 33.9**	**-0.3**
	baz=328							
MHZQ	**Yeshan**	**3.13**	**303**	*e*P		**Pn**	**08 56 36.0**	**-0.5**
	baz=303							
KNMB	**Chin-men Tao**	**3.25**	**272**	*e*P		**Pn**	**08 56 37.6**	**-0.5**
	baz=272							
AXDP	**Jialang**	**3.65**	**278**	*e*P		**Pn**	**08 56 43.6**	**-0.1**
	baz=278							

IDC ***12*** *08:58:42.9±1.1, 30˚.14N×41˚.81W, h0km, mb3.9/11, mbtmp3.9/11, MS3.5/32, Error ellipse: s-maj=40.1km s-min=17.7km az=19.0*
ISC 12 08:58:44.2±1.0**, 30˚.1N**±0˚.2×**41˚.8W**±0˚.1**, h10**km**, n43, σ0°60/14, mb4.0/14, MS3.5/32, 3C, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.16**	**247**	LR		LR	09 13 20.9	
	comp=Z,23nm,19.7s,baz=86,slow=35							
SCHQ	**Schefferville**	**30.56**	**331**	P		**P**	**09 04 58.0**	**+0.2**
	5.8nm,1.1s,baz=121,slow=11,SNR=2.5							
SCHQ				LR		LR	09 16 00.9	
	comp=Z,83nm,20.1s,baz=102,slow=34 5.8nm,1.1s							
MDT	**Midelt**	**31.75**	**75**	LR		LR	09 16 30.4	
	comp=Z,73nm,18.3s,baz=350,slow=34							
ESDC	**Sonseca Array**	**32.28**	**62**	LR		LR	09 13 56.5	
	comp=Z,36nm,20.6s,baz=278,slow=28							
SADO	**Sadowa**	**32.77**	**307**	LR		LR	09 16 39.1	
	comp=Z,60nm,20.7s,baz=22,slow=33							
SDV	**Santo Domingo**	**34.22**	**238**	LR		LR	09 16 49.6	
	comp=Z,33nm,20.9s,baz=64,slow=32							
TKL	**Tuckaleechee C**	**35.49**	**290**	LR		LR	09 17 03.0	
	comp=Z,64nm,20.6s,baz=64,slow=31							
SFJD	**Kangerlussuaq**	**37.33**	**354**	LR		LR	09 17 44.2	
	comp=Z,122nm,20.6s,baz=164,slow=31							
FRB	**Frobisher Bay**	**37.73**	**341**	LR		LR	09 19 26.5	
	comp=Z,72nm,18.5s,baz=139,slow=33							
TIC	**Toumodi**	**41.67**	**117**	⇑*e*P		**P**	**09 06 33.6**	**+0.4**
	6.4nm,0.7s							
DBIC	**Dimbokro**	**41.78**	**116**	P		**P**	**09 06 34.9**	**+0.8**
	5.2nm,0.8s,baz=301,slow=11,SNR=5.0							
DBIC				LR		LR	09 21 12.8	
	comp=Z,94nm,20.2s,baz=320,slow=32 5.2nm,0.8s							
LIC	**Lamto**	**41.93**	**117**	⇑*e*P		**P**	**09 06 34.0**	**-1.3**
	16nm,0.7s							
KIC	**Kosan Boka**	**42.06**	**117**	⇑*e*P		**P**	**09 06 36.7**	**+0.3**
	9.8nm,0.7s							
DAVOX	**Davos/Dischmat**	**42.98**	**52**	LR		LR	09 20 59.0	
	comp=Z,90nm,18.6s,baz=258,slow=31							
TORD	**Torodi Ar. Bea**	**43.51**	**103**	P

comp=Z,37nm,21.5s,baz=47,slow=35
RES Resolute Bay 51.76 344 LR LR 09 26 47.9
comp=Z,48nm,19.5s,baz=38,slow=33
TXAR Lajitas Array 53.14 286 P **P** **09 08 02.2 -0.2**
0.8nm,0.9s,baz=73,slow=8.4,SNR=6.5
0.8nm,0.9s
NNA Nana 53.73 224 LR LR 09 29 45.9
comp=Z,30nm,21.7s,baz=74,slow=35
ANMO Albuquerque 53.91 293 LR LR 09 29 08.4
comp=Z,45nm,20.1s,baz=162,slow=34
MLR Muntele Rosu 54.17 53 LR LR 09 29 18.4
comp=Z,36nm,19.3s,baz=298,slow=34
PDAR Pinedale Array 54.62 303 P **P** **09 08 13.2 -0.2**
1.8nm,0.9s,baz=81,slow=9.2,SNR=15
PDAR LR LR 09 29 58.7
comp=Z,81nm,19.6s,baz=68,slow=34
1.8nm,0.9s
AKASG Malin Array Be 55.66 47 P **P** **09 08 19.7 -0.6**
0.9nm,0.6s,baz=275,slow=6.8,SNR=7.8
AKASG LR LR 09 28 50.9
comp=Z,31nm,20.2s,baz=329,slow=32
0.9nm,0.6s
YKA Yellowknife Ar 55.90 328 P **P** **09 08 22.4 +0.5**
0.4nm,0.8s,baz=86,slow=6.8,SNR=6.0
0.4nm,0.8s
NEW Newport 58.82 311 LR LR 09 35 14.9
comp=Z,46nm,18.1s,baz=288,slow=37
ELK Elko 59.21 302 LR LR 09 34 22.4
comp=Z,66nm,18.2s,baz=337,slow=36
NVAR Mina Array Bea 62.12 300 P **P** **09 09 05.8 0.0**
0.3nm,0.7s,baz=96,slow=3.6,SNR=2.7
NVAR LR LR 09 33 50.7
comp=Z,74nm,20.4s,baz=322,slow=34
0.3nm,0.7s
YBH Yreka Blue Hor 64.33 305 LR LR 09 36 36.7
comp=Z,50nm,18.3s,baz=16,slow=35
BBB Bella Bella 64.71 317 LR LR 09 38 08.3
comp=Z,71nm,18.1s,baz=34,slow=37
BELG Belogornoye 66.46 42 LR LR 09 36 14.9
comp=Z,42nm,19.9s,baz=143,slow=34
ILAR Eielson Array 69.28 334 P **P** **09 09 50.9 -0.4**
1.0nm,0.9s,baz=59,slow=4.3,SNR=8.1
ILAR LR LR 09 39 49.3
comp=Z,132nm,18.4s,baz=84,slow=36
1.0nm,0.9s
AKTO Aktyubinsk 73.21 41 LR LR 09 41 03.9
comp=Z,49nm,18.1s,baz=202,slow=35
KDAK Kodiak Island 75.15 329 LR LR 09 42 23.3
comp=Z,166nm,19.9s,baz=214,slow=35
BVAR Borovoye Array 78.48 35 LR LR 09 42 06.1
comp=Z,32nm,18.3s,baz=61,slow=33
KURBB Kurchatov Arra 83.94 34 P **P** **09 11 15.1 +0.7**
0.4nm,0.2s,baz=308,slow=5.2,SNR=1.5
0.4nm,0.2s
SUR Sutherland 85.89 131 LR LR 09 40 32.3
comp=Z,35nm,20.8s,baz=338,slow=29

IDC 12 09:02:57.1±1.6, 54°.64N×83°.75E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=15.1km s-min=9.7km az=12.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**137**	I	I	09 08 30.0	
	0.3nm,0.8s,baz=318,slow=341,SNR=15						
ZALV	**Zalesovo Beam**	**0.94**	**137**	Pg	Pg	09 03 13.9	-1.1
	3.9nm,0.3s,baz=325,slow=20,SNR=24						
ZALV				Lg	Lg	09 03 28.9	
	16nm,0.3s,baz=315,slow=29,SNR=50						
ZALV				Rg	Rg	09 03 34.3	
	12nm,0.3s,baz=350,slow=41,SNR=8.9						
KURBB	**Kurchatov Arra**	**5.13**	**220**	Pn	Pn	09 04 15.2	+0.1
	0.1nm,0.3s,baz=39,slow=13,SNR=7.9						
KURBB				Lg	Lg	09 05 40.2	
	0.1nm,0.3s,baz=41,slow=32,SNR=9.6						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.91**	**187**	Pn	Pn	09 04 53.6	+0.3
	0.2nm,0.3s,baz=12,slow=13,SNR=8.7						
MKAR				Lg	Lg	09 07 10.8	
	0.2nm,0.3s,baz=5.2,slow=29,SNR=5.3						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	09 04 54.4	-1.0
	0.1nm,0.3s,baz=66,slow=13,SNR=5.3						
	1.1nm,0.4s						

IDC 12 09:04:04.5±17.0, 14°.87S×177°.62W, h356km±172km, mb3.1/5, mbtmp3.8/5, Error ellipse: s-maj=52.6km s-min=36.3km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.00**	**257**	P	P	09 11 53.8	-0.2
	0.1nm,0.4s,baz=93,slow=8.3,SNR=5.1						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**46.41**	**251**	P	P	09 11 57.1	0.0
	4.5nm,0.4s,baz=84,slow=8.5,SNR=143						
ASAR				PcP	PcP	09 13 25.1	-0.3
	0.2nm,0.5s,baz=106,slow=4.2,SNR=1.7						
	4.5nm,0.4s						
QSPA	**South Pole Qui**	**75.16**	**180**	P	P	09 15 08.2	-0.2
	1.7nm,1.1s,baz=272,slow=5.8,SNR=2.5						
	1.7nm,1.1s						
ILAR	**Eielson Array**	**82.78**	**13**	P	P	09 15 48.2	-0.9
	0.6nm,0.9s,baz=221,slow=5.6,SNR=3.2						
	0.6nm,0.9s						
TXAR	**Lajitas Array**	**83.74**	**58**	P	P	09 15 55.8	+1.0
	0.3nm,0.8s,baz=226,slow=8.5,SNR=2.2						
	0.3nm,0.8s						

SSNC 12 09:07:37.4±1.7, 18°.33N×76°.59W, h7km±16km, MD3.6, ML2.7, MW2.4
JSN 12 09:07:37.5±0.3, 18°.24N×76°.60W, h0km±3km, MD3.1
OSPL 12 09:07:37.3±0.5, 18°.35N×76°.76W, h98km±20km, ML2.3
ISC 12 09:07:32.9±1.3, 18°.37N±0°.04×76°.47W±0°.04, h4km±11km, n20, σ0°83/32, 1C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.39**	**220**	⇓*i* P	**Pb**	**09 07 42.1**	**-0.4**
STH	**Stony Hill**	**0.44**	**228**	⇓*i* P	**Pb**	**09 07 43.0**	**-0.3**
STH	**Stony Hill**	**0.44**	**228**	*e*P	**Pb**	**09 07 42.9**	**-0.3**
STH				*e*S	**Sg**	**09 07 47.8**	**+0.7**
STH				IAML		09 07 48.2	
	comp=N,410μm,0.1s						
STH				IAML		09 07 48.5	
	comp=E,582μm,0.1s						
HOJ	**Hope**	**0.46**	**216**	*i* P	**Pb**	**09 07 43.3**	**-0.2**
MTDJ	**Mount Denham**	**1.03**	**262**	⇑*i* P	**Pn**	**09 07 54.1**	**0.0**
MTDJ				*i* S	**Sb**	**09 08 06.6**	**-0.6**
MTDJ	**Mount Denham**	**1.03**	**262**	*e*P	**Pn**	**09 07 53.8**	**-0.4**
MTDJ	**Mount Denham**	**1.03**	**262**	*i* P	**Pn**	**09 07 54.2**	**0.0**
MTDJ				*e*S	**Sb**	**09 08 06.6**	**-0.6**
MTDJ				IAML		09 08 13.2	
	comp=Z,64nm,0.5s						
CHIV	**Chivirico**	**1.60**	**2**	*e*P	**Pg**	**09 08 03.9**	**+0.4**
CHIV				*e*S	**Sg**	**09 08 24.6**	**+0.4**
CHIV				IAML		09 08 25.2	
	comp=E,11nm,0.3s						
CHIV				IAML		09 08 26.3	
	comp=N,14nm,0.2s						
MARVS	**Santiago de Cu**	**1.71**	**18**	*e*P	**Pg**	**09 08 06.0**	**+0.4**
MARVS				*e*S	**Sn**	**09 08 25.9**	**+0.1**
LMGC	**Las Mercedes**	**1.76**	**343**	*e*P	**Pb**	**09 08 05.4**	**-0.4**
LMGC				*e*S	**Sn**	**09 08 26.0**	**-1.0**
LMGC				*e*Sg	**Sb**	**09 08 27.5**	**-0.7**
LMGC				IAML		09 08 28.3	
	comp=E,29nm,0.1s						
LMGC				IAML		09 08 28.6	
	comp=N,42nm,0.1s						
PILO	**Pilon**	**1.77**	**330**	*e*P	**Pb**	**09 08 05.4**	**-0.5**
RCC	**Rio Carpintero**	**1.77**	**24**	*e*P	**Pg**	**09 08 07.0**	**+0.2**
RCC				*e*S	**Sn**	**09 08 26.8**	**-0.6**
GTBY	**Guantanamo Bay**	**2.01**	**39**	*e*P	**Pg**	**09 08 11.0**	**-0.4**
GTBY				*e*S	**Sb**	**09 08 34.5**	**-0.8**
GTBY				IAML		09 08 35.4	
	comp=N,1.3nm,0.1s						
GTBY				IAML		09 08 35.5	
	comp=N,2.5nm,0.1s						
GTBY	**Guantanamo Bay**	**2.01**	**39**	*i* P	**Pg**	**09 08 11.0**	**-0.4**
GTBY				*e*S	**Sb**	**09 08 36.5**	**+1.2**
GTBY				IAML		09 08 42.4	
	comp=Z,17nm,2.3s						
PINC	**Pinares de May**	**2.20**	**17**	*e*P	**Pb**	**09 08 12.4**	**-0.8**
PINC				*e*S	**Sn**	**09 08 39.1**	**+1.2**
HLGC	**Holguin**	**2.53**	**9**	*e*P	**Pb**	**09 08 18.6**	**-0.4**
HLGC				IAML		09 08 54.7	
	comp=E,21nm,0.4s						
HLGC				IAML		09 08 54.8	
	comp=N,21nm,0.3s						
MOAC	**Moa**	**2.68**	**32**	*e*P	**Pb**	**09 08 20.8**	**-0.7**
MASC	**Masc**	**2.77**	**49**	*e*P	**Pb**	**09 08 21.4**	**-1.5**
MASC	**Masc**	**2.77**	**49**	*i* P	**Pb**	**09 08 21.8**	**-1.2**
MASC				*e*S	**Sn**	**09 08 54.1**	**+2.1**
MASC				IAML		09 09 00.5	
	comp=Z,22nm,2.3s						
CCCC	**Cccc**	**3.07**	**337**	*e*P	**Pn**	**09 08 23.4**	**+1.2**

IDC 12 09:19:21.2±0.8, 27°.64N×142°.83E, h0km, mb3.8/12, mbtmp3.8/15, ML3.4/3, Error ellipse: s-maj=21.8km s-min=13.0km az=108.0
JMA 12 09:19:22.1±0.2, 28°.N±1°×14°.3E±°, h17km, MV4.1/10, NEAR CHICHIJIMA ISLAND
NEIC 12 09:19:23.6±1.2, 27°.75N±0°.08×142°.9E±0°.1, h10km±2km, mb4.5/12, Error ellipse: s-maj=20.3km s-min=11.9km az=109.0
ISC 12 09:19:23.2±0.7, 27°.79N±0°.07×142°.9E±0°.1, h10km, n43, σ1°03/45, mb4.1/18, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.95**	**224**	P	**Pg**	**09 19 42.9**	**+1.3**
CBIJ				*e*S	**Sn**	**09 19 57.3**	**+1.0**
JCJ	**Chichijima**	**0.95**	**224**		**Pg**	**09 19 42.9**	**+1.4**
JCJ	**Chichijima**	**0.95**	**224**	Pn	**Pg**	**09 19 38.9**	**-2.7**
	81nm,0.3s,baz=4.4,slow=13,SNR=18						
JCJ				Sn	**Sg**	**09 19 51.3**	**-2.7**
	116nm,0.3s,baz=17,slow=19,SNR=11						
JHH2	**Haha-jima-NKT2**	**1.33**	**210**	*e*P	**Pn**	**09 19 48.8**	**+1.0**
JHH2				*e*S	**Sg**	**09 20 08.4**	**+2.3**
JRY	**Ryogami san**	**8.89**	**338**	*e*P	**Pn**	**09 21 32.1**	**+0.3**
JAG	**Ashikaga**	**9.10**	**342**	*e*P	**Pn**	**09 21 33.6**	**-1.0**
MJAR	**Matsushiro Arr**	**9.60**	**337**	Pn	**Pn**	**09 21 41.2**	**-0.3**
	0.2nm,0.3s,baz=163,slow=12,SNR=6.6						
	1.6nm,0.4s						
MAJO	**Matsushiro**	**9.60**	**337**	Pn	**Pn**	**09 21 42.2**	**+0.7**
MJB9	**Matsu-Tunnel**	**9.60**	**337**	Pn	**Pn**	**09 21 43.2**	**+1.7**
JMM	**Marumori**	**10.21**	**350**	Pn	**Pn**	**09 21 49.4**	**-0.4**
JMZ	**Minamidaito 2**	**10.64**	**262**	Pn	**Pn**	**09 21 54.9**	**-0.8**
KSRS	**Korea Array**	**15.88**	**311**	Pn	**Pn**	**09 23 08.5**	**+1.8**
	0.2nm,0.3s,baz=121,slow=12,SNR=2.6						
	1.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**18.59**	**335**	P	**P**	**09 23 40.8**	**+0.4**
	0.2nm,0.3s,baz=129,slow=11,SNR=4.6						
	2.8nm,0.7s						
YULB	**Yu-li**	**19.99**	**262**	P	**P**	**09 23 55.1**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**23.33**	**105**	T	T	09 48 30.7	
	baz=302						
H11N1	**WAKE ISLAND Hy**	**23.33**	**105**	T	T	09 48 44.8	
	baz=302						
H11N3	**WAKE ISLAND Hy**	**23.35**	**105**	T	T	09 48 35.2	
	baz=302						
SONM	**Songino Array**	**34.68**	**315**	P	**P**	**09 26 13.2**	**0.0**
	0.3nm,0.4s,baz=124,slow=8.6,SNR=2.9						
	0.3nm,0.4s						
WB0	**Warramunga Arr**	**47.99**	**191**	P	**P**	**09 28 01.6**	**-0.9**
WB0				IAmb	IAmb	09 28 03.2	
	comp=Z,9.3nm,1.3s						
WR0	**Warramunga Arr**	**48.16**	**191**	P	**P**	**09 28 03.0**	**-0.7**
WR0				IAmb	IAmb	09 28 22.0	
	comp=Z,4.2nm,1.0s						
WB2	**Warramunga Arr**	**48.17**	**191**	P	**P**	**09 28 03.3**	**-0.5**
WRA	**Warramunga Arr**	**48.17**	**191**	P	**P**	**09 28 02.9**	**-0.9**
WRA	**Warramunga Arr**	**48.17**	**191**	P	**P**	**09 28 03.0**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=12,slow=8.3,SNR=29						
WRA				PcP	**PcP**	**09 29 30.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=5.9,slow=3.7,SNR=2.3						
	comp=Z,3.8nm,0.7s						
ZAA0	**Zalesovo Array**	**49.40**	**319**	P	**P**	**09 28 12.6**	**-0.4**
ZAA0				IAmb	IAmb	09 28 17.9	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**49.40**	**319**	P	**P**	**09 28 13.0**	**0.0**
ZALV	**Zalesovo Beam**	**49.40**	**319**	P	**P**	**09 28 13.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=109,slow=8.0,SNR=4.2						
ZALV				PcP	**PcP**	**09 29 36.2**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=117,slow=5.0,SNR=2.0						
	comp=Z,0.9nm,0.6s						
MK31	**Makanchi Array**	**50.55**	**309**	P	**P**	**09 28 22.2**	**+0.3**
MKAR	**Makanchi Array**	**50.55**	**309**	P	**P**	**09 28 21.5**	**-0.3**
MKAR	**Makanchi Array**	**50.55**	**309**	P	**P**	**09 28 21.2**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=85,slow=10.0,SNR=7.5						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**51.89**	**191**	P	**P**	**09 28 30.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=6.8,slow=5.7,SNR=9.7						
	comp=Z,0.4nm,0.4s						
KURK	**Kurchatov**	**52.97**	**314**	P	**P**	**09 28 40.1**	**+0.3**
KURK				IAmb	IAmb	09 28 51.9	
	comp=Z,6.6nm,1.1s						
KURBB	**Kurchatov Arra**	**53.03**	**314**	P	**P**	**09 28 40.6**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=90,slow=7.9,SNR=22						
	comp=Z,1.7nm,0.3s						
KTH	**Kantishna Hill**	**54.90**	**30**	P	**P**	**09 28 54.3**	**+0.4**
ILAR	**Eielson Array**	**56.79**	**29**	P	**P**	**09 29 07.8**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=260,slow=5.4,SNR=2.6						
	comp=Z,0.6nm,1.0s						
BVAR	**Borovoye Array**	**57.98**	**317**	P	**P**	**09 29 16.4**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=86,slow=7.8,SNR=6.1						
	comp=Z,1.3nm,0.5s						
KK31	**Karatay Array**	**59.22**	**306**	P	**P**	**09 29 25.2**	**+0.5**
KK31				IAmb	IAmb	09 29 43.4	
	comp=Z,2.8nm,1.2s						
KKAR	**Karatay Array**	**59.22**	**306**	P	**P**	**09 29 25.1**	**+0.4**
ARU	**Arti**	**64.28**	**322**	P	**P**	**09 29 59.3**	**+0.8**
ARU				IAmb	IAmb	09 30 10.5	
	comp=Z,5.3nm,1.0s						
ABKAR	**Akbulak array**	**65.08**	**314**	P	**P**	**09 30 04.4**	**+0.5**
YKA	**Yellowknife Ar**	**71.22**	**29**	P	**P**	**09 30 41.7**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=294,slow=5.6,SNR=3.5						
	comp=Z,0.5nm,1.0s						
FINES	**FINESS Array B**	**77.62**	**334**	P	**P**	**09 31 19.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=64,slow=13,SNR=1.3						
	comp=Z,0.8nm,0.6s						
NVAR	**Mina Array Bea**	**79.58**	**52**	P	**P**	**09 31 30.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=254,slow=6.5,SNR=2.7						
	comp=Z,0.3nm,0.7s						
AKASG	**Malin Array Be**	**82.45**	**324**	P	**P**	**09 31 45.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=51,slow=5.4,SNR=4.3						
	comp=Z,0.3nm,0.3s						

NEIC 12 09:24:39.5±0.5, 39°.385N±0°.006×119°.76W±0°.01, h6km±1km, Error ellipse: s-maj=1.7km s-min=0.8km az=110.0
REN 12 09:24:39.5±0.6, 39°.386N±0°.009×119°.75W±0°.02, h7km±1km, ML2.0/23, ML2.0/30(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=98.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPK	**Martis Peak**	**0.23**	**247**		Pg	09 24 44.8	+0.6
MPK				IAML		09 24 50.4	
	comp=N,356nm,0.4s						
PEAR	**Peavine Mounta**	**0.27**	**324**		Pg	09 24 45.5	+0.5
PEAR					Sg	09 24 50.0	+1.3
PNTR	**Pine Nut**	**0.32**	**158**		Pg	09 24 45.9	0.0
PNTR				IAML		09 24 52.5	
	comp=E,194nm,0.7s						
PNTR				IAML		09 24 53.1	
	comp=N,178nm,0.4s						
PAHR	**Pah Rah Range**	**0.43**	**42**		Pg	09 24 48.1	+0.3
PAHR				IAML		09 24 55.6	
	comp=N,88nm,0.4s						
PAHR				IAML		09 24 57.2	
	comp=E,91nm,0.3s						
LOY	**Loyalton**	**0.46**	**306**		Pg	09 24 48.7	+0.2
EMB	**Emerald Bay**	**0.49**	**214**		Pg	09 24 49.1	+0.1
EMB				IAML		09 24 58.0	
	comp=E,114nm,0.3s						
YERR	**Yerington**	**0.56**	**135**		Pg	09 24 50.6	+0.1
YERR				IAML		09 24 59.7	
	comp=N,126nm,0.4s						
BEKR	**Beckworth**	**0.67**	**316**		Pg	09 24 52.4	-0.1
BMRR	**Black Mountain**	**0.83**	**330**		Pg	09 24 55.5	0.0
WAKR	**Walker**	**0.91**	**164**		Pg	09 24 57.0	-0.1
AFDM	**Forest Hills D**	**1.04**	**246**		Pg	09 24 59.3	-0.2
AFDM				IAML		09 25 17.1	
	comp=E,28nm,0.2s						
AFDM				IAML		09 25 17.1	
	comp=N,33nm,0.2s						
RYN	**Ryan**	**1.22**	**128**		Pg	09 25 02.8	-0.1
RYN				IAML		09 25 23.2	
	comp=N,41nm,0.3s						
RYN				IAML		09 25 23.3	
	comp=E,46nm,0.5s						
KVN	**Kaiserville**	**1.33**	**104**		Pn	09 25 04.3	-0.3
KVN				IAML		09 25 24.1	
	comp=E,40nm,0.2s						
KVN				IAML		09 25 25.6	
	comp=N,44nm,0.4s						
PLTX	**Planet X, Gerl**	**1.34**	**9**		Pn	09 25 04.6	-0.1
PLTX				IAML		09 25 32.7	
	comp=N,36nm,1.2s						
ORV	**Oroville**	**1.36**	**278**		Pn	09 25 04.7	-0.3
CMB	**Columbia Colle**	**1.44**	**200**		Pb	09 25 06.5	-0.1
NV09	**Mina Array Sit**	**1.46**	**130**		Pb	09 25 06.9	-0.2
BMN	**Battle Mountai**	**2.21**	**61**	Pn	Pn	09 25 15.9	-0.9

ROM 12 09:28:19.1±0.1, 42°.771N±0°.003×13°.255E±0°.004, h14km, ML2.1/70, 4C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=62.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.04**	**251**	P	Pg	09 28 21.9	+0.1
T1214				S	Sg	09 28 23.8	+0.1
T1214				AML	AML		
	comp=N,1870μm,0.2s						
T1214				AML	AML		
	comp=E,2035μm,0.6s						
T1214				AML	AML		
	comp=N,1780μm,0.2s						
T1214				AML	AML		
	comp=E,2145μm,0.5s						
T1214				AML	AML		
	comp=E,2030μm,0.6s						
T1214				AML	AML		
	comp=N,1875μm,0.2s						
T1214				AML	AML		
	comp=E,2145μm,1.5s						
T1214				AML	AML		
	comp=E,2030μm,1.4s						
T1214				AML	AML		
	comp=N,1785μm,0.2s						
T1214				AML	AML		
	comp=E,2020μm,0.2s						
T1214				AML	AML		
	comp=N,1781μm,0.2s						
T1214				AML	AML		
	comp=N,1871μm,0.2s						
T1214				AML	AML		
	comp=E,1910μm,0.2s						
NRCA	**Norcia**	**0.12**	**301**	⇑P	Pg	09 28 22.6	+0.1
NRCA				S	Sg	09 28 25.0	+0.1
NRCA				AML	AML		
	comp=E,3435μm,0.2s						
NRCA				AML	AML		
	comp=E,3440μm,0.2s						
NRCA				AML	AML		
	comp=E,3615μm,0.2s						
NRCA				AML	AML		
	comp=N,3365μm,0.4s						
NRCA				AML	AML		
	comp=N,3145μm,0.4s						
NRCA				AML	AML		
	comp=E,3440μm,0.2s						
NRCA				AML	AML		
	comp=N,2843μm,0.1s						
NRCA				AML	AML		
	comp=E,2761μm,0.1s						
NRCA				AML	AML		
	comp=E,2944μm,0.1s						
NRCA				AML	AML		
	comp=N,2643μm,0.1s						
MMO1	**Montemonaco**	**0.14**	**22**	P	Pg	09 28 22.9	+0.1
MMO1				S	Sg	09 28 25.6	+0.3
MC2	**Monte Cornacci**	**0.15**	**341**	⇑P	Pg	09 28 23.1	+0.1
MC2				S	Sg	09 28 26.3	+0.5
SMA1	**SAN MARTINO**	**0.15**	**157**	⇓P	Pg	09 28 23.2	+0.3
SMA1				S	Sg	09 28 26.1	+0.5
SMA1				AML	AML		
	comp=E,2215μm,0.2s						
SMA1				AML	AML		
	comp=N,2730μm,0.2s						
SMA1				AML	AML		
	comp=N,1910μm,0.1s						
SMA1				AML	AML		
	comp=E,2217μm,0.2s						
LNSS	**Leonessa**	**0.23**	**223**	P	Pg	09 28 24.4	+0.3
LNSS				S	Sb	09 28 28.6	-0.5
LNSS				AML	AML		
	comp=E,1655μm,0.4s						
LNSS				AML	AML		
	comp=N,1580μm,1.6s						
LNSS				AML	AML		
	comp=E,1655μm,1.6s						
LNSS				AML	AML		
	comp=N,1580μm,0.4s						
LNSS				AML	AML		
	comp=E,1564μm,0.2s						
LNSS				AML	AML		
	comp=N,1394μm,0.1s						
FEMA	**Monte Fema**	**0.24**	**322**	P	Pg	09 28 24.5	+0.1
FEMA				S	Sg	09 28 28.6	+0.6
CAMP	**Campotosto**	**0.26**	**154**	P	Pg	09 28 24.9	+0.2
CAMP				S	Sg	09 28 29.1	+0.6
CAMP				AML	AML		
	comp=E,500μm,1.0s						
CAMP				AML	AML		
	comp=N,791μm,0.4s						
CAMP				AML	AML		
	comp=E,500μm,1.0s						
CAMP				AML	AML		
	comp=E,451μm,0.1s						
CAMP				AML	AML		
	comp=N,791μm,0.4s						
RM33	**Pellescritta (**	**0.26**	**187**	⇑P	Pg	09 28 25.0	+0.3
RM33				S	Sb	09 28 29.6	-0.5
RM33				AML	AML		
	comp=E,1905μm,0.2s						
RM33				AML	AML		
	comp=N,2470μm,0.2s						
RM33				AML	AML		
	comp=N,2390μm,0.2s						
RM33				AML	AML		
	comp=E,1885μm,0.2s						
RM33				AML	AML		
	comp=E,1885μm,0.2s						
RM33				AML	AML		
	comp=E,1905μm,0.2s						
RM33				AML	AML		
	comp=N,2390μm,0.2s						
RM33				AML	AML		
	comp=N,2469μm,0.2s						
MF5	**Montefalcone A**	**0.27**	**35**	⇑P	Pb	09 28 25.3	-0.4
MF5				S	Sb	09 28 30.0	-0.1
MF5				AML	AML		
	comp=N,1025μm,0.4s						
MF5				AML	AML		
	comp=N,1030μm,0.4s						
MF5				AML	AML		
	comp=E,718μm,0.2s						
MF5				AML	AML		
	comp=E,718μm,0.2s						
MF5				AML	AML		
	comp=N,1027μm,0.4s						
GAVE	**Gavelli**	**0.28**	**254**	AML	AML		
	comp=N,990μm,0.3s						
GAVE				AML	AML		
	comp=E,947μm,0.1s						
GAVE				AML	AML		
	comp=N,310μm,0.3s						
GAVE				AML	AML		
	comp=E,974μm,0.1s						
GAVE				AML	AML		
	comp=E,947μm,0.1s						
GAVE				AML	AML		
	comp=N,310μm,0.3s						
GAVE				AML	AML		
	comp=E,973μm,0.1s						
GAVE				AML	AML		
	comp=E,948μm,0.1s						
GAVE				AML	AML		
	comp=E,973μm,0.1s						
GAVE				AML	AML		
	comp=N,877μm,0.1s						

GAVE				AML	AML			
	comp=N,265μm,0.2s							
FDMO	**Fiordimonte**	**0.29**	**335**	P	Pg	09 28 25.2	0.0	
FDMO				S	Sg	09 28 29.9	+0.6	
GUMA	**Gualdo di Mace**	**0.30**	**11**	P	Pg	09 28 25.7	+0.5	
GUMA				S	Sb	09 28 31.0	0.0	
GUMA				AML	AML			
	comp=N,1145μm,1.3s							
GUMA				AML	AML			
	comp=E,1204μm,0.3s							
GUMA				AML	AML			
	comp=E,1280μm,0.3s							
GUMA				AML	AML			
	comp=N,1080μm,1.0s							
GUMA				AML	AML			
	comp=N,942μm,0.3s							
GUMA				AML	AML			
	comp=E,1280μm,0.3s							
GUMA				AML	AML			
	comp=N,713μm,0.4s							
GUMA				AML	AML			
	comp=E,1204μm,0.3s							
TERO	**Teramo**	**0.30**	**120**	⇓P	Pg	09 28 25.4	+0.1	
TERO				S	Sg	09 28 30.0	+0.5	
TERO				AML	AML			
	comp=N,391μm,0.2s							
TERO				AML	AML			
	comp=E,518μm,1.4s							
TERO				AML	AML			
	comp=E,640μm,0.4s							
TERO				AML	AML			
	comp=N,747μm,0.2s							
TERO				AML	AML			
	comp=N,391μm,0.1s							
TERO				AML	AML			
	comp=E,518μm,0.6s							
TERO				AML	AML			
	comp=N,391μm,0.1s							
TERO				AML	AML			
	comp=E,607μm,0.1s							
TERO				AML	AML			
	comp=E,310μm,0.1s							
TERO				AML	AML			
	comp=N,747μm,0.2s							
T1221	**Campello sul C**	**0.31**	**287**	P	Pg	09 28 25.7	+0.1	
T1221				S	Sg	09 28 30.7	+0.7	
T1221				AML	AML			
	comp=N,254μm,1.3s							
T1221				AML	AML			
	comp=E,265μm,0.2s							
T1221				AML	AML			
	comp=E,284μm,0.2s							
T1221				AML	AML			
	comp=N,230μm,1.3s							
T1221				AML	AML			
	comp=N,254μm,0.7s							
T1221				AML	AML			
	comp=N,230μm,0.7s							
T1221				AML	AML			
	comp=E,265μm,0.2s							
T1221				AML	AML			
	comp=N,212μm,0.2s							
T1221				AML	AML			
	comp=E,283μm,0.2s							
T1221				AML	AML			
	comp=N,217μm,0.2s							
CSP1	**Cessapalombo**	**0.32**	**353**	P	Pg	09 28 25.8	0.0	
CSP1				S	Sg	09 28 31.1	+0.8	
CSP1				AML	AML			
	comp=E,332μm,0.2s							
CSP1				AML	AML			
	comp=N,118μm,0.2s							
CSP1				AML	AML			
	comp=N,118μm,1.8s							
CSP1				AML	AML			
	comp=E,332μm,0.2s							
CSP1				AML	AML			
	comp=N,116μm,0.2s							
CESI	**CESI - Serrava**	**0.35**	**312**	P	Pg	09 28 26.2	+0.1	
CESI				S	Sb	09 28 31.8	-0.7	
CESI				AML	AML			
	comp=N,936μm,0.5s							
CESI				AML	AML			
	comp=E,566μm,0.2s							
CESI				AML	AML			
	comp=E,566μm,0.2s							
CESI				AML	AML			
	comp=N,741μm,0.2s							
OFFI	**Offida**	**0.36**	**63**	P	Pb	09 28 27.3	+0.1	
OFFI				AML	AML			
	comp=E,1116μm,1.2s							
OFFI				AML	AML			
	comp=N,1895μm,0.6s							
OFFI				AML	AML			
	comp=E,1116μm,0.8s							
OFFI				AML	AML			
	comp=N,1547μm,0.2s							
OFFI				AML	AML			
	comp=E,1058μm,0.3s							
GIGS	**Gran Sasso**	**0.40**	**144**	P	Pg	09 28 26.8	-0.2	
GIGS				S	Sg	09 28 33.0	+0.5	
GIGS				AML	AML			
	comp=N,170μm,1.5s							
GIGS				AML	AML			
	comp=E,152μm,0.9s							
GIGS				AML	AML			
	comp=E,152μm,1.1s							
GIGS				AML	AML			
	comp=N,148μm,0.2s							
GIGS				AML	AML			
	comp=E,130μm,0.1s							
ARRO	**Arrone**	**0.41**	**242**	P	Pg	09 28 27.5	+0.3	
ARRO				S	Sb	09 28 33.7	-0.4	
ARRO				AML	AML			
	comp=E,350μm,0.7s							
ARRO				AML	AML			
	comp=N,336μm,0.7s							
ARRO				AML	AML			
	comp=N,336μm,1.3s							
ARRO				AML	AML			
	comp=N,325μm,0.2s							
ARRO				AML	AML			
	comp=E,344μm,0.2s							
MOMA	**Monte Martano**	**0.51**	**274**	P	Pg	09 28 29.1	+0.1	
MOMA				S	Sb	09 28 37.1	+0.1	
MOMA				AML	AML			
	comp=E,501μm,0.2s							
MOMA				AML	AML			
	comp=N,616μm,1.5s							
MOMA				AML	AML			
	comp=E,504μm,0.2s							
MOMA				AML	AML			
	comp=N,314μm,0.2s							
MOMA				AML	AML			
	comp=N,616μm,0.5s							
MOMA				AML	AML			
	comp=N,314μm,0.2s							
MOMA				AML	AML			
	comp=E,501μm,0.2s							
MOMA				AML	AML			
	comp=E,504μm,0.2s							
ASSB	**Assisi San Ben**	**0.52**	**302**	AML	AML			
	comp=N,229μm,1.1s							
ASSB				AML	AML			
	comp=E,239μm,1.0s							
ASSB				AML	AML			
	comp=E,239μm,1.0s							
ASSB				AML	AML			
	comp=N,212μm,0.1s							
ASSB				AML	AML			
	comp=E,221μm,0.1s							
CESX	**Cesi**	**0.52**	**252**	P	Pg	09 28 29.6	+0.2	
CESX				AML	AML			
	comp=N,136μm,0.3s							
CESX				AML	AML			
	comp=E,158μm,0.3s							
CESX				AML	AML			
	comp=E,158μm,0.3s							
CESX				AML	AML			
	comp=N,136μm,0.3s							
SNTG	**Esanatoglia**	**0.54**	**335**	P	Pg	09 28 29.4	-0.3	
SNTG				S	Sb	09 28 37.8	-0.1	
SNTG				AML	AML			
	comp=E,130μm,0.6s							
SNTG				AML	AML			
	comp=N,152μm,1.3s							
SNTG				AML	AML			
	comp=E,130μm,1.4s							
SNTG				AML	AML			
	comp=N,152μm,0.7s							
SNTG				AML	AML			
	comp=E,123μm,0.1s							
SNTG				AML	AML			
	comp=N,136μm,0.1s							
SNTG				AML	AML			
	comp=E,132μm,0.4s							
FAGN	**Fagnano**	**0.56**	**154**	P	Pb	09 28 30.4	-0.3	
FAGN				AML	AML			
	comp=E,360μm,0.3s							
FAGN				AML	AML			
	comp=E,360μm,0.3s							
FAGN				AML	AML			
	comp=N,268μm,0.7s							
FAGN				AML	AML			
	comp=E,360μm,0.3s							
FAGN				AML	AML			
	comp=N,250μm,0.2s							
VCEL	**Villa Celiera**	**0.57**	**131**	P	Pg	09 28 30.4	+0.1	
VCEL				AML	AML			
	comp=E,326μm,0.9s							
VCEL				AML	AML			
	comp=E,326μm,0.9s							
VCEL				AML	AML			
	comp=N,392μm,0.6s							
VCEL				AML	AML			
	comp=E,269μm,0.2s							
VCEL				AML	AML			
	comp=N,275μm,0.3s							
CING	**Cingoli**	**0.61**	**356**	P	Pg	09 28 30.6	-0.3	
CING				AML	AML			
	comp=E,224μm,0.1s							
CING				AML	AML			
	comp=N,180μm,0.4s							
CING				AML	AML			
	comp=N,180μm,1.6s							
CING				AML	AML			
	comp=E,224μm,0.1s							
CING				AML	AML			
	comp=N,171μm,0.2s							
T0110	**Collepietro**	**0.67**	**144**	P	Pg	09 28 31.8	-0.3	
T0110				AML	AML			
	comp=E,293μm,0.5s							
T0110				AML	AML			
	comp=N,219μm,1.4s							
T0110				AML	AML			
	comp=N,219μm,0.6s							
T0110				AML	AML			
	comp=N,197μm,0.3s							
T0110				AML	AML			
	comp=E,260μm,0.2s							
ARVD	**Arcevia**	**0.76**	**343**	P	Pg	09 28 33.4	-0.4	
ARVD				AML	AML			
	comp=N,89μm,1.4s							
ARVD				AML	AML			
	comp=E,107μm,1.3s							
ARVD				AML	AML			
	comp=E,107μm,0.7s							
ARVD				AML	AML			
	comp=N,89μm,0.6s							
ARVD				AML	AML			
	comp=N,85μm,0.3s							
ARVD				AML	AML			
	comp=E,70μm,0.2s							
CERT	**Cerreto**	**0.85**	**194**	P	Pg	09 28 34.5	-1.0	
CERT				AML	AML			
	comp=N,44μm,0.5s							
INTR	**Introdacqua**	**0.90**	**147**	P	Pg	09 28 35.6	-0.9	
INTR				AML	AML			
	comp=E,268nm,1.6s							
INTR				AML	AML			
	comp=N,262nm,1.6s							
INTR				AML	AML			
	comp=E,268nm,1.6s							
INTR				AML	AML			
	comp=N,262nm,1.6s							
INTR				AML	AML			
	comp=E,55μm,1.1s							
INTR				AML	AML			
	comp=N,105μm,1.2s							
INTR				AML	AML			
	comp=N,262nm,0.4s							
INTR				AML	AML			
	comp=E,268nm,0.4s							
INTR				AML	AML			
	comp=N,103μm,1.0s							
INTR				AML	AML			
	comp=E,42μm,0.6s							
PIEI	**Pieia**	**0.93**	**326**	P	Pb	09 28 36.5	-0.5	
PIEI				AML	AML			
	comp=E,58μm,1.3s							
PIEI				AML	AML			
	comp=N,61μm,1.5s							
PIEI				AML	AML			
	comp=N,61μm,0.5s							
PIEI				AML	AML			
	comp=E,54μm,0.1s							
PIEI				AML	AML			
	comp=N,48μm,0.2s							
NARO	**Abbazia di Nar**	**0.97**	**330**	P	Pb	09 28 37.2	-0.6	
NARO				AML	AML			
	comp=E,74μm,1.5s							
NARO				AML	AML			
	comp=N,59μm,1.4s							
NARO				AML	AML			
	comp=E,74μm,0.5s							
NARO				AML	AML			
	comp=N,59μm,0.6s							
NARO				AML	AML			
	comp=E,39μm,0.2s							
FSSB	**Fossombrone**	**0.98**	**339**	P	Pb	09 28 37.9	0.0	
FSSB				AML	AML			
	comp=E,208μm,1.4s							
FSSB				AML	AML			
	comp=N,262μm,1.4s							
FSSB				AML	AML			
	comp=N,262μm,0.6s							
FSSB				AML	AML			
	comp=E,208μm,0.6s							
FSSB				AML	AML			
	comp=N,256μm,0.3s							
FSSB				AML	AML			
	comp=E,191μm,0.4s							

ROM 12 09:29:00.3±0.1, 42°.773N±0°.003×13°.247E±0°.005, h13km, ML1.5/8, 6C-2D, Error ellipse: s-maj=0.4km s-min=0.1km az=80.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.03**	**245**	P	Pg	09 29 03.1	+0.3
T1214				S	Sg	09 29 04.7	+0.2
T1214				AML	AML		
	comp=N,171μm,0.6s						
T1214				AML	AML		
	comp=E,180μm,0.6s						
NRCA	**Norcia**	**0.12**	**302**	⇑P	Pg	09 29 03.8	+0.3
NRCA				S	Sg	09 29 06.2	+0.4
NRCA				AML	AML		
	comp=E,370μm,0.2s						
NRCA				AML	AML		
	comp=N,360μm,0.1s						
MMO1	**Montemonaco**	**0.14**	**25**	P	Pg	09 29 04.0	+0.2
MMO1				S	Sg	09 29 06.7	+0.4
MC2	**Monte Cornacci**	**0.15**	**343**	⇑P	Pg	09 29 04.3	+0.2
MC2				S	Sg	09 29 07.3	+0.6
SMA1	**SAN MARTINO**	**0.16**	**155**	P	Pg	09 29 04.4	+0.3
SMA1				S	Sg	09 29 07.1	+0.4
LNSS	**Leonessa**	**0.23**	**222**	P	Pg	09 29 05.7	+0.4
LNSS				S	Sb	09 29 09.8	-0.6
RM33	**Pellescritta (**	**0.27**	**185**	⇑P	Pg	09 29 06.2	+0.3
RM33				S	Sb	09 29 10.8	-0.7
MF5	**Montefalcone A**	**0.27**	**36**	⇓P	Pb	09 29 06.5	-0.5
MF5				S	Sb	09 29 11.3	-0.2
FDMO	**Fiordimonte**	**0.29**	**336**	⇑P	Pg	09 29 06.4	+0.1
FDMO				S	Sg	09 29 11.2	+0.9
TERO	**Teramo**	**0.30**	**120**	⇓P	Pg	09 29 06.8	+0.3
TERO				S	Sg	09 29 11.5	+0.8
T1221	**Campello sul C**	**0.31**	**287**	⇑P	Pg	09 29 06.9	+0.3
CSP1	**Cessapalombo**	**0.32**	**354**	⇑P	Pg	09 29 06.9	0.0
CSP1				S	Sb	09 29 12.3	-0.8
CESI	**CESI - Serrava**	**0.34**	**313**	P	Pg	09 29 07.4	+0.1
CESI				S	Sb	09 29 13.1	-0.6
GIGS	**Gran Sasso**	**0.40**	**144**	P	Pg	09 29 08.3	0.0

*NEIC **12** 09:33:21.3±2.0, 24°.51S±0°.05×69°.08W±0°.07, h127km±10km, mb4.2/7, ML4.2 (GUC), Error ellipse: s-maj=9.6km s-min=7.8km az=81.0*
*SJA **12** 09:33:21.9±0.6, 24°.475×69°.06W, h116km±5km, ML4.2, MW4.1*
*GUC **12** 09:33:23.5±0.5, 24°.45S×69°.12W, h110km±4km, ML4.2*
*IDC **12** 09:33:24.2±0.6, 24°.44S×68°.91W, h96km±4km, mb3.7/8, mbtmp4.0/13, MS2.8/3, Error ellipse: s-maj=18.7km s-min=7.8km az=85.0*
*VAO **12** 09:33:27.1±0.6, 24°.21S×68°.75W, h105km, mb4.3*
ISC 12 09:33:22.4±0.5, 24°.45S±0°.03×69°.12W±0°.05, h107km±5km, n154, σ1§94/173, mb3.9/8, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.83**	**211**	Pn	Pn	**09 33 43.3**	**+1.3**
GO02				Sn	Sn	**09 33 58.3**	**+1.6**
GO02	**Mina Guanaco**	**0.83**	**211**	*e*P	Pn	**09 33 43.3**	**+1.3**
GO02				*e*S	Sn	**09 33 58.8**	**+2.0**
GO02	**Mina Guanaco**	**0.83**	**211**	⇑*i*P	Pn	**09 33 43.4**	**+1.4**
GO02				*e*S	Sn	**09 33 58.3**	**+1.6**
PB14	**IPOC Station P**	**1.18**	**261**	Pn	Pn	**09 33 47.1**	**+1.4**
PB14				Sn	Sn	**09 34 04.8**	**+1.6**
PB14	**IPOC Station P**	**1.18**	**261**	*e*P	Pn	**09 33 47.2**	**+1.5**
PB14				*e*S	Sn	**09 34 05.8**	**+2.5**
PB14				IAML		09 34 09.8	
	comp=Z,3μm,0.4s						
PB14	**IPOC Station P**	**1.18**	**261**	⇑*i*P	Pn	**09 33 47.2**	**+1.5**
PB14				*e*S	Sn	**09 34 05.0**	**+1.7**
PB15	**IPOC Station P**	**1.27**	**345**		Pn	**09 33 48.0**	**+1.3**
PB15	**IPOC Station P**	**1.27**	**345**	*e*P	Pn	**09 33 48.0**	**+1.3**
PB15				*e*S	Sn	**09 34 06.9**	**+2.1**
PB15	**IPOC Station P**	**1.27**	**345**	*i* P	Pn	**09 33 47.8**	**+1.2**
PB15				*e*S	Sn	**09 34 05.7**	**+0.8**
PB15				IAML		09 34 08.7	
	comp=E,12μm,0.3s						
AF01	**San Pedro de A**	**1.72**	**30**		Pn	**09 33 53.7**	**+1.7**
AF01	**San Pedro de A**	**1.72**	**30**	⇑*i*P	Pn	**09 33 53.7**	**+1.7**
AF01				*e*S	Sn	**09 34 16.0**	**+1.5**
PB06	**IPOC Station P**	**1.78**	**346**		Pn	**09 33 54.3**	**+1.5**
PB06	**IPOC Station P**	**1.78**	**346**	*e*P	Pn	**09 33 54.2**	**+1.5**
PB06				*e*S	Sn	**09 34 16.9**	**+1.2**
PB06				IAML		09 34 22.8	
	comp=Z,1μm,0.1s						
PB06	**IPOC Station P**	**1.78**	**346**	*i* P	Pn	**09 33 54.1**	**+1.5**
PB06				*e*S	Sn	**09 34 17.0**	**+1.2**
PB06				IAML		09 34 19.0	
	comp=N,2μm,0.2s						
LVC	**Limon Verde**	**1.84**	**6**	*e*P	Pn	**09 33 54.9**	**+1.3**
LVC				*e*S	Sn	**09 34 17.6**	**+0.3**
LVC				IAML		09 34 20.6	
	comp=Z,676nm,0.6s						
LVC	**Limon Verde**	**1.84**	**6**	P	Pn	**09 33 54.9**	**+1.3**
	comp=Z,110nm,0.3s,baz=181,slow=7.2,SNR=669						
LVC				S	Sn	**09 34 17.9**	**+0.7**
	comp=Z,502nm,0.4s,baz=217,slow=20,SNR=61						
LVC	**Limon Verde**	**1.84**	**6**	⇑*i*P	Pn	**09 33 54.8**	**+1.3**
LVC				*e*S	Sn	**09 34 17.9**	**+0.7**
LVC	**Limon Verde**	**1.84**	**6**	*e*P	Pn	**09 33 54.9**	**+1.3**
LVC				*e*S	Sn	**09 34 15.5**	**-1.7**
PB05	**IPOC Station P**	**1.87**	**328**	Pn	Pn	**09 33 55.1**	**+1.8**
PB05	**IPOC Station P**	**1.87**	**328**	*e*P	Pn	**09 33 55.6**	**+1.8**
PB05				*e*S	Sn	**09 34 20.2**	**+2.6**
PB05				IAML		09 34 24.3	
	comp=Z,2μm,0.5s						
PB05	**IPOC Station P**	**1.87**	**328**	*i* P	Pn	**09 33 55.5**	**+1.8**
PB05				*e*S	Sn	**09 34 19.0**	**+1.3**
PB05				IAML		09 34 24.4	
	comp=N,2μm,0.5s						
AC01	**Pan de Azucar**	**2.16**	**218**	Pn	Pn	**09 33 58.6**	**+1.2**
AC01	**Pan de Azucar**	**2.16**	**218**	*e*P	Pn	**09 33 58.4**	**+1.1**
AC01				*e*S	Sn	**09 34 23.1**	**-0.9**
AC01				IAML		09 34 29.6	
	comp=Z,783nm,0.4s						
AC01	**Pan de Azucar**	**2.16**	**218**	⇑*i*P	Pn	**09 33 58.5**	**+1.2**
AC01				IAML		09 34 27.1	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**2.31**	**336**		Pn	**09 34 00.6**	**+1.2**
PB04	**IPOC Station P**	**2.31**	**336**	*e*P	Pn	**09 34 00.6**	**+1.2**
PB04				*e*S	Sn	**09 34 27.3**	**-0.4**
PB04				IAML		09 34 34.1	
	comp=Z,907nm,0.8s						
PB04	**IPOC Station P**	**2.31**	**336**	⇑*i*P	Pn	**09 34 00.5**	**+1.2**
PB09	**IPOC Station P**	**2.64**	**358**		Pn	**09 34 04.5**	**+0.7**
PB09	**IPOC Station P**	**2.64**	**358**	*e*P	Pn	**09 34 05.6**	**+1.9**
PB09				*e*S	Sn	**09 34 39.9**	**+4.4**
PB09				IAML		09 34 43.7	
	comp=Z,949nm,0.5s						
PB09	**IPOC Station P**	**2.64**	**358**	*i* P	Pn	**09 34 05.7**	**+1.9**
PB09				*e*S	Sn	**09 34 37.4**	**+1.9**
PB07	**IPOC Station P**	**2.80**	**345**	Pn	Pn	**09 34 06.6**	**+0.8**
PB07	**IPOC Station P**	**2.80**	**345**	*e*P	Pn	**09 34 06.6**	**+0.8**
PB07				*e*S	Sn	**09 34 33.8**	**-5.5**
PB07				IAML		09 34 34.1	
	comp=Z,753nm,0.5s						
AC06	**Mina Casimiro**	**3.10**	**201**		Pn	**09 34 10.1**	**+0.3**
AC06	**Mina Casimiro**	**3.10**	**201**	*i* P	Pn	**09 34 11.3**	**+1.5**
PB02	**IPOC Station P**	**3.19**	**347**		Pn	**09 34 11.6**	**+0.6**
PB02	**IPOC Station P**	**3.19**	**347**	*e*P	Pn	**09 34 11.6**	**+0.6**
PB02				IAML		09 35 16.1	
	comp=Z,905nm,0.3s						
PB02	**IPOC Station P**	**3.19**	**347**	*i* P	Pn	**09 34 13.9**	**+2.9**
FSA	**Cafayete**	**3.29**	**121**	*e*P	Pn	**09 34 14.5**	**+2.1**
GO03	**Copiap**	**3.29**	**198**		Pn	**09 34 12.6**	**+0.3**
GO03	**Copiap**	**3.29**	**198**	*e*P	Pn	**09 34 12.8**	**+0.5**
GO03				*e*S	Sn	**09 34 57.2**	**+6.4**
SLA	**San Lorenzo**	**3.30**	**95**	*e*P	Pn	**09 34 15.3**	**+2.8**
PB01	**IPOC Station P**	**3.40**	**354**		Pn	**09 34 14.3**	**+0.5**
PB01	**IPOC Station P**	**3.40**	**354**	*e*P	Pn	**09 34 14.4**	**+0.5**
PB01				*e*S	Sn	09 34 44.2	-9.4
PB01				IAML		09 35 22.8	
	comp=Z,453nm,0.6s						
PB01	**IPOC Station P**	**3.40**	**354**	*i* P	Pn	**09 34 15.6**	**+1.8**
PATCX	**Punta Patache**	**3.73**	**345**		Pn	**09 34 18.1**	**-0.1**
PATCX	**Punta Patache**	**3.73**	**345**	*i* P	Pn	**09 34 19.9**	**+1.7**
TA01	**Diego Aracena**	**3.98**	**346**	Pn	Pn	**09 34 21.0**	**-0.5**
TA01	**Diego Aracena**	**3.98**	**346**	*e*P	Pn	**09 34 21.2**	**-0.3**
TA01				IAML		09 35 39.3	
	comp=Z,214nm,0.7s						
YJA	**Yavi**	**4.01**	**56**	*e*P	Pn	**09 34 25.0**	**+2.8**
AC04	**Llanos de Chal**	**4.13**	**205**	Pn	Pn	**09 34 22.1**	**-1.4**
AC04	**Llanos de Chal**	**4.13**	**205**	*e*P	Pn	**09 34 21.6**	**-1.9**
AC04				IAML		09 35 27.5	
	comp=Z,357nm,0.8s						
AHML	**Horco Molle**	**4.13**	**125**	*e*P	Pn	**09 34 25.8**	**+2.2**
AHML	**Horco Molle**	**4.13**	**125**	*i* P	Pn	**09 34 25.7**	**+2.2**
PB08	**IPOC Station P**	**4.29**	**360**		Pn	**09 34 26.4**	**+0.5**
PB08	**IPOC Station P**	**4.29**	**360**	*i* P	Pn	**09 34 28.2**	**+2.3**
PB11	**IPOC Station P**	**4.69**	**354**	Pn	Pn	**09 34 30.5**	**+0.7**
GO01	**Chusmiza**	**4.75**	**359**	Pn	Pn	**09 34 32.5**	**+0.1**
LCO	**Las Campanas**	**4.76**	**197**		Pn	**09 34 31.4**	**-0.8**
LCO	**Las Campanas**	**4.76**	**197**	*e*P	Pn	09 34 17.6	-15
LCO				*e*P		09 34 19.2	
LCO				IAML		09 35 54.0	
	comp=Z,429nm,0.8s						
CYA	**Choya**	**4.97**	**144**	*i* P	Pn	**09 34 36.5**	**+1.7**
AGUA	**GUANDACOL**	**5.05**	**174**	*e*P	Pn	**09 34 37.8**	**+1.9**
AGUA				*e*S	Sn	**09 35 35.8**	**+2.6**
AGUA				IAML		09 35 38.7	
	comp=Z,70nm,0.5s						
CO01	**Juntas del Tor**	**5.58**	**189**	Pn	Pn	**09 34 42.1**	**-1.1**
CO05	**La Serena**	**5.77**	**199**	Pn	Pn	**09 34 43.6**	**-2.0**
GO04	**Tololo Observa**	**5.90**	**194**	Pn	Pn	**09 34 45.6**	**-1.9**
PB12	**IPOC Station P**	**5.91**	**349**	Pn	Pn	**09 34 45.9**	**-1.8**
PB16	**IPOC Station P**	**6.09**	**357**		Pn	**09 34 50.8**	**+0.3**
AP01	**Chacalluta**	**6.15**	**349**	Pn	Pn	**09 34 50.6**	**-0.2**
CO03	**El Pedregal**	**6.52**	**192**	Pn	Pn	**09 34 54.5**	**-1.3**
CO06	**Fray Jorge**	**6.59**	**199**	Pn	Pn	**09 34 53.5**	**-3.2**
PB18	**Visviri**	**6.83**	**357**	Pn	Pn	09 34 55.5	-5.1
CO02	**Combarbal**	**6.93**	**193**	Pn	Pn	**09 34 59.4**	**-2.2**
CFA	**Coronel Fontan**	**7.17**	**174**	P	Pn	**09 35 04.8**	**+0.1**
	comp=Z,9.3nm,0.3s,baz=32,slow=22,SNR=44						
CFA				S	Sn	**09 36 20.0**	**-4.6**
	comp=Z,5.5nm,0.3s,baz=281,slow=12,SNR=1.3						
TICA	**Tres Isletas**	**8.13**	**106**	*e*P	Pn	**09 35 19.6**	**+2.0**
LPAZ	**La Paz**	**8.17**	**7**		Pn	**09 35 18.8**	**0.0**
VACA	**Villa Angela C**	**8.21**	**115**	*e*P	Pn	**09 35 20.6**	**+1.9**
VA06	**Catapilco**	**8.31**	**193**	Pn	Pn	**09 35 17.3**	**-2.7**

VA03	San Esteban	8.38	188	Pn		Pn	09 35 19.5	-1.6
ROC1	El Roble	8.66	191	Pn		Pn	09 35 22.9	-2.2
VA01	Torpederas	8.83	194	Pn		Pn	09 35 23.9	-3.2
MT16	CCHEN	9.03	188	Pn		Pn	09 35 27.5	-2.4
MT03	Universidad Ad	9.10	187	Pn		Pn	09 35 27.6	-3.2
MT13	San Alfonso	9.32	186	Pn		Pn	09 35 29.2	-4.7
LMEL	Las Melosas	9.42	186	Pn		Pn	09 35 32.8	-2.4
VA05	Santo Domingo	9.43	193	Pn		Pn	09 35 32.3	-2.9
MT01	Popeta	9.57	191	Pn		Pn	09 35 35.5	-1.6
BO04	La Punta	9.60	187	Pn		Pn	09 35 34.8	-2.8
BO02	Sierra Bellavi	10.41	188	Pn		Pn	09 35 43.2	-5.4
GO05	Huala	10.81	192	Pn		Pn	09 35 50.2	-3.8
CPUP	Villa Florida	10.82	102	P		Pn	09 35 53.6	-0.6
	comp=Z,1.3nm,0.6s,baz=290,slow=12,SNR=3.0							
CPUP				LR		LR	09 39 40.5	
	comp=Z,47nm,21.1s,baz=340,slow=35							
MURT	Porto Murtinho	10.95	78	eP		Pn	09 35 55.5	-0.5
SIV	San Ignacio	11.30	43	P		Pn	09 35 56.9	-3.9
	comp=Z,9.6nm,0.6s,baz=229,slow=9.4,SNR=45							
SIV				S		Sn	09 37 56.5	-8.7
	comp=Z,1.7nm,0.5s,baz=295,slow=21,SNR=2.2							
SIV				LR		LR	09 40 55.9	
	comp=Z,27nm,19.3s,baz=283,slow=40							
BDQN	Bodoquena, MS	12.11	73	eP		Pn	09 36 10.0	-1.4
PANT	Pantanal (Braz	12.82	67	eP		Pn	09 36 21.1	+0.2
PTLB	Pontes e Lacer	12.96	48	Pn		Pn	09 36 20.1	-2.5
PTLB	Pontes e Lacer	12.96	48	eP		Pn	09 36 21.9	-0.8
AQDB	Aquidauana	13.02	75	Pn		Pn	09 36 19.3	-4.1
AQDB	Aquidauana	13.02	75	eP		Pn	09 36 23.0	-0.3
UNIS	Unistalda (Bra	13.37	113	eP		Pn	09 36 28.9	+1.1
CRSM	Crissiumal (Br	13.89	106	eP		Pn	09 36 36.2	+1.5
VILB	Vilhena	14.21	38	Pn		Pn	09 36 37.0	-1.9
VILB	Vilhena	14.21	38	eP		Pn	09 36 38.1	-0.8
RVDE	Rio Verde (Bra	14.23	70	eP		Pn	09 36 39.1	0.0
NNA	Nana	14.39	328	P		P	09 36 45.1	0.0
	comp=Z,3.2nm,0.4s,baz=211,slow=14,SNR=1.5							
ETMB	Extrema	14.81	11	Pn		Pn	09 36 43.4	-3.1
ETMB	Extrema	14.81	11	eP		Pn	09 36 47.2	+0.7
TRQA	Tornquist	14.87	158	Pn		Pn	09 36 43.4	-3.7
PP1B	Ponte de Pedra	14.93	66	eP		Pn	09 36 49.3	+1.3
ALGR	Alto Alegre (B	15.03	110	eP		Pn	09 36 51.0	+1.7
SALV	Santo Antonio	15.19	58	eP		Pn	09 36 50.3	-1.0
PLTB	Pedras Altas	15.50	122	Pn		Pn	09 36 51.4	-3.7
PLTB				IAmb		IAmb	09 37 08.9	
	comp=Z,16nm,1.4s							
PLTB	Pedras Altas	15.50	122	eP		P	09 36 57.7	+0.5
PTGB	Pitanga	15.52	95	eP		P	09 36 58.4	+0.8
ITAB	Concordia	15.54	104	Pn		Pn	09 36 50.9	-4.8
ITAB				IAmb		IAmb	09 36 59.0	
	comp=Z,22nm,1.2s							
ITAB	Concordia	15.54	104	eP		Pn	09 36 55.9	+0.2
LR05	Currie	15.92	188	Pn		Pn	09 36 55.8	-4.5
LR05				IAmb		IAmb	09 37 22.0	
	comp=Z,17nm,1.3s							
C2SB	Chapadao do Su	16.15	73	eP		P	09 37 04.8	+0.3
PLCA	Paso Flores	16.29	184	P		P	09 37 07.4	+1.5
	comp=Z,2.5nm,0.9s,baz=29,slow=8.8,SNR=4.8							
PLCA				LR		LR	09 43 27.9	
	comp=Z,58nm,18.4s,baz=54,slow=37							
SAML	Samuel	16.42	21			Pn	09 37 03.8	-2.8
LDASE	Londrina, Braz	16.49	90	eP		Pn	09 37 08.4	+0.9
PCMB	Pacaembu	16.68	84	eP		P	09 37 11.1	+0.8
CZSB	Cruzeiro do Su	16.97	348	eP		Pn	09 37 17.0	+3.6
CNLB	Canela	17.00	111	eP		Pn	09 37 15.3	+1.6
PDRB	Porto dos Gac	17.35	45	eP		Pn	09 37 18.5	+0.4
ITRB	Iturama	18.01	78	eP		P	09 37 26.0	+0.9
ATAH	Atahualpa	19.37	331	P		Pn	09 37 43.5	+1.0
	comp=Z,1.2nm,0.7s,baz=222,slow=10,SNR=1.2							
TBTG	Tabatinga, AM	20.16	358	eP		Pn	09 37 52.3	+1.1
VAO	Valinhos	20.33	90	eP		P	09 37 50.7	+0.3
IPMB	Ipameri, GO	20.51	76	eP		P	09 37 53.1	+0.9
SNDB	Serra Nova Dou	20.96	57	eP		P	09 37 57.1	+0.1
TEFE	Tefe	21.26	12	eP		P	09 38 02.7	+2.5
BDFB	Brasilia	21.65	70	P		P	09 38 01.2	-3.3
BDFB				IAmb		IAmb	09 38 06.0	
	comp=Z,8.1nm,0.8s							
BDFB	Brasilia	21.65	70	P		P	09 38 04.8	+0.2
	comp=Z,8.3nm,0.9s,baz=234,slow=11,SNR=10							
	comp=Z,8.3nm,0.9s							
NPGB	Novo Progresso	21.75	40	eP		P	09 38 05.2	-0.3
MACA	Manacapuru-AM	22.67	22	P		P	09 38 13.1	-1.9
MACA	Manacapuru-AM	22.67	22	eP		P	09 38 15.4	+0.4
ITTB	Itaituba	23.76	35	eP		P	09 38 25.8	+0.6
JANB	Januaria	25.11	73	eP		P	09 38 38.9	+1.4
SDBA	SAO DESIDERIO	25.86	67	eP		P	09 38 46.2	+1.9
MALB	Monte Alegre	26.66	35	eP		P	09 38 53.1	+1.7
TXAR	Lajitas Array	62.94	326	P		P	09 43 41.0	+3.3
	comp=Z,0.8nm,1.0s,baz=167,slow=6.2,SNR=5.1							
	comp=Z,0.8nm,1.0s							
QSPA	South Pole Qui	65.76	180	P		P	09 43 53.2	-2.6
QSPA				IAmb		IAmb	09 44 02.6	
	comp=Z,6.2nm,1.1s							
QSPA	South Pole Qui	65.76	180	P		P	09 43 59.3	+3.6
	comp=Z,4.1nm,0.8s,baz=150,slow=2.0,SNR=9.9							
	comp=Z,4.1nm,0.8s							
ANMO	Albuquerque	68.86	328	P		P	09 44 20.0	+4.2
	comp=Z,1.4nm,0.8s,baz=242,slow=6.4,SNR=7.4							
ANMO				pP		pP	09 44 43.8	+0.7
	comp=Z,1.6nm,0.9s,baz=213,slow=7.9,SNR=2.6							
	comp=Z,1.4nm,0.8s							
PDAR	Pinedale Array	76.56	331	P		P	09 45 04.6	+3.4
	comp=Z,0.3nm,0.7s,baz=130,slow=8.4,SNR=3.0							
PDAR				pP		pP	09 45 28.8	-0.2
	comp=Z,0.3nm,0.8s,baz=146,slow=11,SNR=1.9							
	comp=Z,0.3nm,0.7s							
NVAR	Mina Array Bea	77.69	323	P		P	09 45 11.7	+4.1
	comp=Z,0.4nm,0.7s,baz=141,slow=15,SNR=2.7							
	comp=Z,0.4nm,0.7s							
TORD	Torodi Ar. Bea	78.53	70	P		P	09 45 14.5	+2.0
	comp=Z,2.3nm,0.7s,baz=265,slow=4.4,SNR=16							
TORD				pP		pP	09 45 39.1	-1.8
	comp=Z,1.9nm,0.5s,baz=260,slow=4.9,SNR=7.3							
	comp=Z,2.3nm,0.7s							
YKA	Yellowknife Ar	93.89	341	P		P	09 46 30.0	+2.7
	comp=Z,0.6nm,0.9s,baz=138,slow=4.6,SNR=6.8							
YKA				pP		pP	09 46 55.6	-0.5
	comp=Z,0.4nm,0.7s,baz=134,slow=4.5,SNR=5.6							
	comp=Z,0.6nm,0.9s							
ASAR	Alice Springs	127.22	207	PKP		PKiKP	09 52 17.7	+2.1
	comp=Z,1.2nm,0.9s,baz=148,slow=2.1,SNR=6.7							
ASAR				pPKP		pPKPdf	09 52 44.8	-0.4
	comp=Z,0.8nm,0.6s,baz=121,slow=1.8,SNR=4.5							
WRA	Warramunga Arr	130.32	209	PKP		PKiKP	09 52 23.5	+1.7
	comp=Z,1.0nm,0.8s,baz=173,slow=1.7,SNR=4.8							
KURBB	Kurchatov Arra	143.87	35	PKP		PKiKP	09 52 46.7	-1.7
	comp=Z,0.2nm,0.3s,baz=310,slow=3.3,SNR=1.3							
ZALV	Zalesovo Beam	144.68	27	PKP		PKiKP	09 52 48.4	-1.6
	comp=Z,6.0nm,0.9s,baz=308,slow=4.4,SNR=17							
ZALV				pPKP		pPKPdf	09 53 14.2	-2.3
	comp=Z,5.0nm,0.9s,baz=308,slow=4.9,SNR=6.7							
AAK	Ala-Archa	145.00	50	PKP		PKiKP	09 52 50.8	-0.4
	comp=Z,1.2nm,0.6s,baz=280,slow=3.3,SNR=4.0							
MKAR	Makanchi Array	148.09	38	PKPbc		PKPab	09 52 58.2	-0.4
	comp=Z,2.2nm,0.8s,baz=312,slow=2.4,SNR=12							
MKAR				pPKPbc		pPKPdf	09 53 25.1	+2.6
	comp=Z,1.4nm,0.7s,baz=292,slow=3.7,SNR=6.4							
KLR	Kul'dur	150.35	332	PKPbc		PKPab	09 53 04.1	-3.6
	comp=Z,0.5nm,0.4s,baz=315,slow=4.3,SNR=3.7							
KLR				pPKPbc		pPKPbc	09 53 30.6	-0.3
	comp=Z,1.9nm,0.8s,baz=333,slow=3.0,SNR=4.6							

IDC ***12*** *09:39:21.2±1.3,21°.80S×173°.71E, h0km, mb4.1/6, mbtmp4.2/8, ML3.9/2, MS3.5/11, Error ellipse: s-maj=32.0km s-min=26.6km az=22.0*

NEIC ***12*** *09:39:27.9±1.6, 22°.3S±0°.1×173°.7E±0°.1, h35km±1km, mb4.5/14, Error ellipse: s-maj=20.0km s-min=16.3km az=202.0*

ISC 12 09:39:27.2±0.9, 22°.0S±0°.1×173°.67E±0°.09, h40km, n45, σ1§16/42, mb4.2/13, MS3.4/10, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARNC	Mare, Loyalty	5.27	275	Pn		Pn	09 40 43.5	+0.1
MARNC				Sn		Sn	09 41 45.3	+2.4
PINNC	Pines Island,	5.79	263			Pn	09 40 49.8	-0.8
PINNC				Sn		Sn	09 41 54.0	-1.8
PINNC	Pines Island,	5.79	263	P		Pn	09 40 50.1	-0.5
LIFNC	LIFOU	6.11	281	Pn		Pn	09 40 55.2	+0.2
YATNC	Mamie plateau,	6.28	268	P		Pn	09 40 59.7	+2.3
OUENC	Ouen Island, N	6.33	265			Pn	09 40 57.5	-0.7
OUENC	Ouen Island, N	6.33	265	P		Pn	09 40 57.4	-0.7
ONTNC	Ouen Toro	6.69	266			Pn	09 41 02.3	-0.7
ONTNC	Ouen Toro	6.69	266	P		Pn	09 41 04.5	+1.5
DZM	Mont Dzumac	6.70	268			Pn	09 41 03.2	0.0
DZM	Mont Dzumac	6.70	268	P		Pn	09 41 04.8	+1.6
DZM	Mont Dzumac	6.70	268	Pn		Pn	09 41 02.6	-0.6
	3.1nm,0.3s,baz=154,slow=13,SNR=28							
DZM				Sn		Sn	09 42 15.9	-2.4
	baz=97,slow=18							
	22nm,0.4s							
NOUC	Port Laguerre	6.83	268	P		Pn	09 41 06.4	+1.5
KOUNC	Kounac, New Ca	8.87	278	Pn		Pn	09 41 33.2	+0.3
URZ	Urewera	16.45	170	Pn		P	09 43 16.9	-0.4
	0.3nm,0.3s,baz=338,slow=19,SNR=2.5							
URZ				LR		LR	09 48 02.8	
	comp=Z,141nm,18.2s,baz=121,slow=31							
	6.8nm,0.9s							
HNR	Honiara	18.18	311	P		P	09 43 35.5	-1.1
	292nm,0.3s,baz=119,slow=13,SNR=1.9							
EIDS	Eidsvold	20.94	256	P		P	09 44 05.8	-0.9
EIDS				IAmb		IAmb	09 44 12.4	
	comp=Z,12nm,1.1s							
ARMA	Armidale	21.43	242	P		P	09 44 11.0	-1.1
RPZ	Rata Peaks	21.74	185	LR		LR	09 51 29.3	
	comp=Z,174nm,19.7s,baz=356,slow=33							
RAR	Rarotonga	24.70	93	LR		LR	09 52 03.8	
	comp=Z,58nm,21.3s,baz=248,slow=31							
CTA	Charters Tower	25.64	269	P		P	09 44 54.8	+1.4
	comp=Z,1.9nm,0.4s,baz=96,slow=10,SNR=5.3							
CTA				LR		LR	09 55 07.5	
	comp=Z,90nm,18.1s,baz=85,slow=37							
	comp=Z,1.9nm,0.4s							
STKA	Stephens Creek	30.13	244	P		P	09 45 34.7	+1.4
	comp=Z,2.6nm,0.8s,baz=63,slow=11,SNR=3.1							
STKA				LR		LR	09 56 28.4	
	comp=Z,79nm,18.1s,baz=30,slow=34							
	comp=Z,2.6nm,0.8s							
BBOO	Buckleboo	34.90	244	P		P	09 46 15.0	-0.1
WR0	Warramunga Arr	36.52	266	P		P	09 46 29.9	+0.7
WR0				IAmb		IAmb	09 46 39.6	
	comp=Z,3.3nm,0.9s							
AS31	Alice Springs	36.60	260	P		P	09 46 29.6	-0.3
ASAR	Alice Springs	36.60	260	P		P	09 46 29.6	-0.2
ASAR	Alice Springs	36.60	260	P		P	09 46 28.9	-0.9
	comp=Z,2.3nm,0.8s,baz=82,slow=8.9,SNR=20							
ASAR				LR		LR	10 01 21.2	
	comp=Z,65nm,19.6s,baz=82,slow=36							
	comp=Z,2.3nm,0.8s							
WB0	Warramunga Arr	36.69	266	P		P	09 46 30.9	+0.2
WB0				IAmb		IAmb	09 46 57.6	
	comp=Z,1.1nm,1.4s							
WB2	Warramunga Arr	36.70	266	P		P	09 46 30.9	+0.2
WB2				IAmb		IAmb	09 46 38.1	
	comp=Z,8.2nm,1.4s							
WRA	Warramunga Arr	36.71	266	P		P	09 46 31.2	+0.4
WRA	Warramunga Arr	36.71	266	P		P	09 46 29.5	-1.3
	comp=Z,1.1nm,0.6s,baz=96,slow=8.2,SNR=13							
	comp=Z,1.1nm,0.6s							
MTN	Manton Dam	41.48	275	P		P	09 47 11.2	+0.6
MTN				IAmb		IAmb	09 47 20.9	
	comp=Z,11nm,1.1s							
FORT	Forrest	41.53	248	P		P	09 47 11.0	0.0
FORT				IAmb		IAmb	09 47 27.1	
	comp=Z,20nm,0.9s							
KNRA	Kununurra	42.84	270	P		P	09 47 23.0	+1.3
KNRA				IAmb		IAmb	09 47 32.8	
	comp=Z,20nm,1.1s							
FITZ	Fitzroy Crossi	45.14	266	P		P	09 47 41.5	+1.3
FITZ				IAmb		IAmb	09 47 43.1	
	comp=Z,8.2nm,1.2s							
SOEI	Soe	48.85	276	P		P	09 48 10.7	+1.3
NWAO	Narrogin (SRO)	50.71	245	LR		LR	10 08 36.8	
	comp=Z,87nm,18.4s,baz=39,slow=34							
VNDA	Vanda	55.84	183	LR		LR	10 08 26.4	
	comp=Z,31nm,21.8s,baz=6.0,slow=31							
CASY	Casey	59.29	205	P		P	09 49 24.0	-0.5
QSPA	South Pole Qui	68.04	180	P		P	09 50 24.1	+1.6
	comp=Z,1.6nm,0.6s,baz=22,slow=4.5,SNR=5.0							
QSPA				LR		LR	10 17 04.2	
	comp=Z,23nm,19.9s,baz=26,slow=33							
	comp=Z,1.6nm,0.6s							
RPN	Rapa Nui	69.20	112	LR		LR	10 13 23.1	
	comp=Z,34nm,20.3s,baz=258,slow=30							
ELK	Elko	90.81	46	LR		LR	10 26 56.7	
	comp=Z,44nm,18.9s,baz=268,slow=32							
ILAR	Eielson Array	91.71	16	P		P	09 52 28.1	-1.9
	comp=Z,0.6nm,1.1s,baz=229,slow=4.5,SNR=1.7							
	comp=Z,0.6nm,1.1s							
EKA	Eskdalemuir Ar	146.66	357	PKPbc		PKPbc	09 59 04.5	+0.2
	comp=Z,0.9nm,0.6s,baz=343,slow=3.7,SNR=2.5							
TORD	Torodi Ar. Bea	168.32	222	PKPab		PKPab	10 00 38.6	-0.4
	comp=Z,0.4nm,0.8s,baz=112,slow=3.6,SNR=5.0							

IDC 12 09:40:11.3±3.9, 16°.02N×90°.02W, h0km, mb3.4/1, mbtmp3.9/2, ML4.5/1, Error ellipse: s-maj=124.3km s-min=40.5km az=119.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEIG	Tepich	4.51	21	Pn		Pn	09 41 20.9	0.0
	26nm,0.3s,baz=132,slow=16,SNR=72							
TEIG				Sn		Sn	09 42 15.5	+1.4
	29nm,0.3s,baz=195,slow=20,SNR=13							
	69nm,0.4s							
ILAR	Eielson Array	61.77	336	P		P	09 50 31.4	-0.1
	0.3nm,0.7s,baz=99,slow=5.6,SNR=6.0							
	0.3nm,0.7s							
WRA	Warramunga Arr	137.71	258	PKP		PKPdf	09 59 37.5	-0.9
	1.7nm,1.3s,baz=91,slow=3.3,SNR=3.2							
ASAR	Alice Springs	138.12	252	PKP		PKPdf	09 59 39.4	+0.2
	0.3nm,0.5s,baz=93,slow=3.4,SNR=8.4							

IDC ***12*** *09:51:03.4±0.6, 30°.62N×131°.92E, h0km, mb4.3/26, mbtmp4.3/32, ML3.8/6, MS4.0/38, Error ellipse: s-maj=15.6km s-min=12.9km az=88.0*

NIED ***12*** *09:51:05.8, 30°.61N×132°.08E, h60km, MW4.7, Moment Tensor Solution. s2 Moment tensor: Scale 10^16 Nm; Mrr-0.78; Mθθ 0.26; Mφφ 0.52; Mrθ 0.71; Mθφ 0.26; Mφr 0.50; Fault plane solution: M0 1.13000×10^16 NP1: φs228.00000°, δ70.00000°, λ-81.00000°. NP2: φs23.00000°, δ22.00000°, λ-114.00000°.*

JMA ***12*** *09:51:05.8±0.2, 30°.6N±0°.4×132°.1E±0°.9, h60km±3km, MD4.2/34, MV4.0/34, E OFF TANEGASHIMA ISLAND*

MOS ***12*** *09:51:05.4±1.2, 30°.65N×131°.91E, h23km, mb5.0/32, MS4.0/7, Error ellipse: s-maj=9.3km s-min=5.1km az=102.6*

NEIC ***12*** *09:51:05.7±1.6, 30°.68N±0°.05×131°.89E±0°.05, h10km±1km, mb4.9/116, Error ellipse: s-maj=10.4km s-min=5.0km az=142.0*

BJI ***12*** *09:51:07.0±0.0, 30°.53N×131°.99E, h39km, mb4.4/58, mB4.9/32, Ms4.4/47, Ms7 4.2/46*

ISC 12 09:51:07.4±0.6, 30°.65N±0°.03×131°.94E±0°.04, h24km±3km, n325, σ1§52/318, mb4.8/126, MS4.1/48, 18C-21D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTN	Tanegashima 3	0.82	271	⇓P		Pb	09 51 23.2	+0.1
JTN				⇓S		Sn	09 51 36.5	+1.6
JTN	Tanegashima 3	0.82	271	A		A	09 51 23.2	
	comp=E,28nm,1.6s,comp=N,13nm,2.0s							
JMTN	Minamitane	0.93	255	⇓P		Pb	09 51 24.7	-0.2
JMTN				⇓S		Sn	09 51 39.0	+1.5
JTSR	Tashiro 2	1.01	301	⇓P		Pb	09 51 25.5	-0.8
JTSR	Tashiro 2	1.01	301	A		A	09 51 25.5	
	comp=E,9.0nm,1.9s,comp=N,9.0nm,1.1s							
JNAR	Kushima--Naru	1.05	327	P		Pb	09 51 26.3	-0.5
JNAR				S		Sn	09 51 41.0	+0.6
JNAR	Kushima--Naru	1.05	327	A		A	09 51 26.3	
	comp=E,12nm,2.6s,comp=N,10.0nm,1.1s							
JNKG	Nichinankitago	1.12	335	P		Pn	09 51 27.1	-0.5
JNKG				S		Sn	09 51 42.7	+0.5
JNKG	Nichinankitago	1.12	335	A		A	09 51 27.1	
	comp=E,8.0nm,3.8s,comp=N,9.0nm,3.7s							
JYAK	Yakushimahirau	1.30	252	⇓P		Pn	09 51 29.5	-0.5
JYAK				⇓S		Sb	09 51 47.8	+0.4
JTZ	Takazaki	1.45	330	⇓P		Pn	09 51 31.7	-0.3
JTZ				⇓S		Sn	09 51 50.3	0.0
JKC	Kuchinoerabu	1.51	263	P		Pn	09 51 32.8	-0.2
JSU	Suzuyama	1.53	304	P		Pn	09 51 33.0	-0.3
JSU				eS		Sb	09 51 53.5	-0.6
JTSN	Tsuno	1.64	347	P		Pn	09 51 34.0	-0.7
JTSN				S		Sn	09 51 54.4	-0.5
JTSN	Tsuno	1.64	347	A		A	09 51 34.0	
	comp=E,8.0nm,1.0s,comp=N,5.0nm,0.9s							
JZO	Okuchi	1.88	323	P		Pn	09 51 38.2	+0.2
JZO	Okuchi	1.88	323	A		A	09 51 38.2	
	comp=E,4.0nm,4.1s,comp=N,4.0nm,4.5s							
JNN	Nakanoshima	1.96	246	P		Pn	09 51 38.9	-0.2
JNN				S		Sn	09 52 03.8	+0.9
JSJ	Shimokoshiki	2.16	299	P		Pn	09 51 41.2	-0.7
JSJ				S		Sn	09 52 08.6	+0.6
JTO	Tosashimizu	2.33	18	P		Pn	09 51 41.4	-2.8
JTO				S		Sn	09 52 07.0	-5.0
JNU	Nakatsue	2.63	340			Pn	09 51 49.2	+0.9
JNU	Nakatsue	2.63	340	Pn		Pn	09 51 48.8	+0.5
	comp=N,31nm,0.3s,baz=191,slow=17,SNR=142							
JNU				Sn		Sn	09 52 20.1	+0.6
	comp=N,26nm,0.3s,baz=192,slow=15,SNR=3.6							
	comp=N,98nm,0.4s							
JMN	Monobe	3.48	28	Pn		Pn	09 51 59.2	-0.9
JTU	Tsushima	4.42	332	Pn		Pn	09 52 11.9	-1.0
JMZ	Minamidaito 2	4.85	188	Pn		Pn	09 52 20.1	+1.2
JOW	Kunigami	4.98	221	Pn		Pn	09 52 20.9	+0.2
JOW	Kunigami	4.98	221	Pn		Pn	09 52 20.5	-0.1
	comp=N,5.7nm,0.3s,baz=139,slow=19,SNR=16							
JOW				Sn		Sn	09 53 14.9	-2.6
	comp=N,7.0nm,0.3s,baz=0.0,slow=20,SNR=6.2							
	comp=N,15nm,0.2s							
INU	Inuyama	6.34	41	Pn		Pn	09 52 40.1	+0.8
JSG	Sagara	6.62	51	Pn		Pn	09 52 43.8	+0.5
TJN	Taejon	6.87	327⇓	eP		Pn	09 52 48.9	+2.3
JHJ	Hachijo jima 2	7.11	68	Pn		Pn	09 52 49.5	-0.5
	comp=N,6.8nm,0.3s,baz=211,slow=19,SNR=1.3							
JHJ				LR		LR	09 55 17.1	
	comp=N,260nm,20.9s,baz=302,slow=35							
	comp=N,131nm,0.9s							
JHJ2	Mitsune	7.14	68	Pn		Pn	09 52 50.0	-0.2
KSRS	Korea Array	7.56	335	Pn		Pn	09 52 58.6	+2.6
	comp=N,0.4nm,0.3s,baz=161,slow=14,SNR=12							
KSRS				LR		LR	09 55 16.7	
	comp=N,97nm,20.7s,baz=150,slow=33							
KS19	Wonju Array Si	7.62	335	Pn		Pn	09 52 57.0	0.0
MAJO	Matsushiro	7.87	40	Pn		Pn	09 53 00.1	-0.2
MAJO	Matsushiro	7.87	40⇓	eP		Pn	09 52 59.9	-0.4
MAJO				pmax		pmax		
	comp=Z,46nm,1.9s							
MJAR	Matsushiro Arr	7.87	40	Pn		Pn	09 52 59.7	-0.6
	comp=Z,0.8nm,0.3s,baz=242,slow=14,SNR=31							
	comp=Z,3.1nm,0.4s							
MJB9	Matsu-Tunnel	7.87	40	Pn		Pn	09 53 00.9	+0.6
INCN	Inchon	8.11	329	Pn		Pn	09 53 02.2	-1.5
INCN	Inchon	8.11	329	P		Pn	09 53 02.2	-1.5
SSE	Sheshan	9.25	276	P		Pn	09 53 18.0	-1.3
SSE				S		Sn	09 54 59.2	-3.4
SSE				pmax		pmax		
	comp=Z,13nm,0.9s							
SSE				pmax		pmax		
	comp=Z,160nm,4.3s							
SSE				LR		LR		
	comp=Z,380nm,15.5s							
SSE				LR		LR		
	comp=Z,310nm,16.0s							
JCJ	Chichijima	9.65	109	Pn		Pn	09 53 24.8	-0.1
JCJ	Chichijima	9.65	109	LR		LR	09 56 35.0	
	comp=Z,156nm,18.2s,baz=334,slow=34							
JMM	Marumori	10.27	43	Pn		Pn	09 53 31.4	-1.8
NJ2	Nanjing	11.27	280	eP		Pn	09 53 47.2	+0.2
NJ2				pmax		pmax		
	comp=Z,9.0nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,250nm,3.8s							
NJ2				LR		LR		
	comp=Z,1μm,11.8s							
NJ2				LR		LR		
	comp=Z,740nm,12.8s							
NJ2				LR		LR		
	comp=Z,830nm,9.8s							
USRK	Ussuriysk Ar.	13.53	0	Pn		Pn	09 54 19.2	+1.5
	comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=1.9							
	comp=Z,3.0nm,0.8s							
MDJ	Mudanjiang	14.07	353	P		Pn	09 54 26.0	+0.9

XAN	**Xi'an**	**19.73**	**286**	⇑P		**P**		09 55 35.5	**+0.1**
XAN				pP		sP		09 55 44.2	-0.2
XAN				pmax		pmax			
	comp=Z,24nm,1.5s								
HEH	**HeiHe**	**19.88**	**351**	*e*P		**P**		**09 55 36.9**	**+0.1**
HEH				pP		**sP**		**09 55 45.4**	**-0.4**
HEH				S		**S**		**09 59 20.1**	**+0.9**
HEH				sS		**pS**		**09 59 32.4**	**-1.9**
HEH				pmax		pmax			
	comp=Z,21nm,1.2s								
HEH				pmax		pmax			
	comp=Z,99nm,3.9s								
HEH				LR		LR			
	comp=Z,240nm,12.4s								
HEH				LR		LR			
	comp=Z,400nm,12.8s								
HEH				LR		LR			
	comp=Z,370nm,9.9s								
BTO	**Baotou**	**20.35**	**305**	*e*P		Pn		09 55 45.9	+1.6
BTO				pP		sP		09 55 54.7	+3.5
BTO				sP		pwP		09 55 59.0	+8.3
BTO				PP		**PnPn**		**09 56 06.8**	**+7.5**
BTO				S		Sn		09 59 35.2	+2.3
BTO				sS		pS		09 59 41.3	-1.7
BTO				SS		**SnSn**		**09 59 58.8**	**+11**
BTO				pmax		pmax			
	comp=Z,27nm,1.3s								
BTO				pmax		pmax			
	comp=Z,310nm,4.1s								
BTO				LR		LR			
	comp=Z,1μm,12.1s								
BTO				LR		LR			
	comp=Z,1μm,11.5s								
BTO				LR		LR			
	comp=Z,2μm,12.3s								
GRNR	**Gornyy**	**20.38**	**8**⇓	*i*P		Pn		09 55 46.6	+2.2
GRNR				pmax		pmax			
	comp=Z,6.0nm,0.9s								
GRNR				MLR		MLR			
	comp=E,440nm,15.0s								
GRNR				MLR		MLR			
	comp=Z,490nm,15.0s								
GRNR				MLR		MLR			
	comp=N,410nm,16.0s								
HIA	**Hailar**	**20.77**	**337**	P		**P**		**09 55 45.9**	**-0.6**
HIA	**Hailar**	**20.77**	**337**⇑	*i*P		**P**		**09 55 46.2**	**-0.3**
HIA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
TYV	**Tymovskoe**	**21.72**	**19**	*e*P		**P**		**09 56 02.1**	**+5.4**
TYV				pmax		pmax			
	comp=Z,100nm,3.3s								
TYV				pmax		pmax			
	comp=Z,7.0nm,1.2s								
GYA	**Guiyang**	**22.57**	**266**⇑	*i*P		**P**		**09 56 06.8**	**+0.6**
GYA				pmax		pmax			
	comp=Z,33nm,1.0s								
GYA				pmax		pmax			
	comp=Z,440nm,4.0s								
QIZ	**Qiongzhong**	**23.10**	**245**	P		**P**		**09 56 12.2**	**+0.6**
QIZ				S		**S**		**10 00 20.1**	**-1.4**
QIZ				LR		LR			
	comp=Z,560nm,14.1s								
QIZ				LR		LR			
	comp=Z,810nm,10.5s								
QIZ				LR		LR			
	comp=Z,650nm,15.4s								
ZEA	**Zeya**	**23.32**	**353**	*e*P		**P**		**09 56 12.4**	**-1.1**
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.2s								
ZEA				MLR		MLR			
	comp=N,300nm,13.0s								
ZEA				MLR		MLR			
	comp=Z,200nm,16.0s								
LZH	**Lanzhou**	**24.04**	**291**	*e*P		**P**		**09 56 20.4**	**-0.4**
LZH				pP		pwP		09 56 29.2	-0.5
LZH				sP		sP		09 56 34.0	+3.8
LZH				pmax		pmax			
	comp=Z,22nm,1.0s								
LZH				LR		LR			
	comp=Z,480nm,15.9s								
LZH				LR		LR			
	comp=Z,450nm,14.1s								
LZH				LR		LR			
	comp=Z,570nm,18.6s								
CD2	**Chengdu**	**24.19**	**278**	P		**P**		**09 56 20.7**	**-1.4**
CD2				sP		sP		09 56 35.4	+4.0
CD2				S		**S**		**10 00 36.6**	**-2.5**
CD2				pmax		pmax			
	comp=Z,30nm,1.0s								
CD2				pmax		pmax			
	comp=Z,140nm,5.5s								
CD2				LR		LR			
	comp=Z,810nm,12.4s								
CD2				LR		LR			
	comp=Z,1μm,11.2s								
CD2				LR		LR			
	comp=Z,1μm,11.2s								
DAV	**Davao City (W)**	**24.20**	**196**	LR		LR		10 07 07.8	
	comp=Z,190nm,19.1s,baz=24,slow=40								
ULN	**Ulaanbaatar**	**25.65**	**319**	P		**P**		**09 56 34.4**	**-1.0**
ULN				IAmb		IAmb		09 56 37.1	
	comp=Z,22nm,1.1s								
ULN	**Ulaanbaatar**	**25.65**	**319***c*	*e*P		**P**		**09 56 34.9**	**-0.4**
ULN				pmax		pmax			
	comp=Z,22nm,1.0s								
SONM	**Songino Array**	**26.01**	**319**	P		**P**		**09 56 37.3**	**-1.3**
SONM	**Songino Array**	**26.01**	**319**	P		**P**		**09 56 37.2**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=132,slow=8.7,SNR=14								
SONM				PcP		**PcP**		**10 00 06.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=126,slow=7.3,SNR=1.9								
SONM				LR		LR		10 08 09.5	
	comp=Z,559nm,20.6s,baz=118,slow=39								
	comp=Z,2.6nm,0.6s								
SLVN	**Son La**	**26.79**	**256**	P		**P**		**09 56 46.2**	**+0.4**
PZH	**PanZhiHua**	**26.80**	**269**	P		**P**		**09 56 47.9**	**+2.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,100nm,4.8s								
GTA	**Gaotai**	**27.60**	**297**	*e*P		**P**		**09 56 54.2**	**+1.2**
GTA				sP		sP		09 57 12.4	+10
GTA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
GTA				LR		LR			
	comp=Z,270nm,14.5s								
GTA				LR		LR			
	comp=Z,530nm,14.5s								
GTA				LR		LR			
	comp=Z,630nm,13.5s								
ZAK	**Zakamensk**	**29.10**	**321**	*e*P		**P**		**09 57 04.5**	**-1.6**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.5s								
PEA0B	**Petropavlovsk-**	**29.24**	**32**⇓	*e*P		**P**		**09 57 07.2**	**0.0**
PETK	**Petropavlovsk-**	**29.24**	**32**	P		**P**		**09 57 06.9**	**-0.4**
PETK	**Petropavlovsk-**	**29.24**	**32**	P		**P**		**09 57 06.5**	**-0.7**
	comp=Z,7.3nm,1.1s,baz=298,slow=3.2,SNR=4.3								
PETK				LR		LR		10 10 28.0	
	comp=Z,198nm,18.1s,baz=202,slow=40								
	comp=Z,7.3nm,1.1s								
YAK	**Yakutsk**	**31.43**	**358**	P		**P**		**09 57 26.0**	**-0.4**
YAK				IAmb		IAmb		09 57 36.3	
	comp=Z,28nm,1.1s								
YAK	**Yakutsk**	**31.43**	**358**	*e*P		**P**		**09 57 26.5**	**+0.1**
YAK				pmax		pmax			
	comp=Z,25nm,1.4s								
YAK				pmax		pmax			
	comp=N,15nm,1.3s								
YAK				pmax		pmax			
	comp=E,3.0nm,0.9s								
YAK				MLR		MLR			
	comp=Z,258nm,13.0s								
YAK				MLR		MLR			
	comp=N,264nm,14.0s								
YAK				MLR		MLR			
	comp=E,89nm,12.0s								
YAK	**Yakutsk**	**31.43**	**358**	P		**P**		**09 57 26.0**	**-0.4**
	comp=E,0.5nm,0.3s,baz=128,slow=12,SNR=5.7								
YAK				LR		LR		10 11 11.4	
	comp=E,12nm,18.1s,baz=124,slow=38								
MA2	**Magadan**	**31.60**	**18**⇓	*e*P		**P**		**09 57 27.4**	**-0.6**
MA2				pmax		pmax			
	comp=Z,10.0nm,1.3s								
CHTO	**Chiang Mai**	**32.08**	**256**	P		**P**		**09 57 32.5**	**-0.1**
CHTO	**Chiang Mai**	**32.08**	**256**	P		**P**		**09 57 32.6**	**-0.1**
CHTO				pmax		pmax			
	comp=Z,11nm,1.0s								
CMAR	**Chiang Mai Arr**	**32.25**	**256**	P		**P**		**09 57 32.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**32.25**	**256**	P		**P**		**09 57 34.1**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=46,slow=8.2,SNR=9.0								
CMAR				LR		LR		10 10 18.8	
	comp=Z,65nm,20.6s,baz=65,slow=36								
	comp=Z,1.3nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**33.33**	**101**	T		T		10 32 53.6	
	baz=294,slow=74								
H11N1	**WAKE ISLAND Hy**	**33.33**	**101**	T		T		10 32 48.7	
	baz=294								
H11N3	**WAKE ISLAND Hy**	**33.34**	**101**	T		T		10 32 48.0	
	baz=294,slow=74								
SEY	**Seymchan**	**34.87**	**16**⇑	*e*P		**P**		**09 57 58.2**	**+1.7**
SEY				pmax		pmax			
	comp=Z,6.0nm,1.4s								
SHL	**Shillong**	**35.56**	**272**	P		**P**		**09 58 02.2**	**-0.9**
SHL	**Shillong**	**35.56**	**272**	P		**P**		**09 58 02.2**	**-0.9**
SHL				pmax		pmax			
	comp=Z,17nm,1.4s								
WMQ	**Urumqi**	**37.17**	**303**	*e*P		**P**		**09 58 20.0**	**+3.5**
WMQ				PcP		**PcP**		**10 00 33.8**	**-2.5**
WMQ				pmax		pmax			
	comp=Z,19nm,1.1s								
WMQ				LR		LR			
	comp=Z,350nm,21.3s								
WMQ				LR		LR			
	comp=Z,530nm,21.7s								
WMQ				LR		LR			
	comp=Z,260nm,18.7s								
KAPI	**Kappang**	**37.33**	**200**	LR		LR		10 13 42.2	
	comp=Z,40nm,20.8s,baz=22,slow=36								
DGZ	**Jazzator, Alta**	**38.29**	**313**⇓	*e*P		**P**		**09 58 24.7**	**-1.4**
DGZ				pmax		pmax			
	comp=Z,13nm,3.2s								
SOEI	**Soe**	**40.84**	**192**	P		**P**		**09 58 48.8**	**+1.3**
SOEI				IAmb		IAmb		09 58 59.8	
	comp=Z,53nm,1.3s								
ZALV	**Zalesovo Beam**	**40.91**	**319**	P		**P**		**09 58 47.0**	**-0.5**
ZALV	**Zalesovo Beam**	**40.91**	**319**	P		**P**		**09 58 47.0**	**-0.5**
ZALV	**Zalesovo Beam**	**40.91**	**319**	P		**P**		**09 58 47.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=103,slow=6.4,SNR=5.2								
ZALV				PcP		**PcP**		**10 00 46.5**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=83,slow=4.9,SNR=2.9								
ZALV				LR		LR		10 17 22.7	
	comp=Z,290nm,20.5s,baz=108,slow=39								
	comp=Z,1.5nm,0.9s								
TIXI	**Tiksi**	**41.09**	**359**	P		**P**		**09 58 49.2**	**+0.4**
TIXI	**Tiksi**	**41.09**	**359**⇓	*e*P		**P**		**09 58 49.9**	**+1.1**
TIXI				pmax		pmax			
	comp=Z,13nm,1.2s								
TIXI	**Tiksi**	**41.09**	**359**	LR		LR		10 17 30.4	
	comp=Z,19nm,19.6s,baz=188,slow=39								
MK31	**Makanchi Array**	**41.24**	**307**	P		**P**		**09 58 49.5**	**-1.0**
MK31	**Makanchi Array**	**41.24**	**307**⇑	*e*P		**P**		**09 58 49.4**	**-1.0**
MKAR	**Makanchi Array**	**41.24**	**307**	P		**P**		**09 58 48.9**	**-1.5**
MKAR	**Makanchi Array**	**41.24**	**307**	P		**P**		**09 58 50.1**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=94,slow=8.8,SNR=10.0								
MKAR				PcP		**PcP**		**10 00 49.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=73,slow=3.3,SNR=3.7								
MKAR				LR		LR		10 17 59.8	
	comp=Z,180nm,18.5s,baz=99,slow=39								
	comp=Z,1.6nm,0.8s								
MAKZ	**Makanchi**	**41.46**	**307**	P		**P**		**09 58 50.6**	**-1.6**
MAKZ	**Makanchi**	**41.46**	**307**	P		**P**		**09 58 50.6**	**-1.6**
MAKZ				pmax		pmax			
	comp=Z,6.0nm,1.4s								
PMG	**Port Moresby**	**42.42**	**157**	LR		LR		10 16 11.4	
	comp=Z,59nm,20.1s,baz=290,slow=36								
BILL	**Bilibino**	**42.47**	**18**⇑	*i*P		**P**		**09 59 01.2**	**+1.1**
BILL				pmax		pmax			
	comp=Z,10.0nm,1.1s								
GSI	**Gunungsitoli**	**43.72**	**235**	P		**P**		**09 59 10.1**	**-0.8**
KURK	**Kurchatov**	**44.04**	**313**	P		**P**		**09 59 11.4**	**-1.7**
KURK	**Kurchatov**	**44.04**	**313***de*	P		**P**		**09 59 11.8**	**-1.3**
KURK				pmax		pmax			
	comp=Z,13nm,1.3s								
KURBB	**Kurchatov Arra**	**44.09**	**313**	P		**P**		**09 59 12.4**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=99,slow=9.2,SNR=17								
KURBB				PcP		**PcP**		**10 00 57.9**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=75,slow=3.2,SNR=1.9								
KURBB				LR		LR		10 19 49.1	
	comp=Z,290nm,18.8s,baz=156,slow=39								
	comp=Z,4.1nm,0.8s								
NRIK	**Noril'sk**	**46.15**	**340**⇑	*i*P		**P**		**09 59 28.9**	**-0.6**
NRIK	**Noril'sk**	**46.15**	**340**	P		**P**		**09 59 29.1**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=75,slow=6.8,SNR=3.5								
NRIK				LR		LR		10 20 20.1	
	comp=Z,256nm,18.5s,baz=140,slow=38								
	comp=Z,1.9nm,0.3s								
AAK	**Ala-Archa**	**46.80**	**301**⇓	*e*P		**P**		**09 59 33.6**	**-1.7**
AAK				pmax		pmax			
	comp=Z,9.0nm,1.9s								
AAK	**Ala-Archa**	**46.80**	**301**	LR		LR		10 21 39.1	
	comp=Z,190nm,19.7s,baz=76,slow=39								
BVAR	**Borovoye Array**	**49.29**	**316**	P		**P**		**09 59 53.5**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=90,slow=8.9,SNR=12								
BVAR				PcP		**PcP**		**10 01 17.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=84,slow=5.1,SNR=2.4								
BVAR				LR		LR		10 22 56.0	
	comp=Z,227nm,21.7s,baz=97,slow=39								
	comp=Z,1.8nm,0.5s								
BRVK	**Borovoye**	**49.35**	**316**	P		**P**		**09 59 53.2**	**-1.4**
BRVK	**Borovoye**	**49.35**	**316**⇑	*e*P		**P**		**09 59 54.4**	**-0.2**
BRVK				pmax		pmax			
	comp=Z,11nm,1.3s								
KK31	**Karatay Array**	**49.66**	**302**	P		**P**		**09 59 55.8**	**-1.4**
KK31	**Karatay Array**	**49.66**	**302**	P		**P**		**09 59 55.8**	**-1.4**
KK31				pmax		pmax			
	comp=Z,9.0nm,1.3s								
KKAR	**Karatay Array**	**49.66**	**302**	P		**P**		**09 59 55.6**	**-1.6**
KKAR	**Karatay Array**	**49.66**	**302**	P		**P**		**09 59 55.6**	**-1.6**
WB0	**Warramunga Arr**	**50.18**	**177**	P		**P**		**10 00 00.6**	**-0.6**
WB0				IAmb		IAmb		10 01 50.8	
	comp=Z,39nm,1.9s								
WRAB	**Tennant Creek**	**50.34**	**177**	P		**P**		**10 00 03.4**	**+0.9**
WRAB				IAmb		IAmb		10 01 25.6	
	comp=Z,19nm,1.5s								
WRAB	**Tennant Creek**	**50.34**	**177**	P		**P**		**10 00 03.4**	**+0.9**
WRAB				pmax		pmax			
	comp=Z,19nm,1.5s								
WB2	**Warramunga Arr**	**50.35**	**177**	P		**P**		**10 00 02.1**	**-0.5**
WB2				IAmb		IAmb		10 01 05.1	
	comp=Z,31nm,1.8s								
WRA	**Warramunga Arr**	**50.35**	**177**	P		**P**		**10 00 02.2**	**-0.3**
WRA	**Warramunga Arr**	**50.35**	**177***ce*	P		**P**		**10 00 02.9**	**+0.4**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
WRA	**Warramunga Arr**	**50.35**	**177**	P		**P**		**10 00 01.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=350,slow=7.9,SNR=6.6								
	comp=Z,1.6nm,0.8s								
ANM	**Nome**	**51.08**	**30**	P		**P**		**10 00 06.3**	**-1.2**
ANM				IAmb		IAmb		10 00 14.0	
	comp=Z,32nm,1.7s								
ANM	**Nome**	**51.08**	**30**	P		**P**		**10 00 06.3**	**-1.2**
ANM				pmax		pmax			
	comp=Z,32nm,1.7s								
SIMJ	**Simiganj**	**51.49**	**297**	P		**P**		**10 00 10.1**	**-1.1**
F15K	**North Star Dit**	**51.59**	**28**	P		**P**		**10 00 11.9**	**+0.5**
F15K				IAmb		IAmb		10 00 15.8	
	comp=Z,24nm,1.4s								
C16K	**Lisburne Hills**	**51.84**	**25**	P		**P**		**10 00 13.9**	**+0.8**
M14K	**Bethel**	**52.17**	**35**	P		**P**		**10 00 14.9**	**-0.8**
RDOG	**Red Dog Mine**	**52.69**	**25**	P		**P**		**10 00 19.8**	**+0.3**
RDOG				IAmb		IAmb		10 00 26.9	
	comp=Z,17nm,1.4s								
PALK	**Pallekele**	**53.19**	**255**	P		**P**		**10 00 22.8**	**-1.2**
PALK				IAmb		IAmb		10 00 39.5	
	comp=Z,19nm,1.3s								
PALK	**Pallekele**	**53.19**	**255**	P		**P**		**10 00 22.8**	**-1.2**
PALK				pmax		pmax			
	comp=Z,19nm,1.3s								
C18K	**Utukok River**	**53.42**	**25**	P		**P**		**10 00 23.5**	**-1.4**
C18K				IAmb		IAmb		10 00 28.6	
	comp=Z,18nm,1.3s								
E18K	**Tukpahlearik C**	**53.45**	**26**	P		**P**		**10 00 25.6**	**+0.4**
ASAR	**Alice Springs**	**54.04**	**178**	P		**P**		**10 00 29.1**	**-0.8**
ASAR	**Alice Springs**	**54.04**	**178**	P		**P**		**10 00 29.1**	**-0.8**
ASAR	**Alice Springs**	**54.04**	**178**	P		**P**		**10 00 28.5**	**-1.4**
	comp=Z,1.8nm,1.0s,baz=356,slow=7.2,SNR=8.3								
	comp=Z,1.8nm,1.0s								
G18K	**Tagagawik**	**54.06**	**28**	P		**P**		**10 00 29.6**	**0.0**
C19K	**Lookout Ridge**	**54.06**	**24**	P		**P**		**10 00 30.0**	**+0.3**
H18K	**Honhosa River**	**54.12**	**29**	P		**P**		**10 00 30.7**	**+0.7**
H18K				IAmb		IAmb		10 00 33.3	
	comp=Z,13nm,1.1s								
M17K	**Holitna River**	**54.39**	**34**	P		**P**		**10 00 31.0**	**-1.1**
N17K	**Nushagak Hills**	**54.52**	**35**	P		**P**		**10 00 33.2**	**+0.2**
D19K	**Kuna River**	**54.52**	**25**	P		**P**		**10 00 33.4**	**+0.5**
D19K				IAmb		IAmb		10 00 36.2	
	comp=Z,10nm,0.9s								
G19K	**Purcell Mounta**	**54.72**	**28**	P		**P**		**10 00 35.6**	**+1.2**
G19K				IAmb		IAmb		10 01 47.6	
	comp=Z,30nm,1.9s								
E19K	**Redstone River**	**54.75**	**26**	P		**P**		**10 00 35.3**	**+0.7**
H19K	**Roundabout Mou**	**54.95**	**29**	P		**P**		**10 00 34.9**	**-1.1**
J19K	**Poorman**	**55.26**	**31**	P		**P**		**10 00 37.7**	**-0.6**
J19K				IAmb		IAmb		10 00 41.1	
	comp=Z,11nm,1.1s								
F20K	**Avaraart Lake**	**55.31**	**27**	P		**P**		**10 00 38.8**	**+0.2**
F20K				IAmb		IAmb		10 01 00.5	
	comp=Z,23nm,1.9s								
B21K	**Ikpikpuk River**	**55.87**	**24**	P		**P**		**10 00 40.9**	**-1.7**
B21K				IAmb		IAmb		10 00 58.8	
	comp=Z,7.0nm,0.8s								
J20K	**Nowinta River**	**55.91**	**31**	P		**P**		**10 00 44.5**	**+1.6**
J20K				IAmb		IAmb		10 00 46.8	
	comp=Z,9.4nm,0.8s								
ARU	**Arti**	**56.03**	**320**	P		**P**		**10 00 43.1**	**-0.9**
ARU				IAmb		IAmb		10 02 34.0	
	comp=Z,22nm,1.3s								
ARU	**Arti**	**56.03**	**320***c*	*i*P		**P**		**10 00 42.6**	**-1.4**
ARU								10 01 40.0	
ARU				S		**S**		**10 08 28.8**	**-2.0**
ARU				SS		**SS**		**10 12 13.0**	**-3.7**
ARU				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ARU	**Arti**	**56.03**	**320**	P		**P**		**10 00 43.1**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=59,slow=6.3,SNR=4.4								
ARU				LR		LR		10 26 59.8	
	comp=Z,206nm,19.9s,baz=84,slow=38								
	comp=Z,2.4nm,0.3s								
IMAR	**Indian Mountai**	**56.07**	**28**	P		**P**		**10 00 44.1**	**0.0**
ABKAR	**Akbulak array**	**56.10**	**311**	P		**P**		**10 00 42.4**	**-2.2**
ABKAR	**Akbulak array**	**56.10**	**311**	P		**P**		**10 00 43.9**	**-0.7**
ABKAR				IAmb		IAmb		10 01 16.4	
	comp=Z,6.2nm,1.3s								
G21K	**Allakaket**	**56.17**	**28**	P		**P**		**10 00 46.2**	**+1.3**
G21K				IAmb		IAmb		10 00 46.9	
	comp=Z,12nm,1.2s								
B22K	**Teshekpuk Lake**	**56.32**	**23**	P		**P**		**10 00 46.3**	**+0.5**
H21K	**Melozitna Rive**	**56.46**	**29**	P		**P**		**10 00 46.1**	**-0.8**
H21K				IAmb		IAmb		10 00 49.9	
	comp=Z,33nm,1.8s								
P19K	**Oil Pt**	**56.53**	**36**	P		**P**		**10 00 49.0**	**+1.4**
E22K	**Anaktuvuk Pass**	**56.84**	**26**	P		**P**		**10 00 50.8**	**+1.2**
AKTO	**Aktyubinsk**	**57.14**	**313**	LR		LR		10 27 08.7	
	comp=Z,188nm,19.4s,baz=198,slow=38								
MLY	**Manley**	**57.35**	**29**	P		**P**		**10 00 54.0**	**+0.7**
MLY				IAmb		IAmb		10 00 56.8	
	comp=Z,12nm,1.0s								
G23K	**Bananza Creek**	**57.56**	**27**	P		**P**		**10 00 55.5**	**+0.8**
D24K	**Happy Valley**	**57.91**	**25**	P		**P**		**10 00 58.2**	**+1.1**
RND	**Reindeer**	**58.29**	**31**	P		**P**		**10 01 00.1**	**+0.1**
RND	**Reindeer**	**58.29**	**31**	P		**P**		**10 01 00.1**	**+0.1**
RND				pmax		pmax			
	comp=Z,44nm,1.6s								
MDM	**Murphy Dome**	**58.42**	**29**	P		**P**		**10 01 01.3**	**+0.6**
MDM				IAmb		IAmb		10 01 04.1	
	comp=Z,16nm,0.9s								
H24K	**Noodor Dome**	**58.48**	**28**	P		**P**		**10 00 59.5**	**-1.7**
POKR	**Poker Plat Res**	**58.74**	**29**	P		**P**		**10 01 04.4**	**+1.5**
D25K	**Kavik River**	**58.77**	**24**	P		**P**		**10 01 03.1**	**-0.1**
D25K				IAmb		IAmb		10 01 06.4	
	comp=Z,15nm,1.5s								
IL31		**59.01**	**30**	P		**P**		**10 01 05.1**	**+0.4**
IL31				IAmb		IAmb		10 01 13.1	
	comp=Z,27nm,1.9s								
ILAR	**Eielson Array**	**59.01**	**30**	P		**P**		**10 01 04.9**	**+0.1**
ILAR	**Eielson Array**	**59.01**	**30**	P		**P**		**10 01 04.5**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=268,slow=4.6,SNR=22								
	comp=Z,1.8nm,0.7s								
HDA	**Harding Lake**	**59.02**	**30**	P		**P**		**10 01 04.8**	**-0.2**
HDA				IAmb		IAmb		10 01 07.4	
	comp=Z,11nm,0.9s								
E25K	**Arctic Village**	**59.17**	**26**	P		**P**		**10 01 07.2**	**+1.3**
E25K				IAmb		IAmb		10 01 17.0	
	comp=Z,9.5nm,1.3s								
FYU	**Fort Yukon**	**59.48**	**27**	P		**P**		**10 01 08.8**	**+0.9**
PRP	**Porcupine Dome**	**59.49**	**29**	P		**P**		**10 01 08.1**	**-0.2**
PRP				IAmb		IAmb		10 01 12.0	
	comp=Z,8.3nm,1.0s								
BMAR	**Burnt Mountain**	**59.62**	**26**	P		**P**		**10 01 10.7**	**+1.6**
GEYT	**Alibeck**	**59.98**	**299**	LR		LR		10 31 00.7	
	comp=Z,129nm,18.8s,baz=109,slow=40								
SCRK	**Sand Creek**	**60.37**	**30**	P		**P**		**10 01 14.6**	**+0.3**
J26L	**Joseph Creek**	**60.46**	**30**	P		**P**		**10 01 15.1**	**+0.1**
KIRV	**Kirov**	**60.60**	**323**⇓	*e*P		**P**		**10 01 17.7**	**+1.9**
KIRV	**Kirov**	**60.60**	**323**	LR		LR		10 29 29.0	
	comp=Z,117nm,18.2s,baz=87,slow=38								
E27K	**Coleen River**	**60.64**	**25**	P		**P**		**10 01 16.0**	**0.0**
E27K				IAmb		IAmb		10 01 19.3	
	comp=Z,25nm,1.7s								
MENT	**Mentasta**	**60.66**	**31**	P		**P**		**10 01 15.9**	**-0.3**
D27M	**Malcolm River**	**60.70**	**24**	P		**P**		**10 01 17.7**	**+1.3**
D27M				IAmb		IAmb		10 01 21.2	
	comp=Z,13nm,1.4s								
L26K	**Log Cabin Wild**	**60.82**	**31**	P		**P**		**10 01 16.0**	**-1.3**
G27K	**Doyon Strip**	**60.85**	**27**	P		**P**		**10 01 20.6**	**+3.1**
G27

C36M	**Paulatuk**	**66.40**	**22**	P	**P**	**10 01 54.4**	**+0.4**
C36M				IAmb	IAmb	10 01 55.3	
	comp=Z,11nm,1.1s						
ARCES	**ARCESS Array B**	**67.10**	**339**	LR	LR	10 35 55.7	
	comp=Z,122nm,19.2s,baz=62,slow=40						
OBN	**Obninsk**	**68.36**	**322**	*i* P	**P**	**10 02 08.8**	**+2.2**
OBN				*i*		10 02 31.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,174nm,15.0s						
KBZ	**Khabaz**	**68.91**	**309**	P	**P**	**10 02 11.6**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=61,slow=5.2,SNR=4.8						
KBZ				LR	LR	10 37 14.2	
	comp=Z,92nm,18.2s,baz=78,slow=40						
	comp=Z,2.7nm,0.8s						
KIV	**Kislovodsk**	**68.96**	**309**	*e*P	**P**	**10 02 11.6**	**+0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,95nm,17.0s						
GNI	**Garni**	**69.02**	**305**	LR	LR	10 37 19.9	
	comp=Z,74nm,18.9s,baz=74,slow=40						
RES	**Resolute Bay**	**70.59**	**12**	P	**P**	**10 02 20.4**	**+0.4**
RES				IAmb	IAmb	10 02 30.0	
	comp=Z,17nm,1.4s						
RES	**Resolute Bay**	**70.59**	**12**	P	**P**	**10 02 20.5**	**+0.4**
RES				pmax	pmax		
	comp=Z,17nm,1.4s						
FINES	**FINESS Array B**	**70.63**	**331**	*ce*P	**P**	**10 02 20.3**	**-0.2**
FINES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FINES	**FINESS Array B**	**70.63**	**331**	P	**P**	**10 02 20.5**	**-0.1**
	comp=Z,9.8nm,0.7s,baz=73,slow=6.6,SNR=13						
FINES				LR	LR	10 35 10.2	
	comp=Z,163nm,20.7s,baz=62,slow=38						
	comp=Z,9.8nm,0.7s						
VSU	**Vasula**	**71.78**	**328**	*e*P	**P**	**10 02 27.8**	**+0.3**
VSU				pmax	pmax		
	comp=Z,22nm,1.4s						
MNK	**Minsk**	**73.14**	**324**	*i* P	**P**	**10 02 37.2**	**+1.4**
MNK				*i*		10 02 52.7	
MNK				*i*		10 05 21.2	
MNK				*i* PPP	PPP	10 07 06.4	
MNK				*i* S	**SKiKP**	**10 12 05.6**	**-0.6**
MNK				*i*		10 12 43.6	
MNK				*i* SS	**SS**	**10 16 49.9**	**+7.4**
MNK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,24nm,0.8s						
MNK				pmax	pmax		
	comp=E,5.0nm,0.8s						
MNK				MLR	MLR		
	comp=N,228nm,20.0s						
MNK				MLR	MLR		
	comp=E,68nm,21.0s						
MNK				MLR	MLR		
	comp=Z,122nm,18.0s						
YKA	**Yellowknife Ar**	**73.14**	**26**	P	**P**	**10 02 35.7**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=301,slow=5.6,SNR=22						
	comp=Z,1.5nm,0.8s						
AKASG	**Malin Array Be**	**74.28**	**320**	P	**P**	**10 02 42.2**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=54,slow=5.9,SNR=9.5						
AKASG				LR	LR	10 38 28.1	
	comp=Z,155nm,18.7s,baz=49,slow=38						
	comp=Z,1.2nm,0.5s						
AKBB	**Malin Array Si**	**74.28**	**320**	*e*P	**P**	**10 02 41.4**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,16nm,2.4s						
HILA	**High Level**	**74.35**	**31**	P	**P**	**10 02 42.9**	**+0.1**
HFS	**Hagfors**	**76.41**	**333**	P	**P**	**10 02 54.4**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=69,slow=4.8,SNR=3.8						
HFS				LR	LR	10 39 03.7	
	comp=Z,108nm,18.0s,baz=48,slow=38						
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**76.77**	**335**	P	**P**	**10 02 56.0**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**76.77**	**335**	P	**P**	**10 02 56.0**	**-0.7**
	comp=Z,6.1nm,1.1s,baz=50,slow=5.6,SNR=5.3						
NOA				LR	LR	10 38 33.1	
	comp=Z,66nm,18.4s,baz=50,slow=37						
	comp=Z,6.1nm,1.1s						
BRTR	**Keskin Array B**	**76.88**	**308**	P	**P**	**10 02 57.4**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=95,slow=6.2,SNR=5.6						
BRTR				LR	LR	10 40 04.7	
	comp=Z,56nm,20.2s,baz=58,slow=38						
	comp=Z,1.8nm,0.9s						
BURAR	**Bucovina Array**	**78.13**	**319**	P	**P**	**10 03 04.1**	**-0.5**
KWP	**Kalwaria Pacla**	**78.42**	**321**	P	**P**	**10 03 06.8**	**+0.8**
KWP	**Kalwaria Pacla**	**78.42**	**321**	P	**P**	**10 03 06.8**	**+0.8**
KWP				pmax	pmax		
	comp=Z,29nm,1.5s						
MLR	**Muntele Rosu**	**78.84**	**316**	LR	LR	10 41 27.8	
	comp=Z,320nm,19.3s,baz=54,slow=38						
EIL	**Elat**	**80.88**	**299**	LR	LR	10 46 13.6	
	comp=Z,25nm,20.1s,baz=66,slow=41						
MORC	**Moravsky Berou**	**81.06**	**323**	*e*P	**P**	**10 03 20.2**	**-0.2**
VYHS	**Vyhne**	**81.15**	**322**	*e*P	**P**	**10 03 22.0**	**+1.1**
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
VYHS	**Vyhne**	**81.15**	**322**	*e*P	**P**	**10 03 22.0**	**+1.1**
DPC	**Dobruska-Polom**	**81.33**	**324**	*e*P	**P**	**10 03 23.2**	**+1.4**
DPC	**Dobruska-Polom**	**81.33**	**324**	*e*P	**P**	**10 03 23.2**	**+1.4**
JAVC	**Velka Javorina**	**81.55**	**323**	*e*P	**P**	**10 03 23.6**	**+0.6**
VRAC	**Vranov**	**81.83**	**323**	*e*P	**P**	**10 03 24.5**	**0.0**
VRAC	**Vranov**	**81.83**	**323**	P	**P**	**10 03 25.3**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=72,slow=2.6,SNR=3.9						
VRAC				LR	LR	10 44 48.5	
	comp=Z,121nm,18.6s,baz=59,slow=39						
	comp=Z,2.8nm,0.6s						
SMOL	**Smolenice**	**81.89**	**322**	*e*P	**P**	**10 03 25.4**	**+0.6**
BMO	**Blue Mountains**	**81.99**	**42**	IAmb	IAmb	10 03 39.7	
	comp=Z,15nm,1.8s						
KRUC	**Moravsky**	**82.09**	**323**	*e*P	**P**	**10 03 26.4**	**+0.6**
CLL	**Collm**	**82.35**	**326**	IAmb	IAmb	10 03 28.2	
	comp=Z,10nm,0.9s						
CLL	**Collm**	**82.35**	**326**	*i* P	**P**	**10 03 27.3**	**+0.2**
CLL				*e**P	**sP**	**10 03 36.0**	**-0.9**
CLL				pmax	pmax		
	comp=Z,13nm,1.0s						
CLL	**Collm**	**82.35**	**326**	*i* P	**P**	**10 03 27.3**	**+0.2**
	comp=Z,13nm,1.0s						
CLL				*ex*	x	10 03 36.0	
HSKC	**Hora Svate Kat**	**82.60**	**326**	*e*P	**P**	**10 03 29.4**	**+0.9**
ZVC	**Zvikov**	**82.97**	**324**	*e*P	**P**	**10 03 31.0**	**+0.6**
RONA	**Rosalia, Austr**	**82.99**	**322**	*i* P	**P**	**10 03 29.1**	**-1.5**
	comp=Z,12nm,1.8s						
FCC	**Fort Churchill**	**83.05**	**22**	P	**P**	**10 03 30.5**	**-0.1**
FCC				IAmb	IAmb	10 03 31.6	
	comp=Z,12nm,1.2s						
FCC	**Fort Churchill**	**83.05**	**22**	P	**P**	**10 03 30.5**	**-0.1**
FCC				pmax	pmax		
	comp=Z,12nm,1.3s						
CONA	**Conrad Observa**	**83.07**	**323**	*i* PcP	**P**	**10 03 32.4**	**+1.3**
	comp=Z,9.7nm,1.1s						
FFC	**Flin Flon**	**83.18**	**28**	P	**P**	**10 03 30.8**	**-0.6**
FFC				IAmb	IAmb	10 03 41.8	
	comp=Z,23nm,2.0s						
FFC	**Flin Flon**	**83.18**	**28**	P	**P**	**10 03 30.8**	**-0.6**
FFC				pmax	pmax		
	comp=Z,23nm,2.0s						
CKRC	**Cesky Krumlov**	**83.31**	**324**	*e*P	**P**	**10 03 33.4**	**+1.2**
CKRC	**Cesky Krumlov**	**83.31**	**324**	*e*P	**P**	**10 03 33.4**	**+1.2**
KHC	**Kasperske Hory**	**83.48**	**324**	P	**P**	**10 03 33.4**	**+0.3**
KHC				IAmb	IAmb	10 03 34.6	
	comp=Z,7.6nm,1.2s						
KHC	**Kasperske Hory**	**83.48**	**324**	*e*P	**P**	**10 03 33.6**	**+0.5**
KHC				pmax	pmax		
	comp=Z,16nm,1.3s						
KHC	**Kasperske Hory**	**83.48**	**324**	*e*P	**P**	**10 03 34.1**	**+1.0**
KHC				*ex*	x	10 03 42.3	
GEC2	**GERESS Array S**	**83.60**	**324**	P	**P**	**10 03 34.1**	**+0.3**
GEC2				IAmb	IAmb	10 03 35.5	
	comp=Z,23nm,1.8s						
GERES	**GERESS Array B**	**83.60**	**324**	P	**P**	**10 03 33.8**	**0.0**
GERES	**GERESS Array B**	**83.60**	**324**	P	**P**	**10 03 33.8**	**0.0**
GERES	**GERESS Array B**	**83.60**	**324**	P	**P**	**10 03 34.0**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=46,slow=4.2,SNR=9.2						
GERES				LR	LR	10 45 26.5	
	comp=Z,179nm,19.8s,baz=56,slow=39						
	comp=Z,2.2nm,0.8s						
ARSA	**Arzberg**	**83.68**	**322**	*i* PcP	**P**	**10 03 36.2**	**+2.0**
	comp=Z,10nm,1.2s						
YERR	**Yerington**	**84.20**	**48**	P	**P**	**10 03 36.2**	**-0.9**
GRF	**Grafenberg Arr**	**84.27**	**326**	*e*P	**P**	**10 03 38.2**	**+1.1**
	comp=Z,17nm,1.1s,baz=48,slow=4.8						
GRFO	**Grafenberg**	**84.27**	**326**	P	**P**	**10 03 36.6**	**-0.5**
GRFO	**Grafenberg**	**84.27**	**326**	P	**P**	**10 03 36.6**	**-0.5**
GRFO				pmax	pmax		
	comp=Z,17nm,1.0s						
SOKA	**Soboth**	**84.30**	**322**	*i* PcP	**P**	**10 03 38.0**	**+0.6**
	comp=Z,21nm,1.2s						
BIOA	**Bad Ischl, Aus**	**84.38**	**323**	*i* PcP	**P**	**10 03 39.1**	**+1.4**
	comp=Z,13nm,1.4s						
HLID	**Hailey**	**84.43**	**42**	IAmb	IAmb	10 03 40.7	
	comp=Z,14nm,1.9s						
FRB	**Frobisher Bay**	**84.53**	**9**	LR	LR	10 44 02.3	
	comp=Z,82nm,19.5s,baz=340,slow=38						
OBKA	**Obir**	**84.66**	**322**	*i* PcP	**PcP**	**10 03 42.0**	**-0.8**
	comp=Z,18nm,1.3s						
RYN	**Ryan**	**84.86**	**48**	P	**P**	**10 03 39.9**	**-0.6**
KVN	**Kaiserville**	**84.89**	**47**	P	**P**	**10 03 40.7**	**+0.1**
KVN	**Kaiserville**	**84.89**	**47**	P	**P**	**10 03 40.7**	**+0.1**
KVN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBA	**Koelnbreinsper**	**84.93**	**323**	*e*P	**P**	**10 03 40.5**	**-0.2**
	comp=Z,12nm,1.4s						
LESA	**Schwarzleotal**	**85.05**	**324**	*e*PcP	**P**	**10 03 42.1**	**+1.0**
	comp=Z,5.7nm,1.1s						
NVAR	**Mina Array Bea**	**85.12**	**48**	P	**P**	**10 03 42.3**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=292,slow=5.2,SNR=12						
	comp=Z,1.3nm,0.7s						
IDI	**Anoyia**	**85.12**	**308**	LR	LR	10 47 13.1	
	comp=Z,62nm,19.4s,baz=62,slow=40						
ABTA	**Abfaltersbach**	**85.58**	**323**	*e*PcP	**P**	**10 03 45.1**	**+1.3**
	comp=Z,4.1nm,0.9s						
WTTA	**Wattenberg**	**85.69**	**324**	*i* PcP	**P**	**10 03 44.8**	**+0.4**
	comp=Z,7.0nm,1.1s						
MOTA	**Moosalm**	**85.90**	**324**	*e*P	P	10 03 40.6	-4.9
	comp=Z,2.6nm,0.7s						
SQTA	**Sankt Quirin**	**85.93**	**324**	*e*PcP	**P**	**10 03 46.0**	**+0.4**
	comp=Z,2.3nm,1.0s						
RETA	**Reutte**	**85.98**	**324**	*i* PcP	**PcP**	**10 03 47.7**	**-0.8**
	comp=Z,8.3nm,1.4s						
EKA	**Eskdalemuir Ar**	**86.13**	**336**	P	**P**	**10 03 48.2**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=31,slow=5.0,SNR=3.7						
	comp=Z,0.4nm,0.4s						
FETA	**Feichten**	**86.31**	**324**	*e*PcP	**PcP**	**10 03 50.8**	**+0.8**
	comp=Z,8.0nm,1.4s						
RLMT	**Red Lodge**	**86.31**	**38**	IAmb	IAmb	10 03 59.4	
	comp=Z,17nm,1.9s						
DAVA	**Damuels**	**86.55**	**325**	*e*P	**P**	**10 03 46.0**	**-2.7**
	comp=Z,10nm,1.5s						
DAVOX	**Davos/Dischmat**	**86.90**	**324**	LR	LR	10 48 09.7	
	comp=Z,180nm,18.7s,baz=74,slow=39						
DUG	**Dugway, Tooele**	**87.45**	**44**	P	**P**	**10 03 51.7**	**-1.5**
DUG				IAmb	IAmb	10 03 56.3	
	comp=Z,9.9nm,1.4s						
DUG	**Dugway, Tooele**	**87.45**	**44**	P	**P**	**10 03 51.7**	**-1.5**
DUG				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GWY	**Greenwater Val**	**87.49**	**49**	IAmb	IAmb	10 04 02.8	
	comp=Z,7.5nm,1.4s						
PDAR	**Pinedale Array**	**87.69**	**40**	P	**P**	**10 03 52.8**	**-1.7**
PDAR	**Pinedale Array**	**87.69**	**40**	P	**P**	**10 03 54.3**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=180,slow=0.4,SNR=6.5						
	comp=Z,0.7nm,0.8s						
ULM	**Lac du Bonnet**	**89.01**	**28**	P	**P**	**10 04 02.0**	**+1.8**
ULM	**Lac du Bonnet**	**89.01**	**28**	P	**P**	**10 04 01.9**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=311,slow=15,SNR=3.5						
	comp=Z,2.4nm,0.8s						
PPT2	**Papeete2**	**89.33**	**111**	*e*LR	LR	10 32 18.2	
	comp=Z,52nm,23.5s						
PPT2				*e*LR	LR	10 32 34.0	
	comp=Z,95nm,29.8s						
SRU	**San Rafael Swe**	**89.50**	**44**	IAmb	IAmb	10 04 12.6	
	comp=Z,20nm,1.9s						
VAE	**Valguarnera**	**90.55**	**315**	LR	LR	10 47 05.8	
	comp=Z,106nm,18.9s,baz=154,slow=37						
TAOE	**Nuku Hiva Isla**	**92.67**	**99**	*e*LR	LR	10 33 48.7	
	comp=Z,91nm,28.6s						
SCHQ	**Schefferville**	**93.35**	**11**	LR	LR	10 49 44.0	
	comp=Z,71nm,19.1s,baz=44,slow=38						
ANMO	**Albuquerque**	**94.69**	**45**	*i* P	**P**	**10 04 28.4**	**+1.3**
ANMO				pmax	pmax		
	comp=Z,13nm,3.8s						
ESDC	**Sonseca Array**	**98.92**	**327**	LR	LR	10 57 00.8	
	comp=Z,92nm,19.5s,baz=6.0,slow=40						

TEH **12** *09:52:57.7,40.17N×50.37E,h10km,ML3.5*
AZER **12** *09:52:58.1,40.57N×50.17E,h59km,ml2.7*

ISC 12 09:52:56.8±1.7,40.55N±0.05×50.41E±0.07,h75km±8km, n29,σ1§44/48,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALA	**Gala**	**0.24**	**235**	P	**Pn**	**09 53 07.8**	**-0.4**
GALA				S	**Sn**	**09 53 17.6**	**+1.1**
NDR	**Nardaran**	**0.33**	**276**	P	**Pn**	**09 53 19.8**	**-0.9**
NDR				S	**Sn**	**09 53 16.2**	**-1.2**
GOBA	**Gobu**	**0.54**	**254**	P	**Pn**	**09 53 11.2**	**+0.8**
GOBA				S	**Sn**	**09 53 21.1**	**+0.6**
GBS	**Qobustan**	**1.12**	**270**	P	**Pn**	**09 53 18.4**	**+1.3**
GBS				S	**Sn**	**09 53 33.1**	**+0.8**
ATGJ	**Altiaghaj**	**1.16**	**286**	P	**Pn**	**09 53 17.3**	**-0.4**
ATGJ				S	**Sn**	**09 53 32.8**	**-0.5**
ALIB	**Äli-Bayra**	**1.23**	**242**	Pg	**Pn**	**09 53 20.6**	**+2.2**
ALIB				Sg	**Sn**	**09 53 34.8**	**+0.3**
SIZA	**Siyzn**	**1.26**	**295**	P	**Pn**	**09 53 19.7**	**+0.7**
SIZA				S	**Sn**	**09 53 36.9**	**+1.3**
PQL	**Pirkuli**	**1.41**	**280**	P	**Pn**	**09 53 20.2**	**-0.6**
PQL				S	**Sn**	**09 53 38.1**	**-0.8**
QUBA	**Quba, Azerbaij**	**1.66**	**300**	Pn	**Pn**	**09 53 25.7**	**+1.7**
QUBA				Sn	**Sn**	**09 53 45.1**	**+0.4**
XNQ	**Khinaliq**	**1.83**	**291**	Pn	**Pn**	**09 53 27.2**	**+0.7**
XNQ				Sn	**Sn**	**09 53 48.0**	**-1.1**
QSAR	**Qusar**	**1.89**	**301**	Pn	**Pn**	**09 53 27.8**	**+0.7**
QSAR				Sn	**Sn**	**09 53 49.0**	**-1.2**
QBL	**Gabala**	**2.00**	**282**	Pn	**Pn**	**09 53 28.8**	**+0.3**
QBL				Sn	**Sn**	**09 53 51.5**	**-1.3**
GLBA	**Clilabad**	**2.03**	**231**	Pn	**Pn**	**09 53 31.2**	**+2.3**
GLBA				Sn	**Sn**	**09 53 52.2**	**-1.2**
LKRN	**Lenkeran, Azer**	**2.23**	**215**	Pn	**Pn**	**09 53 32.9**	**+1.3**
LKRN				Sn	**Sn**	**09 53 56.6**	**-1.6**
YRD	**Yardimli**	**2.34**	**226**	Sn	**Sn**	**09 53 58.3**	**-2.8**
ASTR	**Astara**	**2.35**	**213**	Pn	**Pn**	**09 53 33.8**	**+0.6**
ASTR				Sn	**Sn**	**09 53 59.4**	**-1.7**
SEKA	**Sheki**	**2.52**	**286**	Pn	**Pn**	**09 53 36.5**	**+0.8**
SEKA				Sn	**Sn**	**09 54 04.0**	**-1.4**
AGDM	**Agdam**	**2.56**	**261**	Pg	**Pn**	**09 53 39.4**	**+3.2**
AGDM				Sn	**Sn**	**09 54 06.0**	**-0.3**
GRMI	**Germi**	**2.61**	**229**	Pn	**Pn**	**09 53 38.5**	**+1.7**
QRD	**Qoradiz**	**2.61**	**246**	Sn	**Sn**	**09 54 04.9**	**-2.6**
GANJ	**Ganja**	**3.12**	**273**	Sn	**Sn**	**09 54 16.8**	**-3.0**
VSHL	**Vashlovani**	**3.12**	**284**	P	**Pn**	**09 53 44.9**	**+1.2**
VSHL				S	**Sn**	**09 54 19.4**	**-0.4**
ORD	**Ordubad**	**3.77**	**246**	Sn	**Sn**	**09 54 34.0**	**-1.8**
QZX	**Qazax, Azerbai**	**3.86**	**279**	Sn	**Sn**	**09 54 35.9**	**-2.0**
QSDN	**Sirdan**	**4.15**	**194**	Pn	**Pn**	**09 53 58.2**	**+0.2**
MZPU	**Pul - Mazandar**	**4.20**	**167**	Pn	**Pn**	**09 53 59.4**	**+0.8**
CHRG	**Chargali**	**4.49**	**295**	P	**Pn**	**09 54 03.1**	**+0.6**
CHRG				S	**Sn**	**09 54 52.5**	**-1.0**
IPRN	**Peran**	**4.56**	**160**	Pn	**Pn**	**09 54 04.0**	**+0.6**
IGLO	**Ghaloghah**	**4.85**	**145**	Pn	**Pn**	**09 54 09.0**	**+1.6**

EST **12** *09:55:19.7±0.1,59.22N×27.80E,h0km,ML2.0(HEL), Explosion*
HEL **12** *09:55:19.0±0.2,59.20N×27.83E,h0km,ML2.1,Suspected explosion*
LVSN **12** *09:55:22.0±5.0,59.20N×27.69E,h0km±59km,ML2.3*
UPP **12** *09:55:23.5±2.6,59.31N×27.45E,h0km,ML1.8*
IDC **12** *09:55:24.0±2.0,59.48N×27.44E,h0km,mbtmp3.0/4, ML2.1/4,Error ellipse: s-maj=18.5km s-min=12.3km az=112.0*

ISC 12 09:55:18.4±0.9,59.21N±0.02×27.80E±0.04,h0km,n46, σ1§14/68,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE03	**Tooma soojaam,**	**0.86**	**247**	*e*P	**Pg**	**09 55 34.2**	**-0.7**
EE03				*e*S	**Sb**	**09 55 46.5**	**-1.7**
VSU	**Vasula**	**0.93**	**217**	*e*P	**Pg**	**09 55 35.8**	**-0.5**
VSU	**Vasula**	**0.93**	**217**	*e*P	**Pg**	**09 55 36.2**	**0.0**
VSU				*e*S	**Sg**	**09 55 48.5**	**+0.2**
VSU	**Vasula**	**0.93**	**217**	*e*P	**Pg**	**09 55 36.2**	**0.0**
VSU				*e*S	**Sg**	**09 55 48.6**	**+0.2**
VSU				AML	AML	09 55 54.9	
	comp=E,68nm,0.4s						
VSU				AML	AML	09 55 56.5	
	comp=N,81nm,0.4s						
VSU				AML	AML	09 56 11.3	
	comp=Z,34nm,0.7s						
ARBE	**Arbavere**	**0.95**	**284**	*e*P	**Pg**	**09 55 36.6**	**-0.1**
ARBE				*e*S	**Sg**	**09 55 48.5**	**-0.6**
ARBE	**Arbavere**	**0.95**	**284**	*e*P	**Pg**	**09 55 37.2**	**+0.4**
ARBE				*e*S	**Sg**	**09 55 48.5**	**-0.6**
ARBE				AML	AML	09 56 08.8	
	comp=N,161nm,0.5s						
ARBE				AML	AML	09 56 13.8	
	comp=E,169nm,0.8s						
ARBE				AML	AML	09 56 17.2	
	comp=Z,122nm,0.8s						
VJF	**Virojoki**	**1.34**	**355**	*e*P	**Pg**	**09 55 43.2**	**-0.9**
VJF				*e*SB	**Sg**	**09 56 01.4**	**+0.1**
VJF				MSG		09 56 05.9	
	comp=Z,9.1nm,0.1s						
EE07	**Piusa Caves, O**	**1.39**	**187**	*e*P	**Pg**	**09 55 45.0**	**0.0**
EE07				*e*S	**Sg**	**09 56 02.6**	**-0.3**
EE08	**Sarghaua, Vand**	**1.44**	**248**	*e*P	**Pn**	**09 55 44.7**	**-0.9**
EE08				*e*PG	**Pb**	**09 55 45.9**	**-0.1**
EE08				*e*SB	**Sb**	**09 56 04.3**	**-0.5**
PVF	**Pernaja**	**1.66**	**325**	*e*P	**Pn**	**09 55 48.9**	**+0.2**
PVF				MSG		09 56 09.3	
	comp=Z,8.6nm,0.2s						
PVF				*e*S	**Sn**	**09 56 10.2**	**-0.4**
HEL1	**Helsinki**	**1.77**	**304**	*e*PN	**Pb**	**09 55 51.3**	**-0.3**
HEL1				*e*SN	**Sg**	**09 56 14.9**	**-0.2**
MEF	**Metsahovi**	**2.00**	**302**	*e*P	**Pb**	**09 55 55.3**	**-0.3**
MEF	**Metsahovi**	**2.00**	**302**	*e*PG	**Pb**	**09 55 55.1**	**-0.5**
MEF				*e*SG	**Sb**	**09 56 20.8**	**-0.1**
MEF	**Metsahovi**	**2.00**	**302**	*e*P	**Pb**	**09 55 55.3**	**-0.3**
MEF				*e*S	**Sb**	**09 56 20.4**	**-0.5**
MEF				AML	AML	09 56 22.5	
	comp=Z,20nm,0.4s						
MEF				AML	AML	09 56 22.6	
	comp=E,20nm,0.4s						
MEF				AML	AML	09 56 22.6	
	comp=N,30nm,0.4s						
NUR	**Nurmijrvi**	**2.05**	**311**	*e*PB	**Pb**	**09 55 55.9**	**-0.7**
NUR				MSG		09 56 20.7	
	comp=Z,8.9nm,0.2s						
NUR				*e*SG	**Sb**	**09 56 23.0**	**+0.5**
MTSE	**Matsula**	**2.12**	**258**	*e*P	**Pn**	**09 55 55.0**	**-0.1**
MTSE	**Matsula**	**2.12**	**258**	*e*PB	**Pb**	**09 55 57.0**	**-0.7**
MTSE				*e*SG	**Sg**	**09 56 24.9**	**-1.6**
MTSE	**Matsula**	**2.12**	**258**	*e*P	**Pb**	**09 55 57.3**	**-0.3**
MTSE				*e*S	**Sb**	**09 56 24.0**	**-0.5**
EE01	**Perakula, Nova**	**2.15**	**272**	*e*PG	**Pb**	**09 55 57.9**	**-0.3**
EE01				*e*SB	**Sb**	**09 56 25.1**	**-0.2**
RUF	**Ruokolahti**	**2.29**	**14**	*e*P	**Pn**	**09 55 57.6**	**+0.1**
RUF				*e*SG	**Sb**	**09 56 29.8**	**+0.4**
RUF				MSG		09 56 31.0	
	comp=Z,7.4nm,0.1s						
FIA0	**FINESS Array S**	**2.40**	**340**	*e*PB	**Pb**	**09 56 01.3**	**-1.1**
FIA0				*e*SG	**Sb**	**09 56 33.8**	**+1.3**
FIA0				MSG		09 56 34.4	
	comp=Z,5.1nm,0.1s						
FINES	**FINESS Array B**	**2.40**	**340**	Pn	**Pn**	**09 55 59.5**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=161,slow=14,SNR=32						
FINES				Lg	Lg	09 56 30.2	
	comp=Z,2.9nm,0.3s,baz=159,slow=24,SNR=17						
	comp=Z,3.5nm,0.5s						
FIA1	**FINESS Array S**	**2.40**	**340**	*e*PB	**Pb**	**09 56 01.3**	**-1.1**
FIA1				*e*SG	**Sb**	**09 56 33.6**	**+1.1**
FIA1				MSG		09 56 34.4	
	comp=Z,7.5nm,0.1s						
KAF	**Kangasniemi**	**3.00**	**347**	*e*PB	**Pb**	**09 56 11.2**	**-1.5**
KAF				MSG		09 56 47.9	
	comp=Z,4.7nm,0.2s						
KAF				*e*SG	**Sb**	**09 56 51.6**	**+1.7**
SLIT	**Slitere, Latvi**	**3.30**	**244**	*e*P	**Pn**	**09 56 11.3**	**+0.1**
SLIT	**Slitere, Latvi**	**3.30**	**244**	*e*SG	**Sb**	**09 57 00.1**	**+1.6**
SLIT	**Slitere, Latvi**	**3.30**	**244**	*e*P	**Pb**	**09 56 16.0**	**-1.8**
SLIT				AML	AML	09 57 09.3	
	comp=N,109nm,0.4s						
SLIT				AML	AML	09 57 10.9	
	comp=E,100nm,0.6s						
SLIT				AML	AML	09 57 29.3	
	comp=Z,64nm,0.7s						
RAF	**Rauma**	**3.52**	**304**	*e*P	**Pn**	**09 56 16.2**	**+1.9**
RAF	**Rauma**	**3.52**	**304**	*e*P	**Pn**	**09 56 15.9**	**+1.6**
RAF	**Rauma**	**3.52**	**304**	*e*P	**Pn**	**09 56 15.9**	**+1.6**
RAF				AML	AML	09 56 42.5	
	comp=E,17nm,0.6s						
RAF				AML	AML	09 56 45.3	
	comp=N,9.2nm,0.6s						
RAF				AML	AML	09 56 45.5	
	comp=Z,13nm,0.5s						
ISAL	**Salakas**	**3.76**	**195**	*e*P	**Pn**	**09 56 20.2**	**+2.6**
AAL	**Aland**	**4.07**	**287

comp=Z,57nm,19.5s,baz=39,slow=36
0.4nm,0.9s
RPZ Rata Peaks 34.06 167 LR LR 10 15 41.2
comp=Z,40nm,18.6s,baz=287,slow=33
MJAR Matsushiro Arr 51.65 336 P **P** **10 06 08.3 +0.1**
1.1nm,0.7s,baz=160,slow=8.1,SNR=2.4
1.1nm,0.7s
USA0B Ussuriysk Arra 60.65 336 P **P** **10 07 10.2 -1.9**
USRK Ussuriysk Ar. 60.65 336 P **P** **10 07 09.9 -2.2**
SONM Songino Array 75.70 325 P **P** **10 08 47.6 +1.0**
1.2nm,0.7s,baz=132,slow=6.2,SNR=7.6
1.2nm,0.7s
M16K Timber Creek 78.08 19 P **P** **10 09 00.6 +1.1**
J14K Nanvaranak Lak 78.11 16 P **P** **10 09 01.1 +1.6**
J14K IAmb IAmb 10 09 10.1
comp=Z,25nm,1.4s
L16K Owhat River 78.45 18 P **P** **10 09 01.6 +0.1**
SVW2 Sparrevohn 79.23 20 P **P** **10 09 07.1 +1.3**
SVW2 IAmb IAmb 10 09 07.8
comp=Z,8.1nm,0.8s
L18K Granite Mounta 79.70 19 P **P** **10 09 10.1 +1.8**
L18K IAmb IAmb 10 09 31.4
comp=Z,11nm,1.3s
L19K White Mountain 80.26 19 P **P** **10 09 12.6 +1.2**
L19K IAmb IAmb 10 09 24.4
comp=Z,14nm,1.4s
J18K Innoko River 80.62 18 P **P** **10 09 13.0 -0.2**
J18K IAmb IAmb 10 09 14.3
comp=Z,7.3nm,1.1s
SUA Susitna One 81.16 21 P **P** **10 09 15.6 -0.7**
CAST Castle Rocks 82.03 19 P **P** **10 09 21.0 +0.2**
CAST IAmb IAmb 10 09 21.7
comp=Z,4.2nm,0.7s
KTH Kantishna Hill 82.51 20 P **P** **10 09 23.2 -0.1**
KTH IAmb IAmb 10 09 23.6
comp=Z,5.2nm,1.0s
TRF Thorofare Moun 82.65 20 P **P** **10 09 23.6 -0.5**
TRF IAmb IAmb 10 09 48.9
comp=Z,7.7nm,1.2s
M24K Tolsona, Glenn 83.23 22 P **P** **10 09 28.7 +1.6**
IMAR Indian Mountai 83.33 17 P **P** **10 09 28.6 +1.2**
BWN Browne 83.40 20 P **P** **10 09 28.3 +0.4**
C18K Utukok River 83.46 13 P **P** **10 09 28.8 +0.7**
C18K IAmb IAmb 10 09 55.5
comp=Z,8.7nm,1.5s
E19K Redstone River 83.47 15 P **P** **10 09 29.1 +1.0**
D19K Kuna River 84.05 14 P **P** **10 09 32.1 +1.0**
C19K Lookout Ridge 84.18 13 P **P** **10 09 32.0 +0.3**
C19K IAmb IAmb 10 09 36.7
comp=Z,6.0nm,1.4s
LOGN Logan Glacier 84.50 25 P **P** **10 09 33.3 -0.4**
M26K Nabesna, AK 84.60 23 P **P** **10 09 33.6 -0.5**
M26K IAmb IAmb 10 09 40.9
comp=Z,6.1nm,1.3s
ILAR Eielson Array 84.65 20 P **P** **10 09 34.3 +0.1**
ILAR Eielson Array 84.65 20 P **P** **10 09 33.9 -0.3**
comp=Z,1.0nm,0.9s,baz=244,slow=4.3,SNR=10
comp=Z,1.0nm,0.9s
J25K Salcha River, 85.06 20 P **P** **10 09 36.3 0.0**
J25K IAmb IAmb 10 09 58.9
comp=Z,11nm,1.5s
SCRK Sand Creek 85.16 21 P **P** **10 09 37.9 +1.0**
B22K Teshekpuk Lake 86.54 14 P **P** **10 09 43.9 +0.5**
B22K IAmb IAmb 10 10 08.9
comp=Z,7.0nm,1.4s
M30M Minto, Yukon 87.13 24 P **P** **10 09 47.3 +0.8**
M30M IAmb IAmb 10 09 49.3
comp=Z,8.2nm,1.4s
I28M Miner Creek 87.43 21 P **P** **10 09 49.3 +1.3**
I30M Mount Dempster 88.59 22 P **P** **10 09 52.9 -0.6**
I30M IAmb IAmb 10 09 58.1
comp=Z,4.1nm,1.2s
NVAR Mina Array Bea 89.29 51 P **P** **10 09 56.9 -0.7**
comp=Z,0.4nm,0.7s,baz=226,slow=7.4,SNR=2.5
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 90.13 318 P **P** **10 10 00.8 -0.2**
comp=Z,0.4nm,0.8s,baz=96,slow=5.8,SNR=3.8
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 96.74 28 P **P** **10 10 30.6 -0.4**
comp=Z,0.2nm,0.7s,baz=263,slow=2.2,SNR=5.8
comp=Z,0.2nm,0.7s

*NEIC **12** 10:06:39.1±0.8, 39°.394N±0°.007×119°.75W±0°.02, h10km±4km, Error ellipse: s-maj=2.2km s-min=0.5km az=66.0*
REN 12 10:06:39.2±0.5, **39°.383N**±0°.010×**119°.75W**±0°.01, **h7**km±1km, **ML2.6**/17, **ML2.4**/42(NEIC), **Error ellipse: s-maj=1.6km s-min=1.4km az=217.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPK	**Martis Peak**	**0.23**	**248**		Pg	10 06 44.5	+0.6
MPK				Sg	Sg	10 06 48.3	+1.2
MPK				IAML		10 06 49.1	
	comp=N,1µm,0.4s						
PEAR	**Peavine Mounta**	**0.28**	**324**		Pg	10 06 45.2	+0.5
PEAR					Sg	10 06 49.6	+1.1
PNTR	**Pine Nut**	**0.32**	**158**		Pg	10 06 46.0	+0.5
PNTR				Sg	Sg	10 06 51.0	+1.3
PNTR				IAML		10 06 51.9	
	comp=N,516nm,0.4s						
PNTR				IAML		10 06 52.3	
	comp=E,449nm,0.6s						
PAHR	**Pah Rah Range**	**0.43**	**41**		Pg	10 06 47.9	+0.3
PAHR				Sg	Sg	10 06 54.0	+0.7
PAHR				IAML		10 06 54.3	
	comp=N,259nm,0.4s						
PAHR				IAML		10 06 56.0	
	comp=E,245nm,0.3s						
DONR	**Donner Summit**	**0.44**	**266**		Pg	10 06 48.2	+0.4
DONR					Sg	10 06 54.4	+0.7
RUBR	**Rubicon Trail**	**0.46**	**223**		Pg	10 06 48.7	+0.6
RUBR					Sb	10 06 55.4	-1.3
LOY	**Loyalton**	**0.47**	**306**		Pg	10 06 48.5	+0.3
EMB	**Emerald Bay**	**0.49**	**214**		Pg	10 06 49.2	+0.5
EMB				Sg	Sg	10 06 55.7	+0.5
EMB				IAML		10 06 56.8	
	comp=E,367nm,0.3s						
EMB				IAML		10 06 59.0	
	comp=N,177nm,0.4s						
YERR	**Yerington**	**0.56**	**135**		Pg	10 06 50.4	+0.3
YERR				Sg	Sg	10 06 58.2	+0.7
YERR				IAML		10 06 58.5	
	comp=N,380nm,0.4s						
BEKR	**Beckworth**	**0.67**	**316**		Pg	10 06 52.1	-0.1
BEKR					Sg	10 07 01.2	+0.2
BMRR	**Black Mountain**	**0.83**	**330**		Pg	10 06 55.1	-0.1
WAKR	**Walker**	**0.91**	**164**		Pg	10 06 57.0	+0.3
WAKR				Sg	Sb	10 07 09.3	-0.5
AFDM	**Forest Hills D**	**1.04**	**246**		Pg	10 06 58.9	-0.3
AFDM				IAML		10 07 15.8	
	comp=N,58nm,0.3s						
AFDM				IAML		10 07 18.4	
	comp=E,62nm,0.5s						
RYN	**Ryan**	**1.22**	**128**		Pg	10 07 02.5	-0.1
RYN				IAML		10 07 22.0	
	comp=N,140nm,0.3s						
RYN				IAML		10 07 22.0	
	comp=E,145nm,0.5s						
KVN	**Kaiserville**	**1.33**	**104**		Pn	10 07 04.0	-0.2
KVN				IAML		10 07 22.9	
	comp=E,96nm,0.5s						
KVN				IAML		10 07 24.4	
	comp=N,115nm,0.4s						
PLTX	**Planet X, Gerl**	**1.34**	**9**		Pn	10 07 04.0	-0.4
PLTX				IAML		10 07 30.9	
	comp=N,83nm,1.2s						
PLTX				IAML		10 07 32.9	
	comp=E,124nm,1.0s						
ORV	**Oroville**	**1.36**	**278**		Pn	10 07 04.3	-0.3
CMB	**Columbia Colle**	**1.44**	**200**		Pn	10 07 05.7	0.0
NV09	**Mina Array Sit**	**1.46**	**130**		Pb	10 07 06.6	-0.1
NVAR	**Mina Array Bea**	**1.48**	**130**		Pn	10 07 06.6	+0.2
LHV	**Little Huntoon**	**1.49**	**139**		Pb	10 07 07.5	+0.3
NV11	**Mina Array Sit**	**1.57**	**127**		Pn	10 07 07.6	0.0
LBCM	**Butte Creek Ri**	**1.90**	**320**		Pb	10 07 14.2	0.0
BENR	**Benton**	**1.91**	**151**		Pb	10 07 14.2	-0.2
Q09A	**Carvers**	**2.07**	**105**	Pn	Pn	10 07 14.6	+0.1
BMN	**Battle Mountai**	**2.21**	**61**	Pn	Pn	10 07 15.7	-0.8
TPH	**Tonopah**	**2.37**	**123**	Pn	Pn	10 07 19.5	+0.9
GDXM	**Geysers**	**2.44**	**257**	Pn	Pn	10 07 19.4	-0.1
MCCM	**Marconi Confer**	**2.74**	**244**	Pn	Pn	10 07 23.5	0.0
GMN	**Gold Mountain**	**2.86**	**136**	Pn	Pn	10 07 25.2	-0.2
SAO	**San Andreas Ge**	**2.94**	**208**	Pn	Pn	10 07 26.5	+0.2
KCPM	**Cahto Peak**	**2.98**	**277**	Pn	Pn	10 07 26.5	-0.4
YBH	**Yreka Blue Hor**	**3.25**	**317**	Pn	Pn	10 07 29.7	-1.0
R11B	**Troy Canyon, C**	**3.41**	**106**	Pn	Pn	10 07 31.8	-1.2
R11B				IAML		10 08 27.6	
	comp=N,7.2nm,0.7s						
R11B				IAML		10 08 32.6	
	comp=E,6.0nm,3.3s						
L04D	**Klamath Falls**	**3.43**	**326**	Pn	Pn	10 07 33.3	+0.1
K05A	**Summer Lake**	**3.45**	**346**	Pn	Pn	10 07 32.3	-1.2
WCT	**Wildcat Mounta**	**3.57**	**135**	Pn	Pn	10 07 35.4	+0.3
ELK	**Elko**	**3.72**	**67**	Pn	Pn	10 07 37.4	+0.1
ELK				IAML		10 09 36.3	
	comp=E,3.6nm,5.0s						
Q12A	**Willow Creek R**	**3.84**	**94**	Pn	Pn	10 07 38.2	-0.6

IDC 12 10:08:33.7±999.0, **64°.39N**×**44°.52E, h0**km, **Error ellipse: s-maj=390.1km s-min=209.5km az=139.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**15.74**	**147**	I	I	11 40 30.0	
	baz=338,slow=325,SNR=1.7						
I46RU	**ZALESOVO INFRA**	**22.72**	**98**	I	I	12 26 30.0	
	baz=316,slow=335,SNR=1.7						
I34MN	**SONGINO INFRAS**	**36.56**	**87**	I	I	13 53 54.2	
	baz=319,slow=320						

*NEIC **12** 10:13:02.9±2.3, 19°.19N±0°.04×64°.68W±0°.05, h35km±2km, ML3.0/18, Md3.7/5(RSPR), Error ellipse: s-maj=10.4km s-min=3.1km az=311.0*
*RSPR **12** 10:13:06.3, 18°.80N×64°.87W, h127km±7km, MD3.7/5*
ISC 12 10:13:04.5±2.2, **19°.0N**±0°.2×**64°.68W**±0°.04, **h35**km, **n25**, σ1**9**22/31, **6C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.50**	**243**	Pn	**Pn**	**10 13 29.2**	**+0.3**
SJG	**San Juan**	**1.65**	**238**	*e*P	**Pn**	**10 13 30.8**	**-0.2**
SJG	**San Juan**	**1.65**	**238**		**Pn**	**10 13 30.8**	**-0.2**
SJG				IAML		10 14 01.0	
	103nm,0.5s						
IGPR	**InterUniversit**	**1.70**	**233**	*e*P	**Pn**	**10 13 32.9**	**+1.2**
IGPR	**InterUniversit**	**1.70**	**233**	*e*S	**Sn**	**10 13 54.5**	**+2.2**
IGPR	**InterUniversit**	**1.70**	**233**		**Pn**	**10 13 32.9**	**+1.2**
IGPR					**Sn**	**10 13 54.5**	**+2.2**
SMRT	**St. Maarten**	**1.79**	**122**	Pn	**Pn**	**10 13 34.6**	**+1.6**
SMRT				IAML		10 14 00.1	
	comp=N,122nm,0.1s						
SMRT				IAML		10 14 02.6	
	comp=E,267nm,0.1s						
SABA	**Saba**	**1.94**	**135**	Pn	**Pn**	**10 13 34.6**	**-0.4**
SABA				IAML		10 14 23.5	
	comp=N,247nm,0.7s						
CELP	**Cerrillos**	**2.02**	**243**	*e*P	**Pn**	**10 13 37.4**	**+1.2**
CELP	**Cerrillos**	**2.02**	**243**	*e*S	**Sn**	**10 14 01.0**	**+0.7**
CELP	**Cerrillos**	**2.02**	**243**		**Pn**	**10 13 34.7**	**-1.5**
CELP					**Sn**	**10 14 00.7**	**+0.4**
CELP				IAML		10 14 12.7	
	comp=N,60nm,0.4s						
AOPR	**Arecibo Observ**	**2.07**	**252**	*e*P	**Pn**	**10 13 37.8**	**+0.9**
AOPR	**Arecibo Observ**	**2.07**	**252**	*e*S	**Sn**	**10 14 03.0**	**+1.5**
AOPR	**Arecibo Observ**	**2.07**	**252**		**Pn**	**10 13 36.3**	**-0.5**
AOPR					**Sn**	**10 14 01.9**	**+0.5**
AOPR				IAML		10 14 07.8	
	comp=N,133nm,0.3s						
AOPR	**Arecibo Observ**	**2.07**	**252**	*e*P	**Pn**	**10 13 37.4**	**+0.5**
AOPR				*e*S	**Sn**	**10 13 59.1**	**-2.4**
MLPR	**Magueyes Islan**	**2.47**	**246**	*e*P	**Pn**	**10 13 42.9**	**+0.6**
MLPR	**Magueyes Islan**	**2.47**	**246**	*e*S	**Sn**	**10 14 10.6**	**-0.6**
MLPR	**Magueyes Islan**	**2.47**	**246**		**Pn**	**10 13 41.0**	**-1.3**
MLPR					**Sn**	**10 14 10.6**	**-0.6**
MLPR				IAML		10 14 14.6	
	comp=E,53nm,3.4s						
MLPR				IAML		10 14 21.6	
	comp=N,50nm,1.4s						
CRPR	**Cabo Rojo, PR**	**2.51**	**247**	*e*P	**Pn**	**10 13 43.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.51**	**247**	*e*S	**Sn**	**10 14 12.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.51**	**247**		**Pn**	**10 13 43.0**	**+0.2**
CRPR				IAML		10 14 21.6	
	comp=E,48nm,2.9s						
CRPR				IAML		10 14 22.5	
	comp=N,51nm,2.6s						
ANBD	**Bethesda, Anti**	**3.39**	**125**	*e*P	**Pn**	**10 13 55.2**	**+0.3**
ANBD				*e*S	**Sn**	**10 14 33.2**	**-0.7**
GDHS	**Morne Mazeau,**	**3.88**	**134**	Pn	**Pn**	**10 14 00.5**	**-1.3**
SDDR	**Presa de Saban**	**6.25**	**271**	Pn	**Pn**	**10 14 32.3**	**-2.1**
HATO	**Hato, Curacao**	**7.94**	**212**	Pn	**Pn**	**10 14 56.0**	**-1.5**

*ISN **12** 10:13:41.3±0.4, 33°.70N×45°.73E, h2km±2km, ML2.2*
*TEH **12** 10:13:43.2, 33°.72N×45°.72E, h8km±149km, ML2.5*
ISC 12 10:13:42.5±1.5, **33°.72N**±0°.04×**45°.73E**±0°.04, **h3**km±14km, **n10**, σ0**9**75/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.41**	**104**	Pg	**Pb**	**10 13 51.4**	**-1.0**
ILBA				Sg	**Sb**	**10 13 58.0**	**-1.1**
IBDR	**Badra**	**0.63**	**165**	*e*Pg	**Pg**	**10 13 55.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**10 14 03.0**	**+0.1**
IBDR				AML	AML	10 14 09.6	
	comp=E,110nm,0.5s						
IBDR				AML	AML	10 14 20.9	
	comp=N,120nm,0.6s						
IGHG	**Ghaleghazi**	**0.92**	**49**	Pg	**Pb**	**10 14 01.2**	**0.0**
IDHR	**Dehrash**	**1.11**	**29**	Pg	**Pn**	**10 14 04.8**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.22**	**63**	Pg	**Pn**	**10 14 07.9**	**+1.3**
BHD	**Baghdad**	**1.22**	**249**	*e*Pg	**Pg**	**10 14 06.0**	**+0.1**
BHD				*e*Sg	**Sn**	**10 14 24.0**	**+0.6**
IKOM	**Komasi**	**1.54**	**73**	Pg	**Pg**	**10 14 12.5**	**+0.4**
IKFM	**Kafar-mosalman**	**1.77**	**96**	Pg	**Pg**	**10 14 16.8**	**+0.2**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn	**Pn**	**10 14 18.0**	**+0.5**
RAFI				*e*Sn	**Sb**	**10 14 45.0**	**-0.4**
IKRK	**Kirkuk**	**2.03**	**326**	*e*Pn	**Pb**	**10 14 19.0**	**-1.0**
IKRK				*e*Sn	**Sb**	**10 14 46.0**	**+0.3**

*IDC **12** 10:24:54.4±1.7, 3°.26S×131°.49E, h0km, mb4.2/9, mbtmp4.1/9, MS3.5/4, Error ellipse: s-maj=90.8km s-min=28.7km az=73.0*
*DJA **12** 10:24:58.7±0.7, 3°.S±2°×13°.1E±°, h32km±10km, M4.3/10, mb4.5/4, mB5.1/2, MLv4.3/10, Mw(mB)4.4/2*
ISC 12 10:24:59.0±0.7, **3°.41S**±0°.05×**131°.25E**±0°.05, **h35**km, **n24**, σ2**8**49/24, **mb4.1**/7, **MS3.3**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.11**	**64**	P	**Pn**	**10 25 19.2**	**+1.1**
FAKI				S	**Sn**	**10 25 34.2**	**+2.1**
BNDI	**Bandanaira**	**1.74**	**231**	P	**Pn**	**10 25 28.7**	**+1.9**
BNDI				S	**Sn**	**10 25 49.4**	**+1.6**
KMPI	**Kaimana, Papua**	**2.46**	**96**	P	**Pn**	**10 25 36.6**	**-0.1**
SIJI	**Sorong**	**2.52**	**0**	P	**Pn**	**10 25 36.2**	**-1.4**
SIJI				S	**Sn**	**10 26 05.1**	**-2.0**
SWI	**Sorong**	**2.53**	**0**	P	**Pn**	**10 25 36.3**	**-1.3**
SWI				S	**Sn**	**10 26 06.8**	**-0.4**
KRAI	**Karang Ratu**	**2.85**	**272**	P	**Pn**	**10 25 41.2**	**-0.9**
NLAI	**Namlea**	**4.15**	**272**	P	**Pn**	**10 25 59.6**	**-0.3**
LBMI	**Labuha**	**4.65**	**306**	P	**Pn**	**10 26 06.5**	**-0.3**
SANI	**Sanana**	**5.43**	**284**	P	**Pn**	**10 26 16.9**	**-0.6**
	16nm,0.5s,777nm0.2nm						
KAPI	**Kappang**	**11.58**	**262**	LR	LR	10 33 48.9	
	comp=Z,142nm,19.2s,baz=74,slow=45						
WRA	**Warramunga Arr**	**16.71**	**170**	Pn	**Pn**	**10 28 46.4**	**-4.1**
WRA	0.3nm,0.3s,baz=348,slow=13,SNR=20			Sn	Sn	10 31 43.1	-12
	0.2nm,0.3s,baz=346,slow=24,SNR=4.1						
ASAR	**Alice Springs**	**20.30**	**173**	P	**P**	**10 29 33.3**	**+1.2**
	1.7nm,0.4s,baz=349,slow=9.9,SNR=6.1						
ASAR				S	**S**	**10 33 08.8**	**-9.1**
	0.6nm,0.6s,baz=355,slow=26,SNR=4.0						
	1.7nm,0.4s						
CTA	**Charters Tower**	**22.11**	**140**	LR	LR	10 39 51.8	
	comp=Z,96nm,20.3s,baz=269,slow=41						
STKA	**Stephens Creek**	**29.94**	**162**	LR	LR	10 45 05.8	
	comp=Z,80nm,20.6s,baz=17,slow=40						
CMAR	**Chiang Mai Arr**	**38.53**	**305**	P	**P**	**10 32 19.6**	**+1.1**
	0.6nm,0.3s,baz=113,slow=7.2,SNR=4.2						
	0.6nm,0.3s						
RPZ	**Rata Peaks**	**53.36**	**145**	LR	LR	10 57 51.9	
	comp=Z,112nm,19.0s,baz=29,slow=37						
SONM	**Songino Array**	**55.48**	**340**	P	**P**	**10 34 31.3**	**+0.7**
	1.2nm,1.1s,baz=152,slow=8.0,SNR=3.7						
	1.2nm,1.1s						
MKAR	**Makanchi Array**	**65.96**	**325**	P	**P**	**10 35 42.8**	**+1.0**
	1.4nm,0.5s,baz=115,slow=8.6,SNR=20						
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**68.96**	**333**	P	**P**	**10 36 00.9**	**+0.4**
	0.9nm,0.6s,baz=107,slow=5.1,SNR=5.2						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**70.15**	**327**	P	**P**	**10 36 08.6**	**+0.7**
	1.2nm,0.3s,baz=128,slow=5.8,SNR=11						
	1.2nm,0.3s						
BVAR	**Borovoye Array**	**75.73**	**327**	P	**P**	**10 36 41.9**	**+0.9**
	1.7nm,0.6s,baz=133,slow=6.5,SNR=8.1						
	1.7nm,0.8s						
GEYT	**Alibeck**	**78.88**	**310**	P	**P**	**10 37 00.6**	**+1.6**
	1.1nm,0.5s,baz=235,slow=6.7,SNR=1.4						
	1.1nm,0.5s						
ARCES	**ARCESS Array B**	**98.66**	**340**	P	Pdif	10 38 33.9	-0.4
	2.4nm,0.9s,baz=68,slow=7.2,SNR=1.3						
	2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**129.25**	**284**	PKP	**PKiKP**	**10 44 06.3**	**+0.9**
	0.1nm,0.4s,baz=117,slow=0.3,SNR=2.5						

*TEH **12** 10:34:17.9, 33°.68N×45°.73E, h8km±123km, ML2.5*
*ISN **12** 10:34:17.4±0.4, 33°.67N×45°.74E, h7km±2km, ML2.5*
ISC 12 10:34:18.1±1.0, **33°.66N**±0°.04×**45°.72E**±0°.05, **h13**km, **n9**, σ0**9**66/13, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.41**	**95**	Pg	**Pg**	**10 34 25.8**	**-0.4**
ILBA				Sg	**Sg**	**10 34 31.8**	**0.0**
IBDR	**Badra**	**0.58**	**162**	*e*Pg	**Pg**	**10 34 28.5**	**-0.8**
IBDR				*e*Sg	**Sg**	**10 34 37.0**	**0.0**
IGHG	**Ghaleghazi**	**0.97**	**46**	Pg	**Pg**	**10 34 36.4**	**-0.5**
IDHR	**Dehrash**	**1.18**	**28**	Pg	**Pb**	**10 34 39.8**	**-0.6**
BHD	**Baghdad**	**1.18**	**251**	*e*Pg	**Pn**	**10 34 40.5**	**+0.2**
BHD				*e*Sg	**Sg**	**10 34 57.0**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.26**	**60**	Pg	**Pg**	**10 34 42.4**	**0.0**
IKOM	**Komasi**	**1.58**	**70**	Pg	**Pg**	**10 34 47.9**	**-0.5**
IKFM	**Kafar-mosalman**	**1.78**	**94**	Pg	**Pb**	**10 34 51.3**	**+0.7**
RAFI	**Al-Rafai**	**1.96**	**170**	*e*Pn	**Pb**	**10 34 53.0**	**-0.6**
RAFI				*e*Sn	**Sb**	**10 35 19.0**	**+1.1**

*NEIC **12** 10:38:55.3±2.9, 22°.8S±0°.1×173°.9W±0°.2, h10km±2km, mb4.6/10, Error ellipse: s-maj=32.8km s-min=5.6km az=127.0*
*IDC **12** 10:39:03.0±1.1, 22°.54S×174°.65W, h0km, mb4.2/10, mbtmp4.2/12, ML3.6/2, MS3.5/3, Error ellipse: s-maj=42.7km s-min=21.9km az=147.0*
*NOU **12** 10:39:05.7, 22°.37S×174°.04W, h76km, mb4.5/10, Tonga Islands Region*
ISC 12 10:38:56.9±0.6, **22°.66S**±0°.08×**173°.90W**±0°.07, **h10**km, **n46**, σ3**9**14/35, **mb4.5**/16, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.15**	**47**	Pn	**Pn**	**10 40 12.0**	**-2.0**
NIUE				Sn	**Sn**	**10 41 11.9**	**-1.6**
NIUE	**Niue**	**5.15**	**47**	P	Pn	10 40 18.3	+4.3
RAO	**Raoul Island**	**7.50**	**208**	Sn	**Sn**	**10 42 14.0**	**+2.6**
	62nm,0.3s,baz=77,slow=22,SNR=2.0						
DGTI	**Dogotuki**	**8.72**	**315**	P	**Pn**	**10 41 05.9**	**+2.8**
AFI	**Afiamalu**	**8.93**	**13**	Pn	**Pn**	**10 41 05.7**	**-0.4**
AFI	**Afiamalu**	**8.93**	**13**	P	**Pn**	**10 41 08.5**	**+2.4**
RAR	**Rarotonga**	**13.19**	**86**	P	**P**	**10 42 12.9**	**-1.5**
RAR	**Rarotonga**	**13.19**	**86**	Pn	**P**	**10 42 12.7**	**-1.7**
	4.9nm,0.3s,baz=254,slow=8.8,SNR=13						
RAR				Sn	**Sn**	**10 44 33.7**	**+2.5**
	1.2nm,0.3s,baz=226,slow=17,SNR=2.0						
RAR				LR	LR	10 48 35.7	
	comp=Z,121nm,18.1s,baz=288,slow=41						
OUZ	**Omahuta**	**16.61**	**218**	P	**P**	**10 42 54.2**	**+1.9**
	14nm,2.9s						
URZ	**Urewera**	**17.36**	**204**	P	P	10 43 05.8	+5.2
URZ	**Urewera**	**17.36**	**204**	P	P	10 43 06.3	+5.7
	0.3nm,0.3s,baz=27,slow=6.8,SNR=2.1						
URZ				S	**Sn**	**10 46 06.9**	**-5.6**
	2.7nm,0.5s,baz=218,slow=20,SNR=1.8						
	7.0nm,1.0s						
ONTNC	**Ouen Toro**	**18.16**	**267**	P	**P**	**10 43 09.6**	**0.0**
	0.1nm,1.2s						
DZM	**Mont Dzumac**	**18.19**	**268**		**Pn**	**10 43 07.6**	**-2.1**
DZM	**Mont Dzumac**	**18.19**	**268**	P	**P**	**10 43 09.4**	**-0.6**
	0.1nm,0.3s,baz=90,slow=19,SNR=2.2						
	5.2nm,0.9s						
PPT	**Papeete**	**23.38**	**82**	LR	LR	10 53 18.7	
	comp=Z,90nm,18.1s,baz=304,slow=36						
EIDS	**Eidsvold**	**32.05**	**258**	P	**P**	**10 45 21.4**	**-2.5**
EIDS				IAmb	IAmb	10 45 26.2	
	comp=Z,3.9nm,0.6s						
AS31	**Alice Springs**	**47.77**	**258**	P	**P**	**10 47 33.3**	**-1.4**
AS31				IAmb	IAmb	10 47 37.4	
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**47.78**	**258**	P	**P**	**10 47 32.9**	**-1.8**
ASAR	**Alice Springs**	**47.78**	**258**	P	**P**	**10 47 36.5**	**+1.8**
	comp=Z,6.0nm,0.8s,baz=91,slow=8.3,SNR=54						
ASAR				PcP	**PcP**	**10 49 09.7**	**+6.0**
	comp=Z,1.1nm,0.7s,baz=108,slow=3.5,SNR=3.4						
	comp=Z,6.0nm,0.8s						
WR0	**Warramunga Arr**	**47.92**	**263**	P	**P**	**10 47 32.3**	**-3.5**
WR0				IAmb	IAmb	10 47 38.9	
	comp=Z,5.9nm,1.3s						
WB2	**Warramunga Arr**	**48.10**	**263**	P	**P**	**10 47 35.6**	**-1.5**
WB2				IAmb	IAmb	10 47 42.4	
	comp=Z,6.7nm,1.0s						
WRAB	**Tennant Creek**	**48.10**	**263**	P	**P**	**10 47 34.5**	**-2.7**
WRAB				IAmb	IAmb	10 47 42.3	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**48.11**	**263**	P	**P**	**10 47 36.4**	**-0.9**
WRA	**Warramunga Arr**	**48.11**	**263**	P	**P**	**10 47 38.0**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=93,slow=8.3,SNR=114						
WRA				PcP	**PcP**	**10 49 11.0**	**+6.1**
	comp=Z,1.5nm,0.8s,baz=94,slow=3.5,SNR=4.7						
	comp=Z,4.2nm,0.7s						
FORT	**Forrest**	**51.99**	**248**	P	**P**	**10 48 05.3**	**-1.2**
MJAR	**Matsushiro Arr**	**74.23**	**322**	P	P	10 50 39.9	+5.8
	comp=Z

comp=Z,1.5nm,0.7s,baz=116,slow=2.9,SNR=4.7
MMAI Mount Meron Ar 152.19 298 PKPbc **PKPab 10 58 59.7 -3.3**
comp=Z,0.9nm,0.4s,baz=92,slow=4.3,SNR=2.8
GERES GERESS Array B 153.18 349 PKPbc **PKPab 10 59 01.9 -4.6**
comp=Z,0.4nm,0.5s,baz=58,slow=3.9,SNR=3.5

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*IGIL **12** 10:44:17.5, 36°.92N × 13°.50W, h46km, ML2.0*
*MDD **12** 10:44:18.6±1.5, 37°.03N × 13°.39W, h39km±4km, Mb4.2/3, M_mb3.5/2, Error ellipse: s-maj=12.0km s-min=11.0km az=102.0*
*INMG **12** 10:44:19.7±1.3, 36°.93N × 13°.52W, h10km, ML2.3, Error ellipse: s-maj=8.9km s-min=6.9km az=114.0*

ISC 12 10:44:19.5±4.1, 37°.2N±0°.1 × 13°.0W±0°.2, h10km, n29, σ1§01/50, 3C, Azores-Capre St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.33**	**90**		*e*Pn		**Pn**	**10 45 11.5**	**-0.2**
PFVI					*e*Sn		**Sn**	**10 45 50.9**	**-0.4**
PFVI					A		A	10 45 51.2	
	9.5nm,0.6s								
PFVI	**Vila Bisbo**	**3.33**	**90**		Pn		**Pn**	**10 45 11.5**	**-0.2**
PMAFR	**Mafra**	**3.41**	**58**		*e*Pn		**Pn**	**10 45 13.7**	**+0.9**
PMAFR					*e*Sn		**Sn**	**10 45 55.1**	**+1.8**
PMAFR					A		A	10 45 59.7	
	179nm,0.2s								
PMAFR	**Mafra**	**3.41**	**58**		Pn		**Pn**	**10 45 13.3**	**+0.5**
PMAFR					Sn		**Sn**	**10 45 51.3**	**-2.0**
MORF	**Marmelete**	**3.47**	**87**		*e*Sn		**Sn**	**10 45 54.4**	**-0.3**
PNCL	**Nicolau / Gran**	**3.66**	**74**		*e*Pn		**Pn**	**10 45 16.4**	**+0.2**
PNCL					*e*Sn		**Sn**	**10 45 59.7**	**+0.4**
PNCL					A		A	10 46 01.6	
	2.3nm,0.1s								
PNCL	**Nicolau / Gran**	**3.66**	**74**		Pn		**Pn**	**10 45 16.1**	**0.0**
PNCL					Sn		**Sn**	**10 45 59.8**	**+0.4**
MESJ	**Messejana**	**3.85**	**79**		*e*Pn		**Pn**	**10 45 19.0**	**+0.2**
MESJ					*e*Sn		**Sn**	**10 46 04.1**	**-0.1**
MESJ					A		A	10 46 08.9	
	1.7nm,0.1s								
MESJ	**Messejana**	**3.85**	**79**		*e*P		**Pn**	**10 45 19.0**	**+0.2**
MESJ					*e*S		**Sn**	**10 46 04.0**	**-0.1**
MESJ					IAML			10 46 06.1	
	comp=N,2.9nm,0.3s								
PCVE	**Castro Verde**	**3.97**	**82**		*e*Pn		**Pn**	**10 45 20.6**	**+0.2**
PCVE					*e*Sn		**Sn**	**10 46 06.4**	**-0.7**
PCVE					A		A	10 46 15.7	
	comp=N,1.4nm,0.3s								
PCVE	**Castro Verde**	**3.97**	**82**		Pn		**Pn**	**10 45 20.6**	**+0.2**
PCVE					Sn		**Sn**	**10 46 06.0**	**-1.1**
PBDV	**Barranco-do-Ve**	**4.04**	**88**		*e*Pn		**Pn**	**10 45 21.6**	**+0.1**
PBDV					*e*Sn		**Sn**	**10 46 09.8**	**+0.9**
EVO	**Evora**	**4.16**	**70**		*e*Sn		**Sn**	**10 46 11.8**	**0.0**
EVO					A		A	10 46 16.0	
	comp=N,3.8nm,0.4s								
EVO	**Evora**	**4.16**	**70**		Sn		**Sn**	**10 46 11.1**	**-0.7**
EVO					Pn		**Pn**	**10 45 24.4**	**+1.3**
PMTG	**Montargil**	**4.20**	**62**		*e*Pn		**Pn**	**10 45 25.8**	**+2.2**
PMTG					*e*Sn		**Sn**	**10 46 13.0**	**+0.4**
PMTG					A		A	10 46 18.7	
	comp=N,1.5nm,0.2s								
PVAQ	**Vaqueiros**	**4.21**	**86**		*e*Pn		**Pn**	**10 45 24.4**	**+0.6**
PVAQ					*e*Sn		**Sn**	**10 46 12.2**	**-0.9**
EGRO	**El Granado**	**4.41**	**84**		Pn		**Pn**	**10 45 26.2**	**-0.3**
EGRO					Sn		**Sn**	**10 46 17.2**	**-0.6**
EGRO	**El Granado**	**4.41**	**84**		Pn		**Pn**	**10 45 26.8**	**+0.4**
EGRO				⇑*i*Vmb_V				10 45 27.8	
	comp=N,69nm,SNR=0.6								
EGRO					Sn		**Sn**	**10 46 17.7**	**-0.1**
PCAS	**Casmilo, Conde**	**4.53**	**50**		*e*Sn		**Sn**	**10 46 20.8**	**0.0**
PCAS					A		A	10 46 23.9	
	comp=N,1.6nm,0.1s								
PESTR	**Estremoz**	**4.58**	**67**		*e*Pn		**Pn**	**10 45 29.7**	**+0.8**
PESTR					*e*Sn		**Sn**	**10 46 22.1**	**-0.1**
PESTR	**Estremoz**	**4.58**	**67**		Sn		**Sn**	**10 46 22.0**	**-0.1**
PESTR					Pn		**Pn**	**10 45 29.4**	**+0.5**
PBAR	**Barrancos**	**4.82**	**77**		*e*Pn		**Pn**	**10 45 33.4**	**+1.2**
PBAR					*e*Sn		**Sn**	**10 46 28.0**	**-0.1**
PBAR					A		A	10 46 32.3	
	comp=N,1.1nm,0.1s								
PBAR	**Barrancos**	**4.82**	**77**		Pn		**Pn**	**10 45 33.2**	**+1.0**
PMRV	**Marv??o**	**4.94**	**62**		*e*Sn		**Sn**	**10 46 30.8**	**-0.1**
PMRV					A		A	10 46 34.4	
	comp=N,1.2nm,0.1s								
EBAD	**Badajoz**	**4.97**	**70**		Pn		**Pn**	**10 45 35.4**	**+1.1**
EBAD					Sn		**Sn**	**10 46 29.1**	**-2.7**
EBAD	**Badajoz**	**4.97**	**70**		Pn		**Pn**	**10 45 35.3**	**+1.1**
EBAD				⇑*i*Vmb_V				10 45 45.1	
	comp=N,154nm,SNR=1.5								
EBAD					Sn		**Sn**	**10 46 30.5**	**-1.3**
ESPR	**Espera**	**5.72**	**91**		Pn		**Pn**	**10 45 44.3**	**-0.2**
ESPR					Sn		**Sn**	**10 46 50.2**	**0.0**
ELOB	**Lobios**	**6.02**	**38**	⇑*i*Vmb_V				10 45 51.5	
ELOB	comp=N,138nm,SNR=0.7								
					Sn		**Sn**	**10 46 54.3**	**-3.3**
MVO	**Moncorvo**	**6.09**	**48**		*e*Sn		**Sn**	**10 46 58.2**	**-1.2**
MVO					A		A	10 47 01.0	
	comp=N,1.9nm,0.1s								

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*IDC **12** 10:50:33.8±0.5, 7°.54S × 67°.93E, h0km, mb4.3/25, mbtmp4.3/26, ML3.6/1, MS3.9/55, Error ellipse: s-maj=16.1km s-min=14.3km az=43.0*
*NEIC **12** 10:50:36.5±1.7, 7°.6S±0°.1 × 68°.07E±0°.09, h10km±1km, mb4.7/53, Error ellipse: s-maj=21.5km s-min=15.7km az=173.0*
*GCMT **12** 10:50:37.5±0.3, 7°.69S±0°.02 × 68°.03E±0°.01, h18km±1km, MW5.0/110, Moment Tensor Solution. s31,c37; s110,c145; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.49±.15; Mθθ=3.06±.12; Mϕϕ=3.55±.13; Mrθ=0.10±.30; Mθϕ=1.02±.14; Mϕr=0.25±.27; Best double couple: M=3.46800×10^16 NP1=φ234.00000°, δ88.00000°, λ3.00000°. NP2=φ144.00000°, δ87.00000°, λ178.00000°. Principal axes: T 3.7200, Plg4.0000°, Azm99.0000°; N -0.5060, Plg86.0000°, Azm258.0000°; P -3.2150, Plg1.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 10:50:36.1±0.4, 7°.60S±0°.08 × 67°.99E±0°.07, h12km, n192, σ1§19/146, mb4.6/81, MS4.0/58, 8C-1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**4.45**	**91**		T		T	10 56 25.2	
	SNR=17								
H08S3	**Diego Garcia H**	**4.46**	**91**		T		T	10 56 35.3	
	SNR=15								
H08S2	**Diego Garcia H**	**4.46**	**91**		T		T	10 56 19.9	
	SNR=18								
MSEY	**Mahe Island**	**12.77**	**282**		Pn		**Pn**	**10 53 39.1**	**+1.5**
PALK	**Pallekele**	**19.47**	**41**		P		**P**	**10 55 03.1**	**+0.2**
	0.2nm,0.3s,baz=331,slow=12,SNR=4.0								
PALK					LR		LR	11 00 41.9	
	comp=Z,298nm,18.9s,baz=324,slow=31								
	6.3nm,0.8s								
KIBK	**Kibwezi**	**30.27**	**278**		P		**P**	**10 56 47.6**	**+0.1**
KIBK					IAmb		IAmb	10 56 49.9	
	comp=Z,16nm,1.1s								
KMBO	**Kilima Mbogo**	**31.30**	**280**		P		**P**	**10 56 56.6**	**-0.1**
KMBO					IAmb		IAmb	10 56 59.5	
	comp=Z,14nm,1.2s								
KMBO	**Kilima Mbogo**	**31.30**	**280**		P		**P**	**10 56 55.8**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=61,slow=8.6,SNR=6.7								
KMBO					LR		LR	11 07 02.6	
	comp=Z,416nm,21.0s,baz=94,slow=32								
	comp=Z,1.6nm,0.3s								
ATD	**Arta Tunnel**	**31.41**	**307**		LR		LR	11 07 12.5	
	comp=Z,14nm,20.3s,baz=108,slow=32								
WSAR	**Wadi Sarin**	**31.98**	**344**		LR		LR	11 06 33.3	
	comp=Z,214nm,19.7s,baz=200,slow=30								
LODK	**Lodwar**	**34.35**	**287**		P		**P**	**10 57 24.2**	**+1.0**
MBAR	**Mbarara**	**37.77**	**279**		P		**P**	**10 57 53.1**	**+0.4**
MBAR					IAmb		IAmb	10 57 55.4	
	comp=Z,11nm,1.0s								
LEM	**Lembang**	**39.31**	**92**		LR		LR	11 11 28.5	
	comp=Z,200nm,19.5s,baz=228,slow=32								
LSZ	**Lusaka**	**39.70**	**255**		P		**P**	**10 58 09.4**	**+0.6**
LSZ					IAmb		IAmb	10 58 10.1	
	comp=Z,16nm,0.9s								
LSZ	**Lusaka**	**39.70**	**255**		LR		LR	11 13 17.4	
	comp=Z,375nm,18.0s,baz=104,slow=34								

CM31	**Chiang Mai Arr**	**40.04**	**49**		P		**P**	**10 58 10.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.04**	**49**		P		**P**	**10 58 11.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**40.04**	**49**		P		**P**	**10 58 11.3**	**0.0**
	comp=Z,2.9nm,0.7s,baz=244,slow=9.7,SNR=18								
CMAR					PcP		**PcP**	**11 00 17.6**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=240,slow=3.8,SNR=1.9								
CMAR					LR		LR	11 13 10.3	
	comp=Z,49nm,18.1s,baz=240,slow=34								
	comp=Z,2.9nm,0.7s								
CHTO	**Chiang Mai**	**40.26**	**49**		P		**P**	**10 58 12.2**	**-1.0**
CHTO	**Chiang Mai**	**40.26**	**49**		P		**P**	**10 58 15.1**	**+1.9**
	comp=Z,11nm,1.0s								
CMMT	**Chiang Mai**	**40.26**	**49**		P		**P**	**10 58 11.5**	**-1.7**
	comp=Z,29nm,0.9s								
MATP	**Matopo**	**40.26**	**247**		LR		LR	11 14 10.2	
	comp=Z,147nm,18.4s,baz=64,slow=35								
SHL	**Shillong**	**40.34**	**34**		P		**P**	**10 58 14.2**	**+0.3**
SHL					IAmb		IAmb	10 58 24.0	
	comp=Z,13nm,0.7s								
H04N2	**CROZET ISLANDS**	**40.88**	**197**		T		T	11 41 58.2	
	baz=26,slow=75,SNR=169								
H04N1	**CROZET ISLANDS**	**40.88**	**197**		T		T	11 41 58.8	
	baz=26,slow=75,SNR=165								
H04N3	**CROZET ISLANDS**	**40.90**	**197**		T		T	11 41 56.8	
	baz=26,slow=75,SNR=201								
KBL	**Kabul**	**41.92**	**1**		P		**P**	**10 58 28.5**	**+1.6**
KBL					IAmb		IAmb	10 58 34.6	
	comp=Z,15nm,1.2s								
CRAI	**Chiangrai**	**42.18**	**49**		P		**P**	**10 58 28.7**	**-0.3**
LBTB	**Lobatse**	**43.99**	**242**		P		**P**	**10 58 44.7**	**+1.0**
LBTB					IAmb		IAmb	10 59 00.2	
	comp=Z,16nm,1.3s								
LBTB	**Lobatse**	**43.99**	**242**		LR		LR	11 15 08.8	
	comp=Z,159nm,21.0s,baz=88,slow=34								
BOSA	**Boshof**	**45.35**	**237**		P		**P**	**10 58 54.7**	**+0.1**
BOSA					IAmb		IAmb	10 59 06.6	
	comp=Z,9.7nm,1.0s								
BOSA	**Boshof**	**45.35**	**237**		P		**P**	**10 58 54.1**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=66,slow=9.8,SNR=3.5								
BOSA					LR		LR	11 17 47.1	
	comp=Z,162nm,18.4s,baz=37,slow=36								
	comp=Z,2.6nm,0.7s								
SLVN	**Son La**	**45.49**	**50**		P		**P**	**10 58 55.2**	**-0.5**
SLVN					IAmb		IAmb	10 59 15.8	
	comp=Z,11nm,0.8s								
SIMJ	**Simiganj**	**46.03**	**1**		P		**P**	**10 59 00.3**	**+0.6**
SIMJ					IAmb		IAmb	10 59 13.1	
	comp=Z,15nm,1.5s								
GEYT	**Alibeck**	**46.22**	**349**		P		**P**	**10 59 00.9**	**-0.3**
GEYT					IAmb		IAmb	10 59 06.6	
	comp=Z,10nm,1.4s								
GEYT	**Alibeck**	**46.22**	**349**		P		**P**	**10 59 00.0**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=134,slow=6.2,SNR=1.4								
GEYT					LR		LR	11 16 20.4	
	comp=Z,121nm,21.9s,baz=180,slow=34								
	comp=Z,0.8nm,0.4s								
GYA0B	**ALIBECK ARRAY**	**46.22**	**349**		P		**P**	**10 59 00.6**	**-0.5**
GYA0B					IAmb		IAmb	10 59 06.7	
	comp=Z,8.1nm,1.2s								
PZH	**PanZhiHua**	**47.13**	**43**		P		**P**	**10 59 10.7**	**+2.1**
PZH					pmax		pmax		
	comp=Z,20nm,0.6s								
PZH					pmax		pmax		
	comp=Z,150nm,4.9s								
KSH	**Kashi**	**47.46**	**8**		P		**P**	**10 59 08.5**	**-2.4**
KSH					pP		pP	10 59 14.1	0.0
KSH					pmax		pmax		
	comp=Z,11nm,0.9s								
KSH					LR		LR		
	comp=N,250nm,18.8s								
KSH					LR		LR		
	comp=E,410nm,15.5s								
KSH					LR		LR		
	comp=Z,360nm,19.8s								
BTK	**Batken**	**47.49**	**3**		P		**P**	**10 59 12.0**	**+0.9**
EIL	**Elat**	**48.81**	**321**		LR		LR	11 16 45.2	
	comp=Z,161nm,20.5s,baz=70,slow=32								
ARSB	**Arslanbob**	**48.90**	**5**		P		**P**	**10 59 21.9**	**-0.1**
SUR	**Sutherland**	**50.20**	**234**		LR		LR	11 20 24.9	
	comp=Z,132nm,18.6s,baz=26,slow=36								
TSUM	**Tsumeb**	**50.20**	**251**		LR		LR	11 18 00.2	
	comp=Z,178nm,21.9s,baz=144,slow=33								
H01W3	**Cape Leeuwin H**	**50.25**	**130**		T		T	11 53 22.3	
	baz=292,slow=75,SNR=42								
H01W2	**Cape Leeuwin H**	**50.26**	**130**		T		T	11 53 22.6	
	baz=292,slow=75,SNR=46								
H01W1	**Cape Leeuwin H**	**50.27**	**130**		T		T	11 53 20.9	
	baz=292,slow=75,SNR=45								
GOMU	**GeErMu**	**50.33**	**28**		P		**P**	**10 59 36.2**	**+2.9**
GOMU					pP		pwP	10 59 42.8	+3.3
GOMU					pmax		pmax		
	comp=Z,4.0nm,1.2s								
AAK	**Ala-Archa**	**50.34**	**6**		P		**P**	**10 59 33.0**	**-0.1**
AAK					IAmb		IAmb	10 59 40.3	
	comp=Z,8.8nm,0.9s								
AAK	**Ala-Archa**	**50.34**	**6**		LR		LR	11 19 02.4	
	comp=Z,126nm,21.4s,baz=192,slow=34								
KK31	**Karatay Array**	**50.51**	**2**		P		**P**	**10 59 33.8**	**-0.3**
KKAR	**Karatay Array**	**50.51**	**2**		P		**P**	**10 59 34.1**	**0.0**
GYA	**Guiyang**	**50.54**	**47**	⇑*i*P			**P**	**10 59 36.8**	**+2.0**
GYA					pmax		pmax		
	comp=Z,35nm,0.9s								
MMAI	**Mount Meron Ar**	**50.91**	**324**		LR		LR	11 18 57.1	
	comp=Z,129nm,19.5s,baz=118,slow=34								
KAPI	**Kappang**	**51.49**	**90**		LR		LR	11 18 41.2	
	comp=Z,123nm,21.0s,baz=241,slow=33								
NWAO	**Narrogin (SRO)**	**52.02**	**126**		LR		LR	11 16 50.2	
	comp=Z,321nm,21.8s,baz=196,slow=30								
WMQ	**Urumqi**	**54.20**	**18**	*e*P			**P**	**11 00 05.3**	**+3.7**
WMQ					pP		pwP	11 00 08.6	+0.7
WMQ					pmax		pmax		
	comp=Z,14nm,1.3s								
WMQ					LR		LR		
	comp=N,250nm,14.1s								
WMQ					LR		LR		
	comp=E,480nm,15.9s								
WMQ					LR		LR		
	comp=Z,280nm,19.5s								
BNN	**Bunyan**	**55.02**	**330**		P		**P**	**11 00 08.3**	**+0.6**
GTA	**Gaotai**	**55.29**	**30**	*e*P			**P**	**11 00 10.1**	**+0.5**
GTA					pP		pwP	11 00 15.7	-0.1
GTA					pmax		pmax		
	comp=Z,4.0nm,1.0s								
MAKZ	**Makanchi**	**55.58**	**12**		P		**P**	**11 00 10.9**	**-0.6**
MAKZ					IAmb		IAmb	11 00 17.1	
	comp=Z,6.2nm,0.9s								
SOEI	**Soe**	**55.62**	**97**		P		**P**	**11 00 10.6**	**-2.0**
MK31	**Makanchi Array**	**55.63**	**12**		P		**P**	**11 00 11.2**	**-0.7**
MKAR	**Makanchi Array**	**55.63**	**12**		P		**P**	**11 00 10.6**	**-1.3**
MKAR	**Makanchi Array**	**55.63**	**12**		P		**P**	**11 00 11.1**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=210,slow=9.6,SNR=10								
MKAR					PcP		**PcP**	**11 01 11.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=216,slow=6.0,SNR=2.0								
MKAR					LR		LR	11 23 23.6	
	comp=Z,154nm,20.2s,baz=214,slow=35								
	comp=Z,1.6nm,0.6s								
KBZ	**Khabaz**	**55.92**	**338**		P		**P**	**11 00 12.5**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=160,slow=12,SNR=3.1								
	comp=Z,2.3nm,0.8s								
BR131	**Keskin Array S**	**56.80**	**329**		P		**P**	**11 00 20.4**	**-0.1**
BR131					IAmb		IAmb	11 00 21.1	
	comp=Z,6.3nm,0.8s								
BRTR	**Keskin Array B**	**56.80**	**329**		P		**P**	**11 00 20.3**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=144,slow=11,SNR=10								
BRTR					LR		LR	11 22 46.6	
	comp=Z,140nm,21.1s,baz=187,slow=34								
	comp=Z,4.8nm,0.9s								
ABKAR	**Akbulak array**	**57.05**	**354**		P		**P**	**11 00 21.4**	**-0.5**
ABKAR					IAmb		IAmb	11 00 28.0	
	comp=Z,4.6nm,0.7s								
WHN	**Wuhan**	**58.41**	**47**		P		P	11 00 38.3	+6.5
AKTO	**Aktyubinsk**	**58.44**	**353**		LR		LR	11 25 29.4	
	comp=Z,64nm,18.7s,baz=84,slow=36								
KURBB	**Kurchatov Arra**	**58.70**	**8**		P		**P**	**11 00 33.0**	**-0.4**
	comp=Z,5.3nm,1.0s,baz=205,slow=6.9,SNR=16								
KURBB					PcP		**PcP**	**11 01 22.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=204,slow=4.2,SNR=1.1								
KURBB					LR		LR	11 25 53.7	
	comp=Z,163nm,19.2s,baz=152,slow=36								
	comp=Z,5.3nm,1.0s								
KURK	**Kurchatov**	**58.80**	**8**		P		**P**	**11 00 33.8**	**-0.3**
IDI	**Anoyia**	**58.89**	**319**		LR		LR	11 25 08.5	
	comp=Z,30nm,20.9s,baz=84,slow=35								
DAV	**Davao City (W)**	**59.25**	**77**		LR		LR	11 24 04.9	
	comp=Z,98nm,21.8s,baz=274,slow=34								
MAW	**Mawson**	**60.02**	**182**		LR		LR	11 22 48.9	
	comp=Z,68nm,18.4s,slow=32								

TWG	**Pinlang**	**60.08**	**58**		P		**P**	**11 00 41.8**	**-1.8**
BVAR	**Borovoye Array**	**60.42**	**2**		P		**P**	**11 00 43.5**	**-1.8**
	comp=Z,2.7nm,0.9s,baz=150,slow=6.2,SNR=7.1								
BVAR					LR		LR	11 26 32.5	
	comp=Z,102nm,18.8s,baz=191,slow=36								
	comp=Z,2.7nm,0.9s								
BRVK	**Borovoye**	**60.45**	**2**		P		**P**	**11 00 45.2**	**-0.3**
BRVK					IAmb		IAmb	11 00 51.9	
	comp=Z,8.3nm,1.1s								
BELG	**Belogornoye**	**62.24**	**346**		LR		LR	11 28 09.6	
	comp=Z,52nm,21.4s,baz=113,slow=36								
NJ2	**Nanjing**	**62.49**	**48**	*e*P			**P**	**11 01 00.2**	**+0.5**
NJ2					pmax		pmax		
	comp=Z,16nm,0.6s								
HNS	**HongShan**	**62.49**	**41**	⇑P			P	11 01 06.6	+7.0
HNS					pmax		pmax		
	comp=Z,7.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**62.66**	**36**	*e*P			**P**	**11 01 03.8**	**+3.0**
HHC					pmax		pmax		
	comp=Z,24nm,0.6s								
HHC					pmax		pmax		
	comp=Z,180nm,4.7s								
ZAA0	**Zalesovo Array**	**62.94**	**11**		P		**P**	**11 01 01.5**	**-0.7**
ZAA0					IAmb		IAmb	11 01 07.8	
	comp=Z,4.1nm,0.8s								
ZALV	**Zalesovo Beam**	**62.94**	**11**		P		**P**	**11 01 00.8**	**-1.4**
ZALV	**Zalesovo Beam**	**62.94**	**11**		P		**P**	**11 01 00.7**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=212,slow=5.3,SNR=8.3								
ZALV					LR		LR	11 29 01.7	
	comp=Z,143nm,18.1s,baz=222,slow=37								
	comp=Z,2.1nm,0.8s								
ARU	**Arti**	**64.27**	**354**		P		**P**	**11 01 10.6**	**-0.4**
ARU					IAmb		IAmb	11 01 18.0	
	comp=Z,10nm,1.0s								
ARU	**Arti**	**64.27**	**354**		LR		LR	11 28 17.8	
	comp=Z,92nm,20.9s,baz=144,slow=35								
FNA	**Florina**	**64.43**	**322**		P		**P**	**11 01 11.1**	**-1.4**
SONM	**Songino Array**	**64.77**	**28**		P		**P**	**11 01 14.9**	**+0.3**
SONM					IAmb		IAmb	11 01 23.3	
	comp=Z,7.0nm,1.0s								
SONM	**Songino Array**	**64.77**	**28**		P		**P**	**11 01 15.4**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=211,slow=5.8,SNR=17								
	comp=Z,3.1nm,0.9s								
MLR	**Muntele Rosu**	**64.88**	**329**		P		**P**	**11 01 14.8**	**-0.6**
MLR					IAmb		IAmb	11 01 28.6	
	comp=Z,8.2nm,1.0s								
MLR	**Muntele Rosu**	**64.88**	**329**		LR		LR	11 28 00.5	
	comp=Z,128nm,21.5s,baz=142,slow=35								
ASAR	**Alice Springs**	**64.95**	**112**		P		**P**	**11 01 15.6**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=276,slow=6.1,SNR=19								
ASAR					LR		LR	11 25 29.3	
	comp=Z,124nm,22.0s,baz=278,slow=32								
	comp=Z,1.9nm,0.8s								
ULN	**Ulaanbaatar**	**65.09**	**28**		P		P	11 01 23.9	+7.2
WRA	**Warramunga Arr**	**65.25**	**108**		P		**P**	**11 01 18.2**	**0.0**
WRA	**Warramunga Arr**	**65.25**	**108**		P		**P**	**11 01 18.2**	**0.0**
	comp=Z,5.6nm,1.0s,baz=281,slow=6.3,SNR=22								
	comp=Z,5.6nm,1.0s								
WRAB	**Tennant Creek**	**65.26**	**108**		P		**P**	**11 01 18.1**	**-0.2**
WB2	**Warramunga Arr**	**65.26**	**108**		P		**P**	**11 01 18.3**	**0.0**
WB0	**Warramunga Arr**	**65.30**	**108**		P		**P**	**11 01 18.5**	**0.0**
WR0	**Warramunga Arr**	**65.44**	**108**		P		**P**	**11 01 19.4**	**0.0**
BUR08	**Bucovina Ar. S**	**66.72**	**330**		P		**P**	**11 01 28.3**	**+1.1**
BUR08					IAmb		IAmb	11 01 33.6	
	comp=Z,6.6nm,1.4s								
AKASG	**Malin Array Be**	**67.03**	**334**		P		**P**	**11 01 28.5**	**-0.4**
AKASG	**Malin Array Be**	**67.03**	**334**		P		**P**	**11 01 27.8**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=141,slow=5.8,SNR=7.6								
AKASG					PP		**PP**	**11 03 55.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=150,slow=7.9,SNR=4.4								
AKASG					LR		LR	11 31 35.9	
	comp=Z,37nm,21.0s,baz=227,slow=37								
	comp=Z,2.1nm,0.6s								
KIRV	**Kirov**	**67.65**	**350**		LR		LR	11 30 31.3	
	comp=Z,60nm,18.9s,baz=171,slow=36								
JOW	**Kunigami**	**67.66**	**57**		LR		LR	11 32 17.0	
	comp=Z,63nm,18.1s,baz=21,slow=37								
TOA0	**Torodi Ar. Sit**	**68.99**	**287**		P		**P**	**11 01 41.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**68.99**	**287**		P		**P**	**11 01 41.4**	**-0.5**
	comp=Z,3.2nm,1.2s,baz=83,slow=4.6,SNR=7.1								
TORD					LR		LR	11 30 46.5	
	comp=Z,107nm,19.4s,baz=133,slow

comp=Z,156nm,22.0s,baz=264,slow=33
CTAO Charters Tower 76.45 109 P **P** **11 02 26.5 +0.1**
USRK Ussuriysk Ar. 77.21 42 LR LR 11 38 31.5
comp=Z,34nm,19.3s,baz=199,slow=37
NRIK Noril'sk 77.95 7 P **P** **11 02 32.0 -1.7**
comp=Z,1.7nm,0.6s,baz=184,slow=6.2,SNR=1.9
NRIK LR LR 11 36 56.5
comp=Z,94nm,19.2s,baz=170,slow=36
comp=Z,1.7nm,0.6s
VNA2 Neumayer--Watz 78.09 199 ⇑P **P** **11 02 35.0 +0.5**
comp=Z,7.9nm,1.0s,baz=66,slow=4.0
PMG Port Moresby 78.16 98 LR LR 11 33 07.7
comp=Z,88nm,20.7s,baz=170,slow=33
VNA3 Neumayer Olymp 78.88 199 ⇑P **P** **11 02 39.6 +0.6**
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 78.91 51 P **P** **11 02 39.9 +0.2**
comp=Z,1.4nm,0.8s,baz=186,slow=2.6,SNR=2.7
MJAR LR LR 11 38 00.2
comp=Z,20nm,18.4s,baz=246,slow=36
comp=Z,1.4nm,0.8s
GUMO Guam 79.16 75 LR LR 11 34 52.9
comp=Z,35nm,21.7s,baz=250,slow=34
JCJ Chichijima 79.56 61 LR LR 11 34 36.3
comp=Z,30nm,19.7s,baz=354,slow=33
MDT Midelt 79.70 305 LR LR 11 37 35.8
comp=Z,101nm,19.2s,baz=113,slow=35
HFS Hagfors 79.87 336 P **P** **11 02 43.2 -1.2**
comp=Z,2.4nm,0.7s,baz=139,slow=7.3,SNR=4.2
comp=Z,2.4nm,0.7s
ESDC Sonseca Array 81.17 312 P **P** **11 02 51.6 -0.3**
comp=Z,3.9nm,0.9s,baz=98,slow=4.3,SNR=16
comp=Z,3.9nm,0.9s
ARCES ARCESS Array B 82.29 346 LR LR 11 39 10.1
comp=Z,76nm,21.4s,baz=116,slow=36
QSPA South Pole Qui 82.44 180 P **P** **11 02 57.9 -0.3**
comp=Z,2.4nm,0.3s,baz=267,slow=1.7,SNR=9.4
QSPA LR LR 11 35 30.2
comp=Z,53nm,19.4s,baz=272,slow=33
comp=Z,2.4nm,0.3s
VNDA Vanda 83.47 167 P **P** **11 03 03.6 +0.4**
comp=Z,1.9nm,0.9s,baz=290,slow=5.1,SNR=5.5
VNDA LR LR 11 35 12.8
comp=Z,96nm,19.3s,baz=273,slow=32
comp=Z,1.9nm,0.9s
EKA Eskdalemuir Ar 85.69 327 P **P** **11 03 14.2 -0.5**
comp=Z,0.7nm,0.5s,baz=123,slow=6.1,SNR=1.9
comp=Z,0.7nm,0.5s
TIXI Tiksi 88.38 16 P **P** **11 03 27.2 -0.3**
TIXI IAmb IAmb 11 03 34.1
comp=Z,8.5nm,1.1s
TIXI Tiksi 88.38 16 LR LR 11 43 24.7
comp=Z,7.0nm,21.7s,baz=196,slow=36
SPITS Spitsbergen Ar 90.09 351 LR LR 11 46 33.0
comp=Z,81nm,19.0s,baz=111,slow=37
HNR Honiara 90.69 100 LR LR 11 42 18.3
comp=Z,816nm,18.2s,baz=76,slow=34
DZM Mont Dzumac 94.94 113 LR LR 11 42 43.7
comp=Z,274nm,21.5s,baz=228,slow=33
YKA Yellowknife Ar 125.18 1 PKP **PKPdf** **11 09 35.5 -0.8**
comp=Z,1.4nm,1.0s,baz=1.1,slow=2.0,SNR=7.9
YKA PP **PP** **11 11 24.3 -0.7**
comp=Z,0.8nm,1.0s,baz=356,slow=7.9,SNR=4.5
BOSC San Juan Bosco 144.90 253 **PKiKP** **11 10 21.1 +2.8**
PDAR Pinedale Array 144.91 357 PKP **PKPab** **11 10 12.3 -0.5**
comp=Z,0.7nm,0.7s,baz=107,slow=2.1,SNR=6.4
LRAL Lakeview Retre 145.68 321 **PKPdf** **11 10 14.8 -0.3**
KMRM Mail Ridge 145.87 16 **PKPab** **11 10 17.8 +1.5**
MCRA Macar, Loja 145.88 251 **PKPdf** **11 10 13.7 -2.3**
HWUT Hardware Ranch 146.13 359 **PKPdf** **11 10 15.6 -0.3**
ELK Elko 146.87 4 **PKPab** **11 10 20.4 +0.2**
ORV Oroville 147.06 14 PKPab **PKPbc** **11 10 19.5 +0.2**
U38A Gravette 147.09 333 **PKiKP** **11 10 22.6 +0.7**
BSUT Blindstream Ca 147.18 358 **PKiKP** **11 10 24.0 +1.5**
DUG Dugway, Tooele 147.53 1 PKPab **PKPbc** **11 10 21.5 +0.7**
AFDM Forest Hills D 147.76 13 PKPab **PKPbc** **11 10 21.8 +0.6**
NLU North Lily Min 147.78 0 **PKPab** **11 10 28.5 +4.6**
PNTR Pine Nut 147.91 11 **PKPab** **11 10 25.8 +1.4**
KVN Kaiserville 148.21 9 PKPab **PKiKP** **11 10 24.0 -0.4**
SPR3 Spring Creek 3 148.67 3 PKPab **PKiKP** **11 10 25.4 -0.1**
NVAR Mina Array Bea 148.78 10 PKPbc **PKiKP** **11 10 25.3 -0.4**
comp=Z,3.1nm,0.8s,baz=352,slow=0.6,SNR=15
MTPU Mount Pierson 149.69 0 PKPab **PKiKP** **11 10 28.4 +0.7**
BRU2 Volcan 150.96 274 PKPab **PKiKP** **11 10 35.2 -2.3**
SHPR Sheep Range 151.08 5 PKPab **PKiKP** **11 10 32.6 +2.1**
WTFS Witchita Falls 151.10 336 PKPab **PKiKP** **11 10 36.3 -0.9**
V12A Nelson 151.88 5 **PKiKP** **11 10 32.8 +0.8**
WUAZ Wupatki 152.21 359 **PKiKP** **11 10 33.4 +0.6**
WUAZ PKPab **PKPab** **11 10 39.5 -2.5**
ANMO Albuquerque 152.31 350 PKPab **PKiKP** **11 10 36.8 +3.7**
TXAR Lajitas Array 156.99 341 PKP **PKPdf** **11 10 30.7 -1.8**
comp=Z,0.2nm,0.9s,baz=225,slow=1.1,SNR=2.2
TXAR PKPab **PKPab** **11 11 02.7 +0.3**
comp=Z,0.7nm,0.8s,baz=51,slow=2.2,SNR=5.6

*UPA **12** 11:20:37.3±1.5, 8.85N×82.99W, h66km±18km, ML2.5*
*CATAC **12** 11:20:38.7±0.5, 8.76N×83.05W, h28km±7km, ML2.2*
ISC 12 11:20:39.2±1.8, **8.81N**±0.06×**83.03W**±0.07, **h51**km±17km, **n13**, σ1§**15**/18, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POTG	**Potrero Grande**	**0.26**	**339**	*i* P	**Pn**	**11 20 47.2**	**-1.0**
POTG				IAML		11 20 57.5	
	comp=Z,450nm,1.0s						
BRU2	**Volcan**	**0.33**	**92**	*e*P	**Pn**	**11 20 48.1**	**-0.8**
BRU2				AMP		11 20 50.0	
	comp=Z,256nm,0.1s						
BRU2				*e*S	**Sn**	**11 20 56.2**	**+0.4**
BRU2	**Volcan**	**0.33**	**92**	*i* P	**Pn**	**11 20 47.9**	**-0.9**
BRU2				*i* S	**Sn**	**11 20 55.7**	**0.0**
BRU2				IAML		11 20 58.0	
	comp=Z,120nm,1.0s						
BC3P	**Paso Ancho**	**0.41**	**89**	*e*P	**Pn**	**11 20 50.2**	**+0.5**
BC3P				*e*S	**Sn**	**11 20 59.4**	**+2.2**
BCO2	**Palmira**	**0.50**	**100**	*e*P	**Pn**	**11 20 49.7**	**-0.9**
BCO2				*e*S	**Sn**	**11 20 59.4**	**+0.5**
PIRO	**Carate, Puerto**	**0.50**	**218**	*i* P	**Pn**	**11 20 49.7**	**-0.8**
PIRO				IAML		11 21 01.2	
	comp=Z,160nm,1.0s						
PTPM	**Petroterminale**	**0.61**	**166**	*e*P	**Pn**	**11 20 51.3**	**-0.6**
PTPM				*e*S	**Sn**	**11 21 02.1**	**+1.0**
DVD	**David**	**0.68**	**123**	*e*P	**Pn**	**11 20 51.5**	**-1.2**
CDM	**Cerro de Muert**	**1.04**	**316**	*i* P	**Pn**	**11 20 56.5**	**-1.4**
CDM				IAML		11 21 00.7	
	comp=Z,30nm,1.0s						
CDM				*i* S	**Sn**	**11 21 12.7**	**+1.0**
RIMA	**Rio Macho**	**1.26**	**319**	*i* P	**Pn**	**11 20 59.5**	**-1.2**
RIMA				IAML		11 21 19.7	
	comp=Z,23nm,1.0s						
LCR2	**La Lucha 2**	**1.34**	**314**	*i* P	**Pn**	**11 21 01.0**	**-0.8**
LCR2				IAML		11 21 20.1	
	comp=Z,36nm,1.0s						
JACO	**JACO, Garabito**	**1.82**	**298**	*i* P	**Pn**	**11 21 09.0**	**+0.9**
JACO				IAML		11 21 54.7	
	comp=Z,45nm,1.0s						
COVE	**Coope Vega, Sa**	**2.34**	**325**	*i* PA		11 21 16.7	
COVE				IAML		11 21 16.7	
	comp=Z,130nm,1.0s						

*IDC **12** 11:22:35.8±2.3, 17.46N×83.62W, h0km, mb3.3/3, mbtmp3.5/5, ML3.6/2, MS3.1/4, Error ellipse: s-maj=50.5km s-min=32.7km az=76.0*
*NEIC **12** 11:22:36.1±2.9, 17.37N±0.06×83.31W±0.07, h10km±2km, mb4.1/16, Error ellipse: s-maj=11.7km s-min=10.4km az=106.0*
ISC 12 11:22:37.2±0.8, **17.45N**±0.07×**83.45W**±0.08, **h18**km, **n46**, σ1§**82**/42, **mb3.8**/6, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSCY	**Frank Sound, G**	**2.84**	**49**	Pn	**Pn**	**11 23 19.5**	**-2.1**
PRVC	**Isla de Provid**	**4.52**	**153**	Pn	**Pn**	**11 23 41.9**	**-2.9**
TGUH	**Tegucigalpa,Un**	**4.99**	**228**	Pn	**Pn**	**11 23 51.3**	**-0.1**
MATN	**Matagalpa**	**5.09**	**208**	Pn	**Pn**	**11 23 53.9**	**+1.2**
ESPN	**Las Esperanzas**	**5.28**	**189**	Pn	**Pn**	**11 23 56.6**	**+1.3**
SOR	**Soroa**	**5.34**	**4**		**Pn**	**11 23 57.0**	**+1.1**
TEIG	**Tepich**	**5.34**	**302**		**Sn**	**11 23 54.9**	**-1.3**
TEIG	**Tepich**	**5.34**	**302**	Pn	**Pn**	**11 23 54.1**	**-2.0**
	124nm,0.3s,baz=166,slow=19,SNR=168						
TEIG				Sn	**Sn**	**11 24 51.3**	**-5.9**
	59nm,0.3s,baz=294,slow=23,SNR=4.3						
MTDJ	**Mount Denham**	**5.69**	**81**	Pn	**Pn**	**11 23 57.2**	**-3.7**
ACON	**Acoyapa**	**5.70**	**197**	Pn	**Pn**	**11 24 01.6**	**+0.7**
CAMR	**Camarioca**	**5.92**	**19**	Pn	**Pn**	**11 24 04.8**	**+0.8**
PETF	**Flores**	**6.16**	**266**	Pn	**Pn**	**11 24 06.6**	**-0.7**
ESQI	**Esquipulas**	**6.35**	**244**	Pn	**Pn**	**11 24 11.2**	**+1.1**
MTO3	**Montecristo**	**6.44**	**243**	Pn	**Pn**	**11 24 11.6**	**+0.1**
COVE	**Coope Vega, Sa**	**6.75**	**188**	Pn	**Pn**	**11 24 13.6**	**-1.8**
JTS	**Las Juntas de**	**7.26**	**192**	Pn	**Pn**	**11 24 20.1**	**-2.4**
JTS	**Las Juntas de**	**7.26**	**192**	Pn	**Pn**	**11 24 24.1**	**+1.6**
	0.9nm,0.3s,baz=357,slow=22,SNR=2.4						
	2.1nm,0.2s						
CCIG	**Comitan**	**8.40**	**263**	Pn	**Pn**	**11 24 37.9**	**-0.4**
061Z	**Ochoppi**	**8.71**	**15**	Pn	**Pn**	**11 24 42.2**	**-0.1**
CMIG	**Matias Romero**	**10.93**	**270**	Pn	**Pn**	**11 25 11.0**	**-1.9**
	0.5nm,0.3s,baz=73,slow=7.2,SNR=9.9						
	1.3nm,0.3s						
SJCC	**San Jacinto, C**	**10.99**	**132**		**Pn**	**11 25 12.7**	**-1.0**
SDV	**Santo Domingo**	**15.09**	**123**	LR	LR	11 32 38.0	
	comp=Z,68nm,19.0s,baz=277,slow=40						
SJG	**San Juan**	**16.49**	**85**	LR	LR	11 32 03.4	
	comp=Z,77nm,19.2s,baz=178,slow=34						
TKL	**Tuckaleechee C**	**18.14**	**359**		**P**	**11 26 50.0**	**+1.5**
TKL				IAmb	IAmb	11 26 57.3	
	comp=Z,18nm,1.3s						
V53A	**Saluda**	**18.16**	**2**		**Pn**	**11 26 48.3**	**-0.2**
V53A				IAmb	IAmb	11 26 50.4	
	comp=Z,26nm,1.4s						
833A	**Chaparral WMA,**	**18.23**	**309**		**P**	**11 26 50.6**	**+1.1**
833A				IAmb	IAmb	11 26 52.5	
	comp=Z,19nm,0.9s						
HNDO	**Hondo**	**18.83**	**313**	P	**Pn**	**11 26 56.8**	**+0.1**
HNDO				IAmb	IAmb	11 27 00.6	
	comp=Z,10nm,0.9s						
DRIO	**Del Rio**	**19.73**	**310**	P	**P**	**11 27 06.2**	**+0.2**
DRIO				IAmb	IAmb	11 27 13.4	
	comp=Z,14nm,1.1s						
BRDY	**Brady**	**19.73**	**317**	P	**P**	**11 27 06.5**	**+0.5**
OZNA	**Ozona**	**20.94**	**313**	P	Pn	11 27 21.6	-0.2
SAND	**Sanderson**	**21.12**	**310**	P	**P**	**11 27 22.7**	**+1.6**
SGCY	**Sterling City**	**21.53**	**315**	P	**P**	**11 27 27.9**	**+2.4**
SGCY				IAmb	IAmb	11 27 31.9	
	comp=Z,7.9nm,0.9s						
TXAR	**Lajitas Array**	**21.97**	**306**		**P**	**11 27 31.6**	**+1.3**
TXAR	**Lajitas Array**	**21.97**	**306**	P	**P**	**11 27 30.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=128,slow=11,SNR=8.2						
TXAR				LR	LR	11 38 30.2	
	comp=Z,21nm,19.4s,baz=265,slow=44						
	comp=Z,0.6nm,0.8s						
TX31	**Lajitas Ar. Si**	**21.97**	**306**	P	**P**	**11 27 32.2**	**+1.9**
ALPN	**Alpine**	**22.46**	**309**	P	**P**	**11 27 36.5**	**+0.9**
T35A	**Sooner Cattle**	**22.57**	**332**	P	**P**	**11 27 37.3**	**+0.8**
HPIG		**22.61**	**299**	P	**P**	**11 27 38.1**	**+0.8**
HPIG				IAmb	IAmb	11 27 48.2	
	comp=Z,6.1nm,1.3s						
ODSA	**Odessa**	**22.62**	**314**	P	**P**	**11 27 40.0**	**+2.7**
SRU	**San Rafael Swe**	**31.95**	**318**	P	**P**	**11 29 03.9**	**+1.6**
SRU				IAmb	IAmb	11 29 04.4	
	comp=Z,2.3nm,0.7s						
MSU	**Marysvale**	**32.71**	**316**	P	**P**	**11 29 11.4**	**+2.4**
PDAR	**Pinedale Array**	**33.61**	**324**	P	**P**	**11 29 17.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=122,slow=8.6,SNR=4.5						
	comp=Z,0.4nm,0.8s						
SPUT	**South Promonto**	**34.42**	**320**	P	**P**	**11 29 23.7**	**-0.1**
CPUP	**Villa Florida**	**50.38**	**149**	LR	LR	11 53 37.2	
	comp=Z,61nm,21.3s,baz=82,slow=37						
ILAR	**Eielson Array**	**63.12**	**335**	P	**P**	**11 33 04.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=109,slow=4.8,SNR=5.5						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**144.56**	**254**	PKP	PKPbc	11 42 12.4	+0.3
	comp=Z,0.2nm,0.8s,baz=112,slow=2.5,SNR=3.7						

*TEH **12** 11:29:45.9, 33.82N×45.63E, h8km±126km, ML2.9*
*ISN **12** 11:29:45.7±1.5, 33.82N×45.62E, h10km±7km, ML2.7*
ISC 12 11:29:45.9±1.3, **33.83N**±0.04×**45.62E**±0.04, **h7**km±15km, **n9**, σ0§**72**/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.53**	**112**	Pg	**Pg**	**11 29 56.3**	**+0.2**
ILBA				Sg	**Sb**	**11 30 04.0**	**-1.5**
IBDR	**Badra**	**0.76**	**160**	*e*Pg	**Pb**	**11 30 01.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**11 30 10.0**	**-0.3**
IGHG	**Ghaleghazi**	**0.94**	**57**	Pg	**Pb**	**11 30 04.8**	**+0.2**
IDHR	**Dehrash**	**1.08**	**36**	Pg	**Pg**	**11 30 06.4**	**-0.3**
BHD	**Baghdad**	**1.17**	**242**	*e*Pg	**Pn**	**11 30 09.0**	**+0.3**
BHD				*e*Sg	**Sg**	**11 30 24.0**	**+0.4**
IKOM	**Komasi**	**1.61**	**77**	Pg	**Pg**	**11 30 16.8**	**0.0**
IKFM	**Kafar-mosalman**	**1.88**	**99**	Pn	**Pb**	**11 30 20.9**	**+0.3**
IKRK	**Kirkuk**	**1.89**	**327**	*e*Pn	**Pb**	**11 30 20.0**	**-0.8**
IKRK				*e*Sn	**Sb**	**11 30 45.0**	**+0.4**
IKRK				AML	AML	11 30 55.8	
	comp=N,82nm,0.5s						
IKRK				AML	AML	11 30 58.3	
	comp=E,88nm,0.9s						
RAFI	**Al-Rafai**	**2.14**	**169**	*e*Pn	**Pn**	**11 30 23.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**11 30 51.0**	**-0.6**

*IDC **12** 11:43:46.2±1.1, 33.58N×45.59E, h0km, mb3.9/15, mbtmp3.9/20, ML3.6/5, MS2.8/4, Error ellipse: s-maj=25.4km s-min=16.1km az=175.0*
*NEIC **12** 11:43:47.9±1.1, 33.50N±0.05×45.6E±0.1, h10km±1km, mb4.1/22, Error ellipse: s-maj=15.1km s-min=7.6km az=285.0*
*TEH **12** 11:43:48.7, 33.70N×45.69E, h9km±34km, ML3.9*
*ISN **12** 11:43:48.0±0.9, 33.72N×45.69E, h8km±4km, ML3.9*
*DSN **12** 11:43:58.0±1.1, 33.67N×46.99E, h10km, Error ellipse: s-maj=41.1km s-min=9.1km az=36.0*
ISC 12 11:43:48.1±0.5, **33.60N**±0.03×**45.66E**±0.04, **h13**km, **n98**, σ1§**56**/99, **mb4.0**/24, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.46**	**87**	Pg	**Pb**	**11 43 58.0**	**-0.1**
IBDR	**Badra**	**0.54**	**155**	*e*Pg	**Pn**	**11 44 01.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**11 44 09.0**	**-1.4**
KGS1	**Ghasr-e-Shirin**	**0.90**	**356**	Pg	**Pg**	**11 44 04.3**	**-1.3**
IGHG	**Ghaleghazi**	**1.05**	**46**	Pg	**Pb**	**11 44 07.5**	**-0.8**
BHD	**Baghdad**	**1.12**	**253**	*e*Pg	**Pn**	**11 44 11.0**	**+1.5**
BHD				*e*Sg	**Sn**	**11 44 27.0**	**+2.3**
BHD				AML	AML	11 44 33.7	
	comp=E,3μm,0.3s						
IDHR	**Dehrash**	**1.25**	**29**	Pg	**Pn**	**11 44 10.7**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.33**	**59**	Pg	**Pb**	**11 44 13.1**	**+0.1**
IKOM	**Komasi**	**1.64**	**69**	Pg	**Pb**	**11 44 18.9**	**+0.6**
ILIN	**Lien**	**1.70**	**39**	Pg	**Pb**	**11 44 19.3**	**0.0**
IKFM	**Kafar-mosalman**	**1.83**	**92**	Pn	**Pb**	**11 44 22.1**	**+0.7**
RAFI	**Al-Rafai**	**1.91**	**168**	*e*Pn	**Pg**	**11 44 24.0**	**-0.8**
RAFI				*e*Sn	**Sg**	**11 44 51.0**	**+1.4**
RAFI				AML	AML	11 44 57.2	
	comp=E,1μm,0.4s						
RAFI				AML	AML	11 45 02.3	
	comp=N,989nm,0.4s						
IBZA	**Bozab**	**2.02**	**64**	Pn	**Pb**	**11 44 24.2**	**-0.6**
IKRK	**Kirkuk**	**2.10**	**329**	*e*Pn	**Pb**	**11 44 24.0**	**-2.0**
IKRK				*e*Sn	**Sb**	**11 44 51.0**	**-1.0**
IALM	**Almabolaq**	**2.43**	**58**	Pn	**Pb**	**11 44 30.1**	**-1.6**
HSAM	**Samen**	**2.52**	**75**	Pn	**Pn**	**11 44 30.7**	**+1.7**
SDS1	**Sardasht. Az.**	**2.54**	**357**	Pn	**Pb**	**11 44 31.2**	**-2.5**
HAGD	**Aghdareh**	**3.13**	**66**	Pn	**Pn**	**11 44 39.5**	**+2.2**
MAHB	**Mahabad**	**3.16**	**1**	Pn	**Pn**	**11 44 39.5**	**+1.9**
IRAZ	**Razeghan**	**3.96**	**62**	Pn	**Pn**	**11 44 50.9**	**+2.2**
QSDN	**Sirdan**	**4.08**	**44**	Pn	**Pn**	**11 44 51.8**	**+1.3**
IPIR	**Pirpir**	**4.48**	**100**	Pn	**Pn**	**11 44 57.9**	**+1.8**
ZNGN	**Zangian**	**4.62**	**107**	Pn	**Pn**	**11 44 59.6**	**+1.8**
IMHD	**Mahdasht**	**4.62**	**62**	Pn	**Pn**	**11 44 59.0**	**+1.3**
IQOM	**Qom**	**4.65**	**73**	Pn	**Pn**	**11 44 59.4**	**+1.1**
QAMS	**Qamsar**	**4.79**	**87**	Pn	**Pn**	**11 45 01.4**	**+1.3**
IKLH	**Kolahrood**	**4.96**	**92**	Pn	**Pn**	**11 45 05.1**	**+2.6**
IMRD	**Marand**	**5.10**	**0**	Pn	**Pn**	**11 45 05.5**	**+1.2**
GEVA	**Gevas**	**5.15**	**337**	Pn	**Pn**	**11 45 06.8**	**+1.7**
GEVA				Sn	**Sn**	**11 46 06.2**	**+1.8**
IVRN	**Varamin**	**5.21**	**73**	Pn	**Pn**	**11 45 07.1**	**+1.3**
KRSH	**Karshahi**	**5.41**	**84**	Pn	**Pn**	**11 45 10.3**	**+1.7**
MARD	**Mardin**	**5.44**	**314**	Pn	**Pn**	**11 45 09.8**	**+0.8**
GRMI	**Germi**	**5.50**	**19**	Pn	**Pn**	**11 45 11.3**	**+1.5**
ISFB	**Sefidab**	**5.52**	**80**	Pn	**Pn**	**11 45 11.1**	**+1.1**
IDMV	**Damavand**	**5.61**	**68**	Pn	**Pn**	**11 45 12.5**	**+1.0**
MZPU	**Pul - Mazandar**	**5.61**	**58**	Pn	**Pn**	**11 45 14.2**	**+2.7**
IZEF	**Zefreh**	**5.63**	**95**	Pn	**Pn**	**11 45 13.4**	**+1.7**
KLNJ	**Kolanjah**	**5.65**	**116**	Pn	**Pn**	**11 45 14.7**	**+2.6**
IRAM	**Ramesheh**	**5.94**	**106**	Pn	**Pn**	**11 45 18.8**	**+2.8**
GNI	**Garni**	**6.58**	**354**	LR	LR	11 48 16.3	
	comp=N,40nm,20.1s,baz=160,slow=41						
DSBU	**Dashti - Bushe**	**7.10**	**136**	Pn	**Pn**	**11 45 35.5**	**+3.7**
IGLO	**Ghaloghah**	**7.30**	**64**	Pn	**Pn**	**11 45 37.1**	**+2.5**
ASF	**Jabal al Asfar**	**7.51**	**261**	Pn	**Pn**	**11 45 36.1**	**-1.3**
	comp=N,0.2nm,0.3s,baz=72,slow=20,SNR=1.5						
	comp=N,0.7nm,0.3s						
ARPR	**Arapgir-MALATY**	**8.06**	**315**	Pn	**Pn**	**11 45 45.3**	**+0.4**
MMAI	**Mount Meron Ar**	**8.61**	**269**	LR	LR	11 49 52.4	
	comp=N,49nm,19.8s,baz=54,slow=43						
EIL	**Elat**	**9.93**	**250**	LR	LR	11 50 55.1	
	comp=N,54nm,18.3s,baz=66,slow=44						
GEYT	**Alibeck**	**11.00**	**63**	Pn	**Pn**	**11 46 26.6**	**+1.4**
	comp=N,0.2nm,0.3s,baz=280,slow=8.6,SNR=1.8						
GEYT				LR	LR	11 51 06.4	
	comp=N,92nm,19.2s,baz=340,slow=40						
	comp=N,1.5nm,0.9s						
SHME	**Shamm**	**11.80**	**127**	P	**Pn**	**11 46 35.6**	**-0.6**
SHME				S	**Sn**	**11 48 39.6**	**-8.2**
BANOM	**Banah**	**11.99**	**127**	P	**Pn**	**11 46 37.1**	**-1.7**
MSFE	**Esma-Masafi**	**12.29**	**129**	P	**Pn**	**11 46 43.1**	**+0.3**
ASUD	**Al Ashush, Dub**	**12.30**	**134**	P	**Pn**	**11 46 43.2**	**+0.3**
MDH	**Madha**	**12.42**	**129**	P	**Pn**	**11 46 44.5**	**-0.1**
HATD	**Hatta, Dubai**	**12.65**	**131**	P	**Pn**	**11 46 47.3**	**-0.4**
ASHO	**Ashiyiah**	**12.70**	**132**	P	**Pn**	**11 46 49.1**	**+0.6**
ALNE	**Al Ain**	**12.98**	**135**	P	**Pn**	**11 46 53.2**	**+0.9**
SOHO	**SOHO**	**13.40**	**132**	P	**Pn**	**11 46 58.0**	**0.0**
WSAR	**Wadi Sarin**	**15.37**	**129**	Pn	**Pn**	**11 47 24.4**	**-0.5**
	comp=N,0.6nm,0.3s,baz=349,slow=7.9,SNR=4.7						
	comp=N,3.5nm,0.6s						
BELG	**Belogornoye**	**18.84**	**4**	P	**Pn**	**11 48 07.0**	**-1.1**
	comp=N,1.2nm,0.3s,baz=187,slow=6.4,SNR=4.0						
	comp=N,15nm,0.7s						
ABKAR	**Akbulak array**	**18.90**	**30**	P	**Pn**	**11 48 09.2**	**+0.3**
AKTO	**Aktyubinsk**	**19.12**	**25**	P	**Pn**	**11 48 10.4**	**-1.0**
	comp=N,0.2nm,0.3s,baz=205,slow=14,SNR=3.3						
	comp=N,1.7nm,0.6s						
KBL	**Kabul**	**19.39**	**81**	P	**Pn**	**11 48 14.2**	**-0.9**
KBL				IAmb	IAmb	11 48 18.3	
	comp=Z,11nm,1.1s						
SIMJ	**Simiganj**	**19.50**	**68**	P	**Pn**	**11 48 16.1**	**-0.3**
AKASG	**Malin Array Be**	**20.91**	**330**	P	**P**	**11 48 29.3**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=140,slow=9.4,SNR=6.6						
	comp=Z,0.9nm,0.4s						
AKBB	**Malin Array Si**	**20.91**	**330**	P	Pn	11 48 31.3	-1.3
KIEV	**Kiev**	**20.91**	**330**	P	Pn	11 48 31.1	-1.6
KK31	**Karatay Array**	**21.61**	**57**	P	**P**	**11 48 38.6**	**+0.9**
KK31				IAmb	IAmb	11 48 43.4	
	comp=Z,4.9nm,0.8s						
KKAR	**Karatay Array**	**21.61**	**57**	P	**P**	**11 48 39.0**	**+1.3**
NIL	**Nilore**	**22.95**	**82**	P	**P**	**11 48 52.7**	**+0.5**
NIL				IAmb	IAmb	11 48 54.4	
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**26.25**	**35**	P	**P**	**11 49 23.8**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=234,slow=8.2,SNR=5.8						
	comp=Z,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**29.41**	**45**	P	**P**	**11 49 52.1**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=252,slow=9.0,SNR=12						
	comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**29.50**	**45**	P	**P**	**11 49 53.0**	**+1.2**
KURK				IAmb	IAmb	11 49 53.7	
	comp=Z,3.6nm,1.0s						
MAKZ	**Makanchi**	**30.43**	**53**	P	**P**	**11 50 01.1**	**+0.9**
MAKZ				IAmb	IAmb	11 50 02.9	
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**30.58**	**342**	P	**P**	**11 50 01.6**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=142,slow=7.0,SNR=1.2						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**30.64**	**54**	P	**P**	**11 50 03.1**	**+1.1**
MK31				IAmb	IAmb	11 50 04.6	
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**30.64**	**54**	P	**P**	**11 50 02.9**	**+0.9**
MKAR	**Makanchi Array**	**30.64**	**54**	P	**P**	**11 50 02.8**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=250,slow=7.6,SNR=31						
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**33.77**	**332**	P	**P**	**11 50 29.0**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=123,slow=11,SNR=10.0						
	comp=Z,1.0nm,0.3s						
ZAA0	**Zalesovo Array**	**34.22**	**42**	P	**P**	**11 50 33.6**	**+0.4**
ZAA0				IAmb	IAmb	11 50 34.2	
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**34.22**	**42**	P	**P**	**11 50 33.3**	**0.0**
ZALV	**Zalesovo Beam**	**34.22**	**42

ISC 12 12:11:35.7±1.5, 33°73'N±0°03'×45°73'E±0°04, h1km±15km, n12, σ0§81/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.41	105	Pg	Pb	12 11 44.7	-1.2
ILBA				Sg	Sb	12 11 51.2	-1.5
IBDR	Badra	0.64	165	*e*Pg	Pg	12 11 48.0	0.0
IBDR				*e*Sg	Sg	12 11 57.0	+0.7
KGS1	Ghasr-e-Shirin	0.78	351	Pg	Pb	12 11 51.7	-0.5
IGHG	Ghaleghazi	0.92	49	Pg	Pb	12 11 54.6	0.0
IDHR	Dehrash	1.11	29	Pg	Pb	12 11 57.2	-0.6
KCHF	Cheshme Sefid,	1.22	63	Pg	Pn	12 12 00.9	+0.8
BHD	Baghdad	1.22	248	*e*Pg	Pn	12 12 00.0	+0.1
BHD				*e*Sg	Sn	12 12 18.0	+0.9
BHD				AML	AML	12 12 32.4	
	comp=E,286nm,0.5s						
IKOM	Komasi	1.54	73	Pg	Pg	12 12 05.9	+0.5
ILIN	Lien	1.56	40	Pg	Pg	12 12 05.9	+0.2
IKFM	Kafar-mosalman	1.78	96	Pg	Pg	12 12 09.8	0.0
IKRK	Kirkuk	2.02	326	*e*Pn	Pb	12 12 12.0	-1.4
IKRK				*e*Sn	Sb	12 12 39.0	-0.1
IKRK				AML	AML	12 12 44.7	
	comp=N,70nm,0.5s						
IKRK				AML	AML	12 12 49.9	
	comp=E,68nm,0.7s						
RAFI	Al-Rafai	2.03	171	*e*Pn	Pb	12 12 13.0	-0.4
RAFI				*e*Sn	Sb	12 12 39.0	-0.1

UCR 12 12:38:57.9±1.0, 10°70'N×84°97'W, h5km±9km, MW3.6
CATAC 12 12:38:58.3±0.2, 10°67'N×84°98'W, h13km±2km, ML2.8

ISC 12 12:38:58.6±0.9, 10°67'N±0°03'×84°97'W±0°03, h10km, n30, σ0§93/36, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMAR	Armenia, Volca	0.20	315	*e*P	Pg	12 39 03.2	+0.3
VMAR	Armenia, Volca	0.20	315	*i* P	Pg	12 39 03.1	+0.2
VMAR				*i* S	Sg	12 39 09.8	+4.0
VMAR				IAML		12 39 16.1	
	comp=Z,6μm,1.0s						
VACR	Volcan Arenal	0.34	124	*i* P	Pg	12 39 06.4	+0.9
VACR				*i* S	Sb	12 39 13.2	+0.8
VACR				IAML		12 39 15.6	
	comp=Z,1μm,1.0s						
JTS	Las Juntas de	0.38	178	*e*P	Pg	12 39 06.1	+0.1
VRLE	La Escondida,	0.41	287	*i* P	Pg	12 39 07.0	+0.3
VRLE				IAML		12 39 13.5	
	comp=Z,350nm,1.0s						
SOCE	Pocosol	0.45	129	*e*P	Pg	12 39 07.8	+0.5
SOCE	Pocosol	0.45	129	*i* P	Pg	12 39 07.8	+0.5
SOCE				IAML		12 39 18.2	
	comp=Z,750nm,1.0s						
COVE	Coope Vega, Sa	0.56	85	*e*P	Pg	12 39 09.2	-0.2
COVE	Coope Vega, Sa	0.56	85	*i* P	Pg	12 39 09.4	-0.1
COVE				IAML		12 39 25.3	
	comp=Z,450nm,1.0s						
ORTG	Ortega, Santa	0.57	238	*e*P	Pg	12 39 09.8	+0.1
ORTG	Ortega, Santa	0.57	238	*i* P	Pg	12 39 09.6	-0.1
ORTG				*i* S	Sg	12 39 17.8	+0.5
ORTG				IAML		12 39 19.1	
	comp=Z,170nm,1.0s						
HZTE	Horizontes, Gu	0.62	274	*e*P	Pg	12 39 10.9	+0.2
HZTE				*e*S	Sb	12 39 20.5	+0.2
HZTE	Horizontes, Gu	0.62	274	*i* P	Pg	12 39 10.8	+0.2
HZTE				*i* S	Sb	12 39 20.5	+0.2
HZTE				IAML		12 39 20.7	
	comp=Z,310nm,1.0s						
CPMI	Catarata Coope	0.69	124	*i* P	Pg	12 39 11.8	-0.2
CPMI				IAML		12 39 24.7	
	comp=Z,270nm,1.0s						
INDI	Punta indio, G	0.95	214	*e*P	Pg	12 39 16.6	-0.4
INDI	Punta indio, G	0.95	214	*i* P	Pg	12 39 16.5	-0.5
INDI				IAML		12 39 38.7	
	comp=Z,94nm,1.0s						
JACO	JACO, Garabito	1.04	163	*e*P	Pg	12 39 18.2	-0.5
JACO	JACO, Garabito	1.04	163	*i* P	Pg	12 39 18.0	-0.7
JACO				*i* S	Sg	12 39 32.9	+0.6
JACO				IAML		12 39 34.0	
	comp=Z,110nm,1.0s						
OMEN	Al SSO del Vol	1.06	322	*i* P	Pg	12 39 17.7	-1.3
OMEN				IAML		12 39 41.5	
	comp=Z,210nm,1.0s						
CBL1	Cabuya	1.08	187	*e*P	Pb	12 39 19.0	-0.4
CONN	Concepcion	1.10	324	*i* P	Pg	12 39 18.7	-1.1
CONN				IAML		12 39 44.2	
	comp=Z,2μm,1.0s						
MORN	Al O del Volca	1.10	323	*i* P	Pg	12 39 18.8	-1.0
MORN				IAML		12 39 44.7	
	comp=Z,320nm,1.0s						
TRT2	Tortugero	1.22	95	*i* P	Pn	12 39 20.4	-1.3
TRT2				IAML		12 39 39.5	
	comp=Z,150nm,1.0s						
HAYA	Volcan Irazu	1.30	122	*i* P	Pn	12 39 22.5	-0.7
HAYA				IAML		12 39 54.4	
	comp=Z,140nm,1.0s						
ACON	Acoyapa	1.31	351	*i* P	Pn	12 39 21.9	-1.1
ACON				IAML		12 39 42.8	
	comp=Z,180nm,1.0s						
LCR2	La Lucha 2	1.32	134	*i* P	Pn	12 39 22.4	-0.9
LCR2				IAML		12 39 46.4	
	comp=Z,86nm,1.0s						
RIMA	Rio Macho	1.41	129	*e*P	Pn	12 39 24.0	-0.5
RIMA	Rio Macho	1.41	129	*i* P	Pn	12 39 24.1	-0.4
RIMA				IAML		12 39 26.0	
	comp=Z,89nm,1.0s						
CDM	Cerro de Muert	1.62	133	*i* P	Pn	12 39 27.1	-0.6
CDM				IAML		12 39 29.1	
	comp=Z,63nm,1.0s						
BUS1	Rivas	1.63	133	*e*P	Pn	12 39 27.7	-0.1

ISN 12 12:54:46.5±1.5, 33°78N×45°93E, h7km±8km, ML2.6
TEH 12 12:54:58.1, 33°78N×45°93E, h10km±612km, ML2.5

ISC 12 12:54:53.5±1.0, 33°58N±0°04×45°63E±0°05, h10km, n9, σ3§03/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.53	151	*e*Pg	Pg	12 55 00.0	-3.8
IBDR				*e*Sg	Sg	12 55 08.0	-2.8
KGS1	Ghasr-e-Shirin	0.93	358	Pg	Pb	12 55 13.6	+1.9
IGHG	Ghaleghazi	1.08	46	Pg	Pg	12 55 13.7	-0.7
BHD	Baghdad	1.09	254	*e*Pn	Pg	12 55 14.0	-0.4
BHD				*e*Sn	Sn	12 55 34.5	+4.6
IDHR	Dehrash	1.28	29	Pg	Pn	12 55 16.9	-0.8
IKOM	Komasi	1.68	69	Pg	Pn	12 55 24.7	+1.7
IKFM	Kafar-mosalman	1.85	91	Pg	Pn	12 55 28.0	+2.6
RAFI	Al-Rafai	1.90	167	*e*Pn	Pn	12 55 24.0	-1.9
RAFI				*e*Sn	Sn	12 55 50.0	+0.2
IKRK	Kirkuk	2.10	330	*e*Pn	Pn	12 55 24.0	-4.8
IKRK				*e*Sn	Sn	12 55 50.0	-5.1
IKRK				AML	AML	12 55 58.8	
	comp=N,50nm,0.2s						
IKRK				AML	AML	12 56 03.7	
	comp=E,56nm,0.4s						

NOU 12 12:56:21.6, 18°74S×167°69E, h0km, MLv4.3/13, Vanuatu Islands
IDC 12 12:56:22.3±1.2, 18°77S×167°73E, h0km, mb4.2/8, mbtmp4.2/9, ML3.7/1, MS3.3/6, Error ellipse: s-maj=43.6km s-min=19.7km az=137.0
NEIC 12 12:56:23.4±2.5, 18°97S±0°09×167°64E±0°07, h10km±1km, mb4.9/43, Error ellipse: s-maj=17.6km s-min=6.5km az=32.0

ISC 12 12:56:26.2±0.5, 18°89S±0°07×167°63E±0°09, h28km, n98, σ1§17/96, mb4.8/30, MS3.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	1.91	191	Pn	Pn	12 56 55.9	-1.0
LIFNC	LIFOU	1.91	191	P	Pn	12 56 56.1	-0.8
MARNC	Mare, Loyalty	2.60	172	Pn	Pn	12 57 04.7	-1.7
MARNC	Mare, Loyalty	2.60	172	P	Pn	12 57 06.7	+0.3
YATNC	Mamie plateau,	3.23	192	P	Pn	12 57 15.2	+0.2
DZM	Mont Dzumac	3.35	199		Pn	12 57 14.2	-2.6
DZM	Mont Dzumac	3.35	199	P	Pn	12 57 17.3	+0.5
DZM	Mont Dzumac	3.35	199	Pn	Pn	12 57 16.6	-0.2
	7.3nm,0.3s,baz=94,slow=12,SNR=92						
DZM				Sn	Sn	12 57 56.3	+0.5
	17nm,0.3s,baz=148,slow=19,SNR=11						
DZM				LR	LR	12 58 06.9	
	comp=Z,113nm,18.2s,baz=70,slow=30 17nm,0.3s						
NOUC	Port Laguerre	3.43	201	P	Pn	12 57 18.6	+0.9
KOUNC	Koumac, New Ca	3.55	242		Pn	12 57 18.2	-1.3
KOUNC	Koumac, New Ca	3.55	242	P	Pn	12 57 19.6	+0.1
ONTNC	Ouen Toro	3.57	198		Pn	12 57 17.1	-2.7
ONTNC	Ouen Toro	3.57	198	P	Pn	12 57 20.6	+0.9
OUENC	Ouen Island, N	3.58	192	Pn	Pn	12 57 16.4	-3.5
OUENC	Ouen Island, N	3.58	192	P	Pn	12 57 22.1	+2.2
PINNC	Pines Island,	3.71	183	Pn	Pn	12 57 21.1	-0.5
PINNC	Pines Island,	3.71	183	P	Pn	12 57 23.2	+1.6
CTA	Charters Tower	20.18	263	P	Pn	13 01 01.1	+0.3
	2.7nm,0.5s,baz=85,slow=11,SNR=6.3						
CTA				LR	LR	13 07 25.3	
	comp=Z,126nm,21.5s,baz=84,slow=33 2.7nm,0.5s						
CTAO	Charters Tower	20.18	263	P	P	13 00 57.9	-0.8
PMG	Port Moresby	21.95	293	LR	LR	13 08 35.8	
	comp=Z,90nm,19.9s,baz=124,slow=33						
STKA	Stephens Creek	26.76	236	P	P	13 02 07.2	+3.5
	3.2nm,0.7s,baz=97,slow=11,SNR=6.0						
STKA				LR	LR	13 11 55.9	
	comp=Z,54nm,19.7s,baz=36,slow=35 3.2nm,0.7s						
WR0	Warramunga Arr	31.20	262	P	P	13 02 42.9	-0.4
WB0	Warramunga Arr	31.35	263	P	P	13 02 44.5	-0.1
WB2	Warramunga Arr	31.37	263	P	P	13 02 43.5	-1.4
WRAB	Tennant Creek	31.38	263	P	P	13 02 45.5	+0.6
WRAB				IAmb	IAmb	13 02 49.6	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	31.39	263	P	P	13 02 44.0	-0.9
WRA	Warramunga Arr	31.39	263	P	P	13 02 45.0	0.0
	comp=Z,0.3nm,0.5s,baz=82,slow=6.0,SNR=7.8 comp=Z,0.3nm,0.5s						
BBOO	Buckleboo	31.47	238	P	P	13 02 44.4	-1.2
BBOO				IAmb	IAmb	13 02 55.3	
	comp=Z,32nm,1.4s						
AS31	Alice Springs	31.73	255	P	P	13 02 47.1	-0.9
AS31				IAmb	IAmb	13 03 00.2	
	comp=Z,7.0nm,0.5s						
ASAR	Alice Springs	31.73	255	P	P	13 02 48.4	+0.4
ASAR	Alice Springs	31.73	255	P	P	13 02 48.6	+0.6
	comp=Z,2.8nm,0.6s,baz=84,slow=8.3,SNR=57						
ASAR				LR	LR	13 14 56.7	
	comp=Z,108nm,19.9s,baz=90,slow=35 comp=Z,2.8nm,0.6s						
KNRA	Kununurra	37.20	269	P	P	13 03 35.2	-0.1
KNRA				IAmb	IAmb	13 03 47.2	
	comp=Z,14nm,0.7s						
FITZ	Fitzroy Crossi	39.76	264	P	P	13 03 56.4	-0.5
NWAO	Narrogin (SRO)	47.02	242	LR	LR	13 24 34.8	
	comp=Z,45nm,18.6s,baz=124,slow=36						
JKA	Kamikawa-asahi	66.76	341	P	P	13 07 15.8	+1.0
PETK	Petropavlovsk-	72.21	354	P	P	13 07 47.8	-0.5
PETK	Petropavlovsk-	72.21	354	P	P	13 07 48.2	-0.2
	comp=Z,4.2nm,0.9s,baz=156,slow=7.3,SNR=4.7 comp=Z,4.2nm,0.9s						
BELA	Belgrano 2	82.57	175	P	P	13 08 47.1	+1.0
J14K	Nanvaranak Lak	84.48	13	P	P	13 08 55.0	-0.9
N19K	Bonanza Creek	85.08	18	P	P	13 08 59.3	+0.2
N19K				IAmb	IAmb	13 09 22.2	
	comp=Z,12nm,1.1s						
J16K	Anvik River	85.60	14	P	P	13 09 03.1	+1.5
L18K	Granite Mounta	85.64	16	P	P	13 09 03.4	+1.6
SONM	Songino Array	86.03	324	P	P	13 09 04.7	+0.4
SONM	Songino Array	86.03	324	P	P	13 09 05.3	+1.1
	comp=Z,1.9nm,0.9s,baz=119,slow=5.3,SNR=9.2 comp=Z,1.9nm,0.9s						
YAK	Yakutsk	86.09	343	P	P	13 09 04.7	+0.7
YAK				IAmb	IAmb	13 09 05.3	
	comp=Z,8.8nm,0.7s						
L19K	White Mountain	86.10	17	P	P	13 09 03.8	-0.3
L19K				IAmb	IAmb	13 09 07.1	
	comp=Z,7.9nm,1.1s						
TNA	Tin City	86.22	10	P	P	13 09 04.6	+0.1
TNA				IAmb	IAmb	13 09 07.1	
	comp=Z,6.7nm,0.9s						
TTA	Tatalina	86.41	16	P	P	13 09 06.6	+0.9
TTA				IAmb	IAmb	13 09 22.7	
	comp=Z,8.6nm,1.3s						
SUA	Susitna One	86.70	19	P	P	13 09 07.7	+0.5
RC01	Rabbit Creek A	86.72	19	P	P	13 09 06.6	-0.5
F15K	North Star Dit	86.92	11	P	P	13 09 09.7	+1.7
F15K				IAmb	IAmb	13 09 14.1	
	comp=Z,8.5nm,1.2s						
G16K	Koyuk River	87.08	12	P	P	13 09 10.4	+1.6
G16K				IAmb	IAmb	13 09 11.4	
	comp=Z,5.9nm,0.9s						
H18K	Honhosa River	87.71	14	P	P	13 09 11.0	-0.8
H18K				IAmb	IAmb	13 09 37.3	
	comp=Z,9.1nm,1.5s						
CAST	Castle Rocks	87.85	17	P	P	13 09 11.4	-1.1
CAST				IAmb	IAmb	13 09 12.4	
	comp=Z,7.1nm,1.0s						
SCM	Sheep Creek Mo	88.05	20	P	P	13 09 13.3	-0.3
KLU	Klutina	88.25	20	P	P	13 09 12.8	-1.8
KTH	Kantishna Hill	88.28	17	P	P	13 09 13.6	-1.1
KTH				IAmb	IAmb	13 09 16.0	
	comp=Z,11nm,1.2s						
TRF	Thorofare Moun	88.38	18	P	P	13 09 15.3	0.0
E18K	Tukpahlearik C	89.20	12	P	P	13 09 20.1	+1.3
H21K	Melozitna Rive	89.45	15	P	P	13 09 18.3	-1.7
H21K				IAmb	IAmb	13 09 38.8	
	comp=Z,8.7nm,1.5s						
NVAR	Mina Array Bea	89.72	49	P	P	13 09 22.8	+0.6
	comp=Z,2.0nm,1.0s,baz=234,slow=7.7,SNR=5.0 comp=Z,2.0nm,1.0s						
IL31		90.36	18	P	P	13 09 22.8	-1.5
IL31				IAmb	IAmb	13 09 49.9	
	comp=Z,6.2nm,1.4s						
ILAR	Eielson Array	90.36	18	P	P	13 09 22.9	-1.4
ILAR	Eielson Array	90.36	18	P	P	13 09 23.2	-1.1
	comp=Z,1.2nm,0.8s,baz=238,slow=4.8,SNR=8.8 comp=Z,1.2nm,0.8s						
G08A	Pilot Rock	92.13	43	P	P	13 09 34.0	+0.9
G08A				IAmb	IAmb	13 09 35.1	
	comp=Z,7.6nm,1.0s						
F24K	Squaw Lake	92.14	16	P	P	13 09 32.6	0.0
F24K				IAmb	IAmb	13 09 35.1	
	comp=Z,2.6nm,0.9s						
M30M	Minto, Yukon	92.15	22	P	P	13 09 32.7	0.0
M30M				IAmb	IAmb	13 09 41.1	
	comp=Z,8.7nm,1.5s						
BMAR	Burnt Mountain	92.94	17	P	P	13 09 36.3	0.0
E25K	Arctic Village	93.18	16	P	P	13 09 37.8	+0.4
E25K				IAmb	IAmb	13 09 49.7	
	comp=Z,6.3nm,1.5s						
MTPU	Mount Pierson	94.02	51	P	P	13 09 41.3	-1.1
MTPU				IAmb	IAmb	13 09 43.5	
	comp=Z,2.6nm,0.8s						
MVU	Marysvale	94.16	51	P	P	13 09 41.4	-1.4
MVU				IAmb	IAmb	13 09 51.2	
	comp=Z,8.3nm,1.1s						
MSU	Marysvale	94.19	51	P	P	13 09 41.2	-1.8
G30M	tAoh Zraii Nji	95.08	19	P	P	13 09 45.7	-0.4
E28M	Babbage River	95.14	17	P	P	13 09 46.4	+0.1
PD31	Pinedale Array	97.50	47	P	P	13 09 55.6	-2.4
PD31				IAmb	IAmb	13 10 07.5	
	comp=Z,3.4nm,1.3s						
PDAR	Pinedale Array	97.50	47	P	P	13 09 55.7	-2.2
MKAR	Makanchi Array	100.43	316	P	Pdif	13 10 10.8	+0.1
	comp=Z,0.3nm,0.7s,baz=88,slow=4.6,SNR=2.9						
YKA	Yellowknife Ar	101.06	28	P	Pdif	13 10 13.4	+0.4
	comp=Z,0.4nm,0.5s,baz=252,slow=4.8,SNR=8.5						
ARCES	ARCESS Array B	124.34	345	PKP	PKiKP	13 15 22.0	-0.1
	comp=Z,6.4nm,1.0s,baz=54,slow=2.3,SNR=2.5						
CONA	Conrad Observa	143.05	328	*i* PKP	PKPdf	13 15 56.8	-0.7
	comp=Z,5.6nm,1.3s						
MOA	Molln	143.89	329	*i* PKP	PKPdf	13 15 58.4	-0.5
	comp=Z,6.1nm,1.0s						
SOKA	Soboth	144.31	327	*i* PKP	PKPdf	13 15 59.1	-0.6
	comp=Z,5.1nm,1.0s						
OBKA	Obir	144.67	327	*e*PKP	PKPdf	13 16 00.0	-0.4
	comp=Z,17nm,1.5s						
KBA	Koelnbreinsper	144.88	329	*e*PKP	PKPdf	13 16 00.8	-0.1
	comp=Z,5.8nm,0.9s						
LESA	Schwarzleotal	144.95	330	*i* PKP	PKPdf	13 16 01.3	+0.4
	comp=Z,13nm,1.2s						
MYKA	Terra Mystica	145.04	328	*i* PKP	PKPdf	13 16 00.9	-0.1
	comp=Z,4.1nm,0.6s						
ABTA	Abfaltersbach	145.52	329	*i* PKP	PKPab	13 16 01.9	-0.3
	comp=Z,10nm,0.8s						
WATA	Walderalm	145.53	331	*i* PKP	PKPab	13 16 03.0	+0.7
	comp=Z,2.7nm,0.6s						
CLUD	Cludinico	145.54	329	PKPdf	PKPdf	13 16 00.6	-1.3
WTTA	Wattenberg	145.56	331	*i* PKP	PKPab	13 16 03.4	+1.0
	comp=Z,10nm,1.0s						
MOTA	Moosalm	145.74	331	*i* PKP	PKPab	13 16 03.9	+0.8
	comp=Z,11nm,0.8s						
STAL	STALIGIAL	145.76	328	PKPdf	PKPdf	13 16 01.5	-0.8
SQTA	Sankt Quirin	145.79	331	*i* PKP	PKPab	13 16 04.1	+0.9
	comp=Z,10nm,0.7s						
CIMO	Cimolais	145.86	329	PKPdf	PKPdf	13 16 00.3	-2.1
FETA	Feichten	146.16	331	*i* PKP	PKPab	13 16 05.4	+0.7
	comp=Z,8.0nm,0.9s						
TUE	Stuetta	147.19	332	PKPbc	PKPbc	13 16 06.7	-0.4
ZCCA	Zocca	147.98	328	PKPdf	PKPdf	13 16 05.6	-0.4
SENIN	Lac Senin/Sane	148.16	334	PKPdf	PKPdf	13 16 05.3	-1.1

IDC 12 12:56:28.6±0.5, 27°67N×142°94E, h0km, mb4.2/26, mbtmp4.2/30, ML3.4/4, MS3.4/10, Error ellipse: s-maj=14.8km s-min=11.3km az=114.0
NIED 12 12:56:28.4, 27°88N×143°24E, h17km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.63; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-1.84; $M_{r\theta}$0.02; $M_{r\phi}$0.31; $M_{\theta\phi}$2.19; Fault plane solution: $M_0$2.81000×10¹⁵ NP1: ϕ_s359.00000°, δ71.00000°, λ96.00000°. NP2: ϕ_s162.00000°, δ20.00000°, λ74.00000°.
JMA 12 12:56:28.4±0.1, 27°9N±1.0×143°2E±0°6, h17km±2km, MV4.4/17, NEAR CHICHIJIMA ISLAND
MOS 12 12:56:29.4±0.9, 27°73N×142°93E, h15km, mb4.7/28, Error ellipse: s-maj=12.8km s-min=5.7km az=109.3
NEIC 12 12:56:30.9±1.0, 27°78N±0°06×142°99E±0°07, h10km±1km, mb4.6/90, Error ellipse: s-maj=13.0km s-min=7.1km az=133.0

ISC 12 12:56:32.4±0.4, 27°77N±0°04×142°95E±0°05, h22km, n218, σ1§45/212, mb4.5/96, MS3.6/10, 11C-11D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.96	226	P	Pb	12 56 50.6	+0.4
CBIJ				*e*S	Sn	12 57 06.3	+2.9
CBIJ	Chichi jima	0.96	226	A	A	12 56 50.6	
	comp=E,13nm,6.6s,comp=N,12nm,3.3s						
JCJ	Chichijima	0.96	226	Pg	Pb	12 56 50.4	+0.2
JCJ				Sg	Sb	12 57 01.0	-1.4
JCJ	Chichijima	0.96	226	Pn	Pb	12 56 46.5	-3.7
	comp=N,176nm,0.3s,baz=61,slow=13,SNR=36						
JCJ				Sn	Sb	12 57 01.0	-1.4
	comp=N,527nm,0.3s,baz=56,slow=21,SNR=13						
JHH2	Haha-jima-NKT2	1.32	212	*e*P	Pn	12 56 55.7	+0.2
JHH2				*e*S	Sb	12 57 15.8	+2.8
JHH2	Haha-jima-NKT2	1.32	212	A	A	12 56 55.7	
	comp=E,9.0nm,5.6s,comp=N,11nm,5.2s						
JHJ	Hachijo jima 2	6.00	334	Pn	Pn	12 57 59.7	-0.1
	comp=N,2.9nm,0.3s,baz=163,slow=19,SNR=1.6						
JHJ				Sn	Sn	12 59 03.7	-4.1
	comp=N,6.6nm,0.3s,baz=62,slow=19,SNR=3.2 comp=N,154nm,0.9s						
JHU	Hanno	8.64	340	*e*P	Pn	12 58 34.9	-1.2
JRY	Ryogami san	8.92	338	*e*P	Pn	12 58 39.5	-0.3
JRY				*e*S	Sn	13 00 18.9	-0.7
JAG	Ashikaga	9.13	342	*e*P	Pn	12 58 41.4	-1.3
JAG				*e*S	Sn	13 00 20.8	-4.0
MJAR	Matsushiro Arr	9.63	337	Pn	Pn	12 58 48.5	-1.1
	comp=N,0.2nm,0.3s,baz=165,slow=11,SNR=13						
MJAR				Sn	Sn	13 00 33.1	-4.0
	comp=N,0.1nm,0.3s,baz=145,slow=18,SNR=4.6						
MJAR				LR	LR	13 02 17.6	
	comp=N,153nm,18.3s,baz=182,slow=36 comp=N,3.7nm,0.5s						
MAJO	Matsushiro	9.63	337		Pn	12 58 49.5	-0.1
MAJO	Matsushiro	9.63	337⇑	*e*P	Pn	12 58 49.3	-0.3
MJB9	Matsu-Tunnel	9.63	337		Pn	12 58 50.3	+0.6
JMM	Marumori	10.23	350		Pn	12 58 55.9	-2.0
JMZ	Minamidaito 2	10.66	262	Pn	Pn	12 59 03.4	-0.4
JNU	Nakatsue	11.70	300	LR	LR	13 03 38.5	
	comp=N,121nm,18.4s,baz=120,slow=37						
KSRS	Korea Array	15.91	311	Pn	Pn	13 00 14.6	-0.2
	comp=N,0.1nm,0.3s,baz=121,slow=10,SNR=2.5						
KSRS				LR	LR	13 06 34.3	
	comp=N,93nm,18.1s,baz=120,slow=38 comp=N,1.0nm,0.5s						
ASAJ	Asahikawa	16.32	359	P	Pn	13 00 17.7	-2.3
ASAJ				pmax	pmax		
	comp=Z,25nm,1.3s						
ASAJ	Asahikawa	16.32	359	Pn	Pn	13 00 17.2	-2.8
	comp=Z,0.4nm,0.3s,baz=213,slow=16,SNR=4.5						
JKA	Kamikawa-asahi	16.32	359	Pn	Pn	13 00 17.7	-2.3
USA0B	Ussuriysk Arra	18.61	335	P	P	13 00 46.1	-2.1
USA0B	Ussuriysk Arra	18.61	335⇑	*e*P	Pn	13 00 49.1	+0.5
USRK	Ussuriysk Ar.	18.61	335	P	P	13 00 46.0	-2.2
USRK	Ussuriysk Ar.	18.61	335	P	Pn	13 00 49.7	+1.1
	comp=Z,0.3nm,0.3s,baz=158,slow=12,SNR=9.1 comp=Z,8.2nm,0.8s						
YSS	Yuzh-Sakhalins	19.15	360⇑	*e*P	Pn	13 00 56.6	+1.5
YSS				pmax	pmax		
	comp=Z,21nm,1.2s						
NACB	Ninganchiao	19.53	264	P	P	13 00 57.2	-1.2
NACB				IAmb	IAmb	13 01 26.2	
	comp=Z,34nm,1.1s						
YHNB	Yeheng	19.60	266	P	P	13 00 58.1	-1.1
YHNB				IAmb	IAmb	13 01 04.9	
	comp=Z,47nm,1.1s						
MDJ	Mudanjiang	19.93	331	P	P	13 01 02.4	-0.2
MDJ				pP	Pn	13 01 04.1	-0.3
MDJ				PP	PnPn	13 01 25.7	+7.1
MDJ				S	Sn	13 05 01.9	+14
MDJ				sS	pS	13 05 07.2	+7.4
MDJ				PcS	PcS	13 08 34.0	-22
MDJ				ScP	ScP	13 08 40.1	-14
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.

BJI	**Beijing**	**25.27**	**306**	P	**P**	**13 01 58.5**	**+1.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.4s						
HEH	**HeiHe**	**25.39**	**336**	*e*P	**P**	**13 02 01.8**	**+3.8**
HEH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
HEH				pmax	pmax		
	comp=Z,170nm,4.2s						
HNS	**HongShan**	**25.59**	**299**	⇑P	**P**	**13 01 59.1**	**-0.8**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PETK	**Petropavlovsk-**	**27.58**	**19**	P	**P**	**13 02 18.6**	**+0.9**
	comp=Z,3.7nm,1.0s,baz=188,slow=14,SNR=1.8						
PETK				LR	LR	13 12 46.1	
	comp=Z,42nm,21.8s,baz=112,slow=35						
	comp=Z,3.7nm,1.0s						
ZEA	**Zeya**	**28.41**	**340**	*e*P	**P**	**13 02 29.0**	**+3.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**28.86**	**305**	*e*P	**P**	**13 02 29.3**	**-0.1**
HHC				sP	pwP	13 02 39.6	-1.0
HHC				*e*S	**S**	**13 07 15.9**	**-2.6**
HHC				SS	**SnSn**	**13 08 42.5**	**+1.5**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,5.1s						
HHC				LR	LR		
	comp=N,260nm,10.3s						
HHC				LR	LR		
	comp=E,300nm,10.8s						
HHC				LR	LR		
	comp=Z,380nm,10.9s						
CD2	**Chengdu**	**34.19**	**285**	P	**P**	**13 03 15.3**	**-1.1**
CD2				pP	pP	13 03 18.6	-3.1
CD2				sP	sP	13 03 19.8	-4.6
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
ULN	**Ulaanbaatar**	**34.31**	**316**	P	**P**	**13 03 17.2**	**-0.2**
ULN				IAmb	IAmb	13 03 21.6	
	comp=Z,5.8nm,0.9s						
ULN	**Ulaanbaatar**	**34.31**	**316**	*de*P	**P**	**13 03 17.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	**Songino Array**	**34.71**	**315**	P	**P**	**13 03 21.0**	**+0.3**
SONM	**Songino Array**	**34.71**	**315**	P	**P**	**13 03 21.0**	**+0.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**34.71**	**315**	P	**P**	**13 03 20.9**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=126,slow=8.7,SNR=11						
	comp=Z,1.5nm,0.6s						
YAK	**Yakutsk**	**35.38**	**349**	⇑*e*P	**P**	**13 03 27.0**	**+0.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SEY	**Seymchan**	**35.71**	**7**	⇓*e*P	**P**	**13 03 29.2**	**+0.3**
SEY				pmax	pmax		
	comp=Z,9.0nm,2.2s						
PZH	**PanZhiHua**	**36.58**	**278**	P	**P**	**13 03 36.0**	**-1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,210nm,5.6s						
GTA	**Gaotai**	**37.44**	**299**	*e*P	**P**	**13 03 43.1**	**-1.1**
GTA				sP	pwP	13 03 54.2	-1.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZAK	**Zakamensk**	**37.56**	**318**	*e*P	**P**	**13 03 44.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**41.34**	**267**	LR	LR	13 23 08.4	
	comp=Z,22nm,18.1s,baz=90,slow=39						
COEN	**Coen**	**41.48**	**180**	P	**P**	**13 04 18.2**	**+0.4**
MTN	**Manton Dam**	**41.96**	**197**	P	**P**	**13 04 21.5**	**-0.3**
MTN				IAmb	IAmb	13 04 34.9	
	comp=Z,17nm,1.0s						
BILL	**Bilibino**	**42.65**	**13**	⇓*e*P	**P**	**13 04 27.8**	**+0.9**
BILL				pmax	pmax		
	comp=Z,23nm,3.4s						
KNRA	**Kununurra**	**45.32**	**199**	P	**P**	**13 04 48.9**	**0.0**
WMQ	**Urumqi**	**46.74**	**305**	*e*P	**P**	**13 05 02.0**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,13nm,1.5s						
DGZ	**Jazzator, Alta**	**47.30**	**313**	⇑*e*P	**P**	**13 05 05.2**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**47.98**	**191**	P	**P**	**13 05 09.3**	**-0.3**
WR0	**Warramunga Arr**	**48.14**	**191**	P	**P**	**13 05 10.7**	**-0.1**
WB2	**Warramunga Arr**	**48.15**	**191**	P	**P**	**13 05 10.9**	**0.0**
WRA	**Warramunga Arr**	**48.16**	**191**	P	**P**	**13 05 10.5**	**-0.5**
WRA	**Warramunga Arr**	**48.16**	**191**	P	**P**	**13 05 10.5**	**-0.5**
	comp=Z,15nm,0.6s,baz=12,slow=8.4,SNR=62						
WRA				PcP	**PcP**	**13 06 38.3**	**0.0**
	comp=Z,0.8nm,0.7s,baz=7.3,slow=3.8,SNR=1.0						
K13K	**Kusilvak Mount**	**48.39**	**30**	P	**P**	**13 05 11.9**	**-0.4**
K13K				IAmb	IAmb	13 05 14.2	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**48.58**	**202**	P	**P**	**13 05 14.7**	**+0.4**
ANM	**Nome**	**49.06**	**27**	P	**P**	**13 05 17.8**	**+0.3**
ANM				IAmb	IAmb	13 05 22.5	
	comp=Z,7.0nm,0.8s						
ANM	**Nome**	**49.06**	**27**	P	**P**	**13 05 17.8**	**+0.3**
ANM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ZAA0	**Zalesovo Array**	**49.43**	**319**	P	**P**	**13 05 20.6**	**+0.1**
ZAA0				IAmb	IAmb	13 05 32.9	
	comp=Z,5.4nm,0.9s						
ZALV	**Zalesovo Beam**	**49.43**	**319**	P	**P**	**13 05 20.6**	**+0.1**
ZALV	**Zalesovo Beam**	**49.43**	**319**	*i* P	**P**	**13 05 21.2**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**49.43**	**319**	P	**P**	**13 05 21.0**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=96,slow=6.9,SNR=14						
ZALV				PcP	**PcP**	**13 06 42.2**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=116,slow=3.7,SNR=4.5						
	comp=Z,2.6nm,0.7s						
FUNA	**Funafuti**	**50.31**	**131**	P	**P**	**13 05 26.2**	**-1.4**
MK31	**Makanchi Array**	**50.58**	**309**	P	**P**	**13 05 29.6**	**+0.2**
MK31	**Makanchi Array**	**50.58**	**309**	*c* P	**P**	**13 05 29.2**	**-0.2**
MKAR	**Makanchi Array**	**50.58**	**309**	P	**P**	**13 05 29.4**	**0.0**
	comp=Z,2.9nm,0.8s,baz=89,slow=8.0,SNR=21						
MKAR				PcP	**PcP**	**13 06 47.1**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=88,slow=3.8,SNR=3.9						
	comp=Z,2.9nm,0.8s						
C16K	**Lisburne Hills**	**50.61**	**22**	P	**P**	**13 05 29.2**	**0.0**
C16K				IAmb	IAmb	13 05 33.5	
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**50.79**	**309**	P	**P**	**13 05 31.1**	**+0.1**
MAKZ				IAmb	IAmb	13 05 32.2	
	comp=Z,12nm,1.4s						
MAKZ	**Makanchi**	**50.79**	**309**	P	**P**	**13 05 31.1**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.5s						
AS31	**Alice Springs**	**51.87**	**191**	P	**P**	**13 05 38.6**	**-0.6**
ASAR	**Alice Springs**	**51.87**	**191**	P	**P**	**13 05 38.8**	**-0.4**
ASAR	**Alice Springs**	**51.87**	**191**	P	**P**	**13 05 38.8**	**-0.4**
ASAR	**Alice Springs**	**51.87**	**191**	P	**P**	**13 05 38.2**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=6.5,slow=5.5,SNR=24						
	comp=Z,2.0nm,0.6s						
E18K	**Tukpahlearik C**	**51.93**	**24**	P	**P**	**13 05 39.4**	**+0.2**
H18K	**Honhosa River**	**52.07**	**27**	P	**P**	**13 05 40.0**	**-0.2**
H18K				IAmb	IAmb	13 06 03.6	
	comp=Z,16nm,1.5s						
NRIK	**Noril'sk**	**52.28**	**338**	⇓*e*P	**P**	**13 05 43.2**	**+1.5**
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
C19K	**Lookout Ridge**	**52.87**	**22**	P	**P**	**13 05 46.5**	**+0.3**
C19K				IAmb	IAmb	13 05 48.2	
	comp=Z,6.9nm,1.1s						
KURK	**Kurchatov**	**53.01**	**314**	P	**P**	**13 05 47.8**	**+0.5**
KURK	**Kurchatov**	**53.01**	**314**	*c* P	**P**	**13 05 47.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,22nm,1.3s						
KURBB	**Kurchatov Arra**	**53.06**	**314**	P	**P**	**13 05 48.0**	**+0.3**
	comp=Z,9.4nm,0.7s,baz=90,slow=7.7,SNR=113						
	comp=Z,9.4nm,0.7s						
ILSW	**Iliamna Southw**	**53.38**	**34**	P	**P**	**13 05 49.9**	**-0.2**
J20K	**Nowinta River**	**53.60**	**29**	P	**P**	**13 05 52.5**	**+1.0**
J20K				IAmb	IAmb	13 05 56.1	
	comp=Z,8.1nm,0.8s						
F20K	**Avaraart Lake**	**53.62**	**25**	P	**P**	**13 05 52.3**	**+0.7**
IMAR	**Indian Mountai**	**54.14**	**27**	P	**P**	**13 05 55.4**	**-0.1**
CAST	**Castle Rocks**	**54.37**	**30**	P	**P**	**13 05 57.7**	**+0.5**
G23K	**Bananza Creek**	**55.75**	**26**	P	**P**	**13 06 07.0**	**-0.2**
G23K				IAmb	IAmb	13 06 12.8	
	comp=Z,6.7nm,1.0s						

KNK	**Knik Glacier**	**55.81**	**33**	P	**P**	**13 06 06.2**	**-1.4**
KSH	**Kashi**	**55.82**	**301**	P	**P**	**13 06 11.8**	**+3.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
IL31		**56.80**	**29**	P	**P**	**13 06 13.5**	**-1.0**
IL31				IAmb	IAmb	13 06 34.7	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**56.80**	**29**	P	**P**	**13 06 14.7**	**+0.1**
ILAR	**Eielson Array**	**56.80**	**29**	P	**P**	**13 06 14.7**	**+0.1**
ILAR	**Eielson Array**	**56.80**	**29**	P	**P**	**13 06 13.7**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=259,slow=5.8,SNR=11						
	comp=Z,1.7nm,0.9s						
ARSB	**Arslanbob**	**57.76**	**303**	P	**P**	**13 06 21.3**	**-0.7**
ARSB	**Arslanbob**	**57.76**	**303**	P	**P**	**13 06 21.3**	**-0.7**
ARSB				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BMAR	**Burnt Mountain**	**57.96**	**26**	P	**P**	**13 06 23.3**	**+0.5**
SCRK	**Sand Creek**	**58.01**	**30**	P	**P**	**13 06 22.7**	**-0.6**
SCRK				IAmb	IAmb	13 06 37.0	
	comp=Z,6.1nm,1.2s						
BVAR	**Borovoye Array**	**58.01**	**317**	P	**P**	**13 06 24.6**	**+1.2**
	comp=Z,4.2nm,0.5s,baz=88,slow=7.6,SNR=31						
	comp=Z,4.2nm,0.5s						
GLB	**Gilahina Butte**	**58.05**	**33**	P	**P**	**13 06 22.7**	**-0.8**
BRVK	**Borovoye**	**58.08**	**317**	P	**P**	**13 06 24.2**	**+0.4**
BRVK				IAmb	IAmb	13 06 37.2	
	comp=Z,5.5nm,0.7s						
BRVK	**Borovoye**	**58.08**	**317**	⇓*e*P	**P**	**13 06 24.7**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MENT	**Mentasta**	**58.10**	**31**	P	**P**	**13 06 23.1**	**-0.8**
J26L	**Joseph Creek**	**58.21**	**29**	IAmb	IAmb	13 06 28.7	
	comp=Z,4.1nm,0.8s						
BCAR	**Beaver Creek A**	**58.99**	**31**	P	**P**	**13 06 30.0**	**0.0**
NIL	**Nilore**	**59.20**	**294**	P	**P**	**13 06 29.9**	**-2.1**
NIL	**Nilore**	**59.20**	**294**	P	**P**	**13 06 29.9**	**-2.1**
NIL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KK31	**Karatay Array**	**59.25**	**306**	P	**P**	**13 06 32.2**	**0.0**
KK31				IAmb	IAmb	13 06 35.7	
	comp=Z,6.1nm,0.8s						
KK31	**Karatay Array**	**59.25**	**306**	P	**P**	**13 06 32.2**	**0.0**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**59.25**	**306**	P	**P**	**13 06 32.3**	**+0.1**
KKAR	**Karatay Array**	**59.25**	**306**	P	**P**	**13 06 32.3**	**+0.1**
STKA	**Stephens Creek**	**59.33**	**181**	P	**P**	**13 06 33.4**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=29,slow=22,SNR=3.1						
	comp=Z,2.4nm,0.8s						
F28M	**Old Crow**	**59.77**	**26**	P	**P**	**13 06 34.6**	**-0.8**
F28M				IAmb	IAmb	13 06 54.7	
	comp=Z,5.8nm,1.4s						
EPYK	**Eagle Plains**	**61.05**	**27**	P	**P**	**13 06 44.7**	**+0.6**
EPYK				IAmb	IAmb	13 06 48.5	
	comp=Z,7.7nm,1.1s						
M30M	**Minto, Yukon**	**61.30**	**31**	P	**P**	**13 06 46.0**	**+0.1**
M30M				IAmb	IAmb	13 07 13.5	
	comp=Z,7.8nm,1.4s						
SIMJ	**Simiganj**	**61.30**	**301**	P	**P**	**13 06 46.8**	**+0.4**
SIMJ				IAmb	IAmb	13 06 49.6	
	comp=Z,7.0nm,1.1s						
G31M	**Satah River**	**61.98**	**26**	P	**P**	**13 06 50.7**	**+0.4**
G31M				IAmb	IAmb	13 06 52.4	
	comp=Z,6.8nm,1.2s						
INK	**Inuvik**	**62.14**	**25**	P	**P**	**13 06 52.2**	**+0.9**
INK				IAmb	IAmb	13 07 19.4	
	comp=Z,9.7nm,1.5s						
INK	**Inuvik**	**62.14**	**25**	P	**P**	**13 06 52.3**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=291,slow=4.8,SNR=5.9						
	comp=Z,1.7nm,0.7s						
M31M	**Drury Creek, Y**	**62.45**	**32**	P	**P**	**13 06 54.1**	**+0.4**
M31M				IAmb	IAmb	13 07 13.8	
	comp=Z,11nm,1.4s						
SVE	**Sverdlovsk**	**63.11**	**322**	*e*P	**P**	**13 06 59.1**	**+1.0**
SVE				pmax	pmax		
	comp=Z,19nm,1.2s						
ARU	**Arti**	**64.31**	**322**	P	**P**	**13 07 06.4**	**+0.4**
ARU	**Arti**	**64.31**	**322**	*d i* P	**P**	**13 07 06.4**	**+0.4**
ARU						13 07 38.7	
ARU						13 09 23.5	
ARU				S	**S**	**13 15 47.4**	**+4.8**
ARU				SS	**SS**	**13 19 51.4**	**-0.5**
ARU				pmax	pmax		
	comp=Z,21nm,1.0s						
ABKAR	**Akbulak array**	**65.12**	**314**	P	**P**	**13 07 12.6**	**+1.2**
NIUE	**Niue**	**65.18**	**130**	P	**P**	**13 07 12.0**	**-0.1**
C36M	**Paulatuk**	**65.36**	**23**	P	**P**	**13 07 12.8**	**+0.3**
C36M				IAmb	IAmb	13 07 27.0	
	comp=Z,4.0nm,1.1s						
HRA	**Herat**	**67.74**	**298**	P	**P**	**13 07 28.3**	**-0.4**
HRA				IAmb	IAmb	13 07 32.5	
	comp=Z,7.3nm,1.2s						
KIRV	**Kirov**	**68.52**	**326**	*de*P	**P**	**13 07 33.7**	**+0.9**
GEYT	**Alibeck**	**69.71**	**303**	P	**P**	**13 07 39.8**	**-0.9**
GEYT				IAmb	IAmb	13 07 53.0	
	comp=Z,3.7nm,0.8s						
GEYT	**Alibeck**	**69.71**	**303**	P	**P**	**13 07 41.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=30,slow=12,SNR=2.5						
	comp=Z,0.7nm,0.3s						
YKA	**Yellowknife Ar**	**71.23**	**29**	P	**P**	**13 07 49.0**	**-0.4**
YKA	**Yellowknife Ar**	**71.23**	**29**	P	**P**	**13 07 49.3**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=296,slow=6.0,SNR=18						
	comp=Z,1.2nm,0.8s						
RES	**Resolute Bay**	**71.25**	**14**	P	**P**	**13 07 50.0**	**+0.7**
RES				IAmb	IAmb	13 08 09.9	
	comp=Z,6.4nm,1.4s						
RES	**Resolute Bay**	**71.25**	**14**	P	**P**	**13 07 50.0**	**+0.7**
RES				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BELG	**Belogornoye**	**71.59**	**320**	*de*P	**P**	**13 07 54.1**	**+2.3**
BELG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARCES	**ARCESS Array B**	**73.13**	**341**	P	**P**	**13 08 01.5**	**+0.7**
	comp=Z,4.6nm,1.0s,baz=68,slow=7.2,SNR=1.9						
	comp=Z,4.6nm,1.0s						
RAR	**Rarotonga**	**73.72**	**125**	LR	LR	13 35 02.0	
	comp=Z,35nm,20.3s,baz=170,slow=31						
RPZ	**Rata Peaks**	**75.66**	**159**	LR	LR	13 41 21.9	
	comp=Z,26nm,18.6s,baz=17,slow=36						
NEW	**Newport**	**75.95**	**43**	P	**P**	**13 08 17.4**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=290,slow=4.2,SNR=6.1						
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**76.37**	**325**	*i* P	**P**	**13 08 19.1**	**-0.6**
OBN				*i*		13 08 29.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,77nm,15.0s						
BMO	**Blue Mountains**	**77.34**	**46**	IAmb	IAmb	13 08 46.5	
	comp=Z,3.8nm,0.9s						
FINES	**FINESS Array B**	**77.65**	**334**	P	**P**	**13 08 26.6**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=72,slow=4.5,SNR=7.9						
	comp=Z,1.3nm,0.5s						
KBZ	**Khabaz**	**78.05**	**313**	P	**P**	**13 08 30.0**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=66,slow=18,SNR=5.7						
	comp=Z,3.5nm,0.8s						
KIV	**Kislovodsk**	**78.08**	**313**	*e*P	**P**	**13 08 33.0**	**+3.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YERR	**Yerington**	**78.66**	**52**	IAmb	IAmb	13 08 34.1	
	comp=Z,7.6nm,1.4s						
VSU	**Vasula**	**79.14**	**331**	⇑*i* P	**P**	**13 08 38.7**	**+3.7**
VSU				pmax	pmax		
	comp=Z,20nm,1.0s						
PPT	**Papeete**	**79.35**	**116**	LR	LR	13 38 52.7	
	comp=Z,38nm,18.1s,baz=22,slow=32						
NVAR	**Mina Array Bea**	**79.57**	**52**	P	**P**	**13 08 37.8**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=284,slow=6.1,SNR=7.6						
	comp=Z,1.3nm,0.8s						
HLID	**Hailey**	**79.78**	**46**	P	**P**	**13 08 38.8**	**-0.3**
EGMT	**Eagleton**	**80.41**	**41**	P	**P**	**13 08 42.2**	**-0.1**
EGMT				IAmb	IAmb	13 09 11.2	
	comp=Z,7.2nm,1.1s						
BOZ	**Bozeman (W)**	**80.53**	**43**	P	**P**	**13 08 43.2**	**+0.1**
BOZ	**Bozeman (W)**	**80.53**	**43**	P	**P**	**13 08 43.2**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ELK	**Elko**	**80.59**	**49**	P	**P**	**13 08 43.3**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=336,slow=10.0,SNR=4.2						
	comp=Z,1.3nm,0.8s						
FFC	**Flin Flon**	**80.81**	**32**	P	**P**	**13 08 44.3**	**+0.1**
FFC				IAmb	IAmb	13 08 48.9	
	comp=Z,5.4nm,0.8s						
FFC	**Flin Flon**	**80.81**	**32**	P	**P**	**13 08 44.3**	**+0.1**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.9s						

GMN	**Gold Mountain**	**80.82**	**53**	P	**P**	**13 08 43.6**	**-1.3**
YHL	**Hebgen Lake**	**81.17**	**44**	P	**P**	**13 08 46.6**	**-0.2**
YHL				IAmb	IAmb	13 08 50.2	
	comp=Z,4.1nm,0.8s						
YMR	**Madison River**	**81.40**	**44**	IAmb	IAmb	13 09 10.0	
	comp=Z,6.0nm,0.9s						
TPNV	**Topopah Spring**	**81.70**	**53**	P	**P**	**13 08 49.2**	**-0.3**
TPNV	**Topopah Spring**	**81.70**	**53**	P	**P**	**13 08 49.2**	**-0.3**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GWY	**Greenwater Val**	**81.76**	**54**	P	**P**	**13 08 49.6**	**-0.2**
H17A	**Grant Village**	**81.78**	**44**	P	**P**	**13 08 49.6**	**-0.3**
H17A				IAmb	IAmb	13 08 56.4	
	comp=Z,6.0nm,1.1s						
RLMT	**Red Lodge**	**82.20**	**43**	IAmb	IAmb	13 08 56.5	
	comp=Z,3.1nm,0.7s						
DUG	**Dugway, Tooele**	**82.47**	**48**	IAmb	IAmb	13 08 56.1	
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**82.48**	**324**	*i* P	**P**	**13 08 53.5**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**82.48**	**324**	P	**P**	**13 08 52.8**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=51,slow=5.7,SNR=6.7						
	comp=Z,0.6nm,0.4s						
AKBB	**Malin Array Si**	**82.48**	**324**	⇓*e*P	**P**	**13 08 55.5**	**+2.4**
HWUT	**Hardware Ranch**	**82.58**	**47**	P	**P**	**13 08 54.5**	**+0.4**
HWUT				IAmb	IAmb	13 09 15.7	
	comp=Z,4.8nm,1.1s						
HFS	**Hagfors**	**83.08**	**337**	P	**P**	**13 08 56.4**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=72,slow=9.3,SNR=1.7						
	comp=Z,1.1nm,0.6s						
NOA	**NORSAR Array B**	**83.24**	**339**	P	**P**	**13 08 57.0**	**+0.1**
NOA	**NORSAR Array B**	**83.24**	**339**	P	**P**	**13 08 57.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=41,slow=5.1,SNR=4.3						
	comp=Z,1.4nm,0.8s						
PD31	**Pinedale Array**	**83.26**	**45**	IAmb	IAmb	13 08 59.4	
	comp=Z,3.9nm,1.3s						
PDAR	**Pinedale Array**	**83.26**	**45**	P	**P**	**13 08 57.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=267,slow=3.0,SNR=8.2						
	comp=Z,0.6nm,0.7s						
RDMU	**Red Mountain**	**84.40**	**47**	IAmb	IAmb	13 09 25.4	
	comp=Z,5.0nm,1.0s						
SRU	**San Rafael Swe**	**84.54**	**49**	P	**P**	**13 09 02.9**	**-1.3**
SRU				IAmb	IAmb	13 09 22.3	
	comp=Z,4.9nm,1.0s						
SRU	**San Rafael Swe**	**84.54**	**49**	P	**P**	**13 09 02.9**	**-1.3**
SRU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HMU	**Henry Mountain**	**85.01**	**50**	P	**P**	**13 09 05.2**	**-1.5**
O20A	**White River Ci**	**85.50**	**47**	P	**P**	**13 09 06.8**	**-2.2**
BRTR	**Keskin Array B**	**86.05**	**313**	P	**P**	**13 09 11.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=97,slow=3.9,SNR=2.3						
BRTR				LR	LR	13 49 43.7	
	comp=Z,45nm,18.1s,baz=228,slow=37						
	comp=Z,1.0nm,0.6s						
KWP	**Kalwaria Pacla**	**86.45**	**326**	P	**P**	**13 09 13.1**	**-0.2**
KWP	**Kalwaria Pacla**	**86.45**	**326**	P	**P**	**13 09 13.1**	**-0.2**
KWP				pmax	pmax		
	comp=Z,18nm,1.1s						
VYHS	**Vyhne**	**89.12**	**327**	*e*P	**P**	**13 09 28.4**	**+2.3**
VYHS	**Vyhne**	**89.12**	**327**	*e*P	**P**	**13 09 28.4**	**+2.3**
KHC	**Kasperske Hory**	**91.14**	**329**	⇑*e*P	**P**	**13 09 37.9**	**+2.4**
KHC				pmax	pmax		
	comp=Z,12nm,2.5s						
GERES	**GERESS Array B**	**91.29**	**329**	P	**P**	**13 09 35.8**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=57,slow=8.1,SNR=4.1						
GERES				LR	LR	13 56 35.2	
	comp=Z,25nm,20.6s,baz=1.5,slow=40						
	comp=Z,1.0nm,0.7s						
MSTX	**Muleshoe**	**92.58**	**49**	P	**P**	**13 09 42.0**	**-0.6**
AMTX	**Amarillo**	**92.77**	**48**	P	**P**	**13 09 42.8**	**-0.7**
VHRN	**Van Horn**	**92.89**	**53**	P	**P**	**13 09 43.3**	**-0.8**
VHRN				IAmb	IAmb	13 09 57.2	
	comp=Z,3.8nm,0.8s						
TXAR	**Lajitas Array**	**94.66**	**54**	P	**P**	**13 09 53.0**	**+0.8**
TXAR	**Lajitas Array**	**94.66**	**54**	P	**P**	**13 09 53.0**	**+0.8**
TXAR	**Lajitas Array**	**94.66**	**54**	P	**P**	**13 09 52.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=306,slow=7.7,SNR=7.2						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**124.65**	**312**	PKP	**PKiKP**	**13 15 31.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=14,slow=2.7,SNR=3.7						
MACA	**Manacapuru-AM**	**146.72**	**47**	PKPdf	**PKPdf**	**13 16 09.0**	**-2.7**
GO07	**Milladeo Hill,**	**146.76**	**127**	PKPdf	**PKPdf**	**13 16 09.6**	**-1.2**
ETMB	**Extrema**	**147.26**	**63**	PKPdf	**PKPdf**	**13 16 09.6**	**-2.9**
SAML	**Samuel**	**149.05**	**58**	PKPdf	**PKPdf**	**13 16 12.0**	**-3.5**
SAML	**Samuel**	**149.05**	**58**	PKHKP	PKPpre	13 16 12.0	
LPAZ	**La Paz**	**149.09**	**75**	PKPdf	**PKPdf**	**13 16 12.3**	**-3.9**
LPAZ	**La Paz**	**149.09**	**75**	PKHKP	PKPpre	13 16 12.3	
PLCA	**Paso Flores**	**149.63**	**124**	PKPbc	**PKiKP**	**13 16 20.4

PUZ S **S** **13 08 45.0 -3.6**
ETAZ East Tamaki Re 22.51 203 P **P** **13 04 54.8 +1.3**
RUGZ Raukumara Rang 22.53 197 P **P** **13 04 54.0 +0.2**
RUGZ S **S** **13 08 45.6 -4.2**
MKAZ Moumakai 22.55 203 P **P** **13 04 54.9 +1.0**
WTAZ Waiatarua 22.62 204 P **P** **13 04 55.7 +1.0**
TWGZ Tauwhareparae 22.64 196 P **P** **13 04 56.7 +1.9**
TWGZ S **S** **13 08 52.2 +0.8**
OPRZ Ohinepanea 22.75 199 P **P** **13 04 54.3 -1.4**
CNGZ Carnagh Statio 22.87 195 P **P** **13 04 58.7 +1.8**
CNGZ S **S** **13 08 56.7 +1.6**
MWZ Matawai 22.91 197 P **P** **13 04 58.1 +0.8**
MWZ S **S** **13 08 54.5 -1.3**
URZ Urewera 22.96 198 P **P** **13 04 56.5 -1.3**
URZ Urewera 22.96 198 P **P** **13 04 56.4 -1.3**
URZ S **S** **13 08 55.0 -1.4**
TOZ Tahuroa Road 22.99 201 P **P** **13 04 59.0 +0.9**
TOZ IAmb IAmb 13 04 59.8
comp=Z,43nm,1.2s
TOZ Tahuroa Road 22.99 201 P **P** **13 04 58.9 +0.9**
TOZ S **S** **13 08 55.0 -1.9**
RIGZ Rimuhau 23.20 196 P **P** **13 05 01.2 +1.2**
RIGZ S **S** **13 09 00.6 +0.2**
MUGZ Murupara 23.26 198 P **P** **13 05 00.4 -0.1**
RTZ Ruatahuna 23.33 198 P **P** **13 05 00.4 -0.8**
RTZ IAmb IAmb 13 05 04.7
comp=Z,28nm,0.9s
PPT2 Papeete2 23.62 96 *e*P P 13 05 01.7 -2.3
comp=Z,60nm,25.8s
PPT2 *e*S S 13 08 58.6 -9.0
comp=Z,87nm,28.2s
HIZ Hauiti 23.92 201 P **P** **13 05 05.9 -0.6**
HIZ Hauiti 23.92 201 P **P** **13 05 07.2 +0.8**
BKZ Black Stump Fm 23.98 198 P **P** **13 05 09.1 +2.0**
TBI Tubuai 24.26 110 *e*S **S** **13 09 12.8 -4.9**
comp=Z,890nm,34.2s
BFZ Birch Farm 25.46 197 P **P** **13 05 19.2 -1.2**
BFZ Birch Farm 25.46 197 P **P** **13 05 19.6 -0.8**
MRZ Mangatainoka R 25.63 198 P **P** **13 05 19.3 -2.7**
HNR Honiara 26.09 282 LR LR 13 14 35.6
comp=Z,928nm,18.4s,baz=146,slow=34
SNZO South Karori 26.49 199 P **P** **13 05 29.9 +0.3**
TCW Tory Channel 26.54 200 P **P** **13 05 29.7 -0.3**
TUWZ Tuamarina 26.84 200 P **P** **13 05 33.3 +0.5**
THZ Tophouse 27.49 201 P **P** **13 05 38.2 -0.5**
GVZ Greta Valley S 28.52 200 P P 13 05 46.3 -1.5
INZ Inchbonnie 28.85 202 P P 13 05 49.2 -1.5
INZ IAmb IAmb 13 05 52.0
comp=Z,28nm,0.9s
OXZ Oxford 29.17 201 P P 13 05 51.8 -1.7
JCZ Jackson Bay 31.01 204 P **P** **13 06 09.5 -0.3**
MLZ Mavora Lakes 32.35 204 P P 13 06 20.1 -1.3
WHZ Wether Hill Ro 32.86 203 P **P** **13 06 27.6 +1.7**
EIDS Eidsvold 33.47 249 P P 13 06 29.1 -2.4
baz=33,SNR=4.6
EIDS Eidsvold 33.47 249 P P 13 06 28.9 -2.6
EIDS IAmb IAmb 13 06 29.8
comp=Z,15nm,0.8s
EIDS Eidsvold 33.47 249 P P 13 06 28.7 -2.8
ARMA Armidale 34.07 240 P P 13 06 35.6 -1.2
baz=34,SNR=13
ARMA Armidale 34.07 240 P P 13 06 35.4 -1.3
ARMA IAmb IAmb 13 07 13.8
comp=Z,56nm,1.9s
TAOE Nuku Hiva Isla 34.09 81 *e*S **S** **13 11 50.5 -1.6**
comp=Z,74nm,28.1s
CNB Canberra Magne 37.43 233 P **P** **13 07 05.5 +0.3**
comp=Z,22nm,1.7s
CTA Charters Tower 37.60 258 P P 13 07 04.2 -2.6
comp=Z,7.1nm,0.8s,baz=92,slow=10,SNR=7.3
comp=Z,7.1nm,0.8s
CTAO Charters Tower 37.60 258 P P 13 07 04.6 -2.2
CTAO Charters Tower 37.60 258 P P 13 07 04.8 -2.0
CTAO Charters Tower 37.60 258 P P 13 07 04.3 -2.6
PMG Port Moresby 38.21 276 P P 13 07 10.6 -1.3
PMG Port Moresby 38.21 276 P P 13 07 10.6 -1.3
comp=Z,37nm,0.8s,baz=85,slow=5.9,SNR=12
comp=Z,37nm,0.8s
PMG Port Moresby 38.21 276 P **P** **13 07 11.5 -0.4**
PMG Port Moresby 38.21 276 P P 13 07 11.0 -0.9
comp=Z,56nm,1.0s,comp=Z,519nm
CMSA Cobar Meteorol 39.29 240 P P 13 07 19.1 -1.7
baz=39,SNR=13
CMSA Cobar Meteorol 39.29 240 P P 13 07 19.1 -1.7
H11S2 WAKE ISLAND Hy 39.50 331 T T 13 48 14.7
baz=146
H11S3 WAKE ISLAND Hy 39.52 331 T T 13 48 16.2
baz=146
H11S1 WAKE ISLAND Hy 39.52 331 T T 13 48 16.7
baz=146
MTSU Mount Surprise 39.52 261 P P 13 07 20.8 -2.1
baz=39,SNR=4.5
QLP Quilpie 39.74 248 P P 13 07 22.3 -2.2
baz=40,SNR=14
QLP Quilpie 39.74 248 P P 13 07 22.4 -2.1
H11N3 WAKE ISLAND Hy 40.48 332 T T 13 49 22.1
baz=147,slow=76,SNR=4.4
H11N1 WAKE ISLAND Hy 40.48 332 T T 13 49 22.5
baz=147,slow=76,SNR=4.3
H11N2 WAKE ISLAND Hy 40.50 332 T T 13 49 23.1
baz=147,slow=76,SNR=4.1
COEN Coen 41.10 268 P P 13 07 34.0 -1.8
TOO Toolangi 41.13 231 P P 13 07 34.3 -1.6
baz=41,SNR=6.1
TOO Toolangi 41.13 231 P P 13 07 35.0 -0.9
TOO IAmb IAmb 13 08 21.3
comp=Z,46nm,1.6s
TOO Toolangi 41.13 231 P P 13 07 34.6 -1.3
STKA Stephens Creek 42.78 241 P P 13 07 47.1 -2.2
baz=43,SNR=19
STKA Stephens Creek 42.78 241 P P 13 07 47.5 -1.8
STKA Stephens Creek 42.78 241 P P 13 07 47.7 -1.6
STKA Stephens Creek 42.78 241 P P 13 07 47.9 -1.4
comp=Z,20nm,0.8s,baz=75,slow=8.8,SNR=19
comp=Z,20nm,0.8s
INKA Innaminka 42.95 247 P P 13 07 49.4 -1.3
QIS Mount Isa 43.83 257 P P 13 07 54.7 -3.1
baz=44,SNR=3.0
QIS Mount Isa 43.83 257 P P 13 07 56.2 -1.7
HTT Hallett 45.27 239 P P 13 08 07.6 -1.6
baz=45,SNR=7.2
HTT Hallett 45.27 239 P P 13 08 07.8 -1.4
LCRK Leigh Creek 45.43 243 P P 13 08 08.7 -1.7
OOD Oodnadatta 47.42 247 P P 13 08 24.6 -1.4
BBOO Buckleboo 47.55 240 P P 13 08 25.1 -1.9
baz=48,SNR=4.8
BBOO Buckleboo 47.55 240 P P 13 08 24.7 -2.2
BBOO IAmb IAmb 13 08 26.1
comp=Z,52nm,1.2s
WR0 Warramunga Arr 48.61 258 P P 13 08 32.7 -2.5
WB0 Warramunga Arr 48.76 258 P P 13 08 33.7 -2.8
WB2 Warramunga Arr 48.79 258 P P 13 08 34.1 -2.5
WRAB Tennant Creek 48.79 258 P P 13 08 33.9 -2.7
WRA Warramunga Arr 48.80 258 P P 13 08 34.1 -2.5
WRA Warramunga Arr 48.80 258 P P 13 08 33.8 -3.0
comp=Z,4.1nm,0.6s,baz=96,slow=6.6,SNR=82
WRA PcP **PcP** **13 09 58.2 -1.1**
comp=Z,2.3nm,0.7s,baz=95,slow=3.5,SNR=5.5
comp=Z,4.1nm,0.6s
AS31 Alice Springs 48.99 253 P P 13 08 35.9 -2.2
ASAR Alice Springs 48.99 253 P P 13 08 35.7 -2.4
ASAR Alice Springs 48.99 253 P P 13 08 35.9 -2.3
comp=Z,33nm,0.7s,baz=89,slow=8.4,SNR=270
ASAR PcP **PcP** **13 09 58.7 -1.3**
comp=Z,4.1nm,0.8s,baz=81,slow=6.0,SNR=1.7
ASAR LR LR 13 30 20.3
comp=Z,50nm,18.9s,baz=88,slow=37
comp=Z,33nm,0.7s
KDU Kakadu 51.58 267 P P 13 08 55.5 -2.1
baz=51,SNR=8.7
MTN Manton Dam 52.83 266 P P 13 09 05.0 -1.9
baz=53,SNR=14
MTN Manton Dam 52.83 266 P P 13 09 04.5 -2.3
MTN IAmb IAmb 13 09 05.7
comp=Z,18nm,0.8s
WRKA Warakurna 54.05 251 P P 13 09 13.7 -2.0
baz=54,SNR=10
FORT Forrest 54.19 244 P P 13 09 14.0 -2.6
FAKI Fak Fak 54.25 278 P P 13 09 15.3 -2.0
FAKI IAmb IAmb 13 10 51.8
comp=Z,13nm,0.9s
KNRA Kununurra 54.59 262 P P 13 09 17.8 -1.9
baz=54,SNR=12
KNRA Kununurra 54.59 262 P P 13 09 17.9 -1.8
KNRA IAmb IAmb 13 10 57.7
comp=Z,44nm,1.2s
SIJI Sorong 55.84 280 P **P** **13 09 28.4 -0.3**
comp=Z,46nm,0.7s
SWI Sorong 55.84 280 P P 13 09 27.4 -1.3
comp=Z,68nm,0.7s,comp=Z,1µm
FITZ Fitzroy Crossi 57.18 259 P P 13 09 36.7 -1.4
baz=57,SNR=5.9
FITZ Fitzroy Crossi 57.18 259 P P 13 09 36.8 -1.4
FITZ IAmb IAmb 13 10 24.7
comp=Z,24nm,1.9s
DRV Dumont d'Urvil 58.28 200 P **P** **13 09 44.7 -0.2**
LBMI Labuha 59.47 279 P **P** **13 09 53.5 -0.6**
comp=Z,45nm,1.1s
SOEI Soe 60.06 268 P **P** **13 09 57.8 -0.5**
SANI Sanana 60.47 277 P P 13 09 59.5 -1.4
comp=Z,23nm,1.1s
RPN Rapa Nui 60.63 112 LR LR 13 28 13.7
comp=Z,15nm,21.8s,baz=308,slow=28
SBA Scott Base 62.09 184 P **P** **13 10 12.8 +2.1**
SBA IAmb IAmb 13 10 13.6
comp=Z,12nm,0.8s
SBA Scott Base 62.09 184 P **P** **13 10 12.8 +2.1**
VNDA Vanda 62.20 186 P **P** **13 10 12.3 +0.8**
VNDA Vanda 62.20 186 P **P** **13 10 12.4 +0.9**
comp=Z,4.1nm,0.7s,baz=10,slow=5.6,SNR=30
comp=Z,4.1nm,0.7s
VNDA Vanda 62.20 186 P **P** **13 10 12.6 +1.2**
VNDA PcP **pP** **13 10 49.5 +3.0**
MEEK Meekatharra 62.64 248 P P 13 10 13.2 -2.1
baz=62,SNR=6.1
EDFI Ende, Flores 62.77 269 P P 13 10 15.5 -0.9
comp=Z,42nm,1.3s
KLBR Kellerberrin 63.00 243 P P 13 10 16.2 -1.3
baz=63,SNR=5.5
NWAO Narrogin (SRO) 63.37 241 P P 13 10 18.1 -1.8
LUWI Luwuk 63.84 277 P **P** **13 10 24.1 +0.8**
MUN Mundaring 64.29 242 P P 13 10 25.0 -1.1
baz=64,SNR=6.0
MORW Morawa 64.67 245 P P 13 10 26.6 -2.0
MORW IAmb IAmb 13 11 03.2
comp=Z,37nm,1.4s
MPSI Mapaga 66.99 278 P P 13 10 42.7 -0.9
comp=Z,39nm,1.0s,comp=Z,866nm
GIRL Giralia 67.10 252 P **P** **13 10 44.2 0.0**
baz=67,SNR=3.4
GIRL Giralia 67.10 252 P **P** **13 10 43.5 -0.7**
CCD Concordia, Ant 67.20 194 P **P** **13 10 44.4 0.0**
MJAR Matsushiro Arr 69.26 321 P P 13 10 55.5 -1.7
comp=Z,4.9nm,0.7s,baz=149,slow=5.3,SNR=12
comp=Z,4.9nm,0.7s
MAJO Matsushiro 69.26 321 P P 13 10 55.8 -1.5
SHEM Shemya Is, Ala 69.68 352 LR LR 13 33 40.0
comp=Z,90nm,21.4s,baz=312,slow=29
JAGI Jajag, Banyuwa 70.06 267 P P 13 10 60.0 -2.8
JMN Monobe 70.27 316 P **P** **13 11 03.1 -0.5**
UNV Unalaska Valle 70.38 5 P **P** **13 11 03.8 +0.1**
baz=188
SNCC San Nicolas Is 71.94 46 P P 13 11 12.6 -1.0
baz=235
JNU Nakatsue 71.96 314 P P 13 11 11.7 -2.1
JNU Nakatsue 71.96 314 P P 13 11 12.5 -1.3
comp=Z,27nm,0.8s,baz=116,slow=5.6,SNR=10
comp=Z,27nm,0.8s
JKA Kamikawa-asahi 72.05 329 P P 13 11 12.8 -1.2
JKA IAmb IAmb 13 11 14.9
comp=Z,26nm,0.9s
ASAJ Asahikawa 72.05 329 P P 13 11 13.3 -0.7
comp=Z,18nm,0.8s,baz=139,slow=9.3,SNR=12
comp=Z,18nm,0.8s
CHNA Chnabura Isl 72.14 9 P **P** **13 11 14.4 +0.1**
baz=195
SCZ2 Santa Cruz Isl 72.28 45 P **P** **13 11 16.5 +0.8**
baz=235
SCI2 San Clemente I 72.46 47 P **P** **13 11 17.3 +0.6**
baz=236
PKM Mcpherson Peak 72.67 44 P **P** **13 11 18.8 +0.6**
baz=235
CIS Catalina Islan 72.79 46 P **P** **13 11 18.8 +0.2**
baz=236
SMMC Simmler 72.80 44 P **P** **13 11 19.2 +0.5**
baz=235
FMP Fort Macarthur 73.05 46 P **P** **13 11 20.6 +0.5**
baz=236
DECC Green Verdugo 73.32 46 P **P** **13 11 22.1 +0.3**
baz=236
109C Camp Elliot, M 73.43 48 P **P** **13 11 22.4 0.0**
baz=237
PEA0B Petropavlovsk- 73.43 343 P P 13 11 20.7 -1.2
PEA0B IAmb IAmb 13 11 21.9
comp=Z,29nm,0.8s
PETK Petropavlovsk- 73.43 343 P P 13 11 20.8 -1.2
PETK Petropavlovsk- 73.43 343 P P 13 11 20.1 -1.8
comp=Z,23nm,0.7s,baz=107,slow=8.8,SNR=38
comp=Z,23nm,0.7s
ARVC Arvin 73.47 45 P **P** **13 11 22.6 0.0**
baz=235
SPIA Saint Paul Isl 73.48 2 P **P** **13 11 22.7 +0.6**
baz=184
QSPA South Pole Qui 73.54 180 P **P** **13 11 22.7 -0.1**
QSPA South Pole Qui 73.54 180 P **P** **13 11 23.0 +0.3**
comp=Z,11nm,0.7s,baz=16,slow=1.2,SNR=64
comp=Z,11nm,0.7s
S14K Fog Glacier 73.56 8 P **P** **13 11 22.5 -0.3**
baz=195
VES Vestal, Richgr 73.71 44 P **P** **13 11 24.1 +0.2**
baz=235,SNR=7.0
MURC Murrieta 73.75 47 P **P** **13 11 24.5 +0.2**
baz=237,SNR=5.9
BFSC Mount Baldy Ra 73.78 46 P **P** **13 11 24.7 +0.1**
baz=236,SNR=8.9
EDW2 Edwards Air Fo 73.90 45 P **P** **13 11 25.6 +0.4**
baz=236,SNR=26
MONP2 Monument Peak 73.91 48 P **P** **13 11 25.7 +0.2**
baz=238,SNR=11
IKP In-Ko-Pah, Jac 74.01 48 P **P** **13 11 26.3 +0.4**
baz=238,SNR=7.9
ISA Isabella, Lake 74.01 44 P **P** **13 11 26.3 +0.5**
baz=236,SNR=9.2
YUH Yuha Desert 74.14 48 P P 13 11 25.6 -0.9
PFO Pinyon Flats O 74.27 47 P **P** **13 11 27.8 +0.4**
baz=237,SNR=10.0
PFO Pinyon Flats O 74.27 47 P **P** **13 11 27.5 +0.1**
comp=Z,9.9nm,1.0s,baz=248,slow=3.9,SNR=14
comp=Z,9.9nm,1.0s
TPFO Pinon Flats 74.27 47 P **P** **13 11 27.8 +0.3**
baz=237,SNR=9.4
SWSC Sam W. Stewart 74.39 48 P **P** **13 11 28.3 +0.3**
baz=238,SNR=5.4
LRMC Laurel Mtn Rad 74.45 45 P **P** **13 11 28.8 +0.3**
baz=236,SNR=20
RRX Edison Barstow 74.58 46 P **P** **13 11 29.4 +0.3**
baz=237
CWC Cottonwood Cre 74.72 44 P **P** **13 11 30.2 +0.2**
baz=236
MDPB Devils Postpil 74.74 42 P **P** **13 11 30.3 +0.1**
BELC Belle Mtn. Jos 74.80 47 P **P** **13 11 31.0 +0.4**
baz=238,SNR=19
MLAC Mammoth, Mammo 74.89 43 P **P** **13 11 31.7 +0.6**
baz=235
MPMC Manual Prospec 74.90 45 P **P** **13 11 31.5 +0.4**
baz=236
GSC Goldstone, Bar 74.94 46 P **P** **13 11 31.5 +0.3**
GSC IAmb IAmb 13 11 32.5
comp=Z,20nm,0.8s
GSC Goldstone, Bar 74.94 46 P **P** **13 11 31.6 +0.3**
baz=237,SNR=21
TIN Tinemaha, Big 74.96 43 P **P** **13 11 32.0 +0.7**
baz=235
YBH Yreka Blue Hor 74.97 37 P **P** **13 11 31.2 -0.1**
YBH IAmb IAmb 13 11 32.9
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 74.97 37 P **P** **13 11 31.9 +0.6**
comp=Z,13nm,0.7s,baz=195,slow=7.1,SNR=28
comp=Z,13nm,0.7s
BC3 Big Chuckawall 75.00 48 P **P** **13 11 32.1 +0.5**
baz=238,SNR=12
HEC Hector,Ludlow 75.01 46 P **P** **13 11 31.8 +0.2**
baz=237,SNR=9.7
GLA Glamis 75.14 48 P **P** **13 11 32.8 +0.5**
baz=239
PNTR Pine Nut 75.25 41 P P 13 11 32.8 -0.3
PNTR IAmb IAmb 13 11 34.5
comp=Z,30nm,0.8s
GMRC Granite Mounta 75.46 47 P **P** **13 11 34.6 +0.3**
baz=238,SNR=14
IRM Iron Mountain 75.49 47 P **P** **13 11 34.9 +0.6**
baz=238,SNR=18
GRAC Grapevine Rang 75.50 44 P **P** **13 11 35.2 +0.9**
baz=236,SNR=8.8
FURC Furnace Creek, 75.55 45 P **P** **13 11 34.8 +0.4**
baz=236
R18K Karluk 75.61 11 P **P** **13 11 34.2 -0.2**
baz=200
TUQ Turquoise Moun 75.62 46 P **P** **13 11 35.5 +0.3**
baz=237,SNR=20
SHOC Shoshone, Teco 75.63 45 P **P** **13 11 35.3 +0.2**
baz=237,SNR=9.6
NVAR Mina Array Bea 75.70 42 P **P** **13 11 35.9 +0.2**
comp=Z,15nm,0.8s,baz=226,slow=9.7,SNR=74
comp=Z,15nm,0.8s
Q17K Contact Creek 76.02 10 P **P** **13 11 36.7 -0.2**
baz=198
214A Organ Pipe Nat 76.05 50 P **P** **13 11 37.8 +0.3**
baz=240
NEE2 Needles Airpor 76.18 47 P **P** **13 11 38.7 +0.6**
baz=238
TPH Tonopah 76.20 43 P **P** **13 11 38.8 +0.3**
TPNV Topopah Spring 76.22 44 P **P** **13 11 39.1 +0.5**
baz=237,SNR=21
PDMCI Parker Dam,Lak 76.27 48 P **P** **13 11 39.2 +0.5**
baz=239,SNR=10
Q16K King Salmon 76.30 9 P P 13 11 37.9 -0.4
baz=197
KSRS Korea Array 76.37 316 P P 13 11 38.5 -0.7
comp=Z,11nm,1.1s,baz=123,slow=5.9,SNR=18
comp=Z,11nm,1.1s
P16K Nushagak River 76.44 9 P P 13 11 38.3 -0.7
baz=196
KSM Kuching 76.47 276 P **P** **13 11 41.0 +0.7**
comp=Z,62nm,1.1s
Q18K Katmai Hardscr 76.54 10 P P 13 11 38.6 -1.1
baz=199
P17K Kvichak River 76.82 9 P P 13 11 39.9 -1.3
baz=198
W13A Hualapai Mount 76.86 47 P P 13 11 41.7 -0.6
Y14A Wickenburg 76.90 48 P **P** **13 11 42.4 +0.1**
Y14A IAmb IAmb 13 11 43.7
comp=Z,15nm,0.8s
O16K Kokwok River B 76.96 8 P P 13 11 41.3 -0.7
baz=196
M13K Dall Lake 77.16 6 P **P** **13 11 42.6 -0.4**
M13K Dall Lake 77.16 6 P **P** **13 11 42.8 -0.2**
baz=191
P18K Big Mountain, 77.20 10 P P 13 11 42.3 -1.1
baz=199
N15K Kwethluk River 77.26 7 P P 13 11 43.2 -0.5
baz=194
O17K Koliganek Bris 77.28 9 P P 13 11 43.2 -0.5
baz=197
R11B Troy Canyon, C 77.42 43 P P 13 11 45.1 -0.2
baz=237,SNR=19
M14K Bethel 77.62 6 P **P** **13 11 45.7 +0.1**
M14K Bethel 77.62 6 P P 13 11 44.9 -0.7
baz=192
O18K Koktuh Hills 77.65 10 P **P** **13 11 45.8 -0.1**
baz=199
M15K Kasigluk River 77.70 7 P **P** **13 11 45.9 -0.2**
baz=193,SNR=7.4
TUC Tucson 77.72 51 P **P** **13 11 47.5 +0.6**
baz=241
USRK Ussuriysk Ar. 77.77 324 P P 13 11 45.8 -1.1
comp=Z,3.1nm,0.6s,baz=108,slow=7.9,SNR=4.1
comp=Z,3.1nm,0.6s
WVOR Wild Horse Val 77.81 39 P **P** **13 11 47.2 0.0**
WVOR IAmb IAmb 13 11 48.5
comp=Z,15nm,0.9s
N17K Nushagak Hills 77.99 9 P **P** **13 11 47.5 -0.2**
baz=197
HOM Homer 78.09 12 P **P** **13 11 47.9 -0.3**
baz=202
O19K Port Alsworth 78.12 10 P P 13 11 47.5 -0.8
baz=200
L14K Kuka Creek 78.13 6 P P 13 11 47.9 -0.5
L14K IAmb IAmb 13 13 22.3
comp=Z,58nm,1.7s
L14K Kuka Creek 78.13 6 P **P** **13 11 48.4 0.0**
baz=191
M16K Timber Creek 78.23 8 P **P** **13 11 49.1 +0.1**
M16K IAmb IAmb 13 11 50.3
comp=Z,39nm,0.9s
M16K Timber Creek 78.23 8 P **P** **13 11 49.3 +0.3**
baz=195
N18K Kilae Creek 78.33 9 P **P** **13 11 49.4 -0.2**
baz=198
BRSE Bradley Lake S 78.35 12 P **P** **13 11 49.4 -0.3**
baz=203
L15K Ungalak Mounta 78.58 6 P **P** **13 11 50.6 -0.2**
baz=192
U15A North Rim 78.66 47 P **P** **13 11 53.2 +0.9**
U15A IAmb IAmb 13 11 54.2
comp=Z,32nm,1.0s
N19K Bonanza Creek 78.67 10 P P 13 11 51.0 -0.6
baz=199
M17K Holitna River 78.80 8 P P 13 11 51.6 -0.5
baz=196
L16K Owhat River 78.83 7 P P 13 11 51.5 -0.8
L16K Owhat River 78.83 7 P **P** **13 11 52.4 +0.2**
baz=194
WUAZ Wupatki 78.85 48 P **P** **13 11 53.6 +0.4**
baz=240,SNR=7.7
SEW Seward 78.94 12 P **P** **13 11 52.6 -0.3**
baz=204
ELK Elko 78.95 42 P P 13 11 53.5 -0.2
comp=Z,12nm,0.8s,baz=250,slow=4.9,SNR=35
comp=Z,12nm,0.8s
Q23K Middleton Isla 79.01 14 P P 13 11 52.8 -0.5
baz=207
M18K Stony River 79.11 9 P P 13 11 53.1 -0.7
baz=198
K15K Wolf Creek Mou 79.18 6 P **P** **13 11 54.4 +0.2**
baz=192,SNR=5.7
L17K Donlin 79.39 8 P **P** **13 11 55.9 +0.6**
baz=196
N20K Mount Spurr 79.42 11 P P 13 11 54.5 -1.1
baz=202
J14K Nanvaranak Lak 79.44 5 P P 13 11 54.6 -0.9
baz=190
CRAG Craig 79.67 22 P P 13 11 56.5 -0.5
baz=220
L18K Granite Mounta 79.69 8 P **P** **13 11 57.0 +0.1**
baz=197
RC01 Rabbit Creek A 79.78 12 P P 13 11 56.9 -0.6
baz=204
W18A Petrified Fore 79.83 49 P P 13 11 58.0 -0.6
baz=242
M20K Styx River 79.91 10 P P 13 11 57.6 -0.6
baz=201
L19K White Mountain 79.91 9 P P 13 11 57.5 -0.7
baz=199
SUA Susitna One 79.94 11 P P 13 11 57.5 -0.9
SUA IAmb IAmb 13 11 58.2
comp=Z,21nm,0.8s
SUA Susitna One 79.94 11 P P 13 11 57.6 -0.8
baz=203
K17K Iditarod 79.95 7 P **P** **13 11 58.3 -0.1**
baz=196
121A Cooks Peak, D 80.07 52 P **P** **13 12 00.5 +0.6**
baz=243,SNR=11
V35K Ketchikan 80.12 23 P **P** **13 11 59.4 +0.1**
baz=221
SIT Sitka 80.14 20 P **P** **13 11 59.3 -0.1**
baz=218
GLI Glacier Island 80.14 13 P P 13 11 59.1 -0.3
baz=206
NJ2 Nanjing 80.18 308 *e*P **P** **13 11 59.9 -0.3**
NJ2 pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 80.23 43 P P 13 12 00.2 -0.3
baz=239,SNR=8.1
J16K Anvik River 80.24 6 P **P** **13 11 59.6 -0.3**
J16K IAmb IAmb 13 12 01.3
comp=Z,32nm,1.0s
J16K Anvik River 80.24 6 P **P** **13 12 00.5 +0.6**
baz=193,SNR=10
SKT Skwentna 80.27 11 P P 13 11 59.3 -0.8
baz=202
KNK Knik Glacier 80.34 12 P P 13 11 59.3 -1.2
baz=205
L20K Farewell, AK 80.35 9 P P 13 11 59.8 -0.7
baz=200
PMR Palmer 80.36 12 P P 13 11 59.8 -0.7
baz=204
TTA Tatalina 80.46 8 P P 13 12 00.7 -0.5
TTA Tatalina 80.46 8 P **P** **13 12 01.0 -0.2**
baz=198

Sta	Name	Dist	Az	Phase	Phase	Time	Res
S31K	Pelican	80.56	19	P	**P**	**13 12 01.4**	**-0.3**
	baz=217						
S32K	Killisnoo	80.72	20	P	**P**	**13 12 02.4**	**-0.1**
	baz=218						
SML	Sawmill	80.72	12	P	P	13 12 02.0	-0.6
	baz=205						
T33K	Petersburg	80.77	22	P	P	13 12 02.0	-0.7
	baz=220						
BMRM	Bremner River	80.78	14	P	P	13 12 02.1	-0.8
	baz=209						
I17K	Unalakleet	80.82	6	P	**P**	**13 12 03.0**	**+0.1**
	baz=193						
M23K	Glacier View	80.83	12	P	P	13 12 02.6	-0.5
	baz=206						
J18K	Innoko River	80.88	8	P	**P**	**13 12 03.1**	**-0.2**
	baz=197						
CUT	Chulitna	80.89	11	P	P	13 12 02.4	-0.9
	baz=203						
KLU	Klutina	80.95	13	P	P	13 12 02.9	-0.8
	baz=208						
SCM	Sheep Creek Mo	80.95	13	P	P	13 12 03.2	-0.6
	baz=206						
CRQE	Cirque	80.96	15	P	**P**	**13 12 03.7**	**-0.2**
	baz=210						
HLID	Hailey	81.00	40	P	**P**	**13 12 04.8**	**+0.2**
	baz=237,SNR=24						
KLR	Kul'dur	81.00	328	P	P	13 12 02.8	-1.4
	comp=Z,2.7nm,0.7s,baz=114,slow=4.6,SNR=8.9						
	comp=Z,2.7nm,0.7s						
ANM	Nome	81.11	4	P	**P**	**13 12 04.1**	**-0.3**
ANM	Nome	81.11	4	P	**P**	**13 12 04.5**	**+0.1**
	baz=189						
K20K	Telida	81.15	9	P	**P**	**13 12 04.4**	**-0.3**
	baz=200						
BNX	BinXian	81.31	323	⇑P	P	13 12 05.2	-0.8
BNX				pmax	pmax		
	comp=Z,22nm,0.7s						
BNX				pmax	pmax		
	comp=Z,240nm,4.3s						
N25K	Chitina, Valde	81.35	14	P	P	13 12 05.2	-0.7
N25K				IAmb	IAmb	13 12 06.3	
	comp=Z,32nm,1.1s						
N25K	Chitina, Valde	81.35	14	P	P	13 12 05.2	-0.7
	baz=209						
CN2	Changchun	81.41	321	*e*P	**P**	**13 12 06.1**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
H16K	Elim	81.42	5	P	P	13 12 05.6	-0.5
	baz=192,SNR=5.2						
M24K	Tolsona, Glenn	81.44	13	P	**P**	**13 12 06.1**	**-0.2**
	baz=207						
P29M	Windy Craggy	81.46	18	P	P	13 12 06.0	-0.5
	baz=215						
CAST	Castle Rocks	81.52	10	P	P	13 12 05.6	-1.1
	baz=202						
J19K	Poorman	81.53	8	P	P	13 12 06.3	-0.4
	baz=198						
WAT6	Susitna Watana	81.54	12	P	P	13 12 06.0	-1.0
	baz=206,SNR=6.9						
MNTX	Cornudas Mount	81.54	53	P	P	13 12 06.9	-0.6
	baz=245						
CTG	Chitna Glacier	81.58	16	P	P	13 12 06.6	-0.6
	baz=212						
WAT1	Susitna Watana	81.61	12	P	P	13 12 06.8	-0.4
	baz=205						
G15K	Niukluk	81.62	4	P	**P**	**13 12 07.0**	**-0.2**
	baz=190						
MVCO	Mesa Verde	81.69	47	P	P	13 12 08.2	-0.3
	baz=242						
TRF	Thorofare Moun	81.86	11	P	P	13 12 07.5	-1.2
TRF				IAmb	IAmb	13 12 09.4	
	comp=Z,20nm,0.9s						
TRF	Thorofare Moun	81.86	11	P	P	13 12 07.4	-1.3
	baz=203,SNR=5.7						
T35M	Bob Quinn	81.87	23	P	P	13 12 08.2	-0.5
	baz=222						
TXAR	Lajitas Array	81.91	56	P	P	13 12 09.5	-0.2
	comp=Z,5.1nm,1.0s,baz=224,slow=5.0,SNR=7.7						
	comp=Z,5.1nm,1.0s						
J20K	Nowinta River	81.91	9	P	P	13 12 07.8	-0.9
J20K				IAmb	IAmb	13 12 09.2	
	comp=Z,54nm,1.9s						
J20K	Nowinta River	81.91	9	P	**P**	**13 12 08.3**	**-0.3**
	baz=200						
CHUM	Lake Minchumin	81.92	10	P	P	13 12 07.9	-0.8
	baz=201						
HARP	HAARP	81.92	13	P	P	13 12 08.4	-0.4
	baz=208						
H17K	Granite Mounta	81.93	6	P	P	13 12 08.1	-0.7
	baz=194						
TNA	Tin City	81.96	3	P	**P**	**13 12 08.9**	**0.0**
	baz=186,SNR=5.8						
SKAG	Skagway	82.05	19	P	**P**	**13 12 10.1**	**+0.6**
	baz=218						
DHY	Denali Highway	82.06	12	P	P	13 12 09.1	-0.6
	baz=206						
RND	Reindeer	82.08	11	P	P	13 12 08.8	-0.9
RND				IAmb	IAmb	13 12 09.9	
	comp=Z,30nm,1.0s						
NEW	Newport	82.08	35	P	P	13 12 09.5	-0.5
	baz=234						
NEW	Newport	82.08	35	P	P	13 12 09.0	-1.0
	comp=Z,3.0nm,0.7s,baz=278,slow=7.1,SNR=8.4						
	comp=Z,3.0nm,0.7s						
GCSA	Galena City Sc	82.09	7	P	P	13 12 09.2	-0.4
	baz=197						
P30M	Million Dollar	82.09	18	P	**P**	**13 12 09.9**	**+0.1**
	baz=216						
ANMO	Albuquerque	82.14	50	P	**P**	**13 12 11.1**	**+0.3**
	baz=244						
ANMO	Albuquerque	82.14	50	P	P	13 12 10.5	-0.3
	comp=Z,15nm,1.1s,baz=276,slow=6.1,SNR=18						
	comp=Z,15nm,1.1s						
G16K	Koyuk River	82.15	5	P	**P**	**13 12 09.6**	**-0.3**
	baz=192						
S34M	Telegraph Cree	82.24	22	P	**P**	**13 12 10.4**	**-0.1**
	baz=221						
YUK8	Steele Glacier	82.26	16	P	P	13 12 10.4	-0.5
	baz=213						
F15K	North Star Dit	82.29	4	P	**P**	**13 12 10.3**	**-0.3**
	baz=189						
H18K	Honhosa River	82.30	7	P	P	13 12 10.0	-0.7
	baz=195						
MCK	McKinley	82.36	11	P	P	13 12 10.2	-0.9
	baz=204,SNR=7.5						
PAX	Paxson	82.36	13	P	P	13 12 09.9	-1.3
	baz=208						
G17K	Kiwalik Mounta	82.41	6	P	**P**	**13 12 10.9**	**-0.3**
	baz=193						
M26K	Nabesna, AK	82.41	14	P	P	13 12 11.0	-0.4
	baz=210,SNR=8.6						
YUK3	Moose Creek	82.50	15	P	P	13 12 11.5	-0.6
	baz=213						
HYT	Haines Junctio	82.50	17	P	**P**	**13 12 11.8**	**-0.3**
	baz=215						
YUK4	Talbot Arm	82.61	16	P	**P**	**13 12 12.8**	**+0.1**
	baz=214						
M27K	Edge Creek, AK	82.64	15	P	**P**	**13 12 12.5**	**-0.2**
	baz=211						
Q32M	Nakina River	82.65	20	P	P	13 12 12.6	-0.3
	baz=220						
O30N	Mendenhall	82.87	18	P	P	13 12 13.4	-0.4
	baz=217						
L26K	Log Cabin Wild	82.87	14	P	**P**	**13 12 13.5**	**-0.3**
	baz=210,SNR=6.3						
H19K	Roundabout Mou	82.89	7	P	**P**	**13 12 13.9**	**+0.2**
	baz=197						
BVCY	Beaver Creek	82.94	15	P	**P**	**13 12 14.0**	**-0.1**
	baz=212						
G18K	Tagagawik	82.99	6	P	**P**	**13 12 14.2**	**-0.1**
	baz=195						
DLBC	Dease Lake	83.03	22	P	**P**	**13 12 14.5**	**-0.2**
	baz=222						
K24K	Donnelly Dome	83.04	12	P	P	13 12 14.0	-0.6
	baz=207,SNR=5.2						
MSO	Missoula	83.06	37	P	P	13 12 14.1	-1.0
	baz=237,SNR=5.5						
H20K	Anotleneega Mo	83.06	8	P	**P**	**13 12 14.5**	**-0.1**
	baz=199						
S22A	4UR Ranch, Cre	83.12	48	P	**P**	**13 12 16.3**	**+0.3**
	baz=243,SNR=34						
BPMT	Black Pine Rid	83.13	37	P	P	13 12 15.2	-0.5
N30M	Aishikik Lake	83.14	17	P	**P**	**13 12 15.0**	**-0.2**
	baz=216						
WHY	Whitehorse	83.14	18	P	P	13 12 14.9	-0.4
	baz=218						
MLY	Manley	83.24	10	P	P	13 12 14.4	-1.2
	baz=203						
O20A	White River Ci	83.24	45	P	**P**	**13 12 16.3**	**-0.1**
O20A				IAmb	IAmb	13 12 17.4	
	comp=Z,19nm,0.7s						
O20A	White River Ci	83.24	45	P	**P**	**13 12 16.3**	**-0.1**
	baz=242,SNR=15						
L27K	Beaver Creek,	83.26	14	P	P	13 12 14.9	-0.9
	baz=211						
BCAR	Beaver Creek A	83.27	14	P	P	13 12 15.2	-0.6
HDA	Harding Lake	83.35	12	P	P	13 12 15.4	-0.7
	baz=206,SNR=8.7						
CCB	Clear Creek Bu	83.40	11	P	P	13 12 15.1	-1.2
CCB				IAmb	IAmb	13 12 16.3	
	comp=Z,34nm,1.3s						
G19K	Purcell Mounta	83.41	7	P	**P**	**13 12 16.2**	**-0.1**
	baz=197						
R33M	Jennings River	83.41	21	P	P	13 12 16.3	-0.5
	baz=222						
P33M	Teslin, Yukon	83.43	19	P	P	13 12 16.3	-0.4
	baz=220						
H21K	Melozitna Rive	83.50	9	P	**P**	**13 12 16.6**	**-0.3**
	baz=201						
N31M	Braeburn, Yuko	83.53	17	P	P	13 12 16.7	-0.5
	baz=217						
SCRK	Sand Creek	83.56	13	P	P	13 12 16.3	-1.1
SCRK	Sand Creek	83.56	13	P	P	13 12 16.8	-0.6
	baz=209,SNR=9.6						
M29M	Somme Creek	83.57	16	P	P	13 12 16.8	-0.7
	baz=214						
I23K	Minto, Yukon-K	83.58	10	P	P	13 12 16.2	-1.1
	baz=204,SNR=5.8						
COLA	College	83.60	11	P	P	13 12 16.2	-1.1
	baz=205						
MDM	Murphy Dome	83.61	11	P	P	13 12 16.0	-1.5
MDM				IAmb	IAmb	13 12 17.4	
	comp=Z,53nm,1.5s						
BW06	Boulder Array	83.63	42	P	P	13 12 17.9	-0.5
BW06				IAmb	IAmb	13 12 18.7	
	comp=Z,20nm,0.7s						
BW06	Boulder Array	83.63	42	P	P	13 12 17.6	-0.8
	baz=241,SNR=33						
PD31	Pinedale Array	83.63	42	P	P	13 12 17.9	-0.5
PD31				IAmb	IAmb	13 12 18.7	
	comp=Z,18nm,0.7s						
PDAR	Pinedale Array	83.63	42	P	P	13 12 17.1	-1.3
PDAR	Pinedale Array	83.63	42	P	P	13 12 17.8	-0.6
	comp=Z,17nm,0.7s,baz=212,slow=3.2,SNR=145						
	comp=Z,17nm,0.7s						
IMAR	Indian Mountai	83.68	8	P	P	13 12 17.3	-0.5
IL31		83.69	11	P	P	13 12 16.8	-0.9
IL31				IAmb	IAmb	13 12 17.8	
	comp=Z,37nm,1.4s						
ILAR	Eielson Array	83.69	11	P	P	13 12 16.3	-1.6
ILAR	Eielson Array	83.69	11	P	P	13 12 16.5	-1.3
	comp=Z,4.1nm,0.5s,baz=225,slow=5.7,SNR=81						
	comp=Z,4.1nm,0.5s						
BOZ	Bozeman (W)	83.76	39	P	P	13 12 18.2	-0.6
BOZ				IAmb	IAmb	13 12 19.9	
	comp=Z,16nm,0.9s						
BOZ	Bozeman (W)	83.76	39	P	P	13 12 18.5	-0.4
	baz=239,SNR=19						
H17A	Grant Village	83.80	40	P	**P**	**13 12 19.9**	**+0.7**
	baz=240,SNR=17						
J25K	Salcha River,	83.84	12	P	P	13 12 17.7	-1.0
	baz=208,SNR=11						
E17K	Hotham Inlet	83.85	5	P	P	13 12 18.1	-0.5
	baz=192,SNR=17						
HEH	HeiHe	83.87	327	*e*P	P	13 12 17.5	-1.6
HEH				pmax	pmax		
	comp=Z,7.0nm,1.4s						
HEH				pmax	pmax		
	comp=Z,220nm,4.1s						
POKR	Poker Plat Res	83.89	11	P	P	13 12 17.7	-1.2
	baz=206,SNR=13						
H22K	Ishtalitna Cre	83.94	9	P	P	13 12 18.5	-0.6
	baz=202						
F19K	Shaleruckik Mo	83.99	6	P	P	13 12 18.7	-0.6
	baz=196						
K27K	Chicken	84.03	14	P	**P**	**13 12 19.6**	**0.0**
	baz=211						
SDCO	Great Sand Dun	84.06	48	P	P	13 12 20.4	-0.3
	baz=244,SNR=8.5						
N32M	Quiet Lake	84.07	19	P	**P**	**13 12 19.8**	**-0.2**
	baz=219						
J26L	Joseph Creek	84.11	13	P	**P**	**13 12 20.2**	**0.0**
	baz=210						
M30M	Minto, Yukon	84.13	16	P	P	13 12 19.6	-0.6
M30M	Minto, Yukon	84.13	16	P	P	13 12 19.3	-0.8
	baz=216						
L29M	L29M	84.21	16	P	**P**	**13 12 20.5**	**-0.1**
	baz=215						
E18K	Tukpahlearik C	84.29	5	P	P	13 12 20.4	-0.4
	baz=193						
D17K	Noatak River	84.36	4	P	**P**	**13 12 21.0**	**-0.2**
	baz=191						
F20K	Avaraart Lake	84.44	7	P	P	13 12 21.1	-0.5
	baz=198						
H24K	Noodor Dome	84.47	11	P	P	13 12 20.2	-1.6
	baz=205						
MSTX	Muleshoe	84.48	52	P	P	13 12 22.5	-0.3
	baz=246						
M31M	Drury Creek, Y	84.50	18	P	P	13 12 21.3	-0.8
	baz=218						
PRP	Porcupine Dome	84.61	12	P	P	13 12 21.8	-0.8
PRP				IAmb	IAmb	13 12 24.0	
	comp=Z,24nm,1.1s						
PRP	Porcupine Dome	84.61	12	P	P	13 12 21.9	-0.8
	baz=208,SNR=12						
E19K	Redstone River	84.66	7	P	P	13 12 22.3	-0.4
E19K				IAmb	IAmb	13 12 23.3	
	comp=Z,18nm,0.7s						
E19K	Redstone River	84.66	7	P	P	13 12 22.0	-0.7
	baz=196						
WTLY	Watson Lake, Y	84.69	21	P	P	13 12 22.8	-0.3
	baz=223						
DAWY	Dawson	84.69	15	P	**P**	**13 12 22.8**	**-0.2**
DAWY				IAmb	IAmb	13 12 23.7	
	comp=Z,34nm,1.3s						
DAWY	Dawson	84.69	15	P	P	13 12 22.6	-0.4
	baz=213,SNR=10						
RDOG	Red Dog Mine	84.73	4	P	P	13 12 22.5	-0.5
	baz=191						
C16K	Lisburne Hills	84.79	3	P	P	13 12 22.4	-0.9
	baz=189						
FARO	Faro, Yukon	84.83	18	P	P	13 12 23.0	-0.7
	baz=219						
Q24A	Divide	84.84	47	P	P	13 12 24.4	-0.3
	baz=244,SNR=5.1						
G22K	Bettles	84.88	9	P	**P**	**13 12 23.6**	**-0.2**
	baz=202						
EGAK	Eagle	84.88	14	P	P	13 12 23.3	-0.6
	baz=212						
F21K	Alatna River	84.88	8	P	P	13 12 23.2	-0.7
	baz=200,SNR=6.6						
ISCO	Idaho Springs	84.89	46	P	P	13 12 24.2	-0.7
	baz=244						
I26K	Coal Creek Min	84.90	13	P	P	13 12 23.6	-0.4
I26K				IAmb	IAmb	13 12 24.7	
	comp=Z,43nm,1.6s						
I26K	Coal Creek Min	84.90	13	P	P	13 12 23.6	-0.3
	baz=210,SNR=5.7						
G23K	Bananza Creek	84.91	9	P	P	13 12 23.4	-0.7
	baz=203,SNR=6.4						
RLMT	Red Lodge	84.97	40	P	**P**	**13 12 25.2**	**+0.2**
	baz=241,SNR=12						
K29M	Barlow Dome	84.97	15	P	**P**	**13 12 24.4**	**-0.1**
	baz=215,SNR=7.1						
833A	Chaparral WMA,	84.97	59	P	P	13 12 25.0	-0.2
	baz=248						
CMIG	Matias Romero	85.02	71	P	P	13 12 25.1	-0.5
	comp=Z,5.5nm,0.9s,baz=236,slow=4.3,SNR=5.4						
	comp=Z,5.5nm,0.9s						
C17K	DeLong Mountai	85.12	4	P	P	13 12 24.2	-0.8
	baz=191						
N23A	Red Feather La	85.15	45	P	P	13 12 25.2	-0.9
	baz=243						
MAYO	Mayo, Yukon	85.20	16	P	**P**	**13 12 25.4**	**-0.1**
	baz=217						
H03S2	Juan Fernandez	85.28	124	T	T	14 46 16.0	
	baz=249,slow=75,SNR=22						
H03S1	Juan Fernandez	85.29	124	T	T	14 46 16.5	
	baz=249,slow=75,SNR=21						
H03S3	Juan Fernandez	85.29	124	T	T	14 46 15.3	
	baz=249,slow=75,SNR=12						
J29N	Klondike Camp	85.30	15	P	**P**	**13 12 26.2**	**+0.1**
	baz=214,SNR=6.1						
G24K	Hadweenzic Riv	85.32	10	P	**P**	**13 12 26.2**	**+0.2**
	baz=206						
F22K	John River	85.33	8	P	**P**	**13 12 26.4**	**+0.3**
	baz=201						
COLD	Coldfoot	85.36	9	P	**P**	**13 12 26.0**	**-0.1**
	baz=203,SNR=8.2						
H03N2	Juan Fernandez	85.39	123	T	T	14 46 22.4	
	baz=257,slow=72,SNR=9.3						
H03N3	Juan Fernandez	85.39	123	T	T	14 46 14.0	
	baz=257,slow=72,SNR=8.1						
H03N1	Juan Fernandez	85.40	123	T	T	14 46 05.5	
	baz=257,slow=72,SNR=9.7						
C18K	Utukok River	85.44	5	P	P	13 12 25.7	-1.0
	baz=193						
JCT	Junction City	85.44	57	P	P	13 12 26.8	-0.7
	baz=248						
I27K	Kandik River	85.49	13	P	P	13 12 26.6	-0.4
	baz=211						
E20K	Nigu River	85.54	7	P	P	13 12 26.7	-0.5
	baz=197						
K22A	Casper	85.55	43	P	P	13 12 26.8	-1.1
	baz=243						
HNS	HongShan	85.56	311	⇑P	**P**	**13 12 28.2**	**+0.4**
HNS				pmax	pmax		
	comp=Z,17nm,1.3s						
D19K	Kuna River	85.57	6	P	**P**	**13 12 27.2**	**-0.1**
	baz=196						
G25K	Bearman Lake	85.62	11	P	P	13 12 26.8	-0.7
	baz=207						
BJI	Beijing	85.63	314	P	**P**	**13 12 27.9**	**-0.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
AMTX	Amarillo	85.67	52	P	P	13 12 27.9	-0.7
	baz=247						
I28M	Miner Creek	85.73	14	P	P	13 12 27.6	-0.6
	baz=213,SNR=7.8						
J30M	Hart River	85.87	15	P	**P**	**13 12 28.7**	**-0.3**
	baz=216						
D20K	Etivluk River	85.93	6	P	P	13 12 28.3	-0.7
	baz=197						
E21K	Killik River	85.97	7	P	**P**	**13 12 28.9**	**-0.3**
	baz=200						
F24K	Squaw Lake	85.99	10	P	**P**	**13 12 29.2**	**-0.2**
	baz=205						
C19K	Lookout Ridge	86.02	5	P	**P**	**13 12 29.2**	**-0.3**
	baz=194,SNR=7.8						
I29M	Ogilvie Camp,	86.03	14	P	P	13 12 28.8	-0.7
	baz=214,SNR=6.7						
LYN	LuoYang	86.08	308	⇑P	**P**	**13 12 30.8**	**+0.3**
LYN				pP	pwP	13 13 13.5	+3.1
LYN				sP	sP	13 13 26.8	+3.8
LYN				pmax	pmax		
	comp=Z,54nm,0.7s						
LYN				pmax	pmax		
	comp=Z,150nm,5.4s						
B18K	Kokolik River	86.10	4	P	P	13 12 29.3	-0.5
	baz=192						
EGMT	Eagleton	86.10	37	P	P	13 12 29.7	-0.7
	baz=240						
E23K	Chandalar	86.21	9	P	P	13 12 29.9	-0.6
	baz=204						
ABTX	Abilene, Hawle	86.37	55	P	**P**	**13 12 32.0**	**-0.1**
	baz=248						
I30M	Mount Dempster	86.39	15	P	P	13 12 30.7	-0.8
	baz=216,SNR=11						
KOTAN	Kotaneelee Air	86.39	23	P	P	13 12 30.7	-0.8
	baz=228						
F25K	Christian Rive	86.44	11	P	**P**	**13 12 31.5**	**-0.1**
	baz=207						
BMAR	Burnt Mountain	86.49	11	P	**P**	**13 12 31.7**	**-0.1**
MAW	Mawson	86.49	199	P	P	13 12 31.5	-0.4
	comp=Z,8.8nm,0.8s,baz=138,slow=4.8,SNR=3.9						
	comp=Z,8.8nm,0.8s						
G27K	Doyon Strip	86.52	12	P	**P**	**13 12 31.7**	**-0.2**
	baz=211						
D22K	Ayikyak River	86.55	8	P	**P**	**13 12 31.7**	**-0.3**
	baz=201						
C21K	Knifeblade Rid	86.56	7	P	P	13 12 31.7	-0.4
	baz=199						
KSCO	Kaye Shedlock'	86.64	48	P	P	13 12 32.6	-0.7
	baz=246						
FLDN	Fort Liard	86.68	23	P	**P**	**13 12 32.6**	**-0.2**
	baz=228						
H29M	Whitestone	86.73	14	P	P	13 12 32.0	-1.0
H29M				IAmb	IAmb	13 12 33.0	
	comp=Z,11nm,0.8s						
H29M	Whitestone	86.73	14	P	P	13 12 32.6	-0.3
	baz=214						
F26K	Sheenjek River	86.80	11	P	**P**	**13 12 33.0**	**-0.3**
	baz=209						
EDM	Edmonton	86.85	32	P	P	13 12 32.0	-1.9
D23K	Nanushuk River	86.90	8	P	**P**	**13 12 33.5**	**-0.2**
	baz=203						
E25K	Arctic Village	86.92	10	P	**P**	**13 12 33.8**	**-0.1**
E25K	Arctic Village	86.92	10	P	P	13 12 33.6	-0.3
	baz=208,SNR=6.6						
A19K	Wainwright	86.98	4	P	P	13 12 33.2	-0.8
	baz=193						
B21K	Ikpikpuk River	87.02	7	P	P	13 12 33.7	-0.5
	baz=199						
B20K	Meade River	87.12	6	P	P	13 12 33.9	-0.8
	baz=196						
EPYK	Eagle Plains	87.24	14	P	P	13 12 35.0	-0.4
	baz=216						
435B	Jarrell	87.33	57	P	P	13 12 36.1	-0.6
	baz=249						
D24K	Happy Valley	87.34	9	P	P	13 12 35.3	-0.5
	baz=204						
G29M	Pine Creek	87.38	13	P	P	13 12 35.6	-0.5
	baz=215						
F28M	Old Crow	87.57	13	P	P	13 12 35.9	-1.1
F28M	Old Crow	87.57	13	P	P	13 12 36.4	-0.6
	baz=213,SNR=5.0						
LAO	LASA Array	87.58	40	P	**P**	**13 12 37.5**	**0.0**
	baz=243,SNR=7.9						
E27K	Coleen River	87.71	12	P	**P**	**13 12 37.6**	**-0.1**
	baz=211						
C23K	Itkillik River	87.72	8	P	**P**	**13 12 37.5**	**-0.1**
	baz=203						
RSSD	Black Hills	87.83	43	P	P	13 12 37.9	-1.1
	baz=245						
GYA	Guiyang	87.84	298	⇑*i*P	**P**	**13 12 39.6**	**+0.3**
GYA				pmax	pmax		
	comp=Z,19nm,1.1s						
B22K	Teshekpuk Lake	87.84	7	P	P	13 12 37.3	-0.8
	baz=200						
G30M	tAoh Zraii Nji	87.85	14	P	P	13 12 37.5	-0.8
	baz=216,SNR=5.8						
D25K	Kavik River	87.87	10	P	P	13 12 37.5	-0.9
	baz=207						
C24K	Franklin Bluff	87.87	9	P	P	13 12 37.7	-0.6
	baz=204						
G31M	Satah River	88.27	15	P	P	13 12 39.4	-0.8
G31M				IAmb	IAmb	13 12 40.6	
	comp=Z,18nm,1.1s						
G31M	Satah River	88.27	15	P	P	13 12 39.4	-0.8
	baz=218,SNR=6.2						
A22K	Sinclair Lake	88.30	6	P	P	13 12 39.1	-1.2
	baz=198						
A21K	Barrow	88.44	6	P	P	13 12 40.2	-0.7
	baz=197						
E28M	Babbage River	88.47	12	P	P	13 12 40.6	-0.6
	baz=213						
GSI	Gunungsitoli	88.61	272	P	**P**	**13 12 42.8**	**-0.3**
	comp=Z,57nm,1.2s,comp=Z,2µm						
XAN	Xi'an	88.61	306	⇑P	**P**	**13 12 42.7**	**0.0**
XAN				pmax	pmax		
	comp=Z,22nm,1.3s						
E29M	Blow River	88.63	13	P	P	13 12 41.4	-0.6
	baz=215						
C26K	Camden Bay	88.63	10	P	**P**	**13 12 41.8**	**-0.1**
	baz=208						
CBKS	Cedar Bluff	88.64	49	P	P	13 12 41.8	-0.9
	baz=248						
WRGLY	Wrigley	88.69	21	P	**P**	**13 12 42.3**	**+0.1**
	baz=228						
D27M	Malcolm River	88.74	11	P	**P**	**13 12 42.4**	**-0.1**
	baz=212						
F31M	Tsiigehtchic	88.80	15	P	P	13 12 42.1	-0.6
	baz=219,SNR=11						
HHC	Hu-ho-hao-te	89.17	313	⇓*i*P	**P**	**13 12 45.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,48nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,4.5s						
D28M	Stokes Point	89.24	12	P	P	13 12 44.3	-0.4
	baz=214						
INK	Inuvik	89.53	14	P	P	13 12 45.3	-0.8
INK				IAmb	IAmb	13 12 46.4	
	comp=Z,12nm,1.3s						
INK	Inuvik	89.53	14	P	P	13 12 45.5	-0.6

	baz=219							
DGMT	**Dagmar**	**89.60**	**39**	P	**P**	**13 12 46.9**	**0.0**	
	baz=244							
BTO	**Baotou**	**90.17**	**312**	*e*P	P	13 12 49.2	-0.7	
BTO				pP	pP	13 13 29.7	+2.5	
BTO				sP	sP	13 13 46.8	+4.1	
BTO				pmax	pmax			
	comp=Z,19nm,0.6s							
BTO				pmax	pmax			
	comp=Z,250nm,4.8s							
BGNE	**Belgrade**	**90.73**	**47**	P	P	13 12 51.7	-0.7	
	baz=249							
KMI	**Kunming**	**90.76**	**296**	⇑P	**P**	**13 12 53.3**	**+0.1**	
KMI				pmax	pmax			
	comp=Z,19nm,1.1s							
ELIB	**Princess Elisa**	**90.96**	**185**	*d*P	P	13 12 52.3	-0.9	
	comp=Z,7.1nm,1.0s							
ELIB				*d*x	x	13 13 37.6		
KSU1	**Kansas State U**	**91.01**	**49**	P	P	13 12 53.2	-0.5	
	baz=250							
YKA	**Yellowknife Ar**	**91.43**	**24**	P	P	13 12 54.2	-0.9	
	comp=Z,4.6nm,1.1s,baz=235,slow=4.1,SNR=32							
	comp=Z,4.6nm,1.1s							
CD2	**Chengdu**	**91.68**	**302**	P	P	13 12 55.4	-1.7	
PZH	**PanZhiHua**	**92.03**	**297**	P	P	13 12 58.2	-0.7	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,170nm,5.3s							
CMAR	**Chiang Mai Arr**	**92.18**	**288**	P	**P**	**13 12 59.5**	**-0.1**	
	comp=Z,6.5nm,0.8s,baz=92,slow=2.5,SNR=37							
	comp=Z,6.5nm,0.8s							
CMMT	**Chiang Mai**	**92.28**	**289**	P	**P**	**13 13 00.1**	**0.0**	
	comp=Z,62nm,1.1s							
CHTO	**Chiang Mai**	**92.28**	**289**	P	**P**	**13 13 00.1**	**0.0**	
ECSD	**EROS Data Cent**	**92.62**	**45**	P	P	13 12 59.9	-1.2	
	baz=250							
C36M	**Paulatuk**	**92.64**	**16**	P	P	13 12 59.9	-0.6	
	baz=229							
LZH	**Lanzhou**	**93.22**	**307**	*e*P	**P**	**13 13 04.4**	**+0.2**	
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
A36M	**Sachs Harbour**	**94.16**	**14**	P	P	13 13 06.6	-0.8	
	baz=227							
SONM	**Songino Array**	**95.12**	**318**	P	P	13 13 10.8	-1.8	
	comp=Z,1.3nm,0.6s,baz=114,slow=4.9,SNR=9.0							
	comp=Z,1.3nm,0.6s							
ULM	**Lac du Bonnet**	**95.31**	**39**	P	P	13 13 11.3	-1.9	
	comp=Z,2.7nm,0.6s,baz=257,slow=7.5,SNR=5.3							
	comp=Z,2.7nm,0.6s							
SPMN	**Marine on St.**	**95.68**	**45**	P	P	13 13 14.3	-0.8	
	baz=252							
JFWS	**Jewell Farm**	**96.78**	**47**	P	P	13 13 19.3	-0.8	
	baz=254							
GTA	**Gaotai**	**97.23**	**309**	*e*P	P	13 13 21.7	-0.7	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
ZALV	**Zalesovo Beam**	**109.59**	**322**	PKiKP	**PKiKP**	**13 18 16.8**	**-2.2**	
	comp=Z,0.9nm,0.6s,baz=31,slow=0.9,SNR=5.4							
MKAR	**Makanchi Array**	**111.01**	**314**	PKiKP	**PKiKP**	**13 18 20.1**	**-1.8**	
	comp=Z,1.5nm,0.6s,baz=99,slow=0.8,SNR=17							
KURBB	**Kurchatov Arra**	**113.48**	**318**	PKiKP	**PKiKP**	**13 18 24.8**	**-1.7**	
	comp=Z,2.1nm,0.9s,baz=96,slow=1.8,SNR=18							
SPITS	**Spitsbergen Ar**	**118.08**	**358**	PKP	**PKPdf**	**13 18 32.8**	**-1.8**	
	comp=Z,9.4nm,1.0s,baz=345,slow=5.1,SNR=2.0							
BVAR	**Borovoye Array**	**118.24**	**322**	Pdiff	**Pdif**	**13 14 52.9**	**-2.5**	
	comp=Z,0.7nm,0.6s,baz=106,slow=2.2,SNR=3.8							
BVAR				PKP	**PKPdf**	**13 18 34.0**	**-1.6**	
	comp=Z,5.2nm,0.8s,baz=70,slow=1.5,SNR=25							
ARCES	**ARCESS Array B**	**125.58**	**352**	PKP	**PKPdf**	**13 18 47.7**	**-1.5**	
	comp=Z,5.9nm,0.8s,baz=26,slow=4.4,SNR=9.1							
GEYT	**Alibeck**	**129.49**	**306**	PKP	**PKPdf**	**13 18 58.2**	**+0.5**	
	comp=Z,1.6nm,0.7s,baz=143,slow=5.0,SNR=4.0							
FINES	**FINESS Array B**	**132.83**	**347**	PKP	**PKPdf**	**13 19 01.4**	**-1.8**	
	comp=Z,3.7nm,0.9s,baz=50,slow=3.0,SNR=7.8							
NB2	**NORSAR Subarra**	**135.35**	**356**	PKP	**PKPdf**	**13 19 07.9**	**-0.1**	
	comp=Z,1.1nm,0.8s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**135.35**	**356**	PKP	**PKPdf**	**13 19 07.4**	**-0.6**	
	comp=Z,1.5nm,0.8s,baz=13,slow=4.1,SNR=3.8							
HFS	**Hagfors**	**136.05**	**354**	PKP	**PKPdf**	**13 19 09.4**	**+0.1**	
	comp=Z,2.5nm,0.9s,baz=354,slow=1.4,SNR=4.6							
AKASG	**Malin Array Be**	**141.03**	**336**	PKhKP	PKPpre	13 19 10.7		
	comp=Z,1.6nm,0.6s,baz=38,slow=3.4,SNR=5.1							
FLTG	**Flechtingen**	**143.99**	**354**	*e*PKPbc	PKPab	13 19 22.6	+1.0	
	baz=11,slow=3.0							
KMBO	**Kilima Mbogo**	**144.31**	**244**	PKP	**PKPab**	**13 19 22.6**	**-1.7**	
	comp=Z,4.6nm,0.7s,baz=86,slow=5.4,SNR=8.7							
DIKM	**Dikmen**	**144.35**	**321**	⇑P	**PKPab**	**13 19 23.8**	**+0.5**	
OJC	**Ojcow**	**144.51**	**344**	*e*PKP	**PKPab**	**13 19 22.6**	**-1.0**	
KSP	**Ksiaz**	**144.71**	**348**	*e*PKP	**PKPab**	**13 19 23.7**	**-0.7**	
CLL	**Collm**	**144.80**	**352**	⇓*i*PKPbc	**PKPab**	**13 19 23.3**	**-1.4**	
	comp=Z,20nm,0.8s							
CLL				*i* PKiKP	PKPbc	13 19 28.1	+3.4	
CLL				*e*pPKiKP	**pPKPdf**	**13 20 09.0**	**+4.5**	
CLL	**Collm**	**144.80**	**352**	*e*PKPbc	**PKPab**	**13 19 23.4**	**-1.3**	
	baz=11,slow=3.0							
VASR	**Vaslui**	**144.81**	**333**	⇑P	**PKPab**	**13 19 24.4**	**-0.5**	
STHS	**Stebnicka Huta**	**144.84**	**342**	*e*PKP	**PKPab**	**13 19 23.7**	**-1.2**	
KOLS	**Kolonicke sedl**	**144.96**	**341**	*e*PKP	PKPbc	13 19 24.8	-0.5	
CHVC	**Chvalec**	**145.00**	**349**	*e*PKP	PKPbc	13 19 24.5	-0.9	
OSTC	**Ostas**	**145.00**	**348**	*e*PKP	PKPbc	13 19 25.0	-0.4	
NEUB	**Neuenburg**	**145.05**	**353**	*e*PKPbc	**PKPbc**	**13 19 24.4**	**-1.1**	
	baz=11,slow=3.0							
BURAR	**Bucovina Array**	**145.07**	**337**	⇑P	**PKPbc**	**13 19 25.3**	**-0.5**	
UPC	**Upice**	**145.09**	**349**	*e*PKP	**PKPbc**	**13 19 25.1**	**-0.6**	
BRG	**Berggiesshubel**	**145.09**	**351**	*i* PKP	**PKPbc**	**13 19 24.7**	**-1.0**	
BRG				Amp		13 19 25.6		
	comp=Z,11nm,0.8s							
BRG	**Berggiesshubel**	**145.09**	**351**	P	**PKPdf**	**13 19 31.4**	**+5.5**	
BRG				Amp		13 19 32.1		
	comp=Z,4.6nm,0.8s							
BRG	**Berggiesshubel**	**145.09**	**351**	*e*PKPbc	**PKPbc**	**13 19 24.7**	**-1.0**	
	baz=11,slow=3.0							
GIRR	**Girov**	**145.10**	**335**	⇑P	**PKPbc**	**13 19 25.0**	**-0.8**	
NIE	**Niedzica**	**145.11**	**343**	*e*PKP	**PKPbc**	**13 19 25.4**	**-0.4**	
DPC	**Dobruska-Polom**	**145.18**	**348**	*e*PKP	**PKPbc**	**13 19 25.7**	**-0.3**	
CRVS	**Cervenica-Dubn**	**145.24**	**342**	*e*PKP	**PKPbc**	**13 19 25.6**	**-0.6**	
OKC	**Ostrava-Krasne**	**145.27**	**346**	*e*PKP	**PKPbc**	**13 19 25.4**	**-0.8**	
VLDR	**Vladesti**	**145.30**	**332**	⇑P	**PKPdf**	**13 19 25.8**	**-0.6**	
KASTN	**Kahler Asten**	**145.32**	**357**	*e*PKPbc	**PKPdf**	**13 19 25.5**	**-0.8**	
	baz=11,slow=3.0							
PVCC	**Panska Ves**	**145.32**	**350**	*e*PKP	**PKPdf**	**13 19 25.8**	**-0.5**	
KRLC	**Kraliky**	**145.35**	**347**	*e*PKP	**PKPdf**	**13 19 25.8**	**-0.6**	
TESR	**Tescani**	**145.40**	**334**	⇑P	**PKPdf**	**13 19 25.6**	**-0.9**	
HSKC	**Hora Svate Kat**	**145.42**	**351**	*e*PKP	**PKPdf**	**13 19 25.8**	**-0.7**	
GHRR		**145.43**	**333**	⇑P	**PKPdf**	**13 19 27.2**	**+0.6**	
MORC	**Moravsky Berou**	**145.46**	**346**	⇑P	**PKPdf**	**13 19 26.6**	**-0.1**	
MORC	**Moravsky Berou**	**145.46**	**346**	*e*PKP	**PKPdf**	**13 19 26.2**	**-0.4**	
TLCR		**145.47**	**331**	⇑P	**PKPdf**	**13 19 26.6**	**-0.1**	
SCTR	**Scanteiesti**	**145.47**	**332**	⇑P	**PKPdf**	**13 19 27.0**	**+0.3**	
LANS	**Liptovska Anna**	**145.57**	**344**	*e*PKP	**PKPdf**	**13 19 26.9**	**+0.1**	
UBBA	**Unterbreizbach**	**145.60**	**355**	*e*PKPbc	**PKPdf**	**13 19 26.2**	**-0.4**	
	baz=11,slow=3.0							
MOX	**Moxa**	**145.62**	**353**	*e*PKPbc	**PKPdf**	**13 19 26.5**	**-0.3**	
	baz=11,slow=3.0							
PANC	**Panciu**	**145.69**	**333**	⇑P	**PKPdf**	**13 19 27.9**	**+0.9**	
PLN	**Plauen**	**145.71**	**353**	*e*PKPbc	**PKPdf**	**13 19 26.9**	**-0.1**	
	baz=11,slow=3.0							
MAUC	**Maruska**	**145.78**	**346**	*e*PKP	**PKPdf**	**13 19 27.7**	**+0.5**	
CFR	**Carcaliu**	**145.79**	**331**	⇑P	**PKPdf**	**13 19 27.5**	**+0.3**	
ODBI	**Odobesti**	**145.82**	**333**	⇑P	**PKPdf**	**13 19 27.5**	**+0.3**	
ARCR	**ARCALIA**	**145.84**	**337**	⇑P	**PKPdf**	**13 19 28.0**	**+0.7**	
PRU	**Pruhonice**	**145.85**	**350**	*e*PKP	**PKPdf**	**13 19 27.5**	**+0.3**	
VRI	**Vrincioaia**	**145.88**	**334**	⇑P	**PKPdf**	**13 19 27.8**	**+0.3**	
GOPC	**GO Pecny, Ondr**	**145.88**	**350**	*e*PKP	**PKPdf**	**13 19 27.5**	**+0.2**	
KECS	**Kecovo**	**145.90**	**342**	*e*PKP	**PKPdf**	**13 19 28.1**	**+0.8**	
TPGR	**Topolog**	**145.90**	**331**	⇑P	**PKPdf**	**13 19 28.2**	**+0.7**	
NKC	**Novy Kostel**	**145.92**	**352**	*e*PKP	**PKPdf**	**13 19 27.6**	**+0.2**	
PLOR	**Plostina**	**145.92**	**334**	⇑P	**PKPdf**	**13 19 27.8**	**+0.3**	
MEM	**Membach**	**145.98**	**360**	*d*PKP	**PKPdf**	**13 19 27.3**	**-0.1**	
BTNL	**Ternell**	**146.00**	**360**	*d*PKP	**PKPdf**	**13 19 27.5**	**0.0**	
BSTI	**Sart Tilman**	**146.01**	**0**	*d*PcP	**PKPdf**	**13 19 27.6**	**+0.2**	
TURR	**Turia**	**146.03**	**334**	⇓P	**PKPdf**	**13 19 28.8**	**+1.1**	
VRAC	**Vranov**	**146.11**	**347**	⇓P	**PKPdf**	**13 19 28.8**	**+1.1**	
VRAC	**Vranov**	**146.11**	**347**	*e*PKP	**PKPdf**	**13 19 27.7**	**0.0**	
VRAC	**Vranov**	**146.11**	**347**	PKPbc	**PKPdf**	**13 19 27.8**	**0.0**	
	comp=Z,12nm,0.9s,baz=8.6,slow=2.3,SNR=12							
COVR	**Voineasa-Covas**	**146.12**	**334**	⇑P	**PKPdf**	**13 19 28.2**	**+0.4**	
BCLA	**Clavier**	**146.17**	**1**	*d*PKP	**PKPdf**	**13 19 28.3**	**+0.6**	
BGES	**Gesves**	**146.20**	**1**	*d*PKP	**PKPdf**	**13 19 27.5**	**-0.3**	
MANZ	**Manzenberg**	**146.21**	**353**	*e*PKPbc	**PKPdf**	**13 19 28.2**	**+0.4**	
	baz=11,slow=3.0							
BHOU	**Houvegnez**	**146.24**	**360**	*d*PKP	**PKPdf**	**13 19 28.7**	**+0.9**	
HARR	**Harsova**	**146.25**	**331**	⇑P	**PKPdf**	**13 19 29.2**	**+1.2**	
BMRD	**Maredsous**	**146.28**	**1**	*d*PKP	**PKPdf**	**13 19 28.6**	**+0.7**	
JAVC	**Velka Javorina**	**146.29**	**346**	*e*PKP	**PKPdf**	**13 19 29.6**	**+1.5**	
TLBR	**Topalu**	**146.31**	**331**	⇑P	**PKPdf**	**13 19 29.4**	**+1.3**	
VYHS	**Vyhne**	**146.34**	**344**	*e*PKP	**PKPdf**	**13 19 29.3**	**+1.2**	
DOPR	**Dopca**	**146.36**	**335**	⇑P	**PKPdf**	**13 19 30.1**	**+1.8**	
KRUC	**Moravsky**	**146.39**	**347**	*e*PKP	**PKPdf**	**13 19 28.6**	**+0.5**	
NEHR	**Nehoiu**	**146.41**	**333**	⇓P	**PKPdf**	**13 19 30.8**	**+2.4**	
ROTZ	**Rotzenmuhle**	**146.41**	**352**	*e*PKPbc	**PKPdf**	**13 19 29.2**	**+1.0**	
	baz=11,slow=3.0							
RCHB	**Rochefort**	**146.43**	**1**	*d*PKP	**PKPdf**	**13 19 28.6**	**+0.4**	
ZVC	**Zvikov**	**146.44**	**350**	*e*PKP	**PKPdf**	**13 19 29.2**	**+1.0**	
BRTR	**Keskin Array B**	**146.47**	**319**	PKPbc	**PKPdf**	**13 19 29.1**	**+0.4**	
	comp=Z,18nm,0.8s,baz=58,slow=2.1,SNR=46							
DOU	**Dourbes**	**146.48**	**1**	*d*PKP	**PKPdf**	**13 19 29.1**	**+0.9**	
MLR	**Muntele Rosu**	**146.51**	**334**	⇑P	**PKPdf**	**13 19 30.2**	**+1.5**	
ISR	**Istrita**	**146.55**	**333**	⇑P	**PKPdf**	**13 19 29.8**	**+1.2**	
PSZ	**Piszkesteto**	**146.58**	**343**	⇑P	**PKPdf**	**13 19 29.3**	**+0.7**	
GRF	**Grafenberg Arr**	**146.60**	**354**	*e*PKPbc	**PKPdf**	**13 19 31.5**	**+3.0**	
	baz=11,slow=3.0							
MARR	**Marisel-Cluj**	**146.63**	**338**	⇑P	**PKPdf**	**13 19 30.0**	**+1.2**	
KHC	**Kasperske Hory**	**146.84**	**351**	*e*PKP	**PKPdf**	**13 19 30.4**	**+1.4**	
KHC				*ex*	x	13 20 18.1		
MODS	**Modra-Piesok**	**146.84**	**346**	*e*PKP	**PKPdf**	**13 19 31.2**	**+2.2**	
ANTO	**Ankara**	**146.91**	**320**	⇑P	**PKPdf**	**13 19 29.0**	**-0.4**	
WLF	**Walferdange**	**146.93**	**360**	*d*PKP	**PKPdf**	**13 19 31.0**	**+2.0**	
WLF	**Walferdange**	**146.93**	**360**	*e*PKPbc	**PKPdf**	**13 19 31.1**	**+2.0**	
	baz=11,slow=3.0							
VOIR		**146.93**	**335**	⇑P	**PKPdf**	**13 19 31.3**	**+2.1**	
CKRC	**Cesky Krumlov**	**147.02**	**350**	*e*PKP	**PKPdf**	**13 19 30.9**	**+1.7**	
CKRC				*ex*	x	13 20 18.8		
ZST	**Bratislava**	**147.05**	**346**	*e*PKP	**PKPdf**	**13 19 31.4**	**+2.1**	
GEC2	**GERESS Array S**	**147.10**	**350**	*e*PKPbc	**PKPdf**	**13 19 30.8**	**+1.4**	
	baz=11,slow=3.0							
GERES	**GERESS Array B**	**147.10**	**350**	PKPbc	**PKPdf**	**13 19 30.6**	**+1.1**	
	comp=Z,5.7nm,0.7s,baz=20,slow=4.3,SNR=21							
ARR	**Arges**	**147.15**	**335**	⇑P	**PKPdf**	**13 19 32.6**	**+3.0**	
SIRR	**Siria**	**147.50**	**339**	⇑P	**PKPdf**	**13 19 32.6**	**+2.5**	
CONA	**Conrad Observa**	**147.58**	**347**	*i* PKP	**PKPdf**	**13 19 32.7**	**+2.4**	
	comp=Z,15nm,0.8s,SNR=8.3							
RONA	**Rosalia, Austr**	**147.70**	**347**	*i* PKP	**PKPdf**	**13 19 32.9**	**+2.5**	
	comp=Z,14nm,0.8s,SNR=14							
RAZG	**Razgrad**	**147.77**	**331**	⇑P	**PKPdf**	**13 19 32.9**	**+2.2**	
SURR	**Surduc**	**147.78**	**338**	⇑P	**PKPdf**	**13 19 33.0**	**+2.4**	
GZR	**Gura Zlata**	**147.85**	**337**	⇑P	**PKPdf**	**13 19 33.0**	**+2.2**	
MOA	**Molln**	**147.96**	**349**	*i* PKP	**PKPdf**	**13 19 33.3**	**+2.5**	
	comp=Z,13nm,1.0s							
BZS	**Buzias**	**148.08**	**339**	⇑P	**PKPdf**	**13 19 33.9**	**+2.8**	
BFO	**Black Forest**	**148.19**	**357**	*e*PKPbc	**PKPdf**	**13 19 33.9**	**+2.7**	
	baz=11,slow=3.0							
BIOA	**Bad Ischl, Aus**	**148.23**	**350**	*i* PKP	**PKPdf**	**13 19 33.5**	**+2.2**	
	comp=Z,8.7nm,1.0s							
SZH	**Strazhitsa**	**148.25**	**331**	*i* P	**PKPdf**	**13 19 33.9**	**+2.5**	
ARSA	**Arzberg**	**148.29**	**347**	*i* PKP	**PKPdf**	**13 19 33.9**	**+2.5**	
	comp=Z,7.8nm,0.9s							
RJOB	**Jochberg**	**148.32**	**351**	*e*PKPbc	**PKPdf**	**13 19 34.3**	**+2.8**	
	baz=11,slow=3.0							
HERR	**Herculane**	**148.42**	**337**	⇑P	**PKPdf**	**13 19 34.7**	**+3.0**	
MORH	**Mrgy, Hungar**	**148.49**	**343**	⇑P	**PKPdf**	**13 19 34.6**	**+2.9**	
ELND	**Elena**	**148.56**	**331**	⇑P	**PKPdf**	**13 19 35.4**	**+3.4**	
MMAI	**Mount Meron Ar**	**148.60**	**307**	PKPbc	**PKPdf**	**13 19 36.1**	**+3.7**	
	comp=Z,18nm,0.7s,baz=62,slow=4.3,SNR=16							
LESA	**Schwarzleotal**	**148.64**	**351**	*i* PKP	**PKPdf**	**13 19 34.9**	**+2.8**	
	comp=Z,6.5nm,0.7s							
PLVB	**Pleven**	**148.76**	**333**	⇑P	**PKPdf**	**13 19 36.0**	**+3.7**	
MDVR	**Moldovita**	**148.76**	**338**	⇑P	**PKPdf**	**13 19 35.5**	**+3.2**	
RETA	**Reutte**	**148.83**	**353**	*i* PKP	**PKPdf**	**13 19 35.6**	**+3.3**	
	comp=Z,15nm,1.1s							
KBA	**Koelnbreinsper**	**148.87**	**350**	*i* PKP	**PKPdf**	**13 19 35.2**	**+2.6**	
	comp=Z,8.6nm,0.7s							
WATA	**Walderalm**	**148.88**	**352**	*i* PKP	**PKPdf**	**13 19 35.5**	**+3.0**	
	comp=Z,18nm,1.3s,SNR=5.2							
MOTA	**Moosalm**	**148.93**	**353**	*i* PKP	**PKPdf**	**13 19 35.8**	**+3.1**	
	comp=Z,26nm,1.3s,SNR=5.7							
SOKA	**Soboth**	**148.94**	**348**	*i* PKP	**PKPdf**	**13 19 35.4**	**+2.8**	
	comp=Z,19nm,1.6s							
WTTA	**Wattenberg**	**148.94**	**352**	*i* PKP	**PKPdf**	**13 19 36.0**	**+3.3**	
	comp=Z,19nm,0.8s,SNR=5.5							
VALD	**Valchedram**	**149.02**	**335**	*i* P	**PKPdf**	**13 19 36.3**	**+3.7**	
SQTA	**Sankt Quirin**	**149.04**	**353**	*i* PKP	**PKPdf**	**13 19 36.2**	**+3.4**	
	comp=Z,10nm,1.0s							
FRGS	**Fruska Gora**	**149.09**	**340**	⇑P	**PKPdf**	**13 19 36.7**	**+3.9**	
FRGS	**Fruska Gora**	**149.09**	**340**	*e*P	**PKPdf**	**13 19 36.3**	**+3.5**	
DAVA	**Damuels**	**149.12**	**355**	*i* PKP	**PKPdf**	**13 19 36.6**	**+3.7**	
	comp=Z,26nm,1.0s,SNR=6.9							
MPEP	**Malo Peshtene**	**149.16**	**334**	*i* P	**PKPdf**	**13 19 36.7**	**+3.8**	
OBKA	**Obir**	**149.20**	**348**	*i* PKP	**PKPdf**	**13 19 35.5**	**+2.6**	
	comp=Z,19nm,1.4s							
OBKA	**Obir**	**149.20**	**348**	*e*P	**PKPdf**	**13 19 35.8**	**+2.8**	
MYKA	**Terra Mystica**	**149.25**	**349**	*i* PKP	**PKPdf**	**13 19 35.8**	**+2.7**	
	comp=Z,13nm,0.8s							
FETA	**Feichten**	**149.29**	**353**	*i* PKiKP	**PKPdf**	**13 19 37.1**	**+3.9**	
	comp=Z,23nm,1.2s,SNR=7.2							
ABTA	**Abtlettersbach**	**149.33**	**351**	*i* PKP	**PKPdf**	**13 19 36.2**	**+3.1**	
	comp=Z,36nm,1.3s,SNR=6.1							
BLKB	**Belogradchik**	**149.38**	**335**	⇑P	**PKPdf**	**13 19 37.2**	**+3.9**	
DAVOX	**Davos/Dischmat**	**149.62**	**354**	PKPbc	**PKPdf**	**13 19 38.1**	**+4.3**	
	comp=Z,23nm,0.8s,baz=342,slow=2.3,SNR=38							
LJU	**Ljubljana**	**149.65**	**348**	*i* PKPbc	**PKPdf**	**13 19 37.5**	**+3.8**	
PGB	**Panagyurishte**	**149.66**	**332**	*i* P	**PKPdf**	**13 19 37.6**	**+3.8**	
CRES	**Cresnjev**	**149.66**	**346**	⇑*i*P	**PKPbc**	**13 19 41.8**	**+4.3**	
CRNS	**Crni Vrh**	**149.67**	**348**	*i* PKPbc	**PKPdf**	**13 19 37.1**	**+3.4**	
TEKS	**Tekeris**	**149.72**	**340**	*e*P	**PKPdf**	**13 19 37.0**	**+3.2**	
BOVS	**Bovan**	**149.75**	**337**	⇑P	**PKPdf**	**13 19 37.4**	**+3.6**	
KDZ	**Kurdzhali**	**149.81**	**335**	*i* P	**PKPdf**	**13 19 37.9**	**+3.9**	
CEY	**Cerknica**	**149.96**	**348**	⇑*i*P	**PKPdf**	**13 19 43.2**	**+4.0**	
VTS	**Vitosha**	**149.98**	**334**	*i* P	**PKPdf**	**13 19 38.6**	**+4.2**	
BOJS	**Bojanci**	**150.01**	**347**	*e*P	**PKPdf**	**13 19 37.4**	**+3.2**	
RZN	**Rozhen**	**150.05**	**331**	*i* P	**PKPdf**	**13 19 38.4**	**+3.8**	
A051A	**Mrakovica**	**150.07**	**344**	*e*P	**PKPdf**	**13 19 36.2**	**+1.8**	
BLY	**Banja Luka**	**150.24**	**343**	⇑*i*P	**PKPdf**	**13 19 38.2**	**+3.7**	
HAPS	**Han Pijesak,Bl**	**150.32**	**341**	*e*P	**PKPdf**	**13 19 39.0**	**+4.1**	
BBLS	**Lazići**	**150.37**	**340**	*e*P	**PKPdf**	**13 19 38.1**	**+3.2**	
MGRS	**Mrkonjic Grad**	**150.57**	**343**	*e*P	**PKPdf**	**13 19 40.0**	**+4.9**	
RUDO	**Rudo**	**150.60**	**340**	*e*P	**PKPdf**	**13 19 39.2**	**+4.0**	
MMB	**Musomishta**	**150.62**	**332**	*i* P	**PKPdf**	**13 19 39.5**	**+4.2**	
KKB	**Krupnik**	**150.66**	**333**	*i* P	**PKPdf**	**13 19 40.1**	**+4.8**	
A050A	**Klekovaca**	**150.66**	**344**	*e*P	**PKPdf**	**13 19 38.9**	**+3.6**	
SJES	**Sjenica**	**150.71**	**338**	⇑*i*P	**PKPdf**	**13 19 39.6**	**+4.1**	
BRY	**Bratogost**	**151.51**	**340**	*e*P	**PKPdf**	**13 19 41.7**	**+4.9**	
STON	**Ston**	**151.81**	**341**	*e*P	**PKPdf**	**13 19 41.8**	**+4.8**	
DRME	**Dracevica, Mon**	**151.93**	**338**	*e*P	**PKPdf**	**13 19 41.1**	**+3.9**	
HCY	**Herceg Novi**	**151.93**	**340**	*e*P	**PKPdf**	**13 19 39.4**	**+2.2**	
ESDC	**Sonseca Array**	**155.41**	**18**	PKPab	**PKPab**	**13 20 07.7**	**-0.7**	
	comp=Z,6.2nm,0.9s,baz=323,slow=4.0,SNR=18							
TORD	**Torodi Ar. Bea**	**174.85**	**130**	PKP	**PKPdf**	**13 19 57.5**	**-1.8**	
	comp=Z,2.2nm,1.0s,baz=262,slow=4.4,SNR=9.6							
TORD				PKPab	**PKPab**	**13 21 33.8**	**-0.6**	
	comp=Z,1.8nm,0.8s,baz=255,slow=3.5,SNR=7.8							

TAP 12 13:32:21.4, 22.81N×120.83E, h22km±1km, ML1.4, 3C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSD	**Sandimen**	**0.19**	**251**	⇑*e*P	Pb	13 32 26.4	-0.4
	baz=251						
SSD				*e*S	Sb	13 32 29.2	-1.4
	baz=251						
TSMG	**Majia**	**0.20**	**239**	P	Pb	13 32 27.4	+0.5
	baz=240						
TSMG				S	Sb	13 32 30.7	0.0
	baz=240						
TWG	**Pinlang**	**0.23**	**86**	⇑*i*P	Pb	13 32 27.3	+0.1
	baz=81						
TWG				*e*S	Sb	13 32 30.0	-1.2
	baz=81						
TWGBT	**Beinan**	**0.23**	**87**	*i* P	Pb	13 32 27.2	-0.1
	baz=81						
TWGBT				*e*S	Sb	13 32 30.0	-1.3
	baz=81						
ECL	**Taimali**	**0.24**	**151**	*e*P	Pb	13 32 28.1	+0.7
	baz=150						
ECL				*e*S	Sb	13 32 31.5	+0.1
	baz=150						
SLGT	**Liugui**	**0.25**	**318**	*e*P	Pb	13 32 28.6	+1.1
	baz=318						
SLGT				*e*S	Sb	13 32 31.7	0.0
	baz=318						
MASBT	**Mashibuluo**	**0.27**	**223**	⇑P	Pb	13 32 28.7	+1.0
	baz=218						
MASBT				*e*S	Sb	13 32 32.5	+0.5
	baz=218						
LONT	**Longtian**	**0.30**	**70**	P	Pb	13 32 28.3	+0.2
	baz=70						
LONT				*i* S	Sb	13 32 33.5	+0.8
	baz=70						
SCST	**Cishan**	**0.32**	**284**	*e*P	Pb	13 32 27.7	-0.7
	baz=289						
SGLT	**Jiouru**	**0.32**	**255**	*e*P	Pb	13 32 29.2	+0.7
	baz=250						
SGLT				*e*S	Sb	13 32 33.7	+0.4
	baz=250						
ELDTW	**Lidau**	**0.42**	**25**	*e*P	Pn	13 32 31.4	-0.7
	baz=25						
ELDTW				*i* S	Sb	13 32 37.4	+1.2
	baz=25						
EAST	**Anshuo**	**0.42**	**177**	*e*P	Pn	13 32 31.3	-0.9
	baz=176						
EAST				*e*S	Sn	13 32 37.7	-1.5
	baz=176						

WEL ***12*** *13:45:02.7, 39°S±18°×17°E±1°2, h55km±19km, M2.3/8, ML1.2/6, MLv2.3/8, Error ellipse: s-maj=0.0km s-min=0.0km az=11.6*

**ISC 12 13:44:58.1±2.3, 38°2S±0°1×177°02E±0°

ILBA	**Ilam Banvizeh**	**0.44**	**107**	Pg	**Pb**	**14 05 00.2**	**-0.2**
ILBA				Sg	**Sb**	**14 05 07.4**	**+0.5**
IBDR	**Badra**	**0.67**	**163**	*e*Pg	**Pg**	**14 05 03.5**	**-0.4**
IBDR				*e*Sg	**Sb**	**14 05 13.0**	**-0.4**
IGHG	**Ghaleghazi**	**0.92**	**51**	Pg	**Pn**	**14 05 09.2**	**-0.3**
IDHR	**Dehrash**	**1.10**	**31**	Pg	**Pn**	**14 05 12.0**	**0.0**
BHD	**Baghdad**	**1.21**	**247**	*e*Pg	**Pb**	**14 05 13.5**	**+0.1**
BHD				*e*Sg	**Sg**	**14 05 30.0**	**+0.3**
IKOM	**Komasi**	**1.56**	**74**	Pg	**Pg**	**14 05 21.4**	**+0.5**
IKRK	**Kirkuk**	**1.99**	**326**	*e*Pn	**Pb**	**14 05 26.0**	**-0.8**
IKRK				*e*Sn	**Sb**	**14 05 52.0**	**+0.5**
IKRK				AML	AML	14 05 57.8	
	comp=E,79nm,0.5s						
IKRK				AML	AML	14 05 59.4	
	comp=N,77nm,0.4s						
RAFI	**Al-Rafai**	**2.06**	**170**	*e*Pn	**Pn**	**14 05 26.0**	**+1.1**
RAFI				*e*Sn	**Sb**	**14 05 52.0**	**-1.3**

IDC 12 14:17:55.0±291.0, 53.75N×44.03E, h0km, Error ellipse: s-maj=138.1km s-min=97.4km az=140.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.91**	**310**	I	I	14 46 55.0	
	0.2nm,1.5s,baz=122,slow=324,SNR=2.3						
I31KZ	**AKTYUBINSK INF**	**9.25**	**106**	I	I	15 08 40.0	
	baz=297,slow=277,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**23.83**	**73**	I	I	16 48 00.0	
	baz=280,slow=326,SNR=1.8						
I34MN	**SONGINO INFRAS**	**38.75**	**73**	I	I	18 18 50.0	
	baz=292,slow=334,SNR=0.4						

*NOU **12** 14:33:26.8, 26.79S×171.32W, h0km, mb4.4/8, South of Tonga Islands*
ISC 12 14:33:30.2±3.3, 26.8S±0.1×171.4W±0.4, h35km, n39, σ0.89/38, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.95**	**218**	P	**Pn**	**14 37 01.0**	**+2.1**
RTZ	**Ruatahuna**	**15.28**	**217**	P	**Pn**	**14 37 04.7**	**+1.3**
MUGZ	**Murupara**	**15.29**	**218**	P	**Pn**	**14 37 04.4**	**+1.0**
OUZ	**Omahuta**	**15.34**	**233**	P	**Pn**	**14 37 04.5**	**+0.4**
MTHZ	**Maungataniwha**	**15.53**	**217**	P	**Pn**	**14 37 08.0**	**+1.5**
NMHZ	**Naumai**	**15.72**	**216**	P	**P**	**14 37 11.4**	**-1.3**
TLZ	**Tolley Road**	**15.88**	**221**	P	**Pn**	**14 37 11.4**	**+0.3**
KWHZ	**Kaweka Forest**	**16.16**	**216**	P	**Pn**	**14 37 15.3**	**+0.6**
KAHZ	**Kahuranaki**	**16.21**	**214**	P	**P**	**14 37 18.0**	**0.0**
TMVZ	**Te Maari**	**16.33**	**218**	P	**Pn**	**14 37 16.3**	**-0.6**
NTVZ	**North Tongarir**	**16.33**	**218**	P	**Pn**	**14 37 16.6**	**-0.4**
KRHZ	**Kereru**	**16.35**	**216**	P	**Pn**	**14 37 17.3**	**+0.2**
OTVZ	**Oturere**	**16.39**	**218**	P	**Pn**	**14 37 16.8**	**-0.8**
PXZ	**Pawanui**	**16.39**	**214**	P	**P**	**14 37 20.3**	**+0.2**
BHHZ	**Black Hill Sta**	**16.40**	**217**	P	**Pn**	**14 37 17.5**	**-0.3**
HIZ	**Hauiti**	**16.41**	**221**	P	**Pn**	**14 37 18.3**	**+0.6**
HIZ	**Hauiti**	**16.41**	**221**	P	**Pn**	**14 37 18.0**	**+0.3**
PNHZ	**Pukenui**	**16.64**	**215**	P	**Pn**	**14 37 20.9**	**+0.2**
PRHZ	**Porangahau**	**16.69**	**214**	P	**P**	**14 37 23.8**	**+0.5**
TSZ	**Takapari Road**	**16.87**	**215**	P	**Pn**	**14 37 23.4**	**-0.3**
ANWZ	**Angora Road**	**16.91**	**214**	P	**P**	**14 37 26.6**	**+0.8**
BFZ	**Birch Farm**	**17.20**	**213**	P	**P**	**14 37 29.7**	**+0.8**
BFZ	**Birch Farm**	**17.20**	**213**	P	**P**	**14 37 29.6**	**+0.6**
POWZ	**Post Office Ro**	**17.22**	**215**	P	**Pn**	**14 37 28.2**	**+0.3**
PRWZ	**Pori Road**	**17.24**	**214**	P	**Pn**	**14 37 29.1**	**+0.9**
TIWZ	**Tintock**	**17.45**	**214**	P	**P**	**14 37 32.1**	**+0.4**
MRZ	**Mangatainoka R**	**17.51**	**215**	P	**Pn**	**14 37 31.1**	**-0.5**
TMWZ	**Te Maipa**	**17.69**	**213**	P	**P**	**14 37 35.2**	**+0.7**
HOWZ	**Holdsworth Sta**	**17.72**	**214**	P	**Pn**	**14 37 33.9**	**-0.3**
OGWZ	**Otaki Gorge**	**17.84**	**215**	P	**Pn**	**14 37 34.5**	**-1.1**
MTW	**Mount Morrison**	**17.92**	**214**	P	**Pn**	**14 37 36.7**	**0.0**
KIW	**Kapiti Island**	**18.00**	**216**	P	**Pn**	**14 37 36.2**	**-1.5**
CAW	**Cannon Point**	**18.11**	**215**	P	**Pn**	**14 37 37.5**	**-1.3**
BHW	**Baring Head**	**18.43**	**214**	P	**P**	**14 37 41.7**	**-0.8**
TUWZ	**Tuamarina**	**18.92**	**216**	P	**P**	**14 37 46.0**	**-2.0**
PINNC	**Pines Island,**	**19.69**	**278**	P	**Pn**	**14 37 57.5**	**-0.6**
KHZ	**Kahutara**	**19.84**	**215**	P	**Pn**	**14 37 59.6**	**-0.1**
FUNA	**Funafuti**	**20.29**	**332**	P	**P**	**14 38 03.5**	**+0.5**
DZM	**Mont Dzumac**	**20.73**	**278**	P	Pn	14 38 10.5	0.0

*IDC **12** 15:01:55.6±0.7, 5.29S×145.72E, h0km, mb4.1/13, mbtmp4.2/16, ML3.7/2, MS3.3/1, Error ellipse: s-maj=27.0km s-min=11.6km az=96.0*
*DJA **12** 15:02:02.8±0.4, 5.5±4.4×14.6E±.1, h63km±11km, M4.6/7, mB5.2/2, mb4.8/7, MLv4.5/4, Mw(mB)4.6/2*
*NEIC **12** 15:02:04.0±1.8, 5.39S±0.08×145.6E±0.1, h65km±10km, mb4.2/16, Error ellipse: s-maj=19.3km s-min=12.0km az=91.0*
ISC 12 15:02:02.6±0.5, 5.34S±0.06×145.67E±0.07, h50km, n51, σ1.91s45/51, mb4.3/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.68**	**27**		**Pn**	**15 03 00.0**	**+2.9**
PMG	**Port Moresby**	**4.30**	**160**		**Pn**	**15 03 05.9**	**+0.3**
PMG	**Port Moresby**	**4.30**	**160**	P	**Pn**	**15 03 06.1**	**+0.5**
PMG	**Port Moresby**	**4.30**	**160**	Pn	**Pn**	**15 03 03.9**	**-1.7**
	14nm,0.3s,baz=324,slow=5.2,SNR=30						
PMG				Sn	**Sn**	**15 03 55.8**	**+1.3**
	11nm,0.3s,baz=287,slow=23,SNR=6.3						
PMG	**Port Moresby**	**4.30**	**160**	P	**Pn**	**15 03 04.5**	**-1.1**
TABU	**Tabubil**	**4.43**	**271**	P	**Pn**	**15 03 08.1**	**+0.7**
GENI	**Genyem**	**6.13**	**296**	P	**Pn**	**15 03 30.4**	**-0.3**
	62nm,0.8s,0.4nm						
COEN	**Coen**	**8.91**	**196**		**Pn**	**15 04 09.5**	**+0.6**
MTSU	**Mount Surprise**	**12.79**	**186**	P	**Pn**	**15 05 03.1**	**+1.3**
CTA	**Charters Tower**	**14.67**	**178**	Pn	**Pn**	**15 05 25.3**	**-2.0**
	0.1nm,0.3s,baz=196,slow=2.2,SNR=1.7						
CTA				LR	LR	15 11 26.8	
	comp=Z,105nm,18.8s,baz=64,slow=39 1.1nm,0.2s						
KDU	**Kakadu**	**14.94**	**240**	P	**Pn**	**15 05 33.4**	**+2.6**
SIJI	**Sorong**	**15.05**	**287**	P	**Pn**	**15 05 31.1**	**-1.2**
	35nm,0.9s						
SWI	**Sorong**	**15.06**	**287**	P	**Pn**	**15 05 30.9**	**-1.5**
	52nm,1.0s						
MTN	**Manton Dam**	**16.17**	**242**	P	**Pn**	**15 05 47.3**	**+0.7**
MTN				IAmb	IAmb	15 06 00.3	
	comp=Z,19nm,0.9s						
WB0	**Warramunga Arr**	**18.06**	**216**	P	**Pn**	**15 06 09.2**	**-0.9**
WB0				IAmb	IAmb	15 06 28.9	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**18.13**	**216**	P	**P**	**15 06 09.6**	**-1.1**
WR0				IAmb	IAmb	15 06 10.8	
	comp=Z,14nm,1.0s						
WRAB	**Tennant Creek**	**18.22**	**216**	P	**P**	**15 06 11.0**	**-0.8**
WRAB				IAmb	IAmb	15 06 11.9	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**18.22**	**216**	P	**P**	**15 06 11.0**	**-0.8**
WB2				IAmb	IAmb	15 06 11.6	
	comp=Z,9.4nm,0.7s						
WRA	**Warramunga Arr**	**18.23**	**216**	P	**P**	**15 06 10.2**	**-1.7**
WRA	**Warramunga Arr**	**18.23**	**216**	P	**P**	**15 06 10.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=41,slow=12,SNR=41						
WRA				PcP	**PcP**	**15 10 44.1**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=9.2,slow=1.8,SNR=9.4 comp=Z,10nm,0.9s						
LBMI	**Labuha**	**18.73**	**284**	P	**P**	**15 06 16.9**	**-0.6**
	comp=Z,50nm,0.9s						
KNRA	**Kununurra**	**19.53**	**237**	P	**P**	**15 06 24.1**	**-2.0**
KNRA	**Kununurra**	**19.53**	**237**	P	**P**	**15 06 27.3**	**+1.2**
SANI	**Sanana**	**19.91**	**279**	P	**P**	**15 06 27.6**	**-2.7**
	comp=Z,30nm,0.8s						
EIDS	**Eidsvold**	**20.58**	**166**	P	**P**	**15 06 35.6**	**-1.9**
EIDS				IAmb	IAmb	15 06 44.9	
	comp=Z,7.4nm,0.8s						
AS31	**Alice Springs**	**21.46**	**211**	P	**P**	**15 06 45.9**	**-1.1**
ASAR	**Alice Springs**	**21.46**	**211**		**P**	**15 06 46.6**	**-0.5**
ASAR	**Alice Springs**	**21.46**	**211**	P	**P**	**15 06 46.1**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=43,slow=8.0,SNR=20						
ASAR				S	**S**	**15 10 47.5**	**+4.9**
	comp=Z,0.9nm,0.8s,baz=42,slow=22,SNR=4.6 comp=Z,2.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.32**	**235**	P	**P**	**15 07 04.7**	**-1.8**
OOD	**Oodnadatta**	**24.27**	**202**	P	**P**	**15 07 14.5**	**-0.7**
ARMA	**Armidale**	**25.57**	**168**	P	**P**	**15 07 24.9**	**-2.3**
ARMA				IAmb	IAmb	15 07 52.9	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**26.68**	**188**		**P**	**15 07 35.0**	**-2.0**
STKA	**Stephens Creek**	**26.68**	**188**	P	**P**	**15 07 38.0**	**+1.0**
STKA	**Stephens Creek**	**26.68**	**188**	P	**P**	**15 07 36.8**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=357,slow=9.9,SNR=10						
PINNC	**Pines Island,**	**27.16**	**131**	P	**P**	**15 07 40.4**	**-1.0**
MJAR	**Matsushiro Arr**	**42.24**	**351**	P	P	15 09 48.6	-2.5
	comp=Z,1.2nm,0.9s,baz=132,slow=9.1,SNR=2.3 comp=Z,1.2nm,0.9s						
GSI	**Gunungsitoli**	**48.49**	**276**	P	P	15 10 38.5	-2.5
USRK	**Ussuriysk Ar.**	**50.83**	**347**	P	**P**	**15 10 58.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=184,slow=5.8,SNR=3.3 comp=Z,2.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**51.77**	**298**	P	**P**	**15 11 06.2**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=117,slow=5.7,SNR=14 comp=Z,1.4nm,0.7s						
PETK	**Petropavlovsk-**	**59.11**	**8**	P	**P**	**15 11 58.5**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=181,slow=6.2,SNR=2.1 comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**72.65**	**176**	P	**P**	**15 13 25.1**	**+0.6**
VNDA				IAmb	IAmb	15 13 35.2	
	comp=Z,4.6nm,1.2s						
VNDA	**Vanda**	**72.65**	**176**	P	**P**	**15 13 24.7**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=305,slow=7.8,SNR=7.6 comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**76.15**	**321**	P	**P**	**15 13 46.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=95,slow=8.1,SNR=7.2 comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**77.75**	**328**	P	**P**	**15 13 54.0**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=93,slow=7.9,SNR=3.7 comp=Z,0.8nm,0.6s						
NRIK	**Noril'sk**	**84.25**	**342**	P	P	**15 14 28.4**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=113,slow=5.9,SNR=4.6 comp=Z,3.0nm,0.7s						
QSPA	**South Pole Qui**	**84.62**	**180**	P	**P**	**15 14 30.8**	**+0.1**
QSPA	**South Pole Qui**	**84.62**	**180**	P	**P**	**15 14 30.5**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=307,slow=0.7,SNR=32 comp=Z,3.8nm,0.7s						
ILAR	**Eielson Array**	**85.40**	**23**	P	**P**	**15 14 34.5**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=253,slow=4.9,SNR=28 comp=Z,2.3nm,0.7s						
BVAR	**Borovoye Array**	**85.46**	**324**	P	**P**	**15 14 34.3**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=89,slow=6.6,SNR=9.7 comp=Z,1.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**143.65**	**285**	PKhKP	PKPpre	15 21 30.5	
	comp=Z,1.4nm,0.6s,baz=67,slow=5.3,SNR=9.3						
DBIC	**Dimbokro**	**150.66**	**274**	PKPbc	**PKPbc**	**15 21 50.9**	**+0.5**
	comp=Z,11nm,0.8s,baz=51,slow=2.1,SNR=12						

*VAO **12** 15:03:33.9±0.4, 15.34S×71.32W, h135km, mb4.4*
*NEIC **12** 15:03:36.4±2.8, 15.53S±0.08×71.2W±0.1, h166km±8km, mb4.5/28, Error ellipse: s-maj=17.2km s-min=11.0km az=89.0*
*IDC **12** 15:03:38.1±0.7, 15.36S×70.92W, h165km±5km, mb3.7/11, mbtmp4.2/14, Error ellipse: s-maj=17.9km s-min=12.1km az=46.0*
ISC 12 15:03:36.2±0.4, 15.54S±0.04×71.20W±0.06, h167km, n146, σ2.09/161, mb4.2/11, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**2.62**	**141**	Pn	**Pn**	**15 04 22.2**	**+2.1**
AP01	**Chacalluta**	**2.93**	**164**		**Pn**	**15 04 23.3**	**0.0**
AP01				Sn	**Sn**	**15 04 59.0**	**-1.1**
AP01	**Chacalluta**	**2.93**	**164**	*e*P	**Pn**	**15 04 23.9**	**+0.5**
AP01				*e*S	**Sn**	**15 04 58.7**	**-1.4**
LPAZ	**La Paz**	**3.04**	**105**	Pn	**Pn**	**15 04 26.1**	**+0.7**
PB12	**IPOC Station P**	**3.17**	**165**	Pn	**Pn**	**15 04 26.2**	**-0.3**
PB12				Sn	**Sn**	**15 05 03.7**	**-1.9**
PB12	**IPOC Station P**	**3.17**	**165**	*e*P	**Pn**	**15 04 26.2**	**-0.3**
PB12				*e*S	**Sn**	**15 05 02.8**	**-2.8**
PB12				IAML		15 05 06.4	
	comp=N,2μm,0.2s						
PB16	**IPOC Station P**	**3.21**	**150**	Pn	**Pn**	**15 04 28.3**	**+0.8**
PB16	**IPOC Station P**	**3.21**	**150**	*e*P	**Pn**	**15 04 29.1**	**+1.6**
PB16				*e*S	**Sn**	**15 05 09.1**	**+1.7**
PB16				IAML		15 05 11.6	
	comp=N,284nm,0.2s						
PX02	**IPOC Station P**	**3.53**	**164**	*e*P	**Pn**	**15 04 30.1**	**-0.9**
PX02				*e*S	**Sn**	**15 05 10.3**	**-3.6**
PB11	**IPOC Station P**	**4.45**	**161**		**Pn**	**15 04 42.0**	**-0.9**
PB11	**IPOC Station P**	**4.45**	**161**	*e*P	**Pn**	**15 04 42.0**	**-0.9**
PB11				*e*S	**Sn**	**15 05 31.1**	**-3.8**
GO01	**Chusmiza**	**4.53**	**155**		**Pn**	**15 04 45.4**	**+1.2**
GO01	**Chusmiza**	**4.53**	**155**	*e*P	**Pn**	**15 04 45.4**	**+1.2**
GO01				*e*S	**Sn**	**15 05 36.8**	**-0.6**
TA02	**Huaiquique**	**4.81**	**168**		**Pn**	**15 04 46.5**	**-0.9**
TA02	**Huaiquique**	**4.81**	**168**	*e*P	**Pn**	**15 04 46.7**	**-0.8**
TA02				*e*S	**Sn**	**15 05 38.6**	**-4.7**
PB08	**IPOC Station P**	**4.97**	**157**	Pn	**Pn**	**15 04 50.2**	**+0.3**
PB08	**IPOC Station P**	**4.97**	**157**	*e*P	**Pn**	**15 04 50.2**	**+0.3**
PB08				*e*S	**Sn**	**15 05 45.5**	**-2.0**
TA01	**Diego Aracena**	**5.09**	**169**	Pn	**Pn**	**15 04 50.2**	**-0.9**
TA01	**Diego Aracena**	**5.09**	**169**	*e*P	**Pn**	**15 04 50.2**	**-0.9**
TA01				*e*S	**Sn**	**15 05 44.0**	**-5.8**
PATCX	**Punta Patache**	**5.34**	**169**		**Pn**	**15 04 53.3**	**-1.2**
PATCX	**Punta Patache**	**5.34**	**169**	*e*P	**Pn**	**15 04 53.1**	**-1.4**
PATCX				*e*S	**Sn**	**15 05 50.4**	**-5.5**
PB01	**IPOC Station P**	**5.71**	**164**		**Pn**	**15 04 57.8**	**-1.5**
PB02	**IPOC Station P**	**5.88**	**168**		**Pn**	**15 05 00.4**	**-1.2**
PB07	**IPOC Station P**	**6.28**	**169**		**Pn**	**15 05 05.9**	**-1.0**
PB09	**IPOC Station P**	**6.49**	**164**		**Pn**	**15 05 09.4**	**-0.3**
NNA	**Nana**	**6.52**	**302**	P	**Pn**	**15 05 09.4**	**-0.7**
	comp=N,43nm,0.4s,baz=183,slow=10,SNR=11						
NNA				S	**Sn**	**15 06 17.4**	**-6.5**
	comp=N,78nm,0.4s,baz=31,slow=11,SNR=13						
PB04	**IPOC Station P**	**6.83**	**172**		**Pn**	**15 05 12.7**	**-1.5**
PB06	**IPOC Station P**	**7.29**	**168**		**Pn**	**15 05 18.5**	**-1.8**
PB05	**IPOC Station P**	**7.33**	**173**	Pn	**Pn**	**15 05 18.9**	**-2.0**
LVC	**Limon Verde**	**7.36**	**163**	P	**Pn**	**15 05 21.2**	**-0.2**
	comp=N,40nm,0.3s,baz=13,slow=8.6,SNR=98						
LVC				S	**Sn**	**15 06 39.5**	**-4.7**
	comp=N,92nm,0.3s,baz=199,slow=19,SNR=18						
LVC	**Limon Verde**	**7.36**	**163**	*e*P	**Pn**	**15 05 21.2**	**-0.2**
ETMB	**Extrema**	**7.48**	**41**	Pn	**Pn**	**15 05 21.6**	**-1.2**
PB15	**IPOC Station P**	**7.80**	**168**		**Pn**	**15 05 25.8**	**-1.3**
CZSB	**Cruzeiro do Su**	**7.90**	**349**	Pn	**Pn**	**15 05 28.4**	**-2.0**
PB14	**IPOC Station P**	**9.07**	**175**		**Pn**	**15 05 42.7**	**-1.3**
GO02	**Mina Guanaco**	**9.69**	**171**		**Pn**	**15 05 51.2**	**-0.9**
SIV	**San Ignacio**	**9.76**	**94**	P	**Pn**	**15 05 51.5**	**-1.3**
	comp=N,14nm,0.5s,baz=272,slow=11,SNR=73						
SIV				S	**Sn**	**15 07 37.7**	**-3.6**
	comp=N,3.6nm,0.5s,baz=360,slow=21,SNR=3.2						
SAML	**Samuel**	**10.21**	**51**		**Pn**	**15 05 56.5**	**-2.3**
SAML	**Samuel**	**10.21**	**51**	*e*P	**Pn**	**15 05 55.5**	**-3.3**
SAML	**Samuel**	**10.21**	**51**	*e*P	**Pn**	**15 05 56.7**	**-2.1**
AC01	**Pan de Azucar**	**10.57**	**177**	Pn	**Pn**	**15 06 02.2**	**-1.2**
ATAH	**Atahualpa**	**10.93**	**319**	P	**Pn**	**15 06 09.3**	**+0.7**
	comp=N,2.6nm,0.6s,baz=14,slow=7.9,SNR=2.2						
PTLB	**Pontes e Lacer**	**11.63**	**91**		**Pn**	**15 06 13.1**	**-4.2**
AC06	**Mina Casimiro**	**11.78**	**176**		**Pn**	**15 06 20.0**	**+0.7**
LCO	**Las Campanas**	**13.41**	**178**		**P**	**15 06 45.6**	**+1.7**
BDQN	**Bodoquena, MS**	**14.58**	**112**	*e*P	**P**	**15 06 55.6**	**-1.1**
PDRB	**Porto dos Gac**	**14.60**	**76**	*e*P	**Pn**	**15 06 53.4**	**-1.6**
TICA	**Tres Isletas**	**14.77**	**139**	*e*P	**P**	**15 06 58.3**	**-0.4**
SALV	**Santo Antonio**	**14.93**	**93**	*e*P	**P**	**15 06 59.6**	**-1.0**
CO06	**Fray Jorge**	**15.07**	**181**		**P**	**15 07 02.5**	**+0.5**
CO06				IAmb	IAmb	15 07 14.9	
	comp=Z,30nm,1.2s						
COHC	**Cochancay**	**15.23**	**328**		**P**	**15 07 03.6**	**-0.2**
CO03	**El Pedregal**	**15.23**	**178**	P	**P**	**15 07 05.7**	**+1.7**
CO03				IAmb	IAmb	15 07 08.1	
	comp=Z,22nm,0.8s						
CO02	**Combarbal**	**15.59**	**179**		**P**	**15 07 10.4**	**+2.5**
CO02				IAmb	IAmb	15 07 12.4	
	comp=Z,30nm,0.9s						
PP1B	**Ponte de Pedra**	**15.78**	**100**	*e*P	**P**	**15 07 10.8**	**+0.8**
RVDE	**Rio Verde (Bra**	**15.91**	**105**	*e*P	**P**	**15 07 12.3**	**+0.8**
PIAT	**Ana Tenorio**	**16.05**	**334**	*e*P	P	15 07 21.6	+8.2
MACA	**Manacapuru-AM**	**16.08**	**41**	P	**Pn**	**15 07 10.8**	**-2.4**
MACA	**Manacapuru-AM**	**16.08**	**41**	*e*P	**Pn**	**15 07 11.8**	**-1.4**
CPUP	**Villa Florida**	**16.81**	**132**	P	**Pn**	**15 07 22.2**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=308,slow=10,SNR=4.9						
VA03	**San Esteban**	**17.16**	**178**		**Pn**	**15 07 27.2**	**+1.1**
VA03				IAmb	IAmb	15 07 30.9	
	comp=Z,24nm,0.9s						
OTAV	**Otavalo**	**17.24**	**335**	P	**P**	**15 07 25.5**	**-1.1**
OTAV				IAmb	IAmb	15 07 42.5	
	comp=Z,15nm,1.1s						
OTAV	**Otavalo**	**17.24**	**335**	*e*P	**Pn**	**15 07 33.5**	**+5.8**
OTAV	**Otavalo**	**17.24**	**335**	*e*P	**P**	**15 07 21.5**	**-5.1**
ROC1	**El Roble**	**17.36**	**179**	P	**P**	**15 07 26.0**	**-1.5**
ROC1				IAmb	IAmb	15 07 39.7	
	comp=Z,15nm,0.5s						
TULM	**Tulcn-Chalpat**	**17.42**	**337**		**P**	**15 07 28.6**	**+0.1**
TULM				IAmb	IAmb	15 07 40.7	
	comp=Z,36nm,0.8s						
TULM	**Tulcn-Chalpat**	**17.42**	**337**	*e*P	**Pn**	**15 07 35.1**	**+5.3**
MT02	**Curacav**	**17.64**	**180**	P	**Pn**	**15 07 32.4**	**+0.6**
MT02				IAmb	IAmb	15 07 33.4	
	comp=Z,40nm,1.5s						
GCUF	**Volcan Galeras**	**17.73**	**339**	*e*P	**Pn**	**15 07 38.8**	**+5.3**
GARC	**Garzon, Huila**	**18.12**	**346**	*e*P	**P**	**15 07 35.6**	**-0.4**
MT09	**Talagante**	**18.16**	**179**	P	**P**	**15 07 35.8**	**-0.3**
MT09				IAmb	IAmb	15 07 45.5	
	comp=Z,35nm,1.5s						
MT01	**Popeta**	**18.24**	**180**	P	**Pn**	**15 07 37.7**	**-1.1**
BBAC	**Balboa, Cauca**	**18.45**	**341**	*e*P	**Pn**	**15 07 41.9**	**+0.2**
ITTB	**Itaituba**	**18.83**	**55**	*e*P	**Pn**	**15 07 44.4**	**-1.5**
JAMC	**Jamundi, Valle**	**19.41**	**343**	*e*P	**P**	**15 07 50.7**	**+0.7**
ITQB	**Itaqui**	**19.43**	**139**	P	**P**	**15 07 48.3**	**-1.5**
ITQB				IAmb	IAmb	15 07 53.2	
	comp=Z,48nm,1.2s						
ITQB	**Itaqui**	**19.43**	**139**	*e*P	**Pn**	**15 07 52.3**	**-0.5**
PRAC	**Prado**	**19.48**	**349**	*e*P	**Pn**	**15 07 53.5**	**-0.1**
SNDB	**Serra Nova Dou**	**19.65**	**82**	*e*P	**Pn**	**15 07 53.9**	**-1.7**
GR1C	**Gorgona, Isla**	**19.68**	**339**	*e*P	**Pn**	**15 07 57.1**	**+1.3**
ORTC	**Ortega, Tolima**	**19.74**	**348**	*e*P	**P**	**15 07 52.8**	**-0.5**
PCMB	**Pacaembu**	**19.83**	**111**	*e*P	**Pn**	**15 07 56.1**	**-1.5**
FRBT	**Francisco Belt**	**19.86**	**124**	*e*P	**Pn**	**15 07 56.7**	**-1.3**
CRSM	**Crissiumal (Br**	**19.87**	**130**	*e*P	**Pn**	**15 07 56.5**	**-1.7**
YOTC	**Yotoco, Valle**	**20.06**	**345**	*e*P	**P**	**15 07 57.6**	**+0.8**
UNIS	**Unistalda (Bra**	**20.06**	**135**	*e*P	Pn	15 07 59.6	-0.8
PTGB	**Pitanga**	**20.13**	**120**	*e*P	**Pn**	15 07 59.3	-2.1
ITRB	**Iturama**	**20.28**	**105**	*e*P	**P**	**15 08 00.2**	**+1.1**
ROSC	**El Rosal**	**20.49**	**351**	P	**P**	**15 08 01.9**	**+0.2**
	comp=Z,9.7nm,0.4s,baz=168,slow=20,SNR=1.9 comp=Z,9.7nm,0.4s						
BOAV	**Boa Vista**	**20.72**	**32**	P	**P**	**15 08 03.7**	**0.0**
BOAV	**Boa Vista**	**20.72**	**32**	*e*P	**P**	**15 08 04.3**	**+0.6**
RODS	**Rosario do Sul**	**20.80**	**138**	*e*P	Pn	15 08 06.2	-3.2
PLMC	**San Jos del P**	**20.93**	**346**	*e*P	**P**	**15 08 05.7**	**-0.4**
GUY2C	**Guyana, Caldas**	**21.04**	**348**	*e*P	**P**	**15 08 06.8**	**-0.9**
ITAB	**Concordia**	**21.19**	**126**	*e*P	**P**	**15 08 12.6**	**+3.9**
SPBC	**San Pablo de B**	**21.25**	**352**	*e*P	**P**	**15 08 07.0**	**-2.5**
ALGR	**Alto Alegre (B**	**21.34**	**131**	*e*P	**P**	**15 08 12.7**	**+2.3**
CBOC	**Ciudad Bolivar**	**21.80**	**347**	*e*P	**P**	**15 08 15.0**	**-0.4**
TAMC	**Tame, Arauca**	**21.84**	**358**	*e*P	**P**	**15 08 15.8**	**+0.1**
CPSB	**Cacapava Do Su**	**22.00**	**135**	*e*P	**P**	**15 08 19.9**	**+2.8**
BARC	**Barichara**	**22.08**	**355**	*e*P	**P**	**15 08 15.0**	**-3.3**
IPMB	**Ipameri, GO**	**22.14**	**100**	*e*P	**P**	**15 08 19.2**	**+0.6**
PTBC	**PUERTO BERRIO,**	**22.18**	**351**	*e*P	**P**	**15 08 15.0**	**-4.0**
BDFB	**Brasilia**	**22.33**	**93**	P	**P**	**15 08 16.6**	**-3.9**
BDFB	**Brasilia**	**22.33**	**93**	P	**P**	**15 08 20.6**	**0.0**
	comp=Z,4.6nm

az=93.0

ISC 12 15:10:17.2±0.5,5°35'S±0.06'×145°62'E±0.07,h50km,n74,
σ1819/63,mb4.3/17,MS3.4/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.72**	**28**		**Pn**	**15 11 12.3**	**+0.1**
PMG	**Port Moresby**	**4.31**	**159**		**Pn**	**15 11 20.4**	**+0.1**
PMG	**Port Moresby**	**4.31**	**159**	P	**Pn**	**15 11 20.8**	**+0.5**
PMG	**Port Moresby**	**4.31**	**159**	Pn	**Pn**	**15 11 18.9**	**-1.4**
	14nm,0.3s,baz=22,slow=3.9,SNR=17						
PMG				Sn	**Sn**	**15 12 09.7**	**+0.4**
	5.9nm,0.3s,baz=334,slow=8.7,SNR=3.9						
PMG				LR	LR	15 13 38.7	
	comp=Z,761nm,20.6s,baz=340,slow=48						
PMG	**Port Moresby**	**4.31**	**159**	P	**Pn**	**15 11 19.3**	**-1.0**
TABU	**Tabubil**	**4.37**	**271**	P	**Pn**	**15 11 21.5**	**+0.3**
GENI	**Genyem**	**6.08**	**297**	P	**Pn**	**15 11 45.1**	**+0.5**
	92nm,0.9s,0.5nm						
RABL	**Rabaul**	**6.63**	**80**		**Pn**	**15 11 53.3**	**+1.2**
COEN	**Coen**	**8.89**	**196**		**Pn**	**15 12 22.9**	**-0.2**
MTSU	**Mount Surprise**	**12.77**	**186**	P	**Pn**	**15 13 18.3**	**+2.1**
SAUI	**Saumlaki**	**14.46**	**259**	Pn	Pn	15 13 34.2	-4.8
SAUI	**Saumlaki**	**14.46**	**259**	P	**Pn**	**15 13 37.7**	**-1.4**
	184nm,0.8s						
CTA	**Charters Tower**	**14.66**	**178**	Pn	**Pn**	**15 13 41.8**	**0.0**
	0.3nm,0.3s,baz=221,slow=7.8,SNR=2.4						
CTA				LR	LR	15 19 51.2	
	comp=Z,142nm,20.4s,baz=12,slow=39						
	9.1nm,1.2s						
CTAO	**Charters Tower**	**14.66**	**178**	Pn	**Pn**	**15 13 40.1**	**-1.7**
HNR	**Honiara**	**14.78**	**107**	Pn	Pn	15 13 38.8	-4.5
	101nm,0.3s,baz=222,slow=3.8,SNR=1.9						
KDU	**Kakadu**	**14.88**	**240**	P	**Pn**	**15 13 47.9**	**+3.3**
SIJI	**Sorong**	**15.00**	**287**	P	**Pn**	**15 13 44.8**	**-1.4**
	44nm,0.9s						
SWI	**Sorong**	**15.01**	**287**	P	**Pn**	**15 13 45.8**	**-0.5**
	66nm,0.9s						
BNDI	**Bandanaira**	**15.67**	**272**	P	**Pn**	**15 13 54.6**	**-0.3**
	61nm,1.5s						
MTN	**Manton Dam**	**16.11**	**241**	P	**Pn**	**15 14 02.2**	**+1.7**
WB0	**Warramunga Arr**	**18.02**	**216**	P	**Pn**	**15 14 23.6**	**-0.6**
WB0				IAmb	IAmb	15 14 24.8	
	comp=Z,14nm,1.0s						
WR0	**Warramunga Arr**	**18.08**	**216**	P	**P**	**15 14 24.3**	**-0.6**
WR0				IAmb	IAmb	15 14 25.9	
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**18.18**	**216**	P	**P**	**15 14 24.4**	**-1.5**
WRAB				IAmb	IAmb	15 14 26.5	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**18.18**	**216**	P	**P**	**15 14 23.8**	**-2.2**
WB2				IAmb	IAmb	15 14 26.7	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**18.19**	**216**	P	**P**	**15 14 24.3**	**-1.7**
WRA	**Warramunga Arr**	**18.19**	**216**	P	**P**	**15 14 25.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=41,slow=12,SNR=42						
WRA				PcP	**PcP**	**15 18 59.2**	**+1.7**
	comp=Z,2.1nm,0.7s,baz=21,slow=1.9,SNR=11						
	comp=Z,13nm,0.9s						
NLAI	**Namlea**	**18.58**	**276**	P	P	15 14 25.7	-4.6
LBMI	**Labuha**	**18.68**	**284**	P	**P**	**15 14 31.6**	**+0.1**
	comp=Z,66nm,1.0s						
GUMO	**Guam**	**18.83**	**358**	LR	LR	15 21 37.3	
	comp=Z,112nm,18.6s,baz=164,slow=37						
KNRA	**Kununurra**	**19.47**	**237**	P	**P**	**15 14 38.8**	**-1.3**
KNRA	**Kununurra**	**19.47**	**237**	P	**P**	**15 14 42.5**	**+2.4**
SANI	**Sanana**	**19.86**	**279**	P	**P**	**15 14 43.7**	**-0.6**
	comp=Z,32nm,0.9s						
EIDS	**Eidsvold**	**20.59**	**166**	P	P	**15 14 52.9**	**+0.8**
EIDS				IAmb	IAmb	15 14 59.5	
	comp=Z,6.8nm,0.8s						
AS31	**Alice Springs**	**21.42**	**211**	P	**P**	**15 14 58.1**	**-3.1**
ASAR	**Alice Springs**	**21.43**	**211**	P	**P**	**15 14 59.7**	**-1.5**
ASAR	**Alice Springs**	**21.43**	**211**	P	**P**	**15 15 01.0**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=42,slow=9.7,SNR=15						
ASAR				S	Sn	15 19 04.4	-2.0
	comp=Z,1.4nm,0.9s,baz=41,slow=23,SNR=5.2						
ASAR				LR	LR	15 25 04.4	
	comp=Z,108nm,19.6s,baz=39,slow=41						
	comp=Z,3.7nm,1.0s						
SOEI	**Soe**	**21.61**	**257**	P	**P**	**15 15 04.5**	**+1.2**
KMSI	**Cibinong**	**22.39**	**285**	P	**P**	**15 15 11.9**	**+0.2**
	comp=Z,172nm,1.1s						
INKA	**Innaminka**	**22.75**	**191**	P	**P**	**15 15 16.7**	**+1.5**
LUWI	**Luwuk**	**23.20**	**280**	P	**P**	**15 15 20.2**	**+0.1**
LUWI	**Luwuk**	**23.20**	**280**	P	**P**	**15 15 21.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.27**	**235**	P	**P**	**15 15 19.4**	**-1.2**
GTOI	**Gorontalo**	**23.34**	**284**	P	**P**	**15 15 22.5**	**+1.1**
DAV	**Davao City (W)**	**23.49**	**301**	LR	LR	15 25 20.1	
	comp=Z,96nm,18.0s,baz=334,slow=39						
STKA	**Stephens Creek**	**26.66**	**188**	P	**P**	**15 15 49.9**	**-1.6**
STKA	**Stephens Creek**	**26.66**	**188**	P	**P**	**15 15 51.9**	**+0.4**
	comp=Z,8.7nm,0.8s,baz=339,slow=6.4,SNR=11						
STKA				LR	LR	15 27 57.2	
	comp=Z,90nm,18.8s,baz=22,slow=40						
	comp=Z,8.7nm,0.8s						
JCJ	**Chichijima**	**32.42**	**354**	LR	LR	15 28 52.9	
	comp=Z,52nm,19.4s,baz=29,slow=35						
NWAO	**Narrogin (SRO)**	**38.11**	**220**	LR	LR	15 34 46.7	
	comp=Z,106nm,19.1s,baz=80,slow=39						
URZ	**Urewera**	**43.49**	**143**	LR	LR	15 37 27.9	
	comp=Z,61nm,18.4s,baz=122,slow=38						
RPZ	**Rata Peaks**	**44.30**	**154**	LR	LR	15 35 41.7	
	comp=Z,80nm,19.4s,baz=308,slow=34						
CM31	**Chiang Mai Arr**	**51.73**	**298**	P	P	15 19 17.7	-2.3
CM31				IAmb	IAmb	15 19 21.9	
	comp=Z,6.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**51.73**	**298**	P	**P**	**15 19 20.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**51.73**	**298**	P	**P**	**15 19 20.4**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=113,slow=5.8,SNR=15						
	comp=Z,1.7nm,0.6s						
PEA0B	**Petropavlovsk-**	**59.13**	**8**	P	**P**	**15 20 12.3**	**-0.2**
PETK	**Petropavlovsk-**	**59.13**	**8**	P	P	15 20 11.1	-1.4
PETK	**Petropavlovsk-**	**59.13**	**8**	P	**P**	**15 20 12.3**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=172,slow=5.5,SNR=6.0						
	comp=Z,5.4nm,0.9s						
SONM	**Songino Array**	**63.17**	**331**	P	**P**	**15 20 39.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=104,slow=3.7,SNR=2.9						
	comp=Z,0.3nm,0.5s						
CASY	**Casey**	**65.52**	**195**	P	**P**	**15 20 53.7**	**-1.4**
VNDA	**Vanda**	**72.64**	**176**	P	**P**	**15 21 37.3**	**-1.8**
VNDA				IAmb	IAmb	15 21 49.8	
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**72.64**	**176**	P	**P**	**15 21 39.8**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=325,slow=4.1,SNR=8.4						
	comp=Z,1.5nm,0.7s						
MK31	**Makanchi Array**	**76.12**	**321**	P	P	15 21 57.5	-2.4
MK31				IAmb	IAmb	15 22 11.8	
	comp=Z,2.1nm,1.4s						
MKAR	**Makanchi Array**	**76.12**	**321**	P	**P**	**15 22 00.2**	**+0.3**
MKAR	**Makanchi Array**	**76.12**	**321**	P	**P**	**15 22 00.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=105,slow=6.4,SNR=6.3						
	comp=Z,0.4nm,0.6s						
MAKZ	**Makanchi**	**76.33**	**321**	P	**P**	**15 22 01.0**	**0.0**
MAKZ				IAmb	IAmb	15 22 02.8	
	comp=Z,1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**77.73**	**328**	P	**P**	**15 22 08.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=98,slow=5.1,SNR=4.9						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**79.89**	**323**	P	**P**	**15 22 20.4**	**-0.3**
	comp=Z,0.7nm,0.2s,baz=119,slow=5.5,SNR=1.7						
	comp=Z,0.7nm,0.2s						
NRIK	**Noril'sk**	**84.24**	**342**	P	**P**	**15 22 42.3**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=135,slow=6.0,SNR=8.7						
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**84.61**	**180**	P	**P**	**15 22 45.3**	**0.0**
QSPA				IAmb	IAmb	15 22 48.9	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**84.61**	**180**	P	**P**	**15 22 45.6**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=322,slow=1.1,SNR=32						
	comp=Z,4.2nm,0.7s						
ILAR	**Eielson Array**	**85.43**	**23**	P	**P**	**15 22 48.6**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=252,slow=4.8,SNR=33						
	comp=Z,3.1nm,0.7s						
BVAR	**Borovoye Array**	**85.44**	**324**	P	**P**	**15 22 49.3**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=121,slow=7.2,SNR=7.3						
	comp=Z,1.5nm,0.6s						
PLCA	**Paso Flores**	**123.41**	**148**	PKP	**PKPdf**	**15 29 10.4**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=236,slow=0.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**143.59**	**285**	PKhKP	PKPpre	15 29 45.5	
	comp=Z,1.4nm,0.6s,baz=66,slow=4.4,SNR=11						
DBIC	**Dimbokro**	**150.61**	**274**	PKPbc	**PKPbc**	**15 30 05.8**	**+1.0**
	comp=Z,12nm,0.8s,baz=170,slow=0.8,SNR=13						

NEIC 12 15:11:55.5±0.2,36°51N±0.01'×98°65W±0.02,h7km±1km,
Error ellipse: s-maj=2.6km s-min=1.7km az=131.0

TUL 12 15:11:55.5±0.3,36°51N±0.01'×98°64W±0.02,h6km±2km,
ML2.7,mb_Lg2.3/20(NEIC),ML2.5/14(NEIC),Error
ellipse: s-maj=2.0km s-min=1.7km az=60.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.09**	**248**	Pg	Pg	15 11 57.9	+0.5
OK038				Sg	Sg	15 11 59.5	+0.7
OK035	**E0210 Rd and N**	**0.20**	**345**	Pg	Pg	15 12 00.2	+0.6
OK035				IAML		15 12 03.8	
	881nm,0.3s						
U32A	**Winter Ranch,**	**0.32**	**246**	Pg	Pg	15 12 02.0	+0.3
U32A				Sg	Sg	15 12 06.7	+0.9
U32A				IAML		15 12 07.2	
	comp=E,426nm,0.3s						
OK032	**Salt Plains WL**	**0.46**	**50**	Pg	Pg	15 12 04.6	+0.3
OK032				IAML		15 12 13.3	
	comp=E,550nm,0.2s						
OK032				IAML		15 12 15.6	
	comp=E,533nm,0.2s						
CROK	**Carrier**	**0.53**	**90**	Pg	Pg	15 12 06.0	+0.3
CROK				IAML		15 12 21.4	
	comp=E,333nm,0.2s						
CROK				IAML		15 12 22.0	
	comp=N,322nm,0.2s						
GC02	**Grant County #**	**0.72**	**61**	Pg	Pg	15 12 09.3	+0.1
CSTR	**Hydro, Custer**	**0.86**	**182**	Pg	Pg	15 12 12.1	0.0
KAN17	**Caldwell West**	**0.88**	**53**	Pg	Pg	15 12 12.3	-0.2
KAN09	**Caldwell North**	**1.03**	**53**	Pg	Pg	15 12 15.1	-0.2
KAN13	**South Haven SW**	**1.06**	**61**	Pg	Pg	15 12 15.4	-0.4
BLOK	**Blackwell**	**1.18**	**77**		Pg	15 12 17.3	-0.7
OK048	**Pawnee Station**	**1.37**	**93**		Pn	15 12 20.9	-0.4
OK033	**Mehan**	**1.46**	**108**		Pn	15 12 22.2	-0.2
OK051	**E0350 and S346**	**1.46**	**90**		Pn	15 12 22.4	0.0
OK052	**Battle Ridge R**	**1.57**	**109**		Pn	15 12 24.4	+0.3
QUOK	**Quay**	**1.60**	**102**		Pn	15 12 24.8	+0.4
T35A	**Sooner Cattle**	**1.76**	**76**	Pn	Pn	15 12 27.2	+0.6
T35A				IAmb_Lg		15 12 51.7	
	comp=Z,13nm,0.8s						
WMOK	**Wichita Mounta**	**1.77**	**184**		Pn	15 12 26.8	0.0
R32A	**Long Quarter,**	**1.91**	**358**		Pb	15 12 29.8	-1.0
SMWD	**Samnorwood**	**1.91**	**223**	Pn	Pb	15 12 30.2	-0.7
W35A	**Tecumseh**	**1.98**	**133**	IAmb_Lg		15 13 00.4	
	comp=Z,14nm,0.8s						
X34A	**Smith Ranch, M**	**2.02**	**161**		Pb	15 12 32.0	-0.7
X34A				IAmb_Lg		15 12 59.3	
	comp=Z,8.3nm,0.8s						
CBKS	**Cedar Bluff**	**2.46**	**340**	Pn	Pn	15 12 38.0	+1.7
WTFS	**Witchita Falls**	**2.74**	**177**	Pn	Pn	15 12 40.0	-0.1
WTFS				IAmb_Lg		15 13 21.1	
	comp=Z,9.5nm,1.0s						
LOOK	**Love County**	**2.78**	**154**	IAmb_Lg		15 13 28.5	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**2.96**	**238**	IAmb_Lg		15 13 30.3	
	comp=Z,18nm,1.1s						
KSU1	**Kansas State U**	**3.05**	**31**	IAmb_Lg		15 13 39.4	
	comp=Z,8.3nm,0.7s						
RTBA	**Rita Blanca**	**3.30**	**270**	Pn	Pn	15 12 49.6	+1.7
KSCO	**Kaye Shedlock'**	**4.02**	**310**	IAmb_Lg		15 14 14.1	
	comp=Z,10nm,0.7s						
SN05	**Snyder 5**	**4.07**	**208**	IAmb_Lg		15 14 14.7	
	comp=Z,9.1nm,0.9s						
SN01	**Snyder 1**	**4.08**	**208**	IAmb_Lg		15 14 10.9	
	comp=Z,6.7nm,0.8s						

NORS 12 15:23:38.9,42°97N×45°77E,h94km±3km,MPVA3.7
TIF 12 15:23:38.9,43°25N×45°84E,h44km±1km
MOS 12 15:23:39.3,43°11N×45°85E,h76km±2km,MPVA3.9
DRS 12 15:23:41.1,43°46N×45°59E,h30km

ISC 12 15:23:40.3±1.3,43°11N±0.04'×45°83E±0.03,h81km±8km,
n44,σ995/85,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.26**	**125**	*e*Pg	**Pn**	**15 23 52.0**	**-0.6**
DVE				*e*Sg	**Sn**	**15 24 01.2**	**-0.5**
BTLR	**Botlikh**	**0.53**	**147**	*e*Pg	**Pn**	**15 23 54.3**	**-0.2**
BTLR				*e*Sg	**Sn**	**15 24 04.6**	**-0.4**
DLMR	**Dylym**	**0.58**	**93**	*e*Pg	**Pn**	**15 23 54.2**	**-0.7**
DLMR				*i* Sg	**Sn**	**15 24 05.1**	**-0.7**
KMGR	**Komgaron**	**0.71**	**266**	*e*Pg	**Pn**	**15 23 57.1**	**+0.9**
KMGR				*e*Sg	**Sn**	**15 24 09.6**	**+1.5**
DBC	**Dubki**	**0.73**	**96**	*e*Pg	**Pn**	**15 23 55.7**	**-0.8**
DBC				*e*Sg	**Sn**	**15 24 07.3**	**-1.2**
UNCR	**Uncukul**	**0.81**	**119**	*e*Pg	**Pn**	**15 23 56.3**	**-0.9**
UNCR				*e*Sg	**Sn**	**15 24 08.7**	**-1.2**
KRNR	**Karanay**	**0.83**	**109**	*e*Pg	**Pn**	**15 23 56.6**	**-1.0**
KRNR				*e*Sg	**Sn**	**15 24 09.3**	**-1.2**
VLKR	**Vladikavkaz**	**0.85**	**266**	*e*Pg	**Pn**	**15 23 57.8**	**+0.1**
VLKR				*e*Sg	**Sn**	**15 24 10.7**	**0.0**
XNZR	**Khunzakh**	**0.85**	**131**	*e*Pg	**Pn**	**15 23 57.9**	**0.0**
XNZR				*e*Sg	**Sn**	**15 24 11.1**	**+0.1**
BUJR	**Buynaksk**	**0.98**	**106**	*e*Pg	**Pn**	**15 23 58.7**	**-0.4**
BUJR				*e*Sg	**Sn**	**15 24 12.9**	**-0.4**
BTKR	**Batakoyurt**	**0.98**	**286**	*e*Pg	**Pn**	**15 24 00.3**	**+1.1**
BTKR				*e*Sg	**Sn**	**15 24 15.1**	**+1.7**
ARKR	**Arakani**	**0.99**	**120**	*e*Pg	**Pn**	**15 23 59.0**	**-0.4**
ARKR				*e*Sg	**Sn**	**15 24 13.8**	**+0.2**
TRKR	**Terskaya**	**1.01**	**308**	*i* Pg	**Pn**	**15 24 00.4**	**+0.8**
TRKR				*e*Sg	**Sn**	**15 24 14.3**	**+0.3**
CHRG	**Chargali**	**1.02**	**221**	P	**Pn**	**15 24 00.3**	**+0.5**
CHRG				S	**Sn**	**15 24 15.7**	**+1.2**
GNBR	**Gunib**	**1.10**	**130**	*e*Pg	**Pn**	**15 24 00.8**	**+0.1**
GNBR				*e*Sg	**Sn**	**15 24 16.7**	**+0.8**
ARNR	**Ardon**	**1.14**	**274**	*e*Pg	**Pn**	**15 24 01.7**	**+0.6**
ARNR				*e*Sg	**Sn**	**15 24 17.8**	**+1.1**
LACR	**Lac**	**1.16**	**257**	*e*Pg	**Pn**	**15 24 01.0**	**-0.6**
LACR				*e*Sg	**Sn**	**15 24 17.1**	**-0.4**
GUDG	**Gudauri**	**1.19**	**238**	*e*Pg	**Pn**	**15 24 02.2**	**+0.2**
GUDG				*i* Sg	**Sn**	**15 24 17.1**	**-1.0**
KANR	**Karaman**	**1.22**	**85**	*e*Pg	**Pn**	**15 24 03.1**	**+1.2**
KANR				*i* Sg	**Sn**	**15 24 20.0**	**+1.7**
MAK	**Makhachkala**	**1.23**	**96**	*e*Pg	**Pn**	**15 24 03.2**	**+1.0**
MAK				*e*Sg	**Sn**	**15 24 19.9**	**+1.1**
KORR	**Kora**	**1.29**	**270**	*e*Pg	**Pn**	**15 24 03.5**	**+0.4**
KORR				*e*Sg	**Sn**	**15 24 21.2**	**+1.0**
PRTR	**Priterechnaya**	**1.30**	**300**	*e*Pg	**Pn**	**15 24 04.0**	**+0.8**
PRTR				*e*Sg	**Sn**	**15 24 22.7**	**+2.4**
LGD	**Lagodekhi**	**1.30**	**166**	P	**Pn**	**15 24 03.1**	**-0.1**
LGD				S	Sn	15 24 11.4	-9.0
STDR	**Stavd-Durt**	**1.32**	**282**	*e*Pg	**Pn**	**15 24 04.2**	**+0.8**
STDR				*e*Sg	**Sn**	**15 24 22.3**	**+1.5**
KMKR	**Kumukh**	**1.35**	**136**	*e*Pg	**Pn**	**15 24 04.3**	**+0.4**
KMKR				*e*Sg	**Sn**	**15 24 22.5**	**+0.8**
ZEI	**Tsey**	**1.45**	**258**	*e*Pg	**Pn**	**15 24 04.6**	**-0.7**
ZEI				*e*Sg	**Sn**	**15 24 23.2**	**-0.9**
LSNR	**Lesken**	**1.48**	**277**	*e*Pg	**Pn**	**15 24 05.9**	**+0.5**
LSNR				*e*Sg	**Sn**	**15 24 25.2**	**+0.8**
SGKR	**Sergokala**	**1.49**	**115**	*e*Pg	**Pn**	**15 24 05.7**	**+0.1**
SGKR				*e*Sg	**Sn**	**15 24 25.2**	**+0.6**
URKR	**Urkarakh**	**1.63**	**125**	*e*Pg	**Pn**	**15 24 08.2**	**+0.8**
URKR				*e*Sg	**Sn**	**15 24 28.3**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.67**	**264**	*e*Pg	**Pn**	**15 24 07.6**	**-0.4**
DIGR				*e*Sg	**Sn**	**15 24 28.1**	**-0.9**
NCK	**Nalchik**	**1.68**	**284**	*e*Pg	**Pn**	**15 24 06.1**	**-1.9**
NCK				*e*Sg	**Sn**	**15 24 29.6**	**+0.5**
ONI	**Oni**	**1.82**	**254**	*i* Pg	**Pn**	**15 24 09.6**	**-0.4**
ONI				*e*Sg	**Sn**	**15 24 33.0**	**+0.5**
ALIG	**Mtskhetisjvari**	**1.90**	**239**	P	**Pn**	**15 24 12.0**	**+1.1**
KBTC	**Kuba-Taba**	**1.90**	**293**	*e*Pg	**Pn**	**15 24 10.4**	**-0.6**
KBTC				*i* Sg	**Sn**	**15 24 34.1**	**-0.2**
VSHL	**Vashlovani**	**1.92**	**167**	P	**Pn**	**15 24 11.4**	**+0.2**
AKT	**Akhty**	**2.15**	**138**	*e*Pg	**Pn**	**15 24 13.9**	**-0.4**
AKT				*e*Sg	**Sn**	**15 24 38.4**	**-1.9**
PYA1	**Pyatigorsk**	**2.21**	**297**	*e*Pg	**Pn**	**15 24 14.2**	**-0.9**
PYA1				*e*Sg	**Sn**	**15 24 39.5**	**-2.0**
KBZ	**Khabaz**	**2.23**	**287**	*e*Pg	**Pn**	**15 24 14.6**	**-0.6**
KBZ				*e*Sg	**Sn**	**15 24 40.2**	**-1.8**
KSMR	**Kasumkent**	**2.27**	**131**	*e*Pn	**Pn**	**15 24 16.9**	**+1.0**
KSMR				*i* Sn	**Sn**	**15 24 44.3**	**+1.2**
BEYR	**Belyy Ugol+**	**2.37**	**293**	*e*Pn	**Pn**	**15 24 16.6**	**-0.6**
BEYR				*e*Sn	**Sn**	**15 24 44.6**	**-0.9**
SHA1	**Shidzhatmaz**	**2.40**	**286**	*e*Pn	**Pn**	**15 24 17.1**	**-0.6**
SHA1				*e*Sn	**Sn**	**15 24 44.7**	**-1.8**
KIV	**Kislovodsk**	**2.44**	**291**	*e*Pn	**Pn**	**15 24 17.4**	**-0.8**
KIV				*e*Sn	**Sn**	**15 24 45.7**	**-1.5**
ALER	**Alexandrovskoy**	**2.68**	**309**	*i* Pn	**Pn**	**15 24 21.7**	**+0.3**
ALER				*e*Sn	**Sn**	**15 24 52.7**	**-0.2**
GOF	**Gofitskoye**	**2.80**	**315**	*e*Pn	**Pn**	**15 24 23.0**	**+0.1**
GOF				*e*Sn	**Sn**	**15 24 55.5**	**-0.3**

BJI 12 15:23:54.9±0.0,17°97N×96°09E,h31km,mb4.5/53,
mB4.9/28,Ms4.5/28,Ms7 4.3/28
IDC 12 15:23:54.3±0.5,18°33N×96°12E,h0km,mb4.4/28,
mbtmp4.3/30,ML3.6/2,MS3.6/32,Error ellipse:
s-maj=14.9km s-min=11.0km az=24.0
NEIC 12 15:23:55.4±2.6,18°39N±0.07'×96°28E±0.06,h10km±1km,
mb4.9/60,Error ellipse: s-maj=12.9km s-min=9.5km
az=206.0
DJA 12 15:23:57.4±0.2,18°N±3°×97°6E±°,h10km,M5.6/15,mB6.3/4,
mb4.9/15,MLv5.8/6,Mw(mB)6.0/4
NDI 12 15:23:58.9±4.2,18°22N×96°02E,h10km,mb4.8,
mb4.9(NEIC)

ISC 12 15:23:55.7±0.3,18°17N±0.04'×96°16E±0.04,h10km,n172,
σ292/139,mb4.8/69,MS3.7/35,4C-1D,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.66**	**83**		**Pn**	**15 24 37.5**	**-1.2**
CM31				Sn	**Sn**	**15 25 07.7**	**-3.4**
CMAR	**Chiang Mai Arr**	**2.66**	**83**		**Pn**	**15 24 36.4**	**-2.3**
CMAR	**Chiang Mai Arr**	**2.66**	**83**	Pn	**Pn**	**15 24 38.6**	**-0.1**
	2.8nm,0.3s,baz=264,slow=14,SNR=149						
CMAR				Lg	Lg	15 25 19.1	
	125nm,0.3s,baz=261,slow=30,SNR=6.1						
CMAR				LR	LR	15 25 53.6	
	comp=Z,2μm,18.5s,baz=255,slow=44						
	35nm,0.9s						
CHTO	**Chiang Mai**	**2.72**	**76**		Pn	15 24 36.2	-3.3
CHTO	**Chiang Mai**	**2.72**	**76**		**Pn**	**15 24 38.5**	**-0.9**
CHTO				Sn	Sn	15 25 03.7	-8.7
CHTO	**Chiang Mai**	**2.72**	**76**	P	**Pn**	**15 24 42.7**	**+3.2**
CHTO	**Chiang Mai**	**2.72**	**76**	P	**Pn**	**15 24 39.6**	**+0.1**
CHTO				S	**Sb**	**15 25 20.8**	**+2.9**
CMMT	**Chiang Mai**	**2.72**	**76**	P	**Pn**	**15 24 43.7**	**+4.2**
CMMT				S	**Sb**	**15 25 20.8**	**+2.8**
MND	**Mandalay**	**3.83**	**359**	Pn	Pn	15 24 52.2	-2.5
MND	**Mandalay**	**3.83**	**359**	P	Pn	15 24 52.3	-2.4
CRAI	**Chiangrai**	**4.48**	**62**	Pn	**Pn**	**15 25 03.8**	**+0.1**
SAIH	**SAIHA**	**5.23**	**326**	*e*P	**Pn**	**15 25 14.8**	**+0.7**
SAIH				*e*S	**Sn**	**15 26 14.0**	**-0.5**
DGPR	**DIGLIPUR**	**5.86**	**213**	*e*P	**Pn**	**15 25 26.3**	**+3.7**
NAYO	**Nakonayok**	**6.27**	**127**	P	**Pn**	**15 25 29.3**	**+1.0**
NONG	**Nongkai**	**6.64**	**90**	P	Pn	15 25 39.4	+5.9
IMP	**Imphal**	**6.94**	**343**	*e*P	**Pn**	**15 25 39.9**	**+2.3**
TNCH	**TengChong**	**7.17**	**17**	Pn	**Pn**	**15 25 39.7**	**-1.1**
TNCH				Sn	**Sn**	**15 26 59.9**	**-2.6**
TNCH				Sg	**Sg**	**15 27 40.1**	**-5.8**
TNCH				LR	LR		
	comp=Z,610nm,6.4s						
KOHI	**KOHIMA**	**7.75**	**346**	*e*P	**Pn**	**15 25 51.0**	**+2.2**
MOKO	**MOKOCHONG**	**8.25**	**350**	*e*P	**Pn**	**15 25 58.6**	**+3.0**
SHL	**Shillong**	**8.36**	**332**	Pn	Pn	15 25 53.9	-3.3
SHL	**Shillong**	**8.36**	**332**	*e*P	**Pn**	**15 25 56.8**	**-0.4**
KMI	**Kunming**	**9.23**	**40**	⇑P	Pn	15 26 16.9	+7.7
KMI				S	**Sn**	**15 27 54.8**	**+1.4**
KMI				LR	LR		
	comp=N,1μm,4.5s						
KMI				LR	LR		
	comp=E,570nm,4.2s						
KMI	

HNS S **S** **15 33 51.1 +5.3**
HNS pmax pmax
comp=Z,23nm,1.1s
HNS LR LR
comp=Z,400nm,21.5s
HNS LR LR
comp=Z,370nm,14.3s
BTO Baotou 25.35 25 *eP* **P** **15 29 22.8 -0.2**
BTO pP **pP** **15 29 27.0 +0.9**
BTO PP **PnPn** **15 30 01.1 +3.4**
BTO S **S** **15 33 50.4 +1.0**
BTO sS **sS** **15 33 57.1 +2.6**
BTO SS **SnSn** **15 34 47.0 +6.1**
BTO pmax pmax
comp=Z,71nm,0.9s
BTO pmax pmax
comp=Z,330nm,5.0s
BTO LR LR
comp=Z,1μm,14.6s
BTO LR LR
comp=Z,560nm,8.3s
BTO LR LR
comp=Z,790nm,16.8s
NIL Nilore 25.65 311 P **P** **15 29 22.9 -2.8**
NIL IAmb IAmb 15 29 31.8
comp=Z,19nm,0.8s
HHC Hu-ho-hao-te 26.20 27 *eP* **P** **15 29 31.8 +1.1**
HHC PP **PnPn** **15 30 16.1 +6.8**
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.0s
HHC LR LR
comp=Z,540nm,9.2s
HHC LR LR
comp=Z,560nm,9.2s
HHC LR LR
comp=Z,740nm,10.6s
WMQ Urumqi 26.55 346 *eP* **P** **15 29 32.7 -1.1**
WMQ PP **PnPn** **15 30 20.8 +6.7**
WMQ pmax pmax
comp=Z,16nm,0.7s
KSH Kashi 27.54 325 P **P** **15 29 43.7 +0.9**
KSH pmax pmax
comp=Z,8.0nm,0.8s
BJT Baijiatuau 27.80 34 P **P** **15 29 41.1 -3.9**
BJT IAmb IAmb 15 29 49.6
comp=Z,26nm,1.7s
KBL Kabul 29.13 309 P P 15 29 53.6 -3.5
DAV Davao City (W) 30.70 107 LR LR 15 42 16.9
comp=Z,106nm,20.5s,baz=330,slow=36
SONM Songino Array 30.75 14 P P 15 30 07.9 -3.4
SONM Songino Array 30.75 14 P **P** **15 30 09.6 -1.7**
comp=Z,2.1nm,1.0s,baz=205,slow=5.8,SNR=9.2
comp=Z,2.1nm,1.0s
MK31 Makanchi Array 30.75 341 P P 15 30 09.2 -1.9
MKAR Makanchi Array 30.75 341 P **P** **15 30 10.1 -1.1**
MKAR Makanchi Array 30.75 341 P **P** **15 30 10.2 -1.0**
comp=Z,3.7nm,0.7s,baz=155,slow=8.5,SNR=32
MKAR PcP **PcP** **15 33 09.2 +0.6**
comp=Z,0.9nm,0.8s,baz=85,slow=3.5,SNR=3.7
MKAR LR LR 15 44 04.9
comp=Z,58nm,22.0s,baz=115,slow=40
comp=Z,3.7nm,0.7s
JOW Kunigami 30.83 68 LR LR 15 42 30.6
comp=Z,123nm,20.4s,baz=312,slow=36
MAKZ Makanchi 30.86 341 P **P** **15 30 11.1 -1.0**
BTK Batken 30.89 320 P P 15 30 09.1 -3.4
SIMJ Simiganj 31.22 316 P P 15 30 11.7 -3.8
SIMJ IAmb IAmb 15 30 16.1
comp=Z,11nm,1.1s
KAPI Kappang 32.75 133 LR LR 15 47 06.0
comp=Z,40nm,19.4s,baz=258,slow=42
KK31 Karatay Array 32.99 324 P P 15 30 26.7 -4.2
KKAR Karatay Array 32.99 324 P P 15 30 25.6 -5.3
KSAR Wonju Array Be 33.77 49 P P 15 30 33.6 -4.1
KS19 Wonju Array Si 33.78 49 P P 15 30 35.2 -2.7
KSRS Korea Array 33.80 49 P **P** **15 30 37.1 -0.8**
comp=Z,1.5nm,0.7s,baz=237,slow=8.5,SNR=4.9
KSRS LR LR 15 45 41.3
comp=Z,200nm,18.2s,baz=240,slow=39
comp=Z,1.5nm,0.7s
HRA Herat 34.23 305 P P 15 30 38.9 -3.2
JNU Nakatsue 34.48 58 LR LR 15 44 59.1
comp=Z,108nm,18.4s,baz=248,slow=37
KURBB Kurchatov Arra 35.30 341 P **P** **15 30 49.1 -1.7**
KURBB PcP **PcP** **15 33 20.4 -0.7**
comp=Z,2.1nm,0.2s,baz=153,slow=2.5,SNR=6.1
KURBB LR LR 15 47 44.4
comp=Z,99nm,18.9s,baz=174,slow=41
comp=Z,6.3nm,0.7s
KURK Kurchatov 35.36 341 P **P** **15 30 49.8 -1.5**
KURK IAmb IAmb 15 30 51.1
comp=Z,8.8nm,0.9s
WSAR Wadi Sarin 35.40 285 LR LR 15 48 27.3
comp=Z,27nm,19.0s,baz=52,slow=42
HIA Hailar 36.39 26 P **P** **15 30 58.8 -1.4**
HIA IAmb IAmb 15 31 04.3
comp=Z,24nm,1.1s
ZAA0 Zalesovo Array 36.77 349 P P 15 31 00.6 -2.7
ZAA0 IAmb IAmb 15 31 05.2
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 36.77 349 P P 15 31 00.2 -3.1
ZALV Zalesovo Beam 36.77 349 P **P** **15 31 02.6 -0.7**
comp=Z,18nm,1.0s,baz=169,slow=8.8,SNR=43
comp=Z,18nm,1.0s
BNX BinXian 37.77 36 ⇓P **P** **15 31 12.2 +0.3**
BNX pmax pmax
comp=Z,9.0nm,0.7s
BNX pmax pmax
comp=Z,200nm,5.4s
GEYT Alibeck 38.57 309 P P 15 31 15.6 -3.3
GEYT IAmb IAmb 15 31 22.2
comp=Z,26nm,1.2s
GEYT Alibeck 38.57 309 P **P** **15 31 19.8 +0.9**
comp=Z,22nm,1.2s,baz=138,slow=9.0,SNR=20
comp=Z,22nm,1.2s
GYA0B ALIBECK ARRAY 38.57 309 P P 15 31 16.5 -2.3
GYA0B IAmb IAmb 15 31 21.1
comp=Z,19nm,1.1s
SOEI Soe 39.24 133 P **P** **15 31 23.5 -1.3**
SOEI IAmb IAmb 15 31 38.5
comp=Z,40nm,1.0s
USRK Ussuriysk Ar. 39.67 41 P **P** **15 31 28.0 +0.1**
comp=Z,2.8nm,0.8s,baz=215,slow=9.7,SNR=2.6
USRK LR LR 15 49 30.0
comp=Z,124nm,18.0s,baz=174,slow=39
comp=Z,2.8nm,0.8s
BVAR Borovoye Array 40.16 336 P **P** **15 31 30.7 -1.2**
comp=Z,2.4nm,0.9s,baz=130,slow=12,SNR=7.3
BVAR PcP **PcP** **15 33 36.2 +0.1**
comp=Z,1.6nm,0.7s,baz=116,slow=3.4,SNR=5.4
comp=Z,2.4nm,0.9s
BRVK Borovoye 40.23 336 P **P** **15 31 30.8 -1.6**
HEH HeiHe 40.59 31 *eP* **P** **15 31 35.6 +0.2**
HEH pmax pmax
comp=Z,9.0nm,1.0s
HEH pmax pmax
comp=Z,150nm,6.2s
MJAR Matsushiro Arr 41.21 55 P **P** **15 31 40.6 -0.2**
comp=Z,5.4nm,1.0s,baz=269,slow=9.9,SNR=8.1
MJAR LR LR 15 50 41.1
comp=Z,115nm,18.9s,baz=216,slow=39
comp=Z,5.4nm,1.0s
JHJ Hachijo jima 2 41.74 60 LR LR 15 51 16.3
comp=Z,77nm,18.5s,baz=120,slow=39
KLR Kul'dur 42.19 35 LR LR 15 50 57.7
comp=Z,168nm,18.3s,baz=233,slow=39
ABKAR Akbulak array 42.55 325 P **P** **15 31 50.1 -1.4**
JCJ Chichijima 43.20 70 LR LR 15 48 40.8
comp=Z,35nm,20.1s,baz=328,slow=34
AKTO Aktyubinsk 44.24 326 LR LR 15 54 15.4
comp=Z,71nm,19.2s,baz=242,slow=41
KNRA Kununurra 46.51 134 P P 15 32 18.9 -4.6
ASAJ Asahikawa 46.61 46 LR LR 15 53 38.1
comp=Z,51nm,18.3s,baz=224,slow=38
JKA Kamikawa-asahi 46.61 46 P P 15 32 20.2 -3.9
GUMO Guam 46.97 88 LR LR 15 54 05.8
comp=Z,29nm,18.1s,baz=246,slow=38
ARU Arti 47.45 333 P P 15 32 27.9 -2.5
ARU IAmb IAmb 15 32 29.9
comp=Z,8.0nm,1.0s
YAK Yakutsk 49.68 20 P **P** **15 32 45.7 -1.8**
YAK IAmb IAmb 15 32 49.3
comp=Z,12nm,0.6s
YAK Yakutsk 49.68 20 LR LR 15 55 44.2
comp=Z,8.0nm,18.6s,baz=276,slow=38
AKH Akhalkalaki 50.36 309 P **P** **15 32 53.3 0.0**
KARS Kars 50.53 308 P **P** 15 32 51.6 -2.9
GURO Guroymak-BITLI 51.01 305 P **P** **15 32 57.1 -1.0**
GURO IAmb IAmb 15 33 01.7
comp=Z,25nm,1.2s
NRIK Noril'sk 51.43 356 P **P** **15 32 59.4 -1.2**
NRIK Noril'sk 51.43 356 P **P** **15 33 00.2 -0.5**
comp=Z,3.3nm,0.6s,baz=152,slow=5.3,SNR=7.2
comp=Z,3.3nm,0.6s
KIV Kislovodsk 51.46 312 P **P** **15 33 00.5 -0.9**
KIV IAmb IAmb 15 33 04.2
comp=Z,24nm,1.0s
WB0 Warramunga Arr 53.19 133 P **P** **15 33 14.2 -0.3**
WB0 IAmb IAmb 15 34 22.0
comp=Z,38nm,1.8s
WRA Warramunga Arr 53.27 133 P **P** **15 33 15.9 +0.9**
WRA Warramunga Arr 53.27 133 P **P** **15 33 16.2 +1.2**
comp=Z,7.9nm,0.7s,baz=320,slow=7.3,SNR=41
WRA PcP **PcP** **15 34 23.5 +0.7**
comp=Z,0.7nm,0.8s,baz=314,slow=4.9,SNR=0.6
comp=Z,7.9nm,0.7s
WRAB Tennant Creek 53.27 133 P **P** **15 33 15.6 +0.6**
WRAB IAmb IAmb 15 33 18.9
comp=Z,9.7nm,0.8s
WB2 Warramunga Arr 53.28 133 P **P** **15 33 14.7 -0.4**
WB2 IAmb IAmb 15 33 17.3
comp=Z,12nm,0.8s
WR0 Warramunga Arr 53.42 133 P **P** **15 33 15.4 -0.7**
WR0 IAmb IAmb 15 33 19.9
comp=Z,9.3nm,0.7s
NWAO Narrogin (SRO) 54.66 158 P **P** **15 33 26.1 +1.2**
AS31 Alice Springs 55.56 137 P **P** **15 33 31.3 -0.3**
ASAR Alice Springs 55.56 137 P **P** **15 33 31.7 +0.1**
ASAR Alice Springs 55.56 137 P **P** **15 33 33.1 +1.5**
comp=Z,5.0nm,0.7s,baz=320,slow=6.9,SNR=59
comp=Z,5.0nm,0.7s
MMAI Mount Meron Ar 56.06 298 P **P** **15 33 35.6 +0.4**
comp=Z,3.1nm,0.8s,baz=42,slow=2.6,SNR=4.6
comp=Z,3.1nm,0.8s
EIL Elat 56.55 294 LR LR 16 02 06.9
comp=Z,31nm,18.0s,baz=252,slow=41
TIXI Tiksi 56.81 12 P **P** **15 33 38.2 -1.6**
TIXI IAmb IAmb 15 34 50.3
comp=Z,5.7nm,0.6s
TIXI Tiksi 56.81 12 LR LR 16 00 07.9
comp=Z,5.1nm,18.1s,baz=54,slow=38
MA2 Magadan 56.84 30 P P 15 33 36.9 -3.3
MA2 IAmb IAmb 15 33 42.7
comp=Z,18nm,1.0s
MA2 Magadan 56.84 30 LR LR 16 00 28.4
comp=Z,61nm,20.1s,baz=202,slow=39
BRTR Keskin Array B 57.61 306 P P 15 33 42.4 -3.9
BRTR Keskin Array B 57.61 306 P **P** **15 33 45.1 -1.2**
comp=Z,2.1nm,0.9s,baz=123,slow=6.1,SNR=7.5
comp=Z,2.1nm,0.9s
PETK Petropavlovsk- **58.64 38** LR LR 16 02 13.2
comp=Z,136nm,19.4s,baz=242,slow=39
ELL Elmali 60.52 302 P **P** **15 34 06.1 -0.4**
KMBO Kilima Mbogo 61.00 258 P **P** **15 34 09.5 -0.7**
comp=Z,4.8nm,1.0s,baz=38,slow=9.3,SNR=4.4
KMBO LR LR 15 57 34.4
comp=Z,35nm,20.8s,baz=86,slow=33
comp=Z,4.8nm,1.0s
AKASG Malin Array Be 61.57 318 P P 15 34 11.3 -1.8
comp=Z,1.3nm,0.7s,baz=77,slow=5.4,SNR=7.8
comp=Z,1.3nm,0.7s
AKBB Malin Array Si 61.57 318 P P 15 34 10.9 -2.3
AKBB IAmb IAmb 15 34 13.8
comp=Z,22nm,1.4s
KIEV Kiev 61.58 318 P P 15 34 11.1 -2.1
KIEV IAmb IAmb 15 34 13.8
comp=Z,18nm,1.4s
BURAR Bucovina Array 64.01 315 P **P** **15 34 28.4 -1.3**
BUR08 Bucovina Ar. S 64.02 315 P **P** **15 34 28.0 -1.7**
BUR08 IAmb IAmb 15 35 02.0
comp=Z,24nm,1.9s
FIA1 FINESS Array S 64.69 330 P **P** **15 34 31.9 -1.7**
FINES FINESS Array B 64.69 330 P **P** **15 34 32.0 -1.6**
FINES FINESS Array B 64.69 330 P **P** **15 34 32.9 -0.8**
comp=Z,3.7nm,0.7s,baz=98,slow=7.9,SNR=9.5
comp=Z,3.7nm,0.7s
STKA Stephens Creek 66.13 138 P **P** **15 34 45.0 +1.6**
STKA Stephens Creek 66.13 138 P **P** **15 34 45.2 +1.8**
comp=Z,3.6nm,0.8s,baz=301,slow=5.2,SNR=4.5
comp=Z,3.6nm,0.8s
ARCES ARCESS Array B 66.36 339 P **P** **15 34 43.1 -1.3**
ARCES ARCESS Array B 66.36 339 P **P** **15 34 43.8 -0.7**
comp=Z,3.0nm,0.6s,baz=62,slow=3.4,SNR=8.0
ARCES LR LR 16 05 40.4
comp=Z,60nm,18.6s,baz=89,slow=38
comp=Z,3.0nm,0.6s
CRVS Cervenica-Dubn 66.52 316 *eP* **P** **15 34 46.3 +0.5**
MBAR Mbarara 66.91 261 P **P** **15 34 50.0 +1.0**
MBAR IAmb IAmb 15 34 52.5
comp=Z,6.8nm,0.8s
EIDS Eidsvold 68.76 127 P **P** **15 35 02.6 +2.4**
EIDS IAmb IAmb 15 36 07.9
comp=Z,15nm,1.4s
HFS Hagfors 70.69 328 P **P** **15 35 10.1 -1.4**
comp=Z,6.3nm,0.8s,baz=98,slow=6.1,SNR=8.8
HFS LR LR 16 12 06.5
comp=Z,52nm,20.6s,baz=50,slow=41
comp=Z,6.3nm,0.8s
NC405 NORSAR Array S 71.60 329 P P 15 35 14.6 -2.5
GERES GERESS Array B 71.63 316 P **P** **15 35 16.1 -1.5**
GERES GERESS Array B 71.63 316 P **P** **15 35 17.3 -0.4**
comp=Z,1.9nm,0.6s,baz=77,slow=6.0,SNR=9.5
comp=Z,1.9nm,0.6s
NC303 NORSAR Array S 71.76 330 P **P** **15 35 16.8 -1.3**
NB2 NORSAR Subarra 71.85 329 P **P** **15 35 17.3 -1.3**
comp=Z,6.0nm,0.9s,baz=86,slow=6.2
NOA NORSAR Array B 71.85 329 P **P** **15 35 17.3 -1.3**
comp=Z,4.1nm,1.0s,baz=90,slow=5.8,SNR=7.6
NOA LR LR 16 11 33.0
comp=Z,29nm,18.6s,baz=295,slow=40
comp=Z,4.1nm,1.0s
NC204 NORSAR Array S 72.05 330 P **P** **15 35 18.1 -1.7**
CIMO Cimolais 72.81 314 P P 15 35 22.2 -2.5
CIMO IAmb IAmb 15 35 51.5
comp=Z,30nm,1.9s
FDMO Fiordimonte 72.85 310 P P 15 35 23.3 -1.7
CAN Canberra 73.07 137 P **P** **15 35 25.8 -0.5**
CESX Cesi 73.29 310 P **P** **15 35 25.9 -1.7**
LSZ Lusaka 74.75 248 P **P** **15 35 35.8 -0.9**
LSZ IAmb IAmb 15 35 40.5
comp=Z,15nm,0.8s
LSZ Lusaka 74.75 248 LR LR 16 04 52.2
comp=Z,48nm,18.9s,baz=127,slow=33
E18K Tukpahlearik C 78.36 23 P **P** **15 35 55.2 -0.8**
E18K IAmb IAmb 15 35 58.8
comp=Z,9.7nm,1.2s
EKA Eskdalemuir Ar 80.42 325 P **P** **15 36 07.3 -0.2**
comp=Z,3.2nm,0.7s,baz=83,slow=5.5,SNR=5.5
comp=Z,3.2nm,0.7s
LBTB Lobatse 80.98 240 LR LR 16 12 23.4
comp=Z,57nm,18.1s,baz=112,slow=36
BOSA Boshof 82.77 237 P **P** **15 36 21.0 +0.5**
comp=Z,5.5nm,0.8s,baz=85,slow=5.9,SNR=6.6
BOSA LR LR 16 10 01.8
comp=Z,35nm,18.7s,baz=20,slow=33
comp=Z,5.5nm,0.8s
BMAR Burnt Mountain 83.88 20 P **P** **15 36 26.5 +1.0**
ILAR Eielson Array 84.53 23 P **P** **15 36 27.2 -1.6**
comp=Z,1.3nm,0.9s,baz=290,slow=4.3,SNR=8.1
comp=Z,1.3nm,0.9s
PRP Porcupine Dome 84.62 22 P **P** **15 36 29.1 -0.2**
PRP IAmb IAmb 15 36 30.5
comp=Z,9.8nm,1.1s
TSUM Tsumeb 85.60 248 LR LR 16 11 58.6
comp=Z,54nm,18.3s,baz=145,slow=34
A36M Sachs Harbour 85.83 12 P **P** **15 36 34.5 -0.6**
A36M IAmb IAmb 15 36 41.0
comp=Z,8.4nm,0.8s
ESDC Sonseca Array 86.09 310 P **P** **15 36 36.9 -0.3**
comp=Z,1.1nm,0.9s,baz=74,slow=7.2,SNR=3.0
comp=Z,1.1nm,0.9s
SUR Sutherland 87.81 235 LR LR 16 14 30.8
comp=Z,41nm,21.1s,baz=48,slow=35
TORD Torodi Ar. Bea 90.12 284 P **P** **15 36 56.2 -0.5**
comp=Z,0.8nm,0.9s,baz=46,slow=6.4,SNR=5.2
comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 96.02 14 P **P** **15 37 22.9 -0.1**
comp=Z,0.3nm,0.7s,baz=324,slow=4.6,SNR=3.7
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 129.04 22 PKP **PKPdf** **15 43 04.7 -0.1**
comp=Z,1.0nm,1.0s,baz=98,slow=1.9,SNR=5.0
BDFB Brasilia 145.66 269 PKPbc **PKPdf** **15 43 34.7 -0.8**
comp=Z,4.1nm,0.4s,baz=163,slow=2.5,SNR=8.5

ISC 12 15:24:12.5±1.1, 49°17N±0°.04×20°78E±0°.03, h10km±12km, n7, σ0s45/13, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STHS	**Stebnicka Huta**	**0.39**	**51**	*e*PG	**Pg**	**15 24 19.4**	**-0.8**
STHS				*e*SG	**Sg**	**15 24 25.3**	**-0.1**
STHS				*e*LG	Lg	15 24 26.2	
NIE	**Niedzica**	**0.40**	**308**	*e*Pg	**Pg**	**15 24 20.7**	**+0.3**
NIE				*e*Sg	**Sg**	**15 24 26.2**	**+0.5**
CRVS	**Cervenica-Dubn**	**0.52**	**121**	*e*PG	**Pg**	**15 24 23.0**	**+0.4**
CRVS				*e*SG	**Sg**	**15 24 30.0**	**+0.5**
KECS	**Kecovo**	**0.72**	**196**	*e*PG	**Pg**	**15 24 26.0**	**-0.3**
KECS				*e*SG	**Sg**	**15 24 35.4**	**-0.2**
KECS				*e*LG	Lg	15 24 36.1	
LANS	**Liptovska Anna**	**0.86**	**269**	*e*PG	**Pg**	**15 24 28.7**	**-0.4**
KOLS	**Kolonicke sedl**	**1.01**	**103**	*e*PG	**Pn**	**15 24 32.9**	**+0.1**
KOLS				*e*SG	**Sn**	**15 24 47.0**	**0.0**
KOLS				*e*LG	Lg	15 24 48.2	
VYHS	**Vyhne**	**1.45**	**243**	*e*PG	**Pg**	**15 24 40.0**	**-0.4**
VYHS				*e*SG	**Sg**	**15 24 59.3**	**+0.1**

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*BUL **12** 15:45:26.5±1.1, 25°.85S×29°.40E, h0km±11km, MD3.2*
*IDC **12** 15:45:31.6±7.9, 26°.16S×28°.44E, h0km, mbtmp2.6/1, ML2.3/1, Error ellipse: s-maj=70.3km s-min=52.6km az=138.0*

ISC 12 15:45:18.9±1.2, 25°.61S±0°.06×29°.05E±0°.07, h10km, n7, σ3s33/11, 1C, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**2.98**	**46**	*i* P	**Pb**	**15 46 12.2**	**0.0**
MOPA				*i* S	**Sb**	**15 46 46.9**	**-1.8**
LBTB	**Lobatse**	**3.18**	**280**	*i* P	**Pg**	**15 46 21.7**	**+1.8**
LBTB				*i* S	**Sg**	**15 47 02.8**	**+1.6**
BOSA	**Boshof**	**4.51**	**228**	⇑*i* P	**Pb**	**15 46 37.4**	**-1.0**
BOSA				*i* S	**Sb**	**15 47 28.3**	**-4.6**
BOSA	**Boshof**	**4.51**	**228**	Pn	**Pn**	**15 46 31.8**	**+4.3**
	0.2nm,0.3s,baz=49,slow=18,SNR=1.4						
BOSA				Pg	**Pb**	**15 46 38.9**	**+0.5**
	0.6nm,0.3s,baz=43,slow=17,SNR=9.9						
BOSA				Sn	**Sn**	**15 47 15.0**	**-5.1**
	0.5nm,0.3s,baz=115,slow=18,SNR=2.7						
BOSA				Lg	Lg	15 47 30.6	
	3.5nm,0.3s,baz=331,slow=17,SNR=16						
	1.2nm,0.5s						
I47ZA	**BOSHOF INFRASO**	**4.53**	**228**	I	I	16 11 30.0	
	baz=52,slow=310,SNR=1.2						
MATP	**Matopo**	**5.19**	**354**	*i* P	**Pb**	**15 46 48.8**	**-1.0**
MATP				*i* S	**Sb**	**15 47 48.9**	**-3.4**
I35NA	**TSUMEB INFRASO**	**12.38**	**299**	I	I	17 02 10.0	
	0.1nm,2.0s,baz=127,slow=314,SNR=6.4						

IDC 12 15:48:23.6±4.7, 2°.52S×138°.84E, h0km, mb3.1/2, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=190.0km s-min=31.0km az=87.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.86**	**194**	P	Pn	15 52 33.0	-0.8
	0.1nm,0.3s,baz=16,slow=13,SNR=9.3						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**21.56**	**192**	P	P	15 53 15.3	+0.6
	0.4nm,0.6s,baz=15,slow=9.8,SNR=13						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**69.72**	**322**	P	P	15 59 35.3	-0.1
	0.1nm,0.4s,baz=118,slow=8.3,SNR=2.5						
	0.1nm,0.4s						

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*IDC **12** 15:48:43.1±1.0, 18°.35N×96°.16E, h0km, mb3.7/8, mbtmp3.7/9, ML3.2/1, MS2.6/1, Error ellipse: s-maj=26.1km s-min=14.2km az=39.0*

ISC 12 15:48:48.3±1.2, 18°.4N±0°.2×96°.2E±0°.2, h35km, n10, σ0s50/10, mb3.8/9, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.58**	**88**	Pn	**Pn**	**15 49 27.7**	**+0.1**
	1.1nm,0.3s,baz=264,slow=14,SNR=22						
CMAR				Lg	Lg	15 50 07.1	
	26nm,0.3s,baz=262,slow=31,SNR=15						
CMAR				LR	LR	15 50 42.6	
	comp=Z,113nm,19.7s,baz=280,slow=45						
	2.4nm,0.4s						
SONM	**Songino Array**	**30.53**	**14**	P	**P**	**15 54 58.4**	**0.0**
	0.2nm,0.4s,baz=350,slow=41,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**30.57**	**341**	P	**P**	**15 54 58.2**	**-0.5**
	0.4nm,0.5s,baz=140,slow=11,SNR=7.0						
	0.4nm,0.5s						
KAPI	**Kappang**	**32.84**	**133**	P	**P**	**15 55 18.2**	**-0.6**
	11nm,0.4s,baz=306,slow=23,SNR=7.5						
KURBB	**Kurchatov Arra**	**35.13**	**340**	P	**P**	**15 55 38.0**	**-0.4**
	0.5nm,0.3s,baz=164,slow=7.9,SNR=1.9						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**36.58**	**349**	P	**P**	**15 55 50.7**	**0.0**
	1.9nm,0.9s,baz=168,slow=7.6,SNR=7.7						
	1.9nm,0.9s						
BVAR	**Borovoye Array**	**40.00**	**336**	P	**P**	**15 56 20.3**	**+0.7**
	0.3nm,0.4s,baz=202,slow=3.1,SNR=2.5						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**53.37**	**134**	P	**P**	**15 58 05.0**	**+0.3**
	0.9nm,0.8s,baz=322,slow=7.4,SNR=6.1						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**55.67**	**137**	P	**P**	**15 58 21.9**	**+0.6**
	0.4nm,0.6s,baz=320,slow=6.8,SNR=8.6						
	0.4nm,0.6s						
HFS	**Hagfors**	**70.54**	**328**	P	**P**	**15 59 59.5**	**+0.1**
	3.3nm,1.0s,baz=136,slow=5.6,SNR=2.1						
	3.3nm,1.0s						

IDC 12 16:05:37.0±999.0, 65°.23N×40°.90E, h0km, Error ellipse: s-maj=716.0km s-min=247.6km az=117.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**17.34**	**141**	I	I	17 46 10.0	
	baz=337,slow=325,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**24.37**	**96**	I	I	18 35 40.0	
	baz=315,slow=336,SNR=1.4						
I34MN	**SONGINO INFRAS**	**38.04**	**85**	I	I	19 58 20.0	
	baz=323,slow=330,SNR=0.4						

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*IDC **12** 16:06:38.3±16.0, 38°.07N×71°.07E, h282km±100km, mb2.8/3, mbtmp3.5/8, Error ellipse: s-maj=164.0km s-min=39.1km az=179.0*

ISC 12 16:06:04.1±1.9, 36°.3N±0°.2×70°.9E±0°.2, h35km, n15, σ2s08/16, mb3.3/3, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.20**	**20**	P	**Pn**	**16 07 36.2**	**+2.8**
	SNR=21						
AML	**Almayashu**	**6.20**	**20**	⇑P	**Pn**	**16 07 35.7**	**+2.4**
	0.4nm,0.5s						
AML				⇓S	**Sn**	**16 08 41.2**	**-2.0**
	1.5nm,0.7s						
EKS2	**Erkin-Say**	**6.71**	**19**	P	Pn	16 07 44.2	+4.0
	SNR=11						
KK31	**Karatay Array**	**6.77**	**358**	⇓P	**Pn**	**16 07 43.4**	**+2.5**
	2.7nm,0.3s,baz=176,slow=11,SNR=132						
KK31				⇑S	**Sn**	**16 08 54.8**	**-1.9**
	3.5nm,0.7s,baz=183,slow=20,SNR=5.0						
AAK	**Ala-Archa**	**6.90**	**23**	P	**Pn**	**16 07 45.6**	**+2.8**
	SNR=8.7						
CHMS	**Chumysh**	**7.30**	**23**	P	**Pn**	**16 07 51.0**	**+2.7**
	SNR=5.2						
USP	**Ospenovka**	**7.47**	**21**	P	**Pn**	**16 07 52.4**	**+1.9**
	SNR=9.8						
MKAR	**Makanchi Array**	**13.49**	**36**	P	**P**	**16 09 21.3**	**-0.3**
	0.3nm,0.6s,baz=225,slow=12,SNR=4.3						
KURBB	**Kurchatov Arra**	**15.32**	**19**	P	**P**	**16 09 42.0**	**+0.1**
	0.3nm,0.4s,baz=197,slow=10,SNR=3.0						
BVAR	**Borovoye Array**	**16.70**	**359**	P	**P**	**16 09 56.9**	**-0.2**
	0.4nm,0.3s,baz=186,slow=7.2,SNR=6.4						
AKTO	**Aktyubinsk**	**16.87**	**331**	P	**P**	**16 10 00.4**	**+1.3**
	1.0nm,0.6s,baz=157,slow=14,SNR=2.7						

ZALV	**Zalesovo Beam**	**20.12**	**24**	P		**P**	**16 10 33.0**	**-1.7**
	1.0nm,0.4s,baz=213,slow=11,SNR=6.9							
HFS	**Hagfors**	**43.13**	**322**	P		**P**	**16 14 00.9**	**+0.2**
	0.7nm,0.5s,baz=81,slow=9.5,SNR=1.4							
	0.7nm,0.5s							
NOA	**NORSAR Array B**	**44.45**	**323**	P		**P**	**16 14 11.2**	**-0.1**
	0.3nm,0.6s,baz=96,slow=8.3,SNR=1.6							
	0.3nm,0.6s							
YKA	**Yellowknife Ar**	**81.42**	**3**	P		**P**	**16 18 14.6**	**-2.4**
	0.1nm,0.5s,baz=353,slow=5.9,SNR=2.6							
	0.1nm,0.5s							

IDC 12 16:24:12.6±6.6, 25°.93S×24°.97E, h0km, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=53.7km s-min=43.9km az=84.0, Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**2.69**	**175**	Pn	Pn	16 24 56.0	-1.3
	0.5nm,0.3s,baz=360,slow=18,SNR=13						
BOSA				Pg	Pg	16 25 03.5	-0.6
	0.8nm,0.3s,baz=357,slow=15,SNR=15						
BOSA				Sn	Sn	16 25 30.3	-0.4
	0.5nm,0.3s,baz=267,slow=22,SNR=9.6						
BOSA				Lg	Lg	16 25 38.0	
	0.9nm,0.3s,baz=266,slow=17,SNR=24						
	1.1nm,0.3s						
I47ZA	**BOSHOF INFRASO**	**2.70**	**175**	I	I	16 40 50.0	
	0.1nm,0.8s,baz=354,slow=299,SNR=2.3						
I35NA	**TSUMEB INFRASO**	**9.56**	**313**	I	I	17 21 50.0	
	baz=138,slow=327,SNR=1.9						

*JMA **12** 16:35:43.9±0.2, 23°.8N±0°.7×122°.9E±0°.6, h52km, MV2.0/12, NEAR ISHIGAKIJIMA ISLAND*
*TAP **12** 16:35:44.3, 23°.84N×122°.87E, h52km, ML2.5, D*
ISC 12 16:35:42.3±1.3, 23°.70N±0°.04×122°.87E±0°.03, h26km±13km, n64, σ1°.03/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.66**	**310**	*i* P	**Pn**	**16 35 56.5**	**+0.9**
	baz=299						
EOS4				S	**Sn**	**16 36 05.9**	**+1.0**
	baz=299						
JYNG	**Yonagunijimaku**	**0.75**	**5**	P	**Pb**	**16 35 57.3**	**+0.5**
JYNG				*e*S	**Sb**	**16 36 06.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.77**	**10**	P	**Pb**	**16 35 57.6**	**+0.5**
YOJ				*e*S	**Sb**	**16 36 07.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.77**	**10**	*i* P	**Pb**	**16 35 57.8**	**+0.7**
	baz=11						
YOJ				*i* S	**Sb**	**16 36 07.4**	**+0.2**
	baz=11						
EOS3	**EOS3**	**0.77**	**319**	P	**Pn**	**16 35 58.5**	**+1.1**
	baz=316						
EOS3				S	**Sn**	**16 36 08.6**	**+0.6**
	baz=316						
EOS2	**EOS2**	**0.92**	**321**	P	**Pb**	**16 36 00.9**	**+1.3**
	baz=318						
EOS2				S	**Sn**	**16 36 13.4**	**+1.6**
	baz=318						
HATJ	**Hateruma jima**	**0.93**	**67**	P	**Pn**	**16 36 00.2**	**+0.6**
HATJ				*e*S	**Sn**	**16 36 11.9**	**-0.2**
IRIF	**Iriomote-Funau**	**1.01**	**51**	*i* P	**Pn**	**16 36 01.2**	**+0.5**
IRIF				*e*S	**Sn**	**16 36 13.6**	**-0.5**
JKRS	**Kuro-shima**	**1.17**	**63**	P	**Pn**	**16 36 03.7**	**+0.7**
JKRS				*e*S	**Sn**	**16 36 17.6**	**-0.5**
SHUL	**Shoufeng**	**1.20**	**274**	*e*S	**Sn**	**16 36 18.7**	**-0.1**
	baz=267						
TWD	**Chiawan**	**1.23**	**288**	*e*S	**Sb**	**16 36 19.1**	**-1.1**
	baz=271						
EWUT	**Wuta**	**1.24**	**307**	*e*P	**Pb**	**16 36 05.6**	**+0.5**
	baz=301						
EWUT				*e*S	**Sb**	**16 36 19.8**	**-0.9**
	baz=301						
NACB	**Ninganchiao**	**1.26**	**292**	*e*P	**Pb**	**16 36 05.3**	**0.0**
	baz=275						
NACB				*e*S	**Sn**	**16 36 19.6**	**-0.6**
	baz=275						
ENA	**Nanau**	**1.26**	**305**	*e*P	**Pb**	**16 36 05.3**	**-0.1**
	baz=308						
ESL	**Shilin**	**1.32**	**275**	P	**Pn**	**16 36 05.5**	**+0.5**
	baz=261						
ESL				S	**Sn**	**16 36 21.3**	**-0.5**
	baz=261						
EGFH	**Guangfu**	**1.32**	**269**	*e*P	**Pn**	**16 36 05.0**	**0.0**
	baz=263						
JIJ	**Ishigaki jima**	**1.34**	**60**	P	**Pn**	**16 36 05.4**	**+0.1**
JIJ				S	**Sn**	**16 36 21.7**	**-0.6**
HGSD	**Ruisui**	**1.34**	**261**	*i* P	**Pn**	**16 36 06.1**	**+0.8**
	baz=255						
HGSD				S	**Sn**	**16 36 21.7**	**-0.6**
	baz=255						
WARBT	**Fenglin Townsh**	**1.36**	**271**	P	**Pn**	**16 36 05.7**	**+0.2**
	baz=257						
WARBT				S	**Sn**	**16 36 22.8**	**0.0**
	baz=257						
ETLH	**Xiulin Townshi**	**1.36**	**292**	*e*P	**Pb**	**16 36 07.1**	**-0.1**
	baz=277						
ETLH				*e*S	**Sb**	**16 36 23.7**	**-0.6**
	baz=277						
LXIB	**Xiulin Townshi**	**1.37**	**284**	*e*P	**Pn**	**16 36 05.4**	**-0.4**
	baz=268						
EHY	**Hungye**	**1.43**	**263**	P	**Pn**	**16 36 07.8**	**+1.3**
	baz=256						
EHY				*e*S	**Sn**	**16 36 25.4**	**+0.8**
	baz=256						
EYUL	**Yuli**	**1.47**	**256**	P	**Pn**	**16 36 08.7**	**+1.7**
	baz=244						
YULB	**Yu-li**	**1.47**	**258**	P	**Pn**	**16 36 08.2**	**+1.1**
	baz=246						
YULB				S	**Sb**	**16 36 27.0**	**-0.4**
	baz=246						
LATG	**Datong**	**1.48**	**304**	*e*P	**Pn**	**16 36 07.5**	**+0.2**
	baz=299						
LATG				*e*S	**Sb**	**16 36 26.3**	**-1.4**
	baz=299						
TWF1	**Yuli**	**1.48**	**257**	*i* P	**Pn**	**16 36 08.6**	**+1.3**
	baz=244						
TWF1				S	**Sn**	**16 36 26.5**	**+0.7**
	baz=244						
TWE	**Neicheng**	**1.50**	**313**	*e*P	**Pb**	**16 36 08.9**	**-0.5**
	baz=309						
TWE				*e*S	**Sn**	**16 36 25.8**	**-0.3**
	baz=309						
ENTT	**Nioudou**	**1.51**	**308**	P	**Pb**	**16 36 09.4**	**-0.3**
	baz=304						
ENTT				S	**Sb**	**16 36 27.0**	**-1.6**
	baz=304						
FULB	**Fuli**	**1.53**	**251**	P	**Pn**	**16 36 08.8**	**+0.8**
	baz=238						
NDT	**Datong Townshi**	**1.53**	**306**	*e*P	**Pn**	**16 36 08.5**	**+0.5**
	baz=291						
NNSB	**Datong**	**1.54**	**298**	*e*P	**Pn**	**16 36 09.2**	**+1.1**
	baz=284						
NNSB				*e*S	**Sn**	**16 36 26.8**	**-0.6**
	baz=284						
FUSB	**Fushanzhiwuyua**	**1.57**	**312**	*e*P	**Pn**	**16 36 09.7**	**+1.1**
	baz=308						
TIPB	**Shuangxi**	**1.58**	**323**	*e*P	**Pn**	**16 36 09.3**	**+0.6**
	baz=326						
VWDT	**VWDT**	**1.58**	**272**	P	**Pn**	**16 36 10.3**	**+1.7**
	baz=260						
VWDT				*e*S	**Sn**	**16 36 29.0**	**+0.7**
	baz=260						
JISG	**Ishigakijimahi**	**1.59**	**56**	*e*P	**Pn**	**16 36 08.5**	**-0.1**
CHGB	**Renai**	**1.59**	**283**	*e*P	**Pn**	**16 36 09.9**	**+0.9**
	baz=271						
CHGB				S	**Sn**	**16 36 29.1**	**+0.2**
	baz=271						
EDH	**Donghe**	**1.61**	**244**	*e*P	**Pn**	**16 36 09.2**	**+0.2**
	baz=232						
EDH				*e*S	**Sn**	**16 36 27.9**	**-1.0**
	baz=232						
WUSB	**Renai**	**1.63**	**281**	*e*P	**Pn**	**16 36 10.4**	**+1.0**
	baz=275						
NWLT	**Wulai**	**1.65**	**311**	*e*P	**Pb**	**16 36 10.9**	**-1.1**
	baz=307						
NWLT				*e*S	**Sb**	**16 36 29.9**	**-2.4**
	baz=307						
SXI1	**Grass Mountain**	**1.66**	**327**	P	**Pn**	**16 36 10.2**	**+0.4**
	baz=324						
YHNB	**Yeheng**	**1.67**	**306**	*i* P	**Pb**	**16 36 11.4**	**-1.0**
	baz=301						
YHNB				S	**Sn**	**16 36 30.0**	**-0.6**
	baz=301						
NSK	**Sanguang**	**1.69**	**305**	*i* P	**Pn**	**16 36 11.4**	**+1.2**
	baz=301						
NSK				S	**Sn**	**16 36 30.3**	**-0.7**
	baz=301						
TWA	**Mucha**	**1.73**	**318**	*e*P	**Pn**	**16 36 11.4**	**+0.7**
	baz=314						
SSLB	**Suanglung**	**1.76**	**273**	*e*P	**Pb**	**16 36 14.2**	**+0.4**
	baz=268						
ELDTW	**Lidu**	**1.77**	**254**	*i* P	**Pn**	**16 36 12.8**	**+1.4**
	baz=240						
ELDTW				S	**Sn**	**16 36 33.2**	**0.0**
	baz=240						
LONT	**Longtian**	**1.78**	**244**	*e*P	**Pn**	**16 36 13.2**	**+1.7**
	baz=234						
WHYT	**Xinyi Township**	**1.85**	**270**	*e*P	**Pb**	**16 36 14.7**	**-0.7**
	baz=260						
NFF	**Wufeng Townshi**	**1.85**	**300**	*e*P	**Pb**	**16 36 14.9**	**-0.6**
	baz=295						
NFF				*e*S	**Sb**	**16 36 35.9**	**-2.3**
	baz=295						
TYC	**Yuchr**	**1.85**	**277**	*e*P	**Pn**	**16 36 13.5**	**+1.2**
	baz=272						
TWGBT	**Beinan**	**1.86**	**242**	*e*P	**Pn**	**16 36 12.9**	**+0.4**
	baz=232						
TWG	**Pinlang**	**1.87**	**242**	*e*P	**Pn**	**16 36 12.8**	**+0.2**
	baz=232						
ALS	**Alishan**	**1.90**	**265**	*e*P	**Pn**	**16 36 15.5**	**+2.2**
	baz=260						
LIOB	**Emei**	**1.94**	**299**	*e*P	**Pb**	**16 36 16.5**	**-0.4**
	baz=294						
LIOB				*e*S	**Sb**	**16 36 39.4**	**-1.3**
	baz=294						
NSTT	**Nanjuang**	**1.94**	**299**	*e*P	**Pn**	**16 36 14.7**	**+1.1**
	baz=294						
STYH	**Taoyuan**	**1.99**	**255**	*e*P	**Pn**	**16 36 16.6**	**+2.3**
	baz=244						
TPUB	**Ta-pu**	**2.09**	**260**	*e*P	**Pb**	**16 36 19.0**	**-0.6**
	baz=248						
WCKO	**Fanlu**	**2.09**	**263**	*e*P	**Pb**	**16 36 19.0**	**-0.6**
	baz=259						
CHN4	**Tsaushan**	**2.12**	**261**	*e*P	**Pb**	**16 36 20.2**	**+0.3**
	baz=250						
WTP	**Ta-pu**	**2.12**	**258**	P	**Pb**	**16 36 19.7**	**-0.3**
	baz=254						
SLGT	**Liugui**	**2.16**	**251**	*e*P	**Pn**	**16 36 19.1**	**+2.5**
	baz=242						
SGST	**Jiashian**	**2.19**	**254**	*e*P	**Pn**	**16 36 19.2**	**+2.3**
	baz=250						
CHN1	**Nanshi**	**2.21**	**257**	*e*P	**Pb**	**16 36 21.5**	**-0.1**
	baz=253						
TWK	**Hsinying**	**2.23**	**259**	*e*P	**Pn**	**16 36 20.5**	**+2.9**
	baz=255						
SNST	**Tainan City**	**2.23**	**258**	*e*P	**Pb**	**16 36 21.0**	**-0.9**
	baz=254						

*DJA **12** 16:50:46.8±0.9, 3°.N±6°.×12°.8E±°, h236km±14km, M4.1/10, mb3.9/3, mB4.8/1, MLv4.1/10, Mw(mB)4.1/1*
*IDC **12** 16:50:46.8±2.2, 2°.72N×128°.65E, h244km±21km, mb3.6/14, mbtmp4.2/14, Error ellipse: s-maj=23.4km s-min=9.8km az=77.0*
ISC 12 16:50:47.1±0.7, 2°.67N±0°.08×128°.51E±0°.09, h250km, n23, σ0°.94/26, mb3.8/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.20**	**211**	P	**Pn**	**16 51 30.4**	**-1.1**
SGSI	**Sangihe**	**3.15**	**289**	P	**Pn**	**16 51 39.7**	**-1.5**
LBMI	**Labuha**	**3.43**	**197**	P	**Pn**	**16 51 43.7**	**-0.8**
SWI	**Sorong**	**4.45**	**142**	P	**Pn**	**16 51 56.1**	**-0.2**
SJI	**Sorong**	**4.46**	**142**	P	**Pn**	**16 51 56.1**	**-0.3**
KMSI	**Cibinong**	**4.98**	**245**	P	**Pn**	**16 52 02.3**	**-0.4**
SANI	**Sanana**	**5.32**	**208**	P	**Pn**	**16 52 05.1**	**-1.8**
	87nm,0.8s,2μm0.4nm						
GTOI	**Gorontalo**	**5.86**	**250**	P	**Pn**	**16 52 14.2**	**+0.7**
	7.5nm,0.6s,0.0nm						
NLAI	**Namlea**	**6.03**	**194**	P	**Pn**	**16 52 14.5**	**-1.2**
WRA	**Warramunga Arr**	**23.18**	**166**	P	**P**	**16 55 32.0**	**-0.1**
	1.0nm,0.3s,baz=340,slow=10,SNR=46						
WRA				ScP	**ScP**	**17 02 27.1**	**+0.4**
	0.4nm,0.7s,baz=350,slow=3.0,SNR=1.7						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**26.69**	**169**	P	**P**	**16 56 04.0**	**+0.3**
	0.7nm,0.3s,baz=354,slow=7.0,SNR=40						
ASAR				PcP	**PcP**	**16 59 20.8**	**+0.3**
	0.2nm,0.4s,baz=335,slow=1.7,SNR=1.2						
ASAR				ScP	**ScP**	**17 02 37.9**	**+1.2**
	0.7nm,1.0s,baz=336,slow=3.0,SNR=2.0						
	0.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.94**	**301**	P	**P**	**16 57 00.5**	**+1.8**
	0.9nm,0.8s,baz=120,slow=6.9,SNR=6.8						
	0.9nm,0.8s						
KSRS	**Korea Array**	**34.62**	**359**	P	**P**	**16 57 12.8**	**0.0**
	1.8nm,0.6s,baz=175,slow=9.5,SNR=8.3						
	1.8nm,0.6s						
MJAR	**Matsushiro Arr**	**34.88**	**14**	P	**P**	**16 57 13.3**	**-1.8**
	2.4nm,0.7s,baz=191,slow=9.0,SNR=6.3						
	2.4nm,0.7s						
STKA	**Stephens Creek**	**36.53**	**161**	P	**P**	**16 57 29.5**	**+0.4**
	1.5nm,0.3s,baz=340,slow=8.0,SNR=8.3						
	1.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**41.47**	**4**	P	**P**	**16 58 09.6**	**-0.2**
	1.5nm,0.6s,baz=202,slow=7.4,SNR=4.4						
	1.5nm,0.6s						
ASAJ	**Asahikawa**	**43.12**	**15**	P	**P**	**16 58 23.1**	**+0.2**
	7.3nm,0.9s,baz=260,slow=8.1,SNR=4.7						
	7.3nm,0.9s						
PETK	**Petropavlovsk-**	**55.76**	**21**	P	**P**	**16 59 58.4**	**+0.4**
	1.9nm,0.9s,baz=195,slow=5.9,SNR=5.8						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**17 00 24.4**	**+0.5**
	0.9nm,0.4s,baz=115,slow=8.2,SNR=20						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**62.34**	**333**	P	**P**	**17 00 42.5**	**-0.6**
	0.4nm,0.3s,baz=152,slow=5.1,SNR=2.6						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**63.59**	**327**	P	**P**	**17 00 51.6**	**+0.2**
	2.5nm,0.6s,baz=127,slow=6.0,SNR=33						
	2.5nm,0.6s						
BVAR	**Borovoye Array**	**69.18**	**327**	P	**P**	**17 01 26.7**	**0.0**
	2.0nm,0.8s,baz=120,slow=8.9,SNR=5.3						
	2.0nm,0.8s						
ARCES	**ARCESS Array B**	**92.05**	**340**	P	**P**	**17 03 26.3**	**-1.2**
	5.8nm,1.0s,baz=91,slow=6.3,SNR=2.4						
	5.8nm,1.0s						

*MOS **12** 16:52:37.7±1.8, 56°.29N×117°.97E, h8km, mb4.0/3, Error ellipse: s-maj=11.0km s-min=7.5km az=84.3*
*IDC **12** 16:52:39.0±0.9, 56°.16N×117°.84E, h0km, mb3.6/10, mbtmp3.6/14, ML3.5/4, MS2.5/1, Error ellipse: s-maj=21.5km s-min=11.7km az=147.0*
*BYKL **12** 16:52:39.4±0.2, 56°.29N×117°.86E*
ISC 12 16:52:38.7±0.5, 56°.20N±0°.02×117°.75E±0°.02, h10km, n72, σ2°.92/122, mb3.6/10, 7C-4D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.76**	**22**	⇑*i*Pg	**Pg**	**16 52 51.7**	**-1.7**
CRS				Pmax		16 52 54.7	
	570nm,0.8s						
CRS				*e*Sg	**Sg**	**16 53 00.5**	**-2.9**
CRS				*e*Sb	**Sn**	**16 53 05.0**	**-2.2**
CRS				max		16 53 06.2	
	961nm,0.8s						
CRS	**Chara**	**0.76**	**22**	⇑*i*PG	**Pg**	**16 52 51.3**	**-2.1**
CRS				*e*		16 53 01.1	
CRS				pmax	pmax		
	comp=Z,581nm,0.7s						
CRS				smax	smax		
	comp=N,963nm,0.5s						
NLYR	**Nelyaty**	**1.18**	**285**	⇑*i*Pg	**Pg**	**16 53 01.0**	**-0.3**
NLYR				*e*Pb	**Pn**	**16 53 03.2**	**+1.9**
NLYR				max		16 53 03.4	
	comp=N,654nm,0.4s						
NLYR				*e*		16 53 05.3	
NLYR				*e*Sg	**Sn**	**16 53 17.2**	**-0.3**
NLYR				*e*Sb	**Sg**	**16 53 21.1**	**+4.4**
NLYR				max		16 53 21.6	
	comp=N,7μm,0.7s						
NLYR	**Nelyaty**	**1.18**	**285**	*e*PG	**Pg**	**16 53 01.1**	**-0.3**
NLYR				*e*		16 53 18.1	
NLYR				pmax	pmax		
	comp=Z,618nm,0.4s						
NLYR				smax	smax		
	comp=N,7μm,0.8s						
TUP	**Tupik**	**2.17**	**144**	⇑*i*Pn	**Pb**	**16 53 16.9**	**-1.3**
TUP				*e*Pg	**Pg**	**16 53 18.9**	**-1.5**
TUP				Pmax		16 53 19.3	
	comp=N,798nm,0.5s						
TUP				*e*Sn	**Sb**	**16 53 45.0**	**-0.2**
TUP				*e*Sg	**Sg**	**16 53 47.8**	**-0.8**
TUP				*e*SgSg	**SnSn**	**16 53 58.9**	**+6.3**
TUP				max		16 54 00.7	
	comp=N,736nm,0.6s						
TUP	**Tupik**	**2.17**	**144**	⇑*i*PN	**Pb**	**16 53 16.7**	**-1.5**
TUP				*e*		16 53 18.9	
TUP				*e*S	**Sn**	**16 53 42.0**	**0.0**
TUP				*e*		16 53 47.2	
TUP				pmax	pmax		
	comp=Z,803nm,0.5s						
TUP				smax	smax		
	comp=E,561nm,0.3s						
YKLR	**Yuktali**	**2.20**	**78**	*e*Pn	**Pb**	**16 53 16.1**	**-2.6**
YKLR				*e*Pg	**Pg**	**16 53 17.8**	**-3.2**
YKLR				*e*Sg	**Sb**	**16 53 44.9**	**-1.1**
YKLR				*e*		16 53 46.7	
SVKR	**Severomuysk**	**2.35**	**270**	*e*Pn	**Pb**	**16 53 19.5**	**-1.6**
SVKR				*e*Pg	**Pg**	**16 53 22.9**	**-0.8**
SVKR				*e*		16 53 25.2	
SVKR				max		16 53 25.6	
	comp=E,354nm,0.5s						
SVKR				*e*Sg	**Sg**	**16 53 54.4**	**+0.3**
SVKR				Smax		16 53 55.2	
	comp=E,2μm,0.4s						
SVKR	**Severomuysk**	**2.35**	**270**	*e*PN	**Pg**	**16 53 22.7**	**-1.0**
SVKR				*e*		16 53 54.3	
SVKR				pmax	pmax		
	comp=Z,356nm,0.5s						
SVKR				smax	smax		
	comp=N,2μm,0.5s						
UKT	**Uakit**	**2.43**	**255**	⇓*i*Pn	**Pb**	**16 53 21.1**	**-1.5**
UKT				*e*Pg	**Pg**	**16 53 24.2**	**-1.1**
UKT				Pmax		16 53 34.2	
	comp=N,109nm,0.7s						
UKT				*e*Sn	**Sb**	**16 53 51.3**	**-1.4**
UKT				*e*Sg	**Sg**	**16 53 56.9**	**+0.1**
UKT				Smax		16 54 00.7	
	comp=N,779nm,0.7s						
UKT				*e*SgSg	**SnSn**	**16 54 07.7**	**+8.7**
BOD	**Bodaibo**	**2.62**	**310**	*e*Pn	**Pb**	**16 53 22.0**	**-3.7**
BOD				*e*Pg	**Pg**	**16 53 26.0**	**-2.9**
BOD				Pmax		16 53 28.2	
	comp=N,417nm,0.9s						
BOD				*e*Sg	**Sg**	**16 54 00.0**	**-2.8**
BOD				Smax		16 54 02.2	
	comp=N,2μm,0.4s						
BOD	**Bodaibo**	**2.62**	**310**	*e*PN	**Pb**	**16 53 25.8**	**+0.1**
BOD				*e*		16 54 00.3	
BOD				pmax	pmax		
	comp=Z,417nm,0.9s						
BOD				smax	smax		
	comp=E,1μm,0.5s						
YOA	**Uoyan**	**3.37**	**271**	*e*Pg	**Pg**	**16 53 41.3**	**-2.1**
YOA				Pmax		16 53 51.1	
	comp=E,157nm,0.5s						
YOA				*e*Sn	**Sn**	**16 54 13.9**	**+2.4**
YOA				*e*Sg	**Sg**	**16 54 26.1**	**-0.9**
YOA				*e*		16 54 38.5	
YOA				max		16 54 44.2	
	comp=E,2μm,0.7s						
YOA	**Uoyan**	**3.37**	**271**	*e*PN	**Pg**	**16 53 41.2**	**-2.1**
YOA				*i*		16 54 27.3	
YOA				pmax	pmax		
	comp=Z,93nm,0.4s						
YOA				smax	smax		
	comp=E,1μm,0.6s						
KMO	**Kumora**	**3.69**	**268**	*e*Pn	**Pn**	**16 53 37.8**	**+2.0**
KMO				*e*Pg	**Pg**	**16 53 46.1**	**-3.3**
KMO				Pmax		16 53 56.0	
	comp=E,60nm,0.6s						
KMO				*e*Sn	**Sn**	**16 54 21.0**	**+1.7**
KMO				*e*Sg	**Sg**	**16 54 35.5**	**-1.6**
KMO				Smax		16 54 49.9	
	comp=E,521nm,0.8s						
YLYR	**Ulyunkhan**	**3.97**	**253**	⇓*i*Pn	**Pn**	**16 53 42.5**	**+2.8**
YLYR				*e*Pg	**Pg**	**16 53 52.2**	**-2.6**
YLYR				Pmax		16 53 54.3	
	comp=E,49nm,1.3s						
YLYR				*e*Sn	**Sn**	**16 54 27.2**	**+0.9**
YLYR				*e*Sg	**Sg**	**16 54 45.3**	**-0.9**
YLYR				Smax		16 54 50.4	
	comp=E,473nm,1.0s						
YLYR	**Ulyunkhan**	**3.97**	**253**	*e*PN	**Pn**	**16 53 42.4**	**+2.8**
YLYR				*e*		16 53 51.2	
YLYR				*e*		16 54 44.2	
YLYR				pmax	pmax		
	comp=Z,23nm,0.6s						
YLYR				smax	smax		
	comp=E,475nm,1.0s						
CLNS	**Chul'man**	**4.01**	**78**	*e*Pn	**Pn**	**16 53 40.8**	**+0.6**
CLNS				*e*Pg	**Pb**	**16 53 49.9**	**+0.5**
CLNS				*e*Sn	**Sn**	**16 54 24.2**	**-3.0**
CLNS				*e*Sg	**Sb**	**16 54 40.5**	**+2.6**
VTMR	**Vitim**	**4.28**	**322**	*e*Pn	**Pn**	**16 53 45.0**	**+1.1**
VTMR				*e*Pg	**Pg**	**16 53 56.1**	**-4.6**
VTMR				*e*Sn	**Sn**	**16 54 33.8**	**0.0**
VTMR				*e*Sg	**Sg**	**16 54 50.7**	**-5.3**
NIZB	**Nizh Angarsk**	**4.63**	**268**	*e*Pn	**Pn**	**16 53 51.1**	**+2.4**
NIZB				*e*		16 53 54.1	
NIZB				*e*Pg	**Pg**	**16 54 04.6**	**-2.8**
NIZB				Pmax		16 54 11.4	
	comp=E,28nm,0.8s						
NIZB				*e*		16 54 13.7	
NIZB				*e*Sg	**Sg**	**16 55 05.3**	**-2.0**
NIZB				Smax		16 55 15.7	
	comp=E,193nm,1.1s						
NIZB				*e*		16 55 20.1	
CIT	**Chita**	**4.86**	**212**	*e*Sn	**Sn**	**16 54 50.6**	**+2.4**
CIT				*e*Sg	**Sg**	**16 55 13.9**	**-0.7**
CIT				Smax		16 55 16.4	
	comp=E,517nm,0.7s						
CIT	**Chita**	**4.86**	**212**	*e*PN	Pn	16 53 56.1	+4.2
CIT				*e*		16 54 10.6	
CIT				*e*		16 55 13.4	
CIT				pmax	pmax		
	comp=Z,20nm,2.7s						
CIT				smax	smax		
	comp=N,385nm,1.2s						
SYVR	**Suvo**	**5.14**	**244**	*e*Pn	**Pn**	**16 53 58.6**	**+2.8**
SYVR				*e*Pg	**Pg**	**16 54 13.0**	**-4.2**
SYVR				Pmax		16 54 15.8	
	comp=N,26nm,0.3s						
SYVR				*e*Sn	**Sn**	**16 54 56.1**	**+1.0**
SYVR				*e*Sg	**Sg**	**16 55 21.8**	**-2.0**
SYVR				Smax		16 55 27.2	
	comp=N,240nm,0.7s						
SYVR	**Suvo**	**5.14**	**244**	*e*PN	**Pn**	**16 53 58.4**	**+2.6**
SYVR				*e*		16 54 12.8	
SYVR				*e*		16 55 21.9	
SYVR				pmax	pmax		
	comp=Z,27nm,1.0s						
SYVR				smax	smax		
	comp=N,247nm,0.7s						
MXMB	**Maximikha**	**5.99**	**244**	*e*Sg	**Sg**	**16 55 47.9**	**-2.9**
ZEA	**Zeya**	**6.00**	**110**	*e*PN	**Pn**	**16 54 09.2**	**+1.7**
ZEA				*e*		16 54 27.6	
ZEA				*e*S	**Sn**	**16 55 13.6**	**-2.5**
ZEA				*e*		16 55 47.4	
ZEA				pmax	pmax		
	comp=E,30nm,0.6s						
ZEA				pmax	pmax		
	comp=N,20nm,0.5s						

comp=Z,22nm,1.6s
OGRR eSn Sn 16 55 25.4 -0.4
OGRR eSg Sg 16 55 59.1 -4.6
OGRR Smax 16 56 11.3
comp=Z,92nm,1.9s
OGRR e 16 56 21.0
OGRR Ongureny 6.39 251 ePN **Pn 16 54 15.3 +2.4**
OGRR e 16 54 35.6
OGRR e 16 55 59.1
OGRR pmax pmax
comp=Z,8.0nm,0.9s
OGRR smax smax
comp=N,91nm,2.7s
UZR Uzur 6.47 248 ePg Pg 16 54 37.7 -4.8
UZR Pmax 16 54 48.0
comp=N,25nm,1.2s
UZR eSn **Sn 16 55 27.2 -0.6**
UZR eSg **Sg 16 56 01.7 -4.5**
UZR Smax 16 56 13.0
comp=N,90nm,0.7s
KELR Kotokel 6.60 243 eSg **Sg 16 56 07.2 -3.3**
KELR e 16 56 25.7
KPC Khapcheranga 7.27 209 ePn **Pn 16 54 26.3 +1.3**
KPC ePg **Pg 16 54 53.0 -4.8**
KPC Pmax 16 54 59.1
comp=N,7.0nm,0.5s
KPC e 16 55 45.9
KPC eSg **Sg 16 56 27.7 -4.1**
KPC Smax 16 56 33.3
comp=N,101nm,1.3s
KPC Khapcheranga 7.27 209 ePN **Pn 16 54 26.0 +1.0**
KPC e 16 54 50.0
KPC e 16 56 24.7
KPC pmax pmax
comp=Z,3.0nm,0.4s
KPC smax smax
comp=E,101nm,1.1s
UUDB Ulan-Yde 7.35 238 eSg **Sg 16 56 29.1 -5.5**
UUDB e 16 56 42.1
UUDB max 16 56 46.5
comp=E,160nm,0.9s
TRG Tyrgan 7.48 247 ePn **Pn 16 54 30.1 +2.2**
TRG max 16 55 01.8
comp=E,4.0nm,0.7s
TRG eSn **Sn 16 55 52.0 -0.7**
TRG eSg **Sg 16 56 33.2 -5.5**
TRG Smax 16 56 49.8
comp=E,57nm,1.6s
TRG Tyrgan 7.48 247 ePG **Pg 16 54 57.4 -4.5**
FFNB Fofonovo 7.68 242 eSg **Sg 16 56 39.5 -5.4**
FFNB e 16 57 01.6
KAB Kabansk 7.73 242 eSg **Sg 16 56 41.5 -5.1**
KAB Smax 16 57 05.7
comp=E,777nm,1.5s
HRMR Khuramsha 7.84 239 ePn **Pn 16 54 35.7 +2.9**
HRMR e 16 54 42.1
HRMR max 16 55 07.5
comp=E,11nm,0.7s
HRMR eSn **Sn 16 56 01.0 -0.6**
HRMR eSg **Sg 16 56 45.3 -5.0**
HRMR Smax 16 56 59.6
comp=E,446nm,0.8s
BGT Bolshoye Golou 8.36 245 eSg **Sg 16 57 01.5 -5.2**
BGT Smax 16 57 12.2
comp=E,39nm,1.6s
YAK Yakutsk 8.47 41 ePN **Pn 16 54 38.8 -2.5**
YAK e 16 55 07.8
YAK e 16 56 09.2
YAK pmax pmax
comp=Z,3.0nm,0.4s
YAK pmax pmax
comp=Z,5.0nm,0.4s
YAK smax smax
comp=E,10.0nm,0.6s
YAK smax smax
comp=N,15nm,0.6s
YAK Yakutsk 8.47 41 Pn **Pn 16 54 40.7 -0.5**
baz=244,slow=0.7,SNR=1.8
YAK Sn **Sn 16 56 12.4 -4.4**
comp=N,0.1nm,0.3s,baz=57,slow=22,SNR=6.7
YAK Lg Lg 16 56 55.8
comp=N,0.1nm,0.3s,baz=306,slow=23,SNR=6.5
LSTR Listvyanka 8.75 246 ePn **Pn 16 54 47.9 +2.7**
LSTR ePg Pg 16 55 18.0 -8.1
LSTR Pmax 16 55 23.2
comp=N,6.0nm,0.8s
LSTR eSn **Sn 16 56 21.5 -2.3**
LSTR eSg **Sg 16 57 12.6 -6.7**
LSTR Smax 16 57 28.0
comp=N,48nm,2.0s
IVK Ivanovka 9.00 246 eSg Sn 16 57 19.9 +50
IVK Smax 16 57 47.6
comp=N,31nm,1.8s
TLY Talaya 9.47 247 ePg Pn 16 55 31.0 +36
TLY Pmax 16 55 32.2
comp=N,3.0nm,0.3s
TLY eSg Sn 16 57 35.2 +54
TLY Smax 16 58 01.2
comp=N,20nm,0.8s
ARS Arshan 9.97 251 e 16 57 33.4
ARS eSg Sn 16 57 49.4 +55
ARS Smax 16 58 16.0
comp=N,112nm,1.3s
MOY Mondy 10.86 252 eP Pn 16 55 25.8 +12
SONM Songino Array 10.90 225 Pn **Pn 16 55 16.8 +2.0**
comp=N,0.3nm,0.3s,baz=32,slow=13,SNR=11
SONM Lg Lg 16 58 23.5
comp=N,1.5nm,0.3s,baz=32,slow=27,SNR=9.9
comp=N,0.4nm,0.3s
KLR Kul'dur 10.97 124⇑ *i*P **Pn 16 55 17.7 +2.1**
KLR Kul'dur 10.97 124 Pn **Pn 16 55 16.9 +1.3**
comp=N,0.5nm,0.3s,baz=314,slow=14,SNR=9.4
KLR Sn **Sn 16 57 10.8 -7.5**
comp=N,0.5nm,0.3s,baz=100,slow=11,SNR=3.0
KLR Lg Lg 16 58 25.0
comp=N,0.4nm,0.3s,baz=64,slow=14,SNR=5.3
comp=N,1.8nm,0.5s
TIXI Tiksi 16.21 13⇑ *e*P **Pn 16 56 23.7 -2.5**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 16.21 13 Pn **Pn 16 56 22.8 -3.4**
baz=186,slow=18,SNR=6.3
TIXI Sn Sn 16 59 11.1 -15
baz=360,slow=19,SNR=2.8
SEY Seymchan 18.60 55 P **Pn 16 56 56.6 +0.5**
comp=Z,0.6nm,0.6s,baz=34,slow=22,SNR=1.9
SEY Lg Lg 17 02 23.1
baz=299,slow=14,SNR=4.6
NRIK Noril'sk 18.80 326⇓ *e*P **P 16 56 55.7 -2.2**
NRIK Noril'sk 18.80 326 P **P 16 56 55.9 -2.0**
comp=Z,1.8nm,0.4s,baz=123,slow=11,SNR=5.6
NRIK S Sn 17 00 12.4 -16
comp=Z,0.9nm,0.4s,baz=7.9,slow=6.8,SNR=1.9
NRIK Lg Lg 17 02 34.4
comp=Z,0.1nm,0.3s,baz=222,slow=22,SNR=3.6
ZALV Zalesovo Beam 18.89 277 P **Pn 16 57 02.4 +2.7**
comp=Z,0.1nm,0.3s,baz=237,slow=38,SNR=2.1
ZALV Lg Lg 17 02 35.3
comp=Z,0.1nm,0.3s,baz=63,slow=29,SNR=1.5
comp=Z,1.0nm,0.7s
KSRS Korea Array 19.96 156 LR LR 17 04 19.1
comp=Z,15nm,20.1s,baz=155,slow=35
KURK Kurchatov 23.69 273 P **P 16 57 53.7 +3.4**
MK31 Makanchi Array 23.75 262⇓ *e*P **P 16 57 53.6 +2.6**
MKAR Makanchi Array 23.75 262 P **P 16 57 53.9 +2.9**
comp=Z,0.5nm,0.7s,baz=58,slow=8.2,SNR=6.8
comp=Z,0.5nm,0.7s
KURBB Kurchatov Arra 23.79 273 P **P 16 57 53.7 +2.5**
comp=Z,0.5nm,0.9s,baz=66,slow=9.7,SNR=3.6
comp=Z,0.5nm,0.9s
BVAR Borovoye Array 27.19 283 P **P 16 58 24.6 +2.4**
comp=Z,0.5nm,0.5s,baz=54,slow=7.5,SNR=3.6
comp=Z,0.5nm,0.5s
ILAR Eielson Array 43.38 38 P **P 17 00 43.1 +2.4**
comp=Z,0.5nm,0.9s,baz=292,slow=5.7,SNR=4.6
comp=Z,0.5nm,0.9s
FINES FINESS Array B 44.00 316 *e*P **P 17 00 45.6 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 44.00 316 P **P 17 00 47.3 +1.5**
comp=Z,1.8nm,0.7s,baz=353,slow=8.1,SNR=5.8
comp=Z,1.8nm,0.7s
HFS Hagfors 49.47 320 P **P 17 01 29.3 +0.7**
comp=Z,2.4nm,0.9s,baz=88,slow=3.4,SNR=2.4
comp=Z,2.4nm,0.9s
AKASG Malin Array Be 49.53 303 *e*P **P 17 01 29.8 +0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 49.53 303 P **P 17 01 31.1 +1.9**
comp=Z,0.9nm,0.7s,baz=41,slow=8.6,SNR=5.4
comp=Z,0.9nm,0.7s
NOA NORSAR Array B 49.69 322 P **P 17 01 31.6 +1.3**
comp=Z,0.3nm,0.6s,baz=100,slow=14,SNR=1.6
comp=Z,0.3nm,0.6s
GERES GERESS Array B 57.80 311 P **P 17 02 33.2 +3.3**
comp=Z,0.9nm,0.8s,baz=23,slow=7.2,SNR=3.5
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 77.13 164 *i*P **P 17 04 32.4 +0.2**
WRA Warramunga Arr 77.13 164 P **P 17 04 33.1 +1.0**
comp=Z,0.5nm,0.7s,baz=353,slow=6.6,SNR=5.1
comp=Z,0.5nm,0.7s

TAP ***12*** *17:03:13.3,24.°68N×122.°95E,h132km±1km, ML2.8, D*
JMA ***12*** *17:03:13.5±0.3,25.°1N±3.°×123.0E±0.°8,h124km±2km,*
MV2.0/13, NW OFF ISHIGAKIJIMA IS
ISC 12 17:03:12.7±1.9, 24.°70N±0.°07×122.°99E±0.°03,
h133km±11km, n65, σ0.°81/113, Taiwan region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YOJ Yonaguni jima 0.24 175 P **Pn 17 03 31.1 +0.2**
YOJ Yonaguni jima 0.24 175 *e*P **Pn 17 03 32.3 +1.4**
baz=167
YOJ *e*S **Sn 17 03 44.5 -0.2**
baz=167
JYNG Yonagunijimaku 0.25 189 *e*P **Pn 17 03 31.2 +0.2**
JYNG *e*S **Sn 17 03 44.0 -0.8**
EOS3 EOS3 0.74 236 P **Pn 17 03 34.3 +0.9**
baz=235
EOS3 S **Sn 17 03 49.9 +0.8**
baz=235
EOS2 EOS2 0.74 248 *i*P **Pn 17 03 33.9 +0.5**
baz=248
EOS2 *i*S **Sn 17 03 49.6 +0.4**
baz=248
IRIF Iriomote-Funau 0.77 118 P **Pn 17 03 34.0 +0.2**
IRIF *e*S **Sn 17 03 49.2 -0.5**
EOS4 EOS4 0.84 227 *i*P **Pn 17 03 34.5 +0.5**
baz=225
EOS4 S **Sn 17 03 50.5 +0.3**
baz=225
HATJ Hateruma jima 0.98 131 P **Pn 17 03 36.7 +1.1**
HATJ S **Sn 17 03 53.2 +0.2**
JKRS Kuro-shima 1.04 116 P **Pn 17 03 37.1 +1.0**
JKRS S **Sn 17 03 54.1 +0.2**
TWC Suao 1.04 265 *e*S **Sn 17 03 52.7 -1.3**
baz=265
TIPB Shuangxi 1.09 285 *i*P **Pn 17 03 36.8 +0.1**
baz=285
TIPB S **Sn 17 03 54.0 -1.0**
baz=285
JIJ Ishigaki jima 1.10 107 P **Pn 17 03 37.2 +0.4**
JIJ S **Sn 17 03 53.9 -1.1**
EWUT Wuta 1.13 257 P **Pn 17 03 37.7 +0.7**
baz=257
EWUT S **Sn 17 03 55.9 +0.3**
baz=257
ENA Nanau 1.17 257 *i*P **Pn 17 03 37.9 +0.5**
baz=256
ENA *i*S **Sn 17 03 55.8 -0.4**
baz=256
TWE Neicheng 1.20 271 *i*P **Pn 17 03 38.0 +0.3**
baz=271
TWE *i*S **Sn 17 03 56.1 -0.7**
baz=271
JISG Ishigakijimahi 1.21 95 P **Pn 17 03 37.9 +0.1**
JISG S **Sn 17 03 55.9 -1.0**
FUSB Fushanzhiwuyua 1.28 273 P **Pn 17 03 38.9 +0.3**
baz=273
FUSB S **Sn 17 03 57.0 -1.3**
baz=273
ENTT Nioudou 1.30 268 *i*P **Pn 17 03 39.4 +0.7**
baz=267
ENTT S **Sn 17 03 58.1 -0.5**
baz=267
LATG Datong 1.34 263 *i*P **Pn 17 03 40.1 +0.8**
baz=263
LATG S **Sn 17 03 59.1 -0.5**
baz=263
NDT Datong Townshi 1.35 266 P **Pn 17 03 39.9 +0.6**
baz=266
NDT S **Sn 17 03 59.6 +0.1**
baz=266
NWLT Wulai 1.35 274 *e*S **Sn 17 03 59.4 -0.3**
baz=274
ETL Fush Village 1.36 247 *e*P **Pn 17 03 40.1 +0.7**
baz=246
ETL S **Sn 17 03 59.2 -0.6**
baz=246
YM01 YM01 1.36 289 *e*P **Pn 17 03 39.0 -0.5**
baz=290
YM01 *e*S **Sn 17 03 59.5 -0.4**
baz=290
NACB Ninganchiao 1.38 248 P **Pn 17 03 39.1 -0.5**
baz=247
NACB S **Sn 17 03 59.0 -1.1**
baz=247
TWD Chiawan 1.41 244 *e*P **Pn 17 03 39.7 -0.2**
baz=243
TWD *e*S **Sn 17 03 59.4 -1.4**
baz=243
HWA Hwalien 1.45 241 *e*P **Pn 17 03 41.0 +0.6**
baz=239
HWA *e*S **Sn 17 04 01.8 +0.3**
baz=239
ETLH Xiulin Townshi 1.46 251 P **Pn 17 03 40.5 -0.1**
baz=250
ETLH S **Sn 17 04 00.8 -1.1**
baz=250
YHNB Yeheng 1.47 269 *i*S **Sn 17 04 01.2 -0.8**
baz=269
NSK Sanguang 1.48 269 *i*P **Pn 17 03 41.4 +0.5**
baz=269
NSK *i*S **Sn 17 04 01.7 -0.6**
baz=269
NNSB Datong 1.49 260 P **Pn 17 03 41.2 +0.3**
baz=259
NNSB S **Sn 17 04 01.3 -1.1**
baz=259
NNS Nan Shan 1.50 260 P **Pn 17 03 41.2 +0.2**
baz=260
NNS *e*S **Sn 17 04 02.1 -0.5**
baz=260
ETM Tongmen 1.55 242 P **Pn 17 03 41.4 -0.1**
baz=241
ETM S **Sn 17 04 02.6 -0.8**
baz=241
JTJ Tarama 1.56 92 S **Sn 17 04 02.8 -0.9**
SHUL Shoufeng 1.59 235 *e*P **Pn 17 03 41.7 -0.2**
baz=234
SHUL *e*S **Sn 17 04 05.1 +0.8**
baz=234
LXIB Xiulin Townshi 1.59 245 P **Pn 17 03 42.3 +0.2**
baz=244
LXIB S **Sn 17 04 03.3 -1.2**
baz=244
ESL Shilin 1.67 239 P **Pn 17 03 42.8 -0.1**
baz=237
ESL S **Sn 17 04 04.6 -1.4**
baz=237
NFF Wufeng Townshi 1.71 268 *e*P **Pn 17 03 42.8 -0.6**
baz=268
NFF S **Sn 17 04 05.8 -1.0**
baz=268
TWT Tachien 1.71 255 *e*S **Sn 17 04 07.0 -0.1**
baz=255
EGFH Guangfu 1.76 235 *e*P **Pn 17 03 43.6 -0.3**
baz=233
EGFH *e*S **Sn 17 04 06.9 -0.9**
baz=233
WARBT Fenglin Townsh 1.76 237 *i*P **Pn 17 03 44.0 0.0**
baz=236
WARBT S **Sn 17 04 06.4 -1.4**
baz=236
CHGB Renai 1.77 249 P **Pn 17 03 45.0 +0.6**
baz=249
CHGB S **Sn 17 04 08.1 -0.3**
baz=249
LIOB Emei 1.80 269 *e*P **Pn 17 03 45.4 +1.1**
baz=268
LIOB *e*S **Sn 17 04 08.3 -0.2**
baz=268
NSTT Nanjuang 1.81 268 *e*S **Sn 17 04 08.3 -0.5**
baz=268
OWD Renai 1.81 246 *i*P **Pn 17 03 45.5 +0.8**
baz=245
OWD S **Sn 17 04 07.9 -1.3**
baz=245
WUSB Renai 1.85 248 *i*P **Pn 17 03 46.0 +0.9**
baz=247
WUSB S **Sn 17 04 09.5 -0.3**
baz=247
HGSD Ruisui 1.87 230 P **Pn 17 03 45.3 +0.1**
baz=229
HGSD S **Sn 17 04 08.9 -1.2**
baz=229
WHP Taichung City 1.91 258 P **Pn 17 03 47.3 +1.5**
baz=257
WHP S **Sn 17 04 11.7 +0.6**
baz=257
EHY Hungye 1.93 232 *e*P **Pn 17 03 46.0 +0.1**
baz=231
VWDT VWDT 1.93 241 P **Pn 17 03 46.8 +0.9**
baz=240
VWDT S **Sn 17 04 11.2 -0.2**
baz=240
WCS Beigang Elemen 2.00 252 *e*P **Pn 17 03 48.3 +1.5**
baz=251
WCS *e*S **Sn 17 04 13.3 +0.4**
baz=251
YULB Yu-li 2.02 230 *e*P **Pn 17 03 46.0 -1.0**
baz=229
YULB *e*S **Sn 17 04 12.5 -0.9**
baz=229
EYUL Yuli 2.04 229 *e*P **Pn 17 03 47.4 +0.1**
baz=228
TWF1 Yuli 2.05 229 *e*P **Pn 17 03 47.4 0.0**
baz=228
SSLB Suanglung 2.07 244 *e*P **Pn 17 03 48.5 +0.8**
baz=243
SSLB *e*S **Sn 17 04 14.8 +0.4**
baz=243
SMLT Sun Moon Lake 2.07 247 P **Pn 17 03 49.3 +1.5**
baz=246
TYC Yuchr 2.10 248 P **Pn 17 03 49.6 +1.6**
baz=247
TYC *e*S **Sn 17 04 14.8 -0.2**
baz=247
FULB Fuli 2.15 226 *e*P **Pn 17 03 48.6 -0.1**
baz=225
FULB *e*S **Sn 17 04 16.6 +0.3**
baz=225
WHYT Xinyi Township 2.19 243 *e*P **Pn 17 03 51.0 +1.9**
baz=242
EHD Haiduan 2.25 227 *e*P **Pn 17 03 49.9 +0.1**
baz=226
EDH Donghe 2.31 222 *e*P **Pn 17 03 49.2 -1.4**
baz=221
EDH *e*S **Sn 17 04 17.9 -1.9**
baz=221
ELDTW Lidau 2.35 231 *i*P **Pn 17 03 51.9 +0.7**
baz=229
ELDTW S **Sn 17 04 20.5 -0.3**
baz=229
WCKO Fanlu 2.52 241 *e*P **Pn 17 03 53.5 +0.3**
baz=239
STYH Taoyuan 2.53 234 *e*P **Pn 17 03 54.5 +1.1**
baz=232
TPUB Ta-pu 2.57 238 *e*P **Pn 17 03 54.7 +0.8**
baz=237
WTP Ta-pu 2.61 237 *e*P **Pn 17 03 56.2 +1.7**
baz=236

ISU 12 17:04:17.5, 39.°54N×71.°58E, h5km, Tajikistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FRG Fergana 0.85 11 P Pb 17 04 34.6 -0.2
FRG S Sb 17 04 47.2 +0.7
MINT Mingtut 1.03 333 P Pb 17 04 38.0 0.0
MINT S Sn 17 04 53.2 -0.4
TSTA Tashata 1.25 33 P Pn 17 04 41.8 +0.2
TSTA S Sn 17 04 59.8 +1.0
CHMG Chimgan 2.34 330 P Pb 17 05 00.3 +0.1
CHMG S Sg 17 05 33.7 +1.1

KRNET 12 17:04:52.7±0.1, 39.°54N×71.°52E, h10km, mb2.2, 11C-10D, Tajikistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DRK Karamyk 0.23 104⇑ *e*P Pg 17 04 57.3 -0.2
baz=3.0
DRK ⇑*e*S Sg 17 05 00.5 -0.3
baz=3.0
BTK Batken 0.75 314⇑ *e*P Pg 17 05 07.2 0.0
baz=14
BTK ⇑*e*S Sb 17 05 18.0 -0.2
baz=14
OHH Osh 1.39 44⇓ *e*P Pg 17 05 19.1 -0.2
baz=44
OHH ⇓*e*S Sg 17 05 38.4 +1.1
baz=44
SFK Sufi-Kurgan 1.60 72⇑ *e*P Pg 17 05 23.2 -0.3
baz=72
SFK ⇑*e*S Sg 17 05 45.2 +0.9
baz=72
TRKS Terek-Say 2.01 352⇓ *e*P Pb 17 05 28.7 -0.8
baz=52
TRKS ⇓*e*S Sb 17 05 55.5 +0.8
baz=52
ARSB Arslanbob 2.11 32⇑ *e*P Pb 17 05 31.0 -0.1
baz=32
ARSB ⇑*e*S Sg 17 05 59.8 -0.7
baz=32
ARK Arkit 2.29 8⇓ *e*P Pb 17 05 33.4 -0.7
baz=8.0
ARK ⇓*e*S Sb 17 06 04.2 +1.7
baz=8.0
AML Almayashu 3.08 32 ⇑Pg Pb 17 05 47.5 -0.2
AML ⇑Lg Lg 17 06 25.2
0.8nm,0.8s
AML Almayashu 3.08 32⇓ *e*P Pb 17 05 44.9 -2.8
baz=32
AML ⇓*e*S Sb 17 06 23.1 -2.3
baz=32
ARLS Aral 3.15 42⇓ *e*P Pb 17 05 45.9 -3.0
baz=42
ARLS ⇓*e*S Sb 17 06 25.0 -2.5
baz=42
KK31 Karatay Array 3.64 348 Pg Pb 17 05 53.7 -3.5
0.2nm,0.3s,baz=148,slow=15,SNR=2.8
KK31 ⇑Lg Lg 17 06 42.5
8.8nm,0.8s,baz=167,slow=31

IDC 12 17:10:52.5±1.9, 3.°47N×126.°16E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=179.9km s-min=22.9km az=66.0, Talaud Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 24.61 161 P P 17 16 14.2 -0.5
0.5nm,0.6s,baz=340,slow=11,SNR=6.8
0.5nm,0.6s
ASAR Alice Springs 28.01 165 P P 17 16 46.0 +0.7
0.3nm,0.7s,baz=344,slow=7.3,SNR=6.1
0.3nm,0.7s
MKAR Makanchi Array 57.44 326 P P 17 20 43.1 -0.1
0.2nm,0.5s,baz=120,slow=8.0,SNR=4.3
0.2nm,0.5s
KURBB Kurchatov Arra 61.65 328 P P 17 21 11.9 -0.2
0.3nm,0.8s,baz=131,slow=6.0,SNR=4.4
0.3nm,0.8s

IDC 12 17:12:36.9±8.7, 18.°84S×178.°42W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=381.8km s-min=43.0km az=144.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 44.46 260 P P 17 20 50.1 0.0
0.1nm,0.4s,baz=97,slow=7.7,SNR=1.7
0.1nm,0.4s
ASAR Alice Springs 44.53 255 P P 17 20 50.5 -0.2
0.4nm,0.8s,baz=89,slow=8.8,SNR=5.4
0.4nm,0.8s
ILAR Eielson Array 86.79 13 P P 17 25 22.6 0.0

0.5nm,0.9s,baz=218,slow=5.7,SNR=2.3
0.5nm,0.9s

IDC 12 17:20:12.6±5.8, 13°42'N×120°18'E, h121$^{km}_{\pm 70}$, mb2.8/4, mbtmp3.2/4, Error ellipse: s-maj=165.6km s-min=20.6km az=63.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.00**	**47**	P		Pn	17 20 34.7	-0.1
	191nm,0.4s,baz=320,slow=7.3,SNR=2.4						
TGY				S		Sn	17 20 52.0	+0.4
	312nm,0.3s,baz=347,slow=23,SNR=6.7						
WRA	**Warramunga Arr**	**35.96**	**157**	P		P	17 27 01.3	-0.4
	0.3nm,0.9s,baz=334,slow=9.9,SNR=1.4						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**39.22**	**160**	P		P	17 27 29.4	+0.1
	0.3nm,0.8s,baz=337,slow=6.9,SNR=7.9						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**45.96**	**324**	P		P	17 28 24.4	+1.0
	0.1nm,0.5s,baz=124,slow=7.2,SNR=2.3						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**50.15**	**327**	P		P	17 28 54.3	-1.2
	0.1nm,0.4s,baz=134,slow=7.4,SNR=2.7						
	0.1nm,0.4s						

JMA ***12*** *17:24:34.6±0.6, 45°N×153°E, h30km, MV4.1/14, KURILE ISLANDS REGION*

SKHL 12 17:24:35.6±0.3, 45°20N×150°50E, h44$^{km}_{\pm 2}$, mb4.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.86**	**272**	*i* P		Pn	17 25 04.6	-0.4
KUR				AMB	AMB	17 25 05.7	
	110nm,0.3s						
KUR				*i* S		Sn	17 25 26.5	-0.7
KUR				A		A	17 25 31.0	
	190nm,0.5s						
KUR				A		A	17 25 31.0	
	290nm,0.5s						
SHO	**Shikotan**	**2.94**	**244**	*e*P		Pn	17 25 20.0	+0.2
SHO				AMB	AMB	17 25 21.4	
	30nm,0.3s						
SHO				*e*S		Sn	17 25 53.0	-0.8
SHO				A		A	17 25 55.9	
	80nm,0.3s						
SHO				A		A	17 25 55.9	
	50nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.51**	**252**	*i* P		Pn	17 25 28.2	+0.6
YUK				AMB	AMB	17 25 32.0	
	90nm,0.4s						
YUK				*i* S		Sn	17 26 07.5	-0.3
YUK				A		A	17 26 09.2	
	50nm,0.4s						
YUK				A		A	17 26 09.2	
	100nm,0.4s						
NEM2	**Nemuro 2**	**3.88**	**243**	*e*P		Pn	17 25 32.0	-0.6
NEM2				*e*S		Sn	17 26 13.8	-3.1
NMR	**Nemuro--Hokkai**	**3.88**	**244**	*i* P		Pn	17 25 31.9	-0.8
NMR				*i* S		Sn	17 26 14.0	-3.0
JRA	**Rausu**	**4.04**	**254**	*e*P		Pn	17 25 36.8	+1.9
JNK	**Nakash**	**4.45**	**251**	*e*P		Pn	17 25 41.5	+1.1
JNK				*e*S		Sn	17 26 30.3	-0.6
AKK	**Akkeshi**	**4.62**	**244**	*e*P		Pn	17 25 42.8	-0.1
JAK	**Akkeshi**	**4.72**	**244**	*e*P		Pn	17 25 43.7	-0.6
JAK				*e*S		Sn	17 26 35.3	-2.4
JTKR	**Abashiri--Toko**	**4.87**	**258**	*e*P		Pn	17 25 48.4	+2.2
JAR	**Ashorobuto**	**5.20**	**251**	*e*P		Pn	17 25 52.4	+1.6
JAR				*e*S		Sn	17 26 50.3	+1.0
JOB	**Onbets**	**5.32**	**247**	*e*S		Sn	17 26 50.4	-2.1
JKK2	**Kamakawa 2**	**5.70**	**259**	*e*P		Pn	17 26 00.4	+2.7
JCH	**Churui**	**5.77**	**246**	*e*P		Pn	17 25 58.5	-0.1
JCH				*e*S		Sn	17 27 01.0	-2.4
JNBK	**Urakawa-nobuka**	**6.33**	**245**	*e*P		Pn	17 26 05.8	-0.5
JANG	**Nango**	**8.18**	**237**	*e*P		Pn	17 26 28.9	-2.8
JANG				*e*S		Sn	17 27 53.8	-9.0

IDC ***12*** *17:35:52.6±8.2, 26°07'S×29°07'E, h0km, mbtmp2.8/1, ML2.2/1, Error ellipse: s-maj=82.7km s-min=54.9km az=143.0*

BUL ***12*** *17:35:57.9±0.3, 25°83'S×29°50'E, h1$^{km}_{\pm 4}$km, MD3.0*

ISC 12 17:35:48.4±1.3, 25°78'S±0°09×29°25'E±0°08, h10km, n6, σ2$^{s}_{\pm 18}$/9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**2.98**	**41**	*i* P		**Pb**	**17 36 42.9**	**+1.3**
MOPA				*i* S		**Sb**	**17 37 16.0**	**-2.1**
LBTB	**Lobatse**	**3.39**	**282**	*i* P		**Pg**	**17 36 54.8**	**+1.4**
LBTB				*i* S		**Sg**	**17 37 36.1**	**-1.3**
BOSA	**Boshof**	**4.54**	**231**	*i* P		**Pb**	**17 37 09.1**	**+0.7**
BOSA				*i* S		**Sb**	**17 38 01.2**	**-2.0**
BOSA	**Boshof**	**4.54**	**231**	Pn		**Pn**	**17 36 57.5**	**+0.1**
	0.1nm,0.3s,baz=56,slow=13,SNR=2.2						
BOSA				Pg		**Pb**	**17 37 11.2**	**+2.9**
	0.6nm,0.3s,baz=58,slow=14,SNR=11						
BOSA				Sn		**Sn**	**17 37 47.9**	**-2.4**
	0.5nm,0.3s,baz=76,slow=11,SNR=3.7						
BOSA				Lg		Lg	17 38 07.8	
	2.2nm,0.3s,baz=125,slow=11,SNR=13						
	2.3nm,0.9s						
I47ZA	**BOSHOF INFRASO**	**4.56**	**231**	I		I	18 00 40.0	
	baz=53,slow=308,SNR=1.3						
I35NA	**TSUMEB INFRASO**	**12.62**	**299**	I		I	18 50 00.0	
	0.1nm,2.0s,baz=126,slow=313,SNR=6.8						

IDC 12 17:36:32.5±12.0, 13°22S×168°20E, h0km, mb3.7/3, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=218.8km s-min=45.1km az=70.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.96**	**190**	Pn		Pn	17 38 41.5	-1.8
	0.3nm,0.3s,baz=282,slow=13,SNR=1.7						
DZM				Sn		Sn	17 40 27.2	+2.1
	baz=10,slow=22						
	6.2nm,1.1s						
STKA	**Stephens Creek**	**30.66**	**228**	P		P	17 42 49.7	+0.8
	1.7nm,0.8s,baz=49,slow=9.3,SNR=1.5						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**33.09**	**254**	P		P	17 43 09.6	-0.8
	0.3nm,0.4s,baz=85,slow=9.1,SNR=4.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**34.06**	**247**	P		P	17 43 19.2	+0.3
	0.5nm,0.5s,baz=72,slow=9.8,SNR=16						
	0.5nm,0.5s						

CATAC ***12*** *17:42:32.4±0.3, 9°12N×82°58W, h5km, ML3.9*

UCR ***12*** *17:42:32.3±1.3, 9°13N×82°60W, h3$^{km}_{\pm 24}$km, MW4.1*

UPA ***12*** *17:42:33.1±1.4, 9°04N×82°56W, h0$^{km}_{\pm 4}$km, MW4.2, Fault plane solution: NP1:ϕ≈65.00000°, δ≈54.00000°, λ≈-122.00000°.*

ISC 12 17:42:32.7±1.0, 9°11N±0°02×82°60W±0°02, h9$^{km}_{\pm 8}$km, n65, σ1$^{s}_{\pm 4}$/108, 12C-10D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCR	**Cotoan**	**0.27**	**216**	*i* PA		17 42 38.3	
CTCR				*i* SA		17 42 42.7	
CTCR				IAML		17 42 42.9	
	comp=Z,51μm,1.0s						
BC3P	**Paso Ancho**	**0.29**	**182**	*i* P		**Pg**	**17 42 38.8**	**+0.1**
BC3P				*i* S		**Sg**	**17 42 43.2**	**+0.5**
BRU2	**Volcan**	**0.33**	**196**	*i* P		**Pg**	**17 42 39.4**	**+0.1**
BRU2				*i* S		**Sg**	**17 42 44.8**	**+1.0**
BRU2	**Volcan**	**0.33**	**196**	*i* P		**Pg**	**17 42 39.4**	**+0.1**
BRU2				*i* S		**Sg**	**17 42 44.6**	**+0.9**
BRU2				IAML		17 42 50.1	
	comp=Z,10μm,1.0s						
CNI2	**El Empalme, Bo**	**0.33**	**22**	*i* P		**Pg**	**17 42 39.0**	**-0.4**
CNI2				*e*S		**Sg**	**17 42 44.1**	**+0.3**
BCO2	**Palmira**	**0.40**	**170**	*i* P		**Pg**	**17 42 40.7**	**+0.1**
BCO2				*e*S		**Sg**	**17 42 46.0**	**+0.1**
RGM0	**Gandoca**	**0.47**	**359**	*e*P		**Pg**	**17 42 43.1**	**+1.1**
RGM0				*e*S		**Sb**	**17 42 53.2**	**+2.8**
CHGR2	**Aguacate**	**0.48**	**111**	*i* P		**Pg**	**17 42 41.7**	**-0.4**
CHGR2				*e*S		**Sg**	**17 42 48.6**	**+0.1**
POTG	**Potrero Grande**	**0.52**	**263**	*i* P		**Pg**	**17 42 42.1**	**-0.7**
POTG				*i* S		**Sg**	**17 42 49.3**	**-0.3**
POTG				IAML		17 42 51.4	
	comp=Z,15μm,1.0s						
BRIBI	**Bribri**	**0.56**	**334**	*e*P		**Pg**	**17 42 43.9**	**+0.2**
BRIBI				*e*S		**Sb**	**17 42 54.6**	**+1.6**
CDITO	**Canoas**	**0.60**	**207**	*e*P		**Pb**	**17 42 45.1**	**-0.3**
CDITO				*i* S		**Sb**	**17 42 54.6**	**+0.6**
CDITO	**Canoas**	**0.60**	**207**	*i* P		**Pb**	**17 42 45.1**	**-0.3**
CDITO				*i* S		**Sb**	**17 42 54.7**	**+0.7**
CDITO				IAML		17 42 59.9	
	comp=Z,6μm,1.0s						
GUAL3	**Gualaca, Chiri**	**0.65**	**153**	*e*P		**Pg**	**17 42 45.3**	**0.0**
GUAL3				*i* S		**Sb**	**17 42 55.1**	**-0.3**
DVD	**David**	**0.69**	**168**	*e*P		**Pg**	**17 42 46.3**	**+0.2**
DVD				*e*S		**Sb**	**17 42 56.7**	**+0.2**
PEDE3	**Pedregal, Chir**	**0.74**	**166**	*e*P		**Pg**	**17 42 47.2**	**+0.1**
PEDE3				*e*S		**Sb**	**17 42 58.3**	**+0.2**
SRBA	**San Rafael, Bu**	**0.76**	**279**	*i* P		**Pg**	**17 42 46.1**	**-1.3**
SRBA				*i* S		**Sg**	**17 42 56.0**	**-1.4**
SRBA				IAML		17 42 56.7	
	comp=Z,10μm,1.0s						
CCOL	**Caracol de Cor**	**0.79**	**208**	*e*P		**Pg**	**17 42 48.2**	**+0.1**
CCOL	**Caracol de Cor**	**0.79**	**208**	*i* P		**Pg**	**17 42 48.1**	**+0.1**
CCOL				*i* S		**Sb**	**17 43 00.6**	**+1.1**
CCOL				IAML		17 43 07.4	
	comp=Z,4μm,1.0s						
EDPN	**Palmar Norte**	**0.86**	**260**	*e*P		**Pg**	**17 42 49.5**	**+0.2**
JIME	**Puerto Jimenez**	**0.92**	**232**	*e*P		**Pg**	**17 42 49.9**	**-0.5**
PTPM	**Petroterminale**	**0.94**	**197**	*e*P		**Pb**	**17 42 51.2**	**-0.1**
PTPM				*e*S		**Sn**	**17 43 05.6**	**-0.2**
OCHAL	**Ojochal**	**1.03**	**269**	*i* P		**Pg**	**17 42 52.2**	**-0.4**
OCHAL				IAML		17 42 52.7	
	comp=Z,91nm,1.0s						
OCHAL				*i* S		**Sb**	**17 43 06.9**	**+0.4**
LIMO3	**Limones**	**1.04**	**195**	*e*P		**Pg**	**17 42 51.0**	**-1.8**
BUS1	**Rivas**	**1.22**	**291**	*e*P		**Pb**	**17 42 54.2**	**-2.0**
NANC3	**Nancito, Chiri**	**1.22**	**135**	*e*P		**Pb**	**17 42 54.7**	**-1.3**
NANC3				*e*S		**Sb**	**17 43 11.1**	**-0.7**
CDM	**Cerro de Muert**	**1.23**	**291**	*i* P		**Pb**	**17 42 54.2**	**-2.2**
CDM				*i* S		**Sg**	**17 43 10.5**	**-1.9**
CDM				IAML		17 43 11.5	
	comp=Z,3μm,1.0s						
REPA	**Paraso**	**1.44**	**300**	*e*P		**Pn**	**17 42 59.7**	**+0.5**
VTR0	**Volcan Turrial**	**1.46**	**308**	*e*P		**Pn**	**17 42 59.4**	**-0.3**
HAYA	**Volcan Irazu**	**1.50**	**305**	*i* P		**Pn**	**17 42 59.4**	**-0.8**
HAYA				*i* S		**Sb**	**17 43 20.9**	**+0.6**
HAYA				IAML		17 43 23.0	
	comp=Z,3μm,1.0s						
VICA	**Volcano Irazu**	**1.50**	**305**	*e*P		**Pn**	**17 42 59.5**	**-0.8**
LCR2	**La Lucha 2**	**1.52**	**294**	*e*P		**Pn**	**17 42 59.4**	**-1.0**
LCR2	**La Lucha 2**	**1.52**	**294**	*i* P		**Pn**	**17 42 59.5**	**-0.8**
LCR2				*i* S		**Sn**	**17 43 19.4**	**-1.0**
LCR2				IAML		17 43 19.8	
	comp=Z,1μm,1.0s						
TBLN	**Tablon, Guarco**	**1.55**	**297**	*i* P		**Pn**	**17 43 00.2**	**-0.5**
TBLN				*i* S		**Sn**	**17 43 20.6**	**-0.5**
TBLN				IAML		17 43 21.4	
	comp=Z,3μm,1.0s						
OCM	**Ochomogo**	**1.55**	**300**	*i* P		**Pn**	**17 43 00.4**	**-0.3**
OCM				*i* S		**Sn**	**17 43 20.7**	**-0.4**
OCM				IAML		17 43 23.3	
	comp=Z,1μm,1.0s						
SAFE3	**Santa Fe, Vera**	**1.62**	**111**	*e*P		**Pn**	**17 43 01.5**	**0.0**
SAFE3				*e*S		**Sb**	**17 43 23.6**	**+0.3**
MESA3	**La Mesa, Verag**	**1.70**	**124**	*e*P		**Pn**	**17 43 03.0**	**+0.5**
MESA3				*e*S		**Sg**	**17 43 26.7**	**-0.6**
HDC3	**Heredia 3**	**1.73**	**301**	*i* P		**Pn**	**17 43 04.1**	**+0.9**
HDC3				*i* S		**Sb**	**17 43 28.8**	**0.0**
HDC3				IAML		17 43 34.9	
	comp=Z,2μm,1.0s						
RIFO	**Rio Frio, Sara**	**1.77**	**313**	*i* P		**Pn**	**17 43 03.3**	**-0.3**
RIFO				*i* S		**Sn**	**17 43 27.0**	**+0.8**
RIFO				IAML		17 43 28.5	
	comp=Z,840nm,1.0s						
RSUS3	**Rio de Jesus,**	**1.81**	**128**	*e*P		**Pn**	**17 43 04.4**	**+0.2**
RSUS3				*e*S		**Sb**	**17 43 28.8**	**-0.2**
TRT2	**Tortugero**	**1.82**	**322**	*i* P		**Pn**	**17 43 03.3**	**-1.0**
TRT2				*i* S		**Sn**	**17 43 26.8**	**-0.7**
TRT2				IAML		17 43 29.8	
	comp=Z,490nm,1.0s						
SFRA3	**San Francisco,**	**1.82**	**118**	*e*P		**Pn**	**17 43 05.1**	**+0.8**
SFRA3				*e*S		**Sg**	**17 43 30.3**	**-1.1**
STIA3	**Santiago, Vera**	**1.90**	**122**	*e*P		**Pn**	**17 43 06.3**	**+0.9**
STIA3				*e*S		**Sg**	**17 43 32.8**	**-1.0**
CALO3	**Calobre, Verag**	**1.91**	**114**	*e*P		**Pn**	**17 43 06.5**	**+1.1**
CALO3				*e*S		**Sn**	**17 43 30.4**	**+0.7**
TCS1	**Tacares**	**1.91**	**299**	*i* P		**Pb**	**17 43 07.7**	**-0.2**
TCS1				IAML		17 43 39.3	
	comp=Z,11μm,1.0s						
POA5	**Crater Von Fra**	**1.94**	**304**	*e*P		**Pn**	**17 43 06.9**	**+0.7**
JACO	**JACO, Garabito**	**2.10**	**285**	*e*P		**Pn**	**17 43 09.1**	**+0.9**
JACO	**JACO, Garabito**	**2.10**	**285**	*i* P		**Pn**	**17 43 09.2**	**+1.0**
JACO				*i* S		**Sb**	**17 43 37.2**	**-0.2**
JACO				IAML		17 43 41.7	
	comp=Z,320nm,1.0s						
CPMI	**Catarata Coope**	**2.11**	**304**	*i* P		**Pn**	**17 43 09.5**	**+1.1**
CPMI				IAML		17 43 16.1	
	comp=Z,320nm,1.0s						
CPMI				*i* S		**Sb**	**17 43 37.8**	**+0.2**
MARI3	**Mariato, Verag**	**2.16**	**132**	*e*P		**Pn**	**17 43 10.0**	**+1.1**
MARI3				*e*S		**Sb**	**17 43 38.9**	**0.0**
PESE3	**Pese, Herrera**	**2.30**	**121**	*e*P		**Pn**	**17 43 12.0**	**+1.2**
PNME	**Penonome**	**2.33**	**105**	*e*P		**Pb**	**17 43 15.5**	**+0.5**
PNME				*e*S		**Sb**	**17 43 43.8**	**0.0**
SOCE	**Pocosol**	**2.36**	**303**	*e*P		**Pn**	**17 43 13.9**	**+2.3**
SOCE	**Pocosol**	**2.36**	**303**	*i* P		**Pn**	**17 43 13.7**	**+2.0**
SOCE				*i* S		**Sb**	**17 43 46.1**	**+1.4**
SOCE				IAML		17 43 49.6	
	comp=Z,730nm,1.0s						
COVE	**Coope Vega, Sa**	**2.39**	**312**	*e*P		**Pn**	**17 43 13.3**	**+1.2**
CHIT3	**Chitre**	**2.44**	**118**	*e*P		**Pn**	**17 43 13.8**	**+1.0**
CHIT3				*e*S		**Sb**	**17 43 46.8**	**-0.4**
CACAO	**El Cacao, Vera**	**2.46**	**135**	*e*P		**Pn**	**17 43 14.7**	**+1.6**
CACAO				*e*S		**Sb**	**17 43 45.8**	**-1.8**
CBL1	**Cabuya**	**2.50**	**281**	*e*P		**Pn**	**17 43 13.9**	**+0.3**
JTS	**Las Juntas de**	**2.60**	**297**	*e*P		**Pn**	**17 43 17.4**	**+2.5**
JTS				*e*S		**Sb**	**17 43 51.7**	**+0.1**
JTS	**Las Juntas de**	**2.60**	**297**	*e*P		**Pn**	**17 43 17.5**	**+2.5**
BCIP	**Isla Barro Col**	**2.73**	**89**	*e*P		**Pn**	**17 43 16.6**	**-0.1**
BCIP	**Isla Barro Col**	**2.73**	**89**	*i* P		**Pn**	**17 43 16.5**	**-0.2**
BCIP				*i* S		**Sn**	**17 43 48.4**	**-1.5**
BCIP				IAML		17 44 06.1	
	comp=Z,91nm,1.0s						
CHOR3	**La Chorrera**	**2.81**	**94**	*e*P		**Pn**	**17 43 18.6**	**+0.7**
ACHO3	**Achotines, Los**	**2.94**	**125**	*e*P		**Pn**	**17 43 20.9**	**+1.3**
INDI	**Punta indio, G**	**2.96**	**285**	*i* P		**Pn**	**17 43 21.3**	**+1.4**
INDI				*i* S		**Sn**	**17 43 57.4**	**+1.8**
INDI				IAML		17 44 15.6	
	comp=Z,180nm,1.0s						
ORTG	**Ortega, Santa**	**3.08**	**294**	*i* P		**Pn**	**17 43 24.9**	**+3.2**
ORTG				*i* S		**Sn**	**17 43 59.6**	**+0.9**
ORTG				IAML		17 44 13.2	
	comp=Z,85nm,1.0s						

MOS ***12*** *17:50:40.4±1.1, 33°71N×45°63E, h18km, mb4.4/25, Error ellipse: s-maj=7.7km s-min=5.4km az=93.7*

TEH ***12*** *17:50:40.5, 33°65N×45°67E, h7$^{km}_{\pm 51}$km, ML4.3*

NEIC ***12*** *17:50:41.2±2.1, 33°63N±0°05×45°69E±0°07, h10$^{km}_{\pm 1}$km, mb4.6/88, Error ellipse: s-maj=11.8km s-min=7.0km az=123.0*

ISN ***12*** *17:50:43.2±0.9, 33°64N×45°67E, h28$^{km}_{\pm 4}$km, ML4.3*

IDC ***12*** *17:50:44.6±3.0, 33°71N×45°71E, h33$^{km}_{\pm 23}$km, mb4.0/21, mbtmp4.1/28, ML4.0/7, MS2.8/4, Error ellipse: s-maj=16.3km s-min=11.0km az=148.0*

AFAD ***12*** *17:50:48.0±0.0, 34°00N×45°26E, h16km, MW4.1*

NAO ***12*** *17:50:49.5, 34°52N×45°85E, h33km, mb3.5*

OMAN ***12*** *17:50:50.8±1.3, 32°66N×45°97E, h10km, mb4.1/20, ms2.8/4, Error ellipse: s-maj=15.1km s-min=11.3km az=47.0*

DSN ***12*** *17:50:53.0±2.3, 32°45N×45°99E, h10km, mb5.0/1, Error ellipse: s-maj=61.7km s-min=17.4km az=24.0*

ISC 12 17:50:42.9±0.7, 33°60N±0°03×45°75E±0°03, h26$^{km}_{\pm 4}$km, n358, σ2$^{s}_{\pm 13}$/385, mb4.5/83, 17C-9D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.38**	**87**	Pg		**Pb**	**17 50 50.0**	**-1.3**
IBDR	**Badra**	**0.51**	**163**	*e*Pg		**Pn**	**17 50 55.0**	**+0.5**
IBDR				*e*Sg		**Sn**	**17 51 02.5**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.91**	**351**	Pg		**Pn**	**17 50 57.6**	**-2.4**
KGS1				Sg		**Sb**	**17 51 10.1**	**-1.8**
IGHG	**Ghaleghazi**	**0.99**	**43**	Pg		**Pn**	**17 51 00.4**	**-0.9**
IGHG				Sg		**Sn**	**17 51 15.5**	**+0.9**
BHD	**Baghdad**	**1.20**	**254**	*e*Pg		**Pb**	**17 51 04.5**	**-0.4**
BHD				*e*Sg		**Sn**	**17 51 19.0**	**-0.2**
BHD				AML	AML	17 51 26.6	
	comp=E,24μm,0.5s						
IDHR	**Dehrash**	**1.21**	**26**	Pg		**Pn**	**17 51 03.2**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.26**	**58**	Pg		**Pn**	**17 51 05.2**	**+0.2**
IKOM	**Komasi**	**1.57**	**68**	Pg		**Pb**	**17 51 11.4**	**0.0**
ILIR	**Lien**	**1.65**	**37**	Pg		**Pb**	**17 51 12.1**	**-0.7**
IKFM	**Kafar-mosalman**	**1.75**	**92**	Pn		**Pn**	**17 51 14.3**	**0.0**
RAFI	**Al-Rafai**	**1.90**	**171**	*e*Pn		**Pb**	**17 51 16.0**	**-0.9**
RAFI				*e*Sn		**Sb**	**17 51 41.0**	**+0.8**
RAFI				AML	AML	17 51 52.0	
	comp=E,1μm,0.5s						
RAFI				AML	AML	17 51 54.1	
	comp=N,2μm,0.4s						
IBZA	**Bozab**	**1.95**	**63**	Pn		**Pb**	**17 51 16.6**	**-1.3**
IKRK	**Kirkuk**	**2.14**	**327**	*e*Pn		**Pn**	**17 51 18.0**	**+1.1**
IKRK				*e*Sn		**Sn**	**17 51 44.0**	**+1.4**
IALM	**Almabolaq**	**2.36**	**57**	Pn		**Pb**	**17 51 22.9**	**-2.0**
HSAM	**Samen**	**2.45**	**75**	Pn		**Pn**	**17 51 23.2**	**+1.9**
SDS1	**Sardasht. Az.**	**2.55**	**355**	Pn		**Pn**	**17 51 24.0**	**+1.3**
HAGD	**Aghdareh**	**3.06**	**66**	Pn		**Pn**	**17 51 31.9**	**+2.2**
MAHB	**Mahabad**	**3.16**	**359**	Pn		**Pn**	**17 51 31.8**	**+0.8**
IRAZ	**Razeghan**	**3.89**	**61**	Pn		**Pn**	**17 51 43.8**	**+2.6**
QSDN	**Sirdan**	**4.03**	**43**	Pn		**Pn**	**17 51 45.3**	**+2.1**
CUKT	**Cukurca**	**4.04**	**335**	*e*P		**Pn**	**17 51 43.4**	**+0.3**
CUKT	**Cukurca**	**4.04**	**335**	P		**Pn**	**17 51 42.5**	**-0.6**
CUKT				S		**Sn**	**17 52 24.4**	**-5.2**
CUKT				*i* AML	AML	17 53 08.0	
	comp=N,364nm,0.8s						
CUKT				*i* AML	AML	17 53 10.0	
	comp=N,429nm,1.0s						
IAZR	**Azarshahr**	**4.07**	**3**	Pn		**Pn**	**17 51 44.8**	**+1.1**
YOVA	**Hakkari_Yksek**	**4.15**	**344**	P		**Pn**	**17 51 45.6**	**+0.8**
HAKT	**HAKKARI**	**4.28**	**338**	P		**Pn**	**17 51 46.6**	**+0.1**
HAKT				S		**Sn**	**17 52 31.5**	**-4.3**
HAKT				*i* AML	AML	17 53 07.0	
	comp=N,141nm,0.6s						
HAKT				*i* AML	AML	17 53 07.0	
	comp=N,142nm,0.5s						
IPIR	**Pirpir**	**4.41**	**101**	Pn		**Pn**	**17 51 50.2**	**+1.9**
ZNGN	**Zangian**	**4.54**	**108**	Pn		**Pn**	**17 51 51.7**	**+1.4**
IMHD	**Mahdasht**	**4.55**	**61**	Pn		**Pn**	**17 51 51.6**	**+1.4**
IQOM	**Qom**	**4.58**	**73**	Pn		**Pn**	**17 51 52.2**	**+1.6**
QAMS	**Qamsar**	**4.71**	**87**	Pn		**Pn**	**17 51 54.8**	**+2.4**
SIRN	**Sırnak**	**4.74**	**326**	P		**Pn**	**17 51 52.8**	**+0.1**
SIRN				*i* AML	AML	17 53 20.0	
	comp=N,289nm,0.8s						
SIRN				*i* AML	AML	17 53 24.0	
	comp=N,233nm,0.5s						
IHRS	**Heris**	**4.82**	**12**	Pn		**Pn**	**17 51 55.5**	**+1.5**
IKLH	**Kolahrood**	**4.88**	**92**	Pn		**Pn**	**17 51 57.0**	**+2.2**
IHSB	**Hasanabad**	**4.91**	**67**	Pn		**Pn**	**17 51 57.2**	**+2.1**
IBRJ	**Brojen**	**4.94**	**109**	Pn		**Pn**	**17 51 56.8**	**+1.2**
PERV	**Siirt/Pervari-**	**5.06**	**330**	P		**Pn**	**17 51 56.9**	**-0.2**
IMRD	**Marand**	**5.10**	**360**	Pn		**Pn**	**17 51 57.8**	**0.0**
IVRN	**Varamin**	**5.14**	**73**	Pn		**Pn**	**17 51 59.7**	**+1.5**
GEVA	**Gevas**	**5.18**	**336**	Pn		**Pn**	**17 51 59.7**	**+0.8**
GEVA				Sn		**Sn**	**17 52 59.1**	**+1.3**
GEVA	**Gevas**	**5.18**	**336**	P		**Pn**	**17 51 59.6**	**+0.7**
GEVA				S		**Sn**	**17 52 57.5**	**-0.3**
AKDM	**Akdamar-Van**	**5.22**	**335**	*e*P		**Pn**	**17 52 00.6**	**+1.2**
TVAN	**Van**	**5.27**	**340**	P		**Pn**	**17 52 01.3**	**+1.2**
KRSH	**Karshahi**	**5.33**	**84**	Pn		**Pn**	**17 52 02.5**	**+1.6**
VANB	**Van**	**5.33**	**340**	*e*P		**Pn**	**17 52 01.0**	**+0.1**
GAS1	**Astara - Iran**	**5.39**	**27**	Pn		**Pn**	**17 52 03.5**	**+2.0**
IGAR	**Gharneh**	**5.42**	**101**	Pn		**Pn**	**17 52 04.4**	**+2.2**
ISFB	**Sefidab**	**5.44**	**80**	Pn		**Pn**	**17 52 03.9**	**+1.6**
GRMI	**Germi**	**5.47**	**18**	Pn		**Pn**	**17 52 03.2**	**+0.3**
MARD	**Mardin**	**5.49**	**314**	Pn		**Pn**	**17 52 02.6**	**-0.5**
MARD				Sn		**Sn**	**17 53 01.9**	**-3.6**
IDMV	**Damavand**	**5.54**	**67**	Pn		**Pn**	**17 52 05.3**	**+1.4**
MZPU	**Pul - Mazandar**	**5.55**	**58**	Pn		**Pn**	**17 52 05.8**	**+1.8**
**I

SOC Sochi 11.02 336 *e*P Pn 17 53 28.2 +9.4
SOC MLR MLR
comp=Z,86nm,15.0s
SHME Shamm 11.74 127 *i* P **Pn 17 53 28.8 +0.1**
SNR=6.8
SHME S **Sn 17 55 32.6 -6.3**
SHME Shamm 11.74 127 P **Pn 17 53 29.2 +0.5**
SHME S **Sn 17 55 32.8 -6.1**
BANOM Banah 11.93 127 P **Pn 17 53 30.8 -0.5**
BANOM Banah 11.93 127 P **Pn 17 53 32.1 +0.8**
BANOM S **Sn 17 55 36.6 -7.1**
NAZ Nazwa, Dubai 12.18 132 P **Pn 17 55 35.7 +1.0**
MASF Masafi 12.22 129 P **Pn 17 53 35.6 +0.3**
SNR=8.0
MASF S **Sn 17 55 46.9 -3.8**
MSFE Esma-Masafi 12.23 129 *i* P **Pn 17 53 34.9 -0.5**
SNR=7.7
ASUD Al Ashush, Dub 12.24 134 *i* P **Pn 17 53 36.6 +1.0**
SNR=19
ASUD Al Ashush, Dub 12.24 134 P **Pn 17 53 37.0 +1.4**
SNR=19
FAQ Al Faqa, Dubai 12.31 133 P **Pn 17 53 37.1 +0.6**
FAQ Al Faqa, Dubai 12.31 133 P **Pn 17 53 37.7 +1.2**
FAQ P **Pn 17 53 37.7 +1.2**
MDH Madha 12.36 129 *i* P **Pn 17 53 36.4 -0.8**
SNR=8.7
MDH Madha 12.36 129 P **Pn 17 53 36.9 -0.2**
SNR=8.7
MDH S **Sn 17 55 48.2 -5.8**
MZR Muzera 12.56 145 P **Pn 17 53 40.6 +0.7**
HATD Hatta, Dubai 12.59 131 P **Pn 17 53 40.4 +0.1**
HATD Hatta, Dubai 12.59 131 P **Pn 17 53 40.8 +0.5**
HATD S **Sn 17 55 55.6 -4.1**
ASHO Ashiyiah 12.65 132 *i* P **Pn 17 53 40.9 -0.2**
SNR=16
ASHO Ashiyiah 12.65 132 P **Pn 17 53 41.3 +0.2**
SNR=17
ASHO S **Sn 17 55 55.8 -5.3**
ALNE Al Ain 12.93 135 P **Pn 17 53 44.9 0.0**
ALNE S **Sn 17 56 01.9 -6.0**
JASK Jask - Hormozg 13.04 123 P **Pn 17 53 45.5 -1.0**
JASK S **Sn 17 56 06.1 -4.6**
SOHO SOHO 13.34 132 *i* P **Pn 17 53 49.8 -0.8**
SNR=6.3
SOHO SOHO 13.34 132 P **Pn 17 53 50.0 -0.6**
SOHO P **Pn 17 53 50.0 -0.6**
SOHO S **Sn 17 56 13.7 -4.4**
SOHO S **Sn 17 56 13.7 -4.4**
ARQ Araqi 13.93 134 P **Pn 17 53 58.0 -0.7**
SNR=21
ARQ P **Pn 17 53 58.0 -0.7**
SNR=21
ARQ S **Sn 17 56 26.9 -5.6**
ARQ S **Sn 17 56 26.9 -5.6**
BSY Bisya 14.78 134 P **Pn 17 54 08.6 -1.7**
BSY S **Sn 17 56 47.2 -6.1**
BIDO Bidbid 14.79 130 P **Pn 17 54 08.5 -1.9**
BIDO S **Sn 17 56 48.0 -5.3**
SMDO Samad 15.07 131 P **Pn 17 54 12.8 -1.4**
SMDO S **Sn 17 56 52.9 -7.5**
WSAR Wadi Sarin 15.31 129 Pn **Pn 17 54 14.4 -2.9**
comp=Z,1.1nm,0.3s,baz=328,slow=11,SNR=16
WSAR Sn Sn 17 56 52.7 -13
comp=Z,0.2nm,0.3s,baz=194,slow=23,SNR=0.9
WSAR Wadi Sarin 15.31 129 P **Pn 17 54 17.0 -0.3**
SNR=6.7
WSAR S **Sn 17 56 59.6 -6.5**
JMDO Jabal Madar 15.61 133 P **Pn 17 54 19.3 -1.9**
JMDO S **Sn 17 57 08.8 -4.6**
WBK Wadi Bani Khal 15.98 130 P **Pn 17 54 23.7 -2.3**
MHTO MHTO 16.59 136 P **Pn 17 54 32.0 -1.7**
SNR=12
MHTO S **Sn 17 57 28.7 -8.4**
JLN Jalan Bani Buh 16.59 130 P **Pn 17 54 32.6 -1.2**
DQM DQM 17.19 139 P **Pn 17 54 39.7 -1.6**
DQM S **Sn 17 57 41.7 -10**
WHFO Wadi Hawf 17.20 153 P **Pn 17 54 39.0 -2.4**
SNR=71
WHFO S **Sn 17 57 41.9 -10**
ABTO Aybut 17.55 155 P **Pn 17 54 43.1 -2.7**
SNR=8.5
ABTO S **Sn 17 57 52.9 -7.5**
RDO Rodhopi 17.72 301 P **P 17 54 49.3 +0.9**
RBK Rabkut 17.74 153 P **Pn 17 54 46.0 -2.1**
SNR=32
RBK S **Sn 17 57 55.7 -9.4**
DMTO DMTO 17.84 150 P **Pn 17 54 47.3 -2.1**
SNR=22
DMTO S Sn 17 57 56.5 -11
SHAO Shalim 17.86 148 *i* P **Pn 17 54 47.0 -2.6**
SNR=14
SHAO Shalim 17.86 148 P **Pn 17 54 47.0 -2.6**
SNR=13
BELG Belogornoye 18.83 4⇓ *e*P **P 17 54 59.9 -0.6**
BELG pmax pmax
comp=Z,6.0nm,1.4s
BELG Belogornoye 18.83 4 P **P 17 54 59.9 -0.6**
comp=Z,1.3nm,0.3s,baz=201,slow=14,SNR=5.5
comp=Z,14nm,0.7s
ABKAR Akbulak array 18.86 30 P **Pn 17 55 01.5 -0.1**
ABKAR Akbulak array 18.86 30 **P 17 55 01.2 +0.3**
AKTO Aktyubinsk 19.08 25 P **Pn 17 55 03.9 -0.3**
comp=Z,0.6nm,0.3s,baz=209,slow=9.6,SNR=9.1
comp=Z,2.8nm,0.5s
MLR Muntele Rosu 19.29 314 P **P 17 55 04.3 -1.4**
MLR Muntele Rosu 19.29 314 P **Pn 17 55 06.9 +0.1**
comp=Z,0.6nm,0.3s,baz=58,slow=13,SNR=5.1
comp=Z,1.6nm,0.4s
KBL Kabul 19.31 81 P **Pn 17 55 07.1 -0.3**
KBL Kabul 19.31 81 P **Pn 17 55 07.1 -0.3**
KBL pmax pmax
comp=Z,15nm,1.4s
SIMJ Simiganj 19.43 68 P **P 17 55 06.8 -0.6**
SORM Soroca 19.53 323 ⇑P **P 17 55 06.3 -1.8**
TURR Turia 19.54 315 ⇑P **Pn 17 55 09.6 -0.2**
AGG Agios Georgios 19.61 293 P **Pn 17 55 10.2 -0.5**
AGG Agios Georgios 19.61 293 P **Pn 17 55 10.2 -0.5**
AGG pmax pmax
comp=Z,14nm,1.3s
VOIR 19.80 313 ⇑P **Pn 17 55 13.3 +0.3**
DOPR Dopca 19.87 314 ⇑P **Pn 17 55 12.9 -0.8**
ARR Arges 20.03 312 ⇑P Pn 17 55 15.2 -0.4
LOT Lotru 20.60 312 ⇑P **P 17 55 20.6 +0.6**
FNA Florina 20.66 297 P **P 17 55 20.7 0.0**
FNA Florina 20.66 297 P **P 17 55 20.7 0.0**
FNA pmax pmax
comp=Z,11nm,1.4s
KMPD K-Podol'skiy 20.77 322 P **P 17 55 21.0 -0.6**
BURAR Bucovina Array 20.86 318 ⇓P **P 17 55 23.1 +0.3**
BURAR Bucovina Array 20.86 318 P **P 17 55 22.7 -0.1**
BURAR Bucovina Array 20.86 318 P **P 17 55 22.7 -0.1**
BURAR pmax pmax
comp=Z,6.0nm,0.6s
BUR08 Bucovina Ar. S 20.89 318 P **P 17 55 22.8 -0.4**
AK05 Malin Array Si 20.89 329 P **P 17 55 22.1 -0.9**
AK05 IAmb IAmb 17 55 22.7
comp=Z,19nm,1.1s
AKASG Malin Array Be 20.94 330 P **P 17 55 21.7 -1.8**
AKASG Malin Array Be 20.94 330 *ce*P **P 17 55 22.6 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 20.94 330 P **P 17 55 22.3 -1.2**
comp=Z,4.7nm,0.5s,baz=138,slow=9.8,SNR=46
comp=Z,4.7nm,0.5s
AKBB Malin Array Si 20.94 330 P **P 17 55 21.2 -2.3**
AKBB IAmb IAmb 17 55 23.2
comp=Z,11nm,0.6s
AKBB Malin Array Si 20.94 330 *ce*P **P 17 55 22.3 -1.2**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
KIEV Kiev 20.95 330 ⇓P **P 17 55 20.8 -2.8**
KIEV Kiev 20.95 330 P **P 17 55 21.7 -1.8**
KIEV IAmb IAmb 17 55 23.2
comp=Z,9.8nm,0.6s
KIEV Kiev 20.95 330 P **P 17 55 21.7 -1.8**
KIEV pmax pmax
comp=Z,10.0nm,0.6s
BTK Batken 21.04 65 P **P 17 55 25.8 +1.0**
BTK Batken 21.04 65 P **P 17 55 25.8 +1.0**
BTK pmax pmax
comp=Z,5.0nm,0.8s
DJES Djerdap 21.06 308 P **P 17 55 23.8 -1.1**
GZR Gura Zlata 21.20 310 ⇑P **P 17 55 26.6 +0.2**
HERR Herculane 21.22 309 ⇑P **P 17 55 27.6 +1.0**

KK31 Karatay Array 21.54 57 P **P 17 55 29.5 -0.6**
KK31 Karatay Array 21.54 57 P **P 17 55 29.5 -0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 21.54 57 P **P 17 55 29.8 -0.3**
KKAR Karatay Array 21.54 57 P **P 17 55 30.2 +0.2**
KKAR IAmb IAmb 17 55 39.7
comp=Z,6.2nm,0.7s
KKAR Karatay Array 21.54 57 P **P 17 55 30.3 +0.2**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
MARR Marisel-Cluj 21.58 314 ⇑P **P 17 55 31.0 +0.5**
MDVR Moldovita 21.64 308 ⇑P **P 17 55 31.3 +0.2**
KEK Kerkira 21.66 294 P **P 17 55 29.4 -1.9**
KEK IAmb IAmb 17 55 42.7
comp=Z,32nm,1.0s
PUK Puka 22.04 300 P **P 17 55 37.1 +1.6**
PUK IAmb IAmb 17 55 39.6
comp=Z,14nm,1.0s
BZS Buzias 22.04 310 ⇑P **P 17 55 34.7 -0.7**
SIRR Siria 22.29 312 ⇑P **P 17 55 37.0 -1.1**
OBN Obninsk 22.45 346 *i* P **P 17 55 37.4 -2.2**
OBN pmax pmax
comp=Z,5.0nm,0.5s
ARSB Arslanbob 22.88 62 P **P 17 55 45.4 +0.8**
ARSB Arslanbob 22.88 62 P **P 17 55 45.4 +0.8**
ARSB pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 23.23 318 *e*P **P 17 55 49.8 +1.9**
KOLS Kolonicke sedl 23.23 318 *e*P **P 17 55 49.8 +1.9**
TIP Timpagrande 23.94 292 P **P 17 55 54.3 -0.5**
TIP IAmb IAmb 17 55 58.6
comp=Z,43nm,1.5s
MORH Mrgy, Hungar 24.18 309 ⇓P **P 17 55 54.9 -2.0**
AAK Ala-Archa 24.25 60 P **P 17 56 00.3 +2.4**
AAK Ala-Archa 24.25 60 P **P 17 56 00.3 +2.4**
AAK pmax pmax
comp=Z,6.0nm,1.5s
MNK Minsk 24.39 334 *i* P **P 17 55 55.0 -3.8**
comp=E,3.0nm,0.7s
MNK *i* P **P 17 55 55.0 -3.8**
comp=N,8.0nm,0.8s
MNK *i* P **P 17 55 55.0 -3.8**
comp=Z,5.0nm,0.7s,baz=142
MNK *i* pP **pP 17 56 05.8 -0.8**
MNK *i* PP **PnPn 17 56 26.0 -3.5**
MNK *i* PPP PPP 17 56 34.4
MNK *i* S **S 18 00 12.0 -4.7**
MNK *i* sS **sS 18 00 30.7 +1.3**
MNK *i* SS **SnSn 18 00 58.2 -3.0**
MNK *i* SSS SSS 18 01 12.5
MNK *i* LR LR 18 03 20.8
MNK *i* LRM MLR 18 06 04.5
MNK *i* LRM MLR 18 06 08.4
MNK *i* LRM MLR 18 06 17.2
MNK Minsk 24.39 334 *i* P **P 17 55 54.9 -3.8**
MNK *i* *PP **pP 17 56 05.8 -0.8**
MNK *i* PPP PPP 17 56 34.4
MNK *i* S **S 18 00 11.9 -4.7**
MNK *i* SSS SSS 18 01 12.5
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 24.47 17*c i* P **P 17 55 59.4 -0.1**
ARU 17 56 31.0
ARU S **S 18 00 19.1 +1.1**
ARU SS **SnSn 18 01 05.8 +2.6**
ARU pmax pmax
comp=Z,8.0nm,1.4s
CUC Castrocucco 24.73 294 P **P 17 56 02.9 +0.8**
CUC IAmb IAmb 17 56 16.6
comp=Z,15nm,1.1s
KSH Kashi 24.91 68 P **P 17 56 02.8 -1.1**
KSH pP sP 17 56 15.6 +0.6
KSH pmax pmax
comp=Z,4.0nm,0.9s
SGRT San Giovanni R 25.01 298 P **P 17 56 04.0 -0.7**
NACGM Naroch 25.10 334 *e*P **P 17 56 04.6 -0.6**
comp=E,720nm,1.0s
KIRV Kirov 25.11 5⇓ *e*P **P 17 56 05.8 +0.6**
SVE Sverdlovsk 25.37 19 *e*P **P 17 56 08.7 +1.1**
RAFF Raffo Rosso 25.77 287 P **P 17 56 13.6 +2.1**
BVAR Borovoye Array 26.20 35 P **P 17 56 15.4 +0.2**
comp=E,0.8nm,0.3s,baz=240,slow=7.7,SNR=9.0
comp=E,0.8nm,0.3s
PABE Paberze 26.63 332 P **P 17 56 18.9 -0.1**
PABE IAmb IAmb 17 56 49.8
comp=Z,10nm,0.9s
FDMO Fiordimonte 27.16 300 P **P 17 56 24.8 +0.7**
FDMO IAmb IAmb 17 56 47.4
comp=Z,20nm,1.3s
KLMR Klimovskoe 27.56 353 *e*P **P 17 56 25.2 -2.2**
KLMR pmax pmax
comp=Z,24nm,2.0s
PRED Cave del Predi 27.58 307 P **P 17 56 26.4 -1.4**
PRED IAmb IAmb 17 56 35.5
comp=Z,16nm,1.4s
CASP Castiglione de 28.74 299 P **P 17 56 36.9 -1.3**
WTTA Wattenberg 29.08 308 *e*P **P 17 56 40.5 -0.8**
comp=Z,1.7nm,0.3s
WATA Walderalm 29.14 308 *i* P **P 17 56 40.9 -0.9**
comp=Z,1.4nm,0.3s
SQTA Sankt Quirin 29.35 308 *i* P **P 17 56 43.2 -0.5**
comp=Z,4.0nm,0.4s
KURBB Kurchatov Arra 29.35 45 P **P 17 56 44.5 +1.1**
comp=Z,1.5nm,0.8s,baz=251,slow=8.8,SNR=10
comp=Z,1.5nm,0.8s
KURK Kurchatov 29.44 45⇓ *e*P **P 17 56 45.0 +0.8**
KURK pmax pmax
comp=Z,7.0nm,2.1s
MOTA Moosalm 29.45 308 *i* P **P 17 56 44.2 -0.3**
comp=Z,1.3nm,0.2s
FETA Feichten 29.61 307 *i* P **P 17 56 45.8 -0.2**
comp=Z,0.3nm,0.2s
VSL Villasalto 29.67 292 P **P 17 56 45.8 -0.6**
FUORN Ofenpass-Fuorn 29.83 306 P **P 17 56 46.7 -1.4**
GRFO Grafenberg 30.07 313 P **P 17 56 47.6 -2.2**
GRFO IAmb IAmb 17 57 26.6
comp=Z,5.9nm,1.0s
GRFO Grafenberg 30.07 313 P **P 17 56 47.6 -2.2**
GRFO pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 30.37 53 P **P 17 56 53.7 +1.2**
MAKZ IAmb IAmb 17 56 59.3
comp=Z,2.4nm,0.6s
MAKZ Makanchi 30.37 53 P **P 17 56 53.7 +1.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 30.57 54 P **P 17 56 55.6 +1.2**
MK31 IAmb IAmb 17 57 00.8
comp=Z,3.6nm,0.6s
MK31 Makanchi Array 30.57 54*d i* P **P 17 56 55.6 +1.2**
MKAR Makanchi Array 30.57 54 P **P 17 56 55.5 +1.1**
MKAR Makanchi Array 30.57 54 P **P 17 56 55.5 +1.1**
MKAR Makanchi Array 30.57 54 P **P 17 56 55.6 +1.3**
comp=Z,4.0nm,0.5s,baz=252,slow=9.5,SNR=57
comp=Z,4.0nm,0.5s
FINES FINESS Array B 30.60 341 P **P 17 56 53.8 -0.5**
FINES FINESS Array B 30.60 341 *i* P **P 17 56 53.9 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 30.60 341 P **P 17 56 53.7 -0.7**
comp=Z,0.7nm,0.5s,baz=128,slow=9.0,SNR=4.7
comp=Z,0.7nm,0.5s
RGN Rugen 30.89 323 P **P 17 56 58.1 +1.2**
SENIN Lac Senin/Sane 31.79 305 P **P 17 57 04.9 -0.4**
BNI Bardonecchia 32.02 303 P **P 17 57 07.4 +0.1**
BNI Bardonecchia 32.02 303 P **P 17 57 07.4 +0.1**
BNI pmax pmax
comp=Z,15nm,0.7s
SSB Saint Sauveur 33.55 303 P **P 17 57 19.8 -0.7**
SSB IAmb IAmb 17 57 30.6
comp=Z,6.7nm,1.0s
SSB Saint Sauveur 33.55 303 P **P 17 57 19.8 -0.7**
SSB pmax pmax
comp=Z,7.0nm,1.0s
HFS Hagfors 33.81 331 P **P 17 57 22.1 -0.4**
comp=Z,6.7nm,0.4s,baz=133,slow=10.0,SNR=68
comp=Z,6.7nm,0.4s
WMQ Urumqi 33.96 60 *e*P **P 17 57 28.2 +4.1**
ZAA0 Zalesovo Array 34.17 42 P **P 17 57 26.1 +0.4**
ZAA0 IAmb IAmb 17 57 26.7
comp=Z,3.8nm,0.3s
ZALV Zalesovo Beam 34.17 42 P **P 17 57 25.8 +0.1**
ZALV Zalesovo Beam 34.17 42 *i* P **P 17 57 26.1 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 34.17 42 P **P 17 57 25.5 -0.2**
comp=Z,3.2nm,0.3s,baz=250,slow=9.7,SNR=21
comp=Z,3.2nm,0.3s
DGZ Jazzator, Alta 34.54 50⇑ *e*P **P 17 57 30.4 +1.2**
DGZ pmax pmax
comp=Z,3.0nm,0.6s
LVZ Lovozero 34.93 353 P **P 17 57 32.2 0.0**
LVZ Lovozero 34.93 353 P **P 17 57 32.2 0.0**
LVZ pmax pmax
comp=Z,47nm,1.3s
NC602 NORSAR Array S 35.02 331 *e*P **P 17 57 33.2 +0.2**
NC405 NORSAR Array S 35.17 332 P **P 17 57 32.4 -1.9**
NC405 IAmb IAmb 17 58 11.8
comp=Z,24nm,1.4s
NB201 NORSAR Array S 35.30 332 P **P 17 57 34.1 -1.4**
NB2 NORSAR Subarra 35.33 332 P **P 17 57 34.7 -1.0**
comp=Z,0.4nm,0.5s,baz=124,slow=9.3
NB2 NORSAR Subarra 35.33 332 P **P 17 57 34.7 -1.0**
baz=124,slow=9.3
NOA NORSAR Array B 35.33 332 P **P 17 57 34.8 -1.0**
comp=Z,0.5nm,0.5s,baz=128,slow=9.2,SNR=4.3
comp=Z,0.5nm,0.5s
NAO01 NORSAR Array S 35.35 331 P **P 17 57 35.3 -0.6**
NAO01 IAmb IAmb 17 57 49.1
comp=Z,19nm,1.4s
NC303 NORSAR Array S 35.38 332 P **P 17 57 35.2 -0.8**
NC303 IAmb IAmb 17 58 09.0
comp=Z,23nm,1.4s
NC204 NORSAR Array S 35.65 332 P **P 17 57 37.4 -1.0**
NC204 IAmb IAmb 17 57 54.6
comp=Z,16nm,1.2s
DOMB Dombas 36.75 332 *e*P **P 17 57 48.2 +0.4**
NSS Namsos 37.19 337 *e*P **P 17 57 51.6 +0.1**
BER Bergen 37.47 328 *e*P **P 17 57 54.4 +0.6**
KTK1 Kautokeino 37.66 347 *e*P **P 17 57 55.5 +0.1**
VADS Vadso 37.67 351 *e*P **P 17 57 55.6 +0.1**
KEV Kevo 37.67 349 P **P 17 57 55.5 0.0**
KEV Kevo 37.67 349 P **P 17 57 55.5 0.0**
KEV pmax pmax
comp=Z,34nm,1.2s
ARA0 ARCESS Array S 37.72 349 *e*P **P 17 57 56.6 +0.7**
ARCES ARCESS Array B 37.72 349 P **P 17 57 56.1 +0.2**
ARCES IAmb IAmb 17 58 19.9
comp=Z,35nm,1.4s
ARCES ARCESS Array B 37.72 349 P **P 17 57 56.1 +0.2**
ARCES pmax pmax
comp=Z,35nm,1.5s
ARCES ARCESS Array B 37.72 349 P **P 17 57 55.2 -0.7**
comp=Z,5.9nm,1.1s,baz=160,slow=8.2,SNR=18
comp=Z,5.9nm,1.1s
STOK Stokkvaagen 38.06 339 *e*P **P 17 57 58.7 0.0**
TRO Tromso 39.04 345 *e*P **P 17 58 06.8 -0.1**
LOF Lofoten 39.17 342 *e*P **P 17 58 09.1 +1.0**
ESBB Sonseca Array 39.93 293 P **P 17 58 14.2 -0.7**
ESBB IAmb IAmb 17 58 17.6
comp=Z,10nm,1.2s
ESDC Sonseca Array 39.94 293 P **P 17 58 14.8 -0.2**
ESDC Sonseca Array 39.94 293 P **P 17 58 15.1 +0.1**
comp=Z,0.9nm,0.5s,baz=78,slow=8.4,SNR=15
comp=Z,0.9nm,0.5s
EKA Eskdalemuir Ar 40.05 318 P **P 17 58 15.5 -0.1**
comp=Z,1.1nm,0.3s,baz=104,slow=8.7,SNR=14
comp=Z,1.1nm,0.3s
EKB Eskdalemuir 40.07 318 P **P 17 58 15.2 -0.5**
EKB IAmb IAmb 17 58 28.0
comp=Z,37nm,1.5s
ESK Eskdalemuir 40.07 318 P **P 17 58 15.3 -0.5**
ESK IAmb IAmb 17 58 48.9
comp=Z,27nm,1.3s
ESK Eskdalemuir 40.07 318 P **P 17 58 15.3 -0.5**
ESK pmax pmax
comp=Z,27nm,1.3s
PAB San Pablo 40.25 293 P **P 17 58 16.5 -1.1**
PAB San Pablo 40.25 293 P **P 17 58 16.5 -1.1**
PAB pmax pmax
comp=Z,5.0nm,1.1s
MTE Manteigas 42.56 295 P **P 17 58 35.6 -0.9**
MTE IAmb IAmb 17 59 10.8
comp=Z,17nm,1.1s
NRIK Noril'sk 42.62 20 P **P 17 58 37.5 +0.9**
NRIK Noril'sk 42.62 20*d i* P **P 17 58 38.0 +1.5**
NRIK pmax pmax
comp=Z,7.0nm,1.1s
NRIK Noril'sk 42.62 20 P **P 17 58 37.7 +1.2**
comp=Z,4.3nm,0.7s,baz=258,slow=6.5,SNR=3.8
comp=Z,4.3nm,0.7s
BJO1 Bjornoya 43.03 350 *e*P **P 17 58 40.2 +0.5**
GTA Gaotai 43.30 66 *e*P **P 17 58 44.0 +1.4**
GTA pmax pmax
comp=Z,3.0nm,1.1s
HOPEN Hopen 44.05 353 *e*P **P 17 58 48.6 +0.6**
TORD Torodi Ar. Bea 44.87 254 P **P 17 58 55.6 +0.4**
TORD Torodi Ar. Bea 44.87 254 P **P 17 58 56.1 +0.9**
comp=Z,1.1nm,0.5s,baz=58,slow=7.2,SNR=11
comp=Z,1.1nm,0.5s
SPA2 Spitsbergen Ar 46.45 352 P **P 17 59 07.5 +0.5**
SPA0 Spitsbergen Ar 46.45 352 *e*P **P 17 59 07.7 +0.7**
SPITS Spitsbergen Ar 46.45 352 P **P 17 59 07.6 +0.6**
comp=Z,3.5nm,0.4s,baz=143,slow=12,SNR=15
comp=Z,3.5nm,0.4s
SPB4 Spitsbergen Ar 46.45 352 P **P 17 59 07.1 0.0**
SONM Songino Array 46.94 53 P **P 17 59 11.8 +0.3**
comp=Z,0.4nm,0.6s,baz=289,slow=8.4,SNR=4.4
comp=Z,0.4nm,0.6s
LZH Lanzhou 47.13 70 *e*P **P 17 59 14.5 +1.4**
LZH pP pP 17 59 18.4 -2.8
LZH pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 47.38 53 P **P 17 59 14.3 -0.6**
ULN IAmb IAmb 17 59 21.9
comp=Z,2.7nm,0.7s
ULN Ulaanbaatar 47.38 53⇓ *e*P **P 17 59 15.8 +0.9**
ULN pmax pmax
comp=Z,2.0nm,0.6s
KBS Kingsbay 47.58 352 *e*P **P 17 59 17.5 +1.7**
PZH PanZhiHua 48.48 83 P **P 17 59 25.2 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,210nm,5.7s
CHTO Chiang Mai 49.44 93 P **P 17 59 31.2 +0.3**
CHTO IAmb IAmb 17 59 31.4
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 49.44 93 P **P 17 59 31.2 +0.3**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CM31 Chiang Mai Arr 49.61 94 P **P 17 59 32.4 +0.2**
CM31 IAmb IAmb 17 59 39.5
comp=Z,4.7nm,0.9s
CMAR Chiang Mai Arr 49.61 94 P **P 17 59 32.1 -0.1**
CMAR Chiang Mai Arr 49.61 94 P **P 17 59 32.2 0.0**
comp=Z,1.7nm,0.6s,baz=291,slow=8.7,SNR=18
comp=Z,1.7nm,0.6s
CRAI Chiangrai 49.98 91 P **P 17 59 34.5 -0.5**
CRAI IAmb IAmb 17 59 37.7
comp=Z,8.5nm,1.4s
HHC Hu-ho-hao-te 51.80 62 *e*P **P 17 59 48.9 +0.3**
HHC pmax pmax
comp=Z,35nm,0.5s
HHC pmax pmax
comp=Z,280nm,5.1s
VOI Vohitsoka 55.21 179 P **P 18 00 15.4 +1.8**
TIXI Tiksi 56.34 22⇑ *e*P **P 18 00 21.9 +0.8**
UBPT Khong Chiam 56.60 93 P **P 18 00 23.2 -0.6**
ANGG Ammassalik, Gr 57.25 331 P **P 18 00 28.0 +0.5**
NJ2 Nanjing 60.20 69 *e*P **P 18 00 50.7 +2.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
LBTB Lobatse 61.37 201 P **P 18 00 58.9 +2.3**
LBTB IAmb IAmb 18 01 41.5
comp=Z,8.6nm,1.2s
LBTB Lobatse 61.37 201 P **P 18 00 58.9 +2.3**
LBTB pmax pmax
comp=Z,9.0nm,1.3s
LBTB Lobatse 61.37 201 LR LR 18 30 25.5
comp=Z,48nm,18.3s,baz=158,slow=39
IVI Ivigtut 62.98 327 P **P 18 01 06.6 -0.3**
BOSA Boshof 64.86 200 P **P 18 01 21.8 +2.0**
BOSA IAmb IAmb 18 01 22.2

	comp=Z,4.0nm,0.6s								
BOSA	**Boshof**	**64.86**	**200**	P		**P**		**18 01 22.0**	**+2.3**
	comp=Z,5.4nm,0.7s,baz=12,slow=7.5,SNR=8.6								
	comp=Z,5.4nm,0.7s								
KSRS	**Korea Array**	**64.91**	**61**	P		**P**		**18 01 19.4**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=283,slow=6.4,SNR=5.1								
	comp=Z,1.0nm,0.6s								
RES	**Resolute Bay**	**68.93**	**350**	P		**P**		**18 01 46.0**	**+1.1**
RES	**Resolute Bay**	**68.93**	**350**	P		**P**		**18 01 46.1**	**+1.1**
RES				pmax		pmax			
	comp=Z,2.0nm,1.2s								
SHEL	**Horse Pasture**	**69.56**	**233**	P		**P**		**18 01 50.6**	**+0.9**
SHEL	**Horse Pasture**	**69.56**	**233**	P		**P**		**18 01 50.6**	**+0.9**
SHEL				pmax		pmax			
	comp=Z,68nm,1.1s								
SUR	**Sutherland**	**69.71**	**202**	P		**P**		**18 01 53.5**	**+3.0**
SCHQ	**Schefferville**	**74.70**	**326**	P		**P**		**18 02 19.8**	**-0.2**
SCHQ				IAmb		IAmb		18 02 57.7	
	comp=Z,13nm,1.3s								
SCHQ	**Schefferville**	**74.70**	**326**	P		**P**		**18 02 19.7**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=53,slow=10,SNR=6.8								
	comp=Z,2.1nm,0.5s								
C16K	**Lisburne Hills**	**75.81**	**11**	P		**P**		**18 02 26.8**	**+0.7**
C16K				IAmb		IAmb		18 02 27.6	
	comp=Z,3.2nm,0.9s								
C23K	**Itkillik River**	**76.17**	**6**	P		**P**		**18 02 27.1**	**-1.0**
C23K				IAmb		IAmb		18 02 35.0	
	comp=Z,4.3nm,0.9s								
D22K	**Ayikyak River**	**76.91**	**7**	P		**P**		**18 02 33.1**	**+0.7**
D22K				IAmb		IAmb		18 02 39.0	
	comp=Z,3.3nm,0.7s								
E18K	**Tukpahlearik C**	**77.33**	**10**	P		**P**		**18 02 35.2**	**+0.5**
E18K				IAmb		IAmb		18 02 36.8	
	comp=Z,4.4nm,0.8s								
E19K	**Redstone River**	**77.76**	**9**	P		**P**		**18 02 38.3**	**+1.2**
E19K				IAmb		IAmb		18 02 39.3	
	comp=Z,4.4nm,0.7s								
E29M	**Blow River**	**78.28**	**1**	P		**P**		**18 02 41.5**	**+1.5**
E29M				IAmb		IAmb		18 02 46.8	
	comp=Z,7.9nm,1.2s								
G19K	**Purcell Mounta**	**79.02**	**9**	P		**P**		**18 02 45.0**	**+0.9**
G19K				IAmb		IAmb		18 02 51.0	
	comp=Z,6.8nm,1.0s								
IMAR	**Indian Mountai**	**79.59**	**8**	P		**P**		**18 02 48.5**	**+1.2**
D62A	**Allapoint, All**	**80.62**	**321**	P		**P**		**18 02 54.1**	**+1.0**
ILAR	**Eielson Array**	**81.45**	**5**	P		**P**		**18 02 58.0**	**+0.7**
ILAR	**Eielson Array**	**81.45**	**5**	P		**P**		**18 02 58.0**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=324,slow=4.1,SNR=9.1								
	comp=Z,1.0nm,0.9s								
J30M	**Hart River**	**82.13**	**1**	P		**P**		**18 03 03.1**	**+2.1**
J30M				IAmb		IAmb		18 03 18.8	
	comp=Z,6.8nm,1.5s								
SCRK	**Sand Creek**	**82.44**	**4**	P		**P**		**18 03 04.4**	**+1.8**
SCRK				IAmb		IAmb		18 03 48.5	
	comp=Z,10nm,1.4s								
RND	**Reindeer**	**82.62**	**7**	P		**P**		**18 03 04.9**	**+1.4**
RND				IAmb		IAmb		18 03 40.6	
	comp=Z,9.5nm,1.2s								
RND	**Reindeer**	**82.62**	**7**	P		**P**		**18 03 04.9**	**+1.4**
RND				pmax		pmax			
	comp=Z,10.0nm,1.2s								
YKA	**Yellowknife Ar**	**82.94**	**351**	*i* P		**P**		**18 03 05.5**	**+0.5**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**82.94**	**351**	P		**P**		**18 03 04.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=15,slow=5.7,SNR=7.8								
	comp=Z,0.6nm,0.8s								
CUT	**Chulitna**	**83.46**	**7**	P		**P**		**18 03 08.9**	**+1.2**
M17K	**Holitna River**	**83.47**	**11**	P		**P**		**18 03 07.4**	**-0.4**
SUA	**Susitna One**	**84.32**	**8**	P		**P**		**18 03 14.2**	**+1.9**

IDC 12 17:51:09.0±2.9, 9°75′S×119°46′E, h0km, mb3.6/3, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=239.0km s-min=26.7km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**17.57**	**127**	P	Pn	17 55 16.1		+0.5
	0.2nm,0.3s,baz=301,slow=14,SNR=10							
WRA				S	Sn	17 58 25.8		-6.3
	0.3nm,0.8s,baz=302,slow=25,SNR=1.7							
	0.6nm,0.8s							
ASAR	**Alice Springs**	**19.54**	**137**	P	P	17 55 38.3		-0.1
	baz=312,slow=9.8,SNR=2.7							
ASAR				S	Sn	17 59 08.5		-11
	0.2nm,0.8s,baz=314,slow=24,SNR=1.7							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**65.33**	**333**	P	P	18 01 53.7		+0.6
	0.4nm,0.6s,baz=152,slow=6.9,SNR=5.7							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**69.84**	**334**	P	P	18 02 21.5		+0.1
	0.2nm,0.5s,baz=153,slow=5.1,SNR=1.7							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**69.90**	**339**	P	P	18 02 20.8		-0.9
	0.6nm,0.5s,baz=152,slow=6.5,SNR=2.8							
	0.6nm,0.5s							

*IDC **12** 17:51:32.8±6.8, 3°.35′S×151°.71′E, h379km±45km, mb3.0/5, mbtmp3.6/6, Error ellipse: s-maj=132.2km s-min=27.9km az=100.0*

ISC 12 17:51:32.4±4.6, 3°.6′S±0°.3×152°.1′E±1°.0, h400km, n7, σ1§00/7, mb3.1/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PMG	**Port Moresby**	**7.58**	**220**	P	**Pn**	**17 53 21.7**		**-0.9**
	2.2nm,0.4s,baz=167,slow=18,SNR=1.5							
WRA	**Warramunga Arr**	**23.75**	**225**	P	**P**	**17 56 12.2**		**+1.1**
	0.7nm,0.4s,baz=48,slow=9.2,SNR=14							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**26.59**	**220**	P	**P**	**17 56 37.6**		**+1.2**
	0.3nm,0.4s,baz=52,slow=8.9,SNR=10							
	0.3nm,0.4s							
SONM	**Songino Array**	**64.96**	**328**	P	**P**	**18 01 31.3**		**+0.2**
	0.2nm,0.5s,baz=113,slow=3.7,SNR=2.1							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**78.98**	**319**	P	**P**	**18 02 53.4**		**+0.2**
	0.2nm,0.5s,baz=95,slow=6.9,SNR=5.4							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**87.88**	**323**	P	**P**	**18 03 37.3**		**-0.5**
	0.7nm,0.5s,baz=109,slow=5.2,SNR=3.2							
	0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**149.28**	**290**	PKPbc	**PKiKP**	**18 10 36.5**		**-0.2**
	0.3nm,0.4s,baz=61,slow=3.0,SNR=4.6							

*VIE **12** 17:55:31.6±0.5, 49°.66′N×18°.64′E, h0km, mb2.0/2, ml1.9/3, Error ellipse: s-maj=4.4km s-min=2.8km az=153.0 34 km SE of Ostrava Suspected Mining induced.*
*IPEC **12** 17:55:32.5±0.2, 50°.09′N×18°.47′E, h1km, ML1.8/4, Error ellipse: s-maj=1.7km s-min=1.0km az=158.0*

PRU 12 17:55:35.2, 50°.09′N×18°.25′E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RAC	**Raciborz**	**0.04**	**259**	*e*PG	Pg	17 55 36.6		+0.7
RAC				*e*SG	Sg	17 55 39.9		+3.6
OKC	**Ostrava-Krasne**	**0.26**	**195**	*e*PG	Pg	17 55 39.5		-0.7
OKC				*e*SG	Sg	17 55 43.7		+0.2
	comp=Z,31nm,0.6s							
MORC	**Moravsky Berou**	**0.55**	**236**	*e*Pg	Pg	17 55 45.2		-0.6
	baz=62							
MORC				*e*Sg	Sg	17 55 53.8		+0.8
	19nm,0.4s,baz=62							
MAUC	**Maruska**	**0.78**	**201**	*e*PG	Pg	17 55 49.0		-1.0
MAUC				*e*SG	Sg	17 56 00.9		+0.8
KRLC	**Kraliky**	**0.95**	**270**	*e*PG	Pg	17 55 51.9		-1.4
KRLC				*e*SG	Sg	17 56 06.0		+0.4
	comp=Z,14nm,0.4s							
OJC	**Ojcow**	**1.00**	**82**	*e*Pg	Pg	17 55 49.5		-5.0
OJC				*e*Sg	Sg	17 56 01.8		-5.6
LANS	**Liptovska Anna**	**1.23**	**139**	*e*PG	Pg	17 55 55.0		-3.7
LANS				*e*SG	Sg	17 56 11.6		-3.1
LANS				*e*LG	Lg	17 56 15.0		
DPC	**Dobruska-Polom**	**1.27**	**283**	*e*PG	Pg	17 55 58.4		-1.0
DPC				*e*SG	Sb	17 56 17.2		+0.4
	comp=Z,11nm,0.3s							
JAVC	**Velka Javorina**	**1.29**	**197**	*e*Pg	Pg	17 55 57.7		-2.2
	baz=23							
JAVC	**Velka Javorina**	**1.29**	**197**	*e*PG	Pg	17 55 57.8		-2.1
VRAC	**Vranov**	**1.33**	**235**	*e*Pg	Pg	17 55 59.2		-1.5
	baz=56							
VRAC				*e*Sg	Sg	17 56 17.9		0.0
	8.4nm,0.4s,baz=56							

OSTC	**Ostas**	**1.39**	**290**	*e*PG	Pg	17 55 59.9		-1.8	
OSTC				*e*SG	Sb	17 56 20.1		-0.1	
KSP	**Ksiaz**	**1.46**	**302**	*e*Pg	Pn	17 56 00.8		-2.0	
KSP				*e*Sg	Sn	17 56 22.8		+0.1	
NIE	**Niedzica**	**1.49**	**116**	*e*Pg	Pn	17 55 59.9		-3.4	
NIE				*e*Sg	Sg	17 56 19.3		-3.7	
UPC	**Upice**	**1.50**	**287**	*e*SG	Sg	17 56 22.6		-0.6	
KRUC	**Moravsky**	**1.59**	**230**	*e*Pn	Pn	17 56 03.1		-1.4	
	baz=52								
KRUC				*e*Sg	Sn	17 56 25.5		-0.2	
	5.8nm,0.3s,baz=52								
VYHS	**Vyhne**	**1.64**	**166**	*e*P	Pn	17 56 02.3		-3.0	
VYHS	**Vyhne**	**1.64**	**166**	*e*PG	Pn	17 56 02.3		-3.0	
VYHS				*e*SG	Sn	17 56 25.1		-2.1	
STHS	**Stebnicka Huta**	**2.06**	**108**	*e*PN	Pn	17 56 09.0		-2.0	
GOPC	**GO Pecny, Ondr**	**2.24**	**267**	*e*SG	Sb	17 56 44.9		+0.1	
PRU	**Pruhonice**	**2.39**	**269**	*e*SG	Sb	17 56 50.0		+0.8	
CONA	**Conrad Observa**	**2.67**	**217**	*e*Pn	Pn	17 56 14.0		-5.5	
	0.5nm,0.4s								
CONA				*e*Sn	Sn	17 56 47.1		-5.6	
	1.8nm,0.6s								
RONA	**Rosalia, Austr**	**2.72**	**209**	*e*Pn	Pn	17 56 12.8		-7.4	
	1.6nm,0.4s								
CKRC	**Cesky Krumlov**	**2.87**	**245**	*e*SG	Sb	17 57 04.8		+1.9	
KHC	**Kasperske Hory**	**3.19**	**254**	*e*PN	Pn	17 56 24.5		-2.1	
KHC				*e*SG	Sg	17 57 16.8		-0.7	
MOA	**Molln**	**3.45**	**231**	*e*Sg	Sg	17 57 24.0		-2.0	
	2.5nm,0.5s								

IDC 12 17:56:09.8±4.7, 2°.52′S×139°.38′E, h0km, mb3.3/2, mbtmp3.5/3, ML3.6/1, MS3.1/1, Error ellipse: s-maj=184.9km s-min=31.0km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GUMO	**Guam**	**16.91**	**19**	LR	LR	18 05 18.6		
	comp=Z,67nm,19.0s,baz=192,slow=32							
WRA	**Warramunga Arr**	**18.00**	**195**	P	P	18 00 22.0		-0.1
	0.2nm,0.3s,baz=16,slow=12,SNR=8.7							
	1.1nm,0.7s							
ASAR	**Alice Springs**	**21.68**	**194**	P	P	18 01 01.8		-0.5
	0.6nm,0.5s,baz=18,slow=11,SNR=10							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**70.05**	**322**	P	P	18 07 23.9		+0.2
	0.3nm,0.6s,baz=119,slow=7.1,SNR=2.9							
	0.3nm,0.6s							

*MOS **12** 18:02:14.5, 39°.97′N×45°.97′E, h19km±2km, MPVA3.1*
*AZER **12** 18:02:16.7, 40°.28′N×45°.82′E, h17km, ml2.4*
*TEH **12** 18:02:19.3, 40°.24′N×45°.81′E, h13km±51km, ML2.1*
*TIF **12** 18:02:19.1, 40°.39′N×45°.73′E, h1km±1km*
*DRS **12** 18:02:23.2, 38°.96′N×45°.96′E, h45km*

ISC 12 18:02:18.5±1.1, 40°.27′N±0°.02×45°.82′E±0°.02, h9km±9km, n41, σ1§05/75, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GDB	**GEDABAY**	**0.46**	**354**	P	**Pg**	**18 02 27.2**		**-0.3**
GDB				S	**Sg**	**18 02 33.0**		**-0.5**
GANJ	**Ganja**	**0.54**	**45**	P	**Pg**	**18 02 28.2**		**-0.8**
GANJ				S	**Sg**	**18 02 35.2**		**-0.9**
GNI	**Garni**	**0.83**	**262**	*e*Pg	**Pb**	**18 02 34.7**		**-0.5**
GNI				*e*Sg	**Sn**	**18 02 48.0**		**-1.1**
QZX	**Qazax, Azerbai**	**0.86**	**337**	P	**Pb**	**18 02 34.8**		**-0.9**
QZX				S	**Sb**	**18 02 46.7**		**-0.7**
SBZ	**Shahbuz**	**0.89**	**193**	P	**Pb**	**18 02 35.9**		**-0.3**
SBZ				S	**Sn**	**18 02 48.5**		**-1.9**
HYR	**Heyderabad**	**0.92**	**234**	P	**Pn**	**18 02 37.0**		**-0.7**
HYR				S	**Sn**	**18 02 51.5**		**+0.3**
AGDM	**Agdam**	**1.00**	**99**	P	**Pb**	**18 02 37.5**		**-0.5**
AGDM				S	**Sn**	**18 02 52.6**		**-0.5**
BRDA	**Brd**	**1.04**	**90**	P	**Pn**	**18 02 39.0**		**-0.4**
BRDA				S	**Sn**	**18 02 55.8**		**+1.7**
VSHL	**Vashlovani**	**1.06**	**24**	P	**Pb**	**18 02 39.5**		**+0.4**
VSHL				S	**Sb**	**18 02 53.5**		**+0.4**
MNGR	**Mingechevir, A**	**1.09**	**62**	P	**Pb**	**18 02 39.5**		**-0.1**
MNGR				S	**Sg**	**18 02 55.7**		**+2.0**
NAX	**Nakhchivan**	**1.12**	**193**	P	**Pg**	**18 02 40.8**		**+0.8**
NAX				S	**Sg**	**18 02 57.3**		**+2.9**
MAKU	**Maku**	**1.26**	**224**	Pg	**Pg**	**18 02 42.8**		**+0.1**
ORD	**Ordubad**	**1.34**	**174**	Pn	**Pb**	**18 02 43.5**		**-0.4**
ORD				Sn	**Sg**	**18 03 02.1**		**+0.5**
QRD	**Qoradiz**	**1.41**	**124**	Pn	**Pb**	**18 02 44.5**		**-0.5**
QRD				Sn	**Sb**	**18 03 02.9**		**-0.2**
SEKA	**Sheki**	**1.41**	**48**	Pg	**Pn**	**18 02 43.7**		**-0.8**
SEKA				Sg	**Sn**	**18 03 02.9**		**-0.4**
ZRD	**Zardab**	**1.43**	**89**	Pn	**Pb**	**18 02 45.9**		**+0.6**
ZRD				Sn	**Sg**	**18 03 07.2**		**+2.8**
BLQ	**Beylaqan**	**1.45**	**112**	Pn	**Pb**	**18 02 45.1**		**-0.5**
BLQ				Sg	**Sb**	**18 03 03.8**		**-0.3**
ZKTA	**Zakatala**	**1.50**	**24**	Pn	**Pn**	**18 02 45.9**		**+0.2**
ZKTA				Sn	**Sb**	**18 03 07.1**		**+1.3**
IMRD	**Marand**	**1.55**	**183**	Pg	**Pb**	**18 02 47.5**		**0.0**
IMRD				Sg	**Sg**	**18 03 09.4**		**+1.0**
LGD	**Lagodekhi**	**1.60**	**11**	P	**Pb**	**18 02 48.3**		**0.0**
LGD				S	**Sb**	**18 03 10.2**		**+1.5**
DMNI	**Dmanisi**	**1.63**	**311**	P	**Pb**	**18 02 48.4**		**-0.5**
DMNI				S	**Sb**	**18 03 10.5**		**+0.9**
QBL	**Gabala**	**1.68**	**65**	Pn	**Pn**	**18 02 48.7**		**+0.5**
QBL				Sn	**Sb**	**18 03 11.8**		**+0.8**
KDMR	**Kurdemir**	**1.81**	**86**	Sn	**Sg**	**18 03 17.3**		**+0.6**
TRLG	**Trialeti**	**1.82**	**315**	P	**Pn**	**18 02 51.1**		**+0.9**
TRLG				S	**Sb**	**18 03 15.5**		**+0.4**
IML	**Ismayilli**	**1.88**	**73**	Sn	**Sb**	**18 03 17.6**		**+0.9**
AKT	**Akhty**	**1.89**	**49**	*e*Pg	**Pb**	**18 02 52.6**		**-0.7**
AKT				*e*Sg	**Sb**	**18 03 17.0**		**-0.1**
ISHB	**Shabestar**	**1.98**	**185**	Pn	**Pb**	**18 02 54.2**		**-0.7**
XNQ	**Khinaliq**	**1.98**	**62**	Pn	**Pn**	**18 02 53.1**		**+0.6**
XNQ				Sn	**Sb**	**18 03 19.4**		**-0.5**
IHRS	**Heris**	**2.16**	**154**	Pn	**Pb**	**18 02 56.9**		**-1.1**
GRMI	**Germi**	**2.17**	**132**	Pn	**Pb**	**18 02 57.2**		**-0.8**
CHRG	**Chargali**	**2.17**	**342**	P	**Pb**	**18 02 57.2**		**-0.8**
CHRG				S	**Sb**	**18 03 25.5**		**+0.4**
PQL	**Pirkuli**	**2.18**	**75**	Pn	**Pn**	**18 02 56.2**		**+1.1**
PQL				Sn	**Sb**	**18 03 25.7**		**+0.3**
KSMR	**Kasumkent**	**2.20**	**52**	*e*Pn	**Pn**	**18 02 55.5**		**+0.1**
KSMR				*e*Sn	**Sn**	**18 03 22.8**		**0.0**
GLBA	**Clilabad**	**2.23**	**116**	Pn	**Pb**	**18 02 57.1**		**-1.9**
GLBA				Sg	**Sg**	**18 03 28.6**		**-1.7**
YRD	**Yardimli**	**2.31**	**125**	Pg	**Pb**	**18 02 59.8**		**-0.7**
YRD				Sn	**Sb**	**18 03 28.7**		**-0.4**
BTLR	**Botlikh**	**2.42**	**7**	*e*Pn	**Pn**	**18 02 58.1**		**-0.2**
BTLR				*e*Sn	**Sb**	**18 03 31.1**		**+0.9**
ALIG	**Mtskhetisjvari**	**2.46**	**319**	P	**Pb**	**18 03 01.9**		**-1.1**
ARKR	**Arakani**	**2.50**	**20**	*e*Pn	**Pn**	**18 02 59.7**		**+0.3**
ARKR				*i* Sn	**Sb**	**18 03 35.7**		**+1.2**
LRK	**Lerik**	**2.54**	**129**	Pg	**Pb**	**18 03 03.4**		**-0.9**
LRK				Sg	**Sg**	**18 03 38.3**		**-1.7**
UNCR	**Uncukul**	**2.56**	**16**	*e*Pn	**Pb**	**18 03 02.7**		**-1.9**
UNCR				*e*Sn	**Sb**	**18 03 37.4**		**+1.3**
ONI	**Oni**	**2.92**	**323**	*e*Pn	**Pb**	**18 03 08.8**		**-2.0**
ONI				*e*Sn	**Sb**	**18 03 48.9**		**+2.1**

IDC 12 18:13:18.2±4.3, 6°.41′S×128°.34′E, h404km±54km, mb2.5/1, mbtmp3.3/3, Error ellipse: s-maj=166.1km s-min=18.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**14.66**	**157**	P	P	18 16 27.5		+0.5
	1.0nm,0.7s,baz=329,slow=13,SNR=8.3							
WRA				S	S	18 19 02.5		-0.7
	0.9nm,0.8s,baz=339,slow=21,SNR=5.1							
ASAR	**Alice Springs**	**17.98**	**163**	P	P	18 17 02.2		-0.2
	0.3nm,0.5s,baz=328,slow=9.3,SNR=8.2							
ASAR				S	S	18 20 08.8		+1.0
	0.6nm,0.7s,baz=344,slow=23,SNR=4.3							
MKAR	**Makanchi Array**	**66.84**	**327**	P	P	18 23 28.2		0.0
	0.1nm,0.4s,baz=126,slow=6.5,SNR=1.7							
	0.1nm,0.4s							

*IDC **12** 18:15:04.8±1.9, 2°.24′N×127°.65′E, h0km, mb4.2/3, mbtmp4.3/3, MS2.5/2, Error ellipse: s-maj=139.7km s-min=25.0km az=66.0*
*NEIC **12** 18:15:19±1.8, 3°.1′N±0°.1×129°.0′E±0°.1, h178km±9km, mb4.2/10, Error ellipse: s-maj=19.0km s-min=14.9km az=125.0*

ISC 12 18:15:21.2±1.3, 3°.0′N±0°.2×128°.8′E±0°.1, h200km, n23, σ1§09/19, mb4.0/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
TNTI	**Ternate**	**2.63**	**213**		**Pn**	**18 16 08.0**		**+1.3**
FAKI	**Fak Fak**	**6.80**	**150**	Pn	Pn	18 17 03.3		+4.4
LUWI	**Luwuk**	**7.25**	**237**		**Pn**	**18 17 03.3**		**-1.5**
TOLI2	**Tolitoli**	**8.24**	**257**	Pn	**Pn**	**18 17 18.8**		**+1.1**
KAPI	**Kappang**	**12.05**	**229**	LR	LR	18 22 19.2		
	comp=Z,9.6nm,18.7s,baz=96,slow=41							
SOEI	**Soe**	**13.45**	**200**	P	**P**	**18 18 27.3**		**+0.2**
MTN	**Manton Dam**	**15.89**	**172**		**P**	**18 18 51.8**		**-2.3**
MTN				IAmb	IAmb	18 19 00.7		
	comp=Z,26nm,1.3s							
SBUM	**Sibu**	**16.59**	**269**		**Pn**	**18 19 03.8**		**+1.0**
SBUM				IAmb	IAmb	18 19 07.4		
	comp=Z,14nm,1.5s							
KNRA	**Kununurra**	**18.54**	**180**	P	**P**	**18 19 22.6**		**-0.4**
KNRA				IAmb	IAmb	18 19 24.6		
	comp=Z,37nm,1.2s							
FITZ	**Fitzroy Crossi**	**21.18**	**188**	P	**P**	**18 19 49.4**		**-1.9**
FITZ				IAmb	IAmb	18 20 24.5		
	comp=Z,6.6nm,1.4s							
WB0	**Warramunga Arr**	**23.27**	**167**	P	**P**	**18 20 10.9**		**-0.2**
WRA	**Warramunga Arr**	**23.42**	**167**	P	**P**	**18 20 12.1**		**-0.5**
	comp=Z,4.8nm,0.6s,baz=342,slow=10,SNR=20							
	comp=Z,4.8nm,0.6s							
WB2	**Warramunga Arr**	**23.43**	**167**	P	**P**	**18 20 12.2**		**-0.4**
WB2				IAmb	IAmb	18 20 14.5		
	comp=Z,6.6nm,0.7s							
AS31	**Alice Springs**	**26.95**	**170**	P	**P**	**18 20 44.1**		**-0.3**
ASAR	**Alice Springs**	**26.95**	**170**	P	**P**	**18 20 43.9**		**-0.5**
ASAR	**Alice Springs**	**26.95**	**170**	P	**P**	**18 20 44.0**		**-0.4**
	comp=Z,1.7nm,0.6s,baz=353,slow=7.6,SNR=48							
	comp=Z,1.7nm,0.6s							
JNU	**Nakatsue**	**30.04**	**3**	LR	LR	18 32 42.4		
	comp=Z,23nm,19.0s,baz=6.0,slow=34							
BBOO	**Buckleboo**	**36.26**	**170**	P	**P**	**18 22 05.5**		**+0.1**
STKA	**Stephens Creek**	**36.74**	**162**	P	**P**	**18 22 10.0**		**+0.6**
STKA	**Stephens Creek**	**36.74**	**162**	P	**P**	**18 22 10.1**		**+0.6**
	comp=Z,2.6nm,0.3s,baz=323,slow=10,SNR=13							
	comp=Z,2.6nm,0.3s							
MKAR	**Makanchi Array**	**59.36**	**325**	P	P	18 25 08.9		+6.5
	comp=Z,0.2nm,0.6s,baz=114,slow=7.5,SNR=4.2							
VNDA	**Vanda**	**82.44**	**173**	P	**P**	**18 27 21.9**		**+1.3**
VNDA				IAmb	IAmb	18 27 55.3		
	comp=Z,3.2nm,1.4s							
BCAR	**Beaver Creek A**	**87.08**	**27**	P	**P**	**18 27 43.3**		**-0.9**

*TEH **12** 18:16:08.6, 33°.73′N×45°.73′E, h14km±38km, ML2.6*
*ISN **12** 18:16:08.7±0.5, 33°.73′N×45°.73′E, h11km±2km, ML2.6*

ISC 12 18:16:08.7±1.2, 33.73°N±0.03°×45.74°E±0.03, h11km±14km, n12, σ0§61/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ILBA	**Ilam Banvizeh**	**0.40**	**105**	Pg	**Pg**	**18 16 16.6**		**-0.1**
ILBA				Sg	**Sb**	**18 16 23.4**		**-0.6**
IBDR	**Badra**	**0.64**	**166**	*e*Pg	**Pg**	**18 16 21.0**		**0.0**
IBDR				*e*Sg	**Sb**	**18 16 30.5**		**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.79**	**351**	Pg	**Pg**	**18 16 24.0**		**+0.1**
IGHG	**Ghaleghazi**	**0.91**	**49**	Pg	**Pg**	**18 16 26.2**		**-0.1**
IDHR	**Dehrash**	**1.11**	**29**	Pg	**Pb**	**18 16 28.9**		**-1.1**
KCHF	**Cheshme Sefid,**	**1.21**	**63**	Pg	**Pg**	**18 16 32.1**		**+0.2**
BHD	**Baghdad**	**1.23**	**249**	*e*Pg	**Pg**	**18 16 32.0**		**-0.3**
BHD				*e*Sg	**Sg**	**18 16 49.0**		**+0.7**
IKOM	**Komasi**	**1.53**	**73**	Pg	**Pg**	**18 16 37.8**		**-0.3**
IKFM	**Kafar-mosalman**	**1.77**	**96**	Pg	**Pb**	**18 16 41.0**		**-0.1**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn	**Pb**	**18 16 44.5**		**-1.0**
RAFI				*e*Sn	**Sb**	**18 17 11.0**		**+0.4**
IKRK	**Kirkuk**	**2.03**	**326**	*e*Pn	**Pb**	**18 16 45.0**		**-0.6**
IKRK				*e*Sn	**Sb**	**18 17 11.0**		**+0.1**
IKRK				AML	AML	18 17 19.6		
	comp=N,59nm,0.4s							
IKRK				AML	AML	18 17 22.7		
	comp=E,59nm,0.9s							
HSAM	**Sam

STKA	**Stephens Creek**	**45.72**	**161**	P	**P**	**18 27 38.9**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=340,slow=12,SNR=12						
	comp=Z,3.8nm,0.6s						
MK31	**Makanchi Array**	**50.70**	**322**	P	**P**	**18 28 17.8**	**-0.1**
MKAR	**Makanchi Array**	**50.70**	**322**	P	**P**	**18 28 18.4**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=118,slow=7.9,SNR=31						
MKAR				PcP	**PcP**	**18 29 33.5**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=100,slow=5.4,SNR=2.0						
	comp=Z,1.3nm,0.3s						
MAKZ	**Makanchi**	**50.90**	**322**	P	**P**	**18 28 19.9**	**+0.6**
MAKZ				IAmb	IAmb	18 28 20.3	
	comp=Z,2.0nm,0.6s						
CAN	**Canberra**	**51.52**	**156**	P	**P**	**18 28 25.0**	**+0.9**
DZM	**Mont Dzumac**	**52.09**	**130**	P	**P**	**18 28 30.4**	**+1.8**
TOO	**Toolangi**	**52.21**	**160**	P	**P**	**18 28 30.1**	**+0.9**
ZALV	**Zalesovo Beam**	**53.29**	**331**	P	**P**	**18 28 36.6**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=120,slow=7.8,SNR=8.6						
	comp=Z,1.3nm,0.5s						
KURK	**Kurchatov**	**54.74**	**325**	P	**P**	**18 28 47.8**	**+0.3**
KURK				IAmb	IAmb	18 28 48.9	
	comp=Z,5.7nm,0.9s						
KURBB	**Kurchatov Arra**	**54.74**	**325**	P	**P**	**18 28 48.0**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=126,slow=7.1,SNR=13						
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**60.34**	**325**	P	**P**	**18 29 26.8**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=120,slow=10,SNR=12						
	comp=Z,1.9nm,0.7s						
BRVK	**Borovoye**	**60.41**	**325**	P	**P**	**18 29 26.9**	**-0.5**
BRVK				IAmb	IAmb	18 29 29.1	
	comp=Z,2.9nm,0.7s						
NRIK	**Noril'sk**	**62.72**	**346**	P	**P**	**18 29 42.8**	**+0.1**
NRIK				IAmb	IAmb	18 29 44.5	
	comp=Z,4.8nm,0.8s						
NRIK	**Noril'sk**	**62.72**	**346**	P	**P**	**18 29 43.7**	**+1.0**
	comp=Z,3.7nm,0.5s,baz=150,slow=6.2,SNR=9.2						
	comp=Z,3.7nm,0.5s						
ABKAR	**Akbulak array**	**65.57**	**319**	P	**P**	**18 30 01.0**	**-0.7**
ABKAR				IAmb	IAmb	18 30 30.2	
	comp=Z,3.6nm,1.4s						
ABKAR	**Akbulak array**	**65.57**	**319**	P	**P**	**18 30 00.6**	**-1.1**
ARU	**Arti**	**67.89**	**326**	P	**P**	**18 30 15.7**	**-0.7**
C16K	**Lisburne Hills**	**71.72**	**21**	P	**P**	**18 30 40.9**	**+1.3**
G16K	**Koyuk River**	**72.19**	**25**		**P**	**18 30 44.3**	**+1.8**
G16K				IAmb	IAmb	18 30 59.2	
	comp=Z,11nm,1.5s						
E18K	**Tukpahlearik C**	**73.28**	**23**	P	**P**	**18 30 51.0**	**+2.0**
E18K				IAmb	IAmb	18 31 31.6	
	comp=Z,5.3nm,1.4s						
C18K	**Utukok River**	**73.30**	**21**	P	**P**	**18 30 51.2**	**+2.0**
H18K	**Honhosa River**	**73.81**	**25**	P	**P**	**18 30 53.5**	**+1.3**
H18K				IAmb	IAmb	18 31 14.1	
	comp=Z,7.3nm,1.4s						
C19K	**Lookout Ridge**	**73.96**	**21**	P	**P**	**18 30 55.6**	**+2.7**
C19K				IAmb	IAmb	18 30 56.6	
	comp=Z,3.3nm,0.9s						
D19K	**Kuna River**	**74.39**	**22**	P	**P**	**18 30 57.6**	**+2.1**
D19K				IAmb	IAmb	18 30 58.5	
	comp=Z,3.8nm,1.1s						
E19K	**Redstone River**	**74.57**	**23**	P	**P**	**18 30 58.5**	**+2.0**
IMAR	**Indian Mountai**	**75.80**	**25**	P	**P**	**18 31 05.5**	**+1.9**
H21K	**Melozitna Rive**	**76.17**	**25**	P	**P**	**18 31 08.0**	**+2.3**
H21K				IAmb	IAmb	18 31 20.1	
	comp=Z,5.6nm,1.4s						
E24K	**Your Creek**	**77.93**	**23**	P	**P**	**18 31 17.8**	**+2.2**
GURO	**Guroymak-BITLI**	**77.98**	**307**	P	**P**	**18 31 16.4**	**-0.2**
GURO				IAmb	IAmb	18 31 17.7	
	comp=Z,3.4nm,0.8s						
F24K	**Squaw Lake**	**78.16**	**23**	P	**P**	**18 31 18.8**	**+1.9**
F24K				IAmb	IAmb	18 31 20.7	
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**78.66**	**26**	P	**P**	**18 31 19.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=252,slow=4.1,SNR=9.6						
	comp=Z,0.5nm,0.7s						
BMAR	**Burnt Mountain**	**79.44**	**23**	P	**P**	**18 31 26.1**	**+2.2**
D27M	**Malcolm River**	**80.59**	**21**	P	**P**	**18 31 32.5**	**+2.3**
M29M	**Somme Creek**	**82.67**	**28**	P	**P**	**18 31 43.2**	**+1.9**
M29M				IAmb	IAmb	18 32 19.6	
	comp=Z,7.2nm,1.2s						
ARCES	**ARCESS Array B**	**82.87**	**340**	P	**P**	**18 31 41.6**	**-0.4**
ARCES	**ARCESS Array B**	**82.87**	**340**	P	**P**	**18 31 42.0**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=81,slow=5.6,SNR=13						
	comp=Z,4.1nm,0.8s						
MMAI	**Mount Meron Ar**	**84.04**	**302**	P	**P**	**18 31 48.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=52,slow=9.5,SNR=2.0						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**84.55**	**332**	P	**P**	**18 31 50.6**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=72,slow=4.5,SNR=31						
	comp=Z,1.3nm,0.4s						
AKASG	**Malin Array Be**	**85.25**	**321**	P	**P**	**18 31 53.2**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=62,slow=4.8,SNR=12						
	comp=Z,0.7nm,0.4s						
HFS	**Hagfors**	**90.71**	**332**	P	**P**	**18 32 18.9**	**-1.6**
	comp=Z,2.9nm,1.0s,baz=110,slow=6.3,SNR=6.4						
	comp=Z,2.9nm,1.0s						
YKA	**Yellowknife Ar**	**92.94**	**24**	P	**P**	**18 32 30.1**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=297,slow=4.1,SNR=3.5						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**119.23**	**292**	PKP	**PKPdf**	**18 38 05.9**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=3.6,slow=3.4,SNR=2.1						
PLCA	**Paso Flores**	**147.54**	**157**	PKPbc	**PKPbc**	**18 39 02.0**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=286,slow=7.4,SNR=5.3						

ISN ***12*** *18:24:11.8±0.5,33.°77N×45.°79E,h10km±2km, ML2.4*
TEH ***12*** *18:24:12.2,33.°77N×45.°76E,h5km, ML2.6*
ISC 12 18:24:12.4±1.4**,33.75N**±0.04×**45.76E**±0.04**,h9**km±13km**,**
n12,σ1§**09/17,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**109**	Pg	**Pg**	**18 24 20.2**	**+0.1**
ILBA				Sg	**Sb**	**18 24 26.6**	**-1.3**
IBDR	**Badra**	**0.66**	**167**	*e*Pg	**Pg**	**18 24 25.0**	**0.0**
IBDR				*e*Sg	**Sg**	**18 24 34.0**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.77**	**349**	Pg	**Pb**	**18 24 27.8**	**-0.1**
IGHG	**Ghaleghazi**	**0.89**	**49**	Pg	**Pn**	**18 24 30.5**	**-0.8**
IDHR	**Dehrash**	**1.08**	**29**	Pg	**Pn**	**18 24 33.9**	**0.0**
KCHF	**Cheshme Sefid,**	**1.19**	**64**	Pg	**Pn**	**18 24 37.3**	**+1.9**
BHD	**Baghdad**	**1.25**	**248**	*e*Pg	**Pn**	**18 24 36.0**	**0.0**
BHD				*e*Sg	**Sn**	**18 24 54.0**	**+1.1**
IKOM	**Komasi**	**1.52**	**73**	Pg	**Pg**	**18 24 43.1**	**+1.7**
IKFM	**Kafar-mosalman**	**1.76**	**97**	Pg	**Pg**	**18 24 46.1**	**+0.1**
IKRK	**Kirkuk**	**2.02**	**325**	*e*Pn	**Pb**	**18 24 48.0**	**-1.3**
IKRK				*e*Sn	**Sb**	**18 25 14.0**	**-0.5**
IKRK				AML	AML	18 25 14.4	
	comp=N,40nm,0.3s						
IKRK				AML	AML	18 25 20.6	
	comp=E,45nm,0.4s						
RAFI	**Al-Rafai**	**2.05**	**171**	*e*Pn	**Pn**	**18 24 48.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**18 25 15.0**	**-0.3**
HSAM	**Samen**	**2.41**	**78**	Pn	**Pb**	**18 24 54.5**	**-1.5**

CATAC ***12*** *18:38:57.4±0.6,9.°52N×84.°98W,h10km±3km, ML3.3*
UCR ***12*** *18:38:58.0±0.8,9.°53N×85.°01W,h17km±4km, MWW3.7*
ISC 12 18:38:57.5±1.1**,9.52N**±0.07×**84.98W**±0.03**,h14**km±7km**,**
n34,σ0§**58/42,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	**Cabuya**	**0.13**	**303**	*e*P	**Pg**	**18 39 00.9**	**-0.2**
CBL1				*e*S	**Sg**	**18 39 03.7**	**+0.3**
JACO	**JACO, Garabito**	**0.35**	**66**	*e*P	**Pg**	**18 39 05.0**	**+0.3**
JACO				*e*S	**Sb**	**18 39 11.0**	**+0.2**
JACO	**JACO, Garabito**	**0.35**	**66**	*i* P	**Pg**	**18 39 04.9**	**+0.3**
JACO				*i* S	**Sb**	**18 39 11.1**	**+0.2**
JACO				IAML		18 39 12.9	
	comp=Z,2μm,1.0s						
ARZA	**Esparza**	**0.56**	**33**	*e*P	**Pb**	**18 39 09.5**	**+0.4**
ARZA				*e*S	**Sb**	**18 39 18.5**	**+1.5**
INDI	**Punta indio, G**	**0.62**	**304**	*e*P	**Pg**	**18 39 09.6**	**0.0**
INDI	**Punta indio, G**	**0.62**	**304**	*i* P	**Pg**	**18 39 09.7**	**+0.1**
INDI				*i* S	**Sb**	**18 39 19.9**	**+1.3**
INDI				IAML		18 39 22.1	
	comp=Z,2μm,1.0s						
JTS	**Las Juntas de**	**0.77**	**2**	*e*P	**Pg**	**18 39 11.8**	**-0.6**
TCS1	**Tacares**	**0.85**	**52**	*i* P	**Pg**	**18 39 14.0**	**0.0**
TCS1				IAML		18 39 33.0	
	comp=Z,6μm,1.0s						
SOCE	**Pocosol**	**0.93**	**23**	*e*P	**Pb**	**18 39 14.9**	**-0.5**
SOCE	**Pocosol**	**0.93**	**23**	*i* P	**Pb**	**18 39 14.8**	**-0.6**
SOCE				IAML		18 39 20.4	
	comp=Z,1μm,1.0s						
ORTG	**Ortega, Santa**	**0.96**	**331**	*i* P	**Pb**	**18 39 15.2**	**-0.8**
ORTG				*i* S	**Sn**	**18 39 30.2**	**+0.1**
ORTG				IAML		18 39 34.0	
	comp=Z,620nm,1.0s						
CPMI	**Catarata Coope**	**0.96**	**38**	*i* P	**Pg**	**18 39 15.5**	**-0.7**
CPMI				IAML		18 39 16.5	
	comp=Z,470nm,1.0s						
HDC	**Heredia**	**0.98**	**61**	*e*P	**Pb**	**18 39 16.1**	**-0.3**
HDC3	**Heredia 3**	**0.98**	**61**	*i* P	**Pb**	**18 39 16.4**	**0.0**
HDC3				IAML		18 39 33.9	
	comp=Z,580nm,1.0s						
LCR2	**La Lucha 2**	**0.99**	**77**	*e*P	**Pb**	**18 39 15.7**	**-0.8**
LCR2	**La Lucha 2**	**0.99**	**77**	*i* P	**Pb**	**18 39 15.8**	**-0.7**
LCR2				*i* S	**Sb**	**18 39 29.8**	**+0.3**
LCR2				IAML		18 39 33.9	
	comp=Z,350nm,1.0s						
POA5	**Crater Von Fra**	**1.01**	**47**	*e*P	**Pb**	**18 39 16.3**	**-0.6**
TBLN	**Tablon, Guarco**	**1.01**	**73**	*i* P	**Pb**	**18 39 16.0**	**-1.0**
TBLN				IAML		18 39 32.8	
	comp=Z,530nm,1.0s						
OCM	**Ochomogo**	**1.07**	**70**	*i* P	**Pb**	**18 39 17.1**	**-0.9**
OCM				IAML		18 39 18.0	
	comp=Z,510nm,1.0s						
CDM	**Cerro de Muert**	**1.20**	**88**	*i* P	**Pn**	**18 39 20.0**	**-0.3**
CDM				IAML		18 39 24.0	
	comp=Z,390nm,1.0s						
CDM				*i* S	**Sn**	**18 39 37.1**	**+0.5**
HAYA	**Volcan Irazu**	**1.21**	**68**	*i* P	**Pn**	**18 39 20.2**	**-0.2**
HAYA				IAML		18 39 23.5	
	comp=Z,500nm,1.0s						
VICA	**Volcano Irazu**	**1.21**	**67**	*e*P	**Pn**	**18 39 20.1**	**-0.3**
BUS1	**Rivas**	**1.22**	**88**	*e*P	**Pn**	**18 39 20.0**	**-0.5**
VMAR	**Armenia, Volca**	**1.29**	**354**	*i* P	**Pn**	**18 39 20.9**	**-0.2**
VMAR				IAML		18 39 47.6	
	comp=Z,940nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.31**	**53**	*i* P	**Pn**	**18 39 21.3**	**-0.1**
RIFO				IAML		18 39 24.5	
	comp=Z,470nm,1.0s						
VRLE	**La Escondida,**	**1.32**	**343**	*i* P	**Pn**	**18 39 21.1**	**-0.4**
VRLE				IAML		18 39 22.4	
	comp=Z,250nm,1.0s						
COVE	**Coope Vega, Sa**	**1.32**	**26**	*e*P	**Pn**	**18 39 21.3**	**-0.3**
COVE	**Coope Vega, Sa**	**1.32**	**26**	*i* P	**Pn**	**18 39 21.2**	**-0.3**
COVE				IAML		18 39 50.1	
	comp=Z,540nm,1.0s						
HZTE	**Horizontes, Gu**	**1.33**	**333**	*e*P	**Pn**	**18 39 21.9**	**+0.2**
HZTE	**Horizontes, Gu**	**1.33**	**333**	*i* P	**Pn**	**18 39 21.9**	**+0.2**
HZTE				IAML		18 39 45.5	
	comp=Z,390nm,1.0s						
TRT2	**Tortugero**	**1.60**	**50**	*i* P	**Pn**	**18 39 26.0**	**+0.6**
TRT2				IAML		18 39 30.8	
	comp=Z,500nm,1.0s						
SRBA	**San Rafael, Bu**	**1.63**	**100**	*i* P	**Pn**	**18 39 26.0**	**+0.2**
SRBA				IAML		18 39 31.2	
	comp=Z,110nm,1.0s						
MORN	**Al O del Volca**	**2.12**	**342**	*i* P	**Pb**	**18 39 34.9**	**-0.8**
CONN	**Concepcion**	**2.13**	**343**	*i* P	**Pb**	**18 39 35.0**	**-0.8**

TEH ***12*** *18:56:02.3,33.°71N×45.°69E,h8km±76km, ML3.3*
ISN ***12*** *18:56:02.3±0.8,33.°74N×45.°75E,h11km±3km, ML3.2*
ISC 12 18:56:03.1±0.8**,33.72N**±0.03×**45.72E**±0.03**,h13**km**,n21,**
σ1§32/25,2D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.41**	**104**	Pg	**Pg**	**18 56 11.0**	**-0.5**
IBDR	**Badra**	**0.64**	**164**	*e*Pg	**Pg**	**18 56 15.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**18 56 24.5**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.79**	**352**	Pg	**Pb**	**18 56 18.2**	**-0.5**
IGHG	**Ghaleghazi**	**0.93**	**49**	Pg	**Pn**	**18 56 21.6**	**-0.5**
IDHR	**Dehrash**	**1.12**	**29**	Pg	**Pn**	**18 56 23.7**	**-0.7**
BHD	**Baghdad**	**1.21**	**248**	*e*Pg	**Pg**	**18 56 26.0**	**-0.4**
BHD				*e*Sg	**Sg**	**18 56 43.0**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.22**	**63**	Pg	**Pn**	**18 56 25.6**	**-0.5**
IKOM	**Komasi**	**1.55**	**73**	Pg	**Pg**	**18 56 32.6**	**-0.3**
ILIN	**Lien**	**1.57**	**40**	Pg	**Pg**	**18 56 32.7**	**-0.6**
IKFM	**Kafar-mosalman**	**1.78**	**96**	Pg	**Pb**	**18 56 35.9**	**+0.3**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn	**Pb**	**18 56 38.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**18 57 05.0**	**+0.2**
IKRK	**Kirkuk**	**2.02**	**326**	*e*Pn	**Pb**	**18 56 38.0**	**-1.8**
IKRK				*e*Sn	**Sb**	**18 57 05.0**	**+0.1**
IALM	**Almabolaq**	**2.32**	**60**	Pn	**Pb**	**18 56 42.8**	**-2.2**
SDS1	**Sardasht. Az.**	**2.43**	**355**	Pn	**Pn**	**18 56 44.1**	**+1.5**
HSAM	**Samen**	**2.44**	**78**	Pn	**Pn**	**18 56 44.5**	**+1.5**
HAGD	**Aghdareh**	**3.03**	**68**	Pn	**Pn**	**18 56 52.6**	**+1.6**
MAHB	**Mahabad**	**3.04**	**360**	Pn	**Pn**	**18 56 53.4**	**+2.4**
QAMS	**Qamsar**	**4.73**	**88**	Pn	**Pn**	**18 57 15.9**	**+1.6**
IKLH	**Kolahrood**	**4.91**	**93**	Pn	**Pn**	**18 57 19.0**	**+2.2**
IZEF	**Zefreh**	**5.59**	**97**	Pn	**Pn**	**18 57 28.3**	**+2.0**
AB31	**Akbulak array**	**18.77**	**30**	||Pn	**Pn**	**19 00 22.2**	**-0.1**
	0.2nm,0.4s,baz=335,slow=17,SNR=8.6						
AB31				||Lg	Lg	19 01 01.9	
	0.7nm,0.6s,baz=344,slow=29						

ISN ***12*** *18:58:26.2±0.7,33.°73N×45.°71E,h10km±3km, ML3.2*
TEH ***12*** *18:58:27.1,33.°76N×45.°75E,h14km±31km, ML3.4*
ISC 12 18:58:26.5±1.3**,33.74N**±0.03×**45.70E**±0.04**,h8**km±12km**,**
n21,σ0§**99/27,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.44**	**104**	Pg	**Pg**	**18 58 35.5**	**+0.4**
ILBA				Sg	**Sb**	**18 58 41.5**	**-1.8**
IBDR	**Badra**	**0.65**	**162**	*e*Pg	**Pg**	**18 58 39.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**18 58 48.0**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.77**	**353**	Pg	**Pg**	**18 58 41.6**	**+0.2**
IGHG	**Ghaleghazi**	**0.94**	**50**	Pg	**Pb**	**18 58 44.6**	**-0.5**
IDHR	**Dehrash**	**1.12**	**31**	Pg	**Pb**	**18 58 47.1**	**-1.1**
BHD	**Baghdad**	**1.19**	**247**	*e*Pg	**Pn**	**18 58 49.0**	**-0.4**
BHD				*e*Sg	**Sn**	**18 59 06.0**	**+0.2**
BHD				AML	AML	18 59 10.6	
	comp=E,2μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.24**	**64**	Pg	**Pg**	**18 58 49.9**	**-0.4**
IKOM	**Komasi**	**1.57**	**73**	Pg	**Pg**	**18 58 56.2**	**-0.4**
IKOM				Sg	**Sg**	**18 59 17.3**	**+0.3**
ILIN	**Lien**	**1.58**	**41**	Pg	**Pb**	**18 58 55.8**	**-0.2**
IKFM	**Kafar-mosalman**	**1.81**	**96**	Pg	**Pb**	**18 59 00.0**	**+0.2**
IBZA	**Bozab**	**1.94**	**67**	Pn	**Pb**	**18 59 01.1**	**-1.1**
IKRK	**Kirkuk**	**2.00**	**326**	*e*Pn	**Pb**	**18 59 02.5**	**-0.6**
IKRK				*e*Sn	**Sb**	**18 59 28.0**	**-0.2**
IKRK				AML	AML	18 59 33.4	
	comp=E,150nm,0.7s						
IKRK				AML	AML	18 59 40.5	
	comp=N,134nm,0.5s						
RAFI	**Al-Rafai**	**2.04**	**170**	*e*Pn	**Pn**	**18 59 02.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**18 59 29.0**	**-0.2**
IALM	**Almabolaq**	**2.33**	**61**	Pn	**Pb**	**18 59 06.9**	**-2.0**
SDS1	**Sardasht. Az.**	**2.42**	**356**	Pn	**Pn**	**18 59 07.9**	**+1.5**
HSAM	**Samen**	**2.46**	**78**	Pn	**Pn**	**18 59 08.0**	**+0.9**
MAHB	**Mahabad**	**3.02**	**0**	Pn	**Pn**	**18 59 15.9**	**+1.1**
HAGD	**Aghdareh**	**3.05**	**68**	Pn	**Pn**	**18 59 16.4**	**+1.2**
QAMS	**Qamsar**	**4.75**	**88**	Pn	**Pn**	**18 59 38.6**	**0.0**
IKLH	**Kolahrood**	**4.93**	**93**	Pn	**Pn**	**18 59 42.9**	**+1.8**
IZEF	**Zefreh**	**5.62**	**97**	Pn	**Pn**	**18 59 51.5**	**+1.0**

IDC ***12*** *19:02:41.5±1.9,10.°55S×161.°54E,h0km,mb3.8/4, mbtmp3.8/4,MS2.9/2,Error ellipse: s-maj=35.1km s-min=30.1km az=119.0*
NEIC ***12*** *19:02:46.8±1.9,9.°93S±0.°06×161.°8E±0.°1,h76km±17km, mb4.1/4,Error ellipse: s-maj=19.8km s-min=3.8km az=66.0*
ISC 12 19:02:48.8±1.6**,10.4S**±0.2×**161.5E**±0.2**,h50**km**,n18,**
σ1§44/17,mb3.6/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.78**	**301**		**Pn**	**19 03 17.4**	**+0.3**
HNR				Sn	**Sn**	**19 03 39.7**	**+1.2**
HNR	**Honiara**	**1.78**	**301**	Pn	**Pn**	**19 03 16.7**	**-0.4**
	2μm,0.3s,baz=166,slow=9.5,SNR=32						
HNR				Sn	**Sn**	**19 03 40.1**	**+1.6**
	2μm,0.3s,baz=125,slow=16,SNR=7.1						
KOUNC	**Koumac, New Ca**	**10.49**	**165**		**Pn**	**19 05 18.0**	**+1.3**
LIFNC	**LIFOU**	**11.75**	**153**	Pn	**Pn**	**19 05 33.6**	**-0.3**
DZM	**Mont Dzumac**	**12.59**	**158**	Pn	**Pn**	**19 05 47.2**	**+1.9**
DZM	**Mont Dzumac**	**12.59**	**158**	LR	LR	19 09 48.9	
	comp=Z,63nm,18.4s,baz=254,slow=34						
ONTNC	**Ouen Toro**	**12.81**	**159**	Pn	**Pn**	**19 05 49.9**	**+1.6**
OUENC	**Ouen Island, N**	**13.05**	**158**	Pn	**Pn**	**19 05 51.9**	**+0.3**
CTA	**Charters Tower**	**17.59**	**235**	P	**P**	**19 06 52.1**	**+1.1**
	1.6nm,0.4s,baz=77,slow=13,SNR=2.4						
CTAO	**Charters Tower**	**17.59**	**235**	P	**P**	**19 06 52.7**	**+1.6**
CTAO				IAmb	IAmb	19 07 26.7	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**27.76**	**247**	P	**P**	**19 08 32.4**	**-0.7**
WB2	**Warramunga Arr**	**27.84**	**247**	P	**P**	**19 08 32.5**	**-1.4**
WB2				IAmb	IAmb	19 09 13.9	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**27.85**	**247**	P	**P**	**19 08 33.0**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=75,slow=9.6,SNR=8.6						
	comp=Z,1.7nm,0.7s						
GUMO	**Guam**	**28.95**	**325**	LR	LR	19 21 01.2	
	comp=Z,18nm,18.4s,baz=97,slow=38						
ASAR	**Alice Springs**	**29.45**	**240**	P	**P**	**19 08 46.1**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=66,slow=9.6,SNR=5.6						
	comp=Z,0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**35.55**	**253**	P	**P**	**19 09 39.2**	**-2.3**
SONM	**Songino Array**	**75.67**	**325**	P	**P**	**19 14 29.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=135,slow=7.1,SNR=3.8						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**84.23**	**20**	P	P	19 15 15.6	+0.9
	comp=Z,0.7nm,1.1s,baz=240,slow=5.1,SNR=2.3						
	comp=Z,0.7nm,1.1s						

ISN ***12*** *19:12:18.4±0.8,33.°72N×45.°72E,h10km±4km, ML3.1*
TEH ***12*** *19:12:20.7,33.°85N×45.°89E,h5km, ML3.1*
ISC 12 19:12:20.2±0.9**,33.68N**±0.04×**45.68E**±0.05**,h10**km**,n18,**
σ1§09/20,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.44**	**98**	Pg	**Pg**	**19 12 27.5**	**-1.4**
IBDR	**Badra**	**0.61**	**160**	*e*Pg	**Pg**	**19 12 31.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**19 12 39.5**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.82**	**355**	Pg	**Pg**	**19 12 34.9**	**-1.3**
IGHG	**Ghaleghazi**	**0.98**	**49**	Pg	Pg	19 12 35.7	-3.4
BHD	**Baghdad**	**1.17**	**250**	*e*Pg	**Pb**	**19 12 42.0**	**-0.5**
BHD				*e*Sg	**Sb**	**19 12 58.0**	**+0.4**
IDHR	**Dehrash**	**1.17**	**30**	Pg	Pb	19 12 40.3	-2.3
KCHF	**Cheshme Sefid,**	**1.27**	**62**	Pg	**Pn**	**19 12 43.1**	**-1.2**
IKOM	**Komasi**	**1.60**	**72**	Pg	**Pn**	**19 12 49.4**	**+0.7**
ILIN	**Lien**	**1.62**	**40**	Pg	**Pn**	**19 12 49.8**	**+0.6**
IKFM	**Kafar-mosalman**	**1.81**	**94**	Pg	**Pn**	**19 12 52.5**	**+1.0**
RAFI	**Al-Rafai**	**1.99**	**169**	*e*Pn	**Pn**	**19 12 54.0**	**+0.1**
RAFI				*e*Sn	**Sn**	**19 13 21.0**	**+2.1**
RAFI				AML	AML	19 13 30.0	
	comp=E,200nm,0.4s						
RAFI				AML	AML	19 13 31.9	
	comp=N,255nm,0.5s						
IKRK	**Kirkuk**	**2.04**	**327**	*e*Pn	**Pn**	**19 12 54.5**	**-0.2**
IKRK				*e*Sn	**Sn**	**19 13 21.0**	**+0.8**
IKRK				AML	AML	19 13 28.7	
	comp=N,181nm,0.4s						
IKRK				AML	AML	19 13 29.2	
	comp=E,146nm,0.4s						
IALM	**Almabolaq**	**2.37**	**60**	Pn	**Pn**	**19 12 60.0**	**+0.6**
HSAM	**Samen**	**2.48**	**77**	Pn	**Pn**	**19 13 01.4**	**+0.4**
MAHB	**Mahabad**	**3.08**	**0**	Pn	**Pn**	**19 13 11.0**	**+2.0**
HAGD	**Aghdareh**	**3.08**	**67**	Pn	**Pn**	**19 13 10.3**	**+1.1**
QAMS	**Qamsar**	**4.76**	**88**	Pn	**Pn**	**19 13 33.0**	**+0.7**
IKLH	**Kolahrood**	**4.94**	**93**	Pn	**Pn**	**19 13 35.4**	**+0.7**

IDC ***12*** *19:14:16.1±0.8,33.°80N×45.°65E,h0km,mb3.9/15, mbtmp3.9/21,ML3.4/6,MS2.6/1,Error ellipse: s-maj=17.3km s-min=12.7km az=156.0*
TEH ***12*** *19:14:16.7,33.°73N×45.°64E,h8km±49km, ML3.9*
ISN ***12*** *19:14:18.3±1.3,33.°81N×45.°72E,h7km±6km, ML3.8*
NEIC ***12*** *19:14

GNI	Garni	6.42	354	Pn	Pn	19 15 55.4	+2.9		
	comp=N,0.4nm,0.3s,baz=174,slow=21,SNR=1.6								
GNI				Pg	Pb	19 16 13.2	+3.4		
	comp=N,0.5nm,0.3s,baz=207,slow=18,SNR=2.1								
GNI				Lg	Lg	19 17 40.2			
	comp=N,0.3nm,0.3s,baz=18,slow=24,SNR=1.1								
	comp=N,2.1nm,0.6s								
DSBU	Dashti - Bushe	7.20	137	Pn	Pn	19 16 04.2	+1.2		
ASF	Jabal al Asfar	7.55	260	Pn	Pn	19 16 06.8	-1.1		
	comp=N,0.4nm,0.3s,baz=60,slow=23,SNR=1.8								
ASF				Lg	Lg	19 18 18.4			
	comp=N,1.2nm,0.3s,baz=323,slow=20,SNR=2.4								
	comp=N,1.7nm,0.6s								
MMAI	Mount Meron Ar	8.63	268	Pn	Pn	19 16 22.6	-0.1		
	comp=N,0.3nm,0.3s,baz=92,slow=15,SNR=2.0								
MMAI				Lg	Lg	19 18 49.5			
	comp=N,1.8nm,0.3s,baz=78,slow=32,SNR=2.1								
MMAI				LR	LR	19 20 35.0			
	comp=N,41nm,20.3s,baz=133,slow=44								
	comp=N,0.4nm,0.4s								
ONI	Oni	8.99	349	Pn	Pn	19 16 27.7	0.0		
EIL	Elat	10.00	249	Pn	Pn	19 16 41.7	+0.2		
	comp=N,0.2nm,0.3s,baz=105,slow=12,SNR=2.6								
EIL				Lg	Lg	19 19 40.0			
	comp=N,0.5nm,0.3s,baz=13,slow=18,SNR=2.1								
	comp=N,2.5nm,0.7s								
WSAR	Wadi Sarin	15.46	129	Pn	Pn	19 17 52.7	-3.2		
	comp=N,0.5nm,0.3s,baz=359,slow=3.9,SNR=6.7								
BELG	Belogornoye	18.68	4	P	P	19 18 33.6	-2.1		
	comp=N,1.0nm,0.3s,baz=117,slow=16,SNR=10								
	comp=N,8.0nm,0.6s								
ABKAR	Akbulak array	18.76	30	P	P	19 18 36.6	0.0		
ABKAR	Akbulak array	18.76	30	P	P	19 18 36.9	+0.2		
AKTO	Aktyubinsk	18.97	25	P	Pn	19 18 40.5	+0.9		
	comp=N,0.2nm,0.3s,baz=283,slow=4.8,SNR=2.2								
	comp=N,0.9nm,0.4s								
AGG	Agios Georgios	19.50	292	P	P	19 18 45.9	+1.0		
AGG				IAmb	IAmb	19 18 48.6			
	comp=Z,20nm,1.4s								
VOIR		19.66	312	⇓P	Pn	19 18 48.6	+0.5		
ARR	Arges	19.88	312	⇓P	P	19 18 50.4	+1.4		
FNA	Florina	20.54	297	P	P	19 18 56.4	+0.2		
BURAR	Bucovina Array	20.71	318	⇑P	P	19 18 58.0	-0.1		
BURAR	Bucovina Array	20.71	318	P	P	19 18 58.4	+0.3		
BUR08	Bucovina Ar. S	20.74	318	P	P	19 18 58.3	0.0		
AKASG	Malin Array Be	20.78	329	P	P	19 18 56.8	-1.9		
	comp=Z,1.7nm,0.5s,baz=138,slow=9.7,SNR=17								
	comp=Z,1.7nm,0.5s								
KIEV	Kiev	20.78	329	⇑P	P	19 18 58.2	-0.4		
MARR	Marisel-Cluj	21.43	314	⇑P	P	19 19 06.2	+0.3		
KK31	Karatay Array	21.51	57	P	P	19 19 06.7	+0.1		
KKAR	Karatay Array	21.51	57	P	P	19 19 07.9	+1.3		
KEK	Kerkira	21.54	293	P	P	19 19 04.7	-2.3		
SIRR	Siria	22.14	311	⇑P	P	19 19 16.7	+3.3		
TIP	Timpagrande	23.82	291	P	P	19 19 30.0	-0.8		
CUC	Castrocucco	24.62	293	P	P	19 19 37.6	-0.5		
CUC				IAmb	IAmb	19 19 40.7			
	comp=Z,11nm,0.8s								
NRN	Naryn	25.12	63	P	P	19 19 44.2	+1.2		
NRN				IAmb	IAmb	19 19 45.1			
	comp=Z,3.2nm,0.8s								
BVAR	Borovoye Array	26.11	35	P	P	19 19 52.7	+1.3		
	comp=Z,1.2nm,0.6s,baz=239,slow=8.6,SNR=9.4								
	comp=Z,1.2nm,0.6s								
KURBB	Kurchatov Arra	29.29	45	P	P	19 20 20.6	+0.8		
	comp=Z,0.5nm,0.2s,baz=252,slow=9.1,SNR=4.9								
	comp=Z,0.5nm,0.2s								
FINES	FINESS Array B	30.44	341	P	P	19 20 29.2	-0.7		
FINES	FINESS Array B	30.44	341	P	P	19 20 29.4	-0.5		
	comp=Z,0.5nm,0.5s,baz=152,slow=9.0,SNR=6.3								
	comp=Z,0.5nm,0.5s								
MK31	Makanchi Array	30.53	54	P	P	19 20 31.4	+0.4		
MKAR	Makanchi Array	30.53	54	P	P	19 20 31.7	+0.7		
MKAR	Makanchi Array	30.53	54	P	P	19 20 31.5	+0.5		
	comp=Z,1.2nm,0.5s,baz=252,slow=11,SNR=30								
	comp=Z,1.2nm,0.5s								
SENIN	Lac Senin/Sane	31.65	305	P	P	19 20 40.6	-0.4		
BNI	Bardonecchia	31.89	302	P	P	19 20 43.3	+0.2		
HFS	Hagfors	33.64	331	P	P	19 20 57.6	-0.5		
	comp=Z,2.9nm,0.4s,baz=131,slow=10,SNR=30								
	comp=Z,2.9nm,0.4s								
ZALV	Zalesovo Beam	34.10	42	P	P	19 21 01.6	-0.5		
	comp=Z,0.7nm,0.6s,baz=244,slow=5.8,SNR=4.2								
	comp=Z,0.7nm,0.6s								
NOA	NORSAR Array B	35.17	331	P	P	19 21 10.0	-1.3		
	comp=Z,0.6nm,0.8s,baz=132,slow=7.9,SNR=2.3								
	comp=Z,0.6nm,0.8s								
ARCES	ARCESS Array B	37.55	349	P	P	19 21 31.6	0.0		
	comp=Z,3.1nm,0.9s,baz=157,slow=9.3,SNR=1.5								
	comp=Z,3.1nm,0.9s								
ESDC	Sonseca Array	39.82	293	P	P	19 21 50.6	-0.4		
	comp=Z,0.3nm,0.5s,baz=79,slow=8.5,SNR=7.2								
	comp=Z,0.3nm,0.5s								
EKA	Eskdalemuir Ar	39.90	318	P	P	19 21 51.0	-0.4		
	comp=Z,0.9nm,0.6s,baz=105,slow=8.2,SNR=3.8								
	comp=Z,0.9nm,0.6s								
TORD	Torodi Ar. Bea	44.85	254	P	P	19 22 32.3	0.0		
TORD				IAmb	IAmb	19 23 05.8			
	comp=Z,2.7nm,1.5s								
TORD	Torodi Ar. Bea	44.85	254	P	P	19 22 32.2	0.0		
	comp=Z,0.6nm,0.6s,baz=57,slow=6.8,SNR=4.8								
	comp=Z,0.6nm,0.6s								
SPB2	Spitsbergen Ar	46.29	352	P	P	19 22 42.8	+0.1		
SPITS	Spitsbergen Ar	46.29	352	P	P	19 22 42.4	-0.5		
	comp=Z,1.9nm,0.5s,baz=119,slow=8.9,SNR=7.4								
	comp=Z,1.9nm,0.5s								
ULN	Ulaanbaatar	47.34	53	P	P	19 22 51.9	+0.3		
ULN				IAmb	IAmb	19 22 52.7			
	comp=Z,1.6nm,0.7s								
CHTO	Chiang Mai	49.51	93	P	P	19 23 07.7	-0.8		
CHTO				IAmb	IAmb	19 23 08.1			
	comp=Z,2.1nm,0.8s								
CMAR	Chiang Mai Ar	49.68	94	P	P	19 23 08.8	-1.0		
	comp=Z,1.1nm,0.7s,baz=289,slow=8.4,SNR=9.2								
	comp=Z,1.1nm,0.7s								
CRAI	Chiangrai	50.04	91	P	P	19 23 11.5	-1.1		
CRAI				IAmb	IAmb	19 23 32.6			
	comp=Z,5.2nm,1.5s								
TIXI	Tiksi	56.23	22	P	P	19 23 56.1	-1.3		
TIXI				IAmb	IAmb	19 24 05.7			
	comp=Z,1.9nm,0.8s								
BOSA	Boshof	64.98	200	P	P	19 24 58.1	+0.5		
BOSA	Boshof	64.98	200	P	P	19 24 58.7	+1.0		
	comp=Z,2.2nm,0.8s,baz=15,slow=8.6,SNR=4.0								
	comp=Z,2.2nm,0.8s								
A36M	Sachs Harbour	74.36	357	P	P	19 25 55.2	+0.4		
SCHQ	Schefferville	74.54	326	P	P	19 25 55.4	-0.9		
SCHQ				IAmb	IAmb	19 26 32.7			
	comp=Z,5.9nm,1.0s								
C19K	Lookout Ridge	75.76	9	P	P	19 26 04.3	+1.2		
D22K	Ayikyak River	76.77	7	P	P	19 26 09.9	+1.2		
D22K				IAmb	IAmb	19 26 33.1			
	comp=Z,4.4nm,1.4s								
E19K	Redstone River	77.62	9	P	P	19 26 13.9	+0.4		
E19K				IAmb	IAmb	19 26 31.1			
	comp=Z,4.9nm,1.1s								
E27K	Coleen River	78.22	3	P	P	19 26 17.6	+0.6		
E27K				IAmb	IAmb	19 26 55.4			
	comp=Z,7.1nm,1.4s								
G19K	Purcell Mounta	78.88	9	P	P	19 26 21.1	+0.5		
G19K				IAmb	IAmb	19 26 26.6			
	comp=Z,2.6nm,0.6s								
H21K	Melozitna River	79.87	8	P	P	19 26 27.2	+1.2		
H21K				IAmb	IAmb	19 26 51.2			
	comp=Z,6.8nm,1.4s								

CATAC ***12*** *19:20:05.5±0.8, 9.°10N×84.°71W, h5km±4km, ML2.9*
UCR ***12*** *19:20:07.6±0.8, 9.°23N×84.°71W, h18km±23km, MW3.5*

ISC 12 19:20:05.8±1.7, 9.°14N±0.°08×84.°70W±0.°03, h12km±10km, n18, σ0°76/30, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JACO	JACO, Garabito	0.52	5	*e*P		Pg	19 20 15.8	-0.3
JACO				*e*S		Sb	19 20 23.7	-0.7
JACO	JACO, Garabito	0.52	5	*i* P		Pg	19 20 15.8	-0.3
JACO				*i* S		Sb	19 20 23.8	-0.7
JACO				IAML			19 20 25.2	
	comp=Z,590nm,1.0s							
CBL1	Cabuya	0.59	319	*e*P		Pg	19 20 17.7	+0.4
CBL1				*e*S		Sb	19 20 27.4	+1.0
LCR2	La Lucha 2	0.91	49	*e*P		Pg	19 20 23.0	-0.5
LCR2	La Lucha 2	0.91	49	*i* P		Pg	19 20 23.0	-0.5
LCR2				*i* S		Sb	19 20 36.7	+0.8
LCR2				IAML			19 20 38.1	
	comp=Z,390nm,1.0s							

TBLN	Tablon, Guarco	0.97	46	*i* P		Pg	19 20 24.2	-0.4	
TBLN				*i* S		Sb	19 20 38.3	+0.7	
TBLN				IAML			19 20 38.9		
	comp=Z,840nm,1.0s								
CDM	Cerro de Muert	1.01	66	*i* P		Pg	19 20 25.3	-0.1	
CDM				*i* S		Sb	19 20 40.2	+1.2	
CDM				IAML			19 20 42.7		
	comp=Z,190nm,1.0s								
BUS1	Rivas	1.03	66	*e*P		Pg	19 20 25.4	-0.3	
OCM	Ochomogo	1.05	44	*i* P		Pg	19 20 25.3	-0.8	
OCM				IAML			19 20 26.5		
	comp=Z,180nm,1.0s								
OCM				*i* S		Sb	19 20 40.7	+0.9	
INDI	Punta indio, G	1.07	312	*e*P		Pb	19 20 25.1	-1.2	
INDI	Punta indio, G	1.07	312	*i* P		Pb	19 20 25.3	-1.0	
INDI				*i* S		Sn	19 20 41.5	+0.1	
INDI				IAML			19 20 48.3		
	comp=Z,200nm,1.0s								
JTS	Las Juntas de	1.17	348	*e*P		Pb	19 20 26.8	-1.2	
CPMI	Catarata Coope	1.18	16	*i* P		Pb	19 20 27.5	-0.8	
CPMI				*i* S		Sn	19 20 45.0	+0.6	
CPMI				IAML			19 20 56.6		
	comp=Z,220nm,1.0s								
HAYA	Volcan Irazu	1.19	45	*i* P		Pb	19 20 28.2	-0.4	
HAYA				*i* S		Sn	19 20 45.3	+0.3	
HAYA				IAML			19 20 59.0		
	comp=Z,320nm,1.0s								
SOCE	Pocosol	1.24	4	*e*P		Pn	19 20 28.9	-0.1	
SOCE	Pocosol	1.24	4	*i* P		Pn	19 20 28.6	-0.4	
SOCE				IAML			19 20 33.1		
	comp=Z,700nm,1.0s								
SRBA	San Rafael, Bu	1.33	86	*i* P		Pn	19 20 30.0	-0.3	
SRBA				*i* S		Sg	19 20 49.4	+0.7	
SRBA				IAML			19 20 53.9		
	comp=Z,75nm,1.0s								
ORTG	Ortega, Santa	1.43	328	*i* P		Pn	19 20 31.9	+0.3	
ORTG				*i* S		Sg	19 20 53.3	+1.5	
ORTG				IAML			19 21 00.5		
	comp=Z,70nm,1.0s								

IDC 12 19:36:26.0±2.1, 8.°16S×126.°12E, h0km, mb3.0/1, mbtmp3.1/3, ML3.3/2, Error ellipse: s-maj=263.5km s-min=33.4km az=60.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	Warramunga Arr	14.16	147	Pn		Pn	19 39 46.1	-1.9
	0.1nm,0.3s,baz=321,slow=14,SNR=13							
WRA				Sn		Sn	19 42 11.6	-14
	0.2nm,0.3s,baz=332,slow=22,SNR=5.9							
	0.4nm,0.8s							
ASAR	Alice Springs	17.13	155	P		P	19 40 28.5	-0.3
	0.1nm,0.3s,baz=337,slow=11,SNR=12							
ASAR				S		Sn	19 43 30.1	-8.1
	0.1nm,0.4s,baz=248,slow=37,SNR=1.7							
	0.4nm,0.5s							
MKAR	Makanchi Array	67.15	329	P		P	19 47 21.7	0.0
	0.1nm,0.5s,baz=117,slow=5.7,SNR=1.3							
	0.1nm,0.5s							

IDC ***12*** *20:22:30.6±2.1, 23.°41S×179.°85W, h511km±21km, mb3.7/10, mbtmp4.5/12, Error ellipse: s-maj=17.7km s-min=16.2km az=35.0*
NEIC ***12*** *20:22:32.9±2.2, 23.°6S±0.°1×179.°9W±0.°1, h527km±7km, mb4.7/47, Error ellipse: s-maj=17.9km s-min=15.7km az=215.0*

ISC 12 20:22:29.7±0.5, 23.°48S±0.°07×179.°84W±0.°08, h500km, n97, σ1°90/99, mb4.6/30, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	Raoul Island	6.00	164	S		S	20 25 27.1	+2.4
	178nm,0.3s,baz=77,slow=23,SNR=1.9							
PINNC	Pines Island,	11.74	272	P		P	20 25 10.0	+4.4
LIFNC	LIFOU	12.28	280			P	20 25 13.1	+1.8
DZM	Mont Dzumac	12.73	274	P		P	20 25 17.0	+0.7
	4.8nm,0.9s,baz=226,slow=13,SNR=2.2							
KUZ	Kuaotunu	13.77	195	P		P	20 25 31.3	+4.6
WIAZ	Waiheke Island	13.96	197	P		P	20 25 33.6	+4.7
MXZ	Matakaoa Point	14.13	186	P		P	20 25 33.2	+2.6
MXZ	Matakaoa Point	14.13	186	P		P	20 25 33.9	+3.3
MYRZ	Mayor Island	14.16	193	P		P	20 25 25.2	-5.8
MKAZ	Moumakai	14.24	196	P		P	20 25 36.5	+4.7
HAZ	Te Kaha	14.38	188	P		P	20 25 36.9	+3.7
RUGZ	Raukumara Rang	14.60	188	P		P	20 25 38.0	+2.3
PUZ	Puketiti	14.64	186	P		P	20 25 39.9	+3.9
TOZ	Tahuroa Road	14.76	195	P		P	20 25 42.9	+5.7
TWGZ	Tauwhareparae	14.77	187	P		P	20 25 41.2	+3.8
URZ	Urewera	14.96	189	P		P	20 25 40.1	+0.8
	16nm,0.6s,baz=33,slow=2.2,SNR=22							
URZ				S		S	20 28 08.5	-7.2
	4.2nm,0.5s,baz=244,slow=20,SNR=2.2							
URZ	Urewera	14.96	189	P		P	20 25 40.2	+0.9
MWZ	Matawai	14.98	188	P		P	20 25 41.7	+2.2
CNGZ	Carnagh Station	15.05	186	P		P	20 25 43.2	+3.0
MUGZ	Murupara	15.23	190	P		P	20 25 44.0	+1.8
RTZ	Ruatahuna	15.33	189	P		P	20 25 43.7	+0.4
RTZ				IAmb		IAmb	20 25 46.7	
	comp=Z,10nm,0.5s							
BKZ	Black Stump Fm	15.95	190	P		P	20 25 49.4	-0.3
BFZ	Birch Farm	17.47	190	P		P	20 26 03.4	-1.6
MRZ	Mangatainoka R	17.56	192			S	20 29 01.2	-1.2
TCW	Tory Channel	18.36	194	P		P	20 26 13.3	+0.2
BHW	Baring Head	18.42	193	P		P	20 26 12.9	-0.8
BHW				IAmb		IAmb	20 26 46.5	
	comp=Z,46nm,1.4s							
TUWZ	Tuamarina	18.64	195	P		P	20 26 15.3	-0.4
LTZ	Lake Taylor	20.33	197	P		P	20 26 30.2	-1.0
OXZ	Oxford	20.90	197	P		P	20 26 35.4	-1.0
OXZ				IAmb		IAmb	20 26 38.0	
	comp=Z,19nm,0.8s							
RPZ	Rata Peaks	21.53	198	P		P	20 26 41.3	-0.7
	comp=Z,3.3nm,0.4s,baz=27,slow=4.5,SNR=1.3							
	comp=Z,3.3nm,0.4s							
DCZ	Deep Cove	24.35	203	P		P	20 27 07.5	+0.3
DCZ				IAmb		IAmb	20 27 09.7	
	comp=Z,11nm,0.7s							
WHZ	Wether Hill Ro	24.45	201	P		P	20 27 08.1	-0.1
ARMA	Armidale	26.31	249	P		P	20 27 26.3	+1.3
ARMA				IAmb		IAmb	20 27 28.0	
	comp=Z,20nm,1.1s							
EIDS	Eidsvold	26.53	260	P		P	20 27 28.1	+1.2
EIDS				IAmb		IAmb	20 27 28.9	
	comp=Z,15nm,0.5s							
CAN	Canberra	29.48	239	P		P	20 27 54.2	+1.5
CAN				IAmb		IAmb	20 27 55.2	
	comp=Z,15nm,1.0s							
CTAO	Charters Tower	31.63	270	P		P	20 28 12.6	+1.3
TOO	Toolangi	32.80	237	P		P	20 28 22.0	+0.9
TAU	Tasmania Unive	33.33	226	P		P	20 28 26.5	+1.1
PMG	Port Moresby	34.50	288	P		P	20 28 36.5	+0.8
STKA	Stephens Creek	35.02	248	P		P	20 28 40.5	+0.6
STKA	Stephens Creek	35.02	248	P		P	20 28 40.6	+0.8
	comp=Z,12nm,0.6s,baz=93,slow=11,SNR=45							
	comp=Z,12nm,0.6s							
COEN	Coen	36.20	278	P		P	20 28 51.0	+1.1
BBOO	Buckleboo	39.75	246	P		P	20 29 18.6	-0.1
BBOO				IAmb		IAmb	20 29 24.1	
	comp=Z,35nm,1.4s							
AS31	Alice Springs	42.25	260	P		P	20 29 38.9	+0.1
AS31				IAmb		IAmb	20 29 40.2	
	comp=Z,7.8nm,0.5s							
ASAR	Alice Springs	42.25	260	P		P	20 29 38.7	-0.1
ASAR				pP		pP	20 31 11.8	+3.0
ASAR	Alice Springs	42.25	260	P		P	20 29 39.0	+0.2
	comp=Z,18nm,0.5s,baz=100,slow=7.0,SNR=203							
ASAR				ScP		ScP	20 34 22.8	-1.5
	comp=Z,1.9nm,0.8s,baz=106,slow=4.5,SNR=8.7							
ASAR				S		S	20 35 19.4	-3.5
	comp=Z,0.4nm,0.7s,baz=92,slow=15,SNR=3.2							
	comp=Z,18nm,0.5s							
WR0	Warramunga Arr	42.40	266	P		P	20 29 39.6	-0.3
WR0				IAmb		IAmb	20 29 40.4	
	comp=Z,14nm,0.9s							
WB2	Warramunga Arr	42.58	266	P		P	20 29 41.1	-0.2
WB2				IAmb		IAmb	20 29 41.8	
	comp=Z,30nm,0.8s							
WB0	Warramunga Arr	42.58	266	P		P	20 29 40.9	-0.4
WRAB	Tennant Creek	42.58	266	P		P	20 29 41.0	-0.4
WRAB				IAmb		IAmb	20 29 41.8	
	comp=Z,26nm,0.9s							
WRA	Warramunga Arr	42.59	266	P		P	20 29 41.1	-0.4

WRA	Warramunga Arr	42.59	266	P		P	20 29 40.9	-0.5	
	comp=Z,22nm,0.5s,baz=103,slow=8.3,SNR=43								
WRA				ScP		ScP	20 34 24.3	-1.3	
	comp=Z,1.4nm,1.0s,baz=99,slow=3.9,SNR=4.7								
	comp=Z,22nm,0.5s								
PTCN	Pitcairn Islan	45.16	103	P		P	20 30 04.1	+2.7	
FORT	Forrest	46.60	249	P		P	20 30 11.6	-0.7	
MTN	Manton Dam	47.57	274	P		P	20 30 19.3	-0.5	
MTN				IAmb		IAmb	20 30 49.1		
	comp=Z,42nm,1.4s								
KNRA	Kununurra	48.84	269	P		P	20 30 29.4	+0.1	
KNRA				IAmb		IAmb	20 30 29.8		
	comp=Z,23nm,0.5s								
FITZ	Fitzroy Crossi	51.01	265	P		P	20 30 45.7	+0.5	
SBA	Scott Base	54.80	183	P		P	20 31 13.3	+1.9	
VNDA	Vanda	54.81	185	P		P	20 31 12.8	+1.3	
VNDA				PcP		PcP	20 32 05.6	-0.6	
VNDA	Vanda	54.81	185	P		P	20 31 12.8	+1.3	
	comp=Z,1.3nm,0.5s,baz=13,slow=7.0,SNR=16								
	comp=Z,1.3nm,0.5s								
SOEI	Soe	54.96	275	P		P	20 31 15.0	+1.3	
SOEI				IAmb		IAmb	20 31 26.8		
	comp=Z,51nm,1.1s								
PSA00	Pilbara Seismi	55.39	259	P		P	20 31 15.7	-0.8	
PSA00				PcP		PcP	20 32 07.9	-1.7	
NWAO	Narrogin (SRO)	55.55	245	P		P	20 31 17.1	-0.3	
NWAO	Narrogin (SRO)	55.55	245	P		P	20 31 16.9	-0.4	
NWAO				IAmb		IAmb	20 31 23.8		
	comp=Z,28nm,1.3s								
MORW	Morawa	57.16	250	P		P	20 31 28.0	-0.6	
MORW				IAmb		IAmb	20 31 29.0		
	comp=Z,19nm,0.8s								
GIRL	Giralia	60.16	257	P		P	20 31 49.7	+0.8	
CASY	Casey	60.55	206	P		P	20 31 50.3	-0.5	
CASY				IAmb		IAmb	20 32 11.3		
	comp=Z,29nm,1.3s								
TOLI2	Tolitoli	62.62	284	P		P	20 32 06.0	+0.8	
TOLI2				IAmb		IAmb	20 32 06.5		
	comp=Z,15nm,0.6s								
JAGI	Jajag, Banyuwa	64.71	272	P		P	20 32 17.1	-1.5	
JAGI				IAmb		IAmb	20 32 27.4		
	comp=Z,30nm,1.1s								
QSPA	South Pole Qui	66.60	180	P		P	20 32 30.0	+0.3	
QSPA	South Pole Qui	66.60	180	P		P	20 32 30.1	+0.4	
	comp=Z,4.8nm,0.6s,baz=358,slow=2.2,SNR=16								
	comp=Z,4.8nm,0.6s								
UGM	Wanagama	68.25	271	P		P	20 32 40.0	-0.6	
KKM	Kota Kinabalu	68.93	287	P		P	20 32 44.3	-0.5	
JNU	Nakatsue	73.31	318	P		P	20 33 10.9	+0.8	
JNU				IAmb		IAmb	20 33 19.2		
	comp=Z,55nm,1.5s								
BELA	Belgrano 2	76.83	173	P		P	20 33 28.4	-0.6	
KULM	Kulim	82.52	279	P		P	20 33 59.9	-0.4	
KULM				IAmb		IAmb	20 34 28.8		
	comp=Z,32nm,1.3s								
GSI	Gunungsitoli	83.72	274	P		P	20 34 04.4	-1.8	
GSI				IAmb		IAmb	20 34 24.1		
	comp=Z,33nm,1.4s								
NVAR	Mina Array Bea	84.35	44	P		P	20 34 09.3	+0.3	
	comp=Z,0.7nm,0.7s,baz=221,slow=6.8,SNR=4.2								
	comp=Z,0.7nm,0.7s								
U15A	North Rim	87.21	48	P		P	20 34 23.4	+0.5	
CMAR	Chiang Mai Arr	89.52	290	P		P	20 34 34.2	+0.5	
	comp=Z,2.1nm,0.9s,baz=131,slow=3.0,SNR=11								
	comp=Z,2.1nm,0.9s								
TXAR	Lajitas Array	90.08	58	P		P	20 34 36.5	+0.3	
	comp=Z,1.1nm,0.7s,baz=206,slow=6.7,SNR=13								
	comp=Z,1.1nm,0.7s								
PDAR	Pinedale Array	92.28	44	P		P	20 34 45.9	-0.4	
	comp=Z,0.4nm,0.6s,baz=188,slow=4.6,SNR=5.4								
	comp=Z,0.4nm,0.6s								
MKAR	Makanchi Array	111.98	313	PKiKP		PKiKP	20 40 05.6	-2.0	
	comp=Z,0.3nm,0.6s,baz=113,slow=3.3,SNR=5.5								
KURBB	Kurchatov Arra	115.05	316	PKP		PKPdf	20 40 11.2	-2.1	
	comp=Z,0.4nm,0.6s,baz=106,slow=1.9,SNR=5.3								
BVAR	Borovoye Array	120.22	319	PKP		PKPdf	20 40 20.9	-2.4	
	comp=Z,0.6nm,0.4s,baz=122,slow=3.2,SNR=5.3								
ARCES	ARCESS Array B	131.51	348	PKP		PKPdf	20 40 42.8	-1.6	
	comp=Z,5.6nm,1.0s,baz=80,slow=2.2,SNR=3.5								
FINES	FINESS Array B	138.10	342	PKhKP		PKPpre	20 40 48.9		
	com

4.1nm,0.4s
STKA Stephens Creek 35.34 249 P P 20 35 57.1 +0.5
2.4nm,1.1s,baz=90,slow=8.1,SNR=3.7
2.4nm,1.1s
ASAR Alice Springs 42.76 261 P P 20 36 57.4 -0.4
0.6nm,0.3s,baz=94,slow=7.5,SNR=18
0.6nm,0.3s
WRA Warramunga Arr 43.16 266 P P 20 37 00.8 -0.1
0.8nm,0.4s,baz=103,slow=8.1,SNR=18
0.8nm,0.4s
VNDA Vanda 54.18 185 P P 20 38 23.1 -0.2
0.5nm,0.8s,baz=9.0,slow=6.0,SNR=1.8
0.5nm,0.8s
QSPA South Pole Qui 65.92 180 P P 20 39 43.0 +0.3
1.5nm,0.5s,baz=56,slow=0.5,SNR=6.3
1.5nm,0.5s

ISN ***12*** *20:38:16.4±0.7,33.80N×45.67E,h10km±3km, ML2.5*
TEH ***12*** *20:38:17.2,33.80N×45.66E,h8km±268km, ML2.6*
ISC 12 20:38:17.4±0.9,33.79N±0.03×45.66E±0.05,h10km,n11,
σ0.49/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.49**	**110**	**Pg**	**Pg**	**20 38 26.7**	**-0.2**
IBDR	**Badra**	**0.71**	**161**	***e*Pg**	**Pg**	**20 38 31.0**	**-0.2**
IBDR				***e*Sg**	**Sg**	**20 38 40.5**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.72**	**355**	Pg	**Pg**	**20 38 31.3**	**+0.1**
IGHG	**Ghaleghazi**	**0.93**	**54**	Pg	**Pb**	**20 38 35.7**	**0.0**
IDHR	**Dehrash**	**1.09**	**33**	Pg	**Pg**	**20 38 37.7**	**-0.7**
BHD	**Baghdad**	**1.19**	**244**	***e*Pg**	**Pb**	**20 38 39.5**	**-0.4**
BHD				***e*Sg**	**Sn**	**20 38 56.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.25**	**67**	Pg	**Pg**	**20 38 41.4**	**0.0**
ILIN	**Lien**	**1.56**	**43**	Pg	**Pg**	**20 38 46.9**	**-0.4**
IKOM	**Komasi**	**1.59**	**75**	Pg	**Pg**	**20 38 47.3**	**-0.6**
IKRK	**Kirkuk**	**1.94**	**326**	***e*Pn**	**Pn**	**20 38 51.0**	**+0.6**
IKRK				***e*Sn**	**Sb**	**20 39 17.0**	**-0.1**
IKRK				AML	AML	20 39 23.2	
	comp=N,48nm,0.5s						
IKRK				AML	AML	20 39 29.3	
	comp=E,48nm,0.5s						
RAFI	**Al-Rafai**	**2.10**	**169**	***e*Pn**	**Pn**	**20 38 53.5**	**+1.0**
RAFI				***e*Sn**	**Sb**	**20 39 21.0**	**-0.5**

IDC ***12*** *20:38:23.6±0.9,34.19N×25.14E,h0km,mb4.1/19, mbtmp4.0/29,ML4.2/9,MS3.3/4,Error ellipse: s-maj=19.7km s-min=13.7km az=5.0*
NEIC ***12*** *20:38:24.9±2.8,34.07N±0.08×25.11E±0.07,h10km±1km, mb4.1/33,Error ellipse: s-maj=14.0km s-min=9.5km az=183.0*
ATH ***12*** *20:38:27.9,34.08N×25.16E,h9km±2km,ML3.4/7,Error ellipse: s-maj=3.8km s-min=1.3km az=182.0*
ISK ***12*** *20:38:28.1,34.14N×25.12E,h8km,ML3.4/21*
THE ***12*** *20:38:28.8,34.07N×25.17E,h13km±3km, ML3.3/9, Error ellipse: s-maj=4.7km s-min=0.7km az=177.0*
AFAD ***12*** *20:38:31.8±0.0,34.61N×25.58E,h6km±2km,MW3.9*
GII ***12*** *20:38:33.1±0.4,33.858N±0.002×26.088E±0.001, h1km,Mws3.6,confirmed*
NAO ***12*** *20:38:37.5,35.08N×24.47E,h33km, mb4.0*
ISC 12 20:38:25.6±1.5,33.91N±0.05×25.25E±0.03,h25km±10km,
n239,σ1.89/279,mb4.1/25,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**1.17**	**20**	P	**Pb**	**20 38 48.5**	**+1.3**
FRMA	**Ierapetra Chan**	**1.17**	**20**	P	**Pb**	**20 38 48.3**	**+1.1**
TMBK	**Timbaki Herakl**	**1.23**	**341**	P	**Pn**	**20 38 47.6**	**+0.5**
GVD	**Gavdhos**	**1.33**	**314**	Pn	**Pn**	**20 38 49.1**	**+0.4**
GVD				Sn	**Sn**	**20 39 05.4**	**-0.2**
GVD	**Gavdhos**	**1.33**	**314**	P	**Pb**	**20 38 49.6**	**-0.4**
GVD				S	**Sn**	**20 39 05.6**	**0.0**
	2µm,0.5s						
GVD	**Gavdhos**	**1.33**	**314**	P	**Pb**	**20 38 49.6**	**-0.4**
GVD				S	**Sn**	**20 39 05.4**	**-0.2**
GVD				AML	AML	20 39 23.8	
	comp=E,5085µm,0.5s						
GVD				AML	AML	20 39 26.6	
	comp=N,3524µm,0.4s						
GVDS	**Gavdos**	**1.34**	**315**	Pn	**Pb**	**20 38 49.9**	**-0.1**
GVDS				Sn	**Sn**	**20 39 05.9**	**+0.2**
GVDS	**Gavdos**	**1.34**	**315**	P	**Pb**	**20 38 49.8**	**-0.2**
GVDS				S	**Sb**	**20 39 06.3**	**-0.4**
	comp=N,1µm,0.5s						
IACM	**Heraklion**	**1.40**	**354**	P	**Pn**	**20 38 50.4**	**+0.8**
IDI	**Anoyia**	**1.41**	**348**	Pn	**Pn**	**20 38 50.4**	**+0.7**
IDI				Sn	**Sn**	**20 39 06.7**	**-0.8**
IDI	**Anoyia**	**1.41**	**348**	P	**Pn**	**20 38 50.2**	**+0.4**
IDI				S	**Sn**	**20 39 07.7**	**+0.2**
	comp=N,760nm,0.6s						
IDI	**Anoyia**	**1.41**	**348**	P	**Pn**	**20 38 50.2**	**+0.4**
IDI				S	**Sn**	**20 39 06.6**	**-1.0**
IDI				AML	AML	20 39 14.5	
	comp=E,1648µm,0.4s						
IDI				AML	AML	20 39 16.9	
	comp=N,1776µm,0.5s						
ZKR	**Zakros**	**1.45**	**33**	Pn	**Pb**	**20 38 52.3**	**+0.4**
ZKR	**Zakros**	**1.45**	**33**	P	**Pb**	**20 38 52.3**	**+0.4**
ZKR				S	**Sb**	**20 39 09.9**	**+0.1**
	comp=N,728nm,0.9s						
ZKR	**Zakros**	**1.45**	**33**	P	**Pb**	**20 38 52.2**	**+0.4**
ZKR				S	**Sb**	**20 39 10.0**	**+0.1**
ZKR				AML	AML	20 39 25.7	
	comp=E,1594µm,0.5s						
ZKR				AML	AML	20 39 28.5	
	comp=N,659µm,0.5s						
IMMV	**Iera Moni Meta**	**1.87**	**326**	Pn	**Pn**	**20 38 56.7**	**+0.8**
IMMV	**Iera Moni Meta**	**1.87**	**326**	P	**Pn**	**20 38 56.8**	**+0.8**
IMMV				S	**Sn**	**20 39 18.6**	**-0.2**
	comp=N,832nm,0.9s						
IMMV	**Iera Moni Meta**	**1.87**	**326**	P	**Pn**	**20 38 57.1**	**+1.1**
IMMV				S	**Sn**	**20 39 17.9**	**-0.9**
IMMV				AML	AML	20 39 39.5	
	comp=N,1356µm,0.8s						
IMMV				AML	AML	20 39 42.7	
	comp=E,1452µm,1.1s						
CHAN	**Chania**	**1.89**	**329**	P	**Pn**	**20 38 57.0**	**+0.8**
CHAN				S	**Sn**	**20 39 18.1**	**-1.2**
CHAN				AML	AML	20 39 43.0	
	comp=N,2034µm,0.8s						
CHAN				AML	AML	20 39 43.7	
	comp=E,1575µm,0.6s						
RODP	**Rodopos**	**2.05**	**324**	Pn	**Pn**	**20 38 59.3**	**+0.7**
KARP	**Karpathos**	**2.27**	**43**	Pn	**Pb**	**20 39 04.5**	**-1.5**
KARP	**Karpathos**	**2.27**	**43**		**Pb**	**20 39 04.5**	**-1.5**
KARP				Sn	**Sn**	**20 39 30.3**	**+1.5**
KARP	**Karpathos**	**2.27**	**43**	P	**Pb**	**20 39 04.5**	**-1.5**
KARP				S	**Sn**	**20 39 30.9**	**+2.1**
	comp=E,585nm,0.2s						
KARP	**Karpathos**	**2.27**	**43**	P	**Pn**	**20 39 03.6**	**+2.0**
KARP	**Karpathos**	**2.27**	**43**	P	**Pb**	**20 39 04.5**	**-1.5**
KARP				S	**Sn**	**20 39 30.6**	**+1.8**
KARP				AML	AML	20 39 32.8	
	comp=N,1118µm,0.2s						
KARP				AML	AML	20 39 33.9	
	comp=E,1203µm,0.2s						
THR6	**Thira Island,**	**2.44**	**3**	P	**Pn**	**20 39 04.8**	**+0.9**
SNT5	**Nea Kammeni, S**	**2.49**	**3**	P	**Pn**	**20 39 04.8**	**+0.2**
THR3	**Thira Island,**	**2.50**	**3**	P	**Pn**	**20 39 04.7**	**0.0**
ANKY	**Antikythira Is**	**2.52**	**321**	P	**Pn**	**20 39 06.2**	**+1.2**
ANKY				S	**Sn**	**20 39 35.6**	**+0.6**
	comp=E,252nm,0.9s						
ANKY	**Antikythira Is**	**2.52**	**321**	P	**Pn**	**20 39 06.0**	**+1.0**
ANKY				S	**Sn**	**20 39 33.8**	**-1.2**
CMBO	**Columbo, Santo**	**2.56**	**3**	P	**Pn**	**20 39 07.4**	**+1.9**
MHLO	**Agia Marina, M**	**2.86**	**346**	P	**Pn**	**20 39 09.6**	**0.0**
NISR	**Nisiros**	**3.10**	**29**	P	**Pn**	**20 39 13.8**	**+0.8**
APE	**Apeiranthos**	**3.16**	**4**	Pn	**Pn**	**20 39 13.9**	**+0.1**
ARG	**Arkhangelos**	**3.30**	**45**	Pn	**Pn**	**20 39 18.3**	**+2.6**
ARG	**Arkhangelos**	**3.30**	**45**		**Pn**	**20 39 18.5**	**+2.8**
ARG				Sn	**Sn**	**20 39 52.8**	**-1.3**
ARG	**Arkhangelos**	**3.30**	**45**	P	**Pn**	**20 39 18.5**	**+2.8**
ARG				S	**Sn**	**20 39 56.4**	**+2.3**
	comp=E,315nm,0.3s						
ARG	**Arkhangelos**	**3.30**	**45**	P	**Pn**	**20 39 18.2**	**+2.6**
ARG				S	**Sn**	**20 39 53.8**	**-0.2**
ARG				AML	AML	20 39 57.7	
	comp=E,765µm,0.2s						
ARG				AML	AML	20 40 00.7	
	comp=N,325µm,0.3s						
YAZI	**Mula-Dat§a-**	**3.30**	**32**	P	**Pn**	**20 39 16.6**	**+0.9**
YAZI				S	**Sn**	**20 39 47.6**	**-6.6**
VLI	**Veliai**	**3.38**	**327**	P	**Pn**	**20 39 16.7**	**-0.1**
VLI				S	**Sn**	**20 39 54.7**	**-1.4**
	comp=N,180nm,0.5s						
VLI	**Veliai**	**3.38**	**327**	P	**Pn**	**20 39 16.8**	**0.0**
DAT	**Datca**	**3.40**	**33**	Pn	**Pn**	**20 39 18.2**	**+1.0**
DAT	**Datca**	**3.40**	**33**	P	**Pn**	**20 39 18.4**	**+1.2**
DAT	**Datca**	**3.40**	**33**	P	**Pn**	**20 39 18.0**	**+0.9**
DAT				S	**Sn**	**20 39 51.6**	**-5.1**
DAT				*i* AML	AML	20 39 55.0	
	comp=N,89nm,0.5s						
DAT				*i* AML	AML	20 39 56.0	
	comp=N,75nm,0.2s						
DATC	**Datca-Mugla**	**3.46**	**34**	Pn	**Pn**	**20 39 19.5**	**+1.6**
BODT	**Bodrum**	**3.57**	**28**	Pn	**Pn**	**20 39 20.2**	**+0.8**
BODT	**Bodrum**	**3.57**	**28**	P	**Pn**	**20 39 19.9**	**+0.5**
BDRM	**Kayabasi**	**3.62**	**29**	P	**Pn**	**20 39 21.0**	**+0.9**
BDRM				S	**Sn**	**20 39 57.9**	**-4.3**
RFTAA	**Mazikoy-Bodrum**	**3.70**	**33**	Pn	**Pn**	**20 39 22.4**	**+1.3**
TURN	**Turunc**	**3.77**	**40**	Pn	**Pn**	**20 39 23.9**	**+1.8**
TURN	**Turunc**	**3.77**	**40**	P	**Pn**	**20 39 23.6**	**+1.5**
TURN				S	**Sn**	**20 40 01.6**	**-4.0**
TURN				*i* AML	AML	20 40 06.0	
	comp=N,66nm,0.2s						
TURN				*i* AML	AML	20 40 09.0	
	comp=N,59nm,0.2s						
MLSB	**Milas**	**3.96**	**31**	Pn	**Pn**	**20 39 26.3**	**+1.5**
DALY	**Dalyan (Mula)**	**4.02**	**43**	Pn	**Pn**	**20 39 27.7**	**+2.1**
YER	**Yerkesik**	**4.06**	**37**	Pn	**Pn**	**20 39 28.1**	**+1.9**
YER	**Yerkesik**	**4.06**	**37**	P	**Pn**	**20 39 27.7**	**+1.5**
VLY	**Voula,Athens**	**4.11**	**344**	P	**Pn**	**20 39 26.3**	**-0.5**
GCAM	**G?zelcaml?**	**4.11**	**23**	Pn	**Pn**	**20 39 27.4**	**+0.6**
GCAM	**G?zelcaml?**	**4.11**	**23**	P	**Pn**	**20 39 27.3**	**+0.4**
IZZE	**Mula-Seydike**	**4.12**	**51**	P	**Pn**	**20 39 28.4**	**+1.4**
IZZE				S	**Sn**	**20 40 10.1**	**-4.3**
FETY	**Fethiye**	**4.15**	**48**	Pn	**Pn**	**20 39 29.3**	**+1.8**
FETY	**Fethiye**	**4.15**	**48**	P	**Pn**	**20 39 29.7**	**+2.3**
FETY				S	**Sn**	**20 40 12.8**	**-2.4**
PTL	**Penteli**	**4.28**	**345**	P	**Pn**	**20 39 29.8**	**+0.6**
DIOA	**Dionisos Attik**	**4.29**	**346**	P	**Pn**	**20 39 30.1**	**+0.7**
CHOS	**Chios island**	**4.52**	**8**	Pn	**Pn**	**20 39 32.6**	**+0.1**
CHOS	**Chios island**	**4.52**	**8**	P	**Pn**	**20 39 32.7**	**+0.2**
KNIK	**Mula-Seydike**	**4.59**	**49**	P	**Pn**	**20 39 34.7**	**+1.1**
KNIK				S	**Sn**	**20 40 24.1**	**-2.0**
KNIK				*i* AML	AML	20 40 26.0	
	comp=N,32nm,0.3s						
KNIK				*i* AML	AML	20 40 28.0	
	comp=N,45nm,0.4s						
CAEL	**Denizli, Camel**	**4.62**	**45**	P	**Pn**	**20 39 36.0**	**+2.0**
CAEL				S	**Sn**	**20 40 24.3**	**-2.5**
ESEN	**Aydn-Nazilli**	**4.63**	**32**	P	**Pn**	**20 39 35.9**	**+2.0**
ESEN				S	**Sn**	**20 40 23.7**	**-3.1**
TAVA	**DENIZLI_Tavas**	**4.64**	**39**	P	**Pn**	**20 39 35.7**	**+1.6**
TAVA				S	**Sn**	**20 40 25.0**	**-2.2**
TAVA				*i* AML	AML	20 40 31.0	
	comp=N,51nm,0.5s						
TAVA				*i* AML	AML	20 40 34.0	
	comp=N,29nm,0.2s						
ELL	**Elmali**	**4.75**	**52**		**Pn**	**20 39 37.9**	**+2.1**
ELL				Sn	**Sn**	**20 40 30.2**	**+0.1**
DNIZ	**Denizli-Tavas-**	**4.82**	**39**	P	**Pn**	**20 39 39.4**	**+2.7**
DNIZ				S	**Sn**	**20 40 28.1**	**-3.7**
KLV	**Kalavryta, Ach**	**4.83**	**330**	P	**Pn**	**20 39 36.7**	**-0.1**
KIRA	**zmir-Kiraz**	**4.98**	**30**	P	**Pn**	**20 39 40.5**	**+1.6**
KIRA				S	**Sn**	**20 40 31.9**	**-3.9**
KIRA				*i* AML	AML	20 40 35.0	
	comp=N,21nm,0.6s						
KULA	**Kula-Manisa**	**5.36**	**30**	P	**Pn**	**20 39 45.5**	**+1.4**
AGG	**Agios Georgios**	**5.62**	**336**	Pn	**Pn**	**20 39 46.9**	**-0.7**
AGG	**Agios Georgios**	**5.62**	**336**	Pn	**Pn**	**20 39 47.2**	**-0.3**
AGG				Sn	**Sn**	**20 40 46.6**	**-4.7**
ISP	**Isparta**	**5.80**	**46**	Pn	**Pn**	**20 39 50.6**	**+0.5**
EVGI	**Lefkada island**	**5.99**	**323**	P	**Pn**	**20 39 53.7**	**+1.1**
LKD2	**Lefkada island**	**6.12**	**324**	P	**Pn**	**20 39 55.4**	**+1.0**
CSS	**Mathiatis**	**6.76**	**79**	Pn	**Pn**	**20 40 04.3**	**+1.0**
CSS	**Mathiatis**	**6.76**	**79**	P	**Pn**	**20 40 04.1**	**+0.8**
CSS	**Mathiatis**	**6.76**	**79**	P	**Pn**	**20 40 04.6**	**+1.3**
ALN	**Alexandroupoli**	**7.00**	**5**	Pn	**Pn**	**20 40 06.7**	**+0.1**
KEK	**Kerkira**	**7.25**	**325**	Pn	**Pn**	**20 40 06.7**	**-3.3**
FNA	**Florina**	**7.52**	**337**		**Pn**	**20 40 12.0**	**-1.7**
OFRI	**`Ofer**	**8.26**	**96**	P	**Pn**	**20 40 25.1**	**+1.3**
OFRI				S	**Sn**	**20 41 54.7**	**-1.6**
KZIT	**Kziot**	**8.29**	**109**	P	**Pn**	**20 40 24.9**	**+0.6**
KZIT	**Kziot**	**8.29**	**109**	P	**Pn**	**20 40 25.0**	**+0.7**
KZIT	**Kziot**	**8.29**	**109**	S	**Sn**	**20 41 53.2**	**-4.0**
HNTI	**Hanita**	**8.33**	**93**	P	**Pn**	**20 40 25.6**	**+0.7**
HNTI	**Hanita**	**8.33**	**93**	P	**Pn**	**20 40 26.6**	**+1.8**
SLTI	**Sal'it**	**8.39**	**99**	P	**Pn**	**20 40 26.3**	**+0.7**
SLTI	**Sal'it**	**8.39**	**99**	S	**Sn**	**20 41 54.6**	**-4.9**
SLTI	**Sal'it**	**8.39**	**99**	P	**Pn**	**20 40 26.4**	**+0.9**
BLGI	**Bet Lehem HaGe**	**8.40**	**95**	P	**Pn**	**20 40 27.3**	**+1.5**
AMAZ	**Amatzia**	**8.48**	**104**	P	**Pn**	**20 40 26.9**	**0.0**
AMAZ	**Amatzia**	**8.48**	**104**	P	**Pn**	**20 40 28.9**	**+1.9**
MMA0	**Mount Meron ar**	**8.53**	**93**	P	**Pn**	**20 40 29.6**	**+1.9**
MMAI	**Mount Meron Ar**	**8.53**	**93**	Pn	**Pn**	**20 40 28.0**	**+0.3**
	comp=N,1.8nm,0.3s,baz=274,slow=12,SNR=14						
MMAI				Sn	**Sn**	**20 41 58.0**	**-5.2**
	comp=N,6.2nm,0.3s,baz=274,slow=20,SNR=9.9						
	comp=N,1.1nm,0.3s						
SALP	**Salfit**	**8.55**	**100**	P	**Pn**	**20 40 28.8**	**+0.9**
TIR	**Tirane**	**8.56**	**332**	Pn	**Pn**	**20 40 25.9**	**-2.1**
TIP	**Timpagrande**	**8.62**	**310**		**Pn**	**20 40 27.1**	**-1.7**
MMLI	**Mount Malkishu**	**8.65**	**97**	P	**Pn**	**20 40 30.4**	**+1.1**
YTIR	**Yattir**	**8.70**	**104**	P	**Pn**	**20 40 30.7**	**+0.7**
YTIR	**Yattir**	**8.70**	**104**	P	**Pn**	**20 40 31.0**	**+1.1**
YTIR	**Yattir**	**8.70**	**104**	S	**Sn**	**20 42 03.3**	**-4.1**
GEM	**Giv'at Ha'Em**	**8.72**	**92**	P	**Pn**	**20 40 31.2**	**+1.0**
GEM	**Giv'at Ha'Em**	**8.72**	**92**	P	**Pn**	**20 40 31.3**	**+1.1**
NATI	**Neve Ativ**	**8.78**	**91**	P	**Pn**	**20 40 31.9**	**+1.0**
HMDT	**Nahal Hemdat**	**8.78**	**98**	P	**Pn**	**20 40 31.8**	**+0.8**
HMDT	**Nahal Hemdat**	**8.78**	**98**	P	**Pn**	**20 40 31.8**	**+0.8**
UJAP	**Al Uja**	**8.81**	**100**	P	**Pn**	**20 40 31.8**	**+0.5**
UJAP	**Al Uja**	**8.81**	**100**	P	**Pn**	**20 40 31.9**	**+0.6**
DSI	**Dead Sea**	**8.85**	**103**	P	**Pn**	**20 40 31.8**	**-0.1**
DSI	**Dead Sea**	**8.85**	**103**	P	**Pn**	**20 40 33.0**	**+1.1**
KSHT	**Keshet**	**8.88**	**93**	P	**Pn**	**20 40 34.2**	**+1.8**
SHMJ	**Saham**	**8.88**	**95**	P	**Pn**	**20 40 33.6**	**+1.2**
BRTR	**Keskin Array B**	**8.88**	**47**	Pn	**Pn**	**20 40 33.3**	**+0.8**
	comp=N,0.4nm,0.3s,baz=220,slow=12,SNR=1.3						
BRTR				Sn	**Sn**	**20 42 06.5**	**-5.3**
	comp=N,0.2nm,0.3s,baz=239,slow=22,SNR=1.6						
BRTR				LR	LR	20 44 52.6	
	comp=N,108nm,20.2s,baz=240,slow=44						
KRMI	**Paran Flat**	**8.89**	**113**	P	**Pn**	**20 40 33.7**	**+1.2**
MSBI	**Mazada**	**8.91**	**104**	P	**Pn**	**20 40 33.6**	**+0.8**
MSBI	**Mazada**	**8.91**	**104**	P	**Pn**	**20 40 34.3**	**+1.5**
PRNI	**Paran**	**9.00**	**111**	P	**Pn**	**20 40 33.9**	**-0.1**
PRNI	**Paran**	**9.00**	**111**	S	**Sn**	**20 42 10.6**	**-4.0**
PRNI	**Paran**	**9.00**	**111**	P	**Pn**	**20 40 35.6**	**+1.6**
LISJ	**El Lisan**	**9.04**	**104**	P	**Pn**	**20 40 36.5**	**+2.1**
ZFRI	**Zfri**	**9.05**	**109**	P	**Pn**	**20 40 35.6**	**+0.9**
ZFRI	**Zfri**	**9.05**	**109**	P	**Pn**	**20 40 35.8**	**+1.2**
GHAJ	**Ghor Haditha**	**9.09**	**104**		**Pn**	**20 40 36.8**	**+1.7**
GHAJ	**Ghor Haditha**	**9.09**	**104**	P	**Pn**	**20 40 36.2**	**+1.1**
GHAJ	**Ghor Haditha**	**9.09**	**104**	P	**Pn**	**20 40 37.1**	**+2.0**
PUK	**Puka**	**9.15**	**334**	Pn	**Pn**	**20 40 33.4**	**-2.7**
HRFI	**Mount Harif**	**9.17**	**112**	S	**Sn**	**20 42 16.0**	**-2.7**
HRFI	**Mount Harif**	**9.17**	**112**	P	**Pn**	**20 40 38.3**	**+2.0**
MBRI	**Mt Berech**	**9.19**	**114**	P	**Pn**	**20 40 36.5**	**-0.1**
KARJ	**KARJ**	**9.22**	**105**	P	**Pn**	**20 40 33.0**	**-4.0**
EIL	**Elat**	**9.28**	**114**	Pn	**Pn**	**20 40 39.9**	**+2.1**
	comp=N,2.0nm,0.3s,baz=257,slow=9.6,SNR=27						
EIL				Sn	**Sn**	**20 42 17.4**	**-3.9**
	comp=N,0.6nm,0.3s,baz=287,slow=22,SNR=1.6						
	comp=N,4.8nm,0.4s						
EIL	**Elat**	**9.28**	**114**	P	**Pn**	**20 40 38.2**	**+0.4**
EIL	**Elat**	**9.28**	**114**	P	**Pn**	**20 40 39.2**	**+1.4**
RAFF	**Raffo Rosso**	**9.46**	**294**	Pn	**Pn**	**20 40 39.6**	**-0.8**
VAE	**Valguarnera**	**9.50**	**295**	Pn	**Pn**	**20 40 42.5**	**+1.6**
	comp=N,1.1nm,0.3s,baz=43,slow=21,SNR=2.0						
VAE				Sn	**Sn**	**20 42 19.3**	**-7.7**
	comp=N,1.2nm,0.3s,baz=112,slow=16,SNR=2.1						
CUC	**Castrocucco**	**9.68**	**312**		**Pn**	**20 40 42.6**	**-0.8**
BNN	**Bunyan**	**9.87**	**57**	Pn	**Pn**	**20 40 46.9**	**+0.9**
ASF	**Jabal al Asfar**	**9.93**	**97**	Pn	**Pn**	**20 40 48.5**	**+1.7**
	comp=N,0.4nm,0.3s,baz=239,slow=20,SNR=2.0						
ASF				Sn	**Sn**	**20 42 35.3**	**-2.3**
	comp=N,0.6nm,0.3s,baz=60,slow=23,SNR=2.1						
	comp=N,0.8nm,0.4s						
SGRT	**San Giovanni R**	**10.85**	**319**	Pn	**Pn**	**20 40 57.0**	**-2.3**
INTR	**Introdacqua**	**12.05**	**315**	Pn	**Pn**	**20 41 15.1**	**-0.8**
NRCA	**Norcia**	**13.03**	**317**	Pn	**Pn**	**20 41 28.5**	**-0.6**
FDMO	**Fiordimonte**	**13.17**	**317**	Pn	**Pn**	**20 41 26.8**	**-4.3**
SOKA	**Soboth**	**14.93**	**332**	*e*P	**P**	**20 42 01.1**	**+0.7**
	comp=N,8.0nm,1.2s						
SABO	**M.te Sabotino**	**14.98**	**327**	Pn	**Pn**	**20 41 53.4**	**-2.3**
STAL	**STALIGIAL**	**15.60**	**326**	Pn	**Pn**	**20 41 59.3**	**-4.5**
STAL				IAmb	IAmb	20 42 11.6	
	comp=Z,12nm,1.2s						
CLUD	**Cludinico**	**15.67**	**327**	Pn	**Pn**	**20 42 00.8**	**-3.9**
CLUD				IAmb	IAmb	20 42 09.4	
	comp=Z,9.4nm,0.9s						
CIMO	**Cimolais**	**15.77**	**326**	Pn	**Pn**	**20 42 03.3**	**-2.7**
CIMO				IAmb	IAmb	20 42 37.5	
	comp=Z,14nm,1.5s						
KBA	**Koelnbreinsper**	**15.94**	**329**	*i* P	**P**	**20 42 12.3**	**+0.6**
	comp=Z,7.2nm,0.7s,SNR=5.6						
CTI	**Castel Tesino**	**15.96**	**323**	Pn	**Pn**	**20 42 05.1**	**-3.4**
JAVC	**Velka Javorina**	**15.97**	**342**	*e*PN	**Pn**	**20 42 09.5**	**+0.9**
ABTA	**Abfaltersbach**	**16.06**	**327**	*e*P	**P**	**20 42 13.9**	**+1.0**
	comp=Z,9.7nm,0.5s,SNR=11						
MOA	**Molln**	**16.19**	**333**	*i* Pn	**P**	**20 42 14.2**	**-0.1**
	comp=Z,8.7nm,0.6s						
BIOA	**Bad Ischl, Aus**	**16.31**	**331**	*e*P	**P**	**20 42 16.1**	**+0.4**
	comp=Z,3.7nm,0.8s						
LESA	**Schwarzleotal**	**16.50**	**329**	*e*P	**P**	**20 42 18.6**	**+0.8**
	comp=Z,4.4nm,0.5s						
KRUC	**Moravsky**	**16.51**	**339**	*e*PN	**P**	**20 42 16.9**	**-0.9**
VRAC	**Vranov**	**16.67**	**340**	*e*Pn	**Pn**	**20 42 18.5**	**+1.0**
VRAC	**Vranov**	**16.67**	**340**	Pn	**Pn**	**20 42 17.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=134,slow=11,SNR=8.3						
	comp=Z,4.3nm,0.5s						
ONI	**Oni**	**16.70**	**53**	P	**P**	**20 42 22.1**	**+2.1**
GNI	**Garni**	**16.75**	**63**	P	**P**	**20 42 22.9**	**+2.1**
GNI				IAmb	IAmb	20 42 53.7	
	comp=Z,13nm,1.2s						
GNI	**Garni**	**16.75**	**63**	Pn	**P**	**20 42 23.7**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=284,slow=4.2,SNR=5.4						
	comp=Z,3.7nm,0.6s						
WTTA	**Wattenberg**	**16.84**	**326**	*i* P	**P**	**20 42 23.7**	**+2.0**
	comp=Z,5.3nm,0.8s						
KBZ	**Khabaz**	**16.86**	**49**	Pn	**P**	**20 42 23.7**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=250,slow=17,SNR=8.2						
KBZ				LR	LR	20 49 41.0	
	comp=Z,64nm,19.4s,baz=44,slow=40						
	comp=Z,3.1nm,0.7s						
WATA	**Walderalm**	**16.92**	**326**	*i* P	**P**	**20 42 24.2**	**+1.6**
	comp=Z,3.5nm,0.5s						
CKRC	**Cesky Krumlov**	**16.98**	**335**	*e*P	**P**	**20 42 22.3**	**-0.8**
SQTA	**Sankt Quirin**	**17.01**	**326**	*i* Pn	**P**	**20 42 25.2**	**+1.7**
	comp=Z,3.0nm,0.5s						
KIEV	**Kiev**	**17.02**	**9**	P	**Pn**	**20 42 21.0**	**-0.8**
KIEV				IAmb	IAmb	20 42 23.4	
	comp=Z,9.3nm,0.6s						
AKASG	**Malin Array Be**	**17.03**	**9**	Pn	**Pn**	**20 42 20.4**	**-1.6**
	comp=Z,4.5nm,0.3s,baz=202,slow=10,SNR=26						
	comp=Z,1.8nm,0.6s						
AKBB	**Malin Array Si**	**17.03**	**9**	P	**Pn**	**20 42 20.6**	**-1.3**
AKBB				IAmb	IAmb	20 42 23.4	
	comp=Z,10nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**17.05**	**323**	P	**Pn**	**20 42 22.9**	**+0.4**
FETA	**Feichten**	**17.10**	**324**	*i* Pn	**P**	**20 42 26.3**	**+1.8**
	comp=Z,5.2nm,0.8s,SNR=4.3						
MOTA	**Moosalm**	**17.15**	**326**	*i* Pn	**P**	**20 42 26.3**	**+1.2**
	comp=Z,2.6nm

	comp=Z,2.3nm,0.6s							
ZALV	**Zalesovo Beam**	**45.82**	**45**	P	**P**	**20 46 45.8**	**+0.5**	
	comp=Z,2.6nm,0.4s,baz=268,slow=8.6,SNR=16							
	comp=Z,2.6nm,0.4s							
NRIK	**Noril'sk**	**48.98**	**25**	P	**P**	**20 47 10.6**	**+0.9**	
	comp=Z,1.2nm,0.3s,baz=315,slow=4.3,SNR=1.6							
	comp=Z,1.2nm,0.3s							
SUMG	**Summit**	**50.17**	**339**	P	**P**	**20 47 20.1**	**+0.9**	
TSUM	**Tsumeb**	**53.32**	**189**	LR	LR	21 11 57.3		
	comp=Z,47nm,18.5s,baz=58,slow=38							
SONM	**Songino Array**	**60.23**	**50**	P	**P**	**20 48 33.8**	**+2.1**	
SONM				IAmb	IAmb	20 48 34.3		
	comp=Z,0.7nm,0.6s							
SONM	**Songino Array**	**60.23**	**50**	P	**P**	**20 48 33.6**	**+1.8**	
	comp=Z,0.9nm,0.7s,baz=283,slow=7.9,SNR=8.3							
	comp=Z,0.9nm,0.7s							
SCHQ	**Schefferville**	**64.19**	**320**	P	**P**	**20 48 57.9**	**0.0**	
SCHQ	**Schefferville**	**64.19**	**320**	P	**P**	**20 48 58.5**	**+0.5**	
	comp=Z,1.9nm,0.4s,baz=79,slow=7.5,SNR=2.2							
	comp=Z,1.9nm,0.4s							
SUR	**Sutherland**	**66.07**	**184**	LR	LR	21 19 30.6		
	comp=Z,42nm,18.0s,baz=69,slow=37							
USRK	**Ussuriysk Ar.**	**77.67**	**45**	P	**P**	**20 50 20.4**	**+0.4**	
	comp=Z,1.4nm,0.6s,baz=277,slow=4.6,SNR=4.3							
	comp=Z,1.4nm,0.6s							
YKA	**Yellowknife Ar**	**78.66**	**342**	P	**P**	**20 50 24.8**	**-0.3**	
	comp=Z,0.2nm,0.5s,baz=33,slow=5.4,SNR=5.1							
	comp=Z,0.2nm,0.5s							
ILAR	**Eielson Array**	**81.45**	**357**	P	**P**	**20 50 41.1**	**+1.0**	
	comp=Z,0.3nm,0.6s,baz=0.7,slow=2.6,SNR=4.1							
	comp=Z,0.3nm,0.6s							

*NNC **12** 20:39:10.9±11.0, 36.91N×69.37E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=90.0km s-min=80.5km az=155.0*
*IDC **12** 20:39:15.8±5.9, 36.86N×69.63E, h138km±53km, mb2.9/1, mbtmp3.4/5, Error ellipse: s-maj=80.6km s-min=18.7km az=155.0*
ISC 12 20:39:13.7±2.2, 36.6N±0.2×69.75E±0.10, h150km, n13, σ1s07/18, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.28**	**28**	P	**Pn**	**20 40 44.5**	**0.0**
	SNR=33						
AML	**Almayashu**	**6.28**	**28**	⇓P	**Pn**	**20 40 43.6**	**-0.8**
	0.3nm,0.5s						
AML				⇑S	**Sn**	**20 41 55.4**	**0.0**
	1.0nm,0.6s						
KK31	**Karatay Array**	**6.49**	**5**	⇓P	**Pn**	**20 40 47.5**	**+0.6**
	0.7nm,0.3s,baz=196,slow=13,SNR=13						
KK31				⇓S	**Sn**	**20 41 58.9**	**-0.9**
	1.5nm,0.6s,baz=193,slow=23,SNR=4.4						
UCH	**Uchtor**	**6.69**	**32**	P	**Pn**	**20 40 50.0**	**0.0**
	SNR=5.2						
EKS2	**Erkin-Say**	**6.77**	**26**	P	**Pn**	**20 40 52.0**	**+1.2**
	SNR=8.0						
AAK	**Ala-Archa**	**7.02**	**30**	P	**Pn**	**20 40 55.0**	**+0.8**
	SNR=5.7						
AAK	**Ala-Archa**	**7.02**	**30**	P	**Pn**	**20 40 54.0**	**-0.1**
	2.0nm,0.3s,baz=203,slow=8.0,SNR=18						
AAK				S	**Sn**	**20 42 11.5**	**-1.4**
	1.6nm,0.4s,baz=143,slow=17,SNR=8.0						
USP	**Ospenovka**	**7.56**	**27**	P	**Pn**	**20 41 00.8**	**-0.3**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.72**	**34**	⇑P	**Pn**	**20 41 01.9**	**-1.6**
	0.7nm,0.4s						
TKM2				⇓S	**Sn**	**20 42 32.3**	**+2.6**
	0.7nm,0.6s						
GEYT	**Alibeck**	**9.37**	**281**	P	**Pn**	**20 41 25.8**	**+0.5**
	0.8nm,0.4s,baz=94,slow=17,SNR=4.4						
GEYT				S	**Sn**	**20 43 08.4**	**-0.7**
	0.6nm,0.3s,baz=118,slow=22,SNR=1.9						
MKAR	**Makanchi Array**	**13.79**	**39**	P	**P**	**20 42 26.0**	**-0.4**
	0.4nm,0.4s,baz=219,slow=12,SNR=11						
KURBB	**Kurchatov Arra**	**15.34**	**22**	P	**P**	**20 42 42.9**	**-0.6**
	0.1nm,0.3s,baz=213,slow=11,SNR=1.6						
ZALV	**Zalesovo Beam**	**20.23**	**26**	P	**P**	**20 43 37.5**	**+0.7**
	0.5nm,0.3s,baz=217,slow=9.1,SNR=3.1						
	0.5nm,0.3s						

*TEH **12** 20:39:41.6, 33.74N×45.83E, h10km±88km, ML2.5*
*ISN **12** 20:39:42.0±0.6, 33.73N×45.83E, h11km±3km, ML2.6*
ISC 12 20:39:42.5±1.2, 33.71N±0.05×45.86E±0.05, h19km, n8, σ0s71/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.30**	**106**	Pg	**Pg**	**20 39 48.7**	**-0.6**
ILBA				Sg	**Sg**	**20 39 53.8**	**0.0**
IBDR	**Badra**	**0.60**	**174**	*e*Pg	**Pb**	**20 39 54.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**20 40 03.0**	**+0.6**
IGHG	**Ghaleghazi**	**0.85**	**44**	Pg	**Pb**	**20 39 58.9**	**0.0**
IDHR	**Dehrash**	**1.08**	**24**	Pg	**Pb**	**20 40 02.3**	**-0.5**
BHD	**Baghdad**	**1.31**	**251**	*e*Pg	**Pb**	**20 40 07.0**	**+0.5**
BHD				*e*Sg	**Sg**	**20 40 24.5**	**-0.4**
IKOM	**Komasi**	**1.45**	**71**	Pg	**Pb**	**20 40 09.8**	**+0.8**
ILIN	**Lien**	**1.51**	**37**	Pg	**Pb**	**20 40 10.1**	**0.0**
RAFI	**Al-Rafai**	**1.99**	**174**	*e*Pn	**Pb**	**20 40 17.5**	**-0.7**
RAFI				*e*Sn	**Sb**	**20 40 44.0**	**+1.4**
RAFI				AML	AML	20 40 49.6	
	comp=E,54nm,0.4s						
RAFI				AML	AML	20 40 49.8	
	comp=N,80nm,0.5s						

*ISN **12** 21:00:57.7±1.4, 33.74N×45.72E, h8km±7km, ML2.5*
*TEH **12** 21:00:58.3, 33.75N×45.71E, h10km±50km, ML2.6*
ISC 12 21:00:58.6±0.9, 33.74N±0.04×45.72E±0.05, h13km, n11, σ0s58/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.42**	**105**	Pg	**Pg**	**21 01 07.3**	**+0.2**
IBDR	**Badra**	**0.65**	**164**	*e*Pg	**Pg**	**21 01 11.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**21 01 19.5**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.77**	**352**	Pg	**Pg**	**21 01 13.2**	**-0.5**
IGHG	**Ghaleghazi**	**0.92**	**50**	Pg	**Pb**	**21 01 16.5**	**-0.2**
IDHR	**Dehrash**	**1.11**	**30**	Pg	**Pb**	**21 01 19.4**	**-0.4**
BHD	**Baghdad**	**1.21**	**248**	*e*Pg	**Pn**	**21 01 21.0**	**-0.2**
BHD				*e*Sg	**Sg**	**21 01 37.5**	**-0.2**
IKOM	**Komasi**	**1.55**	**73**	Pg	**Pg**	**21 01 28.1**	**-0.4**
ILIN	**Lien**	**1.57**	**41**	Pg	**Pg**	**21 01 28.3**	**-0.5**
IKFM	**Kafar-mosalman**	**1.79**	**96**	Pg	**Pg**	**21 01 32.4**	**-0.7**
IKRK	**Kirkuk**	**2.01**	**326**	*e*Pn	**Pn**	**21 01 33.0**	**+0.7**
IKRK				*e*Sn	**Sb**	**21 02 01.0**	**+1.0**
IKRK				AML	AML	21 02 05.9	
	comp=E,48nm,0.5s						
IKRK				AML	AML	21 02 13.5	
	comp=N,45nm,0.5s						
RAFI	**Al-Rafai**	**2.04**	**170**	*e*Pn	**Pn**	**21 01 33.5**	**+0.9**
RAFI				*e*Sn	**Sb**	**21 02 01.0**	**+0.3**

*NEIC **12** 21:02:17.7±1.0, 39.40N±0.04×119.77W±0.03, h6km±6km, Error ellipse: s-maj=6.7km s-min=2.2km az=203.0*
REN 12 21:02:17.4±0.5, 39.38N±0.02×119.76W±0.03, h8km±6km, ML2.4/18, ML2.2/36(NEIC), Error ellipse: s-maj=3.2km s-min=2.0km az=49.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPK	**Martis Peak**	**0.23**	**248**		Pg	21 02 22.8	+0.7
MPK					Sg	21 02 26.5	+1.2
MPK	**Martis Peak**	**0.23**	**248**	IAML		21 02 26.8	
	comp=E,1μm,0.6s						
MPK				IAML		21 02 27.3	
	comp=N,714nm,0.4s						
PEAR	**Peavine Mounta**	**0.27**	**324**		Pg	21 02 23.4	+0.5
PEAR					Sg	21 02 27.8	+1.1
PNTR	**Pine Nut**	**0.32**	**158**		Pg	21 02 24.2	+0.4
PNTR					Sg	21 02 29.2	+1.2
PNTR	**Pine Nut**	**0.32**	**158**	IAML		21 02 30.1	
	comp=N,325nm,0.4s						
PNTR				IAML		21 02 30.6	
	comp=E,298nm,0.6s						
BABR	**Babbit Peak**	**0.35**	**309**		Pg	21 02 24.8	+0.4
BABR					Sg	21 02 29.8	+0.8
PAHR	**Pah Rah Range**	**0.43**	**42**		Pg	21 02 26.1	+0.3
PAHR					Sg	21 02 32.2	+0.7
PAHR	**Pah Rah Range**	**0.43**	**42**	IAML		21 02 32.5	
	comp=N,280nm,0.4s						
PAHR				IAML		21 02 34.2	
	comp=E,278nm,0.3s						

DONR	**Donner Summit**	**0.44**	**266**		Pg	21 02 26.4	+0.4	
DONR					Sg	21 02 32.5	+0.7	
RUBR	**Rubicon Trail**	**0.46**	**223**		Pg	21 02 26.9	+0.6	
RUBR					Sb	21 02 33.6	-1.3	
LOY	**Loyalton**	**0.46**	**306**		Pg	21 02 26.7	+0.3	
EMB	**Emerald Bay**	**0.49**	**214**		Pg	21 02 27.4	+0.4	
EMB					Sb	21 02 34.7	-1.2	
EMB	**Emerald Bay**	**0.49**	**214**	IAML		21 02 35.0		
	comp=E,189nm,0.3s							
EMB				IAML		21 02 39.5		
	comp=N,115nm,0.8s							
YERR	**Yerington**	**0.56**	**135**		Pg	21 02 28.6	+0.3	
YERR					Sg	21 02 36.5	+0.7	
YERR	**Yerington**	**0.56**	**135**	IAML		21 02 36.7		
	comp=N,242nm,0.4s							
YERR				IAML		21 02 36.9		
	comp=E,342nm,0.3s							
BEKR	**Beckworth**	**0.67**	**316**		Pg	21 02 30.4	0.0	
BMRR	**Black Mountain**	**0.83**	**330**		Pg	21 02 33.4	-0.1	
WAKR	**Walker**	**0.91**	**164**		Pg	21 02 35.1	+0.2	
AFDM	**Forest Hills D**	**1.04**	**246**		Pg	21 02 37.1	-0.3	
RYN	**Ryan**	**1.22**	**128**		Pg	21 02 40.7	-0.1	
KVN	**Kaiserville**	**1.33**	**104**		Pn	21 02 42.3	-0.2	
KVN	**Kaiserville**	**1.33**	**104**	IAML		21 03 01.1		
	comp=E,63nm,0.6s							
PLTX	**Planet X, Gerl**	**1.34**	**9**		Pg	21 02 45.1	+2.0	
ORV	**Oroville**	**1.36**	**278**		Pn	21 02 42.7	-0.1	
ORV	**Oroville**	**1.36**	**278**	IAML		21 03 03.2		
	comp=N,27nm,0.8s							
CMB	**Columbia Colle**	**1.44**	**200**		Pb	21 02 44.5	+0.1	
NV09	**Mina Array Sit**	**1.46**	**130**		Pb	21 02 44.8	-0.2	
NV08	**Mina Array Sit**	**1.49**	**131**		Pb	21 02 45.2	-0.2	
LHV	**Little Huntoon**	**1.50**	**139**		Pb	21 02 45.7	+0.3	
LHV	**Little Huntoon**	**1.50**	**139**	IAML		21 03 09.8		
	comp=N,56nm,0.5s							
LHV				IAML		21 03 11.0		
	comp=E,39nm,0.4s							
NV11	**Mina Array Sit**	**1.57**	**127**		Pb	21 02 46.6	-0.2	
NV11				IAML		21 03 09.8		
	comp=N,19nm,0.3s							
MDPB	**Devils Postpil**	**1.83**	**163**		Pb	21 02 51.7	+0.4	
OMMB	**Old Mammoth Mi**	**1.86**	**161**		Pg	21 02 52.7	-0.5	
BMN	**Battle Mountai**	**2.21**	**61**		Pn	21 02 53.9	-0.8	
TPH	**Tonopah**	**2.37**	**123**		Pb	21 03 00.5	-0.1	
TPH	**Tonopah**	**2.37**	**123**		Pn	21 02 54.2	-2.6	
MZP	**Montezuma Peak**	**2.51**	**131**		Pg	21 03 05.4	-0.1	
GMN	**Gold Mountain**	**2.86**	**136**		Pg	21 03 14.0	+1.8	
S11A	**Rachel**	**3.59**	**118**		Pg	21 03 26.4	+0.2	
ELK	**Elko**	**3.72**	**67**		Pn	21 03 17.8	+2.4	
ELK				IAML		21 04 14.8		
	comp=N,3.6nm,4.2s							
ELK				IAML		21 04 17.6		
	comp=N,2.7nm,0.6s							
Q12A	**Willow Creek R**	**3.84**	**94**		Pg	21 03 29.8	-1.2	

*IDC **12** 21:12:37.5±14.0, 17.64S×178.00W, h433km±152km, mb3.3/5, mbtmp4.2/5, Error ellipse: s-maj=113.4km s-min=56.8km az=133.0*
*NEIC **12** 21:12:42.9±1.5, 18.0S±0.3×177.7W±0.5, h520km±56km, mb4.2/15, Error ellipse: s-maj=75.1km s-min=25.6km az=58.0*
ISC 12 21:12:42.2±0.8, 18.1S±0.1×177.8W±0.1, h500km, n24, σ0s76/24, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.53**	**99**	P	**P**	**21 14 33.4**	**-0.4**
FUNA	**Funafuti**	**9.93**	**343**	P	**P**	**21 14 59.8**	**+0.8**
MLZ	**Mavora Lakes**	**29.64**	**200**	P	**P**	**21 18 07.0**	**+0.8**
EIDS	**Eidsvold**	**29.75**	**250**	P	**P**	**21 18 07.2**	**-0.4**
EIDS				IAmb	IAmb	21 18 08.2	
	comp=Z,3.5nm,0.8s						
WHZ	**Wether Hill Ro**	**30.16**	**200**	P	**P**	**21 18 11.6**	**+0.9**
WHZ				IAmb	IAmb	21 18 13.4	
	comp=Z,14nm,1.2s						
ARMA	**Armidale**	**30.36**	**240**	P	**P**	**21 18 13.2**	**+0.4**
ARMA				IAmb	IAmb	21 18 14.2	
	comp=Z,21nm,1.4s						
CTA	**Charters Tower**	**33.99**	**261**	P	**P**	**21 18 43.0**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=73,slow=11,SNR=1.9						
	comp=Z,2.2nm,0.7s						
CTAO	**Charters Tower**	**33.99**	**261**	P	**P**	**21 18 43.1**	**-0.8**
CTAO				IAmb	IAmb	21 18 53.6	
	comp=Z,11nm,1.4s						
TOO	**Toolangi**	**37.52**	**231**	P	**P**	**21 19 13.5**	**+0.6**
COEN	**Coen**	**37.69**	**270**	P	**P**	**21 19 14.8**	**+0.2**
COEN				IAmb	IAmb	21 19 26.4	
	comp=Z,9.4nm,1.2s						
STKA	**Stephens Creek**	**39.06**	**241**	P	**P**	**21 19 26.2**	**+0.7**
STKA	**Stephens Creek**	**39.06**	**241**	P	**P**	**21 19 25.9**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=92,slow=7.1,SNR=9.1						
	comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**43.83**	**241**	P	**P**	**21 20 03.4**	**-0.1**
WR0	**Warramunga Arr**	**44.98**	**260**	P	**P**	**21 20 11.5**	**-1.0**
WR0				IAmb	IAmb	21 20 14.2	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**45.14**	**260**	P	**P**	**21 20 12.9**	**-0.8**
WB0				IAmb	IAmb	21 20 32.7	
	comp=Z,8.7nm,1.4s						
WB2	**Warramunga Arr**	**45.16**	**260**	P	**P**	**21 20 13.2**	**-0.7**
WB2				IAmb	IAmb	21 20 13.7	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**45.16**	**260**	P	**P**	**21 20 12.9**	**-1.1**
WRAB				IAmb	IAmb	21 20 13.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**45.17**	**260**	P	**P**	**21 20 13.0**	**-1.1**
WRA	**Warramunga Arr**	**45.17**	**260**	P	**P**	**21 20 12.7**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=97,slow=7.2,SNR=27						
	comp=Z,0.7nm,0.3s						
AS31	**Alice Springs**	**45.30**	**254**	P	**P**	**21 20 14.7**	**-0.3**
ASAR	**Alice Springs**	**45.30**	**254**	P	**P**	**21 20 14.2**	**-0.8**
ASAR	**Alice Springs**	**45.30**	**254**	P	**P**	**21 20 14.7**	**-0.4**
	comp=Z,7.2nm,0.4s,baz=89,slow=8.4,SNR=183						
	comp=Z,7.2nm,0.4s						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**21 24 27.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=222,slow=5.8,SNR=5.1						
	comp=Z,0.4nm,0.8s						
MMAI	**Mount Meron Ar**	**146.72**	**303**	PKPbc	**PKPbc**	**21 31 28.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=72,slow=4.7,SNR=2.0						

*BJI **12** 21:48:59.4±0.0, 10.55S×123.34E, h105km, mb5.1/72, mB5.1/33*
*IDC **12** 21:49:01.1±1.8, 9.83S×122.82E, h45km±15km, mb4.4/27, mbtmp4.7/27, MS3.3/15, Error ellipse: s-maj=18.1km s-min=11.9km az=69.0*
*NEIC **12** 21:49:04.5±1.8, 10.03S±0.06×122.87E±0.03, h88km±6km, mb4.9/76, Error ellipse: s-maj=9.1km s-min=1.2km az=206.0*
*DJA **12** 21:49:04.1±0.1, 10˝S±1˝×12˝3E±˝, h65km±2km, M5.1/60, mb5.1/60, mB5.5/22, MLv5.2/16, Mw4.8/8, Mw(mB)5.0/22, MwMwp4.5/1, Mwp4.9/1*
ISC 12 21:49:03.9±0.5, 10.04S±0.04×122.92E±0.04, h79km±4km, h79km:pP-P, n358, σ1s56/373, mb5.0/88, 5C-9D, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.36**	**78**		**Pn**	**21 49 29.4**	**+1.9**
SOEI				Sn	**Sn**	**21 49 48.3**	**+3.0**
SOEI	**Soe**	**1.36**	**78**	P	**Pn**	**21 49 29.5**	**+1.9**
SOEI	**Soe**	**1.36**	**78**	P	**Pn**	**21 49 29.2**	**+1.6**
SOEI				S	**Sn**	**21 49 46.8**	**+1.5**
MMRI	**Maumere**	**1.54**	**334**	Pn	**Pn**	**21 49 31.0**	**+1.2**
MMRI				Sn	**Sn**	**21 49 51.3**	**+1.9**
MMRI	**Maumere**	**1.54**	**334**	P	**Pn**	**21 49 31.2**	**+1.4**
MMRI	**Maumere**	**1.54**	**334**	P	**Pn**	**21 49 30.8**	**+1.0**
MMRI				S	**Sn**	**21 49 50.8**	**+1.4**
EDFI	**Ende, Flores**	**1.76**	**317**	P	**Pn**	**21 49 32.9**	**+0.1**
BASI	**Baing, Sumba**	**2.31**	**265**	P	**Pn**	**21 49 41.2**	**+1.3**
BASI				S	**Sn**	**21 50 07.1**	**-0.4**
BBSI	**Bau Bau**	**4.53**	**356**	P	**Pn**	**21 50 13.4**	**+3.2**
DBNI	**Kabupaten Domp**	**4.79**	**288**	P	**Pn**	**21 50 15.7**	**+2.0**
DBNI				S	**Sn**	**21 51 08.5**	**+0.5**
PLAI	**Plampang**	**5.21**	**283**	P	**Pn**	**21 50 20.6**	**+1.1**
PLAI	**Plampang**	**5.21**	**283**	P	**Pn**	**21 50 20.5**	**+1.1**
	3μm,0.7s,39μm2μm13nm						
PLAI				S	**Sn**	**21 51 15.9**	**-2.3**
	3μm,0.7s,39μm2μm13nm						
BKSI	**Bulukumba**	**5.44**	**329**	P	**Pn**	**21 50 24.5**	**+1.9**
	262nm,1.0s,3μm0.8nm						
MKS	**Makassar**	**5.88**	**324**	P	**Pn**	**21 50 29.6**	**+1.0**

	202nm,1.1s,0.7nm							
KAPI	**Kappang**	**5.89**	**328**	Pn	**Pn**	**21 50 32.0**	**+3.3**	
KAPI	**Kappang**	**5.89**	**328**	P	**Pn**	**21 50 32.0**	**+3.3**	
	60nm,0.6s,baz=165,slow=9.2,SNR=32							
KAPI				S	**Sn**	**21 51 38.0**	**+3.0**	
	54nm,0.6s,baz=76,slow=20,SNR=1.1							
TWSI	**Taliwang, Sumb**	**6.09**	**282**	P	**Pn**	**21 50 32.4**	**+1.0**	
	1μm,0.9s,14μm8.8nm							
SPSI	**Sidrap Palu**	**6.79**	**332**	P	**Pn**	**21 50 44.2**	**+3.2**	
	99nm,0.9s,0.3nm							
TTSI	**Tana Toraja**	**7.60**	**336**	P	**Pn**	**21 50 54.5**	**+2.5**	
	68nm,0.7s,954nm0.3nm							
DNP	**Denpasar**	**7.72**	**279**	P	**Pn**	**21 50 54.0**	**+0.3**	
SRBI	**Singaraja**	**7.85**	**284**	P	**Pn**	**21 50 55.1**	**-0.4**	
	95nm,0.8s,0.8nm							
NLAI	**Namlea**	**7.93**	**32**	P	**Pn**	**21 51 00.5**	**+4.0**	
	97nm,0.7s							
KNRA	**Kununurra**	**7.99**	**135**	P	**Pn**	**21 50 55.0**	**-2.5**	
	baz=8.1,SNR=1000							
KNRA				S	Sn	21 52 18.5	-7.8	
	baz=8.1							
KNRA	**Kununurra**	**7.99**	**135**	Pn	**Pn**	**21 50 55.8**	**-1.7**	
KNRA	**Kununurra**	**7.99**	**135**	P	**Pn**	**21 50 55.7**	**-1.7**	
FITZ	**Fitzroy Crossi**	**8.44**	**162**	P	**Pn**	**21 51 01.9**	**-1.6**	
	baz=8.5,SNR=80							
FITZ				S	**Sn**	**21 52 30.5**	**-6.6**	
	baz=8.5							
FITZ	**Fitzroy Crossi**	**8.44**	**162**	Pn	**Pn**	**21 51 02.4**	**-1.1**	
FITZ	**Fitzroy Crossi**	**8.44**	**162**	P	**Pn**	**21 51 02.1**	**-1.4**	
SANI	**Sanana**	**8.50**	**21**	P	**Pn**	**21 51 07.0**	**+2.6**	
SANI	**Sanana**	**8.50**	**21**	P	**Pn**	**21 51 06.3**	**+1.9**	
	47nm,0.9s,682nm							
MTN	**Manton Dam**	**8.52**	**110**	P	**Pn**	**21 51 02.0**	**-2.6**	
	baz=8.6,SNR=112							
MTN				S	**Sn**	**21 52 33.0**	**-6.3**	
	baz=8.6							
MTN	**Manton Dam**	**8.52**	**110**	Pn	**Pn**	**21 51 02.3**	**-2.4**	
MTN	**Manton Dam**	**8.52**	**110**	P	**Pn**	**21 51 02.3**	**-2.4**	
SAUI	**Saumlaki**	**8.53**	**77**	Pn	**Pn**	**21 51 05.2**	**+0.4**	
SAUI	**Saumlaki**	**8.53**	**77**	P	**Pn**	**21 51 05.5**	**+0.7**	
SAUI	**Saumlaki**	**8.53**	**77**	P	**Pn**	**21 51 05.1**	**+0.4**	
	363nm,1.0s,14μm							
JAGI	**Jajag, Banyuwa**	**8.79**	**279**	Pn	**Pn**	**21 51 06.0**	**-2.3**	
JAGI	**Jajag, Banyuwa**	**8.79**	**279**	P	**Pn**	**21 51 06.4**	**-1.9**	
JAGI	**Jajag, Banyuwa**	**8.79**	**279**	P	**Pn**	**21 51 05.8**	**-2.5**	
	514nm,0.5s,6μm							
ABJI	**Asem Bagus**	**8.86**	**284**	P	**Pn**	**21 51 10.0**	**+0.7**	
	142nm,1.0s							
LUWI	**Luwuk**	**8.94**	**359**		**Pn**	**21 51 10.3**	**0.0**	
LUWI	**Luwuk**	**8.94**	**359**	P	**Pn**	**21 51 12.6**	**+2.3**	
LUWI	**Luwuk**	**8.94**	**359**	P	**Pn**	**21 51 12.3**	**+2.0**	
	167nm,0.8s,1μm							
KMMI	**Kalianget**	**9.33**	**288**	P	**Pn**	**21 51 16.7**	**+1.0**	
	121nm,1.1s							
BLJI	**Banyuglugur**	**9.49**	**283**	P	**Pn**	**21 51 17.3**	**-0.5**	
	154nm,0.8s,2μm							
KDU	**Kakadu**	**9.73**	**107**	P	**Pn**	**21 51 18.1**	**-3.0**	
	baz=9.8,SNR=1000							
KDU	**Kakadu**	**9.73**	**107**	P	**Pn**	**21 51 19.9**	**-1.3**	
LBMI	**Labuha**	**10.39**	**26**	P	**Pn**	**21 51 33.2**	**+3.0**	
	71nm,0.8s							
MRSI	**Marisa**	**10.49**	**355**	P	**Pn**	**21 51 34.0**	**+2.5**	
	59nm,0.8s							
KRKI	**Karangkates**	**10.50**	**279**	P	**Pn**	**21 51 31.9**	**+0.3**	
GTOI	**Gorontalo**	**10.60**	**1**	P	**Pn**	**21 51 36.8**	**+3.7**	
	18nm,0.9s							
MPSI	**Mapaga**	**10.73**	**344**	P	**Pn**	**21 51 37.5**	**+2.6**	
	22nm,1.5s,568nm							
GRJI	**Gresik**	**10.78**	**286**	P	**Pn**	**21 51 35.5**	**+0.1**	
	177nm,1.4s							
SJI	**Sawahan**	**11.25**	**281**	P	**Pn**	**21 51 42.4**	**+0.4**	
	111nm,0.4s,4μm							
TOLI2	**Tolitoli**	**11.28**	**349**	Pn	**Pn**	**21 51 42.5**	**+0.2**	
TNTI	**Ternate**	**11.62**	**23**	Pn	**Pn**	**21 51 48.3**	**+1.5**	
NGJI	**Ngawi**	**11.63**	**282**	P	**Pn**	**21 51 47.2**	**+0.2**	
	75nm,0.7s							
FAKI	**Fak Fak**	**11.66**	**53**	Pn	**Pn**	**21 51 47.0**	**-0.4**	
FAKI	**Fak Fak**	**11.66**	**53**	P	**Pn**	**21 51 46.3**	**-1.1**	
FAKI	**Fak Fak**	**11.66**	**53**	P	**Pn**	**21 51 46.4**	**-1.0**	
	68nm,0.7s,873nm							
PKKI	**Palangkaraya**	**11.79**	**310**	P	**Pn**	**21 51 51.6**	**+2.4**	
	70nm,0.8s							
PSA00	**Pilbara Seismi**	**11.84**	**194**		**Pn**	**21 51 49.2**	**-0.7**	
PSA00	**Pilbara Seismi**	**11.84**	**194**	Pn	**Pn**	**21 51 49.8**	**-0.1**	
PSA00	**Pilbara Seismi**	**11.84**	**194**	P	**Pn**	**21 51 49.7**	**-0.2**	
SIJI	**Sorong**	**12.

BLDU Ballidu 21.27 195 P **P** **21 53 44.9 +0.9**
OOD Oodnadatta 21.37 147 P **P** **21 53 45.4 +0.4**
UBSI University, Be 21.41 285 P **P** **21 53 47.1 +1.5**
comp=Z,523nm,1.7s
KLBR Kellerberrin 21.98 192 P **P** **21 53 52.3 +0.9**
baz=22,SNR=12
KLBR Kellerberrin 21.98 192 P **P** **21 53 52.4 +0.9**
MTSU Mount Surprise 22.25 114 P **P** **21 53 56.3 +1.8**
baz=22,SNR=98
MTSU Mount Surprise 22.25 114 P **P** **21 53 56.3 +1.8**
MULG Mulgathing 22.66 154 P **P** **21 53 59.6 +0.8**
MUN Mundaring 22.70 195 P **P** **21 53 59.3 +0.2**
baz=23,SNR=4.2
MUN Mundaring 22.70 195 P **P** **21 53 59.4 +0.2**
KRJI Kerinci 22.73 289 P **P** **21 53 59.9 +0.1**
comp=Z,103nm,0.6s
NWAO Narrogin (SRO) 23.38 192 P **P** **21 54 06.3 +0.6**
baz=23,SNR=8.8
NWAO P **P** **21 54 06.3 +0.6**
baz=23,SNR=8.8
NWAO Narrogin (SRO) 23.38 192 P **P** **21 54 05.8 +0.1**
NWAO IAmb IAmb 21 54 07.8
comp=Z,67nm,0.8s
NWAO Narrogin (SRO) 23.38 192 P **P** **21 54 05.5 -0.2**
NWAO IAmb IAmb 21 54 07.7
comp=Z,21nm,0.8s
NWAO Narrogin (SRO) 23.38 192 P **P** **21 54 05.9 +0.1**
NWAO Narrogin (SRO) 23.38 192 LR LR 22 03 23.5
comp=Z,65nm,19.3s,baz=19,slow=37
PPSI Pulau Pagai 23.87 286 P **P** **21 54 10.6 +0.2**
comp=Z,207nm,1.2s
PMG Port Moresby 23.90 91 P **P** **21 54 10.4 -0.2**
PMG Port Moresby 23.90 91 P **P** **21 54 12.5 +1.9**
comp=Z,7.7nm,0.6s,baz=275,slow=12,SNR=2.9
PMG LR LR 22 04 01.5
comp=Z,92nm,21.1s,baz=267,slow=38
comp=Z,7.7nm,0.6s
PMG Port Moresby 23.90 91 P **P** **21 54 12.7 +2.0**
comp=Z,26nm,1.0s,comp=Z,477nm
BKNI Bangkinang 24.08 294 P **P** **21 54 11.2 -1.1**
BKNI IAmb IAmb 21 54 15.8
comp=Z,75nm,1.0s
BKNI Bangkinang 24.08 294 P **P** **21 54 12.4 +0.1**
comp=Z,45nm,0.5s
INKA Innaminka 24.33 139 P **P** **21 54 17.5 +3.1**
CTA Charters Tower 24.62 117 P **P** **21 54 19.2 +2.0**
CTA Charters Tower 24.62 117 P **P** **21 54 18.9 +1.7**
comp=Z,18nm,0.9s,baz=283,slow=10,SNR=15
CTA LR LR 22 03 34.6
comp=Z,110nm,21.7s,baz=276,slow=35
comp=Z,18nm,0.9s
CTAO Charters Tower 24.62 117 P **P** **21 54 17.9 +0.7**
CTAO Charters Tower 24.62 117 P **P** **21 54 19.0 +1.8**
LCRK Leigh Creek 24.81 147 P **P** **21 54 21.5 +2.7**
RKGY Rocky Gully 25.05 192 P **P** **21 54 21.8 +0.9**
baz=25,SNR=7.0
MANU Manus Island 25.56 73 P **P** **21 54 25.0 -0.8**
MANU IAmb IAmb 21 54 29.5
comp=Z,42nm,0.7s
BBOO Buckleboo 25.70 154 P **P** **21 54 27.7 +0.9**
baz=26,SNR=25
BBOO Buckleboo 25.70 154 P **P** **21 54 26.4 -0.4**
BBOO Buckleboo 25.70 154 P **P** **21 54 27.4 +0.6**
QLP Quilpie 26.02 132 P **P** **21 54 31.9 +2.2**
baz=26,SNR=15
QLP Quilpie 26.02 132 P **P** **21 54 33.0 +3.3**
comp=Z,79nm,0.7s
PBSI Pulau Batu 26.44 291 P **P** **21 54 34.2 +0.5**
comp=Z,132nm,1.1s
PBSI pP **pP** **21 54 49.9 -1.1**
comp=Z,132nm,1.1s
KULM Kulim 26.90 304 P **P** **21 54 36.8 -1.1**
HTT Hallett 27.55 150 P **P** **21 54 45.2 +1.7**
baz=28,SNR=13
HTT Hallett 27.55 150 P **P** **21 54 45.3 +1.8**
GSI Gunungsitoli 27.63 293 P **P** **21 54 42.8 -1.5**
GSI IAmb IAmb 21 54 45.8
comp=Z,12nm,0.6s
GSI Gunungsitoli 27.63 293 P **P** **21 54 43.8 -0.5**
STKA Stephens Creek 27.78 144 P **P** **21 54 47.0 +1.5**
baz=28,SNR=15
STKA Stephens Creek 27.78 144 P **P** **21 54 46.8 +1.3**
STKA Stephens Creek 27.78 144 P **P** **21 54 47.1 +1.6**
STKA Stephens Creek 27.78 144 P **P** **21 54 46.9 +1.5**
comp=Z,12nm,0.5s,baz=315,slow=9.1,SNR=19
STKA LR LR 22 07 09.1
comp=Z,137nm,18.4s,baz=360,slow=39
comp=Z,12nm,0.5s
SNSI Sinabang, Aceh 29.22 294 P **P** **21 54 58.8 +0.3**
comp=Z,71nm,0.9s
SNSI pP **pP** **21 55 14.0 -2.0**
comp=Z,71nm,0.9s
CMSA Cobar Meteorol 30.06 139 P **P** **21 55 07.9 +2.1**
baz=30,SNR=11
CMSA Cobar Meteorol 30.06 139 P **P** **21 55 08.1 +2.4**
UBPT Khong Chiam 30.52 325 P **P** **21 55 09.4 -0.5**
ARPS Mount Arapiles 31.65 150 P **P** **21 55 21.8 +2.1**
baz=32,SNR=13
ARPS Mount Arapiles 31.65 150 P **P** **21 55 22.0 +2.3**
TPUB Ta-pu 33.21 356 P **P** **21 55 31.8 -1.6**
TPUB IAmb IAmb 21 55 38.4
comp=Z,31nm,0.9s
TPUB Ta-pu 33.21 356 P **P** **21 55 34.0 +0.6**
YULB Yu-li 33.26 357 P **P** **21 55 33.3 -0.6**
YULB IAmb IAmb 21 55 34.9
comp=Z,32nm,1.0s
YULB Yu-li 33.26 357 P **P** **21 55 34.4 +0.5**
ARMA Armidale 33.55 131 P **P** **21 55 38.8 +2.3**
SSLB Suanglung 33.67 357 P **P** **21 55 36.6 -0.9**
SSLB IAmb IAmb 21 55 50.4
comp=Z,27nm,1.1s
SSLB Suanglung 33.67 357 P **P** **21 55 36.5 -0.9**
TOO Toolangi 34.13 147 P **P** **21 55 44.8 +3.4**
baz=34,SNR=9.5
TOO Toolangi 34.13 147 P **P** **21 55 44.0 +2.5**
TOO Toolangi 34.13 147 P **P** **21 55 43.9 +2.5**
HNR Honiara 36.49 92 LR LR 22 13 23.8
comp=Z,913nm,18.1s,baz=302,slow=40
CMAR Chiang Mai Arr 36.90 320 P **P** **21 56 04.8 -0.5**
comp=Z,1.5nm,0.4s,baz=144,slow=6.7,SNR=1.0
CMAR PcP **PcP** **21 58 27.6 +2.1**
comp=Z,4.9nm,0.7s,baz=176,slow=2.8,SNR=11
CMAR ScP **ScP** **22 02 08.3 +2.8**
comp=Z,0.7nm,0.3s,baz=141,slow=3.1,SNR=4.1
CMAR LR LR 22 12 13.6
comp=Z,17nm,18.4s,baz=145,slow=38
comp=Z,1.5nm,0.4s
GYA Guiyang 39.57 337 ⇑P **P** **21 56 28.0 +0.3**
GYA pmax pmax
comp=Z,23nm,0.7s
KMI Kunming 40.10 331 ⇓P **P** **21 56 31.9 -0.4**
KMI pmax pmax
comp=Z,23nm,1.0s
WHN Wuhan 41.18 349 ⇑P **P** **21 56 40.7 -0.1**
WHN pmax pmax
comp=Z,180nm,1.1s
JCJ Chichijima 41.38 26 P **P** **21 56 41.5 -1.0**
JCJ Chichijima 41.38 26 P **P** **21 56 41.2 -1.3**
PZH PanZhiHua 41.74 331 P **P** **21 56 45.1 -0.5**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,160nm,6.9s
NJ2 Nanjing 42.03 355 ⇓P **P** **21 56 46.5 -1.2**
NJ2 pmax pmax
comp=Z,29nm,0.9s
NJ2 pmax pmax
comp=Z,170nm,5.2s
ENH Enshi 42.11 343 P **P** **21 56 47.6 -0.8**
ENH Enshi 42.11 343 P **P** **21 56 47.5 -0.9**
TNCH TengChong 42.20 326 ⇑P **P** **21 56 48.9 -0.5**
TNCH pP pP 21 57 10.2 +2.7
TNCH S **S** **22 03 05.3 +1.2**
TNCH pmax pmax
comp=Z,21nm,0.8s
TNCH pmax pmax
comp=Z,240nm,5.4s
TNCH LR LR
comp=Z,250nm,4.3s
TNCH LR LR
comp=Z,170nm,4.2s
TNCH LR LR
comp=Z,120nm,6.1s
DZM Mont Dzumac 43.36 111 LR LR 22 16 01.3
comp=Z,72nm,18.8s,baz=216,slow=37
JNU Nakatsue 43.58 10 P **P** **21 57 00.5 +0.1**
comp=Z,8.3nm,0.9s,baz=192,slow=9.1,SNR=1.9
comp=Z,8.3nm,0.9s
YATNC Mamie plateau, 43.77 111 P **P** **21 57 03.7 +1.7**
CD2 Chengdu 44.67 336 P **P** **21 57 09.3 +0.2**
JMN Monobe 44.76 13 P **P** **21 57 09.5 -0.2**
JMN IAmb IAmb 21 57 09.7
comp=Z,22nm,1.0s
JMN Monobe 44.76 13 P **P** **21 57 10.6 +0.9**
comp=Z,40nm,1.7s
LYN LuoYang 45.44 348 ⇓P **P** **21 57 14.5 -0.5**
LYN pmax pmax
comp=Z,72nm,0.9s
LYN pmax pmax
comp=Z,200nm,5.1s
XAN Xi'an 45.81 344 ⇑P **P** **21 57 16.7 -1.3**
XAN pmax pmax
comp=Z,160nm,0.7s
SHL Shillong 46.53 320 P **P** **21 57 22.4 -1.6**
SHL IAmb IAmb 21 57 26.3
comp=Z,13nm,0.5s
KSRS Korea Array 47.47 5 P **P** **21 57 29.6 -1.2**
comp=Z,3.3nm,0.7s,baz=183,slow=9.6,SNR=11
KSRS PcP **PcP** **21 59 00.8 +0.8**
comp=Z,3.0nm,0.7s,baz=181,slow=3.5,SNR=6.4
KSRS LR LR 22 18 08.5
comp=Z,8.4nm,22.0s,baz=190,slow=37
comp=Z,3.3nm,0.7s
HNS HongShan 47.81 351 ⇓P **P** **21 57 32.7 -0.8**
HNS pmax pmax
comp=Z,25nm,1.0s
MAJO Matsushiro 48.52 16 P **P** **21 57 37.5 -1.5**
MJAR Matsushiro Arr 48.52 16 P **P** **21 57 37.1 -1.9**
comp=Z,4.6nm,0.5s,baz=191,slow=8.8,SNR=15
comp=Z,4.6nm,0.5s
LZH Lanzhou 49.27 340 ⇑P **P** **21 57 44.9 -0.1**
LZH pP pwP 21 58 07.1 -0.6
LZH sP sP 21 58 17.9 +5.7
LZH pmax pmax
comp=Z,51nm,1.0s
LSA Lhasa 49.97 323 P **P** **21 57 49.7 -1.1**
LSA Lhasa 49.97 323 P **P** **21 57 50.4 -0.4**
BJT Baijiatuan 50.19 353 P **P** **21 57 50.0 -1.6**
BJT Baijiatuan 50.19 353 P **P** **21 57 50.9 -0.8**
BJT Baijiatuan 50.19 353 P **P** **21 57 50.4 -1.3**
BJT PcP **PcP** **21 59 11.0 +1.1**
BJI Beijing 50.21 353 P **P** **21 57 50.0 -1.8**
BJI pP **pP** **21 58 12.4 +1.9**
BJI PcP **PcP** **21 59 10.8 +0.9**
BJI pmax pmax
comp=Z,12nm,0.7s
JMM Marumori 50.51 18 P **P** **21 57 52.8 -1.2**
TARA Tarawa 51.04 80 P **P** **21 57 56.1 -2.5**
SNY Shenyang 51.61 1 ⇓P **P** **21 58 00.6 -1.7**
SNY pmax pmax
comp=Z,26nm,0.7s
HHC Hu-ho-hao-te 51.70 349 *e*P **P** **21 58 06.4 +3.2**
HHC pmax pmax
comp=Z,31nm,0.5s
HHC pmax pmax
comp=Z,100nm,5.6s
BTO Baotou 51.78 348 *e*P **P** **21 58 03.5 -0.2**
BTO PP **PP** **22 00 03.7 +1.4**
BTO pmax pmax
comp=Z,29nm,1.3s
BTO pmax pmax
comp=Z,260nm,3.5s
GOMU GeErMu 53.06 332 P **P** **21 58 13.9 +0.3**
GOMU pmax pmax
comp=Z,10.0nm,0.8s
JTM Tenmabayashi 53.28 17 P **P** **21 58 14.6 0.0**
comp=Z,40nm,1.1s
RPZ Rata Peaks 53.43 138 P **P** **21 58 16.2 +0.4**
RPZ Rata Peaks 53.43 138 LR LR 22 21 52.0
comp=Z,46nm,18.2s,baz=290,slow=37
GTA Gaotai 53.68 338 *e*P **P** **21 58 17.3 -0.5**
GTA PcP **PcP** **21 59 24.6 +1.4**
GTA pmax pmax
comp=Z,15nm,1.2s
XLT XiLinHaoTe 54.04 354 *e*P **P** **21 58 19.2 -1.1**
XLT pmax pmax
comp=Z,19nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.4s
USA0B Ussuriysk Arra 54.60 8 P **P** **21 58 23.0 -1.2**
USRK Ussuriysk Ar. 54.60 8 P **P** **21 58 22.8 -1.5**
USRK Ussuriysk Ar. 54.60 8 P **P** **21 58 23.6 -0.7**
comp=Z,19nm,0.4s,baz=198,slow=7.0,SNR=120
comp=Z,19nm,0.4s
TCW Tory Channel 54.72 134 P **P** **21 58 26.1 +0.8**
MDJ Mudanjiang 54.73 6 P **P** **21 58 24.3 -0.9**
MDJ pP pP 21 58 45.7 +1.6
MDJ S **S** **22 05 53.5 -6.1**
MDJ SS **SS** **22 09 43.8 -0.2**
MDJ pmax pmax
comp=Z,55nm,1.1s
MDJ pmax pmax
comp=Z,94nm,3.7s
MDJ Mudanjiang 54.73 6 P **P** **21 58 23.9 -1.3**
MDJ Mudanjiang 54.73 6 P **P** **21 58 25.0 -0.2**
comp=Z,82nm,0.8s
MDJ Mudanjiang 54.73 6 P **P** **21 58 24.7 -0.4**
MDJ pP **pwP** **21 58 47.6 -0.6**
MRZ Mangatainoka R 55.47 133 P **P** **21 58 31.4 +0.6**
MRZ IAmb IAmb 21 58 35.2
comp=Z,10nm,0.9s
BNX BinXian 55.66 4 ⇓P **P** **21 58 30.5 -1.4**
BNX pmax pmax
comp=Z,11nm,0.7s
BNX pmax pmax
comp=Z,110nm,4.9s
BKZ Black Stump Fm 55.70 131 P **P** **21 58 33.6 +1.2**
BKZ IAmb IAmb 21 58 34.9
comp=Z,7.0nm,0.7s
RTZ Ruatahuna 55.91 130 P **P** **21 58 36.1 +2.1**
RTZ IAmb IAmb 21 58 44.8
comp=Z,6.4nm,0.9s
ASAJ Asahikawa 56.78 17 P **P** **21 58 39.5 -0.4**
comp=Z,9.9nm,0.8s,baz=235,slow=8.3,SNR=7.8
ASAJ LR LR 22 25 50.3
comp=Z,14nm,20.1s,baz=187,slow=39
comp=Z,9.9nm,0.8s
JKA Kamikawa-asahi 56.78 17 P **P** **21 58 39.6 -0.3**
JKA IAmb IAmb 21 58 45.6
comp=Z,20nm,1.1s
HIA Hailar 59.11 358 P **P** **21 58 54.8 -1.3**
HIA IAmb IAmb 21 58 57.0
comp=Z,11nm,0.8s
HIA Hailar 59.11 358 P **P** **21 58 55.5 -0.6**
ULN Ulaanbaatar 59.34 348 P **P** **21 58 57.3 -0.6**
ULN Ulaanbaatar 59.34 348 P **P** **21 58 57.4 -0.6**
SONM Songino Array 59.45 347 P **P** **21 58 57.9 -0.8**
SONM Songino Array 59.45 347 P **P** **21 58 57.8 -0.8**
comp=Z,14nm,0.6s,baz=163,slow=8.6,SNR=85
comp=Z,14nm,0.6s
KLR Kul'dur 59.52 7 P **P** **21 58 58.1 -0.7**
comp=Z,3.5nm,0.6s,baz=184,slow=6.2,SNR=15
comp=Z,3.5nm,0.6s
HEH HeiHe 60.16 3 *e*P **P** **21 59 02.6 -0.6**
HEH pmax pmax
comp=Z,39nm,1.0s
HEH pmax pmax
comp=Z,170nm,5.3s
WMQ Urumqi 62.42 332 *e*P **P** **21 59 18.9 +0.1**
WMQ sP PcP 21 59 53.2 -4.3
WMQ pmax pmax
comp=Z,33nm,0.7s
NIL Nilore 64.13 315 P **P** **21 59 28.0 -2.2**
NIL IAmb IAmb 21 59 30.9
comp=Z,7.8nm,0.5s
NIL Nilore 64.13 315 P **P** **21 59 28.6 -1.7**
WUS Wushi 64.93 325 P **P** **21 59 35.0 -0.4**
WUS sP **PcP** **22 00 07.7 -0.3**
CCD Concordia, Ant 65.04 180 P **P** **21 59 38.9 +3.0**
KSH Kashi 65.77 322 P **P** **21 59 40.4 -0.5**
KSH pP pwP 22 00 04.3 -0.2
KSH pmax pmax
comp=Z,23nm,0.9s
TARG Taragay, Kyrgy 66.08 325 P **P** **21 59 43.1 -0.1**
TARG IAmb IAmb 21 59 46.0
comp=Z,9.0nm,0.7s
SHLS Shalkode 66.10 327 *e*P **P** **21 59 40.8 -2.0**
baz=327
PRZ Przheval'sk 66.23 325 P **P** **21 59 44.1 +0.3**
UZB Uzynbulak 66.33 326 *e*P **P** **21 59 43.3 -1.1**
baz=326

ZSN Zaisan 66.47 333 *e*P **P** **21 59 44.5 -0.5**
baz=333
SATY Saty 66.61 326 *e*P **P** **21 59 45.2 -1.0**
comp=Z,10nm,0.9s,baz=326
KPKS Kokpek 66.73 326 *e*P **P** **21 59 46.1 -0.8**
comp=Z,11nm,0.7s,baz=326
NRN Naryn 66.94 323 P **P** **21 59 47.4 -1.1**
MK31 Makanchi Array 67.18 331 P **P** **21 59 49.0 -0.6**
MK31 IAmb IAmb 21 59 49.9
comp=Z,10nm,0.8s
MKAR Makanchi Array 67.18 331 P **P** **21 59 49.0 -0.5**
comp=Z,14nm,0.6s,baz=136,slow=7.8,SNR=172
comp=Z,14nm,0.6s
MAKZ Makanchi 67.34 331 P **P** **21 59 49.8 -0.8**
MAKZ Makanchi 67.34 331 P **P** **21 59 49.8 -0.8**
TNSS Tian-Shan 67.41 325 *e*P **P** **21 59 50.9 -0.7**
baz=325
MDOK Medeo 67.43 325 *e*P **P** **21 59 50.5 -0.9**
baz=325
KBL Kabul 67.57 314 P **P** **21 59 50.6 -1.9**
KBL IAmb IAmb 21 59 54.1
comp=Z,7.2nm,0.7s
TDK Taldyqorghan 67.90 328 *e*P **P** **21 59 53.2 -0.9**
comp=Z,13nm,0.9s,baz=328
CHKK Chushkaly 67.91 326 *e*P **P** **21 59 52.8 -1.4**
baz=326
TKM2 Tokmak 2 68.10 324 P **P** **21 59 55.2 -0.5**
SNR=7.2
KUU Kurty 68.30 326 *e*P **P** **21 59 55.3 -1.3**
comp=Z,9.6nm,0.4s,baz=326
UCH Uchtor 68.30 323 P **P** **21 59 56.9 -0.3**
SNR=8.4
AAK Ala-Archa 68.56 324 P **P** **21 59 58.1 -0.4**
SNR=9.4
AAK Ala-Archa 68.56 324 P **P** **21 59 58.1 -0.4**
AAK IAmb IAmb 22 00 00.5
comp=Z,8.2nm,0.8s
AAK Ala-Archa 68.56 324 P **P** **21 59 58.2 -0.3**
ARSB Arslanbob 68.68 322 P **P** **21 59 58.3 -1.0**
AML Almayashu 68.73 323 P **P** **21 59 59.6 -0.2**
SNR=16
USP Ospenovka 68.95 324 P **P** **22 00 00.1 -0.7**
SNR=10.0
SGDS Sogindy 68.98 324 *e*P **P** **21 59 59.4 -1.6**
baz=324
EKS2 Erkin-Say 69.00 323 P **P** **22 00 01.3 +0.2**
SNR=7.6
BTK Batken 69.31 320 P **P** **22 00 01.4 -1.6**
PETK Petropavlovsk- 69.54 22 P **P** **22 00 03.4 -0.8**
PETK Petropavlovsk- 69.54 22 P **P** **22 00 04.6 +0.5**
comp=Z,9.2nm,0.9s,baz=201,slow=3.1,SNR=8.0
comp=Z,9.2nm,0.9s
SIMJ Simiganj 69.72 318 P **P** **22 00 04.0 -1.7**
SIMJ IAmb IAmb 22 00 06.1
comp=Z,9.9nm,0.8s
SIMJ Simiganj 69.72 318 P **P** **22 00 04.3 -1.4**
H04N2 CROZET ISLANDS 69.75 224 T T 23 15 40.1
baz=83,slow=75,SNR=14
H04N3 CROZET ISLANDS 69.77 224 T T 23 15 39.6
baz=83,slow=75,SNR=11
H04N1 CROZET ISLANDS 69.77 225 T T 23 15 46.6
baz=83,slow=75,SNR=12
BTLS Baital 70.29 325 *e*P **P** **22 00 07.4 -1.5**
baz=326
VNDA Vanda 70.39 172 P **P** **22 00 10.8 +1.8**
comp=Z,1.1nm,0.6s,baz=336,slow=5.5,SNR=11
VNDA LR LR 22 30 41.6
comp=Z,22nm,20.2s,baz=305,slow=35
comp=Z,1.1nm,0.6s
VNDA Vanda 70.39 172 P **P** **22 00 11.0 +2.0**
SEM Semipalatinsk 70.71 333 *e*P **P** **22 00 09.8 -1.8**
baz=333
WSAR Wadi Sarin 71.03 299 LR LR 22 31 59.6
comp=Z,13nm,19.6s,baz=169,slow=36
KK31 Karatay Array 71.20 322 P **P** **22 00 13.1 -1.5**
KKAR Karatay Array 71.20 322 P **P** **22 00 12.8 -1.7**
CHM Chimkent 71.32 321 *e*P **P** **22 00 14.6 -0.6**
baz=321
ZAA0 Zalesovo Array 71.43 337 P **P** **22 00 13.3 -2.3**
ZAA0 IAmb IAmb 22 00 16.3
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 71.43 337 P **P** **22 00 13.7 -1.8**
ZALV Zalesovo Beam 71.43 337 P **P** **22 00 13.9 -1.6**
comp=Z,9.9nm,0.5s,baz=129,slow=4.7,SNR=56
ZALV LR LR 22 33 57.4
comp=Z,35nm,18.5s,baz=50,slow=38
comp=Z,9.9nm,0.5s
KURBB Kurchatov Arra 71.65 332 P **P** **22 00 16.0 -0.9**
comp=Z,4.1nm,0.5s,baz=142,slow=5.4,SNR=54
comp=Z,4.1nm,0.5s
KURK Kurchatov 71.67 332 P **P** **22 00 15.9 -1.2**
KURK IAmb IAmb 22 00 18.2
comp=Z,9.4nm,0.8s
KURK Kurchatov 71.67 332 P **P** **22 00 16.2 -0.9**
KURK pP **pP** **22 00 39.7 +2.9**
YAK Yakutsk 72.04 3 P **P** **22 00 18.1 -1.0**
UOSS Minazif 73.69 300 P **P** **22 00 27.9 -1.8**
BRZS Berezniki 74.07 329 *e*P **P** **22 00 29.9 -1.4**
baz=329
GEYT Alibeck 76.96 313 P **P** **22 00 47.3 -0.9**
GEYT Alibeck 76.96 313 P **P** **22 00 48.6 +0.4**
comp=Z,5.0nm,0.7s,baz=123,slow=5.5,SNR=11
comp=Z,5.0nm,0.7s
GYA0B ALIBECK ARRAY 76.96 313 P **P** **22 00 47.1 -1.1**
BVAR Borovoye Array 77.06 331 P **P** **22 00 47.2 -1.2**
comp=Z,2.8nm,0.6s,baz=127,slow=5.9,SNR=12
comp=Z,2.8nm,0.6s
QSPA South Pole Qui 79.96 180 P **P** **22 01 06.6 +2.3**
comp=Z,1.7nm,0.3s,baz=321,slow=2.9,SNR=6.8
comp=Z,1.7nm,0.3s
ADK Adak 80.47 33 P **P** **22 01 05.4 -1.6**
ABKAR Akbulak array 80.65 324 P **P** **22 01 06.1 -2.0**
ABKAR Akbulak array 80.65 324 P **P** **22 01 06.6 -1.5**
ABKAR IAmb IAmb 22 01 09.6
comp=Z,2.0nm,0.6s
TIXI Tiksi 81.60 2 P **P** **22 01 10.8 -1.9**
TIXI IAmb IAmb 22 01 13.3
comp=Z,21nm,0.8s
NRIK Noril'sk 82.92 348 P **P** **22 01 19.1 -0.5**
NRIK IAmb IAmb 22 01 21.6
comp=Z,12nm,0.8s
NRIK Noril'sk 82.92 348 P **P** **22 01 19.8 +0.2**
comp=Z,5.9nm,0.4s,baz=124,slow=4.8,SNR=17
comp=Z,5.9nm,0.4s
ELIB Princess Elisa 83.48 198 *d*P **P** **22 01 23.6 +0.8**
ELIB *d*PcP **PcP** **22 01 27.1 +0.1**
ELIB *dx* x 22 01 36.9
ARU Arti 84.67 330 P **P** **22 01 28.0 -0.8**
ARU IAmb IAmb 22 01 29.7
comp=Z,11nm,0.7s
PPT Papeete 84.68 107 LR LR 22 37 48.4
comp=Z,9.6nm,18.9s,baz=24,slow=34
KMBO Kilima Mbogo 85.53 270 P **P** **22 01 34.3 -0.1**
comp=Z,2.5nm,0.7s,baz=69,slow=7.3,SNR=5.5
comp=Z,2.5nm,0.7s
AKH Akhalkalaki 88.75 312 P **P** **22 01 47.7 -1.5**
BELG Belogornoye 89.06 324 LR LR 22 46 08.4
comp=Z,31nm,21.4s,baz=105,slow=39
GURO Guroymak-BITLI 89.15 309 P **P** **22 01 50.6 -0.6**
GURO IAmb IAmb 22 01 53.9
comp=Z,6.0nm,1.2s
KBZ Khabaz 89.74 314 P **P** **22 01 53.8 +0.2**
comp=Z,3.2nm,0.9s,baz=113,slow=8.4,SNR=4.4
comp=Z,3.2nm,0.9s
BELA Belgrano 2 91.33 185 P **P** **22 02 00.6 +0.1**
BELA IAmb IAmb 22 02 16.4
comp=Z,5.5nm,0.9s
BOSA Boshof 91.89 241 P **P** **22 02 05.6 +1.4**
comp=Z,2.2nm,0.8s,baz=152,slow=6.4,SNR=5.7
comp=Z,2.2nm,0.8s
LSZ Lusaka 91.89 254 P **P** **22 02 03.7 -0.7**
LSZ IAmb IAmb 22 02 07.0
comp=Z,5.5nm,0.7s
MMAI Mount Meron Ar 93.32 303 P **P** **22 02 11.8 +1.2**
comp=Z,0.7nm,0.6s,baz=83,slow=4.5,SNR=2.3
comp=Z,0.7nm,0.6s
E18K Tukpahlearik C 94.06 22 P **P** **22 02 11.9 -1.2**
E18K IAmb IAmb 22 02 14.1
comp=Z,8.1nm,0.9s
G19K Purcell Mounta 95.08 24 P **P** **22 02 16.6 -1.2**
G19K IAmb IAmb 22 02 18.6
comp=Z,6.2nm,0.9s
BRTR Keskin Array B 95.78 309 P **P** **22 02 21.1 -0.7**
comp=Z,1.3nm,0.7s,baz=115,slow=5.6,SNR=5.0
comp=Z,1.3nm,0.7s
F20K Avaraart Lake 95.81 23 P **P** **22 02 20.7 -0.4**
F20K IAmb IAmb 22 02 22.2

comp=Z,6.9nm,1.1s
B22K Teshekpuk Lake 97.25 20 P Pdif 22 02 27.5 -0.1
ILAR Eielson Array 99.08 26 P **Pdif** **22 02 35.1 -0.8**
comp=Z,0.6nm,0.8s,baz=241,slow=6.0,SNR=7.8
comp=Z,0.6nm,0.8s
AKASG Malin Array Be 100.02 320 P **Pdif** **22 02 38.8 -1.5**
comp=Z,0.8nm,0.7s,baz=74,slow=5.3,SNR=4.1
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 101.93 339 P **Pdif** **22 02 47.6 -0.9**
comp=Z,2.3nm,0.8s,baz=86,slow=4.6,SNR=6.0
ARCES PKiKP **PKiKP** **22 07 11.9 +1.1**
comp=Z,7.2nm,1.1s,baz=113,slow=1.2,SNR=6.1
FINES FINESS Array B 102.02 331 P **Pdif** **22 02 47.9 -1.1**
comp=Z,3.0nm,1.0s,baz=78,slow=7.3,SNR=7.1
FINES PKiKP **PKiKP** **22 07 12.6 +1.4**
comp=Z,1.6nm,0.5s,baz=115,slow=3.2,SNR=17
SPITS Spitsbergen Ar 103.14 348 P **Pdif** **22 02 52.6 -1.1**
comp=Z,15nm,1.0s,baz=10,slow=8.8,SNR=4.8
HFS Hagfors 108.19 330 Pdiff **Pdif** **22 03 15.8 -0.6**
comp=Z,3.0nm,1.0s,baz=145,slow=5.4,SNR=5.4
RONA Rosalia, Austr 108.54 317 *i* PKiKP **PKiKP** **22 07 25.6 +1.9**
comp=Z,0.3nm,0.2s
CONA Conrad Observa 108.81 317 *i* PKiKP **PKiKP** **22 07 25.6 +1.4**
comp=Z,0.5nm,0.4s
ARSA Arzberg 109.11 317 *i* PKiKP **PKiKP** **22 07 26.3 +1.5**
comp=Z,1.6nm,0.5s
NOA NORSAR Array B 109.18 331 PKiKP **PKiKP** **22 07 25.6 +1.1**
comp=Z,1.7nm,0.9s,baz=78,slow=2.1,SNR=3.6
SOKA Soboth 109.50 316 *i* PKiKP **PKiKP** **22 07 27.1 +1.5**
comp=Z,0.8nm,0.4s
OBKA Obir 109.85 316 *e*PKiKP **PKiKP** **22 07 28.5 +2.2**
comp=Z,1.4nm,0.5s
GERES GERESS Array B 110.13 318 PKiKP **PKiKP** **22 07 28.0 +1.2**
comp=Z,1.2nm,0.5s,baz=33,slow=2.3,SNR=7.0
BIOA Bad Ischl, Aus 110.32 317 *i* PKiKP **PKiKP** **22 07 28.1 +1.0**
comp=Z,0.8nm,0.3s
KBA Koelnbreinsper 110.60 317 *i* PKiKP **PKiKP** **22 07 27.8 0.0**
comp=Z,1.0nm,0.4s
LESA Schwarzleotal 111.01 317 *i* PKiKP **PKiKP** **22 07 29.4 +1.0**
comp=Z,0.9nm,0.3s
ABTA Abfaltersbach 111.21 316 *i* PKiKP **PKiKP** **22 07 29.9 +1.0**
comp=Z,2.7nm,0.6s
WTTA Wattenberg 111.73 317 *i* PKiKP **PKiKP** **22 07 31.1 +1.2**
comp=Z,12nm,0.5s,SNR=19
WATA Walderalm 111.76 317 *e*PKiKP **PKiKP** **22 07 31.1 +1.1**
comp=Z,3.6nm,0.4s,SNR=4.5
SQTA Sankt Quirin 112.02 317 *i* PKiKP **PKiKP** **22 07 31.9 +1.5**
comp=Z,2.0nm,0.5s
MOTA Moosalm 112.07 317 *i* PKiKP **PKiKP** **22 07 31.6 +1.0**
comp=Z,3.0nm,0.5s
RETA Reutte 112.28 317 *i* PKiKP **PKiKP** **22 07 31.8 +0.9**
comp=Z,2.3nm,0.4s
FETA Feichten 112.38 317 *i* PKiKP **PKiKP** **22 07 32.3 +1.2**
comp=Z,1.3nm,0.4s
DAVA Damuels 112.91 317 *i* PKiKP **PKiKP** **22 07 33.3 +1.2**
comp=Z,5.7nm,0.4s,SNR=5.6
YKA Yellowknife Ar 113.51 25 PKiKP **PKiKP** **22 07 33.7 +1.1**
comp=Z,0.5nm,0.5s,baz=303,slow=2.0,SNR=10
EKA Eskdalemuir Ar 118.26 328 PKP **PKiKP** **22 07 43.2 +1.2**
comp=Z,0.7nm,0.4s,baz=30,slow=3.4,SNR=9.5
NVAR Mina Array Bea 118.66 52 PKP **PKiKP** **22 07 45.6 +2.0**
comp=Z,0.6nm,0.6s,baz=274,slow=2.4,SNR=6.1
TORD Torodi Ar. Bea 122.44 279 PKP **PKiKP** **22 07 52.2 +0.9**
comp=Z,4.8nm,0.6s,baz=45,slow=2.3,SNR=44
PDAR Pinedale Array 123.98 45 PKP **PKPdf** **22 07 53.3 -0.3**
comp=Z,0.4nm,0.5s,baz=201,slow=1.5,SNR=5.3
ESDC Sonseca Array 124.49 311 PKP **PKiKP** **22 07 56.1 +1.3**
comp=Z,3.7nm,0.8s,baz=22,slow=2.8,SNR=30
DBIC Dimbokro 128.26 271 PKP **PKiKP** **22 08 04.1 +1.1**
comp=Z,2.5nm,0.5s,baz=64,slow=2.2,SNR=7.3
ULM Lac du Bonnet 128.72 31 PKP **PKiKP** **22 08 03.5 +0.6**
comp=Z,1.4nm,0.7s,baz=236,slow=2.7,SNR=4.2
TXAR Lajitas Array 132.49 59 PKhKP PKPpre 22 08 05.8
comp=Z,0.2nm,0.8s,baz=274,slow=2.4,SNR=2.4
TXAR PKP **PKiKP** **22 08 13.1 +1.9**
comp=Z,0.3nm,0.6s,baz=186,slow=2.8,SNR=4.7
TXAR SKPbc **SKPab** **22 11 34.1 +2.6**
comp=Z,0.4nm,0.5s,baz=298,slow=1.9,SNR=5.5
SCHQ Schefferville 134.65 8 PKP **PKiKP** **22 08 15.6 +0.9**
comp=Z,4.5nm,0.5s,baz=299,slow=1.9,SNR=19
SCHQ SKPbc **SKPab** **22 11 38.2 -1.7**
comp=Z,4.3nm,0.8s,baz=48,slow=3.7,SNR=4.6
CPUP Villa Florida 143.85 180 PKP **PKPdf** **22 08 30.7 -0.2**
comp=Z,2.1nm,0.6s,baz=128,slow=3.6,SNR=5.4
TEIG Tepich 148.29 68 PKPbc **PKiKP** **22 08 43.1 -0.5**
comp=Z,76nm,0.7s,baz=14,slow=4.2,SNR=3.2

GCG ***12*** *22:11:14.2±0.8, 13°.22N×89°.28W, h127km±51km, MD3.8*
CATAC ***12*** *22:11:17.7±0.5, 13°.53N×89°.61W, h117km±4km, ML3.8*
SNET ***12*** *22:11:18.9±0.6, 13°.67N×89°.46W, h119km±2km*
NEIC ***12*** *22:11:19.6±1.7, 13°.8N±0°.1×89°.50W±0°.10, h119km±6km, mb4.8/4, Error ellipse: s-maj=18.5km s-min=8.6km az=222.0*
IDC ***12*** *22:11:21.1±2.1, 13°.79N×89°.35W, h140km±21km, mb3.4/3, mbtmp3.9/6, Error ellipse: s-maj=38.4km s-min=18.4km az=41.0*

ISC 12 22:11:18.8±0.7, **13°.68N**±0°.06×**89°.41W**×0°.04, **h116**km±5km, **n86**, σ2**s00**/109, **mb4.5/4, 1C-1D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.04**	**239**	*e*P	**Pn**	**22 11 35.1**	**+0.2**
JAYA				*e*S	**Sn**	**22 11 48.0**	**+1.1**
JAYA	**Jayaque - finc**	**0.04**	**239**	*i* P	**Pn**	**22 11 35.3**	**+0.4**
JAYA				*i* S	**Sn**	**22 11 48.3**	**+1.4**
JAYA				IAML		22 11 50.1	
	comp=Z,21μm,1.0s						
PMON	**Piamonte**	**0.10**	**69**	*e*P	**Pn**	**22 11 35.6**	**+0.7**
PMON	**Piamonte**	**0.10**	**69**	*i* P	**Pn**	**22 11 35.7**	**+0.8**
PMON				IAML		22 11 36.1	
	comp=Z,8μm,1.0s						
CEDA	**San Andres**	**0.13**	**8**	*e*P	**Pn**	**22 11 35.4**	**+0.5**
CEDA				*e*S	**Sn**	**22 11 47.9**	**+1.0**
CEDA	**San Andres**	**0.13**	**8**	*i* P	**Pn**	**22 11 35.4**	**+0.5**
CEDA				IAML		22 11 35.8	
	comp=Z,22μm,1.0s						
CEDA				*i* S	**Sn**	**22 11 48.5**	**+1.6**
ITCA	**Escuela Especi**	**0.13**	**91**	*i* P	**Pn**	**22 11 35.2**	**+0.3**
ITCA				IAML		22 12 01.0	
	comp=Z,9μm,1.0s						
BOQS	**Boqueron**	**0.14**	**65**	*e*P	**Pn**	**22 11 36.0**	**+0.9**
PIC2	**El Picacho**	**0.17**	**66**	*e*P	**Pn**	**22 11 36.2**	**+1.0**
UEES	**Universidad Ev**	**0.17**	**76**	*i* P	**Pn**	**22 11 35.3**	**+0.3**
UEES				IAML		22 11 53.6	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**0.18**	**86**	Pn	**Pn**	**22 11 35.8**	**+0.8**
SNET	**Serv Nac Est T**	**0.18**	**86**	*i* P	**Sn**	**22 11 35.5**	**+0.5**
SNET				*i* S	**Sn**	**22 11 51.2**	**+4.1**
SNET				IAML		22 11 52.5	
	comp=Z,7μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.21**	**41**	*i* P	**Pn**	**22 11 35.5**	**+0.5**
QUEZ				IAML		22 11 35.9	
	comp=Z,9μm,1.0s						
PANCS	**Alcalda de**	**0.24**	**106**	*i* P	**Pn**	**22 11 35.7**	**+0.6**
PANCS				IAML		22 11 36.1	
	comp=Z,11μm,1.0s						
LOMA	**Loma Larga**	**0.24**	**97**	*e*P	**Pn**	**22 11 35.9**	**+0.7**
LOMA				*e*S	**Sn**	**22 11 49.4**	**+1.9**
LOMA	**Loma Larga**	**0.24**	**97**	*i* P	**Pn**	**22 11 36.0**	**+0.8**
LOMA				*i* S	**Sn**	**22 11 49.9**	**+2.4**
LOMA				IAML		22 11 52.6	
	comp=Z,5μm,1.0s						
IGN	**Direccin Gen**	**0.24**	**81**	*i* P	**Pn**	**22 11 36.2**	**+1.1**
IGN				IAML		22 11 36.6	
	comp=Z,20μm,1.0s						
UDBS	**Universidad Do**	**0.25**	**81**	*i* P	**Pn**	**22 11 36.2**	**+1.0**
UDBS				IAML		22 11 36.4	
	comp=Z,9μm,1.0s						
CEVE	**Cerro Verde**	**0.26**	**307**	*e*P	**Pn**	**22 11 36.0**	**+0.6**
CEVE	**Cerro Verde**	**0.26**	**307**	*i* P	**Pn**	**22 11 36.1**	**+0.7**
CEVE				*i* S	**Sn**	**22 11 50.5**	**+2.6**
CEVE				IAML		22 11 55.9	
	comp=Z,6μm,1.0s						
SBLS	**San Blas**	**0.26**	**309**	*i* P	**Pn**	**22 11 36.1**	**+0.7**
AEIL	**Aeropuerto Ilo**	**0.29**	**86**	*i* P	**Pn**	**22 11 36.4**	**+1.1**
LFU	**La Fuente**	**0.30**	**76**	*i* P	**Pn**	**22 11 36.4**	**+1.1**
RTR	**El Retiro**	**0.32**	**314**	*e*P	**Pn**	**22 11 36.1**	**+0.6**
UNIC	**Universidad Ca**	**0.33**	**337**	*i* P	**Pn**	**22 11 36.0**	**+0.5**
UNIC				IAML		22 11 36.5	
	comp=Z,2μm,1.0s						
SJTE	**Alcalda de S**	**0.40**	**99**	*i* P	**Pn**	**22 11 36.7**	**+0.9**
SJTE				IAML		22 11 37.1	
	comp=Z,4μm,1.0s						
NUBE	**Las Nubes**	**0.42**	**302**	*e*P	**Pn**	**22 11 36.4**	**+0.4**
NUBE				*e*S	**Sn**	**22 11 49.7**	**+0.7**
NUBE	**Las Nubes**	**0.42**	**302**	*i* P	**Pn**	**22 11 36.4**	**+0.4**
NUBE				*i* S	**Sn**	**22 11 50.3**	**+1.3**
NUBE				IAML		22 11 57.3	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**0.46**	**85**	*e*P	**Pn**	**22 11 37.3**	**+1.1**
PAVA	**Las Pavas**	**0.46**	**85**	*i* P	**Pn**	**22 11 37.4**	**+1.2**
PAVA				IAML		22 11 37.7	
	comp=Z,15μm,1.0s						
LOAL	**Lomas de Alarc**	**0.48**	**312**	*i* P	**Pn**	**22 11 36.9**	**+0.6**
LOAL	**Lomas de Alarc**	**0.48**	**312**	*i* P	**Pn**	**22 11 36.9**	**+0.6**
LOAL				IAML		22 11 37.2	
	comp=Z,5μm,1.0s						
COEG	**Centro de Oper**	**0.52**	**96**	*i* P	**Pn**	**22 11 37.3**	**+0.8**
COEG				IAML		22 11 38.0	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**0.61**	**94**	*i* P	**Pn**	**22 11 38.0**	**+0.9**
UESV				IAML		22 11 38.4	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**0.63**	**102**	IAML		22 11 38.5	
	comp=Z,3μm,1.0s						
TECO				*i* P	**Pn**	**22 11 38.6**	**+1.4**
TECO				*i* S	**Sn**	**22 11 53.2**	**+2.1**
LLGN	**La Laguna**	**0.67**	**43**	*i* P	**Pn**	**22 11 38.9**	**+1.3**
LLGN				IAML		22 11 39.2	
	comp=Z,4μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.67**	**88**	*e*P	**Pn**	**22 11 38.8**	**+1.2**
MTO3	**Montecristo**	**0.72**	**4**	Pn	**Pn**	**22 11 39.2**	**+1.0**
MTO3	**Montecristo**	**0.72**	**4**	*i* P	**Pn**	**22 11 39.3**	**+1.0**
MTO3	**Montecristo**	**0.72**	**4**	*i* P	**Pn**	**22 11 39.2**	**+1.0**
MTO3				IAML		22 11 39.7	
	comp=Z,3μm,1.0s						
COEB	**Comit de Eme**	**0.88**	**101**	*e*P	**Pn**	**22 11 40.6**	**+1.2**
COEB				*e*S	**Sn**	**22 11 57.6**	**+2.6**
ALJI	**Alcalda de J**	**0.89**	**113**	*e*S	**Sn**	**22 11 56.8**	**+1.8**
ALJI	**Alcalda de J**	**0.89**	**113**	*i* P	**Pn**	**22 11 40.0**	**+0.6**
ALJI				IAML		22 11 40.2	
	comp=Z,4μm,1.0s						
ALJI				*i* S	**Sn**	**22 11 56.9**	**+1.9**
PACA	**Pacayal**	**1.08**	**101**	*i* P	**Pn**	**22 11 43.2**	**+1.7**
PACA				*i* S	**Sn**	**22 12 02.3**	**+3.7**
PACA				IAML		22 12 12.6	
	comp=Z,14μm,1.0s						
LCY	**Lacayo**	**1.12**	**103**	*e*P	**Pn**	**22 11 43.2**	**+1.4**
RANC	**El Ranchito**	**1.12**	**102**	*e*P	**Pn**	**22 11 43.1**	**+1.2**
CAHU	**Cacacuatique**	**1.17**	**85**	*i* P	**Pn**	**22 11 44.0**	**+1.5**
JUCU	**Jucuarjn**	**1.21**	**110**	*e*P	**Pn**	**22 11 43.5**	**+0.7**
SARH	**Santa Rosa de**	**1.26**	**30**	*i* P	**Pn**	**22 11 45.2**	**+1.8**
SARH				*i* S	**Sn**	**22 12 05.5**	**+3.5**
NBG	**Las Nubes**	**1.28**	**315**	*e*P	**Pn**	**22 11 45.8**	**+2.0**
NBG				*e*S	**Sn**	**22 12 10.2**	**+7.6**
PCG	**Pacaya**	**1.36**	**302**	*e*P	**Pn**	**22 11 46.0**	**+1.4**
PCG				*e*S	**Sn**	**22 12 11.2**	**+7.0**
LCND	**La Caada**	**1.53**	**104**	*e*P	**Pn**	**22 11 47.4**	**+1.1**
LCND	**La Caada**	**1.53**	**104**	*i* P	**Pn**	**22 11 47.5**	**+1.2**
LCND				IAML		22 12 23.5	
	comp=Z,670nm,1.0s						
FUG	**Fuego 3**	**1.58**	**299**	*e*P	**Pn**	**22 11 47.6**	**+0.5**
FUG				*e*S	**Sn**	**22 12 14.5**	**+5.7**
CNCH	**Conchagua**	**1.59**	**104**	*i* P	**Pn**	**22 11 48.3**	**+1.2**
CNCH	**Conchagua**	**1.59**	**104**	*i* P	**Pn**	**22 11 48.3**	**+1.1**
CNCH				IAML		22 12 20.9	
	comp=Z,2μm,1.0s						
AMPH	**Ampala**	**1.75**	**103**	*i* P	**Pn**	**22 11 50.4**	**+1.4**
CSGN	**Cosiguina Volc**	**1.93**	**111**	*i* P	**Pn**	**22 11 52.0**	**+0.6**
CSGN				IAML		22 12 30.8	
	comp=Z,5μm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.11**	**79**		**Pn**	**22 11 55.2**	**+1.5**
SULM	**Suchitepequez,**	**2.18**	**287**	*e*P	**Pn**	**22 11 56.1**	**+1.7**
STG3	**Santiaguito 3,**	**2.33**	**296**	*e*P	**Pn**	**22 11 57.9**	**+1.4**
CRIN	**San Cristobal**	**2.50**	**113**	Pn	**Pn**	**22 12 00.5**	**+2.0**
CNGN	**Cerro Negro**	**2.89**	**114**		**Pn**	**22 12 05.8**	**+2.2**
MATN	**Matagalpa**	**3.48**	**102**		**Pn**	**22 12 13.2**	**+1.9**
HZTE	**Horizontes, Gu**	**4.75**	**128**	Pn	**Pn**	**22 12 31.2**	**+2.8**
HZTE					**Sn**	**22 13 25.2**	**+2.6**
ORTG	**Ortega, Santa**	**5.08**	**130**		**Pn**	**22 12 35.6**	**+2.6**
ORTG					**Sn**	**22 13 30.2**	**-0.4**
JTS	**Las Juntas de**	**5.51**	**127**	P	**Pn**	**22 12 41.2**	**+2.5**
	comp=Z,9.3nm,0.2s,baz=0.0,slow=20,SNR=7.7						
JTS				S	**Sn**	**22 13 40.8**	**-0.1**
	comp=Z,23nm,0.4s,baz=358,slow=22,SNR=9.5						
ARE1	**Arenal 1**	**5.59**	**124**	Pn	**Pn**	**22 12 42.5**	**+2.7**
JACO	**JACO, Garabito**	**6.13**	**130**	Pn	**Pn**	**22 12 49.8**	**+2.8**
CMIG	**Matias Romero**	**6.27**	**303**	P	**Pn**	**22 12 50.0**	**+1.0**
	comp=Z,2.3nm,0.4s,baz=127,slow=12,SNR=4.6						
CMIG				S	**Sn**	**22 13 54.0**	**-5.4**
	comp=Z,7.9nm,0.7s,baz=185,slow=22,SNR=2.1						
LCR2	**La Lucha 2**	**6.58**	**126**		**Sn**	**22 14 09.1**	**+2.0**
TEIG	**Tepich**	**6.61**	**9**		**Pn**	**22 12 55.0**	**+1.6**
TEIG	**Tepich**	**6.61**	**9**	P	**Pn**	**22 12 54.8**	**+1.4**
	comp=Z,336nm,0.8s,baz=144,slow=8.7,SNR=18						
RIMA	**Rio Macho**	**6.68**	**125**		**Pn**	**22 12 57.1**	**+2.5**
RIMA					**Sn**	**22 14 11.5**	**+2.0**
DRK0	**Durika**	**7.47**	**125**		**Pn**	**22 13 08.5**	**+3.2**
SDV	**Santo Domingo**	**19.02**	**103**	P	**Pn**	**22 15 32.9**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=326,slow=3.6,SNR=4.8						
TXAR	**Lajitas Array**	**20.43**	**322**	P	**P**	**22 15 48.5**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=145,slow=11,SNR=13						
	comp=Z,1.0nm,0.5s						
MVU	**Marysvale**	**31.93**	**325**	P	**P**	**22 17 32.5**	**-1.3**
MVU				IAmb	IAmb	22 17 48.2	
	comp=Z,16nm,0.9s						
QUA2	**Belchertown**	**32.11**	**24**	P	**P**	**22 17 33.0**	**-2.0**
QUA2				IAmb	IAmb	22 17 33.5	
	comp=Z,21nm,1.2s						
TCRU	**Three Creeks R**	**32.13**	**325**	P	**P**	**22 17 33.6**	**-2.0**
ETMB	**Extrema**	**32.78**	**134**	P	**P**	**22 17 41.5**	**+0.3**
NVAR	**Mina Array Bea**	**35.53**	**319**	PcP	**PcP**	**22 20 32.1**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=140,slow=4.4,SNR=3.0						
SCHQ	**Schefferville**	**44.69**	**18**	P	**P**	**22 19 18.1**	**-2.0**
	comp=Z,2.6nm,0.4s,baz=228,slow=9.8,SNR=3.0						
	comp=Z,2.6nm,0.4s						
YKA	**Yellowknife Ar**	**51.94**	**345**	P	**P**	**22 20 14.2**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=141,slow=7.9,SNR=10						
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**137.75**	**255**	PKP	**PKPdf**	**22 30 29.6**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=84,slow=2.3,SNR=5.0						
ASAR	**Alice Springs**	**137.92**	**250**	PKhKP	PKPpre	22 30 19.9	
	comp=Z,0.2nm,0.5s,baz=119,slow=3.5,SNR=1.4						
ASAR				PKP	**PKPdf**	**22 30 29.8**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=106,slow=3.4,SNR=2.4						

TIR ***12*** *22:25:28.7, 41°.45N×20°.35E, h22km±55km, Md2.9, Ml2.4*
PDG ***12*** *22:25:29.8±0.1, 41°.52N×20°.42E, h9km, ML2.4/11, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
SKO ***12*** *22:25:30.9, 41°.49N×20°.41E, h15km, ML2.0*
THE ***12*** *22:25:31.2, 41°.47N×20°.42E, h0km±1km, ML2.0/3, Error ellipse: s-maj=1.9km s-min=0.6km az=268.0*
BEO ***12*** *22:25:31.0±0.2, 41°.50N×20°.36E, h4km±3km, ML2.0/9*

ISC 12 22:25:30.6±1.1, **41°.49N**±0°.02×**20°.37E**±0°.02, **h4**km±9km, **n44**, σ0**s81**/79, **6C-6D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.21**	**16**	P	**Pg**	**22 25 35.0**	**+0.4**
	baz=16						
PHP				S	**Sg**	**22 25 38.1**	**+0.8**
	baz=16						
PHP				AMP			
	comp=N,2.4nm,0.1s,baz=16						
PHP	**Peshkopia**	**0.21**	**16**	P	**Pg**	**22 25 35.0**	**+0.4**
PHP				S	**Sg**	**22 25 38.8**	**+1.4**
TIR	**Tirane**	**0.40**	**250**	P	**Pg**	**22 25 37.5**	**-0.8**
	baz=255						
TIR				S	**Sg**	**22 25 42.7**	**-0.8**
	baz=255						
TIR				AMP			
	comp=N,0.7nm,0.4s,baz=255						
TIR	**Tirane**	**0.40**	**250**	*e*Pg	**Pg**	**22 25 38.0**	**-0.3**
TIR				*e*Sg	**Sg**	**22 25 44.3**	**+0.8**
OHR	**Ohrid**	**0.50**	**139**	*e*Pg	**Pg**	**22 25 40.3**	**+0.2**
OHR				*e*Sg	**Sb**	**22 25 48.7**	**-0.8**
OHR	**Ohrid**	**0.50**	**139**	*i* Pg	**Pg**	**22 25 40.4**	**+0.2**
OHR				*i* Sg	**Sb**	**22 25 48.9**	**-0.6**
OHR				*e*Lg	Lg	22 25 49.8	
	comp=N,65nm,0.3s						
OHR				*e*Lg	Lg	22 25 49.9	
	comp=E,49nm,0.3s						
PUK	**Puka**	**0.66**	**328**	P	**Pg**	**22 25 42.4**	**-0.9**
	baz=331						
PUK				S	**Sg**	**22 25 52.2**	**+0.4**
	baz=331						
PUK				AMP			
	comp=N,0.7nm,0.4s,baz=331						
BCI	**Bajram Curri**	**0.91**	**346**	P	**Pn**	**22 25 51.7**	**+1.6**
	baz=348						
BCI				S	**Sb**	**22 26 01.7**	**+0.4**
	baz=348						
SKO	**Skopje**	**0.94**	**59**	*e*Pg	**Pg**	**22 25 46.9**	**-1.7**
SKO				*e*Sg	**Sb**	**22 26 01.4**	**-0.8**
SKO	**Skopje**	**0.94**	**59**	*i* Pg	**Pg**	**22 25 47.8**	**-0.8**
SKO				*i* Sg	**Sb**	**22 26 01.7**	**-0.5**
ULC	**Ulcinj**	**0.96**	**300**	*i* Pg	**Pg**	**22 25 47.9**	**-1.2**
ULC				*i* Sg	**Sb**	**22 26 03.5**	**+0.6**
FNA	**Florina**	**1.04**	**132**	P	**Pg**	**22 25 49.6**	**-0.9**
	baz=130						
FNA				S	**Sg**	**22 26 02.8**	**-1.1**
	baz=130						
FNA	**Florina**	**1.04**	**132**	P	**Pg**	**22 25 49.6**	**-0.9**
FNA				S	**Sb**	**22 26 04.6**	**-0.4**
	comp=N,68nm,0.3s						
FNA	**Florina**	**1.04**	**132**	*e*Pg	**Pg**	**22 25 49.5**	**-0.9**
FNA				*e*Sg	**Sb**	**22 26 05.5**	**+0.5**
FNA	**Florina**	**1.04**	**132**	*i* Pg	**Pg**	**22 25 49.7**	**-0.7**
FNA				*i* Sg	**Sb**	**22 26 05.2**	**+0.1**
DRME	**Dracevica, Mon**	**1.13**	**309**	*i* Pg	**Pg**	**22 25 50.8**	**-1.4**
DRME				*i* Sg	**Sn**	**22 26 08.7**	**-0.3**
PVY	**Plav**	**1.15**	**345**	*i* Pg	**Pg**	**22 25 50.6**	**-2.0**
PVY				*i* Sg	**Sb**	**22 26 08.4**	**+0.1**
NEST	**Nestorio**	**1.19**	**154**	P	**Pg**	**22 25 53.2**	**-0.2**
NEST				S	**Sb**	**22 26 10.0**	**+0.5**
	comp=N,58nm,0.4s						
LSK	**Leskovik**	**1.35**	**172**	P	**Pg**	**22 25 56.0**	**-0.4**
LSK				S	**Sn**	**22 26 15.2**	**+0.7**
	comp=N,62nm,0.7s						
BUM	**Brajici-Budva**	**1.37**	**307**	*i* Pg	**Pn**	**22 25 55.3**	**-1.2**
BUM				*i* Sg	**Sn**	**22 26 16.9**	**+1.9**
IVA	**Berane**	**1.43**	**346**	*i* Pg	**Pn**	**22 25 55.9**	**-1.4**
IVA				*i* Sg	**Sn**	**22 26 17.9**	**+1.3**
KOME	**Kolasin**	**1.50**	**335**	*i* Pg	**Pn**	**22 25 57.3**	**-1.0**
KOME				*i* Sg	**Sg**	**22 26 20.0**	**+1.1**
CEME	**Cevo**	**1.51**	**315**	*i* Pg	**Pn**	**22 25 57.9**	**-0.5**
CEME				*i* Sg	**Sg**	**22 26 20.7**	**+1.5**
GRG	**Griva**	**1.62**	**108**	S	**Sb**	**22 26 21.9**	**0.0**
GRG	**Griva**	**1.62**	**108**	*i* Pg	**Pn**	**22 25 59.9**	**0.0**
GRG				*i* Sg	**Sb**	**22 26 22.1**	**+0.2**
PRVS	**Prvonek**	**1.63**	**51**	*e*Pg	**Pn**	**22 26 00.0**	**-0.1**
PRVS				*e*Sg	**Sg**	**22 26 23.6**	**+0.5**
NKME	**Niksic**	**1.66**	**321**	*i* Pn	**Pn**	**22 26 00.2**	**-0.2**
NKME				*i* Sn	**Sg**	**22 26 24.0**	**+0.2**
VAY	**Valandovo**	**1.67**	**95**	*e*Pg	**Pn**	**22 26 00.3**	**-0.2**
VAY				*e*Sg	**Sb**	**22 26 23.1**	**0.0**
VAY	**Valandovo**	**1.67**	**95**	*i* Pg	**Pn**	**22 26 00.6**	**+0.1**
VAY				*i* Sg	**Sn**	**22 26 22.4**	**+0.2**
VAY				*e*Lg	Lg	22 26 22.7	
	comp=E,7.7nm,0.5s						
VAY				*e*Lg	Lg	22 26 23.2	
	comp=N,17nm,0.7s						
HCY	**Herceg Novi**	**1.69**	**305**	*i* Pn	**Pn**	**22 26 00.7**	**-0.2**
HCY				*i* Sn	**Sg**	**22 26 25.3**	**+0.3**
KPRO	**Kipourio**	**1.71**	**153**	P	**Pn**	**22 26 01.6**	**+0.5**
SJES	**Sjenica**	**1.80**	**351**	*e*Pn	**Pn**	**22 26 03.2**	**+0.8**
SJES				*e*Sn	**Sn**	**22 26 25.1**	**-0.6**
SELS	**Selova**	**1.82**	**18**	*e*Pn	**Pn**	**22 26 01.9**	**-0.8**
PEHC	**Pehcevo**	**1.92**	**80**	*i* Pn	**Pb**	**22 26 06.0**	**-0.2**
KNT	**Kendrikon**	**1.94**	**99**	P	**Pn**	**22 26 04.1**	**-0.1**
KNT				S	**Sn**	**22 26 29.5**	**+0.5**
TREB	**Trebinje**	**1.94**	**310**	*e*Pn	**Pn**	**22 26 04.8**	**+0.5**
TREB				*e*Sn	**Sn**	**22 26 28.4**	**-0.6**
IGT	**Igoumenitsa**	**1.95**	**181**	P	**Pn**	**22 26 05.1**	**+0.7**
BRY	**Bratogost**	**1.96**	**317**	*i* Pn	**Pn**	**22 26 04.3**	**-0.4**
BRY				*i* Sn	**Sb**	**22 26 31.5**	**-0.2**
PLE	**Pljevlja**	**1.98**	**339**	*i* Pn	**Pn**	**22 26 04.3**	**-0.6**
PLE				*i* Sn	**Sn**	**22 26 31.4**	**+1.2**
IVAS	**Ivanjica**	**2.10**	**356**	*e*Pn	**Pn**	**22 26 06.8**	**+0.3**
KKB	**Krupnik**	**2.10**	**79**	*i* Pn	**Pn**	**22 26 06.8**	**+0.3**
GRUS	**Gruza**	**2.42**	**6**	*e*Pn	**Pn**	**22 26 11.4**	**+0.6**
STON	**Ston**	**2.42**	**306**	*e*Pn	**P

*KRNET **12** 22:40:01.9±0.1, 42.˚58N×75.˚26E, h20km, mb3.3*
*KNET **12** 22:40:01.3±0.3, 42.˚57N×75.˚25E, h21km±9km, ml2.9, Error ellipse: s-maj=3.1km s-min=2.3km az=172.0*
*SOME **12** 22:40:02.6, 42.˚65N×75.˚25E, h10km*
ISC 12 22:40:02.1±0.9, 42.˚60N±0.˚02×75.˚28E±0.˚01, h11km±7km, n99, σ1s11/173, 57C-28D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.25**	**284**	⇓		P	**Pg**	**22 40 07.4**	**0.0**
	2µm,0.1s,SNR=5565								
KBK				⇑		S	**Sg**	**22 40 11.4**	**+0.5**
	5µm,0.2s								
KBK	**Karagaybulak**	**0.25**	**284**	⇓	*i*	P	**Pg**	**22 40 07.5**	**0.0**
	baz=89								
KBK				⇓	*i*	S	**Sg**	**22 40 11.2**	**+0.2**
	baz=89								
TKM2	**Tokmak 2**	**0.40**	**36**	⇑		P	**Pb**	**22 40 10.5**	**-0.8**
	477nm,0.2s,SNR=1803								
TKM2				⇓		S	**Sb**	**22 40 16.4**	**-1.2**
	989nm,0.1s								
TKM2	**Tokmak 2**	**0.40**	**36**	⇑		P	**Pb**	**22 40 10.3**	**-1.1**
	147nm,0.3s								
TKM2				⇓		S	**Sb**	**22 40 16.3**	**-1.3**
	248nm,0.4s								
TKM2	**Tokmak 2**	**0.40**	**36**	⇑	*i*	P	**Pb**	**22 40 10.6**	**-0.8**
	baz=36								
TKM2				⇑	*i*	S	**Sb**	**22 40 16.5**	**-1.0**
	baz=36								
KZA	**Kyzart**	**0.52**	**182**	⇑		P	**Pg**	**22 40 12.3**	**-0.1**
	420nm,0.2s,SNR=771								
KZA				⇓		S	**Sg**	**22 40 18.6**	**-0.7**
	547nm,0.2s								
KZA	**Kyzart**	**0.52**	**182**	⇑	*i*	P	**Pg**	**22 40 12.1**	**-0.3**
	baz=80								
KZA				⇑	*i*	S	**Sg**	**22 40 19.0**	**-0.3**
	baz=80								
FRU1	**Bishkek**	**0.52**	**294**	⇑	*i*	P	**Pg**	**22 40 12.4**	**+0.1**
	baz=97								
FRU1				⇑	*i*	S	**Sg**	**22 40 19.7**	**+0.4**
	baz=97								
CHMS	**Chumysh**	**0.56**	**316**			P	**Pg**	**22 40 12.9**	**-0.1**
	50nm,0.1s,SNR=161								
CHMS				⇑		S	**Sg**	**22 40 20.5**	**+0.1**
	732nm,0.2s								
CHMS	**Chumysh**	**0.56**	**316**	⇓		P	**Pg**	**22 40 12.8**	**-0.1**
	41nm,0.4s								
CHMS				⇑		S	**Sg**	**22 40 20.1**	**-0.3**
	127nm,0.6s								
CHMS	**Chumysh**	**0.56**	**316**	⇑	*i*	P	**Pg**	**22 40 12.8**	**-0.1**
	baz=19								
CHMS				⇑	*i*	S	**Sg**	**22 40 20.5**	**+0.1**
	baz=19								
AAK	**Ala-Archa**	**0.58**	**274**			P	**Pg**	**22 40 13.1**	**-0.4**
	124nm,0.1s,SNR=254								
AAK				⇑		S	**Sg**	**22 40 20.8**	**-0.3**
	1µm,0.3s								
AAK	**Ala-Archa**	**0.58**	**274**	⇑	*i*	P	**Pg**	**22 40 13.0**	**-0.4**
	baz=76								
AAK				⇑	*i*	S	**Sg**	**22 40 20.8**	**-0.3**
	baz=76								
KST	**Kastek**	**0.67**	**48**			P	**Pb**	**22 40 15.7**	**-0.3**
	166nm,0.2s								
KST						S	**Sb**	**22 40 25.4**	**0.0**
	315nm,0.3s								
KST	**Kastek**	**0.67**	**48**	*e*		P	**Pb**	**22 40 15.7**	**-0.3**
	166nm,0.2s								
KST				*e*		S	**Sb**	**22 40 25.4**	**0.0**
	315nm,0.3s								
UCH	**Uchtor**	**0.68**	**237**	⇓		P	**Pg**	**22 40 14.6**	**-0.7**
	197nm,0.3s,SNR=208								
UCH				⇓		S	**Sg**	**22 40 23.2**	**-1.0**
	287nm,0.2s								
UCH	**Uchtor**	**0.68**	**237**	⇑	*i*	P	**Pg**	**22 40 14.5**	**-0.8**
	baz=38								
UCH				⇑	*i*	S	**Sg**	**22 40 23.3**	**-1.0**
	baz=38								
DGS	**Degeres**	**0.74**	**29**			P	**Pb**	**22 40 16.9**	**-0.1**
	168nm,0.2s								
DGS						S	**Sb**	**22 40 27.2**	**-0.1**
	296nm,0.3s								
DGS	**Degeres**	**0.74**	**29**	*e*		P	**Pb**	**22 40 16.9**	**-0.1**
	168nm,0.2s								
DGS				*e*		S	**Sb**	**22 40 27.2**	**-0.1**
	296nm,0.3s								
ULHL	**Ulahol**	**0.80**	**116**			P	**Pg**	**22 40 17.3**	**-0.3**
	46nm,0.2s,SNR=242								
ULHL				⇑		S	**Sg**	**22 40 28.0**	**+0.1**
	157nm,0.2s								
ULHL	**Ulahol**	**0.80**	**116**	⇑	*i*	P	**Pg**	**22 40 17.0**	**-0.5**
	baz=14								
ULHL				⇑	*i*	S	**Sg**	**22 40 27.9**	**-0.1**
	baz=14								
USP	**Ospenovka**	**0.88**	**320**	⇑		P	**Pg**	**22 40 18.7**	**-0.4**
	80nm,0.2s,SNR=54								
USP				⇑		S	**Sb**	**22 40 30.5**	**-0.8**
	174nm,0.2s								
USP	**Ospenovka**	**0.88**	**320**	⇑	*i*	P	**Pg**	**22 40 18.4**	**-0.7**
	baz=21								
USP				⇑	*i*	S	**Sb**	**22 40 30.4**	**-0.8**
	baz=21								
SGDS	**Sogindy**	**0.98**	**331**			P	**Pb**	**22 40 20.7**	**-0.4**
	18nm,0.1s								
SGDS						S	**Sb**	**22 40 33.6**	**-0.4**
	101nm,0.2s								
MTBS	**Maitube**	**1.00**	**57**			P	**Pb**	**22 40 21.4**	**0.0**
	118nm,0.2s								
MTBS						S	**Sb**	**22 40 35.3**	**+0.6**
	468nm,0.3s								
MTBS	**Maitube**	**1.00**	**57**	*e*		P	**Pb**	**22 40 21.4**	**0.0**
	118nm,0.2s								
MTBS				*e*		S	**Sb**	**22 40 35.3**	**+0.6**
	468nm,0.3s								
ARLS	**Aral**	**1.02**	**224**	⇓	*e*	P	**Pg**	**22 40 20.5**	**-1.3**
	baz=24								
ARLS				⇓	*i*	S	**Sg**	**22 40 33.9**	**-1.2**
	baz=24								
IZV	**Izvestkoviy**	**1.07**	**66**			P	**Pb**	**22 40 22.8**	**0.0**
	28nm,0.3s								
IZV						S	**Sn**	**22 40 37.7**	**-0.6**
	194nm,0.4s								
IZV	**Izvestkoviy**	**1.07**	**66**	*e*		P	**Pb**	**22 40 22.8**	**0.0**
	28nm,0.3s								
IZV				*e*		S	**Sn**	**22 40 37.7**	**-0.6**
	194nm,0.4s								
EKS2	**Erkin-Say**	**1.11**	**274**	⇓		P	**Pg**	**22 40 22.8**	**-0.7**
	21nm,0.2s,SNR=109								
EKS2				⇑		S	**Sg**	**22 40 37.6**	**-0.3**
	42nm,0.1s								
EKS2	**Erkin-Say**	**1.11**	**274**	⇑	*i*	P	**Pg**	**22 40 22.3**	**-1.2**
	baz=75								
EKS2				⇑	*i*	S	**Sg**	**22 40 37.0**	**-0.9**
	baz=75								
KRBS	**Karabastau**	**1.14**	**15**			P	**Pb**	**22 40 23.6**	**-0.2**
	61nm,0.2s								
KRBS						S	**Sb**	**22 40 38.8**	**+0.2**
	2.1nm,0.5s								
KRBS	**Karabastau**	**1.14**	**15**	*e*		P	**Pb**	**22 40 23.6**	**-0.2**
	61nm,0.2s								
KRBS				*e*		S	**Sb**	**22 40 38.8**	**+0.2**
	2.1nm,0.5s								
AML	**Almayashu**	**1.26**	**249**	⇓		P	**Pg**	**22 40 25.5**	**-0.9**
	58nm,0.2s,SNR=216								
AML				⇓		S	**Sg**	**22 40 41.9**	**-1.0**
	134nm,0.3s								
AML	**Almayashu**	**1.26**	**249**	⇑		P	**Pg**	**22 40 25.2**	**-1.2**
	0.9nm,0.3s								
AML				⇑		S	**Sg**	**22 40 41.4**	**-1.5**
	11nm,0.7s								
AML	**Almayashu**	**1.26**	**249**	⇑	*e*	P	**Pg**	**22 40 25.0**	**-1.4**
	baz=49								
AML				⇑	*i*	S	**Sg**	**22 40 41.6**	**-1.3**
	baz=49								
NRN	**Naryn**	**1.28**	**155**	⇓	*e*	P	**Pg**	**22 40 25.3**	**-1.5**
	baz=55								
NRN				⇓	*i*	S	**Sg**	**22 40 42.6**	**-0.9**
	baz=55								
TNSS	**Tian-Shan**	**1.30**	**70**			P	**Pn**	**22 40 27.0**	**+0.3**
	31nm,0.3s								
TNSS						S	**Sn**	**22 40 45.5**	**+1.3**
	149nm,0.3s								
TNSS	**Tian-Shan**	**1.30**	**70**	*e*		P	**Pn**	**22 40 26.9**	**+0.3**
	31nm,0.3s								
TNSS				*e*		S	**Sn**	**22 40 45.5**	**+1.3**
	149nm,0.3s								
AAA	**Alma-Ata**	**1.35**	**63**			P	**Pg**	**22 40 28.2**	**+0.2**
	139nm,0.2s								
AAA						S	**Sn**	**22 40 46.9**	**+2.0**
	26nm,0.3s								
AAA	**Alma-Ata**	**1.35**	**63**	*e*		P	**Pg**	**22 40 28.2**	**+0.2**
	139nm,0.2s								
AAA				*e*		S	**Sn**	**22 40 46.9**	**+2.0**
	26nm,0.3s								
KNDC	**Almaty**	**1.39**	**63**	⇓		P	**Pg**	**22 40 28.6**	**-0.1**
	54nm,0.3s								
KNDC				⇑		S	**Sn**	**22 40 48.2**	**+2.4**
	87nm,0.5s								
MDOK	**Medeo**	**1.42**	**66**			P	**Pg**	**22 40 28.8**	**-0.5**
	10nm,0.3s								
MDOK						Pg	**Pg**	**22 40 29.0**	**-0.4**
	29nm,0.4s								
MDOK						S	**Sn**	**22 40 48.4**	**+1.7**
	76nm,0.6s								
MDOK						Lg	Lg	22 40 48.5	
	141nm,0.3s								
MDOK	**Medeo**	**1.42**	**66**	*e*		P	**Pg**	**22 40 29.0**	**-0.4**
	29nm,0.4s								
MDOK				*e*		S	**Sn**	**22 40 48.5**	**+1.7**
	141nm,0.3s								
KDJ	**Kajisay**	**1.48**	**108**	⇑	*i*	P	**Pb**	**22 40 29.6**	**-0.2**
	baz=7.0								
KDJ				⇑	*i*	S	**Sg**	**22 40 49.5**	**-0.4**
	baz=7.0								
KOTS	**Kotyrbulak**	**1.49**	**64**			P	**Pg**	**22 40 30.6**	**-0.2**
	39nm,0.4s								
KOTS						S	**Sg**	**22 40 50.4**	**+0.3**
	166nm,0.5s								
KOTS	**Kotyrbulak**	**1.49**	**64**	*e*		P	**Pg**	**22 40 30.6**	**-0.2**
	39nm,0.4s								
KOTS				*e*		S	**Sg**	**22 40 50.4**	**+0.3**
	166nm,0.5s								
KUU	**Kurty**	**1.51**	**31**			P	**Pg**	**22 40 30.6**	**-0.5**
	184nm,0.3s								
KUU						S	**Sg**	**22 40 50.4**	**-0.2**
	98nm,0.2s								
KUU	**Kurty**	**1.51**	**31**	*e*		P	**Pg**	**22 40 30.6**	**-0.5**
	184nm,0.3s								
KUU				*e*		S	**Sg**	**22 40 50.5**	**-0.2**
	98nm,0.2s								
KTBS	**Karatobe**	**1.52**	**42**			P	**Pg**	**22 40 30.7**	**-0.5**
	96nm,0.3s								
KTBS						S	**Sg**	**22 40 51.3**	**+0.4**
	253nm,0.3s								
KTBS	**Karatobe**	**1.52**	**42**	*e*		P	**Pg**	**22 40 30.7**	**-0.5**
	96nm,0.3s								
KTBS				*e*		S	**Sg**	**22 40 51.3**	**+0.4**
	253nm,0.3s								
MRKS	**Merke**	**1.52**	**276**			P	**Pn**	**22 40 30.0**	**+0.6**
	35nm,0.3s								
MRKS						S	**Sn**	**22 40 50.0**	**+0.8**
	161nm,0.3s								
MRKS	**Merke**	**1.52**	**276**	*e*		P	**Pn**	**22 40 30.0**	**+0.6**
	35nm,0.3s								
MRKS				*e*		S	**Sn**	**22 40 50.0**	**+0.8**
	161nm,0.3s								
ANVS	**Anan'yevo**	**1.77**	**83**	⇓	*i*	P	**Pb**	**22 40 34.3**	**-0.4**
	baz=83								
ANVS				⇓	*i*	S	**Sg**	**22 40 57.8**	**-1.3**
	baz=83								
CHKK	**Chushkaly**	**1.77**	**44**			P	**Pg**	**22 40 35.4**	**-0.7**
	43nm,0.3s								
CHKK						S	**Sg**	**22 40 59.1**	**0.0**
	196nm,0.2s								
CHKK	**Chushkaly**	**1.77**	**44**	*e*		P	**Pg**	**22 40 35.4**	**-0.7**
	43nm,0.3s								
CHKK				*e*		S	**Sg**	**22 40 59.1**	**0.0**
	196nm,0.2s								
ARSB	**Arslanbob**	**2.13**	**234**	⇑	*i*	P	**Pn**	**22 40 38.8**	**+1.0**
	baz=34								
ARSB				⇑	*i*	S	**Sn**	**22 41 05.5**	**+1.1**
	baz=34								
KURS	**Kuram**	**2.30**	**66**			Pg	**Pg**	**22 40 45.4**	**-0.8**
	14nm,0.4s								
KURS						Lg	Lg	22 41 15.8	
	60nm,0.3s								
KURS	**Kuram**	**2.30**	**66**	*e*		P	**Pg**	**22 40 45.4**	**-0.8**
	14nm,0.4s								
KURS				*e*		S	**Sg**	**22 41 15.8**	**-0.2**
	60nm,0.3s								
PRZ	**Przheval'sk**	**2.31**	**92**	⇑	*i*	P	**Pn**	**22 40 41.7**	**+1.4**
	baz=91								
PRZ				⇑	*i*	S	**Sn**	**22 41 10.6**	**+1.8**
	baz=91								
SATY	**Saty**	**2.35**	**78**			Pg	**Pg**	**22 40 47.0**	**-0.1**
	26nm,0.2s								
SATY						Lg	Lg	22 41 18.6	
	288nm,0.6s								
SATY	**Saty**	**2.35**	**78**	*e*		P	**Pg**	**22 40 47.0**	**-0.1**
	26nm,0.2s								
SATY				*e*		S	**Sg**	**22 41 18.6**	**+1.1**
	288nm,0.6s								
ZHN	**Zhinishke**	**2.39**	**75**	*e*		P	**Pg**	**22 40 48.1**	**+0.1**
	20nm,0.2s								
ZHN				*e*		S	**Sg**	**22 41 20.6**	**+1.7**
	350nm,0.2s								
ARXS	**Arharly**	**2.46**	**48**			Pg	**Pg**	**22 40 47.8**	**-1.5**
	44nm,0.5s								
ARXS						Lg	Lg	22 41 20.3	
	106nm,0.3s								
ARXS	**Arharly**	**2.46**	**48**	*e*		P	**Pg**	**22 40 47.8**	**-1.5**
	44nm,0.5s								
ARXS				*e*		S	**Sg**	**22 41 20.3**	**-0.9**
	106nm,0.3s								
ARK	**Arkit**	**2.59**	**253**	⇑	*i*	P	**Pn**	**22 40 45.2**	**+1.2**
	baz=53								
ARK				⇑	*i*	S	**Sn**	**22 41 16.5**	**+0.9**
	baz=53								
BTLS	**Baital**	**2.60**	**340**			Pg	**Pb**	**22 40 49.3**	**+0.6**
	8.0nm,0.2s								
BTLS						Lg	Lg	22 41 22.9	
	8.7nm,0.3s								
BTLS	**Baital**	**2.60**	**340**	*e*		P	**Pb**	**22 40 49.3**	**+0.6**
	8.0nm,0.2s								
BTLS				*e*		S	**Sg**	**22 41 22.9**	**-2.7**
	8.7nm,0.3s								
KPKS	**Kokpek**	**2.64**	**70**			Pg	**Pg**	**22 40 51.4**	**-1.4**
	36nm,0.3s								
KPKS						Lg	Lg	22 41 26.2	
	251nm,0.5s								
KPKS	**Kokpek**	**2.64**	**70**	*e*		P	**Pg**	**22 40 51.4**	**-1.4**
	36nm,0.3s								
KPKS				*e*		S	**Sg**	**22 41 26.2**	**-0.8**
	251nm,0.5s								
BLB	**Baldybastay**	**2.77**	**56**			Pg	**Pb**	**22 40 52.5**	**+0.8**
	47nm,0.2s								
BLB						Lg	Lg	22 41 28.8	
	58nm,0.3s								
OHH	**Osh**	**2.79**	**223**	⇑	*i*	P	**Pn**	**22 40 47.6**	**+0.8**
	baz=23								
OHH				⇑	*i*	S	**Sn**	**22 41 21.0**	**+0.5**
	baz=23								
UZB	**Uzynbulak**	**2.81**	**77**	*e*		P	**Pg**	**22 40 54.6**	**-1.3**
	17nm,0.4s								
UZB				*e*		S	**Sg**	**22 41 31.8**	**-0.5**
	173nm,0.4s								
SFK	**Sufi-Kurgan**	**2.91**	**208**	⇑	*i*	P	**Pn**	**22 40 49.5**	**+1.0**
	baz=8.0								
SFK				⇑	*i*	S	**Sn**	**22 41 24.0**	**+0.4**
	baz=8.0								
DZA	**Taraz**	**2.92**	**277**			Pg	**Pb**	**22 40 54.9**	**+0.7**
	63nm,0.1s								
DZA						Lg	Lg	22 41 32.4	
	71nm,0.4s								
DZA	**Taraz**	**2.92**	**277**	*e*		P	**Pb**	**22 40 54.9**	**+0.7**
	63nm,0.1s								
DZA				*e*		S	**Sb**	**22 41 32.4**	**+2.4**
	71nm,0.4s								
SHLS	**Shalkode**	**3.13**	**78**			Pg	Pg	22 41 06.2	+4.2
	11nm,0.6s								
SHLS						Lg	Lg	22 41 51.5	
	79nm,0.5s								
SHLS	**Shalkode**	**3.13**	**78**	*e*		P	Pg	22 41 06.2	+4.2
	11nm,0.6s								
SHLS				*e*		Sg	Sg	22 41 51.5	+9.0
	79nm,0.5s								
PDGK	**Podgornoye**	**3.18**	**75**			Pg	**Pg**	**22 41 01.4**	**-1.5**
	3.7nm,0.3s								
PDGK						Lg	Lg	22 41 43.4	
	34nm,0.4s								
PDGK	**Podgornoye**	**3.18**	**75**	⇑		Pg	**Pb**	**22 40 58.2**	**-0.4**
	7.7nm,0.5s								
PDGK				⇑		Lg	Lg	22 41 41.3	
	34nm,0.7s								
TRKS	**Terek-Say**	**3.26**	**252**	⇑	*i*	P	**Pn**	**22 40 54.5**	**+1.2**
	baz=51								
TRKS				⇑	*i*	S	**Sn**	**22 41 32.8**	**+0.6**
	baz=51								
TDK	**Taldyqorghan**	**3.30**	**42**			Pg	**Pg**	**22 41 02.6**	**-2.8**
	17nm,0.2s								
TDK						Lg	Lg	22 41 45.3	
	42nm,0.4s								
TDK	**Taldyqorghan**	**3.30**	**42**	*e*		P	**Pg**	**22 41 02.6**	**-2.8**
	17nm,0.2s								
TDK				*e*		S	**Sg**	**22 41 45.3**	**-2.8**
	42nm,0.4s								
KNOS	**Konyrlen**	**3.34**	**57**			Pg	**Pg**	**22 41 04.5**	**-1.6**
	29nm,0.4s								
KNOS						Lg	Lg	22 41 48.7	
	28nm,0.6s								
KK31	**Karatay Array**	**3.54**	**280**	⇑		Pg	**Pg**	**22 41 07.3**	**-2.6**
	1.7nm,0.3s,baz=96,slow=16,SNR=10								
KK31				⇑		Lg	Lg	22 41 50.2	
	13nm,0.6s,baz=100,slow=31,SNR=13								
KKAR	**Karatay Array**	**3.54**	**280**	⇓	*i*	P	**Pn**	**22 40 58.0**	**+1.0**
	baz=80								
KKAR				⇓	*i*	S	**Sn**	**22 41 39.3**	**+0.4**
	baz=80								
DJR	**Jarkent**	**3.71**	**61**			Pg	**Pg**	**22 41 11.7**	**-1.5**
	18nm,0.3s								
DJR						Lg	Lg	22 42 00.3	
	27nm,0.5s								
DJR	**Jarkent**	**3.71**	**61**	*e*		P	**Pg**	**22 41 11.7**	**-1.5**
	18nm,0.3s								
DJR				*e*		S	**Sg**	**22 42 00.2**	**-1.1**
	27nm,0.5s								
KTMS	**Ketmen**	**3.82**	**75**			Pg	**Pg**	**22 41 12.7**	**-2.5**
	2.4nm,0.3s								
KTMS						Lg	Lg	22 42 02.7	
	21nm,0.5s								
KTMS	**Ketmen**	**3.82**	**75**	*e*		P	**Pg**	**22 41 12.7**	**-2.5**
	2.4nm,0.3s								
KTMS				*e*		S	**Sg**	**22 42 02.7**	**-1.9**
	21nm,0.5s								
KAPS	**Kapalarasan**	**3.99**	**46**			Pg	**Pb**	**22 41 14.0**	**+1.6**
	6.7nm,0.5s								
KAPS						Lg	Lg	22 42 05.0	
	23nm,0.4s								
KAPS	**Kapalarasan**	**3.99**	**46**	*e*		P	**Pb**	**22 41 14.0**	**+1.6**
	6.7nm,0.5s								
KAPS				*e*		S	**Sg**	**22 42 05.0**	**-5.0**
	23nm,0.4s								
BTK	**Batken**	**4.21**	**234**	⇑	*i*	P	**Pn**	**22 41 07.5**	**+1.2**
	baz=34								
BTK				⇑	*i*	S	**Sn**	**22 41 55.0**	**-0.5**
	baz=34								
OTUK	**Ortayu**	**6.01**	**341**			Pg	Pg	22 41 52.3	-4.9
	0.5nm,0.4s								
OTUK						Lg	Lg	22 43 10.6	
	6.9nm,0.7s								
OTUK	**Ortayu**	**6.01**	**341**	⇑		Pn	**Pn**	**22 41 32.1**	**+1.2**
	0.1nm,0.3s								
OTUK				⇓		Lg	Lg	22 43 13.1	
	26nm,0.8s								
MAKZ	**Makanchi**	**6.36**	**46**	⇓		Pn	**Pn**	**22 41 36.8**	**+1.0**
	0.6nm,0.5s								
MAKZ				⇑		Lg	Lg	22 43 19.9	
	4.1nm,1.0s								
MK31	**Makanchi Array**	**6.52**	**48**	⇓		Pn	**Pn**	**22 41 39.7**	**+1.7**
	0.5nm,0.3s,baz=225,slow=14,SNR=33								
MK31				⇓		Lg	Lg	22 43 28.4	
	3.4nm,0.9s,baz=234,slow=27,SNR=5.3								
KURBB	**Kurchatov Arra**	**8.33**	**14**	⇑		Pn	**Pn**	**22 42 03.5**	**+0.8**
	0.7nm,0.3s								
KURBB				⇓		Lg	Lg	22 44 23.5	
	14nm,0.8s								
KURK	**Kurchatov**	**8.44**	**15**	⇓		Pn	**Pn**	**22 42 03.0**	**-1.2**
	0.2nm,0.3s								
KURK				⇓		Lg	Lg	22 44 28.3	
	10.0nm,0.9s								

*KNET **12** 22:51:02.5±0.3, 42.˚59N×75.˚26E, h20km±4km, ml1.2, Error ellipse: s-maj=2.6km s-min=2.2km az=15.0*
*SOME **12** 22:51:03.5, 42.˚57N×75.˚25E, h10km*
*NNC **12** 22:51:03.0±0.3, 42.˚59N×75.˚23E, h0km, mb2.6, mpv2.7, Error ellipse: s-maj=2.3km s-min=1.2km az=167.0*
ISC 12 22:51:03.4±0.9, 42.˚59N±0.˚02×75.˚25E±0.˚02, h15km±7km, n41, σ0s58/81, 14C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.23**	**286**			P	**Pg**	**22 51 08.8**	**+0.1**
	87nm,0.1s,SNR=339								
KBK				⇑		S	**Sg**	**22 51 12.6**	**+0.4**
	124nm,0.2s								
TKM2	**Tokmak 2**	**0.42**	**38**	⇓		P	**Pg**	**22 51 11.8**	**-0.1**
	11nm,0.1s,SNR=37								
TKM2				⇑		S	**Sg**	**22 51 17.7**	**+0.1**
	15nm,0.1s								
TKM2	**Tokmak 2**	**0.42**	**38**	⇓		P	**Pg**	**22 51 11.6**	**-0.3**
	3.9nm,0.3s								
TKM2				⇑		S	**Sg**	**22 51 17.1**	**-0.6**
	3.7nm,0.5s								
KZA	**Kyzart**	**0.51**	**180**	⇓		P	**Pg**	**22 51 13.5**	**-0.2**
	5.8nm,0.1s,SNR=13								
KZA				⇑		S	**Sg**	**22 51 20.4**	**-0.3**
	14nm,0.2s								
CHMS	**Chumysh**	**0.55**	**318**	⇑		P	**Pg**	**22 51 14.1**	**-0.1**
	2.5nm,0.1s,SNR=13								
CHMS				⇑		S	**Sg**	**22 51 21.8**	**+0.3**
	25nm,0.2s								
CHMS	**Chumysh**	**0.55**	**318**	⇑		P	**Pg**	**22 51 13.8**	**-0.5**
	1.9nm,0.4s								
CHMS				⇑		S	**Sg**	**22 51 21.3**	**-0.2**
	1.9nm,0.6s								
AAK	**Ala-Archa**	**0.56**	**275**	⇑		P	**Pg**	**22 51 14.3**	**-0.2**
	11nm,0.1s,SNR=22								
AAK				⇑		S	**Sg**	**22 51 21.9**	**-0.1**
	44nm,0.3s								
UCH	**Uchtor**	**0.65**	**236**	⇓		P	**Pg**	**22 51 15.8**	**-0.5**
	2.1nm,0.2s,SNR=7.1								
UCH				⇑		S	**Sg**	**22 51 24.4**	**-0.7**
	11nm,0.2s								
KST	**Kastek**	**0.69**	**49**			P	**Pb**	**22 51 16.9**	**-0.4**
	4.1nm,0.2s								
KST						S	**Sb**	**22 51 26.6**	**-0.2**
	5.4nm,0.2s								
KST	**Kastek**	**0.69**	**49**	*e*		P	**Pb**	**22 51 16.9**	**-0.4**
	4.1nm,0.2s								
KST				*e*		S	**Sb**

KRBS	**Karabastau**	**1.15**	**16**	*e*P		**Pn**	**22 51 25.3**	**+0.2**
	1.5nm,0.1s								
KRBS				*e*S		**Sn**	**22 51 40.6**	**0.0**
	3.7nm,0.2s								
AML	**Almayashu**	**1.24**	**249**	⇓P		**Pb**	**22 51 26.6**	**-0.2**
	0.8nm,0.2s								
AML				⇓S		**Sg**	**22 51 43.1**	**-0.4**
	4.6nm,0.3s								
AML	**Almayashu**	**1.24**	**249**	⇓P		**Pb**	**22 51 26.5**	**-0.3**
AML				⇓S		**Sb**	**22 51 42.6**	**-0.2**
	0.3nm,0.6s								
TNSS	**Tian-Shan**	**1.33**	**70**	P		**Pg**	**22 51 29.0**	**-0.1**
TNSS				S		**Sn**	**22 51 46.9**	**+1.4**
TNSS	**Tian-Shan**	**1.33**	**70**	*e*P		**Pg**	**22 51 28.9**	**-0.1**
	1.1nm,0.1s								
TNSS				*e*S		**Sn**	**22 51 46.9**	**+1.4**
	5.3nm,0.2s								
MDOK	**Medeo**	**1.44**	**66**	⇑P		**Pb**	**22 51 30.1**	**-0.1**
	0.3nm,0.4s								
MDOK				Pg		**Pg**	**22 51 30.8**	**-0.4**
	1.2nm,0.4s								
MDOK				⇓S		**Sg**	**22 51 49.6**	**-0.3**
	1.4nm,0.6s								
MDOK				Lg		Lg	22 51 50.1		
	2.9nm,0.2s								
MDOK	**Medeo**	**1.44**	**66**	*e*P		**Pg**	**22 51 30.8**	**-0.4**
	1.2nm,0.4s								
MDOK				*e*S		**Sg**	**22 51 50.1**	**+0.1**
	2.9nm,0.2s								
MRKS	**Merke**	**1.50**	**277**	P		**Pg**	**22 51 31.9**	**-0.3**
	2.2nm,0.2s								
MRKS				S		**Sg**	**22 51 52.0**	**+0.3**
	7.0nm,0.2s								
MRKS	**Merke**	**1.50**	**277**	*e*P		**Pg**	**22 51 31.9**	**-0.3**
	1.5nm,0.1s								
MRKS				*e*S		**Sg**	**22 51 52.0**	**+0.3**
	7.0nm,0.2s								
KOTS	**Kotyrbulak**	**1.51**	**64**	P		**Pg**	**22 51 32.4**	**-0.2**
	1.0nm,0.2s								
KOTS				S		**Sg**	**22 51 52.9**	**+0.6**
	8.3nm,0.2s								
KOTS	**Kotyrbulak**	**1.51**	**64**	*e*P		**Pg**	**22 51 32.4**	**-0.2**
	1.0nm,0.2s								
KOTS				*e*S		**Sg**	**22 51 52.9**	**+0.6**
	8.3nm,0.2s								
KUU	**Kurty**	**1.53**	**31**	P		**Pb**	**22 51 31.8**	**+0.3**
	4.0nm,0.3s								
KUU				S		**Sg**	**22 51 51.8**	**-0.8**
	2.7nm,0.2s								
KUU	**Kurty**	**1.53**	**31**	*e*P		**Pb**	**22 51 31.8**	**+0.3**
	4.0nm,0.3s								
KUU				*e*S		**Sg**	**22 51 51.8**	**-0.8**
	2.7nm,0.2s								
KTBS	**Karatobe**	**1.54**	**43**	P		**Pb**	**22 51 32.0**	**+0.4**
	2.7nm,0.3s								
KTBS				S		**Sg**	**22 51 52.3**	**-0.6**
	7.0nm,0.2s								
KTBS	**Karatobe**	**1.54**	**43**	*e*P		**Pb**	**22 51 32.0**	**+0.4**
	2.7nm,0.3s								
KTBS				*e*S		**Sg**	**22 51 52.3**	**-0.6**
	7.0nm,0.2s								
CHKK	**Chushkaly**	**1.79**	**45**	*e*P		**Pg**	**22 51 37.0**	**-0.8**
	2.0nm,0.1s								
CHKK				*e*S		**Sg**	**22 52 00.9**	**-0.2**
	12nm,0.2s								
ARXS	**Arharly**	**2.48**	**48**	Pg		**Pg**	**22 51 49.5**	**-1.5**
	1.3nm,0.2s								
ARXS				Lg		Lg	22 52 22.4		
	2.9nm,0.4s								
ARXS	**Arharly**	**2.48**	**48**	*e*P		**Pg**	**22 51 49.5**	**-1.5**
	1.3nm,0.2s								
ARXS				*e*S		**Sg**	**22 52 22.4**	**-0.8**
	2.9nm,0.4s								
KPKS	**Kokpek**	**2.67**	**70**	Pg		**Pb**	**22 51 52.3**	**+1.3**
	1.6nm,0.1s								
KPKS				Lg		Lg	22 52 27.4		
	7.5nm,0.5s								
KPKS	**Kokpek**	**2.67**	**70**	*e*P		**Pb**	**22 51 52.3**	**+1.3**
	1.6nm,0.1s								
KPKS				*e*S		**Sg**	**22 52 27.4**	**-1.7**
	7.5nm,0.5s								

HEL 12 23:01:06.5±0.4, 67°18N×20°62E, h0km, ML1.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.88**	**135**	PG		Pg	23 01 21.8	-1.6
ERTU				SG		Sg	23 01 33.5	-1.2
PAJU	**Pajala**	**0.99**	**98**	PG		Pg	23 01 24.1	-1.2
PAJU				SB		Sg	23 01 37.7	-0.4
LANU	**Lannavaara**	**1.02**	**30**	PG		Pg	23 01 24.8	-1.2
LANU				SN		Sb	23 01 41.4	+0.4
KLF	**Kolari**	**1.30**	**86**	PG		Pg	23 01 29.6	-1.8
	baz=271							
KLF				MSG			23 01 45.9	
	comp=Z,0.7nm,0.2s							
KLF				SB		Sg	23 01 47.6	-0.7
HEF	**Hetta**	**1.69**	**42**	MSG			23 01 57.0	
	comp=Z,0.9nm,0.2s							
HEF				SN		Sb	23 02 00.5	+0.2
KALU	**Kalix**	**1.72**	**139**	PG		Pn	23 01 37.5	-0.1
	baz=319							
KALU				SN		Sn	23 02 00.5	+0.3
KIF	**Kilpisjarvi**	**1.84**	**2**	PG		Pb	23 01 40.1	-0.8
KIF				MSG			23 02 02.2	
	comp=Z,2.0nm,0.2s							
KIF				SG		Sg	23 02 05.6	+0.2
TOF	**Tornio**	**1.84**	**125**	PG		Pn	23 01 39.4	+0.1
TOF				MSG			23 02 01.4	
	comp=Z,0.7nm,0.2s							
TOF				SG		Sn	23 02 03.5	+0.3
KTK1	**Kautokeino**	**2.09**	**27**	PG		Pn	23 01 43.9	+1.2
KTK1				SG		Sb	23 02 11.6	0.0
RNF	**Rovaniemi**	**2.20**	**103**	PG		Pn	23 01 45.1	+0.8
RNF				SG		Sb	23 02 14.5	-0.4
SGF	**Sodankyl**	**2.31**	**81**	PG		Pn	23 01 46.8	+1.1
SGF				SG		Sb	23 02 18.3	+0.5
ARA0	**ARCESS Array S**	**2.98**	**35**	PN		Pn	23 01 54.8	-0.2
ARA0				SG		Sb	23 02 36.2	-1.1

UPP 12 23:01:53.7±0.1, 67°17N×20°71E, h0km, ML1.5, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**226**	P		Pg	23 01 55.5	+0.3
DUNU				S		Sg	23 01 56.7	+0.6
KUA	**Kurravaara**	**0.80**	**350**	P		Pg	23 02 08.7	-0.3
KUA				S		Sg	23 02 19.4	+0.1
ERTU	**Ertsjaerv**	**0.85**	**136**	P		Pg	23 02 09.7	-0.3
PAJU	**Pajala**	**0.95**	**98**	P		Pg	23 02 11.6	-0.3
LANU	**Lannavaara**	**1.01**	**29**	P		Pg	23 02 12.3	-0.7
HARU	**Harads**	**1.02**	**174**	P		Pg	23 02 12.7	-0.5
KOVU	**Salmi**	**1.07**	**349**	P		Pg	23 02 14.1	-0.1
KALU	**Kalix**	**1.69**	**140**	P		Pb	23 02 25.0	-0.6
SJUU	**Sjulsmark**	**1.71**	**167**	P		Pn	23 02 24.9	+0.2

*OTT **12** 23:11:20.3±0.6, 70°99N×65°12W, h18km, ML3.3/2, 141km northeast from Clyde River, Nu Baffin Bay Seismic Zone.*
*DNK **12** 23:11:26.1±2.0, 71°26N×64°02W, h36km±34km, ML1.8*
ISC 12 23:11:17.3±1.0, 71°19N±0°07×64°87W±0°06, h35km, n9, σ2s79/11, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UPNV	**Upernavik**	**3.15**	**55**	*i* P		Pn	23 12 08.1	+3.8
UPNV				*i* S		**Sn**	**23 12 40.1**	**-0.5**
UPNV				IAML			23 12 42.6	
	comp=Z,18nm,0.3s							
UMMG	**Ummannaq**	**4.21**	**91**	*i* P		Pn	23 12 22.9	+4.0
UMMG				*i* S		**Sn**	**23 13 06.0**	**-0.8**
UMMG				IAML			23 13 10.7	
	comp=Z,5.7nm,0.4s							
ILON	**Igloolik, Nuna**	**6.01**	**260**	PN		**Pn**	**23 12 45.9**	**+2.3**
ILON				SN		**Sn**	**23 13 49.9**	**-1.2**
ILON				LG		Lg	23 14 23.0	
ILON				Trac			23 14 30.4	
	comp=Z,7.3nm,0.3s							
SFJD	**Kangerlussuaq**	**6.60**	**123**	*i* P		Pn	23 12 56.4	+4.7
NEEM	**North Greenlan**	**7.28**	**24**	*i* P		Pn	23 13 05.6	+4.4
NEEM				*i* S		**Sn**	**23 14 19.7**	**-2.9**
NEEM				IAML			23 14 22.2	
	comp=Z,1.6nm,0.3s							
FRB	**Frobisher Bay**	**7.61**	**192**	PN		**Pn**	**23 13 08.2**	**+2.7**
FRB				SN		**Sn**	**23 14 24.8**	**-5.5**
FRB				LG		Lg	23 15 10.9	
FRB				Trac			23 15 12.1	
	comp=Z,2.1nm,0.2s							
SUMG	**Summit**	**8.31**	**68**	*i* P		**Pn**	**23 13 17.9**	**+2.4**
SUMG				*i* S		**Sn**	**23 14 46.6**	**-1.4**
RES	**Resolute Bay**	**9.41**	**306**	PN		Pn	23 13 34.5	+4.4
RES				SN		**Sn**	**23 15 13.5**	**-0.8**
RES				Trac			23 15 21.1	
	comp=Z,137nm,3.1s							
DAG	**Danmarks Havn**	**13.54**	**45**	*e*		**Pn**	**23 14 26.4**	**-0.1**
	baz=273,slow=16							
DAG				*i* P		P	23 14 28.5	-6.6
DAG				*i*			23 16 47.6	
DAG				IAML			23 17 02.4	
	comp=Z,1.2nm,0.5s							

IDC 12 23:29:16.7±3.6, 19°93N×146°25E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=147.5km s-min=31.8km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.30**	**197**	P		P	23 37 04.1	-0.1
	0.6nm,0.7s,baz=17,slow=9.6,SNR=4.8							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**58.00**	**313**	P		P	23 39 11.7	+0.4
	0.2nm,0.5s,baz=92,slow=7.2,SNR=4.3							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**60.77**	**318**	P		P	23 39 30.6	+0.3
	0.2nm,0.3s,baz=86,slow=7.5,SNR=2.2							
	0.2nm,0.3s							
BVAR	**Borovoye Array**	**65.87**	**320**	P		P	23 40 03.6	-0.5
	0.6nm,0.5s,baz=98,slow=6.5,SNR=4.3							
	0.6nm,0.5s							
FINES	**FINESS Array B**	**85.99**	**335**	P		P	23 41 58.6	-0.2
	0.7nm,0.6s,baz=39,slow=5.3,SNR=4.8							
	0.7nm,0.6s							

*JMA **12** 23:56:19.5±0.1, 38°7N±0°1×141°7E±0°4, h65km, MD3.9/40, MV4.0/40, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
*NEIC **12** 23:56:19.5±1.8, 38°58N±0°07×141°9E±0°1, h58km±7km, mb4.1/11, Error ellipse: s-maj=15.1km s-min=7.8km az=115.0*
*NIED **12** 23:56:19.5, 38°69N×141°67E, h65km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.58; $M_{\theta\theta}$=0.76; $M_{\phi\phi}$=-3.82; $M_{r\theta}$=-0.41; $M_{\theta\phi}$=0.36; $M_{\phi r}$=-1.60; Fault plane solution: M_0=4.52000×10^{14} NP1: ϕ_s=180.00000°,δ55.00000°,λ97.00000°. NP2: ϕ_s=348.00000°,δ35.00000°,λ80.00000°.*
*IDC **12** 23:56:20.9±2.7, 38°62N×141°65E, h83km±24km, mb3.5/12, mbtmp3.8/15, MS1.6/1 Error ellipse: s-maj=22.7km s-min=14.8km az=77.0*
ISC 12 23:56:19.2±0.8, 38°65N±0°04×141°78E±0°07, h64km±5km, n65, σ1s23/66, mb4.0/19, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.28**	**304**	P		**Pn**	**23 56 29.5**	**-0.1**
JKMT				S		**Sn**	**23 56 36.6**	**-0.5**
JIO	**Ouri**	**0.39**	**239**	P		**Pn**	**23 56 30.4**	**0.0**
JIO				S		**Sn**	**23 56 38.2**	**-0.4**
JIKH	**Ishinomakikobu**	**0.42**	**216**	*i* P		**Pn**	**23 56 31.0**	**+0.3**
JIKH				S		**Sn**	**23 56 39.3**	**+0.3**
JIKH	**Ishinomakikobu**	**0.42**	**216**	A		A	23 56 31.0	
	comp=E,7.0nm,0.4s,comp=N,17nm,0.2s							
OFUJ	**Ofunato**	**0.43**	**349**	*i* P		**Pn**	**23 56 30.8**	**-0.1**
OFUJ				S		**Sn**	**23 56 38.9**	**-0.4**
OFUJ	**Ofunato**	**0.43**	**349**	A		A	23 56 30.8	
	comp=E,5.0nm,0.7s,comp=N,6.0nm,0.3s							
JMK	**Ichinoseki**	**0.53**	**305**	*i* P		**Pn**	**23 56 31.3**	**-0.4**
JMK				S		**Sn**	**23 56 39.9**	**-0.9**
JMK	**Ichinoseki**	**0.53**	**305**	A		A	23 56 31.3	
	comp=E,12nm,0.2s,comp=N,8.0nm,0.2s							
JOFO	**Osakifurukawao**	**0.68**	**266**	A		A	23 56 33.0	
	comp=E,16nm,0.8s,comp=N,17nm,0.3s							
JOM	**Ohasama**	**0.90**	**335**	*i* P		**Pn**	**23 56 35.7**	**-0.5**
JOM				S		**Sn**	**23 56 47.6**	**-1.1**
JOM	**Ohasama**	**0.90**	**335**	A		A	23 56 35.7	
	comp=E,13nm,0.3s,comp=N,9.0nm,0.3s							
JOU	**Okura**	**0.92**	**252**	⇓*i* P		**Pn**	**23 56 36.0**	**-0.4**
JOU				⇓S		**Sn**	**23 56 48.5**	**-0.6**
JOU	**Okura**	**0.92**	**252**	A		A	23 56 36.0	
	comp=E,12nm,1.0s,comp=N,9.0nm,0.3s							
JMM	**Marumori**	**1.10**	**225**			**Pn**	**23 56 38.1**	**-0.7**
JMM					Sn	**Sn**	**23 56 52.5**	**-0.8**
JMM	**Marumori**	**1.10**	**225**	⇓*i* P		**Pn**	**23 56 38.2**	**-0.5**
JMM				⇓S		**Sn**	**23 56 52.2**	**-1.1**
JYK	**Kaneyama**	**1.14**	**284**	⇓*i* P		**Pn**	**23 56 38.5**	**-0.7**
JYK				⇓S		**Sn**	**23 56 52.9**	**-1.2**
JYK	**Kaneyama**	**1.14**	**284**	A		A	23 56 38.5	
	comp=E,4.0nm,1.1s,comp=N,4.0nm,3.9s							
JRG	**Rokugo**	**1.16**	**310**	*i* P		**Pn**	**23 56 38.7**	**-0.7**
JRG				S		**Sn**	**23 56 53.5**	**-1.1**
JYS	**Shirataka**	**1.41**	**253**	*i* P		**Pn**	**23 56 42.6**	**-0.2**
JYS				S		**Sn**	**23 57 00.1**	**-0.4**
JYS	**Shirataka**	**1.41**	**253**	A		A	23 56 42.6	
	comp=E,4.0nm,2.6s,comp=N,4.0nm,0.7s							
JFK	**Kawauchi**	**1.47**	**209**	*i* P		**Pn**	**23 56 43.8**	**+0.2**
JFK				S		**Sn**	**23 57 01.8**	**-0.2**
JYAR	**Yonezawaarcadi**	**1.48**	**241**	A		A	23 56 43.8	
	comp=E,7.0nm,1.9s,comp=N,7.0nm,0.7s							
JOTO	**OTAMA OYAMA**	**1.58**	**227**	P		**Pn**	**23 56 45.4**	**+0.4**
JOTO				*e*S		**Sn**	**23 57 04.2**	**-0.3**
JYA	**Atsumi**	**1.62**	**269**	P		**Pn**	**23 56 45.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.73**	**207**	A		A	23 56 47.9	
	comp=E,4.0nm,0.3s,comp=N,4.0nm,0.3s							
JTM	**Tenmabayashi**	**2.20**	**346**			**Pn**	**23 56 53.6**	**+0.2**
ERM	**Erimo**	**3.52**	**17**	Pn		**Pn**	**23 57 12.7**	**+1.2**
MJAR	**Matsushiro Arr**	**3.53**	**234**	P		**Pn**	**23 57 12.9**	**+1.3**
	comp=N,24nm,0.7s,baz=40,slow=12,SNR=62							
MJAR				S		**Sn**	**23 57 56.0**	**+3.9**
	comp=N,4.2nm,0.5s,baz=42,slow=24,SNR=1.7							
MJAR				LR		LR	23 58 05.4	
	comp=N,10nm,20.9s,baz=22,slow=30							
MAJO	**Matsushiro**	**3.53**	**234**			**Pn**	**23 57 13.2**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.53**	**235**			**Pn**	**23 57 12.7**	**+1.0**
INU	**Inuyama**	**5.04**	**231**	Pn		**Pn**	**23 57 33.8**	**+1.5**
JHJ	**Hachijo jima 2**	**5.75**	**197**	P		**Pn**	**23 57 41.8**	**-0.3**
	comp=N,38nm,0.4s,baz=72,slow=14,SNR=1.1							
JHJ				S		**Sn**	**23 58 42.5**	**-4.2**
	comp=N,66nm,0.3s,baz=135,slow=24,SNR=8.0							
USRK	**Ussuriysk Ar.**	**9.20**	**310**	P		**Pn**	**23 58 29.3**	**+0.2**
	comp=N,3.2nm,0.6s,baz=113,slow=14,SNR=7.0							
KSRS	**Korea Array**	**10.99**	**268**	P		**Pn**	**23 58 57.2**	**+3.6**
	comp=N,2.6nm,0.6s,baz=85,slow=14,SNR=6.8							
SONM	**Songino Array**	**27.16**	**301**	P		**P**	**00 01 56.5**	**0.0**
	comp=N,0.4nm,0.5s,baz=95,slow=9.2,SNR=2.7							
	comp=N,0.4nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.77**	**124**	T		T	00 32 30.7	
	baz=317,slow=75,SNR=470							
H11N1	**WAKE ISLAND Hy**	**28.78**	**124**	T		T	00 32 38.8	
	baz=317,slow=75,SNR=211							
H11N3	**WAKE ISLAND Hy**	**28.79**	**124**	T		T	00 32 36.1	
	baz=317,slow=75,SNR=151							
H11S1	**WAKE ISLAND Hy**	**29.54**	**126**	T		T	00 33 28.9	
	baz=318,slow=76,SNR=255							
H11S3	**WAKE ISLAND Hy**	**29.54**	**126**	T		T	00 33 28.9	
	baz=318,slow=76,SNR=369							
H11S2	**WAKE ISLAND Hy**	**29.55**	**126**	T		T	00 33 30.8	
	baz=318,slow=76,SNR=311							
ZALV	**Zalesovo Beam**	**41.05**	**311**	P		**P**	**00 03 55.6**	**-0.6**
	comp=N,0.8nm,0.6s,baz=76,slow=7.8,SNR=4.8							
	comp=N,0.8nm,0.6s							
MK31	**Makanchi Array**	**43.52**	**301**	P		**P**	**00 04 15.8**	**-0.6**
MKAR	**Makanchi Array**	**43.52**	**301**	P		**P**	**00 04 17.3**	**+0.9**
MKAR	**Makanchi Array**	**43.52**	**301**	P		**P**	**00 04 15.5**	**-0.9**
	comp=N,1.1nm,0.7s,baz=86,slow=9.4,SNR=13							
	comp=N,1.1nm,0.7s							
D19K	**Kuna River**	**43.77**	**28**	P		**P**	**00 04 18.8**	**+0.7**
D19K				IAmb		IAmb	00 04 21.5	
	comp=Z,4.6nm,1.4s							
E19K	**Redstone River**	**43.92**	**29**	P		**P**	**00 04 20.7**	**+1.5**
KURK	**Kurchatov**	**45.17**	**307**	P		**P**	**00 04 28.8**	**-0.6**
KURK				IAmb		IAmb	00 04 29.6	
	comp=Z,3.2nm,1.1s							
KURK				pP		**pP**	**00 04 45.7**	**0.0**
KURBB	**Kurchatov Arra**	**45.25**	**307**	P		**P**	**00 04 29.0**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=80,slow=7.9,SNR=16							
	comp=Z,1.3nm,0.3s							
E21K	**Killik River**	**45.27**	**28**	P		**P**	**00 04 30.8**	**+0.7**
E21K				IAmb		IAmb	00 04 48.5	
	comp=Z,2.7nm,1.2s							
B22K	**Teshekpuk Lake**	**45.72**	**25**	P		**P**	**00 04 35.8**	**+2.3**
D22K	**Ayikyak River**	**45.79**	**27**	P		**P**	**00 04 35.5**	**+1.3**
D22K				IAmb		IAmb	00 04 53.6	
	comp=Z,1.2nm,0.7s							
ILAR	**Eielson Array**	**47.98**	**33**	P		**P**	**00 04 51.8**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=259,slow=7.2,SNR=5.3							
	comp=Z,0.5nm,0.8s							
BVAR	**Borovoye Array**	**49.71**	**311**	P		**P**	**00 05 04.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=64,slow=9.9,SNR=1.7							
	comp=Z,0.2nm,0.3s							
I28M	**Miner Creek**	**50.84**	**32**	P		**P**	**00 05 14.5**	**+1.4**
E29M	**Blow River**	**51.21**	**28**	P		**P**	**00 05 17.8**	**+2.1**
E29M				IAmb		IAmb	00 05 21.8	
	comp=Z,3.3nm,1.3s							
EPYK	**Eagle Plains**	**51.98**	**30**	P		**P**	**00 05 22.9**	**+1.4**
EPYK				IAmb		IAmb	00 05 23.6	
	comp=Z,2.0nm,0.7s							
G30M	**tAoh Zraii Nji**	**52.06**	**30**	P		**P**	**00 05 22.6**	**+0.4**
I30M	**Mount Dempster**	**52.34**	**32**	P		**P**	**00 05 25.2**	**+0.9**
I30M				IAmb		IAmb	00 05 26.0	
	comp=Z,1.6nm,0.8s							
WRA	**Warramunga Arr**	**58.70**	**188**	P		**P**	**00 06 09.2**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=5.6,slow=6.9,SNR=23							
	comp=Z,1.1nm,0.4s							
YKA	**Yellowknife Ar**	**62.27**	**31**	P		**P**	**00 06 34.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=304,slow=7.1,SNR=4.4							
	comp=Z,0.2nm,0.6s							
ASAR	**Alice Springs**	**62.43**	**188**	P		**P**	**00 06 35.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=359,slow=4.9,SNR=14							
	comp=Z,0.4nm,0.3s							
FINES	**FINESS Array B**	**67.52**	**332**	P		**P**	**00 07 07.0**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=50,slow=7.4,SNR=1.5							
	comp=Z,1.3nm,0.8s							
HFS	**Hagfors**	**72.73**	**336**	P		**P**	**00 07 39.1**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=38,slow=9.5,SNR=1.4							
	comp=Z,1.7nm,0.9s							
PDAR	**Pinedale Array**	**76.33**	**46**	P		**P**	**00 08 01.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=334,slow=3.1,SNR=5.5							
	comp=Z,0.5nm,0.6s							

*DJA **13** 00:11:34.8±1.6, 7°S±3°×12°9E±°, h25km±15km, M4.6/8, mb4.5/5, mB5.4/3, MLv4.7/8, Mw(mB)4.8/3*
*NEIC **13** 00:11:36.2±2.6, 6°48S±0°07×129°72E±0°08, h152km±12km, mb4.4/7, Error ellipse: s-maj=11.5km s-min=9.9km az=104.0*
*IDC **13** 00:11:40.4±7.1, 6°66S×129°76E, h177km±70km, mb3.6/10, mbtmp4.1/11, Error ellipse: s-maj=47.1km s-min=18.5km az=59.0*
ISC 13 00:11:36.3±0.6, 6°56S±0°05×129°78E±0°06, h146km, n63, σ1s65/63, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**2.03**	**3**	P		**Pn**	**00 12 15.1**	**+3.6**
BNDI	**Bandanaira**	**2.03**	**3**	P		Pn	**00 12 14.7**	**+3.2**
SAUI	**Saumlaki**	**2.06**	**133**	Pn		**Pn**	**00 12 13.6**	**+1.7**
SAUI				Sn		**Sn**	**00 12 39.4**	**+0.1**
SAUI	**Saumlaki**	**2.06**	**133**	P		**Pn**	**00 12 13.7**	**+1.8**
SAUI	**Saumlaki**	**2.06**	**133**	P		Pn	**00 12 13.1**	**+1.2**
SAUI				S		**Sn**	**00 12 38.2**	**-1.1**
FAKI	**Fak Fak**	**4.38**	**34**	Pn		**Pn**	**00 12 41.2**	**-0.2**
FAKI				Sn		**Sn**	**00 13 30.3**	**-1.8**
FAKI	**Fak Fak**	**4.38**	**34**	P		**Pn**	**00 12 42.0**	**+0.6**
FAKI	**Fak Fak**	**4.38**	**34**	P		Pn	**00 12 41.1**	**-0.3**
FAKI				S		**Sn**	**00 13 28.9**	**-3.2**
KMPI	**Kaimana, Papua**	**4.86**	**54**	P		Pn	00 12 53.5	+5.8
SIJI	**Sorong**	**5.85**	**15**	P		**Pn**	**00 13 01.8**	**+0.9**
SWI	**Sorong**	**5.85**	**15**	P		**Pn**	**00 13 00.5**	**-0.5**
	9.1nm,0.5s,0.4nm							
LBMI	**Labuha**	**6.31**	**339**	P		**Pn**	**00 13 05.4**	**-1.7**
	32nm,1.2s,2μm0.3nm							
SOEI	**Soe**	**6.31**	**239**	Pn		**Pn**	**00 13 07.4**	**+0.2**
SOEI				Sn		**Sn**	**00 14 17.9**	**-0.5**
SOEI	**Soe**	**6.31**	**239**	P		**Pn**	**00 13 08.8**	**+1.5**
SOEI	**Soe**	**6.31**	**239**	P		Pn	00 13 02.0	-5.3
	72nm,0.7s,0.7nm							
MTN	**Manton Dam**	**6.38**	**168**	Pn		**Pn**	**00 13 07.2**	**-0.8**
MTN	**Manton Dam**	**6.38**	**168**	P		**Pn**	**00 13 07.2**	**-0.8**
KDU	**Kakadu**	**6.64**	**157**	P		**Pn**	**00 13 10.6**	**-0.9**
TNTI	**Ternate**	**7.67**	**342**	Pn		**Pn**	**00 13 23.7**	**-1.7**
KNRA	**Kununurra**	**9.11**	**186**	Pn		**Pn**	**00 13 42.5**	**-2.1**
KNRA	**Kununurra**	**9.11**	**186**	P		**Pn**	**00 13 42.5**	**-2.1**
KAPI	**Kappang**	**10.10**	**278**	Pn		**Pn**	**00 13 56.2**	**-1.5**
PLAI	**Plampang**	**12.11**	**259**	P		**Pn**	**00 14 25.3**	**+1.1**
	28nm,1.1s							
FITZ	**Fitzroy Crossi**	**12.16**	**199**	Pn

ILAR Eielson Array 93.05 25 P P 00 24 32.5 -0.5
comp=Z,0.3nm,0.8s,baz=241,slow=4.7,SNR=4.4
comp=Z,0.3nm,0.8s

VIE ***13*** *00:17:17.9±0.5, 51°.38N×15°.86E, h0km, mb2.5/3, ml2.3/2, Error ellipse: s-maj=5.9km s-min=3.5km az=86.0 84 km NE of Liberec Suspected Mining induced.*
PRU ***13*** *00:17:17.2, 51°.53N×16°.07E, h0km*
ISC 13 00:17:14.8±1.8, 51°.60N±0°.08×16°.09E±0°.05, h0km, n20, σ0s63/42, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**170**	*e*Pg		**Pg**	**00 17 29.6**	**0.0**
KSP				*e*Sg		**Sg**	**00 17 39.4**	**-0.1**
CHVC	**Chvalec**	**1.02**	**181**	*e*PG		**Pg**	**00 17 34.4**	**+0.2**
CHVC				*e*SG		**Sg**	**00 17 47.4**	**0.0**
OSTC	**Ostas**	**1.05**	**175**	*e*PG		**Pg**	**00 17 35.1**	**+0.2**
OSTC				*e*SG		**Sg**	**00 17 48.3**	**-0.2**
UPC	**Upice**	**1.10**	**182**	*e*PG		**Pg**	**00 17 35.6**	**-0.2**
UPC				*e*SG		**Sg**	**00 17 50.5**	**+0.5**
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*PG		**Pg**	**00 17 38.5**	**-0.5**
DPC				*e*SG		**Sg**	**00 17 54.3**	**-1.0**
PVCC	**Panska Ves**	**1.44**	**222**	*e*PG		**Pn**	**00 17 42.4**	**+0.3**
PVCC				*e*SG		**Sb**	**00 18 01.4**	**+0.1**
	comp=Z,32nm,0.2s							
BRG	**Berggiesshubel**	**1.53**	**242**	Pg		**Pb**	**00 17 44.1**	**0.0**
BRG				Sg		**Sb**	**00 18 04.2**	**+0.2**
BRG				Amp			00 18 06.3	
	comp=Z,12nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	*e*PG		**Pb**	**00 17 49.3**	**-0.7**
PRU	**Pruhonice**	**1.89**	**212**	*e*PG		**Pb**	**00 17 49.7**	**-0.4**
PRU				*e*SG		**Sb**	**00 18 14.1**	**-0.2**
HSKC	**Hora Svate Kat**	**1.95**	**240**	*e*SG		**Sb**	**00 18 16.2**	**+0.2**
CLL	**Collm**	**1.95**	**263**	*e*Pn		**Pn**	**00 17 48.0**	**-1.1**
CLL				*e*Pg		**Pb**	**00 17 51.0**	**-0.2**
CLL				*i* x		x	00 17 55.3	
CLL				*e*Sg		**Sg**	**00 18 18.0**	**+0.6**
	comp=Z,3.0nm,0.7s							
MORC	**Moravsky Berou**	**2.05**	**153**	*e*PN		**Pn**	**00 17 49.9**	**-0.6**
MORC				*e*SG		**Sb**	**00 18 18.8**	**-0.1**
VRAC	**Vranov**	**2.32**	**172**	*e*PN		**Pn**	**00 17 53.8**	**-0.4**
VRAC				*e*SG		**Sn**	**00 18 24.2**	**+0.8**
KRUC	**Moravsky**	**2.55**	**175**	*e*PN		**Pn**	**00 17 57.5**	**+0.1**
KRUC				*e*SG		**Sb**	**00 18 34.1**	**+0.8**
NKC	**Novy Kostel**	**2.68**	**241**	*e*PN		**Pn**	**00 17 59.4**	**+0.2**
NKC				*e*PG		**Pb**	**00 18 04.9**	**+1.3**
NKC				*e*SG		**Sg**	**00 18 40.4**	**-0.4**
KHC	**Kasperske Hory**	**2.95**	**214**	*e*PN		**Pn**	**00 18 03.1**	**+0.2**
KHC				*e*PG		**Pb**	**00 18 09.2**	**+1.0**
KHC				*e*SN		**Sn**	**00 18 38.9**	**-0.1**
KHC				*e*SG		**Sg**	**00 18 48.2**	**-1.3**
CKRC	**Cesky Krumlov**	**3.01**	**203**	*e*PN		**Pn**	**00 18 03.9**	**+0.2**
CKRC				*e*PG		**Pb**	**00 18 09.9**	**+0.6**
CKRC				*e*SG		**Sg**	**00 18 50.1**	**-1.3**
MODS	**Modra-Piesok**	**3.32**	**166**	*e*SG		**Sg**	**00 19 02.1**	**+0.6**
CONA	**Conrad Observa**	**3.68**	**182**	*i* Pn		**Pn**	**00 18 13.3**	**+0.3**
	comp=Z,0.2nm,0.1s							
CONA				*e*Sg		**Sg**	**00 19 11.6**	**-1.4**
	comp=Z,1.9nm,0.3s							
MOA	**Molln**	**3.94**	**198**	*i* Pn		**Pn**	**00 18 16.6**	**+0.1**
	comp=Z,0.6nm,0.2s							
MOA				*e*Sg		**Sg**	**00 19 20.6**	**-0.6**
	comp=Z,0.6nm,0.2s							

ISN ***13*** *00:18:31.5±1.3, 33°.72N×45°.82E, h10km±6km, ML2.5*
TEH ***13*** *00:18:36.8, 33°.72N×45°.82E, h18km±29km, ML2.5*
ISC 13 00:18:33.9±1.6, 33°.62N±0°.04×45°.64E±0°.05, h3km±14km, n14, σ0s81/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**89**	Pg		**Pg**	**00 18 43.4**	**+0.3**
ILBA				Sg		**Sg**	**00 18 50.1**	**+0.9**
IBDR	**Badra**	**0.56**	**154**	*e*Pg		**Pg**	**00 18 44.0**	**-0.7**
IBDR				*e*Sg		**Sg**	**00 18 52.0**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.89**	**357**	Pg		**Pg**	**00 18 52.8**	**+0.8**
IGHG	**Ghaleghazi**	**1.05**	**47**	Pg		**Pg**	**00 18 53.4**	**-0.6**
BHD	**Baghdad**	**1.11**	**252**	*e*Pg		**Pn**	**00 18 57.0**	**+0.7**
BHD				*e*Sg		**Sn**	**00 19 13.5**	**+1.5**
IDHR	**Dehrash**	**1.25**	**30**	Pg		**Pg**	**00 18 57.7**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.34**	**60**	Pg		**Pg**	**00 18 59.4**	**-0.1**
IKOM	**Komasi**	**1.65**	**70**	Pg		**Pb**	**00 19 04.6**	**-0.5**
ILIN	**Lien**	**1.70**	**40**	Pg		**Pn**	**00 19 05.0**	**+0.3**
IKFM	**Kafar-mosalman**	**1.85**	**92**	Pg		**Pb**	**00 19 08.3**	**0.0**
RAFI	**Al-Rafai**	**1.93**	**168**	*e*Pn		**Pn**	**00 19 07.0**	**-0.6**
RAFI				*e*Sn		**Sb**	**00 19 34.0**	**-0.2**
IKRK	**Kirkuk**	**2.08**	**329**	*e*Pn		**Pn**	**00 19 08.0**	**-1.6**
IKRK				*e*Sn		**Sn**	**00 19 35.0**	**-1.0**
IKRK				AML	AML		00 19 42.0	
	comp=E,48nm,0.6s							
IKRK				AML	AML		00 19 46.4	
	comp=N,54nm,0.6s							
HSAM	**Samen**	**2.54**	**76**	Pn		**Pn**	**00 19 16.2**	**0.0**
HAGD	**Aghdareh**	**3.14**	**67**	Pn		**Pn**	**00 19 24.9**	**+0.4**

HEL ***13*** *00:26:08.3±0.3, 67°.82N×20°.20E, h0km, ML1.2, Explosion*
UPP 13 00:26:07.8±0.0, 67°.82N×20°.21E, h0km, ML2.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**19**	P		Pg	00 26 10.8	+0.2
KUA				S		Sg	00 26 13.0	+0.5
RATU	**Laukkuluspa**	**0.23**	**272**	P		Pg	00 26 12.4	+0.1
KOVU	**Salmi**	**0.41**	**358**	P		Pg	00 26 15.6	0.0
DUNU	**Dundret**	**0.71**	**169**	P		Pg	00 26 21.1	-0.3
LANU	**Lannavaara**	**0.71**	**70**	PG		Pg	00 26 21.1	-0.4
LANU				SG		Sg	00 26 30.6	-0.1
LANU	**Lannavaara**	**0.71**	**70**	P		Pg	00 26 21.2	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	P		Pg	00 26 22.4	-0.2
SALU	**Saltoluokta**	**0.79**	**237**	P		Pg	00 26 22.6	-0.2
PAJU	**Pajala**	**1.38**	**124**	PG		Pg	00 26 32.9	-1.3
	baz=304							
PAJU				SG		Sg	00 26 51.3	-0.6
PAJU	**Pajala**	**1.38**	**124**	P		Pg	00 26 33.0	-1.1
PAJU				S		Sg	00 26 51.7	-0.2
HEF	**Hetta**	**1.42**	**64**	*e*P		Pn	00 26 33.6	-1.3
HEF	**Hetta**	**1.42**	**64**	PG		Pn	00 26 33.8	-1.0
HEF				MSG			00 26 51.3	
	comp=Z,2.8nm,0.2s							
HEF				SN		Sg	00 26 53.2	-0.3
ERTU	**Ertsjaerv**	**1.48**	**148**	PG		Pn	00 26 35.0	-0.7
ERTU				SG		Sg	00 26 55.1	-0.3
ERTU	**Ertsjaerv**	**1.48**	**148**	P		Pn	00 26 35.1	-0.6
KLF	**Kolari**	**1.56**	**110**	PG		Pn	00 26 36.1	-0.6
	baz=297							
KLF				MSG			00 26 55.0	
	comp=Z,1.3nm,0.2s							
KLF				SN		Sn	00 26 57.5	0.0
KTK1	**Kautokeino**	**1.64**	**42**	*e*P		Pn	00 26 37.9	0.0
KTK1	**Kautokeino**	**1.64**	**42**	PG		Pn	00 26 37.8	-0.1
KTK1				SN		Sg	00 27 01.5	+1.0
TRO	**Tromso**	**1.88**	**346**	SG		Sg	00 27 07.6	-0.6
KALU	**Kalix**	**2.33**	**146**	PB		Pn	00 26 48.5	+1.3
KALU				SB		Sb	00 27 18.6	-1.2
TOF	**Tornio**	**2.38**	**135**	PB		Pn	00 26 49.4	+1.5
TOF				MSG			00 27 18.8	
	comp=Z,0.7nm,0.2s							
TOF				SG		Sb	00 27 20.5	-0.8
SGF	**Sodankyl**	**2.45**	**96**	PG		Pb	00 26 51.1	-1.5
	baz=279							
SGF				SG		Sb	00 27 23.7	+0.5
RNF	**Rovaniemi**	**2.56**	**116**	PB		Pn	00 26 52.5	+2.0
RNF				SG		Sb	00 27 26.1	-0.5
ARA0	**ARCESS Array S**	**2.59**	**46**	PB		Pn	00 26 52.1	+1.2
	baz=227							
ARA0				SG		Sb	00 27 28.2	+0.7
KEV	**Kevo**	**3.15**	**49**	SG		Sb	00 27 44.3	+1.0

NEIC ***13*** *00:30:55.6±1.6, 17°.54N±0°.08×83°.35W±0°.08, h10km±1km, mb4.4/7, Error ellipse: s-maj=15.9km s-min=9.5km az=320.0*
IDC ***13*** *00:30:60.0±3.4, 17°.75N×83°.76W, h0km, mb2.8/2, mbtmp2.9/2, ML4.4/1, MS3.4/1, Error ellipse: s-maj=123.0km s-min=45.9km az=27.0*
ISC 13 00:30:56.7±0.8, 17°.53N±0°.08×83°.40W±0°.08, h18km, n16, σ1s82/17, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOR	**Soroa**	**5.25**	**4**	Pn		**Pn**	**00 32 15.4**	**+1.1**
TEIG	**Tepich**	**5.34**	**301**	Pn		**Pn**	**00 32 14.7**	**-0.8**
TEIG	**Tepich**	**5.34**	**301**	Pn		**Pn**	**00 32 15.3**	**-0.2**
	14nm,0.3s,baz=61,slow=10,SNR=20							
TEIG				Sn		**Sn**	**00 33 12.4**	**-4.1**
	18nm,0.3s,baz=116,slow=2.7,SNR=8.3							
TEIG				LR		LR	00 34 19.2	
	comp=Z,393nm,19.7s,baz=166,slow=40							
MTDJ	**Mount Denham**	**5.63**	**82**			**Pn**	**00 32 18.4**	**-1.3**
ACON	**Acoyapa**	**5.79**	**197**	Pn		**Pn**	**00 32 21.8**	**0.0**
GTBY	**Guantanamo Bay**	**8.21**	**72**	Pn		**Pn**	**00 32 53.7**	**-1.3**
545A	**Edgard**	**14.04**	**334**	Pn		**Pn**	**00 34 14.0**	**-0.7**
GOGA	**Godfrey**	**15.81**	**360**	P		**P**	**00 34 42.2**	**0.0**
GOGA				IAmb		IAmb	00 34 54.3	
	comp=Z,20nm,1.4s							
AOPR	**Arecibo Observ**	**15.86**	**85**	Pn		**Pn**	**00 34 38.7**	**-0.6**
AOPR				IAmb		IAmb	00 34 55.5	
	comp=Z,45nm,1.4s							
Y49A	**Blount Mountai**	**16.48**	**351**	P		**P**	**00 34 49.7**	**0.0**
PAYG	**Puerto Ayora**	**19.32**	**201**	Pn		**Pn**	**00 35 21.9**	**-0.3**
PAYG				IAmb		IAmb	00 35 24.0	
	comp=Z,30nm,1.1s							
PARMO	**Parma**	**19.87**	**345**	P		**P**	**00 35 26.4**	**-0.5**
PARMO				IAmb		IAmb	00 35 28.5	
	comp=Z,67nm,0.5s							
S61A	**Accomac**	**21.19**	**17**	P		**P**	**00 35 39.7**	**-1.5**
TXAR	**Lajitas Array**	**21.95**	**306**	P		**P**	**00 35 52.0**	**+2.4**
	comp=Z,0.1nm,0.6s,baz=120,slow=11,SNR=1.6							
	comp=Z,0.1nm,0.6s							
ILAR	**Eielson Array**	**63.06**	**335**	P		**P**	**00 41 26.4**	**+3.8**
	comp=Z,0.3nm,0.8s,baz=106,slow=5.7,SNR=1.9							
	comp=Z,0.3nm,0.8s							
ASAR	**Alice Springs**	**144.62**	**254**	PKP		**PKiKP**	**00 50 37.8**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=91,slow=2.9,SNR=3.5							

TEH ***13*** *00:33:26.8, 33°.66N×45°.71E, h8km±63km, ML4.2*
IDC ***13*** *00:33:27.0±0.8, 33°.82N×45°.64E, h0km, mb3.9/21, mbtmp3.9/32, ML3.3/11, MS3.2/13, Error ellipse: s-maj=15.6km s-min=10.6km az=157.0*
NEIC ***13*** *00:33:28.2±1.9, 33°.54N±0°.08×45°.7E±0°.1, h10km±2km, mb4.3/50, Error ellipse: s-maj=17.3km s-min=12.8km az=98.0*
ISN ***13*** *00:33:28.1±0.7, 33°.69N×45°.76E, h14km±4km, ML4.2*
OMAN ***13*** *00:33:35.4±0.5, 32°.81N×45°.94E, h10km, mb4.0/19, ms2.9/4, Error ellipse: s-maj=16.4km s-min=7.3km az=34.0*
GII ***13*** *00:33:45.6±0.6, 33°.73N×45°.84E, h2km, confirmed*
ISC 13 00:33:27.3±0.9, 33°.54N±0°.03×45°.77E±0°.03, h12km±6km, n216, σ2s42/244, mb4.2/46, MS3.2/9, 12C-5D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.38**	**77**	Pg		**Pg**	**00 33 35.6**	**+0.7**
IBDR	**Badra**	**0.45**	**162**	*e*Pg		**Pn**	**00 33 40.0**	**+0.4**
IBDR				*e*Sg		**Sb**	**00 33 48.0**	**+4.2**
KGS1	**Ghasr-e-Shirin**	**0.97**	**351**	Pg		**Pb**	**00 33 43.4**	**-2.7**
IGHG	**Ghaleghazi**	**1.03**	**40**	Pg		**Pb**	**00 33 46.1**	**-1.2**
BHD	**Baghdad**	**1.19**	**257**	*e*Pg		**Pn**	**00 33 51.0**	**+1.3**
BHD				*e*Sg		**Sb**	**00 34 07.0**	**+1.9**
BHD				AML	AML		00 34 13.9	
	comp=E,7μm,0.8s							
IDHR	**Dehrash**	**1.27**	**24**	Pg		**Pn**	**00 33 49.3**	**-1.8**
KCHF	**Cheshme Sefid,**	**1.29**	**55**	Pg		**Pn**	**00 33 50.9**	**-0.4**
KCHF				Sg		**Sn**	**00 34 10.3**	**+1.7**
IKOM	**Komasi**	**1.58**	**66**	Pg		**Pb**	**00 33 57.0**	**+0.4**
ILIN	**Lien**	**1.70**	**35**	Pg		**Pn**	**00 33 57.7**	**+0.7**
IKFM	**Kafar-mosalman**	**1.74**	**90**	Pg		**Pg**	**00 34 00.2**	**-0.5**
RAFI	**Al-Rafai**	**1.84**	**171**	*e*Pn		**Pg**	**00 34 03.0**	**+0.4**
RAFI				*e*Sn		**Sg**	**00 34 29.0**	**+2.6**
IBZA	**Bozab**	**1.97**	**61**	Pn		**Pn**	**00 34 02.7**	**+1.9**
IKRK	**Kirkuk**	**2.20**	**328**	*e*Pn		**Pn**	**00 34 04.0**	**+0.3**
IKRK				*e*Sn		**Sn**	**00 34 31.0**	**+0.2**
IKRK				AML	AML		00 34 36.4	
	comp=N,2μm,0.4s							
IKRK				AML	AML		00 34 36.9	
	comp=E,2μm,0.6s							
IALM	**Almabolaq**	**2.39**	**56**	Pn		**Pn**	**00 34 08.6**	**+2.0**
HSAM	**Samen**	**2.45**	**73**	Pn		**Pn**	**00 34 09.5**	**+2.0**
SDS1	**Sardasht. Az.**	**2.61**	**355**	Pn		**Pn**	**00 34 10.7**	**+1.2**
HAGD	**Aghdareh**	**3.08**	**64**	Pn		**Pn**	**00 34 17.8**	**+1.9**
MAHB	**Mahabad**	**3.22**	**359**	Pn		**Pn**	**00 34 19.1**	**+1.3**
IRAZ	**Razeghan**	**3.91**	**60**	Pn		**Pn**	**00 34 29.1**	**+1.7**
QSDN	**Sirdan**	**4.07**	**42**	Pn		**Pn**	**00 34 30.7**	**+1.1**
IPIR	**Pirpir**	**4.39**	**100**	Pn		**Pn**	**00 34 36.5**	**+2.5**
ZNGN	**Zangian**	**4.51**	**107**	Pn		**Pn**	**00 34 38.2**	**+2.4**
ISPB	**Sarab**	**4.55**	**19**	Pn		**Pn**	**00 34 36.7**	**+0.5**
IMHD	**Mahdasht**	**4.57**	**61**	Pn		**Pn**	**00 34 37.7**	**+1.2**
JIR1	**Jirandeh**	**4.58**	**45**	Pn		**Pn**	**00 34 38.0**	**+1.5**
IQOM	**Qom**	**4.58**	**72**	Pn		**Pn**	**00 34 37.9**	**+1.2**
ITBZ	**Tabriz**	**4.69**	**4**	Pn		**Pn**	**00 34 38.5**	**+0.4**
QAMS	**Qamsar**	**4.70**	**86**	Pn		**Pn**	**00 34 40.7**	**+2.4**
IKLH	**Kolahrood**	**4.87**	**91**	Pn		**Pn**	**00 34 43.4**	**+2.8**
IHRS	**Heris**	**4.88**	**12**	Pn		**Pn**	**00 34 41.2**	**+0.5**
IBRJ	**Brojen**	**4.91**	**108**	Pn		**Pn**	**00 34 44.0**	**+2.9**
IVRN	**Varamin**	**5.15**	**72**	Pn		**Pn**	**00 34 45.6**	**+1.3**
IMRD	**Marand**	**5.16**	**359**	Pn		**Pn**	**00 34 45.3**	**+0.8**
GEVA	**Gevas**	**5.24**	**336**	Pn		**Pn**	**00 34 45.9**	**+0.2**
KRSH	**Karshahi**	**5.32**	**84**	Pn		**Pn**	**00 34 48.7**	**+1.9**
IGAR	**Gharneh**	**5.40**	**100**	Pn		**Pn**	**00 34 51.2**	**+3.3**
GAS1	**Astara - Iran**	**5.44**	**26**	Pn		**Pn**	**00 34 49.0**	**+0.8**
ISFB	**Sefidab**	**5.44**	**80**	Pn		**Pn**	**00 34 49.7**	**+1.4**
IZEF	**Zefreh**	**5.54**	**95**	Pn		**Pn**	**00 34 52.4**	**+2.6**
KLNJ	**Kolanjah**	**5.54**	**115**	Pn		**Pn**	**00 34 52.6**	**+2.7**
MARD	**Mardin**	**5.54**	**314**	Pn		**Pn**	**00 34 49.1**	**-0.6**
IDMV	**Damavand**	**5.56**	**67**	Pn		**Pn**	**00 34 51.1**	**+1.0**
MZPU	**Pul - Mazandar**	**5.57**	**57**	Pn		**Pn**	**00 34 52.1**	**+1.9**
IRAM	**Ramesheh**	**5.84**	**105**	Pn		**Pn**	**00 34 56.8**	**+2.9**
GURO	**Guroymak-BITLI**	**5.84**	**330**			**Pn**	**00 34 53.3**	**-0.6**
MAKU	**Maku**	**5.87**	**352**	Pn		**Pn**	**00 34 55.6**	**+1.3**
IPRN	**Peran**	**6.04**	**62**	Pn		**Pn**	**00 34 58.1**	**+1.6**
IFIR	**Firoozkooh**	**6.13**	**68**	Pn		**Pn**	**00 34 59.9**	**+1.9**
ILAS	**Lasjerd**	**6.22**	**71**	Pn		**Pn**	**00 35 00.6**	**+1.4**
GNI	**Garni**	**6.65**	**353**	Pn		**Pn**	**00 35 06.6**	**+1.7**
GNI	**Garni**	**6.65**	**353**	Pn		**Pn**	**00 35 05.2**	**+0.2**
	comp=E,0.3nm,0.3s,baz=167,slow=17,SNR=1.1							
GNI				Pg		**Pb**	**00 35 21.9**	**-1.0**
	comp=E,0.4nm,0.3s,baz=198,slow=19,SNR=1.6							
GNI				Lg		Lg	00 36 50.7	
	comp=E,0.2nm,0.3s,baz=208,slow=20,SNR=1.3							
GNI				LR		LR	00 37 58.6	
	comp=E,137nm,20.4s,baz=185,slow=43							
	comp=E,8.4nm,1.1s							
ANAR	**Anarak**	**6.67**	**91**	Pn		**Pn**	**00 35 06.8**	**+1.5**
DSBU	**Dashti - Bushe**	**6.99**	**136**	Pn		**Pn**	**00 35 12.2**	**+2.6**
ASF	**Jabal al Asfar**	**7.58**	**262**	Pn		**Pn**	**00 35 19.2**	**+1.5**
	comp=E,0.4nm,0.3s,baz=63,slow=23,SNR=2.5							
ASF				Lg		Lg	00 37 25.1	
	comp=E,1.3nm,0.3s,baz=337,slow=11,SNR=3.1							
	comp=E,0.9nm,0.3s							
ARPR	**Arapgir-MALATY**	**8.16**	**315**	Pn		**Pn**	**00 35 26.6**	**+0.8**
NATI	**Neve Ativ**	**8.39**	**271**	P		**Pb**	**00 35 50.3**	**-2.2**
MMAI	**Mount Meron Ar**	**8.69**	**269**	Pn		**Pn**	**00 35 34.5**	**+1.5**
	comp=E,0.4nm,0.3s,baz=83,slow=12,SNR=2.5							
MMAI				Pg		Pg	00 36 03.9	-10
	comp=E,0.7nm,0.3s,baz=72,slow=18,SNR=2.0							
MMAI				Sn		**Sn**	**00 37 10.2**	**-0.8**
	comp=E,0.5nm,0.3s,baz=77,slow=19,SNR=2.0							
MMAI				Lg		Lg	00 38 02.3	
	comp=E,2.4nm,0.3s,baz=94,slow=39,SNR=4.8							
	comp=E,0.4nm,0.4s							
HMDT	**Nahal Hemdat**	**8.71**	**264**	P		Pn	00 35 53.6	+21
TNSJ	**Nastanj**	**9.04**	**84**	Pn		**Pn**	**00 35 39.4**	**+1.6**
SLTI	**Sal'it**	**9.11**	**265**	P		Pn	00 35 58.8	+20
ONI	**Oni**	**9.22**	**349**			**Pn**	**00 35 42.0**	**+1.9**
ZFRI	**Zfri**	**9.46**	**255**	P		Pn	00 36 05.6	+22
TKDS	**Koohdasht(Taba**	**9.48**	**86**	Pn		**Pn**	**00 35 45.2**	**+1.5**
PRNI	**Paran**	**9.68**	**254**	P		Pn	00 36 07.6	+21
HRFI	**Mount Harif**	**9.77**	**252**	P		Pn	00 36 09.0	+21
TRNA	**Turayna**	**9.98**	**150**	P		**Pn**	**00 35 52.4**	**+1.9**
	SNR=6.2							
EIL	**Elat**	**9.99**	**250**	Pn		**Pn**	**00 35 53.3**	**+2.6**
	comp=E,0.3nm,0.3s,baz=329,slow=22,SNR=2.1							
EIL				Lg		Lg	00 38 44.0	
	comp=E,0.8nm,0.3s,baz=54,slow=19,SNR=1.9							
EIL				LR		LR	00 40 35.3	
	comp=E,84nm,18.0s,baz=66,slow=43							
	comp=E,1.3nm,0.4s							
NGRK	**Negar Kerman**	**10.12**	**110**	Pn		**Pn**	**00 35 55.8**	**+2.9**
SBZV	**Sabzevar**	**10.13**	**70**	Pn		**Pn**	**00 35 54.8**	**+2.0**
KBZ	**Khabaz**	**10.42**	**348**	Pn		**Pn**	**00 35 55.2**	**-1.2**
	comp=E,0.1nm,0.3s,baz=180,slow=9.1,SNR=2.6							
KBZ				LR		LR	00 40 16.7	
	comp=E,87nm,18.1s,baz=142,slow=40							
	comp=E,2.8nm,1.0s							
KVAR	**Kislovodsk Arr**	**10.67**	**348**	Pn		**Pn**	**00 36 00.3**	**+0.2**
	baz=186,slow=19							
	comp=E,3.1nm,1.0s							
GEYT	**Alibeck**	**10.95**	**63**	Pn		**Pn**	**00 36 06.3**	**+2.4**
	comp=E,0.1nm,0.3s,baz=226,slow=12,SNR=1.9							
	comp=E,1.2nm,0.7s							
BRTR	**Keskin Array B**	**11.53**	**306**	Pn		**Pn**	**00 36 11.2**	**-0.6**
	baz=142,slow=12,SNR=1.7							
BRTR				LR		LR	00 41 05.5	
	comp=E,133nm,18.4s,baz=126,slow=41							
	comp=E,0.5nm,0.5s							
SHME	**Shamm**	**11.70**	**127**	Pn		**Pn**	**00 36 13.9**	**-0.2**
SHME				Sn		**Sn**	**00 38 16.1**	**-8.5**
SHME	**Shamm**	**11.70**	**127**	P		**Pn**	**00 36 15.4**	**+1.4**
SHME				S		**Sn**	**00 38 20.6**	**-3.9**
BANOM	**Banah**	**11.89**	**127**	Pn		**Pn**	**00 36 16.3**	**-0.3**
BANOM	**Banah**	**11.89**	**127**	P		**Pn**	**00 36 18.0**	**+1.3**
BANOM				S		**Sn**	**00 38 24.9**	**-4.3**
AJN	**Ajban**	**12.04**	**136**	P		**Pn**	**00 36 21.2**	**+2.5**
AJN				S		**Sn**	**00 38 31.5**	**-1.4**
NAZ	**Nazwa, Dubai**	**12.13**	**132**	Pn		**Pn**	**00 36 21.2**	**+1.2**
NAZ	**Nazwa, Dubai**	**12.13**	**132**	P		**Pn**	**00 36 21.8**	**+1.9**
NAZ				S		**Sn**	**00 38 31.2**	**-4.0**
MASF	**Masafi**	**12.17**	**129**	P		**Pn**	**00 36 21.5**	**+0.9**
	SNR=5.9							
MASF				P		**Pn**	**00 36 21.5**	**+0.9**
	SNR=5.9							
MASF				S		**Sn**	**00 38 33.1**	**-3.2**
MASF				S		**Sn**	**00 38 33.1**	**-3.2**
MSFE	**Esma-Masafi**	**12.18**	**129**	Pn		**Pn**	**00 36 21.2**	**+0.5**
ASUD	**Al Ashush, Dub**	**12.19**	**134**	Pn		**Pn**	**00 36 21.5**	**+0.6**
ASUD	**Al Ashush, Dub**	**12.19**	**134**	P		**Pn**	**00 36 21.8**	**+0.9**
ASUD				S		**Sn**	**00 38 34.3**	**-2.4**
FAQ	**Al Faqa, Dubai**	**12.26**	**133**	Pn		**Pn**	**00 36 22.4**	**+0.5**
FAQ	**Al Faqa, Dubai**	**12.26**	**133**	P		**Pn**	**00 36 22.8**	**+1.0**
FAQ				S		**Sn**	**00 38 35.4**	**-3.1**
MDH	**Madha**	**12.31**	**129**	Pn		**Pn**	**00 36 22.6**	**+0.2**
MDH	**Madha**	**12.31**	**129**	P		**Pn**	**00 36 22.9**	**+0.5**
MDH				S		**Sn**	**00 38 32.9**	**-6.7**
MZR	**Muzera**	**12.50**	**145**	P		**Pn**	**00 36 25.0**	**-0.1**
MZR				S		**Sn**	**00 38 42.2**	**-2.1**
HATD	**Hatta, Dubai**	**12.54**	**131**	Pn		**Pn**	**00 36 25.7**	**+0.1**
HATD	**Hatta, Dubai**	**12.54**	**131**	P		**Pn**	**00 36 27.1**	**+1.5**
ASHO	**Ashiyiah**	**12.60**	**132**	Pn		**Pn**	**00 36 26.7**	**+0.3**
ASHO	**Ashiyiah**	**12.60**	**132**	P		**Pn**	**00 36 27.2**	**+0.8**
	SNR=12							
ASHO				S		**Sn**	**00 38 41.2**	**-5.5**
ALNE	**Al Ain**	**12.87**	**135**	Pn		**Pn**	**00 36 29.3**	**-0.9**
ALNE	**Al Ain**	**12.87**	**135**	P		**Pn**	**00 36 29.3**	**-0.9**
ALNE				S		**Sn**	**00 38 50.1**	**-3.3**
JASK	**Jask - Hormozg**	**13.00**	**123**	P		**Pn**	**00 36 31.4**	**

ARU	**Arti**	**24.53**	**17**	P	**P**	**00 38 46.2**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=235,slow=12,SNR=2.5						
	comp=Z,0.8nm,0.3s						
CUC	**Castrocucco**	**24.77**	**294**	P	**P**	**00 38 48.9**	**0.0**
KSH	**Kashi**	**24.93**	**67**	*eP*	**P**	**00 38 50.5**	**+0.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NRN	**Naryn**	**25.16**	**63**	P	**P**	**00 38 54.4**	**+1.7**
NRN				IAmb	IAmb	00 39 00.5	
	comp=Z,3.9nm,0.8s						
RAFF	**Raffo Rosso**	**25.80**	**287**	P	**P**	**00 38 58.8**	**+0.5**
BVAR	**Borovoye Array**	**26.25**	**35**	P	**P**	**00 39 02.1**	**0.0**
	comp=Z,2.1nm,0.5s,baz=239,slow=8.1,SNR=17						
	comp=Z,2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**29.39**	**45**	P	**P**	**00 39 30.9**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=251,slow=9.1,SNR=11						
	comp=Z,1.1nm,0.8s						
KEST	**Kesra**	**29.94**	**285**	LR	LR	00 54 05.4	
	comp=Z,71nm,20.0s,baz=242,slow=42						
MK31	**Makanchi Array**	**30.60**	**53**	P	**P**	**00 39 42.0**	**+0.9**
MK31				IAmb	IAmb	00 39 48.2	
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**30.60**	**53**	P	**P**	**00 39 42.2**	**+1.1**
MKAR	**Makanchi Array**	**30.60**	**53**	P	**P**	**00 39 41.8**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=256,slow=7.8,SNR=20						
	comp=Z,1.5nm,0.5s						
FINES	**FINESS Array B**	**30.67**	**341**	P	**P**	**00 39 39.9**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=141,slow=9.0,SNR=1.3						
	comp=Z,0.8nm,0.7s						
SENIN	**Lac Senin/Sane**	**31.83**	**305**	P	**P**	**00 39 51.6**	**-0.6**
HFS	**Hagfors**	**33.87**	**332**	P	**P**	**00 40 08.6**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=132,slow=10,SNR=20						
	comp=Z,3.3nm,0.5s						
ZALV	**Zalesovo Beam**	**34.21**	**41**	P	**P**	**00 40 12.1**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=251,slow=10,SNR=7.2						
ZALV				LR	LR	00 55 57.8	
	comp=Z,40nm,18.1s,baz=132,slow=40						
	comp=Z,0.9nm,0.3s						
NOA	**NORSAR Array B**	**35.39**	**332**	P	**P**	**00 40 20.8**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=125,slow=8.6,SNR=2.1						
NOA				LR	LR	00 57 59.1	
	comp=Z,32nm,18.9s,baz=290,slow=42						
	comp=Z,0.4nm,0.6s						
KMBO	**Kilima Mbogo**	**35.40**	**195**	LR	LR	00 54 53.5	
	comp=Z,45nm,19.1s,baz=88,slow=36						
ARCES	**ARCESS Array B**	**37.78**	**349**	P	**P**	**00 40 41.5**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=164,slow=8.8,SNR=8.2						
	comp=Z,2.9nm,0.9s						
ESDC	**Sonseca Array**	**39.97**	**294**	P	**P**	**00 41 01.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=77,slow=7.9,SNR=10						
	comp=Z,0.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**40.10**	**318**	P	**P**	**00 41 01.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=109,slow=7.9,SNR=5.4						
	comp=Z,0.5nm,0.3s						
PALK	**Pallekele**	**41.55**	**121**	LR	LR	00 59 24.3	
	comp=Z,31nm,19.4s,baz=64,slow=37						
NRIK	**Noril'sk**	**42.68**	**20**	P	**P**	**00 41 23.8**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=225,slow=8.8,SNR=1.4						
	comp=Z,1.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**44.86**	**254**	P	**P**	**00 41 42.7**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=64,slow=7.3,SNR=10						
	comp=Z,0.4nm,0.5s						
SPITS	**Spitsbergen Ar**	**46.52**	**352**	P	**P**	**00 41 54.1**	**0.0**
	comp=Z,5.1nm,0.7s,baz=146,slow=11,SNR=7.2						
	comp=Z,5.1nm,0.7s						
SONM	**Songino Array**	**46.97**	**53**	P	**P**	**00 41 59.2**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=293,slow=10,SNR=1.5						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.59**	**94**	P	**P**	**00 42 21.1**	**+2.5**
	comp=Z,1.1nm,0.4s,baz=295,slow=8.5,SNR=1.8						
CMAR				LR	LR	01 07 17.7	
	comp=Z,23nm,18.2s,baz=275,slow=41						
	comp=Z,1.1nm,0.4s						
DBIC	**Dimbokro**	**53.86**	**252**	LR	LR	01 10 36.2	
	comp=Z,33nm,19.6s,baz=29,slow=41						
BOSA	**Boshof**	**64.80**	**200**	P	**P**	**00 44 08.3**	**+2.4**
	comp=Z,3.6nm,1.1s,baz=0.3,slow=5.2,SNR=2.3						
	comp=Z,3.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**65.06**	**52**	LR	LR	01 14 49.9	
	comp=Z,28nm,20.3s,baz=173,slow=38						
SCHQ	**Schefferville**	**74.76**	**326**	P	**P**	**00 45 06.6**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=39,slow=6.5,SNR=1.9						
	comp=Z,2.3nm,0.8s						
C18K	**Utukok River**	**76.17**	**10**	P	**P**	**00 45 16.2**	**+1.3**
D19K	**Kuna River**	**76.73**	**9**	P	**P**	**00 45 19.8**	**+1.8**
D19K				IAmb	IAmb	00 46 03.5	
	comp=Z,6.4nm,1.4s						
D22K	**Ayikyak River**	**76.97**	**7**	P	**P**	**00 45 20.9**	**+1.5**
D22K				IAmb	IAmb	00 45 21.5	
	comp=Z,5.1nm,1.3s						
E21K	**Killik River**	**77.26**	**7**	P	**P**	**00 45 22.2**	**+1.1**
E18K	**Tukpahlearik C**	**77.39**	**10**	P	**P**	**00 45 22.6**	**+0.8**
E18K				IAmb	IAmb	00 45 32.1	
	comp=Z,3.0nm,0.8s						
E22K	**Anaktuvuk Pass**	**77.78**	**7**	P	**P**	**00 45 24.3**	**+0.3**
E19K	**Redstone River**	**77.82**	**9**	P	**P**	**00 45 24.6**	**+0.4**
E19K				IAmb	IAmb	00 45 44.4	
	comp=Z,4.6nm,1.1s						
E28M	**Babbage River**	**78.09**	**2**	P	**P**	**00 45 27.0**	**+1.3**
E24K	**Your Creek**	**78.13**	**5**	P	**P**	**00 45 28.2**	**+2.3**
E24K				IAmb	IAmb	00 45 39.5	
	comp=Z,2.8nm,1.1s						
E29M	**Blow River**	**78.34**	**1**	P	**P**	**00 45 28.3**	**+1.3**
E29M				IAmb	IAmb	00 45 28.6	
	comp=Z,4.3nm,1.2s						
F20K	**Avaraart Lake**	**78.40**	**8**	P	**P**	**00 45 28.9**	**+1.6**
F20K				IAmb	IAmb	00 45 34.1	
	comp=Z,1.7nm,0.8s						
INK	**Inuvik**	**78.46**	**360**	P	**P**	**00 45 29.9**	**+2.2**
INK				IAmb	IAmb	00 45 42.4	
	comp=Z,6.0nm,1.4s						
F21K	**Alatna River**	**78.49**	**8**	P	**P**	**00 45 30.1**	**+2.2**
F21K				IAmb	IAmb	00 45 38.5	
	comp=Z,4.6nm,1.3s						
F24K	**Squaw Lake**	**78.72**	**5**	P	**P**	**00 45 32.5**	**+3.3**
F24K				IAmb	IAmb	00 45 37.2	
	comp=Z,1.4nm,0.7s						
BMAR	**Burnt Mountain**	**79.04**	**4**	P	**P**	**00 45 33.1**	**+2.1**
F28M	**Old Crow**	**79.07**	**2**	P	**P**	**00 45 30.9**	**-0.2**
F28M				IAmb	IAmb	00 46 13.3	
	comp=Z,4.6nm,1.5s						
G19K	**Purcell Mounta**	**79.08**	**9**	P	**P**	**00 45 31.9**	**+0.8**
G19K				IAmb	IAmb	00 45 40.0	
	comp=Z,3.7nm,0.7s						
IMAR	**Indian Mountai**	**79.66**	**8**	P	**P**	**00 45 37.4**	**+3.2**
G30M	**tAoh Zraii Nji**	**79.78**	**1**	P	**P**	**00 45 36.5**	**+1.5**
G30M				IAmb	IAmb	00 45 39.2	
	comp=Z,5.5nm,1.1s						
G27K	**Doyon Strip**	**79.81**	**3**	P	**P**	**00 45 37.4**	**+2.3**
G27K				IAmb	IAmb	00 46 03.9	
	comp=Z,3.6nm,1.4s						
H18K	**Honhosa River**	**79.84**	**10**	P	**P**	**00 45 36.4**	**+1.1**
H21K	**Melozitna Rive**	**80.08**	**8**	P	**P**	**00 45 38.8**	**+2.2**
H21K				IAmb	IAmb	00 46 15.2	
	comp=Z,8.4nm,1.4s						
H29M	**Whitestone**	**80.51**	**2**	P	**P**	**00 45 40.0**	**+1.1**
H29M				IAmb	IAmb	00 45 40.5	
	comp=Z,3.1nm,1.1s						
I26K	**Coal Creek Min**	**81.23**	**4**	P	**P**	**00 45 44.5**	**+1.8**
I28M	**Miner Creek**	**81.23**	**2**	P	**P**	**00 45 44.9**	**+2.0**
ILAR	**Eielson Array**	**81.51**	**5**	P	**P**	**00 45 45.4**	**+1.2**
ILAR	**Eielson Array**	**81.51**	**5**	P	**P**	**00 45 44.6**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=316,slow=1.1,SNR=3.6						
	comp=Z,0.4nm,0.9s						
I30M	**Mount Dempster**	**81.55**	**1**	P	**P**	**00 45 45.8**	**+1.3**
J25K	**Salcha River,**	**81.78**	**5**	P	**P**	**00 45 46.7**	**+1.0**
J25K					**pP**	**00 45 47.1**	**-2.8**
J25K				IAmb	IAmb	00 46 18.3	
	comp=Z,2.3nm,1.1s						
YKA	**Yellowknife Ar**	**83.00**	**351**	P	**P**	**00 45 52.1**	**0.0**
	comp=Z,0.2nm,0.8s,baz=14,slow=5.7,SNR=1.9						
	comp=Z,0.2nm,0.8s						

ISK ***13*** *00:37:04.8, 35°.70N×29°.43E, h13km, ML2.3/9*
AFAD ***13*** *00:37:06.5±0.0, 35°.80N×29°.29E, h7km±4km, ML2.2*
ATH ***13*** *00:37:07.0, 35°.76N×29°.44E, h13km±6km, ML2.3/2, Error ellipse: s-maj=7.5km s-min=1.4km az=39.0*
NIC ***13*** *00:37:08.8, 35°.92N×29°.53E, h31km±3km, Ml2.6/3*
ISC 13 00:37:07.1±1.3, 35°.78N±0°.04×29°.42E±0°.03, h18km±3km, n30, σ0s83/47, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.39**	**19**	P	**Pg**	**00 37 14.9**	**-0.4**
KSL				S	**Sb**	**00 37 21.3**	**+0.1**
KSL				AML	AML	00 37 23.5	
	1.1nm,0.3s						
KSL				AML	AML	00 37 24.4	
	3.2nm,0.3s						
KSL	**Kastellorizon**	**0.39**	**19**	P	**Pg**	**00 37 14.8**	**-0.5**
KSL				S	**Sb**	**00 37 20.9**	**-0.4**
KSL				AML	AML	00 37 24.8	
	comp=E,3228μm,0.3s						
KSL				AML	AML	00 37 28.6	
	comp=N,1054μm,0.6s						
IZZE	**Mula-Seydike**	**0.68**	**346**	P	**Pb**	**00 37 20.7**	**+0.4**
IZZE				S	**Sn**	**00 37 30.9**	**-0.9**
FETY	**Fethiye**	**0.90**	**342**	Pg	**Pg**	**00 37 23.9**	**-0.7**
FETY				Sg	**Sn**	**00 37 37.9**	**+0.6**
FETY	**Fethiye**	**0.90**	**342**	P	**Pn**	**00 37 24.7**	**-0.1**
FETY				S	**Sn**	**00 37 39.0**	**+1.7**
AKUM	**Antalya-Kumluc**	**0.92**	**54**	P	**Pn**	**00 37 25.2**	**+0.1**
AKUM				S	**Sn**	**00 37 39.7**	**+1.9**
AKUM				*i* AML	AML	00 37 44.0	
	comp=N,53nm,0.7s						
AKUM				*i* AML	AML	00 37 46.0	
	comp=N,43nm,0.5s						
ELL	**Elmali**	**1.04**	**22**	Pn	**Pb**	**00 37 26.6**	**-0.1**
KNIK	**Mula-Seydike**	**1.07**	**6**	P	**Pn**	**00 37 27.7**	**+0.4**
KNIK				S	**Sn**	**00 37 41.8**	**+0.1**
KNIK				*i* AML	AML	00 37 45.0	
	comp=N,61nm,0.6s						
KNIK				*i* AML	AML	00 37 47.0	
	comp=N,34nm,0.8s						
ARG	**Arkhangelos**	**1.14**	**293**	Pn	**Pb**	**00 37 27.5**	**-0.7**
ARG				Sn	**Sn**	**00 37 44.2**	**+1.0**
ARG	**Arkhangelos**	**1.14**	**293**	P	**Pg**	**00 37 29.4**	**+0.2**
ARG				S	**Sg**	**00 37 43.8**	**-0.3**
ARG	**Arkhangelos**	**1.14**	**293**	P	**Pb**	**00 37 27.9**	**-0.3**
ARG				S	**Sb**	**00 37 43.5**	**+0.8**
ARG				AML	AML	00 37 56.7	
	comp=N,121μm,0.7s						
ARG				AML	AML	00 37 59.1	
	comp=E,190μm,1.3s						
CAME	**Cameli-Denizli**	**1.17**	**355**	Pn	**Pb**	**00 37 28.5**	**-0.3**
DALY	**Dalyan (Mula)**	**1.21**	**329**	Pn	**Pn**	**00 37 28.9**	**-0.1**
CAEL	**Denizli, Camel**	**1.34**	**356**	P	**Pn**	**00 37 31.3**	**+0.3**
CAEL				S	**Sg**	**00 37 50.4**	**-0.2**
CAEL				*i* AML	AML	00 38 04.0	
	comp=E,83nm,0.6s						
CAEL				*i* AML	AML	00 38 09.0	
	comp=E,64nm,1.0s						
TURN	**Turunc**	**1.38**	**317**	Pn	**Pn**	**00 37 31.2**	**-0.1**
TURN	**Turunc**	**1.38**	**317**	P	**Pn**	**00 37 31.6**	**+0.2**
TURN				S	**Sn**	**00 37 48.6**	**-0.5**
KORT	**Korkueli**	**1.43**	**31**	Pn	**Pn**	**00 37 32.2**	**0.0**
GOLH	**Golhisar**	**1.46**	**4**	P	**Pb**	**00 37 33.3**	**-0.4**
GOLH				S	**Sg**	**00 37 56.0**	**+1.7**
GOLH				*i* AML	AML	00 38 05.0	
	comp=E,54nm,0.5s						
GOLH				*i* AML	AML	00 38 08.0	
	comp=E,39nm,0.8s						
APMY	**Acipayam-Deniz**	**1.69**	**357**	Pn	**Pn**	**00 37 35.8**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.73**	**346**	P	**Pn**	**00 37 36.6**	**+0.3**
TAVA				S	**Sn**	**00 37 54.9**	**-3.1**
DAT	**Datca**	**1.77**	**303**	Pn	**Pn**	**00 37 36.7**	**-0.1**
KARP	**Karpathos**	**1.86**	**263**	P	**Pn**	**00 37 38.5**	**+0.5**
MLSB	**Milas**	**2.01**	**319**	Pn	**Pn**	**00 37 40.3**	**+0.2**
AKMS	**Akamas**	**2.50**	**107**	P	**Pn**	**00 37 47.0**	**+0.2**
AKMS				AML	AML	00 38 14.7	
	comp=E,0.1nm,1.6s						
AKMS				S	**Sn**	**00 38 15.7**	**-1.0**
AKMS				AML	AML	00 38 24.3	
	comp=E,0.1nm,1.0s						
ALFC	**Alefka**	**2.67**	**103**	P	**Pn**	**00 37 49.2**	**+0.1**
ALFC				S	**Sn**	**00 38 20.2**	**-0.7**
ALFC				AML	AML	00 38 21.0	
	comp=E,0.1nm,0.6s						
ALFC				AML	AML	00 38 28.0	
	comp=E,0.1nm,0.9s						
NATA	**Nata**	**2.76**	**110**	P	**Pn**	**00 37 50.3**	**-0.1**
NATA				S	**Sn**	**00 38 22.7**	**-0.5**
TROD	**Troodos**	**2.93**	**105**	P	**Pn**	**00 37 53.3**	**+0.3**
CSS	**Mathiatis**	**3.29**	**103**	P	**Pn**	**00 37 57.7**	**0.0**
CSS	**Mathiatis**	**3.29**	**103**	P	**Pn**	**00 37 58.0**	**+0.3**
MVOU	**Mavrovouni**	**3.52**	**101**	P	**Pn**	**00 38 02.2**	**+1.4**

IDC ***13*** *00:40:08.3±3.7, 20°.24S×177°.69W, h464km±37km, mb3.3/10, mbtmp4.1/12, Error ellipse: s-maj=23.5km s-min=14.5km az=88.0*
NEIC ***13*** *00:40:10.8±1.5, 20°.5S±0°.2×177°.6W±0°.2, h492km±14km, mb4.2/17, Error ellipse: s-maj=31.8km s-min=19.1km az=157.0*
ISC 13 00:40:11.2±0.5, 20°.30S±0°.10×177°.67W±0°.10, h500km, n48, σ1s11/49, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.39**	**82**	P	**P**	**00 41 59.6**	**-1.8**
PINNC	**Pines Island,**	**14.05**	**258**	P	**P**	**00 43 11.7**	**+0.3**
DZM	**Mont Dzumac**	**14.92**	**260**	P	**P**	**00 43 22.1**	**+1.3**
DZM	**Mont Dzumac**	**14.92**	**260**	P	**P**	**00 43 20.0**	**-0.7**
	2.6nm,0.8s,baz=79,slow=16,SNR=1.8						
KOUNC	**Koumac, New Ca**	**16.92**	**266**	P	**P**	**00 43 43.3**	**+1.9**
KOUNC				IAmb	IAmb	00 43 57.4	
	comp=Z,14nm,1.1s						
TOZ	**Tahuroa Road**	**18.35**	**197**	P	**P**	**00 43 52.5**	**-2.1**
TOZ				IAmb	IAmb	00 44 15.1	
	comp=Z,19nm,1.4s						
URZ	**Urewera**	**18.46**	**193**	P	**P**	**00 43 53.7**	**-1.9**
	comp=Z,4.3nm,0.7s,baz=358,slow=6.3,SNR=2.2						
URZ				S	**S**	**00 47 03.1**	**+4.6**
	comp=Z,2.3nm,0.5s,baz=192,slow=23,SNR=1.2						
LTZ	**Lake Taylor**	**23.96**	**198**	P	**P**	**00 44 44.6**	**-0.7**
MLZ	**Mavora Lakes**	**27.61**	**202**	P	**P**	**00 45 18.1**	**+0.5**
WHZ	**Wether Hill Ro**	**28.13**	**202**	P	**P**	**00 45 21.9**	**-0.2**
WHZ				IAmb	IAmb	00 45 24.2	
	comp=Z,13nm,1.0s						
EIDS	**Eidsvold**	**29.20**	**254**	P	**P**	**00 45 31.0**	**-0.7**
EIDS				IAmb	IAmb	00 45 34.6	
	comp=Z,5.7nm,1.4s						
ARMA	**Armidale**	**29.43**	**244**	P	**P**	**00 45 33.3**	**-0.5**
ARMA				IAmb	IAmb	00 45 45.7	
	comp=Z,4.9nm,1.1s						
CTAO	**Charters Tower**	**33.82**	**264**	P	**P**	**00 46 11.1**	**-0.3**
CTAO				IAmb	IAmb	00 46 13.7	
	comp=Z,9.3nm,1.3s						
TOO	**Toolangi**	**36.26**	**234**	P	**P**	**00 46 31.1**	**-0.5**
TOO				IAmb	IAmb	00 46 53.4	
	comp=Z,9.1nm,1.1s						
STKA	**Stephens Creek**	**38.15**	**244**	P	**P**	**00 46 46.9**	**-0.4**
STKA	**Stephens Creek**	**38.15**	**244**	P	**P**	**00 46 46.7**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=86,slow=13,SNR=3.5						
	comp=Z,2.7nm,0.7s						
BBOO	**Buckleboo**	**42.91**	**243**	P	**P**	**00 47 24.5**	**-0.8**
WR0	**Warramunga Arr**	**44.75**	**262**	P	**P**	**00 47 39.6**	**-0.1**
AS31	**Alice Springs**	**44.87**	**256**	P	**P**	**00 47 40.0**	**-0.7**
ASAR	**Alice Springs**	**44.87**	**256**	P	**P**	**00 47 39.8**	**-0.9**
ASAR	**Alice Springs**	**44.87**	**256**	P	**P**	**00 47 40.0**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=90,slow=7.7,SNR=47						
ASAR				PcP	**PcP**	**00 49 11.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=99,slow=3.8,SNR=7.6						
	comp=Z,4.4nm,0.8s						
WB0	**Warramunga Arr**	**44.91**	**262**	P	**P**	**00 47 40.5**	**-0.6**
WB0				IAmb	IAmb	00 48 05.8	
	comp=Z,9.6nm,1.4s						
WB2	**Warramunga Arr**	**44.92**	**262**	P	**P**	**00 47 40.6**	**-0.6**
WB2				IAmb	IAmb	00 47 44.5	
	comp=Z,6.6nm,1.3s						
WRA	**Warramunga Arr**	**44.94**	**262**	P	**P**	**00 47 40.6**	**-0.6**
WRA	**Warramunga Arr**	**44.94**	**262**	P	**P**	**00 47 40.6**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=98,slow=8.1,SNR=42						
WRA				PcP	**PcP**	**00 49 11.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=103,slow=3.3,SNR=2.3						
	comp=Z,1.2nm,0.3s						
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**00 49 16.5**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=347,slow=4.8,SNR=3.1						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**69.76**	**180**	P	**P**	**00 50 30.7**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=21,slow=2.0,SNR=11						
	comp=Z,3.9nm,0.7s						
MJAR	**Matsushiro Arr**	**70.24**	**323**	P	**P**	**00 50 33.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=132,slow=7.5,SNR=1.8						
	comp=Z,1.1nm,0.6s						
PETK	**Petropavlovsk-**	**76.16**	**345**	P	**P**	**00 51 07.9**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=153,slow=5.6,SNR=2.1						
	comp=Z,2.5nm,0.7s						
Q09A	**Carvers**	**81.62**	**43**	P	**P**	**00 51 38.1**	**+1.3**
TXAR	**Lajitas Array**	**86.69**	**57**	P	**P**	**00 52 03.9**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=239,slow=7.0,SNR=5.2						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**88.06**	**13**	P	**P**	**00 52 07.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=219,slow=4.2,SNR=1.9						
	comp=Z,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.34**	**289**	P	**P**	**00 52 19.9**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=117,slow=2.3,SNR=6.2						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**111.29**	**313**	PKiKP	**PKiKP**	**00 57 47.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=97,slow=1.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**114.11**	**317**	PKiKP	PKPdf	00 57 52.1	-1.0
	comp=Z,0.3nm,0.7s,baz=95,slow=1.5,SNR=4.9						
BVAR	**Borovoye Array**	**119.13**	**320**	PKP	**PKPdf**	**00 58 02.3**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=119,slow=3.2,SNR=6.8						
AKASG	**Malin Array Be**	**142.99**	**331**	PKiKP	PKPpre	00 58 44.7	
	comp=Z,1.8nm,0.4s,baz=42,slow=4.3,SNR=13						
BRTR	**Keskin Array B**	**146.94**	**313**	PKPbc	**PKPbc**	**00 58 57.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=144,slow=4.8,SNR=6.4						
MMAI	**Mount Meron Ar**	**147.99**	**300**	PKPbc	**PKiKP**	**00 59 01.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=75,slow=6.3,SNR=14						
DPC	**Dobruska-Polom**	**148.03**	**343**	*e*PKP	**PKiKP**	**00 59 00.9**	**-0.4**
KRLC	**Kraliky**	**148.15**	**342**	*e*PKP	**PKiKP**	**00 59 01.1**	**-0.5**
MAUC	**Maruska**	**148.47**	**340**	*e*PKP	**PKiKP**	**00 59 02.2**	**-0.1**
HSKC	**Hora Svate Kat**	**148.51**	**346**	*e*PKP	**PKiKP**	**00 59 02.4**	**+0.1**
PRU	**Pruhonice**	**148.83**	**345**	*e*PKP	**PKiKP**	**00 59 02.7**	**-0.2**
ZVC	**Zvikov**	**149.42**	**345**	*e*PKP	**PKiKP**	**00 59 04.5**	**+0.3**
KHC	**Kasperske Hory**	**149.86**	**345**	*e*PKP	**PKPbc**	**00 59 04.6**	**+0.1**
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc	**PKPbc**	**00 59 04.9**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=305,slow=3.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**172.86**	**175**	PKP	**PKPdf**	**00 59 21.7**	**-1.7**
	comp=Z,1.0nm,1.0s,baz=199,slow=0.6,SNR=3.9						

ISN ***13*** *00:45:18.7±1.1, 33°.69N×45°.71E, h9km±5km, ML2.6*
TEH ***13*** *00:45:18.8, 33°.69N×45°.71E, h9km±45km, ML2.6*
ISC 13 00:45:19.2±1.3, 33°.70N±0°.03×45°.70E±0°.03, h3km±15km, n14, σ0s49/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**100**	Pg	**Pg**	**00 45 27.2**	**-0.2**
ILBA				Sg	**Sg**	**00 45 33.5**	**+0.5**
IBDR	**Badra**	**0.61**	**162**	*e*Pg	**Pg**	**00 45 31.0**	**0.0**
IBDR				*e*Sg	**Sg**	**00 45 39.0**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.81**	**353**	Pg	**Pg**	**00 45 34.7**	**-0.1**
IGHG	**Ghaleghazi**	**0.96**	**48**	Pg	**Pg**	**00 45 37.7**	**+0.1**
IDHR	**Dehrash**	**1.15**	**29**	Pg	**Pg**	**00 45 40.6**	**-0.7**
BHD	**Baghdad**	**1.19**	**249**	*e*Pg	**Pg**	**00 45 42.0**	**0.0**
BHD				*e*Sg	**Sg**	**00 45 57.5**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.25**	**62**	Pg	**Pg**	**00 45 43.1**	**-0.2**
IKOM	**Komasi**	**1.58**	**72**	Pg	**Pb**	**00 45 49.3**	**+0.1**
ILIN	**Lien**	**1.60**	**40**	Pg	**Pb**	**00 45 49.6**	**-0.1**
IKFM	**Kafar-mosalman**	**1.80**	**95**	Pg	**Pb**	**00 45 52.4**	**-0.4**
RAFI	**Al-Rafai**	**2.00**	**170**	*e*Pn	**Pn**	**00 45 54.0**	**+0.1**
RAFI				*e*Sn	**Sb**	**00 46 21.0**	**-0.5**
IKRK	**Kirkuk**	**2.04**	**327**	*e*Pn	**Pn**	**00 45 55.0**	**+0.5**
IKRK				*e*Sn	**Sb**	**00 46 22.0**	**-0.7**
HSAM	**Samen**	**2.46**	**77**	Pn	**Pn**	**00 46 00.4**	**-0.2**
HAGD	**Aghdareh**	**3.06**	**68**	Pn	**Pn**	**00 46 10.0**	**+1.2**

NSSP ***13*** *00:50:16.6, 38°.43N×45°.40E, h10km, Ms3.6*
AFAD ***13*** *00:50:16.3±0.0, 38°.53N×45°.46E, h12km±1km, ML2.7*
TEH ***13*** *00:50:17.4, 38°.43N×45°.37E, h6km±36km, ML3.2*
ISC 13 00:50:17.2±1.0, 38°.44N±0°.02×45°.39E±0°.02, h11km±10km, n56, σ1s34/76, 7C-3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHB	**Shabestar**	**0.24**	**130**	Pg	**Pg**	**00 50 21.9**	**-0.4**
IMRD	**Marand**	**0.37**	**42**	Pg	**Pb**

CHRG	**Chargali**	**3.90**	**355**	P		**Pb**	**00 51 28.4**	**+2.3**
JIR1	**Jirandeh**	**3.91**	**115**	Pn		**Pn**	**00 51 20.0**	**+2.6**

*TEH **13** 01:03:31.8, 33°.67N × 45°.63E, h8km ± 116km, ML3.0*
*ISN **13** 01:03:33.1 ± 0.7, 33°.68N × 45°.69E, h14km ± 4km, ML2.9*
ISC 13 01:03:33.1±0.9, **33°.68N**±0°.03×**45°.65E**±0°.04, **h13**km, **n19**, σ1§**05**/23, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**97**	Pg	**Pg**	**01 03 41.7**	**-0.7**
IBDR	**Badra**	**0.61**	**158**	*e*Pg	**Pb**	**01 03 45.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**01 03 53.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.83**	**356**	Pg	**Pg**	**01 03 48.0**	**-1.1**
IGHG	**Ghaleghazi**	**1.00**	**49**	Pg	**Pg**	**01 03 52.2**	**-0.3**
BHD	**Baghdad**	**1.14**	**249**	*e*Pg	**Pg**	**01 03 55.0**	**-0.1**
BHD				*e*Sg	**Sn**	**01 04 10.0**	**-0.2**
BHD				AML	AML	01 04 44.0	
	comp=E,296nm,0.5s						
IDHR	**Dehrash**	**1.19**	**31**	Pg	**Pb**	**01 03 54.2**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.30**	**62**	Pg	**Pg**	**01 03 57.9**	**-0.2**
IKOM	**Komasi**	**1.62**	**72**	Pg	**Pb**	**01 04 03.0**	**0.0**
ILIN	**Lien**	**1.65**	**41**	Pg	**Pb**	**01 04 03.1**	**-0.4**
IKFM	**Kafar-mosalman**	**1.84**	**94**	Pn	**Pb**	**01 04 05.6**	**-1.0**
RAFI	**Al-Rafai**	**1.99**	**169**	*e*Pn	**Pb**	**01 04 08.0**	**-1.2**
RAFI				*e*Sn	**Sb**	**01 04 34.0**	**+0.1**
IBZA	**Bozab**	**2.00**	**66**	Pn	**Pb**	**01 04 08.5**	**-1.0**
IKRK	**Kirkuk**	**2.03**	**328**	*e*Pn	**Pb**	**01 04 09.0**	**-0.9**
IKRK				*e*Sn	**Sb**	**01 04 35.0**	**0.0**
IKRK				AML	AML	01 04 40.5	
	comp=E,94nm,0.4s						
IKRK				AML	AML	01 04 44.9	
	comp=N,107nm,0.6s						
SDS1	**Sardasht. Az.**	**2.47**	**357**	Pn	**Pn**	**01 04 14.8**	**+1.5**
HSAM	**Samen**	**2.51**	**77**	Pn	**Pn**	**01 04 14.7**	**+0.8**
MAHB	**Mahabad**	**3.08**	**1**	Pn	**Pn**	**01 04 23.4**	**+1.8**
HAGD	**Aghdareh**	**3.11**	**68**	Pn	**Pn**	**01 04 23.3**	**+1.2**
QAMS	**Qamsar**	**4.79**	**88**	Pn	**Pn**	**01 04 45.7**	**+0.5**
IKLH	**Kolahrood**	**4.96**	**93**	Pn	**Pn**	**01 04 50.0**	**+2.3**

*ANF **13** 01:04:08.0 ± 0.3, 35°.69N × 97°.39W, h6km, ML3.8/11, Error ellipse: s-maj=3.5km s-min=3.1km az=52.0*
*TUL **13** 01:04:08.1 ± 1.0, 35°.67N ± 0°.02 × 97°.40W ± 0°.02, h6km ± 7km, ML3.6, mb_Lg3.2/97(NEIC), ML3.4/34(NEIC), Error ellipse: s-maj=2.5km s-min=2.3km az=55.0*
*NEIC **13** 01:04:08.3 ± 1.0, 35°.69N ± 0°.02 × 97°.41W ± 0°.02, h6km ± 7km, Error ellipse: s-maj=2.7km s-min=2.3km az=221.0*
ISC 13 01:04:08.2±0.9, **35°.68N**±0°.02×**97°.41W**±0°.02, **h8**km ± 7km, **n113**, σ0§**57**/91, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.04**	**133**	Pg	**Pg**	**01 04 09.7**	**-0.1**
OK009	**Oakdale Elemen**	**0.10**	**188**	Sg	**Sg**	**01 04 12.2**	**0.0**
OK029	**Liberty Lake**	**0.12**	**341**	Pg	**Pg**	**01 04 11.4**	**+0.4**
OK029				IAML		01 04 13.9	
	14μm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.27**	**185**	Pg	**Pg**	**01 04 13.7**	**+0.1**
FNO	**Franklin**	**0.42**	**179**	Pg	**Pg**	**01 04 16.4**	**0.0**
OK033	**Mehan**	**0.53**	**46**	Pg	**Pg**	**01 04 18.7**	**+0.3**
OK033				IAML		01 04 26.4	
	2μm,0.5s						
OK033				IAML		01 04 26.4	
	4μm,0.4s						
OK052	**Battle Ridge R**	**0.58**	**57**	Pg	**Pg**	**01 04 19.6**	**+0.1**
OK052				IAML		01 04 28.1	
	3μm,0.4s						
OK052				IAML		01 04 28.2	
	3μm,0.2s						
OK011	**Prague**	**0.62**	**108**	Sg	**Sg**	**01 04 28.4**	**+0.2**
W35A	**Tecumseh**	**0.68**	**140**	Sg	**Sg**	**01 04 30.3**	**+0.1**
QUOK	**Quay**	**0.75**	**49**	Pg	**Pg**	**01 04 22.6**	**-0.1**
DEOK	**Depew**	**0.76**	**77**		**Pg**	**01 04 22.3**	**-0.5**
DEOK				IAML		01 04 33.1	
	comp=E,2μm,0.2s						
DEOK				IAML		01 04 36.0	
	comp=N,2μm,0.5s						
OK048	**Pawnee Station**	**0.83**	**27**	Pg	**Pg**	**01 04 24.0**	**-0.1**
OK048				IAML		01 04 35.5	
	comp=N,983nm,0.2s						
OK051	**E0350 and S346**	**0.94**	**29**		**Pg**	**01 04 26.0**	**-0.4**
OK051				IAML		01 04 44.0	
	comp=N,2μm,0.2s						
CROK	**Carrier**	**0.95**	**331**	Sg	**Sg**	**01 04 38.9**	**+0.2**
CSTR	**Hydro, Custer**	**1.04**	**269**		**Pg**	**01 04 27.9**	**-0.3**
X34A	**Smith Ranch, M**	**1.13**	**198**		**Pg**	**01 04 29.6**	**-0.4**
X34A				IAML		01 04 46.6	
	comp=E,440nm,0.3s						
X34A				IAML		01 04 48.7	
	comp=N,699nm,0.5s						
GC02	**Grant County #**	**1.23**	**343**		**Pg**	**01 04 31.1**	**-0.6**
OK032	**Salt Plains WL**	**1.30**	**330**		**Pn**	**01 04 32.2**	**-0.5**
KAN13	**South Haven SW**	**1.33**	**358**		**Pn**	**01 04 33.1**	**-0.1**
TUL3	**Leonard**	**1.33**	**80**	Pn	**Pn**	**01 04 32.0**	**-1.1**
TUL3				IAML		01 04 53.6	
	comp=N,738nm,0.5s						
TUL3				IAML		01 04 56.8	
	comp=E,616nm,0.4s						
TUL3	**Leonard**	**1.33**	**80**	P	**Pn**	**01 04 32.0**	**-1.2**
	baz=260,SNR=282						
TUL3				S	**Sn**	**01 04 51.3**	**+0.2**
	baz=260						
OK038	**West end E0370**	**1.34**	**307**		**Pn**	**01 04 32.9**	**-0.5**
KAN14	**Manchester OK**	**1.35**	**341**		**Pn**	**01 04 33.2**	**-0.3**
KAN17	**Caldwell West**	**1.39**	**348**		**Pn**	**01 04 34.0**	**0.0**
T35A	**Sooner Cattle**	**1.43**	**30**	Pn	**Pn**	**01 04 34.4**	**-0.2**
T35B	**Sooner Cattle**	**1.43**	**30**	P	**Pn**	**01 04 34.3**	**-0.2**
	baz=210,SNR=314						
T35B				S	**Sg**	**01 04 53.9**	**-0.4**
	baz=210						
KAN09	**Caldwell North**	**1.46**	**353**		**Pn**	**01 04 35.2**	**+0.2**
WMOK	**Wichita Mounta**	**1.47**	**231**		**Pn**	**01 04 34.4**	**-0.6**
WMOK	**Wichita Mounta**	**1.47**	**231**	P	**Pn**	**01 04 34.7**	**-0.4**
	baz=50,SNR=87						
U32A	**Winter Ranch,**	**1.47**	**299**		**Pn**	**01 04 35.1**	**0.0**
U32A	**Winter Ranch,**	**1.47**	**299**	P	**Pn**	**01 04 35.0**	**-0.1**
	baz=118,SNR=102						
U32A				S	**Sg**	**01 04 55.1**	**-0.4**
	baz=118						
OK035	**E0210 Rd and N**	**1.47**	**315**		**Pn**	**01 04 35.3**	**+0.1**
KAN05	**Bluff City Nor**	**1.48**	**345**		**Pn**	**01 04 35.3**	**+0.1**
KAN01	**Argonia South**	**1.50**	**349**		**Pn**	**01 04 35.7**	**+0.2**
KAN10	**Anthony SW Sta**	**1.54**	**339**		**Pn**	**01 04 36.3**	**+0.2**
KAN06	**Argonia West S**	**1.61**	**347**		**Pn**	**01 04 37.4**	**+0.4**
KAN08	**Anthony NE Sta**	**1.61**	**344**		**Pn**	**01 04 36.8**	**-0.2**
KS21	**Milan North St**	**1.62**	**353**		**Pn**	**01 04 37.5**	**+0.4**
ELIS	**Ellis County**	**1.68**	**284**	Pn	**Pn**	**01 04 38.5**	**+0.5**
KAN12	**Harper NE Stat**	**1.68**	**344**		**Pb**	**01 04 38.9**	**-0.7**
LOOK	**Love County**	**1.69**	**174**		**Pn**	**01 04 38.4**	**+0.3**
RLO	**Rose Lookout**	**1.99**	**75**		**Pn**	**01 04 42.9**	**+0.6**
WTFS	**Witchita Falls**	**2.10**	**205**	Pn	**Pn**	**01 04 44.7**	**+1.1**
Z35A	**Perchaven, San**	**2.35**	**177**		**Pn**	**01 04 47.5**	**+0.4**
Z35A	**Perchaven, San**	**2.35**	**177**	P	**Pn**	**01 04 47.8**	**+0.7**
	baz=357,SNR=59						
SMWD	**Samnorwood**	**2.39**	**257**	Pn	**Pn**	**01 04 48.4**	**+0.7**
SMWD				IAmb_Lg		01 05 27.6	
	comp=Z,69nm,0.7s						
U38A	**Gravette**	**2.56**	**72**	Pn	**Pn**	**01 04 51.0**	**+0.9**
HHAR	**Hobbs**	**2.88**	**77**	Pn	**Pn**	**01 04 54.9**	**+0.5**
R32A	**Long Quarter,**	**2.93**	**340**	Pn	**Pn**	**01 04 55.7**	**+0.5**
R32A	**Long Quarter,**	**2.93**	**340**	S	**Sn**	**01 05 32.5**	**+1.9**
	baz=159						
PLPT	**Palo Pinto**	**2.96**	**195**	Pn	**Pn**	**01 04 56.3**	**+0.8**
Z38A	**Mt. Pleasant**	**3.13**	**140**	Pn	**Pn**	**01 04 58.5**	**+0.6**
Z38A				IAmb_Lg		01 05 50.0	
	comp=Z,87nm,1.1s						
Z38A	**Mt. Pleasant**	**3.13**	**140**	P	**Pn**	**01 04 58.3**	**+0.4**
	baz=321						
TREL	**Terrell**	**3.14**	**159**	Pn	**Pn**	**01 04 58.5**	**+0.5**
TREL				IAmb_Lg		01 05 55.0	
	comp=Z,56nm,0.8s						
KSU1	**Kansas State U**	**3.47**	**10**	Pn	**Pn**	**01 05 02.8**	**+0.1**
KSU1	**Kansas State U**	**3.47**	**10**	P	**Pn**	**01 05 03.2**	**+0.6**
	baz=191						
ABTX	**Abilene, Hawle**	**3.57**	**212**	Pn	**Pn**	**01 05 04.2**	**+0.2**
CBKS	**Cedar Bluff**	**3.64**	**330**	Pn	**Pn**	**01 05 05.5**	**+0.6**
CBKS				IAmb_Lg		01 06 06.7	
	comp=Z,64nm,0.8s						
CBKS	**Cedar Bluff**	**3.64**	**330**	P	**Pn**	**01 05 05.7**	**+0.8**
	baz=149						
WHTX	**Lake Whitney,**	**3.68**	**181**	Pn	**Pn**	**01 05 05.7**	**+0.2**
	baz=0.7,SNR=8.5						
WHTX	**Lake Whitney,**	**3.68**	**181**	P	**Pn**	**01 05 05.5**	**+0.1**
	baz=0.7,SNR=8.5						
U40A	**Yellville**	**3.75**	**78**	P	**Pn**	**01 05 06.6**	**+0.2**
	baz=261,SNR=12						
U40A				P	**Pn**	**01 05 06.6**	**+0.2**
	baz=261,SNR=12						
S39A	**Bolivar**	**3.85**	**57**	IAmb_Lg		01 06 14.4	
	comp=Z,64nm,0.8s						
237A	**Washetta, Mont**	**3.90**	**160**	Pn	**Pn**	**01 05 08.2**	**-0.2**
237A	**Washetta, Mont**	**3.90**	**160**	P	**Pn**	**01 05 08.3**	**-0.2**
	baz=341,SNR=11						
X40A	**Basin Creek Fa**	**3.93**	**106**	Pn	**Pn**	**01 05 09.4**	**+0.4**
X40A				IAmb_Lg		01 06 17.7	
	comp=Z,47nm,0.8s						
X40A	**Basin Creek Fa**	**3.93**	**106**	P	**Pn**	**01 05 09.8**	**+0.9**
	baz=289,SNR=6.1						
X40A				P	**Pn**	**01 05 09.8**	**+0.9**
	baz=289,SNR=6.1						
SN01	**Snyder 1**	**4.03**	**227**	IAmb_Lg		01 06 16.4	
	comp=Z,85nm,1.0s						
WLAR	**White Oak Lake**	**4.06**	**118**	Pn	**Pn**	**01 05 11.3**	**+0.7**
WLAR				IAmb_Lg		01 06 21.8	
	comp=Z,43nm,0.8s						
WHAR	**Wooly Hollow**	**4.19**	**94**	Pn	**Pn**	**01 05 12.9**	**+0.4**
WHAR				IAmb_Lg		01 06 32.6	
	comp=Z,36nm,0.9s						
UALR	**University of**	**4.24**	**101**	Pn	**Pn**	**01 05 14.1**	**+0.9**
POST	**Post**	**4.27**	**234**	Pn	**Pn**	**01 05 13.8**	**+0.1**
POST				IAmb_Lg		01 06 28.4	
	comp=Z,55nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.30**	**86**	Pn	**Pn**	**01 05 14.5**	**+0.6**
FCAR				IAmb_Lg		01 06 33.2	
	comp=Z,38nm,0.7s						
RTBA	**Rita Blanca**	**4.38**	**282**	Pn	**Pn**	**01 05 15.6**	**+0.3**
MGMO	**Mountain Grove**	**4.40**	**69**	IAmb_Lg		01 06 35.3	
	comp=Z,41nm,0.8s						
BRDY	**Brady**	**4.58**	**197**	Pn	**Pn**	**01 05 17.5**	**-0.4**
BRDY				IAmb_Lg		01 06 37.8	
	comp=Z,45nm,1.0s						
MSTX	**Muleshoe**	**4.73**	**250**	Pn	**Pn**	**01 05 19.4**	**-0.6**
R40A	**Maddies Statio**	**4.87**	**56**	Pn	**Pn**	**01 05 22.1**	**+0.4**
R40A				IAmb_Lg		01 06 43.0	
	comp=Z,49nm,0.9s						
435B	**Jarrell**	**4.88**	**182**	IAmb_Lg		01 06 53.4	
	comp=Z,34nm,0.8s						
P38A	**Dawn**	**5.00**	**37**	Pn	**Pn**	**01 05 24.5**	**+1.0**
P38A				IAmb_Lg		01 06 44.8	
	comp=Z,28nm,0.8s						
LCAR	**Lake Charles**	**5.09**	**84**	Pn	**Pn**	**01 05 24.9**	**+0.1**
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		01 07 02.7	
	comp=Z,39nm,0.8s						
N35A	**Tabor**	**5.36**	**14**	Pn	**Pn**	**01 05 28.6**	**+0.1**
N35A				IAmb_Lg		01 07 10.2	
	comp=Z,51nm,0.7s						
CCM	**Cathedral Cave**	**5.48**	**63**	IAmb_Lg		01 07 09.4	
	comp=Z,43nm,0.9s						
HBAR	**Harrisburg**	**5.50**	**89**	IAmb_Lg		01 07 03.6	
	comp=Z,54nm,0.8s						
JCT	**Junction City**	**5.56**	**202**	Pn	**Pn**	**01 05 31.3**	**0.0**
JCT				IAmb_Lg		01 07 10.2	
	comp=Z,58nm,1.1s						
OZNA	**Ozona**	**5.67**	**214**	IAmb_Lg		01 07 11.3	
	comp=Z,55nm,1.1s						
P40A	**Paris**	**5.73**	**46**	Pn	**Pn**	**01 05 34.4**	**+0.7**
BGNE	**Belgrade**	**5.75**	**354**	IAmb_Lg		01 07 15.4	
	comp=Z,44nm,0.9s						
T25A	**Trinidad**	**5.83**	**287**	IAmb_Lg		01 07 17.8	
	comp=Z,24nm,0.8s						
FVM	**French Village**	**6.05**	**66**	Pn	**Pn**	**01 05 38.0**	**0.0**
FVM				IAmb_Lg		01 07 26.0	
	comp=Z,34nm,0.7s						
MNHN	**Monahans**	**6.22**	**227**		**Pn**	**01 05 39.7**	**-0.7**
MNHN				IAmb_Lg		01 07 25.4	
	comp=Z,25nm,0.7s						
L34A	**Svendsen Farm,**	**6.33**	**7**	IAmb_Lg		01 07 46.0	
	comp=Z,37nm,0.7s						
HNDO	**Hondo**	**6.33**	**195**	Pn	**Pn**	**01 05 41.2**	**-0.7**
HNDO				IAmb_Lg		01 07 30.1	
	comp=Z,34nm,0.7s						
OGNE	**Ogallala**	**6.39**	**327**	IAmb_Lg		01 07 33.9	
	comp=Z,34nm,0.8s						
SLM	**Saint Louis**	**6.44**	**61**	IAmb_Lg		01 07 29.1	
	comp=Z,40nm,0.9s						
CGM3	**Cape Girardeau**	**6.45**	**73**	IAmb_Lg		01 07 34.3	
	comp=Z,22nm,0.7s						
SDCO	**Great Sand Dun**	**6.82**	**290**	Pn	**Pn**	**01 05 49.2**	**+0.3**
PECS	**Pecos**	**6.90**	**233**	IAmb_Lg		01 08 03.8	
	comp=Z,21nm,0.9s						
SAND	**Sanderson**	**6.95**	**216**	Pn	**Pn**	**01 05 49.5**	**-1.0**
SAND				IAmb_Lg		01 07 51.4	
	comp=Z,30nm,1.1s						
Q24A	**Divide**	**6.99**	**300**	IAmb_Lg		01 08 00.8	
	comp=Z,20nm,0.9s						
K30B	**Basset**	**7.19**	**347**	IAmb_Lg		01 08 15.7	
	comp=Z,40nm,0.9s						
BRIGG	**Briggsdale**	**7.32**	**314**	IAmb_Lg		01 08 10.1	
	comp=Z,26nm,0.8s						
ALPN	**Alpine**	**7.44**	**226**	IAmb_Lg		01 08 17.9	
	comp=Z,19nm,1.0s						
L40A	**Anamosa**	**7.99**	**35**	IAmb_Lg		01 08 35.9	
	comp=Z,25nm,0.9s						
VHRN	**Van Horn**	**8.01**	**235**	IAmb_Lg		01 08 26.4	
	comp=Z,23nm,1.1s						
ECSD	**EROS Data Cent**	**8.07**	**4**	P	**Pn**	**01 06 04.0**	**-1.7**
	baz=185,SNR=13						
USIN	**University of**	**8.14**	**71**	IAmb_Lg		01 08 27.2	
	comp=Z,32nm,1.0s						
PHWY	**Pilot Hill**	**8.45**	**314**	IAmb_Lg		01 08 41.1	
	comp=Z,17nm,0.8s						
SUSD	**Miller**	**8.83**	**353**	IAmb_Lg		01 08 54.1	
	comp=Z,16nm,0.7s						
I37A	**Lemond, Waseca**	**8.88**	**19**	IAmb_Lg		01 09 08.1	
	comp=Z,28nm,1.2s						
JFWS	**Jewell Farm**	**9.11**	**35**	IAmb_Lg		01 09 17.4	
	comp=Z,20nm,0.8s						
RSSD	**Black Hills**	**9.85**	**331**	IAmb_Lg		01 09 25.2	
	comp=Z,15nm,1.1s						

*IDC **13** 01:08:02.4 ± 1.5, 6°.74N × 126°.51E, h132km ± 12km, mb3.3/10, mbtmp3.7/10, MS3.2/1, Error ellipse: s-maj=44.6km s-min=15.2km az=68.0*
ISC 13 01:08:04.1±0.9, **6°.7N**±0°.2×**126°.2E**±0°.2, **h150**km, **n12**, σ1§**32**/12, **mb3.5**/10, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.74**	**299**	P	**Pn**	**01 08 25.8**	**-1.1**
	333nm,0.3s,baz=37,slow=1.2,SNR=8.4						
DAV				S	**Sn**	**01 08 43.1**	**-1.2**
	1μm,0.5s,baz=257,slow=18,SNR=24						
JCJ	**Chichijima**	**25.32**	**35**	LR	LR	01 21 21.9	
	comp=Z,52nm,20.5s,baz=146,slow=32						
WRA	**Warramunga Arr**	**27.66**	**163**	P	**P**	**01 13 35.8**	**-2.3**
	1.0nm,0.9s,baz=339,slow=10,SNR=7.3						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**31.10**	**166**	P	**P**	**01 14 09.9**	**+1.4**
	0.2nm,0.5s,baz=345,slow=12,SNR=8.1						
	0.2nm,0.5s						
SONM	**Songino Array**	**44.34**	**341**	P	**P**	**01 15 59.9**	**+0.5**
	0.1nm,0.3s,baz=156,slow=11,SNR=1.2						
	0.1nm,0.3s						
PETK	**Petropavlovsk-**	**52.89**	**23**	P	**P**	**01 17 03.4**	**-1.1**
	2.1nm,0.9s,baz=221,slow=3.6,SNR=1.7						
	2.1nm,0.9s						
MKAR	**Makanchi Array**	**54.85**	**324**	P	**P**	**01 17 20.5**	**+1.6**
	1.0nm,0.6s,baz=120,slow=8.6,SNR=12						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**57.73**	**332**	P	**P**	**01 17 39.9**	**+0.8**
	0.3nm,0.3s,baz=108,slow=9.3,SNR=1.8						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**58.99**	**327**	P	**P**	**01 17 48.6**	**+0.7**
	0.4nm,0.6s,baz=124,slow=6.6,SNR=6.0						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**64.58**	**326**	P	**P**	**01 18 25.9**	**+0.6**
	0.5nm,0.8s,baz=99,slow=8.9,SNR=2.2						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**82.65**	**26**	P	**P**	**01 20 10.4**	**-0.1**
	0.4nm,0.9s,baz=279,slow=5.6,SNR=1.9						
	0.4nm,0.9s						
FINES	**FINESS Array B**	**88.99**	**332**	P	**P**	**01 20 42.4**	**+0.7**
	3.6nm,1.1s,baz=98,slow=3.1,SNR=4.4						
	3.6nm,1.1s						

*ISN **13** 01:21:42.0 ± 1.2, 33°.80N × 45°.55E, h16km ± 7km, ML2.3*
*TEH **13** 01:21:43.2, 33°.76N × 45°.64E, h10km ± 41km, ML2.5*

ISC 13 01:21:42.7±1.3, **33°.79N**±0°.04×**45°.59E**±0°.04, **h9**km ± 12km, **n13**, σ0§**70**/18, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.54**	**108**	Pg	**Pg**	**01 21 53.0**	**-0.2**
ILBA				Sg	**Sg**	**01 22 00.6**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.71**	**360**	Pg	**Pb**	**01 21 57.4**	**+0.1**
IBDR	**Badra**	**0.73**	**157**	*e*Pg	**Pb**	**01 21 57.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**01 22 06.0**	**-0.4**
IBDR				AML	AML	01 22 15.4	
	comp=N,98nm,0.4s						
IBDR				AML	AML	01 22 15.6	
	comp=E,68nm,0.6s						
IGHG	**Ghaleghazi**	**0.97**	**56**	Pg	**Pn**	**01 22 02.3**	**-0.5**
IDHR	**Dehrash**	**1.12**	**36**	Pg	**Pn**	**01 22 04.3**	**-0.5**
BHD	**Baghdad**	**1.14**	**243**	*e*Pn	**Pg**	**01 22 05.0**	**+0.5**
BHD				*e*Sn	**Sn**	**01 22 21.0**	**+0.5**
BHD				AML	AML	01 22 34.1	
	comp=E,150nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.30**	**68**	Pg	**Pg**	**01 22 08.3**	**+0.7**
IKOM	**Komasi**	**1.64**	**76**	Pg	**Pg**	**01 22 13.9**	**-0.2**
IKFM	**Kafar-mosalman**	**1.90**	**97**	Pn	**Pb**	**01 22 17.6**	**+0.1**
IKRK	**Kirkuk**	**1.91**	**328**	*e*Pn	**Pn**	**01 22 15.0**	**-0.4**
IKRK				*e*Sn	**Sn**	**01 22 40.0**	**+0.4**
RAFI	**Al-Rafai**	**2.11**	**168**	*e*Pn	**Pn**	**01 22 19.0**	**+0.9**
RAFI				*e*Sn	**Sb**	**01 22 46.0**	**-1.3**
SDS1	**Sardasht. Az.**	**2.35**	**358**	Pn	**Pb**	**01 22 25.0**	**-0.4**
HSAM	**Samen**	**2.54**	**80**	Pn	**Pn**	**01 22 25.5**	**+1.2**

*IDC **13** 01:31:17.5 ± 5.0, 36°.84N × 70°.98E, h87km ± 33km, mb3.3/3, mbtmp3.5/9, Error ellipse: s-maj=58.6km s-min=19.0km az=149.0*
*NNC **13** 01:31:20.7 ± 2.2, 37°.21N × 71°.42E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=18.2km s-min=16.5km az=121.0*
ISC 13 01:31:17.7±1.7, **36°.8N**±0°.1×**71°.0E**±0°.1, **h100**km, **n18**, σ1§**17**/23, **mb3.5**/3, **4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.70**	**20**	P	**Pn**	**01 32 41.0**	**+0.8**
	SNR=20						
AML	**Almayashu**	**5.70**	**20**	⇓Pn	**Pn**	**01 32 40.8**	**+0.5**
	0.5nm,0.5s						
AML				⇑Sn	**Sn**	**01 33 42.6**	**-1.9**
	1.1nm,0.5s						
EKS2	**Erkin-Say**	**6.21**	**19**	P	**Pn**	**01 32 48.3**	**+1.3**
	SNR=8.3						
KK31	**Karatay Array**	**6.30**	**356**	⇓Pn	**Pn**	**01 32 49.3**	**+1.2**
	2.7nm,0.3s,baz=182,slow=12,SNR=32						
KK31				⇑Sn	**Sn**	**01 33 59.8**	**+1.2**
	0.9nm,0.3s,baz=168,slow=30,SNR=4.7						
AAK	**Ala-Archa**	**6.40**	**23**	P	**Pn**	**01 32 50.6**	**+1.0**
	SNR=9.2						
AAK	**Ala-Archa**	**6.40**	**23**	P	**Pn**	**01 32 50.6**	**+1.0**
	6.3nm,0.3s,baz=188,slow=6.2,SNR=43						
AAK				S	**Sn**	**01 34 00.6**	**-0.6**
	2.7nm,0.5s,baz=318,slow=20,SNR=7.7						
CHMS	**Chumysh**	**6.81**	**24**	P	**Pn**	**01 32 55.9**	**+0.9**
	SNR=6.0						
USP	**Ospenovka**	**6.97**	**21**	P	**Pn**	**01 32 58.5**	**+1.2**
	SNR=5.6						
TKM2	**Tokmak 2**	**7.04**	**28**	P	**Pn**	**01 32 58.9**	**+0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.04**	**28**	⇑Pn	**Pn**	**01 32 58.4**	**+0.1**
	1.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**01 34 14.8**	**-2.1**
	3.0nm,1.1s						
GEYT	**Alibeck**	**10.35**	**280**	P	**Pn**	**01 33 42.6**	**-0.6**
	0.5nm,0.4s,baz=129,slow=12,SNR=1.9						
GEYT				S	**Sn**	**01 35 34.8**	**-2.4**
	1.5nm,0.4s,baz=116,slow=17,SNR=3.8						
MKAR	**Makanchi Array**	**13.02**	**36**	P	**Pn**	**01 34 17.9**	**-0.9**
	0.2nm,0.7s,baz=218,slow=15,SNR=2.7						
KURBB	**Kurchatov Arra**	**14.82**	**19**	P	**Pn**	**01 34 41.8**	**-0.2**
	0.4nm,0.7s,baz=206,slow=11,SNR=4.4						
BVAR	**Borovoye Array**	**16.22**	**359**	P	**P**	**01 35 00.2**	**-0.6**
	0.4nm,0.4s,baz=159,slow=12,SNR=6.1						
ZALV	**Zalesovo Beam**	**19.62**	**25**	P	**P**	**01 35 37.9**	**-0.1**
	1.2nm,0.4s,baz=216,slow=11,SNR=7.5						
ARCES	**ARCESS Array B**	**40.87**	**337**	P	**P**	**01 38 50.2**	**+0.8**
	2.2nm,0.8s,baz=133,slow=10.0,SNR=1.1						
	2.2nm,0.8s						
NOA	**NORSAR Array B**	**44.16**

KIWB	Kanaga Island	2.99	86			Pn	01 36 05.8	-0.1
KIRH	Kanaga Island	3.02	85			Pn	01 36 06.5	+0.1
ADK	Adak	3.28	85	Pn		Pn	01 36 09.5	-0.3
ADK	comp=E,5µm,0.8s			IAML			01 36 49.6	
ADK	comp=E,3µm,0.9s			IAML			01 37 11.5	
ADK	Adak	3.28	85	P		Pn	01 36 09.7	-0.1
ADK	Adak	3.28	85	P		Pn	01 36 09.5	-0.3
GSCK	Great Sitkin C	3.60	83			Pn	01 36 13.9	-0.4
GSMY	Great Sitkin M	3.67	83			Pn	01 36 14.8	-0.3
GSTR	Great Sitkin T	3.67	82			Pn	01 36 14.9	-0.3
ATKA	Atka Island	4.82	81	Pn		Pn	01 36 30.9	+0.1
ATKA	comp=N,1µm,1.5s			IAML			01 37 42.6	
ATKA	Atka Island	4.82	81	P		Pn	01 36 31.6	+0.8
KOKL	Mount Kliuchef	4.83	80			Pn	01 36 31.2	+0.2
KOFP	Korovin Flat P	4.89	80			Pn	01 36 32.6	+0.8
CLES	Cleveland East	7.48	77			Pn	01 37 07.8	+0.6
CLCO	Concord Point,	7.59	77			Pn	01 37 10.4	+1.9
NIKH	Nikolski High	8.12	76			Pn	01 37 17.7	+1.8
NIKH	Nikolski High	8.12	76	P		Pn	01 37 18.0	+2.1
NIKH	Nikolski High baz=267,SNR=12	8.12	76	P		Pn	01 37 17.6	+1.8
OKER	Okmok East Rim	8.64	73			Pn	01 37 24.3	+1.2
OKFG	Magazine Ridge	8.72	73			Pn	01 37 26.5	+2.4
SPIA	Saint Paul Isl	8.74	47			Pn	01 37 25.9	+1.7
SPIA	Saint Paul Isl baz=237,SNR=5.5	8.74	47	P		Pn	01 37 26.0	+1.7
P08K	Saint George I	8.77	51			Pn	01 37 25.6	+1.0
P08K	Saint George I baz=242	8.77	51	P		Pn	01 37 25.6	+1.0
MAPS	Pakushin South	9.34	71			Pn	01 37 34.1	+1.6
MGOD	Makushin Gods	9.38	71			Pn	01 37 34.7	+1.6
UNV	Unalaska Valle	9.60	71			Pn	01 37 37.5	+1.5
UNV	Unalaska Valle	9.60	71	P		Pn	01 37 37.9	+1.8
UNV	Unalaska Valle baz=264,SNR=16	9.60	71	P		Pn	01 37 37.6	+1.5
AKRB	Akutan Reef Bi	9.89	70			Pn	01 37 42.4	+2.4
LVA	Lava Point	9.92	69			Pn	01 37 42.6	+2.2
ZRO	Akutan Zero	9.94	70			Pn	01 37 43.2	+2.5
AKGG	Akutan Green G	9.95	69			Pn	01 37 43.2	+2.4
AKV	Akutan Volcano	9.96	70			Pn	01 37 43.3	+2.3
AKLV	Akutan Long Va	9.96	70			Pn	01 37 43.3	+2.3
AHB	Akutan Harbor	10.04	70			Pn	01 37 44.3	+2.2
AKUT	Akutan	10.07	70	Pn		Pn	01 37 44.6	+2.3
AKUT	Akutan	10.07	70	P		Pn	01 37 44.7	+2.3
AKSA	Akutan Strait	10.11	70			Pn	01 37 45.6	+2.6
FALS	False Pass	11.53	67	P		Pn	01 38 04.9	+2.7
FALS	False Pass baz=262,SNR=14	11.53	67	P		Pn	01 38 04.1	+1.8
PET	Petropavlovsk	11.92	284			Pn	01 38 08.7	+1.0
PET	Petropavlovsk comp=N,197nm,1.4s	11.92	284	P		Pn	01 38 13.5	+5.8
PET	Petropavlovsk	11.92	284	*e*P		Pn	01 38 11.3	+3.6
PET				*e*S		Sn	01 40 11.4	-7.3
PET	comp=Z,66nm,1.2s			pmax		pmax		
PET	comp=Z,400nm,7.0s			MLR		MLR		
M11K	Mekoryuk baz=233,SNR=15	12.34	39	P		Pn	01 38 14.4	+1.2
PEA0B	Petropavlovsk-	12.50	284	Pn		Pn	01 38 16.4	+0.9
PEA0B	Petropavlovsk-	12.50	284	*d* P		Pn	01 38 16.2	+0.7
PETK	Petropavlovsk-	12.50	284	Pn		Pn	01 38 15.9	+0.4
PETK	Petropavlovsk- comp=Z,26nm,0.8s,baz=90,slow=15,SNR=17	12.50	284	P		Pn	01 38 16.8	+1.2
PETK				S		Sn	01 40 24.6	-8.1
PETK	comp=Z,2.8nm,0.5s,baz=99,slow=18,SNR=1.3			LR		LR	01 42 55.6	
SDPT	comp=Z,380nm,21.8s,baz=92,slow=36 Sand Point	13.27	66			Pn	01 38 24.3	-1.5
SDPT	Sand Point	13.27	66	P		Pn	01 38 26.6	+0.8
SDPT	Sand Point baz=263,SNR=5.7	13.27	66	P		Pn	01 38 24.7	-1.1
M13K	Dall Lake baz=238,SNR=6.8	13.51	43	P		Pn	01 38 30.1	+1.0
CHNA	Chernabura Isl baz=266	13.73	68	P		Pn	01 38 29.9	-1.9
CNBA	Chernabura Isl	13.73	68	Pn		Pn	01 38 29.2	-2.7
SKR	Severo-Kuril's	13.78	274	*e*P		Pn	01 38 34.0	+1.4
O14K	Tigyukauivet M baz=246	13.90	49	P		Pn	01 38 33.1	-1.0
S14K	Fog Glacier baz=261,SNR=14	13.92	62	P		Pn	01 38 35.0	+0.5
N14K	Kuskokwak Cree baz=243,SNR=16	14.00	46	P		Pn	01 38 35.7	+0.4
M14K	Bethel	14.28	43	Pn		Pn	01 38 40.8	+1.8
M14K	Bethel baz=240,SNR=13	14.28	43	P		Pn	01 38 39.8	+0.8
L14K	Kuka Creek baz=236	14.29	40	P		Pn	01 38 39.6	+0.5
CHGN	Chignik	14.55	62			Pn	01 38 42.1	-0.5
CHGN	Chignik baz=262	14.55	62	P		Pn	01 38 42.0	-0.6
O15K	Ungalikthiuk R baz=249	14.56	51	P		Pn	01 38 42.8	+0.1
M15K	Kasigluk River baz=242	14.79	44	P		Pn	01 38 46.0	+0.3
J14K	Nanvaranak Lak baz=230,SNR=6.3	14.81	35	P		Pn	01 38 45.2	-0.7
N15K	Kwethluk River baz=245,SNR=27	14.82	47	P		Pn	01 38 45.6	-0.5
L15K	Ungalak Mounta baz=238,SNR=11	14.96	40	P		Pn	01 38 46.8	-1.0
R16K	Pilot Point baz=258	15.23	58	P		Pn	01 38 49.5	-1.8
K15K	Wolf Creek Mou comp=Z,116nm,0.7s	15.28	38	IAmb		IAmb	01 38 59.1	
K15K	Wolf Creek Mou baz=236	15.28	38	P		Pn	01 38 52.8	+0.8
P16K	Nushagak River baz=252,SNR=7.6	15.40	52	P		Pn	01 38 53.4	0.0
ANM	Nome	15.50	27	P		P	01 38 56.5	-1.1
ANM	Nome	15.50	27	P		P	01 38 56.5	-1.1
ANM	comp=Z,9.0nm,0.7s			pmax		pmax		
ANM	Nome baz=222	15.50	27	P		Pn	01 38 54.4	-0.3
O16K	Kokwok River B baz=250	15.53	50	P		P	01 38 56.6	-1.4
N16K	Nishlik Lake baz=246,SNR=10	15.55	47	P		Pn	01 38 56.1	+0.7
TNA	Tin City baz=214	15.62	22	P		Pn	01 38 55.6	-0.6
M16K	Timber Creek comp=Z,173nm,1.6s	15.70	45	IAmb		IAmb	01 39 07.4	
M16K	Timber Creek baz=244	15.70	45	P		Pn	01 38 57.7	+0.5
L16K	Owhat River baz=241,SNR=13	15.80	42	P		Pn	01 38 59.1	+0.6
R17K	Ugashik Creek baz=259	15.87	58	P		Pn	01 38 59.5	+0.1
Q16K	King Salmon baz=255,SNR=6.3	15.97	54	P		Pn	01 39 00.9	+0.3
CHIR	Chirikof Islan	16.06	65	Pn		Pn	01 39 00.5	-1.3
CHIR	Chirikof Islan baz=266	16.06	65	P		Pn	01 39 01.0	-0.8
O17K	Koliganek Bris baz=251,SNR=15	16.07	50	P		Pn	01 39 02.0	+0.1
G15K	Niukluk baz=224	16.20	28	P		Pn	01 39 02.6	-0.9
J16K	Anvik River baz=234	16.20	36	P		Pn	01 39 02.8	-0.8
P17K	Kvichak River baz=254,SNR=17	16.21	53	P		Pn	01 39 04.1	+0.4
Q17K	Contact Creek baz=258,SNR=13	16.26	56	P		Pn	01 39 04.8	+0.4
N17K	Nushagak Hills baz=249	16.29	48	P		Pn	01 39 05.2	+0.5
L17K	Donlin baz=242	16.49	42	P		Pn	01 39 07.2	0.0
H16K	Elim baz=228,SNR=15	16.50	31	P		Pn	01 39 07.7	+0.5
M17K	Holitna River baz=245,SNR=20	16.53	45	P		P	01 39 08.2	-0.8
I17K	Unalakleet baz=233	16.53	34	P		Pn	01 39 07.9	+0.3
F15K	North Star Dit baz=221	16.56	26	P		Pn	01 39 07.4	-0.7
K17K	Iditarod	16.77	40			Pn	01 39 11.1	+0.4
K17K	Iditarod baz=240,SNR=22	16.77	40	P		Pn	01 39 09.3	-1.4
Q18K	Katmai Hardscr baz=258,SNR=8.8	16.80	55	P		Pn	01 39 09.8	-1.2
P18K	Big Mountain,	16.86	52			P	01 39 13.9	+1.1
P18K	comp=Z,95nm,1.1s			IAmb		IAmb	01 39 17.8	
P18K	Big Mountain, baz=255	16.86	52	P		Pn	01 39 10.9	-0.9
R18K	Karluk baz=262	16.89	59	P		Pn	01 39 11.3	-0.7
SII	Sitkinak Islan baz=265	16.91	62	P		Pn	01 39 12.3	-0.2
N18K	Kilae Creek baz=250	16.95	48	P		Pn	01 39 12.7	-0.1
O18K	Koktuh Hills	17.00	51			Pn	01 39 13.2	-0.4
O18K	comp=Z,80nm,0.7s			IAmb		IAmb	01 39 19.4	
O18K	Koktuh Hills baz=254,SNR=14	17.00	51	P		P	01 39 13.9	-0.4
MA2	Magadan	17.18	308	Pn		Pn	01 39 12.9	-2.9
MA2	Magadan	17.18	308	P		P	01 39 21.3	+5.0
MA2	Magadan	17.18	308	*e*P		P	01 39 17.3	+1.0
MA2	comp=Z,27nm,1.5s			pmax		pmax		
MA2	Magadan comp=Z,7.9nm,0.8s,baz=111,slow=2.7,SNR=4.1	17.18	308	P		P	01 39 16.8	+0.5
MA2	comp=Z,194nm,20.3s,baz=104,slow=36			LR		LR	01 45 34.7	
L18K	Granite Mounta baz=244	17.20	43	P		Pn	01 39 15.3	-0.6
SVW2	Sparrevohn	17.23	47			P	01 39 17.9	+1.0
SVW2	Sparrevohn	17.23	47	P		P	01 39 19.2	+2.4
M18K	Stony River baz=248	17.27	45	P		Pn	01 39 16.8	0.0
BILL	Bilibino	17.35	345	*i* P		P	01 39 19.8	+1.8
BILL	comp=Z,77nm,1.1s			pmax		pmax		
H17K	Granite Mounta baz=231,SNR=12	17.45	32	P		P	01 39 19.4	+0.2
OHAK	Old Harbor	17.47	60	Pn		Pn	01 39 17.4	-1.8
OHAK	comp=Z,367nm,1.9s			IAmb		IAmb	01 39 34.4	
OHAK	Old Harbor	17.47	60	P		Pn	01 39 19.0	-0.2
OHAK	Old Harbor baz=264	17.47	60	P		Pn	01 39 17.8	-1.4
O19K	Port Alsworth baz=254,SNR=17	17.53	50	P		P	01 39 21.2	+1.2
Q19K	Cape Douglas, baz=258	17.55	55	P		P	01 39 20.4	+0.1
G17K	Kiwalik Mounta baz=229,SNR=25	17.58	30	P		Pn	01 39 20.4	-0.1
N19K	Bonanza Creek baz=252,SNR=22	17.64	48	P		P	01 39 22.1	+0.7
SEY	Seymchan	17.69	319	*e*P		Pn	01 39 22.0	+0.2
SEY	comp=Z,17nm,1.7s			pmax		pmax		
SEY	Seymchan comp=Z,4.0nm,0.6s,baz=98,slow=11,SNR=12	17.69	319	P		Pn	01 39 21.9	0.0
SEY	comp=Z,212nm,20.0s,baz=60,slow=34			LR		LR	01 45 22.6	
SEY				ScP		ScP	01 47 24.0	-0.2
J18K	comp=Z,7.0nm,0.8s,baz=146,slow=2.4,SNR=11 Innoko River	17.77	39	P		Pn	01 39 23.1	+0.1
TTA	baz=240,SNR=16 Tatalina	17.80	41			Pn	01 39 24.6	+1.3
TTA	Tatalina	17.80	41	P		Pn	01 39 25.1	+1.8
TTA	Tatalina	17.80	41	P		Pn	01 39 24.6	+1.3
TTA	comp=Z,26nm,0.7s			pmax		pmax		
TTA	Tatalina baz=243,SNR=16	17.80	41	P		Pn	01 39 23.3	0.0
KDAK	Kodiak Island	17.91	59	P		P	01 39 21.6	-2.6
KDAK	comp=Z,103nm,1.1s			IAmb		IAmb	01 39 26.5	
KDAK	Kodiak Island	17.91	59	*d* P		P	01 39 22.0	-2.3
KDAK	Kodiak Island baz=263	17.91	59	P		P	01 39 22.7	-1.5
KDAK	Kodiak Island comp=Z,42nm,0.3s,baz=297,slow=5.0,SNR=63	17.91	59	P		P	01 39 21.8	-2.5
KDAK	comp=Z,279nm,19.2s,baz=257,slow=40			LR		LR	01 47 05.7	
P19K	Oil Pt	17.92	52	P		Pn	01 39 25.5	+0.8
P19K	comp=Z,130nm,0.7s			IAmb		IAmb	01 39 29.9	
P19K	Oil Pt baz=257	17.92	52	P		P	01 39 22.9	-1.4
L19K	White Mountain baz=247	17.97	44	P		Pn	01 39 25.4	+0.1
ILSW	Iliamna Southw	18.04	51	P		Pn	01 39 26.7	+0.4
M19K	Big River Lodg baz=248	18.06	45	P		P	01 39 25.2	-0.8
H18K	Honhosa River baz=233	18.10	33	P		P	01 39 26.3	-0.1
Q20K	Shuyak Island baz=261	18.13	56	P		P	01 39 25.5	-1.1
O20K	Slope Mountain baz=256	18.32	51	P		P	01 39 28.7	-0.1
E17K	Hotham Inlet baz=223,SNR=35	18.35	25	P		Pn	01 39 29.7	-0.2
GCSA	Galena City Sc baz=237,SNR=7.7	18.39	35	P		Pn	01 39 30.3	0.0
C16K	Lisburne Hills baz=214	18.45	20	P		Pn	01 39 31.2	+0.2
J19K	Poorman baz=241,SNR=13	18.46	38	P		Pn	01 39 31.8	+0.6
G18K	Tagagawik baz=231	18.46	31	P		Pn	01 39 31.3	0.0
D17K	Noatak River baz=220	18.50	23	P		Pn	01 39 32.2	+0.6
L20K	Farewell, AK baz=248,SNR=14	18.50	44	P		Pn	01 39 31.7	-0.1
M20K	Styx River baz=250	18.61	46	P		Pn	01 39 33.6	+0.5
HOM	Homer baz=258	18.70	53	P		Pn	01 39 33.8	-0.3
K20K	Telida baz=245	18.78	41	P		Pn	01 39 35.0	-0.1
N20K	Mount Spurr baz=253,SNR=35	18.81	48	P		Pn	01 39 36.0	+0.5
RDOG	Red Dog Mine	18.82	22	P		Pn	01 39 35.5	0.0
RDOG	comp=Z,86nm,0.7s			IAmb		IAmb	01 39 42.1	
RDOG	Red Dog Mine baz=219,SNR=31	18.82	22	P		Pn	01 39 35.9	+0.5
E18K	Tukpahlearik C baz=224	18.93	26	P		Pn	01 39 37.2	+0.5
H19K	Roundabout Mou baz=236	18.98	33	P		Pn	01 39 37.1	-0.2
C17K	DeLong Mountai baz=216	19.09	21	P		Pn	01 39 38.8	+0.2
J20K	Nowinta River baz=243	19.12	39	P		Pn	01 39 38.5	-0.5
G19K	Purcell Mounta baz=233	19.12	31	P		Pn	01 39 38.6	-0.5
BRSE	Bradley Lake S baz=259,SNR=7.4	19.17	53	P		P	01 39 38.1	0.0
CAPN	Captain Cook N baz=256	19.19	50	P		P	01 39 37.1	-1.2
I20K	Naaghedeneel baz=240	19.29	37	P		P	01 39 39.6	+0.4
F19K	Shaleruckik Mo baz=230	19.34	29	P		P	01 39 40.2	+0.4
SKT	Skwentna	19.36	46	Pn		Pn	01 39 41.6	-0.3
SKT	comp=Z,62nm,0.6s			IAmb		IAmb	01 39 46.7	
SKT	Skwentna baz=252,SNR=27	19.36	46	P		Pn	01 39 42.1	+0.1
PPLA	Purkeypile baz=249,SNR=12	19.38	43	P		Pn	01 39 42.1	-0.2
H20K	Anotleneega Mo baz=238	19.50	35	P		Pn	01 39 43.0	-0.5
SUA	Susitna One comp=Z,52nm,0.8s	19.57	48	IAmb		IAmb	01 40 02.8	
SUA	Susitna One baz=254,SNR=17	19.57	48	P		Pn	01 39 43.5	-0.9
CAST	Castle Rocks baz=248,SNR=22	19.62	42	P		Pn	01 39 44.5	-0.6
C18K	Utukok River baz=221	19.68	23	P		Pn	01 39 44.9	-0.8
CHUM	Lake Minchumin baz=246,SNR=32	19.71	40	P		Pn	01 39 46.5	+0.4
O22K	Cooper Landing baz=258	19.82	51	P		P	01 39 45.4	+0.3
SEW	Seward baz=260,SNR=11	19.87	52	P		Pn	01 39 46.9	-1.0
E19K	Redstone River baz=230	19.90	28	P		P	01 39 46.9	+0.9
RC01	Rabbit Creek A comp=Z,126nm,1.2s	19.94	49	IAmb		IAmb	01 39 50.8	
RC01	Rabbit Creek A	19.94	49	P		P	01 39 47.2	+0.8
CUT	Chulitna baz=253	20.05	46	P		P	01 39 48.4	+0.8
B18K	Kokolik River baz=219	20.09	21	P		Pn	01 39 49.7	-0.8
F20K	Avaraart Lake baz=233,SNR=30	20.11	30	P		P	01 39 49.1	+0.9
KTH	Kantishna Hill comp=Z,76nm,0.9s	20.16	42	IAmb		IAmb	01 39 54.6	
IMAR	Indian Mountai	20.16	34	P		P	01 39 49.6	+0.9
H21K	Melozitna Rive baz=241,SNR=54	20.33	36	P		P	01 39 51.7	+1.1
BPAW	Bear Paw Mtn. comp=Z,59nm,0.8s	20.34	41	IAmb		IAmb	01 39 56.0	
BPAW	Bear Paw Mtn. baz=247,SNR=7.7	20.34	41	P		Pn	01 39 52.5	-0.9
PMR	Palmer	20.35	48	P		P	01 39 51.2	+0.4
PMR	Palmer	20.35	48	P		Pn	01 39 52.1	-1.3
PMR	Palmer	20.35	48	P		P	01 39 51.2	+0.4
PMR	comp=Z,27nm,0.9s			pmax		pmax		
PMR	Palmer baz=256	20.35	48	P		P	01 39 50.0	-0.8
D19K	Kuna River baz=226	20.35	25	P		Pn	01 39 52.3	-1.2
TRF	Thorofare Moun	20.39	43	P		P	01 39 51.9	+0.5
TRF	comp=Z,72nm,0.6s			IAmb		IAmb	01 39 55.6	
TRF	Thorofare Moun baz=250,SNR=27	20.39	43	P		P	01 39 51.9	+0.5
C19K	Lookout Ridge baz=223	20.41	23	P		P	01 39 52.5	+1.0
GHO	Glory Hole Cre	20.49	48	P		P	01 39 52.6	+0.2
GHO	comp=Z,72nm,0.4s			IAmb		IAmb	01 39 55.4	
G21K	Allakaket baz=238	20.52	33	P		P	01 39 53.9	+1.2
KNK	Knik Glacier comp=Z,82nm,0.7s	20.62	49	IAmb		IAmb	01 39 57.6	
KNK	Knik Glacier baz=257,SNR=11	20.62	49	P		P	01 39 53.0	-0.7
E20K	Nigu River baz=230	20.72	27	P		Pn	01 39 56.4	-1.5
SML	Sawmill	20.77	48	P		P	01 39 55.3	-0.1
SML	comp=Z,73nm,0.7s			IAmb		IAmb	01 39 59.3	
SML	Sawmill	20.77	48	P		P	01 39 55.3	-0.1
SML	Sawmill baz=256,SNR=12	20.77	48	P		P	01 39 54.3	-1.1
MLY	Manley	20.82	38	P		P	01 39 57.0	+1.1
MLY	Manley baz=245,SNR=9.6	20.82	38	P		P	01 39 56.8	+1.0
P23K	Montague Islan baz=262,SNR=5.2	20.87	53	P		P	01 39 56.3	-0.1
D20K	Etivluk River baz=228	20.90	26	P		P	01 39 58.0	+1.2
A19K	Wainwright baz=218	20.91	20	P		P	01 39 58.1	+1.3
F21K	Alatna River baz=236,SNR=45	20.92	31	P		P	01 39 58.2	+1.2
WAT1	Susitna Watana baz=254	20.94	45	P		P	01 39 57.5	+0.3
H22K	Ishtalitna Cre baz=242	20.96	36	P		Pn	01 39 59.0	-1.7
M23K	Glacier View baz=257,SNR=19	21.04	48	P		P	01 39 58.3	-0.1
MCK	McKinley baz=251,SNR=14	21.05	42	P		P	01 39 58.5	+0.1
GLI	Glacier Island comp=Z,107nm,0.8s	21.16	51	IAmb		IAmb	01 40 00.2	
GLI	Glacier Island baz=260,SNR=8.8	21.16	51	P		P	01 39 58.8	-0.7
WAT6	Susitna Watana baz=255,SNR=32	21.23	46	P		P	01 40 00.6	+0.1
SCM	Sheep Creek Mo comp=Z,74nm,0.6s	21.24	48	IAmb		IAmb	01 40 04.2	
SCM	Sheep Creek Mo baz=258,SNR=21	21.24	48	P		P	01 40 00.5	+0.1
NEA2	Nenana comp=Z,59nm,0.7s	21.30	40	IAmb		IAmb	01 40 05.3	
NEA2	Nenana baz=249,SNR=13	21.30	40	P		P	01 40 01.8	+0.8
I23K	Minto, Yukon-K	21.40	39	P		P	01 40 02.9	+0.9
I23K	comp=Z,35nm,0.4s			IAmb		IAmb	01 40 06.9	
I23K	Minto, Yukon-K baz=247,SNR=24	21.40	39	P		P	01 40 02.9	+0.9
E21K	Killik River comp=Z,50nm,0.9s	21.48	28	IAmb		IAmb	01 40 06.3	
E21K	Killik River baz=233	21.48	28	P		P	01 40 03.6	+0.7
F22K	John River baz=238	21.50	31	P		P	01 40 03.3	+0.2
DHY	Denali Highway baz=254,SNR=40	21.52	45	P		P	01 40 03.6	0.0
B20K	Meade River comp=Z,43nm,0.8s	21.66	23	IAmb		IAmb	01 40 08.5	
B20K	Meade River baz=225	21.66	23	P		P	01 40 05.2	+0.4
C21K	Knifeblade Rid baz=230	21.70	26	P		P	01 40 05.5	+0.3
EYAK	Cordova Ski Ar	21.76	52	P		P	01 40 06.2	+0.2
EYAK	Cordova Ski Ar baz=263,SNR=8.0	21.76	52	P		P	01 40 06.1	+0.2
MDM	Murphy Dome	21.77	40	P		P	01 40 06.4	+0.4
CCB	Clear Creek Bu	21.83	41	P		P	01 40 05.8	-0.8
G23K	Bananza Creek baz=242	21.83	34	P		P	01 40 07.1	+0.5
KLU	Klutina	21.83	49	P		P	01 40 06.6	-0.1
KLU	comp=Z,55nm,0.6s			IAmb		IAmb	01 40 13.2	
KLU	Klutina baz=260,SNR=13	21.83	49	P		P	01 40 06.5	-0.2
M24K	Tolsona, Glenn baz=258,SNR=14	21.83	48	P		P	01 40 07.6	+0.8
COLA	College	21.89	40	P		P	01 40 07.5	+0.3
COLA	comp=Z,32nm,0.3s			IAmb		IAmb	01 40 10.6	
COLA	College	21.89	40	P		P	01 40 08.1	+0.9
COLA	College	21.89	40	*i* P		P	01 40 09.4	+2.2
COLA	comp=Z,9.0nm,0.8s			pmax		pmax		
COLA	College baz=250	21.89	40	P		P	01 40 07.7	+0.5
E22K	Anaktuvuk Pass comp=Z,49nm,0.6s	21.96	30	IAmb		IAmb	01 40 11.7	
E22K	Anaktuvuk Pass baz=237	21.96	30	P		P	01 40 08.3	+0.2
COLD	Coldfoot baz=241,SNR=8.8	22.01	33	P		P	01 40 09.8	+1.2
TYV	Tymovskoe	22.02	282	*e*P		P	01 40 10.3	+1.5
TYV				*e*S		S	01 44 09.3	+2.1
TYV	comp=Z,300nm,2.4s			pmax		pmax		
TYV	comp=Z,49nm,0.7s			pmax		pmax		
TYV	comp=N,400nm,4.9s			smax		smax		
B21K	Ikpikpuk River comp=Z,125nm,1.6s	22.04	25	IAmb		IAmb	01 40 12.6	
B21K	Ikpikpuk River baz=230	22.04	25	P		P	01 40 09.6	+0.8
HDA	Harding Lake	22.10	41	P		P	01 40 09.2	-0.4
HDA	comp=Z,33nm,0.6s			IAmb		IAmb	01 40 13.7	
HDA	Harding Lake baz=252,SNR=19	22.10	41	P		P	01 40 09.3	-0.2
D22K	Ayikyak River comp=Z,136nm,1.5s	22.12	28	IAmb		IAmb	01 40 13.0	
D22K	Ayikyak River baz=234	22.12	28	P		P	01 40 10.2	+0.4
POKR	Poker Flat Res baz=250,SNR=20	22.14	40	P		P	01 40 10.6	+0.6
H24K	Noodor Dome baz=247	22.24	38	P		P	01 40 10.9	-0.2
ILAR	Eielson Array comp=Z,8.5nm,0.6s,baz=242,slow=9.3,SNR=88	22.24	41	P		P	01 40 09.4	-1.7
ILAR	comp=Z,1.1nm,0.6s,baz=292,slow=3.5,SNR=4.5			PcP		PcP	01 44 03.6	-0.6
ILAR	comp=Z,2.5nm,0.7s,baz=287,slow=3.7,SNR=21			ScP		ScP	01 47 33.5	-1.2
ILAR	comp=Z,117nm,19.4s,baz=259,slow=40 comp=Z,8.5nm,0.6s			LR		LR	01 50 01.7	
PAX	Paxson baz=257,SNR=36	22.34	46	P		P	01 40 11.9	-0.4
HARP	HAARP	22.36	47	P		P	01 40 12.8	+0.4

baz=259,SNR=9.4
KAIM Kayak Island 22.36 54 P P 01 40 12.0 -0.4
baz=265
BMRM Bremner River 22.38 51 P P 01 40 11.7 -0.9
baz=263,SNR=12
K24K Donnelly Dome 22.41 43 P P 01 40 12.8 -0.2
baz=255,SNR=23
N25K Chitina, Valde 22.47 49 P P 01 40 13.4 -0.3
baz=261,SNR=14
E23K Chandalar 22.62 32 P P 01 40 15.7 +0.5
baz=240
A21K Barrow 22.73 21 P P 01 40 15.6 -0.6
baz=224,SNR=27
G24K Hadweenzic Riv 22.73 36 P P 01 40 16.9 +0.6
baz=246,SNR=15
BERG Berg Lake 22.75 53 P P 01 40 16.5 -0.1
D23K Nanushuk River 22.77 29 P P 01 40 17.0 +0.4
baz=237
RIDG Independent Ri 22.80 44 P P 01 40 15.7 -1.4
baz=256
J25K Salcha River, 22.81 42 P P 01 40 15.8 -1.4
baz=253
GLB Gilahina Butte 22.82 50 P P 01 40 17.0 -0.4
GLB IAmb IAmb 01 40 19.1
comp=Z,62nm,0.7s
B22K Teshekpuk Lake 22.82 25 P P 01 40 16.6 -0.6
baz=230
A22K Sinclair Lake 22.88 22 P P 01 40 17.4 -0.3
baz=227
F24K Squaw Lake 22.94 34 P P 01 40 18.5 +0.1
baz=244
VRDI Verde Repeater 22.96 51 P P 01 40 18.1 -0.8
VRDI IAmb IAmb 01 40 21.0
comp=Z,89nm,1.1s
E24K Your Creek 23.00 32 P P 01 40 19.0 0.0
baz=242
PRP Porcupine Dome 23.03 39 P P 01 40 18.6 -0.8
PRP IAmb IAmb 01 40 21.6
comp=Z,31nm,0.4s
PRP Porcupine Dome 23.03 39 P P 01 40 18.7 -0.8
baz=251,SNR=34
CRQE Cirque 23.09 52 P P 01 40 19.9 -0.2
baz=265,SNR=18
MENT Mentasta 23.11 46 IAmb IAmb 01 40 23.2
comp=Z,52nm,0.5s
MENT Mentasta 23.11 46 P P 01 40 20.6 +0.4
MCARA McCarthy VSAT 23.19 50 P P 01 40 20.5 -0.4
baz=263,SNR=21
TGL Tana Glacier 23.22 52 IAmb IAmb 01 40 23.3
comp=Z,118nm,1.0s
SCRK Sand Creek 23.22 43 P P 01 40 20.4 -1.0
SCRK IAmb IAmb 01 40 21.7
comp=Z,38nm,0.5s
SCRK Sand Creek 23.22 43 P P 01 40 20.3 -1.0
baz=256,SNR=35
G25K Bearman Lake 23.26 36 P P 01 40 21.1 -0.3
baz=248
C23K Itkillik River 23.28 27 IAmb IAmb 01 40 26.1
comp=Z,46nm,1.1s
C23K Itkillik River 23.28 27 P P 01 40 21.5 -0.1
baz=235
L26K Log Cabin Wild 23.30 46 P P 01 40 21.0 -0.9
baz=259,SNR=32
YSS Yuzh-Sakhalins 23.33 272 P P 01 40 22.3 0.0
YSS IAmb IAmb 01 40 24.8
comp=Z,80nm,1.0s
YSS Yuzh-Sakhalins 23.33 272 P P 01 40 24.6 +2.3
YSS Yuzh-Sakhalins 23.33 272 *ke*P **P 01 40 23.3 +1.0**
YSS *e*S **S 01 44 30.0 +1.1**
YSS pmax pmax
comp=Z,400nm,3.5s
YSS pmax pmax
comp=E,300nm,2.1s
YSS pmax pmax
comp=Z,80nm,1.0s
YSS smax smax
comp=N,300nm,3.9s
YSS MLR MLR
comp=Z,300nm,12.0s
YSS MLR MLR
comp=E,200nm,15.0s
M26K Nabesna, AK 23.34 48 P P 01 40 21.1 -1.3
baz=261
D24K Happy Valley 23.43 29 P P 01 40 22.7 -0.4
baz=239
J26L Joseph Creek 23.53 42 P P 01 40 23.3 -0.8
baz=256,SNR=61
GRNC Granite Creek 23.74 52 P P 01 40 26.1 -0.1
F25K Christian Rive 23.75 34 P P 01 40 26.6 +0.6
baz=246,SNR=47
C24K Franklin Bluff 23.77 28 P P 01 40 26.1 +0.1
baz=238
M27K Edge Creek, AK 23.85 48 IAmb IAmb 01 40 29.8
comp=Z,54nm,0.8s
M27K Edge Creek, AK 23.85 48 P P 01 40 27.4 +0.3
baz=262,SNR=23
I26K Coal Creek Min 23.91 40 P P 01 40 27.1 -0.3
baz=254
CTG Chitna Glacier 23.96 51 P P 01 40 27.8 -0.2
baz=266,SNR=29
L27K Beaver Creek, 23.98 46 P P 01 40 29.3 +1.2
baz=261,SNR=81
E25K Arctic Village 24.00 33 IAmb IAmb 01 40 30.2
comp=Z,34nm,0.5s
E25K Arctic Village 24.00 33 P P 01 40 29.2 +1.0
baz=245,SNR=50
BCAR Beaver Creek A 24.00 46 P P 01 40 28.4 +0.2
K27K Chicken 24.05 44 IAmb IAmb 01 40 31.8
comp=Z,52nm,0.6s
K27K Chicken 24.05 44 P P 01 40 28.5 -0.2
baz=258
BMAR Burnt Mountain 24.06 35 P P 01 40 29.4 +0.7
G26K Porcupine Rive 24.18 36 P P 01 40 30.8 +1.1
baz=250
D25K Kavik River 24.27 30 P P 01 40 31.6 +1.0
baz=242
F26K Sheenjek River 24.32 35 P P 01 40 31.8 +0.7
baz=248,SNR=40
BVCY Beaver Creek 24.33 48 P P 01 40 31.2 0.0
baz=263,SNR=26
YUK3 Moose Creek 24.45 50 P P 01 40 32.3 -0.2
baz=265,SNR=78
PINM Pinnacle 24.45 54 P P 01 40 32.0 -0.4
baz=269,SNR=6.7
EGAK Eagle 24.60 42 IAmb IAmb 01 40 35.4
comp=Z,98nm,0.8s
EGAK Eagle 24.60 42 P P 01 40 33.9 +0.3
baz=258,SNR=52
I27K Kandik River 24.61 40 P P 01 40 33.1 -0.7
baz=255
YUK8 Steele Glacier 24.75 51 P P 01 40 34.7 -0.6
baz=267,SNR=30
JKA Kamikawa-asahi 24.75 266 P P 01 40 36.0 +0.9
JKA IAmb IAmb 01 40 38.6
comp=Z,80nm,0.8s
ASAJ Asahikawa 24.75 266 P P 01 40 36.0 +0.8
ASAJ pmax pmax
comp=Z,80nm,0.8s
ASAJ Asahikawa 24.75 266 LR LR 01 48 42.4
comp=Z,86nm,20.6s,baz=99,slow=32
H27K Steamboat Moun 24.81 39 P P 01 40 34.4 -1.2
baz=254
PNL Peninsula 24.88 55 P P 01 40 34.5 -1.7
baz=271
G27K Doyon Strip 24.93 37 P P 01 40 36.6 -0.1
baz=253
C26K Camden Bay 25.01 29 P P 01 40 38.8 +1.5
baz=243,SNR=116
DAWY Dawson 25.22 44 IAmb IAmb 01 40 44.0
comp=Z,42nm,0.6s
DAWY Dawson 25.22 44 P P 01 40 40.0 +0.6
baz=261,SNR=41
I28M Miner Creek 25.25 41 P P 01 40 38.8 -0.9
baz=259
YUK4 Talbot Arm 25.29 51 P P 01 40 40.4 +0.2
baz=268,SNR=61
O29M Mount Kennedy 25.30 53 P P 01 40 39.0 -1.2
baz=270
E27K Coleen River 25.40 34 P P 01 40 41.4 +0.5
baz=250
YUK6 Outpost Mounta 25.41 52 P P 01 40 41.5 +0.2
baz=269,SNR=7.0
M29M Somme Creek 25.44 48 IAmb IAmb 01 40 46.7
comp=Z,42nm,0.6s
M29M Somme Creek 25.44 48 P P 01 40 41.1 -0.4
baz=266
ERM Erimo 25.53 261 P P 01 40 43.1 +0.8
ERM IAmb IAmb 01 41 00.9
comp=Z,104nm,1.2s
ERM Erimo 25.53 261 ⇓*i*P **P 01 40 43.9 +1.7**
ERM pmax pmax
comp=Z,152nm,2.5s
L29M L29M 25.66 47 P P 01 40 43.3 0.0
baz=264,SNR=14
P29M Windy Craggy 25.73 55 IAmb IAmb 01 40 46.9
comp=Z,29nm,0.7s
P29M Windy Craggy 25.73 55 P P 01 40 43.7 -0.2
baz=272
J29N Klondike Camp 25.79 44 P P 01 40 44.4 -0.1
baz=262,SNR=13
HYT Haines Junctio 25.83 52 P P 01 40 45.1 +0.2
HYT IAmb IAmb 01 40 49.9
comp=Z,40nm,0.7s
HYT Haines Junctio 25.83 52 P P 01 40 44.2 -0.7
baz=270,SNR=14
F28M Old Crow 25.83 36 P P 01 40 45.4 +0.6
baz=253,SNR=19
I29M Ogilvie Camp, 25.90 41 IAmb IAmb 01 40 48.6
comp=Z,25nm,0.5s
I29M Ogilvie Camp, 25.90 41 P P 01 40 45.1 -0.4
baz=260,SNR=20
D27M Malcolm River 25.99 32 P P 01 40 46.7 +0.5
baz=249
K29M Barlow Dome 26.01 45 P P 01 40 46.4 -0.2
baz=255,SNR=15
N30M Aishikik Lake 26.04 51 P P 01 40 46.3 -0.4
baz=269
H29M Whitestone 26.05 40 P P 01 40 46.2 -0.6
baz=258
P30M Million Dollar 26.10 54 P P 01 40 47.8 +0.4
baz=272
M30M Minto, Yukon 26.23 48 IAmb IAmb 01 40 53.4
comp=Z,28nm,0.6s
M30M Minto, Yukon 26.23 48 P P 01 40 50.4 +2.0
baz=267,SNR=14
E28M Babbage River 26.25 34 P P 01 40 49.8 +1.3
baz=252
G29M Pine Creek 26.34 38 IAmb IAmb 01 40 51.4
comp=Z,28nm,0.7s
G29M Pine Creek 26.34 38 P P 01 40 49.9 +0.5
baz=257
O30N Mendenhall 26.52 52 P P 01 40 50.2 -0.9
baz=271
J30M Hart River 26.61 44 P P 01 40 52.5 +0.5
baz=263,SNR=22
S31K Pelican 26.63 58 P P 01 40 51.4 -0.5
baz=277
N31M Braeburn, Yuko 26.67 50 P P 01 40 52.6 +0.2
N31M IAmb IAmb 01 41 11.1
comp=Z,38nm,0.9s
N31M Braeburn, Yuko 26.67 50 P P 01 40 51.5 -0.9
baz=270
I30M Mount Sempster 26.68 42 P P 01 40 51.8 -0.8
baz=262
EPYK Eagle Plains 26.73 40 P P 01 40 52.1 -0.9
baz=259,SNR=25
D28M Stokes Point 26.76 33 P P 01 40 53.9 +0.8
baz=251,SNR=15
E29M Blow River 26.77 35 P P 01 40 53.9 +0.8
baz=254
SKAG Skagway 26.96 55 P P 01 40 53.8 -1.1
baz=274
G30M tAoh Zraii Nji 27.05 38 P P 01 40 56.0 +0.2
G30M IAmb IAmb 01 40 57.3
comp=Z,15nm,0.5s
G30M tAoh Zraii Nji 27.05 38 P P 01 40 56.1 +0.4
baz=259,SNR=14
WHY Whitehorse 27.12 52 P P 01 40 56.2 -0.4
WHY Whitehorse 27.12 52 P P 01 40 55.5 -1.0
baz=272
SIT Sitka 27.23 60 P P 01 40 57.1 -0.3
SIT IAmb IAmb 01 41 07.5
comp=Z,73nm,1.4s
SIT Sitka 27.23 60 P P 01 40 57.1 -0.3
SIT pmax pmax
comp=Z,73nm,1.4s
M31M Drury Creek, Y 27.33 49 P P 01 40 57.1 -1.2
baz=270,SNR=13
F30M Barrier River 27.34 37 P P 01 40 58.4 0.0
baz=258
R32K Eaglecrest 27.50 57 P P 01 40 59.4 -0.4
baz=277
S32K Kiliisnoo 27.57 59 P P 01 41 00.1 -0.3
baz=279
YAK Yakutsk 27.71 311 P P 01 41 00.3 -1.3
YAK IAmb IAmb 01 41 02.0
comp=Z,83nm,1.1s
YAK Yakutsk 27.71 311 *e*P **P 01 41 00.2 -1.4**
YAK *e**PP **pP 01 41 21.2 +2.2**
YAK *e* 01 41 53.5
YAK *e* 01 44 16.1
YAK *e*S **S 01 45 36.5 -1.7**
YAK *e**SS **sS 01 46 07.3 -0.8**
YAK *e*SS **SnSn 01 46 56.3 -0.9**
YAK *e* 01 51 43.1
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=E,30nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,132nm,4.1s
YAK smax smax
comp=E,88nm,4.2s
YAK smax smax
comp=N,67nm,3.7s
YAK Yakutsk 27.71 311 LR LR 01 51 56.3
comp=N,6.4nm,19.6s,baz=100,slow=36
P32M Atlin 27.77 55 P P 01 41 02.3 0.0
baz=275
G31M Satah River 27.79 39 P P 01 41 02.3 0.0
baz=261,SNR=26
FARO Faro, Yukon 27.82 49 P P 01 41 02.6 -0.1
FARO Faro, Yukon 27.82 49 P P 01 41 02.8 +0.1
baz=271
N32M Quiet Lake 27.98 51 P P 01 41 04.4 +0.3
baz=273
F31M Tsiigehtchic 28.08 38 P P 01 41 05.3 +0.4
F31M IAmb IAmb 01 41 06.6
comp=Z,22nm,0.7s
F31M Tsiigehtchic 28.08 38 P P 01 41 05.5 +0.6
baz=260,SNR=18
P33M Teslin, Yukon 28.17 53 P P 01 41 06.2 +0.4
P33M Teslin, Yukon 28.17 53 P P 01 41 05.9 0.0
baz=275,SNR=6.9
INK Inuvik 28.32 36 P P 01 41 07.6 +0.6
INK IAmb IAmb 01 41 10.4
comp=Z,17nm,0.5s
INK Inuvik 28.32 36 P P 01 41 07.6 +0.6
INK pmax pmax
comp=Z,17nm,0.5s
INK Inuvik 28.32 36 P P 01 41 07.8 +0.8
baz=259,SNR=29
INK Inuvik 28.32 36 LR LR 01 52 30.2
comp=Z,108nm,21.4s,baz=288,slow=36
Q32M Nakina River 28.58 56 P P 01 41 10.2 +0.5
baz=278
R33M Jennings River 29.18 55 P P 01 41 16.0 +1.0
baz=278
KLR Kul'dur 29.19 284 *d*/P **P 01 41 14.7 -0.2**
KLR pmax pmax
comp=Z,132nm,1.7s
KLR Kul'dur 29.19 284 LR LR 01 52 52.8
comp=Z,148nm,21.0s,baz=68,slow=36
S34M Telegraph Cree 29.33 58 P P 01 41 15.7 -0.3
baz=280
TIXI Tiksi 29.37 331 P P 01 41 15.3 -1.0
TIXI PcP **PcP 01 44 20.1 -0.4**
TIXI Tiksi 29.37 331 ⇑*i*P **P 01 41 15.7 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 29.37 331 LR LR 01 52 41.7
comp=Z,8.7nm,21.9s,baz=170,slow=36
V35K Ketchikan 29.61 63 P P 01 41 17.8 -0.7
baz=284
DLBC Dease Lake 29.81 56 P P 01 41 21.3 +0.8
baz=280,SNR=5.2
DLBC Dease Lake 29.81 56 LR LR 01 53 24.9
comp=Z,163nm,18.4s,baz=286,slow=36
T35M Bob Quinn 29.98 59 P P 01 41 22.4 +0.5
baz=282
WTLY Watson Lake, Y 30.18 53 P P 01 41 24.1 +0.5
baz=278,SNR=8.6
ZEA Zeya 30.30 294 *e*P **P 01 41 23.9 -0.8**
ZEA pmax pmax
comp=E,30nm,1.0s
ZEA pmax pmax
comp=N,20nm,0.7s
USA0B Ussuriysk Arra 31.30 275 P P 01 41 33.8 +0.2
USA0B Ussuriysk Arra 31.30 275 P P 01 41 33.8 +0.2
USA0B pmax pmax
comp=Z,19nm,0.9s
USRK Ussuriysk Ar. 31.30 275 P P 01 41 33.6 0.0
USRK PcP **PcP 01 44 26.6 +0.6**
USRK Ussuriysk Ar. 31.30 275 P P 01 41 33.8 +0.2
comp=Z,18nm,0.8s,baz=58,slow=7.8,SNR=31
USRK LR LR 01 52 46.9
comp=Z,87nm,21.7s,baz=40,slow=33
comp=Z,18nm,0.8s
HEH HeiHe 31.39 288 *e*P **P 01 41 33.3 -1.0**
HEH pmax pmax
comp=Z,31nm,1.1s
HEH pmax pmax
comp=Z,180nm,4.3s
A36M Sachs Harbour 31.75 30 P P 01 41 38.8 +1.6
A36M Sachs Harbour 31.75 30 P P 01 41 38.7 +1.4
baz=261,SNR=101
C36M Paulatuk 31.86 35 P P 01 41 38.8 +0.5
C36M IAmb IAmb 01 41 39.8
comp=Z,29nm,0.7s
C36M Paulatuk 31.86 35 P P 01 41 38.7 +0.5
baz=267,SNR=41
MAJO Matsushiro 31.91 257 P P 01 41 40.3 +1.2
MAJO IAmb IAmb 01 41 41.2
comp=Z,29nm,1.0s
MAJO Matsushiro 31.91 257 P P 01 41 40.7 +1.6
MAJO Matsushiro 31.91 257 *de*P **P 01 41 40.1 +1.0**
MAJO pmax pmax
comp=Z,33nm,1.1s
MAJO Matsushiro 31.91 257 P P 01 41 40.0 +1.0
MJAR Matsushiro Arr 31.91 257 P P 01 41 40.4 +1.3
comp=Z,8.6nm,0.9s,baz=51,slow=7.5,SNR=15
comp=Z,8.6nm,0.9s
MJB9 Matsu-Tunnel 31.91 257 P P 01 41 40.1 +1.0
MJB9 IAmb IAmb 01 41 42.2
comp=Z,30nm,1.0s
WRGLY Wrigley 32.30 46 P P 01 41 42.6 +0.5
baz=277,SNR=6.3
KOTAN Kotaneelee Air 32.51 52 P P 01 41 44.5 +0.4
baz=282,SNR=16
BBB Bella Bella 32.55 68 LR LR 01 52 34.1
comp=Z,101nm,19.1s,baz=239,slow=32
MDJ Mudanjiang 32.57 277 P P 01 41 44.3 -0.5
MDJ pmax pmax
comp=Z,18nm,0.9s
MDJ pmax pmax
comp=Z,160nm,6.9s
MSHR Mys Shultsa 32.66 273 *d*/P **P 01 41 46.7 +1.1**
MSHR pmax pmax
comp=Z,21nm,1.2s
FLDN Fort Liard 32.77 52 P P 01 41 45.5 -0.8
baz=282
H11N2 WAKE ISLAND Hy 33.10 199 T T 02 16 56.6
baz=11,slow=76,SNR=306
H11N3 WAKE ISLAND Hy 33.11 199 T T 02 17 01.7
baz=11,slow=76,SNR=300
H11N1 WAKE ISLAND Hy 33.12 199 T T 02 16 58.4
baz=11,slow=76,SNR=289
JHJ Hachijo jima 2 33.31 251 LR LR 01 52 54.1
comp=Z,111nm,20.6s,baz=267,slow=32
BNX BinXian 33.37 280 ⇓P **P 01 41 50.9 -0.8**
BNX pmax pmax
comp=Z,63nm,0.8s
BNX pmax pmax
comp=Z,130nm,4.6s
H11S1 WAKE ISLAND Hy 34.33 199 T T 02 18 35.5
baz=20,slow=74,SNR=238
H11S3 WAKE ISLAND Hy 34.34 199 T T 02 18 34.0
baz=20,slow=74,SNR=135
H11S2 WAKE ISLAND Hy 34.34 199 T T 02 18 36.6
baz=20,slow=74,SNR=139
CN2 Changchun 35.55 278 P P 01 42 10.0 -0.5
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,14.0s
BOD Bodaibo 36.18 305 *e*P **P 01 42 14.6 -1.2**
BOD pmax pmax
comp=Z,66nm,0.9s
CLRS Cowichan Lake 36.24 71 P P 01 42 16.4 0.0
CLRS IAmb IAmb 01 42 18.4
comp=Z,13nm,0.6s
HIA Hailar 36.32 290 P P 01 42 16.8 -0.4
HIA Hailar 36.32 290 P P 01 42 16.8 -0.4
HIA pmax pmax
comp=Z,33nm,0.7s
HIA Hailar 36.32 290 P P 01 42 16.7 -0.4
YKA Yellowknife Ar 36.42 46 *i*P **P 01 42 17.8 +0.1**
YKA pmax pmax
comp=Z,8.0nm,0.5s
YKA Yellowknife Ar 36.42 46 P P 01 42 17.9 +0.1
comp=Z,9.5nm,0.6s,baz=292,slow=5.4,SNR=156
YKA ScP **ScP 01 48 18.8 -1.1**
comp=Z,1.7nm,0.7s,baz=301,slow=3.4,SNR=12
YKA LR LR 01 58 12.7
comp=Z,89nm,20.1s,baz=235,slow=38
comp=Z,9.5nm,0.6s
JCJ Chichijima 36.47 241 LR LR 01 54 00.6
comp=Z,92nm,20.7s,baz=40,slow=31
KSRS Korea Array 37.67 268 P P 01 42 30.2 +1.6
comp=Z,12nm,0.8s,baz=57,slow=8.1,SNR=32
KSRS PcP **PcP 01 44 45.3 +0.9**
comp=Z,3.6nm,0.9s,baz=53,slow=2.9,SNR=6.8
KSRS LR LR 01 56 38.8
comp=Z,44nm,22.0s,baz=55,slow=34
comp=Z,12nm,0.8s
KSAR Wonju Array Be 37.70 268 P P 01 42 28.8 -0.1
KSAR Wonju Array Be 37.70 268 P P 01 42 28.8 -0.1
INCN Inchon 38.45 269 P P 01 42 36.2 +1.0
INCN Inchon 38.45 269 P P 01 42 36.2 +1.0
INCN Inchon 38.45 269 P P 01 42 36.2 +1.0
INCN pmax pmax
comp=Z,55nm,0.9s
LON Longmire 38.61 73 P P 01 42 36.7 +0.2
LON IAmb IAmb 01 42 38.0
comp=Z,13nm,0.6s
LON Longmire 38.61 73 P P 01 42 36.7 +0.2
LON pmax pmax
comp=Z,13nm,0.6s
JNU Nakatsue 38.67 260 P P 01 42 37.4 +0.2
JNU Nakatsue 38.67 260 P P 01 42 37.3 +0.2
JNU Nakatsue 38.67 260 LR LR 01 57 04.0
comp=Z,63nm,21.5s,baz=58,slow=34
TJN Taejon 38.70 267 P P 01 42 38.8 +1.6
TJN Taejon 38.70 267 *de*P **P 01 42 38.1 +0.9**
COR Corvallis 38.83 77 P P 01 42 39.3 +1.0
COR Corvallis 38.83 77 P P 01 42 39.3 +1.0
COR pmax pmax
comp=Z,263nm,2.0s
COR Corvallis 38.83 77 P P 01 42 39.6 +1.3
COR pP **pP 01 42 56.4 +0.3**
LTY Liberty 39.03 72 P P 01 42 39.6 -0.4
LTY IAmb IAmb 01 42 40.4
comp=Z,13nm,0.5s
H04A Detroit Lake 39.45 76 P P 01 42 44.0 +0.5
H04A IAmb IAmb 01 42 45.9
comp=Z,21nm,0.6s
HUMO Hull Mountain 40.12 79 IAmb IAmb 01 43 08.5
comp=Z,34nm,1.4s
HAWA Hanford 40.14 72 IAmb IAmb 01 42 50.0
comp=Z,28nm,0.7s
D08A Wollman Farm, 40.16 71 P P 01 42 48.8 -0.5
D08A IAmb IAmb 01 42 49.6
comp=Z,14nm,0.7s
RES Resolute Bay 40.25 24 P P 01 42 49.9 +0.3
RES IAmb IAmb 01 42 51.3
comp=Z,19nm,0.9s
RES Resolute Bay 40.25 24 P P 01 42 49.9 +0.3
RES pmax pmax
comp=Z,19nm,1.0s
RES Resolute Bay 40.25 24 LR LR 02 01 08.6
comp=Z,67nm,21.0s,baz=10,slow=39
EUNU Eureka 40.48 15 P P 01 42 51.1 -0.6
NEW Newport 40.60 68 P P 01 42 51.7 -1.3
NEW Newport 40.60 68 P P 01 42 51.7 -1.3
NEW pmax pmax

comp=Z,33nm,0.5s
NEW Newport 40.60 68 P **P** **01 42 52.5 -0.5**
baz=300,SNR=28
NEW Newport 40.60 68 LR LR 01 57 58.0
comp=Z,63nm,19.4s,baz=292,slow=34
KHMM Horse Mountain 40.64 82 P **P** **01 42 54.3 +0.8**
KHMM IAmb IAmb 01 42 56.5
comp=Z,36nm,0.8s
KMPM Mount Pierce 40.67 83 P **P** **01 42 54.0 +0.3**
YBH Yreka Blue Hor 40.77 80 P **P** **01 42 55.4 +0.8**
YBH IAmb IAmb 01 42 57.2
comp=Z,30nm,0.7s
YBH Yreka Blue Hor 40.77 80 P **P** **01 42 55.4 +0.8**
YBH pmax pmax
comp=Z,30nm,0.7s
YBH Yreka Blue Hor 40.77 80 LR LR 01 56 50.4
comp=Z,83nm,18.5s,baz=305,slow=32
J05D Fort Rock, OR 40.79 77 P **P** **01 42 55.5 +0.7**
J05D IAmb IAmb 01 43 14.8
comp=Z,37nm,1.4s
KMRM Mail Ridge 41.04 83 P **P** **01 42 56.9 +0.2**
KMRM IAmb IAmb 01 42 59.9
comp=Z,40nm,0.9s
XLT XiLinHaoTe 41.20 284 *e*P **P** **01 42 58.6 +0.5**
XLT pP pP 01 43 14.3 -1.7
XLT sP sP 01 43 22.6 -1.9
XLT pmax pmax
comp=Z,80nm,0.8s
XLT pmax pmax
comp=Z,85nm,4.1s
K05A Summer Lake 41.31 78 P **P** **01 43 00.2 +1.1**
K05A IAmb IAmb 01 43 01.2
comp=Z,22nm,0.6s
KCPM Cahto Peak 41.44 83 P **P** **01 43 00.3 +0.3**
KCPM IAmb IAmb 01 43 02.7
comp=Z,39nm,1.0s
HOPS Hopland Field 42.17 84 P **P** **01 43 06.7 +0.8**
HOPS IAmb IAmb 01 43 09.3
comp=Z,60nm,1.1s
ORV Oroville 42.80 82 IAmb IAmb 01 43 12.3
comp=Z,21nm,0.8s
WVOR Wild Horse Val 42.85 77 IAmb IAmb 01 43 12.4
comp=Z,12nm,0.6s
WVOR Wild Horse Val 42.85 77 P **P** **01 43 11.8 +0.3**
WVOR pmax pmax
comp=Z,18nm,0.7s
NRIK Noril'sk 43.11 329 P **P** **01 43 12.5 -0.5**
NRIK IAmb IAmb 01 43 14.1
comp=Z,22nm,1.1s
NRIK PcP **PcP** **01 45 02.0 +0.6**
NRIK Noril'sk 43.11 329 *d* *i*P **P** **01 43 12.8 -0.3**
NRIK pmax pmax
comp=Z,22nm,1.1s
NRIK Noril'sk 43.11 329 P **P** **01 43 13.0 -0.1**
comp=Z,17nm,1.0s,baz=75,slow=8.3,SNR=24
NRIK PcP **PcP** **01 45 01.9 +0.6**
comp=Z,9.5nm,0.8s,baz=79,slow=2.1,SNR=7.9
NRIK ScP **ScP** **01 48 45.6 -0.1**
comp=Z,1.0nm,0.4s,baz=85,slow=4.0,SNR=4.0
comp=Z,17nm,1.0s
MSO Missoula 43.19 68 P **P** **01 43 12.8 -1.4**
baz=303,SNR=28
BJI Beijing 43.38 280 P **P** **01 43 16.2 +0.6**
BJT Baijiatuau 43.39 280 P **P** **01 43 15.9 +0.2**
BJT IAmb IAmb 01 43 18.9
comp=Z,21nm,0.8s
BJT Baijiatuau 43.39 280 P **P** **01 43 18.3 +2.6**
BJT Baijiatuau 43.39 280 P **P** **01 43 15.9 +0.2**
BJT pmax pmax
comp=Z,21nm,0.8s
BJT Baijiatuau 43.39 280 P **P** **01 43 16.9 +1.2**
MFID Camas Ranch 43.98 74 P **P** **01 43 20.5 0.0**
LYMT Lyon Mountain 44.06 67 P **P** **01 43 20.6 -0.8**
ULN Ulaanbaatar 44.33 294 P **P** **01 43 23.9 +0.5**
ULN Ulaanbaatar 44.33 294 *d* *i*P **P** **01 43 23.8 +0.4**
ULN pmax pmax
comp=Z,55nm,0.9s
ULN Ulaanbaatar 44.33 294 P **P** **01 43 23.9 +0.5**
ULN pP **pP** **01 43 41.2 -0.4**
ULN PcP **PcP** **01 45 06.3 +0.1**
ULN Ulaanbaatar 44.33 294 P **P** **01 43 23.7 +0.4**
comp=Z,238nm,0.9s
CMB Columbia Colle 44.42 83 P **P** **01 43 24.6 +0.6**
CMB IAmb IAmb 01 43 42.9
comp=Z,17nm,0.9s
CMB Columbia Colle 44.42 83 P **P** **01 43 24.6 +0.6**
CMB pmax pmax
comp=Z,17nm,0.9s
JOW Kunigami 44.72 256 LR LR 01 59 53.9
comp=Z,39nm,19.4s,baz=341,slow=33
SONM Songino Array 44.72 295 P **P** **01 43 26.9 +0.4**
SONM IAmb IAmb 01 43 28.2
comp=Z,36nm,0.7s
SONM Songino Array 44.72 295 P **P** **01 43 27.2 +0.8**
comp=Z,33nm,0.7s,baz=62,slow=8.3,SNR=197
SONM PcP **PcP** **01 45 07.6 +0.1**
comp=Z,2.7nm,0.7s,baz=91,slow=2.3,SNR=3.1
SONM ScP **ScP** **01 48 54.5 +1.6**
comp=Z,2.8nm,0.8s,baz=67,slow=1.6,SNR=7.9
SONM LR LR 02 03 38.2
comp=Z,110nm,18.1s,baz=42,slow=38
comp=Z,33nm,0.7s
HLID Hailey 44.73 73 P **P** **01 43 25.9 -0.7**
HLID Hailey 44.73 73 P **P** **01 43 26.1 -0.5**
baz=306,SNR=21
BMN Battle Mountai 44.89 78 P **P** **01 43 28.1 +0.3**
BMN IAmb IAmb 01 43 29.4
comp=Z,20nm,0.9s
BMN Battle Mountai 44.89 78 P **P** **01 43 28.2 +0.3**
BMN pmax pmax
comp=Z,20nm,0.9s
BBGB Big Mountain B 44.93 85 P **P** **01 43 29.4 +1.1**
EGMT Eagleton 44.93 65 P **P** **01 43 26.5 -1.5**
EGMT IAmb IAmb 01 43 34.8
comp=Z,16nm,0.7s
EGMT Eagleton 44.93 65 P **P** **01 43 26.2 -1.9**
baz=303,SNR=13
ZAK Zakamensk 45.08 299 *e*P **P** **01 43 28.7 -0.5**
ZAK *e* 01 50 13.8
ZAK pmax pmax
comp=Z,25nm,1.3s
TIA Tai'an 45.17 275 P **P** **01 43 30.4 +0.4**
TIA pmax pmax
comp=Z,22nm,0.8s
BOZ Bozeman (W) 45.21 69 P **P** **01 43 29.5 -0.8**
BOZ Bozeman (W) 45.21 69 P **P** **01 43 29.5 -0.8**
BOZ pmax pmax
comp=Z,34nm,0.7s
BOZ Bozeman (W) 45.21 69 P **P** **01 43 29.4 -1.0**
baz=305,SNR=67
NVAR Mina Array Bea 45.45 81 P **P** **01 43 33.0 +0.6**
NVAR Mina Array Bea 45.45 81 P **P** **01 43 33.4 +0.9**
comp=Z,19nm,0.7s,baz=296,slow=7.5,SNR=117
NVAR PcP **PcP** **01 45 11.4 +1.1**
comp=Z,2.3nm,0.7s,baz=323,slow=2.8,SNR=2.7
NVAR ScP **ScP** **01 48 56.0 -0.2**
comp=Z,1.5nm,0.7s,baz=290,slow=5.5,SNR=6.1
NVAR LR LR 01 59 08.4
comp=Z,97nm,21.6s,baz=298,slow=31
comp=Z,19nm,0.7s
FFC Flin Flon 45.53 53 P **P** **01 43 31.9 -0.7**
FFC Flin Flon 45.53 53 P **P** **01 43 31.9 -0.7**
FFC pmax pmax
comp=Z,7.0nm,0.6s
FFC Flin Flon 45.53 53 ⇑P **P** **01 43 31.9 -0.7**
FFC ScP **ScP** **01 48 54.1 -1.8**
MOY Mondy 45.62 302 *e*P **P** **01 43 33.4 -0.1**
MOY pmax pmax
comp=Z,26nm,1.6s
MLAC Mammoth, Mammo 45.63 82 P **P** **01 43 34.4 +0.5**
baz=309
HHC Hu-ho-hao-te 45.70 284 *e*P **P** **01 43 35.4 +1.2**
HHC pmax pmax
comp=Z,71nm,1.2s
HHC pmax pmax
comp=Z,300nm,4.6s
ELK Elko 45.90 76 P **P** **01 43 36.2 +0.2**
ELK IAmb IAmb 01 43 37.1
comp=Z,12nm,0.6s
ELK Elko 45.90 76 P **P** **01 43 36.2 +0.2**
ELK pmax pmax
comp=Z,12nm,0.6s
ELK Elko 45.90 76 LR LR 01 59 06.6
comp=Z,136nm,20.5s,baz=313,slow=31
HNS HongShan 45.91 278 ⇓P **P** **01 43 36.9 +1.2**
HNS pmax pmax
comp=Z,36nm,0.9s
YHH Holmes Hill 46.12 69 P **P** **01 43 37.3 -0.4**
VOG Valley Oaks Go 46.12 84 P **P** **01 43 37.7 +0.2**
baz=310
TIN Tinemaha, Big 46.37 82 P **P** **01 43 39.9 +0.4**
baz=310,SNR=9.3
SMMC Simmler 46.39 85 P **P** **01 43 40.2 +0.5**
baz=311
GUMO Guam 46.44 227 LR LR 02 01 09.0
comp=Z,28nm,21.1s,baz=94,slow=33
H17A Grant Village 46.51 69 IAmb IAmb 01 43 42.4
comp=Z,19nm,0.7s
H17A Grant Village 46.51 69 P **P** **01 43 40.5 -0.2**
baz=306,SNR=20
VES Vestal, Richgr 46.61 84 P **P** **01 43 41.1 -0.2**
baz=311,SNR=12
FLWY Flagg Ranch 46.62 70 P **P** **01 43 41.6 +0.1**
FLWY IAmb IAmb 01 43 42.8
comp=Z,22nm,0.7s
BTO Baotou 46.78 284 ⇓*i*P **P** **01 43 44.3 +1.6**
BTO pP **pP** **01 44 02.9 +1.9**
BTO PP **PP** **01 45 34.8 +1.5**
BTO S **S** **01 50 30.7 +3.5**
BTO sS **sS** **01 50 58.8 +0.4**
BTO SS **SS** **01 53 47.8 -6.1**
BTO pmax pmax
comp=Z,220nm,0.9s
BTO pmax pmax
comp=Z,440nm,3.5s
BTO LR LR
comp=Z,420nm,14.2s
BTO LR LR
comp=Z,360nm,12.9s
PKM Mcpherson Peak 46.78 86 P **P** **01 43 43.6 +0.7**
baz=311,SNR=6.9
NJ2 Nanjing 46.84 269 ⇑P **P** **01 43 43.0 -0.1**
NJ2 pP **pP** **01 44 01.3 0.0**
NJ2 sP **sP** **01 44 09.0 -0.6**
NJ2 pmax pmax
comp=Z,17nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,6.9s
RLMT Red Lodge 46.84 68 IAmb IAmb 01 43 44.4
comp=Z,18nm,0.9s
RLMT Red Lodge 46.84 68 P **P** **01 43 41.9 -1.4**
baz=306,SNR=24
CWC Cottonwood Cre 46.85 83 P **P** **01 43 43.9 +0.5**
baz=310
GRAC Grapevine Rang 46.93 82 P **P** **01 43 44.5 +0.7**
baz=310,SNR=10
TIY Taiyuan 47.11 280 P **P** **01 43 47.2 +2.0**
TIY pmax pmax
comp=Z,45nm,0.6s
ISA Isabella, Lake 47.11 84 P **P** **01 43 44.6 -0.7**
baz=311,SNR=11
BGU Big Grassy Mou 47.12 75 P **P** **01 43 45.5 0.0**
SBC Santa Barbara 47.14 86 P **P** **01 43 45.7 +0.2**
baz=312
AHID Auburn Hatcher 47.16 72 P **P** **01 43 45.4 -0.4**
R11B Troy Canyon, C 47.17 79 IAmb IAmb 01 43 47.1
comp=Z,18nm,0.6s
R11B Troy Canyon, C 47.17 79 P **P** **01 43 45.4 -0.5**
baz=309,SNR=40
ARVC Arvin 47.24 85 P **P** **01 43 45.2 -1.0**
baz=311
MPMC Manual Prospec 47.46 83 P **P** **01 43 48.4 +0.3**
baz=311
SCZ2 Santa Cruz Isl 47.48 87 P **P** **01 43 48.2 +0.1**
baz=312
NEEM North Greenlan 47.55 13 *i*P **P** **01 43 48.2 -0.3**
NEEM IAmb IAmb 01 43 50.4
comp=Z,30nm,1.0s
FURC Furnace Creek, 47.58 82 P **P** **01 43 48.9 +0.1**
baz=310
HWUT Hardware Ranch 47.59 73 P **P** **01 43 48.9 -0.2**
TPNV Topopah Spring 47.65 81 P **P** **01 43 50.0 +0.4**
TPNV Topopah Spring 47.65 81 P **P** **01 43 50.0 +0.4**
TPNV pmax pmax
comp=Z,56nm,0.9s
TPNV Topopah Spring 47.65 81 P **P** **01 43 50.0 +0.4**
baz=310,SNR=54
LAO LASA Array 47.67 64 P **P** **01 43 48.7 -0.7**
baz=306,SNR=13
LAO LASA Array 47.67 64 P **P** **01 43 49.1 -0.4**
baz=306,SNR=13
DUG Dugway, Tooele 47.70 75 P **P** **01 43 50.4 +0.5**
DUG pmax pmax
comp=Z,30nm,0.7s
DUG Dugway, Tooele 47.70 75 P **P** **01 43 49.8 -0.2**
baz=308,SNR=30
LRMC Laurel Mtn Rad 47.72 84 P **P** **01 43 49.7 -0.4**
baz=311,SNR=16
DGMT Dagmar 47.77 61 P **P** **01 43 48.9 -1.3**
baz=305
EDW2 Edwards Air Fo 47.91 84 P **P** **01 43 52.2 +0.7**
baz=311,SNR=9.1
BW06 Boulder Array 48.07 71 P **P** **01 43 52.3 -0.6**
baz=307,SNR=31
PD31 Pinedale Array 48.07 71 IAmb IAmb 01 43 53.0
comp=Z,15nm,0.7s
PDAR Pinedale Array 48.07 71 P **P** **01 43 52.0 -0.9**
PDAR Pinedale Array 48.07 71 P **P** **01 43 52.1 -0.7**
comp=Z,18nm,0.7s,baz=307,slow=3.7,SNR=204
PDAR ScP **ScP** **01 49 05.7 -1.5**
comp=Z,3.0nm,1.0s,baz=318,slow=2.0,SNR=9.9
PDAR LR LR 02 01 38.4
comp=Z,55nm,21.6s,baz=302,slow=33
comp=Z,18nm,0.7s
DECC Green Verdugo 48.12 85 P **P** **01 43 53.0 -0.1**
baz=312
SHOC Shoshone, Teco 48.31 82 P **P** **01 43 54.6 0.0**
baz=311
GSC Goldstone, Bar 48.37 83 P **P** **01 43 55.6 +0.5**
baz=311,SNR=20
RRX Edison Barstow 48.54 84 P **P** **01 43 55.3 -1.0**
baz=312
BFSC Mount Baldy Ra 48.55 85 P **P** **01 43 56.6 +0.1**
baz=312,SNR=17
CIS Catalina Islan 48.63 86 P **P** **01 43 56.5 -0.6**
baz=312
TUQ Turquoise Moun 48.83 82 P **P** **01 43 58.8 +0.1**
baz=311,SNR=18
SCI2 San Clemente I 48.84 87 P **P** **01 43 58.0 -0.5**
baz=313
HEC Hector,Ludlow 48.98 83 P **P** **01 43 59.2 -0.5**
baz=312,SNR=7.3
BBRC Big Bear Solar 48.99 84 P **P** **01 43 59.1 -0.9**
baz=312
MVU Marysvale 49.12 77 P **P** **01 44 00.4 -0.6**
LYN LuoYang 49.13 276 *e*P **P** **01 44 01.6 +0.8**
LYN pP pP 01 44 19.8 +0.5
LYN PP **PP** **01 45 57.4 +2.6**
LYN pmax pmax
comp=Z,66nm,0.9s
LYN pmax pmax
comp=Z,340nm,4.8s
MURC Murrieta 49.26 85 P **P** **01 44 01.9 +0.1**
baz=312,SNR=9.7
GMRC Granite Mounta 49.42 83 P **P** **01 44 03.0 -0.2**
baz=312,SNR=25
PFO Pinyon Flats O 49.71 85 P **P** **01 44 05.5 +0.2**
PFO IAmb IAmb 01 44 06.8
comp=Z,28nm,1.4s
PFO Pinyon Flats O 49.71 85 P **P** **01 44 05.5 +0.2**
PFO pmax pmax
comp=Z,28nm,1.4s
PFO Pinyon Flats O 49.71 85 P **P** **01 44 05.2 -0.2**
baz=312,SNR=5.8
PFO Pinyon Flats O 49.71 85 LR LR 02 00 56.5
comp=Z,89nm,21.1s,baz=290,slow=31
PFO Pinyon Flats O 49.71 85 P **P** **01 44 05.7 +0.3**
PFO pP **pP** **01 44 22.2 -1.6**
PFO sP **sP** **01 44 28.4 -3.6**
PFO ScP **ScP** **01 49 14.2 +0.1**
TPFO Pinon Flats 49.71 85 P **P** **01 44 05.1 -0.3**
baz=312,SNR=6.4
BELC Belle Mtn. Jos 49.73 84 P **P** **01 44 05.1 -0.4**
baz=312,SNR=19
109C Camp Elliot, M 49.79 86 P **P** **01 44 05.3 -0.5**
baz=313
SPA0 Spitsbergen Ar 49.88 355 *e*P **P** **01 44 06.7 +0.7**
SPA0 IAmb IAmb 01 44 07.5
comp=Z,57nm,1.3s
SPITS Spitsbergen Ar 49.88 355 P **P** **01 44 06.2 +0.3**
comp=Z,17nm,0.6s,baz=42,slow=5.6,SNR=80
SPITS LR LR 02 05 23.3
comp=Z,34nm,18.8s,baz=327,slow=36
comp=Z,17nm,0.6s
SPB2 Spitsbergen Ar 49.89 355 P **P** **01 44 06.0 0.0**
K22A Casper 49.91 69 P **P** **01 44 05.7 -1.1**
K22A IAmb IAmb 01 44 06.6
comp=Z,10nm,0.8s
K22A Casper 49.91 69 P **P** **01 44 06.0 -0.8**
baz=308,SNR=7.0
K22A Casper 49.91 69 P **P** **01 44 05.8 -1.0**
baz=308,SNR=7.0
NEE2 Needles Airpor 50.08 82 P **P** **01 44 07.3 -0.6**
baz=312
IRM Iron Mountain 50.16 83 P **P** **01 44 08.5 -0.1**
baz=312,SNR=21
MONP2 Monument Peak 50.21 85 P **P** **01 44 09.4 +0.1**
baz=313,SNR=7.9
UPNV Upernavik 50.28 18 *i* P **P** **01 44 09.1 +0.1**
UPNV IAmb IAmb 01 44 11.7
comp=Z,16nm,0.7s
BC3 Big Chuckawall 50.30 84 P **P** **01 44 08.9 -1.0**
baz=312,SNR=7.9
W13A Hualapai Mount 50.31 81 P **P** **01 44 10.0 0.0**
W13A IAmb IAmb 01 44 27.7
comp=Z,15nm,0.9s
RSSD Black Hills 50.44 66 P **P** **01 44 09.6 -1.2**
RSSD IAmb IAmb 01 44 10.3
comp=Z,7.9nm,0.6s
RSSD Black Hills 50.44 66 P **P** **01 44 09.6 -1.2**
RSSD pmax pmax
comp=Z,8.0nm,0.6s
RSSD Black Hills 50.44 66 P **P** **01 44 09.4 -1.4**
baz=308
RSSD Black Hills 50.44 66 P **P** **01 44 09.4 -1.4**
baz=308,SNR=13
RSSD Black Hills 50.44 66 P **P** **01 44 09.5 -1.3**
RSSD pP **pP** **01 44 26.1 -3.2**
RSSD PcP **PcP** **01 45 28.2 +0.1**
RSSD ScP **ScP** **01 49 15.8 -1.4**
CBX Cerro Bola 50.45 86 P **P** **01 44 11.5 +0.5**
O20A White River Ci 50.47 73 IAmb IAmb 01 44 11.4
comp=Z,19nm,0.7s
O20A White River Ci 50.47 73 P **P** **01 44 09.9 -1.2**
baz=310,SNR=18
SWSC Sam W. Stewart 50.56 85 P **P** **01 44 11.1 -0.5**
baz=313
IKP In-Ko-Pah, Jac 50.57 85 P **P** **01 44 11.2 -0.6**
baz=313,SNR=6.6
MDND Maddock 50.62 60 P **P** **01 44 10.2 -1.8**
baz=307
RMX La Rumorosa 50.62 85 P **P** **01 44 12.2 -0.1**
RMX IAmb IAmb 01 44 31.1
comp=Z,12nm,0.9s
WHN Wuhan 50.67 271 ⇑P **P** **01 44 13.2 +0.7**
PDMCI Parker Dam,Lak 50.68 82 P **P** **01 44 12.7 +0.2**
baz=312,SNR=13
HOPEN Hopen 50.88 352 *e*P **P** **01 44 14.5 +1.0**
ULM Lac du Bonnet 51.13 55 P **P** **01 44 14.5 -1.1**
ULM IAmb IAmb 01 44 15.2
comp=Z,14nm,0.6s
ULM Lac du Bonnet 51.13 55 P **P** **01 44 14.8 -0.9**
comp=Z,12nm,0.5s,baz=304,slow=7.7,SNR=49
ULM ScP **ScP** **01 49 17.4 -2.3**
comp=Z,1.1nm,0.5s,baz=317,slow=5.5,SNR=4.3
ULM LR LR 02 05 53.1
comp=Z,76nm,21.1s,baz=230,slow=36
comp=Z,12nm,0.5s
PV22 Blue Mesa, Par 51.17 74 P **P** **01 44 15.7 -0.8**
PV22 IAmb IAmb 01 44 17.4
comp=Z,14nm,0.8s
DAG Danmarks Havn 51.34 5 *i*P **P** **01 44 16.0 -0.9**
DAG IAmb IAmb 01 44 36.6
comp=Z,1.8nm,0.6s
N23A Red Feather La 51.35 70 P **P** **01 44 17.4 -0.4**
baz=310,SNR=8.6
WUAZ Wupatki 51.57 79 P **P** **01 44 19.9 +0.5**
WUAZ IAmb IAmb 01 44 38.2
comp=Z,20nm,0.9s
WUAZ Wupatki 51.57 79 P **P** **01 44 19.8 +0.3**
baz=312,SNR=17
VTX Valle De La Tr 51.63 86 P **P** **01 44 19.8 +0.1**
VTX IAmb IAmb 01 44 21.4
comp=Z,13nm,1.1s
XAN Xi'an 51.66 278 ⇓P **P** **01 44 20.2 +0.3**
XAN pmax pmax
comp=Z,36nm,1.0s
MVCO Mesa Verde 52.20 76 P **P** **01 44 23.5 -0.7**
baz=311,SNR=7.9
ISCO Idaho Springs 52.24 71 P **P** **01 44 24.3 -0.2**
ISCO IAmb IAmb 01 44 27.2
comp=Z,6.5nm,0.6s
ISCO Idaho Springs 52.24 71 P **P** **01 44 24.3 -0.2**
ISCO pmax pmax
comp=Z,7.0nm,0.6s
ISCO Idaho Springs 52.24 71 P **P** **01 44 24.3 -0.2**
baz=310,SNR=10
ISCO Idaho Springs 52.24 71 P **P** **01 44 24.7 +0.2**
baz=310,SNR=10
ZAA0 Zalesovo Array 52.35 312 P **P** **01 44 23.9 -0.8**
ZALV Zalesovo Beam 52.35 312 P **P** **01 44 23.7 -1.0**
ZALV PcP **PcP** **01 45 35.1 +0.4**
ZALV Zalesovo Beam 52.35 312 *i* P **P** **01 44 24.0 -0.7**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 52.35 312 P **P** **01 44 24.0 -0.7**
comp=Z,7.3nm,0.7s,baz=50,slow=6.6,SNR=35
ZALV PcP **PcP** **01 45 35.1 +0.4**
comp=Z,5.6nm,0.7s,baz=20,slow=4.7,SNR=5.5
ZALV ScP **ScP** **01 49 24.9 -0.1**
comp=Z,2.1nm,0.9s,baz=62,slow=3.5,SNR=5.2
ZALV LR LR 02 07 18.1
comp=Z,73nm,20.8s,baz=68,slow=37
comp=Z,7.3nm,0.7s
W18A Petrified Fore 52.84 78 P **P** **01 44 29.1 +0.3**
baz=312,SNR=8.5
S22A 4UR Ranch, Cre 52.85 74 P **P** **01 44 29.1 0.0**
S22A 4UR Ranch, Cre 52.85 74 P **P** **01 44 28.8 -0.3**
baz=311,SNR=11
Q24A Divide 53.06 72 P **P** **01 44 30.0 -0.5**
baz=311
214A Organ Pipe Nat 53.08 83 P **P** **01 44 30.6 +0.1**
baz=314,SNR=8.9
SUSD Miller 53.08 63 P **P** **01 44 28.6 -1.7**
baz=310
LZH Lanzhou 53.39 284 *e*P **P** **01 44 34.0 +1.1**
LZH pP pP 01 44 50.6 -0.9
LZH sP sP 01 44 58.8 -1.1
LZH pmax pmax
comp=Z,43nm,1.1s
B35A Bob, Littlefor 53.40 56 P **P** **01 44 31.3 -1.2**
B35A IAmb IAmb 01 44 32.4
comp=Z,15nm,0.7s
B35A Bob, Littlefor 53.40 56 P **P** **01 44 31.3 -1.2**
baz=309,SNR=12
SUMG Summit 53.42 13 P **P** **01 44 32.6 -0.2**
SUMG Summit 53.42 13 P **P** **01 44 32.6 -0.2**
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 53.42 13 *i* P **P** **01 44 32.0 -0.8**
SUMG IAmb IAmb 01 44 35.5
comp=Z,4.5nm,0.7s
OGNE Ogallala 53.59 68 P **P** **01 44 33.6 -0.6**
OGNE IAmb IAmb 01 44 34.7
comp=Z,17nm,0.7s
OGNE Ogallala 53.59 68 P **P** **01 44 33.5 -0.6**
baz=311,SNR=9.1
OGNE Ogallala 53.59 68 P **P** **01 44 33.9 -0.2**
baz=311,SNR=9.1
GTA Gaotai 53.60 290 *e*P **P** **01 44 34.8 +0.5**
GTA pP pP 01 44 51.7 -1.4
GTA pmax pmax
comp=Z,46nm,1.1s
SDCO Great Sand Dun 53.65 73 P **P** **01 44 34.7 -0.2**
SDCO Great Sand Dun 53.65 73 P **P** **01 44 34.3 -0.5**
baz=312,SNR=9.5
SDCO Great Sand Dun 53.65 73 P **P** **01 44 34.4 -0.5**
baz=312,SNR=9.5
F33A 5 Mile Ranch, 53.65 60 P **P** **01 44 33.0 -1.4**
baz=310
FRB Frobisher Bay 53.75 30 P **P** **01 44 34.5 -0.3**
FRB pmax pmax
comp=Z,33nm,0.8s
FRB Frobisher Bay 53.75 30 LR LR 02 10 43.9
comp=Z,56nm,18.5s,baz=294,slow=40
DGZ Jazzator, Alta 53.76 306 *d* *i*P **P** **01 44 35.7 +0.3**
DGZ pmax pmax
comp=Z,43nm,0.9s
K30B Basset 53.85 65 P **P** **01 44 35.3 -0.6**

baz=310,SNR=8.7
ENH Enshi 53.88 275 P **P** **01 44 35.5 -0.8**
ENH Enshi 53.88 275 P **P** **01 44 36.9 +0.6**
ENH Enshi 53.88 275 P **P** **01 44 36.6 +0.3**
TUC Tucson 54.09 82 P **P** **01 44 37.9 0.0**
TUC IAmb IAmb 01 44 39.6
comp=Z,15nm,0.8s
TUC PcP **PcP** **01 45 43.3 +1.5**
TUC Tucson 54.09 82 P **P** **01 44 38.5 +0.6**
TUC pmax pmax
comp=Z,15nm,0.8s
TUC Tucson 54.09 82 P **P** **01 44 38.0 0.0**
baz=314
TUC Tucson 54.09 82 P **P** **01 44 38.3 +0.4**
TUC pP **pP** **01 44 55.1 -1.5**
TUC sP **sP** **01 45 03.4 -1.5**
TUC PcP **PcP** **01 45 42.9 +1.1**
TUC ScP **ScP** **01 49 33.1 +0.1**
KSCO Kaye Shedlock' 54.51 70 P **P** **01 44 40.2 -0.7**
baz=312
KSCO Kaye Shedlock' 54.51 70 P **P** **01 44 39.8 -1.1**
baz=312
T25A Trinidad 54.70 73 P **P** **01 44 41.3 -1.1**
baz=312
EYMN Ely 54.81 55 P **P** **01 44 40.3 -2.5**
baz=311,SNR=5.8
EYMN Ely 54.81 55 P **P** **01 44 41.9 -0.9**
baz=311,SNR=5.8
ECSD EROS Data Cent 54.83 62 P **P** **01 44 41.5 -1.6**
ECSD IAmb IAmb 01 44 41.9
comp=Z,7.2nm,0.7s
ECSD EROS Data Cent 54.83 62 P **P** **01 44 41.3 -1.7**
baz=311,SNR=6.5
ECSD EROS Data Cent 54.83 62 P **P** **01 44 41.3 -1.7**
baz=311,SNR=6.5
ANMO Albuquerque 54.94 76 P **P** **01 44 43.7 -0.5**
ANMO Albuquerque 54.94 76⇑*eP* **P** **01 44 44.2 0.0**
ANMO pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 54.94 76 P **P** **01 44 43.8 -0.3**
baz=313
ANMO Albuquerque 54.94 76 P **P** **01 44 43.9 -0.2**
baz=313,SNR=7.6
ANMO Albuquerque 54.94 76 LR LR 02 06 12.5
comp=Z,67nm,21.2s,baz=38,slow=34
ANMO Albuquerque 54.94 76 P **P** **01 44 44.4 +0.2**
ANMO sP **sP** **01 45 09.4 -1.8**
ANMO PcP **PcP** **01 45 46.6 +1.4**
ANMO ScP **ScP** **01 49 37.6 +0.7**
F36A Milaca 55.11 58 P **P** **01 44 43.6 -1.4**
baz=311,SNR=8.0
Y22D IRIS PASSCAL I 55.25 77 P **P** **01 44 45.5 -0.9**
baz=313
Y22F Passcal Instru 55.25 77 P **P** **01 44 45.6 -0.8**
baz=313
Y22A Socorro 55.32 78 P **P** **01 44 47.5 +0.7**
baz=313,SNR=14
BGNE Belgrade 55.50 65 P **P** **01 44 46.8 -1.1**
baz=312
E38A The Farm, Brul 55.66 57 P **P** **01 44 47.6 -1.3**
baz=311,SNR=6.9
121A Cookes Peak, D 55.78 79 P **P** **01 44 50.5 +0.3**
121A IAmb IAmb 01 45 09.1
comp=Z,14nm,1.1s
121A Cookes Peak, D 55.78 79 P **P** **01 44 50.2 +0.1**
baz=314,SNR=8.9
121A Cookes Peak, D 55.78 79 P **P** **01 44 50.3 +0.1**
baz=314,SNR=8.9
SPMN Marine on St. 55.91 59 P **P** **01 44 49.9 -0.8**
SPMN IAmb IAmb 01 44 50.5
comp=Z,11nm,0.6s
SPMN Marine on St. 55.91 59 P **P** **01 44 50.2 -0.6**
baz=312,SNR=5.6
SPMN Marine on St. 55.91 59 P **P** **01 44 50.0 -0.8**
baz=312,SNR=5.6
SFJD Kangerlussuaq 56.05 21 P **P** **01 44 50.6 -0.8**
SFJD Kangerlussuaq 56.05 21 P **P** **01 44 50.6 -0.8**
SFJD Kangerlussuaq 56.05 21 LR LR 02 12 10.3
comp=Z,27nm,19.2s,baz=344,slow=40
L34A Svendsen Farm, 56.13 64 P **P** **01 44 51.2 -1.1**
baz=312,SNR=6.7
HSIG 56.28 85 P **P** **01 44 53.3 -0.2**
HSIG IAmb IAmb 01 44 54.8
comp=Z,25nm,1.1s
CBKS Cedar Bluff 56.32 68 P **P** **01 44 53.4 -0.4**
CBKS Cedar Bluff 56.32 68 P **P** **01 44 53.4 -0.4**
CBKS pmax pmax
comp=Z,31nm,0.8s
CBKS Cedar Bluff 56.32 68 P **P** **01 44 52.8 -1.0**
baz=312,SNR=12
CBKS Cedar Bluff 56.32 68 P **P** **01 44 53.4 -0.4**
baz=312,SNR=12
ICESG Greenland Ices 56.36 15 *i* P **P** **01 44 53.8 -0.2**
ICESG IAmb IAmb 01 44 55.9
comp=Z,3.6nm,0.7s
VADS Vadso 56.36 348 *eP* **P** **01 44 54.1 +0.6**
I37B Waseca 56.40 60 P **P** **01 44 53.6 -0.6**
baz=312
HAMF Hammerfest 56.56 350 *eP* **P** **01 44 54.7 -0.2**
HAMF IAmb IAmb 01 44 59.2
comp=Z,157nm,1.6s
GULI GuiLin 56.87 270 ⇑P P 01 44 52.8 -5.0
GULI pmax pmax
comp=Z,20nm,1.0s
GULI pmax pmax
comp=Z,260nm,5.1s
CD2 Chengdu 56.98 279 P **P** **01 44 58.8 +0.3**
CD2 pP pP 01 45 16.6 -0.9
CD2 S **S** **01 52 45.4 -1.7**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,180nm,5.4s
KEV Kevo 57.01 348 P **P** **01 44 57.8 -0.3**
KEV Kevo 57.01 348 P **P** **01 44 57.8 -0.3**
KEV pmax pmax
comp=Z,53nm,1.5s
R32A Long Quarter, 57.18 68 P **P** **01 44 58.9 -0.9**
baz=313,SNR=6.3
SCO Scoresbysund 57.25 8 P **P** **01 44 59.8 0.0**
SCO Scoresbysund 57.25 8 P **P** **01 44 59.8 0.0**
SCO pmax pmax
comp=Z,49nm,1.6s
SCO Scoresbysund 57.25 8 *i* P **P** **01 45 00.2 +0.4**
SCO IAmb IAmb 01 45 05.7
comp=Z,5.1nm,1.2s
N35A Tabor 57.28 64 P **P** **01 45 00.1 -0.4**
baz=313,SNR=22
KURK Kurchatov 57.34 312 P **P** **01 45 00.7 -0.1**
KURK Kurchatov 57.34 312*d* *i*P **P** **01 45 00.7 -0.1**
KURK pmax pmax
comp=Z,135nm,1.3s
KURK Kurchatov 57.34 312 P **P** **01 45 01.0 +0.2**
ARA0 ARCESS Array S 57.40 349 *eP* **P** **01 45 00.9 0.0**
ARA0 IAmb IAmb 01 45 17.8
comp=Z,426nm,2.7s
ARCES ARCESS Array B 57.40 349 P **P** **01 45 00.6 -0.3**
ARCES ARCESS Array B 57.40 349 P **P** **01 45 00.6 -0.3**
comp=Z,10nm,0.8s,baz=35,slow=6.9,SNR=43
ARCES LR LR 02 12 50.4
comp=Z,56nm,18.0s,baz=350,slow=39
comp=Z,10nm,0.8s
DY2G Dye2 57.43 19 *i* P **P** **01 45 03.0 +1.5**
DY2G IAmb IAmb 01 45 06.7
comp=Z,3.9nm,0.6s
KURBB Kurchatov Arra 57.45 312 P **P** **01 45 01.2 -0.3**
KURBB Kurchatov Arra 57.45 312 P **P** **01 45 01.7 +0.2**
comp=Z,51nm,0.7s,baz=42,slow=6.7,SNR=238
KURBB LR LR 02 11 42.0
comp=Z,75nm,19.3s,baz=171,slow=38
comp=Z,51nm,0.7s
WMQ Urumqi 57.49 301 *eP* **P** **01 45 02.8 +0.8**
WMQ sP sP 01 45 30.4 +1.1
WMQ pmax pmax
comp=Z,35nm,0.7s
WMQ pmax pmax
comp=Z,59nm,3.7s
WMQ LR LR
comp=Z,200nm,19.5s
LVZ Lovozero 57.61 344 P **P** **01 45 02.1 -0.3**
LVZ Lovozero 57.61 344*c* *i*P **P** **01 45 01.7 -0.7**
LVZ pmax pmax
comp=Z,84nm,1.3s
LVZ Lovozero 57.61 344 P **P** **01 45 01.9 -0.6**
MNTX Cornudas Mount 57.82 78 P **P** **01 45 04.5 0.0**
baz=315,SNR=22
MNTX Cornudas Mount 57.82 78 P **P** **01 45 04.9 +0.4**
baz=315,SNR=22
MSTX Muleshoe 57.83 75 P **P** **01 45 04.5 -0.1**
baz=314,SNR=12
MSTX Muleshoe 57.83 75 P **P** **01 45 04.2 -0.3**
baz=314,SNR=12
AMTX Amarillo 57.85 73 P **P** **01 45 04.2 -0.5**
AMTX Amarillo 57.85 73 P **P** **01 45 04.0 -0.7**
baz=314
AMTX Amarillo 57.85 73 P **P** **01 45 04.8 +0.1**
baz=314
SCIA State Center 57.91 62 P **P** **01 45 04.0 -0.9**
baz=313
KSU1 Kansas State U 57.92 66 P **P** **01 45 03.8 -1.3**
baz=313,SNR=7.0
KSU1 Kansas State U 57.92 66 P **P** **01 45 03.9 -1.1**
baz=313,SNR=7.0
JETT Jettan, Norway 57.94 351 *eP* **P** **01 45 05.2 +0.4**
JETT IAmb IAmb 01 45 05.2
comp=Z,31nm,1.0s
I40A Norwalk 57.97 58 P **P** **01 45 04.3 -1.0**
baz=313
TRO Tromso 58.00 352 *eP* **P** **01 45 05.2 +0.2**
TRO IAmb IAmb 01 45 06.6
comp=Z,27nm,1.1s
NUUK Nuuk 58.13 23 *i* P **P** **01 45 07.4 +1.4**
NUUK IAmb IAmb 01 45 09.9
comp=Z,6.0nm,0.8s
KTK1 Kautokeino 58.16 350 *eP* **P** **01 45 06.3 +0.1**
KTK1 IAmb IAmb 01 45 08.7
comp=Z,36nm,1.4s
MK31 Makanchi Array 58.26 307 P **P** **01 45 07.0 -0.4**
MK31 Makanchi Array 58.26 307*d* *i*P **P** **01 45 06.7 -0.6**
MKAR Makanchi Array 58.26 307 P **P** **01 45 06.8 -0.5**
comp=Z,26nm,0.7s,baz=51,slow=7.3,SNR=236
MKAR LR LR 02 11 51.9
comp=Z,99nm,18.1s,baz=356,slow=38
comp=Z,26nm,0.7s
U32A Winter Ranch, 58.40 70 P **P** **01 45 07.9 -0.6**
baz=314,SNR=6.1
SOEG Soedalen 58.40 12 *i* P **P** **01 45 08.9 +1.0**
SOEG IAmb IAmb 01 45 12.1
comp=Z,9.6nm,0.9s
MAKZ Makanchi 58.41 307 P **P** **01 45 07.7 -0.6**
MAKZ Makanchi 58.41 307 ⇑P **P** **01 45 08.1 -0.3**
MAKZ Makanchi 58.41 307 P **P** **01 45 07.9 -0.5**
N38A Joes South For 58.66 63 P **P** **01 45 09.2 -1.0**
baz=314,SNR=7.8
GOMU GeErMu 58.69 290 P **P** **01 45 11.5 +0.6**
GOMU pP pP 01 45 27.9 -2.0
GOMU sP sP 01 45 34.5 -3.8
GOMU pmax pmax
comp=Z,41nm,0.9s
JFWS Jewell Farm 58.83 59 P **P** **01 45 09.6 -1.8**
baz=314
L40A Anamosa 58.89 60 P **P** **01 45 10.6 -1.1**
baz=314,SNR=6.3
P38A Dawn 59.30 64 P **P** **01 45 13.1 -1.5**
baz=314,SNR=14
BVA0 Borovoye Array 59.34 318 *i* P **P** **01 45 14.5 -0.1**
BVAR Borovoye Array 59.34 318 P **P** **01 45 15.0 +0.3**
comp=Z,48nm,0.7s,baz=50,slow=7.6,SNR=254
BVAR PcP **PcP** **01 46 02.3 +0.4**
comp=Z,8.2nm,0.5s,baz=61,slow=4.0,SNR=5.7
BVAR ScP **ScP** **01 49 56.7 +1.0**
comp=Z,3.5nm,0.8s,baz=70,slow=4.4,SNR=8.3
BVAR LR LR 02 12 23.8
comp=Z,154nm,21.6s,baz=44,slow=38
comp=Z,48nm,0.7s
BRVK Borovoye 59.36 318 P **P** **01 45 15.0 +0.2**
BRVK Borovoye 59.36 318*d* *i*P **P** **01 45 15.0 +0.2**
BRVK pmax pmax
comp=Z,48nm,1.0s
BRVK Borovoye 59.36 318 ⇓P **P** **01 45 15.2 +0.4**
BRVK pP **pP** **01 45 32.0 -1.8**
BRVK PcP **PcP** **01 46 01.8 -0.1**
T35B Sooner Cattle 59.48 68 P **P** **01 45 14.8 -1.1**
baz=314
WMOK Wichita Mounta 59.67 71 P **P** **01 45 15.8 -1.4**
baz=315
ALPN Alpine 59.82 78 P **P** **01 45 18.0 -0.5**
LOF Lofoten 59.91 353 *eP* **P** **01 45 18.4 +0.1**
STEI Steigen 59.98 353 *eP* **P** **01 45 19.1 +0.4**
FNO Franklin 60.12 70 P **P** **01 45 20.2 -0.1**
P40A Paris 60.19 63 P **P** **01 45 19.6 -1.1**
baz=314,SNR=18
LPIG La Paz 60.20 88 LR LR 02 09 18.7
comp=Z,18nm,18.4s,baz=272,slow=34
SVE Sverdlovsk 60.23 326 *eP* **P** **01 45 21.7 +1.0**
SVE pmax pmax
comp=Z,34nm,1.1s
GLMI Grayling 60.43 54 P **P** **01 45 19.7 -2.5**
baz=315
FAUS Fauske 60.52 352 *eP* **P** **01 45 22.7 +0.2**
TX31 Lajitas Ar. Si 60.54 79 P **P** **01 45 23.6 +0.2**
baz=316,SNR=42
TXAR Lajitas Array 60.54 79 P **P** **01 45 23.4 +0.1**
comp=Z,5.7nm,0.4s,baz=304,slow=5.3,SNR=163
TXAR ScP **ScP** **01 50 00.8 -0.7**
comp=Z,1.5nm,0.8s,baz=270,slow=2.5,SNR=5.8
TXAR LR LR 02 08 01.1
comp=Z,18nm,19.9s,baz=296,slow=32
comp=Z,5.7nm,0.4s
BRZS Berezniki 60.56 314*d* *i*P **P** **01 45 22.9 -0.2**
BRZS pmax pmax
comp=Z,17nm,0.9s
BRZS Berezniki 60.56 314⇓*i*P **P** **01 45 22.9 -0.2**
comp=Z,17nm,0.9s,baz=314
L44A Lake County Fo 60.58 58 P **P** **01 45 21.4 -1.9**
baz=315
TUL3 Leonard 60.59 68 P **P** **01 45 22.3 -1.2**
baz=315,SNR=6.5
TUL3 Leonard 60.59 68 P **P** **01 45 22.5 -1.1**
baz=315,SNR=6.5
ABTX Abilene, Hawle 60.64 74 P **P** **01 45 23.0 -0.8**
ABTX Abilene, Hawle 60.64 74 P **P** **01 45 23.1 -0.8**
baz=315,SNR=8.0
ABTX Abilene, Hawle 60.64 74 P **P** **01 45 23.2 -0.7**
baz=315,SNR=8.0
R40A Maddies Statio 60.93 64 P **P** **01 45 23.8 -2.0**
baz=315,SNR=6.2
SCHQ Schefferville 60.94 37 P **P** **01 45 25.0 -0.6**
SCHQ IAmb IAmb 01 45 26.4
comp=Z,26nm,1.1s
SCHQ Schefferville 60.94 37 P **P** **01 45 24.4 -1.2**
comp=Z,15nm,0.8s,baz=299,slow=7.3,SNR=23
comp=Z,15nm,0.8s
HPIG 61.03 82 P **P** **01 45 26.6 -0.2**
HPIG IAmb IAmb 01 45 28.3
comp=Z,19nm,1.0s
U38A Gravette 61.03 67 P **P** **01 45 25.1 -1.4**
U38A IAmb IAmb 01 45 26.3
comp=Z,12nm,0.8s
U38A Gravette 61.03 67 P **P** **01 45 24.8 -1.8**
baz=315,SNR=9.4
ARU Arti 61.26 327 P **P** **01 45 27.1 -0.6**
ARU Arti 61.26 327*c* *i*P **P** **01 45 27.9 +0.3**
ARU *PP **pP** **01 45 48.7 +1.9**
ARU 01 46 09.1
ARU S **S** **01 53 43.8 +2.3**
ARU SS **SS** **01 57 38.7 -3.2**
ARU pmax pmax
comp=Z,41nm,0.9s
ARU Arti 61.26 327 LR LR 02 14 34.8
comp=Z,90nm,18.4s,baz=32,slow=38
ARU Arti 61.26 327 P **P** **01 45 28.1 +0.5**
ARU PcP **PcP** **01 46 09.6 +0.1**
PZH PanZhiHua 61.35 277 P **P** **01 45 30.3 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.7s
TDK Taldyqorghan 61.45 307*de*P **P** **01 45 29.5 +0.3**
TDK Taldyqorghan 61.45 307⇓*eP* **P** **01 45 29.5 +0.3**
baz=307
VLDQ Val d'Or 61.53 48 P **P** **01 45 27.0 -2.6**
VLDQ IAmb IAmb 01 45 28.1
comp=Z,17nm,0.8s
Z35A Perchaven, San 61.56 71 P **P** **01 45 29.8 -0.2**
baz=316
CCM Cathedral Cave 61.67 64 P **P** **01 45 29.5 -1.3**
baz=315
CCM Cathedral Cave 61.67 64 P **P** **01 45 29.6 -1.2**
STOK Stokkvaagen 61.73 353 *eP* **P** **01 45 30.9 +0.3**
MOR8 Moi Rana 61.77 353 *eP* **P** **01 45 30.7 -0.3**
U40A Yellville 61.97 66 P **P** **01 45 31.2 -1.6**
baz=315,SNR=11
U40A P **P** **01 45 31.2 -1.6**
baz=315,SNR=11
JCT Junction City 62.06 75 P **P** **01 45 32.9 -0.7**
JCT IAmb IAmb 01 45 36.6
comp=Z,12nm,0.7s
JCT Junction City 62.06 75 P **P** **01 45 32.9 -0.7**
JCT pmax pmax
comp=Z,12nm,0.7s
JCT Junction City 62.06 75 P **P** **01 45 32.3 -1.3**
baz=316,SNR=7.9
JCT Junction City 62.06 75 P **P** **01 45 33.3 -0.2**
baz=316,SNR=7.9
PDGK Podgornoye 62.11 305 P **P** **01 45 33.3 -0.5**
NRS Narsarsuaq 62.24 22 P **P** **01 45 33.7 -0.4**
NRS Narsarsuaq 62.24 22 P **P** **01 45 33.7 -0.4**
NRS pmax pmax
comp=Z,36nm,1.3s
SHLS Shalkode 62.25 305*d* *i*P **P** **01 45 33.4 -1.3**
SHLS Shalkode 62.25 305⇓*i*P **P** **01 45 33.4 -1.3**
baz=305
SFIN Lafayette 62.29 59 P **P** **01 45 32.9 -1.9**
baz=316
KIRV Kirov 62.38 332*d* *i*P **P** **01 45 35.5 +0.4**
KIRV Kirov 62.38 332 LR LR 02 14 48.6
comp=Z,66nm,20.0s,baz=19,slow=38
WHTX Lake Whitney, 62.39 73 P **P** **01 45 35.7 +0.1**
WHTX Lake Whitney, 62.39 73 P **P** **01 45 35.0 -0.6**
baz=316,SNR=9.2
WHTX Lake Whitney, 62.39 73 P **P** **01 45 35.8 +0.1**
baz=316,SNR=9.2
KPKS Kokpek 62.42 306*d* *i*P **P** **01 45 36.0 +0.2**
KPKS pmax pmax
comp=Z,11nm,0.7s
KPKS Kokpek 62.42 306⇓*i*P **P** **01 45 36.1 +0.2**
comp=Z,11nm,0.7s,baz=306
UZB Uzynbulak 62.48 305*d* *i*P **P** **01 45 36.3 +0.1**
UZB pmax pmax
comp=Z,9.0nm,0.6s
UZB Uzynbulak 62.48 305⇓*i*P **P** **01 45 36.4 +0.1**
comp=Z,9.0nm,0.6s,baz=305
AAM Ann Arbor 62.72 56 P **P** **01 45 36.7 -1.0**
baz=316
ZHN Zhinishke 62.76 306 *eP* **P** **01 45 38.3 +0.2**
ZHN Zhinishke 62.76 306 *eP* **P** **01 45 38.4 +0.2**
baz=306
SATY Saty 62.85 306*d* *i*P **P** **01 45 39.2 +0.5**
SATY pmax pmax
comp=Z,13nm,1.1s
SATY Saty 62.85 306⇓*i*P **P** **01 45 39.2 +0.5**
comp=Z,13nm,1.1s,baz=306
HNR Honiara 62.87 200 LR LR 02 08 26.5
comp=Z,687nm,20.7s,baz=7.5,slow=32
BORG Borgarnes 62.90 9 LR LR 02 11 41.1
comp=Z,24nm,21.9s,baz=330,slow=35
KLMR Klimovskoe 62.97 339 *eP* **P** **01 45 37.7 -1.3**
KLMR pmax pmax
comp=Z,36nm,1.2s
CHKK Chushkaly 62.98 307 *eP* **P** **01 45 38.5 -0.9**
CHKK Chushkaly 62.98 307 *eP* **P** **01 45 38.6 -0.9**
baz=307
435B Jarrell 63.18 74 P **P** **01 45 40.5 -0.4**
435B IAmb IAmb 01 45 43.2
comp=Z,23nm,0.8s
435B Jarrell 63.18 74 P **P** **01 45 40.0 -0.9**
baz=316
SADO Sadowa 63.18 51 LR LR 02 14 55.7
comp=Z,69nm,18.1s,baz=274,slow=38
PRZ Przheval'sk 63.27 305 P **P** **01 45 41.5 -0.1**
PRZ Przheval'sk 63.27 305 P **P** **01 45 41.5 -0.1**
PRZ pmax pmax
comp=Z,56nm,1.2s
KUU Kurty 63.28 308*d* *i*P **P** **01 45 40.7 -0.7**
KUU Kurty 63.28 308⇓*i*P **P** **01 45 40.8 -0.7**
baz=308
O48B Farmland 63.41 58 P **P** **01 45 40.8 -1.5**
baz=316
MDOK Medeo 63.46 307 *i* P **P** **01 45 43.0 +0.2**
MDOK Medeo 63.46 307 *i* P **P** **01 45 43.0 +0.2**
baz=307
AAA Alma-Ata 63.49 307 *eP* **P** **01 45 43.2 +0.3**
AAA Alma-Ata 63.49 307 *eP* **P** **01 45 43.2 +0.3**
baz=307
BTLS Baital 63.55 310*d* *i*P **P** **01 45 43.2 +0.1**
BTLS pmax pmax
comp=Z,10.0nm,0.7s
BTLS Baital 63.55 310⇓*i*P **P** **01 45 43.3 +0.1**
comp=Z,9.8nm,0.7s,baz=310
TNSS Tian-Shan 63.60 307 *eP* **P** **01 45 43.9 -0.1**
TNSS Tian-Shan 63.60 307 *eP* **P** **01 45 44.0 -0.1**
baz=307
WLAR White Oak Lake 63.72 68 P **P** **01 45 43.6 -0.9**
WLAR IAmb IAmb 01 45 45.1
comp=Z,30nm,0.8s
WUS Wushi 63.79 304 P **P** **01 45 45.4 +0.4**
SLVN Son La 63.79 272 P **P** **01 45 45.0 -0.1**
SLVN IAmb IAmb 01 45 47.1
comp=Z,31nm,1.1s
833A Chaparral WMA, 63.86 77 P **P** **01 45 44.2 -1.3**
baz=317
TARG Taragay, Kyrgy 64.12 305 P **P** **01 45 47.6 +0.1**
TARG Taragay, Kyrgy 64.12 305 P **P** **01 45 47.6 +0.1**
TARG pmax pmax
comp=Z,11nm,0.8s
P49A Miami Univ. Ec 64.17 58 P **P** **01 45 45.8 -1.5**
baz=317
NATX Nacogdoches 64.21 71 P **P** **01 45 46.2 -1.4**
baz=317
NATX Nacogdoches 64.21 71 P **P** **01 45 48.0 +0.4**
baz=317
WCI Wyandotte Cave 64.27 60 P **P** **01 45 46.7 -1.3**
baz=317
WCI Wyandotte Cave 64.27 60 P **P** **01 45 47.6 -0.4**
TKM2 Tokmak 2 64.36 307 P **P** **01 45 49.0 +0.3**
SNR=54
TKM2 Tokmak 2 64.36 307 P **P** **01 45 48.5 -0.3**
SGDS Sogindy 64.44 308*d* *i*P **P** **01 45 49.6 +0.5**
SGDS pmax pmax
comp=Z,11nm,0.9s
SGDS Sogindy 64.44 308⇓*i*P **P** **01 45 49.7 +0.5**
comp=Z,11nm,0.9s,baz=308
ULHL Ulahol 64.53 306 P **P** **01 45 50.5 +0.6**
SNR=18
ACSO Alum Creek Sta 64.57 57 P **P** **01 45 48.0 -2.0**
baz=317
USP Ospenovka 64.64 308 P **P** **01 45 51.2 +0.8**
SNR=73
ERPA Erie 64.71 54 P **P** **01 45 49.3 -1.5**
baz=318
CHMS Chumysh 64.72 308 P **P** **01 45 51.6 +0.7**
SNR=17
T47A Sharon Grove 64.73 62 P **P** **01 45 50.2 -0.8**
baz=317,SNR=5.3
HKT Hockley 64.82 73 P **P** **01 45 51.0 -0.5**
HKT IAmb IAmb 01 45 55.2
comp=Z,51nm,1.9s
HKT Hockley 64.82 73*ce*P **P** **01 45 51.8 +0.2**
HKT pmax pmax
comp=Z,19nm,1.9s
HKT Hockley 64.82 73 P **P** **01 45 51.8 +0.2**
M53A WI Miller and 64.87 55 P **P** **01 45 49.9 -1.9**
baz=318
KBK Karagaybulak 64.87 307 P **P** **01 45 52.9 +0.8**
SNR=27
FRU1 Bishkek 64.92 308 P **P** **01 45 52.4 +0.2**
FRU1 Bishkek 64.92 308 P **P** **01 45 52.4 +0.2**
FRU1 pmax pmax
comp=Z,70nm,0.9s
WVT Waverly 64.95 63 P **P** **01 45 51.8 -0.7**
baz=317
WVT Waverly 64.95 63 P **P** **01 45 52.0 -0.5**
baz=317
WVT Waverly 64.95 63 P **P** **01 45 51.8 -0.7**
FINES FINESS Array B 64.99 346 P **P** **01 45 51.2 -1.0**
FINES FINESS Array B 64.99 346 P **P** **01 45 51.8 -0.5**
comp=Z,4.3nm,0.6s,baz=27,slow=4.6,SNR=35
FINES LR LR 02 17 56.6
comp=Z,27nm,18.0s,baz=3.0,slow=39
comp=Z,4.3nm,0.6s
AAK Ala-Archa 65.11 308 P **P** **01 45 54.4 +0.8**
SNR=35
AAK Ala-Archa 65.11 308 P **P** **01 45 53.7 +0.1**
AAK Ala-Archa 65.11 308*d* *i*P **P** **01 45 54.2 +0.6**
AAK pmax pmax
comp=Z,33nm,0.7s
AAK Ala-Archa 65.11 308 LR LR 02 15 20.2

comp=Z,92nm,21.4s,baz=25,slow=37
AAK Ala-Archa 65.11 308 ⇓P **P** **01 45 54.4 +0.8**
AAK pP **pP** **01 46 11.6 -1.3**
KZA Kyzart 65.16 307 P **P** **01 45 55.2 +1.0**
SNR=8.6
OXF Oxford 65.24 65 P **P** **01 45 52.7 -1.6**
baz=317
NRN Naryn 65.26 306 P **P** **01 45 55.1 +0.3**
NRN IAmb IAmb 01 45 56.6
comp=Z,21nm,1.0s
NRN Naryn 65.26 306 P **P** **01 45 55.1 +0.3**
NRN pmax pmax
comp=Z,21nm,1.0s
Q51A Peebles 65.26 58 P **P** **01 45 53.5 -0.9**
baz=318
Q51A P **P** **01 45 53.5 -0.9**
baz=318
UCH Uchtor 65.41 307 P **P** **01 45 55.0 -0.9**
SNR=13
EKS2 Erkin-Say 65.45 308 P **P** **01 45 56.7 +1.0**
SNR=12
P52A Corning 65.45 57 P **P** **01 45 53.8 -1.8**
baz=318
LONY Lake Ozonia 65.45 49 P **P** **01 45 54.0 -1.6**
baz=319
LSA Lhasa 65.46 287 P **P** **01 45 56.7 +0.3**
LSA IAmb IAmb 01 45 59.0
comp=Z,22nm,0.7s
LSA Lhasa 65.46 287 P **P** **01 45 56.7 +0.3**
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 65.46 287 P **P** **01 45 58.1 +1.6**
O53A New Philadelph 65.47 56 P **P** **01 45 53.5 -2.3**
baz=318
SWI Sorong 65.53 233 P **P** **01 45 57.4 +1.0**
SWI pmax pmax
comp=Z,46nm,1.1s
SWI Sorong 65.53 233 P **P** **01 45 57.2 +0.8**
comp=Z,46nm,1.1s
SIJI Sorong 65.53 233 P **P** **01 45 57.0 +0.6**
comp=Z,38nm,1.1s,comp=Z,1µm
CLTN Cedars of Leba 65.81 62 P **P** **01 45 57.3 -0.7**
CLTN IAmb IAmb 01 45 58.4
comp=Z,15nm,0.7s
AML Almayashu 65.88 308 P **P** **01 46 00.0 +1.2**
SNR=44
AML Almayashu 65.88 308 P **P** **01 45 59.3 +0.4**
L56A Greenwood 65.90 52 P **P** **01 45 58.0 -0.6**
baz=319,SNR=6.8
L56A P **P** **01 45 58.0 -0.6**
baz=319,SNR=6.8
ZAIG Zacatecas 65.98 83 P **P** **01 45 59.5 -0.1**
ZAIG IAmb IAmb 01 46 01.5
comp=Z,22nm,1.0s
RAF Rauma 66.02 348 *e*P **P** **01 45 58.6 -0.3**
AKTO Aktyubinsk 66.24 323 P **P** **01 46 01.2 +0.6**
comp=Z,41nm,0.8s,baz=51,slow=5.8,SNR=113
AKTO LR LR 02 16 42.0
comp=Z,132nm,18.7s,baz=351,slow=38
comp=Z,41nm,0.8s
DOMB Dombas 66.25 354 *e*P **P** **01 46 01.2 +0.7**
MEF Metsahovi 66.42 346 *e*P **P** **01 46 00.6 -0.8**
PMG Port Moresby 66.44 214 LR LR 02 11 10.1
comp=Z,41nm,19.6s,baz=334,slow=32
AB31 Akbulak array 66.45 321 *i* P **P** **01 46 02.1 +0.2**
ABKAR Akbulak array 66.45 321 P **P** **01 46 02.1 +0.2**
DZA Taraz 66.45 310 *e*P **P** **01 46 02.2 +0.1**
DZA pmax pmax
comp=Z,12nm,0.9s
DZA Taraz 66.45 310 *e*P **P** **01 46 02.2 +0.1**
comp=Z,12nm,0.9s,baz=310
SWET Sewanee 66.67 62 P **P** **01 46 02.1 -1.4**
SWET IAmb IAmb 01 46 13.9
comp=Z,40nm,1.7s
KK31 Karatay Array 66.68 310 P **P** **01 46 03.4 -0.1**
KK31 Karatay Array 66.68 310 *i* P **P** **01 46 03.4 -0.1**
KKAR Karatay Array 66.68 310 P **P** **01 46 03.8 +0.3**
KKAR Karatay Array 66.68 310 P **P** **01 46 03.8 +0.3**
KKAR pmax pmax
comp=Z,33nm,0.8s
KSH Kashi 66.70 305 P **P** **01 46 07.9 +4.1**
KSH pP pP 01 46 25.5 +2.3
KSH pmax pmax
comp=Z,53nm,1.0s
CRAI Chiangrai 66.81 274 P **P** **01 46 05.1 +0.5**
CRAI IAmb IAmb 01 46 06.3
comp=Z,20nm,1.0s
ARSB Arslanbob 66.84 308 P **P** **01 46 05.2 +0.5**
ARSB Arslanbob 66.84 308 P **P** **01 46 05.2 +0.5**
ARSB pmax pmax
comp=Z,13nm,1.0s
SSPA Standing Stone 66.87 53 P **P** **01 46 02.9 -1.8**
baz=319
SSPA Standing Stone 66.87 53 P **P** **01 46 03.9 -0.8**
ARK Arkit 66.98 309 P **P** **01 46 06.6 +1.1**
ARK pmax pmax
comp=Z,20nm,1.3s
NB2 NORSAR Subarra 67.10 353 P **P** **01 46 05.2 -0.7**
comp=Z,9.8nm,0.9s,baz=7.9,slow=6.5
NB2 NORSAR Subarra 67.10 353 P **P** **01 46 05.2 -0.7**
baz=7.9,slow=6.5
NOA NORSAR Array B 67.10 353 P **P** **01 46 05.5 -0.4**
comp=Z,7.1nm,0.9s,baz=327,slow=14,SNR=18
NOA LR LR 02 13 46.2
comp=Z,25nm,21.7s,baz=325,slow=34
comp=Z,7.1nm,0.9s
NC602 NORSAR Array S 67.38 353 *e*P **P** **01 46 08.8 +1.2**
TKL Tuckaleechee C 67.52 61 LR LR 02 16 24.5
comp=Z,83nm,19.0s,baz=323,slow=36
OHH Osh 67.55 307 P **P** **01 46 10.0 +0.9**
OHH pmax pmax
comp=Z,27nm,1.2s
TRKS Terek-Say 67.58 309 P **P** **01 46 10.2 +0.8**
TRKS pmax pmax
comp=Z,40nm,1.0s
SKAR Skarslia 67.65 355 *e*P **P** **01 46 09.0 -0.3**
LRAL Lakeview Retre 67.69 65 P **P** **01 46 08.3 -1.6**
baz=318
CHM Chimkent 67.71 311 *e*P **P** **01 46 10.6 +0.6**
CHM pmax pmax
comp=Z,24nm,1.0s
CHM Chimkent 67.71 311 *e*P **P** **01 46 10.7 +0.6**
comp=Z,24nm,1.0s,baz=310
VSU Vasula 67.71 344 *d i*P **P** **01 46 08.7 -1.0**
VSU pmax pmax
comp=Z,43nm,1.8s
VSU Vasula 67.71 344 *e*P **P** **01 46 09.8 +0.1**
HFS Hagfors 67.79 352 P **P** **01 46 09.7 -0.4**
comp=Z,5.1nm,0.7s,baz=13,slow=4.2,SNR=17
HFS LR LR 02 17 16.6
comp=Z,28nm,19.1s,baz=321,slow=37
comp=Z,5.1nm,0.7s
MTSE Matsula 67.94 346 *e*P **P** **01 46 11.2 +0.1**
MOS Moscow 68.00 337 *e*P **P** **01 46 10.8 -0.8**
MOS pmax pmax
comp=Z,58nm,0.9s
SHL Shillong 68.06 284 P **P** **01 46 12.4 -0.2**
SHL Shillong 68.06 284 P **P** **01 46 12.4 -0.2**
SHL pmax pmax
comp=Z,70nm,1.1s
MND Mandalay 68.11 278 P **P** **01 46 12.3 -0.4**
BELG Belogornoye 68.19 330 *d i*P **P** **01 46 13.0 +0.2**
BELG pmax pmax
comp=Z,15nm,1.0s
BELG Belogornoye 68.19 330 LR LR 02 18 36.6
comp=Z,28nm,19.0s,baz=131,slow=38
CMMT Chiang Mai 68.75 274 P **P** **01 46 17.2 +0.4**
comp=Z,41nm,1.3s
CHTO Chiang Mai 68.75 274 P **P** **01 46 16.5 -0.3**
CHTO Chiang Mai 68.75 274 P **P** **01 46 16.7 -0.1**
CHTO Chiang Mai 68.75 274 P **P** **01 46 16.5 -0.3**
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 68.75 274 P **P** **01 46 17.1 +0.3**
comp=Z,15nm,1.3s
OBN Obninsk 68.83 337 ⇑P **P** **01 46 17.1 +0.4**
OBN Obninsk 68.83 337 P **P** **01 46 16.4 -0.3**
OBN Obninsk 68.83 337 *de*P **P** **01 46 16.6 -0.1**
OBN *e**PP **pP** **01 46 35.9 -0.3**
OBN *e* 01 46 42.1
OBN *e**SP **sP** **01 46 44.8 +0.4**
OBN S **S** **01 55 13.0 -1.2**
OBN SSS SSS 02 02 48.0
OBN pmax pmax
comp=Z,71nm,1.3s
OBN MLR MLR
comp=Z,161nm,6.0s
OBN Obninsk 68.83 337 P **P** **01 46 17.0 +0.4**
BTK Batken 68.87 308 P **P** **01 46 17.5 +0.1**
BTK Batken 68.87 308 P **P** **01 46 17.5 +0.1**
BTK pmax pmax
comp=Z,52nm,0.9s
CBN Corbin Frederi 68.97 55 P **P** **01 46 16.9 -1.0**
baz=320
CMAR Chiang Mai Arr 69.02 273 P **P** **01 46 18.9 +0.4**
CMAR Chiang Mai Arr 69.02 273 P **P** **01 46 19.0 +0.5**
comp=Z,6.2nm,0.6s,baz=26,slow=6.7,SNR=33
CMAR LR LR 02 19 50.9
comp=Z,11nm,18.6s,baz=55,slow=39
comp=Z,6.2nm,0.6s
KMSC Kings Mountain 69.23 59 P **P** **01 46 18.1 -1.5**
baz=319
LUWI Luwuk 70.11 241 P **P** **01 46 24.3 -0.8**
LUWI Luwuk 70.11 241 P **P** **01 46 24.5 -0.7**
comp=Z,69nm,0.7s,comp=Z,3µm
LPSR Galich'ya Gora 70.51 335 *e*P **P** **01 46 25.3 -1.8**
LPSR pmax pmax
comp=Z,30nm,0.9s
SIMJ Simiganj 70.84 308 P **P** **01 46 29.2 -0.3**
SIMJ Simiganj 70.84 308 P **P** **01 46 29.9 +0.3**
SIMJ pP **pP** **01 46 47.5 -1.6**
SIMJ sP **sP** **01 46 55.6 -1.7**
PABE Paberze 71.00 345 P **P** **01 46 29.8 -0.2**
PABE IAmb IAmb 01 46 30.8
comp=Z,18nm,0.8s
PABE Paberze 71.00 345 *e*P **P** **01 46 29.4 -0.6**
VRH Novokhopyorsk 71.00 333 *e*P **P** **01 46 28.3 -1.8**
VRH pmax pmax
comp=Z,21nm,1.3s
MNK Minsk 71.26 342 *i* P **P** **01 46 31.3 -0.3**
MNK *i* 01 46 50.6
MNK *i **PP **pP** **01 46 52.4 +1.2**
MNK *i* 01 49 09.9
MNK *i* PPP PPP 01 50 53.6
MNK *i* S **S** **01 55 42.7 -0.1**
MNK *i **SS **sS** **01 56 14.4 +0.3**
MNK *i* SS **SS** **02 00 19.0 +2.3**
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=Z,76nm,18.0s
MNK MLR MLR
comp=N,179nm,18.0s
MNK MLR MLR
comp=E,46nm,18.0s
VORR Voronezh 71.28 334 *e*P **P** **01 46 30.4 -1.4**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 71.70 334 *e*P **P** **01 46 33.1 -1.2**
VSR pmax pmax
comp=Z,30nm,0.9s
VORD Divnogorie 71.89 334 *e*P **P** **01 46 34.2 -1.3**
VORD pmax pmax
comp=Z,20nm,0.8s
NIL Nilore 72.58 302 P **P** **01 46 40.5 +0.6**
NIL Nilore 72.58 302 P **P** **01 46 40.5 +0.6**
NIL pmax pmax
comp=Z,95nm,1.1s
EKA Eskdalemuir Ar 73.31 1 P **P** **01 46 43.8 0.0**
comp=Z,1.6nm,0.6s,baz=3.1,slow=5.5,SNR=7.7
comp=Z,1.6nm,0.6s
KBL Kabul 74.06 306 P **P** **01 46 48.3 -0.5**
KBL Kabul 74.06 306 P **P** **01 46 48.3 -0.5**
KBL pmax pmax
comp=Z,47nm,0.8s
DZM Mont Dzumac 74.17 191 LR LR 02 12 08.6
comp=Z,73nm,20.5s,baz=150,slow=30
PPT Papeete 74.56 148 LR LR 02 14 21.5
comp=Z,77nm,20.9s,baz=7.5,slow=31
PPT2 Papeete2 74.58 148 *e*LR LR 02 09 24.5
comp=Z,229nm,28.0s
PPT2 *e*LR LR 02 09 42.1
comp=Z,316nm,30.8s
AKASG Malin Array Be 74.59 340 P **P** **01 46 51.0 -0.3**
AKASG Malin Array Be 74.59 340 P **P** **01 46 51.1 -0.2**
comp=Z,16nm,0.8s,baz=22,slow=5.8,SNR=38
AKASG LR LR 02 24 29.4
comp=Z,27nm,18.0s,baz=31,slow=40
comp=Z,16nm,0.8s
AKBB Malin Array Si 74.59 340 P **P** **01 46 50.8 -0.5**
AKBB IAmb IAmb 01 46 52.2
comp=Z,20nm,0.8s
AKBB Malin Array Si 74.59 340 *d i*P **P** **01 46 51.1 -0.2**
AKBB pmax pmax
comp=Z,27nm,1.0s
KIEV Kiev 74.60 340 ⇓P **P** **01 46 50.9 -0.4**
KIEV Kiev 74.60 340 P **P** **01 46 51.0 -0.4**
KIEV IAmb IAmb 01 46 52.2
comp=Z,18nm,0.8s
KIEV Kiev 74.60 340 P **P** **01 46 51.0 -0.4**
KIEV pmax pmax
comp=Z,18nm,0.9s
CMIG Matias Romero 74.98 81 LR LR 02 15 02.9
comp=Z,45nm,21.8s,baz=313,slow=32
KAPI Kappang 75.06 241 LR LR 02 15 26.1
comp=Z,33nm,20.5s,baz=33,slow=32
BKSI Bulukumba 75.12 241 P **P** **01 46 57.3 +2.5**
comp=Z,18nm,1.3s
RAR Rarotonga 75.18 159 LR LR 02 13 48.0
comp=Z,68nm,18.8s,baz=344,slow=31
MTN Manton Dam 76.02 227 P **P** **01 46 60.0 +0.1**
MTN IAmb IAmb 01 47 01.0
comp=Z,16nm,0.8s
GOF Gofitskoye 76.08 329 *d i*P **P** **01 47 01.1 +1.1**
MAK Makhachkala 76.42 325 *e*P **P** **01 47 01.9 0.0**
MAK *e**PP **pP** **01 47 22.4 +0.7**
MAK *e**SP **sP** **01 47 32.2 +2.3**
MAK *e* 01 49 54.0
MAK *e*PPP PPP 01 51 39.9
MAK *e*S **S** **01 56 40.9 -0.2**
MAK *e**SS **sS** **01 57 18.3 +4.6**
MAK *e*SSS SSS 02 05 00.5
MAK pmax pmax
comp=Z,408nm,1.6s
MAK MLR MLR
comp=Z,212nm,15.0s
LVV L'vov 76.45 343 *e*P **P** **01 47 01.6 -0.4**
GEYT Alibeck 76.48 315 P **P** **01 47 02.7 +0.2**
GEYT IAmb IAmb 01 47 04.3
comp=Z,21nm,0.8s
GEYT Alibeck 76.48 315 P **P** **01 47 03.2 +0.8**
comp=Z,15nm,0.8s,baz=45,slow=5.0,SNR=49
GEYT PP **PP** **01 49 54.6 +0.1**
comp=Z,2.3nm,0.8s,baz=12,slow=7.6,SNR=3.8
GEYT LR LR 02 25 37.5
comp=Z,74nm,18.2s,baz=34,slow=40
comp=Z,15nm,0.8s
GYA0B ALIBECK ARRAY 76.48 315 P **P** **01 47 02.8 +0.4**
GYA0B IAmb IAmb 01 47 04.3
comp=Z,18nm,0.8s
CLL Collm 76.57 350 *i* P **P** **01 47 01.6 -1.1**
CLL pmax pmax
comp=Z,21nm,1.6s
CLL Collm 76.57 350 *i* P **P** **01 47 02.0 -0.7**
comp=Z,21nm,1.6s
CLL *e*PP **PP** **01 49 59.0 +4.2**
HORU Horodok 76.57 341 P **P** **01 47 02.9 +0.2**
TEIG Tepich 76.61 74 LR LR 02 21 37.7
comp=Z,155nm,19.5s,baz=16,slow=36
CTAO Charters Tower 76.72 211 P **P** **01 47 04.4 +0.6**
CTAO Charters Tower 76.72 211 P **P** **01 47 04.4 +0.6**
CTAO pmax pmax
comp=Z,10.0nm,1.3s
OJC Ojcow 76.77 346 P **P** **01 47 04.0 +0.2**
OJC Ojcow 76.77 346 P **P** **01 47 04.0 +0.2**
OJC pmax pmax
comp=Z,9.0nm,0.8s
KWP Kalwaria Pacla 76.87 344 *e*P **P** **01 47 05.6 +1.2**
KWP Kalwaria Pacla 76.87 344 P **P** **01 47 05.1 +0.7**
KWP pmax pmax
comp=Z,61nm,0.8s
DPC Dobruska-Polom 77.13 348 *e*P **P** **01 47 05.9 0.0**
DPC Dobruska-Polom 77.13 348 *e*P **P** **01 47 05.9 0.0**
MORS Morshin 77.14 343 P **P** **01 47 06.9 +1.0**
KIV Kislovodsk 77.18 329 ⇑P **P** **01 47 07.3 +0.9**
KIV Kislovodsk 77.18 329 P **P** **01 47 06.4 0.0**
KIV Kislovodsk 77.18 329 *e*P **P** **01 47 07.1 +0.7**
KIV pmax pmax
comp=Z,33nm,1.0s
KIV MLR MLR
comp=Z,45nm,18.0s
KMPD K-Podol'skiy 77.19 341 P **P** **01 47 05.0 -1.2**
SORM Soroca 77.20 340 ⇑P **P** **01 47 06.6 +0.4**
SORM Soroca 77.20 340 ⇑P **P** **01 47 06.6 +0.4**
NCK Nalchik 77.29 328 ⇓*i*P **P** **01 47 08.2 +1.3**
NCK pmax pmax
comp=Z,76nm,1.0s
KBZ Khabaz 77.31 328 *c i*P **P** **01 47 07.5 +0.6**
KBZ pmax pmax
comp=Z,29nm,0.9s
KBZ Khabaz 77.31 328 P **P** **01 47 08.2 +1.2**
comp=Z,21nm,0.8s,baz=86,slow=2.2,SNR=34
KBZ LR LR 02 25 04.7
comp=Z,84nm,19.7s,baz=6.0,slow=39
comp=Z,21nm,0.8s
STHS Stebnicka Huta 77.32 345 *e*P **P** **01 47 08.2 +1.3**
STHS Stebnicka Huta 77.32 345 *e*P **P** **01 47 08.2 +1.3**
HRA Herat 77.51 310 P **P** **01 47 09.1 +0.6**
MORC Moravsky Berou 77.53 347 ⇓P **P** **01 47 08.5 +0.4**
MORC Moravsky Berou 77.53 347 P **P** **01 47 08.5 +0.4**
MORC Moravsky Berou 77.53 347 *e*P **P** **01 47 08.7 +0.6**
MORC Moravsky Berou 77.53 347 ⇓P **P** **01 47 08.5 +0.4**
KOLS Kolonicke sedl 77.61 344 *e*P **P** **01 47 09.8 +1.2**
KOLS pmax pmax
comp=Z,21nm,0.7s
KOLS Kolonicke sedl 77.61 344 *e*P **P** **01 47 09.8 +1.2**
NKC Novy Kostel 77.69 351 *e*P **P** **01 47 09.7 +0.7**
NKC Novy Kostel 77.69 351 *e*P **P** **01 47 09.7 +0.7**
PRU Pruhonice 77.70 349 *e*P **P** **01 47 09.2 +0.2**
PRU Pruhonice 77.70 349 *e*P **P** **01 47 09.2 +0.2**
GOPC GO Pecny, Ondr 77.75 349 *e*P **P** **01 47 10.0 +0.7**
GOPC GO Pecny, Ondr 77.75 349 *e*P **P** **01 47 10.0 +0.7**
CRVS Cervenica-Dubn 77.78 344 *e*P **P** **01 47 10.9 +1.4**
CRVS pmax pmax
comp=Z,17nm,0.9s
CRVS Cervenica-Dubn 77.78 344 *e*P **P** **01 47 10.8 +1.3**
LANS Liptovska Anna 77.86 346 *e*P **P** **01 47 11.9 +1.9**
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS Liptovska Anna 77.86 346 *e*P **P** **01 47 11.9 +1.9**
MAUC Maruska 77.89 347 *e*P **P** **01 47 10.7 +0.6**
ZKTA Zakatala 77.89 325 P **P** **01 47 08.6 -1.7**
SEKA Sheki 78.06 324 P **P** **01 47 09.4 -1.9**
VRAC Vranov 78.12 348 ⇑P **P** **01 47 12.6 +1.3**
VRAC Vranov 78.12 348 *e*P **P** **01 47 12.2 +0.8**
VRAC Vranov 78.12 348 ⇑P **P** **01 47 12.6 +1.3**
VRAC Vranov 78.12 348 LR LR 02 25 25.5
comp=Z,36nm,18.1s,baz=13,slow=38
ONI Oni 78.15 327 P **P** **01 47 11.7 0.0**
ONI IAmb IAmb 01 47 17.4
comp=Z,14nm,0.9s
ONI Oni 78.15 327 P **P** **01 47 11.7 0.0**
ONI pmax pmax
comp=Z,14nm,0.9s
MILM Milestii Mici 78.25 339 ⇑P **P** **01 47 12.2 +0.1**
MILM Milestii Mici 78.25 339 ⇑P **P** **01 47 12.2 +0.1**
IAS Iasi 78.27 340 P **P** **01 47 14.4 +2.2**
TREC Trest 78.27 348 *e*P **P** **01 47 12.6 +0.4**
TREC Trest 78.27 348 *e*P **P** **01 47 12.6 +0.4**
ZVC Zvikov 78.28 349 *e*P **P** **01 47 13.2 +0.9**
TRSU Trosnyk 78.30 343 P **P** **01 47 14.3 +1.9**
BUR08 Bucovina Ar. S 78.32 342 P **P** **01 47 12.9 +0.3**
BUR08 IAmb IAmb 01 47 14.3
comp=Z,18nm,0.8s
BURAR Bucovina Array 78.34 342 ⇑P **P** **01 47 13.5 +0.8**
BURAR Bucovina Array 78.34 342 P **P** **01 47 13.1 +0.3**
BURAR IAmb IAmb 01 47 14.7
comp=Z,26nm,0.7s
BURAR Bucovina Array 78.34 342 ⇑P **P** **01 47 13.5 +0.8**
KRUC Moravsky 78.38 348 *e*P **P** **01 47 13.5 +0.7**
JAVC Velka Javorina 78.41 347 *e*P **P** **01 47 14.9 +1.9**
SOC Sochi 78.45 330 *e*P **P** **01 47 11.4 -1.9**
SOC *e* 01 50 12.9
SOC *e*PPP PPP 01 51 57.5
SOC *e*S **S** **01 57 00.7 -2.4**
SOC *e*SS **SS** **02 02 11.5 +5.3**
SOC *e*SSS SSS 02 05 25.5
SOC pmax pmax
comp=Z,36nm,1.0s
VYHS Vyhne 78.59 346 *e*P **P** **01 47 15.1 +1.1**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 78.59 346 *e*P **P** **01 47 15.1 +1.1**
BMR Baia Mare 78.61 343 P **P** **01 47 17.4 +3.3**
KHC Kasperske Hory 78.66 350 *e*P **P** **01 47 14.8 +0.4**
KHC Kasperske Hory 78.66 350 *e*P **P** **01 47 14.8 +0.4**
GANJ Ganja 78.87 325 P **P** **01 47 14.0 -1.7**
CKRC Cesky Krumlov 78.88 349 *e*P **P** **01 47 15.9 +0.3**
CKRC Cesky Krumlov 78.88 349 *e*P **P** **01 47 15.9 +0.3**
GERES GERESS Array B 78.93 350 P **P** **01 47 15.9 -0.1**
comp=Z,1.5nm,0.8s,baz=62,slow=3.2,SNR=4.2
GERES LR LR 02 24 47.2
comp=Z,24nm,19.7s,baz=346,slow=38
comp=Z,1.5nm,0.8s
MODS Modra-Piesok 78.94 347 *e*P **P** **01 47 17.5 +1.6**
MODS pmax pmax
comp=Z,19nm,1.1s
MODS Modra-Piesok 78.94 347 *e*P **P** **01 47 17.5 +1.6**
PSZ Piszkesteto 78.99 345 ⇓P **P** **01 47 17.7 +1.4**
PSZ Piszkesteto 78.99 345 P **P** **01 47 16.6 +0.3**
PSZ Piszkesteto 78.99 345 ⇓P **P** **01 47 17.7 +1.4**
ARCR ARCALIA 79.02 342 ⇑P **P** **01 47 18.4 +2.1**
TESR Tescani 79.10 340 ⇑P **P** **01 47 17.4 +0.5**
AKH Akhalkalaki 79.19 327 P **P** **01 47 17.7 +0.1**
AKH Akhalkalaki 79.19 327 P **P** **01 47 17.7 +0.1**
AKH pmax pmax
comp=Z,78nm,0.9s
CJR Cluj-Napoca 79.52 342 ⇑P **P** **01 47 20.0 +0.8**
CJR Cluj-Napoca 79.52 342 ⇑P **P** **01 47 20.0 +0.8**
BUD Budapest 79.55 346 P **P** **01 47 20.9 +1.7**
BUD pmax pmax
comp=Z,16nm,0.9s
CONA Conrad Observa 79.57 348 *e*P **P** **01 47 20.8 +1.4**
comp=Z,6.8nm,1.0s
MARR Marisel-Cluj 79.64 343 ⇑P **P** **01 47 20.9 +1.0**
LKRN Lenkeran, Azer 79.65 322 P **P** **01 47 18.4 -1.5**
TURR Turia 79.67 341 ⇑P **P** **01 47 22.1 +2.1**
VRI Vrincioaia 79.70 340 ⇑P **P** **01 47 20.2 +0.1**
VRI Vrincioaia 79.70 340 ⇑P **P** **01 47 20.2 +0.1**
BOSR Bodos 79.73 341 ⇑P **P** **01 47 22.0 +1.7**
ODBI Odobesti 79.73 340 ⇑P **P** **01 47 22.2 +2.0**
RONA Rosalia, Austr 79.73 348 *e*P **P** **01 47 21.8 +1.5**
comp=Z,6.3nm,1.2s
COVR Voineasa-Covas 79.83 340 ⇑P **P** **01 47 22.4 +1.6**
GNI Garni 79.87 325 P **P** **01 47 21.7 +0.4**
GNI Garni 79.87 325 *ce*P **P** **01 47 22.4 +1.1**
GNI pmax pmax
comp=Z,83nm,1.5s
TLCR 79.89 338 ⇑P **P** **01 47 22.3 +1.2**
TLCR 79.89 338 ⇑P **P** **01 47 22.3 +1.2**
TBI Tubuai 80.00 150 *e*LR LR 02 11 54.5
comp=Z,1µm,34.0s
CFR Carcaliu 80.05 339 ⇑P **P** **01 47 22.0 +0.1**
CFR Carcaliu 80.05 339 ⇑P **P** **01 47 22.0 +0.1**
BIOA Bad Ischl, Aus 80.07 349 *e*P **P** **01 47 23.0 +0.9**
comp=Z,4.5nm,0.8s
NEHR Neholu 80.21 340 ⇑P **P** **01 47 23.8 +1.0**
MLR Muntele Rosu 80.22 340 ⇑P **P** **01 47 24.8 +1.7**
MLR Muntele Rosu 80.22 340 P **P** **01 47 23.8 +0.8**
MLR Muntele Rosu 80.22 340 ⇑P **P** **01 47 24.8 +1.7**
MLR Muntele Rosu 80.22 340 LR LR 02 28 07.5
comp=Z,35nm,18.1s,baz=10.0,slow=40
ARSA Arzberg 80.28 348 *i* P **P** **01 47 23.9 +0.7**
comp=Z,9.0nm,1.1s
SIRR Siria 80.30 344 ⇑P **P** **01 47 24.5 +1.2**
LESA Schwarzleotal 80.44 350 *i* P **P** **01 47 25.0 +0.9**
comp=Z,5.2nm,0.9s
VOIR 80.46 341 ⇑P **P** **01 47 25.8 +1.5**
VOIR 80.46 341 ⇑P **P** **01 47 25.8 +1.5**
NAX Nakhchivan 80.47 325 P **P** **01 47 22.7 -1.7**
RETA Reutte 80.57 351 *e*P **P** **01 47 25.5 +0.7**
comp=Z,13nm,2.2s
ARR Arges 80.61 341 ⇓P **P** **01 47 26.6 +1.5**
WATA Walderalm 80.64 351 *e*P **P** **01 47 25.5 +0.2**
comp=Z,17nm,1.5s,SNR=4.8
MTUR Matau 80.66 341 ⇑P **P** **01 47 27.3 +1.9**
MTUR Matau 80.66 341 ⇑P **P** **01 47 27.3 +1.9**
MOTA Moosalm 80.68 351 *i* P **P** **01 47 25.2 -0.3**
comp=Z,10nm,1.2s
KBA Koelnbreinsper 80.71 349 *e*P **P** **01 47 26.6 +1.0**

comp=Z,17nm,0.7s,SNR=17
KBA Koelnbreinsper 80.71 349 P **P** **01 47 26.7 +1.0**
KBA pmax pmax
comp=Z,27nm,0.8s
WTTA Wattenberg 80.71 351 *eP* **P** **01 47 26.1 +0.4**
comp=Z,6.7nm,0.7s,SNR=6.8
SURR Surduc 80.71 343 ⇑P **P** **01 47 26.8 +1.3**
WB0 Warramunga Arr 80.75 221 P **P** **01 47 25.6 -0.3**
SQTA Sankt Quirin 80.80 351 *eP* **P** **01 47 27.0 +1.0**
comp=Z,8.1nm,1.0s
MORH Mrgy, Hungar 80.85 346 ⇑P **P** **01 47 26.9 +0.7**
DAVA Damuels 80.85 352 *eP* **P** **01 47 27.4 +0.9**
comp=Z,7.2nm,1.3s
SOKA Soboth 80.90 348 P **P** **01 47 27.9 +1.3**
comp=Z,15nm,1.1s,SNR=7.2
WB2 Warramunga Arr 80.93 221 P **P** **01 47 26.9 0.0**
WRA Warramunga Arr 80.93 221 P **P** **01 47 26.3 -0.5**
WRA Warramunga Arr 80.93 221 P **P** **01 47 26.7 -0.2**
comp=Z,2.3nm,0.6s,baz=30,slow=5.7,SNR=27
WRA PKKPbc **PKKPbc** **02 06 03.8 +0.7**
comp=Z,0.5nm,0.6s,baz=228,slow=2.0,SNR=6.0
comp=Z,2.3nm,0.6s
BZS Buzias 80.94 343 ⇑P **P** **01 47 27.7 +1.0**
BZS Buzias 80.94 343 ⇑P **P** **01 47 27.7 +1.0**
GZR Gura Zlata 80.94 343 ⇑P **P** **01 47 27.4 +0.6**
GZR Gura Zlata 80.94 343 ⇑P **P** **01 47 27.4 +0.6**
FETA Feichten 81.04 351 *eP* **P** **01 47 28.4 +1.0**
comp=Z,5.0nm,1.1s
PSI Prapat 81.07 263 P **P** **01 47 27.8 -0.2**
PSI Prapat 81.07 263 P **P** **01 47 27.3 -0.7**
PSI pmax pmax
comp=Z,18nm,1.0s
OBKA Obir 81.13 349 *eP* **P** **01 47 29.0 +1.2**
comp=Z,8.9nm,1.0s,SNR=4.8
ABTA Abfaltersbach 81.13 350 *i* P **P** **01 47 28.7 +0.9**
comp=Z,15nm,1.3s
RPSI Rantau Prapat 81.15 263 P **P** **01 47 27.3 -0.9**
RPSI IAmb IAmb 01 47 29.3
comp=Z,18nm,1.0s
BANR Banloc 81.25 344 ⇓P **P** **01 47 28.7 +0.4**
FRED Cave del Predi 81.31 349 P **P** **01 47 28.6 -0.2**
FUORN Ofenpass-Fuorn 81.48 352 P **P** **01 47 29.4 -0.5**
HERR Herculane 81.50 343 ⇑P **P** **01 47 30.2 +0.5**
FRGS Fruska Gora 81.69 345 ⇑P **P** **01 47 31.8 +1.1**
GEVA Gevas 82.10 326 P **P** **01 47 33.9 +0.6**
GEVA IAmb IAmb 01 47 35.4
comp=Z,22nm,1.1s
GURO Guroymak-BITLI 82.24 327 P **P** **01 47 34.4 +0.4**
PLVB Pleven 82.51 341 ⇑P **P** **01 47 35.9 +0.9**
TEOL Teolo 82.59 350 P **P** **01 47 35.4 0.0**
BOVS Bovan 82.84 343 ⇑P **P** **01 47 36.8 +0.1**
ARPR Arapgir-MALATY 82.97 330 P **P** **01 47 38.1 +0.4**
ARPR IAmb IAmb 01 47 40.1
comp=Z,30nm,0.8s
FITZ Fitzroy Crossi 83.15 229 P **P** **01 47 39.0 +0.5**
MARD Mardin 83.78 327 P **P** **01 47 42.3 +0.5**
BR131 Keskin Array S 83.78 333 P **P** **01 47 41.7 -0.1**
BR131 IAmb IAmb 01 47 43.4
comp=Z,16nm,0.8s
BR131 Keskin Array S 83.78 333*c* *iP* **P** **01 47 42.6 +0.7**
BRTR Keskin Array B 83.78 333 P **P** **01 47 41.7 -0.2**
BRTR Keskin Array B 83.78 333 P **P** **01 47 42.5 +0.7**
comp=Z,10nm,0.8s,baz=53,slow=2.7,SNR=40
BRTR LR LR 02 31 07.8
comp=Z,40nm,18.1s,baz=9.0,slow=40
comp=Z,10nm,0.8s
ANTO Ankara 83.89 334 P **P** **01 47 42.5 +0.2**
ANTO IAmb IAmb 01 47 44.9
comp=Z,44nm,1.4s
ANTO Ankara 83.89 334 P **P** **01 47 42.5 +0.2**
ANTO pmax pmax
comp=Z,44nm,1.5s
BNN Bunyan 83.95 331 P **P** **01 47 43.0 +0.3**
AS31 Alice Springs 84.44 220 P **P** **01 47 45.0 0.0**
ASAR Alice Springs 84.44 220 P **P** **01 47 44.7 -0.3**
ASAR Alice Springs 84.44 220 P **P** **01 47 45.5 +0.4**
comp=Z,1.7nm,0.8s,baz=23,slow=5.2,SNR=22
comp=Z,1.7nm,0.8s
THE Thessaloniki 85.50 341 P **P** **01 47 52.0 +1.8**
THE pmax pmax
comp=Z,33nm,1.8s
WSAR Wadi Sarin 88.50 307 LR LR 02 31 59.4
comp=Z,29nm,20.6s,baz=50,slow=38
PALK Pallekele 88.88 280 LR LR 02 32 33.2
comp=Z,12nm,19.2s,baz=162,slow=39
STKA Stephens Creek 89.18 210 P **P** **01 48 09.2 +1.4**
comp=Z,2.3nm,0.6s,baz=343,slow=7.8,SNR=4.3
comp=Z,2.3nm,0.6s
MMAI Mount Meron Ar 89.48 329 P **P** **01 48 09.5 -0.1**
comp=Z,7.5nm,0.8s,baz=336,slow=3.9,SNR=15
MMAI LR LR 02 32 33.2
comp=Z,33nm,20.3s,baz=356,slow=38
comp=Z,7.5nm,0.8s
URZ Urewera 89.61 181 LR LR 02 22 29.2
comp=Z,50nm,21.5s,baz=121,slow=32
IDI Anoyia 90.22 338 LR LR 02 34 10.1
comp=Z,24nm,18.8s,baz=60,slow=39
SJG San Juan 90.90 59 LR LR 02 29 27.9
comp=Z,24nm,20.0s,baz=197,slow=36
EIL Elat 92.71 328 LR LR 02 35 58.5
comp=Z,22nm,18.6s,baz=72,slow=39
RPZ Rata Peaks 95.25 185 LR LR 02 22 29.8
comp=Z,43nm,21.8s,baz=38,slow=30
SDV Santo Domingo 95.93 68 LR LR 02 36 33.1
comp=Z,20nm,18.0s,baz=336,slow=38
TOA0 Torodi Ar. Sit 115.33 356 PKPdf **PKiKP** **01 53 51.9 -2.0**
TORD Torodi Ar. Bea 115.33 356 **PKiKP** **01 53 53.4 -0.6**
TORD Torodi Ar. Bea 115.33 356 PKP **PKiKP** **01 53 53.0 -1.0**
comp=Z,0.9nm,0.6s,baz=7.1,slow=2.5,SNR=11
TORD PKKPbc **PKKPbc** **02 04 25.2 -1.0**
comp=Z,0.3nm,0.4s,baz=188,slow=2.8,SNR=7.4
DBIC Dimbokro 121.79 3 PKP **PKPdf** **01 54 05.8 -0.6**
comp=Z,5.9nm,0.8s,baz=334,slow=2.8,SNR=8.1
H03N2 Juan Fernandez 123.14 103 T T 04 09 05.4
baz=317,slow=77,SNR=8.1
H03N1 Juan Fernandez 123.15 103 T T 04 09 07.0
baz=317,slow=77,SNR=8.4
H03N3 Juan Fernandez 123.15 103 T T 04 08 54.2
baz=317,slow=77,SNR=12
BDFB Brasilia 128.73 63 PKP **PKPdf** **01 54 18.9 -0.8**
comp=Z,1.0nm,0.4s,baz=356,slow=26,SNR=3.0
CPUP Villa Florida 131.50 80 SKPbc **SKPbc** **01 57 42.4 -0.7**
comp=Z,4.5nm,0.9s,baz=323,slow=3.6,SNR=6.9
PLCA Paso Flores 132.96 105 PKP **PKiKP** **01 54 27.8 -0.3**
comp=Z,2.6nm,0.9s,baz=240,slow=2.5,SNR=7.6
PLCA SKPbc **SKPbc** **01 57 48.4 +0.6**
comp=Z,3.7nm,1.1s,baz=22,slow=1.6,SNR=3.6
QSPA South Pole Qui 141.47 180 PKhKP PKPpre 01 54 36.9
comp=Z,2.8nm,0.7s,baz=320,slow=0.6,SNR=9.1
TSUM Tsumeb 144.10 327 PKPbc 01 54 46.5 +0.3
LBTB Lobatse 146.06 311 PKPbc **PKPdf** **01 54 51.5 +0.3**
LBTB Lobatse 146.06 311 PKP2 **PKPdf** **01 54 51.5 +0.3**
BOSA Boshof 149.25 308 **PKPbc** **01 55 00.0 -0.7**
BOSA Boshof 149.25 308 PKPbc **PKPbc** **01 55 01.2 +0.4**
comp=Z,7.5nm,0.6s,baz=29,slow=2.4,SNR=29
BELA Belgrano 2 151.16 166 **PKPbc** **01 55 03.5 -0.2**

*SNET **13** 01:43:28.0±0.7, 12.°96N×88.°85W, h52km, ML4.6*
*NEIC **13** 01:43:28.7±1.6, 13.°05N±0.°08×88.°82W±0.°07, h66km±9km, mb4.1/14, Error ellipse: s-maj=13.9km s-min=5.5km az=220.0*
*IDC **13** 01:43:29.6±1.9, 13.°05N×88.°62W, h78km±18km, mb3.2/6, mbtmp3.8/9, MS3.8/1, Error ellipse: s-maj=40.6km s-min=12.7km az=48.0*
*GCG **13** 01:43:30.8±2.9, 14.°37N×88.°68W, h172km±100km, MD4.1*
*CATAC **13** 01:43:31.5±0.6, 13.°05N×88.°61W, h54km±30km, ML4.5*
ISC 13 01:43:28.0±0.8, **13.°02N**±0.°06×**88.°80W**±0.°04, **h63**km±7km, **n103,** σ1§**24**/127, **mb3.8**/9, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.38**	**36**	*i* P	**Pn**	**01 43 38.7**	**-0.4**
ALJI				*e*S	**Sn**	**01 43 47.6**	**+0.5**
TECO	**Alcaldia de Te**	**0.51**	**2**	*e*P	**Pn**	**01 43 40.5**	**+0.1**
TECO				*e*S	**Sn**	**01 43 49.9**	**+0.5**
COEB	**Comit de Eme**	**0.54**	**29**	*e*P	**Pn**	**01 43 41.2**	**+0.4**
JUCU	**Jucuaŗn**	**0.58**	**67**	*e*P	**Pn**	**01 43 41.2**	**0.0**
JUCU				*e*S	**Sn**	**01 43 51.7**	**+0.8**
COEG	**Centro de Oper**	**0.60**	**352**	*e*P	**Pn**	**01 43 41.4**	**0.0**
COEG				*e*S	**Sn**	**01 43 51.6**	**+0.4**
UESV	**Universidad de**	**0.61**	**1**	*e*P	**Pn**	**01 43 41.8**	**+0.3**
UESV				*e*S	**Sn**	**01 43 52.5**	**+1.1**
SJTE	**Alcalda de S**	**0.62**	**341**	*e*P	**Pn**	**01 43 41.5**	**-0.2**
SJTE				*e*S	**Sn**	**01 43 52.0**	**+0.3**
PQSS	**Presa 15 de Se**	**0.64**	**21**	*e*S	**Sn**	**01 43 53.7**	**+1.8**
RANC	**El Ranchito**	**0.64**	**50**	*e*P	**Pn**	**01 43 42.5**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.68**	**6**	*e*P	**Pn**	**01 43 43.0**	**+0.7**
PANCS	**Alcalda de**	**0.69**	**328**	*e*P	**Pn**	**01 43 42.0**	**-0.4**
PAVA	**Las Pavas**	**0.70**	**349**	*e*P	**Pn**	**01 43 43.0**	**+0.3**
LOMA	**Loma Larga**	**0.72**	**330**	*e*P	**Pn**	**01 43 42.6**	**-0.2**
AEIL	**Aeropuerto Ilo**	**0.74**	**335**	*e*P	**Pn**	**01 43 43.3**	**+0.3**
CNRM	**Centro Naciona**	**0.76**	**54**	*e*P	**Pn**	**01 43 44.0**	**+0.8**
IGN	**Direccin Gen**	**0.78**	**332**	*e*P	**Pn**	**01 43 43.6**	**+0.1**
IGN				*e*S	**Sn**	**01 43 55.1**	**+0.3**
SNET	**Serv Nac Est T**	**0.78**	**327**		**Pn**	**01 43 43.4**	**-0.2**
SNET				Sn	**Sn**	**01 43 54.9**	**-0.1**
SNET	**Serv Nac Est T**	**0.78**	**327**	*e*P	**Pn**	**01 43 43.4**	**-0.2**
LFU	**La Fuente**	**0.78**	**337**	*e*P	**Pn**	**01 43 43.9**	**+0.3**
UEES	**Universidad Ev**	**0.81**	**328**	*e*P	**Pn**	**01 43 43.9**	**-0.1**
BOQS	**Boqueron**	**0.85**	**327**	*e*P	**Pn**	**01 43 44.6**	**+0.1**
PMON	**Piamonte**	**0.85**	**324**	*e*P	**Pn**	**01 43 44.3**	**-0.1**
LCND	**La Caada**	**0.93**	**72**	*e*P	**Pn**	**01 43 46.1**	**+0.8**
CAHU	**Cacacuatique**	**0.94**	**38**	*e*P	**Pn**	**01 43 46.6**	**+1.0**
AMPH	**Amapala**	**1.14**	**77**	*e*P	**Pn**	**01 43 48.9**	**+0.9**
AMPH				*e*S	**Sn**	**01 44 04.6**	**+1.7**
SBLS	**San Blas**	**1.14**	**315**	*e*P	**Pn**	**01 43 48.8**	**+0.5**
SNJE	**San Jose**	**1.15**	**317**	*e*P	**Pn**	**01 43 48.5**	**+0.1**
CSGN	**Cosiguina Volc**	**1.21**	**92**	*i* P	**Pn**	**01 43 49.7**	**+0.7**
CSGN				IAML		01 44 11.8	
	comp=Z,20µm,1.0s						
NUBE	**Las Nubes**	**1.29**	**313**	*e*P	**Pn**	**01 43 50.2**	**0.0**
NUBE				*e*S	**Sn**	**01 44 06.8**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.38**	**316**	*e*P	**Pn**	**01 43 51.5**	**+0.3**
MTO3	**Montecristo**	**1.47**	**338**		**Pn**	**01 43 53.1**	**+0.5**
MTO3				Sn	**Sn**	**01 44 11.0**	**-0.1**
MTO3	**Montecristo**	**1.47**	**338**	*e*P	**Pn**	**01 43 53.1**	**+0.5**
CHNN	**El Viejo**	**1.68**	**103**	*i* P	**Pn**	**01 43 56.4**	**+1.2**
CHNN				IAML		01 44 18.4	
	comp=Z,8µm,1.0s						
CRIN	**San Cristobal**	**1.73**	**100**		**Pn**	**01 43 57.0**	**+1.0**
CRIN				Sn	**Sn**	**01 44 18.4**	**+1.1**
CRIN	**San Cristobal**	**1.73**	**100**	*i* P	**Pn**	**01 43 56.6**	**+0.6**
CRIN				*i* S	**Sn**	**01 44 16.8**	**-0.4**
CRIN				IAML		01 44 29.0	
	comp=Z,13µm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.81**	**55**		**Pn**	**01 43 58.1**	**+1.1**
HERN	**Volcan Telica**	**1.96**	**102**	*i* P	**Pn**	**01 43 58.8**	**+1.7**
HERN				*i* S	**Sn**	**01 44 22.1**	**-0.7**
HERN				IAML		01 44 27.5	
	comp=Z,6µm,1.0s						
POLN	**Al Sur del Vol**	**1.97**	**101**	*i* P	**Pn**	**01 43 59.3**	**+0.1**
POLN				IAML		01 44 26.0	
	comp=Z,27nm,1.0s						
CNGA	**Al SSO del Vol**	**2.11**	**104**	*i* P	**Pn**	**01 44 01.4**	**+0.3**
CNGA				*i* S	**Sn**	**01 44 26.1**	**-0.2**
CNGA				IAML		01 44 35.7	
	comp=Z,3µm,1.0s						
CNGN	**Cerro Negro**	**2.11**	**104**		**Pn**	**01 44 01.5**	**+0.4**
CNGN	**Cerro Negro**	**2.11**	**104**	*i* P	**Pn**	**01 44 01.9**	**+0.8**
CNGN				*i* S	**Sn**	**01 44 26.0**	**-0.4**
CNGN				IAML		01 44 36.5	
	comp=Z,5µm,1.0s						
YUSH	**Yuscaran**	**2.12**	**64**	*e*P	**Pn**	**01 44 02.2**	**+1.0**
YUSH	**Yuscaran**	**2.12**	**64**	*i* P	**Pn**	**01 44 02.0**	**+0.8**
MACN	**El Madrono**	**2.15**	**105**	*i* P	**Pn**	**01 44 03.3**	**+1.8**
MACN				IAML		01 44 40.5	
	comp=Z,2µm,1.0s						
NBG	**Las Nubes**	**2.16**	**316**	*e*P	**Pn**	**01 44 03.9**	**+1.9**
PCG	**Pacaya**	**2.22**	**308**	*e*P	**Pn**	**01 44 06.5**	**+3.7**
COPN	**Copaltepe**	**2.31**	**111**	*i* P	**Pn**	**01 44 05.6**	**+1.8**
COPN				*i* S	**Sn**	**01 44 30.7**	**-0.4**
COPN				IAML		01 44 39.4	
	comp=Z,3µm,1.0s						
MOM2	**El Cardon**	**2.33**	**104**	*i* P	**Pn**	**01 44 04.3**	**+0.3**
MOM2				*i* S	**Sn**	**01 44 31.0**	**-0.6**
MOM2				IAML		01 44 36.8	
	comp=Z,1µm,1.0s						
LIMN	**Finca el Limon**	**2.37**	**89**	*i* P	**Pn**	**01 44 05.1**	**+0.4**
LIMN				IAML		01 44 40.6	
	comp=Z,950nm,1.0s						
BRAN	**Las Pilas**	**2.41**	**97**	*i* P	**Pn**	**01 44 08.4**	**+3.3**
BRAN				IAML		01 44 39.9	
	comp=Z,2µm,1.0s						
FUG	**Fuego 3**	**2.44**	**306**	*e*P	**Pn**	**01 44 09.1**	**+3.4**
SAPS	**Ciudad Sandino**	**2.49**	**110**	*i* P	**Pn**	**01 44 07.5**	**+1.3**
SAPS				*i* S	**Sn**	**01 44 34.4**	**-1.0**
SAPS				IAML		01 44 47.8	
	comp=Z,4µm,1.0s						
MSHP	**Masachapa**	**2.51**	**118**	*i* P	**Pn**	**01 44 09.2**	**+2.8**
TISN	**Laguna Tiscapa**	**2.62**	**109**	*i* P	**Pn**	**01 44 08.6**	**+0.6**
TISN				IAML		01 44 40.3	
	comp=Z,170nm,1.0s						
MAS3	**Al N del Volca**	**2.75**	**111**	*i* P	**Pn**	**01 44 11.3**	**+1.6**
MAS3				IAML		01 44 48.6	
	comp=Z,2µm,1.0s						
MATN	**Matagalpa**	**2.80**	**92**	Pn	**Pn**	**01 44 11.0**	**+0.4**
MATN	**Matagalpa**	**2.80**	**92**	*i* P	**Pn**	**01 44 11.0**	**+0.4**
MATN				*i* S	**Sn**	**01 44 43.1**	**-0.2**
MATN				IAML		01 44 55.1	
	comp=Z,270nm,1.0s						
SULM	**Suchitepequez,**	**2.98**	**296**	*e*P	**Pn**	**01 44 16.4**	**+3.5**
STG3	**Santiaguito 3,**	**3.17**	**302**	*e*P	**Pn**	**01 44 17.4**	**+1.7**
STG3				*e*S	**Sn**	**01 44 53.9**	**+1.4**
JAPN	**Al SSO del Vol**	**3.39**	**116**	*i* P	**Pn**	**01 44 20.1**	**+1.5**
JAPN				IAML		01 45 05.5	
	comp=Z,1µm,1.0s						
MORN	**Al O del Volca**	**3.41**	**115**	*i* P	**Pn**	**01 44 20.6**	**+1.8**
MORN				IAML		01 45 06.5	
	comp=Z,2µm,1.0s						
CONN	**Concepcion**	**3.42**	**115**	*i* P	**Pn**	**01 44 20.3**	**+1.3**
CONN				IAML		01 45 16.4	
	comp=Z,4µm,1.0s						
OMEN	**Al SSO del Vol**	**3.45**	**116**	*i* P	**Pn**	**01 44 20.4**	**+1.1**
OMEN				IAML		01 45 03.2	
	comp=Z,1µm,1.0s						
ACON	**Acoyapa**	**3.69**	**106**		**Pn**	**01 44 23.4**	**+0.7**
HZTE	**Horizontes, Gu**	**3.89**	**126**		**Pn**	**01 44 26.6**	**+1.3**
ORTG	**Ortega, Santa**	**4.21**	**129**	Pn	**Pn**	**01 44 31.1**	**+1.4**
ESPN	**Las Esperanzas**	**4.47**	**100**		**Pn**	**01 44 33.6**	**+0.4**
CCIG	**Comitan**	**4.58**	**315**	Pn	**Pn**	**01 44 34.4**	**-0.5**
JTS	**Las Juntas de**	**4.64**	**125**	Pn	**Pn**	**01 44 36.9**	**+1.2**
JTS	**Las Juntas de**	**4.64**	**125**	P	**Pn**	**01 44 37.0**	**+1.3**
	comp=Z,19nm,0.2s,baz=124,slow=12,SNR=32						
JTS				S	**Sn**	**01 45 27.1**	**-1.2**
	comp=Z,22nm,0.3s,baz=167,slow=22,SNR=1.6						
ARE1	**Arenal 1**	**4.74**	**122**		**Pn**	**01 44 37.8**	**+0.8**
SOCE	**Pocosol**	**4.86**	**122**		**Pn**	**01 44 39.4**	**+0.7**
JACO	**JACO, Garabito**	**5.26**	**129**		**Pn**	**01 44 45.3**	**+1.2**
LCR2	**La Lucha 2**	**5.72**	**124**		**Pn**	**01 44 52.4**	**+1.8**
RIMA	**Rio Macho**	**5.82**	**123**		**Pn**	**01 44 53.3**	**+1.4**
CMIG	**Matias Romero**	**7.13**	**305**	P	**Pn**	**01 45 12.0**	**+2.3**
	comp=Z,8.8nm,0.3s,baz=144,slow=7.8,SNR=9.7						
CMIG				S	**Sn**	**01 46 27.3**	**-2.2**
	comp=Z,9.2nm,0.6s,baz=85,slow=14,SNR=1.9						
TEIG	**Tepich**	**7.18**	**4**	Pn	**Pn**	**01 45 12.0**	**+1.6**
TEIG	**Tepich**	**7.18**	**4**	P	**Pn**	**01 45 12.7**	**+2.3**
	comp=Z,73nm,0.3s,baz=285,slow=1.8,SNR=11						
TEIG				LR	LR	01 48 30.2	
	comp=Z,673nm,19.3s,baz=3.0,slow=42						
TLIG	**Tlapa**	**10.45**	**297**	Pn	**Pn**	**01 45 56.7**	**+1.5**
SJCC	**San Jacinto, C**	**13.71**	**102**		**P**	**01 46 44.3**	**-1.9**
CHSH	**Refugio Sur-Vo**	**17.47**	**145**		**Pn**	**01 47 27.4**	**-0.6**
CHSH				IAmb	IAmb	01 47 29.5	
	comp=Z,4.2nm,0.5s						
SDV	**Santo Domingo**	**18.30**	**101**	P	**P**	**01 47 35.8**	**-1.5**
SDV	**Santo Domingo**	**18.30**	**101**	P	**P**	**01 47 36.4**	**-0.9**
	comp=Z,2.5nm,0.3s,baz=301,slow=6.0,SNR=5.8						
DRIO	**Del Rio**	**19.66**	**328**	P	**P**	**01 47 52.1**	**+0.2**
DRIO				IAmb	IAmb	01 47 59.0	
	comp=Z,5.9nm,0.7s						
BRDY	**Brady**	**20.46**	**334**	P	**P**	**01 48 00.1**	**-0.4**
BRDY				IAmb	IAmb	01 48 16.2	
	comp=Z,4.9nm,0.7s						
BAUV	**El Baul**	**20.77**	**99**	P	**P**	**01 48 01.5**	**-2.5**
BAUV				IAmb	IAmb	01 48 06.4	
	comp=Z,11nm,1.0s						
GOGA	**Godfrey**	**20.87**	**13**	P	**P**	**01 48 06.4**	**+1.5**
GOGA				IAmb	IAmb	01 48 20.7	
	comp=Z,19nm,1.4s						
OZNA	**Ozona**	**21.13**	**329**	P	**P**	**01 48 08.2**	**+0.4**
OZNA				IAmb	IAmb	01 48 10.9	
	comp=Z,9.5nm,1.0s						
TX31	**Lajitas Ar. Si**	**21.31**	**322**	P	**P**	**01 48 09.3**	**-0.4**
TXAR	**Lajitas Array**	**21.31**	**322**	P	**P**	**01 48 11.7**	**+1.9**
	comp=Z,1.5nm,0.5s,baz=142,slow=10,SNR=12						
	comp=Z,1.5nm,0.5s						
MNHN	**Monahans**	**22.31**	**327**	P	**P**	**01 48 18.3**	**-2.1**
SMWD	**Samnorwood**	**24.30**	**337**	P	**P**	**01 48 39.3**	**-0.3**
SMWD				IAmb	IAmb	01 48 41.9	
	comp=Z,6.4nm,0.7s						
S22A	**4UR Ranch, Cre**	**29.41**	**330**		**P**	**01 49 26.4**	**+0.6**
S22A				IAmb	IAmb	01 49 28.5	
	comp=Z,3.9nm,0.8s						
X16A	**Lo Mia Camp, P**	**29.59**	**320**	P	**P**	**01 49 25.5**	**-1.8**
ETMB	**Extrema**	**31.90**	**134**	P	**P**	**01 49 47.2**	**-0.5**
SAML	**Samuel**	**33.52**	**129**	P	**P**	**01 50 00.4**	**-1.4**
PDAR	**Pinedale Array**	**34.66**	**333**	P	**P**	**01 50 12.6**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=133,slow=12,SNR=6.5						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**36.41**	**319**	P	**P**	**01 50 28.8**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=128,slow=8.1,SNR=2.0						
NVAR				ScP	**ScP**	**01 56 31.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=116,slow=2.1,SNR=2.3						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**52.72**	**345**	P	**P**	**01 52 35.5**	**-0.6**
YKA	**Yellowknife Ar**	**52.72**	**345**	P	**P**	**01 52 34.5**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=152,slow=12,SNR=16						
	comp=Z,0.5nm,0.6s						
PLCA	**Paso Flores**	**56.09**	**163**	P	**P**	**01 53 00.3**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=305,slow=10,SNR=3.1						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**64.97**	**336**	P	**P**	**01 54 00.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=177,slow=5.1,SNR=7.4						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**138.16**	**255**	PKP	**PKPdf**	**02 02 46.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=92,slow=1.7,SNR=1.9						

*IDC **13** 01:53:40.1±0.9, 30.°31S×178.°63W, h123km±8km, mb4.0/4, mbtmp4.3/6, MS3.4/2, Error ellipse: s-maj=24.6km s-min=14.2km az=124.0*
ISC 13 01:53:39.9±0.7, **30.°31S**±0.°09×**178.°7W**±0.°1, **h124**km, **n20,** σ0§**94**/21, **mb4.4**/4, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.23**	**32**	P	**Pn**	**01 54 04.5**	**-0.2**
	2µm,0.2s,baz=87,slow=8.1,SNR=33						
RAO				S	**Sn**	**01 54 23.4**	**-0.1**
	473nm,0.3s,baz=279,slow=23,SNR=7.8						
URZ	**Urewera**	**8.67**	**203**	P	**Pn**	**01 55 42.3**	**0.0**
	2.3nm,0.2s,baz=0.6,slow=13,SNR=1.5						
URZ				S	**Sn**	**01 57 16.4**	**-1.9**
	5.3nm,0.3s,baz=142,slow=18,SNR=2.8						
DZM	**Mont Dzumac**	**15.67**	**298**	P	**Pn**	**01 57 13.0**	**-1.1**
	1.9nm,0.7s,baz=112,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**33.94**	**257**	P	**P**	**02 00 13.0**	**+1.6**
	2.7nm,0.5s,baz=103,slow=13,SNR=5.6						
	2.7nm,0.5s						
ASAR	**Alice Springs**	**42.54**	**267**	P	**P**	**02 01 23.9**	**+0.4**
	1.4nm,0.4s,baz=105,slow=7.3,SNR=38						
ASAR				ScP	**ScP**	**02 06 52.9**	**-0.4**
	0.2nm,0.4s,baz=103,slow=4.0,SNR=5.4						
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**43.52**	**272**	P	**P**	**02 01 31.8**	**+0.3**
	3.5nm,0.3s,baz=110,slow=8.1,SNR=117						
WRA				ScP	**ScP**	**02 06 57.3**	**+0.1**
	0.2nm,0.5s,baz=106,slow=3.6,SNR=2.0						
	3.5nm,0.3s						
QSPA	**South Pole Qui**	**59.80**	**180**	P	**P**	**02 03 33.6**	**+1.7**
	1.0nm,0.2s,baz=14,slow=9.0,SNR=1.3						
	1.0nm,0.2s						
RPN	**Rapa Nui**	**60.01**	**106**	LR	LR	02 26 07.4	
	comp=Z,20nm,18.9s,baz=354,slow=32						
CFA	**Coronel Fontan**	**89.75**	**127**	LR	LR	02 38 31.4	
	comp=Z,33nm,21.0s,baz=132,slow=30						
MKAR	**Makanchi Array**	**117.28**	**310**	PKP	**PKPdf**	**02 12 08.3**	**-2.0**
	0.1nm,0.3s,baz=230,slow=1.1,SNR=1.7						
KURBB	**Kurchatov Arra**	**120.61**	**314**	PKP	**PKPdf**	**02 12 16.0**	**-0.6**
	0.3nm,0.3s,baz=97,slow=4.8,SNR=1.3						
BVAR	**Borovoye Array**	**125.94**	**316**	PKP	**PKPdf**	**02 12 26.8**	**0.0**
	1.1nm,0.6s,baz=98,slow=4.5,SNR=5.2						
FINES	**FINESS Array B**	**144.86**	**340**	PKP	PKPbc	02 13 00.5	-0.4
	4.3nm,0.4s,baz=51,slow=4.3,SNR=72						
NB2	**NORSAR Subarra**	**148.57**	**351**	PKP	**PKPbc**	**02 13 11.5**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**148.57**	**351**	PKPbc	**PKPbc**	**02 13 11.8**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=14,slow=4.2,SNR=5.2						
HFS	**Hagfors**	**149.04**	**348**	PKPbc	**PKPbc**	**02 13 12.4**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=31,slow=6.1,SNR=5.8						
AKASG	**Malin Array Be**	**150.88**	**322**	PKPbc	**PKPbc**	**02 13 17.6**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=49,slow=2.7,SNR=12						
MMAI	**Mount Meron Ar**	**150.95**	**284**	PKPbc	**PKiKP**	**02 13 19.3**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=78,slow=7.8,SNR=13						
BRTR	**Keskin Array B**	**152.05**	**298**	PKPbc	**PKPbc**	**02 13 20.6**	**-0.2**

TORD	**Torodi Ar. Bea**	**71.99**	**196**	P		**P**		**02 05 52.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=4.5,slow=8.0,SNR=4.1								
	comp=Z,0.7nm,0.8s								
KMBO	**Kilima Mbogo**	**86.28**	**160**	LR		LR		02 47 53.5	
	comp=Z,19nm,21.4s,baz=90,slow=37								

TEH ***13*** *02:26:51.4, 33˚.69N× 45˚.73E, h10km± 41km, ML2.6*
ISN ***13*** *02:26:51.2± 0.8, 33˚.63N× 45˚.79E, h35km, ML2.6*
ISC 13 02:26:50.5±0.9**, 33°69N**±0˚.04×**45°.80E**±0˚.04**, h19**km**, n13, σ1§47/17, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.34**	**101**	Pg	**Pn**		**02 26 59.6**	**-1.0**
ILBA				Sg	**Sn**		**02 27 05.5**	**-1.5**
IBDR	**Badra**	**0.59**	**170**	*e*Pg	**Pg**		**02 27 03.0**	**+0.7**
IBDR				*e*Sg	**Sb**		**02 27 10.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.83**	**348**	Pg	**Pn**		**02 27 07.3**	**0.0**
IGHG	**Ghaleghazi**	**0.90**	**45**	Pg	**Pn**		**02 27 10.2**	**+1.9**
IDHR	**Dehrash**	**1.11**	**25**	Pg	**Pg**		**02 27 13.5**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.18**	**60**	Pg	**Pg**		**02 27 16.1**	**+2.7**
BHD	**Baghdad**	**1.26**	**251**	*e*Pn	**Pb**		**02 27 14.0**	**+0.3**
BHD				*e*Sn	**Sn**		**02 27 30.0**	**+0.4**
BHD				AML	AML		02 27 36.8	
	comp=E,282nm,0.5s							
IKOM	**Komasi**	**1.50**	**71**	Pg	**Pg**		**02 27 21.2**	**+1.8**
ILIN	**Lien**	**1.55**	**38**	Pg	**Pg**		**02 27 21.3**	**+0.8**
IKFM	**Kafar-mosalman**	**1.71**	**95**	Pg	**Pg**		**02 27 24.6**	**+1.1**
IKRK	**Kirkuk**	**2.09**	**325**	*e*Pn	**Pb**		**02 27 26.0**	**-1.8**
IKRK				*e*Sn	**Sb**		**02 27 52.0**	**-1.4**
HSAM	**Samen**	**2.38**	**77**	Pn	**Pb**		**02 27 32.6**	**-0.4**
HAGD	**Aghdareh**	**2.98**	**67**	Pn	**Pb**		**02 27 41.3**	**-1.9**

IDC ***13*** *02:39:36.1± 2.6, 2˚.24N× 98˚.32E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=151.6km s-min=20.9km az=53.0*
DJA ***13*** *02:39:56.3± 0.6, 3˚N± 4˚× 9˚9E± ˚, h151km± 6km, M3.7/9, MLv3.7/9*
ISC 13 02:39:55.3±0.9**, 2°55N**±0˚.06×**99°01E**±0˚.08**, h150**km**, n19, σ1§22/18, mb3.4/7, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PSI	**Prapat**	**0.27**	**340**	P	**Pn**		**02 40 17.8**	**+1.9**
PSI				S	**Sn**		**02 40 33.5**	**+1.9**
KCSI	**Kotacane, Aceh**	**1.57**	**308**	P	**Pn**		**02 40 26.6**	**+1.0**
KCSI				S	**Sn**		**02 40 48.9**	**0.0**
GSI	**Gunungsitoli**	**1.90**	**229**	P	**Pn**		**02 40 30.6**	**+1.4**
LASI	**Langsa, Aceh**	**2.16**	**331**	P	**Pn**		**02 40 33.2**	**+0.8**
PBSI	**Pulau Batu**	**2.69**	**196**	P	**Pn**		**02 40 39.8**	**+1.1**
SNSI	**Sinabang, Aceh**	**2.69**	**267**	P	**Pn**		**02 40 39.9**	**+1.2**
MLSI	**Meulaboh, Aceh**	**3.12**	**303**	P	**Pn**		**02 40 45.1**	**+1.0**
KULM	**Kulim**	**3.18**	**31**	P	**Pn**		**02 40 46.0**	**+1.1**
SISI	**Saibi**	**3.85**	**179**	P	**Pn**		**02 40 53.4**	**-0.2**
WRA	**Warramunga Arr**	**41.25**	**124**	P	**P**		**02 47 26.5**	**+0.6**
	0.5nm,0.5s,baz=304,slow=9.0,SNR=9.0							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**42.80**	**129**	P	**P**		**02 47 38.8**	**+0.3**
	0.2nm,0.5s,baz=294,slow=9.0,SNR=2.5							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**46.41**	**344**	P	**P**		**02 48 06.1**	**-0.7**
	0.2nm,0.4s,baz=149,slow=8.5,SNR=6.0							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**50.94**	**343**	P	**P**		**02 48 40.2**	**-0.9**
	0.2nm,0.5s,baz=161,slow=6.8,SNR=2.7							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**52.55**	**349**	P	**P**		**02 48 51.9**	**-1.2**
	0.6nm,0.4s,baz=159,slow=6.9,SNR=3.1							
	0.6nm,0.4s							
BVAR	**Borovoye Array**	**55.61**	**339**	P	**P**		**02 49 13.8**	**-1.5**
	0.5nm,0.4s,baz=145,slow=11,SNR=4.6							
	0.5nm,0.4s							
H04N2	**CROZET ISLANDS**	**63.90**	**215**	T	T		03 58 17.0	
	baz=54							
H04N1	**CROZET ISLANDS**	**63.91**	**215**	T	T		03 58 21.1	
	baz=54							
H04N3	**CROZET ISLANDS**	**63.92**	**215**	T	T		03 58 17.2	
	baz=54							
FINES	**FINESS Array B**	**79.66**	**332**	P	**P**		**02 51 44.6**	**-1.2**
	0.4nm,0.4s,baz=114,slow=5.6,SNR=7.1							
	0.4nm,0.4s							

ECX ***13*** *03:00:57.1± 0.7, 32˚.14N× 115˚.23W, h7km± 3km, MD2.3, ML2.5*
MEX ***13*** *03:00:57.6± 1.3, 32˚.16N× 115˚.24W, h12km± 19km, MD2.8*
ISC 13 03:00:55.3±0.9**, 32°11N**±0˚.03×**115°.25W**±0˚.03**, h16**km**±5km, n18, σ0§80/34, 5C-3D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
RHX	**Rio Hardy**	**0.04**	**310**	*e*P	**Pg**		**03 00 58.3**	**+0.1**
RHX				*i* S	**Sg**		**03 00 60.0**	**-0.2**
AGSX	**Ej. Aguas Cali**	**0.17**	**26**	*e*P	**Pg**		**03 00 59.4**	**-0.3**
AGSX				*i* S	**Sg**		**03 01 02.4**	**-0.2**
AGSX				⇑*e*			03 01 02.5	
AGSX				IAML			03 01 02.5	
	comp=E,1μm,0.1s							
AGSX				IAML			03 01 02.5	
	comp=N,2μm,0.1s							
AGSX				*e*			03 01 02.5	
MBIG	**Mexicali**	**0.30**	**9**	*e*P	**Pb**		**03 01 02.4**	**+0.1**
MBIG				*e*P	**Pg**		**03 01 02.8**	**+1.1**
MBIG				*e*S	**Sb**		**03 01 07.2**	**+0.2**
MBIG				*e*S	**Sg**		**03 01 07.9**	**+1.9**
MBIG	**Mexicali**	**0.30**	**9**	⇓*i*P	**Pb**		**03 01 02.4**	**+0.1**
CPBX	**Cerro Prieto**	**0.31**	**352**	*e*P	**Pb**		**03 01 02.8**	**+0.3**
CPBX				*e*S	**Sg**		**03 01 06.8**	**+0.4**
CPBX				*e*			03 01 08.7	
CPBX				IAML			03 01 08.7	
	comp=E,2μm,0.3s							
CPBX				IAML			03 01 09.9	
	comp=N,2μm,0.2s							
CTLX	**Tlaxcala, TLX**	**0.37**	**14**	*e*P	**Pb**		**03 01 03.1**	**-0.5**
PESCX	**Ej. Pescaderos**	**0.40**	**37**	*e*P	**Pb**		**03 01 03.4**	**-0.7**
PESCX				*i* S	**Sb**		**03 01 09.6**	**-0.4**
JARAX	**Ej. Heriberto**	**0.51**	**327**	*e*P	**Pg**		**03 01 08.8**	**+0.4**
JARAX				*i* S	**Sg**		**03 01 13.0**	**+0.7**
JARAX				IAML			03 01 13.9	
	comp=E,386nm,0.4s							
JARAX				⇓*e*			03 01 13.9	
ECBX	**El Chinero**	**0.66**	**165**	*e*P	**Pn**		**03 01 09.4**	**-0.6**
ECBX				*e*S	**Sn**		**03 01 18.5**	**-1.5**
ECBX				IAML			03 01 19.7	
	comp=E,209nm,0.2s							
ECBX				⇑*e*			03 01 19.7	
EMSC	**East Mesa**	**0.67**	**20**	*e*P	**Pb**		**03 01 08.1**	**-0.5**
SJX	**San Joaquin**	**0.69**	**240**	*e*P	**Pg**		**03 01 08.6**	**-0.3**
YUH2	**Yuha Desert**	**0.78**	**313**	⇓*e*P	**Pb**		**03 01 10.6**	**0.0**
YUH2				*e*S	**Sb**		**03 01 21.0**	**+0.1**
RMX	**La Rumorosa**	**0.85**	**305**	*e*P	**Pb**		**03 01 11.1**	**-0.8**
RMX				*e*S	**Sb**		**03 01 21.6**	**-1.6**
RMX				IAML			03 01 22.8	
	comp=E,132nm,0.2s							
RMX				⇓*e*			03 01 22.8	
RMX				IAML			03 01 22.9	
	comp=N,116nm,0.2s							
RMX				⇑*e*			03 01 22.9	
IKP	**In-Ko-Pah, Jac**	**0.90**	**307**	⇑*e*P	**Pb**		**03 01 12.9**	**+0.2**
IKP				*e*S	**Sb**		**03 01 25.0**	**+0.4**
SPIG	**San Pedro Mart**	**1.08**	**190**	*e*P	**Pg**		**03 01 17.4**	**+1.1**
SPIG				*e*S	**Sn**		**03 01 32.3**	**+1.4**
SFX	**San Felipe**	**1.12**	**162**	*e*P	**Pg**		**03 01 17.4**	**+0.3**
SFX				*e*S	**Sg**		**03 01 32.9**	**+1.1**
CBX	**Cerro Bola**	**1.21**	**280**	*e*P	**Pg**		**03 01 19.1**	**+0.3**
CBX				*e*S	**Sn**		**03 01 34.5**	**+0.5**
TJIG	**Tijuana**	**1.25**	**285**	*e*P	**Pb**		**03 01 18.7**	**+0.1**
TJIG				*e*S	**Sn**		**03 01 33.6**	**-1.1**

TEH ***13*** *03:15:31.1, 33˚.74N× 45˚.61E, h8km± 44km, ML3.2*
ISN ***13*** *03:15:32.6± 1.4, 33˚.73N× 45˚.63E, h10km± 7km, ML2.9*
ISC 13 03:15:31.0±1.4**, 33°75N**±0˚.03×**45°.59E**±0˚.04**, h3**km**±13km, n19, σ1§25/24, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.53**	**104**	Pg	**Pg**		**03 15 41.6**	**+0.5**
IBDR	**Badra**	**0.70**	**156**	*e*Pg	**Pb**		**03 15 46.0**	**+0.1**
IBDR				*e*Sg	**Sb**		**03 15 55.0**	**-1.0**
KGS1	**Ghasr-e-Shirin**	**0.75**	**360**	Pg	**Pg**		**03 15 45.7**	**+0.3**
IGHG	**Ghaleghazi**	**0.99**	**55**	Pg	**Pb**		**03 15 50.7**	**-0.3**
IGHG				Sg	**Sn**		**03 16 05.6**	**-1.2**
BHD	**Baghdad**	**1.12**	**245**	*e*Pg	**Pn**		**03 15 55.0**	**+1.4**
BHD				*e*Sg	**Sn**		**03 16 10.0**	**+0.5**
BHD				AML	AML		03 16 39.3	
	comp=E,552nm,0.6s							
IDHR	**Dehrash**	**1.15**	**35**	Pg	**Pg**		**03 15 53.3**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.31**	**66**	Pg	**Pg**		**03 15 56.1**	**-0.1**
ILIN	**Lien**	**1.62**	**44**	Pg	**Pg**		**03 16 02.5**	**+0.3**
IKOM	**Komasi**	**1.65**	**75**	Pg	**Pg**		**03 16 02.6**	**0.0**
IKOM				Sg	**Sg**		**03 16 25.8**	**+1.7**
IKFM	**Kafar-mosalman**	**1.90**	**96**	Pn	**Pb**		**03 16 05.6**	**-0.7**
RAFI	**Al-Rafai**	**2.07**	**168**	*e*Pn	**Pb**		**03 16 08.0**	**-1.3**
RAFI				*e*Sn	**Sg**		**03 16 36.0**	**-1.6**
RAFI				AML	AML		03 16 41.4	
	comp=N,86nm,0.3s							
RAFI				AML	AML		03 16 52.0	
	comp=E,118nm,0.4s							
SDS1	**Sardasht. Az.**	**2.39**	**358**	Pn	**Pb**		**03 16 13.0**	**-1.8**
IALM	**Almabolaq**	**2.40**	**62**	Pn	**Pb**		**03 16 12.8**	**-2.2**
HSAM	**Samen**	**2.54**	**79**	Pn	**Pn**		**03 16 14.6**	**+1.1**
HAGD	**Aghdareh**	**3.13**	**69**	Pn	**Pn**		**03 16 22.7**	**+1.3**
IRAZ	**Razeghan**	**3.94**	**64**	Pn	**Pn**		**03 16 34.0**	**+1.4**
ISHB	**Shabestar**	**4.52**	**0**	Pn	**Pn**		**03 16 42.1**	**+1.5**
QAMS	**Qamsar**	**4.84**	**89**	Pn	**Pn**		**03 16 46.1**	**+1.1**
IKLH	**Kolahrood**	**5.02**	**93**	Pn	**Pn**		**03 16 48.9**	**+1.4**

IDC ***13*** *03:43:56.1± 4.3, 24˚.16S× 178˚.68E, h566km± 46km, mb3.4/5, mbtmp4.3/6, Error ellipse: s-maj=35.6km s-min=31.4km az=24.0*
ISC 13 03:43:54.4±1.1**, 24°2S**±0˚.3×**178°.8E**±0˚.2**, h550**km**, n9, σ1§13/8, mb4.2/5, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**11.59**	**278**	P	**P**		**03 46 30.0**	**+1.1**
	6.6nm,0.7s,baz=47,slow=21,SNR=9.6							
STKA	**Stephens Creek**	**33.61**	**248**	P	**P**		**03 49 49.6**	**+0.1**
	3.0nm,0.5s,baz=93,slow=11,SNR=12							
	3.0nm,0.5s							
ASAR	**Alice Springs**	**40.92**	**261**	P	**P**		**03 50 49.0**	**-0.6**
	6.4nm,0.8s,baz=90,slow=7.3,SNR=56							
	6.4nm,0.8s							
WRA	**Warramunga Arr**	**41.31**	**267**	P	**P**		**03 50 51.5**	**-1.1**
	9.0nm,0.6s,baz=95,slow=8.4,SNR=63							
	9.0nm,0.6s							
QSPA	**South Pole Qui**	**65.86**	**180**	P	**P**		**03 53 45.9**	**+0.3**
	2.0nm,0.6s,baz=106,slow=14,SNR=5.3							
	2.0nm,0.6s							
TXAR	**Lajitas Array**	**91.51**	**59**	P	**P**		**03 56 03.5**	**+0.6**
	0.3nm,0.8s,baz=224,slow=3.8,SNR=3.8							
	0.3nm,0.8s							
HFS	**Hagfors**	**142.64**	**348**	PKhKP	PKPpre		04 02 20.4	
	1.2nm,0.3s,baz=67,slow=3.7,SNR=14							
AKASG	**Malin Array Be**	**144.65**	**326**	PKP	**PKPdf**		**04 02 26.6**	**-1.7**
	0.4nm,0.4s,baz=44,slow=4.2,SNR=5.3							
MMAI	**Mount Meron Ar**	**146.85**	**294**	PKPbc	**PKPbc**		**04 02 35.8**	**+0.2**
	0.7nm,0.4s,baz=82,slow=7.7,SNR=6.2							

TEH ***13*** *03:52:26.9, 33˚.70N× 45˚.73E, h11km± 56km, ML3.2*
ISN ***13*** *03:52:28.5± 0.8, 33˚.63N× 45˚.75E, h9km± 4km, ML2.9*
ISC 13 03:52:27.8±0.9**, 33°71N**±0˚.04×**45°.77E**±0˚.04**, h10**km**, n17, σ0§90/20, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.38**	**102**	Pg	**Pg**		**03 52 35.1**	**-0.2**
IBDR	**Badra**	**0.61**	**167**	*e*Pg	**Pg**		**03 52 39.0**	**-0.6**
IBDR				*e*Sg	**Sg**		**03 52 47.0**	**-0.6**
IBDR				AML	AML		03 53 06.5	
	comp=N,318nm,0.9s							
IBDR				AML	AML		03 53 10.2	
	comp=E,233nm,0.6s							
KGS1	**Ghasr-e-Shirin**	**0.81**	**350**	Pg	**Pg**		**03 52 42.8**	**-0.6**
IGHG	**Ghaleghazi**	**0.91**	**47**	Pg	**Pb**		**03 52 45.4**	**-0.4**
IDHR	**Dehrash**	**1.12**	**27**	Pg	**Pg**		**03 52 48.5**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.20**	**61**	Pg	**Pg**		**03 52 51.0**	**+0.1**
BHD	**Baghdad**	**1.24**	**250**	*e*Pg	**Pg**		**03 52 52.0**	**+0.5**
BHD				*e*Sg	**Sn**		**03 53 08.0**	**+0.2**
BHD				AML	AML		03 53 12.6	
	comp=E,2μm,0.4s							
IKOM	**Komasi**	**1.52**	**72**	Pg	**Pg**		**03 52 57.0**	**-0.1**
ILIN	**Lien**	**1.56**	**39**	Pg	**Pg**		**03 52 57.6**	**-0.3**
IKFM	**Kafar-mosalman**	**1.75**	**95**	Pg	**Pb**		**03 52 59.6**	**-0.3**
RAFI	**Al-Rafai**	**2.00**	**171**	*e*Pn	**Pb**		**03 53 03.0**	**-1.2**
RAFI				*e*Sn	**Sb**		**03 53 29.0**	**-0.1**
IALM	**Almabolaq**	**2.30**	**59**	Pn	**Pb**		**03 53 08.2**	**-1.3**
HSAM	**Samen**	**2.41**	**77**	Pn	**Pn**		**03 53 08.5**	**+0.9**
HAGD	**Aghdareh**	**3.01**	**67**	Pn	**Pn**		**03 53 17.0**	**+1.3**
QAMS	**Qamsar**	**4.69**	**88**	Pn	**Pn**		**03 53 40.0**	**+1.1**
IKLH	**Kolahrood**	**4.87**	**93**	Pn	**Pn**		**03 53 43.0**	**+1.6**
KRSH	**Karshahi**	**5.31**	**85**	Pn	**Pn**		**03 53 48.6**	**+1.3**

IDC ***13*** *03:54:48.0± 1.4, 30˚.68N× 132˚.01E, h0km, mb3.6/7, mbtmp3.7/12, ML3.3/5, MS3.5/1, Error ellipse: s-maj=27.9km s-min=24.4km az=154.0*
JMA ***13*** *03:54:50.4± 0.1, 30˚.7N± 0˚.3× 132˚.1E± 0˚.7, h50km± 3km, MV3.3/30, E OFF TANEGASHIMA ISLAND*
ISC 13 03:54:51.9±2.0**, 30°67N**±0˚.05×**131°.99E**±0˚.09**, h27**km**±13km, n23, σ0§75/34, mb3.6/7, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JTN	**Tanegashima 3**	**0.87**	**269**	P	**Pb**		**03 55 08.4**	**0.0**
JMTN	**Minamitane**	**0.98**	**254**	*e*P	**Pb**		**03 55 10.0**	**-0.2**
JMTN				*e*S	**Sb**		**03 55 24.4**	**+1.7**
JTSR	**Tashiro 2**	**1.04**	**298**	*e*P	**Pb**		**03 55 10.8**	**-0.5**
JTSR				*e*S	**Sb**		**03 55 24.8**	**+0.2**
JNAR	**Kushima--Naru**	**1.05**	**324**	*e*P	**Pn**		**03 55 10.4**	**-0.5**
JNAR				*e*S	**Sb**		**03 55 25.0**	**+0.2**
JNKG	**Nichinankitago**	**1.12**	**332**	*e*P	**Pn**		**03 55 11.0**	**-0.8**
JNKG				*e*S	**Sb**		**03 55 26.4**	**-0.3**
JYAK	**Yakushimahirau**	**1.35**	**252**	P	**Pn**		**03 55 15.0**	**0.0**
JYAK				*e*S	**Sb**		**03 55 33.6**	**+0.2**
JTZ	**Takazaki**	**1.45**	**328**	*e*P	**Pn**		**03 55 15.8**	**-0.6**
JTZ				*e*S	**Sn**		**03 55 34.5**	**0.0**
JSU	**Suzuyama**	**1.56**	**303**	*e*P	**Pn**		**03 55 17.6**	**-0.3**
JTSN	**Tsuno**	**1.62**	**345**	*i* P	**Pn**		**03 55 17.6**	**-1.1**
JTSN				*e*S	**Sn**		**03 55 38.0**	**-0.8**
JNN	**Nakanoshima**	**2.01**	**246**	*e*P	**Pn**		**03 55 24.5**	**+0.4**
JNN				*e*S	**Sb**		**03 55 50.1**	**-2.3**
JIU3	**Izumi3**	**2.12**	**332**	*e*P	**Pn**		**03 55 25.4**	**-0.2**
JIU3				*e*S	**Sn**		**03 55 51.7**	**+0.5**
JNU	**Nakatsue**	**2.62**	**339**	Pn	**Pn**		**03 55 32.8**	**+0.2**
	6.8nm,0.3s,baz=153,slow=11,SNR=34							
JNU				Sn	**Sn**		**03 56 04.3**	**+0.8**
	15nm,0.3s,baz=137,slow=15,SNR=12							
	26nm,0.5s							
JOW	**Kunigami**	**5.03**	**221**	Pn	**Pn**		**03 56 06.7**	**+1.0**
	4.3nm,0.3s,baz=104,slow=21,SNR=7.0							
JOW				Sn	**Sn**		**03 57 02.5**	**-0.3**
	4.1nm,0.3s,baz=86,slow=30,SNR=6.7							
	21nm,0.7s							
MJAR	**Matsushiro Arr**	**7.82**	**40**	Pn	**Pn**		**03 56 44.3**	**+0.3**
	0.1nm,0.3s,baz=244,slow=14,SNR=7.3							
	1.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**13.50**	**0**	Pn	**Pn**		**03 58 02.6**	**+0.9**
	0.2nm,0.3s,baz=200,slow=12,SNR=2.6							
	1.9nm,0.8s							
KLR	**Kul'dur**	**18.54**	**360**	P	**Pn**		**03 59 06.9**	**+0.3**
	0.1nm,0.3s,baz=180,slow=4.7,SNR=14							
	3.5nm,0.8s							
SONM	**Songino Array**	**26.02**	**318**	P	**P**		**04 00 22.3**	**-0.5**
	0.3nm,0.3s,baz=141,slow=11,SNR=4.4							
SONM				LR	LR		04 12 12.1	
	comp=Z,100nm,18.9s,baz=282,slow=40							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**41.26**	**307**	P	**P**		**04 02 35.8**	**+1.0**
	0.4nm,0.8s,baz=90,slow=8.6,SNR=3.2							
	0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**44.10**	**313**	P	**P**		**04 02 57.2**	**-0.6**
	0.3nm,0.5s,baz=98,slow=8.5,SNR=3.3							
	0.3nm,0.5s							
ILAR	**Eielson Array**	**58.96**	**30**	P	**P**		**04 04 48.6**	**0.0**
	0.8nm,0.9s,baz=295,slow=8.5,SNR=7.3							
	0.8nm,0.9s							
FINES	**FINESS Array B**	**70.63**	**331**	P	**P**		**04 06 04.3**	**-0.4**
	2.3nm,0.9s,baz=64,slow=6.6,SNR=11							
	2.3nm,0.9s							
YKA	**Yellowknife Ar**	**73.10**	**26**	P	**P**		**04 06 19.5**	**0.0**
	0.5nm,0.8s,baz=303,slow=5.5,SNR=7.7							
	0.5nm,0.8s							
NVAR	**Mina Array Bea**	**85.07**	**48**	P	**P**		**04 07 25.9**	**+0.2**
	0.4nm,0.6s,baz=292,slow=4.8,SNR=5.7							
	0.4nm,0.6s							

UCR ***13*** *03:59:05.0± 1.5, 9˚.12N× 84˚.48W, h0km± 11km, MW3.8*
CATAC ***13*** *03:59:06.4± 0.5, 9˚.16N× 84˚.42W, h2km± 3km, ML3.2*
ISC 13 03:59:04.5±1.4**, 9°11N**±0˚.04×**84°.48W**±0˚.03**, h5**km**±12km, n68, σ0§64/75, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LLNJ	**Naranjito**	**0.52**	**46**	*e*P	**Pg**		**03 59 15.4**	**+0.9**
LLNJ				*e*S	**Sb**		**03 59 24.2**	**+0.2**
JACO	**JACO, Garabito**	**0.58**	**342**	*e*P	**Pb**		**03 59 16.8**	**-0.3**
JACO	**JACO, Garabito**	**0.58**	**342**	*i* P	**Pb**		**03 59 16.9**	**-0.2**
JACO				IAML			03 59 17.8	
	comp=Z,840nm,1.0s							
JACO				*i* S	**Sb**		**03 59 24.8**	**-0.8**
RAZU	**San Marcos de**	**0.71**	**40**	*e*P	**Pg**		**03 59 18.6**	**+0.5**
CBL1	**Cabuya**	**0.77**	**308**	*e*P	**Pb**		**03 59 20.0**	**-0.4**
LCR2	**La Lucha 2**	**0.79**	**37**	*e*P	**Pg**		**03 59 19.9**	**+0.2**
LCR2	**La Lucha 2**	**0.79**	**37**	*i* P	**Pg**		**03 59 19.8**	**+0.2**
LCR2				*i* S	**Sg**		**03 59 29.4**	**-0.4**
LCR2				IAML			03 59 32.3	
	comp=Z,470nm,1.0s							
OCHAL	**Ojochal**	**0.82**	**91**	*i* P	**Pb**		**03 59 21.2**	**-0.1**
OCHAL				IAML			03 59 22.4	
	comp=Z,7.7nm,1.0s							
CDM	**Cerro de Muert**	**0.83**	**58**	*e*P	**Pg**		**03 59 20.8**	**+0.2**
CDM	**Cerro de Muert**	**0.83**	**58**	*i* P	**Pg**		**03 59 20.8**	**+0.2**
CDM				*i* S	**Sg**		**03 59 31.2**	**-0.3**
CDM				IAML			03 59 37.2	
	comp=Z,600nm,1.0s							
BUS1	**Rivas**	**0.85**	**59**	*e*P	**Pg**		**03 59 20.8**	**0.0**
TBLN	**Tablon, Guarco**	**0.85**	**34**	*i* P	**Pg**		**03 59 20.9**	**0.0**
TBLN				*i* S	**Sg**		**03 59 31.7**	**-0.4**
TBLN				IAML			03 59 35.2	
	comp=Z,1μm,1.0s							
RIMA	**Rio Macho**	**0.89**	**43**	*i* P	**Pg**		**03 59 21.7**	**0.0**
RIMA				*i* S	**Sg**		**03 59 33.3**	**0.0**
RIMA				IAML			03 59 37.1	
	comp=Z,410nm,1.0s							
LUJA	**Lujan**	**0.91**	**26**	*e*P	**Pn**		**03 59 23.8**	**-0.2**
BELE	**Belen**	**0.91**	**19**	*e*P	**Pn**		**03 59 23.8**	**-0.2**
OCM	**Ochomogo**	**0.94**	**33**	*e*P	**Pg**		**03 59 22.2**	**-0.3**
OCM	**Ochomogo**	**0.94**	**33**	*i* P	**Pg**		**03 59 22.2**	**-0.3**
OCM				IAML			03 59 40.7	
	comp=Z,450nm,1.0s							
REPA	**Paraso**	**0.94**	**40**	*e*P	**Pb**		**03 59 23.5**	**+0.2**
TCS1	**Tacares**	**0.94**	**11**	*e*P	**Pn**		**03 59 24.2**	**-0.3**
TCS1	**Tacares**	**0.94**	**11**	*i* PA			03 59 24.3	
TCS1				IAML			03 59 30.9	
	comp=Z,6μm,1.0s							
DOMI	**Santo Domingo**	**0.95**	**24**	*e*P	**Pb**		**03 59 23.4**	**-0.2**
HDC	**Heredia**	**0.96**	**22**	*e*P	**Pb**		**03 59 23.9**	**+0.3**
HDC3	**Heredia 3**	**0.96**	**22**	*e*P	**Pb**		**03 59 23.7**	**0.0**
HDC3	**Heredia 3**	**0.96**	**22**	*i* P	**Pb**		**03 59 23.5**	**-0.2**
HDC3				IAML			03 59 52.4	
	comp=Z,590nm,1.0s							
SARCI	**Sarchi**	**0.98**	**8**	*e*P	**Pn**		**03 59 24.9**	**-0.2**
EDPN	**Palmar Norte**	**1.02**	**98**	*e*P	**Pg**		**03 59 23.9**	**-0.2**
PCAYA	**Pacayas**	**1.04**	**39**	*e*P	**Pn**		**03 59 26.3**	**+0.3**
CVIMO	**Finca Echandi**	**1.05**	**30**	*e*P	**Pn**		**03 59 25.6**	**-0.5**
HAYA	**Volcan Irazu**	**1.07**	**36**	*i* P	**Pg**		**03 59 25.1**	**0.0**
HAYA				*i* S	**Sg**		**03 59 39.1**	**+0.

JYAK	**Yakushimahirau**	**1.36**	**252**	*e*P		**Pn**	**04 13 34.9**	**+0.1**
JYAK				*e*S		**Sg**	**04 13 53.6**	**+0.1**
JTZ	**Takazaki**	**1.45**	**328**	*e*P		**Pn**	**04 13 35.8**	**-0.2**
JTZ				*e*S		**Sn**	**04 13 54.8**	**-0.3**
JSU	**Suzuyama**	**1.56**	**302**	*e*P		**Pn**	**04 13 37.9**	**+0.4**
JNN	**Nakanoshima**	**2.02**	**246**	*e*P		**Pn**	**04 13 44.2**	**+0.4**
JNN				*e*S		**Sn**	**04 14 08.9**	**-0.1**
JIU3	**Izumi3**	**2.12**	**332**	*e*P		**Pn**	**04 13 45.6**	**+0.3**
JNU	**Nakatsue**	**2.62**	**339**			**Pn**	**04 13 52.8**	**+0.7**
JNU	**Nakatsue**	**2.62**	**339**	P		**Pn**	**04 13 52.9**	**+0.8**
JNU	**Nakatsue**	**2.62**	**339**	Pn		**Pn**	**04 13 52.3**	**+0.2**
	13nm,0.3s,baz=163,slow=3.0,SNR=70							
JNU				Sn		**Sn**	**04 14 24.2**	**+0.3**
	16nm,0.3s,baz=147,slow=13,SNR=7.1							
	30nm,0.4s							
JMN	**Monobe**	**3.44**	**27**	Pn		**Pn**	**04 14 02.5**	**-0.8**
JMN	**Monobe**	**3.44**	**27**	P		**Pn**	**04 14 02.7**	**-0.7**
JMZ	**Minamidaito 2**	**4.89**	**188**	Pn		**Pn**	**04 14 23.4**	**+0.2**
JMZ	**Minamidaito 2**	**4.89**	**188**	P		**Pn**	**04 14 24.8**	**+1.6**
JOW	**Kunigami**	**5.04**	**221**	Pn		**Pn**	**04 14 27.2**	**+1.9**
JOW	**Kunigami**	**5.04**	**221**	P		**Pn**	**04 14 27.5**	**+2.2**
JOW	**Kunigami**	**5.04**	**221**	Pn		**Pn**	**04 14 26.9**	**+1.6**
	4.3nm,0.3s,baz=130,slow=22,SNR=14							
JOW				Sn		**Sn**	**04 15 21.1**	**-2.5**
	2.5nm,0.3s,baz=176,slow=28,SNR=1.7							
	11nm,0.2s							
INU	**Inuyama**	**6.28**	**41**	Pn		**Pn**	**04 14 42.5**	**+0.1**
INU	**Inuyama**	**6.28**	**41**	P		**Pn**	**04 14 44.1**	**+1.7**
JSG	**Sagara**	**6.56**	**51**	P		**Pn**	**04 14 45.4**	**-0.9**
MAJO	**Matsushiro**	**7.81**	**40**	Pn		**Pn**	**04 15 03.7**	**+0.2**
MAJO	**Matsushiro**	**7.81**	**40**	P		**Pn**	**04 15 04.0**	**+0.6**
MJAR	**Matsushiro Arr**	**7.81**	**40**	Pn		**Pn**	**04 15 03.8**	**+0.4**
	0.2nm,0.3s,baz=238,slow=13,SNR=7.4							
	2.1nm,0.5s							
MJB9	**Matsu-Tunnel**	**7.81**	**40**	Pn		**Pn**	**04 15 04.9**	**+1.4**
KLR	**Kul'dur**	**18.53**	**359**	P		**Pn**	**04 17 27.3**	**+0.9**
	0.2nm,0.3s,baz=167,slow=8.2,SNR=16							
KLR				LR		LR	04 23 46.7	
	comp=Z,77nm,18.9s,baz=178,slow=34							
	4.8nm,0.8s							
SONM	**Songino Array**	**26.02**	**318**	P		**P**	**04 18 41.8**	**-1.3**
SONM	**Songino Array**	**26.02**	**318**	P		**P**	**04 18 42.2**	**-0.9**
	0.8nm,0.9s,baz=139,slow=9.0,SNR=3.6							
SONM				LR		LR	04 30 43.3	
	comp=Z,184nm,20.5s,baz=146,slow=41							
	0.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**32.31**	**256**	LR		LR	04 35 24.6	
	comp=Z,67nm,18.5s,baz=70,slow=41							
H11N2	**WAKE ISLAND Hy**	**33.28**	**101**	T		T	04 54 50.6	
	baz=296							
H11N1	**WAKE ISLAND Hy**	**33.28**	**101**	T		T	04 54 52.7	
	baz=296							
H11N3	**WAKE ISLAND Hy**	**33.29**	**101**	T		T	04 54 52.4	
	baz=296							
ZALV	**Zalesovo Beam**	**40.92**	**319**	LR		LR	04 39 24.6	
	comp=Z,56nm,18.4s,baz=100,slow=39							
TIXI	**Tiksi**	**41.06**	**358**	LR		LR	04 38 45.3	
	comp=Z,4.3nm,18.6s,baz=196,slow=38							
MKAR	**Makanchi Array**	**41.27**	**307**	P		**P**	**04 20 53.9**	**-1.1**
	0.4nm,0.7s,baz=98,slow=9.2,SNR=4.5							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**44.11**	**313**	P		**P**	**04 21 17.1**	**-0.9**
	0.9nm,0.7s,baz=99,slow=8.9,SNR=8.0							
KURBB				LR		LR	04 41 49.5	
	comp=Z,160nm,18.1s,baz=172,slow=39							
	0.9nm,0.7s							
AAK	**Ala-Archa**	**46.83**	**301**	LR		LR	04 44 13.2	
	comp=Z,51nm,18.1s,baz=51,slow=40							
BVAR	**Borovoye Array**	**49.31**	**316**	P		**P**	**04 21 58.2**	**-0.5**
	0.7nm,0.6s,baz=112,slow=7.4,SNR=2.8							
BVAR				LR		LR	04 44 46.3	
	comp=Z,58nm,19.1s,baz=93,slow=39							
	0.7nm,0.6s							
WB0	**Warramunga Arr**	**50.20**	**177**	P		**P**	**04 22 06.7**	**+0.8**
WRA	**Warramunga Arr**	**50.38**	**177**	P		**P**	**04 22 06.7**	**-0.4**
	0.5nm,0.9s,baz=354,slow=8.2,SNR=2.2							
	0.5nm,0.9s							
WR0	**Warramunga Arr**	**50.40**	**177**	P		**P**	**04 22 07.8**	**+0.5**
WR0				IAmb		IAmb	04 22 26.4	
	comp=Z,8.9nm,1.4s							
C16K	**Lisburne Hills**	**51.80**	**25**	P		**P**	**04 22 17.8**	**+0.5**
C18K	**Utukok River**	**53.37**	**25**	P		**P**	**04 22 30.2**	**+1.2**
K17K	**Iditarod**	**53.97**	**32**	P		**P**	**04 22 35.1**	**+1.7**
ASAR	**Alice Springs**	**54.06**	**178**	P		**P**	**04 22 35.4**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=6.1,slow=7.4,SNR=5.3							
	comp=Z,0.5nm,0.8s							
D19K	**Kuna River**	**54.47**	**25**	P		**P**	**04 22 38.3**	**+1.3**
D19K				IAmb		IAmb	04 22 39.0	
	comp=Z,3.8nm,0.8s							
ARU	**Arti**	**56.05**	**320**	LR		LR	04 50 07.4	
	comp=Z,93nm,18.8s,baz=68,slow=40							
ABKAR	**Akbulak array**	**56.12**	**311**	P		**P**	**04 22 47.8**	**-1.4**
E22K	**Anaktuvuk Pass**	**56.79**	**26**	P		**P**	**04 22 55.4**	**+1.7**
E22K				IAmb		IAmb	04 23 04.1	
	comp=Z,7.4nm,1.3s							
CAST	**Castle Rocks**	**56.79**	**31**	P		**P**	**04 22 55.6**	**+1.8**
CAST				IAmb		IAmb	04 22 55.9	
	comp=Z,4.5nm,0.9s							
KDAK	**Kodiak Island**	**56.98**	**38**	LR		LR	04 48 09.3	
	comp=Z,60nm,20.5s,baz=210,slow=37							
AKTO	**Aktyubinsk**	**57.16**	**313**	LR		LR	04 50 41.0	
	comp=Z,120nm,19.3s,baz=62,slow=40							
RND	**Reindeer**	**58.24**	**31**	P		**P**	**04 23 03.8**	**-0.2**
RND				IAmb		IAmb	04 23 05.2	
	comp=Z,7.5nm,0.9s							
MDM	**Murphy Dome**	**58.37**	**29**	P		**P**	**04 23 05.7**	**+0.8**
ILAR	**Eielson Array**	**58.96**	**30**	P		**P**	**04 23 08.7**	**-0.2**
ILAR	**Eielson Array**	**58.96**	**30**	P		**P**	**04 23 08.8**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=262,slow=5.4,SNR=9.5							
	comp=Z,1.1nm,0.9s							
SCRK	**Sand Creek**	**60.32**	**30**	P		**P**	**04 23 19.0**	**+0.5**
SCRK				IAmb		IAmb	04 23 27.9	
	comp=Z,6.1nm,1.3s							
J26L	**Joseph Creek**	**60.41**	**30**	P		**P**	**04 23 19.0**	**-0.1**
J26L				IAmb		IAmb	04 23 39.3	
	comp=Z,10nm,1.5s							
D27M	**Malcolm River**	**60.65**	**24**	P		**P**	**04 23 21.4**	**+0.8**
D27M				IAmb		IAmb	04 23 30.6	
	comp=Z,4.8nm,1.4s							
BCAR	**Beaver Creek A**	**61.45**	**31**	P		**P**	**04 23 26.6**	**+0.5**
M27K	**Edge Creek, AK**	**61.56**	**32**	P		**P**	**04 23 27.6**	**+0.6**
I28M	**Miner Creek**	**61.75**	**28**	P		**P**	**04 23 29.1**	**+1.0**
I28M				IAmb		IAmb	04 23 35.5	
	comp=Z,7.4nm,1.2s							
G30M	**tAoh Zraii Nji**	**62.86**	**26**	P		**P**	**04 23 35.9**	**+0.4**
G30M				IAmb		IAmb	04 23 37.6	
	comp=Z,5.9nm,1.0s							
STKA	**Stephens Creek**	**62.87**	**171**	P		**P**	**04 23 36.7**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=332,slow=9.6,SNR=3.2							
	comp=Z,2.3nm,0.7s							
L29M	**L29M**	**63.06**	**31**	P		**P**	**04 23 37.8**	**+0.9**
I30M	**Mount Dempster**	**63.25**	**28**	P		**P**	**04 23 38.8**	**+0.6**
I30M				IAmb		IAmb	04 23 40.2	
	comp=Z,2.2nm,0.8s							
G31M	**Satah River**	**63.61**	**26**	P		**P**	**04 23 41.0**	**+0.7**
G31M				IAmb		IAmb	04 24 03.2	
	comp=Z,5.7nm,1.5s							
M31M	**Drury Creek, Y**	**64.98**	**31**	P		**P**	**04 23 50.0**	**+0.5**
FARO	**Faro, Yukon**	**65.43**	**31**	P		**P**	**04 23 53.6**	**+1.2**
FARO				IAmb		IAmb	04 24 03.3	
	comp=Z,7.7nm,1.4s							
ARCES	**ARCESS Array B**	**67.10**	**339**	LR		LR	04 57 10.4	
	comp=Z,65nm,21.2s,baz=70,slow=39							
FIA1	**FINESS Array S**	**70.63**	**331**	P		**P**	**04 24 23.2**	**-1.9**
FINES	**FINESS Array B**	**70.63**	**331**	P		**P**	**04 24 24.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=84,slow=5.0,SNR=9.6							
	comp=Z,0.9nm,0.5s							
YKA	**Yellowknife Ar**	**73.10**	**26**	P		**P**	**04 24 40.1**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=304,slow=5.5,SNR=12							
	comp=Z,0.7nm,0.8s							
HFS	**Hagfors**	**76.41**	**333**	P		**P**	**04 24 58.1**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=172,slow=12,SNR=1.4							
	comp=Z,1.8nm,0.9s							
NB2	**NORSAR Subarra**	**76.77**	**335**	P		P	04 25 08.8	+7.6
	comp=Z,0.4nm,0.5s,baz=66,slow=5.3							
NOA	**NORSAR Array B**	**76.77**	**335**	P		**P**	**04 25 00.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=118,slow=17,SNR=2.6							
	comp=Z,0.8nm,0.8s							
BRTR	**Keskin Array B**	**76.91**	**308**	P		**P**	**04 25 02.9**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=38,slow=7.3,SNR=2.2							
	comp=Z,0.6nm,0.8s							
CLL	**Collm**	**82.36**	**326**	*e*P		**P**	**04 25 32.0**	**+0.3**
GERES	**GERESS Array B**	**83.61**	**324**	P		**P**	**04 25 40.1**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=30,slow=8.0,SNR=2.5							
	comp=Z,0.4nm,0.6s							
FRB	**Frobisher Bay**	**84.50**	**9**	LR		LR	05 07 04.7	
	comp=Z,81nm,18.1s,baz=312,slow=38							

NVAR	**Mina Array Bea**	**85.06**	**48**	P		**P**	**04 25 46.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=291,slow=5.4,SNR=6.9							
	comp=Z,1.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**86.13**	**336**	P		**P**	**04 25 49.3**	**-1.4**
	comp=Z,3.1nm,1.0s,baz=40,slow=5.6,SNR=2.5							
	comp=Z,3.1nm,1.0s							
DAVOX	**Davos/Dischmat**	**86.91**	**324**	LR		LR	05 09 58.1	
	comp=Z,144nm,18.8s,baz=40,slow=39							
PDAR	**Pinedale Array**	**87.64**	**40**	P		**P**	**04 25 58.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=287,slow=3.7,SNR=3.6							
	comp=Z,0.5nm,0.8s							

TEH ***13*** *04:17:30.7, 33.71N×45.78E, h8km±294km, ML2.8*
ISN ***13*** *04:17:31.4±0.6, 33.69N×45.83E, h15km±3km, ML2.7*
ISC 13 04:17:31.4±1.2**, 33.69N**±0.05×**45.79E**±0.05**, h19km, n9,**
σ0.67/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.35**	**100**			Pg	**Pg**	**04 17 38.2**	**-0.8**
IBDR	**Badra**	**0.58**	**169**			*e*Pg	**Pb**	**04 17 43.0**	**+0.1**
IBDR						*e*Sg	**Sb**	**04 17 51.0**	**+0.2**
IBDR						AML	AML	04 17 56.5	
	comp=E,287nm,0.4s								
IBDR						AML	AML	04 18 08.0	
	comp=N,166nm,0.5s								
IGHG	**Ghaleghazi**	**0.91**	**45**	Pg		**Pb**	**Pb**	**04 17 48.6**	**-0.1**
IDHR	**Dehrash**	**1.13**	**26**	Pg		**Pb**	**Pb**	**04 17 52.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.19**	**60**	Pg		**Pb**	**Pb**	**04 17 54.2**	**+0.7**
BHD	**Baghdad**	**1.25**	**251**	*e*Pg		**Pb**	**Pb**	**04 17 55.0**	**+0.6**
BHD				*e*Sg		**Sg**	**Pb**	**04 18 12.0**	**0.0**
BHD				AML		AML	AML	04 18 13.6	
	comp=E,545nm,0.4s								
IKOM	**Komasi**	**1.51**	**71**	Pg		**Pb**	**Pb**	**04 17 59.4**	**+0.5**
IKFM	**Kafar-mosalman**	**1.72**	**95**	Pg		**Pb**	**Pb**	**04 18 03.2**	**+0.7**
RAFI	**Al-Rafai**	**1.98**	**172**	*e*Pn		**Pb**	**Pb**	**04 18 06.0**	**-0.7**
RAFI				*e*Sn		**Sb**	**Pb**	**04 18 32.0**	**+1.0**

TEH ***13*** *04:58:51.2, 33.61N×45.41E, h12km±999km, ML2.7*
ISN ***13*** *04:58:51.9±0.8, 33.51N×45.39E, h6km±5km, ML2.7*
ISC 13 04:58:51.6±1.0**, 33.57N**±0.04×**45.41E**±0.04**, h13km, n9,**
σ0.64/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.64**	**136**			*e*Pg	**Pg**	**04 59 04.0**	**0.0**
IBDR						*e*Sg	**Sg**	**04 59 12.0**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.67**	**85**			Pg	**Pg**	**04 59 04.1**	**-0.6**
BHD	**Baghdad**	**0.91**	**251**			*e*Pg	**Pg**	**04 59 09.0**	**-0.1**
BHD						*e*Sg	**Sg**	**04 59 21.0**	**0.0**
BHD						AML	AML	04 59 39.5	
	comp=E,394nm,0.5s								
IGHG	**Ghaleghazi**	**1.23**	**52**	Pg		**Pn**	**04 59 14.4**	**-0.2**
IDHR	**Dehrash**	**1.39**	**36**	Pg		**Pn**	**04 59 16.7**	**-0.1**
IDHR				Sg		**Sb**	**04 59 36.1**	**+0.9**
KCHF	**Cheshme Sefid,**	**1.53**	**62**	Pg		**Pn**	**04 59 19.5**	**+0.7**
IKOM	**Komasi**	**1.85**	**70**	Pn		**Pb**	**04 59 25.3**	**0.0**
ILIN	**Lien**	**1.86**	**43**	Pn		**Pb**	**04 59 25.1**	**-0.5**
RAFI	**Al-Rafai**	**1.94**	**162**	*e*Pn		**Pb**	**04 59 26.0**	**-0.7**
RAFI				*e*Sn		**Sb**	**04 59 52.0**	**+1.2**

IDC ***13*** *04:59:38.6±1.5, 40.85N×141.37E, h0km, mb3.4/4, mbtmp3.3/5, ML2.7/1, MS3.7/1, Error ellipse: s-maj=47.9km s-min=23.3km az=86.0*
JMA ***13*** *04:59:48.8±0.1, 41.1N±0.3×141.6E±0.6, h85km, MV2.9/38, SHIMOKITA PENINSULA REG*
ISC 13 04:59:48.7±0.9**, 41.11N**±0.03×**141.55E**±0.05**, h86**km±6km**,**
n22, σ0.79/37, mb3.4/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.17**	**234**	*i* P		**Pn**	**05 00 01.2**	**+0.1**
JARK				S		**Sn**	**05 00 10.4**	**+0.1**
JAHD	**Aomorihigashid**	**0.22**	**316**	*i* P		**Pn**	**05 00 01.4**	**+0.1**
JAHD				*e*S		**Sn**	**05 00 10.9**	**+0.2**
JOT	**Ohata**	**0.47**	**307**	P		**Pn**	**05 00 02.6**	**-0.1**
JOT				*e*S		**Sn**	**05 00 13.3**	**+0.1**
JTM	**Tenmabayashi**	**0.48**	**229**	P		**Pn**	**05 00 03.0**	**+0.1**
JTM				S		**Sn**	**05 00 13.3**	**-0.1**
JANG	**Nango**	**0.73**	**182**	P		**Pn**	**05 00 04.9**	**-0.3**
JANG				S		**Sn**	**05 00 16.6**	**-0.9**
JKB	**Kayabe**	**0.87**	**334**	P		**Pn**	**05 00 06.8**	**+0.1**
JKB				S		**Sn**	**05 00 20.3**	**+0.3**
JSR	**Shiriuchi**	**0.95**	**297**	P		**Pn**	**05 00 07.7**	**+0.2**
JSR				S		**Sn**	**05 00 21.5**	**-0.1**
JAH	**Hinai**	**1.15**	**217**	P		**Pn**	**05 00 10.7**	**+0.8**
JAH				*e*S		**Sn**	**05 00 26.7**	**+1.0**
JIW	**Iwasaki**	**1.27**	**247**	P		**Pn**	**05 00 11.9**	**+0.5**
JIW				*e*S		**Sn**	**05 00 28.9**	**+0.4**
JYM2	**Yakumo 2**	**1.34**	**319**	P		**Pn**	**05 00 12.9**	**+0.7**
JYM2				*e*S		**Sn**	**05 00 30.7**	**+0.7**
JNB	**Noboribetsu**	**1.41**	**345**	*e*P		**Pn**	**05 00 13.1**	**-0.1**
JNB				*e*S		**Sn**	**05 00 31.5**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.48**	**37**	*e*P		**Pn**	**05 00 14.8**	**+0.8**
JNBK				*e*S		**Sn**	**05 00 34.5**	**+1.4**
JEM	**Erimo**	**1.51**	**53**	P		**Pn**	**05 00 14.9**	**+0.5**
JEM				*e*S		**Sn**	**05 00 34.0**	**+0.2**
JIAM	**Iburiatsuma**	**1.54**	**10**	*e*S		**Sn**	**05 00 36.1**	**+1.6**
JOM	**Ohasama**	**1.64**	**187**	*e*P		**Pn**	**05 00 16.8**	**+0.7**
JOM				*e*S		**Sn**	**05 00 37.9**	**+1.1**
JEW	**Eniwo**	**1.74**	**358**	*e*P		**Pn**	**05 00 17.7**	**+0.4**
JEW				*e*S		**Sn**	**05 00 39.0**	**+0.1**
ASAJ	**Asahikawa**	**3.11**	**14**	Pn		**Pn**	**05 00 33.5**	**-2.1**
	0.5nm,0.3s,baz=175,slow=18,SNR=1.3								
ASAJ				Sn		**Sn**	**05 01 13.0**	**+1.3**
	0.7nm,0.3s,baz=170,slow=23,SNR=1.5								
	1.7nm,0.3s								
MKAR	**Makanchi Array**	**42.16**	**298**	P		**P**	**05 07 33.2**	**+0.8**
	0.4nm,0.7s,baz=94,slow=7.8,SNR=3.6								
	0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**43.67**	**305**	P		**P**	**05 07 44.4**	**-0.2**
	0.2nm,0.3s,baz=80,slow=8.9,SNR=2.5								
	0.2nm,0.3s								
DLBC	**Dease Lake**	**55.40**	**40**	LR		LR	05 36 22.8		
	comp=Z,64nm,18.0s,baz=262,slow=40								
WRA	**Warramunga Arr**	**61.10**	**188**	P		**P**	**05 09 52.1**	**-1.5**
	0.4nm,0.7s,baz=4.6,slow=7.3,SNR=5.5								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**64.83**	**188**	P		**P**	**05 10 17.9**	**-0.4**
	0.3nm,0.8s,baz=2.1,slow=7.3,SNR=4.1								
	0.3nm,0.8s								

IDC ***13*** *05:04:30.4±1.0, 64.48S×176.38E, h0km, mb4.2/4, mbtmp4.1/5, ML3.2/1, MS4.0/18, Error ellipse: s-maj=47.3km s-min=22.5km az=60.0*
NEIC ***13*** *05:04:34.1±1.7, 64.63S±0.08×175.9E±0.4, h10km±1km, mb4.4/13, Error ellipse: s-maj=31.4km s-min=6.3km az=66.0*
GCMT ***13*** *05:04:35.1±0.4, 64.48S±0.03×175.39E±0.09, h28km, MW5.1/73, Moment Tensor Solution. s22,c23; s73,c86; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.25±.35; Mθθ3.58±.25; Mφφ1.67±.21; Mrθ-1.39±.32; Mθφ0.91±.15; Mφr2.24±.37; Best double couple: M0 5.07200×10^16 NP1: θ=89.00000°, δ52.00000°, λ-66.00000°. NP2: φs=233.00000°, δ44.00000°, λ-118.00000°. Principal axes: T 3.9730, Plg4.0000°, Azm162.0000°; N 2.1990, Plg19.0000°, Azm253.0000°; P -6.1720, Plg71.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 05:04:32.6±0.7**, 64.62S**±0.08×**176.2E**±0.2**, h10km, n62,**
σ1.9/36, mb4.3/9, MS3.9/18, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**13.35**	**311**			Pn	**Pn**	**05 07 40.7**	**-1.1**
SBA	**Scott Base**	**13.61**	**189**			Pn	**Pn**	**05 07 43.4**	**-2.0**
VNDA	**Vanda**	**13.70**	**193**				**Pn**	**05 07 45.3**	**-1.2**
VNDA	**Vanda**	**13.70**	**193**	Pn		Pn	**Pn**	**05 07 46.1**	**-0.5**
	0.1nm,0.3s,baz=37,slow=17,SNR=8.9								
VNDA				LR		LR	LR	05 11 52.4	
	comp=Z,536nm,19.0s,baz=30,slow=32								
	0.6nm,0.5s								
MLZ	**Mavora Lakes**	**19.81**	**343**	P		**P**	**P**	**05 09 03.3**	**+0.3**
MLZ				IAmb		IAmb	IAmb	05 09 09.0	
	comp=Z,16nm,1.2s								
DCZ	**Deep Cove**	**19.85**	**341**	P		**P**	**P**	**05 09 03.7**	**+0.3**
DCZ				IAmb		IAmb	IAmb	05 09 32.7	
	comp=Z,15nm,1.0s								
RPZ	**Rata Peaks**	**21.15**	**350**	LR		LR	LR	05 15 30.3	
	comp=Z,473nm,21.8s,baz=190,slow=31								
QSPA	**South Pole Qui**	**25.47**	**180**	P		**P**	**P**	**05 10 02.3**	**+1.8**
QSPA	**South Pole Qui**	**25.47**	**180**	P		**P**	**P**	**05 10 02.3**	**+1.8**
	comp=Z,5.8nm,0.9s,baz=30,slow=6.7,SNR=12								
QSPA				LR		LR	LR	05 18 45.1	
	comp=Z,403nm,18.7s,baz=42,slow=33								
	comp=Z,5.8nm,0.9s								
URZ	**Urewera**	**26.40**	**2**	LR		LR	LR	05 19 32.7	
	comp=Z,200nm,18.6s,baz=301,slow=34								
BELA	**Belgrano 2**	**36.51**	**169**	P		**P**	**P**	**05 11 37.7**	**+0.3**
BELA				IAmb		IAmb	IAmb	05 11 40.1	
	comp=Z,7.1nm,1.2s								
STKA	**Stephens Creek**	**39.11**	**310**	LR		LR	LR	05 25 26.5	
	comp=Z,122nm,18.1s,baz=200,slow=32								
MAW	**Mawson**	**39.83**	**213**	P		**P**	**P**	**05 12 06.6**	**+1.2**
MAW				IAmb		IAmb	IAmb	05 12 07.9	
	comp=Z,3.5nm,1.1s								
MAW	**Mawson**	**39.83**	**213**	LR		LR	LR	05 28 45.0	
	comp=Z,119nm,19.1s,baz=158,slow=36								
ONTNC	**Ouen Toro**	**42.79**	**347**	P		**P**	**P**	**05 12 31.6**	**+1.5**
DZM	**Mont Dzumac**	**43.02**	**347**	LR		LR	LR	05 29 03.4	
	comp=Z,240nm,18.0s,baz=210,slow=34								
MARNC	**Mare, Loyalty**	**43.46**	**349**	P		**P**	**P**	**05 12 36.7**	**+1.2**
PMSA	**Palmer Station**	**43.64**	**147**	LR		LR	LR	05 28 24.2	
	comp=Z,141nm,19.9s,baz=290,slow=33								
KOUNC	**Koumac, New Ca**	**44.76**	**344**	P		**P**	**P**	**05 12 47.2**	**+1.2**
KOUNC				IAmb		IAmb	IAmb	05 12 53.5	
	comp=Z,13nm,1.0s								
FORT	**Forrest**	**45.02**	**295**	P		**P**	**P**	**05 12 48.6**	**+0.6**
RAR	**Rarotonga**	**46.21**	**32**	LR		LR	LR	05 27 51.8	
	comp=Z,101nm,18.6s,baz=174,slow=30								
H01W1	**Cape Leeuwin H**	**47.18**	**278**	T		T	T	06 03 59.0	
	baz=148								
H01W2	**Cape Leeuwin H**	**47.18**	**278**	T		T	T	06 04 07.4	
	baz=148,slow=74								
H01W3	**Cape Leeuwin H**	**47.20**	**278**	T		T	T	06 04 05.6	
	baz=148,slow=74								
NWAO	**Narrogin (SRO)**	**47.56**	**282**	LR		LR	LR	05 28 26.4	
	comp=Z,285nm,19.7s,baz=106,slow=30								
CTA	**Charters Tower**	**48.78**	**321**	LR		LR	LR	05 31 20.2	
	comp=Z,130nm,19.0s,baz=90,slow=33								
AS31	**Alice Springs**	**49.28**	**305**	P		**P**	**P**	**05 13 22.2**	**+0.8**
AS31				IAmb		IAmb	IAmb	05 13 28.1	
	comp=Z,1.9nm,0.8s								
ASAR	**Alice Springs**	**49.28**	**305**	P		**P**	**P**	**05 13 21.5**	**+0.1**
ASAR	**Alice Springs**	**49.28**	**305**	P		**P**	**P**	**05 13 21.2**	**-0.2**
	comp=Z,4.6nm,1.0s,baz=153,slow=7.0,SNR=26								
ASAR				LR		LR	LR	05 32 41.3	
	comp=Z,87nm,19.1s,baz=167,slow=34								
	comp=Z,4.6nm,1.0s								
PPT	**Papeete**	**52.35**	**43**	LR		LR	LR	05 29 43.1	
	comp=Z,60nm,19.8s,baz=254,slow=29								
WR0	**Warramunga Arr**	**52.49**	**308**	P		**P**	**P**	**05 13 44.9**	**-0.6**
WR0				IAmb		IAmb	IAmb	05 13 51.4	
	comp=Z,15nm,1.1s								
WRA	**Warramunga Arr**	**52.57**	**308**	P		**P**	**P**	**05 13 46.2**	**+0.1**
WRA	**Warramunga Arr**	**52.57**	**308**	P		**P**	**P**	**05 13 45.5**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=162,slow=6.5,SNR=11								
WRA				LR		LR	LR	05 34

VTCV	**VTCV, Calle Va**	**1.33**	**21**	*eP*	**Pn**	**05 23 14.6**	**+0.1**
CVTQ	**Turrialba Volc**	**1.34**	**19**	*eP*	**Pn**	**05 23 14.9**	**+0.1**
CVTV	**Tajo**	**1.34**	**20**	*eP*	**Pn**	**05 23 15.0**	**+0.2**
VTLO	**VTLO**	**1.39**	**20**	*eP*	**Pn**	**05 23 15.4**	**0.0**
CPMI	**Catarata Coope**	**1.55**	**354**	*eP*	**Pn**	**05 23 17.8**	**+0.2**
CPMI	**Catarata Coope**	**1.55**	**354**	*i P*	**Pn**	**05 23 17.2**	**-0.3**
CPMI				IAML		05 23 44.9	
	comp=Z,74nm,1.0s						
SOCE	**Pocosol**	**1.69**	**346**	*eP*	**Pb**	**05 23 21.0**	**+0.2**
SOCE	**Pocosol**	**1.69**	**346**	*i P*	**Pb**	**05 23 20.6**	**-0.2**
SOCE				IAML		05 23 24.4	
	comp=Z,170nm,1.0s						
JTS	**Las Juntas de**	**1.71**	**335**	*eP*	**Pn**	**05 23 20.1**	**+0.5**
COVE	**Coope Vega, Sa**	**1.98**	**355**	*i P*	**Pn**	**05 23 23.3**	**0.0**
COVE				IAML		05 24 24.0	
	comp=Z,65nm,1.0s						
CUI	**Cuipilapa**	**2.13**	**334**	*eP*	**Pn**	**05 23 25.9**	**+0.5**
HZTE	**Horizontes, Gu**	**2.39**	**325**	*i P*	**Pn**	**05 23 27.9**	**-1.1**
HZTE				IAML		05 25 03.7	
	comp=Z,82nm,1.0s						

IDC ***13*** *05:31:56.9±0.6,0.01S×17.68W,h0km,mb4.3/23, mbtmp4.4/25,ML5.0/2,MS4.0/64,Error ellipse: s-maj=21.3km s-min=13.1km az=144.0*

NEIC ***13*** *05:31:58.7±1.1,0.07N±0.08×17.72W±0.09,h10km±1km, mb4.9/68,Error ellipse: s-maj=15.3km s-min=14.1km az=248.0*

GCMT ***13*** *05:32:00.7±0.2,0.24N±0.01×17.74W±0.01,h12km, MW4.9/113,Moment Tensor Solution. s37,c47; s113,c162; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr-0.51±.08; Mθθ 1.73±.08; Mϕϕ-1.22±.07; Mrθ-0.06±.21; Mθϕ-2.65±.06; Mϕr-0.17±.21; Best double couple: Mo3.04000×10*^{16} *NP1:ϕ=345.00000°,δ87.00000°, λ-3.00000°. NP2:ϕ=76.00000°,δ87.00000°,λ-177.00000°. Principal axes: T 3.2880, Plg1.0000°, Azm30.0000°; N -0.5010, Plg86.0000°, Azm128.0000°; P -2.7910, Plg4.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 05:31:58.3±0.3,0.07N±0.07×17.69W±0.06,h12km,n248, σ1.935/186,**mb4.8**/65,**MS4.1**/63,**2C-6D,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.47**	**158**	T	T	05 43 06.0	
	baz=340,slow=74,SNR=1307						
H10N3	**ASCENSION HYDR**	**8.48**	**158**	T	T	05 43 05.9	
	baz=340,slow=74,SNR=1875						
H10N1	**ASCENSION HYDR**	**8.49**	**158**	T	T	05 43 07.6	
	baz=340,slow=74,SNR=2531						
ASCN	**Ascension**	**8.62**	**157**	Pn	**Pn**	**05 34 02.3**	**-0.7**
H10S3	**ASCENSION HYDR**	**9.46**	**161**	T	T	05 44 21.3	
	baz=341,slow=74,SNR=388						
H10S2	**ASCENSION HYDR**	**9.47**	**161**	T	T	05 44 22.4	
	baz=239,slow=74,SNR=171						
LIC	**Lamto**	**14.04**	**64↑**	*eP*	**Pn**	**05 35 17.6**	**+0.4**
	29nm,0.4s						
TIC	**Toumodi**	**14.23**	**62↑**	*eP*	**Pn**	**05 35 19.4**	**-0.5**
	40nm,0.4s						
KIC	**Kosan Boka**	**14.36**	**64↓**	*eP*	**Pn**	**05 35 21.2**	**-0.4**
	25nm,0.4s						
DBIC	**Dimbokro**	**14.39**	**63**	Pn	**Pn**	**05 35 20.2**	**-1.8**
DBIC	**Dimbokro**	**14.39**	**63**	Pn	**Pn**	**05 35 20.4**	**-1.7**
	14nm,0.3s,baz=242,slow=12,SNR=84						
DBIC				Sn	Sn	05 37 49.7	-12
	6.9nm,0.3s,baz=359,slow=6.2,SNR=5.3						
DBIC				LR	LR	05 39 44.6	
	comp=Z,788nm,19.4s,baz=223,slow=32						
	34nm,0.4s						
SACV	**Santiago Islan**	**15.92**	**339**	Pn	**Pn**	**05 35 39.9**	**-2.5**
SACV				IAmb	IAmb	05 35 52.3	
	comp=Z,92nm,1.4s						
RCBR	**Riachuelo**	**19.10**	**252**	P	**P**	**05 36 20.8**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=88,slow=15,SNR=32						
RCBR				S	Sn	05 39 35.1	-21
	comp=Z,7.1nm,0.9s,baz=326,slow=5.7,SNR=2.4						
	comp=Z,3.8nm,0.3s						
RCBR	**Riachuelo**	**19.10**	**252**	*eP*	**P**	**05 36 21.7**	**+0.4**
TOA0	**Torodi Ar. Sit**	**23.20**	**55**	P	**P**	**05 37 04.4**	**-0.9**
TOA0				IAmb	IAmb	05 37 09.5	
	comp=Z,54nm,0.9s						
TORD	**Torodi Ar. Bea**	**23.20**	**55**	P	**P**	**05 37 04.1**	**-1.2**
TORD				IAmb	IAmb	05 37 09.4	
	comp=Z,48nm,0.9s						
TORD	**Torodi Ar. Bea**	**23.20**	**55**	P	**P**	**05 37 04.5**	**-0.8**
	comp=Z,42nm,1.0s,baz=242,slow=9.6,SNR=68						
TORD				S	**S**	**05 41 14.9**	**-2.2**
	comp=Z,3.4nm,0.7s,baz=242,slow=21,SNR=2.9						
TORD				LR	LR	05 45 22.4	
	comp=Z,822nm,18.4s,baz=239,slow=35						
	comp=Z,42nm,1.0s						
SDBA	**SAO DESIDERIO**	**29.71**	**244**	*eP*	**P**	**05 38 04.3**	**-0.4**
JANB	**Januaria**	**30.30**	**239**	*eP*	**P**	**05 38 09.7**	**-0.2**
DIAM	**Diamantina, MG**	**31.39**	**233**	*eP*	**P**	**05 38 19.4**	**-0.2**
BSCB	**Bom Sucesso**	**33.75**	**230**	*eP*	**P**	**05 38 39.3**	**-0.9**
PMNB	**Patos De Minas**	**33.75**	**235**	*eP*	**P**	**05 38 40.6**	**+0.4**
BDFB	**Brasilia**	**33.77**	**241**	P	**P**	**05 38 40.1**	**-0.3**
BDFB				IAmb	IAmb	05 38 41.1	
	comp=Z,13nm,0.9s						
BDFB	**Brasilia**	**33.77**	**241**	*eP*	**P**	**05 38 40.1**	**-0.3**
	comp=Z,9.3nm,0.9s,baz=50,slow=7.7,SNR=17						
BDFB				LR	LR	05 52 05.2	
	comp=Z,144nm,18.2s,baz=73,slow=36						
	comp=Z,9.3nm,0.9s						
MDT	**Midelt**	**34.83**	**20**	LR	LR	05 52 48.4	
	comp=Z,474nm,19.3s,baz=219,slow=36						
IPMB	**Ipameri, GO**	**34.96**	**238**	*eP*	**P**	**05 38 51.0**	**+0.3**
SNDB	**Serra Nova Dou**	**35.44**	**249**	*eP*	**P**	**05 38 55.5**	**+0.7**
ITRB	**Iturama**	**37.56**	**237**	*eP*	**P**	**05 39 13.2**	**+0.3**
NPGB	**Novo Progresso**	**38.23**	**259**	*eP*	**P**	**05 39 18.1**	**-0.5**
ITTB	**Itaituba**	**38.26**	**263**	*eP*	**P**	**05 39 18.6**	**-0.3**
C2SB	**Chapadao do Su**	**39.25**	**240**	*eP*	**P**	**05 39 29.0**	**+1.8**
TSUM	**Tsumeb**	**39.55**	**121**	P	**P**	**05 39 28.6**	**-1.1**
TSUM	**Tsumeb**	**39.55**	**121**	LR	LR	05 52 34.5	
	comp=Z,249nm,20.5s,baz=315,slow=31						
PDRB	**Porto dos Gac**	**40.47**	**252**	*eP*	**P**	**05 39 37.6**	**+0.2**
PP1B	**Ponte de Pedra**	**40.58**	**242**	*eP*	**P**	**05 39 39.1**	**+0.9**
RPRD	**Ribas do Rio P**	**40.71**	**238**	*eP*	**P**	**05 39 39.8**	**+0.5**
SALV	**Santo Antonio**	**40.72**	**245**	*eP*	**P**	**05 39 39.8**	**+0.4**
RVDE	**Rio Verde (Bra**	**41.18**	**240**	*eP*	**P**	**05 39 43.2**	**0.0**
ESDC	**Sonseca Array**	**41.37**	**16**	P	**P**	**05 39 44.3**	**-0.1**
	comp=Z,3.1nm,1.2s,baz=194,slow=7.7,SNR=3.8						
ESDC				LR	LR	05 57 35.4	
	comp=Z,145nm,19.1s,baz=202,slow=37						
	comp=Z,3.1nm,1.2s						
PTGB	**Pitanga**	**41.40**	**231**	*eP*	**P**	**05 39 45.9**	**+1.0**
AQDB	**Aquidauana**	**42.41**	**239**	P	**P**	**05 39 52.8**	**-0.4**
AQDB	**Aquidauana**	**42.41**	**239**	*eP*	**P**	**05 39 53.4**	**+0.2**
ITAB	**Concordia**	**42.80**	**228**	*eP*	**P**	**05 39 57.4**	**+1.2**
FRBT	**Francisco Belt**	**42.82**	**230**	*eP*	**P**	**05 39 58.1**	**+1.6**
BOAV	**Boa Vista**	**42.88**	**273**	P	**P**	**05 39 56.3**	**-0.8**
BOAV	**Boa Vista**	**42.88**	**273**	*eP*	**P**	**05 39 57.4**	**+0.2**
BOAV	**Boa Vista**	**42.88**	**273**	*eP*	**P**	**05 39 58.8**	**+1.7**
MACA	**Manacapuru-AM**	**43.09**	**265**	P	**P**	**05 39 58.9**	**+0.1**
MACA	**Manacapuru-AM**	**43.09**	**265**	*eP*	**P**	**05 39 59.7**	**+0.9**
BDQN	**Bodoquena, MS**	**43.30**	**239**	*eP*	**P**	**05 40 00.6**	**+0.2**
KEST	**Kesra**	**43.50**	**33**	LR	LR	05 58 49.1	
	comp=Z,759nm,20.4s,baz=174,slow=37						
PTLB	**Pontes e Lacer**	**43.74**	**247**	P	**P**	**05 40 02.9**	**-1.1**
PTLB	**Pontes e Lacer**	**43.74**	**247**	*eP*	**P**	**05 40 04.7**	**+0.7**
VILB	**Vilhena**	**44.08**	**251**	P	**P**	**05 40 06.0**	**-0.8**
VILB	**Vilhena**	**44.08**	**251**	*eP*	**P**	**05 40 07.8**	**+1.0**
ALGR	**Alto Alegre (B**	**44.32**	**227**	*eP*	**P**	**05 40 09.8**	**+1.2**
MURT	**Porto Murtinho**	**44.52**	**238**	*eP*	**P**	**05 40 09.8**	**-0.3**
H05S1	**Guadeloupe/Mar**	**44.99**	**290**	T	T	06 28 13.5	
	SNR=8.2						
CPSB	**Cacapava Do Su**	**45.53**	**225**	*eP*	**P**	**05 40 18.2**	**+0.1**
SIV	**San Ignacio**	**45.68**	**247**	LR	LR	05 57 52.5	
	comp=Z,252nm,21.2s,baz=103,slow=34						
SAML	**Samuel**	**46.18**	**258**	P	**P**	**05 40 23.6**	**+0.1**
SAML				IAmb	IAmb	05 40 24.8	
	comp=Z,9.8nm,0.9s						
SAML	**Samuel**	**46.18**	**258**	*eP*	**P**	**05 40 24.2**	**+0.7**
SAML	**Samuel**	**46.18**	**258**	*eP*	**P**	**05 40 23.9**	**+0.4**
CPUP	**Villa Florida**	**46.33**	**232**	P	**P**	**05 40 24.0**	**-0.4**
CPUP	**Villa Florida**	**46.33**	**232**	P	**P**	**05 40 24.4**	**-0.1**
	comp=Z,6.1nm,0.9s,baz=70,slow=7.2,SNR=8.3						
CPUP				LR	LR	05 58 42.1	
	comp=Z,264nm,18.2s,baz=72,slow=35						
	comp=Z,6.1nm,0.9s						

CPUP	**Villa Florida**	**46.33**	**232**	*eP*	**P**	**05 40 24.5**	**+0.1**
RODS	**Rosario do Sul**	**46.75**	**226**	*eP*	**P**	**05 40 29.1**	**+1.3**
ITQB	**Itaqui**	**47.44**	**228**	P	**P**	**05 40 32.9**	**-0.2**
ITQB				IAmb	IAmb	05 40 34.4	
	comp=Z,19nm,1.0s						
ITQB	**Itaqui**	**47.44**	**228**	*eP*	**P**	**05 40 34.0**	**+0.9**
VAE	**Valguarnera**	**47.57**	**35**	LR	LR	06 03 24.5	
	comp=Z,565nm,18.1s,baz=150,slow=40						
PCRV	**Puerto La Cruz**	**47.75**	**284**	LR	LR	05 59 10.1	
	comp=Z,127nm,21.5s,slow=34						
LSZ	**Lusaka**	**47.81**	**111**	P	**P**	**05 40 36.9**	**+0.5**
MBAR	**Mbarara**	**48.43**	**91**	P	**P**	**05 40 41.2**	**-0.1**
MBAR				IAmb	IAmb	05 40 47.5	
	comp=Z,12nm,1.1s						
SUR	**Sutherland**	**48.59**	**135**	P	**P**	**05 40 41.9**	**-0.3**
SUR				IAmb	IAmb	05 40 47.1	
	comp=Z,8.5nm,0.9s						
SUR	**Sutherland**	**48.59**	**135**	LR	LR	05 56 43.7	
	comp=Z,184nm,21.2s,baz=283,slow=31						
LBTB	**Lobatse**	**48.71**	**124**	P	**P**	**05 40 42.9**	**-0.2**
LBTB				IAmb	IAmb	05 40 49.7	
	comp=Z,15nm,1.3s						
LBTB	**Lobatse**	**48.71**	**124**	LR	LR	05 57 47.0	
	comp=Z,180nm,21.7s,baz=252,slow=32						
ETMB	**Extrema**	**49.27**	**257**	P	**P**	**05 40 47.1**	**-0.3**
ETMB				IAmb	IAmb	05 40 50.5	
	comp=Z,9.3nm,1.1s						
ETMB	**Extrema**	**49.27**	**257**	*eP*	**P**	**05 40 47.1**	**-0.3**
BOSA	**Boshof**	**49.98**	**129**	P	**P**	**05 40 52.3**	**-0.6**
BOSA				IAmb	IAmb	05 41 12.0	
	comp=Z,19nm,1.2s						
BOSA	**Boshof**	**49.98**	**129**	P	**P**	**05 40 52.1**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=295,slow=6.8,SNR=6.3						
BOSA				LR	LR	05 57 39.1	
	comp=Z,164nm,21.6s,baz=226,slow=31						
	comp=Z,2.8nm,0.8s						
TIP	**Timpagrande**	**50.08**	**35**	P	**P**	**05 40 53.6**	**+0.3**
SJG	**San Juan**	**50.87**	**293**	LR	LR	05 57 24.4	
	comp=Z,171nm,21.6s,baz=102,slow=30						
BAUV	**El Baul**	**50.90**	**281**	P	**P**	**05 40 59.5**	**-0.4**
ZCCA	**Zocca**	**50.93**	**26**	P	**P**	**05 40 59.8**	**+0.2**
ZCCA				IAmb	IAmb	05 41 17.4	
	comp=Z,38nm,1.4s						
TUE	**Stuetta**	**51.94**	**24**	P	**P**	**05 41 08.0**	**+0.6**
TUE				IAmb	IAmb	05 41 27.5	
	comp=Z,18nm,1.6s						
LPAZ	**La Paz**	**52.32**	**249**	P	**P**	**05 41 08.8**	**-2.4**
DAVOX	**Davos/Dischmat**	**52.40**	**24**	LR	LR	06 02 56.5	
	comp=Z,206nm,20.7s,baz=248,slow=35						
CTI	**Castel Tesino**	**52.55**	**25**	P	**P**	**05 41 12.7**	**+0.8**
CTI				IAmb	IAmb	05 41 16.9	
	comp=Z,9.2nm,0.8s						
DAVA	**Dannuels**	**52.82**	**23**	*ep*	pP	05 41 16.9	+0.7
	comp=Z,18nm,1.0s						
IDI	**Anoyia**	**52.91**	**44**	LR	LR	06 03 14.9	
	comp=Z,89nm,19.8s,baz=270,slow=36						
FETA	**Feichten**	**52.94**	**24**	*eP*	**P**	**05 41 17.6**	**+2.8**
	comp=Z,9.9nm,1.0s						
GRHM	**Grahamstown, E**	**53.04**	**133**	P	**P**	**05 41 15.2**	**-0.4**
GRHM				IAmb	IAmb	05 41 18.6	
	comp=Z,32nm,1.4s						
SQTA	**Sankt Quirin**	**53.30**	**24**	*eP*	**P**	**05 41 19.5**	**+2.2**
	comp=Z,14nm,1.1s						
AGG	**Agios Georgios**	**53.32**	**39**	P	**P**	**05 41 17.6**	**0.0**
AGG				IAmb	IAmb	05 41 31.5	
	comp=Z,39nm,1.6s						
RETA	**Reutte**	**53.33**	**24**	*eP*	**P**	**05 41 19.7**	**+2.2**
	comp=Z,4.7nm,0.7s						
SDV	**Santo Domingo**	**53.44**	**281**	P	**P**	**05 41 17.9**	**-1.2**
SDV	**Santo Domingo**	**53.44**	**281**	LR	LR	06 01 12.5	
	comp=Z,186nm,20.0s,baz=106,slow=33						
SDV	**Santo Domingo**	**53.44**	**281**	*eP*	**P**	**05 41 19.8**	**+0.7**
SDV	**Santo Domingo**	**53.44**	**281**	*eP*	**P**	**05 41 20.0**	**+1.0**
ABTA	**Abfaltersbach**	**53.47**	**25**	*ep*	pP	05 41 22.0	+1.1
	comp=Z,12nm,1.4s						
WTTA	**Wattenberg**	**53.51**	**25**	*ep*	pP	05 41 21.9	+0.6
	comp=Z,8.7nm,0.9s						
WATA	**Walderalm**	**53.54**	**24**	*ep*	pP	05 41 22.7	+1.2
	comp=Z,8.8nm,1.0s						
PRED	**Cave del Predi**	**53.70**	**26**	P	**P**	**05 41 20.6**	**+0.3**
PRED				IAmb	IAmb	05 41 23.7	
	comp=Z,10nm,1.0s						
PUK	**Puka**	**53.77**	**34**	P	**P**	**05 41 22.0**	**+1.2**
PUK				IAmb	IAmb	05 41 25.8	
	comp=Z,20nm,1.0s						
FNA	**Florina**	**53.82**	**36**	P	**P**	**05 41 22.0**	**+0.8**
FNA				IAmb	IAmb	05 41 26.2	
	comp=Z,7.9nm,0.9s						
MYKA	**Terra Mystica**	**53.88**	**26**	*ep*	pP	05 41 25.5	+1.6
	comp=Z,11nm,1.3s						
LESA	**Schwarzleotal**	**54.07**	**25**	*eP*	**P**	**05 41 25.4**	**+2.4**
	comp=Z,12nm,0.9s						
TAMC	**Tane, Arauca**	**54.35**	**278**	*eP*	**P**	**05 41 25.6**	**+0.1**
SOKA	**Soboth**	**54.54**	**27**	*eP*	**P**	**05 41 28.8**	**+2.4**
	comp=Z,9.2nm,1.0s						
LVC	**Limon Verde**	**54.67**	**242**	LR	LR	06 04 25.8	
	comp=Z,61nm,20.7s,baz=70,slow=36						
KMBO	**Kilima Mbogo**	**54.95**	**91**	P	**P**	**05 41 30.0**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=208,slow=3.0,SNR=4.3						
KMBO				LR	LR	06 02 51.8	
	comp=Z,93nm,19.3s,baz=188,slow=34						
	comp=Z,1.7nm,0.5s						
ARSA	**Arzberg**	**55.19**	**27**	*eP*	**P**	**05 41 34.0**	**+3.0**
	comp=Z,7.5nm,1.1s						
PB07	**IPOC Station P**	**55.28**	**243**	P	**P**	**05 41 31.8**	**-0.5**
PAMC	**Pamplona, Colo**	**55.32**	**279**	*eP*	**P**	**05 41 30.0**	**-3.1**
GERES	**GERESS Array B**	**55.61**	**25**	P	**P**	**05 41 33.3**	**-0.8**
GERES	**GERESS Array B**	**55.61**	**25**	P	**P**	**05 41 35.3**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=201,slow=6.6,SNR=12						
GERES				LR	LR	06 04 59.2	
	comp=Z,80nm,21.5s,baz=280,slow=36						
	comp=Z,3.9nm,0.8s						
BARC	**Barichara**	**55.74**	**278**	*eP*	**P**	**05 41 34.9**	**-0.9**
KHC	**Kasperske Hory**	**55.78**	**24**	*eP*	**P**	**05 41 39.0**	**+3.7**
KHC				*ex*	x	05 41 54.5	
CKRC	**Cesky Krumlov**	**55.85**	**25**	*eP*	**P**	**05 41 39.2**	**+3.5**
CONA	**Conrad Observa**	**55.85**	**27**	*ep*	pP	05 41 39.1	+0.9
	comp=Z,9.6nm,1.6s						
RONA	**Rosalia, Austr**	**55.88**	**27**	*ep*	pP	05 41 39.7	+1.4
	comp=Z,14nm,0.9s						
GO02	**Mina Guanaco**	**56.04**	**239**	P	**P**	**05 41 37.6**	**-0.2**
ZVC	**Zvikov**	**56.27**	**24**	*eP*	**P**	**05 41 41.3**	**+2.6**
ZVC				*ex*	x	05 41 50.2	
EKA	**Eskdalemuir Ar**	**56.35**	**10**	P	**P**	**05 41 40.0**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=212,slow=38,SNR=2.4						
	comp=Z,1.8nm,0.9s						
ROSC	**El Rosal**	**56.75**	**276**	P	**P**	**05 41 44.2**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=160,slow=23,SNR=1.7						
ROSC				LR	LR	06 03 38.5	
	comp=Z,158nm,18.4s,baz=62,slow=34						
	comp=Z,3.9nm,0.7s						
ROSC	**El Rosal**	**56.75**	**276**	*eP*	**P**	**05 41 42.8**	**-0.5**
SRO	**Srobarova**	**56.90**	**28**	*eP*	**P**	**05 41 46.8**	**+3.7**
DJES	**Djerdap**	**56.92**	**33**	P	**P**	**05 41 44.5**	**+1.0**
KRUC	**Moravsky**	**56.93**	**26**	*eP*	**P**	**05 41 46.0**	**+2.6**
ELL	**Elmali**	**57.16**	**45**	P	**P**	**05 41 46.3**	**+0.9**
VRAC	**Vranov**	**57.20**	**26**	*eP*	**P**	**05 41 47.7**	**+2.4**
VRAC	**Vranov**	**57.20**	**26**	LR	LR	06 08 25.4	
	comp=Z,110nm,18.1s,baz=211,slow=38						
CFA	**Coronel Fontan**	**57.21**	**232**	LR	LR	06 06 03.1	
	comp=Z,325nm,18.4s,baz=73,slow=36						
PRAC	**Prado**	**57.27**	**274**	*eP*	P	05 41 42.0	-4.5
CLL	**Collm**	**57.27**	**22**	*eP*	**P**	**05 41 48.0**	**+2.3**
CLL				*eS*	S	05 49 53.0	+11
CLL				*ex*	x	05 51 09.0	
AC06	**Mina Casimiro**	**57.39**	**237**	P	**P**	**05 41 46.6**	**-0.5**
AC06				IAmb	IAmb	05 41 48.1	
	comp=Z,7.6nm,0.9s						
ZARC	**Zaragoza, Cauc**	**57.47**	**279**	*eP*	**P**	**05 41 45.9**	**-2.0**
VYHS	**Vyhne**	**57.63**	**28**	*eP*	**P**	**05 41 51.9**	**+3.6**
ORTC	**Ortega, Tolima**	**57.63**	**275**	*eP*	**P**	**05 41 49.2**	**+0.1**
PSZ	**Piszkesteto**	**57.73**	**29**	P	**P**	**05 41 48.0**	**-1.2**
PSZ				IAmb	IAmb	05 41 53.5	
	comp=Z,10nm,1.0s						
MAUC	**Maruska**	**57.79**	**27**	*eP*	**P**	**05 41 51.3**	**+1.8**
GUY2C	**Guyana, Caldas**	**57.81**	**276**	*eP*	**P**	**05 41 50.1**	**-0.8**
KRLC	**Kraliky**	**57.85**	**26**	*eP*	**P**	**05 41 51.8**	**+1.8**
DPC	**Dobruska-Polom**	**57.86**	**25**	*eP*	**P**	**05 41 53.2**	**+3.2**
CHVC	**Chvalec**	**57.93**	**25**	*eP*	**P**	**05 41 52.3**	**+1.8**
MORC	**Moravsky Berou**	**57.96**	**26**	P	**P**	**05 41 50.7**	**0.0**
MORC				IAmb	IAmb	05 41 54.8	
	comp=Z,8.3nm,1.0s						
SJCC	**San Jacinto, C**	**58.01**	**282**	P	**P**	**05 41 51.1**	**-0.6**
SJCC				IAmb	IAmb	05 41 53.9	
	comp=Z,17nm,1.1s						

SJCC	**San Jacinto, C**	**58.01**	**282**	*eP*	**P**	**05 41 50.7**	**-1.0**
CO01	**Juntas del Tor**	**58.08**	**234**	P	**P**	**05 41 52.0**	**-0.2**
EIL	**Elat**	**58.08**	**55**	LR	LR	06 06 40.2	
	comp=Z,133nm,19.3s,baz=248,slow=36						
UREC	**San Jos de Ur**	**58.15**	**279**	*eP*	**P**	**05 41 50.4**	**-2.3**
LANS	**Liptovska Anna**	**58.39**	**28**	*eP*	**P**	**05 41 57.7**	**+4.0**
PLMC	**San Jos del P**	**58.71**	**276**	*eP*	**P**	**05 41 55.5**	**-1.1**
YOTC	**Yotoco, Valle**	**58.73**	**275**	*eP*	P	05 41 50.4	-6.5
JAMC	**Jamundi, Valle**	**59.03**	**274**	*eP*	**P**	**05 41 57.4**	**-1.7**
CRVS	**Cervenica-Dubn**	**59.16**	**29**	*eP*	**P**	**05 42 02.2**	**+3.1**
APAC	**Apartado, Choc**	**59.20**	**279**	*eP*	**P**	**05 41 59.3**	**-0.6**
OJC	**Ojcow**	**59.29**	**27**	P	**P**	**05 42 00.6**	**+0.7**
OJC				IAmb	IAmb	05 42 03.9	
	comp=Z,8.7nm,0.9s						
MLR	**Muntele Rosu**	**59.34**	**34**	P	**P**	**05 42 00.8**	**+0.3**
MLR	**Muntele Rosu**	**59.34**	**34**	LR	LR	06 08 35.8	
	comp=Z,202nm,21.4s,baz=208,slow=37						
KOLS	**Kolonicke sedl**	**59.58**	**29**	*eP*	**P**	**05 42 06.3**	**+4.3**
MMAI	**Mount Meron Ar**	**59.66**	**51**	P	**P**	**05 42 04.3**	**+1.5**
	comp=Z,4.2nm,0.9s,baz=308,slow=7.1,SNR=4.5						
MMAI				LR	LR	06 09 47.8	
	comp=Z,158nm,18.9s,baz=230,slow=38						
	comp=Z,4.2nm,0.9s						
GCUF	**Volcan Galeras**	**59.66**	**271**	*eP*	**P**	**05 42 03.8**	**0.0**
NNA	**Nana**	**59.90**	**256**	LR	LR	06 07 18.5	
	comp=Z,126nm,18.3s,baz=74,slow=35						
BOSC	**San Juan Bosco**	**60.86**	**266**	P	**P**	**05 42 10.2**	**-1.3**
ATAH	**Atahualpa**	**60.96**	**262**	LR	LR	06 07 52.7	
	comp=Z,144nm,18.9s,baz=94,slow=35						
BRTR	**Keskin Array B**	**61.14**	**43**	P	**P**	**05 42 13.3**	**+0.3**
BRTR	**Keskin Array B**	**61.14**	**43**	P	**P**	**05 42 14.4**	**+1.4**
	comp=Z,7.5nm,0.8s,baz=229,slow=7.7,SNR=24						
BRTR				LR	LR	06 11 08.6	
	comp=Z,120nm,19.2s,baz=230,slow=38						
	comp=Z,7.5nm,0.8s						
BR131	**Keskin Array S**	**61.14**	**43**	P	**P**	**05 42 12.2**	**-0.8**
BR131				IAmb	IAmb	05 42 17.3	
	comp=Z,16nm,0.9s						
CHSH	**Refugio Sur-Vo**	**61.19**	**268**	P	**P**	**05 42 12.7**	**-1.7**
COHC	**Cochancay**	**61.59**	**267**	P	**P**	**05 42 15.7**	**-0.6**
COHC	**Cochancay**	**61.59**	**267**	*eP*	**P**	**05 42 15.0**	**-1.3**
BNN	**Bunyan**	**62.30**	**45**	P	**P**	**05 42 20.9**	**0.0**
MCRA	**Macar, Loja**	**62.35**	**265**	P	**P**	**05 42 20.5**	**-1.0**
GAZ	**Gaziantep**	**62.61**	**47**	P	**P**	**05 42 23.1**	**+0.2**
PLCA	**Paso Flores**	**62.74**	**223**	LR	LR	06 05 42.6	
	comp=Z,144nm,22.0s,baz=70,slow=32						
SUW	**Suwalki**	**63.43**	**26**	P	**P**	**05 42 27.6**	**-0.3**
KIEV	**Kiev**	**64.18**	**31**	P	**P**	**05 42 32.6**	**-0.3**
KIEV				IAmb	IAmb	05 42 36.4	
	comp=Z,14nm,1.0s						
AKASG	**Malin Array Be**	**64.19**	**31**	P	**P**	**05 42 33.1**	**+0.2**
AKASG				IAmb	IAmb	05 42 35.6	
	comp=Z,14nm,1.4s						
AKASG	**Malin Array Be**	**64.19**	**31**	P	**P**	**05 42 33.8**	**+0.8**
	comp=Z,4.5nm,0.8s,baz=235,slow=6.7,SNR=21						
AKASG				LR	LR	06 12 46.5	
	comp=Z,109nm,18.2s,baz=220,slow=38						
	comp=Z,4.5nm,0.8s						
AKBB	**Malin Array Si**	**64.19**	**31**	P	**P**	**05 42 32.6**	**-0.3**
HFS	**Hagfors**	**64

KSH					pP	sP	05 45 17.0	+3.1
KSH					pmax	pmax		
	comp=Z,4.0nm,0.5s							
YKA	**Yellowknife Ar**	**93.14**	**333**	P	**P**		**05 45 13.3**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=84,slow=5.0,SNR=7.4							
	comp=Z,0.9nm,0.9s							
KURBB	**Kurchatov Arra**	**93.90**	**39**	P	**P**		**05 45 17.3**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=289,slow=5.0,SNR=2.4							
KURBB				LR	LR		06 32 10.2	
	comp=Z,59nm,20.6s,baz=172,slow=38							
	comp=Z,0.3nm,0.9s							
NRIK	**Noril'sk**	**95.29**	**20**	LR	LR		06 30 46.3	
	comp=Z,93nm,19.6s,baz=284,slow=37							
ELK	**Elko**	**95.68**	**311**	LR	LR		06 23 35.5	
	comp=Z,138nm,20.6s,baz=80,slow=32							
NEW	**Newport**	**96.23**	**318**	LR	LR		06 27 57.7	
	comp=Z,81nm,18.4s,baz=77,slow=35							
MKAR	**Makanchi Array**	**96.79**	**43**	LR	LR		06 35 36.9	
	comp=Z,74nm,18.6s,baz=286,slow=39							
PFO	**Pinyon Flats O**	**97.27**	**304**	LR	LR		06 27 02.6	
	comp=Z,71nm,19.9s,baz=80,slow=34							
ZALV	**Zalesovo Beam**	**97.30**	**36**	LR	LR		06 33 42.4	
	comp=Z,94nm,18.3s,baz=279,slow=38							
NVAR	**Mina Array Bea**	**98.27**	**309**	LR	LR		06 23 52.8	
	comp=Z,68nm,21.3s,baz=84,slow=32							
PALK	**Pallekele**	**98.32**	**83**	LR	LR		06 26 18.7	
	comp=Z,58nm,19.1s,baz=22,slow=33							
INK	**Inuvik**	**99.26**	**340**	LR	LR		06 26 34.6	
	comp=Z,66nm,18.6s,baz=38,slow=33							
WMQ	**Urumqi**	**101.02**	**45**	*e*P	**Pdif**		**05 45 50.3**	**+1.9**
PZH	**PanZhiHua**	**116.09**	**60**	PKP	**PKPdf**		**05 50 41.8**	**-0.6**
HHC	**Hu-ho-hao-te**	**118.64**	**42**	*e*P	**PKPdf**		**05 50 42.6**	**-4.3**
TBI	**Tubuai**	**127.79**	**240**	*e*LR	LR		06 30 53.4	
	comp=Z,268nm,26.8s							
NJ2	**Nanjing**	**128.01**	**48**	*e*P	**PKPdf**		**05 51 04.3**	**-0.6**
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
PPT2	**Papeete2**	**129.58**	**247**	*e*LR	LR		06 32 03.4	
	comp=Z,44nm,22.2s							
ASAR	**Alice Springs**	**143.80**	**132**	PKP	PKPbc		05 51 32.8	+0.8
	comp=Z,0.7nm,0.6s,baz=225,slow=2.1,SNR=7.7							
WRA	**Warramunga Arr**	**146.23**	**127**	PKPbc	**PKPdf**		**05 51 39.6**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=236,slow=2.6,SNR=12							
DZM	**Mont Dzumac**	**157.76**	**190**	*e*LR	LR		06 45 07.8	
	comp=Z,110nm,29.8s							

JMA 13 05:37:19.0±0.0, 36°.81N±0°.07×140°.6E±0°.1, h10km, MV1.7/20, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**175**	P	Pg	05 37 23.2	0.0
JFFD	**Fukushimafurud**	**0.28**	**3**	P	Pg	05 37 24.7	+0.1
ONAJ	**Iwakimizuishiy**	**0.35**	**35**	P	Pg	05 37 26.1	0.0
JFK	**Kawauchi**	**0.61**	**25**	P	Pg	05 37 30.8	-0.1
JYT	**Yasato**	**0.65**	**206**	P	Pg	05 37 31.2	-0.2
JOTO	**OTAMA OYAMA**	**0.77**	**347**	P	Pg	05 37 33.7	-0.1
JAG	**Ashikaga**	**0.96**	**247**	P	Pg	05 37 37.0	-0.4

*IDC **13** 05:37:20.3±0.9, 36°.81N×140°.51E, h0km, mb3.5/8, mbtmp3.6/10, ML3.4/2, MS3.6/1, Error ellipse: s-maj=19.8km s-min=13.4km az=161.0*
*JMA **13** 05:37:22.4±0.0, 36°.8N±0°.1×140°.5E±0°.2, h9km, MV3.9/20, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .
*NIED **13** 05:37:22.4, 36°.80N×140°.54E, h9km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.65; $M_{\theta\theta}$0.58; $M_{\phi\phi}$1.07; $M_{r\theta}$0.38; $M_{\theta\phi}$-0.92; $M_{\phi r}$0.97; Fault plane solution: $M_0$2.00000×10^{14} NP1: ϕ_s166.00000°, δ59.00000°, λ-63.00000°. NP2: ϕ_s301.00000°, δ41.00000°, λ-127.00000°.*

ISC 13 05:37:21.9±0.9, 36°.80N±0°.03×140°.52E±0°.05, h12km±6km, n30, σ0°73/29, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.19**	**169**	P	**Pg**	**05 37 26.3**	**+0.2**
JHO				S	**Sg**	**05 37 29.2**	**+0.2**
JFFD	**Fukushimafurud**	**0.29**	**6**	P	**Pb**	**05 37 28.1**	**-1.0**
JFFD				S	**Sg**	**05 37 32.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.37**	**36**	*i* P	**Pb**	**05 37 29.5**	**-1.1**
ONAJ				*e*S	**Sg**	**05 37 34.8**	**+0.4**
JSB	**Shiboa**	**0.51**	**289**	*i* P	**Pb**	**05 37 33.1**	**+0.3**
JSB				S	**Sb**	**05 37 40.6**	**+0.3**
JYT	**Yasato**	**0.63**	**205**	*i* P	**Pb**	**05 37 34.4**	**-0.5**
JYT				S	**Sb**	**05 37 42.9**	**-0.7**
JFK	**Kawauchi**	**0.63**	**26**	*i* P	**Pg**	**05 37 33.9**	**-0.3**
JFK				S	**Sg**	**05 37 42.3**	**-0.2**
JOTO	**OTAMA OYAMA**	**0.77**	**349**	*i* P	**Pb**	**05 37 37.1**	**-0.2**
JOTO				S	**Sb**	**05 37 47.8**	**0.0**
JFY	**Yanaizu**	**0.89**	**313**	P	**Pn**	**05 37 39.6**	**-0.7**
JAG	**Ashikaga**	**0.94**	**247**	*i* P	**Pb**	**05 37 39.7**	**-0.4**
MJAR	**Matsushiro Arr**	**1.88**	**263**	Pg	**Pb**	**05 37 55.0**	**-1.2**
	6.5nm,0.3s,baz=87,slow=15,SNR=116						
MJAR				Lg	Lg	05 38 19.2	
	11nm,0.3s,baz=66,slow=29,SNR=7.2						
JHJ	**Hachijo jima 2**	**3.72**	**190**	Pn	**Pn**	**05 38 20.2**	**+1.0**
	11nm,0.3s,baz=24,slow=15,SNR=1.9						
JHJ				Sn	**Sn**	**05 39 01.8**	**-1.2**
	13nm,0.3s,baz=218,slow=20,SNR=1.4						
	142nm,0.9s						
ASAJ	**Asahikawa**	**7.48**	**12**	Pn	**Pn**	**05 39 10.7**	**0.0**
	0.5nm,0.3s,baz=256,slow=22,SNR=1.4						
ASAJ				Sn	**Sn**	**05 40 36.0**	**+0.5**
	0.3nm,0.3s,baz=224,slow=12,SNR=1.6						
	2.0nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.65**	**119**	T	T	06 13 03.7	
	baz=312,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	06 13 04.3	
	baz=312,slow=75,SNR=110						
H11N3	**WAKE ISLAND Hy**	**28.67**	**119**	T	T	06 13 05.0	
	baz=312,slow=75,SNR=118						
H11S1	**WAKE ISLAND Hy**	**29.34**	**121**	T	T	06 13 54.4	
	baz=314,slow=75,SNR=205						
H11S3	**WAKE ISLAND Hy**	**29.34**	**121**	T	T	06 13 56.4	
	baz=314,slow=75,SNR=142						
H11S2	**WAKE ISLAND Hy**	**29.36**	**121**	T	T	06 13 57.5	
	baz=314,slow=75,SNR=95						
ZALV	**Zalesovo Beam**	**41.55**	**313**	P	**P**	**05 45 09.0**	**-0.1**
	0.4nm,0.5s,baz=236,slow=40,SNR=1.9						
	0.4nm,0.5s						
NRIK	**Noril'sk**	**43.18**	**336**	LR	LR	06 03 14.5	
	comp=Z,85nm,20.9s,baz=129,slow=36						
MKAR	**Makanchi Array**	**43.64**	**302**	P	**P**	**05 45 25.2**	**-1.0**
	0.2nm,0.6s,baz=77,slow=7.6,SNR=1.8						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.58**	**308**	P	**P**	**05 45 41.0**	**-0.6**
	0.5nm,0.5s,baz=84,slow=8.0,SNR=5.5						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**50.07**	**32**	P	**P**	**05 46 16.0**	**-0.2**
	0.1nm,0.6s,baz=264,slow=5.4,SNR=1.6						
	0.1nm,0.6s						
WRA	**Warramunga Arr**	**56.74**	**187**	P	**P**	**05 47 05.1**	**-0.6**
	0.9nm,0.5s,baz=2.6,slow=7.2,SNR=6.3						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**60.47**	**187**	P	**P**	**05 47 31.4**	**-0.2**
	0.5nm,0.8s,baz=8.0,slow=8.7,SNR=2.6						
	0.5nm,0.8s						
NVAR	**Mina Array Bea**	**75.70**	**53**	P	**P**	**05 49 09.2**	**+1.7**
	0.6nm,0.7s,baz=296,slow=5.0,SNR=5.5						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**90.83**	**52**	P	**P**	**05 50 26.4**	**+0.8**
	0.4nm,0.7s,baz=289,slow=3.8,SNR=4.4						
	0.4nm,0.7s						
H03N2	**Juan Fernandez**	**147.71**	**96**	T	T	08 41 56.5	
	baz=291,slow=76,SNR=16						
H03N3	**Juan Fernandez**	**147.72**	**96**	T	T	08 42 00.2	
	baz=291,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**147.73**	**96**	T	T	08 41 59.5	
	baz=291,slow=76,SNR=17						

*NEIC **13** 05:38:09.6±1.5, 2°.76S±0°.05×126°.86E±0°.07, h10km±1km, mb4.3/18, Error ellipse: s-maj=11.5km s-min=8.2km az=98.0*
*DJA **13** 05:38:11.4±0.2, 3°S±3°×12°7E±°, h10km, M4.4/15, mb4.7/7, mB4.8/3, MLv4.4/15, Mw(mB)4.1/3*
*IDC **13** 05:38:14.9±3.9, 2°.89S×127°.01E, h50km±36km, mb3.9/9, mbtmp4.3/11, ML4.1/2, MS3.3/6, Error ellipse: s-maj=41.9km s-min=15.0km az=69.0*

ISC 13 05:38:13.5±0.5, 2°.79S±0°.06×126°.85E±0°.07, h41km, n67, σ1°70/63, mb4.5/18, MS3.3/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.13**	**311**	P	**Pn**	**05 38 29.2**	**-3.7**
KRAI	**Karang Ratu**	**1.63**	**109**	P	**Pn**	**05 38 40.9**	**+1.1**
LBMI	**Labuha**	**2.24**	**17**	P	**Pn**	**05 38 45.9**	**-2.2**
BNDI	**Bandanaira**	**3.50**	**119**	P	**Pn**	**05 39 08.0**	**+2.5**
TNTI	**Ternate**	**3.58**	**8**	Pn	**Pn**	**05 39 04.1**	**-2.5**
TNTI	**Ternate**	**3.58**	**8**	P	**Pn**	**05 39 03.9**	**-2.7**
KMSI	**Cibinong**	**4.41**	**319**	P	**Pn**	**05 39 17.5**	**-0.4**
LUWI	**Luwuk**	**4.43**	**293**		**Pn**	**05 39 16.2**	**-2.0**
LUWI				Sn	**Sn**	**05 40 08.6**	**0.0**
LUWI	**Luwuk**	**4.43**	**293**	P	**Pn**	**05 39 16.0**	**-2.2**
SWI	**Sorong**	**4.81**	**67**	P	**Pn**	**05 39 22.2**	**-1.3**
SIJI	**Sorong**	**4.81**	**67**	P	**Pn**	**05 39 22.2**	**-1.3**
FAKI	**Fak Fak**	**5.40**	**91**	Pn	**Pn**	**05 39 29.4**	**-2.1**
MRSI	**Marisa**	**5.88**	**303**	P	**Pn**	**05 39 37.2**	**-1.0**
	66nm,0.5s,934nm0.5nm						
BKSI	**Bulukumba**	**7.16**	**249**	P	**Pn**	**05 39 57.5**	**+1.7**
	39nm,0.8s,0.1nm						
TOLI2	**Tolitoli**	**7.20**	**303**	Pn	**Pn**	**05 39 54.1**	**-2.2**
SOEI	**Soe**	**7.38**	**200**	Pn	**Pn**	**05 39 58.2**	**-0.6**
KAPI	**Kappang**	**7.41**	**252**		**Pn**	**05 39 58.5**	**-0.8**
KAPI	**Kappang**	**7.41**	**252**	P	**Pn**	**05 40 02.8**	**+3.6**
	4.3nm,0.3s,baz=93,slow=7.1,SNR=12						
	38nm,0.7s						
MPSI	**Mapaga**	**7.61**	**294**	P	**Pn**	**05 40 00.7**	**-1.2**
	31nm,0.9s,0.1nm						
EDFI	**Ende, Flores**	**7.83**	**221**	P	**Pn**	**05 40 08.9**	**+3.8**
PMSI	**Majene**	**7.95**	**265**	P	**Pn**	**05 40 07.5**	**+0.8**
	54nm,1.2s,0.2nm						
MTN	**Manton Dam**	**10.85**	**157**	Pn	**Pn**	**05 40 46.5**	**+0.2**
KNRA	**Kununurra**	**12.94**	**172**	Pn	**Pn**	**05 41 14.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.26**	**184**	Pn	**Pn**	**05 41 42.2**	**-4.0**
WB0	**Warramunga Arr**	**18.41**	**157**	P	**P**	**05 42 24.4**	**-1.0**
WB0				IAmb	IAmb	05 42 33.5	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**18.55**	**157**	P	**P**	**05 42 25.5**	**-1.4**
WRA	**Warramunga Arr**	**18.55**	**157**	P	**P**	**05 42 26.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=338,slow=12,SNR=20						
	comp=Z,7.9nm,0.9s						
WR0	**Warramunga Arr**	**18.64**	**157**	P	**P**	**05 42 27.2**	**-0.7**
COEN	**Coen**	**19.57**	**125**	P	**P**	**05 42 36.4**	**-1.8**
COEN				IAmb	IAmb	05 42 41.0	
	comp=Z,12nm,0.7s						
PSA00	**Pilbara Seismi**	**19.87**	**199**	P	**P**	**05 42 40.9**	**-0.5**
PSA00				IAmb	IAmb	05 42 42.4	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**21.84**	**162**	P	**P**	**05 43 02.2**	**-0.5**
ASAR	**Alice Springs**	**21.84**	**162**	P	**P**	**05 43 02.2**	**-0.5**
ASAR	**Alice Springs**	**21.84**	**162**	P	**P**	**05 43 02.0**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=340,slow=12,SNR=40						
ASAR				PcP	**PcP**	**05 47 00.3**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=359,slow=2.5,SNR=5.9						
	comp=Z,2.8nm,0.7s						
GUMO	**Guam**	**24.18**	**47**	LR	LR	05 52 32.8	
	comp=Z,38nm,20.1s,baz=118,slow=36						
FORT	**Forrest**	**27.86**	**178**	P	**P**	**05 43 58.3**	**-1.0**
RPSI	**Rantau Prapat**	**28.44**	**281**	P	**P**	**05 44 03.5**	**-1.3**
RPSI				IAmb	IAmb	05 44 07.5	
	comp=Z,7.2nm,0.8s						
GSI	**Gunungsitoli**	**29.54**	**278**	P	**P**	**05 44 12.2**	**-2.4**
STKA	**Stephens Creek**	**32.09**	**156**	P	**P**	**05 44 36.4**	**-0.5**
STKA				IAmb	IAmb	05 44 52.0	
	comp=Z,3.9nm,1.5s						
STKA	**Stephens Creek**	**32.09**	**156**	LR	LR	05 58 04.6	
	comp=Z,60nm,18.6s,baz=14,slow=37						
JNU	**Nakatsue**	**35.92**	**6**	LR	LR	05 58 25.8	
	comp=Z,71nm,21.5s,baz=150,slow=34						
PZH	**PanZhiHua**	**37.91**	**322**	P	**P**	**05 45 29.3**	**+2.1**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
KSRS	**Korea Array**	**40.06**	**1**	LR	LR	06 00 56.0	
	comp=Z,28nm,21.9s,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**40.54**	**14**	LR	LR	06 02 43.9	
	comp=Z,48nm,18.6s,baz=178,slow=36						
LZH	**Lanzhou**	**44.25**	**333**	*e*P	**P**	**05 46 21.5**	**+2.3**
LZH				pP	pP	05 46 27.3	-2.3
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**45.62**	**344**	*e*P	**P**	**05 46 32.4**	**+2.4**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,370nm,5.4s						
GTA	**Gaotai**	**48.80**	**332**	*e*P	**P**	**05 46 56.8**	**+1.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KLR	**Kul'dur**	**51.99**	**4**	LR	LR	06 12 38.2	
	comp=Z,30nm,19.4s,baz=142,slow=40						
ULN	**Ulaanbaatar**	**53.34**	**343**	P	**P**	**05 47 28.7**	**-0.2**
ULN				IAmb	IAmb	05 47 32.6	
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**53.51**	**343**	P	**P**	**05 47 31.1**	**+1.1**
SONM				IAmb	IAmb	05 47 38.4	
	comp=Z,3.6nm,1.2s						
SONM	**Songino Array**	**53.51**	**343**	P	**P**	**05 47 31.0**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=156,slow=8.1,SNR=9.9						
	comp=Z,2.2nm,0.9s						
KAAM	**Kaadhehdhoo**	**53.93**	**273**	P	**P**	**05 47 33.0**	**-0.6**
WMQ	**Urumqi**	**58.18**	**327**	*e*P	**P**	**05 48 03.8**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,23nm,1.1s						
PETK	**Petropavlovsk-**	**61.42**	**21**	P	**P**	**05 48 26.1**	**+0.5**
	comp=Z,5.0nm,1.0s,baz=188,slow=4.3,SNR=4.7						
	comp=Z,5.0nm,1.0s						
MKAR	**Makanchi Array**	**63.01**	**327**	P	**P**	**05 48 38.8**	**+2.5**
	comp=Z,4.0nm,0.8s,baz=128,slow=7.7,SNR=33						
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**66.45**	**334**	P	**P**	**05 48 59.4**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=108,slow=4.8,SNR=5.8						
	comp=Z,1.9nm,0.9s						
KURBB	**Kurchatov Arra**	**67.31**	**329**	P	**P**	**05 49 05.1**	**+1.0**
	comp=Z,4.2nm,0.9s,baz=129,slow=5.6,SNR=32						
	comp=Z,4.2nm,0.9s						
BVAR	**Borovoye Array**	**72.86**	**328**	P	**P**	**05 49 38.9**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=120,slow=8.8,SNR=8.0						
	comp=Z,2.2nm,0.8s						
VNDA	**Vanda**	**76.98**	**173**	P	**P**	**05 49 59.6**	**-1.9**
VNDA				IAmb	IAmb	05 50 09.8	
	comp=Z,3.8nm,1.2s						
VNDA	**Vanda**	**76.98**	**173**	P	**P**	**05 50 00.8**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=322,slow=8.6,SNR=7.8						
	comp=Z,1.3nm,0.7s						
ABKAR	**Abkulak array**	**77.28**	**322**	P	**P**	**05 50 03.6**	**0.0**
J16K	**Anvik River**	**84.71**	**26**	P	**P**	**05 50 43.2**	**+0.2**
D19K	**Kuna River**	**87.13**	**21**	P	**P**	**05 50 56.2**	**+1.4**
D19K				IAmb	IAmb	05 50 58.6	
	comp=Z,6.5nm,1.4s						
QSPA	**South Pole Qui**	**87.16**	**180**	P	**P**	**05 50 53.9**	**-1.3**
QSPA				IAmb	IAmb	05 51 01.2	
	comp=Z,3.5nm,1.1s						
QSPA	**South Pole Qui**	**87.16**	**180**	P	**P**	**05 50 54.0**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=245,slow=0.6,SNR=7.7						
	comp=Z,1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**124.83**	**284**	PKP	**PKiKP**	**05 57 11.7**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=86,slow=2.0,SNR=5.2						
TXAR	**Lajitas Array**	**125.32**	**56**	PKP	**PKiKP**	**05 57 12.4**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=222,slow=1.2,SNR=2.0						
CPUP	**Villa Florida**	**150.77**	**172**	PKPbc	**PKiKP**	**05 58 03.0**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=70,slow=1.9,SNR=3.2						

*IDC **13** 05:52:55.4±2.5, 7°.51S×127°.66E, h0km, mb3.3/1, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=285.1km s-min=33.2km az=64.0*
*DJA **13** 05:53:12.0±1.2, 8°S±3°×12°9E±°, h19km±9km, M4.5/6, mb4.5/3, mB4.8/1, MLv4.5/6, Mw(mB)4.0/1*

ISC 13 05:53:11.2±0.9, 7°.92S±0°.07×128°.75E±0°.09, h150km, n8, σ2°41/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.53**	**92**	P	**Pn**	**05 53 52.6**	**0.0**
SAUI				S	**Sn**	**05 54 24.8**	**+0.2**
BNDI	**Bandanaira**	**3.57**	**19**	P	**Pn**	**05 54 05.7**	**-0.1**
SOEI	**Soe**	**4.79**	**247**	P	**Pn**	**05 54 22.3**	**+0.4**
EDFI	**Ende, Flores**	**7.03**	**263**	P	**Pn**	**05 54 53.1**	**+1.3**
	7.9nm,0.7s,630nm0.1nm						
LBMI	**Labuha**	**7.34**	**350**	P	**Pn**	**05 54 57.5**	**+1.7**
	37nm,0.5s,0.2nm						
WRA	**Warramunga Arr**	**13.12**	**156**	Pn	**Pn**	**05 56 13.5**	**+1.5**
	0.6nm,0.3s,baz=330,slow=14,SNR=29						
WRA				Sn	**Sn**	**05 58 35.8**	**-1.5**
	1.1nm,0.3s,baz=338,slow=21,SNR=12						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**16.42**	**163**	P	**Pn**	**05 56 57.5**	**+4.4**
	0.2nm,0.3s,baz=340,slow=9.4,SNR=12						
ASAR				S	**S**	**05 59 53.1**	**-2.5**
	0.3nm,0.4s,baz=348,slow=26,SNR=2.5						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**68.32**	**328**	P	**P**	**06 03 52.8**	**-3.4**
	0.1nm,0.5s,baz=126,slow=7.2,SNR=2.0						
	0.1nm,0.5s						

DJA 13 05:59:21.6±0.4, 0°S±6°×12°5E±°, h10km, M3.8/8, mb4.1/2, MLv3.7/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.75**	**156**	P	Pn	05 59 51.2	-0.8
LBMI	**Labuha**	**2.22**	**95**	P	Pn	05 59 59.0	+0.5
LUWI	**Luwuk**	**2.59**	**257**	P	Pn	06 00 05.0	+1.4
NLAI	**Namlea**	**3.32**	**147**	P	Pn	06 00 13.1	-0.5
MPSI	**Mapaga**	**5.45**	**278**	P	Pn	06 00 42.9	0.0
	6.5nm,0.7s,0.2nm						
SWI	**Sorong**	**5.98**	**94**	P	Pn	06 00 50.7	+0.4

*TEH **13** 06:12:50.5, 33°.55N×45°.44E, h10km±86km, ML2.9*
*ISN **13** 06:12:51.9±0.9, 33°.56N×45°.42E, h11km±4km, ML2.9*

ISC 13 06:12:51.3±1.1, 33°.55N±0°.05×45°.44E±0°.05, h13km, n9, σ0°53/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.60**	**137**	*e*Pg	**Pb**	**06 13 04.0**	**+0.3**
IBDR				*e*Sg	**Sb**	**06 13 13.0**	**+0.9**
ILBA	**Ilam Banvizeh**	**0.65**	**83**	Pg	**Pg**	**06 13 03.3**	**-0.6**
BHD	**Baghdad**	**0.93**	**253**	*e*Pg	**Pn**	**06 13 10.0**	**0.0**
BHD				*e*Sg	**Sb**	**06 13 22.0**	**+0.6**
BHD				AML	AML	06 13 28.8	
	comp=E,249nm,0.2s						
IGHG	**Ghaleghazi**	**1.22**	**50**	Pg	**Pn**	**06 13 14.4**	**+0.1**
IDHR	**Dehrash**	**1.39**	**34**	Pg	**Pb**	**06 13 17.2**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.52**	**61**	Pg	**Pb**	**06 13 19.5**	**+0.1**
IKOM	**Komasi**	**1.83**	**70**	Pn	**Pb**	**06 13 25.3**	**+0.5**
ILIN	**Lien**	**1.86**	**42**	Pn	**Pb**	**06 13 25.7**	**+0.4**
RAFI	**Al-Rafai**	**1.91**	**162**	*e*Pn	**Pb**	**06 13 26.0**	**0.0**
RAFI				*e*Sn	**Sg**	**06 13 52.0**	**-0.7**
RAFI				AML	AML	06 13 56.6	
	comp=E,135nm,0.3s						
RAFI				AML	AML	06 14 03.9	
	comp=N,147nm,0.2s						

DJA 13 06:17:36.8±0.6, 4°S±6°×10°2E±°, h10km, M3.7/6, mb4.0/1, MLv3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UBSI	**University, Be**	**0.61**	**100**	P	Pg	06 17 49.0	+0.4
KRJI	**Kerinci**	**1.57**	**352**	P	Pn	06 18 05.3	+0.4
EGSI	**Enggano, Bengk**	**1.79**	**160**	P	Pn	06 18 07.7	0.0
KASI	**Kota Agung**	**3.37**	**123**	P	Pn	06 18 29.5	0.0
PSI	**Prapat**	**6.98**	**337**	P	Pn	06 19 17.6	-1.7

*NEIC **13** 06:26:57.5±1.5, 33°.12N±0°.02×116°.08W±0°.02, h23km±7km, Error ellipse: s-maj=2.3km s-min=2.0km az=197.0*
*ANF **13** 06:26:57.1±0.2, 33°.14N×116°.07W, h14km±2km, ML3.5/34, Error ellipse: s-maj=1.9km s-min=1.6km az=146.0*
*PAS **13** 06:26:58.4±0.7, 33°.114N±0°.007×116°.07W±0°.01, h12km±5km, ML3.6/299, ML3.4/36(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=78.0*

ISC 13 06:26:57.6±0.7, 33°.11N±0°.01×116°.07W±0°.01, h15km±1km, n137, σ1°09/196, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLH	**Sleepy Hollow**	**0.17**	**298**		**Pb**	**06 27 05.2**	**+2.6**
SALN	**Salton City**	**0.18**	**23**		**Pg**	**06 27 02.4**	**+0.4**
SALN					**Sg**	**06 27 05.7**	**+0.8**
ERRC	**Elmore Ranch**	**0.21**	**88**		**Sg**	**06 27 07.3**	**+1.9**
CRR	**Carrizo Plain**	**0.24**	**159**		**Pg**	**06 27 03.5**	**+0.6**
CRR					**Sg**	**06 27 07.5**	**+1.2**
SUP	**Superstition M**	**0.26**	**127**		**Pg**	**06 27 03.7**	**+0.6**
SUP					**Sg**	**06 27 07.6**	**+0.7**
SWSC	**Sam W. Stewart**	**0.28**	**126**		**Pn**	**06 27 08.3**	**+1.0**
SWSC	**Sam W. Stewart**	**0.28**	**126**	P	**Pg**	**06 27 04.1**	**+0.5**
	baz=311,SNR=1000						

5053 Sb 06 27 21.6 +1.9
BAR Barrett 0.66 230 Sg 06 27 19.3 -0.1
BAR Barrett 0.66 230 Pg **Pg 06 27 10.5 -0.1**
BAR Barrett 0.66 230 IAML 06 27 19.7
comp=N,5µm,0.2s
BAR IAML 06 27 21.1
comp=E,2µm,0.2s
EML El Monte Cty P 0.69 252 Pg 06 27 10.9 -0.1
EML Sg 06 27 19.9 -0.2
TKX Tecate 0.70 220 Pg 06 27 11.4 0.0
TKX Sg 06 27 20.5 -0.2
PLM Palomar 0.71 290 Pg 06 27 11.6 +0.1
PLM Sg 06 27 20.9 +0.1
UABX UABC, Campus M 0.71 132 Pg **Pg 06 27 11.6 +0.1**
CRY Cary Ranch 0.72 309 Pg 06 27 11.8 +0.1
CRY Sg 06 27 21.1 -0.1
DPP Dos Picos Cty 0.74 262 Pg 06 27 12.0 0.0
DPP Sg 06 27 21.5 -0.3
5054 Holtville Bond 0.74 124 Pg 06 27 11.9 -0.1
5054 Sg 06 27 23.0 +1.2
BC3 Big Chuckawall 0.75 43 Pg 06 27 11.8 -0.5
BC3 Sg 06 27 22.2 0.0
BC3 Big Chuckawall 0.75 43 P **Pg 06 27 11.7 -0.5**
baz=225,SNR=486
BC3 S **Sg 06 27 22.0 -0.1**
baz=225
GVDA Garner Valley 0.75 318 Pg 06 27 12.1 -0.2
GVDA Sg 06 27 21.8 -0.5
DUZA Dulzura 0.78 230 Pg 06 27 12.5 -0.2
DUZA Sg 06 27 22.6 -0.4
SDRC San Diego Road 0.82 243 Pg 06 27 13.3 -0.3
SDRC Sg 06 27 23.8 -0.6
COA Coachella 0.83 107 Pg 06 27 12.9 -0.8
COA Sg 06 27 24.4 -0.3
EW2 E Wide Canyon 0.88 341 Pg 06 27 14.4 -0.2
EW2 Sg 06 27 26.2 0.0
MTRP Mission Trails 0.88 251 Pg 06 27 14.2 -0.5
MTRP Sg 06 27 25.4 -0.7
OLP Otay Lakes Par 0.88 236 Pg 06 27 14.3 -0.4
OLP Sg 06 27 25.4 -0.8
BELC Belle Mtn. Jos 0.89 4 Pg 06 27 14.0 -0.9
BELC Sg 06 27 25.5 -1.1
BELC Belle Mtn. Jos 0.89 4 P **Pg 06 27 14.0 -0.9**
baz=184,SNR=299
BELC S **Sg 06 27 25.6 -1.1**
baz=184
109C Camp Elliot, M 0.90 256 Pg **Pg 06 27 14.5 -0.5**
109C Camp Elliot, M 0.90 256 P **Pg 06 27 14.5 -0.5**
baz=74,SNR=460
109C S **Sg 06 27 26.3 -0.5**
baz=74
CPE Camp Elliot 0.90 256 Pg 06 27 14.6 -0.4
CPE Sg 06 27 26.2 -0.6
POB Polly Butte 0.92 309 Pg 06 27 14.6 -0.8
POB Sg 06 27 26.8 -0.7
DEVC Devers 0.93 333 Pg 06 27 15.5 -0.1
DEVC Sg 06 27 27.5 -0.2
RUN Ruthven 0.93 98 Pg 06 27 14.1 -1.4
CBX Cerro Bola 0.94 212 Pg 06 27 15.6 -0.2
DGR Domenigoni Val 0.95 305 Pg 06 27 15.1 -0.9
BACC Bachelor Mtn. 0.95 302 Pg 06 27 15.3 -0.8
GORC Green Oak Ranc 0.97 273 Pg 06 27 15.6 -0.9
HMTC Hemet 0.98 308 Pg 06 27 15.9 -0.7
EMSC East Mesa 0.98 112 Pg 06 27 15.1 -1.5
BLAC Blackrock camp 0.99 345 Pg 06 27 15.7 -1.1
TPC Twentynine Pal 0.99 1 Pg 06 27 15.7 -1.1
TJX Tijuana 1.02 234 Pb 06 27 17.2 +0.2
TJX IAML 06 27 32.8
comp=E,2µm,0.4s
GLA Glamis 1.04 93 P **Pb 06 27 16.0 -1.5**
baz=275
MURC Murrieta 1.06 298 Pb 06 27 17.6 -0.1
MURC Murrieta 1.06 298 P **Pb 06 27 16.6 -1.1**
baz=116,SNR=118
MURC S **Sg 06 27 31.2 -0.8**
baz=116
ESJX Sierra Juarez 1.11 175 Pb 06 27 17.9 -0.7
ESJX IAML 06 27 34.3
comp=N,694nm,0.1s
ESJX IAML 06 27 34.5
comp=E,1µm,0.1s
GTM Goat Mountain 1.21 349 Pn 06 27 20.2 +0.2
ELS Elsinore Mount 1.26 296 Pn 06 27 20.7 0.0
ELS IAML 06 27 37.7
comp=N,438nm,0.5s
CFT Crafton Hills 1.27 317 Pn 06 27 21.9 +1.0
IRM Iron Mountain 1.30 36 Pn 06 27 20.8 -0.5
IRM Iron Mountain 1.30 36 P **Pn 06 27 19.9 -1.4**
baz=217,SNR=214
IRM Sb **Sb 06 27 38.5 +0.2**
baz=217
CCX Cicese 1.34 202 Pn 06 27 22.0 +0.2
BBRC Big Bear Solar 1.35 329 Pn 06 27 23.0 +0.7
BBRC Big Bear Solar 1.35 329 Pg **Pn 06 27 22.9 +0.7**
baz=148
BBRC Sg **Sn 06 27 41.4 +1.4**
baz=148
BLYC Blythe 1.44 63 Pn 06 27 22.0 -1.2
GMRC Granite Mounta 1.70 11 P **Pn 06 27 25.7 -1.2**
baz=192
GMRC Sb **Sb 06 27 50.7 +0.6**
baz=192
HEC Hector,Ludlow 1.73 353 Pg **Pb 06 27 29.8 +0.6**
baz=172
HEC Sg **Sg 06 27 53.0 -0.3**
baz=172
VTX Valle De La Tr 1.73 172 Pn 06 27 27.3 +0.1
BFSC Mount Baldy Ra 1.74 311 Pb **Pn 06 27 29.0 +1.5**
baz=129
BFSC Sb **Sn 06 27 51.1 +1.7**
baz=129
RRX Edison Barstow 1.92 337 Pg **Pb 06 27 33.4 +1.0**
baz=156
RRX Sb **Sb 06 27 57.9 +1.7**
baz=156
FMP Fort Macarthur 1.96 289 Pb **Pb 06 27 32.7 -0.2**
baz=106
FMP Sb **Sb 06 27 58.0 +0.9**
baz=106
113A Mohawk Valley, 1.97 99 Pn **Pn 06 27 28.9 -1.5**
CIS Catalina Islan 1.99 279 Pb **Pn 06 27 33.1 +2.4**
baz=97
CIS Sb **Sb 06 27 58.7 +0.6**
baz=97
PDMCI Parker Dam,Lak 2.00 53 Pb **Pn 06 27 33.1 +2.2**
baz=235
PDMCI Sb **Sb 06 27 59.2 +0.7**
baz=235
NEE2 Needles Airpor 2.05 36 Pg **Pb 06 27 35.4 +0.9**
baz=217
NEE2 Sb **Sb 06 28 00.9 +1.1**
baz=217
PASC Pasadena Art C 2.06 302 Pb 06 27 34.9 +0.2
PASC IAML 06 28 02.1
comp=N,308nm,0.6s
PASC IAML 06 28 02.4
comp=E,205nm,0.3s
SCI2 San Clemente I 2.08 267 P **Pn 06 27 31.2 -0.9**
baz=85
DECC Green Verdugo 2.21 302 Pg **Pb 06 27 38.4 +1.2**
baz=120
DECC Sb **Sb 06 28 05.4 +1.0**
baz=120
GSC Goldstone, Bar 2.27 345 Pg **Pb 06 27 39.7 +1.3**
baz=164
GSC Sb **Sb 06 28 08.3 +2.0**
baz=164
TUQ Turquoise Moun 2.32 3 Pg **Pb 06 27 40.6 +1.3**
baz=183
TUQ Sb **Sb 06 28 09.6 +1.8**
baz=183
EDW2 Edwards Air Fo 2.38 318 Pg **Pb 06 27 41.6 +1.3**
baz=137
EDW2 Sb **Sb 06 28 11.1 +1.5**
baz=137
OSI Osito Audit: C 2.67 305 Sb **Sb 06 28 19.0 +1.2**
baz=123
W13A Hualapai Mount 2.69 42 Pn **Pn 06 27 39.9 -0.7**
Y14A Wickenburg 2.69 71 Pn 06 27 39.9 -0.6
PIX Pinacate 2.70 124 Pn 06 27 38.6 -1.9
LRMC Laurel Mtn Rad 2.71 331 Pg **Pb 06 27 48.1 +2.2**
baz=150
LRMC Sb Sg 06 28 23.1 -1.7
baz=150
SHOC Shoshone, Teco 2.79 357 Pg **Pb 06 27 49.4 +2.2**
baz=176
SHOC Sb **Sb 06 28 24.8 +3.6**
baz=176
V12A Nelson 2.80 21 Pn 06 27 42.5 +0.5
214A Organ Pipe Nat 2.98 112 Pn 06 27 42.8 -1.6
214A Organ Pipe Nat 2.98 112 P **Pn 06 27 43.0 -1.4**
baz=294
ARVC Arvin 3.05 312 P **Pb 06 27 54.2 +2.6**
baz=130
ARVC Sb **Sb 06 28 31.5 +2.8**
baz=130
MPMC Manual Prospec 3.17 339 Pg **Pb 06 27 55.8 +2.1**
baz=158
ISA Isabella, Lake 3.23 323 Pn **Pn 06 27 47.3 -0.6**
ISA IAML 06 28 43.7
comp=E,65nm,1.0s
ISA Isabella, Lake 3.23 323 Pg **Pb 06 27 56.7 +2.0**
baz=141
ISA Sb **Sb 06 28 37.4 +3.5**
baz=141
FURC Furnace Creek, 3.41 349 Pg Pg 06 28 02.2 -0.8
baz=169
SHPR Sheep Range 3.47 12 Pn 06 27 50.6 -0.7
CWC Cottonwood Cre 3.71 334 Pg **Pb 06 28 06.7 +3.7**
baz=153
TPNV Topopah Spring 3.83 358 Pg Pg 06 28 09.3 -1.7
baz=178
GRAC Grapevine Rang 4.02 345 Pg Pg 06 28 13.0 -1.6
baz=164
X16A Lo Mia Camp, P 4.07 70 Pn 06 27 59.9 +0.3
PRN Pahroc Range 4.37 11 Pn 06 28 04.2 +0.6
TUC Tucson 4.53 99 Pn 06 28 04.9 -0.8
TUC Tucson 4.53 99 Pn 06 28 04.8 -0.9
TUC Tucson 4.53 99 P **Pn 06 28 04.9 -0.9**
baz=282
LCMT Little Creek M 4.53 30 Pn 06 28 06.5 +0.7
U15A North Rim 4.54 42 Pn **Pn 06 28 07.0 +0.9**
WUAZ Wupatki 4.57 57 Pn 06 28 07.5 +1.1
MZP Montezuma Peak 4.70 347 Pn **Pn 06 28 09.1 +0.8**
KNB Kanab 4.72 33 Pn 06 28 09.3 +0.8
X18A Snowflake 5.29 73 Pn **Pn 06 28 16.9 +0.6**
DUN6 Lazy B Ranch 5.90 94 Pn **Pn 06 28 24.5 -0.2**
SPR3 Spring Creek 3 6.04 13 Pn **Pn 06 28 26.7 -0.1**
121A Cookes Peak, D 7.00 92 Pn **Pn 06 28 39.6 -0.2**
MVCO Mesa Verde 7.43 54 Pn **Pn 06 28 46.1 +0.4**

NAO ***13*** *06:30:09.7,31°.61N×47°.93E,h33km,mb3.5*
IDC ***13*** *06:30:28.5±0.7,33°.69N×45°.67E,h0km,mb4.1/24, mbtmp4.0/30,ML3.7/6,MS2.9/3,Error ellipse: s-maj=16.5km s-min=10.7km az=158.0*
MOS ***13*** *06:30:28.3±0.9,33°.73N×45°.61E,h10km,mb4.2/23,Error ellipse: s-maj=8.2km s-min=5.7km az=95.5*
NEIC ***13*** *06:30:30.3±1.8,33°.58N±0°.04×45°.70E±0°.08,h10km±1km, mb4.3/39,Error ellipse: s-maj=12.2km s-min=5.0km az=116.0*
TEH ***13*** *06:30:30.3,33°.67N×45°.71E,h8km±37km,ML4.3*
ISN ***13*** *06:30:30.0±0.9,33°.65N×45°.71E,h14km±5km,ML4.0*
GII ***13*** *06:30:32.1±0.5,33°.70N×45°.60E,h10km,Mws4.3, confirmed*
OMAN ***13*** *06:30:39.4±2.4,32°.57N×45°.85E,h14km,mb4.1/18,Error ellipse: s-maj=34.6km s-min=17.5km az=13.0*
ISC 13 06:30:31.1±0.7,33°.62N±0°.03×45°.73E±0°.03,h20km±3km, n209,σ1s91/220,mb4.1/59,8C-6D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**90**	Pg	**Pg**	**06 30 39.1**	**-0.4**
IBDR	**Badra**	**0.54**	**161**	*e*Pg	**Pg**	**06 30 41.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**06 30 49.0**	**-0.3**
IBDR				AML	AML	06 31 03.6	
	comp=E,3µm,0.4s						
IBDR				AML	AML	06 31 04.4	
	comp=N,5µm,0.9s						
KGS1	**Ghasr-e-Shirin**	**0.89**	**353**	Pg	**Pb**	**06 30 46.9**	**-0.9**
KGS1				Sg	**Sb**	**06 30 59.0**	**-0.3**
IGHG	**Ghaleghazi**	**0.99**	**45**	Pg	**Pg**	**06 30 49.1**	**-1.4**
BHD	**Baghdad**	**1.18**	**253**	*e*Pg	**Pb**	**06 30 52.0**	**-0.8**
BHD				*e*Sg	**Sb**	**06 31 07.0**	**-0.6**
BHD				AML	AML	06 31 15.2	
	comp=E,16µm,0.5s						
IDHR	**Dehrash**	**1.21**	**27**	Pg	**Pb**	**06 30 52.5**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.27**	**59**	Pg	**Pn**	**06 30 54.1**	**+0.2**
KCHF				Sg	**Sn**	**06 31 13.6**	**+3.0**
IKOM	**Komasi**	**1.58**	**69**	Pg	**Pg**	**06 31 00.5**	**-1.1**
ILIN	**Lien**	**1.65**	**38**	Pg	**Pg**	**06 31 01.2**	**-1.7**
IKFM	**Kafar-mosalman**	**1.77**	**93**	Pg	**Pb**	**06 31 03.6**	**+0.7**
RAFI	**Al-Rafai**	**1.92**	**170**	*e*Pn	**Pn**	**06 31 04.0**	**+1.3**
RAFI				*e*Sn	**Sb**	**06 31 30.0**	**+1.0**
IBZA	**Bozab**	**1.96**	**64**	Pn	**Pn**	**06 31 05.0**	**+1.5**
IALM	**Almabolaq**	**2.37**	**58**	Pn	**Pb**	**06 31 12.0**	**-1.2**
HSAM	**Samen**	**2.46**	**75**	Pn	**Pn**	**06 31 12.4**	**+2.0**
SDS1	**Sardasht. Az.**	**2.53**	**356**	Pn	**Pb**	**06 31 13.4**	**-2.5**
HAGD	**Aghdareh**	**3.07**	**66**	Pn	**Pn**	**06 31 20.9**	**+2.2**
MAHB	**Mahabad**	**3.14**	**360**	Pn	**Pn**	**06 31 21.7**	**+2.1**
IRAZ	**Razeghan**	**3.90**	**62**	Pn	**Pn**	**06 31 32.0**	**+1.9**
QSDN	**Sirdan**	**4.03**	**44**	Pn	**Pn**	**06 31 34.5**	**+2.5**
IAZR	**Azarshahr**	**4.05**	**3**	Pn	**Pn**	**06 31 34.1**	**+1.8**
JHBN	**Jahan bin**	**4.38**	**107**	Pn	**Pn**	**06 31 38.9**	**+2.1**
IPIR	**Pirpir**	**4.43**	**101**	Pn	**Pn**	**06 31 39.7**	**+2.1**
IMHD	**Mahdasht**	**4.56**	**62**	Pn	**Pn**	**06 31 40.6**	**+1.5**
ZNGN	**Zangian**	**4.57**	**108**	Pn	**Pn**	**06 31 41.4**	**+2.0**
IQOM	**Qom**	**4.59**	**73**	Pn	**Pn**	**06 31 40.9**	**+1.2**
ISHB	**Shabestar**	**4.65**	**359**	Pn	**Pn**	**06 31 40.4**	**-0.1**
QAMS	**Qamsar**	**4.73**	**87**	Pn	**Pn**	**06 31 44.4**	**+2.8**
IHRS	**Heris**	**4.80**	**12**	Pn	**Pn**	**06 31 45.2**	**+2.6**
IKLH	**Kolahrood**	**4.90**	**92**	Pn	**Pn**	**06 31 47.1**	**+3.2**
IBRJ	**Birjojen**	**4.97**	**109**	Pn	**Pn**	**06 31 46.1**	**+1.3**
IMRD	**Marand**	**5.08**	**360**	Pn	**Pn**	**06 31 47.5**	**+1.2**
IVRN	**Varamin**	**5.15**	**73**	Pn	**Pn**	**06 31 48.7**	**+1.5**
KLST	**Kelardasht - M**	**5.24**	**55**	Pn	**Pn**	**06 31 50.6**	**+2.0**
KRSH	**Karshahi**	**5.35**	**85**	Pn	**Pn**	**06 31 52.2**	**+2.2**
ISFB	**Sefidab**	**5.46**	**81**	Pn	**Pn**	**06 31 53.1**	**+1.6**
GRMI	**Germi**	**5.46**	**18**	Pn	**Pn**	**06 31 53.3**	**+1.8**
MZPU	**Pul - Mazandar**	**5.56**	**58**	Pn	**Pn**	**06 31 55.8**	**+2.9**
IZEF	**Zefreh**	**5.58**	**96**	Pn	**Pn**	**06 31 55.8**	**+2.5**
KLNJ	**Kolanjah**	**5.61**	**116**	Pn	**Pn**	**06 31 55.9**	**+2.2**
GURO	**Guroymak-BITLI**	**5.75**	**330**	Pn	**Pn**	**06 31 54.6**	**-0.9**
MAKU	**Maku**	**5.78**	**352**	Pn	**Pn**	**06 31 58.2**	**+2.3**
IRAM	**Ramesheh**	**5.89**	**106**	Pn	**Pn**	**06 31 59.8**	**+2.3**
GNI	**Garni**	**6.56**	**353**	Pn	**Pn**	**06 32 09.9**	**+3.3**
	comp=E,0.8nm,0.3s,baz=194,slow=18,SNR=1.3						
GNI				Lg	Lg	06 34 01.5	
	comp=E,0.9nm,0.3s,baz=178,slow=22,SNR=1.7						
	comp=E,2.1nm,0.3s						
IGLO	**Ghaloghah**	**7.24**	**64**	Pn	**Pn**	**06 32 19.0**	**+3.0**
ASF	**Jabal al Asfar**	**7.56**	**261**	Pn	**Pn**	**06 32 20.4**	**0.0**
	comp=E,0.6nm,0.3s,baz=244,slow=23,SNR=2.8						
ASF				Lg	Lg	06 34 28.1	
	comp=E,1.9nm,0.3s,baz=282,slow=16,SNR=2.0						
	comp=E,1.5nm,0.3s						
GEM	**Giv'at Ha'Em**	**8.42**	**270**	P		06 33 08.0	
GEM				S	Sb	06 34 37.7	+1.6
MMAI	**Mount Meron Ar**	**8.66**	**269**	Pn	**Pn**	**06 32 34.4**	**-1.0**
	comp=E,0.6nm,0.3s,baz=12,slow=31,SNR=2.2						
MMAI				Pg		06 33 06.5	
	comp=E,1.0nm,0.3s,baz=106,slow=15,SNR=3.8						
MMAI				Lg	Lg	06 35 01.1	
	comp=E,3.1nm,0.3s,baz=97,slow=30,SNR=2.8						
MMAI				LR	LR	06 36 56.6	
	comp=E,91nm,18.4s,baz=137,slow=45						
	comp=E,0.3nm,0.2s						
HNTI	**Hanita**	**8.84**	**269**	P	Pn	06 32 44.0	+6.2
BLGI	**Bet Lehem HaGe**	**8.88**	**267**	S	**Sn**	**06 34 19.1**	**+1.5**
BLGI	**Bet Lehem HaGe**	**8.88**	**267**	P	**Pn**	**06 32 38.5**	**+0.3**
DSI	**Dead Sea**	**8.96**	**260**	P	Pn	06 32 30.3	-9.2
ZEI	**Tsey**	**9.26**	**352**	*e*P	Pn	06 32 48.3	+4.6
ZEI				pmax	pmax		
	comp=E,6.0nm,1.1s						
PRNI	**Paran**	**9.67**	**253**	P	**Pn**	**06 32 49.3**	**+0.1**
HRFI	**Mount Harif**	**9.77**	**251**	P	**Pn**	**06 32 52.1**	**+1.5**
SMRA	**Abu-Samra**	**9.90**	**152**	P	**Pn**	**06 32 54.3**	**+2.0**
MBRI	**Mt Berech**	**9.97**	**250**	P	**Pn**	**06 32 57.3**	**+4.0**
MBRI	**Mt Berech**	**9.97**	**250**	P	**Pn**	**06 32 55.5**	**+2.2**
KRMI	**Paran Flat**	**9.98**	**252**	P	**Pn**	**06 32 54.5**	**+1.0**
EIL	**Elat**	**9.99**	**250**	Pn	**Pn**	**06 32 52.7**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=105,slow=6.3,SNR=8.0						
EIL				Pg		06 33 39.1	
	comp=Z,0.5nm,0.3s,baz=82,slow=12,SNR=1.5						
EIL				Lg	Lg	06 35 46.5	
	comp=Z,0.9nm,0.3s,baz=197,slow=5.0,SNR=3.8						
EIL				LR	LR	06 36 36.0	
	comp=Z,64nm,18.8s,baz=187,slow=37						
	comp=Z,2.1nm,0.4s						
EIL	**Elat**	**9.99**	**250**	P	**Pn**	**06 32 55.1**	**+1.5**
TRNA	**Turayna**	**10.07**	**150**	P	**Pn**	**06 32 52.3**	**-2.3**
KIV	**Kislovodsk**	**10.59**	**348**	*e*P	**Pn**	**06 33 02.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRTR	**Keskin Array B**	**11.45**	**306**	Pn	Pn	06 33 18.5	+4.8
	comp=Z,0.1nm,0.3s,baz=124,slow=6.1,SNR=2.6						
BRTR				LR	LR	06 37 52.9	
	comp=Z,55nm,19.5s,baz=114,slow=39						
SHME	**Shamm**	**11.77**	**127**	P	**Pn**	**06 33 17.9**	**0.0**
SHME				S	Sn	06 35 21.6	-7.1
BANOM	**Banah**	**11.96**	**127**	P	**Pn**	**06 33 20.7**	**+0.1**
BANOM				S	**Sn**	**06 35 26.7**	**-6.8**
MASF	**Masafi**	**12.25**	**129**	P	**Pn**	**06 33 26.4**	**+1.9**
MASF				S	Sn	06 35 33.2	-7.3
ASUD	**Al Ashush, Dub**	**12.27**	**134**	P	**Pn**	**06 33 27.2**	**+2.4**
ASUD				S	**Sn**	**06 35 35.6**	**-5.5**
MDH	**Madha**	**12.39**	**129**	P	**Pn**	**06 33 26.7**	**+0.3**
MDH				S	Sn	06 35 36.7	-7.1
HATD	**Hatta, Dubai**	**12.62**	**131**	P	**Pn**	**06 33 31.5**	**+1.9**
HATD				S	Sn	06 35 41.0	-8.5
ASHO	**Ashiyiah**	**12.68**	**132**	P	**Pn**	**06 33 30.1**	**-0.2**
ASHO				S	**Sn**	**06 35 44.6**	**-6.3**
SOHO	**SOHO**	**13.37**	**132**	P	**Pn**	**06 33 38.6**	**-1.2**
SOHO				S	**Sn**	**06 36 01.4**	**-6.5**
ARQ	**Araqi**	**13.96**	**134**	P	**Pn**	**06 33 48.1**	**+0.2**
ARQ				S	**Sn**	**06 36 16.7**	**-5.7**
BSY	**Bisya**	**14.81**	**134**	P	**Pn**	**06 33 56.6**	**-2.9**
BSY				S	Sn	06 36 35.0	-8.1
SMDO	**Samad**	**15.10**	**131**	P	**Pn**	**06 34 01.3**	**-2.1**
WSAR	**Wadi Sarin**	**15.34**	**129**	Pn	**Pn**	**06 34 04.3**	**-2.2**
	comp=Z,1.4nm,0.3s,baz=328,slow=11,SNR=9.2						
WSAR				Sn	Sn	06 36 45.6	-10
	comp=Z,0.4nm,0.3s,baz=258,slow=16,SNR=2.9						
WSAR	**Wadi Sarin**	**15.34**	**129**	P	**Pn**	**06 34 06.1**	**-0.5**
WSAR				S	Sn	06 36 45.5	-11
JMDO	**Jabal Madar**	**15.64**	**133**	P	**Pn**	**06 34 09.0**	**-1.5**
JMDO				S	Sn	06 36 50.3	-13
WBK	**Wadi Bani Khal**	**16.01**	**130**	P	**Pn**	**06 34 14.9**	**-0.3**
	SNR=6.8						
MHTO	**MHTO**	**16.62**	**136**	P	**Pn**	**06 34 20.0**	**-2.9**
	SNR=6.3						
MHTO				S	Sn	06 37 15.1	-12
JLN	**Jalan Bani Buh**	**16.62**	**130**	P	**Pn**	**06 34 18.7**	**-4.3**
DQM	**DQM**	**17.22**	**139**	P	**Pn**	**06 34 27.6**	**-2.9**
DQM				S	Sn	06 37 29.9	-12
WHFO	**Wadi Hawf**	**17.22**	**153**	P	**Pn**	**06 34 27.7**	**-2.9**
	SNR=22						
ABTO	**Aybut**	**17.57**	**155**	P	**Pn**	**06 34 31.9**	**-3.1**
	SNR=7.5						
RBK	**Rabkut**	**17.77**	**153**	P	**Pn**	**06 34 34.7**	**-2.7**
DMTO	**DMTO**	**17.87**	**150**	P	**Pn**	**06 34 36.2**	**-2.4**
	SNR=24						
VSR	**Storozhevoye**	**18.22**	**347**	*i* P	**Pn**	**06 34 39.9**	**-2.8**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BELG	**Belogornoye**	**18.81**	**4**	*c i* P	**P**	**06 34 48.3**	**-1.0**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BELG	**Belogornoye**	**18.81**	**4**	P	**P**	**06 34 47.5**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=182,slow=5.6,SNR=6.6						
	comp=Z,12nm,1.0s						
ABKAR	**Akbulak array**	**18.86**	**30**		**Pn**	**06 34 50.8**	**+0.3**
AKTO	**Aktyubinsk**	**19.07**	**25**	P	**P**	**06 34 50.8**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=176,slow=8.2,SNR=5.7						
	comp=Z,2.3nm,0.6s						
MLR	**Muntele Rosu**	**19.26**	**314**	P	**P**	**06 34 53.1**	**-1.3**
MLR	**Muntele Rosu**	**19.26**	**314**	P	**P**	**06 34 53.1**	**-1.3**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AGG	**Agios Georgios**	**19.59**	**293**	P	**P**	**06 34 57.4**	**-0.5**
AGG	**Agios Georgios**	**19.59**	**293**	P	**P**	**06 34 57.4**	**-0.5**
LPSR	**Galich'ya Gora**	**19.59**	**348**	*e*P	**P**	**06 34 55.7**	**-2.1**
LPSR				pmax	pmax		
	comp=Z,40nm,0.7s						
FNA	**Florina**	**20.63**	**297**	P	**P**	**06 35 09.9**	**+0.6**
FNA	**Florina**	**20.63**	**297**	P	**P**	**06 35 09.9**	**+0.6**
FNA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMPD	**K-Podol'skiy**	**20.74**	**322**	P	**P**	**06 35 10.0**	**-0.3**
BURAR	**Bucovina Array**	**20.84**	**318**	P	**P**	**06 35 11.8**	**+0.3**
BURAR	**Bucovina Array**	**20.84**	**318**	P	**P**	**06 35 11.8**	**+0.3**
BURAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BUR08	**Bucovina Ar. S**	**20.86**	**318**	P	**P**	**06 35 11.3**	**-0.5**
BUR08				IAmb	IAmb	06 35 15.2	
	comp=Z,7.0nm,0.8s						
AKASG	**Malin Array Be**	**20.91**	**330**	P	**P**	**06 35 11.0**	**-1.2**
AKASG	**Malin Array Be**	**20.91**	**330**	*ce*P	**P**	**06 35 11.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AKASG	**Malin Array Be**	**20.91**	**330**	P	**P**	**06 35 11.4**	**-0.9**
	comp=Z,5.1nm,0.4s,baz=138,slow=9.7,SNR=42						
	comp=Z,5.1nm,0.4s						
AKBB	**Malin Array Si**	**20.91**	**330**	P	**P**	**06 35 11.2**	**-1.1**
AKBB				IAmb	IAmb	06 35 12.2	
	comp=Z,13nm,0.7s						
AKBB	**Malin Array Si**	**20.91**	**330**	*de*P	**P**	**06 35 11.4**	**-0.8**
KIEV	**Kiev**	**20.92**	**330**	P	**P**	**06 35 11.3**	**-0.9**
KIEV				IAmb	IAmb	06 35 12.2	
	comp=Z,11nm,0.7s						
KIEV	**Kiev**	**20.92**	**330**	P	**P**	**06 35 11.3**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,11nm,0.7s						
DJES	**Djerdap**	**21.04**	**308**	P	**P**	**06 35 12.3**	**-1.3**
KK31	**Karatay Array**	**21.55**	**57**	P	**P**	**06 35 19.8**	**+0.6**
KK31				IAmb	IAmb	06 35 29.6	
	comp=Z,5.7nm,0.7s						
KK31	**Karatay Array**	**21.55**	**57**	P	**P**	**06 35 19.8**	**+0.6**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KKAR	**Karatay Array**	**21.55**	**57**	P	**P**	**06 35 19.7**	**+0.5**
KKAR	**Karatay Array**	**21.55**	**57**	P	**P**	**06 35 19.7**	**+0.5**
OBN	**Obninsk**	**22.42**	**346**	*e*P	**P**	**06 35 27.8**	**-0.6**
OBN				*PP	**sP**	**06 35 34.0**	**-2.6**
OBN				*SP	**pP**	**06 35 35.0**	**+1.0**
OBN				PPP	PPP	06 35 55.0	
OBN				*eS	**S**	**06 39 29.9**	**-3.6**
OBN				SS	**SnSn**	**06 40 06.0**	**+3.8**
OBN				SSS	SSS	06 40 22.0	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,70nm,17.0s						
CRVS	**Cervenica-Dubn**	**23.64**	**317**	*e*P	**P**	**06 35 39.8**	**-1.2**
CRVS	**Cervenica-Dubn**	**23.64**	**317**	*e*P	**P**	**06 35 39.8**	**-1.2**
ARU	**Arti**	**24.46**	**17**	*d i* P	**P**	**06 35 41.7**	**-6.8**
ARU				S	**S**	**06 40 00.0**	**-7.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s						
KSH	**Kashi**	**24.93**	**68**	*e*P	**P**	**06 35 52.9**	**-0.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				LR	LR		
	comp=N,680nm,19.4s						
KSH				LR	LR		
	comp=E,230nm,14.4s						
NACGM	**Naroch**	**25.08**	**334**	*e*P	**P**	**06 35 55.0**	**+1.0**
	comp=Z,22nm,1.0s,baz=140						
KIRV	**Kirov**	**25.09**	**5**	*e*P	**P**	**06 35 54.6**	**+0.5**
NRN	**Naryn**	**25.15**	**63**	P	**P**	**06 35 56.2**	**+0.9**
NRN				IAmb	IAmb	06 36 02.1	
	comp=Z,4.5nm,0.7s						
NRN	**Naryn**	**25.15**	**63**	P	**P**	**06 35 56.2**	**+0.9**
NRN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
OJC	**Ojcow**	**25.25**	**319**	P	**P**	**06 35 55.9**	**+0.2**
OJC				IAmb

RONA Rosalia, Austr 26.19 311 *i* P **P** **06 36 06.4 +2.1**
comp=Z,1.4nm,0.5s

BVAR Borovoye Array 26.20 35 P **P** **06 36 04.7 +0.4**
comp=Z,0.4nm,0.4s,baz=258,slow=6.8,SNR=8.1
BVAR PcP **PcP** **06 39 31.4 +0.6**
comp=Z,0.7nm,0.5s,baz=222,slow=1.9,SNR=3.8
comp=Z,0.4nm,0.4s

TARG Taragay, Kyrgy 26.53 63 P **P** **06 36 08.7 +0.7**
TARG IAmb IAmb 06 36 29.5
comp=Z,6.1nm,1.0s

TARG Taragay, Kyrgy 26.53 63 P **P** **06 36 08.7 +0.7**
TARG pmax pmax
comp=Z,6.0nm,1.0s

CONA Conrad Observa 26.55 311 *i* P **P** **06 36 06.8 -0.8**
comp=Z,0.5nm,0.3s

NRCA Norcia 27.08 299 P **P** **06 36 12.8 +0.4**
NRCA IAmb IAmb 06 36 27.3
comp=Z,12nm,1.1s

FDMO Fiordimonte 27.13 300 P **P** **06 36 12.6 -0.3**
FDMO IAmb IAmb 06 36 13.9
comp=Z,8.8nm,1.0s

KLMR Klimovskoe 27.54 353 *e*P **P** **06 36 13.0 -3.3**
KLMR pmax pmax
comp=Z,26nm,1.4s

PRED Cave del Predi 27.55 307 P **P** **06 36 15.8 -0.8**
PRED IAmb IAmb 06 36 21.0
comp=Z,4.8nm,0.9s

GERES GERESS Array B 28.23 312 P **P** **06 36 22.7 0.0**
comp=Z,0.5nm,0.5s,baz=129,slow=8.9,SNR=1.3
comp=Z,0.5nm,0.5s

WTTA Wattenberg 29.05 308 *i* P **P** **06 36 30.4 +0.2**
comp=Z,1.1nm,0.3s

WATA Walderalm 29.11 308 *i* P **P** **06 36 30.6 0.0**
comp=Z,1.1nm,0.3s

SQTA Sankt Quirin 29.32 308 *i* P **P** **06 36 32.2 -0.3**
comp=Z,1.6nm,0.3s

KURBB Kurchatov Arra 29.35 45 P **P** **06 36 33.6 +1.0**
comp=Z,0.9nm,0.5s,baz=252,slow=8.8,SNR=6.2
comp=Z,0.9nm,0.5s

MOTA Moosalm 29.42 308 *i* P **P** **06 36 32.4 -1.0**
comp=Z,0.9nm,0.3s

KURK Kurchatov 29.44 45⍰ *e*P **P** **06 36 33.4 +0.1**
KURK pmax pmax
comp=Z,3.0nm,1.2s

CLL Collm 29.58 317 *e*P **P** **06 36 33.0 -1.5**

DAVA Damuels 30.21 308 *i* P **P** **06 36 39.2 -1.2**
comp=Z,2.0nm,0.3s

MAKZ Makanchi 30.37 53 P **P** **06 36 43.8 +2.1**

MAKZ Makanchi 30.37 53 P **P** **06 36 43.8 +2.1**
MAKZ pmax pmax
comp=Z,1.0nm,0.7s

FINES FINESS Array B 30.58 341 P **P** **06 36 43.1 -0.1**

FINES FINESS Array B 30.58 341 P **P** **06 36 43.1 -0.1**

FINES FINESS Array B 30.58 341 P **P** **06 36 42.5 -0.7**
comp=Z,0.9nm,0.5s,baz=140,slow=11,SNR=5.7
comp=Z,0.9nm,0.5s

MK31 Makanchi Array 30.58 54 P **P** **06 36 45.0 +1.5**
MK31 IAmb IAmb 06 36 45.8
comp=Z,2.0nm,0.7s

MK31 Makanchi Array 30.58 54 *d*P **P** **06 36 44.5 +1.0**

MKAR Makanchi Array 30.58 54 P **P** **06 36 44.8 +1.3**

MKAR Makanchi Array 30.58 54 *ce*P **P** **06 36 44.7 +1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s

MKAR Makanchi Array 30.58 54 P **P** **06 36 44.5 +1.0**
comp=Z,2.2nm,0.6s,baz=249,slow=7.5,SNR=24
comp=Z,2.2nm,0.6s

SENIN Lac Senin/Sane 31.76 305 P **P** **06 36 54.4 +0.2**

BNI Bardonecchia 31.99 303 P **P** **06 36 56.7 +0.6**

BNI Bardonecchia 31.99 303 P **P** **06 36 56.7 +0.6**
BNI pmax pmax
comp=Z,15nm,0.9s

HFS Hagfors 33.78 331 P **P** **06 37 11.3 -0.1**
comp=Z,7.3nm,0.4s,baz=128,slow=9.6,SNR=85
comp=Z,7.3nm,0.4s

WMQ Urumqi 33.97 60 *e*P **P** **06 37 17.9 +4.6**

ZALV Zalesovo Beam 34.17 42 P **P** **06 37 16.0 +1.2**

ZALV Zalesovo Beam 34.17 42 P **P** **06 37 15.2 +0.4**
comp=Z,1.1nm,0.3s,baz=254,slow=8.5,SNR=8.4
comp=Z,1.1nm,0.3s

DGZ Jazzator, Alta 34.55 50⍰ *e*P **P** **06 37 19.1 +0.8**
DGZ pmax pmax
comp=Z,2.0nm,0.7s

LVZ Lovozero 34.91 353 P **P** **06 37 21.9 +0.8**

LVZ Lovozero 34.91 353 P **P** **06 37 21.9 +0.8**
LVZ pmax pmax
comp=Z,24nm,1.1s

NC405 NORSAR Array S 35.15 332 P **P** **06 37 22.9 -0.3**
NC405 IAmb IAmb 06 37 35.1
comp=Z,6.8nm,1.0s

NB201 NORSAR Array S 35.28 332 P **P** **06 37 24.4 +0.1**
NB201 IAmb IAmb 06 37 48.9
comp=Z,5.9nm,1.1s

NB2 NORSAR Subarra 35.30 332 P **P** **06 37 23.7 -0.9**
comp=Z,0.4nm,0.5s,baz=124,slow=8.6

NOA NORSAR Array B 35.30 332 P **P** **06 37 23.7 -0.9**
comp=Z,0.7nm,0.6s,baz=125,slow=8.6,SNR=4.3
comp=Z,0.7nm,0.6s

NC204 NORSAR Array S 35.62 332 P **P** **06 37 26.5 -0.8**
NC204 IAmb IAmb 06 37 30.5
comp=Z,6.3nm,1.1s

ARCES ARCESS Array B 37.69 349 P **P** **06 37 44.2 -0.6**
comp=Z,2.2nm,0.9s,baz=162,slow=8.3,SNR=12
comp=Z,2.2nm,0.9s

ESDC Sonseca Array 39.91 293 P **P** **06 38 04.0 +0.1**
comp=Z,0.5nm,0.5s,baz=74,slow=8.6,SNR=8.3
comp=Z,0.5nm,0.5s

EKA Eskdalemuir Ar 40.02 318 P **P** **06 38 03.9 -0.5**
comp=Z,1.1nm,0.3s,baz=102,slow=9.7,SNR=8.3
comp=Z,1.1nm,0.3s

NRIK Noril'sk 42.61 20 *ce*P **P** **06 38 26.5 +0.9**
NRIK pmax pmax
comp=Z,4.0nm,1.4s

NRIK Noril'sk 42.61 20 P **P** **06 38 25.6 +0.1**
comp=Z,1.3nm,0.5s,baz=249,slow=6.4,SNR=3.7
comp=Z,1.3nm,0.5s

TOA0 Torodi Ar. Sit 44.85 254 P **P** **06 38 44.7 +0.4**
TOA0 IAmb IAmb 06 38 50.9
comp=Z,3.4nm,1.1s

TORD Torodi Ar. Bea 44.85 254 P **P** **06 38 44.1 -0.1**
TORD IAmb IAmb 06 38 46.4
comp=Z,2.2nm,1.1s

TORD Torodi Ar. Bea 44.85 254 P **P** **06 38 44.5 +0.3**
comp=Z,1.3nm,0.6s,baz=60,slow=7.0,SNR=16
comp=Z,1.3nm,0.6s

SPB2 Spitsbergen Ar 46.42 352 P **P** **06 38 57.0 +1.1**

SPITS Spitsbergen Ar 46.43 352 P **P** **06 38 55.8 -0.2**
comp=Z,5.0nm,0.7s,baz=142,slow=8.4,SNR=8.3
comp=Z,5.0nm,0.7s

SONM Songino Array 46.95 53 P **P** **06 39 00.8 +0.2**
comp=Z,0.3nm,0.3s,baz=268,slow=6.8,SNR=1.6
comp=Z,0.3nm,0.3s

ULN Ulaanbaatar 47.39 53 *de*P **P** **06 39 04.7 +0.7**
ULN pmax pmax
comp=Z,2.0nm,1.0s

PZH PanZhiHua 48.50 83 P **P** **06 39 15.8 +2.9**
PZH pmax pmax
comp=Z,7.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.1s

CMAR Chiang Mai Arr 49.63 94 *i* P **P** **06 39 21.3 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s

CMAR Chiang Mai Arr 49.63 94 P **P** **06 39 21.2 -0.3**
comp=Z,1.1nm,0.3s,baz=296,slow=8.1,SNR=4.4
comp=Z,1.1nm,0.3s

HHC Hu-ho-hao-te 51.82 62 *e*P **P** **06 39 39.3 +1.5**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,310nm,5.6s

DBIC Dimbokro 53.85 252 P **P** **06 39 53.1 +0.1**

DBIC Dimbokro 53.85 252 P **P** **06 39 53.1 +0.1**
comp=Z,1.4nm,0.5s,baz=40,slow=9.0,SNR=1.8
comp=Z,1.4nm,0.5s

TIXI Tiksi 56.34 22⇓ *e*P **P** **06 40 10.5 +0.3**
TIXI pmax pmax
comp=Z,2.0nm,1.1s

NRS Narsarsuaq 61.71 327 P **P** **06 40 48.4 +0.8**

NRS Narsarsuaq 61.71 327 P **P** **06 40 48.4 +0.8**
NRS pmax pmax
comp=Z,13nm,1.0s

BOSA Boshof 64.87 200 P **P** **06 41 10.5 +1.5**
BOSA IAmb IAmb 06 41 19.8
comp=Z,3.2nm,1.0s

BOSA Boshof 64.87 200 P **P** **06 41 10.5 +1.5**
BOSA pmax pmax
comp=Z,3.0nm,1.0s

BOSA Boshof 64.87 200 P **P** **06 41 10.1 +1.1**
comp=Z,3.1nm,0.6s,baz=25,slow=8.0,SNR=7.7
comp=Z,3.1nm,0.6s

KSRS Korea Array 64.92 61 P **P** **06 41 11.2 +1.9**
comp=Z,0.7nm,0.5s,baz=278,slow=6.4,SNR=1.7
comp=Z,0.7nm,0.5s

A36M Sachs Harbour 74.49 357 P **P** **06 42 08.4 +0.8**

SCHQ Schefferville 74.67 326 P **P** **06 42 08.7 -0.3**
SCHQ IAmb IAmb 06 42 10.9
comp=Z,4.3nm,0.8s

SCHQ Schefferville 74.67 326 P **P** **06 42 07.8 -1.2**
comp=Z,3.7nm,0.7s,baz=21,slow=7.4,SNR=6.2
comp=Z,3.7nm,0.7s

C36M Paulatuk 77.06 356 P **P** **06 42 21.9 -0.5**
C36M IAmb IAmb 06 42 23.1
comp=Z,3.1nm,0.8s

F20K Avaraart Lake 78.32 8 P **P** **06 42 31.0 +1.6**
F20K IAmb IAmb 06 42 35.8
comp=Z,1.4nm,0.8s

BMAR Burnt Mountain 78.96 4 P **P** **06 42 34.6 +1.6**

IMAR Indian Mountai 79.58 8 P **P** **06 42 37.1 +0.7**

ILAR Eielson Array 81.43 5 P **P** **06 42 46.9 +0.6**
comp=Z,0.7nm,0.8s,baz=318,slow=4.1,SNR=6.7
comp=Z,0.7nm,0.8s

YKA Yellowknife Ar 82.92 351 P **P** **06 42 53.7 -0.4**

YKA Yellowknife Ar 82.92 351 *i* P **P** **06 42 54.5 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.8s

YKA Yellowknife Ar 82.92 351 P **P** **06 42 54.5 +0.4**
comp=Z,0.4nm,0.8s,baz=23,slow=5.6,SNR=7.3
comp=Z,0.4nm,0.8s

HYT Haines Junctio 85.86 2 P **P** **06 43 09.8 +0.5**

WRA Warramunga Arr 99.66 107 P **Pdif** **06 44 12.7 -1.0**
comp=Z,0.5nm,0.9s,baz=320,slow=3.9,SNR=2.0
comp=Z,0.5nm,0.9s

TEH ***13*** *06:37:32.9,33°.72N×45°.68E,h12km±167km, ML2.6*
ISN ***13*** *06:37:33.0±1.2,33°.69N×45°.68E,h11km±6km, ML2.6*
ISC 13 06:37:33.4±1.1,33°.71N±0°.05×45°.69E±0°.05,h13km,n9,
σ0s.50/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.44**	**101**	Pg	**Pg**	**06 37 42.0**	**-0.1**
IBDR	**Badra**	**0.63**	**161**	*e*Pg	**Pg**	**06 37 45.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**06 37 54.0**	**0.0**
IBDR				AML	AML	06 38 02.5	
	comp=N,81nm,0.4s						
IDHR	**Dehrash**	**1.14**	**30**	Pg	**Pb**	**06 37 55.0**	**-0.1**
BHD	**Baghdad**	**1.18**	**248**	*e*Pg	**Pg**	**06 37 56.0**	**-0.1**
BHD				*e*Sg	**Sn**	**06 38 11.0**	**-0.5**
BHD				AML	AML	06 38 31.3	
	comp=E,25nm,0.8s						
KCHF	**Cheshme Sefid,**	**1.25**	**63**	Pg	**Pg**	**06 37 57.5**	**-0.1**
IKOM	**Komasi**	**1.58**	**73**	Pg	**Pb**	**06 38 02.5**	**-0.1**
ILIN	**Lien**	**1.60**	**41**	Pg	**Pb**	**06 38 02.3**	**-0.7**
IKFM	**Kafar-mosalman**	**1.81**	**95**	Pn	**Pb**	**06 38 06.0**	**-0.3**
RAFI	**Al-Rafai**	**2.02**	**170**	*e*Pn	**Pn**	**06 38 08.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**06 38 35.0**	**+0.2**

IDC 13 06:55:50.1±2.3,5°.45S×128°.64E,h0km,mb3.3/1,
mbtmp3.4/3,ML3.4/2,Error ellipse: s-maj=159.4km
s-min=31.6km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.44**	**159**	Pn	Pn	06 59 29.9	+0.6
	0.1nm,0.3s,baz=341,slow=13,SNR=9.9						
WRA				Sn	Sn	07 02 10.8	-10
	0.2nm,0.3s,baz=342,slow=22,SNR=6.4						
	0.2nm,0.2s						
ASAR	**Alice Springs**	**18.81**	**165**	P	P	07 00 11.2	-0.3
	0.2nm,0.3s,baz=348,slow=11,SNR=24						
ASAR				S	Sn	07 03 34.1	-9.0
	0.3nm,0.9s,baz=298,slow=33,SNR=1.7						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**66.20**	**327**	P	P	07 06 39.8	0.0
	0.1nm,0.4s,baz=109,slow=7.3,SNR=2.5						
	0.1nm,0.4s						

IDC 13 07:06:48.7±64.0,21°.54S×179°.16E,h0km,mb3.8/3,
mbtmp3.8/3,Error ellipse: s-maj=1135.0km
s-min=158.5km az=83.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.95**	**245**	P	P	07 13 41.0	-1.5
	0.7nm,0.4s,baz=67,slow=7.7,SNR=1.2						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**41.70**	**258**	P	P	07 14 39.8	+0.2
	0.4nm,0.3s,baz=88,slow=9.0,SNR=18						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**41.84**	**264**	P	P	07 14 41.2	+0.4
	0.6nm,0.6s,baz=96,slow=8.3,SNR=19						
	0.6nm,0.6s						

TEH ***13*** *07:10:14.1,33°.76N×45°.58E,h10km±156km, ML2.6*
ISN ***13*** *07:10:14.4±1.2,33°.71N×45°.58E,h11km±5km, ML2.6*
ISC 13 07:10:14.8±1.1,33°.72N±0°.05×45°.58E±0°.04,h13km,n9,
σ0s.75/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.53**	**100**	Pg	**Pg**	**07 10 24.6**	**-0.7**
IBDR	**Badra**	**0.68**	**154**	*e*Pg	**Pg**	**07 10 27.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**07 10 37.0**	**+0.1**
IBDR				AML	AML	07 10 57.0	
	comp=N,74nm,0.4s						
IGHG	**Ghaleghazi**	**1.02**	**53**	Pg	**Pb**	**07 10 34.1**	**-0.4**
BHD	**Baghdad**	**1.10**	**246**	*e*Pg	**Pg**	**07 10 36.0**	**0.0**
BHD				*e*Sg	**Sg**	**07 10 50.0**	**-0.3**
BHD				AML	AML	07 11 12.8	
	comp=E,34nm,0.7s						
IDHR	**Dehrash**	**1.18**	**34**	Pg	**Pb**	**07 10 35.8**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.33**	**65**	Pg	**Pg**	**07 10 40.5**	**+0.1**
KCHF				Sg	**Sg**	**07 10 58.6**	**+0.7**
ILIN	**Lien**	**1.66**	**43**	Pg	**Pb**	**07 10 45.1**	**-0.2**
IKOM	**Komasi**	**1.67**	**74**	Pg	**Pb**	**07 10 45.6**	**+0.1**
RAFI	**Al-Rafai**	**2.04**	**167**	*e*Pn	**Pn**	**07 10 50.0**	**+1.1**
RAFI				*e*Sn	**Sb**	**07 11 17.0**	**-0.1**

DJA ***13*** *07:11:26.9±0.2,5°.5S×103°.3E±°,h69km±4km, M4.9/22,*
mB5.3/4, mb4.9/22, MLv5.0/20, Mw(mB)4.8/4
IDC ***13*** *07:11:27.6±1.8,4°.76S×103°.05E,h57km±15km, mb4.3/28,*
mbtmp4.6/29, MS3.2/8, Error ellipse: s-maj=18.5km
s-min=9.9km az=50.0
NEIC ***13*** *07:11:27.2±1.2,4°.92S±0°.06×102°.93E±0°.05,h58km±7km,*
mb4.7/46, Error ellipse: s-maj=9.1km s-min=6.4km
az=157.0
ISC 13 07:11:27.9±0.6,4°.88S±0°.05×103°.00E±0°.05,h69km±5km,
n186,σ1s41/185,mb4.7/67,1C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGSI	**Enggano, Bengk**	**0.86**	**237**	P	**Pn**	**07 11 43.4**	**-1.2**
EGSI				S	**Sn**	**07 11 55.5**	**-1.5**
LWLI	**Liwa**	**1.06**	**98**	P	**Pn**	**07 11 46.5**	**-0.7**
UBSI	**University, Be**	**1.33**	**327**	P	**Pn**	**07 11 50.4**	**-0.1**
KASI	**Kota Agung**	**1.62**	**113**	P	**Pn**	**07 11 53.4**	**-1.0**
PMBI	**Palembang**	**2.62**	**42**	Pn	**Pn**	**07 12 07.2**	**-0.7**
KRJI	**Kerinci**	**3.17**	**331**	P	**Pn**	**07 12 17.5**	**+2.0**
JMBI	**JAMBI**	**3.29**	**11**	P	**Pn**	**07 12 18.1**	**+1.1**
PPSI	**Pulau Pagai**	**3.65**	**305**	P	**Pn**	**07 12 22.6**	**+0.6**
DBJI	**Dramaga**	**4.08**	**114**	P	**Pn**	**07 12 26.9**	**-1.0**
SKJI	**Sukabumi**	**4.12**	**121**	P	**Pn**	**07 12 26.1**	**-2.3**
PPBI	**Pangkal Pinang**	**4.13**	**49**	P	**Pn**	**07 12 29.4**	**+0.9**
DSRI	**Dabo**	**4.64**	**20**	P	**Pn**	**07 12 37.4**	**+1.8**
PDSI	**Padang**	**4.69**	**327**	P	**Pn**	**07 12 36.4**	**+0.2**
CNJI	**Cibinong**	**4.76**	**121**	P	**Pn**	**07 12 36.1**	**-1.0**
LEM	**Lembang**	**4.98**	**113**	P	**Pn**	**07 12 40.6**	**+0.3**
	59nm,0.6s,baz=158,slow=21,SNR=5.5						
LEM				S	**Sn**	**07 13 37.9**	**+1.2**
	56nm,0.5s,baz=146,slow=20,SNR=1.4						
LEM	**Lembang**	**4.98**	**113**	P	**Pn**	**07 12 39.3**	**-1.0**
SISI	**Saibi**	**5.26**	**312**	P	**Pn**	**07 12 44.0**	**0.0**
	103nm,0.6s,2μm0.8nm						
BBJI	**Bungbulang**	**5.29**	**119**	P	**Pn**	**07 12 44.2**	**-0.2**
BBJI	**Bungbulang**	**5.29**	**119**	P	**Pn**	**07 12 43.3**	**-1.1**
	100nm,0.7s,2μm0.9nm						

BKNI Bangkinang 5.53 339 Pn **Pn** **07 12 46.4 -1.3**

BKNI Bangkinang 5.53 339 P **Pn** **07 12 49.1 +1.4**
132nm,0.7s,4μm0.7nm

TPRI Tanjung Pinang 5.96 15 P **Pn** **07 12 55.0 +1.5**
76nm,0.6s,0.6nm

CMJI Cimerak 6.13 118 P **Pn** **07 12 54.9 -1.0**
76nm,0.9s,0.7nm

XMIS Christmas Isla 6.15 155 Pn Pn 07 12 48.5 -7.8

XMIS Christmas Isla 6.15 155 P Pn 07 12 51.6 -4.6

KPJI Karang Pucung 6.38 113 P **Pn** **07 12 58.9 -0.4**
35nm,0.5s,0.4nm

PBSI Pulau Batu 6.72 315 P **Pn** **07 13 03.7 -0.3**
87nm,0.8s,0.6nm

YOGI Yogyakarta 7.81 112 P **Pn** **07 13 16.9 -2.0**
84nm,1.7s,0.6nm

UGM Wanagama 8.06 112 Pn **Pn** **07 13 23.1 +0.8**

UGM Wanagama 8.06 112 P **Pn** **07 13 23.5 +1.2**

UGM Wanagama 8.06 112 P **Pn** **07 13 22.1 -0.2**
140nm,1.7s

GSI Gunungsitoli 8.19 318 **Pn** **07 13 23.0 -1.1**

GSI Gunungsitoli 8.19 318 P **Pn** **07 13 24.3 +0.2**
39nm,0.5s

SJI Sawahan 9.16 108 P **Pn** **07 13 37.2 -0.2**
46nm,0.6s

COCO West Island 9.48 220 Pn **Pn** **07 13 39.4 -2.4**

KULM Kulim 10.37 347 P **Pn** **07 13 55.8 +1.9**
19nm,1.4s

KMMI Kalianget 11.12 102 P **Pn** **07 14 00.9 -3.2**
93nm,1.9s

ABJI Asem Bagus 11.53 105 P **Pn** **07 14 09.3 -0.4**
78nm,0.7s

JAGI Jajag, Banyuwa 11.63 108 Pn **Pn** **07 14 10.9 -0.2**

JAGI Jajag, Banyuwa 11.63 108 P **Pn** **07 14 10.9 -0.2**

JAGI Jajag, Banyuwa 11.63 108 P **Pn** **07 14 09.2 -1.9**
48nm,0.6s

SRBI Singaraja 12.54 105 P **Pn** **07 14 23.0 -0.5**
46nm,0.8s

TWSI Taliwang, Sumb 14.30 106 P **Pn** **07 14 43.7 -3.4**
29nm,0.6s

PLAI Plampang 15.18 106 P **Pn** **07 14 57.2 -1.2**

PLAI Plampang 15.18 106 P **Pn** **07 14 57.1 -1.3**
62nm,0.6s

KAPI Kappang 16.69 91 LR LR 07 22 11.4
comp=Z,72nm,18.9s,baz=256,slow=39

TOLI2 Tolitoli 18.73 72 **Pn** **07 15 42.1 -0.3**
TOLI2 IAmb IAmb 07 15 45.3
comp=Z,24nm,0.7s

TOLI2 Tolitoli 18.73 72 P **Pn** **07 15 44.4 +2.0**

EDFI Ende, Flores 18.95 103 P **P** **07 15 42.5 -1.3**
comp=Z,14nm,1.0s

SRDT SRDT 19.49 349 P **Pn** **07 15 50.6 -0.7**
comp=Z,55nm,2.0s

MRSI Marisa 19.65 75 P **P** **07 15 50.5 -0.8**
comp=Z,33nm,0.7s

LUWI Luwuk 20.10 80 P **P** **07 15 56.7 +0.5**
LUWI IAmb IAmb 07 16 05.3
comp=Z,38nm,0.8s

SOEI Soe 21.63 104 P **P** **07 16 12.5 -0.3**
SOEI IAmb IAmb 07 16 54.0
comp=Z,34nm,0.9s

CM31 Chiang Mai Arr 23.53 350 P **P** **07 16 30.8 -1.4**

CMAR Chiang Mai Arr 23.53 350 P **P** **07 16 31.4 -0.7**

CMAR Chiang Mai Arr 23.53 350 P **P** **07 16 31.8 -0.4**
comp=Z,5.0nm,0.5s,baz=180,slow=9.0,SNR=22
CMAR LR LR 07 25 37.9
comp=Z,46nm,21.6s,baz=175,slow=36
comp=Z,5.0nm,0.5s

CHTO Chiang Mai 23.88 350 P **P** **07 16 33.8 -1.5**

CRAI Chiangrai 25.08 354 P **P** **07 16 45.0 -1.2**

PALK Pallekele 25.32 298 LR LR 07 26 18.3
comp=Z,21nm,19.4s,baz=196,slow=35

FITZ Fitzroy Crossi 25.73 123 P **P** **07 16 52.1 -0.1**

KNRA Kununurra 27.48 115 P **P** **07 17 07.2 -0.8**
KNRA IAmb IAmb 07 17 08.6
comp=Z,14nm,0.8s

KNRA Kununurra 27.48 115 P **P** **07 17 07.5 -0.5**

MTN Manton Dam 28.87 108 P **P** **07 17 19.9 -0.5**
MTN IAmb IAmb 07 17 26.6
comp=Z,10nm,0.4s

H08S2 Diego Garcia H 30.45 263 T T 07 48 51.0
baz=87,slow=74

H08S3 Diego Garcia H 30.46 263 T T 07 48 48.0
baz=87,slow=74

H08S1 Diego Carcia H 30.47 263 T T 07 48 49.3
baz=87

NWAO Narrogin (SRO) 30.91 156 LR LR 07 28 11.1
comp=Z,50nm,21.8s,baz=282,slow=32

PZH PanZhiHua 31.22 358 P **P** **07 17 44.6 +3.5**
PZH pmax pmax
comp=Z,8.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.8s

H01W3 Cape Leeuwin H 31.59 162 T T 07 51 11.4
baz=339,slow=76,SNR=9.1

H01W2 Cape Leeuwin H 31.60 162 T T 07 51 08.8
baz=339,slow=76,SNR=14

H01W1 Cape Leeuwin H 31.60 162 T T 07 51 07.0
baz=339,slow=76,SNR=8.3

WB0 Warramunga Arr 33.95 119 P **P** **07 18 05.3 +0.3**

WRA Warramunga Arr 33.97 119 P **P** **07 18 05.5 +0.3**

WRA Warramunga Arr 33.97 119 P **P** **07 18 05.3 +0.2**
comp=Z,5.0nm,0.5s,baz=304,slow=8.9,SNR=80
WRA PcP **PcP** **07 20 42.8 +0.6**
comp=Z,2.0nm,0.7s,baz=303,slow=2.1,SNR=6.0
WRA S **S** **07 23 22.1 -3.5**
comp=Z,0.6nm,0.9s,baz=298,slow=18,SNR=2.6
comp=Z,5.0nm,0.5s

WB2 Warramunga Arr 33.98 119 P **P** **07 18 04.9 -0.3**

WR0 Warramunga Arr 34.15 119 P **P** **07 18 06.8 +0.1**

ASAR Alice Springs 35.15 125 P **P** **07 18 15.5 +0.1**

ASAR Alice Springs 35.15 125 P **P** **07 18 16.1 +0.8**
comp=Z,6.2nm,0.4s,baz=307,slow=8.2,SNR=161
ASAR PcP **PcP** **07 20 46.9 +1.3**
comp=Z,2.5nm,0.6s,baz=300,slow=2.2,SNR=12
ASAR S **S** **07 23 39.8 -3.9**
comp=Z,0.7nm,1.1s,baz=303,slow=11,SNR=2.8
comp=Z,6.2nm,0.4s

AS31 Alice Springs 35.15 125 P **P** **07 18 15.9 +0.6**
AS31 IAmb IAmb 07 18 17.6
comp=Z,4.5nm,0.5s

CD2 Chengdu 35.59 1 P **P** **07 18 19.3 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.7s

NJ2 Nanjing 39.70 21 *e*P **P** **07 18 55.3 +1.7**
NJ2 pP **pP** **07 19 11.3 +0.8**
NJ2 sP **sP** **07 19 18.3 -0.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,160nm,3.8s

LYN LuoYang 40.22 12 *e*P **P** **07 18 57.4 -0.5**
LYN pP pP 07 19 16.0 +1.1
LYN P **PnPn** **07 20 35.6 -0.3**
LYN S **S** **07 24 58.8 -1.2**
LYN sS sS 07 25 36.6 +8.2
LYN SS **SS** **07 27 51.8 -9.0**
LYN ScS **ScS** **07 28 50.3 -7.6**
LYN pmax pmax
comp=Z,27nm,0.7s
LYN pmax pmax
comp=Z,350nm,5.0s

LZH Lanzhou 40.76 1 *e*P **P** **07 19 03.4 +0.9**
LZH pP pP 07 19 09.9 -10
LZH pmax pmax
comp=Z,18nm,1.0s

GTA Gaotai 44.17 356 *e*P **P** **07 19 30.8 +0.7**
GTA pmax pmax
comp=Z,7.0nm,0.8s

CTAO Charters Tower 44.69 114 P **P** **07 19 35.1 +0.6**

STKA Stephens Creek 45.01 131 P **P** **07 19 38.0 +1.2**

STKA Stephens Creek 45.01 131 P **P** **07 19 38.3 +1.5**
comp=Z,8.3nm,0.5s,baz=310,slow=7.4,SNR=24
STKA LR LR 07 40 58.6
comp=Z,30nm,19.2s,baz=20,slow=39
comp=Z,8.3nm,0.5s

HHC Hu-ho-hao-te 46.18 9 *e*P **P** **07 19 49.3 +3.4**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,200nm,5.9s

KSRS Korea Array 48.09 27 P **P** **07 20 01.4 +0.6**
comp=Z,2.4nm,0.6s,baz=228,slow=7.1,SNR=12
comp=Z,2.4nm,0.6s

WMQ Urumqi 50.40 346 *e*P **P** **07 20 19.6 +1.2**
WMQ pP pP 07 20 26.3 -10
WMQ pmax pmax

comp=Z,17nm,1.1s
KSH Kashi 50.73 333 P P 07 20 20.4 -0.6
KSH pmax pmax
comp=Z,12nm,0.7s
TARG Taragay, Kyrgy 51.77 336 P P 07 20 30.4 +1.4
TARG IAmb IAmb 07 20 53.3
comp=Z,4.2nm,0.8s
PRZ Przheval'sk 52.17 337 P P 07 20 31.0 -0.8
NRN Naryn 52.27 334 P P 07 20 32.6 -0.1
NRN IAmb IAmb 07 20 33.9
comp=Z,10nm,1.2s
SHLS Shalkode 52.34 338 *eP* **P 07 20 32.4 -0.6**
comp=Z,6.2nm,0.4s,baz=339
UZB Uzynbulak 52.50 338 *eP* **P 07 20 34.8 +0.6**
comp=Z,4.9nm,0.4s,baz=338
CN2 Changchun 52.51 20 P P 07 20 32.9 -1.2
CN2 pmax pmax
comp=Z,10.0nm,0.7s
SONM Songino Array 52.57 3 P P 07 20 35.4 +0.8
SONM IAmb IAmb 07 20 36.5
comp=Z,8.2nm,0.7s
SONM Songino Array 52.57 3 P P 07 20 35.7 +1.1
comp=Z,9.2nm,0.8s,baz=182,slow=9.4,SNR=51
SONM PcP **PcP 07 21 44.6 +0.6**
comp=Z,2.2nm,0.4s,baz=185,slow=4.4,SNR=12
comp=Z,9.2nm,0.8s
ULN Ulaanbaatar 52.64 3 P P 07 20 35.6 +0.5
ULN IAmb IAmb 07 20 36.8
comp=Z,6.6nm,1.1s
SATY Saty 52.66 337 *eP* **P 07 20 35.9 +0.6**
comp=Z,3.0nm,0.4s,baz=337
MJAR Matsushiro Arr 52.73 36 P P 07 20 34.7 -1.2
comp=Z,4.9nm,0.8s,baz=221,slow=7.1,SNR=11
MJAR LR LR 07 41 43.9
comp=Z,23nm,20.9s,baz=158,slow=34
comp=Z,4.9nm,0.8s
ZHN Zhinishke 52.74 338 *eP* **P 07 20 36.5 +0.6**
baz=338
KPKS Kokpek 52.90 338 *eP* **P 07 20 37.5 +0.5**
comp=Z,4.0nm,0.6s,baz=338
KZA Kyzart 53.12 334 P P 07 20 40.0 +0.9
SNR=7.3
BOOM Boomskoye usch 53.17 335 P P 07 20 39.1 0.0
BOOM IAmb IAmb 07 20 40.4
comp=Z,7.0nm,0.6s
TNSS Tian-Shan 53.21 336 *eP* **P 07 20 39.9 +0.2**
baz=336
MDOK Medeo 53.27 336 *eP* **P 07 20 40.7 +0.8**
baz=336
AAA Alma-Ata 53.37 336 *eP* **P 07 20 41.1 +0.6**
baz=336
SIMJ Simiganj 53.54 327 P P 07 20 41.5 -0.4
SIMJ IAmb IAmb 07 20 42.3
comp=Z,4.1nm,0.6s
ARSB Arslanbob 53.54 332 P P 07 20 42.3 +0.4
BTK Batken 53.62 329 P P 07 20 41.9 -0.5
BTK IAmb IAmb 07 20 44.1
comp=Z,4.9nm,0.6s
TKM2 Tokmak 2 53.67 335 P P 07 20 43.4 +0.5
SNR=47
KBK Karagaybulak 53.73 335 P P 07 20 44.4 +1.1
SNR=8.0
AML Almayashu 53.85 333 P P 07 20 45.1 +0.6
SNR=11
CHKK Chushkaly 53.88 337 *eP* **P 07 20 43.7 -0.5**
baz=337
AAK Ala-Archa 53.91 334 P P 07 20 44.4 -0.1
KUU Kurty 54.17 336 *eP* **P 07 20 46.1 -0.1**
comp=Z,9.9nm,0.5s,baz=336
EKS2 Erkin-Say 54.24 334 P P 07 20 47.9 +1.0
SNR=15
TDK Taldyorghan 54.32 339 *eP* **P 07 20 47.6 +0.3**
comp=Z,7.6nm,0.6s,baz=339
USP Ospenovka 54.41 335 P P 07 20 48.4 +0.3
SNR=10.0
ZSN Zaisan 54.51 345 *eP* **P 07 20 49.5 +0.8**
comp=Z,4.2nm,0.6s,baz=345
SGDS Sogindy 54.51 335 *eP* **P 07 20 48.8 0.0**
baz=335
MK31 Makanchi Array 54.62 343 P P 07 20 49.5 0.0
MK31 IAmb IAmb 07 20 50.4
comp=Z,6.5nm,0.8s
MKAR Makanchi Array 54.62 343 P P 07 20 49.5 0.0
comp=Z,8.7nm,0.7s,baz=144,slow=8.0,SNR=103
comp=Z,8.7nm,0.7s
MAKZ Makanchi 54.73 342 P P 07 20 50.4 +0.1
MAKZ IAmb IAmb 07 20 52.7
comp=Z,3.5nm,0.8s
MDJ Mudanjiang 54.74 23 P P 07 20 51.0 +0.6
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,250nm,4.7s
BNX BinXian 54.89 21 ⇑P **P 07 20 51.4 0.0**
BNX pmax pmax
comp=Z,16nm,0.8s
BNX pmax pmax
comp=Z,83nm,4.6s
USA0B Ussuriysk Arra 55.37 25 P P 07 20 55.1 +0.2
USRK Ussuriysk Ar. 55.37 25 P P 07 20 54.9 0.0
USRK Ussuriysk Ar. 55.37 25 P P 07 20 55.3 +0.4
comp=Z,9.1nm,0.7s,baz=217,slow=5.8,SNR=11
comp=Z,9.1nm,0.7s
CHM Chimkent 55.92 330 *eP* **P 07 20 59.7 +0.8**
baz=330
BTLS Baital 56.04 336 *eP* **P 07 20 59.3 -0.5**
baz=336
KKAR Karatay Array 56.08 332 P P 07 20 59.9 -0.2
SEM Semipalatinsk 58.46 343 *eP* **P 07 21 16.8 -0.1**
baz=343
HEH HeiHe 58.82 18 *eP* **P 07 21 18.8 -0.3**
HEH pmax pmax
comp=Z,11nm,0.8s
HEH pmax pmax
comp=Z,140nm,4.9s
KURBB Kurchatov Arra 59.17 342 P P 07 21 21.6 +0.1
comp=Z,4.8nm,0.7s,baz=160,slow=6.6,SNR=34
KURBB PcP **PcP 07 22 10.5 +1.1**
comp=Z,2.4nm,0.6s,baz=152,slow=3.3,SNR=11
comp=Z,4.8nm,0.7s
KURK Kurchatov 59.22 342 P P 07 21 21.8 -0.1
KURK IAmb IAmb 07 21 22.9
comp=Z,8.3nm,0.8s
GEYT Alibeck 59.56 320 P P 07 21 24.6 -0.1
GEYT Alibeck 59.56 320 P P 07 21 25.4 +0.7
comp=Z,5.1nm,0.5s,baz=189,slow=7.5,SNR=9.3
comp=Z,5.1nm,0.5s
GYA0B ALIBECK ARRAY 59.56 320 P P 07 21 24.0 -0.6
GYA0B IAmb IAmb 07 21 26.2
comp=Z,7.4nm,0.8s
H04N2 CROZET ISLANDS 60.35 219 T T 08 26 03.5
baz=64,slow=75,SNR=300
H04N1 CROZET ISLANDS 60.37 219 T T 08 26 03.9
baz=64,slow=75,SNR=355
ASAJ Asahikawa 60.37 32 LR LR 07 50 11.3
comp=Z,22nm,18.4s,baz=256,slow=39
JKA Kamikawa-asahi 60.37 32 P P 07 21 29.6 -0.3
H04N3 CROZET ISLANDS 60.37 219 T T 08 26 02.6
baz=64,slow=75,SNR=290
ZAA0 Zalesovo Array 60.56 348 P P 07 21 31.1 +0.1
ZALV Zalesovo Beam 60.56 348 P P 07 21 31.1 0.0
comp=Z,9.9nm,0.4s,baz=160,slow=5.6,SNR=57
ZALV LR LR 07 48 55.0
comp=Z,42nm,18.0s,baz=46,slow=37
comp=Z,9.9nm,0.4s
H04S1 CROZET ISLANDS 60.59 218 T T 08 26 17.7
baz=62,slow=75,SNR=18
H04S3 CROZET ISLANDS 60.60 218 T T 08 26 15.6
baz=62,slow=75,SNR=42
H04S2 CROZET ISLANDS 60.61 218 T T 08 26 18.5
baz=62,slow=75,SNR=23
BRZS Berezniki 60.61 338 *eP* **P 07 21 31.4 -0.1**
baz=338
BVAR Borovoye Array 63.92 339 P P 07 21 53.3 -0.2
comp=Z,12nm,0.6s,baz=142,slow=9.0,SNR=72
BVAR PcP **PcP 07 22 29.4 +0.8**
comp=Z,2.9nm,0.7s,baz=137,slow=6.4,SNR=4.0
comp=Z,12nm,0.6s
BRVK Borovoye 63.98 339 P P 07 21 53.5 -0.4
BRVK IAmb IAmb 07 21 54.4
comp=Z,7.2nm,0.7s
ABKAR Akbulak array 65.59 331 P P 07 22 04.4 0.0
ABKAR Akbulak array 65.59 331 P P 07 22 04.2 -0.3
ABKAR IAmb IAmb 07 22 05.5
comp=Z,11nm,1.0s
ARU Arti 71.03 336 P P 07 22 38.2 -0.1
ARU IAmb IAmb 07 22 39.5

comp=Z,5.1nm,0.9s
KBZ Khabaz 72.43 319 P P 07 22 47.5 +0.5
comp=Z,5.2nm,0.8s,baz=194,slow=5.0,SNR=8.4
comp=Z,5.2nm,0.8s
PETK Petropavlovsk- 73.75 31 P P 07 22 54.2 -0.4
comp=Z,2.3nm,0.7s,baz=243,slow=2.9,SNR=1.9
comp=Z,2.3nm,0.7s
MMAI Mount Meron Ar 74.14 306 P P 07 22 59.9 +2.4
comp=Z,4.5nm,0.6s,baz=82,slow=6.1,SNR=9.0
comp=Z,4.5nm,0.6s
NRIK Noril'sk 74.82 354 P P 07 23 00.2 -0.3
NRIK IAmb IAmb 07 23 00.8
comp=Z,6.3nm,1.1s
NRIK Noril'sk 74.82 354 P P 07 22 59.4 -1.0
comp=Z,2.7nm,0.4s,baz=198,slow=5.3,SNR=9.6
comp=Z,2.7nm,0.4s
BOSA Boshof 76.93 242 P P 07 23 15.0 +1.4
comp=Z,1.8nm,0.8s,baz=37,slow=13,SNR=3.1
comp=Z,1.8nm,0.8s
BR131 Keskin Array S 77.46 312 P P 07 23 16.4 0.0
BR131 IAmb IAmb 07 23 18.1
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 77.46 312 P P 07 23 15.9 -0.4
BRTR Keskin Array B 77.46 312 P P 07 23 17.0 +0.7
comp=Z,4.1nm,0.7s,baz=136,slow=7.5,SNR=18
comp=Z,4.1nm,0.7s
TIXI Tiksi 78.24 8 P P 07 23 17.9 -1.8
VNDA Vanda 78.78 169 P P 07 23 24.1 +1.3
comp=Z,1.2nm,0.9s,baz=14,slow=4.2,SNR=2.7
comp=Z,1.2nm,0.9s
AKASG Malin Array Be 83.58 322 P P 07 23 49.1 +0.5
comp=Z,1.1nm,0.5s,baz=88,slow=4.8,SNR=9.9
comp=Z,1.1nm,0.5s
QSPA South Pole Qui 85.10 180 P P 07 23 57.1 +0.8
QSPA South Pole Qui 85.10 180 P P 07 23 57.2 +1.0
comp=Z,0.9nm,0.9s,baz=292,slow=1.1,SNR=7.0
comp=Z,0.9nm,0.9s
BURAR Bucovina Array 85.39 318 P P 07 23 59.7 +1.7
BURAR IAmb IAmb 07 24 01.4
comp=Z,5.4nm,0.7s
BUR08 Bucovina Ar. S 85.41 318 P P 07 23 59.3 +1.3
BUR08 IAmb IAmb 07 24 01.2
comp=Z,5.5nm,0.8s
KOLS Kolonicke sedl 87.57 319 *eP* **P 07 24 11.3 +2.8**
PABE Paberze 87.80 326 P P 07 24 09.8 +0.4
FINES FINESS Array B 88.04 332 P P 07 24 11.5 +1.1
comp=Z,4.7nm,0.5s,baz=109,slow=5.7,SNR=49
comp=Z,4.7nm,0.5s
ARCES ARCESS Array B 90.18 340 P P 07 24 21.0 +0.6
comp=Z,3.6nm,0.6s,baz=105,slow=5.1,SNR=20
comp=Z,3.6nm,0.6s
GERES GERESS Array B 93.17 319 P P 07 24 36.1 +1.3
comp=Z,0.5nm,0.5s,baz=64,slow=4.5,SNR=3.2
comp=Z,0.5nm,0.5s
HFS Hagfors 93.85 330 P P 07 24 37.9 +0.4
comp=Z,2.1nm,0.6s,baz=168,slow=7.6,SNR=7.7
comp=Z,2.1nm,0.6s
SPITS Spitsbergen Ar 94.05 348 P P 07 24 37.4 -0.7
comp=Z,9.0nm,0.9s,baz=125,slow=7.2,SNR=4.2
comp=Z,9.0nm,0.9s
NOA NORSAR Array B 95.10 331 P P 07 24 43.4 +0.1
comp=Z,0.8nm,0.7s,baz=116,slow=3.9,SNR=1.9
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 129.80 42 PKP PKiKP 07 30 32.0 +1.0
comp=Z,0.6nm,0.6s,baz=304,slow=2.0,SNR=6.9
ULM Lac du Bonnet 132.07 16 PKP PKPdf 07 30 34.1 +0.3
comp=Z,0.9nm,0.5s,baz=336,slow=1.1,SNR=3.3
PDAR Pinedale Array 132.50 33 PKP PKiKP 07 30 36.6 +0.3
comp=Z,0.4nm,0.6s,baz=101,slow=1.5,SNR=4.1
PDAR SKPbc **SKPab 07 33 58.2 +0.6**
comp=Z,0.3nm,0.8s,baz=309,slow=4.5,SNR=3.5
BDFB Brasilia 144.80 234 PKP PKPdf 07 30 59.1 +0.9
comp=Z,2.7nm,0.4s,baz=146,slow=6.2,SNR=7.5
TXAR Lajitas Array 144.95 43 PKP PKPdf 07 30 58.5 +0.4
comp=Z,3.6nm,0.5s,baz=278,slow=0.9,SNR=118
TXAR SKPbc **SKiKP 07 34 32.6 +0.2**
comp=Z,0.3nm,0.7s,baz=182,slow=2.4,SNR=3.1

TEH ***13*** *07:37:12.9, 32.57N×46.96E, h8km±54km, ML3.1*
ISN ***13*** *07:37:15.2±1.1, 32.65N×46.91E, h6km±5km, ML3.2*
ISC 13 07:37:16.6±1.0, 32.67N±0.05×46.89E±0.04, h20km, n20, σ0.86/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IBDR	**Badra**	**0.92**	**299**	*e*Pg		**Pb**	**07 37 33.0**	**-0.8**
IBDR				*e*Sg		**Sn**	**07 37 47.0**	**0.0**
IBDR				AML		AML	07 37 53.8	
	comp=N,202nm,0.2s							
ILBA	**Ilam Banvizeh**	**1.11**	**329**	Pg		**Pb**	**07 37 37.2**	**0.0**
RAFI	**Al-Rafai**	**1.15**	**215**	*e*Pg		**Pb**	**07 37 38.0**	**+0.3**
RAFI				*e*Sg		**Sn**	**07 37 53.0**	**+0.4**
IKFM	**Kafar-mosalman**	**1.18**	**43**	Pg		**Pn**	**07 37 37.0**	**-0.9**
IKFM				Sg		**Sn**	**07 37 54.5**	**+1.2**
IKOM	**Komasi**	**1.59**	**19**	Pg		**Pb**	**07 37 45.7**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.61**	**5**	Pg		**Pb**	**07 37 45.2**	**-0.6**
IGHG	**Ghaleghazi**	**1.68**	**351**	Pg		**Pb**	**07 37 47.1**	**+0.1**
IBZA	**Bozab**	**1.97**	**24**	Pn		**Pb**	**07 37 51.4**	**-0.6**
IDHR	**Dehrash**	**2.07**	**348**	Pn		**Pb**	**07 37 52.3**	**-1.4**
HSAM	**Samen**	**2.10**	**42**	Pn		**Pb**	**07 37 52.4**	**-1.8**
BHD	**Baghdad**	**2.19**	**287**	*e*Pn		**Pb**	**07 37 54.0**	**-1.5**
BHD				*e*Sn		**Sb**	**07 38 23.0**	**+0.7**
HAGD	**Aghdareh**	**2.85**	**40**	Pn		**Pn**	**07 38 02.6**	**+1.4**
IPIR	**Pirpir**	**3.38**	**89**	Pn		**Pn**	**07 38 08.5**	**+0.1**
ZNGN	**Zangian**	**3.40**	**98**	Pn		**Pn**	**07 38 08.3**	**-0.5**
QAMS	**Qamsar**	**3.93**	**73**	Pn		**Pn**	**07 38 16.7**	**+0.8**
IKLH	**Kolahrood**	**4.00**	**79**	Pn		**Pn**	**07 38 17.3**	**+0.4**
KLNJ	**Kolanjah**	**4.33**	**111**	Pn		**Pn**	**07 38 21.0**	**-0.6**
KRSH	**Karshahi**	**4.58**	**72**	Pn		**Pn**	**07 38 25.3**	**+0.4**
IZEF	**Zefreh**	**4.59**	**86**	Pn		**Pn**	**07 38 25.2**	**+0.2**
ISFB	**Sefidab**	**4.78**	**68**	Pn		**Pn**	**07 38 27.8**	**+0.3**

IDC ***13*** *07:42:41.3±5.2, 6.87S×12.49W, h0km, mb4.0/7, mbtmp4.0/8, ML3.3/1, MS3.7/51, Error ellipse: s-maj=220.5km s-min=26.7km az=143.0*
NEIC ***13*** *07:42:41.5±2.6, 7.04S±0.09×12.58W±0.07, h10km±1km, mb4.4/13, Error ellipse: s-maj=15.2km s-min=11.8km az=25.0*
GCMT ***13*** *07:42:46.5±0.4, 6.85S±0.02×12.41W±0.02, h12km, MW4.8/81, Moment Tensor Solution. s19,c19; s81,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.88±.10; Mθθ-1.66±.09; Mφφ0.77±.09; Mrθ-0.43±.26; Mθφ1.69±.07; Mφr0.37±.27; Best double couple: Mo2.13900×10^16 NP1:ϕs341.00000°, δ89.00000°, λ166.00000°. NP2: ϕs72.00000°, δ76.00000°, λ1.00000°. Principal axes: T 1.6670, Plg11.0000°, Azm296.0000°; N 0.9430, Plg76.0000°, Azm156.0000°; P -2.6120, Plg9.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 07:42:42.1±0.6, 7.05S±0.08×12.66W±0.10, h19km, n76, σ1.21/27, mb4.2/13, MS3.8/50, 3C, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ASCN	**Ascension**	**1.90**	**242**			**Pb**	**07 43 14.9**	**-1.3**
H10N1	**ASCENSION HYDR**	**1.97**	**246**	T		T	07 45 29.4	
	baz=70,slow=74							
H10N2	**ASCENSION HYDR**	**1.97**	**247**	T		T	07 45 31.3	
	baz=70,slow=74							
H10N3	**ASCENSION HYDR**	**1.99**	**247**	T		T	07 45 28.5	
	baz=70,slow=74							
H10S2	**ASCENSION HYDR**	**2.73**	**226**	T		T	07 46 28.8	
	baz=172,slow=74,SNR=88							
H10S3	**ASCENSION HYDR**	**2.74**	**226**	T		T	07 46 29.4	
	baz=48,slow=74,SNR=137							
SHEL	**Horse Pasture**	**11.14**	**143**	Pn		**Pn**	**07 45 19.2**	**-1.4**
LIC	**Lamto**	**15.23**	**30**⇑	*e*P		**P**	**07 46 21.1**	**-0.1**
	28nm,1.0s							
KIC	**Kosan Boka**	**15.49**	**31**⇑	*e*P		**P**	**07 46 23.9**	**-0.2**
	26nm,0.9s							
TIC	**Toumodi**	**15.59**	**29**⇑	*e*P		**P**	**07 46 24.3**	**-0.9**
	18nm,0.8s							
DBIC	**Dimbokro**	**15.70**	**30**	Pn		**Pn**	**07 46 20.9**	**-1.5**
DBIC	**Dimbokro**	**15.70**	**30**	Pn		**Pn**	**07 46 20.6**	**-1.8**
	0.1nm,0.3s,baz=194,slow=8.9,SNR=6.0							
DBIC				LR		LR	07 51 02.9	
	comp=Z,207nm,19.0s,baz=183,slow=32							
	5.3nm,0.8s							
MBO	**M'Bour**	**21.72**	**349**			**P**	**07 47 31.8**	**-0.7**
RCBR	**Riachuelo**	**23.13**	**272**	LR		LR	07 54 43.3	

comp=Z,86nm,21.1s,baz=78,slow=31
TOA0 Torodi Ar. Sit 24.62 35 P P 07 48 00.1 -1.5
TOA0 IAmb IAmb 07 48 13.9
comp=Z,7.5nm,0.8s
TORD Torodi Ar. Bea 24.62 35 P P 07 48 00.2 -1.3
TORD IAmb IAmb 07 48 13.9
comp=Z,5.9nm,0.9s
TORD Torodi Ar. Bea 24.62 35 P P 07 48 01.2 -0.4
comp=Z,6.9nm,0.9s,baz=231,slow=3.1,SNR=20
TORD LR LR 07 56 31.9
comp=Z,220nm,18.5s,baz=162,slow=34
comp=Z,6.9nm,0.9s
TSUM Tsumeb 31.77 115 P P 07 49 05.2 -0.5
TSUM IAmb IAmb 07 49 15.7
comp=Z,3.5nm,1.1s
TSUM Tsumeb 31.77 115 LR LR 07 59 09.9
comp=Z,247nm,22.0s,baz=328,slow=31
BDFB Brasilia 35.65 253 P P 07 49 43.6 +4.1
comp=Z,1.2nm,0.5s,baz=52,slow=20,SNR=2.2
BDFB LR LR 08 02 24.3
comp=Z,66nm,18.3s,baz=338,slow=33
comp=Z,1.2nm,0.5s
PMOZ Porto Moniz, M 39.89 354 P P 07 50 13.7 -1.3
SUR Sutherland 40.05 134 LR LR 08 03 21.0
comp=Z,205nm,18.4s,baz=300,slow=31
MDT Midelt 40.38 10 LR LR 08 06 02.3
comp=Z,191nm,20.4s,baz=203,slow=35
AVE Averroes 40.43 7 P P 07 50 19.4 0.0
AVE IAmb IAmb 07 50 29.2
comp=Z,19nm,0.9s
LBTB Lobatse 40.68 120 LR LR 08 05 23.2
comp=Z,131nm,19.0s,baz=279,slow=34
LSZ Lusaka 40.84 105 P P 07 50 23.8 +0.5
LSZ IAmb IAmb 07 50 26.1
comp=Z,3.2nm,0.6s
LSZ Lusaka 40.84 105 LR LR 08 04 35.0
comp=Z,133nm,19.7s,baz=268,slow=32
BOSA Boshof 41.71 126 LR LR 08 05 03.6
comp=Z,160nm,19.1s,baz=248,slow=32
SOE Somerset East 43.70 131 P P 07 50 47.6 +1.3
SOE IAmb IAmb 07 51 10.4
comp=Z,9.0nm,1.0s
CPUP Villa Florida 46.59 240 LR LR 08 07 23.4
comp=Z,71nm,20.4s,baz=66,slow=32
ESDC Sonseca Array 47.18 9 LR LR 08 10 44.1
comp=Z,91nm,18.1s,baz=174,slow=36
KEST Kesra 47.33 24 LR LR 08 11 22.9
comp=Z,194nm,18.7s,baz=288,slow=37
SIV San Ignacio 48.16 255 LR LR 08 11 43.0
comp=Z,63nm,18.2s,baz=107,slow=36
KMBO Kilima Mbogo 50.10 86 LR LR 08 10 53.2
comp=Z,80nm,18.5s,baz=101,slow=34
RAFF Raffo Rosso 50.78 28 P P 07 51 41.7 +0.5
VAE Valguarnera 51.01 28 LR LR 08 12 04.9
comp=Z,112nm,19.0s,baz=158,slow=35
OSSC Osservatorio P 54.80 21 P P 07 52 11.9 +1.0
OSSC IAmb IAmb 07 52 22.9
comp=Z,8.3nm,1.1s
IDI Anoyia 55.00 37 LR LR 08 16 08.4
comp=Z,50nm,20.1s,baz=254,slow=37
LVC Limon Verde 56.21 248 LR LR 08 16 12.3
comp=Z,27nm,19.1s,baz=98,slow=36
CFA Coronel Fontan 57.16 237 LR LR 08 13 46.2
comp=Z,81nm,21.5s,baz=58,slow=32
DAVOX Davos/Dischmat 57.22 18 LR LR 08 17 34.7
comp=Z,13nm,18.1s,baz=226,slow=37
SJG San Juan 58.40 296 LR LR 08 11 32.1
comp=Z,38nm,21.8s,baz=122,slow=30
EIL Elat 58.51 49 LR LR 08 18 52.6
comp=Z,44nm,18.0s,baz=236,slow=37
SDV Santo Domingo 59.91 284 LR LR 08 16 09.5
comp=Z,44nm,20.4s,baz=88,slow=34
GERES GERESS Array B 60.27 20 P P 07 52 50.7 +1.3
comp=Z,0.3nm,0.4s,baz=202,slow=7.4,SNR=1.5
GERES LR LR 08 18 24.7
comp=Z,82nm,18.4s,baz=247,slow=36
comp=Z,0.3nm,0.4s
MMAI Mount Meron Ar 60.58 46 LR LR 08 20 55.4
comp=Z,26nm,18.1s,baz=210,slow=38
PLCA Paso Flores 61.30 227 LR LR 08 16 50.7
comp=Z,38nm,19.5s,baz=122,slow=33
VRAC Vranov 61.67 21 LR LR 08 18 59.0
comp=Z,67nm,19.4s,baz=203,slow=35
ROSC El Rosal 62.66 279 LR LR 08 18 57.2
comp=Z,113nm,19.2s,baz=160,slow=35
MLR Muntele Rosu 62.68 30 LR LR 08 21 28.8
comp=Z,54nm,19.4s,baz=282,slow=37
BRTR Keskin Array B 63.18 39 LR LR 08 20 59.6
comp=Z,39nm,20.6s,baz=228,slow=36
NNA Nana 63.38 260 LR LR 08 20 12.3
comp=Z,42nm,19.6s,baz=72,slow=35
ATAH Atahualpa 65.18 265 LR LR 08 20 02.4
comp=Z,49nm,20.2s,baz=105,slow=34
AKASG Malin Array Be 67.93 27 P P 07 53 40.2 +0.7
comp=Z,1.1nm,0.6s,baz=227,slow=6.9,SNR=8.8
AKASG LR LR 08 24 57.1
comp=Z,100nm,18.7s,baz=208,slow=38
comp=Z,1.1nm,0.6s
PMSA Palmer Station 67.94 201 P P 07 53 39.3 -0.2
HFS Hagfors 70.15 14 P P 07 53 54.1 +1.0
comp=Z,2.3nm,0.9s,baz=189,slow=27,SNR=1.9
HFS LR LR 08 24 18.9
comp=Z,47nm,18.2s,baz=237,slow=36
comp=Z,2.3nm,0.9s
NOA NORSAR Array B 70.42 12 LR LR 08 26 00.7
comp=Z,27nm,18.4s,baz=350,slow=37
GNI Garni 70.64 43 LR LR 08 26 07.9
comp=Z,23nm,21.7s,baz=260,slow=37
BELA Belgrano 2 71.71 185 P P 07 54 04.4 +1.9
OBN Obninsk 74.18 27 LR LR 08 28 39.6
comp=Z,53nm,18.3s,baz=328,slow=37
FINES FINESS Array B 74.63 18 P P 07 54 20.6 +0.8
comp=Z,1.4nm,0.7s,baz=218,slow=18,SNR=1.8
FINES LR LR 08 26 54.0
comp=Z,62nm,18.2s,baz=248,slow=36
comp=Z,1.4nm,0.7s
GEYT Alibeck 79.41 49 LR LR 08 31 26.4
comp=Z,38nm,18.1s,baz=28,slow=37
ARCES ARCESS Array B 80.78 13 LR LR 08 30 33.7
comp=Z,29nm,18.2s,baz=258,slow=36
QSPA South Pole Qui 83.06 180 P P 07 55 05.0 -1.4
CMIG Matias Romero 84.67 288 LR LR 08 32 02.5
comp=Z,29nm,21.1s,baz=76,slow=35
ARU Arti 85.64 32 LR LR 08 35 36.2
comp=Z,38nm,18.9s,baz=312,slow=37
ULM Lac du Bonnet 91.04 320 LR LR 08 34 23.9
comp=Z,55nm,18.7s,baz=36,slow=34
BVAR Borovoye Array 91.41 37 LR LR 08 40 28.1
comp=Z,35nm,18.5s,baz=323,slow=38
RPN Rapa Nui 92.72 242 LR LR 08 32 09.8
comp=Z,50nm,19.4s,baz=350,slow=32
PALK Pallekele 94.19 83 LR LR 08 34 26.9
comp=Z,52nm,19.5s,baz=359,slow=33
TXAR Lajitas Array 94.28 299 P P 07 56 02.4 +1.5
TXAR Lajitas Array 94.28 299 P P 07 56 02.9 +1.9
comp=Z,0.4nm,0.9s,baz=136,slow=29,SNR=2.8
TXAR LR LR 08 39 00.9
comp=Z,15nm,18.6s,baz=356,slow=36
comp=Z,0.4nm,0.9s
ANMO Albuquerque 97.09 304 LR LR 08 34 46.7
comp=Z,58nm,19.1s,baz=143,slow=32
LPIG La Paz 99.80 293 LR LR 08 41 31.7
comp=Z,22nm,18.3s,baz=244,slow=35
PDAR Pinedale Array 99.80 312 LR LR 08 35 09.0
comp=Z,57nm,19.6s,baz=92,slow=32
NRIK Noril'sk 100.16 21 LR LR 08 44 30.5
comp=Z,42nm,18.0s,baz=336,slow=37

IDC 13 07:58:50.9±13.0, 11.42S×166.24E, h0km, mb3.7/3, mbtmp3.6/3, MS3.5/4, Error ellipse: s-maj=415.0km s-min=57.7km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**18.87**	**274**	LR		LR	08 09 52.8	
	comp=Z,56nm,21.7s,baz=33,slow=35							
WRA	**Warramunga Arr**	**31.81**	**251**	P		P	08 05 17.7	+0.1
	0.6nm,0.9s,baz=84,slow=10,SNR=3.1							
	0.6nm,0.9s							
ASAR	**Alice Springs**	**33.06**	**244**	P		P	08 05 28.4	-0.1
	0.5nm,0.7s,baz=69,slow=9.6,SNR=8.6							
	0.5nm,0.7s							
ASAJ	**Asahikawa**	**59.30**	**340**	LR		LR	08 29 32.4	
	comp=Z,25nm,21.7s,baz=121,slow=31							
YBH	**Yreka Blue Hor**	**83.81**	**45**	LR		LR	08 42 56.2	
	comp=Z,66nm,18.0s,baz=48,slow=32							
BBB	**Bella Bella**	**84.61**	**34**	LR		LR	08 41 38.4	

comp=Z,38nm,19.9s,baz=332,slow=30
MKAR Makanchi Array 94.12 317 P P 08 12 11.5 -0.1
0.4nm,0.7s,baz=92,slow=6.1,SNR=3.9
0.4nm,0.7s

*MEX **13** 08:05:57.3±1.2, 16.07N×95.34W, h60km±38km, MD4.3*
*IDC **13** 08:06:02.1±10.0, 17.58N×94.50W, h0km, mb3.5/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=195.2km s-min=112.8km az=10.0*
ISC 13 08:05:54.1±1.3, 16.16N±0.03×95.31W±0.02, h2km±10km, n55, σ2s43/95, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.78**	**58**	*i* P		**Pg**	**08 06 09.4**	**+0.2**
NILT				*e*S		**Sg**	**08 06 19.5**	**+0.2**
HUIG	**Huatulco**	**0.86**	**243**	*i* P		**Pg**	**08 06 11.0**	**+0.4**
HUIG				*i* S		**Sg**	**08 06 22.5**	**+0.8**
CMIG	**Matias Romero**	**1.02**	**24**	*i* P		**Pg**	**08 06 12.5**	**-1.2**
CMIG				*i* S		**Sg**	**08 06 25.1**	**-1.8**
CARR	**Arriaga**	**1.35**	**86**	*i* P		**Pn**	**08 06 18.5**	**-1.4**
CARR				*e*S		**Sb**	**08 06 35.9**	**-1.9**
UXUV	**UXUV**	**1.61**	**44**	*i* P		**Pn**	**08 06 23.3**	**-0.3**
UXUV				*i* S		**Sn**	**08 06 44.4**	**-0.5**
OXLC	**Oaxaca**	**1.61**	**304**	*i* P		**Pn**	**08 06 23.1**	**-0.7**
OXLC				*i* S		**Sn**	**08 06 43.7**	**-1.6**
NEUV	**Arroyo Zacate**	**1.62**	**343**	*i* P		**Pn**	**08 06 22.8**	**-0.9**
NEUV				*i* S		**Sn**	**08 06 43.0**	**-2.1**
VHO	**Vista Hermosa**	**1.64**	**304**	*i* P		**Pn**	**08 06 23.5**	**-0.7**
VHO				*e*S		**Sn**	**08 06 44.6**	**-1.3**
PEIG	**Puerto Escondi**	**1.77**	**265**	*e*P		**Pn**	**08 06 25.3**	**-0.5**
PEIG				*e*S		**Sn**	**08 06 48.1**	**-0.8**
PCIG		**2.06**	**102**	*e*P		**Pn**	**08 06 30.4**	**+0.6**
PCIG				*e*S		**Sn**	**08 06 56.6**	**+0.5**
YOIG	**Yosondua**	**2.25**	**288**	*e*P		**Pn**	**08 06 33.6**	**+1.0**
YOIG				*e*S		**Sn**	**08 07 02.0**	**+0.8**
PMUV	**Sontecomapan**	**2.38**	**4**	*e*P		**Pn**	**08 06 35.9**	**+1.6**
PMUV				*e*S		**Sn**	**08 07 04.4**	**+0.3**
TOIG	**Toxpalan**	**2.56**	**319**	*e*P		**Pn**	**08 06 38.2**	**+1.6**
TOIG				*e*S		**Sb**	**08 07 11.5**	**-1.2**
TXIG	**Tlaxiaco**	**2.59**	**295**	*e*P		**Pn**	**08 06 39.3**	**+1.9**
TXIG				*e*S		**Sn**	**08 07 10.8**	**+1.1**
PNIG	**Pinotepa**	**2.71**	**275**	*e*P		**Pn**	**08 06 37.8**	**-1.0**
PNIG				*e*S		**Sb**	**08 07 15.8**	**-1.4**
HLIG	**Huajuapan de L**	**2.91**	**305**	*i* P		**Pn**	**08 06 45.0**	**+3.3**
HLIG				*e*S		**Sb**	**08 07 21.8**	**-1.2**
TPIG	**Tehuac#an**	**2.98**	**319**	*e*P		**Pn**	**08 06 45.8**	**+3.2**
TPIG				*e*S		**Sb**	**08 07 26.1**	**+1.0**
CCIG	**Comitan**	**3.05**	**87**	*e*P		**Pn**	**08 06 45.9**	**+2.4**
CCIG				*e*S		**Sn**	**08 07 22.5**	**+1.7**
PATR	**El Naranjo**	**3.14**	**109**	*e*P		**Pn**	**08 06 45.8**	**+0.9**
PATR				*e*S		**Sn**	**08 07 20.0**	**-3.0**
PAVE	**Pavencul**	**3.17**	**107**	*e*P		**Pn**	**08 06 46.6**	**+1.4**
PAVE				*e*S		**Sn**	**08 07 23.9**	**+0.2**
FTIG	**Fresnillo de T**	**3.21**	**303**	*e*P		**Pn**	**08 06 44.0**	**-1.8**
FTIG				*e*S		**Sb**	**08 07 29.1**	**-2.5**
CHUJ	**Union Juarez**	**3.26**	**108**	*e*P		**Pn**	**08 06 47.9**	**+1.4**
CHUJ				*e*S		**Sn**	**08 07 22.4**	**-3.7**
MGIG	**Malinaltepec**	**3.36**	**289**	*e*P		**Pb**	**08 06 53.2**	**-1.3**
MGIG				*e*S		**Sn**	**08 07 32.4**	**+4.0**
TLIG	**Tlapa**	**3.42**	**295**	*e*P		**Pn**	**08 06 49.2**	**+0.6**
TLIG				*e*S		**Sn**	**08 07 29.4**	**-0.3**
JAUV	**Jalcomulco**	**3.50**	**336**	*e*P		**Pn**	**08 06 47.5**	**-2.0**
JAUV				*e*S		**Sn**	**08 07 33.9**	**+2.4**
LVIG	**Laguna Verde**	**3.70**	**344**	*e*P		**Pn**	**08 06 56.8**	**+4.4**
LVIG				*e*S		**Sn**	**08 07 32.3**	**-4.2**
DAIG	**Los Arroyos**	**4.25**	**282**	*e*P		**Pn**	**08 06 59.7**	**-0.2**
DAIG				*e*S		**Sn**	**08 07 46.1**	**-4.0**
PPM	**Popocatepetl**	**4.29**	**313**	*e*P		**Pn**	**08 07 04.9**	**+4.0**
PPM				*e*S		**Sn**	**08 07 54.8**	**+3.1**
AMVM	**AMECAMECA**	**4.44**	**312**	*e*S		Sn	08 07 46.3	-9.0
MEIG	**Mezcala**	**4.48**	**294**	*e*P		**Pn**	**08 07 04.5**	**+1.3**
MEIG				*e*S		**Sn**	**08 07 53.6**	**-2.3**
YAIG	**Yautepec**	**4.48**	**307**	*e*P		**Pn**	**08 07 05.8**	**+2.6**
YAIG				*e*S		**Sn**	**08 07 56.3**	**+0.3**
PLIG	**Platanillo**	**4.58**	**300**	*e*P		**Pn**	**08 07 06.9**	**+2.4**
PLIG				*e*S		**Sn**	**08 07 52.8**	**-5.6**
MPVM	**San Francisco**	**4.65**	**311**	*e*P		**Pn**	**08 07 08.4**	**+3.8**
MPVM				*e*S		**Sn**	**08 07 58.4**	**-1.9**
THVM	**De Xico**	**4.69**	**313**	*e*P		**Pn**	**08 07 08.1**	**+1.8**
THVM				*e*S		**Sn**	**08 08 03.1**	**+1.7**
TLVM	**San Miguel Top**	**4.76**	**310**	*e*P		**Pn**	**08 07 09.6**	**+2.4**
TLVM				*e*S		**Sn**	**08 08 00.6**	**-2.5**
XCVM	**Xochimilco**	**4.76**	**311**	*e*P		**Pn**	**08 07 10.3**	**+3.2**
XCVM				*e*S		**Sn**	**08 08 05.5**	**+2.5**
SCIG	**Sabancuy**	**4.83**	**54**	*e*P		**Pn**	**08 07 09.1**	**+1.2**
SCIG				*e*S		**Sn**	**08 08 00.8**	**-3.6**
COVM	**Coyoacan**	**4.85**	**312**	*e*S		**Sn**	**08 08 08.8**	**+3.6**
BJVM	**Benito Juarez**	**4.88**	**312**	*e*S		**Sn**	**08 08 03.5**	**-2.4**
VTVM	**Tizayuca**	**4.88**	**318**	*e*P		**Pn**	**08 07 12.5**	**+3.7**
VTVM				*e*S		**Sn**	**08 08 07.8**	**+1.7**
AOVM	**Tlapan**	**4.92**	**310**	*e*P		**Pn**	**08 07 12.4**	**+2.9**
AOVM				*e*S		**Sn**	**08 08 04.8**	**-2.5**
CJVM	**Cuajimalpa**	**4.95**	**311**	*e*S		**Sn**	**08 08 06.9**	**-0.9**
INVM	**La Marquesa**	**4.98**	**309**	*e*P		**Pn**	**08 07 15.5**	**+5.3**
INVM				*e*S		**Sn**	**08 08 05.3**	**-3.3**
PTVM	**Pico Tres Padr**	**4.98**	**314**	*e*P		**Pn**	**08 07 12.1**	**+1.9**
PTVM				*e*S		**Sn**	**08 08 03.8**	**-4.7**
AZVM	**Cuida Lopez Ma**	**5.09**	**313**	*e*P		Pn	08 07 17.1	+5.4
AZVM				*e*S		**Sn**	**08 08 12.7**	**+1.4**
ZUVM	**ZUMPANGO**	**5.12**	**316**	*e*P		Pn	08 07 04.2	-7.9
ZUVM				*e*S		**Sn**	**08 08 04.7**	**-7.2**
TOVM	**TOLUCA**	**5.20**	**307**	*e*P		**Pn**	**08 07 15.6**	**+2.4**
TOVM				*e*S		**Sn**	**08 08 12.6**	**-1.3**
ARIG	**Puente Sto Nin**	**5.26**	**294**	*e*P		**Pn**	**08 07 15.8**	**+2.1**
ARIG				*e*S		**Sn**	**08 08 13.0**	**-1.9**
DEIG	**Demacu**	**5.43**	**320**	*e*		**Pb**	**08 07 30.4**	**+0.5**
DEIG				*e*			08 08 18.7	
ACIG	**Acambay**	**5.77**	**312**	*e*S		**Sn**	**08 08 27.9**	**-0.1**
CTUV	**Llano Grande**	**6.02**	**332**	*e*P		Pn	08 07 29.9	+5.7
CTUV				*e*S		**Sn**	**08 08 35.8**	**+2.0**
ZIIG	**Zihuatanejo**	**6.07**	**285**	*e*S		**Sn**	**08 08 29.3**	**-5.5**
TXAR	**Lajitas Array**	**15.20**	**331**		Pn	**Pn**	**08 09 30.5**	**+0.5**
	baz=154,slow=13,SNR=2.1							
	0.3nm,0.9s							
NVAR	**Mina Array Bea**	**30.00**	**322**	P		**P**	**08 12 07.5**	**+2.9**
	0.4nm,0.6s,baz=136,slow=9.7,SNR=5.4							
	0.4nm,0.6s							
YKA	**Yellowknife Ar**	**48.24**	**348**	P		**P**	**08 14 34.9**	**-1.2**
	0.5nm,0.9s,baz=152,slow=7.0,SNR=2.9							
	0.5nm,0.9s							

*KNET **13** 08:09:42.7±0.3, 42.63N×75.54E, h15km±3km, ml1.0, Error ellipse: s-maj=2.9km s-min=2.3km az=41.0*
*SOME **13** 08:09:42.8, 42.63N×75.52E, h0km*
*NNC **13** 08:09:43.2±0.4, 42.65N×75.52E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=2.4km s-min=1.3km az=167.0*
ISC 13 08:09:43.2±1.1, 42.62N±0.03×75.53E±0.02, h9km±12km, n26, σ0s52/46, 12C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.30**	**10**	⇑P		**Pg**	**08 09 49.2**	**-0.2**
	15nm,0.2s,SNR=32							
TKM2				⇓S		**Sg**	**08 09 54.1**	**+0.7**
	57nm,0.2s							
TKM2	**Tokmak 2**	**0.30**	**10**	⇑P		**Pg**	**08 09 48.6**	**-0.7**
	2.4nm,0.2s							
TKM2				⇑S		**Sg**	**08 09 52.8**	**-0.6**
	8.8nm,0.2s							
KBK	**Karagaybulak**	**0.43**	**275**	⇑P		**Pg**	**08 09 52.0**	**+0.4**
	8.0nm,0.1s,SNR=20							
KST	**Kastek**	**0.53**	**37**	P		**Pg**	**08 09 53.3**	**-0.2**
	5.3nm,0.2s							
KST				S		**Sg**	**08 10 01.0**	**+0.5**
	8.9nm,0.2s							
KST	**Kastek**	**0.53**	**37**	*e*P		**Pg**	**08 09 53.3**	**-0.2**
	5.2nm,0.1s							
KST				*e*S		**Sg**	**08 10 01.0**	**+0.5**
	9.0nm,0.2s							
KZA	**Kyzart**	**0.58**	**201**	⇑P		**Pg**	**08 09 54.6**	**0.0**
	7.2nm,0.2s,SNR=7.3							
DGS	**Degeres**	**0.65**	**16**	*e*P		**Pg**	**08 09 55.6**	**-0.1**
	5.7nm,0.2s							
DGS				*e*S		**Sg**	**08 10 04.7**	**+0.5**
	4.4nm,0.2s							
ULHL	**Ulahol**	**0.65**	**125**	⇑P		**Pg**	**08 09 55.1**	**-0.7**
	3.7nm,0.1s,SNR=15							
CHMS	**Chumysh**	**0.68**	**304**	⇑P		**Pg**	**08 09 56.1**	**-0.3**
	1.0nm,0.5s							
CHMS				⇓S		**Sg**	**08 10 05.5**	**+0.2**
	1.3nm,0.5s							
AAK	**Ala-Archa**	**0.76**	**271**	⇑P		**Pg**	**08 09 57.8**	**-0.1**
	12nm,0.1s,SNR=21							
AAK				⇑S		**Sb**	**08 10 08.9**	**-0.4**
	6.8nm,0.4s							
MTBS	**Maitube**	**0.84**	**52**	P		**Pg**	**08 09 58.8**	**-0.5**
	3.0nm,0.2s							
MTBS				S		**Sg**	**08 10 10.3**	**+0.2**
	5.2nm,0.2s							
MTBS	**Maitube**	**0.84**	**52**	*e*P		**Pg**	**08 09 58.8**	**-0.5**
	3.0nm,0.2s							
MTBS				*e*S		**Sg**	**08 10 10.4**	**+0.2**
	5.5nm,0.1s							
USP	**Ospenovka**	**0.99**	**311**	⇑P		**Pg**	**08 10 01.8**	**-0.5**
	1.5nm,0.1s,SNR=9.0							
TNSS	**Tian-Shan**	**1.12**	**68**	P		**Pg**	**08 10 04.3**	**-0.5**
	1.3nm,0.2s							
TNSS				S		**Sg**	**08 10 19.7**	**+0.2**
	0.9nm,0.2s							
TNSS	**Tian-Shan**	**1.12**	**68**	*e*P		**Pg**	**08 10 04.3**	**-0.5**
	1.3nm,0.2s							
TNSS				*e*S		**Sg**	**08 10 19.7**	**+0.2**
	0.9nm,0.2s							
KNDC	**Almaty**	**1.21**	**60**	⇑P		**Pg**	**08 10 06.1**	**-0.4**
	11nm,0.3s							
KNDC				⇑S		**Sb**	**08 10 22.6**	**+0.4**
	13nm,0.3s							
EKS2	**Erkin-Say**	**1.29**	**272**	⇓P		**Pb**	**08 10 07.9**	**+0.1**
	1.5nm,0.1s,SNR=12							
KTBS	**Karatobe**	**1.38**	**37**	P		**Pg**	**08 10 08.7**	**-1.0**
	4.9nm,0.2s							
KTBS				S		**Sb**	**08 10 27.4**	**+0.4**
	2.2nm,0.2s							
KTBS	**Karatobe**	**1.38**	**37**	*e*P		**Pg**	**08 10 08.7**	**-1.0**
	4.9nm,0.2s							
KTBS				*e*S		**Sb**	**08 10 27.4**	**+0.4**
	2.2nm,0.2s							
KUU	**Kurty**	**1.40**	**25**	P		**Pg**	**08 10 09.1**	**-1.0**
	5.0nm,0.3s							
KUU				S		**Sb**	**08 10 28.0**	**+0.4**
	1.6nm,0.2s							
KUU	**Kurty**	**1.40**	**25**	*e*P		**Pg**	**08 10 09.1**	**-1.0**
	5.0nm,0.3s							
KUU				*e*S		**Sb**	**08 10 28.0**	**+0.4**
	1.6nm,0.2s							
AML	**Almayashu**	**1.44**	**251**	P		**Pg**	**08 10 10.5**	**-0.5**
	1.3nm,0.2s,SNR=5.8							
CHKK	**Chushkaly**	**1.63**	**41**	P		**Pg**	**08 10 14.2**	**-0.2**
	2.1nm,0.1s							
CHKK				S		**Sg**	**08 10 36.5**	**+0.9**
	7.0nm,0.2s							
CHKK	**Chushkaly**	**1.63**	**41**	*e*P		**Pg**	**08 10 14.2**	**-0.2**
	2.1nm,0.1s							
CHKK				*e*S		**Sg**	**08 10 36.5**	**+0.9**
	7.0nm,0.2s							
MRKS	**Merke**	**1.70**	**275**	P		**Pb**	**08 10 14.7**	**0.0**
	3.6nm,0.2s							
MRKS				S		**Sg**	**08 10 37.6**	**-0.3**
	2.1nm,0.3s							
MRKS	**Merke**	**1.70**	**275**	*e*P		**Pb**	**08 10 14.7**	**0.0**
	3.6nm,0.2s							
MRKS				*e*S		**Sg**	**08 10 37.6**	**-0.3**
	2.1nm,0.3s							

*IDC **13** 08:18:15.7±1.1, 28.39S×67.89W, h137km±12km, mb3.6/1, mbtmp3.7/4, Error ellipse: s-maj=33.4km s-min=11.1km az=91.0*
ISC 13 08:18:15.9±1.0, 28.39S±0.06×67.9W±0.2, h150km, n8, σ0s91/10, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CFA	**Coronel Fontan**	**3.22**	**185**	P		**Pn**	**08 19 06.5**	**+0.4**
	8.7nm,0.3s,baz=312,slow=11,SNR=201							
CFA				S		**Sn**	**08 19 43.9**	**-1.1**
	46nm,0.3s,baz=356,slow=18,SNR=27							
LVC	**Limon Verde**	**5.83**	**351**	P		**Pn**	**08 19 41.4**	**+0.7**
	1.6nm,0.3s,baz=158,slow=7.2,SNR=9.4							
LVC				S		**Sn**	**08 20 45.4**	**-1.5**
	1.8nm,0.4s,baz=274,slow=18,SNR=6.2							
CPUP	**Villa Florida**	**9.62**	**80**	P		**Pn**	**08 20 30.4**	**-0.4**
	1.7nm,0.6s,baz=201,slow=14,SNR=2.2							
TORD	**Torodi Ar. Bea**	**78.91**	**68**	P		**P**	**08 30 03.8**	**+0.7**
	0.8nm,0.6s,baz=276,slow=4.4,SNR=6.5							
	0.8nm,0.6s							
ASAR	**Alice Springs**	**124.14**	**204**	PKP		**PKiKP**	**08 36 57.8**	**+0.2**
	0.2nm,0.6s,baz=137,slow=1.8,SNR=4.2							
WRA	**Warramunga Arr**	**127.36**	**207**	PKP		**PKiKP**	**08 37 03.8**	**-0.2**
	0.2nm,0.5s,baz=171,slow=1.7,SNR=6.2							
ZALV	**Zalesovo Beam**	**147.60**	**30**	PKPbc		**PKPab**	**08 37 44.2**	**-0.5**
	1.0nm,0.4s,baz=329,slow=2.3,SNR=5.5							
MKAR	**Makanchi Array**	**150.33**	**44**	PKPbc		**PKiKP**	**08 37 50.7**	**+0.7**
	0.5nm,0.7s,baz=329,slow=2.1,SNR=5.0							

*NEIC **13** 08:19:47.5±1.1, 16.62N±0.06×95.94E±0.08, h10km±2km, ML3.8/11, Error ellipse: s-maj=15.2km s-min=6.7km az=300.0*
ISC 13 08:19:47.2±4.8, 16.4N±0.6×96.0E±0.2, h20km, n5, σ0s43/6, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**3.48**	**54**	Pn		**Pn**	**08 20 40.3**	**0.0**
CMAR	**Chiang Mai Arr**	**3.48**	**54**	Pn		**Pn**	**08 20 40.1**	**-0.1**
CHTO	**Chiang Mai**	**3.69**	**50**	Pn		**Pn**	**08 20 43.1**	**0.0**
CHTO				Sn		**Sn**	**08 21 25.9**	**-0.3**
CHTO				IAML			08 21 46.5	
	99nm,1.1s							
CRAI	**Chiangrai**	**5.63**	**47**	Pn		**Pn**	**08 21 10.5**	**+0.7**
CRAI				IAML			08 22 56.4	
	comp=E,43nm,1.1s							
CRAI				IAML			08 23 01.3	
	comp=N,48nm,1.2s							
MKAR	**Makanchi Array**	**32.34**	**342**	P		**P**	**08 26 15.0**	**-0.1**

*MOS **13** 08:25:40.2±1.3, 43.62N×146.89E, h55km, mb4.1/3, Error ellipse: s-maj=11.3km s-min=9.7km az=100.1*
MOS Felt (III) at Malokuril'skoye.
*SKHL **13** 08:25:41.6±0.6, 43.70N×147.00E, h55km±4km, mb5.1/2*
*NIED **13** 08:25:42.2, 43.58N×146.84E, h46km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}2.95; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$-2.20; $M_{r\theta}$2.00; $M_{\theta\phi}$-1.69; $M_{\phi r}$1.90; Fault plane solution: $M_0$4.18000×10¹⁴ NP1:ψ_s42.00000°, δ66.00000°, λ,98.00000°. NP2:ψ_s203.00000°, δ25.00000°, λ,72.00000°.*
*JMA **13** 08:25:42.2±0.2, 43.6N±0.8×14.7E±, h46km±3km, MV4.1/37, E OFF HOKKAIDO*
*IDC **13** 08:25:43.9±3.3, 43.78N×146.78E, h66km±31km, mb3.3/12, mbtmp3.6/14, ML3.0/2, MS2.7/1, Error ellipse: s-maj=27.1km s-min=23.2km az=166.0*
ISC 13 08:25:41.4±1.0, 43.61N±0.06×146.95E±0.05, h45km±7km, n62, σ1s29/73, mb3.5/14, 8C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.28**	**342**	⇑*i*P	N	**Pn**	**08 25 50.0**	**+0.1**
SHO				*i* S		**Sn**	**08 25 55.4**	**-0.5**
SHO				pmax		pmax		
	comp=Z,1μm,0.2s							
SHO				pmax		pmax		
	comp=N,373nm,0.3s							
SHO				smax		smax		
	comp=N,22μm,0.5s							
SHO				smax		smax		
	comp=E,27μm,0.4s							
SHO	**Shikotan**	**0.28**	**342**	*i* P		**Pn**	**08 25 49.8**	**-0.1**
SHO				AMB		AMB	08 25 51.0	
	comp=E,930nm,0.3s							
SHO				*i* S		**Sn**	**08 25 55.4**	**-0.5**
SHO				A		A	08 25 55.9	
	comp=E,25μm,0.4s							
SHO				A		A	08 25 55.9	
	comp=E,32μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**0.90**	**299**	*d* iPN		**Pn**	**08 25 57.0**	**-0.6**
YUK				*i* S		**Sn**	**08 26 07.5**	**-2.0**
YUK				pmax		pmax		
	comp=Z,3μm,0.2s							
YUK				pmax		pmax		
	comp=E,475nm,0.1s							
YUK				smax		smax		
	comp=N,3μm,0.2s							
YUK				smax		smax		
	comp=E,5μm,0.1s							
YUK	**Yuzh-Kuril'sk**	**0.90**	**299**	*i* P		**Pn**	**08 25 56.8**	**-0.8**
YUK				AMB		AMB	08 25 57.1	
	comp=E,2μm,0.5s							
YUK				*i* S		**Sn**	**08 26 07.5**	**-2.0**
YUK				A		A	08 26 10.1	
	comp=E,3μm,0.3s							
YUK				A		A	08 26 10.1	
	comp=E,3μm,0.3s							
NEM2	**Nemuro 2**	**0.91**	**255**	P		**Pn**	**08 25 57.6**	**-0.2**
NEM2				*e*S		**Sn**	**08 26 08.7**	**-1.1**
NMR	**Nemuro--Hokkai**	**0.92**	**256**	⇓*i*PN		**Pn**	**08 25 57.6**	**-0.3**
NMR				*i* S		**Sn**	**08 26 08.6**	**-1.4**
NMR	**Nemuro--Hokkai**	**0.92**	**256**	*i* P		**Pn**	**08 25 57.6**	**-0.3**
NMR				*i* S		**Sn**	**08 26 08.6**	**-1.4**
RUSJ	**Misakicho**	**1.33**	**293**	⇓*i*PN		**Pn**	**08 26 03.6**	**+0.1**
RUSJ				*i* S		**Sn**	**08 26 19.7**	**-0.3**
JRA	**Rausu**	**1.37**	**285**	*e*P		**Pn**	**08 26 04.1**	**+0.1**
JRA				*e*S		**Sn**	**08 26 20.4**	**-0.5**
JKHN	**Kushirohamanak**	**1.41**	**249**	*i* P		**Pn**	**08 26 04.8**	**+0.2**
JKHN				*e*S		**Sn**	**08 26 21.4**	**-0.5**
JNSB	**Nemuroshibetsu**	**1.42**	**278**	*i* P		**Pn**	**08 26 05.1**	**+0.3**
JNSB				*e*S		**Sn**	**08 26 22.3**	**0.0**
JNK	**Nakash**	**1.62**	**270**	*e*P		**Pn**	**08 26 07.4**	**-0.1**
AKK	**Akkeshi**	**1.65**	**250**	*e*P		**Pn**	**08 26 07.8**	**-0.1**
AKK				*e*S		**Sn**	**08 26 26.8**	**-1.0**
JAK	**Akkeshi**	**1.75**	**250**	P		**Pn**	**08 26 09.3**	**0.0**
JAK				*e*S		**Sn**	**08 26 29.3**	**-1.2**
KUR	**Kuril'sk**	**1.75**	**22**	*e*PN		**Pn**	**08 26 08.9**	**-0.5**
KUR				*e*S		**Sn**	**08 26 29.3**	**-1.2**
KUR				smax		smax		
	comp=N,515nm,0.4s							
KUR				smax		smax		
	comp=E,226nm,0.3s							
KUR	**Kuril'sk**	**1.75**	**22**	*e*P		**Pn**	**08 26 08.9**	**-0.5**
KUR				*e*S		**Sn**	**08 26 29.3**	**-1.2**
JTKR	**Abashiri--Toko**	**2.23**	**280**	*e*P		**Pn**	**08 26 16.8**	**+0.9**
JAR	**Ashorobuto**	**2.34**	**264**	*e*P		**Pn**	**08 26 18.0**	**+0.7**
JAR				*e*S		**Sn**	**08 26 45.8**	**+0.9**
JOB	**Onbets**	**2.38**	**254**	*e*P		**Pn**	**08 26 18.5**	**+0.5**
JOB				*e*S		**Sn**	**08 26 45.2**	**-0.7**
JMP	**Maruseppu**	**2.63**	**280**	*e*P		**Pn**	**08 26 22.4**	**+1.0**
JCH	**Churui**	**2.81**	**251**	*e*P		**Pn**	**08 26 23.8**	**0.0**
JCH				*e*S		**Sn**	**08 26 55.7**	**-0.7**
JKA	**Kamikawa-asahi**	**3.19**	**281**	*e*P		**Pn**	**08 26 30.3**	**+1.3**
ASAJ	**Asahikawa**	**3.19**	**281**	P		**Pn**	**08 26 30.3**	**+1.3**
	comp=E,1.8nm,0.3s,baz=82,slow=16,SNR=18							
ASAJ				S		**Sn**	**08 27 09.8**	**+4.0**
	comp=E,16nm,0.5s,baz=220,slow=7.3,SNR=3.6							
	comp=E,4.2nm,0.3s							
ERM	**Erimo**	**3.21**	**242**	*ce*PN		**Pn**	**08 26 31.5**	**+2.2**
YSS	**Yuzh-Sakhalins**	**4.47**	**320**	*e*PN		Pn	08 26 39.4	-7.2
YSS				MLR		MLR		
	comp=Z,200nm,13.0s							
YSS	**Yuzh-Sakhalins**	**4.47**	**320**	*e*P		**Pn**	**08 26 47.2**	**+0.6**
UGL	**Uglegorsk**	**6.43**	**330**	*e*P		**Pn**	**08 27 14.6**	**+1.1**
MAJO	**Matsushiro**	**9.72**	**226**	⇑*e*PN		**Pn**	**08 27 57.5**	**-1.2**
MJAR	**Matsushiro Arr**	**9.72**	**226**	P		**Pn**	**08 27 59.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=4.4							
	comp=Z,1.9nm,0.8s							
USA0B	**Ussuriysk Arra**	**10.82**	**278**	⇑*e*PN		**Pn**	**08 28 12.0**	**-1.6**
KLR	**Kul'dur**	**11.90**	**304**	⇑*e*PN		**Pn**	**08 28 29.8**	**+1.5**
KLR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KLR	**Kul'dur**	**11.90**	**304**	*e*P		**Pn**	**08 28 28.5**	**+0.2**
JNU	**Nakatsue**	**16.36**	**236**	LR		LR	08 36 12.1	
	comp=Z,27nm,19.6s,baz=106,slow=38							
ZEA	**Zeya**	**16.44**	**315**	⇑*e*P		**Pn**	**08 29 29.3**	**+0.6**
ZEA	**Zeya**	**16.44**	**315**	*e*P		**Pn**	**08 29 27.5**	**-1.2**
YAK	**Yakutsk**	**21.07**	**337**	⇑*e*P		**P**	**08 30 23.2**	**+1.7**
YAK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YAK	**Yakutsk**	**21.07**	**337**	*e*P		**P**	**08 30 23.2**	**+1.7**
BILL	**Bilibino**	**26.54**	**16**	⇑*e*P		**P**	**08 31 18.4**	**+3.9**
BILL				pmax		pmax		
	comp=Z,7.0nm,1.5s							
BILL	**Bilibino**	**26.54**	**16**	*e*P		**P**	**08 31 18.3**	**+3.8**
SONM	**Songino Array**	**28.39**	**293**	P		**P**	**08 31 31.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=84,slow=6.4,SNR=2.8							
	comp=Z,0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.09**	**139**	T		T	09 02 34.7	
	baz=329,slow=75,SNR=145							
H11N1	**WAKE ISLAND Hy**	**29.10

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.14**	**157**	Pn	Pn	08 46 02.9	-1.0
	0.2nm,0.3s,baz=335,slow=13,SNR=8.1						
WRA				Sn	Sn	08 48 30.2	-11
	0.1nm,0.3s,baz=338,slow=24,SNR=2.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.46**	**163**	P	P	08 46 48.0	-0.5
	0.1nm,0.3s,baz=345,slow=10.0,SNR=4.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	08 53 39.1	0.0
	0.1nm,0.4s,baz=117,slow=8.1,SNR=1.6						
	0.1nm,0.4s						

IDC 13 08:46:55.0±1.4, 29°.57N×104°.90E, h0km, mb3.5/3, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=93.3km s-min=25.9km az=63.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.28**	**3**	P	Pn	08 51 10.1	0.0
	0.1nm,0.3s,baz=191,slow=11,SNR=2.5						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**24.59**	**321**	P	P	08 52 16.8	0.0
	0.3nm,0.5s,baz=119,slow=9.4,SNR=4.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**56.82**	**146**	P	P	08 56 41.1	-0.2
	1.0nm,0.7s,baz=338,slow=7.9,SNR=7.0						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**59.82**	**149**	P	P	08 57 02.5	+0.2
	0.4nm,0.7s,baz=327,slow=6.4,SNR=3.2						
	0.4nm,0.7s						

TEH 13 08:54:12.4, 33°.77N×45°.80E, h9km±135km, ML2.6
ISN 13 08:54:12.5±0.8, 33°.71N×45°.68E, h10km±4km, ML2.6
ISC 13 08:54:12.8±1.0, 33°.75N±0°.04×45°.80E±0°.05, h10km, n9, σ0s36/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.36**	**111**	Pg	**Pg**	**08 54 19.9**	**-0.1**
IBDR	**Badra**	**0.65**	**171**	*e*Pg	**Pg**	**08 54 25.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**08 54 34.0**	**0.0**
IBDR				AML	AML	08 54 45.7	
	comp=N,71nm,0.7s						
IDHR	**Dehrash**	**1.06**	**27**	Pg	**Pg**	**08 54 33.1**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.15**	**63**	Pg	**Pb**	**08 54 34.7**	**-0.3**
BHD	**Baghdad**	**1.28**	**248**	*e*Pn	**Pb**	**08 54 37.0**	**0.0**
BHD				*e*Sn	**Sg**	**08 54 54.0**	**-0.1**
IKOM	**Komasi**	**1.48**	**73**	Pg	**Pg**	**08 54 41.1**	**-0.2**
ILIN	**Lien**	**1.51**	**39**	Pg	**Pn**	**08 54 40.4**	**+0.3**
IKFM	**Kafar-mosalman**	**1.72**	**97**	Pg	**Pb**	**08 54 44.6**	**0.0**
RAFI	**Al-Rafai**	**2.04**	**173**	*e*Pn	**Pn**	**08 54 48.0**	**+0.8**
RAFI				*e*Sn	**Sb**	**08 55 15.0**	**-0.4**

IDC 13 08:59:11.1±3.4, 49°.42S×110°.04E, h0km, mb3.7/3, mbtmp3.7/3, MS3.2/5, Error ellipse: s-maj=170.6km s-min=26.4km az=112.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.82**	**13**	T	T	09 17 48.2	
	baz=193,slow=74,SNR=5.1						
H01W1	**Cape Leeuwin H**	**14.83**	**13**	T	T	09 17 44.6	
	baz=193,slow=74,SNR=6.4						
H01W3	**Cape Leeuwin H**	**14.84**	**13**	T	T	09 17 44.1	
	baz=193,slow=74,SNR=6.2						
NWAO	**Narrogin (SRO)**	**17.33**	**21**	LR	LR	09 08 01.2	
	comp=Z,58nm,19.4s,baz=356,slow=31						
STKA	**Stephens Creek**	**29.38**	**65**	LR	LR	09 15 11.2	
	comp=Z,43nm,21.9s,baz=212,slow=33						
ASAR	**Alice Springs**	**31.81**	**45**	P	P	09 05 37.4	+0.1
	0.7nm,0.7s,baz=212,slow=8.3,SNR=7.8						
ASAR				LR	LR	09 17 45.4	
	comp=Z,43nm,19.4s,baz=183,slow=35						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**35.24**	**42**	P	P	09 06 07.2	-0.1
	1.2nm,0.8s,baz=207,slow=8.1,SNR=5.5						
	1.2nm,0.8s						
QSPA	**South Pole Qui**	**40.71**	**180**	P	P	09 06 53.1	0.0
	0.9nm,0.6s,baz=313,slow=2.2,SNR=9.5						
	0.9nm,0.6s						
CTA	**Charters Tower**	**41.08**	**58**	LR	LR	09 22 31.6	
	comp=Z,58nm,20.6s,baz=261,slow=34						
PMG	**Port Moresby**	**50.45**	**51**	LR	LR	09 29 25.1	
	comp=Z,29nm,18.6s,baz=336,slow=36						
YKA	**Yellowknife Ar**	**152.44**	**45**	PKPbc	PKPbc	09 19 07.5	-0.3
	0.3nm,0.9s,baz=283,slow=2.0,SNR=2.0						

IDC 13 08:59:20.0±0.8, 30°.65N×131°.98E, h0km, mb3.7/10, mbtmp3.7/15, ML3.2/4, MS3.5/2, Error ellipse: s-maj=24.8km s-min=17.4km az=89.0
JMA 13 08:59:23.3±0.2, 30°.7N±0°.4×132°.1E±0°.9, h50km±4km, MV3.2/36, E OFF TANEGASHIMA ISLAND
ISC 13 08:59:21.9±2.1, 30°.67N±0°.05×132°.13E±0°.06, h15km±12km, n30, σ1s24/41, mb3.8/10, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.99**	**269**	P	**Pb**	**08 59 40.9**	**0.0**
JTN				*e*S	**Sb**	**08 59 54.3**	**+0.5**
JMTN	**Minamitane**	**1.10**	**256**	P	**Pn**	**08 59 42.6**	**-0.2**
JMTN				*e*S	**Sn**	**08 59 57.3**	**-0.5**
JNAR	**Kushima--Naru**	**1.13**	**319**	P	**Pb**	**08 59 43.1**	**-0.1**
JNAR				*e*S	**Sb**	**08 59 57.5**	**-0.1**
JTSR	**Tashiro 2**	**1.15**	**296**	*e*P	**Pg**	**08 59 43.8**	**-0.3**
JNKG	**Nichinankitago**	**1.18**	**327**	P	**Pn**	**08 59 43.7**	**-0.2**
JNKG				S	**Sb**	**08 59 58.3**	**-0.9**
JYAK	**Yakushimahirau**	**1.47**	**253**	P	**Pn**	**08 59 47.6**	**-0.3**
JYAK				*e*S	**Sn**	**09 00 06.0**	**-0.8**
JTZ	**Takazaki**	**1.52**	**324**	P	**Pn**	**08 59 48.5**	**0.0**
JTZ				S	**Sn**	**09 00 07.1**	**-1.0**
JTSN	**Tsuno**	**1.66**	**341**	*i* P	**Pn**	**08 59 50.5**	**0.0**
JTSN				S	**Sn**	**09 00 10.2**	**-1.3**
JSU	**Suzuyama**	**1.66**	**300**	P	**Pn**	**08 59 50.8**	**+0.2**
JKC	**Kuchinoerabu**	**1.68**	**263**	P	**Pn**	**08 59 50.9**	**0.0**
JKC				*e*S	**Sn**	**09 00 11.8**	**-0.3**
JNN	**Nakanoshima**	**2.12**	**248**	P	**Pn**	**08 59 57.4**	**+0.5**
JIU3	**Izumi3**	**2.18**	**329**	P	**Pn**	**08 59 58.3**	**+0.5**
JTO	**Tosashimizu**	**2.25**	**14**	P	**Pn**	**08 59 57.7**	**-1.0**
JTO				S	**Sn**	**09 00 22.5**	**-3.8**
UWA2	**Uwa jima 2**	**2.57**	**9**	P	**Pn**	**09 00 02.6**	**-0.4**
JNU	**Nakatsue**	**2.66**	**337**	Pn	**Pn**	**09 00 05.2**	**+0.8**
	5.5nm,0.3s,baz=202,slow=12,SNR=30						
JNU				Sn	**Sn**	**09 00 35.1**	**-1.4**
	12nm,0.3s,baz=170,slow=17,SNR=4.8						
	16nm,0.4s						
JOW	**Kunigami**	**5.11**	**222**	Pn	**Pn**	**09 00 38.0**	**0.0**
	4.0nm,0.3s,baz=117,slow=22,SNR=8.4						
JOW				Sn	**Sn**	**09 01 32.4**	**-4.4**
	2.2nm,0.3s,baz=75,slow=23,SNR=1.8						
	8.9nm,0.3s						
KSRS	**Korea Array**	**7.61**	**334**	Pn	**Pn**	**09 01 12.7**	**+0.4**
	1.5nm,0.8s,baz=154,slow=15,SNR=2.4						
MJAR	**Matsushiro Arr**	**7.74**	**39**	Pn	**Pn**	**09 01 16.2**	**+2.1**
	0.1nm,0.3s,baz=242,slow=14,SNR=4.5						
	0.7nm,0.5s						
KLR	**Kul'dur**	**18.54**	**359**	P	**Pn**	**09 03 38.6**	**+0.5**
	0.1nm,0.3s,baz=164,slow=8.6,SNR=10						
	3.4nm,0.8s						
KAPI	**Kappang**	**37.41**	**201**	LR	LR	09 20 59.1	
	comp=Z,17nm,21.8s,baz=170,slow=35						
MKAR	**Makanchi Array**	**41.36**	**307**	P	**P**	**09 07 06.8**	**-0.5**
	0.9nm,0.9s,baz=92,slow=8.5,SNR=5.7						
MKAR				PcP	**PcP**	**09 09 06.9**	**+1.5**
	0.5nm,0.9s,baz=101,slow=2.9,SNR=2.7						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**44.20**	**313**	P	**P**	**09 07 29.1**	**-1.1**
	1.7nm,0.9s,baz=98,slow=8.8,SNR=10						
	1.7nm,0.9s						
WRA	**Warramunga Arr**	**50.37**	**177**	P	**P**	**09 08 19.2**	**+0.6**
	1.0nm,0.9s,baz=352,slow=8.5,SNR=3.7						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**54.06**	**178**	P	**P**	**09 08 45.4**	**-0.6**
	0.8nm,0.9s,baz=342,slow=5.8,SNR=5.4						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**58.90**	**30**	P	**P**	**09 09 20.7**	**+0.7**
	0.8nm,1.0s,baz=282,slow=8.0,SNR=6.6						
	0.8nm,1.0s						
FINES	**FINESS Array B**	**70.69**	**331**	P	**P**	**09 10 37.2**	**+0.3**
	0.8nm,0.5s,baz=103,slow=6.1,SNR=6.5						
FINES				LR	LR	09 45 04.7	
	comp=Z,138nm,19.2s,baz=138,slow=39						
	0.8nm,0.5s						
YKA	**Yellowknife Ar**	**73.05**	**26**	P	**P**	**09 10 52.2**	**+1.3**
	0.4nm,0.8s,baz=304,slow=5.5,SNR=8.1						
	0.4nm,0.8s						
AKASG	**Malin Array Be**	**74.37**	**320**	P	**P**	**09 10 58.4**	**-0.6**
	0.2nm,0.3s,baz=52,slow=6.7,SNR=2.7						
	0.2nm,0.3s						
NOA	**NORSAR Array B**	**76.82**	**335**	P	**P**	**09 11 12.4**	**-0.6**
	0.8nm,0.8s,baz=60,slow=5.8,SNR=2.1						
	0.8nm,0.8s						
NVAR	**Mina Array Bea**	**84.97**	**48**	P	**P**	**09 11 58.5**	**+1.3**
	0.5nm,0.5s,baz=292,slow=4.8,SNR=5.5						
	0.5nm,0.5s						

NEIC 13 09:01:42.6±0.6, 18°.75N±0°.07×66°.35W±0°.03, h35km±2km, ML3.2/14, Md3.2/9(RSPR), Error ellipse: s-maj=12.2km s-min=3.1km az=199.0
RSPR 13 09:01:42.7, 18°.84N×66°.31W, h23km±11km, MD3.2/9
ISC 13 09:01:41.8±1.4, 18°.76N±0°.08×66°.35W±0°.03, h28km, n34, σ0s59/42, 6C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**0.52**	**151**	*i*P	**Pn**	**09 01 52.6**	**-0.7**
GCPR	**Guaynabo City**	**0.52**	**151**	*e*S	**Sn**	**09 02 00.8**	**-0.4**
GCPR	**Guaynabo City**	**0.52**	**151**		**Pn**	**09 01 52.6**	**-0.7**
GCPR					**Sn**	**09 02 00.8**	**-0.4**
GCPR				IAML		09 02 03.8	
	comp=E,1μm,0.1s						
GCPR				IAML		09 02 03.8	
	comp=N,1μm,0.2s						
SJG	**San Juan**	**0.68**	**163**	*i*P	**Pn**	**09 01 55.1**	**-0.4**
SJG	**San Juan**	**0.68**	**163**		**Pn**	**09 01 55.5**	**0.0**
SJG				IAML		09 02 07.3	
	comp=N,2μm,0.2s						
SJG	**San Juan**	**0.68**	**163**	*e*P	**Pn**	**09 01 55.7**	**+0.2**
SJG				*e*S	**Sn**	**09 02 05.7**	**+0.6**
CELP	**Cerrillos**	**0.72**	**198**	*i*P	**Pn**	**09 01 56.3**	**+0.2**
CELP	**Cerrillos**	**0.72**	**198**	*e*S	**Sn**	**09 02 06.5**	**+0.4**
CELP	**Cerrillos**	**0.72**	**198**		**Pn**	**09 01 56.2**	**+0.2**
CELP					**Sn**	**09 02 06.6**	**+0.4**
CELP				IAML		09 02 08.0	
	comp=N,626nm,0.2s						
AGPR	**Aguadilla, PR**	**0.78**	**248**	*i*P	**Pb**	**09 01 56.4**	**-0.3**
AGPR	**Aguadilla, PR**	**0.78**	**248**	*e*S	**Sb**	**09 02 07.3**	**+0.4**
AGPR	**Aguadilla, PR**	**0.78**	**248**		**Pn**	**09 01 56.8**	**-0.1**
AGPR					**Sb**	**09 02 07.2**	**+0.2**
AGPR				IAML		09 02 08.2	
	comp=E,975nm,0.2s						
AGPR				IAML		09 02 08.7	
	comp=N,1μm,0.1s						
IGPR	**InterUniversit**	**0.83**	**164**	*i*P	**Pb**	**09 01 57.5**	**-0.1**
IGPR	**InterUniversit**	**0.83**	**164**	*e*S	**Sb**	**09 02 08.6**	**+0.3**
IGPR	**InterUniversit**	**0.83**	**164**		**Pn**	**09 01 57.5**	**-0.1**
IGPR					**Sb**	**09 02 08.6**	**+0.3**
LSP	**Las Mesas**	**0.91**	**230**	*i*P	**Pb**	**09 01 58.9**	**-0.1**
LSP	**Las Mesas**	**0.91**	**230**	*e*S	**Sn**	**09 02 11.5**	**+0.5**
LSP	**Las Mesas**	**0.91**	**230**		**Pb**	**09 01 58.9**	**-0.1**
LSP					**Sn**	**09 02 11.5**	**+0.5**
PRSN	**Puerto Rico Se**	**0.93**	**234**	*i*P	**Pb**	**09 01 59.0**	**-0.2**
PRSN	**Puerto Rico Se**	**0.93**	**234**	*e*S	**Sb**	**09 02 11.6**	**+0.4**
PRSN	**Puerto Rico Se**	**0.93**	**234**		**Pb**	**09 01 59.1**	**-0.2**
PRSN					**Sn**	**09 02 11.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.03**	**220**	*e*P	**Pn**	**09 01 59.6**	**-0.7**
MLPR	**Magueyes Islan**	**1.03**	**220**	*e*S	**Sn**	**09 02 13.3**	**-0.5**
MLPR	**Magueyes Islan**	**1.03**	**220**	Pn	**Pn**	**09 01 59.7**	**-0.7**
MLPR					**Sn**	**09 02 12.9**	**-0.9**
MLPR				IAML		09 02 18.0	
	comp=E,416nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.04**	**224**	*i*P	**Pb**	**09 02 00.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.04**	**224**	*e*S	**Sn**	**09 02 14.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.04**	**224**		**Pb**	**09 02 00.8**	**-0.4**
CRPR				IAML		09 02 16.8	
	comp=N,395nm,0.1s						
MBFL	**Flemmings, Mon**	**4.42**	**116**	*e*P	**Pn**	**09 02 47.8**	**+0.7**
MBFL	**Flemmings, Mon**	**4.42**	**116**	*e*S	**Sn**	**09 03 38.1**	**+0.4**
MLYT	**Lee's Yard**	**4.46**	**116**	*e*P	**Pn**	**09 02 48.6**	**+1.0**
MLYT	**Lee's Yard**	**4.46**	**116**	*e*S	**Sn**	**09 03 39.3**	**+0.8**
SDDR	**Presa de Saban**	**4.68**	**273**	Pn	**Pn**	**09 02 50.7**	**+0.1**
ANBD	**Bethesda, Anti**	**4.69**	**111**	*e*P	**Pn**	**09 02 50.6**	**-0.1**
ANBD	**Bethesda, Anti**	**4.69**	**111**	*e*S	**Sn**	**09 03 41.9**	**-2.3**

JMA 13 09:02:38.3±0.2, 28°.1N×129°.43E, h56km±23km, mb3.3/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=41.4km s-min=10.8km az=114.0
IDC 13 09:02:40.1±2.2, 27°.90N×129°.43E, h56km±23km, mb3.3/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=41.4km s-min=10.8km az=114.0
ISC 13 09:02:38.0±1.4, 27°.78N±0°.03×129°.64E±0°.04, h38km±2km, n28, σ0s81/37, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.61**	**271**	*i* P	**Pn**	**09 02 49.6**	**-0.6**
JTK				S	**Sn**	**09 02 58.5**	**-0.2**
JZK	**Kikaishima**	**0.61**	**29**	*e*P	**Pn**	**09 02 50.9**	**+0.6**
JAMN	**Amaminishikomi**	**0.61**	**319**	*i* P	**Pn**	**09 02 49.2**	**-1.1**
JAMN				*e*S	**Sn**	**09 02 57.9**	**-1.1**
JAM	**Amami Oshima**	**0.63**	**358**	*i* P	**Pn**	**09 02 49.6**	**-0.9**
JOKE	**Okinoerabujima**	**1.03**	**246**	P	**Pn**	**09 02 56.2**	**+0.3**
JYRO	**Yoronjima**	**1.29**	**235**	P	**Pn**	**09 02 59.8**	**+0.3**
JYRO				*e*S	**Sn**	**09 03 15.8**	**+0.2**
JTAJ	**Takarajima**	**1.42**	**345**	*e*P	**Pn**	**09 03 01.1**	**-0.1**
JTAJ				*e*S	**Sn**	**09 03 16.8**	**-0.1**
JOW	**Kunigami**	**1.54**	**232**	P	**Pn**	**09 03 03.2**	**+0.4**
JOW	**Kunigami**	**1.54**	**232**	P	**Pn**	**09 03 03.2**	**+0.4**
	47nm,0.3s,baz=153,slow=11,SNR=39						
JOW				S	**Sn**	**09 03 23.0**	**+1.5**
	89nm,0.2s,baz=109,slow=23,SNR=6.0						
JIH	**Iheya**	**1.66**	**244**	P	**Pn**	**09 03 04.7**	**+0.3**
JNTH	**Nagotoyohara**	**1.91**	**229**	P	**Pn**	**09 03 08.3**	**+0.4**
JNTH				*e*S	**Sn**	**09 03 30.7**	**0.0**
JNN	**Nakanoshima**	**2.06**	**6**	*e*S	**Sn**	**09 03 34.7**	**+0.1**
JKDJ	**Kitadaitoujima**	**2.35**	**140**	*e*P	**Pn**	**09 03 13.9**	**-0.1**
JKDJ				S	**Sn**	**09 03 40.7**	**-1.0**
JMZ	**Minamidaito 2**	**2.41**	**144**	P	**Pn**	**09 03 14.5**	**-0.3**
JMZ				S	**Sn**	**09 03 41.6**	**-1.5**
JAGN	**Aguni-jima**	**2.44**	**241**	*e*P	**Pn**	**09 03 15.6**	**+0.4**
JAGN				*e*S	**Sn**	**09 03 43.8**	**0.0**
JYAK	**Yakushimahirau**	**2.57**	**17**	P	**Pn**	**09 03 17.5**	**+0.5**
JYAK				S	**Sn**	**09 03 47.0**	**+0.1**
JKC	**Kuchinoerabu**	**2.72**	**10**	*e*S	**Sn**	**09 03 50.8**	**+0.1**
JMTN	**Minamitane**	**2.83**	**23**	*e*S	**Sn**	**09 03 53.7**	**+0.2**
JKE	**Kume jima 2**	**2.92**	**241**	P	**Pn**	**09 03 21.7**	**-0.2**
JKE				*e*S	**Sn**	**09 03 55.7**	**-0.1**
JTN	**Tanegashima 3**	**3.10**	**22**	*e*S	**Sn**	**09 03 59.6**	**-0.4**
JNU	**Nakatsue**	**5.43**	**11**	P	**Pn**	**09 03 58.1**	**+1.7**
	1.6nm,0.3s,baz=349,slow=22,SNR=2.9						
JNU				S	**Sn**	**09 04 58.7**	**+1.1**
	4.0nm,0.8s,baz=49,slow=23,SNR=0.7						
	6.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.93**	**95**	T	T	09 46 30.7	
	baz=291						
H11N1	**WAKE ISLAND Hy**	**34.93**	**95**	T	T	09 47 04.8	
	baz=291						
H11N3	**WAKE ISLAND Hy**	**34.95**	**95**	T	T	09 47 33.3	
	baz=291						
WRA	**Warramunga Arr**	**47.66**	**174**	P	**P**	**09 11 11.3**	**+0.6**
	0.6nm,0.5s,baz=355,slow=8.8,SNR=2.2						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**51.31**	**175**	P	**P**	**09 11 40.7**	**+2.2**
	0.2nm,0.7s,baz=4.5,slow=14,SNR=6.2						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**72.13**	**331**	P	**P**	**09 13 57.3**	**-1.0**
	2.4nm,1.0s,baz=60,slow=8.2,SNR=3.9						
	2.4nm,1.0s						
YKA	**Yellowknife Ar**	**76.59**	**25**	P	**P**	**09 14 23.5**	**-0.8**
	0.2nm,0.8s,baz=300,slow=4.9,SNR=2.7						
	0.2nm,0.8s						

IDC 13 09:20:30.7±2.1, 1°.90N×125°.33E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=188.6km s-min=27.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**158**	P	P	09 25 41.7	-0.2
	1.3nm,0.7s,baz=336,slow=11,SNR=13						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**26.75**	**162**	P	P	09 26 12.5	+0.3
	0.3nm,0.5s,baz=347,slow=7.6,SNR=7.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.27**	**327**	P	P	09 30 27.0	-0.2
	0.2nm,0.4s,baz=126,slow=8.4,SNR=3.5						
	0.2nm,0.4s						

IDC 13 09:24:16.9±0.6, 33°.67N×45°.69E, h0km, mb4.1/23, mbtmp4.0/31, ML3.8/7, MS3.5/19, Error ellipse: s-maj=14.1km s-min=10.9km az=155.0
MOS 13 09:24:17.5±1.4, 33°.75N×45°.64E, h13km, mb4.2/18, Error ellipse: s-maj=8.4km s-min=5.7km az=92.4
ISN 13 09:24:19.2±1.0, 33°.65N×45°.64E, h7km±5km, ML4.3
TEH 13 09:24:19.7, 33°.72N×45°.70E, h12km±42km, ML4.2
NEIC 13 09:24:19.6±1.5, 33°.63N±0°.06×45°.65E±0°.07, h10km±1km, mb4.2/20, Error ellipse: s-maj=11.1km s-min=10.0km az=208.0
ISC 13 09:24:19.2±0.3, 33°.70N±0°.03×45°.65E±0°.03, h13km, n167, σ1s49/172, mb4.1/35, MS3.5/14, 16C-5D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**99**	Pg	**Pg**	**09 24 28.7**	**+0.2**
IBDR	**Badra**	**0.63**	**158**	*e*Pg	**Pg**	**09 24 31.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**09 24 39.0**	**-0.9**
IBDR				AML	AML	09 24 50.8	
	comp=N,11μm,0.5s						
IBDR				AML	AML	09 24 56.2	
	comp=E,9μm,0.6s						
KGS1	**Ghasr-e-Shirin**	**0.81**	**357**	Pg	**Pg**	**09 24 34.7**	**-0.2**
KGS1				Sg	**Sb**	**09 24 47.0**	**+1.0**
IGHG	**Ghaleghazi**	**0.99**	**50**	Pg	**Pg**	**09 24 37.7**	**-0.7**
BHD	**Baghdad**	**1.14**	**248**	*e*Pg	**Pn**	**09 24 41.0**	**+0.1**
BHD				*e*Sg	**Sg**	**09 24 56.0**	**-0.1**
BHD				AML	AML	09 25 05.6	
	comp=E,17μm,0.3s						
IDHR	**Dehrash**	**1.17**	**31**	Pg	**Pb**	**09 24 40.7**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.29**	**63**	Pg	**Pb**	**09 24 43.4**	**-0.1**
IKOM	**Komasi**	**1.62**	**72**	Pg	**Pb**	**09 24 49.7**	**+0.6**
ILIN	**Lien**	**1.63**	**41**	Pg	**Pb**	**09 24 49.8**	**+0.4**
IKFM	**Kafar-mosalman**	**1.84**	**95**	Pg	**Pb**	**09 24 52.9**	**+0.1**
IBZA	**Bozab**	**1.99**	**67**	Pn	**Pb**	**09 24 55.4**	**-0.1**
RAFI	**Al-Rafai**	**2.01**	**169**	*e*Pn	**Pn**	**09 24 54.0**	**+1.2**
RAFI				*e*Sn	**Sb**	**09 25 21.0**	**+0.5**
IALM	**Almabolaq**	**2.39**	**60**	Pn	**Pb**	**09 25 00.5**	**-1.7**
SDS1	**Sardasht. Az.**	**2.45**	**357**	Pn	**Pn**	**09 25 01.1**	**+2.1**
HSAM	**Samen**	**2.51**	**77**	Pn	**Pn**	**09 25 01.7**	**+1.8**
MAHB	**Mahabad**	**3.06**	**1**	Pn	**Pn**	**09 25 09.8**	**+2.3**
HAGD	**Aghdareh**	**3.10**	**68**	Pn	**Pn**	**09 25 10.1**	**+2.0**
IHSH	**Hashtrud**	**3.83**	**20**	Pn	**Pn**	**09 25 20.4**	**+2.2**
IRAZ	**Razeghan**	**3.92**	**63**	Pn	**Pn**	**09 25 21.3**	**+2.0**
IAZR	**Azarshahr**	**3.98**	**4**	Pn	**Pn**	**09 25 22.3**	**+2.1**
ISRB	**Sarab**	**4.43**	**21**	Pn	**Pn**	**09 25 28.5**	**+2.1**
JHBN	**Jahan bin**	**4.46**	**108**	Pn	**Pn**	**09 25 28.9**	**+2.0**
IPIR	**Pirpir**	**4.51**	**102**	Pn	**Pn**	**09 25 29.1**	**+1.5**
JIR1	**Jirandeh**	**4.54**	**47**	Pn	**Pn**	**09 25 28.9**	**+1.2**
IMHD	**Mahdasht**	**4.59**	**63**	Pn	**Pn**	**09 25 30.4**	**+2.0**
IQOM	**Qom**	**4.63**	**74**	Pn	**Pn**	**09 25 30.8**	**+1.7**
ZNGN	**Zangian**	**4.66**	**108**	Pn	**Pn**	**09 25 30.5**	**+1.0**
IHRS	**Heris**	**4.75**	**13**	Pn	**Pn**	**09 25 33.2**	**+2.5**
QAMS	**Qamsar**	**4.79**	**88**	Pn	**Pn**	**09 25 33.3**	**+2.0**
IKLH	**Kolahrood**	**4.97**	**93**	Pn	**Pn**	**09 25 36.5**	**+2.8**
IMRD	**Marand**	**5.00**	**0**	Pn	**Pn**	**09 25 36.3**	**+2.1**
IBRJ	**Brojen**	**5.05**	**109**	Pn	**Pn**	**09 25 36.3**	**+1.4**
IVRN	**Varamin**	**5.19**	**74**	Pn	**Pn**	**09 25 38.3**	**+1.6**
KLST	**Kelardasht - M**	**5.25**	**56**	Pn	**Pn**	**09 25 39.4**	**+1.7**
KRSH	**Karshahi**	**5.41**	**85**	Pn	**Pn**	**09 25 41.0**	**+1.3**
GRMI	**Germi**	**5.41**	**19**	Pn	**Pn**	**09 25 41.7**	**+1.9**
ISFB	**Sefidab**	**5.51**	**81**	Pn	**Pn**	**09 25 42.1**	**+1.0**
MZPU	**Pul - Mazandar**	**5.57**	**59**	Pn	**Pn**	**09 25 44.4**	**+2.3**
IDMV	**Damavand**	**5.59**	**69**	Pn	**Pn**	**09 25 44.4**	**+2.1**
IZEF	**Zefreh**	**5.65**	**96**	Pn	**Pn**	**09 25 44.8**	**+1.7**
GURO	**Guroymak-BITLI**	**5.66**	**330**	Pn	**Pn**	**09 25 44.2**	**+1.1**
KLNJ	**Kolanjah**	**5.70**	**116**	Pn	**Pn**	**09 25 45.5**	**+1.6**
IRAM	**Ramesheh**	**5.98**	**107**	Pn	**Pn**	**09 25 50.4**	**+2.8**
ILAS	**Lasjerd**	**6.26**	**72**	Pn	**Pn

AGG Agios Georgios 19.50 292 P P 09 28 46.2 +0.2
AGG IAmb IAmb 09 29 03.6
comp=Z,30nm,1.5s
AGG Agios Georgios 19.50 292 P P 09 28 46.2 +0.2
AGG pmax pmax
comp=Z,30nm,1.5s
VOIR 19.68 313 ⇑P Pn 09 28 50.5 +1.1
VOIR 19.68 313 ⇑P Pn 09 28 50.5 +1.1
ARR Arges 19.90 312 ⇑P Pn 09 28 52.3 +0.2
FNA Florina 20.54 297 P P 09 28 58.5 +1.1
FNA Florina 20.54 297 P P 09 28 58.5 +1.1
FNA pmax pmax
comp=Z,3.0nm,0.5s
BURAR Bucovina Array 20.73 318 ⇑P P 09 28 59.9 +0.4
BURAR Bucovina Array 20.73 318 ⇑P P 09 28 59.9 +0.4
BUR08 Bucovina Ar. S 20.76 318 P P 09 29 00.7 +0.9
AKASG Malin Array Be 20.82 330 P P 09 28 59.5 -0.7
AKASG Malin Array Be 20.82 330 *i* P P 09 28 59.5 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 20.82 330 P P 09 28 59.6 -0.7
comp=Z,0.9nm,0.3s,baz=139,slow=9.8,SNR=20
AKASG LR LR 09 39 37.4
comp=Z,119nm,19.1s,baz=55,slow=44
comp=Z,0.9nm,0.3s
AKBB Malin Array Si 20.82 330 P P 09 28 60.0 -0.3
AKBB IAmb IAmb 09 29 01.8
comp=Z,13nm,1.1s
AKBB Malin Array Si 20.82 330 P P 09 29 00.0 -0.3
AKBB pmax pmax
comp=Z,13nm,1.1s
KIEV Kiev 20.82 330 ⇑P P 09 28 59.1 -1.2
KIEV Kiev 20.82 330 P P 09 28 59.8 -0.4
KIEV IAmb IAmb 09 29 01.8
comp=Z,13nm,1.1s
KIEV Kiev 20.82 330 P P 09 28 59.8 -0.4
KIEV pmax pmax
comp=Z,13nm,1.1s
HERR Herculane 21.09 309 ⇑P P 09 29 04.3 +1.0
MARR Marisel-Cluj 21.45 314 ⇑P P 09 29 08.7 +1.4
KK31 Karatay Array 21.56 57 P P 09 29 09.3 +0.9
KK31 IAmb IAmb 09 29 15.5
comp=Z,6.4nm,0.9s
KK31 Karatay Array 21.56 57 P P 09 29 09.3 +0.9
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 21.56 57 P P 09 29 09.3 +0.8
KKAR IAmb IAmb 09 29 15.5
comp=Z,6.3nm,0.9s
KKAR Karatay Array 21.56 57 P P 09 29 09.5 +1.1
KKAR Karatay Array 21.56 57 P P 09 29 09.5 +1.1
KKAR pmax pmax
comp=Z,6.0nm,1.0s
SIRR Siria 22.16 312 ⇓P P 09 29 17.7 +2.9
OBN Obninsk 22.33 346⇓*e*P P 09 29 16.7 +0.2
OBN *PP **pP** 09 29 20.0 -0.3
OBN *e*SP **sP** 09 29 21.1 -0.8
OBN 09 29 37.0
OBN PPP PPP 09 29 52.0
OBN 09 33 06.0
OBN *e*S **S** 09 33 16.8 -4.8
OBN SSS SSS 09 34 00.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,148nm,17.0s
ARU Arti 24.41 17*c i*P P 09 29 38.1 +0.9
ARU 09 30 07.9
ARU S **S** 09 33 59.0 +2.6
ARU SS **SnSn** 09 34 40.0 -0.1
ARU pmax pmax
comp=Z,11nm,2.0s
NACGM Naroch 24.98 334 *e*P P 09 29 40.4 -2.0
KIRV Kirov 25.02 5⇑*e*P P 09 29 44.0 +1.4
NRN Naryn 25.18 63 P P 09 29 44.8 +0.2
NRN IAmb IAmb 09 29 59.4
comp=Z,6.1nm,1.0s
NRN Naryn 25.18 63 P P 09 29 44.8 +0.2
NRN pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 26.14 35⇑*e*P P 09 29 52.7 -0.2
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 26.17 35 P P 09 29 53.0 -0.3
comp=Z,1.5nm,0.6s,baz=239,slow=8.4,SNR=7.7
BVAR PcP **PcP** 09 33 18.6 -1.3
comp=Z,0.6nm,0.4s,baz=225,slow=1.4,SNR=2.9
comp=Z,1.5nm,0.6s
GERES GERESS Array B 28.12 312 LR LR 09 45 16.6
comp=Z,32nm,19.4s,baz=119,slow=45
KURBB Kurchatov Arra 29.35 45 P P 09 30 21.4 -0.2
comp=Z,1.0nm,0.7s,baz=250,slow=8.7,SNR=9.5
KURBB PcP **PcP** 09 33 27.4 -0.3
comp=Z,0.2nm,0.5s,baz=235,slow=3.5,SNR=2.2
comp=Z,1.0nm,0.7s
KURK Kurchatov 29.43 45 P P 09 30 22.4 0.0
KURK Kurchatov 29.43 45⇑*e*P P 09 30 21.2 -1.2
KURK pmax pmax
comp=Z,1.0nm,0.7s
DAVOX Davos/Dischmat 30.00 307 LR LR 09 46 32.4
comp=Z,146nm,18.5s,baz=70,slow=44
MAKZ Makanchi 30.38 54 P P 09 30 31.8 +0.9
MAKZ IAmb IAmb 09 30 33.0
comp=Z,2.0nm,0.5s
MAKZ Makanchi 30.38 54 P P 09 30 31.8 +0.9
MAKZ pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 30.48 342 P P 09 30 32.1 +0.6
FINES FINESS Array B 30.48 342 *i* P P 09 30 32.2 +0.6
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 30.48 342 P P 09 30 31.7 +0.1
comp=Z,3.6nm,1.0s,baz=149,slow=10,SNR=7.0
comp=Z,3.6nm,1.0s
MK31 Makanchi Array 30.59 54 P P 09 30 33.7 +1.0
MK31 IAmb IAmb 09 30 35.2
comp=Z,2.8nm,0.7s
MK31 Makanchi Array 30.59 54*c i*P P 09 30 33.0 +0.3
MKAR Makanchi Array 30.59 54 *i* P P 09 30 28.7 -4.0
MKAR Makanchi Array 30.59 54 P P 09 30 33.6 +0.9
comp=Z,3.0nm,0.4s,baz=251,slow=10,SNR=43
comp=Z,3.0nm,0.4s
BNI Bardonecchia 31.90 302 P P 09 30 45.1 +0.7
BNI Bardonecchia 31.90 302 P P 09 30 45.1 +0.7
BNI pmax pmax
comp=Z,13nm,0.9s
HFS Hagfors 33.68 331 P P 09 30 59.6 0.0
comp=Z,3.2nm,0.4s,baz=128,slow=9.6,SNR=34
comp=Z,3.2nm,0.4s
ZAA0 Zalesovo Array 34.16 42 P P 09 31 04.0 +0.1
ZALV Zalesovo Beam 34.16 42 P P 09 31 05.0 +1.2
ZALV Zalesovo Beam 34.16 42 P P 09 31 05.1 +1.2
ZALV Zalesovo Beam 34.16 42 P P 09 31 04.0 +0.1
comp=Z,1.9nm,0.3s,baz=256,slow=9.0,SNR=12
ZALV LR LR 09 46 17.0
comp=Z,53nm,18.4s,baz=249,slow=39
comp=Z,1.9nm,0.3s
DGZ Jazzator, Alta 34.55 50*de*P P 09 31 08.4 +0.9
DGZ pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 35.20 331 P P 09 31 12.0 -0.9
comp=Z,0.2nm,0.5s,baz=128,slow=8.2,SNR=1.4
NOA LR LR 09 47 04.0
comp=Z,75nm,18.4s,baz=275,slow=39
comp=Z,0.2nm,0.5s
KMBO Kilima Mbogo 35.53 195 LR LR 09 46 07.1
comp=Z,60nm,19.6s,baz=80,slow=37
ARCES ARCESS Array B 37.60 349 *e*P P 09 31 36.0 +2.8
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 37.60 349 P P 09 31 33.1 -0.1
comp=Z,3.8nm,1.0s,baz=165,slow=8.6,SNR=6.1
comp=Z,3.8nm,1.0s
ESDC Sonseca Array 39.82 293 P P 09 31 51.6 -0.7
comp=Z,0.5nm,0.5s,baz=74,slow=8.5,SNR=8.0
comp=Z,0.5nm,0.5s
EKA Eskdalemuir Ar 39.92 318 P P 09 31 51.8 -1.0
comp=Z,1.6nm,0.7s,baz=101,slow=8.1,SNR=4.0
comp=Z,1.6nm,0.7s
NRIK Noril'sk 42.57 21⇑*e*P P 09 32 14.9 +0.6
NRIK pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 42.57 21 P P 09 32 13.9 -0.5
comp=Z,1.1nm,0.4s,baz=206,slow=3.3,SNR=2.0
comp=Z,1.1nm,0.4s
TORD Torodi Ar. Bea 44.81 254 P P 09 32 32.5 -0.6
comp=Z,1.3nm,0.8s,baz=25,slow=12,SNR=6.1
comp=Z,1.3nm,0.8s
SPB2 Spitsbergen Ar 46.34 352 P P 09 32 45.1 +0.7
SPITS Spitsbergen Ar 46.34 352 P P 09 32 45.6 +1.1
SPITS Spitsbergen Ar 46.34 352 P P 09 32 45.0 +0.5
comp=Z,18nm,1.0s,baz=137,slow=11,SNR=7.0
comp=Z,18nm,1.0s
SONM Songino Array 46.95 54 P P 09 32 49.8 -0.1
comp=Z,0.2nm,0.4s,baz=277,slow=3.6,SNR=1.5
SONM LR LR 09 55 28.0
comp=Z,42nm,18.7s,baz=261,slow=40
comp=Z,0.2nm,0.4s
ULN Ulaanbaatar 47.39 53⇑*e*P P 09 32 53.0 -0.3
ULN pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 49.70 94 *i* P P 09 33 10.6 -0.6
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 49.70 94 P P 09 33 10.5 -0.8
comp=Z,0.9nm,0.4s,baz=283,slow=8.8,SNR=4.0
CMAR LR LR 09 58 53.9
comp=Z,32nm,18.3s,baz=145,slow=42
comp=Z,0.9nm,0.4s
LSZ Lusaka 51.47 202 LR LR 09 55 27.0
comp=Z,55nm,19.8s,baz=166,slow=36
DBIC Dimbokro 53.81 252 P P 09 33 43.0 +1.0
DBIC Dimbokro 53.81 252 P P 09 33 43.0 +1.0
comp=Z,2.7nm,0.8s,baz=357,slow=8.2,SNR=3.1
DBIC LR LR 10 01 01.9
comp=Z,39nm,19.6s,baz=174,slow=41
comp=Z,2.7nm,0.8s
LYN LuoYang 54.37 69 *e*P P 09 33 45.9 +0.1
LYN S **S** 09 41 21.3 -2.4
LYN LuoYang 54.37 69 SS **SS 09 45 06.3 +0.7**
LYN pmax pmax
comp=Z,11nm,0.6s
LYN pmax pmax
comp=Z,260nm,5.8s
TIXI Tiksi 56.29 22⇓*e*P P 09 33 58.9 -0.1
TIXI pmax pmax
comp=Z,2.0nm,0.9s
BOSA Boshof 64.92 200 P P 09 35 00.6 +2.1
BOSA IAmb IAmb 09 35 21.9
comp=Z,2.6nm,0.9s
BOSA Boshof 64.92 200 P P 09 35 00.6 +2.1
BOSA pmax pmax
comp=Z,3.0nm,1.0s
BOSA Boshof 64.92 200 P P 09 34 58.6 +0.1
comp=Z,2.3nm,0.7s,baz=27,slow=6.6,SNR=8.1
comp=Z,2.3nm,0.7s
KSRS Korea Array 64.94 61 P P 09 34 57.5 -1.1
comp=Z,0.5nm,0.4s,baz=288,slow=5.6,SNR=2.6
comp=Z,0.5nm,0.4s
MA2 Magadan 68.61 32 LR LR 10 08 48.1
comp=Z,25nm,20.0s,baz=48,slow=39
SUR Suthland 69.77 202 LR LR 10 06 23.8
comp=Z,56nm,21.4s,baz=174,slow=36
SCHQ Schefferville 74.57 326 P P 09 35 57.5 -0.2
comp=Z,2.6nm,0.8s,baz=18,slow=8.8,SNR=3.7
comp=Z,2.6nm,0.8s
ILAR Eielson Array 81.36 5 *e*P P 09 36 37.7 +2.5
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 81.36 5 P P 09 36 35.0 -0.2
comp=Z,0.7nm,0.8s,baz=319,slow=3.7,SNR=6.7
comp=Z,0.7nm,0.8s
YKA Yellowknife Ar 82.83 351 *e*P P 09 36 46.3 +3.4
YKA Yellowknife Ar 82.83 351 P P 09 36 43.0 +0.1
comp=Z,0.3nm,0.6s,baz=21,slow=5.7,SNR=6.0
comp=Z,0.3nm,0.6s
NEW Newport 96.96 348 LR LR 10 25 10.0
comp=Z,42nm,18.2s,baz=332,slow=38
WRA Warramunga Arr 99.75 107 P Pdif 09 38 01.3 -2.0
comp=Z,0.2nm,0.5s,baz=318,slow=3.8,SNR=1.8
comp=Z,0.2nm,0.5s
QSPA South Pole Qui 123.53 180 PKP PKPdf 09 43 14.7 -0.7
comp=Z,1.7nm,1.1s,baz=205,slow=17,SNR=2.3

*IDC **13** 09:31:51.9±0.9, 33.°77N×45.°66E, h0km, mb4.0/17, mbtmp3.9/24, ML3.3/6, Error ellipse: s-maj=18.9km s-min=12.7km az=162.0*
*ISN **13** 09:31:53.7±0.9, 33.°69N×45.°64E, h10km±4km, ML3.9*
*NEIC **13** 09:31:53.6±1.3, 33.°58N±0.°06×45.°7E±0.°1, h10km±2km, mb4.0/18, Error ellipse: s-maj=14.6km s-min=9.0km az=106.0*
*TEH **13** 09:31:53.8, 33.°73N×45.°65E, h8km×37km, ML4.1*
ISC 13 09:31:54.1±0.5, **33.°71N**±0.°03×**45.°65E**±0.°03, **h13**km, **n87,**
σ1s23/92, mb3.9/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**100**	Pg	**Pg**	**09 32 03.4**	**0.0**
IBDR	**Badra**	**0.64**	**159**	*e*Pg	**Pg**	**09 32 06.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**09 32 15.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.80**	**356**	Pg	**Pg**	**09 32 09.2**	**-0.3**
IGHG	**Ghaleghazi**	**0.98**	**51**	Pg	**Pg**	**09 32 12.7**	**-0.3**
BHD	**Baghdad**	**1.15**	**248**	*e*Pg	**Pn**	**09 32 16.0**	**+0.1**
BHD				*e*Sg	**Sb**	**09 32 31.0**	**+0.3**
BHD				AML	AML	09 32 38.9	
	comp=E,8μm,0.2s						
IDHR	**Dehrash**	**1.16**	**31**	Pg	**Pb**	**09 32 15.4**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.28**	**64**	Pg	**Pb**	**09 32 18.0**	**-0.2**
IKOM	**Komasi**	**1.61**	**73**	Pg	**Pb**	**09 32 24.2**	**+0.4**
IKOM				Sg	**Sg**	**09 32 48.1**	**+2.0**
ILIN	**Lien**	**1.62**	**42**	Pg	**Pg**	**09 32 24.4**	**-0.9**
IKFM	**Kafar-mosalman**	**1.84**	**95**	Pn	**Pb**	**09 32 27.9**	**+0.3**
RAFI	**Al-Rafai**	**2.02**	**169**	*e*Pn	**Pn**	**09 32 29.0**	**+1.2**
RAFI				*e*Sn	**Sb**	**09 32 56.0**	**+0.3**
RAFI				AML	AML	09 33 18.4	
	comp=N,389nm,0.5s						
IALM	**Almabolaq**	**2.38**	**60**	Pn	**Pb**	**09 32 34.9**	**-2.0**
SDS1	**Sardasht. Az.**	**2.44**	**357**	Pn	**Pb**	**09 32 36.0**	**-1.9**
HSAM	**Samen**	**2.50**	**78**	Pn	**Pn**	**09 32 36.4**	**+1.7**
HAGD	**Aghdareh**	**3.09**	**68**	Pn	**Pn**	**09 32 44.8**	**+1.9**
IHSH	**Hashtrud**	**3.82**	**20**	Pn	**Pn**	**09 32 55.2**	**+2.2**
IRAZ	**Razeghan**	**3.91**	**63**	Pn	**Pn**	**09 32 55.8**	**+1.7**
IAZR	**Azarshahr**	**3.97**	**4**	Pn	**Pn**	**09 32 56.7**	**+1.8**
JHBN	**Jahan bin**	**4.46**	**108**	Pn	**Pn**	**09 33 03.2**	**+1.5**
IPIR	**Pirpir**	**4.51**	**102**	Pn	**Pn**	**09 33 03.6**	**+1.2**
IQOM	**Qom**	**4.62**	**74**	Pn	**Pn**	**09 33 04.7**	**+0.8**
ZNGN	**Zangian**	**4.65**	**109**	Pn	**Pn**	**09 33 05.6**	**+1.2**
QAMS	**Qamsar**	**4.79**	**88**	Pn	**Pn**	**09 33 07.8**	**+1.6**
IKLH	**Kolahrood**	**4.96**	**93**	Pn	**Pn**	**09 33 10.9**	**+2.3**
IMRD	**Marand**	**4.99**	**0**	Pn	**Pn**	**09 33 10.5**	**+1.6**
GEVA	**Gevas**	**5.05**	**336**	Pn	**Pn**	**09 33 11.6**	**+1.9**
IVRN	**Varamin**	**5.18**	**74**	Pn	**Pn**	**09 33 12.3**	**+0.8**
KLST	**Kelardasht - M**	**5.24**	**56**	Pn	**Pn**	**09 33 15.0**	**+2.6**
MARD	**Mardin**	**5.36**	**314**	Pn	**Pn**	**09 33 14.9**	**+1.0**
KRSH	**Karshahi**	**5.40**	**85**	Pn	**Pn**	**09 33 16.1**	**+1.6**
IGAR	**Gharneh**	**5.52**	**102**	Pn	**Pn**	**09 33 18.6**	**+2.3**
MZPU	**Pul - Mazandar**	**5.56**	**59**	Pn	**Pn**	**09 33 18.8**	**+2.0**
IDMV	**Damavand**	**5.58**	**69**	Pn	**Pn**	**09 33 18.0**	**+1.0**
GURO	**Guroymak-BITLI**	**5.65**	**330**	Pn	**Pn**	**09 33 18.9**	**+1.1**
IZEF	**Zefreh**	**5.65**	**96**	Pn	**Pn**	**09 33 19.4**	**+1.4**
KLNJ	**Kolanjah**	**5.70**	**117**	Pn	**Pn**	**09 33 20.2**	**+1.3**
IRAM	**Ramesheh**	**5.98**	**107**	Pn	**Pn**	**09 33 24.4**	**+1.9**
GNI	**Garni**	**6.47**	**354**	Pg	**Pb**	**09 33 47.9**	**+1.3**
	comp=N,0.7nm,0.3s,baz=208,slow=21,SNR=1.4						
GNI				Lg	Lg	09 35 13.8	
	comp=N,0.4nm,0.3s,baz=268,slow=22,SNR=1.6						
DSBU	**Dashti - Bushe**	**7.18**	**136**	Pn	**Pn**	**09 33 41.2**	**+2.4**
ASF	**Jabal al Asfar**	**7.52**	**261**	Pn	**Pn**	**09 33 44.0**	**+0.5**
	comp=N,0.4nm,0.3s,baz=60,slow=23,SNR=1.9						
ASF				Pg	**Pb**	**09 34 07.4**	**+3.0**
	comp=N,0.5nm,0.3s,baz=254,slow=24,SNR=2.0						
ASF				Lg	Lg	09 35 51.6	
	comp=N,0.7nm,0.3s,baz=100,slow=23,SNR=2.4						
	comp=N,2.6nm,0.4s						
GAZ	**Gaziantep**	**7.71**	**299**	Pn	**Pn**	**09 33 46.2**	**+0.1**
ARPR	**Arapgir-MALATY**	**7.98**	**314**	Pn	**Pn**	**09 33 51.2**	**+1.4**
MMAI	**Mount Meron Ar**	**8.60**	**268**	Pn	**Pn**	**09 33 59.0**	**+0.6**
	comp=N,0.6nm,0.3s,baz=305,slow=49,SNR=1.6						
MMAI				Pg	Pg	09 34 27.5	-11
	comp=N,1.5nm,0.3s,baz=83,slow=16,SNR=3.3						
MMAI				Lg	Lg	09 36 20.9	
	comp=N,1.1nm,0.3s,baz=85,slow=35,SNR=2.3						
	comp=N,1.5nm,0.8s						
EIL	**Elat**	**9.97**	**249**	Pn	**Pn**	**09 34 18.0**	**+1.0**
	comp=N,0.2nm,0.3s,baz=284,slow=18,SNR=0.9						
EIL				Lg	Lg	09 37 08.8	
	comp=N,0.3nm,0.3s,baz=72,slow=22,SNR=1.2						
	comp=N,2.8nm,0.7s						
BRTR	**Keskin Array B**	**11.35**	**305**	Pn	**Pn**	**09 34 38.2**	**+2.1**
	baz=116,slow=17,SNR=1.3						
	comp=N,0.9nm,1.1s						
WSAR	**Wadi Sarin**	**15.45**	**129**	Pn	**Pn**	**09 35 29.7**	**-2.0**
	comp=N,0.6nm,0.3s,baz=116,slow=6.5,SNR=7.1						
WSAR				Sn	Sn	09 38 11.5	-11
	baz=336,slow=23						
	comp=N,3.4nm,0.5s						
BELG	**Belogornoye**	**18.73**	**4**	P	**P**	**09 36 11.2**	**-1.1**
	comp=N,7.4nm,0.5s,baz=309,slow=4.6,SNR=5.6						
ABKAR	**Akbulak array**	**18.81**	**30**	P	**Pn**	**09 36 13.8**	**0.0**
AKTO	**Aktyubinsk**	**19.02**	**25**	P	**P**	**09 36 15.6**	**0.0**
	comp=N,0.2nm,0.3s,baz=214,slow=6.3,SNR=2.7						
	comp=N,1.5nm,0.4s						
AGG	**Agios Georgios**	**19.50**	**292**	P	**P**	**09 36 21.1**	**+0.2**
AGG				IAmb	IAmb	09 36 31.3	
	comp=Z,18nm,1.2s						
FNA	**Florina**	**20.54**	**297**	P	**P**	**09 36 32.6**	**+0.3**
FNA				IAmb	IAmb	09 36 38.0	
	comp=Z,2.8nm,0.7s						
AKASG	**Malin Array Be**	**20.81**	**330**	P	**P**	**09 36 34.5**	**-0.6**
AKASG	**Malin Array Be**	**20.81**	**330**	P	**P**	**09 36 34.1**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=139,slow=9.7,SNR=20						
	comp=Z,2.0nm,0.5s						
AKBB	**Malin Array Si**	**20.81**	**330**	P	**P**	**09 36 34.7**	**-0.3**
AKBB				IAmb	IAmb	09 36 48.0	
	comp=Z,17nm,1.5s						
KIEV	**Kiev**	**20.81**	**330**	P	**P**	**09 36 34.9**	**-0.2**
KIEV				IAmb	IAmb	09 36 48.1	
	comp=Z,16nm,1.5s						
KK31	**Karatay Array**	**21.55**	**57**	P	**P**	**09 36 42.9**	**-0.3**
KKAR	**Karatay Array**	**21.55**	**57**	P	**P**	**09 36 42.9**	**-0.3**
KKAR	**Karatay Array**	**21.55**	**57**	P	**P**	**09 36 43.1**	**-0.1**
BOOM	**Boomskoye usch**	**25.29**	**61**	P	**P**	**09 37 20.1**	**-0.3**
BOOM				IAmb	IAmb	09 37 22.8	
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**26.16**	**35**	P	**P**	**09 37 27.7**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=234,slow=8.3,SNR=9.6						
	comp=Z,1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**29.34**	**45**	P	**P**	**09 37 56.9**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=251,slow=9.1,SNR=6.3						
	comp=Z,0.9nm,0.6s						
KURK	**Kurchatov**	**29.42**	**45**	P	**P**	**09 37 57.4**	**+0.2**
KURK				IAmb	IAmb	09 37 59.9	
	comp=Z,1.6nm,0.8s						
MAKZ	**Makanchi**	**30.37**	**54**	P	**P**	**09 38 06.5**	**+0.9**
MAKZ				IAmb	IAmb	09 38 07.6	
	comp=Z,1.9nm,0.5s						
FINES	**FINESS Array B**	**30.48**	**341**	P	**P**	**09 38 06.3**	**0.0**
FINES	**FINESS Array B**	**30.48**	**341**	P	**P**	**09 38 05.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=143,slow=10,SNR=6.5						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**30.58**	**54**	P	**P**	**09 38 08.4**	**+0.9**
MK31				IAmb	IAmb	09 38 08.9	
	comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**30.58**	**54**	P	**P**	**09 38 08.5**	**+1.0**
MKAR	**Makanchi Array**	**30.58**	**54**	P	**P**	**09 38 07.8**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=253,slow=11,SNR=78						
	comp=Z,3.0nm,0.4s						
BNI	**Bardonecchia**	**31.90**	**302**	P	**P**	**09 38 20.2**	**+1.0**
HFS	**Hagfors**	**33.67**	**331**	P	**P**	**09 38 34.2**	**-0.3**
	comp=Z,3.8nm,0.4s,baz=123,slow=11,SNR=32						
	comp=Z,3.8nm,0.4s						
ZAA0	**Zalesovo Array**	**34.15**	**42**	P	**P**	**09 38 38.4**	**-0.3**
ZAA0				IAmb	IAmb	09 38 39.3	
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**34.15**	**42**	P	**P**	**09 38 38.6**	**0.0**
ZALV	**Zalesovo Beam**	**34.15**	**42**	P	**P**	**09 38 37.4**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=259,slow=8.9,SNR=7.4						
	comp=Z,0.9nm,0.3s						
NOA	**NORSAR Array B**	**35.20**	**331**	P	**P**	**09 38 46.1**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=110,slow=9.0,SNR=1.9						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**37.59**	**349**	P	**P**	**09 39 08.0**	**0.0**
	comp=Z,7.7nm,1.1s,baz=156,slow=8.9,SNR=2.3						
	comp=Z,7.7nm,1.1s						
ESDC	**Sonseca Array**	**39.82**	**293**	P	**P**	**09 39 26.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=68,slow=7.4,SNR=1.5						
	comp=Z,0.3nm,0.5s						
NRIK	**Noril'sk**	**42.55**	**21**	P	**P**	**09 39 49.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=234,slow=3.9,SNR=4.8						
	comp=Z,1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**44.82**	**254**	P	**P**	**09 40 08.5**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=57,slow=9.2,SNR=4.2						
	comp=Z,1.4nm,1.1s						
SPB2	**Spitsbergen Ar**	**46.33**	**352**	P	**P**	**09 40 19.8**	**+0.6**
SPITS	**Spitsbergen Ar**	**46.33**	**352**	P	**P**	**09 40 18.2**	**-1.1**
	comp=Z,15nm,1.1s,baz=132,slow=11,SNR=7.2						
	comp=Z,15nm,1.1s						
SONM	**Songino Array**	**46.95**	**54**	P	**P**	**09 40 24.8**	**+0.1**
SONM				IAmb	IAmb	09 40 47.6	
	comp=Z,0.9nm,1.2s						
SONM	**Songino Array**	**46.95**	**54**	P	**P**	**09 40 24.4**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=281,slow=11,SNR=3.2						
	comp=Z,0.4nm,0.5s						
ULN	**Ulaanbaatar**	**47.38**	**53**	P	**P**	**09 40 29.1**	**+1.1**
ILAR	**Eielson Array**	**81.35**	**5**	P	**P**	**09 44 08.2**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=350,slow=4.8,SNR=3.0						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**82.82**	**351**	P	**P**	**09 44 16.3**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=19,slow=5.3,SNR=4.3						
	comp=Z,0.2nm,0.7s						
WRA	**Warramunga Arr**	**99.75**	**107**	P	**Pdif**	**09 45 37.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=316,slow=4.0,SNR=1.4						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**101.37**	**111**	P	**Pdif**	**09 45 44.3**	**-1.1**
	comp=Z,0.4nm,1.1s,baz=317,slow=3.9,SNR=2.2						

*IDC **13** 09:38:16.5±5.7, 1.°62N×98.°31E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=284.9km s-min=26.4km az=53.0*
*DJA **13** 09:38:32.9±0.4, 2.°1N±3.°×9.°9E±.°, h10km, M3.3/7, MLv3.3/7*
ISC 13 09:38:30.6±1.0, **1.°94N**±0.°07×**98.°8E**±0.°1, **h100**km, **n12,**
σ1s85/10, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.86**	**8**	P	**Pn**	**09 38 50.0**	**+0.3**
GSI	**Gunungsitoli**	**1.38**	**243**	P	**Pn**	**09 38 54.3**	**-1.1**
KCSI	**Kotacane, Aceh**	**1.88**	**327**	P	**Pn**	**09 39 04.9**	**+3.3**
PBSI	**Pulau Batu**	**2.05**	**195**	P	**Pn**	**09 39 06.0**	**+2.2**
PBSI				S	**Sn**	**09 39 30.6**	**+1.4**
SNSI	**Sinabang, Aceh**	**2.52**	**281**	P	**Pn**	**09 39 10.7**	**+0.8**
WRA	**Warramunga Arr**	**41.09**	**124**	P	**P**	**09 46 04.3**	**-0.6**
	0.7nm,0.4s,baz=302,slow=9.0,SNR=12						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**46.94**	**344**	P	**P**	**09 46 51.0**	**-0.2**
	0.3nm,0.4s,baz=160,slow=6.8,SNR=5.5						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**53.10**	**350**	P	**P**	**09 47 37.5**	**-0.1**
	0.7nm,0.3s,baz=152,slow=8.7,SNR=3.7						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**56.09**	**340**	P	**P**	**09 47 57.3**	**-2.0**
	0.3nm,0.4s,baz=160,slow=9.1,SNR=1.7						
	0.3nm,0.4s						
H04N2	**CROZET ISLANDS**	**63.29**	**215**	T	T	10 57 14.4	
	baz=55						
H04N1	**CROZET ISLANDS**	**63.30**	**215**	T	T	10 56 32.1	
	baz=55						
H04N3	**CROZET ISLANDS**	**63.31**	**215**	T	T	10 56 58.4	
	baz=55						

*ISN **13** 09:57:30.4±0.7, 33.°70N×45.°61E, h9km±3km, ML2.6*
*TEH **13** 09:57:31.0, 33.°69N×45.°59E, h8km±943km, ML2.8*
ISC 13 09:57:31.2±1.0, **33.°70N**±0.°04×**45.°60E**±0.°05

*IDC **13** 10:31:48.0±0.5, 13°.89N×125°.69E, h0km, mb4.3/22, mbtmp4.3/25, ML4.6/3, MS3.3/10, Error ellipse: s-maj=20.9km s-min=12.1km az=79.0*
*NEIC **13** 10:31:50.8±0.9, 13°.83N±0°.10×125°.48E±0°.03, h10km±1km, mb4.5/27, Error ellipse: s-maj=16.5km s-min=5.5km az=176.0*

ISC 13 10:31:53.3±0.5, **13°.84N**±0°.07×**125°.54E**±0°.08, **h35**km, **n81, σ0s92/73, mb4.4/36, MS3.2/7, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.47**	**274**	Pn		**Pn**		**10 32 57.9**	**-0.8**
	72nm,0.3s,baz=103,slow=13,SNR=3.1								
TGY				Sn		**Sn**		**10 33 48.4**	**-1.2**
	50nm,0.3s,baz=316,slow=21,SNR=1.6								
	164nm,0.4s								
DAV	**Davao City (W)**	**6.73**	**180**	LR		LR		10 36 50.4	
	comp=Z,347nm,20.0s,baz=328,slow=45								
TPUB	**Ta-pu**	**10.49**	**334**	Pn		**Pn**		**10 34 22.9**	**+1.6**
JOW	**Kunigami**	**13.18**	**11**	Pn		**Pn**		**10 34 57.0**	**-1.0**
	3.8nm,0.3s,baz=211,slow=18,SNR=14								
	14nm,0.4s								
KAPI	**Kappang**	**19.59**	**197**	P		**Pn**		**10 36 20.3**	**+0.2**
	2.8nm,0.3s,baz=0.5,slow=8.6,SNR=6.7								
KAPI				LR		LR		10 44 23.5	
	comp=Z,84nm,20.4s,baz=18,slow=38								
	11nm,0.4s								
JNU	**Nakatsue**	**19.80**	**13**	LR		LR		10 43 20.8	
	comp=Z,40nm,20.6s,baz=180,slow=35								
ENH	**Enshi**	**22.06**	**320**	P		**P**		**10 36 44.1**	**-1.2**
ENH				IAmb		IAmb		10 36 54.9	
	comp=Z,10nm,0.5s								
KSAR	**Wonju Array Be**	**23.60**	**5**	P		**P**		**10 37 02.0**	**+1.0**
KSRS	**Korea Array**	**23.61**	**5**	P		**P**		**10 37 00.3**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=182,slow=8.8,SNR=9.4								
KSRS				LR		LR		10 45 28.1	
	comp=Z,66nm,20.7s,baz=225,slow=35								
	comp=Z,2.6nm,0.8s								
MJAR	**Matsushiro Arr**	**25.30**	**24**	LR		LR		10 45 16.2	
	comp=Z,71nm,21.2s,baz=200,slow=32								
CMAR	**Chiang Mai Arr**	**25.94**	**284**	P		**P**		**10 37 23.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**25.94**	**284**	P		**P**		**10 37 23.0**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=96,slow=7.9,SNR=18								
CMAR				LR		LR		10 47 50.0	
	comp=Z,20nm,18.1s,baz=170,slow=37								
	comp=Z,3.1nm,0.6s								
MTN	**Manton Dam**	**27.09**	**168**	P		**P**		**10 37 33.7**	**+0.8**
MTN				IAmb		IAmb		10 37 37.1	
	comp=Z,9.1nm,1.0s								
KNRA	**Kununurra**	**29.50**	**174**	P		**P**		**10 37 54.3**	**-0.1**
USA0B	**Ussuriysk Arra**	**30.75**	**9**	P		**P**		**10 38 06.1**	**+0.8**
USA0B				IAmb		IAmb		10 38 06.5	
	comp=Z,8.4nm,1.1s								
USRK	**Ussuriysk Ar.**	**30.75**	**9**	P		**P**		**10 38 05.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**30.75**	**9**	P		**P**		**10 38 05.3**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=206,slow=9.5,SNR=5.3								
	comp=Z,4.2nm,0.9s								
ASAJ	**Asahikawa**	**33.52**	**23**	LR		LR		10 51 35.7	
	comp=Z,44nm,19.8s,baz=160,slow=36								
WRA	**Warramunga Arr**	**34.67**	**165**	P		**P**		**10 38 38.5**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=344,slow=9.0,SNR=8.6								
WRA				PcP		**PcP**		**10 41 14.2**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=352,slow=2.9,SNR=1.2								
	comp=Z,1.1nm,0.6s								
KLR	**Kul'dur**	**35.66**	**7**	P		**P**		**10 38 45.8**	**-2.1**
	comp=Z,2.7nm,1.0s,baz=220,slow=2.8,SNR=6.2								
	comp=Z,2.7nm,1.0s								
ULN	**Ulaanbaatar**	**37.24**	**339**	P		**P**		**10 39 02.3**	**+0.6**
SONM	**Songino Array**	**37.45**	**339**	P		**P**		**10 39 03.8**	**+0.3**
SONM	**Songino Array**	**37.45**	**339**	P		**P**		**10 39 03.5**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=154,slow=9.9,SNR=18								
	comp=Z,3.2nm,0.8s								
AS31	**Alice Springs**	**38.16**	**168**	P		**P**		**10 39 09.4**	**-0.1**
ASAR	**Alice Springs**	**38.16**	**168**	P		**P**		**10 39 09.3**	**-0.3**
ASAR	**Alice Springs**	**38.16**	**168**	P		**P**		**10 39 09.7**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=345,slow=6.5,SNR=26								
ASAR				PcP		**PcP**		**10 41 23.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=346,slow=2.5,SNR=2.0								
	comp=Z,1.5nm,0.4s								
H11S3	**WAKE ISLAND Hy**	**39.73**	**78**	T		T		11 23 13.0	
	baz=271								
H11S1	**WAKE ISLAND Hy**	**39.74**	**78**	T		T		11 23 10.7	
	baz=271								
H11S2	**WAKE ISLAND Hy**	**39.75**	**78**	T		T		11 23 15.3	
	baz=271								
H11N1	**WAKE ISLAND Hy**	**39.95**	**76**	T		T		11 23 26.3	
	baz=269								
H11N2	**WAKE ISLAND Hy**	**39.95**	**76**	T		T		11 23 27.4	
	baz=269								
H11N3	**WAKE ISLAND Hy**	**39.97**	**76**	T		T		11 23 30.9	
	baz=269								
PETK	**Petropavlovsk-**	**46.73**	**26**	LR		LR		11 00 11.6	
	comp=Z,54nm,18.4s,baz=119,slow=36								
STKA	**Stephens Creek**	**47.99**	**162**	P		**P**		**10 40 28.6**	**-0.3**
	comp=Z,7.8nm,0.9s,baz=355,slow=8.2,SNR=5.6								
	comp=Z,7.8nm,0.9s								
MK31	**Makanchi Array**	**48.79**	**321**	P		**P**		**10 40 35.5**	**+0.6**
MK31				IAmb		IAmb		10 40 36.5	
	comp=Z,3.9nm,0.8s								
MKAR	**Makanchi Array**	**48.79**	**321**	P		**P**		**10 40 35.4**	**+0.5**
MKAR	**Makanchi Array**	**48.79**	**321**	P		**P**		**10 40 35.6**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=112,slow=9.0,SNR=39								
MKAR				PcP		**PcP**		**10 41 58.3**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=92,slow=4.6,SNR=2.0								
MKAR				LR		LR		11 01 58.7	
	comp=Z,39nm,18.8s,baz=50,slow=37								
	comp=Z,3.9nm,0.8s								
MAKZ	**Makanchi**	**48.98**	**321**	P		**P**		**10 40 37.0**	**+0.5**
MAKZ				IAmb		IAmb		10 40 37.5	
	comp=Z,3.9nm,0.9s								
ULHL	**Ulahol**	**50.98**	**314**	P		**P**		**10 40 53.3**	**+1.4**
	SNR=5.7								
ZAA0	**Zalesovo Array**	**51.18**	**330**	P		**P**		**10 40 52.7**	**-0.2**
ZALV	**Zalesovo Beam**	**51.18**	**330**	P		**P**		**10 40 52.7**	**-0.2**
ZALV	**Zalesovo Beam**	**51.18**	**330**	P		**P**		**10 40 52.6**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=117,slow=8.8,SNR=12								
	comp=Z,2.0nm,0.5s								
BOOM	**Boomskoye usch**	**51.27**	**314**	P		**P**		**10 40 53.4**	**-0.6**
TKM2	**Tokmak 2**	**51.65**	**314**	P		**P**		**10 40 58.2**	**+1.3**
	SNR=5.4								
UCH	**Uchtor**	**52.20**	**313**	P		**P**		**10 41 03.4**	**+2.1**
	SNR=7.8								
AAK	**Ala-Archa**	**52.33**	**314**	LR		LR		11 04 26.1	
	comp=Z,40nm,18.2s,baz=68,slow=37								
USP	**Osepenovka**	**52.52**	**314**	P		**P**		**10 41 04.3**	**+1.1**
	SNR=5.5								
SEY	**Seymchan**	**52.57**	**15**	P		**P**		**10 41 03.8**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=252,slow=9.3,SNR=4.0								
	comp=Z,0.6nm,0.5s								
KURK	**Kurchatov**	**52.75**	**324**			**P**		**10 41 04.9**	**+0.2**
AML	**Almayashu**	**52.75**	**313**	P		**P**		**10 41 07.0**	**+1.7**
	SNR=6.0								
KURBB	**Kurchatov Arra**	**52.76**	**324**	P		**P**		**10 41 05.2**	**+0.5**
	comp=Z,10nm,0.7s,baz=120,slow=7.8,SNR=85								
	comp=Z,10nm,0.7s								
KK31	**Karatay Array**	**55.27**	**313**			**P**		**10 41 23.7**	**+0.4**
KK31				IAmb		IAmb		10 41 25.0	
	comp=Z,5.2nm,0.9s								
KKAR	**Karatay Array**	**55.27**	**313**	P		**P**		**10 41 23.9**	**+0.6**
KKAR				IAmb		IAmb		10 41 25.0	
	comp=Z,5.2nm,0.9s								
KKAR	**Karatay Array**	**55.27**	**313**			**P**		**10 41 23.7**	**+0.4**
TIXI	**Tiksi**	**57.82**	**1**	P		**P**		**10 41 40.3**	**-0.5**
TIXI				IAmb		IAmb		10 41 41.2	
	comp=Z,6.6nm,1.1s								
BVAR	**Borovoye Array**	**58.35**	**324**	P		**P**		**10 41 45.6**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=115,slow=6.5,SNR=21								
	comp=Z,6.3nm,0.7s								
BRVK	**Borovoye**	**58.42**	**324**	P		**P**		**10 41 46.1**	**+0.7**
NRIK	**Noril'sk**	**60.40**	**345**	P		**P**		**10 41 58.3**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=81,slow=3.5,SNR=4.5								
	comp=Z,2.9nm,0.9s								
ABKAR	**Akbulak array**	**63.73**	**318**	P		**P**		**10 42 21.8**	**+0.3**
ABKAR				IAmb		IAmb		10 42 22.6	
	comp=Z,2.2nm,0.8s								
GEYT	**Alibeck**	**63.87**	**306**	P		**P**		**10 42 22.7**	**+0.1**
GEYT				IAmb		IAmb		10 42 24.7	
	comp=Z,5.5nm,1.1s								
GEYT	**Alibeck**	**63.87**	**306**	P		**P**		**10 42 23.8**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=87,slow=15,SNR=4.1								
	comp=Z,1.6nm,0.6s								
GYA0B	**ALIBECK ARRAY**	**63.87**	**306**	P		**P**		**10 42 22.6**	**-0.1**
GYA0B				IAmb		IAmb		10 42 24.7	
	comp=Z,6.5nm,1.1s								
ARU	**Arti**	**65.88**	**326**	P		**P**		**10 42 34.5**	**-0.8**
FALS	**False Pass**	**67.89**	**36**	P		**P**		**10 42 48.6**	**+0.5**
L18K	**Granite Mounta**	**72.16**	**29**	P		**P**		**10 43 15.6**	**+1.4**
D19K	**Kuna River**	**72.21**	**22**	P		**P**		**10 43 15.8**	**+1.3**
D19K				IAmb		IAmb		10 43 36.5	
	comp=Z,3.2nm,1.0s								
IMAR	**Indian Mountai**	**73.68**	**25**	P		**P**		**10 43 24.5**	**+1.3**
F24K	**Squaw Lake**	**76.01**	**23**	P		**P**		**10 43 38.4**	**+1.7**
F24K				IAmb		IAmb		10 43 39.0	
	comp=Z,2.5nm,0.7s								
H24K	**Noodor Dome**	**76.09**	**25**	P		**P**		**10 43 38.9**	**+1.8**
ILAR	**Eielson Array**	**76.56**	**26**	P		**P**		**10 43 38.2**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=243,slow=5.6,SNR=11								
	comp=Z,0.7nm,0.7s								
RIDG	**Independent Ri**	**77.54**	**27**	P		**P**		**10 43 46.3**	**+0.9**
D27M	**Malcolm River**	**78.41**	**21**	P		**P**		**10 43 51.8**	**+1.6**
D27M				IAmb		IAmb		10 43 52.4	
	comp=Z,3.4nm,0.8s								
F28M	**Old Crow**	**79.06**	**23**	P		**P**		**10 43 54.8**	**+1.1**
F28M				IAmb		IAmb		10 43 55.8	
	comp=Z,4.3nm,0.8s								
SPITS	**Spitsbergen Ar**	**80.39**	**349**	P		**P**		**10 44 01.1**	**+0.3**
	comp=Z,23nm,1.0s,baz=72,slow=4.7,SNR=1.9								
	comp=Z,23nm,1.0s								
ARCES	**ARCESS Array B**	**80.62**	**339**	P		**P**		**10 44 01.8**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=80,slow=7.4,SNR=3.6								
	comp=Z,4.6nm,0.9s								
INK	**Inuvik**	**81.25**	**22**	P		**P**		**10 44 05.6**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=263,slow=3.9,SNR=4.5								
	comp=Z,2.2nm,0.9s								
FINES	**FINESS Array B**	**82.43**	**331**	P		**P**		**10 44 11.6**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=142,slow=28,SNR=1.8								
	comp=Z,1.6nm,0.8s								
RES	**Resolute Bay**	**88.13**	**10**	P		**P**		**10 44 39.3**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=296,slow=4.1,SNR=5.3								
	comp=Z,1.5nm,0.7s								
YKA	**Yellowknife Ar**	**90.80**	**24**	P		**P**		**10 44 52.1**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=303,slow=4.3,SNR=1.7								
	comp=Z,0.2nm,0.7s								
TXAR	**Lajitas Array**	**116.00**	**47**	PKP		**PKiKP**		**10 50 33.8**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=294,slow=0.9,SNR=2.0								
PLCA	**Paso Flores**	**149.74**	**155**	PKPbc		**PKiKP**		**10 51 41.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=131,slow=6.1,SNR=2.3								

IDC 13 10:38:50.7±11.0, **25°.35N×105°.83E, h0**km, **mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=198.9km s-min=85.7km az=137.0, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**22.45**	**1**	P		P		10 43 51.6	+0.2
	0.5nm,0.7s,baz=170,slow=10,SNR=2.1								
	0.5nm,0.7s								
MKAR	**Makanchi Array**	**28.44**	**325**	P		P		10 44 47.6	+0.4
	0.4nm,0.7s,baz=126,slow=9.6,SNR=4.1								
	0.4nm,0.7s								
ZALV	**Zalesovo Beam**	**32.57**	**337**	P		P		10 45 23.3	-0.3
	0.7nm,0.6s,baz=133,slow=10,SNR=2.7								
	0.7nm,0.6s								
KURBB	**Kurchatov Arra**	**32.82**	**327**	P		P		10 45 25.3	-0.4
	0.3nm,0.7s,baz=129,slow=10.0,SNR=3.4								
	0.3nm,0.7s								
FINES	**FINESS Array B**	**63.21**	**328**	P		P		10 49 20.6	+0.1
	2.2nm,1.0s,baz=72,slow=10,SNR=4.1								
	2.2nm,1.0s								

*FUNV **13** 10:41:38.9, 7°.19N×72°.03W, h9km, MW3.3*
*RSNC **13** 10:41:41.7±1.3, 7°.26N×71°.99W, h0km±7km, ML2.2*

ISC 13 10:41:38.2±0.8, **7°.25N**±0°.03×**71°.80W**±0°.03, **h10**km, **n16, σ2s06/30, 1C, Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.80**	**320**	*e*P		**Pg**		**10 41 52.6**	**-1.1**
CAPV				*e*S		**Sg**		**10 42 02.7**	**-1.4**
TAMC	**Tame, Arauca**	**0.81**	**179**	*i*P		**Pn**		**10 41 57.0**	**+1.4**
TAMC				*e*S		**Sn**		**10 42 09.4**	**+1.7**
TAMC				*i*				10 42 10.5	
	comp=Z,74nm,0.2s								
PAMC	**Pamplona, Colo**	**0.90**	**276**	*e*P		**Pg**		**10 41 54.3**	**-1.2**
PAMC				*e*S		**Sg**		**10 42 05.5**	**-1.9**
PAMC				*i*				10 42 13.5	
	comp=Z,64nm,0.4s								
BARC	**Barichara**	**1.52**	**245**	*e*P		**Pg**		**10 42 07.5**	**+0.2**
BARC				*e*S		**Sg**		**10 42 27.2**	**+0.1**
BARC				*i*				10 42 29.4	
	comp=Z,32nm,0.3s								
OCAC	**Ocana**	**1.80**	**303**	*e*P		**Pb**		**10 42 10.9**	**-0.4**
OCAC				*e*S		**Sb**		**10 42 33.1**	**-1.0**
PTBC	**PUERTO BERRIO,**	**2.73**	**255**	*e*P		**Pn**		**10 42 22.8**	**+0.7**
PTBC				*e*S		**Sn**		**10 42 55.2**	**0.0**
PTBC				*i*				10 43 03.6	
	comp=Z,9.5nm,0.4s								
LL6C	**La Loma 6 Bece**	**2.87**	**330**	*e*P		**Pb**		**10 42 28.4**	**-1.1**
LL6C				*e*S		**Sb**		**10 43 03.2**	**-1.5**
ZARC	**Zaragoza, Cauc**	**3.04**	**275**	*e*P		**Pn**		**10 42 27.6**	**+1.2**
ZARC				*e*S		**Sn**		**10 43 04.4**	**+1.5**
ZARC				*i*				10 43 11.8	
	comp=Z,11nm,0.5s								
PTGC	**Puerto Gaitan,**	**3.04**	**186**	*e*S		**Sn**		**10 43 06.7**	**+3.8**
PTGC				*i*				10 43 24.1	
	comp=Z,16nm,0.3s								
SANV	**Sanarito**	**3.17**	**45**	*e*P		**Pn**		**10 42 31.2**	**+3.0**
SANV				*e*S		**Sn**		**10 43 09.1**	**+2.9**
CURV	**Curarigua**	**3.30**	**33**	*e*P		**Pn**		**10 42 32.2**	**+2.2**
CURV				*e*S		**Sn**		**10 43 11.6**	**+2.3**
GUY2C	**Guyana, Caldas**	**4.08**	**241**	*e*P		**Pn**		**10 42 43.1**	**+2.1**
BAUV	**El Baul**	**4.08**	**65**	*e*P		**Pn**		**10 42 42.8**	**+2.1**
BAUV				*e*S		**Sn**		**10 43 30.0**	**+1.4**
SJCC	**San Jacinto, C**	**4.26**	**308**	*e*P		**Pn**		**10 42 45.1**	**+2.0**
SJCC				*e*S		**Sn**		**10 43 35.8**	**+2.8**
BENV	**Beln**	**4.95**	**57**	*e*P		**Pn**		**10 42 55.1**	**+2.4**
BENV				*e*S		**Sn**		**10 43 51.9**	**+1.8**
CACV	**CAICARA DEL OR**	**5.22**	**86**	*e*P		**Pb**		**10 43 06.1**	**-3.6**
CACV				*e*S		**Sb**		**10 44 09.9**	**-2.7**

*IDC **13** 10:43:58.7±2.1, 33°.47N×138°.37E, h194km±53km, mb2.9/2, mbtmp3.3/3, Error ellipse: s-maj=145.8km s-min=13.1km az=68.0*
*JMA **13** 10:43:59.7±0.3, 34°.1N×139°.1E±1°.0, h211km±3km, MV2.8/41, NEAR MIYAKEJIMA ISLAND*

ISC 13 10:44:00.0±1.1, **33°.66N**±0°.07×**139°.06E**±0°.08, **h200**km, **n17, σ1s72/21, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.81**	**131**	P		**Pn**		**10 44 29.9**	**+1.2**
	155nm,0.9s,baz=41,slow=22,SNR=6.9								
JHJ				S		**Sn**		**10 44 53.6**	**+3.0**
	72nm,0.5s,baz=50,slow=21,SNR=1.5								
JHJ2	**Mitsune**	**0.83**	**130**	*e*P		**Pn**		**10 44 29.7**	**+1.0**
JIZS	**Izushimoda**	**1.07**	**352**	*e*P		**Pn**		**10 44 31.5**	**+1.3**
TK02	**Tokai 2**	**1.12**	**285**	*e*P		**Pn**		**10 44 31.5**	**+1.1**
TK02				*e*S		**Sn**		**10 44 56.7**	**+2.8**
TK04	**Tokai 4**	**1.22**	**307**	*e*S		**Sn**		**10 44 58.5**	**+2.9**
JOD2	**Odawara 2**	**1.60**	**1**	*e*P		**Pn**		**10 44 35.7**	**+1.1**
HMMJ	**Hamamatsu 2**	**1.63**	**318**	*e*P		**Pn**		**10 44 35.6**	**+0.7**
JYN	**Shimob**	**1.89**	**347**	*e*P		**Pn**		**10 44 38.6**	**+1.2**
TTO1	**TONANKAI O.B.S**	**1.90**	**270**	*e*P		**Pn**		**10 44 37.8**	**+0.6**
JNY	**Yasuok**	**1.96**	**330**	P		**Pn**		**10 44 39.3**	**+1.0**
JAO	**Obara**	**2.19**	**318**	*e*P		**Pn**		**10 44 41.4**	**+0.8**
JHU	**Hanno**	**2.20**	**5**	*e*P		**Pn**		**10 44 41.3**	**+0.7**
JHU				*e*S		**Sn**		**10 45 11.7**	**-0.7**
JRY	**Ryogami san**	**2.36**	**357**	P		**Pn**		**10 44 43.9**	**+1.5**
JKN2	**Miekihoku**	**2.39**	**285**	*e*P		**Pn**		**10 44 42.8**	**+0.2**
MJAR	**Matsushiro Arr**	**2.96**	**347**	P		**Pn**		**10 44 49.7**	**+0.5**
	4.0nm,0.5s,baz=173,slow=12,SNR=15								
MJAR				S		**Sn**		**10 45 27.5**	**-0.3**
	0.8nm,0.3s,baz=130,slow=9.1,SNR=1.4								
WRA	**Warramunga Arr**	**53.49**	**186**	P		**P**		**10 52 57.1**	**-2.7**
	0.2nm,0.3s,baz=0.6,slow=7.7,SNR=6.6								
	0.2nm,0.3s								
ASAR	**Alice Springs**	**57.22**	**186**	P		**P**		**10 53 23.9**	**-2.5**
	0.4nm,0.9s,baz=16,slow=15,SNR=4.3								
	0.4nm,0.9s								

NOU 13 10:55:13.3, 21°.47S×169°.67E, h0km, **MLv3.5/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.53**	**269**	P		P	Pn	10 55 40.8	-1.0
PINNC	**Pines Island,**	**2.36**	**241**	P		P	Pn	10 55 53.5	+0.2
LIFNC	**LIFOU**	**2.37**	**286**	P		P	Pn	10 55 53.2	-0.3
YATNC	**Mamie plateau,**	**2.65**	**257**	P		P	Pn	10 55 56.0	-1.3
OUENC	**Ouen Island, N**	**2.79**	**250**	P		P	Pn	10 55 59.1	-0.1
DZM	**Mont Dzumac**	**3.06**	**258**	P		P	Pn	10 56 03.3	+0.3
KOUNC	**Koumac, New Ca**	**5.11**	**279**	P		P	Pn	10 56 31.9	+0.7
	13nm,2.4s								

*IDC **13** 11:02:03.7±9.2, 4°.68N×127°.40E, h101km±86km, mb3.6/13, mbtmp4.0/13, Error ellipse: s-maj=57.5km s-min=15.9km az=62.0*

ISC 13 11:02:03.9±0.7, **4°.7N**±0°.2×**127°.5E**±0°.2, **h104**km, **n16, σ0s74/16, mb3.9/13, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.06**	**321**	S		**Sn**		**11 03 28.4**	**+1.8**
	168nm,0.4s,baz=202,slow=19,SNR=4.0								
WRA	**Warramunga Arr**	**25.37**	**165**	P		**P**		**11 07 21.8**	**+0.2**
	2.3nm,0.8s,baz=343,slow=10,SNR=15								
	2.3nm,0.8s								
ASAR	**Alice Springs**	**28.85**	**168**	P		**P**		**11 07 52.6**	**-0.1**
	0.7nm,0.7s,baz=347,slow=6.7,SNR=2.3								
	0.7nm,0.7s								
CMAR	**Chiang Mai Arr**	**31.10**	**298**	P		**P**		**11 08 12.1**	**-0.6**
	0.7nm,0.2s,baz=113,slow=6.9,SNR=1.6								
	0.7nm,0.2s								
STKA	**Stephens Creek**	**38.74**	**161**	P		**P**		**11 09 19.1**	**+1.0**
	0.7nm,0.4s,baz=324,slow=17,SNR=3.2								
	0.7nm,0.4s								
SONM	**Songino Array**	**46.67**	**340**	P		**P**		**11 10 21.4**	**-0.8**
	0.6nm,0.6s,baz=156,slow=8.2,SNR=4.7								
	0.6nm,0.6s								
MKAR	**Makanchi Array**	**57.24**	**325**	P		**P**		**11 11 40.3**	**-0.2**
	0.5nm,0.4s,baz=119,slow=7.5,SNR=12								
	0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**60.11**	**332**	P		**P**		**11 11 59.8**	**-0.4**
	0.5nm,0.5s,baz=117,slow=12,SNR=2.6								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**61.38**	**327**	P		**P**		**11 12 08.5**	**-0.4**
	1.1nm,0.4s,baz=125,slow=6.3,SNR=14								
	1.1nm,0.4s								
BVAR	**Borovoye Array**	**66.97**	**327**	P		**P**		**11 12 44.9**	**-0.5**
	1.1nm,0.7s,baz=126,slow=6.4,SNR=7.6								
	1.1nm,0.7s								
NRIK	**Noril'sk**	**69.71**	**346**	P		**P**		**11 13 01.9**	**-0.2**
	1.9nm,0.4s,baz=116,slow=6.3,SNR=2.3								
	1.9nm,0.4s								
ILAR	**Eielson Array**	**83.92**	**25**	P		**P**		**11 14 22.6**	**+0.6**
	0.2nm,0.6s,baz=294,slow=6.8,SNR=2.3								
	0.2nm,0.6s								
ARCES	**ARCESS Array B**	**89.84**	**340**	P		**P**		**11 14 50.9**	**+0.2**
	3.4nm,0.8s,baz=65,slow=6.8,SNR=5.0								
	3.4nm,0.8s								
FINES	**FINESS Array B**	**91.38**	**332**	P		**P**		**11 14 57.7**	**-0.2**
	1.1nm,0.8s,baz=20,slow=6.1,SNR=4.9								
	1.1nm,0.8s								
SCHQ	**Schefferville**	**119.51**	**9**	PKP		**PKiKP**		**11 20 41.7**	**+0.3**
	2.0nm,0.7s,baz=231,slow=16,SNR=1.5								
TORD	**Torodi Ar. Bea**	**123.37**	**289**	PKP		**PKPdf**		**11 20 49.0**	**-0.9**
	0.4nm,0.6s,baz=20,slow=3.4,SNR=3.7								

*IDC **13** 11:07:41.4±0.8, 11°.11S×163°.05E, h0km, mb4.0/14, mbtmp4.0/16, ML3.9/2, MS3.7/2, Error ellipse: s-maj=23.8km s-min=17.9km az=105.0*
*NEIC **13** 11:07:43.5±2.9, 11°.17S±0°.10×163°.2E±0°.1, h10km±1km, mb4.6/17, Error ellipse: s-maj=22.6km s-min=13.5km az=56.0*
*NOU **13** 11:07:43.9, 11°.15S×163°.24E, h0km, mb4.6/8, Solomon Islands*

**ISC

comp=Z,0.7nm,0.6s,baz=139,slow=12,SNR=3.0
comp=Z,0.7nm,0.6s

VNDA Vanda 66.28 180 P **P** **11 18 29.2 -1.5**
VNDA IAmb IAmb 11 18 48.3
comp=Z,10nm,1.4s

VNDA Vanda 66.28 180 P **P** **11 18 33.1 +2.3**
comp=Z,1.1nm,0.9s,baz=252,slow=13,SNR=2.3
comp=Z,1.1nm,0.9s

CMAR Chiang Mai Arr 69.88 294 P **P** **11 18 53.4 -0.9**
comp=Z,0.6nm,0.3s,baz=107,slow=4.5,SNR=5.1
comp=Z,0.6nm,0.3s

SONM Songino Array 77.34 325 P **P** **11 19 37.9 +0.2**
comp=Z,2.2nm,1.0s,baz=132,slow=5.3,SNR=8.6
comp=Z,2.2nm,1.0s

GTA Gaotai 77.38 315 *eP* **P** **11 19 38.3 +0.2**
GTA pmax pmax
comp=Z,3.0nm,1.5s

M16K Timber Creek 77.98 18 P **P** **11 19 41.7 +0.8**
QSPA South Pole Qui 78.78 180 P **P** **11 19 45.7 +0.2**
QSPA IAmb IAmb 11 20 12.3
comp=Z,9.7nm,1.2s

QSPA South Pole Qui 78.78 180 P **P** **11 19 47.1 +1.7**
comp=Z,1.7nm,1.1s,baz=143,slow=18,SNR=2.4
comp=Z,1.7nm,1.1s

IMAR Indian Mountai 83.29 16 P **P** **11 20 10.8 +1.6**
ILAR Eielson Array 84.50 19 P **P** **11 20 15.7 +0.3**
comp=Z,0.5nm,0.7s,baz=230,slow=4.8,SNR=9.7
comp=Z,0.5nm,0.7s

NVAR Mina Array Bea 88.08 50 P **P** **11 20 33.4 -0.5**
comp=Z,0.4nm,0.7s,baz=232,slow=5.6,SNR=2.9
comp=Z,0.4nm,0.7s

MKAR Makanchi Array 91.93 317 P **P** **11 20 50.8 -0.6**
comp=Z,1.2nm,0.8s,baz=79,slow=6.3,SNR=7.4
comp=Z,1.2nm,0.8s

ZALV Zalesovo Beam 92.23 325 P **P** **11 20 50.8 -1.8**
comp=Z,0.3nm,0.4s,baz=97,slow=4.6,SNR=2.0
comp=Z,0.3nm,0.4s

YKA Yellowknife Ar 96.30 28 P **P** **11 21 11.4 +0.3**
comp=Z,0.3nm,0.9s,baz=232,slow=4.7,SNR=3.7
comp=Z,0.3nm,0.9s

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*TRN **13** 11:11:57.0, 10˚.88N×62˚.02W, h41km, MD3.6*
*FUNV **13** 11:11:57.5, 10˚.83N×61˚.86W, h35km, MW3.9*

ISC 13 11:11:55.5±1.4, **10˚.82N**±0˚.04×**61˚.93W**±0˚.05, **h78**km±14km, **n24**, σ1§**52**/40, **Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.55**	**109**	*eP*	**Pn**	**11 12 10.1**	**+0.7**
TRN				*eS*	**Sn**	**11 12 18.5**	**-1.3**
TPP	**Pointe-a-Pierr**	**0.69**	**137**	*eP*	**Pn**	**11 12 12.6**	**+1.8**
TBH	**Brigand Hill**	**0.91**	**112**	*eP*	**Pn**	**11 12 15.1**	**+1.7**
GRFF	**Grenada Fort F**	**1.23**	**9**	*eP*	**Pn**	**11 12 17.1**	**-0.1**
GRFF				*eS*	**Sn**	**11 12 32.6**	**-1.1**
CRUV	**Carupano**	**1.29**	**264**	*eP*	**Pn**	**11 12 19.1**	**+1.1**
CRUV				*eS*	**Sn**	**11 12 35.2**	**+0.2**
GRGR	**Grenville**	**1.33**	**12**	*eP*	**Pn**	**11 12 18.6**	**+0.1**
GRGR				*eS*	**Sn**	**11 12 34.8**	**-1.0**
GRW	**Mount Saint Ca**	**1.35**	**11**	*eP*	**Pn**	**11 12 19.9**	**+1.0**
GRW				*eS*	**Sn**	**11 12 36.1**	**-0.4**
GRHS	**Sauteurs**	**1.42**	**11**	*eP*	**Pn**	**11 12 19.9**	**+0.3**
GRHS				*eS*	**Sn**	**11 12 36.8**	**-1.1**
GCMP	**Grenada, Carri**	**1.72**	**17**	*eP*	**Pn**	**11 12 24.2**	**+0.6**
GCMP				*eS*	**Sn**	**11 12 44.4**	**-0.7**
CUMV	**Cumana_UDO**	**2.26**	**260**	*eP*	**Pn**	**11 12 32.8**	**+2.0**
CUMV				*eS*	**Sn**	**11 12 58.5**	**+0.7**
SVOC	**Richmond Hill,**	**2.42**	**17**	*eP*	**Pn**	**11 12 33.8**	**+0.9**
SVOC				*eS*	**Sn**	**11 13 02.0**	**+0.4**
SVB	**Belmont**	**2.52**	**15**	*eP*	**Pn**	**11 12 35.2**	**+0.8**
SVB				*eS*	**Sn**	**11 13 02.8**	**-1.4**
PCRV	**Puerto La Cruz**	**2.74**	**257**	*eP*	**Pn**	**11 12 38.5**	**+1.2**
PCRV				*eS*	**Sn**	**11 13 08.6**	**-0.9**
SLBI	**Saint Lucia, B**	**3.31**	**16**	*eP*	**Pn**	**11 12 46.3**	**+1.3**
SLBI				*eS*	**Sn**	**11 13 22.3**	**-1.1**
MPOM	**Morne Pois Mar**	**3.75**	**16**	*eP*	**Pn**	**11 12 52.6**	**+1.6**
MPOM				*eS*	**Sn**	**11 13 33.7**	**-0.2**
BIM	**Bigot**	**3.77**	**13**	*eP*	**Pn**	**11 12 52.9**	**+1.6**
BIM				*eS*	**Sn**	**11 13 33.2**	**-1.3**
LUEV	**Luepa**	**4.97**	**175**	*eP*	**Pn**	**11 13 08.3**	**+0.5**
LUEV				*eS*	**Sn**	**11 14 00.3**	**-3.8**
CBE	**Ff, Capester**	**5.22**	**3**	*eP*	**Pn**	**11 13 12.4**	**+1.3**
CBE	**Ff, Capester**	**5.22**	**3**	*eS*	**Sn**	**11 14 08.5**	**-1.5**
CACV	**CAICARA DEL OR**	**5.58**	**235**	*eP*	Pn	11 13 11.8	-4.2
CACV				*eS*	Sn	11 14 07.0	-12
BENV	**Beln**	**5.64**	**262**	*eP*	**Pn**	**11 13 18.0**	**+1.1**
BENV				*eS*	**Sn**	**11 14 17.6**	**-2.8**
BAUV	**El Baul**	**6.30**	**253**	*eP*	**Pn**	**11 13 26.8**	**+1.0**
BAUV				*eS*	**Sn**	**11 14 33.0**	**-3.5**
BAUV	**El Baul**	**6.30**	**253**	*eP*	**Pn**	**11 13 26.9**	**+1.0**
BAUV	**El Baul**	**6.30**	**253**	*eS*	**Sn**	**11 14 34.0**	**-2.5**

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*TEH **13** 11:22:36.5, 33˚.79N×45˚.74E, h11km±22km, ML3.5*
*IDC **13** 11:22:37.3±11.0, 34˚.27N×45˚.75E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=233.1km s-min=29.7km az=12.0*

ISC 13 11:22:35.9±1.2, **33˚.77N**±0˚.07×**45˚.68E**±0˚.07, **h10**km, **n27**, σ1§**46**/**27**, **mb3.8/5**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.46**	**108**	**Pg**	**Pg**	**11 22 45.1**	**+0.3**
ILBA				Sg	**Sb**	**11 22 51.6**	**-1.4**
KGS1	**Ghasr-e-Shirin**	**0.74**	**354**	Pg	**Pg**	**11 22 50.7**	**+0.4**
IGHG	**Ghaleghazi**	**0.93**	**52**	**Pg**	**Pb**	**11 22 54.1**	**0.0**
IDHR	**Dehrash**	**1.10**	**32**	**Pg**	**Pg**	**11 22 56.5**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.24**	**65**	**Pg**	**Pb**	**11 22 59.1**	**-0.3**
ILIN	**Lien**	**1.56**	**42**	**Pg**	**Pg**	**11 23 05.6**	**-0.3**
IKOM	**Komasi**	**1.57**	**74**	**Pg**	**Pg**	**11 23 05.6**	**-0.5**
IKOM				Sg	**Sg**	**11 23 27.8**	**+1.3**
IKFM	**Kafar-mosalman**	**1.82**	**97**	Pg	**Pb**	**11 23 09.0**	**-0.2**
IALM	**Almabolaq**	**2.33**	**61**	Pn	**Pn**	**11 23 15.8**	**+1.3**
SDS1	**Sardasht. Az.**	**2.38**	**356**	Pn	**Pn**	**11 23 17.3**	**+2.2**
HSAM	**Samen**	**2.46**	**79**	Pn	**Pn**	**11 23 17.6**	**+1.2**
MAHB	**Mahabad**	**2.99**	**0**	Pn	**Pn**	**11 23 25.8**	**+2.3**
HAGD	**Aghdareh**	**3.05**	**69**	Pn	**Pn**	**11 23 25.6**	**+1.3**
ZNGN	**Zangian**	**4.65**	**109**	Pn	**Pn**	**11 23 48.8**	**+2.4**
QAMS	**Qamsar**	**4.76**	**89**	Pn	**Pn**	**11 23 49.4**	**+1.5**
IKLH	**Kolahrood**	**4.94**	**94**	Pn	**Pn**	**11 23 52.1**	**+1.6**
KLST	**Kelardasht - M**	**5.19**	**57**	Pn	**Pn**	**11 23 56.5**	**+2.6**
KRSH	**Karshahi**	**5.37**	**86**	Pn	**Pn**	**11 23 57.7**	**+1.5**
IRAM	**Ramesheh**	**5.97**	**107**	Pn	**Pn**	**11 24 06.9**	**+2.4**
ASF	**Jabal al Asfar**	**7.55**	**260**	Lg	Lg	11 26 37.1	
	0.5nm,0.3s,baz=250,slow=22,SNR=1.7						
EIL	**Elat**	**10.01**	**249**	Lg	Lg	11 28 07.0	
	0.3nm,0.3s,baz=117,slow=21,SNR=1.9						
AKASG	**Malin Array Be**	**20.77**	**329**	P	**P**	**11 27 15.2**	**-1.7**
	0.5nm,0.5s,baz=138,slow=9.8,SNR=5.3						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**26.10**	**35**	P	**P**	**11 28 08.2**	**-1.5**
	0.3nm,0.6s,baz=224,slow=10,SNR=1.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**29.28**	**45**	P	**P**	**11 28 37.8**	**-0.4**
	0.2nm,0.4s,baz=247,slow=11,SNR=0.8						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**30.43**	**341**	P	**P**	**11 28 47.8**	**-0.3**
	1.5nm,0.9s,baz=150,slow=11,SNR=1.2						
	1.5nm,0.9s						
MKAR	**Makanchi Array**	**30.52**	**54**	P	**P**	**11 28 49.3**	**+0.1**
	0.5nm,0.4s,baz=256,slow=8.1,SNR=13						
	0.5nm,0.4s						
HFS	**Hagfors**	**33.64**	**331**	P	**P**	**11 29 15.3**	**-1.0**
	1.1nm,0.4s,baz=123,slow=10,SNR=11						
	1.1nm,0.4s						

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*IDC **13** 11:24:32.4±0.4, 11˚.07S×163˚.05E, h0km, mb4.8/22, mbtmp4.8/24, ML4.6/2, MS5.3/56, Error ellipse: s-maj=16.0km s-min=13.3km az=90.0*
*MOS **13** 11:24:33.3±1.1, 11˚.19S×163˚.05E, h16km, mb5.5/45, MS5.5/24, Error ellipse: s-maj=8.1km s-min=6.5km az=127.3*
*BJI **13** 11:24:33.8±0.0, 11˚.00S×163˚.08E, h16km, mb5.1/82, mB5.5/58, Ms5.7/91, Ms7 5.5/88*
*NEIC **13** 11:24:33.4, 11˚.17S×163˚.04E, h18km*
*NEIC **13** 11:24:33.4, 11˚.17S×163˚.04E, h18km, Moment Tensor Solution. Duration: 4§1 Moment tensor: Scale 10^17^Nm; Mrr=-0.01; Mθθ=0.78; Mϕϕ=0.80; Mrθ=-0.85; Mrϕ=6.26; Mθϕ=-3.07; Fault plane solution: Mo7.04000×10^17^ NP1: ϕs175.57000°, δ84.37000°, λ155.19000°. NP2: ϕs268.16000°, δ65.32000°, λ6.20000°. Principal axes: T 7.4445, Plg21.0000°, Azm129.0000°; N -0.8137, Plg65.0000°, Azm344.0000°; P -6.6308, Plg13.0000°, Azm224.0000°;*
*NEIC **13** 11:24:34.7±1.5, 11˚.16S±0˚.08×163˚.03E±0˚.09, h11km±1km, mb5.5/93, Ms_20 5.6/951, Mwb5.7/39, Mww5.8/29 Error ellipse: s-maj=15.9km s-min=10.7km az=51.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.61; Mθθ=0.53; Mϕϕ=1.13; Mrθ=1.27; Mϕϕ=4.17; Mθr=1.17; Fault plane solution: Mo4.62000×10^17^ NP1: ϕs262.02000°, δ73.13000°, λ-15.85000°. NP2: ϕs356.73000°, δ74.84000°, λ-162.50000°. Principal axes: T 4.5626, Plg1.0000°, Azm129.0000°; N 0.1205, Plg67.0000°, Azm36.0000°; P -4.6831, Plg23.0000°, Azm220.0000°;*
*NEIC **13** 11:24:34.7, 11˚.16S×163˚.03E, h11km*
*GCMT **13** 11:24:37.7±0.1, 11˚.04S×162˚.99E, h14km, MW5.8/159, Moment Tensor Solution. s149,c298; s159,c498; Duration: 1§9 Moment tensor: Scale 10^17^Nm; Mrr=0.27±.04; Mθθ=0.95±.04; Mϕϕ=1.21±.04; Mrθ=0.73±.09; Mϕϕ=5.87±.04; Mθr=1.89±.12; Best double couple: Mo6.30700×10^17^ NP1:ϕs356.00000°, δ85.00000°, λ-162.00000°. NP2:ϕs264.00000°, δ72.00000°, λ-5.00000°. Principal axes: T 6.2530, Plg9.0000°, Azm128.0000°; N 0.1040, Plg71.0000°, Azm11.0000°; P -6.3600, Plg16.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*IPGP **13** 11:24:37.0, 11˚.20S×163˚.02E, h6km, Mw5.9, Fault plane solution: NP1:ϕs4.00000°, δ82.00000°, λ-159.00000°. NP2:ϕs271.00000°, δ69.00000°, λ-8.00000°.*
*NOU **13** 11:24:39.5, 11˚.24S×162˚.97E, h38km, ML5.6/111, Solomon Islands*

ISC 13 11:24:36.4±0.4, **11˚.24S**±0˚.04×**163˚.02E**±0˚.04, **h23**km±2km, **h23**km:**pP-P, n1049**, σ1§**74**/652, **mb5.3**/148, **MS5.6**/559, **20C-17D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.52**	**300**	Pn	**Pn**	**11 25 29.7**	**0.0**
HNR					**Pn**	**11 25 30.5**	**+0.8**
HNR	**Honiara**	**3.52**	**300**	P	**Pn**	**11 25 31.2**	**+1.5**
HNR	**Honiara**	**3.52**	**300**	P	**Pn**	**11 25 30.5**	**+0.8**
HNR	**Honiara**	**3.52**	**300**	Pn	**Pn**	**11 25 29.5**	**-0.2**
	6µm,0.3s,baz=157,slow=1.9,SNR=218						
HNR				Sn	**Sn**	**11 26 11.7**	**+1.1**
	6µm,0.3s,baz=78,slow=22,SNR=1.5						
HNR				LR	LR	11 27 02.4	
	comp=Z,1312µm,21.4s,baz=191,slow=43						
KOUNC	**Koumac, New Ca**	**9.34**	**173**	Pn	**Pn**	**11 26 50.5**	**+0.7**
KOUNC	**Koumac, New Ca**	**9.34**	**173**	P	**Pn**	**11 26 52.0**	**+2.2**
LIFNC	**LIFOU**	**10.32**	**157**		**Pn**	**11 27 02.0**	**-1.1**
LIFNC	**LIFOU**	**10.32**	**157**	P	**Pn**	**11 27 02.3**	**-0.8**
NOUC	**Port Laguerre**	**11.25**	**164**	P	**Pn**	**11 27 17.8**	**+1.8**
DZM	**Mont Dzumac**	**11.26**	**164**	P	**Pn**	**11 27 17.5**	**+1.3**
DZM	**Mont Dzumac**	**11.26**	**164**	Pn	**Pn**	**11 27 16.8**	**+0.6**
	2.0nm,0.3s,baz=25,slow=10.0,SNR=30						
DZM				Sn	**Sn**	**11 29 16.3**	**-5.1**
	0.6nm,0.3s,baz=15,slow=7.3,SNR=1.3						
DZM				LR	LR	11 31 02.6	
	comp=Z,19µm,18.9s,baz=354,slow=34						
	14nm,0.4s						
MARNC	**Mare, Loyalty**	**11.26**	**155**		**Pn**	**11 27 16.7**	**+0.6**
MARNC	**Mare, Loyalty**	**11.26**	**155**	P	**Pn**	**11 27 20.6**	**+4.5**
YATNC	**Mamie plateau,**	**11.38**	**161**	P	**Pn**	**11 27 17.3**	**-0.5**
ONTNC	**Ouen Toro**	**11.49**	**164**	Pn	**Pn**	**11 27 20.3**	**+1.1**
ONTNC	**Ouen Toro**	**11.49**	**164**	P	**Pn**	**11 27 22.6**	**+3.4**
OUENC	**Ouen Island, N**	**11.71**	**162**		**Pn**	**11 27 23.3**	**+1.1**
OUENC	**Ouen Island, N**	**11.71**	**162**	P	**Pn**	**11 27 24.7**	**+2.5**
PINNC	**Pines Island,**	**12.08**	**160**		**Pn**	**11 27 26.9**	**-0.3**
PINNC	**Pines Island,**	**12.08**	**160**	P	**Pn**	**11 27 28.7**	**+1.5**
RABL	**Rabaul**	**12.83**	**302**		**Pn**	**11 27 37.0**	**-0.5**
RABL	**Rabaul**	**12.83**	**302**	P	**Pn**	**11 27 39.5**	**+1.9**
KAVG	**Kavieng**	**14.85**	**304**	P	**Pn**	**11 28 06.9**	**+1.7**
PMG	**Port Moresby**	**15.71**	**275**	P	**P**	**11 28 19.1**	**-1.3**
PMG	**Port Moresby**	**15.71**	**275**	P	**P**	**11 28 19.6**	**-0.7**
PMG	**Port Moresby**	**15.71**	**275**	P	**P**	**11 28 20.9**	**+0.6**
PMG	**Port Moresby**	**15.71**	**275**	*ce*P	**P**	**11 28 18.7**	**-1.6**
PMG				pmax	pmax		
	comp=Z,112nm,1.0s						
PMG				MLR	MLR		
	comp=Z,25µm,13.0s						
PMG	**Port Moresby**	**15.71**	**275**	Pn	**P**	**11 28 20.5**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=89,slow=5.6,SNR=31						
PMG				LR	LR	11 34 10.1	
	comp=Z,16µm,18.4s,baz=112,slow=37						
PMG	**Port Moresby**	**15.71**	**275**	P	**Pn**	**11 28 17.4**	**+0.9**
	comp=Z,457nm,1.3s,comp=Z,10µmcomp=Z,16µm						
TARA	**Tarawa**	**15.92**	**39**	P	**Pn**	**11 28 19.3**	**+0.1**
TARA	**Tarawa**	**15.92**	**39**	P	**P**	**11 28 22.0**	**-0.6**
	comp=Z,590nm,1.3s						
FUNA	**Funafuti**	**16.16**	**82**	P	**P**	**11 28 25.6**	**+0.2**
FUNA	**Funafuti**	**16.16**	**82**	P	**P**	**11 28 26.3**	**+0.9**
RK1H	**Rockhampton Ha**	**16.98**	**223**	P	**P**	**11 28 35.2**	**+0.8**
DGTI	**Dogotuki**	**17.00**	**109**	P	**P**	**11 28 36.3**	**+1.7**
AUAYR	**Ayr State High**	**17.17**	**239**	P	**P**	**11 28 36.3**	**-0.2**
TAVE	**Taveuni**	**17.43**	**110**	P	**P**	**11 28 40.1**	**+0.7**
TV1H	**Townsville Har**	**17.56**	**241**	P	**P**	**11 28 42.4**	**+1.6**
MANU	**Manus Island**	**18.02**	**299**	P	**Pn**	**11 28 44.2**	**-1.3**
MANU	**Manus Island**	**18.02**	**299**	P	**P**	**11 28 46.3**	**+0.4**
EIDS	**Eidsvold**	**18.04**	**217**	P	**P**	**11 28 46.7**	**+0.7**
	baz=18,SNR=6.6						
EIDS	**Eidsvold**	**18.04**	**217**	P	**Pn**	**11 28 45.6**	**-0.1**
EIDS	**Eidsvold**	**18.04**	**217**	P	**P**	**11 28 47.9**	**+1.8**
CTA	**Charters Tower**	**18.37**	**239**	P	**Pn**	**11 28 52.3**	**+2.4**
CTA	**Charters Tower**	**18.37**	**239**	P	**Pn**	**11 28 51.7**	**+1.8**
	comp=Z,1.7nm,0.3s,baz=65,slow=11,SNR=49						
CTA				LR	LR	11 34 54.0	
	comp=Z,22µm,21.3s,baz=58,slow=34						
	comp=Z,69nm,0.9s						
CTAO	**Charters Tower**	**18.37**	**239**	P	**P**	**11 28 49.4**	**-0.4**
CTAO				IAmb	IAmb	11 28 56.0	
	comp=Z,546nm,1.9s						
CTAO	**Charters Tower**	**18.37**	**239**	P	**Pn**	**11 28 52.3**	**+2.4**
CTAO	**Charters Tower**	**18.37**	**239**	P	**P**	**11 28 49.4**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,546nm,1.9s						
PATS	**Pohnpei**	**18.55**	**345**	P	**Pn**	**11 28 53.3**	**+1.2**
	baz=19,SNR=4.5						
PATS	**Pohnpei**	**18.55**	**345**	P	**P**	**11 28 51.7**	**-0.1**
PATS				IAmb	IAmb	11 29 01.1	
	comp=Z,625nm,1.2s						
PATS	**Pohnpei**	**18.55**	**345**	P	**Pn**	**11 28 53.2**	**+1.2**
MTSU	**Mount Surprise**	**19.34**	**247**	P	**Pn**	**11 29 01.2**	**-0.4**
	baz=19,SNR=145						
MTSU	**Mount Surprise**	**19.34**	**247**	P	**Pn**	**11 29 02.8**	**+1.2**
COEN	**Coen**	**19.55**	**260**		**Pn**	**11 29 04.6**	**+0.4**
COEN				IAmb	IAmb	11 29 13.8	
	comp=Z,294nm,1.4s						
ARMA	**Armidale**	**21.82**	**207**	P	**P**	**11 29 28.7**	**+1.3**
	baz=22,SNR=12						
ARMA	**Armidale**	**21.82**	**207**	P	**P**	**11 29 28.7**	**+1.3**
ARMA				IAMs_20	IAMs_20	11 36 28.3	
	comp=Z,30µm,18.0s						
ARMA	**Armidale**	**21.82**	**207**	P	**P**	**11 29 30.5**	**+3.1**
TABU	**Tabubil**	**22.36**	**284**	P	**P**	**11 29 32.4**	**-0.8**
QLP	**Quilpie**	**23.38**	**227**	P	**P**	**11 29 44.1**	**+0.6**
	baz=23,SNR=13						
QLP	**Quilpie**	**23.38**	**227**	P	**P**	**11 29 44.2**	**+0.6**
GENI	**Genyem**	**24.23**	**289**	P	**P**	**11 29 52.6**	**+0.7**
	comp=Z,83nm,1.1s						
GENI	**Genyem**	**24.23**	**289**	P	**P**	**11 29 49.6**	**-2.3**
	comp=Z,124nm,1.3s,comp=Z,6µmcomp=Z,6µm						
QIS	**Mount Isa**	**24.32**	**245**	P	**P**	**11 29 52.9**	**+0.2**
	baz=24,SNR=14						
QIS	**Mount Isa**	**24.32**	**245**	P	**P**	**11 29 53.6**	**+0.9**
MGCD	**Mangrove Creek**	**24.45**	**205**	P	**P**	**11 29 55.1**	**+1.4**
	baz=24,SNR=4.2						
MGCD	**Mangrove Creek**	**24.45**	**205**	P	**P**	**11 29 56.5**	**+2.8**
AFI	**Afiamalu**	**24.74**	**99**	P	**P**	**11 29 56.8**	**+0.3**
AFI	**Afiamalu**	**24.74**	**99**	P	**P**	**11 29 56.3**	**-0.2**
AFI	**Afiamalu**	**24.74**	**99**	P	**P**	**11 29 56.8**	**+0.3**
AFI				pmax	pmax		
	comp=Z,473nm,1.7s						
AUDCS	**Dubbo College**	**24.75**	**210**	P	**P**	**11 29 59.0**	**+2.6**
SYDH	**Sydney Hard Ro**	**25.08**	**205**	P	**P**	**11 30 02.0**	**+2.7**
RAO	**Raoul Island**	**25.25**	**138**	LR	LR	11 38 03.8	
	comp=Z,14µm,19.9s,baz=322,slow=32						
CMSA	**Cobar Meteorol**	**25.78**	**216**	P	**P**	**11 30 07.0**	**+1.2**
	baz=26,SNR=21						
CMSA	**Cobar Meteorol**	**25.78**	**216**	P	**P**	**11 30 08.2**	**+2.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	**Young**	**26.56**	**208**	P	**P**	**11 30 15.3**	**+2.5**
INKA	**Innaminka**	**26.58**	**229**	P	**P**	**11 30 14.1**	**+1.1**
CNB	**Canberra Magne**	**26.99**	**205**	P	**P**	**11 30 18.3**	**+1.5**
	baz=27,SNR=4.7						
NIUE	**Niue**	**27.22**	**110**	P	**P**	**11 30 22.2**	**+3.3**
STKA	**Stephens Creek**	**28.51**	**221**	P	**P**	**11 30 31.3**	**+1.0**
	baz=29,SNR=13						
STKA	**Stephens Creek**	**28.51**	**221**	P	**P**	**11 30 30.3**	**0.0**
STKA	**Stephens Creek**	**28.51**	**221**	P	**P**	**11 30 31.1**	**+0.8**
STKA	**Stephens Creek**	**28.51**	**221**	*ce*P	**P**	**11 30 30.1**	**-0.2**
STKA	**Stephens Creek**	**28.51**	**221**	P	**P**	**11 30 30.9**	**+0.6**
	comp=Z,50nm,0.9s,baz=33,slow=11,SNR=43						
STKA				LR	LR	11 41 12.3	
	comp=Z,20µm,18.3s,baz=34,slow=35						
	comp=Z,50nm,0.9s						
MILA	**Mila**	**28.58**	**204**	P	**P**	**11 30 32.4**	**+1.4**
	baz=29,SNR=4.5						
MILA	**Mila**	**28.58**	**204**	P	**P**	**11 30 32.7**	**+1.8**
TOZ	**Tahuroa Road**	**28.66**	**159**	P	**P**	**11 30 31.6**	**+0.1**
TOZ				IAmb	IAmb	11 31 24.5	
	comp=Z,105nm,1.7s						
WR0	**Warramunga Arr**	**28.73**	**249**	P	**P**	**11 30 30.9**	**-1.5**
WR0				IAMs_20	IAMs_20	11 41 02.7	
	comp=Z,20µm,20.0s						
WR9	**Warramunga Arr**	**28.75**	**249**	IAMs_20	IAMs_20	11 41 03.3	
	comp=Z,19µm,20.0s						
WR8	**Warramunga Arr**	**28.77**	**249**	IAMs_20	IAMs_20	11 41 03.6	
	comp=Z,19µm,20.0s						
WR7	**Warramunga Arr**	**28.79**	**249**	IAMs_20	IAMs_20	11 41 04.3	
	comp=Z,19µm,20.0s						
WR6	**Warramunga Arr**	**28.81**	**249**	IAMs_20	IAMs_20	11 40 54.9	
	comp=Z,19µm,20.0s						
WB0	**Warramunga Arr**	**28.82**	**249**	P	**P**	**11 30 31.9**	**-1.3**
WB0				IAmb	IAmb	11 30 57.6	
	comp=Z,139nm,1.6s						
WB0				IAMs_20	IAMs_20	11 41 06.1	
	comp=Z,19µm,19.0s						
WR5	**Warramunga Arr**	**28.83**	**249**	IAMs_20	IAMs_20	11 40 55.3	
	comp=Z,19µm,20.0s						
WB9	**Warramunga Arr**	**28.84**	**249**	IAMs_20	IAMs_20	11 41 05.5	
	comp=Z,20µm,20.0s						
WB8	**Warramunga Arr**	**28.84**	**249**	IAMs_20	IAMs_20	11 41 05.8	
	comp=Z,20µm,20.0s						
WB7	**Warramunga Arr**	**28.85**	**249**	IAMs_20	IAMs_20	11 41 06.9	
	comp=Z,17µm,20.0s						
WR4	**Warramunga Arr**	**28.85**	**249**	IAMs_20	IAMs_20	11 41 06.9	
	comp=Z,18µm,20.0s						
WB6	**Warramunga Arr**	**28.87**	**249**	IAMs_20	IAMs_20	11 41 06.4	
	comp=Z,19µm,20.0s						
WR3	**Warramunga Arr**	**28.87**	**249**	IAMs_20	IAMs_20	11 40 56.4	
	comp=Z,19µm,20.0s						
WB5	**Warramunga Arr**	**28.87**	**249**	IAMs_20	IAMs_20	11 40 56.5	
	comp=Z,19µm,20.0s						
WC2	**Warramunga Arr**	**28.88**	**249**	IAMs_20	IAMs_20	11 40 56.8	
	comp=Z,19µm,20.0s						
WB4	**Warramunga Arr**	**28.89**	**249**	IAMs_20	IAMs_20	11 41 46.7	
	comp=Z,18µm,19.0s						
WC3	**Warramunga Arr**	**28.89**	**249**	IAMs_20	IAMs_20	11 41 07.7	
	comp=Z,18µm,20.0s						
WR2	**Warramunga Arr**	**28.89**	**249**	IAMs_20	IAMs_20	11 41 08.0	
	comp=Z,19µm,20.0s						
WB3	**Warramunga Arr**	**28.89**	**249**	IAMs_20	IAMs_20	11 41 08.0	
	comp=Z,19µm,20.0s						
WRAB	**Tennant Creek**	**28.90**	**249**	P	**P**	**11 30 31.9**	**-2.0**
WRAB				IAmb	IAmb	11 31 05.8	
	comp=Z,84nm,1.2s						
WRAB	**Tennant Creek**	**28.90**	**249**	P	**P**	**11 30 31.9**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,84nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,1µm,20.0s						
WB2	**Warramunga Arr**	**28.90**	**249**	P	**P**	**11 30 33.0**	**-1.0**
WB2				IAMs_20	IAMs_20	11 40 58.2	
	comp=Z,19µm,20.0s						
WC1	**Warramunga Arr**	**28.91**	**249**	IAMs_20	IAMs_20	11 40 57.5	
	comp=Z,19µm,20.0s						
WB1	**Warramunga Ar.**	**28.91**	**249**	IAMs_20	IAMs_20	11 40 57.5	
	comp=Z,20µm,20.0s						
WR1	**Warramunga Arr**	**28.91**	**249**	IAMs_20	IAMs_20	11 40 57.5	
	comp=Z,19µm,20.0s						
WRA	**Warramunga Arr**	**28.91**	**249**	P	**P**	**11 30 34.6**	**+0.6**
WRA	**Warramunga Arr**	**28.91**	**249**	P	**P**	**11 30 34.7**	**+0.6**
WRA		

TUWZ	Tuamarina	31.57	164	P	P	11	30	57.2	0.0
FAKI	Fak Fak	31.61	283	IAMs_20	IAMs_20	11	44	37.6	
	comp=Z,12µm,21.0s								
GEXS	Deakin Univers	31.65	209	P	P	11	31	01.4	+3.4
SNZO	South Karori	31.67	163	IAMs_20	IAMs_20	11	44	34.7	
	comp=Z,11µm,18.0s								
ARPS	Mount Arapiles	31.80	213	P	P	11	31	01.7	+2.4
WHYH	Whyalla	31.87	223	P	P	11	30	59.3	-0.7
INZ	Inchbonnie	32.22	168	IAMs_20	IAMs_20	11	42	50.3	
	comp=Z,12µm,18.0s								
LTZ	Lake Taylor	32.45	167	IAMs_20	IAMs_20	11	42	52.3	
	comp=Z,15µm,18.0s								
BBOO	Buckleboo	32.78	225	P	P	11	31	08.4	+0.4
	baz=33,SNR=32								
BBOO	Buckleboo	32.78	225	P	P	11	31	08.6	+0.6
BBOO				IAMs_20	IAMs_20	11	43	36.3	
	comp=Z,14µm,20.0s								
BBOO	Buckleboo	32.78	225	P	P	11	31	08.5	+0.6
MULG	Mulgathing	32.90	230	P	P	11	31	08.2	-0.8
OXZ	Oxford	32.92	168	P	P	11	31	09.2	+0.2
OXZ				IAmb	IAmb	11	31	24.3	
	comp=Z,69nm,1.1s								
OXZ				IAMs_20	IAMs_20	11	43	14.8	
	comp=Z,14µm,18.0s								
RPZ	Rata Peaks	33.10	169	IAMs_20	IAMs_20	11	43	06.7	
	comp=Z,10µm,18.0s								
RPZ	Rata Peaks	33.10	169	LR	LR	11	43	09.2	
	comp=Z,10µm,18.7s,baz=344,slow=34								
SIJI	Sorong	33.17	286	P	P	11	31	09.6	-2.0
	comp=Z,16nm,1.0s								
SWI	Sorong	33.18	286	P	P	11	31	08.7	-3.0
	comp=Z,28nm,0.9s								
KNRA	Kununurra	33.58	259	P	P	11	31	13.7	-1.5
	baz=34,SNR=35								
KNRA	Kununurra	33.58	259	P	P	11	31	13.2	-1.9
KNRA				IAmb	IAmb	11	31	16.6	
	comp=Z,67nm,0.8s								
KNRA				IAMs_20	IAMs_20	11	43	46.3	
	comp=Z,10µm,20.0s								
KNRA	Kununurra	33.58	259	P	P	11	31	15.7	+0.5
LBZ	Lake Benmore	33.60	171	IAMs_20	IAMs_20	11	43	30.0	
	comp=Z,9µm,18.0s								
WKZ	Wanaka	33.87	172	IAMs_20	IAMs_20	11	43	10.0	
	comp=Z,12µm,19.0s								
MLZ	Mavora Lakes	34.29	174	IAMs_20	IAMs_20	11	45	30.2	
	comp=Z,9µm,18.0s								
TAU	Tasmania Unive	34.39	201	P	P	11	31	22.5	+0.7
WHZ	Wether Hill Ro	34.79	174	IAMs_20	IAMs_20	11	46	12.5	
	comp=Z,8µm,18.0s								
WRKA	Warakurna	35.62	243	P	P	11	31	31.5	-1.2
	baz=36,SNR=83								
WRKA	Warakurna	35.62	243	P	P	11	31	31.7	-1.1
FITZ	Fitzroy Crossi	36.75	255	P	P	11	31	40.8	-1.7
	baz=37,SNR=16								
FITZ	Fitzroy Crossi	36.75	255	P	P	11	31	40.7	-1.7
LBMI	Labuha	36.81	284	P	P	11	31	41.7	-1.3
	comp=Z,125nm,1.1s,comp=Z,3µm								
RAR	Rarotonga	36.99	110	LR	LR	11	45	55.1	
	comp=Z,2µm,18.0s,baz=273,slow=35								
FORT	Forrest	37.76	234	P	P	11	31	51.3	+0.4
	baz=38,SNR=17								
FORT	Forrest	37.76	234	P	P	11	31	51.5	+0.6
FORT				IAMs_20	IAMs_20	11	47	24.3	
	comp=Z,12µm,19.0s								
FORT	Forrest	37.76	234	P	P	11	31	51.3	+0.4
SANI	Sanana	37.85	281	P	P	11	31	53.5	+1.6
SANI	Sanana	37.85	281	P	P	11	31	52.2	+0.3
	comp=Z,54nm,1.2s,comp=Z,1µmcomp=Z,2µm								
SOEI	Soe	38.12	268	P	P	11	31	54.1	-0.1
SOEI				IAmb	IAmb	11	32	46.7	
	comp=Z,131nm,1.4s								
SOEI				IAMs_20	IAMs_20	11	48	41.2	
	comp=Z,9µm,19.0s								
SOEI	Soe	38.12	268	P	P	11	31	54.9	+0.7
SOEI	Soe	38.12	268	P	P	11	31	54.3	+0.1
	comp=Z,48nm,1.0s,comp=Z,2µm								
MMRI	Maumere	40.23	270	P	P	11	32	10.1	-1.7
MMRI				IAmb	IAmb	11	32	50.0	
	comp=Z,92nm,0.8s								
MMRI	Maumere	40.23	270	P	P	11	32	12.3	+0.5
MMRI	Maumere	40.23	270	P	P	11	32	10.7	-1.1
	comp=Z,124nm,1.0s,comp=Z,2µmcomp=Z,2µm								
EDFI	Ende, Flores	40.75	270	P	P	11	32	15.1	-1.2
	comp=Z,47nm,1.3s,comp=Z,807nm								
LUWI	Luwuk	41.22	281	P	P	11	32	18.5	-1.5
LUWI				IAmb	IAmb	11	32	58.1	
	comp=Z,131nm,1.1s								
LUWI	Luwuk	41.22	281	P	P	11	32	18.7	-1.3
LUWI	Luwuk	41.22	281	P	P	11	32	19.2	-0.8
	comp=Z,50nm,1.4s,comp=Z,2µm								
DAV	Davao City (W)	41.46	294	LR	LR	11	48	31.0	
	comp=Z,3µm,21.4s,baz=106,slow=35								
PSA00	Pilbara Seismi	42.55	250	P	P	11	32	29.8	-1.0
PSA00				IAmb	IAmb	11	33	03.8	
	comp=Z,140nm,1.3s								
PSA00	Pilbara Seismi	42.55	250	P	P	11	32	30.2	-0.5
PSA00				IAmb	IAmb	11	32	49.8	
	comp=Z,172nm,1.7s								
PSA00	Pilbara Seismi	42.55	250	P	P	11	32	31.8	+1.1
BKSI	Bulukumba	42.82	274	P	P	11	32	32.2	-0.8
	comp=Z,35nm,1.6s								
KMBL	Kambalda	42.92	236	P	P	11	32	33.8	+0.1
	baz=43,SNR=7.2								
KMBL	Kambalda	42.92	236	P	P	11	32	33.4	-0.3
JCJ	Chichijima	43.14	332	IAMs_20	IAMs_20	11	48	22.4	
	comp=Z,6µm,20.0s								
JCJ	Chichijima	43.14	332	LR	LR	11	48	52.6	
	comp=Z,4µm,21.3s,baz=152,slow=34								
KAPI	Kappang	43.24	275	P	P	11	32	35.8	-0.7
KAPI	Kappang	43.24	275	P	P	11	32	35.8	-0.7
KAPI				pmax	pmax				
	comp=Z,53nm,1.1s								
KAPI				MLR	MLR				
	comp=Z,2µm,21.0s								
KAPI	Kappang	43.24	275	LR	LR	11	51	01.5	
	comp=Z,2µm,21.1s,baz=89,slow=37								
MCQ	Macquarie Isla	43.27	183	IAMs_20	IAMs_20	11	48	10.0	
	comp=Z,6µm,19.0s								
TTSI	Tana Toraja	43.58	277	P	P	11	32	39.5	+0.3
	comp=Z,23nm,1.3s								
DBNI	Kabupaten Domp	44.10	269	P	P	11	32	41.8	-1.6
	comp=Z,93nm,1.1s								
MPSI	Mapaga	44.36	282	P	P	11	32	44.2	-1.3
	comp=Z,23nm,1.4s,comp=Z,753nm								
MEEK	Meekatharra	44.47	243	P	P	11	32	46.2	-0.1
	baz=44,SNR=28								
MEEK	Meekatharra	44.47	243	P	P	11	32	46.1	-0.1
PLAI	Plampang	44.58	269	P	P	11	32	44.8	-2.5
PLAI	Plampang	44.58	269	P	P	11	32	44.6	-2.7
	comp=Z,105nm,1.2s								
TWSI	Taliwang, Sumb	45.47	269	P	P	11	32	52.7	-1.6
	comp=Z,59nm,1.0s								
PPT	Papeete	46.25	104	P	P	11	32	59.1	-1.3
	comp=Z,14nm,0.8s,baz=73,slow=19,SNR=2.2								
PPT				LR	LR	11	49	28.8	
	comp=Z,2µm,18.1s,baz=274,slow=32								
	comp=Z,14nm,0.8s								
PPTF	Pamatai, Papee	46.26	104	P	P	11	33	04.4	+3.8
KLBR	Kellerberrin	46.36	237	P	P	11	33	00.3	-0.8
	baz=46,SNR=9.6								
KLBR	Kellerberrin	46.36	237	P	P	11	33	00.3	-0.8
BLDU	Ballidu	46.97	239	P	P	11	33	05.8	-0.1
	baz=47,SNR=17								
BLDU	Ballidu	46.97	239	P	P	11	33	05.8	-0.1
NWAO	Narrogin (SRO)	47.15	235	P	P	11	33	07.5	+0.2
	baz=47,SNR=4.2								
NWAO				P	P	11	33	07.5	+0.2
	baz=47,SNR=4.2								
NWAO	Narrogin (SRO)	47.15	235	P	P	11	33	07.1	-0.2
NWAO	Narrogin (SRO)	47.15	235	P	P	11	33	06.5	-0.7
NWAO				IAmb	IAmb	11	33	40.5	
	comp=Z,171nm,1.1s								
NWAO	Narrogin (SRO)	47.15	235	P	P	11	33	07.3	0.0
NWAO	Narrogin (SRO)	47.15	235	P	P	11	33	07.1	-0.2
NWAO				pmax	pmax				
	comp=Z,119nm,1.5s								
NWAO				MLR	MLR				
	comp=Z,13µm,19.0s								
NWAO	Narrogin (SRO)	47.15	235	LR	LR	11	53	01.8	
	comp=Z,12µm,18.9s,baz=60,slow=36								
MORW	Morawa	47.19	241	P	P	11	33	07.3	-0.4
	baz=47,SNR=31								
MORW	Morawa	47.19	241	P	P	11	33	07.3	-0.4
MORW	Morawa	47.19	241	P	P	11	33	07.4	-0.3
SRBI	Singaraja	47.20	269	P	P	11	33	06.7	-1.2
	comp=Z,99nm,1.1s								
MUN	Mundaring	47.73	237	P	P	11	33	13.0	+1.2
	baz=48,SNR=6.1								
MUN	Mundaring	47.73	237	P	P	11	33	11.6	-0.2
JAGI	Jajag, Banyuwa	48.18	269	P	P	11	33	13.8	-1.8
JAGI	Jajag, Banyuwa	48.18	269	P	P	11	33	13.3	-2.3
JAGI	Jajag, Banyuwa	48.18	269	P	P	11	33	12.8	-2.8
	comp=Z,159nm,1.0s								
TGY	Tagaytay City	48.73	300	LR	LR	11	52	56.5	
	comp=Z,2µm,21.8s,baz=122,slow=35								
JHJ	Hachijo jima 2	49.36	334	LR	LR	11	51	18.0	
	comp=Z,2µm,21.7s,baz=122,slow=33								
KKM	Kota Kinabalu	49.64	288	P	P	11	33	25.1	-1.7
	comp=Z,77nm,1.2s								
KIP	Kipapa	50.17	50⇑	*e*P	P	11	33	31.1	+0.5
KIP				pmax	pmax				
	comp=Z,56nm,1.3s								
SJI	Sawahan	50.62	269	P	P	11	33	33.0	-1.3
	comp=Z,55nm,1.2s								
JOW	Kunigami	50.70	319	LR	LR	11	54	35.8	
	comp=Z,1µm,18.6s,baz=125,slow=36								
POHA	Pohakuloa	51.13	53	IAMs_20	IAMs_20	11	50	10.1	
	comp=Z,5µm,20.0s								
NPH	North Pit	51.14	54	IAMs_20	IAMs_20	11	48	49.3	
	comp=Z,6µm,22.0s								
UWB	Uwekahuna B	51.15	54	IAMs_20	IAMs_20	11	48	44.6	
	comp=Z,6µm,20.0s								
BYL	Byron's Ledge	51.16	54	IAMs_20	IAMs_20	11	48	44.8	
	comp=Z,7µm,22.0s								
SBLHI	Steaming Bluff	51.16	54	IAMs_20	IAMs_20	11	49	37.8	
	comp=Z,5µm,22.0s								
SBUM	Sibu	52.32	282	P	P	11	33	44.9	-2.0
SBUM	Sibu	52.32	282	P	P	11	33	43.2	-3.7
	comp=Z,12nm,1.8s								
JMN	Monobe	52.62	329	P	P	11	33	49.2	+0.4
JMN	Monobe	52.62	329	P	P	11	33	50.6	+1.8
MJAR	Matsushiro Arr	52.96	335	P	P	11	33	50.5	-0.7
	comp=Z,24nm,1.2s,baz=162,slow=7.5,SNR=11								
MJAR				LR	LR	11	52	59.5	
	comp=Z,3µm,21.7s,baz=141,slow=32								
	comp=Z,24nm,1.2s								
MAJO	Matsushiro	52.96	335	P	P	11	33	50.4	-0.8
MAJO				IAmb	IAmb	11	33	57.8	
	comp=Z,94nm,1.4s								
MAJO	Matsushiro	52.96	335	P	P	11	33	51.6	+0.3
MAJO	Matsushiro	52.96	335⇓	*e*P	P	11	33	51.5	+0.3
MAJO				pmax	pmax				
	comp=Z,34nm,1.2s								
JMM	Marumori	53.10	338	P	P	11	33	51.8	-0.4
JMM				IAmb	IAmb	11	34	37.5	
	comp=Z,86nm,1.3s								
JMM				IAMs_20	IAMs_20	11	58	43.1	
	comp=Z,5µm,20.0s								
JMM	Marumori	53.10	338	P	P	11	33	54.3	+2.1
YULB	Yu-li	53.39	310	IAMs_20	IAMs_20	11	53	55.7	
	comp=Z,5µm,21.0s								
KPJI	Karang Pucung	53.46	269	P	P	11	33	55.2	-0.2
	comp=Z,83nm,1.1s								
NACB	Ninganchiao	53.63	311	P	P	11	33	58.7	+2.4
JNU	Nakatsue	53.71	326	P	P	11	33	57.8	+0.9
JNU	Nakatsue	53.71	326	P	P	11	33	58.7	+1.8
JNU	Nakatsue	53.71	326	LR	LR	11	53	00.7	
	comp=Z,2µm,21.7s,baz=132,slow=32								
TPUB	Ta-pu	53.84	310	P	P	11	33	56.2	-1.7
TPUB	Ta-pu	53.84	310	P	P	11	33	59.5	+1.6
SSLB	Suanglung	53.88	311	P	P	11	33	57.5	-0.7
KSM	Kuching	53.90	280	P	P	11	33	52.6	-6.0
YHNB	Yeheng	54.08	312	IAMs_20	IAMs_20	11	53	59.9	
	comp=Z,6µm,20.0s								
YHNB	Yeheng	54.08	312	P	P	11	33	58.6	-1.1
TATO	Taipei	54.18	312	IAMs_20	IAMs_20	11	53	54.3	
	comp=Z,6µm,22.0s								
LEM	Lembang	54.83	270	LR	LR	11	59	39.6	
	comp=Z,1µm,18.8s,baz=100,slow=38								
LEM	Lembang	54.83	270	P	P	11	34	04.5	-1.0
	comp=Z,85nm,1.0s								
JTM	Tenmabayashi	55.60	340	IAMs_20	IAMs_20	11	56	37.2	
	comp=Z,4µm,20.0s								
ERM	Erimo	56.05	342	IAMs_20	IAMs_20	11	55	46.9	
	comp=Z,5µm,19.0s								
ERM	Erimo	56.05	342⇑	*e*P	P	11	34	14.8	+1.3
ERM				pmax	pmax				
	comp=Z,45nm,1.2s								
JEM	Erimo	56.05	342	IAMs_20	IAMs_20	11	55	49.2	
	comp=Z,5µm,19.0s								
QZH	Quanzhou	56.30	310	*e*P	P	11	34	18.3	+2.6
QZH				S	S	11	42	06.8	+2.0
QZH				pmax	pmax				
	comp=Z,840nm,4.5s								
QZH				LR	LR				
	comp=Z,3µm,20.7s								
QZH				LR	LR				
	comp=Z,2µm,20.3s								
QZH				LR	LR				
	comp=Z,2µm,20.7s								
PPBI	Pangkal Pinang	57.12	275	P	P	11	34	21.8	0.0
TJN	Taejon	58.06	326	P	P	11	34	26.4	-1.5
TJN	Taejon	58.06	326	P	P	11	34	27.2	-0.7
TJN	Taejon	58.06	326⇑	*e*P	P	11	34	27.6	-0.3
JKA	Kamikawa-asahi	58.13	343	P	P	11	34	27.0	-1.2
JKA				IAmb	IAmb	11	34	33.7	
	comp=Z,56nm,1.0s								
ASAJ	Asahikawa	58.13	343	P	P	11	34	27.0	-1.3
ASAJ				pmax	pmax				
	comp=Z,56nm,1.0s								
ASAJ				MLR	MLR				
	comp=Z,3µm,20.0s								
SSE	Sheshan	58.16	318	P	P	11	34	27.8	-0.9
SSE				S	S	11	42	28.9	-0.1
SSE				pmax	pmax				
	comp=Z,21nm,1.2s								
SSE				pmax	pmax				
	comp=Z,260nm,7.0s								
SSE				LR	LR				
	comp=Z,2µm,19.5s								
SSE				LR	LR				
	comp=Z,660nm,19.8s								
HKPS	Hong Kong Po S	58.35	305	IAMs_20	IAMs_20	11	58	04.4	
	comp=Z,4µm,19.0s								
KSRS	Korea Array	58.56	328	P	P	11	34	30.0	-1.4
	comp=Z,7.2nm,0.9s,baz=144,slow=7.3,SNR=14								
KSRS				LR	LR	11	57	44.2	
	comp=Z,3µm,19.1s,baz=125,slow=34								
	comp=Z,7.2nm,0.9s								
KSAR	Wonju Array Be	58.57	328	P	P	11	34	30.3	-1.2
KSAR	Wonju Array Be	58.57	328	P	P	11	34	30.3	-1.2
KS19	Wonju Array Si	58.63	328	P	P	11	34	30.7	-1.1
INCN	Inchon	59.27	327	P	P	11	34	37.3	+0.9
INCN	Inchon	59.27	327	P	P	11	34	38.3	+1.9
INCN	Inchon	59.27	327	P	P	11	34	37.3	+0.9
INCN				pmax	pmax				
	comp=Z,267nm,1.9s								
NJ2	Nanjing	60.31	317 ⇑	P	P	11	34	44.6	+1.1
NJ2				pP	sP	11	34	51.5	+1.3
NJ2				sP	pwP	11	34	55.1	-3.6
NJ2				S	S	11	42	59.0	+2.2
NJ2				sS	sS	11	43	07.8	+2.2
NJ2				ScS	SKKSac	11	44	32.5	-0.5
NJ2				pmax	pmax				
	comp=Z,19nm,0.7s								
NJ2				pmax	pmax				
	comp=Z,260nm,4.5s								
NJ2				LR	LR				
	comp=Z,3µm,16.1s								
NJ2				LR	LR				
	comp=Z,3µm,16.1s								
NJ2				LR	LR				
	comp=Z,3µm,18.0s								
QIZ	Qiongzhong	60.43	299	P	P	11	34	45.6	+1.0
QIZ				S	S	11	43	00.4	+1.6
QIZ				ScS	ScS	11	44	35.4	+0.8
QIZ				LR	LR				
	comp=Z,2µm,21.1s								
QIZ				LR	LR				
	comp=Z,2µm,18.4s								
QIZ				LR	LR				
	comp=Z,3µm,26.7s								
YSS	Yuzh-Sakhalins	60.70	344	P	P	11	34	46.5	+0.6
YSS				IAMs_20	IAMs_20	12	01	53.9	
	comp=Z,3µm,19.0s								
YSS	Yuzh-Sakhalins	60.70	344	P	P	11	34	48.9	+3.0
YSS	Yuzh-Sakhalins	60.70	344	*e*P	P	11	34	47.2	+1.3
YSS				*e**SP	pwP	11	34	57.1	-1.9
YSS				*e*		11	35	24.1	
YSS				*e*		11	36	59.5	
YSS				*e*S	S	11	42	58.8	-2.4
YSS				*e*PS	PnS	11	43	08.8	-7.7
YSS				*e*PPS	PPS	11	43	20.3	
YSS				*e*SS	SS	11	46	55.4	-5.0
YSS				pmax	pmax				
	comp=E,100nm,3.4s								
YSS				pmax	pmax				
	comp=Z,300nm,3.4s								
YSS				pmax	pmax				
	comp=N,200nm,3.6s								
YSS				pmax	pmax				
	comp=Z,50nm,1.4s								
YSS				smax	smax				
	comp=N,300nm,9.0s								
YSS				MLR	MLR				
	comp=Z,3µm,16.0s								
MSHR	Mys Shultsa	60.99	334⇑	*e*P	P	11	34	47.7	-0.3
MSHR				pmax	pmax				
	comp=Z,29nm,1.3s								
SKR	Severo-Kuril's	61.95	355	*e*P	P	11	34	58.2	+3.9
SKR				*e*		11	37	17.1	
SKR				*e*S	S	11	43	33.9	+17
SKR				pmax	pmax				
	comp=Z,1µm,7.4s								
USA0B	Ussuriysk Arra	61.95	335	P	P	11	34	53.6	-0.8
USA0B	Ussuriysk Arra	61.95	335	*ce*P	P	11	34	55.4	+0.9
USRK	Ussuriysk Ar.	61.95	335	P	P	11	34	53.1	-1.4
USRK	Ussuriysk Ar.	61.95	335	P	P	11	34	53.6	-0.8
	comp=Z,22nm,0.9s,baz=142,slow=6.8,SNR=29								
USRK				LR	LR	12	00	08.9	
	comp=Z,2µm,20.0s,baz=145,slow=35								
	comp=Z,22nm,0.9s								
CNSH	ChangSha	62.31	310 ⇑	P	P	11	34	58.0	+0.8
CNSH				S	S	11	43	26.5	+4.1
CNSH				pmax	pmax				
	comp=Z,17nm,0.9s								
CNSH				LR	LR				
	comp=Z,2µm,18.3s								
CNSH				LR	LR				
	comp=Z,2µm,13.7s								
CNSH				LR	LR				
	comp=Z,2µm,18.6s								
WHN	Wuhan	62.54	313	P	P	11	34	59.6	+0.9
WHN				S	S	11	43	29.3	+4.0
WHN				LR	LR				
	comp=Z,5µm,14.8s								
WHN				LR	LR				
	comp=Z,14µm,28.7s								
WHN				LR	LR				
	comp=Z,10µm,20.1s								
BKNI	Bangkinang	62.63	276	P	P	11	34	58.5	-1.1
BKNI	Bangkinang	62.63	276	P	P	11	35	00.4	+0.8
BKNI	Bangkinang	62.63	276	P	P	11	34	58.9	-0.7
	comp=Z,161nm,1.2s,comp=Z,5µmcomp=Z,1µm								
UGL	Uglegorsk	62.83	345	*e*P	P	11	35	03.1	+2.9
UGL				*e*S	S	11	43	36.6	+8.4
UGL				pmax	pmax				
	comp=Z,40nm,1.3s								
UGL				pmax	pmax				
	comp=Z,930nm,4.5s								
UGL				smax	smax				
	comp=E,1µm,9.0s								
UGL				smax	smax				
	comp=N,940nm,7.0s								
UGL				MLR	MLR				
	comp=N,3µm,15.0s								
GULI	GuiLin	62.84	306 ⇑	P	P	11	34	55.8	-5.0
GULI				pP	pP	11	34	58.4	-7.2
GULI				sP	sP	11	35	07.9	+0.4
GULI				S	S	11	43	21.8	-7.4
DL2	Dalian	63.05	325	P	P	11	35	02.3	+0.4
DL2				S	S	11	43	31.9	+0.5
DL2				SS	SS	11	47	37.4	-0.3
DL2				pmax	pmax				
	comp=N,42nm,1.1s								
DL2				pmax	pmax				
	comp=N,560nm,7.5s								
DL2				LR	LR				
	comp=N,3µm,22.4s								
DL2				LR	LR				
	comp=N,1µm,18.8s								
DL2				LR	LR				
	comp=N,3µm,22.6s								
MDJ	Mudanjiang	63.30	334	P	P	11	35	03.8	+0.3
MDJ				pP	sP	11	35	11.4	+1.2
MDJ				sP	pwP	11	35	15.0	-3.6
MDJ				S	S	11	43	39.8	+5.5
MDJ				pmax	pmax				
	comp=N,30nm,1.4s								
MDJ				pmax	pmax				
	comp=N,610nm,8.8s								
MDJ				LR	LR				
	comp=N,960nm,17.2s								
MDJ				LR	LR				
	comp=N,1µm,17.2s								
MDJ				LR	LR				
	comp=N,4µm,23.5s								
MDJ	Mudanjiang	63.30	334	P	P	11	35	05.7	+2.2
TIA	Tai'an	64.00	320	*e*P	P	11	35	03.6	-4.7
TIA				S	S	11	43	41.9	-1.5
TIA				SS	SS	11	47	47.5	-5.2
TIA				pmax	pmax				
	comp=N,10.0nm,1.7s								
TIA				LR	LR				
	comp=N,1µm,22.1s								
TIA				LR	LR				
	comp=N,1µm,26.0s								
TIA				LR	LR				
	comp=N,2µm,34.8s								
SNY	Shenyang	64.05	328 ⇓	P	P	11	35	11.4	+3.0
SNY				S	S	11	43	41.6	-2.0
SNY				SS	SS	11	47	50.8	-2.3
SNY				pmax	pmax				
	comp=N,11nm,0.8s								
SNY				LR

BNX S **S** **11 44 00.8 +3.8**
BNX sS **sS** **11 44 07.3 +1.5**
BNX pmax pmax
comp=E,27nm,1.5s
BNX pmax pmax
comp=E,730nm,6.5s
BNX LR LR
comp=E,3μm,16.3s
BNX LR LR
comp=E,2μm,15.7s
BNX LR LR
comp=E,3μm,19.5s
RPSI Rantau Prapat 65.22 278 P **P** **11 35 16.1 -0.6**
RPSI IAmb IAmb 11 35 42.7
comp=Z,38nm,1.4s
PSI Prapat 65.25 278 P **P** **11 35 19.0 +2.0**
PSI Prapat 65.25 278 P **P** **11 35 16.1 -0.9**
PSI pmax pmax
comp=Z,39nm,1.4s
PSI Prapat 65.25 278 P **P** **11 35 15.8 -1.2**
comp=Z,17nm,1.7s,comp=Z,424nm
NONG Nongkai 65.87 296 P **P** **11 35 20.2 -0.6**
GRNR Gornyy 65.95 342 ⇓*i*P **P** **11 35 21.0 +0.3**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
ENH Enshi 65.96 310 P **P** **11 35 21.1 -0.1**
comp=Z,62nm,1.4s
LYN LuoYang 66.09 316 *e*P **P** **11 35 21.3 -0.6**
LYN pP pP 11 35 26.3 -0.5
LYN PP **PP** **11 37 49.5 +1.7**
LYN sS sS 11 44 15.3 -2.8
LYN pmax pmax
comp=Z,34nm,0.6s
LYN pmax pmax
comp=Z,500nm,4.9s
LYN LR LR
comp=Z,3μm,17.5s
LYN LR LR
comp=Z,3μm,18.9s
LYN LR LR
comp=Z,6μm,21.3s
KLR Kul'dur 66.20 338*ce*P **P** **11 35 23.2 +0.9**
KLR pmax pmax
comp=Z,32nm,1.2s
KLR Kul'dur 66.20 338 LR LR 12 02 35.1
comp=Z,2μm,20.1s,baz=154,slow=35
NAYO Nakonayok 66.21 291 P **P** **11 35 22.3 -0.7**
GSI Gunungsitoli 66.22 276 P **P** **11 35 21.9 -1.3**
GSI IAmb IAmb 11 35 34.9
comp=Z,59nm,1.1s
GSI IAMs_20 IAMs_20 12 04 54.9
comp=Z,3μm,22.0s
GSI Gunungsitoli 66.22 276 P **P** **11 35 22.8 -0.4**
comp=Z,64nm,1.2s
HNS HongShan 66.26 319 ⇓P **P** **11 35 22.8 -0.1**
HNS S **S** **11 44 12.0 +1.0**
HNS SS **SS** **11 48 30.0 +2.2**
HNS pmax pmax
comp=Z,50nm,1.5s
HNS LR LR
comp=Z,2μm,17.2s
HNS LR LR
comp=Z,2μm,18.6s
HNS LR LR
comp=Z,4μm,24.7s
VNDA Vanda 66.28 180 P **P** **11 35 23.0 +0.5**
VNDA IAmb IAmb 11 35 49.0
comp=Z,61nm,1.3s
VNDA Vanda 66.28 180 P **P** **11 35 23.9 +1.5**
comp=Z,15nm,1.1s,baz=348,slow=7.8,SNR=11
VNDA LR LR 12 01 38.7
comp=Z,1μm,18.0s,baz=3.5,slow=34
comp=Z,15nm,1.1s
GYA Guiyang 66.33 305 ⇓P **P** **11 35 24.9 +1.1**
GYA pP sP 11 35 32.3 +1.8
GYA S **S** **11 44 15.1 +2.5**
GYA SS **SS** **11 48 30.3 +0.8**
GYA pmax pmax
comp=Z,26nm,1.5s
GYA pmax pmax
comp=Z,300nm,9.0s
GYA LR LR
comp=Z,870nm,15.6s
GYA LR LR
comp=Z,1μm,18.2s
GYA LR LR
comp=Z,1μm,23.4s
SBA Scott Base 66.64 179 IAMs_20 IAMs_20 12 03 42.4
comp=Z,3μm,18.0s
SBA Scott Base 66.64 179 P P 11 35 30.5 +5.8
NKL Nikolayevsk 66.92 346 *e*P **P** **11 35 28.5 +1.8**
NKL pmax pmax
comp=E,45nm,1.0s
NKL pmax pmax
comp=N,37nm,1.2s
NKL pmax pmax
comp=Z,131nm,1.3s
BJT Baijiatuau 66.97 322 IAMs_20 IAMs_20 12 01 22.6
comp=Z,3μm,21.0s
BJT Baijiatuau 66.97 322 P **P** **11 35 27.1 -0.3**
BJI Beijing 66.98 323 P **P** **11 35 28.8 +1.4**
BJI sP **sP** **11 35 38.1 +4.0**
BJI S **S** **11 44 18.8 -0.8**
BJI SS **SS** **11 48 34.5 -4.2**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI LR LR
comp=Z,2μm,18.1s
BJI LR LR
comp=Z,1μm,20.0s
BJI LR LR
comp=Z,2μm,23.1s
TIY Taiyuan 67.91 319 P **P** **11 35 36.3 +2.8**
TIY S **S** **11 44 26.1 -5.0**
TIY pmax pmax
comp=Z,34nm,0.5s
TIY pmax pmax
comp=Z,550nm,6.9s
TIY LR LR
comp=Z,2μm,16.5s
TIY LR LR
comp=Z,2μm,21.3s
TIY LR LR
comp=Z,2μm,21.3s
SRDT SRDT 68.24 290 P **P** **11 35 37.6 +1.7**
XAN Xi'an 68.29 314 ⇑P **P** **11 35 34.8 -1.2**
XAN pP sP 11 35 44.4 +1.7
XAN S **S** **11 44 35.4 -0.4**
XAN pmax pmax
comp=Z,47nm,1.2s
XAN pmax pmax
comp=Z,470nm,6.9s
XAN LR LR
comp=Z,2μm,18.8s
XAN LR LR
comp=Z,3μm,15.8s
XAN LR LR
comp=Z,4μm,22.7s
HEH HeiHe 68.68 336 *e*P **P** **11 35 36.6 -1.3**
HEH PcP **PcP** **11 36 01.0 -1.7**
HEH S **S** **11 44 39.8 +0.2**
HEH pmax pmax
comp=Z,23nm,1.1s
HEH pmax pmax
comp=Z,590nm,5.3s
HEH LR LR
comp=Z,2μm,17.8s
HEH LR LR
comp=Z,2μm,22.0s
HEH LR LR
comp=Z,3μm,19.1s
KMI Kunming 68.95 302 ⇑P **P** **11 35 42.0 +1.5**
KMI sP pwP 11 35 53.0 -2.6
KMI S **S** **11 44 43.3 -1.0**
KMI SS **SS** **11 49 07.9 -2.4**
KMI pmax pmax
comp=Z,40nm,1.3s
KMI pmax pmax
comp=Z,350nm,8.1s
KMI LR LR
comp=Z,920nm,17.5s
KMI LR LR
comp=Z,1μm,21.3s
KMI LR LR
comp=Z,3μm,25.9s
CRAI Chiangrai 69.10 297 P **P** **11 35 40.3 -0.9**
CRAI IAmb IAmb 11 35 58.8
comp=Z,37nm,1.2s
XLT XiLinHaoTe 69.48 326 *e*P **P** **11 35 43.5 +0.3**
XLT sP sP 11 35 52.1 +2.2
XLT S **S** **11 44 46.3 -3.3**
XLT sS pS 11 44 55.4 -0.3
XLT ScS **SKSac** **11 45 39.3 -3.1**
XLT SS **SS** **11 49 20.4 +2.7**
XLT pmax pmax
comp=Z,88nm,1.3s
XLT LR LR
comp=Z,2μm,16.5s
XLT LR LR
comp=Z,3μm,18.7s
CM31 Chiang Mai Arr 69.75 295 P **P** **11 35 44.4 -0.9**
CM31 IAmb IAmb 11 35 47.5
comp=Z,34nm,1.2s
CMAR Chiang Mai Arr 69.75 295 *i*P **P** **11 35 45.2 0.0**
CMAR pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 69.75 295 P **P** **11 35 43.7 -1.5**
comp=Z,8.1nm,1.0s,baz=112,slow=4.1,SNR=28
CMAR LR LR 12 07 45.1
comp=Z,588nm,19.0s,baz=110,slow=37
comp=Z,8.1nm,1.0s
CHTO Chiang Mai 69.87 295 P **P** **11 35 44.0 -2.0**
CHTO IAmb IAmb 11 35 58.9
comp=Z,36nm,1.4s
CHTO Chiang Mai 69.87 295 P **P** **11 35 45.3 -0.7**
CHTO Chiang Mai 69.87 295 P **P** **11 35 44.0 -2.0**
CHTO pmax pmax
comp=Z,37nm,1.4s
CHTO MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 69.87 295 P **P** **11 35 44.8 -1.2**
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 70.27 321 *e*P **P** **11 35 49.3 +1.2**
HHC S **S** **11 44 58.8 -0.2**
HHC SS **SS** **11 49 26.1 -3.8**
HHC pmax pmax
comp=Z,48nm,0.7s
HHC pmax pmax
comp=Z,440nm,4.2s
HHC LR LR
comp=Z,3μm,17.3s
HHC LR LR
comp=Z,4μm,16.8s
HHC LR LR
comp=Z,5μm,19.9s
PZH PanZhiHua 70.33 303 P **P** **11 35 47.4 -1.5**
PZH S **S** **11 45 03.4 +3.1**
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,530nm,7.0s
PZH LR LR
comp=Z,1μm,18.0s
PZH LR LR
comp=Z,1μm,18.8s
PZH LR LR
comp=Z,2μm,19.6s
CD2 Chengdu 70.61 308 P **P** **11 35 49.3 -1.1**
CD2 pP sP 11 35 57.6 +0.5
CD2 sP pwP 11 36 00.8 -4.7
CD2 PP **PP** **11 38 27.4 +0.3**
CD2 S **S** **11 44 58.4 -4.8**
CD2 sS sS 11 45 17.5 +6.3
CD2 SS **SS** **11 49 37.5 +2.1**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,420nm,6.5s
CD2 LR LR
comp=Z,2μm,17.3s
CD2 LR LR
comp=Z,2μm,14.3s
CD2 LR LR
comp=Z,2μm,16.7s
BTO Baotou 71.09 320 *e*P **P** **11 35 56.3 +3.1**
BTO pP **sP** **11 36 01.1 +1.2**
BTO sP **pwP** **11 36 03.3 -5.0**
BTO PP **PP** **11 38 36.8 +5.7**
BTO S **S** **11 45 11.6 +3.0**
BTO sS **sS** **11 45 20.3 +2.7**
BTO pmax pmax
comp=Z,75nm,1.7s
BTO pmax pmax
comp=Z,350nm,5.7s
BTO LR LR
comp=Z,5μm,24.1s
BTO LR LR
comp=Z,3μm,20.3s
BTO LR LR
comp=Z,6μm,27.9s
HIA Hailar 71.24 332 P **P** **11 35 53.7 -0.1**
MA2 Magadan 71.26 353 ⇓*e*P **P** **11 35 52.9 -0.7**
MA2 pmax pmax
comp=Z,24nm,1.4s
MA2 MLR MLR
comp=Z,2μm,19.0s
MA2 Magadan 71.26 353 LR LR 12 03 43.3
comp=Z,1μm,21.3s,baz=178,slow=33
ZEA Zeya 71.51 339 *e*P **P** **11 35 55.1 -0.1**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.3s
ZEA pmax pmax
comp=Z,400nm,7.6s
TNCH TengChong 72.44 301 ⇑P **P** **11 36 01.9 +0.2**
TNCH pP pP 11 36 05.4 -1.2
TNCH sP sP 11 36 08.9 +0.5
TNCH PP **PP** **11 38 47.0 +3.9**
TNCH S **S** **11 45 24.4 -0.5**
TNCH sS sS 11 45 32.6 -0.3
TNCH pmax pmax
comp=Z,25nm,0.5s
TNCH pmax pmax
comp=Z,250nm,4.8s
TNCH LR LR
comp=Z,520nm,12.6s
TNCH LR LR
comp=Z,680nm,21.1s
TNCH LR LR
comp=Z,1μm,26.3s
LZH Lanzhou 72.92 313 ⇓P **P** **11 36 04.8 +0.5**
LZH pP sP 11 36 11.3 +0.2
LZH S **S** **11 45 29.6 -0.3**
LZH SS **SS** **11 50 13.6 +2.7**
LZH pmax pmax
comp=Z,74nm,1.5s
LZH LR LR
comp=Z,2μm,19.9s
LZH LR LR
comp=Z,2μm,20.6s
LZH LR LR
comp=Z,3μm,21.9s
SEY Seymchan 74.40 355 ⇑*i*P **P** **11 36 12.2 +0.1**
SEY pmax pmax
comp=Z,34nm,1.6s
SEY MLR MLR
comp=Z,2μm,19.0s
SEY Seymchan 74.40 355 LR LR 12 04 07.4
comp=Z,1μm,21.9s,baz=169,slow=32
CIT Chita 76.01 331 *e*P **P** **11 36 24.8 +3.0**
CIT *e* 11 36 35.4
CIT pmax pmax
comp=Z,150nm,2.1s
ULN Ulaanbaatar 76.90 325 P **P** **11 36 26.8 -0.3**
ULN Ulaanbaatar 76.90 325 IAMs_20 IAMs_20 12 06 46.6
comp=Z,3μm,22.0s
ULN Ulaanbaatar 76.90 325*d i*P **P** **11 36 27.5 +0.4**
ULN pmax pmax
comp=Z,117nm,1.2s
ULN Ulaanbaatar 76.90 325 P **P** **11 36 26.8 -0.3**
comp=Z,340nm,1.4s,comp=Z,5μm
N15K Kwethluk River 77.02 18 P **P** **11 36 28.6 +1.4**
baz=217
L14K Kuka Creek 77.23 16 IAMs_20 IAMs_20 12 05 20.7
comp=Z,3μm,20.0s
SONM Songino Array 77.26 325 P **P** **11 36 28.8 -0.3**
SONM IAmb IAmb 11 36 40.9
comp=Z,64nm,1.1s
SONM Songino Array 77.26 325 P **P** **11 36 28.8 -0.3**
SONM pmax pmax
comp=Z,64nm,1.1s
SONM Songino Array 77.26 325 P **P** **11 36 28.4 -0.7**
comp=Z,39nm,1.2s,baz=136,slow=5.6,SNR=56
SONM LR LR 12 09 51.0
comp=Z,2μm,19.7s,baz=117,slow=35
comp=Z,39nm,1.2s
M15K Kasigluk River 77.26 17 P **P** **11 36 28.8 +0.2**
baz=216
GTA Gaotai 77.28 315 *e*P **P** **11 36 28.5 -0.8**
GTA sP PcP 11 36 39.1 -0.8
GTA PP **PP** **11 39 23.1 -0.7**
GTA S **S** **11 46 17.6 -0.6**
GTA SS **SS** **11 51 16.5 -0.4**
GTA pmax pmax
comp=Z,37nm,1.7s
GTA pmax pmax
comp=Z,170nm,8.0s
GTA LR LR
comp=Z,1μm,18.9s
GTA LR LR
comp=Z,1μm,21.4s
GTA LR LR
comp=Z,2μm,22.9s
YAK Yakutsk 77.54 345 P **P** **11 36 29.5 -0.6**
YAK IAmb IAmb 11 36 42.1
comp=Z,42nm,0.9s
YAK Yakutsk 77.54 345 *e*P **P** **11 36 28.4 -1.7**
YAK *e* 11 36 37.8
YAK *e* 11 39 21.2
YAK *e*S **S** **11 46 19.2 -0.6**
YAK *e* 11 46 55.1
YAK *e*SS **SS** **11 51 18.2 -1.4**
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=Z,127nm,3.7s
YAK smax smax
comp=N,214nm,6.1s
YAK smax smax
comp=E,163nm,5.3s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=N,776nm,18.0s
YAK MLR MLR
comp=E,829nm,17.0s
YAK Yakutsk 77.54 345 LR LR 12 08 14.5
comp=E,39nm,21.8s,baz=140,slow=34
KDAK Kodiak Island 77.76 23 LR LR 12 12 13.3
comp=E,907nm,18.1s,baz=242,slow=37
M16K Timber Creek 78.04 18 P **P** **11 36 32.4 -0.5**
M16K Timber Creek 78.04 18 P **P** **11 36 33.1 +0.2**
baz=218
K15K Wolf Creek Mou 78.32 16 IAMs_20 IAMs_20 12 05 34.3
comp=Z,2μm,20.0s
K15K Wolf Creek Mou 78.32 16 P **P** **11 36 34.5 0.0**
baz=216
L16K Owhat River 78.43 17 P **P** **11 36 37.9 +2.8**
baz=218
N18K Kilae Creek 78.73 19 IAMs_20 IAMs_20 12 05 47.2
comp=Z,3μm,20.0s
QSPA South Pole Qui 78.77 180 P **P** **11 36 38.0 +0.8**
QSPA South Pole Qui 78.77 180 IAMs_20 IAMs_20 12 10 27.4
comp=Z,3μm,18.0s
QSPA South Pole Qui 78.77 180 P **P** **11 36 38.6 +1.4**
comp=Z,15nm,1.0s,baz=330,slow=1.7,SNR=16
QSPA LR LR 12 10 12.3
comp=Z,1μm,18.2s,baz=21,slow=35
comp=Z,15nm,1.0s
SVW2 Sparrevohn 79.14 19 P **P** **11 36 39.1 0.0**
SVW2 IAmb IAmb 11 37 12.3
comp=Z,57nm,1.0s
SVW2 IAMs_20 IAMs_20 12 06 13.0
comp=Z,2μm,21.0s
SVW2 Sparrevohn 79.14 19 P **P** **11 36 39.8 +0.8**
N19K Bonanza Creek 79.29 20 IAMs_20 IAMs_20 12 05 43.5
comp=Z,3μm,20.0s
J16K Anvik River 79.38 16 IAMs_20 IAMs_20 12 04 26.6
comp=Z,3μm,21.0s
J16K Anvik River 79.38 16 P **P** **11 36 42.3 +2.0**
baz=216
K17K Iditarod 79.56 17 IAMs_20 IAMs_20 12 04 54.5
comp=Z,3μm,22.0s
K17K Iditarod 79.56 17 P **P** **11 36 41.6 +0.3**
baz=218
BOD Bodaibo 79.58 336 *e*P **P** **11 36 41.7 +0.3**
BOD pmax pmax
comp=Z,38nm,1.6s
GOMU GeErMu 79.58 310 P **P** **11 36 44.1 +1.6**
GOMU S **S** **11 46 38.6 -5.0**
GOMU pmax pmax
comp=Z,17nm,1.4s
GOMU LR LR
comp=Z,510nm,19.7s
GOMU LR LR
comp=Z,1μm,20.9s
GOMU LR LR
comp=Z,2μm,19.9s
L18K Granite Mounta 79.65 18 P **P** **11 36 41.4 -0.4**
L18K IAmb IAmb 11 37 01.7
comp=Z,39nm,1.0s
L18K Granite Mounta 79.65 18 P **P** **11 36 42.5 +0.7**
baz=220
H16K Elim 80.07 14 P **P** **11 36 44.4 +0.5**
baz=215
L19K White Mountain 80.19 19 P **P** **11 36 44.0 -0.7**
ZAK Zakamensk 80.34 326 *e*P **P** **11 36 44.6 -1.3**
ZAK *e* 11 39 43.6
ZAK pmax pmax
comp=Z,37nm,1.3s
ZAK pmax pmax
comp=Z,13nm,1.7s
TTA Tatalina 80.40 18 P **P** **11 36 45.9 0.0**
TTA IAMs_20 IAMs_20 12 05 06.3
comp=Z,2μm,21.0s
TTA Tatalina 80.40 18 P **P** **11 36 47.9 +2.0**
TTA Tatalina 80.40 18 P **P** **11 36 45.9 0.0**
TTA pmax pmax
comp=Z,33nm,1.2s
M20K Styx River 80.52 19 IAMs_20 IAMs_20 12 06 12.0
comp=Z,3μm,19.0s
J18K Innoko River 80.60 17 IAMs_20 IAMs_20 12 06 20.1
comp=Z,3μm,22.0s
G16K Koyuk River 80.66 14 P **P** **11 36 47.8 +0.7**
baz=214
L20K Farewell, AK 80.72 19 P **P** **11 36 48.4 +0.8**
baz=223
IRK Irkutsk 80.78 328 *e*P **P** **11 36 48.6 +0.5**
IRK pmax pmax
comp=Z,74nm,0.5s
RC01 Rabbit Creek A 81.11 21 IAMs_20 IAMs_20 12 06 00.3
comp=Z,4μm,20.0s
SKT Skwentna 81.12 20 IAMs_20 IAMs_20 12 03 45.3
comp=Z,2μm,22.0s
K20K Telida 81.31 18 IAMs_20 IAMs_20 12 06 26.6
comp=Z,2μm,19.0s
J19K Poorman 81.32 17 IAMs_20 IAMs_20 12 07 03.1
comp=Z,3μm,21.0s
PMR Palmer 81.67 21 IAMs_20 IAMs_20 12 06 08.0
comp=Z,3μm,21.0s
F17K Baldwin Pennin 81.79 14 P **P** **11 36 53.1 0.0**
baz=215
KNK Knik Glacier 81.79 21 IAMs_20 IAMs_20 12 05 36.1
comp=Z,4μm,22.0s
GHO Glory Hole Cre 81.87 21 IAMs_20 IAMs_20 12 06 02.1
comp=Z,4μm,21.0s
J20K Nowinta River 81.89 18 P **P** **11 36 53.7 0.0**
J20K IAmb IAmb 11 37 45.8
comp=Z,107nm,1.9s
J20K IAMs_20 IAMs_20 12 06 47.1
comp=Z,3μm,21.0s
J20K Nowinta River 81.89 18 P **P** **11 36 53.7 0.0**
baz=222
CAST Castle Rocks 81.97 19 P **P** **11 36 53.2 -1.0**
CAST IAMs_20 IAMs_20 12 07 40.7
comp=Z,2μm,20.0s
CAST Castle Rocks 81.97 19 P **P** **11 36 53.4 -0.7**
baz=224
SML Sawmill 82.10 21 IAMs_20 IAMs_20 12 06 20.3
comp=Z,4μm,19.0s
E17K Hotham Inlet 82.18 13 P **P** **11 36 55.2 +0.1**
baz=215
CHUM Lake Minchumin 82.23 18 P **P** **11 36 55.8 +0.3**
baz=224

MOY	**Mondy**	82.23	326	*e*P		**P**		11 36 55.2	-0.7
MOY	comp=Z,74nm,3.0s			pmax		pmax			
I20K	**Naaghedeneel**	82.25	17	IAMs_20		IAMs_20		12 05 48.6	
	comp=Z,3µm,22.0s								
D17K	**Noatak River**	82.42	12	P		**P**		11 36 56.5	+0.1
	baz=214								
TRF	**Thorofare Moun**	82.56	19	IAMs_20		IAMs_20		12 07 29.4	
	comp=Z,3µm,19.0s								
G19K	**Purcell Mounta**	82.57	15	IAMs_20		IAMs_20		12 05 52.9	
	comp=Z,2µm,22.0s								
G19K	**Purcell Mounta**	82.57	15	P		**P**		11 36 57.3	+0.1
	baz=219								
H20K	**Anotleneega Mo**	82.66	16	P		**P**		11 36 57.6	-0.2
	baz=222								
E18K	**Tukpahlearik C**	82.73	13	P		**P**		11 36 58.7	+0.6
	baz=216								
RPN	**Rapa Nui**	82.89	116	LR		LR		12 07 34.8	
	comp=Z,1µm,18.8s,baz=266,slow=31								
RND	**Reindeer**	83.00	20	P		**P**		11 36 58.8	-0.8
RND				IAmb		IAmb		11 37 48.2	
	comp=Z,44nm,1.4s								
RND				IAMs_20		IAMs_20		12 08 23.0	
	comp=Z,2µm,20.0s								
RND	**Reindeer**	83.00	20	P		**P**		11 36 58.8	-0.8
RND				pmax		pmax			
	comp=Z,44nm,1.4s								
C17K	**DeLong Mountai**	83.05	12	P		**P**		11 37 00.1	+0.4
	baz=213								
M24K	**Tolsona, Glenn**	83.06	22	P		**P**		11 37 00.4	+0.4
	baz=230								
DHY	**Denali Highway**	83.28	20	IAMs_20		IAMs_20		12 07 10.4	
	comp=Z,2µm,21.0s								
BWN	**Browne**	83.33	19	IAMs_20		IAMs_20		12 07 55.1	
	comp=Z,3µm,22.0s								
N25K	**Chitina, Valde**	83.33	22	IAMs_20		IAMs_20		12 06 34.8	
	comp=Z,3µm,22.0s								
IMAR	**Indian Mountai**	83.34	16	P		**P**		11 37 00.2	-1.1
CRQM	**Cirque**	83.36	24	IAMs_20		IAMs_20		12 08 19.5	
	comp=Z,2µm,20.0s								
H21K	**Melozitna Rive**	83.37	17	P		**P**		11 37 00.2	-1.2
H21K				IAmb		IAmb		11 37 20.3	
	comp=Z,35nm,1.3s								
H21K				IAMs_20		IAMs_20		12 07 34.2	
	comp=Z,2µm,21.0s								
GLB	**Gilahina Butte**	83.52	23	IAMs_20		IAMs_20		12 06 53.0	
	comp=Z,3µm,21.0s								
MAW	**Mawson**	83.54	202	P		**P**		11 37 03.8	+1.5
	comp=Z,11nm,1.0s,baz=96,slow=7.9,SNR=7.1								
MAW				LR		LR		12 11 27.9	
	comp=Z,2µm,18.7s,baz=90,slow=34								
	comp=Z,11nm,1.0s								
E19K	**Redstone River**	83.56	14	P		**P**		11 37 02.4	+0.1
	baz=219								
C18K	**Utukok River**	83.61	12	P		**P**		11 37 02.6	0.0
	baz=215								
F20K	**Avaraart Lake**	83.62	15	IAMs_20		IAMs_20		12 06 36.7	
	comp=Z,2µm,22.0s								
NEA2	**Nenana**	83.74	19	IAMs_20		IAMs_20		12 18 37.6	
	comp=Z,2µm,19.0s								
G21K	**Allakaket**	83.80	16	IAMs_20		IAMs_20		12 08 53.6	
	comp=Z,3µm,20.0s								
G21K	**Allakaket**	83.80	16	P		**P**		11 37 03.2	-0.4
	baz=223								
PALK	**Pallekele**	83.93	279	LR		LR		12 15 05.8	
	comp=Z,982nm,21.5s,baz=213,slow=36								
H22K	**Ishtalitna Cre**	83.95	17	P		**P**		11 37 04.4	0.0
	baz=225								
I23K	**Minto, Yukon-K**	84.03	18	P		**P**		11 37 04.7	0.0
I23K	**Minto, Yukon-K**	84.03	18	P		**P**		11 37 04.2	-0.5
	baz=227								
B18K	**Kokolik River**	84.07	12	P		**P**		11 37 04.8	0.0
	baz=215								
D19K	**Kuna River**	84.16	13	P		**P**		11 37 05.6	+0.2
	baz=218								
CCB	**Clear Creek Bu**	84.18	19	P		**P**		11 37 04.5	-1.0
CCB				IAMs_20		IAMs_20		12 09 00.2	
	comp=Z,3µm,21.0s								
LOGN	**Logan Glacier**	84.25	24	IAMs_20		IAMs_20		12 05 00.5	
	comp=Z,2µm,21.0s								
MDM	**Murphy Dome**	84.25	19	P		**P**		11 37 04.5	-1.4
MDM				IAmb		IAmb		11 37 24.0	
	comp=Z,31nm,1.0s								
MDM				IAMs_20		IAMs_20		12 08 22.2	
	comp=Z,2µm,21.0s								
K24K	**Donnelly Dome**	84.30	20	P		**P**		11 37 05.0	-1.2
	baz=230								
HDA	**Harding Lake**	84.30	20	P		**P**		11 37 05.6	-0.6
HDA				IAMs_20		IAMs_20		12 09 14.4	
	comp=Z,2µm,20.0s								
HDA	**Harding Lake**	84.30	20	P		**P**		11 37 05.6	-0.6
	baz=229								
COLA	**College**	84.32	19	P		**P**		11 37 05.3	-0.9
COLA				IAmb		IAmb		11 37 24.2	
	comp=Z,39nm,0.9s								
COLA	**College**	84.32	19	IAMs_20		IAMs_20		12 08 33.7	
	comp=Z,2µm,20.0s								
COLA	**College**	84.32	19	P		**P**		11 37 04.4	-1.8
COLA	**College**	84.32	19	P		**P**		11 37 05.3	-0.9
COLA				pmax		pmax			
	comp=Z,39nm,0.9s								
COLA	**College**	84.32	19	P		**P**		11 37 05.1	-1.0
	baz=228								
C19K	**Lookout Ridge**	84.32	13	P		**P**		11 37 06.2	0.0
	baz=217								
F21K	**Alatna River**	84.33	16	IAMs_20		IAMs_20		12 07 56.4	
	comp=Z,3µm,22.0s								
E20K	**Nigu River**	84.43	14	P		**P**		11 37 06.6	-0.2
	baz=220								
KMPM	**Mount Pierce**	84.51	47	IAMs_20		IAMs_20		12 07 23.7	
	comp=Z,3µm,20.0s								
IL31		84.56	19	P		**P**		11 37 06.4	-1.0
IL31				IAmb		IAmb		11 37 25.6	
	comp=Z,26nm,1.1s								
ILAR	**Eielson Array**	84.56	19	P		**P**		11 37 06.8	-0.7
ILAR	**Eielson Array**	84.56	19	P		**P**		11 37 06.8	-0.7
ILAR	**Eielson Array**	84.56	19	P		**P**		11 37 04.8	-2.6
	comp=Z,1.1nm,0.7s,baz=248,slow=5.7,SNR=14								
ILAR				LR		LR		12 09 20.8	
	comp=Z,2µm,20.8s,baz=222,slow=32								
	comp=Z,1.1nm,0.7s								
RIDG	**Independent Ri**	84.58	21	IAMs_20		IAMs_20		12 07 26.8	
	comp=Z,4µm,22.0s								
POKR	**Poker Plat Res**	84.61	19	P		**P**		11 37 06.2	-1.5
POKR				IAMs_20		IAMs_20		12 08 20.6	
	comp=Z,2µm,20.0s								
POKR	**Poker Plat Res**	84.61	19	P		**P**		11 37 06.3	-1.4
	baz=229								
G22K	**Bettles**	84.65	16	P		**P**		11 37 08.8	+0.9
	baz=225								
L26K	**Log Cabin Wild**	84.66	22	P		**P**		11 37 08.2	+0.1
L26K				IAmb		IAmb		11 37 42.7	
	comp=Z,33nm,1.2s								
L26K				IAMs_20		IAMs_20		12 07 54.1	
	comp=Z,2µm,22.0s								
D20K	**Etivluk River**	84.68	14	P		**P**		11 37 08.9	+0.8
	baz=220								
S31K	**Pelican**	84.73	28	IAMs_20		IAMs_20		12 06 22.3	
	comp=Z,3µm,21.0s								
KMRM	**Mail Ridge**	84.74	47	P		**P**		11 37 09.6	+0.6
KMRM				IAmb		IAmb		11 37 25.0	
	comp=Z,54nm,1.2s								
HOPS	**Hopland Field**	84.80	49	IAMs_20		IAMs_20		12 07 14.6	
	comp=Z,3µm,20.0s								
M27K	**Edge Creek, AK**	84.81	23	P		**P**		11 37 09.8	+0.8
	baz=234								
F22K	**John River**	84.88	16	P		**P**		11 37 09.6	+0.6
	baz=224								
G23K	**Bananza Creek**	84.92	17	P		**P**		11 37 08.5	-0.8
	baz=226								
KHMM	**Horse Mountain**	84.94	47	IAMs_20		IAMs_20		12 07 20.1	
	comp=Z,2µm,20.0s								
P29M	**Windy Craggy**	84.94	26	IAMs_20		IAMs_20		12 06 10.9	
	comp=Z,3µm,21.0s								
O29M	**Mount Kennedy**	84.95	25	IAMs_20		IAMs_20		12 10 05.8	
	comp=Z,3µm,21.0s								
H24K	**Noodor Dome**	84.95	18	P		**P**		11 37 10.7	+1.2
	baz=228								
J25K	**Salcha River,**	84.95	20	P		**P**		11 37 08.0	-1.5
J25K				IAmb		IAmb		11 37 28.2	
	comp=Z,20nm,0.9s								
J25K	**Salcha River,**	84.95	20	P		**P**		11 37 08.8	-0.8
	baz=230								
YUK8	**Steele Glacier**	85.01	24	P		**P**		11 37 10.9	+0.8
	baz=236								
CRAG	**Craig**	85.01	31	IAMs_20		IAMs_20		12 05 44.7	
	comp=Z,4µm,22.0s								

SCRK	**Sand Creek**	85.02	21	P		**P**		11 37 09.6	-0.5
SCRK				IAmb		IAmb		11 37 19.4	
	comp=Z,81nm,1.8s								
SCRK				IAMs_20		IAMs_20		12 08 02.5	
	comp=Z,2µm,21.0s								
SCRK	**Sand Creek**	85.02	21	P		**P**		11 37 09.5	-0.5
	baz=232								
E21K	**Killik River**	85.11	15	P		**P**		11 37 09.4	-0.8
E21K	**Killik River**	85.11	15	P		**P**		11 37 09.8	-0.4
	baz=222								
KSXB	**Camp Six Broad**	85.15	46	IAMs_20		IAMs_20		12 07 30.7	
	comp=Z,2µm,20.0s								
KEBM	**Edson Butte**	85.19	45	IAMs_20		IAMs_20		12 07 30.4	
	comp=Z,3µm,19.0s								
COLD	**Coldfoot**	85.22	17	P		**P**		11 37 12.6	+1.8
	baz=226								
L27K	**Beaver Creek,**	85.24	22	P		**P**		11 37 10.6	-0.4
L27K				IAmb		IAmb		11 37 49.5	
	comp=Z,44nm,1.4s								
L27K				IAMs_20		IAMs_20		12 08 22.8	
	comp=Z,3µm,21.0s								
L27K	**Beaver Creek,**	85.24	22	P		**P**		11 37 12.6	+1.6
	baz=234								
BCAR	**Beaver Creek A**	85.26	22	P		**P**		11 37 11.6	+0.5
C21K	**Knifeblade Rid**	85.45	14	P		**P**		11 37 12.0	+0.2
	baz=221								
L02F	**Cave Junction**	85.47	46	IAMs_20		IAMs_20		12 07 49.9	
	comp=Z,3µm,19.0s								
PRP	**Porcupine Dome**	85.48	19	IAMs_20		IAMs_20		12 09 26.6	
	comp=Z,2µm,21.0s								
J26L	**Joseph Creek**	85.49	20	IAMs_20		IAMs_20		12 07 54.3	
	comp=Z,3µm,22.0s								
J01E	**Myrtle Point**	85.56	45	IAMs_20		IAMs_20		12 07 44.4	
	comp=Z,3µm,20.0s								
HYT	**Haines Junctio**	85.68	25	IAMs_20		IAMs_20		12 10 19.1	
	comp=Z,2µm,20.0s								
V35K	**Ketchikan**	85.71	31	IAMs_20		IAMs_20		12 06 59.3	
	comp=Z,3µm,21.0s								
JIS	**Juneau Island**	85.74	28	IAMs_20		IAMs_20		12 06 51.0	
	comp=Z,4µm,21.0s								
D22K	**Ayikyak River**	85.75	15	IAMs_20		IAMs_20		12 07 56.9	
	comp=Z,2µm,21.0s								
D22K	**Ayikyak River**	85.75	15	P		**P**		11 37 13.8	+0.4
	baz=223								
TIXI	**Tiksi**	85.78	350	P		**P**		11 37 13.7	+0.3
TIXI				IAmb		IAmb		11 37 31.4	
	comp=Z,48nm,1.4s								
TIXI	**Tiksi**	85.78	350	*e*P	⇓	**P**		11 37 14.1	+0.7
TIXI				pmax		pmax			
	comp=Z,46nm,1.4s								
TIXI				MLR		MLR			
	comp=Z,940nm,19.0s								
TIXI	**Tiksi**	85.78	350	LR		LR		12 13 27.8	
	comp=Z,34nm,21.2s,baz=166,slow=34								
B21K	**Ikpikpuk River**	85.84	14	P		**P**		11 37 14.0	+0.2
	baz=222								
SKAG	**Skagway**	85.90	27	IAMs_20		IAMs_20		12 06 16.1	
	comp=Z,4µm,22.0s								
YBH	**Yreka Blue Hor**	85.95	46	IAMs_20		IAMs_20		12 05 57.6	
	comp=Z,2µm,21.0s								
YBH	**Yreka Blue Hor**	85.95	46	LR		LR		12 07 15.9	
	comp=Z,1µm,21.7s,baz=257,slow=30								
DBO	**Dodson Butte**	86.02	45	IAMs_20		IAMs_20		12 07 27.6	
	comp=Z,3µm,20.0s								
HUMO	**Hull Mountain**	86.06	45	P		**P**		11 37 14.9	-0.6
HUMO				IAmb		IAmb		11 37 32.3	
	comp=Z,33nm,1.1s								
HUMO				IAMs_20		IAMs_20		12 08 08.5	
	comp=Z,3µm,20.0s								
F24K	**Squaw Lake**	86.08	17	IAMs_20		IAMs_20		12 10 03.6	
	comp=Z,3µm,21.0s								
I26K	**Coal Creek Min**	86.12	20	IAMs_20		IAMs_20		12 09 52.0	
	comp=Z,2µm,20.0s								
I26K	**Coal Creek Min**	86.12	20	P		**P**		11 37 16.1	+0.9
	baz=232								
ORV	**Oroville**	86.14	49	P		**P**		11 37 14.4	-1.5
ORV				IAMs_20		IAMs_20		12 07 06.9	
	comp=Z,2µm,21.0s								
ORV	**Oroville**	86.14	49	P		**P**		11 37 14.4	-1.5
ORV				pmax		pmax			
	comp=Z,25nm,1.2s								
I03D	**Drain, OR**	86.14	44	IAMs_20		IAMs_20		12 07 51.7	
	comp=Z,2µm,20.0s								
N30M	**Aishikik Lake**	86.18	25	IAMs_20		IAMs_20		12 10 48.8	
	comp=Z,2µm,20.0s								
O30N	**Mentnhall**	86.24	25	P		**P**		11 37 16.6	+0.6
	baz=239								
FYU	**Fort Yukon**	86.24	18	IAMs_20		IAMs_20		12 09 54.7	
	comp=Z,2µm,20.0s								
BBB	**Bella Bella**	86.26	35	IAMs_20		IAMs_20		12 22 36.1	
	comp=Z,2µm,18.0s								
BBB	**Bella Bella**	86.26	35	LR		LR		12 10 09.9	
	comp=Z,533nm,18.9s,baz=256,slow=32								
E24K	**Your Creek**	86.29	16	IAMs_20		IAMs_20		12 08 44.2	
	comp=Z,3µm,22.0s								
AFDM	**Forest Hills D**	86.34	49	P		**P**		11 37 16.4	-0.6
AFDM				IAmb		IAmb		11 37 32.8	
	comp=Z,34nm,1.1s								
L04D	**Klamath Falls**	86.39	46	IAMs_20		IAMs_20		12 06 43.3	
	comp=Z,2µm,21.0s								
EGAK	**Eagle**	86.49	21	P		**P**		11 37 17.8	+0.7
	baz=234								
CMB	**Columbia Colle**	86.51	50	P		**P**		11 37 17.0	-0.9
CMB				IAMs_20		IAMs_20		12 06 48.0	
	comp=Z,3µm,22.0s								
CMB	**Columbia Colle**	86.51	50	P		**P**		11 37 17.0	-0.9
CMB				pmax		pmax			
	comp=Z,24nm,1.2s								
BUCK	**Buck Mountain**	86.56	44	IAMs_20		IAMs_20		12 06 25.6	
	comp=Z,3µm,21.0s								
L29M	**L29M**	86.66	23	P		**P**		11 37 19.0	+1.1
	baz=237								
P32M	**Atlin**	86.68	27	IAMs_20		IAMs_20		12 07 01.8	
	comp=Z,2µm,22.0s								
WHY	**Whitehorse**	86.70	26	IAMs_20		IAMs_20		12 07 39.1	
	comp=Z,2µm,21.0s								
A21K	**Barrow**	86.70	12	P		**P**		11 37 19.7	+1.8
	baz=220								
DAWY	**Dawson**	86.71	22	P		**P**		11 37 18.1	-0.1
DAWY				IAmb		IAmb		11 37 38.6	
	comp=Z,31nm,1.2s								
DAWY	**Dawson**	86.71	22	P		**P**		11 37 19.9	+1.6
	baz=236								
N31M	**Braeburn, Yuko**	86.73	25	IAMs_20		IAMs_20		12 07 55.0	
	comp=Z,2µm,22.0s								
U35K	**Hyder**	86.78	31	IAMs_20		IAMs_20		12 06 58.5	
	comp=Z,4µm,21.0s								
F25K	**Christian Rive**	86.78	17	P		**P**		11 37 20.1	+1.6
	baz=230								
I04A	**Tendick Farm,**	86.82	44	IAMs_20		IAMs_20		12 08 12.6	
	comp=Z,3µm,22.0s								
ARVC	**Arvin**	86.89	53	P		**P**		11 37 20.5	+0.8
	baz=254								
M30M	**Mio, Yukon**	86.89	24	IAMs_20		IAMs_20		12 10 50.1	
	comp=Z,2µm,19.0s								
K04D	**Chiloquin, OR**	86.90	46	IAMs_20		IAMs_20		12 08 37.9	
	comp=Z,2µm,20.0s								
D24K	**Happy Valley**	86.93	15	IAMs_20		IAMs_20		12 10 37.2	
	comp=Z,3µm,20.0s								
E03A	**Lebam**	86.95	41	IAMs_20		IAMs_20		12 08 50.0	
	comp=Z,2µm,19.0s								
BMAR	**Burnt Mountain**	86.99	18	P		**P**		11 37 21.3	+1.8
WISH	**Wishkah**	87.01	41	IAMs_20		IAMs_20		12 06 31.5	
	comp=Z,3µm,22.0s								
NLWA	**Neilton Lookou**	87.04	41	IAMs_20		IAMs_20		12 07 08.5	
	comp=Z,3µm,22.0s								
Q32M	**Nakina River**	87.04	28	IAMs_20		IAMs_20		12 07 31.7	
	comp=Z,3µm,21.0s								
E25K	**Arctic Village**	87.14	17	IAMs_20		IAMs_20		12 11 18.4	
	comp=Z,2µm,20.0s								
PASC	**Pasadena Art C**	87.14	55	IAMs_20		IAMs_20		12 08 01.0	
	comp=Z,4µm,20.0s								
MPK	**Martis Peak**	87.15	49	IAMs_20		IAMs_20		12 07 57.5	
	comp=Z,2µm,21.0s								
K29M	**Barlow Dome**	87.28	22	IAMs_20		IAMs_20		12 09 13.9	
	comp=Z,2µm,22.0s								
F26K	**Sheenjek River**	87.29	18	P		**P**		11 37 22.5	+1.6
	baz=232								
I28M	**Miner Creek**	87.30	21	P		**P**		11 37 19.6	-1.5
I28M				IAmb		IAmb		11 37 30.8	
	comp=Z,72nm,1.8s								
I28M				IAMs_20		IAMs_20		12 08 59.1	
	comp=Z,3µm,22.0s								
I28M	**Miner Creek**	87.30	21	P		**P**		11 37 21.7	+0.5
	baz=236								
WMQ	**Urumqi**	87.34	315	*e*P		**P**		11 37 21.8	0.0
WMQ				pP		sP		11 37 30.6	+2.0

WMQ				PP		**PP**		11 40 44.6	-1.8
WMQ				SKS		**SKSac**		11 47 48.8	+0.6
WMQ				S		**S**		11 48 03.9	+2.8
WMQ				pmax		pmax			
	comp=Z,21nm,2.2s								
WMQ				LR		LR			
	comp=Z,2µm,19.7s								
WMQ				LR		LR			
	comp=Z,2µm,19.7s								
WMQ				LR		LR			
	comp=Z,3µm,21.5s								
C24K	**Franklin Bluff**	87.35	15	P		**P**		11 37 20.7	-0.5
	baz=227								
J29N	**Klondike Camp**	87.35	22	IAMs_20		IAMs_20		12 09 39.2	
	comp=Z,2µm,21.0s								
WAKR	**Walker**	87.36	50	IAMs_20		IAMs_20		12 07 14.5	
	comp=Z,4µm,21.0s								
CLRS	**Cowichan Lake**	87.37	39	IAMs_20		IAMs_20		12 08 00.8	
	comp=Z,3µm,20.0s								
P33M	**Teslin, Yukon**	87.38	27	IAMs_20		IAMs_20		12 07 24.1	
	comp=Z,3µm,22.0s								
MDPB	**Devils Postpil**	87.39	51	IAMs_20		IAMs_20		12 07 27.2	
	comp=Z,4µm,21.0s								
J05D	**Fort Rock, OR**	87.47	45	IAMs_20		IAMs_20		12 09 06.9	
	comp=Z,3µm,19.0s								
EDW2	**Edwards Air Fo**	87.48	54	P		**P**		11 37 22.2	-0.5
	baz=255								
G27K	**Doyon Strip**	87.52	19	P		**P**		11 37 23.0	+1.0
	baz=234								
K05A	**Summer Lake**	87.54	46	IAMs_20		IAMs_20		12 06 49.7	
	comp=Z,2µm,22.0s								
BFSC	**Mount Baldy Ra**	87.58	55	P		**P**		11 37 22.2	-1.1
	baz=255								
ELS	**Elsinore Mount**	87.61	55	IAMs_20		IAMs_20		12 07 31.5	
	comp=Z,2µm,22.0s								
YERR	**Yerington**	87.65	50	IAMs_20		IAMs_20		12 06 11.9	
	comp=Z,2µm,22.0s								
M31M	**Drury Creek, Y**	87.67	25	IAMs_20		IAMs_20		12 09 08.6	
	comp=Z,3µm,21.0s								
109C	**Camp Elliot, M**	87.68	56	IAMs_20		IAMs_20		12 07 50.3	
	comp=Z,3µm,20.0s								
N32M	**Quiet Lake**	87.70	26	IAMs_20		IAMs_20		12 08 33.1	
	comp=Z,3µm,22.0s								
PAHR	**Pah Rah Range**	87.74	49	IAMs_20		IAMs_20		12 08 48.5	
	comp=Z,2µm,20.0s								
GNW	**Green Mountain**	87.77	41	IAMs_20		IAMs_20		12 07 19.5	
	comp=Z,3µm,22.0s								
MAYO	**Mayo, Yukon**	87.77	23	IAMs_20		IAMs_20		12 10 50.3	
	comp=Z,2µm,18.0s								
CCX	**Cicese**	87.78	57	IAMs_20		IAMs_20		12 09 02.0	
	comp=Z,3µm,19.0s								
MURC	**Murrieta**	87.79	55	P		**P**		11 37 23.7	-0.4
	baz=255								
I29M	**Ogilvie Camp,**	87.82	21	P		**P**		11 37 23.3	-0.2
I29M				IAmb		IAmb		11 37 42.5	
	comp=Z,45nm,1.1s								
PINE	**Pine Mountain**	87.83	45	IAMs_20		IAMs_20		12 07 29.4	
	comp=Z,3µm,21.0s								
CWC	**Cottonwood Cre**	87.83	52	P		**P**		11 37 24.7	+0.2
	baz=254								
R33M	**Jennings River**	87.84	28	IAMs_20		IAMs_20		12 08 16.8	
	comp=Z,2µm,20.0s								
DLBC	**Dease Lake**	87.86	29	LR		LR		12 08 19.7	
	comp=Z,4µm,21.9s,baz=260,slow=30								
LRMC	**Laurel Mtn Rad**	87.89	53	P		**P**		11 37 24.6	-0.1
	baz=255								
CBX	**Cerro Bola**	87.89	57	IAMs_20		IAMs_20		12 18 10.0	
	comp=Z,2µm,19.0s								
PLTX	**Planet X, Gerl**	87.97	48	IAMs_20		IAMs_20		12 09 09.3	
	comp=Z,3µm,20.0s								
BAR	**Barrett**	87.98	56	IAMs_20		IAMs_20		12 07 36.2	
	comp=Z,3µm,20.0s								
LHV	**Little Huntoon**	88.00	51	IAMs_20		IAMs_20		12 08 18.3	
	comp=Z,3µm,20.0s								
RYN	**Ryan**	88.08	50	IAMs_20		IAMs_20		12 08 10.6	
	comp=Z,3µm,21.0s								
FARO	**Faro, Yukon**	88.11	25	IAMs_20		IAMs_20		12 09 35.3	
	comp=Z,2µm,20.0s								
J30M	**Hart River**	88.11	22	IAMs_20		IAMs_20		12 10 02.8	
	comp=Z,2µm,21.0s								
HYB	**Hyderabad**	88.12	288	*e*P		**P**		11 37 25.5	-0.6
D05A	**Enumclaw**	88.18	41	IAMs_20		IAMs_20		12 07 08.5	
	comp=Z,2µm,21.0s								
NVAR	**Mina Array Bea**	88.20	50	P		**P**		11 37 25.0	-1.2
NVAR	**Mina Array Bea**	88.20	50	P		**P**		11 37 25.5	-0.7
	comp=Z,4.4nm,0.8s,baz=235,slow=6.9,SNR=18								
NVAR				LR		LR		12 08 40.0	
	comp=Z,3µm,20.9s,baz=258,slow=30								
	comp=Z,4.4nm,0.8s								
MONP2	**Monument Peak**	88.24	56	P		**P**		11 37 26.3	-0.2
	baz=256								
H29M	**Whitestone**	88.27	20	IAMs_20		IAMs_20		12 09 04.3	
	comp=Z,3µm,22

comp=Z,2µm,22.0s
BMN Battle Mountai 89.54 49 IAMs_20 IAMs_20 12 10 14.9
comp=Z,2µm,21.0s
IRM Iron Mountain 89.58 55 P **P** **11 37 32.9 +0.3**
baz=256
E29M Blow River 89.60 19 P **P** **11 37 33.5 +1.6**
baz=237
F30M Barrier River 89.87 20 P **P** **11 37 33.4 +0.3**
baz=239
R11B Troy Canyon, C 90.24 51 P **P** **11 37 35.0 -0.8**
baz=256
ZSN Zaisan 90.31 318 *e*P **P** **11 37 35.5 -0.1**
ZSN pmax pmax
comp=Z,12nm,1.1s
ZSN Zaisan 90.31 318 *e*P **P** **11 37 35.6 -0.1**
comp=Z,12nm,1.1s,baz=318
PIX Pinacate 90.36 58 IAMs_20 IAMs_20 12 10 38.4
comp=Z,2µm,20.0s
PDMCI Parker Dam,Lak 90.42 55 P **P** **11 37 37.3 +0.9**
baz=257
BELA Belgrano 2 90.48 176 IAMs_20 IAMs_20 12 19 39.9
comp=Z,2µm,18.0s
BMO Blue Mountains 90.63 44 IAMs_20 IAMs_20 12 09 20.7
comp=Z,2µm,22.0s
W13A Hualapai Mount 90.81 54 IAMs_20 IAMs_20 12 10 46.0
comp=Z,3µm,20.0s
INK Inuvik 90.96 19 IAMs_20 IAMs_20 12 11 02.4
comp=Z,2µm,22.0s
INK Inuvik 90.96 19 LR LR 12 12 41.9
comp=Z,2µm,21.0s,baz=194,slow=32
Q12A Willow Creek R 90.98 50 IAMs_20 IAMs_20 12 10 04.2
comp=Z,3µm,20.0s
214A Organ Pipe Nat 90.99 58 IAMs_20 IAMs_20 12 10 48.0
comp=Z,3µm,20.0s
ELK Elko 91.08 49 IAMs_20 IAMs_20 12 09 08.9
comp=Z,2µm,22.0s
ELK Elko 91.08 49 LR LR 12 11 26.5
comp=Z,1µm,20.3s,baz=241,slow=31
Y14A Wickenburg 91.26 56 IAMs_20 IAMs_20 12 09 50.0
comp=Z,2µm,20.0s
MFID Camas Ranch 91.30 46 IAMs_20 IAMs_20 12 11 11.5
comp=Z,2µm,20.0s
LPIG La Paz 91.52 66 LR LR 12 10 10.2
comp=Z,1µm,20.5s,baz=262,slow=30
PLID Pearl Lake 91.59 44 IAMs_20 IAMs_20 12 11 27.8
comp=Z,2µm,20.0s
NEW Newport 91.64 41 LR LR 12 12 58.7
comp=Z,919nm,20.1s,baz=268,slow=32
FLDN Fort Liard 91.65 29 IAMs_20 IAMs_20 12 11 11.2
comp=Z,3µm,20.0s
SLBS Sierra La Lagu 91.77 66 IAMs_20 IAMs_20 12 11 04.4
comp=Z,2µm,20.0s
MK31 Makanchi Array 91.84 317 *de*P **P** **11 37 41.8 -1.0**
MKAR Makanchi Array 91.84 317 *i* P **P** **11 37 41.2 -1.6**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 91.84 317 P **P** **11 37 41.3 -1.5**
comp=Z,6.7nm,0.6s,baz=102,slow=5.3,SNR=32
MKAR PP **PP** **11 41 20.6 -1.5**
comp=Z,3.4nm,1.1s,baz=99,slow=9.2,SNR=3.8
MKAR LR LR 12 20 09.1
comp=Z,665nm,19.9s,baz=100,slow=36
comp=Z,6.7nm,0.6s
ZAA0 Zalesovo Array 92.15 325 IAMs_20 IAMs_20 12 17 58.0
comp=Z,2µm,21.0s
ZALV Zalesovo Beam 92.15 325 *i* P **P** **11 37 43.0 -1.0**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 92.15 325 P **P** **11 37 43.0 -1.0**
comp=Z,2.6nm,0.8s,baz=107,slow=5.1,SNR=13
ZALV PP **PP** **11 41 24.8 +0.4**
comp=Z,1.4nm,0.9s,baz=122,slow=5.4,SNR=4.3
ZALV LR LR 12 18 08.8
comp=Z,1µm,21.0s,baz=100,slow=35
comp=Z,2.6nm,0.8s
HLID Hailey 92.33 46 IAMs_20 IAMs_20 12 11 21.9
comp=Z,2µm,21.0s
HLID Hailey 92.33 46 P **P** **11 37 45.9 +0.5**
baz=257
X16A Lo Mia Camp, P 92.63 56 IAMs_20 IAMs_20 12 12 43.2
comp=Z,2µm,19.0s
WRGLY Wrigley 92.67 26 IAMs_20 IAMs_20 12 10 44.0
comp=Z,2µm,22.0s
TCRU Three Creeks R 92.70 51 IAMs_20 IAMs_20 12 12 03.8
comp=Z,3µm,20.0s
TUC Tucson 92.74 58 IAMs_20 IAMs_20 12 11 42.4
comp=Z,2µm,19.0s
ELIB Princess Elisa 92.82 192 *d*P **P** **11 37 48.3 +1.2**
ELIB *dx* x 11 37 51.1
WUAZ Wupatki 92.90 55 IAMs_20 IAMs_20 12 11 11.7
comp=Z,3µm,21.0s
SHLS Shalkode 92.94 313 *e*P **P** **11 37 46.4 -1.7**
SHLS Shalkode 92.94 313 *e*P **P** **11 37 46.4 -1.7**
baz=313
BRLDA Berland Lookou 92.97 35 IAMs_20 IAMs_20 12 10 25.7
comp=Z,2µm,22.0s
UZB Uzynbulak 93.26 313 *e*P **P** **11 37 49.2 -0.4**
UZB pmax pmax
comp=Z,15nm,1.4s
UZB Uzynbulak 93.26 313 *e*P **P** **11 37 49.3 -0.4**
comp=Z,15nm,1.4s,baz=313
NLU North Lily Min 93.26 50 IAMs_20 IAMs_20 12 11 19.6
comp=Z,2µm,20.0s
KPKS Kokpek 93.57 313 *e*P **P** **11 37 50.7 -0.2**
KPKS pmax pmax
comp=Z,10.0nm,1.1s
KPKS Kokpek 93.57 313 *e*P **P** **11 37 50.7 -0.2**
comp=Z,9.9nm,1.1s,baz=313
MPU Maple Canyon 93.60 50 IAMs_20 IAMs_20 12 10 56.7
comp=Z,2µm,22.0s
SATY Saty 93.68 313 *e*P **P** **11 37 51.1 -0.4**
SATY pmax pmax
comp=Z,17nm,1.9s
SATY Saty 93.68 313 *e*P **P** **11 37 51.2 -0.4**
comp=Z,17nm,1.9s,baz=313
Q16A Castle Valley 93.74 51 IAMs_20 IAMs_20 12 11 34.6
comp=Z,2µm,21.0s
319A Douglas 93.82 59 IAMs_20 IAMs_20 12 10 43.0
comp=Z,3µm,21.0s
X18A Snowflake 93.86 56 IAMs_20 IAMs_20 12 13 01.8
comp=Z,2µm,20.0s
SEM Semipalatinsk 94.00 320 *e*P **P** **11 37 52.4 -0.5**
SEM MLR MLR
comp=Z,676nm,17.0s
SEM Semipalatinsk 94.00 320 *e*P **P** **11 37 52.5 -0.5**
baz=320
SEM LR LR 12 17 51.8
comp=Z,676nm,17.4s,baz=320
TDK Taldyqorghan 94.08 315 *e*P **P** **11 37 52.9 -0.2**
TDK pmax pmax
comp=Z,8.0nm,0.7s
TDK Taldyqorghan 94.08 315 *e*P **P** **11 37 52.9 -0.2**
comp=Z,8.0nm,0.7s,baz=315
TDK LR LR 12 20 11.5
baz=315
P17A Butcher Ranch, 94.17 51 IAMs_20 IAMs_20 12 11 57.8
comp=Z,3µm,21.0s
C36M Paulatuk 94.51 20 P **P** **11 37 53.2 -1.3**
baz=250
MDOK Medeo 94.68 313 *e*P **P** **11 37 55.7 -0.4**
MDOK *e*S **SKSac** **11 48 29.7 -0.7**
MDOK Medeo 94.68 313 *e*P **P** **11 37 55.7 -0.4**
baz=313
MDOK *e*S **SKSac** **11 48 29.8 -0.7**
baz=313
MDOK LR LR 12 21 09.3
baz=313
TNSS Tian-Shan 94.72 313 *e*P **P** **11 37 55.8 -0.8**
TNSS Tian-Shan 94.72 313 *e*P **P** **11 37 55.9 -0.8**
baz=313
TPAW Teton Pass 94.78 47 IAMs_20 IAMs_20 12 13 32.4
comp=Z,2µm,20.0s
KSH Kashi 94.80 309 P **P** **11 37 59.4 +2.7**
KSH SKS **SKSac** **11 48 33.6 +2.4**
KSH S **ScS** **11 49 10.8 +0.3**
KSH SS **SS** **11 55 39.5 +5.4**
KSH LR LR
comp=Z,2µm,18.8s
KSH LR LR
comp=Z,950nm,23.0s
KSH LR LR
comp=Z,2µm,20.5s
CHKK Chushkaly 94.85 314 *e*P **P** **11 37 56.4 -0.3**
CHKK Chushkaly 94.85 314 *e*P **P** **11 37 56.5 -0.3**
baz=314
YHL Hebgen Lake 94.87 45 IAMs_20 IAMs_20 12 13 55.9
comp=Z,2µm,20.0s

SNOW Snow King Moun 94.91 47 IAMs_20 IAMs_20 12 13 47.1
comp=Z,2µm,19.0s
YMR Madison River 94.99 46 IAMs_20 IAMs_20 12 14 59.9
comp=Z,2µm,20.0s
YFT Old Faithful 95.04 46 IAMs_20 IAMs_20 12 15 22.4
comp=Z,3µm,20.0s
LOHW Long Hollow 95.05 47 IAMs_20 IAMs_20 12 13 51.7
comp=Z,2µm,20.0s
A36M Sachs Harbour 95.07 17 P **P** **11 37 56.5 -0.5**
baz=249
FLWY Flagg Ranch 95.07 46 IAMs_20 IAMs_20 12 13 24.1
comp=Z,3µm,21.0s
KURK Kurchatov 95.08 321 IAMs_20 IAMs_20 12 18 51.8
comp=Z,3µm,20.0s
KURK Kurchatov 95.08 321 *ce*P **P** **11 37 56.7 -0.9**
KURK pmax pmax
comp=Z,22nm,1.5s
KURK MLR MLR
comp=Z,3µm,20.0s
EDM Edmonton 95.12 37 IAMs_20 IAMs_20 12 12 52.5
comp=Z,2µm,21.0s
KURBB Kurchatov Arra 95.12 320 P **P** **11 37 55.9 -1.8**
comp=Z,3.3nm,1.1s,baz=112,slow=3.2,SNR=14
KURBB PP **PP** **11 41 48.4 +0.7**
comp=Z,2.0nm,0.9s,baz=103,slow=7.6,SNR=5.3
KURBB LR LR 12 19 07.3
comp=Z,2µm,21.8s,baz=108,slow=34
comp=Z,3.3nm,1.1s
YNM Yellowstone No 95.18 46 IAMs_20 IAMs_20 12 14 18.1
comp=Z,2µm,20.0s
YNR Norris Junctio 95.20 46 IAMs_20 IAMs_20 12 12 02.5
comp=Z,2µm,22.0s
121A Cookes Peak, D 95.28 58 IAMs_20 IAMs_20 12 12 22.6
comp=Z,2µm,20.0s
KUU Kurty 95.32 314 *e*P **P** **11 37 58.6 -0.2**
KUU pmax pmax
comp=Z,12nm,1.2s
KUU Kurty 95.32 314 *e*P **P** **11 37 58.7 -0.2**
comp=Z,12nm,1.2s,baz=314
KUU LR LR 12 21 02.8
comp=Z,788nm,14.0s,baz=314
NRIK Noril'sk 95.37 340 IAMs_20 IAMs_20 12 22 29.1
comp=Z,2µm,20.0s
NRIK Noril'sk 95.37 340 *ce*P **P** **11 37 58.4 -0.1**
NRIK pmax pmax
comp=Z,14nm,1.1s
NRIK MLR MLR
comp=Z,2µm,18.0s
NRIK Noril'sk 95.37 340 P **P** **11 37 57.5 -1.0**
comp=Z,1.7nm,0.8s,baz=116,slow=6.9,SNR=5.2
NRIK LR LR 12 21 49.8
comp=Z,2µm,20.1s,baz=114,slow=36
comp=Z,1.7nm,0.8s
YMP Mirror Lake Pl 95.57 46 IAMs_20 IAMs_20 12 12 39.3
comp=Z,3µm,22.0s
BW06 Boulder Array 95.65 48 IAMs_20 IAMs_20 12 14 04.8
comp=Z,2µm,21.0s
BW06 Boulder Array 95.65 48 P **P** **11 38 01.3 +0.5**
baz=260
PDAR Pinedale Array 95.65 48 P **P** **11 38 00.7 0.0**
comp=Z,0.8nm,0.8s,baz=224,slow=6.2,SNR=5.8
PDAR LR LR 12 14 36.3
comp=Z,1µm,20.0s,baz=264,slow=31
comp=Z,0.8nm,0.8s
NVL N'lazarevskaya 95.87 189 *e*P **P** **11 38 04.9 +4.1**
NVL *e*S **SKSac** **11 48 39.0 +3.5**
NVL pmax pmax
comp=Z,18nm,1.2s
NVL smax smax
comp=N,396nm,8.0s
TROLL Troll, Antarti 95.93 186 ⇓P **P** **11 38 02.4 +1.0**
comp=Z,565nm,0.8s
TROLL ⇑pP **pP** **11 38 05.9 -0.7**
comp=Z,565nm,0.8s
O20A White River Ci 96.19 50 IAMs_20 IAMs_20 12 13 13.0
comp=Z,2µm,21.0s
EPT El Paso 96.22 59 IAMs_20 IAMs_20 12 13 52.8
comp=Z,3µm,20.0s
Y22D IRIS PASSCAL I 96.25 57 IAMs_20 IAMs_20 12 14 46.1
comp=Z,3µm,20.0s
RLMT Red Lodge 96.26 45 IAMs_20 IAMs_20 12 15 39.7
comp=Z,2µm,20.0s
YKA Yellowknife Ar 96.37 28 P **P** **11 38 00.8 -2.4**
comp=Z,2.0nm,0.8s,baz=255,slow=4.5,SNR=24
YKA PP **PP** **11 41 55.7 -1.3**
comp=Z,1.5nm,1.2s,baz=256,slow=6.2,SNR=4.6
YKA LR LR 12 14 19.2
comp=Z,1µm,21.6s,baz=267,slow=31
comp=Z,2.0nm,0.8s
YKAW3 Yellowknife Wh 96.39 28 IAMs_20 IAMs_20 12 24 08.3
comp=Z,2µm,20.0s
PMSA Palmer Station 96.40 162 LR LR 12 17 19.3
comp=Z,1µm,18.3s,baz=276,slow=33
EGMT Eagleton 96.41 42 P **P** **11 38 05.1 +1.2**
baz=260
YKAW1 Yellowknife Wh 96.43 28 IAMs_20 IAMs_20 12 21 52.4
comp=Z,2µm,18.0s
AAK Ala-Archa 96.43 312 LR LR 12 21 49.3
comp=Z,1µm,21.0s,baz=80,slow=36
SGDS Sogindy 96.46 313 *e*P **P** **11 38 03.7 -0.4**
SGDS Sogindy 96.46 313 *e*P **P** **11 38 03.8 -0.4**
baz=313
ANMO Albuquerque 96.76 56 IAMs_20 IAMs_20 12 14 46.7
comp=Z,2µm,20.0s
ANMO Albuquerque 96.76 56 P **P** **11 38 07.2 +1.3**
baz=261
ANMO Albuquerque 96.76 56 LR LR 12 14 37.9
comp=Z,2µm,20.5s,baz=2.5,slow=31
BTLS Baital 97.13 314 *e*P **P** **11 38 06.7 -0.3**
BTLS pmax pmax
comp=Z,12nm,1.9s
BTLS Baital 97.13 314 *e*P **P** **11 38 06.8 -0.3**
comp=Z,12nm,1.9s,baz=314
MNTX Cornudas Mount 97.16 59 IAMs_20 IAMs_20 12 13 51.6
comp=Z,2µm,20.0s
VNA3 Neumayer Olymp 97.56 182 ⇓P Pdif 11 38 11.7 +3.1
comp=Z,7.5nm,0.8s
VNA2 Neumayer--Watz 97.77 183 ⇓P Pdif 11 38 14.1 +4.6
comp=Z,7.9nm,0.7s,baz=164,slow=5.0
SDCO Great Sand Dun 97.94 53 IAMs_20 IAMs_20 12 14 30.8
comp=Z,3µm,20.0s
N23A Red Feather La 98.03 50 IAMs_20 IAMs_20 12 14 34.8
comp=Z,2µm,21.0s
TXAR Lajitas Array 98.27 62 P **P** **11 38 11.5 -1.2**
comp=Z,0.6nm,0.9s,baz=198,slow=3.7,SNR=3.6
TXAR LR LR 12 13 31.5
comp=Z,1µm,21.6s,baz=262,slow=30
comp=Z,0.6nm,0.9s
PHWY Pilot Hill 98.45 50 IAMs_20 IAMs_20 12 14 26.9
comp=Z,2µm,21.0s
LAO LASA Array 98.59 44 IAMs_20 IAMs_20 12 15 32.3
comp=Z,2µm,20.0s
BRZS Berezniki 98.72 319 *e*P **P** **11 38 13.6 -0.5**
BRZS Berezniki 98.72 319 *e*P **P** **11 38 13.6 -0.5**
baz=319
MSTX Muleshoe 99.64 57 IAMs_20 IAMs_20 12 14 22.1
comp=Z,2µm,22.0s
BVAR Borovoye Array 100.46 322 P **Pdif** **11 38 20.0 -1.7**
comp=Z,2.5nm,1.0s,baz=108,slow=4.7,SNR=9.5
BVAR PP **PP** **11 42 25.3 -3.3**
comp=Z,3.3nm,1.1s,baz=99,slow=9.2,SNR=4.4
BRVK Borovoye 100.52 322 IAMs_20 IAMs_20 12 23 05.4
comp=Z,2µm,20.0s
UNM Universidad Na 100.92 72 IAMs_20 IAMs_20 12 15 28.0
comp=Z,2µm,21.0s
OGNE Ogallala 100.98 50 IAMs_20 IAMs_20 12 18 38.1
comp=Z,1µm,19.0s
JCT Junction City 101.74 61 IAMs_20 IAMs_20 12 17 14.3
comp=Z,2µm,20.0s
FFC Flin Flon 101.97 36 IAMs_20 IAMs_20 12 17 20.8
comp=Z,2µm,21.0s
ABTX Abilene, Hawle 102.10 59 IAMs_20 IAMs_20 12 16 19.3
comp=Z,3µm,20.0s
CBKS Cedar Bluff 102.56 53 IAMs_20 IAMs_20 12 16 15.1
comp=Z,3µm,22.0s
ELIS Ellis County 102.60 55 IAMs_20 IAMs_20 12 16 33.1
comp=Z,2µm,19.0s
U32A Winter Ranch, 102.96 55 IAMs_20 IAMs_20 12 19 24.7
comp=Z,2µm,20.0s
WMOK Wichita Mounta 103.00 57 IAMs_20 IAMs_20 12 17 10.3
comp=Z,2µm,20.0s
735A Kenedy 103.30 63 IAMs_20 IAMs_20 12 18 13.5
comp=Z,2µm,21.0s
R32A Long Quarter, 103.33 53 IAMs_20 IAMs_20 12 16 36.5
comp=Z,2µm,22.0s
OK032 Salt Plains WL 103.62 55 IAMs_20 IAMs_20 12 16 59.3
comp=Z,2µm,21.0s
435B Jarrell 103.67 61 IAMs_20 IAMs_20 12 18 33.2

WHTX Lake Whitney, 103.89 60 IAMs_20 IAMs_20 12 17 04.7
comp=Z,2µm,21.0s
BGNE Belgrade 103.94 50 IAMs_20 IAMs_20 12 32 27.1
comp=Z,1µm,18.0s
Z35A Perchaven, San 104.16 58 IAMs_20 IAMs_20 12 17 54.8
comp=Z,2µm,20.0s
OK029 Liberty Lake 104.17 56 IAMs_20 IAMs_20 12 18 53.7
comp=Z,3µm,20.0s
FNO Franklin 104.17 56 IAMs_20 IAMs_20 12 17 09.0
comp=Z,3µm,22.0s
W35A Tecumseh 104.60 56 IAMs_20 IAMs_20 12 17 21.2
comp=Z,3µm,21.0s
OK033 Mehan 104.60 56 IAMs_20 IAMs_20 12 20 44.2
comp=Z,2µm,20.0s
OK048 Pawnee Station 104.62 55 IAMs_20 IAMs_20 12 20 07.6
comp=Z,1µm,20.0s
OK052 Battle Ridge R 104.71 56 IAMs_20 IAMs_20 12 19 30.0
comp=Z,2µm,20.0s
T35A Sooner Cattle 104.99 55 IAMs_20 IAMs_20 12 18 11.4
comp=Z,2µm,21.0s
HKT Hockley 105.12 62 IAMs_20 IAMs_20 12 19 09.3
comp=Z,2µm,20.0s
237A Washetta, Mont 105.28 60 IAMs_20 IAMs_20 12 18 06.7
comp=Z,2µm,21.0s
F33A 5 Mile Ranch, 105.40 45 IAMs_20 IAMs_20 12 19 56.5
comp=Z,2µm,20.0s
TUL3 Leonard 105.52 56 IAMs_20 IAMs_20 12 20 04.8
comp=Z,3µm,20.0s
Z38A Mt. Pleasant 106.05 59 IAMs_20 IAMs_20 12 19 43.9
comp=Z,2µm,20.0s
MSEY Mahe Island 106.20 262 IAMs_20 IAMs_20 12 24 07.7
comp=Z,2µm,20.0s
PAYG Puerto Ayora 106.23 94 IAMs_20 IAMs_20 12 18 41.5
comp=Z,1µm,18.0s
NATX Nacogdoches 106.24 60 IAMs_20 IAMs_20 12 18 04.3
comp=Z,2µm,22.0s
U38A Gravette 106.68 55 IAMs_20 IAMs_20 12 20 42.2
comp=Z,2µm,20.0s
HHAR Hobbs 107.03 55 IAMs_20 IAMs_20 12 20 51.6
comp=Z,2µm,20.0s
B35A Bob, Littlefor 107.11 43 IAMs_20 IAMs_20 12 20 14.5
comp=Z,2µm,21.0s
ARU Arti 107.28 326 IAMs_20 IAMs_20 12 33 31.8
comp=Z,1µm,19.0s
F36A Milaca 107.34 45 IAMs_20 IAMs_20 12 21 34.7
comp=Z,2µm,20.0s
441A DeRidder 107.45 61 IAMs_20 IAMs_20 12 29 44.1
comp=Z,2µm,19.0s
WLAR White Oak Lake 107.64 58 IAMs_20 IAMs_20 12 19 32.8
comp=Z,2µm,22.0s
X40A Basin Creek Fa 107.89 57 IAMs_20 IAMs_20 12 21 06.4
comp=Z,1µm,20.0s
MGMO Mountain Grove 108.39 55 IAMs_20 IAMs_20 12 29 10.4
comp=Z,2µm,18.0s
R40A Maddies Statio 108.39 53 IAMs_20 IAMs_20 12 22 41.4
comp=Z,2µm,19.0s
FCAR Ozark Folk Cen 108.50 56 IAMs_20 IAMs_20 12 21 43.4
comp=Z,2µm,20.0s
GO06 Curarrehue 108.51 138 IAMs_20 IAMs_20 12 23 06.6
comp=Z,1µm,18.0s
E38A The Farm, Brul 108.67 45 IAMs_20 IAMs_20 12 23 36.9
comp=Z,2µm,20.0s
CCAR Cane Creek 108.76 58 IAMs_20 IAMs_20 12 21 11.5
comp=Z,2µm,22.0s
BI05 Punta Hualpn 108.84 135 IAMs_20 IAMs_20 12 17 54.6
comp=Z,2µm,22.0s
CCM Cathedral Cave 109.20 54 IAMs_20 IAMs_20 12 23 05.8
comp=Z,2µm,19.0s
LCAR Lake Charles 109.28 56 IAMs_20 IAMs_20 12 22 16.2
comp=Z,2µm,20.0s
VOI Vohitsoka 109.32 242 IAMs_20 IAMs_20 12 21 54.4
comp=Z,2µm,20.0s
I40A Norwalk 109.48 47 IAMs_20 IAMs_20 12 24 05.7
comp=Z,1µm,20.0s
MTO3 Montecristo 109.61 79 IAMs_20 IAMs_20 12 17 35.6
comp=Z,2µm,22.0s
SNET Serv Nac Est T 109.65 79 IAMs_20 IAMs_20 12 16 59.6
comp=Z,2µm,22.0s
HBAR Harrisburg 109.69 56 IAMs_20 IAMs_20 12 21 45.0
comp=Z,2µm,20.0s
VBMS Vicksburg 109.78 60 IAMs_20 IAMs_20 12 21 49.9
comp=Z,2µm,20.0s
JFWS Jewell Farm 109.81 48 IAMs_20 IAMs_20 12 23 20.5
comp=Z,2µm,21.0s
FVM French Village 109.85 54 IAMs_20 IAMs_20 12 23 34.9
comp=Z,2µm,20.0s
ABPO Ambohimpanom 109.95 245 IAMs_20 IAMs_20 12 32 23.1
comp=Z,2µm,18.0s
SLM Saint Louis 109.98 53 IAMs_20 IAMs_20 12 26 15.4
comp=Z,1µm,19.0s
GNAR Gosnell 110.21 56 IAMs_20 IAMs_20 12 20 02.6
comp=Z,2µm,21.0s
PEBM Pemiscott Bayo 110.33 56 IAMs_20 IAMs_20 12 25 03.9
comp=Z,1µm,20.0s
PVMO Portageville 110.46 55 IAMs_20 IAMs_20 12 23 44.2
comp=Z,2µm,20.0s
CGM3 Cape Girardeau 110.47 54 IAMs_20 IAMs_20 12 21 53.5
comp=Z,2µm,21.0s
ML02 Panimda 110.57 135 IAMs_20 IAMs_20 12 17 58.5
comp=Z,1µm,22.0s
Y45A Yeager Farm, C 110.61 58 IAMs_20 IAMs_20 12 23 19.5
comp=Z,1µm,19.0s
LNXT Lenox 110.63 56 IAMs_20 IAMs_20 12 21 12.9
comp=Z,1µm,21.0s
346A Big Creek Wild 110.66 61 IAMs_20 IAMs_20 12 21 14.2
comp=Z,2µm,21.0s
D41A Chassel 110.68 44 IAMs_20 IAMs_20 12 25 20.0
comp=Z,1µm,20.0s
I42A Draeger Farm, 110.72 47 IAMs_20 IAMs_20 12 21 25.3
comp=Z,2µm,22.0s
OXF Oxford 110.72 57 IAMs_20 IAMs_20 12 22 15.5
comp=Z,2µm,20.0s
HALT Halls 110.76 56 IAMs_20 IAMs_20 12 22 07.2
comp=Z,2µm,20.0s
S44A Carbondale 110.78 54 IAMs_20 IAMs_20 12 21 44.7
comp=Z,2µm,22.0s
GLAT Glass 110.79 55 IAMs_20 IAMs_20 12 25 18.1
comp=Z,1µm,19.0s
SIUC Southern Illin 110.81 54 IAMs_20 IAMs_20 12 21 44.5
comp=Z,2µm,22.0s
HICK Hickman 110.83 55 IAMs_20 IAMs_20 12 23 16.2
comp=Z,2µm,19.0s
Q44A Meyer Farm, Va 110.93 53 IAMs_20 IAMs_20 12 22 11.4
comp=Z,2µm,22.0s
SPITS Spitsbergen Ar 111.00 353 PP **PP** **11 43 42.2 -3.4**
comp=Z,22nm,1.0s,baz=313,slow=7.6,SNR=5.0
146A Union 111.02 59 IAMs_20 IAMs_20 12 23 51.5
comp=Z,2µm,20.0s
F42A Maple Grove Fa 111.11 45 IAMs_20 IAMs_20 12 23 25.4
comp=Z,2µm,20.0s
UTMT University of 111.13 55 IAMs_20 IAMs_20 12 26 06.1
comp=Z,1µm,18.0s
TEIG Tepich 111.22 73 IAMs_20 IAMs_20 12 20 44.0
comp=Z,1µm,20.0s
T45A Paducah 111.29 55 IAMs_20 IAMs_20 12 23 43.2
comp=Z,2µm,20.0s
H43A Windswept, Lux 111.48 47 IAMs_20 IAMs_20 12 22 08.6
comp=Z,2µm,22.0s
BO01 Tunca 111.52 134 IAMs_20 IAMs_20 12 17 50.6
comp=Z,1µm,21.0s
VA05 Santo Domingo 111.52 133 IAMs_20 IAMs_20 12 19 39.7
comp=Z,1µm,21.0s
TGUH Tegucigalpa,Un 111.58 79 IAMs_20 IAMs_20 12 18 33.1
comp=Z,1µm,22.0s
OLIL Olney 111.65 53 IAMs_20 IAMs_20 12 22 35.6
comp=Z,2µm,22.0s
MT01 Popeta 111.67 133 IAMs_20 IAMs_20 12 20 16.8
comp=Z,2µm,22.0s
PLAL Pickwick Lake 111.81 57 IAMs_20 IAMs_20 12 23 17.4
comp=Z,2µm,21.0s
VA01 Torpederas 111.82 132 IAMs_20 IAMs_20 12 18 45.8
comp=Z,2µm,22.0s
MT09 Talagante 111.91 133 IAMs_20 IAMs_20 12 17 59.9
comp=Z,2µm,22.0s
WVT Waverly 111.97 56 IAMs_20 IAMs_20 12 22 13.4
comp=Z,2µm,21.0s
MT02 Curacav 112.07 133 IAMs_20 IAMs_20 12 20 28.2
comp=Z,2µm,22.0s
MT05 Renca 112.28 133 IAMs_20 IAMs_20 12 20 26.9
comp=Z,1µm,19.0s
VA06 Catapilco 112.31 132 IAMs_20 IAMs_20 12 18 58.6
comp=Z,2µm,22.0s
T47A Sharon Grove 112.52 55 IAMs_20 IAMs_20 12 26 59.8
comp=Z,2µm,20.0s
I45A Fountain 112.63 47 IAMs_20 IAMs_20 12 24 08.8
comp=Z,2µm,21.0s
X48A Hartselle 112.67 57 IAMs_20 IAMs_20 12 24 06.1
comp=Z,2µm,20.0s

VA03	**San Esteban**	**112.74**	**133**	IAMs_20	IAMs_20	12 20 45.1		
	comp=Z,1µm,21.0s							
V48A	**Smith Brothers**	**112.81**	**56**	IAMs_20	IAMs_20	12 23 59.5		
	comp=Z,2µm,20.0s							
BLO	**Bloomington**	**112.85**	**52**	IAMs_20	IAMs_20	12 22 37.3		
	comp=Z,3µm,22.0s							
ORTG	**Ortega, Santa**	**112.87**	**83**	IAMs_20	IAMs_20	12 22 09.3		
	comp=Z,1µm,20.0s							
G45A	**Suttons Bay**	**112.92**	**46**	IAMs_20	IAMs_20	12 24 26.5		
	comp=Z,2µm,20.0s							
CLTN	**Cedars of Leba**	**113.19**	**56**	IAMs_20	IAMs_20	12 25 00.6		
	comp=Z,2µm,20.0s							
CO02	**Combarbal**	**113.21**	**131**	IAMs_20	IAMs_20	12 19 35.6		
	comp=Z,2µm,22.0s							
SWET	**Sewanee**	**113.56**	**56**	IAMs_20	IAMs_20	12 23 49.4		
	comp=Z,2µm,20.0s							
JACO	**JACO, Garabito**	**113.56**	**84**	IAMs_20	IAMs_20	12 22 54.5		
	comp=Z,1µm,20.0s							
U49A	**Red Boiling Sp**	**113.61**	**55**	IAMs_20	IAMs_20	12 26 46.7		
	comp=Z,2µm,20.0s							
CO03	**El Pedregal**	**113.62**	**131**	IAMs_20	IAMs_20	12 20 00.6		
	comp=Z,1µm,21.0s							
E46A	**Sault Ste Mari**	**113.67**	**44**	IAMs_20	IAMs_20	12 23 53.3		
	comp=Z,2µm,21.0s							
GLMI	**Grayling**	**113.68**	**46**	IAMs_20	IAMs_20	12 22 49.8		
	comp=Z,2µm,21.0s							
FPAL	**Fort Paine**	**113.85**	**57**	IAMs_20	IAMs_20	12 24 51.3		
	comp=Z,2µm,20.0s							
W50A	**Signal Mountai**	**114.06**	**56**	IAMs_20	IAMs_20	12 23 14.8		
	comp=Z,2µm,21.0s							
Z51A	**Franklin**	**114.27**	**59**	IAMs_20	IAMs_20	12 23 21.4		
	comp=Z,2µm,22.0s							
T50A	**Nancy**	**114.33**	**54**	IAMs_20	IAMs_20	12 23 18.7		
	comp=Z,2µm,22.0s							
X51A	**Calhoun**	**114.47**	**57**	IAMs_20	IAMs_20	12 25 40.7		
	comp=Z,2µm,20.0s							
CO01	**Juntas del Tor**	**114.50**	**130**	IAMs_20	IAMs_20	12 20 16.9		
	comp=Z,2µm,22.0s							
AAM	**Ann Arbor**	**114.71**	**49**	IAMs_20	IAMs_20	12 27 48.2		
	comp=Z,2µm,20.0s							
APA	**Apatity**	**114.76**	**341**	*i* PKIKP	**PKiKP**	**11 43 10.2**	**-4.4**	
APA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
I49A	**Point Hope**	**115.08**	**47**	IAMs_20	IAMs_20	12 25 52.7		
	comp=Z,2µm,21.0s							
W52A	**Murphy**	**115.20**	**57**	IAMs_20	IAMs_20	12 25 23.0		
	comp=Z,2µm,21.0s							
S51A	**Beattyville**	**115.27**	**54**	IAMs_20	IAMs_20	12 25 22.5		
	comp=Z,2µm,21.0s							
TZTN	**Tazewell**	**115.40**	**55**	IAMs_20	IAMs_20	12 24 02.3		
	comp=Z,2µm,22.0s							
GO03	**Copiap**	**115.58**	**128**	IAMs_20	IAMs_20	12 19 30.6		
	comp=Z,1µm,20.0s							
ARCES	**ARCESS Array B**	**115.83**	**345**	PKP	**PKiKP**	**11 43 15.0**	**-1.7**	
	comp=Z,3.8nm,1.0s,baz=48,slow=1.3,SNR=1.4							
154A	**Montrose**	**116.04**	**59**	IAMs_20	IAMs_20	12 27 05.4		
	comp=Z,2µm,19.0s							
MAK	**Makhachkala**	**116.21**	**312**	*i* P	**Pdif**	**11 39 27.5**	**-4.5**	
MAK				*e*		11 44 19.4		
MAK				*e*		11 46 50.9		
MAK				*e*		11 50 05.0		
MAK				*e*PS	**PS**	**11 54 06.5**	**+0.6**	
MAK				*e*SS	SS	12 00 23.5	-2.4	
MAK				*e*SSS	SSS	12 04 52.5		
O52A	**Adamsville**	**116.35**	**51**	IAMs_20	IAMs_20	12 27 00.9		
	comp=Z,2µm,20.0s							
ARKR	**Arakani**	**116.64**	**312**	*e*P	**Pdif**	**11 39 28.5**	**-5.5**	
ARKR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
U54A	**Nelsons Funny**	**116.79**	**55**	IAMs_20	IAMs_20	12 24 54.8		
	comp=Z,2µm,22.0s							
O53A	**New Philadelph**	**116.81**	**51**	IAMs_20	IAMs_20	12 25 44.9		
	comp=Z,2µm,20.0s							
S54A	**Dingess, Beckl**	**117.05**	**53**	IAMs_20	IAMs_20	12 26 09.6		
	comp=Z,2µm,21.0s							
ERPA	**Erie**	**117.43**	**48**	IAMs_20	IAMs_20	12 28 44.3		
	comp=Z,2µm,20.0s							
VLDQ	**Val d'Or**	**117.89**	**41**	IAMs_20	IAMs_20	12 26 50.6		
	comp=Z,2µm,20.0s							
U56A	**King**	**117.96**	**55**	IAMs_20	IAMs_20	12 26 12.8		
	comp=Z,2µm,19.0s							
J54A	**Appleton**	**118.19**	**47**	IAMs_20	IAMs_20	12 25 31.0		
	comp=Z,2µm,22.0s							
IMBA	**Imbabura, San**	**118.25**	**96**	IAMs_20	IAMs_20	12 24 05.3		
	comp=Z,1µm,19.0s							
J55A	**Hilton**	**118.78**	**47**	IAMs_20	IAMs_20	12 38 25.6		
	comp=Z,1µm,19.0s							
V58A	**Windy Hill, Pi**	**119.05**	**55**	IAMs_20	IAMs_20	12 29 19.6		
	comp=Z,2µm,20.0s							
CBCY	**The Bluff, Cay**	**119.19**	**74**	IAMs_20	IAMs_20	12 25 59.5		
	comp=Z,1µm,20.0s							
ONI	**Oni**	**119.21**	**313**	IAMs_20	IAMs_20	12 38 17.9		
	comp=Z,2µm,19.0s							
KIV	**Kislovodsk**	**119.45**	**314**	IAMs_20	IAMs_20	12 35 16.1		
	comp=Z,2µm,22.0s							
KIV	**Kislovodsk**	**119.45**	**314**	*i* PKIKP	**PKPdf**	**11 43 21.6**	**-2.9**	
KIV				*e*PS	**PS**	**11 54 32.6**	**-2.9**	
KIV				*e*SS	SS	12 01 06.7	-1.4	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,1µm,22.0s							
J56A	**Wolcott**	**119.46**	**47**	IAMs_20	IAMs_20	12 26 09.6		
	comp=Z,1µm,21.0s							
J57A	**Williamstown**	**120.04**	**46**	IAMs_20	IAMs_20	12 31 04.2		
	comp=Z,1µm,21.0s							
CBN	**Corbin Frederi**	**120.07**	**52**	IAMs_20	IAMs_20	12 27 11.6		
	comp=Z,2µm,21.0s							
CNNC	**Cliffs of the**	**120.11**	**56**	IAMs_20	IAMs_20	12 29 03.1		
	comp=Z,2µm,19.0s							
SDMD	**Soldier's Deli**	**120.27**	**51**	IAMs_20	IAMs_20	12 28 53.5		
	comp=Z,1µm,21.0s							
TRQ	**Mont Tremblant**	**120.30**	**43**	IAMs_20	IAMs_20	12 33 30.5		
	comp=Z,1µm,18.0s							
ERBR	**Yeremizino-Bor**	**120.52**	**317**	*i* PKIKP	**PKPdf**	**11 43 23.1**	**-3.3**	
ERBR				pmax	pmax			
	comp=Z,13nm,0.5s							
ERBR				MLR	MLR			
	comp=Z,3µm,23.0s							
J58A	**Remsen**	**120.56**	**46**	IAMs_20	IAMs_20	12 31 38.8		
	comp=Z,2µm,20.0s							
FIA1	**FINESS Array S**	**120.94**	**338**	IAMs_20	IAMs_20	12 28 03.6		
	comp=Z,1µm,18.0s							
FINES	**FINESS Array B**	**120.94**	**338**	PKP	**PKiKP**	**11 43 27.3**	**+0.5**	
	comp=Z,1.7nm,0.9s,baz=15,slow=5.8,SNR=3.9							
J59A	**Piesco**	**121.08**	**46**	IAMs_20	IAMs_20	12 30 12.7		
	comp=Z,2µm,20.0s							
MNTQ	**Montreal, Queb**	**121.13**	**43**	IAMs_20	IAMs_20	12 41 18.7		
	comp=Z,2µm,19.0s							
FRNY	**Flat Rock**	**121.35**	**44**	IAMs_20	IAMs_20	12 30 27.5		
	comp=Z,2µm,20.0s							
CZSB	**Cruzeiro do Su**	**121.45**	**106**	IAMs_20	IAMs_20	12 28 11.8		
	comp=Z,1µm,18.0s							
ATD	**Arta Tunnel**	**121.45**	**277**	IAMs_20	IAMs_20	12 43 38.8		
	comp=Z,1µm,18.0s							
ODNJ	**Ogdensburg**	**121.59**	**49**	IAMs_20	IAMs_20	12 27 45.5		
	comp=Z,2µm,21.0s							
ACCN	**Adirondack Com**	**121.69**	**46**	IAMs_20	IAMs_20	12 30 37.8		
	comp=Z,2µm,21.0s							
TRY	**Troy**	**121.86**	**46**	IAMs_20	IAMs_20	12 32 15.5		
	comp=Z,1µm,21.0s							
PAL	**Palisades**	**122.12**	**48**	IAMs_20	IAMs_20	12 28 57.5		
	comp=Z,2µm,20.0s							
L61B	**Northampton**	**122.64**	**47**	IAMs_20	IAMs_20	12 28 59.0		
	comp=Z,2µm,22.0s							
ANN	**Anapa**	**122.85**	**316**	*i* PKIKP	**PKPdf**	**11 43 27.3**	**-3.5**	
ANN				pmax	pmax			
	comp=Z,116nm,1.6s							
ANN				MLR	MLR			
	comp=Z,3µm,27.0s							
K62A	**Royalston**	**122.90**	**46**	IAMs_20	IAMs_20	12 38 18.8		
	comp=Z,2µm,20.0s							
BOSA	**Boshof**	**123.12**	**225**	PKP	**PKPdf**	**11 43 31.2**	**-0.9**	
	comp=Z,1.1nm,0.6s,baz=274,slow=15,SNR=1.9							
HRV	**Adam Dziewonsk**	**123.42**	**46**	IAMs_20	IAMs_20	12 30 18.7		
	comp=Z,2µm,20.0s							
E62A	**Clayton Lake**	**123.47**	**41**	IAMs_20	IAMs_20	12 29 43.3		
	comp=Z,2µm,21.0s							
KIBK	**Kibwezi**	**123.64**	**260**	IAMs_20	IAMs_20	12 32 43.4		
	comp=Z,2µm,20.0s							
ITQB	**Itaqui**	**124.20**	**138**	IAMs_20	IAMs_20	12 27 16.4		
	comp=Z,1µm,22.0s							
MNK	**Minsk**	**124.25**	**330**	*i* LRM	MLR	12 39 53.9		
	comp=E,315nm,18.4s							
MNK	**Minsk**	**124.25**	**330**	*i* PKIKP	**PKPdf**	**11 43 30.2**	**-3.0**	
MNK				*i*		11 45 16.0		
MNK				*i* PPP	PPP	11 47 54.7		
MNK				*i*		11 50 28.9		
MNK				*i* PS	**PS**	**11 55 14.9**	**-2.4**	
MNK				*i* SS	SS	12 02 08.6	+0.6	
MNK				pmax	pmax			
	comp=E,4.0nm,1.0s							
MNK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MNK				pmax	pmax			
	comp=N,4.0nm,1.0s							
MNK				MLR	MLR			
	comp=N,884nm,18.0s							
MNK				MLR	MLR			
	comp=Z,1µm,18.0s							
MNK				MLR	MLR			
	comp=E,315nm,18.0s							
MNK	**Minsk**	**124.25**	**330**	*i* PKP	**PKPdf**	**11 43 30.3**	**-3.0**	
	comp=Z,5.0nm,1.0s,baz=57							
MNK	**Minsk**	**124.25**	**330**	*i* PKP	**PKPdf**	**11 43 30.3**	**-3.0**	
	comp=N,4.0nm,1.0s							
MNK	**Minsk**	**124.25**	**330**	*i* PKP	**PKPdf**	**11 43 30.3**	**-3.0**	
	comp=E,4.0nm,1.0s							
MNK	**Minsk**	**124.25**	**330**	*i* PP	PP	11 45 16.0	-2.1	
MNK	**Minsk**	**124.25**	**330**	*i* PPP	PPP	11 47 54.8		
MNK	**Minsk**	**124.25**	**330**	*i* SKS	**SKSac**	**11 50 29.0**	**-5.7**	
MNK	**Minsk**	**124.25**	**330**	*i* PS	PS	11 55 14.9	-2.4	
MNK	**Minsk**	**124.25**	**330**	*i* SS	SS	12 02 08.6	+0.6	
MNK	**Minsk**	**124.25**	**330**	*i* LQ	LQ	12 24 21.5		
MNK	**Minsk**	**124.25**	**330**	*i* LR	LR	12 32 27.7		
MNK	**Minsk**	**124.25**	**330**	*i* LRM	MLR	12 39 48.8		
	comp=N,884nm,18.4s							
MNK	**Minsk**	**124.25**	**330**	*i* LRM	MLR	12 39 51.5		
	comp=Z,1µm,18.4s							
PQI	**Presque Isle**	**124.42**	**40**	IAMs_20	IAMs_20	12 29 04.2		
	comp=Z,2µm,20.0s							
PLTB	**Pedras Altas**	**124.70**	**142**	IAMs_20	IAMs_20	12 36 31.1		
	comp=Z,1µm,18.0s							
KMBO	**Kilima Mbogo**	**124.72**	**261**	*i* PKIKP	**PKPdf**	**11 43 35.1**	**-0.6**	
FURI	**Furi**	**125.21**	**273**	IAMs_20	IAMs_20	12 40 43.0		
	comp=Z,1µm,18.0s							
AKASG	**Malin Array Be**	**125.53**	**326**	PKP	**PKPdf**	**11 43 34.8**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=60,slow=3.2,SNR=2.5							
BNN	**Bunyan**	**125.72**	**310**	IAMs_20	IAMs_20	12 44 59.1		
	comp=Z,2µm,20.0s							
CPUP	**Villa Florida**	**125.85**	**134**	PKP	**PKPdf**	**11 43 36.2**	**-1.0**	
	comp=Z,2.5nm,0.9s,baz=333,slow=1.8,SNR=3.1							
SUW	**Suwalki**	**126.78**	**332**	IAMs_20	IAMs_20	12 37 32.5		
	comp=Z,2µm,20.0s							
LMN	**Caledonia Moun**	**126.78**	**40**	IAMs_20	IAMs_20	12 31 42.9		
	comp=Z,2µm,21.0s							
BRTR	**Keskin Array B**	**127.11**	**312**	PP	**PP**	**11 45 37.9**	**-0.1**	
	comp=Z,1.6nm,1.0s,baz=90,slow=8.6,SNR=3.8							
SDDR	**Presa de Saban**	**127.17**	**75**	IAMs_20	IAMs_20	12 38 10.1		
	comp=Z,1µm,20.0s							
SDV	**Santo Domingo**	**127.18**	**87**		**PKPdf**	**11 43 39.8**	**-0.5**	
EIL	**Elat**	**128.45**	**299**	PKP	**PKiKP**	**11 43 42.8**	**+0.1**	
	comp=Z,1.3nm,0.6s,baz=25,slow=15,SNR=1.6							
SIV	**San Ignacio**	**128.66**	**121**	PKP	**PKPdf**	**11 43 42.6**	**-0.3**	
	comp=Z,1.8nm,0.8s,baz=209,slow=2.2,SNR=4.8							
MLR	**Muntele Rosu**	**130.01**	**321**	IAMs_20	IAMs_20	12 42 11.2		
	comp=Z,1µm,19.0s							
STHS	**Stebnicka Huta**	**130.54**	**328**	*e*PKIKP	**PKiKP**	**11 43 47.9**	**+1.6**	
STHS	**Stebnicka Huta**	**130.54**	**328**	*e*PKP	**PKiKP**	**11 43 47.9**	**+1.6**	
PTLB	**Pontes e Lacer**	**130.55**	**122**		**PKiKP**	**11 43 47.5**	**+0.3**	
AQDB	**Aquidauana**	**130.57**	**129**	IAMs_20	IAMs_20	12 30 54.8		
	comp=Z,1µm,22.0s							
RGN	**Rugen**	**130.60**	**337**	IAMs_20	IAMs_20	12 40 59.1		
	comp=Z,2µm,21.0s							
MBAR	**Mbarara**	**131.15**	**259**	IAMs_20	IAMs_20	12 34 57.3		
	comp=Z,2µm,22.0s							
LANS	**Liptovska Anna**	**131.62**	**329**	*e*PKIKP	**PKiKP**	**11 43 50.1**	**+1.6**	
LANS	**Liptovska Anna**	**131.62**	**329**	*e*PKP	**PKiKP**	**11 43 50.1**	**+1.6**	
OKC	**Ostrava-Krasne**	**131.84**	**330**	AMS	AMS	12 43 00.0		
	comp=Z,1µm,22.5s							
PSZ	**Piszkesteto**	**132.16**	**327**	IAMs_20	IAMs_20	12 45 14.3		
	comp=Z,1µm,19.0s							
MORC	**Moravsky Berou**	**132.18**	**330**	IAMs_20	IAMs_20	12 43 35.4		
	comp=Z,1µm,20.0s							
OSTC	**Ostas**	**132.28**	**332**	AMS	AMS	12 48 40.0		
	comp=Z,900nm,19.2s							
KRLC	**Kraliky**	**132.34**	**331**	AMS	AMS	12 45 20.0		
	comp=Z,1µm,18.9s							
DPC	**Dobruska-Polom**	**132.37**	**332**	AMS	AMS	12 46 00.0		
	comp=Z,1µm,20.9s							
UPC	**Upice**	**132.41**	**332**	AMS	AMS	12 48 40.0		
	comp=Z,1µm,17.5s							
PVCC	**Panska Ves**	**133.05**	**333**	AMS	AMS	12 44 10.0		
	comp=Z,2µm,19.1s							
CLL	**Collm**	**133.16**	**335**	IAMs_20	IAMs_20	12 44 46.1		
	comp=Z,1µm,19.0s							
CLL	**Collm**	**133.16**	**335**	*e*SKPbc	**SKPab**	**11 47 20.0**	**+1.2**	
CLL				*e*(PPS)		11 58 06.0		
CLL				*e*SS	**SS**	**12 04 02.0**	**+4.1**	
CLL				*e*SSS	SSS	12 08 48.0		
CLL				*e*SSSS		12 12 36.0		
CLL				AMS	AMS	12 44 00.0		
	comp=Z,1µm,19.9s							
MODS	**Modra-Piesok**	**133.23**	**329**	*e*PKIKP	**PKiKP**	**11 43 54.2**	**+2.4**	
MODS	**Modra-Piesok**	**133.23**	**329**	*e*PKP	**PKiKP**	**11 43 54.2**	**+2.4**	
GOPC	**GO Pecny, Ondr**	**133.39**	**332**	AMS	AMS	12 45 30.0		
	comp=Z,1µm,23.2s							
PRA	**Prague**	**133.44**	**332**	AMS	AMS	12 51 30.0		
	comp=Z,1µm,16.9s							
PRU	**Prhonice**	**133.45**	**332**	AMS	AMS	12 44 50.0		
	comp=Z,1µm,17.8s							
TREC	**Trest**	**133.49**	**331**	AMS	AMS	12 44 10.0		
	comp=Z,1µm,16.5s							
HSKC	**Hora Svate Kat**	**133.50**	**334**	AMS	AMS	12 46 10.0		
	comp=Z,2µm,16.4s							
ZVC	**Zvikov**	**134.00**	**332**	*e*PKP	**PKiKP**	**11 43 56.3**	**+3.0**	
NKC	**Novy Kostel**	**134.20**	**334**	AMS	AMS	12 45 00.0		
	comp=Z,2µm,17.7s							
CKRC	**Cesky Krumlov**	**134.38**	**331**	*e*PKIKP	**PKiKP**	**11 43 56.3**	**+2.2**	
CKRC				MLR	MLR			
	comp=Z,1µm,18.8s							
CKRC	**Cesky Krumlov**	**134.38**	**331**	*e*PKP	**PKiKP**	**11 43 56.3**	**+2.2**	
CKRC				AMS	AMS	12 46 50.0		
	comp=Z,1µm,18.8s							
KHC	**Kasperske Hory**	**134.50**	**332**	IAMs_20	IAMs_20	12 38 17.6		
	comp=Z,2µm,22.0s							
KHC	**Kasperske Hory**	**134.50**	**332**	*e*PKIKP	**PKiKP**	**11 43 56.8**	**+2.4**	
KHC				MLR	MLR			
	comp=Z,1µm,18.1s							
KHC	**Kasperske Hory**	**134.50**	**332**	*e*PKP	**PKiKP**	**11 43 56.8**	**+2.4**	
KHC				*ex*	x	11 44 21.0		
KHC				AMS	AMS	12 45 20.0		
	comp=Z,1µm,18.1s							
GERES	**GERESS Array B**	**134.65**	**332**	PKP	**PKPdf**	**11 43 52.9**	**-0.4**	
	comp=Z,1.2nm,0.8s,baz=46,slow=2.8,SNR=2.7							
SABA	**Saba**	**134.84**	**76**	IAMs_20	IAMs_20	12 41 35.3		
	comp=Z,1µm,19.0s							
SMRT	**St. Maarten**	**134.98**	**76**	IAMs_20	IAMs_20	12 38 55.1		
	comp=Z,1µm,20.0s							
GRA1	**Grafenberg Arr**	**135.13**	**334**	IAMs_20	IAMs_20	12 47 19.1		
	comp=Z,1µm,20.0s							
PUK	**Puka**	**135.54**	**320**	IAMs_20	IAMs_20	12 45 57.0		
	comp=Z,1µm,22.0s							
TIR	**Tirane**	**135.93**	**320**	IAMs_20	IAMs_20	12 49 07.2		
	comp=Z,1µm,20.0s							
SABO	**M.te Sabotino**	**136.70**	**329**	IAMs_20	IAMs_20	12 42 20.6		
	comp=Z,1µm,19.0s							
CLUD	**Cludinico**	**136.72**	**330**	IAMs_20	IAMs_20	12 48 33.8		
	comp=Z,1µm,18.0s							
STAL	**STALIGIAL**	**136.95**	**330**	IAMs_20	IAMs_20	12 48 39.7		
	comp=Z,2µm,18.0s							
CIMO	**Cimolais**	**137.04**	**330**	IAMs_20	IAMs_20	12 46 22.1		
	comp=Z,2µm,20.0s							
FUORN	**Ofenpass-Fuorn**	**137.86**	**332**	IAMs_20	IAMs_20	12 43 26.5		
	comp=Z,1µm,21.0s							
TEOL	**Teolo**	**138.10**	**330**	IAMs_20	IAMs_20	12 46 45.1		
	comp=Z,1µm,20.0s							
CAMP	**Campotosto**	**139.10**	**325**	IAMs_20	IAMs_20	12 51 49.3		
	comp=Z,932nm,20.0s							
BDFB	**Brasilia**	**139.29**	**130**	IAMs_20	IAMs_20	12 36 09.8		
	comp=Z,950nm,20.0s							
BDFB	**Brasilia**	**139.29**	**130**	PKP	**PKPdf**	**11 44 01.5**	**-1.4**	
	comp=Z,1.2nm,0.4s,baz=169,slow=5.9,SNR=3.4							
CESX	**Cesi**	**139.51**	**326**	IAMs_20	IAMs_20	12 43 20.0		
	comp=Z,979nm,22.0s							
OSSC	**Osservatorio P**	**139.61**	**328**	IAMs_20	IAMs_20	12 42 55.3		
	comp=Z,1µm,22.0s							
KEST	**Kesra**	**145.89**	**320**	IAMs_20	IAMs_20	12 56 56.0		
	comp=Z,1µm,19.0s							
KEST	**Kesra**	**145.89**	**320**	PKPbc	**PKPbc**	**11 44 14.4**	**-0.2**	
	comp=Z,12nm,1.1s,baz=132,slow=8.7,SNR=3.1							
POLO	**Lamas de Olo**	**148.91**	**347**	*e*PKP	**PKPab**	**11 44 27.6**	**+0.9**	
MVO	**Moncorvo**	**148.93**	**345**	*e*PKP	**PKPab**	**11 44 28.8**	**+2.0**	
PVRL	**Vila Real**	**148.99**	**346**	*e*PKP	**PKPab**	**11 44 25.9**	**-1.1**	
ES17	**SONSECA Array**	**149.39**	**340**	IAMs_20	IAMs_20	12 57 13.0		
	comp=Z,1µm,20.0s							
ES03	**SONSECA Array**	**149.41**	**340**	IAMs_20	IAMs_20	12 56 21.4		
	comp=Z,1µm,21.0s							
ESDC	**Sonseca Array**	**149.41**	**340**	PKPbc	**PKPbc**	**11 44 23.4**	**-0.7**	
	comp=Z,0.7nm,1.0s,baz=232,slow=17,SNR=4.3							
ES11	**SONSECA Array**	**149.42**	**340**	IAMs_20	IAMs_20	12 56 20.7		
	comp=Z,1µm,20.0s							
ES04	**SONSECA Array**	**149.42**	**340**	IAMs_20	IAMs_20	12 57 05.8		
	comp=Z,1µm,19.0s							
ES12	**SONSECA Array**	**149.44**	**340**	IAMs_20	IAMs_20	12 56 29.2		
	comp=Z,1µm,20.0s							
PVIS	**Viseu**	**149.56**	**346**	*e*PKP	**PKPab**	**11 44 27.5**	**-1.8**	
MTE	**Manteigas**	**149.78**	**346**	*e*PKP	**PKPab**	**11 44 28.5**	**-1.7**	
PCBR	**Castelo Branco**	**150.29**	**345**	*e*PKP	**PKiKP**	**11 44 29.3**	**+2.3**	
PMRV	**Marv??o**	**150.66**	**345**	*e*PKP	**PKPab**	**11 44 31.9**	**-1.9**	
PESTR	**Estremoz**	**151.24**	**345**	*e*PKP	**PKPab**	**11 44 33.8**	**-2.4**	
EVO	**Evora**	**151.66**	**345**	*e*PKP	**PKPab**	**11 44 36.6**	**-1.4**	
PBAR	**Barrancos**	**151.74**	**343**	*e*PKP	**PKPab**	**11 44 43.0**	**+4.7**	
PBEJ	**Beja**	**152.10**	**344**	*e*PKP	**PKPab**	**11 44 41.1**	**+1.3**	
RCBR	**Riachuelo**	**154.66**	**131**	IAMs_20	IAMs_20	12 56 07.8		
	comp=Z,1µm,19.0s							
AVE	**Averroes**	**156.35**	**340**	IAMs_20	IAMs_20	13 11 02.3		
	comp=Z,1µm,20.0s							
TORD	**Torodi Ar. Bea**	**161.65**	**278**	PKP	**PKPdf**	**11 44 35.9**	**-0.8**	
	comp=Z,1.7nm,1.1s,baz=22,slow=4.8,SNR=6.0							
TORD				PKPab	**PKPab**	**11 45 22.7**	**+1.0**	
	comp=Z,2.9nm,1.0s,baz=45,slow=4.3,SNR=5.3							

IDC 13 11:26:51.4±2.8, 34°51N×140°20E, h0km, mb3.4/4, mbtmp3.4/4, ML1.0/1, MS3.2/2, Error ellipse: s-maj=65.7km s-min=36.7km az=15.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**2.60**	**322**	Pn	Pn		11 27 35.8	+1.0
	baz=142,slow=8.5,SNR=1.1							
MJAR				Sn	Sn		11 28 05.8	-1.3
	baz=137,slow=11,SNR=1.1							
JOW	**Kunigami**	**12.79**	**237**	LR	LR		11 33 21.3	
	comp=Z,69nm,21.3s,baz=3.0,slow=30							
KLR	**Kul'dur**	**15.99**	**340**	LR	LR		11 36 07.0	
	comp=Z,146nm,19.7s,baz=40,slow=35							
MKAR	**Makanchi Array**	**44.67**	**304**	P	P		11 35 06.1	+0.2
	0.1nm,0.5s,baz=88,slow=8.8,SNR=1.6							
	0.1nm,0.5s							
KURBB	**Kurchatov Arra**	**46.82**	**310**	P	P		11 35 22.5	-0.2
	0.4nm,0.8s,baz=93,slow=7.7,SNR=2.2							
	0.4nm,0.8s							
BVAR	**Borovoye Array**	**51.57**	**314**	P	P		11 35 58.1	-1.0
	0.6nm,0.5s,baz=101,slow=7.8,SNR=3.0							
	0.6nm,0.5s							
YKA	**Yellowknife Ar**	**66.49**	**29**	P	P		11 37 42.5	+0.1
	0.3nm,0.9s,baz=295,slow=7.3,SNR=3.8							
	0.3nm,0.9s							

IDC 13 11:30:07.9±1.5, 11°34S×163°10E, h0km, mb3.8/5, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=34.6km s-min=30.3km az=71.0

ISC 13 11:30:13.1±1.1, 11°4S±0°1×163°1E±0°2, h35km, n13, σ1°9 04/8, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.64**	**301**	Pn	**Pn**		**11 31 06.2**	**-0.7**
	214nm,0.3s,baz=282,slow=18,SNR=1.8							
HNR				Sn	**Sn**		**11 31 49.7**	**+1.0**
	170nm,0.3s,baz=34,slow=16,SNR=1.6							
DZM	**Mont Dzumac**	**11.12**	**164**	Pn	**Pn**		**11 32 50.2**	**+0.4**
	0.2nm,0.3s,baz=113,slow=21,SNR=1.6							
	3.1nm,0.9s							
WRA	**Warramunga Arr**	**28.94**	**249**	P	**P**		**11 36 08.5**	**-

1.9nm,0.4s
PMG Port Moresby 15.84 275 Pn **P** **11 44 35.4 -2.3**
1.4nm,0.3s,baz=226,slow=17,SNR=1.3
CTA Charters Tower 18.48 240 P **Pn** **11 45 07.7 +0.6**
0.1nm,0.3s,baz=77,slow=14,SNR=4.5
2.5nm,0.8s
STKA Stephens Creek 28.59 221 P **P** **11 46 48.0 +0.9**
3.4nm,0.8s,baz=54,slow=11,SNR=3.3
3.4nm,0.8s
WRA Warramunga Arr 29.03 249 P **P** **11 46 50.0 -1.2**
0.5nm,0.6s,baz=80,slow=9.3,SNR=5.6
0.5nm,0.6s
H11S2 WAKE ISLAND Hy 29.75 7 T T 12 18 06.1
baz=188,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 29.75 7 T T 12 17 58.0
baz=188,slow=76,SNR=18
H11S1 WAKE ISLAND Hy 29.77 7 T T 12 17 55.7
baz=188,slow=76,SNR=17
ASAR Alice Springs 30.44 242 P **P** **11 47 02.8 -0.9**
0.6nm,0.8s,baz=68,slow=9.3,SNR=6.9
0.6nm,0.8s
H11N1 WAKE ISLAND Hy 30.98 7 T T 12 19 35.3
baz=188,slow=76,SNR=9.2
H11N3 WAKE ISLAND Hy 30.99 7 T T 12 19 39.1
baz=188,slow=76,SNR=13
H11N2 WAKE ISLAND Hy 31.00 7 T T 12 19 24.1
baz=188,slow=76,SNR=11
SONM Songino Array 77.34 325 P **P** **11 52 46.1 +0.3**
0.6nm,0.4s,baz=123,slow=5.5,SNR=5.2
0.6nm,0.4s
QSPA South Pole Qui 78.76 180 P **P** **11 52 54.7 +1.4**
1.0nm,1.0s,baz=149,slow=9.6,SNR=1.6
1.0nm,1.0s
ILAR Eielson Array 84.52 19 P **P** **11 53 22.2 -1.4**
0.4nm,0.8s,baz=224,slow=5.3,SNR=2.2
0.4nm,0.8s
NVAR Mina Array Bea 88.10 50 P **P** **11 53 42.3 +0.3**
0.3nm,0.6s,baz=226,slow=4.8,SNR=3.1
0.3nm,0.6s
MKAR Makanchi Array 91.93 317 P **P** **11 53 58.9 -0.7**
0.7nm,0.8s,baz=97,slow=6.2,SNR=6.0
0.7nm,0.8s

PRU 13 11:41:42.9, 50.28N×18.67E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRLC	**Kraliky**	**1.23**	**261**	*e*PG	Pg	11 42 04.9	-1.6
KRLC				*e*SG	Sg	11 42 21.5	-0.9
DPC	**Dobruska-Polom**	**1.51**	**274**	*e*PG	Pn	11 42 10.6	-0.6
DPC				*e*SG	Sg	11 42 30.8	-0.5

IDC 13 11:47:31.1±2.2, 6.07S×128.10E, h0km, mb3.4/1, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=131.4km s-min=32.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.06**	**157**	Pn	Pn	11 51 06.6	+1.2
	0.1nm,0.3s,baz=336,slow=13,SNR=5.8						
WRA				Sn	Sn	11 53 44.1	-9.0
	0.3nm,0.3s,baz=331,slow=24,SNR=6.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.36**	**163**	P	Pn	11 51 46.6	-0.8
	0.2nm,0.3s,baz=335,slow=9.6,SNR=8.7						
ASAR				S	Sn	11 55 06.4	-6.8
	0.1nm,0.4s,baz=332,slow=23,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**66.43**	**327**	P	P	11 58 22.3	0.0
	0.3nm,0.6s,baz=146,slow=6.8,SNR=2.9						
	0.3nm,0.6s						

*IDC **13** 12:09:39.4±0.9, 42.48N×138.22E, h253km±11km, mb3.4/13, mbtmp3.9/19, Error ellipse: s-maj=13.7km s-min=12.0km az=86.0*
*JMA **13** 12:09:40.5±0.3, 42.5N±1.0×13.8E±°, h260km±2km, MV3.6/36, EASTERN SEA OF JAPAN*
ISC 13 12:09:39.5±0.6, 42.51N±0.05×138.21E±0.06, h250km, n47, σ1°44/56, mb3.6/13, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.03**	**114**	*e*P	**Pn**	**12 10 16.2**	**+1.6**
JOSM				*e*S	**S**	**12 10 44.1**	**+1.8**
JHST	**Hiyamasetana**	**1.24**	**93**	*e*P	**Pn**	**12 10 17.7**	**+1.8**
JHST				*e*S	**S**	**12 10 45.8**	**+1.3**
JSH	**Shimam**	**1.36**	**84**	*e*P	**Pn**	**12 10 18.3**	**+1.6**
JYM2	**Yakumo 2**	**1.65**	**103**	P	**Pn**	**12 10 20.8**	**+1.9**
JOMM	**Oshimamatsumae**	**1.66**	**128**	*e*P	**Pn**	**12 10 20.8**	**+1.7**
JOT	**Ohata**	**2.40**	**117**	P	**Pn**	**12 10 26.9**	**+1.2**
JEW	**Eniwo**	**2.41**	**81**	*e*P	**Pn**	**12 10 27.6**	**+1.8**
JEW				*e*S	**S**	**12 11 04.9**	**+2.5**
JTM	**Tenmabayashi**	**2.75**	**128**	P	**Pn**	**12 10 30.4**	**+1.1**
JSS	**Shosan**	**3.26**	**53**	*e*P	**Pn**	**12 10 36.5**	**+1.8**
JANG	**Nango**	**3.28**	**130**	*e*P	**Pn**	**12 10 35.1**	**+0.2**
JNBK	**Urakawa-nobuka**	**3.38**	**92**	*e*P	**Pn**	**12 10 36.5**	**+0.5**
JRBN	**Rebuntou**	**3.57**	**34**	*e*P	**Pn**	**12 10 39.2**	**+1.0**
ASAJ	**Asahikawa**	**3.58**	**62**	P	**Pn**	**12 10 39.4**	**+1.0**
	7.1nm,0.4s,baz=249,slow=8.8,SNR=25						
ASAJ				S	**S**	**12 11 25.1**	**+0.1**
	31nm,1.0s,baz=333,slow=31,SNR=5.6						
JKK2	**Kamakawa 2**	**3.59**	**66**	*e*P	**Pn**	**12 10 39.9**	**+1.4**
JKK2				*e*S	**S**	**12 11 25.0**	**-0.2**
ERM	**Erimo**	**3.71**	**96**	P	**Pn**	**12 10 40.9**	**+1.1**
JEM	**Erimo**	**3.71**	**96**	P	**Pn**	**12 10 40.9**	**+1.1**
JCH	**Churui**	**3.81**	**87**	*e*P	**Pn**	**12 10 41.0**	**0.0**
JCH				*e*S	**S**	**12 11 27.1**	**-2.7**
JOM	**Ohasama**	**3.83**	**141**	*e*P	**Pn**	**12 10 41.4**	**+0.1**
JWK2	**Keihoku**	**3.87**	**42**	*e*P	**Pn**	**12 10 43.8**	**+2.2**
JYK	**Kaneyama**	**3.94**	**155**	*e*P	**Pn**	**12 10 44.3**	**+1.7**
JYK				*e*S	**S**	**12 11 35.2**	**+2.5**
JSE	**Soyaes**	**4.01**	**51**	*e*P	**Pn**	**12 10 44.5**	**+1.3**
JSE				*e*S	**S**	**12 11 35.3**	**+1.4**
JAR	**Ashorobuto**	**4.16**	**77**	*e*P	**Pn**	**12 10 45.3**	**+0.2**
JAR				*e*S	**S**	**12 11 35.0**	**-2.2**
JMK	**Ichinoseki**	**4.23**	**146**	*e*P	**Pn**	**12 10 46.3**	**+0.4**
JMK				*e*S	**S**	**12 11 37.9**	**-0.8**
JTKR	**Abashiri--Toko**	**4.41**	**69**	*e*P	**Pn**	**12 10 49.9**	**+1.9**
USRK	**Ussuriysk Ar.**	**4.84**	**293**	P	**Pn**	**12 10 53.6**	**+0.4**
	3.5nm,0.5s,baz=96,slow=12,SNR=8.0						
JMM	**Marumori**	**5.04**	**156**	P	**Pn**	**12 10 56.3**	**+0.5**
MAJO	**Matsushiro**	**5.96**	**180**	P	**Pn**	**12 11 11.0**	**+3.9**
MJAR	**Matsushiro Arr**	**5.96**	**180**	P	**Pn**	**12 11 08.8**	**+1.7**
	3.0nm,0.3s,baz=4.5,slow=11,SNR=19						
JWT	**Wachi**	**7.54**	**198**	P	Pn	12 11 32.9	+5.9
KLR	**Kul'dur**	**8.09**	**328**	P	**Pn**	**12 11 33.5**	**-0.3**
	0.8nm,0.5s,baz=86,slow=6.8,SNR=2.5						
KSRS	**Korea Array**	**9.37**	**241**	P	**Pn**	**12 11 50.2**	**+0.2**
	1.2nm,0.7s,baz=55,slow=13,SNR=3.1						
JHJ	**Hachijo jima 2**	**9.46**	**172**	P	**Pn**	**12 11 49.2**	**-1.9**
	60nm,0.4s,baz=96,slow=21,SNR=6.6						
JHJ2	**Mitsune**	**9.47**	**172**	P	**Pn**	**12 11 49.5**	**-1.8**
SONM	**Songino Array**	**22.95**	**294**	P	**P**	**12 14 20.9**	**-1.2**
	1.3nm,1.1s,baz=72,slow=9.8,SNR=3.7						
	1.3nm,1.1s						
ZALV	**Zalesovo Beam**	**36.52**	**307**	P	**P**	**12 16 20.9**	**+0.1**
	2.6nm,0.5s,baz=86,slow=8.8,SNR=16						
	2.6nm,0.5s						
MKAR	**Makanchi Array**	**39.30**	**296**	P	**P**	**12 16 43.3**	**-0.9**
	0.9nm,0.5s,baz=81,slow=11,SNR=8.5						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**40.82**	**303**	P	**P**	**12 16 56.5**	**0.0**
	4.3nm,0.7s,baz=79,slow=9.0,SNR=25						
	4.3nm,0.7s						
BVAR	**Borovoye Array**	**45.16**	**308**	P	**P**	**12 17 31.7**	**+0.5**
	2.2nm,0.4s,baz=66,slow=7.8,SNR=19						
	2.2nm,0.4s						
ILAR	**Eielson Array**	**46.31**	**35**	P	**P**	**12 17 40.9**	**+1.0**
	0.2nm,0.7s,baz=277,slow=6.3,SNR=1.8						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**58.00**	**338**	P	**P**	**12 19 04.8**	**-0.9**
	7.0nm,1.1s,baz=42,slow=9.6,SNR=2.2						
	7.0nm,1.1s						
WRA	**Warramunga Arr**	**62.24**	**184**	P	**P**	**12 19 34.4**	**-0.4**
	0.4nm,0.5s,baz=0.6,slow=7.1,SNR=7.9						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**62.83**	**330**	P	**P**	**12 19 38.0**	**-0.3**
	3.4nm,1.0s,baz=33,slow=9.2,SNR=9.8						
	3.4nm,1.0s						
ASAR	**Alice Springs**	**65.96**	**184**	P	**P**	**12 19 57.8**	**-1.1**
	0.2nm,0.5s,baz=1.1,slow=6.0,SNR=2.4						
	0.2nm,0.5s						
HFS	**Hagfors**	**68.09**	**334**	P	**P**	**12 20 11.7**	**-0.2**
	5.1nm,1.1s,baz=104,slow=4.7,SNR=4.9						
	5.1nm,1.1s						
NB2	**NORSAR Subarra**	**68.19**	**335**	P	**P**	**12 20 12.3**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**68.19**	**335**	P	**P**	**12 20 11.5**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=44,slow=4.6,SNR=4.3						
	comp=Z,0.5nm,0.7s						
AKASG	**Malin Array Be**	**68.49**	**320**	P	**P**	**12 20 14.4**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=45,slow=6.9,SNR=6.1						
	comp=Z,0.5nm,0.4s						

IDC 13 12:17:39.0±1.9, 40.18S×78.01E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=55.5km s-min=34.9km az=110.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**19.98**	**244**	T	T	12 42 54.5	
	baz=82,slow=75,SNR=1435						
H04N1	**CROZET ISLANDS**	**19.99**	**244**	T	T	12 42 54.5	
	baz=82,slow=75,SNR=2473						
H04N3	**CROZET ISLANDS**	**19.99**	**244**	T	T	12 42 53.3	
	baz=82,slow=75,SNR=3091						
H01W2	**Cape Leeuwin H**	**28.99**	**91**	T	T	12 53 53.0	
	baz=246,slow=74,SNR=9.2						
H01W3	**Cape Leeuwin H**	**29.00**	**91**	T	T	12 53 53.4	
	baz=246,slow=74,SNR=8.0						
H01W1	**Cape Leeuwin H**	**29.01**	**91**	T	T	12 53 54.8	
	baz=246,slow=74,SNR=9.4						
H08S2	**Diego Garcia H**	**32.77**	**350**	T	T	12 58 32.3	
	baz=173,slow=76,SNR=4.6						
H08S1	**Diego Carcia H**	**32.77**	**350**	T	T	12 58 32.6	
	baz=173,slow=76,SNR=6.4						
H08S3	**Diego Garcia H**	**32.78**	**350**	T	T	12 58 33.9	
	baz=173,slow=76,SNR=6.4						
ASAR	**Alice Springs**	**49.43**	**88**	P	P	12 26 30.9	+0.1
	0.5nm,0.8s,baz=239,slow=5.5,SNR=4.5						
	0.5nm,0.8s						
VNDA	**Vanda**	**49.83**	**164**	P	P	12 26 32.9	-0.2
	0.5nm,0.7s,baz=263,slow=13,SNR=1.4						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**49.98**	**180**	P	P	12 26 34.7	0.0
	1.6nm,1.1s,baz=294,slow=4.1,SNR=2.0						
	1.6nm,1.1s						
WRA	**Warramunga Arr**	**51.87**	**85**	P	P	12 26 48.9	-0.4
	0.5nm,0.9s,baz=234,slow=7.4,SNR=2.7						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**86.67**	**3**	P	P	12 30 24.1	+0.1
	0.3nm,0.8s,baz=177,slow=3.8,SNR=1.8						
	0.3nm,0.8s						

*UCR **13** 12:25:36.6±1.2, 10.64N×84.99W, h1km±3km, MW4.5*
*CATAC **13** 12:25:37.8±0.2, 10.61N×84.99W, h4km±2km, ML3.4*
ISC 13 12:25:37.8±0.9, 10.62N±0.03×84.99W±0.02, h17km±7km, n58, σ0.88/48, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUI	**Cuipilapa**	**0.18**	**281**	*e*P	**Pg**	**12 25 41.6**	**-0.8**
CAMAV	**Centro de Prod**	**0.22**	**290**	*e*P	**Pg**	**12 25 42.1**	**-0.9**
COLC	**Colonia**	**0.22**	**281**	*e*P	**Pg**	**12 25 42.2**	**-0.7**
CNAS	**Canas**	**0.22**	**208**	*e*P	**Pg**	**12 25 43.5**	**+0.5**
VMAR	**Armenia, Volca**	**0.22**	**326**	*e*P	**Pg**	**12 25 42.4**	**-0.7**
VMAR	**Armenia, Volca**	**0.22**	**326**	*i* PA		12 25 42.5	
VMAR				IAML		12 26 02.5	
	comp=Z,25μm,1.0s						
VERA	**Finca Concepci**	**0.26**	**27**	*e*P	**Pg**	**12 25 42.8**	**-0.8**
ARE1	**Arenal 1**	**0.31**	**122**	*e*P	**Pg**	**12 25 44.2**	**-0.3**
CEDE	**Laguna Cedeo**	**0.31**	**116**	*e*P	**Pg**	**12 25 44.4**	**-0.1**
JTS	**Las Juntas de**	**0.33**	**174**	*e*P	**Pg**	**12 25 44.0**	**-0.8**
VACR	**Volcan Arenal**	**0.34**	**116**	*e*P	**Pg**	**12 25 44.9**	**-0.1**
VACR	**Volcan Arenal**	**0.34**	**116**	*i* P	**Pg**	**12 25 44.9**	**-0.1**
VACR				*i* S	**Sg**	**12 25 49.8**	**-0.1**
VACR				IAML		12 25 53.6	
	comp=Z,7μm,1.0s						
JUNT	**Juntas**	**0.34**	**175**	*e*P	**Pg**	**12 25 44.1**	**-0.9**
TUNA	**La Fortuna**	**0.37**	**115**	*e*P	**Pb**	**12 25 46.5**	**+0.6**
VRLE	**La Escondida,**	**0.41**	**294**	*i* P	**Pg**	**12 25 45.9**	**-0.3**
VRLE				*i* S	**Sg**	**12 25 51.7**	**-0.2**
VRLE				IAML		12 26 14.3	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**0.43**	**123**	*e*P	**Pg**	**12 25 46.0**	**-0.7**
SOCE	**Pocosol**	**0.43**	**123**	*i* P	**Pg**	**12 25 46.3**	**-0.4**
SOCE				*i* S	**Sg**	**12 25 52.3**	**-0.4**
SOCE				IAML		12 25 55.4	
	comp=Z,4μm,1.0s						
PLVR	**Palo Verde**	**0.45**	**233**	*e*P	**Pg**	**12 25 46.6**	**-0.5**
ORTG	**Ortega, Santa**	**0.53**	**241**	*e*P	**Pb**	**12 25 48.5**	**-0.3**
ORTG	**Ortega, Santa**	**0.53**	**241**	*i* PA		12 25 48.6	
ORTG				IAML		12 25 58.0	
	comp=Z,730nm,1.0s						
ELI1	**Hacienda Flor**	**0.56**	**272**	*e*P	**Pg**	**12 25 48.4**	**-0.5**
COVE	**Coope Vega, Sa**	**0.58**	**81**	*i* PA		12 25 50.3	
COVE				IAML		12 26 10.3	
	comp=Z,3μm,1.0s						
HZTE	**Horizontes, Gu**	**0.60**	**278**	*e*P	**Pg**	**12 25 49.4**	**-0.4**
HZTE	**Horizontes, Gu**	**0.60**	**278**	*i* PA		12 25 49.6	
HZTE				IAML		12 26 22.9	
	comp=Z,1μm,1.0s						
NICO	**Nicoya**	**0.67**	**223**	*e*P	**Pg**	**12 25 50.3**	**-0.6**
NYURE	**Nandayure**	**0.68**	**203**	*e*P	**Pb**	**12 25 51.1**	**-0.1**
CPMI	**Catarata Coope**	**0.69**	**120**	*e*P	**Pg**	**12 25 50.7**	**-0.7**
CPMI	**Catarata Coope**	**0.69**	**120**	*i* P	**Pg**	**12 25 50.9**	**-0.5**
CPMI				*i* S	**Sg**	**12 26 00.6**	**+0.1**
CPMI				IAML		12 26 14.1	
	comp=Z,2μm,1.0s						
JUD3	**Juan Diaz 3**	**0.71**	**230**	*e*P	**Pg**	**12 25 51.2**	**-0.5**
ITAL	**Pital**	**0.72**	**104**	*e*P	**Pg**	**12 25 51.5**	**-0.5**
CMARA	**Lajas Hojancha**	**0.74**	**216**	*e*P	**Pg**	**12 25 51.5**	**-0.8**
POA5	**Crater Von Fra**	**0.85**	**119**	*e*P	**Pg**	**12 25 53.9**	**-0.7**
TCS1	**Tacares**	**0.89**	**130**	*i* PA		12 25 55.3	
TCS1				IAML		12 26 13.9	
	comp=Z,6μm,1.0s						
INDI	**Punta indio, G**	**0.91**	**214**	*e*P	**Pg**	**12 25 54.7**	**-0.8**
INDI	**Punta indio, G**	**0.91**	**214**	*i* PA		12 25 54.8	
INDI				IAML		12 26 14.2	
	comp=Z,600nm,1.0s						
JACO	**JACO, Garabito**	**1.01**	**161**	*e*P	**Pg**	**12 25 55.9**	**-1.5**
JACO	**JACO, Garabito**	**1.01**	**161**	*i* PA		12 25 56.1	
JACO				IAML		12 26 11.9	
	comp=Z,320nm,1.0s						
CBL1	**Cabuya**	**1.03**	**186**	*e*P	**Pg**	**12 25 56.9**	**-1.0**
OMEN	**Al SSO del Vol**	**1.08**	**325**	*i* P	Pn	12 26 07.0	+8.8
RIFO	**Rio Frio, Sara**	**1.09**	**106**	*e*P	**Pg**	**12 25 58.0**	**-0.9**
RIFO	**Rio Frio, Sara**	**1.09**	**106**	*i* PA		12 25 58.9	
RIFO				IAML		12 26 17.7	
	comp=Z,1μm,1.0s						
CONN	**Concepcion**	**1.12**	**326**	*i* P	**Pn**	**12 25 59.6**	**+0.8**
CONN				IAML		12 26 03.0	
	comp=Z,3μm,1.0s						
TRT2	**Tortugero**	**1.23**	**93**	*i* PA		12 26 00.2	
TRT2				IAML		12 26 25.2	
	comp=Z,520nm,1.0s						
OCM	**Ochomogo**	**1.24**	**126**	*i* P	**Pg**	**12 26 01.3**	**-0.6**
OCM				IAML		12 26 26.2	
	comp=Z,300nm,1.0s						
LCR2	**La Lucha 2**	**1.30**	**132**	*e*P	**Pg**	**12 26 00.7**	**-2.3**
LCR2	**La Lucha 2**	**1.30**	**132**	*i* PA		12 26 01.1	
LCR2				IAML		12 26 25.2	
	comp=Z,270nm,1.0s						
VTLA	**Turrialba Volc**	**1.34**	**117**	*e*P	**Pg**	**12 26 02.1**	**-1.7**
ACON	**Acoyapa**	**1.35**	**352**	*e*P	**Pn**	**12 26 01.7**	**-0.2**
ACON	**Acoyapa**	**1.35**	**352**	*i* PA		12 26 02.2	
ACON				IAML		12 26 26.1	
	comp=Z,1μm,1.0s						
VTLO	**VTLO**	**1.37**	**115**	*e*P	**Pg**	**12 26 02.1**	**-2.2**
RIMA	**Rio Macho**	**1.40**	**128**	*e*P	**Pn**	**12 26 02.6**	**-0.1**
RIMA	**Rio Macho**	**1.40**	**128**	*i* P	**Pn**	**12 26 03.8**	**+1.0**
RIMA				*i* S	**Sb**	**12 26 22.5**	**+1.3**
RIMA				IAML		12 26 29.2	
	comp=Z,270nm,1.0s						
LCOCO	**El Coco**	**1.51**	**111**	*e*P	**Pn**	**12 26 04.3**	**+0.3**
CDM	**Cerro de Muert**	**1.61**	**131**	*i* PA		12 26 06.2	
CDM				IAML		12 26 35.0	
	comp=Z,330nm,1.0s						
BUS1	**Rivas**	**1.62**	**131**	*e*P	**Pn**	**12 26 06.1**	**0.0**
ESPN	**Las Esperanzas**	**1.70**	**23**	*i* PA		12 26 08.1	
ESPN				IAML		12 26 32.7	
	comp=Z,720nm,1.0s						
BLUN	**Bluefields**	**1.82**	**41**	*i* PA		12 26 09.7	
BLUN				IAML		12 26 35.1	
	comp=Z,740nm,1.0s						
DRK0	**Durika**	**2.19**	**128**	*e*P	**Pn**	**12 26 15.4**	**+1.8**

*IDC **13** 13:01:12.5±2.1, 10.68N×85.16W, h0km, mb3.0/3, mbtmp3.0/3, Error ellipse: s-maj=250.7km s-min=8.2km az=60.0*
*UCR **13** 13:01:13.6±1.5, 10.65N×84.98W, h2km±4km, MW4.5*
*CATAC **13** 13:01:15.1±0.2, 10.63N×84.96W, h1km±2km, ML3.8*
ISC 13 13:01:14.1±1.2, 10.65N±0.03×85.01W±0.03, h16km±10km, n71, σ0.945/38, mb3.0/3, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUI	**Cuipilapa**	**0.16**	**274**	*e*P	**Pb**	**13 01 18.6**	**-0.1**
CAMAV	**Centro de Prod**	**0.19**	**286**	*e*P	**Pb**	**13 01 19.1**	**-0.2**
COLC	**Colonia**	**0.20**	**275**	*e*P	**Pb**	**13 01 19.2**	**-0.1**
COLC				*e*S	**Sb**	**13 01 23.4**	**+0.6**
VMAR	**Armenia, Volca**	**0.20**	**327**	*e*P	**Pb**	**13 01 19.3**	**0.0**
VMAR	**Armenia, Volca**	**0.20**	**327**	*i* PA		13 01 19.3	
VMAR				IAML		13 01 34.7	
	comp=Z,77μm,1.0s						
CNAS	**Canas**	**0.23**	**202**	*e*P	**Pb**	**13 01 20.6**	**+0.7**
VERA	**Finca Concepci**	**0.24**	**33**	*e*P	**Pb**	**13 01 19.9**	**-0.2**
ARE1	**Arenal 1**	**0.34**	**123**	*e*P	**Pg**	**13 01 21.4**	**+0.3**
CEDE	**Laguna Cedeo**	**0.34**	**118**	*e*P	**Pg**	**13 01 21.6**	**+0.4**
JTS	**Las Juntas de**	**0.36**	**172**	Pg	**Pg**	**13 01 21.2**	**-0.4**
	comp=Z,320nm,0.3s,baz=31,slow=14,SNR=95						
JTS				Lg	Lg	13 01 26.6	
	comp=Z,716nm,0.3s,baz=172,slow=23,SNR=25						
JTS	**Las Juntas de**	**0.36**	**172**	*e*P	**Pg**	**13 01 21.1**	**-0.4**
JUNT	**Juntas**	**0.37**	**173**	*e*P	**Pg**	**13 01 21.3**	**-0.4**
VACR	**Volcan Arenal**	**0.37**	**118**	*e*P	**Pg**	**13 01 21.9**	**+0.2**
VACR	**Volcan Arenal**	**0.37**	**118**	*i* PA		13 01 22.1	
VACR				IAML		13 01 37.0	
	comp=Z,24μm,1.0s						
GPS3	**Bodega del ICE**	**0.37**	**287**	*e*P	**Pn**	**13 01 24.8**	**0.0**
VRLE	**La Escondida,**	**0.38**	**292**	*i* PA		13 01 22.8	
VRLE				IAML		13 01 46.8	
	comp=Z,7μm,1.0s						
TUNA	**La Fortuna**	**0.40**	**117**	*e*P	**Pb**	**13 01 23.6**	**+0.9**
PLVR	**Palo Verde**	**0.45**	**229**	*e*P	**Pb**	**13 01 23.6**	**-0.1**
SOCE	**Pocosol**	**0.46**	**125**	*e*P	**Pg**	**13 01 23.1**	**-0.3**
SOCE	**Pocosol**	**0.46**	**125**	*i* PA		13 01 23.3	
SOCE				IAML		13 01 35.3	
	comp=Z,10μm,1.0s						
LCHIL	**Los Chiles**	**0.48**	**36**	*e*P	**Pb**	**13 01 23.9**	**-0.3**
ORTG	**Ortega, Santa**	**0.53**	**238**	*e*P	**Pb**	**13 01 25.0**	**0.0**
ORTG	**Ortega, Santa**	**0.53**	**238**	*i* PA		13 01 25.0	
ORTG				*i* SA		13 01 33.5	
ORTG				IAML		13 02 06.2	
	comp=Z,3μm,1.0s						
ELI1	**Hacienda Flor**	**0.54**	**270**	*e*P	**Pb**	**13 01 25.4**	**+0.2**
HZTE	**Horizontes, Gu**	**0.58**	**277**	*e*P	**Pb**	**13 01 26.4**	**+0.5**
HZTE	**Horizontes, Gu**	**0.58**	**277**	*i* PA		13 01 26.5	
HZTE				IAML		13 02 32.9	
	comp=Z,6μm,1.0s						
COVE	**Coope Vega, Sa**	**0.60**	**83**	*e*P	**Pg**	**13 01 25.7**	**-0.2**
COVE	**Coope Vega, Sa**	**0.60**	**83**	*i* PA		13 01 26.0	
COVE				*i* SA		13 01 33.1	
COVE				IAML		13 01 45.5	
	comp=Z,8μm,1.0s						
NICO	**Nicoya**	**0.67**	**220**	*e*P	**Pb**	**13 01 27.6**	**+0.2**
CPMI	**Catarata Coope**	**0.71**	**121**	*e*P	**Pg**	**13 01 27.8**	**-0.3**
CPMI	**Catarata Coope**	**0.71**	**121**	*i* PA		13 01 28.1	
CPMI				IAML		13 01 51.6	
	comp=Z,6μm,1.0s						
ARZA	**Esparza**	**0.73**	**153**	*e*P	**Pn**	**13 01 29.5**	**-0.2**
CMARA	**Lajas Hojancha**	**0.75**	**213**	*e*P	**Pb**	**13 01 28.7**	**-0.1**
INDI	**Punta indio, G**	**0.92**	**212**	*e*P	**Pb**	**13 01 31.6**	**0.0**
INDI	**Punta indio, G**	**0.92**	**212**	*i* PA		13 01 31.6	
INDI				*i* SA		13 01 46.8	
INDI				IAML		13 01 51.5	
	comp=Z,2μm,1.0s						
TCS1	**Tacares**	**0.92**	**131**	*i* PA		13 01 31.9	
TCS1				IAML		13 01 50.8	
	comp=Z,17μm,1.0s						
JACO	**JACO, Garabito**	**1.04**	**161**	*e*P	**Pb**	**13 01 33.0**	**-0.6**
JACO	**JACO, Garabito**	**1.04**	**161**	*i* PA		13 01 33.1	
JACO				IAML		13 01 50.4	
	comp=Z,1μm,1.0s						
BELE	**Belen**	**1.04**	**130**	*e*P	**Pn**	**13 01 34.3**	**+0.2**
OMEN	**Al SSO del Vol**	**1.05**	**325**	*i* PA		13 01 35.4	
OMEN				IAML		13 02 02.8	
	comp=Z,1μm,1.0s						
CBL1	**Cabuya**	**1.06**	**185**	*e*P	**Pb**	**13 01 33.9**	**-0.1**
HDC3	**Heredia 3**	**1.09**	**126**	*i* P	**Pb**	**13 01 33.9**	**-0.7**
HDC3				IAML		13 01 59.6	
	comp=Z,3μm,1.0s						
MORN	**Al O del Volca**	**1.09**	**325**	*i* PA		13 01 36.2	
MORN				IAML		13 02 06.0	
	comp=Z,2μm,1.0s						
JAPN	**Al SSO del Vol**	**1.09**	**323**	*i* PA		13 01 36.8	
JAPN				IAML		13 01 47.5	
	comp=Z,930nm,1.0s						
CONN	**Concepcion**	**1.10**	**326**	*i* PA	

PDAR	**Pinedale Array**	**38.50**	**331**	P		**P**	**13 08 35.8**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=119,slow=9.4,SNR=1.5 comp=Z,0.1nm,0.5s							
NVAR	**Mina Array Bea**	**40.63**	**319**	P		**P**	**13 08 52.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=1.7 comp=Z,0.1nm,0.3s							

IDC ***13*** *13:04:09.2±0.8,67.25N×21.03E, h0km, mbtmp3.4/4, ML2.4/4, Error ellipse: s-maj=13.8km s-min=5.9km az=113.0*
BER ***13*** *13:04:10.9±1.1,66.92N×21.08E, h0km, ML2.0, Confirmed Induced event*
UPP ***13*** *13:04:10.6±0.0,67.20N×20.65E, h0km, ML2.3, Confirmed Induced event*
HEL ***13*** *13:04:11.1±0.0,67.19N×20.67E, h0km, ML2.1, ML2.3(UPP), Confirmed Induced event*

ISC 13 13:04:09.4±0.7, 67.18N±0.02×20.74E±0.02, h0km, n45, σ1§13/72, Sweden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**231**	*i* P		**Pg**	**13 04 12.4**	**+1.4**
DUNU				*i* S		**Sg**	**13 04 13.5**	**+1.4**
DUNU	**Dundret**	**0.09**	**231**	P		**Pg**	**13 04 12.4**	**+1.4**
DUNU				S		**Sg**	**13 04 13.5**	**+1.4**
MASU	**Masugnsbyn**	**0.56**	**59**	*i* P		**Pb**	**13 04 21.9**	**-0.3**
MASU	**Masugnsbyn**	**0.56**	**59**	P		**Pb**	**13 04 21.9**	**-0.3**
RATU	**Laukkuluspa**	**0.79**	**326**	*i* P		**Pg**	**13 04 24.7**	**+0.3**
RATU				*i* S		**Sg**	**13 04 35.2**	**+0.5**
RATU	**Laukkuluspa**	**0.79**	**326**	P		**Pg**	**13 04 24.7**	**+0.3**
RATU				S		**Sg**	**13 04 35.2**	**+0.5**
KUA	**Kurravaara**	**0.80**	**349**	*i* P		**Pg**	**13 04 24.9**	**+0.2**
KUA				*i* S		**Sg**	**13 04 35.4**	**+0.4**
KUA	**Kurravaara**	**0.80**	**349**	P		**Pg**	**13 04 24.9**	**+0.2**
KUA				S		**Sg**	**13 04 35.4**	**+0.4**
ERTU	**Ertsjaerv**	**0.85**	**137**	*e*P		**Pb**	**13 04 26.6**	**-0.4**
ERTU				*e*S		**Sb**	**13 04 38.6**	**-0.3**
ERTU	**Ertsjaerv**	**0.85**	**137**	P		**Pb**	**13 04 26.7**	**-0.2**
ERTU				S		**Sb**	**13 04 38.7**	**-0.2**
SALU	**Saltoluokta**	**0.89**	**284**	*i* P		**Pg**	**13 04 26.7**	**+0.2**
SALU	**Saltoluokta**	**0.89**	**284**	P		**Pg**	**13 04 26.7**	**+0.2**
PAJU	**Pajala**	**0.94**	**98**	*e*P		**Pb**	**13 04 28.4**	**-0.1**
PAJU				*e*SB		**Sb**	**13 04 42.0**	**+0.4**
PAJU	**Pajala**	**0.94**	**98**	P		**Pb**	**13 04 28.6**	**0.0**
LANU	**Lannavaara**	**1.00**	**28**	*e*P		**Pb**	**13 04 29.0**	**-0.5**
LANU				*e*SB		**Sb**	**13 04 42.4**	**-0.8**
LANU	**Lannavaara**	**1.00**	**28**	P		**Pb**	**13 04 29.1**	**-0.5**
HARU	**Harads**	**1.02**	**175**	*e*P		**Pg**	**13 04 29.4**	**+0.5**
HARU	**Harads**	**1.02**	**175**	P		**Pg**	**13 04 29.4**	**+0.5**
KOVU	**Salmi**	**1.07**	**348**	*e*P		**Pg**	**13 04 29.9**	**0.0**
KOVU	**Salmi**	**1.07**	**348**	P		**Pg**	**13 04 29.9**	**0.0**
KLF	**Kolari**	**1.26**	**86**	*e*P		**Pb**	**13 04 33.9**	**-0.1**
KLF				*e*SB		**Sb**	**13 04 50.8**	**+0.2**
HEF	**Hetta**	**1.66**	**41**	*e*P		**Pb**	**13 04 40.6**	**-0.3**
HEF				*e*S		**Sg**	**13 05 02.5**	**-0.2**
HEF				MSG			13 05 06.5	
	comp=Z,7.6nm,0.1s							
KALU	**Kalix**	**1.69**	**140**	*e*P		**Pb**	**13 04 41.5**	**+0.3**
KALU				*e*SN		**Sg**	**13 05 04.6**	**+1.1**
TOF	**Tornio**	**1.80**	**126**	*e*PN		**Pg**	**13 04 43.7**	**-0.2**
TOF				*e*SN		**Sg**	**13 05 08.0**	**+0.7**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P		**Pb**	**13 04 43.6**	**-0.2**
KIF				*e*SN		**Sg**	**13 05 08.3**	**0.0**
KIF				MSG			13 05 11.8	
	comp=Z,25nm,0.2s							
KTK1	**Kautokeino**	**2.07**	**26**	*e*P		**Pb**	**13 04 47.5**	**-0.3**
KTK1				*e*S		**Sg**	**13 05 14.9**	**-0.9**
KTK1				IAML			13 05 17.0	
	comp=Z,27nm,0.4s							
KTK1	**Kautokeino**	**2.07**	**26**	*e*PB		**Pb**	**13 04 47.3**	**-0.5**
KTK1				*e*SG		**Sg**	**13 05 15.6**	**-0.1**
FAUS	**Fauske**	**2.13**	**278**	*e*P		**Pb**	**13 04 48.0**	**-0.8**
FAUS				*e*S		**Sb**	**13 05 16.1**	**+0.4**
FAUS				IAML			13 05 17.9	
	comp=Z,28nm,0.4s							
RNF	**Rovaniemi**	**2.16**	**103**	*e*PB		**Pb**	**13 04 48.9**	**-0.3**
RNF				*e*SG		**Sg**	**13 05 18.9**	**+0.3**
RNF				MSG			13 05 19.7	
	comp=Z,13nm,0.2s							
STEI	**Steigen**	**2.24**	**292**	*e*P		**Pn**	**13 04 49.3**	**+1.6**
STEI				IAML			13 05 23.3	
	comp=Z,14nm,0.4s							
STEI	**Steigen**	**2.24**	**292**	*e*PG		**Pb**	**13 04 50.4**	**-0.3**
STEI				*e*SG		**Sb**	**13 05 19.8**	**+0.8**
SGF	**Sodankyl**	**2.26**	**81**	*e*PB		**Pb**	**13 04 51.1**	**+0.1**
SGF				*e*SG		**Sg**	**13 05 21.2**	**-0.7**
SGF				MSG			13 05 23.0	
	comp=Z,9.2nm,0.2s							
JETT	**Jettan, Norway**	**2.39**	**357**	*e*P		**Pb**	**13 04 53.1**	**-0.2**
TRO	**Tromso**	**2.56**	**346**	*e*SG		**Sb**	**13 05 29.5**	**+1.5**
BURU	**Burvik**	**2.62**	**174**	*e*P		**Pn**	**13 04 54.7**	**+1.9**
BURU				*e*S		**Sn**	**13 05 27.5**	**+2.2**
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*P		**Pn**	**13 04 59.2**	**+1.6**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pg		**Pn**	**13 04 58.7**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=216,slow=14,SNR=76							
ARCES				Lg		Lg	13 05 36.6	
	comp=Z,0.7nm,0.3s,baz=216,slow=25,SNR=7.4							
KONS	**Konsvik**	**3.09**	**261**	*e*P		**Pn**	**13 05 01.1**	**+1.8**
KONS				IAML			13 05 59.9	
	comp=Z,7.9nm,0.3s							
UMAU	**Umeaa**	**3.31**	**180**	*e*P		**Pn**	**13 05 03.9**	**+1.6**
VADS	**Vadso**	**4.32**	**43**	*e*P		**Pn**	**13 05 17.1**	**+0.9**
NSS	**Namsos**	**4.48**	**238**	*e*P		**Pn**	**13 05 20.1**	**+1.8**
NSS				*e*SG		**Sg**	**13 06 29.2**	**-3.8**
FINES	**FINESS Array B**	**6.20**	**156**	Pn		**Pn**	**13 05 44.0**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=346,slow=14,SNR=9.9							
FINES				Pg		**Pb**	**13 05 54.7**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=345,slow=13,SNR=3.4							
FINES				Sn		**Sn**	**13 06 53.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=343,slow=23,SNR=7.5							
FINES				Lg		Lg	13 07 25.1	
	comp=Z,0.6nm,0.3s,baz=341,slow=27,SNR=6.1 comp=Z,0.7nm,0.4s							
NOA	**NORSAR Array B**	**7.43**	**219**	Pn		**Pn**	**13 05 59.0**	**+0.1**
	baz=27,slow=11,SNR=1.7							
NOA				Sn		**Sn**	**13 07 22.1**	**-1.7**
	baz=47,slow=23,SNR=1.8							
NOA				Lg		Lg	13 08 04.0	
	baz=98,slow=14,SNR=1.8 comp=Z,0.3nm,0.5s							
HFS	**Hagfors**	**7.73**	**207**	Pn		**Pn**	**13 06 02.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=6.5							
HFS				Sn		**Sn**	**13 07 28.0**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=29,slow=25,SNR=5.3							
HFS				Lg		Lg	13 08 13.1	
	comp=Z,0.3nm,0.3s,baz=22,slow=28,SNR=2.8 comp=Z,1.5nm,0.8s							
SPITS	**Spitsbergen Ar**	**11.13**	**355**	Pn		**Pn**	**13 06 48.1**	**-1.4**
	baz=167,slow=19 comp=Z,13nm,0.9s							

IDC 13 13:06:32.8±5.6, 2.15N×98.08W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=521.6km s-min=76.1km az=88.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**41.73**	**347**	P		P	13 14 23.6	-0.4
	0.7nm,0.7s,baz=135,slow=9.0,SNR=7.6 0.7nm,0.7s							
YKA	**Yellowknife Ar**	**61.46**	**351**	P		P	13 16 51.3	+0.4
	0.5nm,0.9s,baz=160,slow=7.4,SNR=4.5 0.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**153.54**	**321**	PKPbc		PKPbc	13 26 34.3	-0.2
	0.2nm,0.4s,baz=2.9,slow=3.6,SNR=5.1							

IDC ***13*** *13:08:50.2±6.7,9.95N×92.72E, h99km±69km, mb3.7/9, mbtmp4.0/10, ML3.3/1, Error ellipse: s-maj=49.3km s-min=16.0km az=55.0*

ISC 13 13:08:50.1±1.0, 9.9N±0.1×92.6E±0.1, h100km, n16, σ1§50/11, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.06**	**258**	P		**Pn**	**13 11 41.0**	**+2.3**
	0.2nm,0.3s,baz=351,slow=3.9,SNR=2.1							
PALK				S		**Sn**	**13 13 48.6**	**-2.8**
	4.7nm,0.3s,baz=271,slow=17,SNR=8.5 1.6nm,0.3s							
H08S3	**Diego Garcia H**	**26.54**	**230**	T		T	13 42 20.4	
	baz=50							
H08S2	**Diego Garcia H**	**26.55**	**230**	T		T	13 42 13.9	
	baz=50							
H08S1	**Diego Garcia H**	**26.56**	**230**	T		T	13 42 28.4	
	baz=50							
MKAR	**Makanchi Array**	**37.81**	**348**	P		**P**	**13 15 56.9**	**+0.1**
	0.2nm,0.5s,baz=170,slow=8.8,SNR=2.6 0.2nm,0.5s							
SONM	**Songino Array**	**39.57**	**15**	P		**P**	**13 16 10.5**	**-1.1**
	0.2nm,0.3s,baz=202,slow=7.4,SNR=2.3 0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**42.24**	**347**	P		**P**	**13 16 32.6**	**-0.8**
	1.0nm,0.2s,baz=172,slow=9.1,SNR=1.5 1.0nm,0.2s							
BVAR	**Borovoye Array**	**46.61**	**342**	P		**P**	**13 17 09.5**	**+1.5**
	0.3nm,0.5s,baz=148,slow=8.7,SNR=2.4 0.3nm,0.5s							
WRA	**Warramunga Arr**	**50.66**	**126**	P		**P**	**13 17 39.4**	**-0.3**
	1.9nm,0.6s,baz=301,slow=9.8,SNR=41 1.9nm,0.6s							
ASAR	**Alice Springs**	**52.36**	**130**	P		**P**	**13 17 52.0**	**-0.3**
	0.8nm,0.5s,baz=307,slow=7.4,SNR=34 0.8nm,0.5s							
BELG	**Belogornoye**	**55.81**	**328**	P		**P**	**13 18 15.8**	**-1.0**
	6.2nm,0.5s,baz=302,slow=1.7,SNR=4.2 6.2nm,0.5s							
H04N2	**CROZET ISLANDS**	**66.69**	**210**	T		T	14 32 33.8	
	baz=45							
H04N1	**CROZET ISLANDS**	**66.70**	**210**	T		T	14 32 34.9	
	baz=45							
H04N3	**CROZET ISLANDS**	**66.71**	**210**	T		T	14 32 38.4	
	baz=45							
ARCES	**ARCESS Array B**	**72.87**	**340**	P		**P**	**13 20 08.2**	**+0.3**
	11nm,1.3s,baz=96,slow=6.4,SNR=1.3 11nm,1.3s							
HFS	**Hagfors**	**75.96**	**330**	P		**P**	**13 20 26.0**	**+0.1**
	0.9nm,0.5s,baz=107,slow=7.7,SNR=1.7 0.9nm,0.5s							

ISN ***13*** *13:16:26.6±0.9,33.72N×45.71E, h11km±4km, ML3.2*
TEH ***13*** *13:16:26.3,33.79N×45.70E, h13km±29km, ML3.4*

ISC 13 13:16:26.4±0.9, 33.77N±0.03×45.71E±0.04, h10km, n22, σ1§06/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.44**	**109**	Pg		**Pg**	**13 16 35.3**	**+0.2**
IBDR	**Badra**	**0.68**	**164**	*e*Pg		**Pg**	**13 16 39.0**	**-0.7**
IBDR				*e*Sg		**Sg**	**13 16 48.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.74**	**352**	Pg		**Pg**	**13 16 40.5**	**-0.2**
IGHG	**Ghaleghazi**	**0.91**	**52**	Pg		**Pg**	**13 16 43.8**	**-0.1**
IDHR	**Dehrash**	**1.08**	**31**	Pg		**Pg**	**13 16 46.5**	**-0.8**
BHD	**Baghdad**	**1.22**	**246**	*e*Pg		**Pg**	**13 16 50.0**	**+0.2**
BHD				*e*Sg		**Sn**	**13 17 06.0**	**0.0**
BHD				AML		AML	13 17 10.0	
	comp=E,1μm,0.9s							
KCHF	**Cheshme Sefid,**	**1.22**	**65**	Pg		**Pb**	**13 16 49.6**	**-0.1**
ILIN	**Lien**	**1.55**	**42**	Pg		**Pg**	**13 16 55.8**	**-0.4**
IKOM	**Komasi**	**1.55**	**74**	Pg		**Pg**	**13 16 55.8**	**-0.4**
IKFM	**Kafar-mosalman**	**1.80**	**97**	Pn		**Pb**	**13 16 59.2**	**-0.3**
IBZA	**Bozab**	**1.92**	**68**	Pn		**Pb**	**13 17 00.8**	**-0.9**
RAFI	**Al-Rafai**	**2.07**	**170**	*e*Pn		**Pn**	**13 17 02.0**	**+0.8**
RAFI				*e*Sn		**Sb**	**13 17 29.0**	**-0.8**
RAFI				AML		AML	13 17 33.9	
	comp=E,125nm,0.4s							
RAFI				AML		AML	13 17 35.7	
	comp=N,173nm,0.3s							
IALM	**Almabolaq**	**2.31**	**61**	Pn		**Pb**	**13 17 06.6**	**-1.8**
SDS1	**Sardasht. Az.**	**2.38**	**356**	Pn		**Pn**	**13 17 06.7**	**+1.0**
HSAM	**Samen**	**2.44**	**79**	Pn		**Pn**	**13 17 07.7**	**+1.1**
MAHB	**Mahabad**	**2.99**	**360**	Pn		**Pn**	**13 17 15.0**	**+0.9**
HAGD	**Aghdareh**	**3.03**	**69**	Pn		**Pn**	**13 17 16.2**	**+1.5**
QAMS	**Qamsar**	**4.74**	**89**	Pn		**Pn**	**13 17 39.4**	**+1.2**
IKLH	**Kolahrood**	**4.92**	**94**	Pn		**Pn**	**13 17 42.8**	**+2.1**
GRMI	**Germi**	**5.33**	**19**	Pn		**Pn**	**13 17 47.6**	**+1.4**
KRSH	**Karshahi**	**5.35**	**86**	Pn		**Pn**	**13 17 47.9**	**+1.4**
IRAM	**Ramesheh**	**5.95**	**107**	Pn		**Pn**	**13 17 56.3**	**+1.5**

TEH ***13*** *13:33:47.7,33.73N×45.61E, h10km±146km, ML2.9*
ISN ***13*** *13:33:47.7±1.2,33.71N×45.64E, h10km±6km, ML2.9*

ISC 13 13:33:48.1±1.1, 33.69N±0.04×45.64E±0.05, h13km, n9, σ0§71/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**98**	Pg		**Pg**	**13 33 57.8**	**+0.2**
ILBA				Sg		**Sb**	**13 34 05.6**	**+0.1**
IBDR	**Badra**	**0.63**	**157**	*e*Pg		**Pg**	**13 33 59.5**	**-1.0**
IBDR				*e*Sg		**Sg**	**13 34 10.0**	**+1.2**
IGHG	**Ghaleghazi**	**1.00**	**50**	Pg		**Pb**	**13 34 06.4**	**-1.1**
BHD	**Baghdad**	**1.13**	**248**	*e*Pg		**Pg**	**13 34 10.0**	**+0.1**
BHD				*e*Sg		**Sn**	**13 34 25.0**	**0.0**
BHD				AML		AML	13 34 40.9	
	comp=E,420nm,0.5s							
IDHR	**Dehrash**	**1.18**	**32**	Pg		**Pg**	**13 34 10.6**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.30**	**63**	Pg		**Pg**	**13 34 13.9**	**+0.7**
IKOM	**Komasi**	**1.63**	**72**	Pg		**Pg**	**13 34 18.9**	**-0.5**
ILIN	**Lien**	**1.64**	**42**	Pg		**Pb**	**13 34 18.6**	**+0.2**
RAFI	**Al-Rafai**	**2.01**	**168**	*e*Pn		**Pb**	**13 34 24.0**	**-0.5**
RAFI				*e*Sn		**Sb**	**13 34 50.0**	**+0.7**
RAFI				AML		AML	13 34 54.9	
	comp=E,101nm,0.4s							
RAFI				AML		AML	13 35 06.6	
	comp=N,117nm,0.5s							

IDC ***13*** *13:51:12.0±0.7,18.36N×96.06E, h0km, mb3.9/19, mbtmp3.9/20, ML3.8/1, Error ellipse: s-maj=20.1km s-min=12.1km az=25.0*
NEIC ***13*** *13:51:14.8±1.9,18.50N±0.10×96.22E±0.06, h10km±1km, mb4.4/13, Error ellipse: s-maj=16.9km s-min=8.8km az=201.0*

ISC 13 13:51:13.5±0.5, 18.37N±0.07×96.19E±0.06, h10km, n49, σ1§40/49, mb4.1/25, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**2.62**	**88**			**Pn**	**13 51 57.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**2.62**	**88**			**Pn**	**13 51 57.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**2.62**	**88**	Pn		**Pn**	**13 51 57.2**	**+1.3**
	3.9nm,0.3s,baz=265,slow=14,SNR=57							
CMAR				Pg		**Pg**	**13 52 03.6**	**-0.1**
	45nm,0.3s,baz=266,slow=19,SNR=101							
CMAR				Lg		Lg	13 52 38.4	
	66nm,0.3s,baz=262,slow=33,SNR=28 10nm,0.4s							
CHTO	**Chiang Mai**	**2.65**	**80**			**Pn**	**13 51 57.7**	**+1.3**
MND	**Mandalay**	**3.63**	**359**			**Pn**	**13 52 08.2**	**-1.6**
CRAI	**Chiangrai**	**4.37**	**64**			**Pn**	**13 52 22.1**	**+2.2**
SAIH	**SAIHA**	**5.08**	**324**	*e*P		**Pn**	**13 52 32.7**	**+2.8**
DGPR	**DIGLIPUR**	**6.04**	**212**	*e*P		Pn	13 52 37.6	-5.3
DGPR				*i* x		x	13 52 43.1	
DGPR				*e*S		**Sn**	**13 53 48.8**	**-3.4**
IMP	**Imphal**	**6.76**	**342**	*e*P		**Pn**	**13 52 54.6**	**+1.6**
IMP				*ex*		x	13 52 56.7	
KOHI	**KOHIMA**	**7.57**	**346**	*e*P		**Pn**	**13 53 06.9**	**+2.8**
MOKO	**MOKOCHONG**	**8.07**	**349**	*e*P		Pn	13 53 18.6	+7.6
SHL	**Shillong**	**8.20**	**332**	*e*P		**Pn**	**13 53 14.0**	**+1.2**
GSI	**Gunungsitoli**	**17.01**	**175**			**Pn**	**13 55 15.3**	**+3.6**
GSI				IAmb		IAmb	13 55 30.4	
	comp=Z,20nm,1.1s							
SMLA	**Simla**	**21.40**	**310**	*e*P		**P**	**13 56 02.1**	**+0.6**
SMLA				IAmb		IAmb	13 56 04.7	
	comp=Z,25nm,0.9s							
YULB	**Yu-li**	**23.97**	**74**	P		**P**	**13 56 27.5**	**-0.8**
YHNB	**Yeheng**	**24.23**	**71**	P		**P**	**13 56 28.4**	**-2.5**
NACB	**Ninganchiao**	**24.35**	**72**	P		**P**	**13 56 31.8**	**-0.1**
NACB				IAmb		IAmb	13 57 15.5	
	comp=Z,19nm,0.9s							
KBL	**Kabul**	**29.03**	**309**	P		**P**	**13 57 14.4**	**+0.3**
SONM	**Songino Array**	**30.55**	**14**	P		**P**	**13 57 27.6**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=201,slow=11,SNR=2.3 comp=Z,0.3nm,0.8s							
MK31	**Makanchi Array**	**30.57**	**341**	P		**P**	**13 57 28.0**	**+0.5**
MKAR	**Makanchi Array**	**30.57**	**341**	P		**P**	**13 57 27.7**	**+0.3**
MKAR	**Makanchi Array**	**30.57**	**341**	P		**P**	**13 57 27.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=145,slow=9.3,SNR=18 comp=Z,0.9nm,0.5s							
KKAR	**Karatay Array**	**32.85**	**324**	P		**P**	**13 57 47.1**	**-0.3**
KURBB	**Kurchatov Arra**	**35.13**	**340**	P		**P**	**13 58 07.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=151,slow=8.6,SNR=9.3 comp=Z,1.4nm,0.6s							
ZAA0	**Zalesovo Array**	**36.59**	**349**	P		**P**	**13 58 18.5**	**-1.1**
ZAA0				IAmb		IAmb	13 58 21.3	
	comp=Z,4.4nm,0.9s							
ZALV	**Zalesovo Beam**	**36.59**	**349**	P		**P**	**13 58 19.1**	**-0.4**
ZALV	**Zalesovo Beam**	**36.59**	**349**	P		**P**	**13 58 20.4**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=169,slow=8.9,SNR=18 comp=Z,3.8nm,0.8s							
GEYT	**Alibeck**	**38.47**	**308**	P		**P**	**13 58 36.4**	**+0.5**
GEYT				IAmb		IAmb	13 58 40.0	
	comp=Z,8.5nm,0.9s							
GEYT	**Alibeck**	**38.47**	**308**	P		**P**	**13 58 35.4**	**-0.4**
	comp=Z,6.7nm,1.0s,baz=138,slow=9.7,SNR=10 comp=Z,6.7nm,1.0s							
GYA0B	**ALIBECK ARRAY**	**38.47**	**308**	P		**P**	**13 58 35.7**	**-0.2**
GYA0B				IAmb		IAmb	13 58 40.6	
	comp=Z,11nm,1.1s							
BVAR	**Borovoye Array**	**40.00**	**336**	P		**P**	**13 58 47.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=156,slow=7.4,SNR=2.2 comp=Z,0.3nm,0.5s							
ABKAR	**Akbulak array**	**42.40**	**325**	P		**P**	**13 59 08.2**	**0.0**
ARU	**Arti**	**47.29**	**333**	P		**P**	**13 59 44.6**	**-2.4**
ARU				IAmb		IAmb	13 59 57.4	
	comp=Z,2.3nm,0.8s							
GURO	**Guroymak-BITLI**	**50.92**	**305**	P		**P**	**14 00 15.2**	**-0.1**
GURO				IAmb		IAmb	14 00 19.5	
	comp=Z,7.5nm,0.9s							
WRA	**Warramunga Arr**	**53.39**	**134**	P		**P**	**14 00 32.9**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=322,slow=7.3,SNR=7.6 comp=Z,1.6nm,0.7s							
ASAR	**Alice Springs**	**55.68**	**137**	P		**P**	**14 00 51.5**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=316,slow=7.2,SNR=14 comp=Z,1.0nm,0.7s							
ELL	**Elmali**	**60.44**	**302**	P		**P**	**14 01 25.3**	**+1.6**
AKASG	**Malin Array Be**	**61.44**	**318**	P		**P**	**14 01 28.7**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=95,slow=6.2,SNR=2.1 comp=Z,0.2nm,0.4s							
FINES	**FINESS Array B**	**64.54**	**330**	P		**P**	**14 01 48.7**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=76,slow=5.9,SNR=1.3 comp=Z,1.4nm,0.8s							
ARCES	**ARCESS Array B**	**66.19**	**339**	P		**P**	**14 02 01.0**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=72,slow=6.9,SNR=3.6 comp=Z,3.1nm,0.9s							
HFS	**Hagfors**	**70.53**	**328**	P		**P**	**14 02 26.8**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=116,slow=6.9,SNR=7.1 comp=Z,1.9nm,0.7s							
GERES	**GERESS Array B**	**71.51**	**316**	P		**P**	**14 02 33.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=58,slow=5.0,SNR=3.9 comp=Z,1.1nm,0.7s							
NOA	**NORSAR Array B**	**71.69**	**329**	P		**P**	**14 02 34.6**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=90,slow=5.8,SNR=3.3 comp=Z,1.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**80.28**	**325**	P		**P**	**14 03 24.9**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=188,slow=21,SNR=3.4 comp=Z,1.1nm,0.7s							
BOSA	**Boshof**	**82.90**	**237**	P		**P**	**14 03 39.2**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=83,slow=4.5,SNR=7.4 comp=Z,2.8nm,0.7s							
ILAR	**Eielson Array**	**84.34**	**23**	P		**P**	**14 03 46.4**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=267,slow=5.4,SNR=1.9 comp=Z,0.3nm,0.8s							
ESDC	**Sonseca Array**	**85.99**	**310**	P		**P**	**14 03 53.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=51,slow=6.8,SNR=2.4 comp=Z,0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**90.10**	**284**	P		**P**	**14 04 14.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=25,slow=4.8,SNR=1.9 comp=Z,0.2nm,0.6s							
BDFB	**Brasilia**	**145.69**	**269**	PKPbc		**PKPdf**	**14 10 53.6**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=221,slow=9.4,SNR=4.6							

IDC 13 13:52:59.8±2.5, 6.63S×129.49E, h0km, mb3.3/1, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=149.9km s-min=34.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.05**	**161**	Pn		Pn	13 56 20.0	-0.2
	0.1nm,0.3s,baz=344,slow=13,SNR=6.5							
WRA				Sn		Sn	13 58 52.7	-4.3
	0.2nm,0.3s,baz=335,slow=20,SNR=4.9 0.2nm,0.4s							
ASAR	**Alice Springs**	**17.46**	**166**	P		Pn	13 57 05.2	+0.2
	baz=343,slow=13,SNR=2.5							
ASAR				S		Sn	14 00 08.3	-12
	0.4nm,0.8s,baz=348,slow=28,SNR=1.5 0.5nm,0.9s							
MKAR	**Makanchi Array**	**67.64**	**327**	P		P	14 03 58.6	0.0
	0.2nm,0.6s,baz=124,slow=7.0,SNR=2.6 0.2nm,0.6s							

GII ***13*** *13:55:29.6±0.4,33.522N±0.003×35.748E±0.001, h0km, Md1.4/2,

comp=Z,176nm,20.4s,baz=278,slow=34
1.8nm,0.9s
MAW Mawson 34.42 216 LR LR 14 13 07.0
comp=Z,136nm,21.0s,baz=123,slow=30
QSPA South Pole Qui 40.90 180 P **P 14 03 32.3 +0.3**
1.9nm,0.7s,baz=315,slow=1.5,SNR=14
QSPA LR LR 14 19 32.1
comp=Z,119nm,19.7s,baz=270,slow=35
1.9nm,0.7s
H08S2 Diego Garcia H 58.78 298 T T 15 08 41.0
baz=144,slow=76,SNR=7.3
H08S1 Diego Garcia H 58.79 298 T T 15 08 39.2
baz=144,slow=76,SNR=8.5
H08S3 Diego Garcia H 58.80 298 T T 15 08 37.8
baz=144,slow=76,SNR=8.7
SUR Sutherland 73.08 240 LR LR 14 34 05.9
comp=Z,87nm,20.1s,baz=169,slow=32
BOSA Boshof 73.25 246 P **P 14 07 20.9 -0.5**
2.0nm,0.9s,baz=147,slow=15,SNR=2.4
2.0nm,0.9s
LBTB Lobatse 75.69 248 LR LR 14 35 02.9
comp=Z,89nm,20.6s,baz=161,slow=31
JHJ Hachijo jima 2 83.43 15 LR LR 14 43 20.7
comp=Z,365nm,21.5s,baz=95,slow=34
TXAR Lajitas Array 139.93 102 PKP **PKPdf 14 15 16.8 -1.5**
0.2nm,0.4s,baz=204,slow=2.0,SNR=1.7
PDAR Pinedale Array 143.94 80 PKP **PKPdf 14 15 25.4 +0.2**
0.4nm,0.9s,baz=174,slow=1.8,SNR=2.2
YKA Yellowknife Ar 146.57 45 PKPbc **PKPab 14 15 31.0 -0.4**
0.8nm,0.9s,baz=276,slow=1.7,SNR=8.6

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*NEIC **13** 14:02:57.1±1.9,5.˚18N±0.˚10×94.˚3E±0.˚1, h34km±7km, mb4.2/16, Error ellipse: s-maj=18.1km s-min=13.4km az=63.0*
*DJA **13** 14:02:57.9±1.6,5.˚1N±5.˚3×9.˚4E±1.˚7, h93km±36km, M4.5/9, mB5.8/1, mb4.5/7, MLv4.4/9, Mw(mB)5.4/1*
*IDC **13** 14:03:05.2±4.5,5.˚40N×94.˚61E, h102km±40km, mb3.7/14, mbtmp4.1/16, Error ellipse: s-maj=30.7km s-min=14.3km az=51.0*
ISC 13 14:02:57.4±0.5,5.˚16N±0.˚07×94.˚33E±0.˚07, h43km, n65,
σ1s39/59, mb4.2/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.25**	**113**	P	**Pn**	**14 03 34.3**	**+2.2**
LHMI	**Lhok Sumawe**	**2.60**	**88**		**Pn**	**14 03 37.4**	**+0.4**
LHMI	**Lhok Sumawe**	**2.60**	**88**	P	**Pn**	**14 03 37.4**	**+0.4**
SNSI	**Sinabang, Aceh**	**3.38**	**144**	P	**Pn**	**14 03 49.6**	**+1.9**
LASI	**Langsa, Aceh**	**3.69**	**101**	P	**Pn**	**14 03 50.8**	**-1.1**
KCSI	**Kotacane, Aceh**	**3.79**	**115**	P	**Pn**	**14 03 54.7**	**+1.3**
GSI	**Gunungsitoli**	**5.01**	**140**	Pn	**Pn**	**14 04 05.7**	**-4.4**
GSI	**Gunungsitoli**	**5.01**	**140**	P	**Pn**	**14 04 08.2**	**-1.9**
PSI	**Prapat**	**5.14**	**117**	P	**Pn**	**14 04 14.2**	**+2.2**
	8.7nm,1.3s,0.1nm						
SRIT	**Nakonsritamara**	**6.25**	**57**		**Pn**	**14 04 26.5**	**-0.5**
KULM	**Kulim**	**6.29**	**89**	Pn	**Pn**	**14 04 27.7**	**0.0**
KULM	**Kulim**	**6.29**	**89**	P	**Pn**	**14 04 27.1**	**-0.6**
	17nm,1.1s,0.1nm						
PBSI	**Pulau Batu**	**6.51**	**143**	P	**Pn**	**14 04 33.0**	**+2.3**
	78nm,1.4s,0.5nm						
SKLT	**Songkhla**	**6.56**	**72**	P	**Pn**	**14 04 30.6**	**-0.8**
	126nm,1.0s,0.6nm						
SISI	**Saibi**	**8.00**	**143**	P	**Pn**	**14 04 50.8**	**-0.4**
PALK	**Pallekele**	**13.71**	**280**	P	**P**	**14 06 17.2**	**+0.1**
	1.6nm,0.4s,baz=93,slow=18,SNR=1.8						
PALK				S	**Sn**	**14 08 37.8**	**-2.7**
	1.5nm,0.3s,baz=298,slow=1.6,SNR=2.1						
CMAR	**Chiang Mai Arr**	**13.96**	**18**	P	**Pn**	**14 06 14.9**	**+2.1**
	0.8nm,0.4s,baz=214,slow=13,SNR=3.3						
CHTO	**Chiang Mai**	**14.30**	**18**	P	**P**	**14 06 22.9**	**-0.7**
H08S3	**Diego Garcia H**	**25.23**	**240**	T	T	14 35 40.7	
	baz=60,slow=74						
H08S2	**Diego Garcia H**	**25.23**	**240**	T	T	14 35 28.7	
	baz=60,slow=74						
H08S1	**Diego Carcia H**	**25.25**	**240**	T	T	14 35 39.6	
	baz=60						
PSA00	**Pilbara Seismi**	**36.48**	**138**	P	**P**	**14 09 57.3**	**-1.4**
MTN	**Manton Dam**	**40.70**	**116**	P	**P**	**14 10 30.3**	**-3.9**
MTN				IAmb	IAmb	14 11 14.1	
	comp=Z,9.8nm,1.3s						
MK31	**Makanchi Array**	**42.76**	**348**	P	**P**	**14 10 51.4**	**+0.7**
MK31				IAmb	IAmb	14 10 52.1	
	comp=Z,2.1nm,1.0s						
MKAR	**Makanchi Array**	**42.76**	**348**	P	**P**	**14 10 50.8**	**+0.1**
MKAR	**Makanchi Array**	**42.76**	**348**	P	**P**	**14 10 51.2**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=160,slow=8.0,SNR=38						
MKAR				PcP	**PcP**	**14 12 41.6**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=150,slow=3.2,SNR=1.8						
	comp=Z,1.1nm,0.4s						
MAKZ	**Makanchi**	**42.84**	**348**	P	**P**	**14 10 51.0**	**-0.3**
MAKZ				IAmb	IAmb	14 10 52.2	
	comp=Z,1.9nm,0.6s						
KK31	**Karatay Array**	**43.27**	**334**	P	**P**	**14 10 54.5**	**-0.3**
KKAR	**Karatay Array**	**43.27**	**334**	P	**P**	**14 10 53.9**	**-0.9**
KKAR	**Karatay Array**	**43.27**	**334**	P	**P**	**14 10 54.6**	**-0.2**
SONM	**Songino Array**	**43.76**	**12**	P	**P**	**14 10 57.9**	**-0.9**
SONM	**Songino Array**	**43.76**	**12**	P	**P**	**14 10 57.5**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=192,slow=8.2,SNR=6.6						
SONM				PcP	**PcP**	**14 12 44.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=202,slow=2.7,SNR=3.8						
	comp=Z,0.9nm,0.6s						
KSRS	**Korea Array**	**44.41**	**39**	P	**P**	**14 11 02.4**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=228,slow=8.6,SNR=2.3						
	comp=Z,0.5nm,0.5s						
GEYT	**Alibeck**	**46.36**	**320**	P	**P**	**14 11 19.5**	**-0.1**
GEYT				IAmb	IAmb	14 11 25.7	
	comp=Z,7.5nm,1.5s						
GEYT	**Alibeck**	**46.36**	**320**	P	**P**	**14 11 22.0**	**+2.5**
	comp=Z,1.0nm,0.4s,baz=134,slow=8.3,SNR=3.1						
	comp=Z,1.0nm,0.4s						
WB0	**Warramunga Arr**	**46.53**	**123**	P	**P**	**14 11 21.1**	**-0.1**
WRA	**Warramunga Arr**	**46.57**	**124**	P	**P**	**14 11 21.8**	**+0.4**
WRA	**Warramunga Arr**	**46.57**	**124**	P	**P**	**14 11 22.5**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=306,slow=8.3,SNR=15						
	comp=Z,0.9nm,0.5s						
WB2	**Warramunga Arr**	**46.58**	**124**	P	**P**	**14 11 22.4**	**+1.0**
WR0	**Warramunga Arr**	**46.75**	**124**	P	**P**	**14 11 22.6**	**-0.1**
WR0				IAmb	IAmb	14 11 48.4	
	comp=Z,3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**47.21**	**346**	P	**P**	**14 11 26.7**	**+0.8**
	comp=Z,5.4nm,0.7s,baz=171,slow=6.9,SNR=51						
	comp=Z,5.4nm,0.7s						
KURK	**Kurchatov**	**47.28**	**346**	P	**P**	**14 11 27.5**	**+1.2**
AS31	**Alice Springs**	**48.06**	**128**	P	**P**	**14 11 32.8**	**-0.2**
AS31				IAmb	IAmb	14 12 05.2	
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**48.06**	**128**	P	**P**	**14 11 33.9**	**+0.9**
ASAR	**Alice Springs**	**48.06**	**128**	P	**P**	**14 11 34.5**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=300,slow=7.7,SNR=37						
	comp=Z,0.7nm,0.5s						
ZAA0	**Zalesovo Array**	**49.26**	**353**	P	**P**	**14 11 40.6**	**-1.0**
ZAA0				IAmb	IAmb	14 11 42.4	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**49.26**	**353**	P	**P**	**14 11 40.6**	**-1.0**
ZALV	**Zalesovo Beam**	**49.26**	**353**	P	**P**	**14 11 42.0**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=179,slow=7.4,SNR=14						
	comp=Z,1.8nm,0.3s						
BVAR	**Borovoye Array**	**51.61**	**342**	P	**P**	**14 12 00.5**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=141,slow=10.0,SNR=13						
	comp=Z,1.2nm,0.4s						
BRVK	**Borovoye**	**51.67**	**342**	P	**P**	**14 12 00.7**	**+0.8**
BRVK				IAmb	IAmb	14 12 01.2	
	comp=Z,1.9nm,0.7s						
ABKAR	**Akbulak array**	**52.70**	**332**	P	**P**	**14 12 08.5**	**+0.9**
H04N2	**CROZET ISLANDS**	**63.52**	**212**	T	T	15 23 29.6	
	baz=48,slow=75,SNR=240						
H04N1	**CROZET ISLANDS**	**63.53**	**212**	T	T	15 23 25.4	
	baz=48,slow=75,SNR=8.9						
H04N3	**CROZET ISLANDS**	**63.54**	**212**	T	T	15 23 24.1	
	baz=48,slow=75,SNR=9.0						
H04S1	**CROZET ISLANDS**	**63.91**	**211**	T	T	15 23 53.3	
	baz=50,slow=76						
H04S3	**CROZET ISLANDS**	**63.92**	**211**	T	T	15 24 11.7	
	baz=50,slow=76						
H04S2	**CROZET ISLANDS**	**63.93**	**211**	T	T	15 23 56.1	
	baz=50,slow=76						
AKASG	**Malin Array Be**	**70.40**	**322**	P	**P**	**14 14 07.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=88,slow=5.3,SNR=5.0						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**75.19**	**333**	P	**P**	**14 14 36.0**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=99,slow=5.8,SNR=8.6						
	comp=Z,2.5nm,0.9s						
ARCES	**ARCESS Array B**	**77.87**	**340**	P	**P**	**14 14 51.1**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=99,slow=6.6,SNR=9.7						
	comp=Z,2.6nm,0.7s						
GERES	**GERESS Array B**	**79.97**	**319**	P	**P**	**14 15 04.6**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=99,slow=6.1,SNR=2.8						
	comp=Z,0.9nm,0.6s						
HFS	**Hagfors**	**80.89**	**330**	P	**P**	**14 15 06.5**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=30,slow=8.9,SNR=1.3						
	comp=Z,2.9nm,1.0s						
SPITS	**Spitsbergen Ar**	**82.52**	**348**	P	**P**	**14 15 14.4**	**-0.8**
	comp=Z,2.0nm,1.0s,baz=109,slow=8.9,SNR=5.2						
ULM	**Lac du Bonnet**	**124.11**	**8**	PKP	**PKPdf**	**14 21 50.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=356,slow=19,SNR=1.9						
PDAR	**Pinedale Array**	**127.60**	**22**	PKP	**PKPdf**	**14 21 57.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=329,slow=1.1,SNR=2.4						

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*IDC **13** 14:05:38.0±0.7, 11.˚09S×163.˚18E, h0km, mb4.2/15, mbtmp4.2/17, ML4.0/2, MS3.8/32, Error ellipse: s-maj=23.4km s-min=17.1km az=100.0*
*NEIC **13** 14:05:39.0±1.4, 10.˚9S±0.˚1×163.˚4E±0.˚1, h23km±4km, mb4.5/15, Error ellipse: s-maj=22.2km s-min=11.6km az=58.0*
*NOU **13** 14:05:40.9, 10.˚78S×163.˚46E, h50km, mb4.8/22, Solomon Islands*
*GCMT **13** 14:05:44.0±0.3, 11.˚08S±0.˚02×163.˚03E±0.˚02, h12km, MW4.8/76, Moment Tensor Solution. s7,c7; s76,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.14±.08; Mθθ=0.28±.07; Mφφ=0.41±.07; Mrθ=0.22±.22; Mθφ=1.82±.06; Mφr=0.63±.23; Best double couple: M=1.97400×10^16 NP1:φs356.00000°, δ84.00000°, λ-160.00000°. NP2: φs264.00000°, δ70.00000°, λ-6.00000°. Principal axes: T 1.9790, Plg10.0000°, Azm128.0000°; N -0.0110, Plg70.0000°, Azm11.0000°; P -1.9680, Plg18.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 14:05:42.8±0.6, 11.˚16S±0.˚07×163.˚08E±0.˚08, h34km, n90,
σ1s72/65, mb4.2/19, MS3.8/31, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.53**	**299**		**Pn**	**14 06 37.0**	**+1.7**
HNR	**Honiara**	**3.53**	**299**	P	**Pn**	**14 06 38.1**	**+2.8**
HNR	**Honiara**	**3.53**	**299**	Pn	**Pn**	**14 06 36.6**	**+1.3**
	3μm,0.3s,baz=167,slow=2.3,SNR=79						
HNR				Sn	**Sb**	**14 07 21.7**	**-5.5**
	743nm,0.3s,baz=6.6,slow=15,SNR=4.0						
HNR				LR	LR	14 08 02.8	
	comp=Z,34μm,20.9s,baz=130,slow=40						
KOUNC	**Koumac, New Ca**	**9.41**	**173**		**Pn**	**14 07 56.4**	**+0.4**
KOUNC	**Koumac, New Ca**	**9.41**	**173**	P	**Pn**	**14 07 58.6**	**+2.6**
LIFNC	**LIFOU**	**10.36**	**158**	Pn	**Pn**	**14 08 06.8**	**-2.2**
LIFNC	**LIFOU**	**10.36**	**158**	P	**Pn**	**14 08 08.0**	**-1.1**
NOUC	**Port Laguerre**	**11.30**	**165**	P	**Pn**	**14 08 23.7**	**+1.7**
DZM	**Mont Dzumac**	**11.31**	**164**	Pn	**Pn**	**14 08 21.1**	**-1.1**
DZM	**Mont Dzumac**	**11.31**	**164**	Pn	**Pn**	**14 08 22.7**	**+0.5**
	0.8nm,0.3s,baz=344,slow=9.5,SNR=11						
DZM				Sn	**Sn**	**14 10 21.6**	**-5.9**
	0.3nm,0.3s,baz=356,slow=23,SNR=1.3						
	3.4nm,0.5s						
YATNC	**Mamie plateau,**	**11.43**	**162**	P	**Pn**	**14 08 23.2**	**-0.5**
OUENC	**Ouen Island, N**	**11.76**	**163**	Pn	**Pn**	**14 08 26.8**	**-1.4**
OUENC	**Ouen Island, N**	**11.76**	**163**	P	**Pn**	**14 08 30.0**	**+1.8**
PINNC	**Pines Island,**	**12.12**	**160**	Pn	**Pn**	**14 08 32.1**	**-1.1**
RABL	**Rabaul**	**12.84**	**302**	P	**Pn**	**14 08 40.3**	**-2.8**
PMG	**Port Moresby**	**15.77**	**275**		**Pn**	**14 09 22.2**	**-0.3**
PMG				IAmb	IAmb	14 09 31.6	
	comp=Z,58nm,1.1s						
PMG	**Port Moresby**	**15.77**	**275**	Pn	**P**	**14 09 27.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=101,slow=7.9,SNR=14						
PMG				LR	LR	14 15 01.5	
	comp=Z,382nm,18.7s,baz=116,slow=36						
PMG	**Port Moresby**	**15.77**	**275**	P	**P**	**14 09 26.9**	**+0.9**
	comp=Z,48nm,1.1s,comp=Z,699nm						
MANU	**Manus Island**	**18.04**	**299**	P	**Pn**	**14 09 48.0**	**-2.9**
MANU				IAmb	IAmb	14 10 11.6	
	comp=Z,26nm,1.1s						
CTA	**Charters Tower**	**18.46**	**239**	P	**Pn**	**14 09 57.9**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=66,slow=12,SNR=12						
	comp=Z,10nm,0.8s						
CTAO	**Charters Tower**	**18.46**	**239**	P	**Pn**	**14 09 56.9**	**+0.8**
CTAO				IAmb	IAmb	14 10 02.8	
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**18.46**	**239**	P	**Pn**	**14 09 58.6**	**+2.4**
MTSU	**Mount Surprise**	**19.42**	**247**	P	**Pn**	**14 10 09.7**	**+1.9**
COEN	**Coen**	**19.63**	**260**	P	**P**	**14 10 07.2**	**-1.5**
COEN				IAmb	IAmb	14 10 18.9	
	comp=Z,22nm,1.0s						
ARMA	**Armidale**	**21.92**	**207**	P	**P**	**14 10 33.8**	**+0.4**
INKA	**Innaminka**	**26.67**	**229**	P	**P**	**14 11 20.4**	**+1.6**
STKA	**Stephens Creek**	**28.61**	**221**	P	**P**	**14 11 36.7**	**+0.7**
STKA	**Stephens Creek**	**28.61**	**221**	P	**P**	**14 11 37.5**	**+1.4**
	comp=Z,9.4nm,0.9s,baz=26,slow=11,SNR=8.5						
STKA				LR	LR	14 22 08.9	
	comp=Z,367nm,20.1s,baz=31,slow=34						
	comp=Z,9.4nm,0.9s						
WR0	**Warramunga Arr**	**28.82**	**249**	P	**P**	**14 11 38.0**	**-0.1**
WR0				IAmb	IAmb	14 12 07.9	
	comp=Z,5.6nm,1.1s						
WB0	**Warramunga Arr**	**28.91**	**249**	P	**P**	**14 11 38.8**	**-0.1**
WB0				IAmb	IAmb	14 11 58.0	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**29.00**	**249**	P	**P**	**14 11 40.2**	**+0.5**
WRA	**Warramunga Arr**	**29.00**	**249**	P	**P**	**14 11 39.4**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=81,slow=9.2,SNR=12						
WRA				S	**S**	**14 16 26.6**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=86,slow=24,SNR=2.5						
	comp=Z,2.1nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**29.68**	**7**	T	T	14 42 53.4	
	baz=188,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**29.68**	**7**	T	T	14 42 54.2	
	baz=188,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**29.70**	**7**	T	T	14 42 41.4	
	baz=188,slow=76,SNR=32						
URZ	**Urewera**	**29.76**	**157**	LR	LR	14 22 13.2	
	comp=Z,251nm,19.4s,baz=124,slow=33						
LCRK	**Leigh Creek**	**30.02**	**227**	P	**P**	**14 11 49.7**	**+1.1**
ASAR	**Alice Springs**	**30.42**	**242**	P	**P**	**14 11 51.7**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=60,slow=10,SNR=6.6						
ASAR				PcP	**PcP**	**14 14 52.2**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=73,slow=3.1,SNR=2.9						
ASAR				LR	LR	14 23 45.4	
	comp=Z,459nm,18.9s,baz=65,slow=36						
	comp=Z,1.9nm,0.7s						
GUMO	**Guam**	**30.52**	**323**	LR	LR	14 23 12.8	
	comp=Z,209nm,20.3s,baz=146,slow=35						
OOD	**Oodnadatta**	**30.56**	**233**	P	**P**	**14 11 54.7**	**+1.3**
TOO	**Toolangi**	**30.68**	**208**	P	**P**	**14 11 56.6**	**+2.3**
TOO				IAmb	IAmb	14 11 57.4	
	comp=Z,9.9nm,0.9s						
TOO	**Toolangi**	**30.68**	**208**	P	**P**	**14 11 56.5**	**+2.1**
H11N1	**WAKE ISLAND Hy**	**30.91**	**7**	T	T	14 44 26.2	
	baz=188,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.92**	**7**	T	T	14 44 25.8	
	baz=188,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**30.93**	**7**	T	T	14 44 14.3	
	baz=188,slow=76,SNR=12						
MTN	**Manton Dam**	**31.29**	**264**	P	**P**	**14 12 00.6**	**+0.6**
MTN				IAmb	IAmb	14 12 26.8	
	comp=Z,5.8nm,0.8s						
HTT	**Hallett**	**31.33**	**221**	P	**P**	**14 12 01.7**	**+1.5**
BBOO	**Buckleboo**	**32.87**	**225**	P	**P**	**14 12 11.7**	**-2.0**
BBOO	**Buckleboo**	**32.87**	**225**	P	**P**	**14 12 14.5**	**+0.8**
MULG	**Mulgathing**	**32.99**	**230**	P	**P**	**14 12 15.1**	**+0.3**
RPZ	**Rata Peaks**	**33.16**	**169**	LR	LR	14 24 13.7	
	comp=Z,204nm,18.6s,baz=336,slow=34						
KNRA	**Kununurra**	**33.66**	**259**	P	**P**	**14 12 20.3**	**-0.5**
KNRA	**Kununurra**	**33.66**	**259**	P	**P**	**14 12 20.4**	**-0.3**
WRKA	**Warakurna**	**35.70**	**242**	P	**P**	**14 12 38.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**36.83**	**255**	P	**P**	**14 12 47.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**36.83**	**255**	P	**P**	**14 12 48.1**	**+0.1**
RAR	**Rarotonga**	**36.96**	**110**	LR	LR	14 25 31.3	
	comp=Z,93nm,19.3s,baz=314,slow=32						
JCJ	**Chichijima**	**43.10**	**332**	LR	LR	14 30 21.7	
	comp=Z,112nm,21.5s,baz=268,slow=34						
KAPI	**Kappang**	**43.30**	**275**	LR	LR	14 33 21.0	
	comp=Z,67nm,19.3s,baz=86,slow=38						
PPT	**Papeete**	**46.21**	**104**	LR	LR	14 30 09.7	
	comp=Z,115nm,20.1s,baz=272,slow=32						
NWAO	**Narrogin (SRO)**	**47.24**	**235**	LR	LR	14 33 59.6	
	comp=Z,297nm,18.4s,baz=296,slow=36						
MJAR	**Matsushiro Arr**	**52.92**	**335**	LR	LR	14 34 16.1	
	comp=Z,78nm,22.0s,baz=133,slow=32						
JNU	**Nakatsue**	**53.69**	**326**	LR	LR	14 34 37.5	
	comp=Z,72nm,21.8s,baz=127,slow=32						
LEM	**Lembang**	**54.89**	**269**	LR	LR	14 41 54.0	
	comp=Z,57nm,18.6s,baz=216,slow=40						
ASAJ	**Asahikawa**	**58.09**	**343**	LR	LR	14 36 53.5	
	comp=Z,46nm,21.2s,baz=172,slow=32						
KSRS	**Korea Array**	**58.53**	**328**	P	**P**	**14 15 37.0**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=134,slow=8.8,SNR=5.1						
KSRS				LR	LR	14 38 59.7	
	comp=Z,80nm,18.9s,baz=155,slow=34						
	comp=Z,1.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**61.92**	**335**	P	**P**	**14 15 58.5**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=107,slow=7.7,SNR=4.8						
	comp=Z,4.3nm,0.8s						
PETK	**Petropavlovsk-**	**64.18**	**356**	LR	LR	14 38 25.7	
	comp=Z,59nm,20.8s,baz=174,slow=31						
KLR	**Kul'dur**	**66.16**	**338**	LR	LR	14 43 50.1	
	comp=Z,58nm,19.9s,baz=134,slow=35						
VNDA	**Vanda**	**66.35**	**180**	P	**P**	**14 16 29.4**	**+1.7**
	comp=Z,2.1nm,1.1s,baz=7.7,slow=7.2,SNR=4.0						
VNDA				LR	LR	14 42 45.4	
	comp=Z,51nm,18.2s,baz=306,slow=34						
	comp=Z,2.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**69.77**	**294**	P	**P**	**14 16 50.6**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=123,slow=4.3,SNR=4.3						
CMAR				LR	LR	14 48 52.0	
	comp=Z,22nm,18.9s,baz=90,slow=37						
	comp=Z,0.7nm,0.8s						
ULN	**Ulaanbaatar**	**76.88**	**325**	P	P	14 17 36.2	+4.5
SONM	**Songino Array**	**77.23**	**325**	P	**P**	**14 17 35.1**	**+1.4**
	comp=Z,5.8nm,1.2s,baz=145,slow=5.2,SNR=16						
SONM				LR	LR	14 50 47.8	
	comp=Z,61nm,19.6s,baz=208,slow=35						
	comp=Z,5.8nm,1.2s						
QSPA	**South Pole Qui**	**78.84**	**180**	P	**P**	**14 17 41.6**	**-0.7**
QSPA				IAmb	IAmb	14 18 05.2	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**78.84**	**180**	P	**P**	**14 17 43.5**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=282,slow=1.6,SNR=5.7						
	comp=Z,1.7nm,0.9s						
MAW	**Mawson**	**83.63**	**202**	LR	LR	14 51 25.8	
	comp=Z,90nm,19.4s,baz=86,slow=33						
PALK	**Pallekele**	**83.98**	**279**	LR	LR	15 00 21.3	
	comp=Z,30nm,18.4s,baz=197,slow=39						
ILAR	**Eielson Array**	**84.47**	**19**	P	**P**	**14 18 11.3**	**-0.4**
	comp=Z,1.7nm,1.1s,baz=248,slow=5.4,SNR=7.4						
	comp=Z,1.7nm,1.1s						
DLBC	**Dease Lake**	**87.77**	**29**	LR	LR	14 59 29.2	
	comp=Z,100nm,18.1s,baz=262,slow=37						
NVAR	**Mina Array Bea**	**88.10**	**50**	P	**P**	**14 18 30.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=224,slow=5.0,SNR=3.6						
NVAR				LR	LR	14 50 42.8	
	comp=Z,74nm,19.8s,baz=254,slow=31						
	comp=Z,0.5nm,0.6s						
INK	**Inuvik**	**90.87**	**19**	LR	LR	14 54 16.6	
	comp=Z,74nm,19.7s,baz=174,slow=32						
NEW	**Newport**	**91.54**	**41**	LR	LR	14 49 41.6	
	comp=Z,37nm,21.7s,baz=254,slow=29						
MKAR	**Makanchi Array**	**91.83**	**317**	P	**P**	**14 18 47.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=97,slow=6.2,SNR=13						
	comp=Z,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**92.13**	**325**	P	**P**	**14 18 50.3**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=99,slow=8.9,SNR=2.1						
ZALV				LR	LR	14 59 14.7	
	comp=Z,48nm,21.9s,baz=79,slow=35						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**95.10**	**320**	P	**P**	**14 19 03.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=119,slow=3.3,SNR=2.0						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**96.28**	**28**	P	**P**	**14 19 05.5**	**-1.9**
	comp=Z,0.4nm,1.0s,baz=251,slow=4.4,SNR=3.0						
YKA				LR	LR	14 55 11.8	
	comp=Z,48nm,20.4s,baz=294,slow=31						
	comp=Z,0.4nm,1.0s						
AAK	**Ala-Archa**	**96.43**	**312**	LR	LR	15 05 22.8	
	comp=Z,27nm,18.3s,baz=30,slow=37						
ANMO	**Albuquerque**	**96.67**	**56**	LR	LR	14 54 10.3	
	comp=Z,50nm,21.8s,baz=70,slow=30						
TXAR	**Lajitas Array**	**98.18**	**62**	LR	LR	14 56 45.0	
	comp=Z,46nm,18.9s,baz=294,slow=31						
FINES	**FINESS Array B**	**120.90**	**338**	PKP	**PKiKP**	**14 24 31.8**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=54,slow=7.1,SNR=1.7						

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n146,σ1ᵍ59/184,mb4.5/16,11C-5D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.53**	**230**			**Pn**	**14 19 22.0**	**-0.4**
PB09	**IPOC Station P**	**0.53**	**230**	*e*P		**Pn**	**14 19 22.7**	**+0.4**
PB09				*e*S		**Sn**	**14 19 36.7**	**+0.3**
PB09				IAML			14 19 38.5	
	comp=Z,8μm,0.4s							
PB09	**IPOC Station P**	**0.53**	**230⇑**	*i* P		**Pn**	**14 19 22.8**	**+0.4**
PB09				*e*S		**Sn**	**14 19 36.7**	**+0.3**
PB01	**IPOC Station P**	**0.76**	**303**			**Pn**	**14 19 23.0**	**-0.9**
PB01	**IPOC Station P**	**0.76**	**303⇑**	*i* P		**Pn**	**14 19 24.0**	**0.0**
PB01				*e*S		**Sn**	**14 19 38.3**	**-0.9**
PB01				IAML			14 19 39.3	
	comp=N,30μm,0.5s							
PB02	**IPOC Station P**	**1.03**	**277**			**Pn**	**14 19 26.2**	**-0.2**
PB02	**IPOC Station P**	**1.03**	**277⇑**	*i* P		**Pn**	**14 19 26.7**	**+0.4**
PB02				*e*S		**Sn**	**14 19 43.3**	**-0.2**
PB07	**IPOC Station P**	**1.04**	**255**			**Pn**	**14 19 26.1**	**-0.5**
PB07	**IPOC Station P**	**1.04**	**255**	IAML			14 19 27.3	
	comp=Z,6μm,0.2s							
PB07	**IPOC Station P**	**1.04**	**255**	*i* P		**Pn**	**14 19 27.1**	**+0.5**
PB07				*e*S		**Sn**	**14 19 43.9**	**0.0**
LVC	**Limon Verde**	**1.15**	**185**	*e*P		**Pn**	**14 19 28.2**	**+0.3**
LVC				*e*S		**Sn**	**14 19 46.0**	**-0.2**
LVC	**Limon Verde**	**1.15**	**185**	P		**Pn**	**14 19 28.4**	**+0.5**
	comp=Z,355nm,0.3s,baz=7.9,slow=7.9,SNR=286							
LVC				S		**Sn**	**14 19 45.8**	**-0.5**
	comp=Z,2μm,0.5s,baz=93,slow=23,SNR=29							
LVC				LR		LR	14 19 53.3	
	comp=Z,142nm,21.9s,baz=28,slow=39							
LVC	**Limon Verde**	**1.15**	**185**	*e*P		**Pn**	**14 19 28.1**	**+0.2**
LVC				*e*S		**Sn**	**14 19 46.1**	**-0.1**
LVC				IAML			14 19 49.8	
	comp=Z,6μm,0.5s							
PB08	**IPOC Station P**	**1.35**	**346**			**Pn**	**14 19 30.1**	**0.0**
PB08	**IPOC Station P**	**1.35**	**346**	*e*P		**Pn**	**14 19 30.8**	**+0.8**
PB08				*e*S		**Sn**	**14 19 50.4**	**+0.5**
PB08				IAML			14 19 52.4	
	comp=Z,5μm,0.3s							
PB08	**IPOC Station P**	**1.35**	**346⇓**	*i* P		**Pn**	**14 19 30.8**	**+0.8**
PB08				*e*S		**Sn**	**14 19 50.2**	**+0.3**
PB08				IAML			14 19 51.9	
	comp=E,13μm,0.2s							
PATCX	**Punta Patache**	**1.41**	**296**			**Pn**	**14 19 30.4**	**0.0**
PATCX	**Punta Patache**	**1.41**	**296**	*e*P		**Pn**	**14 19 30.8**	**+0.5**
PATCX				*e*S		**Sn**	**14 19 51.1**	**+0.5**
PATCX				IAML			14 19 52.3	
	comp=Z,8μm,0.4s							
PATCX	**Punta Patache**	**1.41**	**296⇑**	*e*P		**Pn**	**14 19 30.9**	**+0.5**
PATCX				*i* S		**Sn**	**14 19 50.4**	**-0.2**
PATCX				IAML			14 19 51.8	
	comp=E,16μm,0.4s							
PB06	**IPOC Station P**	**1.44**	**210**			**Pn**	**14 19 30.7**	**0.0**
PB06	**IPOC Station P**	**1.44**	**210**	*e*P		**Pn**	**14 19 30.8**	**0.0**
PB06				*e*S		**Sn**	**14 19 52.2**	**+0.9**
PB06				IAML			14 19 52.7	
	comp=Z,4μm,0.9s							
PB06	**IPOC Station P**	**1.44**	**210⇑**	*i* P		**Pn**	**14 19 31.5**	**+0.7**
PB06				*e*S		**Sn**	**14 19 51.6**	**+0.3**
PB06				IAML			14 19 52.8	
	comp=E,11μm,0.4s							
PB04	**IPOC Station P**	**1.53**	**235**			**Pn**	**14 19 31.9**	**+0.1**
PB04	**IPOC Station P**	**1.53**	**235**	*e*P		**Pn**	**14 19 32.0**	**+0.3**
PB04				*e*S		**Sn**	**14 19 53.6**	**+0.5**
PB04				IAML			14 20 03.6	
	comp=Z,3μm,0.4s							
PB04	**IPOC Station P**	**1.53**	**235⇑**	*i* P		**Pn**	**14 19 32.1**	**+0.3**
PB04				*e*S		**Sn**	**14 19 53.0**	**-0.2**
PB04				IAML			14 19 57.3	
	comp=N,3μm,0.1s							
HMBC	**Humberstone**	**1.55**	**319**	*e*P		**Pn**	**14 19 31.9**	**-0.1**
HMBC				*e*S		**Sn**	**14 19 54.1**	**+0.5**
HMBC				IAML			14 19 59.4	
	comp=Z,9μm,0.4s							
HMBC	**Humberstone**	**1.55**	**319**	*i* P		**Pn**	**14 19 32.0**	**-0.1**
HMBC				*e*S		**Sn**	**14 19 53.0**	**-0.6**
HMBC				IAML			14 19 56.3	
	comp=N,12μm,0.3s							
TA01	**Diego Aracena**	**1.56**	**304**	Pn		**Pn**	**14 19 32.1**	**+0.1**
TA01	**Diego Aracena**	**1.56**	**304**	*e*P		**Pn**	**14 19 32.2**	**+0.1**
TA01				*e*S		**Sn**	**14 19 53.8**	**+0.2**
TA01				IAML			14 19 57.5	
	comp=Z,4μm,0.4s							
TA01	**Diego Aracena**	**1.56**	**304⇑**	*i* P		**Pn**	**14 19 32.2**	**+0.1**
TA01				*e*S		**Sn**	**14 19 52.9**	**-0.7**
TA01				IAML			14 19 55.1	
	comp=E,10μm,0.2s							
AF01	**San Pedro de A**	**1.60**	**159**			**Pn**	**14 19 34.1**	**+1.4**
AF01	**San Pedro de A**	**1.60**	**159⇓**	*i* P		**Pn**	**14 19 34.1**	**+1.4**
AF01				*e*S		**Sn**	**14 19 56.8**	**+1.9**
TA02	**Huaiquique**	**1.71**	**313**			**Pn**	**14 19 33.6**	**-0.2**
TA02	**Huaiquique**	**1.71**	**313**	*e*P		**Pn**	**14 19 33.7**	**-0.2**
TA02				*e*S		**Sn**	**14 19 57.2**	**+0.4**
TA02				IAML			14 19 59.0	
	comp=Z,4μm,0.3s							
TA02	**Huaiquique**	**1.71**	**313⇑**	*i* P		**Pn**	**14 19 33.7**	**-0.2**
TA02				*e*S		**Sn**	**14 19 55.9**	**-0.9**
TA02				IAML			14 19 57.2	
	comp=N,8μm,0.3s							
GO01	**Chusmiza**	**1.81**	**348**			**Pn**	**14 19 36.0**	**+0.4**
GO01	**Chusmiza**	**1.81**	**348**	*e*P		**Pn**	**14 19 36.0**	**+0.4**
GO01				*e*S		**Sn**	**14 20 00.5**	**+0.8**
GO01				IAML			14 20 02.2	
	comp=Z,2μm,0.6s							
GO01	**Chusmiza**	**1.81**	**348⇓**	*i* P		**Pn**	**14 19 35.9**	**+0.4**
GO01				*e*S		**Sn**	**14 20 00.2**	**+0.5**
GO01				IAML			14 20 02.4	
	comp=N,11μm,0.2s							
PB15	**IPOC Station P**	**1.85**	**199**			**Pn**	**14 19 36.4**	**+0.7**
PB15	**IPOC Station P**	**1.85**	**199**	*e*P		**Pn**	**14 19 36.0**	**+0.3**
PB15				IAML			14 20 05.2	
	comp=Z,11μm,0.5s							
PB15	**IPOC Station P**	**1.85**	**199**	*e*P		**Pn**	**14 19 36.4**	**+0.7**
PB15				*e*S		**Sn**	**14 20 00.6**	**+0.5**
PB11	**IPOC Station P**	**1.87**	**334**	Pn		**Pn**	**14 19 36.0**	**+0.1**
PB11	**IPOC Station P**	**1.87**	**334**	*e*P		**Pn**	**14 19 36.0**	**+0.1**
PB11				*e*S		**Sn**	**14 20 00.3**	**0.0**
PB11				IAML			14 20 01.9	
	comp=Z,6μm,0.3s							
PB11	**IPOC Station P**	**1.87**	**334**	*e*P		**Pn**	**14 19 36.0**	**+0.1**
PB11				*e*S		**Sn**	**14 19 60.0**	**-0.4**
PB05	**IPOC Station P**	**1.90**	**223**	Pn		**Pn**	**14 19 36.4**	**+0.2**
PB05	**IPOC Station P**	**1.90**	**223**	*e*P		**Pn**	**14 19 35.9**	**-0.3**
PB05				*e*S		**Sn**	**14 20 01.5**	**+0.4**
PB05	**IPOC Station P**	**1.90**	**223⇑**	*i* P		**Pn**	**14 19 36.5**	**+0.2**
PB05				*e*S		**Sn**	**14 20 00.3**	**-0.7**
PX02	**IPOC Station P**	**2.80**	**332**	*e*P		**Pn**	**14 19 46.2**	**-1.5**
PX02				*e*S		**Sn**	**14 20 18.5**	**-3.0**
YJA	**Yavi**	**3.14**	**104**	*e*P		**Pn**	**14 19 54.2**	**+1.9**
PB12	**IPOC Station P**	**3.17**	**333**	Pn		**Pn**	**14 19 51.4**	**-1.1**
PB12	**IPOC Station P**	**3.17**	**333**	*e*P		Pn	14 19 35.9	-17
PB12				*e*S		Sn	14 20 18.7	-11
PB12				IAML			14 20 39.5	
	comp=Z,850nm,0.4s							
PB12	**IPOC Station P**	**3.17**	**333**	*e*P		**Pn**	**14 19 51.3**	**-1.1**
PB12				*e*S		**Sn**	**14 20 28.1**	**-2.0**
PB16	**IPOC Station P**	**3.17**	**348**	Pn		**Pn**	**14 19 53.8**	**+0.8**
PB16	**IPOC Station P**	**3.17**	**348**	*e*P		**Pn**	**14 19 53.2**	**+0.2**
PB16				*e*S		**Sn**	**14 20 34.0**	**+3.1**
PB16				IAML			14 21 01.7	
	comp=Z,476nm,0.6s							
PB16	**IPOC Station P**	**3.17**	**348⇓**	*e*P		**Pn**	**14 19 53.6**	**+0.7**
PB16				*e*S		**Sn**	**14 20 31.3**	**+0.5**
PB16				IAML			14 20 36.5	
	comp=E,468nm,0.6s							
AP01	**Chacalluta**	**3.39**	**334**	*e*P		**Pn**	**14 19 54.2**	**-1.0**
AP01				*e*S		**Sn**	**14 20 34.0**	**-1.1**
AP01				IAML			14 20 46.7	
	comp=Z,1μm,0.2s							
AP01	**Chacalluta**	**3.39**	**334**	*e*P		**Pn**	**14 19 56.4**	**+1.1**
AP01				*e*S		**Sn**	**14 20 30.5**	**-4.7**
PB14	**IPOC Station P**	**3.48**	**205**	Pn		**Pn**	**14 19 56.6**	**-0.2**
PB14	**IPOC Station P**	**3.48**	**205**	*e*S		Sn	14 20 26.7	-11
GO02	**Mina Guanaco**	**3.76**	**191**	Pn		**Pn**	**14 20 00.3**	**-0.1**
GO02	**Mina Guanaco**	**3.76**	**191**	*e*P		**Pn**	**14 20 00.5**	**0.0**
GO02				*e*S		**Sn**	**14 20 44.8**	**+0.5**
GO02				IAML			14 21 17.9	
	comp=Z,567nm,0.5s							
GO02	**Mina Guanaco**	**3.76**	**191**	*e*P		**Pn**	**14 20 00.4**	**0.0**
PB18	**Visviri**	**3.90**	**350**	Pn		**Pn**	**14 20 00.9**	**-1.6**
PB18	**Visviri**	**3.90**	**350**	*e*P		**Pn**	**14 20 05.6**	**+3.1**
AC01	**Pan de Azucar**	**4.95**	**199**	Pn		**Pn**	**14 20 14.3**	**-1.7**
AC01	**Pan de Azucar**	**4.95**	**199**	*e*P		**Pn**	**14 20 14.6**	**-1.4**
AC01				*e*S		**Sn**	**14 21 09.0**	**-3.4**
AC01				IAML			14 21 38.0	
	comp=Z,228nm,0.7s							
AC01	**Pan de Azucar**	**4.95**	**199**	*e*P		**Pn**	**14 20 14.5**	**-1.5**
AC01				*e*S		**Sn**	**14 21 07.3**	**-5.0**
LPAZ	**La Paz**	**5.18**	**7**			**Pn**	**14 20 21.2**	**+1.5**
LPAZ	**La Paz**	**5.18**	**7**	*e*P		**Pn**	**14 20 21.4**	**+1.7**
AC06	**Mina Casimiro**	**6.04**	**193**			**Pn**	**14 20 28.4**	**-2.3**
GO03	**Copiap**	**6.25**	**192**			**Pn**	**14 21 31.2**	**-2.3**
AC04	**Llanos de Chal**	**7.03**	**197**	Pn		**Pn**	**14 20 40.7**	**-3.4**
LCO	**Las Campanas**	**7.72**	**192**	Pn		**Pn**	**14 20 50.2**	**-3.3**
CO01	**Juntas del Tor**	**8.57**	**188**	Pn		**Pn**	**14 21 02.1**	**-3.0**
SIV	**San Ignacio**	**9.12**	**55**	P		**Pn**	**14 21 09.0**	**-3.4**
	comp=Z,44nm,0.7s,baz=238,slow=12,SNR=165							
SIV				S		Sn	14 22 35.2	-18
	comp=Z,1.7nm,0.4s,baz=237,slow=15,SNR=0.9							
CO03	**El Pedregal**	**9.50**	**190**	Pn		**Pn**	**14 21 13.4**	**-4.0**
CO06	**Fray Jorge**	**9.53**	**195**	Pn		Pn	14 21 12.4	-5.3
CO02	**Combarbal**	**9.91**	**191**	Pn		Pn	14 21 18.6	-4.4
CFA	**Coronel Fontan**	**10.12**	**177**	P		**Pn**	**14 21 22.5**	**-3.3**
	comp=Z,3.7nm,0.3s,baz=344,slow=14,SNR=21							
CFA				S		Sn	14 23 05.8	-12
	comp=Z,2.0nm,0.3s,baz=338,slow=14,SNR=1.3							
MURT	**Porto Murtinho**	**10.42**	**93**	*e*P		**Pn**	**14 21 27.0**	**-2.8**
PTLB	**Pontes e Lacer**	**10.94**	**59**	*e*P		**Pn**	**14 21 33.5**	**-3.3**
BDQN	**Bodoquena, MS**	**11.31**	**87**	*e*P		**Pn**	**14 21 38.2**	**-3.5**
VA03	**San Esteban**	**11.37**	**187**	Pn		Pn	14 21 38.3	-4.2
CPUP	**Villa Florida**	**11.56**	**117**	Pn		**Pn**	**14 21 43.2**	**-1.9**
CPUP	**Villa Florida**	**11.56**	**117**	P		**Pn**	**14 21 42.2**	**-2.8**
	comp=Z,4.6nm,0.8s,baz=287,slow=11,SNR=7.1							
ROC1	**El Roble**	**11.64**	**189**	Pn		**Pn**	**14 21 42.4**	**-4.0**
MT02	**Curacav**	**11.94**	**189**	Pn		Pn	14 21 44.6	-5.3
AQDB	**Aquidauana**	**12.28**	**88**	Pn		**Pn**	**14 21 51.8**	**-2.7**
AQDB	**Aquidauana**	**12.28**	**88**	*e*P		**Pn**	**14 21 52.4**	**-2.2**
LMEL	**Las Melosas**	**12.41**	**185**	Pn		**Pn**	**14 21 53.3**	**-3.0**
MT09	**Talagante**	**12.43**	**188**	Pn		Pn	14 21 52.3	-4.2
BO04	**La Punta**	**12.59**	**187**	Pn		**Pn**	**14 21 56.8**	**-1.7**
BO01	**Tunca**	**13.04**	**188**	Pn		**Pn**	**14 22 02.2**	**-2.2**
BO02	**Sierra Bellavi**	**13.40**	**187**	Pn		**Pn**	**14 22 05.6**	**-3.5**
SAML	**Samuel**	**13.56**	**24**	Pn		**Pn**	**14 22 08.7**	**-2.5**
SALV	**Santo Antonio**	**13.59**	**68**	*e*P		**Pn**	**14 22 09.9**	**-1.7**
PP1B	**Ponte de Pedra**	**13.67**	**76**	*e*P		**Pn**	**14 22 11.7**	**-1.0**
RPRD	**Ribas do Rio P**	**14.14**	**89**	*e*P		**Pn**	**14 22 18.3**	**-0.4**
RODS	**Rosario do Sul**	**15.10**	**129**	*e*P		**Pn**	**14 22 30.0**	**-0.6**
ITAB	**Concordia**	**16.24**	**114**	P		**Pn**	**14 22 45.7**	**+0.8**
ITAB				IAmb		IAmb	14 22 47.0	
	comp=Z,28nm,0.7s							
PCMB	**Pacaembu**	**16.32**	**94**	*e*P		**P**	**14 22 47.0**	**+0.4**
CPSB	**Cacapava Do Su**	**16.43**	**126**	*e*P		**Pn**	**14 22 47.5**	**+0.4**
LDASE	**Londrina, Braz**	**16.47**	**100**	*e*P		**P**	**14 22 48.8**	**+0.6**
PLTB	**Pedras Altas**	**17.01**	**130**	P		**P**	**14 22 50.7**	**-3.4**
PLTB	**Pedras Altas**	**17.01**	**130**	*e*P		**P**	**14 22 54.3**	**+0.2**
ITRB	**Iturama**	**17.36**	**88**	*e*P		**P**	**14 22 57.9**	**-0.2**
TRQA	**Tornquist**	**17.56**	**162**	P		**P**	**14 22 58.8**	**-1.4**
GO06	**Curarrehue**	**18.21**	**187**	P		**P**	**14 23 04.8**	**-2.5**
GO06				IAmb		IAmb	14 23 10.3	
	comp=Z,25nm,0.9s							
LR05	**Currie**	**18.91**	**188**	P		**P**	**14 23 14.4**	**-0.4**
LR05				IAmb		IAmb	14 23 18.3	
	comp=Z,24nm,0.8s							
PLCA	**Paso Flores**	**19.27**	**184**	P		**P**	**14 23 19.9**	**+1.1**
PLCA	**Paso Flores**	**19.27**	**184**	P		**Pn**	**14 23 21.4**	**+0.3**
	comp=Z,9.2nm,0.8s,baz=355,slow=13,SNR=22							
MACA	**Manapuru-AM**	**19.82**	**25**	P		**P**	**14 23 23.4**	**-1.6**
MACA	**Manacapuru-AM**	**19.82**	**25**	*e*P		**P**	**14 23 23.9**	**-1.0**
BOSC	**San Juan Bosco**	**20.49**	**331**	P		**P**	**14 23 32.5**	**+0.2**
BDFB	**Brasilia**	**20.53**	**77**	P		**P**	**14 23 31.2**	**-1.5**
BDFB	**Brasilia**	**20.53**	**77**	P		**P**	**14 23 31.4**	**-1.2**
	comp=Z,28nm,0.5s,baz=252,slow=9.9,SNR=53							
	comp=Z,28nm,0.5s							
LL01	**San Ignacio de**	**21.08**	**187**	P		**P**	**14 23 38.5**	**+0.4**
LL01				IAmb		IAmb	14 23 42.3	
	comp=Z,26nm,1.1s							
ITTB	**Itaituba**	**21.20**	**39**	*e*P		**P**	**14 23 38.6**	**-1.1**
TULM	**Tulcn-Chalpat**	**23.72**	**337**	P		**P**	**14 24 01.0**	**-4.2**
TULM				IAmb		IAmb	14 24 45.3	
	comp=Z,14nm,0.8s							
BOAV	**Boa Vista**	**25.05**	**20**	P		**P**	**14 24 17.8**	**+1.0**
BOAV				IAmb		IAmb	14 24 18.4	
	comp=Z,12nm,0.7s							
BOAV	**Boa Vista**	**25.05**	**20**	*e*P		**P**	**14 24 17.7**	**+1.0**
MCPB	**Macapa, AP**	**26.58**	**40**	*e*P		**P**	**14 24 32.2**	**+1.6**
GO08	**Villa O'Higgin**	**27.12**	**185**	P		**P**	**14 24 36.5**	**+1.4**
GO08				IAmb		IAmb	14 24 42.5	
	comp=Z,13nm,0.8s							
BAUV	**El Baul**	**30.22**	**1**	P		**P**	**14 24 59.8**	**-3.0**
BAUV				IAmb		IAmb	14 25 27.2	
	comp=Z,19nm,1.3s							
CELP	**Cerrillos**	**39.35**	**3**	P		**P**	**14 26 21.0**	**-0.2**
HOPE	**Hope Point**	**40.87**	**151**	P		**P**	**14 26 32.3**	**-1.1**
BELA	**Belgrano 2**	**58.78**	**172**	P		**P**	**14 28 49.6**	**+1.1**
LIC	**Lamto**	**68.28**	**74⇑**	*i* P		**P**	**14 29 52.1**	**+0.2**
	comp=Z,5.4nm,0.5s							
TIC	**Toumodi**	**68.47**	**73⇓**	*i* P		**P**	**14 29 53.6**	**+0.5**
	comp=Z,12nm,0.9s							
KIC	**Kosan Boka**	**68.59**	**74⇑**	*i* P		**P**	**14 29 54.3**	**+0.4**
	comp=Z,13nm,0.6s							
DBIC	**Dimbokro**	**68.63**	**73**	P		**P**	**14 29 54.9**	**+0.8**
	comp=Z,4.6nm,0.5s,baz=218,slow=4.2,SNR=9.3							
	comp=Z,4.6nm,0.5s							
QSPA	**South Pole Qui**	**68.74**	**180**	P		**P**	**14 29 57.0**	**+2.9**
QSPA				IAmb		IAmb	14 29 57.6	
	comp=Z,4.1nm,0.7s							
QSPA	**South Pole Qui**	**68.74**	**180**	P		**P**	**14 29 57.0**	**+2.9**
	comp=Z,2.5nm,0.5s,baz=146,slow=2.2,SNR=7.8							
QSPA				pP		**pP**	**14 30 27.2**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=256,slow=2.2,SNR=3.0							
QSPA				sP		**sP**	**14 30 39.6**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=244,slow=23,SNR=2.2							
	comp=Z,2.5nm,0.5s							
PDAR	**Pinedale Array**	**74.12**	**330**	P		**P**	**14 30 29.5**	**+2.7**
	comp=Z,0.2nm,0.4s,baz=142,slow=10,SNR=2.5							
PDAR				pP		**pP**	**14 30 59.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=104,slow=7.5,SNR=2.5							
	comp=Z,0.2nm,0.4s							
NVAR	**Mina Array Bea**	**75.52**	**322**	P		**P**	**14 30 38.1**	**+3.2**
	comp=Z,0.4nm,0.7s,baz=128,slow=5.8,SNR=2.4							
	comp=Z,0.4nm,0.7s							
TOA0	**Torodi Ar. Sit**	**77.25**	**70**	P		**P**	**14 30 44.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.25**	**70**	P		**P**	**14 30 45.4**	**+0.5**
TORD				IAmb		IAmb	14 30 46.2	
	comp=Z,7.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**77.25**	**70**	P		**P**	**14 30 45.2**	**+0.3**
	comp=Z,3.8nm,0.4s,baz=259,slow=4.8,SNR=49							
	comp=Z,3.8nm,0.4s							
BOSA	**Boshof**	**83.38**	**118**	P		**P**	**14 31 17.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=194,slow=20,SNR=2.2							
	comp=Z,1.4nm,0.8s							
ESDC	**Sonseca Array**	**85.73**	**44**	P		**P**	**14 31 29.2**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=248,slow=6.8,SNR=3.1							
	comp=Z,0.8nm,0.9s							
YKA	**Yellowknife Ar**	**91.18**	**341**	P		**P**	**14 31 56.5**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=144,slow=10,SNR=4.7							
YKA				pP		**pP**	**14 32 27.1**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=133,slow=5.0,SNR=4.9							
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**130.00**	**208**	PKP		**PKiKP**	**14 38 01.8**	**+1.2**
	comp=Z,0.9nm,1.0s,baz=125,slow=1.9,SNR=5.7							
WRA	**Warramunga Arr**	**133.04**	**210**	PKP		**PKiKP**	**14 38 07.5**	**+0.8**
	comp=Z,12nm,1.3s,baz=155,slow=1.6,SNR=4.4							
WRA				pPKP		**pPKPdf**	**14 38 40.4**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=167,slow=1.2,SNR=3.5							
ZALV	**Zalesovo Beam**	**141.87**	**25**	PKP		**PKPdf**	**14 38 22.0**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=336,slow=3.2,SNR=1.7							
ZALV				pPKP		**pPKPdf**	**14 38 55.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=340,slow=1.7,SNR=2.3							
MKAR	**Makanchi Array**	**145.54**	**36**	PKPbc		**PKPab**	**14 38 29.7**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=329,slow=3.2,SNR=40							
MKAR				pPKPbc		**pPKPdf**	**14 39 01.8**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=302,slow=4.2,SNR=3.6							
SONM	**Songino Array**	**153.40**	**7**	PKPbc		**PKiKP**	**14 38 49.9**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=343,slow=4.5,SNR=1.3							

*SNET **13** 14:36:09.3±1.2, 12°.11N×87°.87W, h21km±23km, ML3.0*
*CATAC **13** 14:36:18.8±1.0, 12°.46N×87°.11W, h34km±6km, ML2.5*
ISC 13 14:36:07.3±2.1,12°.1N±0°.1×87°.72W±0°.06,h10km,n16,
σ1ᵍ69/17,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.88**	**48**	*i* P		**Pn**	**14 36 27.4**	**+1.6**
CRIN				*i* S		**Sg**	**14 36 33.8**	**-1.8**
CRIN				IAML			14 36 47.4	
	comp=Z,2μm,1.0s							
CNGA	**Al SSO del Vol**	**1.06**	**69**	*i* PA			14 36 30.1	
CNGA				IAML			14 36 43.4	
	comp=Z,500nm,1.0s							
CNGN	**Cerro Negro**	**1.07**	**69**	*i* P		**Pb**	**14 36 28.5**	**+0.6**
CNGN				IAML			14 37 03.9	
	comp=Z,710nm,1.0s							
ILCN	**San Idelfonso**	**1.09**	**65**	*i* P		**Pn**	**14 36 30.1**	**+1.4**
ILCN				IAML			14 36 51.5	
	comp=Z,140nm,1.0s							
CNCH	**Conchagua**	**1.16**	**354**	*e*P		**Pb**	**14 36 29.8**	**+0.2**
AMPH	**Amapala**	**1.17**	**3**	*e*S		**Sb**	**14 36 47.1**	**+2.2**
AMPH	**Amapala**	**1.17**	**3**	*i* PA			14 36 36.7	
MOMN	**Momotombo**	**1.19**	**75**	*i* P		**Pb**	**14 36 30.8**	**+0.9**
MOMN				*i* S		**Sg**	**14 36 40.8**	**-4.7**
MOMN				IAML			14 36 43.5	
	comp=Z,15nm,1.0s							
MOM2	**El Cardon**	**1.25**	**75**	*i* P		**Pb**	**14 36 31.4**	**+0.5**
MOM2				IAML			14 37 14.7	
	comp=Z,240nm,1.0s							
ALJI	**Alcalda de J**	**1.47**	**325**	*e*S		**Sn**	**14 36 52.0**	**-1.2**
PACA	**Pacayal**	**1.48**	**336**	*e*P		**Pn**	**14 36 34.2**	**+0.1**
PACA				*e*S		**Sn**	**14 36 54.1**	**+0.6**
COEB	**Comit de Eme**	**1.59**	**330**	*e*S		**Sn**	**14 36 55.4**	**-1.0**
LIMN	**Finca el Limon**	**1.62**	**54**	*i* PA			14 36 36.0	
LIMN				IAML			14 37 03.3	
	comp=Z,350nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.86**	**328**	*e*P		**Pn**	**14 36 39.3**	**-0.1**
SCLA				*e*S		**Sn**	**14 37 03.0**	**0.0**
COEG	**Centro de Oper**	**1.88**	**323**	*e*P		**Pn**	**14 36 40.1**	**+0.5**
COEG				*e*S		**Sn**	**14 37 03.0**	**-0.4**
COEG				IAML			14 37 09.8	
	comp=Z,144nm,0.3s							
YUSH	**Yuscaran**	**2.02**	**25**	*i* PA			14 36 43.4	

*GII **13** 14:36:14.5±0.3, 33°.587N±0°.002×35°.760E±0°.001, h0km, confirmed*
*GRAL **13** 14:36:16.3±0.3, 33°.54N×35°.71E, h1km±11km, MD2.7*
ISC 13 14:36:15.7±1.0,33°.54N±0°.03×35°.72E±0°.05,h0km,n16,
σ0ᵍ74/18,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.11**	**116**	*e*P		**Pg**	**14 36 18.2**	**+0.4**
RCY				*e*S		**Sg**	**14 36 19.8**	**+0.7**
SHBL	**Chebaa**	**0.20**	**174**	*e*P		**Pg**	**14 36 19.7**	**+0.3**
DQRL	**Deir Qamar**	**0.20**	**323**	*e*P		**Pg**	**14 36 19.9**	**+0.4**
DQRL				*e*S		**Sg**	**14

comp=Z,12nm,0.8s
BRDY Brady 7.72 139 IAmb_Lg 15 09 04.3
comp=Z,9.8nm,0.9s
JCT Junction City 8.00 147 IAmb_Lg 15 09 31.1
comp=Z,11nm,0.8s
DRIO Del Rio 8.62 154 IAmb_Lg 15 09 42.7
comp=Z,12nm,0.8s

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*ATH **13** 15:05:24.9, 39.62N×18.71E, h5km±1km, ML2.9/15, Manual Solution by N.Liadopoulou This location: 2020/05/07 14:51:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*TIR **13** 15:05:24.7, 39.59N×18.74E, h26km±2km, Ml2.8*
*ROM **13** 15:05:25.7±0.1, 39.71N±0.02×18.70E±0.01, h24km±1km, ML2.8/24, Error ellipse: s-maj=1.6km s-min=0.9km az=23.0*
*THE **13** 15:05:26.6, 39.68N×18.78E, h9km±1km, ML2.5/3, Error ellipse: s-maj=2.3km s-min=1.3km az=48.0*
ISC 13 15:05:24.0±1.4, 39.68N±0.03×18.70E±0.02, h5km±11km, n73, σ0s76/98, 1C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCTE	**Santa Cesarea**	**0.43**	**336**	P	**Pb**	**15 05 34.8**	**+0.7**
	baz=338						
SCTE				S	**Sb**	**15 05 41.1**	**+0.3**
	baz=338						
SCTE				AMP			
	comp=E,2.6nm,0.1s,baz=338						
SCTE	**Santa Cesarea**	**0.43**	**336**	*e*P	**Pb**	**15 05 34.7**	**+0.7**
SCTE				S	**Sb**	**15 05 41.1**	**+0.3**
SCTE				AML	AML		
	comp=E,3020μm,0.7s						
SCTE				AML	AML		
	comp=N,3680μm,0.6s						
SCTE				AML	AML		
	comp=N,2692μm,0.2s						
SCTE				AML	AML		
	comp=E,2753μm,0.1s						
SCTE	**Santa Cesarea**	**0.43**	**336**	P	**Pb**	**15 05 34.5**	**+0.4**
SCTE				S	**Sb**	**15 05 40.9**	**+0.1**
KEK	**Kerkira**	**0.85**	**87**	P	**Pb**	**15 05 41.0**	**-0.2**
KEK				S	**Sb**	**15 05 53.3**	**+0.4**
	comp=E,875nm,0.3s						
KEK	**Kerkira**	**0.85**	**87**	P	**Pb**	**15 05 40.9**	**-0.2**
KEK				S	**Sb**	**15 05 53.3**	**+0.4**
KEK				AML	AML		
	comp=E,204μm,0.3s						
KEK				AML	AML		
	comp=N,254μm,0.4s						
KEK				AML	AML		
	comp=E,204μm,0.3s						
KEK				AML	AML		
	comp=N,254μm,0.4s						
KEK	**Kerkira**	**0.85**	**87**	P	**Pb**	**15 05 41.2**	**0.0**
KEK				S	**Sb**	**15 05 51.9**	**-1.0**
VLO	**Vlora**	**1.00**	**38**	P	**Pn**	**15 05 45.1**	**+0.5**
	baz=33						
VLO				S	**Sn**	**15 06 00.6**	**+1.5**
	baz=33						
VLO				AMP			
	comp=E,4.3nm,0.2s,baz=33						
VLO	**Vlora**	**1.00**	**38**	P	**Pn**	**15 05 44.8**	**+0.2**
VLO				S	**Sn**	**15 05 58.3**	**-0.7**
VLO	**Vlora**	**1.00**	**38**	P	**Pn**	**15 05 45.1**	**+0.5**
VLO				AML	AML		
	comp=N,2110μm,0.6s						
VLO				AML	AML		
	comp=E,1710μm,1.5s						
VLO				AML	AML		
	comp=E,1710μm,0.5s						
VLO				AML	AML		
	comp=N,2011μm,0.2s						
VLO				AML	AML		
	comp=E,1637μm,0.2s						
SRN	**Sarande**	**1.02**	**78**	P	**Pn**	**15 05 44.7**	**-0.3**
	baz=72						
SRN				S	**Sn**	**15 05 58.5**	**-1.1**
	baz=72						
SRN				AMP			
	comp=E,0.5nm,0.1s,baz=72						
SRN	**Sarande**	**1.02**	**78**	P	**Pn**	**15 05 44.8**	**-0.1**
SRN				S	**Sb**	**15 05 58.4**	**+0.5**
	comp=E,148nm,0.2s						
SRN	**Sarande**	**1.02**	**78**	P	**Pn**	**15 05 44.8**	**-0.1**
SRN				S	**Sb**	**15 05 58.4**	**+0.5**
SRN				AML	AML		
	comp=E,236μm,1.1s						
SRN				AML	AML		
	comp=N,300μm,0.5s						
SRN				AML	AML		
	comp=E,198μm,0.3s						
SRN				AML	AML		
	comp=N,198μm,0.2s						
MESG	**Mesagne**	**1.12**	**325**	P	**Pb**	**15 05 45.6**	**-0.1**
MESG				AML	AML		
	comp=E,926μm,1.0s						
MESG				AML	AML		
	comp=E,926μm,1.0s						
MESG				AML	AML		
	comp=N,996μm,0.3s						
MESG				AML	AML		
	comp=E,879μm,0.3s						
MESG				AML	AML		
	comp=N,747μm,0.1s						
IGT	**Igoumenitsa**	**1.27**	**96**	P	**Pn**	**15 05 49.1**	**+0.7**
	baz=91						
IGT				S	**Sb**	**15 06 05.2**	**+0.2**
	baz=91						
IGT				AMP			
	comp=E,0.5nm,0.3s,baz=91						
IGT	**Igoumenitsa**	**1.27**	**96**	P	**Pn**	**15 05 49.0**	**+0.7**
IGT				S	**Sn**	**15 06 05.5**	**-0.3**
	comp=E,138nm,0.5s						
IGT	**Igoumenitsa**	**1.27**	**96**	P	**Pn**	**15 05 48.8**	**+0.4**
IGT				S	**Sn**	**15 06 05.6**	**-0.2**
PIPA	**Pietrapaola**	**1.47**	**263**	P	**Pn**	**15 05 51.5**	**+0.5**
PIPA				S	**Sb**	**15 06 10.6**	**0.0**
PIPA				AML	AML		
	comp=E,439μm,1.3s						
PIPA				AML	AML		
	comp=N,322μm,1.1s						
PIPA				AML	AML		
	comp=E,410μm,0.6s						
PIPA				AML	AML		
	comp=N,320μm,0.2s						
PIPA				AML	AML		
	comp=E,440μm,1.3s						
PIPA				AML	AML		
	comp=N,320μm,1.8s						
PIPA				AML	AML		
	comp=E,410μm,1.4s						
PIPA				AML	AML		
	comp=E,383μm,0.3s						
PIPA				AML	AML		
	comp=E,407μm,0.3s						
PIPA				AML	AML		
	comp=N,318μm,0.3s						
PIPA				AML	AML		
	comp=N,322μm,0.9s						
PIPA				AML	AML		
	comp=N,320μm,0.2s						
LSK	**Leskovik**	**1.54**	**72**	P	**Pg**	**15 05 53.5**	**0.0**
	baz=67						
LSK				S	**Sg**	**15 06 14.6**	**+1.2**
	baz=67						
LSK				AMP			
	comp=E,0.7nm,0.6s,baz=67						
LSK	**Leskovik**	**1.54**	**72**	P	**Pb**	**15 05 52.4**	**-0.6**
LSK				S	**Sg**	**15 06 13.5**	**+0.1**
TIP	**Timpagrande**	**1.58**	**252**	P	**Pn**	**15 05 53.1**	**+0.4**
JAN	**Janina**	**1.66**	**90**	P	**Pb**	**15 05 54.7**	**-0.4**
JAN				S	**Sb**	**15 06 16.3**	**0.0**
NOCI	**Noci**	**1.67**	**312**	P	**Pn**	**15 05 53.5**	**-0.4**
NOCI				AML	AML		
	comp=E,356μm,0.5s						
NOCI				AML	AML		
	comp=N,466μm,1.4s						
SERS	**Sersale**	**1.68**	**248**	P	**Pn**	**15 05 54.3**	**+0.1**
SERS				S	**Sn**	**15 06 16.5**	**+0.4**
SERS				AML	AML		
	comp=N,66μm,0.2s						
SERS				AML	AML		
	comp=E,75μm,0.7s						
TSLK	**Tsoukalades, L**	**1.74**	**119**	P	**Pn**	**15 05 55.5**	**+0.6**
TSLK				S	**Sn**	**15 06 17.0**	**-0.4**
LKD2	**Lefkada island**	**1.76**	**120**	P	**Pn**	**15 05 55.8**	**+0.7**
	baz=117						
LKD2	**Lefkada island**	**1.76**	**120**	P	**Pn**	**15 05 55.8**	**+0.7**
LKD2				S	**Sn**	**15 06 17.6**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.77**	**124**	P	**Pn**	**15 05 55.5**	**+0.4**
MATE	**Matera**	**1.81**	**303**	P	**Pn**	**15 05 55.2**	**-0.5**
SALB	**San Lorenzo Be**	**1.82**	**277**	⇑P	**Pn**	**15 05 55.9**	**-0.2**
SALB				S	**Sn**	**15 06 18.5**	**-1.0**
SALB				AML	AML		
	comp=E,154μm,0.4s						
SALB				AML	AML		
	comp=N,113μm,0.8s						
SALB				AML	AML		
	comp=E,154μm,0.4s						
SALB				AML	AML		
	comp=E,154μm,1.6s						
SALB				AML	AML		
	comp=N,106μm,0.3s						
NYDR	**Nydri-Lefkada**	**1.83**	**121**	P	**Pn**	**15 05 56.5**	**+0.5**
NYDR				S	**Sn**	**15 06 19.4**	**-0.1**
EVGI	**Lefkada island**	**1.85**	**124**	P	**Pn**	**15 05 56.9**	**+0.5**
FSK	**Fiskardo**	**1.90**	**129**	P	**Pn**	**15 05 57.5**	**+0.6**
FSK				S	**Sn**	**15 06 20.3**	**-0.8**
DMLN	**Damoulianata-K**	**1.94**	**137**	P	**Pn**	**15 05 57.7**	**+0.1**
PENT	**Pentalofos**	**1.95**	**74**	P	**Pb**	**15 05 59.3**	**-0.6**
NEST	**Nestorio**	**1.95**	**67**	P	**Pb**	**15 05 59.4**	**-0.6**
KEF4	**Livadi, Kephal**	**1.96**	**136**	P	**Pn**	**15 05 57.9**	**+0.1**
KEF3	**Kipouria, Keph**	**1.96**	**138**	P	**Pn**	**15 05 58.5**	**+0.7**
MIGL	**Miglionico**	**1.96**	**299**	P	**Pn**	**15 05 58.0**	**+0.2**
CAR1	**CAROLEI**	**1.97**	**258**	P	**Pn**	**15 05 57.9**	**-0.1**
AMUR	**Altamura**	**2.02**	**308**	P	**Pn**	**15 05 58.2**	**-0.5**
KPRO	**Kipourio**	**2.07**	**81**	P	**Pb**	**15 06 00.9**	**-1.2**
VLS	**Valsamata**	**2.10**	**135**	P	**Pn**	**15 06 00.3**	**+0.5**
CET2	**Cetraro**	**2.12**	**267**	P	**Pn**	**15 06 01.4**	**+1.3**
CET2				AML	AML		
	comp=N,250μm,0.7s						
CET2				AML	AML		
	comp=E,150μm,0.8s						
PLAC	**Placanica**	**2.14**	**236**	P	**Pn**	**15 06 00.7**	**+0.3**
SIRI	**Monte Sirino -**	**2.23**	**284**	P	**Pn**	**15 06 02.1**	**+0.4**
CUC	**Castrocucco**	**2.24**	**279**	P	**Pn**	**15 06 02.9**	**+1.2**
CUC	**Castrocucco**	**2.24**	**279**	P	**Pn**	**15 06 03.2**	**+1.5**
MCEL	**Monticello**	**2.31**	**287**	P	**Pn**	**15 06 03.6**	**+0.8**
FNA	**Florina**	**2.33**	**61**	P	**Pb**	**15 06 04.9**	**-1.5**
	baz=58						
FNA				S	**Sn**	**15 06 32.9**	**+0.9**
	baz=58						
FNA	**Florina**	**2.33**	**61**	P	**Pb**	**15 06 04.7**	**-1.7**
MTSN	**Montesano sull**	**2.34**	**285**	P	**Pn**	**15 06 03.4**	**+0.2**
MRVN	**Minervino Murg**	**2.36**	**307**	P	**Pn**	**15 06 02.9**	**-0.4**
PHP	**Peshkopia**	**2.40**	**33**	P	**Pn**	**15 06 04.3**	**+0.3**
	baz=31						
JOPP	**Joppolo**	**2.43**	**245**	P	**Pn**	**15 06 04.8**	**+0.4**
JOPP				S	**Sn**	**15 06 33.2**	**-1.3**
JOPP				AML	AML		
	comp=E,85μm,0.8s						
JOPP				AML	AML		
	comp=N,78μm,0.9s						
JOPP				AML	AML		
	comp=N,78μm,1.1s						
JOPP				AML	AML		
	comp=E,85μm,1.2s						
JOPP				AML	AML		
	comp=N,60μm,0.2s						
JOPP				AML	AML		
	comp=E,70μm,0.2s						
PVO	**Paravola**	**2.44**	**115**	P	**Pn**	**15 06 05.0**	**+0.6**
SLCN	**Sala Consilina**	**2.46**	**288**	P	**Pn**	**15 06 05.9**	**+1.1**
PUK	**Puka**	**2.53**	**21**	P	**Pg**	**15 06 11.7**	**-0.8**
	baz=19						
PUK	**Puka**	**2.53**	**21**	P	**Pn**	**15 06 05.5**	**-0.2**
THL	**Klokotos Trika**	**2.56**	**91**	P	**Pn**	**15 06 06.7**	**+0.6**
THL				S	**Sn**	**15 06 37.5**	**-0.1**
SOI	**Samo**	**2.61**	**233**	P	**Pn**	**15 06 07.4**	**+0.6**
SRN3	**Sant'Arsenio**	**2.61**	**289**	P	**Pn**	**15 06 09.0**	**+2.1**
TYRN	**Tyrnavos**	**2.73**	**88**	P	**Pn**	**15 06 09.9**	**+1.6**
ANX	**Ano Chora**	**2.73**	**112**	P	**Pn**	**15 06 09.4**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.75**	**103**	P	**Pn**	**15 06 09.4**	**+0.8**
MSRU	**Castanea**	**2.86**	**241**	P	**Pn**	**15 06 09.8**	**-0.4**
AGG	**Agios Georgios**	**2.89**	**102**	P	**Pn**	**15 06 12.4**	**+1.7**
MSAG	**Monte S. Angel**	**2.94**	**315**	P	**Pn**	**15 06 10.8**	**-0.5**
SGRT	**San Giovanni R**	**3.06**	**314**	P	**Pn**	**15 06 12.4**	**-0.6**
	baz=315						
GRG	**Griva**	**3.11**	**65**	P	**Pn**	**15 06 15.0**	**+1.4**
AIO	**Antillo**	**3.20**	**239**	P	**Pn**	**15 06 16.1**	**+1.2**
STON	**Ston**	**3.28**	**347**	AML	AML		
	comp=E,36μm,1.3s						
STON				AML	AML		
	comp=N,52μm,0.2s						
STON				AML	AML		
	comp=E,36μm,0.7s						
KNT	**Kendrikon**	**3.53**	**64**	P	**Pn**	**15 06 20.5**	**+1.1**
HLNI	**Lentini**	**3.80**	**233**	AML	AML		
	comp=N,101μm,1.5s						
HLNI				AML	AML		
	comp=E,96μm,1.6s						
HLNI				AML	AML		
	comp=N,101μm,0.5s						

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*TEH **13** 15:35:53.8, 33.68N×45.67E, h10km±59km, ML2.8*
*ISN **13** 15:35:54.6±0.7, 33.62N×45.63E, h11km±3km, ML2.9*
ISC 13 15:35:54.1±1.0, 33.66N±0.05×45.64E±0.05, h13km, n9, σ0s55/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**94**	Pg	**Pg**	**15 36 03.1**	**-0.4**
ILBA				Sg	**Sg**	**15 36 09.8**	**0.0**
IBDR	**Badra**	**0.60**	**156**	*e*Pg	**Pg**	**15 36 06.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**15 36 14.0**	**+0.2**
IGHG	**Ghaleghazi**	**1.02**	**49**	Pg	**Pb**	**15 36 13.6**	**-0.2**
BHD	**Baghdad**	**1.12**	**250**	*e*Pg	**Pg**	**15 36 16.0**	**+0.2**
BHD				*e*Sg	**Sn**	**15 36 31.0**	**+0.2**
IDHR	**Dehrash**	**1.21**	**31**	Pg	**Pn**	**15 36 16.3**	**-0.6**
IKOM	**Komasi**	**1.64**	**71**	Pg	**Pb**	**15 36 24.9**	**+0.6**
ILIN	**Lien**	**1.67**	**41**	Pg	**Pb**	**15 36 25.0**	**+0.2**
IKFM	**Kafar-mosalman**	**1.85**	**94**	Pn	**Pb**	**15 36 28.5**	**+0.8**
RAFI	**Al-Rafai**	**1.97**	**168**	*e*Pn	**Pb**	**15 36 29.0**	**-0.9**
RAFI				*e*Sn	**Sb**	**15 36 55.0**	**+0.6**
RAFI				AML	AML	15 36 55.4	
	comp=E,115nm,0.4s						
RAFI				AML	AML	15 37 00.0	
	comp=N,135nm,0.0s						

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*TEH **13** 15:49:18.6, 34.85N×45.62E, h10km±990km, ML2.5*
*ISN **13** 15:49:19.4±1.2, 34.84N×45.64E, h18km±10km, ML2.2*
ISC 13 15:49:18.4±2.0, 34.8N±0.1×45.61E±0.08, h10km, n6, σ0s62/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.66**	**101**	Pg	**Pg**	**15 49 31.1**	**-0.1**
IGHG	**Ghaleghazi**	**0.94**	**122**	Pg	**Pb**	**15 49 37.1**	**+0.1**
IGHG				Sg	**Sn**	**15 49 51.0**	**-0.5**
ILIN	**Lien**	**1.12**	**85**	Pg	**Pn**	**15 49 40.3**	**0.0**
IKOM	**Komasi**	**1.70**	**112**	Pg	**Pg**	**15 49 51.4**	**+0.3**
IBDR	**Badra**	**1.74**	**171**	*e*Pg	**Pb**	**15 49 50.0**	**-0.4**
	baz=352						
IBDR				*e*Sg	**Sg**	**15 50 14.0**	**-0.3**
IBDR				AML	AML	15 50 21.3	
	comp=E,33nm,0.6s						
IBDR				AML	AML	15 50 28.4	
	comp=N,30nm,0.5s						
BHD	**Baghdad**	**1.86**	**214**	*e*Pn	**Pb**	**15 49 52.0**	**-0.5**
BHD				*e*Sn	**Sb**	**15 50 17.0**	**+1.2**

IDC 13 16:13:14.6±2.8, 14.00N×92.78W, h0km, mb3.8/2, mbtmp4.1/3, ML3.6/2, MS3.8/5, Error ellipse: s-maj=60.0km s-min=46.0km az=40.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.68**	**327**	Pn	Pn	16 14 12.3	-0.5
	0.5nm,0.3s,baz=151,slow=9.8,SNR=4.6						
CMIG				Sn	Sn	16 14 56.7	-0.2
	2.9nm,0.3s,baz=171,slow=7.4,SNR=4.3						
TEIG	**Tepich**	**7.54**	**34**	Pn	Pn	16 15 05.8	0.0
	9.3nm,0.3s,baz=207,slow=22,SNR=2.1						
TEIG				LR	LR	16 18 33.3	
	comp=Z,1μm,18.1s,baz=356,slow=42						
	43nm,0.3s						
SJG	**San Juan**	**25.90**	**77**	LR	LR	16 29 20.3	
	comp=Z,50nm,20.1s,baz=130,slow=37						
SCHQ	**Schefferville**	**45.48**	**21**	LR	LR	16 41 16.6	
	comp=Z,56nm,18.6s,baz=260,slow=37						
YKA	**Yellowknife Ar**	**50.85**	**347**	P	P	16 22 16.4	-0.4
	1.6nm,0.8s,baz=150,slow=7.4,SNR=36						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**62.54**	**337**	P	P	16 23 40.9	+0.9
	0.5nm,0.9s,baz=126,slow=4.6,SNR=5.1						
	0.5nm,0.9s						
RAR	**Rarotonga**	**74.49**	**243**	LR	LR	16 50 57.3	
	comp=Z,56nm,18.0s,baz=182,slow=30						
RAO	**Raoul Island**	**92.58**	**241**	LR	LR	17 00 29.3	
	comp=Z,181nm,21.2s,baz=131,slow=31						
CMAR	**Chiang Mai Arr**	**145.74**	**340**	PKPbc	PKPdf	16 32 55.0	-1.1
	1.1nm,0.8s,baz=329,slow=3.5,SNR=7.8						

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*TEH **13** 16:14:34.0, 34.56N×46.14E, h6km, ML2.6*
*ISN **13** 16:14:34.1±1.3, 34.66N×46.14E, h24km±8km, ML2.5*
ISC 13 16:14:34.2±1.2, 34.59N±0.06×46.13E±0.05, h10km, n11, σ0s83/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.24**	**64**	Pg	**Pg**	**16 14 39.2**	**0.0**
IGHG	**Ghaleghazi**	**0.45**	**126**	Pg	**Pg**	**16 14 42.8**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.45**	**259**	Pg	**Pb**	**16 14 43.6**	**-0.7**
ILIN	**Lien**	**0.76**	**65**	Pg	**Pb**	**16 14 49.8**	**+0.1**
ILBA	**Ilam Banvizeh**	**0.97**	**176**	Pg	**Pn**	**16 14 52.8**	**-1.2**
IKOM	**Komasi**	**1.22**	**110**	Pg	**Pg**	**16 14 57.3**	**-0.3**
IBDR	**Badra**	**1.49**	**186**	*e*Pg	**Pg**	**16 15 03.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**16 15 22.0**	**-0.1**
IBDR				AML	AML	16 15 36.9	
	comp=N,63nm,0.6s						
IBDR				AML	AML	16 15 37.3	
	comp=E,90nm,0.8s						
IKFM	**Kafar-mosalman**	**1.78**	**126**	Pg	**Pg**	**16 15 07.3**	**-1.1**
BHD	**Baghdad**	**1.96**	**228**	*e*Pn	**Pn**	**16 15 08.0**	**+0.5**
BHD				*e*Sn	**Sb**	**16 15 34.0**	**-0.5**
HSAM	**Samen**	**2.08**	**100**	Pn	**Pb**	**16 15 12.1**	**-0.1**
RAFI	**Al-Rafai**	**2.86**	**180**	*e*Pn	**Pn**	**16 15 21.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**16 15 56.0**	**+1.6**

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*IDC **13** 16:14:36.8±1.1, 31.13N×132.15E, h0km, mb3.5/5, mbtmp3.5/5, MS3.7/1, Error ellipse: s-maj=51.6km s-min=23.7km az=69.0*
*JMA **13** 16:14:39.0±0.2, 31.10N±0.6×13 2E±, h53km±4km, MV2.8/28, E OFF TANEGASHIMA ISLAND*
ISC 13 16:14:37.4±2.0, 31.04N±0.05×132.29E±0.07, h8km±11km, n17, σ0s90/24, mb3.3/6, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNAR	**Kushima--Naru**	**1.00**	**299**	P	**Pn**	**16 14 58.4**	**+0.6**
JNAR				S	**Sn**	**16 15 12.9**	**+0.9**
JNKG	**Nichinankitago**	**1.00**	**309**	P	**Pn**	**16 14 58.4**	**+0.6**
JNKG				S	**Sn**	**16 15 12.7**	**+0.7**
JTSR	**Tashiro 2**	**1.18**	**277**	P	**Pg**	**16 15 00.2**	**+0.1**
JTSR				*e*S	**Sn**	**16 15 16.2**	**-0.4**
JTN	**Tanegashima 3**	**1.19**	**252**	P	**Pg**	**16 15 00.4**	**+0.1**
JTN				S	**Sn**	**16 15 16.0**	**-0.8**
JTZ	**Takazaki**	**1.34**	**310**	P	**Pg**	**16 15 03.0**	**-0.1**
JTZ				S	**Sg**	**16 15 21.2**	**+0.7**
JMTN	**Minamitane**	**1.36**	**242**	*e*P	**Pn**	**16 15 02.8**	**+0.1**
JMTN				*e*S	**Sb**	**16 15 19.8**	**-0.8**
JYAK	**Yakushimahirau**	**1.73**	**243**	P	**Pn**	**16 15 07.7**	**-0.1**
JYAK				*e*S	**Sn**	**16 15 28.9**	**-1.2**
JTO	**Tosashimizu**	**1.87**	**13**	*e*P	**Pn**	**16 15 09.4**	**-0.3**
JIU3	**Izumi3**	**1.96**	**320**	*e*P	**Pb**	**16 15 12.5**	**-0.9**
UWA2	**Uwa jima 2**	**2.19**	**7**	*e*P	**Pn**	**16 15 14.6**	**+0.5**
UWA2				*e*S	**Sn**	**16 15 39.7**	**-1.7**
SONM	**Songino Array**	**25.92**	**318**	P	**P**	**16 20 10.0**	**-0.1**
	0.3nm,0.6s,baz=120,slow=8.7,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**41.25**	**307**	P	**P**	**16 22 22.6**	**-0.3**
	0.3nm,0.8s,baz=93,slow=10,SNR=2.3						
	0.3nm,0.8s						
WRA	**Warramunga Ar**	**50.73**	**178**	P	**P**	**16 23 38.0**	**+0.1**
	0.4nm,0.9s,baz=359,slow=8.7,SNR=1.8						
ASAR	**Alice Springs**	**54.42**	**178**	P	**P**	**16 24 07.2**	**+2.0**
	0.2nm,0.6s,baz=10,slow=13,SNR=7.2						
	0.2nm,0.6s						
GEYT	**Alibeck**	**60.05**	**299**	LR	LR	16 54 29.8	
	comp=Z,57nm,18.2s,baz=318,slow=40						
FINES	**FINESS Array B**	**70.44**	**331**	P	**P**	**16 25 50.9**	**-1.0**
	2.2nm,1.0s,baz=60,slow=8.2,SNR=4.9						
	2.2nm,1.0s						
NVAR	**Mina Array Bea**	**84.63**	**48**	P	**P**	**16 27 13.2**	**+1.2**
	0.7nm,0.7s,baz=304,slow=4.9,SNR=4.1						
	0.7nm,0.7s						

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*MOS **13** 16:30:10.8±1.6, 34.44N×23.37E, h21km, mb4.8/31, Error ellipse: s-maj=5.6km s-min=2.8km az=84.1*
*ISK **13** 16:30:13.7, 34.60N×23.25E, h86km, ML4.2/20*
*IDC **13** 16:30:14.9±2.5, 34.67N×23.42E, h32km±18km, mb4.2/24, mbtmp4.3/36, ML4.1/12, MS3.9/43, Error ellipse: s-maj=12.8km s-min=11.0km az=171.0*
*NEIC **13** 16:30:15.1±2.4, 34.67N±0.08×23.36E±0.08, h33km±5km, mb4.7/85, Error ellipse: s-maj=11.5km s-min=9.0km az=197.0*
*PDG **13** 16:30:16.4±0.6, 34.45N×23.31E, h70km±6km, ML4.5/11, Error ellipse: s-maj=3.3km s-min=1.8km az=90.0*
*NAO **13** 16:30:17.1, 35.08N×24.47E, h33km, mb4.5*
*THE **13** 16:30:17.1, 34.60N×23.37E, h26km±3km, ML4.0/5, Error ellipse: s-maj=4.4km s-min=1.6km az=184.0*
*ATH **13** 16:30:18.0, 34.73N×23.41E, h20km±3km, ML4.0/9, Error ellipse: s-maj=4.5km s-min=2.0km az=47.0*
*GII **13** 16:30:20.5±0.6, 34.533N±0.003×24.081E±0.001, h30km, mB4.5/4, Md4.4/3, Mws4.7, confirmed*
ISC 13 16:30:13.0±0.6, 34.48N±0.04×23.34E±0.03, h26km±3km, n563, σ2s15/584, mb4.7/95, MS3.9/38, 56C-30D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.71**	**60**	Pg	**Pn**	**16 30 28.4**	**+1.0**
GVD				Sg	**Sn**	**16 30 43.0**	**+5.5**
GVD	**Gavdhos**	**0.71**	**60**	P	**Pn**	**16 30 28.0**	**+0.6**
GVD				S	**Sn**	**16 30 39.1**	**+1.6**
	38μm,0.4s						
GVD	**Gavdhos**	**0.71**	**60**	P	**Pn**	**16 30 28.5**	**+1.0**
GVD				S	**Sb**	**16 30 37.1**	**+0.8**
GVD				AML	AML	16 30 42.7	
	comp=N,86832μm,0.4s						
GVD				AML	AML	16 30 49.2	
	comp=E,75083μm,0.6s						
IMMV	**Iera Moni Meta**	**1.11**	**28**	Pg	**Pb**	**16 30 34.6**	**+1.0**
IMMV				Sg	**Sb**	**16 30 49.9**	**+2.3**
IMMV	**Iera Moni Meta**	**1.11**	**28**	P	**Pb**	**16 30 34.5**	**+1.0**
IMMV				S	**Sn**	**16 30 47.3**	**-0.1**
	comp=E,12μm,0.6s						
IMMV	**Iera Moni Meta**	**1.11**	**28**	P	**Pb**	**16 30 34.0**	**+0.5**
IMMV				S	**Sn**	**16 30 45.8**	**-1.6**
IMMV				AML	AML	16 30 58.6	
	comp=N,22006μm,0.7s						
IMMV				AML	AML	16 31 05.6	
	comp=E,15458μm,0.9s						
RODP	**Rodopos**	**1.13**	**18**	Pg	**Pb**	**16 30 34.7**	**+0.8**
RODP	**Rodopos**	**1.13**	**18**	P	**Pb**	**16 30 34.5**	**+0.6**
CHAN	**Chania**	**1.19**	**29**	P	**Pb**	**16 30 35.8**	**+0.9**
CHAN				S	**Sn**	**16 30 47.9**	**-1.2**
CHAN				AML	AML	16 31 07.8	
	comp=E,24641μm,0.7s						
CHAN				AML	AML	16 31 25.3	
	comp=N,19500μm,0.8s						
PRNS	**Prines Rethymn**	**1.30**	**47**	P	**Pb**	**16

comp=E,10432µm,1.2s
ANKY AML AML 16 31 32.4
comp=N,9337µm,1.0s
IDI Anoyia 1.51 57 Pn **Pb 16 30 40.7 +0.4**
IDI Sn **Sb 16 30 59.8 +0.7**
IDI Anoyia 1.51 57 P **Pb 16 30 41.0 +0.6**
IDI S **Sn 16 30 57.8 +0.5**
comp=N,3µm,1.0s
IDI Anoyia 1.51 57 LR LR 16 31 34.5
comp=N,5µm,18.6s,baz=238,slow=59
IDI Anoyia 1.51 57 P **Pb 16 30 40.8 +0.4**
IDI S **Sn 16 30 57.1 -0.2**
IDI AML AML 16 31 17.4
comp=E,6489µm,1.1s
IDI AML AML 16 31 20.0
comp=N,6394µm,1.4s
KSTL Kastelli Herak 1.65 60 P **Pb 16 30 46.1 +3.5**
IACM Heraklion 1.65 60 P **Pb 16 30 43.7 +1.1**
FRMA Ierapetra Chan 2.04 74 P **Pb 16 30 50.1 +0.7**
FRMA AML AML 16 31 45.7
comp=N,5096µm,1.0s
FRMA AML AML 16 31 48.5
comp=E,5315µm,1.2s
VLI Veliai 2.26 352 P **Pn 16 30 50.5 +1.9**
VLI Veliai 2.26 352 P **Pn 16 30 50.4 +1.9**
VLI AML AML 16 31 41.6
comp=E,3486µm,1.1s
VLI AML AML 16 31 43.5
comp=N,4290µm,1.6s
MHLO Agia Marina, M 2.37 21 P **Pn 16 30 51.1 +1.0**
MHLO AML AML 16 31 44.6
comp=E,16063µm,1.0s
MHLO AML AML 16 31 49.4
comp=N,11816µm,0.8s
ZKR Zakros 2.45 74 Pn **Pn 16 30 53.9 +2.6**
ZKR Sn **Sn 16 31 23.5 +3.0**
ZKR Zakros 2.45 74 P **Pb 16 30 54.6 -1.8**
ZKR Zakros 2.45 74 P **Pn 16 30 54.4 +3.1**
ZKR AML AML 16 31 59.0
comp=E,3807µm,0.9s
ZKR AML AML 16 32 04.9
comp=N,1564µm,1.3s
PYL PYLOS 2.74 332 P **Pn 16 30 56.3 +1.1**
APE Apeiranthos 3.14 34 ⇑P **Pb 16 31 07.7 -0.4**
APE Apeiranthos 3.14 34 Pn **Pn 16 31 00.7 -0.1**
APE Apeiranthos 3.14 34 *c* P **Pn 16 31 00.7 -0.1**
APE Apeiranthos 3.14 34 P **Pn 16 31 01.8 +1.0**
KARP Karpathos 3.31 70 Pn **Pn 16 31 05.3 +2.1**
KARP Karpathos 3.31 70 Pn **Pn 16 31 05.9 +2.8**
KARP Karpathos 3.31 70 P **Pn 16 31 06.0 +2.8**
KARP Karpathos 3.31 70 P **Pn 16 31 05.7 +2.5**
DAT Datca 4.12 56 Pn **Pn 16 31 15.5 +1.2**
BODT Bodrum 4.13 50 Pn **Pn 16 31 15.6 +1.2**
ARG Arkhangelos 4.28 65 Pn **Pn 16 31 18.1 +1.7**
ARG Arkhangelos 4.28 65 **Pn 16 31 19.4 +3.0**
ARG Arkhangelos 4.28 65 P **Pn 16 31 19.4 +3.0**
VLS Valsamata 4.30 330 P **Pn 16 31 17.0 +0.2**
RFTAA Mazikoy-Bodrum 4.38 54 Pn **Pn 16 31 18.9 +1.2**
GCAM G?zelcami? 4.50 43 Pn **Pn 16 31 20.2 +0.7**
MLSB Milas 4.57 51 Pn **Pn 16 31 21.5 +1.1**
AGG Agios Georgios 4.60 350 Pn **Pn 16 31 20.4 -0.5**
AGG Agios Georgios 4.60 350 Pn **Pn 16 31 22.6 +1.7**
AGG Agios Georgios 4.60 350 P **Pn 16 31 22.6 +1.7**
TURN Turunc 4.61 59 Pn **Pn 16 31 21.9 +1.0**
YER Yerkesik 4.81 55 Pn **Pn 16 31 24.9 +1.1**
YER Yerkesik 4.81 55 P **Pn 16 31 25.5 +1.7**
DALY Dalyan (Mula) 4.92 60 Pn **Pn 16 31 26.7 +1.6**
SIGR SIGRI 5.13 22 Pn **Pn 16 31 28.2 +0.1**
FETY Fethiye 5.15 64 Pn **Pn 16 31 29.7 +1.2**
RFT7 Candarli 5.32 32 Pn **Pn 16 31 30.8 +0.2**
DKL Dikili 5.40 31 Pn **Pn 16 31 32.0 +0.2**
PAIG Paliouri 5.44 3 Pn **Pn 16 31 31.9 -0.5**
PAIG Paliouri 5.44 3 P **Pn 16 31 32.8 +0.4**
ELL Elmali 5.81 65 Pn **Pn 16 31 39.8 +2.2**
ELL Elmali 5.81 65 P **Pn 16 31 39.8 +2.2**
KEK Kerkira 5.94 333 Pn **Pn 16 31 38.1 -1.1**
FNA Florina 6.48 347 Pn **Pn 16 31 46.5 -0.2**
FNA Florina 6.48 347 P **Pn 16 31 46.5 -0.2**
ALN Alexandroupoli 6.76 18 Pn **Pn 16 31 50.5 +0.2**
ALN Alexandroupoli 6.76 18 P **Pn 16 31 50.6 +0.2**
SCTE Santa Cesarea 6.80 327 Pn **Pn 16 31 50.1 -0.8**
VAY Valandovo 6.86 355 P **Pn 16 31 54.2 +2.4**
VAY pmax pmax
comp=Z,43nm,1.2s
VAY Valandovo 6.86 355 *i* Pn **Pn 16 31 52.6 +0.8**
RDO Rodhopi 6.88 14 Pn **Pn 16 31 50.9 -1.2**
OHR Ohrid 6.92 344 P **Pn 16 31 53.7 +1.0**
OHR pmax pmax
comp=Z,63nm,1.2s
TIP Timpagrande 7.06 314 ⇑P **Pn 16 31 52.9 -1.7**
TIP ⇓S **Sn 16 33 09.3 -4.7**
TIP Timpagrande 7.06 314 Pn **Pn 16 31 52.8 -1.8**
STIP Stip 7.26 353 *i* Pn **Pn 16 31 58.5 +1.2**
SKO Skopje 7.63 349 *i* Pn **Pn 16 32 02.1 -0.2**
PLD Plovdiv 7.73 8 P **Pn 16 32 05.2 +1.4**
PLD pmax pmax
comp=Z,176nm,1.3s
RAFF Raffo Rosso 7.78 293 **Pn 16 32 05.1 +0.6**
VAE Valguarnera 7.83 295 Pn **Pn 16 32 07.3 +2.1**
comp=Z,1.9nm,0.3s,baz=45,slow=11,SNR=1.6
VAE Sn **Sn 16 33 27.6 -5.4**
comp=Z,3.0nm,0.3s,baz=49,slow=21,SNR=1.3
comp=Z,4.3nm,0.3s
PUK Puka 8.02 341 **Pn 16 32 06.8 -1.1**
MATE Matera 8.10 321 ⇑P **Pn 16 32 06.5 -2.3**
MATE ⇓S **Sn 16 33 35.3 -4.2**
ULC Ulcinj 8.13 338 ⇑*i* Pn **Pn 16 32 08.0 -1.4**
ULC *i* Sn **Sn 16 33 32.5 -7.9**
CUC Castrocucco 8.14 315 Pn **Pn 16 32 09.2 -0.2**
CSS Mathiatis 8.24 84 Pn **Pn 16 32 09.2 -1.7**
CSS Mathiatis 8.24 84 P **Pn 16 32 09.6 -1.3**
CSS Mathiatis 8.24 84 P **Pn 16 32 09.9 -0.9**
DRME Dracevica, Mon 8.36 338 ⇓*i* Pn **Pn 16 32 10.6 -1.8**
DRME *i* Sn **Sn 16 33 40.7 -5.1**
DRME Dracevica, Mon 8.36 338 *eP*n **Pn 16 32 10.0 -2.4**
PVY Plav 8.52 343 ⇑*i* Pn **Pn 16 32 14.3 -0.5**
PVY *i* Sn **Sn 16 33 46.4 -3.7**
BUM Brajici-Budva 8.55 337 ⇓*i* Pn **Pn 16 32 12.7 -2.4**
BUM *i* Sn **Sn 16 33 42.7 -8.0**
CEME Cevo 8.77 338 ⇓*i* Pn **Pn 16 32 15.2 -2.8**
CEME *i* Sn **Sn 16 33 48.9 -7.1**
IVA Berane 8.80 343 ⇑*i* Pn **Pn 16 32 16.5 -2.0**
IVA *i* Sn **Sn 16 33 51.9 -5.0**
HCY Herceg Novi 8.81 336 ⇓*i* Pn **Pn 16 32 16.0 -2.6**
HCY *i* Sn Sn 16 33 47.2 -10
HCY Herceg Novi 8.81 336 *eP*n **Pn 16 32 14.6 -4.0**
KOME Kolasin 8.87 341 ⇓*i* Pn **Pn 16 32 21.3 +1.7**
KOME *i* Sn **Sn 16 33 55.0 -3.7**
NKME Niksic 8.96 339 ⇓*i* Pn **Pn 16 32 22.3 +1.7**
NKME *i* Sn **Sn 16 33 56.5 -4.1**
TREB Trebinje 9.10 336 *eP*n **Pn 16 32 19.2 -3.4**
SJES Sjenica 9.15 344 *eP*n **Pn 16 32 21.8 -1.6**
BRY Bratogost 9.21 337 ⇓*i* Pn **Pn 16 32 21.4 -2.7**
BRY *i* Sn **Sn 16 33 59.4 -7.5**
BRY Bratogost 9.21 337 *eP*n **Pn 16 32 20.6 -3.5**
BOVS Bovan 9.23 353 ⇑P **Pn 16 32 22.8 -1.5**
ANTO Ankara 9.26 52 ⇑P **Pn 16 32 27.9 +3.0**
ANTO Ankara 9.26 52 ⇑P **Pn 16 32 27.9 +3.0**
PLE Pljevlja 9.36 342 ⇓*i* Pn **Pn 16 32 27.3 +1.1**
PLE *i* Sn **Sn 16 34 06.1 -4.5**
UPM Unac-Piva 9.37 340 ⇑*i* Pn **Pn 16 32 25.2 -1.2**
UPM *i* Sn **Sn 16 34 02.1 -8.9**
UPM Unac-Piva 9.37 340 *eP*n **Pn 16 32 25.2 -1.2**
SGRT San Giovanni R 9.40 323 Pn **Pn 16 32 25.3 -1.5**
STON Ston 9.46 334 *eP*n **Pn 16 32 23.8 -3.7**
RUDO Rudo 9.63 343 *eP*n **Pn 16 32 26.6 -3.2**
BR131 Keskin Array S 9.75 55 **Pn 16 32 33.8 +2.2**
BR131 Keskin Array S 9.75 55 ⇓*eP* **Pn 16 32 33.1 +1.5**
BRTR Keskin Array B 9.75 55 **Pn 16 32 32.8 +1.2**
BRTR Keskin Array B 9.75 55 *i* P **Pn 16 32 34.0 +2.4**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 9.75 55 Pn **Pn 16 32 33.4 +1.8**
comp=Z,0.6nm,0.3s,baz=230,slow=14,SNR=40
BRTR Sn **Sn 16 34 15.5 -4.8**
baz=228,slow=16
BRTR LR LR 16 37 24.1
comp=Z,920nm,18.1s,baz=243,slow=45
comp=Z,9.5nm,0.8s
BBLS Lazići 9.86 343 *eP*n **Pn 16 32 30.1 -2.9**
KZIT Kziot 9.98 108 P **Pn 16 32 33.5 -1.1**
KZIT Kziot 9.98 108 P **Pn 16 32 33.8 -0.8**
KZIT Kziot 9.98 108 S **Sn 16 34 18.5 -7.3**
SLTI Sal'it 10.04 100 P **Pn 16 32 33.9 -1.6**
MMAI Mount Meron Ar 10.15 95 Pn **Pn 16 32 35.6 -1.5**
comp=Z,4.8nm,0.3s,baz=299,slow=12,SNR=14
MMAI Sn **Sn 16 34 24.2 -5.9**
comp=Z,11nm,0.3s,baz=271,slow=22,SNR=6.8
comp=Z,2.6nm,0.3s
AMAZ Amatzia 10.16 104 P **Pn 16 32 36.9 -0.2**
AMAZ Amatzia 10.16 104 S **Sn 16 34 23.7 -6.5**
AMAZ Amatzia 10.16 104 P **Pn 16 32 36.6 -0.5**
HAPS Han Pijesak,Bl 10.18 342 *eP*n **Pn 16 32 34.4 -3.0**
SALP Salfit 10.21 100 P **Pn 16 32 36.4 -1.5**
SALP Salfit 10.21 100 S **Sn 16 34 24.2 -7.3**
GEM Giv'at Ha'Em 10.33 94 P **Pn 16 32 39.4 -0.1**
GEM Giv'at Ha'Em 10.33 94 S **Sn 16 34 27.7 -6.7**
GEM Giv'at Ha'Em 10.33 94 P **Pn 16 32 39.0 -0.5**
YTIR Yattir 10.38 104 P **Pn 16 32 39.1 -1.1**
YTIR Yattir 10.38 104 S **Sn 16 34 28.7 -6.9**
YTIR Yattir 10.38 104 P **Pn 16 32 39.6 -0.5**
NATI Neve Ativ 10.38 93 P **Pn 16 32 40.2 +0.1**
NATI Neve Ativ 10.38 93 P **Pn 16 32 38.9 -1.3**
HERR Herculane 10.41 356 ⇑P **Pn 16 32 41.1 +0.6**
HMDT Nahal Hemdat 10.43 99 P **Pn 16 32 42.3 +1.4**
HMDT Nahal Hemdat 10.43 99 P **Pn 16 32 40.8 -0.1**
UJAP Al Uja 10.47 101 P **Pn 16 32 39.7 -1.6**
UJAP Al Uja 10.47 101 P **Pn 16 32 42.9 +1.6**
TEKS Tekeris 10.47 345 *eP*n **Pn 16 32 38.0 -3.4**
KSHT Keshet 10.50 95 P **Pn 16 32 41.8 0.0**
KSHT Keshet 10.50 95 S **Sn 16 34 31.5 -7.1**
DSI Dead Sea 10.52 103 P **Pn 16 32 40.8 -1.2**
DSI Dead Sea 10.52 103 P **Pn 16 32 41.5 -0.6**
DSI Dead Sea 10.52 103 S **Sn 16 34 31.5 -7.5**
KRMI Paran Flat 10.57 111 P **Pn 16 32 42.9 +0.1**
KRMI Paran Flat 10.57 111 S **Sn 16 34 33.9 -6.5**
MDBI Mazsada 10.59 104 P **Pn 16 32 43.0 +0.1**
MSBI Mazada 10.59 104 P **Pn 16 32 41.9 -1.0**
MSBI Mazada 10.59 104 P **Pn 16 32 42.4 -0.5**
PRNI Paran 10.68 109 P **Pn 16 32 44.3 0.0**
PRNI Paran 10.68 109 S **Sn 16 34 36.2 -6.9**
PRNI Paran 10.68 109 P **Pn 16 32 44.4 0.0**
LISJ El Lisan 10.71 104 P **Pn 16 32 44.2 -0.4**
ZFRI Zfri 10.73 108 P **Pn 16 32 44.1 -0.9**
ZFRI Zfri 10.73 108 P **Pn 16 32 44.0 -0.9**
GHAJ Ghor Haditha 10.76 104 P **Pn 16 32 45.2 -0.1**
GHAJ Ghor Haditha 10.76 104 P **Pn 16 32 45.2 -0.1**
GHAJ Ghor Haditha 10.76 104 P **Pn 16 32 45.6 +0.3**
HRFI Mount Harif 10.85 111 S **Sn 16 34 40.2 -6.9**
HRFI Mount Harif 10.85 111 P **Pn 16 32 47.2 +0.6**
MBRI Mt Berech 10.87 112 P **Pn 16 32 46.7 -0.2**
MBRI Mt Berech 10.87 112 P **Pn 16 32 46.7 -0.2**
GZR Gura Zlata 10.91 358 P **Pn 16 32 48.7 +1.3**
GZR Gura Zlata 10.91 358 P **Pn 16 32 48.7 +1.3**
ARR Arges 10.92 5 ⇑P **Pn 16 32 49.2 +1.7**
BNN Bunyan 10.95 63 Pn **Pn 16 32 50.0 +1.9**
EIL Elat 10.96 113 Pn **Pn 16 32 47.6 -0.4**
comp=Z,2.8nm,0.3s,baz=316,slow=6.7,SNR=31
EIL Sn Sn 16 34 39.5 -10
comp=Z,4.8nm,0.3s,baz=236,slow=5.2,SNR=5.8
comp=Z,6.7nm,0.3s
EIL Elat 10.96 113 P **Pn 16 32 47.6 -0.4**
EIL Elat 10.96 113 S **Sn 16 34 44.0 -5.7**
EIL Elat 10.96 113 P **Pn 16 32 47.5 -0.4**
FRGS Fruska Gora 11.00 347 ⇑P **Pn 16 32 49.8 +1.2**
FRGS Fruska Gora 11.00 347 *eP*n **Pn 16 32 45.3 -3.3**
VOIR 11.02 6 ⇑P **Pn 16 32 49.2 +0.3**
VOIR 11.02 6 ⇑P **Pn 16 32 49.2 +0.3**
MGRS Mrkonjic Grad 11.03 336 *eP*n **Pn 16 32 45.2 -3.9**
MLR Muntele Rosu 11.18 10 ⇑P **Pn 16 32 54.2 +3.1**
MLR Muntele Rosu 11.18 10 Pn **Pn 16 32 47.6 -3.5**
MLR Muntele Rosu 11.18 10 Pn **Pn 16 32 50.3 -0.8**
comp=Z,0.1nm,0.3s,baz=242,slow=16,SNR=1.9
MLR LR LR 16 38 03.6
comp=Z,800nm,19.0s,baz=190,slow=43
comp=Z,1.5nm,0.5s
CAMP Campotosto 11.18 319 Pn **Pn 16 32 49.2 -2.0**
BZS Buzias 11.20 354 ⇑P **Pn 16 32 50.5 -0.8**
BZS Buzias 11.20 354 ⇑P **Pn 16 32 50.5 -0.8**
A050A Klekovaca 11.28 334 *eP*n **Pn 16 32 49.2 -3.3**
BLY Banja Luka 11.29 337 *eP*n **Pn 16 32 49.2 -3.4**
SURR Surduc 11.30 356 P **Pn 16 32 52.7 +0.1**
KEST Kesra 11.53 280 Pn **Pn 16 32 57.5 +1.6**
comp=Z,0.2nm,0.3s,baz=7.4,slow=13,SNR=4.3
KEST Sn **Sn 16 34 57.1 -6.7**
comp=Z,0.2nm,0.3s,baz=74,slow=8.3,SNR=0.9
comp=Z,5.9nm,0.9s
NRCA Norcia 11.54 319 **Pn 16 32 58.0 +1.9**
ASF Jabal al Asfar 11.57 98 Pn **Pn 16 32 56.9 +0.3**
comp=Z,1.2nm,0.3s,baz=248,slow=22,SNR=7.9
ASF Sn **Sn 16 34 57.8 -7.3**
comp=Z,0.9nm,0.3s,baz=270,slow=19,SNR=1.8
comp=Z,2.9nm,0.3s
ASF Jabal al Asfar 11.57 98 P **Pn 16 32 57.4 +0.8**
GAZ Gaziantep 11.58 73 Pn **Pn 16 32 57.5 +0.8**
A051A Mrakovica 11.62 337 *eP*n **Pn 16 32 53.2 -3.9**
PLOR Plostina 11.63 12 ⇑P **Pn 16 33 02.7 +5.4**
PLOR Plostina 11.63 12 ⇑P **Pn 16 33 02.7 +5.4**
VRI Vrincioaia 11.66 12 ⇑P **Pn 16 33 02.5 +4.8**
VRI Vrincioaia 11.66 12 ⇑P **Pn 16 33 02.5 +4.8**
FDMO Fiordimonte 11.70 320 Pn **Pn 16 32 57.3 -0.8**
SIRR Siria 11.84 354 ⇑P **Pn 16 32 59.6 -0.6**
MARR Marisel-Cluj 12.18 359 ⇑P **Pn 16 33 06.0 +1.1**
MORH Mrgy, Hungar 12.25 344 ⇑P **Pn 16 33 02.4 -3.3**
BOJS Bojanci 12.63 333 *eP*n **Pn 16 33 07.8 -3.0**
CRES Cresnjev 12.83 334 *eP*n **Pn 16 33 10.3 -3.2**
ARPR Arapgir-MALATY 12.87 65 Pn **P 16 33 20.8 -4.1**
CEY Cerknica 13.14 332 *eP*n **Pn 16 33 14.8 -3.0**
BURAR Bucovina Array 13.20 6 ⇑P **Pn 16 33 23.0 +4.3**
BURAR Bucovina Array 13.20 6 ⇑P **Pn 16 33 23.0 +4.3**
SABO M.te Sabotino 13.67 330 Pn **Pn 16 33 23.2 -1.8**
SOKA Soboth 13.71 335 *eP*n **Pn 16 33 22.8 -2.8**
comp=Z,2.1nm,0.2s,SNR=5.5
OBKA Obir 13.74 334 *eP*n **Pn 16 33 24.9 -1.2**
comp=Z,1.7nm,0.3s
OBKA Obir 13.74 334 *eP*n **Pn 16 33 23.3 -2.8**
ARSA Arzberg 14.05 338 *eP*n **Pn 16 33 29.0 -1.2**
comp=Z,3.3nm,0.5s
SOP Sopron 14.14 341 P **P 16 33 40.3 +1.6**
SOP pmax pmax
comp=Z,19nm,0.9s
SORM Soroca 14.15 14 ⇑P **Pn 16 33 32.8 +1.3**
SORM Soroca 14.15 14 ⇑P **Pn 16 33 32.8 +1.3**
MYKA Terra Mystica 14.18 332 *i* Pn **Pn 16 33 30.8 -1.3**
comp=Z,0.6nm,0.2s
RONA Rosalia, Austr 14.22 340 *eP*n **Pn 16 33 31.5 -1.2**
comp=Z,4.7nm,0.5s
RONA *i* P **P 16 33 40.2 +0.4**
comp=Z,4.7nm,0.5s
CLUD Cludinico 14.35 330 Pn **Pn 16 33 33.8 -0.6**
VYHS Vyhne 14.40 348 *eP* **Pn 16 33 37.2 +2.2**
VYHS Vyhne 14.40 348 *eP*N **Pn 16 33 37.2 +2.2**
KOLS Kolonicke sedl 14.46 357 *eP* **Pn 16 33 38.6 +2.7**
KOLS Kolonicke sedl 14.46 357 *eP*N **Pn 16 33 38.6 +2.7**
CRVS Cervenica-Dubn 14.48 355 *eP* **P 16 33 43.9 +1.4**
CRVS Cervenica-Dubn 14.48 355 *eP*N **P 16 33 43.8 +1.3**
CONA Conrad Observa 14.55 340 *eP*n **Pn 16 33 36.7 -0.5**
comp=Z,2.4nm,0.7s
CONA *i* P **P 16 33 45.0 +1.5**
comp=Z,2.4nm,0.7s
CTI Castel Tesino 14.58 326 Pn **Pn 16 33 36.4 -1.2**
CTI Castel Tesino 14.58 326 P **Pn 16 33 36.4 -1.2**
MODS Modra-Piesok 14.60 344 *eP* **P 16 33 44.5 +0.6**
MODS Modra-Piesok 14.60 344 *eP*N **P 16 33 44.5 +0.6**
KBA Koelnbreinsper 14.67 332 *eP*n **Pn 16 33 38.4 -0.4**
comp=Z,5.6nm,0.6s
KBA Koelnbreinsper 14.67 332 P **P 16 33 45.2 +0.4**
KBA pmax pmax
comp=Z,25nm,1.0s
ABTA Abfaltersbach 14.74 329 *eP*n **Pn 16 33 39.7 0.0**
comp=Z,5.6nm,0.5s,SNR=5.3
ABTA *i* P **P 16 33 47.7 +2.2**
comp=Z,5.6nm,0.5s
ANN Anapa 14.95 42 *eP* **P 16 33 46.6 -1.1**
ANN pmax pmax
comp=Z,78nm,0.9s
JAVC Velka Javorina 14.97 345 *eP*N **P 16 33 48.8 +0.7**
MOA Molin 14.98 336 *eP*n **Pn 16 33 41.7 -1.2**
comp=Z,12nm,0.5s
MOA *i* P **P 16 33 49.6 +1.4**
comp=Z,12nm,0.5s
BIOA Bad Ischl, Aus 15.07 334 *i* Pn **Pn 16 33 44.9 +0.8**
comp=Z,1.8nm,0.3s
NIE Niedzica 15.10 352 P **Pn 16 33 46.4 +2.0**
NIE pmax pmax
comp=Z,6.0nm,1.9s
LESA Schwarzleotal 15.21 331 *eP*n **Pn 16 33 46.4 +0.4**
comp=Z,7.5nm,0.4s
LESA *eP* **P 16 33 52.2 +1.4**
comp=Z,7.5nm,0.4s
LVV L'vov 15.34 2 *eP* **P 16 33 54.1 +2.1**
MAUC Maruska 15.42 346 *eP* **P 16 33 55.4 +2.4**
KRUC Moravsky 15.45 343 *eP*N **P 16 33 53.5 +0.2**
KRUC Moravsky 15.45 343 P **P 16 33 53.8 +0.5**
KRUC pmax pmax
comp=Z,12nm,1.1s
WTTA Wattenberg 15.51 329 *eP*n **Pn 16 33 50.6 +0.6**
comp=Z,4.5nm,0.8s
WTTA Wattenberg 15.51 329 P **P 16 33 57.0 +2.8**
WTTA pmax pmax
comp=Z,27nm,1.3s
GURO Guroymak-BITLI 15.57 69 Pn **Pn 16 33 51.0 +0.3**
WATA Walderalm 15.59 329 *i* Pn **Pn 16 33 51.3 +0.2**
comp=Z,5.2nm,0.7s
SOC Sochi 15.62 50 *eP* **Pn 16 33 49.6 -1.6**
SOC *e* 16 36 41.8
SOC MLR MLR
comp=Z,235nm,16.0s
VRAC Vranov 15.63 343 *eP*N **P 16 33 55.9 +0.5**
VRAC Vranov 15.63 343 Pn **Pn 16 33 53.2 +1.8**
comp=Z,2.0nm,0.3s,baz=162,slow=10,SNR=22
VRAC LR LR 16 41 26.9
comp=Z,584nm,20.5s,baz=164,slow=43
comp=Z,14nm,0.6s
FUORN Ofenpass-Fuorn 15.65 325 P **Pn 16 33 53.8 +1.8**
SQTA Sankt Quirin 15.66 328 *eP*n **Pn 16 33 52.9 +0.9**
comp=Z,2.4nm,0.4s
FETA Feichten 15.73 327 *eP*n **P 16 33 57.3 +0.7**
comp=Z,8.6nm,1.0s,SNR=10
MOTA Moosalm 15.80 328 *i* Pn **Pn 16 33 54.7 +0.9**
comp=Z,2.3nm,0.4s
OKC Ostrava-Krasne 15.81 348 *eP* **P 16 33 58.3 +1.0**
OKC Ostrava-Krasne 15.81 348 *eP* **P 16 33 58.3 +1.0**
CKRC Cesky Krumlov 15.82 338 *eP* **P 16 33 58.8 +1.4**
CKRC Cesky Krumlov 15.82 338 *eP* **P 16 33 58.8 +1.4**
MORC Moravsky Berou 15.87 346 ⇑P **Pn 16 33 56.1 +1.6**
MORC Moravsky Berou 15.87 346 Pn **Pn 16 33 52.2 -2.3**
MORC Moravsky Berou 15.87 346 *eP*N **P 16 33 58.2 +0.2**
MORC Moravsky Berou 15.87 346 ⇑P **Pn 16 33 56.1 +1.6**
TREC Trest 15.90 341 *eP* **P 16 33 59.5 +1.2**
TREC Trest 15.90 341 *eP* **P 16 33 59.5 +1.2**
OJC Ojcow 15.94 352 **Pn 16 33 55.4 0.0**
OJC Ojcow 15.94 352 P **Pn 16 33 55.4 0.0**
OJC pmax pmax
comp=Z,14nm,1.2s
DAVOX Davos/Dischmat 15.95 324 Pn **Pn 16 33 55.6 -0.1**
comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=2.5
DAVOX Sn Sn 16 36 38.3 -13
comp=Z,0.1nm,0.3s,baz=61,slow=19,SNR=1.7
DAVOX LR LR 16 41 59.7
comp=Z,353nm,18.9s,baz=117,slow=44
comp=Z,1.3nm,0.6s
TUE Stuetta 15.99 323 P **Pn 16 33 57.3 +1.1**
GEC2 GERESS Array S 16.04 336 **Pn 16 33 56.7 0.0**
GEC2 GERESS Array S 16.04 336 *eP*n **P 16 34 01.4 +1.5**
GERES GERESS Array B 16.04 336 **Pn 16 33 56.7 0.0**
GERES GERESS Array B 16.04 336 P **Pn 16 33 56.7 0.0**
GERES GERESS Array B 16.04 336 Pn **Pn 16 33 56.2 -0.5**
comp=Z,0.3nm,0.3s,baz=162,slow=13,SNR=3.2
GERES LR LR 16 42 01.8
comp=Z,619nm,20.7s,baz=142,slow=44
comp=Z,1.2nm,0.5s
KRLC Kraliky 16.31 345 *eP* **P 16 34 04.2 +1.3**
KRLC Kraliky 16.31 345 *eP* **P 16 34 04.2 +1.3**
DAVA Damuels 16.31 326 *eP*n **Pn 16 34 01.5 +1.2**
comp=Z,2.8nm,0.5s
KHC Kasperske Hory 16.32 337 P **Pn 16 34 00.5 +0.2**
KHC IAmb IAmb 16 34 06.3
comp=Z,60nm,1.1s
KHC Kasperske Hory 16.32 337 ⇓*eP* **Pn 16 34 00.3 0.0**
KHC Kasperske Hory 16.32 337 *eP* **P 16 34 04.6 +1.5**
KHC *ex* x 16 34 19.3
KHC AMS AMS 16 41 40.0
comp=Z,700nm,14.0s
ZVC Zvikov 16.40 338 *eP* **P 16 34 04.5 +0.6**
WET Wettzell 16.57 335 P **P 16 34 05.3 -0.5**
WET pmax pmax
comp=Z,28nm,1.3s
WET Wettzell 16.57 335 *eP*n **P 16 34 07.2 +1.5**
GOPC GO Pecny, Ondr 16.65 340 *eP* **P 16 34 07.8 +1.1**
GOPC GO Pecny, Ondr 16.65 340 *eP* **P 16 34 07.8 +1.1**
DPC Dobruska-Polom 16.67 344 P **P 16 34 08.0 +1.1**
DPC pmax pmax
comp=Z,18nm,1.1s
DPC Dobruska-Polom 16.67 344 *eP* **P 16 34 07.8 +0.9**
DPC *ex* x 16 34 17.2
KIEV Kiev 16.76 13 ⇑P **Pn 16 34 06.1 +0.3**
KIEV Kiev 16.76 13 **Pn 16 34 03.1 -2.7**
KIEV Kiev 16.76 13 ⇑P **Pn 16 34 06.1 +0.3**
AKASG Malin Array Be 16.77 13 **Pn 16 34 03.4 -2.5**
AKASG Malin Array Be 16.77 13 *i* P **Pn 16 34 04.9 -1.0**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 16.77 13 Pn **Pn 16 34 03.5 -2.3**
comp=Z,7.0nm,0.3s,baz=206,slow=9.7,SNR=26
AKASG LR LR 16 41 13.6
comp=Z,277nm,20.1s,baz=208,slow=40
comp=Z,3.4nm,0.5s
AKBB Malin Array Si 16.77 13 **Pn 16 34 03.0 -2.9**
AKBB Malin Array Si 16.77 13 ⇓*eP* **Pn 16 34 05.6 -0.3**
LABN Labinsk 16.78 48 *eP* **P 16 34 09.4 +1.3**
LABN pmax pmax
comp=Z,69nm,1.3s
PRU Pruhonice 16.79 340 *eP* **P 16 34 09.2 +1.1**
PRU Pruhonice 16.79 340 *eP* **P 16 34 09.2 +1.1**
KARS Kars 16.80 63 Pn **Pn 16 34 06.0 -0.5**
KARS Kars 16.80 63 P **Pn 16 34 06.0 -0.5**
KARS pmax pmax
comp=Z,143nm,1.1s
OSTC Ostas 16.89 344 *eP* **P 16 34 11.1 +1.8**
OSTC Ostas 16.89 344 *eP* **P 16 34 11.1 +1.8**
UPC Upice 16.89 344 *eP* **P 16 34 10.5 +1.3**
UPC Upice 16.89 344 *eP* **P 16 34 10.5 +1.3**
UPC *ex* x 16 34 25.5
CHVC Chvalec 16.95 344 *eP* **P 16 34 11.7 +1.7**
CHVC Chvalec 16.95 344 *eP* **P 16 34 11.7 +1.7**
KSP Ksiaz 17.14 345 *eP* **P 16 34 13.6 +1.5**
KSP Ksiaz 17.14 345 P **P 16 34 13.5 +1.5**
ERBR Yeremizino-Bor 17.22 44 *eP* **Pn 16 34 11.1 -0.5**
ERBR pmax pmax
comp=Z,51nm,0.8s
PVCC Panska Ves 17.27 341 *eP* **P 16 34 14.7 +1.2**
PVCC Panska Ves 17.27 341 *eP* **P 16 34 14.7 +1.2**
AKH Akhalkalaki 17.32 61 Pn **Pn 16 34 12.0 -1.0**
AKH IAmb IAmb 16 34 49.7
comp=Z,76nm,1.1s
AKH Akhalkalaki 17.32 61 P **Pn 16 34 12.0 -1.0**
AKH pmax pmax
comp=Z,76nm,1.1s
ROTZ Rotzenmuhle 17.33 335 *eP*n **P 16 34 15.8 +1.7**
GRA1 Grafenberg Arr 17.62 333 Pn **Pn 16 34 13.7 -2.9**
GRA1 IAmb IAmb 16 34 40.2
comp=Z,57nm,1.2s
GRF Grafenberg Arr 17.62 333 P **Pn 16 34 13.7 -2.9**
GRF pmax pmax
comp=Z,57nm,1.2s
GRFO Grafenberg 17.62 333 Pn **Pn 16 34 14.1 -2.5**
GRFO IAmb IAmb 16 34 40.2
comp=Z,46nm,1.1s
GRFO Grafenberg 17.62 333 P **Pn 16 34 14.1 -2.5**
GRFO pmax pmax
comp=Z,46nm,1.1s
NKC Novy Kostel 17.65 336 *eP* **P 16 34 19.8 +2.1**
NKC Novy Kostel 17.65 336 *eP* **P 16 34 19.8 +2.1**
KIV Kislovodsk 17.69 52 ⇑P **P 16 34 20.2 +1.9**
KIV Kislovodsk 17.69 52 P **Pn 16 34 17.7 +0.2**
KIV IAmb IAmb 16 34 22.7
comp=Z,34nm,0.8s
KIV Kislovodsk 17.69 52 *eP* **Pn 16 34 17.2 -0.4**
KIV *eS* **Sn 16 37 32.9 -1.0**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,152nm,14.0s
KBZ Khabaz 17.73 53 *deP* **P 16 34 18.8 +0.2**
KBZ Khabaz 17.73 53 P **Pn 16 34 17.6 -0.3**
comp=Z,0.4nm,0.3s,baz=221,slow=4.9,SNR=12
KBZ LR LR 16 42 46.2
comp=Z,258nm,19.4s,baz=280,slow=43

comp=Z,11nm,1.0s
BRG Berggiesshubel 17.75 340 *e*P **P 16 34 19.8 +0.9**
BRG Amp 16 34 23.3
comp=Z,5.9nm,0.7s
BRG Amp 16 42 29.0
comp=Z,0.9nm,7.2s
BRG Amp 16 42 44.0
comp=E,0.3nm,8.7s
BRG Amp 16 42 44.0
comp=N,0.6nm,7.3s
BRG Berggiesshubel 17.75 340 *e*P **P 16 34 19.7 +0.9**
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG MLR MLR
comp=Z,891nm,7.2s
BRG MLR MLR
comp=E,298nm,8.7s
BRG MLR MLR
comp=N,587nm,7.3s
TANN Tannenbergstha 17.80 337 *e*Pn **P 16 34 20.7 +1.3**
GNI Garni 17.93 65 LR LR 16 42 51.2
comp=N,482nm,18.6s,baz=262,slow=42
ZEI Tsey 18.05 57 *e*P **P 16 34 24.2 +1.8**
ZEI pmax pmax
comp=Z,12nm,1.2s
ECH Echery 18.27 324 P **P 16 34 22.3 -2.3**
ECH Echery 18.27 324 P **P 16 34 22.3 -2.3**
ECH pmax pmax
comp=Z,15nm,1.1s
CLL Collm 18.41 339 P **P 16 34 24.8 -1.3**
CLL Collm 18.41 339 *i* P **Pn 16 34 26.7 +0.5**
CLL pmax pmax
comp=Z,23nm,1.0s
CLL MLR MLR
comp=Z,600nm,21.4s
CLL Collm 18.41 339 *i* P **Pn 16 34 26.7 +0.5**
comp=Z,23nm,1.0s
CLL *es*P **sP 16 34 36.0 +0.6**
CLL *i* (pPP) 16 34 41.5
CLL *e*PPP PPP 16 34 47.0
CLL *e*S **S 16 38 00.0 +5.2**
CLL AMS AMS 16 42 00.0
comp=Z,600nm,21.4s
CLL Collm 18.41 339 *e*Pn **P 16 34 26.0 -0.1**
GOF Gofitskoye 18.42 49 *ce*P **Pn 16 34 29.9 +3.5**
TNS Taunus Mts 19.14 330 P **Pn 16 34 37.6 +2.5**
TNS pmax pmax
comp=Z,28nm,1.5s
RUE Ruedersdorf 19.25 342 *e*P **Pn 16 34 37.1 +0.9**
SUW Suwalki 19.53 360 *e*P **P 16 34 34.0 -4.2**
SUW Suwalki 19.53 360 P **P 16 34 33.6 -4.6**
SUW Suwalki 19.53 360 P **P 16 34 33.6 -4.6**
SUW pmax pmax
comp=Z,73nm,1.0s
SUW Suwalki 19.53 360 *e*P **P 16 34 35.1 -3.1**
WLF Walferdange 19.75 325 P **P 16 34 39.1 -1.6**
WLF IAmb IAmb 16 34 46.6
comp=Z,62nm,1.2s
WLF Walferdange 19.75 325 P **P 16 34 39.1 -1.6**
WLF pmax pmax
comp=Z,62nm,1.2s
WLF Walferdange 19.75 325 *d*P **Pn 16 34 45.5 +3.2**
MNK Minsk 20.27 8 *i* P **P 16 34 43.3 -3.1**
comp=E,3.0nm,0.8s
MNK *i* P **P 16 34 43.3 -3.1**
comp=N,15nm,0.8s
MNK *i* P **P 16 34 43.3 -3.1**
comp=Z,26nm,0.8s,baz=191
MNK *i* PP **PnPn 16 35 01.7 -1.7**
MNK *i* S **S 16 38 28.8 -3.4**
MNK *i* SS **SnSn 16 38 58.1 +7.6**
MNK *i* LQ LQ 16 41 20.4
MNK *i* LR LR 16 42 29.7
MNK *i* LRM MLR 16 43 36.1
comp=Z,113nm,15.9s
MNK *i* LRM MLR 16 43 41.9
comp=N,86nm,15.9s
MNK *i* LRM MLR 16 44 16.5
comp=E,52nm,15.4s
MNK Minsk 20.27 8 *i* P **P 16 34 43.2 -3.1**
MNK *i* 16 35 01.6
MNK *i* S **S 16 38 28.8 -3.4**
MNK *i* SS **SnSn 16 38 58.0 +7.6**
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,26nm,0.8s
MNK MLR MLR
comp=Z,113nm,16.0s
MNK MLR MLR
comp=N,86nm,16.0s
MNK MLR MLR
comp=E,52nm,15.0s
VSR Storozhevoye 20.29 30 *e*P **P 16 34 44.9 -1.6**
VSR pmax pmax
comp=Z,8.0nm,0.4s
BHOU Houvegnez 20.30 327 *d*P Pn 16 34 52.5 +3.7
BTNL Ternell 20.41 327 *d*P Pn 16 34 50.2 +0.1
MEM Membach 20.48 327 *d*P Pn 16 34 51.2 +0.3
RCHB Rochefort 20.52 325 *d*P Pn 16 34 52.5 +1.2
BUG Bochum--Univer 20.55 330 P **P 16 34 49.4 0.0**
BUG pmax pmax
comp=Z,18nm,1.1s
NACGM Naroch 20.56 6⇑ *i*P **P 16 34 48.4 -1.1**
comp=Z,50nm,0.9s,baz=188
MAK Makhachkala 20.62 59 *e*P **P 16 34 49.9 -0.3**
MAK *e*S **S 16 38 38.2 -1.1**
MAK pmax pmax
comp=Z,178nm,1.0s
MAK MLR MLR
comp=Z,162nm,19.0s
VORR Voronezh 20.65 29 *e*P **P 16 34 50.7 +0.3**
VORR pmax pmax
comp=Z,90nm,0.4s
BSTI Sart Tilman 20.66 327 *d*P Pn 16 34 52.9 -0.1
BCLA Clavier 20.67 326 *d*P Pn 16 34 53.1 0.0
BGES Gesves 20.75 326 *d*P Pn 16 34 53.3 -0.7
DOU Dourbes 20.78 324 *d*P **P 16 34 52.6 +0.7**
RETH Rethem/Aller, 20.80 336 *e*Pn Pn 16 34 53.5 -1.0
BMRD Maredsous 20.84 325 *d*P Pn 16 34 54.6 -0.5
PABE Paberze 21.03 1 P **P 16 34 52.6 -2.0**
PABE Paberze 21.03 1 *e*P **P 16 34 52.5 -2.0**
ISAL Salakas 21.18 4 *e*P **P 16 34 55.2 -0.9**
LPSR Galich'ya Gora 21.27 27 *e*P **P 16 34 54.1 -3.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VRH Novokhopyorsk 21.37 33 *e*P **P 16 34 56.7 -1.5**
VRH pmax pmax
comp=Z,29nm,1.7s
BSD Bornholm Skovb 21.45 347 *e*P **P 16 34 57.8 -1.2**
BSD Bornholm Skovb 21.45 347 *i* P **P 16 34 57.0 -2.0**
BSD IAmb IAmb 16 34 59.6
comp=Z,19nm,0.6s
VSVD Vaisvydziai 21.50 1 *e*P **P 16 34 58.1 -1.5**
LUNU Lund 22.23 345 *i* P **P 16 35 05.9 -1.5**
ESDC Sonseca Array 22.35 291 P **P 16 35 07.7 -1.2**
ESDC Sonseca Array 22.35 291 P **P 16 35 09.7 +0.8**
comp=Z,2.2nm,0.9s,baz=93,slow=10,SNR=10
ESDC LR LR 16 45 06.7
comp=Z,135nm,19.8s,baz=101,slow=40
comp=Z,2.2nm,0.9s
OBN Obninsk 22.59 20 P **P 16 35 09.1 -2.1**
OBN IAmb IAmb 16 35 30.7
comp=Z,49nm,1.3s
OBN Obninsk 22.59 20⇓ *i*P **P 16 35 10.6 -0.7**
OBN *PP **pP 16 35 16.0 -1.7**
OBN *e*SP **sP 16 35 19.7 -0.9**
OBN PPP PPP 16 35 35.0
OBN *e* 16 35 49.4
OBN S **S 16 39 19.0 +1.9**
OBN SSS SSS 16 40 05.0
OBN pmax pmax
comp=Z,48nm,1.7s
OBN MLR MLR
comp=Z,272nm,19.0s
OBN Obninsk 22.59 20 LR LR 16 44 43.8
comp=Z,279nm,19.5s,baz=178,slow=39
BJUU Bjuv 22.73 345 *i* P **P 16 35 10.9 -1.9**
DEL Delary 22.93 346 *i* P **P 16 35 12.7 -2.1**
MDT Midelt 23.30 274 LR LR 16 46 20.4
comp=Z,271nm,21.2s,baz=109,slow=41
MOS Moscow 23.44 21 *e*P **P 16 35 17.1 -2.8**
MOS pmax pmax
comp=Z,43nm,1.1s
FABU Falkenberg 23.66 345 *i* P **P 16 35 21.1 -0.9**
VSU Vasula 24.10 4 *ce*P **P 16 35 24.5 -1.6**
VSU pmax pmax
comp=Z,33nm,1.7s
VSU Vasula 24.10 4 *e*P **P 16 35 23.4 -2.7**
BORU Boraas 24.23 346 *i* P **P 16 35 26.1 -1.3**
MTSE Matsula 24.24 1 *e*P **P 16 35 26.5 -1.0**
BELG Belogornoye 24.94 37 *de*P **P 16 35 33.6 -0.3**
BELG pmax pmax
comp=Z,9.0nm,1.0s
BELG Belogornoye 24.94 37 LR LR 16 45 24.1
comp=Z,132nm,18.7s,baz=111,slow=37
PUL Pulkovo 25.72 8⇑ *e*P **P 16 35 42.1 +1.3**
PUL pmax pmax
comp=Z,62nm,0.9s
MEF Metsahovi 25.76 1 *e*P **P 16 35 39.7 -1.5**
STRU Stroemstad 25.85 346 *i* P **P 16 35 41.6 -0.4**
SNART Snartemo 26.19 341 *e*P **P 16 35 47.6 +2.5**
HFS Hagfors 26.43 349 P **P 16 35 46.7 -0.6**
comp=Z,6.7nm,0.5s,baz=146,slow=11,SNR=47
HFS LR LR 16 47 19.1
comp=Z,248nm,21.1s,baz=170,slow=39
comp=Z,6.7nm,0.5s
KONO Kongsberg 26.75 344 P **P 16 35 49.3 -0.9**
KONO IAmb IAmb 16 35 55.5
comp=Z,22nm,1.1s
KONO Kongsberg 26.75 344 P **P 16 35 49.3 -0.9**
KONO pmax pmax
comp=Z,21nm,1.1s
KONO Kongsberg 26.75 344 *e*P **P 16 35 49.4 -0.8**
FINES FINESS Array B 27.04 3 P **P 16 35 51.3 -1.4**
FINES FINESS Array B 27.04 3 P **P 16 35 51.6 -1.2**
comp=Z,1.9nm,0.5s,baz=174,slow=9.7,SNR=17
FINES LR LR 16 47 26.3
comp=Z,402nm,20.2s,baz=188,slow=38
comp=Z,1.9nm,0.5s
FIA1 FINESS Array S 27.04 3 P **P 16 35 51.3 -1.4**
FIA1 IAmb IAmb 16 36 10.1
comp=Z,29nm,1.1s
BLS5 Blasjo 27.32 341 *e*P **P 16 35 56.1 +0.7**
NC602 NORSAR Array S 27.36 347 P **P 16 35 54.9 -0.8**
NC602 IAmb IAmb 16 36 26.1
comp=Z,29nm,1.2s
NC602 NORSAR Array S 27.36 347 *e*P **P 16 35 55.3 -0.4**
NC602 IAmb IAmb 16 36 00.4
comp=Z,15nm,1.1s
NAO01 NORSAR Array S 27.58 347 P **P 16 35 56.8 -0.8**
NAO01 IAmb IAmb 16 36 35.6
comp=Z,23nm,1.3s
NC405 NORSAR Array S 27.68 348 P **P 16 35 57.1 -1.4**
NC405 IAmb IAmb 16 35 58.3
comp=Z,22nm,1.4s
ODD1 Odda 27.70 342 *e*P **P 16 35 58.0 -0.7**
NB201 NORSAR Array S 27.70 347 P **P 16 35 57.3 -1.5**
NB2 NORSAR Subarra 27.70 347 P **P 16 35 58.3 -0.5**
comp=Z,12nm,1.4s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.70 347 P **P 16 35 58.3 -0.5**
baz=156,slow=9.3
NOA NORSAR Array B 27.70 347 P **P 16 35 58.5 -0.3**
comp=Z,0.8nm,0.5s,baz=156,slow=8.3,SNR=14
NOA LR LR 16 48 28.1
comp=Z,197nm,21.0s,baz=165,slow=40
comp=Z,0.8nm,0.5s
EKA Eskdalemuir Ar 27.76 327 P **P 16 35 59.8 +0.5**
comp=Z,6.9nm,0.4s,baz=124,slow=8.0,SNR=69
comp=Z,6.9nm,0.4s
ESK Eskdalemuir 27.77 327 P **P 16 36 00.5 +1.1**
ESK IAmb IAmb 16 36 03.7
comp=Z,17nm,0.8s
ESK Eskdalemuir 27.77 327 P **P 16 36 00.5 +1.1**
ESK pmax pmax
comp=Z,17nm,0.8s
EKB Eskdalemuir 27.77 327 P **P 16 35 59.9 +0.5**
NBO00 NORSAR Array S 27.77 347 P **P 16 35 59.0 -0.4**
NBO00 IAmb IAmb 16 36 39.8
comp=Z,19nm,1.1s
NC303 NORSAR Array S 27.85 348 P **P 16 36 00.2 +0.1**
NC303 IAmb IAmb 16 36 40.6
comp=Z,27nm,1.4s
SKAR Skarslia 27.97 344 *e*P **P 16 36 02.1 +0.9**
NC204 NORSAR Array S 28.00 347 P **P 16 36 01.8 +0.3**
GEYT Alibeck 28.18 73 P **P 16 36 02.7 -0.7**
comp=Z,0.8nm,0.3s,baz=293,slow=7.5,SNR=2.7
comp=Z,0.8nm,0.3s
KLMR Klimovskoe 28.39 17 *e*P **P 16 36 03.0 -1.8**
KLMR pmax pmax
comp=Z,21nm,1.4s
TOA0 Torodi Ar. Sit 28.91 228 P **P 16 36 12.8 +2.8**
TORD Torodi Ar. Bea 28.91 228 P **P 16 36 10.9 +0.9**
TORD Torodi Ar. Bea 28.91 228 P **P 16 36 12.7 +2.7**
comp=Z,7.5nm,0.8s,baz=35,slow=9.8,SNR=31
TORD LR LR 16 49 40.3
comp=Z,110nm,18.8s,baz=12,slow=40
comp=Z,7.5nm,0.8s
KIRV Kirov 29.69 28⇑ *e*P **P 16 36 17.4 +1.0**
ABKAR Akbulak array 30.66 50 P **P 16 36 24.9 -0.3**
ABKAR Akbulak array 30.66 50 P **P 16 36 24.1 -1.0**
ABKAR IAmb IAmb 16 37 00.1
comp=Z,4.6nm,0.9s
NSS Namsos 30.87 350 *e*P **P 16 36 27.0 +0.2**
NSS IAmb IAmb 16 36 31.5
comp=Z,76nm,1.8s
HRA Herat 31.96 79 P **P 16 36 35.5 -1.5**
MOR8 Moi Rana 32.16 353 *e*P **P 16 36 38.2 0.0**
ARU Arti 32.49 37 P **P 16 36 40.1 -1.0**
ARU IAmb IAmb 16 36 41.9
comp=Z,15nm,1.1s
ARU Arti 32.49 37 *c i*P **P 16 36 40.1 -1.0**
ARU 16 37 46.0
ARU S **S 16 41 52.7 -1.7**
ARU pmax pmax
comp=Z,14nm,1.0s
LODK Lodwar 32.87 157 P **P 16 36 46.6 +1.7**
FAUS Fauske 33.27 354 *e*P **P 16 36 47.4 -0.5**
FAUS IAmb IAmb 16 36 49.6
comp=Z,21nm,1.1s
SVE Sverdlovsk 33.70 37⇑ *e*P **P 16 36 51.5 -0.2**
SVE pmax pmax
comp=Z,32nm,0.9s
STEI Steigen 33.82 355 *e*P **P 16 36 52.2 -0.4**
ARA0 ARCESS Array S 35.13 1 *e*P **P 16 37 02.6 -1.4**
ARCES ARCESS Array B 35.13 1 P **P 16 37 02.5 -1.4**
ARCES ARCESS Array B 35.13 1 P **P 16 37 02.6 -1.4**
ARCES pmax pmax
comp=Z,36nm,1.4s
ARCES ARCESS Array B 35.13 1 P **P 16 37 02.1 -1.9**
comp=Z,1.9nm,0.5s,baz=184,slow=9.6,SNR=8.9
ARCES PcP **PcP 16 39 35.3 +0.5**
comp=Z,5.0nm,0.9s,baz=157,slow=4.9,SNR=2.2
ARCES LR LR 16 52 41.0
comp=Z,399nm,20.5s,baz=192,slow=38
comp=Z,1.9nm,0.5s
JETT Jettan, Norway 35.17 358 *e*P **P 16 37 01.9 -2.4**
TRO Tromso 35.29 357 *e*P **P 16 37 04.9 -0.3**
TRO IAmb IAmb 16 37 08.4
comp=Z,426nm,2.5s
VADS Vadso 35.85 4 *e*P **P 16 37 07.1 -2.9**
HAMF Hammerfest 36.22 0 *e*P **P 16 37 11.9 -1.4**
SIMJ Simiganj 36.63 70 P **P 16 37 16.5 -0.9**
SIMJ IAmb IAmb 16 37 31.7
comp=Z,10nm,1.1s
KK31 Karatay Array 37.35 62 P **P 16 37 24.0 +0.8**
KK31 IAmb IAmb 16 37 25.7
comp=Z,8.1nm,0.8s
KK31 Karatay Array 37.35 62 P **P 16 37 24.0 +0.8**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 37.35 62 P **P 16 37 24.0 +0.7**
KKAR IAmb IAmb 16 37 25.7
comp=Z,8.1nm,0.8s
KKAR Karatay Array 37.35 62 P **P 16 37 23.7 +0.5**
KKAR Karatay Array 37.35 62 P **P 16 37 23.7 +0.5**
KMBO Kilima Mbogo 37.75 157 LR LR 16 53 57.2
comp=Z,104nm,19.5s,baz=101,slow=38
BRVK Borovoye 37.84 46 P **P 16 37 27.4 +0.2**
BRVK IAmb IAmb 16 37 30.2
comp=Z,5.7nm,0.7s
BRVK Borovoye 37.84 46 *ce*P **P 16 37 27.2 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 37.90 46 P **P 16 37 27.2 -0.6**
comp=Z,1.9nm,0.6s
BVAR LR LR 16 55 29.1
comp=Z,96nm,18.7s,baz=251,slow=40
comp=Z,1.9nm,0.6s
DBIC Dimbokro 37.98 230 P **P 16 37 30.3 +1.5**
DBIC IAmb IAmb 16 37 33.2
comp=Z,18nm,1.3s
DBIC Dimbokro 37.98 230 P **P 16 37 30.8 +2.0**
comp=Z,5.1nm,0.7s,baz=33,slow=9.2,SNR=6.8
comp=Z,5.1nm,0.7s
TIC Toumodi 38.10 230⇑ *e*P **P 16 37 33.0 +3.2**
comp=Z,8.5nm,0.7s
KIC Kosan Boka 38.14 229⇑ *e*P **P 16 37 32.8 +2.6**
comp=Z,8.3nm,0.7s
LIC Lamto 38.43 229⇑ *e*P **P 16 37 35.2 +2.6**
comp=Z,19nm,0.7s
ARSB Arslanbob 39.32 65 P **P 16 37 39.4 -0.6**
ARSB Arslanbob 39.32 65 P **P 16 37 39.4 -0.6**
ARSB pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 40.30 63 P **P 16 37 48.7 +0.5**
AAK IAmb IAmb 16 37 59.7
comp=Z,11nm,1.1s
AAK Ala-Archa 40.30 63 *ce*P **P 16 37 49.5 +1.3**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 40.30 63 LR LR 16 56 19.1
comp=Z,124nm,18.4s,baz=289,slow=39
BORG Borgarnes 40.44 332 LR LR 16 57 36.5
comp=Z,171nm,18.3s,baz=149,slow=41
NRN Naryn 41.56 64 P **P 16 37 58.5 -0.3**
NRN IAmb IAmb 16 38 01.4
comp=Z,11nm,0.9s
NRN Naryn 41.56 64 P **P 16 37 58.5 -0.3**
NRN pmax pmax
comp=Z,11nm,0.9s
KSH Kashi 41.85 67 P **P 16 38 00.1 -0.8**
KSH ScP **ScP 16 43 45.1 +0.1**
KSH pmax pmax
comp=Z,4.0nm,1.1s
KURBB Kurchatov Arra 42.71 50 P **P 16 38 07.5 0.0**
comp=Z,5.1nm,0.4s,baz=273,slow=8.7,SNR=56
comp=Z,5.1nm,0.4s
KURK Kurchatov 42.77 50 P **P 16 38 07.6 -0.5**
KURK IAmb IAmb 16 38 21.3
comp=Z,9.7nm,1.1s
KURK Kurchatov 42.77 50 *c i*P **P 16 38 07.8 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.0s
SCO Scoresbysund 43.44 340 P **P 16 38 13.3 +0.2**
SCO IAmb IAmb 16 38 43.6
comp=Z,25nm,1.4s
SCO Scoresbysund 43.44 340 P **P 16 38 13.4 +0.2**
SCO pmax pmax
comp=Z,25nm,1.4s
SPB2 Spitsbergen Ar 43.90 358 P **P 16 38 16.0 -0.9**
SPA0 Spitsbergen Ar 43.90 358 *e*P **P 16 38 17.7 +0.8**
SPITS Spitsbergen Ar 43.90 358 P **P 16 38 17.3 +0.4**
SPITS pmax pmax
comp=Z,69nm,1.3s
SPITS Spitsbergen Ar 43.90 358 P **P 16 38 16.7 -0.2**
comp=Z,9.3nm,0.8s,baz=151,slow=10,SNR=7.5
SPITS LR LR 16 58 31.9
comp=Z,131nm,19.0s,baz=148,slow=39
comp=Z,9.3nm,0.8s
KBS Kingsbay 44.81 357 *e*P **P 16 38 23.8 -0.3**
KBS IAmb IAmb 16 38 25.2
comp=Z,62nm,1.1s
MAKZ Makanchi 45.18 56 P **P 16 38 28.1 +0.6**
MAKZ IAmb IAmb 16 38 28.4
comp=Z,7.1nm,0.5s
MAKZ Makanchi 45.18 56 P **P 16 38 28.1 +0.6**
MAKZ pmax pmax
comp=Z,7.0nm,0.5s
MK31 Makanchi Array 45.40 56 P **P 16 38 29.8 +0.5**
MK31 Makanchi Array 45.40 56 *c i*P **P 16 38 29.6 +0.3**
MKAR Makanchi Array 45.40 56 *i* P **P 16 38 29.7 +0.5**
MKAR pmax pmax
comp=Z,12nm,0.4s
MKAR Makanchi Array 45.40 56 P **P 16 38 29.8 +0.5**
comp=Z,11nm,0.4s,baz=267,slow=7.3,SNR=476
MKAR ScP **ScP 16 43 56.0 -3.2**
comp=Z,0.5nm,0.5s,baz=257,slow=5.2,SNR=6.9
MKAR LR LR 17 01 21.4
comp=Z,103nm,19.6s,baz=302,slow=41
comp=Z,11nm,0.4s
DAG Danmarks Havn 46.39 348 *i* P **P 16 38 37.0 +0.5**
ZAA0 Zalesovo Array 46.55 46 P **P 16 38 37.4 -0.8**
ZAA0 IAmb IAmb 16 39 01.4
comp=Z,8.3nm,1.0s
ZALV Zalesovo Beam 46.55 46 P **P 16 38 37.6 -0.6**
comp=Z,6.9nm,0.3s,baz=268,slow=9.1,SNR=34
ZALV LR LR 17 00 18.3
comp=Z,70nm,18.0s,baz=300,slow=39
comp=Z,6.9nm,0.3s
DGZ Jazzator, Alta 48.48 51 *c i*P **P 16 38 53.4 0.0**
DGZ pmax pmax
comp=Z,7.0nm,1.7s
SUMG Summit 49.08 339 *i* P **P 16 38 58.4 +0.4**
NRIK Noril'sk 49.13 25 P **P 16 38 56.5 -1.4**
NRIK Noril'sk 49.13 25⇑ *e*P **P 16 38 58.1 +0.2**
NRIK pmax pmax
comp=Z,12nm,2.0s
NRIK Noril'sk 49.13 25 P **P 16 38 56.2 -1.7**
comp=Z,1.8nm,0.5s,baz=250,slow=4.0,SNR=7.0
NRIK LR LR 17 01 34.0
comp=Z,128nm,18.6s,baz=302,slow=38
comp=Z,1.8nm,0.5s
WMQ Urumqi 49.64 59 *e*P **P 16 39 03.6 +1.3**
WMQ pmax pmax
comp=Z,8.0nm,1.7s
LSZ Lusaka 49.70 174 LR LR 17 02 31.7
comp=Z,108nm,18.8s,baz=104,slow=39
DY2G Dye2 50.82 331 *i* P **P 16 39 11.8 +0.7**
DY2G IAmb IAmb 16 39 15.1
comp=Z,54nm,1.4s
NEEM North Greenlan 53.24 345 *i* P **P 16 39 26.2 -2.9**
TSUM Tsumeb 53.66 187 LR LR 17 03 28.5
comp=Z,166nm,21.3s,baz=343,slow=37
ZAK Zakamensk 58.31 48 *e*P **P 16 40 06.1 +0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
LBTB Lobatse 59.21 178 LR LR 17 05 55.7
comp=Z,78nm,21.9s,baz=16,slow=36
EUNU Eureka 59.57 349 P **P 16 40 13.7 -0.2**
EUNU IAmb IAmb 16 40 38.2
comp=Z,10nm,1.4s
GTA Gaotai 59.60 61 *e*P **P 16 40 15.6 +0.8**
GTA pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 61.07 50 P **P 16 40 24.6 0.0**
SONM IAmb IAmb 16 40 26.3
comp=Z,8.4nm,1.2s
SONM Songino Array 61.07 50 P **P 16 40 25.3 +0.6**
comp=Z,2.1nm,0.4s,baz=284,slow=7.2,SNR=34
SONM LR LR 17 11 02.1
comp=Z,79nm,18.1s,baz=294,slow=40
comp=Z,2.1nm,0.4s
ULN Ulaanbaatar 61.48 50 P **P 16 40 25.5 -2.0**
ULN Ulaanbaatar 61.48 50 *c i*P **P 16 40 27.9 +0.5**
ULN pmax pmax
comp=Z,7.0nm,0.9s
BOD Bodaibo 61.91 37 *e*P **P 16 40 29.3 -0.6**
BOD pmax pmax
comp=Z,8.0nm,1.8s
TIXI Tiksi 62.32 20 P **P 16 40 32.2 -0.3**
TIXI IAmb IAmb 16 40 47.4
comp=Z,7.0nm,1.1s
TIXI Tiksi 62.32 20⇑ *e*P **P 16 40 32.9 +0.4**
TIXI pmax pmax
comp=Z,9.0nm,1.4s
SCHQ Schefferville 62.73 319 P **P 16 40 36.2 +0.7**
comp=Z,4.9nm,0.9s,baz=150,slow=9.3,SNR=2.7
comp=Z,4.9nm,0.9s
BOSA Boshof 62.78 178 P **P 16 40 37.6 +1.5**
BOSA Boshof 62.78 178 P **P 16 40 38.7 +2.6**
comp=Z,2.0nm,0.6s,baz=7.3,slow=5.2,SNR=5.7
BOSA LR LR 17 08 28.0
comp=Z,119nm,21.8s,baz=20,slow=36
comp=Z,2.0nm,0.6s
LZH Lanzhou 63.84 63 *e*P **P 16 40 44.6 +1.2**
LZH pP pP 16 40 52.4 +1.6
LZH pmax pmax
comp=Z,13nm,1.0s
RES Resolute Bay 63.93 345 P **P 16 40 44.2 +1.1**
RES IAmb IAmb 16 40 46.4
comp=Z,11nm,1.4s
RES Resolute Bay 63.93 345 P **P 16 40 44.2 +1.1**
RES pmax pmax

	comp=Z,11nm,1.4s							
PZH	**PanZhiHua**	**66.49**	**73**		P	**P**	**16 41 02.3**	**+1.6**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,100nm,5.3s							
SUR	**Sutherland**	**66.55**	**182**		P	**P**	**16 41 02.9**	**+2.1**
SUR	**Sutherland**	**66.55**	**182**		LR	LR	17 13 01.6	
	comp=Z,293nm,18.6s,baz=357,slow=38							
YAK	**Yakutsk**	**67.21**	**29**	*de*	P	**P**	**16 41 04.0**	**-0.5**
YAK					pmax	pmax		
	comp=Z,3.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**67.26**	**55**	*e*	P	**P**	**16 41 06.3**	**+1.0**
HHC					pmax	pmax		
	comp=Z,32nm,0.6s							
HHC					pmax	pmax		
	comp=Z,190nm,5.0s							
KMI	**Kunming**	**67.94**	**74**	⇓	P	**P**	**16 41 09.4**	**-0.6**
KMI					sP	pwP	16 41 23.1	+2.1
KMI					pmax	pmax		
	comp=Z,22nm,0.8s							
CHTO	**Chiang Mai**	**67.97**	**82**		P	**P**	**16 41 09.2**	**-0.8**
CHTO					IAmb	IAmb	16 41 24.1	
	comp=Z,10.0nm,1.4s							
CHTO	**Chiang Mai**	**67.97**	**82**		P	**P**	**16 41 09.2**	**-0.8**
CHTO					pmax	pmax		
	comp=Z,10.0nm,1.4s							
CMAR	**Chiang Mai Arr**	**68.14**	**82**		P	**P**	**16 41 11.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**68.14**	**82**		P	**P**	**16 41 11.8**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=300,slow=7.9,SNR=21							
	comp=Z,2.5nm,0.8s							
CRAI	**Chiangrai**	**68.42**	**80**		P	**P**	**16 41 12.5**	**-0.4**
A36M	**Sachs Harbour**	**71.56**	**350**		P	**P**	**16 41 32.0**	**+0.8**
HEH	**HeiHe**	**72.35**	**41**	*e*	P	**P**	**16 41 36.9**	**+0.5**
HEH					pmax	pmax		
	comp=Z,13nm,0.9s							
HEH					pmax	pmax		
	comp=Z,120nm,5.0s							
C36M	**Paulatuk**	**73.74**	**349**		P	**P**	**16 41 44.9**	**+0.7**
C36M					IAmb	IAmb	16 41 46.2	
	comp=Z,12nm,1.1s							
CN2	**Changchun**	**74.74**	**47**		P	**P**	**16 41 50.8**	**+0.3**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
SEY	**Seymchan**	**74.75**	**22**	⇑ *e*	P	**P**	**16 41 50.9**	**+0.7**
SEY					pmax	pmax		
	comp=Z,3.0nm,0.9s							
BNX	**BinXian**	**74.83**	**45**	⇓	P	**P**	**16 41 51.5**	**+0.5**
BNX					pmax	pmax		
	comp=Z,9.0nm,0.9s							
BNX					pmax	pmax		
	comp=Z,140nm,4.9s							
KLR	**Kul'dur**	**75.25**	**40**	*de*	P	**P**	**16 41 54.2**	**+0.8**
KLR					pmax	pmax		
	comp=Z,6.0nm,0.9s							
KLR	**Kul'dur**	**75.25**	**40**		LR	LR	17 17 26.5	
	comp=Z,32nm,21.3s,baz=17,slow=38							
B20K	**Meade River**	**75.81**	**0**		P	**P**	**16 41 57.3**	**+1.1**
INK	**Inuvik**	**76.07**	**351**		LR	LR	17 18 01.3	
	comp=Z,30nm,19.1s,baz=5.0,slow=38							
B21K	**Ikpikpuk River**	**76.19**	**359**		P	**P**	**16 41 59.2**	**+0.8**
B21K					IAmb	IAmb	16 42 01.2	
	comp=Z,6.2nm,0.9s							
D25K	**Kavik River**	**76.23**	**356**		P	**P**	**16 41 59.1**	**+0.4**
D25K					IAmb	IAmb	16 42 09.1	
	comp=Z,10nm,1.4s							
E29M	**Blow River**	**76.48**	**353**		P	**P**	**16 42 01.2**	**+1.2**
NJ2	**Nanjing**	**76.69**	**60**	*e*	P	**P**	**16 42 01.8**	**-0.1**
NJ2					pP	**pP**	**16 42 08.8**	**-0.6**
NJ2					sP	**PcP**	**16 42 11.3**	**-1.9**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.5s							
NJ2					pmax	pmax		
	comp=Z,200nm,3.9s							
MA2	**Magadan**	**76.73**	**25**	⇑ *i*	P	**P**	**16 42 03.2**	**+1.6**
MA2					pmax	pmax		
	comp=Z,7.0nm,1.0s							
MA2	**Magadan**	**76.73**	**25**		LR	LR	17 18 44.5	
	comp=Z,42nm,19.3s,baz=292,slow=38							
F31M	**Tsiigehtchic**	**76.92**	**351**		P	**P**	**16 42 03.1**	**+0.6**
C18K	**Utukok River**	**77.13**	**2**		P	**P**	**16 42 04.5**	**+0.7**
C18K					IAmb	IAmb	16 42 17.1	
	comp=Z,13nm,1.2s							
D19K	**Kuna River**	**77.33**	**1**		P	**P**	**16 42 06.2**	**+1.3**
D19K					IAmb	IAmb	16 42 07.4	
	comp=Z,11nm,1.1s							
E25K	**Arctic Village**	**77.37**	**356**		P	**P**	**16 42 06.5**	**+1.4**
E25K					IAmb	IAmb	16 42 18.9	
	comp=Z,9.1nm,1.1s							
F28M	**Old Crow**	**77.43**	**353**		P	**P**	**16 42 06.4**	**+1.0**
F28M					IAmb	IAmb	16 42 21.3	
	comp=Z,4.8nm,0.9s							
G31M	**Satah River**	**77.48**	**351**		P	**P**	**16 42 06.0**	**+0.4**
G31M					IAmb	IAmb	16 42 32.9	
	comp=Z,5.0nm,0.8s							
YKA	**Yellowknife Ar**	**77.62**	**341**	*i*	P	**P**	**16 42 07.5**	**+1.0**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**77.62**	**341**		P	**P**	**16 42 07.0**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=40,slow=5.8,SNR=13							
	comp=Z,1.2nm,0.9s							
BMAR	**Burnt Mountain**	**77.99**	**355**		P	**P**	**16 42 08.5**	**-0.1**
USA0B	**Ussuriysk Arra**	**78.38**	**44**		P	**P**	**16 42 10.5**	**-0.5**
USA0B					IAmb	IAmb	16 42 12.2	
	comp=Z,7.1nm,0.9s							
USA0B	**Ussuriysk Arra**	**78.38**	**44**	*de*	P	**P**	**16 42 11.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**78.38**	**44**		P	**P**	**16 42 10.1**	**-1.0**
USRK	**Ussuriysk Ar.**	**78.38**	**44**		P	**P**	**16 42 11.3**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=298,slow=4.7,SNR=16							
	comp=Z,4.3nm,0.6s							
KSAR	**Wonju Array Be**	**79.86**	**52**		P	**P**	**16 42 17.7**	**-1.6**
KSAR	**Wonju Array Be**	**79.86**	**52**		P	**P**	**16 42 17.7**	**-1.6**
KSRS	**Korea Array**	**79.88**	**51**		P	**P**	**16 42 20.1**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=309,slow=4.7,SNR=14							
KSRS					LR	LR	17 22 50.4	
	comp=Z,84nm,18.4s,baz=180,slow=40							
	comp=Z,3.1nm,0.8s							
ULM	**Lac du Bonnet**	**80.02**	**325**		P	**P**	**16 42 20.1**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=94,slow=3.9,SNR=3.9							
	comp=Z,2.4nm,0.9s							
ILAR	**Eielson Array**	**80.78**	**356**		P	**P**	**16 42 24.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=340,slow=3.9,SNR=7.1							
	comp=Z,0.8nm,0.8s							
YSS	**Yuzh-Sakhalins**	**82.38**	**37**	*e*	P	**P**	**16 42 32.7**	**+0.2**
YSS				*e*			16 42 41.8	
YSS					pmax	pmax		
	comp=Z,10.0nm,0.6s							
YSS					MLR	MLR		
	comp=Z,300nm,14.0s							
PETK	**Petropavlovsk-**	**84.18**	**26**		LR	LR	17 23 24.7	
	comp=Z,72nm,19.6s,baz=306,slow=38							
ASAJ	**Asahikawa**	**84.25**	**39**		LR	LR	17 27 12.3	
	comp=Z,45nm,18.1s,baz=305,slow=41							
NEW	**Newport**	**90.37**	**335**		LR	LR	17 26 44.2	
	comp=Z,38nm,18.8s,baz=341,slow=38							
PDAR	**Pinedale Array**	**91.88**	**327**		LR	LR	17 25 15.3	
	comp=Z,64nm,21.4s,baz=20,slow=36							
TEIG	**Tepich**	**95.28**	**299**		LR	LR	17 21 41.6	
	comp=Z,236nm,20.6s,baz=162,slow=32							
ELK	**Elko**	**95.98**	**330**		LR	LR	17 30 09.2	
	comp=Z,66nm,18.2s,baz=22,slow=38							
ANMO	**Albuquerque**	**96.49**	**321**		LR	LR	17 28 11.7	
	comp=Z,36nm,18.8s,baz=107,slow=36							
NVAR	**Mina Array Bea**	**99.20**	**330**		LR	LR	17 32 11.6	
	comp=Z,54nm,18.8s,baz=3.5,slow=38							
ASAR	**Alice Springs**	**119.41**	**100**		PKP	**PKiKP**	**16 49 00.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=333,slow=2.0,SNR=6.4							
QSPA	**South Pole Qui**	**124.34**	**180**		PKP	**PKPdf**	**16 49 08.9**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=268,slow=2.2,SNR=4.0							
DZM	**Mont Dzumac**	**145.42**	**79**		PKPbc	**PKPab**	**16 49 50.2**	**+0.9**
	comp=Z,4.6nm,0.9s,baz=219,slow=6.5,SNR=1.4							

*ISN **13** 16:37:40.7±0.9, 33.69N×45.64E, h10km±4km, ML3.1*
*TEH **13** 16:37:42.3, 33.81N×45.72E, h11km±28km, ML3.3*
ISC 13 16:37:41.1±0.9, 33.73N±0.04×45.59E±0.04, h10km, n16, σ1s20/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.52**	**102**		Pg	**Pg**	**16 37 51.2**	**-0.1**
IBDR	**Badra**	**0.68**	**155**	*e*	Pg	**Pg**	**16 37 53.0**	**-1.3**
IBDR				*e*	Sg	**Sg**	**16 38 02.0**	**-1.2**
IBDR					AML	AML	16 38 13.0	
	comp=N,566nm,0.6s							
KGS1	**Ghasr-e-Shirin**	**0.77**	**360**		Pg	**Pg**	**16 37 55.8**	**-0.1**
IGHG	**Ghaleghazi**	**1.00**	**53**		Pg	**Pb**	**16 37 59.7**	**-1.0**
BHD	**Baghdad**	**1.11**	**246**	*e*	Pg	**Pn**	**16 38 03.0**	**+0.3**
BHD				*e*	Sg	**Sb**	**16 38 18.0**	**+1.1**
BHD					AML	AML	16 38 29.8	
	comp=E,622nm,0.6s							
IDHR	**Dehrash**	**1.17**	**34**		Pg	**Pb**	**16 38 02.5**	**-1.0**
KCHF	**Cheshme Sefid,**	**1.32**	**65**		Pg	**Pn**	**16 38 05.4**	**-0.3**
ILIN	**Lien**	**1.64**	**43**		Pg	**Pg**	**16 38 11.8**	**-0.7**
IKOM	**Komasi**	**1.65**	**74**		Pg	**Pg**	**16 38 12.2**	**-0.6**
IKOM					Sg	**Sg**	**16 38 33.7**	**-0.6**
IKFM	**Kafar-mosalman**	**1.89**	**96**		Pg	**Pb**	**16 38 15.3**	**-0.4**
RAFI	**Al-Rafai**	**2.05**	**167**	*e*	Pn	**Pn**	**16 38 16.0**	**+0.4**
RAFI				*e*	Sn	**Sn**	**16 38 43.0**	**+1.7**
IALM	**Almabolaq**	**2.41**	**61**		Pn	**Pb**	**16 38 23.0**	**-1.7**
HSAM	**Samen**	**2.55**	**78**		Pn	**Pn**	**16 38 24.1**	**+1.4**
HAGD	**Aghdareh**	**3.13**	**69**		Pn	**Pn**	**16 38 32.1**	**+1.4**
QAMS	**Qamsar**	**4.84**	**88**		Pn	**Pn**	**16 38 56.1**	**+1.9**
IKLH	**Kolahrood**	**5.02**	**93**		Pn	**Pn**	**16 38 58.4**	**+1.8**

NOU 13 16:39:12.9, 21.35S×169.77E, h0km, MLv3.5/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARNC	**Mare, Loyalty**	**1.63**	**265**		P	Pn	16 39 41.6	-1.2
LIFNC	**LIFOU**	**2.43**	**283**		P	Pn	16 39 53.5	-0.4
PINNC	**Pines Island,**	**2.50**	**239**		P	Pn	16 39 54.4	-0.4
YATNC	**Mamie plateau,**	**2.77**	**255**		P	Pn	16 39 58.2	-0.4
OUENC	**Ouen Island, N**	**2.92**	**248**		P	Pn	16 40 01.0	+0.4
DZM	**Mont Dzumac**	**3.17**	**256**		P	Pn	16 40 04.1	-0.1
KOUNC	**Koumac, New Ca**	**5.19**	**278**		P	Pn	16 40 32.5	+0.7

*IDC **13** 16:42:51.4±2.0, 50.44N×173.14W, h0km, mb3.8/9, mbtmp3.8/11, ML3.3/2, Error ellipse: s-maj=56.2km s-min=20.7km az=10.0*
*AEIC **13** 16:42:54.2±3.0, 50.58N±0.04×173.22W±0.09, h33km±6km, Error ellipse: s-maj=9.2km s-min=5.4km az=68.0*
*NEIC **13** 16:42:55.1±2.5, 50.65N±0.04×173.25W±0.09, h22km±9km, mb4.0/42, ML3.5/6, ML3.5(AEIC), Error ellipse: s-maj=9.0km s-min=5.5km az=65.0*
ISC 13 16:42:53.1±0.8, 50.60N±0.09×173.19W±0.04, h10km, n90, σ1s21/86, mb4.0/21, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATKA	**Atka Island**	**1.72**	**339**			**Pn**	**16 43 22.5**	**-0.6**
ATKA						**Sn**	**16 43 44.7**	**-0.4**
ATKA	**Atka Island**	**1.72**	**339**		IAML		16 43 46.5	
	comp=E,320nm,0.6s							
KOFP	**Korovin Flat P**	**1.77**	**342**			**Pn**	**16 43 23.6**	**-0.2**
KOFP						**Sn**	**16 43 47.3**	**+0.9**
KOKL	**Mount Kliuchef**	**1.84**	**340**			**Pn**	**16 43 24.7**	**0.0**
KOWE	**Korovin West**	**1.89**	**340**			**Pn**	**16 43 25.4**	**+0.1**
KOWE						**Sn**	**16 43 50.7**	**+1.5**
GSMY	**Great Sitkin M**	**2.31**	**310**			**Pn**	**16 43 30.9**	**-0.2**
GSTR	**Great Sitkin T**	**2.34**	**311**		Pn	**Pn**	**16 43 30.9**	**-0.7**
GSCK	**Great Sitkin C**	**2.34**	**308**			**Pn**	**16 43 31.2**	**-0.4**
GSCK						**Sn**	**16 43 59.0**	**-1.3**
ADK	**Adak**	**2.54**	**302**			**Pn**	**16 43 33.5**	**-0.8**
ADK						**Sn**	**16 44 03.6**	**-1.7**
ADK	**Adak**	**2.54**	**302**		IAML		16 44 04.3	
	comp=E,224nm,0.3s							
ADK					IAML		16 44 09.6	
	comp=E,168nm,0.4s							
ADAG	**Mount Adagdak**	**2.55**	**304**			**Pn**	**16 43 34.3**	**-0.1**
KIRH	**Kanaga Island**	**2.77**	**299**			**Pn**	**16 43 37.4**	**-0.2**
KIWB	**Kanaga Island**	**2.79**	**298**			**Pn**	**16 43 37.4**	**-0.3**
KIWB	**Kanaga Island**	**2.79**	**298**			**Sn**	**16 44 09.9**	**-1.5**
KIMD	**Kanaga Island**	**2.80**	**296**			**Pn**	**16 43 37.7**	**-0.1**
KIKV	**Kanaga Island**	**2.81**	**299**			**Pn**	**16 43 37.9**	**-0.1**
CLES	**Cleveland East**	**3.03**	**41**			**Pn**	**16 43 41.6**	**+0.6**
CLES	**Cleveland East**	**3.03**	**41**		IAML		16 44 24.9	
	comp=N,508nm,1.0s							
CLCO	**Concord Point,**	**3.08**	**43**			**Pn**	**16 43 41.0**	**-0.7**
TAFP	**Tanaga Falls P**	**3.28**	**295**			**Pn**	**16 43 45.0**	**+0.5**
TASE	**Tanaga Southea**	**3.29**	**294**			**Pn**	**16 43 45.2**	**+0.6**
GANE	**Gareloi Northe**	**3.72**	**291**			**Pn**	**16 43 51.1**	**+0.7**
OKER	**Okmok East Rim**	**4.27**	**46**			**Pn**	**16 43 58.9**	**+0.8**
CEPE	**Semis' Perret**	**4.70**	**290**			**Pn**	**16 44 04.0**	**0.0**
MAPS	**Pakushin South**	**5.01**	**48**			**Pn**	**16 44 07.9**	**-0.3**
MGOD	**Makushin Gods**	**5.03**	**48**			**Pn**	**16 44 08.6**	**-0.1**
MSW	**Makushin Switc**	**5.15**	**47**			**Pn**	**16 44 10.3**	**+0.2**
UNV	**Unalaska Valle**	**5.24**	**49**			**Pn**	**16 44 11.3**	**-0.1**
ILSW	**Iliamna Southw**	**14.73**	**43**			**Pn**	**16 46 19.4**	**-2.0**
PETK	**Petropavlovsk-**	**18.10**	**289**		P	**Pn**	**16 47 04.5**	**+0.1**
	comp=N,0.2nm,0.3s,baz=93,slow=12,SNR=5.6							
	comp=N,1.8nm,0.6s							
I23K	**Minto, Yukon-K**	**19.13**	**31**		P	**P**	**16 47 13.4**	**-2.5**
I23K					IAmb	IAmb	16 47 30.4	
	comp=Z,11nm,1.5s							
N25K	**Chitina, Valde**	**19.20**	**44**		P	**P**	**16 47 15.2**	**-1.7**
N25K					IAmb	IAmb	16 47 31.9	
	comp=Z,19nm,1.3s							
CCB	**Clear Creek Bu**	**19.36**	**34**		P	**P**	**16 47 17.4**	**-1.1**
MDM	**Murphy Dome**	**19.40**	**33**		P	**P**	**16 47 17.4**	**-1.5**
D19K	**Kuna River**	**19.40**	**17**		Pn	**P**	**16 47 21.0**	**+2.1**
GLB	**Gilahina Butte**	**19.50**	**45**		P	**P**	**16 47 18.9**	**-1.2**
GLB					IAmb	IAmb	16 48 03.2	
	comp=Z,17nm,1.4s							
HDA	**Harding Lake**	**19.54**	**35**		P	**P**	**16 47 18.2**	**-2.2**
HDA					IAmb	IAmb	16 48 00.9	
	comp=Z,9.6nm,1.3s							
VRDI	**Verde Repeater**	**19.58**	**46**		P	**P**	**16 47 18.9**	**-2.3**
C19K	**Lookout Ridge**	**19.69**	**15**		P	**P**	**16 47 19.5**	**-2.6**
C19K					IAmb	IAmb	16 47 24.3	
	comp=Z,11nm,1.5s							
IL31		**19.76**	**34**		P	**P**	**16 47 21.0**	**-1.8**
IL31					IAmb	IAmb	16 47 38.6	
	comp=Z,9.7nm,1.5s							
ILAR	**Eielson Array**	**19.76**	**34**		P	**P**	**16 47 22.8**	**-0.1**
ILAR	**Eielson Array**	**19.76**	**34**		P	**P**	**16 47 21.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=231,slow=9.1,SNR=24							
	comp=Z,0.7nm,0.4s							
H24K	**Noodor Dome**	**20.04**	**31**		P	**P**	**16 47 25.8**	**-0.1**
GRNC	**Granite Creek**	**20.22**	**48**		P	**P**	**16 47 27.7**	**-0.5**
J25K	**Salcha River,**	**20.23**	**36**		P	**P**	**16 47 27.4**	**-0.7**
BARN	**Barnard Glacie**	**20.36**	**47**		P	**P**	**16 47 30.3**	**+0.7**
SCRK	**Sand Creek**	**20.45**	**38**		P	**P**	**16 47 31.2**	**+0.7**
SCRK					IAmb	IAmb	16 47 46.0	
	comp=Z,4.1nm,0.7s							
CTGM	**Chitina Glacie**	**20.48**	**47**		P	**P**	**16 47 29.3**	**-1.6**
LOGN	**Logan Glacier**	**20.60**	**48**		P	**P**	**16 47 33.4**	**+1.2**
M27K	**Edge Creek, AK**	**20.67**	**43**		P	**P**	**16 47 34.1**	**+1.2**
M27K					IAmb	IAmb	16 47 36.3	
	comp=Z,10nm,1.2s							
D22K	**Ayikyak River**	**20.84**	**21**		P	**P**	**16 47 33.4**	**-1.2**
D22K					IAmb	IAmb	16 47 55.6	
	comp=Z,8.0nm,1.3s							
J26L	**Joseph Creek**	**20.86**	**37**		P	**P**	**16 47 34.0**	**-0.8**
J26L					IAmb	IAmb	16 47 48.2	
	comp=Z,5.4nm,0.6s							
L27K	**Beaver Creek,**	**20.95**	**42**		P	**P**	**16 47 33.5**	**-2.3**
BCAR	**Beaver Creek A**	**20.97**	**42**		P	**P**	**16 47 35.0**	**-1.1**
B21K	**Ikpikpuk River**	**21.03**	**18**		P	**P**	**16 47 36.4**	**-0.1**
B21K					IAmb	IAmb	16 47 46.6	
	comp=Z,3.6nm,0.6s							
I26K	**Coal Creek Min**	**21.39**	**35**		P	**P**	**16 47 41.6**	**+1.1**
O29M	**Mount Kennedy**	**21.65**	**50**		P	**P**	**16 47 46.3**	**+2.8**
EGAK	**Eagle**	**21.91**	**38**		P	**P**	**16 47 48.0**	**+2.0**
EGAK					IAmb	IAmb	16 48 16.1	
	comp=Z,6.3nm,0.9s							
P29M	**Windy Craggy**	**21.95**	**52**		P	**P**	**16 47 46.6**	**0.0**
C23K	**Itkillik River**	**22.05**	**21**		P	**P**	**16 47 47.3**	**-0.2**
C23K					IAmb	IAmb	16 47 49.0	
	comp=Z,15nm,1.5s							
M29M	**Somme Creek**	**22.21**	**45**		P	**P**	**16 47 51.5**	**+2.0**
M29M					IAmb	IAmb	16 48 17.1	
	comp=Z,9.3nm,1.5s							
HYT	**Haines Junctio**	**22.27**	**49**		P	**P**	**16 47 50.7**	**+0.5**
HYT					IAmb	IAmb	16 47 59.4	
	comp=Z,6.8nm,1.0s							
DAWY	**Dawson**	**22.33**	**40**		P	**P**	**16 47 51.8**	**+1.1**
N30M	**Aishikik Lake**	**22.60**	**47**		P	**P**	**16 47 54.9**	**+1.3**
I28M	**Miner Creek**	**22.66**	**36**		P	**P**	**16 47 55.0**	**+0.7**
I28M					IAmb	IAmb	16 48 07.6	
	comp=Z,10nm,1.4s							
K29M	**Barlow Dome**	**23.04**	**41**		P	**P**	**16 47 59.1**	**+1.0**
H29M	**Whitestone**	**23.57**	**35**		P	**P**	**16 48 03.8**	**+0.4**
H29M					IAmb	IAmb	16 48 22.9	
	comp=Z,5.0nm,0.8s							
J30M	**Hart River**	**23.76**	**40**		P	**P**	**16 48 06.9**	**+1.5**
I30M	**Mount Dempster**	**23.95**	**38**		P	**P**	**16 48 07.6**	**+0.3**
I30M					IAmb	IAmb	16 48 18.1	
	comp=Z,4.9nm,0.8s							
G30M	**tAoh Zraii Nji**	**24.66**	**35**		P	**P**	**16 48 14.6**	**+0.9**
G30M					IAmb	IAmb	16 48 45.1	
	comp=Z,4.9nm,1.2s							
E29M	**Blow River**	**24.70**	**31**		P	**P**	**16 48 14.9**	**+1.0**
E29M					IAmb	IAmb	16 48 53.1	
	comp=Z,4.9nm,1.5s							
G31M	**Satah River**	**25.35**	**35**		P	**P**	**16 48 21.7**	**+1.9**
G31M					IAmb	IAmb	16 49 02.8	
	comp=Z,6.5nm,1.4s							
INK	**Inuvik**	**26.13**	**33**		P	**P**	**16 48 28.4**	**+1.6**
YKA	**Yellowknife Ar**	**33.20**	**46**		P	**P**	**16 49 30.5**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=271,slow=9.8,SNR=3.4							
	comp=Z,0.2nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**34.61**	**214**		T	T	17 26 07.5	
	baz=25							
H11N3	**WAKE ISLAND Hy**	**34.62**	**214**		T	T	17 26 04.4	
	baz=25							
H11N1	**WAKE ISLAND Hy**	**34.63**	**214**		T	T	17 26 07.4	
	baz=25							
H11S1	**WAKE ISLAND Hy**	**35.80**	**214**		T	T	17 27 32.8	
	baz=22							
H11S2	**WAKE ISLAND Hy**	**35.82**	**214**		T	T	17 27 33.6	
	baz=22							
H11S3	**WAKE ISLAND Hy**	**35.82**	**214**		T	T	17 27 35.0	
	baz=22							
EDM	**Edmonton**	**36.07**	**62**		P	**P**	**16 49 53.7**	**-0.8**
I07A	**Izee**	**36.27**	**79**		P	**P**	**16 49 54.3**	**-2.1**
I07A					IAmb	IAmb	16 50 03.9	
	comp=Z,4.6nm,1.3s							
PDAR	**Pinedale Array**	**43.13**	**75**		P	**P**	**16 50 53.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=308,slow=3.4,SNR=13							
	comp=Z,1.2nm,0.7s							
TXAR	**Lajitas Array**	**55.23**	**85**		P	**P**	**16 52 25.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=302,slow=5.0,SNR=7.3							
	comp=Z,0.8nm,0.7s							
MKAR	**Makanchi Array**	**63.24**	**312**		P	**P**	**16 53 21.6**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=52,slow=6.3,SNR=8.5							
	comp=Z,0.9nm,0.8s							
BVAR	**Borovoye Array**	**63.71**	**323**		P	**P**	**16 53 25.7**	**+1.3**
	comp=Z,1.5nm,0.5s							
	comp=Z,1.5nm,0.5s							
FINES	**FINESS Array B**	**67.25**	**350**		P	**P**	**16 53 48.4**	**+1.3**
	comp=Z,3.0nm,1.1s,baz=356,slow=9.8,SNR=1.6							
	comp=Z,3.0nm,1.1s							
NOA	**NORSAR Array B**	**68.66**	**358**		P	**P**	**16 53 57.4**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=24,slow=1.6,SNR=3.1							
	comp=Z,0.3nm,0.6s							
HFS	**Hagfors**	**69.48**	**356**		P	**P**	**16 54 03.1**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=5.7,slow=2.9,SNR=1.3							
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**77.28**	**346**		P	**P**	**16 54 47.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=16,slow=6.2,SNR=3.5							
	comp=Z,0.9nm,0.6s							

*NEIC **13** 16:47:53.2±1.4, 28.70S±0.05×71.9W±0.1, h22km±5km, mb4.4/3, Error ellipse: s-maj=15.9km s-min=6.4km az=102.0*
*IDC **13** 16:47:55.1±0.8, 28.55S×71.67W, h34km±5km, mb3.8/2, mbtmp3.7/7, ML3.5/5, MS3.2/5, Error ellipse: s-maj=32.9km s-min=17.4km az=102.0*
*GUC **13** 16:47:55.9±0.6, 28.77S×71.46W, h32km±2km, ML3.9*
ISC 13 16:47:54.7±0.9, 28.74S±0.03×71.68W±0.07, h32km±6km, n78, σ1s60/87, mb4.3/3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AC04	**Llanos de Chal**	**0.76**	**45**			**Pn**	**16 48 08.6**	**-0.6**
AC04	**Llanos de Chal**	**0.76**	**45**	⇓ *i*	P	**Pn**	**16 48 08.8**	**-0.3**
AC04				*e*	S	**Sb**	**16 48 18.1**	**-1.4**
AC04					IAML		16 48 18.9	
	comp=E,13μm,0.1s							
LCO	**Las Campanas**	**0.90**	**108**			**Pn**	**16 48 10.3**	**-1.1**
LCO	**Las Campanas**	**0.90**	**108**	*e*	P	**Pn**	**16 48 09.7**	**-1.7**
LCO				*e*	S	**Sn**	**16 48

comp=E,2.9nm,0.3s,baz=202,slow=16,SNR=3.6
LVC Lg Lg 16 51 17.3
comp=E,5.8nm,0.3s,baz=131,slow=20,SNR=12
LVC LR LR 16 52 11.1
comp=E,162nm,19.3s,baz=196,slow=40
comp=E,1.7nm,0.6s
PB07 IPOC Station P 7.17 13 Pn **Pn 16 49 36.3 -1.3**
H03N1 Juan Fernandez 7.77 231 T T 16 57 45.7
baz=59,slow=72,SNR=2338
H03N2 Juan Fernandez 7.78 231 T T 16 57 45.4
baz=59,slow=72,SNR=2427
H03N3 Juan Fernandez 7.79 231 T T 16 57 48.5
baz=59,slow=72,SNR=2042
PATCX Punta Patache 8.01 10 Pn **Pn 16 49 50.2 +1.2**
PB16 IPOC Station P 10.55 11 Pn **Pn 16 50 21.9 -2.3**
PLCA Paso Flores 12.00 176 Pn **Pn 16 50 47.0 +3.4**
comp=E,0.1nm,0.3s,baz=279,slow=16,SNR=1.8
PLCA LR LR 16 55 39.1
comp=E,123nm,18.1s,baz=22,slow=38
comp=E,1.5nm,1.0s
TRQA Tornquist 12.32 141 Pn **Pn 16 50 52.2 +4.2**
CPUP Villa Florida 12.96 83 Pn **Pn 16 50 57.0 +0.3**
comp=E,0.1nm,0.3s,baz=83,slow=13,SNR=1.4
CPUP LR LR 16 56 42.1
comp=E,92nm,18.2s,baz=272,slow=41
comp=E,0.6nm,0.4s
SIV San Ignacio 16.02 40 Pn **Pn 16 51 37.1 -0.8**
baz=313,slow=13,SNR=1.8
comp=E,0.4nm,0.4s
NNA Nana 17.35 343 LR LR 16 57 07.8
comp=E,57nm,20.5s,baz=199,slow=32
SPB Sao Paulo 22.34 82 P **P 16 52 47.4 -2.6**
SPB IAmb IAmb 16 52 54.1
comp=Z,30nm,1.5s
QSPA South Pole Qui 61.48 180 P **P 16 58 07.3 -0.9**
QSPA IAmb IAmb 16 58 10.8
comp=Z,2.8nm,0.9s
QSPA South Pole Qui 61.48 180 P **P 16 58 09.1 +1.0**
comp=Z,1.5nm,0.7s,baz=137,slow=4.6,SNR=11
comp=Z,1.5nm,0.7s
TORD Torodi Ar. Bea 82.15 70 P **P 17 00 12.4 -0.4**
TORD IAmb IAmb 17 00 14.0
comp=Z,1.2nm,0.8s
TORD Torodi Ar. Bea 82.15 70 P **P 17 00 12.2 -0.6**
comp=Z,0.7nm,0.7s,baz=253,slow=5.5,SNR=4.2
comp=Z,0.7nm,0.7s
ASAR Alice Springs 122.36 208 PKP **PKiKP 17 06 47.8 +0.3**
comp=Z,0.3nm,0.7s,baz=133,slow=1.5,SNR=6.4
WRA Warramunga Arr 125.47 210 PKP **PKiKP 17 06 54.3 +0.6**
comp=Z,0.7nm,0.6s,baz=169,slow=1.5,SNR=5.3
H11N3 WAKE ISLAND Hyl 26.27 274 T T 19 26 15.5
baz=114
H11N1 WAKE ISLAND Hyl 26.28 274 T T 19 26 13.0
baz=114
H11N2 WAKE ISLAND Hyl 26.28 274 T T 19 26 13.3
baz=114
KURBB Kurchatov Arra 148.67 37 PKPbc **PKPbc 17 07 36.8 -1.6**
comp=Z,0.9nm,0.3s,baz=318,slow=3.7,SNR=6.9
KURBB pPKPbc **pPKPbc 17 07 49.1 +0.9**
comp=Z,0.7nm,0.6s,baz=300,slow=3.3,SNR=3.7
AAK Ala-Archa 149.45 54 PKPbc **PKPdf 17 07 38.5 +2.2**
comp=Z,0.9nm,0.8s,baz=241,slow=10,SNR=2.3
ZALV Zalesovo Beam 149.53 28 PKPbc **PKPdf 17 07 38.2 +2.4**
comp=Z,2.8nm,0.7s,baz=315,slow=3.4,SNR=3.8
ZALV pPKPbc **sPKPdf 17 07 50.1 +1.8**
comp=Z,2.8nm,0.7s,baz=292,slow=2.3,SNR=8.9
MKAR Makanchi Array 152.84 41 PKPbc **PKiKP 17 07 49.4 +0.9**
comp=Z,0.8nm,0.7s,baz=329,slow=2.0,SNR=9.7
MKAR pPKPbc **pPKPbc 17 07 59.1 +0.8**
comp=Z,0.9nm,0.8s,baz=323,slow=1.8,SNR=6.4

IDC 13 16:52:29.3±2.2, 17°.86S×167°.51E, h0km, mb4.0/3, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=56.4km s-min=36.4km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.30**	**193**	Pn	Pn			16 53 35.7	-0.4
	1.1nm,0.3s,baz=78,slow=12,SNR=19								
DZM				Sn	Sn			16 54 21.5	-5.7
	2.1nm,0.3s,baz=2.4,slow=11,SNR=3.7								
	2.4nm,0.3s								
WRA	**Warramunga Arr**	**31.42**	**261**	P	P			16 58 52.0	-0.5
	5.3nm,0.6s,baz=88,slow=8.7,SNR=5.2								
	5.3nm,0.6s								
ASAR	**Alice Springs**	**31.90**	**254**	P	P			16 58 57.0	+0.4
	0.8nm,0.7s,baz=83,slow=8.1,SNR=19								
	0.8nm,0.7s								
ILAR	**Eielson Array**	**89.42**	**18**	P	P			17 05 27.7	+0.1
	0.3nm,0.7s,baz=238,slow=6.2,SNR=2.1								
	0.3nm,0.7s								

MOS ***13*** *17:05:24.7±0.9, 28°.58N×52°.13E, h11km, mb4.6/26, Error ellipse: s-maj=6.4km s-min=4.2km az=108.1*
IDC ***13*** *17:05:24.4±0.6, 28°.51N×52°.16E, h0km, mb4.1/27, mbtmp4.1/34, ML3.9/7, MS3.7/41, Error ellipse: s-maj=14.7km s-min=11.8km az=1.0*
TEH ***13*** *17:05:26.8, 28°.61N×52°.24E, h16km±19km, ML4.3*
NEIC ***13*** *17:05:28.0±1.7, 28°.85N±0°.05×52°.12E±0°.08, h10km±1km, mb4.6/82, Error ellipse: s-maj=12.1km s-min=8.2km az=263.0*
OMAN ***13*** *17:05:29.4±0.3, 28°.44N×52°.38E, h10km, mb4.8/15, ml4.4/12, ms3.3/3, Error ellipse: s-maj=5.1km s-min=2.7km az=356.0*
GII ***13*** *17:05:31.3±0.7, 28°.65N×52°.11E, h10km, confirmed*
DSN ***13*** *17:05:33.9±2.4, 28°.01N×52°.45E, h10km, ML4.0/11, Error ellipse: s-maj=32.7km s-min=15.0km az=3.0*

ISC 13 17:05:26.6±0.5, 28°.59N±0°.03×52°.20E±0°.03, h13km±3km, h13km: pP-P, n457, σ1°.39/476, mb4.5/108, MS3.7/36, 27C-8D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.75**	**98**	Pg	**Pg**			**17 05 39.8**	**-1.4**
DSBU	**Dashti - Bushe**	**0.86**	**255**	Pg	**Pb**			**17 05 43.2**	**-0.2**
DSBU				Sg	**Sn**			**17 05 57.6**	**+0.6**
SHI	**Shiraz**	**1.08**	**14**	P	**Pb**			**17 05 47.1**	**-0.2**
SHI	**Shiraz**	**1.08**	**14**	Pg	**Pb**			**17 05 46.6**	**-0.8**
SHI				Sg	**Sn**			**17 06 03.2**	**+0.5**
JHRM	**Jahrom**	**1.21**	**94**	Pg	**Pb**			**17 05 49.5**	**0.0**
LMD1	**Lamerd**	**1.51**	**145**	Pg	**Pb**			**17 05 54.9**	**+0.4**
LAR1	**LAR**	**2.12**	**115**	Pn	**Pn**			**17 06 03.2**	**+1.3**
KLNJ	**Kolanjah**	**2.47**	**348**	Pn	**Pn**			**17 06 07.9**	**+1.0**
SHMA	**Al-Shehemyia**	**2.94**	**202**	P	**Pn**			**17 06 15.3**	**+2.3**
	SNR=19								
SHMA				S	**Sn**			**17 06 50.0**	**+1.8**
SAKB	**Bahrain**	**2.99**	**210**	Pn	**Pn**			**17 06 16.2**	**+2.4**
SAKB	**Bahrain**	**2.99**	**210**	P	**Pn**			**17 06 16.3**	**+2.4**
SAKB				S	**Sb**			**17 06 52.8**	**-3.5**
IRAM	**Ramesheh**	**3.21**	**3**	Pn	**Pn**			**17 06 18.4**	**+1.4**
IBRJ	**Brojen**	**3.41**	**346**	Pn	**Pn**			**17 06 20.8**	**+1.1**
IMEH	**Mehriz**	**3.49**	**36**	Pn	**Pn**			**17 06 22.7**	**+1.9**
ISAD	**Sadrabad**	**3.55**	**21**	Pn	**Pn**			**17 06 23.3**	**+1.6**
JRN	**Qarnain Island**	**3.68**	**171**	Pn	**Pn**			**17 06 25.3**	**+2.1**
JRN	**Qarnain Island**	**3.68**	**171**	P	**Pn**			**17 06 25.2**	**+2.0**
JRN				S	**Sn**			**17 07 07.2**	**+0.8**
GENO	**Geno**	**3.70**	**108**	Pn	**Pn**			**17 06 25.4**	**+1.6**
ZNGN	**Zangian**	**3.71**	**342**	Pn	**Pn**			**17 06 24.9**	**+1.1**
IGAR	**Gharneh**	**3.80**	**358**	Pn	**Pn**			**17 06 27.1**	**+1.9**
ESRB	**Sir Abu**	**3.81**	**151**	Pn	**Pn**			**17 06 26.6**	**+1.6**
JHBN	**Jahan bin**	**3.87**	**340**	Pn	**Pn**			**17 06 26.8**	**+0.7**
TRNA	**Turayna**	**3.94**	**193**	P	**Pn**			**17 06 28.0**	**+1.2**
	SNR=32								
TRNA				S	**Sn**			**17 07 14.3**	**+1.4**
IBND	**Bandar-abas**	**4.00**	**105**	Pn	**Pn**			**17 06 28.2**	**+0.6**
SMRA	**Abu-Samra**	**4.02**	**198**	P	**Pn**			**17 06 29.8**	**+1.9**
	SNR=13								
SMRA				S	**Sn**			**17 07 17.5**	**+2.5**
NGRK	**Negar Kerman**	**4.10**	**74**	Pn	**Pn**			**17 06 30.4**	**+1.1**
ICHK	**Chekchek**	**4.11**	**27**	Pn	**Pn**			**17 06 30.6**	**+1.3**
KHGB	**Koh Gabri**	**4.13**	**63**	Pn	**Pn**			**17 06 30.9**	**+1.3**
IBAF	**Bafgh**	**4.18**	**43**	Pn	**Pn**			**17 06 31.6**	**+1.4**
TVBK	**TV Kerman**	**4.22**	**70**	Pn	**Pn**			**17 06 31.4**	**+0.4**
IZEF	**Zefreh**	**4.29**	**1**	Pn	**Pn**			**17 06 33.8**	**+1.9**
SHME	**Shamm**	**4.32**	**125**	P	**Pn**			**17 06 31.2**	**-0.9**
SHME				S	**Sn**			**17 07 18.8**	**-3.5**
SHME	**Shamm**	**4.32**	**125**	P	**Pn**			**17 06 33.6**	**+1.5**
	SNR=7.2								
SHME				S	**Sn**			**17 07 23.2**	**+0.9**
UMQ	**Umm Al-Quwin**	**4.34**	**134**	P	**Pn**			**17 06 34.5**	**+2.2**
ZRDN	**Zarand Kerman**	**4.45**	**57**	Pn	**Pn**			**17 06 34.7**	**+0.7**
BANOM	**Banah**	**4.51**	**125**	P	**Pn**			**17 06 36.4**	**+1.7**
BANOM	**Banah**	**4.51**	**125**	P	**Pn**			**17 06 36.4**	**+1.7**
BANOM				S	**Sn**			**17 07 24.0**	**-3.1**
SLWR	**Sila**	**4.53**	**186**	Pn	**Pn**			**17 06 36.4**	**+1.6**
GHWR	**Ruwais**	**4.65**	**172**	Pn	**Pn**			**17 06 37.2**	**+0.7**
NAZ	**Nazwa, Dubai**	**4.73**	**138**	*i* P	**Pn**			**17 06 38.2**	**+0.5**
	SNR=16								
NAZ	**Nazwa, Dubai**	**4.73**	**138**	P	**Pn**			**17 06 38.7**	**+1.0**
	SNR=16								
NAZ				S	**Sn**			**17 07 32.9**	**+0.3**
IKLH	**Kolahrood**	**4.75**	**354**	Pn	**Pn**			**17 06 39.5**	**+1.3**
MASF	**Masafi**	**4.77**	**131**	P	**Pn**			**17 06 39.0**	**+0.7**
	SNR=16								
MASF				S	**Sn**			**17 07 32.7**	**-0.7**
ANAR	**Anarak**	**4.77**	**16**	Pn	**Pn**			**17 06 39.9**	**+1.5**
MSFE	**Esma-Masafi**	**4.78**	**131**	*i* P	**Pn**			**17 06 38.9**	**+0.5**
	SNR=16								
CHMN	**Cheshme madani**	**4.83**	**74**	Pn	**Pn**			**17 06 40.1**	**+0.7**
ASUD	**Al Ashush, Dub**	**4.84**	**144**	*i* P	**Pn**			**17 06 40.4**	**+1.3**
	SNR=62								
ASUD	**Al Ashush, Dub**	**4.84**	**144**	P	**Pn**			**17 06 41.0**	**+1.8**
	SNR=62								
ASUD				S	**Sn**			**17 07 37.9**	**+2.8**
FAQ	**Al Faqa, Dubai**	**4.88**	**141**	*i* P	**Pn**			**17 06 40.5**	**+0.7**
	SNR=14								
FAQ	**Al Faqa, Dubai**	**4.88**	**141**	P	**Pn**			**17 06 41.0**	**+1.2**
	SNR=14								
FAQ				S	**Sn**			**17 07 35.8**	**-0.4**
KHNJ	**Kahnooj**	**4.89**	**96**	Pn	**Pn**			**17 06 40.4**	**+0.4**
MDH	**Madha**	**4.91**	**131**	*i* P	**Pn**			**17 06 40.2**	**+0.1**
	SNR=16								
MDH	**Madha**	**4.91**	**131**	P	**Pn**			**17 06 41.0**	**+0.8**
	SNR=14								
MDH				S	**Sn**			**17 07 35.4**	**-1.5**
UOSS	**Minazif**	**5.09**	**135**		**Pb**			**17 06 55.4**	**-0.2**
HATD	**Hatta, Dubai**	**5.14**	**136**	*i* P	**Pn**			**17 06 43.9**	**+0.6**
	SNR=21								
HATD	**Hatta, Dubai**	**5.14**	**136**	P	**Pn**			**17 06 44.0**	**+0.7**
	SNR=21								
HATD				S	**Sn**			**17 07 40.6**	**-1.9**
QAMS	**Qamsar**	**5.18**	**353**	Pn	**Pn**			**17 06 45.5**	**+1.5**
ASHO	**Ashiyiah**	**5.20**	**138**	*i* P	**Pn**			**17 06 44.2**	**+0.1**
	SNR=36								
ASHO	**Ashiyiah**	**5.20**	**138**	P	**Pn**			**17 06 44.4**	**+0.2**
	SNR=75								
ASHO				S	**Sn**			**17 07 42.6**	**-1.5**
KRSH	**Karshahi**	**5.36**	**359**	Pn	**Pn**			**17 06 48.1**	**+1.6**
KBAM	**BAM**	**5.51**	**83**	Pn	**Pn**			**17 06 50.0**	**+1.6**
ALNE	**Al Ain**	**5.52**	**144**	*i* P	**Pn**			**17 06 48.7**	**+0.1**
	SNR=17								
ALNE	**Al Ain**	**5.52**	**144**	P	**Pn**			**17 06 49.9**	**+1.3**
	SNR=16								
ALNE				S	**Sn**			**17 07 53.1**	**+1.1**
MZR	**Muzera**	**5.68**	**168**	P	**Pn**			**17 06 52.9**	**+2.1**
MZR				S	**Sn**			**17 07 56.2**	**+0.3**
JASK	**Jask - Hormozg**	**5.72**	**117**	P	**Pn**			**17 06 50.5**	**-0.9**
JASK				S	**Sn**			**17 07 56.1**	**-0.9**
	SNR=6.8								
ISFB	**Sefidab**	**5.75**	**0**	Pn	**Pn**			**17 06 52.5**	**+0.8**
TPRV	**Parvadeh(Tabas**	**5.87**	**40**	Pn	**Pn**			**17 06 54.9**	**+1.5**
SOHO	**SOHO**	**5.90**	**138**	*i* P	**Pn**			**17 06 53.5**	**-0.2**
	SNR=13								
SOHO	**SOHO**	**5.90**	**138**	P	**Pn**			**17 06 53.7**	**0.0**
SOHO				S	**Sn**			**17 08 01.0**	**-0.1**
IKFM	**Kafar-mosalman**	**6.18**	**324**	Pn	**Pn**			**17 06 59.5**	**+1.9**
IQOM	**Qom**	**6.31**	**351**	Pn	**Pn**			**17 06 59.6**	**0.0**
HSAM	**Samen**	**6.39**	**332**	Pn	**Pn**			**17 07 01.7**	**+0.9**
IVRN	**Varamin**	**6.40**	**356**	Pn	**Pn**			**17 07 01.6**	**+0.9**
ARQ	**Araqi**	**6.52**	**142**	P	**Pn**			**17 07 03.0**	**+0.7**
	SNR=18								
ARQ				S	**Sn**			**17 08 16.1**	**-0.4**
TKDS	**Koohdasht(Taba**	**6.55**	**39**	Pn	**Pn**			**17 07 04.0**	**+1.3**
TNSJ	**Nastanj**	**6.55**	**34**	Pn	**Pn**			**17 07 04.5**	**+1.7**
HAGD	**Aghdareh**	**6.74**	**338**	Pn	**Pn**			**17 07 06.8**	**+1.3**
IKOM	**Komasi**	**6.86**	**325**	Pn	**Pn**			**17 07 07.3**	**+0.2**
IDMV	**Damavand**	**6.97**	**359**	Pn	**Pn**			**17 07 10.1**	**+1.4**
IFIR	**Firoozkooh**	**7.05**	**4**	Pn	**Pn**			**17 07 11.3**	**+1.5**
ITEG	**Tejag**	**7.08**	**51**	Pn	**Pn**			**17 07 12.1**	**+2.0**
IALM	**Almabolaq**	**7.13**	**332**	Pn	**Pn**			**17 07 11.2**	**+0.3**
BIDO	**Bidbid**	**7.34**	**132**	P	**Pn**			**17 07 13.8**	**+0.3**
BIDO				S	**Sn**			**17 08 33.1**	**-3.6**
NHDN	**Nehbandan**	**7.36**	**66**	Pn	**Pn**			**17 07 15.3**	**+1.4**
BSY	**Bisya**	**7.36**	**141**	P	**Pn**			**17 07 13.8**	**0.0**
	SNR=19								
BSY				S	**Sn**			**17 08 36.3**	**-1.0**
IGHG	**Ghaleghazi**	**7.48**	**321**	Pn	**Pn**			**17 07 16.1**	**+0.5**
ZHDN	**Zahedan**	**7.58**	**82**	Pn	**Pn**			**17 07 17.7**	**+0.7**
SMDO	**Samad**	**7.62**	**135**	P	**Pn**			**17 07 17.2**	**-0.3**
	SNR=13								
SMDO				S	**Sn**			**17 08 41.4**	**-2.4**
MZPU	**Pul - Mazandar**	**7.85**	**356**	Pn	**Pn**			**17 07 22.2**	**+1.5**
IDHR	**Dehrash**	**7.85**	**322**	Pn	**Pn**			**17 07 21.4**	**+0.7**
WSAR	**Wadi Sarin**	**7.86**	**131**	Pn	**Pn**			**17 07 20.1**	**-0.6**
	4.4nm,0.3s,baz=305,slow=12,SNR=40								
WSAR				Sn	**Sn**			**17 08 43.8**	**-6.0**
	3.2nm,0.3s,baz=18,slow=20,SNR=7.5								
WSAR				LR	LR			17 11 18.4	
	comp=Z,210nm,19.0s,baz=3.0,slow=45								
	9.0nm,0.4s								
WSAR	**Wadi Sarin**	**7.86**	**131**	P	**Pn**			**17 07 20.7**	**-0.1**
	SNR=47								
CHBR	**Chabahar**	**7.96**	**110**	Pn	**Pn**			**17 07 21.2**	**-0.8**
KLST	**Kelardasht - M**	**7.96**	**353**	Pn	**Pn**			**17 07 23.8**	**+1.4**
JMDO	**Jabal Madar**	**8.17**	**138**	P	**Pn**			**17 07 25.4**	**+0.5**
JMDO				P	**Pn**			**17 07 25.4**	**+0.5**
WBK	**Wadi Bani Khal**	**8.53**	**133**	P	**Pn**			**17 07 29.3**	**-0.6**
	SNR=25								
WBK				P	**Pn**			**17 07 29.3**	**-0.6**
	SNR=25								
SHRT	**Shahrakht**	**8.57**	**52**	Pn	**Pn**			**17 07 32.3**	**+1.8**
NGCH	**Negor - Chabah**	**8.59**	**110**	Pn	**Pn**			**17 07 30.6**	**-0.1**
NGCH	**Negor - Chabah**	**8.59**	**110**	P	**Pn**			**17 07 30.6**	**-0.1**
	SNR=23								
NGCH				S	**Sn**			**17 09 03.4**	**-4.2**
	SNR=7.9								
SBZV	**Sabzevar**	**9.02**	**29**	Pn	**Pn**			**17 07 38.3**	**+1.6**
SRVN	**Saravan**	**9.09**	**95**	Pn	**Pn**			**17 07 38.3**	**+0.6**
JLN	**Jalan Bani Buh**	**9.14**	**133**	P	**Pn**			**17 07 36.7**	**-1.6**
JLN				P	**Pn**			**17 07 36.7**	**-1.6**
MHTO	**MHTO**	**9.20**	**144**	P	**Pn**			**17 07 39.0**	**-0.1**
	SNR=17								
MRVT	**Maraveh tapeh**	**9.61**	**19**	Pn	**Pn**			**17 07 46.9**	**+2.1**
ISFR	**Sfrayin**	**9.74**	**29**	Pn	**Pn**			**17 07 48.7**	**+2.0**
DQM	**DQM**	**9.90**	**149**	P	**Pn**			**17 07 47.8**	**-0.9**
	SNR=7.4								
DQM				S	**Sn**			**17 09 36.1**	**-3.6**
HRA	**Herat**	**10.33**	**53**	Pn	**Pn**			**17 07 52.1**	**-2.7**
GEYT	**Alibeck**	**10.54**	**26**		**Pn**			**17 07 55.7**	**-1.8**
GEYT	**Alibeck**	**10.54**	**26**	Pn	**Pn**			**17 07 59.4**	**+1.9**
	1.6nm,0.3s,baz=202,slow=11,SNR=19								
GEYT				LR	LR			17 11 41.2	
	comp=Z,79nm,21.6s,baz=229,slow=35								
	15nm,0.9s								
GYA0	**ALIBECK ARRAY**	**10.54**	**26**	P	**Pn**			**17 07 55.6**	**-1.9**
GYA0B	**ALIBECK ARRAY**	**10.54**	**26**		**Pn**			**17 07 55.6**	**-1.9**
WHFO	**Wadi Hawf**	**10.72**	**172**	P	**Pn**			**17 07 58.4**	**-1.5**
	SNR=7.1								
SHAO	**Shalim**	**10.98**	**163**	*i* P	**Pn**			**17 08 00.9**	**-2.5**
	SNR=20								
SHAO	**Shalim**	**10.98**	**163**	P	**Pn**			**17 08 01.3**	**-2.2**
	SNR=25								
DMTO	**DMTO**	**11.11**	**166**	P	**Pn**			**17 08 03.3**	**-2.0**
	SNR=40								
RBK	**Rabkut**	**11.19**	**170**	P	**Pn**			**17 08 04.7**	**-1.7**
ABTO	**Aybut**	**11.23**	**175**	P	**Pn**			**17 08 05.2**	**-1.7**
	SNR=16								
GURO	**Guroymak-BITLI**	**13.05**	**322**	Pn	**Pn**			**17 08 27.8**	**-4.1**
GNI	**Garni**	**13.07**	**334**	LR	LR			17 14 09.6	
	comp=Z,219nm,18.6s,baz=150,slow=40								
ASF	**Jabal al Asfar**	**13.69**	**289**	Pn	**Pn**			**17 08 40.3**	**-0.2**
	0.5nm,0.3s,baz=63,slow=24,SNR=2.7								
ASF				Sn	**Sn**			**17 11 03.9**	**-8.6**
	0.2nm,0.3s,baz=248,slow=22,SNR=1.5								
	1.7nm,0.3s								
ASF	**Jabal al Asfar**	**13.69**	**289**	P	**Pn**			**17 08 43.0**	**+2.5**
KARS	**Kars**	**14.15**	**330**	Pn	**Pn**			**17 08 43.4**	**-3.5**
KARS	**Kars**	**14.15**	**330**	P	**Pn**			**17 08 43.4**	**-3.5**
SWQJ	**Swaqa**	**14.25**	**285**	P	Pn			17 08 41.6	-6.6
KARJ	**KARJ**	**14.58**	**284**	P	**P**			**17 08 57.9**	**-1.2**
GHAJ	**Ghor Haditha**	**14.68**	**285**	Pn	**Pn**			**17 08 52.3**	**-1.6**
SHMJ	**Saham**	**14.74**	**290**	P	**Pn**			**17 08 53.1**	**-1.7**
QRNJ	**Al-Qirein**	**14.82**	**289**	P	**P**			**17 09 03.7**	**+2.0**
MAK	**Makhachkala**	**14.84**	**346**	*eP*	Pn			17 08 49.3	-6.7
MAK				pmax	pmax				
	comp=Z,242nm,1.1s								
MAK				MLR	MLR				
	comp=Z,504nm,17.0s								
HMDT	**Nahal Hemdat**	**14.84**	**288**	P	**P**			**17 08 59.7**	**-2.4**
HMDT	**Nahal Hemdat**	**14.84**	**288**	P	**P**			**17 08 59.6**	**-2.5**
UJAP	**Al Uja**	**14.85**	**287**	P	**Pn**			**17 08 57.4**	**+1.1**
MSBI	**Mazada**	**14.85**	**285**	P	**P**			**17 09 05.4**	**+3.3**
MSBI	**Mazada**	**14.85**	**285**	P	**P**			**17 09 00.5**	**-1.6**
NATI	**Neve Ativ**	**14.88**	**292**	P	**Pn**			**17 08 57.4**	**+0.7**
ZFRI	**Zfri**	**14.95**	**282**	P	**P**			**17 09 00.8**	**-2.4**
PRNI	**Paran**	**15.09**	**281**	P	**Pn**			**17 08 59.9**	**+0.4**
PRNI	**Paran**	**15.09**	**281**	P	**P**			**17 09 02.7**	**-2.1**
MMAI	**Mount Meron Ar**	**15.09**	**291**	Pn	**Pn**			**17 08 58.3**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=98,slow=18,SNR=5.6								
MMAI				LR	LR			17 15 56.3	
	comp=Z,215nm,18.6s,baz=78,slow=42								
	comp=Z,2.4nm,0.5s								
EIL2	**Elat**	**15.12**	**278**	P	**P**			**17 09 04.5**	**-0.6**
EIL	**Elat**	**15.12**	**278**	Pn	**Pn**			**17 08 59.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=61,slow=18,SNR=1.7								
EIL				LR	LR			17 15 28.1	
	comp=Z,199nm,18.0s,baz=92,slow=40								
	comp=Z,1.9nm,0.7s								
EIL	**Elat**	**15.12**	**278**	P	**P**			**17 09 04.8**	**-0.3**
EIL	**Elat**	**15.12**	**278**	P	**P**			**17 09 04.6**	**-0.5**
MBRI	**Mt Berech**	**15.15**	**279**	P	**Pn**			**17 09 02.0**	**+1.5**
MBRI	**Mt Berech**	**15.15**	**279**	P	**P**			**17 09 04.9**	**-0.7**
SLTI	**Sal'it**	**15.25**	**288**	P	**Pn**			**17 09 03.1**	**+1.4**
SLTI	**Sal'it**	**15.25**	**288**	P	**P**			**17 09 04.6**	**-2.0**
AMAZ	**Amatzia**	**15.26**	**285**	P	**P**			**17 09 06.8**	**+0.1**
KRMI	**Paran Flat**	**15.32**	**280**	P	**P**			**17 09 05.4**	**-2.0**
KBL	**Kabul**	**15.53**	**63**	Pn	**Pn**			**17 09 06.7**	**+1.2**
KBL	**Kabul**	**15.53**	**63**	P	**Pn**			**17 09 06.7**	**+1.2**
KBL				pmax	pmax				
	comp=Z,20nm,1.2s								
ARPR	**Arapgir-MALATY**	**15.55**	**316**	Pn	**Pn**			**17 09 02.6**	**-3.2**
ARPR				lAmb	lAmb			17 09 33.0	
	comp=Z,17nm,1.0s								
KZIT	**Kziot**	**15.64**	**283**	P	**P**			**17 09 10.8**	**-0.1**
ONI	**Oni**	**15.66**	**335**	Pn	**Pn**			**17 09 02.3**	**-4.8**
ONI	**Oni**	**15.66**	**335**	P	**Pn**			**17 09 02.3**	**-4.8**
ONI				pmax	pmax				
	comp=Z,23nm,1.4s								
ZEI	**Tsey**	**15.68**	**337**	*eP*	**Pn**			**17 09 08.6**	**+1.2**
ZEI				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KBZ	**Khabaz**	**16.85**	**336**	*eP*	**Pn**			**17 09 21.0**	**-1.2**
KBZ	**Khabaz**	**16.85**	**336**	Pn	**Pn**			**17 09 22.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=158,slow=12,SNR=5.1								
	comp=Z,6.1nm,1.1s								
BNN	**Bunyan**	**17.00**	**311**		**Pn**			**17 09 21.9**	**-2.4**
BNN				lAmb	lAmb			17 09 44.0	
	comp=Z,39nm,1.1s								
KIV	**Kislovodsk**	**17.13**	**336**	*eP*	**Pn**			**17 09 25.4**	**-0.4**
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
KIV				MLR	MLR				
	comp=Z,71nm,14.0s								
SIMJ	**Simiganj**	**17.20**	**50**	Pn	**Pn**			**17 09 26.4**	**-0.4**
SIMJ				lAmb	lAmb			17 09 33.0	
	comp=Z,35nm,1.3s								
CSS	**Mathiatis**	**17.25**	**296**	Pn	**Pn**			**17 09 25.4**	**-1.9**
CSS				lAmb	lAmb			17 09 31.0	
	comp=Z,27nm,1.0s								
CSS	**Mathiatis**	**17.25**	**296**	P	**Pn**			**17 09 24.6**	**-2.7**
SOC	**Sochi**	**18.02**	**329**	*eP*	**P**			**17 09 39.9**	**+2.8**
SOC				MLR	MLR				
	comp=Z,176nm,17.0s								
NIL	**Nilore**	**18.70**	**69**	P	**Pn**			**17 09 45.2**	**0.0**
NIL	**Nilore**	**18.70**	**69**	P	**Pn**			**17 09 45.

MILM pmax pmax
comp=Z,110nm,1.2s
LEOM Leova 25.91 320 ⇓P P 17 10 59.7 +1.4
LEOM Leova 25.91 320 P P 17 10 59.7 +1.4
LPSR Galich'ya Gora 25.93 341 eP P 17 10 56.7 -1.7
LPSR pmax pmax
comp=Z,50nm,0.9s
GHRR 26.16 319 ⇑P P 17 11 00.9 +0.3
PANC Panciu 26.21 318 ⇓P P 17 11 01.7 +0.7
NEHR Nehoiu 26.49 316 ⇑P P 17 11 05.0 +1.4
PLOR Plostina 26.49 317 ⇑P P 17 11 04.4 +0.7
PLOR Plostina 26.49 317 ⇑P P 17 11 04.4 +0.7
PLVB Pleven 26.61 311 ⇑P P 17 11 06.2 +1.6
MLR Muntele Rosu 26.73 316 ⇑P P 17 11 07.5 +1.6
MLR Muntele Rosu 26.73 316 P P 17 11 06.2 +0.3
MLR IAmb IAmb 17 11 32.3
comp=Z,13nm,0.9s
MLR Muntele Rosu 26.73 316 P P 17 11 07.5 +1.6
MLR Muntele Rosu 26.73 316 LR LR 17 24 56.1
comp=Z,228nm,18.1s,baz=118,slow=44
COVR Voineasa-Covas 26.75 317 ⇑P P 17 11 07.2 +1.2
SORM Soroca 26.84 323 ⇑P P 17 11 06.6 -0.1
SORM Soroca 26.84 323 ⇑P P 17 11 06.6 -0.1
TESR Tescani 26.85 319 ⇑P P 17 11 07.6 +0.8
TURR Turia 26.98 317 ⇑P P 17 11 09.1 +1.1
VOIR 27.25 315 ⇑P P 17 11 11.8 +1.2
VOIR 27.25 315 ⇑P P 17 11 11.8 +1.2
DOPR Dopca 27.31 317 ⇑P P 17 11 12.6 +1.6
ARR Arges 27.48 315 ⇑P P 17 11 14.1 +1.6
BRVK Borovoye 27.85 24⇓eP P 17 11 16.5 +0.8
BRVK pmax pmax
comp=Z,8.0nm,2.6s
BVAR Borovoye Array 27.86 24 P P 17 11 16.3 +0.5
comp=Z,1.3nm,0.4s
BVAR PcP PcP 17 14 32.3 +0.9
BVAR LR LR 17 23 57.2
comp=Z,125nm,19.5s,baz=210,slow=40
comp=Z,1.3nm,0.4s
FNA Florina 27.97 304 P P 17 11 18.6 +1.6
FNA IAmb IAmb 17 11 45.6
comp=Z,12nm,1.4s
FNA Florina 27.97 304 P P 17 11 18.6 +1.6
FNA pmax pmax
comp=Z,12nm,1.4s
AKASG Malin Array Be 28.09 328 *i* P P 17 11 17.5 -0.3
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 28.09 328 P P 17 11 17.2 -0.6
comp=Z,2.4nm,0.7s,baz=133,slow=8.0,SNR=15
comp=Z,2.4nm,0.7s
AKBB Malin Array Si 28.09 328 P P 17 11 16.8 -1.0
AKBB IAmb IAmb 17 11 26.8
comp=Z,14nm,1.2s
AKBB Malin Array Si 28.09 328⇓eP P 17 11 17.1 -0.7
KIEV Kiev 28.09 328 ⇑P P 17 11 17.4 -0.4
KIEV Kiev 28.09 328 P P 17 11 17.0 -0.9
KIEV IAmb IAmb 17 11 26.8
comp=Z,13nm,1.2s
KIEV Kiev 28.09 328 P P 17 11 17.4 -0.4
ARU Arti 28.19 7 LR LR 17 25 25.4
comp=Z,102nm,20.8s,baz=170,slow=42
BURAR Bucovina Array 28.27 320 ⇑P P 17 11 19.8 +0.2
BURAR Bucovina Array 28.27 320 P P 17 11 19.8 +0.2
MARR Marisel-Cluj 29.03 316 ⇑P P 17 11 27.2 +0.8
TIR Tirane 29.22 304 P P 17 11 28.1 0.0
TIR Tirane 29.22 304 P P 17 11 28.1 0.0
TIR pmax pmax
comp=Z,23nm,0.7s
MAKZ Makanchi 29.51 44 P P 17 11 30.6 +0.1
MAKZ Makanchi 29.51 44 P P 17 11 35.4 +4.8
KURBB Kurchatov Arra 29.63 35 P P 17 11 33.0 +1.2
comp=Z,0.8nm,0.4s,baz=234,slow=9.1,SNR=13
KURBB PcP PcP 17 14 35.1 -0.8
comp=Z,0.3nm,0.8s,baz=236,slow=3.2,SNR=4.2
KURBB LR LR 17 25 16.9
comp=Z,209nm,19.6s,baz=180,slow=40
comp=Z,0.8nm,0.4s
MK31 Makanchi Array 29.69 44 P P 17 11 32.1 -0.2
MK31 Makanchi Array 29.69 44*d*eP P 17 11 32.8 +0.6
MKAR Makanchi Array 29.69 44 P P 17 11 32.4 +0.2
MKAR Makanchi Array 29.69 44 *i* P P 17 11 32.9 +0.7
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 29.69 44 P P 17 11 33.0 +0.7
comp=Z,0.7nm,0.4s,baz=237,slow=9.8,SNR=15
MKAR PcP PcP 17 14 35.6 -0.6
comp=Z,0.5nm,0.6s,baz=258,slow=1.8,SNR=4.7
MKAR LR LR 17 25 17.1
comp=Z,142nm,18.4s,baz=248,slow=40
comp=Z,0.7nm,0.4s
SIRR Siria 29.74 315 ⇑P P 17 11 34.0 +1.4
KURK Kurchatov 29.75 35 P P 17 11 33.6 +0.9
KURK Kurchatov 29.75 35⇑eP P 17 11 34.9 +2.2
KURK pmax pmax
comp=Z,3.0nm,1.0s
KIRV Kirov 30.05 357⇓eP P 17 11 35.1 0.0
KIRV Kirov 30.05 357 LR LR 17 27 44.5
comp=Z,109nm,18.9s,baz=181,slow=44
KOLS Kolonicke sedl 30.63 320 eP P 17 11 42.4 +1.9
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 30.63 320 eP P 17 11 42.4 +1.9
CRVS Cervenica-Dubn 31.08 319 eP P 17 11 46.0 +1.6
CRVS pmax pmax
comp=Z,20nm,1.4s
CRVS Cervenica-Dubn 31.08 319 eP P 17 11 46.0 +1.6
CUC Castrocucco 31.94 301 P P 17 11 53.1 +1.0
NACGM Naroch 32.08 332 eP P 17 11 51.1 -1.9
WMQ Urumqi 32.14 52 eP P 17 11 57.5 +3.6
LANS Liptovska Anna 32.35 318 eP P 17 11 56.7 +1.0
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 32.35 318 eP P 17 11 56.7 +1.0
VYHS Vyhne 32.43 317 eP P 17 11 56.1 -0.3
VYHS Vyhne 32.43 317 eP P 17 11 56.1 -0.3
OJC Ojcow 32.67 320 P P 17 11 57.9 -0.5
OJC IAmb IAmb 17 11 59.7
comp=Z,11nm,1.0s
OJC Ojcow 32.67 320 P P 17 11 57.9 -0.5
OJC pmax pmax
comp=Z,11nm,1.0s
VAE Valguarnera 32.72 296 LR LR 17 27 37.8
comp=Z,103nm,18.6s,baz=151,slow=41
KMBO Kilima Mbogo 32.84 208 LR LR 17 26 26.0
comp=Z,96nm,18.6s,baz=71,slow=38
JAVC Velka Javorina 33.29 317 eP P 17 12 04.9 +1.0
SMOL Smolenice 33.29 316 eP P 17 12 05.0 +1.1
KLMR Klimovskoe 33.37 349 eP P 17 12 01.6 -2.8
KLMR pmax pmax
comp=Z,31nm,1.3s
MAUC Maruska 33.41 318 eP P 17 12 05.4 +0.5
PABE Paberze 33.67 331 P P 17 12 06.1 -0.9
RONA Rosalia, Austr 33.68 314 eP P 17 12 07.8 +0.5
comp=Z,0.6nm,0.3s
INTR Introdacqua 33.72 304 P P 17 12 08.2 +0.5
INTR IAmb IAmb 17 12 10.1
comp=Z,15nm,1.2s
MORC Moravsky Berou 33.76 318 ⇑P P 17 12 08.1 +0.2
MORC Moravsky Berou 33.76 318 P P 17 12 07.3 -0.6
MORC IAmb IAmb 17 12 09.2
comp=Z,4.9nm,0.9s
MORC Moravsky Berou 33.76 318 eP P 17 12 08.2 +0.2
MORC Moravsky Berou 33.76 318 P P 17 12 08.1 +0.2
CONA Conrad Óbserva 34.03 315 *i* P P 17 12 10.6 +0.2
comp=Z,0.4nm,0.3s
DGZ Jazzator, Alta 34.06 42⇑eP P 17 12 11.8 +1.1
DGZ pmax pmax
comp=Z,8.0nm,2.2s
VRAC Vranov 34.12 317 ⇑P P 17 12 11.5 +0.4
VRAC Vranov 34.12 317 eP P 17 12 12.1 +1.0
VRAC Vranov 34.12 317 P P 17 12 11.5 +0.4
VRAC Vranov 34.12 317 LR LR 17 29 54.0
comp=Z,99nm,19.0s,baz=108,slow=43
KRUC Moravsky 34.14 317 eP P 17 12 11.7 +0.5
CAMP Campotosto 34.18 304 P P 17 12 12.7 +0.9
PALK Pallekele 34.25 123 LR LR 17 26 09.3
comp=Z,52nm,19.8s,baz=73,slow=36
KRLC Kraliky 34.33 319 eP P 17 12 12.9 0.0
KRLC Kraliky 34.33 319 eP P 17 12 12.9 0.0
NRCA Norcia 34.45 305 P P 17 12 14.6 +0.4
NRCA IAmb IAmb 17 12 17.7
comp=Z,14nm,1.0s
FDMO Fiordimonte 34.51 305 P P 17 12 15.8 +1.2
DPC Dobruska-Polom 34.71 319 eP P 17 12 16.4 +0.2
DPC *e* 17 12 22.6
DPC Dobruska-Polom 34.71 319 *e*P P 17 12 16.4 +0.2
DPC *e*pP sP 17 12 22.6 +0.4
ZAA0 Zalesovo Array 34.73 34 P P 17 12 16.0 -0.2
ZAA0 IAmb IAmb 17 12 18.2
comp=Z,5.9nm,1.1s
ZALV Zalesovo Beam 34.73 34 P P 17 12 16.1 -0.2
ZALV Zalesovo Beam 34.73 34 P P 17 12 16.7 +0.5
comp=Z,3.6nm,0.3s,baz=244,slow=9.9,SNR=28
ZALV PcP PcP 17 14 49.0 -0.8
comp=Z,0.5nm,0.5s,baz=237,slow=5.0,SNR=1.7
ZALV LR LR 17 28 25.9
comp=Z,130nm,19.4s,baz=244,slow=40
comp=Z,3.6nm,0.3s
CESX Cesi 34.80 304 P P 17 12 17.1 +0.1
OSTC Ostas 34.86 319 eP P 17 12 17.6 +0.1
OSTC Ostas 34.86 319 eP P 17 12 17.6 +0.1
UPC Upice 34.96 319 eP P 17 12 18.6 +0.3
UPC Upice 34.96 319 eP P 17 12 18.6 +0.3
MOA Molln 35.01 314 *i* P P 17 12 19.0 +0.2
comp=Z,1.4nm,0.6s
KBA Koelnbreinsper 35.36 312 *i* pP P 17 12 22.8 +0.8
comp=Z,3.1nm,0.5s
BIOA Bad Ischl, Aus 35.36 313 *i* P P 17 12 22.4 +0.5
comp=Z,2.6nm,0.4s
PRU Pruhonice 35.61 317 eP P 17 12 23.1 -0.8
PRU Pruhonice 35.61 317 eP P 17 12 23.1 -0.8
ZVC Zvikov 35.62 316 eP P 17 12 24.3 +0.3
ZVC epP sP 17 12 30.6 +0.7
GERES GERESS Array B 35.70 315 P P 17 12 23.8 -1.0
comp=Z,0.9nm,0.8s,baz=116,slow=6.7,SNR=1.8
GERES LR LR 17 29 19.0
comp=Z,81nm,18.9s,baz=108,slow=40
comp=Z,0.9nm,0.8s
CIMO Cimolais 35.74 311 P P 17 12 24.3 -0.8
CIMO IAmb IAmb 17 12 57.0
comp=Z,8.5nm,1.2s
ABTA Abfaltersbach 35.81 311 *i* pP P 17 12 26.7 +0.9
comp=Z,1.7nm,0.6s
KHC Kasperske Hory 35.88 316 P P 17 12 25.4 -0.8
KHC IAmb IAmb 17 12 28.1
comp=Z,11nm,1.4s
KHC Kasperske Hory 35.88 316 eP P 17 12 26.4 +0.1
KHC Kasperske Hory 35.88 316 eP P 17 12 26.4 +0.1
LESA Schwarzleotal 35.90 313 *i* P P 17 12 26.7 +0.2
comp=Z,2.8nm,0.6s
BRG Berggiesshubel 36.31 319 eP P 17 12 30.0 +0.1
BRG Amp 17 12 30.8
comp=Z,9.2nm,1.2s
BRG Berggiesshubel 36.31 319 eP P 17 12 29.9 +0.1
BRG pmax pmax
comp=Z,9.0nm,1.2s
WTTA Wattenberg 36.53 312 eP P 17 12 32.2 +0.2
comp=Z,3.1nm,0.6s
WATA Walderalm 36.59 312 *i* P P 17 12 31.9 -0.6
comp=Z,11nm,1.0s
KEST Kesra 36.75 292 P P 17 12 35.5 +1.6
KEST Kesra 36.75 292 P P 17 12 33.7 -0.2
comp=Z,5.9nm,0.8s,baz=108,slow=20,SNR=4.0
comp=Z,5.9nm,0.8s
SQTA Sankt Quirin 36.80 312 *i* P P 17 12 34.2 0.0
comp=Z,2.3nm,0.4s
VSL Villasalto 36.81 299 P P 17 12 34.4 +0.1
MOTA Moosalm 36.90 312 *i* P P 17 12 34.8 -0.3
comp=Z,1.4nm,0.5s
CLL Collm 37.03 319 P P 17 12 35.4 -0.6
CLL IAmb IAmb 17 12 37.0
comp=Z,16nm,1.3s
CLL Collm 37.03 319 *i* P P 17 12 36.1 +0.1
CLL *e* 17 12 42.0
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 37.03 319 *i* P P 17 12 36.1 +0.1
comp=Z,15nm,1.2s
CLL *e*(sP) sP 17 12 42.0 +0.1
CLL *e*PP PnPn 17 14 02.0 +1.5
FETA Feichten 37.06 311 *i* P P 17 12 35.9 -0.6
comp=Z,3.5nm,0.8s
FIA1 FINESS Array S 37.17 340 P P 17 12 36.1 -0.9
FINES FINESS Array B 37.17 339 P P 17 12 36.4 -0.6
FINES FINESS Array B 37.17 339 P P 17 12 36.7 -0.3
comp=Z,2.7nm,0.4s,baz=144,slow=9.7,SNR=45
FINES LR LR 17 30 22.3
comp=Z,189nm,18.2s,baz=145,slow=40
comp=Z,2.7nm,0.4s
FUORN Ofenpass-Fuorn 37.27 310 P P 17 12 39.0 +0.6
GRA1 Grafenberg Arr 37.52 316 P P 17 12 39.5 -0.7
GRA1 IAmb IAmb 17 13 02.4
comp=Z,33nm,1.5s
GRF Grafenberg Arr 37.52 316 P P 17 12 39.5 -0.7
GRF pmax pmax
comp=Z,33nm,1.5s
GRFO Grafenberg 37.52 316 P P 17 12 39.2 -0.9
GRFO IAmb IAmb 17 13 01.6
comp=Z,8.1nm,0.8s
GRFO Grafenberg 37.52 316 P P 17 12 39.3 -0.9
GRFO pmax pmax
comp=Z,8.0nm,0.8s
DAVOX Davos/Dischmat 37.56 311 LR LR 17 33 38.9
comp=Z,74nm,18.7s,baz=87,slow=45
DAVA Damuels 37.69 311 eP P 17 12 41.3 -0.6
comp=Z,7.0nm,0.5s
SENIN Lac Senin/Sane 39.22 309 P P 17 12 54.1 -0.7
SENIN IAmb IAmb 17 13 12.7
comp=Z,25nm,1.1s
BNI Bardonecchia 39.42 307 P P 17 12 55.7 -0.7
BNI IAmb IAmb 17 13 06.5
comp=Z,18nm,1.4s
BNI Bardonecchia 39.42 307 P P 17 12 55.7 -0.7
BNI pmax pmax
comp=Z,18nm,1.5s
GTA Gaotai 40.51 62 P P 17 13 06.9 +1.4
GTA pmax pmax
comp=Z,3.0nm,0.9s
HFS Hagfors 40.84 332 P P 17 13 08.0 +0.2
HFS Hagfors 40.84 332 P P 17 13 08.0 +0.2
comp=Z,2.3nm,0.3s,baz=135,slow=8.6,SNR=36
HFS LR LR 17 31 03.5
comp=Z,95nm,21.8s,baz=116,slow=38
comp=Z,2.3nm,0.3s
NC602 NORSAR Array S 42.06 331 P P 17 13 16.8 -1.0
NC602 IAmb IAmb 17 13 53.1
comp=Z,29nm,1.4s
NC602 NORSAR Array S 42.06 331 eP P 17 13 18.3 +0.4
NC405 NORSAR Array S 42.19 332 P P 17 13 18.0 -0.8
NC405 IAmb IAmb 17 13 56.1
comp=Z,28nm,1.5s
TAM Tamanrasset 42.26 273 P P 17 13 20.7 +0.6
TAM Tamanrasset 42.26 273 P P 17 13 20.7 +0.6
TAM pmax pmax
comp=Z,6.0nm,1.1s
HOMB Homborsund 42.26 327 eP P 17 13 19.0 -0.4
NB201 NORSAR Array S 42.33 332 P P 17 13 18.9 -1.2
NB201 IAmb IAmb 17 13 24.7
comp=Z,15nm,1.1s
NB2 NORSAR Subarra 42.36 332 P P 17 13 19.5 -0.8
comp=Z,1.2nm,0.7s,baz=119,slow=8.6
NB2 NORSAR Subarra 42.36 332 P P 17 13 19.5 -0.8
baz=119,slow=8.6
NOA NORSAR Array B 42.36 332 P P 17 13 19.8 -0.5
comp=Z,1.4nm,0.8s,baz=127,slow=9.2,SNR=12
NOA LR LR 17 32 31.5
comp=Z,82nm,20.2s,baz=285,slow=38
comp=Z,1.4nm,0.8s
KONO Kongsberg 42.37 329 P P 17 13 19.3 -1.0
KONO Kongsberg 42.37 329 P P 17 13 19.3 -1.0
KONO pmax pmax
comp=Z,37nm,1.4s
KONO Kongsberg 42.37 329 eP P 17 13 19.6 -0.7
NC303 NORSAR Array S 42.39 332 P P 17 13 19.9 -0.6
NC303 IAmb IAmb 17 13 33.4
comp=Z,23nm,1.4s
NAO01 NORSAR Array S 42.40 331 P P 17 13 19.9 -0.7
NAO01 IAmb IAmb 17 13 24.3
comp=Z,19nm,1.2s
NBO00 NORSAR Array S 42.54 332 P P 17 13 21.8 +0.1
NBO00 IAmb IAmb 17 13 39.8
comp=Z,15nm,1.1s
NC204 NORSAR Array S 42.67 332 P P 17 13 22.5 -0.3
NC204 IAmb IAmb 17 13 31.7
comp=Z,21nm,1.4s
SKAR Skarslia 43.42 330 eP P 17 13 30.4 +1.4
VADS Vadso 43.57 349 eP P 17 13 29.5 -0.4
CHTO Chiang Mai 43.66 92 P P 17 13 33.4 +2.1
CHTO Chiang Mai 43.66 92 P P 17 13 33.4 +2.1
CHTO pmax pmax
comp=Z,7.0nm,1.4s
KEV Kevo 43.67 348 P P 17 13 31.1 +0.3
KEV Kevo 43.67 348 P P 17 13 31.1 +0.3
KEV pmax pmax
comp=Z,61nm,1.4s
BLS5 Blasjo 43.71 328 eP P 17 13 32.1 +0.9
PZH PanZhiHua 43.72 81 P P 17 13 34.3 +2.4
PZH pmax pmax
comp=Z,7.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.1s
ARA0 ARCESS Array S 43.78 347 eP P 17 13 32.2 +0.5
ARCES ARCESS Array B 43.78 347 P P 17 13 31.9 +0.2
ARCES IAmb IAmb 17 13 47.5
comp=Z,25nm,1.4s
ARCES ARCESS Array B 43.78 347 P P 17 13 31.9 +0.2
comp=Z,1.5nm,0.5s,baz=142,slow=7.7,SNR=27
comp=Z,1.5nm,0.5s
CMAR Chiang Mai Arr 43.79 93 *i* P P 17 13 35.9 +3.5
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 43.79 93 P P 17 13 32.6 +0.2
comp=Z,0.7nm,0.6s,baz=285,slow=9.0,SNR=6.4
CMAR PcP PcP 17 15 18.8 -0.2
comp=Z,0.5nm,0.5s,baz=293,slow=4.7,SNR=2.3
CMAR LR LR 17 36 39.5
comp=Z,60nm,18.1s,baz=280,slow=43
comp=Z,0.7nm,0.6s
ODD1 Odda 43.83 329 eP P 17 13 33.8 +1.5
KTK1 Kautokeino 43.84 345 eP P 17 13 32.1 0.0
CRAI Chiangrai 44.41 90 P P 17 13 37.9 +0.6
CRAI IAmb IAmb 17 13 56.2
comp=Z,8.5nm,1.5s
FAUS Fauske 44.69 341 eP P 17 13 39.4 +0.5
JETT Jettan, Norway 44.90 345 eP P 17 13 40.9 +0.2
HAMF Hammerfest 45.05 347 eP P 17 13 43.2 +1.4
TRO Tromso 45.30 344 eP P 17 13 44.4 +0.7
NRIK Noril'sk 45.60 17⇑eP P 17 13 47.0 +0.9
NRIK pmax pmax
comp=Z,4.0nm,1.4s
NRIK Noril'sk 45.60 17 P P 17 13 46.4 +0.3
comp=Z,1.2nm,0.5s,baz=207,slow=4.9,SNR=3.8
comp=Z,1.2nm,0.5s
SONM Songino Array 45.70 50 P P 17 13 48.3 +0.9
comp=Z,0.8nm,0.5s,baz=267,slow=10.0,SNR=4.5
comp=Z,0.8nm,0.5s
ULN Ulaanbaatar 46.14 50 P P 17 13 51.8 +0.9
ULN Ulaanbaatar 46.14 50⇑eP P 17 13 50.6 -0.3
ULN pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 47.11 299 P P 17 13 59.3 +0.8
comp=Z,0.3nm,0.4s,baz=76,slow=7.8,SNR=6.2
comp=Z,0.3nm,0.4s
PAB San Pablo 47.41 299 P P 17 14 02.0 +1.1
PAB IAmb IAmb 17 14 28.3
comp=Z,13nm,1.4s
PAB San Pablo 47.41 299 P P 17 14 02.0 +1.1
PAB pmax pmax
comp=Z,13nm,1.5s
EKA Eskdalemuir Ar 47.45 320 P P 17 14 00.7 -0.1
comp=Z,1.1nm,0.4s,baz=104,slow=7.7,SNR=16
comp=Z,1.1nm,0.4s
ESK Eskdalemuir 47.47 320 P P 17 14 01.0 0.0
ESK Eskdalemuir 47.47 320 P P 17 14 01.0 0.0
ESK pmax pmax
comp=Z,53nm,1.4s
DSB Dublin 49.00 317 P P 17 14 12.4 -0.5
TOA0 Torodi Ar. Sit 49.28 263 P P 17 14 15.2 -0.3
TOA0 IAmb IAmb 17 14 16.6
comp=Z,5.7nm,0.9s
TORD Torodi Ar. Bea 49.28 263 P P 17 14 15.1 -0.4
TORD IAmb IAmb 17 14 16.6
comp=Z,4.1nm,0.9s
TORD Torodi Ar. Bea 49.28 263 P P 17 14 15.5 0.0
comp=Z,4.0nm,0.7s,baz=53,slow=8.7,SNR=27
comp=Z,4.0nm,0.7s
HHC Hu-ho-hao-te 49.45 59 eP P 17 14 18.3 +1.7
HHC pmax pmax
comp=Z,42nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.0s
UBPT Khong Chiam 50.78 93 P P 17 14 29.6 +2.7
KULM Kulim 51.36 107 P P 17 14 32.8 +1.6
SPITS Spitsbergen Ar 52.20 351 P P 17 14 37.6 +0.9
comp=Z,13nm,0.9s,baz=148,slow=8.5,SNR=1.7
comp=Z,13nm,0.9s
JMIC Jan Mayen 53.79 339 LR LR 17 36 32.3
comp=Z,65nm,20.6s,baz=78,slow=35
MPHEP Siloam, Limpop 55.43 205 eP P 17 15 03.0 +2.0
MPHEP IAmb IAmb 17 15 03.9
comp=Z,8.0nm,1.1s
MOPA Mopani 55.55 203 eP P 17 15 04.0 +2.3
HOED Hoedspruit, Li 56.53 203 eP P 17 15 10.3 +1.4
HOED IAmb IAmb 17 15 10.9
comp=Z,7.2nm,1.1s
NJ2 Nanjing 56.81 69 eP P 17 15 11.9 +1.0
NJ2 pP pP 17 15 15.0 -0.2
NJ2 sP sP 17 15 16.8 -0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
NJ2 pmax pmax
comp=Z,130nm,6.4s
LEPH Lephalale, Lim 57.20 207 eP P 17 15 14.6 +1.0
LEPH IAmb IAmb 17 15 15.4
comp=Z,5.4nm,0.7s
BORG Borgarnes 57.52 331 LR LR 17 43 12.2
comp=Z,88nm,18.1s,baz=81,slow=39
DBIC Dimbokro 58.00 259 P P 17 15 17.9 -1.5
DBIC IAmb IAmb 17 15 21.1
comp=Z,5.9nm,0.9s
DBIC Dimbokro 58.00 259 eP P 17 15 18.9 -0.6
DBIC Dimbokro 58.00 259 P P 17 15 18.1 -1.3
comp=Z,5.4nm,0.8s,baz=64,slow=9.3,SNR=7.9
DBIC LR LR 17 41 40.9
comp=Z,70nm,19.4s,baz=355,slow=38
comp=Z,5.4nm,0.8s
TSUM Tsumeb 58.11 219 LR LR 17 41 43.7
comp=Z,82nm,18.7s,baz=155,slow=38
NHAM Northam, North 58.34 207 eP P 17 15 22.8 +1.2
NYAT Nyati, Northwe 58.65 206 eP P 17 15 25.4 +1.6
NYAT IAmb IAmb 17 15 34.1
comp=Z,20nm,1.5s
LBTB Lobatse 59.12 208 P P 17 15 28.0 +0.9
LBTB IAmb IAmb 17 15 29.6
comp=Z,5.9nm,0.7s
LBTB Lobatse 59.12 208 P P 17 15 28.0 +0.9
LBTB pmax pmax
comp=Z,6.0nm,0.7s
LBTB Lobatse 59.12 208 eP P 17 15 27.9 +0.7
LBTB IAmb IAmb 17 15 32.8
comp=Z,8.7nm,1.1s
YAK Yakutsk 59.35 32 P P 17 15 26.6 -1.5
YAK IAmb IAmb 17 15 55.7
comp=Z,5.4nm,0.8s
YAK Yakutsk 59.35 32⇑eP P 17 15 28.1 -0.1
YAK pmax pmax
comp=Z,2.0nm,0.8s
HEH HeiHe 59.39 46 eP P 17 15 29.1 +0.4
HEH pmax pmax
comp=Z,2.0nm,0.7s
HEH pmax pmax
comp=Z,83nm,4.7s
PRYS Parys 60.13 206 eP P 17 15 35.4 +1.3
SWZ Schweizer 61.15 207 eP P 17 15 41.3 +0.3
SNKL Senekal, Frees 61.19 205 eP P 17 15 41.7 +0.3
KLR Kul'dur 62.35 47 LR LR 17 45 50.8
comp=Z,90nm,18.6s,baz=282,slow=39
BOSA Boshof 62.45 207 P P 17 15 50.6 +0.8
BOSA IAmb IAmb 17 15 52.5
comp=Z,7.7nm,1.2s
BOSA Boshof 62.45 207 P P 17 15 50.6 +0.8
BOSA pmax pmax
comp=Z,8.0nm,1.2s
BOSA Boshof 62.45 207 eP P 17 15 49.4 -0.3
BOSA IAmb IAmb 17 15 51.1
comp=Z,4.6nm,0.7s
BOSA Boshof 62.45 207 P P 17 15 49.5 -0.3
comp=Z,2.4nm,0.8s,baz=37,slow=6.4,SNR=6.1
BOSA LR LR 17 42 31.6
comp=Z,77nm,20.8s,baz=28,slow=36
comp=Z,2.4nm,0.8s
KSRS Korea Array 62.55 60 P P 17 15 50.0 -0.3
KSRS Korea Array 62.55 60 P P 17 15 50.0 -0.3
comp=Z,0.5nm,0.5s,baz=281,slow=8.4,SNR=2.5
KSRS LR LR 17 46 08.1

comp=Z,55nm,20.1s,baz=235,slow=39
comp=Z,0.5nm,0.5s

SUMG	**Summit**	**63.20**	**340**	*i* P		**P**	**17 15 55.0**	**+0.4**
KEIM	**Keimoes**	**64.34**	**210**	*e*P		**P**	**17 16 04.1**	**+1.9**
KEIM				IAmb	IAmb		17 16 07.9	

comp=Z,15nm,1.5s

JNU	**Nakatsue**	**66.18**	**64**	LR	LR		17 47 46.4	

comp=Z,46nm,18.5s,baz=262,slow=38

SUR	**Sutherland**	**67.58**	**208**	P		**P**	**17 16 24.3**	**+1.2**
SUR	**Sutherland**	**67.58**	**208**	LR	LR		17 47 35.4	

comp=Z,85nm,18.1s,baz=74,slow=38

MA2	**Magadan**	**69.93**	**32**	LR	LR		17 50 18.3	

comp=Z,71nm,18.7s,baz=289,slow=38

ASAJ	**Asahikawa**	**70.98**	**50**	LR	LR		17 51 28.8	

comp=Z,94nm,18.2s,baz=201,slow=39

DAV	**Davao City (W)**	**72.07**	**92**	LR	LR		17 50 52.7	

comp=Z,22nm,21.1s,baz=340,slow=38

PETK	**Petropavlovsk-**	**76.22**	**37**	LR	LR		17 54 10.7	

comp=Z,61nm,18.4s,baz=284,slow=38

SCHQ	**Schefferville**	**81.88**	**329**	P		**P**	**17 17 45.7**	**+0.1**

comp=Z,2.7nm,0.6s,baz=47,slow=3.6,SNR=5.7
comp=Z,2.7nm,0.6s

INK	**Inuvik**	**83.30**	**2**	P		**P**	**17 17 52.4**	**-0.3**
INK				IAmb	IAmb		17 18 03.8	

comp=Z,3.7nm,1.4s

INK	**Inuvik**	**83.30**	**2**	P		**P**	**17 17 52.4**	**-0.3**
INK				pmax	pmax			

comp=Z,4.0nm,1.4s

INK	**Inuvik**	**83.30**	**2**	LR	LR		18 01 15.1	

comp=Z,49nm,19.3s,baz=166,slow=40

BMAR	**Burnt Mountain**	**83.45**	**6**	P		**P**	**17 17 53.3**	**-0.3**
IMAR	**Indian Mountai**	**83.64**	**10**	P		**P**	**17 17 55.1**	**+0.6**
G31M	**Satah River**	**84.66**	**3**	P		**P**	**17 17 59.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**84.75**	**114**	P		**P**	**17 18 01.5**	**+0.6**
ILAR	**Eielson Array**	**85.76**	**8**	P		**P**	**17 18 05.7**	**+0.4**

comp=Z,0.3nm,0.9s,baz=311,slow=4.2,SNR=2.2
comp=Z,0.3nm,0.9s

IL03	**Eielson Array**	**85.76**	**8**	P		**P**	**17 18 05.5**	**+0.2**
I28M	**Miner Creek**	**85.80**	**5**	P		**P**	**17 18 05.2**	**-0.3**
I28M				IAmb	IAmb		17 18 10.3	

comp=Z,4.1nm,1.4s

I30M	**Mount Dempster**	**86.26**	**4**	P		**P**	**17 18 06.9**	**-1.0**
I30M				IAmb	IAmb		17 18 08.8	

comp=Z,3.3nm,1.1s

K29M	**Barlow Dome**	**87.56**	**4**	P		**P**	**17 18 14.2**	**-0.1**
BCAR	**Beaver Creek A**	**87.98**	**6**	P		**P**	**17 18 16.7**	**+0.5**
YKA	**Yellowknife Ar**	**88.62**	**354**	P		**P**	**17 18 20.2**	**+1.1**
YKA	**Yellowknife Ar**	**88.62**	**354**	P		**P**	**17 18 20.2**	**+1.1**
YKA	**Yellowknife Ar**	**88.62**	**354**	P		**P**	**17 18 19.5**	**+0.4**

comp=Z,1.0nm,0.8s,baz=8.3,slow=5.0,SNR=16
comp=Z,1.0nm,0.8s

WRA	**Warramunga Arr**	**92.76**	**111**	P		**P**	**17 18 38.9**	**-0.2**

comp=Z,0.3nm,0.4s,baz=314,slow=4.1,SNR=3.3

ASAR	**Alice Springs**	**94.22**	**115**	P		**P**	**17 18 44.8**	**-1.0**

comp=Z,0.3nm,0.4s,baz=306,slow=4.6,SNR=23
comp=Z,0.3nm,0.4s

NIED ***13*** *17:06:34.8,31.°11N×129.°04E,h12km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.72; Mθθ0.52; Mφφ0.20; Mrθ-0.74; Mθφ0.42; Mφr-0.14; Fault plane solution: M₀1.08000×10¹⁵ NP1:φs72.00000°, δ68.00000°, λ-76.00000°. NP2:φs218.00000°, δ26.00000°, λ-121.00000°.*

JMA ***13*** *17:06:34.8±0.3,31.°1N±0.°4×129.°0E±0.°9,h12km±2km, MD3.9/29,MV4.0/29,SW OFF KYUSHU*

IDC ***13*** *17:06:36.3±0.8,31.°23N×129.°03E,h0km,mb3.7/11, mbtmp3.7/16,ML3.2/5,MS3.2/5,Error ellipse: s-maj=19.2km s-min=13.1km az=113.0*

ISC 13 17:06:37.1±0.6,31.°18N±0.°04×129.°25E±0.°06,h11km,n32, σ1s47/26,mb3.7/11,2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.64**	**38**	*e*P	**Pn**	**17 06 49.6**	**-2.5**
JSJ				*e*S	**Sn**	**17 07 00.7**	**-1.5**
JSJ	**Shimokoshiki**	**0.64**	**38**	A	A	17 06 49.6	

comp=E,5.0nm,1.5s

JSU	**Suzuyama**	**1.08**	**72**	⇓*i*P	**Pn**	**17 06 58.3**	**+0.2**
JSU				⇓*e*S	**Sn**	**17 07 14.4**	**+1.2**
JSU	**Suzuyama**	**1.08**	**72**	A	A	17 06 58.3	

comp=E,7.0nm,2.0s,comp=N,10.0nm,1.9s

JKC	**Kuchinoerabu**	**1.08**	**131**	*e*P	**Pb**	**17 06 56.1**	**-1.6**
JKC				*e*S	**Sn**	**17 07 11.7**	**-1.3**
JKC	**Kuchinoerabu**	**1.08**	**131**	A	A	17 06 56.1	

comp=E,4.0nm,1.5s,comp=N,4.0nm,0.6s

JYAK	**Yakushimahirau**	**1.43**	**131**	P	**Pn**	**17 07 01.5**	**-1.4**
JNN	**Nakanoshima**	**1.44**	**158**	P	**Pn**	**17 07 00.9**	**-2.2**
JZO	**Okuchi**	**1.49**	**50**	A	A	17 07 04.3	

comp=E,3.0nm,1.4s,comp=N,2.0nm,1.8s

JFU	**Fukue jima 2**	**1.53**	**344**	*e*P	**Pn**	**17 07 02.9**	**-1.5**
JFU	**Fukue jima 2**	**1.53**	**344**	A	A	17 07 02.9	

comp=E,2.0nm,3.1s

JTN	**Tanegashima 3**	**1.57**	**109**	P	**Pb**	**17 07 04.7**	**-1.5**
JMTN	**Minamitane**	**1.62**	**118**	*e*P	**Pb**	**17 07 05.0**	**-1.9**
JNKG	**Nichinankitago**	**1.88**	**75**	A	A	17 07 10.2	

comp=E,4.0nm,2.0s

JNU	**Nakatsue**	**2.38**	**35**	Pn	**Pb**	**17 07 17.9**	**-2.1**
JNU				Lg	Lg	17 07 54.2	

comp=E,11nm,0.3s,baz=252,slow=6.9,SNR=29
comp=E,13nm,0.3s,baz=202,slow=24,SNR=6.1
comp=E,11nm,0.5s

JOW	**Kunigami**	**4.42**	**191**	Pn	**Pn**	**17 07 44.8**	**+0.8**

comp=E,3.3nm,0.3s,baz=37,slow=10,SNR=3.2

JOW				LR	LR		17 09 42.4	

comp=E,124nm,22.0s,baz=54,slow=42
comp=E,22nm,0.6s

KSRS	**Korea Array**	**6.36**	**350**	Pn	**Pn**	**17 08 10.9**	**+0.3**

comp=E,0.5nm,0.3s,baz=171,slow=14,SNR=10

KSRS				Lg	Lg		17 09 53.4	

comp=E,0.9nm,0.3s,baz=164,slow=33,SNR=5.1

KSRS				LR	LR		17 10 37.7	

comp=E,114nm,21.8s,baz=185,slow=38
comp=E,1.3nm,0.5s

MJAR	**Matsushiro Arr**	**9.17**	**52**	Pn	Pn		17 08 52.7	+3.4

baz=243,slow=12,SNR=1.5
comp=E,1.4nm,0.9s

JCJ	**Chichijima**	**12.01**	**107**	LR	LR		17 14 15.5	

comp=E,83nm,18.4s,baz=12,slow=38

KLR	**Kul'dur**	**18.13**	**5**	P	**P**	**17 10 49.9**	**+0.9**

comp=E,0.2nm,0.3s,baz=203,slow=7.2,SNR=18
comp=E,4.3nm,0.8s

SONM	**Songino Array**	**24.11**	**320**	P	**P**	**17 11 52.4**	**-0.5**

comp=E,1.4nm,0.9s,baz=139,slow=11,SNR=5.3

SONM				LR	LR		17 21 19.7	

comp=E,51nm,18.8s,baz=127,slow=37
comp=E,1.4nm,0.9s

CMAR	**Chiang Mai Arr**	**30.18**	**252**	P	**P**	**17 12 48.3**	**+0.8**

comp=E,0.3nm,0.6s,baz=49,slow=10,SNR=1.7
comp=E,0.3nm,0.6s

MKAR	**Makanchi Array**	**39.09**	**307**	P	**P**	**17 14 03.8**	**-0.4**

comp=E,0.5nm,0.8s,baz=88,slow=6.5,SNR=2.4
comp=E,0.5nm,0.8s

KURBB	**Kurchatov Arra**	**42.03**	**313**	P	**P**	**17 14 26.9**	**-1.5**

comp=E,0.3nm,0.5s,baz=100,slow=8.6,SNR=3.2
comp=E,0.3nm,0.5s

BVAR	**Borovoye Array**	**47.29**	**315**	P	**P**	**17 15 10.0**	**-0.4**

comp=E,1.4nm,0.8s
comp=E,1.4nm,0.8s

WRA	**Warramunga Arr**	**51.06**	**174**	P	**P**	**17 15 40.5**	**+1.0**

comp=E,3.0nm,0.8s,baz=351,slow=8.2,SNR=2.4
comp=E,3.0nm,0.8s

ASAR	**Alice Springs**	**54.72**	**175**	P	**P**	**17 16 07.2**	**+0.8**

comp=E,0.8nm,1.1s,baz=3.8,slow=13,SNR=6.4
comp=E,0.8nm,1.1s

AKTO	**Aktyubinsk**	**55.09**	**312**	LR	LR		17 41 13.4	

comp=E,104nm,19.8s,baz=86,slow=38

ILAR	**Eielson Array**	**59.69**	**30**	P	**P**	**17 16 42.2**	**+1.0**

comp=E,0.5nm,0.7s,baz=270,slow=6.6,SNR=6.1
comp=E,0.5nm,0.7s

FINES	**FINESS Array B**	**69.03**	**330**	P	**P**	**17 17 42.0**	**-0.4**

comp=E,1.9nm,1.0s,baz=90,slow=7.6,SNR=3.7
comp=E,1.9nm,1.0s

YKA	**Yellowknife Ar**	**73.68**	**26**	P	**P**	**17 18 11.5**	**+1.0**

comp=E,0.6nm,0.9s,baz=306,slow=5.9,SNR=5.4
comp=E,0.6nm,0.9s

NVAR	**Mina Array Bea**	**86.45**	**47**	P	**P**	**17 19 23.0**	**+2.8**

comp=E,0.4nm,0.6s,baz=280,slow=6.3,SNR=2.8
comp=E,0.4nm,0.6s

IDC ***13*** *17:18:47.1±2.0,37.°63S×51.°08E,h0km,mb4.0/3, mbtmp4.0/3,MS3.8/3,Error ellipse: s-maj=87.7km s-min=37.4km az=37.0*

ISC 13 17:18:49.1±2.1,37.°7S±0.°6×50.°9E±0.°4,h16km,n8,σ1s37/7, mb3.9/3,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.29**	**349**	LR	LR	17 28 41.2	

comp=Z,98nm,20.1s,baz=256,slow=31

ASAR	**Alice Springs**	**70.65**	**105**	P	**P**	**17 30 03.9**	**-0.4**

0.6nm,0.6s,baz=231,slow=5.8,SNR=15

ASAR				LR	LR		17 55 48.9	

comp=Z,54nm,21.2s,baz=242,slow=32
0.6nm,0.6s

CMAR	**Chiang Mai Arr**	**71.81**	**48**	P	**P**	**17 30 11.5**	**+0.4**

0.7nm,0.7s,baz=232,slow=6.3,SNR=6.5
0.7nm,0.7s

WRA	**Warramunga Arr**	**73.05**	**102**	P	**P**	**17 30 18.3**	**-0.4**

3.2nm,0.9s,baz=233,slow=5.5,SNR=5.8
3.2nm,0.9s

RAO	**Raoul Island**	**99.27**	**138**	LR	LR	18 12 37.1	

comp=Z,122nm,18.0s,baz=132,slow=33

INK	**Inuvik**	**149.19**	**3**	PKPbc	**PKiKP**	**17 38 36.7**	**-0.2**

1.0nm,0.7s,baz=287,slow=11,SNR=2.5

ILAR	**Eielson Array**	**150.87**	**16**	PKPbc	**PKPbc**	**17 38 40.5**	**+0.6**

0.4nm,0.6s,baz=319,slow=2.8,SNR=5.7

YKA	**Yellowknife Ar**	**153.58**	**345**	PKPbc	**PKiKP**	**17 38 47.8**	**+1.7**

0.2nm,0.9s,baz=25,slow=1.6,SNR=2.1

YKA				PKPab	**PKPab**	**17 38 56.6**	**-2.0**

0.2nm,0.6s,baz=29,slow=4.7,SNR=3.8

NOU ***13*** *17:32:06.2,24.°39S×179.°67W,h547km,mb4.5/55,South of Fiji Islands*

IDC ***13*** *17:32:06.1±1.0,24.°45S×179.°94E,h507km±10km, mb3.7/19,mbtmp4.5/21,Error ellipse: s-maj=14.2km s-min=10.6km az=157.0*

NEIC ***13*** *17:32:07.1±1.0,24.°5S±0.°1×180.°0E±0.°1,h510km±7km, mb4.5/114,Error ellipse: s-maj=16.9km s-min=14.5km az=165.0*

ISC 13 17:32:06.8±0.5,24.°52S±0.°05×179.°97E±0.°06,h519km±5km, n266,σ1s54/301,mb4.5/71,2C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.08**	**159**	P	**P**	**17 33 35.6**	**+0.2**
RAO	**Raoul Island**	**5.08**	**159**	P	**P**	**17 33 36.6**	**+1.2**
RAO	**Raoul Island**	**5.08**	**159**	P	**P**	**17 33 35.8**	**+0.4**

643nm,0.2s,baz=84,slow=6.9,SNR=12

RAO				S	**S**	**17 34 44.2**	**-3.6**

304nm,0.2s,baz=284,slow=24,SNR=2.0

GLKZ	**Green Lake**	**5.09**	**159**	P	**P**	**17 33 35.8**	**+0.3**
GLKZ				S	**S**	**17 34 49.0**	**+1.0**
TAVE	**Taveuni**	**7.77**	**1**	P	**P**	**17 34 01.9**	**+0.4**
YSA	**Yasawairara**	**8.10**	**343**	P	**P**	**17 34 04.7**	**-0.1**
DGTI	**Dogotuki**	**8.18**	**358**	P	**P**	**17 34 05.6**	**0.0**
NIUE	**Niue**	**10.83**	**62**	P	**P**	**17 34 31.8**	**-1.4**
MARNC	**Mare, Loyalty**	**11.40**	**283**	P	**P**	**17 34 39.8**	**+0.7**
PINNC	**Pines Island,**	**11.64**	**277**	P	**P**	**17 34 43.1**	**+1.5**
OUZ	**Omahuta**	**12.01**	**206**	P	**P**	**17 34 47.9**	**+2.6**
OUZ	**Omahuta**	**12.01**	**206**	P	**P**	**17 34 47.8**	**+2.6**
OUENC	**Ouen Island, N**	**12.23**	**277**	P	**P**	**17 34 49.1**	**+1.3**
OUENC	**Ouen Island, N**	**12.23**	**277**	P	**P**	**17 34 50.7**	**+2.9**
YATNC	**Mamie plateau,**	**12.27**	**279**	P	**P**	**17 34 50.5**	**+2.3**
LIFNC	**LIFOU**	**12.33**	**285**	P	**P**	**17 34 48.8**	**0.0**
ONTNC	**Ouen Toro**	**12.61**	**277**	P	**P**	**17 34 52.5**	**+0.8**
DZM	**Mont Dzumac**	**12.67**	**278**	P	**P**	**17 34 51.8**	**-0.7**
DZM	**Mont Dzumac**	**12.67**	**278**	P	**P**	**17 34 54.2**	**+1.7**
DZM	**Mont Dzumac**	**12.67**	**278**	P	**P**	**17 34 53.3**	**+0.8**

25nm,0.7s,baz=121,slow=18,SNR=33

KUZ	**Kuaotunu**	**12.72**	**196**	P	**P**	**17 34 54.0**	**+1.3**
MXZ	**Matakaoa Point**	**13.08**	**186**	P	**P**	**17 34 54.6**	**-1.9**
AFI	**Afiamalu**	**13.11**	**38**	P	P	17 34 51.9	-5.3
AFI	**Afiamalu**	**13.11**	**38**	P	**P**	**17 34 52.6**	**-4.6**
HAZ	**Te Kaha**	**13.33**	**188**	P	**P**	**17 34 57.8**	**-1.3**
HAZ				S	**S**	**17 37 22.7**	**+1.6**
PKGZ	**Pakihiroa**	**13.43**	**186**	P	**P**	**17 35 00.9**	**+0.8**
RUGZ	**Raukumara Rang**	**13.55**	**188**	P	**P**	**17 35 01.0**	**-0.5**
RUGZ				S	**S**	**17 37 25.7**	**+0.2**
PUZ	**Puketiti**	**13.59**	**186**	P	**P**	**17 35 03.8**	**+1.9**
PUZ				S	**S**	**17 37 26.6**	**+0.5**
TOZ	**Tahuroa Road**	**13.71**	**195**	P	**P**	**17 35 03.2**	**+0.1**
TWGZ	**Tauwhareparae**	**13.72**	**187**	P	**P**	**17 35 00.9**	**-2.3**
KMRZ	**Kaimai**	**13.72**	**194**	P	**P**	**17 35 07.1**	**+3.9**
URZ	**Urewera**	**13.91**	**189**	P	**P**	**17 35 04.4**	**+0.2**
URZ	**Urewera**	**13.91**	**189**	P	**P**	**17 35 02.1**	**-3.1**

23nm,0.6s,baz=97,slow=2.5,SNR=27

URZ				S	**S**	**17 37 26.3**	**-6.0**

10nm,0.7s,baz=307,slow=20,SNR=1.6

URZ	**Urewera**	**13.91**	**189**	P	**P**	**17 35 02.5**	**-2.7**
URZ				S	**S**	**17 37 31.3**	**-0.9**
MWZ	**Matawai**	**13.93**	**188**	P	**P**	**17 35 04.3**	**-1.1**
MWZ				S	**S**	**17 37 32.8**	**+0.1**
CNGZ	**Carnagh Statio**	**14.01**	**186**	P	**P**	**17 35 06.7**	**+0.5**
CNGZ				S	**S**	**17 37 35.5**	**+1.5**
RIGZ	**Rimuhau**	**14.27**	**187**	P	**P**	**17 35 10.3**	**+1.3**
RIGZ				S	**S**	**17 37 36.5**	**-2.6**
TLZ	**Tolley Road**	**14.28**	**194**	P	**P**	**17 35 07.7**	**+0.7**
RTZ	**Ruatahuna**	**14.28**	**190**	P	**P**	**17 35 08.4**	**-0.7**
RTZ					**S**	**17 37 34.9**	**-4.6**
RTZ	**Ruatahuna**	**14.28**	**190**	P	**P**	**17 35 09.9**	**+0.7**
RTZ				S	**S**	**17 37 34.9**	**-4.6**
MTHZ	**Maungataniwha**	**14.54**	**190**	P	**P**	**17 35 11.1**	**-0.6**
MTHZ				S	**S**	**17 37 43.4**	**-0.9**
HIZ	**Hauiti**	**14.61**	**196**	P	**P**	**17 35 14.2**	**+1.7**
HIZ	**Hauiti**	**14.61**	**196**	P	**P**	**17 35 14.2**	**+1.7**
HIZ	**Hauiti**	**14.61**	**196**	P	**P**	**17 35 16.4**	**+3.9**
MHGZ	**Mahia Peninsul**	**14.70**	**186**	P	**P**	**17 35 16.6**	**+3.2**
MHGZ				S	**S**	**17 37 50.2**	**+3.0**
RATZ	**Rangitukua**	**14.74**	**193**	P	**P**	**17 35 14.5**	**+0.6**
NMHZ	**Naumai**	**14.78**	**190**	P	**P**	**17 35 14.5**	**+0.1**
NMHZ				S	S	17 37 40.0	-9.1
ARHZ	**Aropaoanui**	**14.92**	**189**	P	**P**	**17 35 16.2**	**+0.5**
ARHZ				S	**S**	**17 37 44.9**	**-6.6**
NTVZ	**North Tongarir**	**14.99**	**193**	P	**P**	**17 35 17.8**	**+1.2**
NTVZ				S	**S**	**17 37 53.7**	**+0.7**
TMVZ	**Te Maari**	**15.00**	**193**	P	**P**	**17 35 14.9**	**-1.7**
TMVZ				S	**S**	**17 37 54.0**	**+0.8**
TWVZ	**Taurewa**	**15.01**	**194**	P	**P**	**17 35 16.4**	**-0.4**
ETVZ	**East Tongariro**	**15.02**	**193**	P	**P**	**17 35 16.4**	**-0.5**
ETVZ				S	**S**	**17 37 53.0**	**-0.5**
KOUNC	**Koumac, New Ca**	**15.02**	**282**	P	**P**	**17 35 17.0**	**0.0**
KOUNC				IAmb	IAmb	17 35 19.6	

comp=Z,19nm,1.1s

WTVZ	**West Tongariro**	**15.02**	**193**	P	**P**	**17 35 17.4**	**+0.5**
OTVZ	**Oturere**	**15.05**	**193**	P	**P**	**17 35 14.7**	**-2.5**
OTVZ				S	**S**	**17 37 51.4**	**-2.9**
NGZ	**Ngauruhoe**	**15.07**	**193**	P	**P**	**17 35 16.9**	**-0.6**
NGZ				S	**S**	**17 37 52.8**	**-1.9**
SNVZ	**South Ngauruho**	**15.08**	**193**	P	**P**	**17 35 16.6**	**-0.9**
MCHZ	**McNeill Hill**	**15.14**	**190**	P	**P**	**17 35 17.4**	**-0.6**
TUVZ	**Tuivo**	**15.15**	**193**	P	**P**	**17 35 17.5**	**-0.8**
KWHZ	**Kaweka Forest**	**15.16**	**191**	P	**P**	**17 35 17.2**	**-1.2**
WNVZ	**Wahianoa**	**15.22**	**193**	P	**P**	**17 35 16.3**	**-2.8**
PKVZ	**Pokaka**	**15.24**	**194**	P	**P**	**17 35 19.0**	**-0.1**
MOVZ	**Moawhango**	**15.27**	**192**	P	**P**	**17 35 19.6**	**+0.1**
BHHZ	**Black Hill Sta**	**15.29**	**192**	P	**P**	**17 35 18.1**	**-1.6**
KRHZ	**Kereru**	**15.38**	**191**	P	**P**	**17 35 19.3**	**-1.3**
KAHZ	**Kahuranaki**	**15.45**	**189**	P	**P**	**17 35 21.1**	**-0.2**
PNHZ	**Pukenui**	**15.68**	**191**	P	**P**	**17 35 22.9**	**-0.7**
PXZ	**Pawanui**	**15.69**	**189**	P	**P**	**17 35 23.8**	**+0.2**
DVHZ	**Dannevirke**	**16.06**	**191**	P	**P**	**17 35 26.4**	**-1.2**
BFZ	**Birch Farm**	**16.42**	**190**	P	**P**	**17 35 27.7**	**-3.4**
BFZ				IAmb	IAmb	17 35 34.1	

comp=Z,21nm,1.1s

BFZ	**Birch Farm**	**16.42**	**190**	P	**P**	**17 35 31.0**	**-0.1**
MRZ	**Mangatainoka R**	**16.51**	**192**	P	**P**	**17 35 28.0**	**-4.1**
MRZ				IAmb	IAmb	17 35 36.9	

comp=Z,24nm,1.3s

TCW	**Tory Channel**	**17.31**	**195**	P	**P**	**17 35 36.7**	**-3.1**
SNZO	**South Karori**	**17.31**	**193**	P	**P**	**17 35 36.5**	**-3.2**
SNZO	**South Karori**	**17.31**	**193**	P	**P**	**17 35 39.0**	**-0.7**
BHW	**Baring Head**	**17.37**	**193**	P	**P**	**17 35 37.6**	**-2.7**
QRZ	**Quartz Range**	**17.41**	**199**	P	**P**	**17 35 40.1**	**-0.6**
QRZ	**Quartz Range**	**17.41**	**199**	P	**P**	**17 35 40.4**	**-0.3**
NNZ	**Nelson**	**17.54**	**197**	P	**P**	**17 35 39.4**	**-2.4**
TUWZ	**Tuamarina**	**17.60**	**195**	P	**P**	**17 35 39.9**	**-2.4**
THZ	**Tophouse**	**18.18**	**197**	P	**P**	**17 35 46.8**	**-0.9**
KHZ	**Kahutara**	**18.63**	**195**	P	**P**	**17 35 51.1**	**-0.6**
KHZ	**Kahutara**	**18.63**	**195**	P	**P**	**17 35 50.9**	**-0.8**
RAR	**Rarotonga**	**18.95**	**84**	P	**P**	**17 35 54.3**	**-0.7**

comp=Z,9.5nm,0.6s,baz=284,slow=8.3,SNR=3.6

LTZ	**Lake Taylor**	**19.30**	**197**	P	**P**	**17 35 56.5**	**-1.3**
INZ	**Inchbonnie**	**19.48**	**199**	P	**P**	**17 35 59.1**	**-0.4**
OXZ	**Oxford**	**19.86**	**197**	P	**P**	**17 36 02.5**	**-0.5**

RPZ	**Rata Peaks**	**20.50**	**199**	P	**P**	**17 36 08.9**	**+0.2**
RPZ	**Rata Peaks**	**20.50**	**199**	P	**P**	**17 36 09.0**	**+0.2**

comp=Z,13nm,0.6s,baz=18,slow=2.2,SNR=12
comp=Z,13nm,0.6s

JCZ	**Jackson Bay**	**21.55**	**202**	P	**P**	**17 36 19.6**	**+1.3**
ODZ	**Otahua Downs**	**21.84**	**198**	P	**P**	**17 36 20.4**	**-0.4**
HNR	**Honiara**	**24.27**	**305**	P	**P**	**17 36 41.4**	**-1.6**
HNR	**Honiara**	**24.27**	**305**	P	**P**	**17 36 41.9**	**-1.1**
ARMA	**Armidale**	**25.79**	**251**	P	**P**	**17 36 57.8**	**+1.5**
EIDS	**Eidsvold**	**26.19**	**262**	P	**P**	**17 36 59.5**	**-0.4**
EIDS				IAmb	IAmb	17 37 01.1	

comp=Z,18nm,1.1s

EIDS	**Eidsvold**	**26.19**	**262**	P	**P**	**17 37 00.3**	**+0.5**
MGCD	**Mangrove Creek**	**26.65**	**244**	P	**P**	**17 37 05.8**	**+2.0**
CNB	**Canberra Magne**	**28.52**	**241**	P	**P**	**17 37 22.0**	**+1.7**
CAN	**Canberra**	**28.81**	**241**	P	**P**	**17 37 24.2**	**+1.4**
PPT	**Papeete**	**29.21**	**82**	P	**P**	**17 37 26.8**	**+0.5**

comp=Z,20nm,0.7s,baz=270,slow=20,SNR=3.9
comp=Z,20nm,0.7s

CMSA	**Cobar Meteorol**	**30.97**	**249**	P	**P**	**17 37 41.8**	**+0.4**
TV1H	**Townsville Har**	**31.18**	**273**	P	**P**	**17 37 44.0**	**+0.7**
CTA	**Charters Tower**	**31.46**	**271**	P	**P**	**17 37 46.1**	**+0.3**
CTAO	**Charters Tower**	**31.46**	**271**	P	**P**	**17 37 45.8**	**+0.1**
CTAO	**Charters Tower**	**31.46**	**271**	P	**P**	**17 37 46.1**	**+0.3**
TOO	**Toolangi**	**32.09**	**238**	P	**P**	**17 37 52.2**	**+1.2**
QLP	**Quilpie**	**32.24**	**259**	P	**P**	**17 37 52.6**	**+0.2**
MTSU	**Mount Surprise**	**33.75**	**274**	P	**P**	**17 38 05.7**	**+0.5**
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**17 38 10.9**	**-0.3**
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**17 38 11.9**	**+0.8**
STKA	**Stephens Creek**	**34.47**

comp=Z,9.9nm,1.0s
HSIG **85.08 55** P **P** **17 43 48.4 +0.5**
HSIG IAmb IAmb 17 43 50.1
comp=Z,15nm,0.8s
RYN **Ryan** **85.19 44** P **P** **17 43 48.7 +0.3**
NVAR **Mina Array Bea** **85.21 44** P **P** **17 43 49.1 +0.5**
NVAR **Mina Array Bea** **85.21 44** P **P** **17 43 49.2 +0.7**
comp=Z,3.0nm,0.8s,baz=225,slow=8.2,SNR=20
comp=Z,3.0nm,0.8s
214A **Organ Pipe Nat** **85.27 52** P **P** **17 43 49.7 +0.9**
PAHR **Pah Rah Range** **85.30 42** P **P** **17 43 49.2 +0.3**
NV11 **Mina Array Sit** **85.31 44** P **P** **17 43 49.2 +0.3**
WCT **Wildcat Mounta** **85.34 46** P **P** **17 43 49.7 +0.6**
TPNV **Topopah Spring** **85.67 46** P **P** **17 43 51.2 +0.4**
TPH **Tonopah** **85.69 45** P **P** **17 43 51.4 +0.5**
KVN **Kaiserville** **85.71 44** P **P** **17 43 51.5 +0.6**
LL02 **Futaleuf** **85.78 136** P **P** **17 43 51.8 +0.6**
LL02 IAmb IAmb 17 43 53.4
comp=Z,14nm,1.0s
Y14A **Wickenburg** **86.20 50** P **P** **17 43 53.9 +0.7**
K05A **Summer Lake** **86.25 39** P **P** **17 43 54.2 +0.8**
K05A IAmb IAmb 17 43 55.8
comp=Z,10nm,1.0s
J05D **Fort Rock, OR** **86.41 39** P **P** **17 43 54.8 +0.7**
J05D IAmb IAmb 17 43 56.5
comp=Z,18nm,1.1s
PRN **Pahroc Range** **86.72 46** P **P** **17 43 56.4 +0.7**
PRN IAmb IAmb 17 43 58.2
comp=Z,7.1nm,0.9s
PINE **Pine Mountain** **86.89 38** P **P** **17 43 57.2 +0.8**
PINE IAmb IAmb 17 43 58.9
comp=Z,24nm,1.2s
BMN **Battle Mountai** **87.07 43** P **P** **17 43 57.8 +0.5**
BMN IAmb IAmb 17 43 58.6
comp=Z,6.0nm,0.9s
WVOR **Wild Horse Val** **87.39 41** P **P** **17 43 59.7 +1.0**
WVOR IAmb IAmb 17 44 00.8
comp=Z,14nm,1.2s
319A **Douglas** **87.53 54** P **P** **17 44 00.7 +1.0**
X16A **Lo Mia Camp, P** **87.55 50** P **P** **17 44 01.1 +1.4**
X16A IAmb IAmb 17 44 02.4
comp=Z,6.1nm,1.0s
LCMT **Little Creek M** **87.70 47** P **P** **17 44 00.9 +0.5**
Q12A **Willow Creek R** **87.78 45** P **P** **17 44 01.4 +0.7**
Q12A IAmb IAmb 17 44 07.4
comp=Z,6.7nm,1.1s
PLCA **Paso Flores** **87.86 134** P **P** **17 44 02.8 +1.7**
comp=Z,0.9nm,0.6s,baz=215,slow=11,SNR=6.7
comp=Z,0.9nm,0.6s
I07A **Izee** **87.88 39** P **P** **17 44 01.9 +1.0**
I07A IAmb IAmb 17 44 03.2
comp=Z,14nm,1.0s
G06A **Carlson Farm,** **87.96 37** IAmb IAmb 17 44 03.1
comp=Z,8.8nm,0.9s
KNB **Kanab** **87.99 48** P **P** **17 44 03.0 +1.2**
KNB IAmb IAmb 17 44 04.2
comp=Z,11nm,1.3s
U15A **North Rim** **88.03 48** P **P** **17 44 02.9 +0.8**
U15A IAmb IAmb 17 44 04.1
comp=Z,6.1nm,0.8s
J08A **Circle Bar Ran** **88.04 40** P **P** **17 44 02.7 +1.0**
HPIG **88.09 59** P **P** **17 44 03.3 +0.8**
HPIG IAmb IAmb 17 44 04.4
comp=Z,8.2nm,0.8s
SZCU **Shurtz Canyon** **88.13 47** P **P** **17 44 03.2 +0.8**
WUAZ **Wupatki** **88.18 49** P **P** **17 44 03.4 +0.8**
WUAZ IAmb IAmb 17 44 05.0
comp=Z,5.6nm,1.0s
LON **Longmire** **88.27 36** P **P** **17 44 03.2 +0.6**
LON IAmb IAmb 17 44 04.1
comp=Z,4.4nm,0.7s
DUN6 **Lazy B Ranch** **88.27 53** P **P** **17 44 03.6 +0.5**
D05A **Enumclaw** **88.45 35** P **P** **17 44 04.8 +1.5**
ELK **Elko** **88.48 43** P **P** **17 44 04.3 +0.4**
ELK IAmb IAmb 17 44 05.7
comp=Z,7.1nm,1.2s
ELK **Elko** **88.48 43** P **P** **17 44 04.4 +0.4**
comp=Z,1.7nm,0.6s,baz=281,slow=5.4,SNR=6.3
comp=Z,1.7nm,0.6s
PKCU **Pink Cliffs** **88.56 47** P **P** **17 44 06.4 +1.8**
PKCU IAmb IAmb 17 44 07.6
comp=Z,12nm,0.9s
X18A **Snowflake** **88.66 51** P **P** **17 44 06.0 +1.1**
X18A IAmb IAmb 17 44 07.3
comp=Z,6.1nm,0.9s
G08A **Pilot Rock** **88.93 38** P **P** **17 44 06.9 +1.1**
G08A IAmb IAmb 17 44 08.4
comp=Z,7.9nm,0.9s
MTPU **Mount Pierson** **88.97 47** P **P** **17 44 08.0 +1.5**
MTPU IAmb IAmb 17 44 09.3
comp=Z,7.3nm,0.8s
MXC **Moxie City** **88.97 37** P **P** **17 44 06.9 +1.0**
MXC IAmb IAmb 17 44 07.4
comp=Z,5.2nm,0.7s
MVU **Marysvale** **89.20 47** P **P** **17 44 08.6 +1.2**
MSU **Marysvale** **89.23 47** P **P** **17 44 08.5 +1.0**
HAWA **Hanford** **89.28 37** P **P** **17 44 08.0 +0.8**
HAWA IAmb IAmb 17 44 09.3
comp=Z,12nm,1.2s
MFID **Camas Ranch** **89.64 41** P **P** **17 44 09.8 +0.6**
MFID IAmb IAmb 17 44 11.0
comp=Z,8.8nm,0.9s
CMAR **Chiang Mai Arr** **89.72 290** P **P** **17 44 10.5 +0.6**
CMAR **Chiang Mai Arr** **89.72 290** P **P** **17 44 11.8 +1.9**
comp=Z,2.4nm,0.9s,baz=141,slow=3.1,SNR=14
CMAR PKKPbc **PKKPbc** **18 01 38.6 -1.0**
comp=Z,0.4nm,0.5s,baz=288,slow=4.3,SNR=4.5
comp=Z,2.4nm,0.9s
CHTO **Chiang Mai** **89.87 291** P **P** **17 44 11.4 +0.8**
HMU **Henry Mountain** **89.88 48** P **P** **17 44 10.9 +0.3**
NLU **North Lily Min** **90.07 45** P **P** **17 44 12.3 +0.9**
Q16A **Castle Valley** **90.11 47** P **P** **17 44 12.7 +1.1**
Q16A IAmb IAmb 17 44 14.8
comp=Z,5.6nm,0.9s
MPU **Maple Canyon** **90.39 46** P **P** **17 44 13.6 +0.8**
MPU IAmb IAmb 17 44 15.3
comp=Z,6.4nm,1.0s
VHRN **Van Horn** **90.45 56** P **P** **17 44 13.7 +0.4**
VHRN IAmb IAmb 17 44 15.5
comp=Z,6.3nm,1.0s
SPUT **South Promonto** **90.55 44** P **P** **17 44 13.9 +0.4**
SPUT IAmb IAmb 17 44 15.4
comp=Z,8.2nm,1.0s
HLID **Hailey** **90.57 41** P **P** **17 44 14.2 +0.7**
SRU **San Rafael Swe** **90.64 47** P **P** **17 44 14.5 +0.6**
SRU IAmb IAmb 17 44 15.8
comp=Z,10nm,0.9s
CTU **Camp Tracy** **90.67 45** P **P** **17 44 14.8 +0.7**
CTU IAmb IAmb 17 44 15.7
comp=Z,6.9nm,0.8s
P17A **Butcher Ranch,** **90.68 46** P **P** **17 44 14.6 +0.4**
P17A IAmb IAmb 17 44 16.4
comp=Z,12nm,1.4s
TX31 **Lajitas Ar. Si** **90.78 58** P **P** **17 44 15.5 +0.8**
TXAR **Lajitas Array** **90.78 58** P **P** **17 44 15.7 +1.0**
TXAR **Lajitas Array** **90.78 58** P **P** **17 44 16.1 +1.4**
comp=Z,5.2nm,0.8s,baz=210,slow=6.8,SNR=44
comp=Z,5.2nm,0.8s
HHC **Hu-ho-hao-te** **90.83 315** *e*P **P** **17 44 16.0 +1.3**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,210nm,6.3s
PZH **PanZhiHua** **90.95 299** P **P** **17 44 17.6 +2.0**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
TCUT **Toone Canyon** **91.11 45** P **P** **17 44 17.1 +0.9**
BSUT **Blindstream Ca** **91.23 45** P **P** **17 44 17.4 +0.5**
ALPN **Alpine** **91.28 57** P **P** **17 44 17.5 +0.4**
ALPN IAmb IAmb 17 44 19.0
comp=Z,6.1nm,0.8s
ANMO **Albuquerque** **91.36 52** P **P** **17 44 17.8 +0.4**
ANMO IAmb IAmb 17 44 19.3
comp=Z,3.9nm,1.0s
BWN **Browne** **91.57 13** P **P** **17 44 19.0 +1.6**
NEW **Newport** **91.71 37** P **P** **17 44 18.0 -0.5**
comp=Z,1.0nm,0.6s,baz=153,slow=14,SNR=1.7
comp=Z,1.0nm,0.6s
SAND **Sanderson** **92.26 58** P **P** **17 44 21.8 +0.3**
SAND IAmb IAmb 17 44 22.8
comp=Z,6.0nm,0.9s
S22A **4UR Ranch, Cre** **92.46 49** P **P** **17 44 22.6 +0.1**
S22A IAmb IAmb 17 44 24.6

comp=Z,6.9nm,1.1s
ILAR **Eielson Array** **92.64 14** P **P** **17 44 21.3 -1.0**
comp=Z,0.5nm,0.6s,baz=224,slow=5.8,SNR=9.6
comp=Z,0.5nm,0.6s
PD31 **Pinedale Array** **93.15 44** P **P** **17 44 25.4 -0.1**
PDAR **Pinedale Array** **93.15 44** P **P** **17 44 25.6 +0.1**
comp=Z,1.7nm,0.8s,baz=209,slow=3.0,SNR=13
comp=Z,1.7nm,0.8s
DRIO **Del Rio** **93.19 59** P **P** **17 44 25.3 -0.4**
INK **Inuvik** **98.63 16** P Pdif 17 44 48.0 -1.1
comp=Z,0.6nm,0.6s,baz=150,slow=2.9,SNR=1.9
comp=Z,0.6nm,0.6s
MKAR **Makanchi Array** **112.55 313** PKiKP **PKiKP** **17 49 42.6 -1.2**
comp=Z,1.0nm,0.3s,baz=60,slow=2.2,SNR=7.1
MKAR PKKPbc **PKKPbc** **18 00 35.2 0.0**
comp=Z,0.5nm,0.7s,baz=286,slow=3.7,SNR=5.7
KURBB **Kurchatov Arra** **115.67 316** PKP **PKPdf** **17 49 48.5 -1.2**
comp=Z,0.4nm,0.6s,baz=108,slow=1.5,SNR=4.6
KURBB PKKPbc **PKKPbc** **18 00 21.9 -2.9**
comp=Z,0.3nm,0.7s,baz=251,slow=4.7,SNR=4.6
BDFB **Brasilia** **118.48 125** PKP **PKPdf** **17 49 55.7 -0.6**
comp=Z,1.3nm,0.5s,baz=146,slow=7.3,SNR=2.0
BVAR **Borovoye Array** **120.88 318** PKP **PKPdf** **17 49 59.0 -0.6**
comp=Z,1.0nm,0.3s,baz=120,slow=2.4,SNR=14
ARCES **ARCESS Array B** **132.48 348** PKP **PKPdf** **17 50 19.1 -2.2**
comp=Z,1.3nm,0.6s,baz=87,slow=2.9,SNR=13
ARCES SKPbc **SKPbc** **17 53 00.2 +0.6**
comp=Z,4.7nm,0.8s,baz=36,slow=4.5,SNR=11
FINES **FINESS Array B** **139.02 341** PKhKP PKPpre 17 50 22.6
comp=Z,1.7nm,0.9s,baz=41,slow=6.1,SNR=9.1
FINES PKP **PKPdf** **17 50 33.9 +0.3**
comp=Z,0.6nm,0.3s,baz=72,slow=2.7,SNR=7.6
FINES SKPbc **SKPbc** **17 53 20.7 +1.0**
comp=Z,4.1nm,0.6s,baz=44,slow=2.8,SNR=14
NB2 **NORSAR Subarra** **142.68 351** PKP **PKPdf** **17 50 37.2 -3.1**
comp=Z,2.6nm,0.8s,baz=17,slow=2.6
NOA **NORSAR Array B** **142.68 351** PKhKP PKPpre 17 50 36.2
comp=Z,0.5nm,0.7s,baz=55,slow=6.5,SNR=3.9
HFS **Hagfors** **143.14 349** PKP PKPab 17 50 38.3 -0.4
comp=Z,7.3nm,0.4s,baz=64,slow=3.4,SNR=95
PABE **Paberze** **144.37 337** PKPbc 17 50 42.9 -0.2
AKASG **Malin Array Be** **145.47 327** PKPbc **PKPdf** **17 50 45.7 +0.4**
comp=Z,0.7nm,0.3s,baz=42,slow=3.6,SNR=9.5
AKASG SKPbc **SKiKP** **17 53 37.4 +1.0**
comp=Z,1.8nm,0.6s,baz=43,slow=2.8,SNR=7.5
BRTR **Keskin Array B** **147.92 306** PKPbc **PKPbc** **17 50 53.7 -0.1**
comp=Z,0.4nm,0.3s,baz=141,slow=5.8,SNR=6.6
BRTR PKPab **PKPab** **17 50 58.4 +0.1**
comp=Z,1.9nm,0.7s,baz=116,slow=3.8,SNR=9.0
MMAI **Mount Meron Ar** **147.93 293** PKPbc **PKiKP** **17 50 54.9 -0.5**
comp=Z,0.6nm,0.3s,baz=74,slow=3.0,SNR=4.8
EKA **Eskdalemuir Ar** **149.13 3** PKP **PKPdf** **17 50 50.3 -0.9**
comp=Z,6.0nm,1.1s,baz=8.7,slow=2.3,SNR=1.5
EKA PKPbc **PKPbc** **17 50 55.5 -0.6**
comp=Z,1.5nm,0.4s,baz=350,slow=3.0,SNR=19
ESDC **Sonseca Array** **164.53 11** PKPab **PKPab** **17 52 08.1 -1.3**
comp=Z,0.5nm,0.7s,baz=335,slow=3.4,SNR=2.8
TORD **Torodi Ar. Bea** **168.57 189** PKP **PKPdf** **17 51 13.4 -1.3**
comp=Z,0.7nm,0.7s,baz=7.8,slow=1.2,SNR=4.4
TORD PKPab **PKPab** **17 52 28.1 +0.4**
comp=Z,1.2nm,0.7s,baz=171,slow=2.9,SNR=7.2

KRNET ***13*** *17:41:24.3±0.1,39.˚73N×74.˚01E,h11km,mb3.1*
SOME ***13*** *17:41:24.3,39.˚82N×73.˚97E,h5km*
NNC ***13*** *17:41:27.5±2.2,39.˚90N×74.˚12E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=15.8km s-min=9.1km az=172.0
ISC 13 17:41:25.0±1.1,39.˚76N±0.˚05×74.˚03E±0.˚03,h10km,n66,
α2°51/105,38C-16D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.48**	**302**	⇑*i*P		**Pg**		**17 41 33.8**	**-0.6**
	baz=7.0								
SFK				⇑*i*S		**Sg**		**17 41 40.9**	**+0.1**
	baz=7.0								
OHH	**Osh**	**1.22**	**309**	⇑*i*P		**Pn**		**17 41 47.5**	**-0.8**
	baz=11								
OHH				⇑*i*S		**Sn**		**17 42 05.1**	**+0.2**
	baz=11								
DRK	**Karamyk**	**1.74**	**262**	⇑*e*P		**Pb**		**17 41 56.9**	**-0.4**
	baz=63								
DRK				⇑*e*S		**Sg**		**17 42 20.8**	**-0.3**
	baz=63								
ARSB	**Arslanbob**	**1.76**	**333**	⇑*i*P		**Pb**		**17 41 57.5**	**+0.1**
	baz=34								
ARSB				⇑*i*S		**Sg**		**17 42 21.9**	**+0.4**
	baz=34								
ARLS	**Aral**	**2.11**	**6**	⇓*i*P		**Pb**		**17 42 03.1**	**-0.4**
	baz=6.0								
ARLS				⇓*i*S		**Sg**		**17 42 32.0**	**-0.9**
	baz=6.0								
NRN	**Naryn**	**2.25**	**41**	⇓*i*P		**Pb**		**17 42 04.8**	**-1.1**
	baz=41								
NRN				⇓*i*S		**Sb**		**17 42 34.8**	**+0.9**
	baz=41								
AML	**Almayashu**	**2.38**	**354**	P		**Pb**		**17 42 08.3**	**+0.1**
	SNR=40								
AML	**Almayashu**	**2.38**	**354**	⇑Pg		**Pb**		**17 42 09.2**	**+1.0**
	0.6nm,0.4s								
AML				⇓Lg		Lg		17 42 40.9	
	2.7nm,0.5s								
AML	**Almayashu**	**2.38**	**354**	⇑*i*P		**Pb**		**17 42 07.2**	**-1.1**
	baz=54								
AML				⇑*i*S		**Sb**		**17 42 38.4**	**+0.5**
	baz=54								
BTK	**Batken**	**2.49**	**278**	⇑*i*P		**Pb**		**17 42 07.3**	**-2.5**
	baz=79								
BTK				⇑*i*S		**Sb**		**17 42 39.3**	**-1.3**
	baz=79								
UCH	**Uchtor**	**2.50**	**8**	P		**Pb**		**17 42 09.5**	**-0.7**
	SNR=34								
UCH	**Uchtor**	**2.50**	**8**	⇑*i*P		**Pb**		**17 42 08.7**	**-1.5**
	baz=8.0								
UCH				⇑*i*S		**Sb**		**17 42 41.2**	**+0.1**
	baz=8.0								
KZA	**Kyzart**	**2.50**	**21**	P		**Pb**		**17 42 11.2**	**+1.0**
	SNR=29								
KZA	**Kyzart**	**2.50**	**21**	⇓*i*P		**Pb**		**17 42 08.7**	**-1.5**
	baz=21								
KZA				⇓*i*S		**Sb**		**17 42 41.2**	**+0.1**
	baz=21								
ARK	**Arkit**	**2.57**	**323**	⇑*i*P		**Pb**		**17 42 09.1**	**-2.2**
	baz=24								
ARK				⇑*i*S		**Sb**		**17 42 42.5**	**-0.5**
	baz=24								
TRKS	**Terek-Say**	**2.82**	**310**	⇑*i*P		**Pn**		**17 42 11.7**	**+1.4**
	baz=10.0								
TRKS				⇑*i*S		**Sn**		**17 42 46.8**	**+2.3**
	baz=10.0								
AAK	**Ala-Archa**	**2.90**	**7**	P		**Pb**		**17 42 15.2**	**-1.7**
	SNR=15								
AAK	**Ala-Archa**	**2.90**	**7**	⇑*i*P		**Pb**		**17 42 14.2**	**-2.7**
	baz=7.0								
AAK				⇑*i*S		**Sb**		**17 42 50.5**	**-2.0**
	baz=7.0								
EKS2	**Erkin-Say**	**2.91**	**356**	P		**Pb**		**17 42 17.9**	**+0.9**
	SNR=5.2								
EKS2	**Erkin-Say**	**2.91**	**356**	⇑*i*P		**Pb**		**17 42 14.4**	**-2.6**
	baz=57								
EKS2				⇑*i*S		**Sb**		**17 42 50.7**	**-2.0**
	baz=57								
KBK	**Karagaybulak**	**2.98**	**13**	P		**Pb**		**17 42 16.6**	**-1.6**
	SNR=7.8								
KBK	**Karagaybulak**	**2.98**	**13**	⇓*i*P		**Pb**		**17 42 15.5**	**-2.8**
	baz=13								
KBK				⇓*i*S		**Sb**		**17 42 52.5**	**-2.3**
	baz=13								
ULHL	**Ulahol**	**3.00**	**33**	⇓*i*P		**Pb**		**17 42 15.6**	**-3.0**
	baz=33								
ULHL				⇓*i*S		**Sb**		**17 42 52.9**	**-2.4**
	baz=33								
MRKS	**Merke**	**3.05**	**349**	Pg		**Pb**		**17 42 19.6**	**+0.2**
	11nm,0.4s								
MRKS				Lg		Lg		17 42 59.2	
	21nm,0.4s								
MRKS	**Merke**	**3.05**	**349**	*e*P		**Pb**		**17 42 19.6**	**+0.2**
	11nm,0.4s								
MRKS				*e*S		**Sb**		**17 42 59.2**	**+2.6**
	21nm,0.4s								
FRU1	**Bishkek**	**3.08**	**8**	⇑*i*P		**Pb**		**17 42 17.0**	**-3.0**
	baz=8.0								
FRU1				⇑*i*S		**Sb**		**17 42 55.1**	**-2.6**
	baz=8.0								
CHMS	**Chumysh**	**3.28**	**9**	⇓Pg		**Pb**		**17 42 20.8**	**-2.6**
	3.4nm,0.6s								
CHMS				⇑Lg		Lg		17 43 07.0	
	25nm,0.7s								
CHMS	**Chumysh**	**3.28**	**9**	⇑*i*P		**Pn**		**17 42 19.6**	**+3.1**
	baz=9.0								
CHMS				⇑*i*S		**Sn**		**17 42 59.6**	**+3.9**
	baz=9.0								
KDJ	**Kajisay**	**3.36**	**44**	⇑*i*P		**Pn**		**17 42 20.7**	**+2.9**
	baz=44								
KDJ				⇑*i*S		**Sn**		**17 43 01.8**	**+4.0**
	baz=44								
TKM2	**Tokmak 2**	**3.37**	**20**	⇓Pg		**Pb**		**17 42 22.6**	**-2.4**
	2.6nm,0.6s								
TKM2				⇑Lg		Lg		17 43 09.0	
	12nm,0.8s								
TKM2	**Tokmak 2**	**3.37**	**20**	⇓*i*P		**Pn**		**17 42 20.9**	**+3.0**
	baz=20								
TKM2				⇓*i*S		**Sn**		**17 43 02.0**	**+3.9**
	baz=20								
USP	**Ospenovka**	**3.52**	**6**	P		**Pb**		**17 42 29.9**	**+2.4**
	SNR=9.3								
USP	**Ospenovka**	**3.52**	**6**	⇑*i*P		**Pn**		**17 42 22.8**	**+2.9**
	baz=6.0								
USP				⇑*i*S		**Sn**		**17 43 05.4**	**+3.8**
	baz=6.0								
KST	**Kastek**	**3.59**	**23**	Pg		**Pb**		**17 42 28.8**	**+0.2**
	3.5nm,0.3s								
KST				Lg		Lg		17 43 15.2	
	24nm,0.6s								
KST	**Kastek**	**3.59**	**23**	*e*P		**Pb**		**17 42 30.5**	**+1.9**
	3.4nm,0.3s								
KST				*e*S		**Sg**		**17 43 17.7**	**-2.6**
	28nm,0.7s								
SGDS	**Sogindy**	**3.72**	**7**	Pg		**Pb**		**17 42 32.8**	**+2.0**
	5.5nm,0.6s								
SGDS				Lg		Lg		17 43 22.6	
	7.4nm,0.6s								
IZV	**Izvestkoviy**	**3.81**	**30**	Pg		**Pb**		**17 42 35.0**	**+2.6**
	3.6nm,0.5s								
IZV				Lg		Lg		17 43 26.0	
	17nm,0.7s								
IZV	**Izvestkoviy**	**3.81**	**30**	*e*P		**Pb**		**17 42 35.0**	**+2.6**
	3.6nm,0.5s								
IZV				*e*S		**Sg**		**17 43 26.0**	**-1.3**
	17nm,0.7s								
MTBS	**Maitube**	**3.82**	**27**	Pg		**Pb**		**17 42 34.8**	**+2.2**
	4.3nm,0.4s								
MTBS				Lg		Lg		17 43 26.1	
	14nm,0.7s								
MTBS	**Maitube**	**3.82**	**27**	*e*P		**Pb**		**17 42 34.8**	**+2.2**
	4.3nm,0.4s								
MTBS				*e*S		**Sg**		**17 43 26.1**	**-1.6**
	14nm,0.7s								
TNSS	**Tian-Shan**	**3.94**	**33**	Pg		**Pg**		**17 42 37.9**	**-2.7**
	5.3nm,0.4s								
TNSS				Lg		Lg		17 43 30.5	
	3.2nm,0.7s								
TNSS	**Tian-Shan**	**3.94**	**33**	*e*P		**Pg**		**17 42 37.9**	**-2.7**
	5.3nm,0.4s								
TNSS				*e*S		**Sg**		**17 43 30.5**	**-1.1**
	3.2nm,0.7s								
MDOK	**Medeo**	**4.09**	**33**	Pg		**Pb**		**17 42 40.0**	**+2.8**
	3.0nm,0.7s								
MDOK				Pg		**Pb**		**17 42 40.1**	**+3.0**
	1.9nm,0.2s								
MDOK				Lg		Lg		17 43 32.2	
	10nm,0.8s								
MDOK				Lg		Lg		17 43 34.5	
	11nm,0.8s								
MDOK	**Medeo**	**4.09**	**33**	*e*P		**Pb**		**17 42 40.1**	**+3.0**
	1.9nm,0.2s								
MDOK				*e*S		**Sg**		**17 43 34.5**	**-1.7**
	11nm,0.8s								
KRBS	**Karabastau**	**4.12**	**17**	Pg		**Pb**		**17 42 39.5**	**+1.8**
	2.6nm,0.3s								
KRBS				Lg		Lg		17 43 33.7	
	8.6nm,0.7s								
KRBS	**Karabastau**	**4.12**	**17**	*e*P		**Pb**		**17 42 39.5**	**+1.8**
	2.6nm,0.3s								
KRBS				*e*S		**Sg**		**17 43 33.7**	**-3.7**
	8.6nm,0.7s								
KOTS	**Kotyrbulak**	**4.17**	**33**	Pg		**Pg**		**17 42 41.8**	**-3.1**
	4.1nm,0.8s								
KOTS				Lg		Lg		17 43 37.7	
	40nm,0.9s								
KOTS	**Kotyrbulak**	**4.17**	**33**	*e*P		**Pg**		**17 42 41.8**	**-3.1**
	4.1nm,0.8s								
KOTS				*e*S		**Sg**		**17 43 37.7**	**-1.3**
	40nm,0.9s								
KK31	**Karatay Array**	**4.26**	**323**	⇑Pn		**Pn**		**17 42 32.0**	**+2.0**
	0.3nm,0.3s,baz=131,slow=13,SNR=19								
KK31				⇓Pg		**Pb**		**17 42 42.0**	**+2.0**
	1.5nm,0.5s,baz=136,slow=14,SNR=6.7								
KK31				⇑Sn		**Sn**		**17 43 24.2**	**+4.4**
	1.0nm,0.3s,baz=145,slow=19,SNR=4.3								
KK31				⇑Lg		Lg		17 43 41.8	
	2.5nm,0.4s,baz=130,slow=27								
KTBS	**Karatobe**	**4.42**	**26**	Pg		**Pb**		**17 42 45.4**	**+2.6**
	2.3nm,0.5s								
KTBS				Lg		Lg		17 43 43.7	
	13nm,0.8s								
KTBS	**Karatobe**	**4.42**	**26**	*e*P		**Pb**		**17 42 45.4**	**+2.6**
	2.3nm,0.5s								
KTBS				*e*S		**Sg**		**17 43 43.7**	**-3.3**
	13nm,0.8s								
KUU	**Kurty**	**4.48**	**22**	Pg		**Pb**		**17 42 46.4**	**+2.7**
	3.9nm,0.5s								
KUU				Lg		Lg		17 43 45.3	
	11nm,0.8s								
KUU	**Kurty**	**4.48**	**22**	*e*P		**Pb**		**17 42 46.4**	**+2.7**
	3.9nm,0.5s								
KUU				*e*S		**Sg**		**17 43 45.3**	**-3.4**
	11nm,0.8s								
CHKK	**Chushkaly**	**4.65**	**27**	Pg		**Pb**		**17 42 49.9**	**+3.2**
	1.4nm,0.1s								
CHKK				Lg		Lg		17 43 51.1	
	6.4nm,0.3s								
CHKK	**Chushkaly**	**4.65**	**27**	*e*P		**Pb**		**17 42 49.9**	**+3.2**
	1.4nm,0.1s								
CHKK				*e*S		**Sg**		**17 43 51.1**	**-3.2**
	6.4nm,0.3s								
SATY	**Saty**	**4.66**	**44**	Pg		**Pg**		**17 42 51.0**	**-3.3**
	3.3nm,0.3s								
SATY				Lg		Lg		17 43 53.2	
	7.7nm,0.9s								
SATY	**Saty**	**4.66**	**44**	*e*P		**Pg**		**17 42 51.0**	**-3.3**
	3.3nm,0.3s								
SATY				*e*S		**Sg**		**17 43 53.2**	**-1.4**
	7.7nm,0.9s								
KURS	**Kuram**	**4.85**	**38**	Pg		**Pb**		**17 42 53.6**	**+3.6**
	1.7nm,0.5s								
KURS				Lg		Lg		17 43 57.3	
	2.9nm,0.9s								
KURS	**Kuram**	**4.85**	**38**	*e*P		**Pb**		**17 42 53.6**	**+3.6**
	1.7nm,0.5s								
KURS				*e*S		**Sg**		**17 43 57.3**	**-3.4**
	2.9nm,0.9s								
ARXS	**Arharly**	**5.28**	**31**	Pg		**Pb**		**17 43 01.1**	**+3.8**
	5.2nm,0.3s								
ARXS				Lg		Lg		17 44 10.6	
	5.3nm,0.7s								
ARXS	**Arharly**	**5.28**	**31**	*e*P		**Pb**		**17 43 01.1**	**+3.8**
	5.2nm,0.3s								
ARXS				*e*S		**Sg**		**17 44 10.6**	**-3.7**
	5.3nm,0.7s								
BTLS	**Baital**	**5.28**	**0**	Pg		**Pg**		**17 43 03.1**	**-2.9**
	1.6nm,0.5s								
BTLS				Lg		Lg		17 44 13.8	
	3.6nm,0.6s								
BTLS	**Baital**	**5.28**	**0**	*e*P		**Pg**		**17 43 03.1**	**-2.9**
	1.6nm,0.5s								
BTLS				*e*S		**Sg**		**17 44 13.8**	**-0.7**
	3.6nm,0.6s								
PDGK	**Podgornoye**	**5.43**	**47**	Pg		**Pg**		**17 43 04.4**	**-4.6**
	0.7nm,0.6s								
PDGK				Lg		Lg		17 44 16.1	
	2.1nm,0.8s								
PDGK	**Podgornoye**	**5.43**	**47**	⇑Pg		**Pg**		**17 43 04.6**	**-4.4**

σ0965/13, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**116**	Pg	**Pg**	**17 42 28.1**	**+0.2**
IBDR	**Badra**	**0.70**	**169**	*e*Pg	**Pg**	**17 42 33.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**17 42 43.0**	**+0.3**
IBDR				AML	AML	17 42 49.5	
	comp=N,106nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.72**	**348**	Pg	**Pb**	**17 42 33.8**	**-0.8**
IGHG	**Ghaleghazi**	**0.85**	**51**	Pg	**Pg**	**17 42 36.3**	**0.0**
IDHR	**Dehrash**	**1.03**	**29**	Pg	**Pg**	**17 42 39.3**	**-0.6**
BHD	**Baghdad**	**1.28**	**246**	*e*Pg	**Pg**	**17 42 45.0**	**+0.5**
BHD				*e*Sg	**Sn**	**17 43 01.0**	**0.0**
IKOM	**Komasi**	**1.49**	**75**	Pg	**Pg**	**17 42 48.9**	**+0.3**
IKFM	**Kafar-mosalman**	**1.75**	**98**	Pg	**Pg**	**17 42 53.3**	**-0.2**
RAFI	**Al-Rafai**	**2.09**	**172**	*e*Pn	**Pb**	**17 42 57.0**	**-1.0**
RAFI				*e*Sn	**Sb**	**17 43 24.0**	**0.0**
HSAM	**Samen**	**2.39**	**79**	Pn	**Pn**	**17 43 00.6**	**+1.2**

*NEIC **13** 17:43:18.8±1.4,31°.6S×0°.2×176°.77W±0°.08,h10km±2km, mb4.5/5, Error ellipse: s-maj=27.1km s-min=10.4km az=9.0*
*IDC **13** 17:43:24.6±4.5,31°.07S×176°.92W,h51km±29km,mb3.7/3, mbtmp4.0/5,ML3.8/2, Error ellipse: s-maj=57.6km s-min=32.0km az=108.0*
ISC 13 17:43:16.9±2.5,31°.4S±0°.1×176°.1W±0°.3,h35km,n16, σ1§12/16,mb4.4/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.69**	**324**	P	**Pn**	**17 43 55.9**	**-1.7**
	73nm,0.3s,baz=64,slow=23,SNR=2.1						
RAO				S	Sn	17 44 13.5	-15
	596nm,0.3s,baz=98,slow=21,SNR=7.6						
	168nm,0.2s						
URZ	**Urewera**	**8.79**	**217**	P	Pn	17 45 27.5	+6.1
	0.5nm,0.3s,baz=30,slow=20,SNR=1.5						
URZ				S	**Sn**	**17 46 59.5**	**+0.3**
	6.2nm,0.7s,baz=178,slow=20,SNR=2.4						
	1.8nm,0.3s						
RTZ	**Ruatahuna**	**9.12**	**216**	Pn	**Pn**	**17 45 24.1**	**-2.0**
BFZ	**Birch Farm**	**11.10**	**212**	Pn	**Pn**	**17 45 51.5**	**-1.5**
THZ	**Tophouse**	**13.55**	**217**	Pn	**Pn**	**17 46 28.1**	**+1.5**
KHZ	**Kahutara**	**13.71**	**214**	Pn	**Pn**	**17 46 28.2**	**-0.6**
GVZ	**Greta Valley S**	**14.38**	**214**	Pn	**Pn**	**17 46 37.7**	**-0.1**
CTA	**Charters Tower**	**35.57**	**279**	P	**P**	**17 50 12.0**	**+0.9**
	4.1nm,1.0s,baz=97,slow=10,SNR=7.1						
	4.1nm,1.0s						
CTAO	**Charters Tower**	**35.57**	**279**		**P**	**17 50 12.0**	**+0.9**
RABL	**Rabaul**	**40.29**	**306**	P	**P**	**17 50 52.4**	**+1.5**
ASAR	**Alice Springs**	**44.68**	**267**	P	**P**	**17 51 26.6**	**-0.1**
	0.4nm,0.6s,baz=103,slow=7.4,SNR=8.6						
	0.4nm,0.6s						
WR0	**Warramunga Arr**	**45.58**	**272**	P	**P**	**17 51 33.6**	**-0.1**
WR0				IAmb	IAmb	17 51 39.0	
	comp=Z,8.5nm,1.4s						
WB2	**Warramunga Arr**	**45.75**	**272**	P	**P**	**17 51 34.7**	**-0.4**
WB2				IAmb	IAmb	17 52 10.8	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**45.76**	**272**	P	**P**	**17 51 34.9**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=112,slow=7.6,SNR=9.1						
	comp=Z,4.2nm,0.8s						
WB0	**Warramunga Arr**	**45.79**	**272**	P	**P**	**17 51 35.3**	**-0.1**
FINES	**FINESS Array B**	**146.67**	**341**	PKPbc	**PKiKP**	**18 02 57.4**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=48,slow=2.8,SNR=13						
FINES				pPKPbc	sPKPab	18 03 09.6	+1.7
	comp=Z,3.2nm,1.0s,baz=36,slow=3.5,SNR=4.1						

*AFAD **13** 17:51:48.5±0.0,35°.80N×27°.94E,h14km±1km, ML2.9*
*ISK **13** 17:51:49.9,35°.94N×28°.02E,h10km, ML3.0/18*
*ATH **13** 17:51:50.3,35°.92N×28°.04E,h8km±2km,ML3.0/6,Manual Solution by M.Kolligri This location: 2020/04/28 23:10:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*THE **13** 17:51:50.1,35°.92N×28°.07E,h3km±2km,ML3.0/2,Error ellipse: s-maj=4.0km s-min=0.8km az=120.0*
ISC 13 17:51:50.6±1.1,35°.93N±0°.03×28°.01E±0°.03,h9km±9km, n42,σ0§92/65,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.30**	**18**	Pg	**Pg**	**17 51 56.2**	**-0.3**
ARG				Sg	**Sg**	**17 52 00.7**	**+0.2**
ARG	**Arkhangelos**	**0.30**	**18**	P	**Pg**	**17 51 56.0**	**-0.6**
ARG				S	**Sg**	**17 52 00.8**	**+0.2**
	4µm,0.5s						
ARG	**Arkhangelos**	**0.30**	**18**	P	**Pg**	**17 51 56.3**	**-0.3**
ARG				S	**Sg**	**17 52 00.4**	**-0.2**
KARP	**Karpathos**	**0.79**	**241**	Pg	**Pg**	**17 52 05.7**	**-0.2**
KARP				Sg	**Sb**	**17 52 17.6**	**+0.1**
KARP	**Karpathos**	**0.79**	**241**	P	**Pg**	**17 52 05.9**	**0.0**
KARP				S	**Sb**	**17 52 18.2**	**+0.7**
	1µm,0.5s						
KARP	**Karpathos**	**0.79**	**241**	P	**Pg**	**17 52 05.9**	**0.0**
KARP				S	**Sb**	**17 52 17.4**	**-0.1**
TURN	**Turunc**	**0.86**	**12**	Pg	**Pg**	**17 52 06.5**	**-0.7**
TURN				Sg	**Sb**	**17 52 19.0**	**-0.5**
TURN	**Turunc**	**0.86**	**12**	P	**Pg**	**17 52 06.3**	**-0.9**
TURN				S	**Sn**	**17 52 24.2**	**+2.5**
DAT	**Datca**	**0.87**	**336**	Pg	**Pg**	**17 52 06.9**	**-0.5**
DAT				Sg	**Sb**	**17 52 19.5**	**-0.3**
DAT	**Datca**	**0.87**	**336**	P	**Pg**	**17 52 07.4**	**0.0**
DAT				S	**Sn**	**17 52 21.5**	**-0.6**
DAT	**Datca**	**0.87**	**336**	P	**Pb**	**17 52 07.6**	**-0.4**
DAT				S	**Sn**	**17 52 20.7**	**-1.4**
DAT				*i* AML	AML	17 52 23.0	
	comp=N,319nm,0.5s						
DAT				*i* AML	AML	17 52 23.0	
	comp=E,356nm,0.4s						
DATC	**Datca-Mugla**	**0.87**	**341**	Pg	**Pg**	**17 52 07.4**	**0.0**
YAZI	**Mula-Dat§a-**	**0.88**	**329**	P	**Pg**	**17 52 07.0**	**-0.4**
YAZI				S	**Sb**	**17 52 20.4**	**+0.5**
YAZI				*i* AML	AML	17 52 21.0	
	comp=N,243nm,0.8s						
YAZI				*i* AML	AML	17 52 23.0	
	comp=E,226nm,0.3s						
NISR	**Nisiros**	**0.99**	**314**	P	**Pb**	**17 52 09.8**	**-0.1**
NISR				S	**Sb**	**17 52 23.2**	**+0.2**
DALY	**Dalyan (Mula)**	**1.02**	**30**	Pg	**Pg**	**17 52 09.5**	**-0.8**
RFTAA	**Mazikoy-Bodrum**	**1.09**	**349**	Pg	**Pb**	**17 52 10.7**	**-0.9**
IZZE	**Mula-Seydike**	**1.10**	**62**	P	**Pb**	**17 52 11.3**	**-0.6**
IZZE				S	**Sn**	**17 52 29.0**	**+1.4**
IZZE				*i* AML	AML	17 52 34.0	
	comp=E,361nm,0.6s						
IZZE				*i* AML	AML	17 52 35.0	
	comp=N,646nm,0.6s						
FETY	**Fethiye**	**1.11**	**51**	Pn	**Pb**	**17 52 10.9**	**-1.2**
YER	**Yerkesik**	**1.22**	**10**	Pn	**Pg**	**17 52 13.8**	**-0.3**
YER	**Yerkesik**	**1.22**	**10**	P	**Pn**	**17 52 12.8**	**-1.2**
YER				S	**Sb**	**17 52 29.1**	**-0.8**
BDRM	**Kayabasi**	**1.22**	**338**	P	**Pb**	**17 52 13.6**	**-0.3**
BDRM				S	**Sn**	**17 52 30.7**	**+0.1**
BDRM				*i* AML	AML	17 52 33.0	
	comp=E,333nm,0.4s						
BODT	**Bodrum**	**1.26**	**334**	Pn	**Pn**	**17 52 13.6**	**-0.9**
BODT	**Bodrum**	**1.26**	**334**	P	**Pn**	**17 52 14.0**	**-0.5**
BODT				S	**Sn**	**17 52 31.4**	**-0.3**
KSL	**Kastellorizon**	**1.29**	**80**	P	**Pg**	**17 52 14.9**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.33**	**334**	Pn	**Pn**	**17 52 14.6**	**-0.8**
MULA	**Mugla, Merkez-**	**1.35**	**11**	P	**Pg**	**17 52 15.8**	**-0.6**
MULA				S	**Sg**	**17 52 38.3**	**+4.4**
MULA				*i* AML	AML	17 52 43.0	
	comp=E,269nm,0.4s						
MLSB	**Milas**	**1.38**	**352**	Pn	**Pn**	**17 52 15.4**	**-0.7**
CAME	**Cameli-Denizli**	**1.45**	**45**	Pn	**Pn**	**17 52 16.7**	**-0.5**
ZKR	**Zakros**	**1.68**	**241**	P	**Pn**	**17 52 19.7**	**-0.5**
ZKR				S	**Sn**	**17 52 41.6**	**-0.2**
ZKR	**Zakros**	**1.68**	**241**	P	**Pb**	**17 52 20.7**	**-1.0**
ZKR				S	**Sn**	**17 52 41.9**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.69**	**25**	P	**Pb**	**17 52 21.9**	**-0.1**
TAVA				*i* AML	AML	17 52 47.0	
	comp=N,210nm,0.5s						
TAVA				S	**Sg**	**17 52 47.3**	**+2.2**
TAVA				*i* AML	AML	17 52 49.0	
	comp=E,113nm,0.5s						
ELL	**Elmali**	**1.73**	**61**	Pn	**Pn**	**17 52 20.9**	**-0.2**
APMY	**Acipayam-Deniz**	**1.85**	**34**	Pn	**Pn**	**17 52 22.7**	**0.0**
GCAM	**G?zelcaml?**	**1.87**	**341**	Pn	**Pn**	**17 52 22.8**	**-0.1**
GCAM	**G?zelcaml?**	**1.87**	**341**	P	**Pb**	**17 52 24.4**	**-0.6**
GCAM				S	**Sg**	**17 52 51.6**	**+0.8**
GCAM				*i* AML	AML	17 52 55.0	
	comp=E,91nm,0.5s						
GCAM				*i* AML	AML	17 53 00.0	
	comp=N,125nm,0.5s						
ESEN	**Aydn-Nazilli**	**1.88**	**8**	P	**Pb**	**17 52 24.9**	**-0.3**
ESEN				S	**Sg**	**17 52 52.5**	**+1.3**
ESEN				*i* AML	AML	17 52 57.0	
	comp=N,60nm,0.5s						
ESEN				*i* AML	AML	17 52 57.0	
	comp=E,63nm,0.7s						
SMG	**Samos**	**2.01**	**332**	P	**Pn**	**17 52 24.4**	**-0.4**
KORT	**Korkueli**	**2.17**	**60**	Pn	**Pn**	**17 52 27.1**	**+0.1**
APE	**Apeiranthos**	**2.30**	**300**	Pn	**Pn**	**17 52 28.9**	**+0.1**
APE	**Apeiranthos**	**2.30**	**300**	P	**Pn**	**17 52 28.9**	**+0.1**
BASM	**Basmaki-Afyon**	**2.57**	**39**	Pn	**Pn**	**17 52 32.9**	**+0.4**
KULA	**Kula-Manisa**	**2.63**	**11**	Pn	**Pn**	**17 52 33.5**	**+0.1**

*NOU **13** 18:07:31.7,38°.74S×177°.99E,h36km,MLv3.8/12,North Island, New Zealand*
*WEL **13** 18:07:33.8±0.3,39°.S±2°.×17°.8E±°,h28km±2km,M3.6/85, ML3.9/34,MLv3.6/85,Error ellipse: s-maj=0.0km s-min=0.0km az=97.7,confirmed*
ISC 13 18:07:32.9±1.4,38°.59S±0°.03×177°.93E±0°.04,h48km±7km, n142,σ1§24/157,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWTS	**Gisborne Waipa**	**0.04**	**196**	P	**Pn**	**18 07 39.8**	**-0.6**
GWTS				S	**Sn**	**18 07 45.9**	**+0.3**
GHHS	**Gisborne Hospi**	**0.08**	**127**	P	**Pn**	**18 07 40.0**	**-0.5**
GHHS				S	**Sn**	**18 07 46.3**	**+0.5**
GISS	**Gisborne 2ZG**	**0.10**	**137**	P	**Pn**	**18 07 40.1**	**-0.4**
GISS				S	**Sn**	**18 07 46.4**	**+0.5**
GKBS	**Kaiti Beach**	**0.12**	**140**	P	**Pn**	**18 07 41.6**	**+1.0**
GKBS				S	**Sn**	**18 07 46.5**	**+0.5**
TKGZ	**Te Karaka**	**0.17**	**336**	P	**Pn**	**18 07 40.7**	**-0.2**
RIGZ	**Rimuhau**	**0.18**	**230**	P	**Pn**	**18 07 41.5**	**+0.5**
RIGZ				S	**Sn**	**18 07 46.4**	**-0.3**
CNGZ	**Carnagh Statio**	**0.24**	**63**	P	**Pn**	**18 07 42.6**	**+1.2**
CNGZ				S	**Sn**	**18 07 50.5**	**+3.1**
PRGZ	**Paritu Road**	**0.33**	**187**	P	**Pn**	**18 07 43.4**	**+1.1**
MWZ	**Matawai**	**0.41**	**309**	P	**Pn**	**18 07 42.7**	**-0.4**
MWZ				S	**Sn**	**18 07 49.2**	**-1.1**
TWGZ	**Tauwhareparae**	**0.42**	**5**	P	**Pn**	**18 07 43.6**	**+0.5**
TWGZ				S	**Sn**	**18 07 51.6**	**+1.2**
RAGZ	**Rawiri**	**0.42**	**283**	P	**Pn**	**18 07 43.2**	**0.0**
RAGZ				S	**Sn**	**18 07 50.1**	**-0.4**
KNZ	**Kokohu**	**0.47**	**205**	P	**Pn**	**18 07 44.8**	**+1.0**
KNZ				S	**Sn**	**18 07 53.4**	**+1.9**
SNGZ	**Shannon Statio**	**0.50**	**248**	P	**Pn**	**18 07 44.8**	**+0.7**
SNGZ				S	**Sn**	**18 07 53.3**	**+1.2**
MHGZ	**Mahia Peninsul**	**0.56**	**182**	P	**Pn**	**18 07 46.5**	**+1.6**
PUZ	**Puketiti**	**0.58**	**26**	P	**Pn**	**18 07 45.5**	**+0.5**
PUZ				S	**Sn**	**18 07 54.7**	**+0.9**
WFSS	**Wairoa Fire St**	**0.59**	**222**	P	**Pn**	**18 07 46.6**	**+1.4**
WFSS				S	**Sn**	**18 07 57.4**	**+3.4**
RUGZ	**Raukumara Rang**	**0.66**	**342**	P	**Pn**	**18 07 45.9**	**-0.2**
RUGZ				S	**Sn**	**18 07 54.7**	**-1.0**
PKGZ	**Pakihiroa**	**0.71**	**9**	P	**Pn**	**18 07 47.4**	**+0.6**
URZ	**Urewera**	**0.73**	**297**	P	**Pn**	**18 07 47.4**	**+0.5**
URZ	**Urewera**	**0.73**	**297**	P	**Pn**	**18 07 47.1**	**+0.1**
URZ				S	**Sn**	**18 07 57.0**	**-0.1**
WHHZ	**Waihua**	**0.73**	**228**	P	**Pn**	**18 07 48.1**	**+1.1**
RAHZ	**Arahi**	**0.74**	**244**	P	**Pn**	**18 07 47.9**	**+0.8**
RTZ	**Ruatahuna**	**0.75**	**268**	P	**Pn**	**18 07 47.9**	**+0.6**
HAZ	**Te Kaha**	**0.84**	**352**	P	**Pn**	**18 07 48.7**	**+0.2**
WMGZ	**Waiomatatini S**	**0.86**	**26**	P	**Pn**	**18 07 49.5**	**+0.8**
MTHZ	**Maungataniwha**	**0.89**	**253**	P	**Pn**	**18 07 49.9**	**+0.7**
MUGZ	**Murupara**	**0.92**	**277**	P	**Pn**	**18 07 50.3**	**+0.8**
ARHZ	**Aropaoanui**	**0.99**	**227**	P	**Pn**	**18 07 51.1**	**+0.6**
NMHZ	**Naumai**	**1.01**	**240**	P	**Pn**	**18 07 52.0**	**+1.1**
WHRZ	**Whale Island**	**1.05**	**314**	P	**Pn**	**18 07 52.1**	**+0.8**
EDRZ	**Edgecumbe**	**1.06**	**297**	P	**Pn**	**18 07 52.3**	**+0.9**
MXZ	**Matakaoa Point**	**1.07**	**16**	P	**Pn**	**18 07 52.4**	**+0.9**
MXZ	**Matakaoa Point**	**1.07**	**16**	P	**Pn**	**18 07 52.2**	**+0.7**
RRRZ	**Republican Roa**	**1.14**	**282**	P	**Pn**	**18 07 53.4**	**+0.9**
MARZ	**Manawahe**	**1.16**	**301**	P	**Pn**	**18 07 53.5**	**+0.7**
TARZ	**Mount Tarawera**	**1.18**	**287**	P	**Pn**	**18 07 54.4**	**+0.9**
MRHZ	**Matea Rd**	**1.21**	**258**	P	**Pn**	**18 07 54.4**	**+0.9**
PRRZ	**Plateau Road**	**1.21**	**274**	P	**Pn**	**18 07 54.3**	**+0.8**
WIZ	**White Island**	**1.22**	**331**	P	**Pn**	**18 07 53.5**	**0.0**
MKRZ	**Makatiti**	**1.24**	**291**	P	**Pn**	**18 07 55.2**	**+1.3**
ALRZ	**Allen Road**	**1.25**	**271**	P	**Pn**	**18 07 54.8**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.26**	**212**	P	**Pn**	**18 07 54.8**	**+0.7**
MCHZ	**McNeill Hill**	**1.29**	**228**	P	**Pn**	**18 07 55.7**	**+1.2**
HLRZ	**Highlands Stat**	**1.29**	**285**	P	**Pn**	**18 07 55.9**	**+1.3**
HRRZ	**Handcock Road**	**1.31**	**278**	P	**Pn**	**18 07 55.7**	**+0.8**
OPRZ	**Ohinepanea**	**1.32**	**304**	P	**Pn**	**18 07 54.9**	**0.0**
OMRZ	**Omania**	**1.32**	**291**	P	**Pn**	**18 07 55.9**	**+0.9**
THQ2	**Tauhara North**	**1.38**	**266**	P	**Pn**	**18 07 57.4**	**+1.6**
WPRZ	**Whakapapatarin**	**1.39**	**272**	P	**Pn**	**18 07 57.4**	**+1.5**
ARAZ	**Aratiatia Land**	**1.42**	**268**	P	**Pn**	**18 07 59.2**	**+2.9**
UTUZ	**Utuhina**	**1.43**	**289**	P	**Pn**	**18 07 58.0**	**+1.5**
KWHZ	**Kaweka Forest**	**1.44**	**234**	P	**Pn**	**18 07 57.5**	**+0.8**
KARZ	**Kaharoa**	**1.45**	**293**	P	**Pn**	**18 07 57.3**	**+0.6**
GRRZ	**Galatos Road**	**1.45**	**279**	P	**Pn**	**18 07 57.8**	**+1.0**
KAHZ	**Kahuranaki**	**1.46**	**214**	P	**Pn**	**18 07 57.3**	**+0.5**
NGRZ	**Ngongotaha**	**1.46**	**289**	P	**Pn**	**18 07 58.1**	**+1.3**
HATZ	**Hinemaiaia**	**1.47**	**258**	P	**Pn**	**18 07 57.5**	**+0.5**
TGRZ	**Tauranga**	**1.58**	**303**	P	**Pn**	**18 07 58.4**	**0.0**
KRHZ	**Kereru**	**1.61**	**229**	P	**Pn**	**18 07 59.3**	**+0.4**
KUTZ	**Kaahu Road**	**1.66**	**273**	P	**Pn**	**18 08 00.4**	**+0.8**
PXZ	**Pawanui**	**1.66**	**210**	P	**Pn**	**18 07 59.2**	**-0.3**
RITZ	**Rihia Road**	**1.67**	**256**	P	**Pn**	**18 08 00.7**	**+0.9**
BHHZ	**Black Hill Sta**	**1.71**	**238**	P	**Pn**	**18 08 01.1**	**+0.8**
RATZ	**Rangitukua**	**1.71**	**260**	P	**Pn**	**18 08 01.0**	**+0.7**
WATZ	**Wairara**	**1.73**	**265**	P	**Pn**	**18 08 01.3**	**+0.7**
KATZ	**Kakaramea**	**1.79**	**257**	P	**Pn**	**18 08 02.2**	**+0.7**
TMVZ	**Te Maari**	**1.82**	**253**	P	**Pn**	**18 08 02.4**	**+0.6**
ETVZ	**East Tongariro**	**1.82**	**252**	P	**Pn**	**18 08 02.4**	**+0.6**
NTVZ	**North Tongarir**	**1.83**	**253**	P	**Pn**	**18 08 02.5**	**+0.5**
KRVZ	**Karewarewa**	**1.86**	**254**	P	**Pn**	**18 08 03.0**	**+0.6**
OTVZ	**Oturere**	**1.86**	**251**	P	**Pn**	**18 08 03.0**	**+0.6**
WPHZ	**Waipukurau**	**1.87**	**218**	P	**Pn**	**18 08 02.6**	**+0.1**
MOVZ	**Moawhango**	**1.88**	**244**	P	**Pn**	**18 08 03.4**	**+0.7**
PNHZ	**Pukenui**	**1.89**	**225**	P	**Pn**	**18 08 02.8**	**+0.1**
SNVZ	**South Ngauruho**	**1.89**	**251**	P	**Pn**	**18 08 03.4**	**+0.6**
NNVZ	**North Ngauruho**	**1.89**	**253**	P	**Pn**	**18 08 03.6**	**+0.8**
TLZ	**Tolley Road**	**1.90**	**277**	P	**Pn**	**18 08 03.3**	**+0.4**
TUVZ	**Tukino**	**1.90**	**249**	P	**Pn**	**18 08 03.7**	**+0.7**
WTVZ	**West Tongariro**	**1.90**	**253**	P	**Pn**	**18 08 03.6**	**+0.6**
NGZ	**Ngauruhoe**	**1.91**	**252**	P	**Pn**	**18 08 03.7**	**+0.6**
PRHZ	**Porangahau**	**1.95**	**211**	P	**Pn**	**18 08 03.1**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.96**	**249**	P	**Pn**	**18 08 04.9**	**+1.0**
COVZ	**Chateau Observ**	**1.96**	**251**	P	**Pn**	**18 08 04.4**	**+0.6**
WNVZ	**Wahianoa**	**1.96**	**247**	P	**Pn**	**18 08 04.5**	**+0.6**
MAVZ	**Matarangi**	**1.97**	**249**	P	**Pn**	**18 08 04.9**	**+0.8**
FWVZ	**Far West T-bar**	**1.97**	**250**	P	**Pn**	**18 08 04.8**	**+0.8**
TRVZ	**Turoa**	**1.99**	**248**	P	**Pn**	**18 08 04.8**	**+0.5**
TWVZ	**Taurewa**	**2.01**	**255**	P	**Pn**	**18 08 04.8**	**+0.3**
MTVZ	**Mangateitei**	**2.08**	**247**	P	**Pn**	**18 08 06.0**	**+0.7**
TOZ	**Tahuroa Road**	**2.10**	**293**	P	**Pn**	**18 08 06.0**	**+0.4**
TSZ	**Takapari Road**	**2.12**	**226**	P	**Pn**	**18 08 05.5**	**-0.4**
PKVZ	**Pokaka**	**2.13**	**250**	P	**Pn**	**18 08 07.0**	**+0.9**
ANWZ	**Angora Road**	**2.18**	**211**	P	**Pn**	**18 08 06.6**	**-0.1**
DVHZ	**Dannevirke**	**2.19**	**218**	P	**Pn**	**18 08 06.2**	**-0.6**
HIZ	**Hauiti**	**2.42**	**271**	P	**Pn**	**18 08 11.2**	**+1.3**
HIZ	**Hauiti**	**2.42**	**271**	P	**Pn**	**18 08 11.3**	**+1.3**
POWZ	**Post Office Ro**	**2.46**	**222**	P	**Pn**	**18 08 10.0**	**-0.5**
BFZ	**Birch Farm**	**2.46**	**211**	P	**Pn**	**18 08 09.5**	**-1.1**
BFZ	**Birch Farm**	**2.46**	**211**	P	**Pn**	**18 08 09.4**	**-1.1**
PRWZ	**Pori Road**	**2.48**	**217**	P	**Pn**	**18 08 10.3**	**-0.5**
VRZ	**Vera Road**	**2.54**	**257**	P	**Pn**	**18 08 12.6**	**+1.0**
KUZ	**Kuaotunu**	**2.55**	**316**	P	**Pn**	**18 08 11.1**	**-0.6**
KUZ	**Kuaotunu**	**2.55**	**316**	P	**Pn**	**18 08 11.0**	**-0.6**
WAZ	**Wanganui**	**2.57**	**242**	P	**Pn**	**18 08 13.4**	**+1.4**
OHWZ	**Ohakea**	**2.59**	**231**	P	**Pn**	**18 08 13.3**	**+1.0**
MKAZ	**Moumakai**	**2.65**	**303**	P	**Pn**	**18 08 13.4**	**+0.3**
CPWZ	**Castlepoint**	**2.67**	**209**	P	**Pn**	**18 08 13.3**	**-0.1**
TIWZ	**Tintock**	**2.69**	**215**	P	**Pn**	**18 08 13.0**	**-0.8**
MRZ	**Mangatainoka R**	**2.75**	**221**	P	**Pn**	**18 08 13.4**	**-1.1**
WIAZ	**Waiheke Island**	**2.86**	**308**	P	**Pn**	**18 08 16.5**	**+0.5**
ETAZ	**East Tamaki Re**	**2.89**	**304**	P	**Pn**	**18 08 17.8**	**+1.4**
HOWZ	**Holdsworth Sta**	**2.96**	**218**	P	**Pn**	**18 08 16.0**	**-1.4**
TMWZ	**Te Maipa**	**2.96**	**211**	P	**Pn**	**18 08 16.0**	**-1.5**
DREZ	**Durham Road**	**2.97**	**257**	P	**Pn**	**18 08 16.4**	**-1.2**
MBAZ	**Motutapu North**	**3.02**	**306**	P	**Pn**	**18 08 18.9**	**+0.8**
PREZ	**Palmer Road**	**3.04**	**255**	P	**Pn**	**18 08 21.0**	**+2.5**
GRZ	**Great Barrier**	**3.06**	**319**	P	**Pn**	**18 08 18.7**	**0.0**
NEZ	**North Egmont**	**3.07**	**256**	P	**Pn**	**18 08 21.5**	**+2.6**
OGWZ	**Otaki Gorge**	**3.08**	**223**	P	**Pn**	**18 08 17.6**	**-1.4**
PKE	**Pukeiti**	**3.14**	**258**	P	**Pn**	**18 08 22.4**	**+2.5**
MTW	**Mount Morrison**	**3.17**	**215**	P	**Pn**	**18 08 18.3**	**-2.0**
KIW	**Kapiti Island**	**3.25**	**225**	P	**Pn**	**18 08 20.1**	**-1.3**
TRWZ	**Traveller**	**3.29**	**211**	P	**Pn**	**18 08 19.6**	**-2.3**
CAW	**Cannon Point**	**3.34**	**220**	P	**Pn**	**18 08 20.7**	**-2.0**
PAWZ	**Paruwai Farm**	**3.39**	**214**	P	**Pn**	**18 08 21.3**	**-2.0**
WEL	**Wellington**	**3.63**	**221**	P	**Pn**	**18 08 24.3**	**-2.2**
SNZO	**South Karori**	**3.68**	**221**	P	**Pn**	**18 08 24.6**	**-2.6**
DUWZ	**D'Urville Isla**	**3.80**	**233**	P	**Pn**	**18 08 27.4**	**-1.5**
TCW	**Tory Channel**	**3.84**	**226**	P	**Pn**	**18 08 27.2**	**-2.2**
WCZ	**Waipu Caves**	**3.90**	**312**	P	**Pn**	**18 08 30.9**	**+0.6**
NNZ	**Nelson**	**4.38**	**232**	P	**Pn**	**18 08 34.7**	**-2.0**
TKNZ	**Takaka Hill**	**4.54**	**236**	P	**Pn**	**18 08 37.2**	**-1.9**
QRZ	**Quartz Range**	**4.73**	**240**	P	**Pn**	**18 08 39.4**	**-2.2**
QRZ	**Quartz Range**	**4.73**	**240**	P	**Pn**	**18 08 39.6**	**-2.1**
OUZ	**Omahuta**	**4.84**	**313**	P	**Pn**	**18 08 44.4**	**+1.2**
MRNZ	**Matariki Terra**	**4.86**	**233**	P	**Pn**	**18 08 41.6**	**-1.9**
THZ	**Tophouse**	**4.99**	**229**	P	**Pn**	**18 08 42.9**	**-2.3**
KHZ	**Kahutara**	**5.08**	**220**	P	**Pn**	**18 08 43.2**	**-3.2**
CTZ	**Chatham Island**	**6.58**	**143**	P	**Pn**	**18 09 08.5**	**+1.6**
RPZ	**Rata Peaks**	**7.29**	**223**	P	**Pn**	**18 09 14.7**	**-2.0**
ODZ	**Otahua Downs**	**8.43**	**218**	P	**Pn**	**18 09 29.1**	**-3.3**
SYZ	**Scrubby Hill**	**10.25**	**216**	P	**Pn**	**18 09 55.8**	**-1.4**

IDC 13 18:09:08.9±2.7,28°.32S×178°.01W,h0km,mb3.8/2, mbtmp3.8/2,Error ellipse: s-maj=51.7km s-min=21.2km az=60.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**175**	Pn	Pn	18 09 29.8	+0.4
	111nm,0.3s,baz=356,slow=18,SNR=7.2						
RAO				Sn	Sn	18 09 43.5	0.0
	548nm,0.3s,baz=54,slow=22,SNR=15						
ASAR	**Alice Springs**	**43.25**	**265**	P	P	18 17 11.8	-0.6
	0.7nm,1.1s,baz=104,slow=7.3,SNR=6.5						
	0.7nm,1.1s						
WRA	**Warramunga Arr**	**44.05**	**270**	P	P	18 17 19.1	+0.3
	2.0nm,0.6s,baz=110,slow=8.0,SNR=3.4						
	2.0nm,0.6s						
FINES	**FINESS Array B**	**143.19**	**341**	PKP	PKPdf	18 28 43.6	-0.7

2.7nm,0.8s,baz=108,slow=14,SNR=4.1
2.7nm,0.8s
ASAR Alice Springs 45.55 257 P **P** **19 37 51.6 +0.3**
1.9nm,0.8s,baz=97,slow=8.3,SNR=24
1.9nm,0.8s
WRA Warramunga Arr 45.69 262 P **P** **19 37 51.9 -0.6**
0.5nm,0.3s,baz=96,slow=7.7,SNR=20
0.5nm,0.3s
MJAR Matsushiro Arr 71.19 323 P **P** **19 40 46.5 -0.8**
0.7nm,0.6s,baz=142,slow=6.2,SNR=1.9
0.7nm,0.6s
NVAR Mina Array Bea 80.51 43 P **P** **19 41 40.8 +0.9**
0.5nm,0.7s,baz=223,slow=7.5,SNR=3.9
0.5nm,0.7s
TXAR Lajitas Array 86.29 57 P **P** **19 42 11.1 +1.8**
0.9nm,0.9s,baz=224,slow=5.2,SNR=7.0
0.9nm,0.9s
ILAR Eielson Array 88.43 12 P **P** **19 42 17.7 -0.7**
0.6nm,0.6s,baz=227,slow=6.1,SNR=13
0.6nm,0.6s
BVAR Borovoye Array 120.10 320 PKP **PKiKP** **19 48 14.9 -0.7**
0.3nm,0.4s,baz=90,slow=3.1,SNR=4.5
AKASG Malin Array Be 143.89 332 PKP **PKPab** **19 48 57.0 -1.0**
1.1nm,0.6s,baz=46,slow=4.6,SNR=6.6
EKA Eskdalemuir Ar 145.26 6 PKPbc **PKPab** **19 49 02.1 -1.0**
0.7nm,0.4s,baz=312,slow=2.9,SNR=10
GERES GERESS Array B 150.85 346 PKPbc **PKPbc** **19 49 16.0 -1.7**
0.6nm,0.6s,baz=48,slow=1.5,SNR=2.8

*BGS **13** 19:36:54.0±1.5, 48.08N×5.59W, h5km, ML2.4*
*STR **13** 19:36:56.1±1.3, 48.9°N×±°, h15km, MLv3.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=34.6, preliminary*
*LDG **13** 19:36:56.2±0.1, 47.98N×5.41W, h10km, Md3.0/2, Ml3.0/30, Error ellipse: s-maj=2.2km s-min=1.8km az=121.0*
ISC 13 19:36:51.2±1.8, 47.97N±0.03×5.53W±0.07, h16km±10km, n53, σ1§94/89, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMF	**Camaret-sur-Me**	**0.68**	**64**	Pg	**Pn**	**19 37 08.0**	**+1.8**
CAMF				Sg	**Sn**	**19 37 15.9**	**-0.5**
ROSF	**Rostrenen**	**1.55**	**76**	*e*Pn	**Pg**	**19 37 20.5**	**-0.6**
ROSF	**Rostrenen**	**1.55**	**76**	*e*Pg	**Pg**	**19 37 23.0**	**+1.9**
ROSF				*e*Sg	**Sn**	**19 37 42.2**	**+4.2**
	47nm,0.2s						
ROSF	**Rostrenen**	**1.55**	**76**	*e*P	**Pg**	**19 37 20.8**	**-0.3**
ROSF	**Rostrenen**	**1.55**	**76**	Pn	**Pg**	**19 37 20.3**	**-0.8**
QUIF	**Quistinic**	**1.59**	**91**	*e*Pn	**Pg**	**19 37 21.3**	**-0.5**
QUIF	**Quistinic**	**1.59**	**91**	*e*Pg	**Pg**	**19 37 24.3**	**+2.5**
QUIF				*e*Sg	**Sg**	**19 37 43.9**	**+1.5**
	31nm,0.2s						
SGMF	**Saint Gilles**	**2.01**	**81**	*e*Pn	**Pb**	**19 37 26.9**	**-0.5**
SGMF	**Saint Gilles**	**2.01**	**81**	*e*Pg	**Pg**	**19 37 32.0**	**+2.2**
SGMF				*e*Sg	**Sg**	**19 37 56.9**	**+1.0**
	26nm,0.2s						
CCA1	**Carnmenellis**	**2.22**	**5**	*e*P	**Pn**	**19 37 29.1**	**+1.7**
CCA1				IAML		19 38 08.4	
	comp=N,10nm,0.2s						
CCA1				IAML		19 38 10.5	
	comp=E,20nm,0.4s						
CCA1	**Carnmenellis**	**2.22**	**5**	Pn	**Pn**	**19 37 28.4**	**+1.0**
JSA	**Saint Aubin**	**2.54**	**60**	*e*P	**Pb**	**19 37 35.5**	**-0.9**
JSA				IAML		19 38 16.4	
	comp=E,38nm,0.4s						
JSA				IAML		19 38 17.9	
	comp=N,22nm,0.2s						
JSA	**Saint Aubin**	**2.54**	**60**	Pg	**Pg**	**19 37 41.0**	**+1.1**
JSA	**Saint Aubin**	**2.54**	**60**	Pn	**Pn**	**19 37 34.1**	**+2.4**
JSA	**Saint Aubin**	**2.54**	**60**	Sg	**Sg**	**19 38 10.9**	**-1.8**
JLP	**Les Platons**	**2.60**	**60**	*e*P	**Pn**	**19 37 34.2**	**+1.6**
SBD	**Saint Breward**	**2.65**	**12**	*e*P	**Pn**	**19 37 34.3**	**+1.0**
DYA	**Yadsworthy**	**2.68**	**22**	*e*P	**Pn**	**19 37 35.2**	**+1.5**
DYA	**Yadsworthy**	**2.68**	**22**	Pn	**Pn**	**19 37 34.9**	**+1.3**
GRR	**Gorron**	**3.15**	**81**	*e*Pn	**Pn**	**19 37 42.8**	**+2.6**
GRR	**Gorron**	**3.15**	**81**	*e*Pg	**Pg**	**19 37 52.2**	**+0.6**
GRR				*e*Sn	**Sn**	**19 38 18.2**	**+0.8**
GRR				*e*Sg	**Sg**	**19 38 32.1**	**-0.3**
	comp=N,20nm,0.2s						
FLN	**La Foliniere**	**3.46**	**75**	*e*Pn	**Pn**	**19 37 47.0**	**+2.7**
	baz=258						
FLN	**La Foliniere**	**3.46**	**75**	*e*Pg	**Pg**	**19 37 58.9**	**+1.5**
	baz=258						
FLN				*e*Sn	**Sn**	**19 38 25.6**	**+0.7**
FLN				*e*Sg	**Sg**	**19 38 41.6**	**-0.5**
	comp=N,26nm,0.3s						
LDF	**La Druitiere**	**3.66**	**78**	*e*Pn	**Pn**	**19 37 50.0**	**+2.8**
LDF	**La Druitiere**	**3.66**	**78**	*e*Pg	**Pg**	**19 38 01.6**	**+0.3**
LDF				*e*Sn	**Sn**	**19 38 30.3**	**+0.3**
LDF				*e*Sg	**Sg**	**19 38 47.9**	**-0.9**
	comp=N,22nm,0.3s						
MFF	**Saint Martin d**	**3.91**	**109**	*e*Pn	**Pn**	**19 37 53.7**	**+3.1**
MFF	**Saint Martin d**	**3.91**	**109**	*e*Pg	**Pg**	**19 38 07.5**	**+1.4**
MFF				*e*Sn	**Sn**	**19 38 36.8**	**+0.6**
MFF				*e*Sg	**Sg**	**19 38 56.1**	**-0.7**
	comp=N,8.8nm,0.3s						
MFF	**Saint Martin d**	**3.91**	**109**	Pn	**Pn**	**19 37 54.1**	**+3.5**
MFF	**Saint Martin d**	**3.91**	**109**	Sg	**Sg**	**19 38 58.6**	**+1.9**
MCH1	**Michaelchurch**	**4.35**	**21**	Pn	**Pn**	**19 37 58.4**	**+1.9**
MCH1	**Michaelchurch**	**4.35**	**21**	Sn	**Sn**	**19 38 44.6**	**-2.3**
LFF	**La Frestale**	**5.29**	**123**	*e*Pg	**Pg**	**19 38 32.2**	**-0.2**
LFF				*e*Sg	**Sg**	**19 39 39.4**	**-1.5**
	comp=N,11nm,0.5s						
RJF	**Les Rejaudoux**	**5.54**	**116**	*e*Pg	**Pg**	**19 38 37.1**	**-0.1**
RJF				*e*Sn	**Sn**	**19 39 15.6**	**-0.7**
RJF				*e*Sg	**Sg**	**19 39 46.9**	**-1.9**
	comp=N,5.3nm,0.3s						
TCF	**Toulx Ste Croi**	**5.54**	**105**	*e*Pn	**Pn**	**19 38 15.6**	**+2.5**
TCF	**Toulx Ste Croi**	**5.54**	**105**	*e*Pg	**Pg**	**19 38 36.7**	**-0.6**
TCF				*e*Sn	**Sn**	**19 39 14.6**	**-1.8**
TCF				*e*Sg	**Sg**	**19 39 46.9**	**-2.1**
	comp=N,4.2nm,0.3s						
HYF	**Humbligny**	**5.57**	**94**	*e*Pn	**Pn**	**19 38 16.7**	**+3.3**
HYF	**Humbligny**	**5.57**	**94**	*e*Pg	**Pg**	**19 38 37.1**	**-0.7**
HYF				*e*Sn	**Sn**	**19 39 16.3**	**-0.7**
SJPF	**Ste Jean**	**5.72**	**147**	*e*Pn	**Pn**	**19 38 18.7**	**+3.2**
SJPF				*e*Sn	**Sn**	**19 39 19.3**	**-1.5**
	comp=N,1.5nm,0.3s						
BGF	**Bois d'Agland**	**5.87**	**101**	*e*Pn	**Pn**	**19 38 20.1**	**+2.5**
BGF	**Bois d'Agland**	**5.87**	**101**	*e*Pg	**Pg**	**19 38 42.6**	**-1.0**
BGF				*e*Sn	**Sn**	**19 39 23.6**	**-0.9**
	comp=N,12nm,0.6s						
BGF				*e*Sg	**Sg**	**19 39 57.7**	**-1.9**
	comp=N,11nm,0.5s						
CAF	**Calviac**	**6.07**	**117**	*e*Pn	**Pn**	**19 38 23.5**	**+3.2**
CAF				*e*Sn	**Sn**	**19 39 27.1**	**-2.2**
CAF				*e*Sg	**Sg**	**19 40 04.2**	**-1.6**
	comp=N,3.3nm,0.3s						
AVF	**Avril sur Loir**	**6.15**	**98**	*e*Pn	**Pn**	**19 38 23.6**	**+2.3**
AVF	**Avril sur Loir**	**6.15**	**98**	*e*Pg	**Pg**	**19 38 47.5**	**-1.3**
AVF				*e*Sn	**Sn**	**19 39 29.6**	**-1.6**
	comp=N,2.5nm,0.3s						
AVF				*e*Sg	**Sg**	**19 40 05.9**	**-2.5**
	comp=N,0.3nm,0.1s						
ETSF	**Etsaut**	**6.16**	**144**	*e*Pn	**Pn**	**19 38 24.6**	**+3.0**
ETSF				*e*Sn	**Sn**	**19 39 31.2**	**-0.5**
	comp=N,0.5nm,0.2s						
SSF	**Saint Saulge**	**6.19**	**95**	*e*Pn	**Pn**	**19 38 23.9**	**+2.0**
SSF	**Saint Saulge**	**6.19**	**95**	*e*Pg	**Pg**	**19 38 48.3**	**-1.3**
SSF				*e*Sn	**Sn**	**19 39 30.9**	**-1.4**
SSF				*e*Sg	**Sg**	**19 40 07.2**	**-2.5**
	comp=N,1.9nm,0.4s						
LOR	**Lormes**	**6.39**	**93**	*e*Pn	**Pn**	**19 38 26.7**	**+2.1**
	baz=280						
LOR				*e*Sn	**Sn**	**19 39 35.5**	**-1.7**
LOR				*e*Sg	**Sg**	**19 40 13.2**	**-2.8**
	comp=N,4.6nm,0.4s						
EPF	**Esparros**	**6.44**	**138**	*e*Pn	**Pn**	**19 38 28.2**	**+2.9**
EPF				*e*Sn	**Sn**	**19 39 36.6**	**-1.9**
	comp=N,1.3nm,0.2s						
EPF				*e*Sg	**Sg**	**19 40 15.4**	**-2.2**
	comp=N,1.7nm,0.2s						
SMF	**Signal de Mont**	**6.51**	**98**	*e*Pn	**Pn**	**19 38 28.7**	**+2.4**
SMF	**Signal de Mont**	**6.51**	**98**	*e*Pg	**Pg**	**19 38 54.3**	**-1.4**
SMF				*e*Sn	**Sn**	**19 39 38.3**	**-1.9**
	comp=N,0.3nm,0.2s						
SMF				*e*Sg	**Sg**	**19 40 17.1**	**-2.9**
	comp=N,1.0nm,0.2s						
BAIF	**Baives**	**6.74**	**68**	*e*Sn	**Sn**	**19 39 44.4**	**-1.3**
BAIF				*e*Sg	**Sg**	**19 40 23.7**	**-3.5**
	comp=N,1.3nm,0.3s						
MTLF	**Montolieu**	**7.13**	**128**	*e*Pn	**Pn**	**19 38 37.4**	**+2.5**
MTLF	**Montolieu**	**7.13**	**128**	*e*Pg	**Pg**	**19 39 06.3**	**-1.4**
MTLF				*e*Sn	**Sn**	**19 39 53.8**	**-1.8**
	comp=N,3.5nm,0.5s						

*TEH **13** 19:37:05.7, 34.08N×45.31E, h10km±230km, ML2.9*
*ISN **13** 19:37:06.1±1.5, 34.06N×45.30E, h8km±8km, ML3.0*
ISC 13 19:37:06.4±1.1, 33.99N±0.05×45.37E±0.06, h10km, n10, σ1§65/13, 1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.55**	**19**	Pg	**Pg**	**19 37 15.8**	**-1.3**
ILBA	**Ilam Banvizeh**	**0.78**	**117**	Pg	**Pg**	**19 37 18.0**	**-3.6**
IBDR	**Badra**	**0.99**	**152**	*e*Pg	**Pn**	**19 37 27.0**	**+0.6**
IBDR				*e*Sg	**Sn**	**19 37 42.0**	**+1.5**
IBDR				⇓*e*		19 37 50.1	
IGHG	**Ghaleghazi**	**1.05**	**71**	Pg	**Pb**	**19 37 26.7**	**-0.1**
BHD	**Baghdad**	**1.10**	**229**	*e*Pg	**Pn**	**19 37 28.0**	**+0.2**
BHD				*e*Sg	**Sb**	**19 37 42.0**	**+0.2**
BHD				AML	AML	19 37 54.7	
	comp=E,435nm,0.6s						
IDHR	**Dehrash**	**1.10**	**50**	Pg	**Pg**	**19 37 25.8**	**-1.8**
KCHF	**Cheshme Sefid,**	**1.41**	**78**	Pg	**Pg**	**19 37 34.0**	**+0.4**
IKOM	**Komasi**	**1.78**	**83**	Pn	**Pb**	**19 37 39.8**	**+0.5**
IKFM	**Kafar-mosalman**	**2.11**	**102**	Pn	**Pb**	**19 37 43.7**	**-1.1**
RAFI	**Al-Rafai**	**2.34**	**164**	*e*Pn	**Pn**	**19 37 47.0**	**+2.0**
RAFI				*e*Sn	**Sb**	**19 38 19.0**	**+1.2**
RAFI				AML	AML	19 38 27.0	
	comp=E,77nm,0.4s						
RAFI				AML	AML	19 38 34.6	
	comp=N,123nm,0.4s						

*IDC **13** 19:42:55.0±1.8, 2.94N×125.54E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=203.2km s-min=21.2km az=65.0*
*DJA **13** 19:42:59.0±0.8, 4.1°N±14.1°×12.7°E±°, h14km±16km, M3.9/12, mb4.0/6, mbB5.3/1, MLv3.9/12, Mw(mB)4.7/1*
ISC 13 19:42:55.8±1.3, 3.7N±0.1×126.9E±0.1, h10km, n14, σ1§66/14, mb3.8/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.37**	**269**	P	**Pn**	**19 43 22.3**	**+1.3**
TNTI	**Ternate**	**2.97**	**171**	P	**Pn**	**19 43 44.4**	**+1.4**
KMSI	**Cibinong**	**4.28**	**223**	P	**Pn**	**19 44 01.4**	**+0.4**
LBMI	**Labuha**	**4.37**	**172**	P	**Pn**	**19 44 03.3**	**+1.0**
GTOI	**Gorontalo**	**4.95**	**232**	P	**Pn**	**19 44 11.0**	**+0.7**
SANI	**Sanana**	**5.81**	**189**	P	**Pn**	**19 44 22.5**	**+0.5**
	7.6nm,1.1s,0.1nm						
MRSI	**Marisa**	**5.91**	**237**	P	**Pn**	**19 44 25.4**	**+1.9**
	17nm,0.7s,0.1nm						
SWI	**Sorong**	**6.30**	**136**	P	**Pn**	**19 44 31.5**	**+2.6**
	9.8nm,0.8s,0.1nm						
SIJI	**Sorong**	**6.31**	**136**	P	**Pn**	**19 44 30.5**	**+1.5**
NLAI	**Namlea**	**6.92**	**178**	P	**Pn**	**19 44 38.7**	**+1.4**
WRA	**Warramunga Arr**	**24.63**	**163**	P	**P**	**19 48 14.4**	**-2.3**
	1.8nm,0.9s,baz=338,slow=11,SNR=5.5						
	1.8nm,0.9s						
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**19 48 45.6**	**-2.1**
	0.1nm,0.3s,baz=344,slow=8.4,SNR=8.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**19 52 47.0**	**+0.5**
	0.4nm,0.4s,baz=121,slow=7.4,SNR=13						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.84**	**327**	P	**P**	**19 53 14.4**	**-0.6**
	0.4nm,0.6s,baz=131,slow=6.3,SNR=8.3						
	0.4nm,0.6s						

*ISK **13** 19:44:36.8, 35.49N×26.93E, h7km, ML3.0/19*
*ATH **13** 19:44:37.5, 35.47N×26.94E, h7km±2km, ML3.1/3, Error ellipse: s-maj=5.0km s-min=1.0km az=151.0*
*THE **13** 19:44:37.0, 35.42N×26.97E, h5km±1km, ML2.8/4, Error ellipse: s-maj=4.1km s-min=0.5km az=148.0*
*IDC **13** 19:44:44.1±25.0, 39.18N×25.70E, h0km, mb3.2/3, mbtmp3.1/4, ML2.4/1, Error ellipse: s-maj=591.3km s-min=82.4km az=19.0*
ISC 13 19:44:36.8±0.9, 35.49N±0.07×26.90E±0.04, h12km±7km, n37, σ1§32/50, mb3.0/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.22**	**75**	Pg	**Pg**	**19 44 41.2**	**-0.2**
KARP				Sg	**Sg**	**19 44 44.7**	**+0.1**
KARP	**Karpathos**	**0.22**	**75**	P	**Pg**	**19 44 41.3**	**-0.2**
KARP				S	**Sg**	**19 44 44.8**	**+0.1**
KARP	**Karpathos**	**0.22**	**75**	P	**Pg**	**19 44 41.3**	**-0.2**
KARP				S	**Sg**	**19 44 44.4**	**-0.2**
KARP				AML	AML	19 44 45.7	
	comp=N,45586μm,0.2s						
KARP				AML	AML	19 44 46.2	
	comp=E,30661μm,0.3s						
ZKR	**Zakros**	**0.68**	**236**	Pg	**Pg**	**19 44 50.3**	**+0.4**
ZKR				Sg	**Sb**	**19 45 00.9**	**+1.0**
ZKR	**Zakros**	**0.68**	**236**	P	**Pg**	**19 44 50.2**	**+0.4**
ZKR				S	**Sb**	**19 45 00.6**	**+0.7**
	comp=E,1μm,0.3s						
ZKR	**Zakros**	**0.68**	**236**	P	**Pg**	**19 44 50.3**	**+0.4**
ZKR				S	**Sb**	**19 45 00.6**	**+0.7**
ZKR				AML	AML	19 45 01.4	
	comp=E,3010μm,0.3s						
ZKR				AML	AML	19 45 03.0	
	comp=N,1615μm,0.4s						
FRMA	**Ierapetra Chan**	**1.07**	**244**	P	**Pg**	**19 44 55.7**	**-1.7**
FRMA				S	**Sg**	**19 45 10.2**	**-1.1**
	comp=N,380nm,0.4s						
FRMA	**Ierapetra Chan**	**1.07**	**244**	P	**Pg**	**19 44 55.7**	**-1.7**
NISR	**Nisiros**	**1.13**	**9**	P	**Pn**	**19 44 59.5**	**+1.0**
ARG	**Arkhangelos**	**1.23**	**54**	Pn	**Pg**	**19 45 00.4**	**-0.1**
ARG				Sn	**Sn**	**19 45 17.4**	**+1.0**
ARG	**Arkhangelos**	**1.23**	**54**	P	**Pg**	**19 44 59.5**	**-1.0**
ARG				S	**Sg**	**19 45 16.2**	**-0.2**
	comp=N,742nm,0.3s						
ARG	**Arkhangelos**	**1.23**	**54**	P	**Pg**	**19 45 00.2**	**-0.2**
ARG				S	**Sg**	**19 45 16.6**	**+0.2**
ARG				AML	AML	19 45 19.7	
	comp=E,1941μm,0.4s						
ARG				AML	AML	19 45 22.9	
	comp=N,1020μm,0.3s						
DAT	**Datca**	**1.35**	**24**	Pn	**Pn**	**19 45 02.1**	**+0.5**
DAT				Sn	**Sn**	**19 45 21.6**	**+2.0**
IACM	**Heraklion**	**1.51**	**263**	P	**Pn**	**19 45 03.9**	**+0.2**
IACM				S	**Sn**	**19 45 24.3**	**+1.1**
SNT5	**Nea Kammeni, S**	**1.52**	**307**	P	**Pn**	**19 45 05.0**	**+1.1**
BODT	**Bodrum**	**1.60**	**12**	Pn	**Pn**	**19 45 05.9**	**+0.9**
RFTAA	**Mazikoy-Bodrum**	**1.65**	**24**	Pn	**Pn**	**19 45 06.7**	**+1.1**
IDI	**Anoyia**	**1.66**	**264**	Pn	**Pb**	**19 45 07.6**	**+0.3**
IDI	**Anoyia**	**1.66**	**264**	P	**Pn**	**19 45 06.7**	**+0.9**
IDI				S	**Sn**	**19 45 28.2**	**+1.1**
	comp=N,190nm,0.2s						
IDI	**Anoyia**	**1.66**	**264**	P	**Pn**	**19 45 06.5**	**+0.7**
TURN	**Turunc**	**1.68**	**40**	Pn	**Pn**	**19 45 06.4**	**+0.4**
APE	**Apeiranthos**	**1.92**	**325**	Pn	**Pn**	**19 45 10.8**	**+1.3**
APE	**Apeiranthos**	**1.92**	**325**	P	**Pn**	**19 45 10.2**	**+0.7**
MLSB	**Milas**	**1.93**	**21**	Pn	**Pn**	**19 45 10.7**	**+1.1**
DALY	**Dalyan (Mula)**	**1.94**	**46**	Pn	**Pn**	**19 45 11.1**	**+1.5**
YER	**Yerkesik**	**1.98**	**34**	Pn	**Pn**	**19 45 10.9**	**+0.6**
GCAM	**G?zelcaml?**	**2.22**	**7**	Pn	**Pn**	**19 45 15.7**	**+2.2**
IMMV	**Iera Moni Meta**	**2.38**	**270**	Pn	**Pn**	**19 45 18.3**	**+2.6**
GVD	**Gavdhos**	**2.40**	**255**	Pn	**Pn**	**19 45 18.1**	**+2.2**
CAME	**Cameli-Denizli**	**2.42**	**53**	Pn	**Pn**	**19 45 18.6**	**+2.2**
RODP	**Rodopos**	**2.56**	**272**	Pn	**Pn**	**19 45 20.4**	**+2.2**
ELL	**Elmali**	**2.74**	**62**	Pn	**Pn**	**19 45 22.3**	**+1.6**
APMY	**Acipayam-Deniz**	**2.77**	**44**	Pn	**Pn**	**19 45 22.6**	**+1.5**
BRTR	**Keskin Array B**	**6.81**	**50**	Pn	**Pn**	**19 46 18.3**	**+1.5**
	comp=N,0.1nm,0.3s,baz=317,slow=17,SNR=1.6						
	comp=N,0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**39.80**	**51**	P	**P**	**19 52 06.3**	**-3.4**
	comp=N,0.1nm,0.5s,baz=282,slow=8.5,SNR=1.5						
	comp=N,0.1nm,0.5s						
MKAR	**Makanchi Array**	**42.40**	**57**	P	**P**	**19 52 31.9**	**+0.7**
	comp=N,0.2nm,0.6s,baz=280,slow=8.1,SNR=4.8						
	comp=N,0.2nm,0.6s						
SONM	**Songimo Array**	**58.17**	**51**	P	**P**	**19 54 28.5**	**-2.2**
	comp=N,0.3nm,0.6s,baz=296,slow=7.9,SNR=2.5						
	comp=N,0.3nm,0.6s						

*IDC **13** 19:52:03.2±1.2, 54.34S×144.39E, h0km, mb4.3/6, mbtmp4.3/6, MS3.9/31, Error ellipse: s-maj=110.0km s-min=17.8km az=80.0*
*NEIC **13** 19:52:05.4±1.1, 54.5S±0.1×143.9E±0.3, h10km±1km, mb4.6/16, Error ellipse: s-maj=28.3km s-min=18.4km az=80.0*

*GCMT **13** 19:52:08.4±0.3, 54.43S±0.02×143.94E±0.04, h12km, MW4.8/92, Moment Tensor Solution. s12,c14; s92,c113; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.07±.09; Mθθ0.44±.09; Mφφ-0.51±.10; Mrθ-0.28±.26; Mrφ-1.91±.06; Mθφ-0.20±.25; Best double couple: Mo1.99800×10¹⁶ NP1:ϕ₁83.00000°, δ86.00000°, λ-172.00000°. NP2: ϕ₂353.00000°, δ82.00000°, λ-4.00000°. Principal axes: T 1.9370, Plg3.0000°, Azm218.0000°; N 0.1230, Plg81.0000°, Azm109.0000°; P -2.0600, Plg9.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 19:52:05.9±0.6, 54.38S±0.09×144.2E±0.2, h11km, n75, σ1§64/37, mb4.6/12, MS4.0/32, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOO	**Toolangi**	**16.83**	**4**	Pn	**Pn**	**19 56 02.3**	**+0.9**
TOO				IAmb	IAmb	19 56 12.3	
	comp=Z,57nm,1.2s						
CAN	**Canberra**	**19.35**	**12**		**Pn**	**19 56 33.3**	**+0.9**
CAN				IAmb	IAmb	19 56 39.5	
	comp=Z,33nm,1.2s						
RPZ	**Rata Peaks**	**20.48**	**70**	LR	LR	20 03 22.1	
	comp=Z,1μm,18.0s,baz=220,slow=33						
BBOO	**Buckleboo**	**22.31**	**342**	P	**P**	**19 57 02.8**	**-0.5**
BBOO				IAmb	IAmb	19 57 22.0	
	comp=Z,46nm,1.4s						
STKA	**Stephens Creek**	**22.56**	**354**	P	**P**	**19 57 05.7**	**-0.2**
STKA	**Stephens Creek**	**22.56**	**354**	P	**P**	**19 57 04.5**	**-1.5**
	comp=Z,6.2nm,0.9s,baz=192,slow=4.7,SNR=5.9						
STKA				LR	LR	20 04 42.3	
	comp=Z,308nm,18.6s,baz=182,slow=34						
	comp=Z,6.2nm,0.9s						
THZ	**Tophouse**	**22.80**	**68**	P	**P**	**19 57 08.1**	**-0.3**
THZ				IAmb	IAmb	19 57 30.8	
	comp=Z,34nm,1.2s						
VNDA	**Vanda**	**24.10**	**171**	P	**P**	**19 57 20.2**	**-0.8**
VNDA	**Vanda**	**24.10**	**171**	P	**P**	**19 57 20.7**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=340,slow=9.1,SNR=6.0						
VNDA				LR	LR	20 04 56.6	
	comp=Z,40nm,18.5s,baz=330,slow=32						
	comp=Z,3.1nm,1.0s						
ARMA	**Armidale**	**24.54**	**16**	P	**P**	**19 57 25.1**	**-0.5**
ARMA				IAmb	IAmb	19 57 39.2	
	comp=Z,12nm,1.0s						
MRZ	**Mangatainoka R**	**25.02**	**70**	P	**P**	**19 57 31.1**	**+1.4**
MRZ				IAmb	IAmb	19 57 49.8	
	comp=Z,18nm,1.1s						
FORT	**Forrest**	**26.27**	**327**	P	**P**	**19 57 40.3**	**-0.7**
URZ	**Urewera**	**27.55**	**68**	LR	LR	20 07 43.7	
	comp=Z,38nm,20.6s,baz=301,slow=34						
H01W1	**Cape Leeuwin H**	**28.56**	**301**	T	T	20 27 51.4	
	baz=142,slow=75,SNR=8.1						
H01W2	**Cape Leeuwin H**	**28.57**	**301**	T	T	20 27 52.8	
	baz=142,slow=75,SNR=7.9						
H01W3	**Cape Leeuwin H**	**28.58**	**301**	T	T	20 27 52.6	
	baz=142,slow=75,SNR=8.7						
NWAO	**Narrogin (SRO)**	**28.66**	**307**	LR	LR	20 06 47.2	
	comp=Z,729nm,21.1s,baz=110,slow=31						
ASAR	**Alice Springs**	**31.62**	**342**	P	**P**	**19 58 27.6**	**-1.1**
ASAR	**Alice Springs**	**31.62**	**342**	P	**P**	**19 58 28.4**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=164,slow=9.1,SNR=56						
ASAR				PcP	**PcP**	**20 01 19.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=167,slow=5.3,SNR=3.6						
ASAR				LR	LR	20 09 36.3	
	comp=Z,180nm,21.3s,baz=170,slow=33						
	comp=Z,3.9nm,0.7s						
AS31	**Alice Springs**	**31.62**	**342**	P	**P**	**19 58 27.4**	**-1.3**
CTA	**Charters Tower**	**34.27**	**3**	LR	LR	20 11 19.8	
	comp=Z,189nm,18.5s,baz=190,slow=34						
WR0	**Warramunga Arr**	**35.13**	**344**	P	**P**	**19 58 58.6**	**-0.7**
WRA	**Warramunga Arr**	**35.18**	**344**	P	**P**	**19 58 58.9**	**-0.9**
WRA	**Warramunga Arr**	**35.18**	**344**	P	**P**	**19 58 59.2**	**-0.6**
	comp=Z,9.0nm,0.6s,baz=169,slow=7.9,SNR=64						
WRA				PcP	**PcP**	**20 01 28.0**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=174,slow=2.2,SNR=3.4						
	comp=Z,9.0nm,0.6s						
QSPA	**South Pole Qui**	**35.73**	**180**	P	**P**	**19 59 03.3**	**-1.0**
QSPA	**South Pole Qui**	**35.73**	**180**	P	**P**	**19 59 03.6**	**-0.7**
	comp=Z,11nm,1.1s,baz=349,slow=2.3,SNR=16						
QSPA				LR	LR	20 13 37.7	
	comp=Z,363nm,18.7s,baz=356,slow=36						
	comp=Z,11nm,1.1s						
DZM	**Mont Dzumac**	**36.38**	**36**	LR	LR	20 11 37.6	
	comp=Z,365nm,18.2s,baz=213,slow=32						
KOUNC	**Koumac, New Ca**	**37.08**	**32**	P	**P**	**19 59 16.6**	**+0.7**
RAO	**Raoul Island**	**37.10**	**63**	LR	LR	20 12 24.0	
	comp=Z,265nm,20.8

comp=Z,3,4nm,0.8s,baz=110,slow=6.2,SNR=12
OBKA Obir 147.58 277 *e*PKP **PKiKP 20 11 51.8 +0.4**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 148.89 276 *e*PKP **PKPab 20 12 01.8 +4.9**
comp=Z,7.7nm,1.6s
ARCES ARCESS Array B 149.08 323 PKPbc **PKPbc 20 11 50.7 -1.8**
comp=Z,6.6nm,1.0s,baz=90,slow=2.4,SNR=3.6
LESA Schwarzleotal 149.15 277 *e*PKiKP **PKPab 20 12 01.9 +3.9**
comp=Z,11nm,2.3s
GERES GERESS Array B 149.28 280 PKPbc **PKiKP 20 11 54.2 -0.7**
comp=Z,0.8nm,0.8s,baz=156,slow=5.1,SNR=2.1
SQTA Sankt Quirin 149.90 276 *i* PKP **PKPab 20 12 04.6 +3.6**
comp=Z,6.8nm,1.3s
FETA Feichten 150.07 275 *e*PKiKP **PKPab 20 12 02.9 +1.0**
comp=Z,6.6nm,1.1s
DAVA Damuels 150.71 275 *i* PKP **PKiKP 20 12 00.3 +2.3**
comp=Z,7.7nm,1.3s

IDC 13 20:04:19.9±2.4, 3°.94N×126°.79E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=182.3km s-min=30.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.87**	**163**	P	P	20 09 44.7	+0.2
	0.4nm,0.6s,baz=343,slow=10,SNR=4.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**28.30**	**166**	P	P	20 10 15.1	-0.3
	0.1nm,0.6s,baz=340,slow=8.1,SNR=2.1						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	20 14 10.4	-0.1
	0.1nm,0.5s,baz=107,slow=7.7,SNR=2.0						
	0.1nm,0.5s						

*IDC **13** 20:08:43.2±4.6, 17°.43N×100°.83W, h0km, mb3.7/3, mbtmp3.5/5, ML3.0/2, MS3.5/11, Error ellipse: s-maj=101.2km s-min=20.7km az=19.0*
*NEIC **13** 20:08:44.7±2.0, 17°.30N±0°.02×100°.86W±0°.02, h10km±2km, mb4.2/10, Md4.4/28(MEX), Error ellipse: s-maj=5.1km s-min=2.9km az=220.0*
*MEX **13** 20:08:45.4±1.2, 17°.21N×100°.92W, h5km, MD4.4*
ISC 13 20:08:44.1±1.1, 17°.25N±0°.03×100°.88W±0°.02, h14km±8km, n92, σ1s19/111, mb3.7/3, MS3.5/7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATYC	**Atoyac**	**0.43**	**94**	*e*P	**Pb**	20 08 53.9	+0.3
ATYC				*e*S	**Sb**	20 09 00.3	+0.3
PET2	**Petatlan**	**0.46**	**308**	*e*P	**Pg**	20 08 54.2	+0.9
PET2				*i* S	**Sg**	20 09 00.5	+0.9
CAIG	**El Cayaco**	**0.62**	**108**		**Pg**	20 08 56.6	+0.4
CAIG					**Sb**	20 09 05.4	0.0
CAIG	**El Cayaco**	**0.62**	**108**	*e*P	**Pg**	20 08 56.6	+0.4
CAIG				*e*S	**Sb**	20 09 05.4	0.0
ZIIG	**Zihuatanejo**	**0.66**	**303**		**Pg**	20 08 57.3	+0.3
ZIIG					**Sg**	20 09 06.3	+0.5
ZIIG	**Zihuatanejo**	**0.66**	**303**	*e*P	**Pg**	20 08 57.3	+0.3
ZIIG				*e*S	**Sg**	20 09 06.3	+0.5
ACP2	**Acapulco**	**1.02**	**111**	*e*P	**Pg**	20 09 02.3	-1.6
ACP2				*e*S	**Sb**	20 09 17.2	+0.2
UON	**La Union**	**1.14**	**309**	*e*P	**Pb**	20 09 04.7	-1.1
UON				*e*S	**Sb**	20 09 20.2	-0.3
ARIG	**Puente Sto Nin**	**1.15**	**26**		**Pb**	20 09 05.1	-0.7
ARIG					**Sb**	20 09 19.7	-0.9
ARIG	**Puente Sto Nin**	**1.15**	**26**	*e*P	**Pb**	20 09 05.1	-0.7
ARIG				*e*S	**Sb**	20 09 19.7	-0.9
DAIG	**Los Arroyos**	**1.20**	**101**		**Pb**	20 09 05.8	-0.9
DAIG	**Los Arroyos**	**1.20**	**101**	*e*P	**Pb**	20 09 05.8	-0.9
MEIG	**Mezcala**	**1.38**	**61**		**Pn**	20 09 09.2	+0.1
MEIG					**Sb**	20 09 27.3	-0.1
MEIG	**Mezcala**	**1.38**	**61**	*e*P	**Pn**	20 09 09.2	+0.1
MEIG				*i* S	**Sb**	20 09 27.3	-0.1
PLIG	**Platanillo**	**1.74**	**49**		**Pn**	20 09 14.2	+0.1
PLIG					**Sb**	20 09 38.1	+0.4
PLIG	**Platanillo**	**1.74**	**49**	*e*P	**Pn**	20 09 14.2	+0.1
PLIG				*e*S	**Sb**	20 09 38.1	+0.4
TEJU	**Tejupilco**	**1.79**	**23**	*e*P	**Pn**	20 09 15.2	+0.4
TEJU				*e*S	**Sb**	20 09 38.9	-0.3
TLIG	**Tlapa**	**2.23**	**82**	Pn	**Pn**	20 09 18.3	-2.6
TLIG				Sn	**Sn**	20 09 49.8	+1.4
TLIG	**Tlapa**	**2.23**	**82**	*e*P	**Pn**	20 09 19.9	-1.0
HMTT	**Tlapaneco**	**2.28**	**76**	*e*P	**Pg**	20 09 28.0	+0.1
HMTT				*e*S	**Sb**	20 09 54.1	+0.7
TOVM	**TOLUCA**	**2.33**	**29**	*e*P	**Pn**	20 09 23.8	+1.4
YAIG	**Yautepec**	**2.36**	**47**		**Pn**	20 09 22.5	-0.2
YAIG					**Sb**	20 09 55.8	+0.1
YAIG	**Yautepec**	**2.36**	**47**	*e*P	**Pn**	20 09 22.5	-0.2
YAIG				*e*S	**Sb**	20 09 55.8	+0.1
MOIG	**Morelia**	**2.44**	**353**	Pn	**Pn**	20 09 25.0	+1.2
MOIG					**Sb**	20 09 57.1	-0.8
MOIG	**Morelia**	**2.44**	**353**	*e*P	**Pb**	20 09 26.6	-1.4
INVM	**La Marquesa**	**2.48**	**35**	*i* P	**Pn**	20 09 25.2	+0.6
AOVM	**Tlapan**	**2.50**	**36**	*e*P	**Pn**	20 09 25.2	+0.4
TLVM	**San Miguel Top**	**2.55**	**40**	*i* P	**Pn**	20 09 24.0	-1.5
MMIG	**Aquila**	**2.57**	**294**		**Pn**	20 09 25.5	+0.2
MMIG	**Aquila**	**2.57**	**294**	*e*P	**Pn**	20 09 25.5	+0.2
CJVM	**Cuajimalpa**	**2.59**	**36**	*i* P	**Pn**	20 09 25.2	-0.7
XCVM	**Xochimilco**	**2.61**	**40**	*i* P	**Pn**	20 09 28.6	+2.4
CNCY	**Coyoacan**	**2.62**	**38**	*i* P	**Pg**	20 09 37.5	+3.1
CNCY				*e*S	**Sg**	20 10 07.1	-1.3
UNM	**Universidad Na**	**2.63**	**38**	Pn	**Pn**	20 09 25.8	-0.7
MPVM	**San Francisco**	**2.63**	**42**	*i* P	**Pb**	20 09 29.5	-1.8
ATVM	**ATLACOMULCO**	**2.69**	**21**	*e*P	**Pn**	20 09 26.9	-0.5
FTIG	**Fresnillo de T**	**2.71**	**76**		**Pn**	20 09 28.1	+0.7
FTIG	**Fresnillo de T**	**2.71**	**76**	*e*P	**Pn**	20 09 28.1	+0.7
AMVM	**AMECAMECA**	**2.74**	**46**	*e*P	**Pn**	20 09 29.4	+1.4
THVM	**De Xico**	**2.74**	**41**	*e*P	**Pn**	20 09 29.4	+1.4
PBVM	**Pinon**	**2.77**	**38**	*i* P	**Pn**	20 09 29.6	+1.4
PNIG	**Pinotepa**	**2.77**	**107**		**Pn**	20 09 28.1	-0.1
PNIG	**Pinotepa**	**2.77**	**107**	*e*P	**Pn**	20 09 28.1	-0.1
PPIG	**Popocatepetl**	**2.81**	**49**		**Pn**	20 09 29.2	+0.1
PPM	**Popocatepetl**	**2.81**	**49**	*e*P	**Pn**	20 09 29.2	+0.1
PTVM	**Pico Tres Padr**	**2.88**	**35**	*e*P	**Pn**	20 09 30.6	+0.7
ACIG	**Acambay**	**2.88**	**19**	*e*P	**Pb**	20 09 34.0	-1.5
TXIG	**Tlaxiaco**	**2.98**	**89**		**Pn**	20 09 32.3	+1.1
TXIG	**Tlaxiaco**	**2.98**	**89**	*e*P	**Pn**	20 09 32.3	+1.1
HLIG	**Huajuapan de L**	**3.00**	**78**		**Pn**	20 09 32.0	+0.6
HLIG	**Huajuapan de L**	**3.00**	**78**	*e*P	**Pn**	20 09 32.0	+0.6
ZUVM	**ZUMPANGO**	**3.09**	**33**	*e*P	**Pn**	20 09 32.6	-0.1
VTVM	**Tizayuca**	**3.21**	**38**	*e*P	**Pb**	20 09 41.2	+0.1
YOIG	**Yosondua**	**3.22**	**96**	*e*P	**Pn**	20 09 35.7	+1.2
COIG	**Colima**	**3.29**	**306**	*e*P	**Pn**	20 09 37.7	+2.3
COIG				*e*S	**Sb**	20 10 22.2	-0.2
EZ5V		**3.41**	**311**	*e*P	**Pb**	20 09 43.6	-0.8
EZ5V				*e*S	**Sb**	20 10 28.9	+3.0
JUBC	**Volcan de Coli**	**3.41**	**312**	*e*P	**Pb**	20 09 44.6	+0.1
JUBC				*e*S	**Sg**	20 10 32.1	-1.5
MNGA	**Volcan de Coli**	**3.41**	**311**	*e*P	**Pb**	20 09 43.9	-0.6
MNGA				*e*S	**Sg**	20 10 31.7	-2.1
SOMAC	**Volcano de Col**	**3.46**	**311**	*e*P	**Pb**	20 09 45.4	+0.1
SOMAC				*e*S	**Sg**	20 10 33.1	-2.1
JRQG	**Juriquilla Cam**	**3.46**	**7**	*e*P	**Pb**	20 09 45.5	+0.1
DEIG	**Demacu**	**3.51**	**30**	*e*P	**Pn**	20 09 40.0	+1.5
IGIG	**Irapuato, Guan**	**3.51**	**353**	*e*P	**Pb**	20 09 45.1	-1.2
CEGR	**Campo Tres**	**3.54**	**308**	*e*P	**Pn**	20 09 41.4	+2.5
CEGR				*e*S	**Sb**	20 10 31.5	+1.8
TPIG	**Tehuac#an**	**3.55**	**70**	*e*P	**Pg**	20 09 53.6	+1.4
CIHU	**Emiliano Zapat**	**4.17**	**299**	*e*P	**Pn**	20 09 48.8	+1.3
CIHU				*e*S	**Sb**	20 10 44.0	-3.9
CJM	**Chamela**	**4.54**	**300**	*e*P	Pn	20 09 57.7	+5.1
AAIG	**Aguscalientes**	**4.91**	**344**	*i* P	**Pg**	20 10 16.0	-2.2
ZAIG	**Zacatecas**	**5.72**	**344**	Pn	**Pn**	20 10 09.7	+0.7
CMIG	**Matias Romero**	**5.74**	**91**	Pn	**Pn**	20 10 09.4	+0.5
	0.2nm,0.3s,baz=274,slow=13,SNR=1.8						
CMIG				Sn	**Sn**	20 11 16.2	+1.5
	1.5nm,0.3s,baz=118,slow=19,SNR=6.1						
CMIG				Lg	Lg	20 11 44.1	
	3.3nm,0.3s,baz=202,slow=22,SNR=6.5						
CMIG				LR	LR	20 12 40.8	
	comp=Z,179nm,18.2s,baz=238,slow=42						
	9.1nm,1.3s						
LPIG	**La Paz**	**11.15**	**309**	LR	LR	20 15 34.1	
	comp=Z,86nm,20.2s,baz=16,slow=37						
TXAR	**Lajitas Array**	**12.30**	**349**	Pn	**Pn**	20 11 40.0	+1.0
	baz=167,slow=13,SNR=2.2						
TXAR				LR	LR	20 16 58.5	
	comp=Z,130nm,18.0s,baz=157,slow=41						
	0.2nm,0.7s						
TEIG	**Tepich**	**12.30**	**74**	LR	LR	20 16 46.2	
	comp=Z,682nm,19.9s,baz=24,slow=40						

BRDY	**Brady**	**14.08**	**7**	Pn	**Pn**	**20 12 05.7**	**+2.4**
ABTX	**Abilene, Hawle**	**15.35**	**4**	Pn	**Pn**	**20 12 20.7**	**+0.1**
ABTX				IAmb	IAmb	20 12 34.8	
	comp=Z,13nm,1.1s						
NATX	**Nacogdoches**	**15.51**	**20**		**Pn**	**20 12 24.4**	**+1.8**
SN01	**Snyder 1**	**15.55**	**360**	P	**P**	**20 12 26.6**	**-0.8**
SN01				IAmb	IAmb	20 12 37.5	
	comp=Z,12nm,0.8s						
PLPT	**Palo Pinto**	**15.67**	**8**		**P**	**20 12 27.6**	**-1.1**
PLPT				IAmb	IAmb	20 12 38.8	
	comp=Z,18nm,0.9s						
AMTX	**Amarillo**	**17.58**	**358**	P	**Pn**	**20 12 49.5**	**+0.6**
AMTX				IAmb	IAmb	20 12 59.2	
	comp=Z,14nm,1.0s						
ANMO	**Albuquerque**	**18.32**	**345**	P	**Pn**	**20 12 57.4**	**-0.7**
TUL3	**Leonard**	**19.13**	**13**	P	**P**	**20 13 05.4**	**-1.5**
T35A	**Sooner Cattle**	**19.97**	**10**	P	**P**	**20 13 15.1**	**-1.0**
T35A				IAmb	IAmb	20 13 26.9	
	comp=Z,10nm,0.9s						
FCAR	**Ozark Folk Cen**	**20.14**	**21**	P	**P**	**20 13 16.2**	**-1.6**
FCAR				IAmb	IAmb	20 13 27.4	
	comp=Z,17nm,0.9s						
NVAR	**Mina Array Bea**	**26.04**	**328**	P	**P**	**20 14 17.5**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=152,slow=9.9,SNR=11						
	comp=Z,1.5nm,0.8s						
PDAR	**Pinedale Array**	**26.49**	**346**	LR	LR	20 25 11.9	
	comp=Z,47nm,21.7s,baz=184,slow=38						
ELK	**Elko**	**26.50**	**335**	LR	LR	20 25 42.2	
	comp=Z,86nm,19.1s,baz=176,slow=39						
YKA	**Yellowknife Ar**	**46.21**	**351**	P	**P**	**20 17 07.9**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=158,slow=7.4,SNR=10						
	comp=Z,0.9nm,0.9s						
ILAR	**Eielson Array**	**56.59**	**338**	P	**P**	**20 18 26.2**	**0.0**
	comp=Z,0.5nm,0.9s,baz=160,slow=5.9,SNR=4.7						
	comp=Z,0.5nm,0.9s						
CFA	**Coronel Fontan**	**57.80**	**147**	LR	LR	20 37 29.8	
	comp=Z,39nm,20.6s,baz=158,slow=30						
SFJD	**Kangerlussuaq**	**59.27**	**21**	LR	LR	20 45 13.8	
	comp=Z,40nm,19.4s,baz=2.0,slow=37						
JMIC	**Jan Mayen**	**74.61**	**20**	LR	LR	20 57 23.1	
	comp=Z,138nm,19.7s,baz=230,slow=39						
DBIC	**Dimbokro**	**93.76**	**82**	LR	LR	21 04 30.6	
	comp=Z,30nm,18.0s,baz=177,slow=36						
TORD	**Torodi Ar. Bea**	**97.82**	**74**	LR	LR	21 07 43.0	
	comp=Z,28nm,18.1s,baz=296,slow=36						

CATAC 13 20:31:37.6±0.7, 13°.40N×84°.79W, h5km, ML4.4, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACON	**Acoyapa**	**1.47**	**195**	*i* PA		20 32 03.4	
ACON				*i* SA		20 32 24.0	
ACON				IAML		20 33 40.4	
	comp=Z,4μm,1.0s						
LIMN	**Finca el Limon**	**1.57**	**258**	*i* PA		20 32 04.4	
LIMN				IAML		20 33 43.1	
	comp=Z,3μm,1.0s						
BLUN	**Bluefields**	**1.71**	**144**	*i* PA		20 32 06.4	
BLUN				*i* SA		20 32 29.8	
BLUN				IAML		20 33 44.7	
	comp=Z,12μm,1.0s						
WILN	**Americas 2**	**1.84**	**228**	*i* PA		20 32 09.8	
WILN				IAML		20 33 24.2	
	comp=Z,2μm,1.0s						
MOM2	**El Cardon**	**1.91**	**240**	*i* PA		20 32 10.5	
MOM2				IAML		20 33 58.7	
	comp=Z,1μm,1.0s						
TISN	**Laguna Tiscapa**	**1.91**	**229**	*i* PA		20 32 10.6	
TISN				IAML		20 33 29.7	
	comp=Z,210nm,1.0s						
APQ2	**Apoyeque**	**1.92**	**232**	*i* PA		20 32 10.7	
MAS3	**Al N del Volca**	**1.92**	**225**	*i* PA		20 32 10.8	
MAS3				IAML		20 33 54.4	
	comp=Z,2μm,1.0s						
NANN	**Nandasmo**	**1.95**	**222**	*i* PA		20 32 12.3	
NANN				IAML		20 33 55.9	
	comp=Z,34μm,1.0s						
MOMN	**Momotombo**	**1.97**	**240**	*i* PA		20 32 11.3	
MOMN				IAML		20 33 56.8	
	comp=Z,70nm,1.0s						
CONN	**Concepcion**	**2.00**	**204**	*i* PA		20 32 12.2	
CONN				IAML		20 34 00.7	
	comp=Z,14μm,1.0s						
MORN	**Al O del Volca**	**2.02**	**205**	*i* PA		20 32 12.7	
MORN				IAML		20 34 05.4	
	comp=Z,4μm,1.0s						
JAPN	**Al SSO del Vol**	**2.06**	**205**	*i* PA		20 32 13.6	
JAPN				IAML		20 34 02.3	
	comp=Z,3μm,1.0s						
MACN	**El Madrono**	**2.06**	**243**	*i* PA		20 32 12.9	
MACN				IAML		20 34 02.0	
	comp=Z,930nm,1.0s						
CNGN	**Cerro Negro**	**2.06**	**244**	*i* P	Pb	20 32 15.5	-0.1
YUSH	**Yuscaran**	**2.07**	**286**	*i* P	Pn	20 32 10.5	-2.6
CNGA	**Al SSO del Vol**	**2.07**	**244**	*i* PA		20 32 13.1	
CNGA				IAML		20 34 01.1	
	comp=Z,2μm,1.0s						
ROCN	**Rota Cerro Neg**	**2.10**	**245**	*i* PA		20 32 12.6	
ROCN				IAML		20 32 45.3	
	comp=Z,2μm,1.0s						
COPN	**Copaltepe**	**2.14**	**236**	*i* PA		20 32 14.0	
COPN				IAML		20 34 04.6	
	comp=Z,1μm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.50**	**285**	*i* PA		20 32 19.4	
TGUH				IAML		20 34 12.5	
	comp=Z,1μm,1.0s						
VMAR	**Armenia, Volca**	**2.59**	**187**	*i* PA		20 32 21.7	
VMAR				IAML		20 34 12.7	
	comp=Z,3μm,1.0s						
SOCE	**Pocosol**	**3.00**	**177**	*i* P	Pb	20 32 29.7	-2.0
TRT2	**Tortugero**	**3.01**	**160**	*i* PA		20 32 27.7	
TRT2				IAML		20 34 23.8	
	comp=Z,760nm,1.0s						
JACO	**JACO, Garabito**	**3.72**	**178**	*i* P	Pn	20 32 33.5	-2.2
CDM	**Cerro de Muert**	**3.96**	**165**	*i* P	Pn	20 32 41.3	+1.9

*TEH **13** 20:38:19.3, 33°.74N×45°.75E, h12km±999km, ML2.8*
*ISN **13** 20:38:19.7±0.7, 33°.68N×45°.72E, h10km±3km, ML2.7*
ISC 13 20:38:19.3±1.4, 33°.71N±0°.05×45°.75E±0°.05, h11km±12km, n10, σ0s49/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.39**	**102**	Pg	**Pg**	**20 38 27.3**	**+0.2**
ILBA				Sg	**Sb**	**20 38 34.5**	**+0.1**
IBDR	**Badra**	**0.62**	**166**	*e*Pg	**Pg**	**20 38 31.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**20 38 40.0**	**+0.6**
IBDR				AML	AML	20 38 49.1	
	comp=N,212nm,0.5s						
IGHG	**Ghaleghazi**	**0.92**	**47**	Pg	**Pg**	**20 38 36.3**	**-0.8**
IGHG				Sg	**Sb**	**20 38 50.2**	**+0.4**
IDHR	**Dehrash**	**1.12**	**28**	Pg	**Pn**	**20 38 41.4**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.21**	**62**	Pg	**Pn**	**20 38 42.0**	**-0.4**
BHD	**Baghdad**	**1.23**	**249**	*e*Pg	**Pg**	**20 38 43.0**	**+0.1**
BHD				*e*Sg	**Sn**	**20 38 59.0**	**0.0**
BHD				AML	AML	20 39 14.1	
	comp=E,263nm,0.4s						
IKOM	**Komasi**	**1.54**	**72**	Pg	**Pg**	**20 38 48.7**	**-0.1**
ILIN	**Lien**	**1.57**	**39**	Pg	**Pn**	**20 38 47.9**	**+0.5**
IKFM	**Kafar-mosalman**	**1.76**	**95**	Pg	**Pb**	**20 38 51.8**	**+0.1**
RAFI	**Al-Rafai**	**2.00**	**171**	*e*Pn	**Pb**	**20 38 55.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**20 39 21.0**	**+0.2**

*NNC **13** 20:39:34.6±1.6, 54°.19N×86°.45E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=15.0km s-min=7.5km az=3.0, Suspected Mining explosion.*
*IDC **13** 20:39:36.5±0.9, 54°.19N×86°.36E, h0km, mb3.5/5, mbtmp3.7/9, ML3.6/4, MS3.2/6, Error ellipse: s-maj=10.3km s-min=8.3km az=122.0*
*ASRS **13** 20:39:36.4±0.1, 54°.2N±0°.9×8°.6E±°, h2km, MLh4.0/21, Error ellipse: s-maj=2.5km s-min=1.7km az=49.8, confirmed*
ISC 13 20:39:35.8±0.5, 54°.21N±0°.02×86°.34E±0°.02, h0km, n63, σ1s99/104, mb3.6/5, 16C-19D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJR3	**Bachatsky-3 (S**	**0.11**	**276**	⇑P	**Pg**	**20 39 37.8**	**-0.1**
BJR3				S	**Sg**	**20 39 38.2**	**-1.1**
BJR2	**Bachatsky-2, K**	**0.14**	**298**	⇓P	**Pg**	**20 39 38.5**	**0.0**
BJR2				S	**Sg**	**20 39 39.7**	**-0.7**
BJR1	**Bachatsky 1, K**	**0.18**	**278**	⇑P	**Pg**	**20 39 39.0**	**-0.2**
POMOR	**Pomortsevo, Ku**	**0.22**	**29**	⇓P	**Pg**	**20 39 41.9**	**+1.9**
POMOR				S	**Sg**	**20 39 47.2**	**+4.3**
VCHU	**Verkh-Chumysh,**	**0.27**	**167**	⇓P	**Pg**	**20 39 39.5**	**-1.3**
VCHU				S	**Sg**	**20 39 44.8**	**+0.5**
KOTO	**Kotino, Kuzbas**	**0.34**	**94**	⇓P	**Pg**	**20 39 41.5**	**-0.8**
KOTO				S	**Sg**	**20 39 48.3**	**+1.6**
SALR	**Pechorkino, Sa**	**0.43**	**299**	P	**Pg**	**20 39 44.0**	**+0.1**
SALR				S	**Sb**	**20 39 52.2**	**-0.9**
ERU	**Erunakovo, Kuz**	**0.62**	**97**	P	**Pg**	**20 39 47.8**	**+0.2**
ERU				S	**Sg**	**20 39 56.8**	**+1.2**
TAIL	**Tailep, Kuzbas**	**0.92**	**146**	P	**Pg**	**20 39 53.8**	**+0.4**
TAIL				S	**Sb**	**20 40 06.9**	**-0.4**
I46RU	**ZALESOVO INFRA**	**0.94**	**254**	I	I	20 45 20.0	
	baz=72,slow=342,SNR=13						
ZAA0	**Zalesovo Array**	**0.94**	**254**	⇑P	**Pg**	**20 39 52.9**	**-0.8**
	11nm,0.4s						
ZAA0				⇑S	**Sb**	**20 40 07.7**	**-0.1**
	620nm,1.2s						
ZALV	**Zalesovo Beam**	**0.94**	**254**	Pg	**Pg**	**20 39 53.2**	**-0.5**
	54nm,0.3s,baz=74,slow=17,SNR=393						
ZALV				Lg	Lg	20 40 07.5	
	184nm,0.3s,baz=76,slow=30,SNR=70						
ELT	**Eltsovka**	**0.96**	**184**	P	**Pg**	**20 39 52.3**	**-1.8**
ELT				S	**Sg**	**20 40 05.2**	**-1.3**
MALIN	**Malinovka, Kuz**	**0.97**	**145**	P	**Pg**	**20 39 53.0**	**-1.3**
MALIN				S	**Sg**	**20 40 07.1**	**+0.2**
KEM	**Kemerovo**	**1.14**	**353**	⇓P	**Pg**	**20 39 57.1**	**-0.5**
KEM				S	**Sn**	**20 40 14.8**	**-0.5**
BALAH	**Balakhonka, Ku**	**1.41**	**352**	P	**Pg**	**20 40 01.0**	**-1.8**
BALAH				S	**Sn**	**20 40 22.5**	**+0.5**
LUZB	**Luzhba, Kemero**	**1.61**	**109**	P	**Pn**	**20 40 02.1**	**-3.4**
LUZB				S	**Sn**	**20 40 25.4**	**-1.6**
KHAR	**Kharino, NSO,**	**1.66**	**285**	S	**Sg**	**20 40 30.2**	**+1.2**
TASR	**Tashtagol**	**1.72**	**147**	P	**Pn**	**20 40 05.1**	**-1.9**
TASR				S	**Sn**	**20 40 29.0**	**-0.7**
BRCR	**Berchikul'**	**1.83**	**38**	P	**Pn**	**20 40 06.5**	**-1.9**
BRCR				S	**Sn**	**20 40 31.8**	**-0.5**
ASR1	**Anjero-Sudjens**	**1.87**	**354**	P	**Pn**	**20 40 09.0**	**-3.0**
ASR1				S	**Sb**	**20 40 34.0**	**-0.7**
NVS	**Novosibirsk**	**1.92**	**290**	⇓P	**Pb**	**20 40 10.9**	**-0.6**
NVS				S	**Sb**	**20 40 36.1**	**+0.1**
GALT	**Gorno-Altaysk,**	**2.27**	**186**	⇑P	**Pn**	**20 40 15.5**	**+1.0**
GALT				S	**Sn**	**20 40 45.4**	**+2.2**
ARTR	**Artybash**	**2.49**	**166**	P	**Pn**	**20 40 19.0**	**+1.5**
ARTR				S	**Sn**	**20 40 48.1**	**-0.4**
YALR	**Yailyu, Altay**	**2.57**	**162**	⇓P	**Pn**	**20 40 19.4**	**+0.8**
YALR				S	**Sn**	**20 40 49.2**	**-1.3**
ELDR	**Elanda**	**3.01**	**183**	P	**Pn**	**20 40 25.3**	**+0.7**
ELDR				S	**Sn**	**20 41 02.3**	**+0.9**
DJO	**Djoy, Khakassi**	**3.25**	**114**	P	**Pn**	**20 40 27.9**	**0.0**
DJO				S	**Sn**	**20 41 08.3**	**+1.0**
CERR	**Cheremushki**	**3.32**	**112**	P	**Pn**	**20 40 26.4**	**-2.5**
DJOS	**Djoyskaya Sosn**	**3.34**	**113**	P	**Pn**	**20 40 25.2**	**-4.0**
DJOS				S	**Sn**	**20 41 09.1**	**-0.5**
UKR	**Ust'-Kan**	**3.42**	**197**	⇓P	**Pn**	**20 40 31.8**	**+1.4**
ULGR	**Ulagan, Altay**	**3.73**	**164**	⇓P	**Pn**	**20 40 37.4**	**+2.7**
ULGR				S	**Sn**	**20 41 22.6**	**+3.3**
CHBI	**Chibit, Altay**	**3.97**	**169**	P	**Pn**	**20 40 38.7**	**+0.7**
CHBI				S	**Sn**	**20 41 28.9**	**+3.6**
AKAR	**Aktash**	**3.98**	**168**	P	**Pn**	**20 40 40.2**	**+2.1**
AKAR				S	**Sn**	**20 41 28.7**	**+3.2**
CUR	**Chagan-Uzun**	**4.30**	**162**	P	**Pn**	**20 40 44.0**	**+1.5**
CUR				S	**Sn**	**20 41 36.5**	**+3.0**
DGZ	**Jazzator, Alta**	**4.57**	**171**	P	**Pn**	**20 40 47.8**	**+1.6**
DGZ				S	**Sn**	**20 41 40.7**	**+0.6**
GZL	**Zheleznogorsk**	**4.60**	**61**	S	**Sn**	**20 41 38.1**	**-2.5**
SHTK	**Zheleznogorsk-**	**4.66**	**60**	P	**Pn**	**20 40 47.2**	**-0.2**
SHTK				S	**Sn**	**20 41 41.7**	**-0.4**
GZLN	**Zheleznogorsk**	**4.77**	**60**	P	**Pn**	**20 40 48.9**	**+0.1**
GZLN				S	**Sn**	**20 41 45.9**	**+1.2**
KURK	**Kurchatov**	**5.88**	**237**	⇑Pn	**Pn**	**20 41 05.7**	**+1.7**
	67nm,1.2s						
KURK				⇓Lg	Lg	20 42 42.2	
	127nm,1.0s					

MMAI	**Mount Meron Ar**	**41.42**	**260**	P		**P**	**20 47 24.6**	**+0.7**
	0.8nm,0.6s,baz=36,slow=12,SNR=1.2							
	0.8nm,0.6s							
ILAR	**Eielson Array**	**54.51**	**25**	P		**P**	**20 49 04.8**	**0.0**
	0.7nm,0.8s,baz=315,slow=3.8,SNR=8.5							
	0.7nm,0.8s							
DAV	**Davao City (W)**	**56.60**	**131**	LR		LR	21 14 33.2	
	comp=Z,24nm,20.7s,baz=104,slow=37							
YKA	**Yellowknife Ar**	**62.48**	**11**	P		**P**	**20 50 00.8**	**+0.6**
	0.3nm,0.8s,baz=336,slow=6.9,SNR=3.8							
	0.3nm,0.8s							

ANF ***13*** *20:44:49.9±0.4, 35°.66N×97°.38W, h7km, ML3.0/5, Error ellipse: s-maj=4.3km s-min=2.6km az=163.0*

TUL ***13*** *20:44:50.6±0.6, 35°.67N±0°.01×97°.40W±0°.02, h7km±2km, ML2.8, mb_Lg2.4/25(NEIC), ML2.8/38(NEIC), Error ellipse: s-maj=2.1km s-min=1.7km az=148.0*

NEIC ***13*** *20:44:50.6±0.5, 35°.669N±0°.007×97°.41W±0°.01, h7km±2km, Error ellipse: s-maj=1.7km s-min=1.0km az=71.0*

ISC 13 20:44:50.8±0.9, 35°.68N±0°.02×97°.40W±0°.03, h9km±5km, n58, σ0=53/56, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
ADOK	**Arcadia Dam**	**0.04**	**139**			**Pg**	**20 44 52.3**		**-0.3**
ADOK				Sg		**Sg**	**20 44 53.6**		**-0.2**
OK009	**Oakdale Elemen**	**0.10**	**190**	Pg		**Pg**	**20 44 53.1**		**-0.2**
OK029	**Liberty Lake**	**0.12**	**339**	Pg		**Pg**	**20 44 53.9**		**+0.2**
OK029				Sg		**Sg**	**20 44 56.3**		**+0.6**
OKCSW	**OKLAHOMA CITY**	**0.28**	**186**	Pg		**Pg**	**20 44 56.2**		**-0.2**
OKCSW				Sg		**Sg**	**20 45 00.3**		**+0.2**
OKCSW				IAML			20 45 00.5		
	comp=E,2μm,0.4s								
OKCSW				IAML			20 45 00.8		
	comp=N,2μm,0.2s								
FNO	**Franklin**	**0.42**	**180**	Pg		**Pg**	**20 44 58.9**		**-0.2**
FNO				Sg		**Sg**	**20 45 04.8**		**+0.1**
FNO				IAML			20 45 05.1		
	comp=E,1μm,0.3s								
OK033	**Mehan**	**0.52**	**46**	Pg		**Pg**	**20 45 01.1**		**+0.1**
OK033				IAML			20 45 08.9		
	comp=E,536nm,0.4s								
OK033				IAML			20 45 09.2		
	comp=E,493nm,0.2s								
OK052	**Battle Ridge R**	**0.58**	**57**	Pg		**Pg**	**20 45 02.1**		**0.0**
OK052				IAML			20 45 10.7		
	comp=E,484nm,0.2s								
W35A	**Tecumseh**	**0.68**	**141**	Pg		**Pg**	**20 45 03.5**		**-0.5**
QUOK	**Quay**	**0.75**	**49**	Pg		**Pg**	**20 45 05.0**		**-0.2**
QUOK				IAML			20 45 16.1		
	comp=E,346nm,0.2s								
DEOK	**Depew**	**0.75**	**77**	Pg		**Pg**	**20 45 04.7**		**-0.6**
DEOK				IAmb_Lg			20 45 14.2		
	comp=Z,16nm,1.0s								
DEOK				IAML			20 45 15.6		
	comp=N,361nm,0.2s								
OK048	**Pawnee Station**	**0.82**	**27**	Pg		**Pg**	**20 45 06.4**		**-0.3**
OK048				IAML			20 45 17.9		
	comp=N,439nm,0.2s								
OK048				IAML			20 45 19.1		
	comp=N,206nm,0.2s								
OK051	**E0350 and S346**	**0.94**	**29**			**Pg**	**20 45 08.4**		**-0.5**
CROK	**Carrier**	**0.95**	**330**	Pg		**Pg**	**20 45 08.7**		**-0.4**
CROK				IAML			20 45 30.7		
	comp=N,318nm,0.2s								
CROK				IAML			20 45 32.2		
	comp=E,251nm,0.3s								
CSTR	**Hydro, Custer**	**1.05**	**268**			**Pg**	**20 45 10.6**		**-0.4**
BLOK	**Blackwell**	**1.09**	**8**	Pg		**Pg**	**20 45 11.1**		**-0.6**
X34A	**Smith Ranch, M**	**1.13**	**198**	Pg		**Pg**	**20 45 12.1**		**-0.5**
X34A				IAML			20 45 28.6		
	comp=N,252nm,0.2s								
X34A				IAML			20 45 29.1		
	comp=E,212nm,0.5s								
GC02	**Grant County #**	**1.23**	**343**			**Pb**	**20 45 13.6**		**-0.6**
TUL3	**Leonard**	**1.33**	**80**			**Pn**	**20 45 14.4**		**-1.2**
TUL3				IAML			20 45 34.0		
	comp=E,148nm,0.3s								
TUL3				IAML			20 45 36.0		
	comp=N,201nm,0.6s								
TUL3	**Leonard**	**1.33**	**80**	P		**Pn**	**20 45 14.4**		**-1.2**
	baz=260								
KAN13	**South Haven SW**	**1.33**	**357**			**Pn**	**20 45 15.5**		**-0.1**
OK038	**West end E0370**	**1.35**	**307**			**Pn**	**20 45 15.3**		**-0.5**
KAN14	**Manchester OK**	**1.35**	**341**			**Pn**	**20 45 15.7**		**-0.2**
KAN17	**Caldwell West**	**1.39**	**348**			**Pn**	**20 45 16.2**		**-0.2**
T35A	**Sooner Cattle**	**1.43**	**30**			**Pn**	**20 45 16.7**		**-0.2**
T35B	**Sooner Cattle**	**1.43**	**30**	P		**Pn**	**20 45 16.6**		**-0.3**
	baz=210								
T35B				S		**Sn**	**20 45 36.2**		**+0.4**
	baz=210								
KAN09	**Caldwell North**	**1.46**	**353**			**Pn**	**20 45 17.7**		**+0.2**
WMOK	**Wichita Mounta**	**1.47**	**231**	Pg		**Pn**	**20 45 16.9**		**-0.6**
WMOK	**Wichita Mounta**	**1.47**	**231**	P		**Pn**	**20 45 16.8**		**-0.8**
	baz=50								
U32A	**Winter Ranch,**	**1.47**	**299**			**Pn**	**20 45 17.5**		**-0.1**
U32A	**Winter Ranch,**	**1.47**	**299**	P		**Pn**	**20 45 17.4**		**-0.2**
	baz=118								
U32A				S		**Sb**	**20 45 37.6**		**+0.4**
	baz=118								
KAN05	**Bluff City Nor**	**1.48**	**345**			**Pn**	**20 45 17.7**		**+0.1**
KAN01	**Argonia South**	**1.50**	**349**			**Pn**	**20 45 18.3**		**+0.3**
KAN10	**Anthony SW Sta**	**1.54**	**339**			**Pn**	**20 45 18.6**		**0.0**
KAN08	**Anthony NE Sta**	**1.61**	**344**			**Pn**	**20 45 19.9**		**+0.4**
KS21	**Milan North St**	**1.62**	**353**			**Pb**	**20 45 20.3**		**-0.5**
ELIS	**Ellis County**	**1.68**	**284**	Pg		**Pn**	**20 45 20.8**		**+0.3**
LOOK	**Love County**	**1.69**	**174**			**Pn**	**20 45 20.9**		**+0.3**
RLO	**Rose Lookout**	**1.99**	**75**			**Pn**	**20 45 25.3**		**+0.6**
WTFS	**Witchita Falls**	**2.10**	**205**			**Pn**	**20 45 27.2**		**+1.0**
Z35A	**Perchaven, San**	**2.35**	**177**	Pn		**Pn**	**20 45 30.4**		**+0.9**
SMWD	**Samnorwood**	**2.39**	**257**			**Pn**	**20 45 31.1**		**+0.8**
SMWD				IAmb_Lg			20 46 09.6		
	comp=Z,23nm,0.7s								
U38A	**Gravette**	**2.56**	**72**			**Pn**	**20 45 33.2**		**+0.7**
FW03	**Perrin-Whitt E**	**2.69**	**192**	IAmb_Lg			20 46 16.6		
	comp=Z,11nm,1.0s								
FW06	**Azle**	**2.71**	**183**	IAmb_Lg			20 46 20.5		
	comp=Z,8.5nm,0.9s								
KSU1	**Kansas State U**	**3.47**	**10**	IAmb_Lg			20 46 47.0		
	comp=Z,15nm,0.9s								
DKNS	**Dickens**	**3.53**	**236**			**Pn**	**20 45 46.2**		**+0.3**
DKNS				IAmb_Lg			20 46 52.2		
	comp=Z,5.9nm,0.8s								
ABTX	**Abilene, Hawle**	**3.57**	**212**			**Pn**	**20 45 46.6**		**+0.2**
AMTX	**Amarillo**	**3.59**	**258**	IAmb_Lg			20 46 48.8		
	comp=Z,11nm,0.8s								
CBKS	**Cedar Bluff**	**3.64**	**330**			**Pn**	**20 45 48.0**		**+0.5**
CBKS				IAmb_Lg			20 46 52.4		
	comp=Z,15nm,1.1s								
CBKS	**Cedar Bluff**	**3.64**	**330**	P		**Pn**	**20 45 47.9**		**+0.5**
	baz=149								
S39A	**Bolivar**	**3.84**	**57**			**Pn**	**20 45 50.9**		**+0.8**
X40A	**Basin Creek Fa**	**3.93**	**106**	Pn		**Pn**	**20 45 52.0**		**+0.7**
X40A				IAmb_Lg			20 46 56.0		
	comp=Z,16nm,0.8s								
SN01	**Snyder 1**	**4.03**	**227**	IAmb_Lg			20 47 00.0		
	comp=Z,12nm,1.1s								
WHAR	**Wooly Hollow**	**4.19**	**94**	Pn		**Pn**	**20 45 55.5**		**+0.5**
POST	**Post**	**4.28**	**234**	IAmb_Lg			20 47 18.1		
	comp=Z,9.0nm,0.8s								
BRDY	**Brady**	**4.58**	**197**	IAmb_Lg			20 47 19.3		
	comp=Z,14nm,1.0s								
R40A	**Maddies Statio**	**4.87**	**56**	Pn		**Pn**	**20 46 05.2**		**+1.0**
OZNA	**Ozona**	**5.68**	**214**	IAmb_Lg			20 48 04.8		
	comp=Z,5.4nm,0.9s								

BJI ***13*** *20:58:23.4±0.0, 5°.07S×152°.24E, h101km, mb4.6/36, mB5.1/21*

IDC ***13*** *20:58:27.8±0.7, 4°.92S×151°.76E, h105km±6km, mb4.2/21, mbtmp4.7/24, MS3.4/25, Error ellipse: s-maj=15.1km s-min=9.7km az=86.0*

DJA ***13*** *20:58:27.1±0.3, 5°.3S×15°.2E±°, h108km±3km, M5.0/27, mB5.4/7, mb5.0/27, MLv5.2/3, Mw(mB)4.8/7*

NEIC ***13*** *20:58:27.5±1.4, 4°.93S±0°.06×151°.76E±0°.07, h101km±6km, mb4.8/77, Error ellipse: s-maj=10.7km s-min=8.0km az=117.0*

GCMT ***13*** *20:58:30.5±0.4, 4°.96S±0°.02×151°.88E±0°.03, h110km±4km, MW4.9/75, Moment Tensor Solution. s20,c22; s75,c104; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.50±.12; Mθθ-0.36±.14; Mϕϕ0.85±.16; Mrθ-1.18±.07; Mϕθ2.63±.13;*

M_{0}~0.16±.10; Best double couple: M_{0}2.96300×10¹⁶ NP1:ϕ=82.00000°, δ85.00000°, λ-25.00000°. NP2: ϕ=174.00000°, δ65.00000°, λ-174.00000°. Principal axes: T 3.1580, Plg14.0000°, Azm131.0000°; N -0.3900, Plg65.0000°, Azm251.0000°; P -2.7680, Plg21.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 13 20:58:27.6±0.4, 4°.94S±0°.04×151°.79E±0°.05, h105km±3km, h105km:pP-P, n250, σ1=27/257, mb4.8/65, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
RABL	**Rabaul**	**0.83**	**26**			**Pn**	**20 58 46.3**		**-0.4**
RABL				Sn		**Sn**	**20 59 00.6**		**-0.5**
RABL	**Rabaul**	**0.83**	**26**	P		**Pn**	**20 58 46.7**		**-0.1**
KAVG	**Kavieng**	**2.54**	**337**	P		**Pn**	**20 59 08.9**		**+1.4**
MANU	**Manus Island**	**5.27**	**303**			**Pn**	**20 59 44.2**		**0.0**
MANU	**Manus Island**	**5.27**	**303**	P		**Pn**	**20 59 45.3**		**+1.1**
PMG	**Port Moresby**	**6.39**	**226**	Pn		**Pn**	**20 59 59.1**		**-0.2**
PMG				Sn		**Sn**	**21 01 10.6**		**-0.3**
PMG	**Port Moresby**	**6.39**	**226**	P		**Pn**	**21 00 00.0**		**+0.7**
PMG	**Port Moresby**	**6.39**	**226**	P		**Pn**	**20 59 59.7**		**+0.4**
	127nm,0.4s,baz=59,slow=6.7,SNR=48								
PMG				LR		LR	21 02 34.4		
	comp=Z,432nm,21.9s,baz=2.0,slow=39								
PMG	**Port Moresby**	**6.39**	**226**	P		**Pn**	**20 59 58.9**		**-0.4**
	227nm,0.7s,3μm5.3nm								
HNR	**Honiara**	**9.24**	**119**			**Pn**	**21 00 38.7**		**+0.7**
HNR	**Honiara**	**9.24**	**119**	P		**Pn**	**21 00 39.6**		**+1.6**
HNR	**Honiara**	**9.24**	**119**	P		**Pn**	**21 00 39.4**		**+1.4**
	1μm,0.6s,baz=244,slow=2.5,SNR=8.7								
TABU	**Tabubil**	**10.54**	**268**	P		**Pn**	**21 00 57.8**		**+2.1**
GENI	**Genyem**	**11.83**	**281**	P		**Pn**	**21 01 13.7**		**+0.6**
GENI	**Genyem**	**11.83**	**281**	P		**Pn**	**21 01 12.8**		**-0.3**
	66nm,1.1s,3μm								
COEN	**Coen**	**12.35**	**223**			**Pn**	**21 01 19.0**		**-0.9**
PATS	**Pohnpei**	**13.39**	**29**	Pn		**Pn**	**21 01 33.3**		**-0.2**
MTSU	**Mount Surprise**	**15.01**	**209**	P		**P**	**21 01 56.9**		**-0.4**
	baz=15,SNR=53								
MTSU	**Mount Surprise**	**15.01**	**209**	P		**P**	**21 01 56.7**		**-0.6**
CTA	**Charters Tower**	**15.99**	**199**	P		**P**	**21 02 08.0**		**-0.1**
	21nm,0.7s,baz=23,slow=12,SNR=30								
CTA				LR		LR	21 07 37.5		
	comp=Z,141nm,18.9s,baz=30,slow=34								
CTAO	**Charters Tower**	**15.99**	**199**	P		**P**	**21 02 07.4**		**-0.7**
CTAO	**Charters Tower**	**15.99**	**199**	P		**P**	**21 02 08.5**		**+0.3**
RK1H	**Rockhampton Ha**	**18.38**	**184**	P		**Pn**	**21 02 36.1**		**+0.4**
GD1S	**Gladstone Soft**	**18.80**	**182**	P		**Pn**	**21 02 41.5**		**+0.8**
QIS	**Mount Isa**	**19.53**	**216**	P		**P**	**21 02 47.8**		**+0.8**
	baz=20,SNR=29								
QIS	**Mount Isa**	**19.53**	**216**	P		**P**	**21 02 47.8**		**+0.8**
FAKI	**Fak Fak**	**19.60**	**275**	P		**P**	**21 02 46.5**		**-1.3**
FAKI				IAmb		IAmb	21 02 48.7		
	comp=Z,36nm,0.7s								
FAKI	**Fak Fak**	**19.60**	**275**	P		**P**	**21 02 45.0**		**-2.8**
	comp=Z,61nm,1.1s								
GUMO	**Guam**	**19.65**	**340**	P		**Pn**	**21 02 49.8**		**-0.9**
	comp=Z,212nm,1.1s,baz=168,slow=12,SNR=3.6								
GUMO				LR		LR	21 11 25.0		
	comp=Z,38nm,18.4s,baz=143,slow=40								
KOUNC	**Koumac, New Ca**	**19.70**	**143**	P		**P**	**21 02 49.2**		**+0.4**
KOUNC				IAmb		IAmb	21 02 52.2		
	comp=Z,50nm,1.2s								
KOUNC	**Koumac, New Ca**	**19.70**	**143**	P		**Pn**	**21 02 50.5**		**-0.8**
EIDS	**Eidsvold**	**20.32**	**182**	P		**P**	**21 02 55.9**		**+0.3**
	baz=20,SNR=12								
EIDS	**Eidsvold**	**20.32**	**182**	P		**P**	**21 02 55.9**		**+0.3**
EIDS				IAmb		IAmb	21 02 57.9		
	comp=Z,44nm,0.9s								
EIDS	**Eidsvold**	**20.32**	**182**	P		**P**	**21 02 56.8**		**+1.3**
KDU	**Kakadu**	**20.57**	**247**	P		**P**	**21 02 57.6**		**-0.7**
	baz=21,SNR=20								
KDU	**Kakadu**	**20.57**	**247**	P		**P**	**21 02 57.5**		**-0.8**
SAUI	**Saumlaki**	**20.59**	**260**	P		**P**	**21 02 59.3**		**+0.8**
	comp=Z,53nm,0.7s								
SIJI	**Sorong**	**20.89**	**281**	P		**P**	**21 03 01.6**		**-0.2**
	comp=Z,39nm,0.7s								
SWI	**Sorong**	**20.90**	**281**	P		**P**	**21 03 02.2**		**+0.4**
	comp=Z,70nm,0.6s								
LIFNC	**LIFOU**	**21.75**	**138**	P		**P**	**21 03 10.9**		**+0.1**
LIFNC	**LIFOU**	**21.75**	**138**	P		**P**	**21 03 12.3**		**+1.5**
MTN	**Manton Dam**	**21.86**	**248**	P		**P**	**21 03 12.6**		**+0.5**
	baz=222,SNR=7.8								
MTN	**Manton Dam**	**21.86**	**248**	P		**P**	**21 03 11.3**		**-0.7**
MTN				IAmb		IAmb	21 03 32.7		
	comp=Z,55nm,1.2s								
MTN	**Manton Dam**	**21.86**	**248**	P		**P**	**21 03 12.3**		**+0.3**
NOUC	**Port Laguerre**	**22.10**	**142**	P		**P**	**21 03 15.2**		**+0.7**
DZM	**Mont Dzumac**	**22.16**	**142**	P		**P**	**21 03 16.1**		**+0.8**
DZM				IAmb		IAmb	21 03 17.6		
	comp=Z,67nm,0.9s								
DZM	**Mont Dzumac**	**22.16**	**142**	P		**P**	**21 03 16.5**		**+1.2**
DZM	**Mont Dzumac**	**22.16**	**142**	*e*P		**P**	**21 03 15.2**		**-0.1**
	comp=Z,121nm,0.8s								
DZM				*e*S		**S**	**21 07 07.9**		**-5.0**
	comp=Z,195nm,21.4s								
DZM				*e*LR		LR	21 08 42.2		
	comp=Z,336nm,28.4s								
DZM	**Mont Dzumac**	**22.16**	**142**	P		**P**	**21 03 16.5**		**+1.2**
	comp=Z,61nm,0.8s,baz=349,slow=11,SNR=58								
	comp=Z,61nm,0.8s								
ONTNC	**Ouen Toro**	**22.35**	**142**	P		**P**	**21 03 16.4**		**-0.7**
YATNC	**Mamie plateau,**	**22.43**	**141**	P		**P**	**21 03 19.9**		**+1.9**
WB0	**Warramunga Arr**	**22.46**	**228**	P		**P**	**21 03 17.2**		**-1.1**
WB0				IAmb		IAmb	21 03 41.6		
	comp=Z,58nm,1.1s								
WR0	**Warramunga Arr**	**22.47**	**227**	P		**P**	**21 03 17.0**		**-1.4**
WR0				IAmb		IAmb	21 03 43.0		
	comp=Z,32nm,0.8s								
WRA	**Warramunga Arr**	**22.61**	**227**	P		**P**	**21 03 18.5**		**-1.3**
WRA	**Warramunga Arr**	**22.61**	**227**	P		**P**	**21 03 18.9**		**-0.9**
	comp=Z,19nm,0.6s,baz=52,slow=10.0,SNR=93								
WRA				ScP		**ScP**	**21 10 37.2**		**-0.5**
	comp=Z,15nm,1.0s,baz=51,slow=2.6,SNR=19								
	comp=Z,19nm,0.6s								
OUENC	**Ouen Island, N**	**22.67**	**141**	P		**P**	**21 03 20.3**		**-0.1**
OUENC				IAmb		IAmb	21 03 22.8		
	comp=Z,48nm,1.1s								
OUENC	**Ouen Island, N**	**22.67**	**141**	P		**P**	**21 03 21.9**		**+1.5**
QLP	**Quilpie**	**22.70**	**198**	P		**P**	**21 03 21.3**		**+0.6**
	baz=23,SNR=9.7								
QLP	**Quilpie**	**22.70**	**198**	P		**P**	**21 03 21.4**		**+0.7**
MARNC	**Mare, Loyalty**	**22.77**	**138**	P		**P**	**21 03 22.1**		**+0.8**
GC1S	**Gold Coast 1 S**	**23.15**	**176**	P		**P**	**21 03 26.4**		**+1.4**
	comp=Z,121nm,0.9s								
PINNC	**Pines Island,**	**23.19**	**141**	P		**P**	**21 03 26.2**		**+0.8**
PINNC				IAmb		IAmb	21 03 28.4		
	comp=Z,109nm,1.2s								
PINNC	**Pines Island,**	**23.19**	**141**	P		**P**	**21 03 27.3**		**+1.9**
AULRC	**Lightning Ridg**	**24.62**	**188**	P		**P**	**21 03 38.7**		**+0.4**
LBMI	**Labuha**	**24.63**	**279**	P		**P**	**21 03 37.7**		**-0.9**
	comp=Z,113nm,0.7s,comp=Z,2μm								
NLAI	**Namlea**	**24.69**	**273**	P		**P**	**21 03 37.5**		**-1.6**
	comp=Z,18nm,1.0s								
INKA	**Innaminka**	**25.00**	**204**	P		**P**	**21 03 42.1**		**+0.3**
KNRA	**Kununurra**	**25.01**	**243**	P		**P**	**21 03 41.7**		**-0.4**
	baz=25,SNR=11								
KNRA	**Kununurra**	**25.01**	**243**	P		**P**	**21 03 41.1**		**-0.9**
KNRA				IAmb		IAmb	21 04 05.9		
	comp=Z,33nm,0.7s								
KNRA	**Kununurra**	**25.01**	**243**	P		**P**	**21 03 41.9**		**-0.1**
ARMA	**Armidale**	**25.34**	**180**	P		**P**	**21 03 45.5**		**+0.5**
	baz=25,SNR=14								
ARMA	**Armidale**	**25.34**	**180**	P		**P**	**21 03 45.2**		**+0.2**
ARMA				IAmb		IAmb	21 03 48.6		
	comp=Z,53nm,1.1s								
ARMA	**Armidale**	**25.34**	**180**	P		**P**	**21 03 46.5**		**+1.5**
AS31	**Alice Springs**	**25.38**	**221**	P		**P**	**21 03 44.6**		**-0.7**
ASAR	**Alice Springs**	**25.38**	**221**	P		**P**	**21 03 44.6**		**-0.8**
ASAR	**Alice Springs**	**25.38**	**221**	P		**P**	**21 03 45.0**		**-0.4**
	comp=Z,14nm,0.5s,baz=56,slow=8.9,SNR=258								
ASAR				pP		**pP**	**21 04 09.6**		**+0.7**
	comp=Z,18nm,0.8s,baz=56,slow=8.8,SNR=6.2								
ASAR				ScP		**ScP**	**21 10 45.1**		**-0.1**
	comp=Z,5.3nm,0.8s,baz=48,slow=3.4,SNR=20								
	comp=Z,14nm,0.5s								
SANI	**Sanana**	**25.91**	**275**	P		**P**	**21 03 49.7**		**-0.6**
SANI	**Sanana**	**25.91**	**275**	P		**P**	**21 03 48.8**		**-1.5**
	comp=Z,14nm,0.8s								
AUPHS	**Peel High Scho**	**26.04**	**182**	P		**P**	**21 03 53.2**		**+2.0**
CMSA	**Cobar Meteorol**	**27.07**	**192**	P		**P**	**21 04 00.4**		**-0.1**
	baz=27,SNR=16								
CMSA	**Cobar Meteorol**	**27.07**	**192**	P		**P**	**21 04 00.7**		**+0.3**
AUDCS	**Dubbo College**	**27.31**	**186**	P		**P**	**21 04 03.4**		**+0.8**
OOD	**Oodnadatta**	**27.41**	**212**	P		**P**	**21 04 03.5**		**0.0**
SOEI	**Soe**	**27.71**	**258**	P		**P**	**21 04 05.4**		**-1.0**
SOEI				IAmb		IAmb	21 04 45.2		
	comp=Z,71nm,1.6s								
SOEI	**Soe**	**27.71**	**258**	P		**P**	**21 04 07.4**		**+0.9**
KMSI	**Cibinong**	**28.32**	**280**	P		**P**	**21 04 11.3**		**-0.5**
	comp=Z,156nm,0.7s								
LCRK	**Leigh Creek**	**28.42**	**205**	P		**P**	**21 04 12.1**		**-0.4**
STKA	**Stephens Creek**	**28.45**	**198**	P		**P**	**21 04 12.4**		**-0.4**
	baz=29,SNR=12								
STKA	**Stephens Creek**	**28.45**	**198**	P		**P**	**21 04 12.3**		**-0.4**
STKA	**Stephens Creek**	**28.45**	**198**	P		**P**	**21 04 12.2**		**-0.6**
STKA	**Stephens Creek**	**28.45**	**198**	P		**P**	**21 04 12.3**		**-0.4**
	comp=Z,6.3nm,0.7s,baz=12,slow=9.6,SNR=20								
STKA				ScP		**ScP**	**21 10 54.5**		**+0.2**
	comp=Z,3.7nm,0.9s,baz=94,slow=1.5,SNR=4.3								
	comp=Z,6.3nm,0.7s								
FITZ	**Fitzroy Crossi**	**28.71**	**241**	P		**P**	**21 04 14.7**		**-0.6**
	baz=29,SNR=7.4								
FITZ	**Fitzroy Crossi**	**28.71**	**241**	P		**P**	**21 04 14.4**		**-0.8**
FITZ	**Fitzroy Crossi**	**28.71**	**241**	P		**P**	**21 04 14.6**		**-0.6**
GTOI	**Gorontalo**	**29.28**	**280**	P		**P**	**21 04 19.0**		**-1.3**
	comp=Z,16nm,0.7s								
WRKA	**Warakurna**	**30.14**	**226**	P		**P**	**21 04 26.8**		**-1.1**
	baz=30,SNR=45								
WRKA	**Warakurna**	**30.14**	**226**	P		**P**	**21 04 26.7**		**-1.1**
MULG	**Mulgathing**	**30.25**	**212**	P		**P**	**21 04 27.9**		**-0.8**
CAN	**Canberra**	**30.34**	**185**	P		**P**	**21 04 29.7**		**+0.2**
CAN	**Canberra**	**30.34**	**185**	P		**P**	**21 04 30.5**		**+1.0**
HTT	**Hallett**	**30.78**	**201**	P		**P**	**21 04 33.4**		**+0.1**
	baz=31,SNR=12								
HTT	**Hallett**	**30.78**	**201**	P		**P**	**21 04 33.7**		**+0.3**
WHYH	**Whyalla**	**30.94**	**204**	P		**P**	**21 04 34.4**		**-0.3**
BBOO	**Buckleboo**	**31.38**	**206**	P		**P**	**21 04 38.1**		**-0.5**
	baz=32,SNR=68								
BBOO	**Buckleboo**	**31.38**	**206**	P		**P**	**21 04 38.1**		**-0.5**
BBOO	**Buckleboo**	**31.38**	**206**	P		**P**	**21 04 38.0**		**-0.6**
TOLI2	**Tolitoli**	**31.56**	**280**	P		**P**	**21 04 39.5**		**-0.9**
TOLI2				IAmb		IAmb	21 05 21.0		
	comp=Z,13nm,0.7s								
MILA	**Mila**	**32.05**	**184**	P		**P**	**21 04 45.9**		**+1.4**
	baz=32,SNR=3.3								
ARPS	**Mount Arapiles**	**32.97**	**195**	P		**P**	**21 04 52.9**		**+0.5**
	baz=33,SNR=7.8								
ARPS	**Mount Arapiles**	**32.97**	**195**	P		**P**	**21 04 53.0**		**+0.5**
TOO	**Toolangi**	**32.99**	**189**	P		**P**	**21 04 52.0**		**-0.7**
TOO				IAmb		IAmb	21 05 18.5		
	comp=Z,35nm,1.5s								
FORT	**Forrest**	**34.05**	**218**	P		**P**	**21 05 01.3**		**-0.7**
	baz=34,SNR=21								
FORT	**Forrest**	**34.05**	**218**	P		**P**	**21 05 01.1**		**-0.9**
PSA00	**Pilbara Seismi**	**35.10**	**239**	P		**P**	**21 05 09.6**		**-1.5**
PSA00				IAmb		IAmb	21 05 40.6		
	comp=Z,33nm,1.6s								
PSA00	**Pilbara Seismi**	**35.10**	**239**	P		**P**	**21 05 09.8**		**-1.3**
PSA00				IAmb		IAmb	21 05 40.7		
	comp=Z,90nm,1.6s								
KKM	**Kota Kinabalu**	**37.16**	**287**	P		**P**	**21 05 27.2**		**-1.7**
TAU	**Tasmania Unive**	**38.02**	**185**	P		**P**	**21 05 36.2**		**+0.6**
MEEK	**Meekatharra**	**38.32**	**232**	P		**P**	**21 05 37.8**		**-0.7**
	baz=38,SNR=26								
KMBL	**Kambalda**	**38.46**	**223**	P		**P**	**21 05 38.5**		**-1.0**
	baz=39,SNR=6.9								
JOW	**Kunigami**

comp=Z,16nm,1.6s
CHTO Chiang Mai 57.15 296 P **P** 21 08 05.2 +1.3
PZH PanZhiHua 57.63 306 P **P** 21 08 10.4 +3.0
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.6s
PEA0B Petropavlovsk- 58.05 4 P **P** 21 08 09.2 -0.3
PETK Petropavlovsk- 58.05 4 P **P** 21 08 09.5 -0.1
PETK Petropavlovsk- 58.05 4 P **P** 21 08 09.2 -0.4
comp=Z,7.2nm,1.0s,baz=168,slow=6.2,SNR=13
PETK LR LR 21 29 20.2
comp=Z,20nm,21.2s,baz=165,slow=32
comp=Z,7.2nm,1.0s
CD2 Chengdu 58.07 311 P **P** 21 08 11.1 +0.8
XLT XiLinHaoTe 58.29 330 *e*P **P** 21 08 12.3 +0.8
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,90nm,5.2s
HHC Hu-ho-hao-te 58.58 325 *e*P **P** 21 08 17.5 +3.8
HHC pmax pmax
comp=Z,33nm,0.6s
HHC pmax pmax
comp=Z,190nm,5.0s
PPT2 Papeete2 58.64 108 *e*P **P** 21 08 18.8 +4.3
comp=Z,56nm,25.8s
PPT2 *e*S **S** 21 16 07.9 -3.3
comp=Z,59nm,23.0s
BTO Baotou 59.32 324 *e*P **P** 21 08 23.3 +4.5
BTO pP **pP** 21 08 47.4 +3.3
BTO sP **sP** 21 08 58.8 +3.3
BTO PP **PP** 21 10 38.0 +7.0
BTO pmax pmax
comp=Z,11nm,0.7s
BTO pmax pmax
comp=Z,250nm,6.0s
TNCH TengChong 59.70 303 P **P** 21 08 22.4 +0.6
TNCH S **S** 21 16 21.9 -3.0
TNCH sS sS 21 17 11.0 +3.2
TNCH SS **SS** 21 20 24.4 +1.8
TNCH pmax pmax
comp=Z,5.0nm,1.7s
TNCH pmax pmax
comp=Z,150nm,6.7s
SHEM Shemya Is, Ala 60.48 15 LR LR 21 30 52.6
comp=Z,43nm,19.2s,baz=288,slow=32
LZH Lanzhou 60.63 316 *e*P **P** 21 08 29.0 +1.0
LZH pP pP 21 08 54.8 +1.4
LZH pmax pmax
comp=Z,10.0nm,1.0s
DRV Dumont d'Urvil 62.16 185 P **P** 21 08 38.0 +0.6
MA2 Magadan 64.32 359 LR LR 21 34 29.1
comp=Z,25nm,20.2s,baz=128,slow=34
GTA Gaotai 65.08 318 P **P** 21 08 57.8 +0.5
GTA pP PcP 21 09 27.4 -1.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 65.59 329 P **P** 21 09 00.4 0.0
ULN IAmb IAmb 21 09 03.6
comp=Z,5.6nm,0.7s
ULN Ulaanbaatar 65.59 329 P **P** 21 09 01.9 +1.5
ULN pP **pP** 21 09 28.3 +1.9
ULN sP **sP** 21 09 38.8 +1.0
ULN Ulaanbaatar 65.59 329 P **P** 21 09 00.2 -0.3
comp=Z,32nm,0.9s
SONM Songino Array 65.91 328 P **P** 21 09 02.2 -0.3
SONM Songino Array 65.91 328 P **P** 21 09 03.2 +0.7
comp=Z,3.7nm,0.5s,baz=144,slow=5.1,SNR=25
SONM LR LR 21 36 25.8
comp=Z,38nm,21.7s,baz=147,slow=35
comp=Z,3.7nm,0.5s
SEY Seymchan 67.69 0 LR LR 21 36 09.8
comp=Z,24nm,20.4s,baz=2.5,slow=33
YAK Yakutsk 68.92 349 P **P** 21 09 20.8 -0.2
YAK IAmb IAmb 21 09 49.2
comp=Z,32nm,1.4s
CCD Concordia, Ant 71.99 187 P **P** 21 09 40.5 +0.5
CCD pP **pP** 21 10 06.2 -0.5
VNDA Vanda 72.73 178 P **P** 21 09 44.0 +0.1
VNDA Vanda 72.73 178 P **P** 21 09 44.4 +0.5
comp=Z,3.4nm,0.7s,baz=329,slow=6.7,SNR=23
comp=Z,3.4nm,0.7s
BILL Bilibino 73.53 6 P **P** 21 09 48.5 -0.1
WMQ Urumqi 75.17 318 *e*P **P** 21 10 00.6 +1.8
K15K Wolf Creek Mou 75.88 21 **P** 21 10 03.3 +1.0
K15K IAmb IAmb 21 10 05.8
comp=Z,26nm,1.1s
ANM Nome 76.21 18 P **P** 21 10 04.5 +0.3
RDOG Red Dog Mine 79.39 16 P **P** 21 10 21.4 -0.4
RDOG IAmb IAmb 21 10 24.3
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 79.77 319 P **P** 21 10 23.7 -0.7
MKAR Makanchi Array 79.77 319 P **P** 21 10 23.2 -1.1
MKAR Makanchi Array 79.77 319 P **P** 21 10 24.4 0.0
comp=Z,2.6nm,0.7s,baz=104,slow=6.6,SNR=26
MKAR LR LR 21 45 55.1
comp=Z,19nm,20.5s,baz=69,slow=36
comp=Z,2.6nm,0.7s
MAKZ Makanchi 79.98 319 P **P** 21 10 24.5 -1.0
ZAA0 Zalesovo Array 80.72 327 P **P** 21 10 27.9 -1.3
ZALV Zalesovo Beam 80.72 327 P **P** 21 10 28.0 -1.1
ZALV Zalesovo Beam 80.72 327 P **P** 21 10 28.4 -0.7
comp=Z,2.5nm,0.5s,baz=116,slow=6.3,SNR=12
ZALV LR LR 21 47 14.1
comp=Z,29nm,19.4s,baz=91,slow=36
comp=Z,2.5nm,0.5s
IMAR Indian Mountai 80.85 20 P **P** 21 10 30.3 +0.7
KSH Kashi 82.27 311 P **P** 21 10 39.6 +1.7
ILAR Eielson Array 82.67 22 P **P** 21 10 39.1 -0.1
ILAR Eielson Array 82.67 22 P **P** 21 10 39.2 0.0
comp=Z,4.5nm,0.6s,baz=249,slow=5.5,SNR=8.2
comp=Z,4.5nm,0.6s
KURBB Kurchatov Arra 83.29 322 P **P** 21 10 41.8 -0.9
comp=Z,2.8nm,0.9s,baz=111,slow=4.5,SNR=26
comp=Z,2.8nm,0.9s
AAK Ala-Archa 84.04 314 P **P** 21 10 46.1 -0.8
AAK Ala-Archa 84.04 314 LR LR 21 49 18.9
comp=Z,21nm,20.3s,baz=31,slow=36
ARSB Arslanbob 84.88 312 P **P** 21 10 49.9 -1.3
QSPA South Pole Qui 85.02 180 P **P** 21 10 51.4 0.0
QSPA IAmb IAmb 21 10 52.4
comp=Z,10nm,0.7s
QSPA South Pole Qui 85.02 180 P **P** 21 10 51.4 0.0
comp=Z,9.9nm,0.7s,baz=336,slow=0.9,SNR=67
comp=Z,9.9nm,0.7s
MAW Mawson 85.06 203 P **P** 21 10 51.0 -0.3
NRIK Noril'sk 85.77 341 P **P** 21 10 54.8 0.0
NRIK IAmb IAmb 21 10 55.9
comp=Z,5.2nm,0.8s
NRIK Noril'sk 85.77 341 P **P** 21 10 54.9 +0.1
comp=Z,6.5nm,0.8s,baz=126,slow=3.4,SNR=12
comp=Z,6.5nm,0.8s
E27K Coleen River 86.07 20 P **P** 21 10 56.3 -0.1
E27K IAmb IAmb 21 10 59.4
comp=Z,6.2nm,0.9s
J30M Hart River 86.75 24 P **P** 21 10 59.5 -0.4
J30M IAmb IAmb 21 11 03.5
comp=Z,7.8nm,0.8s
KK31 Karatay Array 87.00 314 P **P** 21 11 00.9 -0.6
G31M Satah River 88.28 22 P **P** 21 11 07.1 +0.1
G31M IAmb IAmb 21 11 09.7
comp=Z,8.7nm,1.0s
BVAR Borovoye Array 88.75 323 P **P** 21 11 08.6 -1.0
comp=Z,4.3nm,0.7s,baz=106,slow=6.1,SNR=26
comp=Z,4.3nm,0.7s
INK Inuvik 88.94 21 LR LR 21 44 32.9
comp=Z,62nm,21.5s,baz=274,slow=31
K02D Willamette Mer 89.31 47 P **P** 21 11 12.1 -0.4
K02D IAmb IAmb 21 11 14.6
comp=Z,25nm,1.7s
HUMO Hull Mountain 89.81 47 P **P** 21 11 15.2 +0.5
HUMO IAmb IAmb 21 11 55.5
comp=Z,10nm,1.5s
YBH Yreka Blue Hor 89.89 48 LR LR 21 45 04.0
comp=Z,33nm,19.8s,baz=280,slow=31
NVAR Mina Array Bea 92.96 52 P **P** 21 11 30.4 +0.6
comp=Z,1.0nm,0.7s,baz=252,slow=4.8,SNR=7.9
NVAR pP **pP** 21 11 57.0 -0.5
comp=Z,0.9nm,0.8s,baz=257,slow=6.5,SNR=3.0
comp=Z,1.0nm,0.7s
WCT Wildcat Mounta 94.19 54 P **P** 21 11 34.9 -0.3
WCT IAmb IAmb 21 11 42.6
comp=Z,4.1nm,1.2s
ARU Arti 95.87 326 LR LR 21 55 37.2
comp=Z,25nm,20.6s,baz=124,slow=36

YKA Yellowknife Ar 96.02 28 P **P** 21 11 42.7 -0.2
comp=Z,0.6nm,0.7s,baz=271,slow=4.7,SNR=13
YKA pP **pP** 21 12 09.2 -1.6
comp=Z,0.7nm,0.8s,baz=274,slow=5.0,SNR=6.6
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 99.68 48 P **Pdif** 21 11 59.8 -0.3
comp=Z,0.3nm,0.6s,baz=242,slow=1.9,SNR=3.1
PDAR LR LR 21 50 56.9
comp=Z,23nm,18.9s,baz=300,slow=32
comp=Z,0.3nm,0.6s
PLCA Paso Flores 120.27 144 PKP **PKPdf** 21 17 06.7 -0.3
comp=Z,1.0nm,0.8s,baz=225,slow=5.7,SNR=3.2
KRLC Kraliky 121.30 328 *e*PKPDF **PKiKP** 21 17 09.2 +0.5
RONA Rosalía, Austr 122.89 326 *i* PKP **PKPdf** 21 17 11.8 0.0
comp=Z,0.6nm,0.3s
CONA Conrad Observa 123.01 326 *i* PKiKP **PKiKP** 21 17 12.4 +0.1
comp=Z,0.7nm,0.4s
ZVC Zvikov 123.03 328 *e*PKPDF **PKiKP** 21 17 12.9 +0.8
CKRC Cesky Krumlov 123.34 328 *e*PKPDF **PKiKP** 21 17 12.8 0.0
KHC Kasperske Hory 123.54 328 *e*PKPDF **PKiKP** 21 17 13.8 +0.6
GERES GERESS Array B 123.64 328 PKP **PKPdf** 21 17 12.9 -0.3
comp=Z,1.0nm,0.4s,baz=76,slow=1.5,SNR=11
KBA Koelnbreinsper 124.89 326 *i* PKP **PKPdf** 21 17 15.6 -0.2
comp=Z,0.4nm,0.3s
LESA Schwarzleotal 125.05 327 *i* PKP **PKPdf** 21 17 15.5 -0.4
comp=Z,1.5nm,0.4s
WTTA Wattenberg 125.71 327 *i* PKiKP **PKiKP** 21 17 17.7 -0.1
comp=Z,1.8nm,0.3s
EKA Eskdalemuir Ar 125.87 343 PKP **PKPdf** 21 17 16.7 -0.4
comp=Z,0.8nm,0.4s,baz=9.3,slow=2.5,SNR=9.0
MOTA Moosalm 125.94 328 *i* PKP **PKPdf** 21 17 17.7 -0.1
comp=Z,1.4nm,0.5s
SQTA Sankt Quirin 125.96 328 *i* PKP **PKPdf** 21 17 17.5 -0.3
comp=Z,0.8nm,0.4s
FETA Feichten 126.34 328 *i* PKP **PKPdf** 21 17 18.8 +0.2
comp=Z,0.7nm,0.4s
TORD Torodi Ar. Bea 149.40 287 PKPbc **PKPbc** 21 18 04.6 -0.9
comp=Z,2.9nm,0.5s,baz=95,slow=3.1,SNR=44
BDFB Brasilia 151.66 137 PKPbc **PKPbc** 21 18 10.8 -0.2
comp=Z,1.8nm,0.6s,baz=299,slow=2.9,SNR=4.1
BDFB PKPab **PKPab** 21 18 20.2 +0.2
comp=Z,4.2nm,0.6s,baz=183,slow=1.9,SNR=8.2

ISN ***13*** *21:13:09.2±0.4, 33.66N×45.59E, h7km±2km, ML3.0*
TEH ***13*** *21:13:10.5, 33.72N×45.64E, h12km±25km, ML3.1*
ISC 13 21:13:09.5±1.4, 33.67N±0.04×45.58E±0.04, h2km±15km, n17, σ0.88/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**95**	Pg		**Pg**	**21 13 20.0**	**+0.5**
IBDR	**Badra**	**0.63**	**152**	*e*Pg		**Pg**	**21 13 21.0**	**-0.5**
IBDR				*e*Sg		**Sg**	**21 13 30.0**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.83**	**0**	Pg		**Pb**	**21 13 26.0**	**-0.7**
IGHG	**Ghaleghazi**	**1.05**	**51**	Pg		**Pg**	**21 13 29.5**	**-0.1**
BHD	**Baghdad**	**1.08**	**249**	*e*Pg		**Pb**	**21 13 30.0**	**-0.9**
BHD				*e*Sg		**Sg**	**21 13 45.0**	**+0.8**
BHD					AML	AML	21 13 54.9	
	comp=E,866nm,0.9s							
IDHR	**Dehrash**	**1.23**	**33**	Pg		**Pb**	**21 13 32.0**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.35**	**63**	Pg		**Pb**	**21 13 34.9**	**-0.7**
KCHF				Sg		**Sg**	**21 13 53.3**	**+0.3**
IKOM	**Komasi**	**1.68**	**72**	Pg		**Pb**	**21 13 40.9**	**-0.3**
IKOM				Sg		**Sg**	**21 14 04.0**	**+0.5**
ILIN	**Lien**	**1.69**	**42**	Pg		**Pb**	**21 13 40.8**	**-0.6**
IKFM	**Kafar-mosalman**	**1.90**	**94**	Pn		**Pb**	**21 13 44.0**	**-0.7**
RAFI	**Al-Rafai**	**1.99**	**167**	*e*Pn		**Pn**	**21 13 45.0**	**+0.9**
RAFI				*e*Sn		**Sb**	**21 14 11.0**	**-0.6**
RAFI					AML	AML	21 14 25.2	
	comp=N,112nm,0.4s							
RAFI					AML	AML	21 14 31.6	
	comp=E,79nm,0.4s							
IBZA	**Bozab**	**2.05**	**66**	Pn		**Pb**	**21 13 45.8**	**-1.8**
IALM	**Almabolaq**	**2.45**	**60**	Pn		**Pn**	**21 13 51.4**	**+0.7**
SDS1	**Sardasht. Az.**	**2.48**	**358**	Pn		**Pn**	**21 13 51.7**	**+0.7**
HSAM	**Samen**	**2.57**	**77**	Pn		**Pn**	**21 13 52.9**	**+0.6**
QAMS	**Qamsar**	**4.85**	**88**	Pn		**Pn**	**21 14 24.4**	**+0.8**
IKLH	**Kolahrood**	**5.02**	**92**	Pn		**Pn**	**21 14 27.0**	**+1.0**

FUNV ***13*** *21:30:01.1, 9.91N×70.40W, h5km, MW3.3*
ISC 13 21:29:59.6±1.2, 9.92N±0.04×70.42W±0.03, h8km±10km, n13, σ1.978/25, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.46**	**78**	*e*P		**Pg**	**21 30 08.8**	**+0.2**
CURV				*e*S		**Sg**	**21 30 15.0**	**+0.3**
SIQV	**Siquisique**	**0.94**	**39**	*e*P		**Pg**	**21 30 18.8**	**+1.0**
SIQV				*e*S		**Sg**	**21 30 31.8**	**+1.8**
SANV	**Sanarito**	**0.96**	**115**	*e*P		**Pg**	**21 30 18.6**	**+0.4**
SANV				*e*S		**Sg**	**21 30 31.2**	**+0.5**
SDV	**Santo Domingo**	**1.05**	**192**	*e*P		**Pg**	**21 30 19.2**	**-0.5**
SDV				*e*S		**Sg**	**21 30 33.1**	**-0.3**
SDV				*i*			21 30 36.3	
	comp=Z,20nm,0.1s							
TEPV	**Terepaima**	**1.21**	**88**	*e*P		**Pg**	**21 30 23.0**	**+0.1**
TEPV				*e*S		**Sg**	**21 30 38.9**	**+0.3**
SOCV	**Socops**	**1.68**	**195**	*e*P		**Pn**	**21 30 30.5**	**+1.2**
SOCV				*e*S		**Sn**	**21 30 52.6**	**+1.6**
MCQV	**Machiques**	**2.09**	**274**	*e*P		**Pn**	**21 30 36.2**	**+1.3**
MCQV				*e*S		**Sn**	**21 31 02.5**	**+1.4**
URIC	**Uribia, Colomb**	**2.35**	**319**	*e*P		Pn	21 30 33.9	-4.7
URIC				*e*S		**Sn**	**21 31 03.3**	**-4.4**
URIC				*i*			21 31 15.9	
	comp=Z,10nm,0.2s							
BAUV	**El Baul**	**2.54**	**112**	*e*P		**Pn**	**21 30 42.3**	**+1.2**
BAUV				*e*S		**Sn**	**21 31 13.1**	**+1.0**
CRJC	**Cerrejon, Guaj**	**2.66**	**295**	*e*P		**Pn**	**21 30 43.7**	**+0.9**
CRJC				*e*S		**Sn**	**21 31 15.2**	**-0.2**
CRJC				*i*			21 31 24.9	
	comp=Z,17nm,0.2s							
BENV	**Beln**	**2.78**	**89**	*e*P		**Pn**	**21 30 46.5**	**+2.1**
BENV				*e*S		**Sn**	**21 31 19.3**	**+1.1**
PAMC	**Pamplona, Colo**	**3.41**	**222**	*e*P		**Pn**	**21 30 56.0**	**+2.4**
PAMC				*e*S		**Sb**	**21 31 44.0**	**+1.6**
PAMC				*i*			21 31 51.9	
	comp=Z,6.6nm,0.4s							
CACV	**CAICARA DEL OR**	**4.49**	**121**	*e*P		**Pb**	**21 31 15.4**	**-3.3**
CACV				*e*S		**Sb**	**21 32 10.4**	**-2.6**

IDC ***13*** *21:31:14.2±1.0, 36.99N×27.60E, h0km, mb3.8/7, mbtmp3.8/11, ML3.6/4, MS2.2/1, Error ellipse: s-maj=22.8km s-min=16.4km az=167.0*
ISK ***13*** *21:31:14.9, 37.00N×27.63E, h6km, ML3.6/30*
AFAD ***13*** *21:31:14.9±0.0, 36.99N×27.65E, h7km±1km, MW3.6*
GII ***13*** *21:31:16.0±0.8, 36.56N±0.006×27.493E±0.002, h7km, Mws3.5, confirmed*
NEIC ***13*** *21:31:15.8±1.7, 36.93N±0.04×27.57E±0.06, h10km±1km, mb4.2/6, Error ellipse: s-maj=8.4km s-min=5.9km az=265.0*
THE ***13*** *21:31:15.2, 36.99N×27.65E, h4km±1km, ML3.6/5, Error ellipse: s-maj=1.8km s-min=0.6km az=220.0*
ATH ***13*** *21:31:16.2, 36.97N×27.56E, h11km±1km, ML3.6/5, Error ellipse: s-maj=2.0km s-min=1.0km az=252.0*
ISC 13 21:31:15.5±0.7, 36.98N±0.02×27.62E±0.02, h12km±5km, n127, σ1.916/164, mb3.9/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.10**	**82**	Pg		**Pg**	**21 31 17.4**	**-0.9**
RFTAA				Sg		**Sg**	**21 31 19.1**	**-1.3**
BDRM	**Kayabasi**	**0.16**	**300**	P		**Pg**	**21 31 19.0**	**-0.3**
BDRM				S		**Sg**	**21 31 22.2**	**+0.3**
BDRM				*i* AML		AML	21 31 23.0	
	comp=E,9μm,0.6s							
DATC	**Datca-Mugla**	**0.23**	**172**	Pg		**Pg**	**21 31 20.2**	**-0.1**
DATC				Sg		**Sg**	**21 31 24.4**	**+0.9**
DAT	**Datca**	**0.26**	**188**	Pg		**Pg**	**21 31 20.3**	**-0.6**
DAT				Sg		**Sg**	**21 31 25.2**	**+0.7**
DAT	**Datca**	**0.26**	**188**	P		**Pg**	**21 31 20.5**	**-0.3**
DAT				S		**Sb**	**21 31 25.4**	**-1.1**
DAT	**Datca**	**0.26**	**188**	P		**Pg**	**21 31 20.6**	**-0.3**
DAT				S		**Sg**	**21 31 25.1**	**+0.6**
DAT				*i* AML		AML	21 31 28.0	
	comp=E,4μm,0.4s							
DAT				*i* AML		AML	21 31 29.0	
	comp=N,4μm,0.3s							
BODT	**Bodrum**	**0.26**	**288**	Pg		**Pg**	**21 31 20.5**	**-0.4**
BODT				Sg		**Sg**	**21 31 25.4**	**+0.8**

BODT Bodrum 0.26 288 P **Pg** 21 31 20.7 -0.2
BODT S **Sg** 21 31 25.3 +0.7
YKAV Yalikavak-Bodr 0.31 297 Pg **Pg** 21 31 21.2 -0.5
YKAV Sg **Sg** 21 31 26.1 +0.2
YAZI Mula-Datşa- 0.33 204 P **Pg** 21 31 21.8 -0.4
YAZI S **Sb** 21 31 27.8 -0.7
YAZI *i* AML AML 21 31 28.0
comp=N,2μm,0.2s
YAZI *i* AML AML 21 31 28.0
comp=E,2μm,0.4s
MLSB Milas 0.34 22 Pg **Pg** 21 31 21.5 -0.8
MLSB Sg **Sg** 21 31 26.9 +0.1
NISR Nisiros 0.54 227 P **Pg** 21 31 26.1 0.0
NISR S **Sb** 21 31 34.6 0.0
9μm,0.3s
NISR Nisiros 0.54 227 P **Pg** 21 31 25.9 -0.2
NISR S **Sg** 21 31 32.8 -0.4
NISR AML AML 21 31 37.1
comp=E,17846μm,0.3s
NISR AML AML 21 31 39.0
comp=N,17392μm,0.4s
TURN Turunc 0.54 112 Pg **Pg** 21 31 25.4 -0.7
TURN Sg **Sg** 21 31 34.3 +1.0
TURN Turunc 0.54 112 P **Pg** 21 31 25.5 -0.6
TURN S **Sg** 21 31 34.0 +0.8
TURN *i* AML AML 21 31 37.0
comp=N,3μm,0.3s
TURN *i* AML AML 21 31 40.0
comp=N,4μm,0.4s
YER Yerkesik 0.55 74 Pg **Pg** 21 31 25.8 -0.5
YER Yerkesik 0.55 74 P **Pg** 21 31 25.4 -0.9
YER S **Sg** 21 31 33.1 -0.5
DDIM Aydin, Didim 0.56 328 P **Pg** 21 31 25.9 -0.5
DDIM S **Sb** 21 31 34.7 -0.6
DDIM *i* AML AML 21 31 36.0
comp=N,5μm,0.5s
DDIM *i* AML AML 21 31 41.0
comp=N,3μm,0.5s
MULA Mugla, Merkez- 0.62 64 P **Pg** 21 31 26.9 -0.7
MULA S **Sg** 21 31 35.2 -0.6
MULA *i* AML AML 21 31 36.0
comp=N,1μm,0.6s
MULA *i* AML AML 21 31 41.0
comp=N,3μm,0.8s
GCAM G?zelcami? 0.78 337 Pg **Pg** 21 31 30.2 -0.4
GCAM G?zelcami? 0.78 337 P **Pg** 21 31 30.1 -0.4
GCAM S **Sb** 21 31 41.6 +0.1
GCAM *i* AML AML 21 31 46.0
comp=N,5μm,0.5s
GCAM *i* AML AML 21 31 47.0
comp=N,3μm,0.2s
DALY Dalyan (Mula) 0.84 101 Pg **Pb** 21 31 32.2 +0.1
ARG Arkhangelos 0.87 152 Pg **Pg** 21 31 32.1 -0.1
ARG Arkhangelos 0.87 152 **Pg** 21 31 31.6 -0.6
ARG Sn **Sb** 21 31 45.7 +1.7
ARG Arkhangelos 0.87 152 P **Pg** 21 31 31.9 -0.3
ARG S **Sb** 21 31 45.1 +1.1
comp=N,6μm,0.5s
ARG Arkhangelos 0.87 152 P **Pg** 21 31 31.6 -0.6
ARG S **Sb** 21 31 44.8 +0.8
ARG AML AML 21 31 47.5
comp=N,10492μm,0.5s
ARG AML AML 21 31 49.0
comp=E,12708μm,0.5s
SMG Samos 0.96 319 P **Pg** 21 31 33.6 -0.3
SMG S **Sb** 21 31 47.5 +0.9
comp=E,5μm,0.5s
SMG Samos 0.96 319 P **Pg** 21 31 33.1 -0.8
SMG S **Sb** 21 31 46.6 -0.1
SMG AML AML 21 31 51.4
comp=E,12214μm,0.4s
SMG AML AML 21 31 52.8
comp=N,7381μm,0.6s
ESEN Aydn-Nazilli 1.00 35 P **Pg** 21 31 33.5 -1.3
ESEN S **Sb** 21 31 48.8 +0.9
ESEN *i* AML AML 21 31 52.0
comp=N,1μm,0.6s
ESEN *i* AML AML 21 31 52.0
comp=N,1μm,0.3s
TAVA DENIZLI_Tavas 1.14 65 P **Pg** 21 31 36.2 -1.2
TAVA S **Sn** 21 31 54.6 +1.6
TAVA *i* AML AML 21 32 00.0
comp=N,689nm,0.8s
TAVA *i* AML AML 21 32 01.0
comp=N,711nm,1.1s
IZMR zmir-demi 1.18 13 P **Pg** 21 31 37.1 -1.1
IZMR S **Sn** 21 31 54.4 +0.5
IZMR *i* AML AML 21 31 57.0
comp=N,1μm,0.5s
IZMR *i* AML AML 21 31 59.0
comp=N,1μm,0.4s
DGB zmir 1.22 331 P **Pg** 21 31 37.8 -1.1
DGB S **Sn** 21 31 54.8 +0.1
DGB *i* AML AML 21 31 58.0
comp=N,550nm,0.8s
DGB *i* AML AML 21 32 01.0
comp=N,425nm,0.5s
FETY Fethiye 1.23 106 Pn **Pg** 21 31 39.2 +0.2
FETY Fethiye 1.23 106 P **Pg** 21 31 40.1 +1.0
GMLD Gumuldur 1.23 333 Pn **Pb** 21 31 38.3 -0.3
DNIZ Denizli-Tavas- 1.30 60 P **Pn** 21 31 39.2 -0.3
DNIZ *i* AML AML 21 31 59.0
comp=N,2μm,0.4s
DNIZ S **Sn** 21 31 59.4 +2.4
DNIZ *i* AML AML 21 32 05.0
comp=N,3μm,0.4s
CAME Cameli-Denizli 1.35 91 Pn **Pg** 21 31 41.3 -0.1
KIRA zmir-Kiraz 1.36 27 P **Pn** 21 31 40.2 -0.2
KIRA S **Sn** 21 31 59.3 +0.8
KIRA *i* AML AML 21 32 04.0
comp=N,618nm,0.3s
KIRA *i* AML AML 21 32 05.0
comp=N,842nm,0.4s
APMY Acipayam-Deniz 1.43 70 Pn **Pn** 21 31 41.6 +0.3
KARP Karpathos 1.48 195 Pn **Pb** 21 31 43.0 +0.1
KARP Karpathos 1.48 195 P **Pn** 21 31 41.1 -0.8
KARP Karpathos 1.48 195 P **Pn** 21 31 41.4 -0.6
KARP S **Sn** 21 32 00.8 -0.5
comp=N,1μm,0.6s
KARP Karpathos 1.48 195 P **Pn** 21 31 41.1 -0.8
KARP S **Sn** 21 31 59.4 -1.9
KARP AML AML 21 32 07.4
comp=E,2167μm,0.6s
KARP AML AML 21 32 08.3
comp=N,2801μm,0.6s
ZEYE Izmir, Urla-Ze 1.54 325 P **Pn** 21 31 42.2 -0.5
APE Apeiranthos 1.67 274 Pn **Pn** 21 31 44.3 -0.4
APE Apeiranthos 1.67 274 P **Pn** 21 31 44.2 -0.4
APE Apeiranthos 1.67 274 P **Pn** 21 31 44.3 -0.4
APE Apeiranthos 1.67 274 P **Pn** 21 31 44.0 -0.6
GOMA Golmarmara-Man 1.74 8 Pn **Pn** 21 31 46.1 +0.6
KULA Kula-Manisa 1.74 28 Pn **Pn** 21 31 45.6 0.0
KULA Kula-Manisa 1.74 28 P **Pn** 21 31 45.4 -0.2
KULA S **Sn** 21 32 07.6 -0.1
KSL Kastellorizon 1.79 117 P **Pb** 21 31 47.6 -0.5
KSL AML AML 21 32 21.5
comp=N,531μm,0.9s
KSL AML AML 21 32 23.4
comp=E,984μm,0.8s
THR8 Santorini-Mono 1.81 252 P **Pn** 21 31 46.1 -0.4
ELL Elmali 1.85 97 Pn **Pn** 21 31 48.1 +1.0
ELL Elmali 1.85 97 P **Pn** 21 31 48.7 -0.6
FOCM Foa 1.86 338 Pn **Pn** 21 31 47.9 -0.7
CHOS Chios island 1.87 319 P **Pn** 21 31 47.1 -0.3
THR3 Thira Island, 1.87 253 P **Pn** 21 31 47.6 +0.2
THR6 Thira Island, 1.89 251 P **Pn** 21 31 48.1 +0.5
AKS Akhisar 1.90 5 Pn **Pn** 21 31 48.5 +0.8
DEMR Demre-Antalya 1.98 111 Pn **Pn** 21 31 49.9 +1.0
KHL Karahalli 2.02 48 Pn **Pn** 21 31 50.3 +0.9
RFT7 Candarli 2.05 345 Pn **Pn** 21 31 51.0 +1.3
BASM Basmaki-Afyon 2.15 63 Pn **Pn** 21 31 51.9 +0.7
DKL Dikili 2.16 345 Pn **Pn** 21 31 51.2 -0.1
ZKR Zakros 2.18 212 Pn **Pn** 21 31 53.4 +1.8
ZKR Zakros 2.18 212 P **Pn** 21 31 51.7 0.0
KORT Korkueli 2.19 89 Pn **Pn** 21 31 52.9 +1.1
SIMA Simav-Kutahya 2.36 27 Pn **Pn** 21 31 54.4 +0.3
BCK Bucak 2.42 78 Pn **Pn** 21 31 55.9 +1.0
ANTB Antalya 2.43 91 Pn **Pn** 21 31 56.3 +1.3
ISP Isparta 2.46 69 **Pn** 21 31 56.9 +1.4
PRK Paraskevi 2.50 335 P **Pn** 21 31 55.9 0.0
SIGR SIGRI 2.62 328 P **Pn** 21 31 57.7 +0.1
BALB Balikesir 2.66 4 **Pn** 21 31 59.0 +0.9
IDI Anoyia 2.78 233 Pn **Pn** 21 32 01.5 +1.6

IDI	**Anoyia**	**2.78**	**233**	P		**Pn**	**21 32 00.5**	**+0.6**
VLY	**Voula,Athens**	**3.17**	**287**	P		**Pn**	**21 32 05.5**	**+0.4**
VLI	**Veliai**	**3.77**	**267**	P		**Pn**	**21 32 13.8**	**+0.4**
ALN	**Alexandroupoli**	**4.10**	**343**	Pn		**Pn**	**21 32 17.7**	**-0.2**
RDO	**Rodhopi**	**4.46**	**339**	Pn		**Pn**	**21 32 23.2**	**+0.3**
AGG	**Agios Georgios**	**4.65**	**298**	Pn		**Pn**	**21 32 26.3**	**+0.8**
ANTO	**Ankara**	**4.98**	**53**	Pn		**Pn**	**21 32 31.0**	**+0.9**
CSS	**Mathiatis**	**5.05**	**112**	Pn		**Pn**	**21 32 32.0**	**+0.9**
CSS	**Mathiatis**	**5.05**	**112**	P		**Pn**	**21 32 31.7**	**+0.7**
BR131	**Keskin Array S**	**5.46**	**58**			**Pn**	**21 32 39.0**	**+2.1**
BRTR	**Keskin Array B**	**5.46**	**58**			**Pn**	**21 32 38.8**	**+1.9**
BRTR	**Keskin Array B**	**5.46**	**58**	Pn		**Pn**	**21 32 39.1**	**+2.2**
	comp=E,1.7nm,0.3s,baz=241,slow=16,SNR=63							
BRTR				Sn		**Sn**	**21 33 43.0**	**+3.2**
	comp=E,0.6nm,0.3s,baz=131,slow=13,SNR=5.7							
BRTR				LR		LR	21 34 50.2	
	comp=E,25nm,19.1s,baz=250,slow=40							
	comp=E,4.2nm,0.3s							
PEHC	**Pehcevo**	**6.02**	**324**	*i* Pn		**Pn**	**21 32 46.1**	**+1.6**
STIP	**Stip**	**6.31**	**320**	*i* Pn		**Pn**	**21 32 49.1**	**+0.8**
HNTI	**Hanita**	**7.32**	**120**	P		**Pn**	**21 33 02.1**	**-0.1**
MMAI	**Mount Meron Ar**	**7.51**	**120**	Pn		**Pn**	**21 33 05.4**	**+0.4**
	comp=E,3.4nm,0.3s,baz=307,slow=12,SNR=24							
MMAI				Sn		**Sn**	**21 34 27.1**	**-3.0**
	comp=E,5.7nm,0.3s,baz=309,slow=24,SNR=8.2							
	comp=E,1.7nm,0.2s							
GEM	**Giv'at Ha'Em**	**7.59**	**117**	S		**Sn**	**21 34 30.7**	**-1.2**
GEM	**Giv'at Ha'Em**	**7.59**	**117**	P		**Pn**	**21 33 05.9**	**0.0**
NATI	**Neve Ativ**	**7.62**	**117**	P		**Pn**	**21 33 06.0**	**-0.2**
KSHT	**Keshet**	**7.82**	**118**	S		**Sn**	**21 34 35.7**	**-1.9**
KSHT	**Keshet**	**7.82**	**118**	P		**Pn**	**21 33 10.1**	**+1.0**
PUK	**Puka**	**7.82**	**313**	Pn		**Pn**	**21 33 11.1**	**+1.9**
HMDT	**Nahal Hemdat**	**8.04**	**124**	P		**Pn**	**21 33 11.8**	**-0.3**
KZIT	**Kziot**	**8.27**	**135**	S		**Sn**	**21 34 43.7**	**-4.9**
KZIT	**Kziot**	**8.27**	**135**	P		**Pn**	**21 33 14.2**	**-1.0**
DSI	**Dead Sea**	**8.39**	**128**	P		**Pn**	**21 33 15.3**	**-1.6**
GHAJ	**Ghor Haditha**	**8.69**	**128**	Pn		**Pn**	**21 33 21.0**	**+0.1**
TIP	**Timpagrande**	**8.84**	**288**	Pn		**Pn**	**21 33 24.3**	**+1.2**
ASF	**Jabal al Asfar**	**9.03**	**119**	Pn		**Pn**	**21 33 26.6**	**+0.9**
	comp=E,0.4nm,0.3s,baz=62,slow=23,SNR=6.7							
ASF				Sn		**Sn**	**21 35 09.5**	**+2.1**
	comp=E,0.2nm,0.3s,baz=243,slow=22,SNR=2.0							
	comp=E,0.9nm,0.3s							
KRMI	**Paran Flat**	**9.05**	**137**	P		**Pn**	**21 33 24.2**	**-1.8**
HRFI	**Mount Harif**	**9.29**	**136**	P		**Pn**	**21 33 28.3**	**-1.0**
HRFI	**Mount Harif**	**9.29**	**136**	S		**Sn**	**21 35 10.0**	**-3.7**
EIL	**Elat**	**9.53**	**138**	Pn		**Pn**	**21 33 33.1**	**+0.6**
	comp=E,0.3nm,0.3s,baz=284,slow=20,SNR=1.2							
EIL				Sn		**Sn**	**21 35 14.8**	**-4.7**
	comp=E,0.9nm,0.3s,baz=138,slow=0.5,SNR=5.6							
	comp=E,1.0nm,0.3s							
EIL	**Elat**	**9.53**	**138**	P		**Pn**	**21 33 31.7**	**-0.7**
EIL	**Elat**	**9.53**	**138**	S		**Sn**	**21 35 15.0**	**-4.5**
SENIN	**Lac Senin/Sane**	**17.80**	**308**			**P**	**21 35 24.4**	**+0.5**
SENIN				IAmb		IAmb	21 35 51.2	
	comp=Z,27nm,1.2s							
FINES	**FINESS Array B**	**24.50**	**358**	P		**P**	**21 36 34.2**	**-0.1**
FINES	**FINESS Array B**	**24.50**	**358**	P		**P**	**21 36 34.7**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=116,slow=4.4,SNR=5.7							
	comp=Z,2.5nm,0.9s							
ESBB	**Sonseca Array**	**24.86**	**286**	P		**P**	**21 36 37.3**	**-0.5**
ESBB				IAmb		IAmb	21 36 53.7	
	comp=Z,10nm,1.4s							
ESDC	**Sonseca Array**	**24.86**	**286**	P		**P**	**21 36 38.5**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=83,slow=9.3,SNR=13							
	comp=Z,1.6nm,0.8s							
PAB	**San Pablo**	**25.16**	**286**	P		**P**	**21 36 40.0**	**-0.7**
KKAR	**Karatay Array**	**33.12**	**66**	P		**P**	**21 37 51.0**	**-0.4**
TOA0	**Torodi Ar. Sit**	**33.18**	**231**	P		**P**	**21 37 51.6**	**-0.5**
TOA0				IAmb		IAmb	21 38 06.6	
	comp=Z,5.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**33.18**	**231**	P		**P**	**21 37 51.9**	**-0.2**
TORD				IAmb		IAmb	21 37 56.0	
	comp=Z,1.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**33.18**	**231**	P		**P**	**21 37 52.3**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=32,slow=9.1,SNR=16							
	comp=Z,0.9nm,0.4s							
KURBB	**Kurchatov Arra**	**38.43**	**53**	P		**P**	**21 38 37.7**	**+0.9**
	comp=Z,1.5nm,0.2s,baz=277,slow=8.8,SNR=3.1							
	comp=Z,1.5nm,0.2s							
MK31	**Makanchi Array**	**41.12**	**58**	P		**P**	**21 38 58.8**	**-0.4**
MKAR	**Makanchi Array**	**41.12**	**58**	P		**P**	**21 38 58.6**	**-0.6**
MKAR	**Makanchi Array**	**41.12**	**58**	P		**P**	**21 38 59.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=265,slow=11,SNR=10							
	comp=Z,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**42.31**	**48**	P		**P**	**21 39 09.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=279,slow=7.9,SNR=2.4							
	comp=Z,0.3nm,0.3s							
SONM	**Songino Array**	**56.79**	**52**	P		**P**	**21 41 00.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=316,slow=4.0,SNR=2.1							
	comp=Z,0.2nm,0.5s							

ISN ***13*** *21:48:45.1±1.3,33˚.57N×45˚.64E,h8km±6km,ML3.0*
TEH ***13*** *21:48:48.3,33˚.77N×45˚.85E,h8km±105km,ML3.0*
ISC 13 21:48:45.7±0.9**,33˚61N**±0˚.04×**45˚63E**±0˚.04**,h13**km**,n16,**
σ1ᵍ47/20,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**88**	Pg	**Pg**	**21 48 54.5**	**-0.7**
ILBA				Sg	**Sg**	**21 49 00.7**	**-0.9**
IBDR	**Badra**	**0.56**	**154**	*e*Pg	**Pg**	**21 48 55.0**	**-1.7**
IBDR				*e*Sg	**Sg**	**21 49 03.0**	**-1.1**
KGS1	**Ghasr-e-Shirin**	**0.89**	**358**	Pg	**Pg**	**21 49 03.6**	**+0.6**
IGHG	**Ghaleghazi**	**1.06**	**47**	Pg	**Pg**	**21 49 04.3**	**-1.8**
BHD	**Baghdad**	**1.10**	**252**	*e*Pg	**Pn**	**21 49 07.0**	**+0.2**
BHD				*e*Sg	**Sb**	**21 49 21.0**	**+0.1**
BHD				AML	AML	21 49 32.2	
	comp=E,1μm,0.5s						
IDHR	**Dehrash**	**1.25**	**30**	Pg	**Pb**	**21 49 07.8**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.34**	**60**	Pg	**Pn**	**21 49 10.4**	**0.0**
IKOM	**Komasi**	**1.66**	**70**	Pg	**Pb**	**21 49 16.0**	**-0.2**
ILIN	**Lien**	**1.71**	**40**	Pg	**Pb**	**21 49 16.6**	**-0.5**
IKFM	**Kafar-mosalman**	**1.85**	**92**	Pg	**Pb**	**21 49 19.7**	**+0.3**
RAFI	**Al-Rafai**	**1.93**	**168**	*e*Pn	**Pn**	**21 49 19.0**	**+0.8**
RAFI				*e*Sn	**Sn**	**21 49 45.0**	**+2.7**
RAFI				AML	AML	21 49 54.9	
	comp=N,64nm,0.3s						
IALM	**Almabolaq**	**2.44**	**59**	Pn	**Pb**	**21 49 27.8**	**-1.9**
HSAM	**Samen**	**2.54**	**76**	Pn	**Pn**	**21 49 28.4**	**+1.5**
HAGD	**Aghdareh**	**3.15**	**66**	Pn	**Pn**	**21 49 37.1**	**+1.9**
QAMS	**Qamsar**	**4.81**	**87**	Pn	**Pn**	**21 49 59.4**	**+1.3**
IKLH	**Kolahrood**	**4.98**	**92**	Pn	**Pn**	**21 50 02.9**	**+2.4**

TEH ***13*** *22:04:41.1,33˚.91N×45˚.68E,h10km±128km,ML2.5*
ISN ***13*** *22:04:41.2±1.2,33˚.89N×45˚.69E,h18km±14km,ML2.1*
ISC 13 22:04:41.7±1.0**,33˚89N**±0˚.04×**45˚70E**±0˚.05**,h10**km**,n8,**
σ1ᵍ26/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.63**	**352**	Pg	**Pg**	**22 04 53.3**	**-0.6**
IBDR	**Badra**	**0.80**	**166**	*e*Pg	**Pg**	**22 04 56.0**	**-1.1**
	baz=345						
IBDR				*e*Sg	**Sg**	**22 05 08.0**	**+0.5**
IBDR				AML	AML	22 05 09.7	
	comp=E,75nm,0.4s						
IBDR				AML	AML	22 05 12.9	
	comp=N,52nm,0.6s						
IGHG	**Ghaleghazi**	**0.85**	**58**	Pg	**Pb**	**22 04 57.9**	**-0.8**
IDHR	**Dehrash**	**0.99**	**35**	Pg	**Pg**	**22 04 59.7**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.18**	**70**	Pg	**Pn**	**22 05 04.7**	**+0.2**
BHD	**Baghdad**	**1.26**	**241**	*e*Pn	**Pb**	**22 05 05.0**	**-0.5**
BHD				*e*Sn	**Sn**	**22 05 24.0**	**+1.7**
ILIN	**Lien**	**1.47**	**45**	Pg	**Pg**	**22 05 09.1**	**-0.9**
IKOM	**Komasi**	**1.53**	**79**	Pg	**Pb**	**22 05 10.0**	**-0.3**
IKOM				Sg	**Sg**	**22 05 33.3**	**+2.2**

CATAC ***13*** *22:54:51.9±2.4,14˚.52N×89˚.05W,h12km±13km,ML3.5*
SNET 13 22:54:54.6±0.3**,13˚17N**×**89˚32W,h64**km±17km**,ML3.0,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMA	**Loma Larga**	**0.49**	**17**	*i* P	Pn	22 55 08.7	+1.7
LOMA				IAML		22 55 17.2	
	comp=Z,3μm,1.0s						
JAYA	**Jayaque - finc**	**0.50**	**345**	*e*P	Pn	22 55 06.9	-0.2
JAYA	**Jayaque - finc**	**0.50**	**345**	*i* P	Pn	22 55 10.0	+2.9
JAYA				IAML		22 55 16.5	
	comp=Z,3μm,1.0s						

PMON	**Piamonte**	**0.54**	**1**	*i* P		Pn	22 55 07.9	+0.4
PMON				IAML			22 55 19.1	
	comp=Z,2μm,1.0s							
UEES	**Universidad Ev**	**0.55**	**8**	*i* PA			22 55 07.8	
UEES				IAML			22 55 22.0	
	comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**0.62**	**44**	*e*P		Pn	22 55 08.4	+0.1
COEG				IAML			22 55 20.2	
	comp=Z,456nm,0.2s							
PAVA	**Las Pavas**	**0.66**	**35**	*i* P		Pn	22 55 07.6	-1.2
PAVA				IAML			22 55 09.7	
	comp=Z,1μm,1.0s							
CEVE	**Cerro Verde**	**0.72**	**336**	*e*P		Pn	22 55 10.2	+0.6
CEVE	**Cerro Verde**	**0.72**	**336**	*i* P		Pn	22 55 08.9	-0.7
CEVE				IAML			22 55 27.9	
	comp=Z,970nm,1.0s							
ALJI	**Alcalda de J**	**0.75**	**78**	*e*P		Pn	22 55 09.6	-0.1
ALJI	**Alcalda de J**	**0.75**	**78**	*i* P		Pn	22 55 14.9	+5.2
ALJI				IAML			22 55 23.8	
	comp=Z,480nm,1.0s							
COEB	**Comit de Eme**	**0.83**	**67**	*e*P		Pn	22 55 11.2	+0.3
COEB				IAML			22 55 24.0	
	comp=Z,408nm,0.1s							
NUBE	**Las Nubes**	**0.85**	**329**	*i* P		Pn	22 55 10.0	-1.2
NUBE				*i* S		Sn	22 55 23.3	0.0
NUBE				IAML			22 55 25.3	
	comp=Z,680nm,1.0s							
PQSS	**Presa 15 de Se**	**0.87**	**59**	*i* PA			22 55 11.6	
PQSS				IAML			22 55 25.2	
	comp=Z,530nm,1.0s							
PACA	**Pacayal**	**1.01**	**73**	*i* P		Pn	22 55 15.0	+1.8
PACA				IAML			22 55 34.5	
	comp=Z,4μm,1.0s							
CNCH	**Conchagua**	**1.45**	**86**	*i* P		Pn	22 55 21.0	+2.1
CNCH				IAML			22 55 43.3	
	comp=Z,520nm,1.0s							

IDC ***13*** *23:06:25.6±2.6,6˚.09S×148˚.17E,h62km±22km,mb4.0/4, mbtmp4.3/6,ML4.4/1,MS3.4/4,Error ellipse: s-maj=42.5km s-min=12.5km az=120.0*
NEIC ***13*** *23:06:25.2±0.8,6˚.3S±0˚.1×148˚.5E±0˚.1,h54km±9km, mb4.1/14,Error ellipse: s-maj=24.8km s-min=7.2km az=131.0*
ISC 13 23:06:25.2±0.7**,6˚19S**±0˚.09×**148˚4E**±0˚.1**,h65**km**,n30,**
σ0ᵍ94/31,mb4.1/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.43**	**201**		**Pn**	**23 07 15.3**	**-1.0**
PMG				Sn	**Sn**	**23 07 55.2**	**-0.5**
PMG	**Port Moresby**	**3.43**	**201**	P	**Pn**	**23 07 16.7**	**+0.4**
	49nm,0.3s,baz=20,slow=8.0,SNR=30						
PMG				S	**Sn**	**23 07 57.1**	**+1.4**
	134nm,0.3s,baz=173,slow=13,SNR=21						
RABL	**Rabaul**	**4.24**	**62**	Pn	**Pn**	**23 07 26.9**	**-0.5**
COEN	**Coen**	**9.28**	**213**	Pn	**Pn**	**23 08 35.0**	**-1.4**
CTA	**Charters Tower**	**13.98**	**188**	LR	LR	23 15 05.4	
	comp=Z,102nm,18.1s,baz=98,slow=37						
WR0	**Warramunga Arr**	**19.20**	**223**	P	**P**	**23 10 43.5**	**-0.6**
EIDS	**Eidsvold**	**19.25**	**173**	P	**P**	**23 10 43.9**	**-0.6**
EIDS				IAmb	IAmb	23 10 47.0	
	comp=Z,6.2nm,0.9s						
WRA	**Warramunga Arr**	**19.33**	**224**	P	**P**	**23 10 44.9**	**-0.6**
WRA	**Warramunga Arr**	**19.33**	**224**	P	**P**	**23 10 45.2**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=51,slow=11,SNR=55						
WRA				S	**S**	**23 14 20.4**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=49,slow=17,SNR=4.0						
	comp=Z,2.3nm,0.4s						
KNRA	**Kununurra**	**21.45**	**242**	P	**P**	**23 11 06.8**	**-1.5**
KNRA				IAmb	IAmb	23 11 23.5	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**22.28**	**217**	P	**P**	**23 11 16.8**	**-0.5**
AS31				IAmb	IAmb	23 11 17.8	
	comp=Z,3.5nm,0.5s						
ASAR	**Alice Springs**	**22.28**	**217**	P	**P**	**23 11 17.2**	**-0.1**
	comp=Z,4.8nm,0.5s,baz=53,slow=9.4,SNR=169						
ASAR				S	**S**	**23 15 19.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=34,slow=23,SNR=6.5						
	comp=Z,4.8nm,0.5s						
DZM	**Mont Dzumac**	**23.52**	**134**	P	**P**	**23 11 28.8**	**-1.1**
DZM				IAmb	IAmb	23 11 39.1	
	comp=Z,14nm,1.5s						
ARMA	**Armidale**	**24.30**	**173**	P	**P**	**23 11 36.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.17**	**240**	P	**P**	**23 11 45.5**	**+0.8**
FITZ				IAmb	IAmb	23 11 46.3	
	comp=Z,3.1nm,0.6s						
STKA	**Stephens Creek**	**26.34**	**193**	P	**P**	**23 11 55.0**	**-0.2**
STKA	**Stephens Creek**	**26.34**	**193**	P	**P**	**23 11 56.2**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=351,slow=6.7,SNR=6.5						
STKA				LR	LR	23 24 02.4	
	comp=Z,76nm,18.8s,baz=197,slow=40						
	comp=Z,1.6nm,0.3s						
FORT	**Forrest**	**31.04**	**215**	P	**P**	**23 12 37.0**	**0.0**
PSA00	**Pilbara Seismi**	**31.57**	**238**	P	**P**	**23 12 42.0**	**+0.1**
PSA00				IAmb	IAmb	23 12 60.0	
	comp=Z,9.9nm,1.5s						
VNDA	**Vanda**	**71.65**	**177**	P	**P**	**23 17 39.9**	**+0.4**
MKAR	**Makanchi Array**	**78.53**	**320**	P	**P**	**23 18 19.2**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=102,slow=7.6,SNR=1.4						
L16K	**Owhat River**	**78.66**	**23**	P	**P**	**23 18 21.1**	**+1.2**
ZALV	**Zalesovo Beam**	**79.91**	**327**	LR	LR	23 53 04.3	
	comp=Z,20nm,20.1s,baz=8.0,slow=35						
AAK	**Ala-Archa**	**82.47**	**314**	LR	LR	23 55 41.8	
	comp=Z,21nm,18.9s,baz=196,slow=36						
D19K	**Kuna River**	**83.19**	**17**	P	**P**	**23 18 45.7**	**+1.7**
D19K				IAmb	IAmb	23 19 03.4	
	comp=Z,2.7nm,1.1s						
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**23 18 47.9**	**+0.6**
QSPA				IAmb	IAmb	23 18 49.0	
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**23 18 48.5**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=292,slow=1.8,SNR=19						
	comp=Z,2.2nm,0.6s						
ILAR	**Eielson Array**	**85.11**	**23**	P	**P**	**23 18 54.6**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=254,slow=4.8,SNR=21						
	comp=Z,1.1nm,0.6s						
BCAR	**Beaver Creek A**	**86.51**	**25**	P	**P**	**23 19 02.9**	**+2.0**
TORD	**Torodi Ar. Bea**	**146.49**	**284**	PKPbc	**PKPbc**	**23 25 59.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=97,slow=3.8,SNR=4.8						

TAP ***13*** *23:07:42.8,24˚.17N×122˚.51E,h39km,ML2.8,D*
JMA ***13*** *23:07:42.5±0.1,24˚.N±1˚×122˚.5E±0˚.4,h31km±2km, MV2.2/15,NW OFF ISHIGAKIJIMA IS*
ISC 13 23:07:43.3±1.0**,24˚13N**±0˚.03×**122˚54E**±0˚.02**,h33**km**±4km,**
n94,σ1ᵍ18/185,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.20**	**267**	⇓P	**Pn**	**23 07 49.8**	**+0.3**
	baz=255						
EOS4				S	**Sb**	**23 07 55.1**	**+1.5**
	baz=255						
EOS3	**EOS3**	**0.25**	**307**	⇓P	**Pn**	**23 07 50.5**	**-0.1**
	baz=300						
EOS3				S	**Sb**	**23 07 56.8**	**+1.7**
	baz=300						
EOS2	**EOS2**	**0.40**	**316**	P	**Pb**	**23 07 52.4**	**+0.1**
	baz=306						
EOS2				S	**Sb**	**23 07 59.7**	**+1.3**
	baz=306						
JYNG	**Yonagunijimaku**	**0.49**	**49**	P	**Pb**	**23 07 53.2**	**-0.5**
JYNG				S	**Sb**	**23 08 00.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.54**	**53**	P	**Pn**	**23 07 53.9**	**-0.8**
YOJ				S	**Sb**	**23 08 02.0**	**-0.3**
EAHA	**Aohua**	**0.76**	**285**	P	**Pn**	**23 07 57.5**	**-0.1**
	baz=283						
EAHA				S	**Sn**	**23 08 07.9**	**0.0**
	baz=283						
EWUT	**Wuta**	**0.76**	**294**	P	**Pn**	**23 07 57.6**	**-0.2**
	baz=293						
EWUT				S	**Sn**	**23 08 07.4**	**-0.7**
	baz=293						
ESAO	**Su ao**	**0.77**	**305**	P	**Pn**	**23 07 57.4**	**-0.5**
	baz=304						
ESAO				S	**Sn**	**23 08 07.0**	**-1.4**
	baz=304						
ENA	**Nanau**	**0.79**	**292**	*i* P	**Pn**	**23 07 57.2**	**-0.9**
	baz=290						
ENA				*i* S	**Sn**	**23 08 08.6**	**-0.1**
	baz=290						
TWC	**Suao**	**0.79**	**307**	*i* P	**Pn**	**23 07 57.2**	**-0.9**
	baz=306						
TWC				*i* S	**Sn**	**23 08 06.7**	**-2.0**
	baz=306						
ETL	**Fush Village**	**0.84**	**272**	P	**Pn**	**23 07 58.0**	**-0.9**
	baz=255						
ETL				S	**Sn**	**23 08 10.0**	**0.0**
	baz=255						
NACB	**Ninganchiao**	**0.86**	**273**	P	**Pn**	**23 07 58.1**	**-1.0**
	baz=258						
NACB				S	**Sn**	**23 08 09.9**	**-0.7**
	baz=258						
TWD	**Chiawan**	**0.86**	**267**	*i* P	**Pn**	**23 07 57.7**	**-1.4**
	baz=252						
TWD				*i* S	**Sn**	**23 08 09.4**	**-1.1**
	baz=252						
NDS	**Dongshan**	**0.90**	**304**	P	**Pn**	**23 07 59.8**	**+0.1**
	baz=303						
NDS				S	**Sn**	**23 08 11.6**	**+0.1**
	baz=303						
SHUL	**Shoufeng**	**0.96**	**249**	P	**Pn**	**23 07 59.5**	**-0.9**
	baz=246						
SHUL				S	**Sn**	**23 08 12.4**	**-0.5**
	baz=246						
ETLH	**Xiulin Townshi**	**0.97**	**275**	P	**Pn**	**23 07 59.6**	**-1.0**
	baz=272						
ETLH				S	**Sn**	**23 08 12.8**	**-0.5**
	baz=272						
ETM	**Tongmen**	**0.97**	**260**	P	**Pn**	**23 07 58.8**	**-1.8**
	baz=258						
ETM				S	**Sn**	**23 08 11.9**	**-1.4**
	baz=258						
TWE	**Neicheng**	**0.99**	**307**	*i* P	**Pn**	**23 08 00.5**	**-0.3**
	baz=306						
TWE				*i* S	**Sn**	**23 08 13.6**	**-0.1**
	baz=306						
LATG	**Datong**	**1.01**	**294**	P	**Pn**	**23 08 00.9**	**-0.4**
	baz=280						
LATG				S	**Sn**	**23 08 14.6**	**+0.3**
	baz=280						
TWB1	**Santiao Chiao**	**1.01**	**330**	*i* P	**Pn**	**23 08 00.0**	**-1.1**
	baz=344						
TWB1				S	**Sn**	**23 08 12.8**	**-1.4**
	baz=344						
ENTT	**Nioudou**	**1.02**	**300**	*i* P	**Pn**	**23 08 00.9**	**-0.4**
	baz=299						
ENTT				*i* S	**Sn**	**23 08 15.2**	**+0.6**
	baz=299						
LXIB	**Xiulin Townshi**	**1.03**	**264**	P	**Pn**	**23 08 00.4**	**-1.2**
	baz=253						
LXIB				S	**Sn**	**23 08 14.3**	**-0.8**
	baz=253						
NDT	**Datong Townshi**	**1.05**	**297**	P	**Pn**	**23 08 02.2**	**+0.5**
	baz=285						
NDT				S	**Sn**	**23 08 15.2**	**+0.1**
	baz=285						
TIPB	**Shuangxi**	**1.06**	**322**	*i* P	**Pn**	**23 08 01.3**	**-0.6**
	baz=334						
TIPB				S	**Sn**	**23 08 15.7**	**+0.2**
	baz=334						
ESL	**Shilin**	**1.06**	**253**	*e*P	**Pn**	**23 08 01.7**	**-0.1**
	baz=240						
ESL				S	**Sn**	**23 08 14.1**	**-1.4**
	baz=240						
FUSB	**Fushanzhiwuyua**	**1.07**	**306**	P	**Pn**	**23 08 02.1**	**+0.1**
	baz=298						
FUSB				S	**Sn**	**23 08 17.4**	**+1.5**
	baz=298						
NNSB	**Datong**	**1.09**	**286**	P	**Pn**	**23 08 01.3**	**-1.1**
	baz=284						
NNSB				S	**Sn**	**23 08 15.8**	**-0.7**
	baz=284						
NNS	**Nan Shan**	**1.11**	**286**	*i* P	**Pn**	**23 08 03.3**	**+0.7**
	baz=285						
NNS				*i* S	**Sn**	**23 08 17.0**	**+0.2**
	baz=285						
IRIF	**Iriomote-Funau**	**1.11**	**79**	P	**Pn**	**23 08 02.6**	**+0.1**
IRIF				*e*S	**Sn**	**23 08 17.2**	**+0.6**
EGFH	**Guangfu**	**1.12**	**246**	*e*P	**Pn**	**23 08 03.1**	**+0.5**
	baz=243						
EGFH				S	**Sn**	**23 08 15.0**	**-1.9**
	baz=243						
SXI1	**Grass Mountain**	**1.13**	**328**	P	**Pn**	**23 08 02.0**	**-0.9**
	baz=340						
SXI1				S	**Sn**	**23 08 16.5**	**-0.9**
	baz=340						
WARBT	**Fenglin Townsh**	**1.13**	**249**	*e*P	**Pn**	**23 08 02.1**	**-0.7**
	baz=237						
WARBT				S	**Sn**	**23 08 16.0**	**-1.3**
	baz=237						
NWLT	**Wulai**	**1.14**	**304**	P	**Pn**	**23 08 03.0**	**0.0**
	baz=315						
NWLT				S	**Sn**	**23 08 18.2**	**+0.6**
	baz=315						
HATJ	**Hateruma jima**	**1.16**	**93**	S	**Sn**	**23 08 20.0**	**+2.0**
NWF	**Wu-fen Shan**	**1.16**	**324**	*i* P	**Pn**	**23 08 02.5**	**-0.9**
	baz=324						
NWF				*i* S	**Sn**	**23 08 15.7**	**-2.4**
	baz=324						
WFSB	**Wu-fen Shan**	**1.16**	**324**	P	**Pn**	**23 08 02.6**	**-0.7**
	baz=324						
WFSB				S	**Sn**	**23 08 15.7**	**-2.3**
	baz=324						

CHKH	**Chenggong**	**1.40 228**	P	**Pn**	**23 08 04.5**	**-2.1**
	baz=216					
CHKH			S	**Sn**	**23 08 20.6**	**-3.4**
	baz=216					
WHP	**Taichung City**	**1.46 276**	P	**Pn**	**23 08 09.2**	**+1.7**
	baz=264					
WHP			S	**Sn**	**23 08 25.8**	**+0.3**
	baz=264					
FULB	**Fuli**	**1.47 231**	*e*P	**Pn**	**23 08 07.7**	**+0.1**
	baz=228					
FULB			*i* S	**Sn**	**23 08 25.0**	**-0.7**
	baz=228					
LIOB	**Emei**	**1.48 291**	P	**Pn**	**23 08 08.3**	**+0.7**
	baz=289					
LIOB			S	**Sn**	**23 08 27.4**	**+1.5**
	baz=289					
JIJ	**Ishigaki jima**	**1.48 81**	P	**Pn**	**23 08 07.6**	**0.0**
JIJ			S	**Sn**	**23 08 26.0**	**+0.1**
NSTT	**Nanjuang**	**1.49 290**	P	**Pn**	**23 08 08.0**	**+0.3**
	baz=289					
NSTT			*i* S	**Sn**	**23 08 27.1**	**+1.1**
	baz=289					
CHKT	**Chengkung**	**1.49 227**	*e*P	**Pn**	**23 08 07.3**	**-0.4**
	baz=224					
CHKT			*i* S	**Sn**	**23 08 23.9**	**-2.1**
	baz=224					
WCS	**Beigang Elemen**	**1.49 267**	P	**Pn**	**23 08 09.0**	**+1.3**
	baz=257					
WCS			*e*S	**Sn**	**23 08 25.9**	**-0.1**
	baz=257					
SSLB	**Suanglung**	**1.49 257**	P	**Pn**	**23 08 06.6**	**-1.2**
	baz=255					
SSLB			S	**Sn**	**23 08 25.2**	**-1.0**
	baz=255					
SMLT	**Sun Moon Lake**	**1.52 261**	*i* P	**Pn**	**23 08 08.5**	**+0.2**
	baz=259					
SMLT			*i* S	**Sn**	**23 08 28.3**	**+1.4**
	baz=259					
TYC	**Yuchr**	**1.55 262**	*i* P	**Pn**	**23 08 08.8**	**+0.2**
	baz=260					
TYC			S	**Sn**	**23 08 27.6**	**-0.1**
	baz=260					
WHYT	**Xinyi Township**	**1.60 255**	P	**Pn**	**23 08 10.1**	**+0.8**
	baz=243					
WHYT			*e*S	**Sn**	**23 08 30.3**	**+1.4**
	baz=243					
EDH	**Donghe**	**1.62 225**	*i* P	**Pn**	**23 08 08.4**	**-1.1**
	baz=215					
EDH			*i* S	**Sn**	**23 08 28.2**	**-1.0**
	baz=215					
TWQ1	**Liyutan**	**1.62 278**	*e*P	**Pn**	**23 08 09.3**	**-0.4**
	baz=276					
TWQ1			S	**Sn**	**23 08 31.2**	**+1.8**
	baz=276					
JISG	**Ishigakijimahi**	**1.68 74**	P	**Pn**	**23 08 10.2**	**-0.2**
JISG			S	**Sn**	**23 08 30.9**	**+0.1**
ELDTW	**Lidau**	**1.68 236**	*i* P	**Pn**	**23 08 09.4**	**-1.2**
	baz=234					
ELDTW			S	**Sn**	**23 08 29.2**	**-1.8**
	baz=234					
WJS	**Zhushan**	**1.68 260**	P	**Pn**	**23 08 11.8**	**+1.4**
	baz=258					
WJS			*i* S	**Sn**	**23 08 33.3**	**+2.4**
	baz=258					
ALS	**Alishan**	**1.70 249**	*i* P	**Pn**	**23 08 10.8**	**-0.2**
	baz=247					
ALS			*i* S	**Sn**	**23 08 31.1**	**-0.7**
	baz=247					
LDUT	**Ludao**	**1.75 214**	P	**Pn**	**23 08 10.7**	**-0.7**
	baz=212					
LDUT			S	**Sn**	**23 08 32.0**	**-0.6**
	baz=212					
LONT	**Longtian**	**1.78 227**	*i* P	**Pn**	**23 08 10.3**	**-1.5**
	baz=237					
LONT			S	**Sn**	**23 08 34.2**	**+1.0**
	baz=237					
TWGBT	**Beinan**	**1.87 226**	P	**Pn**	**23 08 12.4**	**-0.6**
	baz=234					
TWGBT			S	**Sn**	**23 08 35.0**	**-0.6**
	baz=234					
TWG	**Pinlang**	**1.88 226**	P	**Pn**	**23 08 13.4**	**+0.4**
	baz=234					
TWG			*i* S	**Sn**	**23 08 34.2**	**-1.4**
	baz=234					
STYH	**Taoyuan**	**1.88 240**	P	**Pn**	**23 08 13.4**	**+0.3**
	baz=229					
STYH			S	**Sn**	**23 08 36.5**	**+0.8**
	baz=229					
WDLH	**Douliu**	**1.88 257**	P	**Pn**	**23 08 14.1**	**+0.9**
	baz=255					
WDLH			S	**Sn**	**23 08 38.6**	**+2.8**
	baz=255					
WCKO	**Fanlu**	**1.90 249**	*e*P	**Pn**	**23 08 15.7**	**+2.3**
	baz=247					
WCKO			S	**Sn**	**23 08 37.9**	**+1.7**
	baz=247					
TPUB	**Ta-pu**	**1.94 245**	P	**Pn**	**23 08 15.1**	**+1.1**
	baz=243					
TPUB			S	**Sn**	**23 08 39.1**	**+1.9**
	baz=243					
CHN4	**Tsaushan**	**1.94 247**	*i* P	**Pn**	**23 08 15.7**	**+1.7**
	baz=245					
CHN4			*i* S	**Sn**	**23 08 40.5**	**+3.1**
	baz=245					
WTP	**Ta-pu**	**1.97 244**	*i* P	**Pn**	**23 08 15.7**	**+1.2**
	baz=241					
WTP			*i* S	**Sn**	**23 08 40.7**	**+2.6**
	baz=241					
WRL	**Guolierlin Hig**	**1.99 264**	S	**Sn**	**23 08 40.4**	**+2.0**
	baz=262					
WTK	**Tuku**	**2.02 258**	*e*P	**Pn**	**23 08 15.1**	**+0.1**
	baz=256					
WTK			*e*S	**Sn**	**23 08 39.8**	**+0.7**
	baz=256					
JTJ	**Tarama**	**2.04 75**	*e*P	**Pn**	**23 08 15.7**	**+0.4**
JTJ			S	**Sn**	**23 08 40.3**	**+0.7**
TWK	**Hsinying**	**2.07 246**	P	**Pn**	**23 08 17.3**	**+1.5**
	baz=243					
TWK			*e*S	**Sn**	**23 08 41.6**	**+1.2**
	baz=243					
CHN1	**Nanshi**	**2.07 243**	*i* P	**Pn**	**23 08 17.5**	**+1.7**
	baz=241					
CHN1			*i* S	**Sn**	**23 08 43.7**	**+3.2**
	baz=241					
SLGT	**Liugui**	**2.07 237**	P	**Pn**	**23 08 17.1**	**+1.3**
	baz=227					
SLGT			S	**Sn**	**23 08 41.7**	**+1.2**
	baz=227					
SGST	**Jiashian**	**2.08 240**	*e*P	**Pn**	**23 08 15.1**	**-0.7**
	baz=238					
SGST			S	**Sn**	**23 08 42.0**	**+1.4**
	baz=238					
SNST	**Tainan City**	**2.08 245**	P	**Pn**	**23 08 16.2**	**+0.4**
	baz=242					
SNST			S	**Sn**	**23 08 42.4**	**+1.7**
	baz=242					
TSMG	**Majia**	**2.25 231**	*e*P	**Pn**	**23 08 19.6**	**+1.4**
	baz=224					
TSMG			S	**Sn**	**23 08 45.5**	**+0.8**
	baz=224					
MASBT	**Mashibuluo**	**2.31 230**	P	**Pn**	**23 08 19.8**	**+0.7**
	baz=223					
MASBT			S	**Sn**	**23 08 47.4**	**+0.9**
	baz=223					
EAST	**Anshuo**	**2.33 222**	*e*P	**Pn**	**23 08 19.9**	**+0.5**
	baz=219					
EAST			*e*S	**Sn**	**23 08 45.5**	**-1.5**
	baz=219					
SCZT	**Fangliau**	**2.49 226**	P	**Pn**	**23 08 22.9**	**+1.4**
	baz=218					
SCZT			S	**Sn**	**23 08 51.5**	**+0.8**
	baz=218					

IDC ***13*** *23:20:26.3±10.0, 30°.26N×130°.96E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=269.8km s-min=126.1km az=4.0*

JMA ***13*** *23:20:27.3±0.2, 29°.3N±0°.8×13°.1E±°, h61km, MV3.2/25, NEAR AMAMI-OSHIMA ISLAND*

ISC 13 23:20:28.0±1.4, 29°33N±0°07×130°.7E±0°.1, h35km, n16, σ0s93/18, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.87**	**306**	P	**Pn**	**23 20 43.6**	**-0.2**
JYAK	**Yakushimahirau**	**0.92**	**351**	P	**Pn**	**23 20 44.4**	**0.0**
JYAK				S	**Sn**	**23 20 58.5**	**+2.1**

JMTN	**Minamitane**	**1.08**	**10**	P	**Pn**	**23 20 46.8**	**+0.1**
JTAJ	**Takarajima**	**1.30**	**263**	*e*P	**Pn**	**23 20 50.2**	**+0.5**
JAM	**Amami Oshima**	**1.31**	**226**	*e*P	**Pn**	**23 20 49.9**	**+0.1**
JTN	**Tanegashima 3**	**1.35**	**11**	*e*P	**Pn**	**23 20 50.5**	**+0.1**
JAMN	**Amaminishikomi**	**1.71**	**231**	P	**Pn**	**23 20 55.2**	**-0.1**
JAMN				S	**Sn**	**23 21 17.6**	**+1.8**
JTSR	**Tashiro 2**	**1.84**	**6**	P	**Pn**	**23 20 57.8**	**+0.5**
JTK	**Tokunoshima**	**2.16**	**225**	P	**Pn**	**23 21 02.1**	**+0.5**
JSU	**Suzuyama**	**2.18**	**355**	P	**Pn**	**23 21 01.9**	**+0.1**
JNAR	**Kushima--Naru**	**2.25**	**13**	P	**Pn**	**23 21 03.7**	**+0.9**
SONM	**Songino Array**	**26.31**	**321**	P	**P**	**23 25 58.7**	**-1.8**
	0.3nm,0.8s,baz=116,slow=8.2,SNR=2.1 0.3nm,0.8s						
MKAR	**Makanchi Array**	**41.19**	**309**	P	**P**	**23 28 09.3**	**+0.1**
	0.2nm,0.4s,baz=110,slow=8.1,SNR=7.6 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.20**	**314**	P	**P**	**23 28 33.1**	**-0.4**
	0.4nm,0.4s,baz=95,slow=9.2,SNR=5.6 0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.48**	**316**	P	**P**	**23 29 14.4**	**-0.3**
	0.6nm,0.4s,baz=88,slow=9.3,SNR=7.4 0.6nm,0.4s						
FINES	**FINESS Array B**	**71.24**	**331**	P	**P**	**23 31 42.8**	**-0.5**
	2.0nm,1.0s,baz=58,slow=5.4,SNR=4.0 2.0nm,1.0s						

IDC ***13*** *23:29:45.1±0.6, 18°.39N×96°.10E, h0km, mb4.3/25, mbtmp4.2/27, ML3.6/2, MS3.5/16, Error ellipse: s-maj=15.9km s-min=10.9km az=19.0*

NEIC ***13*** *23:29:46.5±1.2, 18°.37N±0°.06×96°.09E±0°.06, h10km±1km, mb4.6/47, Error ellipse: s-maj=11.1km s-min=9.2km az=216.0*

NDI ***13*** *23:29:47.2±4.1, 18°.29N×96°.25E, h10km, mb4.8, mb4.6(NEIC)*

ISC 13 23:29:46.4±0.4, 18°27N±0°04×96°05E±0°05, h10km, n124, σ1s87/131, mb4.5/56, MS3.5/17, 2C-3D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.75**	**86**		**Pn**	**23 30 29.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**2.75**	**86**	Pn	**Pn**	**23 30 29.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**2.75**	**86**	Pn	**Pn**	**23 30 29.7**	**-1.0**
	3.2nm,0.3s,baz=265,slow=14,SNR=74						
CMAR				Pg	**Pb**	**23 30 35.3**	**-0.5**
	67nm,0.3s,baz=262,slow=18,SNR=61						
CMAR				Lg	Lg	23 31 10.4	
	86nm,0.3s,baz=263,slow=31,SNR=10						
CMAR				LR	LR	23 31 44.2	
	comp=Z,1μm,18.2s,baz=255,slow=44 24nm,0.7s						
CHTO	**Chiang Mai**	**2.80**	**78**	Pn	**Pn**	**23 30 29.8**	**-1.5**
MND	**Mandalay**	**3.72**	**1**	Pn	**Pn**	**23 30 42.0**	**-2.0**
CRAI	**Chiangrai**	**4.52**	**64**	Pn	**Pn**	**23 30 54.1**	**-0.9**
SAIH	**SAIHA**	**5.08**	**326**	*e*P	**Pn**	**23 31 04.4**	**+1.6**
SAIH				*e*S	**Sn**	**23 32 02.7**	**+1.0**
DGPR	**DIGLIPUR**	**5.89**	**211**	*e*P	**Pn**	**23 31 16.3**	**+2.5**
DGPR				*e*S	**Sn**	**23 32 21.4**	**0.0**
IMP	**Imphal**	**6.81**	**344**	*e*P	**Pn**	**23 31 29.4**	**+2.8**
TNCH	**TengChong**	**7.10**	**18**	Pn	**Pn**	**23 31 30.6**	**-0.1**
TNCH				Pg	**Pg**	**23 32 03.1**	**+0.6**
TNCH				Sn	**Sn**	**23 32 53.8**	**+2.2**
TNCH				Sg	**Sg**	**23 33 28.8**	**-5.8**
TNCH				smax	smax		
	comp=N,400nm,1.3s						
TNCH				smax	smax		
	comp=E,470nm,1.8s						
TNCH				LR	LR		
	comp=N,980nm,3.1s						
TNCH				LR	LR		
	comp=E,2μm,4.6s						
TNCH				LR	LR		
	comp=Z,800nm,4.9s						
KOHI	**KOHIMA**	**7.63**	**347**	*e*P	**Pn**	**23 31 40.4**	**+2.6**
SHL	**Shillong**	**8.22**	**333**	*e*P	**Pn**	**23 31 45.3**	**-0.7**
TEZP	**TEZPUR**	**8.83**	**341**	*e*P	**Pn**	**23 31 54.3**	**+0.1**
TEZP				*ex*	x	23 33 29.3	
KMI	**Kunming**	**9.23**	**41**	⇓P	Pn	23 32 05.8	+6.0
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
KMI				LR	LR		
	comp=N,460nm,5.1s						
KMI				LR	LR		
	comp=E,620nm,5.6s						
UBPT	**Khong Chiam**	**9.50**	**107**	Pn	**Pn**	**23 32 02.2**	**-1.1**
PZH	**PanZhiHua**	**9.74**	**32**	P	Pn	23 32 12.1	+5.4
PZH				S	**Sn**	**23 33 53.8**	**-2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,130nm,5.0s						
PZH				LR	LR		
	comp=N,670nm,11.7s						
PZH				LR	LR		
	comp=E,1μm,11.6s						
PZH				LR	LR		
	comp=Z,1μm,9.8s						
GTK	**Tadong**	**11.32**	**324**	*e*P	**Pn**	**23 32 30.4**	**+1.9**
LSA	**Lhasa**	**12.22**	**339**		**Pn**	**23 32 38.8**	**-2.2**
GULI	**GuiLin**	**15.01**	**60**	⇑P	**Pn**	**23 33 20.5**	**+1.7**
GULI				S	S	23 36 34.3	+11
GULI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GULI				LR	LR		
	comp=N,380nm,15.7s						
GULI				LR	LR		
	comp=E,270nm,11.9s						
GULI				LR	LR		
	comp=Z,700nm,9.8s						
RPSI	**Rantau Prapat**	**15.74**	**169**		**Pn**	**23 33 30.5**	**+2.2**
GSI	**Gunungsitoli**	**16.93**	**175**	Pn	**Pn**	**23 33 44.1**	**+0.5**
ENH	**Enshi**	**17.09**	**43**	Pn	**Pn**	**23 33 43.5**	**-2.1**
PALK	**Pallekele**	**18.52**	**236**	P	**P**	**23 34 03.7**	**+0.5**
PALK	**Pallekele**	**18.52**	**236**	P	**P**	**23 34 04.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=33,slow=17,SNR=1.5						
PALK				LR	LR	23 41 10.0	
	comp=Z,110nm,19.2s,baz=171,slow=37 comp=Z,2.6nm,0.7s						
LZH	**Lanzhou**	**19.04**	**20**	*e*P	**Pn**	**23 34 11.3**	**+1.7**
LZH				sP	sP	23 34 17.0	+3.9
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				LR	LR		
	comp=N,340nm,12.0s						
LZH				LR	LR		
	comp=E,490nm,10.6s						
LZH				LR	LR		
	comp=Z,370nm,15.1s						
XAN	**Xi'an**	**19.46**	**34**	⇑P	**Pn**	**23 34 15.8**	**+1.2**
XAN				pP	sP	23 34 24.9	+7.2
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**21.32**	**8**	*e*P	**P**	**23 34 34.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,12nm,1.1s						
SMLA	**Simla**	**21.36**	**310**	*e*P	**P**	**23 34 34.3**	**+0.3**
SMLA				IAmb	IAmb	23 34 36.9	
	comp=Z,32nm,0.6s						
LYN	**LuoYang**	**21.84**	**39**	*e*P	**P**	**23 34 39.8**	**+0.7**
LYN				pP	sP	23 34 44.3	+1.0
LYN				PP	**PnPn**	**23 35 05.6**	**+5.2**
LYN				S	S	23 38 29.3	-11
LYN				sS	sS	23 38 41.4	-3.8
LYN				SS	**SnSn**	**23 39 10.0**	**+4.4**
LYN				pmax	pmax		
	comp=Z,16nm,0.8s						
LYN				pmax	pmax		
	comp=Z,250nm,4.8s						
LYN				LR	LR		
	comp=N,1μm,11.7s						
LYN				LR	LR		
	comp=E,1μm,11.5s						
DHRM	**DHARAMSHALA**	**22.59**	**312**	*e*P	**P**	**23 34 46.9**	**-0.6**
DHRM				IAmb	IAmb	23 34 48.8	
	comp=Z,24nm,1.1s						
HNS	**HongShan**	**25.12**	**37**	⇓P	**P**	**23 35 12.3**	**+0.8**
HNS				*e*S	**S**	**23 39 42.9**	**+6.7**
HNS				pmax	pmax		
	comp=Z,15nm,1.1s						
HNS				LR	LR		
	comp=N,390nm,15.1s						
HNS				LR	LR		
	comp=E,320nm,14.3s						
HNS				LR	LR		
	comp=Z,270nm,12.7s						
BTO	**Baotou**	**25.30**	**25**	*e*P	**P**	**23 35 14.0**	**+0.7**
BTO				pP	**sP**	**23 35 18.3**	**+0.6**
BTO				sP	**pP**	**23 35 20.9**	**+4.5**
BTO				PP	**PnPn**	**23 35 52.9**	**+5.1**
BTO				S	**S**	**23 39 39.5**	**+0.2**
BTO				sS	**sS**	**23 39 46.3**	**+1.8**
BTO				SS	**SnSn**	**23 40 41.5**	**+11**
BTO				pmax	pmax		
	comp=Z,96nm,1.0s						
BTO				pmax	pmax		
	comp=Z,250nm,5.0s						
BTO				LR	LR		
	comp=N,560nm,11.0s						
BTO				LR	LR		
	comp=E,540nm,10.1s						
BTO				LR	LR		
	comp=Z,430nm,10.3s						
NIL	**Nilore**	**25.50**	**311**	P	**P**	**23 35 14.3**	**-0.8**
HHC	**Hu-ho-hao-te**	**26.15**	**27**	*e*P	**P**	**23 35 21.8**	**+0.8**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,210nm,5.4s						
HHC				LR	LR		
	comp=N,370nm,8.1s						
HHC				LR	LR		
	comp=E,460nm,9.5s						
HHC				LR	LR		
	comp=Z,360nm,8.2s						
WMQ	**Urumqi**	**26.43**	**346**	*e*P	**P**	**23 35 24.8**	**+1.4**
WMQ				sP	sP	23 35 39.4	+12
WMQ				pmax	pmax		
	comp=Z,15nm,1.5s						
KSH	**Kashi**	**27.39**	**325**	P	**P**	**23 35 31.4**	**-0.9**
KSH				pP	sP	23 35 38.0	+1.3
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBL	**Kabul**	**28.98**	**309**	P	**P**	**23 35 45.0**	**-1.6**
KBL				IAmb	IAmb	23 35 49.9	
	comp=Z,6.1nm,0.8s						
AAK	**Ala-Archa**	**30.41**	**328**	P	**P**	**23 35 57.9**	**-1.2**
AAK				IAmb	IAmb	23 36 01.7	
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**30.62**	**341**	P	**P**	**23 35 59.5**	**-1.2**
MKAR	**Makanchi Array**	**30.62**	**341**	P	**P**	**23 35 59.5**	**-1.3**
MKAR	**Makanchi Array**	**30.62**	**341**	P	**P**	**23 36 00.2**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=152,slow=9.1,SNR=33						
MKAR				PcP	**PcP**	**23 38 59.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=180,slow=2.9,SNR=3.7 comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**30.67**	**14**	P	**P**	**23 35 59.1**	**-2.2**
SONM	**Songino Array**	**30.67**	**14**	P	**P**	**23 36 01.2**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=199,slow=7.2,SNR=5.4						
SONM				LR	LR	23 50 14.9	
	comp=Z,85nm,18.0s,baz=6.5,slow=40 comp=Z,0.7nm,0.8s						
MAKZ	**Makanchi**	**30.73**	**341**	P	**P**	**23 35 59.5**	**-2.2**
BTK	**Batken**	**30.74**	**320**	P	**P**	**23 36 01.2**	**-0.7**
BTK				IAmb	IAmb	23 36 20.6	
	comp=Z,8.8nm,1.4s						
DAV	**Davao City (W)**	**30.83**	**107**	LR	LR	23 51 38.7	
	comp=Z,52nm,18.2s,baz=322,slow=43						
JOW	**Kunigami**	**30.89**	**68**	LR	LR	23 48 22.1	
	comp=Z,97nm,18.9s,baz=138,slow=36						
SIMJ	**Simiganj**	**31.08**	**316**	P	**P**	**23 36 03.3**	**-1.7**
SIMJ				IAmb	IAmb	23 36 05.7	
	comp=Z,9.3nm,1.1s						
KK31	**Karatay Array**	**32.85**	**324**	P	**P**	**23 36 18.5**	**-1.8**
KKAR	**Karatay Array**	**32.85**	**324**	P	**P**	**23 36 19.3**	**-1.1**
KSRS	**Korea Array**	**33.81**	**49**	LR	LR	23 50 58.1	
	comp=Z,56nm,18.7s,baz=230,slow=38						
HRA	**Herat**	**34.09**	**305**	P	**P**	**23 36 30.5**	**-1.0**
HRA				IAmb	IAmb	23 36 33.7	
	comp=Z,3.7nm,1.0s						
JNU	**Nakatsue**	**34.51**	**58**	LR	LR	23 51 21.8	
	comp=Z,67nm,18.1s,baz=256,slow=38						
KURBB	**Kurchatov Arra**	**35.17**	**341**	P	**P**	**23 36 39.7**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=151,slow=8.6,SNR=23						
KURBB				PcP	**PcP**	**23 39 11.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=164,slow=2.7,SNR=8.9 comp=Z,2.8nm,0.6s						
KURK	**Kurchatov**	**35.23**	**341**	P	**P**	**23 36 39.3**	**-1.5**
KURK				IAmb	IAmb	23 36 40.6	
	comp=Z,5.9nm,0.8s						
HIA	**Hailar**	**36.35**	**26**	P	**P**	**23 36 49.6**	**-1.0**
HIA				IAmb	IAmb	23 36 52.5	
	comp=Z,14nm,1.1s						
ZAA0	**Zalesovo Array**	**36.65**	**349**	P	**P**	**23 36 52.0**	**-1.1**
ZAA0				IAmb	IAmb	23 36 53.8	
	comp=Z,13nm,0.9s						
ZALV	**Zalesovo Beam**	**36.65**	**349**	P	**P**	**23 36 52.3**	**-0.7**
ZALV	**Zalesovo Beam**	**36.65**	**349**	P	**P**	**23 36 52.6**	**-0.5**
	comp=Z,11nm,0.8s,baz=169,slow=8.9,SNR=52 comp=Z,11nm,0.8s						
BNX	**BinXian**	**37.75**	**37**	⇓P	**P**	**23 37 02.5**	**0.0**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,120nm,5.2s						
GEYT	**Alibeck**	**38.43**	**309**	P	**P**	**23 37 08.3**	**-0.1**
GEYT				IAmb	IAmb	23 37 12.5	
	comp=Z,20nm,1.1s						
GEYT	**Alibeck**	**38.43**	**309**	P	**P**	**23 37 09.6**	**+1.2**
	comp=Z,11nm,1.0s,baz=155,slow=7.4,SNR=18 comp=Z,11nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**38.43**	**309**	P	**P**	**23 37 08.4**	**0.0**
GYA0B				IAmb	IAmb	23 37 10.6	
	comp=Z,12nm,0.9s						
BVAR	**Borovoye Array**	**40.03**	**336**	P	**P**	**23 37 20.6**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=133,slow=8.7,SNR=7.9						
BVAR				PcP	**PcP**	**23 39 26.4**	**0.0**
	comp=Z,1.2nm,0.6s,baz=166,slow=3.0,SNR=6.4 comp=Z,1.5nm,0.7s						
BRVK	**Borovoye**	**40.10**	**336**	P	**P**	**23 37 20.7**	**-1.4**
MJAR	**Matsushiro Arr**	**41.24**	**55**	P	**P**	**23 37 31.3**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=261,slow=10,SNR=4.6						
MJAR				LR	LR	23 56 23.2	
	comp=Z,73nm,18.6s,baz=204,slow=39 comp=Z,2.3nm,0.9s						
KLR	**Kul'dur**	**42.17**	**35**	P	**P**	**23 37 38.3**	**-0.8**
	comp=Z,2.4nm,1.0s,baz=252,slow=6.9,SNR=5.4						
KLR				LR	LR	23 55 21.6	
	comp=Z,72nm,19.2s,baz=230,slow=36 comp=Z,2.4nm,1.0s						
ABKAR	**Akbulak array**	**42.40**	**325**	P	**P**	**23 37 40.3**	**-0.8**
ABKAR				IAmb	IAmb	23 37 41.7	
	comp=Z,6.3nm,0.8s						
ABKAR	**Akbulak array**	**42.40**	**325**	P	**P**	**23 37 40.3**	**-0.8**
ASAJ	**Asahikawa**	**46.62**	**46**	LR	LR	23 58 15.5	
	comp=Z,30nm,18.9s,baz=206,slow=37						
GUMO	**Guam**	**47.07**	**88**	LR	LR	23 56 00.6	
	comp=Z,18nm,21.1s,baz=107,slow=34						
ARU	**Arti**	**47.31**	**333**	P	**P**	**23 38 18.9**	**-1.2**
ARU				IAmb	IAmb	23 38 20.2	
	comp=Z,3.4nm,0.9s						
YAK	**Yakutsk**	**49.62**	**20**	P	**P**	**23 38 35.7**	**-2.1**
AKH	**Akhalkalaki**	**50.22**	**309**	P	**P**	**23 38 42.0**	**-0.9**
KARS	**Kars**	**50.38**	**308**	P	**P**	**23 38 43.9**	**-0.2**
ONI	**Oni**	**50.48**	**310**	P	**P**	**23 38 43.4**	**-1.4**
ONI				IAmb	IAmb	23 38 52.6	
	comp=Z,5.4nm,0.8s						
GURO	**Guroymak-BITLI**	**50.86**	**305**	P	**P**	**23 38 47.2**	**-0.6**
KBZ	**Khabaz**	**51.12**	**312**	P	**P**	**23 38 49.6**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=90,slow=6.5,SNR=4.6 comp=Z,2.4nm,0.8s						
KIV	**Kislovodsk**	**51.31**	**312**	P	**P**	**23 38 49.8**	**-1.3**
NRIK	**Noril'sk**	**51.33**	**356**	P	**P**	**23 38 50.0**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=170,slow=6.1,SNR=7.8 comp=Z,2.1nm,0.5s						
WB0	**Warramunga Arr**	**53.34**	**133**	P	**P**	**23 39 05.9**	**-0.3**
WB0				IAmb	IAmb	23 39 07.2	
	comp=Z,5.1nm,0.9s						
WRA	**Warramunga Arr**	**53.42**	**133**	P	**P**	**23 39 05.8**	**-1.0**
WRA	**Warramunga Arr**	**53.42**	**133**	P	**P**	**23 39 06.9**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=320,slow=7.4,SNR=27 comp=Z,4.9nm,0.8s						
WRAB	**Tennant Creek**

TIXI	**Tiksi**	**56.73**	**12**	P	**P**	**23 39 28.0**	**-2.0**
TIXI				IAmb	IAmb	23 39 35.7	
	comp=Z,5.2nm,1.1s						
MA2	**Magadan**	**56.80**	**30**	P	**P**	**23 39 29.6**	**-1.1**
MA2				IAmb	IAmb	23 39 31.4	
	comp=Z,9.5nm,0.9s						
MA2	**Magadan**	**56.80**	**30**	P	**P**	**23 39 30.1**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=326,slow=5.1,SNR=5.1						
	comp=Z,6.9nm,0.8s						
BRTR	**Keskin Array B**	**57.47**	**306**	P	**P**	**23 39 35.8**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=99,slow=7.6,SNR=8.3						
	comp=Z,2.1nm,0.8s						
PETK	**Petropavlovsk-**	**58.62**	**38**	LR	LR	00 08 10.4	
	comp=Z,64nm,18.6s,baz=245,slow=39						
ELL	**Elmali**	**60.37**	**302**	P	**P**	**23 39 56.0**	**-0.2**
KMBO	**Kilima Mbogo**	**60.92**	**258**	LR	LR	00 04 30.4	
	comp=Z,26nm,19.3s,baz=97,slow=34						
AKASG	**Malin Array Be**	**61.42**	**318**	P	**P**	**23 40 01.7**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=78,slow=6.4,SNR=7.0						
	comp=Z,0.7nm,0.6s						
MLR	**Muntele Rosu**	**63.32**	**312**	P	**P**	**23 40 15.5**	**-0.4**
BURAR	**Bucovina Array**	**63.86**	**315**	P	**P**	**23 40 18.8**	**-0.6**
BURAR				IAmb	IAmb	23 40 21.7	
	comp=Z,1.9nm,0.8s						
FIA1	**FINESS Array S**	**64.55**	**330**	P	**P**	**23 40 22.6**	**-0.9**
FINES	**FINESS Array B**	**64.55**	**330**	P	**P**	**23 40 22.9**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=97,slow=6.3,SNR=8.3						
	comp=Z,3.0nm,0.7s						
PABE	**Paberze**	**65.00**	**323**	P	**P**	**23 40 25.9**	**-0.6**
ARCES	**ARCESS Array B**	**66.23**	**339**	P	**P**	**23 40 34.0**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=90,slow=5.9,SNR=7.3						
	comp=Z,2.1nm,0.6s						
CRVS	**Cervenica-Dubn**	**66.37**	**316**	*e*P	**P**	**23 40 36.7**	**+1.1**
VYHS	**Vyhne**	**68.12**	**316**	*e*P	**P**	**23 40 46.0**	**-0.7**
HFS	**Hagfors**	**70.55**	**328**	P	**P**	**23 41 01.0**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=152,slow=6.7,SNR=7.9						
	comp=Z,2.6nm,0.6s						
GEC2	**GERESS Array S**	**71.49**	**316**	P	**P**	**23 41 06.8**	**-0.6**
GEC2				IAmb	IAmb	23 41 08.0	
	comp=Z,5.5nm,0.9s						
GERES	**GERESS Array B**	**71.49**	**316**	P	**P**	**23 41 07.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=69,slow=7.3,SNR=4.0						
	comp=Z,1.6nm,0.6s						
NB2	**NORSAR Subarra**	**71.71**	**329**	P	**P**	**23 41 07.5**	**-1.0**
	comp=Z,19nm,1.7s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**71.71**	**329**	P	**P**	**23 41 07.7**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=90,slow=5.8,SNR=7.0						
NOA				LR	LR	00 17 36.9	
	comp=Z,47nm,19.2s,baz=0.0,slow=40						
	comp=Z,3.3nm,0.9s						
LSZ	**Lusaka**	**74.69**	**248**		**P**	**23 41 27.2**	**+0.2**
C18K	**Utukok River**	**77.69**	**21**	P	**P**	**23 41 42.5**	**-0.6**
C18K				IAmb	IAmb	23 42 03.3	
	comp=Z,6.0nm,1.4s						
G19K	**Purcell Mounta**	**80.06**	**23**	P	**P**	**23 41 54.4**	**-1.7**
G19K				IAmb	IAmb	23 41 55.4	
	comp=Z,8.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**80.28**	**325**	P	**P**	**23 41 57.3**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=94,slow=6.8,SNR=4.0						
	comp=Z,3.0nm,0.8s						
LBTB	**Lobatse**	**80.94**	**240**	P	**P**	**23 42 01.8**	**+0.2**
LBTB				IAmb	IAmb	23 42 05.3	
	comp=Z,7.9nm,0.7s						
E24K	**Your Creek**	**82.22**	**20**	P	**P**	**23 42 07.0**	**-0.7**
E24K				IAmb	IAmb	23 42 10.2	
	comp=Z,4.9nm,1.0s						
BOSA	**Boshof**	**82.74**	**237**	P	**P**	**23 42 12.0**	**+1.0**
	comp=Z,6.4nm,0.7s,baz=63,slow=3.3,SNR=14						
	comp=Z,6.4nm,0.7s						
ILAR	**Eielson Array**	**84.47**	**23**	P	**P**	**23 42 18.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=288,slow=5.1,SNR=7.1						
	comp=Z,0.8nm,0.8s						
A36M	**Sachs Harbour**	**85.75**	**12**	P	**P**	**23 42 24.8**	**-0.7**
A36M				IAmb	IAmb	23 42 25.9	
	comp=Z,4.5nm,0.8s						
ESDC	**Sonseca Array**	**85.95**	**310**	P	**P**	**23 42 27.3**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=59,slow=3.9,SNR=4.7						
	comp=Z,1.0nm,0.9s						
SUR	**Sutherland**	**87.78**	**235**	LR	LR	00 21 05.8	
	comp=Z,56nm,19.5s,baz=161,slow=35						
TORD	**Torodi Ar. Bea**	**89.99**	**284**	P	**P**	**23 42 47.0**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=60,slow=6.1,SNR=4.8						
	comp=Z,0.9nm,1.0s						
TXAR	**Lajitas Array**	**128.99**	**22**	PKP	**PKPdf**	**23 48 55.2**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=354,slow=1.3,SNR=4.2						
BDFB	**Brasilia**	**145.56**	**269**	PKPbc	**PKPab**	**23 49 26.8**	**+0.3**
	comp=Z,8.7nm,0.9s,baz=94,slow=4.1,SNR=10.0						
CPUP	**Villa Florida**	**154.13**	**247**	PKPbc	**PKiKP**	**23 49 48.8**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=60,slow=4.2,SNR=3.1						

IDC 14 00:30:25.2±81.0, **56.62S**×**143.40E**, **h0**km, **mb3.6**/3, **mbtmp3.6**/3, **Error ellipse: s-maj=1377.0km s-min=235.8km az=160.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**24.77**	**356**	P	P	00 35 48.6	+0.2
	1.7nm,0.6s,baz=192,slow=8.7,SNR=3.9						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**33.64**	**344**	P	P	00 37 07.0	-0.5
	0.3nm,0.7s,baz=167,slow=9.0,SNR=4.9						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**37.24**	**346**	P	P	00 37 38.5	+0.1
	0.7nm,0.8s,baz=167,slow=7.8,SNR=7.2						
	0.7nm,0.8s						

*TEH **14** 00:44:35.8, 33.77N×45.71E, h9km±52km, ML2.9*
*ISN **14** 00:44:36.1±0.7, 33.79N×45.73E, h7km±4km, ML2.9*
ISC 14 00:44:36.9±1.0, **33.79N**±0.03×**45.68E**±0.04, **h10**km, **n14, s**0**86/18, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**110**	Pg	**Pg**	**00 44 45.1**	**-1.0**
IBDR	**Badra**	**0.71**	**163**	*e*Pg	**Pg**	**00 44 50.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**00 44 59.5**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.72**	**354**	Pg	**Pg**	**00 44 49.9**	**-0.9**
IGHG	**Ghaleghazi**	**0.91**	**53**	Pg	**Pg**	**00 44 54.1**	**-0.4**
IDHR	**Dehrash**	**1.08**	**32**	Pg	**Pg**	**00 44 56.6**	**-1.1**
BHD	**Baghdad**	**1.21**	**245**	*e*Pg	**Pn**	**00 45 00.0**	**+0.2**
BHD				*e*Sg	**Sn**	**00 45 17.0**	**+0.8**
BHD				AML	AML	00 45 21.4	
	comp=E,320nm,0.2s						
KCHF	**Cheshme Sefid,**	**1.23**	**66**	Pg	**Pb**	**00 44 59.6**	**-0.7**
ILIN	**Lien**	**1.55**	**43**	Pg	**Pn**	**00 45 05.5**	**+0.8**
IKOM	**Komasi**	**1.57**	**75**	Pg	**Pn**	**00 45 05.5**	**+0.5**
IKOM				Sg	**Sg**	**00 45 27.9**	**+0.6**
IKFM	**Kafar-mosalman**	**1.82**	**98**	Pg	**Pn**	**00 45 09.4**	**+1.1**
IBZA	**Bozab**	**1.93**	**69**	Pn	**Pn**	**00 45 11.0**	**+1.0**
RAFI	**Al-Rafai**	**2.09**	**170**	*e*Pn	**Pn**	**00 45 13.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**00 45 41.0**	**0.0**
RAFI				AML	AML	00 45 44.7	
	comp=E,78nm,0.2s						
RAFI				AML	AML	00 45 45.2	
	comp=N,102nm,0.4s						
SDS1	**Sardasht. Az.**	**2.36**	**356**	Pn	**Pn**	**00 45 17.2**	**+1.3**
HSAM	**Samen**	**2.46**	**79**	Pn	**Pn**	**00 45 17.9**	**+0.5**

*ISN **14** 00:47:38.6±0.6, 33.71N×45.60E, h16km±3km, ML3.2*
*TEH **14** 00:47:49.8, 33.79N×45.71E, h8km±39km, ML3.4*
ISC 14 00:47:43.7±0.9, **33.38N**±0.04×**45.34E**±0.04, **h10**km, **n25, s**25**41/26, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.57**	**119**	*e*Pg	**Pg**	**00 47 51.0**	**-3.7**
IBDR				*e*Sg	**Sg**	**00 48 00.7**	**-1.5**
ILBA	**Ilam Banvizeh**	**0.77**	**71**	Pg	**Pg**	**00 47 58.7**	**+0.2**
BHD	**Baghdad**	**0.81**	**262**	*e*Pg	**Pb**	**00 47 59.5**	**-0.3**
BHD				*e*Sg	**Sn**	**00 48 14.0**	**+0.8**
BHD				AML	AML	00 48 21.4	
	comp=E,588nm,0.4s						
KGS1	**Ghasr-e-Shirin**	**1.14**	**11**	Pg	**Pb**	**00 48 04.1**	**-1.4**
IGHG	**Ghaleghazi**	**1.39**	**47**	Pg	**Pn**	**00 48 07.5**	**-1.9**
IDHR	**Dehrash**	**1.58**	**33**	Pg	**Pn**	**00 48 10.2**	**-1.7**
KCHF	**Cheshme Sefid,**	**1.67**	**57**	Pg	**Pn**	**00 48 13.6**	**+0.3**
RAFI	**Al-Rafai**	**1.78**	**158**	*e*Pn	**Pn**	**00 48 14.0**	**-0.5**
RAFI				*e*Sn	**Sb**	**00 48 40.0**	**+1.2**
RAFI				AML	AML	00 48 59.0	
	comp=E,213nm,0.4s						
RAFI				AML	AML	00 49 28.2	
	comp=N,215nm,0.4s						
IKOM	**Komasi**	**1.98**	**66**	Pg	**Pb**	**00 48 19.8**	**0.0**
ILIN	**Lien**	**2.04**	**41**	Pg	**Pb**	**00 48 19.8**	**-1.2**
IKFM	**Kafar-mosalman**	**2.10**	**85**	Pg	**Pg**	**00 48 23.3**	**-0.8**
IBZA	**Bozab**	**2.36**	**62**	Pn	**Pb**	**00 48 24.6**	**-1.9**
SDS1	**Sardasht. Az.**	**2.76**	**3**	Pn	**Pb**	**00 48 31.3**	**-1.9**
IALM	**Almabolaq**	**2.77**	**57**	Pn	**Pn**	**00 48 30.7**	**+2.2**
HSAM	**Samen**	**2.84**	**72**	Pn	**Pn**	**00 48 32.0**	**+2.6**
MAHB	**Mahabad**	**3.39**	**5**	Pn	**Pn**	**00 48 39.3**	**+2.5**
HAGD	**Aghdareh**	**3.47**	**64**	Pn	**Pn**	**00 48 40.5**	**+2.5**
IPIR	**Pirpir**	**4.72**	**97**	Pn	**Pn**	**00 48 59.2**	**+4.0**
ZNGN	**Zangian**	**4.82**	**104**	Pn	Pn	00 49 01.6	+5.0
ISHB	**Shabestar**	**4.89**	**3**	Pn	**Pn**	**00 48 60.0**	**+2.4**
QAMS	**Qamsar**	**5.07**	**84**	Pn	**Pn**	**00 49 03.5**	**+3.4**
IKLH	**Kolahrood**	**5.22**	**89**	Pn	Pn	**00 49 06.2**	**+4.1**
ISFB	**Sefidab**	**5.83**	**79**	Pn	**Pn**	**00 49 12.5**	**+2.3**
IZEF	**Zefreh**	**5.89**	**93**	Pn	**Pn**	**00 49 15.3**	**+4.1**
IRAM	**Ramesheh**	**6.15**	**103**	Pn	Pn	00 49 19.8	+5.0

*NOU **14** 00:53:26.4, 25.85S×174.01W, h60km, mb5.1/33, South of Tonga Islands*
*IDC **14** 00:54:45.6±0.8, 25.89S×179.86E, h483km±8km, mb3.7/17, mbtmp4.6/20, Error ellipse: s-maj=10.4km s-min=9.8km az=177.0*
*NEIC **14** 00:54:46.1±1.5, 26.0S±0.1×179.9E±0.1, h484km±6km, mb4.6/54, Error ellipse: s-maj=15.7km s-min=14.3km az=169.0*
ISC 14 00:54:44.6±0.3, **25.90S**±0.06×**179.95E**±0.06, **h475**km, **n226,** σ1**35/238, mb4.6**/54, **11C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.84**	**151**	P	**P**	**00 56 01.3**	**+1.4**
RAO	**Raoul Island**	**3.84**	**151**	P	**P**	**00 56 01.6**	**+1.7**
	558nm,0.2s,baz=248,slow=19,SNR=6.9						
RAO				S	**S**	**00 57 04.7**	**+3.4**
	281nm,0.3s,baz=328,slow=23,SNR=2.0						
NIUE	**Niue**	**11.56**	**56**	P	**P**	**00 57 18.2**	**-0.4**
TOZ	**Tahuroa Road**	**12.39**	**197**	P	**P**	**00 57 27.6**	**+0.4**
OUENC	**Ouen Island, N**	**12.46**	**283**	P	**P**	**00 57 30.4**	**+2.2**
YATNC	**Mamie plateau,**	**12.53**	**285**	P	**P**	**00 57 32.2**	**+3.2**
URZ	**Urewera**	**12.56**	**190**	P	**P**	**00 57 28.6**	**-0.4**
	21nm,0.5s,baz=360,slow=19,SNR=9.0						
URZ				S	**S**	**00 59 41.4**	**-3.2**
	11nm,0.6s,baz=30,slow=20,SNR=3.3						
LIFNC	**LIFOU**	**12.74**	**291**	P	**P**	**00 57 32.6**	**+1.4**
ONTNC	**Ouen Toro**	**12.83**	**283**	P	**P**	**00 57 33.6**	**+1.4**
DZM	**Mont Dzumac**	**12.92**	**284**	P	**P**	**00 57 35.7**	**+2.4**
DZM	**Mont Dzumac**	**12.92**	**284**	P	**P**	**00 57 36.2**	**+3.0**
DZM	**Mont Dzumac**	**12.92**	**284**	*e*Pn	**P**	**00 57 35.7**	**+2.4**
	73nm,0.9s						
DZM				*e*Sn	**S**	**00 59 56.6**	**+4.2**
	33nm,1.1s						
DZM	**Mont Dzumac**	**12.92**	**284**	P	**P**	**00 57 35.2**	**+1.9**
	20nm,0.6s,baz=103,slow=13,SNR=46						
DZM				S	**S**	**00 59 53.8**	**+1.4**
	5.3nm,1.0s,baz=142,slow=22,SNR=2.0						
NOUC	**Port Laguerre**	**13.03**	**284**	P	**P**	**00 57 37.3**	**+3.0**
KOUNC	**Koumac, New Ca**	**15.35**	**287**	P	**P**	**00 58 00.8**	**+1.9**
KOUNC	**Koumac, New Ca**	**15.35**	**287**	P	**P**	**00 58 03.5**	**+4.6**
SNZO	**South Karori**	**15.97**	**194**	P	**P**	**00 58 02.7**	**-2.5**
TUWZ	**Tuamarina**	**16.27**	**196**	P	**P**	**00 58 06.8**	**-1.5**
LTZ	**Lake Taylor**	**17.98**	**199**	P	**P**	**00 58 23.5**	**-2.3**
RPZ	**Rata Peaks**	**19.20**	**200**	P	**P**	**00 58 36.9**	**-0.1**
RPZ				IAmb	IAmb	00 58 43.7	
	comp=Z,22nm,0.8s						
RPZ	**Rata Peaks**	**19.20**	**200**	P	**P**	**00 58 37.3**	**+0.3**
	comp=Z,15nm,0.5s,baz=20,slow=1.0,SNR=11						
RPZ				S	**S**	**01 01 50.5**	**+4.1**
	comp=Z,9.1nm,0.8s,baz=335,slow=12,SNR=2.0						
ARMA	**Armidale**	**25.34**	**253**	P	**P**	**00 59 32.6**	**0.0**
ARMA				IAmb	IAmb	01 00 14.4	
	comp=Z,19nm,1.3s						
EIDS	**Eidsvold**	**26.01**	**265**		**P**	**00 59 39.2**	**+0.6**
EIDS	**Eidsvold**	**26.01**	**265**	P	**P**	**00 59 39.5**	**+1.0**
MGCD	**Mangrove Creek**	**26.07**	**247**	P	**P**	**00 59 41.0**	**+2.1**
RK1H	**Rockhampton Ha**	**26.86**	**269**	P	**P**	**00 59 47.8**	**+1.7**
TBI	**Tubuai**	**27.89**	**91**	*e*sS	sS	01 06 40.9	+5.7
	comp=Z,737nm,36.5s						
CAN	**Canberra**	**28.15**	**243**	P	**P**	**00 59 58.0**	**+0.7**
CAN				IAmb	IAmb	01 00 30.1	
	comp=Z,52nm,1.3s						
PPT2	**Papeete2**	**29.43**	**80**	*e*sS	sS	01 07 08.2	+7.9
	comp=Z,80nm,22.2s						
CMSA	**Cobar Meteorol**	**30.48**	**251**	P	**P**	**01 00 18.2**	**+0.6**
TV1H	**Townsville Har**	**31.26**	**275**	P	**P**	**01 00 25.6**	**+1.2**
TOO	**Toolangi**	**31.36**	**240**	P	**P**	**01 00 25.3**	**+0.1**
TOO				IAmb	IAmb	01 00 49.8	
	comp=Z,34nm,1.4s						
CTA	**Charters Tower**	**31.50**	**274**	P	**P**	**01 00 27.3**	**+0.8**
	comp=Z,25nm,0.5s,baz=97,slow=9.8,SNR=31						
CTA				ScP	**ScP**	**01 06 03.5**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=147,slow=4.0,SNR=7.4						
	comp=Z,25nm,0.5s						
CTAO	**Charters Tower**	**31.50**	**274**	P	**P**	**01 00 26.6**	**+0.1**
CTAO	**Charters Tower**	**31.50**	**274**	P	**P**	**01 00 27.6**	**+1.1**
MTSU	**Mount Surprise**	**33.84**	**276**	P	**P**	**01 00 47.7**	**+1.1**
STKA	**Stephens Creek**	**33.98**	**251**	P	**P**	**01 00 47.2**	**-0.3**
STKA	**Stephens Creek**	**33.98**	**251**	P	**P**	**01 00 47.8**	**+0.3**
STKA	**Stephens Creek**	**33.98**	**251**	P	**P**	**01 00 47.5**	**-0.1**
	comp=Z,12nm,1.0s,baz=93,slow=9.7,SNR=16						
STKA				PcP	**PcP**	**01 03 12.3**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=90,slow=4.0,SNR=4.8						
STKA				ScP	**ScP**	**01 06 11.0**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=81,slow=6.4,SNR=4.2						
	comp=Z,12nm,1.0s						
ARPS	**Mount Arapiles**	**34.11**	**242**	P	**P**	**01 00 48.8**	**+0.3**
PMG	**Port Moresby**	**35.15**	**292**	P	**P**	**01 00 57.2**	**-0.3**
PMG				IAmb	IAmb	01 00 59.7	
	comp=Z,16nm,0.8s						
PMG	**Port Moresby**	**35.15**	**292**	P	**P**	**01 00 55.6**	**-1.9**
	comp=Z,26nm,0.9s						
HTT	**Hallett**	**36.25**	**248**	P	**P**	**01 01 06.3**	**-0.3**
COEN	**Coen**	**36.43**	**282**	P	**P**	**01 01 08.6**	**+0.3**
COEN				IAmb	IAmb	01 01 09.5	
	comp=Z,11nm,0.7s						
LCRK	**Leigh Creek**	**36.92**	**253**	P	**P**	**01 01 12.5**	**+0.4**
QIS	**Mount Isa**	**37.35**	**270**	P	**P**	**01 01 16.0**	**+0.2**
BBOO	**Buckleboo**	**38.66**	**249**	P	**P**	**01 01 25.4**	**-0.9**
BBOO				IAmb	IAmb	01 01 26.6	
	comp=Z,31nm,1.2s						
BBOO	**Buckleboo**	**38.66**	**249**	P	**P**	**01 01 25.4**	**-0.9**
OOD	**Oodnadatta**	**39.38**	**257**	P	**P**	**01 01 32.7**	**+0.5**
MULG	**Mulgathing**	**40.51**	**253**	P	**P**	**01 01 40.5**	**-0.9**
TAOE	**Nuku Hiva Isla**	**41.47**	**73**	P	**P**	**01 01 48.5**	**-0.8**
AS31	**Alice Springs**	**41.70**	**263**	P	**P**	**01 01 50.6**	**-0.4**
ASAR	**Alice Springs**	**41.70**	**263**	P	**P**	**01 01 50.8**	**-0.2**
	comp=Z,7.2nm,0.4s,baz=91,slow=7.6,SNR=138						
ASAR				PcP	**PcP**	**01 03 35.7**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=107,slow=4.8,SNR=5.4						
ASAR				ScP	**ScP**	**01 06 40.6**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=105,slow=3.7,SNR=7.2						
ASAR				S	**S**	**01 07 32.1**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=98,slow=16,SNR=12						
	comp=Z,7.2nm,0.4s						
WR0	**Warramunga Arr**	**42.08**	**268**	P	**P**	**01 01 53.2**	**-0.7**
WR0				IAmb	IAmb	01 01 55.6	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**42.26**	**268**	P	**P**	**01 01 54.5**	**-0.9**
WRA	**Warramunga Arr**	**42.26**	**268**	P	**P**	**01 01 54.5**	**-0.9**
	comp=Z,8.9nm,0.5s,baz=100,slow=7.3,SNR=161						
WRA				PcP	**PcP**	**01 03 38.6**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=109,slow=3.2,SNR=5.2						
WRA				ScP	**ScP**	**01 06 44.7**	**+1.0**
	comp=Z,2.4nm,1.1s,baz=111,slow=4.0,SNR=4.9						
WRA				S	**S**	**01 07 38.6**	**-2.5**
	comp=Z,2.2nm,0.9s,baz=98,slow=15,SNR=7.2						
	comp=Z,8.9nm,0.5s						
FORT	**Forrest**	**45.60**	**251**	P	**P**	**01 02 20.1**	**-1.2**
FORT	**Forrest**	**45.60**	**251**	P	**P**	**01 02 20.1**	**-1.2**
WRKA	**Warakurna**	**46.39**	**259**	P	**P**	**01 02 26.4**	**-1.1**
KDU	**Kakadu**	**46.46**	**277**	P	**P**	**01 02 27.1**	**-0.9**
MTN	**Manton Dam**	**47.59**	**276**	P	**P**	**01 02 35.0**	**-1.6**
MTN	**Manton Dam**	**47.59**	**276**	P	**P**	**01 02 36.9**	**+0.3**
KNRA	**Kununurra**	**48.66**	**272**	P	**P**	**01 02 44.4**	**-0.2**
KNRA				IAmb	IAmb	01 02 45.5	
	comp=Z,37nm,0.8s						
KNRA	**Kununurra**	**48.66**	**272**	P	**P**	**01 02 44.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.66**	**267**	P	**P**	**01 02 59.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.66**	**267**	P	**P**	**01 02 59.9**	**+0.5**
FAKI	**Fak Fak**	**51.14**	**288**	P	**P**	**01 03 01.8**	**-1.2**
FAKI				IAmb	IAmb	01 03 42.7	
	comp=Z,37nm,1.3s						
FAKI	**Fak Fak**	**51.14**	**288**	P	**P**	**01 03 02.1**	**-0.9**
VNDA	**Vanda**	**52.39**	**185**	P	**P**	**01 03 11.0**	**0.0**
VNDA	**Vanda**	**52.39**	**185**	P	**P**	**01 03 11.8**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=40,slow=7.2,SNR=2.6						
	comp=Z,1.0nm,0.7s						
SIJI	**Sorong**	**53.05**	**290**	P	**P**	**01 03 15.7**	**-1.0**
	comp=Z,53nm,0.8s						
SWI	**Sorong**	**53.06**	**290**	P	**P**	**01 03 15.5**	**-1.3**
	comp=Z,79nm,0.9s,comp=Z,1um						
KLBR	**Kellerberrin**	**54.20**	**249**	P	**P**	**01 03 23.7**	**-1.0**
NWAO	**Narrogin (SRO)**	**54.39**	**247**	P	**P**	**01 03 24.5**	**-1.5**
NWAO				IAmb	IAmb	01 03 28.5	
	comp=Z,93nm,1.2s						
MEEK	**Meekatharra**	**54.52**	**255**	P	**P**	**01 03 25.9**	**-1.2**
SOEI	**Soe**	**54.99**	**276**	P	**P**	**01 03 30.7**	**+0.1**
SOEI				IAmb	IAmb	01 03 32.7	
	comp=Z,34nm,1.0s						
SOEI	**Soe**	**54.99**	**276**	P	**P**	**01 03 31.9**	**+1.2**
BLDU	**Ballidu**	**55.27**	**250**	P	**P**	**01 03 31.5**	**-0.7**
MUN	**Mundaring**	**55.42**	**248**	P	**P**	**01 03 32.5**	**-0.8**
MORW	**Morawa**	**56.17**	**251**	P	**P**	**01 03 37.4**	**-1.2**
MORW	**Morawa**	**56.17**	**251**	P	**P**	**01 03 37.7**	**-0.8**
SANI	**Sanana**	**56.97**	**285**	P	**P**	**01 03 41.7**	**-2.6**
	comp=Z,25nm,0.8s						
GIRL	**Giralia**	**59.44**	**258**	P	**P**	**01 04 01.0**	**+0.1**
TOLI2	**Tolitoli**	**63.05**	**286**	P	**P**	**01 04 23.1**	**-1.7**
TOLI2				IAmb	IAmb	01 04 25.5	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**64.19**	**180**	P	**P**	**01 04 32.0**	**+0.5**
QSPA				IAmb	IAmb	01 04 37.4	
	comp=Z,16nm,1.5s						
QSPA	**South Pole Qui**	**64.19**	**180**	P	**P**	**01 04 32.4**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=55,slow=1.1,SNR=18						
QSPA				S	**S**	**01 12 31.6**	**+0.8**
	comp=Z,1.1nm,1.0s,baz=1.8,slow=19,SNR=1.8						
	comp=Z,4.1nm,0.8s						
JAGI	**Jajag, Banyuwa**	**64.61**	**273**	P	**P**	**01 04 33.6**	**-1.3**
UGM	**Wanagama**	**68.10**	**272**	P	**P**	**01 04 55.9**	**-0.8**
MJAR	**Matsushiro Arr**	**73.52**	**326**	P	**P**	**01 05 27.8**	**-0.3**
	comp=Z,10nm,0.9s,baz=160,slow=5.6,SNR=19						
	comp=Z,10nm,0.9s						
ADK	**Adak**	**77.50**	**2**	P	**P**	**01 05 49.5**	**-0.4**
JKA	**Kamikawa-asahi**	**77.62**	**333**	P	**P**	**01 05 52.4**	**+1.6**
JKA				IAmb	IAmb	01 06 06.7	
	comp=Z,38nm,1.4s						
TJN	**Taejon**	**79.33**	**319**	P	**P**	**01 06 00.5**	**+0.4**
KSRS	**Korea Array**	**79.75**	**320**	P	**P**	**01 06 03.4**	**+1.0**
	comp=Z,7.0nm,0.7s,baz=132,slow=5.6,SNR=23						
	comp=Z,7.0nm,0.7s						
KSAR	**Wonju Array Be**	**79.76**	**320**	P	**P**	**01 06 03.0**	**+0.5**
BKNI	**Bangkinang**	**80.17**	**275**	P	**P**	**01 06 01.9**	**-3.2**
PEA0B	**Petropavlovsk-**	**81.02**	**347**	P	**P**	**01 06 09.3**	**+0.6**
PEA0B				IAmb	IAmb	01 06 25.5	
	comp=Z,43nm,1.2s						
PETK	**Petropavlovsk-**	**81.02**	**347**	P	**P**	**01 06 08.7**	**+0.1**
PETK	**Petropavlovsk-**	**81.02**	**347**	P	**P**	**01 06 09.1**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=115,slow=7.1,SNR=18						
	comp=Z,3.4nm,0.6s						
ELIB	**Princess Elisa**	**81.08**	**187**	*d*P	**P**	**01 06 09.3**	**+0.3**
NJ2	**Nanjing**	**81.94**	**311**	*e*P	**P**	**01 06 17.0**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
USRK	**Ussuriysk Ar.**	**82.41**	**327**	P	**P**	**01 06 16.2**	**+0.3**
USRK	**Ussu

SONM Songino Array 98.58 319 P Pdif 01 07 29.6 -1.9
comp=Z,0.4nm,0.8s,baz=160,slow=4.6,SNR=1.9
comp=Z,0.4nm,0.8s
MKAR Makanchi Array 113.46 312 Pdiff **Pdif 01 08 38.1 +0.5**
comp=Z,0.1nm,0.5s,baz=90,slow=7.2,SNR=2.5
MKAR PKiKP **PKiKP 01 12 26.6 -1.2**
comp=Z,0.4nm,0.4s,baz=103,slow=1.3,SNR=10
MKAR SKP 01 15 17.2
comp=Z,0.6nm,0.8s,baz=66,slow=2.9,SNR=5.8
KURBB Kurchatov Arra 116.64 316 PKP **PKPdf 01 12 31.9 -1.8**
comp=Z,1.2nm,0.6s,baz=62,slow=3.0,SNR=7.3
KURBB SKP 01 15 22.9
comp=Z,1.0nm,0.3s,baz=107,slow=2.1,SNR=4.4
BOSA Boshof 120.59 206 PKP **PKPdf 01 12 41.0 -1.3**
comp=Z,1.6nm,0.9s,baz=152,slow=5.1,SNR=3.8
KBL Kabul 120.70 296 PKPdf **PKPdf 01 12 42.0 -0.4**
KK31 Karatay Array 121.02 305 PKPdf **PKPdf 01 12 41.8 -0.6**
KKAR Karatay Array 121.02 306 **PKPdf 01 12 42.0 -0.5**
BVAR Borovoye Array 121.89 318 PKP **PKPdf 01 12 42.7 -1.1**
comp=Z,2.9nm,0.4s,baz=132,slow=1.8,SNR=27
SPA0 Spitsbergen Ar 127.10 356 *e*PKPdf **PKPdf 01 12 52.9 -0.3**
SPITS Spitsbergen Ar 127.10 356 PKP **PKPdf 01 12 52.8 -0.3**
comp=Z,14nm,0.9s,baz=104,slow=6.1,SNR=6.5
HOPEN Hopen 127.86 353 *e*PKPdf **PKPdf 01 12 54.4 -0.1**
GEYT Alibeck 129.91 299 PKP **PKPdf 01 12 59.2 -0.4**
comp=Z,1.3nm,0.7s,baz=12,slow=11,SNR=3.6
GEYT SKPbc SKPab 01 15 38.7 +1.1
comp=Z,5.4nm,0.7s,baz=93,slow=7.9,SNR=12
ARCES ARCESS Array B 133.82 348 PKhKP PKPpre 01 12 58.6
comp=Z,1.4nm,0.5s,baz=70,slow=3.0,SNR=9.5
ARCES PKP **PKPdf 01 13 05.1 -0.9**
comp=Z,4.1nm,1.1s,baz=98,slow=3.3,SNR=8.4
ARCES SKPab **SKPbc 01 15 50.1 +0.1**
comp=Z,4.6nm,0.8s,baz=31,slow=4.2,SNR=7.6
KTK1 Kautokeino 134.69 348 *e*PKPdf **PKPdf 01 13 08.3 +0.6**
TRO Tromso 134.84 351 *e*PKPdf **PKPdf 01 13 08.0 +0.1**
FINES FINESS Array B 140.31 341 PKhKP PKPpre 01 13 11.3
comp=Z,2.0nm,0.5s,baz=49,slow=4.2,SNR=30
FINES PKP **PKPdf 01 13 19.2 +1.0**
comp=Z,1.3nm,0.4s,baz=10.0,slow=2.4,SNR=5.3
FINES SKPbc **SKPbc 01 16 09.7 +0.6**
comp=Z,2.3nm,0.7s,baz=26,slow=3.5,SNR=3.9
NSS Namsos 140.59 352 *e* **PKPdf 01 13 12.4 -6.1**
MEF Metsahovi 141.79 340 *e*P **PKPdf 01 13 17.7 -3.1**
RAF Rauma 141.87 343 *e*P **PKPdf 01 13 16.2 -4.7**
VSU Vasula 142.39 337 *e*P **PKPdf 01 13 18.2 -3.7**
GURO Guroymak-BITLI 142.54 300 PKPdf **PKPdf 01 13 21.2 -1.8**
MOL Molde 142.99 354 *e*PKPdf **PKPdf 01 13 21.2 -1.6**
MTSE Matsula 143.17 339 *e*P PKPab 01 13 21.1 +0.2
DOMB Dombas 143.35 353 *e*PKPbc PKPab 01 13 21.4 -0.1
AKN Aaknes 143.42 354 *e*PKPbc PKPbc 01 13 22.1 +0.1
NB2 NORSAR Subarra144.04 351 PKP PKPbc 01 13 23.3 -0.7
comp=Z,3.9nm,0.4s,baz=15,slow=3.1
NOA NORSAR Array B144.04 351 PKP PKPbc 01 13 23.3 -0.8
comp=Z,0.5nm,0.4s,baz=28,slow=4.6,SNR=49
FOO Floro 144.14 356 *e*PKPbc PKPbc 01 13 24.3 +0.1
NC602 NORSAR Array S144.28 350 *e*PKPbc PKPbc 01 13 24.0 -0.8
HFS Hagfors 144.49 348 PKP PKPbc 01 13 24.4 -1.0
comp=Z,8.4nm,0.4s,baz=64,slow=3.4,SNR=93
HYA Hoyanger 144.49 355 *e*PKPbc PKPbc 01 13 25.3 -0.1
SLIT Slitere, Latvi 144.53 339 *e*P PKPbc 01 13 24.1 -1.5
SUE Sulen 144.70 356 *e*PKPdf **PKPdf 01 13 25.9 0.0**
SKAR Skarslia 144.76 353 *e*PKPdf PKPbc 01 13 26.5 +0.2
OSL Oslo 145.17 351 *e*PKPdf **PKPbc 01 13 27.3 -0.1**
VSVD Vaisvydziai 145.27 336 *e*P **PKPdf 01 13 26.3 -0.7**
BER Bergen 145.33 355 *e*PKPdf **PKPbc 01 13 27.9 -0.1**
KONO Kongsberg 145.60 351 *e*PKPbc **PKPbc 01 13 28.8 0.0**
PABE Paberze 145.62 336 **PKPbc 01 13 28.9 0.0**
PABE Paberze 145.62 336 *e*P **PKPdf 01 13 27.3 -0.3**
ODD1 Odda 145.69 354 *e*PKPdf **PKPbc 01 13 28.8 -0.3**
PBUR Paburge 145.94 338 *e*P **PKPdf 01 13 26.9 -1.2**
STRU Stroemstad 145.96 350 *i* P **PKPdf 01 13 28.9 +0.8**
KMY Karmoy 146.50 355 *e*PKPab **PKPab 01 13 33.9 +0.3**
GAZ Gaziantep 146.51 299 **PKPbc 01 13 32.3 +0.1**
AKASG Malin Array Be 146.60 326 PKPbc **PKPbc 01 13 31.2 -0.6**
comp=Z,3.2nm,0.4s,baz=45,slow=4.1,SNR=30
AKBB Malin Array Si 146.60 326 **PKPbc 01 13 31.3 -0.5**
KIEV Kiev 146.62 326 **PKPbc 01 13 31.3 -0.6**
BORU Boraas 146.99 347 *i* P **PKPdf 01 13 31.1 +1.3**
SUW Suwalki 147.05 335 *e*P **PKPdf 01 13 30.2 +0.1**
SNART Snartemo 147.18 353 *e*PKPbc **PKPbc 01 13 33.5 +0.3**
BNN Bunyan 147.26 302 **PKPbc 01 13 34.2 -0.1**
ONAU Onsala 147.38 348 *i* P **PKPbc 01 13 32.2 -1.5**
BLEU Blekinge 147.52 344 *i* P **PKPdf 01 13 32.1 +1.3**
FABU Falkenberg 147.59 347 *i* P **PKPbc 01 13 33.2 -1.1**
DEL Delary 147.84 345 *i* P **PKPbc 01 13 34.4 -0.6**
MMAI Mount Meron Ar 148.43 291 PKPbc **PKiKP 01 13 38.0 -0.5**
comp=Z,11nm,0.5s,baz=80,slow=6.9,SNR=79
LUNU Lund 148.70 345 *i* P **PKPbc 01 13 36.6 -0.5**
BR131 Keskin Array S 148.71 305 **PKPbc 01 13 37.6 -0.3**
BRTR Keskin Array B 148.71 305 PKPbc **PKPbc 01 13 37.6 -0.3**
comp=Z,1.8nm,0.5s,baz=125,slow=2.0,SNR=27
BSD Bornholm Skovb 148.81 340 *i* P **PKPbc 01 13 36.6 -0.8**
CSS Mathiatis 148.94 296 **PKPbc 01 13 40.4 -0.4**
KWP Kalwaria Pacla 150.47 329 **PKPbc 01 13 41.2 -0.4**
EKA Eskdalemuir Ar 150.51 4 PKPbc **PKPbc 01 13 41.0 -0.5**
comp=Z,2.4nm,0.4s,baz=339,slow=2.5,SNR=44
BUR08 Bucovina Ar. S 150.56 324 **PKiKP 01 13 42.4 -0.1**
BURAR Bucovina Array 150.57 324 **PKiKP 01 13 42.7 +0.2**
KOLS Kolonicke sedl 151.17 329 *e*PKP **PKiKP 01 13 44.0 +0.4**
OJC Ojcow 151.30 333 **PKPbc 01 13 43.6 +0.1**
OSTC Ostas 152.39 337∏ *e*PKP **PKPbc 01 13 45.8 -0.1**
CHVC Chvalec 152.41 338∏ *e*PKP **PKPbc 01 13 45.0 -1.0**
UPC Upice 152.50 338∏ *e*PKP **PKPbc 01 13 46.2 +0.1**
UPC *e*PKPAB **PKPab 01 13 55.7 -3.0**
DPC Dobruska-Polom 152.52 337∏ *e*PKP **PKiKP 01 13 46.4 0.0**
DPC *e*PKPAB **PKPab 01 13 59.4 +0.5**
KRLC Kraliky 152.59 336∏ *e*PKP **PKPbc 01 13 46.1 -0.3**
CLL Collm 152.74 342 *i* PKPbc **PKPbc 01 13 46.6 0.0**
comp=Z,5.0nm,0.7s
CLL *i* PKPab **PKPab 01 13 59.7 0.0**
comp=Z,6.0nm,0.9s
CLL *e*pPKPdf **pPKPdf 01 15 34.0 +1.9**
PRU Pruhonice 153.44 339∏ *e*PKP **PKPbc 01 13 48.2 0.0**
KHC Kasperske Hory 154.49 339∏ *e*PKP **PKiKP 01 13 50.5 0.0**
KHC *e*PKPAB **PKPab 01 14 06.1 -1.2**
CKRC Cesky Krumlov 154.52 338∏ *e*PKP **PKPbc 01 13 50.6 +0.1**
CKRC *e*PKPAB **PKPab 01 14 07.8 +0.4**
CONA Conrad Observa 154.69 334 *e*PKP **PKPab 01 14 09.0 +0.7**
comp=Z,0.9nm,0.4s
GERES GERESS Array B 154.70 338 PKPbc **PKiKP 01 13 50.5 -0.5**
comp=Z,0.5nm,0.6s,baz=0.8,slow=6.9,SNR=1.7
GERES PKPab **PKPab 01 14 08.1 -0.2**
comp=Z,0.7nm,0.6s,baz=356,slow=4.0,SNR=3.7
WTTA Wattenberg 156.75 340 *e*PKP **PKPab 01 14 17.6 +0.3**
comp=Z,3.9nm,0.8s
MOTA Moosalm 156.84 340 *e*PKP **PKPab 01 14 18.0 +0.3**
comp=Z,5.6nm,0.9s
SQTA Sankt Quirin 156.93 340 *e*PKP **PKPab 01 14 18.4 +0.4**
comp=Z,6.5nm,1.3s
DAVA Damuels 157.25 342 *e*PKP **PKPab 01 14 19.8 +0.4**
comp=Z,1.7nm,0.4s
FUORN Ofenpass-Fuorn 157.75 341 **PKPab 01 14 22.5 +0.8**
ESDC Sonseca Array 165.88 12 PKPab **PKPab 01 14 56.8 -0.5**
comp=Z,1.6nm,1.0s,baz=316,slow=4.1,SNR=5.0
TORD Torodi Ar. Bea 167.21 188 PKP **PKPdf 01 13 55.2 -0.9**
comp=Z,0.9nm,0.7s,baz=177,slow=0.8,SNR=5.1
TORD PKPab **PKPab 01 15 03.3 -0.3**
comp=Z,1.0nm,0.7s,baz=170,slow=3.8,SNR=6.2
KEST Kesra 167.31 323 PKPab **PKPab 01 15 03.9 0.0**
comp=Z,3.7nm,1.0s,baz=93,slow=11,SNR=4.6

WEL 14 00:56:08.2,38°S±11°×177°E±1°2, h120km±18km, M2.4/42, MLv2.4/42, Error ellipse: s-maj=0.0km s-min=0.0km az=127.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMRZ	**Omania**	**0.19**	**316**	P	Pn	00 56 24.3	-0.6
MUGZ	**Murupara**	**0.30**	**142**	P	Pn	00 56 25.7	+0.5
ALRZ	**Allen Road**	**0.36**	**205**	P	Pn	00 56 26.2	+0.8
URZ	**Urewera**	**0.45**	**93**	P	Pn	00 56 25.3	-0.6
RTZ	**Ruatahuna**	**0.51**	**137**	P	Pn	00 56 27.0	+0.6
MRHZ	**Matea Rd**	**0.60**	**189**	P	Pn	00 56 27.9	+1.0
MTHZ	**Maungataniwha**	**0.66**	**159**	P	Pn	00 56 28.4	+1.1
RAGZ	**Rawiri**	**0.74**	**111**	P	Pn	00 56 28.2	+0.2
MWZ	**Matawai**	**0.79**	**97**	P	Pn	00 56 28.0	-0.4
TLZ	**Tolley Road**	**0.79**	**263**	P	Pn	00 56 27.5	-0.9
RAHZ	**Arahi**	**0.80**	**148**	P	Pn	00 56 29.9	+1.5
SNGZ	**Shannon Statio**	**0.83**	**131**	P	Pn	00 56 29.7	+1.0
NMHZ	**Naumai**	**0.88**	**166**	P	Pn	00 56 31.2	+1.9
RUGZ	**Raukumara Rang**	**0.94**	**73**	P	Pn	00 56 26.8	-3.0
WHHZ	**Waihua**	**1.00**	**147**	P	Pn	00 56 31.5	+1.3
RIGZ	**Rimuhau**	**1.07**	**116**	P	Pn	00 56 31.3	+0.3
ARHZ	**Aropaoanui**	**1.08**	**161**	P	Pn	00 56 32.5	+1.4
NTVZ	**North Tongarir**	**1.09**	**218**	P	Pn	00 56 31.8	+0.5
TMVZ	**Te Maari**	**1.09**	**216**	P	Pn	00 56 31.8	+0.5
HAZ	**Te Kaha**	**1.10**	**64**	P	Pn	00 56 27.6	-3.6
ETVZ	**East Tongariro**	**1.10**	**216**	P	Pn	00 56 31.7	+0.2
WTVZ	**West Tongariro**	**1.15**	**220**	P	Pn	00 56 32.0	+0.1
OTVZ	**Oturere**	**1.15**	**216**	P	Pn	00 56 32.3	+0.4
SNVZ	**South Ngauruho**	**1.18**	**216**	P	Pn	00 56 32.6	+0.3
KNZ	**Kokohu**	**1.19**	**132**	P	Pn	00 56 32.6	+0.5
KWHZ	**Kaweka Forest**	**1.19**	**184**	P	Pn	00 56 33.2	+0.9
MCHZ	**McNeill Hill**	**1.21**	**174**	P	Pn	00 56 33.8	+1.4
TUVZ	**Tukino**	**1.24**	**214**	P	Pn	00 56 33.1	+0.2
PRGZ	**Paritu Road**	**1.26**	**123**	P	Pn	00 56 33.1	+0.2
PKGZ	**Pakihiroa**	**1.27**	**74**	P	Pn	00 56 30.3	-2.8
BHHZ	**Black Hill Sta**	**1.30**	**196**	P	Pn	00 56 33.6	+0.2
TRVZ	**Turoa**	**1.31**	**216**	P	Pn	00 56 33.9	+0.1
WNVZ	**Wahianoa**	**1.31**	**214**	P	Pn	00 56 33.5	-0.2
MOVZ	**Moawhango**	**1.32**	**207**	P	Pn	00 56 33.7	0.0
KRHZ	**Kereru**	**1.41**	**185**	P	Pn	00 56 35.3	+0.7
MHGZ	**Mahia Peninsul**	**1.41**	**131**	P	Pn	00 56 35.0	+0.4
MTVZ	**Mangateitei**	**1.42**	**216**	P	Pn	00 56 34.6	-0.2
CKHZ	**Cape Kidnapper**	**1.48**	**164**	P	Pn	00 56 36.3	+0.9
WMGZ	**Waiomatatini S**	**1.54**	**75**	P	Pn	00 56 32.7	-3.4
MXZ	**Matakaoa Point**	**1.56**	**65**	P	Pn	00 56 32.3	-4.0
MXZ	**Matakaoa Point**	**1.56**	**65**	P	Pn	00 56 32.4	-3.9
KAHZ	**Kahuranaki**	**1.57**	**170**	P	Pn	00 56 37.3	+0.8
PNHZ	**Pukenui**	**1.69**	**189**	P	Pn	00 56 37.6	-0.4
PXZ	**Pawanui**	**1.81**	**172**	P	Pn	00 56 39.5	+0.2
WPHZ	**Waipukurau**	**1.82**	**182**	P	Pn	00 56 39.2	-0.3
TSZ	**Takapari Road**	**1.87**	**194**	P	Pn	00 56 39.5	-0.6
PRHZ	**Porangahau**	**2.03**	**178**	P	Pn	00 56 41.6	-0.4
OVHZ	**Dannevirke**	**2.08**	**188**	P	Pn	00 56 41.6	-1.0
ANWZ	**Angora Road**	**2.22**	**181**	P	Pn	00 56 43.8	-0.6
POWZ	**Post Office Ro**	**2.23**	**195**	P	Pn	00 56 43.4	-1.2
PRWZ	**Pori Road**	**2.35**	**191**	P	Pn	00 56 45.1	-1.0
BFZ	**Birch Farm**	**2.45**	**185**	P	Pn	00 56 46.0	-1.3
MRZ	**Mangatainoka R**	**2.53**	**197**	P	Pn	00 56 46.2	-2.1
HOWZ	**Holdsworth Sta**	**2.77**	**196**	P	Pn	00 56 48.9	-2.6
OGWZ	**Otaki Gorge**	**2.78**	**202**	P	Pn	00 56 49.0	-2.7
KIW	**Kapiti Island**	**2.90**	**205**	P	Pn	00 56 50.2	-3.1
TMWZ	**Te Maipa**	**2.91**	**190**	P	Pn	00 56 50.9	-2.4
MTW	**Mount Morrison**	**3.02**	**195**	P	Pn	00 56 51.7	-3.1
CAW	**Cannon Point**	**3.08**	**201**	P	Pn	00 56 52.3	-3.2
PLWZ	**Palliser**	**3.47**	**196**	P	Pn	00 56 56.8	-3.9
TUWZ	**Tuamarina**	**3.76**	**211**	P	Pn	00 57 01.5	-3.0
OKCZ	**Okains Bay**	**6.08**	**205**	P	Pn	00 57 32.3	-3.4

NEIC 14 00:59:22.2±0.6, 37°18N±0°.01×97°.86W±0°.02, h6km±3km, Error ellipse: s-maj=2.7km s-min=1.2km az=65.0
NEIC 14 00:59:22.5±0.5, 37°.175N±0°.009×97°.84W±0°.02, h4km±3km, ML2.5/44, ML2.3/18, Error ellipse: s-maj=2.6km s-min=1.1km az=69.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN01	**Argonia South**	**0.07**	**108**	Pg	Pg	00 59 24.3	+0.2
KAN01				Sg	Sg	00 59 25.5	+0.4
KAN05	**Bluff City Nor**	**0.07**	**200**		Pg	00 59 24.3	+0.3
KAN05				Sg	Sg	00 59 25.5	+0.5
KAN05				IAML		00 59 26.2	
	comp=N,3μm,0.2s						
KAN06	**Argonia West S**	**0.07**	**350**		Pg	00 59 24.3	+0.2
KAN06				Sg	Sg	00 59 25.6	+0.4
KAN06				IAML		00 59 25.8	
	comp=E,3μm,0.1s						
KAN08	**Anthony NE Sta**	**0.12**	**297**	Pg	Pg	00 59 25.1	+0.3
KAN08				Sg	Sg	00 59 27.0	+0.6
KAN08				IAML		00 59 27.2	
	comp=N,2μm,0.3s						
KAN08				IAML		00 59 27.3	
	comp=E,2μm,0.1s						
KAN17	**Caldwell West**	**0.14**	**154**	Pg	Pg	00 59 25.6	+0.3
KAN17				IAML		00 59 28.2	
	comp=E,1μm,0.3s						
KAN17				IAML		00 59 29.4	
	comp=N,2μm,0.3s						
KAN12	**Harper NE Stat**	**0.17**	**315**	Pg	Pg	00 59 26.2	+0.3
KAN12				IAML		00 59 30.5	
	comp=N,1μm,0.3s						
KAN12				IAML		00 59 31.8	
	comp=E,963nm,0.3s						
KS21	**Milan North St**	**0.18**	**52**	Pg	Pg	00 59 26.4	+0.3
KAN09	**Caldwell North**	**0.18**	**102**		Pg	00 59 26.4	+0.3
KAN09				IAML		00 59 29.9	
	comp=E,1μm,0.3s						
KAN09				IAML		00 59 30.2	
	comp=N,1μm,0.2s						
KAN10	**Anthony SW Sta**	**0.21**	**256**		Pg	00 59 26.8	+0.3
KAN14	**Manchester OK**	**0.24**	**204**	Pg	Pg	00 59 27.4	+0.3
KAN14				IAML		00 59 31.0	
	comp=E,728nm,0.2s						
KAN14				IAML		00 59 31.1	
	comp=N,824nm,0.1s						
GC02	**Grant County #**	**0.32**	**182**	Pg	Pg	00 59 28.9	+0.2
KAN13	**South Haven SW**	**0.33**	**119**	Pg	Pg	00 59 29.1	+0.2
KAN13				IAML		00 59 34.0	
	comp=E,719nm,0.3s						
KAN13				IAML		00 59 34.1	
	comp=N,728nm,0.2s						
OK032	**Salt Plains WL**	**0.47**	**219**	Pg	Pg	00 59 31.7	+0.1
OK032				IAML		00 59 39.0	
	comp=N,250nm,0.2s						
BLOK	**Blackwell**	**0.65**	**129**		Pg	00 59 35.0	0.0
BLOK				IAML		00 59 46.3	
	comp=E,262nm,0.2s						
BLOK				IAML		00 59 46.6	
	comp=N,219nm,0.2s						
CROK	**Carrier**	**0.68**	**190**		Pg	00 59 35.5	0.0
CROK				IAML		00 59 45.0	
	comp=N,244nm,0.4s						
CROK				IAML		00 59 46.0	
	comp=E,178nm,0.3s						
OK038	**West end E0370**	**1.00**	**226**	Pg	Pg	00 59 41.4	-0.3
OK048	**Pawnee Station**	**1.05**	**136**	Pg	Pg	00 59 42.2	-0.3
OK048				IAML		00 59 56.1	
	comp=E,76nm,0.3s						
OK051	**E0350 and S346**	**1.05**	**129**		Pg	00 59 42.5	-0.1
T35A	**Sooner Cattle**	**1.10**	**103**		Pg	00 59 43.0	-0.5
T35A				IAML		00 59 57.7	
	comp=E,76nm,0.3s						
T35A				IAML		01 00 02.7	
	comp=N,96nm,0.3s						
U32A	**Winter Ranch,**	**1.22**	**230**		Pg	00 59 45.1	-0.8
OK033	**Mehan**	**1.34**	**147**		Pn	00 59 47.2	-0.8
QUOK	**Quay**	**1.35**	**137**		Pn	00 59 47.5	-0.7
OK029	**Liberty Lake**	**1.41**	**167**		Pn	00 59 48.3	-0.7
R32A	**Long Quarter,**	**1.42**	**331**		Pn	00 59 48.7	-0.5
OK052	**Battle Ridge R**	**1.45**	**144**		Pn	00 59 49.2	-0.8
DEOK	**Depew**	**1.71**	**140**		Pn	00 59 52.8	-0.3
TUL3	**Leonard**	**2.08**	**127**	Pn	Pn	00 59 58.8	+0.7
KSU1	**Kansas State U**	**2.15**	**26**	Pn	Pn	01 00 00.2	+1.0
W35A	**Tecumseh**	**2.17**	**158**		Pn	00 59 59.4	+0.1
CBKS	**Cedar Bluff**	**2.22**	**318**	Pn	Pn	00 59 59.8	-0.3
RLO	**Rose Lookout**	**2.48**	**113**	Pn	Pn	01 00 03.8	+0.1
WMOK	**Wichita Mounta**	**2.55**	**198**	Pn	Pn	01 00 04.7	+0.1
U38A	**Gravette**	**2.87**	**104**	Pn	Pn	01 00 09.0	-0.1
HHAR	**Hobbs**	**3.26**	**105**	Pn	Pn	01 00 15.4	+1.0
S39A	**Bolivar**	**3.63**	**80**	Pn	Pn	01 00 20.0	+0.4

IDC 14 01:00:30.8±8.9, 15°.61S×167°.26E, h115km±106km, mb3.4/3, mbtmp3.7/4, ML3.8/1, MS4.1/1, Error ellipse: s-maj=100.2km s-min=52.0km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.47**	**187**	P	Pn	01 02 04.6	+0.9
	2.1nm,0.3s,baz=15,slow=20,SNR=24						
DZM				S	Sn	01 03 15.3	-0.9
	2.8nm,0.5s,baz=300,slow=20,SNR=1.1 5.5nm,0.5s						
HNR	**Honiara**	**9.41**	**310**	LR	LR	01 06 24.5	
	comp=Z,1μm,20.2s,baz=68,slow=38						
WRA	**Warramunga Arr**	**31.61**	**257**	P	P	01 06 42.4	-0.6
	0.4nm,0.5s,baz=85,slow=8.1,SNR=2.9 0.4nm,0.5s						
ASAR	**Alice Springs**	**32.36**	**250**	P	P	01 06 49.9	+0.3
	1.8nm,0.7s,baz=74,slow=8.9,SNR=10 1.8nm,0.7s						
SONM	**Songino Array**	**83.19**	**324**	P	P	01 12 44.3	0.0
	0.2nm,0.5s,baz=104,slow=4.6,SNR=2.1 0.2nm,0.5s						

ISN 14 01:01:01.7±0.5, 33°.74N×45°.67E, h9km±2km, ML2.5
TEH 14 01:01:01.7, 33°.75N×45°.68E, h10km±182km, ML2.5
ISC 14 01:01:01.9±1.0, 33°.74N±0°.04×45°.67E±0°.05, h13km, n10, σ0s66/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**105**	Pg	**Pg**	**01 01 10.8**	**-0.3**
IBDR	**Badra**	**0.67**	**161**	*e*Pg	**Pg**	**01 01 15.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**01 01 24.0**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.76**	**355**	Pg	**Pg**	**01 01 17.0**	**+0.3**
IDHR	**Dehrash**	**1.12**	**32**	Pg	**Pb**	**01 01 22.0**	**-1.3**
BHD	**Baghdad**	**1.18**	**247**	*e*Pg	**Pn**	**01 01 24.0**	**0.0**
BHD				*e*Sg	**Sn**	**01 01 40.5**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.26**	**65**	Pg	**Pg**	**01 01 26.1**	**0.0**
ILIN	**Lien**	**1.59**	**42**	Pg	**Pb**	**01 01 31.0**	**-0.3**
IKOM	**Komasi**	**1.59**	**74**	Pg	**Pb**	**01 01 32.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.83**	**96**	Pn	**Pb**	**01 01 34.9**	**-0.3**
RAFI	**Al-Rafai**	**2.05**	**169**	*e*Pn	**Pb**	**01 01 38.0**	**-1.0**
RAFI				*e*Sn	**Sb**	**01 02 05.0**	**+0.6**

AEIC 14 01:13:02.4±1.3, 50°.4N±0°.2×170°.71W±0°.06, h9km±9km, Error ellipse: s-maj=23.4km s-min=2.0km az=167.0
NEIC 14 01:13:01.1±1.4, 50°.7N±0°.2×170°.79W±0°.09, h17km±9km, ML3.6/6, MLB3.6(AEIC), Error ellipse: s-maj=23.2km s-min=7.0km az=170.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**2.63**	**309**		Pn	01 13 43.2	+0.4
ATKA	**Atka Island**	**2.64**	**307**		Pn	01 13 42.4	-0.4
ATKA				IAML		01 14 18.6	
	comp=E,118nm,1.0s						
ATKA	**Atka Island**	**2.64**	**307**		Sn	01 14 13.5	-0.9
KOSE	**Korovin Southe**	**2.65**	**311**		Pn	01 13 43.4	+0.4
KOKL	**Mount Kliuchef**	**2.71**	**309**		Pn	01 13 44.3	+0.4
KOWE	**Korovin West**	**2.76**	**310**		Pn	01 13 45.3	+0.8
OKWR	**Okmok West Rim**	**3.21**	**29**		Pn	01 13 50.5	-0.3
OKFG	**Magazine Ridge**	**3.28**	**32**		Sn	01 14 29.2	-1.0
GSMY	**Great Sitkin M**	**3.59**	**295**		Pn	01 13 55.5	-0.4
GSTR	**Great Sitkin T**	**3.61**	**296**	Pn	Pn	01 13 56.6	+0.5
GSCK	**Great Sitkin C**	**3.64**	**294**		Pn	01 13 55.9	-0.6
ADK	**Adak**	**3.90**	**291**	IAML		01 14 46.3	
	comp=E,139nm,0.3s						
ADK	**Adak**	**3.90**	**291**		Pn	01 13 59.2	-1.0
ADK					Sn	01 14 42.3	-3.2
MAPS	**Pakushin South**	**3.95**	**35**		Pn	01 14 00.4	-0.4
MAPS					Sn	01 14 45.2	-1.4
MSW	**Makushin Switc**	**4.09**	**35**		Pn	01 14 02.5	-0.2
UNV	**Unalaska Valle**	**4.14**	**38**		Pn	01 14 03.1	-0.3
UNV					Sn	01 14 49.1	-2.3
KIWB	**Kanaga Island**	**4.18**	**289**	Pn	Pn	01 14 02.1	-1.8
KIMD	**Kanaga Island**	**4.21**	**288**		Pn	01 14 04.3	-0.1
TAPA	**Tanaga Point A**	**4.57**	**287**		Pn	01 14 09.2	-0.2
AKUT	**Akutan**	**4.65**	**39**	Pn	Pn	01 14 08.5	-1.8
AKUT				IAML		01 15 03.5	
	comp=N,41nm,1.2s						
AKUT				IAML		01 15 41.6	
	comp=E,73nm,1.4s						
TAFP	**Tanaga Falls P**	**4.69**	**288**		Pn	01 14 10.9	-0.1
TASE	**Tanaga Southea**	**4.71**	**287**		Pn	01 14 11.5	+0.2
GANE	**Gareloi Northe**	**5.16**	**286**		Pn	01 14 17.1	-0.3
GANO	**Gareloi North**	**5.17**	**286**		Pn	01 14 17.6	-0.1
SSLN	**Shishaldin Nor**	**5.86**	**42**		Pn	01 14 27.6	+0.5
ISLZ	**Isanotski Laza**	**5.93**	**44**		Pn	01 14 28.4	+0.3
ISNN	**Isanotski Nort**	**5.97**	**43**		Pn	01 14 28.8	+0.3
AMKA	**Amchitka**	**6.30**	**280**		Pn	01 14 32.0	-1.1
PN7A	**Pavlof North-7**	**7.14**	**44**		Pn	01 14 44.1	-0.6
PS1A	**Pavlof South-1**	**7.25**	**45**		Pn	01 14 46.3	+0.3
SDPT	**Sand Point**	**7.79**	**49**		Pn	01 14 53.3	-0.3
VNFG	**Fog Glacier, M**	**8.75**	**46**		Pn	01 15 06.9	+0.1
CHGN	**Chignik**	**9.29**	**48**	Pn	Pn	01 15 14.2	+0.2
ANNW	**Aniakchak Nort**	**9.75**	**45**		Pn	01 15 20.6	+0.1

CATAC 14 01:18:54.2±1.2, 12°.74N×88°.58W, h17km±7km, ML4.4
SNET 14 01:18:55.7±0.8, 12°.80N×88°.56W, h41km±18km, ML4.1
ISC 14 01:18:54.5±2.2, 12°.7N±0°.1×88°.57W±0°.04, h29km±13km, n21, σ0s42/37, Off coast of central America

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

0.4nm,0.4s,baz=110,slow=8.0,SNR=2.8
0.4nm,0.4s
FINES FINESS Array B 91.53 336 P **P 02 13 55.9 -0.8**
1.5nm,0.9s,baz=85,slow=5.9,SNR=5.0
1.5nm,0.9s

IDC 14 02:06:53.5±2.1, 6.77S×128.95E, h0km, mb3.7/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=146.0km s-min=31.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
WRA	**Warramunga Arr**	**14.10**	**159**	Pn		Pn	02 10 13.2	-1.6
	0.1nm,0.3s,baz=337,slow=13,SNR=8.2							
WRA				Sn		Sn	02 12 38.1	-14
	0.2nm,0.3s,baz=340,slow=21,SNR=6.2							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**17.46**	**165**	P		P	02 10 59.8	-0.2
	0.1nm,0.3s,baz=350,slow=11,SNR=6.6							
ASAR				S		Sn	02 14 00.2	-14
	0.2nm,0.5s,baz=354,slow=26,SNR=1.4							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**67.47**	**327**	P		P	02 17 51.3	0.0
	0.4nm,0.5s,baz=116,slow=7.7,SNR=7.9							
	0.4nm,0.5s							

*CRAAG **14** 02:24:07.7, 36.41N×2.57E, Ml3.0, Algerie 02km SE Oued-Djer*
*MDD **14** 02:24:09.2±1.0, 36.40N×2.57E, h0km, Mb3.8/7, M_mb3.1/8, Error ellipse: s-maj=9.4km s-min=4.4km az=143.0*
*CNRM **14** 02:24:14.8, 36.13N×2.03E, h0km*
ISC 14 02:24:09.1±1.0, 36.41N±0.05×2.57E±0.04, h18km, n20, σ1s 23/27, 6C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
ABKD	**Sidi Amar**	**0.24**	**301**	P		**Pg**	**02 24 14.3**	**-0.4**
ACHR	**Chrea**	**0.25**	**87**	P		**Pg**	**02 24 14.7**	**-0.2**
EHRZ	**Djelida**	**0.43**	**240**	P		**Pg**	**02 24 17.0**	**-0.9**
EARB	**Arib**	**0.47**	**257**	P		**Pg**	**02 24 17.5**	**-1.1**
EDDR	**Deurdeur**	**0.50**	**215**	P		**Pg**	**02 24 18.1**	**-1.0**
ADJB	**Djebel Djouab**	**0.74**	**109**	P		**Pb**	**02 24 23.6**	**0.0**
EIBI	**Ibiza**	**2.79**	**340**	Pn		**Pn**	**02 24 53.8**	**+0.9**
EIBI				⇑*i*Vmb_V			02 24 55.1	
	535nm,SNR=1.6							
EIBI				Sn		**Sn**	**02 25 25.0**	**-1.0**
ETOS	**Mallorca**	**3.36**	**3**	Pn		**Pn**	**02 25 01.4**	**+0.7**
ETOS				⇑*i*Vmb_V			02 25 05.7	
	362nm,SNR=0.9							
ETOS				Sn		**Sn**	**02 25 38.1**	**-2.0**
EMUR	**La Murta**	**3.36**	**296**	Pn		**Pn**	**02 25 02.3**	**+1.5**
EMUR				⇑*i*Vmb_V			02 25 05.3	
	69nm,SNR=0.6							
EMUR				Sn		**Sn**	**02 25 40.6**	**+0.3**
ETOB	**Tobarra**	**3.96**	**306**	Pn		**Pn**	**02 25 10.3**	**+1.3**
ETOB				⇑*i*Vmb_V			02 25 15.3	
	152nm,SNR=1.0							
ETOB				Sn		**Sn**	**02 25 54.8**	**-0.2**
TAF	**Taforalt**	**4.36**	**250**	P		**Pn**	**02 25 15.5**	**+1.0**
EBER	**Berja**	**4.42**	**278**	Pn		**Pn**	**02 25 15.9**	**+0.5**
EBER				⇑*i*Vmb_V			02 25 21.2	
	18nm,SNR=1.6							
EBER				Sn		**Sn**	**02 26 06.8**	**+0.3**
EMOS	**Mosqueruela**	**4.62**	**330**	Pn		**Pn**	**02 25 19.6**	**+1.5**
EMOS				⇑*i*Vmb_V			02 25 21.0	
	312nm,SNR=1.4							
EMOS				Sn		**Sn**	**02 26 09.6**	**-1.7**
JBK	**JBK**	**4.68**	**245**	P		**Pn**	**02 25 21.3**	**+2.3**
EQES	**Quesada**	**4.72**	**289**	Pn		**Pn**	**02 25 20.5**	**+1.1**
EQES				Sn		**Sn**	**02 26 13.5**	**-0.3**
FIGM	**Figuig**	**5.32**	**218**	P		**Pn**	**02 25 28.1**	**+0.4**
AKLM	**AKL**	**5.58**	**252**	P		**Pn**	**02 25 31.5**	**+0.2**
AKLM	**AKL**	**5.58**	**252**	S		**Sn**	**02 26 34.0**	**-1.0**
MDT	**Midelt**	**6.92**	**241**	P		**Pn**	**02 25 51.7**	**+2.0**
MD31	**MD31**	**7.00**	**242**	P		**Pn**	**02 25 52.7**	**+2.0**

*UPA **14** 02:35:13.5±1.4, 8.62N×84.04W, h0km±76km, MD3.6, ML3.4*
*UCR **14** 02:35:16.0±1.6, 8.67N×83.89W, h0km±15km, MW3.5*
*CATAC **14** 02:35:16.3±0.7, 8.61N×83.88W, h5km, ML3.0*
ISC 14 02:35:15.8±1.4, 8.65N±0.05×83.91W±0.04, h10km±10km, n38, σ0s 86/49, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
OCHAL	**Ojochal**	**0.52**	**30**	*i* P		**Pg**	**02 35 25.8**	**-0.2**
OCHAL				*i* S		**Sg**	**02 35 33.6**	**+0.8**
EDPN	**Palmar Norte**	**0.55**	**55**	*e*P		**Pg**	**02 35 26.6**	**+0.1**
EDPN				*e*S		**Sb**	**02 35 35.4**	**-0.1**
PIRO	**Carate, Puerto**	**0.62**	**113**	*e*P		**Pb**	**02 35 29.0**	**+0.3**
EDAD	**Golfito**	**0.74**	**89**	*e*P		**Pg**	**02 35 27.3**	**-2.8**
EDBA	**Buenos Aires**	**0.81**	**51**	*e*P		**Pn**	**02 35 32.8**	**-0.6**
LLNJ	**Naranjito**	**0.84**	**347**	*e*P		**Pg**	**02 35 31.9**	**-0.1**
POTG	**Potrero Grande**	**0.88**	**63**	*e*P		**Pg**	**02 35 32.9**	**0.0**
POTG	**Potrero Grande**	**0.88**	**63**	*i* P		**Pg**	**02 35 32.9**	**0.0**
POTG				*i* S		**Sn**	**02 35 47.2**	**-0.2**
POTG				IAML			02 35 51.4	
	comp=Z,460nm,1.0s							
DRK0	**Durika**	**0.90**	**47**	*e*P		**Pg**	**02 35 32.8**	**-0.4**
CDM	**Cerro de Muert**	**0.92**	**9**	*e*P		**Pg**	**02 35 32.8**	**-0.7**
CDM	**Cerro de Muert**	**0.92**	**9**	*i* P		**Pg**	**02 35 32.6**	**-0.9**
CDM				*i* S		**Sn**	**02 35 47.8**	**-0.9**
BUS1	**Rivas**	**0.92**	**10**	*e*P		**Pg**	**02 35 32.8**	**-0.8**
LCR2	**La Lucha 2**	**1.09**	**355**	*e*P		**Pg**	**02 35 35.8**	**-1.1**
LCR2	**La Lucha 2**	**1.09**	**355**	*i* P		**Pg**	**02 35 35.7**	**-1.1**
PTPM	**Petroterminale**	**1.11**	**113**	*e*P		**Pg**	**02 35 36.8**	**-0.4**
PTPM				*e*S		**Sn**	**02 35 54.9**	**+2.0**
BRU2	**Volcan**	**1.22**	**83**	⇓*e*P		**Pb**	**02 35 38.9**	**-0.2**
BRU2				AMP			02 35 39.5	
	comp=Z,557nm,0.1s							
BRU2				*e*S		**Sn**	**02 35 56.6**	**+0.8**
BRU2	**Volcan**	**1.22**	**83**	*e*P		**Pg**	**02 35 39.1**	**-0.1**
BRU2	**Volcan**	**1.22**	**83**	*i* P		**Pb**	**02 35 38.9**	**-0.2**
BRU2				IAML			02 36 00.4	
	comp=Z,180nm,1.0s							
OCM	**Ochomogo**	**1.24**	**358**	*e*P		**Pn**	**02 35 39.2**	**-0.2**
OCM	**Ochomogo**	**1.24**	**358**	*i* P		**Pb**	**02 35 39.4**	**-0.1**
OCM				IAML			02 36 01.3	
	comp=Z,130nm,1.0s							
JACO	**JACO, Garabito**	**1.25**	**324**	*e*P		**Pg**	**02 35 40.2**	**+0.3**
JACO	**JACO, Garabito**	**1.25**	**324**	*i* P		**Pb**	**02 35 39.2**	**-0.3**
JACO				IAML			02 35 42.7	
	comp=Z,120nm,1.0s							
BC3P	**Paso Ancho**	**1.30**	**82**	*e*P		**Pn**	**02 35 39.7**	**-0.5**
RAFA	**San Farael, Vo**	**1.31**	**4**	*i* P		**Pg**	**02 35 40.9**	**-0.1**
RAFA				*i* S		**Sg**	**02 36 00.3**	**+2.3**
RAFA				IAML			02 36 02.3	
	comp=Z,1μm,1.0s							
ICR3	**Volcano Irazu**	**1.33**	**3**	*e*P		**Pn**	**02 35 40.5**	**-0.3**
HAYA	**Volcan Irazu**	**1.33**	**3**	*i* P		**Pn**	**02 35 40.8**	**0.0**
BCO2	**Palmira**	**1.37**	**87**	*e*P		**Pb**	**02 35 41.2**	**-0.5**
BCO2				*e*S		**Sg**	**02 36 01.9**	**+1.9**
VTLO	**VTLO**	**1.40**	**8**	*e*P		**Pn**	**02 35 41.8**	**0.0**
DVD	**David**	**1.46**	**98**	*e*P		**Pn**	**02 35 41.7**	**-0.6**
DVD				*e*S		**Sg**	**02 36 03.9**	**+1.0**
CNI2	**El Empalme, Bo**	**1.62**	**61**	*e*P		**Pn**	**02 35 44.4**	**-0.1**
CNI2				*i* S		**Sb**	**02 36 06.7**	**+0.3**
CNI2				*e*S		**Sg**	**02 36 06.8**	**-1.1**
RIFO	**Rio Frio, Sara**	**1.66**	**360**	*i* P		**Pb**	**02 35 46.3**	**-0.2**
SOCE	**Pocosol**	**1.86**	**338**	*e*P		**Pb**	**02 35 49.9**	**-0.1**
SOCE	**Pocosol**	**1.86**	**338**	*i* P		**Pb**	**02 35 49.9**	**-0.1**
SOCE				IAML			02 35 51.2	
	comp=Z,280nm,1.0s							
TRT2	**Tortugero**	**1.91**	**5**	*i* P		**Pb**	**02 35 50.2**	**-0.6**
TRT2				IAML			02 36 19.0	
	comp=Z,120nm,1.0s							
JTS	**Las Juntas de**	**1.93**	**328**	*e*P		**Pg**	**02 35 52.0**	**-0.9**
VACR	**Volcan Arenal**	**1.97**	**338**	*i* P		**Pb**	**02 35 52.2**	**+0.4**
ARE1	**Arenal 1**	**1.97**	**336**	*e*P		**Pb**	**02 35 51.9**	**0.0**
ORTG	**Ortega, Santa**	**2.29**	**318**	*i* P		**Pg**	**02 35 58.8**	**-0.9**

*IDC **14** 02:45:18.6±0.6, 26.69N×130.30E, h0km, mb3.8/16, mbtmp3.9/19, ML3.7/3, MS3.5/14, Error ellipse: s-maj=22.7km s-min=13.8km az=75.0*
*NIED **14** 02:45:21.9, 26.65N×130.31E, h51km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=1.87; Mθθ=1.04; Mφφ=0.84; Mrθ=0.57; Mθφ=1.15; Mφr=-0.81;*

Fault plane solution: M0=2.21000×10^15 NP1:φ=24.00000°, δ=52.00000°, λ=-122.00000°. NP2:φ=250.00000°, δ=48.00000°, λ=-56.00000°.
*JMA **14** 02:45:21.9±0.1, 26.7N±0.5×130.3E±0.5, h51km, MD4.3/27, MV4.4/27, NEAR MINAMI-DAITOJIMA IS*
*NEIC **14** 02:45:21.2±1.6, 26.65N±0.07×130.35E±0.06, h10km±1km, mb4.5/12, Error ellipse: s-maj=14.0km s-min=5.6km az=31.0*
ISC 14 02:45:19.5±1.4, 26.69N±0.04×130.32E±0.04, h7km±10km, n75, σ1s 24/82, mb4.0/20, MS3.6/11, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JKDJ	**Kitadaitoujima**	**1.15**	**130**	*i* P		**Pg**	**02 45 41.6**	**+0.1**
JKDJ					S	**Sg**	**02 45 56.2**	**-0.2**
JKDJ	**Kitadaitoujima**	**1.15**	**130**		A	A	02 45 41.6	
	comp=E,13nm,0.5s,comp=N,14nm,0.5s							
JMZ	**Minamidaito 2**	**1.19**	**137**			**Pg**	**02 45 42.1**	**-0.2**
JMZ						**Sg**	**02 45 56.7**	**-1.1**
JMZ	**Minamidaito 2**	**1.19**	**137**	*i* P		**Pg**	**02 45 42.1**	**-0.2**
JMZ					S	**Sg**	**02 45 56.8**	**-1.0**
JMZ	**Minamidaito 2**	**1.19**	**137**		A	A	02 45 42.1	
	comp=E,8.0nm,3.3s,comp=N,11nm,4.2s							
JTK	**Tokunoshima**	**1.63**	**312**	*i* P		**Pb**	**02 45 49.6**	**-0.4**
JTK					S	**Sn**	**02 46 08.6**	**-1.4**
JTK	**Tokunoshima**	**1.63**	**312**		A	A	02 45 49.6	
	comp=E,3.0nm,0.8s,comp=N,4.0nm,0.6s							
JZK	**Kikaishima**	**1.64**	**349**	P		**Pb**	**02 45 50.4**	**+0.3**
JZK					S	**Sb**	**02 46 11.3**	**+0.2**
JOKE	**Okinoerabujima**	**1.70**	**293**	*i* P		**Pn**	**02 45 50.4**	**+0.8**
JOKE					S	**Sn**	**02 46 10.7**	**-0.8**
JOKE	**Okinoerabujima**	**1.70**	**293**		A	A	02 45 50.4	
	comp=E,5.0nm,10.4s,comp=N,4.0nm,1.3s							
JYRO	**Yoronjima**	**1.70**	**282**	*i* P		**Pn**	**02 45 50.0**	**+0.3**
JYRO					S	**Sn**	**02 46 10.3**	**-1.4**
JAM	**Amami Oshima**	**1.82**	**340**	*i* P		**Pn**	**02 45 52.1**	**+0.8**
JOW	**Kunigami**	**1.83**	**275**			**Pn**	**02 45 52.3**	**+0.8**
JOW					Sn	**Sn**	**02 46 14.0**	**-1.0**
JOW	**Kunigami**	**1.83**	**275**	*i* P		**Pn**	**02 45 52.0**	**+0.5**
JOW					S	**Sn**	**02 46 13.0**	**-1.9**
JOW	**Kunigami**	**1.83**	**275**		A	A	02 45 52.0	
	comp=E,6.0nm,0.7s,comp=N,7.0nm,0.8s							
JOW	**Kunigami**	**1.83**	**275**	Pn		**Pn**	**02 45 52.0**	**+0.5**
	comp=N,286nm,0.3s,baz=115,slow=24,SNR=649							
JOW					Sn	**Sn**	**02 46 13.1**	**-1.9**
	comp=N,741nm,0.3s,baz=108,slow=19,SNR=67							
JOW					LR	LR	02 46 48.3	
	comp=N,512nm,21.3s,baz=164,slow=49							
JAMN	**Amaminishikomi**	**1.85**	**327**	*i* P		**Pn**	**02 45 52.3**	**+0.6**
JAMN					S	**Sn**	**02 46 13.7**	**-1.6**
JNTH	**Nagotoyohara**	**2.06**	**266**	P		**Pn**	**02 45 54.7**	**+0.1**
JNTH					S	**Sn**	**02 46 18.1**	**-2.6**
JIH	**Iheya**	**2.13**	**280**	*i* P		**Pn**	**02 45 56.2**	**+0.7**
JIH					S	**Sn**	**02 46 20.9**	**-1.3**
JIH	**Iheya**	**2.13**	**280**		A	A	02 45 56.2	
	comp=E,5.0nm,2.1s,comp=N,4.0nm,1.1s							
JJT3	**Tamagusuku3**	**2.34**	**257**	P		**Pn**	**02 45 59.1**	**+0.6**
JJT3					S	**Sn**	**02 46 26.1**	**-1.4**
JJT3	**Tamagusuku3**	**2.34**	**257**	A		A	02 45 59.1	
	comp=E,6.0nm,3.6s,comp=N,9.0nm,1.3s							
JTAJ	**Takarajima**	**2.64**	**338**	P		**Pn**	**02 46 03.0**	**+0.4**
JTAJ					*e*S	**Sn**	**02 46 32.0**	**-2.9**
JAGN	**Aguni-jima**	**2.76**	**268**	P		**Pn**	**02 46 04.8**	**+0.6**
JAGN					S	**Sn**	**02 46 35.2**	**-2.5**
JAGN	**Aguni-jima**	**2.76**	**268**	A		A	02 46 04.8	
	comp=E,5.0nm,3.1s,comp=N,4.0nm,2.2s							
JNN	**Nakanoshima**	**3.16**	**353**	P		**Pn**	**02 46 11.3**	**+1.6**
JNN					S	**Sn**	**02 46 47.2**	**-0.5**
JKE	**Kume jima 2**	**3.19**	**264**	P		**Pn**	**02 46 10.1**	**0.0**
JKE					S	**Sn**	**02 46 46.4**	**-2.0**
JYAK	**Yakushimahirau**	**3.53**	**3**	P		**Pn**	**02 46 15.3**	**+0.5**
JYAK					S	**Sn**	**02 46 53.9**	**-3.0**
JMTN	**Minamitane**	**3.72**	**8**	P		**Pn**	**02 46 18.0**	**+0.6**
JMTN					S	**Sn**	**02 46 59.6**	**-2.0**
JTN	**Tanegashima 3**	**3.99**	**8**	P		**Pn**	**02 46 21.2**	**+0.1**
JTN					S	**Sn**	**02 47 05.8**	**-2.4**
JNU	**Nakatsue**	**6.42**	**4**			**Pn**	**02 46 56.3**	**+1.7**
JNU						**Pn**	**02 46 56.6**	**+2.0**
JNU	**Nakatsue**	**6.42**	**4**	Pn		**Pn**	**02 46 55.5**	**+0.9**
	comp=N,2.6nm,0.3s,baz=180,slow=1.0,SNR=23							
JNU					Sn	**Sn**	**02 48 05.8**	**-2.4**
	comp=N,1.6nm,0.3s,baz=232,slow=20,SNR=3.5							
	comp=N,14nm,0.5s							
KSRS	**Korea Array**	**10.92**	**350**	Pn		**Pn**	**02 47 56.0**	**-0.1**
	comp=N,0.3nm,0.3s,baz=167,slow=14,SNR=26							
	comp=N,8.9nm,0.8s							
MJAR	**Matsushiro Arr**	**11.89**	**32**	Pn		**Pn**	**02 48 12.3**	**+2.8**
	baz=179,slow=12,SNR=2.3							
MJAR					LR	LR	02 52 40.0	
	comp=N,79nm,18.6s,baz=198,slow=37							
USRK	**Ussurisk Ar.**	**17.52**	**4**	P		**Pn**	**02 49 23.5**	**-0.7**
	comp=N,0.1nm,0.3s,baz=169,slow=19,SNR=1.8							
USRK					LR	LR	02 55 44.0	
	comp=N,65nm,18.4s,baz=191,slow=36							
	comp=N,2.4nm,1.0s							
BJT	**Baijiatuau**	**17.75**	**322**	P		**P**	**02 49 29.9**	**+1.8**
BJT					IAmb	IAmb	02 49 32.4	
	comp=Z,20nm,0.8s							
GUMO	**Guam**	**18.86**	**131**	LR		LR	02 54 54.8	
	comp=Z,90nm,21.2s,baz=126,slow=30							
ASAJ	**Asahikawa**	**20.02**	**27**	P		Pn	02 49 54.0	-0.6
	comp=Z,3.8nm,0.8s,baz=180,slow=20,SNR=1.2							
ASAJ					LR	LR	02 57 33.1	
	comp=Z,57nm,20.1s,baz=152,slow=37							
	comp=Z,3.8nm,0.8s							
DAV	**Davao City (W)**	**20.03**	**194**	LR		LR	02 58 44.4	
	comp=Z,66nm,18.1s,baz=350,slow=40							
TOLI2	**Tolitoli**	**27.04**	**201**	P		**P**	**02 51 02.9**	**+0.3**
SONM	**Songino Array**	**28.22**	**325**	P		**P**	**02 51 13.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=108,slow=4.8,SNR=1.7							
SONM					LR	LR	03 02 41.0	
	comp=Z,51nm,18.1s,baz=161,slow=37							
	comp=Z,0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.05**	**261**	LR		LR	03 05 36.9	
	comp=Z,32nm,18.6s,baz=90,slow=41							
PEA0B	**Petropavlovsk-**	**33.34**	**30**	P		**P**	**02 51 56.3**	**-1.8**
COEN	**Coen**	**42.30**	**161**	P		**P**	**02 53 14.4**	**+0.4**
COEN					IAmb	IAmb	02 53 27.0	
	comp=Z,9.1nm,1.4s							
MK31	**Makanchi Array**	**42.63**	**311**			**P**	**02 53 17.9**	**+1.3**
MKAR	**Makanchi Array**	**42.63**	**311**	P		**P**	**02 53 17.6**	**+1.0**
MKAR	**Makanchi Array**	**42.63**	**311**	P		**P**	**02 53 15.3**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=97,slow=10,SNR=4.8							
	comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**43.02**	**322**	P		**P**	**02 53 18.1**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=69,slow=8.1,SNR=2.2							
	comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**45.82**	**316**	P		**P**	**02 53 41.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=101,slow=9.1,SNR=6.9							
	comp=Z,0.7nm,0.5s							
WB0	**Warramunga Arr**	**46.35**	**175**	P		**P**	**02 53 46.8**	**+0.3**
WB0					IAmb	IAmb	02 53 47.1	
	comp=Z,3.0nm,0.6s							
WRAB	**Tennant Creek**	**46.52**	**175**	P		**P**	**02 53 46.7**	**-1.0**
WRAB					IAmb	IAmb	02 53 48.4	
	comp=Z,3.3nm,0.7s							
WRA	**Warramunga Arr**	**46.52**	**175**	P		**P**	**02 53 47.3**	**-0.5**
WRA	**Warramunga Arr**	**46.52**	**175**	P		**P**	**02 53 47.5**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=354,slow=8.5,SNR=25							
	comp=Z,1.8nm,0.5s							
WB2	**Warramunga Arr**	**46.52**	**175**	P		**P**	**02 53 48.0**	**+0.2**
WB2					IAmb	IAmb	02 53 57.8	
	comp=Z,4.7nm,1.0s							
WR0	**Warramunga Arr**	**46.56**	**175**	P		**P**	**02 53 46.8**	**-1.3**
WR0					IAmb	IAmb	02 54 01.3	
	comp=Z,10nm,1.4s							
AAK	**Ala-Archa**	**47.75**	**304**	LR		LR	03 16 39.2	
	comp=Z,61nm,18.8s,baz=63,slow=39							
PSA00	**Pilbara Seismi**	**49.04**	**193**	P		**P**	**02 54 08.1**	**+0.7**
AS31	**Alice Springs**	**50.18**	**176**	P		**P**	**02 54 16.9**	**+0.8**
ASAR	**Alice Springs**	**50.19**	**176**	P		**P**	**02 54 16.5**	**+0.4**
ASAR	**Alice Springs**	**50.19**	**176**	P		**P**	**02 54 16.2**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=5.4,slow=15,SNR=40							
ASAR					PcP	**PcP**	**02 55 36.0**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=344,slow=4.2,SNR=5.0							
	comp=Z,0.7nm,0.4s							
PALK	**Pallekele**	**50.86**	**257**	LR		LR	03 17 56.7	
	comp=Z,35nm,18.1s,baz=257,slow=38							
BVAR	**Borovoye Array**	**51.18**	**318**	P		**P**	**02 54 23.7**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=81,slow=9.3,SNR=3.2							
BVAR					LR	LR	03 18 08.4	
	comp=Z,94nm,20.7s,baz=81,slow=38							
	comp=Z,0.5nm,0.5s							
STKA	**Stephens Creek**	**59.23**	**169**	P		**P**	**02 55 21.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=347,slow=8.6,SNR=4.8							
	comp=Z,1.4nm,0.6s							
ILAR	**Eielson Array**	**63.14**	**28**	P		**P**	**02 55 47.3**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=278,slow=4.3,SNR=2.7							
	comp=Z,0.4nm,0.7s							
BELG	**Belogornoye**	**64.99**	**318**	LR		LR	03 26 11.1	
	comp=Z,92nm,19.4s,baz=103,slow=38							
KBZ	**Khabaz**	**70.31**	**310**	P		**P**	**02 56 35.2**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=71,slow=18,SNR=2.7							
	comp=Z,1.8nm,0.8s							
FINES	**FINESS Array B**	**73.38**	**331**	P		**P**	**02 56 52.9**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=64,slow=6.3,SNR=18							
	comp=Z,2.2nm,0.7s							
AKASG	**Malin Array Be**	**76.39**	**320**	P		**P**	**02 57 09.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=58,slow=5.4,SNR=4.5							
AKASG					LR	LR	03 33 28.9	
	comp=Z,64nm,19.3s,baz=10,slow=38							
	comp=Z,0.3nm,0.4s							
YKA	**Yellowknife Ar**	**77.31**	**26**	P		**P**	**02 57 14.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=303,slow=5.6,SNR=7.2							
	comp=Z,0.3nm,0.6s							
HFS	**Hagfors**	**79.27**	**333**	LR		LR	03 35 53.3	
	comp=Z,56nm,18.1s,baz=6.5,slow=38							
NOA	**NORSAR Array B**	**79.72**	**334**	P		**P**	**02 57 28.5**	**+0.7**
	comp=Z,1.9nm,1.1s,baz=51,slow=5.3,SNR=2.5							
	comp=Z,1.9nm,1.1s							
GERES	**GERESS Array B**	**85.95**	**324**	LR		LR	03 43 38.7	
	comp=Z,54nm,19.3s,baz=80,slow=41							
PDAR	**Pinedale Array**	**91.62**	**40**	P		**P**	**02 58 28.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=325,slow=7.6,SNR=3.7							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**116.30**	**302**	PKP		**PKPdf**	**03 04 04.1**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=20,slow=4.2,SNR=2.9							
QSPA	**South Pole Qui**	**116.47**	**180**	PKP		**PKPdf**	**03 04 02.6**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=310,slow=6.4,SNR=3.2							

*IDC **14** 02:45:33.6±3.5, 36.53N×71.43E, h54km±31km, mb3.5/11, mbtmp3.9/17, ML3.8/7, Error ellipse: s-maj=23.4km s-min=17.3km az=7.0*
*NEIC **14** 02:45:40.4±1.6, 36.86N±0.06×71.37E±0.08, h99km±6km, mb4.2/10, Error ellipse: s-maj=9.4km s-min=8.0km az=98.0*
*NNC **14** 02:45:42.8±1.8, 37.07N×71.27E, h156km±25km, mb3.4, mpv4.2, Error ellipse: s-maj=15.8km s-min=10.5km az=28.0*
ISC 14 02:45:38.1±0.5, 36.71N±0.05×71.37E±0.06, h100km, n80, σ1s 98/92, mb3.9/14, 9C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SIMJ	**Simiganj**	**2.70**	**317**	Pn		**Pn**	**02 46 20.2**	**+0.2**
SIMJ				Sn		**Sn**	**02 46 50.2**	**-2.0**
KBL	**Kabul**	**2.88**	**222**	Pn		**Pn**	**02 46 26.5**	**+4.0**
BTK	**Batken**	**3.37**	**353**	Pn		**Pn**	**02 46 30.4**	**+1.5**
NIL	**Nilore**	**3.42**	**153**	Pn		**Pn**	**02 46 34.0**	**+4.4**
ARSB	**Arslanbob**	**4.77**	**15**			**Pn**	**02 46 48.1**	**+0.2**
JMU	**Jammu**	**4.93**	**143**	*e*P		**Pn**	**02 46 52.8**	**+2.9**
JMU				*e*S		**Sn**	**02 47 46.2**	**+0.5**
AML	**Almayashu**	**5.70**	**18**	P		**Pn**	**02 47 01.9**	**+1.2**
	SNR=76							
AML	**Almayashu**	**5.70**	**18**	⇓P		**Pn**	**02 47 01.8**	**+1.1**
	0.7nm,0.2s							
AML				⇑S		**Sn**	**02 48 03.2**	**-1.7**
	21nm,0.6s							
UCH	**Uchtor**	**6.02**	**23**	P		**Pn**	**02 47 06.2**	**+1.1**
	SNR=12							
DHRM	**DHARAMSHALA**	**6.03**	**136**	*e*P		**Pn**	**02 47 07.2**	**+2.1**
DHRM				*e*S		**Sn**	**02 48 11.0**	**-1.8**
DHRM				IAML			02 48 15.8	
	comp=N,636nm,0.5s							
DHRM				IAML			02 48 16.1	
	comp=E,764nm,0.3s							
KZA	**Kyzart**	**6.14**	**28**	P		**Pn**	**02 47 07.8**	**+1.1**
	SNR=18							
EKS2	**Erkin-Say**	**6.22**	**17**	P		**Pn**	**02 47 08.

BRVK					IAmb	IAmb	02 49 24.7		
	comp=Z,5.4nm,0.9s								
AKTO	**Aktyubinsk**	**16.75**	**329**	⇑P		**Pn**	**02 49 25.8**	**-0.7**	
	comp=Z,3.0nm,0.6s								
AKTO	**Aktyubinsk**	**16.75**	**329**	P		**Pn**	**02 49 26.2**	**-0.3**	
	comp=Z,2.1nm,0.3s,baz=155,slow=7.0,SNR=22								
	comp=Z,4.5nm,0.3s								
ZAA0	**Zalesovo Array**	**19.60**	**24**	P		**P**	**02 49 58.5**	**+0.3**	
ZAA0					IAmb	IAmb	02 50 09.4		
	comp=Z,3.9nm,0.5s								
ZALV	**Zalesovo Beam**	**19.60**	**24**	P		**P**	**02 49 58.8**	**+0.6**	
ZALV	**Zalesovo Beam**	**19.60**	**24**	P		**P**	**02 49 58.3**	**+0.1**	
	comp=Z,1.8nm,0.3s,baz=213,slow=9.8,SNR=30								
	comp=Z,3.7nm,0.3s								
ARU	**Arti**	**21.53**	**340**	P		**P**	**02 50 20.1**	**+1.1**	
ARU	**Arti**	**21.53**	**340**	P		**P**	**02 50 19.1**	**+0.1**	
	comp=Z,1.3nm,0.3s,baz=169,slow=8.5,SNR=4.1								
	comp=Z,1.3nm,0.3s								
SONM	**Songino Array**	**27.97**	**56**	P		**P**	**02 51 17.9**	**-1.4**	
BRTR	**Keskin Array B**	**29.66**	**287**	P		**P**	**02 51 35.7**	**+1.4**	
BRTR	**Keskin Array B**	**29.66**	**287**	P		**P**	**02 51 34.6**	**+0.2**	
	comp=Z,0.6nm,0.6s,baz=98,slow=5.9,SNR=4.7								
	comp=Z,0.6nm,0.6s								
ELL	**Elmali**	**33.05**	**283**	P		**P**	**02 52 06.5**	**+2.4**	
AKASG	**Malin Array Be**	**33.05**	**309**	P		**P**	**02 52 06.0**	**+2.2**	
	comp=Z,0.6nm,0.5s,baz=79,slow=7.6,SNR=5.4								
	comp=Z,0.6nm,0.5s								
KIEV	**Kiev**	**33.06**	**308**	P		**P**	**02 52 06.7**	**+2.8**	
KIEV					IAmb	IAmb	02 52 22.0		
	comp=Z,5.2nm,1.2s								
BUR08	**Bucovina Ar. S**	**35.43**	**303**	P		**P**	**02 52 25.8**	**+1.2**	
BUR08					IAmb	IAmb	02 52 49.1		
	comp=Z,14nm,1.5s								
FIA1	**FINESS Array S**	**37.47**	**326**	P		**P**	**02 52 43.5**	**+1.8**	
FIA1					IAmb	IAmb	02 53 09.6		
	comp=Z,11nm,0.9s								
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	**02 52 43.4**	**+1.8**	
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	**02 52 43.2**	**+1.6**	
	comp=Z,0.6nm,0.4s,baz=124,slow=10,SNR=8.5								
	comp=Z,0.6nm,0.4s								
PUK	**Puka**	**39.65**	**294**	P		**P**	**02 53 01.4**	**+1.2**	
ARCES	**ARCESS Array B**	**41.06**	**337**	P		**P**	**02 53 13.1**	**+1.7**	
	comp=Z,1.2nm,0.6s,baz=122,slow=9.0,SNR=13								
	comp=Z,1.2nm,0.6s								
HFS	**Hagfors**	**43.09**	**322**	P		**P**	**02 53 29.1**	**+1.2**	
	comp=Z,2.0nm,0.5s,baz=94,slow=9.7,SNR=11								
	comp=Z,2.0nm,0.5s								
NB2	**NORSAR Subarra**	**44.39**	**323**	P		**P**	**02 53 39.7**	**+1.3**	
	comp=Z,2.0nm,0.7s,baz=97,slow=7.9								
NOA	**NORSAR Array B**	**44.39**	**323**	P		**P**	**02 53 39.3**	**+0.9**	
	comp=Z,0.6nm,0.5s,baz=96,slow=7.7,SNR=4.5								
	comp=Z,0.6nm,0.5s								
ESDC	**Sonseca Array**	**57.62**	**298**	P		**P**	**02 55 19.9**	**+2.1**	
	comp=Z,0.6nm,0.7s,baz=54,slow=6.7,SNR=7.8								
	comp=Z,0.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P		**P**	**02 56 14.4**	**0.0**	
	comp=Z,1.0nm,0.5s,baz=47,slow=6.0,SNR=18								
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Array**	**81.85**	**122**	P		**P**	**02 57 46.5**	**0.0**	
	comp=Z,0.3nm,0.4s,baz=323,slow=4.8,SNR=7.3								
	comp=Z,0.3nm,0.4s								
ASAR	**Alice Springs**	**84.13**	**125**	P		**P**	**02 57 58.1**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=308,slow=4.8,SNR=6.9								
	comp=Z,0.4nm,0.6s								

*IDC **14** 02:57:37.0±1.1,23°.85N×127°.15E,h0km,mb3.4/6, mbtmp3.4/8,ML2.9/2,Error ellipse: s-maj=40.4km s-min=20.2km az=79.0*
*JMA **14** 02:57:42.0±0.2,24°.1N×126°.8E±0°.8,h116km,MV3.2/28, NEAR MIYAKOJIMA ISLAND*
ISC 14 02:57:38.9±1.3,23°.83N±0°.09×127°.00E±0°.05,h34km,n28, σ1$85/35,mb3.3/6,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ2	**Miyako jima3**	**1.77**	**301**	P	**Pb**	**02 58 08.5**	**-2.3**
JMJ2				eS	**Sn**	**02 58 28.0**	**-0.5**
JIKM	**Ikemajima**	**1.93**	**305**	P	**Pb**	**02 58 10.7**	**-2.8**
JIKM				eS	**Sn**	**02 58 32.3**	**-0.1**
JTJ	**Tarama**	**2.25**	**291**	P	**Pb**	**02 58 14.8**	**-4.0**
JTJ				eS	**Sn**	**02 58 39.1**	**-1.1**
JJT3	**Tamagusuku3**	**2.41**	**17**	eP	**Pb**	**02 58 18.6**	**-3.0**
JKE	**Kume jima 2**	**2.49**	**356**	P	**Pn**	**02 58 18.4**	**+1.4**
JISG	**Ishigakijimahi**	**2.57**	**288**	P	**Pn**	**02 58 19.0**	**+1.0**
JISG				S	**Sn**	**02 58 47.4**	**-0.8**
JIJ	**Ishigaki jima**	**2.67**	**282**	P	**Pn**	**02 58 20.5**	**+1.1**
JIJ				S	**Sn**	**02 58 50.3**	**-0.2**
JAGN	**Aguni-jima**	**2.75**	**5**	S	**Sn**	**02 58 52.7**	**0.0**
JKRS	**Kuro-shima**	**2.77**	**279**	P	**Pn**	**02 58 22.2**	**+1.5**
JKRS				S	**Sn**	**02 58 52.2**	**-0.7**
JNTH	**Nagotoyohara**	**2.83**	**19**	P	**Pn**	**02 58 23.3**	**+1.6**
JNTH				S	**Sn**	**02 58 52.4**	**-2.1**
HATJ	**Hateruma jima**	**2.93**	**275**	P	**Pn**	**02 58 24.2**	**+1.2**
HATJ				S	**Sn**	**02 58 54.9**	**-2.2**
JOW	**Kunigami**	**3.20**	**21**	eP	**Pn**	**02 58 29.1**	**+2.3**
JOW	**Kunigami**	**3.20**	**21**	Pn	**Pn**	**02 58 28.6**	**+1.8**
	4.1nm,0.3s,baz=136,slow=29,SNR=7.4						
JOW				Sn	**Sn**	**02 59 02.5**	**-1.3**
	3.2nm,0.3s,baz=149,slow=30,SNR=1.7						
	12nm,0.4s						
JIH	**Iheya**	**3.31**	**15**	eS	**Sn**	**02 59 04.7**	**-1.7**
YOJ	**Yonaguni jima**	**3.70**	**281**	P	**Pn**	**02 58 34.5**	**+0.9**
JYNG	**Yonagunijimaku**	**3.76**	**280**	eP	**Pn**	**02 58 35.7**	**+1.3**
JOKE	**Okinoerabujima**	**3.79**	**22**	eP	**Pn**	**02 58 36.9**	**+2.0**
JTK	**Tokunoshima**	**4.31**	**24**	P	**Pn**	**02 58 44.0**	**+1.9**
JKDJ	**Kitadaitoujima**	**4.43**	**61**	P	**Pn**	**02 58 43.5**	**-0.2**
JKDJ				S	**Sn**	**02 59 32.4**	**-1.8**
JAMN	**Amaminishikomi**	**4.81**	**24**	P	**Pn**	**02 58 50.6**	**+1.8**
JAMN				S	**Sn**	**02 59 42.1**	**-1.2**
JAM	**Amami Oshima**	**5.13**	**27**	P	**Pn**	**02 58 55.0**	**+1.8**
MJAR	**Matsushiro Arr**	**15.93**	**35**	Pn	**P**	**03 01 22.4**	**-1.4**
	baz=149,slow=5.0,SNR=1.2						
	0.3nm,0.4s						
SONM	**Songino Array**	**29.02**	**331**	P	P	03 03 40.6	+4.8
	0.3nm,0.6s,baz=152,slow=6.5,SNR=1.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**42.35**	**314**	P	P	03 05 33.5	+3.8
	0.3nm,0.6s,baz=91,slow=9.9,SNR=4.4						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.09**	**170**	P	P	03 05 46.5	+2.6
	0.8nm,0.7s,baz=352,slow=8.8,SNR=5.6						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.86**	**318**	P	**P**	**03 06 00.5**	**+2.8**
	0.3nm,0.6s,baz=106,slow=8.1,SNR=2.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**47.69**	**171**	P	P	03 06 16.2	+4.0
	0.5nm,0.8s,baz=360,slow=12,SNR=5.2						
	0.5nm,0.8s						
YKA	**Yellowknife Ar**	**81.16**	**24**	P	**P**	**03 09 52.8**	**+2.1**
	0.2nm,0.7s,baz=320,slow=6.5,SNR=3.3						
	0.2nm,0.7s						

*IDC **14** 03:37:33.3±1.0,4°.11S×123°.44E,h0km,mb3.7/5, mbtmp3.7/7,ML3.6/2,Error ellipse: s-maj=43.8km s-min=20.2km az=62.0*
*DJA **14** 03:37:37.3±0.3,4°.5±2°×12°.3E±°,h60km±43km,M4.1/12, mb4.3/4,mB4.6/1,MLv4.0/12,Mw(mB)3.7/1*
ISC 14 03:37:37.9±0.8,4°.14S±0°.06×123°.40E±0°.06,h35km,n16, σ1$38/21,mb3.8/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**1.57**	**212**	P	**Pn**	**03 38 03.7**	**+0.4**
LUWI	**Luwuk**	**3.14**	**349**	P	**Pn**	**03 38 22.9**	**-2.1**
LUWI				S	**Sn**	**03 39 00.1**	**-1.2**
SANI	**Sanana**	**3.32**	**51**	P	**Pn**	**03 38 27.9**	**+0.5**
SANI				S	**Sn**	**03 39 03.5**	**-2.2**
BKSI	**Bulukumba**	**3.47**	**250**	P	**Pn**	**03 38 28.5**	**-0.9**
BKSI				S	**Sn**	**03 39 07.5**	**-1.7**
TTSI	**Tana Toraja**	**3.73**	**287**	P	**Pn**	**03 38 31.6**	**-1.5**
KAPI	**Kappang**	**3.73**	**256**	Pn	**Pn**	**03 38 33.0**	**-0.1**
	25nm,0.3s,baz=83,slow=7.5,SNR=72						
KAPI				Sn	**Sn**	**03 39 15.7**	**-0.2**
	12nm,0.3s,baz=73,slow=19,SNR=16						
	73nm,0.3s						
MKS	**Makassar**	**4.06**	**255**	P	**Pn**	**03 38 37.7**	**+0.2**
GTOI	**Gorontalo**	**4.76**	**355**	P	**Pn**	**03 38 50.1**	**+2.9**
EDFI	**Ende, Flores**	**4.88**	**200**	P	**Pn**	**03 38 48.3**	**-0.7**
SOEI	**Soe**	**5.64**	**171**	P	**Pn**	**03 38 57.3**	**-2.1**
WRA	**Warramunga Arr**	**18.98**	**147**	P	**P**	**03 41 55.8**	**-0.8**
	0.1nm,0.3s,baz=316,slow=13,SNR=5.8						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**21.90**	**153**	P	**P**	**03 42 29.4**	**+1.2**
	1.4nm,0.8s,baz=335,slow=12,SNR=12						
ASAR				PcP	**PcP**	**03 46 27.2**	**+0.4**
	0.3nm,0.5s,baz=332,slow=1.4,SNR=2.9						
	1.4nm,0.8s						
SONM	**Songino Array**	**53.87**	**346**	P	**P**	**03 46 58.7**	**+1.0**
	0.7nm,0.6s,baz=167,slow=7.6,SNR=5.9						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**62.34**	**329**	P	**P**	**03 47 58.0**	**+1.0**
	1.0nm,0.6s,baz=125,slow=7.4,SNR=15						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**66.23**	**336**	P	**P**	**03 48 22.5**	**+0.3**
	0.4nm,0.5s,baz=121,slow=10,SNR=3.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**66.74**	**331**	P	**P**	**03 48 25.9**	**+0.4**
	0.6nm,0.7s,baz=136,slow=5.6,SNR=7.6						
	0.6nm,0.7s						

*AFAD **14** 03:41:21.0±0.0,35°.16N×27°.04E,h10km±1km,ML2.9*
*IDC **14** 03:41:24.1±2.2,35°.27N×27°.20E,h0km,mb3.5/3, mbtmp3.5/8,ML3.2/5,Error ellipse: s-maj=40.4km s-min=24.7km az=2.0*
*THE **14** 03:41:25.9,35°.34N×27°.15E,h2km±1km,ML3.1/3,Error ellipse: s-maj=2.2km s-min=0.9km az=141.0*
*ISK **14** 03:41:25.7,35°.50N×26°.97E,h7km,ML3.2/15*
*ATH **14** 03:41:25.2,35°.30N×27°.11E,h6km±2km,ML3.2/8,Error ellipse: s-maj=3.0km s-min=1.2km az=321.0*
ISC 14 03:41:24.5±1.3,35°.25N±0°.05×27°.14E±0°.04,h10km±8km, n59,σ1$08/75,mb3.3/3,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.30**	**4**	Pg	**Pg**	**03 41 29.9**	**-0.7**
KARP	**Karpathos**	**0.30**	**4**	P	**Pg**	**03 41 30.0**	**-0.7**
KARP				S	**Sg**	**03 41 34.1**	**-0.6**
	10μm,0.2s						
KARP	**Karpathos**	**0.30**	**4**	P	**Pg**	**03 41 30.0**	**-0.7**
KARP				S	**Sg**	**03 41 34.2**	**-0.5**
KARP				AML	AML	03 41 34.9	
	comp=N,18692μm,0.1s						
KARP				AML	AML	03 41 36.8	
	comp=E,21587μm,0.1s						
ZKR	**Zakros**	**0.76**	**260**	Pg	**Pb**	**03 41 39.5**	**-0.4**
ZKR				Sg	**Sg**	**03 41 51.1**	**+1.9**
ZKR	**Zakros**	**0.76**	**260**	P	**Pb**	**03 41 39.3**	**-0.6**
ZKR				S	**Sb**	**03 41 49.8**	**-0.5**
ZKR				AML	AML	03 41 53.6	
	comp=N,2957μm,0.6s						
ZKR				AML	AML	03 41 58.2	
	comp=E,4926μm,0.7s						
FRMA	**Ierapetra Chan**	**1.17**	**259**	P	**Pn**	**03 41 46.6**	**-0.3**
FRMA	**Ierapetra Chan**	**1.17**	**259**	P	**Pn**	**03 41 45.0**	**-1.9**
FRMA				AML	AML	03 42 10.5	
	comp=E,2582μm,0.5s						
FRMA				AML	AML	03 42 10.9	
	comp=N,2330μm,0.7s						
ARG	**Arkhangelos**	**1.26**	**40**	Pn	**Pn**	**03 41 48.3**	**+0.1**
ARG				Sn	**Sg**	**03 42 05.4**	**+0.3**
ARG	**Arkhangelos**	**1.26**	**40**	P	**Pn**	**03 41 47.9**	**-0.2**
ARG				S	**Sb**	**03 42 04.4**	**-0.2**
	comp=N,985nm,0.5s						
ARG	**Arkhangelos**	**1.26**	**40**	P	**Pn**	**03 41 47.9**	**-0.2**
ARG				AML	AML	03 42 10.9	
	comp=N,1914μm,0.6s						
ARG				AML	AML	03 42 12.9	
	comp=E,2016μm,0.4s						
NISR	**Nisiros**	**1.36**	**360**	P	**Pn**	**03 41 48.9**	**-0.7**
NISR				AML	AML	03 42 09.9	
	comp=N,1604μm,0.4s						
NISR				AML	AML	03 42 10.7	
	comp=E,2612μm,0.3s						
YAZI	**Mula-Datşa-**	**1.46**	**10**	P	**Pn**	**03 41 50.0**	**-0.8**
YAZI				*i* AML	AML	03 42 13.0	
	comp=E,149nm,0.4s						
YAZI				S	**Sg**	**03 42 13.4**	**+2.1**
YAZI				*i* AML	AML	03 42 16.0	
	comp=E,103nm,0.4s						
DAT	**Datca**	**1.52**	**14**	Pn	**Pn**	**03 41 51.1**	**-0.8**
DAT	**Datca**	**1.52**	**14**	P	**Pn**	**03 41 51.3**	**-0.6**
DAT				S	**Sn**	**03 42 11.0**	**-0.8**
DAT	**Datca**	**1.52**	**14**	P	**Pn**	**03 41 51.0**	**-0.9**
DAT				S	**Sg**	**03 42 14.2**	**+0.6**
DAT				*i* AML	AML	03 42 17.0	
	comp=E,247nm,0.2s						
DAT				*i* AML	AML	03 42 17.0	
	comp=E,248nm,0.3s						
DATC	**Datca-Mugla**	**1.57**	**16**	Pn	**Pn**	**03 41 51.9**	**-0.5**
TURN	**Turunc**	**1.77**	**30**	Pn	**Pn**	**03 41 55.2**	**0.0**
TURN	**Turunc**	**1.77**	**30**	P	**Pn**	**03 41 55.2**	**0.0**
TURN				S	**Sb**	**03 42 19.9**	**+0.6**
TURN				*i* AML	AML	03 42 23.0	
	comp=E,167nm,0.6s						
TURN				*i* AML	AML	03 42 25.0	
	comp=E,162nm,0.4s						
THR8	**Santorini-Mono**	**1.78**	**311**	P	**Pn**	**03 41 55.1**	**-0.1**
THR6	**Thira Island,**	**1.79**	**309**	P	**Pn**	**03 41 55.4**	**-0.1**
BODT	**Bodrum**	**1.82**	**4**	Pn	**Pn**	**03 41 54.9**	**-1.0**
BODT	**Bodrum**	**1.82**	**4**	P	**Pn**	**03 41 54.9**	**-1.0**
BODT				S	**Sn**	**03 42 18.9**	**-0.1**
RFTAA	**Mazikoy-Bodrum**	**1.82**	**16**	Pn	**Pn**	**03 41 55.2**	**-0.6**
SNT5	**Nea Kammeni, S**	**1.82**	**310**	P	**Pn**	**03 41 55.8**	**-0.1**
THR3	**Thira Island,**	**1.82**	**310**	P	**Pn**	**03 41 55.6**	**-0.3**
BDRM	**Kayabasi**	**1.83**	**8**	P	**Pn**	**03 41 55.2**	**-0.9**
BDRM				S	**Sb**	**03 42 22.7**	**+1.6**
IDI	**Anoyia**	**1.84**	**272**	Pn	**Pn**	**03 41 57.0**	**+0.8**
IDI	**Anoyia**	**1.84**	**272**	P	**Pn**	**03 41 57.1**	**+0.8**
IDI				S	**Sb**	**03 42 21.4**	**+0.1**
	comp=E,285nm,0.4s						
IDI	**Anoyia**	**1.84**	**272**	P	**Pn**	**03 41 56.9**	**+0.8**
IDI				AML	AML	03 42 29.1	
	comp=N,624μm,0.4s						
IDI				AML	AML	03 42 29.5	
	comp=E,762μm,0.4s						
CMBO	**Columbo, Santo**	**1.86**	**312**	P	**Pn**	**03 41 56.2**	**-0.2**
CMBO	**Columbo, Santo**	**1.86**	**312**	P	**Pn**	**03 41 56.1**	**-0.4**
CMBO				AML	AML	03 42 24.6	
	comp=E,3388μm,0.5s						
CMBO				AML	AML	03 42 25.1	
	comp=N,3593μm,0.5s						
THR5	**Thira Island,**	**1.86**	**309**	P	**Pn**	**03 41 56.6**	**+0.2**
DALY	**Dalyan (Mula)**	**1.99**	**38**	Pn	**Pn**	**03 41 59.3**	**+1.1**
IZZE	**Mula-Seydike**	**2.07**	**54**	P	**Pn**	**03 42 00.3**	**+0.9**
IZZE				*i* AML	AML	03 42 40.0	
	comp=N,245nm,0.5s						
IZZE				*i* AML	AML	03 42 44.0	
	comp=N,110nm,0.5s						
YER	**Yerkesik**	**2.10**	**26**	Pn	**Pn**	**03 41 59.5**	**-0.3**
YER	**Yerkesik**	**2.10**	**26**	P	**Pn**	**03 42 00.1**	**+0.3**
YER				S	**Sn**	**03 42 24.5**	**-1.5**
FETY	**Fethiye**	**2.10**	**48**	Pn	**Pb**	**03 42 01.5**	**-1.2**
MLSB	**Milas**	**2.11**	**14**	Pn	**Pn**	**03 41 59.5**	**-0.4**
KSL	**Kastellorizon**	**2.19**	**65**	P	**Pn**	**03 42 01.7**	**+0.8**
MULA	**Mugla, Merkez-**	**2.22**	**25**	P	**Pn**	**03 42 02.4**	**+0.9**
MULA				*i* AML	AML	03 42 37.0	
	comp=N,62nm,0.7s						
MULA				*i* AML	AML	03 42 42.0	
	comp=N,130nm,0.9s						
APE	**Apeiranthos**	**2.23**	**325**	Pn	**Pn**	**03 42 00.5**	**-1.1**
APE	**Apeiranthos**	**2.23**	**325**	P	**Pn**	**03 42 01.4**	**-0.2**
APE				AML	AML	03 42 32.7	
	comp=N,305μm,0.2s						
APE				AML	AML	03 42 34.1	
	comp=E,388μm,0.4s						
CAME	**Cameli-Denizli**	**2.44**	**45**	Pn	**Pn**	**03 42 05.9**	**+1.4**
GCAM	**G?zelcaml?**	**2.45**	**2**	Pn	**Pn**	**03 42 03.8**	**-0.7**
GCAM	**G?zelcaml?**	**2.45**	**2**	P	**Pn**	**03 42 05.4**	**+0.9**
GCAM				*i* AML	AML	03 42 38.0	
	comp=E,33nm,0.8s						
GCAM				*i* AML	AML	03 43 19.0	
	comp=E,54nm,1.5s						
SMG	**Samos**	**2.47**	**355**	P	**Pn**	**03 42 04.3**	**-0.5**
IMMV	**Iera Moni Meta**	**2.59**	**276**	P	**Pn**	**03 42 07.5**	**+1.0**
TAVA	**DENIZLI_Tavas**	**2.64**	**32**	P	**Pn**	**03 42 08.8**	**+1.6**
TAVA				S	**Sb**	**03 42 43.1**	**-1.3**
TAVA				*i* AML	AML	03 42 49.0	
	comp=E,104nm,0.8s						
TAVA				*i* AML	AML	03 42 54.0	
	comp=E,73nm,0.7s						
ESEN	**Aydn-Nazilli**	**2.73**	**21**	P	**Pn**	**03 42 08.9**	**+0.5**
ESEN				*i* AML	AML	03 42 49.0	
	comp=E,44nm,1.0s						
ESEN				*i* AML	AML	03 42 55.0	
	comp=E,26nm,0.6s						
VLI	**Veliai**	**3.71**	**295**	P	**Pn**	**03 42 22.1**	**+0.3**
BRTR	**Keskin Array B**	**6.83**	**47**	Pn	**Pn**	**03 43 06.3**	**+1.4**
	comp=E,0.2nm,0.3s,baz=236,slow=13,SNR=8.9						
BRTR				Sn	**Sn**	**03 44 23.7**	**+0.9**
	baz=207,slow=19						
	comp=E,0.5nm,0.3s						
MMAI	**Mount Meron Ar**	**7.21**	**106**	Pn	**Pn**	**03 43 09.3**	**-0.6**
	comp=E,0.9nm,0.3s,baz=297,slow=13,SNR=5.7						
	comp=E,0.4nm,0.3s						
EIL	**Elat**	**8.63**	**128**	Sn	**Sn**	**03 45 02.2**	**-4.7**
	comp=E,0.5nm,0.3s,baz=33,slow=21,SNR=1.7						
MLR	**Muntele Rosu**	**10.27**	**355**	Pn	**Pn**	**03 43 54.0**	**+2.0**
	comp=E,0.1nm,0.3s,baz=129,slow=13,SNR=1.3						
	comp=E,2.7nm,0.9s						
VAE	**Valguarnera**	**10.50**	**286**	Pn	**Pn**	**03 43 56.8**	**+1.6**
	comp=E,0.5nm,0.3s,baz=157,slow=7.7,SNR=1.4						
	comp=E,3.2nm,0.6s						
KEST	**Kesra**	**14.51**	**277**	Pn	**Pn**	**03 44 51.3**	**+1.4**
	baz=121,slow=19,SNR=1.3						
	comp=E,3.0nm,1.1s						
KURBB	**Kurchatov Arra**	**39.81**	**51**	P	**P**	**03 48 59.5**	**+1.8**
	comp=E,0.2nm,0.5s,baz=273,slow=8.5,SNR=4.0						
	comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**42.38**	**57**	P	**P**	**03 49 19.5**	**+0.6**
	comp=E,0.3nm,0.5s,baz=274,slow=7.2,SNR=4.6						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**43.78**	**46**	P	**P**	**03 49 30.0**	**-0.1**
	comp=E,0.7nm,0.6s,baz=264,slow=7.8,SNR=3.8						
	comp=E,0.7nm,0.6s						

*TEH **14** 03:54:57.8,33°.79N×45°.70E,h8km±28km,ML3.4*
*ISN **14** 03:54:58.0±0.5,33°.75N×45°.65E,h11km±2km,ML3.2*
ISC 14 03:54:58.1±1.5,33°.72N±0°.03×45°.65E±0°.04,h3km±14km, n20,σ1$15/25,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**101**	Pg	**Pb**	**03 55 07.8**	**-1.4**
IBDR	**Badra**	**0.65**	**159**	*e*Pg	**Pg**	**03 55 11.0**	**+0.4**
IBDR				*e*Sg	**Sb**	**03 55 21.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.79**	**356**	Pg	**Pg**	**03 55 12.9**	**-0.4**
IGHG	**Ghaleghazi**	**0.98**	**51**	Pg	**Pg**	**03 55 16.0**	**-0.9**
BHD	**Baghdad**	**1.15**	**247**	*e*Pg	**Pn**	**03 55 20.5**	**-0.7**
BHD				*e*Sg	**Sb**	**03 55 36.5**	**+0.5**
BHD				AML	AML	03 55 44.2	
	comp=E,585nm,0.5s						
IDHR	**Dehrash**	**1.15**	**32**	Pg	**Pg**	**03 55 18.8**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.28**	**64**	Pg	**Pg**	**03 55 22.0**	**-0.7**
KCHF				Sg	**Sn**	**03 55 39.8**	**-1.1**
IKOM	**Komasi**	**1.61**	**73**	Pg	**Pg**	**03 55 29.1**	**0.0**
IKOM				Sg	**Sg**	**03 55 51.4**	**+1.5**
ILIN	**Lien**	**1.62**	**42**	Pg	**Pb**	**03 55 28.4**	**-0.4**
IKFM	**Kafar-mosalman**	**1.84**	**95**	Pn	**Pb**	**03 55 32.1**	**-0.4**
IBZA	**Bozab**	**1.98**	**67**	Pn	**Pb**	**03 55 33.9**	**-1.1**
RAFI	**Al-Rafai**	**2.03**	**169**	*e*Pn	**Pn**	**03 55 34.5**	**+1.3**
RAFI				*e*Sn	**Sb**	**03 56 01.0**	**-0.3**
IALM	**Almabolaq**	**2.38**	**61**	Pn	**Pn**	**03 55 39.3**	**+1.1**
SDS1	**Sardasht. Az.**	**2.43**	**357**	Pn	**Pn**	**03 55 40.6**	**+1.7**
HSAM	**Samen**	**2.50**	**78**	Pn	**Pn**	**03 55 40.2**	**+0.2**
MAHB	**Mahabad**	**3.04**	**1**	Pn	**Pn**	**03 55 48.8**	**+1.5**
HAGD	**Aghdareh**	**3.09**	**68**	Pn	**Pn**	**03 55 48.9**	**+0.8**
ISHB	**Shabestar**	**4.55**	**360**	Pn	**Pn**	**03 56 10.0**	**+1.8**
QAMS	**Qamsar**	**4.79**	**88**	Pn	**Pn**	**03 56 12.3**	**+0.8**
IKLH	**Kolahrood**	**4.97**	**93**	Pn	**Pn**	**03 56 15.8**	**+1.9**

*SSNC **14** 04:07:13.8±1.6,18°.41N×70°.41W,h120km±296km,MD3.9, ML3.9*
*OSPL **14** 04:07:16.1±1.9,18°.80N×70°.25W,h106km±14km,ML3.2*
*SDD **14** 04:07:17.3±2.1,18°.82N×70°.27W,h93km±11km,MD3.3, ML3.2,MW3.3*
ISC 14 04:07:13.6±1.6,18°.82N±0°.06×70°.29W±0°.04, h112km±10km,n22,σ1$36/40,16C-4D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DR08	**Loma La Naviza**	**0.29**	**61**	⇑*e*Pg	**Pn**	**04 07 29.2**	**-0.4**
DR08				⇑*e*Sg	**Sn**	**04 07 38.4**	**-3.2**
DR08				IAML		04 07 39.1	
	comp=N,10μm,0.1s						
ABDR	**Alto Bandera**	**0.32**	**269**	⇑*e*Pg	**P

MCDR	**Montecristi**	**1.68**	**310**	⇓*e*Pg		**Pn**	**04 07 43.6**	**+1.0**
MCDR				⇑*e*Sg		**Sn**	**04 08 05.1**	**+0.4**
MCDR				IAML			04 08 12.0	
	comp=N,295nm,0.1s							
MASC	**Masc**	**3.95**	**291**	*e*P		**Pn**	**04 08 13.3**	**+0.9**
GTBY	**Guantanamo Bay**	**4.68**	**284**	*e*P		**Pn**	**04 08 23.5**	**+1.3**
GTBY				*e*S		**Sn**	**04 09 14.1**	**-1.4**
RCC	**Rio Carpintero**	**5.23**	**284**	*e*P		**Pn**	**04 08 29.1**	**-0.5**
RCC				*e*S		**Sn**	**04 09 25.7**	**-3.1**
PINC	**Pinares de May**	**5.44**	**289**	*e*P		**Pn**	**04 08 31.4**	**-1.0**
ANBD	**Bethesda, Anti**	**8.30**	**101**	*e*P		**Pn**	**04 09 13.6**	**+2.4**
ANBD	**Bethesda, Anti**	**8.30**	**101**	*e*S		**Sn**	**04 10 41.1**	**-2.2**

ISN ***14*** *04:13:52.6±0.6,33.76N×45.86E,h31km±3km, ML2.9*
TEH ***14*** *04:13:54.6,33.74N×45.87E,h8km±196km, ML2.9*
ISC 14 04:13:53.4±1.0,33.73N±0.04×45.79E±0.05,h10km,n10,
σ0s57/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.36**	**106**	Pg	**Pg**	**04 14 00.5**	**-0.2**
IBDR	**Badra**	**0.62**	**169**	*e*Pg	**Pg**	**04 14 05.4**	**-0.1**
IBDR				*e*Sg	**Sg**	**04 14 14.6**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**0.80**	**348**	Pg	**Pn**	**04 14 10.4**	**-0.4**
IGHG	**Ghaleghazi**	**0.89**	**47**	Pg	**Pn**	**04 14 11.8**	**-0.4**
IDHR	**Dehrash**	**1.09**	**27**	Pg	**Pg**	**04 14 14.2**	**-0.3**
BHD	**Baghdad**	**1.26**	**249**	*e*Pg	**Pn**	**04 14 16.9**	**-0.2**
BHD				*e*Sg	**Sb**	**04 14 34.0**	**+0.5**
IKOM	**Komasi**	**1.50**	**72**	Pg	**Pg**	**04 14 22.5**	**+0.2**
ILIN	**Lien**	**1.54**	**39**	Pg	**Pb**	**04 14 22.4**	**+0.2**
IKFM	**Kafar-mosalman**	**1.73**	**96**	Pg	**Pb**	**04 14 25.8**	**+0.6**
RAFI	**Al-Rafai**	**2.02**	**172**	*e*Pn	**Pn**	**04 14 26.5**	**-1.0**
RAFI				*e*Sn	**Sn**	**04 14 52.0**	**-0.7**

KRSC 14 04:18:19.9±0.9,53.97N×160.96E,h48km±21km,MI4.2,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.90**	**275**	*e*P	Pn	04 18 37.2	+1.0
KII				*e*S	Sn	04 18 49.3	+1.1
SPN	**Mys Shipunski**	**1.04**	**213**	*e*P	Pn	04 18 40.1	+2.1
SPN				*e*S	Sn	04 18 53.5	+2.1
NLC	**Nalytchevo**	**1.25**	**231**	*e*P	Pn	04 18 42.2	+1.3
NLC				*e*S	Sn	04 18 57.8	+1.2
TUMD	**Tumrok D**	**1.28**	**345**	*e*P	Pn	04 18 42.5	+1.2
TUMD				*e*S	Sn	04 18 57.9	+0.6
TUMR	**Tumrok**	**1.40**	**341**	*e*P	Pn	04 18 44.8	+1.8
TUMR				*e*S	Sn	04 19 02.1	+1.7
SMAR	**Somma**	**1.47**	**242**	*e*P	Sn	04 18 46.0	+1.9
SMAR				*e*S	Sn	04 19 03.9	+1.6
UGLR	**Uglovaya**	**1.48**	**240**	*e*P	Sn	04 18 46.5	+2.2
UGLR				*e*S	Sn	04 19 04.8	+2.3
AVH	**Avacha**	**1.50**	**243**	*e*P	Pn	04 18 46.7	+2.3
AVH				*e*S	Sn	04 19 05.5	+2.6
KRX	**Arik**	**1.51**	**247**	*e*P	Pn	04 18 46.2	+1.7
KRX				*e*S	Sn	04 19 04.5	+1.5
KOK	**Koryaka**	**1.54**	**245**	*e*P	Pn	04 18 46.7	+1.7
KOK				*e*S	Sn	04 19 06.2	+2.3
DALK	**Dalny**	**1.62**	**235**	*e*P	Pn	04 18 47.8	+1.9
DALK				*e*S	Sn	04 19 07.5	+1.9
INSR	**Institute**	**1.67**	**238**	*e*P	Pn	04 18 49.1	+2.4
INSR				*e*S	Sn	04 19 09.4	+2.5
PET	**Petropavlovsk**	**1.67**	**236**	*e*P	Pn	04 18 48.8	+2.1
PET				*e*S	Sn	04 19 08.7	+1.7
GNL	**Ganaly**	**1.81**	**262**	*e*P	Pn	04 18 50.2	+1.5
KMNR	**Kamenistaya**	**1.84**	**347**	*e*P	Pn	04 18 51.4	+2.4
KMNR				*e*S	Sn	04 19 13.7	+2.6
BZP	**Bezymyannyi-Pe**	**1.96**	**353**	*e*P	Pn	04 18 53.3	+2.4
BZMR	**Bezymyannaya**	**1.99**	**352**	*e*P	Pn	04 18 53.8	+2.7
BZMR				*e*S	Sn	04 19 20.1	+5.2
BZWR	**Bezymyannyi-We**	**2.02**	**353**	*e*P	Pn	04 18 54.3	+2.7
KIRR	**Kirishev**	**2.02**	**350**	*e*P	Pn	04 18 54.0	+2.5
KRMR	**Karymshinskiy**	**2.04**	**237**	*e*P	Pn	04 18 54.0	+2.2
KRMR				*e*S	Sn	04 19 18.7	+2.7
KPT	**Kopyto**	**2.05**	**348**	*e*P	Pn	04 18 53.9	+2.1
RUS	**Russkaya**	**2.13**	**225**	*e*P	Pn	04 18 54.7	+1.7
CIRR	**Tsirk**	**2.15**	**357**	*e*P	Pn	04 18 56.2	+2.8
KOZ	**Kozyrevsk**	**2.19**	**344**	*e*P	Pn	04 18 55.7	+2.0
KOZ				*e*S	Sn	04 19 21.6	+2.1
GRL	**Gorelyy**	**2.24**	**232**	*e*P	Pn	04 18 57.4	+2.8
GRL				*e*S	Sn	04 19 24.6	+3.5
ESO	**Esso**	**2.35**	**327**	*e*P	Pn	04 18 57.0	+1.0
KLY	**Klyuchi**	**2.36**	**356**	*e*P	Pn	04 18 58.6	+2.5
KLY				*e*S	Sn	04 19 26.3	+2.6
ASAK	**Asacha**	**2.43**	**230**	*e*P	Pn	04 19 00.1	+2.9
SRDR	**Sredinnyy**	**2.46**	**344**	*e*P	Pn	04 18 58.9	+1.4
KBG	**Krutoberegovo**	**2.50**	**23**	*e*P	Pn	04 19 02.4	+4.4
KBG				*e*S	Sn	04 19 32.8	+5.6
BDR	**Baidarnaya**	**2.61**	**3**	*e*P	Pn	04 19 02.7	+3.1
SMKR	**Semkarok**	**2.63**	**6**	*e*P	Pn	04 19 02.7	+2.7
SRKR	**Sorokina**	**2.69**	**2**	*e*P	Pn	04 19 03.6	+2.8
KDTR	**Khodutka, Kamc**	**2.78**	**220**	*e*P	Pn	04 19 04.1	+2.3
BKI	**Bering**	**3.17**	**65**	*e*S	Sn	04 19 45.0	+1.4
OSSR	**Ossora**	**5.42**	**11**	*e*P	Pn	04 19 43.8	+5.8

UCR ***14*** *04:19:56.0±1.4,9.16N×84.48W,h0km±7km,MW4.2*
CATAC ***14*** *04:19:56.7±0.8,9.17N×84.44W,h5km±4km,ML3.7*
ISC 14 04:19:56.7±1.1,9.14N±0.05×84.47W±0.03,h13km,n80,
σ0s92/75,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVQ2	**Quepos**	**0.42**	**46**	*e*P	**Pg**	**04 20 04.7**	**-0.3**
LLNJ	**Naranjito**	**0.49**	**48**	*e*P	**Pg**	**04 20 06.0**	**-0.3**
LLNJ				*e*S	**Sb**	**04 20 14.7**	**+0.4**
JACO	**JACO, Garabito**	**0.55**	**340**	*e*P	**Pg**	**04 20 06.7**	**-0.8**
JACO				*e*S	**Sb**	**04 20 15.7**	**-0.2**
JACO	**JACO, Garabito**	**0.55**	**340**	*i* P	**Pg**	**04 20 06.8**	**-0.6**
JACO				*i* S	**Sb**	**04 20 15.8**	**-0.2**
JACO				IAML		04 20 19.6	
	comp=Z,3μm,1.0s						
LCR2	**La Lucha 2**	**0.75**	**38**	*e*P	**Pg**	**04 20 10.2**	**-1.1**
LCR2	**La Lucha 2**	**0.75**	**38**	*i* P	**Pg**	**04 20 10.4**	**-0.9**
LCR2				IAML		04 20 34.3	
	comp=Z,800nm,1.0s						
CBL1	**Cabuya**	**0.76**	**306**	*e*P	**Pg**	**04 20 10.3**	**-1.0**
CDM	**Cerro de Muert**	**0.81**	**60**	*e*P	**Pg**	**04 20 11.5**	**-1.0**
CDM	**Cerro de Muert**	**0.81**	**60**	*i* P	**Pg**	**04 20 11.5**	**-1.0**
CDM				IAML		04 20 27.2	
	comp=Z,1μm,1.0s						
OCHAL	**Ojochal**	**0.82**	**93**	*i* P	**Pg**	**04 20 12.5**	**0.0**
OCHAL				IAML		04 20 13.1	
	comp=Z,21nm,1.0s						
BUS1	**Rivas**	**0.82**	**60**	*e*P	**Pg**	**04 20 11.6**	**-1.1**
LUJA	**Lujan**	**0.87**	**27**	*e*P	**Pb**	**04 20 14.3**	**+0.5**
BELE	**Belen**	**0.87**	**19**	*e*P	**Pg**	**04 20 13.5**	**-0.1**
TRIO	**Tres Rios**	**0.89**	**32**	*e*P	**Pg**	**04 20 14.0**	**0.0**
OCM	**Ochomogo**	**0.90**	**34**	*e*P	**Pg**	**04 20 13.1**	**-1.0**
OCM	**Ochomogo**	**0.90**	**34**	*i* PA		04 20 12.8	
OCM				IAML		04 20 19.5	
	comp=Z,750nm,1.0s						
REPA	**Paraso**	**0.90**	**41**	*e*P	**Pg**	**04 20 14.0**	**-0.2**
TCS1	**Tacares**	**0.91**	**11**	*e*P	**Pg**	**04 20 14.2**	**-0.1**
TCS1	**Tacares**	**0.91**	**11**	*i* PA		04 20 14.1	
TCS1				IAML		04 20 32.6	
	comp=Z,13μm,1.0s						
HDC	**Heredia**	**0.92**	**22**	*e*P	**Pg**	**04 20 14.2**	**-0.4**
HDC3	**Heredia 3**	**0.92**	**23**	*i* P	**Pg**	**04 20 14.5**	**-0.1**
HDC3				IAML		04 20 42.6	
	comp=Z,2μm,1.0s						
SRA1	**San Ramn**	**0.94**	**359**	*e*P	**Pg**	**04 20 14.3**	**-0.4**
RAMO	**San Ramon**	**0.94**	**0**	*e*P	**Pb**	**04 20 15.5**	**+0.6**
GREC	**Grecia**	**0.94**	**10**	*e*P	**Pn**	**04 20 15.8**	**+0.2**
SARCI	**Sarchi**	**0.95**	**7**	*e*P	**Pg**	**04 20 15.1**	**0.0**
PCAYA	**Pacayas**	**1.01**	**40**	*e*P	**Pg**	**04 20 15.2**	**-1.0**
CVIMO	**Finca Echandi**	**1.02**	**31**	*e*P	**Pg**	**04 20 16.7**	**+0.3**
EDPN	**Palmar Norte**	**1.02**	**100**	*e*P	**Pb**	**04 20 15.4**	**-0.7**
VINA	**Juan Vinas**	**1.03**	**44**	*e*P	**Pb**	**04 20 16.3**	**-0.2**
RAFA	**San Farael, Vo**	**1.04**	**39**	*e*P	**Pb**	**04 20 16.6**	**-0.1**
RAFA	**San Farael, Vo**	**1.04**	**39**	*i* P	**Pb**	**04 20 16.6**	**-0.1**
RAFA				IAML		04 20 21.3	
	comp=Z,22μm,1.0s						
VICA	**Volcano Irazu**	**1.04**	**36**	*e*P	**Pg**	**04 20 16.3**	**-0.5**
ICR3	**Volcano Irazu**	**1.04**	**37**	*e*P	**Pg**	**04 20 16.3**	**-0.6**
TURIB	**Turrialba**	**1.08**	**46**	*e*P	**Pg**	**04 20 17.9**	**+0.3**
VTLA	**Turrialba Volc**	**1.10**	**39**	*e*P	**Pb**	**04 20 17.7**	**0.0**
CVTQ	**Turrialba Volc**	**1.10**	**39**	*e*P	**Pb**	**04 20 17.7**	**-0.2**
VERB	**Verbena**	**1.10**	**44**	*e*P	**Pb**	**04 20 17.4**	**-0.4**
CVTV	**Tajo**	**1.11**	**40**	*e*P	**Pb**	**04 20 17.9**	**-0.1**
VTR0	**Volcan Turrial**	**1.12**	**39**	*e*P	**Pb**	**04 20 18.2**	**+0.1**
CVTR	**Volcan Turrial**	**1.12**	**39**	*e*P	**Pb**	**04 20 17.8**	**-0.3**
CPMI	**Catarata Coope**	**1.14**	**4**	*e*P	**Pb**	**04 20 17.0**	**-1.3**
CPMI	**Catarata Coope**	**1.14**	**4**	*i* P	**Pb**	**04 20 17.0**	**-1.3**
CPMI				IAML		04 20 48.6	
	comp=Z,1μm,1.0s						
VTLO	**VTLO**	**1.16**	**39**	*e*P	**Pb**	**04 20 18.8**	**+0.1**
EDBA	**Buenos Aires**	**1.18**	**89**	*e*P	**Pb**	**04 20 18.2**	**-0.7**
JUNT	**Juntas**	**1.23**	**337**	*e*P	**Pn**	**04 20 18.2**	**-1.4**
JTS	**Las Juntas de**	**1.23**	**337**	*e*P	**Pn**	**04 20 18.0**	**-1.7**
SOCE	**Pocosol**	**1.24**	**353**	*e*P	**Pn**	**04 20 19.1**	**-0.7**
SOCE	**Pocosol**	**1.24**	**353**	*i* P	**Pn**	**04 20 19.1**	**-0.7**
SOCE				IAML		04 20 22.5	
	comp=Z,3μm,1.0s						
INDI	**Punta indio, G**	**1.25**	**305**	*i* P	**Pn**	**04 20 17.2**	**-2.6**
RIFO	**Rio Frio, Sara**	**1.28**	**25**	*e*P	**Pn**	**04 20 20.0**	**-0.4**
RIFO	**Rio Frio, Sara**	**1.28**	**25**	*i* P	**Pn**	**04 20 19.5**	**-0.9**
RIFO				IAML		04 20 54.5	
	comp=Z,1μm,1.0s						
LCOCO	**El Coco**	**1.30**	**44**	*e*P	**Pb**	**04 20 21.2**	**+0.2**
ARE1	**Arenal 1**	**1.33**	**349**	*e*P	**Pn**	**04 20 20.8**	**-0.2**
VACR	**Volcan Arenal**	**1.34**	**351**	*e*P	**Pn**	**04 20 21.2**	**+0.2**
VACR	**Volcan Arenal**	**1.34**	**351**	*i* P	**Pn**	**04 20 21.0**	**-0.1**
VACR				IAML		04 20 51.9	
	comp=Z,1μm,1.0s						
POTG	**Potrero Grande**	**1.34**	**94**	*e*P	**Pn**	**04 20 20.7**	**-0.5**
POTG	**Potrero Grande**	**1.34**	**94**	*i* P	**Pn**	**04 20 20.7**	**-0.5**
POTG				IAML		04 20 54.8	
	comp=Z,2μm,1.0s						
CEDE	**Laguna Cedeo**	**1.35**	**350**	*e*P	**Pn**	**04 20 21.1**	**-0.3**
EDAD	**Golfito**	**1.38**	**111**	*e*P	**Pb**	**04 20 22.7**	**+0.4**
ORTG	**Ortega, Santa**	**1.55**	**321**	*e*P	**Pn**	**04 20 24.6**	**+0.5**
ORTG	**Ortega, Santa**	**1.55**	**321**	*i* PA		04 20 23.9	
ORTG				IAML		04 20 56.2	
	comp=Z,310nm,1.0s						
COVE	**Coope Vega, Sa**	**1.57**	**2**	*e*P	**Pn**	**04 20 23.9**	**-0.3**
COVE	**Coope Vega, Sa**	**1.57**	**2**	*i* PA		04 20 24.0	
COVE				IAML		04 21 11.1	
	comp=Z,840nm,1.0s						
TRT2	**Tortugero**	**1.58**	**27**	*i* PA		04 20 24.3	
TRT2				IAML		04 21 03.9	
	comp=Z,790nm,1.0s						
CUI	**Cuipilapa**	**1.65**	**336**	*e*P	**Pn**	**04 20 25.0**	**-0.4**
BRIBI	**Bribri**	**1.67**	**73**	*e*P	**Pb**	**04 20 27.5**	**+0.2**
CDITO	**Canoas**	**1.68**	**110**	*i* PA		04 20 25.8	
CDITO				IAML		04 21 10.1	
	comp=Z,780nm,1.0s						
VERA	**Finca Concepci**	**1.74**	**347**	*e*P	**Pb**	**04 20 28.3**	**-0.2**
VMAR	**Armenia, Volca**	**1.77**	**339**	*e*P	**Pn**	**04 20 27.6**	**+0.4**
VMAR	**Armenia, Volca**	**1.77**	**339**	*i* PA		04 20 27.5	
VMAR				IAML		04 20 33.7	
	comp=Z,670nm,1.0s						
BRU2	**Volcan**	**1.79**	**101**	*e*P	**Pn**	**04 20 27.7**	**+0.2**
BRU2	**Volcan**	**1.79**	**101**	*i* P	**Pb**	**04 20 29.2**	**-0.3**
ELI1	**Hacienda Flor**	**1.83**	**325**	*e*P	**Pb**	**04 20 31.2**	**+1.1**
HZTE	**Horizontes, Gu**	**1.91**	**325**	*e*P	**Pn**	**04 20 29.6**	**+0.6**
HZTE	**Horizontes, Gu**	**1.91**	**325**	*i* PA		04 20 30.8	
HZTE				IAML		04 20 37.1	
	comp=Z,500nm,1.0s						
CONN	**Concepcion**	**2.66**	**335**	*i* P	**Pb**	**04 20 45.6**	**+1.4**
ACON	**Acoyapa**	**2.89**	**346**	*i* P	**Pg**	**04 20 50.6**	**-1.5**
COPN	**Copaltepe**	**3.67**	**326**	*i* P	**Pn**	**04 20 54.9**	**+1.8**
COPN				IAML		04 23 13.8	
	comp=Z,140nm,1.0s						
MACN	**El Madrono**	**3.95**	**327**	*i* P	**Pn**	**04 21 01.1**	**+4.1**
BCIP	**Isla Barro Col**	**4.58**	**89**	*i* P	**Pn**	**04 21 07.5**	**+1.9**

IDC ***14*** *04:53:51.5±0.5,3.61S×101.51E,h0km,mb4.5/22, mbtmp4.5/24,ML4.0/1,MS3.4/13,Error ellipse: s-maj=19.7km s-min=12.3km az=54.0*
NEIC ***14*** *04:53:59.0±1.6,3.57S±0.10×101.65E±0.10,h49km±5km, mb4.6/43,Error ellipse: s-maj=17.7km s-min=9.0km az=223.0*
DJA ***14*** *04:53:58.1±0.2,4.°S±3.°×10.°2E±.°,h45km±3km,M4.8/32, mb4.9/32,mB5.4/10,MLv4.9/21,Mw4.3/13,Mw(mB)4.8/10*
ISC 14 04:53:57.8±0.8,3.68S±0.06×101.58E±0.06,h47km±6km,
n165,σ1s26/151,mb4.6/52,MS3.4/12,1C-2D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UBSI	**University, Be**	**0.70**	**97**	P	**Pn**	**04 54 11.9**	**+0.6**
UBSI				S	**Sn**	**04 54 23.1**	**+1.9**
KRJI	**Kerinci**	**1.58**	**356**	P	**Pn**	**04 54 24.7**	**+1.3**
EGSI	**Enggano, Bengk**	**1.80**	**157**	P	**Pn**	**04 54 25.6**	**-0.8**
PPSI	**Pulau Pagai**	**1.81**	**300**	P	**Pn**	**04 54 27.5**	**+1.0**
LWLI	**Liwa**	**2.81**	**118**	P	**Pn**	**04 54 41.7**	**+1.4**
JMBI	**JAMBI**	**2.89**	**45**	P	**Pn**	**04 54 43.2**	**+1.8**
PDSI	**Padang**	**2.96**	**338**	P	**Pn**	**04 54 43.0**	**+0.6**
PMBI	**Palembang**	**3.28**	**77**	Pn	**Pn**	**04 54 46.0**	**-0.6**
PMBI	**Palembang**	**3.28**	**77**	P	**Pn**	**04 54 46.2**	**-0.4**
SISI	**Saibi**	**3.41**	**313**	P	**Pn**	**04 54 49.2**	**+0.7**
KASI	**Kota Agung**	**3.44**	**122**	P	**Pn**	**04 54 49.0**	**+0.1**
BKNI	**Bangkinang**	**4.01**	**352**	Pn	**Pn**	**04 54 57.5**	**+0.7**
BKNI	**Bangkinang**	**4.01**	**352**	P	**Pn**	**04 54 58.8**	**+2.0**
DSRI	**Dabo**	**4.37**	**43**	P	**Pn**	**04 55 04.0**	**+2.4**
PPBI	**Pangkal Pinang**	**4.80**	**72**	P	**Pn**	**04 55 09.2**	**+1.7**
PBSI	**Pulau Batu**	**4.88**	**317**	P	**Pn**	**04 55 09.4**	**+0.8**
SBJI	**Serang**	**5.14**	**118**	P	**Pn**	**04 55 13.9**	**+1.6**
	159nm,0.9s,1.3nm						
TPRI	**Tanjung Pinang**	**5.43**	**33**	P	**Pn**	**04 55 17.5**	**+1.2**
	108nm,0.5s,0.7nm						
DBJI	**Dramaga**	**5.89**	**119**	P	**Pn**	**04 55 24.9**	**+2.3**
	140nm,1.5s,0.8nm						
TRSI	**Tarutung**	**6.24**	**335**	P	**Pn**	**04 55 28.7**	**+1.2**
GSI	**Gunungsitoli**	**6.36**	**321**	Pn	**Pn**	**04 55 29.1**	**0.0**
GSI	**Gunungsitoli**	**6.36**	**321**	P	**Pn**	**04 55 29.4**	**+0.4**
	78nm,0.5s,0.5nm						
CNJI	**Cibinong**	**6.60**	**123**	P	**Pn**	**04 55 31.4**	**-0.9**
	55nm,1.1s,1μm0.2nm						
LEM	**Lembang**	**6.78**	**118**	Pn	**Pn**	**04 55 35.0**	**+0.1**
	2.7nm,0.3s,baz=309,slow=22,SNR=1.4						
LEM				LR	LR	04 58 38.4	
	comp=Z,392nm,19.9s,baz=208,slow=42						
	15nm,0.5s						
LEM	**Lembang**	**6.78**	**118**	P	**Pn**	**04 55 33.9**	**-1.0**
	74nm,1.0s,0.4nm						
RPSI	**Rantau Prapat**	**6.86**	**337**	Pn	**Pn**	**04 55 35.5**	**-0.4**
PSI	**Prapat**	**6.96**	**338**	P	**Pn**	**04 55 34.4**	**-2.9**
	6.9nm,0.8s,302nm0.1nm						
BBJI	**Bungbulang**	**7.12**	**122**	P	**Pn**	**04 55 40.1**	**+0.6**
	112nm,1.5s,2μm0.5nm						
CMJI	**Cimerak**	**7.96**	**121**	P	**Pn**	**04 55 51.9**	**+1.0**
	99nm,0.6s,0.7nm						
SNSI	**Sinabang, Aceh**	**8.01**	**319**	P	**Pn**	**04 55 52.5**	**+0.9**
	141nm,0.6s,1μm						
KCSI	**Kotacane, Aceh**	**8.10**	**332**	P	**Pn**	**04 55 51.8**	**-1.1**
KPJI	**Karang Pucung**	**8.17**	**117**	P	**Pn**	**04 55 56.2**	**+2.4**
	62nm,0.7s						
KULM	**Kulim**	**8.96**	**354**	Pn	**Pn**	**04 56 06.8**	**+2.1**
KULM	**Kulim**	**8.96**	**354**	P	**Pn**	**04 56 04.7**	**+0.1**
	15nm,0.8s						
MLSI	**Meulaboh, Aceh**	**9.43**	**327**	P	**Pn**	**04 56 11.9**	**+0.7**
	100nm,0.7s						
UGM	**Wanagama**	**9.84**	**116**	Pn	**Pn**	**04 56 17.8**	**+1.0**
UGM	**Wanagama**	**9.84**	**116**	P	**Pn**	**04 56 18.4**	**+1.6**
	212nm,1.2s						
SJI	**Sawahan**	**10.91**	**112**	P	**Pn**	**04 56 33.1**	**+1.7**
	123nm,0.6s						
ABJI	**Asem Bagus**	**13.24**	**109**	P	**Pn**	**04 57 05.7**	**+2.5**
	131nm,0.7s						
JAGI	**Jajag, Banyuwa**	**13.38**	**111**	Pn	**Pn**	**04 57 04.8**	**-0.4**
JAGI	**Jajag, Banyuwa**	**13.38**	**111**	P	**Pn**	**04 57 05.3**	**+0.2**
	79nm,0.8s						
TWSI	**Taliwang, Sumb**	**16.02**	**109**	P	**Pn**	**04 57 36.3**	**-3.7**
PLAI	**Plampang**	**16.89**	**108**	P	**Pn**	04 57 40.9	-10
DBNI	**Kabupaten Domp**	**17.31**	**107**	P	**P**	**04 57 57.1**	**-0.1**
	26nm,0.7s						
MMSI	**Mamuju**	**17.33**	**87**	P	**Pn**	**04 57 55.8**	**-0.8**
	26nm,0.7s						
MKS	**Makassar**	**17.90**	**96**	P	**P**	**04 58 05.4**	**+1.7**
	44nm,1.0s						
KAPI	**Kappang**	**18.17**	**95**	P	**P**	**04 58 05.7**	**-1.0**
KAPI	**Kappang**	**18.17**	**95**	P	**Pn**	**04 58 06.5**	**-0.3**
	32nm,1.1s,baz=284,slow=10,SNR=5.1						
KAPI				LR	LR	05 05 45.1	
	comp=Z,98nm,18.6s,baz=268,slow=39						
BKSI	**Bulukumba**	**18.56**	**96**	P	**Pn**	**04 58 12.9**	**+1.4**
	42nm,0.6s						
MPSI	**Mapaga**	**18.74**	**78**	P	**Pn**	**04 58 14.5**	**+0.8**
	24nm,1.2s						
TOLI2	**Tolitoli**	**19.77**	**76**	P	**P**	**04 58 22.4**	**-1.8**
TOLI2				IAmb	IAmb	04 58 31.1	
	comp=Z,16nm,0.8s						
EDFI	**Ende, Flores**	**20.61**	**105**	P	**P**	**04 58 34.0**	**+0.5**
	comp=Z,19nm,0.7s,comp=Z,1μm						
CM31	**Chiang Mai Arr**	**22.15**	**353**	P	**P**	**04 58 48.8**	**-0.9**
CM31				IAmb	IAmb	04 58 51.7	
	comp=Z,8.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**22.15**	**353**	P	**P**	**04 58 49.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**22.15**	**353**	P	**P**	**04 58 48.8**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=183,slow=8.8,SNR=21						
CMAR				LR	LR	05 08 31.3	
	comp=Z,52nm,19.2s,baz=170,slow=40						
	comp=Z,3.7nm,0.6s						
PALK	**Pallekele**	**23.50**	**298**	LR	LR	05 07 33.7	
	comp=Z,59nm,18.8s,baz=223,slow=35						
PSA00	**Pilbara Seismi**	**25.13**	**137**	P	**P**	**04 59 19.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.58**	**123**	P	**P**	**04 59 40.5**	**-0.2**
H08S2	**Diego Garcia H**	**29.20**	**261**	T	T	05 29 43.5	
	baz=84,slow=76,SNR=208						
H08S3	**Diego Garcia H**	**29.21**	**261**	T	T	05 29 46.8	
	baz=84,slow=76,SNR=149						
H08S1	**Diego Carcia H**	**29.22**	**261**	T	T	05 29 44.3	
	baz=84,slow=76,SNR=142						
PZH	**PanZhiHua**	**30.00**	**0**	P	**P**	**05 00 05.5**	**+3.2**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
MTN	**Manton Dam**	**30.60**	**109**	P	**P**	**05 00 05.5**	**-2.1**
NWAO	**Narrogin (SRO)**	**32.58**	**155**	LR	LR	05 11 53.5	
	comp=Z,75nm,21.5s,baz=208,slow=33						
LSA	**Lhasa**	**34.66**	**344**	P	**P**	**05 00 43.7**	**+0.3**
WB0	**Warramunga Arr**	**35.78**	**119**	P	**P**	**05 00 53.2**	**+0.4**
WB0				IAmb	IAmb	05 01 11.4	
	comp=Z,8.9nm,1.1s						
WRA	**Warramunga Arr**	**35.80**	**119**	P	**P**	**05 00 53.5**	**+0.6**
WRA	**Warramunga Arr**	**35.80**	**119**	P	**P**	**05 00 53.2**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=302,slow=9.2,SNR=50						
WRA				PcP	**PcP**	**05 03 20.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=301,slow=2.7,SNR=2.0						
WRA				S	**S**	**05 06 24.8**	**-2.6**
	comp=Z,0.7nm,1.0s,baz=293,slow=17,SNR=4.5						
	comp=Z,2.3nm,0.4s						
WB2	**Warramunga Arr**	**35.81**	**119**	P	**P**	**05 00 53.1**	**+0.2**
WB2				IAmb	IAmb	05 00 57.9	
	comp=Z,5.2nm,0.6s						
WR0	**Warramunga Arr**	**35.98**	**119**	P	**P**	**05 00 53.8**	**-0.7**
WR0				IAmb	IAmb	05 01 12.9	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**37.00**	**125**	P	**P**	**05 01 02.9**	**-0.3**
AS31				IAmb	IAmb	05 01 13.0	
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**37.00**	**125**	P	**P**	**05 01 03.4**	**+0.3**
ASAR	**Alice Springs**	**37.00**	**125**	P	**P**	**05 01 04

	comp=Z,14nm,1.1s							
BNX					pmax		pmax	
	comp=Z,79nm,5.7s							
KK31	**Karatay Array**	**54.36**	**332**		P		**P**	**05 03 19.2 -0.7**
KKAR	**Karatay Array**	**54.36**	**332**		P		**P**	**05 03 19.2 -0.7**
USA0B	**Ussuriysk Arra**	**54.92**	**26**		P		**P**	**05 03 23.6 -0.2**
USRK	**Ussuriysk Ar.**	**54.92**	**26**		P		**P**	**05 03 22.9 -0.9**
USRK	**Ussuriysk Ar.**	**54.92**	**26**		P		**P**	**05 03 24.4 +0.5**
	comp=Z,6.6nm,0.6s,baz=227,slow=5.0,SNR=8.9							
	comp=Z,6.6nm,0.6s							
KURBB	**Kurchatov Arra**	**57.60**	**343**		P		**P**	**05 03 42.3 -0.5**
	comp=Z,2.7nm,0.6s,baz=160,slow=6.9,SNR=25							
KURBB					PcP		**PcP**	**05 04 36.0 +0.4**
	comp=Z,0.7nm,0.4s,baz=162,slow=3.8,SNR=4.9							
	comp=Z,2.7nm,0.6s							
KURK	**Kurchatov**	**57.66**	**343**		P		**P**	**05 03 42.2 -1.0**
GEYT	**Alibeck**	**57.74**	**320**		P		**P**	**05 03 44.1 0.0**
GEYT					IAmb		IAmb	05 03 45.6
	comp=Z,5.9nm,1.0s							
GEYT	**Alibeck**	**57.74**	**320**		P		**P**	**05 03 42.8 -1.3**
	comp=Z,2.9nm,0.8s,baz=156,slow=7.8,SNR=6.3							
	comp=Z,2.9nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**57.74**	**320**		P		**P**	**05 03 44.4 +0.2**
GYA0B					IAmb		IAmb	05 03 45.6
	comp=Z,5.0nm,0.9s							
HEH	**HeiHe**	**58.15**	**19**	*eP*			**P**	**05 03 46.8 +0.1**
HEH					pmax		pmax	
	comp=Z,12nm,0.8s							
HEH					pmax		pmax	
	comp=Z,130nm,4.8s							
HNR	**Honiara**	**58.21**	**99**		LR		LR	05 31 14.8
	comp=Z,519nm,19.1s,baz=308,slow=38							
KLR	**Kul'dur**	**58.84**	**23**		P		**P**	**05 03 50.9 -0.6**
	comp=Z,4.3nm,0.6s,baz=232,slow=6.2,SNR=18							
	comp=Z,4.3nm,0.6s							
ZAA0	**Zalesovo Array**	**59.11**	**349**		P		**P**	**05 03 52.8 -0.5**
ZALV	**Zalesovo Beam**	**59.11**	**349**		P		**P**	**05 03 52.4 -0.9**
ZALV	**Zalesovo Beam**	**59.11**	**349**		P		**P**	**05 03 53.1 -0.1**
	comp=Z,9.5nm,4.4s,baz=175,slow=5.0,SNR=62							
	comp=Z,9.5nm,0.4s							
H04N2	**CROZET ISLANDS**	**60.41**	**218**		T		T	06 09 01.6
	baz=61,slow=75,SNR=1027							
H04N1	**CROZET ISLANDS**	**60.43**	**218**		T		T	06 09 02.0
	baz=61,slow=75,SNR=1116							
H04N3	**CROZET ISLANDS**	**60.43**	**218**		T		T	06 09 00.7
	baz=61,slow=75,SNR=900							
H04S1	**CROZET ISLANDS**	**60.67**	**217**		T		T	06 09 20.4
	baz=60,slow=75,SNR=57							
H04S3	**CROZET ISLANDS**	**60.69**	**217**		T		T	06 09 19.0
	baz=60,slow=75,SNR=137							
H04S2	**CROZET ISLANDS**	**60.69**	**217**		T		T	06 09 20.3
	baz=60,slow=75,SNR=75							
BVAR	**Borovoye Array**	**62.30**	**339**		P		**P**	**05 04 14.4 -0.6**
	comp=Z,4.4nm,0.6s,baz=149,slow=8.2,SNR=26							
	comp=Z,4.4nm,0.6s							
BRVK	**Borovoye**	**62.36**	**339**		P		**P**	**05 04 14.7 -0.8**
BRVK					IAmb		IAmb	05 04 16.6
	comp=Z,3.3nm,0.5s							
ABKAR	**Akbulak array**	**63.86**	**331**		P		**P**	**05 04 24.2 -1.3**
YAK	**Yakutsk**	**68.97**	**14**		P		**P**	**05 04 56.9 -1.0**
KBZ	**Khabaz**	**70.60**	**319**		P		**P**	**05 05 08.6 +0.4**
	comp=Z,5.6nm,0.8s,baz=135,slow=6.2,SNR=11							
	comp=Z,5.6nm,0.8s							
EIL	**Elat**	**71.75**	**303**		LR		LR	05 36 20.4
	comp=Z,32nm,18.3s,baz=67,slow=36							
MMAI	**Mount Meron Ar**	**72.29**	**306**		LR		LR	05 38 51.4
	comp=Z,18nm,18.0s,baz=152,slow=37							
PETK	**Petropavlovsk-**	**73.47**	**31**		P		**P**	**05 05 24.8 -0.5**
	comp=Z,4.3nm,1.0s,baz=298,slow=3.2,SNR=1.6							
	comp=Z,4.3nm,1.0s							
NRIK	**Noril'sk**	**73.50**	**355**		P		**P**	**05 05 24.3 -0.8**
NRIK					IAmb		IAmb	05 05 25.4
	comp=Z,4.5nm,0.8s							
NRIK	**Noril'sk**	**73.50**	**355**		P		**P**	**05 05 25.3 +0.2**
	comp=Z,2.6nm,0.3s,baz=187,slow=5.2,SNR=5.8							
	comp=Z,2.6nm,0.3s							
BR131	**Keskin Array S**	**75.61**	**312**		P		**P**	**05 05 37.9 -0.3**
BR131					IAmb		IAmb	05 05 38.9
	comp=Z,4.8nm,0.7s							
BRTR	**Keskin Array B**	**75.61**	**312**		P		**P**	**05 05 37.7 -0.5**
	comp=Z,3.0nm,0.6s,baz=143,slow=7.2,SNR=24							
	comp=Z,3.0nm,0.6s							
LBTB	**Lobatse**	**75.75**	**245**		LR		LR	05 37 16.3
	comp=Z,38nm,18.3s,baz=154,slow=34							
BOSA	**Boshof**	**76.24**	**242**		P		**P**	**05 05 43.4 +1.4**
	comp=Z,2.8nm,0.5s,baz=114,slow=4.5,SNR=13							
	comp=Z,2.8nm,0.5s							
URZ	**Urewera**	**76.38**	**128**		LR		LR	05 41 43.1
	comp=Z,30nm,18.0s,baz=302,slow=38							
SEY	**Seymchan**	**76.59**	**21**		P		**P**	**05 05 42.5 -0.5**
	comp=Z,5.9nm,0.7s,baz=256,slow=10,SNR=11							
	comp=Z,5.9nm,0.7s							
TIXI	**Tiksi**	**77.26**	**9**		P		**P**	**05 05 45.1 -1.6**
BURAR	**Bucovina Array**	**83.55**	**319**		P		**P**	**05 06 21.9 +0.8**
BURAR					IAmb		IAmb	05 06 23.5
	comp=Z,3.4nm,0.8s							
BUR08	**Bucovina Ar. S**	**83.57**	**319**		P		**P**	**05 06 21.7 +0.5**
BUR08					IAmb		IAmb	05 06 23.3
	comp=Z,4.0nm,0.7s							
KOLS	**Kolonicke sedl**	**85.74**	**319**	*eP*			**P**	**05 06 33.9 +1.9**
QSPA	**South Pole Qui**	**86.29**	**180**		P		**P**	**05 06 35.7 +1.2**
	comp=Z,1.9nm,0.8s,baz=264,slow=1.7,SNR=5.7							
	comp=Z,1.9nm,0.8s							
FINES	**FINESS Array B**	**86.32**	**332**		P		**P**	**05 06 34.8 +0.3**
	comp=Z,1.8nm,0.6s,baz=117,slow=3.1,SNR=14							
	comp=Z,1.8nm,0.6s							
VYHS	**Vyhne**	**87.92**	**319**	*eP*			**P**	**05 06 42.5 -0.1**
ARCES	**ARCESS Array B**	**88.58**	**340**		P		**P**	**05 06 44.1 -1.1**
	comp=Z,1.5nm,0.6s,baz=97,slow=3.1,SNR=6.6							
	comp=Z,1.5nm,0.6s							
MODS	**Modra-Piesok**	**88.93**	**318**	*eP*			**P**	**05 06 48.8 +1.4**
NVAR	**Mina Array Bea**	**129.86**	**41**		PKP		**PKiKP**	**05 13 04.0 +0.3**
	comp=Z,0.3nm,0.7s,baz=267,slow=2.7,SNR=4.2							
PDAR	**Pinedale Array**	**132.23**	**31**		PKP		**PKPdf**	**05 13 06.4 -0.9**
	comp=Z,0.4nm,0.6s,baz=270,slow=1.2,SNR=4.9							
CPUP	**Villa Florida**	**143.85**	**213**		PKP		PKPbc	05 13 26.9 +0.4
	comp=Z,2.8nm,0.9s,baz=198,slow=6.4,SNR=4.0							
BDFB	**Brasilia**	**144.31**	**237**		PKP		PKPbc	05 13 28.8 +0.5
	comp=Z,2.6nm,0.5s,baz=94,slow=2.3,SNR=7.9							
SGCY	**Sterling City**	**144.73**	**35**		PKPdf		PKPbc	05 13 29.5 +0.3
WCI	**Wyandotte Cave**	**144.87**	**11**		PKPdf		**PKPab**	**05 13 28.5 -0.7**
TXAR	**Lajitas Array**	**145.01**	**40**		PKPdf		PKPbc	05 13 30.5 +0.3
TXAR	**Lajitas Array**	**145.01**	**40**		PKPbc		**PKPdf**	**05 13 31.0 +0.2**
	comp=Z,7.0nm,0.5s,baz=246,slow=1.1,SNR=154							
PBMO	**Poplar Bluff**	**145.25**	**17**				**PKPbc**	**05 13 29.1 -1.5**
FCAR	**Ozark Folk Cen**	**145.54**	**20**		PKPdf		**PKPdf**	**05 13 29.7 -1.7**
Z35A	**Perchaven, San**	**145.65**	**29**		PKPdf		**PKPdf**	**05 13 31.1 -0.6**
BRDY	**Brady**	**146.39**	**33**		PKPbc		**PKPdf**	**05 13 33.7 +0.6**
JCT	**Junction City**	**146.56**	**35**		PKPbc		**PKPbc**	**05 13 34.6 -0.3**

ISN 14 05:15:56.1±1.5, 34.48N×45.76E, h15km±10km, ML2.4
TEH 14 05:15:57.0, 34.40N×45.77E, h9km, ML2.5
ISC 14 05:15:56.5±1.5, 34.42N±0.05×45.75E±0.05, h11km±13km, n10, σ0s97/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**302**	Pg	**Pb**	**05 16 01.2**	**-0.3**
IDHR	**Dehrash**	**0.59**	**62**	Pg	**Pb**	**05 16 08.5**	**-0.6**
IDHR				Sg	**Sb**	**05 16 17.1**	**-0.5**
IGHG	**Ghaleghazi**	**0.68**	**98**	Pg	**Pb**	**05 16 10.7**	**+0.1**
ILBA	**Ilam Banvizeh**	**0.88**	**154**	Pg	**Pg**	**05 16 12.9**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.08**	**97**	Pg	**Pn**	**05 16 17.9**	**+0.2**
ILIN	**Lien**	**1.11**	**63**	Pg	**Pn**	**05 16 18.4**	**+0.1**
IBDR	**Badra**	**1.32**	**173**	*e*Pg	**Pg**	**05 16 22.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**05 16 39.0**	**+0.6**
IBDR				AML	AML	05 16 45.1	
	comp=E,104nm,0.6s						
IBDR				AML	AML	05 16 45.5	
	comp=N,54nm,0.4s						
IKOM	**Komasi**	**1.48**	**99**	Pg	**Pg**	**05 16 25.5**	**+0.6**
BHD	**Baghdad**	**1.62**	**225**	*e*Pn	**Pb**	**05 16 26.0**	**-0.4**
BHD				*e*Sn	**Sg**	**05 16 49.0**	**+0.4**
RAFI	**Al-Rafai**	**2.71**	**173**	*e*Pn	**Pn**	**05 16 41.5**	**+1.5**
RAFI				*e*Sn	**Sb**	**05 17 16.0**	**-2.2**

TEH 14 05:21:00.5, 33.71N×45.74E, h9km, ML2.6
ISN 14 05:21:00.4±0.7, 33.70N×45.74E, h7km±4km, ML2.6
ISC 14 05:21:00.9±1.2, 33.70N±0.05×45.75E±0.04, h13km, n7, σ0s72/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.39**	**101**	Pg	**Pg**	**05 21 08.1**	**-0.7**
ILBA				Sg	**Sg**	**05 21 14.7**	**+0.5**
IBDR	**Badra**	**0.61**	**165**	*e*Pg	**Pg**	**05 21 12.5**	**-0.3**
IBDR				*e*Sg	**Sg**	**05 21 21.0**	**+0.1**
IDHR	**Dehrash**	**1.13**	**28**	Pg	**Pb**	**05 21 22.0**	**-0.4**
BHD	**Baghdad**	**1.22**	**250**	*e*Pg	**Pb**	**05 21 24.0**	**+0.2**
BHD				*e*Sg	**Sg**	**05 21 40.5**	**+0.3**
IKOM	**Komasi**	**1.54**	**72**	Pg	**Pg**	**05 21 30.2**	**-0.3**
IKFM	**Kafar-mosalman**	**1.76**	**95**	Pg	**Pb**	**05 21 33.7**	**+0.6**
RAFI	**Al-Rafai**	**2.00**	**171**	*e*Pn	**Pb**	**05 21 36.0**	**-1.1**
RAFI				*e*Sn	**Sb**	**05 22 03.0**	**+1.1**

IDC 14 05:58:59.0±2.3, 6.89S×129.32E, h0km, mb3.5/1, mbtmp3.2/3, ML2.8/2, MS3.2/2, Error ellipse: s-maj=144.6km s-min=33.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.70**	**281**	LR	LR	06 06 10.2	
	comp=Z,30nm,18.4s,baz=336,slow=44						
WRA	**Warramunga Arr**	**13.86**	**160**	Pn	Pn	06 02 16.9	+0.1
	baz=339,slow=14,SNR=1.3						
WRA				Sn	Sn	06 04 36.2	-15
	0.3nm,0.3s,baz=338,slow=22,SNR=0.9						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**17.25**	**166**	P	Pn	06 03 01.5	0.0
	baz=342,slow=8.9,SNR=1.6						
ASAR				S	Sn	06 06 03.4	-11
	0.3nm,0.6s,baz=357,slow=24,SNR=4.5						
	0.2nm,0.8s						
JHJ	**Hachijo jima 2**	**41.01**	**13**	LR	LR	06 20 31.9	
	comp=Z,129nm,21.3s,baz=110,slow=32						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	06 09 58.7	0.0
	0.2nm,0.5s,baz=124,slow=7.6,SNR=4.6						
	0.2nm,0.5s						

ISN 14 06:06:55.5±0.4, 33.74N×45.66E, h8km±2km, ML2.8
TEH 14 06:06:56.3, 33.76N×45.64E, h13km±37km, ML2.9
ISC 14 06:06:56.2±1.0, 33.73N±0.04×45.64E±0.04, h13km, n12, σ0s71/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.49**	**102**	Pg	**Pg**	**06 07 06.0**	**+0.2**
IBDR	**Badra**	**0.67**	**158**	*e*Pg	**Pg**	**06 07 08.5**	**-0.6**
IBDR				*e*Sg	**Sg**	**06 07 18.0**	**+0.1**
IBDR				AML	AML	06 07 32.9	
	comp=E,270nm,0.5s						
IBDR				AML	AML	06 07 37.1	
	comp=N,284nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.77**	**357**	Pg	**Pg**	**06 07 10.8**	**-0.4**
IGHG	**Ghaleghazi**	**0.98**	**52**	Pg	**Pn**	**06 07 15.3**	**-0.5**
BHD	**Baghdad**	**1.15**	**247**	*e*Pg	**Pb**	**06 07 18.0**	**+0.1**
BHD				*e*Sg	**Sn**	**06 07 34.0**	**+0.5**
BHD				AML	AML	06 07 43.2	
	comp=E,391nm,0.2s						
IDHR	**Dehrash**	**1.15**	**32**	Pg	**Pb**	**06 07 17.2**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.28**	**65**	Pg	**Pb**	**06 07 20.2**	**-0.1**
ILIN	**Lien**	**1.61**	**42**	Pg	**Pb**	**06 07 26.2**	**+0.2**
IKOM	**Komasi**	**1.62**	**74**	Pg	**Pg**	**06 07 26.6**	**-0.7**
IKFM	**Kafar-mosalman**	**1.85**	**96**	Pn	**Pb**	**06 07 29.9**	**0.0**
RAFI	**Al-Rafai**	**2.04**	**169**	*e*Pn	**Pb**	**06 07 32.0**	**-1.1**
RAFI				*e*Sn	**Sb**	**06 07 59.0**	**+0.6**
HAGD	**Aghdareh**	**3.10**	**68**	Pn	**Pn**	**06 07 46.4**	**+1.4**

IDC 14 06:35:54.5±0.7, 6.75N×72.95W, h158km±11km, mb3.2/4, mbtmp3.8/7, MS3.9/1, Error ellipse: s-maj=27.4km s-min=7.5km az=135.0
RSNC 14 06:35:55.5±1.3, 6.84N×73.12W, h154km±6km, ML3.5, Mw3.9
ISC 14 06:35:54.8±0.8, 6.84N±0.03×73.06W±0.04, h157km±6km, n44, σ1s88/78, mb3.4/4, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**207**	*e*P	**Pn**	**06 36 16.1**	**-0.2**
BARC				*i*P		06 36 32.5	
	comp=Z,1μm,0.4s						
PAMC	**Pamplona, Colo**	**0.61**	**36**	↓*i*P	**Pn**	**06 36 18.9**	**+0.9**
PAMC				*e*S	**Sn**	**06 36 35.9**	**+0.1**
PAMC				*i*P		06 36 38.1	
	comp=Z,712nm,0.5s						
TAMC	**Tame, Arauca**	**1.32**	**108**	↑*i*P	**Pn**	**06 36 24.3**	**+1.2**
TAMC				*e*S	**Sn**	**06 36 45.9**	**+1.1**
TAMC				*i*P		06 36 48.8	
	comp=Z,158nm,0.2s						
OCAC	**Ocana**	**1.41**	**349**	↓*i*P	**Pn**	**06 36 24.3**	**+0.1**
OCAC				*e*S	**Sn**	**06 36 46.5**	**-0.2**
OCAC				*i*P		06 36 51.4	
	comp=Z,1μm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.42**	**258**	*e*P	**Pn**	**06 36 22.6**	**-1.4**
PTBC				*e*S	**Sn**	**06 36 44.6**	**-1.9**
PTBC				*i*P		06 36 48.9	
	comp=Z,301nm,0.7s						
SPBC	**San Pablo de B**	**1.55**	**221**	*e*P	**Pn**	**06 36 25.0**	**-0.5**
SPBC				*e*S	**Sn**	**06 36 47.4**	**-1.8**
SPBC				*i*P		06 36 53.2	
	comp=Z,485nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*e*P	**Pn**	**06 36 28.6**	**-0.6**
ZARC				*e*S	**Sn**	**06 36 54.5**	**-1.1**
ZARC				*i*P		06 37 00.5	
	comp=Z,418nm,0.5s						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**06 36 35.8**	**+0.9**
	comp=Z,79nm,0.3s,baz=74,slow=2.8,SNR=95						
ROSC				S	**Sn**	**06 37 05.3**	**-0.5**
	comp=Z,271nm,0.3s,baz=191,slow=23,SNR=32						
ROSC	**El Rosal**	**2.35**	**212**	*e*P	**Pn**	**06 36 36.0**	**+1.1**
ROSC				*e*S	**Sn**	**06 37 06.7**	**+1.0**
CVER	**Cruz Verde, Cu**	**2.52**	**204**	*e*P	**Pn**	**06 36 37.5**	**+0.5**
CVER				*e*S	**Sn**	**06 37 08.4**	**-1.0**
CVER				*i*P		06 37 19.1	
	comp=Z,170nm,0.5s						
MEDEC	**Medelln, Ant**	**2.58**	**258**	*e*P	**Pn**	**06 36 38.3**	**+1.0**
MEDEC				*e*S	**Sn**	**06 37 09.6**	**-0.7**
UREC	**San Jos de Ur**	**2.62**	**290**	*e*P	**Pn**	**06 36 36.4**	**-1.2**
UREC				*e*S	**Sn**	**06 37 08.7**	**-2.1**
UREC				*i*P		06 37 10.2	
	comp=Z,301nm,0.1s						
PTGC	**Puerto Gaitan,**	**2.78**	**161**	↑*i*P	**Pn**	**06 36 39.1**	**-0.7**
PTGC				*e*S	**Sn**	**06 37 12.3**	**-2.3**
PTGC				*i*P		06 37 17.1	
	comp=Z,125nm,0.3s						
VILC	**Villavicencio,**	**2.79**	**193**	*e*P	**Pn**	**06 36 39.3**	**-0.6**
VILC				*e*S	**Sn**	**06 37 13.0**	**-1.8**
VILC				*i*P		06 37 20.8	
	comp=Z,209nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.80**	**235**	*e*P	**Pn**	**06 36 40.4**	**0.0**
GUY2C				*e*S	**Sn**	**06 37 15.5**	**-0.2**
GUY2C				*i*P		06 37 23.6	
	comp=Z,219nm,0.3s						
RECRC	**Villamaria, Ca**	**2.95**	**231**	*e*P	**Pn**	**06 36 43.4**	**+1.0**
RECRC				*e*S	**Sn**	**06 37 17.5**	**-1.6**
NIZA	**Niza - Manizal**	**2.98**	**234**	*e*P	**Pn**	**06 36 45.0**	**+2.6**
NIZA				*e*S	**Sn**	**06 37 23.5**	**+4.1**
CBOC	**Ciudad Bolivar**	**3.09**	**252**	*e*P	**Pn**	**06 36 44.0**	**+0.3**
CBOC				*e*S	**Sn**	**06 37 21.6**	**-0.1**
CBOC				*i*P		06 37 23.4	
	comp=Z,81nm,0.4s						
DBBC	**Dabeiba**	**3.13**	**273**	*e*P	**Pn**	**06 36 44.0**	**-0.2**
DBBC				*e*S	**Sn**	**06 37 20.1**	**-2.4**
DBBC				*i*P		06 37 23.5	
	comp=Z,133nm,0.4s						
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**06 36 45.3**	**+0.9**
	comp=Z,68nm,0.4s,baz=204,slow=3.7,SNR=221						
SDV				S	**Sn**	**06 37 22.0**	**-0.9**
	comp=Z,37nm,0.4s,baz=119,slow=13,SNR=8.0						
SDV	**Santo Domingo**	**3.15**	**50**	*e*P	**Pn**	**06 36 45.5**	**+1.0**
SDV				*e*S	**Sn**	**06 37 22.3**	**-0.6**
SDV				*i*P		06 37 27.5	
	comp=Z,43nm,0.4s						
ARGC	**Ariguani, Magd**	**3.22**	**339**	*e*P	**Pn**	**06 36 46.5**	**+1.3**
ARGC				*e*S	**Sn**	**06 37 26.2**	**+1.9**
ARGC				*i*P		06 37 39.9	
	comp=Z,54nm,0.4s						
PRAC	**Prado**	**3.60**	**210**	*e*P	**Pn**	**06 36 49.6**	**-0.5**
PRAC				*e*S	**Sn**	**06 37 31.8**	**-1.4**
PRAC				*i*P		06 37 38.7	
	comp=Z,189nm,0.3s						
SJCC	**San Jacinto, C**	**3.69**	**325**	*e*P	**Pn**	**06 36 50.1**	**-1.1**
SJCC				*e*S	**Sn**	**06 37 32.0**	**-3.2**
SJCC				*i*P		06 37 36.3	
	comp=Z,170nm,0.5s						
PLMC	**San Jos del P**	**3.74**	**239**	↑*i*P	**Pn**	**06 36 52.0**	**+0.1**
PLMC				*e*S	**Sn**	**06 37 36.3**	**-0.1**
PLMC				*i*		06 37 38.3	
	comp=Z,117nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.15**	**2**	*e*P	**Pn**	**06 36 56.7**	**-0.7**
CRJC				*e*S	**Sn**	**06 37 44.0**	**-2.0**
CRJC				*i*		06 37 54.5	
	comp=Z,46nm,0.2s						
YOTC	**Yotoco, Valle**	**4.33**	**229**	*e*P	**Pn**	**06 36 59.0**	**-0.7**
YOTC				*e*S	Sn	06 37 40.6	-10
SMRC	**Santa Marta, M**	**4.45**	**345**	*e*P	**Pn**	**06 37 01.1**	**0.0**
SMRC				*e*S	**Sn**	**06 37 49.8**	**-2.9**
SMRC				*i*		06 37 59.3	
	comp=Z,29nm,0.3s						
CAPC	**Capurgana**	**4.61**	**293**	*e*P	**Pn**	**06 37 07.2**	**+4.0**
CAPC				*e*S	**Sn**	**06 37 50.8**	**-5.8**
CAPC				*i*		06 38 00.2	
	comp=Z,26nm,0.2s						
PTAC	**Punta Ardita,**	**4.73**	**274**	*e*P	**Pn**	**06 37 04.0**	**-0.7**
PTAC				*e*S	**Sn**	**06 37 57.0**	**-2.2**
PTAC				*i*		06 37 58.6	
	comp=Z,21nm,0.2s						
BETC	**Betania**	**4.77**	**210**	*e*P	**Pn**	**06 37 04.3**	**-1.0**
BETC				*e*S	**Sn**	**06 37 54.0**	**-6.4**
BETC				*i*		06 38 07.1	
	comp=Z,23nm,0.4s						
JAMC	**Jamundi, Valle**	**5.09**	**225**	*e*P	**Pn**	**06 37 09.5**	**-0.3**
JAMC				*e*S	**Sn**	**06 38 05.7**	**-2.7**
JAMC				*i*		06 38 15.6	
	comp=Z,14nm,0.3s						
MALC	**Bahia Malaga**	**5.10**	**237**	*e*P	**Pn**	**06 37 11.0**	**+1.3**
MALC				*e*S	**Sn**	**06 38 10.8**	**+2.5**
MALC				*i*		06 38 21.6	
	comp=Z,28nm,0.6s						
GARC	**Garzon, Huila**	**5.22**	**208**	*e*P	**Pn**	**06 37 10.2**	**-1.4**
GARC				*e*S	**Sn**	**06 38 07.1**	**-4.4**
CRUC	**La Cruz**	**6.52**	**217**	*e*P	**Pn**	**06 37 30.6**	**+1.8**
GCUF	**Volcan Galeras**	**7.03**	**218**	*e*P	**Pn**	**06 37 36.1**	**+0.4**
GCUF				*e*S	**Sn**	**06 38 51.9**	**-3.0**
GCUF				*i*		06 38 57.9	
	comp=Z,5.9nm,0.5s						
PCRV	**Puerto La Cruz**	**8.96**	**68**	P	**Pn**	**06 38 01.9**	**+0.9**
	comp=Z,11nm,1.0s,baz=238,slow=1.8,SNR=7.5						
PCRV				S	**Sn**	**06 39 39.6**	**-1.2**
	comp=Z,11nm,0.9s,baz=252,slow=20,SNR=1.6						
TEIG	**Tepich**	**19.87**	**314**	P	**P**	**06 40 15.8**	**+1.9**
	comp=Z,115nm,1.0s,baz=122,slow=19,SNR=2.0						
TEIG				LR	LR	06 48 31.7	
	comp=Z,350nm,19.0s,baz=246,slow=38						
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**06 42 46.3**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=126,slow=8.9,SNR=6.1						
	comp=Z,0.3nm,0.4s						
ULM	**Lac du Bonnet**	**47.29**	**340**	P	**P**	**06 44 11.1**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=169,slow=10,SNR=2.0						
	comp=Z,0.8nm,0.4s						
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**06 44 19.8**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=126,slow=9.1,SNR=3.0						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**06 46 06.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=121,slow=8.0,SNR=18						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPbc**	**06 55 24.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=126,slow=3.7,SNR=2.4						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**06 55 27.9**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=109,slow=2.3,SNR=1.9						

IDC 14 06:36:46.0±1.0, 18.12N×105.17E, h0km, mb4.0/9, mbtmp3.9/10, ML4.1/1, MS2.6/2, Error ellipse: s-maj=40.5km s-min=18.1km az=51.0
PLV 14 06:36:46.0±2.5, 18.24N×105.03E, h19km±25km, ML4.6
ISC 14 06:36:47.6±0.9, 18.25N±0.07×105.19E±0.07, h10km, n22, σ1s35/25, mb3.9/9, Vietnam

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THV	**Thanh Hoa**	**1.68**	**19**	*e*Pn	**Pn**	**06 37 16.2**	**-0.9**
THV				*e*Sg	**Sg**	**06 37 42.3**	**+0.4**
THV				IAML		06 37 46.1	
	comp=N,8μm,0.5s						
HBVN	**

0.3nm,0.3s,baz=263,slow=4.6,SNR=2.5
71nm,1.2s
FINES FINESS Array B 27.28 61 P **P** **06 51 23.8 -0.5**
4.1nm,1.1s,baz=284,slow=5.6,SNR=3.4
4.1nm,1.1s
GERES GERESS Array B 27.48 93 LR LR 07 00 51.7
comp=Z,42nm,18.6s,baz=342,slow=33
YKA Yellowknife Ar 38.24 312 P **P** **06 52 59.5 -0.2**
0.2nm,0.7s,baz=54,slow=9.2,SNR=4.5
0.2nm,0.7s
DLBC Dease Lake 46.66 314 LR LR 07 12 16.7
comp=Z,131nm,19.7s,baz=156,slow=34
BVAR Borovoye Array 51.24 50 P **P** **06 54 43.6 +0.2**
0.7nm,0.7s,baz=316,slow=6.0,SNR=3.8
0.7nm,0.7s
KURBB Kurchatov Arra 56.24 46 P **P** **06 55 19.8 -0.2**
1.6nm,0.2s,baz=323,slow=7.0,SNR=6.6
1.6nm,0.2s
MKAR Makanchi Array 60.80 47 P **P** **06 55 51.7 -0.3**
0.8nm,0.8s,baz=344,slow=5.7,SNR=6.1
0.8nm,0.8s

TEH ***14*** *06:49:04.1,32.47N×47.88E,h9km,ML2.5*
ISN ***14*** *06:49:04.1±1.2,32.34N×47.89E,h20km±58km,ML2.4*
ISC 14 06:49:02.8±1.0,32.36N±0.06×48.02E±0.04,h15km,n12,
σ0.99/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.17**	**353**	Pg	**Pg**	**06 49 25.2**	**-0.1**
RAFI	**Al-Rafai**	**1.74**	**249**	*e*Pg	**Pn**	**06 49 33.5**	**+1.1**
RAFI				*e*Sg	**Sn**	**06 49 54.5**	**+0.3**
IKOM	**Komasi**	**1.85**	**347**	Pg	**Pg**	**06 49 37.8**	**-0.6**
HSAM	**Samen**	**1.91**	**15**	Pn	**Pg**	**06 49 39.6**	**+0.2**
IBDR	**Badra**	**1.91**	**294**	*e*Pn	**Pb**	**06 49 36.0**	**-1.3**
IBDR				*e*Sn	**Sb**	**06 49 59.0**	**-1.9**
IBDR				AML	AML	06 50 12.8	
	comp=N,39nm,0.3s						
IBDR				AML	AML	06 50 16.8	
	comp=E,48nm,0.4s						
ILBA	**Ilam Banvizeh**	**1.97**	**310**	Pn	**Pb**	**06 49 38.3**	**-0.1**
IPIR	**Pirpir**	**2.45**	**82**	Pn	**Pg**	**06 49 49.1**	**-0.7**
HAGD	**Aghdareh**	**2.63**	**21**	Pn	**Pb**	**06 49 49.6**	**-0.1**
IKLH	**Kolahrood**	**3.15**	**71**	Pn	**Pb**	**06 49 58.3**	**-0.2**
QAMS	**Qamsar**	**3.15**	**63**	Pn	**Pb**	**06 49 57.9**	**-0.8**
BHD	**Baghdad**	**3.19**	**287**	*e*Pn	**Pn**	**06 49 54.0**	**+1.6**
BHD				*e*Sn	**Sn**	**06 50 31.0**	**+0.8**
KLNJ	**Kolanjah**	**3.33**	**113**	Pn	**Pb**	**06 50 01.6**	**-0.3**

IDC 14 06:54:14.1±4.8,10.53S×163.87E,h59km±33km,mb3.2/3,
mbtmp3.7/4,ML3.3/1,MS3.2/3,Error ellipse:
s-maj=53.5km s-min=24.5km az=42.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.01**	**285**	P	Pn	06 55 14.3	+1.3
	2μm,0.5s,baz=21,slow=4.1,SNR=5.1						
HNR				S	Sn	06 55 58.9	+0.1
	2μm,0.5s,baz=48,slow=21,SNR=2.2						
HNR				LR	LR	06 56 38.3	
	comp=Z,1μm,21.3s,baz=149,slow=36						
DZM	**Mont Dzumac**	**11.74**	**168**	P	Pn	06 56 58.3	-0.7
	0.2nm,0.3s,baz=54,slow=18,SNR=2.2						
DZM				LR	LR	07 00 20.0	
	comp=Z,53nm,21.6s,baz=39,slow=31						
	13nm,1.3s						
H11S2	**WAKE ISLAND Hy 28.97**	**6**		T	T	07 31 16.1	
	baz=188,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy 28.97**	**6**		T	T	07 31 19.7	
	baz=188,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy 28.99**	**6**		T	T	07 31 21.8	
	baz=188,slow=76,SNR=17						
WRA	**Warramunga Arr 29.94**		**248**	P	P	07 00 17.0	0.0
	0.2nm,0.6s,baz=79,slow=9.5,SNR=10.0						
	0.2nm,0.6s						
H11N1	**WAKE ISLAND Hy 30.20**	**6**		T	T	07 32 56.6	
	baz=188,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy 30.20**	**6**		T	T	07 32 39.3	
	baz=188,slow=76,SNR=7.9						
H11N2	**WAKE ISLAND Hy 30.21**	**6**		T	T	07 32 46.8	
	baz=188,slow=76,SNR=11						
ASAR	**Alice Springs 31.39**		**242**	P	P	07 00 30.1	+0.3
	0.2nm,0.4s,baz=68,slow=9.9,SNR=5.3						
	0.2nm,0.4s						
JHJ	**Hachijo jima 2 49.10**		**333**	LR	LR	07 22 59.3	
	comp=Z,16nm,20.8s,baz=342,slow=35						
MKAR	**Makanchi Array 91.89**		**317**	P	P	07 07 15.7	-0.4
	0.1nm,0.3s,baz=95,slow=3.4,SNR=4.1						
	0.1nm,0.3s						

ISN ***14*** *06:54:27.9±0.9,33.66N×45.49E,h10km±4km,ML2.9*
TEH ***14*** *06:54:28.4,33.68N×45.49E,h10km±59km,ML2.8*
ISC 14 06:54:28.6±1.0,33.67N±0.05×45.47E±0.05,h13km,n11,
σ0.68/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.62**	**94**	Pg	**Pg**	**06 54 40.2**	**-0.5**
IBDR	**Badra**	**0.67**	**145**	*e*Pg	**Pg**	**06 54 41.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**06 54 50.0**	**-0.6**
BHD	**Baghdad**	**0.99**	**247**	*e*Pg	**Pb**	**06 54 47.5**	**-0.1**
BHD				*e*Sg	**Sb**	**06 55 01.0**	**+0.4**
BHD				AML	AML	06 55 07.4	
	comp=E,310nm,0.4s						
IGHG	**Ghaleghazi**	**1.13**	**54**	Pg	**Pn**	**06 54 50.3**	**0.0**
IDHR	**Dehrash**	**1.28**	**36**	Pg	**Pb**	**06 54 52.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.44**	**65**	Pg	**Pg**	**06 54 56.1**	**-0.2**
ILIN	**Lien**	**1.76**	**44**	Pg	**Pg**	**06 55 01.4**	**-0.9**
IKOM	**Komasi**	**1.77**	**73**	Pg	**Pb**	**06 55 01.3**	**+0.3**
IKFM	**Kafar-mosalman**	**1.99**	**93**	Pn	**Pb**	**06 55 04.3**	**-0.3**
RAFI	**Al-Rafai**	**2.01**	**164**	*e*Pn	**Pn**	**06 55 03.0**	**+0.8**
RAFI				*e*Sn	**Sb**	**06 55 30.0**	**+0.1**
HSAM	**Samen**	**2.66**	**77**	Pn	**Pn**	**06 55 12.9**	**+1.5**

NEIC ***14*** *06:59:25.9±1.0,51.7N±0.1×175.93W±0.05,h51km±9km,*
mb3.9/32,ML4.0(AEIC),Error ellipse: s-maj=18.4km
s-min=4.4km az=174.0
AEIC ***14*** *06:59:25.1±2.8,51.62N±0.09×175.91W±0.05,h39km±8km,*
Error ellipse: s-maj=13.6km s-min=4.7km az=176.0
IDC ***14*** *06:59:26.7±4.0,51.83N×176.01W,h66km±36km,mb3.4/9,*
mbtmp3.8/12,ML4.0/3,Error ellipse: s-maj=36.5km
s-min=15.0km az=168.0
ISC 14 06:59:25.0±0.6,51.67N±0.09×175.90W±0.04,h47km,n92,
σ0.89/88,mb3.8/17,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSIG	**Igitkin Island**	**0.31**	**357**		**Pn**	**06 59 34.6**	**+0.6**
GSIG					**Sn**	**06 59 41.3**	**+0.9**
GSCK	**Great Sitkin C**	**0.38**	**334**		**Pn**	**06 59 35.5**	**+0.9**
GSMY	**Great Sitkin M**	**0.38**	**345**		**Pn**	**06 59 35.5**	**+0.8**
GSSP	**Great Sitkin S**	**0.45**	**338**		**Pn**	**06 59 36.5**	**+1.0**
ADK	**Adak**	**0.53**	**294**		**Pn**	**06 59 36.8**	**+0.4**
ADK					**Sn**	**06 59 45.1**	**+0.5**
KIRH	**Kanaga Island**	**0.78**	**287**		**Pn**	**06 59 40.2**	**+0.6**
KIWB	**Kanaga Island**	**0.80**	**283**		**Pn**	**06 59 40.4**	**+0.5**
KICM	**Kanaga Island**	**0.84**	**287**		**Pn**	**06 59 41.2**	**+0.7**
KICM					**Sn**	**06 59 52.4**	**+0.7**
ATKA	**Atka Island**	**1.18**	**63**		**Pn**	**06 59 45.6**	**+0.6**
ATKA					**Sn**	**07 00 00.9**	**+1.0**
KOKL	**Mount Kliuchef**	**1.24**	**58**		**Pn**	**06 59 47.3**	**+1.4**
KOFP	**Korovin Flat P**	**1.27**	**61**		**Pn**	**06 59 47.7**	**+1.4**
TASE	**Tanaga Southea**	**1.34**	**278**		**Pn**	**06 59 48.1**	**+0.8**
TANO	**Tanaga North**	**1.40**	**281**		**Pn**	**06 59 49.0**	**+1.0**
GAEA	**Gareloi East**	**1.77**	**275**		**Pn**	**06 59 54.2**	**+1.1**
GALAA	**Gareloi Lava P**	**1.79**	**274**		**Pn**	**06 59 54.4**	**+1.1**
GANO	**Gareloi North**	**1.81**	**276**		**Pn**	**06 59 54.2**	**+0.6**
GASW	**Gareloi Southw**	**1.84**	**274**		**Sn**	**07 00 19.0**	**+2.9**
CEPE	**Semis' Perret**	**2.78**	**278**		**Pn**	**07 00 07.6**	**+0.7**
CESW	**Semis' Southwe**	**2.83**	**276**		**Pn**	**07 00 08.1**	**+0.5**
AMKA	**Amchitka**	**3.01**	**266**		**Pn**	**07 00 10.7**	**+0.7**
LSPA	**Little Sitkin**	**3.44**	**277**		**Pn**	**07 00 17.2**	**+1.2**
LSSE	**Little Sitkin**	**3.44**	**276**		**Pn**	**07 00 17.3**	**+1.2**
LSNW	**Little Sitkin**	**3.48**	**277**		**Pn**	**07 00 17.4**	**+0.9**
LSSA	**Little Sitkin**	**3.48**	**277**		**Pn**	**07 00 17.5**	**+1.0**
SHEM	**Shemya Is, Ala**	**6.24**	**284**	P	**Pn**	**07 00 55.3**	**+1.0**
	7.6nm,0.3s,baz=30,slow=2.1,SNR=4.4						
	50nm,0.7s						
SDPT	**Sand Point**	**9.89**	**62**	Pn	**Pn**	**07 01 44.4**	**+0.1**
O14K	**Tigyukauivet M**	**11.23**	**42**	Pn	**Pn**	**07 02 02.8**	**+0.2**
L14K	**Kuka Creek**	**12.10**	**32**	Pn	**Pn**	**07 02 14.4**	**0.0**
KDAK	**Kodiak Island**	**14.75**	**56**	P	**Pn**	**07 02 51.0**	**+0.7**
	1.0nm,0.3s,baz=246,slow=2.7,SNR=6.7						
	15nm,0.8s						
KDAK	**Kodiak Island**	**14.75**	**56**	P	**sPn**	**07 03 05.2**	**-0.3**
	3.1nm,0.3s,baz=269,slow=18,SNR=9.0						
	8.9nm,0.3s						
I21K	**Tanana**	**18.27**	**33**	P	**P**	**07 03 33.8**	**-0.5**
H21K	**Melozitna Rive**	**18.29**	**31**	P	**Pn**	**07 03 36.1**	**+1.3**
E19K	**Redstone River**	**18.30**	**23**	P	**Pn**	**07 03 35.3**	**+0.3**
E19K				IAmb	IAmb	07 03 40.3	
	comp=Z,7.3nm,1.4s						
C18K	**Utukok River**	**18.44**	**17**	P	**P**	**07 03 35.8**	**-0.4**
RND	**Reindeer**	**18.50**	**40**	P	**P**	**07 03 35.6**	**-1.3**
RND				IAmb	IAmb	07 04 06.5	
	comp=Z,9.4nm,0.8s						
BWN	**Browne**	**18.62**	**38**	P	**Pn**	**07 03 39.0**	**+0.2**
D19K	**Kuna River**	**18.92**	**20**	P	**P**	**07 03 41.9**	**+0.4**
DHY	**Denali Highway**	**18.96**	**42**	P	**P**	**07 03 42.0**	**-0.1**
DHY				IAmb	IAmb	07 03 44.0	
	comp=Z,5.5nm,0.6s						
F21K	**Alatna River**	**19.12**	**27**	P	**P**	**07 03 44.1**	**+0.5**
M24K	**Tolsona, Glenn**	**19.12**	**45**	P	**P**	**07 03 44.3**	**+0.5**
I23K	**Minto, Yukon-K**	**19.16**	**35**	P	**P**	**07 03 44.7**	**+0.6**
I23K				IAmb	IAmb	07 04 05.9	
	comp=Z,9.7nm,1.2s						
MDM	**Murphy Dome**	**19.48**	**36**	P	**P**	**07 03 47.6**	**0.0**
MDM				IAmb	IAmb	07 04 03.6	
	comp=Z,9.6nm,1.3s						
IL31		**19.89**	**38**	P	**Pn**	**07 03 53.2**	**-0.8**
IL31				IAmb	IAmb	07 03 57.7	
	comp=Z,5.6nm,1.2s						
ILAR	**Eielson Array**	**19.89**	**38**	P	**P**	**07 03 52.5**	**+0.4**
ILAR	**Eielson Array**	**19.89**	**38**	P	**P**	**07 03 50.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=240,slow=9.2,SNR=13						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**19.89**	**38**	P	**pPn**	**07 04 04.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=227,slow=9.9,SNR=5.7						
	comp=Z,0.8nm,0.6s						
H24K	**Noodor Dome**	**20.05**	**34**	P	**P**	**07 03 54.8**	**+0.9**
H24K				IAmb	IAmb	07 04 00.4	
	comp=Z,7.2nm,1.4s						
J25K	**Salcha River,**	**20.41**	**39**	P	**P**	**07 03 56.7**	**-1.0**
J25K				IAmb	IAmb	07 04 11.3	
	comp=Z,5.4nm,1.0s						
D22K	**Ayikyak River**	**20.50**	**24**	P	**P**	**07 03 59.3**	**+0.6**
B21K	**Ikpikpuk River**	**20.59**	**21**	P	**P**	**07 03 59.9**	**+0.4**
M26K	**Nabesna, AK**	**20.62**	**46**	P	**P**	**07 04 00.5**	**+0.4**
SCRK	**Sand Creek**	**20.71**	**41**	P	**P**	**07 04 01.2**	**+0.2**
SCRK				IAmb	IAmb	07 04 01.9	
	comp=Z,6.9nm,0.8s						
J26L	**Joseph Creek**	**21.08**	**40**	P	**P**	**07 04 05.2**	**+0.2**
M27K	**Edge Creek, AK**	**21.11**	**46**	P	**P**	**07 04 04.8**	**-0.6**
M27K				IAmb	IAmb	07 04 31.8	
	comp=Z,8.0nm,1.1s						
E24K	**Your Creek**	**21.13**	**29**	P	**P**	**07 04 06.1**	**+0.6**
BCAR	**Beaver Creek A**	**21.35**	**45**	P	**P**	**07 04 07.3**	**-0.5**
K27K	**Chicken**	**21.52**	**42**	P	**P**	**07 04 09.3**	**-0.3**
K27K				IAmb	IAmb	07 04 26.4	
	comp=Z,6.7nm,0.9s						
C23K	**Itkillik River**	**21.70**	**24**	P	**P**	**07 04 11.3**	**-0.1**
C23K				IAmb	IAmb	07 04 30.3	
	comp=Z,12nm,1.4s						
EGAK	**Eagle**	**22.14**	**40**	P	**P**	**07 04 16.1**	**-0.2**
I28M	**Miner Creek**	**22.86**	**39**	P	**P**	**07 04 23.2**	**-0.8**
I28M				IAmb	IAmb	07 04 43.7	
	comp=Z,9.9nm,1.4s						
I29M	**Ogilvie Camp,**	**23.48**	**40**	P	**P**	**07 04 29.7**	**-0.3**
I29M				IAmb	IAmb	07 04 33.7	
	comp=Z,8.0nm,1.4s						
F28M	**Old Crow**	**23.70**	**34**	P	**P**	**07 04 32.4**	**+0.3**
F28M				IAmb	IAmb	07 05 15.0	
	comp=Z,4.1nm,1.4s						
H29M	**Whitestone**	**23.73**	**38**	P	**P**	**07 04 31.1**	**-1.2**
I30M	**Mount Dempster**	**24.22**	**41**	P	**P**	**07 04 36.1**	**-0.9**
INK	**Inuvik**	**26.18**	**35**	P	**P**	**07 04 53.3**	**-1.2**
INK				IAmb	IAmb	07 05 17.1	
	comp=Z,2.2nm,1.0s						
A36M	**Sachs Harbour**	**29.95**	**29**	P	**P**	**07 05 28.1**	**0.0**
KLR	**Kul'dur**	**32.84**	**287**	P	**P**	**07 05 52.7**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=52,slow=8.1,SNR=5.0						
	comp=Z,0.7nm,0.4s						
YKA	**Yellowknife Ar**	**33.71**	**47**	P	**P**	**07 06 00.4**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=288,slow=8.3,SNR=6.4						
YKA				PcP	**PcP**	**07 08 39.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=287,slow=3.2,SNR=14						
	comp=Z,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**33.71**	**47**	P	**pP**	**07 06 14.0**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=287,slow=6.9,SNR=2.1						
YKA				PcP	PcP	07 08 53.1	+13
	comp=Z,0.2nm,0.8s,baz=292,slow=3.0,SNR=2.3						
	comp=Z,0.1nm,0.5s						
H11N2	**WAKE ISLAND Hy 34.62**		**209**	T	T	07 42 46.2	
	baz=18,slow=76,SNR=188						
H11N3	**WAKE ISLAND Hy 34.63**		**209**	T	T	07 42 49.4	
	baz=18,slow=76,SNR=192						
H11N1	**WAKE ISLAND Hy 34.64**		**209**	T	T	07 42 52.8	
	baz=18,slow=76,SNR=174						
H11S1	**WAKE ISLAND Hy 35.83**		**209**	T	T	07 44 19.3	
	baz=19,slow=76,SNR=98						
H11S1	**WAKE ISLAND Hy 35.83**		**209**	T	T	07 45 41.2	
	baz=19						
H11S2	**WAKE ISLAND Hy 35.85**		**209**	T	T	07 44 17.6	
	baz=19,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy 35.85**		**209**	T	T	07 45 41.2	
	baz=19						
H11S3	**WAKE ISLAND Hy 35.85**		**209**	T	T	07 44 19.8	
	baz=19,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy 35.85**		**209**	T	T	07 45 41.2	
	baz=19						
KSRS	**Korea Array**	**41.44**	**273**	P	**P**	**07 07 06.8**	**0.0**
	comp=Z,2.0nm,0.8s,baz=51,slow=9.1,SNR=6.2						
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**41.44**	**273**	P	**pP**	**07 07 19.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=56,slow=7.3,SNR=2.9						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**41.72**	**85**	P	**pP**	**07 07 23.2**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=295,slow=8.2,SNR=6.8						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**44.49**	**74**	P	**P**	**07 07 32.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=292,slow=3.9,SNR=9.7						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**44.49**	**74**	P	**pP**	**07 07 45.0**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=310,slow=4.1,SNR=16						
	comp=Z,2.8nm,0.8s						
TXAR	**Lajitas Array**	**56.82**	**83**	P	**P**	**07 09 04.3**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=304,slow=6.8,SNR=4.9						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**56.82**	**83**	P	**pP**	**07 09 18.0**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=301,slow=6.6,SNR=11						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**61.25**	**310**	P	**P**	**07 09 32.4**	**-2.5**
	comp=Z,0.2nm,0.4s,baz=54,slow=7.3,SNR=2.2						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**61.81**	**321**	P	**P**	**07 09 37.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=46,slow=8.4,SNR=2.6						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**61.81**	**321**	P	**pP**	**07 09 51.8**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=52,slow=9.3,SNR=2.8						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**83.50**	**226**	P	**P**	**07 11 46.4**	**-1.2**
	comp=Z,1.0nm,1.0s,baz=49,slow=5.5,SNR=3.0						
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**83.50**	**226**	P	**pP**	**07 12 03.0**	**+2.3**
	comp=Z,0.5nm,0.9s,baz=13,slow=5.5,SNR=1.5						
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**86.95**	**225**	P	**P**	**07 12 04.3**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=32,slow=4.4,SNR=5.7						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**86.95**	**225**	P	**pP**	**07 12 18.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=29,slow=5.9,SNR=2.7						
	comp=Z,0.4nm,0.7s						

SOME ***14*** *07:15:58.0,42.60N×75.60E,h0km*
NNC ***14*** *07:15:59.2±0.8,42.60N×75.54E,h0km,mb3.0,mpv2.5,*
Error ellipse: s-maj=4.5km s-min=2.1km az=155.0,
Suspected Mining explosion.
KNET ***14*** *07:15:59.4±0.3,42.62N×75.56E,h11km±3km,ml1.0,Error*
ellipse: s-maj=2.6km s-min=1.8km az=121.0
ISC 14 07:15:58.7±1.1,42.58N±0.05×75.54E±0.03,h0km,n18,
σ0.66/34,10C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.35**	**7**	⇑P	**Pg**	**07 16 05.7**	**+0.4**
	SNR=5.2						
TKM2				⇑S	**Sg**	**07 16 10.6**	**+0.8**
	13nm,0.2s						
TKM2	**Tokmak 2**	**0.35**	**7**	⇑P	**Pg**	**07 16 05.6**	**+0.3**
	1.2nm,0.2s						
TKM2				⇑S	**Sg**	**07 16 10.4**	**+0.6**
	4.3nm,0.2s						
KBK	**Karagaybulak**	**0.45**	**280**	⇑P	**Pb**	**07 16 08.7**	**-0.8**
	6.3nm,0.2s,SNR=6.7						
KBK				⇑S	**Sb**	**07 16 16.0**	**-0.8**
	9.5nm,0.2s						
KZA	**Kyzart**	**0.54**	**204**	⇑P	**Pb**	**07 16 11.1**	**-0.3**
	6.4nm,0.3s,SNR=8.5						
KST	**Kastek**	**0.56**	**34**	P	**Pg**	**07 16 09.8**	**+0.4**
	3.0nm,0.2s						
KST				S	**Sg**	**07 16 17.8**	**+1.1**
	7.1nm,0.5s						
KST	**Kastek**	**0.56**	**34**	*e*P	**Pg**	**07 16 09.8**	**+0.4**
	1.8nm,0.1s						
KST				*e*S	**Sg**	**07 16 17.8**	**+1.1**
	7.1nm,0.5s						
DGS	**Degeres**	**0.69**	**14**	P	**Pg**	**07 16 11.7**	**-0.1**
	2.6nm,0.2s						
DGS				S	**Sg**	**07 16 21.1**	**+0.4**
	3.7nm,0.4s						
DGS	**Degeres**	**0.69**	**14**	*e*P	**Pg**	**07 16 11.7**	**-0.1**
	2.6nm,0.2s						
DGS				*e*S	**Sg**	**07 16 21.1**	**+0.4**
	2.5nm,0.2s						
CHMS	**Chumysh**	**0.72**	**306**	⇑P	**Pg**	**07 16 12.5**	**+0.1**
	1.2nm,0.5s						
CHMS				⇑S	**Sg**	**07 16 22.7**	**+1.0**
	1.3nm,0.2s						
AAK	**Ala-Archa**	**0.78**	**275**	⇑P	**Pb**	**07 16 14.5**	**-0.7**
	10nm,0.2s,SNR=5.9						
AAK				⇓S	**Sb**	**07 16 25.6**	**-0.7**
	5.5nm,0.3s						
SGDS	**Sogindy**	**1.10**	**323**	P	**Pg**	**07 16 20.2**	**+0.4**
	1.1nm,0.1s						
SGDS				S	**Sb**	**07 16 35.7**	**+0.1**
	2.8nm,0.2s						
EKS2	**Erkin-Say**	**1.30**	**274**	⇓P	**Pn**	**07 16 24.3**	**0.0**
	1.9nm,0.2s,SNR=6.1						
KTBS	**Karatobe**	**1.41**	**36**	P	**Pn**	**07 16 25.4**	**-0.3**
	1.4nm,0.2s						
KTBS				S	**Sb**	**07 16 44.6**	**+0.2**
	3.9nm,0.3s						
KTBS	**Karatobe**	**1.41**	**36**	*e*P	**Pn**	**07 16 25.4**	**-0.3**
	1.4nm,0.2s						
KTBS				*e*S	**Sb**	**07 16 44.6**	**+0.2**
	3.9nm,0.3s						
KUU	**Kurty**	**1.44**	**24**	P	**Pn**	**07 16 25.6**	**-0.4**
	4.0nm,0.2s						
KUU				S	**Sg**	**07 16 44.9**	**0.0**
	1.5nm,0.2s						
KUU	**Kurty**	**1.44**	**24**	*e*P	**Pn**	**07 16 25.6**	**-0.4**
	4.0nm,0.2s						
KUU				*e*S	**Sg**	**07 16 44.9**	**0.0**
	1.5nm,0.2s						
MRKS	**Merke**	**1.72**	**276**	P	**Pg**	**07 16 31.5**	**-0.1**
	3.2nm,0.3s						
MRKS				S	**Sg**	**07 16 55.4**	**+1.6**
	2.6nm,0.1s						
MRKS	**Merke**	**1.72**	**276**	*e*P	**Pg**	**07 16 31.5**	**-0.1**
	3.2nm,0.3s						
MRKS				*e*S	**Sg**	**07 16 55.4**	**+1.6**
	2.6nm,0.1s						

MEX ***14*** *07:25:44.9±1.2,15.21N×94.44W,h16km±15km,MD4.2*
IDC ***14*** *07:25:48.5±9.8,15.07N×93.96W,h82km±61km,mb3.0/2,*
mbtmp3.3/3,ML4.3/2,MS3.1/1,Error ellipse:
s-maj=116.7km s-min=47.7km az=166.0
ISC 14 07:25:40.9±1.9,15.19N±0.06×94.42W±0.03,h13km±12km,
n28,σ2.9/17/40,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CARR	**Arriaga**	**1.16**	**25**	*e*P	**Pn**	**07 26 03.4**	**+0.5**
CARR				*e*S	**Sb**	**07 26 17.2**	**-0.7**
PCIG		**1.26**	**66**	*i* P	**Pg**	**07 26 04.6**	**-0.6**
PCIG				*e*S	**Sb**	**07 26 19.7**	**-1.1**
NILT	**Santiago Nilte**	**1.39**	**352**	*e*P	**Pb**	**07 26 06.5**	**-0.2**
NILT				*e*S	**Sb**	**07 26 20.1**	**-4.3**
HUIG	**Huatulco**	**1.73**	**290**	*i* P	**Pn**	**07 26 11.1**	**+0.4**
HUIG				*e*S	**Sn**	**07 26 29.7**	**-3.1**
THIG		**2.10**	**97**	*e*P	**Pn**	**07 26 15.8**	**+0.1**
THIG				*e*S	**Sb**	**07 26 43.3**	**-1.5**
PATR	**El Naranjo**	**2.11**	**92**	*i* P	**Pn**	**07 26 16.9**	**+0.7**
PATR				*e*S	**Sn**	**07 26 41.1**	**-1.3**
UXUV	**UXUV**	**2.14**	**7**	*i* P	**Pb**	**07 26 19.3**	**-0.2**
UXUV				*e*S	**Sb**	**07 26 45.4**	**-0.6**
PAVE	**Pavencul**	**2.16**	**89**	*i* P	**Pn**	**07 26 17.5**	**+0.6**
PAVE				*e*S	**Sn**	**07 26 42.0**	**-1.6**
CHUJ	**Union Juarez**

*IDC **14** 07:28:25.4±2.2,40.68N×127.15W,h0km,mb3.1/3, mbtmp3.2/6,ML3.7/3,MS2.5/1,Error ellipse: s-maj=32.5km s-min=17.4km az=34.0*
*NCEDC **14** 07:28:28.9±1.7,40.42N±0.07×126.9W±0.1,h4km±2km, Error ellipse: s-maj=14.6km s-min=11.7km az=242.0*
*NEIC **14** 07:28:28.1±1.7,40.43N±0.01×127.0W±0.1,h10km±2km, ML3.4/58,ML3.6/18(NCEDC),Error ellipse: s-maj=14.3km s-min=3.0km az=265.0*
ISC 14 07:28:27.4±1.6,40.43N±0.09×127.2W±0.1,h16km,n91, σ1§31/89,mb3.2/3,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**2.16**	**88**		**Pn**	**07 29 02.4**	**-0.4**
KCTM					**Sn**	**07 29 27.9**	**-1.4**
KMPM	**Mount Pierce**	**2.33**	**89**	Pn	**Pn**	**07 29 04.1**	**-1.0**
JCC	**Jacoby Creek,**	**2.42**	**80**		**Pn**	**07 29 04.8**	**-1.5**
JCC				Sn	**Sn**	**07 29 32.0**	**-3.5**
JCC				IAML		07 29 34.2	
	comp=N,174nm,0.6s						
JCC				IAML		07 29 41.6	
	comp=E,120nm,0.8s						
KRPM	**Rodgers**	**2.50**	**72**		**Pn**	**07 29 06.9**	**-0.5**
KRPM				IAML		07 29 36.6	
	comp=E,290nm,0.9s						
KRPM				IAML		07 29 38.0	
	comp=N,225nm,0.5s						
KCRM	**Chalk Rock**	**2.56**	**89**		**Pn**	**07 29 07.3**	**-0.9**
KHMM	**Horse Mountain**	**2.65**	**79**	Pn	**Pn**	**07 29 08.5**	**-1.2**
KHMM				IAML		07 29 41.8	
	comp=E,220nm,0.6s						
KHMM				IAML		07 29 44.1	
	comp=N,252nm,0.6s						
KMRM	**Mail Ridge**	**2.65**	**93**	Pn	**Pn**	**07 29 09.6**	**0.0**
KMRM				Sn	**Sn**	**07 29 40.1**	**-1.3**
KRMB	**Red Mountain**	**2.70**	**65**		**Pn**	**07 29 09.4**	**-0.8**
KBSM	**Bell Springs**	**2.78**	**99**		**Pn**	**07 29 10.5**	**-0.9**
KBO	**Bosley Butte**	**2.84**	**50**	Pn	**Pn**	**07 29 11.2**	**-1.0**
KBO				IAML		07 29 46.7	
	comp=N,81nm,0.4s						
KBO				IAML		07 29 47.7	
	comp=E,105nm,1.2s						
KCPM	**Cahto Peak**	**2.85**	**104**		**Pn**	**07 29 11.6**	**-0.7**
KSXB	**Camp Six Broad**	**2.85**	**60**	Pn	**Pn**	**07 29 11.7**	**-0.7**
KSXB				IAML		07 29 46.0	
	comp=E,86nm,0.7s						
KIPM	**Iron Peak**	**2.89**	**101**		**Pn**	**07 29 12.1**	**-0.8**
GTC	**Three Chop Rid**	**2.96**	**109**		**Pn**	**07 29 12.0**	**-1.7**
KFPM	**Farley Peak**	**2.98**	**104**		**Pn**	**07 29 13.5**	**-0.6**
KEBM	**Edson Butte**	**3.23**	**40**		**Pn**	**07 29 16.9**	**-0.7**
KEBM				IAML		07 29 56.8	
	comp=N,85nm,0.7s						
KEBM				IAML		07 29 57.7	
	comp=E,78nm,0.7s						
K02D	**Willamette Mer**	**3.47**	**48**		**Pn**	**07 29 20.8**	**-0.1**
HOPS	**Hopland Field**	**3.47**	**113**		**Pn**	**07 29 19.6**	**-1.1**
HOPS				IAML		07 30 03.3	
	comp=N,98nm,0.9s						
HOPS				IAML		07 30 04.9	
	comp=E,92nm,0.8s						
YBH	**Yreka Blue Hor**	**3.61**	**67**	Pn	**Pn**	**07 29 23.6**	**+0.8**
YBH	**Yreka Blue Hor**	**3.61**	**67**	Pn	**Pn**	**07 29 22.7**	**-0.1**
	comp=E,10.0nm,0.3s,baz=266,slow=9.7,SNR=277						
YBH				Sn	**Sn**	**07 30 03.6**	**-1.5**
	comp=E,8.1nm,0.3s,baz=107,slow=15,SNR=6.7						
	comp=E,24nm,0.4s						
GDXM	**Geysers**	**3.75**	**114**		**Pn**	**07 29 24.6**	**0.0**
HUMO	**Hull Mountain**	**3.84**	**54**	Pn	**Pn**	**07 29 26.1**	**+0.3**
DBO	**Dodson Butte**	**3.98**	**46**		**Pn**	**07 29 28.0**	**+0.2**
MCCM	**Marconi Confer**	**4.03**	**123**	Pn	**Pn**	**07 29 27.8**	**-0.7**
MCCM				IAML		07 30 15.9	
	comp=E,78nm,1.8s						
L04D	**Klamath Falls**	**4.08**	**62**	Pn	**Pn**	**07 29 31.1**	**+1.9**
L04D				IAML		07 30 19.4	
	comp=N,47nm,0.6s						
I03D	**Drain, OR**	**4.33**	**40**		**Pn**	**07 29 32.4**	**-0.2**
I03D				IAML		07 30 20.6	
	comp=E,23nm,3.6s						
ORV	**Oroville**	**4.44**	**100**	Pn	**Pn**	**07 29 33.9**	**-0.2**
BUCK	**Buck Mountain**	**4.88**	**38**		**Pn**	**07 29 40.5**	**+0.3**
BUCK				IAML		07 31 49.9	
	comp=N,39nm,4.5s						
BUCK				IAML		07 32 20.3	
	comp=E,30nm,3.9s						
I04A	**Tendick Farm,**	**4.88**	**45**	IAML		07 30 39.9	
	comp=N,21nm,1.4s						
I04A				IAML		07 30 43.5	
	comp=E,20nm,0.7s						
AFDM	**Forest Hills D**	**5.00**	**105**		**Pn**	**07 29 42.5**	**+0.7**
AFDM				IAML		07 30 41.3	
	comp=N,19nm,0.6s						
AFDM				IAML		07 30 42.3	
	comp=E,15nm,0.3s						
K05A	**Summer Lake**	**5.24**	**62**		**Pn**	**07 29 46.1**	**+0.9**
K05A				IAML		07 31 45.7	
	comp=E,24nm,4.7s						
K05A				IAML		07 31 45.7	
	comp=N,36nm,5.0s						
H04D	**Lebanon**	**5.24**	**37**	Pn	**Pn**	**07 29 46.5**	**+1.4**
H04D				IAML		07 30 54.1	
	comp=E,26nm,3.6s						
H04D				IAML		07 32 02.0	
	comp=N,24nm,4.9s						
J05D	**Fort Rock, OR**	**5.27**	**55**		**Pn**	**07 29 46.9**	**+1.3**
J05D				IAML		07 30 57.9	
	comp=N,14nm,2.9s						
J05D				IAML		07 32 53.4	
	comp=E,25nm,3.9s						
HEBO	**Mount Hebo**	**5.40**	**27**	Pn	**Pn**	**07 29 49.3**	**+2.0**
H04A	**Detroit Lake**	**5.62**	**39**	Pn	**Pn**	**07 29 51.0**	**+0.7**
SAO	**San Andreas Ge**	**5.78**	**127**		**Pn**	**07 29 51.0**	**-1.5**
PAHR	**Pah Rah Range**	**6.01**	**94**		**Pn**	**07 29 55.6**	**-0.3**
BBGB	**Big Mountain B**	**6.15**	**127**		**Pn**	**07 29 56.8**	**-1.0**
PMPB	**Monarch Peak**	**6.54**	**128**	Pn	**Pn**	**07 30 01.5**	**-1.5**
MDPB	**Devils Postpil**	**6.89**	**111**		**Pn**	**07 30 10.6**	**+2.7**
OMMB	**Old Mammoth Mi**	**6.95**	**111**		**Pn**	**07 30 11.5**	**+2.6**
MLAC	**Mammoth, Mammo**	**7.06**	**111**	P	**Pn**	**07 30 13.3**	**+3.0**
	baz=296,SNR=32						
KVN	**Kaiserville**	**7.12**	**98**		**Pn**	**07 30 10.4**	**-0.7**
NVAR	**Mina Array Bea**	**7.15**	**103**		**Pn**	**07 30 12.6**	**+1.1**
NVAR	**Mina Array Bea**	**7.15**	**103**	Pn	**Pn**	**07 30 12.4**	**+0.9**
	comp=E,0.5nm,0.3s,baz=280,slow=14,SNR=14						
NVAR				Sn	**Sn**	**07 31 35.8**	**+3.4**
	baz=353,slow=21						
NVAR				LR	LR	07 32 18.5	
	comp=E,41nm,21.3s,baz=302,slow=32						
	comp=E,1.8nm,0.6s						
VOG	**Valley Oaks Go**	**7.36**	**121**	P	**Pn**	**07 30 12.3**	**-1.9**
	baz=307						
SMMC	**Simmler**	**7.63**	**130**	P	**Pn**	**07 30 16.4**	**-1.5**
	baz=315						
TIN	**Tinemaha, Big**	**7.75**	**113**	P	**Pn**	**07 30 18.4**	**-1.3**
	baz=299						
GNW	**Green Mountain**	**7.79**	**22**		**Pn**	**07 30 22.3**	**+2.3**
VES	**Vestal, Richgr**	**7.84**	**123**	P	**Pn**	**07 30 19.8**	**-1.0**
	baz=309,SNR=19						
PKM	**Mcpherson Peak**	**8.04**	**131**	P	**Pn**	**07 30 22.5**	**-1.2**
	baz=317,SNR=12						
HAWA	**Hanford**	**8.15**	**40**		**Pn**	**07 30 27.5**	**+2.5**
CWC	**Cottonwood Cre**	**8.17**	**116**	P	**Pn**	**07 30 26.4**	**+1.0**
	baz=302						
BCW	**Bitter Crk WRg**	**8.23**	**129**		**Pn**	**07 30 25.9**	**-0.4**
ISA	**Isabella, Lake**	**8.35**	**122**	P	**Pn**	**07 30 28.1**	**+0.3**
	baz=308,SNR=34						
GRAC	**Grapevine Rang**	**8.39**	**111**	P	**Pn**	**07 30 29.3**	**+0.8**
	baz=298						
ARVC	**Arvin**	**8.46**	**126**	P	**Pn**	**07 30 28.5**	**-0.8**
	baz=312,SNR=6.7						
MPMC	**Manual Prospec**	**8.77**	**117**	P	**Pn**	**07 30 32.7**	**-1.0**
	baz=303						
CCAC	**Calif City Air**	**8.95**	**123**		**Pn**	**07 30 36.2**	**+0.1**
LRMC	**Laurel Mtn Rad**	**8.97**	**120**	P	**Pn**	**07 30 35.8**	**-0.6**
	baz=307,SNR=16						
EDW2	**Edwards Air Fo**	**9.14**	**124**	P	**Pn**	**07 30 38.3**	**-0.4**
	baz=311						
R11B	**Troy Canyon, C**	**9.21**	**99**	P	**Pn**	**07 30 41.0**	**+1.3**
	baz=287						
TPNV	**Topopah Spring**	**9.22**	**109**	P	**Pn**	**07 30 41.6**	**+1.8**
	baz=296						
GSC	**Goldstone, Bar**	**9.66**	**119**		**Pn**	**07 30 46.4**	**+0.6**
GSC	**Goldstone, Bar**	**9.66**	**119**	P	**Pn**	**07 30 45.6**	**-0.1**
	baz=306,SNR=16						
SHOC	**Shoshone, Teco**	**9.69**	**114**	P	**Pn**	**07 30 45.8**	**-0.4**
	baz=302						
BFSC	**Mount Baldy Ra**	**9.77**	**126**	P	**Pn**	**07 30 45.2**	**-2.2**
	baz=313						
RRX	**Edison Barstow**	**9.78**	**121**	P	**Pn**	**07 30 46.2**	**-1.2**
	baz=308						
TUQ	**Turquoise Moun**	**10.18**	**116**	P	**Pn**	**07 30 52.4**	**-0.7**
	baz=303						
HEC	**Hector,Ludlow**	**10.25**	**120**	P	**Pn**	**07 30 53.1**	**-0.7**
	baz=307,SNR=9.2						
MURC	**Murrieta**	**10.48**	**127**	P	**Pn**	**07 30 56.8**	**-0.2**
	baz=314						
GMRC	**Granite Mounta**	**10.72**	**118**	P	**Pn**	**07 30 59.6**	**-0.8**
	baz=306,SNR=10						
PFO	**Pinyon Flats O**	**10.93**	**125**	Pn	**Pn**	**07 31 02.2**	**-1.1**
PFO	**Pinyon Flats O**	**10.93**	**125**	P	**Pn**	**07 31 03.0**	**-0.2**
	baz=312						
TPFO	**Pinon Flats**	**10.94**	**125**	P	**Pn**	**07 31 02.0**	**-1.4**
	baz=312						
BELC	**Belle Mtn. Jos**	**10.97**	**122**	P	**Pn**	**07 31 03.1**	**-0.8**
	baz=310						
IRM	**Iron Mountain**	**11.43**	**119**	P	**Pn**	**07 31 08.7**	**-1.3**
	baz=307,SNR=7.1						
MONP2	**Monument Peak**	**11.44**	**128**	P	**Pn**	**07 31 10.0**	**-0.3**
	baz=315						
IKP	**In-Ko-Pah, Jac**	**11.80**	**128**	P	**Pn**	**07 31 16.0**	**+0.9**
	baz=315						
PDMCI	**Parker Dam,Lak**	**12.03**	**116**	P	**Pn**	**07 31 17.8**	**-0.3**
	baz=305						
ESJX	**Sierra Juarez**	**12.35**	**129**		**Pn**	**07 31 22.3**	**-0.4**
PDAR	**Pinedale Array**	**13.39**	**74**	Pn	**Pn**	**07 31 38.0**	**+1.1**
	comp=E,0.1nm,0.3s,baz=265,slow=8.1,SNR=1.9						
	comp=E,0.1nm,0.3s						
TXAR	**Lajitas Array**	**22.16**	**113**	P	**P**	**07 33 25.1**	**+2.3**
	comp=E,1.6nm,0.9s,baz=299,slow=7.2,SNR=11						
	comp=E,1.6nm,0.9s						
YKA	**Yellowknife Ar**	**23.35**	**15**	P	**P**	**07 33 33.6**	**-1.2**
	comp=E,0.2nm,1.0s,baz=200,slow=10.0,SNR=1.7						
	comp=E,0.2nm,1.0s						
ILAR	**Eielson Array**	**26.92**	**341**	P	**P**	**07 34 05.7**	**-1.9**
	comp=E,0.5nm,0.9s,baz=156,slow=6.7,SNR=2.4						
	comp=E,0.5nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**59.33**	**271**	T	T	08 42 49.8	
	baz=53,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hy**	**59.34**	**271**	T	T	08 42 58.1	
	baz=53,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**59.35**	**271**	T	T	08 42 54.0	
	baz=53,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**60.20**	**270**	T	T	08 43 57.7	
	baz=53,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**60.21**	**270**	T	T	08 44 01.7	
	baz=53,slow=74,SNR=10						
H11S3	**WAKE ISLAND Hy**	**60.22**	**270**	T	T	08 44 02.0	
	baz=53,slow=74,SNR=8.7						

*ISN **14** 07:30:24.4±0.8,33.65N×45.86E,h12km±4km,ML2.6*
*TEH **14** 07:30:25.4,33.63N×45.87E,h16km±44km,ML2.9*
ISC 14 07:30:25.5±1.0,33.61N±0.04×45.86E±0.05,h19km,n11, σ0§85/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.29**	**88**	Pg	**Pg**	**07 30 31.1**	**-0.9**
IBDR	**Badra**	**0.51**	**173**	*e*Pg	**Pb**	**07 30 34.5**	**-1.3**
IBDR				*e*Sg	**Sg**	**07 30 43.0**	**+0.4**
IBDR				AML	AML	07 30 47.6	
	comp=N,436nm,0.4s						
IBDR				AML	AML	07 31 02.1	
	comp=E,247nm,0.4s						
IGHG	**Ghaleghazi**	**0.93**	**39**	Pg	**Pn**	**07 30 43.7**	**-0.1**
IDHR	**Dehrash**	**1.17**	**22**	Pg	**Pg**	**07 30 47.4**	**-0.8**
IDHR				Sg	**Sg**	**07 31 03.4**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.18**	**56**	Pg	**Pg**	**07 30 48.1**	**-0.4**
BHD	**Baghdad**	**1.28**	**255**	*e*Pg	**Pb**	**07 30 49.5**	**+0.4**
BHD				*e*Sg	**Sg**	**07 31 07.0**	**-0.2**
IKDM	**Komasi**	**1.48**	**67**	Pg	**Pg**	**07 30 53.2**	**-1.0**
ILIN	**Lien**	**1.59**	**35**	Pg	**Pb**	**07 30 54.3**	**-0.2**
IKFM	**Kafar-mosalman**	**1.66**	**92**	Pg	**Pb**	**07 30 56.0**	**+0.5**
RAFI	**Al-Rafai**	**1.90**	**173**	*e*Pn	**Pb**	**07 30 59.0**	**-0.5**
RAFI				*e*Sn	**Sb**	**07 31 24.0**	**+1.2**
HSAM	**Samen**	**2.36**	**75**	Pn	**Pn**	**07 31 04.9**	**+1.4**

*NEIC **14** 08:17:34.2±0.6,19.82N±0.02×155.94W±0.02,h49km±3km, Error ellipse: s-maj=4.0km s-min=1.2km az=52.0*
HVO 14 08:17:36.1±0.8,19.83N±0.02×155.93W±0.03,h39km±4km, ML2.1/7,ML2.6/32(NEIC),Error ellipse: s-maj=4.5km s-min=2.9km az=62.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUH	**Hualalai**	**0.17**	**147**		**Pn**	**08 17 42.6**	**-2.2**
HUH					Sn	**08 17 47.3**	**-4.7**
KHLU	**Kahalu`u**	**0.24**	**171**	Pn	**Pn**	**08 17 42.8**	**-1.5**
KHLU					Sn	**08 17 47.6**	**-3.3**
KHLU				IAML		08 17 48.1	
	comp=N,646nm,0.1s						
HPAH	**Hawaii Prepara**	**0.30**	**48**		**Pn**	**08 17 43.3**	**-1.2**
HPAH					Sn	**08 17 48.3**	**-2.6**
CPH	**Captain Cook**	**0.34**	**177**		**Pn**	**08 17 43.8**	**-1.0**
MHA	**Mahukona**	**0.36**	**5**		**Pn**	**08 17 44.3**	**-0.6**
MHA	**Mahukona**	**0.36**	**5**		**Sn**	**08 17 50.3**	**-1.0**
POHA	**Pohakuloa**	**0.39**	**101**		**Pn**	**08 17 44.4**	**-1.1**
POHA					Sn	**08 17 50.3**	**-2.0**
POHA				IAML		08 17 50.5	
	comp=N,336nm,0.9s						
POHA				IAML		08 17 50.6	
	comp=N,295nm,0.1s						
ALEP	**Alea Permanent**	**0.40**	**136**		**Pn**	**08 17 45.0**	**-0.8**
ALEP					Sn	**08 17 51.4**	**-1.4**
MLOA	**Mauna Loa Obse**	**0.45**	**131**		**Pn**	**08 17 45.4**	**-1.1**
MLOA					Sn	**08 17 52.2**	**-1.6**
MLOA				IAML		08 17 55.6	
	comp=N,316nm,4.1s						
MWH	**Moku'aweowe**	**0.47**	**137**		**Pn**	**08 17 45.6**	**-1.3**
MWH				IAML		08 17 51.8	
	comp=N,346nm,3.8s						
MWH					Sn	**08 17 52.7**	**-1.7**
HMH	**Humu'ula Sheep**	**0.48**	**118**		**Pn**	**08 17 46.0**	**-0.9**
HMH					Sn	**08 17 53.0**	**-1.3**
HMH				IAML		08 17 59.1	
	comp=N,277nm,4.1s						
HMH				IAML		08 17 59.5	
	comp=E,292nm,4.7s						
MLH	**Mauna Loa**	**0.61**	**123**		**Pn**	**08 17 47.3**	**-1.4**
MLH					Sn	**08 17 55.7**	**-1.8**
MLH				IAML		08 18 00.8	
	comp=N,308nm,3.6s						
MLH				IAML		08 18 08.6	
	comp=E,238nm,3.6s						
AIN	**Ainahou**	**0.64**	**135**		**Pn**	**08 17 47.6**	**-1.3**
AIN					Sn	**08 17 56.3**	**-1.7**
AIN				IAML		08 18 01.5	
	comp=N,285nm,4.1s						
AIN				IAML		08 18 09.8	
	comp=E,292nm,4.3s						
KHU	**Kahuku**	**0.65**	**153**		**Pn**	**08 17 47.7**	**-1.5**
KHU					Sn	**08 17 56.1**	**-2.4**
KHU				IAML		08 17 59.9	
	comp=E,206nm,3.7s						
RSD	**Rainshed**	**0.72**	**120**		**Pn**	**08 17 48.5**	**-1.5**
UWE	**Uwekahuna**	**0.73**	**124**		**Pn**	**08 17 48.3**	**-1.8**
UWB	**Uwekahuna B**	**0.74**	**123**	Pn	**Pn**	**08 17 48.5**	**-1.7**
UWB				IAML		08 18 11.2	
	comp=E,208nm,3.7s						
UWB				IAML		08 18 14.0	
	comp=N,285nm,2.2s						
HATHI	**Halema'uma'u T**	**0.75**	**122**		**Pn**	**08 17 48.4**	**-1.9**
HTC	**Hot Caves**	**0.78**	**139**		**Pn**	**08 17 49.2**	**-1.5**
HLP	**Hilina Pali**	**0.79**	**132**		**Pn**	**08 17 49.4**	**-1.6**
PUH	**Pauahi**	**0.81**	**124**		**Pn**	**08 17 49.2**	**-2.0**
PUH				IAML		08 17 58.5	
	comp=N,276nm,3.5s						
HPO	**Honuapo**	**0.82**	**154**		**Pn**	**08 17 49.7**	**-1.5**
KNHH	**Kane Nui o Ham**	**0.85**	**122**		**Pn**	**08 17 49.8**	**-1.9**
STCH	**Steam Cracks**	**0.88**	**120**		**Pn**	**08 17 50.3**	**-1.9**
STCH				IAML		08 17 58.9	
	comp=E,178nm,0.5s						
JOKA	**Jonika Flow**	**0.96**	**114**		**Pn**	**08 17 51.2**	**-2.0**
WMR	**Waimanalo Ridg**	**2.21**	**312**		**Pn**	**08 18 08.5**	**-1.8**
DHH	**Diamond Head**	**2.26**	**310**		**Pn**	**08 18 09.0**	**-1.9**
HON	**Honolulu**	**2.44**	**308**		**Pn**	**08 18 11.8**	**-1.7**

IDC 14 08:55:13.0±7.2,30.60S×179.11W,h0km,mb3.5/2, mbtmp3.5/2,Error ellipse: s-maj=301.3km s-min=56.7km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.15**	**268**	P	P	09 03 07.1	-0.3
	0.2nm,0.4s,baz=104,slow=7.5,SNR=9.9						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.15**	**273**	P	P	09 03 15.6	0.0
	0.4nm,0.4s,baz=111,slow=8.1,SNR=7.4						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	09 14 50.0	-0.8
	3.1nm,0.9s,baz=29,slow=4.4,SNR=7.3						

*SJA **14** 08:58:11.2±0.5,21.11S×70.13W,h59km±3km,ML3.8, MW3.7*
*GUC **14** 08:58:13.5±0.4,21.08S×70.05W,h56km±1km,ML3.8*
ISC 14 08:58:13.4±1.3,21.08S±0.02×70.11W±0.05,h51km±7km, n37,σ0§94/58,3C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PATCX	**Punta Patache**	**0.26**	**351**	*e*P	**Pn**	**08 58 22.1**	**-0.3**
PATCX				*e*S	**Sn**	**08 58 30.0**	**+1.2**
PATCX				IAML		08 58 31.9	
	comp=Z,8μm,0.5s						
PATCX	**Punta Patache**	**0.26**	**351**	⇓*i*P	**Pn**	**08 58 22.5**	**+0.1**
PATCX				*e*S	**Sn**	**08 58 29.3**	**+0.6**
PATCX				IAML		08 58 30.0	
	comp=N,18μm,0.2s						
PB02	**IPOC Station P**	**0.31**	**140**	*e*P	**Pn**	**08 58 21.9**	**-0.9**
PB02	**IPOC Station P**	**0.31**	**140**	⇑*i*P	**Pn**	**08 58 22.7**	**-0.1**
PB02				*e*S	**Sn**	**08 58 29.6**	**0.0**
TA01	**Diego Aracena**	**0.52**	**353**	*e*P	**Pn**	**08 58 24.4**	**-0.5**
TA01				*e*S	**Sn**	**08 58 34.3**	**+1.1**
TA01				IAML		08 58 34.6	
	comp=Z,3μm,0.7s						
TA01	**Diego Aracena**	**0.52**	**353**	⇓*i*P	**Pn**	**08 58 24.6**	**-0.3**
TA01				*e*S	**Sn**	**08 58 33.4**	**+0.2**
TA01				IAML		08 58 34.0	
	comp=E,6μm,0.3s						
PB01	**IPOC Station P**	**0.58**	**87**	*e*P	**Pn**	**08 58 25.1**	**-0.7**
PB01				*e*S	**Sn**	**08 58 34.7**	**0.0**
PB01				IAML		08 58 35.4	
	comp=Z,6μm,0.2s						
PB01	**IPOC Station P**	**0.58**	**87**	⇑*i*P	**Pn**	**08 58 25.1**	**-0.7**
PB01				*e*S	**Sn**	**08 58 33.7**	**-1.1**
PB01				IAML		08 58 34.8	
	comp=E,12μm,0.2s						
PB07	**IPOC Station P**	**0.68**	**162**	*e*P	**Pn**	**08 58 25.9**	**-1.2**
PB07				IAML		08 58 38.1	
	comp=Z,4μm,0.4s						
PB07	**IPOC Station P**	**0.68**	**162**	⇑*i*P	**Pn**	**08 58 26.6**	**-0.5**
TA02	**Huaiquique**	**0.81**	**359**	*e*P	**Pn**	**08 58 28.3**	**-0.3**
TA02				*e*S	**Sn**	**08 58 40.6**	**+1.0**
TA02				IAML		08 58 41.5	
	comp=Z,5μm,0.1s						
TA02	**Huaiquique**	**0.81**	**359**	*i* P	**Pn**	**08 58 28.2**	**-0.4**
TA02				*e*S	**Sn**	**08 58 39.3**	**-0.3**
PX03	**IPOC Station P**	**0.81**	**34**	*i* P	**Pn**	**08 58 27.7**	**-1.0**
PB09	**IPOC Station P**	**1.08**	**132**	*e*P	**Pn**	**08 58 32.2**	**-0.2**
PB09				*e*S	**Sn**	**08 58 46.9**	**+0.4**
PB09				IAML		08 58 47.3	
	comp=Z,3μm,0.2s						
PB09	**IPOC Station P**	**1.08**	**132**	*i* P	**Pn**	**08 58 32.2**	**-0.2**
PB09				*e*S	**Sn**	**08 58 46.1**	**-0.3**
PB09				IAML		08 58 47.3	
	comp=E,4μm,0.1s						
PB04	**IPOC Station P**	**1.25**	**182**	*e*P	**Pn**	**08 58 33.8**	**-0.9**
PB04				IAML		08 58 54.8	
	comp=Z,2μm,0.2s						
PB04	**IPOC Station P**	**1.25**	**182**	*i* P	**Pn**	**08 58 34.4**	**-0.4**
PB04				*e*S	**Sn**	**08 58 50.8**	**+0.2**
PB04				IAML		08 58 52.8	
	comp=N,3μm,0.2s						
PB08	**IPOC Station P**	**1.29**	**44**	*e*P	**Pn**	**08 58 35.3**	**-0.2**
PB08				*e*S	**Sn**	**08 58 53.3**	**+1.3**
PB08				IAML		08 58 54.4	
	comp=Z,843nm,0.2s						
PB08	**IPOC Station P**	**1.29**	**44**	*i* P	**Pn**	**08 58 35.2**	**-0.2**
PB08				*e*S	**Sn**	**08 58 51.8**	**-0.2**
PB11	**IPOC Station P**	**1.38**	**18**	*e*P	**Pn**	**08 58 35.3**	**-1.2**
PB11				IAML		08 58 57.2	
	comp=Z,936nm,0.2s						
PB11	**IPOC Station P**	**1.38**	**18**	*i* P	**Pn**	**08 58 35.9**	**-0.6**
PB11				*e*S	**Sn**	**08 58 53.3**	**-0.4**
PB11				IAML		08 58 57.2	
	comp=N,2μm,0.2s						
GO01	**Chusmiza**	**1.65**	**32**	*e*P	**Pn**	**08 58 40.5**	**+0.1**
GO01				*e*S	**Sn**	**08 59 03.1**	**+2.5**
GO01				IAML		08 59 06.6	
	comp=Z,796nm,0.1s						
GO01	**Chusmiza**	**1.65**	**32**	*i* P	**Pn**	**08 58 40.0**	**-0.4**
PB06	**IPOC Station P**	**1.69**	**163**	*e*P	**Pn**	**08 58 39.9**	**-0.8**
PB06				*e*S	**Sn**	**08 59 04.0**	**+2.6**
PB06				IAML		08 59 07.2	
	comp=Z,500nm,0.3s						
PB06	**IPOC Station P**	**1.69**	**163**	⇓*i*P	**Pn**	**08 58 39.9**	**-0.8**
PB05	**IPOC Station P**	**1.77**	**183**	*e*P	**Pn**	**08 58 40.5**	**-1.2**
PB05	**IPOC Station P**	**1.77**	**183**	*i* P	**Pn**	**08 58 41.5**	**-0.3**
PB05				*e*S	**Sn**	**08 59 02.8**	**-0.4**
LVC	**Limon Verde**	**1.89**	**144**	*e*P	**Pn**	**08 58 43.6**	**0.0**
LVC				*e*S	**Sn**	**08 59 08.5**	**+2.1**
LVC				IAML		08 59 09.0	
	comp=Z,432nm,0.4s						
LVC	**Limon Verde**	**1.89**	**144**	*i* P	**Pn**	**08 58 43.8**	**+0.2**
PB15	**IPOC Station P

JTHR Tokachihiroo 0.44 14 P **Pn 09 07 42.7 +0.5**
JTHR *eS* **Sn 09 07 49.8 -0.2**
JTHR Tokachihiroo 0.44 14 A A 09 07 42.7
comp=E,126nm,1.2s,comp=N,66nm,0.4s
JNBK Urakawa-nobuka 0.51 324 ⇓P **Pn 09 07 42.6 -0.4**
JNBK ⇓*eS* **Sn 09 07 49.7 -1.7**
JNBK Urakawa-nobuka 0.51 324 A A 09 07 42.6
comp=E,169nm,0.6s,comp=N,137nm,0.7s
JSHD Hidakashinhida 0.75 317 ⇓P **Pn 09 07 46.0 0.0**
JSHD Hidakashinhida 0.75 317 A A 09 07 46.0
comp=E,87nm,0.8s,comp=N,66nm,2.1s
JCH Churui 0.76 11 P **Pn 09 07 46.9 +0.8**
JCH Churui 0.76 11 A A 09 07 46.9
comp=E,46nm,1.4s,comp=N,44nm,0.5s
JBT2 Biratori 2 1.08 327 ⇓P **Pn 09 07 50.6 +0.2**
JBT2 Biratori 2 1.08 327 A A 09 07 50.6
comp=E,39nm,3.2s,comp=N,27nm,0.8s
JOB Onbets 1.15 26 *eP* **Pn 09 07 53.2 +1.9**
JOB *eS* **Sn 09 08 07.5 +1.5**
JOB Onbets 1.15 26 A A 09 07 53.2
comp=E,32nm,0.6s,comp=N,46nm,1.1s
JIAM Iburiatsuma 1.19 310 ⇓P **Pn 09 07 53.2 +1.4**
JIAM Iburiatsuma 1.19 310 A A 09 07 53.2
comp=E,50nm,1.5s,comp=N,72nm,1.0s
JFR Furan 1.36 342 *eP* **Pn 09 07 53.9 -0.3**
JFR Furan 1.36 342 A A 09 07 53.9
comp=E,17nm,0.7s,comp=N,12nm,0.6s
JAHD Aomorihigashid 1.49 247 A A 09 07 57.6
comp=E,89nm,0.5s,comp=N,125nm,0.4s
JAR Ashorobuto 1.50 17 A A 09 07 57.8
comp=E,39nm,0.5s,comp=N,25nm,0.5s
JKB Kayabe 1.59 271 A A 09 07 58.5
comp=E,21nm,0.8s,comp=N,15nm,1.2s
JARK Aomorirokkasho 1.60 238 A A 09 07 59.3
comp=E,26nm,0.8s,comp=N,19nm,0.6s
JEW Eniwo 1.60 308 A A 09 07 58.2
comp=E,31nm,0.9s,comp=N,24nm,1.6s
JAK Akkeshi 1.60 45 A A 09 07 60.0
comp=E,26nm,1.5s,comp=N,14nm,3.3s
JOT Ohata 1.65 254 A A 09 07 59.8
comp=E,22nm,0.7s,comp=N,18nm,0.6s
JNB Noboribetsu 1.69 292 A A 09 07 59.6
comp=E,11nm,0.5s,comp=N,9.0nm,0.3s
JAB Ashibetsu 1.78 338 A A 09 08 01.0
comp=E,13nm,2.6s,comp=N,13nm,1.7s
JISS Ishikarishitsu 1.91 318 A A 09 08 02.7
comp=E,18nm,1.7s,comp=N,21nm,4.2s
JTM Tenmabayashi 1.91 236 **Pn 09 08 01.8 +0.2**
JTM Tenmabayashi 1.91 236 A A 09 08 03.9
comp=E,17nm,1.6s,comp=N,17nm,1.1s
JKHN Kushirohamanak 1.92 50 A A 09 08 04.7
comp=E,17nm,1.5s,comp=N,10.0nm,2.9s
JKEN Kujiedanarisaw 1.99 214 A A 09 08 05.6
comp=E,15nm,0.4s,comp=N,18nm,0.9s
JKK2 Kamakawa 2 2.03 352 A A 09 08 04.8
comp=E,10.0nm,1.9s,comp=N,8.0nm,1.7s
JNK Nakash 2.07 33 A A 09 08 06.4
comp=E,7.0nm,0.7s,comp=N,7.0nm,2.8s
JSR Shiriuchi 2.08 262 A A 09 08 05.7
comp=E,7.0nm,0.8s,comp=N,9.0nm,2.3s
JYM2 Yakumo 2 2.09 278 A A 09 08 05.6
comp=E,5.0nm,0.5s,comp=N,8.0nm,1.7s
JMP Maruseppu 2.15 4 A A 09 08 06.8
comp=E,9.0nm,0.5s,comp=N,16nm,1.4s
JHR Hokuryu 2.15 331 A A 09 08 06.3
comp=E,12nm,3.6s,comp=N,13nm,1.7s
JTKR Abashiri--Toko 2.17 14 A A 09 08 07.4
comp=E,8.0nm,1.7s,comp=N,7.0nm,1.2s
JSI2 Shiura 2 2.22 250 A A 09 08 08.0
comp=E,30nm,1.2s,comp=N,25nm,1.6s
JKA Kamikawa-asahi 2.29 350 Pn **Pn 09 08 08.0 +1.3**
ASAJ Asahikawa 2.29 350 P **Pn 09 08 08.1 +1.4**
comp=N,326nm,0.5s,baz=196,slow=9.1,SNR=215
ASAJ S **Sn 09 08 36.5 +2.8**
comp=N,681nm,0.6s,baz=99,slow=12,SNR=8.3
JKZ Kuzumaki 2.33 217 A A 09 08 10.5
comp=E,11nm,1.0s,comp=N,8.0nm,1.3s
JNSB Nemuroshibetsu 2.34 35 A A 09 08 10.3
comp=E,11nm,1.2s,comp=N,9.0nm,2.5s
JOMM Oshimamatsumae 2.38 263 A A 09 08 10.0
comp=E,6.0nm,0.7s,comp=N,6.0nm,0.7s
NMR Nemuro--Hokkai 2.42 51 *eP* **Pn 09 08 09.4 +0.9**
NMR *eS* **Sn 09 08 37.4 +0.4**
JHHS Hirosakihyakuz 2.43 241 A A 09 08 11.3
comp=E,23nm,0.7s,comp=N,27nm,0.8s
JHST Hiyamasetana 2.50 284 A A 09 08 11.4
comp=E,7.0nm,0.6s,comp=N,8.0nm,1.4s
JAH Hinai 2.54 230 A A 09 08 13.1
comp=E,5.0nm,2.0s,comp=N,6.0nm,1.1s
JIW Iwasaki 2.69 243 A A 09 08 15.0
comp=E,5.0nm,0.9s,comp=N,5.0nm,1.3s
JSS Shosan 2.71 340 A A 09 08 14.3
comp=E,6.0nm,4.5s,comp=N,6.0nm,2.6s
RUSJ Misakicho 2.71 34 *eP* **Pn 09 08 14.6 +2.1**
RUSJ *eS* **Sn 09 08 46.5 +2.4**
JNTW Noshirotokiwa 2.77 236 A A 09 08 16.2
comp=E,14nm,1.9s,comp=N,11nm,1.1s
JOM Ohasama 2.78 211 A A 09 08 17.0
comp=E,6.0nm,0.3s,comp=N,8.0nm,0.4s
YUK Yuzh-Kuril'sk 2.94 42 *eP* **Pn 09 08 17.4 +1.8**
YUK *eS* **Sn 09 08 51.0 +1.3**
YUK pmax pmax
comp=Z,1μm,0.2s
YUK pmax pmax
comp=N,530nm,0.4s
YUK pmax pmax
comp=E,491nm,0.1s
YUK smax smax
comp=E,8μm,0.5s
YUK smax smax
comp=N,6μm,0.4s
JRG Rokugo 3.13 219 A A 09 08 21.7
comp=E,5.0nm,0.8s,comp=N,5.0nm,1.8s
JYW Yuwa 3.23 225 A A 09 08 23.0
comp=E,7.0nm,1.1s,comp=N,6.0nm,3.5s
SHO Shikotan 3.36 52 *eP* **Pn 09 08 22.3 +0.9**
SHO *eS* **Sn 09 08 59.3 -0.8**
SHO pmax pmax
comp=N,144nm,0.3s
SHO pmax pmax
comp=E,234nm,0.3s
SHO pmax pmax
comp=Z,398nm,0.3s
SHO smax smax
comp=E,2μm,0.2s
SHO smax smax
comp=N,2μm,0.3s
JOG3 Oga3 3.65 239 A A 09 08 22.3
comp=E,4.0nm,3.6s,comp=N,5.0nm,2.3s
JOFO Osakifurukawao 3.69 209 A A 09 08 29.9
comp=E,12nm,1.8s,comp=N,10.0nm,1.7s
JYA Atsumi 4.20 220 A A 09 08 36.8
comp=E,3.0nm,0.8s,comp=N,4.0nm,4.4s
JMM Marumori 4.39 205 Pn **Pn 09 08 34.8 -0.7**
KUR Kuril'sk 4.80 44 *eP* **Pn 09 08 44.2 +3.1**
KUR *eS* **Sn 09 09 38.5 +3.1**
KUR pmax pmax
comp=N,124nm,0.4s
KUR pmax pmax
comp=Z,299nm,0.4s
KUR pmax pmax
comp=E,152nm,0.6s
KUR smax smax
comp=E,673nm,0.4s
KUR smax smax
comp=N,670nm,0.3s
YSS Yuzh-Sakhalins 5.09 357 Pn **Pn 09 08 46.0 +0.8**
YSS Yuzh-Sakhalins 5.09 357 *eP* **Pn 09 08 47.5 +2.3**
YSS *eS* **Sn 09 09 42.8 +0.2**
YSS pmax pmax
comp=Z,200nm,3.7s
YSS pmax pmax
comp=Z,80nm,0.8s
YSS smax smax
comp=N,140nm,0.9s
YSS smax smax
comp=E,30nm,0.7s
YSS MLR MLR
comp=Z,600nm,15.0s
TEY Ternei 5.73 306 *eP* **Pn 09 08 54.3 +0.5**
TEY *e* 09 09 53.1
MJB9 Matsu-Tunnel 6.56 218 **Pn 09 09 06.9 +1.6**
MJAR Matsushiro Arr 6.56 217 P **Pn 09 09 06.3 +1.0**
comp=Z,39nm,0.6s,baz=32,slow=12,SNR=140
MJAR LR LR 09 12 06.1
comp=Z,625nm,21.6s,baz=27,slow=42
MAJO Matsushiro 6.56 217 Pn **Pn 09 09 06.2 +0.9**
MAJO Matsushiro 6.56 217 *c i* P **Pn 09 09 06.1 +0.8**
INU Inuyama 8.09 218 **Pn 09 09 28.0 +1.8**
JSG Sagara 8.17 210 **Pn 09 09 27.1 -0.3**
USRK Ussuriysk Ar. 8.51 290 **Pn 09 09 33.3 +1.4**
USRK Ussuriysk Ar. 8.51 290 P **Pn 09 09 33.3 +1.4**
USRK Ussuriysk Ar. 8.51 290 P **Pn 09 09 32.4 +0.4**
comp=Z,10nm,0.6s,baz=90,slow=14,SNR=22
USRK S **Sn 09 11 07.0 +0.5**
comp=Z,8.8nm,0.6s,baz=101,slow=24,SNR=4.3
USRK LR LR 09 12 53.2
comp=Z,304nm,20.2s,baz=108,slow=38
USA0B Ussuriysk Arra 8.51 290 **Pn 09 09 33.3 +1.4**
USA0B Ussuriysk Arra 8.51 290 *i* P **Pn 09 09 31.5 -0.4**
TYV Tymovskoe 9.01 358 *eP* **Pn 09 09 41.8 +3.1**
TYV *eS* **Sn 09 11 19.8 +1.2**
TYV pmax pmax
comp=Z,23nm,0.7s
TYV pmax pmax
comp=Z,200nm,4.1s
TYV smax smax
comp=N,300nm,4.4s
TYV smax smax
comp=E,300nm,4.4s
TYV smax smax
comp=N,7.0nm,1.0s
TYV smax smax
comp=E,9.0nm,1.0s
JHJ Hachijo jima 2 9.13 198 P **Pn 09 09 38.7 -1.9**
comp=E,99nm,0.3s,baz=165,slow=1.0,SNR=11
JHJ S Sn 09 11 12.5 -9.4
comp=E,208nm,0.4s,baz=233,slow=24,SNR=9.4
JHJ2 Mitsune 9.13 198 Pn **Pn 09 09 39.1 -1.4**
GRNR Gornyy 10.04 335 *eP* **Pn 09 09 52.7 -0.2**
GRNR MLR MLR
comp=Z,180nm,14.0s
MDJ Mudanjiang 10.27 290 P **Pn 09 09 56.5 +0.4**
MDJ pP 09 10 00.3
MDJ PP 09 10 04.3
MDJ sP 09 10 14.0
MDJ S **Sn 09 11 54.1 +4.4**
MDJ PcP **PcP 09 16 02.4 +2.5**
MDJ ScP **ScP 09 19 29.9 +2.2**
MDJ PcS **PcS 09 19 36.1 +2.7**
MDJ ScS **ScS 09 22 58.0 -4.4**
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ pmax pmax
comp=Z,330nm,5.3s
MDJ LR LR
comp=Z,250nm,5.1s
MDJ LR LR
comp=Z,290nm,5.8s
MDJ LR LR
comp=Z,590nm,14.3s
KLR Kul'dur 10.86 317 *ce* P **Pn 09 10 03.7 -0.4**
KLR pmax pmax
comp=Z,14nm,1.3s
KLR Kul'dur 10.86 317 P **Pn 09 10 05.0 +0.8**
comp=Z,3.3nm,0.8s,baz=126,slow=14,SNR=9.1
KLR LR LR 09 14 33.2
comp=Z,232nm,20.6s,baz=131,slow=39
JMN Monobe 10.94 225 Pn **Pn 09 10 05.7 +0.4**
BNX BinXian 12.02 294 ⇓P **Pn 09 10 20.6 +0.7**
BNX pmax pmax
comp=Z,6.0nm,0.8s
BNX pmax pmax
comp=Z,130nm,6.0s
KSRS Korea Array 12.54 254 P **Pn 09 10 28.1 +1.1**
comp=Z,4.6nm,0.5s,baz=65,slow=13,SNR=31
KSRS S **Sn 09 12 37.8 -7.2**
comp=Z,0.9nm,0.7s,baz=114,slow=14,SNR=1.3
KSRS LR LR 09 15 00.9
comp=Z,198nm,19.0s,baz=65,slow=36
KS19 Wonju Array Si 12.56 255 **Pn 09 10 28.7 +1.4**
KSAR Wonju Array Be 12.57 254 Pn **Pn 09 10 28.0 +0.5**
KSAR Wonju Array Be 12.57 254 P **Pn 09 10 28.0 +0.5**
JNU Nakatsue 13.07 232 Pn **Pn 09 10 33.6 -0.8**
JNU Nakatsue 13.07 232 P **Pn 09 10 33.9 -0.6**
comp=Z,13nm,0.9s,baz=52,slow=9.4,SNR=10
JNU LR LR 09 15 48.4
comp=Z,211nm,18.9s,baz=63,slow=38
CN2 Changchun 13.14 284 *eP* **Pn 09 10 35.8 +0.5**
CN2 *eS* **Sn 09 12 59.8 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,13.0s
TJN Taejon 13.43 251 *ce* P **Pn 09 10 39.5 +0.3**
PETK Petropavlovsk- 14.90 36 P **Pn 09 10 57.6 -1.2**
comp=Z,4.0nm,0.5s,baz=214,slow=12,SNR=10
PETK LR LR 09 17 54.9
comp=Z,138nm,19.6s,baz=225,slow=42
ZEA Zeya 15.93 324 *i* P **Pn 09 11 09.8 -2.1**
MA2 Magadan 18.35 12 P **P 09 11 39.1 -2.3**
MA2 Magadan 18.35 12 *ce* P **P 09 11 39.5 -1.9**
MA2 pmax pmax
comp=Z,13nm,0.8s
MA2 Magadan 18.35 12 P **P 09 11 39.4 -2.0**
comp=Z,10nm,0.7s,baz=187,slow=15,SNR=8.7
MA2 LR LR 09 18 09.0
comp=Z,95nm,21.4s,baz=174,slow=35
JOW Kunigami 19.34 224 P **P 09 11 51.5 -1.0**
comp=Z,18nm,0.6s,baz=78,slow=16,SNR=2.4
JOW LR LR 09 20 16.9
comp=Z,172nm,19.6s,baz=106,slow=40
XLT XiLinHaoTe 19.91 285 *eP* **Pn 09 12 00.5 -0.2**
XLT pP sP 09 12 13.9 -3.1
XLT sP pP 09 12 19.8 +9.4
XLT pmax pmax
comp=Z,6.0nm,0.6s
XLT pmax pmax
comp=Z,71nm,6.6s
BJI Beijing 20.43 274 P Pn 09 12 05.9 -0.8
BJI pmax pmax
comp=Z,5.0nm,0.7s
TIA Tai'an 20.95 263 P **P 09 12 07.8 -2.1**
TIA pmax pmax
comp=Z,12nm,0.6s
NJ2 Nanjing 21.69 251 *eP* **P 09 12 19.5 +1.8**
NJ2 pP **pP 09 12 31.0 +1.4**
NJ2 sP **sP 09 12 35.8 -0.3**
NJ2 pmax pmax
comp=Z,13nm,0.6s
YAK Yakutsk 21.75 343 *eP* **P 09 12 15.4 -2.7**
YAK *e* 09 12 36.6
YAK *eS* **S 09 16 13.3 -2.2**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK smax smax
comp=N,32nm,1.8s
YAK smax smax
comp=E,36nm,1.6s
YAK Yakutsk 21.75 343 P **P 09 12 14.8 -3.3**
comp=E,1.1nm,0.5s,baz=134,slow=3.4,SNR=4.2
YAK S **S 09 16 06.1 -9.4**
comp=E,0.3nm,0.3s,baz=28,slow=23,SNR=7.2
YAK LR LR 09 21 04.5
comp=E,5.2nm,18.8s,baz=118,slow=37
SEY Seymchan 21.79 11 *ce* P **P 09 12 16.2 -2.4**
SEY pmax pmax
comp=Z,28nm,0.8s
SEY Seymchan 21.79 11 P **P 09 12 16.2 -2.4**
comp=Z,22nm,0.8s,baz=195,slow=9.5,SNR=71
HNS HongShan 22.31 268 *eP* **P 09 12 23.9 -0.5**
HNS pmax pmax
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 23.67 278 *eP* **P 09 12 39.3 +1.1**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.3s
HHC LR LR
comp=Z,200nm,17.1s
HHC LR LR
comp=Z,320nm,17.1s
HHC LR LR
comp=Z,390nm,18.4s
TATO Taipei 24.61 234 P **P 09 12 47.4 +0.7**
BTO Baotou 24.87 278 *eP* **P 09 12 52.8 +3.7**
BTO pP **sP 09 13 07.3 -1.2**
BTO PP **PnPn 09 13 31.5 +7.7**
BTO pmax pmax
comp=Z,23nm,0.7s
BTO pmax pmax
comp=Z,230nm,8.6s
LYN LuoYang 25.10 263 *eP* **P 09 12 52.3 +1.1**
LYN pmax pmax
comp=Z,18nm,0.6s
LYN pmax pmax
comp=Z,370nm,4.7s
WHN Wuhan 25.73 253 ⇓P **P 09 12 57.1 +0.3**
WHN pmax pmax
comp=Z,64nm,0.7s
SSLB Suanglung 25.82 233 P **P 09 12 56.7 -1.1**
SSLB IAmb IAmb 09 13 35.6
comp=Z,86nm,1.6s
ULN Ulaanbaatar 26.11 296 *i* P **P 09 12 59.3 -1.1**
ULN pmax pmax
comp=Z,10.0nm,1.3s
TPUB Ta-pu 26.38 232 P **P 09 13 00.3 -2.5**
TPUB IAmb IAmb 09 13 22.6
comp=Z,53nm,1.4s
SONM Songino Array 26.55 296 P **P 09 13 05.0 +0.6**
SONM Songino Array 26.55 296 P **P 09 13 05.0 +0.6**
SONM pmax pmax
comp=Z,32nm,1.8s
SONM Songino Array 26.55 296 P **P 09 13 04.7 +0.4**
comp=Z,1.4nm,0.4s,baz=82,slow=7.7,SNR=12
SONM PcP **PcP 09 16 28.8 +1.2**
comp=Z,0.5nm,0.7s,baz=89,slow=0.7,SNR=1.9
comp=Z,1.4nm,0.4s
XAN Xi'an 27.96 265 ⇓P **P 09 13 17.8 +0.8**
XAN pmax pmax
comp=Z,12nm,0.8s
ZAK Zakamensk 28.63 301 *eP* **P 09 13 21.3 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
H11N2 WAKE ISLAND Hy 29.86 130 T T 09 45 09.5
baz=324,slow=75,SNR=309
H11N1 WAKE ISLAND Hy 29.87 130 T T 09 45 10.4
baz=324,slow=75,SNR=794
H11N3 WAKE ISLAND Hy 29.88 130 T T 09 45 10.9
baz=324,slow=75,SNR=298
H11S1 WAKE ISLAND Hy 30.73 132 T T 09 46 14.6
baz=325,slow=76,SNR=520
H11S3 WAKE ISLAND Hy 30.74 132 T T 09 46 09.8
baz=325,slow=76,SNR=382
H11S2 WAKE ISLAND Hy 30.75 132 T T 09 46 13.9
baz=325,slow=76,SNR=516
LZH Lanzhou 30.91 272 *eP* **P 09 13 41.3 -1.9**
LZH pP pP 09 13 54.0 -2.5
LZH pmax pmax
comp=Z,19nm,1.0s
GTA Gaotai 32.73 280 *eP* **P 09 14 02.5 +3.4**
GTA pP sP 09 14 16.3 -2.5
GTA sP pP 09 14 24.8 +12
GTA pmax pmax
comp=Z,5.0nm,0.8s
SPIA Saint Paul Isl 33.16 46 P **P 09 14 01.7 -0.7**
baz=263
CD2 Chengdu 33.28 264 P **P 09 14 02.6 -1.3**
CD2 pmax pmax
comp=Z,430nm,4.6s
K13K Kusilvak Mount 36.64 39 P **P 09 14 32.8 +0.4**
baz=261
PZH PanZhiHua 37.15 259 P **P 09 14 39.5 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,5.3s
J14K Nanvaranak Lak 37.27 38 P **P 09 14 38.2 +0.5**
baz=261
G15K Niukluk 37.46 34 P **P 09 14 40.1 +0.8**
baz=258
C16K Lisburne Hills 37.79 28 P **P 09 14 42.7 +0.6**
baz=252
M14K Bethel 37.80 41 P **P 09 14 42.7 +0.6**
baz=266
N14K Kuskokwak Cree 37.88 42 P **P 09 14 43.7 +0.9**
baz=267
O14K Tigyukauivet M 38.06 43 P **P 09 14 45.2 +0.7**
baz=268
K15K Wolf Creek Mou 38.14 38 P **P 09 14 45.1 0.0**
baz=264
H16K Elim 38.15 35 P **P 09 14 46.1 +1.0**
baz=260
G16K Koyuk River 38.24 33 P **P 09 14 46.7 +0.9**
baz=259
M15K Kasigluk River 38.41 41 P **P 09 14 48.1 +0.7**
baz=267
D17K Noatak River 38.45 30 P **P 09 14 48.5 +0.9**
baz=256
SDPT Sand Point 38.55 50 P **P 09 14 49.8 +1.2**
baz=274
RDOG Red Dog Mine 38.61 29 P **P 09 14 49.7 +0.7**
baz=255
C17K DeLong Mountai 38.62 28 P **P 09 14 49.6 +0.5**
baz=254
J16K Anvik River 38.67 37 P **P 09 14 50.3 +0.7**
baz=264
N15K Kwethluk River 38.69 42 P **P 09 14 50.6 +0.9**
baz=268
I17K Unalakleet 38.70 36 P **P 09 14 50.7 +1.0**
baz=263
E17K Hotham Inlet 38.78 31 P **P 09 14 51.2 +0.7**
baz=258,SNR=7.1
O15K Ungalikthiuk R 38.80 44 P **P 09 14 51.6 +0.9**
baz=269
DGZ Jazzator, Alta 38.85 301 *i* P **P 09 14 51.6 +0.2**
DGZ pmax pmax
comp=Z,7.0nm,0.7s
F17K Baldwin Pennin 38.88 32 P **P 09 14 52.3 +1.1**
baz=259
G17K Kiwalik Mounta 38.95 33 P **P 09 14 52.9 +1.0**
baz=261
L16K Owhat River 39.06 40 P **P 09 14 53.3 +0.5**
baz=266
H17K Granite Mounta 39.18 34 P **P 09 14 54.8 +1.0**
baz=262
M16K Timber Creek 39.28 41 P **P 09 14 55.2 +0.5**
baz=268
E18K Tukpahlearik C 39.32 30 P **P 09 14 56.1 +1.2**
baz=258
B18K Kokolik River 39.34 27 P **P 09 14 56.1 +1.1**
baz=255
N16K Nishlik Lake 39.35 42 P **P 09 14 56.7 +1.4**
baz=269
C18K Utukok River 39.37 28 P **P 09 14 56.1 +0.7**
baz=256
F18K Selawik 39.54 32 P **P 09 14 57.3 +0.6**
baz=260
L17K Donlin 39.64 39 P **P 09 14 57.9 +0.3**
baz=267
CHGN Chignik 39.65 48 P **P 09 14 58.5 +0.8**
baz=274
K17K Iditarod 39.67 38 P **P 09 14 58.5 +0.6**
baz=266
O16K Kokwok River B 39.69 43 P **P 09 14 59.0 +1.0**
baz=270
P16K Nushagak River 39.75 44 P **P 09 14 59.0 +0.4**
baz=271
A19K Wainwright 39.80 26 P **P 09 14 59.1 +0.3**
baz=255
ZAA0 Zalesovo Array 39.82 308 P **P 09 14 59.6 +0.4**
ZALV Zalesovo Beam 39.82 308 P **P 09 14 60.0 +0.7**
ZALV Zalesovo Beam 39.82 308 *i* P **P 09 14 59.9 +0.7**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 39.82 308 P **P 09 14 59.5 +0.3**
comp=Z,5.7nm,0.7s,baz=91,slow=8.5,SNR=26
ZALV ScP **ScP 09 20 49.2 +0.7**
comp=Z,0.6nm,0.6s,baz=90,slow=4.3,SNR=3.9
comp=Z,5.7nm,0.7s
G18K Tagagawik 39.83 33 P **P 09 14 59.8 +0.6**
baz=262
H18K Honhosa River 39.86 34 P **P 09 15 00.4 +1.0**
baz=263
M17K Holitna River 40.02 40 P **P 09 15 01.2 +0.4**
baz=269
C19K Lookout Ridge 40.04 28 P **P 09 15 01.6 +0.6**
baz=258
WMQ Urumqi 40.07 292 *eP* **P 09 15 03.9 +2.4**
N17K Nushagak Hills 40.14 41 P **P 09 15 02.6 +0.8**
baz=270

O17K **Koliganek Bris** 40.19 43 P P 09 15 02.7 +0.5
baz=271
L18K **Granite Mounta** 40.40 39 P P 09 15 04.6 +0.7
baz=268
J18K **Innoko River** 40.43 37 P P 09 15 05.2 +0.9
baz=267
D19K **Kuna River** 40.45 29 P P 09 15 05.4 +1.1
baz=260
GCSA **Galena City Sc** 40.45 35 P P 09 15 05.4 +1.1
baz=265
Q16K **King Salmon** 40.45 44 P P 09 15 05.7 +1.3
baz=273
G19K **Purcell Mounta** 40.50 33 P P 09 15 05.7 +1.0
baz=264
P17K **Kvichak River** 40.54 44 P P 09 15 05.8 +0.7
baz=272
E19K **Redstone River** 40.61 31 P P 09 15 06.7 +1.1
E19K **Redstone River** 40.61 31 P P 09 15 07.0 +1.4
baz=262
H19K **Roundabout Mou** 40.70 34 P P 09 15 07.5 +1.2
baz=265
TTA **Tatalina** 40.73 38 P P 09 15 07.7 +1.0
baz=268
N18K **Kilae Creek** 40.77 41 P P 09 15 07.7 +0.6
baz=271
M18K **Stony River** 40.80 40 P P 09 15 07.8 +0.6
baz=270
SVW2 **Sparrevohn** 40.92 41 P P 09 15 09.7 +1.4
J19K **Poorman** 40.95 36 P P 09 15 09.0 +0.6
baz=267
D20K **Etivluk River** 41.03 29 P P 09 15 09.6 +0.6
baz=261
E20K **Nigu River** 41.11 30 P P 09 15 11.1 +1.3
baz=262
F20K **Avaraart Lake** 41.14 31 P P 09 15 11.0 +1.1
baz=264
O18K **Koktuh Hills** 41.14 42 P P 09 15 10.5 +0.4
baz=272
P18K **Big Mountain,** 41.15 43 P P 09 15 10.3 +0.1
baz=273
Q18K **Katmai Hardscr** 41.31 44 P P 09 15 11.6 0.0
baz=274
H20K **Anotleneega Mo** 41.34 34 P P 09 15 12.4 +0.7
baz=266
N19K **Bonanza Creek** 41.46 41 P P 09 15 13.5 +0.7
baz=272
A21K **Barrow** 41.50 25 P P 09 15 13.8 +0.9
baz=258
J20K **Nowinta River** 41.60 36 P P 09 15 14.4 +0.6
baz=268
K20K **Telida** 41.62 37 P P 09 15 14.8 +0.8
baz=270
C21K **Knifeblade Rid** 41.74 28 P P 09 15 15.5 +0.6
baz=262
B21K **Ikpikpuk River** 41.87 28 P P 09 15 16.8 +0.9
baz=262
G21K **Allakaket** 41.97 32 P P 09 15 17.3 +0.6
baz=266
Q19K **Cape Douglas,** 42.00 44 P P 09 15 18.4 +1.3
baz=275
F21K **Alatna River** 42.03 31 P P 09 15 17.8 +0.5
baz=266
M20K **Styx River** 42.08 39 P P 09 15 17.0 -0.8
baz=272
P19K **Oil Pt** 42.15 43 P P 09 15 18.6 +0.3
baz=274
H21K **Melozitna Rive** 42.22 34 P P 09 15 19.0 +0.2
baz=268
B22K **Teshekpuk Lake** 42.37 27 P P 09 15 20.8 +0.9
baz=262
CHUM **Lake Minchumin** 42.40 36 P P 09 15 20.9 +0.6
baz=270
O20K **Slope Mountain** 42.42 42 P P 09 15 20.9 +0.2
baz=274
D22K **Ayikyak River** 42.47 29 P P 09 15 21.2 +0.4
baz=265
PPLA **Purkeypile** 42.48 38 P P 09 15 21.1 -0.1
baz=272
CAST **Castle Rocks** 42.51 37 P P 09 15 23.4 +2.1
CAST **Castle Rocks** 42.51 37 P P 09 15 21.9 +0.6
baz=271
F22K **John River** 42.55 31 P P 09 15 22.0 +0.5
baz=267
I21K **Tanana** 42.55 34 P P 09 15 22.2 +0.7
baz=269
N20K **Mount Spurr** 42.55 40 P P 09 15 22.4 +0.8
baz=274
KDAK **Kodiak Island** 42.67 45 P P 09 15 23.6 +1.0
baz=277
KDAK **Kodiak Island** 42.67 45 P P 09 15 23.8 +1.3
Q20K **Shuyak Island** 42.68 44 P P 09 15 23.3 +0.7
baz=276
E22K **Anaktuvuk Pass** 42.73 30 P P 09 15 23.9 +0.9
baz=266
G22K **Bettles** 42.78 32 P P 09 15 24.3 +0.9
baz=268,SNR=5.4
H22K **Ishtalitna Cre** 42.81 33 P P 09 15 24.7 +1.1
baz=269
SKT **Skwentna** 42.83 39 P P 09 15 24.8 +0.9
baz=273
MK31 **Makanchi Array** 42.86 298 P P 09 15 24.0 -0.3
MK31 **Makanchi Array** 42.86 298 *ceP* P 09 15 24.0 -0.3
MKAR **Makanchi Array** 42.86 298 P P 09 15 24.2 -0.1
MKAR **Makanchi Array** 42.86 298 P P 09 15 24.4 +0.1
comp=Z,1.9nm,0.5s,baz=83,slow=9.4,SNR=20
MKAR PcP **PcP** 09 17 16.5 +2.0
comp=Z,0.5nm,0.5s,baz=88,slow=3.3,SNR=1.0
MKAR ScP **ScP** 09 21 00.8 0.0
comp=Z,0.4nm,0.8s,baz=58,slow=3.6,SNR=2.6
comp=Z,1.9nm,0.5s
HOM **Homer** 42.95 43 P P 09 15 24.8 -0.1
baz=276
BPAW **Bear Paw Mtn.** 42.99 36 P P 09 15 26.8 +1.7
BPAW IAmb IAmb 09 15 29.7
comp=Z,42nm,1.8s
BPAW **Bear Paw Mtn.** 42.99 36 P P 09 15 25.7 +0.6
baz=271
KTH **Kantishna Hill** 43.03 37 P P 09 15 27.6 +2.0
KTH IAmb IAmb 09 15 49.5
comp=Z,23nm,1.1s
MAKZ **Makanchi** 43.07 298 P P 09 15 26.1 +0.1
MAKZ **Makanchi** 43.07 298 P P 09 15 26.1 +0.1
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ **Makanchi** 43.07 298 P P 09 15 26.1 +0.1
MAKZ pP **pP** 09 15 40.2 +0.4
MLY **Manley** 43.08 35 P P 09 15 26.4 +0.6
baz=271
SUA **Susitna One** 43.23 40 P P 09 15 26.8 -0.4
baz=274
C23K **Itkillik River** 43.28 28 P P 09 15 28.2 +0.8
baz=266
COLD **Coldfoot** 43.30 31 P P 09 15 28.4 +0.8
baz=269
TRF **Thorofare Moun** 43.32 37 P P 09 15 28.1 +0.2
baz=273
G23K **Bananza Creek** 43.37 32 P P 09 15 28.4 +0.2
baz=270
CUT **Chulitna** 43.39 38 P P 09 15 28.4 +0.1
baz=274
BRSE **Bradley Lake S** 43.40 42 P P 09 15 28.5 0.0
baz=276
E23K **Chamdalar** 43.55 30 P P 09 15 29.9 +0.3
baz=268
I23K **Minto, Yukon-K** 43.66 34 P P 09 15 32.2 +1.8
I23K IAmb IAmb 09 16 05.8
comp=Z,31nm,1.9s
I23K **Minto, Yukon-K** 43.66 34 P P 09 15 31.3 +0.9
baz=272
NEA2 **Nenana** 43.80 35 P P 09 15 32.1 +0.5
baz=273
O22K **Cooper Landing** 43.82 41 P P 09 15 32.3 +0.5
baz=276
D24K **Happy Valley** 43.87 29 P P 09 15 32.2 +0.1
baz=268
MCK **McKinley** 43.91 36 P P 09 15 33.2 +0.7
baz=274
CHTO **Chiang Mai** 43.92 252 P P 09 15 33.6 +0.4
CHTO **Chiang Mai** 43.92 252 P P 09 15 33.6 +0.4
CHTO pmax pmax
comp=Z,8.0nm,0.6s
C24K **Franklin Bluff** 43.93 28 P P 09 15 33.2 +0.7
baz=268
E24K **Your Creek** 43.97 30 P P 09 15 33.5 +0.5
baz=270
PMR **Palmer** 43.99 40 P P 09 15 33.7 +0.5
baz=276
SEW **Seward** 44.00 42 P P 09 15 33.8 +0.5
baz=277
MDM **Murphy Dome** 44.14 35 P P 09 15 36.1 +1.8
WAT1 **Susitna Watana** 44.15 38 P P 09 15 34.7 +0.2
baz=275
KURK **Kurchatov** 44.16 305 P P 09 15 34.0 -0.6
KURK IAmb IAmb 09 15 49.4
comp=Z,25nm,1.1s
KURK **Kurchatov** 44.16 305 *ceP* P 09 15 33.9 -0.7
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURK **Kurchatov** 44.16 305 P P 09 15 35.0 +0.4
KURK pP **pP** 09 15 48.9 +0.3
KURK sP **sP** 09 15 55.3 +0.5
CMAR **Chiang Mai Arr** 44.16 252 P P 09 15 36.8 +1.7
comp=Z,1.5nm,0.3s,baz=45,slow=7.4,SNR=7.9
comp=Z,1.5nm,0.3s
F24K **Squaw Lake** 44.20 31 P P 09 15 35.5 +0.7
baz=271
KURBB **Kurchatov Arra** 44.24 304 P P 09 15 35.5 +0.2
comp=Z,6.2nm,0.6s,baz=77,slow=8.8,SNR=14
comp=Z,6.2nm,0.6s
H24K **Noodor Dome** 44.25 33 P P 09 15 36.1 +0.9
baz=272
COLA **College** 44.31 35 P P 09 15 36.2 +0.6
baz=273
COLA **College** 44.31 35 P P 09 15 37.5 +1.9
KNK **Knik Glacier** 44.33 40 P P 09 15 37.1 +1.2
KNK **Knik Glacier** 44.33 40 P P 09 15 36.4 +0.4
baz=276
SML **Sawmill** 44.35 39 P P 09 15 35.7 -0.4
baz=276
G24K **Hadweenzic Riv** 44.38 32 P P 09 15 36.7 +0.5
baz=272
POKR **Poker Plat Res** 44.47 34 P P 09 15 37.9 +0.9
baz=274
WAT6 **Susitna Watana** 44.55 38 P P 09 15 38.4 +0.6
baz=276
M23K **Glacier View** 44.64 39 P P 09 15 38.9 +0.5
baz=277
DHY **Denali Highway** 44.66 37 P P 09 15 39.3 +0.6
baz=276
IL31 44.73 35 P P 09 15 39.9 +1.0
ILAR **Eielson Array** 44.73 35 P P 09 15 40.1 +1.1
ILAR **Eielson Array** 44.73 35 P P 09 15 40.0 +0.9
comp=Z,4.8nm,0.8s,baz=259,slow=5.5,SNR=67
ILAR PcP **PcP** 09 17 20.2 -0.2
comp=Z,0.5nm,0.6s,baz=294,slow=4.0,SNR=1.1
comp=Z,4.8nm,0.8s
HDA **Harding Lake** 44.73 35 P P 09 15 39.7 +0.7
baz=275
SCM **Sheep Creek Mo** 44.82 39 P P 09 15 40.6 +0.7
baz=277
G25K **Bearman Lake** 44.92 32 P P 09 15 41.2 +0.7
baz=273
P23K **Montague Islan** 45.04 42 P P 09 15 42.2 +0.7
baz=279
F25K **Christian Rive** 45.06 31 P P 09 15 42.3 +0.6
baz=273
E25K **Arctic Village** 45.06 30 P P 09 15 42.3 +0.7
baz=272
PRP **Porcupine Dome** 45.24 34 P P 09 15 44.0 +0.7
PRP IAmb IAmb 09 15 57.3
comp=Z,10nm,0.8s
PRP **Porcupine Dome** 45.24 34 P P 09 15 44.1 +0.8
baz=275,SNR=5.0
K24K **Donnelly Dome** 45.30 36 P P 09 15 44.3 +0.7
baz=276
M24K **Tolsona, Glenn** 45.33 39 P P 09 15 45.7 +1.8
M24K **Tolsona, Glenn** 45.33 39 P P 09 15 44.1 +0.2
baz=278
J25K **Salcha River,** 45.39 35 P P 09 15 44.7 +0.4
baz=276
KLU **Klutina** 45.53 39 P P 09 15 45.4 -0.1
baz=278
PAX **Paxson** 45.54 37 P P 09 15 45.0 -0.6
baz=277
F26K **Sheenjek River** 45.62 31 P P 09 15 47.0 +0.9
baz=274
HARP **HAARP** 45.76 38 P P 09 15 48.1 +0.9
baz=278
G26K **Porcupine Rive** 45.82 32 P P 09 15 48.4 +0.8
baz=275
SCRK **Sand Creek** 46.07 36 P P 09 15 51.0 +1.3
SCRK IAmb IAmb 09 15 51.6
comp=Z,11nm,0.7s
SCRK **Sand Creek** 46.07 36 P P 09 15 49.7 -0.1
baz=278,SNR=9.7
N25K **Chitina, Valde** 46.14 39 P P 09 15 50.7 +0.4
baz=279
J26L **Joseph Creek** 46.18 35 P P 09 15 51.0 +0.4
baz=277
BMRM **Bremner River** 46.24 40 P P 09 15 50.9 -0.2
baz=280
I26K **Coal Creek Min** 46.25 34 P P 09 15 51.0 0.0
baz=277
L26K **Log Cabin Wild** 46.49 37 P P 09 15 54.3 +1.3
L26K IAmb IAmb 09 15 56.4
comp=Z,13nm,1.1s
L26K **Log Cabin Wild** 46.49 37 P P 09 15 53.2 +0.3
baz=279
KAIM **Kayak Island** 46.53 41 P P 09 15 53.8 +0.5
baz=281
E27K **Coleen River** 46.54 30 P P 09 15 53.5 +0.2
baz=276
D27M **Malcolm River** 46.67 28 P P 09 15 54.7 +0.3
baz=275
G27K **Doyon Strip** 46.67 32 P P 09 15 55.1 +0.7
baz=277
VRDI **Verde Repeater** 46.75 40 P P 09 15 57.1 +1.8
M26K **Nabesna, AK** 46.75 38 P P 09 15 55.6 +0.5
baz=280
H27K **Steamboat Moun** 46.80 33 P P 09 15 55.9 +0.6
baz=278
I27K **Kandik River** 46.85 33 P P 09 15 55.9 +0.1
baz=278
K27K **Chicken** 46.89 36 P P 09 15 56.1 +0.1
baz=279
EGAK **Eagle** 47.16 34 P P 09 15 59.3 +1.2
baz=279
L27K **Beaver Creek,** 47.16 37 P P 09 16 00.8 +2.6
L27K IAmb IAmb 09 16 01.6
comp=Z,12nm,0.8s
L27K **Beaver Creek,** 47.16 37 P P 09 15 58.6 +0.3
baz=280
BCAR **Beaver Creek A** 47.18 37 P P 09 16 00.8 +2.4
E28M **Babbage River** 47.26 29 P P 09 15 59.1 +0.3
baz=277
F28M **Old Crow** 47.26 31 P P 09 15 58.9 0.0
baz=278
M27K **Edge Creek, AK** 47.27 38 P P 09 15 59.3 +0.1
baz=281
D28M **Stokes Point** 47.45 28 P P 09 16 00.7 +0.5
baz=277
I28M **Minto Creek** 47.56 33 P P 09 16 01.6 +0.2
baz=280,SNR=10.0
BVCY **Beaver Creek** 47.73 38 P P 09 16 02.3 -0.3
baz=282
CTG **Chitna Glacier** 47.81 40 P P 09 16 01.6 -1.8
baz=282
E29M **Blow River** 47.88 29 P P 09 16 02.6 -1.1
baz=279
YUK3 **Moose Creek** 48.04 38 P P 09 16 03.7 -1.7
baz=282
DAWY **Dawson** 48.05 35 P P 09 16 03.6 -1.5
baz=281
H29M **Whitestone** 48.06 32 P P 09 16 04.3 -0.8
baz=280
G29M **Pine Creek** 48.08 31 P P 09 16 04.1 -1.1
baz=280
I29M **Ogilvie Camp,** 48.25 33 P P 09 16 05.5 -1.1
baz=281
BVAR **Borovoye Array** 48.43 310 P P 09 16 08.7 +0.6
comp=Z,5.2nm,0.4s,baz=78,slow=8.8,SNR=37
comp=Z,5.2nm,0.4s
J29N **Klondike Camp** 48.47 35 P P 09 16 07.2 -1.2
baz=282
BRVK **Borovoye** 48.48 310 P P 09 16 08.9 +0.4
BRVK **Borovoye** 48.48 310 *ceP* P 09 16 08.6 +0.1
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK **Borovoye** 48.48 310 P P 09 16 09.0 +0.5
BRVK pP **pP** 09 16 23.2 +0.6
YUK8 **Steele Glacier** 48.48 39 P P 09 16 07.3 -1.4
baz=284
BOOM **Boomskoye usch** 48.59 295 P P 09 16 10.6 +0.8
BOOM IAmb IAmb 09 16 25.7
comp=Z,13nm,0.8s
BOOM **Boomskoye usch** 48.59 295 P P 09 16 10.6 +0.8
BOOM pmax pmax
comp=Z,13nm,0.8s
EPYK **Eagle Plains** 48.69 32 P P 09 16 11.8 +1.8
EPYK **Eagle Plains** 48.69 32 P P 09 16 08.0 -2.0
baz=282,SNR=6.3
G30M **tAoh Zraii Nji** 48.76 31 P P 09 16 08.8 -1.7
baz=281
L29M **L29M** 48.80 36 P P 09 16 08.9 -2.0
baz=283
M29M **Somme Creek** 48.81 37 P P 09 16 08.9 -2.1
baz=284
K29M **Barlow Dome** 48.90 35 P P 09 16 10.5 -1.3
baz=283
YUK4 **Talbot Arm** 48.99 39 P P 09 16 10.8 -1.8
baz=284
YUK6 **Outpost Mounta** 49.22 39 P P 09 16 12.1 -2.3
baz=285
J30M **Hart River** 49.24 34 P P 09 16 13.3 -1.0
baz=283
O29M **Mount Kennedy** 49.29 40 P P 09 16 13.2 -1.6
baz=285
INK **Inuvik** 49.49 29 P P 09 16 17.1 +1.2
INK **Inuvik** 49.49 29 P P 09 16 17.2 +1.2
INK pmax pmax
comp=Z,5.0nm,0.8s
INK **Inuvik** 49.49 29 P P 09 16 15.2 -0.8
baz=283
AAK **Ala-Archa** 49.51 295 *i* P P 09 16 16.6 -0.2
AAK pmax pmax
comp=Z,2.0nm,0.8s
G31M **Satah River** 49.52 31 P P 09 16 17.9 +1.7
G31M **Satah River** 49.52 31 P P 09 16 15.2 -1.1
baz=283,SNR=5.3
M30M **Minto, Yukon** 49.53 37 P P 09 16 14.1 -2.3
baz=285
F31M **Tsiigehtchic** 49.61 30 P P 09 16 18.5 +1.6
F31M IAmb IAmb 09 16 30.4
comp=Z,32nm,1.8s
F31M **Tsiigehtchic** 49.61 30 P P 09 16 15.2 -1.6
baz=283
HYT **Haines Junctio** 49.66 39 P P 09 16 20.2 +2.6
HYT **Haines Junctio** 49.66 39 P P 09 16 16.3 -1.3
baz=286
N30M **Aishikik Lake** 49.68 38 P P 09 16 16.2 -1.5
baz=285
H31M **Peel River** 49.76 32 P P 09 16 17.3 -0.9
baz=284
KSH **Kashi** 49.80 291 *e*P P 09 16 23.1 +4.1
KSH pP sP 09 16 37.6 -1.7
KSH pmax pmax
comp=Z,6.0nm,0.8s
P29M **Windy Craggy** 49.88 41 P P 09 16 18.5 -0.6
baz=286
P30M **Million Dollar** 50.12 40 P P 09 16 19.4 -1.5
baz=287
N31M **Braeburn, Yuko** 50.28 38 P P 09 16 21.0 -1.2
baz=286
O30N **Mendenhall** 50.34 39 P P 09 16 22.3 -0.4
baz=287
M31M **Drury Creek, Y** 50.71 37 P P 09 16 23.6 -1.8
baz=287
WHY **Whitehorse** 50.94 39 P P 09 16 25.9 -1.3
baz=288
S31K **Pelican** 51.13 42 P P 09 16 26.6 -2.0
baz=289
FARO **Faro, Yukon** 51.16 37 P P 09 16 27.9 -0.9
baz=288
A36M **Sachs Harbour** 51.29 23 P P 09 16 27.5 -2.0
baz=287
N32M **Quiet Lake** 51.62 38 P P 09 16 30.4 -1.8
baz=289
P32M **Atlin** 51.84 40 P P 09 16 31.2 -2.7
baz=289
R32K **Eaglecrest** 51.89 42 P P 09 16 30.5 -3.7
baz=290
SIT **Sitka** 51.90 43 P P 09 16 31.4 -2.8
baz=290
KK31 **Karatay Array** 51.98 297 P P 09 16 35.2 0.0
KK31 IAmb IAmb 09 16 51.3
comp=Z,5.7nm,0.7s
KK31 **Karatay Array** 51.98 297 P P 09 16 35.2 0.0
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR **Karatay Array** 51.98 297 P P 09 16 34.5 -0.7
KKAR IAmb IAmb 09 16 51.4
comp=Z,5.6nm,0.7s
KKAR **Karatay Array** 51.98 297 P P 09 16 35.3 +0.1
KKAR **Karatay Array** 51.98 297 P P 09 16 35.3 +0.1
P33M **Teslin, Yukon** 52.05 39 P P 09 16 32.3 -3.3
baz=290
SVE **Sverdlovsk** 52.49 317 *e*P P 09 16 39.7 +1.0
SVE pmax pmax
comp=Z,19nm,0.6s
C36M **Paulatuk** 52.49 27 P P 09 16 34.5 -4.0
baz=290
R33M **Jennings River** 53.22 40 P P 09 16 41.4 -2.8
baz=292
U33K **Whale Pass** 53.38 44 P P 09 16 42.6 -2.6
baz=292
WRAK **Wrangell Islan** 53.66 43 P P 09 16 44.9 -2.3
baz=293
S34M **Telegraph Cree** 53.70 41 P P 09 16 45.5 -2.1
baz=292
ARU **Arti** 53.70 317 P P 09 16 48.0 +0.4
ARU IAmb IAmb 09 17 02.1
comp=Z,11nm,0.6s
ARU **Arti** 53.70 317 *c i*P P 09 16 46.2 -1.4
ARU *PP **pP** 09 17 00.4 -1.6
ARU 09 17 50.7
ARU S **S** 09 24 16.0 -1.5
ARU SS **SS** 09 27 59.2 +1.1
ARU pmax pmax
comp=Z,13nm,1.2s
ARU **Arti** 53.70 317 P P 09 16 47.8 +0.2
ARU pP **pP** 09 17 01.6 -0.4
ARU sP **sP** 09 17 08.0 -0.1
DLBC **Dease Lake** 54.03 40 P P 09 16 52.7 +2.6
DLBC **Dease Lake** 54.03 40 P P 09 16 47.6 -2.5
baz=293
T35M **Bob Quinn** 54.50 42 P P 09 16 49.9 -3.5
baz=294
SIMJ **Simiganj** 55.01 293 P P 09 16 58.0 +0.4
SIMJ pP **pP** 09 17 12.1 +0.2
SIMJ sP **sP** 09 17 18.5 +0.5
U35K **Hyder** 55.05 43 P P 09 16 54.5 -2.9
baz=294
WRGLY **Wrigley** 55.05 33 P P 09 16 54.4 -2.9
baz=294
ABKAR **Akbulak array** 55.94 308 P P 09 17 04.5 +0.6
ABKAR IAmb IAmb 09 17 19.3
comp=Z,7.4nm,0.5s
SPITS **Spitsbergen Ar** 56.06 349 P P 09 17 04.0 -0.3
comp=Z,26nm,1.0s,baz=129,slow=6.6,SNR=2.6
comp=Z,26nm,1.0s
KIRV **Kirov** 57.26 322 *ce*P P 09 17 11.7 -1.3
RES **Resolute Bay** 57.59 15 P P 09 17 15.6 +0.4
RES IAmb IAmb 09 17 16.6
comp=Z,8.5nm,0.9s
RES **Resolute Bay** 57.59 15 P P 09 17 15.6 +0.4
RES pmax pmax
comp=Z,9.0nm,0.9s
KNRA **Kununurra** 58.78 196 P P 09 17 25.4 +1.3
YKA **Yellowknife Ar** 58.98 32 *i* P P 09 17 26.3 +1.3
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA **Yellowknife Ar** 58.98 32 P P 09 17 26.4 +1.3
comp=Z,2.5nm,0.8s,baz=305,slow=6.3,SNR=41
comp=Z,2.5nm,0.8s
ARCES **ARCESS Array B** 59.97 339 P P 09 17 32.1 +0.3
comp=Z,7.2nm,1.1s,baz=43,slow=6.8,SNR=6.4
comp=Z,7.2nm,1.1s
HILA **High Level** 60.04 37 P P 09 17 34.5 +2.1
NEEM **North Greenlan** 60.63 4 *i* P P 09 17 36.8 +0.2
NEEM IAmb IAmb 09 17 37.9
comp=Z,11nm,0.8s
DAG **Danmarks Havn** 61.08 355 *i* P P 09 17 38.8 -0.5
DAG IAmb IAmb 09 17 40.2
comp=Z,4.3nm,0.7s
BELG **Belogornoye** 61.23 316 *i* P P 09 17 40.5 -0.1
BELG pmax pmax
comp=Z,4.0nm,0.8s
WB0 **Warramunga Arr** 61.85 189 P P 09 17 46.0 +0.9
WB0 IAmb IAmb 09 18 13.4
comp=Z,5.7nm,0.8s
WRAB **Tennant Creek** 62.02 189 P P 09 17 47.2 +0.9

WRAB IAmb IAmb 09 17 48.2
comp=Z,9.2nm,1.1s
WRAB Tennant Creek 62.02 189 P **P** **09 17 47.2 +0.9**
WRAB pmax pmax
comp=Z,9.0nm,1.2s
WR0 Warramunga Arr 62.03 189 P **P** **09 17 47.2 +0.9**
WR0 IAmb IAmb 09 17 48.3
comp=Z,5.4nm,0.6s
WB2 Warramunga Arr 62.03 189 P **P** **09 17 47.3 +1.0**
WB2 IAmb IAmb 09 17 48.3
comp=Z,12nm,1.2s
WRA Warramunga Arr 62.03 189 P **P** **09 17 47.0 +0.7**
comp=Z,3.1nm,0.4s,baz=5.7,slow=6.8,SNR=74
comp=Z,3.1nm,0.4s
BRLDA Berland Lookou 62.28 41 P **P** **09 17 50.0 +2.2**
BRLDA IAmb IAmb 09 17 50.6
comp=Z,10.0nm,0.7s
GEYT Alibeck 62.74 298 P **P** **09 17 51.4 +0.4**
comp=Z,1.0nm,0.6s,baz=240,slow=18,SNR=3.5
comp=Z,1.0nm,0.6s
LON Longmire 64.04 50 P **P** **09 18 01.9 +2.3**
LON IAmb IAmb 09 20 16.9
comp=Z,35nm,2.0s
LON Longmire 64.04 50 P **P** **09 18 01.9 +2.3**
LON pmax pmax
comp=Z,35nm,2.0s
LTY Liberty 64.40 49 P **P** **09 18 04.1 +2.2**
LTY IAmb IAmb 09 19 40.1
comp=Z,26nm,1.9s
EDM Edmonton 64.76 40 P **P** **09 18 06.0 +1.9**
EDM IAmb IAmb 09 18 06.6
comp=Z,14nm,0.8s
EDM Edmonton 64.76 40 P **P** **09 18 06.0 +1.9**
EDM pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 65.06 323 *e*P **P** **09 18 04.5 -1.4**
OBN *e**PP **pP** **09 18 15.8 -4.8**
OBN *e**SP **sP** **09 18 27.7 +1.1**
OBN *e* 09 18 37.3
OBN *e* 09 20 28.3
OBN pmax pmax
comp=Z,7.0nm,1.1s
FIA1 FINESS Array S 65.18 332 P **P** **09 18 06.8 +0.2**
FINES FINESS Array B 65.18 332 P **P** **09 18 06.8 +0.1**
FINES FINESS Array B 65.18 332 P **P** **09 18 06.5 -0.1**
comp=Z,12nm,0.5s,baz=48,slow=7.2,SNR=132
comp=Z,12nm,0.5s
AS31 Alice Springs 65.76 189 P **P** **09 18 11.5 +0.7**
ASAR Alice Springs 65.76 189 P **P** **09 18 12.3 +1.5**
ASAR Alice Springs 65.76 189 P **P** **09 18 12.3 +1.5**
ASAR Alice Springs 65.76 189 P **P** **09 18 12.1 +1.3**
comp=Z,1.9nm,0.7s,baz=7.3,slow=7.9,SNR=26
comp=Z,1.9nm,0.7s
NEW Newport 65.77 46 P **P** **09 18 07.6 -3.1**
baz=306,SNR=5.9
SUMG Summit 65.85 1 P **P** **09 18 12.1 +0.8**
SUMG IAmb IAmb 09 18 15.7
comp=Z,17nm,0.9s
SUMG Summit 65.85 1 P **P** **09 18 12.1 +0.8**
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 65.85 1 *i*P **P** **09 18 12.3 +1.0**
SUMG IAmb IAmb 09 18 13.5
comp=Z,11nm,0.7s
L04D Klamath Falls 66.34 54 P **P** **09 18 17.4 +2.7**
L04D IAmb IAmb 09 18 18.8
comp=Z,20nm,1.0s
MSO Missoula 68.35 46 P **P** **09 18 25.1 -2.1**
baz=308
KIV Kislovodsk 68.78 310 *e*P **P** **09 18 31.7 +1.8**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 68.78 310 P **P** **09 18 32.2 +2.2**
KIV pP **pP** **09 18 46.4 +1.6**
KIV sP **PcP** **09 18 53.0 -1.2**
ZEI Tsey 68.80 309 *e*P **P** **09 18 29.7 -0.5**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 68.80 310 *ce*P **P** **09 18 31.1 +1.2**
KBZ pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 68.80 310 P **P** **09 18 31.7 +1.8**
comp=Z,3.7nm,0.9s,baz=50,slow=10,SNR=3.8
comp=Z,3.7nm,0.9s
FFC Flin Flon 68.94 34 P **P** **09 18 32.2 +1.6**
FFC sP **sP** **09 18 52.8 +1.3**
FCC Fort Churchill 69.09 28 P **P** **09 18 32.5 +1.1**
FCC IAmb IAmb 09 19 31.9
comp=Z,48nm,2.0s
FCC Fort Churchill 69.09 28 P **P** **09 18 32.5 +1.1**
FCC pmax pmax
comp=Z,49nm,2.0s
ICESG Greenland Ices 69.34 1 *i*P **P** **09 18 34.1 +0.8**
EGMT Eagleton 69.79 43 P **P** **09 18 33.4 -2.7**
baz=310
NC405 NORSAR Array S 70.05 337 P **P** **09 18 37.8 +0.5**
HLID Hailey 70.14 49 P **P** **09 18 35.7 -2.7**
baz=309
YERR Yerington 70.15 55 P **P** **09 18 41.1 +2.6**
YERR IAmb IAmb 09 18 42.2
comp=Z,22nm,1.0s
HFS Hagfors 70.24 336 P **P** **09 18 38.4 -0.1**
comp=Z,6.5nm,0.6s,baz=49,slow=6.5,SNR=47
comp=Z,6.5nm,0.6s
NB2 NORSAR Subarra 70.25 337 P **P** **09 18 38.9 +0.3**
comp=Z,2.1nm,0.6s,baz=35,slow=6.5
NOA NORSAR Array B 70.25 337 P **P** **09 18 38.7 +0.1**
comp=Z,2.8nm,0.6s,baz=36,slow=6.2,SNR=13
comp=Z,2.8nm,0.6s
BOZ Bozeman (W) 70.38 46 P **P** **09 18 42.0 +2.3**
BOZ IAmb IAmb 09 18 42.8
comp=Z,6.3nm,0.7s
BOZ Bozeman (W) 70.38 46 P **P** **09 18 42.1 +2.3**
BOZ pmax pmax
comp=Z,6.0nm,0.7s
BOZ Bozeman (W) 70.38 46 P **P** **09 18 36.8 -3.0**
baz=310,SNR=9.2
BMN Battle Mountai 70.47 53 P **P** **09 18 42.5 +2.0**
BMN IAmb IAmb 09 18 44.1
comp=Z,30nm,1.8s
BMN Battle Mountai 70.47 53 P **P** **09 18 42.5 +2.0**
BMN pmax pmax
comp=Z,30nm,1.8s
NVAR Mina Array Bea 71.07 55 P **P** **09 18 46.7 +2.5**
comp=Z,9.2nm,0.7s,baz=292,slow=5.7,SNR=72
comp=Z,9.2nm,0.7s
MLAC Mammoth, Mammo 71.24 56 P **P** **09 18 42.0 -3.3**
baz=309,SNR=5.7
AKASG Malin Array Be 71.31 322 *i*P **P** **09 18 45.0 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 71.31 322 P **P** **09 18 45.1 0.0**
comp=Z,3.2nm,0.6s,baz=42,slow=5.9,SNR=24
comp=Z,3.2nm,0.6s
KIEV Kiev 71.32 322 P **P** **09 18 45.0 -0.2**
KIEV pP **pP** **09 18 59.6 -0.5**
KIEV PcP **PcP** **09 19 04.3 -0.5**
VOG Valley Oaks Go 71.71 57 P **P** **09 18 45.2 -2.7**
baz=309
H17A Grant Village 71.72 46 P **P** **09 18 45.0 -3.2**
baz=311,SNR=6.0
DY2G Dye2 71.75 4 *i*P **P** **09 18 48.7 +0.9**
RLMT Red Lodge 71.95 45 P **P** **09 18 46.3 -3.1**
baz=312
SMMC Simmler 71.95 59 P **P** **09 18 46.9 -2.5**
baz=309
TIN Tinemaha, Big 71.97 56 P **P** **09 18 47.3 -2.3**
baz=309
VES Vestal, Richgr 72.20 58 P **P** **09 18 48.7 -2.1**
baz=309
DGMT Dagmar 72.25 40 P **P** **09 18 48.8 -2.1**
baz=314
PKM Mcpherson Peak 72.33 59 P **P** **09 18 50.3 -1.5**
baz=309
CWC Cottonwood Cre 72.45 57 P **P** **09 18 50.7 -1.8**
baz=309
LAO LASA Array 72.47 43 P **P** **09 18 49.9 -2.4**
baz=313
GRAC Grapevine Rang 72.55 56 P **P** **09 18 51.2 -1.7**
baz=310,SNR=18
SBC Santa Barbara 72.68 59 P **P** **09 18 51.6 -2.1**
baz=309
ISA Isabella, Lake 72.70 58 P **P** **09 18 51.3 -2.5**
baz=309
R11B Troy Canyon, C 72.77 54 P **P** **09 18 50.6 -3.8**
baz=310,SNR=11

ARVC Arvin 72.81 58 P **P** **09 18 50.9 -3.5**
baz=309
SCZ2 Santa Cruz Isl 73.01 60 P **P** **09 18 52.4 -3.3**
baz=309
MPMC Manual Prospec 73.07 57 P **P** **09 18 54.3 -1.8**
baz=310
DUG Dugway, Tooele 73.22 51 P **P** **09 18 58.8 +1.9**
DUG IAmb IAmb 09 19 00.5
comp=Z,13nm,1.3s
DUG Dugway, Tooele 73.22 51 P **P** **09 18 58.8 +1.9**
DUG pmax pmax
comp=Z,13nm,1.3s
DUG Dugway, Tooele 73.22 51 P **P** **09 18 53.4 -3.5**
baz=311,SNR=7.2
TPNV Topopah Spring 73.27 55 P **P** **09 18 53.5 -3.8**
baz=310,SNR=13
LRMC Laurel Mtn Rad 73.31 57 P **P** **09 18 53.8 -3.7**
baz=310
BW06 Boulder Array 73.36 47 P **P** **09 18 59.7 +1.8**
BW06 Boulder Array 73.36 47 P **P** **09 18 55.8 -2.0**
baz=312,SNR=7.7
PD31 Pinedale Array 73.36 47 P **P** **09 18 59.7 +1.8**
PDAR Pinedale Array 73.36 47 P **P** **09 18 59.5 +1.6**
PDAR Pinedale Array 73.36 47 P **P** **09 18 59.6 +1.8**
comp=Z,3.7nm,0.6s,baz=252,slow=1.3,SNR=41
comp=Z,3.7nm,0.6s
STKA Stephens Creek 73.39 181 P **P** **09 18 58.6 +1.1**
comp=Z,1.3nm,0.6s,baz=356,slow=11,SNR=4.2
comp=Z,1.3nm,0.6s
EDW2 Edwards Air Fo 73.50 58 P **P** **09 18 55.5 -3.1**
baz=310,SNR=6.6
SNCC San Nicolas Is 73.56 60 P **P** **09 18 57.3 -1.5**
baz=310
DECC Green Verdugo 73.68 59 P **P** **09 19 00.3 +0.7**
baz=310
SHOC Shoshone, Teco 73.92 56 P **P** **09 19 00.2 -0.8**
baz=310
GSC Goldstone, Bar 73.98 57 P **P** **09 19 00.8 -0.6**
baz=310,SNR=5.1
BFSC Mount Baldy Ra 74.12 58 P **P** **09 19 02.6 +0.2**
baz=310,SNR=5.7
CIS Catalina Islan 74.17 59 P **P** **09 19 03.2 +0.7**
baz=310
TUQ Turquoise Moun 74.44 56 P **P** **09 19 03.5 -0.6**
baz=310
BBRC Big Bear Solar 74.57 58 P **P** **09 19 04.9 -0.2**
baz=310
HEC Hector,Ludlow 74.58 57 P **P** **09 19 03.8 -1.1**
baz=310
ULM Lac du Bonnet 74.75 35 P **P** **09 19 06.4 +0.9**
comp=Z,2.9nm,0.5s,baz=317,slow=7.6,SNR=15
comp=Z,2.9nm,0.5s
MURC Murrieta 74.83 58 P **P** **09 19 06.1 -0.2**
baz=310,SNR=5.1
GMRC Granite Mounta 75.03 57 P **P** **09 19 06.1 -1.5**
baz=311,SNR=9.0
K22A Casper 75.08 46 P **P** **09 19 06.4 -1.4**
baz=314
PFO Pinyon Flats O 75.29 58 P **P** **09 19 07.3 -1.7**
baz=311,SNR=5.6
TPFO Pinon Flats 75.29 58 P **P** **09 19 07.9 -1.2**
baz=311,SNR=6.4
BELC Belle Mtn. Jos 75.33 58 P **P** **09 19 08.1 -1.2**
baz=311
109C Camp Elliot, M 75.34 59 P **P** **09 19 09.4 +0.2**
baz=311
RSSD Black Hills 75.36 43 P **P** **09 19 08.8 -0.6**
baz=315
KOLS Kolonicke sedl 75.70 324 *e*P **P** **09 19 12.5 +1.5**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 75.70 324 *e*P **P** **09 19 12.5 +1.5**
IRM Iron Mountain 75.76 57 P **P** **09 19 11.1 -0.5**
baz=311,SNR=5.4
OJC Ojcow 75.78 326 P **P** **09 19 11.0 -0.4**
OJC IAmb IAmb 09 19 33.6
comp=Z,9.4nm,0.8s
OJC Ojcow 75.78 326 P **P** **09 19 11.0 -0.4**
OJC pmax pmax
comp=Z,9.0nm,0.8s
MONP2 Monument Peak 75.78 59 P **P** **09 19 11.3 -0.7**
baz=311
STHS Stebnicka Huta 75.78 325 *e*P **P** **09 19 12.6 +1.1**
STHS Stebnicka Huta 75.78 325 *e*P **P** **09 19 12.6 +1.1**
O20A White River Ci 75.86 49 P **P** **09 19 11.0 -1.4**
baz=313,SNR=5.7
BC3 Big Chuckawall 75.89 57 P **P** **09 19 13.1 +0.6**
baz=311
W13A Hualapai Mount 75.92 55 P **P** **09 19 13.9 +1.1**
U15A North Rim 76.01 54 P **P** **09 19 14.8 +1.5**
IKP In-Ko-Pah, Jac 76.13 59 P **P** **09 19 13.1 -0.8**
baz=311
SWSC Sam W. Stewart 76.14 58 P **P** **09 19 13.9 +0.2**
baz=311
PDMCI Parker Dam,Lak 76.29 56 P **P** **09 19 13.9 -0.7**
baz=312,SNR=8.0
N23A Red Feather La 76.61 47 P **P** **09 19 14.9 -1.8**
baz=314
CHVC Chvalec 76.99 329 *e*P **P** **09 19 18.9 +0.6**
CHVC Chvalec 76.99 329 *e*P **P** **09 19 18.9 +0.6**
MORC Moravsky Berou 77.04 327 P **P** **09 19 18.7 +0.1**
MORC Moravsky Berou 77.04 327 P **P** **09 19 18.7 +0.1**
MORC pmax pmax
comp=Z,5.0nm,0.9s
DPC Dobruska-Polom 77.08 328 *e*P **P** **09 19 19.8 +1.0**
DPC Dobruska-Polom 77.08 328 *e*P **P** **09 19 19.8 +1.0**
B35A Bob, Littlefor 77.10 35 P **P** **09 19 19.3 +0.4**
B35A IAmb IAmb 09 19 20.4
comp=Z,7.8nm,0.6s
KRLC Kraliky 77.11 328 *e*P **P** **09 19 18.4 -0.6**
KRLC *e* 09 19 27.6
KRLC Kraliky 77.11 328 *e*P **P** **09 19 18.4 -0.6**
KRLC *ex* x 09 19 27.6
WUAZ Wupatki 77.17 54 P **P** **09 19 19.4 -0.4**
baz=312,SNR=6.1
VYHS Vyhne 77.51 326 *e*P **P** **09 19 22.3 +1.1**
VYHS Vyhne 77.51 326 *e*P **P** **09 19 22.3 +1.1**
113A Mohawk Valley, 77.54 57 P **P** **09 19 23.4 +1.8**
ISCO Idaho Springs 77.55 47 P **P** **09 19 20.8 -1.3**
baz=315
CLL Collm 77.57 331 *e*P **P** **09 19 22.0 +0.5**
CLL *e**PP **pP** **09 19 35.0 -1.6**
CLL Collm 77.57 331 *e*P **P** **09 19 22.0 +0.5**
CLL *ex* x 09 19 31.0
CLL *i* pP **pP** **09 19 36.9 +0.3**
CLL *es*P **sP** **09 19 42.0 -0.5**
SUSD Miller 77.66 40 P **P** **09 19 21.2 -0.9**
baz=318
MVCO Mesa Verde 77.72 51 P **P** **09 19 24.5 +1.6**
MVCO IAmb IAmb 09 20 03.1
comp=Z,30nm,1.9s
MVCO Mesa Verde 77.72 51 P **P** **09 19 22.1 -0.8**
baz=314
PRU Pruhonice 78.06 329 *e*P **P** **09 19 24.9 +0.7**
PRU *e* 09 19 40.1
PRU Pruhonice 78.06 329 *e*P **P** **09 19 24.9 +0.7**
PRU *ep*P **pP** **09 19 40.1 +0.8**
S22A 4UR Ranch, Cre 78.31 50 P **P** **09 19 25.9 -0.4**
baz=314
EYMN Ely 78.36 34 P **P** **09 19 24.7 -1.3**
baz=322
Q24A Divide 78.39 48 P **P** **09 19 25.2 -1.5**
baz=315
OGNE Ogallala 78.66 45 P **P** **09 19 26.0 -1.9**
baz=316
EKA Eskdalemuir Ar 79.02 341 P **P** **09 19 29.6 +0.2**
comp=Z,1.1nm,0.5s,baz=28,slow=5.2,SNR=4.6
comp=Z,1.1nm,0.5s
SDCO Great Sand Dun 79.06 49 P **P** **09 19 29.1 -1.2**
baz=315
CKRC Cesky Krumlov 79.09 328 *e*P **P** **09 19 31.5 +1.5**
CKRC *e* 09 19 46.2
CKRC Cesky Krumlov 79.09 328 *e*P **P** **09 19 31.5 +1.5**
CKRC *ep*P **pP** **09 19 46.2 +1.1**
KHC Kasperske Hory 79.12 329 *ce*P **P** **09 19 29.5 -0.6**
KHC pmax pmax
comp=Z,23nm,2.5s
KHC Kasperske Hory 79.12 329 *e*P **P** **09 19 29.6 -0.6**
KHC *ep*P **pP** **09 19 44.5 -0.8**
CONA Conrad Observa 79.18 327 *i*P **P** **09 19 30.6 +0.1**
comp=Z,0.4nm,0.3s
RONA Rosalia, Austr 79.19 327 *i*P **P** **09 19 32.0 +1.5**
comp=Z,1.1nm,0.5s
GERES GERESS Array B 79.30 329 P **P** **09 19 30.5 -0.8**
comp=Z,0.5nm,0.5s,baz=46,slow=8.4,SNR=3.5
comp=Z,0.5nm,0.5s

ECSD EROS Data Cent 79.31 40 P **P** **09 19 32.0 +0.7**
ECSD EROS Data Cent 79.31 40 P **P** **09 19 30.3 -1.0**
baz=319
TUC Tucson 79.70 56 P **P** **09 19 33.1 -0.6**
baz=313
KSCO Kaye Shedlock' 79.74 46 P **P** **09 19 35.9 +2.0**
baz=316
MOA Molln 79.89 328 *e*P **P** **09 19 34.1 -0.2**
comp=Z,0.2nm,0.2s
T25A Trinidad 80.10 49 P **P** **09 19 35.9 0.0**
baz=316
BGNE Belgrade 80.31 42 P **P** **09 19 36.6 -0.1**
baz=318
SCHQ Schefferville 80.33 17 P **P** **09 19 37.5 +0.9**
SCHQ Schefferville 80.33 17 P **P** **09 19 37.6 +1.1**
comp=Z,5.7nm,0.8s,baz=342,slow=3.2,SNR=7.7
comp=Z,5.7nm,0.8s
ANMO Albuquerque 80.48 51 *i*P **P** **09 19 38.5 +0.5**
ANMO Albuquerque 80.48 51 P **P** **09 19 34.1 -3.9**
baz=315
SOKA Soboth 80.52 327 *e*P **P** **09 19 38.6 +0.7**
comp=Z,1.3nm,0.5s
DUN6 Lazy B Ranch 80.58 55 P **P** **09 19 38.3 -0.1**
Y22D IRIS PASSCAL I 80.82 52 P **P** **09 19 36.5 -3.3**
baz=315
Y22F Passcal Instru 80.82 52 P **P** **09 19 35.6 -4.1**
baz=315
LESA Schwarzeotal 80.86 328 *e*P **P** **09 19 39.9 +0.2**
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 80.88 328 *e*P **P** **09 19 41.1 +1.3**
comp=Z,0.7nm,0.4s
WATA Walderalm 81.36 329 *i*P **P** **09 19 43.3 +1.0**
comp=Z,1.2nm,0.3s
121A Cookes Peak, D 81.38 54 P **P** **09 19 40.9 -1.9**
baz=314
WTTA Wattenberg 81.39 329 *e*P **P** **09 19 43.3 +0.7**
comp=Z,2.3nm,0.6s
CBKS Cedar Bluff 81.42 45 P **P** **09 19 40.9 -1.8**
baz=318
MOTA Moosalm 81.53 329 *i*P **P** **09 19 43.8 +0.5**
comp=Z,4.9nm,1.0s
SQTA Sankt Quirin 81.59 329 *e*P **P** **09 19 44.3 +0.7**
comp=Z,0.7nm,0.3s
FETA Feichten 81.94 329 *i*P **P** **09 19 46.8 +1.4**
comp=Z,3.0nm,0.8s
SCIA State Center 82.32 39 P **P** **09 19 45.8 -1.5**
baz=321
KSU1 Kansas State U 82.82 43 P **P** **09 19 47.9 -2.1**
baz=320
JFWS Jewell Farm 82.88 36 P **P** **09 19 49.2 -1.0**
baz=323
AMTX Amarillo 83.25 49 P **P** **09 19 52.0 -0.4**
baz=317
MSTX Muleshoe 83.30 50 P **P** **09 19 52.3 -0.4**
baz=317
MNTX Cornudas Mount 83.41 53 P **P** **09 19 53.8 +0.6**
baz=316
VLDQ Val d'Or 83.48 26 P **P** **09 19 53.2 0.0**
GLMI Grayling 83.69 32 P **P** **09 19 54.2 -0.2**
baz=326
P38A Dawn 83.94 40 P **P** **09 19 56.8 +1.1**
P38A IAmb IAmb 09 19 58.1
comp=Z,16nm,1.1s
VHRN Van Horn 84.30 53 P **P** **09 20 00.3 +2.4**
VHRN IAmb IAmb 09 20 01.2
comp=Z,4.9nm,0.7s
L44A Lake County Fo 84.50 36 P **P** **09 19 57.5 -1.0**
baz=324
P40A Paris 84.73 40 P **P** **09 20 00.4 +0.6**
P40A IAmb IAmb 09 20 02.1
comp=Z,16nm,1.1s
LDAQ Lac Daran 85.52 22 P **P** **09 20 04.5 +0.9**
R40A Maddies Statio 85.60 41 P **P** **09 20 04.9 +0.8**
R40A IAmb IAmb 09 20 06.1
comp=Z,6.2nm,0.7s
TUL3 Leonard 85.67 44 P **P** **09 20 04.1 -0.4**
baz=320
ABTX Abilene, Hawle 86.06 49 P **P** **09 20 05.6 -0.9**
baz=318
TX31 Lajitas Ar. Si 86.14 54 P **P** **09 20 09.5 +2.5**
TXAR Lajitas Array 86.14 54 P **P** **09 20 09.5 +2.4**
comp=Z,5.9nm,0.6s,baz=299,slow=3.7,SNR=86
comp=Z,5.9nm,0.6s
AAM Ann Arbor 86.18 33 P **P** **09 20 05.8 -1.0**
baz=327
CCM Cathedral Cave 86.28 40 P **P** **09 20 08.5 +1.0**
CCM IAmb IAmb 09 20 10.1
comp=Z,14nm,1.1s
CCM Cathedral Cave 86.28 40 P **P** **09 20 08.5 +1.0**
CCM pmax pmax
comp=Z,14nm,1.2s
CCM Cathedral Cave 86.28 40 P **P** **09 20 05.3 -2.1**
baz=323
SFIN Lafayette 86.32 36 P **P** **09 20 05.7 -1.9**
baz=325
OZNA Ozona 86.48 51 P **P** **09 20 10.7 +2.1**
OZNA IAmb IAmb 09 20 11.2
comp=Z,8.3nm,0.8s
D62A Allapoint, All 86.93 21 P **P** **09 20 11.7 +1.2**
O48B Farmland 87.26 35 P **P** **09 20 10.3 -1.9**
baz=326
LONY Lake Ozonia 87.50 26 P **P** **09 20 10.7 -2.6**
baz=333
S44A Carbondale 87.51 39 P **P** **09 20 15.1 +1.6**
JCT Junction City 87.57 50 P **P** **09 20 12.4 -1.5**
baz=318
ERPA Erie 87.78 31 P **P** **09 20 13.8 -0.8**
baz=329
P49A Miami Univ. Ec 88.05 35 P **P** **09 20 14.9 -1.1**
baz=326
M53A WI Miller and 88.09 31 P **P** **09 20 14.5 -1.7**
baz=329
ACSO Alum Creek Sta 88.19 34 P **P** **09 20 14.2 -2.5**
baz=328
WCI Wyandotte Cave 88.44 37 P **P** **09 20 15.4 -2.5**
baz=326
PKME Peaks-Kenny Pk 88.53 22 P **P** **09 20 16.7 -1.4**
baz=336
LBNH Lisbon 88.69 24 P **P** **09 20 18.6 -0.3**
baz=335
O53A New Philadelph 88.90 32 P **P** **09 20 18.3 -1.7**
baz=329
P52A Corning 89.05 33 P **P** **09 20 18.5 -2.2**
baz=328
BINY Binghamton 89.17 28 P **P** **09 20 19.5 -1.7**
baz=332
WVT Waverly 89.45 39 P **P** **09 20 21.3 -1.3**
baz=325
SSPA Standing Stone 89.85 30 P **P** **09 20 22.2 -2.3**
baz=331
MCWV Mont Chateau 89.94 32 P **P** **09 20 23.5 -1.4**
baz=329
OXF Oxford 90.00 41 P **P** **09 20 23.9 -1.3**
baz=324
L61B Northampton 90.06 26 P **P** **09 20 23.6 -1.7**
baz=334
HRV Adam Dziewonsk 90.37 25 P **P** **09 20 23.9 -2.9**
baz=335
TZTN Tazewell 91.05 36 P **P** **09 20 28.2 -2.0**
baz=327
VBMS Vicksburg 91.28 43 P **P** **09 20 29.1 -2.1**
baz=323
TIGA Tifton 95.30 39 P **P** **09 20 47.8 -2.0**
baz=327
NHSC New Hope 95.42 35 P **P** **09 20 48.3 -2.0**
baz=329
DWPF Disney Wildern 99.11 39 P **Pdif** **09 21 05.7 -1.2**
baz=328
TORD Torodi Ar. Bea 114.76 318 PKP **PKiKP** **09 26 06.3 -0.1**
comp=Z,0.3nm,0.6s,baz=16,slow=2.0,SNR=2.3
H03N2 Juan Fernandez 145.91 90 T T 12 10 13.6
baz=300,slow=77,SNR=20
H03N3 Juan Fernandez 145.93 90 T T 12 10 14.4
baz=300,slow=77,SNR=14
H03N1 Juan Fernandez 145.93 90 T T 12 10 15.1
baz=300,slow=77,SNR=26

*MOS **14** 09:18:39.7±1.9, 15°.75S×74°.72W, h13km, mb6.9/62, MS7.2/63, Error ellipse: s-maj=14.0km s-min=7.3km az=111.3 Broadband fault plane solution: P waves. NP1:ϕ_s136.00000°, δ58.00000°, λ79.00000°. NP2: ϕ_s336.00000°, δ33.00000°, λ107.00000°. Principal axes: T Plg74.0000°, Azm16.0000°; N Plg9.0000°, Azm141.0000°; P Plg13.0000°, Azm233.0000°;*
*IPGP **14** 09:18:41.0, 15°.78S×74°.77W, h48km, Mw7.1, Fault plane*

solution: NP1:ϕ_s137.00000°,δ50.00000°,λ104.00000°. NP2:ϕ_s296.00000°,δ43.00000°,λ74.00000°.

GUC **14** *09:18:44.3±1.7, 15˙78S×74˙70W, h35km, ms7.0*

NEIC **14** *09:18:44.6, 15˙72S×74˙64W, h30km*

IDC **14** *09:18:44.5±1.5, 15˙65S×74˙58W, h29km±9km, mb6.2/22, mbtmp6.3/27, ML5.5/5, MS7.1/62, Error ellipse: s-maj=13.7km s-min=10.8km az=60.0*

BJI **14** *09:18:45.0±0.0, 15˙60S×74˙61W, h40km, mB7.2/61, Ms7.5/92, Ms7 7.5/93*

NEIC **14** *09:18:45.2, 15˙97S×74˙42W, h40km, Moment Tensor Solution. Duration: 18±5 Moment tensor: Scale 10^{19}Nm; M_{rr}5.38; $M_{\theta\theta}$-3.05; $M_{\phi\phi}$-2.33; $M_{r\theta}$1.04; $M_{\theta\phi}$3.42; $M_{\phi r}$-0.77; Fault plane solution: $M_0$5.90000×10^{19} NP1: ϕ_s130.50000°,δ51.34000°,λ88.07000°. NP2: ϕ_s313.58000°,δ38.70000°,λ92.41000°. Principal axes: T 5.5229, Plg84.0000°, Azm28.0000°; N 0.7511, Plg2.0000°, Azm132.0000°; P -6.2739, Plg6.0000°, Azm222.0000°;*

NEIC **14** *09:18:45.2, 15˙77S×74˙73W, h40km*

NEIC **14** *09:18:45.5±2.4, 15˙77S±0˙06×74˙71W±0˙07, h39km±1km, mb6.8/282, Ms_20 7.1/844, Mwb7.0/60, Mww7.1/95, Mww7.0(GUC), Error ellipse: s-maj=12.8km s-min=8.8km az=238.0, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}3.67; $M_{\theta\theta}$-1.99; $M_{\phi\phi}$-1.68; $M_{r\theta}$0.09; $M_{\theta\phi}$1.53; $M_{\phi r}$-0.54; Fault plane solution: $M_0$3.57000×10^{19} NP1:ϕ_s137.01000°,δ48.71000°,λ96.45000°. NP2: ϕ_s307.28000°,δ41.70000°,λ82.71000°. Principal axes: T 3.7222, Plg84.0000°, Azm97.0000°; N -0.3280, Plg5.0000°, Azm313.0000°; P -3.3942, Plg4.0000°, Azm222.0000°;*

VAO **14** *09:18:46.3±0.3, 15˙60S×74˙56W, h60km±2km, mb6.7*

GCMT **14** *09:18:51.5±0.1, 15˙95S×74˙78W, h41km, MW7.1/168, Moment Tensor Solution. s166,c421; s168,c795; Duration: 8±9 Moment tensor: Scale 10^{19}Nm; M_{rr}5.57±.02; $M_{\theta\theta}$-3.12±.02; $M_{\phi\phi}$-2.44±.02; $M_{r\theta}$0.76±.04; $M_{\theta\phi}$3.39±.01; $M_{\phi r}$-1.53±.05; Best double couple: $M_0$6.12700×10^{19} NP1:ϕ_s139.00000°,δ53.00000°, λ98.00000°. NP2:ϕ_s305.00000°,δ38.00000°,λ79.00000°. Principal axes: T 5.8550, Plg80.0000°, Azm84.0000°; N 0.5550, Plg7.0000°, Azm314.0000°; P -6.3990, Plg8.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

SJA **14** *09:19:46.7±22.0, 15˙72S×74˙56W, h38km, MW7.1(GFZ)*

ISC 14 09:18:45.3±0.1,**15˚80S**±0˚02×**74˚58W**±0˚03,**h35**km±1km, **h36**km;**pP-P,n2999,**σ2**s 11**/3576,**mb6.7**/305,**MS7.2**/568, **181C-56D,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.38**	**330**	*i* P		**Pn**		**09 19 47.7**	**-1.7**
NNA	**Nana**	**4.38**	**330**	⇑P		**Pn**		**09 19 47.2**	**-2.2**
NNA	**Nana**	**4.38**	**330**	Pn		**Pn**		**09 19 47.5**	**-2.0**
	303nm,0.3s,baz=131,slow=13,SNR=148								
NNA				Sn		**Sn**		**09 20 35.7**	**-3.6**
	5μm,0.3s,baz=186,slow=11,SNR=4.5								
NNA				Lg		Lg		09 20 51.5	
	7μm,0.3s,baz=57,slow=21,SNR=8.4								
NNA				LR		LR		09 21 35.8	
	comp=Z,1878μm,21.2s,baz=162,slow=40								
NNA				P3KPbc				09 58 08.6	
	19nm,1.1s,baz=125,slow=6.1,SNR=3.5								
	909nm,0.4s								
NNA	**Nana**	**4.38**	**330**	*eP*		**Pn**		**09 19 47.3**	**-2.1**
NNA	**Nana**	**4.38**	**330**	*eP*		**Pn**		**09 19 50.1**	**+0.6**
AP01	**Chacalluta**	**4.79**	**123**			**Pn**		**09 19 56.5**	**+1.5**
AP01	**Chacalluta**	**4.79**	**123**	*i* P		**Pn**		**09 19 56.3**	**+1.3**
PB12	**IPOC Station P**	**4.93**	**125**	Pn		**Pn**		**09 19 57.5**	**+0.5**
PB12	**IPOC Station P**	**4.93**	**125**	*eP*		**Pn**		**09 19 57.4**	**+0.3**
PB18	**Visviri**	**5.20**	**111**			**Pn**		**09 20 05.4**	**+4.3**
PB18	**Visviri**	**5.20**	**111**	*eP*		**Pn**		**09 20 05.4**	**+4.3**
PX02	**IPOC Station P**	**5.23**	**128**	*i* P		**Pn**		**09 20 01.9**	**+0.7**
PB16	**IPOC Station P**	**5.47**	**118**			**Pn**		**09 20 06.6**	**+1.7**
PB16	**IPOC Station P**	**5.47**	**118**	*e*P		**Pn**		**09 20 06.3**	**+1.5**
I08BO	**LAS PENAS INFR**	**5.91**	**95**	Pn		Pn		09 20 16.7	+5.9
	baz=287,slow=19								
I08BO				I		I		09 51 30.0	
	0.1nm,2.4s,baz=277,slow=320,SNR=2.4								
PB11	**IPOC Station P**	**6.12**	**131**			**Pn**		**09 20 14.5**	**+1.0**
PB11	**IPOC Station P**	**6.12**	**131**	*eP*		**Pn**		**09 20 13.7**	**+0.2**
TA02	**Huaiquique**	**6.14**	**137**			**Pn**		**09 20 14.3**	**+0.8**
TA02	**Huaiquique**	**6.14**	**137**	*eP*		**Pn**		**09 20 14.3**	**+0.8**
LPAZ	**La Paz**	**6.22**	**95**	Pn		Pn		09 20 20.1	+4.9
LPAZ	**La Paz**	**6.22**	**95**	P		Pn		09 20 20.1	+4.9
HMBC	**Humberstone**	**6.30**	**136**	⇑*i*P		**Pn**		**09 20 16.4**	**+0.5**
TA01	**Diego Aracena**	**6.32**	**139**			**Pn**		**09 20 16.4**	**+0.4**
TA01	**Diego Aracena**	**6.32**	**139**	⇑*e*P		**Pn**		**09 20 16.4**	**+0.4**
GO01	**Chusmiza**	**6.41**	**128**			**Pn**		**09 20 19.7**	**+2.0**
GO01	**Chusmiza**	**6.41**	**128**	⇑*i*P		**Pn**		**09 20 19.0**	**+1.3**
PATCX	**Punta Patache**	**6.53**	**141**			**Pn**		**09 20 20.1**	**+1.1**
PATCX	**Punta Patache**	**6.53**	**141**	⇑*i*P		**Pn**		**09 20 19.2**	**+0.3**
PB08	**IPOC Station P**	**6.73**	**131**			**Pn**		**09 20 23.1**	**+1.1**
PB08	**IPOC Station P**	**6.73**	**131**	P		**Pn**		**09 20 20.7**	**-1.3**
PB08	**IPOC Station P**	**6.73**	**131**	*eP*		**Pn**		**09 20 23.1**	**+1.1**
PB02	**IPOC Station P**	**7.06**	**142**	*i* P		**Pn**		**09 20 26.5**	**+0.2**
PB01	**IPOC Station P**	**7.11**	**138**	*i* P		**Pn**		**09 20 27.2**	**+0.2**
PB07	**IPOC Station P**	**7.38**	**144**	S		**Sn**		**09 21 56.1**	**+2.7**
PB07				P		**Pn**		**09 20 30.2**	**-0.5**
CZSB	**Cruzeiro do Su**	**8.23**	**13**	Pn		**Pn**		**09 20 42.1**	**-0.1**
CZSB	**Cruzeiro do Su**	**8.23**	**13**	*eP*		**Pn**		**09 20 42.5**	**+0.3**
CZSB	**Cruzeiro do Su**	**8.23**	**13**	*eP*		**Pn**		**09 20 42.3**	**+0.1**
LVC	**Limon Verde**	**8.63**	**143**	⇑P		**Pn**		**09 20 49.7**	**+1.6**
LVC	**Limon Verde**	**8.63**	**143**	*eP*		**Sn**		**09 22 23.2**	**-1.3**
LVC	**Limon Verde**	**8.63**	**143**	Pn		**Pn**		**09 20 49.7**	**+1.6**
	193nm,0.3s,baz=316,slow=11,SNR=271								
LVC				Sn		**Sn**		**09 22 20.9**	**-3.6**
	468nm,0.3s,baz=124,slow=22,SNR=8.9								
LVC				Lg		Lg		09 23 12.3	
	baz=158,slow=23								
LVC				LR		LR		09 24 05.4	
	comp=Z,1645μm,21.7s,baz=314,slow=37								
LVC				P3KPbc				09 57 56.2	
	3.5nm,0.7s,baz=287,slow=9.0,SNR=2.9								
	893nm,0.3s								
LVC	**Limon Verde**	**8.63**	**143**	*eP*		**Pn**		**09 20 50.0**	**+1.9**
LVC				*e*S		**Sn**		**09 22 20.4**	**-4.1**
PB15	**IPOC Station P**	**8.80**	**148**	*eP*		**Sn**		**09 22 23.9**	**-4.5**
AF01	**San Pedro de A**	**9.33**	**141**			**Pn**		**09 21 00.7**	**+3.0**
AF01	**San Pedro de A**	**9.33**	**141**	⇑*e*P		**Pn**		**09 21 00.6**	**+2.9**
ATAH	**Atahualpa**	**9.39**	**336**	Pn		**Pn**		**09 20 56.7**	**-1.8**
	0.9nm,0.3s,baz=161,slow=7.2,SNR=5.7								
ATAH				Sn		**Sn**		**09 22 42.5**	**-0.6**
	baz=312,slow=16								
ATAH				LR		LR		09 23 58.0	
	comp=Z,411μm,21.1s,baz=171,slow=34								
ATAH				P3KPbc				09 58 01.1	
	3.7nm,0.6s,baz=307,slow=14,SNR=2.1								
PB14	**IPOC Station P**	**9.61**	**157**	P		**Pn**		**09 21 00.8**	**-0.8**
PB14				S		**Sn**		**09 22 47.2**	**-1.3**
ETMB	**Extrema**	**10.10**	**55**	Pn		**Pn**		**09 21 08.8**	**+0.9**
ETMB	**Extrema**	**10.10**	**55**	*eP*		**Pn**		**09 21 08.6**	**+0.7**
ETMB				*e*S		**Sn**		**09 22 58.1**	**-1.9**
GO02	**Mina Guanaco**	**10.42**	**154**	Pn		**Pn**		**09 21 12.7**	**+0.1**
GO02	**Mina Guanaco**	**10.42**	**154**	⇑P		**Pn**		**09 21 12.6**	**0.0**
GO02	**Mina Guanaco**	**10.42**	**154**	*e*S		**Sn**		**09 23 05.1**	**-3.2**
GO02	**Mina Guanaco**	**10.42**	**154**	*eP*		**Pn**		**09 21 12.5**	**0.0**
AC01	**Pan de Azucar**	**10.95**	**161**	Pn		**Pn**		**09 21 17.9**	**-1.6**
AC01	**Pan de Azucar**	**10.95**	**161**	⇓*e*P		**Pn**		**09 21 17.9**	**-1.6**
AC06	**Mina Casimiro**	**12.15**	**162**			**Pn**		**09 21 34.8**	**-1.2**
AC06	**Mina Casimiro**	**12.15**	**162**	⇓*e*P		**Pn**		**09 21 34.5**	**-1.5**
SLA	**San Lorenzo**	**12.29**	**138**	*eP*		Pn		09 21 43.2	+5.2
GO03	**Copiap**	**12.41**	**162**			**Pn**		**09 21 39.1**	**-0.4**
GO03	**Copiap**	**12.41**	**162**	⇓*e*P		**Pn**		**09 21 39.3**	**-0.2**
TBTG	**Tabatinga, AM**	**12.42**	**22**	Pn		**Pn**		**09 21 40.3**	**+0.6**
TBTG	**Tabatinga, AM**	**12.42**	**22**	*eP*		**Pn**		**09 21 38.9**	**-0.9**
MCRA	**Macar, Loja**	**12.53**	**335**			Pn		09 21 37.9	-3.3
MCRA	**Macar, Loja**	**12.53**	**335**	*eP*		**Pn**		**09 21 44.1**	**+2.9**
AC04	**Llanos de Chal**	**12.76**	**166**			**Pn**		**09 21 41.6**	**-2.7**
AC04	**Llanos de Chal**	**12.76**	**166**	⇓*e*P		**Pn**		**09 21 42.3**	**-2.0**
SIV	**San Ignacio**	**13.00**	**93**	Pn		**Pn**		**09 21 46.2**	**-1.4**
	2.2nm,0.3s,baz=268,slow=10,SNR=233								
SIV				Sn		**Sn**		**09 24 11.5**	**+0.4**
	1.0nm,0.3s,baz=268,slow=19,SNR=0.9								
SIV				Lg		Lg		09 25 37.8	
	1.3nm,0.3s,baz=333,slow=23,SNR=1.4								
SIV				LR		LR		09 27 33.4	
	comp=Z,1761μm,20.7s,baz=285,slow=41								
SIV				P3KPbc				09 57 47.9	
	1.7nm,0.8s,baz=143,slow=3.5,SNR=1.5								
	278nm,0.6s								
FSA	**Cafayete**	**13.02**	**143**	*eP*		**Pn**		09 21 28.9	-19
FSA				*e*S		**P**		**09 21 53.7**	**-4.3**
SAML	**Samuel**	**13.05**	**60**			**Pn**		**09 21 46.5**	**-1.8**
SAML	**Samuel**	**13.05**	**60**	P		**Pn**		**09 21 46.5**	**-1.8**
SAML	**Samuel**	**13.05**	**60**	*eP*		**Pn**		**09 21 47.1**	**-1.2**
SAML	**Samuel**	**13.05**	**60**	*eP*		**Pn**		**09 21 46.5**	**-1.8**
BOSC	**San Juan Bosco**	**13.15**	**343**			**Pn**		**09 21 46.0**	**-3.9**
ARNL	**Arenillas**	**13.32**	**336**			**Pn**		**09 21 47.5**	**-4.5**
LCO	**Las Campanas**	**13.63**	**165**			**Pn**		**09 21 55.0**	**-1.3**
LCO	**Las Campanas**	**13.63**	**165**	P		**Pn**		**09 21 55.0**	**-1.3**
LCO	**Las Campanas**	**13.63**	**165**	*eP*		**Pn**		**09 21 55.0**	**-1.3**
TINO	**Tinogasta**	**13.82**	**153**	*e*S		**P**		**09 22 04.9**	**-1.9**
COHC	**Cochancay**	**14.03**	**340**			**Pn**		**09 22 00.2**	**-1.4**
COHC	**Cochancay**	**14.03**	**340**	*eP*		**Pn**		**09 22 04.8**	**+3.2**
VILB	**Vilhena**	**14.22**	**80**	Pn		**Pn**		**09 22 03.0**	**-1.3**
VILB	**Vilhena**	**14.22**	**80**	*eP*		**Pn**		**09 22 03.2**	**-1.1**
VILB				*e*S		Sn		09 24 29.4	-11
CO05	**La Serena**	**14.38**	**168**			**Pn**		**09 22 04.7**	**-1.8**
CO05	**La Serena**	**14.38**	**168**	*eP*		**Pn**		**09 22 05.2**	**-1.2**
CO01	**Juntas del Tor**	**14.70**	**164**			**Pn**		**09 22 10.4**	**-0.5**
CO01	**Juntas del Tor**	**14.70**	**164**	⇓*e*P		**Pn**		**09 22 11.2**	**+0.3**
GO04	**Tololo Observa**	**14.72**	**167**			**Pn**		**09 22 10.8**	**-0.5**
GO04	**Tololo Observa**	**14.72**	**167**	⇓*e*P		**Pn**		**09 22 11.1**	**-0.1**
PTLB	**Pontes e Lacer**	**14.88**	**91**			**Pn**		**09 22 11.0**	**-2.2**
PTLB	**Pontes e Lacer**	**14.88**	**91**	*eP*		**Pn**		**09 22 10.0**	**-3.3**
PTLB				*e*S		**Sn**		**09 24 57.1**	**+0.1**
CO06	**Fray Jorge**	**15.05**	**170**	P		**Pn**		**09 22 14.0**	**-1.4**
CO06	**Fray Jorge**	**15.05**	**170**	⇓*e*P		**Pn**		**09 22 13.9**	**-1.4**
PIAT	**Ana Tenorio**	**15.15**	**346**	*eP*		**P**		**09 22 19.7**	**-2.3**
CO03	**El Pedregal**	**15.39**	**167**			**Pn**		**09 22 20.8**	**+0.8**
CO03	**El Pedregal**	**15.39**	**167**	⇓*e*P		**Pn**		**09 22 20.7**	**+0.8**
PPLP	**Puerto Lpez**	**15.43**	**336**	*eP*		**Pn**		**09 22 21.8**	**+1.3**
SLOR	**San Lorenzo -**	**15.47**	**345**	P		**Pn**		**09 22 22.5**	**+1.1**
TEFE	**Tefe**	**15.65**	**40**	*eP*		**Pn**		**09 22 20.8**	**-2.5**
CO02	**Combarbal**	**15.68**	**169**	P		**Pn**		**09 22 23.4**	**-0.3**
CO02	**Combarbal**	**15.68**	**169**	⇓P		**Pn**		**09 22 24.2**	**+0.5**
PTLC	**Puerto Leguiza**	**15.87**	**359**	*eP*		Pn		09 22 17.7	-8.5
OTAV	**Otavalo**	**16.39**	**346**	P		**Pn**		**09 22 31.1**	**-2.1**
OTAV	**Otavalo**	**16.39**	**346**	P		**Pn**		**09 22 31.1**	**-2.1**
OTAV				pmax		pmax			
	comp=Z,12nm,1.9s								
OTAV	**Otavalo**	**16.39**	**346**	*eP*		**Pn**		**09 22 33.3**	**+0.1**
OTAV	**Otavalo**	**16.39**	**346**	*eP*		**Pn**		**09 22 34.1**	**+0.9**
BONI	**La Bonita**	**16.41**	**350**	*eP*		**Pn**		**09 22 33.4**	**+0.1**
CUSE	**Cuicocha Este**	**16.44**	**346**	*eP*		**Pn**		**09 22 34.4**	**+0.5**
PAC1	**Pacto, Caraso**	**16.50**	**345**	*eP*		**Pn**		**09 22 33.8**	**-0.5**
TULM	**Tulcn-Chalpat**	**16.71**	**349**	*eP*		**Pn**		**09 22 37.8**	**+0.5**
CFA	**Coronel Fontan**	**16.76**	**161**	Pn		**Pn**		**09 22 39.3**	**-0.1**
	comp=Z,25nm,0.3s,baz=341,slow=12,SNR=243								
CFA				Sn		**Sn**		**09 25 37.9**	**-4.7**
	comp=Z,8.1nm,0.3s,baz=205,slow=16,SNR=1.5								
CFA				LR		LR		09 28 17.0	
	comp=Z,986μm,21.8s,baz=328,slow=34								
CFA				P3KPbc				09 57 31.6	
	comp=Z,4.4nm,1.0s,baz=106,slow=7.5,SNR=3.7								
	comp=Z,297nm,0.7s								
TICA	**Tres Isletas**	**16.91**	**131**	*eP*		**Pn**		**09 22 39.1**	**-0.1**
CMBC	**Cumbal**	**16.94**	**349**	*eP*		**P**		**09 22 42.8**	**+0.9**
VA06	**Catapilco**	**16.95**	**170**	P		**Pn**		**09 22 39.1**	**-0.6**
MURT	**Porto Murtinho**	**17.09**	**113**	*eP*		**Pn**		**09 22 40.4**	**-1.2**
GCUF	**Volcan Galeras**	**17.14**	**351**	⇑*i*P		**Pn**		**09 22 43.0**	**+0.4**
VA03	**San Esteban**	**17.28**	**169**	P		**P**		**09 22 45.2**	**+0.1**
VA03	**San Esteban**	**17.28**	**169**	*e*S		**P**		**09 22 51.5**	**+6.4**
VA01	**Torpederas**	**17.35**	**172**	P		**Pn**		**09 22 44.4**	**-0.3**
ROC1	**El Roble**	**17.40**	**170**	P		**Pn**		**09 22 45.4**	**-0.2**
CRUC	**La Cruz**	**17.42**	**352**	*eP*		**P**		**09 22 52.5**	**+5.5**
VACA	**Villa Angela C**	**17.45**	**135**	*eP*		**P**		**09 22 46.8**	**-0.1**
BDQN	**Bodoquena, MS**	**17.56**	**108**	*eP*		**Pn**		**09 22 45.4**	**-2.1**
ESFA	**Espinillo Form**	**17.61**	**124**	*eP*		**Pn**		**09 22 47.1**	**-0.9**
MT02	**Curacav**	**17.66**	**170**	P		**P**		**09 22 49.4**	**+0.2**
PDRB	**Porto dos Gac**	**17.83**	**169**	*eP*		**Pn**		**09 22 50.9**	**0.0**
MT05	**Renca**	**17.86**	**169**	P		**P**		**09 22 51.5**	**+0.1**
MT05	**Renca**	**17.86**	**169**	*e*S		P		09 23 00.1	+8.7
GARC	**Garzon, Huila**	**17.90**	**357**	*eP*		**P**		**09 22 53.0**	**+0.8**
BBAC	**Balboa, Cauca**	**17.90**	**351**	⇑*e*P		**P**		**09 22 52.6**	**+0.3**
MT16	**CCHEN**	**17.93**	**169**	P		**P**		**09 22 53.2**	**+0.9**
TUMC	**Tumaco**	**17.98**	**346**	*eP*		**Pn**		**09 22 52.4**	**-0.2**
H03N1	**Juan Fernandez**	**18.00**	**192**	P		**P**		**09 22 54.5**	**+1.9**
	SNR=64								
H03N1				T		T		09 41 39.8	
	baz=13,slow=74								
MT03	**Universidad Ad**	**18.00**	**169**	*e*S		P		09 23 02.1	+9.0
H03N2	**Juan Fernandez**	**18.00**	**192**	P		**P**		**09 22 54.4**	**+1.7**
	baz=350,slow=74,SNR=58								
H03N2				T		T		09 41 43.0	
	baz=13								
H03N3	**Juan Fernandez**	**18.01**	**192**	P		**P**		**09 22 54.3**	**+1.4**
	baz=157,slow=74,SNR=52								
H03N3				T		T		09 41 44.7	
	baz=13,slow=74								
SALV	**Santo Antonio**	**18.17**	**93**	*eP*		**Pn**		**09 22 53.4**	**-1.5**
VA04	**Juan Fernndez**	**18.18**	**191**	⇓P		**P**		**09 22 54.5**	**-0.4**
VA04	**Juan Fernndez**	**18.18**	**191**	⇓*e*P		**P**		**09 22 54.2**	**-0.7**
I14CL	**ROBINSON CRUSO**	**18.18**	**191**			I		11 12 10.0	
	comp=Z,0.1nm,0.4s,baz=12,slow=316,SNR=0.4								
POPC	**Popayan, Colom**	**18.34**	**353**	*eP*		**Pn**		**09 22 59.8**	**+2.5**
H03S3	**Juan Fernandez**	**18.37**	**192**	P		**Pn**		**09 22 58.2**	**+1.2**
	baz=232,slow=74,SNR=58								
H03S2	**Juan Fernandez**	**18.38**	**192**	P		**Pn**		**09 22 58.3**	**+1.2**
	baz=232,slow=74,SNR=91								
BETC	**Betania**	**18.38**	**357**	*eP*		**Pn**		**09 23 00.4**	**+2.8**
H03S1	**Juan Fernandez**	**18.38**	**191**	P		**Pn**		**09 22 58.1**	**+1.0**
	baz=232,slow=74,SNR=52								
LMEL	**Las Melosas**	**18.40**	**168**	P		**Pn**		**09 22 58.6**	**+0.8**
BO04	**La Punta**	**18.46**	**170**	P		**Pn**		**09 22 59.7**	**+1.3**
AQDB	**Aquidauana**	**18.53**	**107**	P		**P**		**09 22 57.8**	**-1.1**
MACA	**Manacapuru-AM**	**18.57**	**49**	P		**P**		**09 22 58.5**	**-0.8**
MACA						IAmb	IAmb	09 23 10.5	
	comp=Z,5μm,0.8s								
MACA	**Manacapuru-AM**	**18.57**	**49**	*eP*		**P**		**09 22 56.6**	**-2.8**
BO01	**Tunca**	**18.78**	**171**	P		**Pn**		**09 23 02.2**	**+0.1**
BO01	**Tunca**	**18.78**	**171**	*e*S		P		09 23 14.2	+13
CLDB	**Colider**	**18.92**	**77**	*eP*		**Pn**		**09 23 04.2**	**+0.1**
PP1B	**Ponte de Pedra**	**18.96**	**98**	*eP*		**P**		**09 23 02.9**	**-0.7**
JAMC	**Jamundi, Valle**	**19.01**	**354**	*eP*		**P**		**09 23 03.6**	**-0.8**
RVDE	**Rio Verde (Bra**	**19.01**	**103**	*eP*		**Pn**		**09 23 05.2**	**0.0**
GR1C	**Gorgona, Isla**	**19.02**	**349**	*eP*		**Pn**		**09 23 06.9**	**+1.7**
CPUP	**Villa Florida**	**19.18**	**126**	P		**P**		**09 23 06.5**	**+0.4**
CPUP	**Villa Florida**	**19.18**	**126**	P		**Pn**		**09 23 06.9**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=307,slow=11,SNR=67								
CPUP				S		**S**		**09 26 43.1**	**+1.4**
	comp=Z,64nm,1.0s,baz=195,slow=18,SNR=1.0								
CPUP				LR		LR		09 32 00.1	
	comp=Z,702μm,19.1s,baz=302,slow=41								
CPUP				P3KPbc				09 57 35.3	
	comp=Z,12nm,1.1s,baz=106,slow=4.0,SNR=6.4								
	comp=Z,183nm,1.0s								
CPUP	**Villa Florida**	**19.18**	**126**	*eP*		**Pn**		**09 23 07.4**	**+0.2**
BO02	**Sierra Bellavi**	**19.22**	**170**			**Pn**		**09 23 07.5**	**-0.1**
BO02	**Sierra Bellavi**	**19.22**	**170**	⇑P		**Pn**		**09 23 07.9**	**+0.3**
BO02	**Sierra Bellavi**	**19.22**	**170**	*e*S		**P**		**09 23 11.9**	**+5.5**
GO05	**Huala**	**19.28**	**173**	⇓P		**Pn**		**09 23 08.3**	**+0.1**
PRAC	**Prado**	**19.39**	**359**	*eP*		**P**		**09 23 08.8**	**+0.4**
ORTC	**Ortega, Tolima**	**19.59**	**358**	*eP*		**P**		**09 23 11.1**	**+0.5**
YOTC	**Yotoco, Valle**	**19.73**	**355**	*eP*		**P**		**09 23 10.1**	**-2.2**
VILC	**Villavicencio,**	**19.80**	**3**	*eP*		**Pn**		**09 23 14.5**	**-0.3**
MALC	**Bahia Malaga**	**19.88**	**352**	*eP*		**Pn**		**09 23 16.4**	**+1.0**
PTGC	**Puerto Gaitan,**	**20.02**	**7**	⇑*i*P		**P**		**09 23 14.9**	**-0.3**
ML02	**Panimavida**	**20.08**	**172**	P		**P**		**09 23 15.8**	**0.0**
ML02				IAmb		IAmb		09 23 26.7	
	comp=Z,4μm,1.0s								
ML02				IAMs_20		IAMs_20		09 29 11.1	
	comp=Z,825μm,20.0s								
CVER	**Cruz Verde, Cu**	**20.20**	**1**	*eP*		Pn		09 23 19.4	-0.3
ARMEC	**Armenia, Quind**	**20.25**	**357**	*eP*		Pn		09 23 21.0	+0.9
BOG	**Bogota**	**20.30**	**1**	*eP*		Pn		09 23 24.2	+3.4
RPRD	**Ribas do Rio P**	**20.38**	**106**	*eP*		Pn		09 23 20.7	-0.7
EDS3	**Malargue**	**20.42**	**168**	*e*S		P		09 23 28.4	+8.8
ROSC	**El Rosal**	**20.51**	**1**			Pn		09 23 22.4	-0.9
ROSC				IAmb		IAmb		09 23 36.9	
	comp=Z,3μm,0.9s								
ROSC	**El Rosal**	**20.51**	**1**	P		Pn		09 23 22.4	-0.9
ROSC				pmax		pmax			
	comp=Z,3μm,1.0s								
ROSC	**El Rosal**	**20.51**	**1**	P		Pn		09 23 22.5	-0.8
	comp=Z,285nm,1.1s,baz=222,slow=5.7,SNR=28								
ROSC				S		**S**		**09 27 08.8**	**-0.1**
	comp=Z,303nm,1.2s,baz=192,slow=21,SNR=1.1								
ROSC				LR		LR		09 32 17.1	
	comp=Z,1467μm,18.7s,baz=204,slow=40								
ROSC				P3KPbc				09 57 29.9	
	comp=Z,33nm,1.1s,baz=358,slow=19,SNR=3.7								
ROSC	**El Rosal**	**20.51**	**1**	*eP*		**Pn**		**09 23 24.5**	**+1.2**
PLMC	**San Jos del P**	**20.64**	**355**	*eP*		**P**		**09 23 21.5**	**-0.6**
NPGB	**Novo Progresso**	**20.74**	**67**	*eP*		**P**		**09 23 20.6**	**-2.5**
NIZA	**Niza - Manizal**	**20.74**	**357**	*eP*		Pn		09 23 27.2	+1.3
PIZC	**Pizarro, Choco**	**20.82**	**352**	*eP*		**P**		**09 23 24.2**	**+0.4**
BI05	**Punta Hualpn**	**20.90**	**177**			**P**		**09 23 25.6**	**+1.0**
BI05				IAMs_20		IAMs_20		09 29 04.2	
	comp=Z,884μm,22.0s								
GUY2C	**Guyana, Caldas**	**20.90**	**358**	⇑*i*P		**P**		**09 23 26.3**	**+1.0**
C2SB	**Chapadao do Su**	**20.97**	**101**	*eP*		**P**		**09 23 25.0**	**-0.6**
MCR1	**Marechal Candi**	**21.10**	**117**	*eP*		**P**		**09 23 28.6**	**+1.6**
SPBC	**San Pablo de B**	**21.32**	**1**	*eP*		**P**		**09 23 25.5**	**+0.1**
ITQB	**Itaqui**	**21.52**	**133**	P		**P**		**09 23 32.1**	**+0.8**
ITQB	**Itaqui**	**21.52**	**133**	*eP*		**P**		**09 23 31.7**	**+0.4**
CBOC	**Ciudad Bolivar**	**21.57**	**356**	⇑*e*P		**P**		**09 23 31.4**	**-0.8**
PAYG	**Puerto Ayora**	**21.59**	**313**	P		**P**		**09 23 30.4**	**-1.8**
PAYG	**Puerto Ayora**	**21.59**	**313**	*i* P		**P**		**09 23 32.9**	**+0.6**
ITTB	**Itaituba**	**21.73**	**60**	*e

PET01 Itanhaem-SP 26.97 113 *e*P P **09 24 24.2 +0.4**
VAO Valinhos 26.98 110 *e*P P **09 24 23.0 -1.1**
MCPB Macapa, AP 27.01 58 *e*P P **09 24 24.9 +0.7**
PMNB Patos De Minas 27.01 100 *e*P P **09 24 24.5 +0.1**
RIMA Rio Macho 27.02 340 P P **09 24 24.4 -0.1**
RIMA IAmb IAmb 09 24 40.2
comp=Z,4µm,1.9s
RIMA Rio Macho 27.02 340 *i*P P **09 24 26.0 +1.5**
RIMA IVmB_BB 09 24 29.1
comp=Z,42µm,1.0s
RIMA IAmb IAmb 09 24 39.8
comp=Z,840nm,2.2s
LCR2 La Lucha 2 27.04 339 P P **09 24 24.6 -0.1**
LCR2 La Lucha 2 27.04 339 *i*P P **09 24 26.1 +1.4**
LCR2 IVmB_BB 09 24 33.5
comp=Z,45µm,1.0s
LCR2 IAmb IAmb 09 24 34.0
comp=Z,1µm,1.5s
JACO JACO, Garabito 27.20 338 P P **09 24 25.8 -0.1**
JACO IAmb IAmb 09 24 30.4
comp=Z,3µm,2.0s
JACO IAMs_20 IAMs_20 09 34 39.0
comp=Z,527µm,22.0s
JACO JACO, Garabito 27.20 338 *i*P P **09 24 27.9 +2.0**
JACO IVmB_BB 09 24 30.5
comp=Z,38µm,1.0s
JACO IAmb IAmb 09 24 30.9
comp=Z,850nm,2.5s
HDC Heredia 27.32 339 P P **09 24 27.3 +0.2**
HDC IAmb IAmb 09 24 43.5
comp=Z,3µm,1.4s
HDC Heredia 27.32 339 ⇑P P **09 24 28.6 +1.5**
HDC Heredia 27.32 339 *e*P P **09 24 31.5 +4.4**
LL02 Futaleuf 27.40 176 P P **09 24 26.5 -0.9**
LL02 IAMs_20 IAMs_20 09 33 06.2
comp=Z,524µm,20.0s
LL02 Futaleuf 27.40 176 ⇑P P **09 24 26.7 -0.7**
PCRV Puerto La Cruz 27.62 22 LR LR 09 36 39.0
comp=Z,1450µm,19.6s,slow=39
INDI Punta indio, G 27.70 336 *i*P P **09 24 34.3 +3.9**
INDI IVmB_BB 09 24 35.0
comp=Z,28µm,1.0s
INDI IAmb IAmb 09 24 38.8
comp=Z,450nm,1.4s
TRT2 Tortugero 27.71 340 *i*P P **09 24 34.8 +4.3**
SOCE Pocosol 27.85 338 P P **09 24 32.5 +0.7**
SOCE IAmb IAmb 09 24 40.6
comp=Z,3µm,1.6s
JTS Las Juntas de 27.88 338 P P **09 24 32.1 +0.1**
JTS Las Juntas de 27.88 338 IAMs_20 IAMs_20 09 34 57.2
comp=Z,513µm,21.0s
JTS Las Juntas de 27.88 338*c* *i*P P **09 24 32.7 +0.7**
JTS Las Juntas de 27.88 338 ⇑P P **09 24 32.9 +0.9**
JTS Las Juntas de 27.88 338 LR LR 09 35 20.8
comp=Z,332µm,22.0s,baz=185,slow=36
JTS Las Juntas de 27.88 338⇑*e*P P **09 24 32.7 +0.7**
ARE1 Arenal 1 27.96 338 P P **09 24 32.8 +0.1**
ARE1 IAMs_20 IAMs_20 09 35 02.2
comp=Z,617µm,22.0s
COVE Coope Vega, Sa 28.09 339 P P **09 24 33.3 -0.5**
COVE IAmb IAmb 09 24 52.5
comp=Z,2µm,1.0s
COVE Coope Vega, Sa 28.09 339 *i*P P **09 24 35.4 +1.6**
COVE IVmB_BB 09 24 38.4
comp=Z,48µm,1.0s
COVE IAmb IAmb 09 24 52.2
comp=Z,2µm,1.0s
ORTG Ortega, Santa 28.14 337 P P **09 24 34.1 -0.2**
ORTG IAMs_20 IAMs_20 09 35 04.0
comp=Z,478µm,20.0s
ORTG Ortega, Santa 28.14 337 *i*P P **09 24 36.5 +2.1**
ORTG IVmB_BB 09 24 39.2
comp=Z,37µm,1.0s
ORTG IAmb IAmb 09 24 42.3
comp=Z,440nm,1.4s
PARB Paraibuna 28.26 110 *e*P P **09 24 35.9 +0.4**
HATO Hato, Curacao 28.35 12 P P **09 24 33.5 -2.7**
HATO IAmb IAmb 09 24 57.3
comp=Z,2µm,1.0s
HATO IAMs_20 IAMs_20 09 37 46.2
comp=Z,542µm,20.0s
VMAR Armenia, Volca 28.43 338 *i*P P **09 24 39.6 +2.7**
VMAR IVmB_BB 09 24 41.7
comp=Z,52µm,1.0s
VMAR IAmb IAmb 09 24 43.7
comp=Z,1µm,1.6s
HZTE Horizontes, Gu 28.51 337 P P **09 24 38.1 +0.5**
HZTE Horizontes, Gu 28.51 337 *i*P P **09 24 39.5 +1.9**
HZTE IVmB_BB 09 24 42.9
comp=Z,80µm,1.0s
HZTE IAmb IAmb 09 24 46.4
comp=Z,2µm,1.4s
AY01 Puyuhuapi 28.57 177 P P **09 24 36.1 -1.8**
AY01 Puyuhuapi 28.57 177⇑*e*P P **09 24 37.2 -0.7**
AY01 IAMs_20 IAMs_20 09 35 16.5
comp=Z,195µm,14.1s
BSCB Bom Sucesso 28.73 105 *e*P P **09 24 39.0 -0.6**
SDBA SAO DESIDERIO 28.97 87 *e*P P **09 24 41.8 0.0**
TPP Pointe-a-Pierr 29.02 27 *e*P P **09 24 43.5 +1.3**
JANB Januaria 29.18 93 *e*P P **09 24 43.8 +0.1**
TRN Trinidad (W) 29.34 27 *e*P P **09 24 46.6 +1.6**
ACON Acoyapa 29.52 339 P P **09 24 45.8 -0.7**
ACON IAMs_20 IAMs_20 09 36 02.5
comp=Z,477µm,21.0s
ACON Acoyapa 29.52 339 *e*P P **09 24 46.3 -0.3**
ACON Acoyapa 29.52 339 *i*P P **09 24 50.2 +3.7**
DIAM Diamantina, MG 29.64 99 *e*P P **09 24 47.1 -0.7**
MAN01 Angra dos Reis 29.69 108 *e*P P **09 24 48.4 +0.2**
COYC Coyhaique 29.75 176 P P **09 24 46.8 -1.6**
COYC Coyhaique 29.75 176 ⇑P P **09 24 47.8 -0.6**
COYC Coyhaique 29.75 176⇑*e*P P **09 24 47.0 -1.3**
UNAN Cigeo UNAN 30.05 337 *i*P P **09 24 51.9 +0.6**
UNAN IVmB_BB 09 24 55.4
comp=Z,140µm,1.0s
UNAN IAmb IAmb 09 24 58.1
comp=Z,7µm,1.9s
MPGF Montagnes des 30.05 48 ⇑P P **09 24 50.4 -1.0**
MPGF Montagnes des 30.05 48 P P **09 24 50.6 -0.8**
SAPS Ciudad Sandino 30.15 336 *i*P P **09 24 53.3 +1.1**
SAPS IVmB_BB 09 24 55.8
comp=Z,25µm,1.0s
SAPS IAmb IAmb 09 25 09.6
comp=Z,490nm,2.0s
MOM2 El Cardon 30.43 337 *i*P P **09 24 55.3 +0.7**
MOM2 IVmB_BB 09 24 58.8
comp=Z,11µm,1.0s
MOM2 IAmb IAmb 09 25 11.9
comp=Z,540nm,1.1s
GRFF Grenada Fort F 30.45 25 *e*P P **09 24 53.8 -1.0**
GRGR Grenville 30.56 25 P P **09 24 53.8 -1.9**
GRGR IAmb IAmb 09 25 54.5
comp=Z,2µm,1.0s
GRGR Grenville 30.56 25 *e*P P **09 24 54.0 -1.8**
GRGR Grenville 30.56 25⇑*i*P P **09 24 53.9 -1.9**
CNGN Cerro Negro 30.57 336 P P **09 24 54.4 -1.5**
CNGN Cerro Negro 30.57 336 *e*P P **09 24 55.1 -0.8**
GRW Mount Saint Ca 30.58 25 *e*P P **09 24 54.9 -1.1**
AY02 Valle Explorad 30.61 178 P P **09 24 56.5 +0.6**
AY02 IAmb IAmb 09 25 08.8
comp=Z,2µm,0.8s
GRHS Sauteurs 30.65 25 *e*P P **09 24 54.3 -2.2**
MATN Matagalpa 30.67 338 P P **09 24 56.0 -0.9**
CRIN San Cristobal 30.89 336 *e*P P **09 24 57.7 -1.0**
LIMN Finca el Limon 30.96 337 *i*P P **09 24 59.3 -0.1**
LIMN IVmB_BB 09 25 05.5
comp=Z,23µm,1.0s
LIMN IAmb IAmb 09 25 06.0
comp=Z,530nm,1.3s
GCMP Grenada, Carri 30.97 26 *e*P P **09 24 57.9 -1.5**
DUB01 Friburgo-RJ 31.05 107 *e*P P **09 25 00.5 +0.2**
AY03 Cochrane 31.40 177 P P **09 25 02.0 -0.9**
AY03 IAmb IAmb 09 25 08.8
comp=Z,1µm,1.0s
AY03 IAMs_20 IAMs_20 09 34 38.2
comp=Z,337µm,21.0s
SVOC Richmond Hill, 31.66 25 *e*P P **09 25 05.2 -0.2**
AMPH Amapala 31.66 335 *i*P P **09 25 08.9 +3.4**
CAM01 Campos-RJ 31.69 106 *e*P P **09 25 06.1 +0.3**
SVB Belmont 31.75 25 *e*P P **09 25 03.5 -2.8**
LCND La Caada 31.78 335 *i*P P **09 25 06.3 -0.2**
YUSH Yuscaran 31.95 337 *i*P P **09 25 09.4 +1.2**
SJMB Sao Joao De Ma 32.00 100 *e*P P **09 25 07.9 -0.6**
TGUH Tegucigalpa,Un 32.21 336 P P **09 25 17.1 -1.2**
TGUH IAmb IAmb 09 25 17.6
comp=Z,1µm,1.1s
TGUH Tegucigalpa,Un 32.21 336 *e*P P **09 25 10.0 -0.5**
TGUH Tegucigalpa,Un 32.21 336 *i*P P **09 25 10.9 +0.4**
TGUH IVmB_BB 09 25 14.0
comp=Z,36µm,1.0s
TGUH IAmb IAmb 09 25 14.5
comp=Z,1µm,1.6s
PQSS Presa 15 de Se 32.34 334 *i*P P **09 25 12.6 +1.2**
PQSS IVmB_BB 09 25 15.9
comp=Z,6µm,1.0s
PQSS IAmb IAmb 09 25 16.4
comp=Z,490nm,1.6s
BBGH Gun Hill 32.37 28 P P **09 25 12.2 +0.5**
BBGH IAMs_20 IAMs_20 09 34 48.7
comp=Z,392µm,19.0s
BBGH Gun Hill 32.37 28 *e*P P **09 25 12.4 +0.7**
BBGH Gun Hill 32.37 28 *e*P P **09 25 11.5 -0.2**
ALF01 Guarapari-ES 32.48 104 *e*P P **09 25 13.8 +1.1**
SLCP Castries, St. 32.52 25 *e*P P **09 25 11.4 -1.6**
SLBI Saint Lucia, B 32.54 25 *e*P P **09 25 09.7 -3.5**
GO08 Villa O'Higgin 32.62 178 P P **09 25 13.7 +0.1**
GO08 IAMs_20 IAMs_20 09 35 15.3
comp=Z,319µm,20.0s
GO08 Villa O'Higgin 32.62 178⇑*e*P P **09 25 14.4 +0.8**
GO08 IAMs_20 IAMs_20 09 37 21.4
comp=Z,188µm,15.5s
SNET Serv Nac Est T 32.69 333 P P **09 25 14.0 -0.6**
SNET IAmb IAmb 09 25 21.9
comp=Z,2µm,1.2s
SNET IAMs_20 IAMs_20 09 37 41.4
comp=Z,351µm,22.0s
RIB01 Linhares ES 32.75 101 *e*P P **09 25 15.5 +0.4**
BIM Bigot 32.95 25 P P **09 25 12.9 -3.9**
BIM IAmb IAmb 09 25 29.5
comp=Z,2µm,1.6s
BIM Bigot 32.95 25 *e*P P **09 25 13.4 -3.4**
H05S1 Guadeloupe/Mar 32.96 25 P P **09 25 13.8 -3.0**
SNR=22
MPOM Morne Pois Mar 32.97 25 P P **09 25 13.3 -3.7**
MPOM Morne Pois Mar 32.97 25 *e*P P **09 25 13.4 -3.5**
NAN01 Guarapari, ES 33.02 99 *e*P P **09 25 17.7 +0.2**
FDF Fort de France 33.12 24 P P **09 25 14.4 -3.8**
FDF Fort de France 33.12 24 P P **09 25 14.4 -3.8**
FDF pmax pmax
comp=Z,951nm,1.1s
FDF MLR MLR
comp=Z,866µm,20.0s
FDF Fort de France 33.12 24 ⇑P P **09 25 14.8 -3.5**
FDF Fort de France 33.12 24 *e*P P **09 25 14.8 -3.5**
NUBE Las Nubes 33.12 332 *i*P P **09 25 22.6 +4.2**
ILAM Ilet Lapin Mar 33.26 25 P P **09 25 17.5 -2.0**
ILAM IAmb IAmb 09 25 20.9
comp=Z,1µm,1.1s
ILAM Ilet Lapin Mar 33.26 25 *e*P P **09 25 16.0 -3.5**
GUA01 Guaratinga, BA 33.38 96 *e*P P **09 25 21.3 +0.7**
GUA01 *e*pP **sP** **09 25 34.0 -1.4**
SARH Santa Rosa de 33.46 335 *i*P P **09 25 22.4 +1.1**
HOJ Hope 33.66 356 *i*P P **09 25 23.4 +0.4**
GWJ Greenwich 33.73 356 *i*P P **09 25 25.0 +1.4**
STH Stony Hill 33.74 356 *i*P P **09 25 23.7 0.0**
CMC01 Camacan, BA 33.75 94 *e*P P **09 25 24.2 +0.3**
GDU01 Guandu, BA 33.89 91 *e*P P **09 25 25.0 -0.1**
MTDJ Mount Denham 33.94 355 P P **09 25 24.9 -0.5**
MTDJ IAMs_20 IAMs_20 09 40 50.9
comp=Z,360µm,20.0s
MTDJ Mount Denham 33.94 355 *e*P P **09 25 25.4 0.0**
RPN Rapa Nui 34.14 245 LR LR 09 35 39.6
comp=Z,684µm,21.5s,baz=84,slow=30
RPN Rapa Nui 34.14 245 P P **09 25 27.2 +0.1**
RPN PcP **PcP** **09 28 05.4 +1.5**
CBE Ff, Capester 34.16 23 P P **09 25 23.5 -3.8**
CBE Ff, Capester 34.16 23 *e*P P **09 25 24.4 -3.0**
I13CL EASTER ISLAND 34.17 245 I I 12 42 50.0
comp=Z,0.1nm,1.0s,baz=72,slow=303,SNR=5.1
GDHS Morne Mazeau, 34.29 22 P P **09 25 25.0 -3.5**
ABR01 Abrolhos, BA 34.37 99 *e*P P **09 25 29.1 -0.1**
ABR01 *e*pP **pP** **09 25 42.3 +3.0**
APG El Apazote 34.40 332 LR LR 09 38 55.2
comp=Z,31µm,21.9s,baz=270,slow=35
MLYT Lee's Yard 34.55 21 *e*P P **09 25 30.0 -0.7**
MBFL Flemmings, Mon 34.57 21 *e*P P **09 25 28.1 -2.7**
ABD La Joyeuse, An 34.58 23 *e*P P **09 25 29.9 -1.0**
GDSD La Dsirade Is 34.59 23 P P 09 25 25.8 -5.2
H05N1 Guadeloupe/Mar 34.59 23 P P **09 25 28.7 -2.3**
SNR=27
SJG San Juan 34.71 14 P P **09 25 29.3 -2.7**
SJG IAmb IAmb 09 25 48.2
comp=Z,1µm,1.0s
SJG San Juan 34.71 14 P P **09 25 29.3 -2.7**
SJG pmax pmax
comp=Z,1µm,1.0s
SJG MLR MLR
comp=Z,247µm,20.0s
SJG San Juan 34.71 14 LR LR 09 42 25.2
comp=Z,230µm,18.1s,baz=190,slow=41
SJG San Juan 34.71 14 *e*P P **09 25 29.5 -2.5**
SJG San Juan 34.71 14 *e*P P **09 25 29.9 -2.1**
SJG San Juan 34.71 14 P P **09 25 30.4 -1.6**
SJG PcP **PcP** **09 28 06.8 +1.3**
SDDR Presa de Saban 34.72 5 P P **09 25 30.5 -1.7**
SDDR Presa de Saban 34.72 5 *e*P P **09 25 30.9 -1.3**
ANBD Bethesda, Anti 35.00 22 *e*P P **09 25 31.2 -3.4**
SABA Saba 35.04 19 P P **09 25 31.7 -3.2**
SABA IAmb IAmb 09 25 54.8
comp=Z,2µm,1.1s
SABA IAMs_20 IAMs_20 09 42 31.9
comp=Z,448µm,22.0s
GO09 Cerro Castillo 35.43 178 P P **09 25 38.1 +0.2**
GO09 IAmb IAmb 09 25 43.8
comp=Z,945nm,1.0s
SMRT St. Maarten 35.50 19 IAMs_20 IAMs_20 09 42 54.0
comp=Z,355µm,20.0s
GTBY Guantanamo Bay 35.51 359 P P **09 25 38.4 -0.5**
GTBY IAmb IAmb 09 25 55.9
comp=Z,2µm,1.6s
GTBY IAMs_20 IAMs_20 09 42 09.0
comp=Z,392µm,19.0s
GTBY Guantanamo Bay 35.51 359⇑*i*P P **09 25 38.6 -0.2**
CCIG Comitan 36.28 331 IAMs_20 IAMs_20 09 39 43.7
comp=Z,423µm,21.0s
MG02 Cerro Sombrero 37.14 175 P P **09 25 52.4 -0.1**
MG02 Cerro Sombrero 37.14 175 ⇓P P **09 25 53.9 +1.4**
MG02 Cerro Sombrero 37.14 175⇑*e*P P **09 25 53.1 +0.6**
MG02 IAMs_20 IAMs_20 09 38 48.6
comp=Z,248µm,20.5s
GO10 Punta Arenas 37.37 176 P P **09 25 55.8 +1.2**
GO10 IAmb IAmb 09 26 01.9
comp=Z,1µm,0.9s
GO10 IAMs_20 IAMs_20 09 37 51.1
comp=Z,304µm,21.0s
GO10 Punta Arenas 37.37 176 ⇑P P **09 25 56.7 +2.1**
GO10 Punta Arenas 37.37 176 IAMs_20 IAMs_20 09 38 06.8
comp=Z,309µm,21.2s
EFI East Falkland 38.14 163 P P **09 26 01.0 0.0**
EFI East Falkland 38.14 163 IAMs_20 IAMs_20 09 41 04.4
comp=Z,337µm,19.0s
EFI East Falkland 38.14 163*c* *i*P P **09 26 01.5 +0.5**
EFI pmax pmax
comp=Z,3µm,1.0s
EFI MLR MLR
comp=Z,317µm,18.0s
EFI East Falkland 38.14 163 ⇑P P **09 26 01.5 +0.5**
TEIG Tepich 38.25 339 P P **09 26 01.1 -1.1**
TEIG IAMs_20 IAMs_20 09 41 48.9
comp=Z,407µm,22.0s
TEIG Tepich 38.25 339 LR LR 09 42 10.2
comp=Z,3283µm,21.1s,baz=284,slow=37
TEIG Tepich 38.25 339⇑*i*P P **09 26 01.4 -0.8**
TEIG Tepich 38.25 339 P P **09 26 01.8 -0.4**
TEIG PcP **PcP** **09 28 17.4 +1.3**
RCBR Riachuelo 39.20 80 LR LR 09 43 01.4
comp=Z,360µm,18.9s,baz=245,slow=37
RCBR Riachuelo 39.20 80 P P **09 26 11.2 +0.8**
RCBR PcP **PcP** **09 28 17.9 -1.5**
RCBR Riachuelo 39.20 80 *e*P P **09 26 10.9 +0.5**
RCBR *e*pP **sP** **09 26 27.2 +1.7**
RCBR *e*S **S** **09 32 07.9 -0.7**
SOR Soroa 39.23 348 IAMs_20 IAMs_20 09 42 51.2
comp=Z,344µm,22.0s
SOR Soroa 39.23 348 P P **09 26 10.5 +0.1**
SOR pmax pmax
comp=Z,887nm,2.2s
USHA Ushuaia 39.24 174 LR LR 09 40 22.2
comp=Z,344µm,20.8s,baz=345,slow=33
MG01 Puerto William 39.42 174 IAMs_20 IAMs_20 09 41 38.8
comp=Z,211µm,18.0s
TLIG Tlapa 40.72 324 IAMs_20 IAMs_20 09 40 59.2
comp=Z,302µm,21.0s
TLIG Tlapa 40.72 324 ⇑P P **09 26 23.6 +0.6**
061Z Ochoppi 41.87 351 IAMs_20 IAMs_20 09 43 59.2
comp=Z,253µm,22.0s
061Z Ochoppi 41.87 351 P P **09 26 31.4 -0.8**
061Z baz=171
S S **09 32 50.2 +2.3**
baz=171
UNM Universidad Na 42.48 324 IAMs_20 IAMs_20 09 42 53.7
comp=Z,292µm,20.0s
UNM Universidad Na 42.48 324 ⇑P P **09 26 39.0 +1.5**
UNM Universidad Na 42.48 324 P P **09 26 39.0 +1.5**
UNM PcP **PcP** **09 28 33.4 +3.3**
060A Indiantown 42.95 352 P P **09 26 40.0 -0.9**
060A baz=172,SNR=23
S S **09 33 06.1 +2.3**
baz=172
MOIG Morelia 43.91 323 IAMs_20 IAMs_20 09 42 48.1
comp=Z,211µm,21.0s
MOIG Morelia 43.91 323 ⇑P P **09 26 49.5 +0.5**
DWPF Disney Wildern 44.15 351 P P **09 26 48.2 -2.4**
DWPF IAmb IAmb 09 26 52.9
comp=Z,3µm,1.9s
DWPF Disney Wildern 44.15 351 IAMs_20 IAMs_20 09 46 24.6
comp=Z,195µm,21.0s
DWPF Disney Wildern 44.15 351 P P **09 26 48.9 -1.7**
DWPF baz=171
S S **09 33 21.6 +0.3**
baz=171
DWPF Disney Wildern 44.15 351 P P **09 26 49.7 -0.9**
DWPF baz=171,SNR=9.9
S S **09 33 21.6 +0.3**
baz=171
DWPF Disney Wildern 44.15 351 P P **09 26 49.7 -0.9**
656A Willston 45.56 350 S S **09 33 41.6 -0.1**
baz=170
456A Hilliard 46.81 351 P P **09 27 10.4 -1.2**
456A IAmb IAmb 09 27 16.6
comp=Z,2µm,1.2s
456A IAMs_20 IAMs_20 09 47 53.9
comp=Z,336µm,21.0s
456A Hilliard 46.81 351 P P **09 27 11.0 -0.6**
456A baz=170,SNR=30
S S **09 34 00.2 +0.6**
baz=170
ZAIG Zacatecas 47.12 324 P P **09 27 14.3 -0.3**
ZAIG Zacatecas 47.12 324 ⇑P P **09 27 14.9 +0.4**
451A Vernon 47.38 347 P P **09 27 14.8 -1.3**
451A Vernon 47.38 347 P P **09 27 14.9 -1.2**
451A baz=166,SNR=33
S S **09 34 08.1 +0.3**
baz=166
TIGA Tifton 47.76 350 P P **09 27 17.1 -1.9**
TIGA IAmb IAmb 09 27 23.6
comp=Z,881nm,1.1s
TIGA IAMs_20 IAMs_20 09 49 07.0
comp=Z,170µm,21.0s
TIGA Tifton 47.76 350 P P **09 27 17.7 -1.3**
TIGA baz=168,SNR=40
S S **09 34 10.3 -2.8**
baz=168
TIGA Tifton 47.76 350 P P **09 27 17.5 -1.5**
TIGA baz=168,SNR=40
S S **09 34 06.4 -6.7**
baz=168
257A Skidaway Islan 47.90 353 P P **09 27 18.7 -1.4**
257A IAMs_20 IAMs_20 09 49 39.9
comp=Z,287µm,21.0s
257A Skidaway Islan 47.90 353 P P **09 27 18.8 -1.3**
baz=172,SNR=6.7
S S **09 34 15.8 +0.7**
baz=172
352A Blakely 48.05 348 IAMs_20 IAMs_20 09 48 33.7
comp=Z,248µm,20.0s
352A Blakely 48.05 348 P P **09 27 19.7 -1.5**
baz=167,SNR=124
352A S S **09 34 18.0 +0.8**
baz=167
255A Hazlehurst 48.05 351 IAMs_20 IAMs_20 09 48 40.9
comp=Z,263µm,22.0s
255A Hazlehurst 48.05 351 P P **09 27 19.9 -1.3**
baz=170,SNR=79
255A S S **09 34 18.7 +1.4**
baz=170
545A Edgard 48.09 341 IAMs_20 IAMs_20 09 48 30.6
comp=Z,299µm,20.0s
545B Wilberts Farm, 48.09 341 P P **09 27 22.7 +1.1**
baz=160
545B S S **09 34 19.8 +2.0**
baz=160
BRAL Brewton 48.21 346 P P **09 27 21.8 -0.7**
baz=164,SNR=44
BRAL S S **09 34 17.5 -2.1**
baz=164
BRAL Brewton 48.21 346 P P **09 27 21.6 -1.0**
baz=164,SNR=44
BRAL S S **09 34 18.0 -1.6**
baz=164
HOPE Hope Point 48.44 151 P P **09 27 24.5 +0.5**
HOPE Hope Point 48.44 151 IAMs_20 IAMs_20 09 49 04.0
comp=Z,182µm,20.0s
HOPE Hope Point 48.44 151 P P **09 27 24.5 +0.5**
HOPE pmax pmax
comp=Z,3µm,1.1s
HOPE MLR MLR
comp=Z,182µm,20.0s
HOPE Hope Point 48.44 151 ⇑P P **09 27 24.6 +0.5**
HOPE Hope Point 48.44 151 P P **09 27 25.4 +1.4**
HOPE PcP **PcP** **09 28 51.5 +1.6**
HBVL Hebbronville 48.61 331 P P **09 27 24.9 -0.8**
HBVL IAmb IAmb 09 27 31.7
comp=Z,1µm,1.1s
KVTX Kingsville 48.66 332 P P **09 27 26.1 +0.1**
KVTX Kingsville 48.66 332 P P **09 27 26.9 +0.8**
baz=150,SNR=94
KVTX S S **09 34 29.1 +3.1**
baz=150
250A Grady 48.81 347 P P **09 27 25.6 -1.6**
250A Grady 48.81 347 P P **09 27 25.8 -1.3**
baz=165,SNR=157
250A S S **09 34 25.6 -2.4**
baz=165
BBSR BB Station 48.83 11 P P **09 27 25.7 -1.5**
baz=193
BBSR S S **09 34 26.8 -1.3**
baz=193
154A Montrose 48.83 350 P P **09 27 25.1 -2.1**
154A IAMs_20 IAMs_20 09 50 34.3
comp=Z,196µm,20.0s
154A Montrose 48.83 350 P P **09 27 25.8 -1.4**
baz=169,SNR=305
154A S S **09 34 27.0 -1.2**
baz=169
NHSC New Hope 48.92 354 P P **09 27 26.6 -1.4**
NHSC IAMs_20 IAMs_20 09 49 29.8
comp=Z,256µm,21.0s
NHSC New Hope 48.92 354 P P **09 27 27.7 -0.3**
baz=173,SNR=181
NHSC S S **09 34 28.9 -0.6**
baz=173
NHSC New Hope 48.92 354 P P **09 27 27.2 -0.7**
baz=173,SNR=181
NHSC S S **09 34 30.8 +1.2**
baz=173
346A Big Creek Wild 49.05 343 P P **09 27 27.8 -1.1**
baz=161,SNR=129
346A S S **09 34 31.4 0.0**
baz=161
152A Waverly Hall 49.16 349 IAMs_20 IAMs_20 09 49 30.2
comp=Z,289µm,21.0s
152A Waverly Hall 49.16 349 P P **09 27 28.0 -1.8**
baz=167,SNR=208
152A S S **09 34 30.1 -2.8**
baz=167
HAW Hawthorne Fire 49.34 352 P P **09 27 29.7 -1.5**
baz=171,SNR=388
HAW S S **09 34 32.8 -2.6**
baz=171
PMSA Palmer Station 49.45 174 P P **09 27 31.9 +0.2**
PMSA IAmb IAmb 09 27 46.9
comp=Z,2µm,1.4s
PMSA Palmer Station 49.45 174 LR LR 09 45 37.6
comp=Z,67µm,20.1s,baz=348,slow=32
PMSA Palmer Station 49.45 174 P P **09 27 32.9 +1.3**

PMSA PcP **PcP** **09 28 55.6 +2.3**
PMSA Palmer Station 49.45 174 *e*P **P** **09 27 33.3 +1.7**
PMSA *e*pP **sP** **09 27 46.9 +1.6**
H06S1 SOCORRO T 49.60 312 P **P** **09 27 32.9 -0.5**
SNR=79
441A DeRidder 49.62 339 P **P** **09 27 33.4 0.0**
baz=156,SNR=73
441A S **S** **09 34 43.8 +4.4**
baz=156
Y60A Bolivia 49.65 356 P **P** **09 27 32.5 -1.0**
baz=176,SNR=39
Y60A P **P** **09 27 32.5 -1.0**
baz=176,SNR=39
Y60A S **S** **09 34 42.2 +2.6**
baz=176
Y60A S **S** **09 34 42.2 +2.6**
baz=176
GOGA Godfrey 49.67 350 IAMs_20 IAMs_20 09 48 13.5
comp=Z,274μm,22.0s
GOGA Godfrey 49.67 350 P **P** **09 27 32.2 -1.4**
GOGA pmax pmax
comp=Z,1μm,1.6s
GOGA Godfrey 49.67 350 P **P** **09 27 32.1 -1.5**
baz=169,SNR=205
GOGA S **S** **09 34 37.7 -2.2**
baz=169
GOGA Godfrey 49.67 350 P **P** **09 27 31.8 -1.8**
baz=169,SNR=205
GOGA S **S** **09 34 41.6 +1.7**
baz=169
Y58A Scranton 49.67 354 P **P** **09 27 32.3 -1.3**
baz=174,SNR=196
Y58A P **P** **09 27 32.3 -1.3**
baz=174,SNR=196
Y58A S **S** **09 34 40.0 +0.1**
baz=174
Y58A S **S** **09 34 40.0 +0.1**
baz=174
H06N1 SOCORRO T-PHAS 49.70 313 P **P** **09 27 33.7 -0.5**
SNR=16
735A Kenedy 49.75 333 P **P** **09 27 34.5 +0.1**
baz=150,SNR=46
735A S **S** **09 34 44.0 +2.7**
baz=150
Y57A Sumter 49.85 354 P **P** **09 27 33.2 -1.8**
Y57A IAMs_20 IAMs_20 09 50 06.5
comp=Z,285μm,21.0s
Y57A Sumter 49.85 354 P **P** **09 27 33.8 -1.2**
baz=173,SNR=302
Y57A P **P** **09 27 33.8 -1.2**
baz=173,SNR=302
Y57A S **S** **09 34 42.5 +0.1**
baz=173
Y57A S **S** **09 34 42.5 +0.1**
baz=173
Z51A Franklin 49.88 348 P **P** **09 27 32.7 -2.6**
Z51A IAMs_20 IAMs_20 09 49 40.1
comp=Z,263μm,21.0s
Z51A Franklin 49.88 348 P **P** **09 27 33.4 -1.9**
baz=167,SNR=120
Z51A S **S** **09 34 39.6 -3.3**
baz=167
HKT Hockley 49.89 336 P **P** **09 27 33.9 -1.4**
HKT IAmb IAmb 09 27 50.6
comp=Z,2μm,1.4s
HKT Hockley 49.89 336*c i*P **P** **09 27 34.5 -0.8**
HKT pmax pmax
comp=Z,3μm,2.5s
HKT MLR MLR
comp=Z,134μm,20.0s
HKT Hockley 49.89 336 P **P** **09 27 35.0 -0.3**
baz=153
HKT S **S** **09 34 44.6 +1.6**
baz=153
HKT Hockley 49.89 336 P **P** **09 27 34.8 -0.6**
LRAL Lakeview Retre 49.99 346 P **P** **09 27 34.1 -2.0**
LRAL IAmb IAmb 09 27 40.3
comp=Z,1μm,1.1s
LRAL Lakeview Retre 49.99 346 P **P** **09 27 34.1 -2.0**
baz=164,SNR=598
LRAL S **S** **09 34 41.1 -3.4**
baz=164
LRAL Lakeview Retre 49.99 346 P **P** **09 27 34.6 -1.5**
baz=164,SNR=598
LRAL S **S** **09 34 39.9 -4.6**
baz=164
833A Chaparral WMA, 50.01 331 P **P** **09 27 34.4 -2.0**
833A Chaparral WMA, 50.01 331 P **P** **09 27 35.8 -0.6**
baz=148,SNR=360
833A S **S** **09 34 45.8 +0.8**
baz=148
833A Chaparral WMA, 50.01 331 P **P** **09 27 34.8 -1.6**
baz=148,SNR=360
833A S **S** **09 34 47.6 +2.7**
baz=148
146A Union 50.12 344 P **P** **09 27 35.2 -1.9**
146A Union 50.12 344 P **P** **09 27 36.1 -1.0**
baz=162,SNR=339
146A S **S** **09 34 44.2 -2.0**
baz=162
VBMS Vicksburg 50.13 342 P **P** **09 27 36.1 -1.1**
baz=160
VBMS S **S** **09 34 47.6 +1.2**
baz=160
VBMS Vicksburg 50.13 342 P **P** **09 27 36.1 -1.1**
baz=160
VBMS S **S** **09 34 49.5 +3.1**
baz=160
JSC Jenkinsville 50.21 353 P **P** **09 27 36.5 -1.2**
baz=172,SNR=199
JSC S **S** **09 34 47.0 -0.5**
baz=172
Y52A Lilburn 50.21 350 P **P** **09 27 35.9 -1.9**
Y52A IAmb IAmb 09 27 40.6
comp=Z,1μm,1.3s
Y52A IAMs_20 IAMs_20 09 49 35.9
comp=Z,214μm,22.0s
Y52A Lilburn 50.21 350 P **P** **09 27 36.3 -1.5**
baz=168,SNR=168
Y52A P **P** **09 27 36.3 -1.5**
baz=168,SNR=168
Y52A S **S** **09 34 45.1 -2.4**
baz=168
Y52A S **S** **09 34 45.1 -2.4**
baz=168
X58A Rowland 50.28 355 P **P** **09 27 37.2 -1.1**
baz=174,SNR=146
X58A P **P** **09 27 37.2 -1.1**
baz=174,SNR=146
X58A S **S** **09 34 49.3 +0.9**
baz=174
X58A S **S** **09 34 49.3 +0.9**
baz=174
HODGE Hodges 50.29 352 IAMs_20 IAMs_20 09 50 09.1
comp=Z,281μm,21.0s
HODGE Hodges 50.29 352 P **P** **09 27 37.3 -1.1**
baz=171,SNR=145
HODGE S **S** **09 34 48.1 -0.5**
baz=171
Z47A Carrollton 50.40 345 P **P** **09 27 37.5 -1.7**
Z47A Carrollton 50.40 345 P **P** **09 27 37.3 -1.9**
baz=163,SNR=334
Z47A S **S** **09 34 47.0 -3.2**
baz=163
BIRD Birdtown, Kers 50.48 354 P **P** **09 27 38.0 -1.8**
BIRD IAmb IAmb 09 27 44.6
comp=Z,2μm,1.1s
BIRD IAMs_20 IAMs_20 09 50 24.1
comp=Z,277μm,21.0s
BIRD Birdtown, Kers 50.48 354 P **P** **09 27 38.7 -1.0**
baz=173,SNR=236
BIRD S **S** **09 34 50.8 -0.4**
baz=173
Y49A Blount Mountai 50.65 347 IAMs_20 IAMs_20 09 49 29.6
comp=Z,222μm,22.0s
Y49A Blount Mountai 50.65 347 P **P** **09 27 38.9 -2.2**
baz=165,SNR=102
Y49A S **S** **09 34 50.2 -3.6**
baz=165
PAULI Pauline 50.81 352 P **P** **09 27 41.2 -1.1**
PAULI IAmb IAmb 09 27 45.6
comp=Z,2μm,1.3s
PAULI Pauline 50.81 352 P **P** **09 27 41.1 -1.1**
baz=171,SNR=190
PAULI S **S** **09 34 55.0 -0.8**
baz=171
W59A Clinton 50.82 356 P **P** **09 27 41.2 -1.1**
baz=175,SNR=38
W59A S **S** **09 34 56.9 +1.0**
baz=175
143A Socs Landing, 50.84 342 P **P** **09 27 41.2 -1.3**
baz=159,SNR=67
143A S **S** **09 34 59.0 +2.7**
baz=159
CNNC Cliffs of the 50.86 357 P **P** **09 27 41.5 -1.1**
CNNC IAmb IAmb 09 27 57.3
comp=Z,1μm,1.2s
CNNC Cliffs of the 50.86 357 P **P** **09 27 42.1 -0.5**
baz=176,SNR=54
CNNC S **S** **09 34 55.4 -1.0**
baz=176
CNNC Cliffs of the 50.86 357 P **P** **09 27 41.7 -0.9**
baz=176,SNR=54
CNNC S **S** **09 34 59.0 +2.6**
baz=176
W57A Gilead 50.93 354 P **P** **09 27 42.2 -1.0**
baz=174,SNR=310
W57A P **P** **09 27 42.2 -1.0**
baz=174,SNR=310
W57A S **S** **09 34 58.3 +0.8**
baz=174
W57A S **S** **09 34 58.3 +0.8**
baz=174
X51A Calhoun 51.03 349 P **P** **09 27 41.9 -2.1**
X51A IAmb IAmb 09 27 46.8
comp=Z,2μm,1.4s
X51A IAMs_20 IAMs_20 09 50 55.7
comp=Z,241μm,20.0s
X51A Calhoun 51.03 349 P **P** **09 27 42.5 -1.5**
baz=167,SNR=183
X51A P **P** **09 27 42.5 -1.5**
baz=167,SNR=183
X51A S **S** **09 34 56.0 -2.9**
baz=167
X51A S **S** **09 34 56.0 -2.9**
baz=167
NATX Nacogdoches 51.06 338 P **P** **09 27 44.2 0.0**
baz=155,SNR=170
NATX S **S** **09 34 58.8 -0.7**
baz=155
NATX Nacogdoches 51.06 338 P **P** **09 27 44.3 0.0**
baz=155,SNR=170
NATX S **S** **09 35 01.1 +1.7**
baz=155
KMSC Kings Mountain 51.07 353 IAMs_20 IAMs_20 09 51 41.7
comp=Z,255μm,20.0s
KMSC Kings Mountain 51.07 353 P **P** **09 27 43.1 -1.1**
baz=172,SNR=230
KMSC S **S** **09 34 57.4 -2.0**
baz=172
KMSC Kings Mountain 51.07 353 P **P** **09 27 43.2 -1.1**
baz=172,SNR=230
KMSC S **S** **09 34 59.9 +0.5**
baz=172
BG3 Lake Jocassee 51.13 351 IAMs_20 IAMs_20 09 51 54.4
comp=Z,221μm,20.0s
CASEE Lake Jocassee 51.13 351 P **P** **09 27 43.5 -1.2**
baz=170,SNR=86
CASEE S **S** **09 34 59.2 -1.2**
baz=170
FPAL Fort Paine 51.15 348 P **P** **09 27 42.8 -2.1**
FPAL IAmb IAmb 09 27 48.8
comp=Z,2μm,1.1s
FPAL IAMs_20 IAMs_20 09 50 39.8
comp=Z,247μm,21.0s
435B Jarrell 51.33 334 P **P** **09 27 45.4 -0.9**
baz=151
435B S **S** **09 35 03.5 +0.2**
baz=151
435B Jarrell 51.33 334 P **P** **09 27 45.4 -0.9**
baz=151,SNR=103
435B S **S** **09 35 05.9 +2.7**
baz=151
V61A Roper 51.34 358 P **P** **09 27 45.7 -0.6**
baz=178,SNR=16
V61A P **P** **09 27 45.7 -0.6**
baz=178,SNR=16
V61A S **S** **09 35 06.2 +3.1**
baz=178
V61A S **S** **09 35 06.2 +3.1**
baz=178
X48A Hartselle 51.36 347 P **P** **09 27 44.1 -2.3**
baz=165,SNR=314
X48A S S 09 34 52.6 -11
baz=165
W52A Murphy 51.39 350 IAMs_20 IAMs_20 09 50 24.1
comp=Z,218μm,22.0s
W52A Murphy 51.39 350 P **P** **09 27 45.2 -1.5**
baz=169,SNR=229
W52A S **S** **09 35 02.2 -1.7**
baz=169
Y45A Yeager Farm, C 51.41 344 P **P** **09 27 45.5 -1.2**
baz=162,SNR=369
Y45A S **S** **09 35 04.5 +0.4**
baz=162
V58A Windy Hill, Pi 51.49 355 P **P** **09 27 45.5 -1.9**
baz=175,SNR=101
V58A P **P** **09 27 45.5 -1.9**
baz=175,SNR=101
V58A S **S** **09 35 06.7 +1.5**
baz=175
V58A S **S** **09 35 06.7 +1.5**
baz=175
237A Washetta, Mont 51.70 337 P **P** **09 27 49.0 0.0**
baz=154,SNR=201
237A S **S** **09 35 11.2 +2.9**
baz=154
W50A Signal Mountai 51.73 349 IAMs_20 IAMs_20 09 51 06.3
comp=Z,228μm,19.0s
W50A Signal Mountai 51.73 349 P **P** **09 27 47.6 -1.7**
baz=167,SNR=355
W50A S **S** **09 35 05.4 -3.3**
baz=167
V55A Taylorsville 51.75 353 IAMs_20 IAMs_20 09 50 53.9
comp=Z,251μm,21.0s
V55A Taylorsville 51.75 353 P **P** **09 27 46.6 -2.8**
baz=172,SNR=125
V55A P **P** **09 27 46.6 -2.8**
baz=172,SNR=125
V55A S **S** **09 35 08.6 -0.3**
baz=172
V55A S **S** **09 35 08.6 -0.3**
baz=172
V53A Saluda 51.78 351 P **P** **09 27 48.0 -1.6**
V53A Saluda 51.78 351 P **P** **09 27 48.0 -1.6**
baz=170,SNR=137
V53A P **P** **09 27 48.0 -1.6**
baz=170,SNR=137
V53A S **S** **09 35 06.4 -3.0**
baz=170
V53A S **S** **09 35 06.4 -3.0**
baz=170
CPCT Cooper Cave 51.83 350 P **P** **09 27 47.6 -2.3**
CPCT IAmb IAmb 09 27 52.8
comp=Z,1μm,1.2s
CPCT IAMs_20 IAMs_20 09 50 25.9
comp=Z,236μm,22.0s
TKL Tuckaleechee C 51.91 350 IAMs_20 IAMs_20 09 50 52.1
comp=Z,235μm,21.0s
TKL Tuckaleechee C 51.91 350 P **P** **09 27 48.8 -1.8**
baz=169,SNR=244
TKL S **S** **09 35 09.1 -2.0**
baz=169
TKL Tuckaleechee C 51.91 350 LR LR 09 51 02.4
comp=Z,246μm,21.6s,baz=159,slow=37
U59A Littleton 51.96 357 P **P** **09 27 49.9 -0.9**
baz=176,SNR=77
U59A P **P** **09 27 49.9 -0.9**
baz=176,SNR=77
U59A S **S** **09 35 09.0 -2.6**
baz=176
U59A S **S** **09 35 09.0 -2.6**
baz=176
OXF Oxford 51.98 344 P **P** **09 27 48.4 -2.7**
OXF IAmb IAmb 09 27 55.2
comp=Z,2μm,1.0s
OXF Oxford 51.98 344 P **P** **09 27 48.4 -2.7**
OXF pmax pmax
comp=Z,2μm,1.0s
OXF Oxford 51.98 344 P **P** **09 27 48.8 -2.3**
baz=162,SNR=251
OXF S **S** **09 35 06.4 -5.7**
baz=162
OXF Oxford 51.98 344 P **P** **09 27 48.7 -2.3**
baz=162,SNR=251
OXF S **S** **09 35 08.8 -3.2**
baz=162
JCT Junction City 52.03 332 P **P** **09 27 50.3 -1.3**
JCT Junction City 52.03 332 P **P** **09 27 50.4 -1.2**
baz=149,SNR=192
JCT S **S** **09 35 11.4 -1.5**
baz=149
JCT Junction City 52.03 332 P **P** **09 27 50.8 -0.8**
baz=149,SNR=192
JCT S **S** **09 35 13.4 +0.5**
baz=149
V52A Sevierville 52.06 351 P **P** **09 27 49.8 -1.9**
V52A IAMs_20 IAMs_20 09 50 56.1
comp=Z,274μm,22.0s
V52A Sevierville 52.06 351 P **P** **09 27 49.8 -1.9**
baz=169,SNR=341
V52A S **S** **09 35 10.8 -2.3**
baz=169
CCAR Cane Creek 52.09 342 P **P** **09 27 50.4 -1.4**
CCAR Cane Creek 52.09 342 P **P** **09 27 50.6 -1.2**
baz=159,SNR=14
CCAR S **S** **09 35 14.2 +0.8**
baz=159
HPIG 52.11 324 IAMs_20 IAMs_20 09 48 03.0
comp=Z,169μm,21.0s
HPIG 52.11 324 ⇑P **P** **09 27 52.0 -0.4**
V51A Loudon 52.15 350 IAMs_20 IAMs_20 09 50 36.3
comp=Z,247μm,21.0s
V51A Loudon 52.15 350 P **P** **09 27 50.3 -2.0**
baz=168,SNR=259
V51A S **S** **09 35 12.6 -1.7**
baz=168
U56A King 52.15 354 IAMs_20 IAMs_20 09 51 43.5
comp=Z,268μm,20.0s
U56A King 52.15 354 P **P** **09 27 51.4 -0.9**
baz=173,SNR=190
U56A P **P** **09 27 51.4 -0.9**
baz=173,SNR=190
U56A S **S** **09 35 15.7 +1.3**
baz=173
U56A S **S** **09 35 15.7 +1.3**
baz=173
WLAR White Oak Lake 52.29 340 P **P** **09 27 52.1 -1.3**
SLBS Sierra La Lagu 52.29 318 P **P** **09 27 52.6 -1.1**
SLBS IAmb IAmb 09 27 57.5
comp=Z,4μm,2.0s
SLBS Sierra La Lagu 52.29 318 P **P** **09 27 54.2 +0.5**
WHTX Lake Whitney, 52.34 335 P **P** **09 27 52.4 -1.4**
WHTX Lake Whitney, 52.34 335 P **P** **09 27 52.9 -0.9**
baz=152,SNR=419
WHTX S **S** **09 35 17.6 +0.6**
baz=152
WHTX Lake Whitney, 52.34 335 P **P** **09 27 52.6 -1.1**
baz=152,SNR=419
WHTX S **S** **09 35 18.2 +1.2**
baz=152
BRDY Brady 52.37 333 P **P** **09 27 51.9 -2.1**
TREL Terrell 52.46 337 P **P** **09 27 53.3 -1.3**
U54A Nelsons Funny 52.49 353 P **P** **09 27 53.1 -1.7**
U54A IAmb IAmb 09 28 10.4
comp=Z,3μm,1.5s
U54A IAMs_20 IAMs_20 09 52 26.3
comp=Z,260μm,20.0s
U54A Nelsons Funny 52.49 353 P **P** **09 27 53.3 -1.6**
baz=171,SNR=148
U54A P **P** **09 27 53.3 -1.6**
baz=171,SNR=148
U54A S **S** **09 35 18.7 -0.3**
baz=171
U54A S **S** **09 35 18.7 -0.3**
baz=171
SMAI San Martin Ant 52.52 176 IAMs_20 IAMs_20 09 47 18.5
comp=Z,133μm,19.0s
PTCN Pitcairn Islan 52.53 250 P **P** **09 27 56.8 +1.3**
Z38A Mt. Pleasant 52.53 338 P **P** **09 27 53.9 -1.3**
Z38A Mt. Pleasant 52.53 338 P **P** **09 27 54.5 -0.7**
baz=155,SNR=337
Z38A S **S** **09 35 22.7 +3.0**
baz=155
V48A Smith Brothers 52.55 347 IAMs_20 IAMs_20 09 50 60.0
comp=Z,203μm,22.0s
V48A Smith Brothers 52.55 347 P **P** **09 27 53.6 -1.7**
baz=165,SNR=411
V48A S **S** **09 35 13.8 -6.1**
baz=165
T59A Double "B" Far 52.56 357 P **P** **09 27 54.4 -0.9**
baz=177,SNR=130
T59A P **P** **09 27 54.4 -0.9**
baz=177,SNR=130
T59A S **S** **09 35 22.3 +2.4**
baz=177
T59A S **S** **09 35 22.3 +2.4**
baz=177
T60A Surry 52.70 358 P **P** **09 27 56.0 -0.3**
baz=178,SNR=20
T60A P **P** **09 27 56.0 -0.3**
baz=178,SNR=20
T60A S **S** **09 35 25.6 +4.0**
baz=178
T60A S **S** **09 35 25.6 +4.0**
baz=178
T57A Hurt 52.70 355 P **P** **09 27 55.1 -1.2**
baz=174,SNR=175
T57A P **P** **09 27 55.1 -1.2**
baz=174,SNR=175
T57A S **S** **09 35 23.3 +1.5**
baz=174
T57A S **S** **09 35 23.3 +1.5**
baz=174
TZTN Tazewell 52.75 351 P **P** **09 27 54.9 -1.9**
TZTN Tazewell 52.75 351 P **P** **09 27 55.0 -1.7**
baz=169,SNR=189
TZTN Tazewell 52.75 351 P **P** **09 27 54.9 -1.9**
baz=169,SNR=189
TZTN S **S** **09 35 20.6 -1.9**
baz=169
CLTN Cedars of Leba 52.79 348 IAMs_20 IAMs_20 09 51 30.3
comp=Z,193μm,21.0s
LPIG La Paz 52.82 318 LR LR 09 45 33.2
comp=Z,50μm,20.1s,baz=111,slow=30
TXAR Lajitas Array 52.94 328 P **P** **09 27 56.6 -1.7**
TXAR Lajitas Array 52.94 328 P **P** **09 27 57.3 -1.1**
comp=Z,470nm,1.0s,baz=149,slow=8.8,SNR=872
TXAR S **S** **09 35 29.1 +3.6**
comp=Z,5.4nm,1.1s,baz=30,slow=13,SNR=1.1
TXAR LR LR 09 49 30.1
comp=Z,75μm,21.0s,baz=126,slow=35
TXAR PKP2bc 09 58 36.5
comp=Z,7.7nm,1.1s,baz=231,slow=0.6,SNR=4.0
TXAR P4KPbc 10 05 23.9
comp=Z,0.7nm,0.8s,baz=143,slow=6.6,SNR=5.6
comp=Z,470nm,1.0s
TX31 Lajitas Ar. Si 52.94 328 P **P** **09 27 56.5 -1.9**
TX31 IAmb IAmb 09 28 02.9
comp=Z,1μm,1.1s
TX31 Lajitas Ar. Si 52.94 328 P **P** **09 27 56.7 -1.7**
baz=144,SNR=956
TX31 S **S** **09 35 26.4 +0.9**
baz=144
X40A Basin Creek Fa 52.94 341 P **P** **09 27 56.9 -1.3**
baz=158,SNR=99
X40A P **P** **09 27 56.9 -1.3**
baz=158,SNR=99
X40A S **S** **09 35 26.4 +1.2**
baz=158
X40A S **S** **09 35 26.4 +1.2**
baz=158
BLA Blacksburg 53.01 354 IAMs_20 IAMs_20 09 52 20.0
comp=Z,228μm,20.0s
BLA Blacksburg 53.01 354 P **P** **09 27 57.9 -0.8**
baz=173,SNR=68
BLA Blacksburg 53.01 354 P **P** **09 27 57.8 -0.9**
baz=173,SNR=68
BLA S **S** **09 35 18.5 -7.6**
baz=173
U49A Red Boiling Sp 53.09 349 P **P** **09 27 57.1 -2.2**
U49A IAmb IAmb 09 28 00.8
comp=Z,3μm,1.9s
U49A IAMs_20 IAMs_20 09 51 59.3
comp=Z,200μm,20.0s
U49A Red Boiling Sp 53.09 349 P **P** **09 27 57.4 -1.9**
baz=167,SNR=131
U49A S **S** **09 35 21.3 -5.9**
baz=167
WVT Waverly 53.15 347 P **P** **09 27 56.8 -2.9**
WVT IAmb IAmb 09 28 02.8
comp=Z,745nm,1.1s
WVT Waverly 53.15 347 P **P** **09 27 56.8 -2.9**

WVT pmax pmax
comp=Z,745nm,1.1s
WVT MLR MLR
comp=Z,123µm,20.0s
WVT Waverly 53.15 347 P **P** **09 27 57.1 -2.6**
baz=164
WVT Waverly 53.15 347 P **P** **09 27 57.1 -2.6**
baz=164,SNR=286
WVT S **S** **09 35 23.4 -4.5**
baz=164
WVT Waverly 53.15 347 P **P** **09 27 57.0 -2.6**
S61A Accomac 53.20 359 P **P** **09 28 00.1 +0.1**
S61A Accomac 53.20 359 P **P** **09 27 59.7 -0.4**
baz=179,SNR=8.7
S61A P **P** **09 27 59.7 -0.4**
baz=179,SNR=8.7
S61A S **S** **09 35 32.9 +4.3**
baz=179
S61A S **S** **09 35 32.9 +4.3**
baz=179
HALT Halls 53.29 345 P **P** **09 27 58.0 -2.7**
HALT IAmb IAmb 09 28 04.2
comp=Z,1µm,1.1s
HBAR Harrisburg 53.30 344 P **P** **09 27 58.5 -2.3**
HBAR IAmb IAmb 09 28 03.5
comp=Z,2µm,1.3s
HBAR Harrisburg 53.30 344 P **P** **09 27 59.5 -1.3**
baz=161,SNR=35
T50A Nancy 53.42 350 IAMs_20 IAMs_20 09 51 13.9
comp=Z,284µm,22.0s
T50A Nancy 53.42 350 S **S** **09 35 30.8 -0.8**
baz=168
T50A S **S** **09 35 30.8 -0.8**
baz=168
S57A Dark Hollow, R 53.43 356 P **P** **09 28 00.4 -1.3**
baz=175,SNR=116
S57A P **P** **09 28 00.4 -1.3**
baz=175,SNR=116
S57A S **S** **09 35 31.0 -0.7**
baz=175
S57A S **S** **09 35 31.0 -0.7**
baz=175
Z35A Perchaven, San 53.44 336 P **P** **09 28 01.3 -0.6**
baz=153,SNR=604
Z35A S **S** **09 35 32.2 +0.2**
baz=153
LNXT Lenox 53.51 345 P **P** **09 28 00.3 -2.0**
baz=162,SNR=60
WHAR Wooly Hollow 53.52 342 P **P** **09 28 00.9 -1.5**
WHAR IAmb IAmb 09 28 06.9
comp=Z,2µm,1.1s
R58B Mineral 53.57 357 P **P** **09 28 02.2 -0.5**
baz=176,SNR=177
R58B P **P** **09 28 02.2 -0.5**
baz=176,SNR=177
S54A Dingess, Beckl 53.69 353 P **P** **09 28 02.0 -1.7**
baz=172,SNR=131
S54A P **P** **09 28 02.0 -1.7**
baz=172,SNR=131
CBN Corbin Frederi 53.78 357 IAMs_20 IAMs_20 09 51 38.6
comp=Z,163µm,22.0s
CBN Corbin Frederi 53.78 357 P **P** **09 28 03.9 -0.4**
baz=177,SNR=29
CBN Corbin Frederi 53.78 357 P **P** **09 28 03.7 -0.6**
baz=177,SNR=29
ABTX Abilene, Hawle 53.79 334 P **P** **09 28 03.6 -1.0**
baz=150,SNR=415
ABTX Abilene, Hawle 53.79 334 P **P** **09 28 03.6 -1.0**
baz=150,SNR=415
T47A Sharon Grove 53.82 348 P **P** **09 28 02.1 -2.4**
T47A IAmb IAmb 09 28 06.8
comp=Z,1µm,1.3s
T47A IAMs_20 IAMs_20 09 51 39.4
comp=Z,189µm,22.0s
T47A Sharon Grove 53.82 348 P **P** **09 28 02.2 -2.4**
baz=165,SNR=198
S51A Beattyville 53.83 351 P **P** **09 28 03.0 -1.6**
baz=169,SNR=113
S51A P **P** **09 28 03.0 -1.6**
baz=169,SNR=113
R61A Willards 53.85 359 P **P** **09 28 04.2 -0.5**
baz=179,SNR=12
R61A P **P** **09 28 04.2 -0.5**
baz=179,SNR=12
PVMO Portageville 53.86 345 IAMs_20 IAMs_20 09 50 28.5
comp=Z,151µm,22.0s
LCAR Lake Charles 53.92 343 P **P** **09 28 02.7 -2.6**
LCAR IAmb IAmb 09 28 09.3
comp=Z,1µm,1.1s
LCAR Lake Charles 53.92 343 P **P** **09 28 03.7 -1.6**
baz=160,SNR=312
FCAR Ozark Folk Cen 54.03 342 P **P** **09 28 04.2 -1.9**
FCAR IAmb IAmb 09 28 10.2
comp=Z,1µm,1.1s
R55A Marlinton 54.05 355 P **P** **09 28 05.5 -0.9**
baz=174,SNR=77
R55A P **P** **09 28 05.5 -0.9**
baz=174,SNR=77
PARMO Parma 54.11 345 IAMs_20 IAMs_20 09 50 36.2
comp=Z,149µm,22.0s
T45B Paducah 54.18 346 P **P** **09 28 04.6 -2.6**
baz=163,SNR=148
R53A Hurricane 54.29 353 IAMs_20 IAMs_20 09 52 57.0
comp=Z,158µm,22.0s
R53A Hurricane 54.29 353 P **P** **09 28 05.9 -2.1**
baz=171,SNR=59
R53A P **P** **09 28 05.9 -2.1**
baz=171,SNR=59
PBMO Poplar Bluff 54.39 344 P **P** **09 28 07.1 -1.7**
baz=161,SNR=302
R50A Paris 54.57 351 P **P** **09 28 08.3 -1.7**
baz=169,SNR=253
R50A P **P** **09 28 08.3 -1.7**
baz=169,SNR=253
U40A Yellville 54.67 342 P **P** **09 28 09.6 -1.2**
baz=158,SNR=1000
U40A P **P** **09 28 09.6 -1.2**
baz=158,SNR=1000
R49A Shelbyville 54.72 350 P **P** **09 28 09.2 -1.9**
baz=168,SNR=234
R49A P **P** **09 28 09.2 -1.9**
baz=168,SNR=234
Q56A Snyder Ridge, 54.72 356 P **P** **09 28 10.6 -0.6**
baz=175,SNR=92
Q56A P **P** **09 28 10.6 -0.6**
baz=175,SNR=92
X34A Smith Ranch, M 54.78 337 IAMs_20 IAMs_20 09 53 41.8
comp=Z,187µm,22.0s
Q54A Coxs Mills 54.81 354 P **P** **09 28 09.7 -2.1**
baz=173,SNR=49
Q54A P **P** **09 28 09.7 -2.1**
baz=173,SNR=49
WCI Wyandotte Cave 54.86 349 P **P** **09 28 09.6 -2.5**
WCI Wyandotte Cave 54.86 349 IAMs_20 IAMs_20 09 52 53.9
comp=Z,176µm,20.0s
WCI Wyandotte Cave 54.86 349 P **P** **09 28 09.6 -2.5**
WCI pmax pmax
comp=Z,2µm,1.0s
WCI MLR MLR
comp=Z,176µm,20.0s
WCI Wyandotte Cave 54.86 349 P **P** **09 28 10.4 -1.7**
baz=166
WCI Wyandotte Cave 54.86 349 P **P** **09 28 10.1 -2.0**
baz=166,SNR=494
WCI Wyandotte Cave 54.86 349 P **P** **09 28 10.3 -1.7**
USIN University of 54.88 347 P **P** **09 28 09.5 -2.8**
USIN IAMs_20 IAMs_20 09 52 10.4
comp=Z,179µm,22.0s
HHAR Hobbs 54.94 341 P **P** **09 28 10.8 -2.0**
HHAR IAmb IAmb 09 28 17.3
comp=Z,2µm,1.1s
HHAR Hobbs 54.94 341 P **P** **09 28 11.2 -1.6**
baz=157
Q52A Bidwell 54.95 353 P **P** **09 28 10.5 -2.3**
Q52A IAmb IAmb 09 28 14.6
comp=Z,3µm,1.9s
Q52A IAMs_20 IAMs_20 09 53 17.5
comp=Z,172µm,22.0s
Q52A Bidwell 54.95 353 P **P** **09 28 11.2 -1.6**
baz=171,SNR=75
Q52A P **P** **09 28 11.2 -1.6**
baz=171,SNR=75
SDMD Soldier's Deli 54.96 358 P **P** **09 28 12.7 -0.2**
baz=178,SNR=96
S44A Carbondale 54.97 346 P **P** **09 28 10.4 -2.6**
S44A Carbondale 54.97 346 P **P** **09 28 11.2 -1.7**
baz=163,SNR=568
POST Post 54.98 332 P **P** **09 28 11.4 -1.8**

P57A Homestead Farm 55.09 357 P **P** **09 28 13.7 0.0**
baz=176,SNR=65
P57A P **P** **09 28 13.7 0.0**
baz=176,SNR=65
Q51A Peebles 55.15 352 P **P** **09 28 12.1 -2.2**
baz=170,SNR=100
Q51A P **P** **09 28 12.1 -2.2**
baz=170,SNR=100
RLO Rose Lookout 55.18 340 IAMs_20 IAMs_20 09 56 09.5
comp=Z,81µm,21.0s
P61A Hammonton 55.19 360 P **P** **09 28 13.9 -0.5**
baz=180,SNR=20
P61A P **P** **09 28 13.9 -0.5**
baz=180,SNR=20
TUL3 Leonard 55.21 339 IAMs_20 IAMs_20 09 52 12.5
comp=Z,154µm,22.0s
TUL3 Leonard 55.21 339 P **P** **09 28 13.5 -1.3**
baz=155,SNR=1000
TUL3 S **S** **09 35 57.2 +1.4**
baz=155
TUL3 Leonard 55.21 339 P **P** **09 28 13.6 -1.1**
baz=155,SNR=1000
U38A Gravette 55.23 341 P **P** **09 28 13.6 -1.3**
baz=157,SNR=657
WMOK Wichita Mounta 55.27 336 P **P** **09 28 13.4 -1.8**
baz=152,SNR=95
WMOK S **S** **09 35 57.1 +0.3**
baz=152
WMOK Wichita Mounta 55.27 336 P **P** **09 28 13.8 -1.4**
baz=152,SNR=95
GEDE Greenville 55.33 359 P **P** **09 28 14.9 -0.6**
baz=179,SNR=69
P53A Whipple 55.37 354 P **P** **09 28 14.1 -1.6**
baz=172,SNR=86
P53A P **P** **09 28 14.1 -1.6**
baz=172,SNR=86
MCWV Mont Chateau 55.39 355 P **P** **09 28 14.3 -1.6**
MCWV IAmb IAmb 09 28 18.4
comp=Z,2µm,1.8s
MCWV IAMs_20 IAMs_20 09 52 32.9
comp=Z,254µm,22.0s
MCWV Mont Chateau 55.39 355 P **P** **09 28 14.7 -1.2**
baz=174,SNR=43
MCWV S **S** **09 36 00.4 +2.4**
baz=174
MCWV Mont Chateau 55.39 355 P **P** **09 28 14.2 -1.7**
baz=174,SNR=43
DEOK Depew 55.40 338 IAMs_20 IAMs_20 09 52 34.1
comp=Z,149µm,22.0s
FVM French Village 55.53 345 P **P** **09 28 15.3 -1.7**
baz=162,SNR=392
P51A Williamsport 55.56 352 IAMs_20 IAMs_20 09 52 30.7
comp=Z,233µm,22.0s
P51A Williamsport 55.56 352 P **P** **09 28 15.1 -2.1**
baz=170,SNR=107
P51A P **P** **09 28 15.1 -2.1**
baz=170,SNR=107
P51A S **S** **09 35 58.1 -2.2**
baz=170
P51A S **S** **09 35 58.1 -2.2**
baz=170
P52A Corning 55.59 353 IAMs_20 IAMs_20 09 53 22.6
comp=Z,187µm,22.0s
P52A Corning 55.59 353 P **P** **09 28 15.5 -1.9**
baz=171,SNR=91
P52A S **S** **09 35 55.2 -5.6**
baz=171
OK052 Battle Ridge R 55.64 338 IAMs_20 IAMs_20 09 53 16.5
comp=Z,143µm,22.0s
TUPA Temple Univers 55.68 359 P **P** **09 28 17.9 -0.1**
baz=179,SNR=66
TUPA S **S** **09 36 04.4 +2.5**
baz=179
OLIL Olney 55.71 347 IAMs_20 IAMs_20 09 52 23.4
comp=Z,166µm,22.0s
OLIL Olney 55.71 347 P **P** **09 28 16.4 -1.8**
baz=164,SNR=320
OLIL S **S** **09 35 59.0 -3.3**
baz=164
MNTX Cornudas Mount 55.71 328 P **P** **09 28 16.7 -1.7**
baz=144,SNR=661
MNTX S **S** **09 36 04.6 +1.9**
baz=144
MNTX Cornudas Mount 55.71 328 P **P** **09 28 17.0 -1.5**
baz=144,SNR=661
MNTX S **S** **09 36 04.2 +1.5**
baz=144
OK033 Mehan 55.73 338 IAMs_20 IAMs_20 09 53 09.0
comp=Z,149µm,22.0s
CCM Cathedral Cave 55.81 344 P **P** **09 28 16.7 -2.3**
CCM IAmb IAmb 09 28 23.5
comp=Z,843nm,1.0s
CCM Cathedral Cave 55.81 344 P **P** **09 28 16.7 -2.3**
CCM pmax pmax
comp=Z,843nm,1.0s
CCM Cathedral Cave 55.81 344 P **P** **09 28 17.1 -1.9**
baz=161
CCM S **S** **09 35 57.4 -6.3**
baz=161
CCM Cathedral Cave 55.81 344 P **P** **09 28 17.4 -1.6**
baz=161,SNR=355
CCM S **S** **09 35 55.5 -8.2**
baz=161
CCM Cathedral Cave 55.81 344 P **P** **09 28 17.3 -1.7**
CCM PcP **PcP** **09 29 19.5 +1.8**
BLO Bloomington 55.81 349 P **P** **09 28 16.3 -2.7**
BLO IAMs_20 IAMs_20 09 53 24.3
comp=Z,191µm,20.0s
BLO Bloomington 55.81 349 P **P** **09 28 16.3 -2.7**
BLO pmax pmax
comp=Z,4µm,1.8s
BLO MLR MLR
comp=Z,191µm,20.0s
P49A Miami Univ. Ec 55.85 351 P **P** **09 28 15.9 -3.3**
P49A IAmb IAmb 09 28 33.9
comp=Z,2µm,1.3s
P49A Miami Univ. Ec 55.85 351 P **P** **09 28 16.7 -2.6**
baz=168,SNR=163
P49A S **S** **09 36 00.3 -3.9**
baz=168
P49A Miami Univ. Ec 55.85 351 P **P** **09 28 15.7 -3.5**
baz=168,SNR=163
P49A S **S** **09 36 00.7 -3.5**
baz=168
PANJ Princeton 55.89 360 P **P** **09 28 19.0 -0.5**
baz=180,SNR=71
PANJ S **S** **09 36 07.6 +3.0**
baz=180
P48A Milroy 55.90 350 P **P** **09 28 16.7 -2.9**
P48A IAmb IAmb 09 28 23.1
comp=Z,1µm,1.3s
P48A Milroy 55.90 350 P **P** **09 28 16.8 -2.8**
baz=168,SNR=123
P48A P **P** **09 28 16.8 -2.8**
baz=168,SNR=123
P48A S **S** **09 36 01.0 -3.8**
baz=168
P48A S **S** **09 36 01.0 -3.8**
baz=168
PABK Blue Knob Stat 55.90 356 P **P** **09 28 16.9 -2.7**
baz=176
PABK S **S** **09 36 05.3 +0.4**
baz=176
O54A Avella 55.95 355 P **P** **09 28 17.6 -2.5**
O54A Avella 55.95 355 P **P** **09 28 17.5 -2.5**
baz=173,SNR=27
O54A P **P** **09 28 17.5 -2.5**
baz=173,SNR=27
O54A S **S** **09 36 03.3 -2.2**
baz=173
O54A S **S** **09 36 03.3 -2.2**
baz=173
CSTR Hydro, Custer 56.03 336 P **P** **09 28 18.8 -1.9**
O52A Adamsville 56.04 353 IAMs_20 IAMs_20 09 53 44.3
comp=Z,210µm,22.0s
O52A Adamsville 56.04 353 P **P** **09 28 18.3 -2.3**
baz=172,SNR=58
O52A P **P** **09 28 18.3 -2.3**
baz=172,SNR=58
O52A S **S** **09 36 01.5 -5.1**
baz=172
O52A S **S** **09 36 01.5 -5.1**
baz=172
CPRX Cap Rock 56.05 330 P **P** **09 28 19.5 -1.5**
S39A Bolivar 56.05 342 P **P** **09 28 18.7 -2.0**
baz=158,SNR=1000
S39A S **S** **09 36 04.8 -2.1**
baz=158

OK048 Pawnee Station 56.07 338 IAMs_20 IAMs_20 09 53 04.9
comp=Z,167µm,22.0s
Q44A Meyer Farm, Va 56.07 346 P **P** **09 28 19.0 -1.8**
baz=163,SNR=535
Q44A S **S** **09 36 04.5 -2.6**
baz=163
O53A New Philadelph 56.10 354 P **P** **09 28 19.4 -1.7**
baz=172,SNR=62
O53A S **S** **09 36 04.1 -3.4**
baz=172
SLM Saint Louis 56.10 345 P **P** **09 28 19.4 -1.7**
baz=162,SNR=104
SLM S **S** **09 36 00.0 -7.5**
baz=162
OK051 E0350 and S346 56.11 338 IAMs_20 IAMs_20 09 52 31.0
comp=Z,139µm,22.0s
BRNJ Basking Ridge 56.19 0 P **P** **09 28 22.5 +0.8**
baz=180,SNR=32
BRNJ S **S** **09 36 10.4 +1.8**
baz=180
UPAO U. Pittsburgh 56.22 355 P **P** **09 28 20.8 -1.0**
baz=174
UPAO S **S** **09 36 05.8 -3.3**
baz=174
SSPA Standing Stone 56.23 357 P **P** **09 28 20.6 -1.3**
SSPA Standing Stone 56.23 357 P **P** **09 28 21.4 -0.6**
baz=176
SSPA S **S** **09 36 08.8 -0.4**
baz=176
SSPA Standing Stone 56.23 357 P **P** **09 28 21.6 -0.3**
baz=176,SNR=81
SSPA S **S** **09 36 05.3 -3.8**
baz=176
SSPA Standing Stone 56.23 357 P **P** **09 28 21.0 -0.9**
ACSO Alum Creek Sta 56.29 352 IAMs_20 IAMs_20 09 52 50.7
comp=Z,171µm,22.0s
ACSO Alum Creek Sta 56.29 352 P **P** **09 28 20.3 -2.1**
baz=170,SNR=150
ACSO S **S** **09 36 06.3 -3.7**
baz=170
ACSO Alum Creek Sta 56.29 352 P **P** **09 28 20.5 -1.9**
baz=170,SNR=150
ACSO S **S** **09 36 05.7 -4.3**
baz=170
R40A Maddies Statio 56.31 343 P **P** **09 28 20.7 -1.9**
baz=160,SNR=821
R40A S **S** **09 36 06.1 -4.2**
baz=160
MSTX Muleshoe 56.31 332 P **P** **09 28 21.0 -1.9**
MSTX IAmb IAmb 09 28 36.9
comp=Z,2µm,1.6s
MSTX Muleshoe 56.31 332 P **P** **09 28 21.2 -1.6**
baz=147,SNR=232
MSTX S **S** **09 36 07.7 -3.1**
baz=147
MSTX Muleshoe 56.31 332 P **P** **09 28 21.6 -1.2**
baz=147,SNR=232
MSTX S **S** **09 36 11.0 +0.2**
baz=147
SRIG Santa Rosalia 56.32 319 P **P** **09 28 21.4 -1.5**
SRIG IAmb IAmb 09 28 26.3
comp=Z,3µm,2.0s
SRIG Santa Rosalia 56.32 319 ⇑P **P** **09 28 22.6 -0.2**
EPT El Paso 56.35 327 IAMs_20 IAMs_20 09 51 28.3
comp=Z,153µm,19.0s
KIDD KIDD Seismic O 56.35 327 P **P** **09 28 21.5 -1.6**
baz=142,SNR=45
KIDD S **S** **09 36 08.7 -2.7**
baz=142
T35B Sooner Cattle 56.37 339 P **P** **09 28 22.0 -1.0**
baz=155,SNR=996
T35B S **S** **09 36 11.1 -0.1**
baz=155
P46A Rosedale 56.38 348 IAMs_20 IAMs_20 09 53 21.1
comp=Z,184µm,21.0s
P46A Rosedale 56.38 348 P **P** **09 28 20.4 -2.5**
baz=166,SNR=78
P46A S **S** **09 36 06.7 -4.4**
baz=166
FOR Fordham 56.38 1 P **P** **09 28 21.3 -1.6**
baz=181,SNR=24
FOR S **S** **09 36 12.3 +1.2**
baz=181
N58A Sunbury 56.38 358 P **P** **09 28 22.8 -0.3**
baz=178,SNR=102
N58A P **P** **09 28 22.8 -0.3**
baz=178,SNR=102
N58A S **S** **09 36 09.4 -1.8**
baz=178
N58A S **S** **09 36 09.4 -1.8**
baz=178
O49A Covington 56.44 351 P **P** **09 28 20.9 -2.6**
baz=169,SNR=138
O49A P **P** **09 28 20.9 -2.6**
baz=169,SNR=138
O49A S **S** **09 36 08.4 -3.5**
baz=169
O49A S **S** **09 36 08.4 -3.5**
baz=169
N62A Caumsett State 56.45 1 P **P** **09 28 22.3 -1.1**
baz=181
N62A P **P** **09 28 22.3 -1.1**
baz=181
N62A S **S** **09 36 08.2 -3.9**
baz=181
N62A S **S** **09 36 08.2 -3.9**
baz=181
BLOK Blackwell 56.48 338 IAMs_20 IAMs_20 09 53 16.6
comp=Z,154µm,22.0s
PAL Palisades 56.52 1 P **P** **09 28 22.7 -1.3**
baz=181,SNR=23
PAL S **S** **09 36 12.4 -0.6**
baz=181
PAL Palisades 56.52 1 P **P** **09 28 22.6 -1.3**
baz=181,SNR=23
PAL S **S** **09 36 13.9 +1.0**
baz=181
ODNJ Ogdensburg 56.59 360 P **P** **09 28 24.0 -0.5**
baz=180,SNR=32
ODNJ S **S** **09 36 13.8 -0.1**
baz=180
AMTX Amarillo 56.60 333 P **P** **09 28 23.3 -1.6**
baz=148
AMTX S **S** **09 36 10.2 -4.3**
baz=148
AMTX Amarillo 56.60 333 P **P** **09 28 22.8 -2.1**
baz=148,SNR=104
AMTX S **S** **09 36 07.8 -6.7**
baz=148
N53A Lisbon 56.62 354 P **P** **09 28 22.7 -2.0**
baz=173,SNR=44
N53A P **P** **09 28 22.7 -2.0**
baz=173,SNR=44
N53A S **S** **09 36 12.7 -1.6**
baz=173
N53A S **S** **09 36 12.7 -1.6**
baz=173
O48B Farmland 56.63 350 P **P** **09 28 22.5 -2.3**
baz=168,SNR=155
O48B S **S** **09 36 11.5 -3.0**
baz=168
O48B Farmland 56.63 350 P **P** **09 28 21.7 -3.1**
baz=168,SNR=155
O48B S **S** **09 36 11.0 -3.6**
baz=168
PAMR Moraine State 56.68 355 S **S** **09 36 13.2 -2.0**
baz=174
ELIS Ellis County 56.69 336 IAMs_20 IAMs_20 09 54 42.2
comp=Z,142µm,22.0s
WSPT Westport, CT 56.69 1 IAMs_20 IAMs_20 09 53 05.1
comp=Z,199µm,22.0s
HSIG 56.75 322 IAMs_20 IAMs_20 09 51 47.4
comp=Z,125µm,20.0s
HSIG 56.75 322 ⇑P **P** **09 28 25.1 -0.8**
PSDB Penn State Uni 56.77 356 P **P** **09 28 25.2 -0.6**
baz=175
PSDB S **S** **09 36 10.9 -5.4**
baz=175
U32A Winter Ranch, 56.80 337 IAMs_20 IAMs_20 09 54 41.2
comp=Z,147µm,21.0s
U32A Winter Ranch, 56.80 337 P **P** **09 28 24.2 -1.9**
baz=152,SNR=239
U32A S **S** **09 36 16.4 -0.6**
baz=152
PSWB Penn State Wil 56.83 359 P **P** **09 28 26.0 -0.2**
baz=178
PSWB S **S** **09 36 20.8 +3.6**
baz=178

P43A	**Skaggs, Pawnee**	**56.89**	**346**	P	**P**	**09 28 24.9**	**-1.7**
	baz=163,SNR=230						
P43A				S	**S**	**09 36 14.4**	**-3.5**
	baz=163						
N51A	**Ashland**	**56.89**	**353**	IAMs_20	IAMs_20	09 54 23.9	
	comp=Z,185µm,22.0s						
N51A	**Ashland**	**56.89**	**353**	P	**P**	**09 28 24.5**	**-2.1**
	baz=171,SNR=48						
N51A				P	**P**	**09 28 24.5**	**-2.1**
	baz=171,SNR=48						
N51A				S	**S**	**09 36 14.0**	**-3.9**
	baz=171						
N51A				S	**S**	**09 36 14.0**	**-3.9**
	baz=171						
M57A	**Sunshine Farm,**	**56.90**	**358**	P	**P**	**09 28 26.1**	**-0.6**
	baz=177,SNR=101						
M57A				P	**P**	**09 28 26.1**	**-0.6**
	baz=177,SNR=101						
M57A				S	**S**	**09 36 18.3**	**+0.3**
	baz=177						
M57A				S	**S**	**09 36 18.3**	**+0.3**
	baz=177						
BRNY	**Black Rk. Fore**	**56.93**	**1**	P	**P**	**09 28 26.1**	**-0.8**
	baz=181,SNR=16						
BRNY				S	**S**	**09 36 18.0**	**-0.4**
	baz=181						
M63A	**Gales Ferry**	**56.96**	**2**	P	**P**	**09 28 26.9**	**-0.1**
	baz=183,SNR=29						
M63A				P	**P**	**09 28 26.9**	**-0.1**
	baz=183,SNR=29						
M63A				S	**S**	**09 36 18.3**	**-0.5**
	baz=183						
M63A				S	**S**	**09 36 18.3**	**-0.5**
	baz=183						
KSPA	**Keystone Colle**	**57.08**	**359**	P	**P**	**09 28 27.5**	**-0.4**
	baz=179,SNR=97						
KSPA				S	**S**	**09 36 19.6**	**-0.8**
	baz=179						
SFIN	**Lafayette**	**57.09**	**349**	IAMs_20	IAMs_20	09 54 14.1	
	comp=Z,184µm,21.0s						
SFIN	**Lafayette**	**57.09**	**349**	P	**P**	**09 28 25.2**	**-2.8**
	baz=166,SNR=132						
SFIN				S	**S**	**09 36 14.3**	**-6.3**
	baz=166						
SFIN	**Lafayette**	**57.09**	**349**	P	**P**	**09 28 25.5**	**-2.5**
	baz=166,SNR=132						
SFIN				S	**S**	**09 36 16.5**	**-4.0**
	baz=166						
M55A	**Ridgway**	**57.11**	**356**	P	**P**	**09 28 26.9**	**-1.3**
	baz=175,SNR=83						
M55A				P	**P**	**09 28 26.9**	**-1.3**
	baz=175,SNR=83						
M55A				S	**S**	**09 36 19.8**	**-1.1**
	baz=175						
M55A				S	**S**	**09 36 19.8**	**-1.1**
	baz=175						
N49A	**Columbus Grove**	**57.13**	**351**	P	**P**	**09 28 26.6**	**-1.8**
	baz=169,SNR=177						
N49A				P	**P**	**09 28 26.6**	**-1.8**
	baz=169,SNR=177						
N49A				S	**S**	**09 36 16.3**	**-4.8**
	baz=169						
N49A				S	**S**	**09 36 16.3**	**-4.8**
	baz=169						
O44A	**Mansfield**	**57.15**	**347**	IAMs_20	IAMs_20	09 55 19.5	
	comp=Z,140µm,21.0s						
O44A	**Mansfield**	**57.15**	**347**	P	**P**	**09 28 25.3**	**-3.1**
	baz=164,SNR=112						
O44A				S	**S**	**09 36 16.3**	**-5.0**
	baz=164						
M65A	**Busby, Falmout**	**57.19**	**4**	IAMs_20	IAMs_20	09 54 17.3	
	comp=Z,213µm,21.0s						
M65A	**Busby, Falmout**	**57.19**	**4**	P	**P**	**09 28 27.6**	**-1.1**
	baz=185						
M65A				S	**S**	**09 36 22.8**	**+1.1**
	baz=185						
PAOC	**Oil Creek Stat**	**57.22**	**355**	P	**P**	**09 28 27.6**	**-1.4**
	baz=174						
PAOC				S	**S**	**09 36 16.4**	**-5.8**
	baz=174						
M53A	**WI Miller and**	**57.23**	**355**	P	**P**	**09 28 27.1**	**-1.9**
M53A				IAmb	IAmb	09 28 43.8	
	comp=Z,2µm,1.6s						
M53A				IAMs_20	IAMs_20	09 55 08.6	
	comp=Z,209µm,20.0s						
M53A	**WI Miller and**	**57.23**	**355**	P	**P**	**09 28 27.5**	**-1.5**
	baz=173,SNR=59						
M53A				S	**S**	**09 36 21.5**	**-0.8**
	baz=173						
NPNY	**Mohonk Preserv**	**57.27**	**0**	P	**P**	**09 28 29.1**	**-0.2**
	baz=181,SNR=46						
NPNY				S	**S**	**09 36 21.0**	**-1.9**
	baz=181						
N47A	**Urbana**	**57.33**	**350**	P	**P**	**09 28 26.8**	**-3.0**
	baz=167,SNR=150						
N47A				P	**P**	**09 28 26.8**	**-3.0**
	baz=167,SNR=150						
N47A				S	**S**	**09 36 17.6**	**-6.0**
	baz=167						
N47A				S	**S**	**09 36 17.6**	**-6.0**
	baz=167						
ALLY	**Alegheny Colle**	**57.39**	**355**	P	**P**	**09 28 28.4**	**-1.7**
ALLY				IAmb	IAmb	09 28 45.0	
	comp=Z,2µm,1.5s						
ALLY	**Alegheny Colle**	**57.39**	**355**	P	**P**	**09 28 28.2**	**-2.0**
	baz=174,SNR=58						
ALLY				S	**S**	**09 36 19.4**	**-5.1**
	baz=174						
M52A	**Chesterland**	**57.39**	**354**	P	**P**	**09 28 27.5**	**-2.7**
	baz=172,SNR=58						
M52A				P	**P**	**09 28 27.5**	**-2.7**
	baz=172,SNR=58						
M52A				S	**S**	**09 36 20.0**	**-4.6**
	baz=172						
M52A				S	**S**	**09 36 20.0**	**-4.6**
	baz=172						
P40A	**Paris**	**57.41**	**344**	P	**P**	**09 28 28.5**	**-1.8**
	baz=160,SNR=241						
P40A				S	**S**	**09 36 16.3**	**-8.5**
	baz=160						
M50A	**Fremont**	**57.45**	**352**	P	**P**	**09 28 28.3**	**-2.3**
	baz=170,SNR=102						
M50A				P	**P**	**09 28 28.3**	**-2.3**
	baz=170,SNR=102						
M50A				S	**S**	**09 36 21.5**	**-3.8**
	baz=170						
M50A				S	**S**	**09 36 21.5**	**-3.8**
	baz=170						
319A	**Douglas**	**57.54**	**325**	P	**P**	**09 28 30.6**	**-1.0**
319A				IAmb	IAmb	09 28 37.3	
	comp=Z,2µm,1.0s						
319A				IAMs_20	IAMs_20	09 51 17.2	
	comp=Z,215µm,22.0s						
L64A	**Middleborough**	**57.55**	**3**	P	**P**	**09 28 30.7**	**-0.5**
	baz=184,SNR=18						
L64A				P	**P**	**09 28 30.7**	**-0.5**
	baz=184,SNR=18						
L64A				S	**S**	**09 36 27.1**	**+0.6**
	baz=184						
L64A				S	**S**	**09 36 27.1**	**+0.6**
	baz=184						
121A	**Cookes Peak, D**	**57.62**	**327**	IAMs_20	IAMs_20	09 52 41.7	
	comp=Z,187µm,18.0s						
121A	**Cookes Peak, D**	**57.62**	**327**	P	**P**	**09 28 32.0**	**-0.1**
	baz=142,SNR=523						
121A				S	**S**	**09 36 28.0**	**-0.2**
	baz=142						
121A	**Cookes Peak, D**	**57.62**	**327**	P	**P**	**09 28 32.2**	**+0.1**
	baz=142,SNR=523						
121A				S	**S**	**09 36 27.0**	**-1.1**
	baz=142						
L59A	**Walton**	**57.70**	**360**	P	**P**	**09 28 32.2**	**-0.2**
	baz=180,SNR=159						
L59A				P	**P**	**09 28 32.2**	**-0.2**
	baz=180,SNR=159						
L59A				S	**S**	**09 36 31.0**	**+2.4**
	baz=180						
L59A				S	**S**	**09 36 31.0**	**+2.4**
	baz=180						
L56A	**Greenwood**	**57.71**	**357**	P	**P**	**09 28 31.5**	**-1.0**
	baz=177,SNR=84						
L56A				P	**P**	**09 28 31.5**	**-1.0**
	baz=177,SNR=84						
L56A				S	**S**	**09 36 29.3**	**+0.5**
	baz=177						
L56A				S	**S**	**09 36 29.3**	**+0.5**
	baz=177						
BINY	**Binghamton**	**57.72**	**359**	P	**P**	**09 28 32.4**	**-0.2**
	baz=179,SNR=108						
BINY				S	**S**	**09 36 30.8**	**+1.9**
	baz=179						
BINY	**Binghamton**	**57.72**	**359**	P	**P**	**09 28 32.1**	**-0.4**
	baz=179,SNR=108						
BINY				S	**S**	**09 36 29.4**	**+0.5**
	baz=179						
QUA2	**Belchertown**	**57.83**	**2**	P	**P**	**09 28 31.1**	**-2.1**
	baz=183,SNR=26						
QUA2				S	**S**	**09 36 25.5**	**-4.6**
	baz=183						
ERPA	**Erie**	**57.84**	**355**	IAMs_20	IAMs_20	09 53 59.4	
	comp=Z,136µm,22.0s						
ERPA	**Erie**	**57.84**	**355**	P	**P**	**09 28 31.7**	**-1.7**
	baz=174,SNR=70						
ERPA				S	**S**	**09 36 29.2**	**-1.2**
	baz=174						
ERPA	**Erie**	**57.84**	**355**	P	**P**	**09 28 31.6**	**-1.8**
	baz=174,SNR=70						
ERPA				S	**S**	**09 36 30.8**	**+0.4**
	baz=174						
P38A	**Dawn**	**57.91**	**343**	P	**P**	**09 28 31.6**	**-2.3**
	baz=159,SNR=529						
P38A				S	**S**	**09 36 25.6**	**-5.7**
	baz=159						
BCX	**Boston College**	**57.93**	**3**	IAMs_20	IAMs_20	09 53 08.9	
	comp=Z,180µm,21.0s						
WES	**Weston**	**57.97**	**3**	IAMs_20	IAMs_20	09 53 20.1	
	comp=Z,204µm,21.0s						
WES	**Weston**	**57.97**	**3**	P	**P**	**09 28 33.8**	**-0.4**
	baz=184,SNR=26						
WES				S	**S**	**09 36 33.0**	**+1.0**
	baz=184						
L61B	**Northampton**	**57.98**	**2**	IAMs_20	IAMs_20	09 53 17.3	
	comp=Z,165µm,22.0s						
L61B	**Northampton**	**57.98**	**2**	P	**P**	**09 28 33.2**	**-1.1**
	baz=182,SNR=33						
L61B				S	**S**	**09 36 33.1**	**+0.9**
	baz=182						
L61B	**Northampton**	**57.98**	**2**	P	**P**	**09 28 33.1**	**-1.2**
	baz=182,SNR=33						
L61B				S	**S**	**09 36 32.5**	**+0.2**
	baz=182						
WVNY	**West Valley, N**	**58.03**	**356**	P	**P**	**09 28 34.1**	**-0.6**
	baz=176,SNR=135						
WVNY				S	**S**	**09 36 32.1**	**-0.8**
	baz=176						
HRV	**Adam Dziewonsk**	**58.08**	**3**	P	**P**	**09 28 33.8**	**-1.2**
HRV				IAmb	IAmb	09 28 54.5	
	comp=Z,935nm,1.2s						
HRV	**Adam Dziewonsk**	**58.08**	**3**	IAMs_20	IAMs_20	09 53 44.0	
	comp=Z,134µm,22.0s						
HRV	**Adam Dziewonsk**	**58.08**	**3**	P	**P**	**09 28 33.8**	**-1.2**
HRV				pmax	pmax		
	comp=Z,935nm,1.3s						
HRV				MLR	MLR		
	comp=Z,134µm,22.0s						
HRV	**Adam Dziewonsk**	**58.08**	**3**	P	**P**	**09 28 34.5**	**-0.5**
	baz=184						
HRV				S	**S**	**09 36 34.8**	**+1.3**
	baz=184						
HRV	**Adam Dziewonsk**	**58.08**	**3**	P	**P**	**09 28 34.4**	**-0.6**
	baz=184,SNR=32						
HRV				S	**S**	**09 36 25.6**	**-7.9**
	baz=184						
HRV	**Adam Dziewonsk**	**58.08**	**3**	P	**P**	**09 28 34.5**	**-0.5**
L48A	**N Adams**	**58.17**	**351**	P	**P**	**09 28 33.1**	**-2.6**
L48A	**N Adams**	**58.17**	**351**	P	**P**	**09 28 33.6**	**-2.1**
	baz=169,SNR=108						
L48A				P	**P**	**09 28 33.6**	**-2.1**
	baz=169,SNR=108						
L48A				S	**S**	**09 36 30.6**	**-4.1**
	baz=169						
L48A				S	**S**	**09 36 30.6**	**-4.1**
	baz=169						
HCNY	**Howe Caverns**	**58.21**	**0**	P	**P**	**09 28 35.1**	**-0.8**
	baz=180,SNR=129						
HCNY				S	**S**	**09 36 35.8**	**+0.6**
	baz=180						
K62A	**Royalston**	**58.21**	**2**	P	**P**	**09 28 34.9**	**-1.0**
K62A				IAmb	IAmb	09 28 39.1	
	comp=Z,2µm,1.8s						
K62A	**Royalston**	**58.21**	**2**	P	**P**	**09 28 34.3**	**-1.6**
	baz=183,SNR=23						
K62A				P	**P**	**09 28 34.3**	**-1.6**
	baz=183,SNR=23						
K62A				S	**S**	**09 36 34.7**	**-0.6**
	baz=183						
K62A				S	**S**	**09 36 34.7**	**-0.6**
	baz=183						
N41A	**Harden Midland**	**58.22**	**345**	P	**P**	**09 28 33.5**	**-2.5**
N41A				IAmb	IAmb	09 28 39.5	
	comp=Z,1µm,1.0s						
N41A	**Harden Midland**	**58.22**	**345**	P	**P**	**09 28 34.0**	**-2.0**
	baz=162,SNR=282						
N41A				S	S	09 36 24.3	-11
	baz=162						
TRY	**Troy**	**58.25**	**1**	P	**P**	**09 28 35.0**	**-1.1**
TRY				IAmb	IAmb	09 28 39.5	
	comp=Z,2µm,1.6s						
TRY				IAMs_20	IAMs_20	09 55 52.2	
	comp=Z,129µm,19.0s						
TRY	**Troy**	**58.25**	**1**	P	**P**	**09 28 35.4**	**-0.7**
	baz=181,SNR=47						
TRY				S	**S**	**09 36 33.7**	**-1.9**
	baz=181						
M44A	**Midewin, Midew**	**58.25**	**348**	P	**P**	**09 28 32.2**	**-3.9**
M44A				IAmb	IAmb	09 28 36.7	
	comp=Z,2µm,1.9s						
M44A				IAMs_20	IAMs_20	09 54 49.6	
	comp=Z,196µm,22.0s						
M44A	**Midewin, Midew**	**58.25**	**348**	P	**P**	**09 28 33.1**	**-3.1**
	baz=165,SNR=51						
M44A				S	**S**	**09 36 27.6**	**-8.2**
	baz=165						
K57A	**Scipio Center**	**58.27**	**358**	P	**P**	**09 28 34.9**	**-1.4**
K57A	**Scipio Center**	**58.27**	**358**	P	**P**	**09 28 35.5**	**-0.8**
	baz=178,SNR=144						
K57A				S	**S**	**09 36 34.4**	**-1.6**
	baz=178						
Y22A	**Socorro**	**58.30**	**328**	P	**P**	**09 28 36.7**	**-0.2**
	baz=143,SNR=319						
Y22A				S	**S**	**09 36 34.2**	**-2.8**
	baz=143						
DUN6	**Lazy B Ranch**	**58.33**	**326**	P	**P**	**09 28 36.0**	**-1.1**
KSU1	**Kansas State U**	**58.37**	**340**	P	**P**	**09 28 35.3**	**-1.8**
	baz=155,SNR=152						
KSU1				S	**S**	**09 36 33.8**	**-3.6**
	baz=155						
KSU1	**Kansas State U**	**58.37**	**340**	P	**P**	**09 28 35.4**	**-1.7**
	baz=155,SNR=152						
KSU1				S	**S**	**09 36 36.4**	**-1.1**
	baz=155						
Y22D	**IRIS PASSCAL I**	**58.38**	**329**	IAMs_20	IAMs_20	09 54 09.1	
	comp=Z,119µm,20.0s						
Y22D	**IRIS PASSCAL I**	**58.38**	**329**	P	**P**	**09 28 37.5**	**0.0**
	baz=143,SNR=48						
Y22D				S	**S**	**09 36 35.8**	**-2.3**
	baz=143						
Y22D	**IRIS PASSCAL I**	**58.38**	**329**	P	**P**	**09 28 37.2**	**-0.3**
	baz=143,SNR=48						
Y22D				S	**S**	**09 36 37.2**	**-0.9**
	baz=143						
Y22F	**Passcal Instru**	**58.38**	**329**	P	**P**	**09 28 37.5**	**0.0**
	baz=143,SNR=49						
Y22F				S	**S**	**09 36 39.1**	**+1.0**
	baz=143						
AAM	**Ann Arbor**	**58.41**	**352**	IAMs_20	IAMs_20	09 54 28.9	
	comp=Z,240µm,22.0s						
AAM	**Ann Arbor**	**58.41**	**352**	P	**P**	**09 28 35.6**	**-1.7**
	baz=170,SNR=52						
AAM				S	**S**	**09 36 34.5**	**-3.3**
	baz=170						
AAM	**Ann Arbor**	**58.41**	**352**	P	**P**	**09 28 35.2**	**-2.1**
	baz=170,SNR=52						
AAM				S	**S**	**09 36 32.9**	**-4.9**
	baz=170						
R32A	**Long Quarter,**	**58.49**	**338**	P	**P**	**09 28 37.0**	**-1.0**
	baz=153,SNR=849						
R32A				S	**S**	**09 36 38.9**	**-0.2**
	baz=153						
L46A	**Eue Claire**	**58.53**	**350**	P	**P**	**09 28 35.3**	**-2.9**
L46A	**Eue Claire**	**58.53**	**350**	P	**P**	**09 28 35.2**	**-2.9**
	baz=167						
L46A				P	**P**	**09 28 35.2**	**-2.9**
	baz=167						
L46A				S	**S**	**09 36 34.3**	**-5.1**
	baz=167						
L46A				S	**S**	**09 36 34.3**	**-5.1**
	baz=167						
H09W1	**TRISTAN DA CUN**	**58.60**	**124**	P	**P**	**09 28 41.3**	**+2.4**
	SNR=25						
HQIL	**Hanson Quary C**	**58.61**	**348**	IAMs_20	IAMs_20	09 55 44.2	
	comp=Z,201µm,22.0s						
H09N1	**TRISTAN DA CUN**	**58.62**	**124**	P	**P**	**09 28 41.2**	**+2.2**
	SNR=17						
TRIS	**Tristan da Cun**	**58.62**	**124**	P	**P**	**09 28 39.5**	**+0.5**
TRIS				IAmb	IAmb	09 28 43.4	
	comp=Z,2µm,1.2s						
TRIS	**Tristan da Cun**	**58.62**	**124**	⇑P	**P**	**09 28 39.6**	**+0.6**
TRIS				IAmb	IAmb	09 28 44.4	
	comp=Z,2µm,1.4s						
TRIS	**Tristan da Cun**	**58.62**	**124**	⇑P	**P**	**09 28 40.4**	**+1.4**
UNH	**University of**	**58.70**	**3**	P	**P**	**09 28 38.9**	**-0.4**
	baz=184,SNR=17						
UNH				S	**S**	**09 36 40.4**	**-1.1**
	baz=184						
K50A	**Casco**	**58.75**	**353**	IAMs_20	IAMs_20	09 55 18.3	
	comp=Z,216µm,21.0s						
K50A	**Casco**	**58.75**	**353**	P	**P**	**09 28 37.2**	**-2.5**
	baz=171,SNR=52						
K50A				P	**P**	**09 28 37.2**	**-2.5**
	baz=171,SNR=52						
K50A				S	**S**	**09 36 37.1**	**-5.2**
	baz=171						
K50A				S	**S**	**09 36 37.1**	**-5.2**
	baz=171						
H10S3	**ASCENSION HYDR**	**58.76**	**91**	P	**P**	**09 28 38.8**	**-1.3**
	baz=20,slow=74,SNR=9.1						
H10S2	**ASCENSION HYDR**	**58.78**	**91**	P	**P**	**09 28 38.9**	**-1.3**
	baz=200,slow=74,SNR=8.1						
MEDO	**Medina**	**58.78**	**357**	P	**P**	**09 28 38.4**	**-1.5**
MEDO				IAmb	IAmb	09 28 42.0	
	comp=Z,2µm,1.7s						
J56A	**Wolcott**	**58.82**	**358**	P	**P**	**09 28 38.7**	**-1.4**
J56A	**Wolcott**	**58.82**	**358**	P	**P**	**09 28 38.8**	**-1.3**
	baz=178,SNR=98						
J56A				P	**P**	**09 28 38.8**	**-1.3**
	baz=178,SNR=98						
J56A				S	**S**	**09 36 41.2**	**-1.9**
	baz=178						
J56A				S	**S**	**09 36 41.2**	**-1.9**
	baz=178						
J55A	**Hilton**	**58.85**	**357**	P	**P**	**09 28 38.5**	**-1.8**
J55A				IAmb	IAmb	09 28 44.9	
	comp=Z,958nm,0.9s						
J55A	**Hilton**	**58.85**	**357**	P	**P**	**09 28 38.9**	**-1.4**
	baz=176,SNR=70						
J55A				P	**P**	**09 28 38.9**	**-1.4**
	baz=176,SNR=70						
J55A				S	**S**	**09 36 43.1**	**-0.3**
	baz=176						
J55A				S	**S**	**09 36 43.1**	**-0.3**
	baz=176						
ANMO	**Albuquerque**	**58.85**	**330**	P	**P**	**09 28 39.5**	**-1.3**
ANMO	**Albuquerque**	**58.85**	**330**	*c* iP	**P**	**09 28 39.3**	**-1.5**
ANMO				pmax	pmax		
	comp=Z,3µm,3.0s						
ANMO				MLR	MLR		
	comp=Z,75µm,21.0s						
ANMO	**Albuquerque**	**58.85**	**330**	P	**P**	**09 28 40.4**	**-0.4**
	baz=144						
ANMO				S	**S**	**09 36 42.4**	**-1.8**
	baz=144						
ANMO	**Albuquerque**	**58.85**	**330**	P	**P**	**09 28 39.7**	**-1.1**
	baz=144,SNR=695						
ANMO				S	**S**	**09 36 40.5**	**-3.8**
	baz=144						
ANMO	**Albuquerque**	**58.85**	**330**	LR	LR	09 53 24.5	
	comp=Z,75µm,21.0s,baz=198,slow=35						
ANMO	**Albuquerque**	**58.85**	**330**	P	**P**	**09 28 40.3**	**-0.5**
J58A	**Remsen**	**58.87**	**359**	P	**P**	**09 28 39.6**	**-0.9**
	baz=179,SNR=69						
J58A				P	**P**	**09 28 39.6**	**-0.9**
	baz=179,SNR=69						
J58A				S	**S**	**09 36 46.2**	**+2.4**
	baz=179						
J58A				S	**S**	**09 36 46.2**	**+2.4**
	baz=179						
J61A	**Chester**	**58.88**	**2**	P	**P**	**09 28 40.0**	**-0.6**
	baz=182,SNR=40						
J61A				P	**P**	**09 28 40.0**	**-0.6**
	baz=182,SNR=40						
J61A				S	**S**	**09 36 48.1**	**+4.2**
	baz=182						
J61A				S	**S**	**09 36 48.1**	**+4.2**
	baz=182						
ACCN	**Adirondack Com**	**58.90**	**1**	P	**P**	**09 28 40.5**	**-0.2**
	baz=181,SNR=94						
ACCN				S	**S**	**09 36 45.9**	**+1.7**
	baz=181						
J54A	**Appleton**	**58.90**	**357**	P	**P**	**09 28 38.4**	**-2.3**
J54A				IAmb	IAmb	09 28 55.7	
	comp=Z,1µm,1.6s						
J54A	**Appleton**	**58.90**	**357**	P	**P**	**09 28 39.2**	**-1.5**
	baz=176,SNR=32						
J54A				P	**P**	**09 28 39.2**	**-1.5**
	baz=176,SNR=32						
J54A				S	**S**	**09 36 41.7**	**-2.4**
	baz=176						
J54A				S	**S**	**09 36 41.7**	**-2.4**
	baz=176						
SACV	**Santiago Islan**	**58.91**	**61**	P	**P**	**09 28 39.9**	**-1.4**
SACV				IAmb	IAmb	09 28 45.2	
	comp=Z,881nm,0.9s						
SACV	**Santiago Islan**	**58.91**	**61**	⇑P	**P**	**09 28 40.7**	**-0.6**
SACV	**Santiago Islan**	**58.91**	**61**	P	**P**	**09 28 40.8**	**-0.6**
SACV				PcP	**PcP**	**09 29 30.7**	**+0.3**
N38A	**Joes South For**	**58.91**	**344**	P	**P**	**09 28 39.0**	**-1.8**
	baz=159,SNR=276						
N38A				S	**S**	**09 36 40.2**	**-4.2**
	baz=159						
J57A	**Williamstown**	**58.93**	**359**	P	**P**	**09 28 40.0**	**-0.9**
	baz=179,SNR=126						
J57A				P	**P**	**09 28 40.0**	**-0.9**
	baz=179,SNR=126						
J57A				S	**S**	**09 36 46.1**	**+1.5**
	baz=179						
J57A				S	**S**	**09 36 46.1**	**+1.5**
	baz=179						
J59A	**Piesco**	**58.97**	**0**	P	**P**	**09 28 40.6**	**-0.6**
	baz=180						
J59A				P	**P**	**09 28 40.6**	**-0.6**
	baz=180						
J59A				S	**S**	**09 36 43.4**	**-1.7**
	baz=180						
J59A				S	**S**	**09 36 43.4**	**-1.7**
	baz=180						
L44A	**Lake County Fo**	**58.98**	**348**	P	**P**	**09 28 38.8**	**-2.5**
L44A				IAMs_20	IAMs_20	09 55 55.1	
	comp=Z,215µm,22.0s						
L44A	**Lake County Fo**	**58.98**	**348**	P	**P**	**09 28 38.3**	**-3.1**
	baz=165,SNR=46						
L44A				S	**S**	**09 36 37.9**	**-7.4**
	baz=165						
L44A	**Lake County Fo**	**58.98**	**348**	P	**P**	**09 28 38.2**	**-3.1**
	baz=165,SNR=46						
L44A				S	**S**	**09 36 40.9**	**-4.4**
	baz=165						
TUC	**Tucson**	**59.08**	**324**	P	**P**	**09 28 41.0**	**-1.3**
TUC				IAMs_20	IAMs_20	09 54 00.5	
	comp=Z,182µm,19.0s						
TUC	**Tucson**	**59.08**	**324**	P	**P**	**09 28 41.0**	**-1.3**
TUC				pmax	pmax		
	comp=Z,544nm,1.1s						
TUC				MLR	MLR		
	comp=Z,182µm,19.0s						
TUC	**Tucson**	**59.08**	**324**	P	**P**	**09 28 42.2**	**0.0**
	baz=139						
TUC				S	**S**	**09 36 45.7**	**-1.4**
	baz=139						
TUC	**Tucson**	**59.08**	**324**	P	**P**	**09 28 41.9**	**-0.4**
H10N3	**ASCENSION HYDR**	**59.17**	**90**	P	**P**	**09 28 42.1**	**-0.7**
	baz=142,slow=74,SNR=12						
L42A	**Oliver, Polo**	**59.18**	**347**	P	**P**	**09 28 40.0**	**-2.7**
L42A	**Oliver, Polo**	**59.18**	**347**	P	**P**	**09 28 39.6**	**-3.0**
	baz=163,SNR=98						
L42A				S	**S**	**09 36 43.4**	**-4.4**
	baz=163						
H10N2	**ASCENSION HYDR**	**59.19**	**90**	P	**P**	**09 28 42.3**	**-0.7**
	baz=312,slow=74,SNR=8.3						
H10N1	**ASCENSION HYDR**	**59.19**	**90**	P	**P**	**09 28 42.3**	**-0.7**
	SNR=13						
CBKS	**Cedar Bluff**	**59.22**	**337**	P	**P**	**09 28 42.0**	**-1.0**
	baz=152,SNR=370						

CBKS S S 09 36 48.6 +0.1
baz=152
CBKS Cedar Bluff 59.22 337 P P 09 28 41.8 -1.2
baz=152,SNR=370
CBKS S S 09 36 50.3 +1.8
baz=152
HNH Hanover 59.25 2 IAMs_20 IAMs_20 09 53 42.8
comp=Z,150µm,22.0s
HNH Hanover 59.25 2 P P 09 28 43.0 -0.1
baz=183,SNR=29
HNH S S 09 36 50.7 +2.0
baz=183
ASCN Ascension 59.29 90 P P 09 28 43.7 -0.3
ASCN IAmb IAmb 09 28 49.3
comp=Z,1µm,1.1s
I62A Tamworth 59.46 3 P P 09 28 44.2 -0.3
I62A IAmb IAmb 09 29 04.3
comp=Z,1µm,1.6s
I62A Tamworth 59.46 3 P P 09 28 46.6 +2.0
baz=184,SNR=12
I62A P P 09 28 46.6 +2.0
baz=184,SNR=12
I62A S S 09 36 54.4 +3.1
baz=184
I62A S S 09 36 54.4 +3.1
baz=184
MCVT Middlebury Col 59.48 1 P P 09 28 44.6 -0.1
baz=182,SNR=73
MCVT S S 09 36 52.2 +0.6
baz=182
NCB Newcomb 59.48 0 P P 09 28 43.1 -1.6
NCB IAmb IAmb 09 28 47.7
comp=Z,2µm,1.6s
NCB Newcomb 59.48 0 P P 09 28 43.4 -1.4
baz=180,SNR=86
NCB S S 09 36 53.4 +1.7
baz=180
J47A Sunmer 59.49 351 P P 09 28 42.0 -2.8
J47A Sunmer 59.49 351 P P 09 28 42.4 -2.4
baz=169,SNR=150
J47A P P 09 28 42.4 -2.4
baz=169,SNR=150
J47A S S 09 36 43.9 -7.9
baz=169
J47A S S 09 36 43.9 -7.9
baz=169
WCNY West Carthage 59.50 359 P P 09 28 44.2 -0.6
baz=179,SNR=98
WCNY S S 09 36 52.3 +0.5
baz=179
K43A Burlington 59.57 348 P P 09 28 42.5 -2.9
K43A IAMs_20 IAMs_20 09 56 44.7
comp=Z,199µm,21.0s
K43A Burlington 59.57 348 P P 09 28 43.1 -2.2
baz=165,SNR=119
K43A S S 09 36 46.1 -6.8
baz=165
L40A Anamosa 59.59 346 P P 09 28 43.0 -2.5
baz=162,SNR=208
L40A S S 09 36 49.1 -4.0
baz=162
N35A Tabor 59.67 342 P P 09 28 44.5 -1.5
baz=157,SNR=316
N35A S S 09 36 51.2 -2.9
baz=157
I63A Otisfield 59.67 3 P P 09 28 46.3 +0.3
baz=185,SNR=15
I63A P P 09 28 46.3 +0.3
baz=185,SNR=15
I63A S S 09 36 54.8 +0.7
baz=185
I63A S S 09 36 54.8 +0.7
baz=185
T25A Trinidad 59.69 333 P P 09 28 45.9 -0.7
baz=146,SNR=511
T25A S S 09 36 51.7 -3.4
baz=146
LBNH Lisbon 59.80 2 P P 09 28 46.3 -0.6
LBNH IAmb IAmb 09 28 50.3
comp=Z,2µm,1.7s
LBNH IAMs_20 IAMs_20 09 55 37.3
comp=Z,122µm,21.0s
LBNH Lisbon 59.80 2 P P 09 28 46.3 -0.6
LBNH pmax pmax
comp=Z,2µm,1.7s
LBNH MLR MLR
comp=Z,122µm,21.0s
LBNH Lisbon 59.80 2 P P 09 28 47.0 +0.1
baz=183,SNR=29
LBNH S S 09 36 59.4 +3.7
baz=183
LBNH Lisbon 59.80 2 P P 09 28 46.9 0.0
baz=183,SNR=29
LBNH S S 09 36 58.5 +2.8
baz=183
VT1 Waterbury 59.86 2 IAMs_20 IAMs_20 09 54 13.7
comp=Z,175µm,22.0s
VT1 Waterbury 59.86 2 P P 09 28 48.5 +1.2
baz=182,SNR=15
VT1 S S 09 36 57.1 +0.6
baz=182
I49A Point Hope 59.92 353 P P 09 28 45.6 -2.2
baz=171,SNR=31
I49A P P 09 28 45.6 -2.2
baz=171,SNR=31
I49A S S 09 36 55.1 -2.2
baz=171
I49A S S 09 36 55.1 -2.2
baz=171
SCIA State Center 59.94 344 P P 09 28 46.0 -1.9
SCIA State Center 59.94 344 P P 09 28 46.0 -1.9
baz=159,SNR=85
SCIA S S 09 36 54.3 -3.4
baz=159
SCIA State Center 59.94 344 P P 09 28 45.9 -1.9
baz=159,SNR=85
SCIA S S 09 36 55.0 -2.7
baz=159
214A Organ Pipe Nat 59.98 323 P P 09 28 48.1 -0.3
baz=137,SNR=317
214A S S 09 36 57.0 -1.6
baz=137
DELO Deloro Mine 60.09 357 IAMs_20 IAMs_20 09 55 14.1
comp=Z,189µm,22.0s
N33B J Bar K, Exete 60.13 340 P P 09 28 47.9 -1.3
baz=155,SNR=136
N33B S S 09 36 58.4 -1.7
baz=155
N33A J Bar K, Exete 60.13 340 P P 09 28 46.9 -2.3
LONY Lake Ozonia 60.13 360 IAMs_20 IAMs_20 09 55 44.9
comp=Z,156µm,20.0s
LONY Lake Ozonia 60.13 360 P P 09 28 48.4 -0.8
baz=180,SNR=109
LONY S S 09 37 01.2 +1.2
baz=180
H62A Milan 60.16 3 P P 09 28 48.9 -0.5
baz=184,SNR=22
H62A P P 09 28 48.9 -0.5
baz=184,SNR=22
H62A S S 09 37 03.4 +3.0
baz=184
H62A S S 09 37 03.4 +3.0
baz=184
JFWS Jewell Farm 60.17 347 IAMs_20 IAMs_20 09 56 15.5
comp=Z,141µm,22.0s
JFWS Jewell Farm 60.17 347 P P 09 28 47.3 -2.2
baz=163,SNR=112
JFWS S S 09 36 55.0 -5.6
baz=163
JFWS Jewell Farm 60.17 347 P P 09 28 47.8 -1.7
baz=163,SNR=112
JFWS S S 09 36 54.3 -6.3
baz=163
X18A Snowflake 60.30 327 P P 09 28 49.9 -0.9
FRNY Flat Rock 60.35 1 P P 09 28 49.4 -1.2
FRNY Flat Rock 60.35 1 P P 09 28 49.2 -1.4
baz=181,SNR=126
FRNY S S 09 37 04.0 +1.3
baz=181
SADO Sadowa 60.42 356 P P 09 28 49.2 -1.9
SADO Sadowa 60.42 356 ⇑P P 09 28 49.1 -2.0
SADO Sadowa 60.42 356 LR LR 09 55 11.7
comp=Z,139µm,21.7s,baz=167,slow=36
SADO PKP2bc 09 58 19.9
comp=Z,32nm,1.2s,baz=278,slow=3.5,SNR=4.6
I45A Fountain 60.49 350 P P 09 28 48.8 -2.8
baz=167,SNR=14
I45A P P 09 28 48.8 -2.8
baz=167,SNR=14
I45A S S 09 37 00.1 -4.5
baz=167
I45A S S 09 37 00.1 -4.5
baz=167
KSCO Kaye Shedlock' 60.51 335 P P 09 28 51.2 -0.9
baz=149,SNR=214
KSCO S S 09 37 05.4 +0.1
baz=149
KSCO Kaye Shedlock' 60.51 335 P P 09 28 51.0 -1.0
baz=149,SNR=214
KSCO S S 09 37 05.6 +0.2
baz=149
K38A Parkersburg 60.52 345 P P 09 28 50.1 -1.8
baz=160,SNR=87
K38A S S 09 37 00.7 -4.4
baz=160
EMMW East Machias 60.56 6 P P 09 28 53.0 +0.9
baz=188,SNR=18
EMMW S S 09 37 02.1 -3.4
baz=188
W18A Petrified Fore 60.64 327 P P 09 28 52.2 -0.9
W18A IAMs_20 IAMs_20 09 54 07.3
comp=Z,180µm,20.0s
W18A Petrified Fore 60.64 327 P P 09 28 52.9 -0.2
baz=141,SNR=183
W18A S S 09 37 08.4 +1.1
baz=141
SDCO Great Sand Dun 60.68 332 P P 09 28 52.7 -0.7
baz=146,SNR=1000
SDCO S S 09 37 06.4 -1.4
baz=146
SDCO Great Sand Dun 60.68 332 P P 09 28 53.2 -0.2
baz=146,SNR=1000
SDCO S S 09 37 06.0 -1.8
baz=146
I42A Draeger Farm, 60.83 348 P P 09 28 52.0 -1.9
baz=164,SNR=125
I42A S S 09 37 04.1 -4.9
baz=164
G62A West of Eustis 60.84 3 P P 09 28 53.9 -0.1
baz=185,SNR=70
G62A P P 09 28 53.9 -0.1
baz=185,SNR=70
G62A S S 09 37 09.8 +0.7
baz=185
G62A S S 09 37 09.8 +0.7
baz=185
L34A Svendsen Farm, 60.90 342 P P 09 28 52.5 -2.0
L34A Svendsen Farm, 60.90 342 P P 09 28 52.2 -2.3
baz=156,SNR=364
L34A S S 09 37 05.5 -4.4
baz=156
BGNE Belgrade 60.96 340 P P 09 28 53.6 -1.4
baz=154,SNR=325
BGNE S S 09 37 06.3 -4.5
baz=154
BGNE Belgrade 60.96 340 P P 09 28 53.9 -1.1
baz=154,SNR=325
BGNE S S 09 37 09.4 -1.4
baz=154
PKME Peaks-Kenny Pk 60.96 4 P P 09 28 54.9 +0.1
baz=186,SNR=35
PKME S S 09 37 13.0 +2.5
baz=186
PKME Peaks-Kenny Pk 60.96 4 P P 09 28 54.5 -0.3
baz=186,SNR=35
PKME S S 09 37 13.0 +2.5
baz=186
X16A Lo Mia Camp, P 61.02 325 IAMs_20 IAMs_20 09 55 37.4
comp=Z,169µm,20.0s
GLMI Grayling 61.02 352 P P 09 28 53.3 -1.9
GLMI Grayling 61.02 352 P P 09 28 53.2 -2.0
baz=169,SNR=32
GLMI S S 09 37 06.6 -4.8
baz=169
GLMI Grayling 61.02 352 P P 09 28 53.0 -2.2
baz=169,SNR=32
GGN Saint George 61.03 6 P P 09 28 54.8 -0.4
GGN IAmb IAmb 09 28 58.8
comp=Z,2µm,1.5s
G65A Princeton 61.04 6 P P 09 28 55.2 -0.1
baz=188,SNR=42
G65A P P 09 28 55.2 -0.1
baz=188,SNR=42
G65A S S 09 37 16.5 +4.9
baz=188
G65A S S 09 37 16.5 +4.9
baz=188
113A Mohawk Valley, 61.12 323 IAMs_20 IAMs_20 09 54 10.2
comp=Z,119µm,21.0s
H43A Windswept, Lux 61.17 349 P P 09 28 54.3 -1.9
H43A IAmb IAmb 09 29 10.6
comp=Z,1µm,1.2s
H43A IAMs_20 IAMs_20 09 58 07.1
comp=Z,219µm,21.0s
H43A Windswept, Lux 61.17 349 P P 09 28 54.0 -2.3
baz=166,SNR=61
H43A S S 09 37 08.2 -5.1
baz=166
I40A Norwalk 61.19 347 IAMs_20 IAMs_20 09 56 55.3
comp=Z,128µm,22.0s
I40A Norwalk 61.19 347 P P 09 28 54.3 -2.1
baz=162,SNR=148
I40A S S 09 37 08.8 -4.7
baz=162
GAC Glen Almond 61.22 359 ⇑P P 09 28 55.6 -0.9
S22A 4UR Ranch, Cre 61.28 331 P P 09 28 57.2 -0.4
baz=144,SNR=462
S22A S S 09 37 11.9 -3.7
baz=144
G45A Suttons Bay 61.38 351 P P 09 28 55.3 -2.3
baz=168,SNR=9.4
G45A P P 09 28 55.3 -2.3
baz=168,SNR=9.4
G45A S S 09 37 11.4 -4.5
baz=168
G45A S S 09 37 11.4 -4.5
baz=168
F63A Nahmakanta, Br 61.41 4 P P 09 28 57.3 -0.5
baz=186,SNR=12
F63A P P 09 28 57.3 -0.5
baz=186,SNR=12
F63A S S 09 37 16.0 -0.3
baz=186
F63A S S 09 37 16.0 -0.3
baz=186
Q24A Divide 61.53 333 P P 09 28 58.4 -0.8
baz=146,SNR=620
Q24A S S 09 37 14.1 -4.6
baz=146
Y14A Wickenburg 61.53 324 P P 09 28 58.2 -0.8
Y14A IAmb IAmb 09 29 04.8
comp=Z,747nm,1.0s
F64A Sherman 61.63 5 P P 09 28 58.8 -0.5
baz=187,SNR=51
F64A P P 09 28 58.8 -0.5
baz=187,SNR=51
F64A S S 09 37 19.2 +0.2
baz=187
F64A S S 09 37 19.2 +0.2
baz=187
MVCO Mesa Verde 61.65 330 P P 09 28 59.2 -0.8
baz=143,SNR=486
MVCO S S 09 37 19.9 -0.2
baz=143
TRQ Mont Tremblant 61.73 0 P P 09 28 58.1 -2.0
TRQ IAmb IAmb 09 29 15.5
comp=Z,1µm,1.3s
WUAZ Wupatki 61.81 326 IAMs_20 IAMs_20 09 54 20.3
comp=Z,132µm,21.0s
WUAZ Wupatki 61.81 326 P P 09 29 00.9 0.0
baz=139,SNR=667
WUAZ S S 09 37 23.3 +1.2
baz=139
OGNE Ogallala 61.94 337 P P 09 29 00.8 -0.9
baz=150,SNR=277
OGNE S S 09 37 21.7 -1.6
baz=150
OGNE Ogallala 61.94 337 P P 09 29 00.4 -1.2
baz=150,SNR=277
OGNE S S 09 37 21.7 -1.6
baz=150
I37B Waseca 61.96 345 P P 09 28 59.4 -2.3
baz=160,SNR=120
I37B S S 09 37 21.0 -2.3
baz=160
LMN Caledonia Moun 62.00 8 P P 09 29 01.1 -0.6
comp=Z,1µm,1.5s
E63A Oxbow 62.18 5 P P 09 29 02.2 -0.8
baz=187,SNR=41
E63A P P 09 29 02.2 -0.8
baz=187,SNR=41
E63A S S 09 37 25.2 -0.7
baz=187
E63A S S 09 37 25.2 -0.7
baz=187
BLYC Blythe 62.27 323 IAMs_20 IAMs_20 09 55 53.5
comp=Z,123µm,20.0s
G40A Rib Lake 62.41 348 P P 09 29 02.5 -2.1
G40A IAmb IAmb 09 29 06.4
comp=Z,1µm,1.9s
G40A IAMs_20 IAMs_20 09 57 51.8
comp=Z,202µm,21.0s
G40A Rib Lake 62.41 348 P P 09 29 02.4 -2.3
baz=163,SNR=56
G40A S S 09 37 26.4 -2.6
baz=163
ISCO Idaho Springs 62.42 333 P P 09 29 04.4 -0.8
baz=146,SNR=355
ISCO S S 09 37 29.6 -0.4
baz=146
ISCO Idaho Springs 62.42 333 P P 09 29 04.3 -0.8
baz=146,SNR=355
ISCO S S 09 37 28.4 -1.6
baz=146
IKP In-Ko-Pah, Jac 62.44 321 P P 09 29 05.3 +0.1
baz=134,SNR=236
IKP S S 09 37 29.2 -0.8
baz=134
PDMCI Parker Dam,Lak 62.45 324 P P 09 29 04.7 -0.3
baz=136,SNR=108
PDMCI S S 09 37 33.1 +3.3
baz=136
SWSC Sam W. Stewart 62.46 321 P P 09 29 05.1 -0.1
baz=134,SNR=204
SWSC S S 09 37 32.7 +2.7
baz=134
PQI Presque Isle 62.46 5 IAMs_20 IAMs_20 09 56 54.0
comp=Z,174µm,22.0s
F42A Maple Grove Fa 62.49 349 P P 09 29 02.9 -2.2
baz=165,SNR=47
F42A S S 09 37 25.8 -4.1
baz=165
E46A Sault Ste Mari 62.50 352 P P 09 29 02.5 -2.6
baz=170,SNR=99
E46A S S 09 37 27.7 -2.2
baz=170
K30B Basset 62.58 339 P P 09 29 04.9 -0.9
baz=153,SNR=621
K30B S S 09 37 27.9 -3.4
baz=153
ECSD EROS Data Cent 62.58 342 P P 09 29 04.0 -1.8
ECSD EROS Data Cent 62.58 342 P P 09 29 04.1 -1.7
baz=156,SNR=1000
ECSD S S 09 37 26.3 -5.0
baz=156
ECSD EROS Data Cent 62.58 342 P P 09 29 04.2 -1.6
baz=156,SNR=1000
ECSD S S 09 37 26.3 -5.0
baz=156
BC3 Big Chuckawall 62.75 322 P P 09 29 07.2 -0.1
baz=135,SNR=254
BC3 S S 09 37 35.1 +1.2
baz=135
D62A Allapoint, All 62.79 4 P P 09 29 06.9 -0.1
baz=186,SNR=112
D62A P P 09 29 06.9 -0.1
baz=186,SNR=112
D62A S S 09 37 35.8 +2.2
baz=186
D62A S S 09 37 35.8 +2.2
baz=186
MONP2 Monument Peak 62.80 321 P P 09 29 07.7 0.0
baz=134,SNR=299
MONP2 S S 09 37 35.8 +1.1
baz=134
W13A Hualapai Mount 62.88 324 P P 09 29 07.4 -0.8
W13A IAmb IAmb 09 29 25.5
comp=Z,966nm,1.8s
E43A Lone Tree Farm 62.89 350 P P 09 29 05.7 -2.0
baz=167,SNR=39
E43A S S 09 37 28.0 -7.0
baz=167
IRM Iron Mountain 62.92 323 P P 09 29 08.5 +0.2
baz=136,SNR=756
IRM S S 09 37 36.3 +0.4
baz=136
SPMN Marine on St. 62.95 346 P P 09 29 06.5 -1.7
baz=160,SNR=241
SPMN S S 09 37 30.7 -5.0
baz=160
SPMN Marine on St. 62.95 346 P P 09 29 06.6 -1.5
baz=160,SNR=241
SPMN S S 09 37 33.5 -2.2
baz=160
U15A North Rim 62.98 326 IAMs_20 IAMs_20 09 55 07.0
comp=Z,178µm,20.0s
NEE2 Needles Airpor 63.05 324 P P 09 29 09.3 +0.2
baz=136
NEE2 S S 09 37 40.0 +2.6
baz=136
LMQ La Malbaie 63.17 3 P P 09 29 08.5 -1.1
LMQ IAmb IAmb 09 29 12.5
comp=Z,860nm,1.4s
109C Camp Elliot, M 63.21 320 P P 09 29 09.8 -0.3
baz=133,SNR=142
109C S S 09 37 40.5 +1.0
baz=133
BATG Bathurst New B 63.25 6 P P 09 29 09.5 -0.6
BATG IAmb IAmb 09 29 13.5
comp=Z,1µm,1.3s
PMD Palm Desert 63.29 322 IAMs_20 IAMs_20 09 51 23.7
comp=Z,122µm,22.0s
TPFO Pinon Flats 63.31 321 P P 09 29 11.1 +0.1
baz=134,SNR=1000
TPFO S S 09 37 44.9 +4.0
baz=134
BELC Belle Mtn. Jos 63.31 322 P P 09 29 10.7 -0.3
baz=135
BELC S S 09 37 45.0 +4.0
baz=135
PFO Pinyon Flats O 63.32 321 P P 09 29 09.5 -1.5
PFO IAmb IAmb 09 29 17.2
comp=Z,1µm,1.1s
PFO Pinyon Flats O 63.32 321 IAMs_20 IAMs_20 09 51 32.2
comp=Z,115µm,22.0s
PFO Pinyon Flats O 63.32 321 P P 09 29 09.5 -1.5
PFO pmax pmax
comp=Z,1µm,1.1s
PFO Pinyon Flats O 63.32 321 P P 09 29 11.0 -0.1
baz=134,SNR=857
PFO S S 09 37 44.0 +3.0
baz=134
PFO Pinyon Flats O 63.32 321 P P 09 29 11.5 +0.5
HMU Henry Mountain 63.33 329 P P 09 29 10.1 -1.1
N23A Red Feather La 63.47 334 P P 09 29 10.4 -1.6
N23A IAmb IAmb 09 29 19.1
comp=Z,565nm,1.1s
N23A Red Feather La 63.47 334 P P 09 29 11.3 -0.7
baz=146,SNR=113
N23A S S 09 37 41.3 -1.7
baz=146
LDAQ Lac Daran 63.54 3 P P 09 29 11.0 -1.2
LDAQ IAmb IAmb 09 29 28.1
comp=Z,2µm,1.3s
PHWY Pilot Hill 63.60 334 P P 09 29 11.8 -1.2
GMRC Granite Mounta 63.66 323 P P 09 29 13.3 0.0
baz=135,SNR=316
GMRC S S 09 37 49.2 +3.9
baz=135
VLDQ Val d'Or 63.67 358 P P 09 29 11.9 -1.0
VLDQ IAmb IAmb 09 29 15.5
comp=Z,2µm,1.5s
KNB Kanab 63.71 326 P P 09 29 12.8 -0.8
KNB IAMs_20 IAMs_20 09 55 40.5
comp=Z,148µm,20.0s
KNB Kanab 63.71 326 P P 09 29 12.8 -0.8
KNB pmax pmax
comp=Z,2µm,1.3s
F36A Milaca 63.72 345 P P 09 29 11.5 -1.8
F36A Milaca 63.72 345 P P 09 29 11.6 -1.6
baz=160,SNR=527
F36A S S 09 37 40.3 -5.0
baz=160

MURC Murrieta 63.75 321 P **P** **09 29 13.8 0.0**
baz=134,SNR=293
MURC S **S** **09 37 49.7 +3.5**
baz=134
PKCU Pink Cliffs 63.76 327 IAMs_20 IAMs_20 09 56 04.8
comp=Z,148µm,20.0s
D41A Chassel 63.82 349 IAMs_20 IAMs_20 09 59 35.2
comp=Z,174µm,21.0s
D41A Chassel 63.82 349 P **P** **09 29 12.2 -1.7**
baz=165,SNR=42
D41A S **S** **09 37 42.9 -3.6**
baz=165
O20A White River Ci 63.86 332 P **P** **09 29 14.0 -0.6**
baz=144,SNR=445
O20A S **S** **09 37 49.0 +1.3**
baz=144
LCMT Little Creek M 63.93 326 IAMs_20 IAMs_20 09 55 36.3
comp=Z,158µm,21.0s
SUSD Miller 63.94 341 P **P** **09 29 13.1 -1.7**
baz=154,SNR=272
SUSD S **S** **09 37 45.1 -3.1**
baz=154
SUSD Miller 63.94 341 P **P** **09 29 12.7 -2.1**
baz=154,SNR=272
SUSD S **S** **09 37 46.9 -1.3**
baz=154
E38A The Farm, Brul 63.97 347 P **P** **09 29 12.5 -2.4**
baz=162,SNR=105
E38A S **S** **09 37 43.8 -4.6**
baz=162
BBRC Big Bear Solar 64.04 322 P **P** **09 29 16.2 +0.3**
baz=134,SNR=102
BBRC S **S** **09 37 51.7 +1.4**
baz=134
HEC Hector,Ludlow 64.09 322 P **P** **09 29 16.3 +0.3**
baz=135,SNR=238
HEC S **S** **09 37 53.0 +2.4**
baz=135
MTPU Mount Pierson 64.14 328 IAMs_20 IAMs_20 09 56 47.0
comp=Z,149µm,18.0s
TAOE Nuku Hiva Isla 64.22 268 P **P** **09 29 18.7 +1.3**
TUQ Turquoise Moun 64.28 323 P **P** **09 29 17.3 -0.1**
baz=135,SNR=94
TUQ S **S** **09 37 54.7 +1.8**
baz=135
SZCU Shurtz Canyon 64.28 327 IAMs_20 IAMs_20 09 56 09.6
comp=Z,156µm,20.0s
MBO M'Bour 64.36 65 P **P** **09 29 18.9 +0.8**
CIS Catalina Islan 64.36 320 P **P** **09 29 17.9 +0.1**
baz=132,SNR=99
CIS S **S** **09 37 57.0 +3.2**
baz=132
F33A 5 Mile Ranch, 64.42 343 P **P** **09 29 16.3 -1.6**
F33A 5 Mile Ranch, 64.42 343 P **P** **09 29 16.4 -1.6**
baz=157,SNR=454
F33A S **S** **09 37 53.1 -0.9**
baz=157
BFSC Mount Baldy Ra 64.47 321 P **P** **09 29 18.5 -0.1**
baz=133,SNR=306
BFSC S **S** **09 37 58.7 +3.4**
baz=133
FMP Fort Macarthur 64.50 320 P **P** **09 29 19.2 +0.6**
baz=133,SNR=28
FMP S **S** **09 37 59.3 +3.9**
baz=133
RRX Edison Barstow 64.51 322 P **P** **09 29 19.2 +0.4**
baz=134
RRX S **S** **09 37 58.1 +2.5**
baz=134
GSC Goldstone, Bar 64.70 323 P **P** **09 29 20.4 +0.4**
baz=134,SNR=334
GSC S **S** **09 37 59.3 +1.3**
baz=134
TCRU Three Creeks R 64.71 328 IAMs_20 IAMs_20 09 57 16.7
comp=Z,176µm,19.0s
SHOC Shoshone, Teco 64.81 323 P **P** **09 29 20.4 -0.2**
baz=135,SNR=284
SHOC S **S** **09 38 02.9 +3.7**
baz=135
DECC Green Verdugo 64.89 321 P **P** **09 29 21.6 +0.3**
baz=133,SNR=134
DECC S **S** **09 38 03.3 +3.0**
baz=133
SNCC San Nicolas Is 64.95 319 P **P** **09 29 20.8 -0.8**
SNCC IAmb IAmb 09 29 26.8
comp=Z,665nm,1.1s
SNCC San Nicolas Is 64.95 319 P **P** **09 29 21.6 0.0**
baz=132,SNR=31
SNCC S **S** **09 38 02.3 +1.2**
baz=132
EDW2 Edwards Air Fo 65.11 321 P **P** **09 29 22.3 -0.4**
baz=133,SNR=352
EDW2 S **S** **09 38 05.3 +2.2**
baz=133
BELA Belgrano 2 65.13 171 P **P** **09 29 22.0 -0.2**
BELA IAmb IAmb 09 29 28.8
comp=Z,704nm,1.1s
K22A Casper 65.17 335 P **P** **09 29 21.4 -1.7**
K22A IAmb IAmb 09 29 39.5
comp=Z,1µm,1.2s
K22A Casper 65.17 335 P **P** **09 29 22.2 -0.8**
baz=146,SNR=460
K22A S **S** **09 38 03.7 +0.1**
baz=146
K22A Casper 65.17 335 P **P** **09 29 22.0 -1.0**
baz=146,SNR=460
K22A S **S** **09 38 03.5 -0.2**
baz=146
QSM Queen of Sheba 65.20 323 P **P** **09 29 22.8 -0.4**
QSM IAmb IAmb 09 29 29.0
comp=Z,692nm,1.1s
QSM IAMs_20 IAMs_20 09 57 32.5
comp=Z,97µm,19.0s
PRN Pahroc Range 65.20 325 P **P** **09 29 22.6 -0.7**
PRN IAMs_20 IAMs_20 09 57 16.6
comp=Z,115µm,20.0s
PRN Pahroc Range 65.20 325 ⇑P **P** **09 29 23.5 +0.2**
EYMN Ely 65.23 348 P **P** **09 29 21.3 -1.9**
baz=162,SNR=160
EYMN S **S** **09 38 02.7 -1.3**
baz=162
EYMN Ely 65.23 348 P **P** **09 29 21.7 -1.5**
baz=162,SNR=160
EYMN S **S** **09 38 00.8 -3.2**
baz=162
GWY Greenwater Val 65.24 323 P **P** **09 29 22.2 -1.4**
CCAC Calif City Air 65.31 322 P **P** **09 29 23.1 -0.9**
CCAC IAmb IAmb 09 29 29.9
comp=Z,681nm,1.0s
LRMC Laurel Mtn Rad 65.33 322 P **P** **09 29 24.1 -0.1**
baz=134,SNR=174
LRMC S **S** **09 38 10.5 +4.6**
baz=134
BSUT Blindstream Ca 65.35 330 P **P** **09 29 23.2 -1.3**
BSUT IAmb IAmb 09 29 30.3
comp=Z,2µm,1.2s
OSI Osito Audit: C 65.37 321 P **P** **09 29 24.7 +0.3**
baz=133,SNR=41
OSI S **S** **09 38 08.3 +2.1**
baz=133
MPU Maple Canyon 65.37 329 P **P** **09 29 24.0 -0.5**
MPU IAmb IAmb 09 29 30.1
comp=Z,886nm,1.2s
RSSD Black Hills 65.42 337 P **P** **09 29 23.1 -1.6**
RSSD Black Hills 65.42 337 P **P** **09 29 23.1 -1.6**
RSSD pmax pmax
comp=Z,3µm,1.8s
RSSD MLR MLR
comp=Z,73µm,21.0s
RSSD Black Hills 65.42 337 P **P** **09 29 24.0 -0.7**
baz=149
RSSD S **S** **09 38 06.9 +0.1**
baz=149
RSSD Black Hills 65.42 337 P **P** **09 29 23.9 -0.8**
baz=149,SNR=462
RSSD S **S** **09 38 05.2 -1.6**
baz=149
RSSD Black Hills 65.42 337 P **P** **09 29 23.9 -0.7**
SCZ2 Santa Cruz Isl 65.52 320 P **P** **09 29 25.4 +0.1**
baz=132,SNR=32
SCZ2 S **S** **09 38 09.7 +1.7**
baz=132
TPNV Topopah Spring 65.53 324 P **P** **09 29 25.4 -0.1**
TPNV IAmb IAmb 09 29 31.9
comp=Z,1µm,1.1s
TPNV Topopah Spring 65.53 324 P **P** **09 29 25.4 -0.1**
TPNV pmax pmax
comp=Z,1µm,1.2s
TPNV Topopah Spring 65.53 324 P **P** **09 29 25.9 +0.4**
baz=136,SNR=492
TPNV S **S** **09 38 12.8 +4.4**
baz=136
NLU North Lily Min 65.54 329 P **P** **09 29 25.1 -0.5**
NLU IAmb IAmb 09 29 29.1
comp=Z,3µm,1.9s
NLU IAMs_20 IAMs_20 09 57 30.9
comp=Z,116µm,19.0s
FURC Furnace Creek, 65.54 323 P **P** **09 29 25.7 +0.4**
baz=135
FURC S **S** **09 38 12.4 +4.3**
baz=135
MPMC Manual Prospec 65.62 323 P **P** **09 29 26.1 -0.1**
baz=134
MPMC S **S** **09 38 12.9 +3.3**
baz=134
ARVC Arvin 65.78 321 P **P** **09 29 27.0 0.0**
baz=133,SNR=124
ARVC S **S** **09 38 12.4 +1.3**
baz=133
D32B Dogwood Acres, 65.81 343 P **P** **09 29 25.9 -0.9**
baz=156,SNR=101
D32B S **S** **09 38 09.1 -1.9**
baz=156
SBC Santa Barbara 65.86 320 P **P** **09 29 27.7 +0.3**
baz=132,SNR=15
SBC S **S** **09 38 14.3 +2.2**
baz=132
SHEL Horse Pasture 65.90 101 P **P** **09 29 28.1 -0.1**
SHEL IAmb IAmb 09 29 36.5
comp=Z,718nm,1.1s
SHEL Horse Pasture 65.90 101 P **P** **09 29 28.1 -0.1**
SHEL pmax pmax
comp=Z,718nm,1.2s
SHEL Horse Pasture 65.90 101 ⇑P **P** **09 29 27.9 -0.3**
SHEL Horse Pasture 65.90 101 ⇑P **P** **09 29 28.3 +0.1**
ISA Isabella, Lake 65.93 322 P **P** **09 29 28.1 +0.1**
baz=133,SNR=348
ISA S **S** **09 38 15.3 +2.2**
baz=133
SPR3 Spring Creek 3 65.97 327 IAMs_20 IAMs_20 09 58 41.2
comp=Z,141µm,20.0s
DUG Dugway, Tooele 66.09 329 P **P** **09 29 28.4 -0.6**
DUG IAMs_20 IAMs_20 09 59 19.4
comp=Z,128µm,20.0s
DUG Dugway, Tooele 66.09 329 P **P** **09 29 28.4 -0.6**
DUG pmax pmax
comp=Z,2µm,1.1s
DUG MLR MLR
comp=Z,128µm,20.0s
DUG Dugway, Tooele 66.09 329 P **P** **09 29 29.1 +0.1**
baz=140,SNR=1000
DUG S **S** **09 38 17.5 +2.5**
baz=140
TCUT Toone Canyon 66.11 330 P **P** **09 29 28.9 -0.3**
TCUT IAmb IAmb 09 29 36.8
comp=Z,1µm,1.0s
TCUT IAMs_20 IAMs_20 09 57 06.0
comp=Z,111µm,21.0s
B35A Bob, Littlefor 66.11 346 IAMs_20 IAMs_20 10 01 05.8
comp=Z,162µm,21.0s
B35A Bob, Littlefor 66.11 346 P **P** **09 29 27.0 -1.8**
baz=160,SNR=316
B35A S **S** **09 38 11.7 -3.0**
baz=160
R11B Troy Canyon, C 66.17 326 P **P** **09 29 29.3 -0.3**
R11B IAmb IAmb 09 29 33.7
comp=Z,3µm,1.8s
R11B Troy Canyon, C 66.17 326 P **P** **09 29 29.9 +0.3**
baz=136,SNR=574
R11B S **S** **09 38 18.4 +2.2**
baz=136
GRAC Grapevine Rang 66.20 324 P **P** **09 29 30.1 +0.4**
baz=135,SNR=84
GRAC S **S** **09 38 18.0 +1.7**
baz=135
PKM Mcpherson Peak 66.22 320 P **P** **09 29 30.1 +0.1**
baz=132,SNR=403
PKM S **S** **09 38 19.0 +2.1**
baz=132
CWC Cottonwood Cre 66.23 323 P **P** **09 29 30.2 +0.2**
baz=134
CWC S **S** **09 38 19.1 +2.2**
baz=134
Q12A Willow Creek R 66.27 327 IAMs_20 IAMs_20 09 57 03.0
comp=Z,119µm,21.0s
E28A Huff 66.40 341 P **P** **09 29 30.3 -0.4**
baz=153,SNR=374
E28A S **S** **09 38 18.0 -0.2**
baz=153
VES Vestal, Richgr 66.42 322 P **P** **09 29 31.0 0.0**
baz=133,SNR=336
VES S **S** **09 38 22.2 +3.4**
baz=133
DRLN Deer Lake 66.52 12 P **P** **09 29 30.0 -1.3**
DRLN IAmb IAmb 09 29 34.1
comp=Z,2µm,1.4s
DRLN Deer Lake 66.52 12 ⇑P **P** **09 29 30.6 -0.7**
BW06 Boulder Array 66.56 333 P **P** **09 29 30.6 -1.5**
BW06 IAmb IAmb 09 29 46.5
comp=Z,765nm,1.2s
BW06 Boulder Array 66.56 333 P **P** **09 29 30.7 -1.4**
baz=143,SNR=415
BW06 S **S** **09 38 20.7 -0.2**
baz=143
PD31 Pinedale Array 66.56 333 P **P** **09 29 30.6 -1.5**
PDAR Pinedale Array 66.56 333 P **P** **09 29 30.6 -1.5**
comp=Z,214nm,1.0s,baz=137,slow=6.6,SNR=186
PDAR S **S** **09 38 16.8 -4.0**
comp=Z,1.2nm,0.9s,baz=231,slow=49,SNR=1.9
PDAR PKP2bc 09 58 05.3
comp=Z,14nm,1.0s,baz=288,slow=0.9,SNR=8.3
PDAR LR LR 10 02 05.5
comp=Z,59µm,18.2s,baz=136,slow=39
PDAR P4KPbc 10 06 19.4
comp=Z,2.8nm,1.0s,baz=114,slow=3.7,SNR=7.8
comp=Z,214nm,1.0s
HWUT Hardware Ranch 66.57 331 IAMs_20 IAMs_20 09 57 21.0
comp=Z,128µm,22.0s
SMMC Simmler 66.61 321 P **P** **09 29 32.8 +0.5**
baz=132,SNR=329
SMMC S **S** **09 38 23.9 +2.5**
baz=132
TIN Tinemaha, Big 66.74 323 P **P** **09 29 33.7 +0.5**
baz=134,SNR=109
TIN S **S** **09 38 26.2 +3.2**
baz=134
BGU Big Grassy Mou 66.75 329 IAMs_20 IAMs_20 09 59 50.8
comp=Z,103µm,21.0s
TPH Tonopah 66.88 324 P **P** **09 29 33.5 -0.7**
TPH Tonopah 66.88 324 P **P** **09 29 33.5 -0.7**
TPH pmax pmax
comp=Z,3µm,1.1s
VOG Valley Oaks Go 66.92 322 P **P** **09 29 33.3 -0.9**
baz=133,SNR=22
VOG S **S** **09 38 25.4 +0.5**
baz=133
VNA3 Neumayer Olymp 67.16 161 ⇑P **P** **09 29 35.7 +0.4**
comp=Z,953nm,0.9s
MDND Maddock 67.20 342 P **P** **09 29 35.2 -0.6**
baz=154,SNR=251
MDND S **S** **09 38 27.8 0.0**
baz=154
MDND Maddock 67.20 342 P **P** **09 29 35.6 -0.2**
baz=154,SNR=251
MDND S **S** **09 38 28.4 +0.6**
baz=154
AHID Auburn Hatcher 67.25 332 IAMs_20 IAMs_20 10 02 20.2
comp=Z,112µm,21.0s
Q09A Carvers 67.39 325 IAMs_20 IAMs_20 09 59 44.6
comp=Z,116µm,21.0s
VNA1 Neumayer--Stat 67.42 161 ⇑P **P** **09 29 38.2 +1.4**
comp=Z,1µm,0.9s
VNA1 ⇑S S 09 38 53.3 +23
comp=Z,22nm,0.2s
MLAC Mammoth, Mammo 67.49 323 P **P** **09 29 38.6 +0.5**
baz=134,SNR=239
MLAC S **S** **09 38 35.2 +3.0**
baz=134
LOHW Long Hollow 67.70 333 IAMs_20 IAMs_20 09 59 54.0
comp=Z,149µm,22.0s
ELK Elko 67.73 328 LR LR 10 00 03.3
comp=Z,172µm,18.2s,baz=136,slow=37
NVAR Mina Array Bea 67.73 324 P **P** **09 29 39.2 -0.4**
comp=Z,217nm,1.1s,baz=144,slow=6.7,SNR=203
NVAR S **S** **09 38 34.6 -0.4**
comp=Z,4.3nm,1.0s,baz=357,slow=1.4,SNR=1.3
NVAR PKP2bc 09 58 00.5
comp=Z,30nm,1.1s,baz=276,slow=2.4,SNR=19
NVAR LR LR 09 59 00.4
comp=Z,46µm,19.2s,baz=118,slow=36
NVAR P4KPbc 10 06 28.2
comp=Z,2.2nm,0.9s,baz=127,slow=3.7,SNR=9.1
comp=Z,217nm,1.1s
MOOW Moose Ponds 67.87 333 IAMs_20 IAMs_20 09 59 58.5
comp=Z,125µm,22.0s
H07S1 FLORES T-PHASE 68.20 35 eP P 09 29 46.8 +4.5
comp=Z,1µm,1.4s
H07S1 eS **S** **09 38 44.0 +3.8**
H07S1 FLORES T-PHASE 68.20 35 P **P** **09 29 43.8 +1.5**
SNR=18
H17A Grant Village 68.30 333 IAMs_20 IAMs_20 10 01 27.1
comp=Z,171µm,22.0s
H17A Grant Village 68.30 333 P **P** **09 29 43.1 0.0**
baz=143,SNR=197
H17A S **S** **09 38 42.1 +0.3**
baz=143
RLMT Red Lodge 68.33 334 P **P** **09 29 42.4 -0.8**
baz=144,SNR=644
RLMT S **S** **09 38 44.1 +2.2**
baz=144
ULM Lac du Bonnet 68.39 345 P **P** **09 29 41.3 -1.9**
ULM IAmb IAmb 09 29 47.1
comp=Z,682nm,0.9s
ULM IAMs_20 IAMs_20 10 02 26.9
comp=Z,109µm,20.0s
ULM Lac du Bonnet 68.39 345 P **P** **09 29 41.3 -1.9**
ULM pmax pmax
comp=Z,682nm,0.9s
ULM MLR MLR
comp=Z,109µm,20.0s
ULM Lac du Bonnet 68.39 345 ⇑P **P** **09 29 41.1 -2.0**
ULM Lac du Bonnet 68.39 345 P **P** **09 29 41.2 -1.9**
comp=Z,411nm,0.8s,baz=157,slow=5.9,SNR=299
ULM S **S** **09 38 33.3 -8.6**
comp=Z,5.7nm,0.9s,baz=356,slow=16,SNR=0.8
ULM PKP2bc 09 57 57.4
comp=Z,26nm,1.0s,baz=346,slow=5.0,SNR=12
ULM LR LR 10 02 37.9
comp=Z,122µm,20.8s,baz=144,slow=39
comp=Z,411nm,0.8s
LAO LASA Array 68.41 337 P **P** **09 29 42.6 -0.8**
baz=147,SNR=116
LAO S **S** **09 38 42.4 -0.1**
baz=147
LAO LASA Array 68.41 337 P **P** **09 29 43.0 -0.5**
baz=147,SNR=116
LAO S **S** **09 38 43.0 +0.4**
baz=147
SAO San Andreas Ge 68.45 321 ⇑P **P** **09 29 43.6 -0.3**
YFT Old Faithful 68.46 333 IAMs_20 IAMs_20 10 02 08.3
comp=Z,99µm,19.0s
H07N1 FLORES T-PHASE 68.47 35 eP **P** **09 29 45.6 +1.7**
comp=Z,466nm,1.0s
H07N1 eS **S** **09 38 42.8 -0.6**
H07N1 FLORES T-PHASE 68.47 35 P **P** **09 29 43.6 -0.3**
SNR=21
BMN Battle Mountai 68.55 326 P **P** **09 29 43.6 -1.0**
BMN IAMs_20 IAMs_20 09 57 59.3
comp=Z,105µm,22.0s
BMN Battle Mountai 68.55 326 P **P** **09 29 43.6 -1.0**
BMN pmax pmax
comp=Z,473nm,1.4s
CALA Caldeira 69.07 37 eP **P** **09 29 50.7 +2.9**
comp=Z,1µm,1.5s
CALA eS **S** **09 38 52.3 +1.6**
HOR Horta 69.08 37 eP **P** **09 29 50.7 +3.0**
comp=Z,599nm,1.6s
HOR eS **S** **09 38 49.8 -0.7**
PCED Cedros 69.10 37 eP P 09 29 52.4 +4.5
comp=Z,813nm,1.0s
PCED eS **S** **09 38 51.3 +0.4**
PCAN Candelaria 69.12 37 eP **P** **09 29 49.6 +1.6**
comp=Z,590nm,1.4s
PCAN eS **S** **09 38 53.8 +2.7**
PICO Pico 69.18 37 eP **P** **09 29 50.5 +2.1**
comp=Z,588nm,1.0s
PICO eS **S** **09 38 57.8 +5.9**
DGMT Dagmar 69.21 339 P **P** **09 29 47.2 -1.1**
DGMT IAmb IAmb 09 29 53.9
comp=Z,1µm,0.9s
DGMT Dagmar 69.21 339 IAMs_20 IAMs_20 10 04 31.3
comp=Z,89µm,20.0s
DGMT Dagmar 69.21 339 P **P** **09 29 48.0 -0.3**
baz=150,SNR=274
DGMT S **S** **09 38 51.2 -0.6**
baz=150
DGMT Dagmar 69.21 339 P **P** **09 29 48.5 +0.2**
baz=150,SNR=274
DGMT S **S** **09 38 53.2 +1.4**
baz=150
PAHR Pah Rah Range 69.22 324 S **PKiKP** **09 36 12.9 +7.2**
baz=179
PPNO Prainha do Nor 69.25 37 eP **P** **09 29 53.6 +4.7**
comp=Z,653nm,1.2s
PPNO eS **S** **09 38 55.6 +2.8**
PID Ribeirinha 69.32 37 eP P 09 29 55.5 +6.3
comp=Z,540nm,1.1s
PID eS **S** **09 38 55.6 +2.1**
SNAA Sanae 69.38 161 LR LR 09 56 57.9
comp=Z,186µm,21.4s,baz=287,slow=33
HLID Hailey 69.42 330 IAMs_20 IAMs_20 10 03 41.5
comp=Z,104µm,22.0s
HLID Hailey 69.42 330 P **P** **09 29 49.9 -0.1**
baz=139,SNR=673
HLID S **S** **09 38 57.4 +2.6**
baz=139
ROSA Rosais 69.43 37 eP **P** **09 29 52.7 +2.8**
comp=Z,1µm,1.2s
ROSA eS **S** **09 38 57.9 +3.1**
ROSA Rosais 69.43 37 ⇑P **P** **09 29 50.8 +0.9**
PMAN Manadas 69.46 37 eP **P** **09 29 52.7 +2.6**
comp=Z,935nm,1.1s
PMAN eS **S** **09 38 59.5 +4.4**
BOZ Bozeman (W) 69.71 333 P **P** **09 29 51.1 -0.6**
BOZ IAmb IAmb 09 30 06.9
comp=Z,2µm,1.8s
BOZ IAMs_20 IAMs_20 10 01 31.3
comp=Z,114µm,22.0s
BOZ Bozeman (W) 69.71 333 P **P** **09 29 51.1 -0.6**
BOZ pmax pmax
comp=Z,2µm,1.8s
BOZ MLR MLR
comp=Z,114µm,22.0s
BOZ Bozeman (W) 69.71 333 P **P** **09 29 51.1 -0.6**
baz=142,SNR=533
BOZ S **S** **09 39 00.2 +2.1**
baz=142
PGRA Graciosa 69.79 37 eP P 09 30 00.1 +8.0
comp=Z,1µm,1.1s
PGRA eS S 09 39 08.5 +10
PLTX Planet X, Gerl 69.96 325 IAMs_20 IAMs_20 10 01 26.6
comp=Z,105µm,21.0s
ADH Angra Heroismo 69.98 38 eP **P** **09 29 54.0 +0.7**
MFID Camas Ranch 69.99 329 IAMs_20 IAMs_20 10 00 11.7
comp=Z,105µm,19.0s
PSBA Serra de Santa 70.00 38 eP **P** **09 29 57.0 +3.6**
comp=Z,887nm,1.2s
PSBA eS **S** **09 39 05.9 +4.4**
PSCM Serra do Cume 70.08 38 eP **P** **09 29 58.2 +4.3**
comp=Z,633nm,1.6s
PSCM eS **S** **09 39 02.4 0.0**
PAGU Agualva, Azore 70.08 38 eP **P** **09 29 55.1 +1.2**
comp=Z,678nm,0.9s
PAGU eS **S** **09 39 06.3 +3.9**
PSMA Santa Maria 70.19 40 eP **P** **09 29 57.6 +3.0**
comp=Z,382nm,1.1s
PSMA eS **S** **09 39 05.9 +2.2**
MCCM Marconi Confer 70.22 321 ⇑P **P** **09 29 54.8 +0.1**
PSMN Pico do Norte, 70.23 40 eP **P** **09 29 56.4 +1.5**
comp=Z,455nm,1.4s
PSMN eS **S** **09 39 05.5 +1.2**
PDA Ponta Delgada 70.33 39 eP **P** **09 29 55.8 +0.3**
comp=Z,673nm,0.9s
PDA eS **S** **09 39 07.0 +1.6**
CMLA Cha da Macela 70.43 39 eP **P** **09 29 57.3 +1.2**
comp=Z,762nm,0.8s
CMLA eS **S** **09 39 12.2 +5.6**
CMLA Cha da Macela 70.43 39 P **P** **09 29 55.7 -0.4**
CMLA IAmb IAmb 09 30 01.1
comp=Z,914nm,1.1s
CMLA Cha da Macela 70.43 39 P **P** **09 29 55.7 -0.4**
CMLA pmax pmax

comp=Z,914nm,1.1s
CMLA Cha da Macela 70.43 39 ⇑P **P 09 29 56.5 +0.4**
CMLA Cha da Macela 70.43 39 P **P 09 29 56.6 +0.4**
PCALD Caldeiras da R 70.47 39 *e*P **P 09 29 58.8 +2.5**
comp=Z,707nm,1.2s
PCALD *e*S **S 09 39 07.8 +0.7**
PGRON Lagoa das Cont 70.53 40 *e*P **P 09 30 00.4 +3.7**
comp=Z,761nm,1.1s
PGRON *e*S **S 09 39 05.9 -1.9**
GDXM Geysers 70.59 322 P **P 09 29 56.8 -0.4**
BART Pico Bartolome 70.66 40 *e*P **P 09 29 58.8 +1.2**
comp=Z,2µm,1.3s
BART *e*S **S 09 39 14.2 +4.8**
SCHQ Schefferville 70.66 5 P **P 09 29 56.1 -1.0**
comp=Z,507nm,1.0s,baz=184,slow=4.9,SNR=46
SCHQ S **S 09 39 00.1 -8.5**
comp=Z,8.4nm,1.0s,baz=347,slow=15,SNR=1.4
SCHQ LR LR 10 01 59.7
comp=Z,87µm,21.1s,baz=195,slow=37
comp=Z,507nm,1.0s
WVOR Wild Horse Val 70.72 327 P **P 09 29 57.1 -0.8**
WVOR IAmb IAmb 09 30 01.0
comp=Z,2µm,2.0s
WVOR Wild Horse Val 70.72 327 P **P 09 29 57.1 -0.8**
WVOR pmax pmax
comp=Z,2µm,2.0s
WVOR MLR MLR
comp=Z,63µm,19.0s
EGMT Eagleton 70.87 336 P **P 09 29 57.6 -1.1**
EGMT Eagleton 70.87 336 P **P 09 29 57.6 -1.1**
baz=144,SNR=317
EGMT S **S 09 39 11.7 +0.2**
baz=144
TROLL Troll, Antarti 71.10 161 ⇑P **P 09 30 00.7 +0.9**
comp=Z,60µm,1.1s
BPMT Black Pine Rid 71.16 333 P **P 09 30 00.4 -0.3**
J08A Circle Bar Ran 71.28 328 IAMs_20 IAMs_20 10 02 13.8
comp=Z,135µm,19.0s
PLID Pearl Lake 71.31 330 IAMs_20 IAMs_20 10 01 10.6
comp=Z,90µm,21.0s
PPTF Pamatai, Papee 71.39 256 IAMs_20 IAMs_20 09 52 41.5
comp=Z,106µm,22.0s
PPTF Pamatai, Papee 71.39 256 P **P 09 30 05.4 +3.0**
PPTF Pamatai, Papee 71.39 256 ⇑P **P 09 30 04.0 +1.6**
PPTF Pamatai, Papee 71.39 256 P **P 09 30 05.4 +3.0**
PPT Papeete 71.40 256 P **P 09 30 03.8 +1.4**
comp=Z,277nm,1.1s,baz=98,slow=6.8,SNR=32
PPT S **S 09 39 22.2 +3.6**
comp=Z,6.6nm,0.5s,baz=21,slow=22,SNR=0.9
PPT LR LR 09 53 38.7
comp=Z,77µm,20.6s,baz=108,slow=29
comp=Z,277nm,1.1s
OVMT Ovando 71.45 333 P **P 09 30 01.8 -0.4**
MSO Missoula 71.68 333 IAMs_20 IAMs_20 10 01 07.4
comp=Z,93µm,22.0s
MSO Missoula 71.68 333 P **P 09 30 03.6 +0.1**
baz=140,SNR=327
MSO S **S 09 39 24.5 +3.5**
baz=140
BMO Blue Mountains 71.77 329 IAMs_20 IAMs_20 10 01 44.7
comp=Z,86µm,19.0s
EOSO Osorio 71.87 53 P **P 09 30 04.2 -1.0**
EOSO S **S 09 39 25.5 +1.7**
LIC Lamto 72.23 78 *e*P **P 09 30 06.9 -0.6**
comp=Z,1µm,0.9s
I07A Izee 72.32 328 IAMs_20 IAMs_20 10 02 57.3
comp=Z,140µm,19.0s
TIC Toumodi 72.37 78 *e*P **P 09 30 07.8 -0.5**
comp=Z,255nm,0.9s
YBH Yreka Blue Hor 72.45 324 IAMs_20 IAMs_20 10 02 22.6
comp=Z,84µm,20.0s
YBH Yreka Blue Hor 72.45 324 LR LR 10 02 23.9
comp=Z,44µm,18.3s,baz=131,slow=36
DBIC Dimbokro 72.53 78 P **P 09 30 08.6 -0.7**
DBIC IAmb IAmb 09 30 13.3
comp=Z,1µm,0.9s
DBIC Dimbokro 72.53 78⇑*i*P **P 09 30 06.2 -3.0**
DBIC Dimbokro 72.53 78 P **P 09 30 08.6 -0.7**
comp=Z,1µm,0.9s,baz=238,slow=5.7,SNR=288
DBIC S **S 09 39 27.1 -4.7**
comp=Z,8.9nm,1.1s,baz=141,slow=21,SNR=1.0
DBIC PKPPKP 09 57 53.8
comp=Z,10.0nm,1.0s,baz=79,slow=4.3,SNR=4.2
DBIC LR LR 10 00 44.2
comp=Z,683µm,19.4s,baz=231,slow=35
comp=Z,1µm,0.9s
KIC Kosan Boka 72.54 78 *e*P **P 09 30 09.0 -0.3**
comp=Z,1µm,0.9s
F10A Beach Branch, E 72.55 330 ⇑P **P 09 30 08.6 -0.2**
PMOZ Porto Moniz, M 73.09 48 *e*P **P 09 30 12.9 +0.6**
comp=Z,802nm,1.6s
PMOZ *e*S **S 09 39 34.0 -3.6**
PMOZ *e*LQ LQ 09 48 50.9
PMOZ *e*LR LR 09 54 38.4
comp=Z,194µm,20.0s
PMOZ Porto Moniz, M 73.09 48 P **P 09 30 11.6 -0.7**
PMOZ Porto Moniz, M 73.09 48 P **P 09 30 11.0 -1.3**
PMOZ Porto Moniz, M 73.09 48 ⇑P **P 09 30 13.2 +0.9**
HUMO Hull Mountain 73.17 325 IAMs_20 IAMs_20 10 02 56.5
comp=Z,91µm,20.0s
HUMO Hull Mountain 73.17 325 ⇑P **P 09 30 11.2 -1.3**
FUL Funchal 73.21 48 *e*P **P 09 30 13.6 +0.7**
comp=Z,681nm,1.8s
PMAR Madeira 73.24 48 *e*P **P 09 30 13.3 0.0**
comp=Z,1µm,1.4s
E09A Wood Farm, Sta 73.38 330 P **P 09 30 12.7 -0.9**
E09A IAMs_20 IAMs_20 10 02 23.3
comp=Z,97µm,21.0s
K02D Willamette Mer 73.62 325 IAMs_20 IAMs_20 10 03 12.5
comp=Z,101µm,20.0s
G06A Carlson Farm, 73.71 328 IAMs_20 IAMs_20 10 03 59.9
comp=Z,99µm,20.0s
E08A Dider Farm, El 73.80 330 IAMs_20 IAMs_20 10 03 17.5
comp=Z,132µm,21.0s
PMPS Porto Santo 73.83 48 *e*P **P 09 30 18.8 +2.3**
comp=Z,2µm,1.9s
PMPST Porto Santo, M 73.84 48 *e*P **P 09 30 16.5 -0.1**
comp=Z,2µm,1.8s
HAWA Hanford 73.97 329 IAMs_20 IAMs_20 10 03 12.7
comp=Z,133µm,20.0s
FFC Flin Flon 74.02 344 P **P 09 30 15.4 -1.7**
FFC Flin Flon 74.02 344 IAMs_20 IAMs_20 10 05 07.7
comp=Z,147µm,22.0s
FFC Flin Flon 74.02 344 P **P 09 30 15.4 -1.7**
FFC pmax pmax
comp=Z,1µm,1.8s
FFC MLR MLR
comp=Z,147µm,22.0s
FFC Flin Flon 74.02 344 ⇑P **P 09 30 15.4 -1.7**
FFC ⇑P **P 09 30 18.7 +1.6**
NVL N'lazarevskaya 74.02 160 *e*P **P 09 30 16.2 -0.8**
NVL *e* 09 33 00.3
NVL *e*PPP PPP 09 34 48.7
NVL *e*S **S 09 39 47.1 +0.3**
NVL *e*SS **SS 09 44 35.9 +4.5**
NVL pmax pmax
comp=Z,3µm,2.0s
NVL smax smax
comp=E,17µm,9.7s
I03D Drain, OR 74.10 325 P **P 09 30 17.6 -0.3**
H04A Detroit Lake 74.14 327 IAMs_20 IAMs_20 10 04 01.2
comp=Z,90µm,21.0s
D08A Wollman Farm, 74.14 330 IAMs_20 IAMs_20 10 02 56.4
comp=Z,97µm,21.0s
NEW Newport 74.18 332 P **P 09 30 17.7 -0.6**
baz=138,SNR=201
NEW S **S 09 39 49.1 -0.1**
baz=138
NEW Newport 74.18 332 LR LR 10 05 13.1
comp=Z,62µm,20.1s,baz=130,slow=38
E07A Sunnyside 74.24 329 IAMs_20 IAMs_20 10 02 28.0
comp=Z,145µm,20.0s
HOOD Mount Hood Mea 74.29 328 IAMs_20 IAMs_20 10 04 20.2
comp=Z,103µm,19.0s
QSPA South Pole Qui 74.36 180 P **P 09 30 19.6 +0.3**
QSPA IAmb IAmb 09 30 25.9
comp=Z,1µm,1.1s
QSPA South Pole Qui 74.36 180 P **P 09 30 19.6 +0.3**
comp=Z,588nm,1.0s,baz=146,slow=2.8,SNR=258
QSPA S **S 09 39 48.4 -2.6**
comp=Z,6.5nm,0.9s,baz=2.1,slow=18,SNR=1.3
QSPA PKKPbc **PKKPbc 09 49 49.4 -1.3**
comp=Z,8.0nm,1.0s,baz=15,slow=3.8,SNR=4.3
QSPA PKPPKP **P'P'df 09 57 46.9 -5.4**
comp=Z,40nm,1.0s,baz=263,slow=1.5,SNR=9.1
QSPA LR LR 10 00 01.0
comp=Z,98µm,18.6s,baz=160,slow=33
comp=Z,588nm,1.0s
COR Corvallis 74.66 326 P **P 09 30 21.4 +0.3**
COR Corvallis 74.66 326 P **P 09 30 21.4 +0.3**
COR pmax pmax
comp=Z,6µm,1.9s
COR MLR MLR
comp=Z,73µm,20.0s
F04A Amboy 75.10 328 IAMs_20 IAMs_20 10 03 01.7
comp=Z,86µm,22.0s
LTY Liberty 75.13 329 IAMs_20 IAMs_20 10 03 57.4
comp=Z,141µm,20.0s
HEBO Mount Hebo 75.32 326 IAMs_20 IAMs_20 10 05 40.5
comp=Z,91µm,20.0s
LON Longmire 75.34 329 IAMs_20 IAMs_20 10 04 27.2
comp=Z,133µm,20.0s
F03A Seaside 75.69 327 IAMs_20 IAMs_20 10 04 09.3
comp=Z,93µm,22.0s
D05A Enumclaw 75.73 329 IAMs_20 IAMs_20 10 04 48.5
comp=Z,148µm,21.0s
FCC Fort Churchill 76.00 350 P **P 09 30 26.9 -1.5**
FCC IAmb IAmb 09 30 30.7
comp=Z,1µm,1.4s
FCC Fort Churchill 76.00 350 P **P 09 30 26.9 -1.5**
FCC pmax pmax
comp=Z,1µm,1.4s
E03A Lebam 76.10 328 IAMs_20 IAMs_20 10 03 44.2
comp=Z,92µm,21.0s
RADR Rader Ridge 76.14 327 IAMs_20 IAMs_20 10 05 20.2
comp=Z,89µm,20.0s
B06A Marblemount 76.40 330 IAMs_20 IAMs_20 10 04 15.1
comp=Z,137µm,21.0s
EDM Edmonton 76.40 337 P **P 09 30 29.4 -1.5**
EDM Edmonton 76.40 337 P **P 09 30 29.4 -1.5**
EDM pmax pmax
comp=Z,2µm,1.0s
EDM MLR MLR
comp=Z,80µm,22.0s
GNW Green Mountain 76.41 329 IAMs_20 IAMs_20 10 05 21.3
comp=Z,124µm,21.0s
WISH Wishkah 76.58 328 IAMs_20 IAMs_20 10 04 18.0
comp=Z,130µm,21.0s
NLWA Neilton Lookou 76.82 328 IAMs_20 IAMs_20 10 04 36.2
comp=Z,119µm,21.0s
PGC Sidney 77.44 329 P **P 09 30 36.2 -0.6**
C03A Quillayute Air 77.54 328 IAMs_20 IAMs_20 10 05 09.2
comp=Z,112µm,21.0s
ELIB Princess Elisa 77.54 162 *d*P **P 09 30 37.7 +0.4**
comp=Z,232nm,1.2s
ELIB *d*PP **PP 09 33 31.5 -0.5**
ELIB *d*SKiKP **SKiKP 09 39 49.0 +0.9**
ELIB *d*S **S 09 40 26.1 +0.1**
ELIB *d*SbSb **SS 09 45 20.6 -4.3**
CLRS Cowichan Lake 77.89 329 P **P 09 30 38.5 -0.8**
CLRS IAmb IAmb 09 30 43.3
comp=Z,2µm,1.8s
CLRS IAMs_20 IAMs_20 10 05 34.7
comp=Z,99µm,21.0s
BRLDA Berland Lookou 78.62 336 IAMs_20 IAMs_20 10 09 42.0
comp=Z,88µm,21.0s
OZB Mount Ozzard 78.67 329 IAMs_20 IAMs_20 10 06 03.2
comp=Z,105µm,20.0s
CBB Campbell River 79.30 329 P **P 09 30 46.7 -0.4**
CBB IAmb IAmb 09 30 52.7
comp=Z,808nm,1.1s
CBB IAMs_20 IAMs_20 10 06 36.7
comp=Z,84µm,21.0s
FRB Frobisher Bay 79.43 3 ⇑P **P 09 30 46.1 -1.4**
FRB Frobisher Bay 79.43 3 LR LR 10 06 04.1
comp=Z,152µm,21.6s,baz=184,slow=36
IVI Ivigtut 79.59 13 P **P 09 30 47.4 -1.0**
IVI IAmb IAmb 09 30 51.2
comp=Z,1µm,1.2s
IVI Ivigtut 79.59 13 *i*P **P 09 30 50.0 +1.6**
IVI IAmb IAmb 09 30 51.6
comp=Z,293nm,0.7s
IVI Ivigtut 79.59 13 *i*P **P 09 30 48.9 +0.6**
IVI IAmb IAmb 09 30 51.6
comp=Z,293nm,0.7s
TIO Tiouine 79.59 54 P **P 09 30 50.7 +1.4**
RAR Rarotonga 80.06 251 P **P 09 30 50.0 -1.9**
RAR Rarotonga 80.06 251 P **P 09 30 53.2 +1.3**
RAR Rarotonga 80.06 251 P **P 09 30 50.0 -1.9**
RAR pmax pmax
comp=Z,1µm,2.0s
RAR Rarotonga 80.06 251 S **S 09 40 52.9 -1.3**
comp=Z,8.2nm,0.8s,baz=40,slow=22,SNR=1.6
RAR LR LR 09 57 04.8
comp=Z,152µm,21.5s,baz=113,slow=29
NRS Narsarsuaq 80.16 14 IAMs_20 IAMs_20 10 07 24.6
comp=Z,123µm,20.0s
NRS Narsarsuaq 80.16 14 *i*P **P 09 30 53.0 +1.5**
NRS IAmb IAmb 09 30 54.6
comp=Z,214nm,1.0s
NRS Narsarsuaq 80.16 14 *i*P **P 09 30 51.4 0.0**
NRS IAmb IAmb 09 30 54.6
comp=Z,214nm,1.0s
SBA Scott Base 80.41 191 P **P 09 30 54.0 +1.3**
SBA IAmb IAmb 09 31 00.2
comp=Z,1µm,1.2s
SBA Scott Base 80.41 191 P **P 09 30 54.0 +1.3**
SBA pmax pmax
comp=Z,1µm,1.2s
AVE Averroes 80.50 52 P **P 09 30 54.9 +0.9**
AVE IAmb IAmb 09 30 58.6
comp=Z,2µm,1.2s
AVE Averroes 80.50 52 P **P 09 30 55.6 +1.6**
AVE S **S 09 41 00.6 +2.3**
AVE Averroes 80.50 52 ⇑P **P 09 30 55.1 +1.1**
TORD Torodi Ar. Bea 80.72 74 P **P 09 30 55.4 -0.1**
comp=Z,3µm,0.8s,baz=268,slow=4.0,SNR=242
TORD S **S 09 40 54.7 -6.5**
comp=Z,2.5nm,0.9s,baz=281,slow=4.0,SNR=1.8
TORD PKKPbc **PKKPbc 09 49 36.8 +2.1**
comp=Z,13nm,0.8s,baz=34,slow=3.6,SNR=13
TORD LR LR 10 05 49.0
comp=Z,332µm,19.9s,baz=246,slow=35
comp=Z,3µm,0.8s
HOLB Holberg 81.05 329 P **P 09 30 56.2 -0.4**
HOLB IAmb IAmb 09 31 00.2
comp=Z,3µm,1.8s
HOLB IAMs_20 IAMs_20 10 06 51.2
comp=Z,98µm,20.0s
PFVI Vila Bisbo 81.18 48 *e*P **P 09 30 58.8 +1.3**
comp=Z,1µm,1.6s
PFVI Vila Bisbo 81.18 48 *e*S **S 09 41 09.7 +4.5**
PFVI Vila Bisbo 81.18 48 P **P 09 30 58.7 +1.1**
PFVI S **S 09 41 07.7 +2.4**
RTC Rabat Centre 81.22 51 P **P 09 30 54.4 -3.4**
MORF Marmelete 81.39 47 *e*P **P 09 30 59.5 +0.8**
comp=Z,1µm,1.1s
MORF Marmelete 81.39 47 *e*S **S 09 41 10.5 +3.1**
MORF Marmelete 81.39 47 *e*P **P 09 30 59.3 +0.7**
MORF *e*S **S 09 41 09.0 +1.6**
MORF Marmelete 81.39 47 *e*P **P 09 30 59.3 +0.7**
MORF *e*S **S 09 41 09.1 +1.6**
MORF IAMs_20 IAMs_20 10 03 25.8
comp=Z,261µm,22.4s
PTEO Sao Teotonio 81.44 47 *e*P **P 09 31 00.9 +2.0**
comp=Z,1µm,1.0s
VNDA Vanda 81.47 191 P **P 09 30 59.3 +0.9**
VNDA IAmb IAmb 09 31 06.2
comp=Z,1µm,1.2s
VNDA Vanda 81.47 191 P **P 09 30 59.5 +1.1**
comp=Z,340nm,1.1s,baz=127,slow=4.8,SNR=195
VNDA S **SKSac 09 41 15.6 +0.7**
comp=Z,2.1nm,0.7s,baz=260,slow=20,SNR=6.3
VNDA PKKPbc **PKKPbc 09 49 32.5 -1.9**
comp=Z,11nm,0.9s,baz=278,slow=3.8,SNR=11
VNDA PKPPKP **P'P'df 09 57 36.0 -3.2**
comp=Z,7.1nm,0.9s,baz=304,slow=5.2,SNR=7.9
VNDA LR LR 10 00 44.8
comp=Z,226µm,19.9s,baz=126,slow=31
comp=Z,340nm,1.1s
NUUK Nuuk 81.65 10 *i*P **P 09 31 00.9 +1.6**
NUUK IAmb IAmb 09 31 05.3
comp=Z,287nm,0.9s
NUUK Nuuk 81.65 10 *i*P **P 09 30 59.7 +0.3**
NUUK IAmb IAmb 09 31 05.3
comp=Z,287nm,0.9s
LIS Lisbon 81.69 46 *e*P **P 09 31 01.2 +1.1**
comp=Z,1µm,2.3s
LIS Lisbon 81.69 46 *e*P **P 09 31 00.8 +0.7**
LIS *e*S **S 09 41 11.9 +1.6**
LIS Lisbon 81.69 46 *e*P **P 09 31 00.8 +0.7**
LIS *e*S **S 09 41 12.0 +1.6**
LIS IAMs_20 IAMs_20 10 04 07.9
comp=Z,304µm,16.0s
PMAFR Mafra 81.71 46 *e*P **P 09 31 01.2 +0.9**
comp=Z,852nm,2.6s
PMAFR Mafra 81.71 46 *e*S **S 09 41 14.0 +3.4**
PMAFR Mafra 81.71 46 P **P 09 31 02.7 +2.4**
PMAFR S **S 09 41 13.6 +3.0**
HILA High Level 81.84 339 P **P 09 30 59.1 -1.4**
PNCL Nicolau / Gran 81.84 47 *e*P **P 09 31 02.0 +1.0**
comp=Z,734nm,2.7s
PNCL Nicolau / Gran 81.84 47 *e*S **S 09 41 14.4 +2.4**
PNCL Nicolau / Gran 81.84 47 P **P 09 31 02.4 +1.4**
PBDV Barranco-do-Ve 81.87 48 *e*P **P 09 31 02.2 +1.0**
comp=Z,958nm,1.3s
PBDV Barranco-do-Ve 81.87 48 *e*S **S 09 41 11.7 -0.7**
PBDV Barranco-do-Ve 81.87 48 P **P 09 31 02.1 +0.9**
PBDV S **S 09 41 15.3 +2.9**
PACT Alcochete 81.93 46 *e*P **P 09 31 03.1 +1.7**
comp=Z,1µm,2.1s
MESJ Messejana 81.93 47 *e*P **P 09 31 03.0 +1.5**
comp=Z,755nm,2.7s
MESJ Messejana 81.93 47 *e*P **P 09 31 02.0 +0.5**
MESJ *e*S **S 09 41 14.5 +1.5**
MESJ Messejana 81.93 47 *e*P **P 09 31 02.0 +0.5**
MESJ *e*S **S 09 41 14.6 +1.5**
MESJ IAMs_20 IAMs_20 10 03 55.2
comp=Z,188µm,17.0s
MESJ Messejana 81.93 47 ⇑P **P 09 31 02.6 +1.1**
PCVE Castro Verde 81.97 47 *e*P **P 09 31 02.5 +0.8**
comp=Z,945nm,2.4s
PCVE Castro Verde 81.97 47 *e*S **S 09 41 12.4 -1.0**
PCVE Castro Verde 81.97 47 P **P 09 31 05.5 +3.8**
PCVE Castro Verde 81.97 47 P **P 09 31 02.7 +1.0**
BBB Bella Bella 82.01 330 LR LR 10 10 05.1
comp=Z,39µm,19.7s,baz=126,slow=38
PVAQ Vaqueiros 82.09 48 *e*P **P 09 31 03.2 +0.9**
PVAQ Vaqueiros 82.09 48 *e*S **S 09 41 16.0 +1.4**
PVAQ Vaqueiros 82.09 48 P **P 09 31 02.7 +0.3**
PBEJ Beja 82.27 47 *e*P **P 09 31 04.1 +0.9**
comp=Z,835nm,1.4s
PSBE So Bento 82.30 45 *e*P **P 09 31 04.5 +1.1**
comp=Z,1µm,2.3s
PSBE So Bento 82.30 45 *e*S **S 09 41 16.1 -0.7**
IFR Ifrane 82.33 52 P **P 09 31 04.4 +0.5**
EVO Evora 82.39 47 *e*P **P 09 31 04.9 +1.0**
comp=Z,795nm,1.6s
EVO Evora 82.39 47 P **P 09 31 05.8 +1.9**
EVO S **SKSac 09 41 21.3 -0.9**
MDT Midelt 82.43 53 P **P 09 31 05.7 +1.3**
comp=Z,179nm,1.0s,baz=264,slow=6.1,SNR=35
MDT S **S 09 41 19.1 +0.5**
comp=Z,4.4nm,1.1s,baz=292,slow=22,SNR=1.5
MDT LR LR 10 04 59.6
comp=Z,268µm,21.9s,baz=255,slow=34
comp=Z,179nm,1.0s
PMTG Montargil 82.49 46 *e*P **P 09 31 05.2 +0.8**
comp=Z,1µm,1.5s
PMTG Montargil 82.49 46 *e*S **SKSac 09 41 20.8 -2.0**
ARNO Arenosillo 82.66 48 P **P 09 31 09.8 +4.5**
PCAS Casmilo, Conde 82.75 45 *e*P **P 09 31 06.5 +0.8**
comp=Z,1µm,2.4s
PCAS Casmilo, Conde 82.75 45 *e*S **SKSac 09 41 24.1 -0.5**
SFS San Fernando 82.77 49 IAMs_20 IAMs_20 10 07 07.2
comp=Z,122µm,20.0s
SFS San Fernando 82.77 49 P **P 09 31 09.2 +3.3**
SFS S **SKSac 09 41 25.8 +1.1**
SFS San Fernando 82.77 49 ⇑P **P 09 31 08.2 +2.3**
PESTR Estremoz 82.84 46 *e*P **P 09 31 07.0 +0.8**
comp=Z,1µm,1.9s
PESTR Estremoz 82.84 46 *e*S **SKSac 09 41 25.5 +0.3**
PESTR Estremoz 82.84 46 P **P 09 31 06.5 +0.3**
PESTR IAmb IAmb 09 31 10.6
comp=Z,1µm,1.3s
PESTR Estremoz 82.84 46 P **P 09 31 09.6 +3.4**
PESTR Estremoz 82.84 46 P **P 09 31 06.6 +0.4**
PESTR S **SKSac 09 41 26.1 +0.9**
PBAR Barrancos 82.92 47 *e*P **P 09 31 07.5 +0.9**
comp=Z,1µm,1.5s
PBAR Barrancos 82.92 47 *e*S **SKSac 09 41 26.4 +0.7**
PBAR Barrancos 82.92 47 P **P 09 31 06.6 0.0**
PBAR S **S 09 41 27.8 +4.8**
CEU Ceuta 83.14 50 P **P 09 31 09.1 +1.4**
PTO Porto 83.19 44 *e*P **P 09 31 09.2 +1.3**
comp=Z,2µm,1.6s
ESPR Espera 83.20 49 P **P 09 31 11.9 +3.8**
PMRV Marv??o 83.23 46 *e*P **P 09 31 08.1 -0.1**
comp=Z,459nm,1.1s
PMRV Marv??o 83.23 46 *e*S **S 09 41 26.9 +0.7**
PMRV Marv??o 83.23 46 *e*LQ LQ 09 54 01.6
PMRV *e*LR LR 09 59 25.8
comp=Z,263µm,20.0s
PCBR Castelo Branco 83.36 46 *e*P **P 09 31 09.0 +0.2**
comp=Z,800nm,1.1s
PVIS Viseu 83.47 45 *e*P **P 09 31 09.8 +0.3**
MTE Manteigas 83.56 45 *e*P **P 09 31 10.9 +0.9**
comp=Z,1µm,1.1s
MTE Manteigas 83.56 45 *e*S **S 09 41 28.8 -0.8**
MTE Manteigas 83.56 45 *e*LQ LQ 09 53 27.7
MTE *e*LR LR 09 59 37.0
comp=Z,283µm,22.0s
MTE Manteigas 83.56 45 P **P 09 31 10.0 0.0**
MTE IAmb IAmb 09 31 15.2
comp=Z,1µm,1.1s
PVLZ Peæn de 83.63 51 P **P 09 31 10.0 -0.3**
XMAS Kiritimati 83.69 274 P **P 09 31 10.3 -0.8**
XMAS IAmb IAmb 09 31 28.6
comp=Z,2µm,1.6s
XMAS Kiritimati 83.69 274 IAMs_20 IAMs_20 09 58 30.4
comp=Z,103µm,22.0s
XMAS Kiritimati 83.69 274 P **P 09 31 12.8 +1.6**
PGAV Gavieira, Arco 83.79 43 *e*P **P 09 31 09.4 -1.8**
comp=Z,1µm,1.6s
PGAV Gavieira, Arco 83.79 43 *e*S **SKSac 09 41 29.7 -1.8**
POLO Lamas de Olo 83.83 44 *e*P **P 09 31 11.6 +0.2**
comp=Z,618nm,1.6s
POLO Lamas de Olo 83.83 44 *e*S **SKSac 09 41 31.2 -0.6**
PVRL Vila Real 83.84 44 *e*P **P 09 31 11.3 -0.1**
comp=Z,1µm,1.4s
EMIJ Mijas 83.86 49 P **P 09 31 13.7 +2.2**
ECAB El Cabril 84.03 48 P **P 09 31 15.3 +3.0**
KOMG Komaggas 84.05 119⇑*i*P **P 09 31 12.9 +0.1**
YKAW1 Yellowknife Wh 84.07 343 IAMs_20 IAMs_20 10 13 36.1
comp=Z,88µm,20.0s
YKA Yellowknife Ar 84.11 343 P **P 09 31 10.7 -1.5**
comp=Z,263nm,1.1s,baz=136,slow=5.4,SNR=666
YKA PKKPbc **PKKPbc 09 49 28.4 -0.9**
comp=Z,7.8nm,1.0s,baz=303,slow=2.1,SNR=8.6
YKA SKKS 09 56 42.3
comp=Z,0.7nm,0.9s,baz=290,slow=2.3,SNR=3.7
YKA PKPPKP **P'P'df 09 57 26.6 -2.2**
comp=Z,3.4nm,1.0s,baz=320,slow=2.3,SNR=6.9
YKA LR LR 10 13 02.3
comp=Z,75µm,18.5s,baz=128,slow=39
comp=Z,263nm,1.1s
YKAW3 Yellowknife Wh 84.17 343 IAMs_20 IAMs_20 10 13 38.8
comp=Z,80µm,20.0s
EMAL Malaga-Limoner 84.19 49 P **P 09 31 17.5 +4.3**
EMAL Malaga-Limoner 84.19 49 P **P 09 31 14.3 +1.1**
MVO Moncorvo 84.25 45 *e*P **P 09 31 13.6 +0.1**
comp=Z,1µm,2.5s
MVO Moncorvo 84.25 45 *e*S **SKSac 09 41 33.2 -1.3**
MVO Moncorvo 84.25 45 *e*LQ LQ 09 53 24.5
MVO *e*LR LR 10 00 12.7
comp=Z,196µm,22.0s
RUBB Prince Rupert 84.34 331 P **P 09 31 13.1 -0.4**
SFJD Kangerlussuaq 84.44 9 IAMs_20 IAMs_20 10 10 11.4
comp=Z,96µm,21.0s
SFJD Kangerlussuaq 84.44 9 LR LR 10 10 23.8
comp=Z,87µm,20.1s,baz=202,slow=37
SFJD Kangerlussuaq 84.44 9 *i*P **P 09 31 14.9 +1.2**
SFJD IAmb IAmb 09 31 19.0
comp=Z,132nm,0.9s
SFJD Kangerlussuaq 84.44 9 *i*P **P 09 31 14.6 +0.9**
SFJD IAmb IAmb 09 31 19.0
comp=Z,132nm,0.9s
EGOR Sierra Gorda, 84.57 49 P **P 09 31 16.7 +1.4**
CER Ceres 84.62 123⇑*i*P **P 09 31 16.5 +0.9**
CER IAmb IAmb 09 31 20.9
comp=Z,2µm,1.0s
EADA Adamuz 84.67 48 P **P 09 31 17.6 +2.0**
DY2G Dye2 84.70 11 *i*P **P 09 31 17.9 +2.5**
DY2G IAmb IAmb 09 31 20.2
comp=Z,472nm,0.9s
DY2G Dye2 84.70 11 *i*P **P 09 31 16.1 +0.7**
DY2G IAmb IAmb 09 31 20.2
comp=Z,472nm,0.9s

PBRG Braganca 84.73 44 *e*P P 09 31 16.0 +0.1
comp=Z,1µm,1.5s
PBRG Braganca 84.73 44 *e*S **SKSac** 09 41 39.0 +1.5
H02S1 DAWSON INLET T 84.74 329 P P 09 31 14.5 -1.0
SNR=11
U35K Hyder 85.19 332 IAMs_20 IAMs_20 10 09 40.8
comp=Z,78µm,20.0s
U35K Hyder 85.19 332 P P 09 31 17.4 -0.4
baz=127
EKNA AfricaArray - 85.30 84⇑ *i*P P 09 31 20.8 +1.5
FLDN Fort Liard 85.34 338 P P 09 31 17.8 -0.7
FLDN IAmb IAmb 09 31 23.5
comp=Z,1µm,1.2s
FLDN IAMs_20 IAMs_20 10 15 05.9
comp=Z,84µm,20.0s
FLDN Fort Liard 85.34 338 P P 09 31 18.3 -0.1
baz=133,SNR=93
PAB San Pablo 85.40 47 P P 09 31 19.6 +0.2
PAB IAmb IAmb 09 31 23.2
comp=Z,838nm,1.1s
PAB San Pablo 85.40 47 P P 09 31 19.6 +0.2
PAB pmax pmax
comp=Z,838nm,1.1s
ISOG Isortoq, Green 85.43 14 ⇓P P 09 31 18.4 -0.3
ISOG Isortoq, Green 85.43 14 *i*P P 09 31 20.9 +2.2
ISOG IAmb IAmb 09 31 24.2
comp=Z,349nm,0.8s
ISOG Isortoq, Green 85.43 14 *i*P P 09 31 18.6 -0.1
ISOG IAmb IAmb 09 31 24.2
comp=Z,349nm,0.8s
KOTAN Kotaneelee Air 85.48 338 P P 09 31 18.6 -0.5
baz=133,SNR=211
CVNA Calvinia 85.51 121⇑ *i*P P 09 31 22.2 +2.0
CVNA IAmb IAmb 09 31 25.7
comp=Z,1µm,0.9s
V35K Ketchikan 85.57 331 P P 09 31 19.2 -0.4
baz=126,SNR=19
MATJ Matjiesfontein 85.69 123⇑ *i*P P 09 31 21.2 +0.1
MATJ IAmb IAmb 09 31 24.2
comp=Z,22µm,3.0s
ESDC Sonseca Array 85.73 47 P P 09 31 21.2 +0.3
comp=Z,304nm,1.1s,baz=257,slow=5.1,SNR=72
ESDC PKPPKP **P'P'df** 09 57 27.4 -0.9
comp=Z,3.7nm,1.1s,baz=49,slow=2.0,SNR=7.8
ESDC LR LR 10 07 08.8
comp=Z,280µm,20.8s,baz=232,slow=34
comp=Z,304nm,1.1s
ESBB Sonseca Array 85.73 47 P P 09 31 21.5 +0.5
ESBB IAmb IAmb 09 31 38.9
comp=Z,1µm,1.4s
ANGG Ammassalik, Gr 85.80 14 *i*P P 09 31 21.6 +1.1
ANGG IAmb IAmb 09 31 25.9
comp=Z,168nm,0.8s
ANGG Ammassalik, Gr 85.80 14 *i*P P 09 31 20.5 -0.1
ANGG IAmb IAmb 09 31 25.9
comp=Z,168nm,0.8s
T35M Bob Quinn 85.94 333 IAMs_20 IAMs_20 10 15 44.4
comp=Z,101µm,20.0s
T35M Bob Quinn 85.94 333 P P 09 31 21.6 +0.1
baz=127,SNR=110
SUR Sutherland 86.12 122 P P 09 31 23.7 +0.3
SUR IAmb IAmb 09 31 28.5
comp=Z,386nm,0.9s
SUR Sutherland 86.12 122⇑ *i*P P 09 31 24.2 +0.8
SUR IAmb IAmb 09 31 27.1
comp=Z,10µm,2.8s
SUR Sutherland 86.12 122 LR LR 10 07 56.2
comp=Z,151µm,19.4s,baz=252,slow=34
CRAG Craig 86.35 331 P P 09 31 23.3 -0.2
baz=125,SNR=9.2
ILULI Ilulissat 86.42 8 IAMs_20 IAMs_20 10 11 16.7
comp=Z,71µm,21.0s
ILULI Ilulissat 86.42 8 *i*P P 09 31 24.9 +1.3
ILULI IAmb IAmb 09 31 29.5
comp=Z,274nm,0.9s
ILULI Ilulissat 86.42 8 *i*P P 09 31 24.1 +0.6
ILULI IAmb IAmb 09 31 29.5
comp=Z,274nm,0.9s
UCM Universidad Co 86.49 47 P P 09 31 24.5 -0.2
WRAK Wrangell Islan 86.54 332 IAMs_20 IAMs_20 10 16 26.5
comp=Z,70µm,20.0s
WRAK Wrangell Islan 86.54 332 P P 09 31 24.0 -0.4
baz=126,SNR=9.1
WRAK S S 09 42 01.7 +3.5
baz=126
USTO Oran 86.67 52 P P 09 31 31.0 +5.5
U33K Whale Pass 86.72 331 P P 09 31 24.4 -0.9
baz=125,SNR=19
U33K S S 09 42 02.6 +2.6
baz=125
DLBC Dease Lake 86.73 334 P P 09 31 24.4 -1.1
DLBC IAMs_20 IAMs_20 10 13 48.5
comp=Z,69µm,19.0s
DLBC Dease Lake 86.73 334 P P 09 31 25.7 +0.3
baz=128,SNR=124
DLBC S S 09 42 01.7 +1.5
baz=128
DLBC Dease Lake 86.73 334 PKKPbc PKKPbc 09 49 22.6 -0.4
comp=Z,19nm,1.1s,baz=316,slow=3.2,SNR=6.9
DLBC LR LR 10 13 51.4
comp=Z,65µm,18.4s,baz=107,slow=38
ODJA Bouhanifia 86.82 52 P P 09 31 29.0 +2.6
S34M Telegraph Cree 86.88 334 IAMs_20 IAMs_20 10 11 58.3
comp=Z,74µm,20.0s
S34M Telegraph Cree 86.88 334 P P 09 31 26.1 0.0
baz=127,SNR=90
S34M S S 09 42 02.0 +0.5
baz=127
TSUM Tsumeb 86.90 109⇑ *i*P P 09 31 28.2 +0.9
TSUM IAmb IAmb 09 31 31.5
comp=Z,766nm,0.9s
TSUM Tsumeb 86.90 109 LR LR 10 09 31.0
comp=Z,141µm,18.1s,baz=256,slow=35
CART Cartagena 87.03 50 IAMs_20 IAMs_20 10 10 33.0
comp=Z,63µm,20.0s
CART Cartagena 87.03 50 P P 09 31 25.9 -1.4
POHA Pohakuloa 87.04 291 P P 09 31 29.0 +1.0
T33K Petersburg 87.04 332 P P 09 31 26.5 -0.3
baz=125,SNR=7.4
T33K S S 09 42 06.0 +3.0
baz=125
WTLY Watson Lake, Y 87.27 336 P P 09 31 27.6 -0.4
WTLY IAmb IAmb 09 31 33.5
comp=Z,624nm,1.0s
WTLY IAMs_20 IAMs_20 10 12 58.7
comp=Z,117µm,21.0s
WTLY Watson Lake, Y 87.27 336 P P 09 31 28.0 +0.1
baz=129,SNR=119
WTLY S S 09 42 05.3 +0.1
baz=129
OJBR Djebel Berber 87.29 52 P P 09 31 34.0 +5.3
VAL Valentia 87.39 34 pP P 09 31 29.7 +1.1
VAL Valentia 87.39 34 P P 09 31 30.8 +2.1
WRGLY Wrigley 87.40 340 IAMs_20 IAMs_20 10 14 27.2
comp=Z,110µm,21.0s
WRGLY Wrigley 87.40 340 P P 09 31 27.7 -0.7
baz=134,SNR=76
WRGLY S S 09 42 06.5 +0.3
baz=134
OJGS Djebel Guires 87.57 52 P P 09 31 33.0 +2.9
UMMG Uummannaq 87.65 7 *i*P P 09 31 30.8 +1.3
UMMG IAmb IAmb 09 31 33.9
comp=Z,136nm,1.0s
UMMG Uummannaq 87.65 7 *i*P P 09 31 31.6 +2.1
UMMG IAmb IAmb 09 31 33.9
comp=Z,136nm,1.0s
CTZ Chatham Island 87.66 225 IAMs_20 IAMs_20 10 01 50.8
comp=Z,98µm,20.0s
CTZ Chatham Island 87.66 225 P P 09 31 32.3 +2.0
OKGL Djebel Kef Gue 87.68 52 P P 09 31 32.0 +1.5
R33M Jennings River 87.70 335 IAMs_20 IAMs_20 10 12 37.9
comp=Z,92µm,22.0s
R33M Jennings River 87.70 335 P P 09 31 30.3 +0.1
baz=127
R33M S S 09 42 09.2 -0.4
baz=127
Q32M Nakina River 87.98 334 P P 09 31 31.7 +0.1
baz=126
Q32M S S 09 42 12.9 +0.4
baz=126
BRAK Brakfontein 87.98 122⇑ *i*P P 09 31 34.0 +1.7
S32K Killisnoo 88.14 332 IAMs_20 IAMs_20 10 17 18.7
comp=Z,78µm,20.0s
S32K Killisnoo 88.14 332 P P 09 31 31.9 -0.2
baz=124,SNR=20
S32K S S 09 42 16.5 +2.9
baz=124

ICESG Greenland Ices 88.24 12 *i*P P 09 31 34.5 +1.7
ICESG Greenland Ices 88.24 12 *i*P P 09 31 32.5 -0.2
ICESG IAmb IAmb 09 31 38.7
comp=Z,336nm,0.9s
SIT Sitka 88.26 332 IAMs_20 IAMs_20 10 17 18.9
comp=Z,77µm,21.0s
SIT Sitka 88.26 332 P P 09 31 32.0 -0.6
baz=123,SNR=8.7
SIT S S 09 42 16.5 +1.9
baz=123
R32K Eaglecrest 88.56 333 IAMs_20 IAMs_20 10 11 51.8
comp=Z,112µm,21.0s
R32K Eaglecrest 88.56 333 P P 09 31 34.2 0.0
baz=124
IGLA Glengowla, Co 88.58 33 pP P 09 31 33.3 -0.9
BFON Badsfontein, M 88.62 123⇑ *i*P P 09 31 35.0 -0.4
BFON IAmb IAmb 09 31 40.8
comp=Z,2µm,1.9s
P33M Teslin, Yukon 88.94 335 IAMs_20 IAMs_20 10 13 34.8
comp=Z,102µm,21.0s
P33M Teslin, Yukon 88.94 335 P P 09 31 35.6 -0.3
baz=125,SNR=166
P33M S S 09 42 22.6 +1.4
baz=125
P32M Atlin 88.95 334 IAMs_20 IAMs_20 10 14 18.0
comp=Z,92µm,22.0s
P32M Atlin 88.95 334 P P 09 31 36.0 0.0
baz=124,SNR=25
P32M S S 09 42 23.6 +2.3
baz=124
S31K Pelican 89.16 332 IAMs_20 IAMs_20 10 16 46.6
comp=Z,86µm,21.0s
S31K Pelican 89.16 332 P P 09 31 36.1 -0.7
baz=122,SNR=6.0
S31K S S 09 42 25.9 +2.8
baz=122
UPNV Upernavik 89.22 5 *i*P P 09 31 38.8 +1.9
UPNV Upernavik 89.22 5 *i*P P 09 31 38.0 +1.2
UPNV IAmb IAmb 09 31 54.7
comp=Z,93nm,0.9s
SOEG Soedalen 89.37 15 *i*P P 09 31 39.8 +2.1
SOEG Soedalen 89.37 15 *i*P P 09 31 38.7 +1.1
SOEG IAmb IAmb 09 31 46.8
comp=Z,35nm,0.8s
CCA1 Carnmenellis 89.37 37 *e*P P 09 31 39.9 +1.7
CCA1 IAmb IAmb 09 31 40.8
comp=Z,717nm,1.5s
CCA1 IAMs_20 IAMs_20 10 06 05.2
comp=Z,196µm,24.2s
IWEX Carrickbyrne, 89.48 35 *e*P P 09 31 40.3 +1.8
IWEX Carrickbyrne, 89.48 35 pP P 09 31 40.0 +1.5
SKAG Skagway 89.57 334 IAMs_20 IAMs_20 10 13 16.5
comp=Z,88µm,21.0s
SKAG Skagway 89.57 334 P P 09 31 38.6 -0.1
baz=123,SNR=38
SKAG S S 09 42 28.8 +1.9
baz=123
N32M Quiet Lake 89.58 336 IAMs_20 IAMs_20 10 16 05.6
comp=Z,86µm,22.0s
N32M Quiet Lake 89.58 336 P P 09 31 38.9 -0.1
baz=125
N32M S S 09 42 27.5 +0.3
baz=125
KIP Kipapa 89.75 292 P P 09 31 41.3 +0.7
KIP Kipapa 89.75 292*c* *i*P P 09 31 39.5 -1.1
KIP pmax pmax
comp=Z,433nm,1.3s
BORG Borgarnes 89.85 20 P P 09 31 41.1 +1.1
BORG IAmb IAmb 09 31 58.5
comp=Z,1µm,1.6s
BORG Borgarnes 89.85 20 P P 09 31 41.1 +1.1
BORG pmax pmax
comp=Z,1µm,1.7s
BORG Borgarnes 89.85 20 LR LR 10 08 22.1
comp=Z,65µm,21.7s,baz=237,slow=33
SBD Saint Breward 89.85 37 *e*P P 09 31 42.1 +1.8
WHY Whitehorse 90.03 335 IAMs_20 IAMs_20 10 14 53.9
comp=Z,88µm,22.0s
WHY Whitehorse 90.03 335 P P 09 31 40.7 -0.4
baz=123,SNR=8.7
WHY S S 09 42 30.5 -1.0
baz=123
DSB Dublin 90.08 34 P P 09 31 40.3 -1.0
DSB Dublin 90.08 34 *e*P P 09 31 42.3 +0.9
DSB Dublin 90.08 34 P P 09 31 42.1 +0.8
DSB Dublin 90.08 34 pP P 09 31 42.9 +1.5
HTL Hartland 90.15 36 *e*P P 09 31 42.3 +0.6
HTL IAMs_20 IAMs_20 10 06 41.0
comp=Z,180µm,22.8s
DYA Yadsworthy 90.23 37 *e*P P 09 31 43.4 +1.3
DYA IAmb IAmb 09 31 44.5
comp=Z,794nm,1.7s
DYA IAMs_20 IAMs_20 10 06 36.5
comp=Z,139µm,23.1s
FARO Faro, Yukon 90.30 336 IAMs_20 IAMs_20 10 15 17.6
comp=Z,96µm,22.0s
FARO Faro, Yukon 90.30 336 P P 09 31 42.6 +0.3
baz=125,SNR=28
FARO S S 09 42 34.6 +0.9
baz=125
ILTH Belurgan, Co L 90.46 33 *e*P P 09 31 43.6 +0.6
ILTH Belurgan, Co L 90.46 33 pP P 09 31 44.5 +1.5
O30N Mendenhall 90.59 334 IAMs_20 IAMs_20 10 13 13.5
comp=Z,87µm,20.0s
O30N Mendenhall 90.59 334 P P 09 31 43.8 +0.1
baz=122
O30N S S 09 42 35.5 -1.1
baz=122
P30M Million Dollar 90.62 334 P P 09 31 44.0 +0.2
baz=122
P30M S S 09 42 38.9 +2.1
baz=122
M31M Drury Creek, Y 90.69 336 IAMs_20 IAMs_20 10 18 53.9
comp=Z,71µm,20.0s
M31M Drury Creek, Y 90.69 336 P P 09 31 43.7 -0.4
baz=124
M31M S S 09 42 36.4 -0.9
baz=124
P29M Windy Craggy 90.70 333 IAMs_20 IAMs_20 10 18 01.3
comp=Z,61µm,20.0s
P29M Windy Craggy 90.70 333 P P 09 31 43.7 -0.5
baz=121
P29M S S 09 42 38.8 +1.3
baz=121
JSA Saint Aubin 90.77 39 *e*P P 09 31 46.3 +1.7
JSA IAmb IAmb 09 31 48.5
comp=Z,303nm,1.0s
JSA IAMs_20 IAMs_20 10 05 23.1
comp=Z,183µm,26.4s
N31M Braeburn, Yuko 90.85 335 IAMs_20 IAMs_20 10 15 00.2
comp=Z,72µm,20.0s
N31M Braeburn, Yuko 90.85 335 P P 09 31 44.7 -0.1
baz=123,SNR=6.7
N31M S S 09 42 39.0 +0.2
baz=123
BOSA Boshof 90.90 120⇑ *i*P P 09 31 45.6 -0.5
BOSA IAmb IAmb 09 31 51.9
comp=Z,671nm,1.2s
BOSA Boshof 90.90 120 P P 09 31 45.3 -0.7
comp=Z,400nm,0.9s,baz=240,slow=3.8,SNR=37
BOSA S **SKSac** 09 42 15.7 -0.1
comp=Z,2.4nm,1.0s,baz=210,slow=22,SNR=1.0
BOSA PKKPbc **PKKPbc** 09 49 10.5 -0.3
comp=Z,25nm,0.8s,baz=72,slow=1.6,SNR=11
BOSA PKPPKP 09 57 22.5
comp=Z,2.3nm,0.9s,baz=136,slow=2.5,SNR=4.7
BOSA LR LR 10 09 40.6
comp=Z,135µm,20.4s,baz=260,slow=34
comp=Z,400nm,0.9s
WPS Cemaes, Angles 91.17 34 *e*P P 09 31 46.5 +0.2
WLF1 Llynfaes 91.17 34 IAmb IAmb 09 28 30.3
comp=Z,101nm,1.1s
WLF1 *e*P P 09 31 48.3 +1.9
WLF1 IAMs_20 IAMs_20 10 05 42.0
comp=Z,343µm,27.1s
RES Resolute Bay 91.20 355 PKPPKP 09 57 18.7
comp=Z,3.6nm,1.0s,baz=360,slow=1.2,SNR=3.6
RES LR LR 10 15 58.2
comp=Z,121µm,18.4s,baz=158,slow=38
HYT Haines Junctio 91.21 334 IAMs_20 IAMs_20 10 15 44.8
comp=Z,111µm,22.0s
HYT Haines Junctio 91.21 334 P P 09 31 46.8 +0.2
baz=121
HYT S S 09 42 43.5 +1.2
baz=121
MAW Mawson 91.25 165 P P 09 31 46.8 +0.2
MAW Mawson 91.25 165 P P 09 31 46.8 +0.2
comp=Z,408nm,1.1s,baz=217,slow=6.3,SNR=66
MAW S **SKSac** 09 42 14.2 -1.8
comp=Z,7.9nm,1.1s,baz=132,slow=0.3,SNR=2.1
MAW PKKPbc **PKKPbc** 09 49 11.2 +0.3
comp=Z,14nm,0.9s,baz=40,slow=3.6,SNR=3.9
MAW LR LR 10 10 04.2
comp=Z,227µm,21.5s,baz=228,slow=34
comp=Z,408nm,1.1s
SET Setif 91.36 53 P P 09 31 43.0 -4.8
SUMG Summit 91.36 10 IAMs_20 IAMs_20 10 11 44.4
comp=Z,118µm,22.0s
SUMG Summit 91.36 10 P P 09 31 46.4 -1.0
SUMG Summit 91.36 10 *i*P P 09 31 50.3 +2.9
SUMG IAmb IAmb 09 31 54.1
comp=Z,536nm,1.0s
SUMG Summit 91.36 10 *i*P P 09 31 48.8 +1.4
SUMG IAmb IAmb 09 31 54.2
comp=Z,536nm,1.0s
N30M Aishikik Lake 91.37 335 IAMs_20 IAMs_20 10 13 48.0
comp=Z,77µm,20.0s
N30M Aishikik Lake 91.37 335 P P 09 31 47.5 +0.2
baz=122
N30M S S 09 42 43.8 +0.2
baz=122
CKHR Kef el Ahmar 91.38 53 P P 09 31 49.2 +1.2
LLW Llanuwychllyn 91.39 35 *e*P P 09 31 47.4 0.0
O29M Mount Kennedy 91.40 333 IAMs_20 IAMs_20 10 14 49.9
comp=Z,81µm,20.0s
O29M Mount Kennedy 91.40 333 P P 09 31 47.4 -0.2
baz=120,SNR=8.2
O29M S S 09 42 44.9 +0.7
baz=120
MCH1 Michaelchurch 91.41 36 IAmb IAmb 09 28 25.3
comp=Z,59nm,0.8s
MCH1 *e*P P 09 31 47.4 -0.1
MCH1 IAMs_20 IAMs_20 10 07 43.1
comp=Z,151µm,23.4s
PNL Peninsula 91.45 333 P P 09 31 46.9 -0.7
baz=120
PNL S S 09 42 41.7 -2.6
baz=120
MONM Monmouth 91.46 36 *e*P P 09 31 49.2 +1.5
MONM IAMs_20 IAMs_20 10 07 43.9
comp=Z,155µm,23.0s
YKU2 Yakutat 91.49 332 IAMs_20 IAMs_20 10 14 32.3
comp=Z,76µm,22.0s
IOMK Kirk Michael 91.50 33 *e*P P 09 31 47.4 -0.5
IOMK IAmb IAmb 09 31 50.4
comp=Z,980nm,1.3s
IOMK IAMs_20 IAMs_20 10 06 09.9
comp=Z,265µm,26.2s
OLDB Oldbury-Upon-S 91.53 36 *e*P P 09 31 49.0 +0.9
OLDB IAMs_20 IAMs_20 10 07 34.4
comp=Z,161µm,23.0s
YUK6 Outpost Mounta 91.64 334 P P 09 31 48.3 -0.4
baz=120,SNR=13
YUK6 S S 09 42 45.0 -1.4
baz=120
FOEL Foel Wylfa 91.66 35 *e*P P 09 31 49.5 +0.7
FOEL IAmb IAmb 09 31 51.6
comp=Z,379nm,1.4s
FOEL IAMs_20 IAMs_20 10 08 53.4
comp=Z,154µm,20.8s
GAL1 Galloway 91.68 33 *e*P P 09 31 50.3 +1.6
GAL1 IAmb IAmb 09 31 50.9
comp=Z,264nm,1.2s
GAL1 IAMs_20 IAMs_20 10 06 18.1
comp=Z,101µm,25.6s
BCPM Bancas Point 91.69 333 IAMs_20 IAMs_20 10 18 51.5
comp=Z,56µm,20.0s
MAHO Mahon 91.70 49 IAMs_20 IAMs_20 10 15 23.5
comp=Z,72µm,19.0s
MAHO Mahon 91.70 49 P P 09 31 48.6 -0.6
C36M Paulatuk 91.78 344 P P 09 31 47.2 -1.6
baz=133
C36M S S 09 42 42.5 -4.3
baz=133
STRD Stroud 91.80 36 *e*P P 09 31 49.7 +0.3
STRD IAMs_20 IAMs_20 10 07 54.1
comp=Z,161µm,22.8s
DFRA Djebel Bou Aff 91.83 53 P P 09 31 51.6 +1.5
M30M Minto, Yukon 91.84 336 P P 09 31 48.7 -0.7
baz=122,SNR=9.3
M30M S S 09 42 45.0 -2.8
baz=122
YUK4 Talbot Arm 91.96 334 P P 09 31 50.1 -0.1
baz=120,SNR=8.3
YUK4 S S 09 42 48.4 -0.8
baz=120
MAYO Mayo, Yukon 92.03 337 IAMs_20 IAMs_20 10 15 08.3
comp=Z,88µm,22.0s
MAYO Mayo, Yukon 92.03 337 P P 09 31 50.0 -0.2
baz=122
MAYO S S 09 42 49.2 -0.2
baz=122
PINM Pinnacle 92.03 333 P P 09 31 50.2 -0.1
baz=119
PINM S S 09 42 46.8 -2.9
baz=119
NEWG New Galloway 92.04 33 *e*P P 09 31 52.8 +2.4
LEWI Lewis, Hebride 92.05 29 IAmb IAmb 09 28 30.3
comp=Z,140nm,1.1s
LEWI *e*P P 09 31 51.0 +0.6
CTEI Djebel Teioual 92.09 53 P P 09 31 52.5 +1.2
WOL Wolverton 92.16 37 *e*P P 09 31 50.8 -0.2
PGBU Glenifferbraes 92.20 32 *e*P P 09 31 52.4 +1.2
PGBU IAMs_20 IAMs_20 10 05 07.9
comp=Z,125µm,27.4s
TULEG Thule 92.22 1 IAMs_20 IAMs_20 10 12 35.4
comp=Z,64µm,22.0s
TULEG Thule 92.22 1 *i*P P 09 31 53.8 +3.0
TULEG IAmb IAmb 09 31 56.4
comp=Z,37nm,0.9s
TULEG Thule 92.22 1 *i*P P 09 31 52.5 +1.7
TULEG IAmb IAmb 09 31 56.4
comp=Z,37nm,0.9s
KPL Plockton 92.28 30 IAmb IAmb 09 28 27.2
comp=Z,52nm,0.6s
KPL *e*P P 09 31 52.8 +1.4
STNC Stoke 92.30 35 *e*P P 09 31 53.5 +1.8
STNC IAMs_20 IAMs_20 10 08 48.9
comp=Z,151µm,22.9s
LBTB Lobatse 92.32 117⇑ *i*P P 09 31 52.6 -0.1
LBTB IAmb IAmb 09 31 55.8
comp=Z,889nm,1.4s
LBTB Lobatse 92.32 117 LR LR 10 10 02.7
comp=Z,78µm,20.7s,baz=256,slow=33
YUK8 Steele Glacier 92.40 334 P P 09 31 51.3 -1.0
baz=119,SNR=9.5
YUK8 S S 09 42 51.3 -2.0
baz=119
KESW Keswick, Cumbr 92.41 34 IAmb IAmb 09 28 23.1
comp=Z,812nm,2.5s
KESW *e*P P 09 31 51.7 -0.5
KESW IAMs_20 IAMs_20 10 06 34.2
comp=Z,138µm,26.8s
M29M Somme Creek 92.43 335 IAMs_20 IAMs_20 10 14 19.1
comp=Z,93µm,21.0s
M29M Somme Creek 92.43 335 P P 09 31 51.8 -0.4
baz=120
M29M S S 09 42 52.9 -0.3
baz=120
L29M L29M 92.64 336 P P 09 31 52.5 -0.6
baz=120
L29M S S 09 42 52.9 -2.0
baz=120
CAEH `Ain El Ouahch 92.65 53 P P 09 31 56.6 +2.9
ESK Eskdalemuir 92.65 33 IAmb IAmb 09 31 55.3
comp=Z,3µm,2.6s
CWF Charnwood Fore 92.66 36 *e*P P 09 31 53.5 +0.2
CWF IAMs_20 IAMs_20 10 05 18.1
comp=Z,142µm,30.5s
H31M Peel River 92.68 339 P P 09 31 52.3 -0.9
baz=124
H31M S S 09 42 54.6 -0.6
baz=124
LBWR Ladybower, Pea 92.68 35 IAmb IAmb 09 28 16.8
comp=Z,28nm,0.8s
LBWR *e*P P 09 31 54.1 +0.7
LBWR IAMs_20 IAMs_20 10 05 20.8
comp=Z,182µm,30.5s
EKA Eskdalemuir Ar 92.68 33 P P 09 31 52.2 -1.2
comp=Z,90nm,1.1s,baz=246,slow=6.3,SNR=30
EKA PKKPbc **PKKPbc** 09 49 07.7 +0.1
comp=Z,13nm,0.8s,baz=109,slow=1.7,SNR=8.7
comp=Z,90nm,1.1s
LOGN Logan Glacier 92.71 333 IAMs_20 IAMs_20 10 16 04.4

	comp=Z,88µm,21.0s									
J30M	**Hart River**	**92.72**	**338**	P		**P**		**09 31 52.8**	**-0.7**	
	baz=122									
J30M				S		**S**		**09 42 54.7**	**-1.0**	
	baz=122									
K29M	**Barlow Dome**	**92.78**	**337**	IAMs_20		IAMs_20		10 15 19.1		
	comp=Z,93µm,22.0s									
K29M	**Barlow Dome**	**92.78**	**337**	P		**P**		**09 31 52.8**	**-1.0**	
	baz=121									
K29M				S		**S**		**09 42 53.6**	**-2.7**	
	baz=121									
LINV	**Loch Inver, As**	**92.85**	**30**	IAmb		IAmb		09 28 25.5		
	comp=Z,175nm,1.3s									
LINV				*e*P		**P**		**09 31 53.7**	**-0.3**	
HMNX	**Herstmonceux**	**92.90**	**38**	*e*P		**P**		**09 31 56.4**	**+1.9**	
HMNX				IAmb		IAmb		09 31 57.3		
	comp=Z,829nm,1.3s									
EDI	**Edinburgh**	**92.91**	**32**	*e*P		**P**		**09 31 56.1**	**+1.8**	
EDI				IAmb		IAmb		09 31 56.6		
	comp=Z,700nm,1.8s									
EDI				IAMs_20		IAMs_20		10 05 27.7		
	comp=Z,114µm,26.9s									
CTGM	**Chitina Glacie**	**92.92**	**333**	IAMs_20		IAMs_20		10 16 22.0		
	comp=Z,96µm,22.0s									
CTG	**Chitna Glacier**	**92.92**	**333**	P		**P**		**09 31 53.9**	**-0.7**	
	baz=118,SNR=6.4									
CTG				S		**S**		**09 42 57.9**	**+0.3**	
	baz=118									
YUK3	**Moose Creek**	**92.93**	**334**	P		**P**		**09 31 53.9**	**-0.7**	
	baz=118,SNR=13									
YUK3				S		**S**		**09 42 54.7**	**-3.2**	
	baz=118									
ABSA	**Djebel Ababsia**	**92.98**	**53**	P		**P**		**09 31 57.4**	**+2.1**	
AFI	**Afiamalu**	**93.01**	**255**	IAMs_20		IAMs_20		10 03 12.4		
	comp=Z,64µm,22.0s									
AFI	**Afiamalu**	**93.01**	**255**	P		**P**		**09 31 58.1**	**+2.2**	
CMAH	**Djebel Manchou**	**93.04**	**53**	P		**P**		**09 31 55.6**	**0.0**	
I30M	**Mount Dempster**	**93.08**	**338**	IAMs_20		IAMs_20		10 16 11.9		
	comp=Z,90µm,22.0s									
I30M	**Mount Dempster**	**93.08**	**338**	P		**P**		**09 31 54.3**	**-0.8**	
	baz=122									
I30M				S		**S**		**09 42 57.8**	**-1.1**	
	baz=122									
BARN	**Barnard Glacie**	**93.10**	**333**	IAMs_20		IAMs_20		10 16 15.8		
	comp=Z,88µm,22.0s									
EDMD	**Edmundbyers**	**93.11**	**34**	*e*P		**P**		**09 31 56.1**	**+0.8**	
EDMD				IAmb		IAmb		09 31 57.7		
	comp=Z,418nm,1.2s									
EDMD				IAMs_20		IAMs_20		10 09 20.5		
	comp=Z,112µm,21.0s									
MHGZ	**Mahia Peninsul**	**93.16**	**228**	P		**P**		**09 31 58.3**	**+2.1**	
CNGZ	**Carnagh Statio**	**93.20**	**229**	P		**P**		**09 31 58.3**	**+1.9**	
SNH	**Sunshine Point**	**93.22**	**332**	IAMs_20		IAMs_20		10 13 07.9		
	comp=Z,89µm,22.0s									
PRGZ	**Paritu Road**	**93.26**	**228**	P		**P**		**09 31 59.5**	**+2.9**	
G31M	**Satah River**	**93.28**	**340**	IAMs_20		IAMs_20		10 15 29.1		
	comp=Z,56µm,20.0s									
G31M	**Satah River**	**93.28**	**340**	P		**P**		**09 31 54.9**	**-0.9**	
	baz=124									
G31M				S		**S**		**09 42 57.8**	**-2.4**	
	baz=124									
WMGZ	**Waiomatatini S**	**93.31**	**229**	P		**P**		**09 31 57.4**	**+0.6**	
PUZ	**Puketiti**	**93.33**	**229**	P		**P**		**09 31 57.7**	**+0.7**	
J29N	**Klondike Camp**	**93.35**	**337**	IAMs_20		IAMs_20		10 20 00.2		
	comp=Z,136µm,19.0s									
J29N	**Klondike Camp**	**93.35**	**337**	P		**P**		**09 31 55.9**	**-0.5**	
	baz=120									
J29N				S		**S**		**09 42 58.6**	**-2.7**	
	baz=120									
SCO	**Scoresbysund**	**93.35**	**16**	*i* P		**P**		**09 31 58.8**	**+2.6**	
SCO	**Scoresbysund**	**93.35**	**16**	*i* P		**P**		**09 31 56.5**	**+0.4**	
SCO				IAmb		IAmb		09 32 03.1		
	comp=Z,25nm,0.8s									
KNZ	**Kokohu**	**93.38**	**228**	P		**P**		**09 31 58.9**	**+1.8**	
BVCY	**Beaver Creek**	**93.39**	**335**	P		**P**		**09 31 55.7**	**-0.9**	
	baz=118									
BVCY				S		**S**		**09 42 59.2**	**-2.4**	
	baz=118									
F31M	**Tsiigehtchic**	**93.40**	**341**	IAMs_20		IAMs_20		10 17 46.3		
	comp=Z,82µm,20.0s									
F31M	**Tsiigehtchic**	**93.40**	**341**	P		**P**		**09 31 55.1**	**-1.2**	
	baz=124									
F31M				S		**S**		**09 42 57.9**	**-3.4**	
	baz=124									
RIGZ	**Rimuhau**	**93.44**	**228**	P		**P**		**09 31 59.1**	**+1.6**	
ELSH	**Elham, Standar**	**93.47**	**38**	*e*P		**P**		**09 31 57.5**	**+0.4**	
ELSH				IAmb		IAmb		09 31 59.6		
	comp=Z,842nm,1.2s									
ELSH				IAMs_20		IAMs_20		10 07 49.6		
	comp=Z,255µm,25.5s									
LMK	**Market Rasen**	**93.48**	**35**	*e*P		**P**		**09 31 58.1**	**+1.1**	
LMK				IAMs_20		IAMs_20		10 09 22.9		
	comp=Z,154µm,23.2s									
TKGZ	**Te Karaka**	**93.48**	**229**	P		**P**		**09 31 58.3**	**+0.7**	
TWGZ	**Tauwhareparae**	**93.49**	**229**	P		**P**		**09 31 59.5**	**+1.8**	
MXZ	**Matakaoa Point**	**93.49**	**230**	P		**P**		**09 32 00.5**	**+2.9**	
MXZ	**Matakaoa Point**	**93.49**	**230**	P		**P**		**09 31 58.9**	**+1.3**	
PKGZ	**Pakihiroa**	**93.53**	**229**	P		**P**		**09 31 58.3**	**+0.3**	
CKHZ	**Cape Kidnapper**	**93.55**	**227**	P		**P**		**09 31 59.5**	**+1.7**	
PXZ	**Pawanui**	**93.55**	**227**	P		**P**		**09 31 58.2**	**+0.3**	
MCD	**Coleburn Disti**	**93.55**	**31**	IAmb		IAmb		09 28 18.3		
	comp=Z,90nm,0.7s									
MCD				*e*P		**P**		**09 31 58.1**	**+0.8**	
GDLE	**Glaisdale, N Y**	**93.57**	**34**	*e*P		**P**		**09 31 59.7**	**+2.2**	
GDLE				IAMs_20		IAMs_20		10 10 53.6		
	comp=Z,143µm,19.7s									
RAO	**Raoul Island**	**93.58**	**238**	IAMs_20		IAMs_20		10 03 53.5		
	comp=Z,111µm,22.0s									
RAO	**Raoul Island**	**93.58**	**238**	LR		LR		10 04 27.5		
	comp=Z,93µm,21.6s,baz=104,slow=29									
DAWY	**Dawson**	**93.61**	**337**	P		**P**		**09 31 56.6**	**-0.9**	
	baz=119,SNR=6.9									
DAWY				S		**S**		**09 43 01.6**	**-1.8**	
	baz=119									
BIGH	**Upper Bighouse**	**93.61**	**30**	*e*P		**P**		**09 31 58.8**	**+1.3**	
BIGH				IAmb		IAmb		09 32 00.1		
	comp=Z,545nm,1.3s									
PRHZ	**Porangahau**	**93.61**	**227**	P		**P**		**09 31 58.3**	**+0.1**	
KAHZ	**Kahuranaki**	**93.63**	**227**	P		**P**		**09 32 01.5**	**+3.1**	
ANWZ	**Angora Road**	**93.64**	**226**	P		**P**		**09 31 58.9**	**+0.6**	
DRUM	**Mains of Drumt**	**93.67**	**32**	*e*P		**P**		**09 31 59.3**	**+1.4**	
BERG	**Berg Lake**	**93.70**	**332**	IAMs_20		IAMs_20		10 20 09.6		
	comp=Z,70µm,22.0s									
SNGZ	**Shannon Statio**	**93.71**	**228**	P		**P**		**09 32 00.2**	**+1.5**	
BFZ	**Birch Farm**	**93.71**	**226**	P		**P**		**09 32 00.5**	**+1.9**	
BFZ	**Birch Farm**	**93.71**	**226**	P		**P**		**09 31 58.9**	**+0.3**	
BFZ				ScS		**SKSac**		**09 42 22.9**	**-7.9**	
ELMS	**Elmsett, Ipswi**	**93.72**	**37**	*e*P		**P**		**09 31 59.3**	**+1.0**	
ELMS				IAmb		IAmb		09 32 00.4		
	comp=Z,724nm,1.5s									
ELMS				IAMs_20		IAMs_20		10 08 51.2		
	comp=Z,254µm,23.5s									
WACR	**West Acre**	**93.74**	**36**	IAmb		IAmb		09 28 07.8		
	comp=Z,200nm,0.7s									
WACR				*e*P		**P**		**09 31 59.3**	**+1.0**	
WACR				IAMs_20		IAMs_20		10 08 53.2		
	comp=Z,147µm,23.4s									
MWZ	**Matawai**	**93.75**	**229**	P		**P**		**09 31 59.7**	**+0.7**	
MWZ				ScS		**SKSac**		**09 42 21.8**	**-9.4**	
ARHZ	**Aropaoanui**	**93.76**	**228**	P		**P**		**09 32 02.7**	**+3.8**	
RAGZ	**Rawiri**	**93.77**	**228**	P		**P**		**09 31 58.3**	**-0.8**	
M27K	**Edge Creek, AK**	**93.79**	**334**	IAMs_20		IAMs_20		10 17 29.9		
	comp=Z,103µm,21.0s									
M27K	**Edge Creek, AK**	**93.79**	**334**	P		**P**		**09 31 57.6**	**-0.9**	
	baz=117									
M27K				S		**S**		**09 43 01.9**	**-3.4**	
	baz=117									
RUGZ	**Raukumara Rang**	**93.79**	**229**	P		**P**		**09 31 59.9**	**+0.7**	
HAZ	**Te Kaha**	**93.80**	**229**	P		**P**		**09 32 00.5**	**+1.4**	
HAZ				ScS		**SKSac**		**09 42 31.6**	**+0.2**	
EPYK	**Eagle Plains**	**93.80**	**339**	IAMs_20		IAMs_20		10 16 54.0		
	comp=Z,83µm,22.0s									
EPYK	**Eagle Plains**	**93.80**	**339**	P		**P**		**09 31 57.3**	**-1.1**	
	baz=122									
EPYK				S		**S**		**09 43 02.5**	**-2.5**	
	baz=122									
INK	**Inuvik**	**93.82**	**341**	P		**P**		**09 31 56.9**	**-1.3**	
	baz=124									
INK				S		**S**		**09 43 00.8**	**-4.2**	
	baz=124									
INK	**Inuvik**	**93.82**	**341**	PKKPbc		PKKPbc		09 49 04.3	-0.7	
	comp=Z,22nm,0.9s,baz=262,slow=5.4,SNR=8.3									
INK				PKPPKP				09 57 06.7		
	comp=Z,3.6nm,1.0s,baz=345,slow=2.4,SNR=3.6									
INK				LR		LR		10 17 08.2		
	comp=Z,175µm,21.7s,baz=108,slow=37									
KAIM	**Kayak Island**	**93.82**	**332**	IAMs_20		IAMs_20		10 15 07.6		
	comp=Z,94µm,21.0s									
KAIM	**Kayak Island**	**93.82**	**332**	P		**P**		**09 31 56.9**	**-1.6**	
	baz=115									
KAIM				S		**S**		**09 43 03.5**	**-1.9**	
	baz=115									
HRAO	**HartRAO**	**93.83**	**118** ⇑	*i* P		**P**		**09 31 59.5**	**-0.2**	
WPHZ	**Waipukurau**	**93.83**	**227**	P		**P**		**09 32 00.5**	**+1.2**	
NHAM	**Northam, North**	**93.83**	**117** ⇑	*i* P		**P**		**09 31 57.4**	**-2.2**	
NHAM				IAmb		IAmb		09 32 04.3		
	comp=Z,592nm,0.9s									
MCARA	**McCarthy VSAT**	**93.84**	**333**	P		**P**		**09 31 57.1**	**-1.4**	
	baz=116									
I29M	**Ogilvie Camp,**	**93.84**	**338**	IAMs_20		IAMs_20		10 19 16.2		
	comp=Z,75µm,20.0s									
I29M	**Ogilvie Camp,**	**93.84**	**338**	P		**P**		**09 31 57.5**	**-1.1**	
	baz=120									
I29M				S		**S**		**09 43 01.8**	**-3.6**	
	baz=120									
A36M	**Sachs Harbour**	**93.86**	**346**	P		**P**		**09 31 57.1**	**-1.3**	
	baz=132									
A36M				S		**S**		**09 43 02.0**	**-3.2**	
	baz=132									
NYAT	**Nyati, Northwe**	**93.90**	**118** ⇑	*i* P		**P**		**09 31 56.8**	**-3.1**	
NYAT				IAmb		IAmb		09 32 04.4		
	comp=Z,582nm,0.9s									
MCHZ	**McNeill Hill**	**93.90**	**227**	P		**P**		**09 32 01.7**	**+2.1**	
TIWZ	**Tintock**	**93.92**	**226**	P		**P**		**09 31 58.9**	**-0.7**	
DVHZ	**Dannevirke**	**93.92**	**226**	P		**P**		**09 32 00.2**	**+0.5**	
G30M	**tAoh Zraii Nji**	**93.95**	**340**	IAMs_20		IAMs_20		10 17 48.1		
	comp=Z,63µm,20.0s									
G30M	**tAoh Zraii Nji**	**93.95**	**340**	P		**P**		**09 31 57.8**	**-1.3**	
	baz=122									
G30M				S		**S**		**09 43 04.2**	**-2.2**	
	baz=122									
PRWZ	**Pori Road**	**93.95**	**226**	P		**P**		**09 32 00.8**	**+1.1**	
NMHZ	**Naumai**	**93.96**	**228**	P		**P**		**09 32 00.8**	**+0.9**	
RTZ	**Ruatahuna**	**94.03**	**228**	P		**P**		**09 32 00.8**	**+0.6**	
RTZ				ScS		**SKSac**		**09 42 33.1**	**+0.3**	
MTHZ	**Maungataniwha**	**94.04**	**228**	P		**P**		**09 32 02.1**	**+1.9**	
KRHZ	**Kereru**	**94.05**	**227**	P		**P**		**09 32 01.5**	**+1.2**	
PNHZ	**Pukenui**	**94.06**	**227**	P		**P**		**09 32 02.1**	**+1.8**	
NEEM	**North Greenlan**	**94.07**	**5**	*i* P		**P**		**09 32 01.3**	**+1.6**	
NEEM	**North Greenlan**	**94.07**	**5**	*i* P		**P**		**09 32 01.5**	**+1.8**	
NEEM				IAmb		IAmb		09 32 06.2		
	comp=Z,68nm,0.8s									
URZ	**Urewera**	**94.08**	**229**	LR		LR		10 06 10.6		
	comp=Z,138µm,19.7s,baz=224,slow=30									
URZ	**Urewera**	**94.08**	**229**	P		**P**		**09 32 01.5**	**+1.1**	
URZ				ScS		**SKSac**		**09 42 29.3**	**-3.6**	
L27K	**Beaver Creek,**	**94.09**	**335**	P		**P**		**09 31 58.9**	**-0.9**	
	baz=117									
L27K				S		**S**		**09 43 06.1**	**-1.5**	
	baz=117									
KWHZ	**Kaweka Forest**	**94.10**	**227**	P		**P**		**09 32 01.5**	**+0.9**	
HOWZ	**Holdsworth Sta**	**94.13**	**226**	P		**P**		**09 32 00.8**	**+0.2**	
F30M	**Barrier River**	**94.15**	**340**	P		**P**		**09 31 58.7**	**-1.2**	
	baz=122									
F30M				S		**S**		**09 43 06.5**	**-1.4**	
	baz=122									
POWZ	**Post Office Ro**	**94.16**	**226**	P		**P**		**09 32 01.5**	**+0.7**	
TSZ	**Takapari Road**	**94.17**	**227**	P		**P**		**09 32 01.5**	**+0.7**	
MRZ	**Mangatainoka R**	**94.18**	**226**	P		**P**		**09 32 01.5**	**+0.7**	
MRZ				ScS		**SKSac**		**09 42 25.5**	**-7.9**	
GLB	**Gilahina Butte**	**94.20**	**333**	IAMs_20		IAMs_20		10 21 22.9		
	comp=Z,58µm,21.0s									
MUGZ	**Murupara**	**94.24**	**228**	P		**P**		**09 32 00.2**	**-0.9**	
KEST	**Kesra**	**94.27**	**54**	P		**P**		**09 32 01.0**	**-0.3**	
	comp=Z,88nm,1.0s,baz=240,slow=2.1,SNR=17									
KEST				S		**SKSac**		**09 42 34.0**	**0.0**	
	comp=Z,1.4nm,0.6s,baz=9.3,slow=16,SNR=1.2									
KEST				PKKPbc		**PKKPbc**		**09 49 02.7**	**0.0**	
	comp=Z,22nm,0.9s,baz=309,slow=3.9,SNR=10									
KEST				PKPPKP		**P'P'df**		**09 57 15.5**	**+2.4**	
	comp=Z,6.2nm,0.9s,baz=350,slow=3.8,SNR=4.7									
KEST				LR		LR		10 15 02.7		
	comp=Z,197µm,20.3s,baz=222,slow=36									
	comp=Z,88nm,1.0s									
M26K	**Nabesna, AK**	**94.28**	**334**	IAMs_20		IAMs_20		10 14 30.4		
	comp=Z,74µm,22.0s									
M26K	**Nabesna, AK**	**94.28**	**334**	P		**P**		**09 31 59.0**	**-1.6**	
	baz=116									
M26K				S		**S**		**09 43 06.0**	**-3.3**	
	baz=116									
H29M	**Whitestone**	**94.30**	**339**	P		**P**		**09 31 59.5**	**-1.1**	
	baz=120									
H29M				S		**S**		**09 43 07.6**	**-1.7**	
	baz=120									
TSWA	**Tswaing Meteor**	**94.32**	**118** ⇑	*i* P		**P**		**09 32 02.0**	**+0.2**	
TSWA				IAmb		IAmb		09 32 06.0		
	comp=Z,1µm,0.9s									
WIZ	**White Island**	**94.32**	**229**	P		**P**		**09 32 02.1**	**+0.6**	
WSRZ	**White Island S**	**94.33**	**229**	P		**P**		**09 32 02.1**	**+0.5**	
BHHZ	**Black Hill Sta**	**94.33**	**227**	P		**P**		**09 32 02.7**	**+1.1**	
CAW	**Cannon Point**	**94.35**	**225**	P		**P**		**09 32 00.8**	**-0.7**	
BMRM	**Bremner River**	**94.35**	**333**	P		**P**		**09 31 59.5**	**-1.6**	
	baz=115									
BMRM				S		**S**		**09 43 05.9**	**-4.2**	
	baz=115									
BHW	**Baring Head**	**94.35**	**225**	IAMs_20		IAMs_20		10 07 11.0		
	comp=Z,60µm,19.0s									
OGWZ	**Otaki Gorge**	**94.40**	**226**	P		**P**		**09 32 02.7**	**+1.0**	
EDRZ	**Edgecumbe**	**94.41**	**229**	P		**P**		**09 32 01.5**	**-0.5**	
RRRZ	**Republican Roa**	**94.48**	**228**	P		**P**		**09 32 02.7**	**+0.5**	
I28M	**Miner Creek**	**94.48**	**338**	IAMs_20		IAMs_20		10 16 19.0		
	comp=Z,87µm,22.0s									
I28M	**Miner Creek**	**94.48**	**338**	P		**P**		**09 32 00.5**	**-1.1**	
	baz=119									
I28M				S		**S**		**09 43 09.4**	**-1.8**	
	baz=119									
PRRZ	**Plateau Road**	**94.50**	**228**	P		**P**		**09 32 03.4**	**+1.0**	
SNZO	**South Karori**	**94.51**	**225**	IAMs_20		IAMs_20		10 07 16.1		
	comp=Z,93µm,19.0s									
SNZO	**South Karori**	**94.51**	**225**	P		**P**		**09 32 04.0**	**+1.8**	
MARZ	**Manawahe**	**94.51**	**229**	P		**P**		**09 32 02.7**	**+0.3**	
Q23K	**Middleton Isla**	**94.51**	**331**	P		**P**		**09 32 00.4**	**-1.3**	
	baz=114									
Q23K				S		**S**		**09 43 09.4**	**-1.9**	
	baz=114									
ALRZ	**Allen Road**	**94.51**	**228**	P		**P**		**09 32 04.6**	**+2.3**	
G29M	**Pine Creek**	**94.53**	**339**	P		**P**		**09 31 59.9**	**-1.7**	
	baz=120									
G29M				S		**S**		**09 43 07.7**	**-3.6**	
	baz=120									
TARZ	**Mount Tarawera**	**94.53**	**228**	P		**P**		**09 32 04.0**	**+1.4**	
KIW	**Kapiti Island**	**94.56**	**225**	P		**P**		**09 32 01.5**	**-1.1**	
MOVZ	**Moawhango**	**94.58**	**227**	P		**P**		**09 32 03.4**	**+0.6**	
N25K	**Chitina, Valde**	**94.61**	**333**	IAMs_20		IAMs_20		10 18 23.8		
	comp=Z,62µm,22.0s									
N25K	**Chitina, Valde**	**94.61**	**333**	P		**P**		**09 32 00.6**	**-1.7**	
	baz=115									
EGAK	**Eagle**	**94.62**	**337**	P		**P**		**09 32 00.5**	**-1.6**	
	baz=118									
EGAK				S		**S**		**09 43 08.1**	**-4.0**	
	baz=118									
HRRZ	**Handcock Road**	**94.62**	**228**	P		**P**		**09 32 02.7**	**-0.2**	
K27K	**Chicken**	**94.63**	**336**	IAMs_20		IAMs_20		10 15 56.0		
	comp=Z,89µm,21.0s									
K27K	**Chicken**	**94.63**	**336**	P		**P**		**09 32 01.2**	**-0.9**	
	baz=117									
HLRZ	**Highlands Stat**	**94.63**	**228**	P		**P**		**09 32 02.7**	**-0.2**	
OPRZ	**Ohinepanea**	**94.65**	**229**	P		**P**		**09 32 03.4**	**+0.4**	
OPRZ				ScS		SKSac		09 42 07.6	-28	
WPRZ	**Whakapapatarin**	**94.66**	**228**	P		**P**		**09 32 05.3**	**+2.2**	
OMRZ	**Omania**	**94.68**	**228**	P		**P**		**09 32 03.4**	**+0.2**	
HSRZ	**Hossack Road**	**94.69**	**228**	P		**P**		**09 32 02.7**	**-0.5**	
EYAK	**Cordova Ski Ar**	**94.69**	**332**	P		**P**		**09 32 01.4**	**-1.0**	
	baz=114									
RITZ	**Rihia Road**	**94.69**	**227**	P		**P**		**09 32 05.3**	**+2.1**	
L26K	**Log Cabin Wild**	**94.69**	**335**	IAMs_20		IAMs_20		10 16 54.8		
	comp=Z,92µm,21.0s									
L26K	**Log Cabin Wild**	**94.69**	**335**	P		**P**		**09 32 01.2**	**-1.3**	
	baz=116									
TUVZ	**Tukino**	**94.71**	**227**	P		**P**		**09 32 04.6**	**+1.2**	
ETVZ	**East Tongariro**	**94.73**	**227**	P		**P**		**09 32 04.0**	**+0.5**	
ETVZ				ScS		SKSac		09 42 14.0	-23	
WNVZ	**Wahianoa**	**94.73**	**227**	P		**P**		**09 32 04.0**	**+0.5**	
TMVZ	**Te Maari**	**94.74**	**227**	P		**P**		**09 32 03.9**	**+0.3**	
TMVZ				ScS		**SKSac**		**09 42 29.9**	**-6.9**	
WHTZ	**Whakaora**	**94.75**	**228**	P		**P**		**09 32 04.0**	**+0.5**	
OTVZ	**Oturere**	**94.75**	**227**	P		**P**		**09 32 04.6**	**+0.9**	
OTVZ				ScS		SKSac		09 42 15.3	-22	
WHVZ	**Whangaehu Hut**	**94.75**	**227**	P		**P**		**09 32 02.1**	**-1.6**	
WHVZ				ScS		**SKSac**		**09 42 26.8**	**-10**	
SNVZ	**South Ngauruho**	**94.75**	**227**	P		**P**		**09 32 04.6**	**+1.0**	
RUST	**Rust De Winter**	**94.76**	**118** ⇑	*i* P		**P**		**09 32 03.1**	**-0.7**	
GRRZ	**Galatos Road**	**94.77**	**228**	P		**P**		**09 32 03.4**	**-0.2**	
NTVZ	**North Tongarir**	**94.77**	**227**	P		**P**		**09 32 04.0**	**+0.3**	
NTVZ				ScS		**SKSac**		**09 42 26.8**	**-10**	
TRVZ	**Turoa**	**94.77**	**227**	P		**P**		**09 32 04.5**	**+0.7**	
TRVZ				ScS		SKSac		09 42 21.6	-16	
MAVZ	**Matarangi**	**94.78**	**227**	P		**P**		**09 32 04.0**	**+0.1**	
MAVZ				ScS		SKSac		09 42 25.5	-12	
UTU	**Utuhina**	**94.78**	**228**	P		**P**		**09 32 04.0**	**+0.4**	
NGZ	**Ngauruhoe**	**94.79**	**227**	P		**P**		**09 32 04.6**	**+0.8**	
FWVZ	**Far West T-bar**	**94.79**	**227**	P		**P**		**09 32 04.7**	**+0.8**	
FWVZ				ScS		**SKSac**		**09 42 33.2**	**-4.0**	
MTVZ	**Mangateitei**	**94.79**	**227**	P		**P**		**09 32 04.0**	**+0.3**	
KRVZ	**Karewarewa**	**94.79**	**227**	P		**P**		**09 32 02.7**	**-1.1**	
RATZ	**Rangitukua**	**94.79**	**228**	P		**P**		**09 32 03.4**	**-0.3**	
RATZ				ScS		**SKSac**		**09 42 26.8**	**-10**	
NNVZ	**North Ngauruho**	**94.80**	**227**	P		**P**		**09 32 05.9**	**+2.1**	
KARZ	**Kaharoa**	**94.80**	**228**	P		**P**		**09 32 02.1**	**-1.6**	
KATZ	**Kakaramea**	**94.80**	**227**	P		**P**		**09 32 05.3**	**+1.4**	
KHZ	**Kahutara**	**94.81**	**224**	IAMs_20		IAMs_20		10 04 47.0		
	comp=Z,71µm,21.0s									
MQZ	**McQueen's Vall**	**94.81**	**222**	IAMs_20		IAMs_20		10 10 07.0		
	comp=Z,71µm,18.0s									
MENT	**Mentasta**	**94.81**	**335**	IAMs_20		IAMs_20		10 20 13.8		
	comp=Z,68µm,20.0s									
NGRZ	**Ngongotaha**	**94.81**	**228**	P		**P**		**09 32 04.0**	**+0.2**	
COVZ	**Chateau Observ**	**94.82**	**227**	P		**P**		**09 32 04.6**	**+0.7**	
WTVZ	**West Tongariro**	**94.82**	**227**	P		**P**		**09 32 04.0**	**+0.1**	
WATZ	**Wairara**	**94.89**	**228**	P		**P**		**09 32 04.0**	**-0.1**	
GVZ	**Greta Valley S**	**94.89**	**223**	IAMs_20		IAMs_20		10 05 19.3		
	comp=Z,93µm,21.0s									
TGRZ	**Tauranga**	**94.91**	**229**	P		**P**		**09 32 04.6**	**+0.5**	
KUTZ	**Kaahu Road**	**94.91**	**228**	P		**P**		**09 32 04.0**	**-0.2**	
PKVZ	**Pokaka**	**94.92**	**227**	P		**P**		**09 32 06.6**	**+2.3**	
TWVZ	**Taurewa**	**94.95**	**227**	P		**P**		**09 32 05.9**	**+1.4**	
HIN	**Hinchinbrook I**	**94.97**	**332**	IAMs_20		IAMs_20		10 15 43.2		
	comp=Z,74µm,21.0s									
WAZ	**Wanganui**	**94.97**	**226**	P		**P**		**09 32 05.9**	**+1.4**	
KMRZ	**Kaimai**	**95.09**	**229**	P		**P**		**09 32 05.3**	**+0.2**	
FID	**Port Fidalgo**	**95.10**	**332**	IAMs_20		IAMs_20		10 19 57.2		
	comp=Z,87µm,20.0s									
KLU	**Klutina**	**95.14**	**333**	P		**P**		**09 32 03.1**	**-1.6**	
	baz=114,SNR=7.7									
I27K	**Kandik River**	**95.17**	**337**	P		**P**		**09 32 03.9**	**-0.7**	
	baz=117									
HARP	**HAARP**	**95.18**	**334**	P		**P**		**09 32 03.3**	**-1.5**	
	baz=114									
TLZ	**Tolley Road**	**95.18**	**228**	P		**P**		**09 32 04.6**	**-0.9**	
DOU	**Dourbes**	**95.20**	**39**	*d*P		**P**	

SML Sawmill 96.33 333 P P 09 32 08.3 -1.8
baz=112
MATP Matopo 96.34 113 LR LR 10 12 33.6
comp=Z,83µm,22.0s,baz=254,slow=34
E27K Coleen River 96.34 340 P P 09 32 08.3 -1.6
baz=117
AWAZ Awhitu Peninsu 96.36 229 P P 09 32 11.7 +0.9
WAT6 Susitna Watana 96.36 334 P P 09 32 09.0 -1.3
baz=112,SNR=7.5
DHY Denali Highway 96.39 334 IAMs_20 IAMs_20 10 22 43.7
comp=Z,54µm,20.0s
DHY Denali Highway 96.39 334 P P 09 32 07.9 -2.5
baz=112
WTAZ Waiatarua 96.47 229 P P 09 32 12.9 +1.6
O22K Cooper Landing 96.48 331 IAMs_20 IAMs_20 10 21 19.3
comp=Z,80µm,21.0s
O22K Cooper Landing 96.48 331 P P 09 32 09.2 -1.5
baz=111
MCQ Macquarie Isla 96.54 208 IAMs_20 IAMs_20 10 05 38.3
comp=Z,80µm,21.0s
G26K Porcupine Rive 96.56 338 P P 09 32 09.7 -1.1
baz=115
WKZ Wanaka 96.57 220 IAMs_20 IAMs_20 10 06 51.6
comp=Z,79µm,22.0s
GHO Glory Hole Cre 96.58 333 IAMs_20 IAMs_20 10 19 38.8
comp=Z,109µm,22.0s
PRP Porcupine Dome 96.60 337 IAMs_20 IAMs_20 10 21 20.2
comp=Z,92µm,20.0s
PRP Porcupine Dome 96.60 337 P P 09 32 09.9 -1.4
baz=114,SNR=6.1
PMR Palmer 96.61 332 IAMs_20 IAMs_20 10 21 40.5
comp=Z,94µm,21.0s
PMR Palmer 96.61 332 P P 09 32 10.0 -1.2
baz=111
D27M Malcolm River 96.62 341 P P 09 32 10.3 -1.0
baz=118
RC01 Rabbit Creek A 96.70 332 IAMs_20 IAMs_20 10 20 55.0
comp=Z,66µm,21.0s
RC01 Rabbit Creek A 96.70 332 P P 09 32 10.4 -1.3
baz=111
BRSE Bradley Lake S 96.70 330 P P 09 32 10.3 -1.5
baz=110,SNR=10
HDA Harding Lake 96.72 335 IAMs_20 IAMs_20 10 19 18.5
comp=Z,74µm,21.0s
HDA Harding Lake 96.72 335 P P 09 32 10.4 -1.3
baz=113
BRLK Bradley Lake 96.78 330 IAMs_20 IAMs_20 10 22 21.4
comp=Z,68µm,22.0s
WAT1 Susitna Watana 96.80 334 P P 09 32 10.2 -2.0
baz=111
ILAR Eielson Array 96.84 336 P P 09 32 10.2 -2.0
comp=Z,12nm,1.0s,baz=113,slow=1.4,SNR=2.1
ILAR PP **PP** 09 36 04.7 -3.1
comp=Z,61nm,1.0s,baz=106,slow=6.8,SNR=12
ILAR S **SKSac** 09 42 39.0 -7.2
comp=Z,1.1nm,0.8s,baz=12,slow=0.9,SNR=1.3
ILAR PKKPbc **PKKPbc** 09 48 57.1 +0.3
comp=Z,3.3nm,0.8s,baz=307,slow=2.7,SNR=4.4
ILAR LR LR 10 20 44.4
comp=Z,87µm,19.8s,baz=96,slow=38
comp=Z,12nm,1.0s
AHRW Bad Neuenahr-A 96.85 39 *e*Pdiff **P** 09 32 12.4 -0.2
CNPM China Poot 96.87 330 IAMs_20 IAMs_20 10 22 24.6
comp=Z,80µm,21.0s
FYU Fort Yukon 96.92 338 IAMs_20 IAMs_20 10 18 37.5
comp=Z,102µm,22.0s
FIS Fire Island 96.94 332 IAMs_20 IAMs_20 10 21 03.3
comp=Z,70µm,22.0s
KDAK Kodiak Island 96.97 328 IAMs_20 IAMs_20 10 16 43.4
comp=Z,57µm,21.0s
KDAK Kodiak Island 96.97 328 *i* P **P** 09 32 14.0 +1.1
KDAK pmax pmax
comp=Z,441nm,1.9s
KDAK MLR MLR
comp=Z,67µm,20.0s
KDAK Kodiak Island 96.97 328 P P 09 32 11.3 -1.6
baz=108
KDAK Kodiak Island 96.97 328 PKKPbc PKKPbc 09 48 56.1 -0.1
comp=Z,31nm,0.8s,baz=324,slow=2.7,SNR=4.8
KDAK LR LR 10 16 44.9
comp=Z,35µm,19.8s,baz=116,slow=36
MPHEP Siloam, Limpop 96.97 116 ⇑ *i* P **P** 09 32 11.8 -2.2
MPHEP IAmb IAmb 09 32 18.7
comp=Z,494nm,0.9s
F26K Sheenjek River 97.00 339 P P 09 32 12.0 -0.9
baz=115
BFO Black Forest 97.02 42 *e*Pdiff **P** 09 32 12.6 -0.9
WCZ Waipu Caves 97.05 230 P P 09 32 12.9 -1.0
JCZ Jackson Bay 97.09 220 P Pdif 09 32 16.0 +1.8
HOED Hoedspruit, Li 97.09 118 ⇑ *i* P **P** 09 32 12.1 -2.4
HOED IAmb IAmb 09 32 17.9
comp=Z,641nm,1.2s
HOM Homer 97.11 330 IAMs_20 IAMs_20 10 22 32.0
comp=Z,62µm,22.0s
HOM Homer 97.11 330 P P 09 32 12.2 -1.3
baz=109
SYI Shuyak Island 97.13 329 IAMs_20 IAMs_20 10 22 08.7
comp=Z,74µm,22.0s
Q20K Shuyak Island 97.14 329 P P 09 32 12.6 -1.0
baz=109
RND Reindeer 97.14 334 IAMs_20 IAMs_20 10 23 13.5
comp=Z,70µm,19.0s
OHAK Old Harbor 97.15 327 P P 09 32 12.6 -1.2
baz=108
CCB Clear Creek Bu 97.16 335 IAMs_20 IAMs_20 10 18 00.9
comp=Z,101µm,22.0s
POKR Poker Plat Res 97.19 336 P P 09 32 12.3 -1.5
baz=112
CAPN Captain Cook N 97.24 331 IAMs_20 IAMs_20 10 21 42.4
comp=Z,79µm,22.0s
CAPN Captain Cook N 97.24 331 P P 09 32 13.7 -0.4
baz=109
JMI Jan Mayen 97.25 18 *e*P Pdif 09 32 14.1 +0.2
JMI IVmB_BB 09 32 19.8
comp=Z,9µm,6.6s
JMI *e*PP **PP** 09 36 10.4 -0.4
JMI *e*SKSac **SKSac** 09 42 51.0 +3.1
JMI *e*PS **PS** 09 45 00.3 -0.9
JMI *e*SS **SS** 09 50 14.4 +1.4
JMI IVMs_BB IVMs_BB 10 14 26.1
comp=Z,24µm,20.0s
COLA College 97.26 336 P Pdif 09 32 14.3 +0.2
COLA College 97.26 336 P P 09 32 13.0 -1.1
baz=112
MCK McKinley 97.29 334 P P 09 32 12.7 -1.6
baz=111
SUA Susitna One 97.29 332 IAMs_20 IAMs_20 10 21 41.5
comp=Z,77µm,22.0s
SUA Susitna One 97.29 332 P P 09 32 12.7 -1.8
baz=110
PYZ Puysegur Point 97.30 218 IAMs_20 IAMs_20 10 07 13.8
comp=Z,63µm,19.0s
G25K Bearman Lake 97.32 338 P P 09 32 13.4 -0.8
baz=113
JMIC Jan Mayen 97.34 18 *e*P Pdif 09 32 15.2 +0.8
JMIC IVmBBB 09 32 20.6
comp=Z,8µm,4.8s
JMIC *e*PP **PP** 09 36 09.4 -2.1
JMIC *e*SKSac **SKSac** 09 42 48.8 +0.4
JMIC *e*SP SP 09 44 59.4 +2.2
JMIC *e*SS **SS** 09 50 13.3 -1.0
JMIC *e* 09 59 57.4
JMIC IVMs_BB IVMs_BB 10 11 26.2
comp=Z,24µm,23.0s
JMIC Jan Mayen 97.34 18 LR LR 10 13 24.3
comp=Z,55µm,20.1s,baz=234,slow=34
CUT Chulitna 97.39 333 IAMs_20 IAMs_20 10 22 49.2
comp=Z,56µm,21.0s
CUT Chulitna 97.39 333 P P 09 32 13.2 -1.5
baz=110
SII Sitkinak Islan 97.42 327 P P 09 32 13.3 -1.7
baz=107
F25K Christian Rive 97.48 339 P P 09 32 14.3 -0.8
baz=113
TNS Taunus Mts 97.61 40 *e*Pdiff **P** 09 32 15.7 -0.4
DAVOX Davos/Dischmat 97.63 44 P P 09 32 16.4 -0.1
comp=Z,178nm,0.9s,baz=242,slow=7.6,SNR=40
DAVOX S **SKSac** 09 42 48.0 -3.4
comp=Z,2.8nm,0.8s,baz=49,slow=9.9,SNR=1.6
DAVOX LR LR 10 15 03.8
comp=Z,176µm,19.6s,baz=250,slow=35
comp=Z,178nm,0.9s
H24K Noodor Dome 97.63 337 P P 09 32 14.8 -1.0
baz=112
NEA2 Nenana 97.65 335 IAMs_20 IAMs_20 10 18 26.9
comp=Z,91µm,21.0s
NEA2 Nenana 97.65 335 P P 09 32 14.5 -1.3
baz=111
BWN Browne 97.66 335 IAMs_20 IAMs_20 10 18 54.4
comp=Z,58µm,21.0s
E25K Arctic Village 97.66 339 P P 09 32 15.0 -0.9
baz=113,SNR=7.7
STU Stuttgart 97.69 42 IAMs_20 IAMs_20 10 12 00.3
comp=Z,84µm,22.0s
O20K Slope Mountain 97.71 330 P P 09 32 14.6 -1.7
baz=108
LSZ Lusaka 97.73 108 LR LR 10 14 23.6
comp=Z,123µm,21.7s,baz=260,slow=34
IBBN Ibbenburen 97.75 38 *e*Pdiff **P** 09 32 16.2 -0.4
DAVA Damuels 97.76 43 *e*P **P** 09 32 16.7 -0.3
comp=Z,93nm,0.8s,SNR=37
DAVA *e*PP **PP** 09 36 15.1 -0.4
comp=Z,45nm,1.2s
DAVA *e*P'P' 09 57 06.0
comp=Z,71nm,1.4s,SNR=12
TRF Thorofare Moun 97.76 334 IAMs_20 IAMs_20 10 23 32.8
comp=Z,88µm,20.0s
TRF Thorofare Moun 97.76 334 P P 09 32 14.7 -1.9
baz=110
G24K Hadweenzic Riv 97.80 337 IAMs_20 IAMs_20 10 19 01.7
comp=Z,100µm,21.0s
G24K Hadweenzic Riv 97.80 337 P P 09 32 15.7 -0.8
baz=112
MOPA Mopani 97.81 117 ⇑ *i* P Pdif 09 32 17.9 +0.2
MOPA IAmb IAmb 09 32 23.1
comp=Z,1µm,0.9s
SKT Skwentna 97.81 332 IAMs_20 IAMs_20 10 20 16.3
comp=Z,79µm,22.0s
SKT Skwentna 97.81 332 P P 09 32 15.2 -1.5
baz=109
Q19K Cape Douglas, 97.85 329 IAMs_20 IAMs_20 10 22 31.7
comp=Z,66µm,22.0s
Q19K Cape Douglas, 97.85 329 P P 09 32 15.4 -1.6
baz=108
R18K Karluk 97.86 328 P P 09 32 15.0 -1.9
baz=107
N20K Mount Spurr 97.87 331 P P 09 32 15.9 -1.1
baz=108,SNR=8.7
P19K Oil Pt 97.87 330 P P 09 32 15.6 -1.5
baz=108
OUZ Omahuta 97.91 230 IAMs_20 IAMs_20 10 05 37.5
comp=Z,86µm,22.0s
I23K Minto, Yukon-K 97.96 336 IAMs_20 IAMs_20 10 19 31.1
comp=Z,87µm,21.0s
I23K Minto, Yukon-K 97.96 336 P P 09 32 16.1 -1.1
baz=110
DAG Danmarks Havn 98.00 11 P P 09 32 15.9 -1.3
DAG Danmarks Havn 98.00 11 *i* P Pdif 09 32 18.7 +1.5
DAG IAmb IAmb 09 32 23.0
comp=Z,37nm,1.0s
DAG Danmarks Havn 98.00 11 *i* P Pdif 09 32 17.6 +0.4
DAG IAmb IAmb 09 32 23.0
comp=Z,37nm,1.0s
UBR Ueberruh 98.00 43 *e*Pdiff Pdif 09 32 17.9 -0.1
KTH Kantishna Hill 98.06 334 IAMs_20 IAMs_20 10 20 25.8
comp=Z,73µm,22.0s
C26K Camden Bay 98.17 341 P P 09 32 17.6 -0.5
baz=114
F24K Squaw Lake 98.25 338 Pdiff P 09 32 17.7 -0.9
baz=111
FETA Feichten 98.25 44 *e*Pdiff P 09 32 18.8 -0.4
comp=Z,35nm,0.9s,SNR=37
FETA *e*PP **PP** 09 36 18.1 -1.3
comp=Z,50nm,1.0s
FETA *e*PKKP **PKKPbc** 09 48 53.4 +1.0
comp=Z,19nm,1.4s
FETA *e*P'P' 09 57 05.1
comp=Z,51nm,1.8s
BPAW Bear Paw Mtn. 98.27 334 IAMs_20 IAMs_20 10 19 16.2
comp=Z,54µm,20.0s
BPAW Bear Paw Mtn. 98.27 334 Pdiff P 09 32 17.0 -1.7
baz=109
KMY Karmoy 98.31 31 *e*P Pdif 09 32 20.0 +1.0
KMY IVmBBB 09 32 25.1
comp=Z,6µm,3.5s
KMY *e*PP **PP** 09 36 19.7 +0.5
KMY *e*SKSac **SKSac** 09 42 51.2 -2.5
KMY *e*SP **SP** 09 45 11.0 +2.8
KMY *e*SS **SS** 09 50 30.8 +2.3
KMY *e* 10 00 45.9
KMY IVMs_BB IVMs_BB 10 12 16.7
comp=Z,22µm,23.8s
RETA Reutte 98.39 43 *e*Pdiff P 09 32 19.2 -0.5
comp=Z,72nm,1.0s,SNR=35
RETA *e*PP **PP** 09 36 19.6 -0.7
comp=Z,54nm,1.3s
RETA *e*PKKP **PKKPbc** 09 48 52.2 +0.3
comp=Z,4.3nm,0.6s
RETA *e*P'P' 09 57 05.0
comp=Z,32nm,1.5s,SNR=5.4
PPLA Purkeypile 98.39 333 Pdiff P 09 32 17.7 -1.7
baz=108
Q18K Katmai Hardscr 98.45 329 Pdiff P 09 32 16.5 -3.2
baz=106
MLY Manley 98.47 335 Pdiff P 09 32 17.2 -2.5
baz=109
M20K Styx River 98.50 332 IAMs_20 IAMs_20 10 20 39.6
comp=Z,71µm,22.0s
M20K Styx River 98.50 332 Pdiff P 09 32 17.9 -1.9
baz=108
CAST Castle Rocks 98.51 334 IAMs_20 IAMs_20 10 20 19.7
comp=Z,86µm,22.0s
CAST Castle Rocks 98.51 334 Pdiff P 09 32 18.0 -1.8
baz=108
O19K Port Alsworth 98.56 330 IAMs_20 IAMs_20 10 23 38.2
comp=Z,69µm,21.0s
O19K Port Alsworth 98.56 330 Pdiff P 09 32 17.8 -2.2
baz=107
MOTA Moosalm 98.58 43 *e*Pdiff P 09 32 20.1 -0.5
comp=Z,75nm,0.9s,SNR=42
MOTA *e*PP **PP** 09 36 21.0 -0.8
comp=Z,96nm,2.3s
MOTA *e*PKKP **PKKPbc** 09 48 52.3 +0.8
comp=Z,20nm,0.8s
MOTA *e*P'P' 09 57 04.5
comp=Z,54nm,1.4s,SNR=9.8
SQTA Sankt Quirin 98.62 43 *e*Pdiff P 09 32 20.5 -0.3
comp=Z,131nm,1.0s,SNR=57
SQTA *e*PP **PP** 09 36 20.7 -1.4
comp=Z,49nm,1.0s
SQTA *e*PKKP **PKKPbc** 09 48 53.0 +1.6
comp=Z,6.9nm,0.5s
SQTA *e*P'P' 09 57 04.0
comp=Z,81nm,1.7s,SNR=11
SUE Sulen 98.62 29 *e*P Pdif 09 32 21.0 +0.7
SUE IVmB_BB 09 32 31.8
comp=Z,8µm,4.6s
SUE *e*PP **PP** 09 36 22.0 +0.5
SUE *e*SKSac **SKSac** 09 42 52.8 -2.4
SUE *e* 10 01 02.5
SUE IVMs_BB IVMs_BB 10 13 27.3
comp=Z,61µm,21.0s
ASK Askoy 98.66 30 *e*Pdif **P** 09 32 20.3 -0.1
ASK *e*PP **PP** 09 36 20.0 -1.8
ASK *e*SKSac **SKSac** 09 42 52.7 -2.7
VAE Valguarnera 98.66 54 P Pdif 09 32 21.2 +0.1
comp=Z,23nm,1.0s,baz=36,slow=5.6,SNR=6.1
VAE LR LR 10 18 06.0
comp=Z,77µm,19.1s,baz=300,slow=36
comp=Z,23nm,1.0s
E24K Your Creek 98.66 339 Pdiff P 09 32 18.8 -1.6
baz=111
BER Bergen 98.69 30 *e*Pdif Pdif 09 32 20.7 +0.1
BER IVmB_BB 09 32 27.0
comp=Z,6µm,6.0s
BER *e*PP **PP** 09 36 21.1 -1.0
BER *e*SKSac **SKSac** 09 42 56.6 +0.9
BER *e*SP **SP** 09 45 13.8 +1.5
BER *e*SS **SS** 09 50 35.2 +1.4
BER *e* 10 00 59.7
BER IVMs_BB IVMs_BB 10 12 48.7
comp=Z,28µm,20.7s
G23K Bananza Creek 98.75 337 IAMs_20 IAMs_20 10 21 47.9
comp=Z,59µm,20.0s
G23K Bananza Creek 98.75 337 Pdiff P 09 32 19.1 -1.7
baz=110
CHUM Lake Minchumin 98.75 334 Pdiff P 09 32 18.6 -2.2
baz=108
P18K Big Mountain, 98.77 329 Pdiff P 09 32 18.6 -2.4
baz=106
Q17K Contact Creek 98.79 328 Pdiff P 09 32 18.9 -2.4
baz=106
RETH Rethem/Aller, 98.80 38 *e*Pdiff Pdif 09 32 21.6 +0.4
N19K Bonanza Creek 98.81 331 Pdiff P 09 32 18.5 -2.8
baz=107
O18K Koktuh Hills 98.89 330 Pdiff P 09 32 18.7 -2.9
baz=106
WATA Walderalm 98.89 43 *e*Pdiff P 09 32 21.7 -0.3
comp=Z,76nm,1.0s,SNR=40
WATA *e*PP **PP** 09 36 22.8 -1.4
comp=Z,37nm,1.4s
WATA *e*PKKP **PKKPbc** 09 48 52.3 +1.6
comp=Z,25nm,1.6s
WATA *e*P'P' 09 57 03.5
comp=Z,87nm,1.5s,SNR=12
FOO Floro 98.90 28 ⇑ *i* P Pdif 09 32 23.4 +1.8
FOO IVmB_BB 09 32 27.9
comp=Z,6µm,5.8s
FOO *e*PP **PP** 09 36 21.9 -1.7
FOO *e*SKSac **SKSac** 09 42 58.1 +1.5
FOO *e*SP **SP** 09 45 14.3 -0.1
FOO *e*SS **SS** 09 50 38.6 +1.9
FOO *e* 10 01 22.4
FOO IVMs_BB IVMs_BB 10 13 36.1
comp=Z,54µm,21.6s
WTTA Wattenberg 98.91 43 *e*Pdiff P 09 32 22.1 -0.1
comp=Z,114nm,0.9s,SNR=55
WTTA PP **PP** 09 36 23.0 -1.4
comp=Z,49nm,1.2s
WTTA *e*PKKP **PKKPbc** 09 48 52.0 +1.3
comp=Z,40nm,1.6s
WTTA *e*P'P' 09 57 03.9
comp=Z,118nm,1.8s,SNR=13
BLS5 Blasjo 98.97 31 *e*P Pdif 09 32 22.2 +0.2
BLS5 IVmB_BB 09 32 28.5
comp=Z,7µm,9.5s
BLS5 *e*PP **PP** 09 36 23.7 -0.6
BLS5 *e*SKSac **SKSac** 09 42 58.6 +1.3
BLS5 *e*SP **SP** 09 45 13.7 -1.6
BLS5 *e* 10 00 59.6
BLS5 IVMs_BB IVMs_BB 10 12 48.0
comp=Z,29µm,20.3s
COLD Coldfoot 98.99 338 Pdiff P 09 32 20.7 -1.2
baz=109
H22K Ishtalitna Cre 99.00 336 Pdiff **Pdif** 09 32 20.1 -1.9
baz=108
L20K Farewell, AK 99.01 332 Pdiff **Pdif** 09 32 19.6 -2.5
baz=107
I21K Tanana 99.02 335 IAMs_20 IAMs_20 10 19 15.9
comp=Z,97µm,21.0s
I21K Tanana 99.02 335 Pdiff **Pdif** 09 32 20.4 -1.5
baz=108
JOHN Johnston Islan 99.03 285 IAMs_20 IAMs_20 10 05 08.7
comp=Z,55µm,22.0s
E23K Chandalar 99.05 338 Pdiff **Pdif** 09 32 20.6 -1.6
baz=110
SNART Snartemo 99.06 32 *e*P **Pdif** 09 32 22.4 +0.1
SNART *e*SKSac **SKSac** 09 42 57.9 +0.3
SNART *e*SP **SP** 09 45 19.1 +2.8
SNART *e*SS **SS** 09 50 37.9 -1.1
D24K Happy Valley 99.16 340 IAMs_20 IAMs_20 10 20 50.4
comp=Z,98µm,22.0s
D24K Happy Valley 99.16 340 Pdiff **Pdif** 09 32 20.5 -2.1
baz=110
ODD1 Odda 99.19 30 *e*P **Pdif** 09 32 23.5 +0.6
ODD1 IVmB_BB 09 32 29.4
comp=Z,6µm,9.5s
ODD1 *e*PP **PP** 09 36 28.9 +3.0
ODD1 *e*SKSac **SKSac** 09 43 00.5 +2.2
ODD1 *e*SP SP 09 45 17.9 +0.2
ODD1 *e*SS **SS** 09 50 43.6 +2.7
ODD1 *e* 10 01 07.6
ODD1 IVMs_BB IVMs_BB 10 13 05.0
comp=Z,33µm,20.5s
NRDL Niedersach Rie 99.19 38 *e*Pdiff **Pdif** 09 32 23.2 +0.3
CLZ Clausthal 99.19 39 *e*Pdiff **Pdif** 09 32 23.2 +0.1
GRFO Grafenberg 99.21 41 IAMs_20 IAMs_20 10 12 57.2
comp=Z,95µm,21.0s
GRA1 Grafenberg Arr 99.21 41 IAMs_20 IAMs_20 10 12 57.3
comp=Z,94µm,21.0s
GRF Grafenberg Arr 99.21 41 *e*L L 10 12 57.0
comp=Z,101µm,21.7s
Q16K King Salmon 99.29 328 Pdiff **Pdif** 09 32 21.2 -2.1
baz=105
C24K Franklin Bluff 99.31 340 Pdiff **Pdif** 09 32 20.4 -2.8
baz=110
HYA Hoyanger 99.31 29 *e*P **Pdif** 09 32 23.9 +0.5
HYA IVmB_BB 09 32 36.0
comp=Z,5µm,5.2s
HYA *e*PP **PP** 09 36 26.8 0.0
HYA *e*SKSac **SKSac** 09 42 59.4 +0.7
HYA *e*SP SP 09 45 20.0 +1.1
HYA *e*SS **SS** 09 50 42.7 +0.2
HYA *e* 10 01 11.6
HYA IVMs_BB IVMs_BB 10 13 57.9
comp=Z,50µm,22.3s
P17K Kvichak River 99.31 329 Pdiff **Pdif** 09 32 21.2 -2.2
baz=105
K20K Telida 99.34 333 IAMs_20 IAMs_20 10 17 00.2
comp=Z,68µm,22.0s
K20K Telida 99.34 333 Pdiff **Pdif** 09 32 20.9 -2.6
baz=106
L19K White Mountain 99.36 332 IAMs_20 IAMs_20 10 24 59.0
comp=Z,70µm,20.0s
L19K White Mountain 99.36 332 Pdiff **Pdif** 09 32 21.1 -2.5
baz=106
G22K Bettles 99.37 337 Pdiff **Pdif** 09 32 22.2 -1.3
baz=108
ABTA Abfaltersbach 99.38 44 *e*Pdiff **Pdif** 09 32 23.7 -0.4
comp=Z,100nm,1.0s,SNR=49
ABTA PP **PP** 09 36 26.5 -1.3
comp=Z,37nm,1.3s
ABTA *e*PKKP **PKKPbc** 09 48 47.2 -2.0
comp=Z,11nm,1.7s
ABTA *e*P'P' 09 57 02.7
comp=Z,26nm,1.3s
SVW2 Sparrevohn 99.40 331 IAMs_20 IAMs_20 10 21 20.1
comp=Z,86µm,22.0s
N18K Kilae Creek 99.44 330 IAMs_20 IAMs_20 10 24 05.5
comp=Z,97µm,21.0s
N18K Kilae Creek 99.44 330 Pdiff **Pdif** 09 32 21.9 -2.1
baz=105
R16K Pilot Point 99.48 327 Pdiff **Pdif** 09 32 22.2 -2.0
baz=104
H21K Melozitna Rive 99.49 336 IAMs_20 IAMs_20 10 20 45.9
comp=Z,99µm,21.0s
H21K Melozitna Rive 99.49 336 Pdiff **Pdif** 09 32 22.5 -1.6
baz=107
J20K Nowinta River 99.61 334 IAMs_20 IAMs_20 10 20 10.8
comp=Z,62µm,22.0s
J20K Nowinta River 99.61 334 Pdiff **Pdif** 09 32 22.1 -2.6
baz=106
MUD Monsted U'grnd 99.61 34 *i* P **Pdif** 09 32 27.6 +2.9
MUD IAmb IAmb 09 32 29.2
comp=Z,52nm,1.1s
MUD Monsted U'grnd 99.61 34 *i* P **Pdif** 09 32 25.4 +0.6
MUD IAmb IAmb 09 32 29.2
comp=Z,52nm,1.1s
CHGN Chignik 99.61 326 Pdiff **Pdif** 09 32 21.7 -3.1
baz=104
M18K Stony River 99.62 331 Pdiff **Pdif** 09 32 22.7 -2.0
baz=105
SSRD Sdr. Stenderup 99.62 35 *i* P **Pdif** 09 32 26.6 +1.8
SSRD IAmb IAmb 09 32 45.0
comp=Z,153nm,0.9s
SSRD Sdr. Stenderup 99.62 35 *i* P **Pdif** 09 32 19.5 -5.4
SSRD IAmb IAmb 09 32 20.4
comp=Z,140nm,0.7s
LESA Schwarzleotal 99.64 43 *e*Pdiff **Pdif** 09 32 24.8 -0.5
comp=Z,42nm,0.9s
LESA PP **PP** 09 36 29.0 -0.8
comp=Z,52nm,1.2s
LESA *e*P'P' 09 57 02.3
comp=Z,41nm,1.8s
BSEG Bad Segeberg 99.65 37 *e*Pdiff **Pdif** 09 32 25.7 +0.7
MOX Moxa 99.67 40 *e*Pdiff **Pdif** 09 32 25.3 0.0
MOX *e*L L 10 17 49.8
comp=Z,107µm,19.8s
HOMB Homborsund 99.70 32 *e*P **Pdif** 09 32 26.8 +1.7
HOMB *e*PP **PP** 09 36 27.6 -2.2
HOMB *e*SKSac **SKSac** 09 43 01.2 +0.5
HOMB *e*SP SP 09 45 24.9 +1.7
HOMB *e*SS **SS** 09 50 48.1 +0.1
HOMB *e* 10 01 00.3
HOMB IVMs_BB IVMs_BB 10 10 43.6
comp=Z,34µm,23.7s
RJOB Jochberg 99.78 43 *e*Pdiff **Pdif** 09 32 25.5 -0.4
O17K Koliganek Bris 99.79 329 Pdiff **Pdif** 09 32 24.1 -1.4
baz=104
F22K John River 99.80 338 Pdiff **Pdif** 09 32 23.9 -1.5

baz=108
MANZ Manzenberg 99.83 41 *e*Pdiff **Pdif** **09 32 26.1 +0.1**
ROTZ Rotzenmuhle 99.85 41 *e*Pdiff **Pdif** **09 32 25.8 -0.2**
E22K Anaktuvuk Pass 99.86 338 Pdiff **Pdif** **09 32 23.4 -2.4**
baz=108
I20K Naaghedeneel 99.92 335 IAMs_20 IAMs_20 10 22 12.3
comp=Z,63µm,21.0s
I20K Naaghedeneel 99.92 335 Pdiff **Pdif** **09 32 23.6 -2.4**
baz=106
CHNA Chernabura Isl 99.92 324 Pdiff **Pdif** **09 32 23.5 -2.7**
baz=103
ROBS Robic 99.94 45 *i* Pdiff **Pdif** **09 32 25.9 -0.7**
ROBS *i* 09 32 28.6
ROBS *e*PP **PP** **09 36 30.3 -1.7**
ROBS *e*SP SP 09 45 24.7 -1.7
ROBS *i* P'P'df P'P'df 09 57 04.4 +2.9
AKN Aaknes 99.95 28 *e*P **Pdif** **09 32 27.5 +1.2**
AKN *e*SKSac **SKSac** **09 43 02.5 +0.6**
AKN *e*SP **SP** **09 45 26.6 +0.8**
AKN *e* 10 01 43.0
AKN IVMs_BB IVMs_BB 10 14 10.4
comp=Z,42µm,20.6s
PLN Plauen 99.97 40 *e*Pdiff **Pdif** **09 32 26.7 +0.1**
C23K Itkillik River 99.98 340 Pdiff **Pdif** **09 32 24.4 -1.7**
baz=109
KBA Koelnbreinsper 100.00 44 *e*Pdiff **Pdif** **09 32 26.4 -0.6**
comp=Z,48nm,0.9s,SNR=26
KBA *e*PP **PP** **09 36 31.2 -1.5**
comp=Z,38nm,1.1s
KBA *e*P'P' 09 57 02.4
comp=Z,22nm,1.6s
G21K Allakaket 100.01 336 IAMs_20 IAMs_20 10 24 17.2
comp=Z,51µm,19.0s
G21K Allakaket 100.01 336 Pdiff **Pdif** **09 32 24.4 -2.0**
baz=106
N17K Nushagak Hills 100.02 330 Pdiff **Pdif** **09 32 24.8 -1.8**
baz=104
P16K Nushagak River 100.05 329 Pdiff **Pdif** **09 32 23.5 -3.2**
baz=104
TTA Tatalina 100.08 333 IAMs_20 IAMs_20 10 20 51.3
comp=Z,70µm,22.0s
TTA Tatalina 100.08 333 Pdiff **Pdif** **09 32 24.9 -1.9**
baz=105
NKC Novy Kostel 100.10 41 *e*P **Pdif** **09 32 24.9 -2.3**
NKC *e* 09 42 59.9
NKC MLR MLR
comp=Z,119µm,23.9s
NKC Novy Kostel 100.10 41 *e*PDIFF **Pdif** **09 32 24.9 -2.3**
NKC *e*SKS **SKSac** **09 42 59.9 -3.4**
NKC AMS AMS 10 13 00.0
comp=Z,119µm,23.9s
MYKA Terra Mystica 100.11 44 *e*Pdiff **Pdif** **09 32 27.0 -0.4**
comp=Z,40nm,0.8s,SNR=25
MYKA *e*PP **PP** **09 36 32.1 -1.3**
comp=Z,42nm,1.3s
MYKA *e*P'P' 09 57 01.3
comp=Z,18nm,1.7s
TANN Tannenbergstha 100.15 40 *e*Pdiff **Pdif** **09 32 27.2 -0.2**
J19K Poorman 100.18 334 IAMs_20 IAMs_20 10 20 29.4
comp=Z,57µm,22.0s
J19K Poorman 100.18 334 Pdiff **Pdif** **09 32 25.2 -2.0**
baz=105
SKAR Skarslia 100.19 30 *e*P **Pdif** **09 32 26.4 -0.9**
SKAR *e*SKSac **SKSac** **09 43 02.2 -1.1**
SKAR *e*SP **SP** **09 45 29.4 +1.0**
SKAR *e*SS **SS** **09 50 55.9 +1.0**
SKAR *e* 10 01 08.5
SKAR IVMs_BB IVMs_BB 10 13 46.2
comp=Z,32µm,21.1s
F21K Alatna River 100.20 337 Pdiff **Pdif** **09 32 26.0 -1.3**
baz=106
L18K Granite Mounta 100.20 332 IAMs_20 IAMs_20 10 26 37.6
comp=Z,65µm,20.0s
L18K Granite Mounta 100.20 332 Pdiff **Pdif** **09 32 24.8 -2.5**
baz=104
S14K Fog Glacier 100.23 326 Pdiff **Pdif** **09 32 24.5 -3.2**
baz=103
O16K Kokwok River B 100.23 329 IAMs_20 IAMs_20 10 24 43.6
comp=Z,52µm,20.0s
O16K Kokwok River B 100.23 329 Pdiff **Pdif** **09 32 26.1 -1.5**
baz=104
H20K Anotleneega Mo 100.27 335 Pdiff **Pdif** **09 32 26.0 -1.6**
baz=106
MOL Molde 100.30 28 *e*P **Pdif** **09 32 27.3 -0.4**
MOL *e*PP **PP** **09 36 35.4 +1.1**
MOL *e*SP SP 09 45 31.0 +1.6
MOL IVMs_BB IVMs_BB 10 10 43.8
comp=Z,40µm,26.2s
BIOA Bad Ischl, Aus 100.33 43 *e*Pdiff **Pdif** **09 32 27.7 -0.6**
comp=Z,41nm,0.9s,SNR=26
BIOA PP **PP** **09 36 33.2 -1.8**
comp=Z,36nm,1.2s
BIOA *e*P'P' 09 56 59.1
comp=Z,21nm,1.4s
M17K Holitna River 100.35 331 IAMs_20 IAMs_20 10 27 11.9
comp=Z,54µm,19.0s
M17K Holitna River 100.35 331 Pdiff **Pdif** **09 32 26.7 -1.3**
baz=104
D22K Ayikyak River 100.39 339 Pdiff **Pdif** **09 32 26.4 -1.7**
baz=107
CEY Cerknica 100.46 45 *i* Pdiff **Pdif** **09 32 28.6 -0.3**
CEY Cerknica 100.46 45 *e*P **Pdif** **09 32 28.4 -0.5**
J18K Innoko River 100.52 333 IAMs_20 IAMs_20 10 17 47.4
comp=Z,77µm,22.0s
J18K Innoko River 100.52 333 Pdiff **Pdif** **09 32 27.4 -1.4**
baz=104
SDPT Sand Point 100.53 325 P **Pdif** **09 32 31.0 +2.1**
SDPT Sand Point 100.53 325 Pdiff **Pdif** **09 32 27.3 -1.6**
baz=102
KONO Kongsberg 100.58 31 IAMs_20 IAMs_20 10 16 49.2
comp=Z,59µm,21.0s
KONO Kongsberg 100.58 31 *e*P **Pdif** **09 32 30.6 +1.6**
KONO *e*PP **PP** **09 36 35.7 -0.8**
KONO *e*SKSac **SKSac** **09 43 07.9 +2.8**
KONO *e*SP SP 09 45 33.6 +1.0
KONO *e*SS **SS** **09 51 02.2 +2.0**
KONO *e* 10 01 40.8
KONO IVMs_BB IVMs_BB 10 10 58.2
comp=Z,28µm,22.9s
KHC Kasperske Hory 100.59 42 *e*P **Pdif** **09 32 27.9 -1.5**
KHC *e* 09 36 34.0
KHC *e* 09 43 03.0
KHC MLR MLR
comp=Z,118µm,24.5s
KHC Kasperske Hory 100.59 42 *e*PDIFF **Pdif** **09 32 27.9 -1.5**
KHC *e*pP pP 09 32 42.5 +1.9
KHC *e*PP **PP** **09 36 34.0 -2.9**
KHC *e*SKS **SKSac** **09 43 03.0 -2.7**
KHC AMS AMS 10 12 50.0
comp=Z,118µm,24.5s
LJU Ljubljana 100.59 45 *i* Pdiff **Pdif** **09 32 29.7 +0.3**
LJU *e*PP **PP** **09 36 36.1 -0.8**
LJU *e*SKSac **SKSac** **09 43 09.1 +3.3**
LJU *e*Sdiff **Sdif** **09 44 08.6 +4.7**
LJU *e*SP SP 09 45 30.1 -3.3
LJU *e* 09 48 46.8
LJU *i* 09 49 10.5
LJU *e*SS **SS** **09 51 01.4 +0.2**
LJU *i* P'P'df P'P'df 09 57 03.5 +3.2
GEC2 GERESS Array S 100.61 42 *e*Pdiff **Pdif** **09 32 29.5 -0.1**
GERES GERESS Array B 100.61 42 P **Pdif** **09 32 29.1 -0.5**
comp=Z,42nm,0.9s,baz=269,slow=3.9,SNR=34
GERES PP **PP** **09 36 35.5 -1.6**
comp=Z,7.3nm,0.9s,baz=173,slow=12,SNR=2.2
GERES PKKPbc **PKKPbc** **09 48 45.6 -0.1**
comp=Z,7.7nm,0.8s,baz=48,slow=2.0,SNR=9.7
GERES PKPPKP 09 57 01.2
comp=Z,10nm,1.1s,baz=48,slow=2.0,SNR=7.9
CLL Collm 100.67 40 *e*P **Pdif** **09 32 25.0 -4.7**
CLL *e* 09 43 09.0
CLL *e*S **Sdif** **09 44 10.0 +5.7**
CLL pmax pmax
comp=Z,1µm,2.6s
CLL MLR MLR
comp=Z,105µm,20.0s
CLL Collm 100.67 40 *e*Pdiff **Pdif** **09 32 29.7 0.0**
OBKA Obir 100.70 45 *e*Pdiff **Pdif** **09 32 29.8 -0.2**
comp=Z,19nm,0.8s,SNR=8.7
OBKA PP **PP** **09 36 37.4 -0.5**
comp=Z,38nm,1.1s
OBKA *e*PKKP **PKKPbc** **09 48 46.3 +0.9**
comp=Z,14nm,1.2s
OBKA *e*P'P' 09 56 57.7
comp=Z,22nm,1.5s
OBKA Obir 100.70 45 *e*P **Pdif** **09 32 31.5 +1.5**

N16K Nishlik Lake 100.77 330 Pdiff **Pdif** **09 32 28.6 -1.3**
baz=103
MOA Molln 100.78 43 *e*Pdiff **Pdif** **09 32 29.9 -0.4**
comp=Z,29nm,0.9s,SNR=18
MOA PP **PP** **09 36 37.5 -0.8**
comp=Z,43nm,1.9s
MOA *e*P'P' 09 56 56.6
comp=Z,25nm,1.6s
HSKC Hora Svate Kat 100.80 40 *e*PDIFF **Pdif** **09 32 28.3 -2.0**
HSKC *e*SKS **SKSac** **09 43 04.9 -1.7**
HSKC AMS AMS 10 18 00.0
comp=Z,86µm,19.5s
DOMB Dombas 100.86 28 *e*P **Pdif** **09 32 31.6 +1.2**
DOMB *e*SKSac **SKSac** **09 43 06.5 +0.1**
DOMB *e*SP **SP** **09 45 33.8 -1.8**
DOMB *e*SS **SS** **09 51 04.9 +0.7**
DOMB *e* 10 01 16.3
DOMB IVMs_BB IVMs_BB 10 14 46.7
comp=Z,45µm,19.7s
GCSA Galena City Sc 100.90 334 Pdiff **Pdif** **09 32 28.9 -1.4**
baz=104
H19K Roundabout Mou 100.91 335 IAMs_20 IAMs_20 10 20 36.1
comp=Z,76µm,21.0s
H19K Roundabout Mou 100.91 335 Pdiff **Pdif** **09 32 29.1 -1.3**
baz=104
L17K Donlin 100.92 332 Pdiff **Pdif** **09 32 28.8 -1.7**
baz=103
BOJS Bojanci 100.98 46 *e*P **Pdif** **09 32 33.1 +1.9**
M16K Timber Creek 100.98 330 IAMs_20 IAMs_20 10 24 42.5
comp=Z,86µm,22.0s
M16K Timber Creek 100.98 330 Pdiff **Pdif** **09 32 29.8 -1.0**
baz=103
CKRC Cesky Krumlov 101.00 42 *e*P **Pdif** **09 32 30.5 -0.7**
CKRC *e* 09 43 07.1
CKRC Cesky Krumlov 101.00 42 *e*PDIFF **Pdif** **09 32 30.5 -0.7**
CKRC *e*SKS **SKSac** **09 43 07.1 -0.6**
F20K Avaraart Lake 101.00 337 IAMs_20 IAMs_20 10 22 49.0
comp=Z,62µm,21.0s
F20K Avaraart Lake 101.00 337 Pdiff **Pdif** **09 32 29.5 -1.2**
baz=104
O15K Ungalikthiuk R 101.00 328 Pdiff **Pdif** **09 32 28.2 -2.8**
baz=102
ZVC Zvikov 101.04 42 *e*PDIFF **Pdif** **09 32 29.4 -2.0**
ZVC AMS AMS 10 13 00.0
comp=Z,117µm,25.6s
B22K Teshekpuk Lake 101.05 340 Pdiff **Pdif** **09 32 29.5 -1.4**
baz=106
K17K Iditarod 101.05 332 IAMs_20 IAMs_20 10 24 01.5
comp=Z,73µm,21.0s
K17K Iditarod 101.05 332 Pdiff **Pdif** **09 32 29.5 -1.6**
baz=103
SOKA Soboth 101.06 45 *e*Pdiff **Pdif** **09 32 30.9 -0.7**
comp=Z,12nm,0.9s
SOKA *e*PP **PP** **09 36 39.6 -1.0**
comp=Z,21nm,1.4s
SOKA *e*PKKP **PKKPbc** **09 48 46.0 +1.6**
comp=Z,14nm,1.2s
SOKA *e*P'P' 09 56 59.5
comp=Z,37nm,1.7s
MATE Matera 101.07 51 *e*P **Pdif** **09 32 33.1 +1.4**
BRG Berggiesshubel 101.17 40 SP SP 09 45 46.0 +6.7
BRG ⇑PKKPb 09 48 44.6
BRG Amp 09 48 46.4
comp=Z,21nm,1.4s
BRG ⇓PKKPf 09 49 08.8
BRG Amp 09 49 10.0
comp=Z,62nm,1.5s
BRG Berggiesshubel 101.17 40 *e*Pdiff **Pdif** **09 32 32.0 +0.2**
CRES Cresnjev 101.18 45 *e*P **Pdif** **09 32 32.0 -0.1**
C21K Knifeblade Rid 101.19 339 Pdiff **Pdif** **09 32 29.9 -1.7**
baz=105
OSL Oslo 101.19 31 *e*P **Pdif** **09 32 32.6 +0.9**
OSL *e*PP **PP** **09 36 40.7 -0.4**
OSL *e*SKSac **SKSac** **09 43 08.7 +0.7**
OSL *e*SP SP 09 45 39.4 +0.3
OSL *e*SS **SS** **09 51 10.9 +2.1**
OSL *e* 10 01 01.7
OSL IVMs_BB IVMs_BB 10 11 15.2
comp=Z,27µm,24.9s
RICC Richard 101.20 41 *e*PDIFF **Pdif** **09 32 28.3 -3.7**
RICC *e*SKS **SKSac** **09 43 13.3 +4.8**
RICC AMS AMS 10 13 50.0
comp=Z,89µm,23.0s
B21K Ikpikpuk River 101.25 339 IAMs_20 IAMs_20 10 23 52.8
comp=Z,80µm,21.0s
B21K Ikpikpuk River 101.25 339 Pdiff **Pdif** **09 32 30.2 -1.6**
baz=105
G19K Purcell Mounta 101.31 336 IAMs_20 IAMs_20 10 22 00.7
comp=Z,65µm,21.0s
G19K Purcell Mounta 101.31 336 Pdiff **Pdif** **09 32 30.9 -1.3**
baz=103
PRA Prague 101.32 41 *e*P **Pdif** **09 32 30.5 -2.1**
PRA *e* 09 43 03.6
PRA MLR MLR
comp=Z,112µm,24.4s
PRA Prague 101.32 41 *e*PDIFF **Pdif** **09 32 30.5 -2.1**
PRA *e*SKS **SKSac** **09 43 03.6 -5.5**
PRA AMS AMS 10 13 20.0
comp=Z,112µm,24.4s
N15K Kwethluk River 101.34 329 IAMs_20 IAMs_20 10 25 29.2
comp=Z,69µm,21.0s
N15K Kwethluk River 101.34 329 Pdiff **Pdif** **09 32 30.8 -1.7**
baz=102
L16K Owhat River 101.37 331 Pdiff **Pdif** **09 32 30.8 -1.7**
baz=102
PRU Pruhonice 101.37 41 *e*P **Pdif** **09 32 30.5 -2.3**
PRU *e* 09 43 04.4
PRU MLR MLR
comp=Z,123µm,25.8s
PRU Pruhonice 101.37 41 *e*PDIFF **Pdif** **09 32 30.5 -2.3**
PRU *e*SKS **SKSac** **09 43 04.4 -5.0**
PRU AMS AMS 10 13 10.0
comp=Z,123µm,25.8s
E20K Nigu River 101.47 338 Pdiff **Pdif** **09 32 32.2 -0.7**
baz=104
PVCC Panska Ves 101.49 41 *e*P **Pdif** **09 32 32.7 -0.6**
PVCC *e* 09 43 10.1
PVCC MLR MLR
comp=Z,96µm,22.5s
PVCC Panska Ves 101.49 41 *e*PDIFF **Pdif** **09 32 32.7 -0.6**
PVCC *e*SKS **SKSac** **09 43 10.1 +0.2**
PVCC AMS AMS 10 13 50.0
comp=Z,96µm,22.5s
ARSA Arzberg 101.50 44 *e*Pdiff **Pdif** **09 32 33.2 -0.3**
comp=Z,18nm,1.0s
ARSA *e*PP **PP** **09 36 42.4 -1.4**
comp=Z,49nm,1.5s
ARSA *e*PKKP **PKKPbc** **09 48 44.7 +1.7**
comp=Z,5.8nm,1.0s
ARSA *e*P'P' 09 56 57.1
comp=Z,24nm,1.6s
GOPC GO Pecny, Ondr 101.51 41 *e*P **Pdif** **09 32 30.5 -3.0**
GOPC *e* 09 43 11.6
GOPC MLR MLR
comp=Z,124µm,25.2s
GOPC GO Pecny, Ondr 101.51 41 *e*PDIFF **Pdif** **09 32 30.5 -3.0**
GOPC *e*SKS **SKSac** **09 43 11.6 +1.5**
GOPC AMS AMS 10 13 10.0
comp=Z,124µm,25.2s
H18K Honhosa River 101.61 335 IAMs_20 IAMs_20 10 24 04.6
comp=Z,63µm,20.0s
H18K Honhosa River 101.61 335 Pdiff **Pdif** **09 32 32.7 -0.9**
baz=102
NB2 NORSAR Subarra 101.66 30 P **Pdif** **09 32 34.0 +0.1**
comp=Z,829nm,2.5s,baz=262,slow=5.1
NB2 PKKP **PKKPbc** **09 48 40.3 -2.7**
comp=Z,751nm,3.3s,baz=73,slow=3.8
NB2 SKKS 09 56 59.7
comp=Z,1.2nm,0.8s,baz=77,slow=2.9
NB2 NORSAR Subarra 101.66 30 P **Pdif** **09 32 34.0 +0.1**
baz=262,slow=5.1
NOA NORSAR Array B 101.66 30 P **Pdif** **09 32 34.1 +0.1**
comp=Z,30nm,1.1s,baz=258,slow=4.7,SNR=5.4
NOA PKKPbc **PKKPbc** **09 48 41.8 -1.3**
comp=Z,8.3nm,1.1s,baz=70,slow=4.3,SNR=8.2
NOA PKPPKP **P'P'df** **09 56 59.0 +1.9**
comp=Z,5.3nm,1.1s,baz=76,slow=1.7,SNR=4.1
TBLU Trondheim 101.66 27 *e*P **Pdif** **09 32 37.7 +3.9**
TBLU *e*PP **PP** **09 36 43.5 -1.1**
TBLU *e*SKSac **SKSac** **09 43 12.0 +1.8**
TBLU *e*SP SP 09 45 44.6 +0.6
TBLU *e*SS **SS** **09 51 16.4 +1.3**
TBLU *e* 10 01 13.1
TBLU IVMs_BB IVMs_BB 10 12 21.7
comp=Z,30µm,30.4s
E19K Redstone River 101.67 337 Pdiff **Pdif** **09 32 32.6 -1.1**

baz=103
A050A Klekovaca 101.67 47 *e*P **Pdif** **09 32 32.5 -1.9**
D20K Etivluk River 101.72 338 Pdiff **Pdif** **09 32 32.3 -1.7**
baz=103
M15K Kasigluk River 101.74 330 Pdiff **Pdif** **09 32 32.6 -1.6**
baz=101
O14K Tigyukauivet M 101.74 328 IAMs_20 IAMs_20 10 26 47.6
comp=Z,57µm,22.0s
O14K Tigyukauivet M 101.74 328 Pdiff **Pdif** **09 32 32.6 -1.7**
baz=101
NC602 NORSAR Array S 101.75 30 *e*P **Pdif** **09 32 34.5 +0.2**
NC602 *e*PP **PP** **09 36 44.9 -0.4**
NC602 *e*SKSac **SKSac** **09 43 10.4 -0.3**
NC602 *e*SP **SP** **09 45 41.4 -3.7**
NC602 *e*SS **SS** **09 51 16.5 0.0**
NC602 *e* 10 01 18.0
NC602 IVMs_BB IVMs_BB 10 14 44.1
comp=Z,41µm,21.6s
KOGS Kog 101.84 45 *i* Pdiff **Pdif** **09 32 35.1 +0.1**
KOGS *e*PP **PP** **09 36 45.0 -1.4**
KOGS *i* SKSac **SKSac** **09 43 15.7 +3.9**
KOGS *e*Sdiff SKKSac 09 44 19.3 +30
KOGS *i* P'P'df **P'P'df** **09 57 01.1 +3.2**
CONA Conrad Observa 101.84 43 *e*Pdiff **Pdif** **09 32 35.1 -0.1**
comp=Z,22nm,1.0s,SNR=24
CONA PP **PP** **09 36 45.7 -0.8**
comp=Z,25nm,1.3s
CONA *e*PKKP **PKKPdf** **09 48 45.8 -3.2**
comp=Z,23nm,1.8s
CONA *e*P'P' 09 56 56.0
comp=Z,21nm,1.6s
TREC Trest 101.85 42 *e*P **Pdif** **09 32 33.8 -1.2**
TREC *e* 09 43 11.3
TREC MLR MLR
comp=Z,103µm,19.3s
TREC Trest 101.85 42 *e*PDIFF **Pdif** **09 32 33.8 -1.2**
TREC *e*SKS **SKSac** **09 43 11.3 -0.4**
TREC AMS AMS 10 18 00.0
comp=Z,103µm,19.3s
G18K Tagagawik 101.88 335 IAMs_20 IAMs_20 10 24 57.8
comp=Z,68µm,20.0s
G18K Tagagawik 101.88 335 Pdiff **Pdif** **09 32 33.7 -1.0**
baz=102
A051A Mrakovica 102.03 46 *e*P **Pdif** **09 32 35.6 -0.4**
MGRS Mrkonjic Grad 102.05 47 *e*P **Pdif** **09 32 34.0 -2.0**
N14K Kuskokwak Cree 102.08 329 Pdiff **Pdif** **09 32 31.1 -4.6**
baz=101
FALS False Pass 102.09 324 Pdiff **Pdif** **09 32 30.4 -5.5**
baz=100
RONA Rosalia, Austr 102.09 44 *e*Pdiff **Pdif** **09 32 35.8 -0.3**
comp=Z,21nm,1.0s,SNR=10
RONA PP **PP** **09 36 47.5 -0.8**
comp=Z,30nm,1.2s
RONA *e*PKKP **PKKPbc** **09 48 44.8 +3.5**
comp=Z,5.4nm,0.9s
RONA *e*P'P' 09 56 57.0
comp=Z,23nm,1.4s,SNR=5.9
BLY Banja Luka 102.18 47 *e*P **Pdif** **09 32 37.7 +1.2**
J16K Anvik River 102.19 333 IAMs_20 IAMs_20 10 22 57.2
comp=Z,64µm,22.0s
J16K Anvik River 102.19 333 Pdiff **Pdif** **09 32 32.6 -3.6**
baz=101
H17K Granite Mounta 102.21 334 IAMs_20 IAMs_20 10 25 07.9
comp=Z,87µm,20.0s
H17K Granite Mounta 102.21 334 Pdiff **Pdif** **09 32 34.1 -2.1**
baz=101
D19K Kuna River 102.22 338 IAMs_20 IAMs_20 10 20 47.4
comp=Z,81µm,21.0s
D19K Kuna River 102.22 338 Pdiff **Pdif** **09 32 33.2 -3.0**
baz=102
STON Ston 102.22 49 *e*P **Pdif** **09 32 37.2 +0.5**
L15K Ungalak Mounta 102.30 331 Pdiff **Pdif** **09 32 33.7 -2.9**
baz=100
A21K Barrow 102.31 341 Pdiff **Pdif** **09 32 32.7 -3.8**
baz=103
I17K Unalakleet 102.34 333 IAMs_20 IAMs_20 10 23 51.1
comp=Z,63µm,22.0s
I17K Unalakleet 102.34 333 Pdiff **Pdif** **09 32 32.8 -4.0**
baz=101
M14K Bethel 102.36 330 IAMs_20 IAMs_20 10 25 38.9
comp=Z,74µm,21.0s
M14K Bethel 102.36 330 Pdiff **Pdif** **09 32 32.8 -4.1**
baz=100
KRUC Moravsky 102.39 42 *e*PDIFF **Pdif** **09 32 37.1 -0.3**
KRUC *e*SP SP 09 45 49.3 -3.2
KRUC *e*PKPPKP **P'P'df** **09 56 57.4 +0.8**
UPC Upice 102.39 41 *e*P **Pdif** **09 32 32.7 -4.7**
UPC *e* 09 43 11.7
UPC MLR MLR
comp=Z,97µm,23.5s
UPC Upice 102.39 41 *e*PDIFF **Pdif** **09 32 32.7 -4.7**
UPC *e*SKS **SKSac** **09 43 11.7 -2.5**
UPC AMS AMS 10 13 50.0
comp=Z,97µm,23.5s
F18K Selawik 102.42 336 Pdiff **Pdif** **09 32 33.8 -3.2**
baz=101
K15K Wolf Creek Mou 102.43 331 Pdiff **Pdif** **09 32 34.1 -3.2**
baz=100
CHVC Chvalec 102.43 41 *e*P **Pdif** **09 32 34.9 -2.7**
CHVC *e* 09 43 12.5
CHVC MLR MLR
comp=Z,86µm,23.4s
CHVC Chvalec 102.43 41 *e*PDIFF **Pdif** **09 32 34.9 -2.7**
CHVC *e*SKS **SKSac** **09 43 12.5 -2.0**
CHVC AMS AMS 10 14 10.0
comp=Z,86µm,23.4s
BSD Bornholm Skovb 102.51 36 *i* P **Pdif** **09 32 40.6 +2.9**
BSD IAmb IAmb 09 32 42.3
comp=Z,27nm,0.8s
BSD Bornholm Skovb 102.51 36 *i* P **Pdif** **09 32 38.3 +0.6**
BSD IAmb IAmb 09 32 42.3
comp=Z,27nm,0.8s
OSTC Ostas 102.53 41 *e*P **Pdif** **09 32 34.9 -3.1**
OSTC *e* 09 43 08.3
OSTC MLR MLR
comp=Z,84µm,19.1s
OSTC Ostas 102.53 41 *e*PDIFF **Pdif** **09 32 34.9 -3.1**
OSTC *e*SKS **SKSac** **09 43 08.3 -6.6**
OSTC AMS AMS 10 18 20.0
comp=Z,84µm,19.1s
DPC Dobruska-Polom 102.56 41 *e*P **Pdif** **09 32 34.9 -3.3**
DPC MLR MLR
comp=Z,98µm,25.3s
DPC Dobruska-Polom 102.56 41 *e*PDIFF **Pdif** **09 32 34.9 -3.3**
DPC *e*SKS 09 43 04.4
DPC AMS AMS 10 14 00.0
comp=Z,98µm,25.3s
VRAC Vranov 102.56 42 *e*PDIFF **Pdif** **09 32 38.2 0.0**
VRAC *e*SP SP 09 45 50.9 -3.4
VRAC *e*PKPPKP 09 56 57.8
G17K Kiwalik Mounta 102.62 335 Pdiff **Pdif** **09 32 34.2 -3.8**
baz=100
KSP Ksiaz 102.63 41 *e*Pdif **Pdif** **09 32 39.3 +0.9**
KSP *e*PP **PP** **09 36 51.8 -0.4**
KSP *e*SKSac **SKSac** **09 43 20.7 +5.4**
KSP *e*SS **SS** **09 51 35.0 +5.8**
KSP *e*L L 10 16 13.9
comp=Z,96µm,21.7s
NSS Namsos 102.65 26 *e*P **Pdif** **09 32 38.0 -0.1**
NSS *e*PP **PP** **09 36 53.7 +1.8**
NSS *e*SKSac **SKSac** **09 43 13.6 -1.2**
NSS *e*SP **SP** **09 45 55.3 +1.0**
NSS *e*SS **SS** **09 51 31.5 +2.9**
NSS *e* 10 02 59.3
NSS IVMs_BB IVMs_BB 10 16 00.7
comp=Z,24µm,20.5s
TREB Trebinje 102.66 49 *e*P **Pdif** **09 32 40.2 +1.5**
HFS Hagfors 102.70 31 P **Pdif** **09 32 39.4 +0.9**
comp=Z,10nm,0.9s,baz=256,slow=5.8,SNR=3.1
HFS PKKPbc **PKKPbc** **09 48 38.3 -1.6**
comp=Z,7.8nm,0.8s,baz=72,slow=4.8,SNR=6.3
ZST Bratislava 102.71 43 *e*P **Pdif** **09 32 39.4 +0.6**
ZST *e* 09 36 49.1
ZST *e* 09 43 15.9
ZST *e* 09 45 54.8
ZST Bratislava 102.71 43 *e*PDIFF **Pdif** **09 32 39.4 +0.6**
ZST *e*PP **PP** **09 36 49.1 -3.8**
HCY Herceg Novi 102.72 49 *e*P **Pdif** **09 32 38.7 -0.3**
KRLC Kraliky 102.81 41 *e*P **Pdif** **09 32 37.1 -2.2**
KRLC *e* 09 43 13.3
KRLC MLR MLR
comp=Z,77µm,19.1s
KRLC Kraliky 102.81 41 *e*PDIFF **Pdif** **09 32 37.1 -2.2**
KRLC *e*SKS **SKSac** **09 43 13.3 -3.0**
KRLC AMS AMS 10 19 20.0

comp=Z,77µm,19.1s
L14K Kuka Creek 102.81 330 Pdiff Pdif 09 32 35.7 -3.2
baz=100
BRY Bratogost 102.83 49⇑ iP Pdif 09 32 42.2 +2.5
BRY Bratogost 102.83 49 eP Pdif 09 32 40.2 +0.5
MODS Modra-Piesok 102.86 43⇑ eP Pdif 09 32 39.6 +0.1
MODS e 09 36 49.1
MODS e 09 43 12.0
MODS MLR MLR
comp=Z,558µm,20.8s
MODS Modra-Piesok 102.86 43 ePDIFF Pdif 09 32 39.6 +0.1
MODS ePP PP 09 36 49.1 -4.9
C19K Lookout Ridge 102.86 338 Pdiff Pdif 09 32 36.0 -3.0
baz=100
E18K Tukpahlearik C 102.93 337 IAMs_20 IAMs_20 10 26 02.5
comp=Z,71µm,20.0s
E18K Tukpahlearik C 102.93 337 Pdiff Pdif 09 32 35.6 -3.7
baz=100
SMOL Smolenice 102.98 43 eP Pdif 09 32 42.5 +2.5
SMOL e 09 43 16.5
SMOL e 09 45 54.3
M13K Dall Lake 102.98 329 IAMs_20 IAMs_20 10 26 10.6
comp=Z,74µm,20.0s
M13K Dall Lake 102.98 329 Pdiff Pdif 09 32 35.8 -3.9
baz=99
F17K Baldwin Pennin 103.02 336 IAMs_20 IAMs_20 10 25 30.8
comp=Z,51µm,21.0s
F17K Baldwin Pennin 103.02 336 Pdiff Pdif 09 32 37.9 -1.8
baz=100
CEME Cevo 103.05 49⇑ iP Pdif 09 32 43.0 +2.5
NKME Niksic 103.11 49⇑ iP Pdif 09 32 43.4 +2.6
H16K Elim 103.14 334 Pdiff Pdif 09 32 39.1 -1.2
baz=99
UPM Unac-Piva 103.14 49⇑ iP Pdif 09 32 43.6 +2.5
DRME Dracevica, Mon 103.18 50⇑ iP Pdif 09 32 44.3 +3.2
DRME Dracevica, Mon 103.18 50 eP Pdif 09 32 41.9 +0.8
ULC Ulcinj 103.19 50⇑ iP Pdif 09 32 43.8 +2.6
JAVC Velka Javorina 103.19 43 ePDIFF Pdif 09 32 42.0 +1.0
JAVC eSP SP 09 45 55.0 -6.0
JAVC ePKPPKP 09 56 57.4
KEK Kerkira 103.23 52 eP Pdif 09 32 42.7 +1.3
MORC Moravsky Berou 103.25 42 ePDIFF Pdif 09 32 41.6 +0.4
MORC eSP SP 09 45 55.5 -6.0
MORC ePKPPKP P'P'df 09 56 56.4 +1.4
G16K Koyuk River 103.30 335 IAMs_20 IAMs_20 10 25 36.9
comp=Z,51µm,20.0s
G16K Koyuk River 103.30 335 Pdiff Pdif 09 32 39.9 -1.2
baz=99
E17K Hotham Inlet 103.35 336 Pdiff Pdif 09 32 39.4 -1.8
baz=99
C18K Utukok River 103.36 338 IAMs_20 IAMs_20 10 24 41.5
comp=Z,82µm,21.0s
C18K Utukok River 103.36 338 Pdiff Pdif 09 32 39.2 -2.1
baz=99
MAUC Maruska 103.37 42 ePDIFF Pdif 09 32 37.1 -4.7
MAUC eSKS SKSac 09 43 20.5 +1.6
MAUC AMS AMS 10 17 20.0
comp=Z,141µm,20.2s
STOK Stokkvaagen 103.37 24 eP Pdif 09 32 42.5 +1.2
STOK ePP PP 09 36 56.9 -0.4
STOK eSKSac SKSac 09 43 20.8 +2.8
STOK eSP SP 09 45 59.9 -2.0
STOK eSS SS 09 51 41.1 +2.6
STOK e 10 01 56.0
STOK IVMs_BB IVMs_BB 10 13 48.1
comp=Z,34µm,24.3s
J14K Nanvaranak Lak 103.43 332 IAMs_20 IAMs_20 10 24 51.4
comp=Z,63µm,22.0s
J14K Nanvaranak Lak 103.43 332 Pdiff Pdif 09 32 40.6 -1.0
baz=98
SRO Srobarova 103.45 44 eP Pdif 09 32 43.7 +1.6
SRO Srobarova 103.45 44 ePDIFF Pdif 09 32 43.7 +1.6
PLE Pljevlja 103.51 48⇑ iP Pdif 09 32 45.2 +2.5
KOME Kolasin 103.53 49⇑ iP Pdif 09 32 45.9 +3.2
RUDO Rudo 103.54 48 eP Pdif 09 32 43.3 +0.6
A19K Wainwright 103.55 340 Pdiff Pdif 09 32 40.3 -1.7
baz=99
GKP Gorka Klasztor 103.57 38 ePdif Pdif 09 32 43.0 +0.5
GKP eSKSac SKSac 09 43 23.2 +3.7
GKP eL L 10 19 32.1
comp=Z,157µm,21.1s
BBLS Lazići 103.61 48 eP Pdif 09 32 42.3 -0.7
OKC Ostrava-Krasne 103.64 42 eP Pdif 09 32 37.1 -5.8
OKC e 09 43 18.2
OKC MLR MLR
comp=Z,64µm,19.8s
OKC Ostrava-Krasne 103.64 42 ePDIFF Pdif 09 32 37.1 -5.8
OKC eSKS SKSac 09 43 18.2 -1.9
OKC AMS AMS 10 19 10.0
comp=Z,64µm,19.8s
B18K Kokolik River 103.68 339 Pdiff Pdif 09 32 41.8 -0.8
baz=98
RAC Raciborz 103.71 41 ePDIFF Pdif 09 32 42.4 -0.8
RAC ePP PP 09 36 59.9 -0.4
RAC Raciborz 103.71 41 AMS AMS 10 18 56.4
comp=Z,171nm,20.1s
RAC Raciborz 103.71 41 eP Pdif 09 32 42.4 -0.8
RAC e 09 36 59.9
RAC e 09 43 19.7
RAC MLR MLR
comp=Z,171µm,20.1s
RAC Raciborz 103.71 41⇑ eSKSp 09 43 19.7
UNV Unalaska Valle 103.72 322 Pdiff Pdif 09 32 41.6 -1.6
baz=98
TEKS Tekeris 103.80 47 eP Pdif 09 32 44.1 +0.3
IVA Berane 103.81 49⇑ iP Pdif 09 32 43.0 -1.0
PVY Plav 103.81 49⇑ iP Pdif 09 32 46.0 +2.0
K13K Kusilvak Mount 103.83 331 IAMs_20 IAMs_20 10 25 39.5
comp=Z,50µm,21.0s
K13K Kusilvak Mount 103.83 331 Pdiff Pdif 09 32 41.9 -1.5
baz=98
LOF Lofoten 103.83 23 eP Pdif 09 32 44.4 +1.0
LOF ePP PKiKP 09 37 02.2 +1.2
LOF eSKSac SKSac 09 43 22.0 +1.9
LOF eSP SP 09 46 07.7 +1.1
LOF eSS SS 09 51 48.0 +3.2
LOF e 10 02 30.1
LOF IVMs_BB IVMs_BB 10 12 34.4
comp=Z,18µm,26.2s
RDOG Red Dog Mine 103.90 337 IAMs_20 IAMs_20 10 22 30.0
comp=Z,87µm,22.0s
RDOG Red Dog Mine 103.90 337 Pdiff Pdif 09 32 42.3 -1.4
baz=98
VYHS Vyhne 103.90 43⇑ eP Pdif 09 32 45.2 +1.1
VYHS e 09 36 58.6
VYHS e 09 43 23.6
VYHS e 09 46 03.2
VYHS MLR MLR
comp=Z,239µm,20.9s
VYHS Vyhne 103.90 43 eL L 10 18 14.9
VYHS Vyhne 103.90 43 ePP PKiKP 09 36 58.6 -3.1
VYHS Vyhne 103.90 43 ePDIFF Pdif 09 32 45.2 +1.1
VYHS Vyhne 103.90 43⇑ eSKSp 09 43 23.6
VYHS Vyhne 103.90 43 e 09 46 03.2
D17K Noatak River 103.92 337 Pdiff Pdif 09 32 42.8 -0.9
baz=98
MOR8 Moi Rana 103.92 25 eP Pdif 09 32 44.6 +0.8
MOR8 ePP PP 09 37 01.3 -0.1
MOR8 eSKSac SKSac 09 43 20.6 -0.1
MOR8 eSP SP 09 46 08.2 +0.5
MOR8 eSS SS 09 51 47.3 +1.2
MOR8 e 10 02 36.2
MOR8 IVMs_BB IVMs_BB 10 14 06.4
comp=Z,29µm,23.2s
SJES Sjenica 103.92 49 eP Pdif 09 32 44.2 -0.3
G15K Niukluk 103.95 334 Pdiff Pdif 09 32 42.7 -1.2
baz=97
C17K DeLong Mountai 104.05 338 Pdiff Pdif 09 32 43.0 -1.4
baz=97
FRGS Fruska Gora 104.09 47 eP Pdif 09 32 43.5 -1.6
F15K North Star Dit 104.29 335 IAMs_20 IAMs_20 10 26 05.4
comp=Z,62µm,21.0s
F15K North Star Dit 104.29 335 Pdiff Pdif 09 32 43.7 -1.7
baz=97
M11K Mekoryuk 104.38 329 Pdiff Pdif 09 32 43.9 -2.1
baz=97
FAUS Fauske 104.40 24 eP Pdif 09 32 44.9 -0.9
FAUS ePP PKiKP 09 37 00.9 -1.1
FAUS eSKSac SKSac 09 43 22.1 -0.6
FAUS eSP SP 09 46 12.9 +0.4
FAUS eSS SS 09 51 56.1 +3.5
FAUS e 10 02 14.1
FAUS IVMs_BB IVMs_BB 10 16 27.9
comp=Z,36µm,20.5s
LANS Liptovska Anna 104.40 43 eP Pdif 09 32 48.0 +1.6
LANS Liptovska Anna 104.40 43 ePDIFF Pdif 09 32 48.0 +1.6
STEI Steigen 104.44 23 ePdif Pdif 09 32 46.8 +0.8
STEI ePP PP 09 37 06.7 +1.5
STEI eSKSac SKSac 09 43 21.2 -1.7
STEI eSP SP 09 46 14.0 +1.0
STEI eSS SS 09 51 54.9 +1.7
STEI e 10 03 08.3
STEI IVMs_BB IVMs_BB 10 18 48.7
comp=Z,23µm,20.3s
ANM Nome 104.47 334 Pdiff Pdif 09 32 45.0 -1.3
baz=96
MBAR Mbarara 104.57 95⇑ iP Pdif 09 32 48.2 +0.1
MBAR Mbarara 104.57 95 eP Pdif 09 32 42.2 -5.9
FNA Florina 104.59 51 eP Pdif 09 32 49.5 +2.0
KBS Kingsbay 104.73 12 IAMs_20 IAMs_20 10 23 14.6
comp=Z,53µm,20.0s
KBS Kingsbay 104.73 12 eP Pdif 09 32 50.3 +3.2
KBS ePP PP 09 37 06.1 -1.0
KBS eSKSac SKSac 09 43 21.7 -2.2
KBS eSP SP 09 46 15.6 -0.1
KBS eSS SS 09 51 50.9 -5.8
KBS e 10 02 11.7
KBS IVMs_BB IVMs_BB 10 19 16.1
comp=Z,20µm,24.2s
OJC Ojcow 104.75 41 ePdif Pdif 09 32 48.8 +0.9
OJC ePP PP 09 37 07.5 -0.5
OJC eSKSac SKSac 09 43 28.7 +3.6
OJC eL L 10 17 21.1
comp=Z,73µm,23.4s
C16K Lisburne Hills 104.83 337 IAMs_20 IAMs_20 10 22 24.5
comp=Z,64µm,21.0s
C16K Lisburne Hills 104.83 337 Pdiff Pdif 09 32 45.9 -1.8
baz=95
NIE Niedzica 104.98 42 ePdif Pdif 09 32 50.8 +1.9
NIE ePP PP 09 37 09.7 -0.1
NIE eSKSac SKSac 09 43 31.2 +4.9
NIE eL L 10 19 34.7
comp=Z,165µm,20.7s
KECS Kecovo 104.99 43 eP Pdif 09 32 51.1 +2.2
KECS Kecovo 104.99 43 ePDIFF Pdif 09 32 51.1 +2.2
AGG Agios Georgios 105.07 53 eP Pdif 09 32 52.2 +2.6
GRG Griva 105.39 51 eP Pdif 09 32 53.8 +2.8
BZS Buzias 105.41 46 ⇑P PKiKP 09 37 05.2 +0.7
BZS Buzias 105.41 46 eP Pdif 09 32 53.9 +3.0
SIRR Siria 105.52 46 ⇓P PKiKP 09 37 06.8 +2.1
SPA0 Spitsbergen Ar 105.55 12 ePP PP 09 37 12.8 -0.4
SPA0 eSKSac SKSac 09 43 28.3 +0.6
SPA0 eSP SP 09 46 27.1 +2.9
SPA0 eSS SS 09 52 09.0 +1.0
SPA0 IVMs_BB IVMs_BB 10 21 10.3
comp=Z,39µm,20.5s
SPITS Spitsbergen Ar 105.55 12 PP PP 09 37 13.4 +0.2
comp=Z,28nm,1.0s,baz=325,slow=11,SNR=2.0
SPITS PKKPab PKKPab 09 48 46.0 +1.2
comp=Z,148nm,1.1s,baz=50,slow=4.5,SNR=8.4
BEL Belsk 105.55 40 ePdif Pdif 09 32 51.5 +0.2
BEL ePP PP 09 37 13.6 -0.3
BEL eSKSac SKSac 09 43 30.9 +2.3
BEL eSS SKKPbc 09 52 17.8 +5.4
BEL eL L 10 18 15.6
comp=Z,77µm,21.9s
STHS Stebnicka Huta 105.59 42 eP Pdif 09 32 53.8 +2.2
STHS Stebnicka Huta 105.59 42 ePDIFF Pdif 09 32 53.8 +2.2
TNA Tin City 105.63 334 PKiKP PKiKP 09 37 06.7 +2.4
baz=94
CRVS Cervenica-Dubn 105.68 43⇑ eP Pdif 09 32 52.9 +0.9
CRVS e 09 37 12.6
CRVS e 09 43 34.3
CRVS MLR MLR
comp=Z,178µm,20.6s
CRVS Cervenica-Dubn 105.68 43 ePDIFF Pdif 09 32 52.9 +0.9
CRVS ePP PP 09 37 12.6 -2.3
P08K Saint George I 105.76 325 PKiKP PKiKP 09 37 08.4 +3.6
baz=95
SURR Surduc 105.78 46 ⇓P PKiKP 09 37 05.4 +0.2
KNT Kendrikon 105.79 51 eP Pdif 09 32 53.3 +0.6
GVD Gavdhos 105.86 58 eP Pdif 09 32 53.9 +0.8
GVDS Gavdos 105.86 58 eP Pdif 09 32 56.1 +2.9
IMMV Iera Moni Meta 105.86 57 eP Pdif 09 32 55.6 +2.5
HORT Hortiatis 105.87 52 eP Pdif 09 32 55.6 +2.4
TRO Tromso 105.91 21 eP Pdif 09 32 51.5 -1.1
TRO IVmBBB 09 32 55.5
comp=Z,3µm,3.1s
TRO ePP PP 09 37 18.4 +2.4
TRO eSKSac SKSac 09 43 26.6 -2.8
TRO eSP SP 09 46 28.4 +0.3
TRO eSS SKKPbc 09 52 11.3 -1.1
TRO e 10 02 36.2
TRO IVMs_BB IVMs_BB 10 19 07.9
comp=Z,21µm,19.2s
KKB Krupnik 106.04 50 eP Pdif 09 32 58.2 +4.4
BJO1 Bjornoya 106.07 16 ePdif Pdif 09 32 55.3 +2.1
BJO1 ePP PP 09 37 17.6 +0.5
BJO1 eSKSac SKSac 09 43 30.2 +0.2
BJO1 eSP SP 09 46 30.4 +0.7
BJO1 eSS SS 09 52 20.7 +5.7
BJO1 e 10 03 52.6
BJO1 IVMs_BB IVMs_BB 10 18 41.9
comp=Z,18µm,22.7s
SPIA Saint Paul Isl 106.18 326 PKiKP PKiKP 09 37 07.2 +1.7
baz=94
GZR Gura Zlata 106.19 47 ⇓P PKiKP 09 37 07.9 +1.8
KOLS Kolonicke sedl 106.21 43 eP Pdif 09 32 56.7 +2.3
KOLS Kolonicke sedl 106.21 43 ePDIFF Pdif 09 32 56.7 +2.3
VTS Vitosha 106.21 50 eP Pdif 09 32 59.0 +4.3
PAIG Paliouri 106.22 52 eP Pdif 09 32 55.8 +1.2
DEV Deva 106.33 46 ⇑P PKiKP 09 37 09.2 +2.9
JETT Jettan, Norway 106.43 21 ePdif Pdif 09 32 55.5 +0.6
JETT IVmBBB 09 32 57.7
comp=Z,2µm,4.0s
JETT ePP PP 09 37 17.7 -2.1
JETT eSKSac SKSac 09 43 31.4 -0.5
JETT eSP SP 09 46 33.4 -0.2
JETT eSS SS 09 52 19.2 -1.0
JETT e 10 04 07.9
JETT IVMs_BB IVMs_BB 10 19 40.1
comp=Z,27µm,18.9s
MMB Musomishta 106.47 51 eP Pdif 09 33 00.2 +4.4
VALD Valchedram 106.48 49 eP Pdif 09 33 00.1 +4.4
OUR Ouranopolis 106.50 52 eP Pdif 09 32 56.4 +0.6
IDI Anoyia 106.57 57 eP Pdif 09 32 55.0 -1.4
MPEP Malo Peshtene 106.66 49 eP Pdif 09 33 00.2 +3.7
LOT Lotru 106.89 47 eP Pdif 09 32 58.9 +1.2
BMR Baia Mare 106.91 44 ⇓P PKiKP 09 37 10.0 +2.8
SUW Suwalki 107.17 38 ePdif Pdif 09 32 58.7 +0.2
SUW ePP PP 09 37 22.3 -3.4
SUW eSKSac SKSac 09 43 34.6 -1.1
SUW eSS SS 09 52 37.6 +6.6
SUW eL L 10 22 38.4
comp=Z,106µm,20.4s
GAMB Gambell 107.19 333 PKiKP PKiKP 09 37 08.1 +0.9
baz=91
RZN Rozhen 107.22 51 eP Pdif 09 33 03.3 +4.0
PLD Plovdiv 107.28 50 eP Pdif 09 33 01.9 +2.6
PLD Plovdiv 107.28 50 eP Pdif 09 33 03.6 +4.3
LVV L'vov 107.43 42 eP Pdif 09 33 00.3 +0.5
LVV e 09 37 23.0
LVV MLR MLR
comp=Z,25µm,21.0s
KTK1 Kautokeino 107.44 22 ePdif Pdif 09 33 00.4 +1.1
KTK1 IVmBBB 09 33 02.3
comp=Z,2µm,3.9s
KTK1 ePP PP 09 37 27.2 0.0
KTK1 eSKSac SKSac 09 43 37.1 +0.8
KTK1 eSP SP 09 46 44.5 +0.6
KTK1 eSS SS 09 52 37.5 +3.6
KTK1 e 10 04 23.2
KTK1 IVMs_BB IVMs_BB 10 16 04.3
comp=Z,17µm,23.4s
ARR Arges 107.49 47 ⇑P PKiKP 09 37 10.4 +1.9
HOPEN Hopen 107.50 14 eP Pdif 09 32 58.9 -0.6
HOPEN ePP PP 09 37 26.1 -1.4
HOPEN eSKSac SKSac 09 43 36.6 +0.4
HOPEN eSP SP 09 46 42.9 -1.4
HOPEN eSS SS 09 52 38.0 +3.7
HOPEN e 10 04 08.7
HOPEN IVMs_BB IVMs_BB 10 17 57.8
comp=Z,19µm,28.2s
HAMF Hammerfest 107.53 20 ePdif Pdif 09 32 58.1 -1.6
HAMF IVmBBB 09 33 02.2
comp=Z,1µm,3.3s
HAMF ePP PP 09 37 26.0 -1.9
HAMF eSKSac SKSac 09 43 36.8 +0.2
HAMF eSP SP 09 46 46.3 +1.5
HAMF eSS SS 09 52 32.6 -2.4
HAMF e 10 04 10.9
HAMF IVMs_BB IVMs_BB 10 18 23.4
comp=Z,18µm,21.8s
KDZ Kurdzhali 107.66 51 eP Pdif 09 33 03.9 +2.9
KDZ Kurdzhali 107.66 51 eP Pdif 09 33 05.2 +4.2
HUMR Humele 107.67 48 ⇓P PKiKP 09 37 12.0 +3.2
RDO Rodhopi 107.76 51 eP Pdif 09 33 03.6 +2.1
GADA Gvkgeada 107.94 52 eP Pdif 09 33 04.7 +2.4
PAF Port-aux-Franc 108.04 157 IAMs_20 IAMs_20 10 23 26.4
comp=Z,60µm,18.0s
DOPR Dopca 108.07 46 ⇓P PKiKP 09 37 09.3 -0.2
ALN Alexandroupoli 108.12 52 P P Pdif 09 33 04.9 +1.8
ENEZ Enez 108.19 52 P P Pdif 09 33 04.9 +1.6
ARA0 ARCESS Array S 108.22 21 ePdif Pdif 09 33 03.6 +0.8
ARA0 IVmB_BB 09 33 30.1
comp=Z,2µm,3.6s
ARA0 ePP PP 09 37 27.8 -5.1
ARA0 eSKSac SKSac 09 43 39.0 -0.7
ARA0 eSP SP 09 46 52.6 +0.8
ARA0 eSS SS 09 52 45.8 +1.4
ARA0 e 10 03 49.6
ARA0 IVMs_BB IVMs_BB 10 16 31.0
comp=Z,23µm,19.8s
ARCES ARCESS Array B 108.22 21 PKiKP PKiKP 09 37 09.1 0.0
comp=Z,20nm,1.0s,baz=294,slow=2.9,SNR=4.3
ARCES PKKPbc PKKPbc 09 48 22.3 -0.9
comp=Z,23nm,1.0s,baz=90,slow=3.6,SNR=6.8
ARCES PKKPab PKKPdf 09 48 38.0 +0.5
comp=Z,20nm,0.8s,baz=64,slow=2.8,SNR=6.0
COMU Canakkale 108.37 52 eP Pdif 09 33 06.9 +2.7
GELI Tayfur-Gelibol 108.40 52 P P Pdif 09 33 04.9 +0.6
MLR Muntele Rosu 108.42 47 ⇑P PKiKP 09 37 12.7 +2.4
MLR Muntele Rosu 108.42 47 eP Pdif 09 33 07.1 +2.6
MLR Muntele Rosu 108.42 47 Pdiff Pdif 09 33 02.5 -2.0
comp=Z,6.5nm,0.8s,baz=221,slow=21,SNR=1.5
MLR PKiKP PKiKP 09 37 11.3 +1.0
comp=Z,56nm,1.1s,baz=130,slow=7.2,SNR=5.8
MLR PP PP 09 37 31.8 -3.6
comp=Z,48nm,1.0s,baz=241,slow=7.3,SNR=5.2
KARP Karpathos 108.44 57 eP Pdif 09 33 06.9 +2.2
ERIK Erikli-Kesan 108.46 52 eP Pdif 09 33 04.7 +0.2
DKL Dikili 108.61 54 eP Pdif 09 33 06.4 +1.2
RFT7 Candarli 108.61 54 P Pdif 09 33 06.1 +0.8
LPK Lapseki 108.62 52 eP Pdif 09 33 06.6 +1.3
NEHR Nehoiu 108.67 47 ⇓P PKiKP 09 37 11.9 +1.3
BODT Bodrum 108.73 56 eP Pdif 09 33 06.4 +0.5
EDRB Edirne 108.73 51 eP Pdif 09 33 08.3 +2.6
GCAM G?zelcaml? 108.73 55 eP Pdif 09 33 07.7 +1.9
LOZB Loznitsa 108.74 49 ⇓P PKiKP 09 37 12.8 +2.0
FINES FINESS Array B 108.84 30 PKiKP PKiKP 09 37 11.7 +1.3
comp=Z,12nm,0.9s,baz=325,slow=1.7,SNR=5.2
FINES PP PP 09 37 36.3 -1.3
comp=Z,21nm,1.0s,baz=276,slow=5.6,SNR=5.7
FINES PKKPbc PKKPbc 09 48 18.3 -2.6
comp=Z,12nm,0.8s,baz=100,slow=3.5,SNR=12
FINES PKPPKP 09 56 45.9
comp=Z,6.7nm,1.0s,baz=115,slow=9.0,SNR=6.6
PLOR Plostina 108.94 46 ⇑P PKiKP 09 37 10.7 -0.4
RKY Sarkoy-Tekirda 108.96 52 eP Pdif 09 33 08.3 +1.4
VRI Vrincioaia 109.00 46 ⇑P PKiKP 09 37 11.8 +0.5
VRI Vrincioaia 109.00 46 eP Pdif 09 33 08.9 +2.0
KRBG Karabiga-Canak 109.03 52 P P Pdif 09 33 09.4 +2.3
ODBI Odobesti 109.22 47 ⇑P PKiKP 09 37 12.6 +1.0
PANC Panciu 109.29 46 ⇓P PKiKP 09 37 13.1 +1.3
ARG Arkhangelos 109.30 57 eP Pdif 09 33 11.1 +2.7
PHSR Pinarhisar 109.30 51 eP Pdif 09 33 11.6 +3.3
NACGM Naroch 109.30 37 ePdif Pdif 09 33 03.6 -4.3
comp=N,2µm,1.2s
BALB Balikesir 109.41 53 eP Pdif 09 33 10.8 +2.0
CRLT Corlu 109.42 51 eP Pdif 09 33 12.5 +3.7
TURN Turunc 109.44 56 eP Pdif 09 33 10.8 +1.8
EDC Edincik 109.45 52 eP Pdif 09 33 10.5 +1.5
VADS Vadso 109.49 21 eP Pdif 09 33 09.4 +0.9
VADS IVmB_BB 09 33 11.6
comp=Z,3µm,6.0s
VADS ePP PP 09 37 37.5 -4.6
VADS eSKSac SKSac 09 43 45.7 +0.7
VADS eSS SS 09 53 03.3 +1.9
VADS e 10 05 02.6
VADS IVMs_BB IVMs_BB 10 16 57.3
comp=Z,17µm,27.4s
YER Yerkesik 109.51 56 eP Pdif 09 33 09.9 +0.5
VASR Vaslui 109.77 46 ⇑P PKiKP 09 37 13.9 +1.3
DALY Dalyan (Mula) 109.78 56 eP Pdif 09 33 12.7 +2.2
HARR Harsova 109.78 48 ⇓P PKiKP 09 36 57.7 -15
SLVT Silivri 109.78 51 eP Pdif 09 33 13.8 +3.4
KCTX Karacabey (Bur 109.83 52 eP Pdif 09 33 12.7 +2.0
CTYL Yalikoy Yolu 109.86 51 eP Pdif 09 33 13.0 +2.3
TATR Tatarca 109.91 47 ⇓P PKiKP 09 37 12.7 -0.2
KULA Kula-Manisa 109.93 54 eP Pdif 09 33 14.1 +2.8
MNK Minsk 109.94 37 iP Pdif 09 33 12.9 +2.1
MNK i 09 37 49.9
MNK iS SP 09 47 03.8 -6.2
MNK iSS SS 09 53 12.6 +4.3
MNK iSSS SSS 09 57 20.2
MNK pmax pmax
comp=Z,13nm,0.7s
MNK MLR MLR
comp=N,30µm,19.0s
MNK MLR MLR
comp=E,29µm,18.0s
MNK MLR MLR
comp=Z,88µm,19.0s
VLDR Vladesti 109.94 47 ⇓P PKiKP 09 37 13.8 +0.8
CFR Carcaliu 109.95 47 ⇑P PKiKP 09 37 14.1 +1.2
CTKS Kestanelik-??a 110.00 51 eP Pdif 09 33 14.1 +2.7
TAU Tasmania Unive 110.05 211 IAMs_20 IAMs_20 10 13 39.8
comp=Z,58µm,19.0s
FOMA Nahampoana Res 110.10 125 IAMs_20 IAMs_20 10 21 22.8
comp=Z,81µm,21.0s
FETY Fethiye 110.10 56 eP Pdif 09 33 14.4 +2.4
LODK Lodwar 110.11 92 eP Pdif 09 33 11.4 -1.2
TIRR Tirgusor 110.11 48 ⇓P PKiKP 09 37 14.5 +1.2
TIRR Tirgusor 110.11 48 eP Pdif 09 33 13.3 +1.5
TPGR Topolog 110.14 48 ⇑P PKiKP 09 37 13.6 +0.2
BGKT Bogazkoy 110.20 51 iP Pdif 09 33 14.7 +2.4
SIMA Simav-Kutahya 110.22 54 eP Pdif 09 33 13.0 +0.4
MDNY Mudanya-Bursa 110.23 52 eP Pdif 09 33 15.8 +3.3
LHI Lord Howe Isla 110.28 227 IAMs_20 IAMs_20 10 15 09.8
comp=Z,68µm,20.0s
CAME Cameli-Denizli 110.30 56 eP Pdif 09 33 12.5 -0.6
APMY Acipayam-Deniz 110.35 55 eP Pdif 09 33 16.1 +2.9
KLYT Kilyos 110.41 51 eP Pdif 09 33 16.1 +2.9
ISK Istanbul-Kandi 110.41 52 eP Pdif 09 33 13.6 +0.4
KAVV Kandilli-Istan 110.41 52 eP Pdif 09 33 14.4 +0.9
GEMT Gemlik 110.47 52 eP Pdif 09 33 16.1 +2.6
MILM Milestii Mici 110.48 45 eP Pdif 09 33 16.0 +2.6
MILM Milestii Mici 110.48 45 ePKP PKiKP 09 37 11.0 -2.9
MILM Milestii Mici 110.48 45 ⇑P PKiKP 09 37 13.8 -0.2
MILM Milestii Mici 110.48 45 eP Pdif 09 33 16.0 +2.6
MILM e 09 37 11.0
MILM e 09 43 52.0
MILM i PS PKKPbc 09 47 17.0 -58
KIS Kishinev 110.49 45⇑ iP Pdif 09 33 15.0 +1.6
comp=Z,2µm,8.4s
KIS Kishinev 110.49 45c iP Pdif 09 33 15.0 +1.6
KIS e 09 43 53.0
KIS i PS PS 09 47 17.0 -3.5
KIS pmax pmax
comp=Z,2µm,8.4s
GEDZ Gediz 110.55 54 eP Pdif 09 33 17.2 +3.2
TVSB Tavsanli 110.62 53 eP Pdif 09 33 15.8 +1.5
KMBO Kilima Mbogo 110.65 97⇑ iP Pdif 09 33 14.6 -0.7
KMBO Kilima Mbogo 110.65 97 Pdiff Pdif 09 33 15.1 -0.2
comp=Z,2.8nm,1.0s,baz=240,slow=16,SNR=3.9
KMBO PKiKP PKiKP 09 37 15.3 -0.3
comp=Z,6.8nm,1.1s,baz=247,slow=12,SNR=3.4
KMBO PP PP 09 37 50.4 -1.9
comp=Z,11nm,1.1s,baz=232,slow=9.5,SNR=5.6
KMBO PKKPbc PKKPbc 09 48 13.2 -0.7
comp=Z,14nm,1.0s,baz=347,slow=3.0,SNR=5.7
KMBO PKPPKP P'P'df 09 56 41.5 -3.7
comp=Z,0.9nm,0.5s,baz=104,slow=4.1,SNR=4.4
KMBO Kilima Mbogo 110.65 97 eP Pdif 09 33 16.8 +1.5
ELL Elmali 110.77 56 eP Pdif 09 33 18.6 +3.5
KIEV Kiev 110.78 41 ⇑P PKiKP 09 37 16.6 +2.2
KIEV Kiev 110.78 41 ⇑PKIKP PKiKP 09 37 16.6 +2.2
KIEV Kiev 110.78 41 PKiKP PKiKP 09 37 13.2 -1.2
AKASG Malin Array Be 110.79 41 Pdiff Pdif 09 33 14.9 +0.2

comp=Z,2.5nm,1.0s,baz=277,slow=4.4,SNR=2.3
AKASG PKiKP **PKiKP** 09 37 13.5 -0.9
comp=Z,42nm,0.8s,baz=267,slow=2.9,SNR=6.6
AKASG PP **PP** 09 37 47.6 -4.5
comp=Z,39nm,1.1s,baz=268,slow=6.0,SNR=7.8
AKASG PKKPbc **PKKPbc** 09 48 15.1 +0.8
comp=Z,4.6nm,0.6s,baz=71,slow=3.8,SNR=10
AKASG PKKPab **PKKPab** 09 48 23.1 +0.9
comp=Z,17nm,1.0s,baz=79,slow=4.0,SNR=16
AKASG PKPPKP **P'P'df** 09 56 43.6 +3.0
comp=Z,5.1nm,1.0s,baz=69,slow=1.9,SNR=10
AKBB Malin Array Si 110.79 41 *i* PKiKP **PKiKP** 09 37 14.2 -0.2
AKBB MLR MLR
comp=Z,146μm,21.0s
HRT Hereke 110.86 52 *eP* **Pdif** 09 33 17.2 +1.9
ADVT Abdulvahap 110.89 52 *eP* **Pdif** 09 33 17.7 +2.3
CAVI Cavuskoy 110.96 53 *eP* **Pdif** 09 33 17.7 +2.0
PUL Pulkovo 111.02 32 *i* PKiKP **PKiKP** 09 37 16.2 +1.7
KIBK Kibwezi 111.04 99 P **Pdif** 09 33 19.8 +2.0
KORT Korkueli 111.14 56 *i* P **Pdif** 09 33 19.7 +2.9
PURM Purcari 111.20 46 ⇓P **PKiKP** 09 37 16.1 +0.8
ISP Isparta 111.34 55 *i* P **Pdif** 09 33 19.7 +2.1
ISP Isparta 111.34 55 *i* PKiKP **PKiKP** 09 37 14.8 -1.2
ISP MLR MLR
comp=Z,103μm,23.0s
APA Apatity 111.34 23 ⇓*i* PKiKP **PKiKP** 09 37 14.3 -0.7
APA *i* 09 37 51.8
APA *i* 09 43 57.0
APA *i* PPS PPS 09 48 42.0
APA *i* SS SS 09 53 24.0 -2.3
APA pmax pmax
comp=Z,30nm,0.9s
SAUV Serdivan-Sakar 111.35 52 *eP* **Pdif** 09 33 19.9 +2.5
BCK Bucak 111.37 56 *i* P **Pdif** 09 33 18.8 +1.1
ANTB Antalya 111.38 56 *i* P **Pdif** 09 33 19.7 +2.1
SHUT Suhut-Afyon 111.41 54 *eP* **Pdif** 09 33 20.2 +2.3
VOI Vohitsoka 111.41 122 ⇑*i* P **Pdif** 09 33 20.5 +2.1
GULT Gulveren 111.48 52 *eP* **Pdif** 09 33 20.8 +2.7
SRCK Saricakaya, Es 111.55 53 *eP* **Pdif** 09 33 21.0 +2.7
GRD1 Great Renaissa 111.68 84 *eP* **Pdif** 09 33 17.5 -2.1
LVZ Lovozero 111.75 23 *i* PKiKP **PKiKP** 09 37 16.1 +0.3
CIFT Cifteler, Eski 111.85 54 *eP* **Pdif** 09 33 22.4 +2.6
TARA Tarawa 112.00 265 IAMs_20 IAMs_20 10 12 26.9
comp=Z,81μm,22.0s
MDUB Mudurnu 112.00 52 *eP* **Pdif** 09 33 23.3 +2.8
SVRH Sivrihisar-ESK 112.21 53 *eP* **Pdif** 09 33 22.4 +1.0
KIZT Kizilcal 112.46 54 *eP* **Pdif** 09 33 25.8 +3.2
GAZI Gazipasa 112.67 57 *eP* **Pdif** 09 33 24.6 +1.1
KONT Konya--Tatoy 112.80 55 *i* P **Pdif** 09 33 27.1 +3.1
LADK Ladik-KONYA 112.81 55 *eP* **Pdif** 09 33 26.9 +2.7
HDMB Hadim 112.85 56 *eP* **Pdif** 09 33 23.3 -1.2
LEF Lefka 113.07 58 *eP* **Pdif** 09 33 27.7 +2.5
LOD Lodumlu 113.18 53 *eP* **Pdif** 09 33 29.1 +3.4
ANTO Ankara 113.20 53 ⇓P **PKiKP** 09 37 21.0 +1.5
ANTO Ankara 113.20 53 ⇓PKiKP **PKiKP** 09 37 21.0 +1.5
CHBY Cihanbeyli 113.24 54 *eP* **Pdif** 09 33 28.8 +2.8
KULU Kulu 113.34 54 *eP* **Pdif** 09 33 27.9 +1.4
AFSR Afar-Bala (An 113.41 54 *eP* **Pdif** 09 33 29.4 +2.7
BERE Bereket-Mersin 113.41 57 *eP* **Pdif** 09 33 28.5 +1.6
CSS Mathiatis 113.42 58 *eP* **Pdif** 09 33 28.3 +1.5
LFK Lefkose 113.61 58 *eP* **Pdif** 09 33 32.7 +5.0
AKKU Akkuyu-Mersin 113.67 57 *eP* **Pdif** 09 33 30.5 +2.7
DILA Dilla 113.70 90 *eP* **Pdif** 09 33 29.8 +1.1
SULT Sultanhani-AKS 113.72 55 P **Pdif** 09 33 29.9 +1.8
SERE Sereflikochisa 113.78 54 *eP* **Pdif** 09 33 30.5 +2.1
IKL Isikli 113.78 57 *eP* **Pdif** 09 33 31.3 +3.0
KEBE Keben-Mersin 113.81 57 *eP* **Pdif** 09 33 32.1 +3.5
BR131 Keskin Array S 113.85 53 *eP* **Pdif** 09 33 31.0 +2.2
BR131 Keskin Array S 113.85 53 *i* PKiKP **PKiKP** 09 37 20.2 -0.6
BR131 Keskin Array S 113.85 53 P **PKiKP** 09 37 20.9 +0.1
BRTR Keskin Array B 113.85 53 Pdiff **Pdif** 09 33 29.2 +0.5
comp=Z,0.4nm,0.6s,baz=61,slow=38,SNR=1.6
BRTR PKiKP **PKiKP** 09 37 20.6 -0.2
comp=Z,60nm,0.9s,baz=174,slow=2.4,SNR=29
BRTR PP **PP** 09 38 11.9 -2.7
comp=Z,20nm,1.1s,baz=276,slow=3.6,SNR=1.4
BRTR PKKPbc **PKKPbc** 09 48 03.6 -0.3
comp=Z,14nm,0.9s,baz=122,slow=3.3,SNR=12
YESY Yesilyurt 113.89 55 *eP* **Pdif** 09 33 31.9 +3.0
YAYX Yaylak 113.97 54 *eP* **Pdif** 09 33 32.7 +3.4
SILI Silifke-Mersin 113.98 57 *eP* **Pdif** 09 33 33.2 +4.0
KIZK Mersin 114.16 57 *eP* **Pdif** 09 33 35.5 +5.5
GULA Gulagac 114.29 55 *eP* **Pdif** 09 33 32.1 +1.4
EIL Elat 114.42 64 *i* P **Pdif** 09 33 34.9 +3.6
EIL Elat 114.42 64 PKP **PKiKP** 09 37 22.2 +0.2
comp=Z,83nm,0.9s,baz=300,slow=2.2,SNR=23
EIL PP **PP** 09 38 15.9 -2.8
comp=Z,11nm,0.8s,baz=339,slow=11,SNR=0.8
CAN Canberra 114.49 218 IAMs_20 IAMs_20 10 15 10.8
comp=Z,67μm,21.0s
HRFI Mount Harif 114.52 64 *eP* **Pdif** 09 33 34.6 +2.8
CORM Corum 114.62 53 *i* P **Pdif** 09 33 34.9 +2.7
FURI Furi 114.66 87 *eP* **Pdif** 09 33 33.8 +0.6
WLRA Wolmera 114.72 87 *eP* **Pdif** 09 33 32.0 -1.5
TOO Toolangi 114.90 214 IAMs_20 IAMs_20 10 14 17.4
comp=Z,56μm,22.0s
OBN Obninsk 114.90 36 ⇓*i* PKiKP **PKiKP** 09 37 21.9 -0.2
OBN *e*PPP PPP 09 40 43.7
OBN *e* 09 44 05.3
OBN *i* 09 47 51.4
OBN pmax pmax
comp=Z,291nm,1.0s
KARA Karaisali 114.91 56 *i* P **Pdif** 09 33 36.0 +2.6
MMAI Mount Meron Ar 115.03 61 PKP **PKiKP** 09 37 23.1 -0.1
comp=Z,74nm,0.8s,baz=259,slow=1.5,SNR=32
MMAI PP **PP** 09 38 20.0 -3.1
comp=Z,1.9nm,0.5s,baz=198,slow=9.1,SNR=1.0
MMAI PKKPbc **PKKPbc** 09 47 59.5 -0.1
comp=Z,4.3nm,0.7s,baz=82,slow=5.9,SNR=2.9
DIKM Dikmen 115.09 51 ⇓P **PKiKP** 09 37 24.5 +1.6
YOZ Yozgat 115.15 53 *eP* **Pdif** 09 33 36.6 +2.0
BILL Bilibino 115.28 339 IAMs_20 IAMs_20 10 33 07.4
comp=Z,42μm,20.0s
KLMR Klimovskoe 115.37 30 *e*PKiKP **PKiKP** 09 37 21.5 -1.3
KLMR *e* 09 38 26.9
KLMR *e*SP SP 09 47 58.4 -1.0
KLMR PS **PKKPab** 09 48 00.3 -1.3
KLMR pmax pmax
comp=Z,254nm,1.1s
MOS Moscow 115.40 35 *i* P **Pdif** 09 33 32.6 -2.4
MOS *i* 09 37 23.4
MOS *i* 09 38 24.2
MOS *e*PPP PPP 09 40 56.0
MOS *e* 09 44 09.5
MOS *e*PS **PKKPbc** 09 47 58.3 -0.6
MOS *e*SSS SSS 09 58 36.3
MOS pmax pmax
comp=Z,165nm,1.2s
MOS MLR MLR
comp=Z,83μm,19.0s
MOS MLR MLR
comp=E,75μm,19.0s
CEYT Ceyhan 115.46 56 *eP* **Pdif** 09 33 38.5 +2.7
KOZT Kozan 115.53 56 *eP* **Pdif** 09 33 38.2 +2.1
BNN Bunyan 115.56 54 *eP* **Pdif** 09 33 38.5 +2.1
BNN Bunyan 115.56 54 **PKPdf** 09 37 23.5 -0.6
KVT Kavak 115.69 52 *eP* **Pdif** 09 33 40.9 +4.1
TAHT Tahtakopru-Hat 115.80 57 *eP* **Pdif** 09 33 39.6 +2.3
SARI SarD1z-Kayseri 116.00 55 *eP* **Pdif** 09 33 41.6 +3.2
TOKT Tokat 116.08 53 *eP* **Pdif** 09 33 41.3 +2.7
ASF Jabal al Asfar 116.25 62 PKP **PKiKP** 09 37 26.1 +0.5
comp=E,139nm,0.9s,baz=253,slow=0.1,SNR=38
ASF PP **PP** 09 38 28.6 -3.0
comp=E,29nm,1.1s,baz=268,slow=3.0,SNR=1.3
KMRS Kahramanmaras 116.39 56 *eP* **Pdif** 09 33 43.5 +3.5
SVSK Karacayir 116.44 53 *eP* **Pdif** 09 33 43.8 +3.8
ANN Anapa 116.55 48 *eP* **Pdif** 09 33 37.9 -2.5
ANN *i* 09 37 23.4
ANN *e* 09 37 27.1
ANN *e* 09 38 31.3
ANN *e* 09 44 12.9
ANN *e*SP SP 09 48 12.7 +1.5
ANN *e*SS SS 09 54 29.8 -6.5
ANN *e*SSS SSS 09 59 03.2
ANN pmax pmax
comp=Z,127nm,1.8s
ANN pmax pmax
comp=Z,256nm,1.3s
GAZ Gaziantep 116.63 56 *eP* **Pdif** 09 33 44.0 +2.9
GAZ Gaziantep 116.63 56 **PKPdf** 09 37 25.6 -0.6
LPSR Galich'ya Gora 116.66 39 *i* PKiKP **PKPdf** 09 37 24.7 -0.9
LPSR pmax pmax
comp=Z,390nm,0.8s
LPSR MLR MLR
comp=Z,175μm,21.0s
RSDY Resadiye-TOKAT 116.68 52 *eP* **Pdif** 09 33 44.9 +3.7
DARE Darende-Malaty 116.84 55 *eP* **Pdif** 09 33 44.0 +2.0
VORR Voronezh 116.97 40 *i* PKiKP **PKPdf** 09 37 25.9 -0.3
VORR pmax pmax
comp=Z,310nm,1.0s
VORR MLR MLR
comp=Z,64μm,17.0s
VSR Storozhevoye 117.01 40 *i* PKiKP **PKPdf** 09 37 25.2 -1.1
VSR pmax pmax
comp=Z,200nm,0.8s
VSR MLR MLR
comp=Z,60μm,20.0s
VORD Divnogorie 117.13 41 *i* PKiKP **PKPdf** 09 37 25.4 -1.1
VORD pmax pmax
comp=Z,160nm,1.1s
VORD MLR MLR
comp=Z,28μm,16.0s
ILIC ilic-Erzincan 117.66 53 *eP* **Pdif** 09 33 50.1 +4.4
URFA Urfa 117.92 56 *eP* **Pdif** 09 33 50.1 +3.3
SOC Sochi 118.28 49 *eP* **Pdif** 09 33 48.7 +0.5
SOC *e* 09 37 28.3
SOC *e* 09 38 43.1
SOC *e*PPP PPP 09 41 17.5
SOC *e* 09 44 19.1
SOC *e*PS PKKPdf 09 48 28.5 +11
SOC MLR MLR
comp=Z,22μm,17.0s
PTK Pertek 118.32 54 *eP* **Pdif** 09 33 51.8 +3.0
KTUT Trabzon 118.51 52 ⇓P **PKiKP** 09 37 30.5 +1.0
KTUT Trabzon 118.51 52 *eP* **Pdif** 09 33 51.8 +2.6
ERZN Erzincan 118.55 53 *eP* **Pdif** 09 33 53.5 +3.8
VRH Novokhopyorsk 118.60 40 *i* PKiKP **PKPdf** 09 37 29.1 -0.2
VRH *e* 09 38 43.1
VRH pmax pmax
comp=Z,290nm,0.9s
VRH MLR MLR
comp=Z,69μm,21.0s
ERBR Yeremizino-Bor 118.61 46 *i* P **Pdif** 09 33 48.0 -1.6
ERBR *i* 09 37 28.3
ERBR *e* 09 37 32.3
ERBR *e* 09 38 46.8
ERBR *e* 09 44 22.2
ERBR *e*SP SP 09 48 26.7 -3.1
ERBR *e*SS SS 09 54 59.3 -3.7
ERBR pmax pmax
comp=Z,49nm,0.7s
ERBR pmax pmax
comp=Z,605nm,1.6s
DYBB Diyarbakir 118.95 55 *eP* **Pdif** 09 33 54.6 +3.2
RER Riviere de l'E 118.97 126 IAMs_20 IAMs_20 10 25 51.5
comp=Z,41μm,21.0s
HARA HARA 119.17 88 *eP* **Pdif** 09 33 49.6 -3.5
MAZI Mazidag 119.21 56 *i* P **Pdif** 09 33 55.7 +3.1
ATD Arta Tunnel 119.23 85 *eP* **Pdif** 09 33 56.4 +3.3
CHOM Cayeli-Rize 119.25 52 *eP* **Pdif** 09 33 56.2 +3.6
BNGB Bingl 119.32 54 *eP* **Pdif** 09 33 56.8 +3.7
EIDS Eidsvold 119.56 228 IAMs_20 IAMs_20 10 17 17.7
comp=Z,65μm,22.0s
KARO Karliova-Bingo 119.59 54 *eP* **Pdif** 09 33 59.0 +4.6
SVAN Silvan-Diyarba 119.77 55 P **Pdif** 09 33 58.2 +3.2
BCA Borcka 119.87 51 ⇑P **PKPdf** 09 37 31.3 -0.9
BCA Borcka 119.87 51 *eP* **Pdif** 09 33 57.9 +2.6
BATM Batumi 119.91 51 P **Pdif** 09 33 58.7 +3.2
KOPR Koprukoy-ERZUR 120.16 53 *eP* **Pdif** 09 33 59.0 +2.1
KIV Kislovodsk 120.38 48 ⇓P **PKiKP** 09 37 33.5 +0.2
KIV Kislovodsk 120.38 48 *i* P **Pdif** 09 33 57.5 -0.1
KIV *i* 09 37 32.4
KIV *e* 09 38 59.2
KIV *e* 09 44 28.5
KIV *e*PS PKKPdf 09 48 49.5 +36
KIV *e*SS SS 09 55 29.7 +3.6
KIV *e*SSS SSS 09 59 57.8
KIV pmax pmax
comp=Z,176nm,1.0s
KIV Kislovodsk 120.38 48 PKPdf **PKPdf** 09 37 32.0 -1.1
GURO Guroymak-BITLI 120.40 54 P **Pdif** 09 34 01.2 +3.3
GOF Gofitskoye 120.48 47 *ce*PKiKP **PKiKP** 09 37 34.6 +1.3
SENK Senkaya-Erzuru 120.50 52 P **Pdif** 09 34 01.5 +3.1
KBZ Khabaz 120.56 48 *i* PKiKP **PKPdf** 09 37 32.7 -0.6
KBZ Khabaz 120.56 48 PKP **PKPdf** 09 37 32.3 -1.1
comp=Z,357nm,0.9s,baz=212,slow=2.8,SNR=52
KBZ PP **PP** 09 38 56.8 -4.1
comp=Z,27nm,1.0s,baz=272,slow=10,SNR=0.8
KBZ PKKPbc **PKKPbc** 09 47 39.7 -0.2
comp=Z,16nm,0.9s,baz=66,slow=0.7,SNR=7.3
MLAZ Malazgirt-MUS 120.77 54 *eP* **Pdif** 09 34 02.9 +3.3
KIRV Kirov 120.83 30 *i* PKiKP **PKPdf** 09 37 32.8 -0.6
AGRB Hanur-Agry 121.07 53 P **Pdif** 09 34 00.7 -0.3
NCK Nalchik 121.09 49 *i* PKiKP **PKPdf** 09 37 33.8 -0.7
ONI Oni 121.10 50 *eP* **Pdif** 09 34 03.7 +2.8
ONI Oni 121.10 50 **PKPdf** 09 37 33.9 -0.7
ONI Oni 121.10 50 PKiKP **PKPdf** 09 37 33.9 -0.7
STKA Stephens Creek 121.26 216 **PKPdf** 09 37 33.7 -1.5
STKA Stephens Creek 121.26 216 *i* PKiKP **PKPdf** 09 37 34.0 -1.2
STKA Stephens Creek 121.26 216 PKP **PKPdf** 09 37 34.5 -0.7
comp=Z,64nm,1.0s,baz=151,slow=2.8,SNR=21
STKA PP **PP** 09 39 04.4 -0.6
comp=Z,11nm,1.0s,baz=161,slow=10,SNR=0.9
STKA PKKPbc **PKKPbc** 09 47 36.4 -0.9
comp=Z,14nm,0.9s,baz=319,slow=5.2,SNR=7.1
AKH Akhalkalaki 121.27 51 *eP* **Pdif** 09 34 04.6 +2.8
ZEI Tsey 121.41 49 *i* PKiKP **PKPdf** 09 37 33.5 -1.8
ZEI pmax pmax
comp=Z,189nm,1.0s
VANB Van 121.46 54 *eP* **Pdif** 09 34 06.5 +3.9
H11N3 WAKE ISLAND Hyl 121.58 284 T T 11 50 42.5
baz=98,slow=74
H11N2 WAKE ISLAND Hyl 121.59 284 T T 11 50 43.0
baz=98,slow=74
H11N1 WAKE ISLAND Hyl 121.59 284 T T 11 50 41.5
baz=98
H11S2 WAKE ISLAND Hyl 121.62 282 T T 11 50 44.4
baz=100,slow=74,SNR=25
H11S1 WAKE ISLAND Hyl 121.62 282 T T 11 50 47.5
baz=100,slow=74
H11S3 WAKE ISLAND Hyl 121.63 282 T T 11 50 46.2
baz=100,slow=74
CUKT Cukurca 121.73 56 P **Pdif** 09 34 07.6 +3.7
WAKE Wake Island 121.77 283 IAMs_20 IAMs_20 10 17 33.2
comp=Z,71μm,22.0s
BELG Belogornoye 121.89 38 *c* PKiKP **PKPdf** 09 37 34.7 -0.9
BELG MLR MLR
comp=Z,11μm,18.0s
GNI Garni 122.36 52 **PKiKP** 09 37 37.3 -0.1
GNI Garni 122.36 52 *i* PKiKP **PKPdf** 09 37 36.6 -0.6
GNI Garni 122.36 52 PKPdf **PKPdf** 09 37 36.8 -0.4
TIXI Tiksi 122.44 351 ⇑PKiKP **PKPdf** 09 37 35.5 -0.7
TIXI Tiksi 122.44 351 PKKPbc PKKPbc 09 47 32.0 -1.5
comp=Z,1.3nm,0.9s,baz=240,slow=0.5,SNR=8.7
SEY Seymchan 122.77 337 *i* PKiKP **PKPdf** 09 37 36.7 -0.3
SEY Seymchan 122.77 337 PKKPbc PKKPbc 09 47 30.6 -1.5
comp=Z,57nm,1.1s,baz=222,slow=1.9,SNR=15
BBOO Buckleboo 123.48 211 **PKPdf** 09 37 38.9 -0.6
MAK Makhachkala 124.00 49 *d* iP **Pdif** 09 34 15.5 +1.9
MAK *i* 09 37 38.3
MAK *e* 09 39 22.6
MAK *e*PPP PPP 09 42 06.5
MAK *e* 09 44 42.5
MAK *e*PS **PS** 09 49 19.7 -3.2
MAK *e*SSS SSS 10 00 53.3
MAK pmax pmax
comp=Z,436nm,1.0s
MAK pmax pmax
comp=Z,9μm,7.2s
MAK MLR MLR
comp=N,109μm,21.0s
MAK MLR MLR
comp=E,63μm,24.0s
MAK MLR MLR
comp=Z,58μm,23.0s
PET Petropavlovsk 124.31 324 *eP* **Pdif** 09 34 17.2 +2.5
PET *e* 09 39 31.5
PET *e*PS PS 09 49 22.3 -2.9
PET *e*PPS PPS 09 50 48.1
PET *e*SS SS 09 56 21.8 +6.7
PET pmax pmax
comp=Z,2μm,18.9s
PET pmax pmax
comp=Z,195nm,1.1s
PEA0B Petropavlovsk- 124.82 324 **PKPdf** 09 37 41.3 0.0
PEA0B Petropavlovsk- 124.82 324 PKiKP **PKPdf** 09 37 41.3 0.0
PETK Petropavlovsk- 124.82 324 **PKPdf** 09 37 40.7 -0.6
PETK Petropavlovsk- 124.82 324 PKiKP **PKPdf** 09 37 40.7 -0.6
PETK Petropavlovsk- 124.82 324 PKP **PKPdf** 09 37 40.6 -0.7
comp=Z,28nm,0.7s,baz=33,slow=2.4,SNR=30
PETK PP **PP** 09 39 30.2 +0.9
comp=Z,26nm,1.2s,baz=154,slow=2.9,SNR=1.0
PETK PKKPbc **PKKPbc** 09 47 22.7 -1.0
comp=Z,7.0nm,0.9s,baz=269,slow=2.3,SNR=4.8
MA2 Magadan 125.26 334 **PKiKP** 09 37 42.8 +0.6
MA2 IAMs_20 IAMs_20 10 40 00.8
comp=Z,61μm,20.0s
MA2 Magadan 125.26 334 *i* PKiKP **PKPdf** 09 37 40.3 -1.6
MA2 MLR MLR
comp=Z,98μm,25.0s
NRIK Noril'sk 125.32 8 **PKiKP** 09 37 42.5 +0.3
NRIK Noril'sk 125.32 8 *i* PKiKP **PKPdf** 09 37 40.5 -1.3
NRIK MLR MLR
comp=Z,86μm,22.0s
NRIK Noril'sk 125.32 8 PKP **PKPdf** 09 37 41.2 -0.5
comp=Z,90nm,1.0s,baz=99,slow=1.3,SNR=24
NRIK PP **PP** 09 39 31.6 -0.3
comp=Z,47nm,1.1s,baz=288,slow=0.5,SNR=4.3
NRIK SKKPbc SKKPbc 09 51 15.3 +3.0
comp=Z,39nm,1.1s,baz=103,slow=4.7,SNR=4.9
ROCAM Rodrigues Isla 125.62 129 IAMs_20 IAMs_20 10 30 17.4
comp=Z,53μm,20.0s
ARU Arti 126.21 30 **PKPdf** 09 37 43.6 -0.2
ARU Arti 126.21 30 *i* PKiKP **PKPdf** 09 37 43.6 -0.2
ARU 09 39 36.8
ARU PPP PPP 09 42 19.1
ARU 09 44 54.9
ARU SP SP 09 49 32.8 -3.4
CTA Charters Tower 126.31 230 PKP **PKPdf** 09 37 45.2 0.0
comp=Z,186nm,1.1s,baz=147,slow=1.5,SNR=34
CTA PP **PP** 09 39 37.8 -1.8
comp=Z,17nm,1.1s,baz=98,slow=4.7,SNR=1.5
CTA PKKP **PKKPdf** 09 48 02.7 +1.2
comp=Z,7.8nm,0.8s,baz=259,slow=3.1,SNR=4.2
CTA SKKPbc SKKPbc 09 51 08.5 +3.4
comp=Z,23nm,1.1s,baz=279,slow=4.8,SNR=4.5
CTAO Charters Tower 126.31 230 PKPdf **PKPdf** 09 37 44.7 -0.5
CTAO Charters Tower 126.31 230 PKIKP **PKPdf** 09 37 44.7 -0.5
CTAO MLR MLR
comp=Z,59μm,18.0s
MSEY Mahe Island 126.56 108 *eP* **PKiKP** 09 37 46.6 +0.2
SKR Severo-Kuril's 126.64 322 *i* PKIKP **PKiKP** 09 37 45.9 +0.7
SKR *e* 09 39 44.7
SKR pmax pmax
comp=Z,441nm,0.9s
SKR pmax pmax
comp=Z,3μm,6.6s
SVE Sverdlovsk 126.99 29 *d* iPKIKP **PKPdf** 09 37 45.3 0.0
SVE *e* 09 39 38.4
SVE *e*SS SS 09 56 50.7 +2.4
SVE pmax pmax
comp=Z,273nm,1.5s
SVE MLR MLR
comp=Z,42μm,21.0s
SMRA Abu-Samra 128.30 71 P **PKPdf** 09 37 47.9 -0.9
SNR=30
TRNA Turayna 128.65 71 P **PKPdf** 09 37 49.6 +0.2
SNR=27
AKTO Aktyubinsk 128.66 37 PKIKP **PKPdf** 09 37 48.2 -0.5
FORT Forrest 128.82 205 **PKPdf** 09 37 49.2 -0.5
H01W2 Cape Leeuwin H 128.91 189 PKP **PKiKP** 09 37 50.5 +0.4
baz=122,slow=4.2,SNR=6.1
H01W1 Cape Leeuwin H 128.91 189 PKP **PKiKP** 09 37 50.5 +0.4
baz=122,slow=4.2,SNR=4.6
H01W3 Cape Leeuwin H 128.92 189 PKP **PKiKP** 09 37 50.6 +0.4
baz=122,slow=4.2,SNR=4.6
RABL Rabaul 129.66 251 IAMs_20 IAMs_20 10 26 50.8
comp=Z,44μm,20.0s
JRN Qarnain Island 130.14 71 P **PKPdf** 09 37 52.2 -0.1
SNR=15
ABTO Aybut 130.14 80 P **PKiKP** 09 37 52.9 -0.5
SNR=27
NWAO Narrogin (SRO) 130.25 193 **PKPdf** 09 37 51.6 -0.8
NWAO Narrogin (SRO) 130.25 193 IAMs_20 IAMs_20 10 34 08.7
comp=Z,50μm,20.0s
NWAO Narrogin (SRO) 130.25 193 PKIKP **PKPdf** 09 37 51.6 -0.8
NWAO Narrogin (SRO) 130.25 193 PP **PP** 09 40 00.6 -3.6
comp=Z,16nm,1.0s,baz=230,slow=4.8,SNR=1.2
AB31 Akbulak array 130.29 38 *i* PKIKP **PKPdf** 09 37 50.8 -1.0
ABKAR Akbulak array 130.29 38 **PKiKP** 09 37 52.3 -0.4
WHFO Wadi Hawf 130.65 80 P **PKPdf** 09 37 53.7 +0.2
SNR=24
MZR Muzera 130.69 73 *i* PKPdf **PKPdf** 09 37 53.1 -0.3
SNR=7.2
YAK Yakutsk 130.72 345 **PKPdf** 09 37 52.0 -0.2
YAK Yakutsk 130.72 345 IAMs_20 IAMs_20 10 37 38.5
comp=Z,52μm,22.0s
YAK Yakutsk 130.72 345 *e*PKIKP **PKPdf** 09 37 50.1 -2.1
YAK *e* 09 40 05.4
YAK pmax pmax
comp=Z,636nm,1.0s
YAK pmax pmax
comp=N,43nm,1.1s
YAK pmax pmax
comp=E,58nm,1.0s
YAK pmax pmax
comp=Z,4μm,3.8s
YAK pmax pmax
comp=N,1μm,3.6s
YAK pmax pmax
comp=E,601nm,3.5s
YAK MLR MLR
comp=Z,104μm,23.0s
YAK MLR MLR
comp=N,77μm,24.0s
RBK Rabkut 131.02 80 P **PKPdf** 09 37 54.2 0.0
SNR=25
PMG Port Moresby 131.67 242 **PKPdf** 09 37 55.5 0.0
PMG Port Moresby 131.67 242 *i* PKIKP **PKPdf** 09 37 55.0 -0.5
PMG Port Moresby 131.67 242 PKP **PKPdf** 09 37 55.2 -0.3
comp=N,264nm,1.2s,baz=52,slow=2.8,SNR=52
PMG PP **PP** 09 40 14.6 -0.5
comp=N,27nm,1.0s,baz=81,slow=5.8,SNR=2.3
PMG SKPbc **SKPab** 09 41 19.5 +0.3
comp=N,13nm,0.9s,baz=67,slow=2.6,SNR=1.4
PMG SKKPbc **SKKPbc** 09 50 48.8 +2.5
comp=N,36nm,0.9s,baz=279,slow=9.8,SNR=6.6
PMG Port Moresby 131.67 242 PKP **PKPdf** 09 37 48.6 -6.9
PMG PKP **PKiKP** 09 37 53.4 -3.1
DMTO DMTO 131.75 80 P **PKPdf** 09 37 55.5 0.0
SNR=28
AS31 Alice Springs 131.90 216 PKPdf **PKPdf** 09 37 55.3 -0.5
ASAR Alice Springs 131.90 216 PKP **PKPdf** 09 37 55.1 -0.7
comp=N,254nm,1.1s,baz=141,slow=2.2,SNR=50
ASAR PP **PP** 09 40 12.1 -3.6
comp=N,1.4nm,0.6s,baz=126,slow=35,SNR=1.7
ASAR PKKP **PKKPdf** 09 47 52.8 +1.9
comp=N,11nm,0.9s,baz=337,slow=1.7,SNR=10
AJN Ajban 132.09 71 *i* PKPdf **PKPdf** 09 37 56.0 0.0
SNR=9.5
AJN Ajban 132.09 71 P **PKPdf** 09 37 55.3 -0.7
SNR=31
ASUD Al Ashush, Dub 132.40 71 *i* PKPdf **PKPdf** 09 37 55.4 -1.1
SNR=43
ASUD Al Ashush, Dub 132.40 71 P **PKPdf** 09 37 56.3 -0.3
SNR=40
SHAO Shalim 132.42 80 *i* PKPdf **PKPdf** 09 37 55.2 -1.6
SNR=18
SHAO Shalim 132.42 80 P **PKPdf** 09 37 56.6 -0.2
SNR=11
FAQ Al Faqa, Dubai 132.63 71 *i* PKPdf **PKPdf** 09 37 56.2 -0.9
SNR=17
FAQ Al Faqa, Dubai 132.63 71 P **PKPdf** 09 37 56.7 -0.3
SNR=56
UMQ Umm Al-Quwin 132.68 70 *i* PKPdf **PKPdf** 09 37 56.6 -0.4
SNR=29
UMQ Umm Al-Quwin 132.68 70 P **PKiKP** 09 37 57.6 -0.5
SNR=24
NAZ Nazwa, Dubai 132.69 70 *i* PKPdf **PKPdf** 09 37 55.7 -1.4
SNR=14
NAZ Nazwa, Dubai 132.69 70 P **PKPdf** 09 37 56.3 -0.8
SNR=33
ALNE Al Ain 132.79 72 *i* PKPdf **PKPdf** 09 37 56.6 -0.7
SNR=17
ALNE Al Ain 132.79 72 P **PKPdf** 09 37 56.6 -0.7
SNR=83
GEYT Alibeck 132.99 53 **PKPdf** 09 37 56.6 -0.8
GEYT Alibeck 132.99 53 PKP **PKPdf** 09 37 57.2 -0.2
comp=N,50nm,0.7s,baz=259,slow=5.3,SNR=27
GEYT PP PP 09 40 15.2 -8.3
comp=N,12nm,1.0s,baz=63,slow=10,SNR=1.3
GEYT SKPbc **SKPbc** 09 41 21.0 -1.5

comp=N,35nm,1.1s,baz=292,slow=7.6,SNR=3.5
GEYT PKKP **PKKPdf 09 47 49.8 +0.3**
comp=N,5.2nm,0.9s,baz=132,slow=4.3,SNR=2.6
GEYT SKKPbc **SKKPbc 09 50 34.9 -8.8**
comp=N,10nm,1.0s,baz=82,slow=12,SNR=4.0
GYA0B ALIBECK ARRAY 132.99 53 PKPdf 09 37 57.2 -0.1
ASHO Ashiyiah 133.06 71 *i* PKPdf **PKPdf 09 37 56.5 -1.3**
SNR=10
ASHO Ashiyiah 133.06 71 P **PKPdf 09 37 58.2 +0.3**
SNR=54
SHME Shamm 133.09 69 *i* PKPdf **PKPdf 09 37 57.8 -0.1**
SNR=11
SHME Shamm 133.09 69 P **PKPdf 09 37 57.1 -0.7**
SNR=35
HATD Hatta, Dubai 133.12 71 *i* PKPdf **PKPdf 09 37 55.7 -2.3**
SNR=13
HATD Hatta, Dubai 133.12 71 P **PKPdf 09 37 57.1 -0.8**
SNR=46
MASF Masafi 133.13 70 P **PKPdf 09 37 57.6 -0.4**
SNR=51
MSFE Esma-Masafi 133.13 70 *i* PKPdf **PKPdf 09 37 56.7 -1.3**
SNR=18
BANOM Banah 133.24 69 PKPdf **PKPdf 09 37 56.8 -1.4**
MDH Madha 133.26 70 *i* PKPdf **PKPdf 09 37 56.2 -1.9**
SNR=24
MDH Madha 133.26 70 P **PKPdf 09 37 57.5 -0.7**
SNR=43
ARQ Araqi 133.50 73 P **PKPdf 09 37 58.3 -0.4**
SNR=37
SOHO SOHO 133.50 72 *i* PKPdf **PKPdf 09 37 56.6 -2.0**
SNR=17
NKL Nikolayevsk 133.59 331 *i* PKIKP **PKPdf 09 37 56.6 -1.3**
NKL *e* 09 40 26.2
BRVK Borovoye 133.71 29 **PKPdf 09 37 58.5 +0.3**
BRVK Borovoye 133.71 29*c* *i*PKIKP **PKPdf 09 37 58.0 -0.2**
BRVK MLR MLR
comp=Z,123μm,20.0s
BRVK Borovoye 133.71 29 P **PKPdf 09 37 56.7 -1.5**
BVA0 Borovoye Array 133.78 29 *i* PKIKP **PKPdf 09 37 53.3 -5.0**
BVAR Borovoye Array 133.78 29 PKP **PKPdf 09 37 58.9 +0.5**
comp=Z,125nm,0.9s,baz=259,slow=1.5,SNR=54
BVAR PP **PP 09 40 25.4 -2.0**
comp=Z,20nm,1.0s,baz=248,slow=4.4,SNR=1.8
BVAR SKPbc **SKPbc 09 41 24.4 -0.2**
comp=Z,12nm,0.8s,baz=339,slow=3.6,SNR=1.0
TYV Tymovskoe 134.03 328 *e*PKIKP **PKPdf 09 37 58.8 0.0**
TYV pmax pmax
comp=Z,292nm,1.3s
TYV pmax pmax
comp=Z,9μm,5.4s
BSY Bisya 134.12 74 P **PKPdf 09 37 59.5 -0.4**
SNR=48
MORW Morawa 134.23 193 **PKPdf 09 37 59.2 -0.8**
MORW IAMs_20 IAMs_20 10 36 53.2
comp=Z,49μm,19.0s
DQM DQM 134.36 77 P **PKPdf 09 37 59.9 -0.5**
SNR=40
WB2 Warramunga Arr 134.50 220 **PKPdf 09 37 59.6 -1.2**
WRA Warramunga Arr 134.50 220 **PKPdf 09 37 58.5 -2.2**
WRA Warramunga Arr 134.50 220 PKhKP PKPpre 09 37 46.7
comp=Z,10nm,0.8s,baz=134,slow=2.4,SNR=12
WRA PKP **PKPdf 09 37 59.6 -1.1**
comp=Z,109nm,0.7s,baz=148,slow=1.6,SNR=39
WRA PP **PP 09 40 31.1 -1.3**
comp=Z,10nm,0.9s,baz=145,slow=4.4,SNR=4.8
WRA SKPbc **SKPbc 09 41 28.6 +0.5**
comp=Z,30nm,1.2s,baz=140,slow=1.4,SNR=3.3
WRAB Tennant Creek 134.50 220 **PKPdf 09 38 00.2 -0.5**
WRAB Tennant Creek 134.50 220 PKIKP **PKPdf 09 38 00.2 -0.5**
WB0 Warramunga Arr 134.60 220 **PKPdf 09 37 59.6 -1.4**
MHTO MHTO 134.80 76 P **PKPdf 09 38 00.7 -0.4**
SNR=75
SMDO Samad 134.90 73 P **PKPdf 09 38 01.9 +0.5**
SNR=78
MANU Manus Island 134.91 251 IAMs_20 IAMs_20 10 26 05.8
comp=Z,53μm,22.0s
JMDO Jabal Madar 134.95 74 P **PKPdf 09 38 01.9 +0.5**
SNR=31
BIDO Bidbid 134.97 72 P **PKPdf 09 38 00.4 -1.1**
SNR=83
UGL Uglegorsk 135.38 326 *e*PKIKP **PKPdf 09 38 01.5 +0.1**
UGL pmax pmax
comp=Z,400nm,1.3s
UGL pmax pmax
comp=Z,12μm,6.3s
WSAR Wadi Sarin 135.44 73 P **PKPdf 09 38 02.4 +0.1**
SNR=46
YUK Yuzh-Kuril'sk 135.72 318 *i* PKIKP **PKPdf 09 38 01.8 -0.4**
YUK *e* 09 40 40.9
YUK *e*PPP PPP 09 43 38.0
YUK *e*SS SS 09 58 36.5 +0.9
YUK *e*SSS SSS 10 03 45.2
WBK Wadi Bani Khal 135.75 74 P **PKPdf 09 38 02.4 -0.5**
SNR=81
YSS Yuzh-Sakhalins 136.18 323 **PKPdf 09 38 02.8 -0.1**
YSS Yuzh-Sakhalins 136.18 323 *i* PKIKP **PKPdf 09 38 03.2 +0.2**
YSS *e* 09 40 41.8
YSS *e*PS **PS 09 51 05.8 -2.3**
YSS *e*PPS PPS 09 52 55.6
YSS *e*SS SS 09 58 35.8 -5.0
YSS *e* 10 03 43.0
YSS pmax pmax
comp=Z,340nm,1.1s
YSS pmax pmax
comp=Z,13μm,6.2s
YSS pmax pmax
comp=Z,11μm,7.2s
YSS pmax pmax
comp=N,2μm,6.6s
YSS pmax pmax
comp=E,2μm,8.4s
BRZS Berezniki 136.84 31 *e*PKIKP **PKPdf 09 37 59.7 -4.4**
BRZS *i* 09 40 46.0
BRZS Berezniki 136.84 31 *e*PKP **PKPdf 09 37 59.7 -4.4**
baz=30
BRZS *i* PP **PP 09 40 46.1 -0.8**
baz=30
HRA Herat 137.12 56 **PKPdf 09 38 04.3 -1.1**
GRNR Gornyy 137.14 331 *e*PKHKP PKPpre 09 37 55.8
GRNR *e* 09 40 45.0
JMP Maruseppu 137.32 319 P PKPdf 09 37 53.7 -12
BOD Bodaibo 137.56 353 *e*PKHKP PKPpre 09 37 53.9
BOD pmax pmax
comp=E,384nm,2.6s
JKA Kamikawa-asahi 137.75 320 IAMs_20 IAMs_20 10 42 17.8
comp=Z,56μm,22.0s
ASAJ Asahikawa 137.75 320 P PKPdf 09 37 52.5 -13
OTUK Ortayu 137.77 33 PKIKP **PKPdf 09 38 00.7 -5.2**
MMPI Merauke 137.81 238 PKP **PKPdf 09 38 07.0 0.0**
JEM Erimo 138.40 317 IAMs_20 IAMs_20 10 39 30.8
comp=Z,55μm,20.0s
JEM Erimo 138.40 317 P PKPdf 09 37 57.6 -10
ERM Erimo 138.40 317 **PKPdf 09 38 03.5 -3.7**
ERM Erimo 138.40 317 *i* PKIKP **PKPdf 09 38 07.3 +0.1**
ZEA Zeya 138.47 341 *e*PKHKP PKPpre 09 37 57.5
ZEA *e* 09 40 57.9
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=Z,160nm,1.2s
ZEA pmax pmax
comp=E,800nm,7.4s
ZEA pmax pmax
comp=N,1μm,3.8s
ZEA pmax pmax
comp=Z,6μm,5.4s
ZAA0 Zalesovo Array 138.67 18 **PKPdf 09 38 03.6 -3.8**
ZALV Zalesovo Beam 138.67 18 **PKPdf 09 38 05.1 -2.3**
ZALV Zalesovo Beam 138.67 18 PKhKP PKPpre 09 37 57.7
comp=Z,6.7nm,0.6s,baz=323,slow=4.6,SNR=11
ZALV PKP **PKPdf 09 38 07.4 0.0**
comp=Z,1μm,1.0s,baz=299,slow=1.8,SNR=76
ZALV PP **PP 09 40 56.2 -1.7**
comp=Z,41nm,0.9s,baz=324,slow=2.9,SNR=2.4
ZALV SKKPbc SKKPbc 09 50 05.2 -18
comp=Z,17nm,1.1s,baz=114,slow=1.8,SNR=3.6
KURK Kurchatov 139.04 26 **PKPdf 09 38 06.0 -2.1**
KURK Kurchatov 139.04 26 *i* PKIKP **PKPdf 09 38 05.3 -2.8**
KURBB Kurchatov Arra 139.07 26 PKIKP **PKPdf 09 38 01.8 -6.4**
KURBB Kurchatov Arra 139.07 26 PKhKP PKPpre 09 37 58.4
comp=Z,26nm,1.0s,baz=311,slow=3.4,SNR=15
KURBB PKP **PKPdf 09 38 09.0 +0.8**
comp=Z,321nm,1.1s,baz=308,slow=2.6,SNR=55
KURBB PP **PP 09 41 01.2 +0.6**
comp=Z,17nm,0.9s,baz=335,slow=6.3,SNR=3.1
KURBB SKKPbc SKKPbc 09 50 04.2 -17
comp=Z,16nm,1.1s,baz=144,slow=3.2,SNR=5.2
CHM Chimkent 139.51 42 *e*PKIKP **PKPdf 09 38 03.9 -5.4**
CHM Chimkent 139.51 42 *e*PKP **PKPdf 09 38 04.0 -5.4**
baz=42
CHM LR LR 10 40 26.9
baz=42
KK31 Karatay Array 139.68 40 *i* PKHKP PKPpre 09 38 01.5
KKAR Karatay Array 139.68 40 **PKPdf 09 38 07.0 -2.6**
KKAR Karatay Array 139.68 40 PKIKP **PKPdf 09 38 07.0 -2.6**
H08S1 Diego Carcia H 139.91 123 PKP **PKPdf 09 38 06.1 -4.4**
baz=328,slow=7.0,SNR=13
H08S2 Diego Garcia H 139.93 123 PKP **PKPdf 09 38 05.9 -4.7**
baz=328,slow=7.0,SNR=14
H08S3 Diego Garcia H 139.93 123 PKP **PKPdf 09 38 05.9 -4.6**
baz=328,slow=7.0,SNR=7.9
SEM Semipalatinsk 139.95 25 *e*PKIKP **PKPdf 09 38 05.1 -5.0**
SEM *e* 09 41 05.5
SEM MLR MLR
comp=Z,31μm,21.0s
SEM Semipalatinsk 139.95 25 *e*PKP **PKPdf 09 38 05.2 -5.0**
baz=25
SEM *e*PP **PP 09 41 05.6 -0.7**
baz=25
SEM LR LR 10 40 04.5
comp=Z,31μm,20.9s,baz=25
JOT Ohata 140.09 317 P **PKPdf 09 38 03.3 -7.1**
JSH Shimam 140.10 319 P **PKPdf 09 38 04.2 -6.2**
PSA00 Pilbara Seismi 140.25 201 **PKPdf 09 38 11.1 -0.2**
PSAB1 Pilbara Seismi 140.27 201 IAMs_20 IAMs_20 10 34 37.4
comp=Z,49μm,20.0s
KLR Kul'dur 140.35 333 *i* PKIKP **PKPdf 09 38 11.0 +0.4**
JTM Tenmabayashi 140.36 316 **PKPdf 09 38 10.9 +0.1**
JTM IAMs_20 IAMs_20 10 38 48.4
comp=Z,40μm,21.0s
BTLS Baital 140.68 36 *e*PKIKP **PKPdf 09 38 06.1 -5.2**
BTLS *e* 09 41 11.3
BTLS Baital 140.68 36 *e*PKP **PKPdf 09 38 06.2 -5.2**
baz=36
BTLS *e*PP **PP 09 41 11.4 +0.6**
baz=36
TEY Ternei 140.78 325 *de*PKHKP PKPpre 09 38 04.4
TEY *e* 09 38 06.5
TEY *e* 09 41 07.0
TEY pmax pmax
comp=Z,1μm,7.4s
JOM Ohasama 140.82 314 P **PKPdf 09 38 04.5 -7.3**
GENI Genyem 141.08 245 PKP PKPdf 09 38 03.8 -9.2
KNRA Kununurra 141.15 217 IAMs_20 IAMs_20 10 47 33.7
comp=Z,49μm,19.0s
HEH HeiHe 141.31 337 PKP **PKPdf 09 38 05.4 -6.9**
HEH PP **PP 09 41 15.1 +0.9**
HEH SS SS 09 59 41.4 +1.0
HEH AMB AMB
comp=Z,14μm,5.9s
HEH LR LR
comp=Z,43μm,23.9s
HEH LR LR
comp=Z,44μm,22.1s
HEH LR LR
comp=Z,114μm,24.2s
GUMO Guam 141.81 272 PKhKP PKPpre 09 38 10.4
comp=Z,558nm,1.0s,baz=207,slow=9.1,SNR=6.4
GUMO PP **PP 09 41 18.7 -0.5**
comp=Z,93nm,1.0s,baz=59,slow=17,SNR=1.5
JMM Marumori 141.88 312 IAMs_20 IAMs_20 10 55 34.0
comp=Z,40μm,21.0s
EKS2 Erkin-Say 141.93 39 P **PKPdf 09 38 15.1 +1.2**
SNR=46
SGDS Sogindy 141.97 37*c* *i*PKIKP **PKPdf 09 38 08.2 -5.6**
SGDS *e* 09 41 19.0
SGDS Sogindy 141.97 37⇑ *i*PKP **PKPdf 09 38 08.2 -5.6**
baz=37
SGDS *e*PP **PP 09 41 19.1 +0.2**
baz=37
USP Ospenovka 142.01 38 P **PKPdf 09 38 08.9 -5.0**
SNR=14
AML Almayashu 142.18 40 P **PKPdf 09 38 07.4 -7.3**
SNR=9.7
ARSB Arslanbob 142.18 41 **PKPdf 09 38 11.3 -3.0**
ARSB Arslanbob 142.18 41 PKIKP **PKPdf 09 38 11.4 -3.0**
CHMS Chumysh 142.31 38 P **PKPdf 09 38 10.3 -4.1**
SNR=27
AAK Ala-Archa 142.38 38 P **PKPdf 09 38 11.1 -3.6**
SNR=50
AAK Ala-Archa 142.38 38 **PKPdf 09 38 11.7 -3.0**
AAK Ala-Archa 142.38 38*c* *i*PKHKP PKPpre 09 38 09.0
AAK Ala-Archa 142.38 38 PKPdf **PKPdf 09 38 08.7 -6.0**
AAK Ala-Archa 142.38 38 PKhKP PKPpre 09 38 10.2
comp=Z,96nm,1.0s,baz=271,slow=2.8,SNR=37
AAK PP **PP 09 41 20.4 -1.1**
comp=Z,43nm,1.0s,baz=87,slow=16,SNR=1.8
KBU Kabul Universi 142.51 53 PKP **PKPdf 09 38 08.5 -6.7**
UCH Uchtor 142.63 39 P **PKPdf 09 38 12.5 -3.0**
SNR=54
KBK Karagaybulak 142.63 38 P **PKPdf 09 38 11.8 -3.3**
SNR=106
KUU Kurty 142.68 35*c* *i*PKIKP **PKPdf 09 38 09.7 -5.2**
KUU *e* 09 41 22.8
KUU MLR MLR
comp=Z,64μm,21.0s
KUU Kurty 142.68 35⇑ *i*PKP **PKPdf 09 38 09.8 -5.2**
baz=35
KUU *e*PP **PP 09 41 22.8 -0.1**
baz=35
KUU LR LR 10 39 44.9
comp=Z,64μm,20.6s,baz=35
TKM2 Tokmak 2 142.86 37 P **PKPdf 09 38 11.8 -3.8**
SNR=90
TKM2 Tokmak 2 142.86 37 PKIKP **PKPdf 09 38 10.4 -5.2**
JYT Yasato 143.00 310 P 09 38 10.1
TDK Taldyqorghan 143.05 32*c* *i*PKIKP PKPbc 09 38 11.6 -0.9
TDK MLR MLR
comp=Z,47μm,20.0s
TDK Taldyqorghan 143.05 32⇑ *i*PKP PKPbc 09 38 11.7 -0.8
baz=32
TDK LR LR 10 40 04.5
comp=Z,47μm,20.2s,baz=32
CHKK Chushkaly 143.06 35⇑ *i*PKIKP PKPab 09 38 10.8 -0.2
CHKK Chushkaly 143.06 35⇑ *i*PKP PKPab 09 38 10.8 -0.2
baz=35
KZA Kyzart 143.16 39 P PKPbc 09 38 14.4 +1.1
SNR=84
DGZ Jazzator, Alta 143.16 20 *i* PKIKP PKPbc 09 38 12.5 -0.3
CIT Chita 143.29 352 *e*PKIKP PKPbc 09 38 12.4 -0.5
CIT *e* 09 41 23.4
BOOM Boomskoye usch 143.32 38 PKPbc 09 38 14.0 +0.5
BOOM Boomskoye usch 143.32 38 PKIKP PKPbc 09 38 14.0 +0.5
AAA Alma-Ata 143.43 36 *i* PKIKP PKPbc 09 38 14.1 +0.5
AAA *e* 09 41 28.1
AAA MLR MLR
comp=Z,43μm,22.0s
AAA Alma-Ata 143.43 36 *i* PKP PKPbc 09 38 14.1 +0.5
baz=36
AAA *e*PP **PP 09 41 28.1 +0.5**
baz=36
AAA LR LR 10 38 47.5
comp=Z,43μm,22.1s,baz=36
MAKZ Makanchi 143.45 27 PKIKP PKPab 09 38 11.9 -0.6
MDOK Medeo 143.54 36 PKIKP PKPab 09 38 13.2 +0.1
MDOK Medeo 143.54 36 *i* PKP PKPbc 09 38 14.0 0.0
baz=36
MDOK *e*PP **PP 09 41 28.8 +0.5**
baz=36
MDOK LR LR 10 39 28.1
baz=36
TNSS Tian-Shan 143.56 36⇑ *i*PKIKP PKPbc 09 38 14.4 0.0
TNSS Tian-Shan 143.56 36⇑ *i*PKP PKPbc 09 38 14.4 0.0
baz=36
JSD Sado 143.58 314 P PKPab 09 38 11.5 -1.7
MK31 Makanchi Array 143.60 27*c* *i*PKIKP PKPab 09 38 11.9 -1.2
MKAR Makanchi Array 143.60 27 PKhKP PKPpre 09 38 12.4
comp=Z,29nm,0.8s,baz=346,slow=2.4,SNR=45
MKAR SKKPbc SKKPbc 09 49 47.2 -16
comp=Z,11nm,0.9s,baz=130,slow=3.8,SNR=4.6
IRK Irkutsk 143.63 1 *e*PKIKP PKPab 09 38 13.3 +0.3
ULHL Ulahol 143.65 38 P PKPbc 09 38 14.5 +0.1
SNR=131
USA0B Ussuriysk Arra 143.83 327 IAMs_20 IAMs_20 10 47 42.8
comp=Z,33μm,21.0s
USRK Ussuriysk Ar. 143.83 327 PKPbc 09 38 14.8 +0.2
USRK Ussuriysk Ar. 143.83 327 PKIKP PKPbc 09 38 14.8 +0.2
USRK Ussuriysk Ar. 143.83 327 PKhKP PKPpre 09 38 13.2
comp=Z,537nm,1.1s,baz=52,slow=2.4,SNR=76
USRK PP **PP 09 41 27.8 -2.0**
comp=Z,4.3nm,0.9s,baz=0.0,slow=7.5,SNR=1.0
NRN Naryn 143.99 39 PKPbc 09 38 16.1 +0.4
NRN Naryn 143.99 39 PKIKP PKPbc 09 38 16.1 +0.4
JRY Ryogami san 144.04 310 P **PKPab 09 38 13.8 -1.3**
MOY Mondy 144.05 5 *e*PKIKP **PKPab 09 38 14.1 -0.6**
MOY pmax pmax
comp=Z,3μm,3.3s
JCJ Chichijima 144.11 294 **PKPab 09 38 15.2 -0.4**
JCJ Chichijima 144.11 294 PKhKP PKPpre 09 38 10.6
comp=Z,284nm,0.6s,baz=141,slow=0.6,SNR=5.8
ZSN Zaisan 144.15 24*c* *i*PKIKP **PKPab 09 38 14.8 -0.3**
ZSN Zaisan 144.15 24⇑ *i*PKP **PKPab 09 38 14.8 -0.3**
baz=24
JOD2 Odawara 2 144.21 309 P **PKPab 09 38 13.9 -1.8**
ZHN Zhinishke 144.31 35*c* *i*PKIKP PKPbc 09 38 16.1 -0.2
ZHN *e* 09 41 32.5
ZHN Zhinishke 144.31 35⇑ *i*PKP PKPbc 09 38 16.2 -0.1
baz=34
ZHN *e*PP **PP 09 41 32.5 -0.4**
baz=34
MJAR Matsushiro Arr 144.31 312 PKhKP PKPpre 09 38 14.4
comp=Z,437nm,1.1s,baz=97,slow=1.9,SNR=198
MJAR PP **PP 09 41 33.2 -0.1**
comp=Z,18nm,1.1s,baz=73,slow=3.1,SNR=1.5
MJAR PKKP **PKKPdf 09 47 28.1 +0.5**
comp=Z,3.9nm,0.9s,baz=292,slow=6.6,SNR=4.3
MJAR SKKPbc SKKPbc 09 49 55.8 -3.8
comp=Z,22nm,1.1s,baz=251,slow=4.3,SNR=5.8
MAJO Matsushiro 144.31 312 **PKPab 09 38 14.7 -1.3**
MAJO Matsushiro 144.31 312⇑ PKIKP **PKPab 09 38 15.8 -0.3**
MAT Matsushiro 144.31 312 P **PKPab 09 38 12.9 -3.1**
MJB9 Matsu-Tunnel 144.31 312 **PKPab 09 38 15.5 -0.6**
SATY Saty 144.36 35*c* *i*PKIKP PKPbc 09 38 16.3 -0.2
SATY *e* 09 41 33.9
SATY Saty 144.36 35⇑ *i*PKP PKPbc 09 38 16.3 -0.2
baz=35
SATY *e*PP **PP 09 41 34.0 +0.8**
baz=35
JHJ2 Mitsune 144.47 305 **PKPab 09 38 16.3 -0.4**
JHJ2 IAMs_20 IAMs_20 10 35 04.5
comp=Z,31μm,21.0s
HIA Hailar 144.63 344 **PKPab 09 38 16.0 -0.9**
HIA Hailar 144.63 344 IAMs_20 IAMs_20 10 54 59.8
comp=Z,44μm,22.0s
HIA Hailar 144.63 344 PKIKP **PKPab 09 38 16.0 -0.9**
UZB Uzunbulak 144.64 34*c* *i*PKIKP PKPbc 09 38 17.2 -0.2
UZB *e* 09 41 35.4
UZB Uzunbulak 144.64 34⇑ *i*PKP PKPbc 09 38 17.3 -0.2
baz=34
UZB *e*PP **PP 09 41 35.5 +0.6**
baz=34
MDJ Mudanjiang 144.75 330 PKP **PKPab 09 38 15.6 -1.8**
MDJ pPKP PKiKP 09 38 24.8 +2.5
MDJ sPKP 09 38 30.8
MDJ PP **PP 09 41 36.8 +1.6**
MDJ AMB AMB
comp=Z,22μm,10.3s
MDJ LR LR
comp=Z,35μm,21.9s
MDJ LR LR
comp=Z,36μm,20.6s
MDJ LR LR
comp=Z,90μm,22.1s
MDJ Mudanjiang 144.75 330 **PKPab 09 38 15.9 -1.5**
PDGK Podgornoye 144.77 34 PKIKP **PKPab 09 38 16.6 -1.1**
TARG Taragay, Kyrgy 144.88 37 **PKPab 09 38 17.5 -1.0**
TARG Taragay, Kyrgy 144.88 37 PKIKP **PKPab 09 38 17.5 -1.0**
BNX BinXian 144.92 333 ⇑PKP **PKPab 09 38 16.3 -1.7**
BNX pPKP **pPKPdf 09 38 29.5 -0.6**
BNX sPKP 09 38 34.3
BNX PP **PP 09 41 33.4 -2.7**
BNX SKS **SKSdf 09 45 21.5 -3.9**
BNX SS **SS 10 00 21.3 -1.1**
BNX AMB AMB
comp=Z,13μm,8.7s
BNX LR LR
comp=Z,41μm,22.8s
BNX LR LR
comp=Z,43μm,23.9s
BNX LR LR
comp=Z,93μm,26.0s
KSH Kashi 145.08 42 PKP **PKPdf 09 38 19.3 -0.2**
KSH sPKP 09 38 36.0
KSH PP **PP 09 41 43.4 +5.6**
KSH PKS 09 41 56.9
KSH SKKS 09 48 28.8
KSH SS SS 10 00 26.3 +0.8
KSH AMB AMB
comp=Z,19μm,14.9s
KSH LR LR
comp=Z,67μm,22.0s
KSH LR LR
comp=Z,74μm,21.5s
KSH LR LR
comp=Z,119μm,23.9s
JGN Niukaw 145.10 312 P **PKPbc 09 38 17.4 -1.6**
JSG Sagara 145.13 309 IAMs_20 IAMs_20 10 47 12.5
comp=Z,46μm,19.0s
JSG Sagara 145.13 309 P **PKPbc 09 38 18.0 -1.1**
SAUI Saumlaki 145.14 229 PKP **PKPab 09 38 19.8 +0.1**
JGF Kuroka 145.35 311 P **PKPbc 09 38 17.6 -2.1**
ZAK Zakamensk 145.46 2 *e*PKIKP **PKPdf 09 38 19.0 -0.7**
ZAK *e* 09 41 39.4
ZAK pmax pmax
comp=Z,2μm,1.4s
INU Inuyama 145.71 311 **PKPdf 09 38 19.1 -1.4**
INU IAMs_20 IAMs_20 10 33 03.3
comp=Z,42μm,21.0s
KMPI Kaimana, Papua 145.98 238 PKP **PKPdf 09 38 21.2 -0.4**
NIL Nilore 146.00 53 **PKPdf 09 38 21.0 -0.1**
NIL Nilore 146.00 53 PKP2 **PKPdf 09 38 21.0 -0.1**
JASL Jaisalmer 146.11 65 *eP* **PKPab 09 38 22.7 -0.3**
JIE Ise 146.35 309 P **PKPdf 09 38 21.2 -0.4**
JWT Wachi 146.91 312 P **PKPdf 09 38 22.4 -0.1**
CN2 Changchun 147.30 333 PKPbc **PKPdf 09 38 16.8 -6.1**
CN2 PP **PP 09 41 50.8 +0.6**
CN2 SKS **SKSdf 09 45 18.4 -11**
CN2 AMB AMB
comp=Z,17μm,11.0s
CN2 LR LR
comp=Z,57μm,23.3s
CN2 LR LR
comp=Z,28μm,23.3s
CN2 LR LR
comp=Z,65μm,23.1s
MNCY Minicoy 147.49 99 *eP* **PKPdf 09 38 23.5 -0.5**
FAKI Fak Fak 147.59 237 **PKPdf 09 38 24.7 +0.4**
FAKI IAMs_20 IAMs_20 10 40 56.2
comp=Z,42μm,20.0s
FAKI Fak Fak 147.59 237 PKP **PKPdf 09 38 23.3 -1.0**
JMU Jammu 147.64 53 *eP* **PKPdf 09 38 23.3 -0.5**
JAD Aida 147.96 312 P **PKPdf 09 38 23.6 -0.7**
ULN Ulaanbaatar 148.00 358 **PKPdf 09 38 24.5 +0.3**
ULN Ulaanbaatar 148.00 358 *i* PKIKP **PKPdf 09 38 23.6 -0.6**
ULN Ulaanbaatar 148.00 358 PKP **PKPdf 09 38 23.1 -1.1**
SONM Songino Array 148.05 359 **PKPdf 09 38 23.8 -0.4**
SONM Songino Array 148.05 359 PKIKP **PKPdf 09 38 23.8 -0.4**
SONM Songino Array 148.05 359 PKPbc **PKPdf 09 38 24.2 0.0**
comp=Z,181nm,0.9s,baz=268,slow=0.4,SNR=77
SONM SKP 09 41 53.2
comp=Z,48nm,1.0s,baz=20,slow=3.1,SNR=3.5
SONM SKPbc **SKiKP 09 42 04.8 +2.0**
comp=Z,49nm,1.0s,baz=348,slow=5.7,SNR=3.7
WMQ Urumqi 148.26 25 PKPbc **PKPdf 09 38 24.5 -0.1**
WMQ PKPab **PKPab 09 38 30.3 -0.7**
WMQ sPKP 09 38 42.8
WMQ PP **PP 09 42 02.0 +6.2**
WMQ AMB AMB
comp=Z,15μm,11.6s
WMQ LR LR
comp=Z,20μm,17.1s
WMQ LR LR
comp=Z,81μm,18.7s
WMQ LR LR
comp=Z,86μm,22.5s
THN Thein Dam 148.38 53 *eP* **PKPdf 09 38 25.0 0.0**
BNDI Bandanaira 148.46 232 PKP **PKPdf 09 38 24.5 -1.2**
SOEI Soe 148.49 218 **PKPdf 09 38 27.0 +1.1**
SOEI Soe 148.49 218 PKP **PKPdf 09 38 27.3 +1.4**
SOEI Soe 148.49 218 PKP **PKPdf 09 38 25.2 -0.7**
JHS Saijyo 148.68 313 *eP* **PKPdf 09 38 24.6 -0.9**
JMN Monobe 148.75 310 IAMs_20 IAMs_20 10 46 31.2
comp=Z,47μm,20.0s
JMN Monobe 148.75 310 P **PKPdf 09 38 25.6 0.0**

DHRM	DHARAMSHALA	148.91	53	eP		PKPdf	09 38 26.6	+0.4
HHU	Hamhung	149.19	326	PKPbc		PKPdf	09 38 24.3	-1.8
HHU				PP		PP	09 42 03.1	+1.7
HHU				AmB				
	comp=Z,3µm,0.9s							
HHU				AMS		AMS		
	comp=Z,22µm,27.7s							
BHK	Bhakra	149.34	54	eP		PKPdf	09 38 27.0	+0.4
AJM	Ajmer	149.47	65	eP		PKPdf	09 38 26.5	-0.5
AJM				i PP		PP	09 42 02.9	-1.4
SJI	Sorong	149.57	239	PKP		PKPdf	09 38 25.8	-1.7
SWI	Sorong	149.57	239	PKP		PKPdf	09 38 26.7	-0.8
GOA	Goa	149.59	86	eP		PKPdf	09 38 27.3	-0.1
SNY	Shenyang	149.71	332	PKPbc		PKPdf	09 38 25.8	-1.1
SNY				PP		PP	09 42 07.0	+2.8
SNY				SKKS			09 48 54.0	
SNY				LR		LR		
	comp=Z,50µm,20.5s							
SNY				LR		LR		
	comp=Z,24µm,20.8s							
SNY				LR		LR		
	comp=Z,84µm,21.3s							
POO	Poona	149.73	80	eP		PKPdf	09 38 27.8	+0.1
SMLA	Simla	150.04	54	eP		PKPdf	09 38 27.8	+0.1
SMLA				i x		PP	09 42 05.6	-1.6
BASI	Baing, Sumba	150.11	211	PKP		PKPdf	09 38 27.5	-0.8
KKR	Kurukshetra	150.22	57	eP		PKPdf	09 38 30.0	+1.9
MNGI	Mangalore	150.24	91	eP		PKPdf	09 38 28.1	-0.3
KRAI	Karang Ratu	150.38	232	PKP		PKPdf	09 38 27.5	-1.3
MMRI	Maumere	150.56	216	IAMs_20		IAMs_20	10 36 29.9	
	comp=Z,45µm,21.0s							
MMRI	Maumere	150.56	216	PKP		PKPdf	09 38 27.4	-1.6
XLT	XiLinHaoTe	150.56	344	ePKPbc		PKPdf	09 38 27.9	-0.4
XLT				pPKP		pPKPdf	09 38 37.6	-2.0
XLT				sPKP			09 38 47.3	
XLT				PP		PP	09 42 07.1	-1.8
XLT				SS		SS	10 01 21.3	-4.3
XLT				AMB		AMB		
	comp=Z,17µm,14.5s							
XLT				LR		LR		
	comp=Z,5µm,27.2s							
XLT				LR		LR		
	comp=Z,35µm,23.8s							
XLT				LR		LR		
	comp=Z,74µm,27.2s							
SUJ	Sinuiju	150.63	329	PKPbc		PKPdf	09 38 27.0	-1.3
KSRS	Korea Array	150.65	322	PKP		PKPdf	09 38 28.4	-0.1
	comp=Z,329nm,1.1s,baz=30,slow=0.8,SNR=108							
KSRS				PP		PP	09 42 07.9	-2.1
	comp=Z,18nm,1.1s,baz=60,slow=2.9,SNR=1.4							
EDFI	Ende, Flores	150.76	215	PKP		PKPdf	09 38 27.1	-2.4
PYAG	Pyongyang	150.77	326	PKPbc		PKPdf	09 38 28.2	-0.4
PYAG				PP		PP	09 42 13.7	+3.2
PYAG				AmB				
	comp=Z,31µm,3.3s							
NDI	New Delhi	151.00	59	eP		PKPdf	09 38 29.3	0.0
NDI				i x		PP	09 42 13.9	+1.0
JNU	Nakatsue	151.23	311	IAMs_20		IAMs_20	10 53 54.8	
	comp=Z,51µm,22.0s							
JNU	Nakatsue	151.23	311	P		PKPdf	09 38 27.6	-2.0
JNU	Nakatsue	151.23	311	PP		PP	09 42 14.1	+0.2
	comp=Z,14nm,0.9s,baz=24,slow=5.6,SNR=1.1							
TRD	Trivandrum	151.27	101	eP		PKPdf	09 38 30.3	+0.2
TRD				i x		PP	09 42 08.8	-6.2
MERT	Meerut	151.33	58	eP		PKPdf	09 38 32.2	+2.4
MERT				i x		PP	09 42 19.0	+4.3
NLAI	Namlea	151.40	230	PKP		PKPdf	09 38 29.1	-1.3
JTU	Tsushima	151.51	315	IAMs_20		IAMs_20	10 57 19.6	
	comp=Z,34µm,22.0s							
JTU	Tsushima	151.51	315	P		PKPdf	09 38 29.4	-0.4
HJU	Haeju	151.51	325	PKPbc		PKPdf	09 38 28.6	-1.2
HJU				PP		PP	09 42 16.6	+1.8
HJU				AMS		AMS		
	comp=Z,26µm,22.7s							
KOD	Kodaikanal	152.23	98	eP		PKPdf	09 38 31.1	-0.9
KOD				i x		PP	09 42 16.9	-4.0
JSU	Suzuyama	152.34	309	P		PKPdf	09 38 30.6	-0.7
AKL	Akola	152.61	75	eP		PKPdf	09 38 31.1	-0.8
AKL				i x		PP	09 42 18.4	-4.2
PLAI	Plampang	152.64	207	PKP		PKPdf	09 38 30.3	-1.9
DBNI	Kabupaten Domp	152.69	209	PKP		PKPdf	09 38 31.2	-1.1
LBMI	Labuha	152.75	235	PKP		PKPdf	09 38 31.1	-1.3
BBSI	Bau Bau	152.88	220	PKP		PKPdf	09 38 31.7	-0.9
DL2	Dalian	152.94	331	PKPbc		PKPdf	09 38 31.3	-0.6
DL2				PP		PP	09 42 20.3	-2.4
DL2				AMB		AMB		
	comp=Z,16µm,11.7s							
DL2				LR		LR		
	comp=Z,18µm,22.5s							
DL2				LR		LR		
	comp=Z,38µm,20.9s							
DL2				LR		LR		
	comp=Z,46µm,21.8s							
JFU	Fukue jima 2	153.00	313	P		PKPdf	09 38 31.9	-0.3
SANI	Sanana	153.02	231	PKP		PKPdf	09 38 33.5	+0.7
SANI	Sanana	153.02	231	PKP		PKPdf	09 38 31.3	-1.5
PTH	Pithoragarh	153.10	55	eP		PKPdf	09 38 32.5	-0.2
PTH				i x		PP	09 42 18.4	-6.5
TWSI	Taliwang, Sumb	153.10	206	PKP		PKPdf	09 38 31.0	-1.9
LGTI	Lohaghat	153.16	55	eP		PKPdf	09 38 32.1	-0.4
LGTI				i x		PP	09 42 18.5	-6.5
SALM	Salem	153.25	95	eP		PKPdf	09 38 33.4	+0.4
SALM				i x		PP	09 42 22.0	-4.3
TNTI	Ternate	153.70	237	PKP		PKPdf	09 38 31.4	-2.3
IGBI	Denpasar	153.71	202	PKP		PKPdf	09 38 31.9	-1.8
DNP	Denpasar	153.82	202	PKP		PKPdf	09 38 31.0	-2.9
XMIS	Christmas Isla	153.89	181			PKPdf	09 38 31.6	-2.4
XMIS				PKPab		PKPab	09 38 55.0	+0.1
XMIS				IAMs_20		IAMs_20	10 38 46.1	
	comp=Z,45µm,22.0s							
JMZ	Minamidaito 2	153.95	297	P		PKPdf	09 38 36.1	+2.4
BJI	Beijing	154.09	341	PKPbc		PKPdf	09 38 33.3	-0.2
BJI				PP		PP	09 42 30.3	+1.4
BJI				LR		LR		
	comp=Z,23µm,22.8s							
BJI				LR		LR		
	comp=Z,15µm,20.1s							
BJI				LR		LR		
	comp=Z,41µm,22.1s							
HYB	Hyderabad	154.21	83⇑	ePKP		PKPdf	09 38 33.8	-0.5
HYB				epPKPdf		pPKPdf	09 38 45.3	-0.6
HYB				ePKS		PP	09 42 06.7	-25
HYB				ePP		PP	09 42 31.4	-0.4
HYB				eSKS		SKSdf	09 45 36.8	-2.1
HYB				eSKKS		SKKSac	09 49 14.9	-4.4
HYB				eSS		SS	10 02 08.2	-1.4
HYB				IVMs_BB		IVMs_BB	10 51 25.9	
	comp=Z,22µm,19.6s							
HYB	Hyderabad	154.21	83	eP		PKPdf	09 38 31.9	-2.5
HYB				i x		PP	09 42 32.8	+1.0
SRBI	Singaraja	154.36	203	PKP		PKPdf	09 38 32.8	-1.9
PALK	Pallekele	154.37	106	P		PKPdf	09 38 34.7	0.0
PALK	Pallekele	154.37	106	PKP		PKPdf	09 38 33.8	-0.9
JAM	Amami Oshima	154.38	303	P		PKPdf	09 38 34.9	+0.6
JAGI	Jajag, Banyuwa	154.38	200	IAMs_20		IAMs_20	10 42 36.4	
	comp=Z,40µm,21.0s							
JAGI	Jajag, Banyuwa	154.38	200	PKP		PKPdf	09 38 32.6	-2.1
BKSI	Bulukumba	154.46	216	PKP		PKPdf	09 38 32.9	-1.9
HHC	Hu-ho-hao-te	154.48	349	ePKPbc		PKPdf	09 38 34.8	+0.6
HHC				PKS		PKSdf	09 42 08.5	0.0
HHC				PP		PP	09 42 32.9	+1.8
HHC				SKS		SKSdf	09 45 36.3	-2.1
HHC				AMB		AMB		
	comp=Z,38µm,9.0s							
HHC				LR		LR		
	comp=Z,84µm,21.0s							
HHC				LR		LR		
	comp=Z,31µm,20.7s							
HHC				LR		LR		
	comp=Z,170µm,21.8s							
MALK	Mahakanadarawa	154.61	104	PKP		PKPdf	09 38 33.8	-1.2
MKS	Makassar	154.91	215	PKP		PKPdf	09 38 33.6	-1.8
KAPI	Kappang	154.92	216	PKP		PKPdf	09 38 35.3	-0.2
	comp=Z,197nm,1.0s,baz=253,slow=0.5,SNR=36							
KAPI				PP		PP	09 42 34.5	+0.4
	comp=Z,11nm,0.2s,baz=161,slow=16,SNR=6.1							
BTO	Baotou	154.96	352	ePKPbc		PKPdf	09 38 34.8	-0.1
BTO				pPKP		pPKPdf	09 38 47.0	+0.6
BTO				sPKP			09 38 50.1	
BTO				PP		PP	09 42 32.3	-1.5
BTO				SS		SS	10 02 09.3	-4.4
BTO				LR		LR		
	comp=Z,135µm,25.1s							
BTO				LR		LR		
	comp=Z,81µm,25.9s							
BTO				LR		LR		
	comp=Z,261µm,26.1s							
ABJI	Asem Bagus	154.98	201	PKP		PKPdf	09 38 34.7	-0.8
BRCI	Bahraich	155.00	58	eP		PKPdf	09 38 34.4	-0.7
BRCI				i x		PP	09 42 32.8	-2.7
BLJI	Banyuglugur	155.24	200	PKP		PKPdf	09 38 34.4	-1.5
MDRS	Chennai	155.48	93	eP		PKPdf	09 38 35.6	-0.5
MDRS				i x		PP	09 42 36.0	-2.8
KMMI	Kalianget	155.77	201	PKP		PKPdf	09 38 35.3	-1.3
SJI	Sawahan	155.78	195	PKP		PKPdf	09 38 36.1	-0.6
UGM	Wanagama	155.90	192	IAMs_20		IAMs_20	10 44 39.5	
	comp=Z,45µm,22.0s							
UGM	Wanagama	155.90	192	PKP		PKPdf	09 38 35.9	-0.9
GTA	Gaotai	155.97	11	⇑PKP		PKPdf	09 38 36.3	0.0
GTA				pPKP		pPKPdf	09 38 47.3	-0.5
GTA				PP		PP	09 42 38.3	-1.2
GTA				SS		SS	10 02 24.4	-0.3
GTA				AMB		AMB		
	comp=Z,8µm,8.0s							
GTA				LR		LR		
	comp=Z,44µm,24.3s							
GTA				LR		LR		
	comp=Z,30µm,24.7s							
GTA				LR		LR		
	comp=Z,80µm,24.7s							
ALBI	Allahabad	155.99	63	eP		PKPdf	09 38 34.9	-1.6
ALBI				i x		PP	09 42 33.7	-7.5
LUWI	Luwuk	156.04	227	PKP		PKPdf	09 38 36.6	-0.3
LUWI	Luwuk	156.04	227	PKP		PKPdf	09 38 36.1	-0.9
YOGI	Yogyakarta	156.04	192	PKP		PKPdf	09 38 34.4	-2.6
JOW	Kunigami	156.09	301	IAMs_20		IAMs_20	10 57 30.6	
	comp=Z,29µm,22.0s							
JOW	Kunigami	156.09	301	PKP		PKPdf	09 38 37.0	+0.3
	comp=Z,90nm,0.9s,baz=24,slow=2.0,SNR=13							
JOW				PKPab		PKPab	09 39 05.4	+1.2
	comp=Z,276nm,1.0s,baz=79,slow=7.5,SNR=7.4							
JOW				PP		PP	09 42 42.5	+0.8
	comp=Z,40nm,1.0s,baz=79,slow=5.5,SNR=5.1							
VJD	Vijayawada	156.20	85	eP		PKPdf	09 38 36.3	-0.7
VJD				i x		PP	09 42 35.8	-7.0
NGJI	Ngawi	156.22	195	PKP		PKPdf	09 38 36.1	-1.1
KMSI	Cibinong	156.24	232	PKP		PKPdf	09 38 35.5	-1.7
GRJI	Gresik	156.37	198	PKP		PKPdf	09 38 36.5	-0.9
CMJI	Cimerak	156.38	188	PKP		PKPdf	09 38 35.3	-2.1
TTSI	Tana Toraja	156.47	218	PKP		PKPdf	09 38 35.8	-1.7
PMSI	Majene	156.63	216	PKP		PKPdf	09 38 36.7	-1.1
KPJI	Karang Pucung	156.75	189	PKP		PKPdf	09 38 36.8	-1.1
SMRI	Semarang	156.76	193	PKP		PKPdf	09 38 37.0	-0.9
BBJI	Bungbulang	156.78	186	PKP		PKPdf	09 38 36.2	-1.8
SGSI	Sangihe	156.84	241	PKP		PKPdf	09 38 35.4	-2.6
HNS	HongShan	156.97	341	⇑PKP		PKPdf	09 38 37.6	+0.2
HNS				PKPab		PKPab	09 39 08.5	+1.0
HNS				PP		PP	09 42 45.8	+0.8
HNS				AMB		AMB		
	comp=Z,17µm,8.0s							
HNS				LR		LR		
	comp=Z,88µm,22.8s							
HNS				LR		LR		
	comp=Z,20µm,22.1s							
HNS				LR		LR		
	comp=Z,100µm,22.6s							
CNJI	Cibinong	156.98	184	PKP		PKPdf	09 38 35.6	-2.6
VAR	Varanasi	157.02	62	eP		PKPdf	09 38 36.2	-1.7
VAR				i x		PP	09 42 39.8	-7.1
TIA	Tai'an	157.15	335	PKP		PKPdf	09 38 37.8	0.0
TIA				SS		SS	10 02 38.5	+0.8
TIA				AMB		AMB		
	comp=Z,10µm,10.4s							
TIA				LR		LR		
	comp=Z,18µm,19.8s							
TIA				LR		LR		
	comp=Z,19µm,21.6s							
TIA				LR		LR		
	comp=Z,50µm,21.6s							
MMSI	Mamuju	157.29	217	PKP		PKPdf	09 38 37.7	-0.9
TIY	Taiyuan	157.31	345	⇑PKP		PKPdf	09 38 36.8	-1.2
TIY				PKPab		PKPab	09 39 12.6	+3.6
TIY				PP		PP	09 42 46.3	-0.6
TIY				SS		SS	10 02 42.0	+3.0
TIY				LR		LR		
	comp=Z,66µm,22.0s							
TIY				LR		LR		
	comp=Z,23µm,19.9s							
TIY				LR		LR		
	comp=Z,100µm,23.4s							
SKJI	Sukabumi	157.31	183	PKP		PKPdf	09 38 36.2	-2.4
LEM	Lembang	157.41	186	PKP		PKPdf	09 38 39.3	+0.4
	comp=Z,326nm,1.0s,baz=163,slow=5.9,SNR=33							
LEM				PKPab		PKPab	09 39 12.7	+2.6
	comp=Z,545nm,1.0s,baz=191,slow=2.7,SNR=12							
LEM				PP		PP	09 42 48.9	+1.5
	comp=Z,217nm,1.1s,baz=159,slow=16,SNR=5.9							
LEM	Lembang	157.41	186	PKP		PKPdf	09 38 38.6	-0.3
GOMU	GeErMu	157.59	23	PKP		PKPdf	09 38 39.0	+0.2
GOMU				pPKP		pPKPdf	09 38 46.0	-4.3
GOMU				PP		PP	09 42 46.9	-2.1
GOMU				AMB		AMB		
	comp=Z,17µm,8.4s							
GOMU				LR		LR		
	comp=Z,82µm,24.4s							
GOMU				LR		LR		
	comp=Z,18µm,24.2s							
GOMU				LR		LR		
	comp=Z,75µm,24.4s							
MRSI	Marisa	157.69	229	PKP		PKPdf	09 38 36.1	-3.0
TNG	Tangerang	158.13	183	PKP		PKPdf	09 38 38.1	-1.5
SBJI	Serang	158.21	182	PKP		PKPdf	09 38 37.2	-2.5
DAV	Davao City (W)	158.44	249	⇑iP		PKPdf	09 38 42.0	+2.0
DAV	Davao City (W)	158.44	249	IAMs_20		IAMs_20	10 36 40.3	
	comp=Z,37µm,22.0s							
DAV	Davao City (W)	158.44	249	PKP		PKPdf	09 38 40.4	+0.5
	comp=Z,80nm,0.3s,baz=41,slow=17,SNR=6.7							
DAV				PP		PP	09 42 54.9	0.0
	comp=Z,62nm,0.3s,baz=275,slow=16,SNR=1.3							
DAV	Davao City (W)	158.44	249	PKP		PKPdf	09 38 39.0	-1.0
JHSG	JHARSUGUGA	158.68	71	eP		PKPdf	09 38 38.2	-1.9
JHSG				i x		PP	09 42 52.9	-3.4
BBKI	Banjar Baru	158.71	207	PKP		PKPdf	09 38 38.8	-1.5
EGSI	Enggano, Bengk	158.75	171	PKP		PKPdf	09 38 39.2	-1.2
VIS	Vishakhapatnam	158.76	82	eP		PKPdf	09 38 38.4	-1.8
VIS				i x		PP	09 42 55.9	-1.1
KASI	Kota Agung	158.79	177	PKP		PKPdf	09 38 38.4	-2.0
TOLI2	Tolitoli	158.96	228	IAMs_20		IAMs_20	10 44 05.7	
	comp=Z,44µm,21.0s							
MPSI	Mapaga	159.02	224	PKP		PKPdf	09 38 39.6	-1.1
SSE	Sheshan	159.04	319	PKP		PKPdf	09 38 40.0	-0.2
SSE				PP		PP	09 42 59.0	+1.9
SSE				SS		SS	10 02 56.4	-2.4
SSE				LR		LR		
	comp=Z,4µm,23.3s							
SSE				LR		LR		
	comp=Z,8µm,23.0s							
LWLI	Liwa	159.27	176	PKP		PKPdf	09 38 38.8	-2.3
BKB	Balikpapan	159.60	215	PKP		PKPdf	09 38 41.4	0.0
NJ2	Nanjing	159.72	325	i PKP		PKPdf	09 38 40.8	-0.1
NJ2				PKPab		PKPab	09 39 19.3	-0.3
NJ2				PP		PP	09 43 01.0	+0.4
NJ2				SS		SS	10 03 07.1	+1.5
NJ2				AMB		AMB		
	comp=Z,22µm,8.5s							
NJ2				LR		LR		
	comp=Z,46µm,20.8s							
NJ2				LR		LR		
	comp=Z,37µm,21.1s							
NJ2				LR		LR		
	comp=Z,61µm,21.8s							
LZH	Lanzhou	159.75	4	⇑PKP		PKPdf	09 38 41.3	+0.2
LZH				pPKP		pPKPdf	09 38 53.5	+0.9
LZH				PKPab		PKPab	09 39 21.3	+1.6
LZH				PP		PP	09 43 02.9	+2.7
LZH				SKKS			09 49 40.8	
LZH				SS		SS	10 03 03.1	-1.8
LZH				AMB		AMB		
	comp=Z,26µm,9.6s							
LZH				LR		LR		
	comp=Z,48µm,19.9s							
LZH				LR		LR		
	comp=Z,65µm,21.6s							
LZH				LR		LR		
	comp=Z,107µm,19.2s							
BOK	Bokaro	159.99	64	eP		PKPdf	09 38 40.5	-1.0
BOK				i x		PKPab	09 39 22.6	+1.4
BOK				LR		LR		
	comp=Z,26µm,6.0s							
LYN				LR		LR		
	comp=Z,73µm,24.0s							
LYN				LR		LR		
	comp=Z,49µm,22.3s							
LYN				LR		LR		
	comp=Z,56µm,22.7s							
UBSI	University, Be	160.31	171	PKP		PKPdf	09 38 40.0	-2.2
GTK	Tadong	160.63	51	eP		PKPdf	09 38 42.0	-0.3
GTK				i sP		PKPab	09 39 23.5	-0.6
GTK				ex		PP	09 42 59.3	-7.1
PPSI	Pulau Pagai	160.79	163	PKP		PKPdf	09 38 42.7	0.0
SLGI	Shiliguri	160.82	53	eP		PKPdf	09 38 42.8	+0.5
SLGI				i x		PKPab	09 39 26.5	+1.9
SLGI				ex		PP	09 43 08.4	+1.2
MTKI	Muara Teweh, K	160.91	210	PKP		PKPdf	09 38 42.9	+0.1
PMBI	Palembang	161.38	178	PKP		PKPdf	09 38 41.2	-2.1
XAN	Xi'an	161.57	351	⇑PKP		PKPdf	09 38 42.8	-0.2
XAN				pPKP		pPKPdf	09 38 53.4	-1.1
XAN				PKPab		PKPab	09 39 27.8	+0.2
XAN				PP		PP	09 43 08.8	-1.0
XAN				SS		SS	10 03 19.9	-3.9
XAN				AMB		AMB		
	comp=Z,37µm,11.4s							
XAN				LR		LR		
	comp=Z,73µm,19.2s							
XAN				LR		LR		
	comp=Z,56µm,20.8s							
XAN				LR		LR		
	comp=Z,115µm,22.0s							
KRJI	Kerinci	161.80	167	PKP		PKPdf	09 38 43.0	-0.9
SISI	Saibi	161.87	159	PKP		PKPdf	09 38 44.0	+0.2
PPBI	Pangkal Pinang	162.14	182	PKP		PKPdf	09 38 43.4	-0.7
DHUB	DHUBRI	162.38	52	eP		PKPdf	09 38 51.1	+7.2
DHUB				i x		PP	09 43 07.1	-8.5
CAL	Calcutta	162.53	65	eP		PKPdf	09 38 44.8	+0.6
CAL				i x		PKPab	09 39 34.8	+2.5
CAL				ex		PP	09 43 13.2	-3.6
JMBI	JAMBI	162.59	174	PKP		PKPdf	09 38 44.4	-0.1
PDSI	Padang	162.69	163	PKP		PKPdf	09 38 42.4	-2.3
PBSI	Pulau Batu	162.74	155	PKP		PKPdf	09 38 43.7	-1.0
WHN	Wuhan	163.20	332	i PKP		PKPdf	09 38 44.5	-0.1
WHN				sPKP			09 38 59.3	
WHN				PKPab		PKPab	09 39 34.9	+0.1
WHN				PKS			09 42 11.0	
WHN				PP		PP	09 43 18.0	-0.9
WHN				SKKS			09 50 07.3	
WHN				LR		LR		
	comp=Z,46µm,21.2s							
WHN				LR		LR		
	comp=Z,114µm,23.7s							
WHN				LR		LR		
	comp=Z,207µm,30.7s							
STKI	Sintang	163.26	201	PKP		PKPdf	09 38 43.9	-1.3
GSI	Gunungsitoli	163.65	151	PKP		PKPdf	09 38 44.9	-0.7
DSRI	Dabo	163.80	177	PKP		PKPdf	09 38 44.4	-1.3
SNSI	Sinabang, Aceh	163.96	145	PKP		PKPdf	09 38 44.8	-1.0
BKNI	Bangkinang	164.03	164	PKP		PKPdf	09 38 44.0	-1.9
BKNI	Bangkinang	164.03	164	PKP		PKPdf	09 38 43.5	-2.4
SHL	Shillong	164.05	50	eP		PKPdf	09 38 44.5	-1.3
SHL				i x		PKPab	09 39 40.8	+1.7
SHL				ex		PP	09 43 20.0	-4.6
TEZP	TEZPUR	164.07	45	eP		PKPdf	09 38 45.0	-0.6
TEZP				i x		PKPab	09 39 40.7	+1.9
TEZP				ex		PP	09 43 13.1	-11
ZIRO	ZIRO	164.15	41	eP		PKPdf	09 38 45.9	0.0
ITAN	ITANAGAR	164.33	42	eP		PKPdf	09 38 44.9	-0.9
ITAN				i x		PP	09 43 24.2	-1.2
AGT	Agartala	164.44	57	eP		PKPdf	09 38 45.8	-0.1
AGT				i x		PP	09 43 25.4	-1.2
SBSI	Sibolga	164.44	155	PKP		PKPdf	09 38 44.1	-2.2
QZH	Quanzhou	164.67	308	i PKP		PKPdf	09 38 46.6	+0.5
QZH				PKPab		PKPab	09 39 43.3	+1.7
QZH				PP		PP	09 43 28.5	+0.9
QZH				AMB		AMB		
	comp=Z,24µm,7.9s							
QZH				LR		LR		
	comp=Z,48µm,24.0s							
QZH				LR		LR		
	comp=Z,27µm,21.0s							
QZH				LR		LR		
	comp=Z,82µm,24.4s							
DIBR	DIBRUGARH	164.84	38	eP		PKPdf	09 38 47.0	+0.7
DIBR				i x		PKPab	09 39 42.9	+0.8
DIBR				ex		PP	09 43 28.2	+0.3
CD2	Chengdu	164.88	5	PKP		PKPdf	09 38 46.3	+0.1
CD2				sPKP			09 38 56.1	
CD2				PP		PP	09 43 29.0	+1.7
CD2				SKS		SKSdf	09 45 46.1	-2.1
CD2				SS		SS	10 03 58.3	+0.3
CD2				LR		LR		
	comp=Z,45µm,34.3s							
CD2				LR		LR		
	comp=Z,48µm,34.3s							
CD2				LR		LR		
	comp=Z,37µm,31.2s							
BELO	BELONIA	164.90	58	eP		PKPdf	09 38 47.3	+0.9
BELO				i x		PP	09 43 26.7	-2.4
TGY	Tagaytay City	164.91	266	PKP		PKPdf	09 38 47.2	+0.5
	comp=Z,141nm,0.3s,baz=275,slow=8.9,SNR=4.1							
TGY				PP		PP	09 43 30.6	+0.7
	comp=Z,102nm,0.3s,baz=217,slow=14,SNR=1.8							
JORH	JORHAT	164.95	42	eP		PKPdf	09 38 46.4	+0.1
KSM	Kuching	164.97	199	PKP		PKPdf	09 38 47.0	+0.2
SBUM	Sibu	165.14	207	PKP		PKPdf	09 38 47.5	+0.6
MOKO	MOKOCHONG	165.41	42	eP		PKPdf	09 38 47.6	+0.6
LKP	Lekhapani	165.49	36	eP		PKPdf	09 38 47.4	+0.6
LKP				i x		PKPab	09 39 47.6	+2.6
LKP				ex		PP	09 43 32.8	+1.5
KOHI	KOHIMA	165.54	45	eP		PKPdf	09 38 47.0	-0.1
KOHI				i x		PP	09 43 31.0	-1.1
KKM	Kota Kinabalu	165.64	229	PKP		PKPdf	09 38 47.5	+0.1
AZL	Aizawl	165.66	55	eP		PKPdf	09 38 47.3	+0.1
AZL				i x		PP	09 43 28.5	-4.6
CNSH	ChangSha	165.85	332	⇑PKP

	comp=Z,37μm,21.0s							
PZH					LR	LR		
	comp=Z,63μm,22.8s							
GYA	**Guiyang**	**169.33**	**354**	⇑PKP	**PKPdf**	09 38 49.6	**-0.1**	
GYA				pPKP	pPKPdf	09 38 59.4	-1.9	
GYA				sPKP		09 39 04.5		
GYA				PKPab	**PKPab**	**09 40 04.6**	**+2.6**	
GYA				PP	**PP**	**09 43 52.3**	**+2.1**	
GYA				SKS	**SKSdf**	**09 45 46.0**	**-5.1**	
GYA				SKKS	**SKKSac**	**09 50 37.1**	**+0.9**	
GYA				AMB	AMB			
	comp=Z,20μm,8.4s							
GYA				LR	LR			
	comp=Z,22μm,32.4s							
GYA				LR	LR			
	comp=Z,37μm,22.0s							
GYA				LR	LR			
	comp=Z,80μm,28.8s							
GULI	**GuiLin**	**169.49**	**335**	PKP	**PKPdf**	**09 38 44.6**	**-5.1**	
GULI				PP	**PP**	**09 43 47.6**	**-3.7**	
GULI				SKKS		09 50 38.1		
GULI				LR	LR			
	comp=Z,48μm,19.6s							
GULI				LR	LR			
	comp=Z,26μm,22.6s							
GULI				LR	LR			
	comp=Z,82μm,23.1s							
KMI	**Kunming**	**170.39**	**15**	⇑PKP	**PKPdf**	**09 38 50.3**	**-0.2**	
CHTO	**Chiang Mai**	**173.13**	**63**	P	**PKPdf**	**09 38 51.1**	**-0.6**	
CM31	**Chiang Mai Arr**	**173.27**	**66**	P	**PKPdf**	**09 38 51.3**	**-0.5**	
CMAR	**Chiang Mai Arr**	**173.27**	**66**	PKP	**PKPdf**	**09 38 51.1**	**-0.7**	
	comp=Z,104nm,1.0s,baz=276,slow=1.7,SNR=71							
CMAR				PKPab	**PKPab**	**09 40 20.6**	**+0.7**	
	comp=Z,112nm,1.0s,baz=291,slow=4.9,SNR=14							
CMAR				PP	**PP**	**09 44 12.9**	**+1.1**	
	comp=Z,61nm,1.1s,baz=288,slow=5.8,SNR=8.2							
SRDT	**SRDT**	**173.75**	**103**	PKP	**PKPdf**	**09 38 51.6**	**-0.4**	
QIZ	**Qiongzhong**	**174.70**	**308**	PKP	**PKPdf**	**09 38 52.8**	**+0.6**	
QIZ				PKPab	**PKPab**	**09 40 28.5**	**+2.4**	
QIZ				PP	**PP**	**09 44 19.0**	**+0.8**	
QIZ				LR	LR			
	comp=Z,25μm,27.8s							
QIZ				LR	LR			
	comp=Z,36μm,22.1s							
QIZ				LR	LR			
	comp=Z,86μm,26.9s							

MOS ***14*** *09:19:28.1±0.9,36.˚45N×70.˚75E,h198km,mb5.7/49,Error ellipse: s-maj=3.9km s-min=2.8km az=94.2*

BGR ***14*** *09:19:28.4,36.˚19N×70.˚74E,h33km,mb5.2*

BJI ***14*** *09:19:28.5±0.0,36.˚58N×70.˚64E,h205km,mb5.8/75, mB5.4/40*

NEIC ***14*** *09:19:29.7±1.5,36.˚45N±0.˚05×70.˚73E±0.˚08,h200km±3km, mb5.8/117,Mww5.3/32,Error ellipse: s-maj=9.2km s-min=7.8km az=86.0*

NEIC ***14*** *09:19:30,36.˚46N×70.˚73E,h200km*

IDC ***14*** *09:19:30.8±0.5,36.˚36N×70.˚74E,h216km±4km,mb5.1/41, mbtmp5.7/45,Error ellipse: s-maj=8.0km s-min=5.2km az=9.0*

NEIC ***14*** *09:19:30,36.˚46N×70.˚73E,h200km,Moment Tensor Solution. Duration: 2≤4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.71; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-0.19; $M_{r\theta}$0.69; $M_{\theta\phi}$0.37; $M_{\phi r}$-0.68; Fault plane solution: $M_0$1.22000×10^{17} NP1: ϕ_s132.40000°,δ71.68000°,λ96.32000°. NP2: ϕ_s293.00000°,δ19.35000°,λ71.62000°. Principal axes: T 1.2076, Plg63.0000°, Azm52.0000°; N 0.0278, Plg6.0000°, Azm310.0000°; P -1.2354, Plg26.0000°, Azm217.0000°;*

NNC ***14*** *09:19:31.4±2.1,36.˚75N×70.˚65E,h189km±28km,mb5.3, mpv6.4 Error ellipse: s-maj=20.2km s-min=12.7km az=168.0*

ISC **14** **09:19:29.7**±0.2,**36.˚46N**±0.˚03×**70.˚68E**±0.˚02,**h207**km±1km, **h207**km:**pP-P,n1374,**σ1.51/1658,**mb5.5**/329,**97C-85D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBL	**Kabul**	**2.33**	**215**			**Pn**	**09 20 12.1**	**-0.4**
KBL				Sn		**S**	**09 20 44.0**	**-1.3**
KBL	**Kabul**	**2.33**	**215**	PN		**Pn**	**09 20 12.1**	**-0.4**
KBL							09 20 44.0	
KBL	**Kabul**	**2.33**	**215**	P		**Pn**	**09 20 12.2**	**-0.4**
	SNR=3336							
KBL				S		**S**	**09 20 44.2**	**-1.2**
SIMJ	**Simiganj**	**2.57**	**329**	Pn		**Pn**	**09 20 14.8**	**-0.2**
NIL	**Nilore**	**3.51**	**142**			**Pn**	**09 20 25.9**	**0.0**
NIL	**Nilore**	**3.51**	**142**	PN		**Pn**	**09 20 25.9**	**0.0**
BTK	**Batken**	**3.60**	**2**			**Pn**	**09 20 27.5**	**+0.6**
BTK	**Batken**	**3.60**	**2**	PN		**Pn**	**09 20 27.5**	**+0.6**
JMU	**Jammu**	**5.10**	**136**	*eP*		**Pn**	**09 20 43.7**	**-1.9**
JMU				IAmb		IAmb	09 20 44.5	
	comp=Z,1μm,0.2s							
JMU				IAmb		IAmb	09 20 52.8	
	comp=Z,1μm,0.2s							
KSH	**Kashi**	**5.18**	**52**	P		Pn	09 20 41.8	-4.9
KSH				S		S	09 21 35.3	-12
KSH				smax		smax		
	comp=Z,9μm,1.0s							
KSH				smax		smax		
	comp=Z,7μm,0.9s							
ARSB	**Arslanbob**	**5.18**	**20**			**Pn**	**09 20 45.6**	**-1.1**
ARSB	**Arslanbob**	**5.18**	**20**	PN		**Pn**	**09 20 45.6**	**-1.1**
THN	**Thein Dam**	**5.78**	**132**	*eP*		**Pn**	**09 20 53.5**	**-0.8**
THN				*eS*		**S**	**09 22 03.5**	**+2.6**
CHM	**Chimkent**	**5.91**	**352**	*d*	PN	**Pn**	**09 20 56.3**	**+0.4**
CHM	**Chimkent**	**5.91**	**352**	⇓	*i* P	**Pn**	**09 20 56.4**	**+0.4**
	baz=352							
AML	**Almayashu**	**6.13**	**22**	P		**Pn**	**09 20 58.5**	**-0.5**
	SNR=3344							
AML	**Almayashu**	**6.13**	**22**	⇓	P	**Pn**	**09 20 58.2**	**-0.9**
	comp=Z,508nm,0.6s							
AML				⇓	S	**S**	**09 22 04.5**	**-5.2**
	comp=Z,1μm,0.7s							
AML	**Almayashu**	**6.13**	**22**	*i*	PN	**Pn**	**09 20 58.2**	**-0.9**
AML					pmax	pmax		
	comp=Z,508nm,0.5s							
DHRM	**DHARAMSHALA**	**6.26**	**130**	*eP*		**Pn**	**09 20 59.6**	**-1.2**
DZA	**Taraz**	**6.45**	**4**	*eP*	N	**Pn**	**09 21 02.7**	**-0.1**
DZA	**Taraz**	**6.45**	**4**	*eP*		**Pn**	**09 21 02.8**	**-0.1**
	baz=3.8							
NRN	**Naryn**	**6.47**	**38**			**Pn**	**09 21 00.5**	**-2.9**
NRN	**Naryn**	**6.47**	**38**	PN		**Pn**	**09 21 00.5**	**-2.9**
UCH	**Uchtor**	**6.48**	**26**	P		**Pn**	**09 21 03.3**	**-0.4**
	SNR=1235							
KZA	**Kyzart**	**6.64**	**31**	P		**Pn**	**09 21 04.6**	**-1.1**
	SNR=846							
KK31	**Karatay Array**	**6.64**	**359**	⇓	P	**Pn**	**09 21 04.8**	**-0.5**
	comp=Z,1μm,0.8s,baz=195,slow=14,SNR=7891							
KK31				⇑	S	**S**	**09 22 15.8**	**-5.3**
	comp=Z,890nm,0.5s,baz=190,slow=26,SNR=2.5							
KK31	**Karatay Array**	**6.64**	**359**	Pn		**Pn**	**09 21 04.8**	**-0.5**
KK31	**Karatay Array**	**6.64**	**359**	PN		**Pn**	**09 21 04.8**	**-0.5**
KKAR	**Karatay Array**	**6.64**	**359**			**Pn**	**09 21 05.0**	**-0.2**
KKAR	**Karatay Array**	**6.64**	**359**	Pn		**Pn**	**09 21 04.8**	**-0.5**
KKAR	**Karatay Array**	**6.64**	**359**	PN		**Pn**	**09 21 05.1**	**-0.2**
EKS2	**Erkin-Say**	**6.64**	**20**	P		**Pn**	**09 21 05.2**	**-0.2**
	SNR=554							
AAK	**Ala-Archa**	**6.84**	**24**	P		**Pn**	**09 21 07.8**	**-0.2**
	SNR=252							
AAK	**Ala-Archa**	**6.84**	**24**	Pn		**Pn**	**09 21 07.8**	**-0.2**
AAK	**Ala-Archa**	**6.84**	**24**	*ce*	PN	**Pn**	**09 21 07.6**	**-0.4**
AAK					pmax	pmax		
	comp=Z,4μm,1.7s							
AAK	**Ala-Archa**	**6.84**	**24**	*i*	P	**Pn**	**09 21 07.8**	**-0.2**
	SNR=342							
AAK	**Ala-Archa**	**6.84**	**24**	P		**Pn**	**09 21 08.0**	**0.0**
	comp=Z,1μm,0.5s,baz=212,slow=14,SNR=1483							
AAK				S		**S**	**09 22 23.3**	**-2.6**
	comp=Z,1μm,0.8s,baz=236,slow=22,SNR=16							
AAK	**Ala-Archa**	**6.84**	**24**	P		**Pn**	**09 21 07.9**	**-0.2**
AAK				P		**Pn**	**09 21 07.9**	**-0.2**
AAK				S		**S**	**09 22 24.3**	**-1.7**
AAK				S		**S**	**09 22 24.3**	**-1.7**
BHK	**Bhakra**	**6.93**	**135**	*eP*		**Pn**	**09 21 07.7**	**-1.4**
KBK	**Karagaybulak**	**7.01**	**27**	P		**Pn**	**09 21 10.3**	**0.0**
	SNR=460							
FRU1	**Bishkek**	**7.04**	**24**			**Pn**	**09 21 10.1**	**-0.4**
FRU1	**Bishkek**	**7.04**	**24**	PN		**Pn**	**09 21 10.1**	**-0.4**
HRA	**Herat**	**7.19**	**256**	Pn		**Pn**	**09 21 12.4**	**-0.3**
ULHL	**Ulahol**	**7.21**	**35**	P		**Pn**	**09 21 11.7**	**-1.2**
	SNR=339							
CHMS	**Chumysh**	**7.25**	**24**	P		**Pn**	**09 21 12.5**	**-0.7**
	SNR=985							
CHMS	**Chumysh**	**7.25**	**24**	⇓	P	**Pn**	**09 21 12.3**	**-0.9**
	comp=Z,2μm,0.8s							
CHMS				⇓	S	**S**	**09 22 30.8**	**-4.6**
	comp=Z,2μm,1.2s							
CHMS	**Chumysh**	**7.25**	**24**	PN		**Pn**	**09 21 12.3**	**-0.9**
BOOM	**Boomskoye usch**	**7.27**	**32**	Pn		**Pn**	**09 21 12.7**	**-0.9**
BOOM	**Boomskoye usch**	**7.27**	**32**	PN		**Pn**	**09 21 12.7**	**-0.9**
USP	**Ospenovka**	**7.41**	**22**	P		**Pn**	**09 21 14.1**	**-1.2**
	SNR=682							
TKM2	**Tokmak 2**	**7.49**	**29**	P		**Pn**	**09 21 16.0**	**-0.4**
	SNR=821							
TKM2	**Tokmak 2**	**7.49**	**29**	⇓	P	**Pn**	**09 21 15.4**	**-1.1**
	comp=Z,8μm,1.1s							
TKM2				⇑	S	**S**	**09 22 36.9**	**-4.4**
	comp=Z,2μm,1.1s							
TKM2	**Tokmak 2**	**7.49**	**29**	*i*	PN	**Pn**	**09 21 15.3**	**-1.1**
TKM2					pmax	pmax		
	comp=Z,8μm,1.0s							
SMLA	**Simla**	**7.58**	**133**	*eP*		**Pn**	**09 21 16.1**	**-1.4**
SGDS	**Sogindy**	**7.62**	**22**	*d*	PN	**Pn**	**09 21 16.7**	**-1.2**
SGDS					pmax	pmax		
	comp=Z,255nm,0.7s							
SGDS	**Sogindy**	**7.62**	**22**	⇓	P	**Pn**	**09 21 16.8**	**-1.2**
	comp=Z,255nm,0.7s,baz=22							
TARG	**Taragay, Kyrgy**	**7.64**	**44**	Pn		**Pn**	**09 21 17.5**	**-1.1**
TARG	**Taragay, Kyrgy**	**7.64**	**44**	PN		**Pn**	**09 21 17.5**	**-1.1**
TNSS	**Tian-Shan**	**8.15**	**34**	⇓	PN	**Pn**	**09 21 24.4**	**-0.8**
TNSS	**Tian-Shan**	**8.15**	**34**	⇓	P	**Pn**	**09 21 24.5**	**-0.8**
	baz=34							
KASK	**Kaskelen**	**8.16**	**32**	⇓	P	**Pn**	**09 21 25.0**	**0.0**
AAA	**Alma-Ata**	**8.27**	**34**	*d*	PN	**Pn**	**09 21 26.7**	**+0.2**
AAA	**Alma-Ata**	**8.27**	**34**	⇓	P	**Pn**	**09 21 26.8**	**+0.2**
	baz=33							
MDOK	**Medeo**	**8.30**	**34**	⇑	P	**Pn**	**09 21 26.0**	**-0.9**
	comp=Z,2μm,0.7s							
MDOK	**Medeo**	**8.30**	**34**	*i*	PN	**Pn**	**09 21 26.4**	**-0.5**
MDOK	**Medeo**	**8.30**	**34**	*i*	P	**Pn**	**09 21 26.4**	**-0.5**
	baz=34							
KNDC	**Almaty**	**8.30**	**34**	⇓	P	**Pn**	**09 21 26.9**	**0.0**
	comp=Z,14μm,1.4s							
KNDC				⇓	S	**S**	**09 22 56.5**	**-4.0**
	comp=Z,1μm,1.1s							
KNDC	**Almaty**	**8.30**	**34**	PN		**Pn**	**09 21 26.8**	**0.0**
PRZ	**Przheval'sk**	**8.48**	**42**			**Pn**	**09 21 28.6**	**-0.6**
PRZ	**Przheval'sk**	**8.48**	**42**	PN		**Pn**	**09 21 28.6**	**-0.6**
KUU	**Kurty**	**8.60**	**28**	*d*	PN	**Pn**	**09 21 28.9**	**-1.7**
KUU	**Kurty**	**8.60**	**28**	⇓	P	**Pn**	**09 21 28.1**	**-2.5**
	baz=28							
CHKK	**Chushkaly**	**8.82**	**31**	⇓	PN	**Pn**	**09 21 32.1**	**-1.5**
CHKK	**Chushkaly**	**8.82**	**31**	⇓	P	**Pn**	**09 21 32.2**	**-1.5**
	baz=31							
SATY	**Saty**	**8.88**	**40**	*d*	PN	**Pn**	**09 21 33.1**	**-1.3**
SATY					pmax	pmax		
	comp=Z,373nm,1.2s							
SATY	**Saty**	**8.88**	**40**	⇓	P	**Pn**	**09 21 33.2**	**-1.3**
	comp=Z,373nm,1.2s,baz=39							
BTLS	**Baital**	**8.95**	**16**	*d*	PN	**Pn**	**09 21 34.2**	**-0.9**
BTLS	**Baital**	**8.95**	**16**	⇓	P	**Pn**	**09 21 34.3**	**-0.9**
	baz=15							
ZHN	**Zhinishke**	**8.97**	**39**	*d*	PN	**Pn**	**09 21 34.4**	**-1.2**
ZHN					pmax	pmax		
	comp=Z,339nm,1.2s							
ZHN	**Zhinishke**	**8.97**	**39**	⇓	P	**Pn**	**09 21 34.5**	**-1.2**
	comp=Z,338nm,1.2s,baz=39							
UZB	**Uzynbulak**	**9.26**	**41**	*d*	P	**Pn**	**09 21 38.0**	**-1.4**
UZB					pmax	pmax		
	comp=Z,218nm,0.9s							
UZB	**Uzynbulak**	**9.26**	**41**	⇓	P	**Pn**	**09 21 38.1**	**-1.4**
	comp=Z,218nm,0.9s,baz=41							
KPKS	**Kokpek**	**9.31**	**39**	*eP*		**Pn**	**09 21 38.9**	**-1.1**
ARXS	**Arharly**	**9.47**	**33**	*ce*	P	**Pn**	**09 21 40.1**	**-1.9**
JASL	**Jaisalmer**	**9.51**	**179**	*eP*		**Pn**	**09 21 40.3**	**-2.3**
SHLS	**Shalkode**	**9.51**	**43**	*d*	P	**Pn**	**09 21 44.1**	**+1.6**
SHLS					pmax	pmax		
	comp=Z,279nm,0.9s							
SHLS	**Shalkode**	**9.51**	**43**	⇓	P	**Pn**	**09 21 44.1**	**+1.6**
	comp=Z,279nm,0.9s,baz=43							
NDI	**New Delhi**	**9.51**	**143**	*eP*		**Pn**	**09 21 40.4**	**-2.2**
MERT	**Meerut**	**9.54**	**139**	*eP*		**Pn**	**09 21 41.2**	**-1.8**
PDGK	**Podgornoye**	**9.64**	**42**	⇑	P	**Pn**	**09 21 41.3**	**-2.9**
	comp=Z,706nm,1.0s							
PDGK				⇑	S	**S**	**09 23 28.1**	**-4.2**
	comp=Z,1μm,1.1s							
PDGK	**Podgornoye**	**9.64**	**42**	P		**Pn**	**09 21 41.3**	**-2.9**
PDGK				S		**S**	**09 23 24.0**	**-8.3**
GEYT	**Alibeck**	**10.13**	**282**	Pn		**Pn**	**09 21 48.8**	**-1.7**
GEYT	**Alibeck**	**10.13**	**282**	P		**Pn**	**09 21 48.8**	**-1.7**
GEYT	**Alibeck**	**10.13**	**282**	P		**Pn**	**09 21 48.6**	**-2.0**
	comp=Z,206nm,0.9s,baz=104,slow=12,SNR=175							
GEYT					S	**S**	**09 23 38.4**	**-5.7**
	comp=Z,110nm,0.8s,baz=90,slow=13,SNR=2.1							
GEYT					ScP	**ScP**	**09 30 49.7**	**-2.2**
	comp=Z,17nm,0.8s,baz=191,slow=1.5,SNR=4.2							
GEYT					ScS	**ScS**	**09 34 25.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=324,slow=30,SNR=1.2							
GEYT					PKiKP	**PKiKP**	**09 35 37.4**	**-1.3**
	comp=Z,2.9nm,0.6s,baz=186,slow=1.5,SNR=3.9							
GYA0	**ALIBECK ARRAY**	**10.13**	**282**	P		**Pn**	**09 21 48.9**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**10.13**	**282**	⇓	P	**Pn**	**09 21 48.4**	**-2.2**
GYA0B	**ALIBECK ARRAY**	**10.13**	**282**			**Pn**	**09 21 48.6**	**-1.9**
TDK	**Taldyqorghan**	**10.35**	**32**	*d*	P	**Pn**	**09 21 51.7**	**-1.5**
TDK					pmax	pmax		
	comp=Z,315nm,0.9s							
TDK	**Taldyqorghan**	**10.35**	**32**	⇓	P	**Pn**	**09 21 51.8**	**-1.5**
	comp=Z,315nm,0.9s,baz=32							
AJM	**Ajmer**	**10.51**	**160**	⇓	P	**Pn**	**09 21 53.6**	**-1.9**
PTH	**Pithoragarh**	**10.56**	**128**	*eP*		**Pn**	**09 21 53.7**	**-2.5**
PTH				*eS*		S	09 23 41.5	-13
LGTI	**Lohaghat**	**10.64**	**128**	*eP*		**Pn**	**09 21 53.9**	**-3.3**
LGTI					IAmb	IAmb	09 21 56.4	
	comp=Z,110nm,0.1s							
LGTI					IAmb	IAmb	09 21 57.3	
	comp=Z,88nm,0.1s							
OTUK	**Ortayu**	**11.84**	**5**	⇓	P	**Pn**	**09 22 11.2**	**-1.1**
	comp=Z,433nm,1.0s							
OTUK	**Ortayu**	**11.84**	**5**	P		**Pn**	**09 22 11.2**	**-1.1**
MAKZ	**Makanchi**	**13.34**	**36**	⇓	P	**Pn**	**09 22 30.0**	**-1.1**
	comp=Z,934nm,0.8s							
MAKZ	**Makanchi**	**13.34**	**36**	Pn		**Pn**	**09 22 30.0**	**-1.1**
MAKZ	**Makanchi**	**13.34**	**36**	P		**Pn**	**09 22 30.0**	**-1.1**
MK31	**Makanchi Array**	**13.48**	**36**	P		**Pn**	**09 22 31.5**	**-1.3**
	comp=Z,279nm,0.7s,baz=206,slow=11,SNR=2038							
MK31	**Makanchi Array**	**13.48**	**36**			**Pn**	**09 22 31.1**	**-1.7**
MK31	**Makanchi Array**	**13.48**	**36**	*i*	P	**Pn**	**09 22 31.5**	**-1.3**
MK31					pmax	pmax		
	comp=Z,279nm,0.6s							
MKAR	**Makanchi Array**	**13.48**	**36**			**Pn**	**09 22 30.7**	**-2.1**
MKAR	**Makanchi Array**	**13.48**	**36**	*ce*	P	**Pn**	**09 22 31.5**	**-1.3**
MKAR					pmax	pmax		
	comp=Z,158nm,0.8s							
MKAR	**Makanchi Array**	**13.48**	**36**	P		**Pn**	**09 22 30.3**	**-2.5**
	comp=Z,158nm,0.8s,baz=220,slow=9.0,SNR=236							
MKAR					sP	**sPn**	**09 23 25.8**	**+2.1**
	comp=Z,101nm,0.9s,baz=225,slow=13,SNR=2.0							
MKAR					S	**S**	**09 24 57.4**	**-5.0**
	comp=Z,27nm,0.8s,baz=292,slow=3.8,SNR=1.5							
MKAR					ScP	**ScP**	**09 30 54.3**	**-2.3**
	comp=Z,15nm,0.8s,baz=244,slow=2.7,SNR=5.4							
MKAR					ScS	**ScS**	**09 34 32.0**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=347,slow=21,SNR=1.5							
MKAR					PKiKP	**PKiKP**	**09 35 37.6**	**-1.7**
	comp=Z,2.6nm,0.6s,baz=256,slow=1.3,SNR=10							
BRZS	**Berezniki**	**13.60**	**5**	*d*	P	**Pn**	**09 22 33.0**	**-1.2**
BRZS	**Berezniki**	**13.60**	**5**	⇓	P	**Pn**	**09 22 33.0**	**-1.2**
	baz=5.3							
NGCH	**Negor - Chabah**	**13.75**	**219**	P		**Pn**	**09 22 36.8**	**+0.4**
	SNR=24							
NGCH					S	**S**	**09 25 10.0**	**+1.0**
ALBI	**Allahabad**	**14.64**	**136**	*eP*		**Pn**	**09 22 45.9**	**-1.5**
WMQ	**Urumqi**	**14.94**	**55**	*eP*		**Pn**	**09 22 51.0**	**+0.2**
WMQ					sP	sPn	09 23 44.1	+0.3
WMQ					S	**S**	**09 25 30.8**	**-5.4**
WMQ					pmax	pmax		
	comp=Z,160nm,1.1s							
WMQ					pmax	pmax		
	comp=Z,2μm,3.7s							
AB31	**Akbulak array**	**15.00**	**332**	⇓	P	**Pn**	**09 22 50.4**	**-1.0**
	comp=Z,106nm,0.6s,baz=143,slow=11,SNR=1401							
AB31					S	**S**	**09 25 35.9**	**-1.6**
	comp=Z,184nm,1.2s,baz=141,slow=22,SNR=3.7							
AB31	**Akbulak array**	**15.00**	**332**	*i*	P	**Pn**	**09 22 50.4**	**-1.0**
ABKAR	**Akbulak array**	**15.00**	**332**	P		**Pn**	**09 22 50.8**	**-0.6**
ABKAR	**Akbulak array**	**15.00**	**332**			**Pn**	**09 22 50.5**	**-0.9**
JASK	**Jask - Hormozg**	**15.21**	**230**	P		**Pn**	**09 22 54.0**	**-0.2**
	SNR=59							
ZSN	**Zaisan**	**15.21**	**39**	*d*	P	**Pn**	**09 22 52.6**	**-1.4**
ZSN				*eS*		**S**	**09 25 38.9**	**-3.5**
ZSN	**Zaisan**	**15.21**	**39**	⇓	P	**Pn**	**09 22 52.6**	**-1.4**
	baz=38							
ZSN				*eS*		**S**	**09 25 38.9**	**-3.5**
	baz=38							
KURBB	**Kurchatov Arra**	**15.25**	**19**	⇑	P	**Pn**	**09 22 52.6**	**-1.9**
	comp=Z,254nm,0.6s							
KURBB	**Kurchatov Arra**	**15.25**	**19**	P		**Pn**	**09 22 52.5**	**-1.9**
KURBB	**Kurchatov Arra**	**15.25**	**19**	P		**Pn**	**09 22 52.8**	**-1.7**
	comp=Z,176nm,0.5s,baz=210,slow=10.0,SNR=255							
KURBB					S	**S**	**09 25 40.0**	**-3.2**
	comp=Z,15nm,0.6s,baz=107,slow=20,SNR=1.7							
KURBB					ScP	**ScP**	**09 30 59.2**	**-0.3**
	comp=Z,8.8nm,0.8s,baz=222,slow=1.2,SNR=3.3							
KURBB					ScS	**ScS**	**09 34 36.6**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=116,slow=18,SNR=2.3							
KURBB					PKiKP	**PKiKP**	**09 35 38.5**	**-1.2**
	comp=Z,4.4nm,0.4s,baz=235,slow=0.4,SNR=32							
KURBB					P3KPbc		09 58 00.6	
	comp=Z,0.9nm,1.1s,baz=34,slow=3.6,SNR=7.4							
KURK	**Kurchatov**	**15.36**	**19**	⇑	P	**Pn**	**09 22 53.7**	**-2.0**
	comp=Z,219nm,0.7s							
KURK	**Kurchatov**	**15.36**	**19**			**Pn**	**09 22 54.0**	**-1.7**
KURK	**Kurchatov**	**15.36**	**19**	*ce*	P	**Pn**	**09 22 54.2**	**-1.5**
KURK					pmax	pmax		
	comp=Z,538nm,1.7s							
KURK	**Kurchatov**	**15.36**	**19**	P		**Pn**	**09 22 54.1**	**-1.7**
KURK				S		**S**	**09 25 46.6**	**+0.9**
SEM	**Semipalatinsk**	**15.56**	**23**	*d*	P	**P**	**09 22 58.4**	**0.0**
SEM				*eS*		**S**	**09 25 51.9**	**+1.1**
SEM				pmax		pmax		
	comp=Z,220nm,0.9s							
SEM	**Semipalatinsk**	**15.56**	**23**	⇓	P	**P**	**09 22 58.4**	**0.0**
	comp=Z,220nm,0.9s,baz=23							
SEM				*eS*		**S**	**09 25 51.9**	**+1.1**
	baz=23							
BANOM	**Banah**	**16.16**	**233**	*i*	P	**P**	**09 23 04.9**	**-0.1**
	SNR=118							
BANOM	**Banah**	**16.16**	**233**		P	**Pn**	**09 23 06.2**	**+0.5**
SHME	**Shamm**	**16.17**	**234**	*i*	P	**P**	**09 23 05.2**	**+0.1**
	SNR=281							
SHME	**Shamm**	**16.17**	**234**	P		**P**	**09 23 05.2**	**+0.1**
	SNR=281							
BVA0	**Borovoye Array**	**16.57**	**359**	⇓	P	**Pn**	**09 23 10.2**	**-0.1**
	comp=Z,222nm,0.7s,baz=168,slow=8.9,SNR=677							
BVA0	**Borovoye Array**	**16.57**	**359**	*i*	P	**Pn**	**09 23 10.2**	**-0.1**
BVAR	**Borovoye Array**	**16.57**	**359**	P		**Pn**	**09 23 10.2**	**-0.1**
	comp=Z,166nm,0.5s,baz=163,slow=10,SNR=338							
BVAR					S	**S**	**09 26 11.3**	**-0.4**
	comp=Z,260nm,1.1s,baz=155,slow=12,SNR=6.8							
BVAR					ScP	**ScP**	**09 31 00.5**	**-1.6**
	comp=Z,10nm,0.7s,baz=189,slow=3.1,SNR=5.1							
BVAR					ScS	**ScS**	**09 34 40.2**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=260,slow=41,SNR=1.6							
BVAR					PKiKP	**PKiKP**	**09 35 39.2**	**-0.9**
	comp=Z,4.4nm,0.4s,baz=272,slow=1.7,SNR=12							
MDH	**Madha**	**16.59**	**232**	*i*	P	**P**	**09 23 08.5**	**-1.2**
	SNR=17							
MDH	**Madha**	**16.59**	**232**	P		**P**	**09 23 08.9**	**-0.9**
	SNR=253							
MDH				P		**P**	**09 23 08.9**	**-0.9**
	SNR=253							
BRVK	**Borovoye**	**16.60**	**359**	P		**Pn**	**09 23 10.3**	**-0.4**
BRVK	**Borovoye**	**16.60**	**359**	*ce*	P	**Pn**	**09 23 11.0**	**+0.3**
BRVK					pmax	pmax		
	comp=Z,577nm,1.3s							
BRVK	**Borovoye**	**16.60**	**359**	P		**Pn**	**09 23 10.8**	**+0.2**
BRVK				S		**S**	**09 26 13.1**	**+0.7**
MASF	**Masafi**	**16.63**	**232**	P		**P**	**09 23 10.3**	**+0.1**
	SNR=374							
MASF			

JMDO Jabal Madar 17.78 221 P Pn 09 23 24.5 -0.3
SNR=102
JMDO S S 09 26 37.6 +1.2
ALNE Al Ain 17.83 230 *i* P P 09 23 24.2 +0.8
SNR=366
ALNE Al Ain 17.83 230 P Pn 09 23 24.4 -1.0
SNR=262
ALNE P Pn 09 23 24.4 -1.0
SNR=262
ALNE S S 09 26 35.9 -1.5
ALNE S S 09 26 35.9 -1.5
ARQ Araqi 17.91 227 P Pn 09 23 25.4 -0.9
SNR=103
ARQ P Pn 09 23 25.4 -0.9
SNR=103
SLGI Shiliguri 17.95 118 *e*P **Pn 09 23 26.4 -0.4**
AJN Ajban 17.95 233 *i* P P 09 23 25.1 +0.6
SNR=131
AJN Ajban 17.95 233 P P 09 23 25.4 +0.9
SNR=152
AJN S S 09 26 37.3 -2.5
DGZ Jazzator, Alta 17.97 37*c i* P P 09 23 25.3 +0.6
DGZ pmax pmax
comp=Z,609nm,0.6s
BSY Bisya 17.97 224 P Pn 09 23 26.5 -0.6
SNR=133
BSY P Pn 09 23 26.5 -0.6
SNR=133
POO Poona 18.08 170 *e*P **Pn 09 23 27.7 -0.7**
POO IAmb IAmb 09 23 28.5
comp=Z,153nm,0.7s
BOK Bokaro 18.20 130 *i* x Pn 09 23 29.1 -0.6
BOK *ex* x 09 23 44.6
SEKA Sheki 18.88 292 P P 09 23 34.7 +0.1
MNGR Mingechevir, A 18.92 290 P P 09 23 35.9 +1.0
MAK Makhachkala 18.95 297 *e*P **P 09 23 35.9 +0.8**
MAK *e*S S 09 27 02.3 +3.2
MAK pmax pmax
comp=Z,392nm,1.0s
MHTO MHTO 18.99 219 P Pn 09 23 37.7 -1.4
SNR=161
MHTO S S 09 27 01.3 +0.9
JRN Qarnain Island 19.12 238 P P 09 23 36.6 -0.6
SNR=52
JRN S S 09 26 57.9 -4.9
KAD Karad 19.32 170 ⇓ *i* P P 09 23 40.5 +1.0
ZKTA Zakatala 19.36 293 P P 09 23 40.6 +0.9
GOMU GeErMu 19.44 84 P P 09 23 42.1 +1.1
GOMU S S 09 27 13.0 +3.3
GOMU pmax pmax
comp=Z,310nm,1.0s
GANJ Ganja 19.48 290 P P 09 23 41.9 +0.9
SHMA Al-Shehemyia 19.87 243 P P 09 23 45.3 +0.1
SNR=76
SHMA S S 09 27 12.3 -5.2
MZR Muzera 20.03 233 *i* P P 09 23 46.1 -0.8
SNR=27
MZR Muzera 20.03 233 P P 09 23 46.2 -0.8
SNR=15
MZR S S 09 27 15.6 -5.0
NAX Nakhchivan 20.06 285 P P 09 23 48.2 +0.9
ZAA0 Zalesovo Array 20.06 25 P P 09 23 47.3 +0.3
ZALV Zalesovo Beam 20.06 25 *i* P P 09 23 47.5 +0.5
ZALV pmax pmax
comp=Z,613nm,0.4s
ZALV Zalesovo Beam 20.06 25 P P 09 23 47.5 +0.5
comp=Z,616nm,0.4s,baz=221,slow=11,SNR=2043
ZALV pP **pP 09 24 22.9 +0.8**
comp=Z,85nm,0.5s,baz=222,slow=11,SNR=0.8
ZALV S S 09 27 20.2 -0.5
comp=Z,49nm,0.6s,baz=205,slow=21,SNR=9.9
ZALV ScP **ScP 09 31 07.1 -2.5**
comp=Z,7.2nm,0.6s,baz=228,slow=3.1,SNR=4.0
ZALV ScS **ScS 09 34 47.6 -4.5**
comp=Z,3.5nm,0.7s,baz=65,slow=26,SNR=5.7
ZALV PKiKP **PKiKP 09 35 39.4 -2.1**
comp=Z,4.4nm,0.4s,baz=178,slow=1.5,SNR=11
comp=Z,616nm,0.4s
DQM DQM 20.09 218 P P 09 23 48.8 +1.1
SNR=37
SAKB Bahrain 20.11 244 P P 09 23 47.8 +0.1
SAKB S S 09 27 18.7 -3.4
HYB Hyderabad 20.21 158 ⇓ *e*P **P 09 23 49.3 +0.4**
HYB IVmB_BB 09 23 51.2
comp=Z,1μm,0.3s
HYB *e*S S 09 27 23.5 -0.7
TRNA Turayna 20.38 240 P P 09 23 49.6 -1.1
SNR=34
TRNA S S 09 27 23.3 -4.1
SMRA Abu-Samra 20.65 241 P P 09 23 52.8 -0.8
SNR=75
SMRA S S 09 27 29.0 -3.5
GNI Garni 20.66 288 P P 09 23 56.5 +2.7
GNI Garni 20.66 288*c i* P P 09 23 55.8 +2.1
GNI pmax pmax
comp=Z,194nm,1.0s
GNI Garni 20.66 288 P Pn 09 23 56.9 -2.6
comp=Z,38nm,0.6s,baz=102,slow=1.7,SNR=25
GNI S S 09 27 34.7 +2.0
comp=Z,21nm,0.9s,baz=346,slow=9.2,SNR=1.3
GNI ScP **ScP 09 31 10.7 -0.8**
comp=Z,11nm,0.8s,baz=56,slow=7.3,SNR=3.1
comp=Z,38nm,0.6s
GNI Garni 20.66 288 P Pn 09 23 57.2 -2.2
TASB TASBURUN-IGDIR 21.04 288 *e*P **P 09 24 00.2 +2.6**
GOA Goa 21.07 172 *e*P **P 09 23 59.1 +1.1**
SHL Shillong 21.12 115 *e*P **P 09 24 00.0 +0.6**
TEZP TEZPUR 21.21 111 *e*P **P 09 24 00.0 +0.6**
TRLG Trialeti 21.23 292 P P 09 24 02.5 +2.8
SVE Sverdlovsk 21.47 345*d i* P P 09 24 02.9 +1.2
SVE *i* S S 09 27 49.2 +3.3
SVE pmax pmax
comp=Z,644nm,1.4s
ZEI Tsey 21.52 295 *e*P **P 09 24 04.6 +1.9**
ZEI pmax pmax
comp=Z,42nm,1.2s
ZIRO ZIRO 21.54 108 *e*P **P 09 24 03.6 +0.6**
ZIRO IAmb IAmb 09 24 04.5
comp=Z,2μm,0.5s
ARU Arti 21.59 342 P P 09 24 03.9 +0.9
ARU Arti 21.59 342*c i* P P 09 24 04.0 +1.0
ARU *PP **pP 09 24 37.8 -0.7**
ARU S S 09 27 51.6 +3.7
ARU pmax pmax
comp=Z,859nm,0.7s
ARU Arti 21.59 342 P P 09 24 04.0 +1.0
comp=Z,727nm,0.6s,baz=145,slow=5.0,SNR=340
ARU S S 09 27 47.9 0.0
comp=Z,19nm,0.7s,baz=164,slow=23,SNR=2.0
ARU ScP **ScP 09 31 12.4 -0.9**
comp=Z,19nm,0.7s,baz=155,slow=22,SNR=1.8
comp=Z,727nm,0.6s
ITAN ITANAGAR 21.63 109 *e*P **P 09 24 04.6 +0.8**
ITAN IAmb IAmb 09 24 06.2
comp=Z,490nm,0.0s
CUKT Cukurca 21.66 280 *e*P **P 09 24 07.2 +3.2**
AKH Akhalkalaki 21.68 292 *e*P **P 09 24 06.9 +2.6**
AKH Akhalkalaki 21.68 292 P P 09 24 07.5 +3.2
AKH Akhalkalaki 21.68 292 P P 09 24 07.5 +3.2
VANB Van 21.72 284 *e*P **P 09 24 11.6 +6.9**
VIS Vishakhapatnam 21.76 146 *e*P **P 09 24 05.7 +0.7**
ONI Oni 21.82 295 *e*P **P 09 24 09.2 +3.6**
ONI Oni 21.82 295 P P 09 24 07.6 +2.0
ONI Oni 21.82 295 P P 09 24 07.6 +2.0
NCK Nalchik 21.85 297 *i* P P 09 24 05.2 -0.6
NCK pmax pmax
comp=Z,69nm,0.6s
KARS Kars 21.95 289 *e*P **P 09 24 10.9 +4.0**
AGRB Hanur-Agry 22.00 287 *e*P **P 09 24 10.6 +3.1**
AKDM Akdamar-Van 22.06 283 *e*P **P 09 24 12.4 +4.4**
JORH JORHAT 22.24 109 *e*P **P 09 24 10.5 +0.9**
JORH IAmb IAmb 09 24 11.0
comp=Z,820nm,0.0s
SILR SILCHAR 22.26 115 *e*P **P 09 24 11.9 +2.2**
MLAZ Malazgirt-MUS 22.35 285 *e*P **P 09 24 13.8 +3.1**
DIBR DIBRUGARH 22.38 107 *e*P **P 09 24 11.5 +0.7**
KBZ Khabaz 22.39 297*c e*P **P 09 24 12.6 +1.8**
KBZ Khabaz 22.39 297 P P 09 24 11.5 +0.8
comp=Z,16nm,0.7s,baz=95,slow=11,SNR=32
KBZ S S 09 28 03.8 +2.9
comp=Z,10.0nm,0.8s,baz=322,slow=21,SNR=1.5
comp=Z,16nm,0.7s
SENK Senkaya-Erzuru 22.50 289 *e*P **P 09 24 16.2 +4.1**
KIV Kislovodsk 22.58 298 P P 09 24 13.7 +1.0
KIV Kislovodsk 22.58 298 *e*P **P 09 24 13.5 +0.9**
KIV *e*S S 09 28 07.1 +2.9
KIV pmax pmax
comp=Z,30nm,0.9s
KIV MLR MLR
comp=Z,515nm,14.0s
KIV Kislovodsk 22.58 298 *i* P P 09 24 13.8 +1.2
SNR=9.7
KIV Kislovodsk 22.58 298 P P 09 24 14.1 +1.5
MOKO MOKOCHONG 22.67 110 *e*P **P 09 24 15.2 +1.6**
MOKO IAmb IAmb 09 24 15.7
comp=Z,972nm,1.2s
SHAO Shalim 22.67 220 *i* P P 09 24 14.3 +0.8
SNR=89
SHAO Shalim 22.67 220 P P 09 24 14.5 +0.9
SHAO P P 09 24 14.5 +0.9
KOHI KOHIMA 22.68 112 *e*P **P 09 24 15.9 +2.1**
BELG Belogornoye 22.76 322*c i* P P 09 24 15.3 +1.3
BELG pmax pmax
comp=Z,124nm,0.8s
GURO Guroymak-BITLI 22.79 284 *e*P **P 09 24 16.5 +1.9**
AZL Aizawl 22.81 118 *e*P **P 09 24 16.3 +1.4**
AZL *e*P **P 09 24 16.9 +1.9**
AZL IAmb IAmb 09 24 17.6
comp=Z,1μm,0.8s
AZL IAmb IAmb 09 24 19.3
comp=N,559nm,0.8s
KOPR Koprukoy-ERZUR 22.87 288 *e*P **P 09 24 18.6 +3.2**
IMP Imphal 23.07 114 *e*P **P 09 24 19.5 +2.3**
BCA Borcka 23.08 291 *e*P **P 09 24 18.6 +1.5**
GTA Gaotai 23.13 74 ⇑ P P 09 24 19.3 +1.7
GTA pP pP 09 24 59.0 +2.6
GTA sP sP 09 25 23.1 +0.3
GTA PcP **PcP 09 28 00.1 +0.4**
GTA S S 09 28 14.0 +0.7
GTA ScS **ScS 09 35 01.6 -2.6**
GTA pmax pmax
comp=N,420nm,0.7s
GTA pmax pmax
comp=N,2μm,8.0s
LKP Lekhapani 23.17 106 *e*P **P 09 24 19.6 +1.6**
VRTB Varto-Mus 23.20 286 *e*P **P 09 24 20.8 +2.4**
DMTO DMTO 23.28 221 P P 09 24 19.3 +0.3
SNR=7.6
SVAN Silvan-Diyarba 23.47 283 *e*P **P 09 24 24.0 +3.3**
MNGI Mangalore 23.71 170 *e*P **P 09 24 25.0 +2.1**
CHOM Cayeli-Rize 23.72 290 *e*P **P 09 24 22.4 -0.5**
WHFO Wadi Hawf 23.75 223 P P 09 24 23.7 +0.3
SNR=32
WHFO P P 09 24 23.7 +0.3
SNR=32
SAIH SAIHA 23.82 120 *e*P **P 09 24 26.3 +2.2**
SAIH AMP 09 24 33.1
comp=Z,271nm,0.2s
RBK Rabkut 23.85 222 P P 09 24 24.6 +0.3
SNR=25
RBK P P 09 24 24.6 +0.3
SNR=25
MAZI Mazidag 24.13 281 *e*P **P 09 24 29.5 +2.7**
DYBB Diyarbakir 24.32 283 *e*P **P 09 24 27.9 -0.5**
ABTO Aybut 24.47 224 P P 09 24 30.1 +0.2
SNR=63
SOC Sochi 24.66 296 *e*P **P 09 24 26.2 -5.1**
SOC *e*S **S 09 28 31.1 -6.1**
SOC *e**SS **sS 09 29 48.1 -3.8**
PTK Pertek 24.82 285 *e*P **P 09 24 35.1 +2.0**
MDRS Chennai 24.82 157 ⇓ *i* P P 09 24 34.7 +1.6
MDRS IAmb IAmb 09 24 35.1
comp=Z,20nm,0.5s
VRH Novokhopyorsk 25.36 315 *e*P **P 09 24 37.6 +0.1**
VRH *e**PP **pP 09 25 15.3 -3.3**
VRH pmax pmax
comp=Z,122nm,1.4s
URFA Urfa 25.42 282 *e*P **P 09 24 41.5 +3.1**
ILIC ilic-Erzincan 25.43 287 *e*P **P 09 24 36.9 -1.6**
KIRV Kirov 26.17 334*ce*P **P 09 24 46.3 +1.6**
MOY Mondy 26.32 45 *e*P **P 09 24 48.1 +1.8**
MOY *e* 09 25 34.3
MOY pmax pmax
comp=Z,193nm,2.2s
DARE Darende-Malaty 26.34 285 *e*P **P 09 24 52.3 +5.7**
MND Mandalay 26.35 116 P P 09 24 46.7 0.0
TNCH TengChong 26.41 108 ⇑ P P 09 24 48.9 +1.4
TNCH pP pP 09 25 27.6 -2.9
TNCH sP sP 09 25 54.3 -0.7
TNCH S S 09 29 08.3 +2.7
TNCH pmax pmax
comp=Z,200nm,0.7s
ANN Anapa 26.43 299 *e*P **P 09 24 46.8 -0.4**
ANN *e**PP **pP 09 25 25.8 -3.1**
ANN *e*S **S 09 29 07.3 +2.2**
ANN *e**SS **sS 09 30 19.7 -1.3**
ANN pmax pmax
comp=Z,46nm,0.8s
SVSK Karacayir 26.61 288 *e*P P 09 24 56.1 +7.2
LZH Lanzhou 26.67 81 ⇑ *i* P P 09 24 51.3 +1.6
LZH sP sP 09 25 58.0 +0.8
LZH PcP **PcP 09 28 08.5 +0.8**
LZH sS sS 09 30 25.0 -0.5
LZH ScP **ScP 09 31 27.3 -0.6**
LZH ScS **ScS 09 35 18.3 -0.7**
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,800nm,4.9s
VORD Divnogorie 26.68 313 *e*P **P 09 24 48.4 -1.0**
VORD pmax pmax
comp=Z,70nm,0.4s
VSR Storozhevoye 26.84 313 *e*P **P 09 24 49.2 -1.6**
VSR pmax pmax
comp=Z,90nm,1.2s
TOKT Tokat 26.93 289 *e*P **P 09 24 57.4 +5.5**
VORR Voronezh 26.99 314 *e*P **P 09 24 52.5 +0.4**
VORR *e**PP **pP 09 25 36.3 +2.3**
VORR pmax pmax
comp=Z,137nm,1.4s
ZAK Zakamensk 27.21 49 *e*P **P 09 24 54.9 +0.6**
ZAK *e* 09 25 34.8
ZAK pmax pmax
comp=Z,91nm,1.4s
LPSR Galich'ya Gora 27.50 316 *e*P **P 09 24 55.9 -0.8**
LPSR pmax pmax
comp=Z,220nm,0.9s
ASF Jabal al Asfar 28.14 271 ScP **ScP 09 31 31.9 -0.4**
comp=Z,11nm,1.0s,baz=83,slow=8.4,SNR=4.7
SONM Songino Array 28.57 55 P **P 09 25 07.8 +1.4**
SONM IAmb IAmb 09 25 09.1
comp=Z,149nm,1.2s
SONM Songino Array 28.57 55 P **P 09 25 07.9 +1.4**
comp=Z,48nm,0.6s,baz=265,slow=8.8,SNR=353
SONM pP **pP 09 25 50.5 +1.0**
comp=Z,28nm,1.0s,baz=259,slow=11,SNR=2.3
SONM PcP **PcP 09 28 12.1 0.0**
comp=Z,14nm,0.9s,baz=234,slow=2.9,SNR=5.9
SONM ScP **ScP 09 31 32.6 -0.9**
comp=Z,3.2nm,0.6s,baz=240,slow=3.1,SNR=4.7
SONM P3KPbc 09 57 18.5
comp=Z,1.9nm,0.8s,baz=93,slow=2.9,SNR=6.8
comp=Z,48nm,0.6s
SIM Simferopol' 28.79 299 *e*P **P 09 25 05.0 -3.2**
SIM pmax pmax
comp=Z,33nm,1.1s
ULN Ulaanbaatar 29.02 55 P **P 09 25 11.3 +1.0**
ULN IAmb IAmb 09 25 12.8
comp=Z,142nm,1.3s
ULN Ulaanbaatar 29.02 55*c i* P **P 09 25 11.6 +1.2**
ULN pmax pmax
comp=Z,61nm,0.7s
ULN Ulaanbaatar 29.02 55 P **P 09 25 11.6 +1.2**
ULN Ulaanbaatar 29.02 55 P **P 09 25 11.3 +1.0**
comp=Z,349nm,1.1s,comp=Z,6μm
MMAI Mount Meron Ar 29.09 274 P **P 09 25 13.4 +2.3**
comp=Z,3.5nm,0.5s,baz=76,slow=10,SNR=5.5
MMAI PcP **PcP 09 28 14.2 +0.6**
comp=Z,12nm,0.5s,baz=76,slow=7.0,SNR=14
MMAI ScP **ScP 09 31 34.9 -0.4**
comp=Z,26nm,0.8s,baz=72,slow=5.4,SNR=12
BR131 Keskin Array S 29.20 288 P **P 09 25 13.1 +1.0**
BR131 Keskin Array S 29.20 288*c i* P **P 09 25 13.3 +1.2**
BR131 Keskin Array S 29.20 288 P **P 09 25 13.7 +1.6**
SNR=6.2
BRTR Keskin Array B 29.20 288 P **P 09 25 13.1 +1.0**
BRTR Keskin Array B 29.20 288*ce*P **P 09 25 13.6 +1.6**
BRTR pmax pmax
comp=Z,10.0nm,0.6s
BRTR Keskin Array B 29.20 288 P **P 09 25 13.7 +1.6**
comp=Z,10.0nm,0.6s,baz=102,slow=8.1,SNR=46
BRTR pP **pP 09 25 57.0 +2.8**
comp=Z,18nm,1.0s,baz=107,slow=8.4,SNR=2.4
BRTR PcP **PcP 09 28 14.1 +0.2**
comp=Z,7.1nm,0.7s,baz=149,slow=4.2,SNR=7.4
BRTR ScP **ScP 09 31 33.8 -1.9**
comp=Z,7.6nm,0.8s,baz=127,slow=4.6,SNR=9.3
comp=Z,10.0nm,0.6s
MOS Moscow 29.53 321 *e*P **P 09 25 13.6 -1.0**
MOS *e**PP **pP 09 25 53.5 -3.3**
MOS *e* 09 26 15.1
MOS *e* 09 28 17.4
MOS *e*S **S 09 29 50.7 -2.9**
MOS *e* 09 35 29.4
MOS pmax pmax
comp=Z,700nm,1.4s
MOS pmax pmax
comp=Z,475nm,1.1s
KMI Kunming 29.64 103 ⇑ *i* P **P 09 25 16.8 +0.6**
KMI PP **PnPn 09 26 22.6 +0.7**
KMI PcP **PcP 09 28 15.3 0.0**
KMI S **S 09 29 55.9 -0.5**
KMI sS sS 09 31 10.8 -2.0
KMI ScP **ScP 09 31 36.4 -1.0**
KMI pmax pmax
comp=Z,89nm,0.6s
KMI pmax pmax
comp=Z,530nm,3.2s
OBN Obninsk 29.80 320 P **P 09 25 17.9 +0.9**
OBN Obninsk 29.80 320*ce*P **P 09 25 18.3 +1.3**
OBN pmax pmax
comp=Z,560nm,1.3s
ANTO Ankara 29.83 288 P P 09 25 20.8 +3.2
CHTO Chiang Mai 30.43 118 P P 09 25 22.8 -0.2
CHTO IAmb IAmb 09 25 26.4
comp=Z,211nm,1.6s
CHTO Chiang Mai 30.43 118 P P 09 25 22.7 -0.2
CHTO Chiang Mai 30.43 118 P P 09 25 22.8 -0.2
CHTO pmax pmax
comp=Z,211nm,1.6s
CHTO Chiang Mai 30.43 118 P P 09 25 23.0 0.0
CHTO sP **sP 09 26 28.7 -2.0**
CHTO PcP **PcP 09 28 17.2 0.0**
CHTO ScP **ScP 09 31 37.7 -2.1**
CHTO Chiang Mai 30.43 118 P P 09 25 22.5 -0.4
comp=Z,87nm,1.1s,comp=Z,1μm
CMMT Chiang Mai 30.43 118 P P 09 25 22.5 -0.5
comp=Z,237nm,1.1s,comp=Z,3μm
PALK Pallekele 30.46 160 P P 09 25 23.6 +0.4
PALK Pallekele 30.46 160 *i* P **P 09 25 24.0 +0.8**
PALK pmax pmax
comp=Z,47nm,0.9s
PALK Pallekele 30.46 160 P P 09 25 24.4 +1.1
PALK ScP **ScP 09 31 38.8 -1.1**
PALK Pallekele 30.46 160 P P 09 25 24.0 +0.8
comp=Z,42nm,0.8s
CRAI Chiangrai 30.57 114 P P 09 25 24.9 +0.7
CRAI IAmb IAmb 09 25 26.1
comp=Z,127nm,0.8s
EIL Elat 30.57 268 ScP **ScP 09 31 39.0 -1.1**
comp=Z,14nm,0.9s,baz=9.9,slow=3.9,SNR=4.1
CM31 Chiang Mai Arr 30.66 118 P P 09 25 25.5 +0.6
SNR=52
CMAR Chiang Mai Arr 30.66 118 P P 09 25 25.2 +0.2
CMAR Chiang Mai Arr 30.66 118 P P 09 25 25.6 +0.6
comp=Z,97nm,0.8s,baz=298,slow=8.1,SNR=267
CMAR PcP **PcP 09 28 17.4 -0.4**
comp=Z,29nm,0.8s,baz=287,slow=3.8,SNR=12
CMAR ScP **ScP 09 31 38.2 -2.3**
comp=Z,9.1nm,0.8s,baz=296,slow=5.0,SNR=11
CMAR PKiKP **PKiKP 09 35 47.6 -0.8**
comp=Z,1.6nm,0.4s,baz=271,slow=2.1,SNR=6.5
comp=Z,97nm,0.8s
BTO Baotou 30.88 70 ⇑ *i* P **P 09 25 27.3 +0.5**
BTO pP **pP 09 26 09.0 -1.2**
BTO sP **sP 09 26 32.8 -1.8**
BTO PP **PnPn 09 26 36.5 -0.5**
BTO S **S 09 30 18.3 +3.1**
BTO sS **sS 09 31 29.1 -2.6**
BTO SS SS 09 32 12.8 -22
BTO pmax pmax
comp=Z,430nm,0.8s
BTO pmax pmax
comp=Z,1μm,4.1s
XAN Xi'an 31.19 83 ⇑ *i* P **P 09 25 30.0 +0.5**
XAN pmax pmax
comp=Z,460nm,0.9s
KLMR Klimovskoe 31.39 331*c i* P **P 09 25 31.9 +1.0**
KLMR *e**PP **pP 09 26 16.7 +3.4**
KLMR pmax pmax
comp=Z,676nm,1.4s
PBA Port Blair 31.71 136 *e*P **P 09 25 35.5 +1.4**
ISP Isparta 31.87 285 *i* P **P 09 25 35.2 -0.3**
ISP pmax pmax
comp=Z,7.0nm,0.5s
HHC Hu-ho-hao-te 32.02 69 ⇑ *i* P **P 09 25 38.3 +1.5**
HHC pP pP 09 26 16.9 -3.5
HHC sP sP 09 26 43.4 -1.4
HHC PP **PnPn 09 26 52.3 +1.1**
HHC S **S 09 30 36.3 +3.3**
HHC pmax pmax
comp=Z,120nm,1.0s
HHC pmax pmax
comp=Z,470nm,4.4s
GYA Guiyang 32.12 98 ⇑ *i* P **P 09 25 38.8 +1.0**
GYA pP pP 09 26 21.3 +0.1
GYA sP sP 09 26 45.6 +0.1
GYA PP **PP 09 26 56.8 +2.1**
GYA S **S 09 30 35.5 +0.7**
GYA sS sS 09 31 50.1 -1.4
GYA pmax pmax
comp=Z,410nm,0.9s
GYA pmax pmax
comp=Z,860nm,4.2s
ELL Elmali 32.56 283 P P 09 25 43.0 +1.5
ELL Elmali 32.56 283 P P 09 25 43.0 +1.5
ELL pmax pmax
comp=Z,404nm,0.5s
MILM Milestii Mici 32.61 302 ⇑ *i* P **P 09 25 42.2 +0.5**
comp=Z,150nm,1.3s
MILM *e*pP **pP 09 26 21.0 -3.2**
MILM *e*SS SS 09 33 04.0 -2.8
MILM Milestii Mici 32.61 302*c i* P **P 09 25 42.0 +0.3**
MILM *i **PP **pP 09 26 21.0 -3.2**
MILM *e* 09 33 04.0
MILM pmax pmax
comp=Z,150nm,1.3s
AKASG Malin Array Be 32.77 309 P P 09 25 43.8 +0.7
AKASG IAmb IAmb 09 25 44.9
comp=Z,76nm,0.7s
AKASG Malin Array Be 32.77 309 P P 09 25 43.7 +0.7
comp=Z,10nm,0.3s,baz=80,slow=7.2,SNR=268
AKASG pP **pP 09 26 26.8 +1.0**
comp=Z,35nm,0.9s,baz=88,slow=7.3,SNR=2.1
AKASG PP **PP 09 27 02.7 +1.2**
comp=Z,5.9nm,0.6s,baz=87,slow=8.9,SNR=5.3
AKASG PcP **PcP 09 28 22.0 -1.0**
comp=Z,2.4nm,0.4s,baz=72,slow=3.2,SNR=2.8
AKASG S **S 09 30 44.4 +0.2**
comp=Z,0.3nm,0.3s,baz=324,slow=12,SNR=3.3
AKASG ScP **ScP 09 31 45.8 -1.4**
comp=Z,28nm,0.8s,baz=78,slow=3.4,SNR=28
AKASG PKiKP **PKiKP 09 35 46.7 -2.3**
comp=Z,4.1nm,0.9s,baz=78,slow=0.6,SNR=6.8
comp=Z,10nm,0.3s
AKBB Malin Array Si 32.77 309 P P 09 25 43.3 +0.3
AKBB IAmb IAmb 09 25 44.7
comp=Z,64nm,0.6s
AKBB Malin Array Si 32.77 309*ce*P **P 09 25 42.7 -0.3**
AKBB pmax pmax
comp=Z,41nm,0.5s
KIEV Kiev 32.78 309 P P 09 25 43.1 0.0
KIEV IAmb IAmb 09 25 44.7
comp=Z,61nm,0.5s
KIEV Kiev 32.78 309 P P 09 25 43.1 0.0
KIEV pmax pmax
comp=Z,61nm,0.5s
KIEV Kiev 32.78 309 *i* P **P 09 25 43.7 +0.7**
SNR=39
KIEV Kiev 32.78 309 P P 09 25 43.8 +0.7
KIEV ScP **ScP 09 31 45.7 -1.5**
ENH Enshi 32.84 89 P P 09 25 44.4 +0.5
ENH Enshi 32.84 89 P P 09 25 45.0 +1.1
ENH PcP **PcP 09 28 23.4 -0.3**

ENH ScP **ScP** **09 31 46.0 -1.8**
SORM Soroca **33.01 304** ⇓P **P** **09 25 46.0 +0.9**
SORM Soroca **33.01 304** ⇓P **P** **09 25 46.0 +0.9**
CFR Carcaliu **33.03 299** ⇓P **P** **09 25 47.0 +1.7**
CFR Carcaliu **33.03 299** P **P** **09 25 47.0 +1.7**
TIY Taiyuan **33.14 75** ⇓P **P** **09 25 48.0 +1.5**
TIY sP **sP** **09 26 52.3 -2.5**
TIY S **S** **09 30 50.8 +0.5**
TIY sS **sS** **09 32 08.5 +1.3**
TIY pmax pmax
comp=Z,91nm,0.8s
TIY pmax pmax
comp=Z,200nm,5.5s
SRDT SRDT **33.62 124** P **P** **09 25 51.9 +1.2**
CIT Chita **33.88 49** *e*P **P** **09 25 53.6 +1.0**
CIT *e* 09 26 39.0
CIT *e* 09 26 56.8
CIT *e* 09 27 18.6
CIT *e* 09 35 51.0
CIT pmax pmax
comp=Z,509nm,1.4s
LYN LuoYang **33.88 81** ⇑P **P** **09 25 54.8 +1.9**
LYN sP sP 09 27 00.3 -0.9
LYN PP **PP** **09 27 18.6 +4.6**
LYN PcP **PcP** **09 28 26.3 -0.2**
LYN S **S** **09 31 03.8 +2.1**
LYN ScP **ScP** **09 31 50.1 -1.3**
LYN sS sS 09 32 18.6 -0.1
LYN pmax pmax
comp=Z,340nm,1.2s
LYN pmax pmax
comp=Z,320nm,3.6s
VRI Vrincioaia **34.02 300** ⇑P **P** **09 25 56.4 +2.4**
VRI Vrincioaia **34.02 300** ⇑P **P** **09 25 56.4 +2.4**
PLOR Plostina **34.08 300** ⇑P **P** **09 25 57.1 +2.6**
PLOR Plostina **34.08 300** ⇑P **P** **09 25 57.1 +2.6**
TESR Tescani **34.09 301** ⇓P **P** **09 25 56.4 +2.0**
NRIK Noril'sk **34.22 11** P **P** **09 25 56.9 +1.7**
NRIK Noril'sk **34.22 11** *ce*P **P** **09 25 57.1 +1.8**
NRIK pmax pmax
comp=Z,653nm,0.6s
NRIK Noril'sk **34.22 11** P **P** **09 25 57.3 +2.1**
comp=Z,850nm,0.6s,baz=203,slow=5.7,SNR=1199
NRIK S **S** **09 31 07.8 +1.9**
comp=Z,11nm,0.8s,baz=267,slow=10,SNR=2.0
MNK Minsk **34.35 315** *i* P **P** **09 25 57.7 +1.2**
comp=E,29nm,1.0s
MNK *i* P **P** **09 25 57.7 +1.2**
comp=N,48nm,1.2s
MNK *i* P **P** **09 25 57.7 +1.2**
comp=Z,91nm,1.1s,baz=103
MNK *i* pP **pP** **09 26 39.1 -0.4**
MNK *i* PP **PP** **09 27 20.0 +1.3**
MNK *i* S **S** **09 31 12.3 +4.0**
MNK *i* sS **sS** **09 32 25.3 -0.2**
MNK *i* SS **SS** **09 33 33.2 -11**
MNK *i* LQ LQ 09 37 30.5
MNK *i* LR LR 09 39 37.0
MNK Minsk **34.35 315** *e*P **P** **09 25 57.7 +1.2**
COVR Voineasa-Covas **34.39 300** ⇑P **P** **09 25 59.3 +2.2**
PRAR RASCA **34.40 303** ⇓P **P** **09 25 58.8 +1.6**
TURR Turia **34.52 300** ⇓P **P** **09 26 00.4 +2.2**
MLR Muntele Rosu **34.58 299** ⇑P **P** **09 26 02.2 +3.4**
MLR Muntele Rosu **34.58 299** P **P** **09 26 02.2 +3.4**
PUL Pulkovo **34.80 325** *ce*P **P** **09 26 01.9 +1.6**
PUL pmax pmax
comp=Z,310nm,0.6s
HNS HongShan **34.97 75** ⇑P **P** **09 26 03.5 +1.4**
HNS sP **sP** **09 27 09.9 -0.7**
HNS PcP **PcP** **09 28 29.8 +0.2**
HNS S S 09 31 27.8 +10
HNS ScP **ScP** **09 31 53.1 -2.1**
HNS ScS **ScS** **09 35 57.0 -2.4**
HNS pmax pmax
comp=Z,79nm,1.0s
NACGM Naroch **35.06 316** *e*P **P** **09 26 04.0 +1.3**
comp=E,8μm,1.1s
BURAR Bucovina Array **35.09 303** ⇓P **P** **09 26 04.9 +1.7**
BURAR Bucovina Array **35.09 303** P **P** **09 26 04.2 +1.0**
BURAR Bucovina Array **35.09 303** P **P** **09 26 04.9 +1.7**
BUR08 Bucovina Ar. S **35.10 303** P **P** **09 26 04.3 +1.0**
XLT XiLinHaoTe **35.12 63** *e*P **P** **09 26 04.6 +1.2**
XLT pP pP 09 26 51.3 +3.7
XLT sP sP 09 27 07.6 -4.5
XLT PP **PnPn** **09 27 31.9 +3.1**
XLT S **S** **09 31 23.8 +3.3**
XLT sS sS 09 32 40.3 +2.4
XLT SS **SS** **09 33 49.3 -13**
XLT pmax pmax
comp=E,37nm,1.3s
XLT pmax pmax
comp=E,440nm,3.7s
NAYO Nakonayok **35.14 121** P **P** **09 26 04.9 +1.1**
MTUR Matau **35.20 299** ⇑P **P** **09 26 06.2 +2.1**
MTUR Matau **35.20 299** ⇑P **P** **09 26 06.2 +2.1**
VOIR **35.21 299** ⇓P **P** **09 26 06.1 +1.9**
VOIR **35.21 299** ⇓P **P** **09 26 06.1 +1.9**
ATD Arta Tunnel **35.29 232** P **P** **09 26 07.3 +2.2**
ATD PP **PP** **09 27 30.1 +0.3**
ARR Arges **35.50 299** ⇓P **P** **09 26 08.7 +2.1**
BOD Bodaibo **35.55 39** *e*P **P** **09 26 07.2 +0.4**
BOD pmax pmax
comp=Z,205nm,1.1s
ISAL Salakas **35.59 317** *e*P **P** **09 26 09.4 +2.3**
BJT Baijiatuau **35.61 70** P **P** **09 26 08.9 +1.3**
BJT Baijiatuau **35.61 70** P **P** **09 26 08.9 +1.3**
BJT PcP **PcP** **09 28 31.9 +0.5**
BJT ScP **ScP** **09 31 56.3 -1.2**
BJI Beijing **35.61 70** P **P** **09 26 08.6 +1.0**
BJI sP **sP** **09 27 14.9 -0.9**
BJI PcP **PcP** **09 28 31.8 +0.4**
BJI S **S** **09 31 25.5 -2.5**
BJI ScP **ScP** **09 31 56.4 -1.1**
BJI PcS **PcS** **09 32 18.6 -0.2**
BJI sS **sS** **09 32 46.0 +0.6**
BJI pmax pmax
comp=Z,20nm,0.7s
BJI pmax pmax
comp=Z,150nm,9.7s
LVV L'vov **35.98 307** *d* i P **P** **09 26 11.8 +1.2**
LVV *e*'PP **pP** **09 26 55.0 +1.3**
LVV *e*S **S** **09 31 35.0 +1.6**
LVV pmax pmax
comp=Z,70nm,1.3s
VSU Vasula **36.06 322** *ce*P **P** **09 26 12.3 +1.2**
VSU pmax pmax
comp=Z,391nm,1.3s
VSU Vasula **36.06 322** *e*P **P** **09 26 11.4 +0.3**
LOT Lotru **36.11 299** ⇓P **P** **09 26 13.9 +2.0**
CJR Cluj-Napoca **36.19 301** P **P** **09 26 15.1 +2.6**
BMR Baia Mare **36.26 303** ⇓P **P** **09 26 15.5 +2.6**
BMR Baia Mare **36.26 303** P **P** **09 26 15.5 +2.6**
CNSH ChangSha **36.41 91** ⇑P **P** **09 26 15.0 +0.5**
CNSH pmax pmax
comp=Z,370nm,0.9s
MARR Marisel-Cluj **36.52 301** ⇓P **P** **09 26 17.6 +2.2**
WHN Wuhan **36.65 86** ⇑*i*P **P** **09 26 17.8 +1.3**
WHN sP **sP** **09 27 24.8 -0.1**
WHN PcP **PcP** **09 28 34.4 -0.3**
WHN S **S** **09 31 50.4 +6.4**
WHN ScP **ScP** **09 32 00.0 -1.5**
WHN PcS **PcS** **09 32 21.0 -2.0**
WHN ScS **ScS** **09 36 07.3 -1.6**
WHN pmax pmax
comp=Z,64nm,1.0s
DEV Deva **36.70 300** ⇑P **P** **09 26 19.0 +2.3**
DEV Deva **36.70 300** P **P** **09 26 19.0 +2.3**
PABE Paberze **36.77 316** P **P** **09 26 18.1 +1.0**
PABE IAmb IAmb 09 26 19.1
comp=Z,112nm,0.7s
PABE Paberze **36.77 316** *e*P **P** **09 26 17.7 +0.6**
GZR Gura Zlata **36.81 299** ⇑P **P** **09 26 19.1 +1.3**
VSVD Vaisvydziai **36.89 317** *e*P **P** **09 26 19.2 +1.1**
SUW Suwalki **36.96 314** *i* P **P** **09 26 16.7 -2.0**
SUW Suwalki **36.96 314** P **P** **09 26 16.6 -2.1**
SUW Suwalki **36.96 314** *e*P **P** **09 26 16.9 -1.9**
BLKB Belogradchik **37.02 296** ⇓P **P** **09 26 21.2 +1.7**
PEHC Pehcevo **37.07 293** *i* P **P** **09 26 21.9 +2.0**
KOLS Kolonicke sedl **37.09 305** *e*P **P** **09 26 21.8 +1.8**
KOLS *e* 09 27 05.0
KOLS pmax pmax
comp=Z,47nm,0.7s
KOLS Kolonicke sedl **37.09 305** *e*P **P** **09 26 21.8 +1.8**
KOLS *e* 09 27 05.0
KOLS *e* 09 32 02.9
KOLS *e* 09 48 28.9
KOLS *e* 09 56 51.8
TIA Tai'an **37.13 76** P **P** **09 26 21.6 +1.1**
TIA pmax pmax
comp=Z,44nm,0.6s
SURR Surduc **37.24 300** ⇑P **P** **09 26 23.8 +2.6**
FIA1 FINESS Array S **37.38 326** P **P** **09 26 22.7 +0.5**
FINES FINESS Array B **37.38 326** P **P** **09 26 23.1 +1.0**
FINES FINESS Array B **37.38 326** P **P** **09 26 23.5 +1.4**
comp=Z,159nm,0.7s,baz=111,slow=8.4,SNR=682
FINES S **S** **09 31 54.4 +0.2**
comp=Z,9.3nm,0.8s,baz=98,slow=8.6,SNR=4.1
comp=Z,159nm,0.7s
VAY Valandovo **37.38 293** *i* P **P** **09 26 24.2 +1.8**
LVZ Lovozero **37.40 339** P **P** **09 26 22.6 +0.2**
LVZ IAmb IAmb 09 26 24.6
comp=Z,329nm,0.8s
LVZ Lovozero **37.40 339** *c i* P **P** **09 26 22.9 +0.5**
LVZ pmax pmax
comp=Z,278nm,0.9s
LVZ Lovozero **37.40 339** S pP 09 26 53.7 -12
LVZ Lovozero **37.40 339** P **P** **09 26 23.6 +1.2**
UBPT Khong Chiam **37.45 115** P **P** **09 26 22.9 -0.4**
HIA Hailar **37.53 54** P **P** **09 26 24.0 +0.3**
HIA Hailar **37.53 54** P **P** **09 26 24.9 +1.2**
HIA Hailar **37.53 54** *c i* P **P** **09 26 25.1 +1.4**
HIA pmax pmax
comp=Z,50nm,0.8s
HIA Hailar **37.53 54** P **P** **09 26 25.0 +1.4**
HIA PcP **PcP** **09 28 37.8 +0.7**
SIRR Siria **37.54 301** ⇓P **P** **09 26 26.4 +2.6**
APA Apatity **37.58 338** ⇓*i* P **P** **09 26 23.4 -0.4**
APA *i* 09 27 55.0
APA *i* 09 28 37.0
APA *i* S **S** **09 31 58.0 +0.9**
APA pmax pmax
comp=Z,115nm,0.8s
APA Apatity **37.58 338** P **P** **09 26 25.2 +1.4**
MTSE Matsula **37.59 321** *e*P **P** **09 26 24.4 +0.4**
MDVR Moldovita **37.60 298** ⇑P **P** **09 26 26.2 +1.8**
BZS Buzias **37.61 300** ⇑P **P** **09 26 26.3 +2.0**
BZS Buzias **37.61 300** P **P** **09 26 26.3 +2.0**
CRVS Cervenica-Dubn **37.62 305** *e*P **P** **09 26 25.3 +0.8**
CRVS *e* 09 32 04.7
CRVS pmax pmax
comp=Z,18nm,0.7s
CRVS Cervenica-Dubn **37.62 305** *e*P **P** **09 26 25.3 +0.8**
CRVS *e* 09 32 04.7
CRVS *e* 09 48 48.7
CRVS *e* 09 56 51.4
BOVS Bovan **37.72 296** ⇑P **P** **09 26 26.7 +1.4**
APA0 Apatity Array **37.73 337** P **P** **09 26 23.2 -1.8**
MEF Metsahovi **37.74 324** *e*P **P** **09 26 25.8 +0.6**
STHS Stebnicka Huta **37.77 306** *e*P **P** **09 26 26.1 +0.4**
STHS *e* 09 32 04.8
STHS pmax pmax
comp=Z,23nm,0.6s
STHS Stebnicka Huta **37.77 306** *e*P **P** **09 26 26.1 +0.4**
STHS *e* 09 32 04.8
PBUR Paburge **38.00 317** *e*P **P** **09 26 27.9 +0.5**
MSF Maaselka **38.11 334** P **P** **09 26 29.8 +1.5**
SLIT Slitere, Latvi **38.12 319** *e*P **P** **09 26 27.9 -0.5**
SKO Skopje **38.12 294** *i* P **P** **09 26 30.7 +2.0**
BEL Belsk **38.16 310** *e*P **P** **09 26 30.2 +1.3**
KECS Kecovo **38.27 304** *e*P **P** **09 26 31.8 +1.9**
KECS pmax pmax
comp=Z,23nm,0.6s
KECS Kecovo **38.27 304** *e*P **P** **09 26 31.8 +1.9**
NIE Niedzica **38.39 306** *i* P **P** **09 26 33.2 +2.3**
NIE Niedzica **38.39 306** P **P** **09 26 32.9 +2.0**
QIZ Qiongzhong **38.46 106** P **P** **09 26 33.1 +1.4**
comp=Z,73nm,2.5s
PSZ Piszkesteto **38.68 304** ⇓P **P** **09 26 35.5 +2.2**
PSZ Piszkesteto **38.68 304** P **P** **09 26 35.5 +2.2**
OJC Ojcow **38.72 307** *i* P **P** **09 26 34.8 +1.2**
OJC Ojcow **38.72 307** P **P** **09 26 34.1 +0.5**
OJC Ojcow **38.72 307** P **P** **09 26 34.1 +0.5**
OJC pmax pmax
comp=Z,68nm,1.1s
KLNR Kaliningrad **38.76 314** *i* P **P** **09 26 32.4 -1.4**
KLNR pmax pmax
comp=Z,131nm,0.6s
FRGS Fruska Gora **38.91 299** ⇑P **P** **09 26 37.1 +1.9**
FRGS Fruska Gora **38.91 299** ⇑*i* P **P** **09 26 36.4 +1.1**
LANS Liptovska Anna **38.94 305** *e*P **P** **09 26 37.5 +2.1**
LANS *e* 09 27 22.8
LANS pmax pmax
comp=Z,12nm,0.6s
LANS Liptovska Anna **38.94 305** *e*P **P** **09 26 37.5 +2.1**
LANS *e* 09 27 22.8
SJES Sjenica **39.01 296** ⇑*i* P **P** **09 26 37.5 +1.3**
TEKS Tekeris **39.17 298** *e*P **P** **09 26 36.3 -1.1**
RAF Rauma **39.22 325** *e*P **P** **09 26 37.5 0.0**
BUD Budapest **39.29 303** P **P** **09 26 40.7 +2.4**
LHMI Lhok Sumawe **39.33 136** P **P** **09 26 40.3 +1.4**
comp=Z,278nm,0.7s
BBLS Lazići **39.34 297** *e*P **P** **09 26 39.8 +0.9**
VYHS Vyhne **39.37 304** *e*P **P** **09 26 40.5 +1.5**
VYHS *e* 09 28 43.2
VYHS pmax pmax
comp=Z,28nm,1.5s
VYHS Vyhne **39.37 304** *e*P **P** **09 26 40.5 +1.5**
VYHS *e* 09 28 43.2
VYHS *e* 09 32 11.2
VYHS *e* 09 48 37.3
VYHS *e* 09 56 54.8
RUDO Rudo **39.40 297** *e*P **P** **09 26 38.1 -1.2**
MORH Mrgy, Hungar **39.63 301** ⇑P **P** **09 26 42.3 +1.1**
HAPS Han Pijesak,Bl **39.64 298** *e*P **P** **09 26 42.3 +0.9**
SGF Sodankyl **39.74 335** P **P** **09 26 43.3 +1.6**
NJ2 Nanjing **39.74 82** ⇑*i* P **P** **09 26 43.3 +1.1**
NJ2 PcP **PcP** **09 28 44.0 -0.3**
NJ2 ScP **ScP** **09 32 11.3 -2.0**
NJ2 S **S** **09 32 32.6 +2.3**
NJ2 pmax pmax
comp=Z,91nm,0.7s
DRME Dracevica, Mon **39.75 295** *e*P **P** **09 26 42.0 -0.2**
SRO Srobarova **39.75 303** *e*P **P** **09 26 44.4 +2.3**
SRO *e* 09 27 29.2
SRO pmax pmax
comp=Z,73nm,0.8s
SRO Srobarova **39.75 303** *e*P **P** **09 26 44.4 +2.3**
SRO *e* 09 27 29.2
SRO *e* 09 32 13.5
SRO *e* 09 56 54.3
OKC Ostrava-Krasne **39.79 307** *e*P **P** **09 26 43.5 +1.1**
OKC Ostrava-Krasne **39.79 307** *e*P **P** **09 26 43.5 +1.1**
UPM Unac-Piva **39.79 296** *e*P **P** **09 26 43.4 +0.6**
MLSI Meulaboh, Aceh **39.82 137** P **P** **09 26 42.5 -0.5**
comp=Z,133nm,0.5s
SKLT Songkhla **39.95 130** P **P** **09 26 44.4 +0.3**
SKLT Songkhla **39.95 130** P **P** **09 26 44.2 +0.1**
comp=Z,500nm,1.0s,comp=Z,5μm
MAUC Maruska **40.01 306** *e*P **P** **09 26 45.6 +1.4**
HKPS Hong Kong Po S **40.09 98** P **P** **09 26 46.1 +0.8**
HKPS IAmb IAmb 09 26 47.7
comp=Z,471nm,1.2s
HKPS Hong Kong Po S **40.09 98** P **P** **09 26 46.7 +1.5**
BRY Bratogost **40.10 296** *e*P **P** **09 26 45.5 +0.2**
HKC Hong Kong Obse **40.11 98** ⇑P **P** **09 26 47.0 +1.7**
JAVC Velka Javorina **40.13 305** *e*P **P** **09 26 47.7 +2.4**
JAVC *e*SCP **ScP** **09 32 15.1 +0.5**
MORC Moravsky Berou **40.18 306** ⇑P **P** **09 26 47.6 +1.9**
MORC Moravsky Berou **40.18 306** P **P** **09 26 47.2 +1.5**
MORC Moravsky Berou **40.18 306** *e*P **P** **09 26 47.2 +1.5**
MORC *e*SCP **ScP** **09 32 14.8 0.0**
MORC Moravsky Berou **40.18 306** ⇑P **P** **09 26 47.6 +1.9**
HCY Herceg Novi **40.21 295** *e*P **P** **09 26 45.6 -0.4**
VADS Vadso **40.27 340** S pP 09 27 22.8 -7.6
VADS Vadso **40.27 340** *e*P **P** **09 26 47.7 +1.7**
VADS IAmb IAmb 09 26 48.3
comp=Z,389nm,0.9s
TREB Trebinje **40.27 296** *e*P **P** **09 26 46.1 -0.4**
SMOL Smolenice **40.30 305** *e*P **P** **09 26 48.4 +1.8**
SMOL pmax pmax
comp=Z,12nm,0.6s
GKP Gorka Klasztor **40.41 312** *i* P **P** **09 26 48.6 +1.2**
GKP Gorka Klasztor **40.41 312** P **P** **09 26 48.5 +1.1**
GKP Gorka Klasztor **40.41 312** *e*P **P** **09 26 48.6 +1.2**
MODS Modra-Piesok **40.41 304** *e*P **P** **09 26 49.1 +1.6**
MODS pmax pmax
comp=Z,38nm,1.1s
MODS Modra-Piesok **40.41 304** *e*P **P** **09 26 49.1 +1.6**
MODS *e* 09 32 15.3
MODS *e* 09 48 39.7
MODS *e* 09 56 57.2
ZST Bratislava **40.54 304** *e*P **P** **09 26 50.3 +1.8**
ZST Bratislava **40.54 304** *e*P **P** **09 26 50.3 +1.8**
ZST *e* 09 32 16.0
KRLC Kraliky **40.66 307** *e*P **P** **09 26 50.8 +1.2**
KRLC Kraliky **40.66 307** *e*P **P** **09 26 50.8 +1.2**
STON Ston **40.72 296** *e*P **P** **09 26 51.0 +0.9**
KEV Kevo **40.75 338** P **P** **09 26 51.3 +1.4**
KEV IAmb IAmb 09 26 52.4
comp=Z,367nm,1.0s
KEV Kevo **40.75 338** P **P** **09 26 51.3 +1.4**
KEV pmax pmax
comp=Z,367nm,1.0s
KEV Kevo **40.75 338** ⇑P **P** **09 26 51.4 +1.4**
BLY Banja Luka **40.81 299** *e*P P 09 26 46.0 -4.9
VRAC Vranov **40.81 306** ⇑P **P** **09 26 52.8 +2.0**
VRAC Vranov **40.81 306** *e*P **P** **09 26 52.7 +1.9**
VRAC *e*SCP **ScP** **09 32 17.0 -0.2**
VRAC Vranov **40.81 306** P **P** **09 26 52.8 +2.0**
MGRS Mrkonjic Grad **40.93 298** *e*P **P** **09 26 49.1 -2.7**
SOP Sopron **40.94 303** P **P** **09 26 53.4 +1.6**
DPC Dobruska-Polom **40.95 307** *e*P **P** **09 26 53.6 +1.6**
DPC Dobruska-Polom **40.95 307** *e*P **P** **09 26 53.6 +1.6**
KRUC Moravsky **40.96 305** *e*P **P** **09 26 53.6 +1.6**
KRUC *e*SCP **ScP** **09 32 17.5 -0.3**
KSP Ksiaz **40.96 308** *i* P **P** **09 26 53.2 +1.3**
KSP Ksiaz **40.96 308** P **P** **09 26 53.0 +1.0**
A051A Mrakovica **40.97 299** *e*P **P** **09 26 51.8 -0.5**
OSTC Ostas **41.02 308** *e*P **P** **09 26 53.2 +0.7**
OSTC Ostas **41.02 308** *e*P **P** **09 26 53.2 +0.7**
ARA0 ARCESS Array S **41.09 338** *e*P **P** **09 26 54.5 +1.7**
ARCES ARCESS Array B **41.09 338** P **P** **09 26 54.5 +1.7**
ARCES IAmb IAmb 09 26 55.5
comp=Z,432nm,0.9s
ARCES ARCESS Array B **41.09 338** P **P** **09 26 54.5 +1.7**
ARCES pmax pmax
comp=Z,433nm,0.9s
ARCES ARCESS Array B **41.09 338** S pP 09 27 25.4 -12
ARCES ARCESS Array B **41.09 338** P **P** **09 26 54.4 +1.7**
comp=Z,218nm,0.5s,baz=114,slow=7.6,SNR=1344
ARCES PKiKP **PKiKP** **09 35 53.7 -1.5**
comp=Z,5.5nm,0.9s,baz=48,slow=1.3,SNR=5.6
comp=Z,218nm,0.5s
ARCES ARCESS Array B **41.09 338** P **P** **09 26 54.0 +1.3**
PRIJ Prijedor **41.11 299** *e*P P 09 26 42.0 -11
RONA Rosalia, Austr **41.11 303** *i* P **P** **09 26 54.5 +1.2**
comp=Z,14nm,0.5s,SNR=10
RONA *e*PcP **PcP** **09 28 48.5 -0.1**
comp=Z,2.2nm,0.5s
CHVC Chvalec **41.12 308** *e*P **P** **09 26 54.5 +1.2**
CHVC Chvalec **41.12 308** *e*P **P** **09 26 54.5 +1.2**
UPC Upice **41.15 308** *e*P **P** **09 26 55.0 +1.5**
UPC Upice **41.15 308** *e*P **P** **09 26 55.0 +1.5**
KCSI Kotacane, Aceh **41.19 136** P **P** **09 26 51.9 -2.4**
comp=Z,128nm,0.6s,comp=Z,5μm
KOGS Kog **41.26 301** *i* P **P** **09 26 55.7 +1.2**
KOGS *e*PcP **PcP** **09 28 48.6 -0.4**
KOGS *e* 09 32 18.3
A050A Klekovaca **41.31 298** *e*P **P** **09 26 55.6 +0.6**
SNSI Sinabang, Aceh **41.34 139** P **P** **09 26 55.7 +0.3**
comp=Z,576nm,0.8s,comp=Z,5μm
CONA Conrad Observa **41.39 304** *i* P **P** **09 26 56.4 +0.8**
comp=Z,20nm,0.5s,SNR=21
CONA *e*PcP **PcP** **09 28 48.7 -0.8**
comp=Z,4.8nm,0.7s
BLEU Blekinge **41.42 316** *i* P **P** **09 26 55.9 +0.3**
KULM Kulim **41.44 131** P **P** **09 26 56.6 +0.3**
KULM IAmb IAmb 09 26 57.9
comp=Z,277nm,1.6s
KULM Kulim **41.44 131** P **P** **09 26 56.4 +0.1**
comp=Z,106nm,1.2s,comp=Z,1μm
PTJ Puntijarka **41.52 301** P **P** **09 26 58.1 +1.4**
TREC Trest **41.54 306** *e*P **P** **09 26 58.0 +1.3**
TREC Trest **41.54 306** *e*P **P** **09 26 58.0 +1.3**
KTK1 Kautokeino **41.55 336** *e*P **P** **09 26 57.9 +1.3**
KTK1 IAmb IAmb 09 26 58.4
comp=Z,310nm,0.6s
ARSA Arzberg **41.68 303** *i* P **P** **09 26 59.1 +1.3**
comp=Z,3.5nm,0.5s
ARSA *e*PcP **PcP** **09 28 50.7 +0.2**
comp=Z,5.8nm,0.7s
BSD Bornholm Skovb **41.85 315** P **P** **09 26 59.7 +0.6**
BSD Bornholm Skovb **41.85 315** *e*P **P** **09 26 58.9 -0.2**
BSD Bornholm Skovb **41.85 315** *i* P **P** **09 26 57.7 -1.4**
BSD *i* P **P** **09 26 59.0 -0.2**
BSD IAmb IAmb 09 27 02.5
comp=Z,46nm,0.6s
CN2 Changchun **41.86 62** *e*P **P** **09 26 59.1 -0.3**
CN2 *e*S **S** **09 33 03.8 +2.5**
CN2 pmax pmax
comp=Z,100nm,3.0s
MATE Matera **41.87 293** ⇓P **P** **09 26 59.7 +0.3**
CRES Cresnjev **41.88 301** ⇑*i* P **P** **09 27 00.7 +1.1**
SSES Sheshan **41.94 82** P **P** **09 27 01.2 +1.1**
GOPC GO Pecny, Ondr **41.96 307** *e*P **P** **09 27 01.1 +1.0**
GOPC GO Pecny, Ondr **41.96 307** *e*P **P** **09 27 01.1 +1.0**
PVCC Panska Ves **42.07 308** *e*P **P** **09 27 02.6 +1.7**
PVCC Panska Ves **42.07 308** *e*P **P** **09 27 02.6 +1.7**
BOJS Bojanci **42.07 300** ⇑*i* P **P** **09 27 02.2 +1.2**
SOKA Soboth **42.07 302** *i* P **P** **09 27 02.5 +1.4**
comp=Z,28nm,0.4s,SNR=24
SOKA *i* PcP **PcP** **09 28 52.6 +0.7**
comp=Z,5.6nm,0.5s
PRU Pruhonice **42.11 307** *e*P **P** **09 27 02.6 +1.3**
PRU Pruhonice **42.11 307** *e*P **P** **09 27 02.6 +1.3**
TIP Timpagrande **42.16 291** ⇓P **P** **09 27 02.7 +0.8**
HAMF Hammerfest **42.17 339** *e*P **P** **09 27 03.4 +1.9**
PRA Prague **42.18 307** *e*P **P** **09 27 03.1 +1.3**
PRA Prague **42.18 307** *e*P **P** **09 27 03.1 +1.3**
ZEA Zeya **42.29 47** *e*P **P** **09 27 04.6 +1.9**
ZEA pmax pmax
comp=E,200nm,2.5s
ZEA pmax pmax
comp=N,100nm,2.4s
ZEA pmax pmax
comp=Z,300nm,2.6s
ZEA pmax pmax
comp=E,90nm,0.7s
ZEA pmax pmax
comp=N,60nm,1.0s
ZEA pmax pmax
comp=Z,180nm,0.8s
CKRC Cesky Krumlov **42.34 305** *e*P **P** **09 27 04.5 +1.2**
CKRC Cesky Krumlov **42.34 305** *e*P **P** **09 27 04.5 +1.2**
RICC Richard **42.37 308** *e*P **P** **09 27 04.5 +1.2**
ZVC Zvikov **42.37 306** *e*P **P** **09 27 05.0 +1.6**
QZH Quanzhou **42.38 92** ⇑*i* P **P** **09 27 04.3 +0.5**
QZH pmax pmax
comp=Z,130nm,0.4s
OBKA Obir **42.42 302** *e*P **P** **09 27 05.4 +1.4**
comp=Z,12nm,0.5s
OBKA Obir **42.42 302** *e*P **P** **09 27 05.3 +1.3**
PSI Prapat **42.43 136** P **P** **09 27 03.7 -0.7**
KNMB Chin-men Tao **42.44 93** P **P** **09 27 05.5 +1.2**
KNMB IAmb IAmb 09 27 05.9
comp=Z,330nm,1.0s
BRG Berggiesshubel **42.45 308** ⇑*i* P **P** **09 27 05.6 +1.6**
BRG Amp 09 27 06.2
comp=Z,39nm,0.6s
BRG Berggiesshubel **42.45 308** Amp 09 29 04.7
comp=Z,11nm,0.9s
BRG Berggiesshubel **42.45 308** ⇑*i* P **P** **09 27 05.5 +1.6**
BRG 09 27 50.7
BRG pmax pmax
comp=Z,39nm,0.6s
BRG Berggiesshubel **42.45 308** *e*P **P** **09 27 05.6 +1.6**
comp=Z,39nm,0.6s,baz=84,slow=7.8
BRG Berggiesshubel **42.45 308** P P 09 27 22.4 +18
BRG Berggiesshubel **42.45 308** Amp 09 27 22.8
comp=Z,15nm,0.8s
BRG Berggiesshubel **42.45 308** pP pP 09 27 50.8 +2.4
BRG Berggiesshubel **42.45 308** Amp 09 27 52.4
comp=Z,13nm,0.8s
BRG Berggiesshubel **42.45 308** ⇑PP PP 09 29 04.3 +18
MOA Molln **42.46 304** *e*P **P** **09 27 05.3 +1.1**
comp=Z,20nm,0.6s,SNR=15
MOA *e*PP **PP** **09 28 49.9 +3.0**
comp=Z,7.2nm,0.8s

HEH HeiHe 42.48 53 *e*P **P** **09 27 04.9 +0.6**
HEH pmax pmax
comp=Z,490nm,0.9s
RUE Ruedersdorf 42.49 311 *e*P **P** **09 27 04.8 +0.4**
RUE Ruedersdorf 42.49 311 *e*P **P** **09 27 05.3 +1.0**
comp=Z,56nm,0.8s,baz=84,slow=7.8
LJU Ljubljana 42.50 301 *i* P **P** **09 27 06.1 +1.6**
LJU *e*pP **pP** **09 27 52.1 +3.4**
LJU *e*PcP **PcP** **09 28 53.1 -0.1**
LJU *i* 09 32 24.0
DEL Delary 42.52 317 *i* P **P** **09 27 05.4 +0.9**
CEY Cerknica 42.61 301⇑*i*P **P** **09 27 06.4 +1.0**
JETT Jettan, Norway 42.70 337 *e*P **P** **09 27 07.4 +1.6**
LUNU Lund 42.71 315 *i* P **P** **09 27 06.9 +0.8**
GEC2 GERESS Array S 42.74 305 P **P** **09 27 07.8 +1.2**
GEC2 GERESS Array S 42.74 305 *e*P **P** **09 27 07.7 +1.1**
comp=Z,8.7nm,0.7s,baz=84,slow=7.8
GERES GERESS Array B 42.74 305 P **P** **09 27 07.3 +0.8**
GERES GERESS Array B 42.74 305 P **P** **09 27 07.5 +0.9**
comp=Z,5.5nm,0.5s,baz=67,slow=7.8,SNR=28
GERES pP **pP** **09 27 52.9 +1.9**
comp=Z,9.3nm,1.1s,baz=80,slow=7.1,SNR=1.7
GERES PcP **PcP** **09 28 52.8 -1.3**
comp=Z,4.4nm,0.7s,baz=86,slow=1.9,SNR=6.1
GERES ScP **ScP** **09 32 24.1 -0.9**
comp=Z,10nm,0.9s,baz=69,slow=5.4,SNR=10
comp=Z,5.5nm,0.5s
RGN Rugen 42.76 314 *e*P **P** **09 27 07.3 +0.9**
RGN Rugen 42.76 314 *e*P **P** **09 27 08.2 +1.8**
comp=Z,172nm,0.9s,baz=84,slow=7.8
HSKC Hora Svate Kat 42.78 308 *e*P **P** **09 27 06.7 -0.1**
KHC Kasperske Hory 42.80 306*ce*P **P** **09 27 07.6 +0.7**
KHC pmax pmax
comp=Z,89nm,2.5s
KHC Kasperske Hory 42.80 306 *e*P **P** **09 27 08.0 +1.1**
KHC *e*pP **pP** **09 27 50.0 -1.4**
BIOA Bad Ischl, Aus 42.90 304 *e*P **P** **09 27 08.7 +0.9**
comp=Z,21nm,0.4s,SNR=15
GSI Gunungsitoli 42.93 138 P **P** **09 27 09.5 +1.1**
GSI IAmb IAmb 09 27 10.4
comp=Z,363nm,0.6s
GSI Gunungsitoli 42.93 138 P **P** **09 27 09.4 +1.1**
GSI Gunungsitoli 42.93 138 P **P** **09 27 09.2 +0.9**
comp=Z,550nm,0.7s,comp=Z,5µm
BNX BinXian 42.94 59⇑P **P** **09 27 08.6 +0.6**
BNX pmax pmax
comp=Z,45nm,1.0s
BNX pmax pmax
comp=Z,170nm,5.4s
HFS Hagfors 42.94 322 P **P** **09 27 08.7 +0.9**
comp=Z,138nm,0.4s,baz=102,slow=10,SNR=1080
HFS pP **pP** **09 27 54.4 +2.2**
comp=Z,32nm,0.7s,baz=93,slow=8.9,SNR=1.6
HFS PcP **PcP** **09 28 53.8 -0.5**
comp=Z,32nm,0.8s,baz=81,slow=8.9,SNR=2.6
comp=Z,138nm,0.4s
BJUU Bjuv 42.97 316 *i* P **P** **09 27 08.9 +0.8**
CLL Collm 43.02 309⇑*i*P **P** **09 27 09.4 +0.8**
CLL *e**PP **pP** **09 27 52.0 -0.9**
CLL pmax pmax
comp=Z,23nm,0.8s
CLL Collm 43.02 309⇑*i*P **P** **09 27 09.4 +0.8**
comp=Z,23nm,0.8s
CLL *e*pP **pP** **09 27 52.0 -0.9**
CLL *e*sP **sP** **09 28 15.0 -1.5**
CLL *e*PP **PP** **09 28 53.0 +0.3**
CLL *e*PPP PPP 09 29 36.0
CLL *i* x x 09 29 45.5
CLL Collm 43.02 309 *e*P **P** **09 27 09.6 +1.0**
comp=Z,22nm,0.8s,baz=84,slow=7.8
CADS Cadrg 43.02 301 *i* P **P** **09 27 09.7 +0.9**
CADS *e*pP **pP** **09 27 55.6 +2.5**
MYKA Terra Mystica 43.03 302 *i* P **P** **09 27 10.0 +1.1**
comp=Z,22nm,0.9s
SABO M.te Sabotino 43.15 301 P **P** **09 27 10.7 +0.9**
SABO IAmb IAmb 09 27 57.7
comp=Z,114nm,1.3s
KBA Koelnbreinsper 43.17 303 *i* P **P** **09 27 11.1 +1.0**
comp=Z,14nm,0.5s,SNR=7.8
KBA *e*PP **PP** **09 28 54.8 +0.1**
comp=Z,7.3nm,0.5s
FABU Falkenberg 43.18 317 *i* P **P** **09 27 09.9 +0.2**
BORU Boraas 43.19 318 *i* P **P** **09 27 10.1 +0.3**
TRO Tromso 43.20 336 *e*P **P** **09 27 11.1 +1.3**
TRO IAmb IAmb 09 27 11.8
comp=Z,140nm,0.7s
WET Wettzell 43.26 306 *e*P **P** **09 27 11.5 +0.9**
baz=84,slow=7.8
TANN Tannenbergstha 43.42 308 *e*P **P** **09 27 13.3 +1.4**
comp=Z,13nm,0.9s,baz=84,slow=7.8
NKC Novy Kostel 43.44 307 *e*P **P** **09 27 13.4 +1.4**
NKC Novy Kostel 43.44 307 *e*P **P** **09 27 13.4 +1.4**
RJOB Jochberg 43.46 304 *e*P **P** **09 27 13.2 +0.9**
comp=Z,21nm,0.6s,baz=84,slow=7.8
LESA Schwarzleotal 43.58 303 *i* P **P** **09 27 14.1 +0.9**
comp=Z,45nm,0.4s
PLN Plauen 43.60 308 *e*P **P** **09 27 14.6 +1.3**
comp=Z,14nm,0.7s,baz=84,slow=7.8
ONAU Onsala 43.63 318 *i* P **P** **09 27 13.8 +0.5**
ROTZ Rotzenmuhle 43.63 307 *e*P **P** **09 27 15.3 +1.7**
comp=Z,7.4nm,1.2s,baz=84,slow=7.8
MANZ Manzenberg 43.68 307 *e*P **P** **09 27 15.7 +1.7**
comp=Z,4.1nm,0.8s,baz=84,slow=7.8
STAL STALIGIAL 43.72 302 P **P** **09 27 14.9 +0.6**
FAUS Fauske 43.72 333 *e*P **P** **09 27 15.3 +1.4**
FAUS IAmb IAmb 09 27 16.1
comp=Z,294nm,0.8s
MOR8 Moi Rana 43.73 331 *e*P **P** **09 27 14.6 +0.6**
ABTA Abfaltersbach 43.78 302 *i* P **P** **09 27 15.0 +0.2**
comp=Z,9.0nm,0.5s,SNR=9.9
NEUB Neuenburg 43.79 309 *e*P **P** **09 27 16.1 +1.4**
comp=Z,43nm,0.7s,baz=84,slow=7.8
TJOU Tjoern 43.82 319 *i* P **P** **09 27 14.5 -0.3**
H08S3 Diego Garcia H 43.88 177 P **P** **09 27 16.4 +0.9**
baz=356,slow=13,SNR=9.1
CIMO Cimolais 43.90 302 P **P** **09 27 16.4 +0.7**
CIMO IAmb IAmb 09 27 17.3
comp=Z,44nm,0.7s
STEI Steigen 43.90 333 *e*P **P** **09 27 16.7 +1.4**
STEI IAmb IAmb 09 27 17.3
comp=Z,188nm,0.8s
H08S1 Diego Carcia H 43.90 177 P **P** **09 27 16.4 +0.8**
baz=356,slow=13,SNR=3.9
H08S2 Diego Garcia H 43.90 177 P **P** **09 27 16.6 +1.0**
baz=356,slow=13,SNR=6.5
MOX Moxa 43.94 308 *e*P **P** **09 27 17.5 +1.5**
comp=Z,20nm,0.7s,baz=84,slow=7.8
GORT1 Trebel 43.98 311 *e*P **P** **09 27 17.6 +1.4**
comp=Z,31nm,0.9s,baz=84,slow=7.8
FLTG Flechtingen 44.05 311 *e*P **P** **09 27 17.7 +0.9**
comp=Z,87nm,0.7s,baz=84,slow=7.8
NC602 NORSAR Array S 44.07 323 P **P** **09 27 17.2 +0.4**
NC602 NORSAR Array S 44.07 323 *e*P **P** **09 27 17.3 +0.5**
NC602 IAmb IAmb 09 27 18.2
comp=Z,118nm,1.1s
INCN Inchon 44.15 71 P **P** **09 27 18.0 +0.2**
INCN Inchon 44.15 71 P **P** **09 27 18.9 +1.1**
INCN Inchon 44.15 71 P **P** **09 27 18.0 +0.2**
INCN pmax pmax
comp=Z,58nm,0.8s
INCN Inchon 44.15 71 P **P** **09 27 18.5 +0.6**
INCN PcP **PcP** **09 28 58.3 -0.6**
YAK Yakutsk 44.15 35*c i*P **P** **09 27 17.8 +0.4**
YAK *e**PP **pP** **09 28 01.5 -1.5**
YAK *e* 09 29 08.1
YAK *e*S **S** **09 33 34.8 +0.6**
YAK *e**SS **sS** **09 34 54.3 +0.5**
YAK *e* 09 36 46.3
YAK pmax pmax
comp=Z,502nm,0.8s
YAK pmax pmax
comp=N,48nm,0.9s
YAK pmax pmax
comp=E,68nm,1.1s
YAK pmax pmax
comp=Z,112nm,1.2s
YAK smax smax
comp=E,373nm,1.8s
YAK smax smax
comp=N,231nm,1.6s
YAK Yakutsk 44.15 35 P **P** **09 27 17.8 +0.4**
YAK ScP **ScP** **09 32 29.3 -1.1**
NB2 NORSAR Subarra 44.26 323 P **P** **09 27 18.8 +0.4**
comp=Z,78nm,0.4s,baz=99,slow=7.9
NB2 PP **PP** **09 29 04.9 -0.9**
comp=Z,11nm,0.7s,baz=121,slow=7.4
NB2 NORSAR Subarra 44.26 323 P **P** **09 27 18.8 +0.4**
baz=99,slow=7.9
NOA NORSAR Array B 44.26 323 P **P** **09 27 18.8 +0.4**
comp=Z,66nm,0.4s,baz=98,slow=7.7,SNR=538
NOA pP **pP** **09 28 04.8 +1.8**
comp=Z,14nm,0.8s,baz=98,slow=8.0,SNR=1.3
NOA PP **PP** **09 29 06.1 +0.3**
comp=Z,36nm,0.8s,baz=95,slow=9.5,SNR=6.0
comp=Z,66nm,0.4s
GRF Grafenberg Arr 44.28 307 *e*P **P** **09 27 20.7 +2.0**
comp=Z,25nm,0.7s,baz=84,slow=7.8
WTTA Wattenberg 44.30 303 *i* P **P** **09 27 19.4 +0.3**
comp=Z,17nm,0.4s,SNR=12
WTTA *i* PcP **PcP** **09 28 59.6 +0.1**
comp=Z,15nm,0.6s
KONS Konsvik 44.32 331 *e*P **P** **09 27 19.9 +1.2**
KONS IAmb IAmb 09 27 20.4
comp=Z,360nm,1.4s
STOK Stokkvaagen 44.33 331 *e*P **P** **09 27 19.9 +1.2**
WATA Walderalm 44.33 303 *i* P **P** **09 27 19.4 +0.1**
comp=Z,15nm,0.5s,SNR=11
WATA *i* PcP **PcP** **09 28 59.6 +0.1**
comp=Z,5.3nm,0.4s
VAE Valguarnera 44.39 289 P **P** **09 27 22.3 +2.6**
comp=Z,20nm,0.7s,baz=69,slow=8.6,SNR=8.0
comp=Z,20nm,0.7s
NSS Namsos 44.40 328 *e*P **P** **09 27 20.4 +1.0**
NSS IAmb IAmb 09 27 21.1
comp=Z,51nm,0.9s
OSL Oslo 44.41 321 *e*P **P** **09 27 20.4 +1.0**
FUR Furstenfeldbru 44.42 305 *e*P **P** **09 27 21.2 +1.4**
comp=Z,31nm,0.7s,baz=84,slow=7.8
PBSI Pulau Batu 44.45 139 P **P** **09 27 21.2 +0.9**
comp=Z,237nm,1.4s
NBO00 NORSAR Array S 44.47 323 P **P** **09 27 20.6 +0.6**
NBO00 IAmb IAmb 09 27 22.2
comp=Z,158nm,0.8s
BSEG Bad Segeberg 44.53 313 *e*P **P** **09 27 22.3 +1.8**
comp=Z,48nm,0.7s,baz=84,slow=7.8
LOF Lofoten 44.57 333 *e*P **P** **09 27 21.3 +0.7**
TEOL Teolo 44.58 301 P **P** **09 27 21.8 +0.7**
SQTA Sankt Quirin 44.60 303 *i* P **P** **09 27 21.4 +0.1**
comp=Z,18nm,0.4s,SNR=17
SQTA *e*PcP **PcP** **09 28 59.9 -0.5**
comp=Z,8.9nm,0.4s
CLZ Clausthal 44.62 310 *e*P **P** **09 27 22.7 +1.3**
comp=Z,23nm,0.8s,baz=84,slow=7.8
MOTA Moosalm 44.65 303 *i* P **P** **09 27 21.9 0.0**
comp=Z,9.6nm,0.3s,SNR=11
MDJ Mudanjiang 44.65 60 P **P** **09 27 21.6 -0.1**
MDJ S **S** **09 33 40.0 -1.9**
MDJ pmax pmax
comp=Z,320nm,3.9s
MDJ Mudanjiang 44.65 60 P **P** **09 27 21.3 -0.3**
MDJ Mudanjiang 44.65 60 P **P** **09 27 22.2 +0.5**
TATO Taipei 44.70 90 P **P** **09 27 23.3 +1.0**
NRDL Niedersach Rie 44.74 311 *e*P **P** **09 27 23.9 +1.8**
comp=Z,30nm,0.8s,baz=84,slow=7.8
SSLB Suanglung 44.82 92 P **P** **09 27 24.6 +1.3**
RETA Reutte 44.86 304 *i* P **P** **09 27 23.7 +0.3**
comp=Z,6.2nm,0.3s
GTTG Gottingen 44.90 310 *e*P **P** **09 27 25.1 +1.6**
comp=Z,45nm,0.7s,baz=84,slow=7.8
UBBA Unterbreizbach 44.94 308 *e*P **P** **09 27 25.0 +1.3**
comp=Z,16nm,0.6s,baz=84,slow=7.8
FETA Feichten 44.95 303 *i* P **P** **09 27 24.3 +0.1**
comp=Z,16nm,0.4s,SNR=13
FETA *e*PcP **PcP** **09 29 01.7 0.0**
comp=Z,16nm,0.6s
TBLU Trondheim 44.95 326 *e*P **P** **09 27 24.2 +0.5**
KONO Kongsberg 44.96 321 *i* P **P** **09 27 23.3 -0.5**
KONO pmax pmax
comp=Z,55nm,1.0s
KONO Kongsberg 44.96 321 *e*P **P** **09 27 24.6 +0.8**
KONO Kongsberg 44.96 321 P **P** **09 27 24.3 +0.5**
KONO pP **pP** **09 28 09.6 +1.0**
HOPEN Hopen 44.98 346 *e*P **P** **09 27 26.5 +2.7**
TJN Taejon 45.03 72 P **P** **09 27 24.3 -0.5**
TJN Taejon 45.03 72 P **P** **09 27 24.3 -0.5**
KS19 Wonju Array Si 45.08 71 P **P** **09 27 25.9 +0.7**
KSAR Wonju Array Be 45.11 71 P **P** **09 27 25.2 -0.2**
KSAR Wonju Array Be 45.11 71 P **P** **09 27 25.2 -0.2**
MUD Monsted U'grnd 45.12 316 *i* P **P** **09 27 26.3 +1.2**
KSRS Korea Array 45.14 71 P **P** **09 27 25.6 0.0**
comp=Z,26nm,0.5s,baz=273,slow=7.0,SNR=221
KSRS pP **pP** **09 28 12.6 +1.0**
comp=Z,11nm,0.9s,baz=278,slow=8.1,SNR=2.0
KSRS PcP **PcP** **09 29 02.0 -0.2**
comp=Z,37nm,0.8s,baz=285,slow=3.2,SNR=17
KSRS ScP **ScP** **09 32 32.5 -2.5**
comp=Z,7.7nm,0.8s,baz=283,slow=4.5,SNR=7.8
comp=Z,26nm,0.5s
RETH Rethem/Aller, 45.17 311 *e*P **P** **09 27 27.0 +1.4**
comp=Z,14nm,0.8s,baz=84,slow=7.8
BJO1 Bjornoya 45.23 343 *e*P **P** **09 27 26.9 +1.2**
UBR Ueberruh 45.27 304 *e*P **P** **09 27 27.4 +0.8**
comp=Z,45nm,0.6s,baz=84,slow=7.8
FUORN Ofenpass-Fuorn 45.33 303 P **P** **09 27 27.9 +0.6**
DOMB Dombas 45.38 324 *e*P **P** **09 27 28.0 +0.9**
DOMB IAmb IAmb 09 27 28.8
comp=Z,173nm,1.3s
KLR Kul'dur 45.38 54*ce*P **P** **09 27 27.9 +0.6**
KLR pmax pmax
comp=Z,56nm,0.7s
KLR Kul'dur 45.38 54 P **P** **09 27 28.1 +0.8**
comp=Z,54nm,0.7s
comp=Z,54nm,0.7s
DAVA Damuels 45.48 304 *i* P **P** **09 27 28.8 +0.4**
comp=Z,82nm,0.4s,SNR=43
HOMB Homborsund 45.48 319 *e*P **P** **09 27 28.8 +0.9**
HOMB Homborsund 45.48 319 *i* P **P** **09 27 27.8 -0.1**
SKAR Skarslia 45.65 322 *e*P **P** **09 27 30.9 +1.5**
SKAR IAmb IAmb 09 27 31.0
comp=Z,96nm,1.4s
BKNI Bangkinang 45.66 135 P **P** **09 27 29.2 -0.7**
comp=Z,532nm,0.8s,comp=Z,5µm
STU Stuttgart 45.71 306 P **P** **09 27 31.1 +1.2**
STU Stuttgart 45.71 306 *e*P **P** **09 27 31.3 +1.4**
comp=Z,57nm,0.7s,baz=84,slow=7.8
TIXI Tiksi 45.91 22 P **P** **09 27 31.6 +0.5**
TIXI Tiksi 45.91 22*ce*P **P** **09 27 31.8 +0.7**
TIXI pmax pmax
comp=Z,870nm,0.7s
TIXI Tiksi 45.91 22⇑P **P** **09 27 32.2 +1.1**
TIXI PcP **PcP** **09 29 03.9 -0.5**
SISI Saibi 45.95 139 P **P** **09 27 32.3 +0.2**
comp=Z,181nm,0.9s,comp=Z,2µm
MOL Molde 46.12 325 *e*P **P** **09 27 34.2 +1.3**
SNART Snartemo 46.16 319 *e*P **P** **09 27 34.6 +1.4**
SNART Snartemo 46.16 319 *i* P **P** **09 27 34.1 +0.8**
YOJ Yonaguni jima 46.17 90 P **P** **09 27 34.2 +0.4**
YOJ Yonaguni jima 46.17 90 P **P** **09 27 33.4 -0.4**
IBBN Ibbenburen 46.19 311 *e*P **P** **09 27 34.9 +1.4**
comp=Z,51nm,0.7s,baz=84,slow=7.8
MSHR Mys Shultsa 46.19 63 *i* P **P** **09 27 35.5 +1.8**
LODK Lodwar 46.23 233 P **P** **09 27 36.0 +1.6**
SNR=20
MSSA Maissana 46.29 300 P **P** **09 27 35.1 +0.5**
SLE Schleitheim 46.33 304 P **P** **09 27 35.4 +0.6**
BFO Black Forest 46.35 305 P **P** **09 27 35.4 +0.5**
BFO Black Forest 46.35 305 *e*P **P** **09 27 35.5 +0.5**
comp=Z,9.7nm,0.7s,baz=84,slow=7.8
BFO Black Forest 46.35 305 P **P** **09 27 35.4 +0.5**
BFO pP **pP** **09 28 20.8 +0.8**
PDSI Padang 46.35 137 P **P** **09 27 34.5 -0.8**
comp=Z,336nm,0.6s,comp=Z,5µm
AKN Aaknes 46.36 324 *e*P **P** **09 27 36.1 +1.3**
USA0B Ussuriysk Arra 46.42 61 *i* P **P** **09 27 34.2 -1.3**
USRK Ussuriysk Ar. 46.42 61 P **P** **09 27 35.2 -0.3**
USRK Ussuriysk Ar. 46.42 61 P **P** **09 27 35.8 +0.3**
comp=Z,15nm,0.5s,baz=274,slow=7.0,SNR=42
USRK PcP **PcP** **09 29 06.0 -0.6**
comp=Z,7.6nm,0.5s,baz=322,slow=7.0,SNR=7.3
comp=Z,15nm,0.5s
ODD1 Odda 46.47 321 *e*P **P** **09 27 37.4 +1.7**
BLS5 Blasjo 46.55 321 *e*P **P** **09 27 37.7 +1.4**
BUG Bochum--Univer 46.58 310 *e*P **P** **09 27 37.9 +1.2**
comp=Z,23nm,0.8s,baz=84,slow=7.8
AHRW Bad Neuenahr-A 46.82 308 *e*P **P** **09 27 40.0 +1.5**
comp=Z,23nm,0.7s,baz=84,slow=7.8
BER Bergen 47.11 322 *e*P **P** **09 27 41.7 +1.1**
ECH Echery 47.14 305 P **P** **09 27 41.6 +0.5**
KMY Karmoy 47.17 320 *e*P **P** **09 27 42.4 +1.3**
ASK Askoy 47.18 322 *e*P **P** **09 27 43.1 +2.0**
JTU Tsushima 47.20 74 P **P** **09 27 42.1 +0.4**
TPRI Tanjung Pinang 47.24 131 P **P** **09 27 42.8 +0.6**
comp=Z,279nm,0.7s
FOO Floro 47.26 324 *e*P **P** **09 27 42.8 +1.1**
SENIN Lac Senin/Sane 47.39 303 P **P** **09 27 43.6 +0.3**
SENIN IAmb IAmb 09 27 45.6
comp=Z,201nm,0.7s
SUE Sulen 47.40 323 *e*P **P** **09 27 44.2 +1.5**
BTNL Ternell 47.41 309 *d*P **P** **09 27 44.3 +1.1**
comp=Z,20nm,0.8s
SPA0 Spitsbergen Ar 47.48 347 *e*P **P** **09 27 45.2 +2.1**
SPITS Spitsbergen Ar 47.48 347 P **P** **09 27 45.4 +2.1**
comp=Z,147nm,0.5s,baz=110,slow=13,SNR=261
SPITS PcP **PcP** **09 29 10.4 +0.5**
comp=Z,12nm,0.5s,baz=141,slow=7.1,SNR=1.8
comp=Z,147nm,0.5s
MEM Membach 47.49 309 *d*P **P** **09 27 44.9 +1.2**
comp=Z,22nm,0.8s
BHOU Houvegnez 47.53 308 *d*P **P** **09 27 45.1 +1.1**
BHOU *d*PcP **PcP** **09 29 09.5 -1.1**
WLF Walferdange 47.54 307 P **P** **09 27 45.6 +1.5**
WLF Walferdange 47.54 307 *d*P **P** **09 27 45.1 +1.0**
comp=Z,26nm,0.8s
WLF Walferdange 47.54 307 *e*P **P** **09 27 45.8 +1.7**
comp=Z,31nm,0.8s,baz=84,slow=7.8
BSTI Sart Tilman 47.77 309 *d*P **P** **09 27 46.4 +0.6**
BSTI *d*PcP **PcP** **09 29 11.9 +0.6**
JMJ Miyako jima 2 47.84 88 P **P** **09 27 47.2 +0.5**
BCLA Clavier 47.96 308 *d*P **P** **09 27 48.6 +1.3**
BCLA *d*PcP **PcP** **09 29 12.2 +0.1**
RCHB Rochefort 48.05 308 *d*P **P** **09 27 49.0 +1.0**
comp=Z,11nm,0.8s
BNI Bardonecchia 48.10 301 P **P** **09 27 49.0 +0.4**
BGES Gesves 48.10 308 *d*P **P** **09 27 48.2 -0.1**
GRNR Gornyy 48.14 51⇑*i*P **P** **09 27 49.9 +1.2**
GRNR pmax pmax
comp=E,40nm,0.7s
GRNR pmax pmax
comp=Z,80nm,0.8s
BMRD Maredsous 48.32 308 *d*P **P** **09 27 51.4 +1.4**
comp=Z,18nm,1.1s
DSRI Dabo 48.38 132 P **P** **09 27 51.2 +0.3**
comp=Z,361nm,0.9s
DOU Dourbes 48.46 308 *d*P **P** **09 27 52.4 +1.2**
DOU *d*PcP **PcP** **09 29 13.9 0.0**
KBS Kingsbay 48.60 347 P **P** **09 27 53.9 +2.2**
KBS IAmb IAmb 09 27 54.7
comp=Z,385nm,0.8s
KBS Kingsbay 48.60 347*ce*P **P** **09 27 53.4 +1.6**
KBS pmax pmax
comp=Z,641nm,1.3s
KBS Kingsbay 48.60 347 *e*P **P** **09 27 53.7 +2.0**
KBS IAmb IAmb 09 27 54.5
comp=Z,383nm,0.8s
KBS Kingsbay 48.60 347 *i*P **P** **09 27 53.5 +1.8**
KBS Kingsbay 48.60 347⇑P **P** **09 27 53.8 +2.0**
KMBO Kilima Mbogo 48.61 227 *i*P **P** **09 27 54.5 +1.6**
SNR=65
KMBO Kilima Mbogo 48.61 227 P **P** **09 27 52.5 -0.5**
comp=Z,54nm,0.6s,baz=32,slow=11,SNR=76
KMBO PP **PP** **09 29 42.2 -5.8**
comp=Z,16nm,1.0s,baz=23,slow=8.2,SNR=4.3
comp=Z,54nm,0.6s
KMBO Kilima Mbogo 48.61 227⇓P **P** **09 27 54.5 +1.6**
KEST Kesra 48.80 288 P **P** **09 27 55.7 +1.6**
KEST Kesra 48.80 288 P **P** **09 27 55.7 +1.6**
comp=Z,48nm,0.6s,baz=101,slow=5.2,SNR=68
KEST pP **pP** **09 28 41.6 +2.0**
comp=Z,58nm,1.2s,baz=67,slow=7.7,SNR=2.3
comp=Z,48nm,0.6s
JNU Nakatsue 48.85 75 P **P** **09 27 55.1 +0.6**
JNU Nakatsue 48.85 75 P **P** **09 27 55.0 +0.6**
comp=Z,95nm,0.7s,baz=293,slow=3.5,SNR=109
comp=Z,95nm,0.7s
KIBK Kibwezi 49.13 225 P **P** **09 27 58.0 +1.3**
KIBK IAmb IAmb 09 27 59.4
comp=Z,94nm,0.7s
KIBK Kibwezi 49.13 225 P **P** **09 27 58.4 +1.7**
SNR=18
JOW Kunigami 49.33 84 P **P** **09 27 58.0 -0.1**
JOW Kunigami 49.33 84 P **P** **09 27 58.0 -0.1**
comp=Z,126nm,0.3s,baz=288,slow=8.5,SNR=86
comp=Z,126nm,0.3s
SSB Saint Sauveur 49.51 302 P **P** **09 28 00.1 +0.8**
SSB Saint Sauveur 49.51 302 P **P** **09 28 00.0 +0.8**
SSB pP **pP** **09 28 46.6 +1.7**
SSB PcP **PcP** **09 29 17.8 -0.1**
TGY Tagaytay City 49.96 103 P **P** **09 28 04.5 +1.5**
comp=Z,726nm,0.7s,baz=254,slow=7.4,SNR=11
ELMS Elmsett, Ipswi 50.34 311 *e*P **P** **09 28 05.9 +0.7**
ELMS IAmb IAmb 09 28 07.4
comp=Z,85nm,0.5s
WACR West Acre 50.44 312 *e*P **P** **09 28 06.7 +0.7**
KSM Kuching 50.52 124 P **P** **09 28 07.8 +0.7**
comp=Z,114nm,1.1s
PPBI Pangkal Pinang 50.65 131 P **P** **09 28 08.1 +0.1**
comp=Z,197nm,1.0s,comp=Z,21µm
JMN Monobe 50.96 73 P **P** **09 28 10.9 +0.7**
JMN Monobe 50.96 73 P **P** **09 28 11.0 +0.8**
SBUM Sibu 51.10 122 P **P** **09 28 12.4 +1.0**
comp=Z,53nm,1.0s
KKM Kota Kinabalu 51.43 115 P **P** **09 28 15.3 +1.3**
KKM Kota Kinabalu 51.43 115 P **P** **09 28 15.1 +1.1**
comp=Z,228nm,1.3s,comp=Z,3µm
HPK Haverah Park 51.53 314 *e*P **P** **09 28 14.6 +0.5**
HPK IAmb IAmb 09 28 16.4
comp=Z,105nm,0.7s
EDMD Edmundbyers 51.56 315 *e*P **P** **09 28 14.5 +0.2**
EDMD IAmb IAmb 09 28 15.7
comp=Z,70nm,0.5s
LBWR Ladybower, Pea 51.70 313 *e*P **P** **09 28 15.7 +0.3**
LWLI Liwa 51.74 136 P **P** **09 28 15.3 -0.9**
comp=Z,284nm,0.6s
MCD Coleburn Disti 51.78 319 *e*P **P** **09 28 16.5 +0.6**
WOL Wolverton 51.84 311 *e*P **P** **09 28 17.0 +0.5**
BIGH Upper Bighouse 51.98 320 *e*P **P** **09 28 18.3 +1.0**
TYV Tymovskoe 51.99 50 *e*P **P** **09 28 19.0 +1.4**
TYV pmax pmax
comp=Z,61nm,0.7s
TYV pmax pmax
comp=Z,500nm,7.0s
EKA Eskdalemuir Ar 52.14 316 P **P** **09 28 18.9 +0.4**
comp=Z,11nm,0.5s,baz=99,slow=7.4,SNR=60
EKA pP **pP** **09 29 06.2 +1.5**
comp=Z,11nm,0.8s,baz=84,slow=7.9,SNR=2.2
EKA PcP **sP** **09 29 27.7 -0.2**
comp=Z,7.6nm,0.5s,baz=86,slow=4.4,SNR=6.2
EKA pP **PP** **09 30 20.5 +1.7**
comp=Z,6.6nm,0.7s,baz=82,slow=9.1,SNR=3.8
comp=Z,11nm,0.5s
ESK Eskdalemuir 52.17 316 P **P** **09 28 19.5 +0.7**
ESK IAmb IAmb 09 28 21.0
comp=Z,255nm,1.9s
ESK Eskdalemuir 52.17 316 *e*P **P** **09 28 19.0 +0.2**
ESK IAmb IAmb 09 28 21.7
comp=Z,37nm,0.8s
ESK Eskdalemuir 52.17 316 P **P** **09 28 19.5 +0.7**
ESK pmax pmax
comp=Z,255nm,2.0s
ESK Eskdalemuir 52.17 316 P **P** **09 28 19.0 +0.2**
ESK PcP **PcP** **09 29 27.6 +0.1**
KESW Keswick, Cumbr 52.26 315 *e*P **P** **09 28 20.1 +0.6**
MBAR Mbarara 52.27 234*c i*P **P** **09 28 20.8 +0.5**
MBAR pmax pmax
comp=Z,100nm,0.8s
MBAR Mbarara 52.27 234 P **P** **09 28 21.4 +1.1**
MBAR pP **pP** **09 29 09.7 +2.6**
STKI Sintang 52.34 124 P **P** **09 28 21.6 +1.0**
comp=Z,156nm,1.0s,comp=Z,10µm
KASI Kota Agung 52.40 136 P **P** **09 28 17.3 -3.7**
comp=Z,77nm,0.4s
FOEL Foel Wylfa 52.68 313 *e*P **P** **09 28 23.3 +0.7**
MONM Monmouth 52.69 312 *e*P **P** **09 28 22.3 -0.3**
MONM IAmb IAmb 09 28 25.6
comp=Z,126nm,1.2s
LINV Loch Inver, As 52.70 320 *e*P **P** **09 28 23.2 +0.6**
INU Inuyama 52.75 70 P **P** **09 28 23.3 -0.1**
INU Inuyama 52.75 70 P **P** **09 28 23.7 +0.3**
INU Inuyama 52.75 70 P **P** **09 28 23.1 -0.3**
INU PcP **PcP** **09 29 29.6 -0.5**
INU ScP **ScP** **09 33 05.3 -2.1**
MCH1 Michaelchurch 52.76 312 *e*P **P** **09 28 23.4 +0.2**
PGBU Glenifferbraes 52.78 317 *e*P **P** **09 28 24.0 +0.7**
NEWG New Galloway 52.78 316 *e*P **P** **09 28 24.0 +0.7**
NEWG IAmb IAmb 09 28 25.7

comp=Z,54nm,0.7s
LLW Llanuwychllyn 52.96 313 *e*P **P** **09 28 25.2 +0.6**
YSS Yuzh-Sakhalins 53.06 55 P **P** **09 28 26.1 +0.7**
YSS Yuzh-Sakhalins 53.06 55*ce*P **P** **09 28 25.8 +0.4**
YSS *e**PP **pP** **09 29 13.3 +0.5**
YSS *e**SP **PcP** **09 29 31.5 +0.5**
YSS *eS **S** **09 35 38.9 -0.1**
YSS pmax pmax
comp=Z,220nm,0.5s
YSS pmax pmax
comp=Z,200nm,2.7s
YSS pmax pmax
comp=E,200nm,2.8s
YSS Yuzh-Sakhalins 53.06 55 P **P** **09 28 25.9 +0.5**
KPL Plockton 53.10 319 *e*P **P** **09 28 26.1 +0.5**
IOMK Kirk Michael 53.16 315 *e*P **P** **09 28 26.8 +0.7**
LAWE Loch Awe, Argy 53.19 317 *e*P **P** **09 28 27.1 +0.8**
LAWE IAmb IAmb 09 28 28.5
comp=Z,58nm,1.0s
MAJO Matsushiro 53.21 68 P **P** **09 28 26.2 -0.5**
MAJO Matsushiro 53.21 68 P **P** **09 28 26.4 -0.4**
MAJO Matsushiro 53.21 68*c i*P **P** **09 28 26.3 -0.5**
MAJO pmax pmax
comp=Z,60nm,1.0s
MAJO Matsushiro 53.21 68 P **P** **09 28 26.3 -0.5**
MAJO PcP **PcP** **09 29 31.3 -0.5**
MJAR Matsushiro Arr 53.21 68 P **P** **09 28 26.6 -0.2**
comp=Z,43nm,0.9s,baz=292,slow=9.7,SNR=98
MJAR PcP **PcP** **09 29 31.3 -0.5**
comp=Z,23nm,0.9s,baz=280,slow=4.5,SNR=8.6
MJAR ScP **ScP** **09 33 07.3 -2.2**
comp=Z,6.0nm,0.9s,baz=288,slow=4.3,SNR=6.3
MJAR P4KPbc 10 05 47.6
comp=Z,0.6nm,0.6s,baz=287,slow=2.8,SNR=4.6
comp=Z,43nm,0.9s
WLF1 Llynfaes 53.29 314 *e*P **P** **09 28 27.5 +0.5**
ASAJ Asahikawa 53.80 58 P **P** **09 28 31.1 +0.2**
comp=Z,18nm,0.5s,baz=282,slow=6.9,SNR=37
ASAJ PcP **PcP** **09 29 34.2 +0.3**
comp=Z,30nm,0.9s,baz=261,slow=6.7,SNR=5.3
comp=Z,18nm,0.5s
JTM Tennabayashi 53.81 62 P **P** **09 28 30.8 -0.2**
ILTH Belurgan, Co L 54.23 315 P **P** **09 28 33.8 0.0**
COCO West Island 54.31 148 P **P** **09 28 36.6 +1.8**
DSB Dublin 54.45 314 P **P** **09 28 35.4 0.0**
MA2 Magadan 54.56 38 P **P** **09 28 36.8 +0.7**
MA2 Magadan 54.56 38*ce*P **P** **09 28 36.7 +0.7**
MA2 pmax pmax
comp=Z,129nm,1.0s
MA2 Magadan 54.56 38 P **P** **09 28 36.8 +0.7**
MA2 PcP **PcP** **09 29 36.9 +0.3**
SEY Seymchan 54.60 34*ce*P **P** **09 28 37.4 +1.1**
SEY pmax pmax
comp=Z,298nm,1.3s
JMM Marumori 54.64 66 P **P** **09 28 37.0 -0.1**
DAG Danmarks Havn 54.70 344 P **P** **09 28 38.1 +1.3**
DAG Danmarks Havn 54.70 344 *i*P **P** **09 28 37.4 +0.6**
DAG IAmb IAmb 09 28 39.1
comp=Z,256nm,0.9s
ERM Erimo 54.87 60 P **P** **09 28 39.7 +1.1**
ERM IAmb IAmb 09 28 53.0
comp=Z,239nm,1.6s
ERM Erimo 54.87 60 P **P** **09 28 39.8 +1.1**
ERM Erimo 54.87 60 P **P** **09 28 39.7 +1.1**
ERM pmax pmax
comp=Z,239nm,1.7s
ERM Erimo 54.87 60 P **P** **09 28 38.9 +0.3**
JEM Erimo 54.87 60 P **P** **09 28 39.6 +1.0**
IWEX Carrickbyrne, 54.92 313 P **P** **09 28 39.4 +0.6**
IWEX Carrickbyrne, 54.92 313 *e*P **P** **09 28 39.3 +0.6**
MTKI Muara Teweh, K 55.38 122 P **P** **09 28 43.2 +0.6**
comp=Z,125nm,0.8s
PKKI Palangkaraya 55.71 124 P **P** **09 28 45.8 +0.9**
comp=Z,326nm,1.0s
JHJ Hachijo jima 2 55.73 72 P **P** **09 28 45.3 +0.4**
comp=Z,114nm,0.7s,baz=264,slow=12,SNR=1.4
comp=Z,114nm,0.7s
YUK Yuzh-Kuril'sk 56.05 57 *i*P **P** **09 28 46.5 -0.4**
IGLA Glengowla, Co 56.13 315 P **P** **09 28 47.8 +0.4**
KPJI Karang Pucung 56.43 133 P **P** **09 28 49.3 -0.7**
comp=Z,73nm,0.6s
SCO Scoresbysund 56.99 336 P **P** **09 28 55.1 +1.9**
BKB Balikpapan 56.99 121 P **P** **09 28 53.5 -0.5**
GUD Guadarrama 57.02 299 P **P** **09 28 54.4 +0.3**
ENIJ Nijar 57.02 294 P **P** **09 28 55.5 +1.5**
BBKI Banjar Baru 57.19 124 P **P** **09 28 55.9 +0.5**
comp=Z,335nm,0.9s,comp=Z,9µm
ESBB Sonseca Array 57.25 298 P **P** **09 28 56.0 +0.5**
ESDC Sonseca Array 57.25 298 P **P** **09 28 56.1 +0.5**
comp=Z,23nm,0.6s,baz=55,slow=7.4,SNR=219
ESDC pP **pP** **09 29 43.7 +1.1**
comp=Z,26nm,1.1s,baz=56,slow=7.1,SNR=4.3
comp=Z,23nm,0.6s
TAM Tamanrasset 57.28 276 P **P** **09 28 56.3 +0.1**
EBER Berja 57.55 294 P **P** **09 28 58.4 +0.5**
PAB San Pablo 57.57 298 P **P** **09 28 58.3 +0.4**
PAB pP **pP** **09 29 46.0 +1.0**
DAV Davao City (W) 57.83 106 P **P** **09 29 00.1 +0.2**
comp=Z,93nm,0.4s,baz=280,slow=6.1,SNR=7.6
comp=Z,93nm,0.4s
DAV Davao City (W) 57.83 106 P P 09 29 05.9 +6.0
UGM Wanagama 57.84 131 P **P** **09 28 59.2 -0.7**
MPSI Mapaga 57.99 117 P **P** **09 29 02.0 +1.0**
comp=Z,209nm,1.2s
TOLI2 Tolitoli 58.10 115 P **P** **09 29 01.7 0.0**
TOLI2 IAmb IAmb 09 29 02.6
comp=Z,63nm,0.6s
TOLI2 Tolitoli 58.10 115 P **P** **09 29 02.3 +0.6**
EADA Adamuz 58.28 296 P **P** **09 29 03.0 +0.3**
EGOR Sierra Gorda, 58.36 295 P **P** **09 29 03.1 -0.3**
PBRG Braganca 58.39 301 *e*P **P** **09 29 04.6 +1.2**
comp=Z,77nm,1.5s
BORG Borgarnes 58.51 330 P **P** **09 29 06.7 +2.9**
BILL Bilibino 58.76 26 ⇑P **P** **09 29 07.2 +1.7**
MVO Moncorvo 58.83 300 *e*P **P** **09 29 07.1 +0.5**
comp=Z,35nm,1.4s
ECAB El Cabril 58.92 297 P **P** **09 29 07.6 +0.4**
ALE Alert 59.05 354 ⇑P **P** **09 29 09.1 +1.7**
EMIJ Mijas 59.07 295 P **P** **09 29 07.1 -1.1**
PVRL Vila Real 59.27 301 *e*P **P** **09 29 10.7 +1.2**
comp=Z,55nm,1.5s
POLO Lamas de Olo 59.28 301 *e*P **P** **09 29 10.4 +0.7**
comp=Z,32nm,1.8s
PGAV Gavieira, Arco 59.38 302 *e*P **P** **09 29 09.4 -0.9**
comp=Z,69nm,1.7s
MRSI Marisa 59.38 115 P **P** **09 29 10.7 +0.2**
comp=Z,736nm,1.0s,comp=Z,5µm
MMSI Mamuju 59.41 120 P **P** **09 29 11.2 +0.4**
comp=Z,261nm,1.3s,comp=Z,3µm
ABPO Ambohimpanom 59.46 206 P **P** **09 29 12.5 +1.4**
ABPO pP **pP** **09 30 00.9 +1.3**
MTE Manteigas 59.49 300 *e*P **P** **09 29 12.3 +1.2**
comp=Z,100nm,1.2s
BLJI Banyuglugur 59.61 129 P **P** **09 29 10.4 -1.6**
comp=Z,153nm,0.6s,comp=Z,2µm
PVIS Viseu 59.61 300 *e*P **P** **09 29 13.0 +1.1**
PCBR Castelo Branco 59.67 299 *e*P **P** **09 29 12.3 +0.1**
comp=Z,31nm,1.7s
PMRV Marv??o 59.78 299 *e*P **P** **09 29 14.3 +1.3**
comp=Z,33nm,1.7s
EBAD Badajoz 59.79 298 P **P** **09 29 13.5 +0.5**
PBAR Barrancos 60.05 297 *e*P **P** **09 29 15.6 +0.8**
comp=Z,59nm,0.9s
ABJI Asem Bagus 60.05 128 P **P** **09 29 13.9 -1.1**
comp=Z,142nm,0.9s
GTOI Gorontalo 60.06 114 P **P** **09 29 13.6 -1.5**
comp=Z,59nm,0.6s,comp=Z,960nm
PESTR Estremoz 60.15 298 *e*P **P** **09 29 16.3 +0.8**
comp=Z,48nm,1.2s
PESTR Estremoz 60.15 298 P **P** **09 29 15.9 +0.4**
PEA0B Petropavlovsk- 60.18 44 P **P** **09 29 15.2 -0.3**
PEA0B Petropavlovsk- 60.18 44*ce*P **P** **09 29 15.2 -0.3**
PETK Petropavlovsk- 60.18 44 P **P** **09 29 14.7 -0.8**
PETK Petropavlovsk- 60.18 44 P **P** **09 29 14.7 -0.8**
PETK Petropavlovsk- 60.18 44 P **P** **09 29 14.5 -0.9**
comp=Z,15nm,0.7s,baz=286,slow=5.4,SNR=10
comp=Z,15nm,0.7s
JCJ Chichijima 60.26 77 P P 09 29 09.3 -7.2
comp=Z,92nm,0.4s,baz=274,slow=14,SNR=12
TTSI Tana Toraja 60.30 120 P **P** **09 29 16.1 -0.7**
comp=Z,100nm,0.6s,comp=Z,2µm
PCAS Casmilo, Conde 60.30 300 *e*P **P** **09 29 17.9 +1.4**
comp=Z,72nm,1.7s
JAGI Jajag, Banyuwa 60.52 129 P **P** **09 29 15.7 -2.5**
PMTG Montargil 60.52 299 *e*P **P** **09 29 18.7 +0.7**
comp=Z,62nm,1.6s
MDT Midelt 60.56 291 P **P** **09 29 19.0 +0.5**
comp=Z,18nm,0.7s,baz=74,slow=5.5,SNR=40
comp=Z,18nm,0.7s
EVO Evora 60.59 298 *e*P **P** **09 29 19.3 +0.8**
comp=Z,50nm,1.9s
PBEJ Beja 60.70 297 *e*P **P** **09 29 20.1 +0.9**
comp=Z,41nm,0.7s
PSBE So Bento 60.73 299 *e*P **P** **09 29 20.8 +1.3**
comp=Z,98nm,1.7s
PET Petropavlovsk 60.74 44 *e*P **P** **09 29 18.0 -1.2**
PET *e*SP **sP** **09 30 25.7 -5.3**
PET *eS **S** **09 37 17.7 -1.6**
PET pmax pmax
comp=Z,99nm,1.1s
PET pmax pmax
comp=Z,100nm,11.0s
PET MLR MLR
comp=Z,11µm,21.0s
KMSI Cibinong 60.81 113 P **P** **09 29 21.2 +0.9**
comp=Z,765nm,0.9s
SRBI Singaraja 60.90 127 P **P** **09 29 20.6 -0.1**
comp=Z,137nm,0.9s
SOEG Soedalen 60.93 335 *i*P **P** **09 29 21.3 +1.1**
SOEG IAmb IAmb 09 29 23.0
comp=Z,54nm,0.8s
PCVE Castro Verde 60.99 297 *e*P **P** **09 29 22.4 +1.2**
comp=Z,45nm,2.3s
LUWI Luwuk 61.02 116 P **P** **09 29 20.2 -1.4**
LUWI IAmb IAmb 09 29 36.8
comp=Z,155nm,1.1s
LUWI Luwuk 61.02 116 P **P** **09 29 22.1 +0.5**
LUWI Luwuk 61.02 116 P **P** **09 29 21.6 0.0**
comp=Z,135nm,1.1s,comp=Z,2µm
SUMG Summit 61.02 341 P **P** **09 29 23.0 +1.7**
SUMG IAmb IAmb 09 29 24.2
comp=Z,239nm,0.9s
SUMG Summit 61.02 341 P **P** **09 29 23.0 +1.7**
SUMG pmax pmax
comp=Z,239nm,0.9s
SUMG Summit 61.02 341 *i*P **P** **09 29 21.3 0.0**
SUMG IAmb IAmb 09 29 24.1
comp=Z,212nm,0.8s
NEEM North Greenlan 61.02 348 *i*P **P** **09 29 21.5 +0.4**
NEEM IAmb IAmb 09 29 23.3
comp=Z,220nm,0.8s
MESJ Messejana 61.03 297 *e*P **P** **09 29 22.6 +1.1**
comp=Z,32nm,2.2s
MESJ Messejana 61.03 297 *e*P **P** **09 29 22.5 +1.1**
MESJ pmax pmax
comp=Z,33nm,0.9s
MESJ Messejana 61.03 297 *e*P **P** **09 29 22.5 +1.1**
MESJ IAmb IAmb 09 29 23.5
comp=Z,33nm,0.9s
PACT Alcochete 61.07 299 *e*P **P** **09 29 23.5 +1.8**
comp=Z,155nm,1.6s
PBDV Barranco-do-Ve 61.08 297 *e*P **P** **09 29 22.9 +1.1**
comp=Z,80nm,1.1s
PNCL Niulan / Gran 61.14 298 *e*P **P** **09 29 23.2 +1.1**
comp=Z,58nm,1.7s
PMAFR Mafra 61.31 299 *e*P **P** **09 29 24.9 +1.6**
comp=Z,179nm,1.6s
PTEO Sao Teotonio 61.52 297 *e*P **P** **09 29 26.2 +1.5**
comp=Z,100nm,2.2s
KAPI Kappang 61.66 121 P **P** **09 29 24.7 -1.1**
comp=Z,36nm,0.6s,baz=291,slow=6.7,SNR=14
comp=Z,36nm,0.6s
PFVI Vila Bisbo 61.77 297 *e*P **P** **09 29 27.9 +1.5**
comp=Z,153nm,1.6s
BKSI Bulukumba 62.13 121 P **P** **09 29 28.3 -0.7**
comp=Z,53nm,0.6s,comp=Z,1µm
VOI Vohitsoka 62.28 205 P **P** **09 29 31.6 +1.6**
PLAI Plampang 63.11 126 P **P** **09 29 35.2 -0.3**
comp=Z,65nm,0.9s
ICESG Greenland Ices 63.15 338 *i*P **P** **09 29 36.0 +0.6**
ICESG IAmb IAmb 09 29 37.9
comp=Z,160nm,1.0s
TNTI Ternate 63.22 111 P **P** **09 29 36.1 -0.1**
TNTI Ternate 63.22 111 P **P** **09 29 36.5 +0.3**
TNTI Ternate 63.22 111 P **P** **09 29 36.1 -0.1**
comp=Z,464nm,1.0s,comp=Z,5µm
DBNI Kabupaten Domp 63.23 125 P **P** **09 29 34.3 -2.0**
comp=Z,71nm,0.6s,comp=Z,4µm
BBSI Bau Bau 63.95 119 P **P** **09 29 42.9 +1.9**
comp=Z,121nm,1.2s,comp=Z,1µm
SANI Sanana 64.05 114 P **P** **09 29 40.9 -0.8**
SANI Sanana 64.05 114 P **P** **09 29 40.9 -0.8**
comp=Z,356nm,0.8s,comp=Z,3µm
LBMI Labuha 64.24 112 P **P** **09 29 42.6 -0.3**
comp=Z,579nm,0.8s,comp=Z,7µm
ANGG Ammassalik, Gr 64.34 334 P **P** **09 29 43.6 +0.9**
ANGG Ammassalik, Gr 64.34 334 *i*P **P** **09 29 43.2 +0.4**
ANGG IAmb IAmb 09 29 44.5
comp=Z,102nm,0.7s
TULEG Thule 64.44 350 *i*P **P** **09 29 43.2 -0.1**
TULEG IAmb IAmb 09 29 45.0
comp=Z,181nm,1.2s
FOMA Nahampoana Res 65.07 204 P **P** **09 29 49.4 +1.5**
FOMA PcP **PcP** **09 30 22.0 +3.0**
FOMA pP **pP** **09 30 38.7 +1.3**
UPNV Upernavik 65.11 345 *i*P **P** **09 29 48.2 +0.5**
UPNV IAmb IAmb 09 29 49.8
comp=Z,137nm,0.8s
LSZ Lusaka 65.24 226 P **P** **09 29 49.5 +0.1**
LSZ Lusaka 65.24 226 P **P** **09 29 49.5 +0.1**
LSZ pmax pmax
comp=Z,30nm,0.7s
LSZ Lusaka 65.24 226 P **P** **09 29 50.2 +0.8**
LSZ pP **pP** **09 30 39.1 +0.5**
TOA0 Torodi Ar. Sit 65.46 268 P **P** **09 29 50.1 -0.7**
TORD Torodi Ar. Bea 65.46 268 P **P** **09 29 49.8 -1.0**
comp=Z,45nm,0.5s,baz=48,slow=6.3,SNR=360
comp=Z,45nm,0.5s
EDFI Ende, Flores 65.67 123 P **P** **09 29 49.0 -3.2**
comp=Z,74nm,0.5s,comp=Z,993nm
NLAI Namlea 65.67 114 P **P** **09 29 52.1 0.0**
comp=Z,190nm,0.8s,comp=Z,6µm
MMRI Maumere 65.96 122 P **P** **09 29 52.4 -1.5**
BASI Baing, Sumba 65.99 124 P **P** **09 29 52.7 -1.4**
comp=Z,830nm,1.0s,comp=Z,8µm
ILULI Ilulissat 66.36 341 *i*P **P** **09 29 55.9 +0.3**
ILULI IAmb IAmb 09 29 57.4
comp=Z,190nm,0.7s
KRAI Karang Ratu 66.68 113 P **P** **09 29 58.3 -0.3**
comp=Z,177nm,0.7s,comp=Z,4µm
DY2G Dye2 66.72 337 *i*P **P** **09 29 59.1 +0.8**
DY2G IAmb IAmb 09 30 00.6
comp=Z,347nm,1.1s
SWI Sorong 67.23 109 P **P** **09 30 01.3 -0.7**
comp=Z,549nm,1.0s,comp=Z,5µm
SIJI Sorong 67.23 109 P **P** **09 30 01.3 -0.8**
comp=Z,421nm,1.2s,comp=Z,4µm
A19K Wainwright 67.28 17 P **P** **09 30 03.2 +1.7**
baz=317
A21K Barrow 67.42 15 P **P** **09 30 03.7 +1.4**
baz=320
C16K Lisburne Hills 67.58 20 P **P** **09 30 04.0 +0.6**
C16K IAmb IAmb 09 30 05.3
comp=Z,263nm,0.8s
C16K Lisburne Hills 67.58 20 P **P** **09 30 04.2 +0.8**
baz=314
SFJD Kangerlussuaq 67.70 339 P **P** **09 30 04.8 +0.7**
SFJD Kangerlussuaq 67.70 339 P **P** **09 30 04.8 +0.7**
SFJD pmax pmax
comp=Z,1µm,1.5s
SFJD Kangerlussuaq 67.70 339 *i*P **P** **09 30 03.9 -0.3**
SFJD Kangerlussuaq 67.70 339 P **P** **09 30 05.0 +0.9**
B18K Kokolik River 67.72 18 P **P** **09 30 06.1 +1.8**
baz=316
C17K DeLong Mountai 68.01 19 P **P** **09 30 07.3 +1.2**
baz=315
SOEI Soe 68.15 121 P **P** **09 30 06.6 -1.3**
SOEI Soe 68.15 121 P **P** **09 30 06.3 -1.6**
comp=Z,369nm,0.8s,comp=Z,3µm
RDOG Red Dog Mine 68.39 19 P **P** **09 30 09.1 +0.7**
baz=316
C18K Utukok River 68.39 18 P **P** **09 30 09.5 +1.0**
baz=317
C19K Lookout Ridge 68.45 17 P **P** **09 30 10.4 +1.5**
baz=318
D17K Noatak River 68.60 19 P **P** **09 30 10.8 +1.1**
baz=316
BNDI Bandanaira 68.60 113 P **P** **09 30 09.5 -1.1**
BNDI Bandanaira 68.60 113 P **P** **09 30 09.4 -1.1**
comp=Z,1µm,0.7s,comp=Z,20µm
GAMB Gambell 68.66 25 P **P** **09 30 10.9 +0.8**
baz=310
TNA Tin City 68.70 22 P **P** **09 30 11.5 +1.2**
baz=312,SNR=20
RES Resolute Bay 68.72 356 P **P** **09 30 11.5 +1.1**
RES Resolute Bay 68.72 356 P **P** **09 30 11.5 +1.1**
RES pmax pmax
comp=Z,1µm,1.8s
B22K Teshekpuk Lake 68.85 15 P **P** **09 30 12.8 +1.5**
baz=323
B21K Ikpikpuk River 69.18 15 P **P** **09 30 14.8 +1.5**
baz=322
D19K Kuna River 69.26 17 P **P** **09 30 14.9 +1.0**
baz=320
FAKI Fak Fak 69.31 110 P **P** **09 30 14.9 0.0**
FAKI Fak Fak 69.31 110 P **P** **09 30 14.8 -0.1**
FAKI Fak Fak 69.31 110 P **P** **09 30 14.6 -0.3**
comp=Z,503nm,0.8s,comp=Z,5µm
E17K Hotham Inlet 69.38 19 P **P** **09 30 15.5 +1.0**
baz=317
D20K Etivluk River 69.45 17 P **P** **09 30 16.2 +1.2**
baz=321
E18K Tukpahlearik C 69.45 19 P **P** **09 30 16.1 +1.1**
baz=318
C21K Knifeblade Rid 69.51 16 P **P** **09 30 16.9 +1.6**
baz=322
F15K North Star Dit 69.58 21 P **P** **09 30 17.3 +1.5**
baz=315
NRS Narsarsuaq 69.79 332 P **P** **09 30 17.7 +0.6**
NRS Narsarsuaq 69.79 332 *i*P **P** **09 30 17.1 0.0**
C23K Itkillik River 69.83 14 P **P** **09 30 19.0 +1.8**
baz=325
E20K Nigu River 69.90 17 P **P** **09 30 18.8 +1.0**
baz=321
NUUK Nuuk 69.96 337 *i*P **P** **09 30 17.1 -1.0**
F17K Baldwin Pennin 70.01 20 P **P** **09 30 19.8 +1.4**
baz=318
ANM Nome 70.17 22 P **P** **09 30 21.1 +1.6**
baz=315,SNR=55
D22K Ayikyak River 70.19 15 P **P** **09 30 20.9 +1.4**
baz=324
G15K Niukluk 70.27 22 P **P** **09 30 21.1 +1.1**
baz=316
E19K Redstone River 70.28 18 P **P** **09 30 20.8 +0.8**
baz=320
C24K Franklin Bluff 70.29 14 P **P** **09 30 21.6 +1.6**
baz=327
F18K Selawik 70.32 19 P **P** **09 30 21.2 +1.0**
baz=319
G16K Koyuk River 70.47 21 P **P** **09 30 22.5 +1.3**
baz=317
D24K Happy Valley 70.75 14 P **P** **09 30 24.1 +1.3**
baz=327
C26K Camden Bay 70.81 12 P **P** **09 30 25.2 +2.1**
baz=330
G17K Kiwalik Mounta 70.87 20 P **P** **09 30 24.6 +1.0**
baz=318,SNR=124
F20K Avaraart Lake 70.96 17 P **P** **09 30 24.5 +0.4**
baz=322
E22K Anaktuvuk Pass 70.98 16 P **P** **09 30 25.2 +0.9**
baz=325
H16K Elim 71.06 21 P **P** **09 30 26.1 +1.3**
baz=317,SNR=94
G18K Tagagawik 71.12 19 P **P** **09 30 25.7 +0.6**
baz=320
A36M Sachs Harbour 71.27 5 P **P** **09 30 27.3 +1.4**
A36M Sachs Harbour 71.27 5 P **P** **09 30 27.4 +1.4**
baz=346,SNR=215
G19K Purcell Mounta 71.33 19 P **P** **09 30 26.9 +0.5**
G19K IAmb IAmb 09 30 28.3
comp=Z,301nm,0.9s
G19K Purcell Mounta 71.33 19 P **P** **09 30 27.3 +0.9**
baz=321
F21K Alatna River 71.35 17 P **P** **09 30 27.5 +1.0**
baz=324
F22K John River 71.42 16 P **P** **09 30 28.1 +1.2**
baz=325
H17K Granite Mounta 71.50 20 P **P** **09 30 28.6 +1.1**
baz=319
E23K Chandalar 71.51 15 P **P** **09 30 28.6 +1.1**
baz=327
E24K Your Creek 71.73 14 P **P** **09 30 30.0 +1.3**
baz=328
GIRL Giralia 71.74 138 P **P** **09 30 30.1 +0.7**
H18K Honhosa River 71.77 20 P **P** **09 30 29.8 +0.7**
baz=320,SNR=53
G21K Allakaket 71.92 17 P **P** **09 30 30.4 +0.5**
baz=324
SAUI Saumlaki 71.94 115 P **P** **09 30 30.9 +0.1**
SAUI Saumlaki 71.94 115 P **P** **09 30 31.6 +0.9**
SAUI Saumlaki 71.94 115 P **P** **09 30 31.2 +0.5**
comp=Z,3µm,0.7s,comp=Z,22µm
H19K Roundabout Mou 71.98 19 P **P** **09 30 31.3 +1.1**
baz=322
J14K Nanvaranak Lak 72.04 23 P **P** **09 30 32.1 +1.4**
baz=317
G22K Bettles 72.05 16 P **P** **09 30 31.5 +0.9**
baz=325
D27M Malcolm River 72.06 11 P **P** **09 30 32.2 +1.5**
baz=334
I17K Unalakleet 72.07 21 P **P** **09 30 31.6 +0.8**
I17K IAmb IAmb 09 30 33.5
comp=Z,285nm,1.1s
I17K Unalakleet 72.07 21 P **P** **09 30 32.2 +1.4**
baz=318
COLD Coldfoot 72.08 16 P **P** **09 30 32.1 +1.2**
baz=326,SNR=202
E25K Arctic Village 72.25 13 P **P** **09 30 33.1 +1.2**
baz=330,SNR=139
K13K Kusilvak Mount 72.28 24 P **P** **09 30 33.4 +1.3**
baz=316
IMAR Indian Mountai 72.29 18 P **P** **09 30 32.7 +0.6**
D28M Stokes Point 72.32 11 P **P** **09 30 34.3 +2.1**
baz=335
F24K Squaw Lake 72.32 15 P **P** **09 30 33.6 +1.3**
baz=328
H20K Anotleneega Mo 72.41 18 P **P** **09 30 33.6 +0.8**
baz=323,SNR=173
GCSA Galena City Sc 72.48 19 P **P** **09 30 34.4 +1.2**
baz=321,SNR=107
G23K Bananza Creek 72.55 16 P **P** **09 30 34.8 +1.1**
baz=326,SNR=126
J16K Anvik River 72.55 22 P **P** **09 30 35.3 +1.6**
baz=319,SNR=113
F25K Christian Rive 72.70 14 P **P** **09 30 36.3 +1.7**
baz=330
H21K Melozitna Rive 72.79 17 P **P** **09 30 35.3 +0.3**
H21K IAmb IAmb 09 30 37.7
comp=Z,248nm,1.1s
H21K Melozitna Rive 72.79 17 P **P** **09 30 36.0 +1.0**
baz=324
E28M Babbage River 72.86 11 P **P** **09 30 37.1 +1.7**
baz=335
M11K Mekoryuk 72.86 26 P **P** **09 30 37.3 +1.8**
baz=315
F26K Sheenjek River 72.89 13 P **P** **09 30 37.2 +1.6**
baz=331
E27K Coleen River 72.90 12 P **P** **09 30 37.3 +1.6**
baz=333
H22K Ishtalitna Cre 72.93 17 P **P** **09 30 37.2 +1.3**
baz=326
K15K Wolf Creek Mou 73.02 23 P **P** **09 30 38.4 +1.9**
baz=318,SNR=33
BMAR Burnt Mountain 73.04 13 P **P** **09 30 38.2 +1.6**
I20K Naaghedeneel 73.07 19 P **P** **09 30 38.0 +1.3**
baz=323
G24K Hadweenzic Riv 73.11 15 P **P** **09 30 38.1 +1.2**
G24K IAmb IAmb 09 30 39.5
comp=Z,200nm,1.0s
G24K Hadweenzic Riv 73.11 15 P **P** **09 30 38.4 +1.5**
baz=329
E29M Blow River 73.31 11 P **P** **09 30 39.8 +1.8**
baz=336
G25K Bearman Lake 73.33 14 P **P** **09 30 40.0 +1.9**
baz=330
L14K Kuka Creek 73.36 24 P **P** **09 30 38.9 +0.5**
L14K IAmb IAmb 09 30 41.2
comp=Z,263nm,0.8s
L14K Kuka Creek 73.36 24 P **P** **09 30 40.2 +1.8**
baz=318
I21K Tanana 73.38 17 P **P** **09 30 39.6 +1.1**
baz=325
J19K Poorman 73.41 19 P **P** **09 30 40.1 +1.4**
baz=322
L15K Ungalak Mounta 73.49 23 P **P** **09 30 40.4 +1.2**
baz=318
J18K Innoko River 73.53 20 P **P** **09 30 40.8 +1.3**
baz=322

SPIA	Saint Paul Isl baz=313	73.57	30	P	P	09 30 41.1	+1.4
G26K	Porcupine Rive baz=332	73.61	13	P	P	09 30 41.4	+1.6
J20K	Nowinta River baz=324,SNR=138	73.66	19	P	P	09 30 41.5	+1.3
K17K	Iditarod baz=321	73.67	21	P	P	09 30 41.6	+1.4
F28M	Old Crow baz=335,SNR=144	73.71	12	P	P	09 30 41.9	+1.5
H24K	Noodor Dome baz=328	73.76	15	P	P	09 30 42.3	+1.6
MLY	Manley baz=326,SNR=96	73.80	17	P	P	09 30 42.0	+1.0
M13K	Dall Lake	73.82	25	P	P	09 30 42.4	+1.3
M13K	Dall Lake baz=317	73.82	25	P	P	09 30 43.3	+2.2
C36M	Paulatuk baz=348	73.95	5	P	P	09 30 42.4	+0.7
INK	Inuvik	73.99	9	P	P	09 30 43.2	+1.3
INK	Inuvik	73.99	9	P	P	09 30 43.2	+1.3
INK	comp=Z,734nm,1.3s			pmax	pmax		
INK	Inuvik baz=340,SNR=361	73.99	9	P	P	09 30 43.4	+1.4
I23K	Minto, Yukon-K baz=327,SNR=91	74.02	16	P	P	09 30 43.5	+1.4
M14K	Bethel baz=318	74.03	24	P	P	09 30 43.9	+1.6
PSA00	Pilbara Seismi	74.07	133	P	P	09 30 42.7	-0.4
PSA00	comp=Z,67nm,0.8s			IAmb	IAmb	09 30 43.8	
PSA00	Pilbara Seismi	74.07	133	P	P	09 30 42.5	-0.6
L16K	Owhat River baz=320	74.09	22	P	P	09 30 44.6	+1.9
L17K	Donlin baz=321	74.12	22	P	P	09 30 44.6	+1.7
G27K	Doyon Strip baz=333	74.13	13	P	P	09 30 44.6	+1.8
TTA	Tatalina	74.15	20	P	P	09 30 44.2	+1.1
TTA	comp=Z,121nm,1.0s			IAmb	IAmb	09 30 45.3	
TTA	Tatalina	74.15	20	P	P	09 30 44.2	+1.1
TTA	Tatalina	74.15	20	P	P	09 30 44.2	+1.1
TTA	comp=Z,121nm,1.0s			pmax	pmax		
TTA	Tatalina baz=322,SNR=50	74.15	20	P	P	09 30 44.4	+1.3
P08K	Saint George I baz=313	74.25	30	P	P	09 30 44.7	+1.1
F30M	Barrier River baz=338	74.34	10	P	P	09 30 45.6	+1.5
K20K	Telida baz=324	74.34	19	P	P	09 30 45.5	+1.4
CHUM	Lake Minchumin baz=325,SNR=107	74.36	18	P	P	09 30 45.4	+1.2
MDM	Murphy Dome	74.43	16	P	P	09 30 45.5	+0.8
MDM	comp=Z,282nm,0.9s			IAmb	IAmb	09 30 46.8	
LBTB	Lobatse	74.47	222	P	P	09 30 46.7	+1.3
LBTB	Lobatse	74.47	222	P	P	09 30 46.7	+1.3
LBTB	comp=Z,507nm,1.1s			pmax	pmax		
POKR	Poker Plat Res baz=329,SNR=230	74.47	16	P	P	09 30 46.2	+1.4
M15K	Kasigluk River baz=319	74.49	24	P	P	09 30 46.7	+1.8
BPAW	Bear Paw Mtn. baz=326,SNR=81	74.51	18	P	P	09 30 45.9	+0.7
L18K	Granite Mounta baz=322	74.53	21	P	P	09 30 46.5	+1.4
PRP	Porcupine Dome baz=330,SNR=45	74.53	15	P	P	09 30 46.8	+1.4
NEA2	Nenana baz=328,SNR=141	74.55	17	P	P	09 30 46.0	+0.7
COLA	College	74.59	16	P	P	09 30 46.3	+0.8
COLA	College	74.59	16	P	P	09 30 46.3	+0.8
COLA	College baz=329	74.59	16	P	P	09 30 46.5	+1.1
G29M	Pine Creek	74.65	11	P	P	09 30 46.4	+0.5
G29M	comp=Z,744nm,1.7s			IAmb	IAmb	09 32 03.6	
G29M	Pine Creek baz=336	74.65	11	P	P	09 30 47.2	+1.3
H27K	Steamboat Moun baz=334,SNR=166	74.67	13	P	P	09 30 47.6	+1.6
N14K	Kuskokwak Cree baz=319	74.74	24	P	P	09 30 48.0	+1.6
F31M	Tsiigehtchic baz=340,SNR=263	74.78	10	P	P	09 30 47.8	+1.3
M16K	Timber Creek baz=320	74.78	23	P	P	09 30 48.4	+1.7
CCB	Clear Creek Bu	74.80	16	P	P	09 30 46.9	+0.3
CCB	comp=Z,72nm,1.0s			IAmb	IAmb	09 30 49.0	
CAST	Castle Rocks baz=325,SNR=212	74.81	18	P	P	09 30 47.9	+1.1
G30M	tAoh Zrail Nji baz=338,SNR=172	74.86	11	P	P	09 30 48.0	+0.9
IL31		74.89	16	P	P	09 30 47.3	+0.1
IL31	comp=Z,170nm,1.0s			IAmb	IAmb	09 30 48.5	
ILAR	Eielson Array	74.89	16	P	P	09 30 47.1	-0.2
ILAR	Eielson Array comp=Z,111nm,0.8s,baz=324,slow=3.4,SNR=589	74.89	16	P	P	09 30 47.3	+0.1
ILAR	comp=Z,13nm,0.6s,baz=318,slow=7.0,SNR=9.7			PP	PP	09 33 37.0	0.0
M17K	comp=Z,111nm,0.8s Holitna River	74.95	22	P	P	09 30 48.8	+1.2
M17K	Holitna River baz=322	74.95	22	P	P	09 30 49.3	+1.7
FITZ	Fitzroy Crossi	75.07	126	P	P	09 30 48.8	-0.1
FITZ	Fitzroy Crossi	75.07	126	P	P	09 30 48.5	-0.4
L19K	White Mountain baz=323	75.08	20	P	P	09 30 49.6	+1.3
N15K	Kwethluk River baz=320	75.08	24	P	P	09 30 50.1	+1.7
L20K	Farewell, AK baz=324	75.10	20	P	P	09 30 49.6	+1.1
MTN	Manton Dam	75.10	119	P	P	09 30 48.1	-1.0
MTN	comp=Z,112nm,0.5s			IAmb	IAmb	09 30 49.6	
MTN	Manton Dam	75.10	119	P	P	09 30 48.2	-1.0
ATKA	Atka Island	75.19	35	P	P	09 30 48.9	-0.2
GENI	Genyem	75.19	105	P	P	09 30 50.3	+0.6
GENI	Genyem comp=Z,899nm,0.9s,comp=Z,7µm	75.19	105	P	P	09 30 49.7	0.0
HDA	Harding Lake baz=329,SNR=26	75.19	16	P	P	09 30 48.7	-0.3
G31M	Satah River	75.19	10	P	P	09 30 49.8	+0.9
G31M	comp=Z,343nm,1.0s			IAmb	IAmb	09 30 50.9	
G31M	Satah River baz=339,SNR=128	75.19	10	P	P	09 30 49.9	+1.0
I26K	Coal Creek Min baz=332	75.19	14	P	P	09 30 50.2	+1.2
PPLA	Purkeypile baz=325,SNR=33	75.21	19	P	P	09 30 49.9	+0.7
I27K	Kandik River baz=334,SNR=131	75.22	13	P	P	09 30 50.5	+1.3
H29M	Whitestone baz=336	75.23	12	P	P	09 30 50.7	+1.5
TRF	Thorofare Moun baz=327,SNR=20	75.23	18	P	P	09 30 49.4	0.0
N16K	Nishlik Lake baz=321,SNR=25	75.27	23	P	P	09 30 51.4	+1.9
MCK	McKinley baz=328,SNR=48	75.32	17	P	P	09 30 49.6	-0.1
EPYK	Eagle Plains baz=337,SNR=60	75.35	11	P	P	09 30 50.7	+0.8
J25K	Salcha River, J25K	75.36	15	P	P	09 30 50.4	+0.4
J25K	comp=Z,156nm,0.8s			IAmb	IAmb	09 30 51.8	
J25K	Salcha River, baz=331,SNR=112	75.36	15	P	P	09 30 50.4	+0.4
M18K	Stony River baz=323	75.36	21	P	P	09 30 51.4	+1.4
O14K	Tigyukauivet M baz=319	75.39	25	P	P	09 30 51.5	+1.4
KNRA	Kununurra	75.42	122	P	P	09 30 51.0	+0.1
KNRA	Kununurra	75.42	122	P	P	09 30 50.8	-0.1
I28M	Miner Creek baz=335	75.66	13	P	P	09 30 52.5	+0.8
N17K	Nushagak Hills baz=322,SNR=23	75.72	22	P	P	09 30 54.0	+2.0
M20K	Styx River baz=325	75.80	20	P	P	09 30 53.3	+0.7
J26L	Joseph Creek	75.83	15	P	P	09 30 52.5	-0.2
J26L	comp=Z,244nm,0.8s			IAmb	IAmb	09 30 54.6	
J26L	Joseph Creek baz=332	75.83	15	P	P	09 30 53.6	+0.9
O15K	Ungalikthiuk R baz=320	75.93	24	P	P	09 30 54.6	+1.4
KDU	Kakadu	75.95	118	P	P	09 30 53.3	-0.7
K24K	Donnelly Dome baz=330,SNR=140	75.97	16	P	P	09 30 53.8	+0.3
N18K	Kilae Creek baz=323	75.98	22	P	P	09 30 55.0	+1.4
I29M	Ogilvie Camp, baz=336	76.03	12	P	P	09 30 54.3	+0.5
EGAK	Eagle	76.05	13	P	P	09 30 54.7	+0.9
EGAK	Eagle baz=334,SNR=59	76.05	13	P	P	09 30 54.7	+0.9
CUT	Chulitna baz=327,SNR=33	76.11	18	P	P	09 30 54.3	+0.1
SKT	Skwentna baz=326,SNR=81	76.14	19	P	P	09 30 54.5	+0.1
O16K	Kokwok River B baz=321	76.17	23	P	P	09 30 56.1	+1.6
WAT1	Susitna Watana baz=328	76.18	17	P	P	09 30 54.3	-0.3
SCRK	Sand Creek baz=332,SNR=182	76.20	15	P	P	09 30 55.8	+1.0
RIDG	Independent Ri baz=331,SNR=15	76.23	15	P	P	09 30 55.2	+0.3
H31M	Peel River baz=339	76.23	10	P	P	09 30 55.8	+0.9
DHY	Denali Highway baz=329,SNR=78	76.25	17	P	P	09 30 55.3	+0.1
N19K	Bonanza Creek baz=324	76.29	21	P	P	09 30 56.6	+1.3
O17K	Koliganek Bris baz=322	76.34	23	P	P	09 30 56.9	+1.4
I30M	Mount Dempster baz=338,SNR=256	76.47	11	P	P	09 30 57.1	+0.8
K27K	Chicken baz=333	76.55	14	P	P	09 30 58.1	+1.4
WAT6	Susitna Watana baz=329,SNR=56	76.59	17	P	P	09 30 57.1	0.0
N20K	Mount Spurr baz=326,SNR=12	76.61	20	P	P	09 30 57.4	+0.3
P16K	Nushagak River baz=322	76.64	24	P	P	09 30 58.7	+1.5
PAX	Paxson baz=331,SNR=148	76.77	16	P	P	09 30 58.6	+0.6
SUA	Susitna One	76.78	19	P	P	09 30 58.4	+0.2
SUA	comp=Z,161nm,0.9s			IAmb	IAmb	09 30 59.4	
SUA	Susitna One baz=327,SNR=36	76.78	19	P	P	09 30 58.5	+0.4
O19K	Port Alsworth baz=324	76.84	21	P	P	09 30 59.3	+1.0
O18K	Koktuh Hills baz=324,SNR=20	76.85	22	P	P	09 30 59.9	+1.5
J29N	Klondike Camp baz=336	76.88	12	P	P	09 30 59.7	+1.1
P17K	Kvichak River baz=323	77.00	23	P	P	09 31 00.9	+1.7
DAWY	Dawson	77.02	13	P	P	09 30 59.8	+0.5
DAWY	comp=Z,272nm,1.1s			IAmb	IAmb	09 31 01.3	
DAWY	Dawson baz=336,SNR=88	77.02	13	P	P	09 31 00.2	+0.8
J30M	Hart River	77.08	12	P	P	09 31 00.4	+0.6
J30M	Hart River baz=338	77.08	12	P	P	09 31 00.9	+1.1
PMR	Palmer	77.09	18	P	P	09 31 00.2	+0.5
PMR	Palmer baz=328,SNR=28	77.09	18	P	P	09 31 00.0	+0.3
SML	Sawmill baz=329,SNR=85	77.11	18	P	P	09 31 00.5	+0.6
L26K	Log Cabin Wild baz=332,SNR=56	77.18	15	P	P	09 31 01.5	+1.2
P18K	Big Mountain, P18K	77.22	22	P	P	09 31 00.9	+0.5
P18K	comp=Z,236nm,0.8s Big Mountain, baz=324,SNR=18	77.22	22	P	IAmb P	09 31 02.5 09 31 01.3	+0.8
CAPN	Captain Cook N baz=326	77.26	20	P	P	09 31 01.6	+1.0
M23K	Glacier View baz=329,SNR=98	77.27	18	P	P	09 31 01.2	+0.5
MEEK	Meekatharra	77.31	137	P	P	09 31 01.0	-0.4
SCM	Sheep Creek Mo baz=329,SNR=46	77.33	17	P	P	09 31 01.8	+0.7
HARP	HAARP baz=331,SNR=110	77.34	16	P	P	09 31 02.9	+1.8
Q16K	King Salmon baz=323	77.35	23	P	P	09 31 02.4	+1.3
RC01	Rabbit Creek A baz=328,SNR=32	77.36	19	P	P	09 31 01.6	+0.4
M24K	Tolsona, Glenn baz=330,SNR=76	77.36	17	P	P	09 31 02.8	+1.4
KNK	Knik Glacier baz=329,SNR=43	77.41	18	P	P	09 31 02.3	+0.8
O20K	Slope Mountain baz=326	77.42	21	P	P	09 31 00.5	-1.2
UNV	Unalaska Valle	77.43	31	P	P	09 31 01.0	-0.7
UNV	Unalaska Valle baz=316	77.43	31	P	P	09 31 00.8	-0.9
L27K	Beaver Creek, baz=334	77.47	15	P	P	09 31 03.3	+1.5
BCAR	Beaver Creek A	77.47	15	P	P	09 31 03.1	+1.2
AKUT	Akutan	77.52	30	P	P	09 31 02.4	+0.2
BOSA	Boshof comp=Z,87nm,0.7s,baz=23,slow=4.0,SNR=149	77.55	220	P	P	09 31 03.3	+0.5
K29M	comp=Z,87nm,0.7s Barlow Dome baz=337	77.56	12	P	P	09 31 03.7	+1.2
P19K	Oil Pt	77.60	21	P	P	09 31 03.6	+1.0
P19K	comp=Z,164nm,0.8s			IAmb	IAmb	09 31 03.7	
P19K	Oil Pt baz=325	77.60	21	P	P	09 31 02.3	-0.3
M26K	Nabesna, AK baz=333	77.81	15	P	P	09 31 04.7	+1.0
O22K	Cooper Landing baz=328,SNR=6.6	77.88	19	P	P	09 31 04.3	+0.2
MORW	Morawa	77.88	140	P	P	09 31 03.8	-0.6
Q18K	Katmai Hardscr baz=324,SNR=14	77.89	22	P	P	09 31 04.0	-0.3
FALS	False Pass comp=Z,268nm,0.8s	77.92	29	P	P	09 31 05.1	+0.8
FALS	False Pass baz=318	77.92	29	P	P	09 31 04.2	-0.1
Q17K	Contact Creek baz=323,SNR=14	77.92	23	P	P	09 31 04.4	-0.1
R16K	Pilot Point baz=322	77.93	24	P	P	09 31 04.4	0.0
KLU	Klutina baz=331,SNR=49	77.96	17	P	P	09 31 05.5	+0.9
HOM	Homer baz=326	78.05	20	P	P	09 31 05.3	+0.3
MAYO	Mayo, Yukon baz=338,SNR=18	78.06	12	P	P	09 31 05.7	+0.6
Q19K	Cape Douglas, baz=325	78.07	22	P	P	09 31 04.6	-0.6
M27K	Edge Creek, AK baz=334	78.09	15	P	P	09 31 06.7	+1.3
L29M	L29M	78.13	13	P	P	09 31 06.4	+0.9
L29M	L29M baz=337	78.13	13	P	P	09 31 06.5	+1.0
N25K	Chitina, Valde N25K	78.17	16	P	P	09 31 06.9	+1.2
N25K	comp=Z,632nm,1.9s Chitina, Valde baz=332,SNR=24	78.17	16	P	IAmb P	09 31 08.1 09 31 07.0	+1.2
BRSE	Bradley Lake S baz=327,SNR=13	78.23	20	P	P	09 31 06.2	+0.2
BVCY	Beaver Creek baz=334,SNR=110	78.25	14	P	P	09 31 07.7	+1.6
S14K	Fog Glacier baz=321	78.26	26	P	P	09 31 06.5	+0.1
SEW	Seward baz=328,SNR=9.9	78.27	19	P	P	09 31 06.3	+0.1
CHGN	Chignik baz=322	78.64	25	P	P	09 31 07.9	-0.3
SDPT	Sand Point	78.65	27	P	P	09 31 08.4	0.0
SDPT	Sand Point baz=320	78.65	27	P	P	09 31 07.8	-0.5
M29M	Somme Creek baz=336,SNR=76	78.68	13	P	P	09 31 09.4	+0.8
Q20K	Shuyak Island baz=326,SNR=8.1	78.70	21	P	P	09 31 09.5	+0.9
MCARA	McCarthy VSAT baz=333,SNR=20	78.72	16	P	P	09 31 09.3	+0.6
BMRM	Bremner River baz=332,SNR=39	78.73	17	P	P	09 31 09.7	+0.9
EYAK	Cordova Ski Ar	78.83	17	P	P	09 31 10.7	+1.5
EYAK	Cordova Ski Ar baz=331,SNR=31	78.83	17	P	P	09 31 10.5	+1.3
M30M	Minto, Yukon baz=338,SNR=28	78.86	13	P	P	09 31 10.4	+1.0
P23K	Montague Islan baz=330,SNR=5.3	78.90	18	P	P	09 31 10.3	+0.7
YUK3	Moose Creek baz=335,SNR=50	78.91	15	P	P	09 31 10.7	+0.7
R18K	Karluk baz=324	78.94	23	P	P	09 31 09.6	-0.2
BARN	Barnard Glacie	79.30	15	P	P	09 31 13.3	+1.2
KDAK	Kodiak Island	79.33	22	P	P	09 31 12.9	+0.8
KDAK	Kodiak Island	79.33	22	c i P	P	09 31 12.5	+0.5
KDAK	comp=Z,456nm,0.9s			pmax	pmax		
KDAK	Kodiak Island baz=326	79.33	22	P	P	09 31 12.7	+0.7
CHNA	Chernabura Isl baz=321,SNR=13	79.38	27	P	P	09 31 12.4	+0.1
CNBA	Chernabura Isl	79.38	27	P	P	09 31 12.7	+0.3
CNBA	comp=Z,270nm,0.9s			IAmb	IAmb	09 31 13.7	
CTG	Chitna Glacier baz=334,SNR=37	79.46	15	P	P	09 31 13.9	+1.1
BLDU	Ballidu	79.47	141	P	P	09 31 11.8	-1.3
YUK8	Steele Glacier baz=335,SNR=21	79.49	14	P	P	09 31 14.2	+1.0
OHAK	Old Harbor baz=325,SNR=6.3	79.58	23	P	P	09 31 14.2	+0.8
M31M	Drury Creek, Y baz=340	79.62	12	P	P	09 31 14.5	+0.9
YUK4	Talbot Arm baz=336,SNR=74	79.66	14	P	P	09 31 15.1	+1.1
Q23K	Middleton Isla baz=330	79.66	18	P	P	09 31 14.4	+0.7
KAIM	Kayak Island baz=332	79.69	17	P	P	09 31 15.1	+1.2
FARO	Faro, Yukon	79.76	11	P	P	09 31 15.5	+1.2
FARO	Faro, Yukon baz=340,SNR=28	79.76	11	P	P	09 31 15.5	+1.2
N30M	Aishikik Lake baz=338	79.84	13	P	P	09 31 15.9	+1.0
SII	Sitkinak Islan baz=325	79.85	23	P	P	09 31 15.9	+1.0
WRGLY	Wrigley baz=348	80.01	6	P	P	09 31 17.4	+1.8
N31M	Braeburn, Yuko baz=339,SNR=56	80.05	13	P	P	09 31 17.1	+1.1
YUK6	Outpost Mounta baz=337,SNR=29	80.08	14	P	P	09 31 17.7	+1.4
HYT	Haines Junctio	80.36	14	P	P	09 31 19.2	+1.5
HYT	Haines Junctio baz=337,SNR=75	80.36	14	P	P	09 31 19.3	+1.6
PINM	Pinnacle baz=335,SNR=17	80.47	15	P	P	09 31 19.3	+1.0
O29M	Mount Kennedy baz=336,SNR=10.0	80.63	14	P	P	09 31 19.8	+0.7
O30N	Mendenhall baz=338,SNR=68	80.67	13	P	P	09 31 20.3	+1.1
KLBR	Kellerberrin	80.79	141	P	P	09 31 18.9	-1.2
N32M	Quiet Lake baz=341	80.82	11	P	P	09 31 20.4	+0.4
WHY	Whitehorse	80.98	12	P	P	09 31 21.3	+0.4
WHY	Whitehorse baz=339,SNR=46	80.98	12	P	P	09 31 21.4	+0.4
PNL	Peninsula	81.04	15	P	P	09 31 23.1	+1.9
PNL	Peninsula baz=336,SNR=7.5	81.04	15	P	P	09 31 22.3	+1.1
P30M	Million Dollar baz=338	81.11	14	P	P	09 31 22.8	+1.2
YKA	Yellowknife Ar comp=Z,119nm,0.7s,baz=352,slow=5.4,SNR=58	81.30	2	P	P	09 31 23.2	+0.8
YKA	comp=Z,18nm,0.9s,baz=356,slow=7.9,SNR=5.5			PP	PP	09 34 30.2	0.0
YKA	comp=Z,1.5nm,0.6s,baz=162,slow=7.2,SNR=19			PKKPbc	PKKPbc	09 49 53.4	-2.6
P29M	comp=Z,119nm,0.7s Windy Craggy baz=337	81.42	14	P	P	09 31 24.1	+0.9
NWAO	Narrogin (SRO)	81.59	142	P	P	09 31 23.0	-1.3
NWAO	Narrogin (SRO)	81.59	142	P	P	09 31 23.3	-1.0
NWAO	Narrogin (SRO)	81.59	142	P	P	09 31 23.0	-1.3
NWAO	comp=Z,37nm,0.7s			pmax	pmax		
NWAO	Narrogin (SRO) comp=Z,20nm,1.0s,baz=193,slow=23,SNR=11	81.59	142	S	S	09 41 16.3	-2.5
P33M	Teslin, Yukon	81.75	12	P	P	09 31 25.7	+0.8
P33M	Teslin, Yukon baz=341	81.75	12	P	P	09 31 25.8	+0.8
WRKA	Warakurna	81.80	129	P	P	09 31 25.0	-0.6
SKAG	Skagway comp=Z,422nm,1.0s	82.03	13	P	P	09 31 27.3	+1.0
SKAG	Skagway baz=339	82.03	13	P	P	09 31 27.7	+1.4
SCHQ	Schefferville comp=Z,34nm,0.6s,baz=358,slow=7.2,SNR=0.8	82.03	337	P	P	09 31 27.1	+0.6
WB0	comp=Z,34nm,0.6s Warramunga Arr	82.11	122	P	P	09 31 26.1	-1.2
WB0	comp=Z,139nm,0.8s			IAmb	IAmb	09 31 27.1	
WRA	Warramunga Arr	82.19	122	P	P	09 31 26.5	-1.2
WRA	Warramunga Arr comp=Z,140nm,0.7s,baz=324,slow=4.9,SNR=539	82.19	122	P	P	09 31 26.6	-1.1
WRA	comp=Z,2.5nm,0.7s,baz=320,slow=7.7,SNR=1.6			PP	PP	09 34 38.5	-0.9
WRA	comp=Z,0.7nm,0.4s,baz=327,slow=1.3,SNR=2.0			PKiKP	PKiKP	09 36 46.3	-1.8
WRA	comp=Z,6.4nm,1.1s,baz=120,slow=2.3,SNR=28			PKKPbc	PKKPbc	09 49 54.9	+0.9
WRAB	comp=Z,140nm,0.7s Tennant Creek	82.19	122	P	P	09 31 26.8	-0.9
WRAB	comp=Z,247nm,0.9s			IAmb	IAmb	09 31 27.7	
WRAB	Tennant Creek	82.19	122	P	P	09 31 26.8	-0.9
WRAB	comp=Z,247nm,1.0s			pmax	pmax		
P32M	Atlin	82.19	12	P	P	09 31 28.0	+0.8
P32M	Atlin baz=340	82.19	12	P	P	09 31 28.1	+0.8
WB2	Warramunga Arr	82.20	122	P	P	09 31 26.7	-1.1
WB2	comp=Z,285nm,0.9s			IAmb	IAmb	09 31 27.7	
WR0	Warramunga Arr	82.34	122	P	P	09 31 27.4	-1.1
WR0	comp=Z,141nm,0.8s			IAmb	IAmb	09 31 28.2	
KMBL	Kambalda	82.78	138	P	P	09 31 29.5	-1.0
RKGY	Rocky Gully	82.82	143	P	P	09 31 30.2	-0.4
JIS	Juneau Island	83.31	13	P	P	09 31 33.9	+1.0
JIS	Juneau Island	83.31	13	P	P	09 31 34.2	+1.3
H11N2	WAKE ISLAND Hy baz=334,slow=30,SNR=5.7	83.32	71	P	P	09 31 33.3	-0.1
H11N1	WAKE ISLAND Hy baz=334,slow=30,SNR=13	83.33	71	P	P	09 31 33.3	-0.1
H11N3	WAKE ISLAND Hy baz=334,slow=30,SNR=7.0	83.34	71	P	P	09 31 34.9	+1.4
KAVG	Kavieng	83.59	98	P	P	09 31 35.5	+0.4
PATS	Pohnpei	84.09	86	P	P	09 31 38.5	+0.9
AS31	Alice Springs	84.44	125	P	P	09 31 38.0	-1.2
AS31	comp=Z,41nm,0.6s			IAmb	IAmb	09 31 38.9	
ASAR	Alice Springs	84.44	125	P	P	09 31 37.9	-1.2
ASAR	Alice Springs comp=Z,115nm,0.7s,baz=311,slow=4.8,SNR=1785	84.44	125	P	P	09 31 38.1	-1.1
ASAR	comp=Z,1.0nm,0.4s,baz=347,slow=1.4,SNR=6.0			PKiKP	PKiKP	09 36 50.0	-1.7
ASAR	comp=Z,4.6nm,1.0s,baz=122,slow=2.3,SNR=5.8			PKKPbc	PKKPbc	09 49 50.0	+1.0
PMG	comp=Z,115nm,0.7s Port Moresby	84.84	106	P	P	09 31 40.9	-0.5
PMG	comp=Z,154nm,0.9s			IAmb	IAmb	09 31 41.9	
PMG	Port Moresby	84.84	106	P	P	09 31 41.0	-0.3
PMG	Port Moresby	84.84	106	c i P	P	09 31 40.3	-1.0
PMG	comp=Z,153nm,1.0s			pmax	pmax		
PMG	Port Moresby comp=Z,125nm,0.9s,baz=352,slow=4.2,SNR=62	84.84	106	P	P	09 31 40.5	-0.8
RABL	comp=Z,125nm,0.9s Rabaul	85.64	98	P	P	09 31 45.4	+0.1
RABL	comp=Z,112nm,0.8s			IAmb	IAmb	09 31 46.2	
FORT	Forrest	85.83	133	P	P	09 31 45.2	-0.6

FORT				IAmb	IAmb	09 31 46.1	
	comp=Z,160nm,0.7s						
FORT	**Forrest**	**85.83**	**133**	P	**P**	**09 31 45.0**	**-0.8**
QIS	**Mount Isa**	**86.27**	**119**	P	**P**	**09 31 47.1**	**-1.1**
MTSU	**Mount Surprise**	**88.11**	**114**	P	**P**	**09 31 56.6**	**-0.5**
OOD	**Oodnadatta**	**88.44**	**127**	P	**P**	**09 31 57.5**	**-0.9**
MULG	**Mulgathing**	**89.10**	**129**	P	**P**	**09 32 00.3**	**-1.2**
TV1H	**Townsville Har**	**90.64**	**113**	P	**P**	**09 32 07.9**	**-1.0**
CTA	**Charters Tower**	**90.76**	**114**	P	**P**	**09 32 08.0**	**-1.4**
	comp=Z,213nm,0.8s						
CTAO	**Charters Tower**	**90.76**	**114**	P	**P**	**09 32 08.5**	**-1.0**
CTAO				IAmb	IAmb	09 32 09.5	
	comp=Z,117nm,0.7s						
CTAO	**Charters Tower**	**90.76**	**114**	P	**P**	**09 32 08.4**	**-1.0**
CTAO	**Charters Tower**	**90.76**	**114**	P	**P**	**09 32 08.5**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,117nm,0.7s						
INKA	**Innaminka**	**91.74**	**124**	P	**P**	**09 32 13.1**	**-0.6**
LCRK	**Leigh Creek**	**91.85**	**127**	P	**P**	**09 32 13.0**	**-1.2**
BBOO	**Buckleboo**	**92.08**	**130**	P	**P**	**09 32 14.0**	**-1.2**
BBOO	**Buckleboo**	**92.08**	**130**	P	**P**	**09 32 14.0**	**-1.2**
ULM	**Lac du Bonnet**	**92.85**	**351**	P	**P**	**09 32 18.3**	**-0.4**
	comp=Z,85nm,0.9s,baz=71,slow=13,SNR=2.2						
ULM				PKKPbc	**PKKPdf**	**09 49 25.9**	**+1.8**
	comp=Z,3.8nm,0.8s,baz=205,slow=1.8,SNR=5.6						
	comp=Z,85nm,0.9s						
QLP	**Quilpie**	**93.38**	**121**	P	**P**	**09 32 20.7**	**-0.7**
HTT	**Hallett**	**94.27**	**129**	P	**P**	**09 32 24.2**	**-1.2**
STKA	**Stephens Creek**	**94.97**	**126**	P	**P**	**09 32 27.0**	**-1.5**
STKA	**Stephens Creek**	**94.97**	**126**	*i* P	**P**	**09 32 26.2**	**-2.3**
STKA	**Stephens Creek**	**94.97**	**126**	P	**P**	**09 32 26.8**	**-1.8**
	comp=Z,9.6nm,0.4s,baz=334,slow=5.9,SNR=36						
	comp=Z,9.6nm,0.4s						
CMSA	**Cobar Meteorol**	**97.47**	**124**	P	**P**	**09 32 38.5**	**-1.3**
EIDS	**Eidsvold**	**97.50**	**116**	P	**P**	**09 32 38.3**	**-1.8**
ARPS	**Mount Arapiles**	**98.25**	**130**	P	Pdif	09 32 43.3	0.0
ARMA	**Armidale**	**100.87**	**120**	P	**Pdif**	**09 32 55.3**	**+0.1**
	comp=Z,23nm,1.8s						
PDAR	**Pinedale Array**	**101.15**	**0**	PKiKP	**PKiKP**	**09 37 19.4**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=84,slow=2.8,SNR=5.2						
PDAR				PKKPbc	**PKKPbc**	**09 49 03.1**	**-2.9**
	comp=Z,0.9nm,0.4s,baz=136,slow=5.4,SNR=11						
NVAR	**Mina Array Bea**	**105.02**	**7**	Pdiff	**Pdif**	**09 33 17.9**	**+4.0**
	comp=Z,4.4nm,0.8s,baz=18,slow=4.1,SNR=1.0						
NVAR				PKiKP	**PKiKP**	**09 37 29.7**	**+2.2**
	comp=Z,1.2nm,0.6s,baz=350,slow=2.7,SNR=1.3						
NVAR				PKKPbc	**PKKPbc**	**09 48 54.2**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=195,slow=6.2,SNR=9.1						
TXAR	**Lajitas Array**	**114.34**	**355**	PKP	**PKiKP**	**09 37 44.8**	**-0.3**
	comp=Z,4.3nm,1.0s,baz=29,slow=2.1,SNR=10						
TXAR				PKKPbc	**PKKPbc**	**09 48 23.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=135,slow=28,SNR=4.9						
FOZ	**Fox Glacier**	**119.94**	**124**		**PKPdf**	**09 37 53.9**	**-1.2**
AFI	**Afiamalu**	**120.22**	**85**	PKPdf	**PKPdf**	**09 37 56.1**	**-0.5**
AFI	**Afiamalu**	**120.22**	**85**	PKiKP	**PKPdf**	**09 37 56.1**	**-0.5**
DSZ	**Denniston Nort**	**120.59**	**121**	PKPdf	**PKPdf**	**09 37 55.2**	**-1.2**
RPZ	**Rata Peaks**	**120.84**	**124**	PKPdf	**PKPdf**	**09 37 56.1**	**-0.7**
HIZ	**Hauiti**	**121.45**	**117**	PKPdf	**PKPdf**	**09 37 57.5**	**-0.7**
TOZ	**Tahuroa Road**	**121.61**	**116**	PKPdf	**PKPdf**	**09 37 58.2**	**-0.3**
BDFB	**Brasilia**	**122.10**	**274**	PKiKP	**PKPdf**	**09 38 00.0**	**-0.2**
BDFB	**Brasilia**	**122.10**	**274**	PKP	**PKPdf**	**09 37 60.0**	**-0.2**
	comp=Z,39nm,1.0s,baz=85,slow=12,SNR=1.1						
SNZO	**South Karori**	**122.43**	**120**	PKPdf	**PKPdf**	**09 37 58.6**	**-1.3**
BHW	**Baring Head**	**122.58**	**120**		**PKPdf**	**09 37 59.3**	**-0.9**
PLWZ	**Palliser**	**122.91**	**120**	PKPdf	**PKPdf**	**09 38 00.3**	**-0.6**
VNDA	**Vanda**	**125.53**	**165**	PKP	**PKPdf**	**09 38 03.7**	**-1.1**
	comp=Z,6.7nm,0.6s,baz=273,slow=6.3,SNR=8.8						
QSPA	**South Pole Qui**	**126.25**	**180**	PKP	**PKPdf**	**09 38 05.9**	**-0.6**
	comp=Z,61nm,0.9s,baz=119,slow=0.1,SNR=26						
QSPA				PKKP	**PKKPdf**	**09 48 24.5**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=196,slow=0.4,SNR=5.6						
ROSC	**El Rosal**	**127.48**	**314**	PKP	**PKiKP**	**09 38 12.2**	**+0.7**
	comp=Z,39nm,0.7s,baz=21,slow=23,SNR=5.7						
RIMA	**Rio Macho**	**128.16**	**327**		**PKPdf**	**09 38 11.3**	**-0.7**
HOPE	**Hope Point**	**128.23**	**225**		**PKPdf**	**09 38 10.0**	**-0.6**
HOPE	**Hope Point**	**128.23**	**225**	PKIKP	**PKPdf**	**09 38 10.0**	**-0.6**
LCR2	**La Lucha 2**	**128.24**	**328**		**PKPdf**	**09 38 12.2**	**0.0**
RAR	**Rarotonga**	**133.77**	**85**	PKP	**PKiKP**	**09 38 23.6**	**+0.2**
	comp=Z,12nm,0.7s,baz=101,slow=6.5,SNR=3.1						
CPUP	**Villa Florida**	**134.95**	**268**	PKP	**PKPdf**	**09 38 23.3**	**-0.9**
	comp=Z,18nm,0.7s,baz=62,slow=2.2,SNR=22						
CPUP				SKPbc	**SKPbc**	**09 41 33.6**	**-1.4**
	comp=Z,10nm,0.9s,baz=60,slow=6.2,SNR=5.1						
PPT	**Papeete**	**139.86**	**73**	PKhKP	PKPpre	09 38 27.0	
	comp=Z,16nm,0.7s,baz=54,slow=21,SNR=2.2						
NNA	**Nana**	**141.96**	**301**	*c i* PKiKP	**PKiKP**	**09 38 41.4**	**+1.0**
NNA				pmax	pmax		
	comp=Z,395nm,2.5s						
MG01	**Puerto William**	**146.16**	**224**		**PKPdf**	**09 38 42.9**	**-0.5**
VA03	**San Esteban**	**148.02**	**265**		**PKPbc**	**09 38 50.7**	**-0.1**
PLCA	**Paso Flores**	**149.57**	**250**		**PKPdf**	**09 38 49.2**	**-0.4**
PLCA				PKPbc	**PKiKP**	**09 38 55.0**	**-0.3**
PLCA	**Paso Flores**	**149.57**	**250**	PKP	**PKPdf**	**09 38 50.0**	**+0.4**
	comp=Z,23nm,1.1s,baz=142,slow=1.6,SNR=5.6						
PLCA				PKPbc	**PKiKP**	**09 38 55.1**	**-0.3**
	comp=Z,49nm,0.8s,baz=46,slow=1.2,SNR=35						
GO05	**Huala**	**149.73**	**261**		**PKPdf**	**09 38 50.6**	**+0.6**
GO05				PKPbc	**PKPbc**	**09 38 54.9**	**0.0**

*IDC **14** 09:21:08.6±1.4,29.97°N×131.12°E, h0km, mb3.5/2, mbtmp3.5/6, ML3.3/4, Error ellipse: s-maj=44.3km s-min=20.1km az=101.0*
*JMA **14** 09:21:10.5±0.2,30.0°N±0.6°×131.3°E±0.7, h25km±1km, MV3.7/24, NEAR AMAMI-OSHIMA ISLAND*
*NIED **14** 09:21:10.5, 29.96°N×131.27°E, h25km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.45; $M_{\theta\theta}$0.28; $M_{\phi\phi}$-0.73; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.76; $M_{r\phi}$0.74; Fault plane solution: $M_0$1.30000×10^{15} NP1:ϕ_s51.00000°, δ75.00000°, λ117.00000°. NP2:ϕ_s168.00000°, δ31.00000°, λ30.00000°.*

ISC 14 09:21:11.7±1.9, 29.99N±0.06×131.18E±0.08, h24km±14km, n18, σ0.60/23, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.48**	**329**	*i* P			**Pb**	**09 21 21.0**	**-0.5**
JMTN				*e*S			**Sb**	**09 21 28.5**	**+0.3**
JYAK	**Yakushimahirau**	**0.64**	**294**	*i* P			**Pb**	**09 21 24.0**	**-0.1**
JYAK				*e*S			**Sb**	**09 21 33.4**	**+0.8**
JTN	**Tanegashima 3**	**0.69**	**345**	*i* P			**Pb**	**09 21 24.8**	**-0.3**
JTN				*e*S			**Sb**	**09 21 34.8**	**+0.6**
JKC	**Kuchinoerabu**	**0.98**	**299**	*i* P			**Pb**	**09 21 30.0**	**0.0**
JKC				*e*S			**Sn**	**09 21 43.5**	**+0.5**
JNN	**Nakanoshima**	**1.14**	**263**	P			**Pn**	**09 21 32.4**	**+0.2**
JTSR	**Tashiro 2**	**1.20**	**349**	*i* P			**Pn**	**09 21 32.5**	**-0.5**
JTSR				*e*S			**Sb**	**09 21 48.7**	**-0.1**
JNAR	**Kushima--Naru**	**1.54**	**3**	P			**Pn**	**09 21 37.4**	**-0.2**
JSU	**Suzuyama**	**1.64**	**338**	*i* P			**Pn**	**09 21 38.5**	**-0.5**
JNKG	**Nichinankitago**	**1.68**	**6**	*e*P			**Pn**	**09 21 39.4**	**-0.2**
JNKG				*e*S			**Sn**	**09 22 00.4**	**+0.1**
JNU	**Nakatsue**	**3.14**	**355**	Pn			**Pn**	**09 21 59.6**	**0.0**
	8.8nm,0.3s,baz=221,slow=1.6,SNR=77								
JNU				Sn			**Sn**	**09 22 35.4**	**-0.9**
	6.2nm,0.3s,baz=331,slow=15,SNR=5.6								
	26nm,0.3s								
JOW	**Kunigami**	**4.05**	**220**	Pn			**Pn**	**09 22 12.2**	**+0.1**
	4.4nm,0.3s,baz=54,slow=8.7,SNR=8.3								
JOW				Sn			**Sn**	**09 22 57.6**	**-1.3**
	11nm,0.3s,baz=155,slow=26,SNR=8.3								
	14nm,0.6s								
KSRS	**Korea Array**	**7.93**	**341**	Pn			**Pn**	**09 23 04.3**	**-1.0**
	0.3nm,0.3s,baz=157,slow=14,SNR=7.3								
	2.7nm,0.7s								
MJAR	**Matsushiro Arr**	**8.79**	**40**	Pn			**Pn**	**09 23 18.0**	**+0.7**
	0.1nm,0.3s,baz=218,slow=23,SNR=5.8								
	0.5nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**33.85**	**99**	T			T	10 03 55.4	
	baz=293,slow=74,SNR=11								
H11N1	**WAKE ISLAND Hy**	**33.86**	**99**	T			T	10 03 59.9	
	baz=293								
H11N3	**WAKE ISLAND Hy**	**33.87**	**99**	T			T	10 03 57.7	
	baz=293,slow=74,SNR=9.6								
WRA	**Warramunga Arr**	**49.73**	**176**	P			**P**	**09 30 02.5**	**+0.5**
	0.7nm,0.9s,baz=355,slow=8.3,SNR=1.8								
	0.7nm,0.9s								
ASAR	**Alice Springs**	**53.41**	**177**	P			**P**	**09 30 30.1**	**+0.6**
	0.5nm,1.1s,baz=10.0,slow=13,SNR=5.7								
	0.5nm,1.1s								

*JMA **14** 09:22:16.9±0.1,24.7°N±0.9×122.3°E±0.3, h12km, MV2.3/9, TAIWAN REGION*

*TAP **14** 09:22:16.6,24.80N×122.25E, h8km, ML2.5, C*
ISC 14 09:22:16.4±1.0, 24.77N±0.02×122.31E±0.02, h7km±9km, n64, σ0.84/122, 3C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGS		**0.35**	**282**	*i* P			**Pg**	**09 22 23.2**	**-0.1**
	baz=279								
EGS				S			**Sg**	**09 22 27.4**	**-0.5**
	baz=279								
EOS2	**EOS2**	**0.36**	**191**	⇓P			**Pb**	**09 22 24.6**	**-0.4**
	baz=208								
EOS2				*e*S			**Sb**	**09 22 30.9**	**+0.1**
	baz=208								
TWB1	**Santiao Chiao**	**0.37**	**309**	⇑*i* P			**Pg**	**09 22 23.6**	**0.0**
	baz=311								
TWB1				*i* S			**Sg**	**09 22 28.5**	**-0.1**
	baz=311								
TWC	**Suao**	**0.45**	**249**	*i* P			**Pg**	**09 22 24.9**	**-0.2**
	baz=252								
TWC				*e*S			**Sb**	**09 22 33.3**	**-0.2**
	baz=252								
ESAO	**Su ao**	**0.47**	**245**	P			**Pg**	**09 22 26.1**	**+0.6**
	baz=249								
ESAO				S			**Sg**	**09 22 31.7**	**+0.1**
	baz=249								
TIPB	**Shuangxi**	**0.48**	**294**	⇑P			**Pg**	**09 22 25.9**	**+0.2**
	baz=293								
TIPB				*e*S			**Sb**	**09 22 33.7**	**-0.8**
	baz=293								
EOS3	**EOS3**	**0.49**	**179**	⇓P			**Pb**	**09 22 27.0**	**-0.1**
	baz=183								
EOS3				S			**Sb**	**09 22 35.7**	**+1.3**
	baz=183								
SXI1	**Grass Mountain**	**0.51**	**309**	⇓P			**Pg**	**09 22 26.6**	**+0.4**
	baz=310								
SXI1				*i* S			**Sg**	**09 22 33.4**	**+0.5**
	baz=310								
ILA	**Ilan**	**0.51**	**269**	P			**Pg**	**09 22 26.5**	**+0.2**
	baz=254								
ILA				*e*S			**Sg**	**09 22 32.8**	**-0.2**
	baz=254								
NDS	**Dongshan**	**0.56**	**256**	*e*P			**Pb**	**09 22 28.2**	**-0.2**
	baz=252								
NDS				*e*S			**Sb**	**09 22 37.3**	**+0.7**
	baz=252								
NWF	**Wu-fen Shan**	**0.56**	**302**	⇓P			**Pb**	**09 22 28.3**	**-0.3**
	baz=301								
NWF				*i* S			**Sg**	**09 22 35.5**	**+0.8**
	baz=301								
WFSB	**Wu-fen Shan**	**0.56**	**302**	⇓P			**Pb**	**09 22 28.3**	**-0.2**
	baz=301								
WFSB				S			**Sg**	**09 22 35.5**	**+0.8**
	baz=301								
EWUT	**Wuta**	**0.58**	**236**	P			**Pg**	**09 22 27.8**	**+0.1**
	baz=232								
EWUT				*e*S			**Sb**	**09 22 37.5**	**+0.1**
	baz=232								
TWE	**Neicheng**	**0.59**	**265**	*e*P			**Pb**	**09 22 28.6**	**-0.3**
	baz=253								
TWE				*e*S			**Sb**	**09 22 37.2**	**-0.3**
	baz=253								
TNOU	**National Taiwa**	**0.61**	**308**	P			**Pb**	**09 22 29.0**	**-0.4**
	baz=308								
TNOU				S			**Sb**	**09 22 37.5**	**-0.7**
	baz=308								
ENA	**Nanau**	**0.62**	**237**	*i* P			**Pg**	**09 22 28.4**	**+0.1**
	baz=231								
ENA				S			**Sg**	**09 22 36.9**	**+0.4**
	baz=231								
EOS4	**EOS4**	**0.65**	**179**	*e*P			**Pb**	**09 22 29.7**	**-0.1**
	baz=166								
EOS4				*i* S			**Sn**	**09 22 41.2**	**-0.7**
	baz=166								
FUSB	**Fushanzhiwuyua**	**0.66**	**269**	*e*P			**Pb**	**09 22 29.6**	**-0.6**
	baz=266								
FUSB				*e*S			**Sb**	**09 22 39.5**	**-0.1**
	baz=266								
JYNG	**Yonagunijimaku**	**0.66**	**119**	P			**Pg**	**09 22 29.2**	**+0.1**
JYNG				*e*S			**Sg**	**09 22 38.4**	**+0.6**
EAHA	**Aohua**	**0.68**	**230**	*i* P			**Pg**	**09 22 29.6**	**+0.1**
	baz=237								
EAHA				S			**Sg**	**09 22 38.6**	**+0.2**
	baz=237								
ENTT	**Nioudou**	**0.69**	**259**	*e*P			**Pb**	**09 22 31.1**	**+0.4**
	baz=256								
ENTT				*e*S			**Sb**	**09 22 40.4**	**0.0**
	baz=256								
TWA	**Mucha**	**0.69**	**287**	P			**Pb**	**09 22 30.7**	**-0.1**
	baz=279								
TWA				S			**Sb**	**09 22 40.3**	**-0.2**
	baz=279								
YOJ	**Yonaguni jima**	**0.71**	**116**	P			**Pg**	**09 22 30.0**	**0.0**
YOJ				S			**Sg**	**09 22 39.2**	**0.0**
YOJ	**Yonaguni jima**	**0.71**	**116**	*e*P			**Pg**	**09 22 30.2**	**+0.2**
	baz=116								
NWLT	**Wulai**	**0.73**	**270**	*e*P			**Pg**	**09 22 30.3**	**-0.2**
	baz=268								
NWLT				*e*S			**Sb**	**09 22 41.4**	**-0.4**
	baz=268								
NHDH	**Xindian Distri**	**0.74**	**285**	P			**Pb**	**09 22 31.6**	**0.0**
	baz=275								
NHDH				S			**Sb**	**09 22 41.7**	**-0.1**
	baz=275								
NDT	**Datong Townshi**	**0.75**	**257**	*e*P			**Pb**	**09 22 31.9**	**+0.3**
	baz=263								
NDT				S			**Sb**	**09 22 41.5**	**-0.5**
	baz=263								
LATG	**Datong**	**0.75**	**252**	P			**Pg**	**09 22 30.8**	**0.0**
	baz=248								
LATG				S			**Sb**	**09 22 41.4**	**-0.9**
	baz=248								
YM01	**YM01**	**0.77**	**299**	P			**Pg**	**09 22 31.7**	**+0.5**
	baz=298								
YM01				S			**Sb**	**09 22 41.9**	**-0.9**
	baz=298								
YM08	**YM08**	**0.77**	**302**	*e*P			**Pg**	**09 22 30.5**	**-0.7**
	baz=302								
YM08				*e*S			**Sg**	**09 22 40.9**	**-0.5**
	baz=302								
TATO	**Taipei**	**0.77**	**285**	*e*P			**Pb**	**09 22 32.1**	**0.0**
	baz=275								
TATO				*e*S			**Sb**	**09 22 42.4**	**-0.4**
	baz=275								
TWY	**Chenhua**	**0.82**	**308**	*i* P			**Pb**	**09 22 32.8**	**-0.1**
	baz=308								
TWY				*e*S			**Sb**	**09 22 43.8**	**-0.3**
	baz=308								
YHNB	**Yeheng**	**0.86**	**263**	P			**Pb**	**09 22 33.2**	**-0.4**
	baz=253								
YHNB				*e*S			**Sb**	**09 22 45.6**	**+0.3**
	baz=253								
NSK	**Sanguang**	**0.87**	**264**	P			**Pg**	**09 22 33.4**	**+0.2**
	baz=261								
NSK				S			**Sg**	**09 22 43.9**	**-0.6**
	baz=261								
NTST	**Danshui**	**0.87**	**297**	⇓P			**Pg**	**09 22 33.0**	**-0.2**
	baz=309								
NTST				*i* S			**Sb**	**09 22 45.6**	**-0.1**
	baz=309								
TWS1	**Kuangyinshan**	**0.87**	**292**	*e*P			**Pg**	**09 22 32.7**	**-0.5**
	baz=291								
TWS1				*e*S			**Sb**	**09 22 45.8**	**+0.1**
	baz=291								
PCYT	**Pengchaiyu**	**0.88**	**346**	*e*P			**Pg**	**09 22 33.5**	**+0.2**
	baz=338								
NACB	**Ninganchiao**	**0.89**	**228**	⇑*i*P			**Pg**	**09 22 33.0**	**-0.4**
	baz=225								
NACB				*e*S			**Sg**	**09 22 44.2**	**-0.7**
	baz=225								
NNSB	**Datong**	**0.91**	**248**	*e*P			**Pb**	**09 22 34.4**	**-0.2**
	baz=251								
NNSB				*e*S			**Sb**	**09 22 47.3**	**+0.3**
	baz=251								
NNSH	**Datong**	**0.91**	**248**	*i* P			**Pg**	**09 22 33.7**	**-0.3**
	baz=236								
NNSH				S			**Sb**	**09 22 46.2**	**-0.7**
	baz=236								
NNS	**Nan Shan**	**0.92**	**249**	*e*P			**Pn**	**09 22 35.0**	**-0.8**
	baz=251								
NNS				*e*S			**Sn**	**09 22 47.6**	**-1.7**
	baz=251								
ETLH	**Xiulin Townshi**	**0.94**	**233**	⇓P			**Pg**	**09 22 34.5**	**0.0**
	baz=231								
ETLH				S			**Sb**	**09 22 47.5**	**-0.3**
	baz=231								
TWD	**Chiawan**	**0.95**	**223**	*e*P			**Pg**	**09 22 31.9**	**-2.7**
	baz=230								
TWD				*e*S			**Sg**	**09 22 46.3**	**-0.7**
	baz=230								
NFF	**Wufeng Townshi**	**1.09**	**263**	*i* P			**Pg**	**09 22 37.4**	**0.0**
	baz=261								
NFF				*e*S			**Sn**	**09 22 53.6**	**+0.1**
	baz=261								
FUSS	**Fushou**	**1.10**	**242**	⇓*e*P			**Pb**	**09 22 37.8**	**-0.1**
	baz=240								
FUSS				*e*S			**Sb**	**09 22 52.6**	**0.0**
	baz=240								
LXIB	**Xiulin Townshi**	**1.11**	**228**	*e*P			**Pg**	**09 22 37.2**	**-0.5**
	baz=226								
LXIB				*e*S			**Sb**	**09 22 52.5**	**-0.1**
	baz=226								
WHF	**Hehuan Shan**	**1.14**	**237**	*e*P			**Pb**	**09 22 38.4**	**-0.3**
	baz=235								
WHF				*e*S			**Sb**	**09 22 53.0**	**-0.8**
	baz=235								
LIOB	**Emei**	**1.19**	**264**	*e*P			**Pn**	**09 22 41.0**	**+1.7**
	baz=263								
LIOB				*e*S			**Sn**	**09 22 57.9**	**+2.2**
	baz=263								
SHUL	**Shoufeng**	**1.20**	**215**	*e*P			**Pg**	**09 22 41.4**	**+2.0**
	baz=197								
SHUL				*e*S			**Sn**	**09 22 59.3**	**+3.3**
	baz=197								
NSTT	**Nanjuang**	**1.20**	**263**	*e*P			**Pg**	**09 22 41.9**	**+2.4**
	baz=262								
NSTT				S			**Sn**	**09 22 56.0**	**0.0**
	baz=262								
CHGB	**Renai**	**1.26**	**236**	*i* P			**Pg**	**09 22 40.5**	**0.0**
	baz=235								
CHGB				*e*S			**Sn**	**09 22 57.0**	**-0.7**
	baz=235								
OWD	**Renai**	**1.32**	**232**	*e*P			**Pn**	**09 22 39.1**	**-2.2**
	baz=231								
OWD				*e*S			**Sn**	**09 23 00.2**	**+1.0**
	baz=231								
WHP	**Taichung City**	**1.34**	**249**	⇓*e*P			**Pg**	**09 22 42.9**	**+0.8**
	baz=247								
WHP				S			**Sg**	**09 23 00.1**	**+0.6**
	baz=247								
WUSB	**Renai**	**1.34**	**235**	*e*P			**Pg**	**09 22 42.2**	**+0.2**
	baz=234								
WUSB				*e*S			**Sg**	**09 22 59.2**	**-0.3**
	baz=234								
WARBT	**Fenglin Townsh**	**1.35**	**219**	*e*P			**Pn**	**09 22 40.7**	**-0.9**
	baz=239								
WARBT				*e*S			**Sg**	**09 22 60.0**	**+0.2**
	baz=239								
WCS	**Beigang Elemen**	**1.46**	**241**	*e*P			**Pg**	**09 22 45.9**	**+1.5**
	baz=240								
TWQ1	**Liyutan**	**1.46**	**253**	*e*P			**Pg**	**09 22 45.7**	**+1.2**
	baz=253								
TWQ1				*e*S			**Sg**	**09 23 06.8**	**+3.3**
	baz=253								
VWDT	**VWDT**	**1.47**	**227**	*e*P			**Pg**	**09 22 44.3**	**-0.3**
	baz=233								
VWDT				*e*S			**Sg**	**09 23 05.1**	**+1.3**
	baz=233								
EHY	**Hungye**	**1.55**	**216**	*i* P			**Pn**	**09 22 44.4**	**0.0**
	baz=235								
EHY				S			**Sg**	**09 23 05.7**	**-0.6**
	baz=235								
SMLT	**Sun Moon Lake**	**1.56**	**236**	*e*P			**Pg**	**09 22 47.0**	**+0.6**
	baz=235								
SSLB	**Suanglung**	**1.58**	**232**	*e*P			**Pb**	**09 22 45.8**	**-0.1**
	baz=231								
SSLB				*e*S			**Sn**	**09 23 04.1**	**-1.4**
	baz=231								
TYC	**Yuchr**	**1.58**	**237**	*e*P			**Pg**	**09 22 46.6**	**-0.1**
	baz=238								
YULB	**Yu-li**	**1.66**	**214**	*e*P			**Pb**	**09 22 46.6**	**-0.7**
	baz=219								
YULB				*e*S			**Sb**	**09 23 07.9**	**-0.5**
	baz=219								
JIJ	**Ishigaki jima**	**1.72**	**103**	*e*P			**Pn**	**09 22 46.7**	**+0.1**

ROM 14 09:25:24.9±0.1, 42.762N±0.004×13.233E±0.006, h10km, ML1.9/58, 7C, Error ellipse: s-maj=0.5km s-min=0.2km az=70.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.02**	**263**	P			Pg	09 25 26.8	-0.2
T1214				S			Sg	09 25 27.7	-0.6
T1214				AML			AML		
	comp=E,10910μm,0.1s								
T1214				AML			AML		
	comp=N,8055μm,0.1s								
T1214				AML			AML		
	comp=N,7865μm,0.6s								
T1214				AML			AML		
	comp=N,8055μm,0.1s								
T1214				AML			AML		
	comp=N,7865μm,0.6s								
T1214				AML			AML		
	comp=E,10910μm,0.1s								
T1214				AML			AML		
	comp=N,7865μm,1.4s								
T1214				AML			AML		
	comp=E,9755μm,0.3s								
NRCA	**Norcia**	**0.11**	**309**	P			Pg	09 25 28.1	+0.3
NRCA				S			Sg	09 25 30.1	+0.3
NRCA				AML			AML		
	comp=E,2785μm,0.1s								
NRCA

FDMO				AML	AML		
	comp=N,256μm,1.7s						
CSP1	**Cessapalombo**	**0.33**	**356**	⇑P	Pg	09 25 32.1	+0.5
CSP1				AML	AML		
	comp=N,85μm,1.0s						
CSP1				AML	AML		
	comp=E,134μm,1.4s						
CESI	**CESI - Serrava**	**0.34**	**315**	⇑P	Pg	09 25 32.3	+0.5
CESI				S	Sb	09 25 38.0	-0.8
CESI				AML	AML		
	comp=E,386μm,1.1s						
CESI				AML	AML		
	comp=E,386μm,0.9s						
CESI				AML	AML		
	comp=N,704μm,0.3s						

*IDC **14** 09:50:42.9±2.3, 15°.78S×74°.51W, h50km±20km, mb3.6/8, mbtmp3.9/11, ML3.6/3, Error ellipse: s-maj=32.5km s-min=14.3km az=56.0*
*NEIC **14** 09:50:42.8±2.4, 15°.86S±0°.07×74°.48W±0°.09, h48km±8km, mb4.4/8, Error ellipse: s-maj=13.6km s-min=9.7km az=60.0*

ISC 14 09:50:42.3±0.6, 15°.88S±0°.07×74°.43W±0°.09, h49km, n47, σ1§49/43, mb4.0/11, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.52**	**328**	P	**Pn**	**09 51 48.2**	**-0.1**
	8.3nm,0.3s,baz=130,slow=17,SNR=2.1						
NNA				S	**Sn**	**09 52 37.1**	**-2.6**
	111nm,0.3s,baz=97,slow=12,SNR=4.0						
	19nm,0.3s						
PB12	**IPOC Station P**	**4.77**	**125**	Pn	**Pn**	**09 51 52.2**	**+0.5**
PB16	**IPOC Station P**	**5.30**	**118**	Pn	**Pn**	**09 52 00.5**	**+1.1**
PB11	**IPOC Station P**	**5.96**	**131**	Pn	**Pn**	**09 52 08.8**	**+0.7**
TA01	**Diego Aracena**	**6.17**	**140**	Pn	**Pn**	**09 52 12.5**	**+1.7**
GO01	**Chusmiza**	**6.25**	**128**		**Pn**	**09 52 14.3**	**+1.9**
PATCX	**Punta Patache**	**6.38**	**141**	Pn	**Pn**	**09 52 14.8**	**+1.1**
PB05	**IPOC Station P**	**8.00**	**151**	Pn	**Pn**	**09 52 35.4**	**-0.7**
CZSB	**Cruzeiro do Su**	**8.27**	**12**	Pn	**Pn**	**09 52 39.7**	**0.0**
LVC	**Limon Verde**	**8.48**	**143**	P	**Pn**	**09 52 45.6**	**+2.7**
	0.8nm,0.3s,baz=300,slow=20,SNR=2.4						
LVC				S	**Sn**	**09 54 13.2**	**-4.3**
	14nm,0.9s,baz=91,slow=20,SNR=7.5						
	1.7nm,0.3s						
ATAH	**Atahualpa**	**9.52**	**335**	P	**Pn**	**09 53 01.0**	**+3.8**
	3.3nm,0.5s,baz=152,slow=17,SNR=1.9						
ATAH				S	**Sn**	**09 54 45.4**	**+2.3**
	3.6nm,0.4s,baz=187,slow=20,SNR=1.4						
ETMB	**Extrema**	**10.02**	**54**	Pn	**Pn**	**09 53 05.7**	**+2.0**
TBTG	**Tabatinga, AM**	**12.44**	**21**		**Pn**	**09 53 36.0**	**-0.7**
MCRA	**Macar, Loja**	**12.66**	**334**		**Pn**	**09 53 40.4**	**+0.5**
SIV	**San Ignacio**	**12.85**	**92**	P	**Pn**	**09 53 44.0**	**+1.7**
	baz=286,slow=15,SNR=1.6						
	0.9nm,0.7s						
SAML	**Samuel**	**12.96**	**59**	Pn	**Pn**	**09 53 42.6**	**-1.2**
H03N1	**Juan Fernandez**	**17.95**	**192**	T	T	10 13 31.8	
	baz=14,slow=74,SNR=198						
H03N2	**Juan Fernandez**	**17.95**	**192**	T	T	10 13 29.6	
	baz=14,slow=74,SNR=178						
H03N3	**Juan Fernandez**	**17.97**	**192**	T	T	10 13 30.5	
	baz=14,slow=74,SNR=182						
BOAV	**Boa Vista**	**22.77**	**38**	P	**P**	**09 55 39.2**	**-1.6**
SDV	**Santo Domingo**	**24.89**	**9**	P	**P**	**09 56 01.2**	**+0.3**
SDV				IAmb	IAmb	09 56 16.2	
	comp=Z,6.4nm,1.1s						
SDV	**Santo Domingo**	**24.89**	**9**	P	**P**	**09 56 00.9**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=186,slow=3.5,SNR=4.5						
	comp=Z,5.2nm,0.8s						
PLCA	**Paso Flores**	**24.99**	**173**	P	**P**	**09 56 02.6**	**+1.0**
PLCA	**Paso Flores**	**24.99**	**173**	P	**P**	**09 56 03.0**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=338,slow=13,SNR=4.0						
	comp=Z,1.9nm,0.8s						
BAUV	**El Baul**	**25.46**	**15**	P	**P**	**09 56 06.2**	**+0.3**
TXAR	**Lajitas Array**	**53.08**	**328**	P	**P**	**09 59 54.3**	**-0.7**
TXAR	**Lajitas Array**	**53.08**	**328**	P	**P**	**09 59 54.7**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=153,slow=8.5,SNR=9.5						
	comp=Z,1.1nm,0.7s						
U49A	**Red Boiling Sp**	**53.20**	**349**	P	**P**	**09 59 54.4**	**-1.2**
PDAR	**Pinedale Array**	**66.69**	**333**	P	**P**	**10 01 28.1**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=131,slow=6.1,SNR=2.0						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**67.88**	**324**	P	**P**	**10 01 36.0**	**0.0**
	comp=Z,0.6nm,0.8s,baz=126,slow=4.6,SNR=2.4						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**74.28**	**180**	P	**P**	**10 02 16.1**	**+1.9**
QSPA				IAmb	IAmb	10 02 59.2	
	comp=Z,10.0nm,1.2s						
FCC	**Fort Churchill**	**76.10**	**350**	P	**P**	**10 02 23.5**	**-0.9**
EDM	**Edmonton**	**76.53**	**337**	P	**P**	**10 02 26.3**	**-0.8**
EDM				IAmb	IAmb	10 02 27.3	
	comp=Z,8.1nm,1.1s						
TOA0	**Torodi Ar. Sit**	**80.59**	**73**	P	**P**	**10 02 51.2**	**+0.9**
TOA0				IAmb	IAmb	10 02 51.9	
	comp=Z,3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.59**	**73**	P	**P**	**10 02 50.9**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=262,slow=5.1,SNR=5.1						
	comp=Z,3.5nm,0.7s						
YKA	**Yellowknife Ar**	**84.23**	**342**	P	**P**	**10 03 07.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=124,slow=7.8,SNR=12						
	comp=Z,0.7nm,0.8s						
ESDC	**Sonseca Array**	**85.67**	**47**	P	**P**	**10 03 16.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=273,slow=5.0,SNR=2.6						
	comp=Z,0.5nm,0.8s						
H11N3	**WAKE ISLAND Hyl**	**21.74**	**284**	T	T	12 22 45.1	
	baz=98,slow=74,SNR=5.7						
H11N2	**WAKE ISLAND Hyl**	**21.75**	**284**	T	T	12 22 47.9	
	baz=98,slow=74,SNR=8.8						
H11N1	**WAKE ISLAND Hyl**	**21.76**	**284**	T	T	12 22 44.5	
	baz=98,slow=74,SNR=7.4						
ASAR	**Alice Springs**	**131.92**	**216**	PKP	**PKPdf**	**10 09 51.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=130,slow=1.7,SNR=9.6						
WRA	**Warramunga Arr**	**134.54**	**219**	PKP	**PKPdf**	**10 09 55.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=136,slow=1.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**138.70**	**19**	PKP	**PKPdf**	**10 10 03.5**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=318,slow=1.9,SNR=5.4						
MKAR	**Makanchi Array**	**143.60**	**27**	PKP	PKPbc	10 10 10.1	+0.8
	comp=Z,0.4nm,0.7s,baz=352,slow=2.9,SNR=2.6						
MJAR	**Matsushiro Arr**	**144.47**	**312**	PKP	**PKPab**	**10 10 11.3**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=62,slow=2.4,SNR=3.9						
SONM	**Songino Array**	**148.13**	**359**	PKPbc	**PKPbc**	**10 10 23.1**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=344,slow=2.0,SNR=9.6						
KSRS	**Korea Array**	**150.80**	**322**	PKPbc	**PKiKP**	**10 10 30.5**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=345,slow=2.4,SNR=8.0						

*IDC **14** 09:57:14.9±6.7, 37°.00N×70°.03E, h162km±48km, mbtmp3.5/6, Error ellipse: s-maj=100.9km s-min=24.3km az=150.0*
*NNC **14** 09:57:14.1±8.8, 36°.87N×70°.11E, h105km±158km, mb2.9, mpv2.9, Error ellipse: s-maj=70.7km s-min=57.5km az=179.0*

ISC 14 09:57:18.0±2.9, 37°.1N±0°.2×70°.4E±0°.1, h200km, n11, σ0§85/13, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.65**	**26**	⇑P	**Pn**	**09 58 39.6**	**-1.4**
	0.2nm,0.5s						
AML				⇓S	**Sn**	**09 59 46.0**	**-0.6**
	1.4nm,0.5s						
KK31	**Karatay Array**	**6.01**	**1**	P	**Pn**	**09 58 44.2**	**-1.2**
	1.0nm,0.3s,baz=177,slow=13,SNR=52						
KK31				S	**Sn**	**09 59 55.0**	**+0.4**
	2.0nm,0.2s,baz=187,slow=24,SNR=17						
AAK	**Ala-Archa**	**6.38**	**28**	P	**Pn**	**09 58 49.7**	**-0.5**
	1.0nm,0.3s,baz=213,slow=16,SNR=4.5						
AAK				S	**Sn**	**10 00 03.7**	**+0.3**
	3.8nm,0.7s,baz=338,slow=24,SNR=11						
GEYT	**Alibeck**	**9.79**	**279**	P	Pn	09 59 27.9	-6.5
	0.5nm,0.4s,baz=96,slow=2.9,SNR=1.3						
MAKZ	**Makanchi**	**12.98**	**38**	⇓P	**P**	**10 00 18.9**	**+0.6**
	2.1nm,0.4s						
MK31	**Makanchi Array**	**13.12**	**39**	⇓P	**P**	**10 00 20.2**	**+0.3**
	1.1nm,0.5s,baz=208,slow=9.1,SNR=18						
MKAR	**Makanchi Array**	**13.12**	**39**	P	**P**	**10 00 20.0**	**+0.1**
	1.3nm,0.6s,baz=210,slow=11,SNR=18						
AB31	**Akbulak array**	**14.34**	**331**	P	**Pn**	**10 00 31.9**	**0.0**
	0.1nm,0.3s,baz=170,slow=11,SNR=5.8						
KURBB	**Kurchatov Arra**	**14.74**	**21**	P	**P**	**10 00 38.5**	**+0.8**
	0.6nm,0.7s,baz=208,slow=11,SNR=5.0						
BVAR	**Borovoye Array**	**15.94**	**360**	P	**Pn**	**10 00 52.7**	**+1.3**
	0.3nm,0.3s,baz=190,slow=7.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**19.60**	**26**	P	**P**	**10 01 31.3**	**+0.5**
	0.9nm,0.3s,baz=218,slow=11,SNR=6.4						

TAP 14 10:23:02.1, 24°.47N×121°.84E, h16km, ML1.3, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.06**	**247**	P	Pg	10 23 05.8	+0.8
	baz=247						
EWUT				S	Sg	10 23 07.8	+0.9
	baz=247						
ENA	**Nanau**	**0.09**	**246**	P	Pg	10 23 05.9	+0.6
	baz=242						
ENA				S	Sg	10 23 08.4	+0.9
	baz=242						
ESAO	**Su ao**	**0.11**	**4**	P	Pb	10 23 06.0	+0.1
	baz=4.0						
ESAO				*i* S	Sb	10 23 08.5	+0.1
	baz=4.0						
TWC	**Suao**	**0.14**	**5**	⇑*i* P	Pb	10 23 06.7	+0.3
	baz=8.0						
TWC				*i* S	Sb	10 23 09.2	-0.1
	baz=8.0						
EAHA	**Aohua**	**0.16**	**212**	*e*P	Pb	10 23 06.8	0.0
	baz=212						
EAHA				*e*S	Sb	10 23 10.0	+0.1
	baz=212						
NDS	**Dongshan**	**0.20**	**327**	*e*P	Pb	10 23 07.2	-0.2
	baz=327						
NDS				*e*S	Sb	10 23 11.0	+0.1
	baz=327						
LATG	**Datong**	**0.29**	**284**	*e*P	Pb	10 23 08.9	-0.1
	baz=283						
LATG				*e*S	Sb	10 23 13.8	+0.1
	baz=283						
ENTT	**Nioudou**	**0.30**	**305**	P	Pb	10 23 09.4	+0.3
	baz=305						
ENTT				*i* S	Sb	10 23 14.6	+0.8
	baz=305						
NDT	**Datong Townshi**	**0.32**	**295**	*e*P	Pb	10 23 09.2	-0.3
	baz=294						
NDT				*e*S	Sb	10 23 15.1	+0.6
	baz=294						
EOS2	**EOS2**	**0.36**	**97**	*e*P	Pb	10 23 10.3	+0.2
	baz=97						
EOS2				*e*S	Sb	10 23 16.2	+0.6
	baz=97						
NACB	**Ninganchiao**	**0.36**	**217**	*e*P	Pg	10 23 09.6	+0.1
	baz=216						
NACB				*e*S	Sb	10 23 15.8	+0.1
	baz=216						
FUSB	**Fushanzhiwuyua**	**0.37**	**322**	*e*P	Pb	10 23 10.6	+0.3
	baz=322						
FUSB				S	Sb	10 23 16.3	+0.4
	baz=322						
EGS		**0.39**	**13**	P	Pb	10 23 11.2	+0.6
	baz=14						
EGS				*e*S	Sb	10 23 16.9	+0.6
	baz=14						
NNSB	**Datong**	**0.41**	**265**	*e*S	Sb	10 23 17.2	-0.1
	baz=264						
NWLT	**Wulai**	**0.43**	**316**	*e*P	Pb	10 23 11.7	+0.3
	baz=315						
NWLT				*e*S	Sb	10 23 17.5	-0.2
	baz=315						
YHNB	**Yeheng**	**0.46**	**296**	*e*P	Pb	10 23 12.7	+0.7
	baz=295						
YHNB				*e*S	Sb	10 23 19.0	+0.3
	baz=295						
EOS3	**EOS3**	**0.47**	**112**	*e*S	Sb	10 23 19.3	+0.6
	baz=112						
NSK	**Sanguang**	**0.48**	**296**	*e*P	Pb	10 23 12.2	0.0
	baz=295						
NSK				*e*S	Sb	10 23 19.3	+0.1
	baz=295						
TIPB	**Shuangxi**	**0.50**	**359**	*e*P	Pb	10 23 12.8	+0.1
	baz=358						
TIPB				*e*S	Sb	10 23 19.8	+0.1
	baz=358						

JMA 14 10:23:38.2±0.3, 24°N±1°×123°.6E±0°.6, h40km±1km, MV1.6/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.21**	**46**	P	Pn	10 23 45.4	-0.4
HATJ				*e*S	Sn	10 23 50.6	-0.8
JKRS	**Kuro-shima**	**0.47**	**46**	P	Pn	10 23 48.7	+0.2
JKRS				S	Sn	10 23 56.1	+0.3
JIJ	**Ishigaki jima**	**0.65**	**45**	P	Pn	10 23 50.8	-0.1
JIJ				S	Sn	10 23 59.5	-0.5
YOJ	**Yonaguni jima**	**0.80**	**314**	P	Pn	10 23 53.2	+0.2
YOJ				S	Sn	10 24 04.2	+0.5
JYNG	**Yonagunijimaku**	**0.83**	**311**	*e*P	Pn	10 23 53.6	+0.2
JYNG				*e*S	Sn	10 24 04.2	-0.3
JISG	**Ishigakijimahi**	**0.91**	**42**	*e*P	Pn	10 23 54.4	-0.2
JISG				*e*S	Sn	10 24 06.7	+0.2

*IDC **14** 10:23:47.7±1.1, 39°.12N×106°.12E, h0km, mb3.5/7, mbtmp3.5/8, ML3.0/1, Error ellipse: s-maj=40.8km s-min=19.4km az=63.0*
ISC 14 10:23:53.0±1.3, 39°.1N±0°.2×106°.1E±0°.3, h35km, n8, σ0§59/8, mb3.7/6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**8.70**	**2**	Pn	**Pn**	**10 25 56.0**	**-0.3**
	0.2nm,0.3s,baz=182,slow=15,SNR=4.7						
SONM				Lg	Lg	10 28 23.5	
	0.3nm,0.3s,baz=177,slow=31,SNR=3.6						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.68**	**323**	P	**P**	**10 28 30.4**	**+0.7**
	0.7nm,0.6s,baz=119,slow=12,SNR=3.7						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**22.49**	**310**	P	**P**	**10 28 49.1**	**-0.1**
	0.6nm,0.8s,baz=110,slow=9.7,SNR=5.8						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**28.03**	**311**	P	**P**	**10 29 41.1**	**+0.5**
	0.9nm,0.5s,baz=106,slow=10.0,SNR=6.5						
	0.9nm,0.5s						
HFS	**Hagfors**	**58.11**	**324**	P	**P**	**10 33 42.4**	**-0.2**
	0.8nm,0.6s,baz=38,slow=7.3,SNR=4.2						
	0.8nm,0.6s						
NOA	**NORSAR Array B**	**58.85**	**325**	P	**P**	**10 33 47.1**	**-0.7**
	0.4nm,0.5s,baz=63,slow=6.9,SNR=1.6						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**67.70**	**152**	P	**P**	**10 34 46.6**	**-0.2**
	0.6nm,0.5s,baz=336,slow=6.6,SNR=22						
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**73.57**	**18**	P	**P**	**10 35 22.6**	**+0.6**
	0.2nm,0.8s,baz=322,slow=4.8,SNR=3.7						
	0.2nm,0.8s						

ROM 14 10:40:54.0±0.1, 37°.811N±0°.004×14°.894E±0°.008, h28km, ML2.4/34, 3C-4D, Error ellipse: s-maj=0.7km s-min=0.3km az=100.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPZF	**Pizzo Felice**	**0.03**	**294**	⇓P	Pb	10 40 58.6	-0.3
EPZF				S	Sb	10 41 02.7	+0.4
EPZF				AML	AML		
	comp=E,3545μm,0.5s						
EPZF				AML	AML		
	comp=N,3170μm,0.9s						
EPZF				AML	AML		
	comp=N,3152μm,0.3s						
EPZF				AML	AML		
	comp=N,3152μm,1.7s						
EPZF				AML	AML		
	comp=E,3546μm,0.5s						
EMSG	**Monte Spagnolo**	**0.05**	**77**	P	Pb	10 40 58.7	-0.3
EMSG				S	Sb	10 41 02.5	+0.1
EMSG				AML	AML		
	comp=E,4250μm,0.5s						
EMSG				AML	AML		
	comp=N,3430μm,0.7s						
EMSG				AML	AML		
	comp=N,3430μm,1.3s						
EMSG				AML	AML		
	comp=E,4250μm,1.5s						
EMSG				AML	AML		
	comp=N,3353μm,0.2s						
EMSG				AML	AML		
	comp=E,3844μm,0.4s						

ESLN	**Serra La Nave**	**0.13**	**151**	P	Pb	10 40 59.4	-0.2
ESLN				AML	AML		
	comp=E,746μm,0.5s						
ESLN				AML	AML		
	comp=E,746μm,1.5s						
ESLN				AML	AML		
	comp=N,661μm,0.4s						
ESML	**S. M. di Licod**	**0.19**	**184**	P	Pb	10 41 00.3	+0.4
ESML				AML	AML		
	comp=N,926μm,0.6s						
ESML				AML	AML		
	comp=N,926μm,1.4s						
ESML				AML	AML		
	comp=E,1230μm,0.5s						
ESML				AML	AML		
	comp=N,924μm,0.6s						
ESML				AML	AML		
	comp=E,1230μm,0.5s						
ESML				AML	AML		
	comp=N,924μm,1.4s						
MUCR	**Ucria**	**0.23**	**356**	⇓P	Pb	10 41 00.2	-0.3
MUCR				S	Sb	10 41 04.9	0.0
MUCR				AML	AML		
	comp=N,450μm,0.3s						
MUCR				AML	AML		
	comp=E,546μm,0.7s						
MUCR				AML	AML		
	comp=E,475μm,0.4s						
MUCR				AML	AML		
	comp=N,450μm,0.3s						
GALF	**Gagliano Caste**	**0.28**	**249**	⇑P	Pb	10 41 01.5	+0.4
GALF				AML	AML		
	comp=E,850μm,0.6s						
GALF				AML	AML		
	comp=N,776μm,0.4s						
GALF				AML	AML		
	comp=N,776μm,1.6s						
GALF				AML	AML		
	comp=N,776μm,0.4s						
GALF				AML	AML		
	comp=E,850μm,0.6s						
GALF				AML	AML		
	comp=N,776μm,1.6s						
NOV	**Novara**	**0.29**	**42**	⇑P	Pb	10 41 01.2	0.0
NOV				S	Sb	10 41 06.9	+0.7
NOV				AML	AML		
	comp=E,887μm,0.3s						
NOV				AML	AML		
	comp=N,734μm,0.2s						
NOV				AML	AML		
	comp=E,887μm,1.7s						
NOV				AML	AML		
	comp=E,887μm,0.3s						
NOV				AML	AML		
	comp=N,733μm,0.2s						
NOV				AML	AML		
	comp=E,887μm,1.7s						
AIO	**Antillo**	**0.31**	**59**	⇑P	Pb	10 41 01.6	+0.1
AIO				S	Sb	10 41 07.3	+0.7
AIO				AML	AML		
	comp=N,622μm,0.4s						
AIO				AML	AML		
	comp=E,686μm,0.4s						
AIO				AML	AML		
	comp=E,686μm,1.6s						
AIO				AML	AML		
	comp=N,622μm,1.6s						
AIO				AML	AML		
	comp=E,686μm,0.4s						
AIO				AML	AML		
	comp=N,621μm,0.4s						
AIO				AML	AML		
	comp=E,686μm,1.6s						
AIO				AML	AML		
	comp=N,621μm,1.6s						
MSFR	**San Fratello**	**0.33**	**313**	⇓P	Pb	10 41 01.8	0.0
MSFR				S	Sb	10 41 07.6	+0.6
MSFR				AML	AML		
	comp=N,144μm,0.5s						
MSFR				AML	AML		
	comp=E,99μm,1.0s						
MSFR				AML	AML		
	comp=N,143μm,0.5s						
MSFR				AML	AML		
	comp=E,99μm,1.0s						
MSFR				AML	AML		
	comp=N,132μm,0.3s						
MSFR				AML	AML		
	comp=E,90μm,0.5s						
EPOZ	**Pozzillo**	**0.33**	**153**	P	Pb	10 41 01.6	-0.2
EPOZ				AML	AML		
	comp=E,802μm,0.4s						
EPOZ				AML	AML		
	comp=N,724μm,1.1s						
EPOZ				AML	AML		
	comp=E,802μm,1.6s						
EPOZ				AML	AML		
	comp=N,724μm,0.9s						
EPOZ				AML	AML		
	comp=E,802μm,0.4s						
EPOZ				AML	AML		
	comp=N,713μm,0.4s						
EPOZ				AML	AML		
	comp=E,802μm,1.6s						
HLNI	**Lentini**	**0.46**	**182**	⇓P	Pb	10 41 03.5	-0.2
HLNI				S	Sn	10 41 11.2	-0.8
HLNI				AML	AML		
	comp=E,453μm,0.9s						
HLNI				AML	AML		
	comp=N,406μm,0.3s						
HLNI				AML	AML		
	comp=E,453μm,1.1s						
HLNI				AML	AML		
	comp=N,385μm,0.1s						
HLNI				AML	AML		
	comp=E,374μm,0.1s						
VPL	**Vulcano Piano**	**0.57**	**7**	P	Pb	10 41 05.8	+0.3
VPL				S	Sn	10 41 14.8	0.0
VPL				AML	AML		
	comp=E,702μm,0.5s						
VPL				AML	AML		
	comp=N,505μm,0.4s						
VPL				AML	AML		
	comp=N,505μm,0.4s						
VPL				AML	AML		
	comp=E,702μm,0.5s						
MSRU	**Castanea**	**0.66**	**47**	P	Pb	10 41 07.3	+0.2
MSRU				AML	AML		
	comp=N,224μm,0.4s						
MSRU				AML	AML		
	comp=E,280μm,0.5s						
MSRU				AML	AML		
	comp=N,225μm,0.4s						
MSRU				AML	AML		
	comp=E,279μm,0.5s						
SSY	**Sortino**	**0.67**	**168**	P	Pb	10 41 06.9	-0.3
SSY				S	Sn	10 41 16.9	-0.3
SSY				AML	AML		
	comp=E,342μm,0.3s						
SSY				AML	AML		
	comp=N,684μm,0.3s						
SSY				AML	AML		
	comp=N,684μm,0.3s						
RAFF	**Raffo Rosso**	**0.72**	**216**	P	Pn	10 41 08.6	+0.3
RAFF				AML	AML		
	comp=N,305μm,0.2s						
RAFF				AML	AML		
	comp=E,297μm,0.2s						
IACL	**Alicudi**	**0.84**	**330**	P	Pn	10 41 09.9	-0.1
IACL				AML	AML		
	comp=E,189μm,0.4s						
IACL				AML	AML		
	comp=N,171μm,0.4s						
HMDC	**Modica**	**0.86**	**186**	P	Pn	10 41 09.9	-0.4
HMDC				AML	AML		
	comp=E,564μm,1.2s						
HMDC				AML	AML		
	comp=N,435μm,1.0s						
HMDC				AML	AML		
	comp=E,562μm,0.5s						
HMDC				AML	AML		
	comp=N,375μm,0.3s						

ROM 14 10:41:43.8±0.2, 37°.818N±0°.007×14°.88E±0°.01, h28km±1km, ML1.7/13, 1D, Error ellipse: s-maj=1.0km s-min=0.5km

az=127.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPZF	**Pizzo Felice**	**0.02**	**289**	P	Pb	10 41 48.5	-0.2
EPZF				S	Sb	10 41 52.2	+0.2
EPZF				AML	AML		
	comp=N,351μm,0.3s						
EPZF				AML	AML		
	comp=E,442μm,0.3s						
EMSG	**Monte Spagnolo**	**0.06**	**87**	P	Pb	10 41 48.6	-0.2
EMSG				S	Sb	10 41 52.4	+0.1
EMSG				AML	AML		
	comp=N,496μm,0.5s						
EMSG				AML	AML		
	comp=N,496μm,1.5s						
EMSG				AML	AML		
	comp=E,679μm,0.5s						
MUCR	**Ucria**	**0.22**	**359**	⇓P	Pb	10 41 50.1	-0.2
MUCR				AML	AML		
	comp=N,66μm,0.5s						
MUCR				AML	AML		
	comp=E,71μm,0.5s						
GALF	**Gagliano Caste**	**0.27**	**247**	P	Pn	10 41 51.5	-0.5
GALF				AML	AML		
	comp=N,115μm,0.6s						
GALF				AML	AML		
	comp=E,145μm,0.6s						
GALF				AML	AML		
	comp=N,115μm,1.4s						
NOV	**Novara**	**0.29**	**44**	P	Pb	10 41 51.0	-0.1
NOV				S	Sb	10 41 56.9	+0.9
MSFR	**San Fratello**	**0.31**	**313**	P	Pb	10 41 51.7	+0.3
AIO	**Antillo**	**0.32**	**61**	P	Pb	10 41 51.4	0.0
AIO				S	Sb	10 41 57.0	+0.3
AIO				AML	AML		
	comp=E,98μm,0.4s						
AIO				AML	AML		
	comp=N,98μm,0.4s						
EPOZ	**Pozzillo**	**0.34**	**152**	P	Pb	10 41 51.5	-0.2
HLNI	**Lentini**	**0.47**	**181**	P	Pb	10 41 53.6	0.0
HLNI				S	Sb	10 42 01.0	+0.7
HLNI				AML	AML		
	comp=E,62μm,0.1s						
HLNI				AML	AML		
	comp=N,83μm,0.1s						
SSY	**Sortino**	**0.68**	**167**	P	Pb	10 41 56.8	-0.4
SSY				S	Sn	10 42 07.0	-0.3
SSY				AML	AML		
	comp=N,110μm,0.2s						
SSY				AML	AML		
	comp=N,110μm,1.8s						

IDC ***14*** *10:44:07.8±0.9, 17°.24N×83°.43W, h0km, mb3.6/10, mbtmp3.7/13, ML3.3/3, Error ellipse: s-maj=28.3km s-min=18.2km az=43.0*
NEIC ***14*** *10:44:10.0±2.6, 17°.46N±0°.05×83°.24W±0°.08, h10km±1km, mb4.1/10, Error ellipse: s-maj=13.2km s-min=9.3km az=281.0*

ISC 14 10:44:10.6±0.4**, 17°.35N**±0°.05×**83°.38W**±0°.06**, h18**km**, n75, σ2s05/78, mb3.8/12, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**4.98**	**229**	Pn	**Pn**	**10 45 26.6**	**+2.0**
TGUH	**Tegucigalpa,Un**	**4.98**	**229**	*eP*	**Pn**	**10 45 24.2**	**-0.4**
MATN	**Matagalpa**	**5.04**	**210**	Pn	**Pn**	**10 45 27.8**	**+2.4**
ESPN	**Las Esperanzas**	**5.20**	**190**		**Pn**	**10 45 30.0**	**+2.5**
SOR	**Soroa**	**5.43**	**4**	Pn	**Pn**	**10 45 29.8**	**-0.9**
TEIG	**Tepich**	**5.45**	**302**	Pn	**Pn**	**10 45 30.4**	**-0.6**
TEIG	**Tepich**	**5.45**	**302**	Pn	**Pn**	**10 45 29.6**	**-1.4**
	108nm,0.3s,baz=128,slow=2.4,SNR=156						
TEIG				Sn	**Sn**	**10 46 28.2**	**-5.1**
	77nm,0.3s,baz=163,slow=19,SNR=7.0						
TEIG	**Tepich**	**5.45**	**302**	*eP*	**Pn**	**10 45 30.2**	**-0.8**
ACON	**Acoyapa**	**5.62**	**198**		**Pn**	**10 45 36.5**	**+3.2**
ACON	**Acoyapa**	**5.62**	**198**	*iP*	**Pn**	**10 45 36.6**	**+3.2**
MTDJ	**Mount Denham**	**5.63**	**80**	Pn	**Pn**	**10 45 31.3**	**-2.3**
MTDJ	**Mount Denham**	**5.63**	**80**	*eP*	**Pn**	**10 45 30.9**	**-2.6**
CNGN	**Cerro Negro**	**5.79**	**214**	*eP*	**Pb**	**10 45 49.2**	**-1.9**
CRIN	**San Cristobal**	**5.83**	**218**	*eP*	**Pn**	**10 45 39.1**	**+2.9**
STH	**Stony Hill**	**6.30**	**82**	*iP*	**Pn**	**10 45 41.3**	**-1.4**
HOJ	**Hope**	**6.35**	**83**	*iP*	**Pn**	**10 45 42.0**	**-1.3**
GWJ	**Greenwich**	**6.38**	**82**	*iP*	**Pn**	**10 45 42.5**	**-1.3**
MTO3	**Montecristo**	**6.46**	**244**		**Pn**	**10 45 48.0**	**+2.9**
JTS	**Las Juntas de**	**7.18**	**193**	Pn	**Pn**	**10 45 52.9**	**-1.8**
	0.3nm,0.3s,baz=159,slow=20,SNR=1.4						
JTS				Sn	**Sn**	**10 47 15.5**	**-0.5**
	0.3nm,0.3s,baz=0.3,slow=22,SNR=1.3 2.9nm,0.5s						
ORTG	**Ortega, Santa**	**7.23**	**197**	Pn	**Pn**	**10 45 59.5**	**+3.9**
RIMA	**Rio Macho**	**7.55**	**184**	Pn	**Pn**	**10 46 00.8**	**+0.7**
DRK0	**Durika**	**8.04**	**179**	Pn	**Pn**	**10 46 08.1**	**+1.4**
GTBY	**Guantanamo Bay**	**8.24**	**71**	Pn	**Pn**	**10 46 07.6**	**-1.7**
GTBY	**Guantanamo Bay**	**8.24**	**71**	*eP*	**Pn**	**10 46 07.2**	**-2.1**
CCIG	**Comitan**	**8.46**	**264**	Pn	**Pn**	**10 46 13.5**	**+1.0**
061Z	**Ochoppi**	**8.78**	**15**	Pn	**Pn**	**10 46 14.3**	**-2.4**
SJCC	**San Jacinto, C**	**10.87**	**132**		**Pn**	**10 46 44.7**	**-0.8**
SJCC	**San Jacinto, C**	**10.87**	**132**	*eP*	**Pn**	**10 46 45.7**	**+0.3**
SDDR	**Presa de Saban**	**11.61**	**80**	Pn	**Pn**	**10 46 57.7**	**+2.2**
SDDR	**Presa de Saban**	**11.61**	**80**	*eP*	**Pn**	**10 46 56.8**	**+1.3**
UREC	**San Jos de Ur**	**12.22**	**140**	*eP*	**Pn**	**10 47 02.8**	**-1.1**
ZARC	**Zaragoza, Cauc**	**12.85**	**139**	*eP*	**Pn**	**10 47 11.6**	**-0.8**
OCAC	**Ocana**	**13.34**	**131**	*eP*	**Pn**	**10 47 16.7**	**-2.6**
451A	**Vernon**	**13.38**	**351**	Pn	**Pn**	**10 47 17.8**	**-1.9**
CBOC	**Ciudad Bolivar**	**13.49**	**147**	*eP*	**P**	**10 47 26.7**	**-3.9**
PTBC	**PUERTO BERRIO,**	**13.83**	**140**	*eP*	**Pn**	**10 47 24.2**	**-1.7**
PLMC	**San Jos del P**	**14.18**	**150**	*eP*	**Pn**	**10 47 34.1**	**+3.4**
GUY2C	**Guyana, Caldas**	**14.38**	**146**	*eP*	**P**	**10 47 42.8**	**+2.1**
PAMC	**Pamplona, Colo**	**14.40**	**132**	*eP*	**Pn**	**10 47 34.5**	**+0.4**
255A	**Hazlehurst**	**14.54**	**3**	Pn	**Pn**	**10 47 33.1**	**-2.3**
BARC	**Barichara**	**14.61**	**136**	*eP*	**Pn**	**10 47 33.6**	**-3.1**
SPBC	**San Pablo de B**	**14.76**	**141**	*eP*	**P**	**10 47 47.4**	**+2.8**
SDV	**Santo Domingo**	**14.98**	**123**		**Pn**	**10 47 39.5**	**-2.3**
SDV	**Santo Domingo**	**14.98**	**123**	Pn	**Pn**	**10 47 39.1**	**-2.7**
	0.8nm,0.3s,baz=342,slow=11,SNR=4.9 3.4nm,0.5s						
SDV	**Santo Domingo**	**14.98**	**123**	*eP*	**Pn**	**10 47 38.6**	**-3.2**
ORTC	**Ortega, Tolima**	**15.55**	**148**	*eP*	**P**	**10 47 53.0**	**-0.3**
TAMC	**Tame, Arauca**	**15.68**	**132**	*eP*	**P**	**10 47 57.5**	**+2.7**
PRAC	**Prado**	**15.90**	**147**	*eP*	**P**	**10 47 56.4**	**-0.9**
LRAL	**Lakeview Retre**	**15.96**	**349**	Pn	**Pn**	**10 47 51.6**	**-2.7**
PTGC	**Puerto Gaitan,**	**17.09**	**139**	*eP*	**P**	**10 48 12.7**	**+2.3**
BAUV	**El Baul**	**17.10**	**117**	P	**Pn**	**10 48 06.3**	**-2.5**
OTAV	**Otavalo**	**17.68**	**164**	*eP*	**Pn**	**10 48 13.1**	**-3.5**
W50A	**Signal Mountai**	**17.86**	**355**	P	**P**	**10 48 19.0**	**+0.2**
W50A				IAmb	IAmb	10 48 33.7	
	comp=Z,16nm,1.4s						
TKL	**Tuckaleechee C**	**18.24**	**359**	P	**Pn**	**10 48 22.7**	**-0.2**
TKL				IAmb	IAmb	10 49 05.0	
	comp=Z,25nm,1.4s						
TKL	**Tuckaleechee C**	**18.24**	**359**	P	**P**	**10 48 23.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=231,slow=6.4,SNR=4.2 comp=Z,0.7nm,0.3s						
833A	**Chaparral WMA,**	**18.34**	**309**	P	**Pn**	**10 48 25.2**	**+1.0**
833A				IAmb	IAmb	10 48 41.8	
	comp=Z,12nm,0.8s						
V48A	**Smith Brothers**	**18.57**	**351**	P	**Pn**	**10 48 27.0**	**+0.1**
HNDO	**Hondo**	**18.95**	**313**	P	**Pn**	**10 48 33.8**	**+2.3**
HNDO				IAmb	IAmb	10 48 35.6	
	comp=Z,11nm,0.8s						
SAND	**Sanderson**	**21.23**	**310**	P	**P**	**10 48 58.6**	**+2.9**
CCM	**Cathedral Cave**	**21.76**	**343**	P	**P**	**10 48 59.5**	**-1.7**
CCM				IAmb	IAmb	10 49 13.7	
	comp=Z,6.5nm,0.7s						
TXAR	**Lajitas Array**	**22.08**	**306**	P	**P**	**10 49 05.6**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=119,slow=8.8,SNR=2.3						
TXAR				S	**S**	**10 53 07.2**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=116,slow=26,SNR=2.6 comp=Z,0.3nm,0.5s						
ALPN	**Alpine**	**22.57**	**309**	P	**P**	**10 49 13.6**	**+3.4**
ALPN				IAmb	IAmb	10 49 45.2	
	comp=Z,6.0nm,1.0s						
BOAV	**Boa Vista**	**26.92**	**121**	*eP*	**P**	**10 49 50.4**	**-0.6**
PDAR	**Pinedale Array**	**33.73**	**324**	P	**P**	**10 50 51.6**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=103,slow=11,SNR=2.3 comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**37.02**	**312**	P	**P**	**10 51 19.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=132,slow=5.3,SNR=1.4 comp=Z,0.5nm,0.8s						
SCHQ	**Schefferville**	**39.52**	**15**	P	**P**	**10 51 41.1**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=208,slow=11,SNR=1.2 comp=Z,0.8nm,0.4s						

BDFB	**Brasilia**		**47.86**	**131**	P	**P**	**10 52 47.5**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=360,slow=10,SNR=3.9 comp=Z,2.5nm,0.7s						
YKA	**Yellowknife Ar**		**50.09**	**342**	P	**P**	**10 53 05.2**	**+1.0**
	comp=Z,0.1nm,0.7s,baz=135,slow=8.0,SNR=2.2 comp=Z,0.1nm,0.7s						
ILAR	**Eielson Array**		**63.24**	**335**	P	**P**	**10 54 38.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=112,slow=3.9,SNR=4.5 comp=Z,0.5nm,0.8s						
EKA	**Eskdalemuir Ar**		**70.37**	**37**	P	**P**	**10 55 23.9**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=219,slow=5.5,SNR=2.6 comp=Z,1.9nm,0.8s						
ESDC	**Sonseca Array**		**71.10**	**53**	P	**P**	**10 55 29.4**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=289,slow=6.0,SNR=9.0 comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**		**81.55**	**79**	P	**P**	**10 56 28.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=299,slow=6.0,SNR=2.6 comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**		**144.22**	**260**	PKP	**PKPdf**	**11 03 45.6**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=88,slow=3.8,SNR=3.4						
CMAR	**Chiang Mai Arr**		**144.35**	**356**	PKP	**PKPdf**	**11 03 46.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=328,slow=6.6,SNR=1.3						
ASAR	**Alice Springs**		**144.59**	**253**	PKP	**PKPdf**	**11 03 46.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=104,slow=3.6,SNR=26						

IDC ***14*** *10:50:54.1±0.9, 10°.27S×118°.70E, h0km, mb4.2/6, mbtmp4.1/9, ML3.7/3, Error ellipse: s-maj=40.7km s-min=19.0km az=72.0*
DJA ***14*** *10:50:56.0±0.6, 10°.5±7°×11°.9E±°, h132km±9km, M4.3/9, mb4.5/4, MLv4.2/9*

ISC 14 10:50:59.6±0.9**, 10°.22S**±0°.08×**118°.80E**±0°.05**, h35**km**, n22, σ2s19/23, mb4.2/6, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.71**	**324**	P	**Pn**	**10 51 26.7**	**-0.3**
PLAI				S	**Sn**	**10 51 50.0**	**+2.3**
BASI	**Baing, Sumba**	**1.75**	**90**	P	**Pn**	**10 51 26.9**	**-0.6**
BASI				S	**Sn**	**10 51 55.1**	**+6.5**
DBNI	**Kabupaten Domp**	**1.77**	**344**	P	**Pn**	**10 51 27.9**	**0.0**
DBNI				S	**Sn**	**10 51 52.1**	**+2.9**
TWSI	**Taliwang, Sumb**	**2.40**	**308**	P	**Pn**	**10 51 34.9**	**-1.6**
TWSI				S	**Sn**	**10 52 09.0**	**+4.4**
EDFI	**Ende, Flores**	**3.20**	**63**	P	**Pn**	**10 51 46.8**	**-0.8**
EDFI				S	**Sn**	**10 52 25.1**	**+0.5**
MMRI	**Maumere**	**3.74**	**65**	P	**Pn**	**10 51 54.9**	**0.0**
IGBI	**Denpasar**	**3.87**	**291**	P	Pn	10 51 50.2	-6.4
SRBI	**Singaraja**	**4.13**	**301**	P	Pn	10 51 50.7	-10
BKSI	**Bulukumba**	**5.04**	**15**	P	**Pn**	**10 52 12.6**	**-0.2**
	116nm,1.1s,0.6nm						
KAPI	**Kappang**	**5.26**	**10**	Pn	**Pn**	**10 52 15.9**	**+0.1**
	3.0nm,0.3s,baz=184,slow=11,SNR=24						
KAPI				Sn	**Sn**	**10 53 12.4**	**-2.8**
	1.4nm,0.3s,baz=224,slow=21,SNR=1.1 12nm,0.2s						
SOEI	**Soe**	**5.40**	**86**	P	**Pn**	**10 52 16.9**	**-1.0**
	59nm,0.7s,0.7nm						
WRA	**Warramunga Arr**	**17.83**	**125**	P	**Pn**	**10 55 02.9**	**-2.3**
	0.2nm,0.3s,baz=302,slow=13,SNR=9.0						
WRA				S	Sn	10 58 12.0	-11
	0.4nm,0.8s,baz=293,slow=24,SNR=2.5 1.2nm,0.6s						
ASAR	**Alice Springs**	**19.66**	**135**	P	**P**	**10 55 26.1**	**+0.4**
	0.5nm,0.3s,baz=318,slow=12,SNR=32 1.2nm,0.5s						
H08S2	**Diego Garcia H**	**45.79**	**269**	T	T	11 48 33.9	
	baz=96,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**45.80**	**269**	T	T	11 48 34.5	
	baz=96,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**45.81**	**269**	T	T	11 48 27.6	
	baz=96,slow=76,SNR=9.6						
SONM	**Songino Array**	**58.84**	**350**	P	**P**	**11 00 55.1**	**+0.3**
	1.6nm,0.8s,baz=171,slow=8.1,SNR=9.7 1.6nm,0.8s						
MKAR	**Makanchi Array**	**65.45**	**333**	P	**P**	**11 01 39.5**	**+0.4**
	1.6nm,0.8s,baz=141,slow=7.6,SNR=13 1.6nm,0.8s						
MAW	**Mawson**	**68.03**	**200**	P	**P**	**11 01 54.7**	**-0.5**
	5.1nm,0.2s,baz=342,slow=3.2,SNR=13 5.1nm,0.2s						
KURBB	**Kurchatov Arra**	**69.97**	**334**	P	**P**	**11 02 06.9**	**-0.5**
	0.8nm,0.7s,baz=145,slow=5.1,SNR=11 0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**70.11**	**339**	P	**P**	**11 02 06.9**	**-1.3**
	2.4nm,0.7s,baz=136,slow=4.6,SNR=11 2.4nm,0.7s						
BVAR	**Borovoye Array**	**75.28**	**332**	P	**P**	**11 02 39.4**	**+0.4**
	1.0nm,0.8s,baz=150,slow=6.0,SNR=2.8 1.0nm,0.8s						

JMA ***14*** *11:04:11.8±0.4, 34°.N±1°×13°.7E±°, h343km±3km, MV2.9/26, SE OFF KII PENINSULA*
IDC ***14*** *11:04:13.6±0.8, 33°.89N×137°.43E, h330km±12km, mb2.8/6, mbtmp3.4/9, Error ellipse: s-maj=28.1km s-min=13.1km az=61.0*

ISC 14 11:04:13.7±0.8**, 33°.93N**±0°.08×**137°.40E**±0°.07**, h330**km±7km**, n24, σ0s80/29, mb2.9/6, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.06**	**178**	*eP*	**Pn**	**11 04 55.3**	**+0.2**
TTO4	**TONANKAI O.B.S**	**0.14**	**55**	*eP*	**Pn**	**11 04 55.0**	**+0.2**
TTO2	**TONANKAI O.B.S**	**0.36**	**238**	*eP*	**Pn**	**11 04 55.3**	**+0.1**
TTO5	**TONANKAI O.B.S**	**0.42**	**39**	*eP*	**Pn**	**11 04 55.6**	**+0.3**
TTO1	**TONANKAI O.B.S**	**0.59**	**239**	*eP*	**Pn**	**11 04 55.6**	**-0.1**
JIE	**Ise**	**0.74**	**309**	P	**Pn**	**11 04 56.2**	**-0.1**
JTNC	**Tanabenakahech**	**1.49**	**266**	P	**Pn**	**11 04 59.4**	**-0.4**
JWY	**Kouya**	**1.52**	**282**	P	**Pn**	**11 05 00.0**	**-0.1**
JYTA	**Yamagatataniai**	**1.75**	**342**	P	**Pn**	**11 05 01.5**	**+0.2**
JOD2	**Odawara 2**	**1.93**	**46**	*eP*	**Pn**	**11 05 02.7**	**0.0**
JWT	**Wachi**	**2.13**	**310**	P	**Pn**	**11 05 04.2**	**+0.1**
JWT				*eS*	**S**	**11 05 44.7**	**+0.3**
JHJ	**Hachijo jima 2**	**2.15**	**111**	P	**Pn**	**11 05 04.7**	**+0.3**
	149nm,0.9s,baz=238,slow=22,SNR=1.4						
JHJ				S	**S**	**11 05 46.0**	**+1.1**
	142nm,0.9s,baz=253,slow=19,SNR=1.1						
JRY	**Ryogami san**	**2.43**	**30**	*eP*	**Pn**	**11 05 06.2**	**-0.3**
JRY				*eS*	**S**	**11 05 48.1**	**-0.7**
JAI	**Aioi**	**2.45**	**268**	P	**Pn**	**11 05 06.4**	**-0.4**
JAI				S	**S**	**11 05 48.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.69**	**14**	P	**Pn**	**11 05 08.4**	**-0.3**
	2.1nm,0.5s,baz=194,slow=10,SNR=5.2						
MJAR				S	**S**	**11 05 52.1**	**-0.8**
	1.4nm,0.6s,baz=173,slow=13,SNR=4.5						
JMN	**Monobe**	**2.93**	**267**	P	**Pn**	**11 05 10.9**	**-0.2**
JAG	**Ashikaga**	**3.01**	**33**	*eP*	**Pn**	**11 05 10.4**	**-1.2**
KSRS	**Korea Array**	**8.47**	**297**	P	**Pn**	**11 06 14.2**	**+1.1**
	2.7nm,0.8s,baz=110,slow=13,SNR=7.9						
SONM	**Songino Array**	**27.04**	**310**	P	**P**	**11 09 28.6**	**+2.0**
	0.5nm,0.6s,baz=124,slow=7.7,SNR=4.4 0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**37.54**	**256**	P	**P**	**11 10 57.4**	**0.0**
	0.5nm,0.3s,baz=45,slow=7.4,SNR=4.5 0.5nm,0.3s						
MKAR	**Makanchi Array**	**43.07**	**304**	P	**P**	**11 11 42.3**	**+0.3**
	0.2nm,0.4s,baz=82,slow=11,SNR=6.3 0.2nm,0.4s						
WRA	**Warramunga Arr**	**53.65**	**184**	P	**P**	**11 13 00.4**	**-1.8**
	0.1nm,0.3s,baz=356,slow=7.7,SNR=1.5 0.1nm,0.3s						
ASAR	**Alice Springs**	**57.37**	**184**	P	**P**	**11 13 27.1**	**-1.4**
	0.2nm,0.9s,baz=12,slow=13,SNR=4.2 0.2nm,0.9s						
TXAR	**Lajitas Array**	**94.62**	**50**	P	**P**	**11 16 58.6**	**+0.7**
	0.2nm,0.6s,baz=285,slow=2.8,SNR=2.4 0.2nm,0.6s						

MEX ***14*** *11:05:47.6±1.2, 15°.45N×94°.80W, h19km±15km, MD4.3*
IDC ***14*** *11:05:52.6±8.3, 15°.72N×94°.46W, h69km±55km, mb3.4/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=78.5km s-min=29.4km az=5.0*

ISC 14 11:05:41.6±1.5**, 15°.42N**±0°.05×**94°.81W**±0°.03**, h1**km±10km**, n36, σ2s04/61, mb3.7/4, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.16**	**9**	*iP*	**Pg**	**11 06 05.0**	**+1.1**
NILT				*eS*	**Sg**	**11 06 17.0**	**-1.9**
CARR	**Arriaga**	**1.19**	**46**	*iP*	**Pg**	**11 06 05.3**	**+0.8**
CARR				*eS*	**Sg**	**11 06 18.0**	**-2.1**
HUIG	**Huatulco**	**1.30**	**286**	*iP*	**Pg**	**11 06 07.8**	**+1.1**
HUIG				*iS*	**Sg**	**11 06 22.2**	**-1.3**
PCIG		**1.56**	**79**	*iP*	**Pn**	**11 06 11.3**	**+0.8**
PCIG				*eS*	**Sn**	**11 06 28.8**	**-2.6**
UXUV	**UXUV**	**2.00**	**18**	*iP*	**Pn**	**11 06 18.5**	**+2.0**
UXUV				*eS*	**Sn**	**11 06 41.7**	**-0.5**
TGBT	**Tuxtla Gutierr**	**2.13**	**50**	*eP*	**Pn**	**11 06 20.3**	**+1.9**
TGBT				*eS*	**Sn**	**11 06 44.6**	**-1.0**
PEIG	**Puerto Escondi**	**2.33**	**285**	*iP*	**Pn**	**11 06 22.1**	**+1.0**
PEIG				*eS*	**Sn**	**11 06 45.6**	**-4.8**
OXLC	**Oaxaca**	**2.45**	**312**	*eP*	**Pn**	**11 06 24.6**	**+1.6**
OXLC				*eS*	**Sn**	**11 06 53.0**	**-0.8**
NEUV	**Arroyo Zacate**	**2.48**	**337**	*eP*	**Pn**	**11 06 24.6**	**+1.4**
NEUV				*eS*	**Sn**	**11 06 53.8**	**-0.3**
VHO	**Vista Hermosa**	**2.48**	**312**	*eP*	**Pn**	**11 06 26.2**	**+2.8**
VHO				*eS*	**Sn**	**11 06 53.7**	**-0.8**
PATR	**El Naranjo**	**2.50**	**96**	*iP*	**Pn**	**11 06 25.1**	**+1.4**
PATR				*eS*	**Sn**	**11 06 53.2**	**-1.8**
THIG		**2.50**	**101**	*eP*	**Pn**	**11 06 25.8**	**+2.3**
PAVE	**Pavencul**	**2.55**	**95**	*eP*	**Pn**	**11 06 25.8**	**+1.5**
PAVE				*eS*	**Sn**	**11 06 55.0**	**-1.1**
CHUJ	**Union Juarez**	**2.62**	**97**	*iP*	**Pn**	**11 06 26.9**	**+1.5**
CHUJ				*eS*	**Sn**	**11 06 56.6**	**-1.4**
CCIG	**Comitan**	**2.71**	**71**	*iP*	**Pn**	**11 06 29.5**	**+3.0**
CCIG				*eS*	**Sn**	**11 07 00.3**	**+0.2**
YOIG	**Yosondua**	**3.00**	**299**	*eP*	**Pn**	**11 06 32.5**	**+1.9**
YOIG				*eS*	**Sn**	**11 07 05.9**	**-1.4**
VHSA	**Villahermosa**	**3.12**	**35**	*eP*	**Pn**	**11 06 34.4**	**+2.5**
VHSA				*eS*	**Sn**	**11 07 10.2**	**+0.3**
PMUV	**Sontecomapan**	**3.13**	**354**	*eP*	**Pn**	**11 06 32.5**	**+0.3**
PNIG	**Pinotepa**	**3.34**	**287**	*eP*	**Pn**	**11 06 37.0**	**+2.0**
PNIG				*eS*	**Sn**	**11 07 10.9**	**-4.5**
TXIG	**Tlaxiaco**	**3.38**	**303**	*eP*	**Pn**	**11 06 38.2**	**+2.3**
TXIG				*eS*	**Sn**	**11 07 15.2**	**-1.7**
TOIG	**Toxpalan**	**3.43**	**321**	*eP*	**Pb**	**11 06 41.3**	**-2.1**
TOIG				*eS*	**Sn**	**11 07 18.4**	**+0.5**
HLIG	**Huajuapan de L**	**3.75**	**310**	*eP*	**Pn**	**11 06 44.2**	**+3.4**
HLIG				*eS*	**Sn**	**11 07 24.7**	**-1.0**
TPIG	**Tehuac#an**	**3.86**	**321**	*eP*	**Pn**	**11 06 44.5**	**+2.1**
TPIG				*eP*		11 06 45.6	
FTIG	**Fresnillo de T**	**4.04**	**308**	*eP*	**Pn**	**11 06 47.1**	**+2.4**
FTIG				*eS*	**Sn**	**11 07 31.3**	**-1.5**
MGIG	**Malinaltepec**	**4.10**	**297**	*eP*	**Pn**	**11 06 46.5**	**+0.9**
MGIG				*eS*	**Sn**	**11 07 31.4**	**-2.9**
TLIG	**Tlapa**	**4.19**	**301**	*eP*	**Pn**	**11 06 47.4**	**+0.5**
TLIG				*eS*	**Sn**	**11 07 34.2**	**-2.4**
JAUV	**Jalcomulco**	**4.37**	**334**	*eP*	**Pn**	**11 06 50.6**	**+1.4**
JAUV				*eS*	**Sn**	**11 07 38.9**	**-2.0**
LVIG	**Laguna Verde**	**4.55**	**340**	*e*	**Pn**	**11 06 52.0**	**+0.3**
SCIG	**Sabancuy**	**4.95**	**44**	*eP*	**Pn**	**11 06 58.8**	**+1.7**
SCIG				*eP*		11 06 59.1	
PPM	**Popocatepetl**	**5.15**	**315**	*eP*	**Pn**	**11 07 03.6**	**+3.2**
TEIG	**Tepich**	**7.85**	**51**	P	**Pn**	**11 07 37.5**	**+0.5**
	208nm,0.4s,baz=252,slow=16,SNR=49						
TEIG				S	**Sn**	**11 09 01.4**	**-5.1**
	98nm,0.3s,baz=199,slow=23,SNR=6.3						
TXAR	**Lajitas Array**	**16.08**	**331**	P	**P**	**11 09 32.6**	**-0.2**
	baz=150,slow=14,SNR=7.2 0.6nm,0.8s						
TKL	**Tuckaleechee C**	**22.45**	**24**	P	**P**	**11 10 42.2**	**0.0**
	3.6nm,1.1s,baz=230,slow=11,SNR=1.5 3.6nm,1.1s						
NVAR	**Mina Array Bea**	**30.89**	**322**	P	**P**	**11 12 02.8**	**+2.8**
	0.3nm,0.7s,baz=136,slow=8.1,SNR=4.0 0.3nm,0.7s						
YKA	**Yellowknife Ar**	**49.06**	**348**	P	**P**	**11 14 30.4**	**+0.2**
	0.5nm,0.7s,baz=152,slow=7.2,SNR=9.9 0.5nm,0.7s						
ESDC	**Sonseca Array**	**80.97**	**51**	P	**P**	**11 17 57.5**	**-0.8**
	1.1nm,0.8s,baz=302,slow=6.0,SNR=4.5 1.1nm,0.8s						

DJA ***14*** *11:23:28.4±1.5, 5°.N±8°×12°.8E±1°.8, h149km±27km, M4.2/6, mb4.1/1, MLv4.3/6*
IDC ***14*** *11:23:46.5±2.7, 3°.67N×126°.61E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=230.8km s-min=30.5km az=66.0*

ISC 14 11:23:47.4±1.6**, 3°.7N**±0°.2×**126°.90E**±0°.10**, h10**km**, n7, σ1s84/8, mb3.2/3, Talaud Islands**

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

WPRZ	Whakapapatarin	0.94	56	P	Pn	11 47 54.8	+0.6
MRHZ	Matea Rd	0.99	78	P	Pn	11 47 55.1	+0.4
GRRZ	Galatos Road	1.01	47	P	Pn	11 47 55.7	+0.9
ALRZ	Allen Road	1.03	62	P	Pn	11 47 55.6	+0.6
KWHZ	Kaweka Forest	1.04	111	P	Pn	11 47 56.4	+1.4
HRRZ	Handcock Road	1.09	53	P	Pn	11 47 56.3	+0.9
PRRZ	Plateau Road	1.10	60	P	Pn	11 47 55.9	+0.5
KRHZ	Kereru	1.10	123	P	Pn	11 47 57.1	+1.6
OHWZ	Ohakea	1.16	175	P	Pn	11 47 58.4	+2.5
PNHZ	Pukenui	1.17	138	P	Pn	11 47 57.8	+1.8
TSZ	Takapari Road	1.18	149	P	Pn	11 47 58.0	+1.8
UTU	Utuhina	1.18	43	P	Pn	11 47 57.3	+1.2
HLRZ	Highlands Stat	1.22	50	P	Pn	11 47 58.0	+1.5
NGRZ	Ngongotaha	1.23	40	P	Pn	11 47 57.8	+1.1
MCHZ	McNeill Hill	1.25	109	P	Pn	11 47 59.0	+2.3
RRRZ	Republican Roa	1.27	56	P	Pn	11 47 57.7	+0.8
NMHZ	Naumai	1.27	93	P	Pn	11 47 58.9	+1.9
MTHZ	Maungataniwha	1.31	82	P	Pn	11 47 58.2	+0.8
TARZ	Mount Tarawera	1.32	53	P	Pn	11 47 58.6	+1.0
KARZ	Kaharoa	1.33	40	P	Pn	11 47 58.6	+1.1
OMRZ	Omania	1.33	45	P	Pn	11 47 58.5	+1.0
TOZ	Tahuroa Road	1.34	11	P	Pn	11 47 58.7	+1.1
MUGZ	Murupara	1.37	66	P	Pn	11 47 58.3	+0.4
WPHZ	Waipukurau	1.41	136	P	Pn	11 48 00.1	+1.9
POWZ	Post Office Ro	1.42	161	P	Pn	11 47 60.0	+1.7
ARHZ	Aropaoanui	1.43	99	P	Pn	11 48 00.4	+1.9
DVHZ	Dannevirke	1.47	149	P	Pn	11 48 00.4	+1.6
RTZ	Ruatahuna	1.48	74	P	Pn	11 47 59.6	+0.6
RAHZ	Arahi	1.50	86	P	Pn	11 48 00.7	+1.6
KAHZ	Kahuranaki	1.51	120	P	Pn	11 48 01.3	+2.0
TGRZ	Tauranga	1.57	33	P	Pn	11 48 01.1	+1.2
MANZ	Manawahe	1.59	48	P	Pn	11 48 01.0	+1.0
CKHZ	Cape Kidnapper	1.60	113	P	Pn	11 48 02.1	+2.0
OPRZ	Ohinepanea	1.62	42	P	Pn	11 48 01.4	+1.0
PRWZ	Pori Road	1.62	158	P	Pn	11 48 02.4	+2.0
PXZ	Pawanui	1.63	127	P	Pn	11 48 02.3	+1.9
MRZ	Mangatainoka R	1.64	169	P	Pn	11 48 02.2	+1.7
PRHZ	Porangahau	1.66	138	P	Pn	11 48 02.6	+1.9
URZ	Urewera	1.71	63	P	Pn	11 48 01.6	+0.3
URZ	Urewera	1.71	63	P	Pn	11 48 01.5	+0.3
SNGZ	Shannon Statio	1.71	82	P	Pn	11 48 02.6	+1.3
ANWZ	Angora Road	1.73	145	P	Pn	11 48 03.5	+2.0
OGWZ	Otaki Gorge	1.77	180	P	Pn	11 48 03.9	+2.0
TIWZ	Tintock	1.81	163	P	Pn	11 48 04.0	+1.7
KIW	Kapiti Island	1.82	186	P	Pn	11 48 04.1	+1.6
BFZ	Birch Farm	1.83	153	P	Pn	11 48 04.0	+1.5
BFZ	Birch Farm	1.83	153	P	Pn	11 48 04.1	+1.5
RAGZ	Rawiri	1.84	73	P	Pn	11 48 04.1	+1.3
HOWZ	Holdsworth Sta	1.86	172	P	Pn	11 48 04.6	+1.6
MKAZ	Moumakai	1.94	360	P	Pn	11 48 05.4	+1.6
KNZ	Kokohu	1.95	90	P	Pn	11 48 05.0	+1.1
MWZ	Matawai	1.98	70	P	Pn	11 48 04.9	+0.7
DUWZ	D'Urville Isla	2.00	208	P	Pn	11 48 06.1	+1.7
CPWZ	Castlepoint	2.02	157	P	Pn	11 48 06.7	+2.1
RIGZ	Rimuhau	2.05	81	P	Pn	11 48 06.3	+1.2
CAW	Cannon Point	2.06	182	P	Pn	11 48 06.7	+1.7
ETAZ	East Tamaki Re	2.10	355	P	Pn	11 48 07.4	+1.8
PRGZ	Paritu Road	2.12	87	P	Pn	11 48 07.1	+1.3
MTW	Mount Morrison	2.12	173	P	Pn	11 48 07.2	+1.4
TMWZ	Te Maipa	2.13	165	P	Pn	11 48 07.4	+1.5
MHGZ	Mahia Peninsul	2.13	94	P	Pn	11 48 07.4	+1.5
TKGZ	Te Karaka	2.18	75	P	Pn	11 48 07.9	+1.4
RUGZ	Raukumara Rang	2.24	62	P	Pn	11 48 07.3	0.0
WIAZ	Waiheke Island	2.25	359	P	Pn	11 48 09.3	+1.9
WEL	Wellington	2.25	188	P	Pn	11 48 08.8	+1.5
TCW	Tory Channel	2.27	197	P	Pn	11 48 09.1	+1.6
SND	South Karori	2.29	189	P	Pn	11 48 08.9	+1.2
RVAZ	Riverhead Bore	2.32	348	P	Pn	11 48 10.4	+2.2
PAWZ	Paruwai Farm	2.34	175	P	Pn	11 48 09.6	+1.3
KUZ	Kuaotunu	2.34	11	P	Pn	11 48 09.9	+1.5
KUZ	Kuaotunu	2.34	11	P	Pn	11 48 10.0	+1.6
TWGZ	Tauwhareparae	2.37	69	P	Pn	11 48 09.9	+1.2
BHW	Baring Head	2.37	186	P	Pn	11 48 10.0	+1.4
TRWZ	Traveller	2.38	171	P	Pn	11 48 10.1	+1.3
HAZ	Te Kaha	2.42	59	P	Pn	11 48 09.4	+0.1
CNGZ	Carnagh Statio	2.44	78	P	Pn	11 48 10.9	+1.4
PLWZ	Palliser	2.52	179	P	Pn	11 48 11.6	+1.1
PKGZ	Pakihiroa	2.56	64	P	Pn	11 48 11.8	+0.8
TUWZ	Tuamarina	2.56	201	P	Pn	11 48 12.1	+1.2
NNZ	Nelson	2.56	212	P	Pn	11 48 12.2	+1.3
PUZ	Puketiti	2.61	69	P	Pn	11 48 12.1	+0.5
TKNZ	Takaka Hill	2.61	220	P	Pn	11 48 12.7	+1.1
QRZ	Quartz Range	2.70	228	P	Pn	11 48 13.4	+0.8
QRZ	Quartz Range	2.70	228	P	Pn	11 48 13.6	+1.0
CMWZ	Cape Campbell	2.79	195	P	Pn	11 48 15.0	+2.2
WMGZ	Waiomatatini S	2.83	65	P	Pn	11 48 14.7	+0.5
BSWZ	Blackbirch Sta	2.84	200	P	Pn	11 48 15.8	+1.5
MXZ	Matakaoa Point	2.88	60	P	Pn	11 48 15.7	+0.9
MXZ	Matakaoa Point	2.88	60	P	Pn	11 48 15.8	+1.0
MRNZ	Matariki Terra	2.99	217	P	Pn	11 48 17.1	+1.0
THZ	Tophouse	3.22	212	P	Pn	11 48 20.0	+0.9
KHZ	Kahutara	3.58	200	P	Pn	11 48 24.8	+1.2
KHZ	Kahutara	3.58	200	P	Pn	11 48 25.0	+1.3
DSZ	Denniston Nort	3.72	223	P	Pn	11 48 25.9	+0.4
GVZ	Greta Valley S	4.24	202	P	Pn	11 48 32.6	+0.6
LTZ	Lake Taylor	4.33	210	P	Pn	11 48 33.3	0.0
AMCZ	Amberley	4.54	204	P	Pn	11 48 36.4	+0.4
INZ	Inchbonnie	4.63	216	P	Pn	11 48 37.2	0.0
OXZ	Oxford	4.88	208	P	Pn	11 48 39.8	-0.7
OKCZ	Okains Bay	4.93	198	P	Pn	11 48 41.3	+0.2
MQZ	McQueen's Vall	5.02	201	P	Pn	11 48 41.7	-0.6
AKCZ	Akaroa Harbour	5.11	199	P	Pn	11 48 43.3	-0.1
RACZ	Rakaia	5.20	205	P	Pn	11 48 44.3	-0.3
MHCZ	Mount Hutt	5.24	210	P	Pn	11 48 44.7	-0.4
WACZ	Wakanui South	5.49	206	P	Pn	11 48 47.8	-0.6
RPZ	Rata Peaks 13nm,1.2s	5.60	212	P	Pn	11 48 50.6	+0.8
RPZ	Rata Peaks	5.60	212	P	Pn	11 48 50.2	+0.3
ARCZ	Arundel	5.74	210	P	Pn	11 48 52.3	+0.6
ODZ	Otahua Downs	6.87	208	P	Pn	11 49 06.6	-0.1
CTZ	Chatham Island	7.74	130	P	Pn	11 49 25.3	+7.0

*ISK **14** 11:55:16.5,39˚.56N×26˚.01E,h6km,ML3.5/17*
*ATH **14** 11:55:17.6,39˚.53N×26˚.00E,h8km±1km,ML3.1/9,Error ellipse: s-maj=2.0km s-min=0.7km az=213.0*
*AFAD **14** 11:55:17.3±0.0,39˚.55N×26˚.07E,h8km,ML3.2*
*THE **14** 11:55:17.3,39˚.54N×26˚.06E,h6km±1km,ML3.3/4,Error ellipse: s-maj=1.6km s-min=0.5km az=164.0*
*SOF **14** 11:55:28.5,40˚.4N±0˚.4×25˚.4E±0˚.2,h8km±22km,MD2.9/3*
ISC 14 11:55:17.2±0.8,**39˚.54N**±0˚.01×**26˚.02E**±0˚.02,**h9**km±6km,
n75,σ**0**8**67**/109,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.10**	**112**	P	**Pg**	**11 55 19.6**	**0.0**
KOCA				S	**Sg**	**11 55 21.2**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.12**	**134**	Pg	**Pg**	**11 55 19.7**	**-0.2**
GPNR				Sg	**Sg**	**11 55 22.2**	**+0.4**
BOZC	**Bozcaada**	**0.30**	**4**	P	**Pg**	**11 55 23.3**	**0.0**
BOZC				S	**Sg**	**11 55 27.6**	**+0.3**
BOZC				*i* AML	AML	11 55 28.0	
	comp=E,2μm,0.3s						
BOZC				*i* AML	AML	11 55 29.0	
	comp=N,1μm,0.5s						
PRK	**Paraskevi**	**0.35**	**146**	P	**Pg**	**11 55 24.1**	**0.0**
PRK				S	**Sg**	**11 55 29.3**	**+0.6**
	12μm,0.5s						
PRK	**Paraskevi**	**0.35**	**146**	P	**Pg**	**11 55 24.0**	**-0.1**
PRK				S	**Sg**	**11 55 29.3**	**+0.6**
PRK				AML	AML	11 55 29.6	
	comp=N,21896μm,0.3s						
PRK				AML	AML	11 55 31.1	
	comp=E,25926μm,0.6s						
SIGR	**SIGRI**	**0.35**	**202**	Pg	**Pg**	**11 55 24.1**	**0.0**
SIGR				Sg	**Sg**	**11 55 28.8**	**+0.1**
SIGR	**SIGRI**	**0.35**	**202**	P	**Pg**	**11 55 24.1**	**0.0**
SIGR	**SIGRI**	**0.35**	**202**	P	**Pg**	**11 55 23.9**	**-0.1**
SIGR				S	**Sg**	**11 55 28.9**	**+0.1**
SIGR				AML	AML	11 55 30.1	
	comp=E,9209μm,0.2s						
SIGR				AML	AML	11 55 34.3	
	comp=N,9812μm,0.5s						
EZN	**Ezine**	**0.37**	**39**	Pg	**Pg**	**11 55 24.2**	**-0.2**
EZN				Sg	**Sg**	**11 55 29.6**	**+0.2**
EZN	**Ezine**	**0.37**	**39**	P	**Pg**	**11 55 24.2**	**-0.2**
EZN				S	**Sg**	**11 55 29.6**	**+0.2**
	comp=N,5μm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.45**	**63**	P	**Pg**	**11 55 25.7**	**-0.3**
BAYC				S	**Sg**	**11 55 31.8**	**-0.2**
BAYC				*i* AML	AML	11 55 32.0	
	comp=N,3μm,0.4s						
BAYC				*i* AML	AML	11 55 32.0	
	comp=N,3μm,0.2s						
ECEA	**Canakkale, Ece**	**0.52**	**13**	P	**Pg**	**11 55 27.4**	**+0.2**
ECEA				S	**Sg**	**11 55 34.7**	**+0.6**
ECEA				*i* AML	AML	11 55 35.0	
	comp=N,2μm,0.4s						
ECEA				*i* AML	AML	11 55 39.0	
	comp=N,1μm,0.4s						
AYVA	**Ayvalik**	**0.57**	**114**	P	**Pg**	**11 55 28.3**	**+0.2**
AYVA				*i* AML	AML	11 55 45.0	
	comp=N,1μm,0.3s						
AYVA				*i* AML	AML	11 55 46.0	
	comp=N,762nm,0.8s						
CNKL	**anakkale-Mer**	**0.60**	**28**	P	**Pg**	**11 55 28.4**	**-0.3**
CNKL				S	**Sg**	**11 55 35.9**	**-0.6**
CNKL				*i* AML	AML	11 55 39.0	
	comp=N,1μm,0.5s						
CNKL				*i* AML	AML	11 55 41.0	
	comp=N,668nm,0.4s						
EAG3	**Mitilini, Lesv**	**0.62**	**137**	P	**Pg**	**11 55 29.5**	**+0.3**
GOAD	**anakkale-G¶**	**0.63**	**352**	P	**Pg**	**11 55 29.0**	**-0.3**
GOAD				*i* AML	AML	11 55 44.0	
	comp=N,708nm,0.4s						
GOAD				*i* AML	AML	11 55 50.0	
	comp=N,740nm,0.5s						
GADA	**Gvkgeada**	**0.66**	**352**	Pg	**Pg**	**11 55 29.4**	**-0.5**
GADA				Sg	**Sg**	**11 55 38.5**	**0.0**
COMU	**Canakkale**	**0.66**	**32**	Pg	**Pg**	**11 55 29.5**	**-0.4**
COMU				Sg	**Sg**	**11 55 38.8**	**+0.3**
LIA	**Limnos Island**	**0.74**	**299**	P	**Pg**	**11 55 31.6**	**+0.2**
LIA				S	**Sb**	**11 55 43.4**	**+1.0**
	comp=N,2μm,0.4s						
LIA	**Limnos Island**	**0.74**	**299**	P	**Pg**	**11 55 31.5**	**0.0**
LIA				S	**Sb**	**11 55 41.9**	**-0.5**
LIA				AML	AML	11 55 46.2	
	comp=N,3239μm,0.3s						
LIA				AML	AML	11 55 50.9	
	comp=E,4311μm,0.5s						
BUHA	**Balikesir, Bur**	**0.82**	**92**	P	**Pg**	**11 55 32.6**	**-0.3**
BUHA				S	**Sg**	**11 55 43.0**	**-0.5**
BUHA				*i* AML	AML	11 55 46.0	
	comp=E,1μm,0.4s						
BUHA				*i* AML	AML	11 55 48.0	
	comp=E,956nm,0.5s						
DKL	**Dikili**	**0.83**	**124**	Pg	**Pg**	**11 55 33.3**	**+0.2**
CAND	**Candarli**	**0.84**	**134**	Pg	**Pg**	**11 55 33.8**	**+0.5**
RFT7	**Candarli**	**0.91**	**129**	Pg	**Pb**	**11 55 35.3**	**+0.3**
CANM	**Can-anakkale**	**0.92**	**59**	Pg	**Pg**	**11 55 34.6**	**-0.3**
KARB	**zmir-Karabur**	**0.93**	**161**	P	**Pg**	**11 55 35.1**	**+0.2**
KARB				S	**Sg**	**11 55 47.2**	**+0.2**
KARB				*i* AML	AML	11 55 49.0	
	comp=E,832nm,0.4s						
KARB				*i* AML	AML	11 55 49.0	
	comp=E,2μm,0.7s						
GELI	**Tayfur-Gelibol**	**0.93**	**22**	Pg	**Pg**	**11 55 34.5**	**-0.5**
EAG2	**Marmaro, Chios**	**1.00**	**176**	P	**Pg**	**11 55 36.5**	**+0.2**
EAG2				S	**Sg**	**11 55 49.2**	**0.0**
ZEDA	**zmir-Bergama**	**1.00**	**125**	P	**Pg**	**11 55 36.5**	**+0.1**
ZEDA				S	**Sg**	**11 55 49.9**	**+0.6**
ZEDA				*i* AML	AML	11 55 52.0	
	comp=E,798nm,0.4s						
ZEDA				*i* AML	AML	11 55 52.0	
	comp=E,1μm,0.4s						
SMTH	**Samothraki Isl**	**1.00**	**338**	P	**Pg**	**11 55 36.3**	**-0.2**
SMTH				AML	AML	11 55 52.0	
	comp=N,813μm,0.3s						
SMTH				AML	AML	11 55 53.4	
	comp=E,975μm,0.5s						
LPK	**Lapseki**	**1.01**	**34**	Pg	**Pg**	**11 55 36.1**	**-0.4**
CHOS	**Chios island**	**1.15**	**179**	P	**Pg**	**11 55 39.0**	**-0.2**
CHOS	**Chios island**	**1.15**	**179**	P	**Pg**	**11 55 39.1**	**-0.1**
CHOS				S	**Sg**	**11 55 54.6**	**+0.4**
CHOS				AML	AML	11 55 56.4	
	comp=E,3339μm,0.5s						
CHOS				AML	AML	11 55 58.1	
	comp=N,2493μm,0.5s						
CAVK	**Edirne/Enez-Ca**	**1.16**	**5**	P	**Pg**	**11 55 39.0**	**-0.4**
CAVK				S	**Sg**	**11 55 54.1**	**-0.3**
CAVK				*i* AML	AML	11 55 56.0	
	comp=N,653nm,0.6s						
CAVK				*i* AML	AML	11 56 02.0	
	comp=N,662nm,0.9s						
ERIK	**Erikli-Kesan**	**1.19**	**18**	Pn	**Pb**	**11 55 38.9**	**-1.0**
ENEZ	**Enez**	**1.20**	**5**	Pn	**Pb**	**11 55 39.4**	**-0.6**
ENEZ	**Enez**	**1.20**	**5**	P	**Pb**	**11 55 39.3**	**-0.7**
ENEZ				S	**Sn**	**11 55 57.1**	**+0.6**
BALY	**Balya**	**1.25**	**80**	P	**Pn**	**11 55 40.3**	**-0.5**
BALY				S	**Sb**	**11 55 56.7**	**-0.4**
BALY				*i* AML	AML	11 55 59.0	
	comp=N,552nm,0.4s						
BALY				*i* AML	AML	11 56 05.0	
	comp=N,416nm,0.5s						
KRBG	**Karabiga-Canak**	**1.30**	**49**	Pn	**Pn**	**11 55 41.3**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.32**	**96**	P	**Pn**	**11 55 41.6**	**-0.2**
STEP				S	**Sb**	**11 55 58.8**	**-0.4**
STEP				*i* AML	AML	11 56 05.0	
	comp=N,582nm,0.7s						
STEP				*i* AML	AML	11 56 09.0	
	comp=N,454nm,0.7s						
ZEYE	**İzmir, Urla-Ze**	**1.35**	**164**	P	**Pn**	**11 55 41.3**	**-0.9**
ZEYE				S	**Sb**	**11 55 58.6**	**-1.3**
ZEYE				*i* AML	AML	11 56 02.0	
	comp=N,706nm,0.3s						
ZEYE				*i* AML	AML	11 56 02.0	
	comp=N,820nm,0.6s						
ALN	**Alexandroupoli**	**1.36**	**1**	Pn	**Pn**	**11 55 42.0**	**-0.3**
ALN	**Alexandroupoli**	**1.36**	**1**	P	**Pn**	**11 55 41.9**	**-0.3**
ALN				S	**Sb**	**11 56 00.2**	**+0.1**
ALN				AML	AML	11 56 01.3	
	comp=N,1080μm,0.5s						
ALN				AML	AML	11 56 01.9	
	comp=E,1155μm,0.9s						
KNL	**Balıkesir**	**1.37**	**57**	P	**Pn**	**11 55 42.7**	**+0.2**
KNL				S	**Sn**	**11 56 01.0**	**+0.3**
KNL				*i* AML	AML	11 56 02.0	
	comp=E,3μm,0.7s						
KNL				*i* AML	AML	11 56 03.0	
	comp=E,3μm,0.6s						
GONE	**Gonen-Balikesi**	**1.38**	**68**	Pn	**Pn**	**11 55 42.7**	**+0.2**
BALB	**Balikesir**	**1.44**	**85**	Pn	**Pn**	**11 55 43.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.45**	**37**	Pn	**Pn**	**11 55 43.4**	**-0.2**
THAS	**Thassos island**	**1.46**	**317**	P	**Pn**	**11 55 43.0**	**-0.7**
THAS	**Thassos island**	**1.46**	**317**	P	**Pn**	**11 55 42.9**	**-0.8**
THAS				S			
	comp=E,534μm,0.5s						
THAS				AML	AML	11 56 08.3	
	comp=N,319μm,0.4s						
BKES	**Balkesir-Mer**	**1.49**	**82**	P	**Pn**	**11 55 44.3**	**+0.3**
BKES				S	**Sn**	**11 56 03.5**	**-0.1**
BKES				*i* AML	AML	11 56 07.0	
	comp=N,347nm,0.4s						
BKES				*i* AML	AML	11 56 08.0	
	comp=N,297nm,0.2s						
AKHS	**Akhisar**	**1.54**	**115**	P	**Pn**	**11 55 44.4**	**-0.4**
AKHS				S	**Sn**	**11 56 05.5**	**+0.6**
AKHS				*i* AML	AML	11 56 10.0	
	comp=N,231nm,0.5s						
EDC	**Edincik**	**1.63**	**60**	Pn	**Pn**	**11 55 46.2**	**+0.2**
DGB	**zmir**	**1.63**	**155**	P	**Pn**	**11 55 46.4**	**+0.4**
DGB				S	**Sn**	**11 56 07.3**	**+0.3**
DGB				*i* AML	AML	11 56 10.0	
	comp=N,150nm,0.5s						
DGB				*i* AML	AML	11 56 15.0	
	comp=N,187nm,0.7s						
RDO	**Rodhopi**	**1.65**	**347**	Pn	**Pn**	**11 55 46.3**	**+0.1**
RDO	**Rodhopi**	**1.65**	**347**	P	**Pn**	**11 55 46.6**	**+0.4**
OUR	**Ouranopolis**	**1.76**	**298**	P	**Pn**	**11 55 47.4**	**-0.4**
OUR				AML	AML	11 56 19.5	
	comp=E,341μm,0.6s						
OUR				AML	AML	11 56 20.7	
	comp=N,359μm,0.7s						
BAND	**Balkesir-Ban**	**1.79**	**62**	P	**Pn**	**11 55 48.9**	**+0.7**
BAND				S	**Sn**	**11 56 10.5**	**-0.6**
BAND				*i* AML	AML	11 56 15.0	
	comp=N,399nm,0.3s						
BAND				*i* AML	AML	11 56 16.0	
	comp=N,304nm,0.2s						
KAVA	**Kavala**	**1.86**	**322**	P	**Pn**	**11 55 49.0**	**-0.1**
DURS	**Dursunbey**	**1.90**	**87**	P	**Pn**	**11 55 49.6**	**-0.2**
DURS				S	**Sn**	**11 56 12.7**	**-1.1**
DURS				*i* AML	AML	11 56 22.0	
	comp=N,206nm,0.5s						
DURS				*i* AML	AML	11 56 23.0	
	comp=N,277nm,0.6s						
SMG	**Samos**	**1.94**	**160**	P	**Pn**	**11 55 50.2**	**0.0**
SMG				AML	AML	11 56 20.8	
	comp=E,1818μm,0.6s						
SMG				AML	AML	11 56 24.1	
	comp=N,2020μm,0.5s						
KOKK	**Kokkinochori,**	**2.01**	**310**	P	**Pn**	**11 55 50.8**	**-0.4**
DION	**Dionisos Attik**	**2.19**	**229**	P	**Pn**	**11 55 53.5**	**-0.2**
RZN	**Rozhen**	**2.36**	**336**	P	**Pn**	**11 55 56.9**	**+0.6**
SRS	**Serrai**	**2.44**	**311**	P	**Pn**	**11 55 56.9**	**-0.3**
NVR	**Nevrokopi**	**2.45**	**318**	P	**Pn**	**11 55 57.4**	**+0.1**
VIZE	**Kirklareli, Vi**	**2.46**	**34**	P	**Pn**	**11 55 58.9**	**+1.4**
VIZE				S	**Sb**	**11 56 31.4**	**-0.7**
VIZE				*i* AML	AML	11 56 37.0	
	comp=N,136nm,0.5s						
VIZE				*i* AML	AML	11 56 39.0	
	comp=N,84nm,0.4s						
DIM	**Dimitrovgrad**	**2.53**	**352**	P	**Pn**	**11 55 58.7**	**+0.4**
MMB	**Musomishta**	**2.65**	**320**	P	**Pn**	**11 56 00.2**	**+0.1**
PLD	**Plovdiv**	**2.78**	**340**	*eP*	**Pn**	**11 56 04.1**	**+2.3**
KNT	**Kendrikon**	**2.89**	**305**	P	**Pn**	**11 56 03.2**	**-0.1**
JMB	**Yambol**	**2.97**	**7**	*eP*	**Pb**	**11 56 11.7**	**+1.4**
KKB	**Krupnik**	**3.18**	**317**	*eP*	**Pb**	**11 56 12.7**	**-1.2**
VTS	**Vitosha**	**3.73**	**326**	*eP*	**Pn**	**11 56 16.6**	**+1.6**
NEF	**NEVSHA**	**3.84**	**14**	*eP*	**Pn**	**11 56 20.1**	**+3.7**
MPEP	**Malo Peshtene**	**4.18**	**337**	*eP*	**Pn**	**11 56 22.4**	**+1.3**

*IDC **14** 11:56:16.5±1.0,39˚.31N×26˚.15E,h0km,mb3.5/10,*
mbtmp3.5/13,ML4.1/4,Error ellipse: s-maj=16.5km
s-min=14.1km az=30.0
*ISK **14** 11:56:17.8,39˚.56N×26˚.01E,h7km,ML4.0/21*
*AFAD **14** 11:56:18.4±0.0,39˚.54N×26˚.05E,h10km,MW4.1*
*ATH **14** 11:56:19.0,39˚.52N×26˚.00E,h12km±1km,ML3.6/7,Error ellipse: s-maj=1.5km s-min=0.6km az=194.0*
*THE **14** 11:56:18.4,39˚.53N×26˚.01E,h11km±1km,ML3.9/7,Error ellipse: s-maj=1.6km s-min=0.6km az=234.0*
ISC 14 11:56:18.5±0.8,**39˚.53N**±0˚.01×**26˚.01E**±0˚.02,**h10**km±5km,
n119,σ1°**26**/165,**mb3.4**/10,**10C-7D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.11**	**108**	P	**Pg**	**11 56 20.9**	**-0.3**
KOCA				S	**Sg**	**11 56 22.8**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.12**	**129**	Pg	**Pg**	**11 56 21.4**	**0.0**
BOZC	**Bozcaada**	**0.31**	**7**	P	**Pg**	**11 56 24.6**	**-0.1**
BOZC				*i* AML	AML	11 56 29.0	
	comp=N,7μm,0.3s						
BOZC				*i* AML	AML	11 56 29.0	
	comp=E,6μm,0.4s						
BOZC				S	**Sg**	**11 56 29.2**	**+0.3**
SIGR	**SIGRI**	**0.34**	**200**	Pg	**Pg**	**11 56 25.5**	**+0.1**
SIGR				Sg	**Sg**	**11 56 30.9**	**+1.0**
SIGR	**SIGRI**	**0.34**	**200**	P	**Pg**	**11 56 25.4**	**+0.1**
SIGR	**SIGRI**	**0.34**	**200**	P	**Pg**	**11 56 25.4**	**+0.1**
SIGR				S	**Sg**	**11 56 30.4**	**+0.5**
SIGR				AML	AML	11 56 31.4	
	comp=E,38753μm,0.4s						
SIGR				AML	AML	11 56 31.4	
	comp=N,32657μm,0.3s						
PRK	**Paraskevi**	**0.35**	**144**	P	**Pg**	**11 56 25.5**	**0.0**
PRK				S	**Sg**	**11 56 30.5**	**+0.3**
	comp=N,65μm,0.5s						
PRK	**Paraskevi**	**0.35**	**144**	P	**Pg**	**11 56 25.6**	**+0.1**
PRK				S	**Sg**	**11 56 30.0**	**-0.2**
PRK				AML	AML	11 56 31.2	
PRK				AML	AML	11 56 32.5	
EZN	**Ezine**	**0.38**	**40**	Pg	**Pg**	**11 56 25.7**	**-0.3**
EZN				Sg	**Sg**	**11 56 30.8**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.47**	**63**	P	**Pg**	**11 56 27.0**	**-0.6**
BAYC				S	**Sg**	**11 56 33.1**	**-0.7**
ECEA	**Canakkale, Ece**	**0.53**	**14**	P	**Pg**	**11 56 28.8**	**0.0**
ECEA				S	**Sb**	**11 56 36.6**	**-0.9**
ECEA				*i* AML	AML	11 56 37.0	
	comp=N,8μm,0.5s						
AYVA	**Ayvalik**	**0.57**	**113**	P	**Pg**	**11 56 29.2**	**-0.5**
AYVA				S	**Sg**	**11 56 37.0**	**-0.2**
AYVA				*i* AML	AML	11 56 46.0	
	comp=N,6μm,0.3s						
AYVA				*i* AML	AML	11 56 47.0	
	comp=N,4μm,0.6s						
LESV	**Lesvos island,**	**0.60**	**135**	P	**Pg**	**11 56 30.0**	**-0.2**
LESV				S	**Sg**	**11 56 38.4**	**+0.2**
	comp=N,55μm,0.5s						
CNKL	**anakkale-Mer**	**0.61**	**29**	P	**

BALY *i* AML AML 11 57 00.0
comp=N,2μm,0.4s
SKY Skiros Island 1.31 240 P **Pn** **11 56 41.5 -1.3**
KRBG Karabiga-Canak 1.31 49 Pn **Pn** **11 56 42.3 -0.6**
STEP BALIKESIR_Sava 1.33 96 P **Pn** **11 56 42.8 -0.4**
STEP S **Sb** **11 57 00.3 -0.5**
STEP *i* AML AML 11 57 06.0
comp=N,2μm,0.6s
STEP *i* AML AML 11 57 10.0
comp=N,2μm,0.7s
ZEYE Izmir, Urla-Ze 1.35 163 P **Pn** **11 56 42.6 -0.8**
ZEYE S **Sb** **11 57 00.1 -1.1**
ZEYE *i* AML AML 11 57 03.0
comp=N,4μm,0.6s
ZEYE *i* AML AML 11 57 03.0
comp=N,4μm,0.3s
ALN Alexandroupoli 1.36 1 Pn **Pn** **11 56 43.2 -0.4**
ALN Alexandroupoli 1.36 1 P **Pn** **11 56 42.3 -1.3**
ALN Alexandroupoli 1.36 1 P **Pn** **11 56 43.3 -0.3**
ALN S **Sb** **11 57 01.2 -0.4**
ALN AML AML 11 57 02.5
comp=E,2648μm,0.5s
ALN AML AML 11 57 08.4
comp=N,3507μm,1.1s
KNL Balıkesir 1.38 57 P **Pn** **11 56 43.6 -0.3**
KNL S **Sn** **11 57 02.5 +0.3**
KNL *i* AML AML 11 57 04.0
comp=N,1μm,0.7s
KNL *i* AML AML 11 57 04.0
comp=N,1μm,0.6s
GONE Gonen-Balikesi 1.39 68 Pn **Pn** **11 56 43.9 -0.1**
BALB Balikesir 1.45 85 Pn **Pn** **11 56 44.3 -0.5**
THAS Thassos island 1.46 318 P **Pn** **11 56 44.1 -0.8**
THAS S **Sn** **11 57 02.6 -1.5**
comp=N,720nm,0.4s
THAS Thassos island 1.46 318 P **Pn** **11 56 44.3 -0.6**
THAS S **Sn** **11 57 02.5 -1.5**
THAS AML AML 11 57 07.2
comp=E,1408μm,0.4s
THAS AML AML 11 57 08.8
comp=N,1466μm,0.5s
RKY Sarkoy-Tekirda 1.46 38 Pn **Pn** **11 56 44.8 -0.2**
BKES Balkesir-Mer 1.50 82 P **Pn** **11 56 45.8 +0.3**
BKES S **Sn** **11 57 04.5 -0.5**
AKHS Akhisar 1.55 114 P **Pn** **11 56 45.7 -0.5**
AKHS S **Sn** **11 57 06.0 -0.3**
AKHS *i* AML AML 11 57 11.0
comp=N,884nm,0.6s
GMLD Gumuldur 1.62 154 Pn **Pn** **11 56 47.5 +0.4**
DGB zmir 1.63 155 P **Pb** **11 56 48.4 -0.3**
DGB *i* AML AML 11 57 14.0
comp=N,785nm,0.3s
DGB *i* AML AML 11 57 14.0
comp=N,804nm,0.3s
EDC Edincik 1.64 60 Pn **Pn** **11 56 47.3 -0.2**
RDO Rodhopi 1.65 348 Pn **Pn** **11 56 47.4 -0.2**
RDO Rodhopi 1.65 348 P **Pn** **11 56 46.9 -0.7**
RDO S **Sn** **11 57 07.8 -1.0**
comp=N,455nm,0.4s
RDO Rodhopi 1.65 348 P **Pn** **11 56 47.2 -0.3**
GOMA Golmarmara-Man 1.70 118 Pn **Pn** **11 56 48.6 +0.4**
KYMI Kymi, Euboea I 1.74 239 P **Pn** **11 56 47.5 -1.3**
OUR Ouranopolis 1.75 298 P **Pn** **11 56 49.0 +0.1**
BAND Balkesir-Ban 1.81 62 P **Pn** **11 56 49.3 -0.4**
BAND S **Sn** **11 57 12.2 -0.5**
BAND *i* AML AML 11 57 16.0
comp=N,1μm,0.3s
BAND *i* AML AML 11 57 17.0
comp=N,1μm,0.3s
KAVA Kavala 1.85 322 P **Pn** **11 56 50.0 -0.4**
DURS Dursunbey 1.91 87 P **Pn** **11 56 50.8 -0.4**
DURS S **Sn** **11 57 13.1 -2.3**
DURS *i* AML AML 11 57 22.0
comp=N,1μm,0.4s
DURS *i* AML AML 11 57 23.0
comp=N,897nm,0.3s
SMG Samos 1.94 160 P **Pn** **11 56 51.2 -0.3**
SMG S **Sn** **11 57 14.7 -1.2**
comp=N,5μm,0.5s
SMG Samos 1.94 160 P **Pn** **11 56 50.6 -0.9**
KOKK Kokkinochori, 2.00 310 P **Pn** **11 56 52.1 -0.3**
IZMR zmir-demi 2.06 132 P **Pn** **11 56 53.2 0.0**
IZMR S **Sb** **11 57 23.0 +1.3**
IZMR *i* AML AML 11 57 26.0
comp=N,710nm,0.6s
IZMR *i* AML AML 11 57 27.0
comp=N,286nm,0.6s
GCAM G?zelcaml? 2.07 152 P **Pg** **11 56 57.4 -0.7**
GCAM S **Sg** **11 57 24.6 -0.4**
GCAM *i* AML AML 11 57 27.0
comp=N,2μm,0.6s
GCAM *i* AML AML 11 57 27.0
comp=N,866nm,0.4s
DEMI Demirci 2.16 102 P **Pn** **11 56 54.6 -0.1**
DEMI *i* AML AML 11 57 28.0
comp=N,377nm,0.4s
DEMI *i* AML AML 11 57 33.0
comp=N,490nm,0.4s
DION Dionisos Attik 2.18 229 P **Pn** **11 56 54.7 -0.1**
KIRA zmir-Kiraz 2.30 125 P **Pb** **11 57 00.9 +0.8**
KIRA *i* AML AML 11 57 36.0
comp=N,212nm,0.7s
KIRA *i* AML AML 11 57 37.0
comp=N,221nm,1.0s
KIRK Kırklareli 2.39 20 P **Pb** **11 57 00.8 -0.9**
KIRK *i* AML AML 11 57 34.0
comp=N,243nm,0.5s
KIRK *i* AML AML 11 57 41.0
comp=N,185nm,0.5s
SOH Sokhos 2.41 303 P **Pn** **11 56 58.5 +0.4**
SRS Serrai 2.43 311 P **Pn** **11 56 57.6 -0.7**
NVR Nevrokopi 2.44 319 P **Pn** **11 56 57.8 -0.7**
HORT Hortiatis 2.47 296 P **Pn** **11 56 58.8 -0.1**
VIZE Kirklareli, Vi 2.47 34 P **Pb** **11 57 02.0 -1.1**
VIZE *i* AML AML 11 57 38.0
comp=N,402nm,0.6s
VIZE *i* AML AML 11 57 38.0
comp=N,275nm,0.5s
USAK Uak-Merkez 2.48 108 P **Pn** **11 56 59.1 +0.1**
ESEN Aydn-Nazilli 2.52 133 P **Pn** **11 56 59.0 -0.6**
ESEN S **Sg** **11 57 37.3 -2.2**
ESEN *i* AML AML 11 57 43.0
comp=N,162nm,0.7s
ESEN *i* AML AML 11 57 43.0
comp=N,96nm,0.4s
KNT Kendrikon 2.88 305 P **Pn** **11 57 04.9 +0.4**
GRG Griva 3.10 298 P **Pn** **11 57 07.9 +0.3**
FETY Fethiye 3.78 139 P **Pn** **11 57 19.3 +2.5**
BOVS Bovan 5.21 323 ⇓P **Pn** **11 57 37.1 +0.5**
DJES Djerdap 5.75 334 ⇑P **Pn** **11 57 43.4 -0.5**
BRTR Keskin Array B 5.89 86 Pn **Pn** **11 57 46.5 +0.4**
comp=N,2.9nm,0.3s,baz=259,slow=13,SNR=36
BRTR Sn **Sn** **11 58 50.7 -3.1**
comp=N,0.6nm,0.3s,baz=266,slow=24,SNR=1.8
BRTR Lg Lg 11 59 18.9
baz=276,slow=15
comp=N,6.9nm,0.4s
VOIR 5.94 353 ⇑P **Pn** **11 57 47.6 +1.0**
MLR Muntele Rosu 5.95 360 ⇑P **Pn** **11 57 49.8 +3.0**
MLR Muntele Rosu 5.95 360 Pn **Pn** **11 57 49.8 +3.0**
comp=N,4.7nm,0.3s,baz=192,slow=9.3,SNR=18
MLR Sn **Sn** **11 58 59.6 +4.5**
baz=177,slow=18
MLR Lg Lg 11 59 25.9
comp=N,0.4nm,0.3s,baz=240,slow=10,SNR=1.9
HERR Herculane 5.97 335 ⇓P **Pn** **11 57 47.2 +0.3**
LOT Lotru 6.14 345 ⇓P **Pn** **11 57 49.3 -0.1**
GZR Gura Zlata 6.32 339 ⇑P **Pn** **11 57 51.9 +0.1**
PLOR Plostina 6.33 4 ⇓P **Pn** **11 57 54.1 +2.2**
VRI Vrincioaia 6.35 5 ⇑P **Pn** **11 57 56.3 +4.1**
DOPR Dopca 6.45 356 ⇓P **Pn** **11 57 54.8 +1.4**
VLDR Vladesti 6.49 13 ⇑P **Pn** **11 57 58.5 +4.5**
TURR Turia 6.52 0 ⇑P **Pn** **11 57 56.3 +1.8**
OZUR 6.56 359 ⇓P **Pn** **11 57 57.0 +1.9**
BZS Buzias 6.89 333 ⇑P **Pn** **11 58 00.3 +0.8**
TESR Tescani 6.99 4 ⇑P **Pn** **11 58 01.7 +0.8**
STON Ston 7.09 301 Sg **Sg** **11 59 59.8 -6.3**
SIRR Siria 7.45 336 ⇓P **Pn** **11 58 06.4 -0.8**
RICI Ricice 7.74 304 *e*Pg Pg 11 59 44.4 +58
RICI Sg Sn 11 59 48.2 +9.1
BURAR Bucovina Array 8.10 356 ⇑P **Pn** **11 58 20.4 +4.2**
MMAI Mount Meron Ar 9.99 128 Pn **Pn** **11 58 39.4 -2.8**
comp=N,1.5nm,0.3s,baz=320,slow=17,SNR=1.8
comp=N,0.5nm,0.3s

VYHS Vyhne 10.33 332 *e*PN **Pn** **11 58 49.0 +2.2**
AKASG Malin Array Be 11.39 10 Pn **Pn** **11 59 03.6 +2.4**
comp=N,0.3nm,0.3s,baz=198,slow=13,SNR=3.0
comp=N,0.4nm,0.5s
ESDC Sonseca Array 23.05 280 P **P** **12 01 25.4 +1.4**
comp=N,0.8nm,0.9s,baz=69,slow=10,SNR=3.0
comp=N,0.8nm,0.9s
NOA NORSAR Array B 23.40 342 P **P** **12 01 29.1 +1.7**
comp=N,1.1nm,1.0s,baz=146,slow=9.1,SNR=4.4
comp=N,1.1nm,1.0s
EKA Eskdalemuir Ar 25.02 319 P **P** **12 01 42.3 -0.2**
comp=N,1.0nm,0.6s,baz=112,slow=9.3,SNR=5.1
comp=N,1.0nm,0.6s
GEYT Alibeck 25.03 83 P **P** **12 01 40.4 -2.4**
comp=N,3.6nm,0.7s,baz=270,slow=10,SNR=5.7
comp=N,3.6nm,0.7s
TORD Torodi Ar. Bea 33.92 226 P **P** **12 03 01.0 -0.9**
comp=N,0.6nm,0.8s,baz=28,slow=9.8,SNR=2.1
comp=N,0.6nm,0.8s
KURBB Kurchatov Arra 37.96 55 P **P** **12 03 36.6 +0.5**
comp=N,0.1nm,0.4s,baz=286,slow=8.6,SNR=1.7
comp=N,0.1nm,0.4s
MKAR Makanchi Array 40.92 61 P **P** **12 04 00.9 -0.1**
comp=N,0.1nm,0.5s,baz=274,slow=5.5,SNR=1.9
comp=N,0.1nm,0.5s
ZALV Zalesovo Beam 41.57 50 P **P** **12 04 06.3 +0.1**
comp=N,0.3nm,0.3s,baz=280,slow=8.2,SNR=1.9
comp=N,0.3nm,0.3s
ILAR Eielson Array 75.88 357 P **P** **12 08 06.5 +1.8**
comp=N,0.3nm,0.9s,baz=17,slow=9.4,SNR=2.6
comp=N,0.3nm,0.9s
TXAR Lajitas Array 97.01 317 P **P** **12 09 50.3 -0.6**
comp=N,0.3nm,0.8s,baz=61,slow=5.6,SNR=3.0
comp=N,0.3nm,0.8s

*IDC **14** 12:01:31.4±0.8, 7.°92N×126.°29E, h0km, mb3.8/13, mbtmp3.8/13, Error ellipse: s-maj=22.7km s-min=10.5km az=114.0*
ISC 14 12:01:32.4±1.7, **7.°86N**±0.°03×**125.°84E**±0.°04, **h7**km±11km, **n29**, σ1°**66**/**39**, **mb3.9**/13, **6C-8D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.59**	**357**	*e*P		**Pn**		**12 01 47.5**	**+0.1**
TASP				*e*S		Sn		12 02 14.0	+17
CDOP	**Cateel, Davao**	**0.60**	**97**	⇓*e*P		**Pn**		**12 01 48.7**	**+1.3**
CDOP				*e*S		**Sn**		**12 01 59.0**	**+1.6**
BIPH	**Bislig**	**0.61**	**58**	⇓*i*P		**Pn**		**12 01 48.0**	**+0.5**
BIPH				*i* S		**Sn**		**12 02 01.5**	**+3.8**
BUKP	**Musuan**	**0.77**	**272**	⇓*i*P		**Pb**		**12 01 48.0**	**-0.2**
BUKP				*i* S		**Sb**		**12 01 59.0**	**0.0**
DAV	**Davao City (W)**	**0.82**	**198**	Pg		**Pn**		**12 01 52.4**	**+1.9**
	194nm,0.3s,baz=74,slow=15,SNR=14								
DAV				Lg		Lg		12 02 08.7	
	238nm,0.3s,baz=81,slow=19,SNR=4.6								
KCP	**Kidapawan**	**1.12**	**222**	⇓*i*P		**Pb**		**12 01 54.3**	**+0.1**
KCP				*i* S		**Sn**		**12 02 13.7**	**+3.2**
SCPH	**Surigao**	**1.95**	**350**	⇑*e*P		**Pg**		**12 02 09.7**	**-0.2**
GSPH	**General Santos**	**1.97**	**207**	⇑*e*P		**Pn**		**12 02 04.3**	**-2.1**
GSPH				*e*S		Sg		12 03 04.0	+28
GHBP	**Garcia Hernand**	**2.32**	**320**	⇓*i*P		**Pn**		**12 02 12.8**	**+1.7**
GHBP				*i* S		**Sb**		**12 02 45.0**	**+1.5**
MSLP	**Maasin**	**2.46**	**337**	⇓*e*P		**Pb**		**12 02 16.2**	**-0.9**
LSIP	**Lazi, Siquijor**	**2.53**	**300**	⇑*e*P		**Pn**		**12 02 14.4**	**+0.4**
DCPH	**Dipolog City**	**2.57**	**287**	⇓*e*P		**Pb**		**12 02 18.1**	**-0.7**
DCPH				*e*S		**Sg**		**12 02 56.1**	**+1.1**
TBP	**Tagbilaran**	**2.67**	**313**	⇓*e*P		**Pn**		**12 02 17.5**	**+1.5**
TBP				*e*S		**Sn**		**12 02 50.1**	**+1.4**
LLP	**Lapu-Lapu**	**3.07**	**323**	*e*P		**Pn**		**12 02 22.5**	**+1.0**
LLP				*e*S		**Sb**		**12 03 02.1**	**-3.0**
PLP	**Palo**	**3.40**	**346**	⇓*e*P		**Pn**		**12 02 28.8**	**+2.9**
PLP				*e*S		**Sn**		**12 03 04.2**	**-2.4**
RCP	**Roxas**	**4.78**	**321**	⇑*i*P		**Pn**		**12 02 47.5**	**+2.5**
WRA	**Warramunga Arr**	**28.86**	**163**	P		**P**		**12 07 29.6**	**-2.4**
	0.3nm,0.7s,baz=344,slow=9.6,SNR=1.4								
	0.3nm,0.7s								
MJAR	**Matsushiro Arr**	**30.70**	**20**	P		**P**		**12 07 46.9**	**-1.2**
	0.2nm,0.5s,baz=242,slow=5.1,SNR=1.8								
	0.2nm,0.5s								
ASAR	**Alice Springs**	**32.30**	**166**	P		**P**		**12 08 02.6**	**+0.3**
	0.3nm,0.5s,baz=338,slow=6.6,SNR=2.1								
ASAR				PcP		**PcP**		**12 10 50.8**	**+0.2**
	0.2nm,0.7s,baz=345,slow=3.0,SNR=1.2								
	0.3nm,0.5s								
USRK	**Ussuriysk Ar.**	**36.60**	**7**	P		**P**		**12 08 39.7**	**+0.5**
	2.3nm,0.9s,baz=211,slow=13,SNR=2.5								
	2.3nm,0.9s								
STKA	**Stephens Creek**	**42.28**	**160**	P		**P**		**12 09 25.7**	**-1.1**
	1.0nm,0.4s,baz=340,slow=14,SNR=1.3								
	1.0nm,0.4s								
PETK	**Petropavlovsk-**	**52.00**	**24**	P		**P**		**12 10 41.2**	**-1.3**
	4.8nm,0.9s,baz=213,slow=12,SNR=2.2								
	4.8nm,0.9s								
MKAR	**Makanchi Array**	**53.70**	**324**	P		**P**		**12 10 57.3**	**+2.1**
	0.6nm,0.6s,baz=125,slow=7.1,SNR=4.3								
	0.6nm,0.6s								
ZALV	**Zalesovo Beam**	**56.54**	**332**	P		**P**		**12 11 16.1**	**+0.6**
	0.5nm,0.3s,baz=120,slow=5.8,SNR=2.2								
	0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**57.82**	**326**	P		**P**		**12 11 25.1**	**+0.5**
	0.6nm,0.5s,baz=127,slow=6.2,SNR=8.7								
	0.6nm,0.5s								
BVAR	**Borovoye Array**	**63.41**	**326**	P		**P**		**12 12 04.1**	**+1.3**
	0.7nm,0.8s,baz=125,slow=7.4,SNR=3.0								
	0.7nm,0.8s								
ILAR	**Eielson Array**	**81.79**	**26**	P		**P**		**12 13 51.7**	**-0.2**
	0.2nm,0.8s,baz=242,slow=5.7,SNR=1.7								
	0.2nm,0.8s								
FINES	**FINESS Array B**	**87.80**	**332**	P		**P**		**12 14 22.4**	**+0.2**
	2.0nm,0.9s,baz=61,slow=6.5,SNR=4.4								
	2.0nm,0.9s								
AKASG	**Malin Array Be**	**88.16**	**321**	P		**P**		**12 14 23.8**	**-0.4**
	0.1nm,0.3s,baz=195,slow=22,SNR=2.6								
	0.1nm,0.3s								

*MOS **14** 12:07:19.2±0.6, 53.°24N×109.°84E, h11km, mb3.8/3, Error ellipse: s-maj=12.4km s-min=8.8km az=67.1*
MOS Felt (II-III) at Suvo.
*BYKL **14** 12:07:21.6±0.1, 53.°32N×109.°80E, h21km±2km, FELT I=IV MSK at Suvo, III-IV at Uro, Barguzin*
ISC 14 12:07:19.7±1.1, **53.°31N**±0.°02×**109.°81E**±0.°02, **h1**km±8km, **n61**, σ2**°22**/136, **mb3.8**/3, **6C-5D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.36**	**18**	⇑*i*Pg		**Pb**		**12 07 29.3**	**+0.4**
SYVR				*e*Sg		**Sb**		**12 07 35.0**	**-0.1**
SYVR				Pmax					
	578nm,0.2s								
SYVR				Smax					
	8μm,0.4s								
SYVR	**Suvo**	**0.36**	**18**	⇑*i*PG		**Pb**		**12 07 29.3**	**+0.4**
SYVR				*e*				12 07 34.8	
SYVR				pmax	pmax				
	comp=Z,575nm,0.1s								
SYVR				smax	smax				
	comp=N,8μm,0.3s								
MXMB	**Maximikha**	**0.64**	**266**	*e*Pg		**Pb**		**12 07 33.8**	**+0.2**
MXMB				*e*Sg		**Sb**		**12 07 42.8**	**-0.3**
GORB	**Goryachinsk**	**0.97**	**251**	⇑*i*Pg		**Pg**		**12 07 39.3**	**+1.0**
GORB				*e*Pb		**Pn**		**12 07 40.9**	**+0.4**
GORB				*e*Sg		**Sb**		**12 07 52.7**	**0.0**
KELR	**Kotokel**	**1.18**	**243**	⇑*i*Pg		**Pg**		**12 07 43.2**	**+0.9**
KELR				*e*Sg		**Sn**		**12 07 59.2**	**-0.8**
UZR	**Uzur**	**1.24**	**271**	*e*Pg		**Pn**		**12 07 43.9**	**-0.2**
UZR				*e*Sg		**Sg**		**12 08 00.4**	**+0.9**
UZR				Pmax					
	comp=N,81nm,0.6s								
UZR				Smax					
	comp=N,2μm,0.4s								
OGRR	**Ongureny**	**1.36**	**285**	⇑*i*Pg		**Pn**		**12 07 45.8**	**0.0**
OGRR				*e*Sg		**Sb**		**12 08 03.2**	**-0.7**
OGRR				Pmax					
	comp=N,294nm,0.2s								
OGRR				Smax					
	comp=N,1μm,0.2s								
OGRR	**Ongureny**	**1.36**	**285**	*e*PG		**Pn**		**12 07 45.8**	**0.0**
OGRR				*e*				12 08 03.4	
OGRR				pmax	pmax				
	comp=Z,95nm,0.2s								
OGRR				smax	smax				
	comp=E,1μm,0.2s								
YLYR	**Ulyunkhan**	**1.76**	**26**	*e*Pn		**Pn**		**12 07 51.5**	**+0.3**
YLYR				*e*Pg		**Pb**		**12 07 52.7**	**0.0**
YLYR				*e*				12 07 57.4	
YLYR				*e*Sn		**Sb**		**12 08 14.5**	**-0.7**
YLYR				*e*Sg		**Sg**		**12 08 16.7**	**+0.6**
YLYR				Pmax					
	comp=E,192nm,0.3s								
YLYR				Smax					
	comp=E,1μm,0.4s								
YLYR	**Ulyunkhan**	**1.76**	**26**	*e*PN		**Pn**		**12 07 51.7**	**+0.5**
YLYR				*e*				12 07 53.0	
YLYR				*e*S		**Sn**		**12 08 14.0**	**-0.3**
YLYR				*e*				12 08 16.3	
YLYR				pmax	pmax				
	comp=Z,194nm,0.4s								
YLYR				smax	smax				
	comp=N,1μm,0.4s								
UUDB	**Ulan-Yde**	**1.95**	**223**	⇓*i*Pn		**Pn**		**12 07 54.7**	**+0.8**
UUDB				*e*Pg		**Pb**		**12 07 56.7**	**+0.7**
UUDB				*e*				12 08 00.2	
UUDB				*e*				12 08 03.5	
UUDB				*e*				12 08 20.2	
UUDB				*e*Sg		**Sg**		**12 08 23.0**	**+0.7**
UUDB				max					
	comp=N,393nm,0.6s								
UUDB				Smax					
	comp=N,924nm,0.6s								
TRG	**Tyrgan**	**2.16**	**257**	⇓*i*Pn		**Pn**		**12 07 56.6**	**-0.3**
TRG				*e*Pg		**Pb**		**12 07 59.4**	**-0.2**
TRG				*e*Sn		**Sn**		**12 08 22.3**	**-2.0**
TRG				*e*Sg		**Sg**		**12 08 28.5**	**-0.6**
TRG				Pmax					
	comp=N,119nm,0.5s								
TRG				Smax					
	comp=N,525nm,0.3s								
TRG	**Tyrgan**	**2.16**	**257**	⇓*i*PN		**Pn**		**12 07 56.5**	**-0.3**
TRG				*e*				12 07 59.6	
TRG				*e*S		**Sn**		**12 08 23.1**	**-1.2**
TRG				*e*				12 08 28.5	
TRG				pmax	pmax				
	comp=Z,119nm,0.4s								
TRG				smax	smax				
	comp=N,523nm,0.3s								
FFNB	**Fofonovo**	**2.25**	**237**	*e*Pn		**Pn**		**12 07 58.5**	**+0.5**
FFNB				*e*Pg		**Pb**		**12 08 01.6**	**+0.6**
FFNB				*e*Sn		**Sn**		**12 08 26.2**	**-0.1**
FFNB				*e*Sg		**Sg**		**12 08 31.9**	**+0.1**
KAB	**Kabansk**	**2.30**	**238**	*e*Pn		**Pn**		**12 07 59.2**	**+0.5**
KAB				*e*Pg		**Pb**		**12 08 02.2**	**+0.3**
KAB				*e*				12 08 03.5	
KAB				*e*Sg		**Sg**		**12 08 33.8**	**+0.3**
KAB				*e*SgSg		**SnSn**		**12 08 46.7**	**+8.4**
KAB				max					
	comp=N,258nm,0.5s								
KAB				Smax					
	comp=N,2μm,0.7s								
STDB	**Stepnoy Dvoret**	**2.39**	**243**	*e*Pg		**Pg**		**12 08 05.5**	**+0.1**
STDB				*e*Sg		**Sg**		**12 08 36.9**	**+0.6**
HRMR	**Khuramsha**	**2.43**	**227**	⇓*i*Pn		**Pn**		**12 08 01.1**	**+0.6**
HRMR				*e*Pg		**Pb**		**12 08 05.2**	**+1.1**
HRMR				*e*				12 08 11.0	
HRMR				*e*				12 08 32.2	
HRMR				*e*Sg		**Sg**		**12 08 37.3**	**-0.3**
HRMR				max					
	comp=N,663nm,0.4s								
HRMR				Smax					
	comp=N,3μm,0.6s								
NIZB	**Nizh Angarsk**	**2.47**	**357**	*e*Pn		**Pn**		**12 08 02.1**	**+1.1**
NIZB				*e*Pg		**Pb**		**12 08 05.2**	**+0.4**
NIZB				*e*				12 08 11.7	
NIZB				*e*Sn		**Sn**		**12 08 31.4**	**-0.3**
NIZB				*e*Sg		**Sb**		**12 08 37.0**	**+1.4**
NIZB				Pmax					
	comp=N,244nm,0.3s								
NIZB				Smax					
	comp=N,642nm,0.4s								
CIT	**Chita**	**2.62**	**118**	*e*Pg		**Pb**		**12 08 08.3**	**+0.9**
CIT				*e*PgPg		**PbPb**		**12 08 11.0**	**+0.4**
CIT				*e*Sn		**Sn**		**12 08 34.8**	**-0.8**
CIT				*e*Sg		**Sg**		**12 08 43.6**	**-0.2**
CIT				max					
	comp=N,231nm,0.1s								
CIT				Smax					
	comp=N,850nm,0.2s								
CIT	**Chita**	**2.62**	**118**	*e*PN		**Pn**		**12 08 01.6**	**-1.6**
CIT				*e*				12 08 08.3	
CIT				*e*				12 08 43.5	
CIT				pmax	pmax				
	comp=Z,91nm,1.0s								
CIT				smax	smax				
	comp=E,254nm,1.0s								
KMO	**Kumora**	**2.70**	**17**	*e*Pn		**Pn**		**12 08 05.3**	**+1.0**
KMO				*e*Pg		**Pb**		**12 08 09.1**	**+0.3**
KMO				*e*PgPg		**Pg**		**12 08 16.1**	**+4.7**
KMO				*e*Sn		**Sn**		**12 08 36.4**	**-1.2**
KMO				*e*Sg		**Sg**		**12 08 45.5**	**-0.9**
KMO				max					
	comp=E,324nm,0.5s								
KMO				Smax					
	comp=E,707nm,1.0s								
KMO	**Kumora**	**2.70**	**17**	*e*PN		**Pn**		**12 08 05.2**	**+1.0**
KMO				*e*				12 08 10.3	
KMO				*e*S		**Sn**		**12 08 34.9**	**-2.7**
KMO				*e*				12 08 45.6	
KMO				pmax	pmax				
	comp=Z,75nm,0.4s								
KMO				smax	smax				
	comp=N,710nm,1.0s								
VBR	**Suhoy Ruchey**	**2.77**	**238**	*e*		**Pg**		**12 08 12.8**	**+0.1**
VBR				*e*Sg		**Sg**		**12 08 48.1**	**-0.4**
BGT	**Bolshoye Golou**	**2.96**	**246**	*e*Pn		**Pn**		**12 08 07.8**	**0.0**
BGT				*e*Pg		**Pb**		**12 08 14.3**	**+1.0**
BGT				*e*Sg		**Sg**		**12 08 53.5**	**-1.3**
BGT				Pmax					
	comp=N,41nm,0.7s								
BGT				Smax					
	comp=N,153nm,0.6s								
YOA	**Uoyan**	**3.04**	**21**	*e*Sg		**Sg**		**12 08 56.7**	**-0.4**
YOA				Smax					
	comp=N,2μm,1.5s								
UKT	**Uakit**	**3.12**	**44**	⇑*i*Pn		**Pn**		**12 08 11.0**	**+1.0**
UKT				*e*Pg		**Pb**		**12 08 18.0**	**+2.1**
UKT				*e*				12 08 24.3	
UKT				*e*Sn		**Sn**		**12 08 47.5**	**-0.4**
UKT				*e*Sg		**Sg**		**12 08 58.7**	**-1.1**
UKT				max					
	comp=N,54nm,0.6s								
UKT				Smax					
	comp=N,167nm,0.7s								
UKT	**Uakit**	**3.12**	**44**	*e*PN		**Pn**		**12 08 11.0**	**+1.0**
UKT				*e*				12 08 18.0	
UKT				*e*				12 08 58.4	
UKT				pmax	pmax				
	comp=Z,3.0nm,0.2s								
UKT				smax	smax				
	comp=N,112nm,0.4s								
LSTR	**Listvyanka**	**3.36**	**246**	⇓*i*Pn		**Pn**		**12 08 13.3**	**0.0**
LSTR				*e*				12 08 18.5	
LSTR				*e*Sn		**Sn**		**12 08 51.5**	**-2.3**
LSTR				*e*Sg		**Sg**		**12 09 04.9**	**-2.7**
LSTR				max					
	comp=N,15nm,0.6s								
LSTR				Smax					
	comp=N,88nm,0.5s								
IRK	**Irkutsk**	**3.53**	**255**	*e*Sg		**Sg**		**12 09 10.8**	**-2.2**
IRK				Smax					
	comp=N,457nm,0.4s								
IRK	**Irkutsk**	**3.53**	**255**	*e*PN		**Pb**		**12 08 24.1**	**+1.2**
IRK				*e*				12 09 09.4	
IRK				pmax	pmax				
	comp=Z,146nm,0.1s								
IRK				smax	smax				
	comp=N,458nm,0.4s								
SVKR	**Severomuysk**	**3.55**	**36**	*e*Pn		**Pn**		**12 08 17.0**	**+1.1**
SVKR				*e*Pg		**Pb**		**12 08 26.0**	**+2.7**
SVKR				*e*Sn		**Sn**		**12 08 57.8**	**-0.8**
SVKR				*e*Sg		**Sg**		**12 09 12.6**	**-1.1**
SVKR				*e*				12 09 20.5	
SVKR				Pmax					
	comp=N,140nm,0.6s								
SVKR				max					
	comp=N,577nm,1.3s								
IVK	**Ivanovka**	**3.62**	**

IVK *e*Sg **Sg** **12 09 13.0 -3.0**
IVK Pmax
comp=N,23nm,0.8s
IVK Smax
comp=N,100nm,0.3s
KPC Khapcheranga 3.96 155 *e*Pn **Pn** **12 08 21.2 -0.3**
KPC *e*Pg **Pb** **12 08 32.2 +2.0**
KPC *e* 12 08 36.6
KPC *e*Sn **Sn** **12 09 05.8 -2.7**
KPC *e*Sg **Sg** **12 09 23.9 -2.8**
KPC max
comp=N,56nm,0.4s
KPC Smax
comp=N,76nm,0.4s
KPC Khapcheranga 3.96 155 *e*PN **Pn** **12 08 21.2 -0.3**
KPC *e* 12 08 30.8
KPC *e*S **Sn** **12 09 05.8 -2.7**
KPC *e* 12 09 22.1
KPC pmax pmax
comp=Z,59nm,0.4s
KPC smax smax
comp=E,197nm,0.5s
TLY Talaya 4.11 249 *e*Pn **Pn** **12 08 23.3 -0.2**
TLY *e*Pg **Pb** **12 08 35.2 +2.5**
TLY *e*Sn **Sn** **12 09 09.7 -2.5**
TLY *e*Sg **Sg** **12 09 28.8 -2.7**
TLY Pmax
comp=E,15nm,0.4s
TLY Smax
comp=E,121nm,0.5s
TLY Talaya 4.11 249 *e*PN **Pn** **12 08 23.3 -0.2**
TLY *e* 12 08 35.4
TLY *e* 12 09 27.5
TLY pmax pmax
comp=Z,13nm,0.2s
TLY smax smax
comp=E,121nm,0.5s
NLYR Nelyaty 4.66 45 *e*Pn **Pn** **12 08 31.9 +0.8**
NLYR *e* 12 08 35.3
NLYR *e* 12 08 51.5
NLYR *e*Sn **Sn** **12 09 23.0 -2.8**
NLYR *e*Sg **Sg** **12 09 46.0 -3.2**
NLYR *e* 12 10 08.5
NLYR max
comp=E,40nm,0.6s
NLYR Smax
comp=E,188nm,1.5s
NLYR Nelyaty 4.66 45 *e*PN **Pn** **12 08 31.6 +0.5**
NLYR *e* 12 08 48.0
NLYR *e* 12 09 44.2
NLYR pmax pmax
comp=Z,44nm,1.6s
NLYR smax smax
comp=E,186nm,1.6s
ARS Arshan 4.71 256 *e*Pg **Pb** **12 08 46.7 +3.7**
ARS *e* 12 08 52.5
ARS *e*Sn **Sn** **12 09 25.1 -2.1**
ARS *e*Sg **Sg** **12 09 46.9 -4.0**
ARS *e* 12 09 55.0
ARS max
comp=E,45nm,0.7s
ARS Smax
comp=E,332nm,0.8s
ARS Arshan 4.71 256 *e*PN **Pb** **12 08 46.8 +3.7**
ARS *e* 12 09 46.9
ARS pmax pmax
comp=Z,45nm,0.6s
ARS smax smax
comp=E,332nm,0.8s
ZAK Zakamensk 5.00 237 *e*Pg **Pb** **12 08 51.6 +3.6**
ZAK *e* 12 08 57.9
ZAK *e*Sg **Sg** **12 09 56.2 -3.9**
ZAK *e* 12 10 04.8
ZAK max
comp=E,25nm,1.1s
ZAK max
comp=E,69nm,0.6s
ZAK Zakamensk 5.00 237 *e*PN **Pb** **12 08 50.3 +2.3**
ZAK *e* 12 09 56.6
ZAK pmax pmax
comp=Z,12nm,0.4s
ZAK smax smax
comp=N,125nm,0.5s
BOD Bodaibo 5.10 26 *e* **Pb** **12 08 46.2 -3.5**
BOD *e* 12 08 55.0
BOD *e*Sn **Sn** **12 09 33.7 -3.0**
BOD *e*Sg **Sg** **12 09 58.2 -5.3**
BOD *e* 12 10 09.2
BOD Smax
comp=N,95nm,0.9s
BOD Bodaibo 5.10 26 *e*PN **Pg** **12 08 55.2 -2.2**
BOD *e* 12 09 57.9
BOD pmax pmax
comp=Z,22nm,1.3s
BOD smax smax
comp=E,95nm,0.8s
MOY Mondy 5.63 257 *e*Pn **Pn** **12 08 45.5 +0.9**
MOY *e* 12 08 54.7
MOY *e* 12 09 16.1
MOY *e*Sn **Sn** **12 09 46.8 -3.1**
MOY *e*Sg **Sg** **12 10 15.4 -5.1**
MOY max
comp=E,28nm,1.2s
MOY Smax
comp=E,91nm,1.0s
MOY Mondy 5.63 257 *e*PN **Pn** **12 08 45.3 +0.7**
MOY *e*S **Sn** **12 09 45.5 -4.4**
MOY *e*S **Sg** **12 10 14.2 -6.3**
MOY smax smax
comp=E,91nm,1.0s
ULN Ulaanbaatar 5.73 199 *i* PN Pn 12 08 53.1 +7.1
CRS Chara 6.04 50 *e*Pn **Pn** **12 08 50.4 +0.3**
CRS *e* 12 09 14.5
CRS *e*Sg **Sg** **12 10 29.8 -3.7**
CRS max
comp=E,32nm,1.4s
CRS Smax
comp=E,119nm,1.4s
ORL Orlik 6.10 267 *e*Pn **Pn** **12 08 52.0 +1.0**
ORL *e*Sn **Sn** **12 09 57.4 -4.0**
ORL *e*Sg **Sg** **12 10 30.9 -4.5**
ORL max
comp=E,16nm,1.3s
ORL Smax
comp=E,64nm,1.2s
ORL Orlik 6.10 267 *e*PN **Pn** **12 08 52.2 +1.2**
ORL *e* 12 09 11.5
ORL *e*S **Sn** **12 09 57.9 -3.5**
ORL *e* 12 10 31.6
ORL pmax pmax
comp=Z,17nm,0.8s
ORL smax smax
comp=N,65nm,1.2s
TUP Tupik 6.11 75 *e*Pn **Pn** **12 08 51.7 +0.7**
TUP *e* 12 09 00.2
TUP *e*Pg **Pb** **12 09 11.5 +4.8**
TUP *e*Sg **Sg** **12 10 30.3 -5.3**
TUP *e* 12 10 49.3
TUP Pmax
comp=N,14nm,1.1s
TUP max
comp=N,172nm,1.1s
TUP Tupik 6.11 75 *e*PN **Pn** **12 08 51.5 +0.5**
TUP *e* 12 09 10.2
TUP *e*S **Sn** **12 09 59.4 -2.0**
TUP *e* 12 10 29.7
TUP pmax pmax
comp=Z,12nm,0.6s
TUP smax smax
comp=N,171nm,1.1s
VTMR Vitim 6.33 13 *e*Pg Pb 12 09 15.4 +4.9
VTMR *e*Sn **Sn** **12 10 04.1 -2.7**
VTMR *e*Sg **Sg** **12 10 37.0 -5.7**
HIA Hailar 7.43 119 *i* PN Pn 12 09 14.2 +5.1
KLR Kul'dur 14.31 98 *i* P **Pn** **12 10 44.2 +0.9**
MK31 Makanchi Array 18.76 261 *i* P **Pn** **12 11 40.2 -0.1**
KURK Kurchatov 19.29 275 *i* P **Pn** **12 11 45.9 -0.7**
KURK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 23.48 285 *i* P **P** **12 12 32.6 +2.1**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
SEY Seymchan 24.01 50 *i* P **P** **12 12 34.3 -1.2**
SEY pmax pmax
comp=Z,3.0nm,1.1s
OBN Obninsk 41.05 303 *e*P **P** **12 15 04.0 -0.1**
OBN pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 59.37 22 *i* P **P** **12 17 22.6 -0.2**

IDC 14 12:13:42.1±4.9, 2.78S×139.68E, h0km, mb3.4/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=189.8km s-min=31.5km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.84**	**197**	P	Pn	12 17 51.5	-0.5
	0.2nm,0.3s,baz=18,slow=12,SNR=8.6 0.9nm,0.6s						
ASAR	**Alice Springs**	**21.50**	**195**	P	P	12 18 32.8	0.0
	2.2nm,0.7s,baz=17,slow=10,SNR=35 2.2nm,0.7s						
MKAR	**Makanchi Array**	**70.44**	**322**	P	P	12 24 58.7	+0.2
	0.1nm,0.6s,baz=101,slow=7.8,SNR=2.1 0.1nm,0.6s						

*IDC **14** 12:20:57.1±1.9, 11.50S×163.26E, h0km, mb3.5/5, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=42.3km s-min=32.2km az=147.0*
ISC 14 12:21:02.4±1.4, 11.5S±0.2×163.2E±0.1, h35km, n13, σ0.89/8, mb3.4/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.83**	**303**	Pn	**Pn**	**12 21 58.0**	**-0.9**
	290nm,0.3s,baz=156,slow=4.0,SNR=11						
HNR				Sn	**Sn**	**12 22 43.4**	**+0.8**
	637nm,0.3s,baz=135,slow=18,SNR=7.2						
PMG	**Port Moresby**	**15.93**	**276**	Pn	**Pn**	**12 24 44.4**	**+0.3**
	1.2nm,0.3s,baz=75,slow=7.4,SNR=5.1 6.9nm,0.6s						
WRA	**Warramunga Arr**	**28.99**	**250**	P	**P**	**12 26 58.1**	**-1.1**
	0.4nm,0.8s,baz=80,slow=9.4,SNR=1.4 0.4nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**30.02**	**7**	T	T	12 58 17.8	
	baz=183,slow=74						
H11S3	**WAKE ISLAND Hy**	**30.02**	**7**	T	T	12 58 14.1	
	baz=183,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.04**	**7**	T	T	12 58 14.8	
	baz=183						
ASAR	**Alice Springs**	**30.37**	**243**	P	**P**	**12 27 12.2**	**+0.9**
	0.3nm,0.7s,baz=68,slow=9.7,SNR=5.5 0.3nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**31.25**	**7**	T	T	12 59 47.8	
	baz=190						
H11N3	**WAKE ISLAND Hy**	**31.25**	**7**	T	T	12 59 50.0	
	baz=190						
H11N2	**WAKE ISLAND Hy**	**31.27**	**7**	T	T	12 59 51.8	
	baz=190						
SONM	**Songino Array**	**77.60**	**325**	P	**P**	**12 32 55.9**	**+0.7**
	0.2nm,0.6s,baz=125,slow=5.3,SNR=1.6 0.2nm,0.6s						
ILAR	**Eielson Array**	**84.76**	**19**	P	**P**	**12 33 32.8**	**+0.1**
	0.6nm,1.1s,baz=232,slow=5.6,SNR=2.5 0.6nm,1.1s						
MKAR	**Makanchi Array**	**92.18**	**317**	P	**P**	**12 34 08.1**	**-0.4**
	0.5nm,0.7s,baz=109,slow=5.5,SNR=6.9 0.5nm,0.7s						

*IDC **14** 12:39:22.4±3.3, 36.33N×71.41E, h53km±28km, mb3.5/16, mbtmp3.9/23, ML3.7/7, MS4.3/1, Error ellipse: s-maj=24.1km s-min=15.0km az=2.0*
*NNC **14** 12:39:31.6±2.3, 36.93N×71.61E, h147km±28km, mb3.3, mpv3.9, Error ellipse: s-maj=20.3km s-min=14.0km az=29.0*
ISC 14 12:39:29.3±0.8, 36.70N±0.08×71.29E±0.07, h114km, n44, σ2.29/50, mb3.7/16, 8C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.73**	**18**	P	**Pn**	**12 40 52.2**	**-0.1**
	SNR=84						
AML	**Almayashu**	**5.73**	**18**	⇑P	**Pn**	**12 40 51.5**	**-0.8**
	2.6nm,0.7s						
AML				⇑S	**Sn**	**12 41 53.7**	**-3.4**
	7.9nm,0.6s						
UCH	**Uchtor**	**6.06**	**23**	P	**Pn**	**12 40 58.4**	**+1.6**
	SNR=7.7						
EKS2	**Erkin-Say**	**6.25**	**17**	P	**Pn**	**12 40 59.8**	**+0.7**
	SNR=16						
AAK	**Ala-Archa**	**6.42**	**22**	P	**Pn**	**12 41 01.2**	**-0.2**
	SNR=18						
AAK	**Ala-Archa**	**6.42**	**22**	P	**Pn**	**12 41 00.6**	**-0.8**
	5.6nm,0.3s,baz=175,slow=6.4,SNR=77						
AAK				S	**Sn**	**12 42 09.2**	**-4.2**
	17nm,0.7s,baz=155,slow=23,SNR=9.6 11nm,0.3s						
KK31	**Karatay Array**	**6.42**	**355**	⇓P	**Pn**	**12 41 00.7**	**-0.6**
	11nm,0.4s,baz=182,slow=13,SNR=242						
KK31				⇑S	**Sn**	**12 42 11.5**	**-1.7**
	11nm,0.5s,baz=188,slow=26,SNR=5.9						
ULHL	**Ulahol**	**6.73**	**33**	P	**Pn**	**12 41 06.1**	**+0.4**
	SNR=5.3						
CHMS	**Chumysh**	**6.83**	**22**	P	**Pn**	**12 41 06.3**	**-0.5**
	SNR=13						
CHMS	**Chumysh**	**6.83**	**22**	⇑P	**Pn**	**12 41 05.7**	**-1.2**
	18nm,1.1s						
CHMS				⇑S	**Sn**	**12 42 19.4**	**-3.7**
	13nm,0.6s						
USP	**Ospenovka**	**7.00**	**20**	P	**Pn**	**12 41 08.9**	**-0.4**
	SNR=9.4						
TKM2	**Tokmak 2**	**7.04**	**27**	P	**Pn**	**12 41 09.2**	**-0.6**
	SNR=11						
TKM2	**Tokmak 2**	**7.04**	**27**	⇓P	**Pn**	**12 41 09.1**	**-0.7**
	2.9nm,0.5s						
PDGK	**Podgornoye**	**9.13**	**41**	⇑P	**Pn**	**12 41 34.8**	**-3.2**
	4.3nm,0.8s						
GEYT	**Alibeck**	**10.56**	**281**	P	**Pn**	**12 41 53.5**	**-3.9**
	1.5nm,0.3s,baz=106,slow=9.6,SNR=11						
GEYT				S	**Sn**	**12 43 47.4**	**-6.4**
	4.8nm,0.4s,baz=116,slow=27,SNR=8.4 3.0nm,0.4s						
OTUK	**Ortayu**	**11.56**	**3**	⇑P	**Pn**	**12 42 07.7**	**-2.9**
	3.3nm,0.8s						
MAKZ	**Makanchi**	**12.86**	**35**	⇓P	**Pn**	**12 42 24.0**	**-3.7**
	2.3nm,0.7s						
MK31	**Makanchi Array**	**12.99**	**36**	P	**Pn**	**12 42 26.2**	**-3.2**
	2.5nm,0.8s,baz=215,slow=14,SNR=9.2						
MKAR	**Makanchi Array**	**12.99**	**36**	P	**Pn**	**12 42 26.1**	**-3.3**
	0.1nm,0.3s,baz=217,slow=14,SNR=8.8 1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**14.86**	**18**	⇓P	**Pn**	**12 42 50.8**	**-2.6**
	4.1nm,0.6s						
KURBB	**Kurchatov Arra**	**14.86**	**18**	P	**Pn**	**12 42 54.0**	**+0.7**
	0.2nm,0.3s,baz=206,slow=10,SNR=28 2.8nm,0.8s						
AB31	**Akbulak array**	**15.02**	**330**	P	**Pn**	**12 42 53.5**	**-2.0**
	1.6nm,0.4s,baz=137,slow=13,SNR=120						
AB31				⇓S	**Sn**	**12 45 45.4**	**+4.0**
	2.6nm,0.7s,baz=151,slow=23,SNR=5.6						
BVA0	**Borovoye Array**	**16.34**	**358**	⇑P	**Pn**	**12 43 10.2**	**-1.5**
	1.4nm,0.7s,baz=189,slow=11,SNR=7.8						
BVAR	**Borovoye Array**	**16.34**	**358**	P	**Pn**	**12 43 11.1**	**-0.7**
	0.1nm,0.3s,baz=156,slow=11,SNR=8.3 1.3nm,0.5s						
AKTO	**Aktyubinsk**	**16.73**	**329**	⇓P	**P**	**12 43 17.4**	**+0.5**
	3.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.73**	**329**	P	**Pn**	**12 43 16.6**	**0.0**
	1.1nm,0.3s,baz=141,slow=8.1,SNR=16						
AKTO				LR	LR	12 51 10.3	
	comp=Z,977nm,21.2s,baz=266,slow=41 2.6nm,0.3s						
ZALV	**Zalesovo Beam**	**19.64**	**24**	P	**P**	**12 43 48.7**	**0.0**
	1.2nm,0.3s,baz=224,slow=10,SNR=27 4.7nm,0.3s						
ARU	**Arti**	**21.52**	**341**	P	**P**	**12 44 10.0**	**+1.1**
	0.8nm,0.4s,baz=112,slow=19,SNR=1.4 0.8nm,0.4s						
KBZ	**Khabaz**	**22.72**	**297**	P	**P**	**12 44 21.6**	**+0.2**
	1.0nm,0.7s,baz=141,slow=10,SNR=2.1 1.0nm,0.7s						
SONM	**Songino Array**	**28.03**	**56**	P	**P**	**12 45 10.2**	**+0.6**
	0.9nm,0.5s,baz=266,slow=8.8,SNR=10 0.9nm,0.5s						
AKASG	**Malin Array Be**	**33.00**	**309**	P	**P**	**12 45 55.3**	**+2.1**
	0.3nm,0.4s,baz=80,slow=8.1,SNR=2.9 0.3nm,0.4s						
NRIK	**Noril'sk**	**33.89**	**10**	P	**P**	**12 46 03.0**	**+2.4**
	1.5nm,0.3s,baz=187,slow=4.4,SNR=5.2 1.5nm,0.3s						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**12 46 33.5**	**+2.3**
	0.7nm,0.5s,baz=111,slow=10,SNR=5.4 0.7nm,0.5s						
ARCES	**ARCESS Array B**	**41.05**	**337**	P	**P**	**12 47 03.7**	**+2.7**
	4.2nm,0.9s,baz=112,slow=9.8,SNR=2.4 4.2nm,0.9s						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**12 47 20.5**	**+3.1**
	2.7nm,0.5s,baz=98,slow=11,SNR=21 2.7nm,0.5s						
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**12 47 29.6**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**12 47 30.4**	**+2.5**
	comp=Z,8.8nm,0.5s,baz=104,slow=6.9,SNR=6.6 comp=Z,0.8nm,0.5s						
KSRS	**Korea Array**	**44.59**	**71**	P	**P**	**12 47 30.0**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=271,slow=7.0,SNR=2.8 comp=Z,1.5nm,0.9s						
ESDC	**Sonseca Array**	**57.57**	**298**	P	**P**	**12 49 08.3**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=79,slow=8.0,SNR=3.1 comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.96**	**269**	P	**P**	**12 50 03.9**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=50,slow=6.2,SNR=10.0 comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**74.52**	**16**	P	**P**	**12 50 55.9**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=302,slow=5.1,SNR=1.7 comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**81.03**	**3**	P	**P**	**12 51 32.4**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=349,slow=5.6,SNR=9.0 comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**81.90**	**122**	P	**P**	**12 51 34.5**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=323,slow=4.9,SNR=2.3 comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**84.18**	**125**	P	**P**	**12 51 46.6**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=308,slow=4.7,SNR=7.2 comp=Z,0.3nm,0.7s						

*IDC **14** 12:49:55.9±1.3, 7.52S×128.08E, h0km, mb3.8/3, mbtmp4.0/5, ML4.4/2, Error ellipse: s-maj=67.5km s-min=23.1km az=70.0*
*DJA **14** 12:50:06.5±0.4, 7.3S×13.0E±°, h162km±10km, M4.4/13, mb4.3/8, mB5.1/4, MLv4.4/13, Mw(mB)4.4/4*
ISC 14 12:50:07.5±0.9, 7.22S±0.07×129.67E±0.08, h150km, n23, σ2.16/23, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.79**	**115**	P	**Pn**	**12 50 41.1**	**+0.9**
SAUI				S	**Sn**	**12 51 05.5**	**+0.2**
BNDI	**Bandanaira**	**2.69**	**5**	P	**Pn**	**12 50 49.8**	**-1.2**
KRAI	**Karang Ratu**	**4.08**	**342**	P	**Pn**	**12 51 07.4**	**-1.4**
NLAI	**Namlea**	**4.71**	**327**	P	**Pn**	**12 51 16.3**	**-0.8**
FAKI	**Fak Fak**	**4.99**	**31**	P	**Pn**	**12 51 18.9**	**-1.9**
FAKI	**Fak Fak**	**4.99**	**31**	P	**Pn**	**12 51 18.7**	**-2.1**
KMPI	**Kaimana, Papua**	**5.35**	**49**	P	**Pn**	**12 51 25.4**	**-0.2**
	53nm,1.0s,6µm1.5nm						
MTN	**Manton Dam**	**5.77**	**166**	P	**Pn**	**12 51 31.9**	**+0.7**
SOEI	**Soe**	**5.90**	**244**	P	**Pn**	**12 51 32.8**	**-0.3**
	33nm,0.9s,0.5nm						
KDU	**Kakadu**	**6.09**	**153**	P	**Pn**	**12 51 35.8**	**+0.3**
SIJI	**Sorong**	**6.51**	**14**	P	**Pn**	**12 51 39.1**	**-2.0**
SWI	**Sorong**	**6.51**	**14**	P	**Pn**	**12 51 39.4**	**-1.7**
	17nm,0.7s,0.2nm						
LBMI	**Labuha**	**6.89**	**342**	P	**Pn**	**12 51 44.6**	**-1.5**
	41nm,0.7s,0.2nm						
EDFI	**Ende, Flores**	**8.04**	**259**	P	**Pn**	**12 52 02.7**	**+1.1**
	16nm,1.1s						
KNRA	**Kununurra**	**8.45**	**186**	P	**Pn**	**12 52 05.8**	**-1.1**
WRA	**Warramunga Arr**	**13.43**	**161**	Pn	**Pn**	**12 53 10.3**	**-2.0**
	2.4nm,0.3s,baz=336,slow=13,SNR=43						
WRA				Sn	Sn	12 55 30.9	-10
	1.0nm,0.3s,baz=343,slow=21,SNR=7.2 5.1nm,0.4s						
QIS	**Mount Isa**	**16.38**	**145**	P	**P**	**12 53 50.6**	**+1.5**
ASAR	**Alice Springs**	**16.85**	**166**	Pn	**Pn**	**12 53 55.1**	**+0.5**
	1.0nm,0.3s,baz=336,slow=9.7,SNR=107						
ASAR				Sn	**S**	**12 56 55.4**	**-6.8**
	0.3nm,0.3s,baz=2.2,slow=27,SNR=4.0 3.5nm,0.7s						
WRKA	**Warakurna**	**17.76**	**184**	P	**Pn**	**12 54 07.1**	**+1.5**
MTSU	**Mount Surprise**	**17.93**	**129**	P	**Pn**	**12 54 10.6**	**+3.0**
STKA	**Stephens Creek**	**26.94**	**157**	P	P	12 55 43.3	+8.4
	0.7nm,0.4s,baz=330,slow=16,SNR=1.1 0.7nm,0.4s						
MJAR	**Matsushiro Arr**	**44.26**	**10**	P	P	12 58 13.0	+11
	0.9nm,0.7s,baz=180,slow=8.6,SNR=4.4 0.9nm,0.7s						
MKAR	**Makanchi Array**	**68.23**	**327**	P	**P**	**13 00 54.0**	**+2.0**
	0.6nm,0.5s,baz=115,slow=8.3,SNR=15 0.6nm,0.5s						

*ISN **14** 12:50:12.4±0.8, 33.75N×45.71E, h4km±217km, ML2.5*
*TEH **14** 12:50:13.6, 33.75N×45.71E, h8km±78km, ML2.5*
ISC 14 12:50:14.3±1.1, 33.74N±0.06×45.73E±0.04, h13km, n8, σ1.9/01/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.41**	**106**	Pg	**Pg**	**12 50 22.3**	**-0.3**
ILBA				Sg	**Sg**	**12 50 28.8**	**+0.7**
IBDR	**Badra**	**0.65**	**165**	*e*Pg	**Pg**	**12 50 26.0**	**-0.9**
	baz=344						
IBDR				*e*Sg	**Sb**	**12 50 36.0**	**-0.4**
IGHG	**Ghaleghazi**	**0.91**	**49**	Pg	**Pb**	**12 50 31.8**	**-0.2**
IDHR	**Dehrash**	**1.10**	**29**	Pg	**Pb**	**12 50 34.7**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.21**	**63**	Pg	**Pg**	**12 50 37.6**	**0.0**
BHD	**Baghdad**	**1.22**	**248**	*e*Pg	**Pg**	**12 50 37.0**	**-0.8**
BHD				*e*Sg	**Sg**	**12 50 56.0**	**+2.2**
IKOM	**Komasi**	**1.54**	**73**	Pg	**Pg**	**12 50 43.4**	**-0.5**
IKFM	**Kafar-mosalman**	**1.78**	**96**	Pg	**Pb**	**12 50 47.2**	**+0.5**

IDC 14 12:56:42.1±2.6, 7.23S×155.12E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=89.3km s-min=29.6km az=123.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.79**	**236**	P	P	13 01 56.8	+0.1
	0.7nm,0.9s,baz=62,slow=10,SNR=3.2 0.7nm,0.9s						
ASAR	**Alice Springs**	**26.11**	**229**	P	P	13 02 18.2	+0.2
	0.3nm,0.7s,baz=55,slow=8.1,SNR=2.3 0.3nm,0.7s						
SONM	**Songino Array**	**69.60**	**327**	P	P	13 07 54.6	+1.2
	0.2nm,0.4s,baz=143,slow=5.4,SNR=5.8 0.2nm,0.4s						
ILAR	**Eielson Array**	**83.55**	**21**	P	P	13 09 11.8	-0.1
	0.5nm,0.9s,baz=243,slow=4.0,SNR=5.2 0.5nm,0.9s						
MKAR	**Makanchi Array**	**83.66**	**319**	P	P	13 09 11.3	-1.5
	0.5nm,0.7s,baz=109,slow=6.6,SNR=5.5 0.5nm,0.7s						

*TEH **14** 13:24:42.7, 33.74N×45.71E, h5km, ML2.7*
*ISN **14** 13:24:42.4±0.3, 33.76N×45.70E, h8km±1km, ML2.5*
ISC 14 13:24:43.4±1.1, 33.71N±0.05×45.70E±0.05, h13km, n9, σ0.70/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**102**	Pg	**Pg**	**13 24 51.6**	**-0.4**
ILBA				Sg	**Sb**	**13 24 58.7**	**-0.6**
IBDR	**Badra**	**0.63**	**162**	*e*Pg	**Pg**	**13 24 55.5**	**-0.2**
IBDR				*e*Sg	**Sg**	**13 25 05.0**	**+1.0**
IBDR				AML	AML	13 25 10.3	
	comp=E,245nm,0.3s						
IBDR				AML	AML	13 25 13.7	
	comp=N,190nm,0.6s						
IGHG	**Ghaleghazi**	**0.95**	**49**	Pg	**Pn**	**13 25 02.3**	**-0.4**
IDHR	**Dehrash**	**1.14**	**30**	Pg	**Pn**	**13 25 05.3**	**+0.1**
BHD	**Baghdad**	**1.19**	**249**	*e*Pg	**Pn**	**13 25 05.5**	**-0.2**
BHD				*e*Sg	**Sg**	**13 25 22.2**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.25**	**63**	Pg	**Pg**	**13 25 08.0**	**+0.6**
IKOM	**Komasi**	**1.57**	**72**	Pg	**Pg**	**13 25 13.0**	**-0.6**
IKFM	**Kafar-mosalman**	**1.80**	**95**	Pg	**Pb**	**13 25 16.5**	**+0.3**
RAFI	**Al-Rafai**	**2.01**	**170**	*e*Pn	**Pb**	**13 25 19.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**13 25 46.0**	**+1.2**

*KRSC **14** 14:04:50.3±1.1, 52.72N×159.88E, h50km±15km, Mc3.7, Ml4.9, Felt [III-IV] at HMS Semyachik; [III] at*

Petropavlovsk, Noviy, Paratunka, Termalniy; [II] at MGeoES-1.
*MOS **14** 14:04:52.3±1.2, 52˚.80N×159˚.57E, h47km, mb4.4/26, Error ellipse: s-maj=7.0km s-min=3.7km az=87.4*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*NEIC **14** 14:04:52.7±2.2, 52˚.88N±0˚.09×159˚.70E±0˚.09, h47km±4km, mb4.5/113, Error ellipse: s-maj=13.0km s-min=8.0km az=183.0*
*IDC **14** 14:04:56.1±1.1, 52˚.94N×159˚.44E, h82km±7km, mb3.7/27, mbtmp4.1/30, Error ellipse: s-maj=14.5km s-min=10.5km az=150.0*
ISC 14 14:04:52.2±0.7, 52˚.79N±0˚.04×159˚.71E±0˚.04, h52km±6km, n338, σ1°47/343, mb4.4/113, 1C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.36**	**31**	PN		**Pn**		**14 05 02.0**	**-0.1**
SPN	**Mys Shipunski**	**0.36**	**31**	*i* P		**Pn**		**14 05 02.0**	**-0.1**
NLC	**Nalytchevo**	**0.44**	**330**	PN		**Pn**		**14 05 02.8**	**0.0**
NLC				S		**Sn**		**14 05 11.0**	**+0.5**
NLC	**Nalytchevo**	**0.44**	**330**	*e*P		**Pn**		**14 05 02.8**	**0.0**
NLC				eS		**Sn**		**14 05 11.0**	**+0.5**
DALK	**Dalny**	**0.63**	**293**	PN		**Pn**		**14 05 05.7**	**+0.7**
DALK				S		**Sn**		**14 05 15.8**	**+1.4**
DALK	**Dalny**	**0.63**	**293**	*e*P		**Pn**		**14 05 05.7**	**+0.7**
DALK				eS		**Sn**		**14 05 15.8**	**+1.4**
UGLR	**Uglovaya**	**0.68**	**308**	PN		**Pn**		**14 05 07.1**	**+1.2**
UGLR	**Uglovaya**	**0.68**	**308**	*e*P		**Pn**		**14 05 07.1**	**+1.2**
PET	**Petropavlovsk**	**0.68**	**291**			**Pn**		**14 05 06.0**	**+0.2**
PET				Sn		**Sn**		**14 05 16.0**	**+0.4**
PET	**Petropavlovsk**	**0.68**	**291**	‖ *i*PN		**Pn**		**14 05 06.6**	**+0.9**
PET				*i* S		**Sn**		**14 05 16.9**	**+1.3**
PET	comp=Z,8μm,0.5s			pmax	pmax				
PET	comp=E,21μm,0.6s			smax	smax				
PET	comp=N,17μm,0.5s			smax	smax				
PET	**Petropavlovsk**	**0.68**	**291**	*i* P		**Pn**		**14 05 06.3**	**+0.6**
PET				eS		**Sn**		**14 05 16.8**	**+1.3**
INSR	**Institute**	**0.72**	**293**	*e*P		**Pn**		**14 05 07.1**	**+0.8**
INSR				eS		**Sn**		**14 05 18.2**	**+1.6**
SMAR	**Somma**	**0.73**	**311**	PN		**Pn**		**14 05 07.1**	**+0.6**
SMAR	**Somma**	**0.73**	**311**	*e*P		**Pn**		**14 05 07.1**	**+0.6**
AVH	**Avacha**	**0.76**	**309**	PN		**Pn**		**14 05 08.2**	**+1.4**
AVH	**Avacha**	**0.76**	**309**	*e*P		**Pn**		**14 05 08.2**	**+1.4**
KRER	**Koryakskii**	**0.78**	**312**	PN		**Pn**		**14 05 08.7**	**+1.6**
KRER	**Koryakskii**	**0.78**	**312**	*e*P		**Pn**		**14 05 08.7**	**+1.6**
RUS	**Russkaya**	**0.81**	**244**	PN		**Pn**		**14 05 07.7**	**+0.3**
RUS	**Russkaya**	**0.81**	**244**	*e*P		**Pn**		**14 05 07.7**	**+0.3**
KOK	**Koryaka**	**0.82**	**308**	PN		**Pn**		**14 05 09.0**	**+1.4**
KOK	**Koryaka**	**0.82**	**308**	*e*P		**Pn**		**14 05 09.0**	**+1.4**
KRX	**Arik**	**0.86**	**312**	PN		**Pn**		**14 05 09.2**	**+1.0**
KRX	**Arik**	**0.86**	**312**	*e*P		**Pn**		**14 05 09.2**	**+1.0**
KRMR	**Karymshinskiy**	**0.96**	**273**	PN		**Pn**		**14 05 10.1**	**+0.8**
KRMR				S		**Sn**		**14 05 23.2**	**+1.2**
KRMR	**Karymshinskiy**	**0.96**	**273**	*i* P		**Pn**		**14 05 10.1**	**+0.8**
KRMR				eS		**Sn**		**14 05 23.2**	**+1.2**
GRL	**Gorelyy**	**1.02**	**257**	PN		**Pn**		**14 05 11.7**	**+1.3**
GRL	**Gorelyy**	**1.02**	**257**	*e*P		**Pn**		**14 05 11.7**	**+1.3**
ASAK	**Asacha**	**1.18**	**250**	PN		**Pn**		**14 05 13.9**	**+1.5**
ASAK	**Asacha**	**1.18**	**250**	*e*P		**Pn**		**14 05 13.9**	**+1.5**
I44RU	**PETROPAVLOVSK-** baz=86,slow=17,SNR=4.2	**1.25**	**285**	P		**Pn**		**14 05 15.0**	**+1.7**
I44RU				S		**Sn**		**14 05 32.1**	**+3.1**
KII	**Karymskiy**	**1.26**	**353**	PN		**Pn**		**14 05 14.4**	**+0.9**
KII				S		**Sn**		**14 05 30.8**	**+1.4**
KII	**Karymskiy**	**1.26**	**353**	*e*P		**Pn**		**14 05 14.4**	**+0.9**
KII				eS		**Sn**		**14 05 30.8**	**+1.4**
PEA0B	**Petropavlovsk-**	**1.26**	**285**			**Pn**		**14 05 14.3**	**+0.9**
PEA0B	**Petropavlovsk-**	**1.26**	**285**	*i* PN		**Pn**		**14 05 14.7**	**+1.3**
PETK	**Petropavlovsk-**	**1.26**	**285**	Pn		**Pn**		**14 05 13.6**	**+0.2**
PETK	**Petropavlovsk-** comp=N,715nm,0.4s,baz=273,slow=21,SNR=6336	**1.26**	**285**	P		**Pn**		**14 05 15.0**	**+1.6**
PETK	comp=N,532nm,0.4s,baz=98,slow=21,SNR=12			S		**Sn**		**14 05 31.4**	**+2.2**
KDTR	**Khodutka, Kamc**	**1.40**	**226**	PN		**Pn**		**14 05 16.1**	**+0.8**
KDTR				S		**Sn**		**14 05 34.5**	**+1.8**
KDTR	**Khodutka, Kamc**	**1.40**	**226**	*e*P		**Pn**		**14 05 16.1**	**+0.8**
KDTR				eS		**Sn**		**14 05 34.5**	**+1.8**
PAU	**Pauzhetka**	**2.23**	**235**	PN		Pn		14 05 30.2	+3.7
PAU	**Pauzhetka**	**2.23**	**235**	*e*P		Pn		14 05 30.2	+3.7
TUMD	**Tumrok D**	**2.45**	**9**	*e*P		**Pn**		**14 05 31.2**	**+1.5**
TUMD				eS		**Sn**		**14 06 01.7**	**+3.2**
TUMR	**Tumrok**	**2.51**	**6**	PN		**Pn**		**14 05 32.9**	**+2.3**
TUMR	**Tumrok**	**2.51**	**6**	*e*P		**Pn**		**14 05 32.9**	**+2.3**
KMNR	**Kamenistaya**	**2.99**	**6**	PN		**Pn**		**14 05 39.5**	**+2.4**
KMNR	**Kamenistaya**	**2.99**	**6**	*e*P		**Pn**		**14 05 39.5**	**+2.4**
SKR	**Severo-Kuril's**	**3.07**	**228**	*i* PN		**Pn**		**14 05 39.8**	**+1.7**
SKR	**Severo-Kuril's**	**3.07**	**228**	*e*P		**Pn**		**14 05 40.3**	**+2.2**
SKR				eS		**Sn**		**14 06 16.2**	**+2.6**
BZMR	**Bezymyannaya**	**3.19**	**8**	PN		**Pn**		**14 05 43.2**	**+3.4**
BZMR	**Bezymyannaya**	**3.19**	**8**	*e*P		**Pn**		**14 05 43.2**	**+3.4**
KIRR	**Kirishev**	**3.19**	**6**	PN		**Pn**		**14 05 42.3**	**+2.4**
KIRR	**Kirishev**	**3.19**	**6**	*e*P		**Pn**		**14 05 42.3**	**+2.4**
ESO	**Esso**	**3.20**	**350**	PN		**Pn**		**14 05 41.8**	**+1.9**
ESO	**Esso**	**3.20**	**350**	*e*P		**Pn**		**14 05 41.8**	**+1.9**
KPT	**Kopyto**	**3.20**	**5**	PN		**Pn**		**14 05 42.2**	**+2.3**
KPT	**Kopyto**	**3.20**	**5**	*e*P		**Pn**		**14 05 42.2**	**+2.3**
BZWR	**Bezymyannyi-We**	**3.21**	**8**	PN		Pn		14 05 44.2	+4.0
BZWR	**Bezymyannyi-We**	**3.21**	**8**	*e*P		Pn		14 05 44.2	+3.9
KOZ	**Kozyrevsk**	**3.28**	**2**	PN		**Pn**		**14 05 43.7**	**+2.7**
KOZ	**Kozyrevsk**	**3.28**	**2**	*e*P		**Pn**		**14 05 43.7**	**+2.7**
CIRR	**Tsirk**	**3.39**	**10**	PN		Pn		14 05 46.4	+3.8
CIRR	**Tsirk**	**3.39**	**10**	*e*P		Pn		14 05 46.4	+3.8
SRDR	**Sredinnyy**	**3.54**	**0**	PN		**Pn**		**14 05 47.2**	**+2.6**
SRDR	**Sredinnyy**	**3.54**	**0**	*e*P		**Pn**		**14 05 47.2**	**+2.6**
KLY	**Klyuchi**	**3.57**	**8**	PN		**Pn**		**14 05 48.0**	**+3.0**
KLY	**Klyuchi**	**3.57**	**8**	*e*P		**Pn**		**14 05 48.0**	**+3.0**
BDR	**Baidarnaya**	**3.88**	**12**	PN		**Pn**		**14 05 53.0**	**+3.6**
BDR	**Baidarnaya**	**3.88**	**12**	*e*P		**Pn**		**14 05 53.0**	**+3.6**
KBG	**Krutoberegovo**	**3.89**	**25**	PN		**Pn**		**14 05 51.5**	**+2.2**
KBG				S		**Sn**		**14 06 37.2**	**+3.7**
KBG	**Krutoberegovo**	**3.89**	**25**	*e*P		**Pn**		**14 05 51.5**	**+2.2**
KBG				eS		**Sn**		**14 06 37.2**	**+3.7**
SMKR	**Semkarok**	**3.94**	**14**	PN		**Pn**		**14 05 52.8**	**+2.8**
SMKR	**Semkarok**	**3.94**	**14**	*e*P		**Pn**		**14 05 52.8**	**+2.8**
BKI	**Bering**	**4.42**	**54**	PN		**Pn**		**14 05 56.7**	**+0.2**
BKI	**Bering**	**4.42**	**54**	*e*P		**Pn**		**14 05 56.7**	**+0.2**
BKI				eS		**Sn**		**14 06 42.4**	**-4.2**
PALN	**Palana**	**6.32**	**1**	PN		Pn		14 06 28.3	+5.8
PALN	**Palana**	**6.32**	**1**	*e*P		Pn		14 06 28.3	+5.7
OSSR	**Ossora**	**6.74**	**15**	PN		Pn		14 06 32.7	+4.3
OSSR	**Ossora**	**6.74**	**15**	*e*P		Pn		14 06 32.7	+4.4
MA2	**Magadan**	**8.43**	**327**	Pn		**Pn**		**14 06 50.0**	**-1.4**
MA2	**Magadan** comp=N,3.8nm,0.7s,baz=143,slow=10,SNR=4.3	**8.43**	**327**	P		**Pn**		**14 06 51.9**	**+0.4**
SHEM	**Shemya Is, Ala** comp=N,35nm,0.3s,baz=172,slow=1.5,SNR=7.6	**8.73**	**85**	P		**Pn**		**14 06 56.3**	**+0.7**
SMY	**Shemya**	**8.73**	**85**	Pn		**Pn**		**14 06 56.2**	**+0.6**
SMY	**Shemya**	**8.73**	**85**	PN		**Pn**		**14 06 56.4**	**+0.8**
SEY	**Seymchan** comp=N,1.1nm,0.9s,baz=126,slow=14,SNR=3.6	**10.88**	**342**	P		**Pn**		**14 07 29.1**	**+4.1**
SHO	**Shikotan**	**12.36**	**229**	*e*P		**Pn**		**14 07 43.9**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**12.68**	**232**	*e*PN		Pn		14 07 53.1	+3.5
YUK				eS		**Sn**		**14 10 15.0**	**+5.8**
YUK	comp=Z,205nm,1.1s			pmax	pmax				
YUK	comp=E,174nm,1.2s			pmax	pmax				
YUK	comp=N,207nm,0.9s			pmax	pmax				
YUK	comp=Z,227nm,1.5s			pmax	pmax				
JKA	**Kamikawa-asahi**	**14.26**	**239**	Pn		**Pn**		**14 08 10.7**	**-0.3**
ASAJ	**Asahikawa**	**14.26**	**239**	P		**P**		**14 08 12.9**	**-4.1**
ASAJ	**Asahikawa** comp=Z,60nm,0.8s,baz=64,slow=11,SNR=22	**14.26**	**239**	P		**P**		**14 08 13.4**	**-3.6**
ADK	**Adak**	**14.45**	**84**	P		**P**		**14 08 17.7**	**-1.3**
ERM	**Erimo**	**15.51**	**233**	Pn		**Pn**		**14 08 25.1**	**-2.1**
ERM	**Erimo**	**15.51**	**233**	*i* P		**Pn**		**14 08 25.0**	**-2.3**
JTM	**Tenmabayashi**	**17.46**	**234**	Pn		**Pn**		**14 08 48.6**	**-3.2**
JTM	comp=Z,26nm,0.9s			IAmb	IAmb			14 08 54.2	
KLR	**Kul'dur** comp=Z,3.2nm,0.7s,baz=73,slow=8.1,SNR=11	**17.90**	**270**	P		**Pn**		**14 08 58.4**	**+1.2**
YAK	**Yakutsk**	**18.46**	**312**	P		**Pn**		**14 09 03.4**	**-0.5**
YAK	comp=Z,30nm,0.8s			IAmb	IAmb			14 09 07.6	
YAK	**Yakutsk**	**18.46**	**312**	*e*P		**Pn**		**14 09 03.4**	**-0.5**
YAK	comp=Z,25nm,0.8s			pmax	pmax				
YAK	comp=N,2.0nm,0.9s			pmax	pmax				
YAK	comp=E,2.0nm,0.7s			pmax	pmax				
YAK	**Yakutsk** comp=E,1.3nm,0.7s,baz=25,slow=0.5,SNR=12	**18.46**	**312**	P		**Pn**		**14 09 03.5**	**-0.5**
ZEA	**Zeya**	**19.35**	**286**	*e*P		**Pn**		**14 09 15.4**	**+0.8**
ZEA	comp=Z,10.0nm,0.9s			pmax	pmax				
JMM	**Marumori**	**19.90**	**229**	P		**Pn**		**14 09 19.4**	**-1.8**
JMM	comp=Z,37nm,1.4s			IAmb	IAmb			14 09 42.5	
HEH	**HeiHe**	**20.17**	**276**	*e*P		**P**		**14 09 22.0**	**0.0**
USRK	**Ussuriysk Ar.**	**20.18**	**256**	P		Pn		14 09 22.9	-1.5
USRK	**Ussuriysk Ar.** comp=Z,5.8nm,0.7s,baz=65,slow=11,SNR=5.8	**20.18**	**256**	P		Pn		14 09 23.0	-1.4
ANM	**Nome**	**21.31**	**43**	P		**P**		**14 09 34.3**	**+0.1**
ANM	**Nome**	**21.31**	**43**	P		**P**		**14 09 34.3**	**+0.1**
ANM	comp=Z,8.0nm,1.2s			pmax	pmax				
MDJ	**Mudanjiang**	**21.37**	**260**	P		**P**		**14 09 38.8**	**+3.9**
MDJ	comp=Z,4.0nm,1.6s			pmax	pmax				
MDJ	comp=Z,370nm,5.1s			pmax	pmax				
BNX	**BinXian**	**22.09**	**264**	⇑P		**P**		**14 09 42.8**	**+0.1**
BNX	comp=Z,9.0nm,0.9s			pmax	pmax				
BNX	comp=Z,180nm,5.4s			pmax	pmax				
MJB9	**Matsu-Tunnel**	**22.18**	**231**	P		**P**		**14 09 45.6**	**+1.9**
MJB9	comp=Z,14nm,0.8s			IAmb	IAmb			14 09 49.1	
MAJO	**Matsushiro**	**22.18**	**231**	P		**P**		**14 09 45.0**	**+1.3**
MAJO	comp=Z,13nm,0.8s			IAmb	IAmb			14 09 48.2	
MAJO	**Matsushiro**	**22.18**	**231**	*i* P		**P**		**14 09 43.7**	**0.0**
MAJO	comp=Z,14nm,0.9s			pmax	pmax				
MJAR	**Matsushiro Arr** comp=Z,5.7nm,0.9s,baz=16,slow=12,SNR=20 comp=Z,5.7nm,0.9s	**22.18**	**231**	P		**P**		**14 09 45.3**	**+1.6**
C16K	**Lisburne Hills**	**22.68**	**34**	P		**P**		**14 09 48.6**	**-0.1**
J16K	**Anvik River**	**23.09**	**47**	P		**P**		**14 09 53.9**	**+0.9**
J16K	comp=Z,17nm,1.5s			IAmb	IAmb			14 10 29.5	
TIXI	**Tiksi**	**23.26**	**336**	P		**P**		**14 09 53.3**	**-1.3**
TIXI	**Tiksi**	**23.26**	**336**	P		**P**		**14 09 53.3**	**-1.3**
TIXI	comp=Z,5.0nm,0.8s			pmax	pmax				
INU	**Inuyama**	**23.71**	**232**	P		**P**		**14 09 58.9**	**-0.2**
INU	comp=Z,19nm,1.3s			IAmb	IAmb			14 10 07.5	
K17K	**Iditarod**	**24.06**	**49**	P		**P**		**14 10 02.9**	**+0.8**
K17K	comp=Z,19nm,1.4s			IAmb	IAmb			14 10 33.0	
H18K	**Honhosa River**	**24.36**	**43**	P		**P**		**14 10 06.0**	**+1.2**
H18K	comp=Z,11nm,1.1s			IAmb	IAmb			14 10 21.6	
C19K	**Lookout Ridge**	**24.94**	**34**	P		**P**		**14 10 10.9**	**+0.8**
C19K	comp=Z,31nm,1.4s			IAmb	IAmb			14 10 13.7	
G19K	**Purcell Mounta**	**25.06**	**41**	P		**P**		**14 10 11.3**	**+0.1**
TTA	**Tatalina**	**25.13**	**49**	P		**P**		**14 10 12.6**	**+0.7**
TTA	**Tatalina**	**25.13**	**49**	P		**P**		**14 10 12.6**	**+0.7**
TTA	comp=Z,3.0nm,0.8s			pmax	pmax				
HIA	**Hailar**	**25.15**	**278**	P		**P**		**14 10 10.9**	**-1.4**
HIA	comp=Z,8.2nm,0.7s			IAmb	IAmb			14 10 12.4	
HIA	**Hailar**	**25.15**	**278**	P		**P**		**14 10 10.9**	**-1.4**
HIA	comp=Z,8.0nm,0.7s			pmax	pmax				
D19K	**Kuna River**	**25.25**	**35**	P		**P**		**14 10 13.4**	**+0.5**
O18K	**Koktuh Hills**	**25.54**	**56**	P		**P**		**14 10 17.3**	**+1.7**
O18K	comp=Z,28nm,0.9s			IAmb	IAmb			14 10 59.5	
P18K	**Big Mountain,**	**25.57**	**57**	P		**P**		**14 10 15.2**	**-0.7**
P18K	comp=Z,26nm,0.9s			IAmb	IAmb			14 10 24.1	
BOD	**Bodaibo**	**26.09**	**299**	*e*P		**P**		**14 10 19.5**	**-1.1**
BOD	comp=Z,7.0nm,2.0s			pmax	pmax				
IMAR	**Indian Mountai**	**26.38**	**42**	P		**P**		**14 10 24.2**	**+1.0**
G21K	**Allakaket**	**26.55**	**41**	P		**P**		**14 10 25.7**	**+1.0**
F21K	**Alatna River**	**26.67**	**39**	P		**P**		**14 10 26.3**	**+0.5**
RSO	**Redoubt South**	**26.72**	**54**	P		**P**		**14 10 26.9**	**+0.4**
KSRS	**Korea Array** comp=Z,1.6nm,0.6s,baz=40,slow=9.4,SNR=6.9 comp=Z,1.6nm,0.6s	**26.89**	**248**	P		**P**		**14 10 27.3**	**-0.6**
CAST	**Castle Rocks**	**26.92**	**48**	P		**P**		**14 10 29.0**	**+0.9**
E22K	**Anaktuvuk Pass**	**27.45**	**37**	P		**P**		**14 10 33.4**	**+0.6**
E22K	comp=Z,10nm,1.4s			IAmb	IAmb			14 10 45.6	
SML	**Sawmill**	**28.73**	**51**	P		**P**		**14 10 45.4**	**+1.1**
SML	comp=Z,20nm,1.3s			IAmb	IAmb			14 11 08.0	
SML	**Sawmill**	**28.73**	**51**	P		**P**		**14 10 45.4**	**+1.1**
SML	comp=Z,20nm,1.3s			pmax	pmax				
HDA	**Harding Lake**	**29.18**	**46**	P		**P**		**14 10 48.9**	**+0.7**
HDA	comp=Z,9.1nm,1.4s			IAmb	IAmb			14 11 09.9	
IL31		**29.19**	**45**	P		**P**		**14 10 49.1**	**+0.9**
ILAR	**Eielson Array**	**29.19**	**45**	P		**P**		**14 10 49.6**	**+1.3**
ILAR	**Eielson Array**	**29.19**	**45**	P		**P**		**14 10 49.6**	**+1.3**
ILAR	**Eielson Array** comp=Z,1.0nm,0.7s,baz=263,slow=8.0,SNR=14 comp=Z,1.0nm,0.7s	**29.19**	**45**	P		**P**		**14 10 48.8**	**+0.5**
M24K	**Tolsona, Glenn**	**29.71**	**50**	P		**P**		**14 10 54.6**	**+1.7**
E25K	**Arctic Village**	**29.77**	**38**	P		**P**		**14 10 54.6**	**+1.2**
FYU	**Fort Yukon**	**29.86**	**41**	P		**P**		**14 10 55.0**	**+1.0**
FYU	comp=Z,9.3nm,1.2s			IAmb	IAmb			14 11 25.6	
XLT	**XiLinHaoTe**	**29.92**	**270**	*e*P		**P**		**14 10 54.3**	**-0.7**
XLT				pP	pP			14 11 07.8	-0.3
XLT				sP	sP			14 11 16.8	+2.6
XLT				PP		**PP**		**14 11 58.4**	**-4.7**
XLT	comp=Z,5.0nm,0.8s			pmax	pmax				
XLT	comp=Z,190nm,5.5s			pmax	pmax				
BMAR	**Burnt Mountain**	**30.12**	**39**	P		**P**		**14 10 57.4**	**+0.9**
N25K	**Chitina, Valde**	**30.52**	**51**	P		**P**		**14 11 01.3**	**+1.2**
N25K	comp=Z,26nm,1.4s			IAmb	IAmb			14 11 32.5	
BCAR	**Beaver Creek A**	**31.59**	**48**	P		**P**		**14 11 10.8**	**+1.3**
EGAK	**Eagle**	**31.64**	**45**	P		**P**		**14 11 10.1**	**+0.3**
M27K	**Edge Creek, AK**	**31.66**	**49**	P		**P**		**14 11 12.4**	**+2.1**
M27K	comp=Z,9.9nm,1.3s			IAmb	IAmb			14 11 31.2	
F28M	**Old Crow**	**31.93**	**39**	P		**P**		**14 11 13.9**	**+1.5**
BARN	**Barnard Glacie**	**32.01**	**52**	P		**P**		**14 11 15.1**	**+1.7**
ULN	**Ulaanbaatar**	**33.34**	**283**	*i* P		**P**		**14 11 24.3**	**-0.8**
ULN	comp=Z,2.0nm,1.0s			pmax	pmax				
H11N2	**WAKE ISLAND Hy** baz=352,slow=76	**33.47**	**168**	T		T		14 47 09.3	
H11N3	**WAKE ISLAND Hy** baz=352,slow=76	**33.48**	**168**	T		T		14 47 10.1	
H11N1	**WAKE ISLAND Hy** baz=352,slow=76	**33.48**	**168**	T		T		14 47 09.4	
I30M	**Mount Dempster**	**33.59**	**43**	P		**P**		**14 11 27.9**	**+0.9**
I30M	comp=Z,9.7nm,1.4s			IAmb	IAmb			14 11 41.8	
SONM	**Songino Array**	**33.74**	**283**	P		**P**		**14 11 28.4**	**-0.2**
SONM	**Songino Array**	**33.74**	**283**	P		**P**		**14 11 28.4**	**-0.2**
SONM	comp=Z,2.0nm,1.0s			pmax	pmax				
SONM	**Songino Array** comp=Z,1.2nm,0.8s,baz=69,slow=7.4,SNR=7.0	**33.74**	**283**	P		**P**		**14 11 27.7**	**-0.9**
SONM	comp=Z,0.6nm,0.6s,baz=17,slow=1.5,SNR=4.7 comp=Z,1.2nm,0.8s			PcP		**PcP**		**14 14 07.2**	**+0.3**
HYT	**Haines Junctio**	**34.04**	**51**	P		**P**		**14 11 32.1**	**+1.1**
G31M	**Satah River**	**34.16**	**40**	P		**P**		**14 11 32.5**	**+0.7**
G31M	comp=Z,4.6nm,1.3s			IAmb	IAmb			14 11 41.3	
INK	**Inuvik**	**34.25**	**37**	P		**P**		**14 11 33.5**	**+1.0**
INK	comp=Z,4.5nm,0.8s			IAmb	IAmb			14 11 34.4	
INK	**Inuvik**	**34.25**	**37**	P		**P**		**14 11 33.5**	**+1.0**
INK	comp=Z,5.0nm,0.9s			pmax	pmax				
F31M	**Tsiigehtchic**	**34.29**	**39**	P		**P**		**14 11 33.5**	**+0.7**
F31M	comp=Z,4.0nm,0.6s			IAmb	IAmb			14 11 34.6	
HHC	**Hu-ho-hao-te**	**34.41**	**269**	*e*P		**P**		**14 11 36.1**	**+1.7**
HHC	comp=Z,17nm,0.6s			pmax	pmax				
HHC	comp=Z,130nm,4.6s			pmax	pmax				
HHC	comp=N,480nm,15.0s			LR	LR				
HHC	comp=E,330nm,15.7s			LR	LR				
HHC	comp=Z,700nm,17.7s			LR	LR				
H11S1	**WAKE ISLAND Hy** baz=352,slow=76	**34.65**	**168**	T		T		14 48 39.5	
H11S3	**WAKE ISLAND Hy** baz=352,slow=76	**34.66**	**168**	T		T		14 48 41.0	
H11S2	**WAKE ISLAND Hy** baz=352,slow=76	**34.66**	**168**	T		T		14 48 40.9	
O30N	**Mendenhall**	**34.72**	**51**	P		**P**		**14 11 38.7**	**+1.9**
O30N	comp=Z,6.2nm,1.1s			IAmb	IAmb			14 11 54.6	
M31M	**Drury Creek, Y**	**35.11**	**48**	P		**P**		**14 11 41.7**	**+1.6**
M31M	comp=Z,4.4nm,1.0s			IAmb	IAmb			14 11 43.5	
SKAG	**Skagway**	**35.48**	**53**	P		**P**		**14 11 44.9**	**+1.7**
NJ2	**Nanjing**	**35.94**	**251**	*e*P		**P**		**14 11 46.4**	**-1.0**
NJ2	comp=Z,11nm,0.5s			pmax	pmax				
NRIK	**Noril'sk**	**36.02**	**325**	*i* P		**P**		**14 11 45.6**	**-2.2**
NRIK	comp=Z,2.0nm,1.4s			pmax	pmax				
A36M	**Sachs Harbour**	**36.51**	**30**	P		**P**		**14 11 52.2**	**+0.4**
C36M	**Paulatuk**	**37.43**	**35**	P		**P**		**14 12 00.7**	**+1.0**
ZALV	**Zalesovo Beam**	**42.74**	**303**	*i* P		**P**		**14 12 42.2**	**-1.7**
ZALV	comp=Z,1.0nm,0.7s			pmax	pmax				
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.6s,baz=69,slow=8.1,SNR=4.1 comp=Z,1.2nm,0.6s	**42.74**	**303**	P		**P**		**14 12 41.8**	**-2.1**
YKA	**Yellowknife Ar**	**43.54**	**42**	P		**P**		**14 12 50.7**	**+0.5**
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.7s,baz=298,slow=8.0,SNR=22 comp=Z,1.1nm,0.7s	**43.54**	**42**	P		**P**		**14 12 51.0**	**+0.8**
DGZ	**Jazzator, Alta**	**43.59**	**296**	*i* P		**P**		**14 12 50.0**	**-1.0**
DGZ	comp=Z,2.0nm,0.6s			pmax	pmax				
RES	**Resolute Bay**	**43.69**	**22**	P		**P**		**14 12 51.2**	**0.0**
RES	**Resolute Bay**	**43.69**	**22**	P		**P**		**14 12 51.3**	**0.0**
RES	comp=Z,3.0nm,1.3s			pmax	pmax				
WMQ	**Urumqi**	**46.85**	**289**	*e*P		**P**		**14 13 17.9**	**+1.1**
SPITS	**Spitsbergen Ar** comp=Z,2.6nm,0.5s,baz=43,slow=6.5,SNR=10 comp=Z,2.6nm,0.5s	**47.40**	**350**	P		**P**		**14 13 19.8**	**-0.8**
SPB2	**Spitsbergen Ar**	**47.40**	**350**	P		**P**		**14 13 19.9**	**-0.6**
KURK	**Kurchatov**	**47.70**	**302**	P		**P**		**14 13 22.5**	**-0.7**
KURK								14 14 51.1	
KURBB	**Kurchatov Arra** comp=Z,2.2nm,0.5s,baz=59,slow=7.6,SNR=24	**47.80**	**302**	P		**P**		**14 13 22.5**	**-1.4**
KURBB	comp=Z,0.5nm,0.8s,baz=62,slow=3.9,SNR=2.7 comp=Z,2.2nm,0.5s			PcP		**PcP**		**14 14 51.1**	**-1.0**
MK31	**Makanchi Array**	**48.08**	**296**	P		**P**		**14 13 24.1**	**-2.1**
MK31	comp=Z,2.3nm,0.5s			IAmb	IAmb			14 13 25.1	
MK31	**Makanchi Array**	**48.08**	**296**	*i* P		**P**		**14 13 24.4**	**-1.8**
MKAR	**Makanchi Array**	**48.08**	**296**	P		**P**		**14 13 24.0**	**-2.2**
MKAR	**Makanchi Array** comp=Z,2.4nm,0.4s,baz=56,slow=6.6,SNR=74 comp=Z,2.4nm,0.4s	**48.08**	**296**	P		**P**		**14 13 24.9**	**-1.4**
MAKZ	**Makanchi**	**48.24**	**296**	P		**P**		**14 13 25.9**	**-1.6**
MAKZ	comp=Z,3.1nm,0.5s			IAmb	IAmb			14 13 26.3	
MAKZ	**Makanchi**	**48.24**	**296**	P		**P**		**14 13 25.9**	**-1.6**
MAKZ	comp=Z,3.0nm,0.5s			pmax	pmax				
EDM	**Edmonton**	**49.13**	**53**	P		**P**		**14 13 35.3**	**+1.1**
EDM	comp=Z,3.7nm,0.7s			IAmb	IAmb			14 13 57.5	
EDM	**Edmonton**	**49.13**	**53**	P		**P**		**14 13 35.3**	**+1.1**
EDM	comp=Z,4.0nm,0.7s			pmax	pmax				
PZH	**PanZhiHua**	**50.11**	**262**	P		**P**		**14 13 43.6**	**+1.5**
PZH	comp=Z,6.0nm,0.7s			pmax	pmax				
PZH	comp=Z,100nm,5.5s			pmax	pmax				

comp=Z,3.5nm,0.8s
BTK Batken 58.78 296 P P 14 14 43.6 -1.2
BTK pmax pmax
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 59.20 46 P P 14 14 48.2 +0.8
ULM IAmb IAmb 14 14 59.5
comp=Z,9.0nm,1.5s
ULM Lac du Bonnet 59.20 46 P P 14 14 48.2 +0.8
ULM pmax pmax
comp=Z,9.0nm,1.5s
ULM Lac du Bonnet 59.20 46 P P 14 14 48.1 +0.6
comp=Z,0.8nm,0.4s,baz=329,slow=8.2,SNR=4.5
comp=Z,0.8nm,0.4s
RSSD Black Hills 59.77 56 P P 14 14 53.3 +1.5
RSSD IAmb IAmb 14 14 54.0
comp=Z,4.5nm,0.7s
RSSD Black Hills 59.77 56 P P 14 14 53.3 +1.5
RSSD pmax pmax
comp=Z,4.0nm,0.7s
FIA1 FINESS Array S 60.30 336 P P 14 14 54.0 -0.8
FINES FINESS Array B 60.31 336 P P 14 14 54.2 -0.7
FINES FINESS Array B 60.31 336 *i* P **P 14 14 54.5 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 60.31 336 P P 14 14 54.0 -0.9
comp=Z,1.4nm,0.5s,baz=42,slow=8.5,SNR=13
comp=Z,1.4nm,0.5s
HMU Henry Mountain 60.65 65 P P 14 14 58.1 +0.2
HMU IAmb IAmb 14 15 00.5
comp=Z,3.0nm,0.7s
BELG Belogornoye 60.80 319 *i* P **P 14 14 56.1 -2.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
ESJX Sierra Juarez 61.97 73 P P 14 15 07.0 +0.2
ESJX IAmb IAmb 14 15 33.4
comp=Z,4.0nm,1.5s
OBN Obninsk 62.65 327 *e*P **P 14 15 08.2 -2.5**
OBN *e* 14 15 47.3
OBN *e* 14 17 31.8
OBN pmax pmax
comp=Z,5.0nm,0.8s
NC303 NORSAR Array S 63.57 344 P P 14 15 16.2 -0.6
NC405 NORSAR Array S 63.61 343 P P 14 15 16.5 -0.6
NC204 NORSAR Array S 63.62 344 P P 14 15 16.8 -0.4
NB201 NORSAR Array S 63.74 343 P P 14 15 17.6 -0.4
NB2 NORSAR Subarra 63.77 344 P P 14 15 17.4 -0.7
comp=Z,0.4nm,0.3s,baz=22,slow=6.9
NOA NORSAR Array B 63.77 344 P P 14 15 17.7 -0.4
comp=Z,0.5nm,0.4s,baz=23,slow=6.0,SNR=9.7
comp=Z,0.5nm,0.4s
HFS Hagfors 64.17 342 P P 14 15 20.0 -0.7
HFS Hagfors 64.17 342 P P 14 15 20.0 -0.7
comp=Z,1.3nm,0.4s,baz=22,slow=4.8,SNR=17
comp=Z,1.3nm,0.4s
SCHQ Schefferville 66.03 27 P P 14 15 32.6 -0.2
SCHQ IAmb IAmb 14 16 03.4
comp=Z,10nm,1.2s
AKASG Malin Array Be 68.75 329 *i* P **P 14 15 49.0 -1.1**
AKASG Malin Array Be 68.75 329 P P 14 15 49.1 -1.0
comp=Z,0.3nm,0.3s,baz=30,slow=6.8,SNR=4.5
comp=Z,0.3nm,0.3s
TX31 Lajitas Ar. Si 70.97 67 P P 14 16 05.3 +1.1
TX31 IAmb IAmb 14 16 06.5
comp=Z,4.8nm,0.8s
TXAR Lajitas Array 70.97 67 P P 14 16 05.4 +1.2
TXAR Lajitas Array 70.97 67 P P 14 16 05.7 +1.4
comp=Z,1.7nm,0.6s,baz=297,slow=5.2,SNR=26
comp=Z,1.7nm,0.6s
EKA Eskdalemuir Ar 71.31 350 P P 14 16 05.7 -0.1
comp=Z,1.3nm,0.4s,baz=16,slow=5.3,SNR=16
comp=Z,1.3nm,0.4s
EKB Eskdalemuir 71.32 350 P P 14 16 06.1 +0.4
ESK Eskdalemuir 71.33 350 P P 14 16 06.3 +0.4
ESK Eskdalemuir 71.33 350 P P 14 16 06.3 +0.4
ESK pmax pmax
comp=Z,34nm,1.3s
CLL Collm 72.55 339 P P 14 16 13.2 0.0
CLL IAmb IAmb 14 16 14.1
comp=Z,10.0nm,1.0s
CLL Collm 72.55 339 *i* P **P 14 16 13.3 0.0**
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 72.55 339 *i* P **P 14 16 13.3 0.0**
comp=Z,15nm,1.2s
DPC Dobruska-Polom 72.68 336 *e*P **P 14 16 14.2 +0.1**
DPC Dobruska-Polom 72.68 336 *e*P **P 14 16 14.2 +0.1**
BUR08 Bucovina Ar. S 72.70 330 P P 14 16 13.8 -0.6
BUR08 IAmb IAmb 14 16 52.2
comp=Z,13nm,1.4s
BURAR Bucovina Array 72.72 330 P P 14 16 14.0 -0.4
BURAR Bucovina Array 72.72 330 P P 14 16 13.0 -1.4
BURAR pmax pmax
comp=Z,2.0nm,0.9s
LANS Liptovska Anna 72.98 334 *e*P **P 14 16 17.6 +1.7**
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 72.98 334 *e*P **P 14 16 17.6 +1.7**
O53A New Philadelph 73.42 44 P P 14 16 18.8 +0.2
PRU Pruhonice 73.44 337 *e*P **P 14 16 19.4 +0.9**
PRU Pruhonice 73.44 337 *e*P **P 14 16 19.4 +0.9**
DSB Dublin 73.70 351 P P 14 16 20.5 +0.5
VYHS Vyhne 73.75 334 *e*P **P 14 16 21.5 +1.1**
VYHS Vyhne 73.75 334 *e*P **P 14 16 21.5 +1.1**
ZVC Zvikov 74.03 337 *e*P **P 14 16 21.8 -0.2**
KHC Kasperske Hory 74.47 338 P P 14 16 24.9 +0.2
KHC IAmb IAmb 14 16 26.5
comp=Z,7.2nm,1.2s
KHC Kasperske Hory 74.47 338 *e*P **P 14 16 24.8 +0.2**
KHC Kasperske Hory 74.47 338 *e*P **P 14 16 24.8 +0.2**
CKRC Cesky Krumlov 74.59 337 *e*P **P 14 16 25.3 0.0**
CKRC Cesky Krumlov 74.59 337 *e*P **P 14 16 25.3 0.0**
BTNL Ternell 74.61 343 *d*P **P 14 16 26.4 +1.0**
MEM Membach 74.61 343 *d*P **P 14 16 26.0 +0.7**
comp=Z,9.0nm,0.9s
GEC2 GERESS Array S 74.70 337 P P 14 16 26.1 +0.1
GEC2 IAmb IAmb 14 16 26.8
comp=Z,2.7nm,0.7s
GERES GERESS Array B 74.70 337 P P 14 16 26.2 +0.1
GERES GERESS Array B 74.70 337 P P 14 16 26.2 +0.1
GERES GERESS Array B 74.70 337 P P 14 16 26.0 -0.1
comp=Z,1.3nm,0.4s,baz=27,slow=6.1,SNR=9.0
comp=Z,1.3nm,0.4s
BCLA Clavier 74.92 343 *d*P **P 14 16 27.7 +0.6**
CONA Conrad Observa 75.04 336 *i* P **P 14 16 28.7 +0.7**
comp=Z,2.1nm,0.6s
MOA Molln 75.50 337 *i* P **P 14 16 30.9 +0.3**
comp=Z,1.1nm,0.4s
WB0 Warramunga Arr 75.53 205 P P 14 16 31.4 +0.5
WB0 IAmb IAmb 14 16 32.1
comp=Z,4.4nm,1.1s
WR0 Warramunga Arr 75.67 204 P P 14 16 32.2 +0.5
WB2 Warramunga Arr 75.70 205 P P 14 16 32.3 +0.5
WB2 IAmb IAmb 14 16 46.4
comp=Z,10nm,1.4s
WRA Warramunga Arr 75.71 205 P P 14 16 32.2 +0.3
comp=Z,1.4nm,0.8s,baz=24,slow=6.2,SNR=6.0
comp=Z,1.4nm,0.8s
L64A Middleborough 76.05 36 P P 14 16 33.9 +0.2
BFO Black Forest 76.35 341 P P 14 16 34.9 -0.5
BFO IAmb IAmb 14 16 36.9
comp=Z,14nm,1.4s
BFO Black Forest 76.35 341 P P 14 16 34.9 -0.5
BFO pmax pmax
comp=Z,14nm,1.4s
SOKA Soboth 76.41 336 *i* P **P 14 16 36.4 +0.6**
comp=Z,3.1nm,0.4s
KBA Koelnbreinsper 76.44 337 *i* P **P 14 16 37.3 +1.1**
comp=Z,13nm,0.7s,SNR=15
FITZ Fitzroy Crossi 76.52 213 P P 14 16 37.6 +1.2
WATA Walderalm 76.61 338 *i* P **P 14 16 37.8 +0.8**
comp=Z,1.2nm,0.3s
RETA Reutte 76.65 339 *i* P **P 14 16 37.7 +0.6**
comp=Z,1.0nm,0.5s
WTTA Wattenberg 76.67 338 *i* P **P 14 16 38.2 +0.8**
comp=Z,2.8nm,0.6s
OBKA Obir 76.69 336 *i* P **P 14 16 38.1 +0.7**
comp=Z,1.5nm,0.4s
BRTR Keskin Array B 76.71 320 P P 14 16 37.8 +0.1
BRTR Keskin Array B 76.71 320 P P 14 16 37.8 +0.1
BRTR Keskin Array B 76.71 320 P P 14 16 36.8 -0.8
comp=Z,0.5nm,0.7s,baz=44,slow=4.3,SNR=1.7
comp=Z,0.5nm,0.7s
MOTA Moosalm 76.71 339 *i* P **P 14 16 38.0 +0.4**
comp=Z,1.7nm,0.4s
SQTA Sankt Quirin 76.80 339 *i* P **P 14 16 38.9 +0.8**
comp=Z,4.3nm,0.7s
ABTA Abfaltersbach 76.95 338 *e*P **P 14 16 39.4 +0.5**
comp=Z,3.7nm,0.6s,SNR=5.1
PRED Cave del Predi 76.99 337 P P 14 16 39.0 -0.1
PRED IAmb IAmb 14 16 39.8
comp=Z,6.5nm,0.6s
FETA Feichten 77.10 339 *i* P **P 14 16 40.7 +0.9**
comp=Z,2.5nm,0.7s
CLUD Cludinico 77.14 337 P P 14 16 39.5 -0.4
CLUD IAmb IAmb 14 17 16.5
comp=Z,11nm,1.2s
CIMO Cimolais 77.38 337 P P 14 16 40.7 -0.5
CIMO IAmb IAmb 14 17 24.4
comp=Z,5.2nm,1.1s
FUORN Ofenpass-Fuorn 77.58 339 P P 14 16 43.2 +0.6
FUORN IAmb IAmb 14 16 45.9
comp=Z,4.1nm,1.1s
PALK Pallekele 77.60 266 P P 14 16 43.1 +0.2
PALK Pallekele 77.60 266 P P 14 16 43.1 +0.2
PALK pmax pmax
comp=Z,17nm,1.2s
CTI Castel Tesino 77.81 338 P P 14 16 43.1 -0.6
CTI IAmb IAmb 14 16 43.9
comp=Z,4.3nm,0.5s
CTI Castel Tesino 77.81 338 P P 14 16 43.1 -0.6
CTI pmax pmax
comp=Z,4.0nm,0.5s
TUE Stuetta 77.92 340 P P 14 16 45.0 +0.6
TUE IAmb IAmb 14 16 46.5
comp=Z,7.0nm,0.8s
TEOL Teolo 78.45 338 P P 14 16 47.7 +0.5
AS31 Alice Springs 79.38 204 P P 14 16 53.5 +1.1
ASAR Alice Springs 79.39 204 P P 14 16 53.2 +0.9
ASAR Alice Springs 79.39 204 P P 14 16 53.5 +1.1
comp=Z,0.7nm,0.5s,baz=17,slow=4.9,SNR=18
comp=Z,0.7nm,0.5s
BNI Bardonecchia 79.82 341 P P 14 16 55.0 +0.2
BNI IAmb IAmb 14 17 06.1
comp=Z,11nm,1.2s
BNI Bardonecchia 79.82 341 P P 14 16 55.0 +0.2
BNI pmax pmax
comp=Z,11nm,1.2s
MURB Monte Urbino 80.23 336 P P 14 16 58.5 +1.5
OSSC Osservatorio P 80.29 337 P P 14 16 57.6 +0.4
OSSC IAmb IAmb 14 16 59.7
comp=Z,18nm,1.5s
FDMO Fiordimonte 80.31 336 P P 14 16 58.1 +0.8
NRCA Norcia 80.49 336 P P 14 16 58.9 +0.5
ESBB Sonseca Array 86.83 347 P P 14 17 31.1 +0.3
ESDC Sonseca Array 86.83 347 P P 14 17 30.9 +0.1
ESDC Sonseca Array 86.83 347 P P 14 17 30.7 -0.1
comp=Z,0.9nm,0.6s,baz=360,slow=4.9,SNR=12
comp=Z,0.9nm,0.6s
QSPA South Pole Qui 142.53 180 PKhKP PKPpre 14 24 12.9
comp=Z,1.9nm,0.9s,baz=194,slow=2.1,SNR=9.4
PLCA Paso Flores 144.24 91 PKP **PKPdf 14 24 21.2 -0.4**
comp=Z,2.3nm,1.0s,baz=240,slow=3.0,SNR=4.5

*TEH **14** 14:22:46.8,35.°03N×45.°96E,h6km±58km, ML3.2*
*ISN **14** 14:22:46.4±1.0,35.°01N×45.°93E,h10km±333km, ML3.3*
ISC 14 14:22:49.3±1.1,**35.°01N**±0.°04×**45.°96E**±0.°05,**h10**km,**n17,**
σ1s07/21,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.47**	**131**	Pg	**Pg**	**14 22 57.4**	**-1.1**
KGS1	**Ghasr-e-Shirin**	**0.59**	**211**	Pg	**Pg**	**14 22 59.6**	**-1.1**
ILIN	**Lien**	**0.83**	**96**	Pg	**Pg**	**14 23 03.9**	**-1.5**
IGHG	**Ghaleghazi**	**0.85**	**143**	Pg	**Pg**	**14 23 04.6**	**-1.1**
KCHF	**Cheshme Sefid,**	**1.16**	**129**	Pg	**Pb**	**14 23 10.3**	**-1.2**
KCHF				Sg	**Sb**	**14 23 27.7**	**+1.1**
IKOM	**Komasi**	**1.53**	**123**	Pg	**Pn**	**14 23 17.2**	**+0.4**
MAHB	**Mahabad**	**1.76**	**353**	Pg	**Pn**	**14 23 19.9**	**-0.1**
IALM	**Almabolaq**	**1.82**	**94**	Pn	**Pn**	**14 23 21.6**	**+0.7**
IBDR	**Badra**	**1.90**	**181**	*e*Pn	**Pn**	**14 23 22.0**	**+0.3**
IBDR				*e*Sn	**Sn**	**14 23 47.0**	**+1.4**
IBDR				AML	AML	14 24 02.5	
	comp=E,229nm,0.5s						
IBDR				AML	AML	14 24 03.5	
	comp=N,264nm,0.4s						
IKFM	**Kafar-mosalman**	**2.16**	**133**	Pn	**Pn**	**14 23 26.4**	**+1.1**
BHD	**Baghdad**	**2.17**	**217**	*e*Pn	**Pn**	**14 23 25.2**	**-0.3**
BHD				*e*Sn	**Sn**	**14 23 54.0**	**+1.6**
HSAM	**Samen**	**2.32**	**109**	Pn	**Pn**	**14 23 28.1**	**+0.3**
IHSH	**Hashtrud**	**2.52**	**24**	Pn	**Pn**	**14 23 32.0**	**+1.4**
IAZR	**Azarshahr**	**2.66**	**0**	Pn	**Pn**	**14 23 32.7**	**+0.2**
ISHB	**Shabestar**	**3.28**	**355**	Pn	**Pn**	**14 23 41.9**	**+0.9**
RAFI	**Al-Rafai**	**3.28**	**178**	*e*Pn	**Pn**	**14 23 41.0**	**+0.3**
RAFI				*e*Sn	**Sn**	**14 24 21.5**	**+1.7**
RAFI				AML	AML	14 24 30.1	
	comp=E,145nm,0.4s						
RAFI				AML	AML	14 24 30.3	
	comp=N,223nm,0.5s						
IHRS	**Heris**	**3.42**	**15**	Pn	**Pn**	**14 23 43.4**	**+0.6**

*ISK **14** 14:28:17.6,39.°53N×26.°04E,h6km, ML2.6/21*
*ATH **14** 14:28:18.6,39.°54N×26.°01E,h8km±1km, ML2.3/4, Error ellipse: s-maj=1.8km s-min=0.7km az=236.0*
*AFAD **14** 14:28:18.2±0.0,39.°56N×26.°05E,h10km±1km, ML2.2*
*THE **14** 14:28:18.4,39.°54N×26.°03E,h8km±3km, ML2.2/4, Error ellipse: s-maj=3.1km s-min=0.4km az=132.0*
ISC 14 14:28:18.2±0.8,**39.°54N**±0.°02×**26.°03E**±0.°02,**h11**km±5km,
n55,σ0s46/86,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.09**	**115**	P	**Pg**	**14 28 20.8**	**+0.1**
KOCA				S	**Sg**	**14 28 22.5**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.11**	**137**	Pg	**Pg**	**14 28 20.7**	**-0.3**
GPNR				Sg	**Sg**	**14 28 22.6**	**-0.5**
BOZC	**Bozcaada**	**0.30**	**3**	P	**Pg**	**14 28 24.4**	**+0.1**
BOZC				S	**Sg**	**14 28 28.6**	**+0.2**
BOZC				*i* AML	AML	14 28 29.0	
	comp=N,300nm,0.3s						
BOZC				*i* AML	AML	14 28 29.0	
	comp=E,318nm,0.3s						
PRK	**Paraskevi**	**0.35**	**148**	P	**Pg**	**14 28 25.4**	**+0.3**
PRK				S	**Sg**	**14 28 30.5**	**+0.8**
	952nm,0.2s						
PRK	**Paraskevi**	**0.35**	**148**	P	**Pg**	**14 28 25.3**	**+0.3**
PRK				S	**Sg**	**14 28 30.4**	**+0.7**
PRK				AML	AML	14 28 31.1	
	comp=N,2260μm,0.2s						
PRK				AML	AML	14 28 32.3	
	comp=E,1610μm,0.6s						
SIGR	**SIGRI**	**0.35**	**203**	Pg	**Pg**	**14 28 25.4**	**+0.2**
SIGR				Sg	**Sg**	**14 28 30.3**	**+0.3**
SIGR	**SIGRI**	**0.35**	**203**	P	**Pg**	**14 28 25.3**	**0.0**
SIGR				S	**Sg**	**14 28 30.5**	**+0.5**
	comp=E,660nm,0.2s						
SIGR	**SIGRI**	**0.35**	**203**	P	**Pg**	**14 28 25.2**	**0.0**
SIGR				S	**Sg**	**14 28 30.5**	**+0.5**
SIGR				AML	AML	14 28 31.3	
	comp=E,1284μm,0.2s						
SIGR				AML	AML	14 28 31.5	
	comp=N,1329μm,0.3s						
EZN	**Ezine**	**0.36**	**38**	Pg	**Pg**	**14 28 25.4**	**0.0**
EZN				Sg	**Sg**	**14 28 30.8**	**+0.5**
EZN	**Ezine**	**0.36**	**38**	P	**Pg**	**14 28 25.5**	**0.0**
EZN				S	**Sg**	**14 28 30.7**	**+0.5**
	comp=N,768nm,0.1s						
BAYC	**CANAKKALE_Bayr**	**0.44**	**63**	P	**Pg**	**14 28 27.0**	**+0.1**
BAYC				S	**Sg**	**14 28 32.8**	**0.0**
BAYC				*i* AML	AML	14 28 33.0	
	comp=N,363nm,0.2s						
BAYC				*i* AML	AML	14 28 33.0	
	comp=N,345nm,0.3s						
ECEA	**Canakkale, Ece**	**0.52**	**12**	P	**Pg**	**14 28 27.7**	**-0.6**
ECEA				S	**Sb**	**14 28 36.1**	**-0.6**
ECEA				*i* AML	AML	14 28 37.0	
	comp=N,366nm,0.4s						
ECEA				*i* AML	AML	14 28 37.0	
	comp=N,192nm,0.2s						
AYVA	**Ayvalik**	**0.56**	**114**	P	**Pg**	**14 28 29.6**	**+0.6**
AYVA				S	**Sg**	**14 28 36.2**	**-0.2**
AYVA				*i* AML	AML	14 28 41.0	
	comp=N,76nm,0.2s						
AYVA				*i* AML	AML	14 28 45.0	
	comp=N,96nm,0.2s						
CNKL	**anakkale-Mer**	**0.59**	**27**	P	**Pg**	**14 28 29.6**	**-0.1**
CNKL				S	**Sg**	**14 28 37.4**	**-0.2**
CNKL				*i* AML	AML	14 28 38.0	
	comp=N,130nm,0.4s						
CNKL				*i* AML	AML	14 28 41.0	
	comp=N,86nm,0.2s						
EAG3	**Mitilini, Lesv**	**0.61**	**137**	P	**Pg**	**14 28 30.2**	**+0.1**
EAG3				S	**Sb**	**14 28 39.3**	**-0.2**
GOAD	**anakkale-G¶**	**0.63**	**351**	P	**Pg**	**14 28 29.6**	**-0.8**
GOAD				*i* AML	AML	14 28 36.0	
	comp=N,78nm,0.5s						
GOAD				S	**Sg**	**14 28 38.5**	**-0.2**
GOAD				*i* AML	AML	14 28 40.0	
	comp=N,74nm,0.5s						
COMU	**Canakkale**	**0.65**	**31**	Pg	**Pg**	**14 28 31.0**	**+0.1**
COMU				Sg	**Sb**	**14 28 40.4**	**-0.3**
GADA	**Gvkgeada**	**0.66**	**351**	Pg	**Pg**	**14 28 31.0**	**0.0**
LIA	**Limnos Island**	**0.75**	**299**	P	**Pg**	**14 28 32.7**	**+0.1**
LIA				S	**Sb**	**14 28 43.7**	**+0.3**
LIA	**Limnos Island**	**0.75**	**299**	P	**Pg**	**14 28 32.5**	**-0.1**
LIA				S	**Sg**	**14 28 42.8**	**+0.4**
LIA				AML	AML	14 28 46.3	
	comp=E,596μm,0.3s						
LIA				AML	AML	14 28 47.3	
	comp=N,327μm,0.3s						
BUHA	**Balikesir, Bur**	**0.81**	**92**	P	**Pg**	**14 28 33.4**	**-0.4**
BUHA				S	**Sg**	**14 28 44.6**	**+0.3**
BUHA				*i* AML	AML	14 28 45.0	
	comp=N,75nm,0.3s						
BUHA				*i* AML	AML	14 28 49.0	
	comp=N,66nm,0.2s						
DKL	**Dikili**	**0.82**	**124**	Pg	**Pg**	**14 28 33.4**	**-0.6**
RFT7	**Candarli**	**0.90**	**130**	Pg	**Pg**	**14 28 34.9**	**-0.6**
CANM	**Can-anakkale**	**0.92**	**59**	Pg	**Pg**	**14 28 35.3**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.92**	**21**	Pg	**Pg**	**14 28 35.5**	**-0.4**
KARB	**zmir-Karabur**	**0.92**	**161**	P	**Pg**	**14 28 36.3**	**+0.4**
KARB				S	**Sg**	**14 28 48.1**	**+0.1**
KARB				*i* AML	AML	14 28 50.0	
	comp=N,140nm,0.2s						
KARB				*i* AML	AML	14 28 50.0	
	comp=N,224nm,0.2s						
ZEDA	**zmir-Bergama**	**0.99**	**125**	P	**Pb**	**14 28 37.6**	**+0.3**
ZEDA				S	**Sn**	**14 28 52.0**	**+0.1**
ZEDA				*i* AML	AML	14 28 53.0	
	comp=N,100nm,0.3s						
ZEDA				*i* AML	AML	14 28 54.0	
	comp=N,71nm,0.4s						
LPK	**Lapseki**	**1.00**	**34**	Pg	**Pg**	**14 28 37.2**	**-0.3**
SMTH	**Samothraki Isl**	**1.01**	**338**	P	**Pg**	**14 28 37.4**	**-0.2**
SMTH				S	**Sg**	**14 28 51.0**	**+0.3**
SMTH	**Samothraki Isl**	**1.01**	**338**	P	**Pg**	**14 28 37.2**	**-0.4**
SMTH				S	**Sg**	**14 28 51.0**	**+0.3**
CHOS	**Chios island**	**1.15**	**179**	P	**Pg**	**14 28 40.0**	**-0.3**
CHOS				S	**Sg**	**14 28 55.6**	**+0.3**
CHOS				AML	AML	14 29 00.2	
	comp=E,329μm,0.2s						
CHOS				AML	AML	14 29 01.1	
	comp=N,316μm,0.2s						
ERIK	**Erikli-Kesan**	**1.19**	**18**	Pn	**Pb**	**14 28 40.7**	**0.0**
ENEZ	**Enez**	**1.20**	**4**	Pn	**Pb**	**14 28 40.7**	**-0.2**
ENEZ	**Enez**	**1.20**	**4**	P	**Pb**	**14 28 41.0**	**+0.1**
ENEZ				S	**Sg**	**14 28 56.5**	**-0.3**
BALY	**Balya**	**1.24**	**80**	P	**Pb**	**14 28 41.9**	**+0.3**
BALY				S	**Sb**	**14 28 57.1**	**-0.5**
BALY				*i* AML	AML	14 28 59.0	
	comp=N,45nm,0.4s						
BALY				*i* AML	AML	14 29 00.0	
	comp=N,47nm,0.5s						
KRBG	**Karabiga-Canak**	**1.29**	**48**	Pn	**Pn**	**14 28 42.6**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.31**	**97**	P	**Pn**	**14 28 41.9**	**-0.6**
STEP				*i* AML	AML	14 29 06.0	
	comp=N,33nm,0.4s						
STEP				*i* AML	AML	14 29 08.0	
	comp=N,36nm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**1.35**	**164**	P	**Pn**	**14 28 42.6**	**-0.3**
ZEYE				S	**Sb**	**14 28 59.0**	**-1.7**
ZEYE				*i* AML	AML	14 29 04.0	
	comp=N,32nm,0.3s						
ZEYE				*i* AML	AML	14 29 05.0	
	comp=N,52nm,0.2s						
ALN	**Alexandroupoli**	**1.36**	**0**	Pn	**Pn**	**14 28 43.7**	**+0.7**
ALN	**Alexandroupoli**	**1.36**	**0**	P	**Pn**	**14 28 42.9**	**-0.1**
ALN				S	**Sb**	**14 29 01.2**	**+0.3**
	comp=N,38nm,0.3s						
ALN	**Alexandroupoli**	**1.36**	**0**	P	**Pn**	**14 28 42.8**	**-0.1**
ALN				S	**Sb**	**14 29 01.2**	**+0.3**
GONE	**Gonen-Balikesi**	**1.37**	**68**	Pn	**Pn**	**14 28 43.5**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.44**	**37**	Pn	**Pn**	**14 28 44.8**	**+0.5**
THAS	**Thassos island**	**1.47**	**317**	P	**Pn**	**14 28 44.2**	**-0.3**
BKES	**Balkesir-Mer**	**1.48**	**82**	P	**Pb**	**14 28 45.6**	**0.0**
BKES				S	**Sn**	**14 29 03.6**	**-0.4**
BKES				*i* AML	AML	14 29 08.0	
	comp=N,15nm,0.3s						
BKES				*i* AML	AML	14 29 09.0	
	comp=N,39nm,0.6s						
EDC	**Edincik**	**1.62**	**60**	Pn	**Pn**	**14 28 46.7**	**0.0**
RDO	**Rodhopi**	**1.65**	**347**	Pn	**Pn**	**14 28 47.5**	**+0.5**
RDO	**Rodhopi**	**1.65**	**347**	P	**Pn**	**14 28 47.6**	**+0.5**
OUR	**Ouranopolis**	**1.77**	**297**	P	**Pn**	**14 28 48.1**	**-0.6**
KAVA	**Kavala**	**1.86**	**322**	P	**Pn**	**14 28 49.9**	**-0.1**
SMG	**Samos**	**1.93**	**161**	P	**Pn**	**14 28 50.9**	**-0.1**
KOKK	**Kokkinochori,**	**2.02**	**310**	P	**Pn**	**14 28 51.9**	**-0.2**
EDRB	**Edirne**	**2.37**	**13**	Pn	**Pn**	**14 28 58.3**	**+1.4**
ARMT	**Armutlu**	**2.40**	**64**	Pn	**Pn**	**14 28 58.1**	**+0.7**
CTKS	**Kestanelik-??a**	**2.54**	**47**	Pn	**Pn**	**14 29 00.4**	**+1.2**

*IDC **14** 14:28:14.8±2.1,15.°57S×173.°70W,h0km,mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=126.6km s-min=21.9km az=145.0*
*NEIC **14** 14:28:20.5±1.2,15.°66S±0.°10×173.°6W±0.°1,h35km±2km, mb4.5/27, Error ellipse: s-maj=24.1km s-min=15.0km az=107.0*
*NOU **14** 14:28:41.9,14.°29S×172.°36W,h74km,MLv3.5/5,Samoa Islands*
ISC 14 14:28:19.4±0.6,**15.°77S**±0.°09×**173.°7W**±0.°1,**h35**km,**n42,**
σ1s01/42,mb4.5/21,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.60**	**45**	Pn	**Pn**	**14 28 57.4**	**-1.6**
AFI	**Afiamalu**	**2.60**	**45**	P	**Pn**	**14 28 57.6**	**-1.4**
NIUE	**Niue**	**4.85**	**133**		**Pn**	**14 29 30.3**	**+0.4**
RAO	**Raoul Island**	**13.98**	**196**	Pn	**Pn**	**14 31 32.2**	**-2.7**
STKA	**Stephens Creek**	**43.63**	**240**	P	**P**	**14 36 18.8**	**-1.9**
STKA	**Stephens Creek**	**43.63**	**240**	P	**P**	**14 36 21.6**	**+0.9**
	0.7nm,0.3s,baz=69,slow=8.6,SNR=5.0						
	0.7nm,0.3s						
WR0	**Warramunga Arr**	**49.32**	**257**	P	**P**	**14 37 05.9**	**+0.4**
WR0				IAmb	IAmb	14 37 28.3	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**49.47**	**257**	P	**P**	**14 37 07.2**	**+0.5**
WB0				IAmb	IAmb	14 37 20.3	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**49.50**	**257**	P	**P**	**14 37 07.2**	**+0.3**
WB2				IAmb	IAmb	14 37 17.0	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**49.51**	**257**	P	**P**	**14 37 06.5**	**-0.5**
WRA	**Warramunga Arr**	**49.51**	**257**	P	**P**	**14 37 07.5**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=97,slow=6.2,SNR=10						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**49.75**	**252**	P	**P**	**14 37 08.6**	**-0.2**
ASAR	**Alice Springs**	**49.75**	**252**	P	**P**	**14 37 09.3**	**+0.5**
ASAR	**Alice Springs**	**49.75**	**252**	P	**P**	**14 37 09.7**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=88,slow=7.7,SNR=56						
	comp=Z,2.8nm,0.6s						
PSA00	**Pilbara Seismi**	**62.85**	**254**	P	**P**	**14 38 43.2**	**+1.0**
PSA00				IAmb	IAmb	14 39 19.5	
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**74.77**	**42**	P	**P**	**14 39 56.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=216,slow=7.8,SNR=4.6						
	comp=Z,0.5nm,0.7s						
P18K	**Big Mountain,**	**76.39**	**10**	P	**P**	**14 40 04.3**	**-0.6**
OZB	**Mount Ozzard**	**77.29**	**30**	P	**P**	**14 40 10.2**	**+0.1**
CRAG	**Craig**	**78.78**	**22**	P	**P**	**14 40 18.4**	**+0.2**
L18K	**Granite Mounta**	**78.88**	**8**	P	**P**	**14 40 20.6**	**+1.9**
SIT	**Sitka**	**79.26**	**20**	P	**P**	**14 40 21.2**	**+0.4**
J16K	**Anvik River**	**79.46**	**6**	P	**P**	**14

SCRK	**Sand Creek**	**82.73**	**13**	P	**P**	**14 40 39.4**	**+0.1**
SCRK				IAmb	IAmb	14 41 07.4	
	comp=Z,4.8nm,1.3s						
ILAR	**Eielson Array**	**82.86**	**11**	P	**P**	**14 40 40.0**	**+0.2**
ILAR	**Eielson Array**	**82.86**	**11**	P	**P**	**14 40 39.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=232,slow=6.2,SNR=11						
	comp=Z,0.4nm,0.7s						
IMAR	**Indian Mountai**	**82.87**	**8**	P	**P**	**14 40 40.1**	**+0.2**
J25K	**Salcha River,**	**83.01**	**12**	P	**P**	**14 40 41.5**	**+0.8**
J25K				IAmb	IAmb	14 41 20.8	
	comp=Z,7.4nm,1.5s						
E19K	**Redstone River**	**83.87**	**6**	P	**P**	**14 40 46.4**	**+1.4**
E19K				IAmb	IAmb	14 40 47.3	
	comp=Z,4.2nm,1.1s						
I28M	**Miner Creek**	**84.88**	**13**	P	**P**	**14 40 50.7**	**+0.4**
E22K	**Anaktuvuk Pass**	**85.16**	**8**	P	**P**	**14 40 52.4**	**+0.8**
E22K				IAmb	IAmb	14 40 53.8	
	comp=Z,2.7nm,0.9s						
I30M	**Mount Dempster**	**85.53**	**15**	P	**P**	**14 40 54.0**	**+0.4**
BMAR	**Burnt Mountain**	**85.66**	**11**	P	**P**	**14 40 55.7**	**+1.6**
H29M	**Whitestone**	**85.89**	**14**	P	**P**	**14 40 56.0**	**+0.8**
H29M				IAmb	IAmb	14 41 09.8	
	comp=Z,6.7nm,1.4s						
H31M	**Peel River**	**86.51**	**15**	P	**P**	**14 40 59.0**	**+0.7**
H31M				IAmb	IAmb	14 41 32.5	
	comp=Z,3.2nm,1.2s						
LL06	**Loncomilla**	**86.78**	**133**	P	**P**	**14 41 01.1**	**+0.9**
C23K	**Itkillik River**	**86.91**	**8**	P	**P**	**14 41 01.4**	**+1.3**
C23K				IAmb	IAmb	14 41 02.8	
	comp=Z,2.1nm,0.9s						
G30M	**tAoh Zraii Nji**	**87.00**	**14**	P	**P**	**14 41 01.5**	**+0.8**
G30M				IAmb	IAmb	14 41 10.8	
	comp=Z,4.4nm,1.4s						
G31M	**Satah River**	**87.42**	**15**	P	**P**	**14 41 02.9**	**+0.3**
G31M				IAmb	IAmb	14 41 41.4	
	comp=Z,5.1nm,1.4s						
BRTR	**Keskin Array B**	**146.28**	**320**	PKPbc	**PKPbc**	**14 47 56.7**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=108,slow=2.5,SNR=2.7						

IDC 14 14:30:26.3±13.0, 14°87.5S×165°77.7E, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=232.2km s-min=37.4km az=56.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.19**	**175**	Pn	Pn	14 32 12.7	-0.2
	0.6nm,0.3s,baz=359,slow=9.7,SNR=12						
DZM				Sn	Sn	14 33 35.7	+0.3
	0.2nm,0.3s,baz=306,slow=19,SNR=1.8						
	1.2nm,0.3s						
STKA	**Stephens Creek**	**27.81**	**228**	P	P	14 36 18.0	+0.7
	0.9nm,0.6s,baz=80,slow=12,SNR=2.9						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**30.38**	**256**	P	P	14 36 40.2	-0.2
	0.4nm,0.8s,baz=86,slow=9.7,SNR=2.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**31.27**	**249**	P	P	14 36 48.0	-0.3
	0.2nm,0.5s,baz=76,slow=9.5,SNR=12						
	0.2nm,0.5s						

JMA 14 14:31:39.6±0.4, 25°N×123°7E±0°5, h4km, MV3.2/8, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.71**	**128**	P	Pg	14 31 53.3	+0.2
JISG				*e*S	Sb	14 32 03.7	-0.8
JIJ	**Ishigaki jima**	**0.77**	**148**	P	Pg	14 31 54.1	-0.2
JIJ				*e*S	Sg	14 32 04.0	-0.4
JKRS	**Kuro-shima**	**0.83**	**160**	P	Pg	14 31 56.0	+0.5
YOJ	**Yonaguni jima**	**0.83**	**228**	P	Pg	14 31 55.7	+0.1
YOJ				*e*S	Sg	14 32 06.1	-0.3
JYNG	**Yonagunijimaku**	**0.89**	**230**	*e*P	Pg	14 31 56.7	+0.2
JYNG				*e*S	Sg	14 32 08.7	+0.6
HATJ	**Hateruma jima**	**0.97**	**174**	P	Pb	14 31 58.5	-0.3
HATJ				*e*S	Sb	14 32 11.8	-0.2

TAP 14 14:32:24.1, 24°33N×121°69E, h13km, ML1.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.05**	**95**	*i* P	Pg	14 32 26.8	+0.3
	baz=96						
EAHA				S	Sg	14 32 28.5	+0.3
	baz=96						
ENA	**Nanau**	**0.11**	**28**	*i* P	Pg	14 32 27.4	+0.3
	baz=32						
ENA				*i* S	Sg	14 32 29.6	+0.2
	baz=32						
EWUT	**Wuta**	**0.14**	**37**	P	Pg	14 32 27.7	+0.1
	baz=37						
EWUT				*e*S	Sg	14 32 30.0	0.0
	baz=37						
NACB	**Ninganchiao**	**0.18**	**208**	*i* P	Pg	14 32 28.4	+0.2
	baz=207						
NACB				S	Sg	14 32 31.8	+0.8
	baz=207						
ETL	**Fush Village**	**0.18**	**198**	*i* P	Pg	14 32 28.6	+0.3
	baz=198						
ETL				*e*S	Sg	14 32 31.9	+0.7
	baz=198						
ETLH	**Xiulin Townshi**	**0.23**	**236**	*i* P	Pg	14 32 29.5	+0.5
	baz=235						
ETLH				S	Sg	14 32 33.2	+0.9
	baz=235						
LATG	**Datong**	**0.25**	**324**	*e*P	Pg	14 32 29.9	+0.5
	baz=324						
LATG				*e*S	Sb	14 32 34.0	-0.9
	baz=324						
TWD	**Chiawan**	**0.27**	**198**	*i* P	Pg	14 32 29.9	+0.2
	baz=196						
TWD				S	Sg	14 32 33.6	+0.2
	baz=196						
NNSB	**Datong**	**0.29**	**289**	*e*P	Pg	14 32 30.2	0.0
	baz=289						
NNSB				*e*S	Sg	14 32 35.1	+0.8
	baz=289						
NDS	**Dongshan**	**0.30**	**5**	*e*P	Pg	14 32 30.4	+0.1
	baz=5.0						
NDS				*e*S	Sg	14 32 34.9	+0.5
	baz=5.0						
NDT	**Datong Townshi**	**0.31**	**329**	*e*P	Pg	14 32 30.8	+0.3
	baz=329						
NDT				*e*S	Sg	14 32 35.6	+0.9
	baz=329						
TWC	**Suao**	**0.31**	**28**	P	Pg	14 32 30.5	0.0
	baz=25						
TWC				S	Sg	14 32 34.8	0.0
	baz=25						
ENTT	**Nioudou**	**0.32**	**340**	P	Pg	14 32 31.2	+0.4
	baz=341						
ENTT				S	Sb	14 32 36.2	-0.8
	baz=341						
LXIB	**Xiulin Townshi**	**0.40**	**219**	P	Pg	14 32 32.3	+0.1
	baz=218						
LXIB				*e*S	Sg	14 32 38.0	+0.5
	baz=218						
ETM	**Tongmen**	**0.41**	**206**	*e*P	Pg	14 32 32.2	0.0
	baz=205						
WHF	**Hehuan Shan**	**0.43**	**244**	P	Pb	14 32 33.5	-0.3
	baz=242						
WHF				*e*S	Sg	14 32 39.0	+0.4
	baz=242						
YHNB	**Yeheng**	**0.44**	**320**	*e*P	Pb	14 32 33.4	-0.4
	baz=320						
YHNB				*e*S	Sb	14 32 39.8	-0.5
	baz=320						

IDC 14 14:35:18.6±4.8, 5°.49S×145°.66E, h74km±45km, mb3.2/4, mbtmp3.6/6, ML3.2/1, MS3.1/2, Error ellipse: s-maj=35.4km s-min=32.4km az=81.0

ISC 14 14:35:19.6±1.2, 5°.5S±0°.1×145°.7E±0°.2, h86km, n7, σ0s75/7, mb3.5/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**159**	P	**Pn**	**14 36 19.6**	**-0.7**
	3.2nm,0.3s,baz=49,slow=8.0,SNR=5.9						
PMG				S	**Sn**	**14 37 08.2**	**+0.7**
	13nm,0.8s,baz=325,slow=7.1,SNR=4.2						
PMG				LR	LR	14 37 53.3	
	comp=Z,97nm,19.1s,baz=246,slow=37						
WRA	**Warramunga Arr**	**18.08**	**217**	P	**P**	**14 39 23.9**	**-0.7**
	0.1nm,0.3s,baz=38,slow=12,SNR=9.8						
	2.8nm,0.9s						
ASAR	**Alice Springs**	**21.30**	**211**	P	**P**	**14 39 59.5**	**-0.1**
	0.5nm,0.8s,baz=36,slow=7.4,SNR=4.3						
	0.5nm,0.8s						
KSRS	**Korea Array**	**45.85**	**340**	LR	LR	15 01 55.1	
	comp=Z,63nm,21.2s,baz=15,slow=35						
CMAR	**Chiang Mai Arr**	**51.87**	**299**	P	**P**	**14 44 20.0**	**+0.3**
	0.5nm,0.8s,baz=101,slow=4.8,SNR=2.5						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**14 47 43.3**	**+0.7**
	1.7nm,1.1s,baz=326,slow=2.4,SNR=5.6						
	1.7nm,1.1s						
ILAR	**Eielson Array**	**85.57**	**23**	P	**P**	**14 47 47.8**	**-0.3**
	0.4nm,0.8s,baz=232,slow=4.4,SNR=4.8						
	0.4nm,0.8s						

NOU 14 14:42:08.6, 22°.28S×171°.42E, h0km, MLv4.0/7, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.25**	**284**	P	Pn	14 43 00.7	-0.1
PINNC	**Pines Island,**	**3.69**	**264**	P	Pn	14 43 07.0	+0.1
LIFNC	**LIFOU**	**4.17**	**290**	P	Pn	14 43 13.2	-0.3
YATNC	**Mamie plateau,**	**4.20**	**272**	P	Pn	14 43 13.2	-0.8
DZM	**Mont Dzumac**	**4.62**	**272**	P	Pn	14 43 19.7	-0.1
NOUC	**Port Laguerre**	**4.75**	**271**	P	Pn	14 43 21.5	+0.1
KOUNC	**Koumac, New Ca**	**6.87**	**283**	P	Pn	14 43 51.2	+0.6

NEIC 14 14:44:27.7±1.7, 23°.34S±0°.09×179°.1E±0°.1, h549km±8km, mb4.3/40, Error ellipse: s-maj=16.8km s-min=10.9km az=53.0
IDC 14 14:44:29.9±1.8, 23°.19S×178°.85E, h578km±20km, mb3.2/11, mbtmp4.2/13, Error ellipse: s-maj=18.0km s-min=13.2km az=158.0

ISC 14 14:44:27.5±0.5, 23°.33S±0°.08×179°.03E±0°.07, h555km, n88, σ1s13/90, mb4.1/28, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**10.34**	**278**	P	**P**	**14 46 50.0**	**+0.9**
PINNC	**Pines Island,**	**10.70**	**272**	P	**P**	**14 46 54.0**	**+1.3**
NIUE	**Niue**	**11.13**	**70**	P	**P**	**14 46 55.9**	**-1.3**
LIFNC	**LIFOU**	**11.23**	**281**	P	**P**	**14 46 58.1**	**0.0**
DZM	**Mont Dzumac**	**11.69**	**274**	P	**P**	**14 47 03.7**	**+0.6**
	11nm,0.8s,baz=82,slow=17,SNR=4.6						
KOUNC	**Koumac, New Ca**	**13.96**	**279**	P	**P**	**14 47 25.5**	**-0.9**
MXZ	**Matakaoa Point**	**14.20**	**182**	P	**P**	**14 47 28.1**	**-0.5**
URZ	**Urewera**	**14.97**	**186**	P	**P**	**14 47 37.2**	**+0.9**
	3.3nm,0.3s,baz=31,slow=23,SNR=6.6						
URZ				S	**S**	**14 50 08.1**	**-3.7**
	5.7nm,0.6s,baz=217,slow=20,SNR=2.1						
MRZ	**Mangatainoka R**	**17.52**	**189**	P	**P**	**14 47 58.8**	**-1.8**
MRZ				IAmb	IAmb	14 48 40.2	
	comp=Z,27nm,1.5s						
BHW	**Baring Head**	**18.36**	**190**	P	**P**	**14 48 08.9**	**+0.7**
BHW				IAmb	IAmb	14 48 14.4	
	comp=Z,16nm,1.2s						
NNZ	**Nelson**	**18.45**	**194**	P	**P**	**14 48 10.2**	**+1.1**
PLWZ	**Palliser**	**18.46**	**189**	P	**P**	**14 48 10.4**	**+1.2**
TUWZ	**Tuamarina**	**18.54**	**192**	P	**P**	**14 48 10.7**	**+0.8**
MRNZ	**Matariki Terra**	**18.77**	**195**	P	**P**	**14 48 13.2**	**+1.2**
THZ	**Tophouse**	**19.08**	**194**	P	**P**	**14 48 15.7**	**+0.8**
LTZ	**Lake Taylor**	**20.19**	**195**	P	**P**	**14 48 25.2**	**+0.3**
LTZ				IAmb	IAmb	14 49 06.9	
	comp=Z,26nm,1.4s						
WKZ	**Wanaka**	**22.95**	**199**	P	**P**	**14 48 50.0**	**+0.3**
ARMA	**Armidale**	**25.40**	**248**	P	**P**	**14 49 13.9**	**+2.2**
EIDS	**Eidsvold**	**25.53**	**260**	P	**P**	**14 49 14.2**	**+1.4**
EIDS				IAmb	IAmb	14 49 35.4	
	comp=Z,23nm,1.4s						
EIDS	**Eidsvold**	**25.53**	**260**	P	**P**	**14 49 15.3**	**+2.5**
CAN	**Canberra**	**28.67**	**239**	P	**P**	**14 49 42.2**	**+2.0**
CTA	**Charters Tower**	**30.59**	**270**	P	**P**	**14 49 58.3**	**+1.4**
CTAO	**Charters Tower**	**30.59**	**270**	P	**P**	**14 49 57.9**	**+1.0**
CTAO	**Charters Tower**	**30.59**	**270**	P	**P**	**14 49 58.0**	**+1.0**
CMSA	**Cobar Meteorol**	**30.61**	**247**	P	**P**	**14 49 58.4**	**+1.4**
TOO	**Toolangi**	**32.02**	**236**	P	**P**	**14 50 09.9**	**+0.9**
TOO				IAmb	IAmb	14 50 22.9	
	comp=Z,24nm,1.4s						
PMG	**Port Moresby**	**33.47**	**289**	P	**P**	**14 50 21.4**	**0.0**
PMG				IAmb	IAmb	14 50 22.4	
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**34.12**	**247**	P	**P**	**14 50 27.0**	**+0.3**
STKA	**Stephens Creek**	**34.12**	**247**	P	**P**	**14 50 28.4**	**+1.7**
STKA	**Stephens Creek**	**34.12**	**247**	P	**P**	**14 50 26.6**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=90,slow=9.9,SNR=9.6						
	comp=Z,4.3nm,0.7s						
COEN	**Coen**	**35.15**	**279**	P	**P**	**14 50 35.9**	**+0.4**
COEN				IAmb	IAmb	14 51 04.2	
	comp=Z,11nm,1.3s						
LCRK	**Leigh Creek**	**36.93**	**250**	P	**P**	**14 50 51.4**	**+1.3**
BBOO	**Buckleboo**	**38.85**	**246**	P	**P**	**14 51 05.8**	**+0.2**
BBOO				IAmb	IAmb	14 51 47.6	
	comp=Z,20nm,1.2s						
OOD	**Oodnadatta**	**39.20**	**254**	P	**P**	**14 51 10.4**	**+1.9**
AS31	**Alice Springs**	**41.25**	**260**	P	**P**	**14 51 25.1**	**+0.1**
ASAR	**Alice Springs**	**41.25**	**260**	P	**P**	**14 51 24.8**	**-0.2**
ASAR	**Alice Springs**	**41.25**	**260**	P	**P**	**14 51 25.1**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=100,slow=7.5,SNR=60						
ASAR				PcP	**PcP**	**14 53 10.2**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=97,slow=7.1,SNR=1.3						
ASAR				ScP	**ScP**	**14 56 06.4**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=91,slow=3.7,SNR=3.8						
ASAR				S	**S**	**14 56 57.3**	**-2.2**
	comp=Z,0.5nm,1.0s,baz=88,slow=16,SNR=3.2						
	comp=Z,5.1nm,0.7s						
WR0	**Warramunga Arr**	**41.37**	**266**	P	**P**	**14 51 25.4**	**-0.5**
WR0				IAmb	IAmb	14 51 26.4	
	comp=Z,7.1nm,1.1s						
WB2	**Warramunga Arr**	**41.55**	**266**	P	**P**	**14 51 27.0**	**-0.4**
WB2				IAmb	IAmb	14 51 27.8	
	comp=Z,8.6nm,0.9s						
WB0	**Warramunga Arr**	**41.55**	**266**	P	**P**	**14 51 26.9**	**-0.5**
WB0				IAmb	IAmb	14 51 27.7	
	comp=Z,5.9nm,0.7s						
WRAB	**Tennant Creek**	**41.55**	**266**	P	**P**	**14 51 26.9**	**-0.5**
WRAB				IAmb	IAmb	14 51 27.7	
	comp=Z,9.1nm,1.0s						
WRA	**Warramunga Arr**	**41.56**	**266**	P	**P**	**14 51 27.0**	**-0.4**
WRA	**Warramunga Arr**	**41.56**	**266**	P	**P**	**14 51 27.3**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=90,slow=5.8,SNR=113						
WRA				S	**S**	**14 56 59.8**	**-4.2**
	comp=Z,0.9nm,1.1s,baz=103,slow=15,SNR=3.1						
	comp=Z,4.4nm,0.7s						
FORT	**Forrest**	**45.68**	**249**	P	**P**	**14 51 59.3**	**+0.1**
MTN	**Manton Dam**	**46.53**	**274**	P	**P**	**14 52 05.0**	**-0.8**
MTN				IAmb	IAmb	14 52 23.4	
	comp=Z,7.6nm,1.1s						
KNRA	**Kununurra**	**47.80**	**270**	P	**P**	**14 52 15.2**	**-0.1**
KNRA				IAmb	IAmb	14 52 41.8	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**49.99**	**265**	P	**P**	**14 52 32.3**	**+0.7**
PSA00	**Pilbara Seismi**	**54.39**	**259**	P	**P**	**14 53 02.4**	**-0.7**
PSA00				IAmb	IAmb	14 53 30.8	
	comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**66.75**	**180**	P	**P**	**14 54 25.4**	**+1.6**
QSPA	**South Pole Qui**	**66.75**	**180**	P	**P**	**14 54 25.5**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=30,slow=7.6,SNR=15						
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**70.93**	**326**	P	**P**	**14 54 48.0**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=163,slow=5.7,SNR=8.8						
	comp=Z,2.1nm,0.8s						
BELA	**Belgrano 2**	**77.10**	**173**	P	**P**	**14 55 24.0**	**+0.4**
KSRS	**Korea Array**	**77.25**	**321**	P	**P**	**14 55 24.7**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=150,slow=5.1,SNR=4.2						
	comp=Z,1.4nm,0.8s						
PETK	**Petropavlovsk-**	**78.35**	**347**	P	**P**	**14 55 30.0**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=91,slow=11,SNR=5.0						
	comp=Z,4.1nm,0.8s						
MG04	**Isla Riesco**	**82.64**	**145**	P	**P**	**14 55 52.5**	**-0.5**
YBH	**Yreka Blue Hor**	**84.22**	**40**	P	**P**	**14 56 01.6**	**+0.6**
YBH				IAmb	IAmb	14 56 32.9	
	comp=Z,7.6nm,1.5s						
NVAR	**Mina Array Bea**	**84.97**	**44**	P	**P**	**14 56 05.2**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=222,slow=8.8,SNR=4.1						
	comp=Z,0.6nm,0.7s						
NV11	**Mina Array Sit**	**85.06**	**45**	P	**P**	**14 56 05.1**	**-0.1**
KVN	**Kaiserville**	**85.45**	**44**	P	**P**	**14 56 07.8**	**+0.6**
V12A	**Nelson**	**85.76**	**48**	P	**P**	**14 56 09.4**	**+0.7**
K05A	**Summer Lake**	**85.89**	**40**	P	**P**	**14 56 10.2**	**+1.1**
J05D	**Fort Rock, OR**	**86.03**	**39**	P	**P**	**14 56 10.6**	**+0.8**
J05D				IAmb	IAmb	14 56 11.3	
	comp=Z,4.3nm,1.0s						
L19K	**White Mountain**	**87.74**	**12**	P	**P**	**14 56 17.2**	**0.0**
L19K				IAmb	IAmb	14 56 18.2	
	comp=Z,6.9nm,1.0s						
U15A	**North Rim**	**87.89**	**49**	P	**P**	**14 56 20.1**	**+1.2**
U15A				IAmb	IAmb	14 56 20.5	
	comp=Z,1.7nm,0.7s						
PGC	**Sidney**	**88.13**	**34**	P	**P**	**14 56 20.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**88.50**	**291**	P	**P**	**14 56 22.2**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=116,slow=4.1,SNR=2.3						
	comp=Z,0.5nm,0.8s						
J18K	**Innoko River**	**88.59**	**11**	P	**P**	**14 56 20.5**	**-0.7**
J18K				IAmb	IAmb	14 56 41.0	
	comp=Z,8.4nm,1.4s						
SCM	**Sheep Creek Mo**	**89.06**	**15**	P	**P**	**14 56 23.1**	**-0.3**
TXAR	**Lajitas Array**	**90.89**	**58**	P	**P**	**14 56 33.0**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=191,slow=5.7,SNR=5.3						
	comp=Z,0.5nm,0.9s						
ILAR	**Eielson Array**	**91.69**	**14**	P	**P**	**14 56 35.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=225,slow=5.6,SNR=7.7						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**119.43**	**319**	PKP	**PKPdf**	**15 02 12.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=106,slow=2.4,SNR=4.7						
ARCES	**ARCESS Array B**	**131.15**	**348**	PKP	**PKPdf**	**15 02 35.2**	**-0.7**
	comp=Z,4.2nm,1.0s,baz=45,slow=2.7,SNR=1.8						
FINES	**FINESS Array B**	**137.53**	**341**	PKP	**PKPdf**	**15 02 47.9**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=45,slow=2.2,SNR=4.4						
NOA	**NORSAR Array B**	**141.38**	**351**	PKhKP	PKPpre	15 02 45.5	
	comp=Z,1.1nm,0.8s,baz=22,slow=0.2,SNR=2.3						
HFS	**Hagfors**	**141.82**	**348**	PKhKP	PKPpre	15 02 50.5	
	comp=Z,0.7nm,0.3s,baz=62,slow=3.3,SNR=19						
AKASG	**Malin Array Be**	**144.01**	**327**	PKP	PKPbc	15 02 58.1	-1.3
	comp=Z,0.8nm,0.4s,baz=40,slow=4.1,SNR=14						
BRTR	**Keskin Array B**	**146.53**	**307**	PKPbc	**PKPdf**	**15 03 05.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=113,slow=2.6,SNR=3.7						
EKA	**Eskdalemuir Ar**	**148.00**	**2**	PKPbc	**PKPbc**	**15 03 09.4**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=334,slow=2.6,SNR=3.8						
OSTC	**Ostas**	**149.71**	**338**	*e*PKP	**PKPbc**	**15 03 14.9**	**+0.1**
CHVC	**Chvalec**	**149.74**	**338**	*e*PKP	**PKPbc**	**15 03 15.0**	**+0.1**
UPC	**Upice**	**149.82**	**338**	*e*PKP	**PKPbc**	**15 03 14.8**	**-0.2**
DPC	**Dobruska-Polom**	**149.84**	**338**	*e*PKP	**PKPbc**	**15 03 14.7**	**-0.5**
KRLC	**Kraliky**	**149.91**	**337**	*e*PKP	**PKPbc**	**15 03 15.1**	**-0.2**
CLL	**Collm**	**150.05**	**342**		**PKPbc**	**15 03 15.3**	**-0.3**
PRU	**Pruhonice**	**150.75**	**339**	*e*PKP	**PKPbc**	**15 03 16.9**	**-0.3**
KHC	**Kasperske Hory**	**151.81**	**340**	*e*PKP	**PKPbc**	**15 03 18.6**	**-1.1**
CKRC	**Cesky Krumlov**	**151.84**	**338**	*e*PKP	**PKPbc**	**15 03 18.8**	**-0.9**
GERES	**GERESS Array B**	**152.02**	**339**	PKPbc	**PKPbc**	**15 03 19.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=350,slow=6.8,SNR=3.6						

SKHL 14 14:53:02.4±0.4, 44°.80N×146°.40E, h195km±4km, mb3.8/2, msha4.6/2
JMA 14 14:53:02.3±0.4, 45°N±2°×14°6E±°, h215km, MV3.1/21, NEAR ETOROFU ISLAND

ISC 14 14:52:59.9±3.7, 44°.8N±0°.2×146°.5E±0°.1, h232km±19km, n14, σ1s60/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.85**	**212**	*e*P	**Pn**	**14 53 33.0**	**+0.8**
YUK				AMB	AMB	14 53 36.3	
	20nm,0.3s						
YUK				*e*S	**S**	**14 53 55.5**	**-2.0**
YUK				A	A	14 54 03.9	
	100nm,0.6s						
YUK				A	A	14 54 03.9	
	180nm,0.6s						
SHO	**Shikotan**	**0.92**	**164**	*e*P	**Pn**	**14 53 33.2**	**+0.5**
SHO				AMB	AMB	14 53 33.9	
	40nm,0.2s						
SHO				*e*S	**S**	**14 53 56.3**	**-1.9**
SHO				A	A	14 53 58.8	
	90nm,0.2s						
SHO				A	A	14 53 58.8	
	110nm,0.2s						
JRA	**Rausu**	**1.27**	**230**	*e*P	**Pn**	**14 53 35.6**	**+0.7**
NEM2	**Nemuro 2**	**1.49**	**201**	*e*P	**Pn**	**14 53 37.5**	**+1.0**
NEM2				*e*S	**S**	**14 54 05.0**	**0.0**
NMR	**Nemuro--Hokkai**	**1.49**	**202**	*e*P	**Pn**	**14 53 37.4**	**+0.9**
NMR				*e*S	**S**	**14 54 02.9**	**-2.1**
JNK	**Nakash**	**1.72**	**228**	*e*P	**Pn**	**14 53 39.8**	**+1.3**
JKHN	**Kushirohamanak**	**1.92**	**210**	*e*P	**Pn**	**14 53 41.8**	**+1.6**
JKHN				*e*S	**S**	**14 54 12.2**	**+0.5**
JTKR	**Abashiri--Toko**	**2.00**	**248**	*e*P	**Pn**	**14 53 41.4**	**+0.5**
AKK	**Akkeshi**	**2.10**	**215**	*e*P	**Pn**	**14 53 43.0**	**+1.1**
AKK				*e*S	**S**	**14 54 14.3**	**-0.5**
JAK	**Akkeshi**	**2.18**	**217**	*e*P	**Pn**	**14 53 44.2**	**+1.5**
JAK				*e*S	**S**	**14 54 16.4**	**+0.3**
JAR	**Ashorobuto**	**2.44**	**234**	*e*P	**Pn**	**14 53 47.1**	**+1.8**
JAR				*e*S	**S**	**14 54 22.0**	**+1.2**
JCH	**Churui**	**3.11**	**228**	*e*P	**Pn**	**14 53 54.0**	**+1.4**
JCH				*e*S	**S**	**14 54 33.0**	**-1.0**
JNBK	**Urakawa-nobuka**	**3.67**	**229**	*e*P	**Pn**	**14 53 59.9**	**+0.8**
JOT	**Ohata**	**5.21**	**232**	*e*P	**Pn**	**14 54 18.1**	**+0.3**
JOT				*e*S	**S**	**14 55 15.2**	**-4.4**

TAP 14 15:02:04.2, 24°.44N×121°.75E, h8km, ML1.3, 1C, B, Taiwan

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

TWD					S	Sg	15 02 17.1	+0.4
	baz=201							
NWLT	**Wulai**	**0.41**	**326**	*eP*		Pg	15 02 12.9	+0.7
	baz=327							
NWLT					*eS*	Sg	15 02 18.1	+0.4
	baz=327							
YHNB	**Yeheng**	**0.41**	**304**	P		Pg	15 02 13.0	+0.7
	baz=305							
YHNB					S	Sg	15 02 18.4	+0.6
	baz=305							
NSK	**Sanguang**	**0.43**	**304**	S		Sg	15 02 19.1	+0.8
	baz=305							
FUSS	**Fushou**	**0.50**	**248**	*eP*		Pg	15 02 14.3	+0.3
	baz=249							
FUSS					*eS*	Sb	15 02 21.8	-1.1
	baz=249							
TIPB	**Shuangxi**	**0.54**	**7**	*eP*		Pg	15 02 14.8	+0.1
	baz=357							
TIPB					*eS*	Sg	15 02 22.4	+0.6
	baz=357							
CHGB	**Renai**	**0.65**	**235**	*eP*		Pg	15 02 17.1	+0.4
	baz=244							
CHGB					*eS*	Sb	15 02 26.8	-0.4
	baz=244							
WUSB	**Renai**	**0.73**	**233**	P		Pb	15 02 18.9	-0.4
	baz=241							
WUSB					*eS*	Sg	15 02 28.4	+0.7
	baz=241							

JMA 14 15:02:45.0±0.2,**25°.0N**±0°.9×**123°.7E**±0°.4,**h0**km,**MV2.4**/8,
NW OFF ISHIGAKIJIMA IS,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.70**	**129**	P	Pg	15 02 59.1	+0.6
JISG				*eS*	Sb	15 03 09.2	-1.2
JIJ	**Ishigaki jima**	**0.77**	**149**	P	Pg	15 03 00.0	+0.2
JIJ				*eS*	Sg	15 03 10.9	+1.0
JKRS	**Kuro-shima**	**0.84**	**161**	*eP*	Pg	15 03 01.7	+0.6
JKRS				*eS*	Sg	15 03 12.7	+0.8
JYNG	**Yonagunijimaku**	**0.90**	**230**	P	Pb	15 03 03.2	-0.4
JYNG				*eS*	Sb	15 03 15.6	-0.6
HATJ	**Hateruma jima**	**0.97**	**175**	*eS*	Sb	15 03 17.9	-0.3
JTJ	**Tarama**	**0.98**	**113**	P	Pg	15 03 04.4	+0.5
JTJ				*eS*	Sb	15 03 18.8	+0.3

MAN ***14*** *15:20:25.7, 13°.28N×120°.25E, h7km, mb5.7, ML4.7, MS5.1*
BJI ***14*** *15:20:25.8±0.0, 13°.25N×120°.68E, h31km, mb4.4/54, mB5.0/34, Ms4.8/52, Ms7 4.7/50*
NEIC ***14*** *15:20:29.2±1.4, 13°.40N±0°.06×120°.44E±0°.08, h35km±2km, mb4.9/55, Error ellipse: s-maj=13.4km s-min=9.6km az=287.0*
DJA ***14*** *15:20:30.1±0.7, 13°.9N±6°×12°.0E±°, h52km±5km, M4.9/25, mB5.5/6, mb4.9/25, Mw(mB)4.9/6*
IDC ***14*** *15:20:31.2±1.1, 13°.36N×120°.50E, h64km±9km, mb4.1/27, mbtmp4.4/28, MS4.4/29, Error ellipse: s-maj=17.3km s-min=8.3km az=60.0*

ISC 14 15:20:28.6±0.3,**13°.31N**±0°.02×**120°.34E**±0°.03,**h40**km±2km,
h40km:**pP-P**,**n464**,σ1s**79**/498,**mb4.8**/85,**MS4.5**/49,
40C-38D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.63**	**72**	*iP*	**Pn**	**15 20 39.9**	**-1.2**
PGP				*i* S	**Sn**	**15 20 47.5**	**-2.5**
TGY	**Tagaytay City**	**0.98**	**36**	P	**Pn**	**15 20 47.0**	**+1.0**
	40µm,0.6s,baz=229,slow=6.3,SNR=286						
TGY				S	**Sn**	**15 21 00.9**	**+2.2**
	59µm,0.5s,baz=342,slow=20,SNR=11						
TGY				LR	LR	15 21 02.0	
	comp=Z,8µm,18.4s,baz=228,slow=36						
TGY	**Tagaytay City**	**0.98**	**36**	*eP*	**Pn**	**15 20 46.3**	**+0.3**
TGY				*eS*	**Sn**	**15 21 01.6**	**+2.9**
MACP	**Maragondon, Ca**	**1.02**	**21**	*eP*	**Pn**	**15 20 45.6**	**-0.8**
MACP				*eS*	**Sn**	**15 20 59.1**	**-0.4**
LBLP	**Los Banos, Lag**	**1.20**	**45**	*eP*	**Pn**	**15 20 49.1**	**+0.2**
LBLP				*eS*	**Sn**	**15 21 05.9**	**+1.8**
LQP	**Lukban**	**1.41**	**55**	*iP*	**Pn**	**15 20 52.7**	**+0.7**
LQP				*i* S	**Sn**	**15 21 10.9**	**+1.3**
ABPP	**Abucay Bataan**	**1.43**	**4**	*eP*	**Pn**	**15 20 52.0**	**-0.1**
ABPP				*eS*	**Sn**	**15 21 12.8**	**+3.1**
RTBP	**Dona Remedios**	**1.80**	**23**	*eP*	**Pn**	**15 20 57.1**	**-0.1**
RTBP				*eS*	**Sn**	**15 21 22.1**	**+3.3**
POLP	**Polilio Island**	**2.10**	**48**	*eP*	**Pn**	**15 21 02.3**	**+1.0**
POLP				*eS*	**Sn**	**15 21 31.4**	**+5.3**
IBZP	**Iba, Zambales**	**2.10**	**352**	*eP*	**Pn**	**15 21 00.3**	**-0.9**
IBZP				*eS*	**Sn**	**15 21 27.8**	**+1.6**
GQP	**Guinayangan**	**2.13**	**74**	*iP*	**Pn**	**15 21 03.9**	**+2.1**
GQP				*eS*	**Sn**	**15 21 30.8**	**+3.7**
ENPP	**El Nido**	**2.27**	**203**	*eP*	**Pn**	**15 21 03.1**	**-0.6**
ENPP				*eS*	**Sn**	**15 21 29.7**	**-0.7**
IBAJ	**Ibajay, Aklan**	**2.32**	**129**	*eP*	**Pn**	**15 21 05.8**	**+1.4**
IBAJ				*eS*	**Sn**	**15 21 38.0**	**+6.2**
JCNP	**Jose Panganiba**	**2.49**	**67**	*iP*	**Pn**	**15 21 08.4**	**+1.8**
JCNP				*i* S	**Sn**	**15 21 35.0**	**-0.8**
JCNP	**Jose Panganiba**	**2.49**	**67**	*iP*	**Pn**	**15 21 08.4**	**+1.8**
JCNP				*eS*	**Sn**	**15 21 40.4**	**+4.6**
SMPP	**San Manuel, Pa**	**2.84**	**7**	*eP*	**Pn**	**15 21 12.9**	**+1.3**
SMPP				*eS*	**Sn**	**15 21 47.9**	**+3.3**
RCP	**Roxas**	**2.92**	**126**	*eP*	**Pn**	**15 21 13.6**	**+1.0**
RCP				*i* S	Sn	15 22 01.4	+15
JAP	**San Jose, Anti**	**2.99**	**148**	*eP*	**Pn**	**15 21 14.6**	**+1.0**
BOLP	**Bolinao**	**3.08**	**352**	*eP*	**Pn**	**15 21 15.7**	**+0.9**
BOLP				*eS*	**Sn**	**15 21 54.4**	**+4.0**
SCSP	**San Jose Seism**	**3.11**	**83**	*eP*	**Pn**	**15 21 17.5**	**+2.3**
SCSP				*eS*	**Sn**	**15 21 56.5**	**+5.3**
CAAP	**Casiguran, Aur**	**3.32**	**29**	*eP*	**Pn**	**15 21 19.1**	**+1.0**
CAAP				*eS*	**Sn**	**15 22 00.6**	**+4.3**
GUIM	**Jordan**	**3.46**	**140**	*eP*	**Pn**	**15 21 21.2**	**+1.2**
GUIM				*eS*	**Sn**	**15 22 03.5**	**+3.7**
PVCP	**Virac**	**3.72**	**85**	*eP*	**Pn**	**15 21 25.9**	**+2.3**
PVCP				*eS*	Sn	15 22 16.0	+10
CADP	**Cadiz City**	**3.74**	**129**	*eP*	**Pn**	**15 21 25.9**	**+2.0**
CADP				*eS*	Sn	15 22 24.1	+17
SAMP	**Sagada Mountai**	**3.79**	**8**	*eP*	**Pn**	**15 21 26.2**	**+1.7**
SAMP				*eS*	**Sn**	**15 22 10.7**	**+2.8**
PPR	**Puerto Princes**	**3.85**	**204**	*iP*	**Pn**	**15 21 24.9**	**-0.4**
CAUP	**Cauayan**	**3.89**	**21**	*eP*	**Pn**	**15 21 28.2**	**+2.3**
CAUP				*eS*	Sn	15 22 29.1	+19
CNOP	**Candoni, Negro**	**4.13**	**147**	*eP*	**Pn**	**15 21 29.6**	**+0.4**
CNOP				*eS*	**Sn**	**15 22 16.5**	**+0.2**
MECP	**Medelin, Cebu**	**4.14**	**121**	*eP*	**Pn**	**15 21 32.5**	**+3.1**
MECP				*eS*	**Sn**	**15 22 21.9**	**+5.3**
GNOP	**Guihulngan Cit**	**4.19**	**137**	*eP*	**Pn**	**15 21 31.8**	**+1.8**
GNOP				*eS*	**Sn**	**15 22 22.9**	**+5.1**
PALP	**Palanan**	**4.24**	**28**	*eP*	**Pn**	**15 21 33.0**	**+2.3**
PALP				*eS*	Sn	15 22 34.0	+15
ABRA	**Dolores**	**4.33**	**5**	*eP*	**Pn**	**15 21 33.5**	**+1.5**
ABRA				*eS*	Sn	15 22 31.8	+11
SIPP	**Brgy, Tapao**	**4.59**	**1**	*eP*	**Pn**	**15 21 38.3**	**+2.7**
SIPP				*eS*	**Sn**	**15 22 31.5**	**+3.9**
LLP	**Lapu-Lapu**	**4.63**	**130**	*eP*	**Pn**	**15 21 36.7**	**+0.6**
LLP				*eS*	**Sn**	**15 22 35.8**	**+7.1**
DACP	**Dalaguete, Ceb**	**4.70**	**138**	*eP*	**Pn**	**15 21 39.7**	**+2.6**
DACP				*eS*	**Sn**	**15 22 34.1**	**+3.7**
SFCP	**San Francisco,**	**4.75**	**124**	*eP*	**Pn**	**15 21 40.1**	**+2.4**
SFCP				*eS*	Sn	15 22 48.7	+17
SNPH	**Sibulan**	**4.86**	**144**	*eP*	**Pn**	**15 21 41.5**	**+2.2**
SNPH				*eS*	**Sn**	**15 22 36.4**	**+2.0**
TBP	**Tagbilaran**	**4.99**	**136**	*eP*	**Pn**	**15 21 43.3**	**+2.3**
PIP	**Pasuquin**	**4.99**	**3**	*eP*	**Pn**	**15 21 41.8**	**+0.7**
BATP	**Bataraza**	**5.13**	**209**	*eP*	Pn	15 21 51.9	+8.9
BATP				*eS*	**Sn**	**15 22 37.5**	**-3.5**
SGCP	**Gonzaga**	**5.17**	**18**	*eP*	**Pn**	**15 21 46.8**	**+3.3**
SGCP				*eS*	Sn	15 23 09.5	+27
PACPP	**Pamplona Cagay**	**5.21**	**11**	*eP*	**Pn**	**15 21 47.2**	**+3.1**
PACPP				*eS*	**Sn**	**15 22 47.2**	**+4.3**
LSIP	**Lazi, Siquijor**	**5.26**	**142**	*eP*	**Pn**	**15 21 46.4**	**+1.6**
LSIP				*eS*	**Sn**	**15 22 45.1**	**+1.0**
LSIP	**Lazi, Siquijor**	**5.26**	**142**	*iP*	**Pn**	**15 21 46.5**	**+1.7**
GHBP	**Garcia Hernand**	**5.35**	**133**	*eP*	**Pn**	**15 21 48.9**	**+3.0**
GHBP				*i* S	Sn	15 23 16.0	+30
GHBP	**Garcia Hernand**	**5.35**	**133**	*eP*	**Pn**	**15 21 49.2**	**+3.2**
GHBP				*eS*	**Sn**	**15 22 49.6**	**+3.2**
MSLP	**Maasin**	**5.44**	**125**	*eP*	**Pn**	**15 21 49.9**	**+2.7**
MSLP				*i* S	**Sn**	**15 22 48.0**	**-0.5**
MSLP	**Maasin**	**5.44**	**125**	*eP*	**Pn**	**15 21 50.0**	**+2.8**
MSLP				*eS*	Sn	15 23 02.7	+14
DCPH	**Dipolog City**	**5.55**	**147**	*eP*	**Pn**	**15 21 51.0**	**+2.3**
PAGZ	**Pagadian**	**6.20**	**151**	*eP*	**Pn**	**15 22 00.4**	**+2.7**
PAGZ				*eS*	**Sn**	**15 23 11.2**	**+3.9**
BLNP	**Bacolod Lanao**	**6.28**	**144**	*eP*	Pn	15 22 19.0	+20
BLNP				*eS*	**Sn**	**15 23 13.4**	**+4.1**
ZCP	**Zamboanga City**	**6.56**	**165**	*iP*	**Pn**	**15 22 03.3**	**+0.6**
ZCP				*i* S	**Sn**	**15 23 14.1**	**-2.2**
GLSP	**General Luna,**	**6.67**	**121**	*eP*	Pn	15 22 11.3	+7.3
BUKP	**Musuan**	**7.12**	**139**	*eP*	Pn	15 22 14.7	+4.4
TASP	**Talacogon, Agu**	**7.22**	**131**	*eP*	Pn	15 22 17.8	+6.1
SKMP	**Bagumbayan, Su**	**7.92**	**148**	*eP*	Pn	15 22 26.5	+5.2
DAV	**Davao City (W)**	**8.06**	**140**	LR	LR	15 26 11.4	
	comp=Z,4µm,19.1s,baz=322,slow=42						
CDOP	**Cateel, Davao**	**8.13**	**132**	*eP*	Pn	15 22 30.1	+5.9
BTTP	**Bongao, Tawi-T**	**8.25**	**184**	*eP*	**Pn**	**15 22 28.2**	**+2.4**
BTTP				*eS*	Sn	15 23 43.5	-14
KKM	**Kota Kinabalu**	**8.28**	**210**	Pn	**Pn**	**15 22 27.7**	**+1.3**
MATI	**Mati**	**8.60**	**137**	*eP*	Pn	15 22 41.0	+10
TPUB	**Ta-pu**	**9.94**	**2**	Pn	**Pn**	**15 22 47.6**	**-1.4**
QIZ	**Qiongzhong**	**11.57**	**301**	P	**Pn**	**15 23 13.3**	**+1.9**
QIZ				S	**Sn**	**15 25 22.3**	**+2.9**
QIZ				LR	LR		
	comp=N,920nm,10.9s						
QIZ				LR	LR		
	comp=E,2µm,14.7s						
QIZ				LR	LR		
	comp=Z,3µm,16.8s						
MRSI	**Marisa**	**12.85**	**173**	P	**Pn**	**15 23 27.8**	**-1.0**
	22nm,1.0s						
GTOI	**Gorontalo**	**12.87**	**168**	P	**Pn**	**15 23 27.0**	**-2.0**
	16nm,0.9s						
MPSI	**Mapaga**	**12.90**	**182**	P	**Pn**	**15 23 30.2**	**+0.8**
	9.4nm,0.8s						
KMSI	**Cibinong**	**13.16**	**164**	P	**Pn**	**15 23 33.6**	**+0.6**
	177nm,0.9s,3µm						
SBUM	**Sibu**	**13.45**	**217**	Pn	**Pn**	**15 23 38.2**	**+1.2**
SBUM	**Sibu**	**13.45**	**217**	P	**Pn**	**15 23 39.8**	**+2.8**
	17nm,1.9s						
TNTI	**Ternate**	**14.27**	**150**	Pn	**Pn**	**15 23 49.3**	**+1.1**
TNTI	**Ternate**	**14.27**	**150**	P	**Pn**	**15 23 48.5**	**+0.3**
	39nm,1.0s						
LUWI	**Luwuk**	**14.46**	**170**	P	**Pn**	**15 23 49.9**	**-0.9**
	106nm,0.9s,2µm						
UBPT	**Khong Chiam**	**14.54**	**280**	Pn	**Pn**	**15 23 53.8**	**+1.9**
MTKI	**Muara Teweh, K**	**15.15**	**201**	P	Pn	15 23 52.3	-7.7
JOW	**Kunigami**	**15.37**	**28**	P	**Pn**	**15 24 01.9**	**-0.9**
	13nm,0.8s,baz=151,slow=19,SNR=1.8						
JOW				LR	LR	15 30 31.1	
	comp=Z,772nm,18.9s,baz=179,slow=39						
LBMI	**Labuha**	**15.57**	**152**	P	**Pn**	**15 24 05.2**	**-0.2**
	121nm,1.1s,2µm						
MMSI	**Mamuju**	**15.96**	**185**	P	**Pn**	**15 24 09.2**	**-1.2**
	27nm,1.1s						
SANI	**Sanana**	**16.26**	**159**	P	**Pn**	**15 24 12.1**	**-2.1**
	65nm,1.0s,879nm						
TTSI	**Tana Toraja**	**16.26**	**182**	P	**Pn**	**15 24 12.1**	**-2.1**
	20nm,0.7s						
NLAI	**Namlea**	**17.76**	**157**	P	**Pn**	**15 24 31.8**	**-1.1**
	23nm,0.8s						
SWI	**Sorong**	**17.76**	**142**	P	**P**	**15 24 34.0**	**+0.6**
	30nm,0.7s						
SWI				pP	**pP**	**15 24 41.1**	**-1.9**
	30nm,0.7s						
SIJI	**Sorong**	**17.77**	**142**	P	**Pn**	**15 24 33.1**	**0.0**
	23nm,0.8s						
KAPI	**Kappang**	**18.21**	**182**	P	**Pn**	**15 24 40.8**	**+2.3**
GYA	**Guiyang**	**18.32**	**318**	*iP*	**Pn**	**15 24 42.8**	**+2.9**
GYA				S	**S**	**15 28 07.8**	**+0.6**
GYA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,200nm,4.0s						
GYA				LR	LR		
	comp=N,1µm,18.8s						
GYA				LR	LR		
	comp=E,2µm,17.0s						
GYA				LR	LR		
	comp=Z,3µm,16.6s						
KRAI	**Karaag Ratu**	**18.35**	**154**	P	**Pn**	**15 24 40.4**	**+0.2**
	63nm,0.8s						
NJ2	**Nanjing**	**18.70**	**356**	*eP*	**Pn**	**15 24 45.3**	**+1.0**
NJ2				pP	**pP**	**15 24 51.0**	**-2.3**
NJ2				sP	**sP**	**15 24 55.4**	**-2.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,4.1s						
NJ2				LR	LR		
	comp=N,1µm,14.2s						
NJ2				LR	LR		
	comp=E,610nm,13.5s						
NJ2				LR	LR		
	comp=Z,1µm,15.9s						
FAKI	**Fak Fak**	**19.99**	**143**		**Pn**	**15 25 00.2**	**+0.4**
FAKI				IAmb	IAmb	15 25 05.2	
	comp=Z,95nm,0.8s						
FAKI	**Fak Fak**	**19.99**	**143**	P	**Pn**	**15 24 59.2**	**-0.7**
	comp=Z,128nm,0.9s						
KMI	**Kunming**	**20.32**	**308**	*iP*	Pn	15 25 04.1	+0.2
KMI				S	Sn	15 28 54.0	+1.8
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,120nm,6.3s						
KMI				LR	LR		
	comp=Z,920nm,18.4s						
KMI				LR	LR		
	comp=Z,980nm,20.2s						
KMI				LR	LR		
	comp=Z,1µm,21.5s						
SKLT	**Songkhla**	**20.33**	**254**	P	**P**	**15 25 02.9**	**+1.3**
	comp=Z,69nm,0.9s						
KULM	**Kulim**	**20.98**	**250**	P	**P**	**15 25 10.6**	**+1.9**
KULM				IAmb	IAmb	15 25 25.5	
	comp=Z,87nm,2.0s						
CM31	**Chiang Mai Arr**	**21.20**	**287**	P	**P**	**15 25 12.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.20**	**287**	P	**P**	**15 25 12.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**21.20**	**287**	P	**P**	**15 25 13.2**	**+2.2**
	comp=Z,9.1nm,0.9s,baz=98,slow=9.1,SNR=41						
CMAR				PcP	**PcP**	**15 29 14.4**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=48,slow=1.3,SNR=4.8						
	comp=Z,9.1nm,0.9s						
CMMT	**Chiang Mai**	**21.26**	**288**	P	**P**	**15 25 12.6**	**+0.9**
	comp=Z,27nm,1.0s						
CHTO	**Chiang Mai**	**21.27**	**288**	P	**P**	**15 25 13.3**	**+1.6**
CHTO	**Chiang Mai**	**21.27**	**288**	P	**P**	**15 25 12.0**	**+0.3**
	comp=Z,10nm,1.0s						
DBNI	**Kabupaten Domp**	**21.76**	**185**	P	**P**	**15 25 13.8**	**-3.2**
	comp=Z,55nm,0.8s						
PZH	**PanZhiHua**	**21.82**	**310**	P	**P**	**15 25 21.3**	**+3.5**
PZH				S	**S**	**15 29 15.8**	**-1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,120nm,6.3s						
PZH				LR	LR		
	comp=Z,810nm,17.9s						
PZH				LR	LR		
	comp=Z,1µm,17.7s						
PZH				LR	LR		
	comp=Z,1µm,17.7s						
MMRI	**Maumere**	**21.88**	**175**	P	**P**	**15 25 16.5**	**-1.8**
	comp=Z,97nm,0.7s						
JNU	**Nakatsue**	**21.94**	**24**	P	**P**	**15 25 19.2**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=162,slow=6.7,SNR=1.8						
	comp=Z,4.2nm,0.9s						
EDFI	**Ende, Flores**	**21.96**	**176**	P	**P**	**15 25 20.7**	**+1.5**
	comp=Z,110nm,0.7s,comp=Z,1µm						
PLAI	**Plampang**	**22.14**	**187**	P	**P**	**15 25 22.6**	**+1.6**
	comp=Z,119nm,0.7s,comp=Z,1µm						
LYN	**LuoYang**	**22.32**	**343**	*eP*	**P**	**15 25 23.3**	**+0.5**
LYN				S	**S**	**15 29 22.3**	**-3.6**
LYN				pmax	pmax		
	comp=Z,31nm,0.8s						
LYN				pmax	pmax		
	comp=Z,300nm,3.6s						
LYN				LR	LR		
	comp=Z,3µm,19.2s						
LYN				LR	LR		
	comp=Z,2µm,18.2s						
LYN				LR	LR		
	comp=Z,4µm,17.5s						
TIA	**Tai'an**	**22.99**	**353**	P	**P**	**15 25 28.8**	**-1.1**
TIA				S	**S**	**15 29 37.1**	**-0.4**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIA				pmax	pmax		
	comp=Z,86nm,3.9s						
TIA				LR	LR		
	comp=Z,470nm,15.9s						
TIA				LR	LR		
	comp=Z,320nm,14.3s						
TIA				LR	LR		
	comp=Z,680nm,15.7s						
XAN	**Xi'an**	**23.10**	**335**	*iP*	**P**	**15 25 32.4**	**+1.3**
XAN				pP	pP	15 25 36.8	-3.7
XAN				S	**S**	**15 29 45.6**	**+6.1**
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
XAN				pmax	pmax		
	comp=Z,190nm,4.6s						
XAN				LR	LR		
	comp=Z,2µm,15.1s						
XAN				LR	LR		
	comp=Z,1µm,15.8s						
XAN				LR	LR		
	comp=Z,950nm,14.4s						
CD2	**Chengdu**	**23.24**	**322**	P	**P**	**15 25 37.0**	**+4.4**
CD2				pP	pP	15 25 42.3	+0.3
CD2				sP	sP	15 25 47.5	+1.0
CD2				S	**S**	**15 29 46.8**	**+4.8**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,300nm,4.2s						
CD2				LR	LR		
	comp=Z,2µm,17.3s						
CD2				LR	LR		
	comp=Z,1µm,16.9s						
CD2				LR	LR		
	comp=Z,2µm,16.2s						
SOEI	**Soe**	**23.24**	**170**	P	**P**	**15 25 33.9**	**+1.2**
SOEI	**Soe**	**23.24**	**170**	P	**P**	**15 25 31.1**	**-1.6**
	comp=Z,114nm,0.8s						
TNCH	**TengChong**	**23.64**	**303**	P	**P**	**15 25 38.3**	**+1.7**
TNCH				pP	pP	15 25 47.6	+1.3
TNCH				PP	**PnPn**	**15 26 11.1**	**+6.3**
TNCH				S	**S**	**15 29 52.3**	**+3.6**
TNCH				sS	sS	15 30 06.3	-0.1
TNCH				SS	Sn	15 30 43.3	+32
TNCH				pmax	pmax		
	comp=Z,140nm,5.9s						
TNCH				LR	LR		
	comp=Z,470nm,12.1s						
TNCH				LR	LR		
	comp=Z,410nm,19.3s						
TNCH				LR	LR		
	comp=Z,570nm,20.8s						
JMN	**Monobe**	**23.77**	**29**	P	**P**	**15 25 37.0**	**-0.5**
GUMO	**Guam**	**23.86**	**86**	LR	LR	15 34 53.4	
	comp=Z,961nm,19.2s,baz=261,slow=36						
HNS	**HongShan**	**24.51**	**349**	*iP*	**P**	**15 25 44.4**	**+0.1**
HNS				S	**S**	**15 30 04.4**	**+2.3**
HNS				SS		15 30 54.5	
HNS				pmax	pmax		
	comp=Z,17nm,0.8s						
HNS				LR	LR		
	comp=Z,2µm,17.7s						
HNS				LR	LR		
	comp=Z,450nm,18.1s						
HNS				LR	LR		
	comp=Z,2µm,17.7s						
JCJ	**Chichijima**	**24.61**	**53**	LR	LR	15 35 31.4	
	comp=Z,930nm,18.5s,baz=203,slow=37						
KSRS	**Korea Array**	**24.98**	**14**	P	**P**	**15 25 47.3**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=195,slow=9.1,SNR=2.4						
KSRS				LR	LR	15 37 29.4	
	comp=Z,901nm,18.9s,baz=200,slow=41						
	comp=Z,1.0nm,0.7s						
GENI	**Genyem**	**25.23**	**127**	P	**P**	**15 25 50.6**	**-0.5**
	comp=Z,182nm,0.9s						
GSI	**Gunungsitoli**	**25.50**	**244**	P	**P**	**15 25 55.2**	**+1.7**
GSI				IAmb	IAmb	15 26 10.5	
	comp=Z,15nm,0.9s						
JHJ	**Hachijo jima 2**	**26.52**	**39**	LR	LR	15 35 45.8	
	comp=Z,518nm,19.7s,baz=262,slow=35						
BJT	**Baijiatuau**	**26.86**	**353**	P	**P**	**15 26 04.2**	**-1.2**
BJI	**Beijing**	**26.88**	**353**	P	**P**	**15 26 05.6**	**0.0**
BJI				pP	**pP**	**15 26 14.4**	**-1.7**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BJI				LR	LR		
	comp=Z,200nm,25.4s						
BJI				LR	LR		
	comp=Z,450nm,24.3s						
BJI				LR	LR		
	comp=Z,450nm,18.0s						
LZH	**Lanzhou**	**27.10**	**330**	*eP*	**P**	**15 26 13.3**	**+5.4**
LZH				pP	pwP	15 26 21.5	-0.3
LZH				S	**S**	**15 30 45.0**	**+1.4**
LZH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LZH				LR	LR		
	comp=Z,2µm,15.1s						
LZH				LR	LR		
	comp=Z,1µm,15.8s						
LZH				LR	LR		
	comp=Z,2µm,16.1s						
MTN	**Manton Dam**	**28.10**	**157**	P	**P**	**15 26 17.6**	**+0.8**
MTN				IAmb	IAmb	15 26 56.5	
	comp=Z,22nm,1.1s						
MJAR	**Matsushiro Arr**	**28.14**	**32**	P	**P**	**15 26 16.2**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=210,slow=6.3,SNR=1.5						
	comp=Z,1.1nm,0.9s						
HHC	**Hu-ho-hao-te**	**28.49**	**346**	*eP*	P	15 26 25.0	+4.8
HHC				S	**S**	**15 31 09.8**	**+4.5**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,7.4s						
HHC				LR	LR		
	comp=Z,2µm,19.2s						
HHC				LR	LR		
	comp=Z,1µm,20.0s						
HHC				LR	LR		
	comp=Z,2µm,19.9s						
BTO	**Baotou**	**28.66**	**343**	*eP*	**P**	**15 26 24.8**	**+3.1**
BTO				pP	**sP**	**15 26 34.3**	**-2.8**
BTO				sP	**pP**	**15 26 38.4**	**+6.1**
BTO				PP	**PnPn**	**15 27 18.6**	**+5.4**
BTO				S	S	15 31 16.0	+8.1
BTO				sS	**sS**	**15 31 27.8**	**+2.0**
BTO				SS	**SnSn**	**15 32 36.3**	**+5.7**
BTO				pmax	pmax		
	comp=Z,23nm,0.9s						
BTO				pmax	pmax		
	comp=Z,290nm,5.0s						
BTO				LR	LR		
	comp=Z,2µm,20.6s						
BTO

comp=Z,2µm,16.4s
MDJ Mudanjiang 32.19 12 P **P** **15 26 53.9 +1.2**
MDJ ScS ScS 15 37 15.9 -4.3
MDJ pmax pmax
comp=Z,4.0nm,1.6s
MDJ pmax pmax
comp=Z,230nm,5.9s
MDJ LR LR
comp=Z,620nm,19.6s
MDJ LR LR
comp=Z,570nm,20.5s
MDJ LR LR
comp=Z,840nm,18.5s
BNX BinXian 32.87 9 ⇓P **P** **15 26 58.4 -0.3**
BNX pmax pmax
comp=Z,8.0nm,1.1s
BNX pmax pmax
comp=Z,190nm,4.3s
PSA00 Pilbara Seismi 34.67 181 P **P** **15 27 15.5 +1.0**
PSA00 IAmb IAmb 15 27 17.4
comp=Z,34nm,1.1s
PSA00 Pilbara Seismi 34.67 181 IAmb IAmb 15 27 17.3
comp=Z,17nm,1.1s
PMG Port Moresby 34.91 129 P **P** **15 27 15.9 -0.7**
PMG IAmb IAmb 15 27 17.2
comp=Z,19nm,0.8s
PMG Port Moresby 34.91 129 P **P** **15 27 15.8 -0.9**
comp=Z,19nm,0.8s,baz=357,slow=9.2,SNR=11
PMG LR LR 15 44 30.4
comp=Z,190nm,18.0s,baz=334,slow=41
comp=Z,19nm,0.8s
PMG Port Moresby 34.91 129 P **P** **15 27 16.0 -0.7**
PMG Port Moresby 34.91 129 P **P** **15 27 15.1 -1.6**
WRAB Tennant Creek 35.80 157 P **P** **15 27 24.1 -0.2**
WRA Warramunga Arr 35.80 157 P **P** **15 27 24.4 0.0**
comp=Z,45nm,0.5s,baz=340,slow=9.2,SNR=162
WRA S **S** **15 32 56.8 -2.4**
comp=Z,4.3nm,0.9s,baz=337,slow=15,SNR=7.6
RABL Rabaul 36.06 117 P **P** **15 27 26.2 -0.5**
ASAJ Asahikawa 36.14 28 LR LR 15 44 33.8
comp=Z,484nm,18.4s,baz=172,slow=40
ULN Ulaanbaatar 36.19 345 P **P** **15 27 26.8 -0.7**
ULN IAmb IAmb 15 27 28.9
comp=Z,20nm,1.1s
ULN Ulaanbaatar 36.19 345 P **P** **15 27 27.9 +0.3**
ULN sP **pwP** **15 27 41.0 +2.7**
SONM Songino Array 36.33 344 P **P** **15 27 28.6 -0.2**
SONM IAmb IAmb 15 27 30.0
comp=Z,17nm,1.0s
SONM Songino Array 36.33 344 P **P** **15 27 28.9 +0.2**
comp=Z,11nm,0.7s,baz=160,slow=8.7,SNR=74
SONM PcP **PcP** **15 29 52.5 -0.3**
comp=Z,0.1nm,0.3s,baz=159,slow=1.5,SNR=4.1
SONM ScP **ScP** **15 33 33.7 -2.6**
comp=Z,0.1nm,0.4s,baz=134,slow=4.2,SNR=1.5
SONM LR LR 15 43 36.4
comp=Z,883nm,18.2s,baz=156,slow=38
comp=Z,11nm,0.7s
KLR Kul'dur 37.03 12 LR LR 15 45 16.2
comp=Z,505nm,18.0s,baz=204,slow=40
HEH HeiHe 37.29 7 *eP* **P** **15 27 35.4 -1.3**
HEH pP **pP** **15 27 45.0 -2.7**
HEH S **S** **15 33 14.1 -7.3**
HEH sS **sS** **15 33 33.3 -6.3**
HEH ScP **ScP** **15 33 39.3 -0.3**
HEH pmax pmax
comp=Z,10.0nm,1.0s
HEH pmax pmax
comp=Z,200nm,4.6s
HEH LR LR
comp=Z,510nm,16.7s
HEH LR LR
comp=Z,550nm,17.1s
HEH LR LR
comp=Z,580nm,17.5s
AS31 Alice Springs 39.07 160 IAmb IAmb 15 27 54.1
comp=Z,20nm,0.7s
ASAR Alice Springs 39.07 160 P **P** **15 27 52.8 +0.8**
comp=Z,63nm,0.7s,baz=338,slow=6.8,SNR=641
ASAR S **S** **15 33 48.0 -0.9**
comp=Z,1.1nm,0.9s,baz=345,slow=15,SNR=5.8
PALK Pallekele 39.42 265 LR LR 15 44 21.5
comp=Z,410nm,18.7s,baz=148,slow=36
WMQ Urumqi 41.31 324 *eP* **P** **15 28 12.8 +2.4**
WMQ pP pwP 15 28 23.3 -1.2
WMQ pmax pmax
comp=Z,14nm,1.5s
WMQ LR LR
comp=Z,1µm,12.7s
WMQ LR LR
comp=Z,830nm,11.5s
WMQ LR LR
comp=Z,720nm,14.9s
CTA Charters Tower 41.85 142 LR LR 15 46 21.3
comp=Z,178nm,19.9s,baz=323,slow=37
CTAO Charters Tower 41.85 142 P **P** **15 28 15.8 +0.8**
CTAO IAmb IAmb 15 28 16.6
comp=Z,14nm,0.9s
CTAO Charters Tower 41.85 142 P **P** **15 28 15.9 +0.8**
CTAO pP **pP** **15 28 25.6 -0.3**
FORT Forrest 44.46 170 P **P** **15 28 36.5 +0.6**
FORT IAmb IAmb 15 28 39.1
comp=Z,33nm,0.8s
HNR Honiara 45.35 118 P **P** **15 28 43.1 -0.2**
comp=Z,360nm,0.5s,baz=193,slow=9.0,SNR=3.9
HNR LR LR 15 45 36.0
comp=Z,5µm,21.8s,baz=282,slow=33
NWAO Narrogin (SRO) 46.07 184 P **P** **15 28 50.1 +1.4**
NWAO Narrogin (SRO) 46.07 184 P **P** **15 28 49.4 +0.7**
NWAO pP **pP** **15 28 58.6 -0.7**
NWAO sP **pwP** **15 29 01.9 -0.8**
MK31 Makanchi Array 46.14 324 IAmb IAmb 15 29 04.0
comp=Z,6.1nm,0.9s
MKAR Makanchi Array 46.14 324 P **P** **15 28 49.7 +0.6**
comp=Z,1.2nm,0.3s,baz=116,slow=8.5,SNR=44
MKAR ScP **ScP** **15 34 13.5 -1.5**
comp=Z,0.4nm,0.8s,baz=107,slow=3.7,SNR=2.1
MKAR LR LR 15 49 43.6
comp=Z,1µm,18.6s,baz=129,slow=38
comp=Z,1.2nm,0.3s
MAKZ Makanchi 46.33 324 P **P** **15 28 51.3 +0.6**
MAKZ Makanchi 46.33 324 P **P** **15 28 51.9 +1.3**
MAKZ pP **pP** **15 29 01.2 +0.1**
MAKZ sP **sP** **15 29 05.1 -0.4**
KSH Kashi 46.90 312 *eP* P 15 29 00.1 +4.7
KSH PcP **PcP** **15 30 30.0 +2.3**
KSH LR LR
comp=Z,530nm,17.2s
KSH LR LR
comp=Z,670nm,16.9s
KSH LR LR
comp=Z,940nm,17.4s
NIL Nilore 47.23 304 P **P** **15 28 59.1 +1.2**
NIL IAmb IAmb 15 29 13.1
comp=Z,12nm,0.8s
NRN Naryn 47.60 315 IAmb IAmb 15 29 07.7
comp=Z,5.6nm,1.0s
BBOO Buckleboo 48.26 162 P **P** **15 29 05.9 +0.1**
BBOO IAmb IAmb 15 29 07.1
comp=Z,18nm,0.7s
AAK Ala-Archa 49.10 316 P **P** **15 29 14.6 +2.2**
AAK Ala-Archa 49.10 316 LR LR 15 51 23.5
comp=Z,864nm,20.0s,baz=90,slow=38
AAK Ala-Archa 49.10 316 P **P** **15 29 14.8 +2.4**
YAK Yakutsk 49.11 6 LR LR 15 53 49.4
comp=Z,17nm,18.0s,baz=112,slow=41
ZAA0 Zalesovo Array 49.24 333 IAmb IAmb 15 29 16.5
comp=Z,5.4nm,0.8s
ZALV Zalesovo Beam 49.24 333 P **P** **15 29 12.8 -0.2**
comp=Z,3.7nm,0.4s,baz=118,slow=6.8,SNR=21
ZALV LR LR 15 51 10.3
comp=Z,698nm,18.8s,baz=123,slow=37
comp=Z,3.7nm,0.4s
STKA Stephens Creek 49.33 156 P **P** **15 29 14.1 0.0**
STKA Stephens Creek 49.33 156 P **P** **15 29 13.9 -0.1**
comp=Z,10.0nm,0.8s,baz=329,slow=8.5,SNR=19
STKA LR LR 15 53 49.1
comp=Z,158nm,19.9s,baz=331,slow=40
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 49.53 29 P **P** **15 29 14.7 -0.6**
comp=Z,5.2nm,0.9s,baz=222,slow=2.0,SNR=4.1
PETK LR LR 15 52 54.4
comp=Z,226nm,18.2s,baz=232,slow=39
comp=Z,5.2nm,0.9s
KURBB Kurchatov Arra 50.32 327 P **P** **15 29 21.8 +0.5**
comp=Z,4.2nm,0.4s,baz=123,slow=7.6,SNR=49
KURBB LR LR 15 51 46.9
comp=Z,454nm,18.6s,baz=155,slow=37
comp=Z,4.2nm,0.4s
KURK Kurchatov 50.32 327 P **P** **15 29 21.6 +0.3**
KURK Kurchatov 50.32 327 P **P** **15 29 22.3 +1.0**
KURK pP **pP** **15 29 31.7 -0.2**
MA2 Magadan 51.38 19 LR LR 15 53 03.9
comp=Z,358nm,19.6s,baz=214,slow=38
SIMJ Simiganj 51.79 309 P **P** **15 29 33.8 +1.0**
SIMJ Simiganj 51.79 309 P **P** **15 29 34.1 +1.3**
SIMJ pP **pP** **15 29 43.6 +0.1**
KKAR Karatay Array 52.00 315 P **P** **15 29 34.5 +0.4**
KKAR Karatay Array 52.00 315 IAmb IAmb 15 29 40.0
comp=Z,4.2nm,0.8s
BVAR Borovoye Array 55.90 326 P **P** **15 30 03.0 +0.7**
comp=Z,3.5nm,0.4s,baz=122,slow=12,SNR=28
BVAR LR LR 15 55 41.7
comp=Z,517nm,19.9s,baz=93,slow=38
comp=Z,3.5nm,0.4s
BRVK Borovoye 55.97 326 P **P** **15 30 03.3 +0.4**
BRVK IAmb IAmb 15 30 13.1
comp=Z,18nm,0.8s
BRVK Borovoye 55.97 326 P **P** **15 30 03.8 +1.0**
BRVK pP **pP** **15 30 12.8 -0.7**
DZM Mont Dzumac 57.27 127 P **P** **15 30 12.9 +0.2**
TIXI Tiksi 58.54 3 P **P** **15 30 18.4 -2.3**
TIXI Tiksi 58.54 3 LR LR 15 59 35.0
comp=Z,20nm,18.8s,baz=287,slow=40
NRIK Noril'sk 59.71 347 IAmb IAmb 15 30 29.3
comp=Z,7.1nm,0.8s
NRIK Noril'sk 59.71 347 P **P** **15 30 28.1 -0.7**
comp=Z,5.3nm,0.7s,baz=141,slow=6.4,SNR=12
NRIK LR LR 15 58 26.8
comp=Z,734nm,18.8s,baz=153,slow=38
comp=Z,5.3nm,0.7s
GEYT Alibeck 60.08 306 IAmb IAmb 15 30 40.5
comp=Z,8.4nm,0.8s
GEYT Alibeck 60.08 306 P **P** **15 30 33.7 +1.7**
comp=Z,5.8nm,0.8s,baz=104,slow=6.3,SNR=10
GEYT LR LR 16 00 04.9
comp=Z,306nm,18.4s,baz=71,slow=39
comp=Z,5.8nm,0.8s
GYA0B ALIBECK ARRAY 60.08 306 IAmb IAmb 15 30 40.5
comp=Z,10nm,0.8s
ABKAR Akbulak array 60.80 319 P **P** **15 30 36.9 +0.3**
ABKAR Akbulak array 60.80 319 IAmb IAmb 15 30 47.7
comp=Z,4.8nm,0.7s
BILL Bilibino 62.19 18 P **P** **15 30 44.5 -1.1**
BILL pP **pP** **15 30 54.3 -3.2**
AKTO Aktyubinsk 62.29 320 LR LR 15 59 45.7
comp=Z,764nm,18.4s,baz=104,slow=38
ARU Arti 63.52 327 P **P** **15 30 54.2 -0.5**
ARU IAmb IAmb 15 31 04.2
comp=Z,8.2nm,0.8s
ARU Arti 63.52 327 P **P** **15 30 55.0 +0.3**
BELG Belogornoye 69.02 321 LR LR 16 04 52.3
comp=Z,195nm,18.9s,baz=136,slow=38
UNV Unalaska Valle 69.43 37 P **P** **15 31 31.9 -0.6**
baz=264
M11K Mekoryuk 70.36 30 P **P** **15 31 37.0 -1.1**
baz=262
GNI Garni 70.58 308 LR LR 16 07 51.7
comp=Z,147nm,18.8s,baz=68,slow=40
F14K Arctic Creek 71.07 25 P **P** **15 31 41.6 -0.8**
baz=260
FALS False Pass 71.31 36 P **P** **15 31 43.0 -0.9**
baz=266
ANM Nome 71.33 26 P **P** **15 31 43.4 -0.6**
baz=262
KBZ Khabaz 71.88 312 P **P** **15 31 48.1 +0.4**
comp=Z,2.3nm,1.0s,baz=114,slow=1.0,SNR=3.1
KBZ LR LR 16 07 41.3
comp=Z,359nm,18.1s,baz=54,slow=39
comp=Z,2.3nm,1.0s
C16K Lisburne Hills 71.92 22 P **P** **15 31 46.0 -1.5**
baz=260
G15K Niukluk 71.95 26 P **P** **15 31 46.9 -0.8**
baz=263
KVAR Kislovodsk Arr 72.02 312 LR LR 16 07 48.5
comp=Z,273nm,18.6s,baz=332,slow=39
M14K Bethel 72.48 30 P **P** **15 31 49.9 -1.0**
baz=266
H16K Elim 72.68 26 P **P** **15 31 51.4 -0.6**
baz=264
D17K Noatak River 72.68 23 P **P** **15 31 52.0 0.0**
baz=263
G16K Koyuk River 72.70 25 P **P** **15 31 50.1 -2.0**
baz=264
O14K Tigyukauivet M 72.73 32 P **P** **15 31 51.0 -1.4**
baz=267
C17K DeLong Mountai 72.75 22 P **P** **15 31 51.4 -1.1**
baz=262
L15K Ungalak Mounta 72.77 29 P **P** **15 31 50.7 -1.9**
baz=266
E17K Hotham Inlet 73.09 24 P **P** **15 31 53.6 -0.9**
baz=264
M15K Kasigluk River 73.10 30 P **P** **15 31 53.6 -0.9**
baz=267
F17K Baldwin Pennin 73.26 24 P **P** **15 31 54.4 -1.0**
baz=265
I17K Unalakleet 73.29 27 P **P** **15 31 54.7 -0.9**
baz=266
J16K Anvik River 73.29 28 P **P** **15 31 54.8 -0.9**
baz=266
B18K Kokolik River 73.35 21 P **P** **15 31 55.9 0.0**
baz=263
N15K Kvethluk River 73.37 31 P **P** **15 31 55.2 -1.0**
baz=268
G17K Kiwalik Mounta 73.42 25 P **P** **15 31 56.0 -0.5**
baz=266
C18K Utukok River 73.49 22 P **P** **15 31 56.1 -0.8**
baz=264
E18K Tukpahlearik C 73.60 23 P **P** **15 31 57.2 -0.2**
baz=265
A19K Wainwright 73.70 20 P **P** **15 31 57.9 0.0**
baz=264
L16K Owhat River 73.73 29 P **P** **15 31 57.0 -1.2**
baz=268
F18K Selawik 73.91 24 P **P** **15 31 58.8 -0.4**
baz=266
C19K Lookout Ridge 74.11 22 P **P** **15 31 59.8 -0.7**
baz=266
CHGN Chignik 74.19 35 P **P** **15 32 03.4 +2.4**
baz=270
G18K Tagawik 74.27 25 P **P** **15 32 00.3 -1.1**
baz=267
L17K Donlin 74.30 29 P **P** **15 32 00.8 -0.8**
baz=269
K17K Iditarod 74.31 28 P **P** **15 32 00.9 -0.8**
baz=268
H18K Honhosa River 74.36 26 P **P** **15 32 01.3 -0.6**
baz=268
O16K Kokwok River B 74.36 32 P **P** **15 32 01.4 -0.6**
baz=270
P16K Nushagak River 74.41 32 P P 15 32 06.4 +4.1
baz=270
R16K Pilot Point 74.64 34 P **P** **15 32 03.1 -0.5**
baz=271
F19K Shaleruckik Mo 74.67 24 P **P** **15 32 03.8 +0.1**
baz=268
M17K Holitna River 74.70 30 P **P** **15 32 03.7 -0.3**
baz=270
O17K Koliganek Bris 74.87 31 P **P** **15 32 02.7 -2.2**
baz=270
E19K Redstone River 74.90 23 P **P** **15 32 05.1 +0.1**
baz=268
G19K Purcell Mounta 74.92 25 P **P** **15 32 05.2 +0.1**
baz=269
GCSA Galena City Sc 74.98 26 P **P** **15 32 05.9 +0.4**
baz=269
B20K Meade River 75.02 21 P **P** **15 32 05.8 +0.2**
baz=268
L18K Granite Mounta 75.06 29 P **P** **15 32 05.8 -0.2**
baz=270
Q16K King Salmon 75.11 32 P P 15 32 00.7 -5.6
baz=271
D20K Etivluk River 75.17 22 P **P** **15 32 06.0 -0.5**
baz=268
H19K Roundabout Mou 75.17 25 P **P** **15 32 06.6 +0.1**
baz=269
P17K Kvichak River 75.21 32 P P 15 32 01.5 -5.4
baz=271
A21K Barrow 75.25 19 P **P** **15 32 06.6 -0.4**
baz=268
E20K Nigu River 75.31 22 P **P** **15 32 07.2 -0.3**
baz=269
TTA Tatalina 75.36 28 P **P** **15 32 04.9 -3.0**
baz=270
N18K Kilae Creek 75.46 30 P P 15 32 01.7 -6.7
baz=271
M18K Stony River 75.47 30 P P 15 32 03.5 -4.9
baz=271
F20K Avaraart Lake 75.48 24 P **P** **15 32 07.5 -0.8**
baz=270
J19K Poorman 75.53 27 P **P** **15 32 05.7 -3.0**
baz=271
A22K Sinclair Lake 75.78 20 P **P** **15 32 09.5 -0.4**
baz=269
H20K Anotleneega Mo 75.83 25 P **P** **15 32 06.6 -3.8**
baz=271
C21K Knifeblade Rid 75.84 22 P **P** **15 32 09.6 -0.8**
baz=270
B21K Ikpikpuk River 75.90 21 P **P** **15 32 09.9 -0.7**
baz=270
L19K White Mountain 75.92 29 P **P** **15 32 10.6 -0.4**
baz=272
KEKH Kekaha 75.95 70 P **P** **15 32 11.2 -0.7**
E21K Killik River 76.14 22 P **P** **15 32 10.9 -1.3**
baz=271
J20K Nowinta River 76.17 27 P **P** **15 32 11.7 -0.6**
baz=272
K20K Telida 76.24 28 P **P** **15 32 12.1 -0.7**
baz=272
O19K Port Alsworth 76.25 31 P **P** **15 32 12.2 -0.7**
baz=273
B22K Teshekpuk Lake 76.30 20 P **P** **15 32 12.5 -0.4**
baz=271
F21K Alatna River 76.35 24 P P 15 32 06.0 -7.4
baz=272
SII Sitkinak Islan 76.53 35 P **P** **15 32 13.8 -0.8**
baz=274
D22K Ayikyak River 76.60 22 P P 15 32 09.6 -5.1
baz=272
H21K Melozitna Rive 76.69 25 P **P** **15 32 14.2 -1.1**
baz=273
CHUM Lake Minchumin 76.99 27 P **P** **15 32 15.8 -1.2**
baz=274
I21K Tanana 77.06 26 P **P** **15 32 17.3 -0.1**
baz=274
O20K Slope Mountain 77.11 31 P **P** **15 32 17.0 -0.8**
baz=274
CAST Castle Rocks 77.13 27 P **P** **15 32 17.1 -0.7**
CAST IAmb IAmb 15 32 28.3
comp=Z,8.1nm,0.8s
CAST Castle Rocks 77.13 27 P **P** **15 32 17.1 -0.7**
baz=274
G22K Bettles 77.14 24 P **P** **15 32 17.5 -0.2**
baz=274
H22K Ishtalitna Cre 77.26 25 P **P** **15 32 18.8 +0.3**
baz=274
C23K Itkillik River 77.28 21 P **P** **15 32 18.3 -0.2**
baz=274
KDAK Kodiak Island 77.31 33 P **P** **15 32 17.2 -1.7**
baz=275
BPAW Bear Paw Mtn. 77.56 27 P **P** **15 32 20.4 +0.2**
baz=275
MLY Manley 77.59 26 P **P** **15 32 20.3 -0.1**
baz=275
HOM Homer 77.63 31 P **P** **15 32 19.5 -1.1**
baz=275
G23K Bananza Creek 77.74 24 P **P** **15 32 21.1 -0.1**
baz=275
CAPN Captain Cook N 77.78 30 P **P** **15 32 20.7 -0.7**
baz=275
E23K Chandalar 77.78 23 P **P** **15 32 21.1 -0.4**
baz=275
C24K Franklin Bluff 77.95 21 P **P** **15 32 21.7 -0.5**
baz=276
D24K Happy Valley 77.97 21 P **P** **15 32 22.0 -0.3**
baz=276
BRSE Bradley Lake S 78.08 31 P **P** **15 32 22.6 -0.6**
baz=276
I23K Minto, Yukon-K 78.16 26 P **P** **15 32 22.9 -0.6**
baz=276
E24K Your Creek 78.20 23 P **P** **15 32 22.5 -1.2**
baz=276
F24K Squaw Lake 78.49 23 P **P** **15 32 24.7 -0.6**
baz=277
MCK McKinley 78.50 27 P **P** **15 32 24.2 -1.2**
baz=277
H24K Noodor Dome 78.70 25 P **P** **15 32 26.4 -0.1**
baz=277
POKR Poker Plat Res 78.97 26 P **P** **15 32 28.2 +0.2**
baz=278
KNK Knik Glacier 79.00 29 P **P** **15 32 27.2 -1.1**
baz=278
BRTR Keskin Array B 79.11 308 P **P** **15 32 29.1 -0.4**
comp=Z,0.3nm,0.3s,baz=143,slow=4.8,SNR=4.8
comp=Z,0.3nm,0.3s
WAT6 Susitna Watana 79.18 28 P **P** **15 32 28.1 -1.3**
baz=278
C26K Camden Bay 79.23 21 P **P** **15 32 28.3 -1.0**
baz=279
ILAR Eielson Array 79.25 26 P **P** **15 32 28.3 -1.2**
comp=Z,0.5nm,0.6s,baz=302,slow=4.0,SNR=2.2
comp=Z,0.5nm,0.6s
HDA Harding Lake 79.28 26 P **P** **15 32 29.9 +0.2**
baz=278
G25K Bearman Lake 79.28 24 P **P** **15 32 29.6 0.0**
baz=278
M23K Glacier View 79.30 29 P **P** **15 32 30.1 +0.3**
baz=278
ARA0 ARCESS Array S 79.32 339 *eP* **P** **15 32 30.0 +0.2**
ARCES ARCESS Array B 79.32 339 P **P** **15 32 29.1 -0.7**
comp=Z,2.3nm,0.4s,baz=80,slow=6.9,SNR=40
ARCES LR LR 16 10 26.7
comp=Z,317nm,19.8s,baz=60,slow=38
comp=Z,2.3nm,0.4s
F25K Christian Rive 79.33 23 P **P** **15 32 29.6 -0.4**
baz=279
SCM Sheep Creek Mo 79.48 29 P **P** **15 32 31.0 +0.1**
baz=278
PRP Porcupine Dome 79.71 25 P **P** **15 32 32.0 -0.1**
baz=279
P23K Montague Islan 79.72 31 P **P** **15 32 31.6 -0.5**
baz=279
HAMF Hammerfest 79.74 340 *eP* **P** **15 32 32.5 +0.5**
K24K Donnelly Dome 79.88 27 P **P** **15 32 32.4 -0.6**
baz=279
F26K Sheenjek River 79.88 23 P **P** **15 32 32.6 -0.3**
baz=280
SPA0 Spitsbergen Ar 79.90 348 *eP* **P** **15 32 33.7 +0.9**
SPITS Spitsbergen Ar 79.90 348 P **P** **15 32 32.8 0.0**
comp=Z,9.8nm,0.8s,baz=52,slow=7.8,SNR=9.4
comp=Z,9.8nm,0.8s
J25K Salcha River, 79.92 26 P **P** **15 32 33.2 -0.1**
baz=280
M24K Tolsona, Glenn 79.98 28 P **P** **15 32 33.2 -0.4**
baz=279
G26K Porcupine Rive 80.15 23 P **P** **15 32 33.1 -1.3**
baz=281
PAX Paxson 80.16 28 P **P** **15 32 34.4 -0.1**
baz=280
KLU Klutina 80.20 29 P **P** **15 32 34.1 -0.7**
baz=280
KTK1 Kautokeino 80.21 339 *eP* **P** **15 32 33.5 -1.1**
HARP HAARP 80.40 28 P **P** **15 32 34.7 -1.1**
baz=280
EYAK Cordova Ski Ar 80.44 30 P **P** **15 32 35.1 -0.8**
baz=280
FINES FINESS Array B 80.45 331 P **P** **15 32 35.7 -0.4**
comp=Z,2.4nm,0.5s,baz=54,slow=6.0,SNR=32
comp=Z,2.4nm,0.5s
AKASG Malin Array Be 80.53 320 P **P** **15 32 36.4 -0.3**
comp=Z,2.3nm,0.8s,baz=66,slow=5.3,SNR=8.0
comp=Z,2.3nm,0.8s
KIEV Kiev 80.54 320 ⇑P **P** **15 32 36.9 +0.2**
VSU Vasula 80.65 328 *eP* **P** **15 32 36.9 -0.2**
J26L Joseph Creek 80.71 26 P **P** **15 32 36.1 -1.4**
baz=281
I26K Coal Creek Min 80.72 25 P **P** **15 32 36.4 -1.0**
baz=281
E27K Coleen River 80.73 22 P **P** **15 32 35.9 -1.5**
baz=282
N25K Chitina, Valde 80.80 29 P **P** **15 32 36.3 -1.8**
baz=281
G27K Doyon Strip 81.00 23 P **P** **15 32 38.4 -0.6**
baz=282
I27K Kandik River 81.29 25 P **P** **15 32 39.8 -0.7**
baz=283
E28M Babbage River 81.37 21 P **P** **15 32 40.3 -0.6**
baz=284
M26K Nabesna, AK 81.38 28 P **P** **15 32 40.6 -0.5**
baz=282
K27K Chicken 81.44 26 P **P** **15 32 40.4 -0.9**
baz=283
D28M Stokes Point 81.47 21 P **P** **15 32 41.1 -0.2**

baz=285
F28M Old Crow 81.50 22 P P 15 32 40.9 -0.7
baz=284
MEF Metsahovi 81.50 330 *e*P P 15 32 41.5 -0.1
SORM Soroca 81.53 317 ⇑P P 15 32 41.8 -0.2
EGAK Eagle 81.66 25 P P 15 32 41.6 -0.8
baz=283
I28M Miner Creek 82.00 25 P P 15 32 43.2 -1.2
baz=284
E29M Blow River 82.01 21 P P 15 32 42.4 -1.8
baz=286
MTSE Matsula 82.10 328 *e*P P 15 32 44.5 -0.4
BVCY Beaver Creek 82.35 28 P P 15 32 44.8 -1.4
baz=284
G29M Pine Creek 82.37 23 P P 15 32 45.5 -0.7
baz=286
H29M Whitestone 82.43 24 P P 15 32 46.1 -0.4
baz=286
CTG Chitna Glacier 82.48 29 P P 15 32 46.3 -0.7
baz=284
DAWY Dawson 82.58 26 P P 15 32 46.9 -0.5
baz=285
RAF Rauma 82.58 331 *e*P P 15 32 47.1 -0.2
PABE Paberze 82.72 325 *e*P P 15 32 48.3 +0.1
TESR Tescani 82.98 316 ⇑P P 15 32 50.8 +1.0
F30M Barrier River 83.00 22 P P 15 32 49.1 -0.3
baz=288
EPYK Eagle Plains 83.02 23 P P 15 32 48.5 -1.1
baz=287
G30M tAoh Zraii Nji 83.03 23 P P 15 32 47.7 -1.9
baz=287
VRI Vrincioaia 83.06 315 ⇑P P 15 32 51.3 +1.2
PLOR Plostina 83.12 315 ⇑P P 15 32 49.1 -1.4
STEI Steigen 83.34 338 *e*P P 15 32 50.4 -0.7
M29M Somme Creek 83.42 27 P P 15 32 50.6 -1.2
baz=286
K29M Barlow Dome 83.44 26 P P 15 32 51.3 -0.6
baz=287
NEHR Nehoiu 83.45 315 ⇓P P 15 32 53.8 +1.6
FAUS Fauske 83.50 338 *e*P P 15 32 52.1 +0.1
I30M Mount Dempster 83.50 24 P P 15 32 51.5 -0.6
baz=288
TURR Turia 83.51 316 ⇓P P 15 32 53.6 +1.1
KMBO Kilima Mbogo 83.53 267 P P 15 32 54.1 +0.7
comp=Z,1.0nm,0.7s,baz=54,slow=19,SNR=2.2
comp=Z,1.0nm,0.7s
INK Inuvik 83.58 21 P P 15 32 52.1 -0.2
baz=290
YUK4 Talbot Arm 83.64 28 P P 15 32 52.1 -1.0
baz=286
MLR Muntele Rosu 83.68 315 ⇑P P 15 32 54.8 +1.3
BURAR Bucovina Array 83.70 317 ⇑P P 15 32 54.8 +1.2
BURAR Bucovina Array 83.70 317 P P 15 32 53.7 +0.1
BURAR IAmb IAmb 15 32 55.5
comp=Z,7.6nm,0.8s
BUR08 Bucovina Ar. S 83.71 317 P P 15 32 53.5 -0.1
BUR08 IAmb IAmb 15 34 52.7
comp=Z,39nm,1.9s
J30M Hart River 83.72 25 P P 15 32 53.0 -0.3
baz=288
PNL Peninsula 83.74 30 P P 15 32 52.8 -0.6
baz=286
F31M Tsiigehtchic 83.80 22 P P 15 32 52.9 -0.6
baz=290
DOPR Dopca 83.95 316 ⇓P P 15 32 57.2 +2.5
H31M Peel River 84.12 24 P P 15 32 54.6 -0.6
baz=289
M30M Minto, Yukon 84.12 27 P P 15 32 54.2 -1.1
baz=287
MOR8 Moi Rana 84.22 337 *e*P P 15 32 54.9 -0.8
HYT Haines Junctio 84.32 29 P P 15 32 55.5 -1.0
baz=287
MTUR Matau 84.34 315 ⇑P P 15 32 59.5 +2.6
ARR Arges 84.61 315 ⇑P P 15 32 59.3 +1.1
P30M Million Dollar 84.79 29 P P 15 32 57.8 -0.9
baz=288
KWP Kalwaria Pacla 84.85 320 *e*P P 15 33 00.1 +0.8
N31M Braeburn, Yuko 84.92 28 P P 15 32 58.2 -1.2
baz=288
M31M Drury Creek, Y 85.31 27 P P 15 33 01.0 -0.2
baz=290
MARR Marisel-Cluj 85.32 317 ⇓P P 15 33 02.8 +1.1
WHY Whitehorse 85.60 29 P P 15 33 02.1 -0.8
baz=289
DEV Deva 85.66 316 ⇑P P 15 33 05.1 +1.8
FARO Faro, Yukon 85.75 27 P P 15 33 02.8 -0.7
baz=290
SKAG Skagway 85.78 30 P P 15 33 02.8 -0.8
baz=289
NSS Namsos 85.78 336 *e*P P 15 33 02.8 -0.7
CRVS Cervenica-Dubn 85.83 319 *e*P P 15 33 05.1 +1.0
GZR Gura Zlata 85.87 316 ⇑P P 15 33 05.5 +1.1
HERR Herculane 86.25 315 ⇑P P 15 33 07.4 +1.2
N32M Quiet Lake 86.25 28 P P 15 33 04.2 -1.8
baz=291
C36M Paulatuk 86.29 19 P P 15 33 04.4 -1.5
baz=298
SIRR Siria 86.40 317 ⇓P P 15 33 07.8 +0.9
NIE Niedzica 86.42 320 *e*P P 15 33 08.4 +1.4
OJC Ojcow 86.51 321 *e*P P 15 33 07.7 +0.3
OJC Ojcow 86.51 321 P P 15 33 07.3 -0.1
HFS Hagfors 86.65 331 P P 15 33 07.2 -0.6
comp=Z,3.5nm,0.7s,baz=4.8,slow=3.5,SNR=4.5
comp=Z,3.5nm,0.7s
IDI Anoyia 86.79 305 LR LR 16 17 30.3
comp=Z,22nm,18.4s,baz=83,slow=39
TBLU Trondheim 86.97 335 *e*P P 15 33 09.3 0.0
LANS Liptovska Anna 87.02 320 *e*P P 15 33 11.0 +1.0
NC602 NORSAR Array S 87.42 332 *e*P P 15 33 12.7 +1.1
NB2 NORSAR Subarra 87.44 333 P P 15 33 10.4 -1.4
comp=Z,19nm,1.2s,baz=70,slow=4.6
NB2 NORSAR Subarra 87.44 333 P P 15 33 10.4 -1.4
baz=70,slow=4.6
NOA NORSAR Array B 87.44 333 P P 15 33 11.1 -0.7
comp=Z,3.3nm,0.9s,baz=68,slow=4.6,SNR=7.3
comp=Z,3.3nm,0.9s
VYHS Vyhne 87.61 319 *e*P P 15 33 13.3 +0.5
OKC Ostrava-Krasne 87.64 321 *e*P P 15 33 13.3 +0.4
MAUC Maruska 87.98 320 *e*P P 15 33 15.0 +0.4
MORC Moravsky Berou 88.03 321 ⇑P P 15 33 15.2 +0.4
KRLC Kraliky 88.40 321 *e*P P 15 33 16.3 -0.3
KSP Ksiaz 88.45 322 *e*P P 15 33 17.1 +0.4
OSTC Ostas 88.59 322 *e*P P 15 33 17.9 +0.5
DPC Dobruska-Polom 88.59 322 *e*P P 15 33 17.7 +0.2
CHVC Chvalec 88.67 322 *e*P P 15 33 17.9 +0.1
SKAR Skarslia 88.89 333 *e*P P 15 33 19.2 +0.5
BRG Berggiesshubel 89.83 323 *e*P P 15 33 24.2 +1.0
BRG Amp 15 33 24.6
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 89.83 323 P P 15 33 30.1 +6.9
BRG Amp 15 33 30.5
comp=Z,3.6nm,0.9s
ZVC Zvikov 90.20 321 *e*P P 15 33 25.0 0.0
CLL Collm 90.23 323 *e*P P 15 33 24.0 -1.0
CLL AMS AMS 16 15 00.0
comp=Z,300nm,20.7s
CKRC Cesky Krumlov 90.34 321 *e*P P 15 33 26.1 +0.4
SOKA Soboth 90.63 318 *e*P P 15 33 26.3 -0.9
comp=Z,6.5nm,1.5s
KHC Kasperske Hory 90.68 321 *e*P P 15 33 27.9 +0.6
GERES GERESS Array B 90.71 321 P P 15 33 27.7 +0.2
comp=Z,2.3nm,0.8s,baz=45,slow=4.2,SNR=8.2
comp=Z,2.3nm,0.8s
MOA Molln 90.71 320 *e*P P 15 33 27.7 +0.3
comp=Z,7.2nm,0.8s,SNR=7.2
OBKA Obir 91.00 318 *e*PcP P 15 33 29.5 +0.6
comp=Z,3.6nm,0.8s
KBA Koelnbreinsper 91.57 319 *e*P P 15 33 31.2 -0.4
comp=Z,5.5nm,1.0s
LESA Schwarzleotal 91.87 320 *e*P P 15 33 32.5 -0.4
comp=Z,4.1nm,0.7s
ABTA Abfaltersbach 92.23 319 *e*P P 15 33 33.6 -1.0
comp=Z,5.5nm,0.9s
WTTA Wattenberg 92.58 320 *e*P P 15 33 35.7 -0.6
comp=Z,20nm,1.0s
WATA Walderalm 92.59 320 *i*P P 15 33 36.1 -0.2
comp=Z,9.4nm,1.1s
SQTA Sankt Quirin 92.87 320 *e*P P 15 33 37.2 -0.4
comp=Z,6.3nm,0.7s,SNR=6.3
MOTA Moosalm 92.89 320 *i*P P 15 33 37.5 -0.2
comp=Z,13nm,1.0s,SNR=9.4
FETA Feichten 93.25 320 *i*P P 15 33 39.4 +0.1
comp=Z,9.5nm,0.9s,SNR=11
YKA Yellowknife Ar 93.27 22 P P 15 33 37.9 -1.0
comp=Z,0.4nm,0.7s,baz=309,slow=4.4,SNR=6.9
comp=Z,0.4nm,0.7s

VNDA Vanda 93.71 172 P P 15 33 40.0 -0.5
comp=Z,1.9nm,0.9s,baz=285,slow=3.3,SNR=5.1
comp=Z,1.9nm,0.9s
PKM Mcpherson Peak 105.55 48 P PKiKP 15 38 47.0 -1.3
baz=299
DUG Dugway, Tooele 107.47 40 P PKiKP 15 38 50.5 -1.1
baz=305
SHOC Shoshone, Teco 107.54 45 P PKiKP 15 38 50.3 -1.4
baz=302
PFO Pinyon Flats O 108.59 47 P PKiKP 15 38 52.2 -1.7
baz=301
TPFO Pinon Flats 108.60 47 P PKiKP 15 38 52.6 -1.3
baz=301
MONP2 Monument Peak 108.98 48 P PKiKP 15 38 53.3 -1.4
baz=301
IKP In-Ko-Pah, Jac 109.33 48 P PKiKP 15 38 54.9 -0.4
baz=301
SWSC Sam W. Stewart 109.41 48 P PKiKP 15 38 55.6 +0.4
baz=301
KSU1 Kansas State U 117.50 32 P PKPdf 15 39 10.3 -0.3
baz=319
MSTX Muleshoe 117.61 40 P PKPdf 15 39 10.9 -0.2
baz=311
WMOK Wichita Mounta 119.49 37 P PKPdf 15 39 14.1 -0.4
baz=315
TXAR Lajitas Array 119.99 44 PKP PKPdf 15 39 15.2 -0.5
comp=Z,0.4nm,0.8s,baz=321,slow=1.6,SNR=4.8
LONY Lake Ozonia 120.77 12 P PKPdf 15 39 15.5 -1.2
baz=343
O48B Farmland 121.68 23 P PKPdf 15 39 17.7 -0.9
baz=330
O53A New Philadelph 123.08 20 P PKPdf 15 39 20.3 -0.9
baz=335
L61B Northampton 123.24 11 P PKPdf 15 39 20.5 -0.9
baz=345
P52A Corning 123.32 21 P PKPdf 15 39 20.8 -0.9
baz=334
SSPA Standing Stone 123.73 17 P PKPdf 15 39 21.3 -1.1
baz=338
WVT Waverly 124.09 27 P PKPdf 15 39 21.9 -1.3
baz=326
PAL Palisades 124.37 13 P PKPdf 15 39 22.8 -0.9
baz=343
TZTN Tazewell 125.53 24 P PKPdf 15 39 25.4 -0.7
baz=331
LRAL Lakeview Retre 127.03 29 P PKPdf 15 39 27.8 -1.2
baz=326
KMSC Kings Mountain 127.61 22 P PKPdf 15 39 28.5 -1.6
baz=333
PLCA Paso Flores 151.06 163 PKPbc PKPbc 15 40 18.1 +0.4
comp=Z,1.7nm,0.8s,baz=129,slow=3.6,SNR=5.4

NEIC ***14*** *15:21:00.1±2.2, 12.02N±0.04×88.01W±0.07, h10km±1km, mb4.8/184, Error ellipse: s-maj=12.6km s-min=4.5km az=240.0*
SNET ***14*** *15:21:01.4±2.6, 12.01N×88.03W, h19km, ML4.3*
CATAC ***14*** *15:21:01.2±0.9, 11.92N×88.07W, h28km±10km, ML4.3*
IDC ***14*** *15:21:04.2±2.6, 12.24N×87.77W, h51km±23km, mb3.9/9, mbtmp4.3/13, ML3.6/3, MS4.3/5, Error ellipse: s-maj=40.0km s-min=12.6km az=48.0*
ISC 14 15:21:00.9±1.3, 11.97N±0.04×88.05W±0.03, h30km±9km, n445, σ1$28/382, mb4.8/84, MS4.8/3, 24C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNN	**El Viejo**	**1.12**	**54**	*i* P		**Pn**	**15 21 20.5**	**0.0**
CHNN					IAML		15 21 21.2	
	comp=Z,11μm,1.0s							
CHNN				*i* S		**Sn**	**15 21 35.7**	**+0.8**
CRIN	**San Cristobal**	**1.22**	**53**			**Pb**	**15 21 22.9**	**-0.6**
CRIN	**San Cristobal**	**1.22**	**53**	⇑*i* P		**Pb**	**15 21 23.1**	**-0.4**
CRIN	**San Cristobal**	**1.22**	**53**	⇑*i* P		**Pb**	**15 21 22.9**	**-0.6**
CRIN				*i* S		**Sn**	**15 21 44.1**	**+6.6**
CRIN					IAML		15 21 51.3	
	comp=Z,18μm,1.0s							
CNCH	**Conchagua**	**1.32**	**9**	*e*P		**Pb**	**15 21 24.4**	**-0.8**
CNCH				*e*S		**Sb**	**15 21 45.1**	**+3.2**
CNCH	**Conchagua**	**1.32**	**9**	⇑*i* P		**Pb**	**15 21 24.4**	**-0.8**
CNCH				*i* S		**Sb**	**15 21 45.2**	**+3.4**
CNCH					IAML		15 21 57.1	
	comp=Z,10μm,1.0s							
LCND	**La Caada**	**1.34**	**7**	⇑*i* P		**Pb**	**15 21 24.4**	**-1.1**
LCND					IAML		15 21 48.7	
	comp=Z,3μm,1.0s							
HERN	**Volcan Telica**	**1.35**	**62**	⇑*i* P		**Pn**	**15 21 24.0**	**+0.2**
HERN					IAML		15 21 49.7	
	comp=Z,5μm,1.0s							
AMPH	**Amapala**	**1.37**	**16**	⇑*i* P		**Pb**	**15 21 25.0**	**-0.9**
AMPH				*i* S		**Sn**	**15 21 40.8**	**-0.2**
POLN	**Al Sur del Vol**	**1.39**	**61**	⇑*i* P		**Pn**	**15 21 23.5**	**-0.8**
POLN					IAML		15 21 50.4	
	comp=Z,9.6nm,1.0s							
CNGA	**Al SSO del Vol**	**1.42**	**68**	*i* P		**Pn**	**15 21 25.2**	**+0.5**
CNGA					IAML		15 21 49.3	
	comp=Z,3μm,1.0s							
CNGN	**Cerro Negro**	**1.42**	**68**	Pn		**Pn**	**15 21 24.9**	**+0.2**
CNGN	**Cerro Negro**	**1.42**	**68**	*e*P		**Pn**	**15 21 25.1**	**+0.2**
CNGN	**Cerro Negro**	**1.42**	**68**	⇑*i* P		**Pn**	**15 21 25.0**	**+0.2**
CNGN					IAML		15 21 53.6	
	comp=Z,7μm,1.0s							
ALJI	**Alcalda de J**	**1.45**	**339**	⇑*i* P		**Pn**	**15 21 25.1**	**+0.1**
ALJI				*i* S		**Sn**	**15 21 43.8**	**+0.8**
ALJI					IAML		15 21 44.7	
	comp=Z,2μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.47**	**73**	⇑*i* P		**Pn**	**15 21 25.6**	**+0.3**
LEVN					IAML		15 21 54.3	
	comp=Z,5μm,1.0s							
LCY	**Lacayo**	**1.47**	**351**	*e*P		**Pb**	**15 21 26.2**	**-1.5**
VSM	**San Miguel**	**1.47**	**351**	*e*P		**Pb**	**15 21 26.6**	**-1.2**
BC86	**Nagarote**	**1.48**	**78**	*i* P		**Pb**	**15 21 26.4**	**-1.5**
BC86					IAML		15 21 59.9	
	comp=Z,7μm,1.0s							
PACA	**Pacayal**	**1.52**	**350**	*e*P		**Pb**	**15 21 27.8**	**-0.7**
PACA				*e*S		**Sb**	**15 21 48.9**	**+1.4**
PACA	**Pacayal**	**1.52**	**350**	⇑*i* P		**Pb**	**15 21 27.6**	**-1.0**
PACA				*i* S		**Sb**	**15 21 47.0**	**-0.5**
PACA					IAML		15 22 03.7	
	comp=Z,27μm,1.0s							
TECA	**Tecapa**	**1.58**	**344**	*e*P		**Pb**	**15 21 28.1**	**-1.6**
MOM2	**El Cardon**	**1.60**	**73**	⇑*i* P		**Pn**	**15 21 27.6**	**+0.4**
MOM2					IAML		15 22 03.5	
	comp=Z,4μm,1.0s							
AMTN	**Mateare**	**1.61**	**80**	*i* P		**Pb**	**15 21 29.1**	**-0.9**
AMTN				*i* S		**Sb**	**15 21 50.4**	**+0.5**
AMTN					IAML		15 21 59.5	
	comp=Z,9μm,1.0s							
SAPS	**Ciudad Sandino**	**1.62**	**83**	⇑*i* P		**Pn**	**15 21 28.0**	**+0.5**
SAPS					IAML		15 21 57.5	
	comp=Z,4μm,1.0s							
APQ2	**Apoyeque**	**1.70**	**82**	⇑*i* P		**Pn**	**15 21 29.0**	**+0.4**
APQ2					IAML		15 21 59.7	
	comp=Z,3μm,1.0s							
ABCN	**Banco Central**	**1.71**	**85**	*i* P		**Pn**	**15 21 29.5**	**+0.8**
ABCN					IAML		15 21 36.4	
	comp=Z,7μm,1.0s							
CRUN	**El Crucero**	**1.71**	**89**	*i* P		**Pb**	**15 21 30.3**	**-1.5**
CRUN					IAML		15 22 06.6	
	comp=Z,6.9nm,1.0s							
TECO	**Alcaldia de Te**	**1.72**	**336**	*i* P		**Pn**	**15 21 29.2**	**+0.4**
TECO				*i* S		**Sn**	**15 21 50.6**	**+0.8**
TECO					IAML		15 21 53.4	
	comp=Z,1μm,1.0s							
PQSS	**Presa 15 de Se**	**1.72**	**343**	⇓*i* P		**Pn**	**15 21 29.8**	**+0.9**
PQSS				*i* S		**Sb**	**15 21 51.7**	**-1.5**
PQSS					IAML		15 21 54.1	
	comp=Z,2μm,1.0s							
APQN	**BB Volcan Apoy**	**1.73**	**81**	⇑*i* P		**Pn**	**15 21 29.4**	**+0.4**
UNAN	**Cigeo UNAN**	**1.75**	**85**	⇑*i* P		**Pn**	**15 21 29.6**	**+0.4**
UNAN					IAML		15 22 10.0	
	comp=Z,17μm,1.0s							
TISN	**Laguna Tiscapa**	**1.75**	**84**	*i* P		**Pn**	**15 21 29.7**	**+0.5**
TISN					IAML		15 21 39.0	
	comp=Z,220nm,1.0s							
ENAN	**Enatrel Managu**	**1.76**	**85**	*i* P		**Pn**	**15 21 29.9**	**+0.6**
ENAN					IAML		15 22 59.2	
	comp=Z,8μm,1.0s							
CAHU	**Cacacuatique**	**1.80**	**355**	*e*P		**Pb**	**15 21 31.6**	**-1.8**
UESV	**Universidad de**	**1.81**	**337**	*i* P		**Pn**	**15 21 30.8**	**+0.7**
UESV				*i* S		**Sb**	**15 21 54.0**	**-1.8**
UESV					IAML		15 22 08.4	
	comp=Z,2μm,1.0s							
BRAN	**Las Pilas**	**1.82**	**66**	*i* P		**Pn**	**15 21 28.7**	**-1.5**

BRAN IAML 15 21 38.3
comp=Z,2μm,1.0s
BRAN *i* S **Sn** **15 21 51.6 -0.7**
WILN Americas 2 **1.83** **84** ⇑*i* P **Pn** **15 21 30.9 +0.6**
WILN *i* S **Sn** **15 21 53.5 +1.0**
WILN IAML 15 22 03.5
comp=Z,2μm,1.0s
COEG Centro de Oper **1.83** **334** *i* P **Pn** **15 21 30.9 +0.4**
COEG *i* S **Sb** **15 21 55.0 -1.5**
COEG IAML 15 21 59.1
comp=Z,1μm,1.0s
MAS3 Al N del Volca **1.83** **88** ⇑*i* P **Pn** **15 21 30.5 +0.1**
MAS3 IAML 15 21 43.7
comp=Z,3μm,1.0s
MASN Masaya **1.86** **89** *i* P **Pn** **15 21 31.6 +0.9**
MASN IAML 15 22 08.1
comp=Z,600nm,1.0s
LFRS El Faro **1.92** **329** *e*P **Pn** **15 21 32.8 +1.1**
PAVA Las Pavas **1.94** **334** *i* P **Pn** **15 21 33.2 +1.2**
PAVA IAML 15 22 10.5
comp=Z,2μm,1.0s
LIMN Finca el Limon **1.97** **56** ⇑*i* P **Pn** **15 21 33.0 +0.6**
LIMN IAML 15 21 44.1
comp=Z,3μm,1.0s
LIMN *i* S **Sb** **15 21 58.5 -2.0**
LOMA Loma Larga **2.00** **327** *i* P **Pn** **15 21 33.7 +1.0**
LOMA *i* S **Sb** **15 21 59.6 -1.6**
LOMA IAML 15 22 06.6
comp=Z,2μm,1.0s
LFU La Fuente **2.05** **330** *e*P **Pn** **15 21 34.1 +0.6**
SNET Serv Nac Est T **2.06** **326** *i* P **Pn** **15 21 35.0 +1.4**
SNET Serv Nac Est T **2.06** **326** *e*S **Sn** **15 21 59.3 +0.9**
UEES Universidad Ev **2.09** **326** *i* P **Pn** **15 21 35.6 +1.6**
UEES IAML 15 22 18.1
comp=Z,690nm,1.0s
BOQS Boqueron **2.13** **326** *e*P **Pn** **15 21 35.5 +0.9**
PMON Piamonte **2.13** **325** ⇑*i* P **Pn** **15 21 35.6 +1.0**
PMON IAML 15 22 14.1
comp=Z,2μm,1.0s
JAYA Jayaque - finc **2.16** **321** *i* P **Pn** **15 21 36.3 +1.2**
JAYA *i* S **Sn** **15 22 00.7 -0.3**
JAYA IAML 15 22 11.3
comp=Z,4μm,1.0s
TGUH Tegucigalpa,Un **2.21** **20** Pn **Pn** **15 21 36.6 +0.8**
TGUH Tegucigalpa,Un **2.21** **20** *e*P **Pn** **15 21 37.0 +1.2**
MATN Matagalpa **2.29** **65** Pn **Pn** **15 21 37.1 +0.5**
MATN Matagalpa **2.29** **65** ⇑*i* P **Pn** **15 21 37.2 +0.5**
MATN IAML 15 22 13.5
comp=Z,1μm,1.0s
YUSH Yuscaran **2.30** **31** ⇑*i* P **Pn** **15 21 38.1 +1.2**
JAPN Al SSO del Vol **2.36** **100** ⇓*i* P **Pn** **15 21 38.2 +0.5**
JAPN IAML 15 21 47.8
comp=Z,1μm,1.0s
MORN Al O del Volca **2.39** **100** ⇓*i* P **Pn** **15 21 38.1 +0.1**
MORN IAML 15 22 14.3
comp=Z,2μm,1.0s
CONN Concepcion **2.41** **99** ⇓*i* P **Pn** **15 21 37.7 -0.6**
CONN *i* S **Sn** **15 22 05.7 -1.1**
CONN IAML 15 22 11.4
comp=Z,13μm,1.0s
OMEN Al SSO del Vol **2.42** **101** ⇓*i* P **Pn** **15 21 36.2 -2.2**
OMEN IAML 15 22 13.8
comp=Z,920nm,1.0s
RCPN Sur Rio San Ju **2.46** **51** *i* P **Pn** **15 21 39.4 +0.3**
RCPN IAML 15 21 52.8
comp=Z,2.5nm,1.0s
RTR El Retiro **2.47** **321** *e*P **Pn** **15 21 39.9 +0.5**
COMHN El Horno **2.51** **11** ⇑*i* P **Pn** **15 21 39.3 -0.6**
NUBE Las Nubes **2.56** **319** *i* P **Pn** **15 21 41.5 +1.0**
NUBE *i* S **Sn** **15 22 11.6 +0.9**
NUBE IAML 15 22 20.8
comp=Z,2μm,1.0s
HZTE Horizontes, Gu **2.71** **117** **Pn** **15 21 43.6 +1.2**
MTO3 Montecristo **2.74** **332** Pn **Pn** **15 21 44.1 +1.1**
MTO3 Montecristo **2.74** **332** *i* P **Pn** **15 21 44.0 +1.0**
MTO3 IAML 15 23 18.0
comp=Z,530nm,1.0s
ACON Acoyapa **2.81** **90** **Pn** **15 21 43.5 -0.3**
ACON Acoyapa **2.81** **90** *e*P **Pb** **15 21 47.4 -3.1**
ACON Acoyapa **2.81** **90** *i* P **Pn** **15 21 43.4 -0.5**
ACON IAML 15 22 02.7
comp=Z,460nm,1.0s
SARH Santa Rosa de **2.88** **346** ⇑*i* P **Pn** **15 21 47.0 +2.2**
ORTG Ortega, Santa **3.00** **122** Pn **Pn** **15 21 47.1 +0.6**
ORTG Ortega, Santa **3.00** **122** ⇓*i* P **Pn** **15 21 47.5 +1.0**
ORTG IAML 15 21 58.5
comp=Z,840nm,1.0s
VMAR Armenia, Volca **3.10** **111** ⇓*i* P **Pn** **15 21 47.5 -0.3**
VMAR IAML 15 22 58.0
comp=Z,840nm,1.0s
JTS Las Juntas de **3.46** **118** P **Pn** **15 21 54.3 +1.5**
comp=Z,3.0nm,0.3s,baz=45,slow=12,SNR=3.7
JTS S **Sn** **15 22 34.2 +1.3**
comp=Z,64nm,0.5s,baz=0.2,slow=22,SNR=3.8
comp=Z,6.3nm,0.3s
ARE1 Arenal 1 **3.59** **114** **Pn** **15 21 54.5 -0.2**
ESPN Las Esperanzas **3.67** **86** Pn **Pn** **15 21 55.2 -0.5**
SOCE Pocosol **3.72** **115** Pn **Pn** **15 21 57.6 +1.2**
JACO JACO, Garabito **4.04** **124** **Pn** **15 22 02.6 +1.9**
LCR2 La Lucha 2 **4.55** **119** Pn **Pn** **15 22 09.7 +1.8**
SRBA San Rafael, Bu **5.35** **120** **Pn** **15 22 20.9 +2.1**
DRK0 Durika **5.43** **119** **Pn** **15 22 21.9 +1.9**
CCIG Comitan **5.84** **318** Pn **Pn** **15 22 27.9 +2.3**
TEIG Tepich **8.22** **359** P **Pn** **15 22 56.9 -1.2**
comp=Z,3.8nm,0.3s,baz=121,slow=18,SNR=2.6
TEIG LR LR 15 26 48.0
comp=Z,4μm,18.8s,baz=352,slow=43
comp=Z,144nm,1.1s
SJCC San Jacinto, C **12.80** **98** *e*P Pn 15 24 05.7 +4.6
YOTC Yotoco, Valle **14.04** **123** *e*P Pn 15 24 11.9 -6.1
GUY2C Guyana, Caldas **14.21** **117** *e*P **Pn** **15 24 23.6 +2.9**
JAMC Jamundi, Valle **14.23** **127** *e*P **P** **15 24 26.6 -1.2**
BBAC Balboa, Cauca **14.57** **132** *e*P P 15 24 36.9 +5.4
ORTC Ortega, Tolima **14.99** **121** *e*P **P** **15 24 39.7 +3.8**
OTAV Otavalo **15.05** **140** *e*P **P** **15 24 38.5 +1.5**
ROSC El Rosal **15.31** **116** P **Pn** **15 24 35.4 0.0**
comp=Z,3.5nm,0.3s,baz=335,slow=19,SNR=1.3
ROSC LR LR 15 31 26.3
comp=Z,218nm,21.1s,baz=179,slow=41
PRAC Prado **15.39** **121** *e*P **P** **15 24 43.5 +3.0**
PAMC Pamplona, Colo **15.81** **106** *e*P **Pn** **15 24 43.9 +1.8**
DWPF Disney Wildern **17.22** **20** P **Pn** **15 24 58.5 -0.7**
baz=202
SDV Santo Domingo **17.40** **98** Pn **Pn** **15 25 02.3 +0.5**
SDV Santo Domingo **17.40** **98** P **Pn** **15 25 01.5 -0.3**
comp=Z,1.1nm,0.3s,baz=321,slow=6.5,SNR=1.7
comp=Z,3.0nm,0.4s
HBVL Hebbronville **18.03** **328** **P** **15 25 10.4 +0.8**
HBVL IAmb IAmb 15 25 14.7
comp=Z,41nm,0.7s
BRAL Brewton **19.13** **3** P **P** **15 25 21.8 +0.2**
baz=183
833A Chaparral WMA, **19.43** **329** P **Pn** **15 25 26.5 +0.3**
833A Chaparral WMA, **19.43** **329** P **P** **15 25 25.6 +0.7**
baz=145,SNR=48
352A Blakely **19.63** **8** P **P** **15 25 26.9 -0.2**
352A IAmb IAmb 15 25 32.1
comp=Z,45nm,0.9s
TIGA Tifton **19.81** **11** Pn **Pn** **15 25 31.4 +0.6**
TIGA IAmb IAmb 15 25 33.1
comp=Z,62nm,0.9s
TIGA Tifton **19.81** **11** P **P** **15 25 29.7 +0.7**
baz=193,SNR=6.2
BAUV El Baul **19.90** **97** P **P** **15 25 29.1 -1.1**
VBMS Vicksburg **20.29** **354** P **P** **15 25 35.1 +1.0**
baz=173
HNDO Hondo **20.36** **331** P **P** **15 25 35.9 +0.8**
HNDO IAmb IAmb 15 25 38.0
comp=Z,48nm,0.8s
146A Union **20.60** **358** IAmb IAmb 15 25 53.4
comp=Z,31nm,0.8s
NATX Nacogdoches **20.62** **344** IAmb IAmb 15 25 41.0
comp=Z,35nm,0.8s
NATX Nacogdoches **20.62** **344** P **P** **15 25 38.7 +0.8**
baz=161
435B Jarrell **20.70** **336** IAmb IAmb 15 25 44.9
comp=Z,37nm,0.7s
435B Jarrell **20.70** **336** P **P** **15 25 39.7 +0.9**
baz=153
152A Waverly Hall **20.83** **8** IAmb IAmb 15 25 43.3
comp=Z,26nm,0.9s
143A Socs Landing, **20.87** **352** IAmb IAmb 15 25 47.0
comp=Z,22nm,0.8s
LRAL Lakeview Retre **20.99** **2** P **P** **15 25 43.8 +2.0**

LRAL	Lakeview Retre	20.99	2	P	P	15 25 42.5	+0.6		
	baz=183,SNR=7.2								
237A	Washetta, Mont	21.18	341	IAmb	IAmb	15 25 50.0			
	comp=Z,28nm,0.8s								
JCT	Junction City	21.40	331	IAmb	IAmb	15 25 48.2			
	comp=Z,22nm,0.7s								
JCT	Junction City	21.40	331	P	P	15 25 46.8	+0.4		
	baz=147,SNR=8.8								
WHTX	Lake Whitney,	21.73	338	P	P	15 25 50.8	+1.0		
	baz=154								
GOGA	Godfrey	21.76	10	P	P	15 25 51.7	+1.6		
GOGA				IAmb	IAmb	15 25 53.2			
	comp=Z,64nm,1.4s								
GOGA	Godfrey	21.76	10	P	P	15 25 50.9	+0.9		
	baz=192,SNR=9.9								
Y49A	Blount Mountai	21.84	4	IAmb	IAmb	15 25 53.1			
	comp=Z,20nm,0.7s								
Y52A	Lilburn	22.10	9	IAmb	IAmb	15 25 57.8			
	comp=Z,25nm,0.9s								
WLAR	White Oak Lake	22.11	349	IAmb	IAmb	15 25 58.6			
	comp=Z,53nm,0.8s								
Z38A	Mt. Pleasant	22.13	344	P	P	15 25 55.5	+1.4		
Z38A				IAmb	IAmb	15 25 59.2			
	comp=Z,25nm,0.8s								
NHSC	New Hope	22.25	18	P	P	15 25 56.3	+1.0		
	baz=201								
OZNA	Ozona	22.41	329	IAmb	IAmb	15 26 00.9			
	comp=Z,37nm,0.8s								
OXF	Oxford	22.48	357	P	P	15 25 58.2	+0.4		
	baz=176								
FPAL	Fort Paine	22.58	5	P	P	15 25 59.2	+0.2		
TX31	Lajitas Ar. Si	22.59	322	IAmb	IAmb	15 26 06.2			
	comp=Z,28nm,0.8s								
TXAR	Lajitas Array	22.59	322	P	P	15 26 00.4	+1.3		
	comp=Z,4.6nm,0.5s,baz=136,slow=9.7,SNR=82								
	comp=Z,4.6nm,0.5s								
HODGE	Hodges	22.79	12	IAmb	IAmb	15 26 03.6			
	comp=Z,23nm,0.9s								
PLPT	Palo Pinto	22.79	337	P	P	15 26 01.3	+0.2		
PLPT				IAmb	IAmb	15 26 03.9			
	comp=Z,28nm,0.7s								
JSC	Jenkinsville	23.06	14	IAmb	IAmb	15 26 06.4			
	comp=Z,29nm,1.0s								
ABTX	Abilene, Hawle	23.16	334	IAmb	IAmb	15 26 07.3			
	comp=Z,43nm,0.9s								
ABTX	Abilene, Hawle	23.16	334	P	P	15 26 05.9	+1.0		
	baz=150,SNR=13								
SGCY	Sterling City	23.22	331	P	P	15 26 04.9	-0.7		
SGCY				IAmb	IAmb	15 26 08.3			
	comp=Z,29nm,0.9s								
BG3	Lake Jocassee	23.39	11	IAmb	IAmb	15 26 09.5			
	comp=Z,36nm,1.1s								
PAULI	Pauline	23.45	13	IAmb	IAmb	15 26 11.2			
	comp=Z,18nm,0.7s								
WHAR	Wooly Hollow	23.54	351	IAmb	IAmb	15 26 10.2			
	comp=Z,16nm,0.9s								
MNHN	Monahans	23.59	327	IAmb	IAmb	15 26 14.5			
	comp=Z,25nm,0.8s								
BIRD	Birdtown, Kers	23.61	16	IAmb	IAmb	15 26 10.9			
	comp=Z,20nm,0.8s								
WTFS	Witchita Falls	23.70	338	IAmb	IAmb	15 26 13.7			
	comp=Z,22nm,1.0s								
KMSC	Kings Mountain	23.87	14	P	P	15 26 12.3	+0.6		
	baz=196								
SN01	Snyder 1	23.90	333	IAmb	IAmb	15 26 14.8			
	comp=Z,37nm,0.9s								
TKL	Tuckaleechee C	23.90	9	IAmb	IAmb	15 26 14.7			
	comp=Z,34nm,1.0s								
V51A	Loudon	23.97	7	IAmb	IAmb	15 26 30.8			
	comp=Z,66nm,1.6s								
WVT	Waverly	24.06	0	P	P	15 26 14.0	+0.4		
	baz=180								
V53A	Saluda	24.07	10	IAmb	IAmb	15 26 19.8			
	comp=Z,23nm,1.1s								
ODSA	Odessa	24.09	329	IAmb	IAmb	15 26 16.5			
	comp=Z,32nm,1.0s								
FCAR	Ozark Folk Cen	24.10	352	IAmb	IAmb	15 26 15.7			
	comp=Z,14nm,0.8s								
V52A	Sevierville	24.11	9	IAmb	IAmb	15 26 16.7			
	comp=Z,22nm,1.1s								
W35A	Tecumseh	24.43	342	IAmb	IAmb	15 26 18.4			
	comp=Z,24nm,0.7s								
V55A	Taylorsville	24.57	13	IAmb	IAmb	15 26 21.3			
	comp=Z,12nm,0.8s								
WMOK	Wichita Mounta	24.68	338	IAmb	IAmb	15 26 22.1			
	comp=Z,13nm,0.8s								
WMOK	Wichita Mounta	24.68	338	P	P	15 26 20.1	+0.8		
	baz=154								
HHAR	Hobbs	24.79	349	IAmb	IAmb	15 26 22.8			
	comp=Z,20nm,0.8s								
PBMO	Poplar Bluff	24.80	355	IAmb	IAmb	15 26 21.8			
	comp=Z,16nm,0.8s								
TZTN	Tazewell	24.81	9	P	P	15 26 20.7	+0.4		
	baz=190								
TUL3	Leonard	24.85	345	P	P	15 26 20.5	-0.2		
	baz=162,SNR=9.2								
RLO	Rose Lookout	24.90	347	IAmb	IAmb	15 26 24.0			
	comp=Z,19nm,0.9s								
T47A	Sharon Grove	24.93	2	IAmb	IAmb	15 26 22.0			
	comp=Z,27nm,0.8s								
CNNC	Cliffs of the	24.94	20	P	P	15 26 21.5	0.0		
	baz=204								
DEOK	Depew	24.97	344	IAmb	IAmb	15 26 22.5			
	comp=Z,22nm,0.7s								
U38A	Gravette	25.03	348	IAmb	IAmb	15 26 25.5			
	comp=Z,32nm,1.1s								
V58A	Windy Hill, Pi	25.06	17	IAmb	IAmb	15 26 24.1			
	comp=Z,27nm,0.8s								
T50A	Nancy	25.11	6	IAmb	IAmb	15 26 26.9			
	comp=Z,46nm,1.9s								
OK033	Mehan	25.28	343	IAmb	IAmb	15 26 25.4			
	comp=Z,19nm,0.8s								
MNTX	Cornudas Mount	25.32	324	P	P	15 26 24.7	-0.4		
	baz=137,SNR=11								
MGMO	Mountain Grove	25.37	352	IAmb	IAmb	15 26 30.8			
	comp=Z,57nm,1.8s								
S44A	Carbondale	25.64	358	IAmb	IAmb	15 26 28.6			
	comp=Z,13nm,0.8s								
SIUC	Southern Illin	25.66	358	IAmb	IAmb	15 26 28.7			
	comp=Z,14nm,0.8s								
MSTX	Muleshoe	25.70	331	P	P	15 26 28.5	-0.1		
	baz=145,SNR=16								
AMTX	Amarillo	25.96	334	P	P	15 26 30.6	-0.4		
	baz=148								
T35A	Sooner Cattle	25.98	344	IAmb	IAmb	15 26 35.6			
	comp=Z,13nm,0.8s								
CROK	Carrier	26.02	342	IAmb	IAmb	15 26 34.3			
	comp=Z,28nm,1.0s								
BLA	Blacksburg	26.06	14	P	P	15 26 31.4	-0.4		
	baz=197								
CCM	Cathedral Cave	26.14	354	P	P	15 26 31.7	-0.7		
CCM				IAmb	IAmb	15 26 32.9			
	comp=Z,16nm,0.8s								
CCM	Cathedral Cave	26.14	354	P	P	15 26 32.6	+0.2		
	baz=173								
WCI	Wyandotte Cave	26.20	3	P	P	15 26 32.4	-0.6		
WCI				IAmb	IAmb	15 26 33.9			
	comp=Z,16nm,0.8s								
WCI	Wyandotte Cave	26.20	3	P	P	15 26 33.2	+0.3		
	baz=184								
OK038	West end E0370	26.24	340	IAmb	IAmb	15 26 34.5			
	comp=Z,22nm,0.8s								
KAN14	Manchester OK	26.43	342	IAmb	IAmb	15 26 37.8			
	comp=Z,23nm,0.8s								
KAN12	Harper NE Stat	26.76	342	IAmb	IAmb	15 26 41.3			
	comp=Z,28nm,0.8s								
Q44A	Meyer Farm, Va	26.84	358	IAmb	IAmb	15 26 39.2			
	comp=Z,16nm,0.7s								
Q51A	Peebles	27.27	8	IAmb	IAmb	15 26 43.8			
	comp=Z,20nm,0.9s								
121A	Cookes Peak, D	27.34	322	P	P	15 26 43.2	-0.4		
	baz=134								
P49A	Miami Univ. Ec	27.62	6	P	P	15 26 45.4	-0.3		
	baz=187								
Q54A	Coxs Mills	27.66	12	IAmb	IAmb	15 26 47.7			
	comp=Z,11nm,0.6s								
RTBA	Rita Blanca	27.73	334	IAmb	IAmb	15 26 51.7			
	comp=Z,21nm,0.8s								
R32A	Long Quarter,	28.01	342	IAmb	IAmb	15 26 53.1			
	comp=Z,11nm,0.8s								
P53A	Whipple	28.04	11	IAmb	IAmb	15 26 50.9			
	comp=Z,13nm,0.8s								
P52A	Corning	28.05	10	P	P	15 26 48.9	-0.7		
	baz=192								
KSU1	Kansas State U	28.08	346	IAmb	IAmb	15 26 51.4			
	comp=Z,25nm,1.3s								
KSU1	Kansas State U	28.08	346	P	P	15 26 49.2	-0.6		
	baz=162								

O48B	Farmland	28.30	5	P	P	15 26 50.3	-1.4		
	baz=186								
SFIN	Lafayette	28.32	2	P	P	15 26 51.0	-0.9		
	baz=182								
ANMO	Albuquerque	28.33	327	P	P	15 26 51.2	-1.2		
	baz=139								
ACSO	Alum Creek Sta	28.51	8	P	P	15 26 52.4	-1.2		
	baz=190								
CBKS	Cedar Bluff	28.69	341	P	P	15 26 54.5	-0.9		
	baz=156								
O53A	New Philadelph	28.81	11	P	P	15 26 56.2	-0.1		
	baz=194								
N49A	Columbus Grove	29.04	6	IAmb	IAmb	15 26 59.4			
	comp=Z,10nm,0.7s								
T25A	Trinidad	29.05	332	P	P	15 26 58.6	-0.3		
	baz=145,SNR=6.5								
TUC	Tucson	29.09	318	P	P	15 26 58.1	-1.0		
	baz=129								
N35A	Tabor	29.55	348	IAmb	IAmb	15 27 04.7			
	comp=Z,19nm,0.8s								
KSCO	Kaye Shedlock'	29.89	337	P	P	15 27 05.7	-0.5		
	baz=150								
SSPA	Standing Stone	29.93	16	P	P	15 27 06.9	+0.6		
	baz=200								
SDCO	Great Sand Dun	30.05	332	P	P	15 27 08.5	+0.8		
	baz=144								
M53A	W I Miller and	30.07	11	P	P	15 27 08.0	+0.6		
	baz=194								
BGNE	Belgrade	30.64	345	P	P	15 27 13.6	+1.0		
	baz=160								
ETMB	Extrema	30.65	134	P	P	15 27 15.9	+3.1		
ETMB				IAmb	IAmb	15 27 25.3			
	comp=Z,16nm,0.8s								
S22A	4UR Ranch, Cre	30.68	330	P	P	15 27 15.1	+1.7		
S22A	4UR Ranch, Cre	30.68	330	P	P	15 27 13.6	+0.3		
	baz=142								
ERPA	Erie	30.85	12	P	P	15 27 14.5	+0.1		
	baz=195								
Q24A	Divide	30.89	333	P	P	15 27 15.2	+0.1		
	baz=146								
JFWS	Jewell Farm	30.89	357	P	P	15 27 15.7	+0.9		
	baz=176								
MVCO	Mesa Verde	31.12	327	P	P	15 27 17.0	-0.1		
	baz=139								
OGNE	Ogallala	31.38	339	P	P	15 27 19.5	+0.3		
	baz=153								
PAL	Palisades	31.48	21	P	P	15 27 20.4	+0.5		
	baz=207								
WUAZ	Wupatki	31.55	322	P	P	15 27 21.5	+0.7		
	baz=132								
ISCO	Idaho Springs	31.78	334	P	P	15 27 23.4	+0.4		
	baz=146								
SAML	Samuel	32.29	129	P	P	15 27 27.8	+0.4		
SAML	Samuel	32.29	129	eP	P	15 27 27.8	+0.4		
ECSD	EROS Data Cent	32.51	348	IAmb	IAmb	15 27 29.3			
	comp=Z,14nm,0.8s								
ECSD	EROS Data Cent	32.51	348	P	P	15 27 28.4	-0.5		
	baz=164,SNR=13								
N23A	Red Feather La	32.83	335	P	P	15 27 31.8	-0.3		
	baz=146								
SWSC	Sam W. Stewart	32.89	314	P	P	15 27 32.6	+0.1		
	baz=123								
BC3	Big Chuckawall	33.05	315	P	P	15 27 33.9	0.0		
	baz=124								
IRM	Iron Mountain	33.12	316	P	P	15 27 34.6	+0.1		
	baz=122								
O20A	White River Ci	33.24	331	IAmb	IAmb	15 27 40.7			
	comp=Z,11nm,0.8s								
O20A	White River Ci	33.24	331	P	P	15 27 35.5	-0.2		
	baz=142,SNR=9.8								
MONP2	Monument Peak	33.31	313	P	P	15 27 36.1	-0.3		
	baz=122								
SPMN	Marine on St.	33.39	354	P	P	15 27 35.8	-0.9		
	baz=72,SNR=7.2								
BELC	Belle Mtn. Jos	33.61	315	P	P	15 27 38.0	-0.9		
	baz=124								
HRV	Adam Dziewonsk	33.64	22	P	P	15 27 38.2	-0.6		
	baz=210								
SUSD	Miller	33.69	346	P	P	15 27 39.6	+0.2		
	baz=160								
TPFO	Pinon Flats	33.71	314	P	P	15 27 38.9	-0.8		
	baz=123								
PFO	Pinyon Flats O	33.72	314	P	P	15 27 38.8	-1.1		
	baz=123								
109C	Camp Elliot, M	33.79	313	P	P	15 27 39.7	-0.6		
	baz=121								
GMRC	Granite Mounta	33.83	317	P	P	15 27 40.0	-0.8		
	baz=126								
P17A	Butcher Ranch,	33.98	328	IAmb	IAmb	15 27 48.7			
	comp=Z,26nm,1.8s								
F36A	Milaca	34.10	353	IAmb	IAmb	15 27 43.2			
	comp=Z,11nm,0.9s								
MURC	Murieta	34.23	314	P	P	15 27 43.7	-0.5		
	baz=122								
HEC	Hector,Ludlow	34.31	316	P	P	15 27 44.3	-0.6		
	baz=125								
LONY	Lake Ozonia	34.53	17	P	P	15 27 46.8	+0.2		
	baz=204								
K22A	Casper	34.53	336	P	P	15 27 46.5	-0.3		
	baz=147								
E38A	The Farm, Brul	34.65	356	IAmb	IAmb	15 27 47.5			
	comp=Z,11nm,0.8s								
RSSD	Black Hills	34.87	340	P	P	15 27 51.3	+1.5		
RSSD	Black Hills	34.87	340	P	P	15 27 50.0	+0.2		
	baz=152								
GSC	Goldstone, Bar	34.90	317	P	P	15 27 49.7	-0.3		
	baz=125								
BFSC	Mount Baldy Ra	34.90	314	P	P	15 27 49.5	-0.5		
	baz=122								
CIS	Catalina Islan	35.00	313	P	P	15 27 50.5	-0.3		
	baz=120								
EDW2	Edwards Air Fo	35.47	315	P	P	15 27 54.6	-0.3		
	baz=123								
TPNV	Topopah Spring	35.49	319	P	P	15 27 54.5	-0.7		
	baz=127								
BW06	Boulder Array	35.92	333	P	P	15 27 58.1	-0.8		
	baz=142								
PDAR	Pinedale Array	35.92	333	P	P	15 27 58.1	-0.7		
	comp=Z,1.0nm,0.8s,baz=123,slow=9.1,SNR=11								
PDAR				PcP	PcP	15 30 26.5	+1.0		
	comp=Z,0.6nm,0.6s,baz=128,slow=6.7,SNR=5.1								
	comp=Z,1.0nm,0.8s								
R11B	Troy Canyon, C	35.95	322	P	P	15 27 58.2	-0.9		
	baz=130								
EYMN	Ely	35.98	356	P	P	15 27 58.4	-0.7		
	baz=174								
HWUT	Hardware Ranch	35.99	329	IAmb	IAmb	15 28 06.6			
	comp=Z,6.7nm,0.8s								
CWC	Cottonwood Cre	36.39	317	P	P	15 28 01.7	-1.2		
	baz=124								
SBC	Santa Barbara	36.45	313	P	P	15 28 02.1	-1.2		
	baz=120								
B35A	Bob, Littlefor	36.59	354	IAmb	IAmb	15 28 03.4			
	comp=Z,41nm,1.9s								
AHID	Auburn Hatcher	36.64	331	IAmb	IAmb	15 28 12.2			
	comp=Z,7.0nm,0.7s								
PKM	Mcpherson Peak	36.75	314	P	P	15 28 05.3	-0.7		
	baz=121								
AGMN	Agassiz Nation	36.80	351	P	P	15 28 05.8	-0.2		
	baz=167								
PKME	Peaks-Kenny Pk	36.85	22	P	P	15 28 06.4	0.0		
	baz=212								
SNOW	Snow King Moun	37.01	332	IAmb	IAmb	15 28 15.2			
	comp=Z,16nm,0.7s								
MDND	Maddock	37.06	347	P	P	15 28 08.7	+0.4		
	baz=161								
LOHW	Long Hollow	37.06	332	IAmb	IAmb	15 28 20.6			
	comp=Z,18nm,1.6s								
SMMC	Simmler	37.10	314	P	P	15 28 08.9	+0.2		
	baz=121								
VILB	Vilhena	37.10	131	P	P	15 28 09.7	+0.8		
VILB				IAmb	IAmb	15 28 12.0			
	comp=Z,11nm,0.6s								
TPAW	Teton Pass	37.13	332	IAmb	IAmb	15 28 23.2			
	comp=Z,24nm,1.4s								
H17A	Grant Village	37.66	333	P	P	15 28 13.8	+0.1		
	baz=142								
NVAR	Mina Array Bea	37.69	320	P	P	15 28 14.6	+0.6		
	comp=Z,0.6nm,0.8s,baz=132,slow=10,SNR=4.7								
NVAR				PcP	PcP	15 30 32.0	+1.1		
	comp=Z,0.8nm,0.7s,baz=142,slow=3.5,SNR=5.0								
	comp=Z,0.6nm,0.8s								
RLMT	Red Lodge	37.69	335	P	P	15 28 13.8	-0.1		
	baz=145,SNR=5.3								
YHL	Hebgen Lake	38.29	333	IAmb	IAmb	15 28 31.7			
	comp=Z,19nm,1.4s								
ULM	Lac du Bonnet	38.71	352	IAmb	IAmb	15 28 21.6			
	comp=Z,19nm,0.8s								

ULM	Lac du Bonnet	38.71	352	P	P	15 28 20.7	-1.4		
	comp=Z,19nm,0.8s,baz=171,slow=8.8,SNR=38								
	comp=Z,19nm,0.8s								
DGMT	Dagmar	38.80	343	P	P	15 28 23.2	+0.2		
	baz=154,SNR=8.0								
HLID	Hailey	38.85	329	P	P	15 28 24.0	+0.4		
	baz=136								
BOZ	Bozeman (W)	39.07	334	P	P	15 28 25.8	+0.4		
	baz=142								
EGMT	Eagleton	40.27	337	P	P	15 28 35.8	+0.6		
	baz=146								
PLID	Pearl Lake	40.73	329	P	P	15 28 38.6	-0.7		
MSO	Missoula	41.04	333	IAmb	IAmb	15 28 58.8			
	comp=Z,38nm,2.0s								
MSO	Missoula	41.04	333	P	P	15 28 42.0	+0.3		
	baz=139								
NEW	Newport	43.55	332	P	P	15 29 02.3	+0.3		
	baz=136								
FFC	Flin Flon	44.05	348	P	P	15 29 05.8	0.0		
SCHQ	Schefferville	45.91	17	P	P	15 29 19.0	-1.7		
	comp=Z,13nm,0.7s,baz=221,slow=11,SNR=12								
SCHQ				LR	LR	15 50 28.9			
	comp=Z,169nm,18.1s,baz=247,slow=39								
	comp=Z,13nm,0.7s								
FCC	Fort Churchill	46.93	356	P	P	15 29 27.8	-0.7		
FCC				IAmb	IAmb	15 29 28.3			
	comp=Z,7.8nm,0.9s								
BDFB	Brasilia	48.19	124	P	P	15 29 39.1	0.0		
	comp=Z,5.6nm,0.9s,baz=295,slow=9.9,SNR=7.0								
	comp=Z,5.6nm,0.9s								
YKA	Yellowknife Ar	53.92	345	P	P	15 30 20.9	-0.5		
	comp=Z,2.4nm,0.8s,baz=138,slow=7.6,SNR=35								
YKA				PcP	PcP	15 31 27.0	+0.5		
	comp=Z,0.7nm,0.7s,baz=142,slow=4.2,SNR=5.7								
	comp=Z,2.4nm,0.8s								
KOTAN	Kotaneelee Air	54.93	339	P	P	15 30 29.5	+0.7		
	baz=135								
DLBC	Dease Lake	56.09	335	P	P	15 30 38.3	+1.0		
	baz=128								
U33K	Whale Pass	56.10	331	P	P	15 30 37.6	+0.4		
	baz=123								
R33M	Jennings River	57.07	335	P	P	15 30 44.4	+0.1		
	baz=127								
P33M	Teslin, Yukon	58.31	336	P	P	15 30 53.3	+0.4		
	baz=126								
P32M	Atlin	58.32	335	P	P	15 30 53.6	+0.7		
	baz=125								
N32M	Quiet Lake	58.97	336	P	P	15 30 57.9	+0.5		
	baz=126								
WHY	Whitehorse	59.40	335	P	P	15 31 01.4	+0.8		
	baz=124								
FARO	Faro, Yukon	59.71	337	P	P	15 31 03.3	+0.8		
	baz=126								
O30N	Mendenhall	59.96	335	P	P	15 31 04.8	+0.5		
	baz=123								
P29M	Windy Craggy	60.06	333	P	P	15 31 05.2	+0.2		
	baz=120								
N31M	Braeburn, Yuko	60.23	336	P	P	15 31 06.5	+0.5		
	baz=123								
N30M	Aishikik Lake	60.74	335	P	P	15 31 09.8	+0.2		
	baz=122								
YUK6	Outpost Mounta	61.00	335	P	P	15 31 11.7	+0.1		
	baz=120								
M30M	Minto, Yukon	61.23	337	P	P	15 31 13.3	+0.4		
	baz=123								
YUK4	Talbot Arm	61.32	335	P	P	15 31 13.5	-0.2		
	baz=121								
YUK8	Steele Glacier	61.76	335	P	P	15 31 16.4	-0.3		
	baz=119								
M29M	Somme Creek	61.81	336	P	P	15 31 17.4	+0.5		
	baz=121								
J30M	Hart River	62.17	339	P	P	15 31 18.1	-1.2		
	baz=124								
H31M	Peel River	62.20	340	P	P	15 31 19.1	-0.2		
	baz=127								
CTG	Chitna Glacier	62.28	334	P	P	15 31 20.2	+0.1		
	baz=118								
I30M	Mount Dempster	62.55	339	P	P	15 31 20.2	-1.7		
	baz=124								
BVCY	Beaver Creek	62.76	335	P	P	15 31 21.3	-1.9		
	baz=119								
RES	Resolute Bay	62.82	358	P	P	15 31 22.0	-1.3		
G31M	Satah River	62.86	341	P	P	15 31 22.5	-1.2		
	baz=127								
DAWY	Dawson	63.01	337	P	P	15 31 23.8	-1.1		
	baz=121								
F31M	Tsiigehtchic	63.01	342	P	P	15 31 23.8	-0.9		
	baz=128								
KAIM	Kayak Island	63.20	332	P	P	15 31 23.9	-2.1		
	baz=114								
I29M	Ogilvie Camp,	63.30	339	P	P	15 31 25.4	-1.3		
	baz=123								
EPYK	Eagle Plains	63.32	340	P	P	15 31 25.8	-1.0		
	baz=125								
L27K	Beaver Creek,	63.47	336	P	P	15 31 26.7	-1.1		
	baz=118								
INK	Inuvik	63.49	343	P	P	15 31 28.8	+1.0		
	baz=129								
G30M	tAoh Zraii Nji	63.51	341	P	P	15 31 28.9	+0.8		
	baz=125								
M26K	Nabesna, AK	63.64	335	P	P	15 31 27.9	-1.1		
	baz=117								
BMRM	Bremner River	63.71	333	P	P	15 31 29.9	+0.4		
	baz=114								
F30M	Barrier River	63.74	342	P	P	15 31 28.6	-1.0		
	baz=126								
H29M	Whitestone	63.79	340	P	P	15 31 28.9	-1.0		
	baz=123								
Q23K	Middleton Isla	63.91	331	P	P	15 31 29.6	-1.1		
	baz=112								
I28M	Miner Creek	63.93	339	P	P	15 31 28.7	-2.2		
	baz=121								
N25K	Chitina, Valde	63.98	334	P	P	15 31 28.5	-2.7		
	baz=115								
K27K	Chicken	64.02	337	P	P	15 31 30.1	-1.3		
	baz=118								
EGAK	Eagle	64.03	338	P	P	15 31 29.7	-1.8		
	baz=120								
G29M	Pine Creek	64.06	340	P	P	15 31 31.4	-0.2		
	baz=124								
L26K	Log Cabin Wild	64.06	335	P	P	15 31 31.2	-0.6		
	baz=116								
KLU	Klutina	64.51	333	P	P	15 31 31.5	-3.3		
	baz=113								
HARP	HAARP	64.55	334	P	P	15 31 35.9	+1.0		
	baz=114								
I27K	Kandik River	64.61	338	P	P	15 31 34.2	-1.1		
	baz=119								

baz=120
PMR Palmer 65.97 333 P **P** 15 31 43.3 -0.8
baz=110
PRP Porcupine Dome 66.02 337 P **P** 15 31 42.0 -2.5
baz=115
G26K Porcupine Rive 66.03 339 P **P** 15 31 42.9 -1.5
baz=118
RC01 Rabbit Creek A 66.07 332 P **P** 15 31 42.7 -2.2
baz=110
HDA Harding Lake 66.10 336 P **P** 15 31 43.1 -1.9
baz=114
BRSE Bradley Lake S 66.11 331 P **P** 15 31 42.4 -2.7
baz=108
WAT1 Susitna Watana 66.16 334 P **P** 15 31 42.2 -3.2
baz=111
ILAR Eielson Array 66.23 336 P **P** 15 31 45.9 +0.1
comp=Z,1.3nm,0.9s,baz=109,slow=5.3,SNR=10.0
comp=Z,1.3nm,0.9s
D27M Malcolm River 66.25 342 P **P** 15 31 42.7 -3.2
baz=121
KDAK Kodiak Island 66.46 328 P **P** 15 31 43.9 -3.5
baz=106
F26K Sheenjek River 66.50 340 P **P** 15 31 44.3 -3.2
baz=118
HOM Homer 66.52 330 P **P** 15 31 44.8 -2.9
baz=107
POKR Poker Plat Res 66.58 337 P **P** 15 31 44.6 -3.4
baz=113
CAPN Captain Cook N 66.62 332 P **P** 15 31 45.9 -2.4
baz=108
COLA College 66.65 336 P **P** 15 31 47.1 -1.3
baz=113
MCK McKinley 66.65 335 P **P** 15 31 46.1 -2.4
baz=111
SUA Susitna One 66.66 332 P **P** 15 31 46.4 -2.3
baz=109
G25K Bearman Lake 66.76 339 P **P** 15 31 47.3 -1.8
baz=115
F25K Christian Rive 66.97 339 P **P** 15 31 48.3 -2.2
baz=116
SII Sitkinak Islan 67.00 327 P **P** 15 31 44.7 -6.2
baz=104
NEA2 Nenana 67.02 336 P **P** 15 31 48.2 -2.7
baz=112
H24K Noodor Dome 67.03 337 P **P** 15 31 47.2 -3.7
baz=113
O20K Slope Mountain 67.12 331 P P 15 31 46.2 -5.4
baz=106
E25K Arctic Village 67.17 340 P P 15 31 46.8 -5.0
baz=116
G24K Hadweenzic Riv 67.23 338 P P 15 31 47.2 -5.0
baz=114
P19K Oil Pt 67.29 330 P P 15 31 47.8 -4.8
baz=106
Q19K Cape Douglas, 67.31 329 P P 15 31 48.2 -4.6
baz=105
I23K Minto, Yukon-K 67.34 336 P P 15 31 48.4 -4.4
baz=112
R18K Karluk 67.38 328 P P 15 31 47.9 -5.3
baz=104
CHIR Chirikof Islan 67.62 326 P P 15 31 48.3 -6.4
baz=102
BPAW Bear Paw Mtn. 67.63 335 P P 15 31 47.3 -7.4
baz=110
F24K Squaw Lake 67.71 339 P P 15 31 47.9 -7.3
baz=114
PPLA Purkeypile 67.75 334 P **P** 15 31 53.6 -2.1
baz=108
C26K Camden Bay 67.78 342 P **P** 15 31 54.0 -1.5
baz=118
MLY Manley 67.85 336 P **P** 15 31 54.2 -1.9
baz=110
M20K Styx River 67.87 332 P **P** 15 31 55.1 -1.3
baz=107
CAST Castle Rocks 67.87 334 P **P** 15 31 55.1 -1.2
baz=108
Q18K Katmai Hardscr 67.92 329 P **P** 15 31 55.2 -1.6
baz=104
O19K Port Alsworth 67.97 330 P **P** 15 31 55.7 -1.1
baz=105
D25K Kavik River 67.97 341 P **P** 15 31 56.0 -0.8
baz=116
CHUM Lake Minchumin 68.11 335 P **P** 15 31 55.8 -1.9
baz=108
E24K Your Creek 68.15 339 P **P** 15 31 56.5 -1.4
baz=114
G23K Bananza Creek 68.17 338 P **P** 15 31 57.0 -1.1
baz=112
N19K Bonanza Creek 68.20 331 P **P** 15 31 58.0 -0.5
baz=105
Q17K Contact Creek 68.28 328 P **P** 15 31 58.2 -0.8
baz=103
L20K Farewell, AK 68.38 333 P **P** 15 31 57.9 -1.6
baz=106
I21K Tanana 68.39 336 P **P** 15 31 60.0 +0.6
baz=109
H22K Ishtalitna Cre 68.39 337 P **P** 15 32 00.0 +0.5
baz=110
COLD Coldfoot 68.43 338 P **P** 15 31 58.6 -1.1
baz=112
E23K Chandalar 68.53 339 P **P** 15 31 59.5 -0.9
baz=112
D24K Happy Valley 68.69 340 P **P** 15 31 59.2 -2.1
baz=114
K20K Telida 68.71 334 P **P** 15 32 01.1 -0.4
baz=106
L19K White Mountain 68.73 332 P **P** 15 32 00.3 -1.3
baz=105
G22K Bettles 68.80 338 P **P** 15 32 01.6 -0.3
baz=110
H21K Melozitna Rive 68.87 336 P **P** 15 32 02.8 +0.3
baz=108
C24K Franklin Bluff 68.88 341 P **P** 15 32 02.1 -0.3
baz=114
J20K Nowinta River 68.97 335 P **P** 15 32 02.5 -0.6
baz=106
F22K John River 69.24 338 P **P** 15 32 03.4 -1.4
baz=110
E22K Anaktuvuk Pass 69.33 339 P **P** 15 32 05.2 0.0
baz=110
C23K Itkillik River 69.54 341 P **P** 15 32 05.7 -0.8
baz=112
CHNA Chernabura Isl 69.68 324 P **P** 15 32 08.3 +0.7
baz=98
M16K Timber Creek 70.38 331 P **P** 15 32 11.7 -0.2
baz=101
M14K Bethel 71.78 330 P **P** 15 32 20.6 +0.4
baz=98
F18K Selawik 71.81 336 P **P** 15 32 20.9 +0.6
baz=102
K15K Wolf Creek Mou 71.81 332 P **P** 15 32 20.8 +0.3
baz=99
G17K Kiwalik Mounta 71.99 335 P **P** 15 32 19.5 -1.9
baz=101
L14K Kuka Creek 72.21 331 P **P** 15 32 20.6 -2.2
baz=98
C19K Lookout Ridge 72.33 339 P **P** 15 32 21.8 -1.7
baz=103
E18K Tukpahlearik C 72.34 337 P **P** 15 32 22.2 -1.4
baz=102
E17K Hotham Inlet 72.75 337 P **P** 15 32 25.1 -0.9
baz=100
C18K Utukok River 72.81 338 P **P** 15 32 24.9 -1.5
baz=101
A19K Wainwright 73.08 340 P **P** 15 32 26.2 -1.6
baz=102
B18K Kokolik River 73.16 339 P **P** 15 32 27.0 -1.4
baz=101
G15K Niukluk 73.31 334 P **P** 15 32 27.6 -1.7
baz=98
C17K DeLong Mountai 73.49 338 P **P** 15 32 29.2 -1.2
baz=99
F15K North Star Dit 73.66 335 P **P** 15 32 30.4 -0.9
baz=97
ESDC Sonseca Array 77.95 52 P **P** 15 32 55.0 -1.5
comp=Z,0.8nm,1.0s,baz=232,slow=6.3,SNR=3.1
comp=Z,0.8nm,1.0s
SPITS Spitsbergen Ar 81.30 12 LR LR 16 12 50.2
comp=Z,413nm,18.7s,baz=28,slow=38
FUORN Ofenpass-Fuorn 87.04 43 P **P** 15 33 41.5 -2.5
FUORN IAmb IAmb 15 33 43.0
comp=Z,8.6nm,1.0s
SEY Seymchan 92.16 337 LR LR 16 21 30.5
comp=Z,323nm,20.2s,baz=240,slow=39
MKAR Makanchi Array 120.87 8 PKP **PKPdf** 15 39 50.6 +0.1
comp=Z,0.1nm,0.5s,baz=348,slow=3.6,SNR=1.7
ASAR Alice Springs 138.54 248 PKP **PKPdf** 15 40 23.3 -1.3
comp=Z,0.3nm,0.9s,baz=106,slow=2.9,SNR=1.8
WRA Warramunga Arr 138.57 253 PKP **PKPdf** 15 40 24.3 -0.4
comp=Z,0.5nm,0.7s,baz=91,slow=3.0,SNR=3.5
CMAR Chiang Mai Arr 148.99 347 PKPbc **PKPdf** 15 40 44.9 +2.0
comp=Z,3.2nm,0.8s,baz=338,slow=3.1,SNR=20

*IDC **14** 15:48:03.5±0.8, 12°.09N×92°.33E, h0km, mb4.4/25, mbtmp4.4/27, ML4.7/2, Error ellipse: s-maj=18.9km s-min=17.2km az=165.0*
*DJA **14** 15:48:08.9±0.4, 12°.N±.3°×9°.2E±.°, h49km±15km, M5.3/13, mb4.8/13, mB6.0/4, MLv5.5/3, Mw(mB)5.6/4*
*NDI **14** 15:48:08.5±2.5, 12°.17N×92°.30E, h19km±35km, mb4.7, mb4.7(NEIC)*
*NEIC **14** 15:48:09.6±1.5, 12°.18N±0°.08×92°.43E±0°.09, h33km±6km, mb4.7/41, Error ellipse: s-maj=12.9km s-min=11.3km az=221.0*

ISC 14 15:48:07.6±0.4, 12°.04N±0°.05×92°.20E±0°.04, h27km, n160, σ1§95/163, mb4.5/60, MS4.8/5, 10C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.65**	**126**	*i*	Pg		**Pn**	**15 48 21.2**	**+0.1**
PBA				*i*	Sg		**Sn**	**15 48 31.8**	**+1.4**
DGPR	**DIGLIPUR**	**1.34**	**32**	*e*	P		**Pn**	**15 48 28.8**	**-1.7**
DGPR				*i*	x		x	15 48 33.3	
DGPR				*e*	S		**Sn**	**15 48 45.8**	**-1.7**
SRDT	**SRDT**	**7.12**	**70**	P			**Pn**	**15 49 50.5**	**+0.4**
SRIT	**Nakonsritamara**	**8.04**	**114**	Pn			**Pn**	**15 50 01.9**	**-0.8**
SRIT	**Nakonsritamara**	**8.04**	**114**	P			**Pn**	**15 50 05.3**	**+2.5**
MLSI	**Meulaboh, Aceh**	**8.77**	**151**	P			**Pn**	**15 50 11.8**	**-0.9**
CM31	**Chiang Mai Arr**	**9.11**	**45**				**Pn**	**15 50 14.1**	**-3.3**
CMAR	**Chiang Mai Arr**	**9.11**	**45**				**Pn**	**15 50 14.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**9.11**	**45**	Pn			**Pn**	**15 50 15.3**	**-2.1**
	1.9nm,0.3s,baz=236,slow=16,SNR=29								
CMAR					Sn		**Sn**	**15 51 54.2**	**-4.9**
	baz=238,slow=18								
	6.6nm,0.6s								
NAYO	**Nakonayok**	**9.16**	**75**	P			**Pn**	**15 50 18.5**	**+0.4**
CHTO	**Chiang Mai**	**9.36**	**43**	Pn			**Pn**	**15 50 18.5**	**-2.3**
CHTO	**Chiang Mai**	**9.36**	**43**	P			**Pn**	**15 50 20.6**	**-0.2**
CHTO	**Chiang Mai**	**9.36**	**43**	P			**Pn**	**15 50 19.7**	**-1.1**
	37nm,0.8s								
CMMT	**Chiang Mai**	**9.36**	**43**	P			**Pn**	**15 50 20.8**	**-0.1**
	102nm,0.8s								
SKLT	**Songkhla**	**9.60**	**119**	P			**Pn**	**15 50 26.8**	**+2.6**
SKLT	**Songkhla**	**9.60**	**119**	P			**Pn**	**15 50 22.9**	**-1.3**
	67nm,1.0s								
KCSI	**Kotacane, Aceh**	**10.10**	**146**	P			**Pn**	**15 50 29.3**	**-1.7**
	20nm,0.8s,2μm								
VIS	**Vishakhapatnam**	**10.27**	**304**	*e*	P		**Pn**	**15 50 34.5**	**+1.1**
VIS				*i*	x		x	15 50 40.0	
VIS				*e*	S		**Sn**	**15 52 19.6**	**-8.0**
SAIH	**SAIHA**	**10.42**	**4**	*e*	P		**Pn**	**15 50 34.9**	**-0.6**
MND	**Mandalay**	**10.60**	**20**	Pn			**Pn**	**15 50 33.9**	**-3.9**
KULM	**Kulim**	**10.71**	**128**	P			**Pn**	**15 50 37.6**	**-1.7**
	28nm,2.2s								
PSI	**Prapat**	**11.34**	**144**	P			**Pn**	**15 50 47.9**	**-0.2**
	10nm,0.8s								
MDRS	**Chennai**	**11.72**	**276**	*e*	P		**Pn**	**15 50 55.8**	**+2.6**
MDRS					IAmb		IAmb	15 50 59.3	
	comp=Z,18nm,0.6s								
VJD	**Vijayawada**	**12.05**	**293**	*e*	P		**Pn**	**15 50 59.5**	**+1.8**
VJD				*e*	S		Sn	15 53 02.2	-9.1
NONG	**Nongkai**	**12.14**	**59**	P			**Pn**	**15 50 59.2**	**+0.2**
PALK	**Pallekele**	**12.29**	**248**	Pn			**Pn**	**15 51 03.0**	**+2.0**
PALK	**Pallekele**	**12.29**	**248**	Pn			**Pn**	**15 51 02.5**	**+1.5**
	comp=Z,4.3nm,0.3s,baz=169,slow=13,SNR=27								
PALK					Sn		**Sn**	**15 53 11.4**	**-5.8**
	comp=Z,1.3nm,0.3s,baz=266,slow=15,SNR=1.4								
	comp=Z,9.4nm,0.3s								
PALK	**Pallekele**	**12.29**	**248**	P			**Pn**	**15 51 03.4**	**+2.4**
	comp=Z,28nm,0.9s								
IMP	**Imphal**	**12.83**	**7**	*ex*			**Pn**	**15 51 10.5**	**+2.1**
BOK	**Bokaro**	**13.14**	**334**	*e*	P		**Pn**	**15 51 12.0**	**-0.6**
BOK					IAmb		IAmb	15 51 13.7	
	comp=Z,33nm,0.5s								
UBPT	**Khong Chiam**	**13.29**	**74**	Pn			**Pn**	**15 51 12.4**	**-2.2**
SALM	**Salem**	**13.71**	**270**	*e*	P		**Pn**	**15 51 23.0**	**+2.6**
SALM				*ex*			**Sn**	**15 53 47.7**	**-4.3**
KOHI	**KOHIMA**	**13.73**	**7**	*e*	P		**Pn**	**15 51 20.6**	**-0.1**
DHUB	**DHUBRI**	**14.06**	**352**	*ex*			**P**	**15 51 31.5**	**-1.2**
TNCH	**TengChong**	**14.24**	**24**		P		**Pn**	**15 51 26.6**	**-1.1**
TNCH					pP		P	15 51 36.8	+2.0
TNCH					PP		**PnPn**	**15 51 38.8**	**+2.9**
TNCH					sP			15 51 43.6	
TNCH					S		**Sn**	**15 54 05.3**	**+0.4**
TNCH					SS		**S**	**15 54 21.8**	**-3.3**
TNCH					pmax		pmax		
	comp=Z,10.0nm,1.0s								
TNCH					pmax		pmax		
	comp=Z,140nm,9.7s								
TNCH					LR		LR		
	comp=N,140nm,4.3s								
TNCH					LR		LR		
	comp=E,180nm,5.5s								
TNCH					LR		LR		
	comp=Z,170nm,12.4s								
HYB	**Hyderabad**	**14.24**	**294**	*e*	P		**Pn**	**15 51 29.6**	**+1.9**
TEZP	**TEZPUR**	**14.51**	**2**	*e*	P		**Pn**	**15 51 31.1**	**-0.2**
KMI	**Kunming**	**16.39**	**36**	⇓	P		**P**	**15 51 59.1**	**+0.3**
KMI					pP		pP	15 52 05.0	-1.0
KMI					pmax		pmax		
	comp=Z,25nm,0.9s								
PZH	**PanZhiHua**	**16.96**	**31**		P		**Pn**	**15 52 03.0**	**-0.2**
PZH					S		**Sn**	**15 55 10.6**	**-0.5**
PZH					pmax		pmax		
	comp=Z,30nm,1.3s								
PZH					pmax		pmax		
	comp=Z,150nm,6.3s								
PZH					LR		LR		
	comp=N,1μm,17.2s								
PZH					LR		LR		
	comp=E,1μm,17.5s								
PZH					LR		LR		
	comp=Z,2μm,18.4s								
LSA	**Lhasa**	**17.60**	**357**	Pn			**Pn**	**15 52 09.9**	**-1.6**
GYA	**Guiyang**	**19.77**	**41**	⇑	*i*P		**P**	**15 52 34.5**	**-1.4**
GYA					S		**S**	**15 56 12.5**	**-5.1**
GYA					pmax		pmax		
	comp=Z,11nm,0.8s								
GYA					pmax		pmax		
	comp=Z,280nm,5.7s								
GYA					LR		LR		
	comp=N,2μm,22.4s								
GYA					LR		LR		
	comp=E,3μm,17.5s								
GYA					LR		LR		
	comp=Z,5μm,17.7s								
LGTI	**Lohaghat**	**20.59**	**329**	*e*	P		Pn	15 52 47.9	+0.9
KSM	**Kuching**	**20.80**	**119**		P		**P**	**15 52 46.0**	**-1.0**
KSM					IAmb		IAmb	15 53 15.7	
	comp=Z,24nm,0.9s								
KSM	**Kuching**	**20.80**	**119**		P		**P**	**15 52 44.4**	**-2.6**
CD2	**Chengdu**	**21.61**	**28**		P		**P**	**15 52 54.1**	**-1.6**
CD2					pP		pP	15 53 03.1	+0.1
CD2					sP		sP	15 53 07.5	+1.1
CD2					S		**S**	**15 56 51.3**	**-2.5**
CD2					sS		sS	15 57 06.5	+1.0
CD2					pmax		pmax		
	comp=Z,20nm,0.9s								
CD2					LR		LR		
	comp=N,2μm,18.0s								
CD2					LR		LR		
	comp=E,2μm,17.1s								
CD2					LR		LR		
	comp=Z,3μm,16.7s								
AJM	**Ajmer**	**21.89**	**314**	*e*	P		**P**	**15 53 01.0**	**+2.3**
SMLA	**Simla**	**23.54**	**326**	*e*	P		**P**	**15 53 17.6**	**+1.8**
SMLA					IAmb		IAmb	15 53 20.0	
	comp=Z,13nm,0.8s								
ENH	**Enshi**	**24.21**	**39**	P			**P**	**15 53 19.0**	**-3.2**
DHRM	**DHARAMSHALA**	**24.87**	**326**	*e*	P		**P**	**15 53 29.8**	**+1.4**
DHRM					IAmb		IAmb	15 53 31.7	
	comp=Z,15nm,0.5s								
LZH	**Lanzhou**	**26.15**	**22**	*e*	P		**P**	**15 53 40.4**	**+0.5**
LZH					pP		pP	15 53 48.4	+0.7
LZH					sP		sP	15 53 55.4	+4.5
LZH					pmax		pmax		
	comp=Z,15nm,1.0s								
LZH					LR		LR		
	comp=N,3μm,15.5s								
LZH					LR		LR		
	comp=E,2μm,18.9s								
LZH					LR		LR		
	comp=Z,3μm,16.1s								
NIL	**Nilore**	**27.61**	**324**		P		**P**	**15 53 53.7**	**+0.7**
NIL					IAmb		IAmb	15 53 55.0	
	comp=Z,15nm,0.8s								
H08S3	**Diego Garcia H**	**27.68**	**226**		T		T	16 22 53.0	
	baz=45,slow=76,SNR=160								
H08S2	**Diego Garcia H**	**27.69**	**226**		T		T	16 22 53.4	
	baz=45,slow=76,SNR=343								
H08S1	**Diego Garcia H**	**27.70**	**226**		T		T	16 22 54.5	
	baz=45,slow=76,SNR=272								
GTA	**Gaotai**	**28.09**	**13**	*e*	P		**P**	**15 53 58.3**	**+1.1**
GTA					pP		pP	15 54 03.0	-1.9
GTA					pmax		pmax		
	comp=Z,3.0nm,1.4s								
KSH	**Kashi**	**30.92**	**335**		P		**P**	**15 54 22.3**	**0.0**
KSH					sP		sP	15 54 36.1	+2.6
KSH					pmax		pmax		
	comp=Z,8.0nm,0.8s								
KSH					LR		LR		
	comp=N,260nm,16.8s								
KSH					LR		LR		
	comp=E,610nm,17.6s								
NJ2	**Nanjing**	**31.58**	**47**	*e*	P		**P**	**15 54 28.9**	**+0.8**
NJ2					pP		**pP**	**15 54 37.5**	**+1.5**
NJ2					pmax		pmax		
	comp=Z,8.0nm,0.5s								
WMQ	**Urumqi**	**31.91**	**354**	*e*	P		**P**	**15 54 33.6**	**+2.7**
BTO	**Baotou**	**32.49**	**26**	*e*	P		P	15 54 42.3	+6.2
BTO					pP		sP	15 54 54.3	+7.1
BTO					sP		pP	15 54 59.6	+16
BTO					PP		**PP**	**15 55 51.9**	**+2.1**
BTO					S		S	16 00 00.0	+10
BTO					sS		sS	16 00 19.3	+17
BTO					SS		**SnSn**	**16 01 53.8**	**+10**
BTO					pmax		pmax		
	comp=Z,29nm,0.9s								
BTO					pmax		pmax		
	comp=Z,170nm,3.5s								
BTO					LR		LR		
	comp=N,4μm,22.0s								
BTO					LR		LR		
	comp=E,4μm,21.7s								
BTO					LR		LR		
	comp=Z,3μm,22.2s								
HHC	**Hu-ho-hao-te**	**33.36**	**27**	*e*	P		**P**	**15 54 43.8**	**0.0**
HHC					pmax		pmax		
	comp=Z,37nm,0.6s								
HHC					pmax		pmax		
	comp=Z,200nm,5.4s								
SIMJ	**Simiganj**	**33.60**	**326**		P		**P**	**15 54 46.3**	**+0.4**
SIMJ					IAmb		IAmb	15 54 47.4	
	comp=Z,11nm,0.8s								
AAK	**Ala-Archa**	**34.15**	**336**		P		**P**	**15 54 52.1**	**+1.5**
BJT	**Baijiatuau**	**34.99**	**33**		IAmb		IAmb	15 55 15.6	
	comp=Z,22nm,1.1s								
MK31	**Makanchi Array**	**35.64**	**348**		P		**P**	**15 55 03.0**	**-0.2**
MK31					IAmb		IAmb	15 55 11.9	
	comp=Z,13nm,1.3s								
MKAR	**Makanchi Array**	**35.64**	**348**		P		**P**	**15 55 03.4**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=168,slow=7.9,SNR=35								
	comp=Z,4.4nm,0.8s								
MAKZ	**Makanchi**	**35.72**	**348**		P		**P**	**15 55 03.9**	**-0.1**
KK31	**Karatay Array**	**36.21**	**333**		P		**P**	**15 55 08.6**	**+0.3**
KK31					IAmb		IAmb	15 55 17.1	
	comp=Z,7.2nm,1.1s								
SONM	**Songino Array**	**37.61**	**16**		P		**P**	**15 55 19.9**	**-0.3**
SONM	**Songino Array**	**37.61**	**16**		P		**P**	**15 55 19.4**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=199,slow=7.3,SNR=18								
	comp=Z,2.8nm,0.9s								
ULN	**Ulaanbaatar**	**37.82**	**16**		P		**P**	**15 55 20.7**	**-1.3**
XLT	**XiLinHaoTe**	**37.83**	**28**	*e*	P		**P**	**15 55 25.4**	**+3.4**
XLT					pP		sP	15 55 36.6	+3.5
XLT					sP		pP	15 55 41.9	+12
XLT					PP		**PnPn**	**15 56 53.8**	**+3.8**
XLT					pmax		pmax		
	comp=Z,6.0nm,1.1s								
XLT					pmax		pmax		
	comp=Z,78nm,3.7s								
XLT					LR		LR		
	comp=N,72nm,14.9s								
XLT					LR		LR		
	comp=E,600nm,16.2s								
XLT					LR		LR		
	comp=Z,860nm,18.3s								
GEYT	**Alibeck**	**39.87**	**316**		P		**P**	**15 55 40.9**	**+1.8**
GEYT					IAmb		IAmb	15 55 42.7	
	comp=Z,15nm,0.8s								
GEYT	**Alibeck**	**39.87**	**316**		P		**P**	**15 55 39.7**	**+0.5**
	comp=Z,12nm,0.7s,baz=132,slow=10,SNR=26								
	comp=Z,12nm,0.7s								
GYA0B	**ALIBECK ARRAY**	**39.87**	**316**		P		**P**	**15 55 40.8**	**+1.7**
GYA0B					IAmb		IAmb	15 55 42.6	
	comp=Z,15nm,0.8s								
KURBB	**Kurchatov Arra**	**40.07**	**346**		P		**P**	**15 55 40.4**	**-0.2**
	comp=Z,6.3nm,1.0s,baz=163,slow=7.6,SNR=5.6								
	comp=Z,6.3nm,1.0s								
KURK	**Kurchatov**	**40.14**	**347**		P		**P**	**15 55 40.6**	**-0.5**
KURK					IAmb		IAmb	15 55 49.4	
	comp=Z,9.7nm,0.9s								
KSRS	**Korea Array**	**40.75**	**45**		P		**P**	**15 55 44.6**	**-1.7**
	comp=Z,3.7nm,0.6s,baz=237,slow=8.4,SNR=17								
	comp=Z,3.7nm,0.6s								
ZALV	**Zalesovo Beam**	**42.22**	**354**		P		**P**	**15 55 56.5**	**-1.7**
ZALV	**Zalesovo Beam**	**42.22**	**354**		P		**P**	**15 55 58.0**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=174,slow=9.1,SNR=17								
	comp=Z,5.2nm,0.7s								
PSA00	**Pilbara Seismi**	**43.04**	**141**		P		**P**	**15 56 03.3**	**-2.0**
BVAR	**Borovoye Array**	**44.46**	**341**		P		**P**	**15 56 16.5**	**+0.2**
	comp=Z,8.5nm,1.0s,baz=147,slow=7.0,SNR=16								
	comp=Z,8.5nm,1.0s								
BRVK	**Borovoye**	**44.52**	**341**		P		**P**	**15 56 17.0**	**+0.2**
MDJ	**Mudanjiang**	**45.56**	**37**		P		**P**	**15 56 25.6**	**+0.4**
MDJ					pmax		pmax		
	comp=Z,14nm,1.3s								
MDJ					pmax		pmax		
	comp=Z,330nm,4.1s								
ABKAR	**Akbulak array**	**45.69**	**331**		P		**P**	**15 56 26.9**	**+0.8**
ABKAR	**Akbulak array**	**45.69**	**331**		IAmb		IAmb	15 56 34.6	
	comp=Z,6.1nm,0.8s								
MJAR	**Matsushiro Arr**	**47.93**	**51**		P		**P**	**15 56 43.0**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=268,slow=7.8,SNR=1.6								
	comp=Z,1.3nm,0.8s								
GNI	**Garni**	**50.20**	**313**		P		**P**	**15 57 03.5**	**+2.0**
WRA	**Warramunga Arr**	**52.25**	**127**		P		**P**	**15 57 15.2**	**-1.7**
	comp=Z,9.1nm,0.7s,baz=306,slow=8.3,SNR=6.4								
	comp=Z,9.1nm,0.7s								
KBZ	**Khabaz**	**52.76**	**316**		P		**P**	**15 57 21.1**	**+0.8**
	comp=Z,4.5nm,0.9s,baz=126,slow=6.8,SNR=6.3								
	comp=Z,4.5nm,0.9s								
KIV	**Kislovodsk**	**52.98**	**317**		P		**P**	**15 57 24.0**	**+1.9**
YAK	**Yakutsk**	**56.72**	**20**		P		**P**	**15 57 47.0**	**-1.6**
NRIK	**Noril'sk**	**57.33**	**358**		P		**P**	**15 57 52.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=178,slow=6.3,SNR=2.1								
	comp=Z,1.2nm,0.5s								
BR131	**Keskin Array S**	**58.30**	**309**		P		**P**	**15 58 00.5**	**0.0**
BR131					IAmb		IAmb	15 58 01.7	
	comp=Z,4.8nm,0.8s								
BRTR	**Keskin Array B**	**58.30**	**309**		P		**P**	**15 58 00.3**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=117,slow=8.1,SNR=18								
	comp=Z,3.4nm,0.7s								
TIXI	**Tiksi**	**63.57**	**12**		P		**P**	**15 58 34.7**	**-0.8**
AKASG	**Malin Array Be**	**63.73**	**321**		P		**P**	**15 58 36.6**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=87,slow=5.2,SNR=9.5								
	comp=Z,1.6nm,0.8s								
VRI	**Vrincioaia**	**64.41**	**315**	⇓	P		**P**	**15 58 44.0**	**+2.5**
PLOR	**Plostina**	**64.46**	**315**	⇑	P		**P**	**15 58 43.8**	**+1.9**
MLR	**Muntele Rosu**	**64.89**	**315**	⇑	P		**P**	**15 58 46.8**	**+2.0**
MLR	**Muntele Rosu**	**64.89**	**315**		P		**P**	**15 58 46.3**	**+1.4**
TURR	**Turia**	**64.93**	**315**	⇓	P		**P**	**15 58 46.5**	**+1.5**
VOIR		**65.51**	**315**	⇑	P		**P**	**15 58 46.6**	**-2.2**
BURAR	**Bucovina Array**	**65.71**	**317**	⇑	P		**P**	**15 58 51.9**	**+1.9**
ARR	**Arges**	**65.79**	**314**	⇓	P		**P**	**15 58 51.2**	**+0.7**
BLKB	**Belogradchik**	**66.99**	**312**	⇑	P		**P**	**15 58 56.1**	**-2.2**
MARR	**Marisel-Cluj**	**67.00**	**316**	⇑	P		**P**	**15 58 59.9**	**+1.5**
HERR	**Herculane**	**67.29**	**314**	⇑	P		**P**	**15 59 01.3**	**+1.2**
SURR	**Surduc**	**67.58**	**315**	⇑	P		**P**	**15 59 03.5**	**+1.6**
SIRR	**Siria**	**67.96**	**315**	⇓	P		**P**	**15 59 05.8**	**+1.5**
FINES	**FINESS Array B**	**68.16**	**332**		P		**P**	**15 59 05.7**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=107,slow=6.2,SNR=12								
	comp=Z,3.7nm,0.7s								
H04N2	**CROZET ISLANDS**	**68.36**	**209**		T		T	17 13 47.1	
	baz=43,slow=75,SNR=101								
H04N1	**CROZET ISLANDS**	**68.37**	**209**		T		T	17 13 47.8	
	baz=43,slow=75,SNR=67								
CRVS	**Cervenica-Dubn**	**68.37**	**318**	*e*	P		**P**	**15 59 09.4**

H04N3	**CROZET ISLANDS**	**68.38**	**209**	T		T		17 13 46.5	
	baz=43,slow=75,SNR=83								
MORH	**Mrgy, Hungar**	**70.04**	**315**	⇓P		**P**		**15 59 18.0**	**+0.8**
VYHS	**Vyhne**	**70.06**	**317**	*e*P		**P**		**15 59 18.4**	**+1.1**
ARCES	**ARCESS Array B**	**70.72**	**340**	P		**P**		**15 59 20.8**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=79,slow=6.3,SNR=11								
	comp=Z,2.5nm,0.6s								
JAVC	**Velka Javorina**	**70.86**	**318**	*e*P		**P**		**15 59 24.0**	**+1.8**
MORC	**Moravsky Berou**	**71.00**	**319**	⇑P		**P**		**15 59 23.3**	**+0.2**
MORC	**Moravsky Berou**	**71.00**	**319**	P		**P**		**15 59 24.0**	**+0.9**
MORC				IAmb		IAmb		15 59 25.9	
	comp=Z,9.0nm,1.2s								
MORC	**Moravsky Berou**	**71.00**	**319**	*e*P		**P**		**15 59 24.4**	**+1.3**
KRLC	**Kraliky**	**71.51**	**319**	*e*P		**P**		**15 59 27.3**	**+1.2**
DPC	**Dobruska-Polom**	**71.82**	**319**	*e*P		**P**		**15 59 25.7**	**-2.3**
SOKA	**Soboth**	**72.55**	**315**	*e*P		**P**		**15 59 33.6**	**+1.1**
	comp=Z,4.9nm,1.0s								
PRU	**Pruhonice**	**72.95**	**319**	*e*P		**P**		**15 59 34.7**	**0.0**
MOA	**Molln**	**73.09**	**316**	*e*P		**P**		**15 59 36.3**	**+0.7**
	comp=Z,4.0nm,1.0s								
GEC2	**GERESS Array S**	**73.48**	**318**	IAmb		IAmb		15 59 46.7	
	comp=Z,6.2nm,1.0s								
GERES	**GERESS Array B**	**73.48**	**318**	P		**P**		**15 59 39.1**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=65,slow=6.3,SNR=12								
	comp=Z,3.4nm,0.8s								
KHC	**Kasperske Hory**	**73.56**	**318**	*e*P		**P**		**15 59 38.5**	**+0.1**
PRED	**Cave del Predi**	**73.56**	**315**	IAmb		IAmb		15 59 40.1	
	comp=Z,6.2nm,0.8s								
KBA	**Koelnbreinsper**	**73.71**	**316**	*i* P		**P**		**15 59 39.5**	**0.0**
	comp=Z,5.8nm,1.2s								
HFS	**Hagfors**	**73.92**	**329**	P		**P**		**15 59 40.3**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=122,slow=5.4,SNR=24								
	comp=Z,5.5nm,0.7s								
CLL	**Collm**	**73.96**	**320**	*e*P		**P**		**15 59 42.0**	**+1.4**
CLL				*e*PP		**PP**		**16 02 23.0**	**-2.6**
LESA	**Schwarzleotal**	**74.16**	**316**	*e*P		**P**		**15 59 41.9**	**-0.1**
	comp=Z,5.8nm,1.1s								
CIMO	**Cimolais**	**74.34**	**315**	IAmb		IAmb		15 59 44.6	
	comp=Z,8.4nm,0.8s								
WTTA	**Wattenberg**	**74.87**	**316**	*i* P		**P**		**15 59 46.5**	**+0.3**
	comp=Z,1.1nm,0.4s								
CTI	**Castel Tesino**	**74.90**	**315**	P		**P**		**15 59 46.8**	**+0.4**
CTI				IAmb		IAmb		15 59 48.1	
	comp=Z,8.4nm,1.0s								
WATA	**Walderalm**	**74.91**	**316**	*e*P		**P**		**15 59 46.6**	**+0.1**
	comp=Z,0.9nm,0.5s								
SQTA	**Sankt Quirin**	**75.17**	**316**	*e*P		**P**		**15 59 47.8**	**0.0**
	comp=Z,2.5nm,0.5s								
NB2	**NORSAR Subarra**	**75.19**	**330**	P		**P**		**15 59 47.8**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=91,slow=5.9								
NOA	**NORSAR Array B**	**75.19**	**330**	P		**P**		**15 59 47.6**	**0.0**
	comp=Z,3.5nm,0.8s,baz=93,slow=5.6,SNR=6.8								
	comp=Z,3.5nm,0.8s								
MOTA	**Moosalm**	**75.23**	**316**	*e*P		**P**		**15 59 47.9**	**-0.4**
	comp=Z,2.4nm,0.6s								
SPITS	**Spitsbergen Ar**	**75.39**	**348**	P		**P**		**15 59 48.5**	**0.0**
	comp=Z,8.4nm,0.8s,baz=93,slow=15,SNR=2.2								
	comp=Z,8.4nm,0.8s								
FETA	**Feichten**	**75.50**	**316**	*e*P		**P**		**15 59 49.8**	**-0.1**
	comp=Z,2.0nm,0.9s								
DAVA	**Damuels**	**76.07**	**316**	*e*P		**P**		**15 59 53.5**	**+0.4**
	comp=Z,1.1nm,0.3s								
BOSA	**Boshof**	**76.23**	**236**	P		**P**		**15 59 55.8**	**+1.6**
	comp=Z,3.8nm,0.9s,baz=39,slow=5.6,SNR=4.7								
	comp=Z,3.8nm,0.9s								
KEST	**Kesra**	**77.32**	**304**	P		**P**		**16 00 00.4**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=237,slow=6.1,SNR=5.2								
	comp=Z,4.3nm,0.8s								
EKA	**Eskdalemuir Ar**	**83.23**	**325**	P		**P**		**16 00 31.4**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=97,slow=5.8,SNR=5.2								
	comp=Z,1.5nm,0.6s								
C18K	**Utukok River**	**84.81**	**21**	IAmb		IAmb		16 00 47.4	
	comp=Z,6.8nm,0.8s								
ESDC	**Sonseca Array**	**87.10**	**310**	P		**P**		**16 00 52.1**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=56,slow=4.7,SNR=7.2								
	comp=Z,0.8nm,0.6s								
TORD	**Torodi Ar. Bea**	**87.80**	**283**	IAmb		IAmb		16 00 57.9	
	comp=Z,3.0nm,1.0s								
TORD	**Torodi Ar. Bea**	**87.80**	**283**	P		**P**		**16 00 55.6**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=65,slow=4.3,SNR=10								
	comp=Z,2.3nm,0.9s								
CAST	**Castle Rocks**	**90.34**	**24**	P		**P**		**16 01 06.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**90.44**	**23**	P		**P**		**16 01 06.9**	**+0.3**
IL31		**91.61**	**22**	P		**P**		**16 01 11.4**	**-0.5**
IL31				IAmb		IAmb		16 01 33.2	
	comp=Z,10nm,1.4s								
ILAR	**Eielson Array**	**91.61**	**22**	P		**P**		**16 01 11.8**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=286,slow=4.6,SNR=14								
	comp=Z,1.3nm,0.7s								
PDAR	**Pinedale Array**	**121.93**	**19**	PKP		**PKiKP**		**16 07 02.2**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=354,slow=1.8,SNR=3.7								
NVAR	**Mina Array Bea**	**122.26**	**28**	PKP		**PKiKP**		**16 07 01.6**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=268,slow=2.4,SNR=1.6								
TXAR	**Lajitas Array**	**136.11**	**20**	PKP		**PKiKP**		**16 07 28.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=180,slow=0.3,SNR=3.0								
TXAR				SKPbc		**SKPbc**		**16 10 59.7**	**+2.1**
	comp=Z,0.5nm,0.9s,baz=58,slow=2.4,SNR=2.5								
PLCA	**Paso Flores**	**147.64**	**205**	PKPbc		**PKPbc**		**16 07 50.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=243,slow=1.7,SNR=3.2								

BJI ***14*** *15:49:20.4±0.0, 13°.09N×120°.74E, h34km, mb4.6/56, mB5.1/35, Ms4.9/55, Ms7 4.8/55*

MAN ***14*** *15:49:21.7, 13°.28N×120°.23E, h5km, mb5.8, ML4.8, MS5.2*

DJA ***14*** *15:49:24.9±0.3, 13°.N±2°×12°.0E±°, h47km±4km, M5.0/55, mB5.5/25, mb5.0/55, Mw(mB)5.0/25, MwMwp6.5/2, Mwp6.4/2*

MOS ***14*** *15:49:26.0±0.9, 13°.44N×120°.55E, h64km, mb5.2/54, Error ellipse: s-maj=9.7km s-min=4.3km az=120.5*

NEIC ***14*** *15:49:27.1±2.1, 13°.46N±0°.07×120°.51E±0°.09, h55km±6km, mb5.1/96, Error ellipse: s-maj=12.2km s-min=9.2km az=110.0*

GCMT ***14*** *15:49:27.1±0.4, 13°.26N±0°.03×120°.33E±0°.03, h29km±1km, MW5.3/67, Moment Tensor Solution. s15,c17; s67,c89; Duration: 1½2 Moment tensor: Scale 10¹⁷Nm; Mrr1.10±.14; Mθθ-0.30±.07; Mφφ-0.80±.08; Mrθ0.55±.11; Mθφ0.48±.03; Mrφ-0.56±.10; Best double couple: M₀1.35100×10¹⁷ NP1:φs141.00000°, δ63.00000°, λ83.00000°. NP2:φs336.00000°, δ28.00000°, λ103.00000°. Principal axes: T 1.3620, Plg71.0000°, Azm36.0000°; N -0.0250, Plg6.0000°, Azm144.0000°; P -1.3410, Plg18.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***14*** *15:49:28.3±0.9, 13°.44N×120°.56E, h70km±8km, mb4.3/26, mbtmp4.6/28, MS4.5/56 Error ellipse: s-maj=19.2km s-min=10.2km az=72.0*

ISC 14 15:49:26.2±0.3, 13°.30N±0°.02×120°.32E±0°.03, h47km±3km, h48km:pP-P, n583, σ1s78/578, mb5.0/167, MS4.6/77, 63C-44D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.64**	**72**	⇓*i*P			**Pn**	**15 49 36.0**	**-3.1**
PGP				*e*S			Sn	15 49 38.9	-10
TGY	**Tagaytay City**	**1.00**	**37**	P			**Pn**	**15 49 43.1**	**-0.8**
	95µm,0.7s,baz=230,slow=5.1,SNR=522								
TGY				S			**Sn**	**15 49 56.9**	**+0.1**
	130µm,0.5s,baz=180,slow=20,SNR=14								
TGY				LR			LR	15 49 58.3	
	comp=Z,13µm,18.7s,baz=224,slow=40								
TGY	**Tagaytay City**	**1.00**	**37**	⇓*e*P			**Pn**	**15 49 42.5**	**-1.4**
TGY				*e*S			**Sn**	**15 49 58.8**	**+2.0**
MACP	**Maragondon, Ca**	**1.03**	**22**	⇓*e*P			**Pn**	**15 49 41.9**	**-2.4**
MACP				*e*S			**Sn**	**15 49 56.4**	**-1.2**
LBLP	**Los Banos, Lag**	**1.22**	**45**	⇓*e*P			**Pn**	**15 49 45.3**	**-1.6**
LBLP				*e*S			**Sn**	**15 50 03.8**	**+1.6**
LQP	**Lukban**	**1.43**	**55**	⇓*i*P			**Pn**	**15 49 48.8**	**-1.0**
LQP				*i* S			**Sn**	**15 50 06.6**	**-1.0**
ABPP	**Abucay Bataan**	**1.44**	**5**	⇓*e*P			**Pn**	**15 49 48.3**	**-1.5**
ABPP				*e*S			**Sn**	**15 50 08.7**	**+1.1**
RTBP	**Dona Remedios**	**1.81**	**23**	⇓*e*P			**Pn**	**15 49 53.0**	**-2.0**
RTBP				*e*S			**Sn**	**15 50 17.5**	**+0.8**
IBZP	**Iba, Zambales**	**2.11**	**352**	⇓*e*P			**Pn**	**15 49 56.8**	**-2.1**
IBZP				*e*S			**Sn**	**15 50 20.2**	**-3.8**
POLP	**Polilio Island**	**2.12**	**48**	⇓*e*P			**Pn**	**15 49 58.3**	**-0.8**
POLP				*e*S			**Sn**	**15 50 25.7**	**+1.5**
GQP	**Guinayangan**	**2.15**	**73**	⇑*i*P			**Pn**	**15 50 00.1**	**+0.6**
GQP				*e*S			**Sn**	**15 50 25.6**	**+0.6**
ENPP	**El Nido**	**2.26**	**203**	⇓*e*P			**Pn**	**15 49 59.7**	**-1.4**
ENPP				*e*S			**Sn**	**15 50 26.6**	**-1.1**
IBAJ	**Ibajay, Aklan**	**2.33**	**129**	⇑*e*P			**Pn**	**15 50 01.7**	**-0.3**
IBAJ				*e*S			Sn	15 50 40.1	+11
JCNP	**Jose Panganiba**	**2.51**	**67**	⇓*e*P			**Pn**	**15 50 04.3**	**-0.2**
JCNP				*e*S			**Sn**	**15 50 34.4**	**+0.5**
SMPP	**San Manuel, Pa**	**2.86**	**7**	⇑*e*P			**Pn**	**15 50 08.8**	**-0.5**
SMPP				*e*S			**Sn**	**15 50 44.3**	**+1.8**
RCP	**Roxas**	**2.93**	**126**	⇑*e*P			**Pn**	**15 50 10.0**	**-0.2**
RCP				*i* S			Sn	15 50 53.5	+9.3
JAP	**San Jose, Anti**	**2.99**	**148**	⇑*e*P			**Pn**	**15 50 11.0**	**-0.1**
BOLP	**Bolinao**	**3.09**	**353**	⇑*e*P			**Pn**	**15 50 11.5**	**-1.0**
BOLP				*e*S			**Sn**	**15 50 50.6**	**+2.5**
SCSP	**San Jose Seism**	**3.13**	**83**	⇓*e*P			**Pn**	**15 50 13.6**	**+0.6**
SCSP				*e*S			Sn	15 51 01.2	+12
CAAP	**Casiguran, Aur**	**3.33**	**30**	⇑*e*P			**Pn**	**15 50 14.8**	**-1.0**
CAAP				*e*S			**Sn**	**15 51 01.6**	**+7.5**
PVCP	**Virac**	**3.74**	**85**	⇑*e*P			**Pn**	**15 50 22.4**	**+1.0**
PVCP				*e*S			**Sn**	**15 51 09.2**	**+5.1**
CADP	**Cadiz City**	**3.74**	**129**	⇑*e*P			**Pn**	**15 50 22.5**	**+1.0**
CADP				*e*S			Sn	15 51 13.7	+9.4
SAMP	**Sagada Mountai**	**3.80**	**8**	⇓*e*P			**Pn**	**15 50 22.5**	**+0.3**
SAMP				*e*S			**Sn**	**15 51 09.8**	**+4.1**
PPR	**Puerto Princes**	**3.83**	**204**	⇑*e*P			**Pn**	**15 50 22.6**	**-0.1**
PPR				*e*S			**Sn**	**15 51 07.1**	**+0.6**
CAUP	**Cauayan**	**3.90**	**22**	⇓*e*P			**Pn**	**15 50 24.4**	**+0.8**
CAUP				*e*S			**Sn**	**15 51 11.6**	**+3.4**
CNOP	**Candoni, Negro**	**4.13**	**146**	⇑*e*P			**Pn**	**15 50 26.0**	**-0.7**
CNOP				*e*S			**Sn**	**15 51 13.8**	**0.0**
CNOP	**Candoni, Negro**	**4.13**	**146**	⇑*i*P			**Pn**	**15 50 26.2**	**-0.6**
CNOP				*i* S			Sn	15 51 47.0	+33
MECP	**Medelin, Cebu**	**4.15**	**120**	⇑*e*P			**Pn**	**15 50 28.8**	**+1.8**
MECP				*e*S			Sn	15 51 27.5	+13
GNOP	**Guihulngan Cit**	**4.19**	**137**	⇑*e*P			**Pn**	**15 50 28.9**	**+1.2**
GNOP				*e*S			**Sn**	**15 51 18.8**	**+3.4**
PALP	**Palanan**	**4.26**	**28**	⇓*e*P			**Pn**	**15 50 28.7**	**+0.2**
PALP				*e*S			Sn	15 51 26.7	+10
ABRA	**Dolores**	**4.34**	**5**	⇑*e*P			**Pn**	**15 50 29.5**	**-0.1**
ABRA				*e*S			**Sn**	**15 51 27.1**	**+8.1**
SIPP	**Brgy, Tapao**	**4.60**	**2**	⇑*e*P			Pn	15 50 39.1	+5.9
SIPP				*e*S			Sn	15 51 38.0	+13
LLP	**Lapu-Lapu**	**4.64**	**129**	*e*P			**Pn**	**15 50 37.5**	**+3.8**
LLP				*e*S			Sn	15 51 38.2	+12
DACP	**Dalaguete, Ceb**	**4.70**	**138**	⇑*e*P			**Pn**	**15 50 36.1**	**+1.4**
DACP				*e*S			**Sn**	**15 51 29.7**	**+1.7**
SFCP	**San Francisco,**	**4.75**	**123**	⇓*e*P			**Pn**	**15 50 36.8**	**+1.5**
SFCP				*e*S			**Sn**	**15 51 36.2**	**+7.1**
SNPH	**Sibulan**	**4.86**	**144**	⇓*e*P			**Pn**	**15 50 37.8**	**+0.9**
SNPH				*e*S			**Sn**	**15 51 33.3**	**+1.4**
TBP	**Tagbilaran**	**4.99**	**136**	*e*P			**Pn**	**15 50 38.9**	**+0.4**
PIP	**Pasuquin**	**5.00**	**3**	⇑*e*P			**Pn**	**15 50 40.2**	**+1.4**
PIP				*e*S			**Sn**	**15 51 40.6**	**+5.2**
BATP	**Bataraza**	**5.11**	**209**	⇑*e*P			Pn	15 50 48.0	+7.7
BATP				*e*S			**Sn**	**15 51 35.4**	**-2.6**
SGCP	**Gonzaga**	**5.19**	**18**	⇓*e*P			**Pn**	**15 50 43.3**	**+2.0**
PACPP	**Pamplona Cagay**	**5.22**	**11**	⇑*e*P			**Pn**	**15 50 43.8**	**+2.0**
PACPP				*e*S			Sn	15 51 50.4	+10
LSIP	**Lazi, Siquijor**	**5.26**	**142**	⇑*e*P			**Pn**	**15 50 42.2**	**-0.1**
LSIP				*i* S			Sn	15 52 03.0	+21
LSIP	**Lazi, Siquijor**	**5.26**	**142**	⇑*e*P			**Pn**	**15 50 42.5**	**+0.2**
LSIP				*e*S			**Sn**	**15 51 42.7**	**+1.0**
BESP	**Borongan**	**5.27**	**108**	⇑*e*P			Pn	15 50 47.6	+5.1
GHBP	**Garcia Hernand**	**5.35**	**133**	⇓*e*P			**Pn**	**15 50 46.4**	**+2.8**
GHBP				*e*S			Sn	15 51 60.0	+16
GHBP	**Garcia Hernand**	**5.35**	**133**	⇑*e*P			**Pn**	**15 50 48.0**	**+4.5**
GHBP				*i* S			Sn	15 52 00.0	+16
MSLP	**Maasin**	**5.44**	**125**	⇑*e*P			**Pn**	**15 50 45.5**	**+0.7**
MSLP				*e*S			**Sn**	**15 51 54.3**	**+8.1**
MSLP	**Maasin**	**5.44**	**125**	⇓*i*P			**Pn**	**15 50 46.4**	**+1.6**
MSLP				*i* S			**Sn**	**15 51 47.0**	**+0.9**
DCPH	**Dipolog City**	**5.55**	**147**	⇑*e*P			**Pn**	**15 50 46.9**	**+0.7**
PAGZ	**Pagadian**	**6.20**	**151**	⇓*e*P			**Pn**	**15 50 56.7**	**+1.6**
PAGZ				*e*S			**Sn**	**15 52 07.2**	**+2.5**
BLNP	**Bacolod Lanao**	**6.28**	**144**	⇑*e*P			**Pn**	**15 50 55.3**	**-1.0**
ZCP	**Zamboanga City**	**6.56**	**165**	⇓*e*P			**Pn**	**15 51 00.1**	**0.0**
ZCP				*e*S			**Sn**	**15 52 12.6**	**-1.0**
GLSP	**General Luna,**	**6.67**	**121**	⇑*e*P			Pn	15 51 07.2	+5.5
GLSP				*e*S			**Sn**	**15 52 24.6**	**+8.1**
BUKP	**Musuan**	**7.12**	**139**	⇓*e*P			**Pn**	**15 51 10.0**	**+2.1**
BUKP	**Musuan**	**7.12**	**139**	⇑*e*P			**Pn**	**15 51 10.7**	**+2.9**
TASP	**Talacogon, Agu**	**7.22**	**131**	⇓*e*P			**Pn**	**15 51 12.1**	**+2.8**
TASP	**Talacogon, Agu**	**7.22**	**131**	⇓*e*P			**Pn**	**15 51 12.4**	**+3.1**
BBPB	**Basco Batanes**	**7.27**	**12**	⇓*e*P			**Pn**	**15 51 10.9**	**+1.1**
SKMP	**Bagumbayan, Su**	**7.92**	**148**	⇑*e*P			**Pn**	**15 51 20.4**	**+1.7**
DAV	**Davao City (W)**	**8.06**	**140**	LR			LR	15 55 08.1	
	comp=Z,6µm,20.2s,baz=318,slow=42								
CDOP	**Cateel, Davao**	**8.13**	**132**	⇓*e*P			Pn	15 51 28.2	+6.5
BTTP	**Bongao, Tawi-T**	**8.24**	**184**	⇓*e*P			**Pn**	**15 51 23.6**	**+0.4**
KKM	**Kota Kinabalu**	**8.27**	**210**	Pn			**Pn**	**15 51 25.5**	**+1.9**
KKM	**Kota Kinabalu**	**8.27**	**210**	P			Pn	15 51 34.5	+11
KKM	**Kota Kinabalu**	**8.27**	**210**	P			**Pn**	**15 51 25.6**	**+1.9**
	26nm,0.8s								
MATI	**Mati**	**8.60**	**137**	⇑*e*P			Pn	15 51 35.4	+7.3
DDMP	**Don Marcelino,**	**8.90**	**143**	⇓*e*P			**Pn**	**15 51 31.6**	**-0.6**
TWG	**Pinlang**	**9.50**	**4**				**Pn**	**15 51 36.0**	**-4.4**
TPUB	**Ta-pu**	**9.95**	**2**				Pn	15 51 41.1	-5.5
SSLB	**Suanglung**	**10.45**	**3**	Pn			**Pn**	**15 51 52.7**	**-0.8**
NACB	**Ninganchiao**	**10.88**	**6**	Pn			**Pn**	**15 51 55.9**	**-3.5**
QIZ	**Qiongzhong**	**11.57**	**301**	P			**Pn**	**15 52 09.6**	**+0.9**
QIZ				S			**Sn**	**15 54 19.8**	**+3.3**
QIZ				LR			LR		
	comp=N,890nm,12.5s								
QIZ				LR			LR		
	comp=E,2µm,16.8s								
QIZ				LR			LR		
	comp=Z,4µm,19.5s								
DLV	**T Lat**	**11.63**	**265**	Pn			**Pn**	**15 52 13.2**	**+3.4**
MRSI	**Marisa**	**12.84**	**173**	P			**Pn**	**15 52 28.0**	**+1.9**
	30nm,1.2s								
KMSI	**Cibinong**	**13.15**	**164**	P			**Pn**	**15 52 31.6**	**+1.2**
	165nm,1.3s								
SBUM	**Sibu**	**13.43**	**217**	Pn			**Pn**	**15 52 36.3**	**+2.0**
SBUM	**Sibu**	**13.43**	**217**	P			**P**	**15 52 38.7**	**-3.7**
	37nm,1.9s								
TNTI	**Ternate**	**14.27**	**150**	Pn			**Pn**	**15 52 44.5**	**-1.1**
TNTI	**Ternate**	**14.27**	**150**	P			**Pn**	**15 52 42.8**	**-2.8**
	55nm,0.8s,1µm								
LUWI	**Luwuk**	**14.45**	**170**	P			**Pn**	**15 52 50.5**	**+2.5**
	102nm,0.7s,2µm								
MTKI	**Muara Teweh, K**	**15.14**	**201**	P			**P**	**15 53 01.5**	**+0.1**
	55nm,1.5s,3µm								
JOW	**Kunigami**	**15.39**	**28**	P			**Pn**	**15 52 57.9**	**-2.3**
	18nm,0.8s,baz=180,slow=3.0,SNR=2.2								
JOW				LR			LR	15 59 26.7	
	comp=Z,1µm,18.6s,baz=152,slow=40								
LBMI	**Labuha**	**15.57**	**152**	P			**Pn**	**15 53 02.7**	**+0.1**
	139nm,1.1s,3µm								
STKI	**Sintang**	**15.80**	**214**	P			**Pn**	**15 53 06.0**	**+0.4**
	56nm,2.0s								
MMSI	**Mamuju**	**15.95**	**185**	P			**Pn**	**15 53 08.1**	**+0.6**
	33nm,1.0s,657nm								
TTSI	**Tana Toraja**	**16.25**	**182**	P			**Pn**	**15 53 11.2**	**-0.1**
	26nm,0.8s								
SANI	**Sanana**	**16.25**	**159**	P			**Pn**	**15 53 09.1**	**-2.2**
	82nm,1.0s,950nm								
CNSH	**ChangSha**	**16.33**	**336**	*e*P			**P**	**15 53 17.8**	**+3.2**
CNSH				S			**S**	**15 56 25.6**	**+2.4**
CNSH				LR			LR		
	comp=N,3µm,19.3s								
CNSH				LR			LR		
	comp=E,2µm,12.8s								
CNSH				LR			LR		
	comp=Z,3µm,19.5s								
NLAI	**Namlea**	**17.75**	**157**	P			**Pn**	**15 53 28.8**	**-1.2**
	23nm,0.8s								
SWI	**Sorong**	**17.76**	**142**	P			**P**	**15 53 32.0**	**+1.5**
SWI				pmax		pmax			
	comp=Z,64nm,0.8s								
SWI	**Sorong**	**17.76**	**142**	P			**Pn**	**15 53 27.7**	**-2.5**
	comp=Z,64nm,0.8s,comp=Z,2µm								
SIJI	**Sorong**	**17.77**	**142**	P			**Pn**	**15 53 29.3**	**-1.0**
	comp=Z,43nm,0.8s,comp=Z,2µm								
KAPI	**Kappang**	**18.20**	**182**	P			**Pn**	**15 53 37.0**	**+1.5**
	comp=Z,4.4nm,0.4s,baz=64,slow=16,SNR=1.9								
GYA	**Guiyang**	**18.32**	**318**	⇓P			**Pn**	**15 53 42.3**	**+5.3**
GYA				S			**S**	**15 57 12.1**	**+8.2**
GYA				pmax		pmax			
	comp=Z,13nm,0.8s								
GYA				pmax		pmax			
	comp=Z,640nm,4.9s								
GYA				LR		LR			
	comp=Z,2µm,22.4s								
GYA				LR		LR			
	comp=Z,3µm,17.5s								
GYA				LR		LR			
	comp=Z,5µm,17.7s								
KRAI	**Karang Ratu**	**18.35**	**154**	P		**P**		**15 53 36.7**	**-0.3**
	comp=Z,121nm,0.9s								
BKSI	**Bulukumba**	**18.50**	**181**	P		**Pn**		**15 53 39.8**	**+0.7**
	comp=Z,32nm,1.3s								
NJ2	**Nanjing**	**18.71**	**356**	*e*P		**Pn**		**15 53 42.9**	**+1.3**
NJ2				sP		**pP**		**15 53 51.0**	**-0.8**
NJ2				pmax		pmax			
	comp=Z,15nm,0.8s								
NJ2				pmax		pmax			
	comp=Z,250nm,3.7s								
NJ2				LR		LR			
	comp=Z,1µm,15.9s								
NJ2				LR		LR			
	comp=Z,1µm,12.6s								
NJ2				LR		LR			
	comp=Z,2µm,17.0s								
BBSI	**Bau Bau**	**18.80**	**173**	P		**Pn**		**15 53 43.0**	**+0.3**
	comp=Z,42nm,1.0s,comp=Z,854nm								
FAKI	**Fak Fak**	**19.99**	**143**						
FAKI				IAmb		IAmb		15 54 01.8	
	comp=Z,116nm,0.9s								
FAKI	**Fak Fak**	**19.99**	**143**	P		**P**		**15 53 55.6**	**+0.7**
FAKI	**Fak Fak**	**19.99**	**143**	P		**P**		**15 53 55.6**	**+0.7**
	comp=Z,150nm,0.9s,comp=Z,2µm								
SKLT	**Songkhla**	**20.32**	**254**	P		Pn		15 54 00.6	-0.2
	comp=Z,87nm,1.1s,comp=Z,3µm								
KMI	**Kunming**	**20.32**	**308**	⇑P		Pn		15 54 01.3	+0.3
KMI				pP		pwP		15 54 11.8	-1.2
KMI				S		Sn		15 57 53.5	+4.2
KMI				pmax		pmax			
	comp=Z,19nm,1.5s								
KMI				pmax		pmax			
	comp=Z,430nm,9.2s								
KMI				LR		LR			
	comp=Z,1µm,18.0s								
KMI				LR		LR			
	comp=Z,1µm,18.5s								
KMI				LR		LR			
	comp=Z,2µm,21.3s								
DSRI	**Dabo**	**20.76**	**230**	P		**P**		**15 54 03.8**	**+0.5**
	comp=Z,64nm,1.7s								
SRIT	**Nakonsritamara**	**20.87**	**259**	P		Pn		15 54 06.8	-0.6
KULM	**Kulim**	**20.97**	**250**	P		Pn		15 54 07.4	-1.2
KULM				IAmb		IAmb		15 54 22.5	
	comp=Z,133nm,1.7s								
KULM	**Kulim**	**20.97**	**250**	P		**P**		**15 54 05.0**	**-0.5**
	comp=Z,26nm,0.8s								
KMMI	**Kalianget**	**21.18**	**198**	P		**P**		**15 54 08.8**	**+1.1**
	comp=Z,84nm,2.0s								
CM31	**Chiang Mai Arr**	**21.19**	**287**	P		**P**		**15 54 09.5**	**+1.6**
**CMAR

comp=Z,248nm,1.2s,comp=Z,4µm
GUMO Guam 23.87 86 LR LR 16 03 49.3
comp=Z,2µm,19.0s,baz=250,slow=36
KCSI Kotacane, Aceh 24.31 248 P **P** **15 54 39.5 -0.1**
comp=Z,21nm,0.5s,comp=Z,2µm
LWLI Liwa 24.33 223 P **P** **15 54 41.1 +1.2**
comp=Z,205nm,0.9s
HNS HongShan 24.52 349 S **S** **15 58 50.3 -8.3**
HNS HongShan 24.52 349 LR LR
comp=Z,4µm,18.0s
HNS HongShan 24.52 349 LR LR
comp=E,940nm,17.1s
HNS HongShan 24.52 349 LR LR
comp=N,3µm,17.7s
HNS HongShan 24.52 349 pmax pmax
comp=Z,23nm,0.9s
HNS HongShan 24.52 349 ⇓P P 15 54 33.8 -7.4
JCJ Chichijima 24.63 53 LR LR 16 03 23.0
comp=Z,2µm,19.6s,baz=296,slow=34
KSRS Korea Array 24.99 14 P **P** **15 54 43.6 -1.9**
comp=Z,1.6nm,0.8s,baz=192,slow=10.0,SNR=4.7
KSRS LR LR 16 06 15.8
comp=Z,2µm,18.7s,baz=185,slow=41
comp=Z,1.6nm,0.8s
GENI Genyem 25.24 127 P **P** **15 54 46.8 -1.2**
comp=Z,234nm,0.8s,comp=Z,3µm
GSI Gunungsitoli 25.48 244 P **P** **15 54 51.6 +1.4**
GSI **PcP** **15 58 22.2 +0.9**
GSI Gunungsitoli 25.48 244 P **P** **15 54 51.0 +0.8**
comp=Z,37nm,0.8s
JHJ Hachijo jima 2 26.54 39 LR LR 16 04 41.4
comp=Z,1µm,19.9s,baz=249,slow=35
BJT Baijiatuau 26.87 353 P **P** **15 54 57.8 -4.6**
BJT pmax pmax
comp=Z,26nm,1.2s
BJI Beijing 26.89 353 P **P** **15 54 57.6 -5.0**
BJI pmax pmax
comp=Z,4.0nm,0.7s
LZH Lanzhou 27.10 330 *e*P **P** **15 55 09.1 +4.3**
LZH pP sP 15 55 20.5 -1.2
LZH S **S** **15 59 44.6 +4.7**
LZH pmax pmax
comp=Z,26nm,1.4s
LZH LR LR
comp=Z,3µm,14.8s
LZH LR LR
comp=Z,2µm,17.5s
LZH LR LR
comp=Z,3µm,16.1s
MTN Manton Dam 28.10 157 P **P** **15 55 13.2 -0.5**
MTN Manton Dam 28.10 157 P **P** **15 55 13.7 0.0**
MAJO Matsushiro 28.16 32 P **P** **15 55 12.0 -2.1**
MAJO pmax pmax
comp=Z,20nm,1.8s
MJAR Matsushiro Arr 28.16 32 P **P** **15 55 12.4 -1.8**
comp=Z,1.4nm,0.9s,baz=218,slow=28,SNR=1.1
MJAR LR LR 16 07 36.4
comp=Z,444nm,19.0s,baz=252,slow=39
comp=Z,1.4nm,0.9s
HHC Hu-ho-hao-te 28.50 346 *e*P **P** **15 55 17.6 +0.4**
HHC sP pP 15 55 31.8 +2.4
HHC PP **PnPn** **15 56 10.1 +1.6**
HHC S **S** **16 00 02.3 +0.6**
HHC sS sS 16 00 17.0 -4.3
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,350nm,7.4s
HHC LR LR
comp=Z,3µm,19.4s
HHC LR LR
comp=Z,1µm,19.6s
HHC LR LR
comp=Z,3µm,19.7s
BTO Baotou 28.66 344 *e*P **P** **15 55 20.0 +1.3**
BTO pP **pP** **15 55 29.5 -0.5**
BTO sP **pwP** **15 55 33.4 -0.8**
BTO PP **PnPn** **15 56 13.6 +2.9**
BTO S **S** **16 00 07.8 +3.5**
BTO sS **sS** **16 00 24.9 +1.0**
BTO SS **SnSn** **16 01 32.0 +3.9**
BTO pmax pmax
comp=Z,41nm,0.7s
BTO pmax pmax
comp=Z,450nm,11.6s
BTO LR LR
comp=Z,4µm,22.5s
BTO LR LR
comp=Z,4µm,17.1s
BTO LR LR
comp=Z,5µm,17.8s
KNRA Kununurra 29.98 164 P **P** **15 55 30.8 +0.4**
KNRA Kununurra 29.98 164 P **P** **15 55 31.0 +0.7**
CN2 Changchun 30.71 7 *e*P **P** **15 55 37.3 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,900nm,17.0s
FITZ Fitzroy Crossi 31.64 170 P **P** **15 55 45.3 +0.3**
GTA Gaotai 31.69 329 *e*P **P** **15 55 46.6 +1.2**
GTA pP pP 15 55 55.4 -1.7
GTA PcP **PcP** **15 58 37.8 +1.3**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,1µm,18.9s
GTA LR LR
comp=Z,2µm,18.9s
MDJ Mudanjiang 32.20 12 P **P** **15 55 48.4 -1.3**
MDJ PP **PnPn** **15 56 55.1 -1.9**
MDJ PcP **PcP** **15 58 30.5 -7.1**
MDJ S **S** **16 01 03.8 +4.4**
MDJ PcS **PcS** **16 02 17.9 -4.4**
MDJ SS **SnSn** **16 02 55.8 +2.0**
MDJ ScS **ScS** **16 06 09.4 -6.9**
MDJ pmax pmax
comp=Z,19nm,2.1s
MDJ pmax pmax
comp=Z,340nm,4.0s
MDJ LR LR
comp=Z,1µm,16.8s
MDJ LR LR
comp=Z,520nm,10.6s
MDJ LR LR
comp=Z,2µm,18.9s
USRK Ussuriysk Ar. 32.38 16 P **P** **15 55 48.8 -2.4**
comp=Z,2.6nm,0.7s,baz=216,slow=6.9,SNR=5.0
USRK LR LR 16 09 42.0
comp=Z,727nm,19.3s,baz=192,slow=38
comp=Z,2.6nm,0.7s
BNX BinXian 32.89 9 ⇑P **P** **15 55 54.3 -1.4**
BNX pmax pmax
comp=Z,8.0nm,1.0s
BNX pmax pmax
comp=Z,220nm,4.1s
PSA00 Pilbara Seismi 34.66 181 IAmb IAmb 15 56 14.2
comp=Z,31nm,1.0s
PSA00 Pilbara Seismi 34.66 181 P **P** **15 56 13.3 +2.0**
PMG Port Moresby 34.91 129 P **P** **15 56 12.2 -1.4**
PMG IAmb IAmb 15 56 13.8
comp=Z,22nm,0.8s
PMG Port Moresby 34.91 129 P **P** **15 56 12.2 -1.4**
PMG pmax pmax
comp=Z,23nm,0.8s
PMG Port Moresby 34.91 129 LR LR 16 11 37.8
comp=Z,303nm,20.7s,baz=222,slow=38
PMG Port Moresby 34.91 129 P **P** **15 56 11.8 -1.8**
WB0 Warramunga Arr 35.66 157 P **P** **15 56 18.9 -1.0**
WRAB Tennant Creek 35.79 157 P **P** **15 56 20.3 -0.8**
WRAB Tennant Creek 35.79 157 P **P** **15 56 20.3 -0.8**
WRAB pmax pmax
comp=Z,80nm,0.7s
WRA Warramunga Arr 35.80 157 IAmb IAmb 15 56 21.7
comp=Z,11nm,0.7s
WRA Warramunga Arr 35.80 157 P **P** **15 56 20.9 -0.2**
comp=Z,65nm,0.5s,baz=335,slow=9.6,SNR=192
RABL Rabaul 36.07 117 P **P** **15 56 23.7 0.0**
ASAJ Asahikawa 36.15 28 LR LR 16 13 30.5
comp=Z,586nm,18.7s,baz=126,slow=40
ULN Ulaanbaatar 36.20 345 P **P** **15 56 23.8 -0.7**
ULN Ulaanbaatar 36.20 345 *i* P **P** **15 56 23.9 -0.6**
ULN pmax pmax
comp=Z,19nm,0.7s
ULN Ulaanbaatar 36.20 345 P **P** **15 56 24.2 -0.3**
ULN Ulaanbaatar 36.20 345 P **P** **15 56 23.0 -1.5**
comp=Z,107nm,0.9s,comp=Z,2µm
SONM Songino Array 36.34 344 P **P** **15 56 24.8 -0.9**
SONM IAmb IAmb 15 56 26.7
comp=Z,28nm,0.7s
SONM Songino Array 36.34 344 P **P** **15 56 25.3 -0.4**
comp=Z,29nm,0.7s,baz=161,slow=9.8,SNR=62
comp=Z,29nm,0.7s
KLR Kul'dur 37.05 12 *ce*P **P** **15 56 28.9 -2.6**
KLR pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 37.05 12 LR LR 16 14 11.3
comp=Z,877nm,18.1s,baz=202,slow=40
HEH HeiHe 37.30 8 *e*P **P** **15 56 31.9 -1.8**
HEH pmax pmax
comp=Z,8.0nm,0.8s
HEH LR LR
comp=Z,750nm,18.2s
HEH LR LR
comp=Z,840nm,17.5s
HEH LR LR
comp=Z,950nm,17.1s
YSS Yuzh-Sakhalins 38.47 25 *e*P **P** **15 56 41.9 -1.6**
YSS *e*S **S** **16 02 30.0 -5.5**
YSS pmax pmax
comp=Z,20nm,1.4s
QIS Mount Isa 38.62 150 P **P** **15 56 45.0 -0.1**
WRKA Warakurna 38.89 168 P **P** **15 56 48.0 +0.7**
ASAR Alice Springs 39.07 160 P **P** **15 56 49.2 +0.4**
comp=Z,84nm,0.6s,baz=340,slow=7.1,SNR=1638
MTSU Mount Surprise 39.19 142 P **P** **15 56 49.9 0.0**
ZAK Zakamensk 39.51 343 *e*P **P** **15 56 51.6 -0.8**
ZAK pmax pmax
comp=Z,14nm,1.2s
GRNR Gornyy 39.60 16 *e*P **P** **15 56 51.4 -1.6**
GRNR MLR MLR
comp=N,320nm,15.0s
MEEK Meekatharra 39.73 182 P **P** **15 56 55.6 +1.3**
HYB Hyderabad 40.43 281 *e*P **P** **15 57 01.0 +0.7**
ZEA Zeya 40.71 6 *e*P P 15 57 07.3 +5.2
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,200nm,11.0s
ZEA MLR MLR
comp=N,400nm,13.0s
IRK Irkutsk 40.93 345 *e*P **P** **15 57 04.2 +0.3**
IRK pmax pmax
comp=Z,53nm,2.4s
WMQ Urumqi 41.31 324 *e*P **P** **15 57 09.9 +2.6**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=Z,2µm,13.7s
WMQ LR LR
comp=Z,2µm,14.7s
WMQ LR LR
comp=Z,2µm,14.7s
MOY Mondy 41.33 342 *e*P **P** **15 57 07.1 -0.2**
MOY pmax pmax
comp=Z,68nm,2.4s
CTA Charters Tower 41.85 142 P **P** **15 57 12.2 +0.4**
CTA Charters Tower 41.85 142 P **P** **15 57 12.0 0.0**
CTA pmax pmax
comp=Z,38nm,1.2s
CTA Charters Tower 41.85 142 LR LR 16 14 23.6
comp=Z,273nm,21.4s,baz=314,slow=36
CTAO Charters Tower 41.85 142 P **P** **15 57 11.9 0.0**
CTAO IAmb IAmb 15 57 14.0
comp=Z,46nm,1.2s
CTAO Charters Tower 41.85 142 P **P** **15 57 12.3 +0.4**
CTAO Charters Tower 41.85 142 P **P** **15 57 11.9 0.0**
CTAO pmax pmax
comp=Z,46nm,1.3s
CTAO Charters Tower 41.85 142 P **P** **15 57 12.3 +0.4**
CTAO pP **pP** **15 57 23.5 -0.6**
OOD Oodnadatta 43.48 160 P **P** **15 57 25.3 +0.4**
BLDU Ballidu 43.80 185 P **P** **15 57 29.0 +1.5**
KMBL Kambalda 44.43 178 P **P** **15 57 33.3 +0.7**
FORT Forrest 44.45 170 P **P** **15 57 33.0 +0.4**
FORT IAmb IAmb 15 57 34.1
comp=Z,32nm,0.7s
FORT Forrest 44.45 170 P **P** **15 57 33.3 +0.6**
KLBR Kellerberrin 44.70 183 P **P** **15 57 35.9 +1.2**
DGZ Jazzator, Alta 45.20 330 *i* P **P** **15 57 39.0 +0.3**
DGZ pmax pmax
comp=Z,37nm,1.9s
WUS Wushi 45.29 316 P **P** **15 57 40.7 +1.2**
WUS pP **pP** **15 57 51.6 +0.1**
MULG Mulgathing 45.30 163 P **P** **15 57 39.9 +0.4**
INKA Innaminka 45.35 154 P **P** **15 57 40.8 +0.9**
HNR Honiara 45.36 118 LR LR 16 14 32.0
comp=Z,8µm,22.0s,baz=294,slow=33
QLP Quilpie 45.95 150 P **P** **15 57 45.1 +0.4**
SHLS Shalkode 46.01 318 *e*P **P** **15 57 43.6 -1.5**
SHLS pmax pmax
comp=Z,5.0nm,0.5s
SHLS Shalkode 46.01 318 *e*P **P** **15 57 43.6 -1.5**
comp=Z,5.0nm,0.5s,baz=318
NWAO Narrogin (SRO) 46.06 184 P **P** **15 57 46.5 +1.1**
NWAO Narrogin (SRO) 46.06 184 P **P** **15 57 47.4 +2.0**
NWAO Narrogin (SRO) 46.06 184 P **P** **15 57 46.5 +1.1**
NWAO pmax pmax
comp=Z,69nm,1.5s
NWAO Narrogin (SRO) 46.06 184 P **P** **15 57 46.1 +0.7**
MK31 Makanchi Array 46.14 324 *ce*P **P** **15 57 46.7 +0.7**
MKAR Makanchi Array 46.14 324 P **P** **15 57 46.8 +0.7**
comp=Z,5.0nm,0.6s,baz=130,slow=9.0,SNR=14
MKAR LR LR 16 18 40.1
comp=Z,2µm,18.6s,baz=131,slow=38
comp=Z,5.0nm,0.6s
UZB Uzunbulak 46.29 318 *e*P **P** **15 57 47.9 +0.5**
UZB pmax pmax
comp=Z,9.0nm,0.7s
UZB Uzunbulak 46.29 318 *e*P **P** **15 57 48.0 +0.5**
comp=Z,9.2nm,0.7s,baz=318
MAKZ Makanchi 46.33 324 P **P** **15 57 47.9 +0.4**
MAKZ Makanchi 46.33 324 P **P** **15 57 47.9 +0.4**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 46.33 324 P **P** **15 57 48.2 +0.8**
MAKZ sP **sP** **15 58 04.2 -0.5**
SATY Saty 46.65 318 *e*P **P** **15 57 50.6 +0.4**
SATY pmax pmax
comp=Z,6.0nm,0.6s
SATY Saty 46.65 318 *e*P **P** **15 57 50.6 +0.4**
comp=Z,5.7nm,0.6s,baz=318
KPKS Kokpek 46.65 318 *e*P **P** **15 57 50.6 +0.4**
KPKS pmax pmax
comp=Z,7.0nm,0.6s
KPKS Kokpek 46.65 318 *e*P **P** **15 57 50.6 +0.4**
comp=Z,7.1nm,0.6s,baz=318
LCRK Leigh Creek 46.78 159 P **P** **15 57 51.3 +0.2**
KSH Kashi 46.89 312 P **P** **15 57 55.0 +2.8**
KSH pP pP 15 58 05.9 +1.8
KSH PcP **PcP** **15 59 26.3 +1.9**
KSH PP **PP** **15 59 45.0 +2.1**
KSH S **S** **16 04 46.3 +6.4**
KSH ScS **ScS** **16 07 46.8 +3.8**
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH LR LR
comp=Z,340nm,14.3s
KSH LR LR
comp=Z,970nm,18.6s
KSH LR LR
comp=Z,1µm,18.9s
NIL Nilore 47.22 304 P **P** **15 57 54.0 -0.7**
NIL IAmb IAmb 15 58 20.0
comp=Z,25nm,0.8s
NIL Nilore 47.22 304 P **P** **15 57 54.0 -0.7**
NIL pmax pmax
comp=Z,25nm,0.9s
NIL Nilore 47.22 304 P **P** **15 57 55.5 +0.8**
NIL pP **pP** **15 58 06.8 +0.2**
TDK Taldyqorghan 47.55 320 *e*P **P** **15 57 57.6 +0.6**
TDK pmax pmax
comp=Z,12nm,0.7s
TDK Taldyqorghan 47.55 320 *e*P **P** **15 57 57.7 +0.6**
comp=Z,12nm,0.7s,baz=320
MDOK Medeo 47.59 317 *e*P **P** **15 57 58.1 +0.6**
MDOK Medeo 47.59 317 *e*P **P** **15 57 58.2 +0.6**
baz=317
AAA Alma-Ata 47.70 317 *e*P **P** **15 57 58.6 +0.3**
AAA pmax pmax
comp=Z,11nm,0.7s
AAA Alma-Ata 47.70 317 *e*P **P** **15 57 58.7 +0.3**
comp=Z,11nm,0.7s,baz=317
CHKK Chushkaly 47.93 318 *e*P **P** **15 57 59.8 -0.2**
CHKK Chushkaly 47.93 318 *e*P **P** **15 57 59.9 -0.2**
baz=318
BBOO Buckleboo 48.25 162 P **P** **15 58 02.2 -0.4**
BBOO Buckleboo 48.25 162 P **P** **15 58 02.6 +0.1**
KZA Kyzart 48.36 315 P **P** **15 58 06.0 +2.1**
SNR=5.0
KUU Kurty 48.37 318 *e*P **P** **15 58 03.7 +0.3**
KUU Kurty 48.37 318 *e*P **P** **15 58 03.8 +0.3**
baz=318
TKM2 Toknak 2 48.46 316 P **P** **15 58 05.5 +1.1**
SNR=15
KBK Karagaybulak 48.79 316 P **P** **15 58 08.5 +1.6**
SNR=12
UCH Uchtor 48.92 315 P **P** **15 58 09.4 +1.2**
SNR=13
CHMS Chumysh 49.06 316 P **P** **15 58 09.7 +0.9**
SNR=8.6
AAK Ala-Archa 49.09 316 P **P** **15 58 11.7 +2.6**
SNR=6.4
AAK Ala-Archa 49.09 316 P **P** **15 58 08.9 -0.3**
AAK Ala-Archa 49.09 316 *ce*P **P** **15 58 08.8 -0.4**
AAK pmax pmax
comp=Z,22nm,2.5s
AAK Ala-Archa 49.09 316 LR LR 16 20 20.5
comp=Z,1µm,20.8s,baz=101,slow=38
AAK Ala-Archa 49.09 316 P **P** **15 58 10.4 +1.2**
YAK Yakutsk 49.12 6 LR LR 16 20 41.3
comp=Z,19nm,18.3s,baz=189,slow=38
ZALV Zalesovo Beam 49.24 333 P **P** **15 58 09.4 -0.5**
comp=Z,4.5nm,0.4s,baz=123,slow=6.8,SNR=13
ZALV LR LR 16 20 06.8
comp=Z,1µm,19.1s,baz=128,slow=37
comp=Z,4.5nm,0.4s
SEM Semipalatinsk 49.28 327 *e*P **P** **15 58 11.0 +0.5**
SEM Semipalatinsk 49.28 327 *e*P **P** **15 58 11.1 +0.5**
baz=327
SGDS Sogindy 49.32 317 *e*P **P** **15 58 10.9 +0.2**
SGDS Sogindy 49.32 317 *e*P **P** **15 58 10.9 +0.2**
baz=316
STKA Stephens Creek 49.33 156 P **P** **15 58 10.5 -0.3**
STKA Stephens Creek 49.33 156 P **P** **15 58 10.8 0.0**
STKA Stephens Creek 49.33 156 *i* P **P** **15 58 10.9 +0.1**
STKA Stephens Creek 49.33 156 P **P** **15 58 10.8 0.0**
comp=Z,14nm,0.7s,baz=331,slow=7.6,SNR=28
comp=Z,14nm,0.7s
USP Ospenovka 49.33 316 P **P** **15 58 11.7 +0.8**
SNR=13
AML Almayashu 49.45 315 P **P** **15 58 13.8 +1.6**
SNR=11
PETK Petropavlovsk- 49.55 29 P **P** **15 58 10.6 -1.7**
comp=Z,2.9nm,0.7s,baz=9.7,slow=1.3,SNR=4.2
PETK LR LR 16 21 50.4
comp=Z,260nm,18.1s,baz=222,slow=39
comp=Z,2.9nm,0.7s
EKS2 Erkin-Say 49.59 315 P **P** **15 58 14.4 +1.5**
SNR=8.2
HTT Hallett 49.74 160 P **P** **15 58 14.4 +0.4**
KURBB Kurchatov Arra 50.32 327 P **P** **15 58 18.7 +0.6**
comp=Z,24nm,0.9s,baz=127,slow=7.3,SNR=46
KURBB LR LR 16 20 43.4
comp=Z,732nm,18.1s,baz=167,slow=37
comp=Z,24nm,0.9s
KURK Kurchatov 50.32 327 P **P** **15 58 18.3 +0.2**
KURK Kurchatov 50.32 327 P **P** **15 58 18.7 +0.6**
KURK Kurchatov 50.32 327 P **P** **15 58 18.7 +0.6**
KURK pP **pP** **15 58 31.1 +0.8**
BTLS Baital 50.34 318 *e*P **P** **15 58 18.2 -0.2**
BTLS Baital 50.34 318 *e*P **P** **15 58 18.3 -0.2**
baz=318
ARK Arkit 50.55 314 P **P** **15 58 21.7 +1.5**
ARK pmax pmax
comp=Z,16nm,1.8s
CMSA Cobar Meteorol 50.79 152 P **P** **15 58 22.1 +0.2**
BTK Batken 50.82 311 IAmb IAmb 15 58 50.5
comp=Z,8.8nm,0.7s
BTK Batken 50.82 311 P **P** **15 58 22.6 +0.4**
BTK pmax pmax
comp=Z,13nm,0.6s
KBL Kabul 50.83 304 P **P** **15 58 22.2 -0.3**
KBL Kabul 50.83 304 P **P** **15 58 22.2 -0.3**
KBL pmax pmax
comp=Z,7.0nm,0.9s
TRKS Terek-Say 51.04 313 P **P** **15 58 24.9 +0.9**
TRKS pmax pmax
comp=Z,29nm,0.8s
DZA Taraz 51.36 315 *e*P **P** **15 58 26.6 +0.5**
DZA Taraz 51.36 315 *e*P **P** **15 58 26.6 +0.5**
baz=315
MA2 Magadan 51.40 19 *i* P **P** **15 58 25.2 -0.9**
MA2 pmax pmax
comp=Z,13nm,1.0s
MA2 Magadan 51.40 19 LR LR 16 21 59.7
comp=Z,470nm,19.5s,baz=218,slow=38
SIMJ Simiganj 51.79 309 P **P** **15 58 28.8 -0.8**
SIMJ IAmb IAmb 15 58 53.7
comp=Z,14nm,1.0s
SIMJ Simiganj 51.79 309 P **P** **15 58 30.0 +0.4**
SIMJ pP **pP** **15 58 41.7 +0.1**
SIMJ PcP **PcP** **15 59 42.7 +0.4**
CHM Chimkent 52.38 314 *e*P **P** **15 58 34.0 +0.3**
CHM Chimkent 52.38 314 *e*P **P** **15 58 34.0 +0.3**
baz=313
BRZS Berezniki 53.28 323 *e*P **P** **15 58 40.5 +0.3**
BRZS pmax pmax
comp=Z,9.0nm,1.0s
BRZS Berezniki 53.28 323 *e*P **P** **15 58 40.6 +0.3**
comp=Z,9.4nm,1.0s,baz=323
SEY Seymchan 54.50 17 *i* P **P** **15 58 46.2 -2.7**
SEY pmax pmax
comp=Z,18nm,3.2s
KOUNC Koumac, New Ca 54.77 127 P **P** **15 58 51.4 0.0**
KOUNC IAmb IAmb 15 58 53.1
comp=Z,18nm,1.0s
BVAR Borovoye Array 55.90 326 P **P** **15 58 59.5 +0.4**
comp=Z,9.9nm,0.6s,baz=108,slow=7.6,SNR=20
BVAR LR LR 16 24 28.6
comp=Z,851nm,20.3s,baz=113,slow=38
comp=Z,9.9nm,0.6s
BRVK Borovoye 55.97 326 P **P** **15 58 59.7 +0.1**
BRVK Borovoye 55.97 326 *ce*P **P** **15 58 59.7 +0.1**
BRVK pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 55.97 326 P **P** **15 59 00.3 +0.7**
NOUC Port Laguerre 57.19 127 P **P** **15 59 08.3 -0.4**
NOUC pP **pP** **15 59 20.0 -1.6**
NOUC sP **sP** **15 59 24.7 -2.2**
DZM Mont Dzumac 57.28 127 IAmb IAmb 15 59 10.2
comp=Z,13nm,0.6s
DZM Mont Dzumac 57.28 127 LR LR 16 24 11.2
comp=Z,132nm,20.4s,baz=296,slow=36
DZM Mont Dzumac 57.28 127 P **P** **15 59 08.8 -0.7**
OUENC Ouen Island, N 57.78 127 IAmb IAmb 15 59 14.9
comp=Z,25nm,1.0s
SHEM Shemya Is, Ala 57.91 35 LR LR 16 23 41.0
comp=Z,106nm,19.6s,baz=278,slow=36
TIXI Tiksi 58.55 3 LR LR 16 27 40.4
comp=Z,29nm,19.0s,baz=206,slow=39
WSAR Wadi Sarin 59.05 289 LR LR 16 26 19.3
comp=Z,276nm,20.6s,baz=92,slow=37
NRIK Noril'sk 59.72 347 IAmb IAmb 15 59 34.6
comp=Z,11nm,0.8s
NRIK Noril'sk 59.72 347 *ce*P **P** **15 59 25.2 -0.5**
NRIK pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 59.72 347 P **P** **15 59 24.8 -0.9**
comp=Z,7.6nm,0.7s,baz=148,slow=7.2,SNR=10
comp=Z,7.6nm,0.7s
GEYT Alibeck 60.08 306 IAmb IAmb 15 59 31.2
comp=Z,19nm,0.8s
GEYT Alibeck 60.08 306 P **P** **15 59 29.5 +0.7**
comp=Z,16nm,0.7s,baz=126,slow=7.5,SNR=25
GEYT LR LR 16 29 02.2
comp=Z,520nm,18.3s,baz=106,slow=39
comp=Z,16nm,0.7s
GYA0B ALIBECK ARRAY 60.08 306 IAmb IAmb 15 59 31.2
comp=Z,16nm,0.8s

ABKAR	**Akbulak array**	**60.80**	**319**		P		**P**		**15 59 33.4**	**0.0**
ABKAR					lAmb		lAmb		15 59 46.9		
	comp=Z,10nm,0.8s										
BILL	**Bilibino**	**62.20**	**18**		P		**P**		**15 59 40.4**	**-2.1**
AKTO	**Aktyubinsk**	**62.29**	**320**		LR		LR		16 28 42.6		
	comp=Z,1µm,18.7s,baz=80,slow=38										
SVE	**Sverdlovsk**	**62.55**	**328**	‖	*eP*		**P**		**15 59 45.5**	**+0.5**
SVE					pmax		pmax				
	comp=Z,22nm,0.9s										
ARU	**Arti**	**63.52**	**327**		P		**P**		**15 59 50.4**	**-1.1**
ARU	**Arti**	**63.52**	**327**	*d*	*i*P		**P**		**15 59 50.5**	**-1.0**
ARU					S		**S**		**16 08 23.8**	**+2.4**
ARU					SS		**SS**		**16 12 30.0**	**+1.1**
ARU					pmax		pmax				
	comp=Z,10.0nm,0.7s										
ARU	**Arti**	**63.52**	**327**		LR		LR		16 29 09.4		
	comp=Z,441nm,18.1s,baz=102,slow=38										
ARU	**Arti**	**63.52**	**327**		P		**P**		**15 59 50.9**	**-0.6**
MAK	**Makhachkala**	**68.51**	**311**		*eP*		**P**		**16 00 24.4**	**+0.6**
MAK					*e*				16 02 55.1		
MAK					*e*PPP		PPP		16 04 33.1		
MAK					*e*S		**S**		**16 09 25.3**	**+2.7**
MAK					*e*SS		**SS**		**16 13 52.6**	**+5.6**
KIRV	**Kirov**	**68.81**	**328**	*ce*	P		**P**		**16 00 24.3**	**-1.0**
KIRV	**Kirov**	**68.81**	**328**		LR		LR		16 32 20.1		
	comp=Z,868nm,19.5s,baz=98,slow=37										
BELG	**Belogornoye**	**69.02**	**321**	*i*	P		**P**		**16 00 25.9**	**-0.9**
BELG					pmax		pmax				
	comp=Z,9.0nm,1.0s										
BELG	**Belogornoye**	**69.02**	**321**		LR		LR		16 32 16.7		
	comp=Z,383nm,21.4s,baz=115,slow=37										
GNI	**Garni**	**70.57**	**308**	*i*	P		**P**		**16 00 35.8**	**-1.0**
GNI					pmax		pmax				
	comp=Z,36nm,1.2s										
GNI	**Garni**	**70.57**	**308**		LR		LR		16 36 39.4		
	comp=Z,227nm,18.0s,baz=62,slow=40										
F14K	**Arctic Creek**	**71.08**	**25**		P		**P**		**16 00 39.0**	**-0.2**
	baz=260										
ZEI	**Tsey**	**71.16**	**311**		*eP*		**P**		**16 00 40.0**	**-0.4**
ZEI					pmax		pmax				
	comp=Z,6.0nm,0.9s										
AKH	**Akhalkalaki**	**71.49**	**309**		lAmb		lAmb		16 00 51.5		
	comp=Z,34nm,0.9s										
F15K	**North Star Dit**	**71.81**	**25**		P		**P**		**16 00 42.6**	**-1.0**
	baz=262										
KBZ	**Khabaz**	**71.88**	**312**	*ce*	P		**P**		**16 00 45.1**	**+0.7**
KBZ					pmax		pmax				
	comp=Z,11nm,1.1s										
KBZ	**Khabaz**	**71.88**	**312**		P		**P**		**16 00 43.9**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=157,slow=4.0,SNR=4.2										
KBZ					LR		LR		16 36 29.1		
	comp=Z,513nm,18.5s,baz=64,slow=39										
	comp=Z,4.0nm,0.9s										
C16K	**Lisburne Hills**	**71.94**	**22**		P		**P**		**16 00 43.4**	**-0.9**
	baz=260										
KIV	**Kislovodsk**	**72.02**	**312**		P		**P**		**16 00 44.8**	**-0.6**
KIV					lAmb		lAmb		16 00 57.2		
	comp=Z,21nm,0.8s										
KIV	**Kislovodsk**	**72.02**	**312**		*eP*		**P**		**16 00 45.5**	**+0.1**
KIV					pmax		pmax				
	comp=Z,16nm,1.1s										
KIV					MLR		MLR				
	comp=Z,274nm,18.0s										
L14K	**Kuka Creek**	**72.19**	**30**		P		**P**		**16 00 45.6**	**-0.3**
	baz=265										
M14K	**Bethel**	**72.49**	**30**		P		**P**		**16 00 47.0**	**-0.7**
	baz=266										
VRH	**Novokhopyorsk**	**72.62**	**320**		*eP*		**P**		**16 00 47.1**	**-1.6**
VRH					pmax		pmax				
	comp=Z,10.0nm,0.7s										
H16K	**Elim**	**72.69**	**26**		P		**P**		**16 00 48.2**	**-0.7**
	baz=264										
GURO	**Guroymak-BITLI**	**72.74**	**306**		lAmb		lAmb		16 00 59.2		
	comp=Z,12nm,0.8s										
RPZ	**Rata Peaks**	**73.18**	**144**		LR		LR		16 33 49.5		
	comp=Z,198nm,19.9s,baz=288,slow=36										
J16K	**Anvik River**	**73.30**	**28**		lAmb		lAmb		16 01 57.4		
	comp=Z,79nm,1.9s										
J16K	**Anvik River**	**73.30**	**28**		P		**P**		**16 00 51.0**	**-1.5**
	baz=266										
G17K	**Kiwalik Mounta**	**73.44**	**25**		P		**P**		**16 00 52.7**	**-0.6**
	baz=266										
H17K	**Granite Mounta**	**73.71**	**26**		P		**P**		**16 00 54.7**	**-0.2**
	baz=266										
A19K	**Wainwright**	**73.71**	**20**		P		**P**		**16 00 54.6**	**-0.2**
	baz=264										
URZ	**Urewera**	**73.81**	**137**		LR		LR		16 35 05.4		
	comp=Z,215nm,19.5s,baz=317,slow=37										
RTZ	**Ruatahuna**	**73.91**	**137**		P		**P**		**16 00 54.9**	**-1.7**
RTZ					lAmb		lAmb		16 00 56.4		
	comp=Z,14nm,0.8s										
KLMR	**Klimovskoe**	**74.01**	**330**		*eP*		**P**		**16 00 54.6**	**-2.1**
KLMR					pmax		pmax				
	comp=Z,31nm,0.7s										
C19K	**Lookout Ridge**	**74.13**	**22**		P		**P**		**16 00 56.6**	**-0.8**
	baz=265										
VORD	**Divnogorie**	**74.16**	**320**		*eP*		**P**		**16 00 56.0**	**-1.7**
VORD					pmax		pmax				
	comp=Z,10.0nm,0.7s										
SOC	**Sochi**	**74.19**	**312**		*eP*		**P**		**16 00 56.3**	**-1.8**
SOC					*e*				16 03 43.4		
SOC					*e*PPP		PPP		16 05 28.8		
SOC					*e*S		**S**		**16 10 29.7**	**+1.5**
VORR	**Voronezh**	**74.19**	**320**		*eP*		**P**		**16 00 55.0**	**-2.9**
VORR					pmax		pmax				
	comp=Z,30nm,0.5s										
VSR	**Storozhevoye**	**74.23**	**320**		*eP*		**P**		**16 00 55.6**	**-2.6**
VSR					pmax		pmax				
	comp=Z,10.0nm,0.7s										
G18K	**Tagagawik**	**74.29**	**25**		P		**P**		**16 00 57.6**	**-0.6**
	baz=267										
L17K	**Donlin**	**74.31**	**29**		P		**P**		**16 00 57.7**	**-0.7**
	baz=269										
K17K	**Iditarod**	**74.33**	**28**		lAmb		lAmb		16 01 11.4		
	comp=Z,21nm,1.1s										
LPSR	**Galich'ya Gora**	**74.34**	**321**		*eP*		**P**		**16 00 57.6**	**-1.2**
LPSR					pmax		pmax				
	comp=Z,40nm,0.7s										
O16K	**Kokwok River B**	**74.38**	**31**		P		**P**		**16 00 58.8**	**-0.1**
	baz=270										
GCSA	**Galena City Sc**	**75.00**	**26**		P		**P**		**16 01 01.7**	**-0.6**
	baz=269										
B20K	**Meade River**	**75.03**	**21**		P		**P**		**16 01 02.1**	**-0.3**
	baz=268										
L18K	**Granite Mounta**	**75.07**	**29**		P		**P**		**16 01 02.4**	**-0.4**
	baz=270										
A21K	**Barrow**	**75.27**	**19**		P		**P**		**16 01 03.0**	**-0.8**
	baz=268										
ATD	**Arta Tunnel**	**75.39**	**279**		LR		LR		16 32 01.1		
	comp=Z,5.5nm,20.0s,baz=54,slow=34										
OBN	**Obninsk**	**75.64**	**324**		P		**P**		**16 01 05.0**	**-1.2**
OBN					lAmb		lAmb		16 01 06.3		
	comp=Z,23nm,0.7s										
OBN	**Obninsk**	**75.64**	**324**		*eP*		**P**		**16 01 05.1**	**-1.1**
OBN					*e*				16 01 17.2		
OBN					*e*				16 03 56.4		
OBN					*e*PPP		PPP		16 05 40.3		
OBN					pmax		pmax				
	comp=Z,32nm,1.3s										
OBN	**Obninsk**	**75.64**	**324**		LR		LR		16 36 12.7		
	comp=Z,895nm,19.2s,baz=75,slow=37										
A22K	**Sinclair Lake**	**75.79**	**20**		P		**P**		**16 01 06.2**	**-0.6**
	baz=269										
J20K	**Nowinta River**	**76.19**	**27**		lAmb		lAmb		16 02 02.3		
	comp=Z,32nm,1.7s										
B22K	**Teshekpuk Lake**	**76.31**	**20**		P		**P**		**16 01 08.9**	**-0.9**
	baz=271										
M20K	**Styx River**	**76.76**	**29**		P		**P**		**16 01 11.4**	**-1.2**
	baz=273										
CHUM	**Lake Minchumin**	**77.01**	**27**		P		**P**		**16 01 12.1**	**-1.7**
	baz=274										
N20K	**Mount Spurr**	**77.24**	**30**		P		**P**		**16 01 14.1**	**-1.3**
	baz=274										
H22K	**Ishtalitna Cre**	**77.28**	**25**		P		**P**		**16 01 14.9**	**-0.5**
	baz=274										
SKT	**Skwentna**	**77.50**	**29**		P		**P**		**16 01 13.9**	**-2.8**
SKT					lAmb		lAmb		16 01 21.6		
	comp=Z,35nm,1.4s										
BPAW	**Bear Paw Mtn.**	**77.58**	**27**		P		**P**		**16 01 14.1**	**-3.0**
	baz=275										
E23K	**Chandalar**	**77.79**	**23**		P		**P**		**16 01 17.4**	**-0.9**
	baz=275										
SUA	**Susitna One**	**77.92**	**29**		P		**P**		**16 01 17.1**	**-2.0**
SUA	**Susitna One**	**77.92**	**29**		P		**P**		**16 01 17.8**	**-1.4**
	baz=275										
F24K	**Squaw Lake**	**78.50**	**23**		P		**P**		**16 01 21.5**	**-0.7**
	baz=277										
MMAI	**Mount Meron Ar**	**78.68**	**301**		P		**P**		**16 01 22.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=97,slow=11,SNR=1.3										
MMAI					LR		LR		16 40 53.9		
	comp=Z,259nm,20.5s,baz=38,slow=39										
	comp=Z,0.4nm,0.3s										
G24K	**Hadweenzic Riv**	**78.76**	**24**		P		**P**		**16 01 23.2**	**-0.4**
	baz=277										
BR131	**Keskin Array S**	**79.11**	**308**	*i*	P		**P**		**16 01 26.3**	**+0.1**
BRTR	**Keskin Array B**	**79.11**	**308**		P		**P**		**16 01 25.9**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=129,slow=7.3,SNR=4.6										
	comp=Z,1.2nm,0.8s										
KHLH	**Kahului Airpor**	**79.16**	**71**		P		**P**		**16 01 25.4**	**-1.2**
ARA0	**ARCESS Array S**	**79.33**	**339**		*eP*		**P**		**16 01 26.0**	**-0.6**
ARCES	**ARCESS Array B**	**79.33**	**339**		P		**P**		**16 01 25.2**	**-1.4**
	comp=Z,3.2nm,0.5s,baz=75,slow=6.6,SNR=16										
ARCES					LR		LR		16 40 27.6		
	comp=Z,508nm,18.1s,baz=66,slow=39										
	comp=Z,3.2nm,0.5s										
EIL	**Elat**	**79.58**	**298**		LR		LR		16 42 25.6		
	comp=Z,158nm,19.1s,baz=70,slow=40										
HAMF	**Hammerfest**	**79.75**	**340**		*eP*		**P**		**16 01 29.5**	**+0.6**
SPA0	**Spitsbergen Ar**	**79.91**	**348**		*eP*		**P**		**16 01 29.2**	**-0.5**
SPITS	**Spitsbergen Ar**	**79.91**	**348**		P		**P**		**16 01 28.2**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=89,slow=4.5,SNR=4.5										
	comp=Z,2.4nm,0.5s										
KTK1	**Kautokeino**	**80.22**	**339**		*eP*		**P**		**16 01 30.6**	**-0.8**
KTK1					lAmb		lAmb		16 01 32.4		
	comp=Z,388nm,3.0s										
FINES	**FINESS Array B**	**80.46**	**331**	*i*	P		**P**		**16 01 32.2**	**-0.6**
FINES					pmax		pmax				
	comp=Z,7.0nm,0.6s										
FINES	**FINESS Array B**	**80.46**	**331**		P		**P**		**16 01 31.9**	**-0.9**
	comp=Z,6.8nm,0.6s,baz=37,slow=6.6,SNR=12										
FINES					LR		LR		16 40 33.0		
	comp=Z,562nm,20.0s,baz=78,slow=38										
	comp=Z,6.8nm,0.6s										
AKASG	**Malin Array Be**	**80.53**	**320**		P		**P**		**16 01 32.4**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=68,slow=4.8,SNR=18										
AKASG					LR		LR		16 41 44.6		
	comp=Z,347nm,18.9s,baz=56,slow=39										
	comp=Z,5.4nm,0.8s										
AKBB	**Malin Array Si**	**80.53**	**320**		lAmb		lAmb		16 01 34.8		
	comp=Z,38nm,1.6s										
AKBB	**Malin Array Si**	**80.53**	**320**	*ce*	P		**P**		**16 01 32.5**	**-0.9**
AKBB					pmax		pmax				
	comp=Z,24nm,1.6s										
KIEV	**Kiev**	**80.54**	**320**		P		**P**		**16 01 32.0**	**-1.5**
KIEV					lAmb		lAmb		16 01 34.8		
	comp=Z,34nm,1.6s										
KIEV	**Kiev**	**80.54**	**320**		P		**P**		**16 01 32.0**	**-1.5**
KIEV					pmax		pmax				
	comp=Z,34nm,1.6s										
VSU	**Vasula**	**80.65**	**328**	*ce*	P		**P**		**16 01 32.3**	**-1.6**
VSU					pmax		pmax				
	comp=Z,73nm,1.7s										
VSU	**Vasula**	**80.65**	**328**		*eP*		**P**		**16 01 33.6**	**-0.2**
MNK	**Minsk**	**80.71**	**324**		*eP*		**P**		**16 01 33.4**	**-0.9**
I26K	**Coal Creek Min**	**80.74**	**25**		P		**P**		**16 01 32.9**	**-1.3**
	baz=281										
E27K	**Coleen River**	**80.74**	**22**		P		**P**		**16 01 33.5**	**-0.8**
	baz=282										
JETT	**Jettan, Norway**	**81.08**	**339**		*eP*		**P**		**16 01 36.1**	**0.0**
MEF	**Metsahovi**	**81.50**	**330**		*eP*		**P**		**16 01 38.0**	**-0.4**
F28M	**Old Crow**	**81.51**	**22**		lAmb		lAmb		16 02 21.8		
	comp=Z,33nm,1.9s										
F28M	**Old Crow**	**81.51**	**22**		P		**P**		**16 01 37.9**	**-0.5**
	baz=284										
ISAL	**Salakas**	**81.51**	**325**		*eP*		**P**		**16 01 38.2**	**-0.3**
SORM	**Soroca**	**81.53**	**317**	⇑	P		**P**		**16 01 38.2**	**-0.6**
SORM	**Soroca**	**81.53**	**317**	⇑	P		**P**		**16 01 38.2**	**-0.6**
EGAK	**Eagle**	**81.68**	**25**		P		**P**		**16 01 38.4**	**-0.9**
	baz=283										
I28M	**Miner Creek**	**82.02**	**25**		P		**P**		**16 01 40.1**	**-1.1**
	baz=284										
E29M	**Blow River**	**82.03**	**21**		P		**P**		**16 01 40.8**	**-0.2**
	baz=286										
MTSE	**Matsula**	**82.10**	**328**		*eP*		**P**		**16 01 41.2**	**-0.3**
G29M	**Pine Creek**	**82.39**	**23**		P		**P**		**16 01 42.4**	**-0.6**
	baz=286										
H29M	**Whitestone**	**82.44**	**24**		P		**P**		**16 01 42.2**	**-1.0**
	baz=286										
HORU	**Horodok**	**82.58**	**319**		P		**P**		**16 01 43.5**	**-0.8**
VSVD	**Vaisvydziai**	**82.64**	**326**		*eP*		**P**		**16 01 44.2**	**-0.3**
PABE	**Paberze**	**82.72**	**325**		P		**P**		**16 01 44.2**	**-0.7**
PABE	**Paberze**	**82.72**	**325**		*eP*		**P**		**16 01 44.9**	**0.0**
TESR	**Tescani**	**82.98**	**316**	⇑	P		**P**		**16 01 46.1**	**-0.3**
F30M	**Barrier River**	**83.02**	**22**		P		**P**		**16 01 45.4**	**-0.9**
	baz=288										
EPYK	**Eagle Plains**	**83.04**	**23**		P		**P**		**16 01 45.9**	**-0.6**
	baz=287										
VRI	**Vrincioaia**	**83.06**	**315**	⇑	P		**P**		**16 01 46.3**	**-0.6**
VRI	**Vrincioaia**	**83.06**	**315**	⇑	P		**P**		**16 01 46.3**	**-0.6**
PLOR	**Plostina**	**83.12**	**315**	⇑	P		**P**		**16 01 47.0**	**-0.2**
PLOR	**Plostina**	**83.12**	**315**	⇑	P		**P**		**16 01 47.0**	**-0.2**
STEI	**Steigen**	**83.34**	**338**		*eP*		**P**		**16 01 46.9**	**-1.0**
STEI					lAmb		lAmb		16 01 50.2		
	comp=Z,34nm,0.9s										
M29M	**Somme Creek**	**83.44**	**27**		P		**P**		**16 01 48.6**	**0.0**
	baz=286										
TURR	**Turia**	**83.50**	**316**	⇓	P		**P**		**16 01 50.1**	**+0.9**
FAUS	**Fauske**	**83.51**	**338**		*eP*		**P**		**16 01 47.6**	**-1.1**
FAUS					lAmb		lAmb		16 01 54.6		
	comp=Z,543nm,2.5s										
KMBO	**Kilima Mbogo**	**83.52**	**267**		P		**P**		**16 01 50.2**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=66,slow=11,SNR=5.3										
KMBO					LR		LR		16 38 10.9		
	comp=Z,261nm,18.2s,baz=95,slow=35										
	comp=Z,1.9nm,0.7s										
I30M	**Mount Dempster**	**83.52**	**24**		lAmb		lAmb		16 02 09.7		
	comp=Z,18nm,1.4s										
I30M	**Mount Dempster**	**83.52**	**24**		P		**P**		**16 01 48.0**	**-1.0**
	baz=288										
INK	**Inuvik**	**83.60**	**21**		LR		LR		16 43 48.1		
	comp=Z,82nm,18.1s,baz=196,slow=39										
KSV	**Kosov**	**83.65**	**318**		P		**P**		**16 01 48.7**	**-1.2**
MLR	**Muntele Rosu**	**83.67**	**315**		lAmb		lAmb		16 01 52.8		
	comp=Z,31nm,1.2s										
MLR	**Muntele Rosu**	**83.67**	**315**	⇑	P		**P**		**16 01 50.9**	**+0.7**
MLR	**Muntele Rosu**	**83.67**	**315**		LR		LR		16 44 32.7		
	comp=Z,448nm,18.4s,baz=62,slow=40										
MLR	**Muntele Rosu**	**83.67**	**315**	⇑	P		**P**		**16 01 50.9**	**+0.7**
BURAR	**Bucovina Array**	**83.70**	**317**		lAmb		lAmb		16 01 52.1		
	comp=Z,22nm,0.7s										
BURAR	**Bucovina Array**	**83.70**	**317**	⇑	P		**P**		**16 01 50.7**	**+0.4**
BURAR	**Bucovina Array**	**83.70**	**317**	⇑	P		**P**		**16 01 50.7**	**+0.4**
BUR08	**Bucovina Ar. S**	**83.71**	**317**		lAmb		lAmb		16 01 51.5		
	comp=Z,14nm,0.8s										
G31M	**Satah River**	**83.79**	**22**		P		**P**		**16 01 47.9**	**-2.2**
	baz=289										
F31M	**Tsiigehtchic**	**83.81**	**22**		P		**P**		**16 01 48.0**	**-2.3**
F31M					lAmb		lAmb		16 02 32.5		
	comp=Z,20nm,1.4s										
F31M	**Tsiigehtchic**	**83.81**	**22**		P		**P**		**16 01 48.3**	**-2.0**
	baz=290										
MORS	**Morshin**	**84.22**	**319**		P		**P**		**16 01 53.3**	**+0.6**
MOR8	**Moi Rana**	**84.23**	**337**		*eP*		**P**		**16 01 51.2**	**-1.3**
VOIR		**84.30**	**315**	⇓	P		**P**		**16 01 53.0**	**-0.3**
VOIR		**84.30**	**315**	⇓	P		**P**		**16 01 53.0**	**-0.3**
ARR	**Arges**	**84.60**	**315**	⇑	P		**P**		**16 01 55.0**	**+0.2**
CBBR	**Cluj-Babes-Bol**	**85.00**	**317**	⇑	P		**P**		**16 01 54.6**	**-2.1**
PLVB	**Pleven**	**85.07**	**313**	⇓	P		**P**		**16 01 55.7**	**-1.5**
LOT	**Lotru**	**85.17**	**315**	⇓	P		**P**		**16 01 58.3**	**+0.5**
KOLS	**Kolonicke sedl**	**85.30**	**319**		*eP*		**P**		**16 01 58.8**	**+0.6**
KOLS					pmax		pmax				
	comp=Z,11nm,0.7s										
KOLS	**Kolonicke sedl**	**85.30**	**319**		*eP*		**P**		**16 01 58.8**	**+0.6**
MARR	**Marisel-Cluj**	**85.31**	**317**	⇓	P		**P**		**16 01 59.2**	**+0.7**
UZH	**Uzhgorod**	**85.36**	**319**		P		**P**		**16 01 59.1**	**+0.6**
RAR	**Rarotonga**	**85.58**	**113**		LR		LR		16 33 43.1		
	comp=Z,233nm,21.4s,baz=296,slow=31										
FARO	**Faro, Yukon**	**85.77**	**27**		P		**P**		**16 01 59.9**	**-0.4**
	baz=290										
NSS	**Namsos**	**85.78**	**336**		*eP*		**P**		**16 01 59.2**	**-1.1**
NSS					lAmb		lAmb		16 02 04.7		
	comp=Z,176nm,1.7s										
CRVS	**Cervenica-Dubn**	**85.83**	**319**		*eP*		**P**		**16 02 01.5**	**+0.7**
CRVS					pmax		pmax				
	comp=Z,196nm,2.2s										
CRVS	**Cervenica-Dubn**	**85.83**	**319**		*eP*		**P**		**16 02 01.5**	**+0.7**
STHS	**Stebnicka Huta**	**85.83**	**320**		*eP*		**P**		**16 02 00.7**	**-0.1**
STHS	**Stebnicka Huta**	**85.83**	**320**		*eP*		**P**		**16 02 00.7**	**-0.1**
GZR	**Gura Zlata**	**85.87**	**316**	⇓	P		**P**		**16 01 57.8**	**-3.4**
SURR	**Surduc**	**86.22**	**316**	⇓	P		**P**		**16 02 02.2**	**-0.6**
HERR	**Herculane**	**86.24**	**315**	⇑	P		**P**		**16 02 01.5**	**-1.5**
BLKB	**Belogradchik**	**86.39**	**314**	⇑	P		**P**		**16 02 03.7**	**-0.1**
SIRR	**Siria**	**86.39**	**317**	⇑	P		**P**		**16 02 03.4**	**-0.3**
NIE	**Niedzica**	**86.42**	**320**		*eP*		**P**		**16 02 04.5**	**+0.7**
NIE	**Niedzica**	**86.42**	**320**		P		**P**		**16 02 04.7**	**+0.9**
NIE					pmax		pmax				
	comp=Z,11nm,0.8s										
OJC	**Ojcow**	**86.51**	**321**		*eP*		**P**		**16 02 04.2**	**0.0**
OJC	**Ojcow**	**86.51**	**321**		P		**P**		**16 02 04.4**	**+0.3**
OJC					pmax		pmax				
	comp=Z,36nm,0.8s										
KECS	**Kecovo**	**86.56**	**319**		*eP*		**P**		**16 02 05.0**	**+0.5**
KECS					pmax		pmax				
	comp=Z,16nm,0.7s										
KECS	**Kecovo**	**86.56**	**319**		*eP*		**P**		**16 02 05.0**	**+0.5**
BZS	**Buzias**	**86.60**	**316**	⇓	P		**P**		**16 02 04.5**	**-0.2**
BZS	**Buzias**	**86.60**	**316**	⇓	P		**P**		**16 02 04.5**	**-0.2**
HFS	**Hagfors**	**86.65**	**331**		P		**P**		**16 02 03.3**	**-1.3**
	comp=Z,3.8nm,0.6s,baz=148,slow=4.2,SNR=14										
HFS					LR		LR		16 43 37.2		
	comp=Z,504nm,20.0s,baz=59,slow=38										
	comp=Z,3.8nm,0.6s										
IDI	**Anoyia**	**86.79**	**305**		LR		LR		16 44 50.5		
	comp=Z,99nm,21.5s,baz=84,slow=38										
LANS	**Liptovska Anna**	**87.02**	**320**		*eP*		**P**		**16 02 07.9**	**+1.2**
LANS					pmax		pmax				
	comp=Z,4.0nm,0.9s										
LANS	**Liptovska Anna**	**87.02**	**320**		*eP*		**P**		**16 02 07.9**	**+1.2**
PSZ	**Piszkesteto**	**87.10**	**319**		lAmb		lAmb		16 02 17.3		
	comp=Z,16nm,1.4s										
NC602	**NORSAR Array S**	**87.42**	**332**		*eP*		**P**		**16 02 07.9**	**-0.4**
NB2	**NORSAR Subarra**	**87.45**	**333**		P		**P**		**16 02 07.0**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=67,slow=4.8										
NB2	**NORSAR Subarra**	**87.45**	**333**		P		**P**		**16 02 07.0**	**-1.5**
	baz=67,slow=4.8										
NOA	**NORSAR Array B**	**87.45**	**333**		P		**P**		**16 02 07.0**	**-1.5**
	comp=Z,4.4nm,0.7s,baz=69,slow=4.7,SNR=14										
NOA					LR		LR		16 45 28.6		
	comp=Z,417nm,18.7s,baz=65,slow=38										
	comp=Z,4.4nm,0.7s										
VYHS	**Vyhne**	**87.61**	**319**		*eP*		**P**		**16 02 09.5**	**-0.1**
VYHS					pmax		pmax				
	comp=Z,48nm,2.4s										
VYHS	**Vyhne**	**87.61**	**319**		*eP*		**P**		**16 02 09.5**	**-0.1**
MAUC	**Maruska**	**87.98**	**320**		*eP*		**P**		**16 02 11.8**	**+0.5**
MORC	**Moravsky Berou**	**88.03**	**321**		lAmb		lAmb		16 02 14.2		
	comp=Z,8.9nm,1.1s										
MORC	**Moravsky Berou**	**88.03**	**321**		*eP*		**P**		**16 02 11.5**	**-0.1**
MORC	**Moravsky Berou**	**88.03**	**321**	⇑	P		**P**		**16 02 11.5**	**-0.1**
MORC	**Moravsky Berou**	**88.03**	**321**	⇑	P		**P**		**16 02 11.5**	**-0.1**
SRO	**Srobarova**	**88.15**	**319**		*eP*		**P**		**16 02 12.5**	**+0.4**
SRO	**Srobarova**	**88.15**	**319**		*eP*		**P**		**16 02 12.5**	**+0.4**
JAVC	**Velka Javorina**	**88.23**	**320**		*eP*		**P**		**16 02 13.7**	**+1.1**
KRLC	**Kraliky**	**88.40**

LBTB	**Lobatse**	**99.72**	**247**	LR	LR	16 46 37.1
	comp=Z,207nm,19.2s,baz=82,slow=34					
LL02	**Futaleuf**	**148.42**	**163**		**PKPbc**	**16 09 07.5 -0.2**
PLCA	**Paso Flores**	**151.06**	**163**		**PKPbc**	**16 09 14.2 -0.3**
PLCA	**Paso Flores**	**151.06**	**163**	PKIKP	**PKPbc**	**16 09 14.2 -0.3**
PLCA	**Paso Flores**	**151.06**	**163**	PKPbc	**PKPbc**	**16 09 14.4 0.0**
	comp=Z,3.7nm,0.7s,baz=185,slow=2.0,SNR=6.9					
CPUP	**Villa Florida**	**166.85**	**189**		**PKPab**	**16 10 31.2 +0.8**
CPUP	**Villa Florida**	**166.85**	**189**	PKP2	**PKPab**	**16 10 31.2 +0.8**
CPUP	**Villa Florida**	**166.85**	**189**	PKPab	**PKPab**	**16 10 30.8 +0.4**
	comp=Z,7.6nm,1.1s,baz=207,slow=4.7,SNR=6.5					

TEH ***14*** *16:15:54.0,28˚.04N×56˚.71E, h8km±76km, ML2.6*
OMAN ***14*** *16:15:57.2±1.0,27˚.71N×56˚.63E, h10km, ml2.2/8, Error ellipse: s-maj=9.1km s-min=5.5km az=136.0*

ISC 14 16:15:55.5±1.6, 27˚.92N±0˚.05×56.71E±0˚.05, h23km±16km, n19, σ1§11/30, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.49**	**198**		Pg		**Pb**	**16 16 05.4**	**-0.1**
IBND					Sg		**Sn**	**16 16 15.5**	**+0.6**
GENO	**Geno**	**0.70**	**223**		Pg		**Pb**	**16 16 09.4**	**+0.1**
KHNJ	**Kahnooj**	**0.88**	**88**		Pg		**Pb**	**16 16 11.3**	**-0.9**
NGRK	**Negar Kerman**	**1.72**	**1**		Pg		**Pn**	**16 16 25.0**	**+0.6**
SHME	**Shamm**	**1.93**	**195**		P		**Pn**	**16 16 28.1**	**+1.2**
SHME					S		**Sn**	**16 16 49.4**	**-1.0**
KBAM	**BAM**	**1.95**	**51**		Pn		**Pn**	**16 16 28.2**	**+0.8**
BANOM	**Banah**	**2.02**	**191**		P		**Pn**	**16 16 28.8**	**+0.6**
BANOM					S		**Sn**	**16 16 51.4**	**-1.4**
CHMN	**Cheshme madani**	**2.07**	**20**		Pn		**Pn**	**16 16 30.3**	**+1.2**
JASK	**Jask - Hormozg**	**2.29**	**153**		P		**Pn**	**16 16 32.4**	**+0.5**
JASK					S		**Sn**	**16 17 00.7**	**+1.3**
MASF	**Masafi**	**2.58**	**191**		P		**Pn**	**16 16 37.8**	**+1.8**
MASF					S		**Sn**	**16 17 06.2**	**-0.5**
MDH	**Madha**	**2.63**	**188**		P		**Pn**	**16 16 37.6**	**+1.0**
MDH					S		**Sn**	**16 17 06.5**	**-1.4**
NAZ	**Nazwa, Dubai**	**3.07**	**198**		P		**Pn**	**16 16 42.5**	**-0.1**
HATD	**Hatta, Dubai**	**3.12**	**190**		S		**Sn**	**16 17 19.1**	**-0.9**
ASHO	**Ashiyiah**	**3.27**	**190**		P		**Pn**	**16 16 46.6**	**+1.1**
	SNR=6.2								
ASHO					S		**Sn**	**16 17 21.5**	**-2.2**
FAQ	**Al Faqa, Dubai**	**3.31**	**198**		P		**Pn**	**16 16 46.3**	**+0.2**
	SNR=8.9								
FAQ					S		**Sn**	**16 17 24.5**	**-0.2**
ASUD	**Al Ashush, Dub**	**3.50**	**201**		P		**Pn**	**16 16 49.9**	**+1.3**
	SNR=9.7								
ASUD					S		**Sn**	**16 17 29.8**	**+0.4**
WSAR	**Wadi Sarin**	**4.97**	**159**		P		**Pn**	**16 17 09.5**	**+0.7**
WSAR					S		**Sn**	**16 18 05.0**	**-0.6**
SMDO	**Samad**	**4.99**	**166**		P		**Pn**	**16 17 10.6**	**+1.5**
SMDO					S		**Sn**	**16 18 04.4**	**-1.8**
SHMA	**Al-Shehemyia**	**5.53**	**250**		P		**Pn**	**16 17 16.2**	**-0.2**

IDC ***14*** *16:21:06.3±2.2, 7˚.78S×127˚.58E, h0km, mb3.4/1, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=267.2km s-min=32.5km az=63.0*

ISC 14 16:21:07.4±1.6, 8˚.4S±0˚.2×127˚.0E±0˚.3, h10km, n6, σ2§35/6, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.04**	**138**		P		Pn	16 22 43.0	+6.0
KDU	**Kakadu**	**6.91**	**129**		P		**Pb**	**16 22 48.3**	**-0.5**
KNRA	**Kununurra**	**7.47**	**167**		P		**Pb**	**16 23 15.2**	**-2.1**
WRA	**Warramunga Arr**	**13.54**	**149**		Pn		**Pn**	**16 24 21.8**	**+2.1**
	0.7nm,0.3s,baz=329,slow=14,SNR=26								
WRA					Sn		Sn	16 26 40.9	-10
	0.6nm,0.3s,baz=334,slow=22,SNR=8.5								
	1.3nm,0.5s								
ASAR	**Alice Springs**	**16.60**	**157**		Pn		**P**	**16 25 05.6**	**+2.6**
	0.3nm,0.3s,baz=338,slow=9.6,SNR=40								
ASAR					Sn		**Sn**	**16 28 04.3**	**-0.7**
	0.1nm,0.3s,baz=318,slow=15,SNR=3.0								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**67.77**	**329**		P		**P**	**16 32 04.8**	**-0.6**
	0.1nm,0.3s,baz=117,slow=7.6,SNR=4.3								
	0.1nm,0.3s								

SSNC ***14*** *16:31:07.8±0.9, 19˚.74N×70˚.45W, h20km±9km, MD3.3, ML3.5*
SDD ***14*** *16:31:11.5±1.3, 19˚.80N×70˚.85W, h11km±41km, MD3.6, ML3.5, MW3.5*
OSPL ***14*** *16:31:14.6±2.7, 19˚.76N×70˚.82W, h12km±7km, ML3.2*

ISC 14 16:31:11.0±1.4, 19˚.78N±0˚.05×70˚.84W±0˚.02, h9km±10km, n26, σ0§92/48, 9C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.35**	**283**	*i*	P		**Pn**	**16 31 22.0**	**-0.2**
LOPP1					eS		**Sb**	**16 31 28.1**	**+3.1**
LOPP1					IAML			16 31 37.6	
	comp=Z,2μm,1.8s								
SC01	**Santiago de lo**	**0.36**	**163**	*i*	P		**Pb**	**16 31 20.1**	**+0.5**
SC01					eS		**Sb**	**16 31 26.3**	**+0.9**
SC01					IAML			16 31 34.7	
	comp=Z,3μm,0.5s								
LODA1	**ITESIL, Dajabo**	**0.85**	**254**		eSg		**Sg**	**16 31 39.3**	**+1.0**
LODA1					IAML			16 31 42.4	
	comp=N,6μm,0.3s								
LODA1	**ITESIL, Dajabo**	**0.85**	**254**	*i*	P		**Pn**	**16 31 29.9**	**+0.8**
LODA1					eS		**Sn**	**16 31 41.4**	**-0.3**
LODA1					IAML			16 31 45.1	
	comp=Z,2μm,0.2s								
SDDR	**Presa de Saban**	**0.90**	**208**	⇓*e*	Pg		**Pg**	**16 31 28.4**	**+0.2**
SDDR					eSg		**Sg**	**16 31 40.3**	**+0.4**
SDDR					IAML			16 31 42.1	
	comp=N,1μm,0.8s								
SDDR	**Presa de Saban**	**0.90**	**208**	*e*	P		**Pg**	**16 31 28.3**	**+0.2**
SDDR					eS		**Sg**	**16 31 38.4**	**-1.5**
SDDR					eSg		**Sb**	**16 31 40.8**	**-0.1**
SDDR					IAML			16 31 41.9	
	comp=N,704nm,0.3s								
SDDR					IAML			16 31 42.4	
	comp=N,990nm,0.4s								
SDDR	**Presa de Saban**	**0.90**	**208**	*i*	P		**Pg**	**16 31 28.4**	**+0.2**
SDDR					IAML			16 31 42.0	
	comp=Z,740nm,0.6s								
ABDR	**Alto Bandera**	**0.98**	**168**	⇓*e*	Pg		**Pg**	**16 31 29.6**	**-0.3**
ABDR				⇑	eSg		**Sb**	**16 31 43.1**	**-0.4**
ABDR					IAML			16 31 44.4	
	comp=N,1μm,0.5s								
LONA1	**Toro Cenizo, N**	**1.00**	**113**	*i*	P		**Pn**	**16 31 31.9**	**+0.8**
LONA1					eS		**Sn**	**16 31 45.0**	**-0.4**
LONA1					IAML			16 31 50.6	
	comp=Z,2μm,1.1s								
DR08	**Loma La Naviza**	**1.12**	**136**	*e*	Pg		**Pb**	**16 31 32.4**	**-0.1**
DR08				⇑	eSg		**Sn**	**16 31 48.1**	**-0.3**
DR08					IAML			16 31 52.3	
	comp=N,3μm,0.2s								
LOSC1	**San Cristbal**	**1.53**	**153**	*e*	S		**Sb**	**16 31 58.5**	**-0.4**
LOSC1					IAML			16 32 06.2	
	comp=Z,1μm,0.4s								
SDD	**Santo Domingo**	**1.58**	**146**	⇑	ePg		**Pb**	**16 31 40.1**	**-0.1**
SDD					eSg		**Sg**	**16 32 01.0**	**-0.7**
SDD					IAML			16 32 05.0	
	comp=N,81nm,0.5s								
SDD	**Santo Domingo**	**1.58**	**146**	*i*	P		**Pb**	**16 31 40.3**	**0.0**
SDD					eS		**Sn**	**16 31 58.9**	**-0.8**
SMDR	**Samana, DR**	**1.63**	**107**	⇑	ePg		**Pb**	**16 31 40.9**	**-0.3**
SMDR				⇑	*e*			16 31 40.9	
SMDR				⇑	eSg		**Sg**	**16 32 03.5**	**+0.1**
SMDR					IAML			16 32 13.9	
	comp=N,374nm,0.4s								
HATOM	**Hato Mayor del**	**1.69**	**125**	⇑	ePg		**Pb**	**16 31 41.5**	**-0.8**
HATOM				⇑	eSg		**Sg**	**16 32 04.7**	**-0.7**
HATOM					IAML			16 32 05.4	
	comp=N,381nm,0.3s								
LOBA2	**Hotel Casa Bon**	**1.70**	**188**	*e*	Pg		**Pb**	**16 31 41.9**	**-0.6**
LOBA2					eSg		**Sg**	**16 32 05.4**	**-0.4**
PAPH	**Port-au-Prince**	**1.86**	**228**	⇑	ePg		**Pb**	**16 31 45.2**	**+0.1**
PAPH					eSg		**Sb**	**16 32 10.2**	**+1.6**
PAPH					IAML			16 32 12.9	
	comp=N,560nm,0.3s								
PAPH	**Port-au-Prince**	**1.86**	**228**	*e*	P		**Pb**	**16 31 45.0**	**-0.2**
PAPH					eS		**Sb**	**16 32 08.7**	**+0.2**
PAPH					IAML			16 32 13.0	
	comp=N,222nm,0.3s								
PAPH					IAML			16 32 13.2	
	comp=E,168nm,0.2s								
PAPH	**Port-au-Prince**	**1.86**	**228**	*i*	P		**Pb**	**16 31 45.2**	**+0.1**
PAPH					eS		**Sn**	**16 32 07.7**	**+1.0**
PAPH					IAML			16 32 25.4	
	comp=Z,109nm,0.7s								
MASC	**Masc**	**3.21**	**278**	*e*	P		**Pn**	**16 32 01.0**	**-0.6**
MASC					eS		**Sn**	**16 32 39.3**	**-0.8**
MASC					IAML			16 32 53.7	
	comp=E,67nm,0.3s								
MASC					IAML			16 32 54.4	
	comp=N,130nm,0.3s								
MASC	**Masc**	**3.21**	**278**	*i*	P		**Pn**	**16 32 01.6**	**-0.1**
MASC					eS		**Sn**	**16 32 40.4**	**+0.2**
MASC					IAML			16 32 53.9	
	comp=Z,70nm,0.3s								
CRPR	**Cabo Rojo, PR**	**3.94**	**116**	*i*	P		**Pn**	**16 32 13.8**	**+2.1**
CRPR					IAML			16 33 32.0	
	comp=Z,94nm,1.0s								
MOAC	**Moa**	**3.97**	**284**	*e*	P		**Pn**	**16 32 10.7**	**-1.4**
MOAC					eS		**Sn**	**16 32 56.5**	**-2.2**
NMDO	**Nuevo Mundo**	**3.97**	**282**	*e*	S		**Sn**	**16 32 57.7**	**-1.1**
GTBY	**Guantanamo Bay**	**4.02**	**273**	*e*	P		**Pn**	**16 32 11.8**	**-1.0**
GTBY					eS		**Sn**	**16 32 59.4**	**-0.7**
GTBY	**Guantanamo Bay**	**4.02**	**273**	*i*	P		**Pn**	**16 32 12.6**	**-0.2**
GTBY				⇓	eS		**Sn**	**16 32 60.0**	**-0.1**
GTBY					IAML			16 33 24.8	
	comp=Z,19nm,2.4s								

IDC ***14*** *16:35:23.4±6.7, 23˚.97N×126˚.45E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=379.5km s-min=28.9km az=62.0*
JMA ***14*** *16:35:25.3±0.3, 24˚.N±1˚×12˚.7E±˚, h61km, MV3.1/23, NEAR MIYAKOJIMA ISLAND*

ISC 14 16:35:25.1±1.0, 24˚.32N±0˚.07×127˚.30E±0˚.04, h35km, n22, σ1§51/34, mb3.3/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.78**	**285**		eS		**Sn**	**16 36 13.6**	**-1.2**
JMJ2	**Miyako jima3**	**1.85**	**283**		eP		**Pn**	**16 35 53.9**	**-0.3**
JMJ2					eS		**Sn**	**16 36 14.2**	**-2.2**
JJT3	**Tamagusuku3**	**1.87**	**13**		P		**Pn**	**16 35 54.8**	**+0.2**
JJT3					eS		**Sn**	**16 36 16.8**	**-0.1**
JIKM	**Ikemajima**	**1.96**	**288**		eP		**Pn**	**16 35 55.1**	**-0.7**
JIKM					S		**Sn**	**16 36 18.1**	**-1.2**
JIRB	**Irabujima**	**2.00**	**285**		eP		**Pn**	**16 35 56.1**	**-0.3**
JIRB					eS		**Sn**	**16 36 18.0**	**-2.2**
JKE	**Kume jima 2**	**2.05**	**347**		P		**Pn**	**16 35 57.1**	**0.0**
JKE					S		**Sn**	**16 36 20.4**	**-1.0**
JAGN	**Aguni-jima**	**2.26**	**359**		P		**Pn**	**16 36 00.4**	**+0.5**
JAGN					S		**Sn**	**16 36 25.8**	**-0.8**
JNTH	**Nagotoyohara**	**2.28**	**16**		P		**Pn**	**16 36 00.0**	**-0.2**
JNTH					eS		**Sn**	**16 36 25.0**	**-2.2**
JTJ	**Tarama**	**2.39**	**278**		eP		**Pn**	**16 36 01.7**	**0.0**
JTJ					eS		**Sn**	**16 36 27.1**	**-2.7**
JOW	**Kunigami**	**2.65**	**19**		P		**Pn**	**16 36 05.9**	**+0.6**
JOW					S		**Sn**	**16 36 34.4**	**-1.9**
JISG	**Ishigakijimahi**	**2.74**	**276**		P		**Pn**	**16 36 06.4**	**-0.1**
JIH	**Iheya**	**2.77**	**12**		eS		**Sn**	**16 36 38.1**	**-1.0**
JYRO	**Yoronjima**	**2.88**	**21**		S		**Sn**	**16 36 40.6**	**-1.4**
JOKE	**Okinoerabujima**	**3.24**	**20**		eP		**Pn**	**16 36 14.3**	**+0.9**
JOKE					eS		**Sn**	**16 36 48.8**	**-1.9**
JTK	**Tokunoshima**	**3.75**	**23**		P		**Pn**	**16 36 21.1**	**+0.6**
JTK					eS		**Sn**	**16 37 01.0**	**-2.5**
JMZ	**Minamidaito 2**	**3.86**	**66**		eP		**Pn**	**16 36 20.4**	**-1.4**
JKDJ	**Kitadaitoujima**	**3.97**	**65**		eS		**Sn**	**16 37 05.9**	**-2.8**
JAMN	**Amaminishikomi**	**4.25**	**23**		eP		**Pn**	**16 36 28.3**	**+1.0**
JAMN					eS		**Sn**	**16 37 13.0**	**-2.7**
JAM	**Amami Oshima**	**4.57**	**26**		P		**Pn**	**16 36 31.9**	**+0.3**
MKAR	**Makanchi Array**	**42.21**	**314**		P		**P**	**16 43 15.4**	**+0.8**
	0.2nm,0.5s,baz=99,slow=11,SNR=5.8								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**44.53**	**171**		P		**P**	**16 43 34.4**	**+0.9**
	0.6nm,0.7s,baz=350,slow=8.6,SNR=3.2								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**48.13**	**172**		P		**P**	**16 44 04.1**	**+2.3**
	0.3nm,0.9s,baz=357,slow=15,SNR=6.1								
	0.3nm,0.9s								

WEL 14 16:37:57.9±1.3, 35˚S±12˚×18˚0E±2˚3, h12km, M3.6/9, ML3.8/13, MLv3.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=114.3, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.90**	**203**		P		Pn	16 38 43.9	0.0
WMGZ					S		Sb	16 39 22.5	-2.4
PKGZ	**Pakihiroa**	**3.08**	**207**		P		Pn	16 38 45.6	-0.8
PKGZ					S		Sn	16 39 22.8	-0.3
HAZ	**Te Kaha**	**3.08**	**212**		P		Pn	16 38 48.8	+2.4
PUZ	**Puketiti**	**3.18**	**203**		P		Pn	16 38 47.9	+0.1
RUGZ	**Raukumara Rang**	**3.30**	**211**		P		Pn	16 38 49.3	-0.3
RUGZ					S		Sn	16 39 28.9	0.0
TWGZ	**Tauwhareparae**	**3.37**	**206**		P		Pn	16 38 50.4	-0.1
TWGZ					S		Sn	16 39 32.7	+2.3
CNGZ	**Carnagh Statio**	**3.57**	**201**		P		Pn	16 38 50.4	-2.8
URZ	**Urewera**	**3.80**	**214**		P		Pn	16 38 55.5	-0.8
RIGZ	**Rimuhau**	**3.92**	**205**		P		Pn	16 38 57.0	-1.0
MUGZ	**Murupara**	**4.13**	**216**		P		Pn	16 39 00.3	-0.5
RTZ	**Ruatahuna**	**4.15**	**213**		P		Pn	16 39 01.0	-0.2
TOZ	**Tahuroa Road**	**4.34**	**232**		P		Pn	16 39 05.0	+1.3
RAHZ	**Arahi**	**4.36**	**210**		P		Pn	16 39 03.6	-0.4
RAHZ					S		Sn	16 39 55.2	+0.5
MTHZ	**Maungataniwha**	**4.40**	**212**		P		Pn	16 39 05.3	+0.7
MTHZ					S		Sn	16 39 53.8	-2.0
NMHZ	**Naumai**	**4.62**	**211**		P		Pn	16 39 08.7	+1.0
TMVZ	**Te Maari**	**5.15**	**219**		P		Pn	16 39 16.0	+1.0
NTVZ	**North Tongarir**	**5.16**	**219**		P		Pn	16 39 21.9	-6.2
ETVZ	**East Tongariro**	**5.17**	**218**		P		Pn	16 39 15.8	+0.6
OTVZ	**Oturere**	**5.21**	**219**		P		Pn	16 39 16.3	+0.5
SNVZ	**South Ngauruho**	**5.24**	**219**		P		Pb	16 39 23.4	-6.2
BHHZ	**Black Hill Sta**	**5.27**	**214**		P		Pn	16 39 17.9	+1.3
BHHZ					S		Sb	16 40 34.9	+1.6
WNVZ	**Wahianoa**	**5.37**	**218**		P		Pn	16 39 24.5	+6.5

TAP 14 16:42:29.5, 24˚.40N×121˚.83E, h14km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.07**	**315**	*i*	P		Pg	16 42 33.2	+0.8
	baz=314								
EWUT				*i*	S		Sg	16 42 35.1	+0.8
	baz=314								
ENA	**Nanau**	**0.09**	**291**	*i*	P		Pg	16 42 33.4	+0.8
	baz=291								
ENA				*i*	S		Sg	16 42 35.5	+0.8
	baz=291								
EAHA	**Aohua**	**0.11**	**232**		P		Pb	16 42 33.4	0.0
	baz=232								
EAHA					eS		Sb	16 42 36.1	+0.2
	baz=232								
ESAO	**Su ao**	**0.18**	**3**		P		Pb	16 42 34.4	-0.2
	baz=3.0								
ESAO					S		Sg	16 42 37.3	+0.6
	baz=3.0								
TWC	**Suao**	**0.21**	**4**	*i*	P		Pb	16 42 35.0	-0.2
	baz=6.0								
TWC				*i*	S		Sg	16 42 38.1	+0.5
	baz=6.0								
NDS	**Dongshan**	**0.26**	**336**	*i*	P		Pb	16 42 36.2	+0.2
	baz=335								
NDS				*i*	S		Sb	16 42 40.2	-0.1
	baz=335								
ETL	**Fush Village**	**0.30**	**219**		P		Pb	16 42 36.4	-0.3
	baz=219								
ETL					S		Sb	16 42 41.1	-0.5
	baz=219								
NACB	**Ninganchiao**	**0.31**	**225**	*i*	P		Pb	16 42 36.5	-0.4
	baz=224								
NACB				*i*	S		Sb	16 42 41.1	-0.6
	baz=224								
LATG	**Datong**	**0.31**	**296**	*i*	P		Pb	16 42 37.2	+0.3
	baz=296								
LATG				*i*	S		Sb	16 42 41.9	0.0
	baz=296								
ENTT	**Nioudou**	**0.34**	**315**	*i*	P		Pb	16 42 37.9	+0.4
	baz=315								
ENTT				*i*	S		Sb	16 42 42.5	-0.2
	baz=315								
NDT	**Datong Townshi**	**0.36**	**305**		P		Pb	16 42 38.4	+0.7
	baz=305								
NDT				*i*	S		Sb	16 42 43.3	+0.2
	baz=305								
TWE	**Neicheng**	**0.36**	**335**	*i*	P		Pb	16 42 38.0	+0.4
	baz=336								
TWE					S		Sb	16 42 43.5	+0.4
	baz=336								
EOS2	**EOS2**	**0.36**	**86**	*i*	P		Pb	16 42 37.7	0.0
	baz=86								
EOS2				*i*	S		Sb	16 42 43.7	+0.5
	baz=86								
ETLH	**Xiulin Townshi**	**0.37**	**240**		P		Pb	16 42 37.8	-0.1
	baz=239								
ETLH					S		Sb	16 42 43.6	+0.1
	baz=239								
TWD	**Chiawan**	**0.38**	**215**	*i*	P		Pb	16 42 37.8	-0.3
	baz=213								
NNSB	**Datong**	**0.41**	**275**		P		Pb	16 42 39.1	+0.5
	baz=274								
NNSB					S		Sb	16 42 44.7	-0.1
	baz=274								
FUSB	**Fushanzhiwuyua**	**0.43**	**328**		P		Pb	16 42 39.5	+0.6
	baz=328								
FUSB					S		Sb	16 42 45.1	0.0
	baz=328								
EOS3	**EOS3**	**0.46**	**104**		P		Pb	16 42 39.0	-0.1
	baz=103								
EOS3					S		Sb	16 42 46.1	+0.3
	baz=103								
HWA	**Hwalien**	**0.47**	**207**	*e*	S		Sb	16 42 47.6	+1.4
	baz=205								
NWLT	**Wulai**	**0.48**	**322**	*e*	P		Pb	16 42 39.5	-0.3
	baz=321								
NWLT				*e*	S		Sb	16 42 46.9	+0.1
	baz=321								
YHNB	**Yeheng**	**0.50**	**303**		P		Pb	16 42 40.6	+0.6
	baz=303								
YHNB					S		Sb	16 42 47.5	+0.3
	baz=303								
NSK	**Sanguang**	**0.52**	**303**	*i*	P		Pg	16 42 40.0	+0.3
	baz=302								
NSK					S		Sb	16 42 47.7	0.0
	baz=302								
ETM	**Tongmen**	**0.53**	**216**	*e*	P		Pb	16 42 40.4	-0.1
	baz=215								
ETM				*e*	S		Sb	16 42 48.4	+0.3
	baz=215								
LXIB	**Xiulin Townshi**	**0.54**	**226**		P		Pg	16 42 40.2	+0.1
	baz=225								
LXIB					S		Sb	16 42 49.1	+0.7
	baz=225								
FUSS	**Fushou**	**0.56**	**255**		P		Pb	16 42 41.6	+0.4
	baz=254								
FUSS					S		Sb	16 42 49.7	+0.6
	baz=254								
TIPB	**Shuangxi**	**0.57**	**359**	*e*	P		Pb	16 42 41.7	+0.4
	baz=359								
TIPB				*e*	S		Sg	16 42 48.8	+0.3
	baz=359								
WHF	**Hehuan Shan**	**0.57**	**244**	*i*	P		Pb	16 42 41.6	+0.1
	baz=243								
WHF					S		Sb	16 42 50.1	+0.3
	baz=243								
CHGB	**Renai**	**0.69**	**241**		P		Pb	16 42 44.1	+0.7
	baz=240								
CHGB					S		Sb	16 42 53.9	+1.1
	baz=240								
NFF	**Wufeng Townshi**	**0.69**	**290**	*e*	P		Pb	16 42 43.8	+0.4
	baz=289								
NFF				*e*	S		Sb	16 42 53.1	+0.2
	baz=289								
SXI1	**Grass Mountain**	**0.70**	**3**	*e*	P		Pn	16 42 44.5	-0.4
	baz=3.0								
OWD	**Renai**	**0.74**	**234**	*e*	P		Pb	16 42 44.8	+0.5
	baz=233								
WUSB	**Renai**	**0.77**	**239**	*e*	P		Pb	16 42 45.2	+0.5
	baz=238								
WUSB				*e*	S		Sb	16 42 56.0	+0.9
	baz=238								
YM01	**YM01**	**0.78**	**342**	*e*	P		Pb	16 42 45.4	+0.4
	baz=342								
YM01				*e*	S		Sn	16 42 57.5	-0.2
	baz=342								
WARBT	**Fenglin Townsh**	**0.79**	**211**	*e*	P		Pb	16 42 45.2	+0.2
	baz=211								
WHP	**Taichung City**	**0.82**	**262**	*e*	P		Pb	16 42 46.1	+0.5
	baz=261								

JMA 14 16:43:05.5±0.5, 25˚N±2˚×12˚4E±˚, h7km, MV1.9/6, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.72**	**129**		P		Pg	16 43 19.5	+0.1
JISG					eS		Sg	16 43 29.5	+0.8
JIJ	**Ishigaki jima**	**0.79**	**149**		P		Pg	16 43 20.3	-0.4
JIJ					eS		Sg	16 43 31.1	+0.1
JKRS	**Kuro-shima**	**0.85**	**161**	*e*	P		Pb	16 43 22.3	-0.4
JKRS					S		Sg	16 43 33.4	+0.5
YOJ	**Yonaguni jima**	**0.85**	**227**		S		Sg	16 43 32.9	-0.2
JTJ	**Tarama**	**0.99**	**114**	*e*	S		Sg	16 43 37.3	-0.3

IDC 14 16:49:53.2±4.5, 19˚.83S×178˚.15W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=190.6km s-min=36.6km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.96**	**243

IRAZ	**Razeghan**	**3.89**	**62**	Pn	**Pn**	**17 18 07.7**	**+1.4**
IPIR	**Pirpir**	**4.45**	**101**	Pn	**Pn**	**17 18 15.3**	**+1.2**
ISHB	**Shabestar**	**4.61**	**359**	Pn	**Pn**	**17 18 16.8**	**+0.5**
QAMS	**Qamsar**	**4.73**	**88**	Pn	**Pn**	**17 18 19.4**	**+1.4**
IVRN	**Varamin**	**5.15**	**73**	Pn	**Pn**	**17 18 24.2**	**+0.7**
KRSH	**Karshahi**	**5.35**	**85**	Pn	**Pn**	**17 18 27.5**	**+1.1**
IZEF	**Zefreh**	**5.59**	**96**	Pn	**Pn**	**17 18 31.3**	**+1.6**
IRAM	**Ramesheh**	**5.91**	**106**	Pn	**Pn**	**17 18 35.4**	**+1.3**

PGC ***14*** *17:25:20.0±3.8, 50°.51N×130°.28W, h10km, MLSn3.3/17, Mw3.9/17, Mw3.9/17, 203km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***14*** *17:25:22.7±2.3, 50°.61N×129°.84W, h0km, mb3.6/1, mbtmp3.4/5, ML3.5/4, Error ellipse: s-maj=27.8km s-min=16.9km az=62.0*

ISC 14 17:25:19.7±3.0, 50°.55N±0°.07×130°.15W±0°.07, h2km±19km, n42, σ1°88/45, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.29**	**85**	Pn	**Pn**	**17 25 42.9**	**-1.8**
HOLB				Sn	**Sg**	**17 25 59.5**	**-1.6**
PHC	**Port Hardy**	**1.74**	**84**	Pn	**Pn**	**17 25 49.5**	**-1.3**
PHC				Sn	**Sn**	**17 26 10.2**	**-3.3**
HG4B	**Hotspring**	**1.86**	**340**	Pn	Pn	17 25 49.8	-2.8
HG4B				Sn	**Sn**	**17 26 12.8**	**-3.8**
MAYB	**Maynard**	**1.91**	**93**	Pn	**Pn**	**17 25 51.4**	**-1.9**
BBB	**Bella Bella** 3.2nm,0.3s,baz=220,slow=4.7,SNR=32	**2.07**	**37**	Pn	**Pn**	**17 25 55.0**	**-0.4**
BBB	18nm,0.3s,baz=323,slow=19,SNR=13			Sn	**Sn**	**17 26 19.6**	**-2.2**
BBB	**Bella Bella**	**2.07**	**37**	Pn	**Pn**	**17 25 54.3**	**-1.1**
BAIB	**Barry Inlet**	**2.26**	**334**	Pn	**Pn**	**17 25 55.8**	**-2.2**
BNB	**Barry Inlet**	**2.26**	**334**	Pn	**Pn**	**17 25 55.7**	**-2.3**
WOSB	**Woss**	**2.33**	**98**	Pn	**Pn**	**17 25 57.8**	**-1.2**
NCRB	**Newcastle Ridg**	**2.62**	**92**	Pn	**Pn**	**17 26 01.7**	**-1.4**
NCSB	**Newcastle Ridg**	**2.62**	**92**	Pn	**Pn**	**17 26 01.4**	**-1.6**
BUTB	**Butedale**	**2.72**	**22**	Pn	**Pn**	**17 26 04.2**	**-0.3**
BUTB				Sn	**Sn**	**17 26 36.8**	**-1.2**
BNKB	**Banks Island**	**2.79**	**3**	Pn	**Pn**	**17 26 03.6**	**-1.7**
BNKB				Sn	**Sn**	**17 26 36.1**	**-3.3**
GRIB	**Gribbell Islan**	**2.86**	**12**	Pn	**Pn**	**17 26 05.0**	**-1.3**
BNAB	**Bonilla**	**2.96**	**354**	Pn	**Pn**	**17 26 05.6**	**-2.0**
CBB	**Campbell River**	**3.12**	**98**	Pn	**Pn**	**17 26 08.5**	**-1.2**
GRNB	**Grenville Isla**	**3.30**	**2**	Pn	**Pn**	**17 26 11.1**	**-1.2**
GRNB				Sn	**Sn**	**17 26 49.1**	**-3.0**
KITB	**Kitimat**	**3.65**	**14**	Pn	**Pn**	**17 26 16.5**	**-0.5**
KITB				Sn	**Sn**	**17 26 59.3**	**-1.3**
TXB	**Texada**	**3.78**	**101**	Pn	**Pn**	**17 26 17.6**	**-1.3**
RUBB	**Prince Rupert**	**3.78**	**359**	Pn	**Pn**	**17 26 17.7**	**-1.1**
SHB	**Sechelt**	**4.16**	**101**	Pn	**Pn**	**17 26 23.2**	**-1.0**
PFB	**Port Renfrew**	**4.21**	**116**	Pn	**Pn**	**17 26 23.8**	**-1.1**
CLRS	**Cowichan Lake**	**4.28**	**112**	Pn	**Pn**	**17 26 24.1**	**-1.6**
LLLB	**Lillooet**	**5.27**	**86**	Pn	**Pn**	**17 26 38.8**	**-0.6**
FSJB	**Fort St James**	**5.30**	**40**	P	**Pn**	**17 26 40.7**	**+0.9**
FSJB				S	**Sn**	**17 27 39.5**	**-1.9**
MBW	**Mount Baker**	**5.64**	**105**	Pn	**Pn**	**17 26 45.1**	**+0.5**
JCW	**Jim Creek**	**5.87**	**111**	Pn	**Pn**	**17 26 48.2**	**+0.7**
RPW	**Rockport**	**6.01**	**107**	Pn	**Pn**	**17 26 49.4**	**-0.2**
T35M	**Bob Quinn**	**6.44**	**360**	Pn	**Pn**	**17 26 55.3**	**-0.2**
DLBC	**Dease Lake** 0.7nm,0.3s,baz=175,slow=15,SNR=11	**7.90**	**0**	Pn	**Pn**	**17 27 17.5**	**+2.1**
DLBC	0.2nm,0.3s,baz=360,slow=25,SNR=1.6 4.1nm,0.7s			Sn	**Sn**	**17 28 46.9**	**+1.4**
DLBC	**Dease Lake**	**7.90**	**0**	P	**Pn**	**17 27 17.6**	**+2.1**
NBC5	**NorthernBC 5**	**8.25**	**29**	P	**Pn**	**17 27 22.0**	**+1.7**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=221,slow=12,SNR=6.2 0.1nm,0.5s	**14.67**	**29**	Pn	**Pn**	**17 28 47.0**	**-0.9**
PDAR	**Pinedale Array** baz=317,slow=8.1,SNR=5.3 0.5nm,0.6s	**16.11**	**111**	Pn	**Pn**	**17 29 10.3**	**+3.0**
ILAR	**Eielson Array** baz=144,slow=10,SNR=9.0	**16.74**	**335**	Pn	**P**	**17 29 20.9**	**+3.5**
ILAR	baz=152,slow=26,SNR=4.2 1.2nm,0.9s			Sn	Sn	17 32 09.1	-12
ULM	**Lac du Bonnet** 2.2nm,0.7s,baz=296,slow=11,SNR=4.2 2.2nm,0.7s	**21.74**	**77**	P	**P**	**17 30 13.6**	**+1.5**
H11N2	**WAKE ISLAND Hy** baz=42,slow=75,SNR=177	**57.88**	**262**	T	T	18 37 53.1	
H11N3	**WAKE ISLAND Hy** baz=42,slow=75,SNR=263	**57.88**	**262**	T	T	18 37 53.2	
H11N1	**WAKE ISLAND Hy** baz=42,slow=75,SNR=131	**57.89**	**262**	T	T	18 37 54.3	
H11S1	**WAKE ISLAND Hy** baz=47,slow=75,SNR=13	**58.91**	**261**	T	T	18 39 10.2	
H11S2	**WAKE ISLAND Hy** baz=47,slow=75,SNR=13	**58.92**	**261**	T	T	18 39 11.4	
H11S3	**WAKE ISLAND Hy** baz=47,slow=75,SNR=10	**58.92**	**261**	T	T	18 39 09.3	

IDC ***14*** *17:37:49.4±1.3, 25°.07N×123°.80E, h0km, mb3.7/9, mbtmp3.7/9, MS3.5/3, Error ellipse: s-maj=51.3km s-min=17.6km az=64.0*

JMA ***14*** *17:37:50.6±0.3, 25°.1N±0°.8×123°.7E±0°.3, h13km±4km, MV3.4/13, NW OFF ISHIGAKIJIMA IS*

ISC 14 17:37:49.7±1.7, 25°.06N±0°.06×123°.75E±0°.04, h2km±12km, n23, σ0°846/25, mb3.7/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.70**	**132**	P	**Pb**	**17 38 04.6**	**0.0**
JISG				*e*S	**Sb**	**17 38 14.8**	**+0.2**
JIJ	**Ishigaki jima**	**0.78**	**152**	P	**Pg**	**17 38 05.5**	**+0.8**
JIJ				*e*S	**Sb**	**17 38 16.4**	**-0.7**
JKRS	**Kuro-shima**	**0.85**	**164**	P	**Pb**	**17 38 07.1**	**-0.1**
JKRS				*e*S	**Sb**	**17 38 19.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.90**	**228**	P	**Pg**	**17 38 07.0**	**+0.1**
YOJ				*e*S	**Sg**	**17 38 18.4**	**-0.1**
JYNG	**Yonagunijimaku**	**0.95**	**230**	P	**Pg**	**17 38 07.9**	**0.0**
JYNG				*e*S	**Sg**	**17 38 19.9**	**-0.3**
JTJ	**Tarama**	**0.96**	**115**	P	**Pn**	**17 38 09.7**	**-0.6**
HATJ	**Hateruma jima**	**1.00**	**177**	P	**Pg**	**17 38 09.5**	**+0.5**
JIRB	**Irabujima**	**1.31**	**100**	*e*P	**Pn**	**17 38 14.6**	**-0.5**
JIKM	**Ikemajima**	**1.37**	**95**	*e*P	**Pg**	**17 38 16.2**	**+0.2**
JMJ2	**Miyako jima3**	**1.47**	**102**	*e*P	**Pb**	**17 38 17.3**	**-0.5**
JOGS	**Gusukube**	**1.54**	**101**	*e*P	**Pb**	**17 38 18.7**	**-0.2**
JNU	**Nakatsue** comp=Z,182nm,18.3s,baz=212,slow=41	**10.17**	**36**	LR	LR	17 44 43.1	
KSRS	**Korea Array** comp=Z,234nm,19.1s,baz=205,slow=40	**12.86**	**15**	LR	LR	17 46 26.6	
CMAR	**Chiang Mai Arr** 0.9nm,0.9s,baz=59,slow=8.1,SNR=7.4 0.9nm,0.9s	**23.93**	**259**	P	**P**	**17 43 05.8**	**+0.4**
SONM	**Songino Array** 0.8nm,0.9s,baz=141,slow=7.3,SNR=5.3 0.8nm,0.9s	**26.55**	**333**	P	**P**	**17 43 29.9**	**+0.8**
MKAR	**Makanchi Array** 4.0nm,1.0s,baz=104,slow=9.0,SNR=18 4.0nm,1.0s	**39.37**	**314**	P	**P**	**17 45 20.8**	**+0.1**
ZALV	**Zalesovo Beam** 0.9nm,0.7s,baz=121,slow=7.1,SNR=8.2 0.9nm,0.7s	**40.81**	**325**	P	**P**	**17 45 31.9**	**-0.6**
KURBB	**Kurchatov Arra** 3.6nm,1.1s,baz=108,slow=7.8,SNR=11 3.6nm,1.1s	**42.97**	**318**	P	**P**	**17 45 50.0**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=356,slow=13,SNR=24 0.3nm,0.3s	**45.90**	**166**	P	**P**	**17 46 13.9**	**0.0**
BVAR	**Borovoye Array** 0.4nm,0.6s,baz=133,slow=11,SNR=2.7 0.4nm,0.6s	**48.50**	**320**	P	**P**	**17 46 33.9**	**+0.1**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=352,slow=8.1,SNR=6.7 0.2nm,0.5s	**49.43**	**168**	P	**P**	**17 46 40.9**	**-0.4**
GEYT	**Alibeck** 2.1nm,0.8s,baz=89,slow=7.6,SNR=6.5 2.1nm,0.8s	**56.37**	**300**	P	**P**	**17 47 33.3**	**+0.7**
ILAR	**Eielson Array** comp=Z,28nm,18.2s,baz=158,slow=38	**67.36**	**28**	LR	LR	18 19 52.0	

NEIC ***14*** *17:39:12.6±2.3, 19°.29N±0°.03×156°.423W±0°.009, h5km±2km, Error ellipse: s-maj=4.5km s-min=3.0km az=162.0*

HVO 14 17:39:15.5±2.4, 19°.25N±0°.02×156°.35W±0°.03, h11km±5km, ML3.3/31, MLh3.3/48(NEIC), Error ellipse: s-maj=4.4km s-min=2.9km az=78.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.47**	**60**		Pg	17 39 24.4	-0.3
KKH	**Kailua Kona**	**0.51**	**37**		Pg	17 39 25.1	-0.4
KHLU	**Kahalu`u**	**0.54**	**52**		Pg	17 39 25.2	-1.0
KHLU	comp=E,2μm,0.2s			IAML		17 39 32.8	
KHLU	comp=N,2μm,0.3s			IAML		17 39 33.0	
KHLU	**Kahalu`u**	**0.54**	**52**		Sg	17 39 32.2	-1.2
HUH	**Hualalai**	**0.65**	**48**		Pg	17 39 26.5	-1.6
HUH	**Hualalai** comp=N,2μm,0.1s	**0.65**	**48**	IAML		17 39 36.7	
HUH	comp=E,1μm,0.2s			IAML		17 39 40.9	
KHU	**Kahuku**	**0.69**	**90**		Pg	17 39 27.2	-1.7
KHU	comp=N,2μm,0.3s			IAML		17 39 36.7	
KHU	comp=E,1μm,0.6s			IAML		17 39 36.8	
ALEP	**Alea Permanent**	**0.72**	**66**		Pg	17 39 28.1	-1.5
ALEP					Pn	17 39 37.3	+5.3
MWH	**Moku'aweowe**	**0.74**	**72**		Pg	17 39 28.0	-2.0
MWH	**Moku'aweowe** comp=E,1μm,0.4s	**0.74**	**72**	IAML		17 39 43.2	
HPO	**Honuapo**	**0.77**	**102**		Pg	17 39 28.3	-2.0
HPO					Sg	17 39 38.4	-2.0
MLOA	**Mauna Loa Obse**	**0.78**	**69**		Pg	17 39 28.4	-2.3
AIN	**Ainahou**	**0.85**	**82**		Pg	17 39 29.3	-2.6
AIN	**Ainahou** comp=E,1μm,0.3s	**0.85**	**82**	IAML		17 39 40.1	
HMH	**Humu'ula Sheep**	**0.89**	**67**		Pg	17 39 30.1	-2.6
HMH	comp=N,1μm,0.3s			IAML		17 39 42.3	
HTC	**Hot Caves**	**0.90**	**91**		Pg	17 39 29.7	-3.1
POHA	**Pohakuloa**	**0.92**	**57**		Pg	17 39 30.2	-3.0
POHA	**Pohakuloa**	**0.92**	**57**		Pg	17 39 30.6	-2.6
POHA	comp=N,934nm,0.1s			IAML		17 39 42.1	
POHA	comp=N,923nm,0.1s			IAML		17 39 42.5	
MLH	**Mauna Loa**	**0.94**	**75**		Pg	17 39 30.6	-3.1
MLH	**Mauna Loa** comp=E,888nm,0.3s	**0.94**	**75**	IAML		17 39 42.8	
MLH	comp=N,1μm,0.1s			IAML		17 39 42.9	
HLP	**Hilina Pali**	**0.98**	**87**		Pg	17 39 31.0	-3.4
HLP	**Hilina Pali** comp=N,731nm,0.5s	**0.98**	**87**	IAML		17 39 47.3	
HPAH	**Hawaii Prepara**	**0.98**	**38**	Pg	Pg	17 39 31.1	-3.5
WRMHI	**West Rim**	**1.00**	**81**		Pg	17 39 31.2	-3.6
WRMHI					Sg	17 39 43.1	-4.7
WRMHI	**West Rim** comp=N,1μm,0.5s	**1.00**	**81**	IAML		17 39 48.1	
SDHHI	**Sand Hill**	**1.00**	**82**		Pg	17 39 31.2	-3.7
SDHHI					Sg	17 39 43.2	-4.7
UWE	**Uwekahuna**	**1.01**	**80**		Pg	17 39 31.4	-3.5
OBL	**Observatory Le** comp=N,1μm,0.6s	**1.01**	**81**	IAML		17 39 56.0	
OBL	**Observatory Le**	**1.01**	**81**		Pg	17 39 31.4	-3.8
OBL					Sg	17 39 43.4	-4.9
RIM	**Rim**	**1.02**	**82**		Pg	17 39 31.7	-3.6
RIM	**Rim** comp=E,906nm,0.4s	**1.02**	**82**	IAML		17 39 44.0	
RIM	comp=N,950nm,0.5s			IAML		17 39 45.5	
UWB	**Uwekahuna B**	**1.02**	**80**		Pg	17 39 31.4	-3.8
KKO	**Keanakako`i** comp=E,761nm,1.0s	**1.03**	**82**	IAML		17 39 47.4	
KKO	**Keanakako`i**	**1.03**	**82**		Pg	17 39 31.6	-3.8
KKO					Sg	17 39 43.8	-5.0
RSD	**Rainshed**	**1.03**	**78**		Pg	17 39 32.0	-3.4
RSD	**Rainshed** comp=E,726nm,0.1s	**1.03**	**78**	IAML		17 39 45.2	
RSD	comp=N,664nm,0.2s			IAML		17 39 47.1	
SBLHI	**Steaming Bluff**	**1.03**	**80**		Pg	17 39 31.5	-3.9
BYL	**Byron's Ledge**	**1.04**	**81**		Pg	17 39 31.6	-3.9
BYL	**Byron's Ledge** comp=N,581nm,1.1s	**1.04**	**81**	IAML		17 39 52.3	
HATHI	**Halema'uma'u T**	**1.04**	**80**	IAML		17 39 53.4	
HATHI	**Halema'uma'u T**	**1.04**	**80**		Pg	17 39 31.5	-4.0
HATHI					Sg	17 39 43.2	-5.8
PUH	**Pauahi**	**1.07**	**83**	Pg	Pb	17 39 32.0	-4.2
STCH	**Steam Cracks**	**1.16**	**83**		Pb	17 39 33.1	-4.5
STCH					Sb	17 39 46.1	-6.6
STCH	**Steam Cracks** comp=N,740nm,0.2s	**1.16**	**83**	IAML		17 39 46.8	
JOKA	**Jonika Flow**	**1.28**	**82**		Pn	17 39 34.6	-4.8
JOKA					Sb	17 39 49.3	-6.8
KPA	**Kalaupapa**	**2.02**	**343**		Pn	17 39 45.6	-3.9

TAP 14 17:44:43.9, 24°.47N×121°.84E, h21km, ML1.2, 2C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta** baz=248	**0.06**	**249**	⇑P	Pb	17 44 47.6	-0.1
EWUT	baz=248			*i* S	Sb	17 44 50.3	-0.1
ENA	**Nanau** baz=243	**0.09**	**246**	⇓P	Pb	17 44 47.6	-0.4
ENA	baz=243			S	Sb	17 44 50.8	0.0
ESAO	**Su ao** baz=3.0	**0.11**	**4**	*e*P	Pb	17 44 47.7	-2.8
ESAO	baz=3.0			*e*S	Sb	17 44 50.5	-4.6
TWC	**Suao** baz=8.0	**0.14**	**5**	⇑P	Pb	17 44 48.4	-1.7
TWC	baz=8.0			S	Sb	17 44 51.3	-3.1
NDS	**Dongshan** baz=327	**0.20**	**327**	*e*P	Pb	17 44 49.0	-0.9
NDS	baz=327			*e*S	Sb	17 44 53.2	-0.8
LATG	**Datong** baz=283	**0.29**	**284**	⇓P	Pb	17 44 50.4	-0.3
LATG	baz=283			*i* S	Sb	17 44 55.1	-0.1
TWE	**Neicheng** baz=330	**0.30**	**329**	*e*P	Pb	17 44 48.2	-2.5
TWE	baz=330			*e*S	Sb	17 44 54.3	-0.9
ENTT	**Nioudou** baz=305	**0.30**	**305**	P	Pb	17 44 50.6	-0.1
ENTT	baz=305			*i* S	Sb	17 44 55.3	-0.1
NDT	**Datong Townshi** baz=294	**0.32**	**295**	P	Pb	17 44 51.3	+0.3
NDT	baz=294			*e*S	Sb	17 44 56.9	+1.0
ETL	**Fush Village** baz=212	**0.36**	**212**	*i* P	Pb	17 44 51.3	-0.3
ETL	baz=212			*i* S	Sb	17 44 57.1	+0.2
EOS2	**EOS2** baz=97	**0.36**	**97**	*e*P	Pn	17 44 53.1	-0.8
EOS2	baz=97			S	Sb	17 44 57.3	+0.7
NACB	**Ninganchiao** baz=217	**0.36**	**217**	*i* P	Pb	17 44 51.3	-0.3
NACB	baz=217			S	Sb	17 44 56.9	+0.1
FUSB	**Fushanzhiwuyua** baz=322	**0.37**	**322**	*i* P	Pb	17 44 51.4	-0.4
FUSB	baz=322			S	Sb	17 44 57.1	0.0
NWLT	**Wulai** baz=315	**0.43**	**316**	P	Pb	17 44 53.0	+0.1
NWLT	baz=315			*e*S	Sb	17 44 58.1	-0.8
YHNB	**Yeheng** baz=295	**0.47**	**296**	*i* P	Pb	17 44 53.1	-0.4
YHNB	baz=295			S	Sb	17 45 00.4	+0.5
NSK	**Sanguang** baz=295	**0.48**	**296**	*e*P	Pb	17 44 53.5	-0.3
NSK	baz=295			*i* S	Sb	17 45 00.2	-0.2
TIPB	**Shuangxi** baz=358	**0.50**	**359**	P	Pb	17 44 53.9	-0.3
TIPB	baz=358			*e*S	Sb	17 45 00.5	-0.6

IDC ***14*** *17:45:10.3±0.9, 25°.02N×123°.66E, h0km, mb3.9/13, mbtmp3.8/16, ML2.5/3, MS3.5/1, Error ellipse: s-maj=20.9km s-min=17.4km az=80.0*

NIED ***14*** *17:45:11.9, 25°.03N×123°.71E, h19km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.25; $M_{\theta\theta}$=3.04; $M_{\phi\phi}$=0.22; $M_{r\theta}$=2.64; $M_{\theta\phi}$=0.38; $M_{r\phi}$=1.31; Fault plane solution: M_0=4.33000×10^{15} NP1:ϕ_s70.00000°, δ67.00000°, λ=-99.00000°. NP2:ϕ_s272.00000°, δ25.00000°, λ=-70.00000°.*

JMA ***14*** *17:45:11.9±0.2, 25°.0N±0°.6×123°.7E±0°.3, h19km±3km, MD4.3/13, MV3.5/13, NW OFF ISHIGAKIJIMA IS*

ISC 14 17:45:13.4±1.3, 24°.95N±0°.06×123°.76E±0°.03, h23km±12km, n43, σ1°912/43, mb3.8/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.62**	**126**	P	**Pb**	**17 45 25.3**	**-0.3**
JISG				*e*S	**Sb**	**17 45 35.2**	**+1.4**
JISG	**Ishigakijimahi** comp=E,9.0nm,4.9s,comp=N,10.0nm,8.0s	**0.62**	**126**	A	A	17 45 25.3	
JIJ	**Ishigaki jima**	**0.68**	**149**	P	**Pb**	**17 45 26.2**	**-0.4**
JIJ				S	**Sb**	**17 45 37.0**	**+1.4**
JIJ	**Ishigaki jima** comp=E,7.0nm,2.4s,comp=N,8.0nm,3.3s	**0.68**	**149**	A	A	17 45 26.2	
JKRS	**Kuro-shima**	**0.75**	**163**	P	**Pb**	**17 45 27.7**	**-0.1**
JKRS				*e*S	**Sb**	**17 45 38.3**	**+0.8**
JKRS	**Kuro-shima** comp=E,40nm,2.8s,comp=N,34nm,2.8s	**0.75**	**163**	A	A	17 45 27.7	
YOJ	**Yonaguni jima**	**0.84**	**235**	P	**Pb**	**17 45 28.0**	**-1.4**
YOJ	**Yonaguni jima**	**0.84**	**235**	P	**Pb**	**17 45 27.8**	**-1.6**
YOJ				S	**Sb**	**17 45 38.5**	**-1.8**
YOJ	**Yonaguni jima** comp=E,17nm,2.7s,comp=N,21nm,1.1s	**0.84**	**235**	A	A	17 45 27.8	
HATJ	**Hateruma jima**	**0.89**	**178**	P	**Pn**	**17 45 30.0**	**-0.6**
HATJ				S	**Sb**	**17 45 42.6**	**+0.8**
HATJ	**Hateruma jima** comp=E,34nm,2.1s,comp=N,42nm,3.1s	**0.89**	**178**	A	A	17 45 30.0	
JYNG	**Yonagunijimaku**	**0.90**	**236**	P	**Pb**	**17 45 28.6**	**-1.7**
JYNG				*e*S	**Sb**	**17 45 40.6**	**-1.3**
JYNG	**Yonagunijimaku** comp=E,15nm,1.7s,comp=N,19nm,3.1s	**0.90**	**236**	A	A	17 45 28.6	
JTJ	**Tarama**	**0.91**	**110**	*e*P	**Pn**	**17 45 30.5**	**-0.3**
JTJ	**Tarama** comp=E,10.0nm,3.8s,comp=N,13nm,0.9s	**0.91**	**110**	A	A	17 45 30.5	
JIRB	**Irabujima**	**1.29**	**95**	P	**Pn**	**17 45 35.6**	**-0.3**
JIKM	**Ikemajima**	**1.35**	**91**	*e*P	**Pn**	**17 45 36.2**	**-0.6**
JIKM				*e*S	**Sn**	**17 45 53.8**	**-0.2**
JMJ	**Miyako jima 2**	**1.40**	**95**	P	Pb	17 45 45.1	+6.3
JMJ2	**Miyako jima3**	**1.44**	**98**	P	**Pn**	**17 45 38.5**	**+0.5**
JMJ2				*e*S	**Sn**	**17 45 56.5**	**+0.2**
JOGS	**Gusukube**	**1.50**	**97**	P	**Pn**	**17 45 39.0**	**0.0**
TATO	**Taipei**	**2.07**	**271**	P	**Pb**	**17 45 51.2**	**+0.9**
NACB	**Ninganchiao**	**2.12**	**249**	P	**Pn**	**17 45 49.8**	**+2.3**
YHNB	**Yeheng**	**2.19**	**263**	P	**Pn**	**17 45 50.6**	**+2.1**
YULB	**Yu-li**	**2.74**	**236**	P	**Pn**	**17 45 55.7**	**-0.3**
SSLB	**Suanglung**	**2.81**	**246**	P	**Pn**	**17 45 58.8**	**+1.8**
TWGBT	**Beinan**	**3.25**	**230**	P	**Pn**	**17 46 04.9**	**+1.9**
TPUB	**Ta-pu**	**3.30**	**241**	P	**Pn**	**17 46 05.7**	**+1.9**
JOW	**Kunigami** comp=N,0.5nm,0.3s,baz=311,slow=12,SNR=3.6 comp=N,25nm,0.8s	**4.47**	**64**	Pn	**Pn**	**17 46 21.0**	**+1.1**
KSRS	**Korea Array** baz=181,slow=12,SNR=2.4 comp=N,0.9nm,1.0s	**12.96**	**15**	Pn	**Pn**	**17 48 16.1**	**-0.1**
MJAR	**Matsushiro Arr** baz=231,slow=8.4,SNR=7.1	**16.93**	**44**	Pn	**Pn**	**17 49 09.5**	**+0.6**
MJAR	comp=N,146nm,19.0s,baz=221,slow=38 comp=N,1,3nm,0.8s			LR	LR	17 55 56.0	
USRK	**Ussuriysk Ar.** comp=N,4.7nm,0.8s,baz=198,slow=13,SNR=4.1 comp=N,4.7nm,0.8s	**20.34**	**17**	P	**P**	**17 49 48.5**	**+0.4**
CMAR	**Chiang Mai Arr** comp=N,0.3nm,0.3s,baz=67,slow=8.6,SNR=6.3 comp=N,0.3nm,0.3s	**23.93**	**259**	P	**P**	**17 50 25.9**	**0.0**
KLR	**Kul'dur** comp=N,1.8nm,0.7s,baz=244,slow=5.7,SNR=6.8 comp=N,1.8nm,0.7s	**25.03**	**12**	P	**P**	**17 50 36.1**	**+0.4**
SONM	**Songino Array** comp=N,0.9nm,0.8s,baz=156,slow=8.9,SNR=5.9 comp=N,0.9nm,0.8s	**26.66**	**333**	P	**P**	**17 50 50.0**	**-0.6**
MKAR	**Makanchi Array** comp=N,3.8nm,0.9s,baz=104,slow=10,SNR=30 comp=N,3.8nm,0.9s	**39.45**	**314**	P	**P**	**17 52 41.4**	**-0.5**
ZALV	**Zalesovo Beam** comp=N,2.6nm,0.8s,baz=116,slow=7.9,SNR=11 comp=N,2.6nm,0.8s	**40.91**	**325**	P	**P**	**17 52 52.6**	**-1.2**
KURBB	**Kurchatov Arra** comp=N,2.5nm,0.9s,baz=111,slow=8.4,SNR=14 comp=N,2.5nm,0.9s	**43.06**	**319**	P	**P**	**17 53 10.7**	**-0.7**
WRA	**Warramunga Arr** comp=N,0.9nm,0.7s,baz=347,slow=8.7,SNR=5.0 comp=N,0.9nm,0.7s	**45.80**	**166**	P	**P**	**17 53 34.4**	**+0.8**
BVAR	**Borovoye Array** comp=N,0.5nm,0.5s,baz=104,slow=12,SNR=2.9 comp=N,0.5nm,0.5s	**48.59**	**320**	P	**P**	**17 53 54.3**	**-0.7**
NRIK	**Noril'sk** comp=N,3.1nm,1.0s,baz=130,slow=1.7,SNR=3.9 comp=N,3.1nm,1.0s	**49.29**	**344**	P	**P**	**17 53 58.8**	**-1.4**
ASAR	**Alice Springs** comp=N,0.3nm,0.5s,baz=350,slow=7.4,SNR=6.9 comp=N,0.3nm,0.5s	**49.32**	**168**	P	**P**	**17 54 01.9**	**+1.0**
GEYT	**Alibeck** comp=N,2.7nm,0.8s,baz=81,slow=13,SNR=6.7 comp=N,2.7nm,0.8s	**56.44**	**300**	P	**P**	**17 54 54.0**	**+0.5**
YKA	**Yellowknife Ar** comp=N,0.4nm,0.7s,baz=306,slow=5.0,SNR=7.6 comp=N,0.4nm,0.7s	**81.34**	**24**	P	**P**	**17 57 27.6**	**-0.2**

IDC ***14*** *17:49:54.1±0.5, 18°.34N×96°.10E, h0km, mb4.3/27, mbtmp4.3/29, ML3.7/2, MS3.9/5, Error ellipse: s-maj=14.8km s-min=10.3km az=22.0*

NEIC ***14*** *17:49:55.2±1.7, 18°.32N±0°.05×96°.10E±0°.04, h10km±1km, mb4.7/52, Error ellipse: s-maj=9.7km s-min=3.6km az=141.0*

NDI ***14*** *17:50:00.5±3.0, 18°.40N×95°.71E, h10km, MW4.6, mb4.7(NEIC)*

DJA ***14*** *17:50:05.0±0.5, 18°N±4°×97°E±°, h133km±6km, M5.2/12, mb4.8/12, mB5.9/2, MLv5.5/5, Mw(mB)5.5/2, MwMwp5.7/1, Mwp5.8/1*

ISC 14 17:49:55.1±0.3, 18°.28N±0°.04×96°.07E±0°.05, h10km, n147, σ2°38/172, mb4.6/69, MS4.5/10, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**2.74**	**86**		Pn	**17 50 37.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**2.74**	**86**		Pn	**17 50 38.0**	**-1.1**
CMAR	**Chiang Mai Arr** 5.2nm,0.3s,baz=266,slow=15,SNR=82	**2.74**	**86**	Pn	**Pn**	**17 50 38.4**	**-0.8**
CMAR	44nm,0.3s,baz=264,slow=17,SNR=47			Pg	**Pb**	**17 50 44.0**	**-0.2**
CMAR	141nm,0.3s,baz=262,slow=31,SNR=5.

KOHI	KOHIMA	7.63	347	*eP*		Pn		17 51 49.9 +3.4
SHL	Shillong	8.23	333	*eP*		Pn		17 51 54.4 -0.4
SHL				*ex*		Sn		17 53 21.8 -6.1
TEZP	TEZPUR	8.83	341	*eP*		Pn		17 52 04.6 +1.7
ZIRO	ZIRO	9.43	348	*eP*		Pn		17 52 13.2 +1.9
UBPT	Khong Chiam	9.48	107	Pn		Pn		17 52 11.0 -0.9
PZH	PanZhiHua	9.72	32	Pg		Pn		17 52 20.4 +5.1
PZH				Sg				17 52 58.5
PZH				smax	smax			
	comp=N,20nm,0.9s							
PZH				smax	smax			
	comp=E,20nm,1.0s							
BOK	Bokaro	10.98	302	*eP*		Pn		17 52 32.4 +0.1
GTK	Tadong	11.33	324	*eP*		Pn		17 52 36.3 -1.0
CD2	Chengdu	14.38	28	P		Pn		17 53 17.4 -1.5
CD2				S		Sn		17 55 59.0 +0.4
CD2				sS		SbSb		17 56 57.0 -1.2
CD2				LR	LR			
	comp=N,2μm,9.1s							
CD2				LR	LR			
	comp=E,2μm,9.0s							
CD2				LR	LR			
	comp=Z,1μm,11.7s							
KCSI	Kotacane, Aceh	14.76	173	P		P		17 53 27.6 -2.6
	comp=Z,35nm,1.0s							
RPSI	Rantau Prapat	15.74	169	Pn		Pn		17 53 37.0 0.0
GSI	Gunungsitoli	16.93	175			Pn		17 53 52.5 +0.1
GSI	Gunungsitoli	16.93	175	P		Pn		17 53 53.0 +0.6
	comp=Z,13nm,0.8s							
PALK	Pallekele	18.53	236	P		P		17 54 12.8 +0.7
	comp=Z,0.2nm,0.3s,baz=198,slow=18,SNR=1.0							
PALK				LR		LR		18 01 29.7
	comp=Z,212nm,19.7s,baz=166,slow=37							
	comp=Z,3.1nm,0.8s							
LZH	Lanzhou	19.03	20	*eP*		Pn		17 54 20.9 +2.7
LZH				sP		sP		17 54 29.8 +8.1
LZH				S		Sn		17 57 51.3 -0.1
LZH				pmax	pmax			
	comp=Z,20nm,1.1s							
LZH				LR	LR			
	comp=N,890nm,11.3s							
LZH				LR	LR			
	comp=E,1μm,15.1s							
LZH				LR	LR			
	comp=Z,680nm,11.7s							
GTA	Gaotai	21.31	8	*eP*		P		17 54 42.6 +0.4
GTA				S		S		17 58 34.8 -4.2
GTA				SS		SnSn		17 59 13.3 +12
GTA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
GTA				LR	LR			
	comp=N,210nm,12.0s							
GTA				LR	LR			
	comp=E,230nm,12.4s							
GTA				LR	LR			
	comp=Z,230nm,13.8s							
SMLA	Simla	21.37	310	*eP*		P		17 54 43.7 +0.9
AJM	Ajmer	21.41	296	*eP*		P		17 54 46.4 +3.1
LYN	LuoYang	21.82	39	*eP*		P		17 54 51.4 +3.8
LYN				pmax	pmax			
	comp=Z,40nm,0.6s							
LYN				pmax	pmax			
	comp=Z,670nm,7.4s							
DHRM	DHARAMSHALA	22.60	312	*eP*		P		17 54 56.9 +0.6
NJ2	Nanjing	24.70	52	*eP*		P		17 55 15.8 -0.7
NJ2				sP		sP		17 55 19.9 -1.0
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HNS	HongShan	25.10	37	||P	P		17 55 22.1 +2.0
HNS				S		S		17 59 54.9 +10
HNS				pmax	pmax			
	comp=Z,13nm,1.1s							
HNS				LR	LR			
	comp=N,1μm,8.8s							
HNS				LR	LR			
	comp=E,740nm,8.8s							
HNS				LR	LR			
	comp=Z,1μm,7.9s							
BTO	Baotou	25.29	25	*eP*		P		17 55 21.1 -0.8
BTO				pP		pP		17 55 25.3 +0.3
BTO				sP		sP		17 55 28.3 +2.1
BTO				PP		PnPn		17 56 00.1 +3.8
BTO				S		S		17 59 50.8 +3.0
BTO				sS		sS		17 59 55.1 +2.1
BTO				SS		SnSn		18 00 47.6 +8.7
BTO				pmax	pmax			
	comp=Z,21nm,0.6s							
BTO				pmax	pmax			
	comp=Z,390nm,10.5s							
BTO				LR	LR			
	comp=N,2μm,11.9s							
BTO				LR	LR			
	comp=E,2μm,11.4s							
BTO				LR	LR			
	comp=Z,3μm,14.2s							
NIL	Nilore	25.51	311	P		P		17 55 23.1 -0.8
NIL				IAmb	IAmb			17 55 26.5
	comp=Z,21nm,0.8s							
HHC	Hu-ho-hao-te	26.14	27	*eP*		P		17 55 28.9 -0.7
HHC				pmax	pmax			
	comp=Z,34nm,0.7s							
HHC				pmax	pmax			
	comp=Z,220nm,5.9s							
HHC				LR	LR			
	comp=N,1μm,16.5s							
HHC				LR	LR			
	comp=E,1μm,15.3s							
HHC				LR	LR			
	comp=Z,1μm,15.9s							
WMQ	Urumqi	26.43	346	*eP*		P		17 55 33.8 +1.7
WMQ				sP		sP		17 55 41.0 +4.4
WMQ				pmax	pmax			
	comp=Z,15nm,1.9s							
KSH	Kashi	27.40	325	P		P		17 55 41.3 +0.3
KSH				pP		pP		17 55 43.9 -0.3
KSH				sP		sP		17 55 47.6 +2.1
KSH				sS		sS		18 00 28.8 +2.2
KSH				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KBL	Kabul	29.00	309	P		P		17 55 55.1 -0.3
KBL				IAmb	IAmb			17 55 58.3
	comp=Z,21nm,1.4s							
AAK	Ala-Archa	30.41	328	P		P		17 56 07.1 -0.8
AAK	Ala-Archa	30.41	328	LR	LR			18 10 07.9
	comp=Z,177nm,20.1s,baz=114,slow=40							
XLT	XiLinHaoTe	30.59	29	*eP*		P		17 56 03.3 -6.0
XLT				pP		pP		17 56 06.9 -5.6
XLT				sP		sP		17 56 09.6 -4.1
XLT				PP		PnPn		17 57 01.0 -7.5
XLT				sS		sS		18 01 20.4 +3.8
XLT				SS		SnSn		18 02 46.8 -1.5
XLT				pmax	pmax			
	comp=Z,9.0nm,1.2s							
XLT				pmax	pmax			
	comp=Z,120nm,4.5s							
XLT				LR	LR			
	comp=N,100nm,12.8s							
XLT				LR	LR			
	comp=E,1μm,13.2s							
XLT				LR	LR			
	comp=Z,1μm,15.3s							
MK31	Makanchi Array	30.62	341	P		P		17 56 09.1 -0.3
MK31				IAmb	IAmb			17 56 10.9
	comp=Z,4.1nm,0.7s							
MKAR	Makanchi Array	30.62	341	P		P		17 56 08.6 -0.9
MKAR	Makanchi Array	30.62	341	P		P		17 56 09.3 -0.1
	comp=Z,5.3nm,0.6s,baz=149,slow=9.5,SNR=48							
MKAR				PcP		PcP		17 59 09.4 +1.6
	comp=Z,0.5nm,0.8s,baz=171,slow=3.8,SNR=1.8							
	comp=Z,5.3nm,0.6s							
SONM	Songino Array	30.66	14	P		P		17 56 10.9 +0.9
	comp=Z,0.9nm,0.8s,baz=196,slow=8.3,SNR=7.9							
	comp=Z,0.9nm,0.8s							
MAKZ	Makanchi	30.73	341	P		P		17 56 08.6 -1.8
KKAR	Karatay Array	32.85	324	P		P		17 56 28.2 -0.9
KSRS	Korea Array	33.79	49	P		P		17 56 37.8 +0.4
	comp=Z,1.1nm,0.7s,baz=197,slow=10,SNR=3.9							
	comp=Z,1.1nm,0.7s							
KURBB	Kurchatov Arra	35.17	341	P		P		17 56 49.6 +0.4
	comp=Z,6.4nm,0.5s,baz=149,slow=8.7,SNR=65							
KURBB				PcP		PcP		17 59 21.0 +0.8
	comp=Z,0.8nm,0.7s,baz=150,slow=2.3,SNR=6.8							
	comp=Z,6.4nm,0.5s							
KURK	Kurchatov	35.23	341	P		P		17 56 49.9 +0.3
KURK				IAmb	IAmb			17 56 50.9
	comp=Z,9.5nm,0.6s							
ZAA0	Zalesovo Array	36.65	349	P		P		17 57 00.2 -1.5
ZAA0				IAmb	IAmb			17 57 03.6
	comp=Z,12nm,0.8s							
ZALV	Zalesovo Beam	36.65	349	P		P		17 56 59.9 -1.9
ZALV	Zalesovo Beam	36.65	349	P		P		17 57 01.9 +0.1
	comp=Z,12nm,0.7s,baz=174,slow=8.8,SNR=49							
	comp=Z,12nm,0.7s							
MDJ	Mudanjiang	38.38	39	P		P		17 57 16.5 -0.1
MDJ				pP		sP		17 57 32.0 +11
MDJ				sP		pP		17 57 39.0 +19
MDJ				PP		PnPn		17 58 46.5 +0.4
MDJ				PcP		PcP		17 59 18.1 -12
MDJ				ScP		S		18 03 06.8 -4.5
MDJ				S		ScP		18 03 12.0 -6.2
MDJ				PcS		PcS		18 03 17.8 -1.3
MDJ				SS		SS		18 06 08.9 +8.8
MDJ	Mudanjiang	38.38	39	ScS		ScS		18 07 22.4 -5.6
MDJ				pmax	pmax			
	comp=Z,13nm,1.8s							
MDJ				pmax	pmax			
	comp=Z,300nm,8.8s							
MDJ				LR	LR			
	comp=N,1μm,15.7s							
MDJ				LR	LR			
	comp=E,870nm,11.0s							
MDJ				LR	LR			
	comp=Z,1μm,14.8s							
GEYT	Alibeck	38.44	309	P		P		17 57 16.9 -0.3
GEYT				IAmb	IAmb			17 57 21.1
	comp=Z,19nm,0.9s							
GEYT	Alibeck	38.44	309	P		P		17 57 18.3 +1.1
	comp=Z,15nm,0.9s,baz=165,slow=7.7,SNR=24							
	comp=Z,15nm,0.9s							
GYA0B	ALIBECK ARRAY	38.44	309	P		P		17 57 17.1 -0.1
GYA0B				IAmb	IAmb			17 57 21.1
	comp=Z,19nm,0.9s							
BVAR	Borovoye Array	40.03	336	P		P		17 57 28.4 -1.9
	comp=Z,1.4nm,0.5s,baz=135,slow=9.8,SNR=9.9							
BVAR				PcP		PcP		17 59 34.1 -1.0
	comp=Z,0.7nm,0.6s,baz=152,slow=4.9,SNR=2.2							
	comp=Z,1.4nm,0.5s							
BRVK	Borovoye	40.10	336	P		P		17 57 30.7 -0.1
HEH	HeiHe	40.54	31	*eP*		P		17 57 36.4 +1.9
HEH				pP		sP		17 57 40.8 +1.9
HEH				PcP		PcP		17 59 38.5 +1.7
HEH				S		S		18 03 44.1 +0.5
HEH				pmax	pmax			
	comp=Z,11nm,0.9s							
HEH				pmax	pmax			
	comp=Z,270nm,5.0s							
HEH				LR	LR			
	comp=N,630nm,9.9s							
HEH				LR	LR			
	comp=E,560nm,10.0s							
HEH				LR	LR			
	comp=Z,1μm,9.0s							
MJAR	Matsushiro Ar	41.22	55	P		P		17 57 39.4 -0.9
	comp=Z,1.2nm,0.9s,baz=270,slow=10.0,SNR=5.3							
	comp=Z,1.2nm,0.9s							
JHJ	Hachijo jima 2	41.77	61	LR		LR		18 17 57.1
	comp=Z,131nm,18.2s,baz=217,slow=40							
KLR	Kul'dur	42.15	35	P		P		17 57 49.4 +1.7
	comp=Z,1.2nm,0.7s,baz=244,slow=12,SNR=4.0							
	comp=Z,1.2nm,0.7s							
ABKAR	Akbulak array	42.41	325	P		P		17 57 47.6 -2.3
ABKAR				IAmb	IAmb			17 57 55.7
	comp=Z,10nm,0.7s							
ABKAR	Akbulak array	42.41	325	P		P		17 57 49.1 -0.7
ARU	Arti	47.32	333	P		P		17 58 26.6 -2.2
ARU				IAmb	IAmb			17 58 35.4
	comp=Z,6.1nm,0.8s							
YAK	Yakutsk	49.61	20	P		P		17 58 45.1 -1.3
YAK				IAmb	IAmb			17 58 48.6
	comp=Z,8.4nm,0.7s							
YAK	Yakutsk	49.61	20	P		P		17 58 45.2 -1.3
	comp=Z,0.4nm,0.7s,baz=242,slow=0.6,SNR=8.6							
GURO	Guroymak-BITLI	50.88	305	P		P		17 58 58.0 +1.4
KBZ	Khabaz	51.12	312	P		P		17 58 58.4 +0.3
	comp=Z,3.3nm,0.9s,baz=125,slow=9.7,SNR=5.2							
	comp=Z,3.3nm,0.9s							
NRIK	Noril'sk	51.32	356	P		P		17 58 59.2 0.0
NRIK	Noril'sk	51.32	356	P		P		17 58 59.3 0.0
	comp=Z,2.6nm,0.5s,baz=108,slow=4.6,SNR=6.3							
	comp=Z,2.6nm,0.5s							
KIV	Kislovodsk	51.32	312	P		P		17 58 59.2 -0.6
WRA	Warramunga Arr	53.41	133	P		P		17 59 15.2 -0.3
WRA	Warramunga Arr	53.41	133	P		P		17 59 15.9 +0.5
	comp=Z,2.9nm,0.7s,baz=320,slow=7.4,SNR=15							
	comp=Z,2.9nm,0.7s							
WB2	Warramunga Arr	53.42	133	P		P		17 59 14.7 -0.8
WB2				IAmb	IAmb			17 59 49.4
	comp=Z,12nm,1.3s							
WR0	Warramunga Arr	53.56	133	P		P		17 59 16.1 -0.5
WR0				IAmb	IAmb			17 59 20.0
	comp=Z,4.4nm,0.8s							
GAZ	Gaziantep	54.54	303	P		P		17 59 24.1 +0.4
GAZ				IAmb	IAmb			17 59 26.8
	comp=Z,8.5nm,0.9s							
AS31	Alice Springs	55.69	137	P		P		17 59 32.2 +0.2
ASAR	Alice Springs	55.69	137	P		P		17 59 30.8 -1.2
ASAR	Alice Springs	55.69	137	P		P		17 59 32.6 +0.6
	comp=Z,1.8nm,0.7s,baz=317,slow=6.8,SNR=27							
ASAR				ScP		ScP		18 04 30.2 -0.5
	comp=Z,0.5nm,0.7s,baz=343,slow=3.9,SNR=1.0							
	comp=Z,1.8nm,0.7s							
MMAI	Mount Meron Ar	55.93	298	LR		LR		18 28 38.0
	comp=Z,68nm,18.1s,baz=56,slow=42							
TIXI	Tiksi	56.72	12	P		P		17 59 39.0 +0.3
TIXI				IAmb	IAmb			17 59 41.3
	comp=Z,12nm,1.4s							
MA2	Magadan	56.78	30	P		P		17 59 38.9 -0.4
	comp=Z,4.1nm,0.7s,baz=185,slow=17,SNR=2.1							
	comp=Z,4.1nm,0.7s							
BR131	Keskin Array S	57.48	306	P		P		17 59 43.4 -1.3
BR131				IAmb	IAmb			17 59 47.0
	comp=Z,8.5nm,1.1s							
BRTR	Keskin Array B	57.48	306	P		P		17 59 45.5 +0.7
BRTR	Keskin Array B	57.48	306	P		P		17 59 43.7 -1.1
	comp=Z,4.9nm,1.1s,baz=108,slow=8.2,SNR=11							
	comp=Z,4.9nm,1.1s							
ELL	Elmali	60.38	302	P		P		18 00 04.6 -0.3
AKASG	Malin Array Be	61.43	318	P		P		18 00 11.7 +0.1
	comp=Z,0.9nm,0.4s,baz=82,slow=6.6,SNR=15							
	comp=Z,0.9nm,0.4s							
AKBB	Malin Array Si	61.43	318	P		P		18 00 10.8 -0.9
KIEV	Kiev	61.44	318	P		P		18 00 10.3 -1.4
BURAR	Bucovina Array	63.87	315	P		P		18 00 27.9 -0.2
BURAR				IAmb	IAmb			18 00 30.5
	comp=Z,4.9nm,1.3s							
BUR08	Bucovina Ar. S	63.88	315	P		P		18 00 29.2 +0.9
BUR08				IAmb	IAmb			18 01 07.0
	comp=Z,8.8nm,1.4s							
FIA1	FINESS Array S	64.56	330	P		P		18 00 32.6 +0.4
FINES	FINESS Array B	64.56	330	P		P		18 00 32.1 -0.2
FINES	FINESS Array B	64.56	330	P		P		18 00 32.8 +0.6
	comp=Z,2.3nm,0.6s,baz=108,slow=6.1,SNR=12							
	comp=Z,2.3nm,0.6s							
ARCES	ARCESS Array B	66.23	339	P		P		18 00 42.6 -0.4
ARCES	ARCESS Array B	66.23	339	P		P		18 00 42.6 -0.4
	comp=Z,3.1nm,0.6s,baz=85,slow=7.9,SNR=16							
	comp=Z,3.1nm,0.6s							
STKA	Stephens Creek	66.27	138	P		P		18 00 44.4 +0.7
	comp=Z,1.7nm,0.6s,baz=301,slow=8.6,SNR=5.4							
	comp=Z,1.7nm,0.6s							
CRVS	Cervenica-Dubn	66.38	316	*eP*		P		18 00 46.2 +1.9
MBAR	Mbarara	66.84	261	P		P		18 00 45.6 -2.5
MBAR				IAmb	IAmb			18 00 54.0
	comp=Z,3.7nm,0.8s							
OJC	Ojcow	67.43	317	P		P		18 00 50.1 -0.9
OJC				IAmb	IAmb			18 00 58.4
	comp=Z,8.7nm,1.3s							
VYHS	Vyhne	68.13	316	*eP*		P		18 00 57.2 +1.7
CONA	Conrad Observa	70.16	315	*epP*		P		18 01 10.2 +2.0
	comp=Z,0.5nm,0.3s							
HFS	Hagfors	70.55	328	P		P		18 01 11.1 +1.0
	comp=Z,3.7nm,0.5s,baz=94,slow=6.5,SNR=24							
	comp=Z,3.7nm,0.5s							
SOKA	Soboth	70.85	314	*epP*		P		18 01 13.6 +1.2
	comp=Z,0.5nm,0.3s							
BRG	Berggiesshubel	71.11	318	*eP*		P		18 01 15.3 +1.5
BRG				Amp				18 01 16.6
	comp=Z,3.5nm,0.6s							
OBKA	Obir	71.20	314	*epP*		P		18 01 16.7 +2.2
	comp=Z,1.7nm,0.7s							
MOA	Molln	71.24	315	*epP*		P		18 01 15.5 +0.8
	comp=Z,1.4nm,0.5s							
GEC2	GERESS Array S	71.49	316	P		P		18 01 16.0 -0.3
GEC2				IAmb	IAmb			18 01 18.2
	comp=Z,7.6nm,1.2s							
GERES	GERESS Array B	71.49	316	P		P		18 01 15.3 -1.0
GERES	GERESS Array B	71.49	316	P		P		18 01 17.9 +1.7
	comp=Z,2.3nm,0.6s,baz=66,slow=6.4,SNR=12							
	comp=Z,2.3nm,0.6s							
NC602	NORSAR Array S	71.58	329	P		P		18 01 15.6 -0.8
NC303	NORSAR Array S	71.62	329	P		P		18 01 17.6 +0.9
NB2	NORSAR Subarra	71.71	329	P		P		18 01 17.6 +0.3
	comp=Z,0.9nm,0.5s,baz=85,slow=6.5							
NOA	NORSAR Array B	71.71	329	P		P		18 01 17.8 +0.5
	comp=Z,1.2nm,0.6s,baz=90,slow=5.9,SNR=5.6							
	comp=Z,1.2nm,0.6s							
PRED	Cave del Predi	71.89	314	P		P		18 01 19.1 +0.5
PRED				IAmb	IAmb			18 01 33.4
	comp=Z,8.9nm,1.4s							
NC204	NORSAR Array S	71.91	330	P		P		18 01 18.9 +0.4
LESA	Schwarzleotal	72.36	315	*eP*		P		18 01 21.9 +0.5
	comp=Z,2.5nm,0.4s							
STAL	STALIGIAL	72.50	314	P		P		18 01 20.4 -1.9
CIMO	Cimolais	72.67	314	P		P		18 01 21.8 -1.5
CIMO				IAmb	IAmb			18 01 25.3
	comp=Z,12nm,1.5s							
FDMO	Fiordimonte	72.72	310	P		P		18 01 22.9 -0.7
WTTA	Wattenberg	73.08	315	*i* pP		P		18 01 26.7 +0.8
	comp=Z,1.4nm,0.4s							
SQTA	Sankt Quirin	73.37	315	*eP*		P		18 01 28.1 +0.5
	comp=Z,1.3nm,0.3s							
MOTA	Moosalm	73.42	315	*eP*		P		18 01 28.1 +0.2
	comp=Z,2.3nm,0.7s							
FETA	Feichten	73.73	315	*epP*		P		18 01 30.7 +1.0
	comp=Z,0.8nm,0.5s							
LSZ	Lusaka	74.71	248	P		P		18 01 35.1 -0.7
LSZ				IAmb	IAmb			18 01 39.6
	comp=Z,8.4nm,0.8s							
KEST	Kesra	76.97	304	P		P		18 01 50.2 +1.8
	comp=Z,4.1nm,0.9s,baz=348,slow=8.5,SNR=3.8							
	comp=Z,4.1nm,0.9s							
C18K	Utukok River	77.68	21	P		P		18 01 50.4 -1.4
D19K	Kuna River	78.80	21	P		P		18 01 58.2 +0.2
D19K				IAmb	IAmb			18 02 32.5
	comp=Z,14nm,1.5s							
B22K	Teshekpuk Lake	79.59	19	P		P		18 02 00.8 -1.3
EKA	Eskdalemuir Ar	80.28	325	P		P		18 02 06.9 +0.7
	comp=Z,1.5nm,0.6s,baz=75,slow=5.6,SNR=4.0							
	comp=Z,1.5nm,0.6s							
C23K	Itkillik River	80.68	19	P		P		18 02 07.6 -0.4
H21K	Melozitna Rive	81.85	23	P		P		18 02 13.7 -0.7
E24K	Your Creek	82.21	20	P		P		18 02 17.1 +0.8
E24K				IAmb	IAmb			18 02 23.8
	comp=Z,8.4nm,1.4s							
BOSA	Boshof	82.76	237	P		P		18 02 19.5 -0.4
BOSA				IAmb	IAmb			18 02 25.6
	comp=Z,5.3nm,0.8s							
BOSA	Boshof	82.76	237	P		P		18 02 20.9 +1.0
	comp=Z,4.5nm,0.8s,baz=53,slow=4.5,SNR=10							
	comp=Z,4.5nm,0.8s							
BMAR	Burnt Mountain	83.81	20	P		P		18 02 24.9 +0.3
ILAR	Eielson Array	84.46	23	P		P		18 02 27.9 0.0
	comp=Z,0.5nm,0.8s,baz=298,slow=4.3,SNR=5.4							
	comp=Z,0.5nm,0.8s							
TORD	Torodi Ar. Bea	90.01	284	P		P		18 02 56.7 +1.0
	comp=Z,0.8nm,0.8s,baz=61,slow=3.9,SNR=4.5							
	comp=Z,0.8nm,0.8s							
SFJD	Kangerlussuaq	91.46	348	LR		LR		18 48 20.4
	comp=Z,107nm,19.1s,baz=2.0,slow=38							
TXAR	Lajitas Array	128.98	22	PKP		PKiKP		18 09 05.4 +0.7
	comp=Z,0.3nm,0.7s,baz=45,slow=1.4,SNR=2.6							
BDFB	Brasilia	145.58	269	PKPbc		PKPdf		18 09 35.1 +0.3
	comp=Z,5.2nm,0.8s,baz=114,slow=9.4,SNR=8.0							

IDC 14 17:51:15.0±3.7, 4.14S×152.50E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=160.7km s-min=49.7km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.67	227	P	P	17 56 29.3	+0.9
	1.0nm,0.5s,baz=52,slow=9.9,SNR=8.0						
	1.0nm,0.5s						
ASAR	Alice Springs	26.44	221	P	P	17 56 53.6	-0.3
	0.2nm,0.6s,baz=55,slow=8.9,SNR=4.4						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	149.81	289	PKPbc	PKPbc	18 11 07.2	-0.9
	0.3nm,0.6s,baz=82,slow=3.5,SNR=4.8						

*JMA **14** 17:52:55.2±0.2, 25.1°N×123.7°E±0.4, h8km, MV3.3/11, NW OFF ISHIGAKIJIMA IS*
*IDC **14** 17:52:57.8±4.3, 25.13N×123.08E, h0km, mb3.5/4, mbtmp3.5/4, MS3.8/4, Error ellipse: s-maj=288.8km s-min=23.9km az=61.0*

ISC 14 17:52:55.2±1.1, 25.02N±0.08×123.70E±0.04, h10km, n17, σ0.28/15, mb3.4/4, MS3.9/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	0.71	128	P	Pg	17 53 08.9	0.0
JISG				S	Sb	17 53 19.6	+0.2
JIJ	Ishigaki jima	0.77	148	P	Pg	17 53 09.9	-0.2
JKRS	Kuro-shima	0.83	160	P	Pg	17 53 11.3	+0.1
YOJ	Yonaguni jima	0.83	228	P	Pg	17 53 11.2	0.0
YOJ				S	Sg	17 53 22.5	+0.3
JYNG	Yonagunijimaku	0.89	230	P	Pg	17 53 12.1	-0.1
JYNG				*e*S	Sg	17 53 23.5	-0.4
HATJ	Hateruma jima	0.97	174	P	Pg	17 53 13.8	0.0
HATJ				*e*S	Sg	17 53 26.3	0.0
JTJ	Tarama	0.99	112	P	Pb	17 53 14.5	+0.1
JIRB	Irabujima	1.36	98	*eP*	Pn	17 53 19.5	-0.7
JIKM	Ikemajima	1.41	94	*eP*	Pn	17 53 20.8	-0.1
MKAR	Makanchi Array	39.36	314	P	P	18 00 25.1	+0.3
	0.6nm,0.7s,baz=106,slow=11,SNR=3.6						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	42.97	318	P	P	18 00 54.5	+0.1
	0.5nm,0.8s,baz=98,slow=7.0,SNR=3.5						
	0.5nm,0.8s						
PALK	Pallekele	44.67	254	LR	LR	18 22 08.5	
	comp=Z,73nm,18.7s,baz=154,slow=40						
WRA	Warramunga Arr	45.88	166	P	P	18 01 23.4	+5.5
	1.3nm,0.8s,baz=347,slow=8.8,SNR=5.6						
	1.3nm,0.8s						
SHEM	Shemya Is, Ala	46.72	40	LR	LR	18 21 27.0	
	comp=Z,42nm,22.0s,baz=321,slow=36						
ASAR	Alice Springs	49.40	168	P	P	18 01 51.6	+6.3
	0.3nm,0.6s,baz=349,slow=7.2,SN

comp=E,78nm,3.4s,comp=N,62nm,1.7s
YOJ Yonaguni jima 0.89 226 P Pg 17 54 27.7 -0.5
YOJ Yonaguni jima 0.89 226 P Pg 17 54 28.2 -0.1
YOJ Yonaguni jima 0.89 226 A A 17 54 28.2
comp=E,36nm,2.5s,comp=N,38nm,4.4s
JYNG Yonagunijimaku 0.94 228 P Pg 17 54 29.0 -0.2
JYNG *eS* **Sg 17 54 41.6 +0.2**
JYNG Yonagunijimaku 0.94 228 A A 17 54 29.0
comp=E,37nm,1.9s,comp=N,40nm,5.3s
JTJ Tarama 1.00 116 P Pb 17 54 30.9 +0.3
JTJ *eS* **Sn 17 54 44.9 -0.6**
JTJ Tarama 1.00 116 A A 17 54 30.9
comp=E,40nm,1.2s,comp=N,39nm,4.1s
HATJ Hateruma jima 1.02 175 P Pb 17 54 30.0 -1.0
HATJ S **Sb 17 54 42.7 -1.8**
HATJ Hateruma jima 1.02 175 A A 17 54 30.0
comp=E,95nm,2.6s,comp=N,104nm,2.7s
JIRB Irabujima 1.35 100 P Pn 17 54 36.4 +0.3
JIRB *eS* **Sb 17 54 52.9 -1.1**
JIRB Irabujima 1.35 100 A A 17 54 36.4
comp=E,16nm,7.3s,comp=N,19nm,3.8s
JIKM Ikemajima 1.40 96 P Pn 17 54 36.8 -0.1
JIKM Ikemajima 1.40 96 A A 17 54 36.8
comp=E,25nm,4.6s,comp=N,22nm,4.0s
JMJ2 Miyako jima3 1.51 103 *eP* **Pn 17 54 38.8 +0.5**
JMJ2 Miyako jima3 1.51 103 A A 17 54 38.8
comp=E,36nm,4.8s,comp=N,24nm,4.8s
JOGS Gusukube 1.57 101 *eP* **Pn 17 54 39.6 +0.4**
JOGS Gusukube 1.57 101 A A 17 54 39.6
comp=E,31nm,5.4s,comp=N,22nm,8.5s
TATO Taipei 2.02 267 Pn **Pn 17 54 44.9 -0.5**
NACB Ninganchiao 2.13 245 Pn **Pn 17 54 46.5 -0.3**
YHNB Yeheng 2.16 260 Pn **Pn 17 54 46.1 -1.2**
YULB Yu-li 2.77 233 Pn **Pn 17 54 56.3 +0.6**
SSLB Suanglung 2.82 243 Pn **Pn 17 54 57.2 +0.8**
TWG Pinlang 3.30 228 Pn **Pn 17 55 03.2 +0.2**
TPUB Ta-pu 3.33 238 Pn **Pn 17 55 05.7 +2.4**
JOW Kunigami 4.46 66 Pn **Pn 17 55 18.7 -0.3**
JOW Kunigami 4.46 66 Pn **Pn 17 55 19.7 +0.8**
comp=N,2.4nm,0.3s,baz=267,slow=10,SNR=5.1
JOW Sn **Sn 17 56 07.9 -3.1**
comp=N,1.1nm,0.3s,baz=251,slow=23,SNR=2.4
comp=N,48nm,0.9s
KNMB Chin-men Tao 4.88 264 Pn **Pn 17 55 25.8 +1.2**
JNU Nakatsue 10.17 36 Pn **Pn 17 56 38.0 +0.7**
comp=N,0.1nm,0.3s,baz=212,slow=21,SNR=1.0
JNU Sn **Sn 17 58 31.4 0.0**
baz=204,slow=22
comp=N,4.5nm,0.8s
KSRS Korea Array 12.85 15 Pn **Pn 17 57 15.1 +1.2**
comp=N,0.1nm,0.3s,baz=282,slow=29,SNR=2.1
KSRS Sn **Sn 17 59 37.1 +0.2**
baz=278,slow=37
KSRS LR LR 18 02 47.1
comp=N,819nm,18.5s,baz=200,slow=40
comp=N,1.1nm,0.8s
MJAR Matsushiro Arr 16.88 44 Pn **P 17 58 09.0 -0.6**
baz=229,slow=9.6,SNR=12
comp=N,3.2nm,0.8s
DAV Davao City (W) 18.00 174 LR LR 18 05 13.0
comp=N,463nm,20.7s,baz=342,slow=37
USA0B Ussuriysk Arra 20.23 17 P **P 17 58 46.9 +0.5**
USA0B IAmb IAmb 17 58 50.4
comp=Z,23nm,1.0s
USRK Ussuriysk Ar. 20.23 17 P **P 17 58 47.1 +0.7**
USRK Ussuriysk Ar. 20.23 17 P **P 17 58 46.3 -0.1**
comp=Z,14nm,0.9s,baz=201,slow=8.7,SNR=9.7
comp=Z,14nm,0.9s
CHTO Chiang Mai 23.78 260 P **P 17 59 26.6 +2.4**
CMAR Chiang Mai Arr 23.91 259 P **P 17 59 25.9 +0.5**
CMAR Chiang Mai Arr 23.91 259 P **P 17 59 26.2 +0.8**
comp=Z,2.1nm,1.0s,baz=184,slow=22,SNR=4.2
CMAR LR LR 18 09 06.0
comp=Z,175nm,18.3s,baz=75,slow=37
comp=Z,2.1nm,1.0s
KLR Kul'dur 24.91 13 P **P 17 59 35.1 +0.8**
comp=Z,8.1nm,1.1s,baz=214,slow=8.6,SNR=8.9
comp=Z,8.1nm,1.1s
ULN Ulaanbaatar 26.28 334 P **P 17 59 44.2 -2.7**
ULN IAmb IAmb 18 00 17.0
comp=Z,13nm,1.3s
SONM Songino Array 26.52 333 P **P 17 59 49.8 +0.8**
SONM Songino Array 26.52 333 P **P 17 59 49.5 +0.5**
comp=Z,1.9nm,0.9s,baz=154,slow=8.1,SNR=6.7
comp=Z,1.9nm,0.9s
LSA Lhasa 29.22 286 P **P 18 00 12.7 -1.1**
KAPI Kappang 30.16 188 LR LR 18 13 16.1
comp=Z,189nm,19.4s,baz=345,slow=38
YAK Yakutsk 37.16 5 P **P 18 01 21.3 -0.7**
YAK IAmb IAmb 18 01 42.5
comp=Z,9.8nm,0.9s
YAK Yakutsk 37.16 5 P **P 18 01 21.9 -0.1**
comp=Z,0.2nm,0.4s,baz=181,slow=19,SNR=5.3
MK31 Makanchi Array 39.33 314 P **P 18 01 40.4 -0.2**
MK31 IAmb IAmb 18 01 42.6
comp=Z,12nm,1.1s
MKAR Makanchi Array 39.33 314 P **P 18 01 41.1 +0.5**
MKAR Makanchi Array 39.33 314 P **P 18 01 41.8 +1.2**
comp=Z,8.1nm,0.9s,baz=103,slow=10,SNR=33
comp=Z,8.1nm,0.9s
MAKZ Makanchi 39.54 314 P **P 18 01 41.9 -0.5**
MAKZ IAmb IAmb 18 01 44.5
comp=Z,19nm,1.1s
ZAA0 Zalesovo Array 40.78 325 P **P 18 01 51.8 -0.6**
ZAA0 IAmb IAmb 18 01 53.8
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 40.78 325 P **P 18 01 51.1 -1.3**
ZALV Zalesovo Beam 40.78 325 P **P 18 01 52.9 +0.5**
comp=Z,8.0nm,1.0s,baz=111,slow=8.1,SNR=18
comp=Z,8.0nm,1.0s
NRN Naryn 42.55 305 P **P 18 02 09.2 +1.6**
KURK Kurchatov 42.91 319 P **P 18 02 10.5 +0.6**
KURK IAmb IAmb 18 02 11.7
comp=Z,22nm,1.3s
KURBB Kurchatov Arra 42.94 318 P **P 18 02 10.6 +0.5**
comp=Z,5.7nm,0.9s,baz=109,slow=8.2,SNR=23
comp=Z,5.7nm,0.9s
WRA Warramunga Arr 45.93 166 P **P 18 02 34.8 +0.4**
comp=Z,1.6nm,0.7s,baz=347,slow=8.8,SNR=9.9
comp=Z,1.6nm,0.7s
WB2 Warramunga Arr 45.94 166 P **P 18 02 34.6 +0.2**
WR0 Warramunga Arr 45.99 166 P P 18 02 41.7 +6.8
BTK Batken 46.36 302 P **P 18 02 37.7 -0.1**
BTK IAmb IAmb 18 03 18.4
comp=Z,10nm,1.4s
PSA00 Pilbara Seismi 46.53 185 P **P 18 02 38.4 -0.7**
TIXI Tiksi 46.69 2 P **P 18 02 39.5 -0.2**
KBL Kabul 47.87 295 P **P 18 02 49.2 -0.6**
BVAR Borovoye Array 48.46 320 P **P 18 02 54.7 +0.9**
comp=Z,1.0nm,0.7s,baz=97,slow=7.6,SNR=5.9
comp=Z,1.0nm,0.7s
BRVK Borovoye 48.53 320 P **P 18 02 53.0 -1.3**
BRVK IAmb IAmb 18 02 55.6
comp=Z,4.7nm,1.1s
NRIK Noril'sk 49.16 344 P **P 18 02 57.5 -1.4**
NRIK IAmb IAmb 18 03 00.0
comp=Z,10.0nm,1.1s
NRIK Noril'sk 49.16 344 P **P 18 02 58.2 -0.7**
comp=Z,6.0nm,1.1s,baz=124,slow=9.7,SNR=4.6
comp=Z,6.0nm,1.1s
AS31 Alice Springs 49.45 168 P **P 18 03 03.0 +1.2**
ASAR Alice Springs 49.46 168 P **P 18 03 04.0 +2.3**
ASAR Alice Springs 49.46 168 P **P 18 03 02.9 +1.1**
comp=Z,0.5nm,0.5s,baz=350,slow=7.3,SNR=13
comp=Z,0.5nm,0.5s
ABKAR Akbulak array 54.47 314 P **P 18 03 39.4 +0.5**
GEYT Alibeck 56.33 300 P **P 18 03 52.1 -0.5**
GEYT IAmb IAmb 18 03 55.1
comp=Z,9.2nm,0.9s
GEYT Alibeck 56.33 300 P **P 18 03 54.1 +1.5**
comp=Z,6.2nm,0.8s,baz=102,slow=3.6,SNR=11
comp=Z,6.2nm,0.8s
GYA0B ALIBECK ARRAY 56.33 300 P **P 18 03 51.5 -1.0**
GYA0B IAmb IAmb 18 03 55.1
comp=Z,8.8nm,0.9s
STKA Stephens Creek 59.16 162 P **P 18 04 13.1 +0.9**
comp=Z,1.9nm,0.8s,baz=230,slow=14,SNR=2.5
comp=Z,1.9nm,0.8s
KIRV Kirov 60.81 325 LR LR 18 33 11.1
comp=Z,478nm,18.2s,baz=99,slow=38
H21K Melozitna Rive 64.77 27 P **P 18 04 49.6 -0.1**
D24K Happy Valley 65.92 23 P **P 18 04 58.0 +1.0**
E24K Your Creek 66.19 24 P **P 18 04 59.6 +0.8**
E24K IAmb IAmb 18 05 01.1
comp=Z,4.8nm,1.1s
F24K Squaw Lake 66.49 25 **P 18 05 01.4 +0.6**
F24K IAmb IAmb 18 05 27.2
comp=Z,4.2nm,0.9s
KBZ Khabaz 66.71 309 P **P 18 05 03.1 +0.6**
comp=Z,3.1nm,1.0s,baz=133,slow=5.9,SNR=3.2
comp=Z,3.1nm,1.0s
ILAR Eielson Array 67.36 28 P **P 18 05 05.1 -1.2**
comp=Z,0.2nm,0.6s,baz=83,slow=11,SNR=1.5
comp=Z,0.2nm,0.6s
FINES FINESS Array B 71.83 330 P **P 18 05 32.8 -1.1**
comp=Z,5.0nm,1.0s,baz=74,slow=12,SNR=4.1
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 73.72 319 P **P 18 05 44.7 -0.7**
comp=Z,0.4nm,0.5s,baz=260,slow=17,SNR=1.7
comp=Z,0.4nm,0.5s
BRTR Keskin Array B 74.48 307 P **P 18 05 51.0 +0.8**
comp=Z,2.0nm,1.1s,baz=24,slow=6.9,SNR=4.7
comp=Z,2.0nm,1.1s
NOA NORSAR Array B 78.50 333 P **P 18 06 12.1 -0.3**
comp=Z,1.8nm,0.9s,baz=59,slow=5.3,SNR=3.0
comp=Z,1.8nm,0.9s
YKA Yellowknife Ar 81.24 24 P **P 18 06 27.1 -0.1**
comp=Z,0.6nm,0.8s,baz=310,slow=5.1,SNR=7.0
comp=Z,0.6nm,0.8s
GERES GERESS Array B 83.60 321 P **P 18 06 40.3 +0.4**
comp=Z,1.4nm,0.9s,baz=20,slow=4.3,SNR=4.3
comp=Z,1.4nm,0.9s
BORG Borgarnes 86.44 346 LR LR 18 50 17.8
comp=Z,103nm,18.2s,baz=1.6,slow=39
DAVOX Davos/Dischmat 86.88 321 LR LR 18 51 14.6
comp=Z,157nm,19.5s,baz=34,slow=39
FRB Frobisher Bay 90.94 5 LR LR 18 53 35.0
comp=Z,58nm,19.5s,baz=342,slow=39
NVAR Mina Array Bea 94.20 44 P **P 18 07 31.9 +0.9**
comp=Z,0.4nm,0.6s,baz=272,slow=4.1,SNR=2.3
comp=Z,0.4nm,0.6s
ESDC Sonseca Array 99.19 322 LR LR 18 58 02.7
comp=Z,76nm,20.3s,baz=85,slow=39

WEL 14 18:06:44.8±0.3, 42°S±3°×17°4E±°, h15km±2km, M3.5/49, ML3.6/25, MLv3.5/49, Error ellipse: s-maj=0.0km s-min=0.0km az=122.0, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIKS	**Kaikoura**	**0.10**	**186**	P	Pb	18 06 49.8	+1.3
KIKS				S	Sb	18 06 53.5	+2.5
KHZ	**Kahutara**	**0.15**	**232**	P	Pb	18 06 49.4	+0.1
KHZ				S	Sb	18 06 52.3	+0.1
MOLW	**Molesworth Sta**	**0.40**	**306**	P	Pg	18 06 51.9	-1.1
MOLW				S	Sg	18 06 56.8	-1.7
KEKS	**Kekerengu Vall**	**0.42**	**30**	P	Pb	18 06 54.4	+0.4
KEKS				S	Sb	18 07 00.8	+0.6
BSWZ	**Blackbirch Sta**	**0.62**	**12**	P	Pg	18 06 56.9	-0.2
CMWZ	**Cape Campbell**	**0.69**	**34**	P	Pn	18 06 59.7	-0.3
CMWZ				S	Sn	18 07 12.7	+2.2
GVZ	**Greta Valley S**	**0.81**	**217**	P	Pn	18 07 02.0	+0.3
GVZ				S	Sn	18 07 14.6	+1.2
THZ	**Tophouse**	**0.81**	**313**	P	Pg	18 06 59.7	-0.9
THZ				S	Sg	18 07 09.6	-1.8
TUWZ	**Tuamarina**	**0.91**	**12**	P	Pb	18 07 02.1	-0.2
TUWZ				S	Sn	18 07 15.3	-0.6
NNZ	**Nelson**	**1.13**	**348**	P	Pb	18 07 05.4	-0.7
AMCZ	**Amberley**	**1.15**	**222**	P	Pb	18 07 06.5	+0.2
LTZ	**Lake Taylor**	**1.15**	**246**	P	Pn	18 07 05.9	-0.5
MRNZ	**Matariki Terra**	**1.16**	**322**	P	Pn	18 07 06.1	-0.4
TCW	**Tory Channel**	**1.19**	**21**	P	Pn	18 07 06.8	-0.2
BHW	**Baring Head**	**1.27**	**44**	P	Pn	18 07 07.8	-0.2
WEL	**Wellington**	**1.31**	**38**	P	Pn	18 07 08.7	+0.1
PLWZ	**Palliser**	**1.39**	**52**	P	Pn	18 07 09.2	-0.4
TKNZ	**Takaka Hill**	**1.40**	**337**	P	Pb	18 07 10.3	-0.4
OKCZ	**Okains Bay**	**1.48**	**198**	P	Pn	18 07 10.6	-0.2
DSZ	**Denniston Nort**	**1.52**	**292**	P	Pn	18 07 11.7	+0.2
DUWZ	**D'Urville Isla**	**1.53**	**6**	P	Pn	18 07 11.7	+0.1
OXZ	**Oxford**	**1.58**	**230**	P	Pn	18 07 11.5	-0.7
MQZ	**McQueen's Vall**	**1.58**	**209**	P	Pn	18 07 11.2	-1.0
CAW	**Cannon Point**	**1.59**	**41**	P	Pn	18 07 12.1	-0.2
PAWZ	**Paruwai Farm**	**1.60**	**54**	P	Pn	18 07 12.0	-0.6
AKCZ	**Akaroa Harbour**	**1.65**	**200**	P	Pn	18 07 12.7	-0.5
INZ	**Inchbonnie**	**1.71**	**256**	P	Pn	18 07 14.3	+0.3
KIW	**Kapiti Island**	**1.72**	**32**	P	Pn	18 07 14.3	+0.1
QRZ	**Quartz Range**	**1.73**	**329**	P	Pb	18 07 15.5	-0.9
QRZ				S	Sb	18 07 37.6	-0.3
TRWZ	**Traveller**	**1.75**	**59**	P	Pn	18 07 13.9	-0.8
MTW	**Mount Morrison**	**1.78**	**50**	P	Pn	18 07 14.3	-0.7
RACZ	**Rakaia**	**1.81**	**219**	P	Pn	18 07 14.7	-0.7
OGWZ	**Otaki Gorge**	**1.87**	**37**	P	Pn	18 07 15.9	-0.3
HOWZ	**Holdsworth Sta**	**1.97**	**44**	P	Pn	18 07 17.0	-0.7
MHCZ	**Mount Hutt**	**1.98**	**232**	P	Pn	18 07 16.8	-0.9
TMWZ	**Te Maipa**	**2.04**	**54**	P	Pn	18 07 17.8	-0.9
WACZ	**Wakanui South**	**2.11**	**219**	P	Pn	18 07 18.9	-0.7
MRZ	**Mangatainoka R**	**2.18**	**41**	P	Pn	18 07 19.8	-0.7
WVZ	**Waitaha Valley**	**2.31**	**250**	P	Pn	18 07 22.7	+0.4
RPZ	**Rata Peaks**	**2.39**	**233**	P	Pn	18 07 22.8	-0.5
ARCZ	**Arundel**	**2.46**	**228**	P	Pn	18 07 23.7	-0.7
PRWZ	**Pori Road**	**2.46**	**45**	P	Pn	18 07 25.3	+0.9
BFZ	**Birch Farm**	**2.52**	**50**	P	Pn	18 07 23.9	-1.3
WAZ	**Wanganui**	**2.75**	**21**	P	Pn	18 07 29.3	+1.0
DVHZ	**Dannevirke**	**2.75**	**43**	P	Pb	18 07 34.9	+1.3
TSZ	**Takapari Road**	**2.83**	**38**	P	Pn	18 07 28.7	-0.9
TMZ	**Timaru**	**2.84**	**223**	P	Pn	18 07 29.1	-0.5
PREZ	**Palmer Road**	**3.00**	**7**	P	Pb	18 07 35.0	-2.9
PNHZ	**Pukenui**	**3.06**	**39**	P	Pn	18 07 31.3	-1.4
NEZ	**North Egmont**	**3.06**	**6**	P	Pn	18 07 36.6	-2.5
FOZ	**Fox Glacier**	**3.10**	**246**	P	Pn	18 07 33.9	+0.8
PKE	**Pukeiti**	**3.13**	**4**	P	Pn	18 07 36.1	+2.4
PKVZ	**Pokaka**	**3.28**	**23**	P	Pn	18 07 36.8	+1.1
LBZ	**Lake Benmore**	**3.29**	**230**	P	Pn	18 07 35.6	-0.2
VRZ	**Vera Road**	**3.30**	**15**	P	Pn	18 07 37.5	+1.7
MOVZ	**Moawhango**	**3.30**	**29**	P	Pn	18 07 35.7	-0.4
WNVZ	**Wahianoa**	**3.32**	**26**	P	Pn	18 07 37.0	+0.6
TRVZ	**Turoa**	**3.33**	**26**	P	Pn	18 07 37.4	+0.8
BHHZ	**Black Hill Sta**	**3.35**	**33**	P	Pn	18 07 36.0	-0.6
KRHZ	**Kereru**	**3.36**	**38**	P	Pn	18 07 35.1	-1.6
WHVZ	**Whangaehu Hut**	**3.36**	**26**	P	Pn	18 07 38.1	+1.1
FWVZ	**Far West T-bar**	**3.37**	**25**	P	Pn	18 07 38.2	+1.1
TUVZ	**Tukino**	**3.40**	**27**	P	Pn	18 07 37.8	+0.5
COVZ	**Chateau Observ**	**3.42**	**25**	P	Pn	18 07 38.5	+0.8
NGZ	**Ngauruhoe**	**3.46**	**25**	P	Pn	18 07 38.9	+0.6
SNVZ	**South Ngauruho**	**3.46**	**26**	P	Pn	18 07 38.9	+0.5
OTVZ	**Oturere**	**3.49**	**26**	P	Pn	18 07 39.1	+0.4
NNVZ	**North Ngauruho**	**3.51**	**25**	P	Pn	18 07 39.6	+0.7
ODZ	**Otahua Downs**	**3.59**	**218**	P	Pn	18 07 37.9	-0.9
WTVZ	**West Tongariro**	**3.51**	**25**	P	Pn	18 07 39.4	+0.4
ETVZ	**East Tongariro**	**3.53**	**26**	P	Pn	18 07 39.7	+0.5
TMVZ	**Te Maari**	**3.55**	**26**	P	Pn	18 07 40.1	+0.7
NTVZ	**North Tongarir**	**3.56**	**26**	P	Pn	18 07 40.0	+0.5
KWHZ	**Kaweka Forest**	**3.56**	**36**	P	Pn	18 07 37.8	-1.7
RATZ	**Rangitukua**	**3.80**	**25**	P	Pn	18 07 46.5	+3.7
JCZ	**Jackson Bay**	**3.99**	**242**	P	Pn	18 07 47.1	+1.5
MTHZ	**Maungataniwha**	**4.21**	**36**	P	Pn	18 07 47.0	-1.5
EAZ	**Earnscleugh**	**4.31**	**226**	P	Pn	18 07 49.3	-0.4
AWAZ	**Awhitu Peninsu**	**5.30**	**8**	P	Pn	18 08 04.7	+1.3
RUGZ	**Raukumara Rang**	**5.32**	**36**	P	Pn	18 08 02.4	-1.3
MKAZ	**Moumakai**	**5.33**	**13**	P	Pn	18 08 04.2	+0.4
WTAZ	**Waiatarua**	**5.43**	**7**	P	Pn	18 08 06.9	+1.8
WIAZ	**Waiheke Island**	**5.63**	**12**	P	Pn	18 08 09.3	+1.3
CTZ	**Chatham Island**	**7.24**	**105**	P	Pn	18 08 28.5	-1.4

NIED **14** *18:12:51.9, 34°.85N×139°.25E, h11km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.10; $M_{\theta\theta}$0.64; $M_{\phi\phi}$0.46; $M_{r\theta}$0.09; $M_{\theta\phi}$-3.22; $M_{\phi r}$-0.26; Fault plane solution: $M_0$3.24000×10^{14} NP1: ϕ_s359.00000°, δ89.00000°, λ-5.00000°. NP2:ϕ_s89.00000°, δ85.00000°, λ-179.00000°.*

JMA 14 18:12:51.9±0.1, 34°.9N±0°.2×139°.3E±0°.3, h11km±1km, MV3.4/11, 11D, NEAR IZU-OSHIMA ISLAND, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTJ3	**Kamata3**	**0.17**	**300**	⇓P	Pg	18 12 55.7	-0.1
KTJ3				⇓S	Sg	18 12 58.5	+0.1
JIM2	**Oshima 3**	**0.20**	**131**	⇓P	Pg	18 12 56.2	+0.1
JHTM	**Izuhatsuma**	**0.23**	**299**	⇓*i*P	Pg	18 12 56.8	+0.1
AJI	**Ajiro2**	**0.24**	**326**	⇓*i*P	Pg	18 12 57.0	+0.1
JTHY	**Toshimahigashi**	**0.32**	**175**	*i* P	Pg	18 12 58.9	+0.4
JTHY				S	Sb	18 13 04.1	-0.8
JIZS	**Izushimoda**	**0.33**	**247**	*i* P	Pg	18 12 58.6	0.0
JIZS				S	Sg	18 13 03.4	+0.3
JOD2	**Odawara 2**	**0.44**	**342**	⇓*i*P	Pg	18 13 00.5	0.0
JOD2				⇓S	Sg	18 13 06.9	+0.5
JFNN	**Fujinakano**	**0.58**	**307**	⇓*i*P	Pg	18 13 03.2	0.0
JFNN				⇓S	Sg	18 13 11.5	+0.6
JMYK	**Miyake Tsubota**	**0.82**	**163**	P	Pg	18 13 07.3	-0.5
JYN	**Shimob**	**0.87**	**318**	⇓*i*P	Pg	18 13 07.9	-0.8
JYN				⇓S	Sg	18 13 19.8	-0.3
SHZ3	**Shizuoka 3**	**0.88**	**285**	*i* P	Pg	18 13 08.9	-0.1
SHZ3				S	Sb	18 13 21.7	+0.5
JMKN	**Mikurajimanish**	**0.99**	**164**	P	Pg	18 13 09.9	-1.1

IDC **14** *18:13:03.7±0.9, 32°.73S×179°.94E, h0km, mb4.5/5, mbtmp4.6/9, ML4.2/4, MS3.8/18, Error ellipse: s-maj=29.5km s-min=18.6km az=134.0*
NEIC **14** *18:13:05.0±2.5, 32°.73S±0°.08×179°.96W±0°.05, h10km±1km, mb4.7/27, Error ellipse: s-maj=13.1km s-min=7.4km az=178.0*
WEL **14** *18:13:08.5±1.9, 33°S±6°×18°0E±1°2, h20km±14km, M4.8/11, mB5.3/6, ML4.8/11, MLv4.8/11, Mw(mB)4.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=112.4, confirmed*
ISC 14 18:13:04.8±0.4, 32°.79S±0°.05×179°.95W±0°.07, h10km, n101, σ1°68/86, mb4.8/24, MS4.0/17, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.93**	**27**	P	**Pn**	**18 14 08.3**	**+3.1**
GLKZ				S	**Sb**	**18 15 00.2**	**-1.5**
RAO	**Raoul Island**	**3.94**	**27**		**Pn**	**18 14 04.7**	**-0.6**
RAO	**Raoul Island**	**3.94**	**27**	Pn	**Pn**	**18 14 06.2**	**+0.9**
	132nm,0.3s,baz=200,slow=7.6,SNR=8.5						
RAO				Sn	**Sn**	**18 14 50.5**	**-1.0**
	baz=63,slow=23						
RAO				LR	LR	18 15 24.2	
	comp=Z,682nm,19.6s,baz=149,slow=36						
	840nm,0.6s						
MXZ	**Matakaoa Point**	**4.97**	**196**	Pn	**Pn**	**18 14 20.2**	**+0.7**
GRZ	**Great Barrier**	**5.13**	**226**	P	**Pn**	**18 14 21.5**	**-0.2**
WMGZ	**Waiomatatini S**	**5.19**	**194**	P	**Pn**	**18 14 22.7**	**+0.2**
WMGZ				S	**Sn**	**18 15 20.4**	**-2.1**
HAZ	**Te Kaha**	**5.29**	**200**	P	**Pn**	**18 14 25.5**	**+1.6**
HAZ				S	**Sn**	**18 15 27.4**	**+2.6**
KUZ	**Kuaotunu**	**5.32**	**221**	P	**Pn**	**18 14 23.2**	**-1.1**
PKGZ	**Pakihiroa**	**5.33**	**197**	P	**Pn**	**18 14 24.5**	**-0.1**
PKGZ				S	**Sn**	**18 15 22.9**	**-3.2**
PUZ	**Puketiti**	**5.47**	**195**	P	**Pn**	**18 14 25.8**	**-0.6**
RUGZ	**Raukumara Rang**	**5.51**	**200**	P	**Pn**	**18 14 28.2**	**+1.1**
RUGZ				S	**Sn**	**18 15 30.4**	**-0.2**
TWGZ	**Tauwhareparae**	**5.63**	**197**	P	**Pn**	**18 14 28.9**	**+0.2**
TWGZ				S	**Sn**	**18 15 32.1**	**-1.3**
WCZ	**Waipu Caves**	**5.67**	**235**	P	**Pn**	**18 14 29.2**	**+0.1**
MBAZ	**Motutapu North**	**5.81**	**225**	P	**Pn**	**18 14 31.9**	**+0.9**
CNGZ	**Carnagh Statio**	**5.87**	**194**	P	**Pn**	**18 14 31.2**	**-0.7**
CNGZ				S	**Sn**	**18 15 34.6**	**-4.7**
OUZ	**Omahuta**	**5.88**	**244**	P	**Pn**	**18 14 31.3**	**-0.8**
URZ	**Urewera**	**5.96**	**203**	Pn	**Pn**	**18 14 34.1**	**+1.1**
	5.7nm,0.3s,baz=100,slow=7.7,SNR=18						
URZ				Sn	**Sn**	**18 15 42.4**	**+1.1**
	7.0nm,0.3s,baz=342,slow=22,SNR=2.1						
	38nm,0.6s						
TOZ	**Tahuroa Road**	**6.17**	**216**	Pn	**Pn**	**18 14 35.3**	**-0.8**
RTZ	**Ruatahuna**	**6.32**	**202**	Pn	**Pn**	**18 14 38.8**	**+0.6**
HIZ	**Hauiti**	**7.10**	**215**	Pn	**Pn**	**18 14 49.2**	**+0.4**
BFZ	**Birch Farm**	**8.44**	**200**	Pn	**Pn**	**18 15 03.3**	**-3.9**
MRZ	**Mangatainoka R**	**8.63**	**203**	Pn	**Pn**	**18 15 07.8**	**-2.0**
BHW	**Baring Head**	**9.54**	**204**	Pn	Pn	18 15 17.4	-4.8
CTZ	**Chatham Island**	**11.23**	**168**	Pn	**Pn**	**18 15 43.5**	**-1.8**
RPZ	**Rata Peaks**	**12.99**	**210**	Pn	**Pn**	**18 16 09.8**	**+0.4**
	1.2nm,0.3s,baz=62,slow=19,SNR=2.4						
RPZ				Sn	**Sn**	**18 18 33.8**	**-0.1**
	0.6nm,0.3s,baz=172,slow=16,SNR=1.3						
	8.1nm,0.6s						
OUENC	**Ouen Island, N**	**15.60**	**308**	Pn	**Pn**	**18 16 44.9**	**0.0**
OUENC				IAmb	IAmb	18 16 52.2	
	comp=Z,32nm,1.1s						
ONTNC	**Ouen Toro**	**15.94**	**308**	P	**P**	**18 16 51.2**	**-1.7**
DZM	**Mont Dzumac**	**16.11**	**308**	Pn	**Pn**	**18 16 47.5**	**-4.0**
DZM	**Mont Dzumac**	**16.11**	**308**	*e*LR	LR	18 20 29.1	
	comp=Z,2μm,25.9s						
DZM	**Mont Dzumac**	**16.11**	**308**	Pn	**Pn**	**18 16 49.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=145,slow=18,SNR=6.8						
DZM				LR	LR	18 21 56.4	
	comp=Z,1μm,18.3s,baz=117,slow=33						
	comp=Z,20nm,1.1s						
NIUE	**Niue**	**16.35**	**36**	Pn	**Pn**	**18 16 51.0**	**-3.6**
NIUE				IAmb	IAmb	18 17 11.5	
	comp=Z,127nm,1.2s						
RAR	**Rarotonga**	**21.32**	**62**	LR	LR	18 25 24.0	
	comp=Z,147nm,20.1s,baz=233,slow=35						
TBI	**Tubuai**	**28.41**	**78**	*e*LR	LR	18 26 14.4	
	comp=Z,2μm,25.8s						
HNR	**Honiara**	**29.75**	**317**	LR	LR	18 29 26.9	
	comp=Z,3μm,19.1s,baz=150,slow=33						
PPT2	**Papeete2**	**31.23**	**68**	*e*LR	LR	18 27 28.3	
	comp=Z,250nm,24.2s						
PPT2				*e*LR	LR	18 27 36.3	
	comp=Z,124nm,22.0s						
PPT	**Papeete**	**31.25**	**68**	LR	LR	18 28 21.6	
	comp=Z,123nm,21.0s,baz=246,slow=29						
STKA	**Stephens Creek**	**32.39**	**261**	P	**P**	**18 19 34.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=89,slow=13,SNR=4.2						
STKA				LR	LR	18 30 43.9	
	comp=Z,336nm,21.3s,baz=94,slow=33						
	comp=Z,2.2nm,0.8s						
CTA	**Charters Tower**	**32.66**	**284**	LR	LR	18 30 39.9	
	comp=Z,326nm,20.7s,baz=118,slow=32						
CTAO	**Charters Tower**	**32.66**	**284**	P	**P**	**18 19 37.6**	**+0.3**
CTAO				IAmb	IAmb	18 19 38.8	
	comp=Z,

	comp=Z,2.2nm,0.8s							
MAW	**Mawson**	**69.49**	**201**	LR	LR	18 53 17.2		
	comp=Z,141nm,18.4s,baz=114,slow=35							
TROLL	**Troll, Antarti**	**75.47**	**181**	⇑P	**P**	**18 24 49.0**	**+0.1**	
	comp=Z,290nm,0.7s							
VNA3	**Neumayer Olymp**	**76.03**	**177**	⇑P	**P**	**18 24 51.2**	**-0.7**	
	comp=Z,25nm,0.8s							
VNA2	**Neumayer--Watz**	**76.44**	**177**	⇑P	**P**	**18 24 54.0**	**-0.2**	
	comp=Z,15nm,0.8s,baz=171,slow=5.0							
JNU	**Nakatsue**	**80.27**	**320**	LR	LR	18 54 38.5		
	comp=Z,41nm,21.1s,baz=93,slow=31							
H03S2	**Juan Fernandez**	**80.52**	**124**	T	T	19 54 01.9		
	baz=235,slow=74,SNR=188							
H03S1	**Juan Fernandez**	**80.53**	**124**	T	T	19 54 03.1		
	baz=235,slow=74,SNR=158							
H03S3	**Juan Fernandez**	**80.53**	**124**	T	T	19 54 01.8		
	baz=235,slow=74,SNR=172							
H03N3	**Juan Fernandez**	**80.73**	**124**	T	T	19 54 13.3		
	baz=239,slow=72,SNR=542							
H03N2	**Juan Fernandez**	**80.73**	**124**	T	T	19 54 12.0		
	baz=239,slow=72,SNR=340							
H03N1	**Juan Fernandez**	**80.74**	**124**	T	T	19 54 12.5		
	baz=239,slow=72,SNR=798							
PLCA	**Paso Flores**	**82.08**	**134**	LR	LR	18 53 26.6		
	comp=Z,41nm,21.7s,baz=220,slow=30							
NJ2	**Nanjing**	**86.57**	**312**	*e*P	**P**	**18 25 49.3**	**+1.1**	
NJ2				pmax	pmax			
	comp=Z,4.0nm,0.5s							
PFO	**Pinyon Flats O**	**89.04**	**48**	P	**P**	**18 25 59.5**	**-0.8**	
PFO				IAmb	IAmb	18 26 10.6		
	comp=Z,4.9nm,1.0s							
ISA	**Isabella, Lake**	**89.16**	**46**	P	**P**	**18 26 02.2**	**+1.5**	
ISA				IAmb	IAmb	18 26 11.5		
	comp=Z,6.1nm,0.9s							
CMB	**Columbia Colle**	**89.64**	**43**	P	**P**	**18 26 04.0**	**+1.1**	
CMB				IAmb	IAmb	18 26 13.1		
	comp=Z,3.9nm,0.9s							
MDJ	**Mudanjiang**	**89.68**	**327**	P	**P**	**18 26 05.8**	**+3.0**	
MDJ				pmax	pmax			
	comp=Z,13nm,2.2s							
MDJ				pmax	pmax			
	comp=Z,180nm,3.8s							
NVAR	**Mina Array Bea**	**91.11**	**44**	P	**P**	**18 26 11.3**	**+1.4**	
	comp=Z,1.3nm,0.8s,baz=216,slow=6.4,SNR=6.6							
	comp=Z,1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**92.64**	**290**	LR	LR	19 09 48.3		
	comp=Z,23nm,20.1s,baz=110,slow=37							
LVC	**Limon Verde**	**94.20**	**120**	LR	LR	19 02 21.2		
	comp=Z,50nm,18.9s,baz=232,slow=31							
NNA	**Nana**	**94.34**	**107**	LR	LR	18 58 57.6		
	comp=Z,98nm,20.6s,baz=200,slow=29							
PZH	**PanZhiHua**	**94.95**	**298**	P	**P**	**18 26 29.4**	**+1.6**	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.1s							
PZH				pmax	pmax			
	comp=Z,110nm,5.1s							
TXAR	**Lajitas Array**	**95.06**	**58**	P	**P**	**18 26 29.0**	**+0.7**	
	comp=Z,0.9nm,1.0s,baz=181,slow=5.1,SNR=4.6							
	comp=Z,0.9nm,1.0s							
HHC	**Hu-ho-hao-te**	**96.72**	**315**	*e*P	**P**	**18 26 36.8**	**+1.3**	
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,98nm,4.6s							
CPUP	**Villa Florida**	**99.77**	**130**	LR	LR	19 04 29.0		
	comp=Z,57nm,20.5s,baz=210,slow=31							
WMQ	**Urumqi**	**113.39**	**308**	*e*P	**PKiKP**	**18 31 43.1**	**+0.3**	
KURBB	**Kurchatov Arra**	**121.51**	**313**	PKP	**PKiKP**	**18 31 58.2**	**-0.1**	
	comp=Z,0.1nm,0.4s,baz=124,slow=2.3,SNR=1.4							
ARCES	**ARCESS Array B**	**140.54**	**346**	PKP	**PKiKP**	**18 32 35.2**	**-0.8**	
	comp=Z,4.4nm,0.8s,baz=15,slow=5.1,SNR=2.4							
FINES	**FINESS Array B**	**146.76**	**337**	PKPbc	**PKPdf**	**18 32 44.8**	**+0.3**	
	comp=Z,4.6nm,1.0s,baz=38,slow=3.4,SNR=7.6							
MMAI	**Mount Meron Ar**	**150.40**	**280**	PKPab	**PKPab**	**18 33 01.5**	**-1.8**	
	comp=Z,3.4nm,0.7s,baz=64,slow=3.4,SNR=2.5							
NOA	**NORSAR Array B**	**150.82**	**349**	PKPab	**PKPab**	**18 33 03.1**	**-0.9**	
	comp=Z,1.5nm,1.0s,baz=22,slow=4.7,SNR=3.7							
HFS	**Hagfors**	**151.20**	**346**	PKPbc	**PKPbc**	**18 32 57.0**	**-0.7**	
	comp=Z,2.2nm,0.8s,baz=64,slow=3.4,SNR=2.0							
AKASG	**Malin Array Be**	**152.09**	**319**	PKPbc	**PKPbc**	**18 32 59.5**	**-0.5**	
	comp=Z,0.3nm,0.3s,baz=67,slow=0.4,SNR=2.2							
BRTR	**Keskin Array B**	**152.16**	**294**	PKPab	**PKPab**	**18 33 10.1**	**-0.4**	
	comp=Z,1.6nm,1.0s,baz=224,slow=4.0,SNR=3.6							
VYHS	**Vyhne**	**158.90**	**324**	*e*PKP	**PKPdf**	**18 33 09.3**	**+6.6**	
VYHS				*e*		18 33 40.7		
TORD	**Torodi Ar. Bea**	**160.39**	**185**	PKPab	**PKPab**	**18 33 46.7**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=156,slow=3.1,SNR=3.6							

*TEH **14** 18:17:15.3,32.71N×47.57E,h16km±24km,ML3.1*
*ISN **14** 18:17:15.9±0.6,32.66N×47.60E,h20km±4km,ML2.9*
ISC 14 18:17:17.7±1.0,32.71N±0.04×47.58E±0.04,h23km,n18,
σ1§18/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**15**	Pg	**Pb**	**18 17 32.1**	**-1.6**
IBDR	**Badra**	**1.44**	**286**	*e*Pg	**Pb**	**18 17 42.5**	**-1.4**
IBDR				*e*Sg	**Sb**	**18 18 02.0**	**+0.1**
IBDR				AML	AML	18 18 06.6	
	comp=N,159nm,0.5s						
IBDR				AML	AML	18 18 09.3	
	comp=E,215nm,0.6s						
IKOM	**Komasi**	**1.46**	**358**	Pg	**Pb**	**18 17 43.1**	**-1.3**
RAFI	**Al-Rafai**	**1.58**	**232**	*e*Pn	**Pb**	**18 17 45.0**	**-1.3**
RAFI				*e*Sn	**Sb**	**18 18 05.5**	**-0.4**
RAFI				AML	AML	18 18 10.7	
	comp=N,233nm,0.5s						
RAFI				AML	AML	18 18 18.1	
	comp=E,194nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.62**	**344**	Pg	**Pb**	**18 17 45.3**	**-1.8**
KCHF				Sg	**Sb**	**18 18 09.3**	**+2.0**
AHWZ	**Ahwaz**	**1.65**	**146**	Sg	**Sb**	**18 18 09.5**	**+1.7**
HSAM	**Samen**	**1.72**	**29**	Pg	**Pb**	**18 17 47.2**	**-1.7**
IGHG	**Ghaleghazi**	**1.82**	**333**	Pn	**Pn**	**18 17 47.7**	**-0.2**
IDHR	**Dehrash**	**2.22**	**334**	Pn	**Pn**	**18 17 54.1**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**2.44**	**318**	Pn	**Pn**	**18 17 56.5**	**+0.3**
BHD	**Baghdad**	**2.75**	**283**	*e*Pn	**Pn**	**18 18 01.0**	**+0.6**
BHD				*e*Sn	**Sn**	**18 18 34.5**	**+1.7**
IPIR	**Pirpir**	**2.79**	**90**	Pn	**Pn**	**18 18 01.7**	**+0.4**
IKLH	**Kolahrood**	**3.42**	**79**	Pn	**Pn**	**18 18 10.5**	**+0.7**
IQOM	**Qom**	**3.60**	**53**	Pn	**Pn**	**18 18 12.7**	**+0.3**
IGAR	**Gharneh**	**3.78**	**93**	Pn	**Pn**	**18 18 15.0**	**+0.1**
IZEF	**Zefreh**	**4.00**	**86**	Pn	**Pn**	**18 18 18.1**	**+0.2**
IRAM	**Ramesheh**	**4.17**	**101**	Pn	**Pn**	**18 18 19.8**	**-0.3**
ISFB	**Sefidab**	**4.22**	**66**	Pn	**Pn**	**18 18 21.3**	**+0.5**

*IDC **14** 18:29:36.0±0.8,13.70N×120.89E,h121km±9km,mb3.2/6,*
mbtmp3.5/6,Error ellipse: s-maj=51.7km s-min=16.4km
az=59.0
ISC 14 18:29:34.8±1.0,13.4N±0.1×120.50E±0.09,h100km,n11,
σ2§65/15,mb3.4/6,4C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.46**	**72⇑**	*e*P	**Pn**	**18 29 53.3**	**+2.9**
PGP				*i* S	**Sn**	**18 29 55.0**	**-7.0**
TGY	**Tagaytay City**	**0.85**	**30**	P	**Pn**	**18 29 54.7**	**+0.9**
	668nm,0.3s,baz=279,slow=3.0,SNR=17						
TGY				S	**Sn**	**18 30 08.1**	**+0.1**
	587nm,0.3s,baz=349,slow=22,SNR=3.7						
TGY	**Tagaytay City**	**0.85**	**30⇑**	*e*P	**Pn**	**18 29 55.8**	**+2.0**
TGY				*e*S	**Sn**	**18 30 08.2**	**+0.1**
LQP	**Lukban**	**1.25**	**53⇑**	*i*P	**Pn**	**18 29 58.8**	**+0.4**
GQP	**Guinayangan**	**1.97**	**74⇑**	*e*P	**Pn**	**18 30 07.9**	**+0.9**
GQP				*e*S	**Sn**	**18 30 33.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**21.34**	**287**	P	**P**	**18 34 16.9**	**+2.8**
	0.7nm,0.5s,baz=97,slow=7.4,SNR=8.9						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**35.79**	**157**	P	**P**	**18 36 24.4**	**-0.2**
	0.2nm,0.5s,baz=328,slow=11,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**39.06**	**160**	P	**P**	**18 36 53.0**	**+0.8**
	0.2nm,0.3s,baz=335,slow=7.5,SNR=9.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**46.19**	**324**	P	**P**	**18 37 48.2**	**-1.4**
	0.3nm,0.4s,baz=130,slow=8.9,SNR=6.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**50.36**	**326**	P	**P**	**18 38 19.8**	**-1.8**
	1.4nm,0.8s,baz=130,slow=8.0,SNR=16						
	1.4nm,0.8s						
BVAR	**Borovoye Array**	**55.94**	**326**	P	**P**	**18 39 00.8**	**-1.8**
	0.5nm,0.5s,baz=134,slow=8.5,SNR=3.7						
	0.5nm,0.5s						

TAP 14 18:32:19.2,24.40N×121.88E,h25km,ML1.3,1C,C,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.10**	**294**	*e*P	Pb	18 32 24.1	+0.2
	baz=294						
EWUT				*i* S	Sb	18 32 27.9	+0.8
	baz=294						
ENA	**Nanau**	**0.13**	**281**	⇑P	Pb	18 32 24.3	+0.2
	baz=281						
ENA				S	Sb	18 32 28.4	+1.0
	baz=281						
TWC	**Suao**	**0.21**	**352**	*i* P	Pb	18 32 25.4	+0.4
	baz=354						
TWC				*i* S	Sb	18 32 30.0	+1.0
	baz=354						
NDS	**Dongshan**	**0.27**	**327**	P	Pb	18 32 26.7	+0.8
	baz=327						
NDS				S	Sb	18 32 31.3	+0.8
	baz=327						
EOS2	**EOS2**	**0.32**	**87**	P	Pb	18 32 27.0	+0.5
	baz=87						
EOS2				S	Sn	18 32 33.5	-0.4
	baz=87						
NACB	**Ninganchiao**	**0.35**	**229**	*e*P	Pb	18 32 27.2	+0.2
	baz=228						
NACB				*i* S	Sn	18 32 33.7	-1.1
	baz=228						
LATG	**Datong**	**0.35**	**292**	*i* P	Pb	18 32 27.6	+0.5
	baz=292						
LATG				*i* S	Sn	18 32 33.8	-1.2
	baz=292						
ENTT	**Nioudou**	**0.37**	**310**	*i* P	Pb	18 32 27.9	+0.5
	baz=309						
ENTT				S	Sn	18 32 34.5	-1.0
	baz=309						
TWE	**Neicheng**	**0.37**	**329**	P	Pb	18 32 28.0	+0.6
	baz=330						
TWE				S	Sn	18 32 34.5	-0.9
	baz=330						
NDT	**Datong Townshi**	**0.39**	**301**	P	Pb	18 32 28.1	+0.5
	baz=300						
NDT				S	Sn	18 32 35.0	-0.8
	baz=300						
ETLH	**Xiulin Townshi**	**0.41**	**242**	*e*P	Pn	18 32 30.6	+0.9
	baz=241						
ETLH				S	Sn	18 32 35.5	-1.0
	baz=241						
FUSB	**Fushanzhiwuyua**	**0.44**	**323**	*e*P	Pb	18 32 29.1	+0.5
	baz=323						
FUSB				S	Sn	18 32 36.4	-0.9
	baz=323						
NNSB	**Datong**	**0.45**	**273**	*i* P	Pb	18 32 29.2	+0.5
	baz=273						
NNSB				*e*S	Sb	18 32 36.4	+1.1
	baz=273						
NWLT	**Wulai**	**0.51**	**317**	*i* P	Pb	18 32 30.1	+0.5
	baz=317						
NWLT				S	Sb	18 32 37.7	+1.1
	baz=317						
YHNB	**Yeheng**	**0.53**	**300**	*e*P	Pb	18 32 30.4	+0.3
	baz=300						
YHNB				*i* S	Sn	18 32 38.8	-0.7
	baz=300						
NSK	**Sanguang**	**0.55**	**300**	P	Pb	18 32 30.5	+0.2
	baz=299						
NSK				S	Sn	18 32 39.6	-0.3
	baz=299						
TIPB	**Shuangxi**	**0.57**	**355**	*e*P	Pb	18 32 30.6	0.0
	baz=354						
TIPB				*e*S	Sn	18 32 39.7	-0.6
	baz=354						
WHF	**Hehuan Shan**	**0.62**	**246**	P	Pb	18 32 31.6	-0.1
	baz=245						
WHF				*i* S	Sn	18 32 41.2	-0.8
	baz=245						
NHDH	**Xindian Distri**	**0.64**	**330**	*e*P	Pn	18 32 32.4	-0.3
	baz=329						
NHDH				S	Sn	18 32 42.3	+0.2
	baz=329						
CHGB	**Renai**	**0.73**	**242**	P	Pn	18 32 33.9	-0.3
	baz=242						
CHGB				S	Sn	18 32 44.5	-0.1
	baz=242						
VWDT	**VWDT**	**0.94**	**226**	S	Sn	18 32 49.9	+0.6
	baz=226						

JMA 14 18:33:10.9±0.1,24.2N×122.4E±°,h13km±4km,MV1.5/6,
NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**0.13**	**145**	P	Pg	18 33 14.3	0.0
JKRS				S	Sg	18 33 17.0	+0.3
JIJ	**Ishigaki jima**	**0.20**	**86**	P	Pg	18 33 15.3	-0.1
JIJ				S	Sg	18 33 18.3	-0.1
HATJ	**Hateruma jima**	**0.31**	**201**	P	Pg	18 33 17.2	-0.1
HATJ				S	Sg	18 33 21.8	+0.2
JISG	**Ishigakijimahi**	**0.42**	**56**	P	Pg	18 33 19.4	0.0
JISG				S	Sg	18 33 25.8	+0.7
JTJ	**Tarama**	**0.77**	**67**	P	Pg	18 33 25.5	-0.3

*PGC **14** 18:54:01.9±1.8,50.50N×130.29W,h10km,mb4.2,*
MLSn3.9/33,Mw4.8,Mw4.8,204km west of Pt. Hardy, Bc
Vancouver Island, Canada Region
*NEIC **14** 18:54:04.7±2.7,50.70N±0.05×129.85W±0.06,h10km±1km,*
mb4.2/92,Mwr4.5(OTT),Error ellipse: s-maj=9.1km
s-min=5.2km az=30.0
*IDC **14** 18:54:07.0±0.8,50.67N×129.39W,h0km,mb4.0/6,*
mbtmp4.0/14,ML3.7/8,MS3.9/26,Error ellipse:
s-maj=16.1km s-min=8.5km az=71.0
ISC 14 18:54:02.9±0.5,50.57N±0.05×130.07W±0.05,h10km,
n583,σ1§56/538,mb4.2/20,MS3.8/18,Vancouver Island
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.24**	**86**		**Pn**	**18 54 25.1**	**-1.2**
HOLB				Sg	**Sb**	**18 54 37.3**	**-5.0**
HOLB	**Holberg**	**1.24**	**86**	Pn	**Pn**	**18 54 25.1**	**-1.2**
HOLB				Sn	**Sb**	**18 54 40.8**	**-1.6**
HOLB	**Holberg**	**1.24**	**86**	Pn	**Pn**	**18 54 25.1**	**-1.2**
HOLB				Sn	**Sb**	**18 54 40.8**	**-1.6**
PHC	**Port Hardy**	**1.69**	**84**	Pn	**Pn**	**18 54 31.6**	**-0.8**
PHC				Sn	**Sn**	**18 54 52.5**	**-1.4**
MAYB	**Maynard**	**1.86**	**94**	Pn	**Pn**	**18 54 33.6**	**-1.3**
MAYB	**Maynard**	**1.86**	**94**	Pn	**Pn**	**18 54 33.6**	**-1.3**
HG4B	**Hotspring**	**1.86**	**338**	Pn	**Pn**	**18 54 32.4**	**-2.5**
HG4B				Sn	**Sn**	**18 54 56.7**	**-1.7**
HG4B	**Hotspring**	**1.86**	**338**	Pn	**Pn**	**18 54 31.9**	**-2.9**
EDB	**Eliza Dome**	**2.02**	**109**	Pn	**Pn**	**18 54 35.4**	**-1.5**
EDB	**Eliza Dome**	**2.02**	**109**	Pn	**Pn**	**18 54 35.4**	**-1.5**
BBB	**Bella Bella**	**2.03**	**36**		**Pn**	**18 54 37.0**	**-0.1**
BBB	**Bella Bella**	**2.03**	**36**	Pn	**Pn**	**18 54 36.5**	**-0.5**
	11nm,0.3s,baz=245,slow=7.2,SNR=135						
BBB				Sn	**Sn**	**18 55 00.2**	**-2.3**
	64nm,0.3s,baz=227,slow=20,SNR=5.0						
BBB				LR	LR	18 55 01.6	
	comp=Z,433nm,18.9s,baz=230,slow=32						
BBB	**Bella Bella**	**2.03**	**36**	Pn	**Pn**	**18 54 36.5**	**-0.5**
BAIB	**Barry Inlet**	**2.27**	**333**	Pn	**Pn**	**18 54 37.5**	**-2.9**
BNB	**Barry Inlet**	**2.27**	**333**	Pn	**Pn**	**18 54 37.5**	**-2.9**
BNB	**Barry Inlet**	**2.27**	**333**	Pn	**Pn**	**18 54 37.5**	**-2.9**
WOSB	**Woss**	**2.28**	**99**	Pn	**Pn**	**18 54 39.8**	**-0.8**
WOSB	**Woss**	**2.28**	**99**	Pn	**Pn**	**18 54 39.8**	**-0.8**
NCSB	**Newcastle Ridg**	**2.57**	**92**	Pn	**Pn**	**18 54 44.0**	**-0.7**
NCRB	**Newcastle Ridg**	**2.57**	**92**	Pn	**Pn**	**18 54 44.0**	**-0.7**
NCRB	**Newcastle Ridg**	**2.57**	**92**	Pn	**Pn**	**18 54 44.0**	**-0.7**
BUTB	**Butedale**	**2.69**	**21**	Pn	**Pn**	**18 54 46.1**	**-0.2**
BUTB	**Butedale**	**2.69**	**21**	Pn	**Pn**	**18 54 46.1**	**-0.2**
BNKB	**Banks Island**	**2.77**	**2**	Pn	**Pn**	**18 54 45.9**	**-1.4**
BNKB	**Banks Island**	**2.77**	**2**	Pn	**Pn**	**18 54 45.9**	**-1.4**
NC89	**ODP889**	**2.83**	**131**	Pn	**Pn**	**18 54 47.0**	**-1.0**
NC89	**ODP889**	**2.83**	**131**	Pn	**Pn**	**18 54 47.0**	**-1.0**
GRIB	**Gribbell Islan**	**2.83**	**11**	Pn	**Pn**	**18 54 47.1**	**-1.0**
GRIB				Sn	**Sn**	**18 55 22.4**	**+0.1**
SPLB	**Strathcona Par**	**2.92**	**102**	Pn	**Pn**	**18 54 48.8**	**-0.5**
SPLB	**Strathcona Par**	**2.92**	**102**	Pn	**Pn**	**18 54 48.8**	**-0.5**
BNAB	**Bonilla**	**2.95**	**353**	Pn	**Pn**	**18 54 47.9**	**-1.8**
BNAB	**Bonilla**	**2.95**	**353**	Pn	**Pn**	**18 54 47.9**	**-1.8**

DIB	**Dawson Inlet,**	**3.03**	**331**	Pn	**Pn**	**18 54 51.6**	**+0.8**
DIB	**Dawson Inlet,**	**3.03**	**331**	Pn	**Pn**	**18 54 49.0**	**-1.8**
DIB	**Dawson Inlet,**	**3.03**	**331**	Pn	**Pn**	**18 54 49.0**	**-1.8**
CBB	**Campbell River**	**3.06**	**98**	Pn	**Pn**	**18 54 51.0**	**-0.4**
CBB	**Campbell River**	**3.06**	**98**	Pn	**Pn**	**18 54 50.9**	**-0.4**
CBB	**Campbell River**	**3.06**	**98**	Pn	**Pn**	**18 54 50.9**	**-0.4**
GRNB	**Grenville Isla**	**3.28**	**1**		**Pn**	**18 54 53.5**	**-0.8**
GRNB	**Grenville Isla**	**3.28**	**1**	Pn	**Pn**	**18 54 53.3**	**-1.0**
GRNB					**Sn**	**18 55 31.6**	**-1.7**
GRNB	**Grenville Isla**	**3.28**	**1**	Pn	**Pn**	**18 54 53.3**	**-1.0**
GRNB					**Sn**	**18 55 31.6**	**-1.7**
OZB	**Mount Ozzard**	**3.38**	**117**		**Pn**	**18 54 54.3**	**-1.4**
OZB	**Mount Ozzard**	**3.38**	**117**	Pn	**Pn**	**18 54 53.5**	**-2.2**
OZB	**Mount Ozzard**	**3.38**	**117**	Pn	**Pn**	**18 54 53.5**	**-2.2**
MBLB	**Minette Bay Lo**	**3.58**	**14**	Pn	**Pn**	**18 54 58.5**	**+0.1**
MBLB	**Minette Bay Lo**	**3.58**	**14**	Pn	**Pn**	**18 54 58.5**	**+0.1**
KITB	**Kitimat**	**3.62**	**14**	Pn	**Pn**	**18 54 57.9**	**-1.1**
KITB					**Sn**	**18 55 42.0**	**+0.3**
KITB	**Kitimat**	**3.62**	**14**	Pn	**Pn**	**18 54 57.9**	**-1.1**
KITB					**Sn**	**18 55 42.0**	**+0.3**
B927	**Port Alberni**	**3.66**	**110**	Pn	**Pn**	**18 54 58.4**	**-1.0**
B927	**Port Alberni**	**3.66**	**110**	Pn	**Pn**	**18 54 58.4**	**-1.0**
TXB	**Texada**	**3.73**	**101**	Pn	**Pn**	**18 54 60.0**	**-0.5**
TXB	**Texada**	**3.73**	**101**	Pn	**Pn**	**18 54 60.0**	**-0.5**
RUBB	**Prince Rupert**	**3.76**	**358**	Pn	**Pn**	**18 55 00.3**	**-0.6**
RUBB	**Prince Rupert**	**3.76**	**358**	Pn	**Pn**	**18 54 59.3**	**-1.6**
RUBB	**Prince Rupert**	**3.76**	**358**	Pn	**Pn**	**18 54 59.3**	**-1.6**
SHB	**Sechelt**	**4.11**	**101**	Pn	**Pn**	**18 55 05.5**	**-0.2**
SHB	**Sechelt**	**4.11**	**101**	Pn	**Pn**	**18 55 05.5**	**-0.2**
NLLB	**Nanaimo Lost L**	**4.16**	**107**	Pn	**Pn**	**18 55 05.8**	**-0.6**
NLLB	**Nanaimo Lost L**	**4.16**	**107**	Pn	**Pn**	**18 55 05.8**	**-0.6**
PFB	**Port Renfrew**	**4.17**	**116**	Pn	**Pn**	**18 55 05.8**	**-0.8**
PFB	**Port Renfrew**	**4.17**	**116**	Pn	**Pn**	**18 55 05.8**	**-0.8**
PTRF	**Port Renfrew**	**4.21**	**117**	Pn	**Pn**	**18 55 05.9**	**-1.1**
OCP	**Olym-Cheeka Pk**	**4.22**	**121**	Pn	**Pn**	**18 55 07.0**	**-0.2**
B926	**Mesachie Lake**	**4.24**	**112**	Pn	**Pn**	**18 55 06.5**	**-0.9**
B926	**Mesachie Lake**	**4.24**	**112**	Pn	**Pn**	**18 55 06.5**	**-0.9**
CLRS	**Cowichan Lake**	**4.24**	**112**	Pn	**Pn**	**18 55 06.6**	**-0.8**
CLRS	**Cowichan Lake**	**4.24**	**112**	Pn	**Pn**	**18 55 07.3**	**-0.1**
CLRS	**Cowichan Lake**	**4.24**	**112**	Pn	**Pn**	**18 55 07.3**	**-0.1**
C03A	**Quillayute Air**	**4.46**	**124**	Pn	**Pn**	**18 55 10.6**	**+0.1**
BIB	**Bowen Island**	**4.52**	**102**	Pn	**Pn**	**18 55 11.7**	**+0.4**
BIB	**Bowen Island**	**4.52**	**102**	Pn	**Pn**	**18 55 11.7**	**+0.4**
GOBB	**Galiano Island**	**4.55**	**108**	Pn	**Pn**	**18 55 11.9**	**+0.1**
GOBB	**Galiano Island**	**4.55**	**108**	Pn	**Pn**	**18 55 11.9**	**+0.1**
SYMB	**Survey Mountai**	**4.55**	**114**	Pn	**Pn**	**18 55 12.0**	**+0.2**
SYMB	**Survey Mountai**	**4.55**	**114**	Pn	**Pn**	**18 55 12.0**	**+0.2**
OBC	**Olympics--Boni**	**4.67**	**121**	Pn	**Pn**	**18 55 14.2**	**+0.8**
OBC	**Olympics--Boni**	**4.67**	**121**	Pn	**Pn**	**18 55 14.2**	**+0.8**
B010	**North Saanich**	**4.71**	**112**	Pn	**Pn**	**18 55 14.4**	**+0.3**
B010	**North Saanich**	**4.71**	**112**	Pn	**Pn**	**18 55 14.4**	**+0.3**
PGC	**Sidney**	**4.71**	**112**	Pn	**Pn**	**18 55 14.1**	**+0.1**
PGC	**Sidney**	**4.71**	**112**	Pn	**Pn**	**18 55 13.9**	**-0.1**
PGC	**Sidney**	**4.71**	**112**	Pn	**Pn**	**18 55 13.9**	**-0.1**
B009	**North Saanich**	**4.71**	**112**	Pn	**Pn**	**18 55 14.3**	**+0.4**
B009	**North Saanich**	**4.71**	**112**	Pn	**Pn**	**18 55 14.3**	**+0.4**
B011	**North Saanich**	**4.72**	**112**	Pn	**Pn**	**18 55 13.7**	**-0.3**
B011	**North Saanich**	**4.72**	**112**	Pn	**Pn**	**18 55 13.7**	**-0.3**
SNB	**Saturna Island**	**4.83**	**109**	Pn	**Pn**	**18 55 16.3**	**+0.7**
SNB	**Saturna Island**	**4.83**	**109**	Pn	**Pn**	**18 55 16.3**	**+0.7**
STW	**Striped Peak**	**4.83**	**118**	Pn	**Pn**	**18 55 15.6**	**0.0**
STW	**Striped Peak**	**4.83**	**118**	Pn	**Pn**	**18 55 15.6**	**0.0**
V35K	**Ketchikan**	**4.86**	**350**	Pn	**Pn**	**18 55 15.2**	**-0.7**
V35K	**Ketchikan**	**4.86**	**350**	P	**Pn**	**18 55 15.1**	**-0.7**
	baz=170						
VGZ	**Gonzales**	**4.90**	**114**	Pn	**Pn**	**18 55 16.6**	**+0.1**
VGZ	**Gonzales**	**4.90**	**114**	Pn	**Pn**	**18 55 16.6**	**+0.1**
B04A	**Port Angeles**	**4.98**	**118**	Pn	**Pn**	**18 55 18.5**	**+0.8**
HNBB	**Haney**	**5.01**	**102**	Pn	**Pn**	**18 55 18.5**	**+0.4**
HNBB	**Haney**	**5.01**	**102**	Pn	**Pn**	**18 55 18.5**	**+0.4**
MCW	**Mount Constitu**	**5.07**	**109**	Pn	**Pn**	**18 55 20.0**	**+

Q32M	Nakina River	8.50	352		Pn	18 56 05.5	-0.6
Q32M	Nakina River baz=172	8.50	352	P	Pn	18 56 04.9	-1.3
Q32M	Nakina River	8.50	352	P	Pn	18 56 05.5	-0.6
I04A	Tendick Farm,	8.55	140	Pn	Pn	18 56 10.6	+3.9
NEW	Newport	8.75	100	Pn	Pn	18 56 07.9	-1.5
NEW	Newport baz=290	8.75	100	P	Pn	18 56 10.3	+0.9
NEW	Newport 0.6nm,0.3s,baz=286,slow=14,SNR=5.7	8.75	100	Pn	Pn	18 56 09.4	0.0
NEW	baz=107,slow=10,SNR=4.4			Lg	Lg	18 58 38.2	
NEW	comp=Z,2µm,18.7s,baz=286,slow=39 3.6nm,0.6s			LR	LR	18 59 31.6	
DBO	Dodson Butte	8.80	145	Pn	Pn	18 56 14.0	+3.9
R33M	Jennings River	8.86	357	Pn	Pn	18 56 13.2	+2.2
R33M	Jennings River	8.86	357		Pn	18 56 13.1	+2.2
R33M	Jennings River baz=177	8.86	357	P	Pn	18 56 10.9	0.0
R33M	Jennings River	8.86	357	P	Pn	18 56 13.1	+2.2
G08A	Pilot Rock	9.14	121	Pn	Pn	18 56 15.6	+0.8
P32M	Atlin baz=166	9.28	348	P	Pn	18 56 15.1	-1.5
HUMO	Hull Mountain	9.35	146	Pn	Pn	18 56 20.9	+3.3
SKAG	Skagway baz=160	9.40	343	P	Pn	18 56 16.8	-1.4
J05D	Fort Rock, OR	9.46	137	Pn	Pn	18 56 22.4	+3.0
I07A	Izee	9.67	128	Pn	Pn	18 56 24.1	+2.0
F10A	Beach Ranch, E	9.72	113		Pn	18 56 22.7	0.0
P33M	Teslin, Yukon	9.79	352	Pn	Pn	18 56 22.5	-1.1
P33M	Teslin, Yukon	9.79	352		Pn	18 56 22.4	-1.2
P33M	Teslin, Yukon baz=170	9.79	352	P	Pn	18 56 21.4	-2.2
P33M	Teslin, Yukon	9.79	352	P	Pn	18 56 22.4	-1.2
KOTAN	Kotaneelee Air baz=203	10.17	17	P	Pn	18 56 28.6	-0.1
YBH	Yreka Blue Hor	10.20	147	Pn	Pn	18 56 32.0	+2.6
YBH	Yreka Blue Hor 0.2nm,0.3s,baz=342,slow=2.3,SNR=13 6.0nm,0.9s	10.20	147	Pn	Pn	18 56 33.5	+4.1
BMO	Blue Mountains	10.32	119	Pn	Pn	18 56 32.4	+1.4
BSMT	Bassoo Peak	10.37	99		Pn	18 56 33.2	+1.5
BSMT	Bassoo Peak	10.37	99	P	Pn	18 56 33.2	+1.5
WHY	Whitehorse baz=164	10.47	347	P	Pn	18 56 31.5	-1.4
JTMT	Jette	10.72	99		Pn	18 56 37.4	+0.9
JTMT	Jette	10.72	99	P	Pn	18 56 37.4	+0.9
PLID	Pearl Lake	10.93	115	Pn	Pn	18 56 40.1	+0.7
MSO	Missoula	11.30	103	Pn	Pn	18 56 44.6	+0.3
MSO	Missoula baz=295,SNR=9.6	11.30	103	P	Pn	18 56 44.1	-0.2
FARO	Faro, Yukon baz=170	11.82	352	P	Pn	18 56 49.2	-2.2
CTG	Chitna Glacier baz=145	12.17	333	P	Pn	18 56 54.2	-2.1
YUK3	Moose Creek baz=149	12.61	337	P	Pn	18 56 58.8	-3.5
HLID	Hailey	12.76	117	Pn	Pn	18 57 06.9	+2.5
HLID	Hailey baz=308	12.76	117	P	Pn	18 57 03.0	-1.4
WRGLY	Wrigley baz=199	13.18	13	P	Pn	18 57 09.1	-0.8
BOZ	Bozeman (W) baz=298	13.29	105	P	Pn	18 57 11.7	+0.1
EGMT	Eagleton baz=288	13.50	93	P	Pn	18 57 14.2	-0.2
P23K	Montague Islan baz=127	13.62	321	P	Pn	18 57 13.9	-2.0
N25K	Chitina, Valde baz=138	13.67	330	P	Pn	18 57 14.7	-2.0
M26K	Nabesna, AK baz=144	13.80	334	P	Pn	18 57 16.9	-1.5
K29M	Barlow Dome baz=160	13.89	346	P	Pn	18 57 19.1	-0.6
KLU	Klutina baz=135	14.03	327	P	Pn	18 57 17.5	-4.1
L27K	Beaver Creek, baz=148	14.04	338	P	Pn	18 57 16.3	-5.3
YHH	Holmes Hill	14.16	107	Pn	Pn	18 57 25.5	+1.8
ELK	Elko 0.1nm,0.3s,baz=327,slow=11,SNR=3.7	14.26	128	Pn	P	18 57 29.6	-2.7
ELK	comp=Z,260nm,19.3s,baz=326,slow=38 0.8nm,0.6s			LR	LR	19 02 56.5	
L26K	Log Cabin Wild baz=145	14.40	335	P	Pn	18 57 24.8	-1.8
DAWY	Dawson baz=156	14.41	343	P	Pn	18 57 24.3	-2.4
J30M	Hart River baz=164	14.43	349	P	Pn	18 57 27.2	+0.2
SEW	Seward baz=123	14.53	318	P	Pn	18 57 29.1	+0.8
H17A	Grant Village baz=302	14.54	108	P	Pn	18 57 30.4	+1.6
M24K	Tolsona, Glenn baz=136	14.55	329	P	Pn	18 57 26.1	-2.6
YKA	Yellowknife Ar	14.62	29	Pn	Pn	18 57 27.8	-1.8
YKA	Yellowknife Ar 0.1nm,0.3s,baz=219,slow=12,SNR=16	14.62	29	Pn	Pn	18 57 28.8	-0.8
YKA	comp=Z,358nm,20.8s,baz=206,slow=37 1.0nm,0.9s			LR	LR	19 03 02.6	
NVAR	Mina Array Bea 0.1nm,0.3s,baz=312,slow=16,SNR=6.5	14.74	141	Pn	Pn	18 57 31.4	0.0
NVAR	comp=Z,322nm,20.4s,baz=330,slow=37			LR	LR	19 03 08.3	
SCM	Sheep Creek Mo baz=133	14.75	326	P	Pn	18 57 29.3	-2.2
MOOW	Moose Ponds	14.79	110	Pn	P	18 57 35.7	-2.5
O22K	Cooper Landing baz=124	14.85	319	P	Pn	18 57 29.5	-3.1
M23K	Glacier View baz=132	14.87	326	P	Pn	18 57 30.8	-2.1
KNK	Knik Glacier baz=129	14.89	324	P	Pn	18 57 31.7	-1.6
K27K	Chicken baz=150	14.93	339	P	Pn	18 57 35.4	+1.7
PAX	Paxson baz=140	14.96	332	P	Pn	18 57 31.8	-2.4
RLMT	Red Lodge baz=298	14.97	103	P	Pn	18 57 33.4	-1.2
KDAK	Kodiak Island baz=110	14.98	307	P	Pn	18 57 33.3	-1.1
KDAK	Kodiak Island comp=Z,649nm,21.5s,baz=156,slow=30	14.98	307	LR	LR	19 01 44.5	
I30M	Mount Dempster baz=165	15.06	350	P	Pn	18 57 36.4	+0.8
OHAK	Old Harbor baz=107	15.17	305	P	Pn	18 57 34.1	-2.9
RC01	Rabbit Creek A baz=126	15.19	321	P	Pn	18 57 37.4	+0.2
PMR	Palmer baz=128	15.26	324	P	Pn	18 57 39.0	+1.0
HOM	Homer baz=118	15.27	315	P	Pn	18 57 37.5	-0.7
SCRK	Sand Creek	15.35	336	P	P	18 57 47.2	+3.0
SCRK	comp=Z,22nm,1.2s			IAmb	IAmb	18 57 53.8	
SCRK	Sand Creek baz=145	15.35	336	P	Pn	18 57 39.3	0.0
EGAK	Eagle baz=153	15.39	342	P	Pn	18 57 37.4	-2.4
WAT6	Susitna Watana baz=134	15.40	328	P	Pn	18 57 38.4	-1.8
H31M	Peel River baz=170	15.44	353	P	P	18 57 42.2	-2.9
I29M	Ogilvie Camp, baz=160	15.44	347	P	Pn	18 57 39.9	-0.6
SII	Sitkinak Islan baz=103	15.48	302	P	Pn	18 57 38.4	-2.7
CAPN	Captain Cook N baz=122	15.60	319	P	Pn	18 57 40.5	-2.0
DHY	Denali Highway baz=136	15.63	330	P	Pn	18 57 43.1	0.0
J26L	Joseph Creek baz=147	15.68	338	P	Pn	18 57 44.4	+0.7
K24K	Donnelly Dome baz=141	15.69	334	P	Pn	18 57 44.0	+0.2
I28M	Miner Creek baz=157	15.77	345	P	Pn	18 57 44.2	-0.7
SUA	Susitna One baz=125	15.81	322	P	Pn	18 57 43.4	-2.0
WAT1	Susitna Watana baz=133	15.85	328	P	Pn	18 57 45.2	-0.7
O20K	Slope Mountain baz=117	15.90	315	P	Pn	18 57 45.3	-1.2
Q19K	Cape Douglas, baz=112	15.90	311	P	Pn	18 57 44.2	-2.4
DUG	Dugway, Tooele	15.92	124	P	P	18 57 50.2	-0.5
DUG	comp=Z,15nm,1.1s			IAmb	IAmb	18 57 59.2	
DUG	Dugway, Tooele baz=316,SNR=11	15.92	124	P	P	18 57 49.5	-1.2
TIN	Tinemaha, Big baz=331	15.96	143	P	Pn	18 57 49.4	+1.9
R11B	Troy Canyon, C baz=324	15.97	134	P	Pn	18 57 47.7	0.0
P19K	Oil Pt baz=115	15.99	314	P	Pn	18 57 46.1	-1.6
SPR3	Spring Creek 3	16.05	130		P	18 57 52.0	-0.3
BW06	Boulder Array comp=Z,23nm,1.1s	16.06	111	IAmb	IAmb	18 57 53.8	
BW06	Boulder Array baz=306,SNR=18	16.06	111	P	Pn	18 57 50.0	+1.1
PDAR	Pinedale Array comp=Z,0.3nm,0.3s,baz=311,slow=12,SNR=49	16.06	111	Pn	P	18 57 52.2	-0.2
PDAR	comp=Z,332nm,21.6s,baz=316,slow=38 comp=Z,17nm,1.1s			LR	LR	19 04 00.3	
CUT	Chulitna baz=128	16.18	325	P	Pn	18 57 45.6	-4.5
VOG	Valley Oaks Go baz=334	16.20	148	P	Pn	18 57 50.0	-0.4
EPYK	Eagle Plains baz=165	16.20	350	P	Pn	18 57 49.9	-0.5
I27K	Kandik River baz=153	16.21	343	P	Pn	18 57 49.4	-1.1
LAO	LASA Array baz=292	16.21	95	P	Pn	18 57 50.4	-0.3
J25K	Salcha River, baz=144	16.22	336	P	P	18 57 51.6	-2.2
H29M	Whitestone baz=161	16.26	348	P	P	18 57 52.5	-1.6
N20K	Mount Spurr baz=122	16.26	319	P	Pn	18 57 51.2	0.0
I26K	Coal Creek Min comp=Z,38nm,1.2s	16.27	340	IAmb	IAmb	18 58 00.6	
I26K	Coal Creek Min baz=150,SNR=9.0	16.27	340	P	Pn	18 57 50.7	-0.5
SKT	Skwentna baz=125	16.41	322	P	Pn	18 57 52.5	-0.5
G31M	Satah River baz=171	16.54	354	P	Pn	18 57 51.9	-2.7
CWC	Cottonwood Cre baz=332	16.56	144	P	Pn	18 57 56.1	+0.9
MCK	McKinley baz=134	16.59	330	P	Pn	18 57 54.8	-0.6
O19K	Port Alsworth baz=115	16.71	314	P	Pn	18 57 56.7	-0.1
VES	Vestal, Richgr baz=335	16.73	147	P	P	18 57 58.9	-0.6
ILAR	Eielson Array comp=Z,0.1nm,0.3s,baz=146,slow=9.5,SNR=15 comp=Z,5.4nm,0.9s	16.75	335	Pn	P	18 58 03.3	+3.8
H27K	Steamboat Moun baz=154	16.76	344	P	P	18 57 58.1	-1.6
TPNV	Topopah Spring	16.84	139		P	18 58 02.1	+1.1
TPNV	comp=Z,40nm,1.5s			IAmb	IAmb	18 58 30.2	
TPNV	Topopah Spring baz=328	16.84	139	P	Pn	18 57 59.5	+0.6
TRF	Thorofare Moun baz=131	16.85	328	P	Pn	18 57 57.3	-1.5
G29M	Pine Creek baz=163	16.87	349	P	P	18 57 59.4	-1.6
DGMT	Dagmar baz=287	16.91	87	P	Pn	18 57 59.5	+0.1
SMMC	Simmler baz=337	16.91	151	P	Pn	18 58 00.1	+0.5
PRP	Porcupine Dome	16.99	338	P	P	18 58 05.6	+3.3
PRP	Porcupine Dome baz=145	16.99	338	P	Pn	18 57 57.3	-3.1
M20K	Styx River baz=122	16.99	321	P	Pn	18 57 59.8	-0.7
FURC	Furnace Creek, baz=330	17.00	141	P	Pn	18 58 01.1	+0.5
F31M	Tsiigehtchic comp=Z,27nm,1.5s	17.02	355	IAmb	IAmb	18 58 06.8	
F31M	Tsiigehtchic baz=172	17.02	355	P	Pn	18 57 59.7	-1.0
N19K	Bonanza Creek baz=116	17.05	316	P	Pn	18 57 58.6	-2.6
COLA	College baz=139	17.09	334	P	Pn	18 58 01.6	0.0
ISA	Isabella, Lake baz=334,SNR=9.0	17.11	146	P	P	18 58 04.0	+0.2
MPMC	Manual Prospec baz=331	17.12	143	P	P	18 58 03.8	-0.2
POKR	Poker Plat Res baz=140	17.16	335	P	Pn	18 58 01.4	-1.1
PPLA	Purkeypile baz=126	17.19	324	P	Pn	18 58 00.7	-2.3
NEA2	Nenana baz=136	17.24	332	P	P	18 58 04.4	-0.7
Q16K	King Salmon baz=107	17.30	308	P	Pn	18 58 02.5	-1.7
G27K	Dixon Strip baz=155	17.31	344	P	P	18 58 04.6	-1.1
F30M	Barrier River baz=168	17.33	353	P	Pn	18 58 02.4	-2.1
P17K	Kvichak River baz=109	17.35	310	P	Pn	18 58 04.2	-0.6
PKM	Mcpherson Peak baz=337	17.36	151	P	Pn	18 58 03.7	-1.7
CAST	Castle Rocks baz=128	17.46	326	P	Pn	18 58 04.1	-2.1
ARVC	Arvin baz=335	17.46	148	P	Pn	18 58 06.0	-0.4
MSU	Marysvale	17.50	127	Pn	Pn	18 58 07.7	+0.7
R16K	Pilot Point baz=102	17.50	304	P	Pn	18 58 04.2	-2.5
BPAW	Bear Paw Mtn. baz=131	17.51	329	P	Pn	18 58 05.2	-1.7
M19K	Big River Lodg baz=120	17.52	320	P	Pn	18 58 02.9	-4.1
LRMC	Laurel Mtn Rad baz=333,SNR=5.5	17.56	145	P	Pn	18 58 08.3	+0.5
L20K	Farewell, AK baz=122	17.61	322	P	Pn	18 58 05.4	-2.6
N18K	Kilae Creek baz=114	17.62	315	P	Pn	18 58 06.7	-1.5
I23K	Minto, Yukon-K baz=137	17.73	333	P	Pn	18 58 05.3	-4.2
SHOC	Shoshone, Teco baz=330	17.73	141	P	Pn	18 58 10.5	+0.7
CHGN	Chignik baz=97	17.75	300	P	Pn	18 58 04.8	-5.1
F28M	Old Crow baz=160	17.78	348	P	Pn	18 58 09.5	-0.6
G26K	Porcupine Rive baz=151	17.82	342	P	P	18 58 12.7	+1.3
CHUM	Lake Minchumin baz=128	17.83	327	P	Pn	18 58 09.4	-1.4
H24K	Nood Dome baz=141	17.84	336	P	P	18 58 11.2	-0.4
L19K	White Mountain	17.85	320		P	18 58 12.5	+0.8
L19K	comp=Z,34nm,1.4s			IAmb	IAmb	18 58 31.7	
L19K	White Mountain baz=120	17.85	320	P	Pn	18 58 09.3	-1.7
O17K	Koliganek Bris baz=110	17.85	311	P	Pn	18 58 08.1	-3.0
INK	Inuvik baz=173	17.87	356	P	Pn	18 58 10.6	-0.6
INK	Inuvik baz=180,slow=3.2,SNR=4.2	17.87	356	P	P	18 58 14.2	+2.3
INK	baz=131,slow=3.8,SNR=3.1			Lg	Lg	19 03 12.7	
INK	comp=Z,204nm,18.9s,baz=180,slow=39 comp=Z,2.5nm,1.1s			LR	LR	19 05 48.4	
M18K	Stony River baz=116	17.93	317	P	Pn	18 58 11.7	-0.4
K22A	Casper comp=Z,18nm,0.9s	17.96	107	IAmb	IAmb	18 58 21.4	
K22A	Casper baz=304	17.96	107	P	P	18 58 13.2	-0.1
OSI	Osito Audit: C baz=336	17.97	148	P	Pn	18 58 12.6	-0.1
EDW2	Edwards Air Fo baz=334	17.98	146	P	Pn	18 58 12.1	-0.8
GSC	Goldstone, Bar	18.05	143		P	18 58 14.6	+0.5
GSC	comp=Z,22nm,1.5s			IAmb	IAmb	18 58 24.0	
GSC	Goldstone, Bar baz=331	18.05	143	P	P	18 58 14.7	+0.5
MLY	Manley	18.06	331	Pn	P	18 58 13.4	-0.7
MLY	Manley baz=134	18.06	331	P	Pn	18 58 11.7	-1.9
LCMT	Little Creek M	18.14	132		P	18 58 16.1	+0.8
G25K	Bearman Lake baz=146	18.15	339	P	P	18 58 14.8	-0.2
K20K	Telida baz=124	18.15	324	P	Pn	18 58 13.3	-1.5
SCZ2	Santa Cruz Isl baz=338	18.24	151	P	Pn	18 58 16.3	+0.2
PKCU	Pink Cliffs comp=Z,26nm,1.2s	18.25	129	IAmb	IAmb	18 58 47.4	
TUQ	Turquoise Moun baz=330	18.28	140	P	Pn	18 58 13.8	-2.8
O16K	Kokwok River B baz=108	18.28	310	P	Pn	18 58 14.6	-1.7
E29M	Blow River baz=164	18.28	351	P	P	18 58 16.8	+0.4
BMAR	Burnt Mountain	18.39	342		P	18 58 20.9	+3.2
O20A	White River Ci baz=311,SNR=11	18.49	116	P	P	18 58 18.6	-0.5
F26K	Sheenjek River baz=151	18.54	343	P	Pn	18 58 19.9	+0.4
I21K	Tanana	18.55	330	P	Pn	18 58 19.1	-0.5
I21K	comp=Z,35nm,1.1s			IAmb	IAmb	18 58 28.2	
I21K	Tanana baz=132	18.55	330	P	P	18 58 18.2	-1.2
E27K	Coleen River	18.56	346		Pn	18 58 21.4	+1.7
E27K	Coleen River baz=157	18.56	346	P	P	18 58 18.1	-1.4
M17K	Holitna River baz=114	18.60	316	P	P	18 58 14.2	-5.8
L18K	Granite Mounta baz=117	18.62	319	P	P	18 58 16.9	-3.3
HEC	Hector,Ludlow baz=331	18.64	142	P	Pn	18 58 22.7	+1.7
J20K	Nowinta River	18.65	326	P	Pn	18 58 22.9	+2.1
J20K	comp=Z,33nm,1.4s			IAmb	IAmb	18 58 29.4	
J20K	Nowinta River baz=126	18.65	326	P	Pn	18 58 22.6	+1.8
E28M	Babbage River	18.67	349		Pn	18 58 22.6	+1.6
E28M	Babbage River baz=161	18.67	349	P	Pn	18 58 22.1	+1.0
HMU	Henry Mountain	18.67	125	P	Pn	18 58 23.4	+1.9
HMU	comp=Z,24nm,1.1s			IAmb	IAmb	18 58 30.1	
BFSC	Mount Baldy Ra baz=334	18.68	146	P	P	18 58 21.0	-0.2
TTA	Tatalina baz=120	18.68	321	P	Pn	18 58 22.1	+0.8
RSSD	Black Hills	18.73	100		Pn	18 58 22.8	+0.7
RSSD	Black Hills baz=299	18.73	100	P	P	18 58 21.8	+0.1
F25K	Christian Rive baz=148,SNR=9.2	18.75	341	P	Pn	18 58 23.2	+1.1
H22K	Ishtalitna Cre baz=135	18.85	332	P	Pn	18 58 23.0	-0.3
N16K	Nishlik Lake baz=109	18.87	313	P	Pn	18 58 23.6	0.0
GMRC	Granite Mounta baz=330	18.95	141	P	Pn	18 58 26.4	+1.7
SNCC	San Nicolas Is baz=339	18.97	152	P	P	18 58 24.8	+0.6
O15K	Ungalikthiuk R baz=104	19.02	308	P	P	18 58 24.4	-0.2
U15A	North Rim	19.07	131	P	Pn	18 58 27.3	+0.9
G23K	Bananza Creek	19.07	335	P	Pn	18 58 26.7	+0.8
G23K	comp=Z,28nm,1.3s			IAmb	IAmb	18 58 36.2	
G23K	Bananza Creek baz=139	19.07	335	P	Pn	18 58 25.4	-0.5
J19K	Poorman baz=123	19.08	324	P	Pn	18 58 27.3	+1.2
H21K	Melozitna Rive baz=132	19.12	331	P	P	18 58 24.5	-1.2
M16K	Timber Creek baz=110	19.14	314	P	P	18 58 23.9	-2.1
F24K	Squaw Lake baz=144	19.17	339	P	P	18 58 25.3	-1.0
CIS	Catalina Islan baz=336	19.18	149	P	P	18 58 26.8	+0.2
E25K	Arctic Village comp=Z,18nm,1.2s	19.18	342	IAmb	IAmb	18 58 42.5	
E25K	Arctic Village baz=149,SNR=7.1	19.18	342	P	Pn	18 58 28.5	+1.2
J18K	Innoko River baz=120	19.22	322	P	Pn	18 58 26.7	-1.1
L17K	Donlin baz=114	19.27	318	P	P	18 58 25.3	-2.0
D28M	Stokes Point baz=164	19.27	351	P	P	18 58 26.1	-1.2
ELS	Elsinore Mount	19.29	146	P	Pn	18 58 29.3	+0.5
ELS	comp=Z,32nm,1.4s			IAmb	IAmb	18 58 43.2	
N23A	Red Feather La	19.35	111		P	18 58 26.1	-2.5
N23A	comp=Z,14nm,1.1s			IAmb	IAmb	18 58 38.6	
N23A	Red Feather La baz=308	19.35	111	P	P	18 58 28.7	+0.1
PHWY	Pilot Hill comp=Z,15nm,0.9s	19.39	109	IAmb	IAmb	18 58 37.1	
N15K	Kwethluk River baz=107	19.41	311	P	Pn	18 58 29.4	-0.6
MURC	Murrieta baz=334	19.42	146	P	Pn	18 58 30.8	+0.5
D27M	Malcolm River baz=159	19.45	348	P	Pn	18 58 31.4	+0.9
BELC	Belle Mtn. Jos baz=332	19.50	143	P	Pn	18 58 33.4	+1.9
COLD	Coldfoot baz=139,SNR=12	19.50	336	P	Pn	18 58 32.2	+1.1
K17K	Iditarod baz=116	19.52	319	P	P	18 58 28.7	-1.3
SCI2	San Clemente I baz=337	19.52	150	P	Pn	18 58 32.3	+0.7
L16K	Owhat River baz=112	19.62	316	P	P	18 58 27.7	-3.4
G22K	Bettles baz=136	19.62	335	P	Pn	18 58 31.8	-0.7
PMD	Palm Desert	19.67	144	P	P	18 58 32.6	+0.7
PMD	comp=Z,15nm,1.3s			IAmb	IAmb	18 58 52.6	
PFO	Pinyon Flats O	19.67	144	P	Pn	18 58 34.8	+1.3
PFO	Pinyon Flats O baz=333	19.67	144	P	P	18 58 31.3	-0.8
TPFO	Pinon Flats baz=333	19.68	144	P	P	18 58 32.4	+0.2
H20K	Anotleneega Mo baz=128	19.69	329	P	P	18 58 30.9	-1.0
IRM	Iron Mountain baz=330	19.70	141	P	Pn	18 58 33.7	0.0
E24K	Your Creek baz=144	19.75	339	P	Pn	18 58 34.1	-0.1
M15K	Kasigluk River baz=107	19.84	312	P	Pn	18 58 34.1	-1.0
SMCO	Snowmass	19.85	116	P	Pn	18 58 35.4	-0.5
SMCO	comp=Z,10nm,0.9s			IAmb	IAmb	18 58 43.8	
GCSA	Galena City Sc baz=123	19.95	325	P	P	18 58 32.7	-2.0
PDMCI	Parker Dam,Lak baz=329	19.99	138	P	Pn	18 58 37.5	+0.4
E23K	Chandalar baz=142	20.00	338	P	Pn	18 58 38.0	+1.0
BC3	Big Chuckawall baz=332	20.02	142	P	Pn	18 58 37.8	+0.2
MDND	Maddock baz=289	20.02	86	P	Pn	18 58 37.7	+0.3
109C	Camp Elliot, M baz=335	20.09	147	P	Pn	18 58 38.5	+0.2
F22K	John River baz=136	20.23	335	P	Pn	18 58 41.0	+1.3
ISCO	Idaho Springs baz=310,SNR=6.2	20.23	113	P	P	18 58 39.3	+0.9
H19K	Roundabout Mou baz=126	20.24	328	P	Pn	18 58 39.6	-0.2
WUAZ	Wupatki comp=Z,10.0nm,0.9s	20.24	131	IAmb	IAmb	18 58 49.5	
WUAZ	Wupatki baz=324	20.24	131	P	Pn	18 58 42.4	+2.2
BLYC	Blythe	20.31	140	P	Pn	18 58 40.7	-0.2
MONP2	Monument Peak baz=334	20.33	145	P	P	18 58 40.1	+0.8

D25K	**Kavik River**	**20.37 343**	P	Pn	18 58 40.0	-1.4
D25K			IAmb	IAmb	18 58 52.5	
	comp=Z,14nm,1.2s					
D25K	**Kavik River**	**20.37 343**	P	**P**	**18 58 37.8**	**-1.5**
	baz=150					
F21K	**Alatna River**	**20.39 334**	P	Pn	18 58 41.9	+0.4
F21K			IAmb	IAmb	18 58 51.5	
	comp=Z,23nm,1.4s					
F21K	**Alatna River**	**20.39 334**	P	Pn	18 58 41.4	-0.2
	baz=134					
MVCO	**Mesa Verde**	**20.40 123**	P	Pn	18 58 41.9	-0.2
MVCO	**Mesa Verde**	**20.40 123**	P	Pn	18 58 42.4	+0.2
	baz=318,SNR=8.3					
BAR	**Barrett**	**20.43 146**	P	**P**	**18 58 41.4**	**+1.2**
BAR			IAmb	IAmb	18 58 56.3	
	comp=Z,12nm,1.1s					
M14K	**Bethel**	**20.46 312**	P	Pn	18 58 41.5	-0.9
	baz=106					
L15K	**Ungalak Mounta**	**20.51 315**	P	Pn	18 58 41.4	-1.6
	baz=109					
SWSC	**Sam W. Stewart**	**20.52 144**	P	**P**	**18 58 41.5**	**+0.4**
	baz=333					
C26K	**Camden Bay**	**20.64 345**	P	Pn	18 58 43.8	-0.6
	baz=153					
IKP	**In-Ko-Pah, Jac**	**20.66 145**	P	Pn	18 58 45.8	+0.7
	baz=334,SNR=14					
H18K	**Honhosa River**	**20.70 325**	P	**P**	**18 58 43.2**	**+0.3**
	baz=122					
D24K	**Happy Valley**	**20.70 341**	P	**P**	**18 58 40.2**	**-2.7**
D24K			IAmb	IAmb	18 59 08.8	
	comp=Z,20nm,1.2s					
D24K	**Happy Valley**	**20.70 341**	P	Pn	18 58 45.4	+0.2
	baz=145					
J16K	**Anvik River**	**20.71 320**	P	Pn	18 58 44.0	-1.2
	baz=114					
K15K	**Wolf Creek Mou**	**20.73 316**	P	**P**	**18 58 41.5**	**-1.7**
	baz=110					
YUH	**Yuha Desert**	**20.73 144**	P	**P**	**18 58 44.4**	**+0.9**
YUH			IAmb	IAmb	18 59 06.2	
	comp=Z,13nm,1.2s					
Y14A	**Wickenburg**	**20.79 137**	P	**P**	**18 58 42.9**	**-1.3**
Y14A			IAmb	IAmb	18 59 01.6	
	comp=Z,12nm,1.0s					
G19K	**Purcell Mounta**	**20.81 329**	P	Pn	18 58 47.2	+0.7
	baz=126					
S22A	**4UR Ranch, Cre**	**20.93 119**	IAmb	IAmb	18 59 31.5	
	comp=Z,23nm,1.4s					
S22A	**4UR Ranch, Cre**	**20.93 119**	P	Pn	18 58 48.5	+0.2
	baz=315,SNR=11					
F20K	**Avaraart Lake**	**20.93 332**	P	Pn	18 58 46.5	-1.3
	baz=130					
L14K	**Kuka Creek**	**20.96 313**	P	**P**	**18 58 43.8**	**-1.8**
	baz=106					
I17K	**Unalakleet**	**20.99 321**	P	**P**	**18 58 45.5**	**-0.5**
	baz=115					
Q24A	**Divide**	**21.05 114**	P	**P**	**18 58 46.5**	**-0.7**
Q24A			IAmb	IAmb	18 59 15.1	
	comp=Z,16nm,1.4s					
Q24A	**Divide**	**21.05 114**	P	**P**	**18 58 47.9**	**+0.7**
	baz=311					
C24K	**Franklin Bluff**	**21.15 342**	P	**P**	**18 58 51.3**	**+3.7**
	baz=146					
H17K	**Granite Mounta**	**21.16 324**	P	**P**	**18 58 48.6**	**+0.7**
H17K	**Granite Mounta**	**21.16 324**	P	**P**	**18 58 49.5**	**+1.6**
	baz=119,SNR=7.2					
G18K	**Tagagawik**	**21.20 327**	P	**P**	**18 58 48.9**	**+0.6**
	baz=123					
ESJX	**Sierra Juarez**	**21.30 145**	P	**P**	**18 58 49.7**	**-0.1**
ESJX			IAmb	IAmb	18 59 04.4	
	comp=Z,18nm,1.4s					
D22K	**Ayikyak River**	**21.36 338**	P	**P**	**18 58 52.2**	**+2.2**
	baz=138					
E21K	**Killik River**	**21.37 336**	P	**P**	**18 58 50.7**	**+0.6**
	baz=135					
F19K	**Shaleruckik Mo**	**21.43 330**	P	**P**	**18 58 50.6**	**-0.1**
F19K			IAmb	IAmb	18 59 02.9	
	comp=Z,10nm,0.9s					
F19K	**Shaleruckik Mo**	**21.43 330**	P	**P**	**18 58 51.9**	**+1.1**
	baz=126					
C23K	**Itkillik River**	**21.63 341**	P	**P**	**18 58 54.2**	**+1.4**
C23K	**Itkillik River**	**21.63 341**	P	**P**	**18 58 55.1**	**+2.3**
	baz=143					
E19K	**Redstone River**	**21.64 331**	P	**P**	**18 58 55.9**	**+3.0**
E19K			IAmb	IAmb	18 59 11.8	
	comp=Z,13nm,0.9s					
E19K	**Redstone River**	**21.64 331**	P	**P**	**18 58 53.8**	**+0.8**
	baz=128					
SDCO	**Great Sand Dun**	**21.68 117**	P	**P**	**18 58 55.4**	**+1.5**
SDCO			IAmb	IAmb	18 59 01.6	
	comp=Z,8.8nm,0.9s					
SDCO	**Great Sand Dun**	**21.68 117**	P	**P**	**18 58 56.5**	**+2.6**
	baz=314,SNR=15					
ULM	**Lac du Bonnet**	**21.69 78**	P	**P**	**18 58 53.5**	**-0.1**
ULM	**Lac du Bonnet**	**21.69 78**	P	**P**	**18 58 53.0**	**-0.6**
	comp=Z,3.6nm,0.6s,baz=282,slow=11,SNR=8.8					
ULM			Lg	Lg	19 05 29.9	
	comp=Z,0.1nm,0.3s,baz=354,slow=14,SNR=4.2					
ULM			LR	LR	19 06 53.1	
	comp=Z,232nm,19.9s,baz=284,slow=36					
	comp=Z,3.6nm,0.6s					
G17K	**Kiwalik Mounta**	**21.71 325**	P	**P**	**18 58 55.3**	**+1.6**
	baz=119					
X18A	**Snowflake**	**21.73 130**	P	**P**	**18 58 54.8**	**+0.4**
J14K	**Nanvaranak Lak**	**21.77 317**	P	**P**	**18 58 54.0**	**-0.3**
	baz=109					
SUSD	**Miller**	**21.79 94**	P	**P**	**18 58 55.5**	**+0.7**
	baz=297					
VTX	**Valle De La Tr**	**21.92 146**	P	**P**	**18 58 56.8**	**+0.6**
VTX			IAmb	IAmb	18 59 20.1	
	comp=Z,16nm,1.4s					
H16K	**Elim**	**21.92 322**	P	**P**	**18 58 55.8**	**-0.2**
	baz=115					
C21K	**Knifeblade Rid**	**22.09 337**	P	**P**	**18 59 01.4**	**+3.7**
	baz=135					
FCC	**Fort Churchill**	**22.13 54**	P	**P**	**18 58 59.1**	**+0.9**
FCC			IAmb	IAmb	18 59 13.7	
	comp=Z,14nm,1.0s					
AGMN	**Agassiz Nation**	**22.25 83**	P	**P**	**18 59 00.6**	**+0.9**
AGMN	**Agassiz Nation**	**22.25 83**	P	**P**	**18 59 01.2**	**+1.6**
	baz=289,SNR=7.9					
D20K	**Etivluk River**	**22.27 334**	P	**P**	**18 59 00.2**	**+0.5**
	baz=132					
G16K	**Koyuk River**	**22.29 324**	P	**P**	**18 59 00.5**	**+0.5**
	baz=116					
B21K	**Ikpikpuk River**	**22.38 338**	P	**P**	**18 59 03.8**	**+3.0**
B21K			IAmb	IAmb	18 59 11.2	
	comp=Z,19nm,1.3s					
B21K	**Ikpikpuk River**	**22.38 338**	P	**P**	**18 59 01.1**	**+0.3**
	baz=136					
F17K	**Baldwin Pennin**	**22.39 327**	P	**P**	**18 59 00.5**	**-0.4**
	baz=120					
KSCO	**Kaye Shedlock'**	**22.51 110**	P	**P**	**18 59 03.9**	**+1.2**
KSCO	**Kaye Shedlock'**	**22.51 110**	P	**P**	**18 59 01.5**	**-1.2**
	baz=310					
D19K	**Kuna River**	**22.55 333**	P	**P**	**18 59 04.8**	**+2.0**
D19K			IAmb	IAmb	18 59 11.8	
	comp=Z,18nm,1.2s					
D19K	**Kuna River**	**22.55 333**	P	**P**	**18 59 04.5**	**+1.8**
	baz=129					
214A	**Organ Pipe Nat**	**22.58 139**	IAmb	IAmb	18 59 13.1	
	comp=Z,15nm,1.1s					
214A	**Organ Pipe Nat**	**22.58 139**	P	**P**	**18 59 04.0**	**+0.7**
	baz=330					
B22K	**Teshekpuk Lake**	**22.63 340**	P	**P**	**18 59 06.0**	**+2.5**
B22K	**Teshekpuk Lake**	**22.63 340**	P	**P**	**18 59 06.3**	**+2.8**
	baz=139					
E18K	**Tukpahlearik C**	**22.68 329**	P	**P**	**18 59 02.7**	**-1.4**
	baz=123					
T25A	**Trinidad**	**22.72 116**	P	**P**	**18 59 05.4**	**+0.4**
	baz=314					
G15K	**Niukluk**	**22.77 322**	P	**P**	**18 59 04.1**	**-0.9**
	baz=113					
F33A	**5 Mile Ranch,**	**22.88 89**	P	**P**	**18 59 06.4**	**0.0**
E17K	**Hotham Inlet**	**22.91 328**	P	**P**	**18 59 05.7**	**-0.7**
	baz=121					
ANM	**Nome**	**23.14 321**	P	**P**	**18 59 07.7**	**-1.3**
	baz=111					
TUC	**Tucson**	**23.16 135**	P	**P**	**18 59 11.0**	**+1.6**
TUC			IAmb	IAmb	18 59 34.7	
	comp=Z,6.7nm,1.0s					
TUC	**Tucson**	**23.16 135**	P	**P**	**18 59 10.9**	**+1.5**
	baz=327					
ANMO	**Albuquerque**	**23.19 123**	P	**P**	**18 59 10.3**	**+0.4**
ANMO	**Albuquerque**	**23.19 123**	P	**P**	**18 59 11.6**	**+1.7**
	baz=319					
ANMO	**Albuquerque**	**23.19 123**	LR	LR	19 07 56.6	
	comp=Z,238nm,19.6s,baz=45,slow=36					

B20K	**Meade River**	**23.28 337**	P	**P**	**18 59 12.7**	**+2.4**
B20K	**Meade River**	**23.28 337**	P	**P**	**18 59 13.5**	**+3.3**
	baz=133					
F15K	**North Star Dit**	**23.29 324**	P	**P**	**18 59 08.9**	**-1.5**
	baz=114					
C19K	**Lookout Ridge**	**23.35 334**	P	**P**	**18 59 11.6**	**+0.5**
	baz=128					
A22K	**Sinclair Lake**	**23.47 340**	P	**P**	**18 59 16.1**	**+4.0**
	baz=138					
C18K	**Utukok River**	**23.55 332**	P	**P**	**18 59 15.7**	**+2.6**
	baz=125					
ECSD	**EROS Data Cent**	**23.61 94**	P	**P**	**18 59 15.0**	**+1.2**
ECSD	**EROS Data Cent**	**23.61 94**	P	**P**	**18 59 15.5**	**+1.7**
	baz=298,SNR=8.1					
D17K	**Noatak River**	**23.64 329**	P	**P**	**18 59 12.8**	**-1.1**
	baz=120					
RDOG	**Red Dog Mine**	**23.76 330**	P	**P**	**18 59 14.3**	**-0.8**
	baz=121					
BGNE	**Belgrade**	**23.84 100**	P	**P**	**18 59 15.0**	**-1.0**
	baz=303					
P08K	**Saint George I**	**23.94 300**	P	**P**	**18 59 16.8**	**0.0**
	baz=88					
C17K	**DeLong Mountai**	**24.07 330**	P	**P**	**18 59 17.4**	**-0.6**
	baz=122					
A21K	**Barrow**	**24.07 339**	P	**P**	**18 59 19.5**	**+1.6**
	baz=136					
B18K	**Kokolik River**	**24.14 333**	P	**P**	**18 59 16.1**	**-2.5**
	baz=125					
RTBA	**Rita Blanca**	**24.17 115**	P	**P**	**18 59 19.2**	**-0.2**
SPIA	**Saint Paul Isl**	**24.30 301**	P	**P**	**18 59 18.1**	**-2.1**
	baz=89					
CBKS	**Cedar Bluff**	**24.38 107**	P	**P**	**18 59 21.0**	**-0.2**
	baz=309					
121A	**Cookes Peak, D**	**24.40 129**	P	**P**	**18 59 21.4**	**-0.1**
	baz=324					
A19K	**Wainwright**	**24.43 335**	P	**P**	**18 59 21.8**	**+0.6**
	baz=128					
C16K	**Lisburne Hills**	**24.66 329**	P	**P**	**18 59 22.1**	**-1.3**
	baz=118					
EYMN	**Ely**	**25.12 81**	P	**P**	**18 59 28.4**	**+0.6**
	baz=290					
SPMN	**Marine on St.**	**25.36 88**	P	**P**	**18 59 31.0**	**+1.1**
	baz=296					
GAMB	**Gambell**	**25.60 317**	P	**P**	**18 59 33.3**	**+1.5**
	baz=102					
AMTX	**Amarillo**	**25.88 116**	P	**P**	**18 59 35.9**	**+1.1**
AMTX	**Amarillo**	**25.88 116**	P	**P**	**18 59 36.3**	**+1.5**
	baz=316					
MSTX	**Muleshoe**	**25.93 119**	P	**P**	**18 59 36.0**	**+0.8**
	baz=318					
KSU1	**Kansas State U**	**26.13 103**	P	**P**	**18 59 38.8**	**+1.8**
	baz=307					
MNTX	**Cornudas Mount**	**26.28 126**	P	**P**	**18 59 40.4**	**+2.1**
	baz=323,SNR=8.9					
ODSA	**Odessa**	**27.45 122**	P	**P**	**18 59 48.5**	**-0.4**
JFWS	**Jewell Farm**	**28.07 90**	P	**P**	**18 59 53.8**	**-0.5**
	baz=300					
RES	**Resolute Bay**	**28.22 19**	LR	LR	19 10 29.8	
	comp=Z,202nm,20.2s,baz=195,slow=35					
TUL3	**Leonard**	**28.65 108**	P	**P**	**18 59 59.1**	**-0.4**
	baz=311					
ABTX	**Abilene, Hawle**	**28.68 117**	P	**P**	**18 59 59.1**	**-0.8**
	baz=318					
TX31	**Lajitas Ar. Si**	**29.05 127**	P	**P**	**19 00 03.6**	**+0.3**
TXAR	**Lajitas Array**	**29.05 127**	P	**P**	**19 00 03.5**	**+0.2**
TXAR	**Lajitas Array**	**29.05 127**	P	**P**	**19 00 05.5**	**+2.3**
	comp=Z,2.6nm,0.9s,baz=327,slow=6.0,SNR=14					
TXAR			PcP	**PcP**	**19 03 15.5**	**+4.2**
	comp=Z,0.9nm,1.0s,baz=298,slow=2.7,SNR=4.2					
TXAR			LR	LR	19 12 45.1	
	comp=Z,106nm,20.4s,baz=324,slow=39					
	comp=Z,2.6nm,0.9s					
L44A	**Lake County Fo**	**29.93 90**	P	**P**	**19 00 10.0**	**-0.8**
	baz=301					
CCM	**Cathedral Cave**	**30.11 99**	P	**P**	**19 00 11.7**	**-0.8**
	baz=307					
JCT	**Junction City**	**30.21 120**	P	**P**	**19 00 13.6**	**+0.2**
	baz=320					
833A	**Chaparral WMA,**	**32.11 122**	P	**P**	**19 00 30.0**	**-0.1**
	baz=322					
O48B	**Farmland**	**32.71 91**	P	**P**	**19 00 34.4**	**-0.9**
	baz=304					
WVT	**Waverly**	**33.45 99**	P	**P**	**19 00 42.0**	**+0.1**
	baz=309					
OXF	**Oxford**	**33.50 103**	P	**P**	**19 00 42.1**	**-0.2**
	baz=311					
SHEM	**Shemya Is, Ala**	**33.97 296**	LR	LR	19 13 19.6	
	comp=Z,123nm,20.2s,baz=165,slow=34					
SADO	**Sadowa**	**34.21 80**	LR	LR	19 14 15.3	
	comp=Z,245nm,21.0s,baz=269,slow=36					
FRB	**Frobisher Bay**	**34.40 44**	LR	LR	19 15 26.6	
	comp=Z,314nm,18.3s,baz=168,slow=38					
M53A	**WI Miller and**	**34.92 86**	P	**P**	**19 00 54.6**	**0.0**
	baz=302					
LRAL	**Lakeview Retre**	**35.98 102**	P	**P**	**19 01 01.4**	**-2.3**
	baz=312					
TKL	**Tuckaleechee C**	**36.31 96**	LR	LR	19 16 18.9	
	comp=Z,572nm,18.6s,baz=318,slow=37					
SSPA	**Standing Stone**	**37.13 85**	P	**P**	**19 01 12.4**	**-1.0**
	baz=303					
LONY	**Lake Ozonia**	**37.13 77**	P	**P**	**19 01 11.4**	**-2.1**
	baz=300					
SCHQ	**Schefferville**	**37.40 58**	LR	LR	19 15 12.2	
	comp=Z,200nm,20.8s,baz=306,slow=34					
BLA	**Blacksburg**	**37.49 91**	P	**P**	**19 01 13.6**	**-3.0**
	baz=307					
BINY	**Binghamton**	**37.49 81**	P	**P**	**19 01 14.1**	**-2.4**
	baz=302					
SFJD	**Kangerlussuaq**	**41.04 36**	LR	LR	19 19 12.2	
	comp=Z,331nm,19.3s,baz=298,slow=37					
TEIG	**Tepich**	**44.67 117**	P	**P**	**19 02 16.2**	**+0.5**
TEIG	**Tepich**	**44.67 117**	LR	LR	19 22 21.2	
	comp=Z,821nm,21.3s,baz=86,slow=38					
APG	**El Apazote**	**47.71 124**	LR	LR	19 24 50.8	
	comp=Z,15nm,18.6s,baz=298,slow=39					
H11N2	**WAKE ISLAND Hy**	**57.93 262**	T	T	20 06 32.4	
	baz=42,slow=76,SNR=1808					
H11N3	**WAKE ISLAND Hy**	**57.93 262**	T	T	20 06 32.4	
	baz=42,slow=76,SNR=1341					
H11N1	**WAKE ISLAND Hy**	**57.95 262**	T	T	20 06 32.2	
	baz=42,slow=76,SNR=1015					
ARCES	**ARCESS Array B**	**58.88 10**	LR	LR	19 30 20.7	
	comp=Z,80nm,19.4s,baz=320,slow=37					
H11S1	**WAKE ISLAND Hy**	**58.96 261**	T	T	20 07 59.2	
	baz=46,slow=75,SNR=51					
H11S2	**WAKE ISLAND Hy**	**58.97 261**	T	T	20 08 00.2	
	baz=46,slow=75,SNR=30					
H11S3	**WAKE ISLAND Hy**	**58.98 261**	T	T	20 07 57.2	
	baz=46,slow=75,SNR=22					
HEH	**HeiHe**	**59.87 314**	*eP*	**P**	**19 04 08.1**	**-0.2**
MCRA	**Macar, Loja**	**69.55 125**	P	**P**	**19 05 13.2**	**+1.2**
MCRA			IAmb	IAmb	19 05 19.3	
	comp=Z,2.3nm,1.2s					
PPT	**Papeete**	**69.98 200**	LR	LR	19 28 35.2	
	comp=Z,86nm,18.4s,baz=4.0,slow=29					
SONM	**Songino Array**	**70.62 323**	P	**P**	**19 05 21.8**	**+3.6**
SONM			IAmb	IAmb	19 05 51.1	
	comp=Z,2.2nm,1.4s					
SONM	**Songino Array**	**70.62 323**	P	P	19 05 26.9	+8.6
	comp=Z,0.3nm,0.5s,baz=31,slow=2.8,SNR=4.4					
	comp=Z,0.3nm,0.5s					
ZALV	**Zalesovo Beam**	**71.81 339**	P	P	19 05 32.7	+7.5
	comp=Z,0.8nm,0.8s,baz=61,slow=12,SNR=3.6					
	comp=Z,0.8nm,0.8s					
OBN	**Obninsk**	**74.09 8**	LR	LR	19 39 16.7	
	comp=Z,68nm,20.4s,baz=335,slow=37					
HHC	**Hu-ho-hao-te**	**74.21 316**	*eP*	**P**	**19 05 42.0**	**+2.2**
HHC			pmax	pmax		
	comp=Z,30nm,0.5s					
HHC			pmax	pmax		
	comp=Z,170nm,4.1s					
BVAR	**Borovoye Array**	**75.34 347**	P	P	19 05 52.6	+6.6
	comp=Z,1.7nm,1.1s,baz=0.0,slow=2.9,SNR=2.4					
	comp=Z,1.7nm,1.1s					
GERES	**GERESS Array B**	**76.20 24**	LR	LR	19 39 12.2	
	comp=Z,50nm,21.9s,baz=341,slow=36					
KURBB	**Kurchatov Arra**	**76.28 342**	P	P	19 05 58.1	+6.8
	comp=Z,0.8nm,0.2s,baz=23,slow=5.5,SNR=4.7					
	comp=Z,0.8nm,0.2s					
BELG	**Belogornoye**	**77.39 1**	LR	LR	19 46 26.5	
	comp=Z,37nm,18.8s,baz=121,slow=41					
AKTO	**Aktyubinsk**	**79.14 355**	LR	LR	19 44 20.0	
	comp=Z,35nm,18.4s,baz=20,slow=38					
ABKAR	**Akbulak array**	**80.18 353**	P	**P**	**19 06 10.4**	**-2.6**
ABKAR			IAmb	IAmb	19 06 25.2	
	comp=Z,4.6nm,1.4s					
WMQ	**Urumqi**	**80.41 333**	*eP*	**P**	**19 06 18.8**	**+4.4**
SNAA	**Sanae**	**148.52 151**	PKPbc	**PKPab**	**19 13 53.1**	**+1.2**

comp=Z,5.3nm,1.1s,baz=235,slow=6.8,SNR=4.7

KRSC 14 18:54:27.8±1.1, 54.40N×168.08E, h20km±15km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.46**	**304**	*eP*	Pb	18 54 53.8	-0.6
BKI				*eS*	Sb	18 55 12.7	+0.2
KBG	**Krutoberegovo**	**3.59**	**303**	*eS*	Sn	18 56 08.2	+4.2
SMKR	**Semkarok**	**4.35**	**303**	*eP*	Pn	18 55 36.1	+3.3
TUMD	**Tumrok D**	**4.52**	**283**	*eP*	Pn	18 55 40.0	+4.9
TUMD				*eS*	Sn	18 56 32.9	+6.0
TUMR	**Tumrok**	**4.67**	**284**	*eP*	Pn	18 55 42.3	+5.1
KMNR	**Kamenistaya**	**4.71**	**290**	*eP*	Pn	18 55 42.4	+4.7
SMAR	**Somma**	**5.61**	**262**	*eP*	Pn	18 55 54.8	+4.5
UGLR	**Uglovaya**	**5.61**	**262**	*eP*	Pn	18 55 54.9	+4.8
KRX	**Arik**	**5.67**	**263**	*eP*	Pn	18 55 55.7	+4.6
KOK	**Koryaka**	**5.70**	**263**	*eP*	Pn	18 55 55.8	+4.4
KRMR	**Karymshinskiy**	**6.13**	**259**	*eP*	Pn	18 56 01.2	+4.1
KRMR				*eS*	Sn	18 57 10.9	+4.5
GRL	**Gorelyy**	**6.25**	**257**	*eP*	Pn	18 56 04.3	+5.3
ASAK	**Asacha**	**6.41**	**256**	*eP*	Pn	18 56 06.0	+4.8

IDC 14 18:57:23.6±4.4, 4.90S×145.80E, h0km, mb3.5/2, mbtmp3.6/3, ML3.3/1, MS2.7/1, Error ellipse: s-maj=116.2km s-min=68.0km az=116.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.68**	**163**	LR	LR	19 00 37.2	
	comp=Z,92nm,21.4s,baz=48,slow=41						
WRA	**Warramunga Arr**	**18.66**	**216**	P	P	19 01 43.1	-0.2
	0.1nm,0.3s,baz=40,slow=12,SNR=7.8						
	2.5nm,0.8s						
ASAR	**Alice Springs**	**21.91**	**210**	P	P	19 02 18.6	+0.1
	0.7nm,0.9s,baz=36,slow=11,SNR=4.7						
	0.7nm,0.9s						
STKA	**Stephens Creek**	**27.13**	**188**	P	P	19 03 08.4	0.0
	1.1nm,0.6s,baz=0.0,slow=9.1,SNR=3.7						
	1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**143.66**	**285**	PKP	PKPdf	19 17 01.0	-0.7
	0.2nm,0.5s,baz=59,slow=5.0,SNR=1.7						

*IDC **14** 19:10:51.9±0.9, 50.61N×130.27W, h0km, mb3.7/10, mbtmp3.8/19, ML3.6/7, MS3.9/32, Error ellipse: s-maj=14.6km s-min=10.4km az=60.0*

*PGC **14** 19:10:52.4±1.9, 50.50N×130.27W, h10km, mb4.3, MLSn3.9/30, Mw4.7, 202km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*NEIC **14** 19:10:52.4, 50.50N×130.27W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.74; $M_{\theta\theta}$-0.96; $M_{\phi\phi}$0.54; $M_{r\theta}$-1.06; $M_{\theta\phi}$-0.25; $M_{r\phi}$0.42; Fault plane solution: $M_0$1.50000×10^{16} NP1:ϕ_s288.00000°, δ75.00000°, λ116.00000°. NP2:ϕ_s47.00000°, δ30.00000°, λ32.00000°. Principal axes: T 1.3881, Plg53.0000°, Azm229.0000°; N 0.1869, Plg25.0000°, Azm101.0000°; P -1.5750, Plg25.0000°, Azm359.0000°;*

*NEIC **14** 19:10:55.1±2.8, 50.64N±0.05×129.87W±0.10, h10km±2km, mb4.4/116, Mwr4.7(OTT) Error ellipse: s-maj=13.3km s-min=3.1km az=229.0*

ISC 14 19:10:54.5±0.5, 50.66N±0.04×129.97W±0.04, h10km, n553, σ1$\hat{9}$92/521, mb4.3/22, MS4.0/25, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.17**	**90**		**Pg**	**19 11 15.5**	**-1.4**
HOLB	**Holberg**	**1.17**	**90**	Pn	**Pg**	**19 11 15.3**	**-1.6**
HOLB				Sn	**Sn**	**19 11 31.7**	**-1.2**
HOLB	**Holberg**	**1.17**	**90**	Pn	**Pg**	**19 11 15.3**	**-1.6**
HOLB				Sn	**Sn**	**19 11 31.7**	**-1.2**
PHC	**Port Hardy**	**1.61**	**87**	Pn	**Pn**	**19 11 22.1**	**-0.9**
PHC				Sn	**Sg**	**19 11 42.9**	**-3.4**
MAYB	**Maynard**	**1.80**	**97**	Pn	**Pn**	**19 11 24.3**	**-1.4**
MAYB	**Maynard**	**1.80**	**97**	Pn	**Pn**	**19 11 24.3**	**-1.4**
HG4B	**Hotspring**	**1.81**	**335**	Pn	Pn	19 11 22.4	-3.3
HG4B				Sn	**Sn**	**19 11 45.1**	**-3.5**
HG4B	**Hotspring**	**1.81**	**335**	Pn	Pn	19 11 22.4	-3.3
HG4B				Sn	**Sn**	**19 11 45.1**	**-3.5**
BBB	**Bella Bella**	**1.92**	**37**		**Pn**	**19 11 27.5**	**+0.3**
BBB	**Bella Bella**	**1.92**	**37**	Pn	**Pn**	**19 11 27.2**	**+0.1**
	11nm,0.3s,baz=237,slow=5.0,SNR=136						
BBB				Sn	**Sb**	**19 11 51.0**	**-2.4**
	92nm,0.3s,baz=260,slow=20,SNR=6.2						
BBB				LR	LR	19 12 20.2	
	comp=Z,1μm,21.0s,baz=225,slow=42						
	36nm,0.3s						
BBB	**Bella Bella**	**1.92**	**37**	Pn	**Pn**	**19 11 27.1**	**-0.1**
BBB				Sn	**Sb**	**19 11 50.9**	**-2.6**
EDB	**Eliza Dome**	**1.99**	**112**	Pn	**Pn**	**19 11 26.0**	**-2.2**
EDB				Sn	**Sn**	**19 11 51.0**	**-2.1**
EDB	**Eliza Dome**	**1.99**	**112**	Pn	**Pn**	**19 11 26.0**	**-2.2**
EDB				Sn	**Sn**	**19 11 51.0**	**-2.1**
BNB	**Barry Inlet**	**2.22**	**331**	Pn	Pn	19 11 28.3	-3.1
BNB				Sn	**Sn**	**19 11 53.3**	**-5.6**
BNB	**Barry Inlet**	**2.22**	**331**	Pn	Pn	19 11 28.3	-3.1
BNB				Sn	**Sn**	**19 11 53.3**	**-5.6**
BAIB	**Barry Inlet**	**2.22**	**331**	Pn	Pn	19 11 28.4	-2.9
BAIB				Sn	**Sn**	**19 11 55.0**	**-3.9**
WOSB	**Woss**	**2.23**	**102**	Pn	Pn	19 11 30.3	-1.2
WOSB				Sn	**Sn**	**19 11 56.0**	**-3.1**
WOSB	**Woss**	**2.23**	**102**	Pn	**Pn**	**19 11 30.3**	**-1.2**
WOSB				Sn	**Sn**	**19 11 56.0**	**-3.1**
NCRB	**Newcastle Ridg**	**2.51**	**94**	Pn	**Pn**	**19 11 34.6**	**-0.8**
NCRB	**Newcastle Ridg**	**2.51**	**94**	Pn	**Pn**	**19 11 34.6**	**-0.8**
NCSB	**Newcastle Ridg**	**2.51**	**94**	Pn	**Pn**	**19 11 34.4**	**-1.0**
NCSB				Sn	**Sn**	**19 12 04.4**	**-1.7**
BUTB	**Butedale**	**2.58**	**21**	Pn	**Pn**	**19 11 36.7**	**+0.3**
BUTB				Sn	**Sb**	**19 12 08.5**	**-4.2**
**

B927	Port Alberni	3.63	111	Pn	Pn	19 11 49.5	-1.2	
RUBB	Prince Rupert	3.68	357		Pn	19 11 51.4	+0.1	
RUBB	Prince Rupert	3.68	357	Pn	Pn	19 11 50.6	-0.7	
RUBB				Sn	Sn	19 12 35.5	+0.9	
RUBB	Prince Rupert	3.68	357	Pn	Pn	19 11 50.6	-0.7	
RUBB				Sn	Sn	19 12 35.5	+0.9	
TXB	Texada	3.68	103	Pn	Pn	19 11 50.8	-0.6	
TXB	Texada	3.68	103	Pn	Pn	19 11 50.8	-0.6	
SHB	Sechelt	4.06	103	Pn	Pn	19 11 56.1	-0.6	
SHB	Sechelt	4.06	103	Pn	Pn	19 11 56.1	-0.6	
PFB	Port Renfrew	4.16	118	Pn	Pn	19 11 56.1	-1.9	
PFB	Port Renfrew	4.16	118	Pn	Pn	19 11 56.1	-1.9	
PTRF	Port Renfrew	4.19	118	Pn	Pn	19 11 57.0	-1.3	
CLRS	Cowichan Lake	4.21	114	Pn	Pn	19 12 01.2	+2.6	
CLRS	Cowichan Lake	4.21	114	Pn	Pn	19 11 58.3	-0.3	
CLRS	Cowichan Lake	4.21	114	Pn	Pn	19 11 58.3	-0.3	
OCP	Olym-Cheeka Pk	4.21	122	Pn	Pn	19 11 58.4	-0.3	
GOBB	Galiano Island	4.52	110	Pn	Pn	19 12 02.7	-0.2	
GOBB	Galiano Island	4.52	110	Pn	Pn	19 12 02.7	-0.2	
SYMB	Survey Mountai	4.53	115	Pn	Pn	19 12 02.2	-0.9	
SYMB	Survey Mountai	4.53	115	Pn	Pn	19 12 02.2	-0.9	
OBC	Olympics--Boni	4.66	122	Pn	Pn	19 12 05.0	0.0	
OBC	Olympics--Boni	4.66	122	Pn	Pn	19 12 05.0	0.0	
B010	North Saanich	4.69	113	Pn	Pn	19 12 04.4	-0.8	
B010	North Saanich	4.69	113	Pn	Pn	19 12 04.4	-0.8	
PGC	Sidney	4.69	113	Pn	Pn	19 12 04.2	-1.0	
PGC	Sidney	4.69	113	Pn	Pn	19 12 04.2	-1.0	
B009	North Saanich	4.69	113	Pn	Pn	19 12 04.3	-0.9	
B009	North Saanich	4.69	113	Pn	Pn	19 12 04.3	-0.9	
V35K	Ketchikan	4.78	349		Pn	19 12 04.8	-1.7	
V35K	Ketchikan baz=170	4.78	349	P	Pn	19 12 06.8	+0.3	
STW	Striped Peak	4.82	119	Pn	Pn	19 12 06.5	-0.6	
STW	Striped Peak	4.82	119	Pn	Pn	19 12 06.5	-0.6	
HNBB	Haney	4.97	103	Pn	Pn	19 12 08.8	-0.2	
HNBB	Haney	4.97	103	Pn	Pn	19 12 08.8	-0.2	
MCW	Mount Constitu	5.04	110	Pn	Pn	19 12 11.0	+0.9	
MCW	Mount Constitu	5.04	110	Pn	Pn	19 12 11.0	+0.9	
FSJB	Fort St James	5.14	40	Pn	Pn	19 12 12.0	+0.5	
FSJB				Sn	Sn	19 13 11.2	+0.3	
FSJB	Fort St James	5.14	40	Pn	Pn	19 12 12.0	+0.5	
FSJB				Sn	Sn	19 13 11.2	+0.3	
LLLB	Lillooet	5.15	87	Pn	Pn	19 12 12.1	+0.5	
LLLB	Lillooet	5.15	87	Pn	Pn	19 12 12.1	+0.5	
CRAG	Craig baz=160	5.18	340	P	Pn	19 12 12.0	+0.1	
WISH	Wishkah	5.41	129	Pn	Pn	19 12 14.9	-0.2	
WISH	Wishkah	5.41	129	Pn	Pn	19 12 14.9	-0.2	
HDW	Hoodsport	5.45	121	Pn	Pn	19 12 15.6	-0.1	
HDW	Hoodsport	5.45	121	Pn	Pn	19 12 15.6	-0.1	
MBW	Mount Baker	5.56	107	Pn	Pn	19 12 18.1	+0.8	
MBW	Mount Baker	5.56	107	Pn	Pn	19 12 18.1	+0.8	
CMW	Cultus Mountai	5.58	111	Pn	Pn	19 12 18.5	+1.0	
CMW	Cultus Mountai	5.58	111	Pn	Pn	19 12 18.5	+1.0	
U33K	Whale Pass baz=162	5.78	342	P	Pn	19 12 20.5	+0.3	
JCW	Jim Creek	5.79	112	Pn	Pn	19 12 21.1	+0.6	
JCW	Jim Creek	5.79	112	Pn	Pn	19 12 21.1	+0.6	
B06A	Marblemount	5.92	108		Pn	19 12 22.2	+0.2	
B06A	Marblemount	5.92	108	Pn	Pn	19 12 22.5	+0.4	
RPW	Rockport	5.93	109	Pn	Pn	19 12 22.9	+0.5	
RPW	Rockport	5.93	109	Pn	Pn	19 12 22.9	+0.5	
WRAK	Wrangell Islan baz=167	5.94	347	P	Pn	19 12 23.4	+1.0	
GPW	Glacier Peak	6.30	110	Pn	Pn	19 12 28.4	+0.8	
GPW	Glacier Peak	6.30	110	Pn	Pn	19 12 28.4	+0.8	
D05A	Enumclaw	6.30	120	Pn	Pn	19 12 28.6	+1.2	
D05A	Enumclaw	6.30	120	Pn	Pn	19 12 28.4	+1.1	
T35M	Bob Quinn	6.34	359	Pn	Pn	19 12 28.9	+1.0	
T35M	Bob Quinn	6.34	359	Pn	Pn	19 12 28.7	+0.8	
T35M				Sn	Sn	19 13 40.1	-0.1	
T35M	Bob Quinn baz=180	6.34	359	P	Pn	19 12 28.7	+0.8	
T35M	Bob Quinn	6.34	359	Pn	Pn	19 12 28.7	+0.8	
T35M				Sn	Sn	19 13 40.1	-0.1	
FMW	Mount Fremont	6.63	121	Pn	Pn	19 12 32.7	+0.7	
FMW	Mount Fremont	6.63	121	Pn	Pn	19 12 32.7	+0.7	
LON	Longmire	6.67	123		Pn	19 12 30.9	-1.6	
LON	Longmire	6.67	123	Pn	Pn	19 12 33.4	+0.9	
PNT	Penticton	6.81	97	Pn	Pn	19 12 35.8	+1.4	
PNT	Penticton	6.81	97	Pn	Pn	19 12 35.8	+1.4	
F04A	Amboy	6.91	130		Pn	19 12 35.7	0.0	
LTY	Liberty	7.00	116		Pn	19 12 37.9	+0.8	
LTY	Liberty	7.00	116	Pn	Pn	19 12 37.9	+0.8	
BMTB	Bullhead Mount	7.14	38	Pn	Pn	19 12 39.6	+0.6	
BMTB				Sn	Sn	19 14 02.4	+2.2	
SIT	Sitka baz=153	7.15	336	P	Pn	19 12 39.5	+0.6	
S34M	Telegraph Cree	7.30	355	Pn	Pn	19 12 41.6	+0.5	
S34M	Telegraph Cree	7.30	355	Pn	Pn	19 12 41.9	+0.8	
S34M				Sn	Sn	19 14 04.5	+0.7	
S34M	Telegraph Cree baz=176	7.30	355	P	Pn	19 12 41.6	+0.5	
S34M	Telegraph Cree	7.30	355	Pn	Pn	19 12 41.9	+0.8	
S34M				Sn	Sn	19 14 04.5	+0.7	
S32K	Killisnoo baz=158	7.34	340	P	Pn	19 12 42.5	+0.9	
NBC4	NorthernBC 4	7.52	44	Sn	Sn	19 14 09.4	0.0	
NBC4	NorthernBC 4	7.52	44	Sn	Sn	19 14 09.4	0.0	
MXC	Moxie City	7.60	119	Pn	Pn	19 12 44.3	-0.9	
HOOD	Mount Hood Mea	7.72	131		Pn	19 12 47.4	+0.3	
DLBC	Dease Lake	7.79	360	Pn	Pn	19 12 50.8	+2.9	
DLBC	Dease Lake baz=181	7.79	360	P	Pn	19 12 48.9	+1.0	
DLBC	Dease Lake 1.6nm,0.3s,baz=192,slow=15,SNR=17	7.79	360	Pn	Pn	19 12 48.3	+0.4	
DLBC				Sn	Sn	19 14 19.3	+3.1	
	0.5nm,0.3s,baz=173,slow=23,SNR=1.4							
DLBC				Lg	Lg	19 14 59.8		
	0.3nm,0.3s,baz=295,slow=15,SNR=3.4							
DLBC				LR	LR	19 15 52.9		
	comp=Z,2µm,20.1s,baz=220,slow=38 10nm,0.6s							
DLBC	Dease Lake	7.79	360	Pn	Pn	19 12 50.0	+2.0	
E07A	Sunnyside	7.86	118	Pn	Pn	19 12 49.5	+0.8	
BDMTA	Bald Mountain	7.89	54	Pn	Pn	19 12 52.1	+2.9	
BDMTA	Bald Mountain	7.89	54	Pn	Pn	19 12 52.1	+2.9	
H04A	Detroit Lake	7.95	136	Pn	Pn	19 12 51.3	+1.2	
NBC5	NorthernBC 5	8.10	29	Pn	Pn	19 12 54.3	+2.2	
NBC5				Sn	Sn	19 14 25.1	+1.5	
NBC5	NorthernBC 5	8.10	29	Pn	Pn	19 12 54.3	+2.2	
NBC5				Sn	Sn	19 14 25.1	+1.5	
D08A	Wollman Farm,	8.13	112	Pn	Pn	19 12 52.7	+0.2	
HAWA	Hanford	8.13	118	Pn	Pn	19 12 52.9	+0.3	
C09A	Chrisman Ranch	8.17	106	Pn	Pn	19 12 53.9	+0.9	
S31K	Pelican baz=152	8.18	336	P	Pn	19 12 55.1	+2.0	
Q32M	Nakina River	8.42	352	Pn	Pn	19 12 57.7	+1.1	
Q32M	Nakina River baz=171	8.42	352	P	Pn	19 12 58.1	+1.4	
Q32M	Nakina River	8.42	352	Pn	Pn	19 12 57.7	+1.1	
R31K	City Hall, Gus baz=156	8.46	339	P	Pn	19 12 57.4	+0.5	
NEW	Newport	8.70	101	Pn	Pn	19 12 59.0	-1.4	
NEW	Newport 0.2nm,0.3s,baz=286,slow=11,SNR=4.3	8.70	101	Pn	Pn	19 13 00.9	+0.5	
NEW				Lg	Lg	19 15 29.5		
	0.1nm,0.3s,baz=143,slow=14,SNR=4.2							
NEW				LR	LR	19 16 41.2		
	comp=Z,926nm,20.2s,baz=267,slow=39 1.5nm,0.6s							
R33M	Jennings River	8.77	357		Pn	19 13 03.7	+2.4	
R33M	Jennings River baz=177	8.77	357	P	Pn	19 13 02.3	+0.9	
P32M	Atlin baz=166	9.20	348	P	Pn	19 13 08.6	+1.5	
F10A	Beach Ranch, E	9.69	114		Pn	19 13 13.9	-0.1	
P33M	Teslin, Yukon	9.71	352	Pn	Pn	19 13 15.3	+1.1	
P33M				Sn	Sn	19 15 04.2	+1.1	
P33M	Teslin, Yukon baz=170	9.71	352	P	Pn	19 13 15.4	+1.3	
P33M	Teslin, Yukon	9.71	352	Pn	Pn	19 13 15.3	+1.1	
P33M				Sn	Sn	19 15 04.2	+1.1	
KOTAN	Kotaneelee Air baz=203	10.06	17	P	Pn	19 13 21.7	+2.8	
YBH	Yreka Blue Hor	10.24	148	Pn	Pn	19 13 25.0	+3.5	
YBH	Yreka Blue Hor 2.9nm,1.0s,baz=333,slow=13,SNR=6.0	10.24	148	Pn	Pn	19 13 23.7	+2.1	
YBH				LR	LR	19 16 31.8		
	comp=Z,279nm,20.4s,baz=329,slow=33							
P30M	Million Dollar baz=156	10.28	340	P	Pn	19 13 22.2	+0.3	
BMO	Blue Mountains	10.31	119	Pn	Pn	19 13 22.9	+0.5	
WHY	Whitehorse baz=164	10.40	346	P	Pn	19 13 24.2	+0.6	
PNL	Peninsula baz=146	10.50	333	P	Pn	19 13 24.7	-0.2	
N32M	Quiet Lake baz=170	10.66	352	P	Pn	19 13 27.6	+0.5	
O30N	Mendenhall baz=160	10.70	344	P	Pn	19 13 28.9	+1.3	
O29M	Mount Kennedy baz=151	10.82	337	P	Pn	19 13 30.3	+1.0	
PLID	Pearl Lake	10.91	115	Pn	Pn	19 13 31.8	+1.1	
PINM	Pinnacle baz=145	11.10	332	P	Pn	19 13 33.4	+0.2	
MSO	Missoula baz=295	11.25	104	P	Pn	19 13 35.6	+0.3	
N31M	Braeburn, Yuko baz=162	11.32	346	P	Pn	19 13 37.3	+1.1	
YUK6	Outpost Mounta baz=153	11.32	339	P	Pn	19 13 37.5	+1.2	
WVOR	Wild Horse Val	11.33	132	Pn	Pn	19 13 35.8	-0.6	
N30M	Aishikik Lake baz=158	11.52	343	P	Pn	19 13 39.6	+0.7	
BPMT	Black Pine Rid	11.73	105	Pn	Pn	19 13 38.8	-3.3	
M31M	Drury Creek, Y baz=167	11.82	350	P	Pn	19 13 43.6	+0.6	
YUK8	Steele Glacier baz=150	11.96	337	P	Pn	19 13 46.0	+0.9	
CTG	Chitina Glacier baz=144	12.12	333	P	Pn	19 13 48.6	+1.4	
LYMT	Lyon Mountain	12.22	101	Pn	Pn	19 13 48.6	-0.1	
M30M	Minto, Yukon baz=161	12.51	345	P	Pn	19 13 53.8	+1.4	
YUK3	Moose Creek baz=149	12.56	337	P	Pn	19 13 54.6	+1.4	
M29M	Somme Creek baz=156	12.69	342	P	Pn	19 13 56.0	+1.1	
HLID	Hailey baz=308	12.74	118	P	Pn	19 13 57.0	+1.3	
Q23K	Middleton Isla baz=127	12.83	320	P	Pn	19 13 58.2	+1.6	
BMRM	Bremner River baz=136	13.17	327	P	Pn	19 14 03.4	+2.0	
BVCY	Beaver Creek baz=149	13.20	337	P	Pn	19 14 02.7	+1.0	
L29M	L29M baz=158	13.24	344	P	Pn	19 14 03.5	+1.2	
BOZ	Bozeman (W) baz=298	13.24	105	P	Pn	19 14 03.3	+0.7	
M27K	Edge Creek, AK baz=147	13.41	335	P	Pn	19 14 06.3	+1.6	
EGMT	Eagleton	13.44	93	Pn	Pn	19 14 06.4	+1.3	
EGMT	Eagleton baz=288	13.44	93	P	Pn	19 14 06.7	+1.5	
P23K	Montague Islan baz=127	13.59	320	P	Pn	19 14 09.0	+1.9	
N25K	Chitina, Valde baz=138	13.63	329	P	Pn	19 14 09.2	+1.6	
M26K	Nabesna, AK baz=144	13.75	334	P	Pn	19 14 10.2	+0.9	
K29M	Barlow Dome baz=160	13.82	346	P	Pn	19 14 11.5	+1.2	
BCAR	Beaver Creek A	13.98	337	Pn	Pn	19 14 11.1	-1.3	
L27K	Beaver Creek, baz=148	13.99	337	P	Pn	19 14 14.0	+1.5	
KLU	Klutina baz=135	13.99	327	P	Pn	19 14 13.7	+1.0	
YHH	Holmes Hill	14.13	107	Pn	Pn	19 14 13.2	-1.6	
WAKR	Walker	14.26	144	Pn	Pn	19 14 16.2	-0.4	
ELK	Elko 0.1nm,0.3s,baz=275,slow=4.3,SNR=3.2	14.26	128	Pn	Pn	19 14 15.5	-1.2	
ELK				LR	LR	19 19 37.9		
	comp=Z,355nm,18.5s,baz=324,slow=37							
YFT	Old Faithful	14.31	108	Pn	Pn	19 14 15.9	-1.4	
DAWY	Dawson baz=156	14.34	343	P	Pn	19 14 18.2	+0.8	
L26K	Log Cabin Wild baz=145	14.35	335	P	Pn	19 14 18.9	+1.4	
J30M	Hart River	14.35	349	Pn	Pn	19 14 16.8	-0.8	
J30M	Hart River baz=164	14.35	349	P	Pn	19 14 17.2	-0.4	
HARP	HAARP baz=139	14.39	331	P	Pn	19 14 19.6	+1.6	
H17A	Grant Village baz=302	14.50	108	P	Pn	19 14 21.1	+1.2	
M24K	Tolsona, Glenn baz=136	14.51	328	P	Pn	19 14 21.3	+1.7	
YKA	Yellowknife Ar	14.52	29	Pn	Pn	19 14 19.0	-0.7	
YKA	Yellowknife Ar 0.2nm,0.3s,baz=220,slow=11,SNR=20	14.52	29	Pn	Pn	19 14 18.2	-1.5	
YKA				Sn	Sn	19 16 53.7	-6.8	
	0.1nm,0.3s,baz=198,slow=20,SNR=4.3							
YKA				Lg	Lg	19 18 27.6		
	baz=47,slow=46							
YKA				LR	LR	19 20 07.0		
	comp=Z,389nm,21.9s,baz=244,slow=38 1.6nm,0.8s							
IMW	Indian Meadow	14.56	110		Pn	19 14 20.6	0.0	
FLWY	Flagg Ranch	14.60	109	Pn	Pn	19 14 18.2	-2.9	
SCM	Sheep Creek Mo baz=133	14.72	326	P	Pn	19 14 23.4	+0.9	
NVAR	Mina Array Bea	14.76	141	Pn	Pn	19 14 25.0	+1.6	
NVAR	Mina Array Bea baz=325,slow=13,SNR=3.7 0.4nm,0.8s	14.76	141	Pn	Pn	19 14 25.4	+1.9	
TPAW	Teton Pass	14.78	112		Pn	19 14 24.6	+0.9	
O22K	Cooper Landing baz=124	14.82	319	P	Pn	19 14 25.4	+1.5	
M23K	Glacier View baz=132	14.83	326	P	Pn	19 14 25.4	+1.4	
KNK	Knik Glacier baz=129	14.86	324	P	Pn	19 14 24.8	+0.4	
K27K	Chicken baz=150	14.87	339	P	Pn	19 14 26.6	+2.1	
PAX	Paxson baz=140	14.92	332	P	Pn	19 14 26.5	+1.2	
SNOW	Snow King Moun	14.92	111	Pn	Pn	19 14 22.3	-3.2	
RLMT	Red Lodge baz=298	14.93	104	P	Pn	19 14 25.8	+0.1	
KDAK	Kodiak Island baz=110	14.98	307	P	Pn	19 14 28.7	+2.7	
KDAK	Kodiak Island comp=Z,777nm,19.2s,baz=161,slow=31	14.98	307	LR	LR	19 18 31.5		
I30M	Mount Dempster baz=165	14.98	350	P	Pn	19 14 27.9	+1.8	
SCRK	Sand Creek	15.29	336		Pn	19 14 30.9	+0.6	
SCRK	Sand Creek baz=145,SNR=16	15.29	336	P	Pn	19 14 32.6	+2.3	
EGAK	Eagle	15.32	342	Pn	Pn	19 14 30.8	+0.2	
EGAK	Eagle baz=153,SNR=5.0	15.32	342	P	Pn	19 14 33.0	+2.4	
RIDG	Independent Ri	15.33	334	Pn	Pn	19 14 32.2	+1.5	
RIDG	Independent Ri baz=143	15.33	334	P	Pn	19 14 33.2	+2.5	
H31M	Peel River comp=Z,21nm,1.1s	15.36	353	IAmb	IAmb	19 14 41.8		
H31M	Peel River baz=170	15.36	353	P	Pn	19 14 33.1	+2.1	
WAT6	Susitna Watana baz=134	15.37	328	P	Pn	19 14 33.9	+2.6	
I29M	Ogilvie Camp, baz=160,SNR=12	15.37	347	P	Pn	19 14 33.8	+2.6	
CAPN	Captain Cook N baz=122	15.57	319	P	Pn	19 14 36.6	+2.8	
DHY	Denali Highway baz=136	15.59	330	P	Pn	19 14 35.5	+1.3	
HWUT	Hardware Ranch comp=Z,16nm,1.4s	15.61	118	IAmb	IAmb	19 14 38.8		
J26L	Joseph Creek comp=Z,43nm,1.1s	15.62	338	IAmb	IAmb	19 14 47.9		
J26L	Joseph Creek baz=147	15.62	338	P	Pn	19 14 36.0	+1.5	
K24K	Donnelly Dome baz=141	15.64	333	P	Pn	19 14 35.7	+1.0	
I28M	Mint Creek comp=Z,28nm,1.2s	15.71	345	IAmb	IAmb	19 14 54.5		
I28M	Miner Creek baz=157	15.71	345	P	Pn	19 14 36.0	+0.4	
SUA	Susitna One baz=125	15.78	321	P	Pn	19 14 37.7	+1.0	
WAT1	Susitna Watana baz=133	15.81	328	P	Pn	19 14 38.0	+1.0	
DUG	Dugway, Tooele baz=316,SNR=6.5	15.91	125	P	Pn	19 14 40.5	+2.0	
R11B	Troy Canyon, C baz=324	15.99	135	P	Pn	19 14 41.2	+1.7	
BW06	Boulder Array	16.03	112	P	Pn	19 14 41.6	+1.5	
	baz=306,SNR=13							
PDAR	Pinedale Array comp=Z,0.1nm,0.3s,baz=311,slow=12,SNR=35	16.03	112	Pn	P	19 14 42.8	-0.8	
	comp=Z,7.8nm,1.1s							
EPYK	Eagle Plains comp=Z,28nm,1.2s	16.13	350	IAmb	IAmb	19 14 49.1		
EPYK	Eagle Plains baz=165	16.13	350	P	Pn	19 14 41.5	+0.5	
I27K	Kandik River baz=153	16.15	342	P	Pn	19 14 43.5	+2.2	
LAO	LASA Array baz=292	16.16	95	P	Pn	19 14 42.5	+1.0	
J25K	Salcha River, comp=Z,43nm,1.1s	16.16	336	IAmb	IAmb	19 14 53.5		
J25K	Salcha River, baz=144	16.16	336	P	Pn	19 14 44.1	+2.6	
H29M	Whitestone comp=Z,48nm,1.3s	16.18	348	IAmb	IAmb	19 14 51.0		
H29M	Whitestone baz=161	16.18	348	P	Pn	19 14 44.0	+2.3	
I26K	Coal Creek Min baz=150,SNR=15	16.21	340	P	Pn	19 14 44.4	+2.4	
N20K	Mount Spurr baz=121,SNR=6.2	16.24	319	P	Pn	19 14 44.3	+1.8	
RND	Reindeer comp=Z,38nm,1.2s	16.30	329	IAmb	IAmb	19 14 55.6		
HDA	Harding Lake comp=Z,39nm,1.3s	16.44	333	IAmb	IAmb	19 14 56.1		
HDA	Harding Lake baz=140	16.44	333	P	Pn	19 14 47.4	+2.5	
G31M	Satah River comp=Z,37nm,1.4s	16.46	354	IAmb	IAmb	19 14 52.5		
G31M	Satah River baz=171,SNR=7.8	16.46	354	P	Pn	19 14 46.9	+1.8	
S11A	Rachel comp=Z,40nm,1.4s	16.50	137	IAmb	IAmb	19 15 07.2		
MCK	McKinley baz=134,SNR=13	16.55	329	P	Pn	19 14 48.2	+1.8	
CWC	Cottonwood Cre baz=332	16.59	144	P	Pn	19 14 50.0	+2.8	
G30M	tAoh Zraii Nji comp=Z,21nm,1.4s	16.67	351	IAmb	IAmb	19 15 31.4		
G30M	tAoh Zraii Nji baz=167	16.67	351	P	Pn	19 14 49.2	+1.3	
H27K	Steamboat Moun baz=154	16.70	344	P	Pn	19 14 50.4	+2.1	
IL31		16.70	334	IAmb	IAmb	19 14 59.0		
	comp=Z,24nm,1.0s							
ILAR	Eielson Array comp=Z,2.0nm,1.1s,baz=144,slow=11,SNR=4.9	16.70	334	Pn	Pn	19 14 48.5	+0.2	
O19K	Port Alsworth baz=115	16.70	314	P	Pn	19 14 50.4	+2.2	
G29M	Pine Creek comp=Z,47nm,1.3s	16.80	349	IAmb	IAmb	19 14 57.3		
G29M	Pine Creek baz=163	16.80	349	P	Pn	19 14 51.3	+1.8	
TRF	Thorofare Moun comp=Z,53nm,1.3s	16.81	327	IAmb	IAmb	19 15 12.4		
TRF	Thorofare Moun baz=131	16.81	327	P	Pn	19 14 51.8	+1.9	
DGMT	Dagmar	16.84	87	Pn	Pn	19 14 48.8	-1.3	
DGMT				IAmb	IAmb	19 14 59.1		
	comp=Z,43nm,1.4s							
DGMT	Dagmar baz=287	16.84	87	P	Pn	19 14 51.1	+1.0	
CCB	Clear Creek Bu comp=Z,36nm,1.3s	16.86	333	IAmb	IAmb	19 15 01.7		
TPNV	Topopah Spring baz=328	16.87	139	P	Pn	19 14 53.7	+3.0	
PRP	Porcupine Dome comp=Z,26nm,1.0s	16.93	337	IAmb	IAmb	19 15 03.3		
PRP	Porcupine Dome baz=145,SNR=19	16.93	337	P	Pn	19 14 53.9	+2.6	
F31M	Tsiigehtchic comp=Z,40nm,1.4s	16.94	355	IAmb	IAmb	19 15 01.3		
F31M	Tsiigehtchic baz=172,SNR=8.7	16.94	355	P	P	19 14 53.5	+0.3	
M20K	Styx River comp=Z,38nm,1.1s	16.97	320	IAmb	IAmb	19 15 01.6		
M20K	Styx River baz=122	16.97	320	P	Pn	19 14 54.6	+2.9	
O18K	Koktuh Hills baz=112	16.98	313	P	Pn	19 14 54.5	+2.7	
N19K	Bonanza Creek	17.03	316	P	P	19 14 57.0	+2.6	
N19K				IAmb	IAmb	19 15 13.9		
	comp=Z,67nm,1.4s							
N19K	Bonanza Creek baz=116	17.03	316	P	Pn	19 14 55.8	+3.3	
COLA	College	17.04	333	P	P	19 14 56.5	+2.1	
COLA				IAmb	IAmb	19 15 03.7		
	comp=Z,66nm,1.5s							
COLA	College baz=139	17.04	333	P	P	19 14 55.8	+1.4	
POKR	Poker Plat Res baz=140	17.11	334	P	Pn	19 14 56.0	+2.5	
ISA	Isabella, Lake baz=334	17.14	147	P	P	19 14 57.2	+1.4	
PPLA	Purkeypile baz=126	17.16	324	P	Pn	19 14 56.7	+2.5	
NEA2	Nenana baz=136	17.20	331	P	Pn	19 14 57.2	+2.7	
G27K	Doyon Strip comp=Z,34nm,1.2s	17.24	344	IAmb	IAmb	19 15 12.3		
G27K	Doyon Strip baz=155,SNR=16	17.24	344	P	Pn	19 14 57.1	+2.0	
F30M	Barrier River baz=168	17.25	352	P	Pn	19 14 56.9	+1.7	
P17K	Kvichak River baz=109	17.34	310	P	Pn	19 14 59.0	+2.7	
PKM	Mcpherson Peak baz=337	17.41	151	P	Pn	19 15 00.3	+2.8	
CAST	Castle Rocks baz=128	17.43	326	P	Pn	19 15 00.3	+2.9	
BPAW	Bear Paw Mtn. baz=131	17.47	328	P	Pn	19 15 00.3	+2.4	
M19K	Big River Lodg baz=120	17.50	319	P	Pn	19 15 00.4	+2.1	
MSU	Marysvale	17.50	127		Pn	19 14 59.1	+0.5	
LRMC	Laurel Mtn Rad baz=333	17.59	145	P	P	19 15 03.0	+2.2	
N18K	Kilae Creek baz=114	17.61	315	P	Pn	19 15 02.1	+2.4	
I23K	Minto, Yukon-K comp=Z,28nm,1.3s	17.68	332	IAmb	IAmb	19 15 18.3		
I23K	Minto, Yukon-K baz=137,SNR=7.3	17.68	332	P	P	19 15 03.7	+2.3	
F28M	Old Crow	17.70	347		Pn	19 15 00.7	-0.2	
F28M	Old Crow baz=160,SNR=5.6	17.70	347	P	P	19 15 03.0	+1.2	
G26K	Porcupine Rive baz=151,SNR=27	17.76	342	P	Pn	19 15 03.5	+2.0	
H24K	Noodor Dome comp=Z,46nm,1.1s	17.78	336	IAmb	IAmb	19 15 13.3		
H24K	Noodor Dome baz=141	17.78	336	P	P	19 15 04.4	+1.8	
INK	Inuvik comp=Z,28nm,1.5s	17.79	356	IAmb	IAmb	19 15

comp=Z,39nm,1.1s
K20K Telida 18.12 324 P Pn 19 15 08.4 +2.4
baz=124
N17K Nushagak Hills 18.14 313 P Pn 19 15 08.0 +1.8
baz=112
E29M Blow River 18.20 351 P P 19 15 09.2 +2.0
baz=164,SNR=12
CHNA Chernabura Isl 18.34 295 P P 19 15 11.7 +3.0
baz=92
G24K Hadweenzic Riv 18.36 338 P P 19 15 11.1 +2.2
baz=143
S14K Fog Glacier 18.40 299 P P 19 15 12.0 +2.5
baz=96
O20A White River Ci 18.47 116 P P 19 15 12.7 +2.3
baz=311
F26K Sheenjek River 18.48 343 P Pn 19 15 12.8 +2.5
baz=151
E27K Coleen River 18.49 346 P Pn 19 15 12.5 +2.1
E27K IAmb IAmb 19 15 41.4
comp=Z,24nm,1.3s
E27K Coleen River 18.49 346 P Pn 19 15 12.5 +2.1
baz=157
I21K Tanana 18.51 330 P P 19 15 11.6 +1.0
I21K Tanana 18.51 330 P P 19 15 12.6 +2.1
baz=132,SNR=17
M17K Holitna River 18.58 316 P P 19 15 13.8 +2.4
baz=114
E28M Babbage River 18.59 349 P P 19 15 12.7 +1.2
E28M IAmb IAmb 19 15 19.0
comp=Z,15nm,0.9s
E28M Babbage River 18.59 349 P Pn 19 15 14.0 +2.3
baz=161
L18K Granite Mounta 18.60 319 P P 19 15 13.2 +1.6
L18K IAmb IAmb 19 15 20.4
comp=Z,34nm,1.1s
L18K Granite Mounta 18.60 319 P Pn 19 15 14.5 +2.7
baz=117
J20K Nowinta River 18.61 326 IAmb IAmb 19 15 20.5
comp=Z,47nm,1.1s
J20K Nowinta River 18.61 326 P Pn 19 15 14.7 +2.7
baz=126
TTA Tatalina 18.65 321 P Pn 19 15 16.1 +3.5
TTA IAmb IAmb 19 15 33.1
comp=Z,24nm,1.3s
TTA Tatalina 18.65 321 P Pn 19 15 15.9 +3.3
baz=120
HMU Henry Mountain 18.67 126 IAmb IAmb 19 15 16.3
comp=Z,23nm,1.3s
HEC Hector,Ludlow 18.67 143 P Pn 19 15 16.0 +3.0
baz=331
RSSD Black Hills 18.68 100 P Pn 19 15 15.6 +2.5
baz=299
F25K Christian Rive 18.68 341 P Pn 19 15 15.5 +2.6
baz=148
BFSC Mount Baldy Ra 18.71 147 P P 19 15 15.5 +2.4
baz=334
H22K Ishtalitna Cre 18.81 332 P P 19 15 15.8 +1.9
baz=135
N16K Nishlik Lake 18.86 312 P P 19 15 17.1 +2.6
baz=109
GMRC Granite Mounta 18.98 141 P P 19 15 18.4 +2.3
baz=330
G23K Bananza Creek 19.02 335 IAmb IAmb 19 15 25.2
comp=Z,25nm,1.1s
G23K Bananza Creek 19.02 335 P Pn 19 15 18.9 +2.1
baz=139
O15K Ungalikthiuk R 19.02 308 P P 19 15 17.7 +1.5
baz=104
J19K Poorman 19.05 324 P P 19 15 18.7 +2.2
baz=123
H21K Melozitna Rive 19.08 331 IAmb IAmb 19 15 28.7
comp=Z,50nm,1.2s
H21K Melozitna Rive 19.08 331 P P 19 15 19.0 +2.2
baz=132
I20K Naaghedeneel 19.09 327 P Pn 19 15 19.8 +2.0
baz=127
F24K Squaw Lake 19.11 339 IAmb IAmb 19 15 32.1
comp=Z,36nm,1.2s
F24K Squaw Lake 19.11 339 P Pn 19 15 20.0 +1.9
baz=144
E25K Arctic Village 19.12 342 P Pn 19 15 19.8 +1.7
baz=149,SNR=14
M16K Timber Creek 19.13 314 P P 19 15 20.0 +2.6
baz=110
J18K Innoko River 19.20 322 P P 19 15 21.0 +2.9
J18K IAmb IAmb 19 15 27.8
comp=Z,21nm,1.1s
J18K Innoko River 19.20 322 P Pn 19 15 21.4 +2.4
baz=120
D28M Stokes Point 19.20 351 P Pn 19 15 21.0 +2.0
baz=164
CIS Catalina Islan 19.22 149 P Pn 19 15 23.2 +3.7
baz=337
L17K Donlin 19.25 317 P P 19 15 21.6 +2.9
baz=114
N23A Red Feather La 19.32 111 IAmb IAmb 19 15 25.6
comp=Z,17nm,1.4s
N23A Red Feather La 19.32 111 P Pn 19 15 23.9 +3.0
baz=308
PHWY Pilot Hill 19.36 109 P P 19 15 20.4 +0.1
D27M Malcolm River 19.38 348 IAmb IAmb 19 15 36.0
comp=Z,18nm,1.1s
D27M Malcolm River 19.38 348 P Pn 19 15 24.0 +2.7
baz=159
N15K Kwethluk River 19.40 311 P Pn 19 15 24.4 +2.9
baz=107
COLD Coldfoot 19.45 336 P Pn 19 15 24.8 +2.8
baz=139,SNR=20
MURC Murrieta 19.45 146 P Pn 19 15 25.2 +2.9
baz=334
K17K Iditarod 19.49 319 Pn 19 15 25.3 +2.7
K17K Iditarod 19.49 319 P Pn 19 15 24.7 +2.1
baz=116
BELC Belle Mtn. Jos 19.53 143 P Pn 19 15 25.3 +1.9
baz=332
G22K Bettles 19.57 334 P Pn 19 15 25.6 +2.1
baz=136
L16K Owhat River 19.60 316 P Pn 19 15 26.1 +2.2
baz=112
H20K Anotleneega Mo 19.65 328 P Pn 19 15 26.4 +1.9
baz=128
E24K Your Creek 19.70 339 P Pn 19 15 27.2 +2.2
baz=144
PFO Pinyon Flats O 19.71 145 P Pn 19 15 27.6 +2.1
baz=333
TPFO Pinon Flats 19.71 145 P Pn 19 15 27.5 +1.9
baz=333
IRM Iron Mountain 19.73 141 P Pn 19 15 27.5 +1.9
baz=330
M15K Kasigluk River 19.83 312 P P 19 15 27.7 +2.6
baz=107
GCSA Galena City Sc 19.92 325 P P 19 15 28.8 +2.9
baz=123
E23K Chandalar 19.94 338 P Pn 19 15 29.2 +1.2
baz=142
MDND Maddock 19.95 86 P Pn 19 15 29.5 +1.4
baz=289,SNR=6.4
PDMCI Parker Dam,Lak 20.01 139 P P 19 15 29.8 +2.5
baz=329
BC3 Big Chuckawall 20.05 142 P P 19 15 29.7 +1.9
baz=332
F22K John River 20.18 335 P Pn 19 15 32.0 +1.4
baz=136
H19K Roundabout Mou 20.20 327 P P 19 15 31.6 +2.6
baz=126
ISCO Idaho Springs 20.21 113 P 19 15 31.0 +1.4
ISCO Idaho Springs 20.21 113 P Pn 19 15 31.9 +0.4
baz=310
WUAZ Wupatki 20.25 131 P P 19 15 30.9 +1.0
WUAZ IAmb IAmb 19 16 04.0
comp=Z,15nm,1.3s
WUAZ Wupatki 20.25 131 P Pn 19 15 32.6 +0.7
baz=324
D25K Kavik River 20.30 343 IAmb IAmb 19 15 59.9
comp=Z,27nm,1.2s
D25K Kavik River 20.30 343 P Pn 19 15 33.0 +0.8
baz=150
F21K Alatna River 20.34 333 IAmb IAmb 19 15 46.4
comp=Z,25nm,1.1s
F21K Alatna River 20.34 333 P P 19 15 32.9 +2.3
baz=134
MONP2 Monument Peak 20.37 146 P P 19 15 33.6 +2.3
baz=334
MVCO Mesa Verde 20.39 123 P P 19 15 29.6 -2.0
MVCO IAmb IAmb 19 16 01.3
comp=Z,24nm,1.4s
MVCO Mesa Verde 20.39 123 P P 19 15 33.5 +1.9
baz=318

M14K Bethel 20.45 312 P 19 15 35.4 +3.7
M14K Bethel 20.45 312 P P 19 15 33.8 +2.1
baz=106,SNR=5.9
L15K Ungalak Mounta 20.50 315 P P 19 15 34.5 +2.2
baz=109
SWSC Sam W. Stewart 20.55 144 P P 19 15 35.6 +2.6
baz=333
FALS False Pass 20.55 295 P P 19 15 35.6 +2.7
baz=89
C26K Camden Bay 20.57 345 P Pn 19 15 36.1 +0.8
baz=153
D24K Happy Valley 20.64 341 P P 19 15 36.7 +2.9
baz=145
H18K Honhosa River 20.67 325 Pn 19 15 38.7 +2.3
H18K Honhosa River 20.67 325 P P 19 15 37.2 +3.1
baz=122
J16K Anvik River 20.68 319 P P 19 15 35.6 +1.3
J16K Anvik River 20.68 319 P P 19 15 36.9 +2.6
baz=114
IKP In-Ko-Pah, Jac 20.70 145 P P 19 15 36.6 +1.8
baz=334,SNR=8.0
K15K Wolf Creek Mou 20.72 316 P P 19 15 37.1 +2.4
baz=110
G19K Purcell Mounta 20.77 328 P P 19 15 37.2 +2.1
baz=126
Y14A Wickenburg 20.81 137 P P 19 15 37.4 +1.5
GLA Glamis 20.83 142 P P 19 15 38.0 +1.9
baz=332
F20K Avaraart Lake 20.88 331 P P 19 15 38.8 +2.4
baz=130
S22A 4UR Ranch, Cre 20.91 119 P P 19 15 39.3 +2.0
baz=315,SNR=7.3
L14K Kuka Creek 20.95 313 P P 19 15 39.8 +2.7
baz=106
I17K Unalakleet 20.97 321 P P 19 15 40.4 +3.1
baz=115
C24K Franklin Bluff 21.08 342 P P 19 15 41.1 +2.5
baz=146
H17K Granite Mounta 21.13 324 P P 19 15 42.0 +2.9
baz=119
G18K Tagagawik 21.16 327 P P 19 15 42.6 +3.2
baz=123
D22K Ayikyak River 21.31 337 P P 19 15 40.1 -0.9
D22K IAmb IAmb 19 15 49.4
comp=Z,20nm,1.1s
D22K Ayikyak River 21.31 337 P P 19 15 43.7 +2.7
baz=138
E21K Killik River 21.32 336 P P 19 15 44.1 +3.0
baz=135
F19K Shaleruckik Mo 21.39 330 IAmb IAmb 19 15 56.5
comp=Z,33nm,1.2s
F19K Shaleruckik Mo 21.39 330 P P 19 15 44.9 +3.0
baz=126
A36M Sachs Harbour 21.51 4 P P 19 15 45.9 +2.9
baz=189
C23K Itkillik River 21.57 341 P P 19 15 46.7 +2.9
C23K Itkillik River 21.57 341 P P 19 15 46.5 +2.8
baz=143
E19K Redstone River 21.60 331 P P 19 15 47.1 +3.0
baz=128
ULM Lac du Bonnet 21.60 78 P P 19 15 42.0 -2.3
ULM IAmb IAmb 19 15 50.7
comp=Z,10nm,0.9s
ULM Lac du Bonnet 21.60 78 P P 19 15 44.5 +0.2
comp=Z,3.1nm,0.8s,baz=287,slow=8.7,SNR=6.4
ULM LR LR 19 25 33.2
comp=Z,127nm,20.2s,baz=278,slow=40
comp=Z,3.1nm,0.8s
SDCO Great Sand Dun 21.66 117 P P 19 15 43.5 -1.8
SDCO Great Sand Dun 21.66 117 P P 19 15 47.3 +2.0
baz=314
G17K Kiwalik Mounta 21.68 325 P P 19 15 48.1 +3.1
baz=119
H16K Elim 21.89 322 P P 19 15 50.4 +3.1
baz=115,SNR=11
C21K Knifeblade Rid 22.03 336 P P 19 15 52.4 +3.6
baz=135
AGMN Agassiz Nation 22.17 83 P P 19 15 53.3 +2.8
baz=289,SNR=5.4
D20K Etivluk River 22.22 334 P P 19 15 53.5 +2.7
baz=132
G16K Koyuk River 22.26 324 P P 19 15 53.2 +2.0
baz=116
B21K Ikpikpuk River 22.32 337 IAmb IAmb 19 15 59.5
comp=Z,24nm,1.1s
B21K Ikpikpuk River 22.32 337 P P 19 15 54.1 +2.3
baz=136
F17K Baldwin Pennin 22.35 327 P P 19 15 54.6 +2.5
baz=120
KSCO Kaye Shedlock' 22.48 111 P P 19 15 55.4 +1.5
baz=310
D19K Kuna River 22.50 333 P P 19 15 55.4 +1.6
baz=129
B22K Teshekpuk Lake 22.57 339 P P 19 15 56.3 +1.8
baz=139
214A Organ Pipe Nat 22.60 139 P P 19 15 55.9 +0.8
214A IAmb IAmb 19 15 59.1
comp=Z,16nm,1.4s
214A Organ Pipe Nat 22.60 139 P P 19 15 57.7 +2.5
baz=330
E18K Tukpahlearik C 22.64 329 IAmb IAmb 19 16 04.3
comp=Z,28nm,1.2s
E18K Tukpahlearik C 22.64 329 P P 19 15 56.9 +1.6
baz=123
T25A Trinidad 22.70 117 P P 19 15 57.7 +1.3
baz=314
G15K Niukluk 22.74 322 P P 19 15 57.7 +1.4
baz=113
F33A 5 Mile Ranch, 22.81 89 P P 19 15 56.5 -0.8
F33A IAmb IAmb 19 16 00.8
comp=Z,19nm,1.2s
E17K Hotham Inlet 22.87 328 P P 19 15 59.1 +1.4
baz=121
ANM Nome 23.12 320 P P 19 16 01.6 +1.3
baz=111
TUC Tucson 23.17 135 P P 19 16 02.9 +1.7
baz=327
ANMO Albuquerque 23.18 124 P P 19 16 01.2 -0.1
ANMO Albuquerque 23.18 124 P P 19 16 03.0 +1.7
baz=319
ANMO Albuquerque 23.18 124 LR LR 19 24 57.1
comp=Z,236nm,19.9s,baz=44,slow=36
B20K Meade River 23.23 337 P P 19 16 03.1 +1.8
baz=133
F15K North Star Dit 23.26 323 P P 19 16 03.1 +1.4
baz=114
C19K Lookout Ridge 23.30 333 IAmb IAmb 19 16 09.5
comp=Z,14nm,1.1s
C19K Lookout Ridge 23.30 333 P P 19 16 03.3 +1.2
baz=128
A22K Sinclair Lake 23.41 340 P P 19 16 04.0 +0.8
baz=138
C18K Utukok River 23.50 332 P P 19 16 05.3 +1.1
C18K IAmb IAmb 19 16 12.5
comp=Z,22nm,1.1s
C18K Utukok River 23.50 332 P P 19 16 05.3 +1.1
baz=125
ECSD EROS Data Cent 23.55 94 P P 19 16 02.6 -2.2
ECSD EROS Data Cent 23.55 94 P P 19 16 05.8 +1.0
baz=298,SNR=5.3
D17K Noatak River 23.60 329 P P 19 16 06.1 +1.0
baz=120
RDOG Red Dog Mine 23.72 329 P P 19 16 07.3 +1.1
baz=121
F14K Arctic Creek 23.82 322 P P 19 16 09.7 +2.5
baz=112
A21K Barrow 24.01 339 P P 19 16 11.2 +2.2
baz=136
C17K DeLong Mountai 24.02 330 P P 19 16 10.9 +1.7
baz=122
B18K Kokolik River 24.09 333 P P 19 16 11.8 +2.1
baz=125
A19K Wainwright 24.38 335 P P 19 16 13.4 +1.0
baz=128
121A Cookes Peak, D 24.40 129 P P 19 16 12.8 -0.3
121A IAmb IAmb 19 16 22.0
comp=Z,12nm,1.4s
121A Cookes Peak, D 24.40 129 P P 19 16 15.2 +2.0
baz=324
TNA Tin City 24.47 322 P P 19 16 15.2 +1.9
baz=110
C16K Lisburne Hills 24.62 329 P P 19 16 16.3 +1.7
C16K Lisburne Hills 24.62 329 P P 19 16 16.1 +1.5
baz=118
AMTX Amarillo 25.86 117 P P 19 16 27.7 +1.5
baz=316
MSTX Muleshoe 25.91 120 P P 19 16 28.3 +1.6
baz=318

MNTX Cornudas Mount 26.28 127 P P 19 16 30.6 +0.6
baz=323
VHRN Van Horn 27.21 127 P P 19 16 40.1 +1.6
VHRN IAmb IAmb 19 16 45.6
comp=Z,9.3nm,1.4s
JFWS Jewell Farm 28.00 90 P P 19 16 43.8 -1.5
baz=300
RES Resolute Bay 28.11 19 LR LR 19 29 29.6
comp=Z,166nm,19.2s,baz=230,slow=40
TX31 Lajitas Ar. Si 29.05 127 P P 19 16 55.6 +0.7
TX31 IAmb IAmb 19 17 09.1
comp=Z,17nm,1.4s
TXAR Lajitas Array 29.05 127 P P 19 16 55.9 +1.0
comp=Z,1.1nm,0.9s,baz=328,slow=9.3,SNR=8.8
TXAR LR LR 19 29 37.0
comp=Z,102nm,20.0s,baz=319,slow=39
comp=Z,1.1nm,0.9s
WHTX Lake Whitney, 30.38 115 P P 19 17 05.0 -1.5
baz=317
LPIG La Paz 30.58 143 LR LR 19 27 17.3
comp=Z,58nm,20.9s,baz=23,slow=32
OXF Oxford 33.45 103 P P 19 17 32.7 -0.8
baz=311
SHEM Shemya Is, Ala 33.99 296 LR LR 19 28 18.6
comp=Z,138nm,21.2s,baz=56,slow=31
SADO Sadowa 34.13 80 LR LR 19 32 04.6
comp=Z,389nm,19.6s,baz=270,slow=37
FRB Frobisher Bay 34.29 44 LR LR 19 32 17.8
comp=Z,262nm,19.7s,baz=204,slow=37
O53A New Philadelph 35.16 88 P P 19 17 46.9 -1.3
baz=304
TZTN Tazewell 35.84 95 P P 19 17 53.3 -0.8
baz=308
TKL Tuckaleechee C 36.25 96 LR LR 19 33 19.9
comp=Z,454nm,19.3s,baz=318,slow=37
SCHQ Schefferville 37.30 58 LR LR 19 33 55.1
comp=Z,299nm,20.2s,baz=282,slow=37
BINY Binghamton 37.41 82 P P 19 18 06.4 -1.1
baz=302
KMSC Kings Mountain 38.12 95 P P 19 18 13.0 -0.5
baz=309
HRV Adam Dziewonsk 40.02 78 P P 19 18 28.7 -0.7
baz=302
SFJD Kangerlussuaq 40.93 36 LR LR 19 36 03.1
comp=Z,301nm,18.2s,baz=294,slow=37
SEY Seymchan 41.57 318 LR LR 19 36 21.8
comp=Z,140nm,18.2s,baz=51,slow=37
PETK Petropavlovsk- 42.96 303 LR LR 19 34 35.6
comp=Z,92nm,21.1s,baz=72,slow=33
MA2 Magadan 43.59 314 LR LR 19 35 43.4
comp=Z,118nm,20.6s,baz=70,slow=34
SPITS Spitsbergen Ar 49.80 9 LR LR 19 42 00.3
comp=Z,160nm,18.8s,baz=291,slow=38
BORG Borgarnes 52.45 31 LR LR 19 43 00.0
comp=Z,150nm,21.9s,baz=319,slow=37
NRIK Noril'sk 57.19 345 P P 19 20 40.9 -0.1
comp=Z,0.9nm,0.3s,baz=79,slow=5.6,SNR=1.5
comp=Z,0.9nm,0.3s
H11N2 WAKE ISLAND Hy 58.01 262 T T 20 23 21.7
baz=42,slow=76,SNR=1690
H11N3 WAKE ISLAND Hy 58.01 262 T T 20 23 20.3
baz=42,slow=76,SNR=1648
H11N1 WAKE ISLAND Hy 58.03 262 T T 20 23 22.3
baz=42,slow=76,SNR=1186
ARCES ARCESS Array B 58.78 10 LR LR 19 47 34.0
comp=Z,162nm,18.1s,baz=318,slow=37
H11S1 WAKE ISLAND Hy 59.04 261 T T 20 24 44.4
baz=48,slow=75,SNR=50
H11S2 WAKE ISLAND Hy 59.05 261 T T 20 24 38.5
baz=48,slow=75,SNR=39
H11S3 WAKE ISLAND Hy 59.06 261 T T 20 24 43.0
baz=48,slow=75,SNR=21
SJG San Juan 59.64 98 LR LR 19 49 02.9
comp=Z,42nm,18.1s,baz=104,slow=38
HEH HeiHe 59.86 314 *e*P P 19 20 58.1 -1.8
NOA NORSAR Array B 64.38 20 LR LR 19 49 49.3
comp=Z,134nm,18.1s,baz=355,slow=36
HFS Hagfors 65.72 19 LR LR 19 49 51.0
comp=Z,144nm,18.9s,baz=336,slow=36
FINES FINESS Array B 66.61 12 LR LR 19 50 37.7
comp=Z,111nm,20.1s,baz=359,slow=36
PCRV Puerto La Cruz 66.61 103 LR LR 19 51 25.0
comp=Z,112nm,20.8s,slow=36
SONM Songino Array 70.58 324 P P 19 22 07.6 -2.0
comp=Z,1.6nm,1.3s,baz=54,slow=7.3,SNR=1.8
comp=Z,1.6nm,1.3s
ZALV Zalesovo Beam 71.75 339 P P 19 22 15.1 -1.3
comp=Z,0.4nm,0.4s,baz=20,slow=4.6,SNR=2.2
comp=Z,0.4nm,0.4s
HHC Hu-ho-hao-te 74.19 316 *e*P P 19 22 30.5 -0.8
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,170nm,7.0s
BVAR Borovoye Array 75.27 347 P P 19 22 35.0 -2.2
comp=Z,0.5nm,0.8s,baz=349,slow=1.5,SNR=2.3
comp=Z,0.5nm,0.8s
KURBB Kurchatov Arra 76.21 342 P P 19 22 40.4 -2.1
comp=Z,0.3nm,0.5s,baz=15,slow=5.1,SNR=2.4
comp=Z,0.3nm,0.5s
DAVOX Davos/Dischmat 76.94 27 LR LR 20 00 02.5
comp=Z,122nm,18.8s,baz=304,slow=38
AKASG Malin Array Be 77.47 13 P P 19 22 49.1 -0.6
comp=Z,0.1nm,0.3s,baz=338,slow=5.5,SNR=1.9
comp=Z,0.1nm,0.3s
ESDC Sonseca Array 78.36 40 P P 19 22 53.3 -1.6
comp=Z,0.5nm,1.1s,baz=300,slow=5.5,SNR=1.7
comp=Z,0.5nm,1.1s
MKAR Makanchi Array 79.01 338 P P 19 22 57.3 -1.0
comp=Z,0.4nm,0.7s,baz=35,slow=4.4,SNR=4.1
comp=Z,0.4nm,0.7s
WMQ Urumqi 80.36 333 *e*P P 19 23 08.8 +3.0
WMQ LR LR
comp=N,1μm,19.9s
WMQ LR LR
comp=E,720nm,11.1s
WMQ LR LR
comp=Z,350nm,12.7s
VAE Valguarnera 86.81 28 LR LR 20 04 28.1
comp=Z,55nm,18.2s,baz=338,slow=37

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*DJA **14** 19:11:55.0±0.3,6°S±3°×10°3E±°, h94km±9km, M4.2/10, mb4.1/2, MLv4.3/10*
*IDC **14** 19:11:56.8±4.4, 5°.57S×103°.15E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=182.7km s-min=27.1km az=55.0*

ISC 14 19:11:57.5±1.5, 6°.2S±0°.1×103°.30E±0°.07, h100km, n30, σ2838/20, mb3.2/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGSI	**Enggano, Bengk**	**1.33**	**310**	P	**Pn**	**19 12 21.5**	**-0.2**
EGSI				S	**Sn**	**19 12 39.3**	**-0.7**
KASI	**Kota Agung**	**1.37**	**60**	P	**Pn**	**19 12 20.1**	**-2.1**
LWLI	**Liwa**	**1.41**	**32**	P	**Pn**	**19 12 21.1**	**-1.6**
UBSI	**University, Be**	**2.65**	**337**	P	**Pn**	**19 12 37.1**	**-1.4**
SKJI	**Sukabumi**	**3.33**	**104**	Pn	**Pn**	**19 12 45.0**	**-2.6**
PMBI	**Palembang**	**3.58**	**24**	Pn	**Pn**	**19 12 51.2**	**+0.2**
PMBI				S	**Sn**	**19 13 33.6**	**+1.1**
CNJI	**Cibinong**	**3.95**	**106**	P	**Pn**	**19 12 53.5**	**-2.5**
LEM	**Lembang**	**4.33**	**98**	P	**Pn**	**19 12 59.4**	**-1.9**
KRJI	**Kerinci**	**4.49**	**336**	P	**Pn**	**19 13 05.3**	**+1.9**
BBJI	**Bungbulang**	**4.49**	**106**	P	**Pn**	**19 13 02.9**	**-0.5**
PPSI	**Pulau Pagai**	**4.75**	**316**	P	**Pn**	**19 13 05.8**	**-1.0**
CMJI	**Cimerak**	**5.34**	**107**	P	**Pn**	**19 13 13.5**	**-1.3**
	87nm,1.1s,0.4nm						
KPJI	**Karang Pucung**	**5.70**	**102**	P	**Pn**	**19 13 20.5**	**+0.8**
SISI	**Saibi**	**6.42**	**319**	P	**Pn**	**19 13 29.4**	**-0.1**
SISI				S	**Sn**	**19 14 36.5**	**-5.0**
UGM	**Wanagama**	**7.36**	**104**	P	**Pn**	**19 13 39.8**	**-2.6**
PBSI	**Pulau Batu**	**7.91**	**321**	Pn	**Pn**	**19 13 49.4**	**-0.4**
H08S2	**Diego Garcia H**	**30.61**	**266**	T	T	19 50 14.3	
	baz=89,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**30.62**	**266**	T	T	19 50 15.7	
	baz=89,slow=75,SNR=6.7						
H08S1	**Diego Carcia H**	**30.63**	**266**	T	T	19 50 14.1	
	baz=89,slow=75,SNR=4.9						
WRA	**Warrarnnga Arr**	**33.08**	**117**	P	P	19 18 38.1	+14
	0.3nm,0.8s,baz=288,slow=10,SNR=1.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**34.15**	**124**	P	P	19 18 49.2	+16
	0.4nm,1.0s,baz=298,slow=7.9,SNR=5.0						
	0.4nm,1.0s						
SONM	**Songino Array**	**53.89**	**3**	P	P	19 21 17.8	+7.3
	0.4nm,0.7s,baz=183,slow=7.3,SNR=3.6						
	0.4nm,0.7s						

MKAR	**Makanchi Array**	**55.98**	**343**	P		P	19 21 32.8	+7.4
	0.1nm,0.3s,baz=146,slow=8.5,SNR=2.1							
	0.1nm,0.3s							
H04N2	**CROZET ISLANDS**	**59.50**	**219**	T		T	20 26 27.2	
	baz=64,slow=75,SNR=74							
H04N1	**CROZET ISLANDS**	**59.52**	**219**	T		T	20 26 26.0	
	baz=64,slow=75,SNR=66							
H04N3	**CROZET ISLANDS**	**59.52**	**219**	T		T	20 26 24.5	
	baz=64,slow=75,SNR=62							
H04S1	**CROZET ISLANDS**	**59.73**	**218**	T		T	20 26 37.5	
	baz=63							
H04S3	**CROZET ISLANDS**	**59.74**	**218**	T		T	20 26 40.0	
	baz=63,slow=74							
H04S2	**CROZET ISLANDS**	**59.75**	**218**	T		T	20 26 41.4	
	baz=63,slow=74							
TXAR	**Lajitas Array**	**145.70**	**45**	PKPbc		**PKiKP**	**19 31 34.7**	**+5.5**
	0.2nm,0.5s,baz=302,slow=1.7,SNR=4.6							

JMA ***14*** *19:16:03.9±0.3,31.1°N±0.4°×129.1°E±0.9,h8km±2km, MD4.0/30,MV4.0/30,SW OFF KYUSHU*
NIED ***14*** *19:16:03.9,31.13°N×129.06°E,h8km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.56; Mθθ5.66; Mφφ-3.10; Mrθ-2.39; Mθφ1.88; Mφr2.67; Fault plane solution: M₀6.36000×10¹⁴ NP1: φs115.00000°,δ72.00000°,λ-41.00000°. NP2: φs221.00000°,δ51.00000°,λ-156.00000°.*
IDC ***14*** *19:16:04.8±1.1,31.14°N×129.07°E,h0km,mb3.7/5, mbtmp3.6/9,ML2.9/4,MS4.0/1 Error ellipse: s-maj=29.6km s-min=19.3km az=118.0*

ISC 14 19:16:04.7±1.8,31.12N±0.04°×129.16E±0.06,h3km±11km, n23,σ1§46/26,mb3.4/5,10D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.73**	**40**	*i* P	**Pg**	**19 16 18.5**	**-0.3**
JSJ				*e*S	**Sb**	**19 16 29.3**	**-1.2**
JSJ	**Shimokoshiki**	**0.73**	**40**	A	A	19 16 18.5	
	comp=E,5.0nm,0.6s,comp=N,6.0nm,0.3s						
JKC	**Kuchinoerabu**	**1.11**	**126**	⇓P	**Pg**	**19 16 25.5**	**-0.4**
JKC				⇓S	**Sg**	**19 16 41.1**	**+0.9**
JKC	**Kuchinoerabu**	**1.11**	**126**	A	A	19 16 25.5	
	comp=E,4.0nm,0.5s						
JSU	**Suzuyama**	**1.17**	**70**	⇓P	**Pg**	**19 16 27.1**	**0.0**
JSU				⇓S	**Sb**	**19 16 43.8**	**+0.5**
JSU	**Suzuyama**	**1.17**	**70**	A	A	19 16 27.1	
	comp=E,5.0nm,0.3s,comp=N,9.0nm,0.2s						
JNN	**Nakanoshima**	**1.42**	**154**	P	**Pn**	**19 16 30.0**	**-1.3**
JNN				*e*S	**Sn**	**19 16 49.3**	**-1.2**
JYAK	**Yakushimahirau**	**1.46**	**127**	⇓P	**Pn**	**19 16 30.5**	**-1.4**
JYAK				⇓S	**Sn**	**19 16 49.4**	**-2.1**
JFU	**Fukue jima 2**	**1.57**	**347**	P	**Pn**	**19 16 31.8**	**-1.7**
JTN	**Tanegashima 3**	**1.63**	**106**	⇓P	**Pn**	**19 16 33.6**	**-0.7**
JMTN	**Minamitane**	**1.66**	**115**	⇓P	**Pn**	**19 16 34.0**	**-0.7**
JMTN				⇓*e*S	**Sn**	**19 16 56.3**	**-0.2**
JTZ	**Takazaki**	**1.82**	**64**	⇓P	**Pn**	**19 16 36.8**	**-0.1**
JNU	**Nakatsue**	**2.47**	**36**	Pn	**Pb**	**19 16 48.6**	**-1.2**
	comp=N,12nm,0.3s,baz=302,slow=6.4,SNR=50						
JNU				Sn	**Sb**	**19 17 20.0**	**-0.7**
	comp=N,5.6nm,0.3s,baz=148,slow=9.0,SNR=4.4						
	comp=N,45nm,0.6s						
JOW	**Kunigami**	**4.34**	**191**	Pn	**Pn**	**19 17 13.7**	**+2.1**
	comp=N,1.1nm,0.3s,baz=132,slow=29,SNR=1.0						
	comp=N,4.3nm,0.4s						
KSRS	**Korea Array**	**6.40**	**351**	Pn	**Pn**	**19 17 40.5**	**+0.6**
	comp=N,0.2nm,0.3s,baz=178,slow=14,SNR=4.2						
KSRS				Lg	Lg	19 19 22.6	
	comp=N,0.5nm,0.3s,baz=334,slow=26,SNR=4.9						
	comp=N,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**9.27**	**52**	Pn	**Pn**	**19 18 20.2**	**+1.0**
	baz=240,slow=13,SNR=4.2						
	comp=N,0.8nm,0.6s						
KLR	**Kul'dur**	**18.20**	**5**	P	**P**	**19 20 23.2**	**+4.7**
	comp=N,1.1nm,0.6s,baz=204,slow=8.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**30.09**	**252**	P	**P**	**19 22 15.5**	**0.0**
	comp=N,0.1nm,0.3s,baz=64,slow=8.3,SNR=1.3						
	comp=N,0.1nm,0.3s						
BVAR	**Borovoye Array**	**47.28**	**315**	P	**P**	**19 24 39.6**	**+0.4**
	comp=N,1.6nm,0.7s,baz=89,slow=8.7,SNR=10						
	comp=N,1.6nm,0.7s						
ASAR	**Alice Springs**	**54.66**	**175**	P	**P**	**19 25 35.6**	**+0.6**
	comp=N,0.4nm,1.0s,baz=5.9,slow=14,SNR=2.2						
	comp=N,0.4nm,1.0s						
KIRV	**Kirov**	**58.80**	**323**	LR	LR	19 52 24.3	
	comp=N,137nm,21.9s,baz=343,slow=37						
FINES	**FINESS Array B**	**69.04**	**330**	P	**P**	**19 27 10.8**	**-0.5**
	comp=N,3.1nm,1.0s,baz=87,slow=6.0,SNR=1.7						
	comp=N,3.1nm,1.0s						
PDAR	**Pinedale Array**	**88.85**	**39**	P	**P**	**19 28 59.9**	**-0.7**
	comp=N,0.1nm,0.4s,baz=311,slow=4.2,SNR=2.0						
	comp=N,0.1nm,0.4s						

IDC ***14*** *19:20:30.2±2.9,10.14°S×161.04°E,h53km±23km,mb3.3/5, mbtmp3.7/7,ML3.4/2,MS3.7/2,Error ellipse: s-maj=29.9km s-min=18.8km az=62.0*

ISC 14 19:20:31.5±1.1,10.1S±0.1°×161.0E±0.1°,h67km,n9, σ1§14/9,mb3.5/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.22**	**305**	P	**Pn**	**19 20 51.0**	**-1.7**
	6μm,0.5s,baz=142,slow=8.2,SNR=60						
HNR				S	**Sn**	**19 21 08.2**	**-0.3**
	11μm,0.4s,baz=2.6,slow=23,SNR=20						
DZM	**Mont Dzumac**	**12.98**	**157**	P	**Pn**	**19 23 32.2**	**-1.1**
	0.4nm,0.3s,baz=123,slow=22,SNR=13						
	2.0nm,0.5s						
CTA	**Charters Tower**	**17.29**	**233**	P	**Pn**	**19 24 29.6**	**+1.0**
	0.1nm,0.3s,baz=62,slow=15,SNR=2.5						
CTA				LR	LR	19 31 15.1	
	comp=Z,71nm,18.3s,baz=128,slow=37						
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**27.46**	**246**	P	**P**	**19 26 11.4**	**-0.2**
	0.3nm,0.5s,baz=74,slow=8.9,SNR=1.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**29.11**	**239**	P	**P**	**19 26 26.7**	**+0.5**
	0.5nm,0.8s,baz=62,slow=9.9,SNR=6.6						
	0.5nm,0.8s						
JOW	**Kunigami**	**48.55**	**320**	LR	LR	19 49 57.9	
	comp=Z,236nm,18.4s,baz=330,slow=36						
SONM	**Songino Array**	**75.20**	**325**	P	**P**	**19 32 08.4**	**+1.4**
	0.3nm,0.5s,baz=134,slow=4.2,SNR=2.3						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**84.20**	**20**	P	**P**	**19 32 55.1**	**-0.1**
	0.3nm,0.7s,baz=244,slow=5.2,SNR=4.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**89.66**	**318**	P	**P**	**19 33 23.0**	**+0.7**
	0.2nm,0.6s,baz=94,slow=4.3,SNR=2.5						
	0.2nm,0.6s						

TAP 14 19:23:42.0,24.29N×122.03E,h24km,ML1.5,B,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.22**	**56**	P	Pb	19 23 48.1	+0.4
	baz=55						
EOS2				*i* S	Sb	19 23 53.3	+1.6
	baz=55						
EOS3	**EOS3**	**0.26**	**92**	*i* P	Pb	19 23 48.7	+0.4
	baz=91						
EOS3				*i* S	Sn	19 23 54.4	-1.0
	baz=91						
EWUT	**Wuta**	**0.28**	**303**	P	Pb	19 23 49.3	+0.6
	baz=303						
EWUT				S	Sb	19 23 54.0	+0.8
	baz=303						
ENA	**Nanau**	**0.30**	**297**	*i* P	Pb	19 23 49.2	+0.3
	baz=297						
ENA				*i* S	Sb	19 23 54.5	+0.8
	baz=297						
EOS4	**EOS4**	**0.31**	**123**	*i* P	Pb	19 23 49.1	+0.2
	baz=123						
EOS4				S	Sn	19 23 55.3	-1.1
	baz=123						
TWC	**Suao**	**0.35**	**332**	P	Pb	19 23 50.3	+0.5
	baz=333						
ETL	**Fush Village**	**0.40**	**250**	*e*S	Sn	19 23 58.6	-0.5
	baz=250						
NACB	**Ninganchiao**	**0.42**	**253**	*e*P	Pb	19 23 51.4	+0.5
	baz=253						
NACB				S	Sn	19 23 59.4	-0.1
	baz=253						
TWD	**Chiawan**	**0.45**	**242**	*e*P	Pb	19 23 52.1	+0.7
	baz=241						
TWD				*e*S	Sb	19 23 58.9	+1.1
	baz=241						
ETLH	**Xiulin Townshi**	**0.51**	**260**	*e*P	Pb	19 23 52.4	-0.1
	baz=260						
LATG	**Datong**	**0.52**	**298**	P	Pb	19 23 53.1	+0.4
	baz=297						
LATG				*e*S	Sn	19 24 02.2	0.0
	baz=297						
ENTT	**Nioudou**	**0.55**	**309**	P	Pb	19 23 53.5	+0.4
	baz=309						
ENTT				S	Sn	19 24 01.6	-1.1
	baz=309						
NDT	**Datong Townshi**	**0.56**	**303**	P	Pb	19 23 53.8	+0.4
	baz=302						
NDT				*e*S	Sn	19 24 02.2	-0.9
	baz=302						
NNSB	**Datong**	**0.61**	**283**	*e*P	Pb	19 23 53.6	-0.5
	baz=282						
FUSB	**Fushanzhiwuyua**	**0.62**	**319**	P	Pb	19 23 54.4	+0.1
	baz=318						
NWLT	**Wulai**	**0.68**	**315**	*e*P	Pb	19 23 55.5	+0.2
	baz=314						
NSK	**Sanguang**	**0.72**	**302**	P	Pn	19 23 56.6	-0.2
	baz=301						
NSK				S	Sn	19 24 07.2	+0.1
	baz=301						

JMA 14 19:23:58.2±0.4,25°N±1°×123.7E±0.5,h0km,MV1.5/5,NW OFF ISHIGAKIJIMA IS,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.71**	**128**	P	Pg	19 24 12.4	+0.5
JISG				*e*S	Sb	19 24 22.8	-1.0
JIJ	**Ishigaki jima**	**0.78**	**148**	P	Pg	19 24 13.3	+0.2
JIJ				*e*S	Sg	19 24 24.1	+0.9
JKRS	**Kuro-shima**	**0.83**	**160**	P	Pb	19 24 14.9	-0.6

TAP 14 19:26:55.2,24.32N×122.08E,h46km,ML2.0,B,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.17**	**55**	*i* P	Pn	19 27 02.3	-0.4
	baz=24						
EOS2				S	Sn	19 27 07.5	-0.6
	baz=24						
EOS3	**EOS3**	**0.22**	**99**	*i* P	Pn	19 27 02.8	-0.2
	baz=104						
EOS3				S	Sn	19 27 08.5	-0.1
	baz=104						
EOS4	**EOS4**	**0.29**	**132**	*i* P	Pn	19 27 03.3	-0.2
	baz=141						
EOS4				S	Sn	19 27 09.3	0.0
	baz=141						
EWUT	**Wuta**	**0.30**	**294**	P	Pn	19 27 03.0	-0.9
	baz=299						
ENA	**Nanau**	**0.33**	**289**	*i* P	Pn	19 27 03.2	-1.0
	baz=289						
TWC	**Suao**	**0.36**	**324**	P	Pn	19 27 04.7	+0.2
	baz=324						
ETL	**Fush Village**	**0.45**	**249**	*e*P	Pn	19 27 05.9	+0.3
	baz=249						
ETL				*e*S	Sn	19 27 12.4	-0.6
	baz=249						
NACB	**Ninganchiao**	**0.47**	**252**	P	Pn	19 27 05.8	0.0
	baz=243						
NACB				S	Sn	19 27 13.7	+0.4
	baz=243						
LATG	**Datong**	**0.55**	**293**	P	Pn	19 27 07.3	+0.4
	baz=293						
LATG				*e*S	Sn	19 27 16.3	+1.0
	baz=293						
TWE	**Neicheng**	**0.55**	**317**	P	Pn	19 27 07.1	+0.3
	baz=317						
ETLH	**Xiulin Townshi**	**0.56**	**258**	P	Pn	19 27 06.8	-0.2
	baz=253						
ETLH				S	Sn	19 27 16.2	+0.8
	baz=253						
ENTT	**Nioudou**	**0.57**	**304**	*i* P	Pn	19 27 07.7	+0.6
	baz=304						
ENTT				*i* S	Sn	19 27 15.6	+0.1
	baz=304						
NDT	**Datong Townshi**	**0.59**	**299**	P	Pn	19 27 08.4	+1.1
	baz=298						
NDT				*e*S	Sn	19 27 16.8	+0.8
	baz=298						
FUSB	**Fushanzhiwuyua**	**0.63**	**314**	P	Pn	19 27 08.6	+0.7
	baz=307						
FUSB				*e*S	Sn	19 27 19.6	+2.6
	baz=307						
ETM	**Tongmen**	**0.64**	**237**	*e*P	Pn	19 27 08.0	0.0
	baz=230						
ETM				*e*S	Sn	19 27 18.1	+0.8
	baz=230						
NNSB	**Datong**	**0.65**	**280**	P	Pn	19 27 09.1	+0.9
	baz=279						
NNSB				S	Sn	19 27 18.3	+0.8
	baz=279						
LXIB	**Xiulin Townshi**	**0.68**	**244**	*e*P	Pn	19 27 08.6	0.0
	baz=243						
LXIB				*e*S	Sn	19 27 19.3	+1.0
	baz=243						
TIPB	**Shuangxi**	**0.69**	**340**	*e*P	Pn	19 27 09.9	+1.3
	baz=346						
TIPB				*e*S	Sn	19 27 19.6	+1.2
	baz=346						
NWLT	**Wulai**	**0.69**	**311**	*e*S	Sn	19 27 20.0	+1.5
	baz=304						
YHNB	**Yeheng**	**0.73**	**299**	P	Pn	19 27 10.3	+1.1
	baz=298						
YHNB				*e*S	Sn	19 27 20.6	+1.2
	baz=298						
NSK	**Sanguang**	**0.75**	**298**	*i* P	Pn	19 27 10.7	+1.3
	baz=298						
NSK				S	Sn	19 27 21.1	+1.3
	baz=298						
WHF	**Hehuan Shan**	**0.76**	**257**	P	Pn	19 27 10.6	+0.5
	baz=256						
WHF				S	Sn	19 27 22.7	+2.0
	baz=256						
FUSS	**Fushou**	**0.77**	**265**	P	Pn	19 27 10.8	+1.0
	baz=264						
FUSS				S	Sn	19 27 22.7	+2.2
	baz=264						
ESL	**Shilin**	**0.78**	**230**	*e*P	Pn	19 27 11.3	+1.5
	baz=229						
ESL				*e*S	Sn	19 27 21.8	+1.4
	baz=229						
SXI1	**Grass Mountain**	**0.79**	**346**	*e*P	Pn	19 27 12.1	+2.0
	baz=357						
CHGB	**Renai**	**0.87**	**253**	P	Pn	19 27 12.6	+1.4
	baz=241						
CHGB				*e*S	Sn	19 27 24.5	+1.6
	baz=241						
NFF	**Wufeng Townshi**	**0.93**	**290**	*e*P	Pn	19 27 14.3	+2.4
	baz=289						
WUSB	**Renai**	**0.94**	**250**	P	Pn	19 27 13.4	+1.3
	baz=240						
WUSB				*e*S	Sn	19 27 26.4	+2.0
	baz=240						
LIOB	**Emei**	**1.02**	**289**	*e*P	Pn	19 27 15.9	+2.8
	baz=288						
VWDT	**VWDT**	**1.03**	**237**	*e*P	Pn	19 27 13.3	+0.1
	baz=232						
NSTT	**Nanjuang**	**1.03**	**288**	P	Pn	19 27 15.7	+2.5
	baz=287						
WHP	**Taichung City**	**1.04**	**268**	*e*P	Pn	19 27 16.3	+2.9
	baz=260						
SSLB	**Suanglung**	**1.16**	**243**	*e*P	Pn	19 27 15.2	+0.2
	baz=232						
TYC	**Yuchr**	**1.19**	**250**	*e*P	Pn	19 27 16.3	+0.9
	baz=240						
ALS	**Alishan**	**1.42**	**236**	*e*P	Pn	19 27 20.3	+1.5
	baz=224						

JMA 14 19:27:50.3±0.3,25°N±1°×123.7E±0.5,h22km,MV2.1/8, NW OFF ISHIGAKIJIMA IS,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.76**	**132**	P	Pb	19 28 04.8	0.0
JIJ	**Ishigaki jima**	**0.84**	**151**	P	Pb	19 28 05.6	-0.6
JIJ				S	Sb	19 28 16.5	-0.5
YOJ	**Yonaguni jima**	**0.89**	**225**	S	Sn	19 28 19.2	-0.5
JKRS	**Kuro-shima**	**0.91**	**162**	*e*P	Pb	19 28 07.0	-0.3
JKRS				S	Sb	19 28 19.3	+0.3
JYNG	**Yonagunijimaku**	**0.94**	**227**	*e*S	Sb	19 28 20.3	+0.4
JTJ	**Tarama**	**1.02**	**116**	P	Pb	19 28 08.9	-0.4
JTJ				S	Sn	19 28 23.1	+0.2

IDC ***14*** *19:41:19.7±1.1,32.51N×82.63E,h0km,mb3.6/9, mbtmp3.6/12,ML3.0/2,MS3.5/1,Error ellipse: s-maj=27.9km s-min=19.6km az=47.0*

ISC 14 19:41:25.0±0.9,32.6N±0.1°×82.8E±0.1,h35km,n15, σ1§23/14,mb3.6/9,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**11.96**	**329**	Pn	**Pn**	**19 44 12.6**	**-0.4**
	0.1nm,0.3s,baz=244,slow=14,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**14.17**	**359**	Pn	**Pn**	**19 44 42.5**	**-0.7**
	0.1nm,0.3s,baz=182,slow=13,SNR=12						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**18.27**	**351**	P	**P**	**19 45 35.4**	**-0.1**
	1.2nm,0.8s,baz=173,slow=10,SNR=6.4						
CMAR	**Chiang Mai Arr**	**20.26**	**130**	P	**P**	**19 45 55.7**	**-1.8**
	1.1nm,0.6s,baz=312,slow=11,SNR=11						
	1.1nm,0.6s						
GEYT	**Alibeck**	**20.78**	**292**	P	**P**	**19 46 04.6**	**+1.5**
	1.5nm,0.7s,baz=210,slow=8.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**21.38**	**3**	P	**P**	**19 46 09.0**	**-0.3**
	0.7nm,0.5s,baz=232,slow=7.0,SNR=2.6						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**22.27**	**340**	P	**P**	**19 46 20.0**	**+1.1**
	0.2nm,0.4s,baz=136,slow=14,SNR=2.0						
	0.2nm,0.4s						
SONM	**Songino Array**	**23.47**	**43**	P	**P**	**19 46 33.3**	**+1.8**
	0.4nm,0.5s,baz=224,slow=10,SNR=5.0						
	0.4nm,0.5s						
GNI	**Garni**	**31.33**	**295**	P	**P**	**19 47 41.1**	**-1.2**
	13nm,0.9s,baz=80,slow=12,SNR=6.2						
KBZ	**Khabaz**	**32.95**	**301**	LR	LR	20 02 48.7	
	comp=Z,86nm,21.9s,baz=4.5,slow=39						
KVAR	**Kislovodsk Arr**	**33.12**	**302**	P	**P**	**19 47 57.1**	**-0.8**
	5.0nm,1.0s,baz=69,slow=14,SNR=2.3						
	5.0nm,1.0s						
FINES	**FINESS Array B**	**46.12**	**326**	P	**P**	**19 49 44.1**	**-1.4**
	7.4nm,1.2s,baz=111,slow=11,SNR=2.1						
	7.4nm,1.2s						
ASAR	**Alice Springs**	**74.25**	**132**	P	**P**	**19 52 59.4**	**+0.7**
	0.6nm,0.7s,baz=342,slow=5.8,SNR=1.5						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.58**	**276**	P	**P**	**19 53 07.5**	**+0.9**
	0.5nm,0.7s,baz=64,slow=3.4,SNR=3.6						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**84.20**	**8**	P	**P**	**19 53 53.1**	**+0.6**
	0.2nm,0.7s,baz=340,slow=5.4,SNR=2.8						
	0.2nm,0.7s						

IDC ***14*** *19:41:51.8±0.6,25.16N×123.68E,h0km,mb4.3/26, mbtmp4.2/30,ML2.8/3,MS4.3/41,Error ellipse: s-maj=16.8km s-min=13.2km az=71.0*
BJI ***14*** *19:41:52.0±0.0,25.01N×123.75E,h11km,mb4.4/64, mB5.0/43,ML4.8/5,Ms5.0/70,Ms7 4.8/69*
NEIC ***14*** *19:41:53.2±2.4,25.08N±0.06°×123.72E±0.06,h10km±1km, mb4.7/54,Error ellipse: s-maj=14.0km s-min=3.4km az=139.0*
JMA ***14*** *19:41:54.2±0.2,25.0N±0.9°×123.7E±0.4,h23km,MD5.0/13, MV4.0/13,NW OFF ISHIGAKIJIMA IS*
NIED ***14*** *19:41:54.2,25.02N×123.71E,h23km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-2.21; Mθθ2.09; Mφφ0.12; Mrθ-1.51; Mθφ0.24; Mφr-0.62; Fault plane solution: M₀2.71000×10¹⁶ NP1:φs74.00000°, δ64.00000°,λ-98.00000°. NP2:φs271.00000°,δ27.00000°, λ-75.00000°.*
GCMT ***14*** *19:41:56.2±0.3,25.03N±0.02°×123.60E±0.04,h19km±1km, MW5.0/92,Moment Tensor Solution. s16,c18; s92,c140; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.47±.35; Mθθ3.90±.21; Mφφ0.57±.19; Mrθ-0.00±.33; Mθφ0.60±.10; Mφr0.06±.50; Best double couple: M₀4.23800×10¹⁶ NP1:φs259.00000°,δ45.00000°,λ-91.00000°. NP2: φs81.00000°,δ45.00000°,λ-89.00000°. Principal axes: T 4.0060, Plg0.0000°, Azm350.0000°; N 0.4650, Plg1.0000°, Azm260.0000°; P -4.4710, Plg89.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 19:41:54.9±0.5,24.98N±0.03°×123.75E±0.03,h25km±3km, n185,σ1§84/167,mb4.6/55,MS4.4/48,4C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.64**	**128**	*e*P	**Pb**	**19 42 07.5**	**0.0**
JISG				*e*S	**Sn**	**19 42 17.6**	**-0.1**
JISG	**Ishigakijimahi**	**0.64**	**128**	A	A	19 42 07.5	
	comp=E,55nm,7.8s,comp=N,48nm,8.2s						
JIJ	**Ishigaki jima**	**0.71**	**150**	P	**Pb**	**19 42 08.1**	**-0.5**
JIJ				S	**Sb**	**19 42 18.1**	**+0.1**
JIJ	**Ishigaki jima**	**0.71**	**150**	A	A	19 42 08.1	
	comp=E,37nm,6.0s,comp=N,38nm,5.8s						
JKRS	**Kuro-shima**	**0.78**	**163**	P	**Pb**	**19 42 09.8**	**+0.1**
JKRS	**Kuro-shima**	**0.78**	**163**	A	A	19 42 09.8	
	comp=E,209nm,4.2s,comp=N,160nm,2.9s						
YOJ	**Yonaguni jima**	**0.85**	**233**		**Pb**	**19 42 10.1**	**-0.9**
YOJ	**Yonaguni jima**	**0.85**	**233**	P	**Pn**	**19 42 11.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.85**	**233**	P	**Pb**	**19 42 10.1**	**-0.9**
YOJ				S	**Sb**	**19 42 21.0**	**-1.0**
YOJ	**Yonaguni jima**	**0.85**	**233**	A	A	19 42 10.1	
	comp=E,104nm,2.5s,comp=N,109nm,4.1s						
JYNG	**Yonagunijimaku**	**0.91**	**234**	*e*P	**Pb**	**19 42 10.6**	**-1.3**
JYNG				*e*S	**Sb**	**19 42 22.4**	**-1.2**
JYNG	**Yonagunijimaku**	**0.91**	**234**	A	A	19 42 10.6	
	comp=E,93nm,2.8s,comp=N,101nm,5.3s						
HATJ	**Hateruma jima**	**0.92**	**177**	P	**Pb**	**19 42 11.8**	**-0.4**
HATJ	**Hateruma jima**	**0.92**	**177**	A	A	19 42 11.8	
	comp=E,212nm,2.3s,comp=N,195nm,2.6s						
JTJ	**Tarama**	**0.93**	**111**	P	**Pn**	**19 42 12.2**	**0.0**
JTJ				S	**Sn**	**19 42 25.9**	**+1.1**
JTJ	**Tarama**	**0.93**	**111**	A	A	19 42 12.2	
	comp=E,55nm,5.2s,comp=N,52nm,2.5s						
JIRB	**Irabujima**	**1.30**	**96**	P	**Pn**	**19 42 17.5**	**+0.1**
JIRB	**Irabujima**	**1.30**	**96**	A	A	19 42 17.5	
	comp=E,35nm,5.5s,comp=N,39nm,4.4s						
JIKM	**Ikemajima**	**1.36**	**92**	P	**Pn**	**19 42 18.2**	**0.0**
JIKM	**Ikemajima**	**1.36**	**92**	A	A	19 42 18.2	
	comp=E,61nm,4.4s,comp=N,57nm,4.5s						
JMJ2	**Miyako jima3**	**1.45**	**99**	P	**Pn**	**19 42 20.1**	**+0.6**
JMJ2	**Miyako jima3**	**1.45**	**99**	A	A	19 42 20.1	
	comp=E,72nm,4.5s,comp=N,68nm,5.8s						
JOGS	**Gusukube**	**1.52**	**98**	P	**Pn**	**19 42 21.0**	**+0.6**
JOGS	**Gusukube**	**1.52**	**98**	A	A	19 42 21.0	
	comp=E,64nm,6.6s,comp=N,49nm,4.8s						
TATO	**Taipei**	**2.06**	**270**		**Pn**	**19 42 28.1**	**+0.2**
TATO	**Taipei**	**2.06**	**270**	P	**Pb**	**19 42 33.5**	**+2.0**
**N

comp=N,5µm,9.0s
NJ2 LR LR
comp=N,4µm,7.6s
NJ2 LR LR
comp=N,4µm,7.8s
JNU Nakatsue 10.22 36 Pn **Pn 19 44 20.6 +0.5**
baz=214,slow=13,SNR=3.1
comp=N,4.1nm,0.9s
TGY Tagaytay City 11.14 194 Pn **Pn 19 44 35.6 +2.9**
comp=N,9.2nm,0.3s,baz=166,slow=22,SNR=3.1
TIA Tai'an 12.56 335 P **Pn 19 44 54.5 +2.5**
TIA pmax pmax
comp=N,4.0nm,1.6s
TIA LR LR
comp=N,2µm,8.4s
TIA LR LR
comp=N,2µm,7.9s
TIA LR LR
comp=N,3µm,8.9s
KSRS Korea Array 12.93 15 Pn **Pn 19 44 55.5 -1.5**
baz=33,slow=11,SNR=1.7
comp=N,0.5nm,0.5s
LYN LuoYang 13.66 317 *e*P **Pn 19 45 07.6 +0.5**
LYN pmax pmax
comp=N,17nm,0.5s
LYN pmax pmax
comp=N,420nm,7.7s
QIZ Qiongzhong 14.19 248 P **Pn 19 45 13.8 -0.6**
QIZ S **Sn 19 47 52.6 +1.5**
QIZ LR LR
comp=N,1µm,14.3s
QIZ LR LR
comp=N,730nm,11.8s
QIZ LR LR
comp=N,2µm,12.6s
HNS HongShan 14.59 330 ⇑P **Pn 19 45 21.3 +1.6**
HNS S **Sn 19 47 57.3 -3.2**
HNS pmax pmax
comp=N,21nm,1.5s
HNS LR LR
comp=N,4µm,13.5s
HNS LR LR
comp=N,4µm,14.3s
GYA Guiyang 15.47 279 ⇓P **Pn 19 45 32.3 +0.6**
GYA S **Sn 19 48 26.8 +4.3**
GYA pmax pmax
comp=N,6.0nm,0.6s
GYA pmax pmax
comp=N,300nm,4.9s
GYA LR LR
comp=N,4µm,9.6s
GYA LR LR
comp=N,5µm,9.0s
GYA LR LR
comp=N,5µm,9.1s
JHJ Hachijo jima 2 16.18 56 LR LR 19 51 33.4
comp=N,352nm,19.5s,baz=260,slow=36
BJI Beijing 16.31 339 P **Pn 19 45 38.8 -3.3**
BJI pmax pmax
comp=N,8.0nm,1.3s
BJI LR LR
comp=N,1µm,11.3s
BJI LR LR
comp=N,700nm,12.2s
BJI LR LR
comp=N,2µm,14.3s
SNY Shenyang 16.80 360 ⇑P **Pn 19 45 44.9 -3.5**
SNY pmax pmax
comp=N,13nm,1.7s
SNY pmax pmax
comp=N,540nm,9.0s
SNY LR LR
comp=N,4µm,13.7s
SNY LR LR
comp=N,1µm,11.6s
SNY LR LR
comp=N,5µm,13.3s
MJAR Matsushiro Arr 16.92 44 Pn **Pn 19 45 49.4 -0.6**
comp=N,1.4nm,1.0s,baz=204,slow=16,SNR=3.2
MJAR LR LR 19 52 27.6
comp=N,869nm,20.6s,baz=222,slow=38
CD2 Chengdu 18.62 293 P **P 19 46 10.0 -0.6**
CD2 pP Pn 19 46 12.3 +1.3
CD2 S **S 19 49 43.3 +1.9**
CD2 pmax pmax
comp=N,30nm,0.9s
CD2 pmax pmax
comp=N,340nm,7.8s
CD2 LR LR
comp=N,3µm,7.8s
CD2 LR LR
comp=N,3µm,10.5s
CD2 LR LR
comp=N,2µm,9.7s
HHC Hu-ho-hao-te 18.81 330 *e*P **Pn 19 46 15.0 +1.7**
HHC pP pP 19 46 18.0 -1.0
HHC sP pwP 19 46 25.6 +3.9
HHC S **Sn 19 49 41.4 -1.8**
HHC SS **SnSn 19 50 06.1 +8.8**
HHC pmax pmax
comp=N,51nm,1.2s
HHC pmax pmax
comp=N,780nm,6.6s
HHC LR LR
comp=N,4µm,15.6s
HHC LR LR
comp=N,3µm,15.6s
HHC LR LR
comp=N,5µm,16.4s
CN2 Changchun 18.82 4 *e*P **Pn 19 46 14.4 +1.1**
CN2 *e*S Sn 19 49 31.4 -12
CN2 pmax pmax
comp=N,10.0nm,1.4s
CN2 LR LR
comp=N,4µm,13.0s
CN2 LR LR
comp=N,2µm,13.0s
CN2 LR LR
comp=N,4µm,15.1s
KMI Kunming 19.04 275 ⇑P **Pn 19 46 18.9 +2.5**
KMI pmax pmax
comp=N,10.0nm,0.9s
KMI pmax pmax
comp=N,470nm,4.9s
KMI LR LR
comp=N,2µm,9.1s
KMI LR LR
comp=N,2µm,8.1s
KMI LR LR
comp=N,2µm,8.8s
BTO Baotou 19.35 327 *e*P **Pn 19 46 23.4 +3.6**
BTO pP **pwP 19 46 27.1 -0.6**
BTO sP **sP 19 46 30.5 +2.6**
BTO PP pP 19 46 41.1 +16
BTO pmax pmax
comp=N,47nm,1.7s
BTO pmax pmax
comp=N,2µm,11.4s
BTO LR LR
comp=N,6µm,12.7s
BTO LR LR
comp=N,4µm,14.2s
BTO LR LR
comp=N,5µm,19.2s
PZH PanZhiHua 19.89 279 P **Pn 19 46 26.4 +0.1**
PZH pmax pmax
comp=N,11nm,0.9s
PZH pmax pmax
comp=N,100nm,5.4s
XLT XiLinHaoTe 19.89 344 *e*P **Pn 19 46 26.1 -0.1**
XLT pP pP 19 46 30.0 -0.7
XLT sP sP 19 46 32.3 -1.4
XLT PP pwP 19 46 45.9 +12
XLT S **Sn 19 50 11.5 +2.5**
XLT pmax pmax
comp=N,28nm,1.0s
XLT pmax pmax
comp=N,480nm,5.2s
XLT LR LR
comp=N,3µm,12.3s
XLT LR LR
comp=N,3µm,13.6s
MDJ Mudanjiang 20.16 12 P **P 19 46 27.3 +0.1**
MDJ pP pwP 19 46 39.4 +3.1
MDJ PP **PnPn 19 46 44.5 +0.5**
MDJ S **S 19 50 08.6 -3.7**
MDJ PcP **PcP 19 50 42.3 +0.9**

MDJ pmax pmax
comp=N,490nm,3.7s
MDJ LR LR
comp=N,3µm,17.2s
MDJ LR LR
comp=N,3µm,13.2s
MDJ LR LR
comp=N,3µm,14.2s
KKM Kota Kinabalu 20.17 202 P **P 19 46 25.1 -2.6**
KKM lAmb lAmb 19 46 45.6
comp=Z,43nm,1.1s
KKM Kota Kinabalu 20.17 202 P **P 19 46 24.0 -3.7**
comp=Z,44nm,1.2s
USA0B Ussuriysk Arra 20.31 17 P **P 19 46 27.2 -1.8**
USA0B lAmb lAmb 19 46 31.6
comp=Z,27nm,1.1s
USRK Ussuriysk Ar. 20.31 17 P **P 19 46 26.9 -2.0**
USRK Ussuriysk Ar. 20.31 17 P **P 19 46 27.7 -1.2**
comp=Z,23nm,1.0s,baz=203,slow=9.4,SNR=15
USRK LR LR 19 54 40.8
comp=Z,947nm,19.7s,baz=194,slow=38
comp=Z,23nm,1.0s
LZH Lanzhou 20.37 308 *e*P Pn 19 46 31.5 -0.5
LZH sP pwP 19 46 39.9 +1.0
LZH S Sn 19 50 23.4 +2.5
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,650nm,10.3s
LZH LR LR
comp=Z,2µm,16.4s
LZH LR LR
comp=Z,2µm,17.5s
LZH LR LR
comp=Z,2µm,17.5s
BNX BinXian 20.92 7 ⇑P **P 19 46 36.3 +0.8**
BNX pP Pn 19 46 39.3 +1.2
BNX sP **pP 19 46 40.9 -0.9**
BNX PP **PnPn 19 46 54.3 -0.2**
BNX S Sn 19 50 32.6 -1.1
BNX sS **sS 19 50 37.3 -0.3**
BNX pmax pmax
comp=Z,54nm,1.2s
BNX pmax pmax
comp=Z,430nm,5.4s
BNX LR LR
comp=Z,2µm,14.1s
BNX LR LR
comp=Z,2µm,12.5s
BNX LR LR
comp=Z,2µm,12.5s
CRAI Chiangrai 22.09 262 P **P 19 46 51.4 +3.1**
TNCH TengChong 22.86 275 P **P 19 46 55.5 -1.2**
TNCH pP pP 19 46 58.3 -4.8
TNCH sP sP 19 47 02.5 -3.6
TNCH PP **PnPn 19 47 23.8 +2.4**
TNCH S **S 19 50 56.6 -8.5**
TNCH pmax pmax
comp=Z,210nm,4.4s
TNCH LR LR
comp=Z,2µm,8.7s
TNCH LR LR
comp=Z,3µm,8.9s
TNCH LR LR
comp=Z,2µm,9.1s
CMMT Chiang Mai 23.80 260 P **P 19 47 02.6 -3.3**
comp=Z,41nm,1.3s
CHTO Chiang Mai 23.80 260 P **P 19 47 05.3 -0.6**
CHTO lAmb lAmb 19 47 15.0
comp=Z,29nm,1.4s
CMAR Chiang Mai Arr 23.93 259 P **P 19 47 04.0 -3.1**
CMAR Chiang Mai Arr 23.93 259 P **P 19 47 06.8 -0.3**
comp=Z,1.1nm,0.3s,baz=58,slow=8.2,SNR=22
CMAR PcP **PcP 19 50 51.0 +1.7**
comp=Z,0.4nm,0.4s,baz=118,slow=1.3,SNR=4.6
CMAR LR LR 19 56 48.4
comp=Z,386nm,18.8s,baz=70,slow=38
comp=Z,1.1nm,0.3s
MRSI Marisa 24.42 184 P **P 19 47 09.7 -1.9**
comp=Z,32nm,1.5s,comp=Z,1µm
ASAJ Asahikawa 24.50 34 LR LR 19 56 06.0
comp=Z,619nm,21.1s,baz=186,slow=35
GTA Gaotai 24.75 311 *e*P **P 19 47 14.6 0.0**
GTA S **S 19 51 37.6 +2.2**
GTA pmax pmax
comp=Z,12nm,1.5s
GTA LR LR
comp=Z,1µm,16.4s
GTA LR LR
comp=Z,1µm,15.6s
GTA LR LR
comp=Z,750nm,17.4s
KLR Kul'dur 25.00 12 LR LR 19 57 25.1
comp=Z,1µm,19.0s,baz=196,slow=38
HEH HeiHe 25.39 5 *e*P **P 19 47 20.5 +0.4**
HEH sP **sP 19 47 28.1 -1.6**
HEH S **S 19 51 47.3 +2.2**
HEH pmax pmax
comp=Z,21nm,1.6s
HEH pmax pmax
comp=Z,700nm,5.1s
HEH LR LR
comp=Z,2µm,10.8s
HEH LR LR
comp=Z,3µm,11.5s
HEH LR LR
comp=Z,3µm,12.2s
LUWI Luwuk 25.89 182 P **P 19 47 24.8 -0.1**
LUWI Luwuk 25.89 182 P **P 19 47 24.4 -0.5**
comp=Z,43nm,1.3s,comp=Z,1µm
ULN Ulaanbaatar 26.39 334 P **P 19 47 29.1 -0.2**
ULN lAmb lAmb 19 47 55.8
comp=Z,33nm,1.2s
ULN Ulaanbaatar 26.39 334 P **P 19 47 26.5 -2.9**
comp=Z,99nm,1.5s,comp=Z,2µm
SONM Songino Array 26.62 333 P **P 19 47 28.3 -3.2**
SONM Songino Array 26.62 333 P **P 19 47 30.1 -1.4**
comp=Z,4.4nm,1.1s,baz=149,slow=9.0,SNR=14
SONM PcP **PcP 19 50 56.3 +1.2**
comp=Z,0.8nm,0.5s,baz=128,slow=1.2,SNR=4.9
SONM LR LR 19 58 55.4
comp=Z,1µm,18.1s,baz=142,slow=39
comp=Z,4.4nm,1.1s
GOMU GeErMu 27.21 301 P **P 19 47 39.3 +2.1**
GOMU pmax pmax
comp=Z,22nm,1.2s
GOMU LR LR
comp=Z,970nm,11.5s
GOMU LR LR
comp=Z,550nm,12.0s
GOMU LR LR
comp=Z,1µm,10.8s
LSA Lhasa 29.28 287 P **P 19 47 56.0 +0.2**
KAPI Kappang 30.07 188 LR LR 20 00 59.2
comp=Z,454nm,20.1s,baz=352,slow=38
LHMI Lhok Sumawe 32.36 237 P **P 19 48 21.4 -1.1**
RPSI Rantau Prapat 32.61 231 P **P 19 48 24.3 -0.5**
RPSI lAmb lAmb 19 48 32.9
comp=Z,13nm,1.0s
WMQ Urumqi 34.83 312 *e*P **P 19 48 45.1 +1.2**
WMQ pP pP 19 48 50.3 -0.5
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ LR LR
comp=Z,1µm,10.1s
WMQ LR LR
comp=Z,720nm,7.9s
WMQ LR LR
comp=Z,340nm,14.5s
YAK Yakutsk 37.25 5 P **P 19 49 03.5 -0.7**
YAK lAmb lAmb 19 49 11.2
comp=Z,12nm,0.8s
YAK Yakutsk 37.25 5 LR LR 20 06 00.9
comp=Z,21nm,20.2s,baz=166,slow=39
PETK Petropavlovsk- 37.91 33 LR LR 20 04 57.5
comp=Z,486nm,19.4s,baz=234,slow=37
MK31 Makanchi Array 39.43 314 P **P 19 49 22.6 -0.2**
MK31 lAmb lAmb 19 49 24.5
comp=Z,23nm,1.1s
MKAR Makanchi Array 39.43 314 P **P 19 49 22.8 0.0**
MKAR Makanchi Array 39.43 314 P **P 19 49 22.6 -0.3**
comp=Z,16nm,0.9s,baz=104,slow=10.0,SNR=94
MKAR PcP **PcP 19 51 30.5 -0.1**
comp=Z,2.9nm,1.0s,baz=94,slow=6.3,SNR=3.3
comp=Z,16nm,0.9s
MAKZ Makanchi 39.64 314 P **P 19 49 25.1 +0.5**

ZAA0 Zalesovo Array 40.88 325 P **P 19 49 33.9 -0.8**
ZALV Zalesovo Beam 40.88 325 P **P 19 49 33.8 -0.9**
comp=Z,11nm,0.9s,baz=111,slow=8.1,SNR=39
comp=Z,11nm,0.9s
TARG Taragay, Kyrgy 41.34 305 P **P 19 49 35.7 -3.5**
TARG lAmb lAmb 19 49 57.8
comp=Z,14nm,1.3s
KSH Kashi 42.45 302 P **P 19 49 51.5 +3.6**
KSH pP sP 19 49 55.4 -2.3
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH LR LR
comp=Z,750nm,17.5s
KSH LR LR
comp=Z,780nm,20.6s
KSH LR LR
comp=Z,580nm,18.8s
SEY Seymchan 42.45 19 LR LR 20 08 25.6
comp=Z,434nm,18.4s,baz=190,slow=38
NRN Naryn 42.64 305 P **P 19 49 47.5 -2.2**
NRN lAmb lAmb 19 49 57.5
comp=Z,12nm,1.2s
KURK Kurchatov 43.01 319 P **P 19 49 51.9 -0.3**
KURK lAmb lAmb 19 49 59.0
comp=Z,15nm,1.1s
KURBB Kurchatov Arra 43.03 319 P **P 19 49 52.2 -0.2**
comp=Z,12nm,1.0s,baz=108,slow=8.0,SNR=41
KURBB LR LR 20 09 16.4
comp=Z,286nm,20.1s,baz=173,slow=38
comp=Z,12nm,1.0s
AAK Ala-Archa 43.90 306 P **P 19 49 59.0 -0.7**
AAK Ala-Archa 43.90 306 P **P 19 50 00.1 +0.4**
comp=Z,0.8nm,0.8s,baz=94,slow=9.3,SNR=3.9
AAK LR LR 20 08 55.3
comp=Z,401nm,18.9s,baz=96,slow=37
comp=Z,0.8nm,0.8s
PALK Pallekele 44.71 254 LR LR 20 09 21.8
comp=Z,138nm,20.0s,baz=159,slow=37
ARSB Arslanbob 44.88 304 P **P 19 50 08.3 +0.8**
WRA Warramunga Arr 45.83 166 P **P 19 50 16.6 +1.7**
WRA Warramunga Arr 45.83 166 P **P 19 50 16.9 +1.9**
comp=Z,2.4nm,0.7s,baz=347,slow=8.8,SNR=14
comp=Z,2.4nm,0.7s
WB2 Warramunga Arr 45.83 166 P **P 19 50 16.9 +2.0**
PSA00 Pilbara Seismi 46.43 185 P **P 19 50 21.1 +1.4**
PSA00 lAmb lAmb 19 50 22.3
comp=Z,12nm,1.1s
SHEM Shemya Is, Ala 46.72 40 LR LR 20 08 37.2
comp=Z,150nm,21.5s,baz=296,slow=34
TIXI Tiksi 46.79 2 P **P 19 50 21.4 -0.5**
KK31 Karatay Array 46.86 306 P **P 19 50 22.2 -0.8**
KK31 lAmb lAmb 19 50 38.5
comp=Z,6.4nm,1.0s
KKAR Karatay Array 46.86 306 P **P 19 50 22.3 -0.7**
KKAR lAmb lAmb 19 50 38.5
comp=Z,6.4nm,1.0s
KKAR Karatay Array 46.86 306 P **P 19 50 22.2 -0.8**
SIMJ Simiganj 47.82 300 P **P 19 50 30.2 -0.4**
SIMJ lAmb lAmb 19 50 38.6
comp=Z,7.1nm,0.9s
KBL Kabul 47.95 295 P **P 19 50 31.9 +0.1**
BVAR Borovoye Array 48.56 320 P **P 19 50 35.6 -0.4**
comp=Z,3.1nm,0.9s,baz=105,slow=11,SNR=11
BVAR PcP **PcP 19 52 01.9 +0.4**
comp=Z,2.7nm,0.9s,baz=113,slow=4.3,SNR=4.1
BVAR LR LR 20 12 25.4
comp=Z,189nm,18.1s,baz=93,slow=38
comp=Z,3.1nm,0.9s
BRVK Borovoye 48.63 320 P **P 19 50 37.0 +0.5**
BRVK lAmb lAmb 19 51 05.0
comp=Z,3.8nm,0.9s
HNR Honiara 49.14 130 LR LR 20 08 47.5
comp=Z,2µm,21.8s,baz=299,slow=33
NRIK Noril'sk 49.26 344 P **P 19 50 39.6 -1.5**
NRIK lAmb lAmb 19 50 42.7
comp=Z,13nm,1.1s
NRIK Noril'sk 49.26 344 P **P 19 50 40.6 -0.5**
comp=Z,13nm,1.1s,baz=129,slow=6.4,SNR=8.9
comp=Z,13nm,1.1s
AS31 Alice Springs 49.35 168 P **P 19 50 45.6 +3.2**
ASAR Alice Springs 49.35 168 P **P 19 50 44.8 +2.5**
comp=Z,0.9nm,0.5s,baz=349,slow=7.5,SNR=23
ASAR LR LR 20 11 51.4
comp=Z,97nm,21.8s,baz=356,slow=36
comp=Z,0.9nm,0.5s
GSTR Great Sitkin T 52.49 42 P **P 19 51 07.7 +2.0**
ABKAR Akbulak array 54.57 314 P **P 19 51 20.3 -0.7**
ABKAR Akbulak array 54.57 314 P **P 19 51 20.1 -0.8**
ABKAR lAmb lAmb 19 51 36.9
comp=Z,6.0nm,1.1s
AKTO Aktyubinsk 55.85 315 LR LR 20 17 11.6
comp=Z,508nm,18.2s,baz=57,slow=38
ARU Arti 55.89 322 LR LR 20 16 17.0
comp=Z,363nm,21.1s,baz=92,slow=37
GEYT Alibeck 56.42 300 P **P 19 51 33.4 -1.1**
GEYT Alibeck 56.42 300 P **P 19 51 35.1 +0.6**
comp=Z,13nm,1.0s,baz=97,slow=3.4,SNR=17
GEYT LR LR 20 17 28.5
comp=Z,286nm,19.8s,baz=104,slow=38
comp=Z,13nm,1.0s
GYA0B ALIBECK ARRAY 56.42 300 P **P 19 51 33.4 -1.1**
NWAO Narrogin (SRO) 57.92 186 LR LR 20 17 49.3
comp=Z,58nm,18.6s,baz=173,slow=37
STKA Stephens Creek 59.05 162 P **P 19 51 54.8 +1.9**
comp=Z,1.7nm,0.8s,baz=355,slow=5.3,SNR=3.8
comp=Z,1.7nm,0.8s
KIRV Kirov 60.91 325 LR LR 20 20 53.8
comp=Z,1µm,18.1s,baz=96,slow=38
BELG Belogornoye 62.27 318 LR LR 20 21 05.2
comp=Z,246nm,19.7s,baz=70,slow=38
DZM Mont Dzumac 62.49 135 *e*LR LR 20 10 51.6
comp=Z,603nm,26.0s
DZM Mont Dzumac 62.49 135 LR LR 20 15 17.5
comp=Z,163nm,21.2s,baz=306,slow=32
B21K Ikpikpuk River 63.92 23 lAmb lAmb 19 52 26.6
comp=Z,10nm,1.3s
D22K Ayikyak River 64.64 23 P **P 19 52 30.0 -0.1**
E24K Your Creek 66.26 24 lAmb lAmb 19 52 42.9
comp=Z,9.3nm,1.2s
GNI Garni 66.28 305 LR LR 20 25 22.8
comp=Z,175nm,18.8s,baz=71,slow=40
F24K Squaw Lake 66.56 25 lAmb lAmb 19 52 44.2
comp=Z,8.6nm,1.1s
KBZ Khabaz 66.81 309 P **P 19 52 43.7 -0.7**
comp=Z,5.2nm,1.0s,baz=285,slow=1.3,SNR=5.1
KBZ LR LR 20 26 26.9
comp=Z,215nm,19.1s,baz=70,slow=40
comp=Z,5.2nm,1.0s
RND Reindeer 66.82 29 lAmb lAmb 19 53 07.4
comp=Z,2.7nm,0.9s
D25K Kavik River 66.84 23 lAmb lAmb 19 52 45.1
comp=Z,8.2nm,1.3s
KIV Kislovodsk 66.90 309 P **P 19 52 44.8 -0.5**
ILAR Eielson Array 67.43 28 P **P 19 52 47.0 -1.1**
comp=Z,0.4nm,0.9s,baz=270,slow=4.5,SNR=2.5
ILAR LR LR 20 23 58.6
comp=Z,102nm,18.6s,baz=242,slow=38
comp=Z,0.4nm,0.9s
OBN Obninsk 68.32 322 LR LR 20 25 58.1
comp=Z,262nm,21.4s,baz=9.5,slow=39
ARCES ARCESS Array B 69.67 338 LR LR 20 31 00.1
comp=Z,321nm,18.3s,baz=68,slow=42
FINES FINESS Array B 71.94 330 P **P 19 53 15.7 -0.1**
comp=Z,7.5nm,1.0s,baz=84,slow=7.9,SNR=6.1
FINES LR LR 20 28 19.0
comp=Z,774nm,19.3s,baz=72,slow=39
comp=Z,7.5nm,1.0s
AKASG Malin Array Be 73.83 319 P **P 19 53 27.1 -0.2**
comp=Z,2.6nm,1.1s,baz=59,slow=5.2,SNR=8.5
AKASG LR LR 20 29 05.7
comp=Z,168nm,19.2s,baz=56,slow=38
comp=Z,2.6nm,1.1s
BRTR Keskin Array B 74.58 307 P **P 19 53 31.3 -0.7**
comp=Z,1.5nm,1.0s,baz=116,slow=5.6,SNR=4.6
BRTR LR LR 20 30 35.2
comp=Z,140nm,18.6s,baz=62,slow=39
comp=Z,1.5nm,1.0s
MMAI Mount Meron Ar 75.54 300 LR LR 20 32 30.6
comp=Z,125nm,19.6s,baz=32,slow=40
EIL Elat 77.09 297 LR LR 20 32 25.8
comp=Z,129nm,18.1s,baz=74,slow=39
MLR Muntele Rosu 77.77 315 P **P 19 53 50.7 +0.6**
comp=Z,2.1nm,0.9s,baz=110,slow=18,SNR=2.0
MLR LR LR 20 29 24.5
comp=Z,213nm,19.1s,baz=58,slow=37
comp=Z,2.1nm,0.9s
HFS Hagfors 78.00 331 P **P 19 53 49.9 -1.0**
comp=Z,5.1nm,0.9s,baz=34,slow=5.6,SNR=3.7

HFS LR LR 20 31 48.6
comp=Z,944nm,18.0s,baz=61,slow=38
comp=Z,5.1nm,0.9s
NOA NORSAR Array B 78.60 333 P **P** 19 53 52.8 -1.5
comp=Z,3.9nm,1.0s,baz=59,slow=5.6,SNR=6.1
comp=Z,3.9nm,1.0s
OJC Ojcow 79.56 321 P **P** 19 53 59.4 -0.2
OJC IAmb IAmb 19 54 01.2
comp=Z,15nm,1.2s
VYHS Vyhne 80.90 319 *eP* **P** 19 54 07.6 +0.7
YKA Yellowknife Ar 81.32 24 P **P** 19 54 08.5 -0.3
YKA LR LR 20 34 00.9
comp=Z,1.5nm,1.1s,baz=310,slow=4.5,SNR=12
comp=Z,157nm,18.4s,baz=299,slow=38
comp=Z,1.5nm,1.1s
VRAC Vranov 81.82 321 P **P** 19 54 12.4 +0.6
comp=Z,0.9nm,0.3s,baz=94,slow=5.8,SNR=2.9
VRAC LR LR 20 33 58.7
comp=Z,275nm,19.6s,baz=46,slow=38
comp=Z,0.9nm,0.3s
HILA High Level 82.80 27 P **P** 19 54 16.1 -0.7
CLL Collm 82.81 324 *eP* **P** 19 54 17.0 +0.1
GERES GERESS Array B 83.70 321 P **P** 19 54 21.9 +0.2
comp=Z,2.6nm,1.0s,baz=46,slow=5.8,SNR=7.5
comp=Z,2.6nm,1.0s
DAVOX Davos/Dischmat 86.98 321 LR LR 20 36 44.5
comp=Z,256nm,19.2s,baz=47,slow=38
NEW Newport 89.00 36 P **P** 19 54 49.0 +1.3
comp=Z,4.9nm,1.0s,baz=311,slow=4.5,SNR=6.5
comp=Z,4.9nm,1.0s
FCC Fort Churchill 90.86 19 P **P** 19 54 53.9 -2.2
FCC IAmb IAmb 19 54 57.8
comp=Z,7.6nm,1.1s
BMO Blue Mountains 90.98 39 P **P** 19 54 57.6 +0.6
FFC Flin Flon 91.45 25 P **P** 19 54 59.8 +0.9
FFC IAmb IAmb 19 55 05.6
comp=Z,6.2nm,1.0s
MSO Missoula 91.58 35 P **P** 19 54 57.4 -2.4
BPMT Black Pine Rid 92.10 36 P **P** 19 55 02.4 -0.1
NVAR Mina Array Bea 94.24 44 P **P** 19 55 13.7 +1.3
comp=Z,0.2nm,0.5s,baz=327,slow=4.6,SNR=2.3
comp=Z,0.2nm,0.5s
PPT Papeete 94.34 107 LR LR 20 28 11.0
comp=Z,34nm,20.1s,baz=264,slow=29
PPT2 Papeete2 94.35 107 *e*LR LR 20 25 31.9
comp=Z,129nm,26.2s
PPT2 *e*LR LR 20 25 36.1
comp=Z,127nm,27.8s
ESDC Sonseca Array 99.29 322 LR LR 20 45 26.1
comp=Z,231nm,19.0s,baz=42,slow=38
TORD Torodi Ar. Bea 111.98 297 PKiKP **PKiKP** 20 00 28.1 -0.7
comp=Z,0.3nm,0.5s,baz=50,slow=2.5,SNR=2.6

*IDC **14** 19:43:52.1±0.8,26.51N×141.76E, h0km, mb3.8/11, mbtmp3.8/12, ML2.8/1, Error ellipse: s-maj=25.1km s-min=14.5km az=119.0*
*JMA **14** 19:43:59.8±0.1,26.5N±0.3×142.7E±0.4, h25km, MV3.9/14, NEAR CHICHIJIMA ISLAND*
ISC 14 19:43:57.6±0.8, 26.60N±0.09×141.60E±0.09, h35km, n20, σ1s63/21, mb3.8/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**0.52**	**86**	P	**Pn**	**19 44 08.8**	**+0.4**
JHH2				*e*S	**Sn**	**19 44 15.2**	**-0.8**
JHH2	**Haha-jima-NKT2**	**0.52**	**86**	A	A	19 44 08.8	
	comp=E,13nm,1.5s,comp=N,9.0nm,0.3s						
CBIJ	**Chichi jima**	**0.72**	**46**	P	**Pn**	**19 44 13.1**	**+1.8**
CBIJ				*e*S	**Sn**	**19 44 22.8**	**+1.7**
JCJ	**Chichijima**	**0.72**	**46**	Pn	**Pn**	**19 44 09.1**	**-2.1**
	comp=N,71nm,0.3s,baz=2.9,slow=20,SNR=47						
JCJ				Sn	**Sn**	**19 44 20.1**	**-1.0**
	comp=N,325nm,0.3s,baz=273,slow=24,SNR=11						
BSO3	**Boso 3**	**8.23**	**354**	*e*P	**Pn**	**19 45 50.5**	**-3.8**
JAG	**Ashikaga**	**9.97**	**350**	P	**Pn**	**19 46 16.2**	**-2.1**
JHO	**Hitachi**	**10.02**	**355**	*e*P	Pn	19 46 13.6	-5.4
MJAR	**Matsushiro Arr**	**10.33**	**345**	Pn	**Pn**	**19 46 22.3**	**-0.9**
	comp=N,0.1nm,0.3s,baz=164,slow=11,SNR=5.9						
	comp=N,1.5nm,0.7s						
WRA	**Warramunga Arr**	**46.80**	**189**	P	**P**	**19 52 23.0**	**-0.9**
	comp=N,2.1nm,0.6s,baz=12,slow=8.8,SNR=12						
	comp=N,2.1nm,0.6s						
MKAR	**Makanchi Array**	**50.39**	**310**	P	**P**	**19 52 52.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=89,slow=6.5,SNR=1.0						
	comp=N,0.1nm,0.3s						
ASAR	**Alice Springs**	**50.52**	**189**	P	**P**	**19 52 51.0**	**-1.5**
	comp=N,0.6nm,0.7s,baz=352,slow=5.6,SNR=1.7						
	comp=N,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**53.02**	**315**	P	**P**	**19 53 11.3**	**+0.4**
	comp=N,0.5nm,0.4s,baz=91,slow=7.5,SNR=12						
	comp=N,0.5nm,0.4s						
BVAR	**Borovoye Array**	**58.06**	**318**	P	**P**	**19 53 47.9**	**+0.9**
	comp=N,0.6nm,0.4s,baz=91,slow=7.0,SNR=8.7						
	comp=N,0.6nm,0.4s						
YKA	**Yellowknife Ar**	**72.82**	**28**	P	**P**	**19 55 23.3**	**+1.0**
	comp=N,0.3nm,0.5s,baz=297,slow=6.4,SNR=4.3						
	comp=N,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**73.84**	**341**	P	**P**	**19 55 31.0**	**+2.7**
	comp=N,3.2nm,0.9s,baz=70,slow=8.8,SNR=1.6						
	comp=N,3.2nm,0.9s						
FINES	**FINESS Array B**	**78.16**	**334**	P	**P**	**19 55 54.4**	**+1.4**
	comp=N,0.9nm,0.4s,baz=72,slow=4.5,SNR=15						
	comp=N,0.9nm,0.4s						
NVAR	**Mina Array Bea**	**81.23**	**51**	P	**P**	**19 56 10.8**	**+0.3**
	comp=N,0.4nm,0.7s,baz=303,slow=4.1,SNR=1.4						
	comp=N,0.4nm,0.7s						
HFS	**Hagfors**	**83.67**	**337**	P	**P**	**19 56 22.4**	**0.0**
	comp=N,1.9nm,0.8s,baz=101,slow=1.5,SNR=7.1						
	comp=N,1.9nm,0.8s						
NOA	**NORSAR Array B**	**83.88**	**338**	P	**P**	**19 56 23.4**	**-0.1**
	comp=N,0.2nm,0.4s,baz=45,slow=4.4,SNR=1.3						
	comp=N,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**124.51**	**310**	PKP	**PKPdf**	**20 02 53.2**	**-0.7**
	comp=N,0.4nm,0.8s,baz=132,slow=2.1,SNR=1.8						

*IDC **14** 19:45:45.4±1.4,34.38N×45.67E, h0km, mb3.9/11, mbtmp3.9/13, ML2.8/2, Error ellipse: s-maj=31.7km s-min=18.6km az=165.0*
*TEH **14** 19:45:47.1,34.40N×45.85E, h8km±65km, ML4.0*
*ISN **14** 19:45:47.7±1.2,34.30N×45.75E, h26km±7km, ML3.9*
*AFAD **14** 19:45:48.4±0.0,34.26N×45.60E, h7km±5km, MW3.8*
*DSN **14** 19:45:56.2±1.7,33.25N×45.93E, h15km, mb4.6/1, Error ellipse: s-maj=47.4km s-min=12.8km az=27.0*
*OMAN **14** 19:45:56.4±0.2,33.21N×45.61E, h34km, mb4.4/28, Error ellipse: s-maj=8.3km s-min=3.9km az=40.0*
ISC 14 19:45:45.4±0.5, 34.18N±0.03×45.78E±0.03, h10km, n117, σ3s44/157, mb3.9/10, 3C-6D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.37**	**334**	Pg	**Pg**	**19 45 51.7**	**-1.0**
IGHG	**Ghaleghazi**	**0.67**	**76**	Pg	**Pg**	**19 45 59.0**	**+0.7**
IGHG				Sg	**Sg**	**19 46 09.4**	**+2.2**
IDHR	**Dehrash**	**0.72**	**43**	Pg	**Pg**	**19 45 57.8**	**-1.6**
IDHR				Sg	**Sg**	**19 46 04.5**	**-4.4**
KCHF	**Cheshme Sefid,**	**1.05**	**84**	Pg	**Pg**	**19 46 08.2**	**+0.7**
IBDR	**Badra**	**1.07**	**173**	*e*Pg	**Pn**	**19 46 09.0**	**+2.6**
IBDR				*e*Sg	**Sn**	**19 46 26.0**	**+4.7**
IBDR				AML	AML	19 46 33.1	
	comp=N,2μm,0.9s						
IBDR				AML	AML	19 46 37.2	
	comp=E,2μm,0.6s						
ILIN	**Lien**	**1.22**	**52**	Pg	**Pn**	**19 46 08.6**	**-0.2**
IKOM	**Komasi**	**1.43**	**90**	Pg	**Pb**	**19 46 13.7**	**+1.4**
IKOM				Sg	**Sg**	**19 46 34.5**	**+3.0**
BHD	**Baghdad**	**1.48**	**233**	*e*Pg	**Pg**	**19 46 16.0**	**+2.3**
BHD				*e*Sg	**Sg**	**19 46 35.0**	**+2.1**
BHD				AML	AML	19 46 42.9	
	comp=E,2μm,0.4s						
IBZA	**Bozab**	**1.75**	**80**	Pg	**Pb**	**19 46 19.1**	**+1.4**
IKFM	**Kafar-mosalman**	**1.84**	**110**	Pn	**Pg**	**19 46 21.2**	**+0.6**
SDS1	**Sardasht. Az.**	**1.98**	**353**	Pg	**Pn**	**19 46 21.8**	**+2.6**
IALM	**Almabolaq**	**2.08**	**70**	Pn	**Pn**	**19 46 22.9**	**+2.2**
HSAM	**Samen**	**2.34**	**88**	Pn	**Pn**	**19 46 27.1**	**+3.0**
RAFI	**Al-Rafai**	**2.46**	**173**	*e*Pn	**Pb**	**19 46 30.0**	**+0.3**
RAFI				*e*Sn	**Sg**	**19 47 01.0**	**-3.5**
MAHB	**Mahabad**	**2.59**	**359**	Pn	**Pn**	**19 46 29.2**	**+1.8**
HAGD	**Aghdareh**	**2.85**	**76**	Pn	**Pn**	**19 46 33.8**	**+2.7**
IHSH	**Hashtrud**	**3.35**	**21**	Pn	**Pn**	**19 46 39.5**	**+1.5**
CUKT	**Cukurca**	**3.54**	**331**	P	**Pn**	**19 46 42.0**	**+1.4**
CUKT				S	**Sn**	**19 47 22.2**	**-0.3**
YOVA	**Hakkari_Yksek**	**3.61**	**341**	P	**Pn**	**19 46 43.2**	**+1.5**
YOVA				S	**Sn**	**19 47 27.9**	**+3.4**
QSDN	**Sirdan**	**3.62**	**49**	Pn	**Pn**	**19 46 43.9**	**+2.2**
IRAZ	**Razeghan**	**3.63**	**69**	Pn	**Pn**	**19 46 44.4**	**+2.6**
HAKT	**HAKKARI**	**3.77**	**334**	P	**Pn**	**19 46 44.6**	**+0.8**
HAKT				S	**Sn**	**19 47 26.8**	**-1.7**
ISRB	**Sarab**	**3.95**	**22**	Pn	**Pn**	**19 46 47.4**	**+1.1**
IHRS	**Heris**	**4.26**	**13**	Pn	**Pn**	**19 46 52.1**	**+1.6**
SIRN	**Sirnak**	**4.30**	**321**	P	**Pn**	**19 46 51.8**	**+0.9**
SIRN				S	**Sn**	**19 47 41.5**	**+0.4**
IQOM	**Qom**	**4.42**	**80**	Pn	**Pn**	**19 46 55.1**	**+2.4**
JHBN	**Jahan bin**	**4.53**	**114**	Pn	**Pn**	**19 46 58.3**	**+4.0**
IMRD	**Marand**	**4.53**	**359**	Pn	**Pn**	**19 46 55.7**	**+1.6**
PERV	**Siirt/Pervari-**	**4.59**	**326**	P	**Pn**	**19 46 56.7**	**+1.7**
PERV				S	**Sn**	**19 47 46.3**	**-2.0**
GEVA	**Gevas**	**4.68**	**333**	P	Pn	**19 46 56.7**	**-5.5**
GEVA				S	Sn	19 47 35.8	-15
QAMS	**Qamsar**	**4.69**	**94**	Pn	**Pn**	**19 46 59.7**	**+3.3**
ZNGN	**Zangian**	**4.72**	**114**	Pn	**Pn**	**19 47 00.8**	**+3.8**
TVAN	**Van**	**4.75**	**337**	P	**Pn**	**19 47 00.2**	**+2.9**
MIDY	**Mardin/Midyat-**	**4.80**	**313**	P	**Pn**	**19 46 56.3**	**-1.6**
MIDY				S	**Sn**	**19 47 55.5**	**+1.9**
IKLH	**Kolahrood**	**4.90**	**98**	Pn	**Pn**	**19 47 03.1**	**+3.7**
IVRN	**Varamin**	**4.97**	**79**	Pn	**Pn**	**19 47 02.6**	**+2.5**
IBRJ	**Brojen**	**5.12**	**115**	Pn	**Pn**	**19 47 06.0**	**+3.6**
MARD	**Mardin**	**5.13**	**309**	P	**Pn**	**19 47 03.4**	**+1.0**
KRSH	**Karshahi**	**5.28**	**90**	Pn	**Pn**	**19 47 07.6**	**+3.2**
IDMV	**Damavand**	**5.32**	**73**	Pn	**Pn**	**19 47 07.8**	**+2.6**
ISFB	**Sefidab**	**5.35**	**86**	Pn	**Pn**	**19 47 07.6**	**+2.2**
IGAR	**Gharneh**	**5.53**	**107**	Pn	**Pn**	**19 47 11.6**	**+3.6**
IZEF	**Zefreh**	**5.61**	**101**	Pn	**Pn**	**19 47 12.5**	**+3.3**
MUSM	**Mu-Merkez**	**5.70**	**324**	P	**Pn**	**19 47 10.7**	**+0.5**
MUSM				S	**Sn**	**19 48 13.7**	**-2.0**
KLNJ	**Kolanjah**	**5.83**	**121**	Pn	**Pn**	**19 47 16.8**	**+4.6**
IFIR	**Firoozkooh**	**5.91**	**74**	Pn	**Pn**	**19 47 15.8**	**+2.6**
GNI	**Garni**	**6.02**	**352**	Pn	**Pn**	**19 47 14.0**	**-0.6**
	comp=E,0.3nm,0.3s,baz=236,slow=17,SNR=2.0						
GNI				Lg	Lg	19 48 55.1	
	baz=181,slow=16						
	comp=E,3.8nm,0.8s						
IRAM	**Ramesheh**	**6.03**	**111**	Pn	**Pn**	**19 47 18.5**	**+3.7**
ILAS	**Lasjerd**	**6.03**	**76**	Pn	**Pn**	**19 47 17.8**	**+3.0**
ASF	**Jabal al Asfar**	**7.71**	**257**	Pn	**Pn**	**19 47 38.4**	**+0.6**
	comp=E,0.1nm,0.3s,baz=249,slow=22,SNR=3.1						
ASF				Pg	**Pg**	**19 48 12.2**	**-0.8**
	comp=E,0.3nm,0.3s,baz=63,slow=23,SNR=3.6						
ASF				Lg	Lg	19 49 44.9	
	comp=E,0.2nm,0.3s,baz=63,slow=23,SNR=1.6						
	comp=E,1.8nm,0.3s						
MMAI	**Mount Meron Ar**	**8.74**	**265**	Lg	Lg	19 50 16.0	
	comp=E,0.5nm,0.3s,baz=298,slow=46,SNR=2.3						
EIL	**Elat**	**10.24**	**247**	Lg	Lg	19 51 13.8	
	comp=E,0.1nm,0.3s,baz=113,slow=13,SNR=2.9						
SMRA	**Abu-Samra**	**10.37**	**154**	P	**Pn**	**19 48 12.5**	**-1.7**
SMRA				S	**Sn**	**19 50 02.4**	**-8.1**
TRNA	**Turayna**	**10.53**	**152**	P	Pn	**19 48 14.4**	**-1.9**
TRNA				S	**Sn**	**19 50 07.1**	**-7.2**
JRN	**Qarnain Island**	**11.06**	**144**	P	Pn	**19 48 24.1**	**+0.4**
JRN				S	**Sn**	**19 50 22.1**	**-5.3**
SHME	**Shamm**	**12.08**	**129**	*i* P	**Pn**	**19 48 37.3**	**-0.2**
	SNR=16						
SHME				S	**Sn**	**19 50 47.0**	**-5.3**
SHME	**Shamm**	**12.08**	**129**	P	Pn	**19 48 38.9**	**+1.4**
	SNR=16						
SHME				S	**Sn**	**19 50 48.9**	**-3.4**
UMQ	**Umm Al-Quwin**	**12.15**	**133**	P	**Pn**	**19 48 39.5**	**+0.9**
BANOM	**Banah**	**12.27**	**129**	P	**Pn**	**19 48 40.8**	**+0.6**
BANOM	**Banah**	**12.27**	**129**	P	**Pn**	**19 48 41.4**	**+1.2**
BANOM				S	**Sn**	**19 50 53.5**	**-3.5**
AJN	**Ajban**	**12.49**	**138**	P	Pn	**19 48 44.1**	**+0.9**
AJN	**Ajban**	**12.49**	**138**	P	Pn	**19 48 44.0**	**+0.9**
AJN				S	**Sn**	**19 50 57.1**	**-5.3**
NAZ	**Nazwa, Dubai**	**12.55**	**134**	P	**Pn**	**19 48 45.5**	**+1.4**
NAZ	**Nazwa, Dubai**	**12.55**	**134**	P	Pn	**19 48 45.4**	**+1.3**
NAZ				S	**Sn**	**19 50 59.4**	**-4.5**
MASF	**Masafi**	**12.57**	**132**	P	Pn	**19 48 45.8**	**+1.4**
	SNR=18						
MASF				S	**Sn**	**19 51 00.4**	**-4.1**
MSFE	**Esma-Masafi**	**12.58**	**132**	*i* P	**Pn**	**19 48 45.2**	**+0.7**
	SNR=18						
ASUD	**Al Ashush, Dub**	**12.63**	**136**	*i* P	Pn	**19 48 46.3**	**+1.1**
	SNR=14						
ASUD	**Al Ashush, Dub**	**12.63**	**136**	P	Pn	**19 48 46.8**	**+1.6**
	SNR=14						
ASUD				S	**Sn**	**19 51 01.0**	**-5.0**
FAQ	**Al Faqa, Dubai**	**12.69**	**135**	*i* P	**Pn**	**19 48 46.3**	**+0.3**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**12.69**	**135**	P	Pn	**19 48 47.3**	**+1.2**
	SNR=14						
FAQ				S	**Sn**	**19 51 01.8**	**-5.7**
MDH	**Madha**	**12.71**	**131**	*i* P	**Pn**	**19 48 47.2**	**+1.0**
	SNR=17						
MDH	**Madha**	**12.71**	**131**	P	Pn	**19 48 47.6**	**+1.4**
	SNR=17						
MDH				S	**Sn**	**19 51 03.3**	**-4.5**
HATD	**Hatta, Dubai**	**12.95**	**133**	*i* P	**Pn**	**19 48 50.5**	**+0.9**
	SNR=13						
HATD	**Hatta, Dubai**	**12.95**	**133**	P	Pn	**19 48 50.8**	**+1.2**
	SNR=13						
HATD				S	**Sn**	**19 51 07.9**	**-5.9**
ASHO	**Ashiyiah**	**13.02**	**134**	*i* P	**Pn**	**19 48 50.7**	**+0.3**
	SNR=28						
ASHO	**Ashiyiah**	**13.02**	**134**	P	Pn	**19 48 51.5**	**+1.0**
	SNR=28						
ASHO				S	**Sn**	**19 51 10.3**	**-5.1**
ALNE	**Al Ain**	**13.32**	**137**	*i* P	**Pn**	**19 48 54.8**	**+0.3**
	SNR=18						
ALNE	**Al Ain**	**13.32**	**137**	P	Pn	**19 48 55.5**	**+0.9**
	SNR=18						
ALNE				S	**Sn**	**19 51 16.6**	**-6.1**
SOHO	**SOHO**	**13.71**	**134**	P	**Pn**	**19 49 00.1**	**+0.2**
SOHO	**SOHO**	**13.71**	**134**	P	Pn	**19 49 00.7**	**+0.7**
SOHO				S	**Sn**	**19 51 27.1**	**-5.2**
ARQ	**Araqi**	**14.32**	**136**	P	Pn	**19 49 08.9**	**+0.6**
	SNR=15						
ARQ				S	**Sn**	**19 51 41.2**	**-6.0**
BIDO	**Bidbid**	**15.14**	**131**	P	Pn	**19 49 20.4**	**+1.0**
BIDO				S	**Sn**	**19 52 01.2**	**-6.0**
BSY	**Bisya**	**15.17**	**136**	P	Pn	**19 49 19.6**	**-0.2**
BSY				S	**Sn**	**19 52 02.7**	**-5.2**
SMDO	**Samad**	**15.43**	**133**	P	Pn	**19 49 23.5**	**+0.2**
	SNR=7.8						
SMDO				S	**Sn**	**19 52 09.6**	**-4.9**
WSAR	**Wadi Sarin**	**15.66**	**131**	P	Pn	**19 49 26.2**	**0.0**
	SNR=6.3						
WSAR				S	**Sn**	**19 52 13.9**	**-6.0**
JMDO	**Jabal Madar**	**15.99**	**134**	P	Pn	**19 49 31.8**	**+1.4**
JMDO				S	**Sn**	**19 52 22.5**	**-5.2**
WBK	**Wadi Bani Khal**	**16.33**	**131**	P	**P**	**19 49 37.1**	**-0.7**
WBK				S	**Sn**	**19 52 31.3**	**-4.9**
JLN	**Jalan Bani Buh**	**16.95**	**131**	P	**P**	**19 49 44.2**	**-0.4**
JLN				S	**Sn**	**19 52 46.1**	**-5.0**
MHTO	**MHTO**	**16.99**	**138**	P	Pn	**19 49 42.6**	**-0.5**
	SNR=9.5						
MHTO				S	**Sn**	**19 52 44.4**	**-7.7**
DQM	**DQM**	**17.61**	**141**	P	**P**	**19 49 51.8**	**-0.2**
DQM				S	**Sn**	**19 52 59.7**	**-7.5**
WHFO	**Wadi Hawf**	**17.70**	**154**	P	Pn	**19 49 50.7**	**-1.4**
WHFO				S	**Sn**	**19 52 58.6**	**-11**
ABTO	**Aybut**	**18.05**	**156**	P	Pn	**19 49 55.0**	**-1.5**
	SNR=7.7						
ABTO				S	**Sn**	**19 53 07.3**	**-11**
RBK	**Rabkut**	**18.24**	**153**	P	Pn	**19 49 58.0**	**-0.7**
RBK				S	**Sn**	**19 53 12.3**	**-10**
DMTO	**DMTO**	**18.33**	**151**	P	Pn	**19 49 58.8**	**-0.9**
	SNR=15						
DMTO				S	**Sn**	**19 53 13.9**	**-11**
SHAO	**Shalim**	**18.34**	**149**	*i* P	Pn	**19 49 58.4**	**-1.5**
	SNR=7.6						
SHAO	**Shalim**	**18.34**	**149**	P	Pn	**19 49 59.2**	**-0.7**
SHAO				S	**Sn**	**19 53 14.9**	**-10**
PLOR	**Plostina**	**18.68**	**314**	⇓P	Pn	19 50 11.6	+7.7
MLR	**Muntele Rosu**	**18.91**	**313**	⇑P	Pn	19 50 16.4	+9.5
VOIR		**19.44**	**312**	⇓P	**Pn**	**19 50 14.7**	**+1.5**
DOPR	**Dopca**	**19.49**	**313**	⇑P	**P**	**19 50 13.2**	**+0.7**
ARR	**Arges**	**19.67**	**311**	⇑P	**Pn**	**19 50 17.2**	**+1.3**
BURAR	**Bucovina Array**	**20.46**	**317**	⇓P	**P**	**19 50 24.1**	**+1.0**
AKASG	**Malin Array Be**	**20.47**	**329**	P	**P**	**19 50 22.1**	**-0.9**
	comp=E,2.0nm,0.6s,baz=138,slow=9.7,SNR=12						
	comp=E,2.0nm,0.6s						
KIEV	**Kiev**	**20.47**	**329**	⇓P	**P**	**19 50 22.5**	**-0.6**
GZR	**Gura Zlata**	**20.86**	**309**	⇓P	**P**	**19 50 27.3**	**-0.1**
MARR	**Marisel-Cluj**	**21.21**	**313**	⇓P	**P**	**19 50 32.5**	**+1.3**
KOLS	**Kolonicke sedl**	**22.83**	**317**	*e*P	**P**	**19 50 53.9**	**+5.5**
BVAR	**Borovoye Array**	**25.72**	**35**	P	**P**	**19 51 17.5**	**+1.8**
	comp=E,1.5nm,0.7s,baz=226,slow=5.8,SNR=5.0						
	comp=E,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**28.93**	**45**	P	**P**	**19 51 45.7**	**+1.2**
	comp=E,1.7nm,0.8s,baz=280,slow=12,SNR=4.9						
	comp=E,1.7nm,0.8s						
FINES	**FINESS Array B**	**30.07**	**341**	P	**P**	**19 51 53.8**	**-0.7**
	comp=E,1.7nm,0.8s,baz=163,slow=10.0,SNR=1.9						
	comp=E,1.7nm,0.8s						
MKAR	**Makanchi Array**	**30.22**	**54**	P	**P**	**19 51 57.4**	**+1.4**
	comp=E,1.7nm,0.9s,baz=248,slow=7.6,SNR=3.2						
	comp=E,1.7nm,0.9s						
HFS	**Hagfors**	**33.32**	**331**	P	**P**	**19 52 22.5**	**-0.6**
	comp=E,1.7nm,0.5s,baz=127,slow=8.6,SNR=5.6						
	comp=E,1.7nm,0.5s						
ZALV	**Zalesovo Beam**	**33.73**	**42**	P	**P**	**19 52 28.4**	**+1.7**
	comp=E,1.0nm,0.6s,baz=254,slow=7.5,SNR=4.0						
	comp=E,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**37.16**	**348**	P	**P**	**19 52 56.4**	**+0.3**
	comp=E,4.4nm,1.0s,baz=166,slow=11,SNR=2.1						
	comp=E,4.4nm,1.0s						
ESDC	**Sonseca Array**	**39.73**	**293**	P	**P**	**19 53 18.8**	**+0.7**
	comp=E,0.7nm,1.0s,baz=78,slow=9.2,SNR=1.3						
	comp=E,0.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**45.05**	**253**	P	**P**	**19 54 02.8**	**+1.2**
	comp=E,0.9nm,1.0s,baz=37,slow=7.8,SNR=3.9						
	comp=E,0.9nm,1.0s						
KSRS	**Korea Array**	**64.61**	**61**	P	**P**	**19 56 22.9**	**-0.2**
	comp=E,1.8nm,0.7s,baz=290,slow=6.1,SNR=4.6						
	comp=E,1.8nm,0.7s						

*IDC **14** 19:46:12.3±1.6,17.23N×85.07W, h0km, mb3.5/6, mbtmp3.7/9, ML2.9/3, MS3.4/5, Error ellipse: s-maj=49.2km s-min=22.0km az=27.0*
*NEIC **14** 19:46:17.3±1.7,17.16N±0.08×85.6W±0.2, h10km±2km, mb4.4/21, Error ellipse: s-maj=25.7km s-min=12.7km az=81.0*
ISC 14 19:46:19.3±1.1, 17.21N±0.07×85.6W±0.1, h28km, n38, σ1s41/36, mb3.5/5, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**3.51**	**207**	Pn	**Pn**	**19 47 09.8**	**-2.4**
TEIG	**Tepich**	**3.91**	**321**	Pn	**Pn**	**19 47 16.9**	**-0.6**
TEIG	**Tepich**	**3.91**	**321**	Pn	**Pn**	**19 47 17.1**	**-0.4**
	403nm,0.3s,baz=147,slow=1.2,SNR=195						
TEIG				Sn	**Sn**	**19 48 02.0**	**-0.5**
	479nm,0.3s,baz=183,slow=20,SNR=12						
TEIG				LR	LR	19 49 05.3	
	comp=Z,2μm,18.3s,baz=359,slow=41						
CCIG	**Comitan**	**6.29**	**263**	Pn	**Pn**	**19 47 51.6**	**+1.1**
CMIG	**Matias Romero**	**8.84**	**271**	Pn	**Pn**	**19 48 27.8**	**+2.5**
	1.0nm,0.3s,baz=51,slow=10,SNR=7.5						
CMIG				Sn	**Sn**	**19 50 04.6**	**+0.5**
	0.3nm,0.3s,baz=300,slow=16,SNR=1.4						
CMIG				LR	LR	19 52 29.1	
	comp=Z,135nm,18.9s,baz=48,slow=40						
	5.9nm,0.6s						
TLIG	**Tlapa**	**12.35**	**274**	Pn	**Pn**	**19 49 14.5**	**+1.0**
HBVL	**Hebbronville**	**15.54**	**311**		**Pn**	**19 49 57.2**	**+0.6**
HBVL				IAmb	IAmb	19 50 08.3	
	comp=Z,11nm,0.7s						
HKT	**Hockley**	**15.74**	**326**		**Pn**	**19 50 00.1**	**+1.0**
HKT				IAmb	IAmb	19 50 09.5	
	comp=Z,30nm,1.0s						
ROSC	**El Rosal**	**16.55**	**137**	Pn	Pn	19 50 02.4	-7.5
	comp=Z,0.4nm,0.3s,baz=158,slow=24,SNR=1.2						
ROSC				LR	LR	19 56 46.2	
	comp=Z,117nm,19.5s,baz=95,slow=39						
	comp=Z,2.2nm,0.3s						
EF01	**Eagle Ford 01**	**16.66**	**318**		**Pn**	**19 50 09.1**	**-1.7**
EF01				IAmb	IAmb	19 50 22.0	
	comp=Z,27nm,0.9s						
SDV	**Santo Domingo**	**16.78**	**118**	Pn	Pn	19 50 03.9	-8.8
	comp=Z,0.1nm,0.3s,baz=300,slow=5.5,SNR=7.8						
SDV				LR	LR	19 56 57.8	
	comp=Z,81nm,21.4s,baz=320,slow=40						
	comp=Z,6.6nm,0.7s						
833A	**Chaparral WMA,**	**16.82**	**314**	Pn	**Pn**	**19 50 12.3**	**-0.6**
435B	**Jarrell**	**17.35**	**323**		**P**	**19 50 20.8**	**+0.1**
HNDO	**Hondo**	**17.51**	**317**	P	**P**	**19 50 22.6**	**+0.1**
WHTX	**Lake Whitney,**	**18.20**	**326**	P	**P**	**19 50 32.7**	**+2.6**
DRIO	**Del Rio**	**18.34**	**314**	P	**P**	**19 50 32.9**	**+1.3**
TKL	**Tuckaleechee C**

GRNB	**Grenville Isla**	**3.35**	**3**	Pn	Pn	19 47 52.5	-1.8
GRNB				Sn	Sn	19 48 29.6	-4.5
KITB	**Kitimat**	**3.72**	**15**	Pn	Pn	19 47 58.1	-1.2
KITB				Sn	Sn	19 48 40.6	-2.5
RUBB	**Prince Rupert**	**3.83**	**0**	Pn	Pn	19 47 59.5	-1.3
TXB	**Texada**	**3.86**	**100**	Pn	Pn	19 48 00.4	-0.9
SHB	**Sechelt**	**4.24**	**100**	Pn	Pn	19 48 05.4	-1.2
OBC	**Olympics--Boni**	**4.76**	**119**	Pn	Pn	19 48 14.7	+0.9
LLLB	**Lillooet**	**5.37**	**86**	Pn	Pn	19 48 21.2	-0.7
FSJB	**Fort St James**	**5.39**	**41**	Pn	Pn	19 48 21.7	-0.7
HDW	**Hoodsport**	**5.55**	**118**	Pn	Pn	19 48 24.6	-0.1
MBW	**Mount Baker**	**5.72**	**104**	Pn	Pn	19 48 28.0	+1.0
CMW	**Cultus Mountai**	**5.73**	**108**	Pn	Pn	19 48 27.7	+0.7
JCW	**Jim Creek**	**5.94**	**110**	Pn	Pn	19 48 30.5	+0.6
T35M	**Bob Quinn**	**6.49**	**0**	Pn	Pn	19 48 38.0	+0.6
NBC5	**NorthernBC 5**	**8.33**	**30**	P	Pn	19 49 03.4	+0.7

*IDC **14** 19:48:53.5±0.6,25˚.04N×123˚.68E,h0km,mb4.1/18, mbtmp4.0/22,ML3.1/4,Error ellipse: s-maj=18.2km s-min=14.6km az=71.0*
*NIED **14** 19:48:54.6,25˚.04N×123˚.72E,h12km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-6.26; Mθθ6.03; Mφφ0.24; Mrθ-5.03; Mθφ1.35; Mφr-2.74; Fault plane solution: M₀8.51000×10¹⁵ NP1:φ₀67.00000°, δ66.00000°,λ-99.00000°. NP2:φ₀268.00000°,δ25.00000°, λ-71.00000°.*
*JMA **14** 19:48:54.6±0.2,25˚.0N±0˚.6×123˚.7E±0˚.2,h12km±2km, MD4.7/13,MV4.2/13,NW OFF ISHIGAKIJIMA IS*
*NEIC **14** 19:48:55.1±1.8,25˚.05N±0˚.05×123˚.84E±0˚.06,h10km±1km, mb4.6/26,Error ellipse: s-maj=9.6km s-min=7.1km az=122.0*

ISC 14 19:48:54.7±1.3,25˚04N±0˚.05×123˚73E±0˚.03,h9km±9km, n81,σt0s82/87,mb4.4/31,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.69**	**130**	P		**Pg**		**19 49 08.2**	**+0.2**
JISG				*e*S		**Sg**		**19 49 17.7**	**+0.6**
JISG	**Ishigakijimahi**	**0.69**	**130**	A		A		19 49 08.2	
	comp=E,36nm,1.2s,comp=N,28nm,0.9s								
JIJ	**Ishigaki jima**	**0.77**	**151**	P		**Pg**		**19 49 09.1**	**-0.4**
JIJ				*e*S		**Sg**		**19 49 19.8**	**+0.3**
JIJ	**Ishigaki jima**	**0.77**	**151**	A		A		19 49 09.1	
	comp=E,19nm,2.5s,comp=N,20nm,4.9s								
JKRS	**Kuro-shima**	**0.83**	**162**	P		**Pg**		**19 49 10.3**	**-0.4**
JKRS	**Kuro-shima**	**0.83**	**162**	A		A		19 49 10.3	
	comp=E,77nm,5.0s,comp=N,63nm,2.5s								
YOJ	**Yonaguni jima**	**0.87**	**229**	Pg		**Pg**		**19 49 11.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.87**	**229**	P		**Pg**		**19 49 10.9**	**-0.4**
YOJ				*e*S		**Sg**		**19 49 22.7**	**0.0**
YOJ	**Yonaguni jima**	**0.87**	**229**	A		A		19 49 10.9	
	comp=E,30nm,2.9s,comp=N,35nm,4.7s								
JYNG	**Yonagunijimaku**	**0.92**	**231**	P		**Pg**		**19 49 11.6**	**-0.8**
JYNG				S		**Sg**		**19 49 24.1**	**-0.3**
JYNG	**Yonagunijimaku**	**0.92**	**231**	A		A		19 49 11.6	
	comp=E,27nm,4.6s,comp=N,28nm,3.0s								
JTJ	**Tarama**	**0.97**	**114**	P		**Pg**		**19 49 13.2**	**0.0**
JTJ				S		**Sb**		**19 49 27.0**	**+0.6**
JTJ	**Tarama**	**0.97**	**114**	A		A		19 49 13.2	
	comp=E,103nm,0.9s,comp=N,49nm,2.7s								
HATJ	**Hateruma jima**	**0.98**	**176**	P		**Pg**		**19 49 13.2**	**-0.2**
HATJ				*e*S		**Sg**		**19 49 26.0**	**-0.2**
HATJ	**Hateruma jima**	**0.98**	**176**	A		A		19 49 13.2	
	comp=E,78nm,2.1s,comp=N,83nm,3.3s								
JIRB	**Irabujima**	**1.33**	**99**	P		**Pn**		**19 49 18.6**	**-0.7**
JIRB				*e*S		**Sb**		**19 49 36.1**	**-0.7**
JIRB	**Irabujima**	**1.33**	**99**	A		A		19 49 18.6	
	comp=E,20nm,7.9s,comp=N,24nm,3.7s								
JIKM	**Ikemajima**	**1.38**	**94**	*e*P		**Pn**		**19 49 19.8**	**-0.3**
JIKM				*e*S		**Sn**		**19 49 38.5**	**0.0**
JMJ2	**Miyako jima3**	**1.48**	**101**	*e*P		**Pn**		**19 49 21.3**	**-0.2**
JMJ2				*e*S		**Sn**		**19 49 40.6**	**-0.3**
JOGS	**Gusukube**	**1.55**	**100**	*e*P		**Pn**		**19 49 22.1**	**-0.2**
JOGS				*e*S		**Sn**		**19 49 42.1**	**-0.5**
TATO	**Taipei**	**2.04**	**269**			**Pg**		**19 49 33.5**	**-0.2**
NACB	**Ninganchiao**	**2.12**	**247**			**Pb**		**19 49 33.5**	**+0.2**
YHNB	**Yeheng**	**2.17**	**261**			**Pb**		**19 49 34.8**	**+0.6**
YULB	**Yu-li**	**2.76**	**234**			**Pn**		**19 49 40.8**	**+1.8**
SSLB	**Suanglung**	**2.82**	**244**			**Pb**		**19 49 44.1**	**-1.1**
TPUB	**Ta-pu**	**3.32**	**239**	Pn		**Pb**		**19 49 51.6**	**-2.1**
JOW	**Kunigami**	**4.47**	**65**			**Pn**		**19 50 03.2**	**+0.7**
JOW	**Kunigami**	**4.47**	**65**	Pn		**Pn**		**19 50 03.1**	**+0.6**
	comp=N,2.1nm,0.3s,baz=270,slow=14,SNR=8.2 comp=N,43nm,0.9s								
JNU	**Nakatsue**	**10.20**	**36**	Pn		**Pn**		**19 51 22.2**	**+1.0**
	comp=N,0.1nm,0.3s,baz=207,slow=16,SNR=1.8 comp=N,5.1nm,0.8s								
KSRS	**Korea Array**	**12.89**	**15**	Pn		**Pn**		**19 51 59.5**	**+1.5**
	comp=N,0.1nm,0.3s,baz=160,slow=15,SNR=1.6 comp=N,0.6nm,0.6s								
MJAR	**Matsushiro Arr**	**16.90**	**44**	Pn		**P**		**19 52 53.2**	**-0.2**
	baz=232,slow=9.5,SNR=11 comp=N,3.7nm,0.9s								
USRK	**Ussuriysk Ar.**	**20.27**	**17**	P		**P**		**19 53 31.1**	**+0.7**
	comp=N,17nm,0.9s,baz=206,slow=13,SNR=10 comp=N,17nm,0.9s								
CHTO	**Chiang Mai**	**23.79**	**260**	P		**P**		**19 54 08.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**23.91**	**259**	P		**P**		**19 54 09.8**	**+0.8**
	comp=N,0.6nm,0.6s,baz=59,slow=9.0,SNR=6.0 comp=N,0.6nm,0.6s								
GTA	**Gaotai**	**24.70**	**311**	*e*P		**P**		**19 54 17.0**	**+0.8**
GTA				pmax		pmax			
	comp=E,4.0nm,1.2s								
ULN	**Ulaanbaatar**	**26.33**	**334**	P		**P**		**19 54 29.6**	**-1.3**
ULN				IAmb		IAmb		19 54 58.0	
	comp=E,15nm,1.4s								
SONM	**Songino Array**	**26.57**	**333**	P		**P**		**19 54 33.6**	**+0.6**
	comp=E,1.1nm,0.7s,baz=152,slow=8.1,SNR=6.4								
SONM				PcP		**PcP**		**19 57 58.1**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=155,slow=3.2,SNR=3.8 comp=Z,1.1nm,0.7s								
MK31	**Makanchi Array**	**39.37**	**314**	P		**P**		**19 56 23.1**	**-1.4**
MKAR	**Makanchi Array**	**39.37**	**314**	P		**P**		**19 56 23.1**	**-1.4**
MKAR	**Makanchi Array**	**39.37**	**314**	P		**P**		**19 56 24.7**	**+0.2**
	comp=E,6.5nm,0.9s,baz=103,slow=10,SNR=34								
MKAR				PcP		**PcP**		**19 58 32.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=94,slow=4.3,SNR=3.3 comp=Z,6.5nm,0.9s								
MAKZ	**Makanchi**	**39.58**	**314**	P		**P**		**19 56 25.9**	**-0.3**
MAKZ				IAmb		IAmb		19 56 27.8	
	comp=Z,12nm,1.1s								
ZAA0	**Zalesovo Array**	**40.83**	**325**	P		**P**		**19 56 34.2**	**-2.2**
ZAA0				IAmb		IAmb		19 56 37.1	
	comp=Z,9.3nm,1.1s								
ZALV	**Zalesovo Beam**	**40.83**	**325**	P		**P**		**19 56 34.7**	**-1.7**
ZALV	**Zalesovo Beam**	**40.83**	**325**	P		**P**		**19 56 36.0**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=111,slow=8.3,SNR=16 comp=Z,4.0nm,0.8s								
NRN	**Naryn**	**42.59**	**305**	P		**P**		**19 56 50.2**	**-1.2**
KURK	**Kurchatov**	**42.96**	**319**	P		**P**		**19 56 53.7**	**-0.1**
KURK				IAmb		IAmb		19 56 55.7	
	comp=Z,18nm,1.3s								
KURBB	**Kurchatov Arra**	**42.98**	**318**	P		**P**		**19 56 54.2**	**+0.2**
	comp=Z,5.8nm,1.1s,baz=109,slow=8.0,SNR=19								
KURBB				PcP		**PcP**		**19 58 42.9**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=144,slow=3.1,SNR=3.2 comp=Z,5.8nm,1.1s								
COEN	**Coen**	**43.15**	**152**	P		**P**		**19 56 56.6**	**+0.9**
COEN				IAmb		IAmb		19 57 03.8	
	comp=Z,11nm,1.1s								
WB0	**Warramunga Arr**	**45.73**	**166**	P		**P**		**19 57 16.1**	**-0.2**
WB0				IAmb		IAmb		19 57 26.9	
	comp=Z,10nm,1.0s								
WRA	**Warramunga Arr**	**45.88**	**166**	P		**P**		**19 57 19.3**	**+1.7**
WRA	**Warramunga Arr**	**45.88**	**166**	P		**P**		**19 57 17.7**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=347,slow=8.8,SNR=11 comp=Z,1.3nm,0.7s								
WB2	**Warramunga Arr**	**45.89**	**166**	P		**P**		**19 57 18.4**	**+0.8**
WR0	**Warramunga Arr**	**45.95**	**166**	P		**P**		**19 57 18.4**	**+0.4**
BVAR	**Borovoye Array**	**48.51**	**320**	P		**P**		**19 57 37.5**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=198,slow=34,SNR=5.1								
BVAR				PcP		**PcP**		**19 59 02.9**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=110,slow=3.5,SNR=4.4 comp=Z,0.8nm,0.6s								
NRIK	**Noril'sk**	**49.21**	**344**	P		**P**		**19 57 42.5**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=130,slow=7.9,SNR=5.6 comp=Z,5.0nm,0.9s								
AS31	**Alice Springs**	**49.41**	**168**	P		**P**		**19 57 44.9**	**0.0**
ASAR	**Alice Springs**	**49.41**	**168**	P		**P**		**19 57 46.1**	**+1.2**
ASAR	**Alice Springs**	**49.41**	**168**	P		**P**		**19 57 45.6**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=349,slow=7.3,SNR=15 comp=Z,0.7nm,0.5s								

ABKAR	**Akbulak array**	**54.52**	**314**	P		**P**		**19 58 22.8**	**0.0**
ABKAR				IAmb		IAmb		19 58 46.0	
	comp=Z,7.5nm,1.5s								
GEYT	**Alibeck**	**56.37**	**300**	P		**P**		**19 58 37.2**	**+0.8**
	comp=Z,4.6nm,0.9s,baz=81,slow=9.3,SNR=7.6 comp=Z,4.6nm,0.9s								
STKA	**Stephens Creek**	**59.11**	**162**	P		**P**		**19 58 55.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=341,slow=7.3,SNR=1.6 comp=Z,1.2nm,0.7s								
F24K	**Squaw Lake**	**66.53**	**25**	P		**P**		**19 59 43.9**	**-0.7**
F24K				IAmb		IAmb		19 59 45.7	
	comp=Z,5.2nm,1.1s								
ONI	**Oni**	**66.61**	**308**	P		**P**		**19 59 45.7**	**+0.2**
ILAR	**Eielson Array**	**67.39**	**28**	P		**P**		**19 59 51.4**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=294,slow=6.8,SNR=4.7 comp=Z,0.3nm,0.6s								
BMAR	**Burnt Mountain**	**67.80**	**25**	P		**P**		**19 59 52.8**	**+0.2**
F28M	**Old Crow**	**69.51**	**24**	P		**P**		**20 00 03.3**	**0.0**
F28M				IAmb		IAmb		20 00 04.8	
	comp=Z,4.7nm,1.0s								
K27K	**Chicken**	**69.59**	**28**	P		**P**		**20 00 03.7**	**-0.1**
K27K				IAmb		IAmb		20 00 14.1	
	comp=Z,7.8nm,1.4s								
M26K	**Nabesna, AK**	**69.62**	**30**	P		**P**		**20 00 03.8**	**-0.3**
BCAR	**Beaver Creek A**	**69.98**	**29**	P		**P**		**20 00 05.8**	**-0.5**
E29M	**Blow River**	**70.00**	**23**	P		**P**		**20 00 06.0**	**-0.2**
I28M	**Miner Creek**	**70.09**	**26**	P		**P**		**20 00 06.5**	**-0.4**
I28M				IAmb		IAmb		20 00 31.2	
	comp=Z,6.7nm,1.3s								
M27K	**Edge Creek, AK**	**70.13**	**30**	P		**P**		**20 00 06.4**	**-0.9**
DAWY	**Dawson**	**70.72**	**28**	P		**P**		**20 00 09.3**	**-1.5**
DAWY				IAmb		IAmb		20 00 11.8	
	comp=Z,3.5nm,1.0s								
FINES	**FINESS Array B**	**71.88**	**330**	P		**P**		**20 00 17.3**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=46,slow=4.8,SNR=3.3 comp=Z,3.0nm,0.9s								
N30M	**Aishikik Lake**	**72.56**	**30**	P		**P**		**20 00 21.5**	**-0.5**
N30M				IAmb		IAmb		20 00 45.1	
	comp=Z,11nm,1.5s								
N31M	**Braeburn, Yuko**	**73.14**	**30**	P		**P**		**20 00 24.9**	**-0.5**
YKA	**Yellowknife Ar**	**81.28**	**24**	P		**P**		**20 01 10.2**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=310,slow=4.8,SNR=8.6 comp=Z,0.4nm,0.7s								
GERES	**GERESS Array B**	**83.64**	**321**	P		**P**		**20 01 22.4**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=33,slow=5.1,SNR=4.3 comp=Z,1.0nm,0.9s								
NEW	**Newport**	**88.97**	**36**	P		**P**		**20 01 50.6**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=304,slow=5.6,SNR=6.9 comp=Z,3.1nm,0.9s								
NVAR	**Mina Array Bea**	**94.22**	**44**	P		**P**		**20 02 15.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=266,slow=2.7,SNR=2.3 comp=Z,0.5nm,0.7s								
SDV	**Santo Domingo**	**143.49**	**24**	PKP		**PKPdf**		**20 08 29.9**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=136,slow=3.6,SNR=3.8								

*IDC **14** 19:56:09.8±0.8,34˚.78N×116˚.05W,h0km,mbtmp3.3/5, ML2.9/3,Error ellipse: s-maj=11.8km s-min=6.8km az=92.0*
*NEIC **14** 19:56:09.7±2.1,34˚.84N±0˚.01×116˚.074W±0˚.010, h5km±1km,Error ellipse: s-maj=3.0km s-min=2.1km az=38.0*
*ANF **14** 19:56:10.7±0.1,34˚.81N×116˚.06W,h14km,ML4.2/43, Error ellipse: s-maj=0.9km s-min=0.7km az=48.0*
*PAS **14** 19:56:11.7±2.2,34˚.82N±0˚.02×116˚.07W±0˚.02,h4km±5km, Mwr3.7/4,ML3.8/122(NEIC),Error ellipse: s-maj=2.4km s-min=2.2km az=97.0*

ISC 14 19:56:11.2±0.9,34˚82N±0˚02×116˚06W±0˚02,h13km±7km, n126,σt9s07/162,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.23**	**273**	P		**Pg**		**19 56 15.9**	**-0.3**
	baz=93,SNR=1000								
HEC				S		**Sg**		**19 56 19.4**	**-0.2**
	baz=93								
GMRC	**Granite Mounta**	**0.33**	**96**			**Pb**		**19 56 18.3**	**-0.7**
GMRC						**Sg**		**19 56 23.0**	**+0.6**
GMRC	**Granite Mounta**	**0.33**	**96**	P		**Pg**		**19 56 17.9**	**-0.1**
	baz=276,SNR=1000								
GMRC				S		**Sg**		**19 56 22.9**	**+0.4**
	baz=276								
DSCC	**Desert Studies**	**0.33**	**353**			**Pg**		**19 56 18.0**	**+0.1**
DSCC						**Sg**		**19 56 22.8**	**+0.4**
GTM	**Goat Mountain**	**0.58**	**206**			**Pg**		**19 56 22.5**	**0.0**
GTM						**Sg**		**19 56 30.2**	**+0.1**
DANC	**Danby, Needles**	**0.58**	**108**			**Pb**		**19 56 23.2**	**-0.1**
DANC						**Sb**		**19 56 31.6**	**0.0**
TUQ	**Turquoise Moun**	**0.63**	**10**			**Pg**		**19 56 23.5**	**0.0**
TUQ	**Turquoise Moun**	**0.63**	**10**	P		**Pg**		**19 56 23.5**	**0.0**
	baz=191,SNR=1000								
TUQ				S		**Sg**		**19 56 32.1**	**+0.2**
	baz=191								
RRX	**Edison Barstow**	**0.78**	**275**	P		**Pg**		**19 56 25.8**	**-0.5**
	baz=94,SNR=417								
RRX				S		**Sb**		**19 56 36.7**	**-0.4**
	baz=94								
GSC	**Goldstone, Bar**	**0.78**	**308**			**Pg**		**19 56 26.2**	**-0.2**
GSC	**Goldstone, Bar**	**0.78**	**308**	P		**Pg**		**19 56 26.2**	**-0.2**
	baz=129,SNR=1000								
GSC				S		**Sg**		**19 56 36.6**	**-0.1**
	baz=129								
BLAC	**Blackrock camp**	**0.80**	**200**			**Sb**		**19 56 37.3**	**-0.4**
BELC	**Belle Mtn. Jos**	**0.81**	**177**			**Pg**		**19 56 26.9**	**-0.2**
BELC						**Sg**		**19 56 37.7**	**0.0**
BELC	**Belle Mtn. Jos**	**0.81**	**177**	P		**Pg**		**19 56 26.5**	**-0.5**
	baz=356								
BELC				S		**Sg**		**19 56 37.6**	**-0.1**
	baz=356								
BBRC	**Big Bear Solar**	**0.90**	**233**			**Pg**		**19 56 28.3**	**-0.4**
BBRC						**Sg**		**19 56 40.2**	**-0.4**
BBRC	**Big Bear Solar**	**0.90**	**233**	P		**Pg**		**19 56 28.3**	**-0.4**
	baz=51,SNR=95								
BBRC				S		**Sg**		**19 56 40.3**	**-0.2**
	baz=51								
DEVC	**Devers**	**0.98**	**206**			**Sb**		**19 56 43.3**	**+0.4**
IRM	**Iron Mountain**	**1.00**	**131**			**Pg**		**19 56 29.9**	**-0.6**
IRM						**Sb**		**19 56 43.6**	**+0.1**
IRM	**Iron Mountain**	**1.00**	**131**	P		**Pg**		**19 56 29.9**	**-0.6**
	baz=311,SNR=1000								
IRM				S		**Sb**		**19 56 43.6**	**+0.1**
	baz=311								
VTV	**Victorville**	**1.08**	**257**			**Pg**		**19 56 31.1**	**-0.9**
VTV						**Sg**		**19 56 45.3**	**-0.8**
SHOC	**Shoshone, Teco**	**1.09**	**351**			**Pg**		**19 56 31.4**	**-1.0**
SHOC	**Shoshone, Teco**	**1.09**	**351**	P		**Pg**		**19 56 31.4**	**-1.0**
	baz=171,SNR=1000								
SHOC				S		**Sb**		**19 56 47.2**	**+0.9**
	baz=171								
ADO	**Adelanto Recei**	**1.17**	**257**			**Pg**		**19 56 32.6**	**-1.1**
NEE2	**Needles Airpor**	**1.18**	**92**	P		**Pg**		**19 56 32.5**	**-1.5**
	baz=273,SNR=412								
NEE2				S		**Sg**		**19 56 48.8**	**-0.6**
	baz=273								
PMD	**Palm Desert**	**1.20**	**193**			**Pg**		**19 56 32.9**	**-1.3**
PFO	**Pinyon Flats O**	**1.25**	**196**			**Pg**		**19 56 33.9**	**-1.4**
PFO	**Pinyon Flats O**	**1.25**	**196**	P		**Pg**		**19 56 33.8**	**-1.4**
	baz=15,SNR=871								
PFO				S		**Sg**		**19 56 50.4**	**-1.1**
	baz=15								
PFO	**Pinyon Flats O**	**1.25**	**196**	Pg		**Pg**		**19 56 33.7**	**-1.5**
	280nm,0.3s,baz=16,slow=14,SNR=715								
PFO				Lg		Lg		19 56 51.0	
	194nm,0.3s,baz=258,slow=22,SNR=15								
BC3	**Big Chuckawall**	**1.26**	**157**			**Pn**		**19 56 35.2**	**+0.5**
BC3	**Big Chuckawall**	**1.26**	**157**	P		**Pg**		**19 56 33.7**	**-1.8**
	baz=336,SNR=671								
BC3				S		**Sb**		**19 56 51.8**	**+0.6**
	baz=336								
QSM	**Queen of Sheba**	**1.32**	**330**			**Pn**		**19 56 34.5**	**-0.9**
V12A	**Nelson**	**1.34**	**47**			**Pn**		**19 56 35.1**	**-0.7**
BFSC	**Mount Baldy Ra**	**1.44**	**247**	P		**Pn**		**19 56 36.3**	**-0.9**
	baz=66,SNR=530								
BFSC				Sb		**Sb**		**19 56 56.7**	**+0.3**
	baz=66								
GWY	**Greenwater Val**	**1.46**	**340**			**Pn**		**19 56 36.2**	**-1.2**
LRMC	**Laurel Mtn Rad**	**1.49**	**297**	P		**Pn**		**19 56 36.8**	**-1.1**
	baz=116,SNR=1000								
LRMC				Sb		**Sg**		**19 56 58.5**	**-0.7**
	baz=116								
MURC	**Murrieta**	**1.54**	**218**	P		**Pn**		**19 56 38.0**	**-0.4**
	baz=37,SNR=404								
MURC				S		**Sn**		**19 56 58.4**	**+0.1**
	baz=37								
EDW2	**Edwards Air Fo**	**1.60**	**273**	P		**Pn**		**19 56 37.9**	**-1.3**
	baz=92,SNR=754								
EDW2				Sb		**Sb**		**19 57 01.3**	**+0.6**
	baz=92								
WTNK	**Soaring Height**	**1.61**	**32**			**Pn**		**19 56 39.0**	**-0.5**
ELS	**Elsinore Mount**	**1.63**	**225**			**Pn**		**19 56 39.6**	**-0.1**
ELS				IAML				19 57 02.8	
	comp=E,1μm,0.6s								
ELS				IAML				19 57 03.4	
	comp=N,1μm,0.4s								
SRTC	**Snort**	**1.64**	**303**			**Pn**		**19 56 39.1**	**-0.7**
BLYC	**Blythe**	**1.66**	**130**			**Pn**		**19 56 39.1**	**-0.9**
PDMCI	**Parker Dam,Lak**	**1.66**	**107**			**Pg**		**19 56 42.2**	**-0.9**
PDMCI	**Parker Dam,Lak**	**1.66**	**107**	P		**Pn**		**19 56 39.1**	**-0.9**
	baz=288,SNR=333								
PDMCI				Sb		**Sg**		**19 57 03.8**	**-0.8**
	baz=288								
MPMC	**Manual Prospec**	**1.70**	**317**	P		**Pn**		**19 56 40.0**	**-0.8**
	baz=137								
MPMC				Sb		**Sb**		**19 57 04.9**	**+0.9**
	baz=137								
FURC	**Furnace Creek,**	**1.77**	**338**	Pb		**Pb**		**19 56 43.3**	**-0.3**
	baz=158								
FURC				Sb		**Sg**		**19 57 07.5**	**-0.8**
	baz=158								
W13A	**Hualapai Mount**	**1.80**	**80**			**Pn**		**19 56 41.9**	**-0.4**
W13A				IAML				19 57 10.1	
	comp=N,1μm,0.5s								
W13A				IAML				19 57 11.0	
	comp=E,1μm,0.3s								
SHPR	**Sheep Range**	**1.84**	**23**			**Pn**		**19 56 42.4**	**-0.3**
PASC	**Pasadena Art C**	**1.87**	**251**	Pn		**Pn**		**19 56 42.9**	**-0.1**
PASC				IAML				19 57 11.1	
	comp=N,2μm,0.5s								
PASC				IAML				19 57 11.5	
	comp=E,1μm,0.5s								
SWSC	**Sam W. Stewart**	**1.88**	**173**	P		**Pn**		**19 56 41.8**	**-1.2**
	baz=353,SNR=44								
MONP2	**Monument Peak**	**1.94**	**189**	P		**Pn**		**19 56 43.6**	**-0.6**
	baz=8.5,SNR=249								
DECC	**Green Verdugo**	**1.96**	**254**	P		**Pn**		**19 56 43.8**	**-0.4**
	baz=72								
DECC				Sb		**Sb**		**19 57 12.3**	**+1.0**
	baz=72								
WCT	**Wildcat Mounta**	**2.03**	**347**			**Pn**		**19 56 44.3**	**-0.9**
WCT				IAML				19 57 17.3	
	comp=N,873nm,0.6s								
WCT				IAML				19 57 19.4	
	comp=E,1μm,0.5s								
GLA	**Glamis**	**2.04**	**150**	P		**Pn**		**19 56 44.4**	**-0.9**
	baz=330								
109C	**Camp Elliot, M**	**2.11**	**205**			**Pn**		**19 56 46.0**	**-0.2**
109C				IAML				19 57 17.2	
	comp=N,550nm,0.2s								
109C				IAML				19 57 19.3	
	comp=E,723nm,0.3s								
109C	**Camp Elliot, M**	**2.11**	**205**	P		**Pn**		**19 56 46.1**	**-0.2**
	baz=24,SNR=108								
109C				Sb		**Sb**		**19 57 16.3**	**+0.8**
	baz=24								
TPNV	**Topopah Spring**	**2.13**	**356**			**Pn**		**19 56 46.7**	**0.0**
TPNV				IAML				19 57 22.1	
	comp=E,788nm,0.4s								
TPNV				IAML				19 57 23.8	
	comp=E,620nm,0.4s								
TPNV	**Topopah Spring**	**2.13**	**356**	P		**Pn**		**19 56 46.7**	**0.0**
	baz=176,SNR=343								
TPNV				Sb		**Sg**		**19 57 18.4**	**-1.5**
	baz=176								
ISA	**Isabella, Lake**	**2.15**	**294**	Pn		**Pn**		**19 56 46.0**	**-1.0**
ISA				IAML				19 57 20.3	
	comp=E,888nm,0.6s								
ISA				IAML				19 57 20.5	
	comp=N,671nm,0.7s								
ISA	**Isabella, Lake**	**2.15**	**294**	P		**Pn**		**19 56 45.9**	**-1.0**
	baz=113,SNR=379								
ISA				Sb		**Sg**		**19 57 18.8**	**-1.6**
	baz=113								
FMP	**Fort Macarthur**	**2.16**	**240**	Pb		**Pb**		**19 56 49.8**	**-0.3**
	baz=58								
FMP				Sb		**Sb**		**19 57 17.8**	**+1.1**
	baz=58	

SNCC	**San Nicolas Is**	**3.28**	**242**	P		**Pn**	**19 57 01.7**	**-0.7**
	baz=60								
KNB	**Kanab**	**3.42**	**49**			**Pn**	**19 57 05.3**	**+0.8**
KNB					IAML		19 58 02.4		
	comp=N,280nm,1.0s								
KNB					IAML		19 58 03.2		
	comp=E,313nm,1.1s								
R11B	**Troy Canyon, C**	**3.55**	**6**	P		**Pn**	**19 57 05.9**	**-0.3**
	baz=186								
SZCU	**Shurtz Canyon**	**3.67**	**40**		IAML		19 58 10.7		
	comp=N,139nm,0.3s								
SZCU					IAML		19 58 13.8		
	comp=E,182nm,0.3s								
X16A	**Lo Mia Camp, P**	**3.83**	**95**	IAML			19 58 24.0		
	comp=N,79nm,0.9s								
WUAZ	**Wupatki**	**3.90**	**78**			**Pn**	**19 57 12.0**	**+1.0**
WUAZ	**Wupatki**	**3.90**	**78**	P		**Pn**	**19 57 11.6**	**+0.6**
	baz=261,SNR=13								
PIX	**Pinacate**	**3.91**	**145**	Pn		**Pn**	**19 57 12.5**	**+1.5**
PIX					IAML		19 58 17.2		
	comp=E,74nm,0.4s								
PIX					IAML		19 58 19.0		
	comp=N,92nm,0.6s								
214A	**Organ Pipe Nat**	**3.94**	**136**			**Pn**	**19 57 12.7**	**+1.2**
214A					IAML		19 58 20.6		
	comp=E,164nm,0.3s								
214A					IAML		19 58 30.7		
	comp=N,156nm,0.9s								
214A	**Organ Pipe Nat**	**3.94**	**136**	P		**Pn**	**19 57 10.0**	**-1.4**
	baz=317								
LHV	**Little Huntoon**	**3.95**	**331**			**Pn**	**19 57 12.6**	**+1.0**
LHV					IAML		19 58 23.9		
	comp=E,168nm,0.9s								
LHV					IAML		19 58 27.4		
	comp=N,162nm,1.0s								
NV11	**Mina Array Sit**	**3.98**	**336**			**Pn**	**19 57 12.5**	**+0.3**
NV11					IAML		19 58 25.0		
	comp=E,70nm,0.9s								
NVAR	**Mina Array Bea**	**4.03**	**334**	Pn		**Pn**	**19 57 12.9**	**0.0**
	comp=E,0.8nm,0.3s,baz=156,slow=15,SNR=11								
NVAR				Pg		**Pg**	**19 57 25.4**	**-3.1**
	comp=E,5.3nm,0.3s,baz=153,slow=18,SNR=18								
NVAR				Lg		Lg	19 58 18.4		
	comp=E,13nm,0.3s,baz=152,slow=32,SNR=8.8								
	comp=E,1.0nm,0.3s								
PMPB	**Monarch Peak**	**4.12**	**291**			**Pn**	**19 57 13.6**	**-0.3**
PMPB					IAML		19 58 26.4		
	comp=E,185nm,0.8s								
PMPB					IAML		19 58 44.4		
	comp=N,150nm,1.0s								
RYN	**Ryan**	**4.29**	**333**	Pn		**Pn**	**19 57 16.8**	**+0.4**
RYN					IAML		19 58 33.4		
	comp=E,63nm,1.3s								
Q12A	**Willow Creek R**	**4.33**	**13**	Pn		**Pn**	**19 57 17.8**	**+0.9**
Q12A					IAML		19 58 37.0		
	comp=N,97nm,0.7s								
Q12A					IAML		19 58 38.3		
	comp=E,97nm,0.8s								
SPR3	**Spring Creek 3**	**4.40**	**18**	IAML			19 58 30.6		
	comp=E,68nm,0.5s								
SPR3					IAML		19 58 47.2		
	comp=N,57nm,0.7s								
MTPU	**Mount Pierson**	**4.48**	**43**			**Pn**	**19 57 21.5**	**+2.2**
MTPU					IAML		19 58 37.2		
	comp=N,97nm,1.1s								
MTPU					IAML		19 58 41.1		
	comp=E,66nm,0.5s								
KVN	**Kaiserville**	**4.53**	**339**	IAML			19 58 35.9		
	comp=E,117nm,1.0s								
KVN					IAML		19 58 36.8		
	comp=N,76nm,0.9s								
WAKR	**Walker**	**4.58**	**325**			**Pn**	**19 57 21.3**	**+1.0**
SAO	**San Andreas Ge**	**4.79**	**295**			**Pn**	**19 57 23.3**	**+0.1**
YERR	**Yerington**	**4.88**	**329**			**Pn**	**19 57 25.3**	**+0.8**
TUC	**Tucson**	**5.06**	**118**			**Pn**	**19 57 26.6**	**-0.3**
TUC					IAML		19 58 50.8		
	comp=N,54nm,1.1s								
TUC					IAML		19 59 03.2		
	comp=N,44nm,0.8s								
TUC	**Tucson**	**5.06**	**118**	Pn		**Pn**	**19 57 26.4**	**-0.5**
TUC	**Tucson**	**5.06**	**118**	P		**Pn**	**19 57 26.2**	**-0.7**
	baz=301								
HMU	**Henry Mountain**	**5.30**	**52**	Pn		**Pn**	**19 57 32.1**	**+1.8**
BMN	**Battle Mountai**	**5.68**	**351**	Pn		**Pn**	**19 57 37.1**	**+1.6**
ELK	**Elko**	**5.95**	**6**	Pn		**Pn**	**19 57 40.5**	**+1.1**
	comp=N,0.5nm,0.3s,baz=184,slow=14,SNR=10.0								
ELK				Pg		**Pg**	**19 58 02.1**	**-3.1**
	comp=N,2.9nm,0.3s,baz=180,slow=13,SNR=35								
ELK				Lg		Lg	19 59 18.8		
	comp=N,1.5nm,0.3s,baz=115,slow=8.9,SNR=1.9								
	comp=N,1.0nm,0.3s								
DUN6	**Lazy B Ranch**	**6.23**	**109**			**Pn**	**19 57 43.3**	**+0.3**
BGU	**Big Grassy Mou**	**6.55**	**21**	Pn		**Pn**	**19 57 48.6**	**+1.2**
319A	**Douglas**	**6.64**	**119**			**Pn**	**19 57 49.1**	**+0.5**
121A	**Cookes Peak, D**	**7.26**	**106**			**Pn**	**19 57 58.4**	**+1.1**
121A	**Cookes Peak, D**	**7.26**	**106**	P		**Pn**	**19 57 57.3**	**+0.1**
	baz=291								
ANMO	**Albuquerque**	**7.89**	**86**	Pn		**Pn**	**19 58 04.3**	**-1.5**
	comp=N,0.1nm,0.3s,baz=29,slow=7.6,SNR=2.6								
ANMO				Pg		**Pg**	**19 58 37.7**	**-4.5**
	comp=N,0.9nm,0.3s,baz=355,slow=13,SNR=15								
ANMO				Lg		Lg	20 00 19.2		
	comp=N,0.2nm,0.3s,baz=292,slow=22,SNR=3.0								
	comp=N,0.8nm,0.5s								
SMCO	**Snowmass**	**8.47**	**56**	Pn		**Pn**	**19 58 15.0**	**+1.0**
PDAR	**Pinedale Array**	**9.42**	**31**	Pn		**Pn**	**19 58 31.1**	**+4.3**
	comp=N,0.7nm,0.6s,baz=199,slow=11,SNR=3.6								
PDAR				Lg		Lg	20 01 07.4		
	comp=N,0.1nm,0.3s,baz=338,slow=43,SNR=1.7								
TX31	**Lajitas Ar. Si**	**11.84**	**114**			**Pn**	**19 59 01.9**	**+1.9**
TXAR	**Lajitas Array**	**11.84**	**114**	Pn		**Pn**	**19 59 01.5**	**+1.6**
TXAR	**Lajitas Array**	**11.84**	**114**	Pn		**Pn**	**19 59 01.9**	**+1.9**
	comp=N,1.3nm,0.3s,baz=291,slow=13,SNR=57								
TXAR				Lg		Lg	20 02 21.7		
	baz=317,slow=55,SNR=3.1								

*IDC **14** 20:00:04.5±1.1,0.°65N×25.°38W,h0km,mb3.9/7, mbtmp4.0/7,MS3.8/15,Error ellipse: s-maj=36.5km s-min=27.2km az=168.0*

ISC 14 20:00:06.5±1.1,0.°6N±0.°2×25.°4W±0.°2,h12km,n29, σ1♀41/11,mb4.1/10,MS3.8/14,1C-2D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**12.31**	**238**	LR	LR	20 06 34.6	
	comp=Z,222nm,18.8s,baz=73,slow=32						
H10N3	**ASCENSION HYDR**	**13.73**	**128**	T	T	20 17 23.8	
	baz=306,slow=75,SNR=328						
H10N2	**ASCENSION HYDR**	**13.74**	**128**	T	T	20 17 22.2	
	baz=306,slow=75,SNR=382						
H10N1	**ASCENSION HYDR**	**13.75**	**128**	T	T	20 17 23.4	
	baz=306,slow=75,SNR=382						
H10S3	**ASCENSION HYDR**	**14.31**	**132**	T	T	20 18 08.8	
	baz=272,slow=74,SNR=73						
H10S2	**ASCENSION HYDR**	**14.33**	**132**	T	T	20 18 07.9	
	baz=308,slow=74,SNR=35						
LIC	**Lamto**	**21.05**	**74⇑**	*eP*		**P**	**20 04 50.4**	**-0.3**
	16nm,0.9s							
TIC	**Toumodi**	**21.17**	**73⇓**	*iP*		**P**	**20 04 54.9**	**+2.9**
	6.3nm,0.9s							
DBIC	**Dimbokro**	**21.33**	**73**	P		**P**	**20 04 53.7**	**0.0**
	8.1nm,0.8s,baz=248,slow=12,SNR=12							
DBIC				LR		LR	20 11 31.2	
	comp=Z,131nm,20.6s,baz=222,slow=32							
	8.1nm,0.8s							
KIC	**Kosan Boka**	**21.36**	**74⇓**	*iP*		**P**	**20 04 54.1**	**+0.1**
	17nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.57**	**64**	P		**P**	**20 06 11.2**	**-0.3**
	0.7nm,0.8s,baz=253,slow=9.5,SNR=4.2							
TORD				LR		LR	20 16 44.4	
	comp=Z,167nm,19.8s,baz=319,slow=34							
	0.7nm,0.8s							
SIV	**San Ignacio**	**38.91**	**243**	LR		LR	20 22 55.1	
	comp=Z,145nm,19.3s,baz=71,slow=35							
PCRV	**Puerto La Cruz**	**40.16**	**285**	LR		LR	20 22 30.7	
	comp=Z,145nm,21.1s,slow=34							
CPUP	**Villa Florida**	**40.84**	**227**	LR		LR	20 22 22.4	
	comp=Z,102nm,20.9s,baz=74,slow=33							
ESDC	**Sonseca Array**	**43.49**	**24**	P		**P**	**20 08 10.5**	**+0.6**
	0.8nm,0.9s,baz=219,slow=7.9,SNR=3.4							
	0.8nm,0.9s							
SJG	**San Juan**	**43.64**	**296**	LR		LR	20 22 24.5	
	comp=Z,53nm,21.7s,baz=159,slow=31							
SDV	**Santo Domingo**	**45.79**	**282**	LR		LR	20 27 24.6	
	comp=Z,80nm,18.2s,baz=72,slow=36							

TSUM	**Tsumeb**	**46.54**	**117**	LR		LR	20 24 29.3		
	comp=Z,186nm,19.0s,baz=320,slow=32								
ROSC	**El Rosal**	**49.05**	**276**	LR		LR	20 28 32.5		
	comp=Z,192nm,18.4s,baz=72,slow=35								
NNA	**Nana**	**52.60**	**254**	LR		LR	20 30 32.8		
	comp=Z,63nm,20.0s,baz=34,slow=35								
LBTB	**Lobatse**	**55.49**	**121**	LR		LR	20 28 31.2		
	comp=Z,75nm,21.9s,baz=100,slow=38								
AKASG	**Malin Array Be**	**67.86**	**34**	P		**P**	**20 11 03.0**	**-1.7**
	0.9nm,0.7s,baz=243,slow=5.7,SNR=3.4								
	0.9nm,0.7s								
TXAR	**Lajitas Array**	**79.48**	**300**	P		**P**	**20 12 12.8**	**-0.8**
	0.8nm,0.8s,baz=129,slow=7.1,SNR=7.7								
	0.8nm,0.8s								
WSAR	**Wadi Sarin**	**84.25**	**67**	LR		LR	20 52 03.7		
	comp=Z,40nm,18.6s,baz=226,slow=37								
RPN	**Rapa Nui**	**84.90**	**243**	LR		LR	20 46 50.4		
	comp=Z,88nm,20.1s,baz=48,slow=33								
PDAR	**Pinedale Array**	**85.29**	**313**	P		**P**	**20 12 45.4**	**+1.6**
	0.2nm,0.5s,baz=98,slow=2.7,SNR=1.3								
	0.2nm,0.5s								
MAW	**Mawson**	**89.91**	**157**	P		**P**	**20 13 05.5**	**+0.3**
	2.9nm,0.4s,baz=243,slow=4.5,SNR=6.8								
	2.9nm,0.4s								
QSPA	**South Pole Qui**	**90.70**	**180**	LR		LR	20 47 00.3		
	comp=Z,126nm,18.7s,baz=348,slow=31								
ASAR	**Alice Springs**	**149.54**	**140**	PKPbc		**PKPbc**	**20 19 56.0**	**-0.8**
	0.8nm,0.9s,baz=208,slow=5.3,SNR=4.4								

*IDC **14** 20:01:51.9±1.3,25.°08N×123.°64E,h0km,mb3.8/8, mbtmp3.8/8,MS3.4/8,Error ellipse: s-maj=49.9km s-min=19.9km az=64.0*

*JMA **14** 20:01:52.5±0.2,25.°0N±0.°8×123.°7E±0.°2,h22km,MV3.1/8, NW OFF ISHIGAKIJIMA IS*

ISC 14 20:01:52.0±2.5,25.°1N±0.°1×123.°68E±0.°04,h3km±17km, n20,σ0♀54/20,mb3.8/8,MS3.5/4,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.73**	**129**	P	**Pg**	**20 02 06.2**	**+0.1**
JISG				*eS*	**Sg**	**20 02 16.1**	**+0.5**
JIJ	**Ishigaki jima**	**0.80**	**148**	P	**Pg**	**20 02 07.0**	**-0.3**
JIJ				*eS*	**Sg**	**20 02 17.7**	**0.0**
YOJ	**Yonaguni jima**	**0.84**	**226**	P	**Pg**	**20 02 08.2**	**0.0**
YOJ				*eS*	**Sg**	**20 02 19.8**	**+0.7**
JKRS	**Kuro-shima**	**0.86**	**160**	P	**Pg**	**20 02 08.5**	**0.0**
JKRS				*eS*	**Sg**	**20 02 19.2**	**-0.4**
JYNG	**Yonagunijimaku**	**0.90**	**229**	P	**Pg**	**20 02 09.1**	**-0.1**
JYNG				*eS*	**Sg**	**20 02 20.7**	**-0.1**
HATJ	**Hateruma jima**	**0.99**	**174**	P	**Pg**	**20 02 10.6**	**-0.5**
JNU	**Nakatsue**	**10.21**	**36**	LR	LR	20 08 17.9	
	comp=Z,63nm,20.8s,baz=190,slow=38						
TGY	**Tagaytay City**	**11.19**	**194**	LR	LR	20 08 32.1	
	comp=Z,163nm,19.6s,baz=106,slow=36						
KSRS	**Korea Array**	**12.88**	**15**	LR	LR	20 09 21.9	
	comp=Z,132nm,19.8s,baz=220,slow=35						
DAV	**Davao City (W)**	**17.97**	**174**	LR	LR	20 12 54.5	
	comp=Z,153nm,19.6s,baz=346,slow=37						
CMAR	**Chiang Mai Arr**	**23.87**	**259**	P	**P**	**20 07 06.9**	**-0.1**
	0.6nm,0.3s,baz=55,slow=8.5,SNR=5.9						
	0.6nm,0.3s						
KLR	**Kul'dur**	**24.95**	**13**	LR	LR	20 17 14.7	
	comp=Z,137nm,19.1s,baz=207,slow=37						
SONM	**Songino Array**	**26.54**	**333**	P	**P**	**20 07 31.7**	**+0.6**
	0.9nm,1.0s,baz=138,slow=9.1,SNR=4.6						
SONM				PcP	**PcP**	**20 10 54.9**	**-0.9**
	0.8nm,1.1s,baz=105,slow=1.6,SNR=3.1						
SONM				LR	LR	20 18 31.0	
	comp=Z,142nm,19.2s,baz=54,slow=38						
	0.9nm,1.0s						
MKAR	**Makanchi Array**	**39.33**	**314**	P	**P**	**20 09 22.4**	**-0.1**
	2.9nm,0.9s,baz=103,slow=10,SNR=20						
	2.9nm,0.9s						
MA2	**Magadan**	**39.34**	**21**	LR	LR	20 26 36.4	
	comp=Z,80nm,18.8s,baz=193,slow=38						
ZALV	**Zalesovo Beam**	**40.79**	**325**	P	**P**	**20 09 33.8**	**-0.7**
	1.7nm,0.8s,baz=108,slow=8.0,SNR=6.5						
ZALV				LR	LR	20 27 06.2	
	comp=Z,63nm,18.9s,baz=124,slow=37						
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**42.94**	**318**	P	**P**	**20 09 51.7**	**-0.4**
	4.2nm,1.2s,baz=108,slow=7.9,SNR=10.0						
	4.2nm,1.2s						
WRA	**Warramunga Arr**	**45.91**	**166**	P	**P**	**20 10 17.4**	**+1.3**
	0.7nm,0.8s,baz=348,slow=8.2,SNR=1.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**49.43**	**168**	P	**P**	**20 10 43.6**	**+0.1**
	0.3nm,0.5s,baz=350,slow=7.3,SNR=5.3						
	0.3nm,0.5s						
GEYT	**Alibeck**	**56.33**	**300**	P	**P**	**20 11 34.4**	**-0.1**
	2.4nm,0.8s,baz=83,slow=4.8,SNR=5.2						
	2.4nm,0.8s						

*IDC **14** 20:05:04.5±2.0,15.°47S×74.°48W,h0km,mb3.5/3, mbtmp3.6/5,ML3.5/2,Error ellipse: s-maj=97.1km s-min=24.8km az=47.0*

ISC 14 20:05:08.4±1.3,15.°8S±0.°3×74.°7W±0.°5,h35km,n9,σ1♀91/8, mb3.4/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.31**	**330**	Pn	**Pn**	**20 06 11.4**	**-0.2**
	1.6nm,0.3s,baz=125,slow=14,SNR=3.9						
NNA				Sn	**Sn**	**20 06 59.7**	**-1.0**
	17nm,0.3s,baz=337,slow=4.1,SNR=7.0						
	8.4nm,0.3s						
LVC	**Limon Verde**	**8.71**	**142**	Pn	**Pn**	**20 07 14.4**	**+2.1**
	1.3nm,0.3s,baz=305,slow=8.4,SNR=7.9						
LVC				Sn	**Sn**	**20 08 46.0**	**-3.5**
	0.9nm,0.3s,baz=354,slow=23,SNR=8.1						
	5.7nm,0.6s						
H03N1	**Juan Fernandez**	**18.01**	**192**	T	T	20 28 01.6	
	baz=14,slow=74,SNR=404						
H03N2	**Juan Fernandez**	**18.01**	**192**	T	T	20 28 00.9	
	baz=14,slow=74,SNR=289						
H03N3	**Juan Fernandez**	**18.02**	**192**	T	T	20 28 01.8	
	baz=14,slow=74,SNR=210						
TXAR	**Lajitas Array**	**52.86**	**328**	P	**P**	**20 14 20.9**	**0.0**
	0.2nm,0.5s,baz=159,slow=8.8,SNR=5.5						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**80.79**	**74**	P	**P**	**20 17 19.5**	**+0.4**
	0.4nm,0.5s,baz=263,slow=4.7,SNR=5.5						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**84.05**	**343**	P	**P**	**20 17 34.8**	**-0.2**
	0.2nm,0.7s,baz=135,slow=5.9,SNR=5.4						
	0.2nm,0.7s						
SONM	**Songino Array**	**148.01**	**359**	PKPbc	**PKPbc**	**20 24 50.8**	**+0.4**
	0.4nm,0.7s,baz=336,slow=3.6,SNR=2.5						

IDC 14 20:06:41.6±2.2,0.°23N×126.°72E,h0km,mb3.1/3, mbtmp3.2/3,Error ellipse: s-maj=172.9km s-min=29.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.40**	**160**	P	P	20 11 30.6	-0.5
	0.7nm,0.6s,baz=339,slow=9.8,SNR=6.5						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**24.76**	**164**	P	P	20 12 05.2	0.0
	0.2nm,0.4s,baz=343,slow=10.0,SNR=4.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.42**	**326**	P	P	20 16 53.2	+0.3
	0.1nm,0.5s,baz=116,slow=6.6,SNR=1.8						
	0.1nm,0.5s						

*JMA **14** 20:10:47.7±0.7,45.°N±3.°×14.°9E±.°,h30km,MV3.9/12,SE OFF ETOROFU*

*SKHL **14** 20:10:49.2±0.2,44.°70N×149.°20E,h53km±5km,mb4.5/3*

ISC 14 20:10:45.9±4.1,44.°60N±0.°09×149.°5E±0.°2,h35km,n15, σ2♀22/25,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.31**	**299**	*i* P	**Pn**	**20 11 07.4**	**-0.3**
KUR				AMB	AMB	20 11 08.0	
	160nm,0.2s						
KUR				*eS*	**Sn**	**20 11 20.9**	**-3.1**
KUR				A	A	20 11 21.4	
	2μm,0.2s						
KUR				A	A	20 11 21.4	
	1μm,0.2s						
SHO	**Shikotan**	**2.04**	**250**	*e*P	**Pn**	**20 11 18.5**	**+0.8**
SHO				AMB	AMB	20 11 20.8	
	30nm,0.2s						
SHO				*e*S	**Sn**	**20 11 40.6**	**-1.4**
SHO				A	A	20 11 43.6	
	150nm,0.2s						
SHO				A	A	20 11 43.6	
	130nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.66**	**259**	*e*P	**Pn**	**20 11 27.3**	**+1.1**
YUK				AMB	AMB	20 11 29.1	
	110nm,0.3s						
YUK				*e*S	**Sn**	**20 11 55.8**	**-1.4**
YUK				A	A	20 12 02.2	
	150nm,0.3s						
YUK				A	A	20 12 02.2	
	170nm,0.3s						
NEM2	**Nemuro 2**	**2.97**	**247**	*e*P	**Pn**	**20 11 31.4**	**+1.0**
NEM2				*e*S	**Sn**	**20 12 04.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.98**	**247**	*e*P	**Pn**	**20 11 31.9**	**+1.3**
NMR				*e*S	**Sn**	**20 12 03.7**	**-1.3**
JRA	**Rausu**	**3.20**	**260**	*e*P	**Pn**	**20 11 36.2**	**+2.6**
JNK	**Nakash**	**3.58**	**255**	*e*P	**Pn**	**20 11 41.2**	**+2.3**
JNK				*e*S	**Sn**	**20 12 20.2**	**+0.3**
AKK	**Akkeshi**	**3.71**	**246**	*e*P	**Pn**	**20 11 42.2**	**+1.5**
JAK	**Akkeshi**	**3.82**	**247**	*e*P	**Pn**	**20 11 43.6**	**+1.4**
JAK				*e*S	**Sn**	**20 12 24.6**	**-1.1**
JTKR	**Abashiri--Toko**	**4.05**	**263**	*e*P	**Pn**	**20 11 47.9**	**+2.6**
JAR	**Ashorobuto**	**4.33**	**254**	*e*P	**Pn**	**20 11 52.1**	**+3.0**
JAR				*e*S	**Sn**	**20 12 39.4**	**+1.1**
JCH	**Churui**	**4.87**	**248**	*e*P	**Pn**	**20 11 58.3**	**+1.7**
JCH				*e*S	**Sn**	**20 12 50.5**	**-1.1**
JKK2	**Kamakawa 2**	**4.89**	**264**	*e*P	**Pn**	**20 12 00.4**	**+3.4**
JNBK	**Urakawa-nobuka**	**5.42**	**247**	*e*P	**Pn**	**20 12 05.5**	**+1.4**
JANG	**Nango**	**7.25**	**237**	*e*P	**Pn**	**20 12 29.3**	**+0.1**
JANG				*e*S	**Sn**	**20 13 44.2**	**-6.0**

*IDC **14** 20:17:16.0±1.2,25.°00N×123.°66E,h0km,mb3.7/6, mbtmp3.7/7,ML2.6/1,MS3.3/2,Error ellipse: s-maj=43.5km s-min=21.3km az=60.0*

*JMA **14** 20:17:18.0±0.2,25.°1N±0.°6×123.°7E±0.°2,h19km±3km, MV3.4/11,NW OFF ISHIGAKIJIMA IS*

ISC 14 20:17:17.4±1.8,25.°01N±0.°06×123.°70E±0.°05,h11km±13km, n18,σ0♀43/22,mb3.5/6,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.69**	**127**	P	**Pb**	**20 17 31.6**	**+0.1**
JISG				*e*S	**Sb**	**20 17 41.3**	**+0.2**
JIJ	**Ishigaki jima**	**0.76**	**148**	*i* P	**Pb**	**20 17 32.6**	**0.0**
JIJ				S	**Sb**	**20 17 43.3**	**+0.4**
JKRS	**Kuro-shima**	**0.82**	**160**	P	**Pb**	**20 17 34.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.83**	**229**	P	**Pb**	**20 17 33.9**	**0.0**
JYNG	**Yonagunijimaku**	**0.88**	**231**	*e*P	**Pb**	**20 17 35.0**	**+0.2**
JYNG				*e*S	**Sn**	**20 17 47.7**	**-1.0**
HATJ	**Hateruma jima**	**0.95**	**174**	P	**Pn**	**20 17 36.4**	**-0.3**
HATJ				*e*S	**Sb**	**20 17 49.2**	**+0.6**
JTJ	**Tarama**	**0.98**	**112**	P	**Pg**	**20 17 36.1**	**-0.2**
JTJ				S	**Sg**	**20 17 49.0**	**-0.1**
JIRB	**Irabujima**	**1.35**	**97**	*e*P	**Pn**	**20 17 41.9**	**-0.3**
JIRB				*e*S	**Sb**	**20 17 59.5**	**-0.5**
JIKM	**Ikemajima**	**1.41**	**93**	*e*P	**Pn**	**20 17 42.7**	**-0.2**
JOW	**Kunigami**	**4.50**	**65**	Pn	**Pn**	**20 18 26.0**	**+0.4**
	0.6nm,0.3s,baz=54,slow=17,SNR=1.9						
	12nm,0.8s						
KSRS	**Korea Array**	**12.92**	**15**	LR	LR	20 26 18.4	
	comp=Z,84nm,18.4s,baz=190,slow=42						
SONM	**Songino Array**	**26.58**	**333**	P	**P**	**20 22 56.1**	**+0.4**
	0.3nm,0.7s,baz=153,slow=9.7,SNR=2.7						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**39.38**	**314**	P	**P**	**20 24 47.4**	**+0.3**
	1.9nm,0.9s,baz=103,slow=10,SNR=12						
	1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**40.84**	**325**	P	**P**	**20 24 58.3**	**-0.7**
	1.1nm,0.8s,baz=118,slow=8.6,SNR=4.4						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**42.98**	**319**	P	**P**	**20 25 16.6**	**0.0**
	1.6nm,0.2s,baz=107,slow=7.7,SNR=2.3						
	1.6nm,0.2s						
WRA	**Warramunga Arr**	**45.86**	**166**	P	**P**	**20 25 40.0**	**0.0**
	0.3nm,0.6s,baz=347,slow=8.8,SNR=1.9						
	0.3nm,0.6s						
SHEM	**Shemya Is, Ala**	**46.73**	**40**	LR	LR	20 43 11.2	
	comp=Z,59nm,20.9s,baz=292,slow=33						
ASAR	**Alice Springs**	**49.39**	**168**	P	**P**	**20 26 07.7**	**+0.4**
	0.2nm,0.5s,baz=350,slow=8.1,SNR=2.9						
	0.2nm,0.5s						

*IDC **14** 20:20:29.9±0.9,14.°33S×173.°72E,h599km±12km, mb3.5/16,mbtmp4.5/17,Error ellipse: s-maj=13.7km s-min=11.2km az=130.0*

*NEIC **14** 20:20:29.1±2.0,14.°28S±0.°06×173.°8E±0.°1,h596km±8km, mb4.8/37,Error ellipse: s-maj=16.9km s-min=7.2km az=103.0*

*NOU **14** 20:20:31.4,14.°25S×173.°66E,h612km,mb4.8/32,Fiji Islands Region*

ISC 14 20:20:29.8±0.4,14.°39S±0.°06×173.°71E±0.°06,h600km, n154,σ1♀77/162,mb4.6/39,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSA	**Yasawairara**	**4.38**	**122**	P	**P**	**20 22 01.5**	**+3.6**
DGTI	**Dogotuki**	**6.12**	**109**	P	**P**	**20 22 15.1**	**+3.1**
**TAVE

TSZ	Takapari Road	25.65	176	P		P	20 25 13.4	-0.2
PXZ	Pawanui	25.69	174	P		P	20 25 13.5	-0.4
ARMA	Armidale	25.83	228	P		P	20 25 17.1	+1.6
DVHZ	Dannevirke	25.90	176	P		P	20 25 15.1	-0.7
RAR	Rarotonga	26.12	109	P		P	20 25 17.2	-0.7
	7.2nm,0.5s,baz=190,slow=13,SNR=2.6							
RAR				S		S	20 29 00.3	-8.5
	3.6nm,0.3s,baz=152,slow=12,SNR=1.8							
	7.2nm,0.5s							
PRWZ	Pori Road	26.14	176	P		P	20 25 17.5	-0.3
MRZ	Mangatainoka R	26.23	177	P		P	20 25 18.0	-0.6
MRZ	Mangatainoka R	26.23	177	P		P	20 25 17.8	-0.8
BFZ	Birch Farm	26.29	176	P		P	20 25 17.6	-1.6
BFZ	Birch Farm	26.29	176	P		P	20 25 18.1	-1.0
QRZ	Quartz Range	26.36	182	P		P	20 25 21.2	+1.4
OGWZ	Otaki Gorge	26.36	178	P		P	20 25 19.2	-0.6
PMG	Port Moresby	26.43	278	P		P	20 25 21.3	+0.4
PMG	Port Moresby	26.43	278	P		P	20 25 21.2	+0.4
HOWZ	Holdsworth Sta	26.46	177	P		P	20 25 20.7	+0.1
TKNZ	Takaka Hill	26.55	181	P		P	20 25 22.5	+1.0
TCW	Tory Channel	26.73	179	P		P	20 25 22.5	-0.4
CTAO	Charters Tower	26.81	254	P		P	20 25 24.0	-0.1
SNZO	South Karori	26.84	178	P		P	20 25 23.3	-0.6
MRNZ	Matariki Terra	26.92	182	P		P	20 25 24.6	-0.1
BHW	Baring Head	26.94	178	P		P	20 25 23.7	-1.1
TUWZ	Tuamarina	26.94	180	P		P	20 25 24.5	-0.4
BSWZ	Blackbirch Sta	27.23	180	P		P	20 25 26.8	+0.5
THZ	Tophouse	27.28	181	P		P	20 25 26.4	-1.5
DSZ	Denniston Nort	27.31	183	P		P	20 25 29.0	+0.8
KHZ	Kahutara	27.93	180	P		P	20 25 32.7	-0.7
INZ	Inchbonnie	28.30	184	P		P	20 25 35.9	-0.8
INZ				IAmb		IAmb	20 25 39.1	
	comp=Z,38nm,0.7s							
LTZ	Lake Taylor	28.32	182	P		P	20 25 36.5	-0.4
LTZ				IAmb		IAmb	20 25 38.0	
	comp=Z,29nm,0.6s							
MTSU	Mount Surprise	28.44	258	P		P	20 25 39.3	+1.0
GVZ	Greta Valley S	28.48	181	P		P	20 25 37.3	-1.0
MANU	Manus Island	28.76	293	P		P	20 25 41.8	+0.7
OXZ	Oxford	28.87	183	P		P	20 25 41.5	-0.1
FOZ	Fox Glacier	29.23	186	P		P	20 25 45.8	+1.1
RPZ	Rata Peaks	29.31	184	P		P	20 25 44.7	-0.8
COEN	Coen	29.60	267	P		P	20 25 48.1	-0.2
COEN				IAmb		IAmb	20 25 49.9	
	comp=Z,13nm,0.8s							
LBZ	Lake Benmore	30.05	185	P		P	20 25 51.0	-0.7
CNB	Canberra Magne	30.22	222	P		P	20 25 55.6	+2.2
ODZ	Otahua Downs	30.67	184	P		P	20 25 56.6	-0.4
ODZ				IAmb		IAmb	20 27 31.7	
	comp=Z,87nm,1.7s							
CMSA	Cobar Meteorol	30.80	232	P		P	20 25 59.4	+1.0
MLZ	Mavora Lakes	31.24	188	P		P	20 26 02.6	+0.7
DCZ	Deep Cove	31.47	189	P		P	20 26 03.4	-0.4
DCZ				IAmb		IAmb	20 26 04.9	
	comp=Z,35nm,1.0s							
DCZ				PcP		PcP	20 28 37.1	-0.8
WHZ	Wether Hill Ro	31.78	188	P		P	20 26 06.1	-0.3
QIS	Mount Isa	33.06	254	P		P	20 26 18.1	+0.4
TOO	Toolangi	34.07	222	P		P	20 26 26.0	+0.1
TOO				IAmb		IAmb	20 26 28.6	
	comp=Z,25nm,0.8s							
TOO	Toolangi	34.07	222	P		P	20 26 27.7	+1.8
STKA	Stephens Creek	34.10	234	P		P	20 26 27.7	+1.4
STKA	Stephens Creek	34.10	234	P		P	20 26 27.5	+1.3
	comp=Z,5.5nm,0.4s,baz=60,slow=6.7,SNR=12							
	comp=Z,5.5nm,0.4s							
GLAD	Gladstone	34.68	215	P		P	20 26 32.9	+2.1
WR0	Warramunga Arr	37.77	256	P		P	20 26 55.6	-0.9
WB0	Warramunga Arr	37.90	256	P		P	20 26 56.8	-0.9
WB0				IAmb		IAmb	20 26 58.1	
	comp=Z,18nm,0.8s							
WB2	Warramunga Arr	37.95	256	P		P	20 26 57.5	-0.5
WB2				IAmb		IAmb	20 26 58.6	
	comp=Z,16nm,0.8s							
WRA	Warramunga Arr	37.96	256	P		P	20 26 56.9	-1.2
WRA	Warramunga Arr	37.96	256	P		P	20 26 57.6	-0.4
	comp=Z,14nm,0.8s,baz=88,slow=8.4,SNR=55							
WRA				pP		pP	20 28 39.8	+0.9
	comp=Z,1.3nm,0.9s,baz=84,slow=8.5,SNR=2.5							
WRA				S		S	20 32 01.6	-7.1
	comp=Z,2.9nm,0.9s,baz=92,slow=15,SNR=7.1							
	comp=Z,14nm,0.8s							
AS31	Alice Springs	38.63	250	P		P	20 27 03.6	+0.1
ASAR	Alice Springs	38.63	250	P		P	20 27 03.4	-0.1
ASAR	Alice Springs	38.63	250	P		P	20 27 03.6	0.0
	comp=Z,6.2nm,0.7s,baz=78,slow=9.3,SNR=70							
ASAR				pP		pP	20 28 44.4	-0.5
	comp=Z,2.1nm,1.1s,baz=88,slow=8.6,SNR=1.2							
ASAR				S		S	20 32 13.4	-5.2
	comp=Z,1.0nm,0.8s,baz=82,slow=17,SNR=6.5							
	comp=Z,6.2nm,0.7s							
BBOO	Buckleboo	38.80	235	P		P	20 27 03.0	-1.7
BBOO				IAmb		IAmb	20 27 31.8	
	comp=Z,62nm,1.7s							
KDU	Kakadu	40.09	267	P		P	20 27 15.2	0.0
MTN	Manton Dam	41.37	267	P		P	20 27 23.8	-1.5
MTN				IAmb		IAmb	20 27 26.1	
	comp=Z,32nm,0.7s							
MTN	Manton Dam	41.37	267	P		P	20 27 25.3	0.0
FAKI	Fak Fak	42.46	282	P		P	20 27 33.1	-0.8
FAKI				IAmb		IAmb	20 28 10.8	
	comp=Z,49nm,1.4s							
KNRA	Kununurra	43.37	262	P		P	20 27 40.3	-0.6
KNRA				IAmb		IAmb	20 27 41.7	
	comp=Z,31nm,0.8s							
FITZ	Fitzroy Crossi	46.20	259	P		P	20 28 03.4	+0.8
FITZ	Fitzroy Crossi	46.20	259	P		P	20 28 03.7	+1.1
SOEI	Soe	48.50	270	P		P	20 28 19.1	-0.9
SOEI				IAmb		IAmb	20 28 22.3	
	comp=Z,24nm,0.9s							
PSA00	Pilbara Seismi	51.52	254	P		P	20 28 40.2	-1.5
PSA00				IAmb		IAmb	20 28 59.6	
	comp=Z,37nm,1.6s							
NWAO	Narrogin (SRO)	54.29	240	P		P	20 28 60.0	-1.2
NWAO				IAmb		IAmb	20 31 09.0	
	comp=Z,152nm,1.4s							
MORW	Morawa	55.04	245	P		P	20 29 06.0	-0.4
MORW				IAmb		IAmb	20 30 50.7	
	comp=Z,82nm,1.8s							
GIRL	Giralia	56.69	252	P		P	20 29 17.8	-0.1
DRV	Dumont d'Urvil	56.79	195	P		P	20 29 18.4	+0.6
MJAR	Matsushiro Arr	60.73	328	P		P	20 29 43.3	-1.3
	comp=Z,2.4nm,0.8s,baz=145,slow=5.8,SNR=5.8							
	comp=Z,2.4nm,0.8s							
VNDA	Vanda	63.43	183	P		P	20 30 01.7	+0.3
VNDA	Vanda	63.43	183	P		P	20 30 02.1	+0.7
	comp=Z,2.9nm,0.6s,baz=357,slow=6.7,SNR=34							
	comp=Z,2.9nm,0.6s							
VNDA	Vanda	63.43	183	P		P	20 30 02.3	+0.9
SBA	Scott Base	63.57	182	P		P	20 30 03.5	+1.2
SBA				IAmb		IAmb	20 30 05.5	
	comp=Z,20nm,0.8s							
SBA	Scott Base	63.57	182	P		P	20 30 04.7	+2.4
JKA	Kamikawa-asahi	64.77	336	P		P	20 30 10.6	+0.3
CCD	Concordia, Ant	66.53	193	P		P	20 30 21.9	+0.6
PETK	Petropavlovsk-	68.62	350	P		P	20 30 34.0	+0.2
	comp=Z,7.6nm,0.9s,baz=137,slow=7.7,SNR=5.0							
	comp=Z,7.6nm,0.9s							
NJ2	Nanjing	69.92	312	eP		P	20 30 42.6	+0.6
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
MDJ	Mudanjiang	71.09	328	P		P	20 30 51.6	+2.9
MDJ				pmax		pmax		
	comp=Z,2.0nm,1.8s							
MDJ				pmax		pmax		
	comp=Z,230nm,5.6s							
QSPA	South Pole Qui	75.64	180	P		P	20 31 14.9	+0.6
	comp=Z,5.3nm,0.6s,baz=1.8,slow=1.3,SNR=15							
	comp=Z,5.3nm,0.6s							
HHC	Hu-ho-hao-te	79.48	317	eP		P	20 31 35.8	+0.4
HHC				pmax		pmax		
	comp=Z,29nm,0.6s							
HHC				pmax		pmax		
	comp=Z,110nm,4.2s							
CMAR	Chiang Mai Arr	80.56	292	P		P	20 31 42.5	+1.1
	comp=Z,1.0nm,0.3s,baz=106,slow=3.0,SNR=9.0							
	comp=Z,1.0nm,0.3s							
PZH	PanZhiHua	80.84	300	P		P	20 31 42.6	-0.2
PZH				pmax		pmax		
	comp=Z,8.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,5.4s							
NVAR	Mina Array Bea	82.39	47	P		P	20 31 51.5	+1.0
	comp=Z,1.6nm,0.7s,baz=231,slow=9.8,SNR=8.4							
	comp=Z,1.6nm,0.7s							

J05D	Fort Rock, OR	82.55	42	P		P	20 31 51.3	+0.2
DHY	Denali Highway	82.91	17	P		P	20 31 50.7	-1.8
DHY				IAmb		IAmb	20 33 32.1	
	comp=Z,60nm,2.0s							
PINE	Pine Mountain	82.97	42	P		P	20 31 53.8	+0.5
PINE				IAmb		IAmb	20 34 47.4	
	comp=Z,29nm,1.9s							
TPNV	Topopah Spring	83.27	49	P		P	20 31 54.2	-0.7
IMAR	Indian Mountai	83.74	13	P		P	20 31 55.5	-0.9
SHPR	Sheep Range	83.90	50	P		P	20 31 56.0	-2.0
ILAR	Eielson Array	84.39	16	P		P	20 31 57.7	-1.9
	comp=Z,0.4nm,0.6s,baz=224,slow=5.8,SNR=5.8							
ILAR				pP		pP	20 34 07.0	+1.0
	comp=Z,0.8nm,0.9s,baz=231,slow=6.6,SNR=4.5							
	comp=Z,0.4nm,0.6s							
ELK	Elko	85.50	46	P		P	20 32 05.9	+0.1
	comp=Z,0.8nm,0.7s,baz=291,slow=7.8,SNR=3.2							
	comp=Z,0.8nm,0.7s							
ANMO	Albuquerque	90.02	54	P		P	20 32 27.6	+0.6
	comp=Z,1.9nm,0.8s,baz=312,slow=5.9,SNR=5.5							
	comp=Z,1.9nm,0.8s							
PDAR	Pinedale Array	90.19	46	P		P	20 32 27.8	+0.1
	comp=Z,0.3nm,0.5s,baz=218,slow=3.3,SNR=2.9							
	comp=Z,0.3nm,0.5s							
TXAR	Lajitas Array	90.67	60	P		P	20 32 31.2	+1.2
	comp=Z,2.5nm,0.8s,baz=216,slow=5.8,SNR=19							
	comp=Z,2.5nm,0.8s							
WMQ	Urumqi	96.99	313	eP		P	20 32 59.0	+0.6
ARCES	ARCESS Array B	121.39	347	PKP		PKPdf	20 38 13.1	-2.1
	comp=Z,8.1nm,1.1s,baz=49,slow=2.7,SNR=5.8							
TORD	Torodi Ar. Bea	172.14	262	PKPab		PKPab	20 40 59.7	-0.1
	comp=Z,0.8nm,1.0s,baz=98,slow=6.3,SNR=4.0							

PGC ***14*** *20:25:35.5±2.2,50.44N×130.26W,h10km,mb4.0, MLSn3.7/32,Mw4.5,202km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***14*** *20:25:37.5±1.2,50.56N×129.87W,h0km,mb3.6/4, mbtmp3.7/12,ML3.4/7,MS3.6/15,Error ellipse: s-maj=19.0km s-min=9.4km az=73.0*

NEIC ***14*** *20:25:39.2±2.4,50.67N±0.05×129.76W±0.08,h10km±2km, mb4.0/34,Mwr4.4(OTT),Error ellipse: s-maj=10.2km s-min=6.0km az=221.0*

ISC 14 20:25:37.1±2.9,50.57N±0.04×129.99W±0.05,h5km±19km, n263,σ1.370/266,mb4.0/7,MS3.5/11,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.19	86			Pb	20 25 58.6	-1.6
HOLB	Holberg	1.19	86			Pb	20 25 58.6	-1.6
HOLB					Sn	Sb	20 26 14.9	-0.9
HOLB	Holberg	1.19	86		Pn	Pb	20 25 58.6	-1.6
HOLB					Sn	Sb	20 26 14.9	-0.9
PHC	Port Hardy	1.64	84		Pn	Pn	20 26 05.1	-1.4
PHC					Sn	Sn	20 26 25.9	-2.1
MAYB	Maynard	1.81	94		Pn	Pn	20 26 07.2	-1.8
MAYB	Maynard	1.81	94		Pn	Pn	20 26 07.2	-1.8
HG4B	Hotspring	1.88	337		Pn	Pn	20 26 06.4	-3.6
HG4B	Hotspring	1.88	337		Pn	Pn	20 26 06.3	-3.7
HG4B					Sn	Sn	20 26 29.7	-4.4
HG4B	Hotspring	1.88	337		Pn	Pn	20 26 06.3	-3.7
HG4B					Sn	Sn	20 26 29.7	-4.4
EDB	Eliza Dome	1.97	110		Pn	Pn	20 26 08.8	-2.4
EDB					Sn	Sn	20 26 32.6	-3.7
EDB	Eliza Dome	1.97	110		Pn	Pn	20 26 08.8	-2.4
EDB					Sn	Sn	20 26 32.6	-3.7
BBB	Bella Bella	2.00	35		Sn	Sn	20 26 34.3	-2.6
BBB	Bella Bella	2.00	35		Pn	Pn	20 26 10.4	-1.1
	8.2nm,0.3s,baz=241,slow=5.0,SNR=57							
BBB					Sn	Sn	20 26 34.0	-2.9
	60nm,0.3s,baz=232,slow=16,SNR=5.2							
BBB	Bella Bella	2.00	35		Pn	Pn	20 26 10.4	-1.1
BBB					Sn	Sn	20 26 34.3	-2.6
WOSB	Woss	2.23	99		Pn	Pn	20 26 13.3	-1.5
WOSB	Woss	2.23	99		Pn	Pn	20 26 13.3	-1.5
BAIB	Barry Inlet	2.29	332		Pn	Pn	20 26 12.1	-3.6
BAIB					Sn	Sn	20 26 39.6	-4.7
BNB	Barry Inlet	2.29	332		Pn	Pn	20 26 12.0	-3.6
BNB	Barry Inlet	2.29	332		Pn	Pn	20 26 12.0	-3.6
NCRB	Newcastle Ridg	2.52	92		Pn	Pn	20 26 17.4	-1.5
NCRB	Newcastle Ridg	2.52	92		Pn	Pn	20 26 17.4	-1.5
NCSB	Newcastle Ridg	2.52	92		Pn	Pn	20 26 17.4	-1.4
BUTB	Butedale	2.67	20		Pn	Pn	20 26 19.9	-1.0
BUTB					Sn	Sn	20 26 51.4	-2.2
BUTB	Butedale	2.67	20		Pn	Pn	20 26 19.9	-1.0
BUTB					Sn	Sn	20 26 51.4	-2.2
BNKB	Banks Island	2.77	1		Pn	Pn	20 26 19.9	-2.2
BNKB					Sn	Sn	20 26 52.9	-3.0
BNKB	Banks Island	2.77	1		Pn	Pn	20 26 19.9	-2.2
BNKB					Sn	Sn	20 26 52.9	-3.0
GRIB	Gribbell Islan	2.82	10		Pn	Pn	20 26 21.2	-1.7
GRIB					Sn	Sn	20 26 54.2	-3.1
SPLB	Strathcona Par	2.87	102		Pn	Pn	20 26 22.3	-1.2
SPLB	Strathcona Par	2.87	102		Pn	Pn	20 26 22.3	-1.2
BNAB	Bonilla	2.96	353		Pn	Pn	20 26 22.1	-2.5
BNAB					Sn	Sn	20 26 56.6	-3.8
BNAB	Bonilla	2.96	353		Pn	Pn	20 26 22.1	-2.5
BNAB					Sn	Sn	20 26 56.6	-3.8
CBB	Campbell River	3.02	98		Pn	Pn	20 26 24.4	-1.1
CBB	Campbell River	3.02	98		Pn	Pn	20 26 24.6	-0.9
CBB					Sn	Sn	20 26 59.0	-3.0
CBB	Campbell River	3.02	98		Pn	Pn	20 26 24.6	-0.9
CBB					Sn	Sn	20 26 59.0	-3.0
DIB	Dawson Inlet,	3.05	331		Pn	Pn	20 26 23.2	-2.8
DIB	Dawson Inlet,	3.05	331		Pn	Pn	20 26 22.7	-3.3
DIB	Dawson Inlet,	3.05	331		Pn	Pn	20 26 22.7	-3.3
GRNB	Grenville Isla	3.28	0			Pn	20 26 27.8	-1.5
GRNB	Grenville Isla	3.28	0		Pn	Pn	20 26 27.3	-1.9
GRNB					Sn	Sn	20 27 05.0	-3.6
GRNB	Grenville Isla	3.28	0		Pn	Pn	20 26 27.3	-1.9
GRNB					Sn	Sn	20 27 05.0	-3.6
OZB	Mount Ozzard	3.33	117		Pn	Pn	20 26 27.7	-2.2
OZB	Mount Ozzard	3.33	117		Pn	Pn	20 26 27.5	-2.4
OZB					Sn	Sn	20 27 04.8	-5.0
OZB	Mount Ozzard	3.33	117		Pn	Pn	20 26 27.5	-2.4
OZB					Sn	Sn	20 27 04.8	-5.0
BFSB	Bamfield	3.60	117		Pn	Pn	20 26 30.4	-3.1
BFSB	Bamfield	3.60	117		Pn	Pn	20 26 30.4	-3.1
KITB	Kitimat	3.61	13		Pn	Pn	20 26 32.4	-1.2
KITB					Sn	Sn	20 27 15.8	-0.9
KITB	Kitimat	3.61	13		Pn	Pn	20 26 32.4	-1.2
KITB					Sn	Sn	20 27 15.8	-0.9
B927	Port Alberni	3.61	110		Pn	Pn	20 26 31.8	-1.9
B927	Port Alberni	3.61	110		Pn	Pn	20 26 31.8	-1.9
TXB	Texada	3.68	102		Pn	Pn	20 26 33.2	-1.5
TXB	Texada	3.68	102		Pn	Pn	20 26 33.2	-1.5
RUBB	Prince Rupert	3.77	358			Pn	20 26 34.4	-1.4
RUBB	Prince Rupert	3.77	358		Pn	Pn	20 26 34.0	-1.8
RUBB					Sn	Sn	20 27 17.5	-3.0
RUBB	Prince Rupert	3.77	358		Pn	Pn	20 26 34.0	-1.8
RUBB					Sn	Sn	20 27 17.5	-3.0
SHB	Sechelt	4.06	102		Pn	Pn	20 26 39.0	-0.9
SHB	Sechelt	4.06	102		Pn	Pn	20 26 39.0	-0.9
NLLB	Nanaimo Lost L	4.11	107		Pn	Pn	20 26 39.6	-0.9
NLLB					Sn	Sn	20 27 28.2	-0.7
NLLB	Nanaimo Lost L	4.11	107		Pn	Pn	20 26 39.6	-0.9
NLLB					Sn	Sn	20 27 28.2	-0.7
PFB	Port Renfrew	4.13	117		Pn	Pn	20 26 39.2	-1.6
PFB					Sn	Sn	20 27 26.5	-3.0
PFB	Port Renfrew	4.13	117		Pn	Pn	20 26 39.2	-1.6
PFB					Sn	Sn	20 27 26.5	-3.0
PTRF	Port Renfrew	4.16	117		Pn	Pn	20 26 39.8	-1.4
PTRF					Sn	Sn	20 27 26.3	-3.9
OCP	Olym-Cheeka Pk	4.17	121		Pn	Pn	20 26 40.6	-0.9
CLRS	Cowichan Lake	4.19	112			Pn	20 26 41.4	-0.2
CLRS	Cowichan Lake	4.19	112		Pn	Pn	20 26 40.8	-0.8
CLRS	Cowichan Lake	4.19	112		Pn	Pn	20 26 40.8	-0.8
UBRB	Upper Baezaeko	4.35	55		Pn	Pn	20 26 44.9	+1.0
UBRB	Upper Baezaeko	4.35	55		Pn	Pn	20 26 44.9	+1.0
BIB	Bowen Island	4.47	103		Pn	Pn	20 26 45.2	-0.2
BIB	Bowen Island	4.47	103		Pn	Pn	20 26 45.2	-0.2
GOBB	Galiano Island	4.50	109		Pn	Pn	20 26 45.9	0.0
GOBB	Galiano Island	4.50	109		Pn	Pn	20 26 45.9	0.0
SYMB	Survey Mountai	4.50	114		Pn	Pn	20 26 45.4	-0.6
SYMB	Survey Mountai	4.50	114		Pn	Pn	20 26 45.4	-0.6
OBC	Olympics--Boni	4.63	121		Pn	Pn	20 26 47.6	-0.2
OBC	Olympics--Boni	4.63	121		Pn	Pn	20 26 47.6	-0.2
B010	North Saanich	4.67	112		Pn	Pn	20 26 48.0	-0.2
B010	North Saanich	4.67	112		Pn	Pn	20 26 48.0	-0.2

B009	North Saanich	4.67	112	Pn		Pn	20 26 48.0	-0.1
B009	North Saanich	4.67	112	Pn		Pn	20 26 48.0	-0.1
PGC	Sidney	4.67	112	Pn		Pn	20 26 47.6	-0.6
PGC	Sidney	4.67	112	Pn		Pn	20 26 48.1	0.0
PGC	Sidney	4.67	112	Pn		Pn	20 26 48.1	0.0
B011	North Saanich	4.67	112	Pn		Pn	20 26 48.1	-0.1
B011	North Saanich	4.67	112	Pn		Pn	20 26 48.1	-0.1
SNB	Saturna Island	4.78	109	Pn		Pn	20 26 49.8	0.0
SNB	Saturna Island	4.78	109	Pn		Pn	20 26 49.8	0.0
STW	Striped Peak	4.79	118	Pn		Pn	20 26 49.4	-0.5
STW	Striped Peak	4.79	118	Pn		Pn	20 26 49.4	-0.5
VGZ	Gonzales	4.85	114	Pn		Pn	20 26 50.7	0.0
VGZ	Gonzales	4.85	114	Pn		Pn	20 26 50.7	0.0
V35K	Ketchikan	4.87	349	Pn		Pn	20 26 49.2	-1.7
B04A	Port Angeles	4.93	118	Pn		Pn	20 26 51.1	-0.7
HNBB	Haney	4.96	102	Pn		Pn	20 26 52.9	+0.7
HNBB	Haney	4.96	102	Pn		Pn	20 26 52.9	+0.7
MCW	Mount Constitu	5.02	109	Pn		Pn	20 26 53.6	+0.4
MCW	Mount Constitu	5.02	109	Pn		Pn	20 26 53.6	+0.4
NLWA	Neilton Lookou	5.13	126			Pn	20 26 54.8	+0.1
LLLB	Lillooet	5.17	86	Pn		Pn	20 26 55.1	0.0
LLLB	Lillooet	5.17	86	Pn		Pn	20 26 55.1	0.0
FSJB	Fort St James	5.22	40	Pn		Pn	20 26 56.6	+0.8
FSJB				Sn		Sn	20 27 55.8	-0.7
FSJB	Fort St James	5.22	40	Pn		Pn	20 26 56.6	+0.8
FSJB				Sn		Sn	20 27 55.8	-0.7
HDW	Hoodsport	5.41	120	Pn		Pn	20 26 58.2	-0.3
HDW	Hoodsport	5.41	120	Pn		Pn	20 26 58.2	-0.3
MBW	Mount Baker	5.55	106	Pn		Pn	20 27 01.0	+0.5
MBW	Mount Baker	5.55	106	Pn		Pn	20 27 01.0	+0.5
CMW	Cultus Mountai	5.56	110	Pn		Pn	20 27 01.0	+0.5
CMW	Cultus Mountai	5.56	110	Pn		Pn	20 27 01.0	+0.5
GNW	Green Mountain	5.59	120			Pn	20 27 02.7	+1.8
HOPB	Hope	5.66	99	Pn		Pn	20 27 02.3	+0.6
HOPB	Hope	5.66	99	Pn		Pn	20 27 02.3	+0.6
JCW	Jim Creek	5.78	111	Pn		Pn	20 27 03.8	+0.3
JCW	Jim Creek	5.78	111	Pn		Pn	20 27 03.8	+0.3
B06A	Marblemount	5.91	107			Pn	20 27 05.4	+0.2
B06A	Marblemount	5.91	107	Pn		Pn	20 27 05.9	+0.7
RPW	Rockport	5.92	108	Pn		Pn	20 27 06.0	+0.6
RPW	Rockport	5.92	108	Pn		Pn	20 27 06.0	+0.6
D05A	Enumclaw	6.27	120			Pn	20 27 11.9	+1.7
D05A	Enumclaw	6.27	120	Pn		Pn	20 27 10.9	+0.7
GPW	Glacier Peak	6.28	110	Pn		Pn	20 27 11.6	+0.9
GPW	Glacier Peak	6.28	110	Pn		Pn	20 27 11.6	+0.9
T35M	Bob Quinn	6.43	359	Pn		Pn	20 27 12.6	+0.2
T35M	Bob Quinn	6.43	359	Pn		Pn	20 27 12.9	+0.5
T35M				Sn		Sn	20 28 24.9	-1.1
T35M	Bob Quinn	6.43	359	Pn		Pn	20 27 12.9	+0.5
T35M				Sn		Sn	20 28 24.9	-1.1
FMW	Mount Fremont	6.59	120	Pn		Pn	20 27 15.9	+1.0
FMW	Mount Fremont	6.59	120	Pn		Pn	20 27 15.9	+1.0
LON	Longmire	6.63	122			Pn	20 27 15.4	+0.1
LON	Longmire	6.63	122	Pn		Pn	20 27 16.1	+0.8
PNT	Penticton	6.81	97	Pn		Pn	20 27 18.6	+0.9
PNT	Penticton	6.81	97	Pn		Pn	20 27 18.6	+0.9
F04A	Amboy	6.86	130			Pn	20 27 18.9	+0.6
LTY	Liberty	6.98	115			Pn	20 27 21.2	+1.2
LTY	Liberty	6.98	115	Pn		Pn	20 27 21.3	+1.3
S34M	Telegraph Cree	7.39	355	Pn		Pn	20 27 26.1	+0.5
S34M	Telegraph Cree	7.39	355	Pn		Pn	20 27 26.1	+0

	comp=Z,6.6nm,0.8s,baz=305,slow=8.4,SNR=18					
I27K	**Kandik River**	**16.23 343**	P	**P**	**20 29 29.9**	**+1.0**
I27K	**Kandik River**	**16.23 343**	P	**P**	**20 29 29.9**	**+1.0**
H29M	**Whitestone**	**16.27 348**	P	**Pn**	**20 29 29.7**	**+3.6**
H29M	**Whitestone**	**16.27 348**	IAmb	IAmb	20 29 42.7	
	comp=Z,16nm,1.2s					
H29M	**Whitestone**	**16.27 348**	P	**Pn**	**20 29 29.7**	**+3.6**
G31M	**Satah River**	**16.55 354**	P	**P**	**20 29 33.2**	**+1.0**
IL31		**16.77 334**	Pn	**Pn**	**20 29 33.3**	**+0.9**
IL31			IAmb	IAmb	20 29 42.5	
	comp=Z,9.3nm,0.9s					
ILAR	**Eielson Array**	**16.77 334**	Pn	**Pn**	**20 29 34.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=150,slow=11,SNR=17					
	comp=Z,1.4nm,0.9s					
WCT	**Wildcat Mounta**	**16.79 140**		**Pn**	**20 29 34.7**	**+1.8**
ISA	**Isabella, Lake**	**17.07 146**	P	**Pn**	**20 29 38.8**	**+2.2**
ISA			IAmb	IAmb	20 29 53.6	
	comp=Z,17nm,1.5s					
G27K	**Doyon Strip**	**17.32 344**	P	**Pn**	**20 29 41.3**	**+1.9**
G27K	**Doyon Strip**	**17.32 344**	IAmb	IAmb	20 29 49.0	
	comp=Z,13nm,1.3s					
G27K	**Doyon Strip**	**17.32 344**	P	**Pn**	**20 29 41.3**	**+1.9**
F28M	**Old Crow**	**17.79 348**	P	**Pn**	**20 29 46.5**	**+1.3**
F28M	**Old Crow**	**17.79 348**	P	**Pn**	**20 29 46.5**	**+1.3**
H24K	**Noodor Dome**	**17.86 336**	IAmb	IAmb	20 29 56.9	
	comp=Z,18nm,1.1s					
INK	**Inuvik**	**17.88 356**	P	**Pn**	**20 29 46.9**	**+0.7**
INK	**Inuvik**	**17.88 356**	IAmb	IAmb	20 29 54.6	
	comp=Z,10nm,1.4s					
INK	**Inuvik**	**17.88 356**	P	**Pn**	**20 29 46.5**	**+0.3**
	baz=165,slow=12,SNR=5.4					
	comp=Z,2.4nm,0.9s					
INK	**Inuvik**	**17.88 356**	P	**Pn**	**20 29 46.9**	**+0.7**
K22A	**Casper**	**17.91 107**	IAmb	IAmb	20 29 54.9	
	comp=Z,18nm,1.1s					
BMAR	**Burnt Mountain**	**18.41 342**		**P**	**20 29 52.6**	**-0.3**
E28M	**Babbage River**	**18.68 349**	P	**P**	**20 29 57.1**	**+1.3**
E28M	**Babbage River**	**18.68 349**	IAmb	IAmb	20 30 02.7	
	comp=Z,6.6nm,0.9s					
E28M	**Babbage River**	**18.68 349**	P	**P**	**20 29 57.1**	**+1.3**
PHWY	**Pilot Hill**	**19.34 109**	P	**P**	**20 30 02.9**	**-0.6**
PHWY			IAmb	IAmb	20 30 33.9	
	comp=Z,11nm,0.9s					
PFO	**Pinyon Flats O**	**19.64 144**	P	**P**	**20 30 09.6**	**+2.9**
IMAR	**Indian Mountai**	**19.66 331**	P	**P**	**20 30 07.2**	**+0.7**
SMCO	**Snowmass**	**19.81 116**	P	**P**	**20 30 06.4**	**-2.4**
SMCO			IAmb	IAmb	20 30 17.0	
	comp=Z,4.2nm,0.7s					
WUAZ	**Wupatki**	**20.20 131**		**P**	**20 30 13.0**	**+0.2**
WUAZ			IAmb	IAmb	20 30 26.1	
	comp=Z,13nm,1.5s					
MVCO	**Mesa Verde**	**20.36 123**	P	**P**	**20 30 15.4**	**+0.8**
MVCO			IAmb	IAmb	20 30 55.4	
	comp=Z,12nm,1.2s					
ESJX	**Sierra Juarez**	**21.27 145**	P	**P**	**20 30 26.2**	**+1.8**
ESJX			IAmb	IAmb	20 30 29.1	
	comp=Z,8.1nm,1.1s					
SDCO	**Great Sand Dun**	**21.63 117**	P	**P**	**20 30 29.5**	**+1.1**
SDCO			IAmb	IAmb	20 30 35.7	
	comp=Z,7.2nm,1.1s					
ULM	**Lac du Bonnet**	**21.64 78**	P	**P**	**20 30 27.8**	**-0.2**
ULM	**Lac du Bonnet**	**21.64 78**	P	**P**	**20 30 27.3**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=279,slow=9.9,SNR=9.1					
	comp=Z,5.4nm,0.8s					
ULM	**Lac du Bonnet**	**21.64 78**	P	**P**	**20 30 28.0**	**0.0**
B21K	**Ikpikpuk River**	**22.40 337**	P	**P**	**20 30 36.2**	**+0.1**
D19K	**Kuna River**	**22.57 333**	P	**P**	**20 30 38.7**	**+0.7**
B22K	**Teshekpuk Lake**	**22.65 340**	P	**P**	**20 30 39.9**	**+1.2**
ANMO	**Albuquerque**	**23.14 123**	P	**P**	**20 30 44.5**	**+0.2**
ANMO			IAmb	IAmb	20 30 53.0	
	comp=Z,5.7nm,1.4s					
ANMO	**Albuquerque**	**23.14 123**	P	**P**	**20 30 44.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=34,slow=8.1,SNR=4.3					
	comp=Z,0.7nm,0.6s					
B20K	**Meade River**	**23.30 337**	P	**P**	**20 30 47.0**	**+1.6**
ECSD	**EROS Data Cent**	**23.56 94**	P	**P**	**20 30 47.6**	**-0.7**
RTBA	**Rita Blanca**	**24.12 115**	P	**P**	**20 30 54.0**	**+0.1**
RES	**Resolute Bay**	**28.20 19**	LR	LR	20 41 31.5	
	comp=Z,143nm,21.3s,baz=342,slow=34					
TXAR	**Lajitas Array**	**29.01 127**	P	**P**	**20 31 39.0**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=325,slow=8.3,SNR=8.3					
TXAR			PcP	**PcP**	**20 34 46.6**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=352,slow=1.8,SNR=2.7					
	comp=Z,1.1nm,0.9s					
TKL	**Tuckaleechee C**	**36.26 96**	LR	LR	20 48 44.3	
	comp=Z,75nm,19.4s,baz=345,slow=38					
PETK	**Petropavlovsk-**	**43.00 303**	LR	LR	20 48 24.2	
	comp=Z,60nm,19.4s,baz=87,slow=32					
MA2	**Magadan**	**43.64 314**	LR	LR	20 49 40.4	
	comp=Z,62nm,21.3s,baz=52,slow=33					
ASAJ	**Asahikawa**	**56.28 300**	LR	LR	20 59 43.3	
	comp=Z,20nm,18.5s,baz=360,slow=36					
H11N2	**WAKE ISLAND Hy**	**57.98 262**	T	T	21 38 07.7	
	baz=42,slow=75,SNR=519					
H11N3	**WAKE ISLAND Hy**	**57.98 262**	T	T	21 38 07.8	
	baz=42,slow=75,SNR=709					
H11N1	**WAKE ISLAND Hy**	**58.00 262**	T	T	21 38 08.9	
	baz=42,slow=75,SNR=464					
KLR	**Kul'dur**	**58.56 310**	LR	LR	21 02 00.3	
	comp=Z,46nm,18.2s,baz=36,slow=37					
ARCES	**ARCESS Array B**	**58.87 10**	LR	LR	21 01 53.4	
	comp=Z,94nm,18.8s,baz=266,slow=37					
HEH	**HeiHe**	**59.91 314**	*eP*	**P**	**20 35 42.8**	**-0.9**
JNU	**Nakatsue**	**70.49 298**	LR	LR	21 04 24.7	
	comp=Z,25nm,21.8s,baz=43,slow=33					
ARU	**Arti**	**73.13 355**	LR	LR	21 11 38.4	
	comp=Z,51nm,19.0s,baz=308,slow=38					
HHC	**Hu-ho-hao-te**	**74.25 316**	*eP*	**P**	**20 37 15.1**	**0.0**
HHC			pmax	pmax		
	comp=Z,14nm,0.6s					
HHC			pmax	pmax		
	comp=Z,240nm,7.9s					
MKAR	**Makanchi Array**	**79.09 338**	P	**P**	**20 37 43.6**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=50,slow=4.5,SNR=2.1					
	comp=Z,0.2nm,0.6s					
AKTO	**Aktyubinsk**	**79.14 355**	LR	LR	21 16 26.2	
	comp=Z,42nm,18.3s,baz=348,slow=38					
WMQ	**Urumqi**	**80.43 333**	*eP*	**P**	**20 37 52.8**	**+3.2**
BRTR	**Keskin Array B**	**88.94 13**	LR	LR	21 21 02.0	
	comp=Z,52nm,18.3s,baz=346,slow=37					

*ISN **14** 20:30:06.4±0.6, 33.˚73N×45.˚59E, h8km±3km, ML3.2*
*TEH **14** 20:30:08.9, 33.˚83N×45.˚62E, h18km±67km, ML3.2*
ISC 14 20:30:07.2±1.5, 33.˚71N±0.˚03×45.˚57E±0.˚04, h2km±16km, n13, σ1s09/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.66**	**153**	*e*Pg	**Pg**	**20 30 19.5**	**-0.5**
IBDR				*e*Sg	**Sg**	**20 30 29.5**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**0.80**	**1**	Pg	**Pg**	**20 30 22.4**	**-0.1**
BHD	**Baghdad**	**1.09**	**247**	*e*Pg	**Pb**	**20 30 28.0**	**-0.8**
BHD				*e*Sg	**Sb**	**20 30 43.0**	**-0.4**
BHD				AML	AML	20 31 13.4	
	comp=E,543nm,0.6s						
IDHR	**Dehrash**	**1.20**	**34**	Pg	**Pb**	**20 30 28.8**	**-2.0**
KCHF	**Cheshme Sefid,**	**1.34**	**65**	Pg	**Pn**	**20 30 32.6**	**-0.6**
ILIN	**Lien**	**1.67**	**43**	Pg	**Pb**	**20 30 38.2**	**-0.6**
ILIN				Sg	**Sb**	**20 31 00.0**	**-0.5**
IKOM	**Komasi**	**1.68**	**73**	Pg	**Pb**	**20 30 38.8**	**-0.1**
IKOM				Sg	**Sg**	**20 31 02.2**	**+1.1**
IKFM	**Kafar-mosalman**	**1.91**	**95**	Pn	**Pb**	**20 30 41.9**	**-0.9**
RAFI	**Al-Rafai**	**2.03**	**167**	*e*Pn	**Pn**	**20 30 43.0**	**+0.6**
RAFI				*e*Sn	**Sb**	**20 31 10.0**	**-0.5**
HSAM	**Samen**	**2.57**	**78**	Pn	**Pn**	**20 30 50.6**	**+0.5**
ISHB	**Shabestar**	**4.57**	**0**	Pn	**Pn**	**20 31 19.6**	**+2.0**
QAMS	**Qamsar**	**4.85**	**88**	Pn	**Pn**	**20 31 22.2**	**+0.6**
IKLH	**Kolahrood**	**5.03**	**93**	Pn	**Pn**	**20 31 25.6**	**+1.6**

*NEIC **14** 20:36:07.9±2.8, 50.˚45N×0.˚07×130.˚23W±0.˚09, h10km±2km, Mwr4.0(OTT), Error ellipse: s-maj=14.0km s-min=5.9km az=214.0*
*PGC **14** 20:36:08.9±5.1, 50.˚47N×130.˚27W, h10km, MLSn3.4/22, Mw4.0/22, Mw4.0/22, 202km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **14** 20:36:11.7±2.0, 50.˚59N×129.˚74W, h0km, mb3.5/2, mbtmp3.4/6, ML3.3/3, MS3.6/1, Error ellipse: s-maj=28.0km s-min=14.7km az=71.0*
ISC 14 20:36:09.3±1.1, 50.˚50N±0.˚06×130.˚22W±0.˚06, h10km, n115, σ2s03/124, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.33**	**83**	Pn	**Pn**	**20 36 31.5**	**-2.5**
HOLB				Sn	**Sb**	**20 36 47.6**	**-4.0**
HOLB	**Holberg**	**1.33**	**83**	Pn	**Pn**	**20 36 31.5**	**-2.5**
HOLB	**Holberg**	**1.33**	**83**	Pn	**Pn**	**20 36 31.5**	**-2.5**
HOLB				Sn	**Sb**	**20 36 47.6**	**-4.0**
PHC	**Port Hardy**	**1.79**	**82**	Pn	**Pn**	**20 36 38.3**	**-1.8**
PHC				Sn	**Sn**	**20 36 59.1**	**-3.8**
HG4B	**Hotspring**	**1.90**	**341**	Pn	**Pn**	**20 36 39.4**	**-2.3**
HG4B	**Hotspring**	**1.90**	**341**	Pn	**Pn**	**20 36 39.4**	**-2.3**
HG4B				Sn	**Sn**	**20 37 02.4**	**-3.3**
HG4B	**Hotspring**	**1.90**	**341**	Pn	**Pn**	**20 36 39.4**	**-2.3**
HG4B				Sn	**Sn**	**20 37 02.4**	**-3.3**
MAYB	**Maynard**	**1.95**	**92**	Pn	**Pn**	**20 36 40.2**	**-2.4**
MAYB	**Maynard**	**1.95**	**92**	Pn	**Pn**	**20 36 40.2**	**-2.4**
EDB	**Eliza Dome**	**2.09**	**106**	Pn	**Pn**	**20 36 41.7**	**-2.6**
EDB	**Eliza Dome**	**2.09**	**106**	Pn	**Pn**	**20 36 41.7**	**-2.6**
BBB	**Bella Bella**	**2.14**	**37**	Pn	**Pn**	**20 36 43.6**	**-1.4**
BBB	**Bella Bella**	**2.14**	**37**	Pn	**Pn**	**20 36 43.7**	**-1.3**
	4.4nm,0.3s,baz=237,slow=14,SNR=28						
BBB				Sn	**Sn**	**20 37 07.5**	**-4.1**
	40nm,0.3s,baz=236,slow=14,SNR=6.8						
BBB	**Bella Bella**	**2.14**	**37**	Pn	**Pn**	**20 36 43.6**	**-1.4**
BAIB	**Barry Inlet**	**2.29**	**336**	Pn	**Pn**	**20 36 45.7**	**-1.5**
BNB	**Barry Inlet**	**2.29**	**336**	Pn	**Pn**	**20 36 45.4**	**-1.7**
BNB	**Barry Inlet**	**2.29**	**336**	Pn	**Pn**	**20 36 45.4**	**-1.7**
WOSB	**Woss**	**2.36**	**97**	Pn	**Pn**	**20 36 46.5**	**-1.7**
WOSB	**Woss**	**2.36**	**97**	Pn	**Pn**	**20 36 46.5**	**-1.7**
NCSB	**Newcastle Ridg**	**2.66**	**91**	Pn	**Pn**	**20 36 50.6**	**-1.7**
NCRB	**Newcastle Ridg**	**2.66**	**91**	Pn	**Pn**	**20 36 50.4**	**-1.9**
NCRB	**Newcastle Ridg**	**2.66**	**91**	Pn	**Pn**	**20 36 50.4**	**-1.9**
BUTB	**Butedale**	**2.79**	**22**	Pn	**Pn**	**20 36 53.2**	**-0.9**
BUTB	**Butedale**	**2.79**	**22**	Pn	**Pn**	**20 36 53.2**	**-0.9**
BNKB	**Banks Island**	**2.84**	**4**	Pn	**Pn**	**20 36 53.3**	**-1.4**
BNKB	**Banks Island**	**2.84**	**4**	Pn	**Pn**	**20 36 53.3**	**-1.4**
GRIB	**Gribbell Islan**	**2.92**	**13**	Pn	**Pn**	**20 36 54.4**	**-1.4**
SPLB	**Strathcona Par**	**3.00**	**100**	Pn	**Pn**	**20 36 54.8**	**-2.0**
SPLB	**Strathcona Par**	**3.00**	**100**	Pn	**Pn**	**20 36 54.8**	**-2.0**
BNAB	**Bonilla**	**3.01**	**355**	Pn	**Pn**	**20 36 55.4**	**-1.5**
BNAB				Sn	**Sn**	**20 37 28.9**	**-4.0**
BNAB	**Bonilla**	**3.01**	**355**	Pn	**Pn**	**20 36 55.4**	**-1.5**
BNAB				Sn	**Sn**	**20 37 28.9**	**-4.0**
DIB	**Dawson Inlet,**	**3.04**	**333**	Pn	**Pn**	**20 36 56.3**	**-1.2**
CBB	**Campbell River**	**3.15**	**97**	Pn	**Pn**	**20 36 57.2**	**-1.7**
CBB				Sg	**Sg**	**20 37 55.8**	**+5.5**
CBB	**Campbell River**	**3.15**	**97**	Pn	**Pn**	**20 36 57.5**	**-1.4**
CBB	**Campbell River**	**3.15**	**97**	Pn	**Pn**	**20 36 57.2**	**-1.7**
CBB				Sg	**Sg**	**20 37 55.8**	**+5.5**
GRNB	**Grenville Isla**	**3.35**	**3**	Pn	**Pn**	**20 37 00.6**	**-1.2**
GRNB				Sn	**Sn**	**20 37 37.9**	**-3.7**
GRNB	**Grenville Isla**	**3.35**	**3**	Pn	**Pn**	**20 37 00.2**	**-1.6**
GRNB	**Grenville Isla**	**3.35**	**3**	Pn	**Pn**	**20 37 00.6**	**-1.2**
GRNB				Sn	**Sn**	**20 37 37.9**	**-3.7**
OZB	**Mount Ozzard**	**3.43**	**115**	Pn	**Pn**	**20 37 01.1**	**-1.8**
OZB	**Mount Ozzard**	**3.43**	**115**	Pn	**Pn**	**20 37 01.3**	**-1.6**
OZB	**Mount Ozzard**	**3.43**	**115**	Pn	**Pn**	**20 37 01.1**	**-1.8**
KITB	**Kitimat**	**3.71**	**15**	Pn	**Pn**	**20 37 06.2**	**-0.4**
KITB	**Kitimat**	**3.71**	**15**	Pn	**Pn**	**20 37 06.2**	**-0.4**
TXB	**Texada**	**3.81**	**100**	Pn	**Pn**	**20 37 06.5**	**-1.5**
TXB	**Texada**	**3.81**	**100**	Pn	**Pn**	**20 37 06.5**	**-1.5**
RUBB	**Prince Rupert**	**3.83**	**360**	Pn	**Pn**	**20 37 07.0**	**-1.2**
RUBB	**Prince Rupert**	**3.83**	**360**	Pn	**Pn**	**20 37 07.1**	**-1.2**
RUBB	**Prince Rupert**	**3.83**	**360**	Pn	**Pn**	**20 37 07.0**	**-1.2**
SHB	**Sechelt**	**4.18**	**100**	Pn	**Pn**	**20 37 10.7**	**-2.5**
SHB	**Sechelt**	**4.18**	**100**	Pn	**Pn**	**20 37 10.7**	**-2.5**
PFB	**Port Renfrew**	**4.23**	**115**	Pn	**Pn**	**20 37 12.0**	**-1.8**
PFB	**Port Renfrew**	**4.23**	**115**	Pn	**Pn**	**20 37 12.0**	**-1.8**
CLRS	**Cowichan Lake**	**4.30**	**111**	Pn	**Pn**	**20 37 12.9**	**-1.7**
CLRS	**Cowichan Lake**	**4.30**	**111**	Pn	**Pn**	**20 37 14.2**	**-0.5**
CLRS	**Cowichan Lake**	**4.30**	**111**	Pn	**Pn**	**20 37 12.9**	**-1.7**
UBRB	**Upper Baezaeko**	**4.50**	**56**	Pn	**Pn**	**20 37 18.0**	**+0.4**
UBRB	**Upper Baezaeko**	**4.50**	**56**	Pn	**Pn**	**20 37 18.0**	**+0.4**
SYMB	**Survey Mountai**	**4.61**	**113**	Pn	**Pn**	**20 37 18.4**	**-0.7**
SYMB	**Survey Mountai**	**4.61**	**113**	Pn	**Pn**	**20 37 18.4**	**-0.7**
GOBB	**Galiano Island**	**4.62**	**107**	Pn	**Pn**	**20 37 19.5**	**+0.4**
GOBB	**Galiano Island**	**4.62**	**107**	Pn	**Pn**	**20 37 19.5**	**+0.4**
OBC	**Olympics--Boni**	**4.72**	**119**	Pn	**Pn**	**20 37 20.0**	**-0.5**
OBC	**Olympics--Boni**	**4.72**	**119**	Pn	**Pn**	**20 37 20.0**	**-0.5**
PGC	**Sidney**	**4.78**	**110**	Pn	**Pn**	**20 37 19.6**	**-1.7**
V35K	**Ketchikan**	**4.91**	**351**	Pn	**Pn**	**20 37 22.2**	**-0.3**
MCW	**Mount Constitu**	**5.14**	**108**	Pn	**Pn**	**20 37 25.8**	**-0.5**
MCW	**Mount Constitu**	**5.14**	**108**	Pn	**Pn**	**20 37 25.8**	**-0.5**
NLWA	**Neilton Lookou**	**5.21**	**124**	Pn	**Pn**	**20 37 26.4**	**-1.0**
LLLB	**Lillooet**	**5.31**	**86**	Pn	**Pn**	**20 37 28.0**	**-0.7**
LLLB	**Lillooet**	**5.31**	**86**	Pn	**Pn**	**20 37 28.0**	**-0.7**
FSJB	**Fort St James**	**5.36**	**40**		**Pn**	**20 37 29.9**	**+0.5**
FSJB	**Fort St James**	**5.36**	**40**	P	**Pn**	**20 37 29.9**	**+0.5**
MBW	**Mount Baker**	**5.67**	**104**	Pn	**Pn**	**20 37 34.1**	**+0.4**
MBW	**Mount Baker**	**5.67**	**104**	Pn	**Pn**	**20 37 34.1**	**+0.4**
CMW	**Cultus Mountai**	**5.67**	**108**	Pn	**Pn**	**20 37 34.3**	**+0.6**
CMW	**Cultus Mountai**	**5.67**	**108**	Pn	**Pn**	**20 37 34.3**	**+0.6**
U33K	**Whale Pass**	**5.88**	**344**	Pn	**Pn**	**20 37 34.7**	**-1.7**
JCW	**Jim Creek**	**5.89**	**110**	Pn	**Pn**	**20 37 37.3**	**+0.7**
JCW	**Jim Creek**	**5.89**	**110**	Pn	**Pn**	**20 37 37.3**	**+0.7**
B06A	**Marblemount**	**6.02**	**106**	Pn	**Pn**	**20 37 34.0**	**-4.4**
RPW	**Rockport**	**6.03**	**107**	Pn	**Pn**	**20 37 38.9**	**+0.3**
RPW	**Rockport**	**6.03**	**107**	Pn	**Pn**	**20 37 38.9**	**+0.3**
T35M	**Bob Quinn**	**6.49**	**360**	Pn	**Pn**	**20 37 45.7**	**+0.9**
T35M				Sn	**Sn**	**20 38 58.9**	**0.0**
T35M	**Bob Quinn**	**6.49**	**360**	Pn	**Pn**	**20 37 45.4**	**+0.6**
T35M	**Bob Quinn**	**6.49**	**360**	Pn	**Pn**	**20 37 45.7**	**+0.9**
T35M				Sn	**Sn**	**20 38 58.9**	**0.0**
FMW	**Mount Fremont**	**6.69**	**119**	Pn	**Pn**	**20 37 48.6**	**+0.9**
FMW	**Mount Fremont**	**6.69**	**119**	Pn	**Pn**	**20 37 48.6**	**+0.9**
LON	**Longmire**	**6.72**	**121**		**Pn**	**20 37 47.0**	**-1.0**
F04A	**Amboy**	**6.93**	**128**	Pn	**Pn**	**20 37 46.2**	**-4.7**
LTY	**Liberty**	**7.08**	**114**	Pn	**Pn**	**20 37 49.2**	**-3.8**
S34M	**Telegraph Cree**	**7.44**	**356**	Pn	**Pn**	**20 37 59.2**	**+1.3**
S34M	**Telegraph Cree**	**7.44**	**356**	Pn	**Pn**	**20 37 58.0**	**+0.1**
S34M	**Telegraph Cree**	**7.44**	**356**	Pn	**Pn**	**20 37 59.2**	**+1.3**
HOOD	**Mount Hood Mea**	**7.74**	**129**	Pn	Pn	20 37 57.0	-5.1
DLBC	**Dease Lake**	**7.95**	**1**	Pn	**Pn**	**20 38 04.6**	**-0.3**
DLBC	**Dease Lake**	**7.95**	**1**	Pn	**Pn**	**20 38 06.8**	**+1.9**
	0.7nm,0.3s,baz=199,slow=14,SNR=9.4						
DLBC				Sn	**Sn**	**20 39 36.1**	**+1.3**
	0.3nm,0.3s,baz=191,slow=22,SNR=1.7						
	3.1nm,0.4s						
DLBC	**Dease Lake**	**7.95**	**1**	P	**Pn**	**20 38 06.0**	**+1.1**
HAWA	**Hanford**	**8.21**	**116**	Pn	**Pn**	**20 38 06.5**	**-1.9**
D08A	**Wollman Farm,**	**8.22**	**110**	Pn	**Pn**	**20 38 05.5**	**-3.0**
NBC5	**NorthernBC 5**	**8.31**	**29**	Pn	**Pn**	**20 38 09.9**	**+0.1**
NBC5				Sn	**Sn**	**20 39 43.1**	**-0.6**
NBC5	**NorthernBC 5**	**8.31**	**29**	P	**Pn**	**20 38 09.9**	**+0.1**
NBC5				S	**Sn**	**20 39 43.1**	**-0.6**
Q32M	**Nakina River**	**8.56**	**353**	Pn	**Pn**	**20 38 12.8**	**-0.5**
R33M	**Jennings River**	**8.92**	**358**	Pn	**Pn**	**20 38 18.6**	**+0.4**
YKA	**Yellowknife Ar**	**14.73**	**29**	Pn	**Pn**	**20 39 36.1**	**-1.4**
	0.1nm,0.3s,baz=223,slow=13,SNR=3.2						
	0.1nm,0.4s						
PDAR	**Pinedale Array**	**16.12**	**111**	Pn	**P**	**20 39 58.0**	**-1.5**
	0.5nm,0.6s,baz=295,slow=8.6,SNR=2.7						
ILAR	**Eielson Array**	**16.77**	**335**	Pn	**P**	**20 40 09.9**	**+3.7**
	baz=147,slow=12,SNR=5.8						
	1.0nm,0.9s						
ULM	**Lac du Bonnet**	**21.79**	**77**	P	**P**	**20 41 03.4**	**+2.2**
	2.4nm,0.7s,baz=272,slow=10,SNR=5.3						
	2.4nm,0.7s						
TXAR	**Lajitas Array**	**29.09**	**127**	P	**P**	**20 42 11.8**	**+1.7**
	0.3nm,0.8s,baz=322,slow=5.7,SNR=2.9						
	0.3nm,0.8s						
NRIK	**Noril'sk**	**57.30**	**345**	LR	LR	21 12 53.4	
	comp=Z,54nm,19.5s,baz=300,slow=38						
H11N2	**WAKE ISLAND Hy**	**57.83**	**262**	T	T	21 48 33.0	
	baz=42,slow=75,SNR=145						
H11N3	**WAKE ISLAND Hy**	**57.83**	**262**	T	T	21 48 35.0	
	baz=42,slow=75,SNR=141						
H11N1	**WAKE ISLAND Hy**	**57.85**	**262**	T	T	21 48 34.1	
	baz=42,slow=75,SNR=109						
H11S1	**WAKE ISLAND Hy**	**58.86**	**261**	T	T	21 49 59.3	
	baz=46,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**58.87**	**261**	T	T	21 50 02.4	
	baz=46,slow=75,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**58.88**	**261**	T	T	21 49 59.2	
	baz=46,slow=75,SNR=5.1						

*SJA **14** 20:38:21.8±0.7, 29.˚65S×71.˚31W, h70km±4km, ML3.7, MW3.9*
*GUC **14** 20:38:23.0±0.7, 29.˚71S×71.˚08W, h68km±3km, ML3.8*
*IDC **14** 20:38:25.0±1.0, 29.˚48S×70.˚99W, h70km±6km, mb3.5/5, mbtmp3.8/7, Error ellipse: s-maj=28.5km s-min=11.3km az=55.0*
ISC 14 20:38:23.5±0.7, 29.˚66S±0.˚03×71.˚30W±0.˚05, h65km±5km, n58, σ1s34/78, mb3.8/5, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.26**	**168**	⇓*i*P	**Pn**	**20 38 34.6**	**+0.6**
CO05				*i* S	**Sn**	**20 38 42.3**	**+0.8**
CO05				IAML		20 38 43.1	
	comp=E,5μm,0.3s						
GO04	**Tololo Observa**	**0.67**	**140**	*e*P	**Pn**	**20 38 37.8**	**-0.2**
GO04	**Tololo Observa**	**0.67**	**140**	*e*P	**Pn**	**20 38 37.0**	**-1.0**
GO04				*i* S	**Sn**	**20 38 47.8**	**-0.8**
LCO	**Las Campanas**	**0.83**	**39**	*e*P	**Pn**	**20 38 39.6**	**-0.4**
LCO				*e*S	**Sn**	**20 38 52.7**	**+0.6**
LCO	**Las Campanas**	**0.83**	**39**	*e*P	**Pn**	**20 38 39.9**	**0.0**
LCO				*i* S	**Sn**	**20 38 52.1**	**0.0**
CO06	**Fray Jorge**	**1.05**	**196**	*e*P	**Pn**	**20 38 43.1**	**+0.7**
CO06				*i* S	**Sn**	**20 38 57.4**	**+1.0**
CO06				IAML		20 38 58.8	
	comp=E,3μm,0.3s						
CO01	**Juntas del Tor**	**1.10**	**107**	*e*P	**Pn**	**20 38 42.7**	**-0.5**
CO01				*e*S	**Sn**	**20 38 56.7**	**-1.2**
CO01				IAML		20 38 58.4	
	comp=Z,902nm,0.3s						
CO01	**Juntas del Tor**	**1.10**	**107**	⇑*i*P	**Pn**	**20 38 42.7**	**-0.5**
CO01				*i* S	**Sn**	**20 38 56.5**	**-1.4**
CO01				IAML		20 38 58.0	
	comp=N,2μm,0.2s						
CO03	**El Pedregal**	**1.29**	**156**	*e*P	**Pn**	**20 38 45.3**	**-0.3**
CO03				*e*S	**Sn**	**20 38 59.8**	**-2.3**
CO03				IAML		20 39 02.6	
	comp=Z,930nm,0.6s						
CO03	**El Pedregal**	**1.29**	**156**	⇓*i*P	**Pn**	**20 38 45.3**	**-0.3**
CO03				*i* S	**Sn**	**20 39 01.5**	**-0.6**
CO03				IAML		20 39 02.7	
	comp=N,3μm,0.3s						
AC04	**Llanos de Chal**	**1.47**	**8**	*e*P	**Pn**	**20 38 48.5**	**+0.6**
AC04				*e*S	**Sn**	**20 39 06.7**	**+0.5**
AC04				IAML		20 39 08.7	
	comp=Z,439nm,0.3s						
AC04	**Llanos de Chal**	**1.47**	**8**	⇓*i*P	**Pn**	**20 38 49.1**	**+1.3**
AC04				*i* S	**Sn**	**20 39 07.5**	**+1.3**
CO02	**Combarbal**	**1.56**	**170**	⇓*i*P	**Pn**	**20 38 49.2**	**0.0**
CO02				*i* S	**Sn**	**20 39 08.5**	**-0.1**
CO02				IAML		20 39 10.7	
	comp=N,5μm,0.2s						
AROD	**Rodeo**	**1.67**	**108**	*e*P	**Pn**	**20 38 51.5**	**+0.6**
AROD				*e*S	**Sn**	**20 39 12.6**	**+1.1**
ACCO	**Cerro Coronel**	**2.15**	**116**	*e*P	**Pn**	**20 38 58.8**	**+1.5**
ACCO				*e

comp=Z,2.0nm,0.5s,baz=311,slow=3.5,SNR=11
ZALV pPKPbc **pPKPbc** **20 58 26.2 +0.9**
comp=Z,3.5nm,0.7s,baz=297,slow=3.0,SNR=8.4
MKAR Makanchi Array 153.30 43 PKPbc **PKiKP** **20 58 13.7 -0.3**
comp=Z,0.4nm,0.7s,baz=338,slow=2.3,SNR=4.5

*ISN **14** 20:58:22.8±0.3, 33°.67N×45°.79E, h8km±1km, ML2.8*
*TEH **14** 20:58:24.8, 33°.69N×45°.79E, h8km±90km, ML2.8*
ISC 14 20:58:24.7±0.9, 33°.63N±0°.04×45°.77E±0°.05, h19km, n11, σ1§18/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.37**	**90**	Pg	**Pg**	**20 58 31.6**	**-1.0**
ILBA				Sg	**Sb**	**20 58 38.0**	**-0.3**
IBDR	**Badra**	**0.53**	**165**	*e*Pg	**Pb**	**20 58 34.0**	**-1.4**
IBDR				*e*Sg	**Sb**	**20 58 42.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.89**	**351**	Pg	**Pg**	**20 58 41.2**	**-0.9**
IGHG	**Ghaleghazi**	**0.97**	**43**	Pg	**Pb**	**20 58 42.4**	**-0.7**
IDHR	**Dehrash**	**1.19**	**26**	Pg	**Pb**	**20 58 46.4**	**-0.5**
BHD	**Baghdad**	**1.21**	**253**	*e*Pg	**Pn**	**20 58 46.7**	**0.0**
BHD				*e*Sg	**Sn**	**20 59 04.0**	**+1.4**
KCHF	**Cheshme Sefid,**	**1.24**	**58**	Pg	**Pg**	**20 58 48.5**	**-0.3**
IKOM	**Komasi**	**1.55**	**69**	Pg	**Pg**	**20 58 53.5**	**-1.2**
IKFM	**Kafar-mosalman**	**1.74**	**93**	Pg	**Pg**	**20 58 57.4**	**-0.8**
RAFI	**Al-Rafai**	**1.92**	**171**	*e*Pn	**Pn**	**20 58 58.0**	**+1.6**
RAFI				*e*Sn	**Sb**	**20 59 24.0**	**+1.3**
RAFI				AML	AML	20 59 30.5	
	comp=N,97nm,0.4s						
RAFI				AML	AML	20 59 31.1	
	comp=E,103nm,0.3s						
HSAM	**Samen**	**2.43**	**75**	Pn	**Pn**	**20 59 05.4**	**+1.7**

*NEIC **14** 21:41:23.0±1.8, 50°.46N±0°.07×130°.3W±0°.1, h10km±2km, mb4.2/9, Mwr4.3(OTT), Error ellipse: s-maj=16.3km s-min=7.3km az=226.0*
*PGC **14** 21:41:24.2±6.5, 50°.43N×130°.28W, h10km, MLSn3.4/20, Mw4.3, Mw4.3, 204km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **14** 21:41:24.2, 50°.43N×130°.28W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.58; $M_{\theta\theta}$-0.35; $M_{\phi\phi}$2.26; $M_{r\theta}$0.90; $M_{\theta\phi}$1.91; $M_{\phi r}$-1.94; Fault plane solution: M_o3.50000×10^{15} NP1:ϕ_s354.00000°, δ70.00000°, λ-130.00000°. NP2:ϕ_s242.00000°, δ44.00000°, λ-29.00000°. Principal axes: T 3.5152, Plg16.0000°, Azm112.0000°; N -0.0996, Plg37.0000°, Azm10.0000°; P -3.4156, Plg48.0000°, Azm221.0000°;*
*IDC **14** 21:41:26.0±2.2, 50°.54N×129°.82W, h0km, mb3.5/2, mbtmp3.4/6, ML3.3/4, MS3.5/5 Error ellipse: s-maj=28.5km s-min=12.2km az=65.0*
ISC 14 21:41:23.2±0.8, 50°.45N±0°.06×130°.28W±0°.06, h14km, n102, σ1§52/103, mb3.8/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.38**	**81**	Pn	**Pn**	**21 41 47.5**	**-0.6**
HOLB	**Holberg**	**1.38**	**81**	Pn	**Pn**	**21 41 47.3**	**-0.8**
PHC	**Port Hardy**	**1.83**	**81**	Pn	**Pn**	**21 41 53.9**	**-0.3**
PHC				Sn	**Sn**	**21 42 14.7**	**-2.5**
HG4B	**Hotspring**	**1.93**	**343**		**Pn**	**21 41 55.4**	**-0.2**
HG4B	**Hotspring**	**1.93**	**343**	Pn	**Pn**	**21 41 55.0**	**-0.6**
HG4B				Sn	**Sn**	**21 42 18.1**	**-1.6**
MAYB	**Maynard**	**1.99**	**90**	Pn	**Pn**	**21 41 55.5**	**-0.9**
MAYB	**Maynard**	**1.99**	**90**	Pn	**Pn**	**21 41 55.5**	**-0.9**
EDB	**Eliza Dome**	**2.11**	**105**	Pn	**Pn**	**21 41 57.0**	**-1.0**
EDB	**Eliza Dome**	**2.11**	**105**	Pn	**Pn**	**21 41 57.0**	**-1.0**
BBB	**Bella Bella**	**2.21**	**37**	Pn	**Pn**	**21 41 59.3**	**0.0**
BBB	**Bella Bella**	**2.21**	**37**	Pn	**Pn**	**21 41 59.6**	**+0.3**
	2.0nm,0.3s,baz=227,slow=14,SNR=44						
BBB				LR	LR	21 42 16.0	
	comp=Z,161nm,21.0s,baz=340,slow=25						
BBB				Sn	**Sn**	**21 42 22.8**	**-3.6**
	13nm,0.3s,baz=240,slow=18,SNR=4.6						
BBB	**Bella Bella**	**2.21**	**37**	Pn	**Pn**	**21 41 59.5**	**+0.2**
BAIB	**Barry Inlet**	**2.32**	**337**	Pn	**Pn**	**21 42 01.0**	**0.0**
BAIB				Sn	**Sn**	**21 42 27.7**	**-1.6**
BNB	**Barry Inlet**	**2.32**	**337**	Pn	**Pn**	**21 42 00.9**	**-0.1**
BNB	**Barry Inlet**	**2.32**	**337**	Pn	**Pn**	**21 42 00.9**	**-0.1**
WOSB	**Woss**	**2.40**	**96**	Pn	**Pn**	**21 42 01.8**	**-0.2**
WOSB	**Woss**	**2.40**	**96**	Pn	**Pn**	**21 42 01.8**	**-0.2**
NCSB	**Newcastle Ridg**	**2.70**	**89**	Pn	**Pn**	**21 42 05.9**	**-0.4**
NCRB	**Newcastle Ridg**	**2.70**	**89**	Pn	**Pn**	**21 42 06.4**	**+0.1**
NCRB	**Newcastle Ridg**	**2.70**	**89**	Pn	**Pn**	**21 42 06.4**	**+0.1**
BUTB	**Butedale**	**2.85**	**23**	Pn	**Pn**	**21 42 09.5**	**+1.2**
BUTB	**Butedale**	**2.85**	**23**	Pn	**Pn**	**21 42 09.5**	**+1.2**
BNKB	**Banks Island**	**2.90**	**4**	Pn	**Pn**	**21 42 09.2**	**+0.3**
BNKB	**Banks Island**	**2.90**	**4**	Pn	**Pn**	**21 42 09.2**	**+0.3**
GRIB	**Gribbell Islan**	**2.98**	**13**	Pn	**Pn**	**21 42 10.2**	**+0.3**
SPLB	**Strathcona Par**	**3.03**	**99**	Pn	**Pn**	**21 42 10.8**	**+0.1**
SPLB	**Strathcona Par**	**3.03**	**99**	Pn	**Pn**	**21 42 10.8**	**+0.1**
BNAB	**Bonilla**	**3.06**	**356**	Pn	**Pn**	**21 42 11.1**	**+0.1**
BNAB	**Bonilla**	**3.06**	**356**	Pn	**Pn**	**21 42 11.1**	**+0.1**
BNAB				Sn	**Sn**	**21 42 45.2**	**-2.1**
DIB	**Dawson Inlet,**	**3.07**	**335**	Pn	**Pn**	**21 42 12.1**	**+0.9**
DIB	**Dawson Inlet,**	**3.07**	**335**	Pn	**Pn**	**21 42 09.7**	**-1.6**
CBB	**Campbell River**	**3.18**	**96**		**Pn**	**21 42 13.5**	**+0.7**
CBB	**Campbell River**	**3.18**	**96**	Pn	**Pn**	**21 42 12.9**	**+0.2**
GRNB	**Grenville Isla**	**3.41**	**3**	Pn	**Pn**	**21 42 16.4**	**+0.5**
GRNB	**Grenville Isla**	**3.41**	**3**	Pn	**Pn**	**21 42 16.5**	**+0.5**
GRNB	**Grenville Isla**	**3.41**	**3**	Pn	**Pn**	**21 42 16.4**	**+0.5**
GRNB				Sn	**Sn**	**21 42 53.9**	**-2.1**
OZB	**Mount Ozzard**	**3.45**	**114**	Pn	**Pn**	**21 42 16.9**	**+0.4**
OZB	**Mount Ozzard**	**3.45**	**114**	Pn	**Pn**	**21 42 16.5**	**+0.1**
KITB	**Kitimat**	**3.77**	**15**	Pn	**Pn**	**21 42 21.7**	**+0.9**
KITB				Sn	**Sn**	**21 43 03.4**	**-1.5**
KITB	**Kitimat**	**3.77**	**15**	Pn	**Pn**	**21 42 21.7**	**+0.9**
KITB				Sn	**Sn**	**21 43 03.4**	**-1.5**
TXB	**Texada**	**3.84**	**99**	Pn	**Pn**	**21 42 22.4**	**+0.6**
TXB	**Texada**	**3.84**	**99**	Pn	**Pn**	**21 42 22.4**	**+0.6**
RUBB	**Prince Rupert**	**3.88**	**0**	Pn	**Pn**	**21 42 22.4**	**+0.1**
RUBB	**Prince Rupert**	**3.88**	**0**	Pn	**Pn**	**21 42 23.3**	**+1.0**
RUBB				Sn	**Sn**	**21 43 07.0**	**-0.6**
SHB	**Sechelt**	**4.22**	**99**	Pn	**Pn**	**21 42 27.5**	**+0.4**
SHB	**Sechelt**	**4.22**	**99**	Pn	**Pn**	**21 42 27.5**	**+0.4**
PFB	**Port Renfrew**	**4.24**	**114**	Pn	**Pn**	**21 42 26.7**	**-0.7**
PFB	**Port Renfrew**	**4.24**	**114**	Pn	**Pn**	**21 42 26.7**	**-0.7**
CLRS	**Cowichan Lake**	**4.32**	**110**	Pn	**Pn**	**21 42 29.9**	**+1.6**
V35K	**Ketchikan**	**4.95**	**351**	Pn	**Pn**	**21 42 38.6**	**+1.6**
HNBB	**Haney**	**5.12**	**100**	Pn	**Pn**	**21 42 40.3**	**+0.9**
HNBB	**Haney**	**5.12**	**100**	Pn	**Pn**	**21 42 40.3**	**+0.9**
LLLB	**Lillooet**	**5.36**	**85**	Pn	**Pn**	**21 42 43.9**	**+1.2**
LLLB	**Lillooet**	**5.36**	**85**	Pn	**Pn**	**21 42 43.9**	**+1.2**
FSJB	**Fort St James**	**5.43**	**40**	Sn	**Sn**	**21 43 44.2**	**-1.8**
FSJB	**Fort St James**	**5.43**	**40**	Sn	**Sn**	**21 43 44.2**	**-1.8**
MBW	**Mount Baker**	**5.70**	**104**	Pn	**Pn**	**21 42 49.5**	**+2.0**
MBW	**Mount Baker**	**5.70**	**104**	Pn	**Pn**	**21 42 49.5**	**+2.0**
CMW	**Cultus Mountai**	**5.70**	**108**	Pn	**Pn**	**21 42 49.5**	**+2.1**
CMW	**Cultus Mountai**	**5.70**	**108**	Pn	**Pn**	**21 42 49.5**	**+2.1**
JCW	**Jim Creek**	**5.91**	**109**	Pn	**Pn**	**21 42 52.9**	**+2.6**
JCW	**Jim Creek**	**5.91**	**109**	Pn	**Pn**	**21 42 52.9**	**+2.6**
T35M	**Bob Quinn**	**6.54**	**0**	Pn	**Pn**	**21 43 00.6**	**+1.6**
T35M	**Bob Quinn**	**6.54**	**0**	Pn	**Pn**	**21 43 00.6**	**+1.6**
FMW	**Mount Fremont**	**6.70**	**118**	Pn	**Pn**	**21 43 04.7**	**+3.5**
LON	**Longmire**	**6.73**	**120**	Pn	**Pn**	**21 43 04.5**	**+3.0**
LTY	**Liberty**	**7.10**	**113**		**Pn**	**21 43 09.4**	**+2.7**
DLBC	**Dease Lake**	**8.00**	**1**	Pn	**Pn**	**21 43 22.1**	**+3.0**
	0.5nm,0.3s,baz=176,slow=19,SNR=6.5						
DLBC				Sn	**Sn**	**21 44 52.1**	**+2.8**
	0.1nm,0.3s,baz=245,slow=20,SNR=1.3						
DLBC				LR	LR	21 46 27.4	
	comp=Z,324nm,18.7s,baz=160,slow=38						
	3.9nm,0.6s						
NBC5	**NorthernBC 5**	**8.38**	**29**		**Pn**	**21 43 27.3**	**+3.1**
NBC5	**NorthernBC 5**	**8.38**	**29**	P	**Pn**	**21 43 27.3**	**+3.1**
NEW	**Newport**	**8.86**	**99**	Pn	**Pn**	**21 43 32.3**	**+1.5**
	0.1nm,0.3s,baz=170,slow=4.3,SNR=1.3						
NEW				Lg	Lg	21 45 55.9	
	0.1nm,0.3s,baz=256,slow=0.5,SNR=2.0						
	0.4nm,0.4s						
R33M	**Jennings River**	**8.97**	**358**	Pn	**Pn**	**21 43 33.7**	**+1.4**
R33M	**Jennings River**	**8.97**	**358**	P	**Pn**	**21 43 36.0**	**+3.7**
P33M	**Teslin, Yukon**	**9.89**	**353**	Pn	**Pn**	**21 43 47.2**	**+2.3**
NBC1	**NorthernBC 1**	**9.93**	**19**		**Pn**	**21 43 47.1**	**+1.8**
NBC1	**NorthernBC 1**	**9.93**	**19**	P	**Pn**	**21 43 47.1**	**+1.8**
IMW	**Indian Meadow**	**14.68**	**109**	P	**P**	**21 44 54.1**	**-2.6**
YKA	**Yellowknife Ar**	**14.79**	**29**	Pn	**Pn**	**21 44 51.2**	**-0.5**
	baz=215,slow=11,SNR=4.6						
	0.4nm,0.8s						
MOOW	**Moose Ponds**	**14.87**	**109**	Pn	**Pn**	**21 44 52.9**	**-0.3**
TPAW	**Teton Pass**	**14.89**	**110**		**Pn**	**21 44 53.0**	**-0.5**
KDAK	**Kodiak Island**	**14.95**	**308**	LR	LR	21 49 03.8	
	comp=Z,285nm,18.6s,baz=162,slow=30						
LOHW	**Long Hollow**	**15.03**	**109**	P	**Pn**	**21 44 54.5**	**-0.8**
LOHW				IAmb	IAmb	21 45 11.2	
	comp=Z,4.9nm,1.1s						
OHAK	**Old Harbor**	**15.13**	**305**	Pn	**Pn**	**21 44 55.8**	**-0.4**
DUG	**Dugway, Tooele**	**15.96**	**123**	Pn	**Pn**	**21 45 07.2**	**-0.1**
PD31	**Pinedale Array**	**16.14**	**110**	P	**P**	**21 45 12.4**	**-0.6**
PDAR	**Pinedale Array**	**16.14**	**110**	Pn	**P**	**21 45 12.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=307,slow=3.3,SNR=11						
PDAR				LR	LR	21 51 38.6	
	comp=Z,139nm,18.1s,baz=292,slow=38						
	comp=Z,1.0nm,0.9s						
I26K	**Coal Creek Min**	**16.34**	**341**	Pn	**Pn**	**21 45 12.0**	**+0.2**
I26K				IAmb	IAmb	21 45 23.5	
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**17.98**	**356**	LR	LR	21 52 15.3	
	comp=Z,113nm,19.4s,baz=193,slow=36						
BMAR	**Burnt Mountain**	**18.47**	**342**	P	**P**	**21 45 36.7**	**-1.6**
ULM	**Lac du Bonnet**	**21.84**	**77**	P	**P**	**21 46 16.3**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=274,slow=11,SNR=3.6						
	comp=Z,2.3nm,0.8s						
214A	**Organ Pipe Nat**	**22.57**	**138**	P	**P**	**21 46 24.0**	**+1.0**
214A				IAmb	IAmb	21 46 42.9	
	comp=Z,3.6nm,0.9s						
D41A	**Chassel**	**27.45**	**81**	P	**P**	**21 47 08.3**	**-0.1**
TXAR	**Lajitas Array**	**29.09**	**126**	P	**P**	**21 47 26.7**	**+3.4**
	comp=Z,0.4nm,1.0s,baz=321,slow=8.4,SNR=2.7						
	comp=Z,0.4nm,1.0s						
TKL	**Tuckaleechee C**	**36.43**	**96**	LR	LR	22 03 19.4	
	comp=Z,85nm,19.9s,baz=340,slow=36						
D62A	**Allapoint, All**	**39.50**	**70**	P	**P**	**21 48 52.5**	**-0.4**
D62A				IAmb	IAmb	21 49 06.8	
	comp=Z,16nm,1.5s						
K62A	**Royalston**	**39.75**	**78**	P	**P**	**21 48 56.4**	**+1.2**
K62A				IAmb	IAmb	21 49 08.5	
	comp=Z,32nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**57.78**	**262**	T	T	22 53 48.1	
	baz=42,slow=75,SNR=130						
H11N3	**WAKE ISLAND Hy**	**57.79**	**262**	T	T	22 53 45.8	
	baz=42,slow=75,SNR=185						
H11N1	**WAKE ISLAND Hy**	**57.80**	**262**	T	T	22 53 48.1	
	baz=42,slow=75,SNR=184						
H11S1	**WAKE ISLAND Hy**	**58.81**	**261**	T	T	22 55 16.6	
	baz=47,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**58.82**	**261**	T	T	22 55 16.2	
	baz=47,slow=75,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**58.83**	**261**	T	T	22 55 18.5	
	baz=47,slow=75,SNR=5.2						

*IDC **14** 21:44:36.1±0.6, 1°.60N×125°.71E, h0km, mb4.3/14, mbtmp4.3/15, ML3.9/1, Error ellipse: s-maj=29.5km s-min=12.5km az=79.0*
*NEIC **14** 21:44:47.1±1.2, 1°.71N±0°.07×126°.05E±0°.03, h88km±7km, mb4.6/40, Error ellipse: s-maj=10.2km s-min=4.2km az=164.0*
*DJA **14** 21:44:47.3±0.5, 2°.N±4°.×12°.6E±°, h82km±17km, M4.7/14, mb4.6/5, mB5.5/3, MLv4.7/14, Mw(mB)4.9/3*
ISC 14 21:44:48.0±0.4, 1°.56N±0°.04×126°.01E±0°.05, h100km, n107, σ1§38/111, mb4.5/41, 2C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.57**	**120**	Pn	**Pn**	**21 45 13.9**	**-1.3**
TNTI				Sn	**Sn**	**21 45 33.5**	**-2.3**
TNTI	**Ternate**	**1.57**	**120**	P	**Pn**	**21 45 14.5**	**-0.6**
TNTI	**Ternate**	**1.57**	**120**	P	**Pn**	**21 45 14.3**	**-0.8**
SGSI	**Sangihe**	**2.16**	**347**	P	**Pn**	**21 45 21.0**	**-1.7**
KMSI	**Cibinong**	**2.25**	**244**	P	**Pn**	**21 45 24.3**	**+0.5**
LBMI	**Labuha**	**2.65**	**146**	P	**Pn**	**21 45 28.7**	**-0.4**
GTOI	**Gorontalo**	**3.13**	**253**	P	**Pn**	**21 45 36.1**	**+0.6**
SANI	**Sanana**	**3.59**	**180**	P	**Pn**	**21 45 39.5**	**-2.2**
LUWI	**Luwuk**	**4.14**	**231**		**Pn**	**21 45 49.0**	**-0.1**
LUWI	**Luwuk**	**4.14**	**231**	P	**Pn**	**21 45 49.8**	**+0.7**
LUWI	**Luwuk**	**4.14**	**231**	P	**Pn**	**21 45 48.8**	**-0.3**
MRSI	**Marisa**	**4.21**	**255**	P	**Pn**	**21 45 50.6**	**+0.6**
NLAI	**Namlea**	**4.89**	**167**	P	**Pn**	**21 45 58.2**	**-1.1**
TOLI2	**Tolitoli**	**5.24**	**265**	Pn	**Pn**	**21 46 03.1**	**-1.0**
TOLI2	**Tolitoli**	**5.24**	**265**	P	**Pn**	**21 46 03.0**	**-1.0**
KRAI	**Karang Ratu**	**5.41**	**154**	P	**Pn**	**21 46 06.8**	**+0.5**
KCP	**Kidapawan**	**5.49**	**350**	*e*P	**Pn**	**21 46 05.8**	**-1.6**
KCP				*i* S	**Sn**	**21 47 09.7**	**+0.5**
FAKI	**Fak Fak**	**7.67**	**126**	Pn	**Pn**	**21 46 37.7**	**+0.7**
FAKI	**Fak Fak**	**7.67**	**126**	P	**Pn**	**21 46 38.0**	**+1.0**
FAKI	**Fak Fak**	**7.67**	**126**	P	**Pn**	**21 46 37.7**	**+0.7**
	29nm,0.9s,0.2nm						
BBSI	**Bau Bau**	**7.80**	**206**	P	**Pn**	**21 46 39.0**	**+0.2**
SCPH	**Surigao**	**8.18**	**356**	*e*P	**Pn**	**21 46 43.7**	**-0.3**
KAPI	**Kappang**	**9.04**	**224**	Pn	Pn	21 46 46.8	-8.9
	1.3nm,0.3s,baz=147,slow=17,SNR=1.4						
KAPI				Sn	**Sn**	**21 48 29.0**	**-6.7**
	1.3nm,0.3s,baz=156,slow=17,SNR=1.3						
	3.6nm,0.3s						
KKM	**Kota Kinabalu**	**10.73**	**295**	Pn	**Pn**	**21 47 20.7**	**+1.8**
MTN	**Manton Dam**	**15.19**	**161**	Pn	**Pn**	**21 48 16.5**	**-0.8**
KNRA	**Kununurra**	**17.35**	**171**		**P**	**21 48 44.1**	**+0.3**
KNRA				IAmb	IAmb	21 49 06.1	
	comp=Z,34nm,1.4s						
KNRA	**Kununurra**	**17.35**	**171**	P	**P**	**21 48 44.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.54**	**181**		**P**	**21 49 08.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.54**	**181**	P	**P**	**21 49 07.9**	**+0.1**
YULB	**Yu-li**	**22.17**	**348**	P	**P**	**21 49 33.7**	**-2.3**
TPUB	**Ta-pu**	**22.23**	**347**	P	**P**	**21 49 32.6**	**-4.0**
TPUB				IAmb	IAmb	21 49 37.5	
	comp=Z,88nm,1.4s						
TPUB	**Ta-pu**	**22.23**	**347**	P	**P**	**21 49 35.5**	**-1.1**
WB0	**Warramunga Arr**	**22.74**	**159**	P	**P**	**21 49 41.9**	**0.0**
WRA	**Warramunga Arr**	**22.88**	**159**	P	**P**	**21 49 42.3**	**-1.0**
WRA	**Warramunga Arr**	**22.88**	**159**	P	**P**	**21 49 43.0**	**-0.4**
	comp=Z,15nm,0.3s,baz=336,slow=10,SNR=114						
WRA				PcP	**PcP**	**21 53 32.6**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=338,slow=2.2,SNR=2.2						
WRA				S	**S**	**21 53 44.3**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=348,slow=16,SNR=3.8						
	σ1n,0.3s						
WB2	**Warramunga Arr**	**22.89**	**159**	P	**P**	**21 49 43.4**	**+0.1**
WB2				IAmb	IAmb	21 49 44.8	
	comp=Z,28nm,0.4s						
WR0	**Warramunga Arr**	**22.97**	**159**	P	**P**	**21 49 44.0**	**-0.2**
WR0				IAmb	IAmb	21 49 46.1	
	comp=Z,22nm,1.1s						
YHNB	**Yeheng**	**23.40**	**349**	P	**P**	**21 49 45.5**	**-2.7**
YHNB				IAmb	IAmb	21 50 23.4	
	comp=Z,40nm,1.2s						
YHNB	**Yeheng**	**23.40**	**349**	P	**P**	**21 49 46.0**	**-2.2**
PSA00	**Pilbara Seismi**	**23.77**	**194**	P	**P**	**21 49 51.8**	**+0.3**
PSA00	**Pilbara Seismi**	**23.77**	**194**	P	**P**	**21 49 52.0**	**+0.5**
PSA00				IAmb	IAmb	21 49 53.3	
	comp=Z,8.0nm,0.7s						
PSA00	**Pilbara Seismi**	**23.77**	**194**	P	**P**	**21 49 52.1**	**+0.6**
QIS	**Mount Isa**	**25.71**	**149**	P	**P**	**21 50 09.6**	**+0.5**
AS31	**Alice Springs**	**26.23**	**163**	P	**P**	**21 50 14.5**	**+0.7**
AS31				IAmb	IAmb	21 50 20.1	
	comp=Z,5.4nm,0.3s						
ASAR	**Alice Springs**	**26.23**	**163**	P	**P**	**21 50 15.4**	**+1.6**
ASAR	**Alice Springs**	**26.23**	**163**	P	**P**	**21 50 14.4**	**+0.6**
	comp=Z,2.7nm,0.4s,baz=341,slow=7.4,SNR=54						
ASAR				PcP	**PcP**	**21 53 39.8**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=330,slow=2.1,SNR=4.4						
ASAR				S	**S**	**21 54 40.4**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=350,slow=24,SNR=4.6						
	comp=Z,2.7nm,0.4s						
NJ2	**Nanjing**	**31.07**	**348**	*e*P	**P**	**21 50 57.6**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FORT	**Forrest**	**32.22**	**177**	P	**P**	**21 51 07.7**	**+0.9**
PZH	**PanZhiHua**	**34.04**	**319**	P	**P**	**21 51 24.4**	**+1.6**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
NWAO	**Narrogin (SRO)**	**35.29**	**193**	P	**P**	**21 51 34.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**35.29**	**193**	P	**P**	**21 51 34.2**	**+0.8**
NWAO				IAmb	IAmb	21 51 48.2	
	comp=Z,34nm,1.4s						
BBOO	**Buckleboo**	**35.48**	**165**	P	**P**	**21 51 35.9**	**+0.8**
BBOO				IAmb	IAmb	21 51 37.5	
	comp=Z,17nm,1.0s						
KSRS	**Korea Array**	**35.76**	**3**	P	**P**	**21 51 37.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=182,slow=9.9,SNR=5.2						
	comp=Z,1.2nm,0.6s						
STKA	**Stephens Creek**	**36.40**	**157**	P	**P**	**21 51 43.8**	**+0.9**
STKA	**Stephens Creek**	**36.40**	**157**	P	**P**	**21 51 43.1**	**+0.3**
	comp=Z,3.6nm,0.4s,baz=336,slow=7.4,SNR=12						
	comp=Z,3.6nm,0.4s						
MJAR	**Matsushiro Arr**	**36.59**	**17**	P	**P**	**21 51 43.9**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=193,slow=9.2,SNR=6.8						
	comp=Z,2.4nm,0.9s						
LZH	**Lanzhou**	**40.02**	**332**	*e*P	**P**	**21 52 13.8**	**+0.4**
LZH				sP	sP	21 52 49.3	+2.3
LZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARMA	**Armidale**	**40.10**	**145**	P	**P**	**21 52 13.8**	**-0.3**
ARMA				IAmb	IAmb	21 52 15.6	
	comp=Z,36nm,1.4s						
HHC	**Hu-ho-hao-te**	**41.23**	**343**	*e*P	**P**	**21 52 24.8**	**+1.5**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,3.8s						
BTO	**Baotou**	**41.48**	**342**	*e*P	**P**	**21 52 28.9**	**+3.7**
BTO				pP	**pP**	**21 52 47.4**	**-0.4**
BTO				sP	**sP**	**21 52 56.4**	**-2.5**
BTO				PP	**PnPn**	**21 54 09.4**	**+0.8**
BTO				pmax	pmax		
	comp=Z,11nm,0.9s						
BTO				pmax	pmax		
	comp=Z,190nm,8.6s						
USRK	**Ussuriysk Ar.**	**42.78**	**6**	P	**P**	**21 52 35.5**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=202,slow=7.0,SNR=4.1						
	comp=Z,1.7nm,0.6s						
MDJ	**Mudanjiang**	**42.99**	**4**	P	**P**	**21 52 39.0**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,260nm,5.5s						
XLT	**XiLinHaoTe**	**43.07**	**349**	*e*P	**P**	**21 52 38.8**	**+0.7**
XLT				pP	pP	21 53 00.8	-0.1
XLT				sP	sP	21 53 13.4	+1.4
XLT				PP	**PcP**	**21 54 22.8**	**-3.6**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,160nm,5.0s						
XLT				LR	LR		
	comp=N,37nm,17.9s						
XLT				LR	LR		
	comp=E,420nm,14.0s						
XLT				LR	LR		
	comp=Z,600nm,23.4s						
H11S3	**WAKE ISLAND Hy**	**43.29**	**64**	T	T	22 39 42.1	
	baz=253,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**43.30**	**64**	T	T	22 39 42.3	
	baz=253,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**43.30**	**64**	T	T	22 39 43.8	
	baz=253,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**43.86**	**63**	T	T	22 40 17.7	
	baz=249						
H11N2	**WAKE ISLAND Hy**	**43.87**	**63**	T	T	22 40 22.8	
	baz=249						
H11N3	**WAKE ISLAND Hy**	**43.87**	**63**	T	T	22 40 20.8	
	baz=249						
BNX	**BinXian**	**44.01**	**1**	‖P	**P**	**21 52 47.5**	**+2.0**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,130nm,5.2s						
HEH	**HeiHe**	**48.52**	**1**	*e*P	**P**	**21 53 21.0**	**+0.2**
HEH				p

WR0 Warramunga Arr 18.48 215 P **Pn** 21 51 38.7 -0.5
WR0 IAmb IAmb 21 51 39.1
comp=Z,11nm,0.8s
WRAB Tennant Creek 18.57 215 P **P** 21 51 38.5 +0.3
WRAB IAmb IAmb 21 51 40.8
comp=Z,28nm,1.2s
WB2 Warramunga Arr 18.57 215 P **Pn** 21 51 39.5 -0.8
WB2 IAmb IAmb 21 51 40.0
comp=Z,9.2nm,0.5s
WRA Warramunga Arr 18.58 215 P **P** 21 51 38.3 -0.1
WRA Warramunga Arr 18.58 215 P **Pn** 21 51 39.6 -0.8
comp=Z,5.3nm,0.4s,baz=36,slow=11,SNR=14
KNRA Kununurra 19.74 236 P **P** 21 51 51.9 +1.0
AS31 Alice Springs 21.84 210 P **P** 21 52 13.9 +0.6
AS31 IAmb IAmb 21 52 14.2
comp=Z,2.3nm,0.3s
ASAR Alice Springs 21.84 210 P **P** 21 52 13.7 +0.3
ASAR Alice Springs 21.84 210 P **P** 21 52 13.9 +0.6
comp=Z,2.0nm,0.4s,baz=46,slow=7.6,SNR=13
comp=Z,2.0nm,0.4s
FITZ Fitzroy Crossi 23.55 234 P **P** 21 52 30.3 +0.8
FORT Forrest 30.62 211 P **P** 21 53 32.6 -0.1
FORT IAmb IAmb 21 53 40.7
comp=Z,13nm,0.9s
CASY Casey 65.99 195 P **P** 21 58 03.7 +1.2
MKAR Makanchi Array 75.75 321 P **P** 21 59 02.5 +0.5
comp=Z,0.2nm,0.5s,baz=96,slow=7.5,SNR=3.1
comp=Z,0.2nm,0.5s
ILAR Eielson Array 84.99 23 P **P** 21 59 48.5 -2.3
comp=Z,0.2nm,0.5s,baz=246,slow=5.8,SNR=1.6
comp=Z,0.2nm,0.5s

BJI ***14*** *21:54:32.9±0.0,4.86S×145.32E,h75km,mb5.1/75, mB5.3/51,Ms4.9/75,Ms7 4.7/76*
MOS ***14*** *21:54:33.8±0.8,4.73S×144.93E,h59km,mb5.5/34,Error ellipse: s-maj=8.9km s-min=5.5km az=107.4*
DJA ***14*** *21:54:36.1±0.3,5.3S×14.5E±*,*h63km±4km,M5.6/51, mb5.9/51,mB6.0/43,MLv6.2/4,Mw(mB)5.6/43, MwMwp5.3/15,Mwp5.5/15*
NEIC ***14*** *21:54:36.0±2.0,4.77S±0.06×144.87E±0.03,h56km±4km, mb5.5/254,Mwb5.4/32,Mww5.5/23,Error ellipse: s-maj=9.4km s-min=4.7km az=188.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.33; Mθθ=0.98; Mφφ 1.30; Mrθ 0.36; Mθφ -0.53; Mφr1.04; Fault plane solution: M₀1.70000×10¹⁷ NP1:φs302.28000°, δ47.07000°,λ-172.31000°. NP2:φs207.03000°, δ84.38000°,λ-43.19000°. Principal axes: T 1.8472, Plg24.0000°, Azm263.0000°; N -0.3586, Plg47.0000°, Azm21.0000°; P -1.4886, Plg33.0000°, Azm155.0000°;*
NEIC ***14*** *21:54:36.5,4.81S×144.88E,h60km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10¹⁷Nm; Mrr=1.05; Mθθ-0.93; Mφφ1.98; Mrθ 0.50; Mθφ -1.56; Mφr0.86; Fault plane solution: M₀2.47000×10¹⁷ NP1: φs194.58000°,δ71.99000°,λ-34.06000°. NP2: φs296.38000°,δ57.82000°,λ-158.58000°. Principal axes: T 2.7462, Plg9.0000°, Azm248.0000°; N -0.5489, Plg52.0000°, Azm350.0000°; P -2.1974, Plg37.0000°, Azm151.0000°;*
NEIC ***14*** *21:54:36.5,4.81S×144.88E,h62km*
NEIC ***14*** *21:54:36.5,4.81S×144.88E,h60km*
IDC ***14*** *21:54:37.2±1.4,4.81S×144.98E,h80km±12km,mb4.8/33, mbtmp5.2/36,MS4.5/42,Error ellipse: s-maj=13.1km s-min=8.3km az=81.0*
GCMT ***14*** *21:54:39.0±0.1,4.75S±0.01×144.92E±0.01,h52km±1km, MW5.6/144,Moment Tensor Solution. s136,c233; s144,c256; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.49±.04; Mθθ-1.39±.03; Mφφ1.88±.03; Mrθ0.53±.03; Mθφ-1.52±.03; Mφr1.41±.04; Best double couple: M₀2.71100×10¹⁷ NP1:φs200.00000°,δ84.00000°, λ-36.00000°. NP2:φs295.00000°,δ55.00000°, λ-172.00000°. Principal axes: T 2.8740, Plg19.0000°, Azm253.0000°; N -0.3310, Plg54.0000°, Azm12.0000°; P -2.5480, Plg29.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC **14 21:54:36.0**±0.2,**4.81S**-0.03×**144.95E**±0.04,**h68**km±1km, **h68**km:**pP-P,n887,**σ1§**26**/867,**mb5.4**/218,**21C-10D,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.66**	**41**		**Pn**	**Pn**	**21 55 29.7**	**-0.5**
MANU	**Manus Island**	**3.66**	**41**	P	**Pn**	**Pn**	**21 55 30.8**	**+0.6**
TABU	**Tabubil**	**3.74**	**263**	P	**Pn**	**Pn**	**21 55 34.5**	**+3.2**
PMG	**Port Moresby**	**5.07**	**154**		**Pn**	**Pn**	**21 55 49.9**	**+0.5**
PMG	**Port Moresby**	**5.07**	**154**	*d* iP	**Pn**	**Pn**	**21 55 49.8**	**+0.3**
PMG	**Port Moresby**	**5.07**	**154**	P	**Pn**	**Pn**	**21 55 50.4**	**+0.9**
	3µm,0.5s,baz=352,slow=7.0,SNR=1110							
PMG				S	**Sn**	**Sn**	**21 56 46.7**	**0.0**
	3µm,0.6s,baz=112,slow=21,SNR=9.5							
PMG				LR	LR	LR	21 58 01.8	
	comp=Z,10µm,20.1s,baz=302,slow=40							
GENI	**Genyem**	**5.25**	**295**	P	**Pn**	**Pn**	**21 55 54.4**	**+2.4**
GENI	**Genyem**	**5.25**	**295**	P	**Pn**	**Pn**	**21 55 52.5**	**+0.5**
	4µm,0.9s,51µm16µm38nm							
MMPI	**Merauke**	**5.81**	**231**	P	**Pn**	**Pn**	**21 56 01.0**	**+1.4**
	2µm,0.6s,38µm17nm							
RABL	**Rabaul**	**7.22**	**85**		**Pn**	**Pn**	**21 56 20.3**	**+1.3**
RABL	**Rabaul**	**7.22**	**85**	P	**Pn**	**Pn**	**21 56 22.8**	**+3.8**
COEN	**Coen**	**9.26**	**191**		**Pn**	**Pn**	**21 56 46.6**	**-0.2**
KMPI	**Kaimana, Papua**	**11.27**	**275**	P	**Pn**	**Pn**	**21 57 12.7**	**-1.6**
	798nm,0.7s,8µm7µm							
FAKI	**Fak Fak**	**12.81**	**278**	Pn	**Pn**	**Pn**	**21 57 32.8**	**-2.5**
FAKI	**Fak Fak**	**12.81**	**278**	P	**Pn**	**Pn**	**21 57 36.5**	**+1.2**
FAKI	**Fak Fak**	**12.81**	**278**	P	**Pn**	**Pn**	**21 57 32.1**	**-3.2**
	317nm,1.0s,4µm5µm							
MTSU	**Mount Surprise**	**13.26**	**183**	P	**Pn**	**Pn**	**21 57 42.6**	**+1.2**
	baz=13,SNR=76							
MTSU	**Mount Surprise**	**13.26**	**183**	P	**Pn**	**Pn**	**21 57 43.8**	**+2.4**
SAUI	**Saumlaki**	**13.92**	**256**	Pn	**Pn**	**Pn**	**21 57 46.4**	**-3.8**
SAUI	**Saumlaki**	**13.92**	**256**	P	**Pn**	**Pn**	**21 57 49.5**	**-0.7**
	1µm,1.0s,24µm8µm							
SIJI	**Sorong**	**14.21**	**286**	P	**Pn**	**Pn**	**21 57 52.5**	**-1.5**
	675nm,1.0s,7µm							
SWI	**Sorong**	**14.22**	**286**	P	**Pn**	**Pn**	**21 57 52.4**	**-1.7**
	917nm,1.0s,9µm							
TV1H	**Townsville Har**	**14.48**	**173**	P	**P**	**P**	**21 58 01.3**	**-1.0**
KDU	**Kakadu**	**14.60**	**237**	P	**Pn**	**Pn**	**21 57 58.1**	**-0.9**
	baz=15,SNR=303							
KDU	**Kakadu**	**14.60**	**237**	P	**Pn**	**Pn**	**21 57 59.2**	**+0.2**
BNDI	**Bandanaira**	**15.00**	**270**	P	**P**	**P**	**21 58 06.9**	**-1.2**
BNDI	**Bandanaira**	**15.00**	**270**	P	**Pn**	**Pn**	**21 58 01.6**	**-2.6**
	1µm,1.1s,30µm							
CTA	**Charters Tower**	**15.24**	**175**	P	**Pn**	**Pn**	**21 58 08.2**	**+0.8**
	82nm,1.1s,baz=349,slow=13,SNR=31							
CTA				LR	LR	LR	22 04 44.0	
	comp=Z,3µm,20.1s,baz=358,slow=40							
CTAO	**Charters Tower**	**15.24**	**175**	Pn	**Pn**	**Pn**	**21 58 07.8**	**+0.5**
CTAO				IAmb	IAmb	IAmb	21 58 15.5	
	comp=Z,416nm,1.4s							
CTAO	**Charters Tower**	**15.24**	**175**	P	**Pn**	**Pn**	**21 58 08.0**	**+0.7**
CTAO	**Charters Tower**	**15.24**	**175**	P	**Pn**	**Pn**	**21 58 07.8**	**+0.5**
CTAO				pmax	pmax	pmax		
	comp=Z,416nm,1.5s							
HNR	**Honiara**	**15.57**	**108**	P	**Pn**	**Pn**	**21 58 12.6**	**+1.0**
HNR				IAmb	IAmb	IAmb	21 58 22.0	
	comp=Z,337nm,0.8s							
HNR	**Honiara**	**15.57**	**108**	P	**Pn**	**Pn**	**21 58 12.6**	**+1.0**
HNR				pmax	pmax	pmax		
	comp=Z,337nm,0.9s							
HNR	**Honiara**	**15.57**	**108**	P	**Pn**	**Pn**	**21 58 10.8**	**-0.8**
	comp=Z,997nm,0.4s,baz=220,slow=15,SNR=2.4							
HNR				S	**Sn**	**Sn**	**22 01 01.8**	**-1.6**
	comp=Z,1µm,0.4s,baz=251,slow=12,SNR=2.0							
HNR				LR	LR	LR	22 04 02.3	
	comp=Z,26µm,21.4s,baz=282,slow=36							
MTN	**Manton Dam**	**15.80**	**239**	P	**Pn**	**Pn**	**21 58 14.7**	**+0.2**
	baz=16,SNR=19							
MTN	**Manton Dam**	**15.80**	**239**	Pn	**Pn**	**Pn**	**21 58 13.1**	**-1.5**
MTN				IAmb	IAmb	IAmb	21 58 17.7	
	comp=Z,250nm,0.8s							
MTN	**Manton Dam**	**15.80**	**239**	P	**Pn**	**Pn**	**21 58 15.4**	**+0.9**
QIS	**Mount Isa**	**16.49**	**198**	P	**Pn**	**Pn**	**21 58 23.6**	**+0.4**
	baz=17,SNR=51							
QIS	**Mount Isa**	**16.49**	**198**	P	**P**	**P**	**21 58 25.0**	**+0.3**
KRAI	**Karang Ratu**	**16.58**	**275**	P	**Pn**	**Pn**	**21 58 24.2**	**0.0**
	comp=Z,463nm,0.8s,comp=Z,4µm							
PATS	**Pohnpei**	**17.66**	**49**	P	**P**	**P**	**21 58 38.5**	**+0.9**
PATS					IAmb	IAmb	21 58 46.1	
	comp=Z,349nm,1.2s							
NLAI	**Namlea**	**17.87**	**274**	P	**P**	**P**	**21 58 40.0**	**0.0**
	comp=Z,241nm,1.5s,comp=Z,5µm							
LBMI	**Labuha**	**17.91**	**283**	P	**P**	**P**	**21 58 40.1**	**-0.3**
	comp=Z,839nm,1.3s,comp=Z,11µm							
WB0	**Warramunga Arr**	**18.08**	**214**			**Pn**	**21 58 43.3**	**+0.7**
WB0					IAmb	IAmb	21 58 51.3	
	comp=Z,318nm,1.1s							
WR0	**Warramunga Arr**	**18.15**	**213**			**Pn**	**21 58 44.1**	**+0.6**
WR0					IAmb	IAmb	21 58 46.4	
	comp=Z,344nm,0.7s							
WRAB	**Tennant Creek**	**18.23**	**214**			**Pn**	**21 58 45.2**	**+0.7**
WRAB					IAmb	IAmb	21 58 48.2	
	comp=Z,240nm,0.8s							
WRAB	**Tennant Creek**	**18.23**	**214**	P		**Pn**	**21 58 45.2**	**+0.7**
WRAB					pmax	pmax		
	comp=Z,240nm,0.8s							
WB2	**Warramunga Arr**	**18.24**	**214**			**Pn**	**21 58 45.2**	**+0.6**
WRA	**Warramunga Arr**	**18.25**	**214**			**Pn**	**21 58 45.1**	**+0.4**
WRA	**Warramunga Arr**	**18.25**	**214**	P		**Pn**	**21 58 45.1**	**+0.4**
WRA					pmax	pmax		
	comp=Z,39nm,1.1s							
WRA	**Warramunga Arr**	**18.25**	**214**	P		**Pn**	**21 58 44.7**	**0.0**
	comp=Z,159nm,0.6s,baz=36,slow=12,SNR=163							
WRA					S	**Sn**	**22 02 02.1**	**-5.9**
	comp=Z,20nm,1.0s,baz=34,slow=25,SNR=1.8							
WRA					LR	LR	22 06 33.4	
	comp=Z,2µm,18.5s,baz=34,slow=39							
GUMO	**Guam**	**18.28**	**360**		LR	LR	22 05 48.1	
	comp=Z,717nm,19.3s,baz=188,slow=37							
TNTI	**Ternate**	**18.42**	**287**			**P**	**21 58 45.4**	**-0.6**
TNTI					IAmb	IAmb	21 58 54.9	
	comp=Z,326nm,1.1s							
TNTI	**Ternate**	**18.42**	**287**	P		**P**	**21 58 45.9**	**-0.1**
	comp=Z,283nm,1.7s,comp=Z,5µmcomp=Z,2µm							
SANI	**Sanana**	**19.12**	**278**	P		**P**	**21 58 54.4**	**+0.7**
SANI	**Sanana**	**19.12**	**278**	P		**P**	**21 58 53.0**	**-0.7**
	comp=Z,469nm,1.1s,comp=Z,6µmcomp=Z,6µm							
KNRA	**Kununurra**	**19.22**	**235**	P		**P**	**21 58 54.4**	**-0.4**
	baz=1,SNR=226							
KNRA	**Kununurra**	**19.22**	**235**	P		**P**	**21 58 55.1**	**+0.3**
KNRA	**Kununurra**	**19.22**	**235**	P		**P**	**21 58 55.0**	**+0.3**
RK1H	**Rockhampton Ha**	**19.23**	**164**	P		**Pn**	**21 58 56.9**	**+0.5**
SOEI	**Soe**	**21.09**	**255**	P		**P**	**21 59 15.6**	**+0.4**
SOEI	**Soe**	**21.09**	**255**	P		**P**	**21 59 17.0**	**+1.8**
SOEI	**Soe**	**21.09**	**255**	P		**P**	**21 59 15.7**	**+0.5**
	comp=Z,3µm,0.8s,comp=Z,27µmcomp=Z,6µm							
SGSI	**Sangihe**	**21.16**	**293**	P		**P**	**21 59 17.5**	**+1.7**
	comp=Z,717nm,0.7s,comp=Z,8µm							
EIDS	**Eidsvold**	**21.27**	**165**	P		**P**	**21 59 18.6**	**+1.7**
	baz=21,SNR=26							
EIDS	**Eidsvold**	**21.27**	**165**	P		**P**	**21 59 18.0**	**+1.1**
EIDS	**Eidsvold**	**21.27**	**165**	P		**P**	**21 59 18.8**	**+1.9**
AS31	**Alice Springs**	**21.56**	**209**	P		**P**	**21 59 21.1**	**+1.1**
ASAR	**Alice Springs**	**21.56**	**209**	P		**P**	**21 59 21.1**	**+1.1**
ASAR	**Alice Springs**	**21.56**	**209**	P		**P**	**21 59 21.1**	**+1.1**
ASAR	**Alice Springs**	**21.56**	**209**	P		**P**	**21 59 20.9**	**+0.9**
	comp=Z,56nm,0.6s,baz=37,slow=10.0,SNR=714							
ASAR					S	**S**	**22 03 13.1**	**-2.4**
	comp=Z,78nm,1.0s,baz=31,slow=20,SNR=8.7							
	comp=Z,56nm,0.6s							
KMSI	**Cibinong**	**21.62**	**284**	P		**P**	**21 59 20.9**	**+0.2**
	comp=Z,2µm,0.8s,comp=Z,15µmcomp=Z,4µm							
QLP	**Quilpie**	**21.66**	**182**	P		**P**	**21 59 22.5**	**+1.5**
	baz=22,SNR=26							
QLP	**Quilpie**	**21.66**	**182**	P		**P**	**21 59 22.6**	**+1.5**
RMQ	**Roma**	**21.86**	**171**	P		**P**	**21 59 24.7**	**+1.5**
	baz=22,SNR=5.8							
BBSI	**Bau Bau**	**22.30**	**267**	P		**P**	**21 59 28.1**	**+0.1**
	comp=Z,432nm,0.8s,comp=Z,6µm							
LUWI	**Luwuk**	**22.46**	**279**	P		**P**	**21 59 30.2**	**+0.5**
LUWI	**Luwuk**	**22.46**	**279**	P		**P**	**21 59 31.1**	**+1.4**
LUWI	**Luwuk**	**22.46**	**279**	P		**P**	**21 59 28.9**	**-0.8**
	comp=Z,761nm,1.0s,comp=Z,7µmcomp=Z,5µm							
GTOI	**Gorontalo**	**22.57**	**283**	P		**P**	**21 59 31.3**	**+0.3**
	comp=Z,240nm,0.9s,comp=Z,2µm							
DAV	**Davao City (W)**	**22.65**	**301**	P		P	21 59 39.1	+7.3
	comp=Z,73nm,0.3s,baz=133,slow=1.7,SNR=8.2							
DAV					LR	LR	22 08 35.9	
	comp=Z,1µm,19.4s,baz=110,slow=37							
MMRI	**Maumere**	**22.87**	**259**	P		**P**	**21 59 32.9**	**-1.1**
MMRI	**Maumere**	**22.87**	**259**	P		**P**	**21 59 33.7**	**-0.3**
MMRI	**Maumere**	**22.87**	**259**	P		**P**	**21 59 31.7**	**-2.3**
	comp=Z,685nm,0.6s,comp=Z,9µmcomp=Z,3µm							
KCP	**Kidapawan**	**23.04**	**300**	*i*P		**P**	**21 59 35.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**23.04**	**233**	P		**P**	**21 59 34.1**	**-1.5**
	baz=23,SNR=798							
FITZ	**Fitzroy Crossi**	**23.04**	**233**	P		**P**	**21 59 34.2**	**-1.5**
FITZ					IAmb	IAmb	21 59 38.0	
	comp=Z,215nm,0.7s							
FITZ	**Fitzroy Crossi**	**23.04**	**233**	P		**P**	**21 59 36.7**	**+1.0**
INKA	**Innaminka**	**23.15**	**190**	P		**P**	**21 59 37.2**	**+0.5**
EDFI	**Ende, Flores**	**23.42**	**259**	P		**P**	**21 59 37.6**	**-1.9**
	comp=Z,505nm,0.7s,comp=Z,5µm							
MRSI	**Marisa**	**23.57**	**282**	P		**P**	**21 59 40.0**	**-0.8**
	comp=Z,512nm,0.9s,comp=Z,4µm							
SCPH	**Surigao**	**24.21**	**307**	*i*P		**P**	**21 59 45.8**	**-0.6**
KOUNC	**Koumac, New Ca**	**24.46**	**131**	P		**P**	**21 59 49.8**	**+1.1**
KOUNC					IAmb	IAmb	21 59 51.4	
	comp=Z,119nm,0.9s							
KOUNC	**Koumac, New Ca**	**24.46**	**131**	P		**P**	**21 59 50.7**	**+2.0**
OOD	**Oodnadatta**	**24.50**	**200**	P		**P**	**21 59 50.3**	**+1.3**
BKSI	**Bulukumba**	**24.73**	**268**	P		**P**	**21 59 51.2**	**-0.1**
	comp=Z,349nm,0.8s,comp=Z,3µm							
BASI	**Baing, Sumba**	**24.74**	**256**	P		**P**	**21 59 51.6**	**+0.2**
	comp=Z,3µm,1.2s,comp=Z,27µm							
TOLI2	**Tolitoli**	**24.85**	**283**	P		**P**	**21 59 53.4**	**+1.0**
TOLI2	**Tolitoli**	**24.85**	**283**	P		**P**	**21 59 53.9**	**+1.5**
GHBP	**Garcia Hernand**	**25.06**	**305**	*i*eP		**P**	**21 59 53.7**	**-0.6**
GHBP				*i* S		**pP**	**22 00 08.0**	**-2.5**
KAPI	**Kappang**	**25.10**	**268**	P		**P**	**21 59 54.7**	**0.0**
KAPI	**Kappang**	**25.10**	**268**	P		**P**	**21 59 55.1**	**+0.4**
	comp=Z,208nm,0.7s,baz=93,slow=4.7,SNR=58							
KAPI					S	**S**	**22 04 14.1**	**-0.6**
	comp=Z,7.0nm,0.7s,baz=21,slow=12,SNR=1.4							
KAPI					LR	LR	22 12 47.8	
	comp=Z,947nm,19.8s,baz=87,slow=43							
	comp=Z,208nm,0.7s							
TTSI	**Tana Toraja**	**25.13**	**273**	P		**P**	**21 59 55.7**	**+0.8**
	comp=Z,553nm,1.4s,comp=Z,5µm							
DCPH	**Dipolog City**	**25.31**	**302**	*i*eP		P	22 00 13.8	+17
LSIP	**Lazi, Siquijor**	**25.36**	**303**	*i*iP		P	**21 59 57.9**	**+0.9**
LSIP				*i* S		**pP**	**22 00 12.0**	**-1.2**
MKS	**Makassar**	**25.38**	**268**	P		**P**	**21 59 56.8**	**-0.4**
	comp=Z,260nm,1.0s,comp=Z,3µm							
TBP	**Tagbilaran**	**25.47**	**304**	*e*P		**P**	**21 59 58.8**	**+0.7**
MPSI	**Maraga**	**25.54**	**281**	P		**P**	**21 59 58.3**	**-0.3**
	comp=Z,139nm,1.1s,comp=Z,2µm							
WRKA	**Warakurna**	**25.70**	**217**	P		**P**	**22 00 00.2**	**+0.2**
	baz=26,SNR=226							
WRKA	**Warakurna**	**25.70**	**217**	P		**P**	**22 00 00.4**	**+0.4**
SNPH	**Sibulan**	**25.80**	**303**	*e*P		**P**	**22 00 03.1**	**+2.0**
ARMA	**Armidale**	**26.24**	**167**	P		**P**	**22 00 06.4**	**+1.5**
	baz=26,SNR=47							
ARMA	**Armidale**	**26.24**	**167**	P		**P**	**22 00 05.9**	**+1.0**
ARMA					IAmb	IAmb	22 00 07.6	
	comp=Z,232nm,1.1s							
ARMA	**Armidale**	**26.24**	**167**	P		**P**	**22 00 06.6**	**+1.7**
LCRK	**Leigh Creek**	**26.28**	**193**	P		**P**	**22 00 06.0**	**+0.9**
CNOP	**Candoni, Negro**	**26.56**	**303**	*i*eP		**P**	**22 00 10.3**	**+2.4**
CMSA	**Cobar Meteorol**	**26.60**	**179**	P		**P**	**22 00 09.4**	**+1.4**
	baz=27,SNR=140							
CMSA	**Cobar Meteorol**	**26.60**	**179**	P		**P**	**22 00 09.4**	**+1.4**
DBNI	**Kabupaten Domp**	**26.70**	**261**	P		**P**	**22 00 10.3**	**+1.1**
	comp=Z,127nm,0.7s,comp=Z,5µm							
LIFNC	**LIFOU**	**26.85**	**128**	P		**P**	**22 00 10.8**	**+0.5**
LIFNC	**LIFOU**	**26.85**	**128**	P		**P**	**22 00 10.6**	**+0.2**
DZM	**Mont Dzumac**	**26.98**	**131**	P		**P**	**22 00 11.6**	**0.0**
DZM					IAmb	IAmb	22 00 17.2	
	comp=Z,213nm,1.1s							
DZM	**Mont Dzumac**	**26.98**	**131**	P		**P**	**22 00 11.6**	**0.0**
DZM	**Mont Dzumac**	**26.98**	**131**	*e*P		**P**	**22 00 09.4**	**-2.2**
	comp=Z,409nm,1.1s							
DZM					*e*S	**S**	**22 04 37.5**	**-6.9**
	comp=Z,1µm,24.1s							
DZM					*e*LQ	LQ	22 05 54.2	
	comp=Z,6µm,42.2s							
DZM					*e*LR	LR	22 07 10.0	
	comp=Z,11µm,29.3s							
STKA	**Stephens Creek**	**27.11**	**186**	P		**P**	**22 00 13.3**	**+0.8**
	baz=27,SNR=29							
STKA	**Stephens Creek**	**27.11**	**186**	P		**P**	**22 00 13.4**	**+0.8**
STKA	**Stephens Creek**	**27.11**	**186**	P		**P**	**22 00 13.5**	**+0.9**
STKA	**Stephens Creek**	**27.11**	**186**	*d* iP		**P**	**22 00 13.2**	**+0.6**
STKA	**Stephens Creek**	**27.11**	**186**	P		**P**	**22 00 12.9**	**+0.3**
	comp=Z,41nm,0.9s,baz=355,slow=8.5,SNR=66							
STKA					LR	LR	22 11 29.0	
	comp=Z,2µm,18.4s,baz=4.7,slow=37							
	comp=Z,41nm,0.9s							
ONTNC	**Ouen Toro**	**27.12**	**132**	P		**P**	**22 00 12.6**	**-0.3**
PLAI	**Plampang**	**27.27**	**260**	P		**P**	**22 00 13.5**	**-0.7**
PLAI	**Plampang**	**27.27**	**260**	P		**P**	**22 00 11.4**	**-2.8**
	comp=Z,157nm,0.6s,comp=Z,2µm							
YATNC	**Mamie plateau,**	**27.31**	**131**	P		**P**	**22 00 14.7**	**+0.2**
MULG	**Mulgathing**	**27.34**	**201**	P		**P**	**22 00 15.4**	**+0.7**
OUENC	**Ouen Island, N**	**27.48**	**132**	P		**P**	**22 00 15.6**	**-0.4**
OUENC					IAmb	IAmb	22 00 57.1	
	comp=Z,352nm,2.0s							
OUENC	**Ouen Island, N**	**27.48**	**132**	P		**P**	**22 00 16.0**	**0.0**
PINNC	**Pines Island,**	**28.05**	**131**	P		**P**	**22 00 21.8**	**+0.7**
PINNC					IAmb	IAmb	22 00 22.6	
	comp=Z,123nm,1.2s							
TWSI	**Taliwang, Sumb**	**28.13**	**261**	P		**P**	**22 00 19.1**	**-2.9**
	comp=Z,72nm,0.7s,comp=Z,1µm							
MGCD	**Mangrove Creek**	**28.84**	**169**	P		**P**	**22 00 30.7**	**+2.8**
	baz=29,SNR=12							
MGCD	**Mangrove Creek**	**28.84**	**169**	P		**P**	**22 00 30.7**	**+2.8**
HTT	**Hallett**	**29.02**	**190**	P		**P**	**22 00 30.8**	**+1.1**
	baz=29,SNR=16							
HTT	**Hallett**	**29.02**	**190**	P		**P**	**22 00 30.6**	**+0.9**
BBOO	**Buckleboo**	**29.07**	**196**	P		**P**	**22 00 30.6**	**+0.5**
	baz=29,SNR=7.7							
BBOO	**Buckleboo**	**29.07**	**196**	P		**P**	**22 00 30.5**	**+0.4**
BBOO	**Buckleboo**	**29.07**	**196**	P		**P**	**22 00 31.1**	**+1.1**
PSA00	**Pilbara Seismi**	**29.49**	**233**	P		**P**	**22 00 34.9**	**+0.9**
PSA00	**Pilbara Seismi**	**29.49**	**233**	P		**P**	**22 00 34.9**	**+0.9**
PSA00					IAmb	IAmb	22 00 36.8	
	comp=Z,189nm,0.7s							
PSA00	**Pilbara Seismi**	**29.49**	**233**	P		**P**	**22 00 34.8**	**+0.9**
YNG	**Young**	**29.52**	**174**	P		**P**	**22 00 35.7**	**+1.7**
FORT	**Forrest**	**30.34**	**210**	P		**P**	**22 00 42.5**	**+1.2**
	baz=30,SNR=68							
FORT	**Forrest**	**30.34**	**210**	P		**P**	**22 00 42.5**	**+1.2**
FORT					IAmb	IAmb	22 01 49.8	
	comp=Z,130nm,0.9s							
FORT	**Forrest**	**30.34**	**210**	P		**P**	**22 00 42.4**	**+1.2**
CAN	**Canberra**	**30.59**	**173**	P		**P**	**22 00 44.3**	**+0.7**
CAN	**Canberra**	**30.59**	**173**	P		**P**	**22 00 45.5**	**+2.0**
CAN	**Canberra**	**30.59**	**173**	P		**P**	**22 00 44.3**	**+0.7**
CAN				pmax	pmax			
	comp=Z,353nm,1.5s							
CAN	**Canberra**	**30.59**	**173**	P		**P**	**22 00 45.2**	**+1.7**
CNB	**Canberra Magne**	**30.63**	**173**	P		**P**	**22 00 46.0**	**+2.1**
	baz=31,SNR=27							
CNB	**Canberra Magne**	**30.63**	**173**	P		**P**	**22 00 46.0**	**+2.1**
JAGI	**Jajag, Banyuwa**	**30.80**	**262**	P		**P**	**22 00 42.4**	**-3.2**
JAGI	**Jajag, Banyuwa**	**30.80**	**262**	P		**P**	**22 00 46.5**	**+0.9**
JAGI	**Jajag, Banyuwa**	**30.80**	**262**	P		**P**	**22 00 42.5**	**-3.1**
	comp=Z,74nm,0.6s							
PKKI	**Palangkaraya**	**31.02**	**274**	P		**P**	**22 00 48.5**	**+1.0**
	comp=Z,104nm,0.8s							
BLJI	**Banyuglugur**	**31.29**	**263**	P		**P**	**22 00 49.3**	**-0.6**
	comp=Z,67nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**31.55**	**42**	T		T	22 34 17.4	
	baz=218,slow=75							
H11S2	**WAKE ISLAND Hy**	**31.56**	**42**	T		T	22 34 20.9	
	baz=218							
H11S1	**WAKE ISLAND Hy**	**31.57**	**42**	T		T	22 34 20.8	
	baz=218,slow=75							
JCJ	**Chichijima**	**31.83**	**355**	P		**P**	**22 00 54.1**	**-0.3**
JCJ	**Chichijima**	**31.83**	**355**	P		P	22 00 49.2	-5.2
	comp=Z,144nm,0.7s,baz=247,slow=12,SNR=7.5							
JCJ					LR	LR	22 12 14.2	
	comp=Z,486nm,21.9s,baz=151,slow=33							
ARPS	**Mount Arapiles

NWAO	**Narrogin (SRO)**	**38.09**	**219**	P	**P**	**22 01 48.9**	**+0.5**		
NWAO				pmax	pmax				
	comp=Z,155nm,1.7s								
NWAO	**Narrogin (SRO)**	**38.09**	**219**	LR	LR	22 19 37.0			
	comp=Z,1μm,19.4s,baz=43,slow=39								
MUN	**Mundaring**	**38.14**	**221**	P	**P**	**22 01 49.7**	**+1.0**		
	baz=38,SNR=14								
MUN	**Mundaring**	**38.14**	**221**	P	**P**	**22 01 49.8**	**+1.0**		
KNMB	**Chin-men Tao**	**38.92**	**320**	P	**P**	**22 01 55.9**	**+0.6**		
QZH	**Quanzhou**	**39.13**	**320**	P	**P**	**22 01 57.5**	**+0.4**		
QZH				pP	**pP**	**22 02 13.3**	**-0.6**		
QZH				S	**S**	**22 07 51.8**	**-0.4**		
QZH				LR	LR				
	comp=Z,650nm,18.6s								
QZH				LR	LR				
	comp=Z,850nm,18.9s								
QZH				LR	LR				
	comp=Z,1μm,28.9s								
XMIS	**Christmas Isla**	**39.33**	**259**	P	**P**	**22 02 00.0**	**+1.1**		
RKGY	**Rocky Gully**	**39.37**	**218**	P	**P**	**22 02 00.7**	**+1.6**		
	baz=40,SNR=19								
JMN	**Monobe**	**39.73**	**346**	IAmb	IAmb	22 02 37.0			
	comp=Z,61nm,1.0s								
JMN	**Monobe**	**39.73**	**346**	P	**P**	**22 02 02.2**	**+0.2**		
JNU	**Nakatsue**	**40.01**	**342**	IAmb	IAmb	22 02 33.8			
	comp=Z,80nm,1.2s								
JNU	**Nakatsue**	**40.01**	**342**	P	**P**	**22 02 04.5**	**+0.1**		
JNU	**Nakatsue**	**40.01**	**342**	P	**P**	**22 02 03.9**	**-0.5**		
	comp=Z,18nm,0.7s,baz=167,slow=1.1,SNR=20								
JNU				LR	LR	22 16 09.1			
	comp=Z,622nm,21.7s,baz=155,slow=32								
	comp=Z,18nm,0.7s								
OUZ	**Omahuta**	**40.20**	**143**	P	**P**	**22 02 08.1**	**+2.3**		
INU	**Inuyama**	**40.63**	**350**	P	**P**	**22 02 10.5**	**+1.1**		
H01W1	**Cape Leeuwin H**	**41.31**	**220**	P	**P**	**22 02 17.5**	**+2.7**		
	baz=72,slow=6.7,SNR=4.3								
H01W3	**Cape Leeuwin H**	**41.32**	**220**	P	**P**	**22 02 15.8**	**+1.0**		
	baz=72,slow=6.7,SNR=3.9								
H01W2	**Cape Leeuwin H**	**41.33**	**220**	P	**P**	**22 02 17.6**	**+2.7**		
	baz=72,slow=6.7,SNR=3.5								
MJAR	**Matsushiro Arr**	**41.62**	**352**	P	**P**	**22 02 16.1**	**-1.4**		
	comp=Z,9.9nm,0.9s,baz=26,slow=0.4,SNR=29								
	comp=Z,9.9nm,0.9s								
MAJO	**Matsushiro**	**41.62**	**352**	P	**P**	**22 02 17.5**	**0.0**		
MAJO				IAmb	IAmb	22 02 36.6			
	comp=Z,104nm,1.3s								
MAJO	**Matsushiro**	**41.62**	**352**	P	**P**	**22 02 17.3**	**-0.2**		
MAJO	**Matsushiro**	**41.62**	**352**	*i* P	**P**	**22 02 16.6**	**-0.9**		
MAJO				pmax	pmax				
	comp=Z,92nm,1.3s								
MAJO	**Matsushiro**	**41.62**	**352**	P	**P**	**22 02 17.2**	**-0.3**		
MAJO				pP	**pP**	**22 02 33.0**	**-1.5**		
MJB9	**Matsu-Tunnel**	**41.62**	**352**	IAmb	IAmb	22 02 37.5			
	comp=Z,108nm,1.3s								
QIZ	**Qiongzhong**	**41.90**	**305**	P	**P**	**22 02 19.8**	**-0.3**		
QIZ				pP	**pP**	**22 02 34.8**	**-2.2**		
QIZ				S	**S**	**22 08 34.6**	**+0.9**		
QIZ				sS	**sS**	**22 09 02.4**	**-0.1**		
QIZ				SS	**SS**	**22 11 43.8**	**+1.1**		
QIZ				pmax	pmax				
	comp=Z,38nm,1.4s								
QIZ				LR	LR				
	comp=Z,830nm,17.7s								
QIZ				LR	LR				
	comp=Z,550nm,16.8s								
QIZ				LR	LR				
	comp=Z,1μm,21.0s								
QIZ	**Qiongzhong**	**41.90**	**305**	P	**P**	**22 02 20.1**	**0.0**		
QIZ				IAmb	IAmb	22 03 09.1			
	comp=Z,192nm,1.6s								
QIZ	**Qiongzhong**	**41.90**	**305**	P	**P**	**22 02 20.3**	**+0.2**		
QIZ				pP	**pP**	**22 02 36.6**	**-0.4**		
SSE	**Sheshan**	**42.30**	**329**	P	**P**	**22 02 23.4**	**+0.3**		
SSE				S	**S**	**22 08 37.3**	**-1.9**		
SSE				pmax	pmax				
	comp=Z,41nm,0.8s								
SSE				pmax	pmax				
	comp=Z,280nm,3.8s								
SSE				LR	LR				
	comp=Z,220nm,16.3s								
SSE				LR	LR				
	comp=Z,260nm,16.5s								
SSE	**Sheshan**	**42.30**	**329**	P	**P**	**22 02 23.8**	**+0.7**		
SSE				pP	**pP**	**22 02 40.3**	**+0.2**		
SSE				sP	**sP**	**22 02 46.8**	**-1.2**		
KUZ	**Kuaotunu**	**42.49**	**143**	P	**P**	**22 02 26.2**	**+1.5**		
JMM	**Marumori**	**42.63**	**355**	IAmb	IAmb	22 02 43.1			
	comp=Z,101nm,1.1s								
JMM	**Marumori**	**42.63**	**355**	P	**P**	**22 02 26.6**	**+0.9**		
RAO	**Raoul Island**	**42.72**	**129**	LR	LR	22 17 35.7			
	comp=Z,715nm,19.3s,baz=148,slow=32								
QRZ	**Quartz Range**	**43.57**	**149**	P	**P**	**22 02 35.7**	**+2.4**		
DSZ	**Denniston Nort**	**43.90**	**151**	IAmb	IAmb	22 02 43.1			
	comp=Z,82nm,0.8s								
BKNI	**Bangkinang**	**44.15**	**275**	P	**P**	**22 02 38.6**	**+0.2**		
NJ2	**Nanjing**	**44.28**	**326** ⇓	*i* P	**P**	**22 02 40.4**	**+1.4**		
NJ2				pP	**pP**	**22 02 56.1**	**0.0**		
NJ2				sP	**sP**	**22 03 04.1**	**+0.2**		
NJ2				S	**S**	**22 09 11.6**	**+3.6**		
NJ2				sS	**sS**	**22 09 37.8**	**+0.7**		
NJ2				pmax	pmax				
	comp=Z,31nm,0.8s								
NJ2				LR	LR				
	comp=Z,470nm,10.2s								
NJ2				LR	LR				
	comp=Z,630nm,13.7s								
NJ2				LR	LR				
	comp=Z,1μm,19.9s								
NNZ	**Nelson**	**44.29**	**149**	IAmb	IAmb	22 02 42.2			
	comp=Z,201nm,1.4s								
URZ	**Urewera**	**44.32**	**143**	P	**P**	**22 02 40.6**	**+1.3**		
FOZ	**Fox Glacier**	**44.38**	**154**	IAmb	IAmb	22 02 45.2			
	comp=Z,250nm,1.7s								
JCZ	**Jackson Bay**	**44.38**	**155**	P	**P**	**22 02 42.1**	**+2.3**		
INZ	**Inchbonnie**	**44.48**	**152**	P	**P**	**22 02 41.1**	**+0.6**		
INZ				IAmb	IAmb	22 02 43.6			
	comp=Z,114nm,1.3s								
MXZ	**Matakaoa Point**	**44.60**	**142**	IAmb	IAmb	22 02 53.8			
	comp=Z,103nm,0.8s								
MXZ	**Matakaoa Point**	**44.60**	**142**	P	**P**	**22 02 43.4**	**+1.8**		
DCZ	**Deep Cove**	**44.89**	**158**	IAmb	IAmb	22 02 46.6			
	comp=Z,105nm,0.8s								
KSRS	**Korea Array**	**44.94**	**341**	P	**P**	**22 02 44.5**	**+0.3**		
	comp=Z,14nm,0.8s,baz=162,slow=9.2,SNR=41								
	comp=Z,14nm,0.8s								
GULI	**GuiLin**	**44.98**	**313**	P	**P**	**22 02 41.0**	**-3.8**		
GULI				S	**S**	**22 09 17.9**	**-0.6**		
GULI				LR	LR				
	comp=Z,540nm,19.6s								
GULI				LR	LR				
	comp=Z,330nm,14.1s								
GULI				LR	LR				
	comp=Z,760nm,17.3s								
CNSH	**ChangSha**	**45.03**	**319** ⇓	P	**P**	**22 02 46.8**	**+1.7**		
CNSH				S	**S**	**22 09 23.9**	**+4.8**		
CNSH				LR	LR				
	comp=Z,610nm,21.4s								
CNSH				LR	LR				
	comp=Z,670nm,23.1s								
CNSH				LR	LR				
	comp=Z,1μm,21.7s								
SNZO	**South Karori**	**45.05**	**148**	P	**P**	**22 02 45.8**	**+0.6**		
SNZO	**South Karori**	**45.05**	**148**	P	**P**	**22 02 45.6**	**+0.5**		
SNZO	**South Karori**	**45.05**	**148**	P	**P**	**22 02 45.6**	**+0.6**		
SNZO				pP	**pP**	**22 03 01.7**	**-0.5**		
RPZ	**Rata Peaks**	**45.07**	**153**	P	**P**	**22 02 46.5**	**+1.2**		
WKZ	**Wanaka**	**45.09**	**156**	IAmb	IAmb	22 02 54.0			
	comp=Z,84nm,1.0s								
OXZ	**Oxford**	**45.22**	**152**	IAmb	IAmb	22 02 49.8			
	comp=Z,61nm,0.7s								
LBZ	**Lake Benmore**	**45.22**	**154**	P	**P**	**22 02 47.6**	**+1.1**		
KHZ	**Kahutara**	**45.26**	**150**	IAmb	IAmb	22 02 49.1			
	comp=Z,125nm,1.1s								
KHZ	**Kahutara**	**45.26**	**150**	P	**P**	**22 02 47.5**	**+0.8**		
KULM	**Kulim**	**45.36**	**282**	P	**P**	**22 02 47.6**	**-0.5**		
KULM				IAmb	IAmb	22 02 59.0			
	comp=Z,65nm,1.2s								
BFZ	**Birch Farm**	**45.44**	**146**	P	**P**	**22 02 49.3**	**+1.1**		
JTM	**Tenmabayashi**	**45.51**	**356**	P	**P**	**22 02 49.7**	**+1.0**		
JTM				IAmb	IAmb	22 03 05.8			
	comp=Z,110nm,1.1s								
JTM	**Tenmabayashi**	**45.51**	**356**	P	**P**	**22 02 49.5**	**+0.8**		
WHZ	**Wether Hill Ro**	**45.55**	**158**	IAmb	IAmb	22 02 51.0			
	comp=Z,90nm,0.8s								
WHN	**Wuhan**	**45.74**	**322**	P	**P**	**22 02 51.8**	**+1.1**		
WHN				pP	**pP**	**22 03 08.4**	**+0.6**		
WHN				S	**S**	**22 09 28.6**	**-0.7**		
WHN				sS	**sS**	**22 10 03.9**	**+5.5**		
WHN				pmax	pmax				
	comp=Z,71nm,0.9s								
ODZ	**Otahua Downs**	**45.95**	**155**	P	**P**	**22 02 52.7**	**+0.6**		
SYZ	**Scrubby Hill**	**46.55**	**157**	P	**P**	**22 02 58.4**	**+1.6**		
RPSI	**Rantau Prapat**	**46.58**	**278**	P	**P**	**22 02 57.5**	**-0.1**		
RPSI				IAmb	IAmb	22 03 30.4			
	comp=Z,67nm,0.9s								
PSI	**Prapat**	**46.60**	**278**	P	**P**	**22 02 57.5**	**-0.4**		
PSI				pmax	pmax				
	comp=Z,67nm,0.9s								
SRIT	**Nakonsritamara**	**47.14**	**286**	P	**P**	**22 03 01.4**	**-0.5**		
GSI	**Gunungsitoli**	**47.71**	**276**	P	**P**	**22 03 05.5**	**-1.0**		
GSI				IAmb	IAmb	22 03 07.5			
	comp=Z,61nm,0.7s								
GSI	**Gunungsitoli**	**47.71**	**276**	P	**P**	**22 03 05.4**	**-1.0**		
SLVN	**Son La**	**47.89**	**304**	IAmb	IAmb	22 03 55.7			
	comp=Z,45nm,1.1s								
GYA	**Guiyang**	**48.37**	**312** ⇑	P	**P**	**22 03 12.3**	**+0.9**		
GYA				sP	sP	22 03 36.9	+0.4		
GYA				S	**S**	**22 10 10.3**	**+3.2**		
GYA				sS	sS	22 10 39.4	+2.9		
GYA				pmax	pmax				
	comp=Z,20nm,1.1s								
GYA				pmax	pmax				
	comp=Z,200nm,5.6s								
GYA				LR	LR				
	comp=Z,600nm,18.8s								
TIA	**Tai'an**	**48.41**	**330**	P	**P**	**22 03 11.3**	**-0.1**		
TIA				S	**S**	**22 10 03.6**	**-3.6**		
TIA				pmax	pmax				
	comp=Z,19nm,0.7s								
TIA				LR	LR				
	comp=Z,190nm,14.3s								
TIA				LR	LR				
	comp=Z,240nm,12.9s								
TIA				LR	LR				
	comp=Z,500nm,21.5s								
ENH	**Enshi**	**48.67**	**318**	IAmb	IAmb	22 03 37.9			
	comp=Z,93nm,1.2s								
ASAJ	**Asahikawa**	**48.75**	**358**	P	**P**	**22 03 14.3**	**+0.5**		
	comp=Z,8.8nm,0.7s,baz=188,slow=6.7,SNR=5.7								
	comp=Z,8.8nm,0.7s								
LHMI	**Lhok Sumawe**	**48.96**	**281**	P	**P**	**22 03 16.2**	**+0.2**		
LYN	**LuoYang**	**49.70**	**324**	*eP*	**P**	**22 03 21.6**	**+0.3**		
LYN				pP	pP	22 03 38.3	-0.3		
LYN				S	**S**	**22 10 23.8**	**-1.4**		
LYN				sS	sS	22 10 56.6	+1.9		
LYN				pmax	pmax				
	comp=Z,38nm,0.5s								
LYN				LR	LR				
	comp=Z,1μm,17.5s								
LYN				LR	LR				
	comp=Z,640nm,19.2s								
LYN				LR	LR				
	comp=Z,1μm,17.9s								
USA0B	**Ussuriysk Arra**	**50.16**	**348**	*i* P	**P**	**22 03 24.3**	**-0.3**		
USRK	**Ussuriysk Ar.**	**50.16**	**348**	P	**P**	**22 03 25.1**	**+0.5**		
	comp=Z,22nm,0.7s,baz=180,slow=7.2,SNR=35								
USRK				LR	LR	22 23 04.3			
	comp=Z,304nm,20.5s,baz=158,slow=34								
	comp=Z,22nm,0.7s								
CRAI	**Chiangrai**	**50.36**	**301**	P	**P**	**22 03 26.7**	**+0.1**		
CRAI				IAmb	IAmb	22 04 11.2			
	comp=Z,78nm,1.2s								
HNS	**HongShan**	**50.56**	**329** ⇑	P	**P**	**22 03 27.8**	**+0.1**		
HNS				pP	**pP**	**22 03 44.3**	**-0.8**		
HNS				S	**S**	**22 10 37.6**	**+0.5**		
HNS				pmax	pmax				
	comp=Z,110nm,0.7s								
HNS				LR	LR				
	comp=Z,520nm,22.3s								
HNS				LR	LR				
	comp=Z,550nm,18.0s								
HNS				LR	LR				
	comp=Z,780nm,22.3s								
KMI	**Kunming**	**50.66**	**308** ⇑	P	**P**	**22 03 30.0**	**+1.0**		
KMI				pP	pP	22 03 47.3	+0.9		
KMI				S	**S**	**22 10 38.8**	**-0.6**		
KMI				sS	sS	22 11 11.5	+2.6		
KMI				pmax	pmax				
	comp=Z,14nm,0.8s								
KMI				pmax	pmax				
	comp=Z,360nm,6.0s								
KMI				LR	LR				
	comp=Z,410nm,24.9s								
KMI				LR	LR				
	comp=Z,550nm,23.5s								
KMI				LR	LR				
	comp=Z,990nm,26.8s								
CMAR	**Chiang Mai Arr**	**50.89**	**298**	*i* P	**P**	**22 03 31.3**	**+0.7**		
CMAR				pmax	pmax				
	comp=Z,16nm,0.6s								
CMAR	**Chiang Mai Arr**	**50.89**	**298**	P	**P**	**22 03 31.4**	**+0.8**		
	comp=Z,15nm,0.6s,baz=122,slow=6.1,SNR=130								
	comp=Z,15nm,0.6s								
CHTO	**Chiang Mai**	**51.02**	**299**	P	**P**	**22 03 31.9**	**+0.3**		
CHTO				IAmb	IAmb	22 04 08.7			
	comp=Z,64nm,1.2s								
CHTO	**Chiang Mai**	**51.02**	**299**	P	**P**	**22 03 31.7**	**+0.1**		
CHTO	**Chiang Mai**	**51.02**	**299**	P	**P**	**22 03 31.9**	**+0.3**		
CHTO				pmax	pmax				
	comp=Z,64nm,1.3s								
CHTO	**Chiang Mai**	**51.02**	**299**	P	**P**	**22 03 31.8**	**+0.3**		
MDJ	**Mudanjiang**	**51.10**	**346**	P	**P**	**22 03 31.8**	**+0.2**		
MDJ				pP	**pP**	**22 03 48.2**	**-0.9**		
CN2	**Changchun**	**51.48**	**342**	*eP*	**P**	**22 03 34.8**	**+0.2**		
CN2				*eS*	**S**	**22 10 45.4**	**-4.3**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CN2				pmax	pmax				
	comp=Z,100nm,4.0s								
CN2				LR	LR				
	comp=Z,600nm,15.0s								
CN2				LR	LR				
	comp=Z,500nm,15.0s								
CN2				LR	LR				
	comp=Z,600nm,15.0s								
YSS	**Yuzh-Sakhalins**	**51.58**	**358**	*eP*	**P**	**22 03 35.8**	**+0.6**		
YSS				*eS*	**S**	**22 10 54.0**	**+3.2**		
YSS				*e*		22 11 17.0			
YSS				pmax	pmax				
	comp=Z,20nm,0.8s								
BJT	**Baijiatuan**	**51.87**	**332**	P	**P**	**22 03 37.7**	**+0.1**		
BJT				pP	**pP**	**22 03 54.4**	**-0.6**		
BJT				sP	**sP**	**22 04 01.6**	**-1.2**		
BJI	**Beijing**	**51.89**	**332**	P	**P**	**22 03 37.3**	**-0.3**		
BJI				pP	**pP**	**22 03 53.1**	**-2.0**		
BJI				S	**S**	**22 10 53.0**	**-2.3**		
BJI				pmax	pmax				
	comp=Z,13nm,0.8s								
BJI				LR	LR				
	comp=Z,230nm,21.0s								
BJI				LR	LR				
	comp=Z,250nm,19.1s								
BJI				LR	LR				
	comp=Z,440nm,22.6s								
PZH	**PanZhiHua**	**52.12**	**309**	P	**P**	**22 03 39.8**	**0.0**		
PZH				S	**S**	**22 10 59.9**	**+0.5**		
PZH				pmax	pmax				
	comp=Z,10.0nm,1.7s								
PZH				pmax	pmax				
	comp=Z,300nm,7.4s								
PZH				LR	LR				
	comp=Z,370nm,22.1s								
PZH				LR	LR				
	comp=Z,420nm,21.8s								
PZH				LR	LR				
	comp=Z,520nm,21.6s								
BNX	**BinXian**	**52.70**	**345** ⇓	P	**P**	**22 03 43.4**	**-0.2**		
BNX				pP	**pP**	**22 04 02.0**	**+0.9**		
BNX				sP	**sP**	**22 04 10.4**	**+1.6**		
BNX				PP	**PP**	**22 05 43.0**	**-0.5**		
BNX				S	**S**	**22 11 06.9**	**+0.6**		
BNX				sS	**sS**	**22 11 36.8**	**+0.8**		
BNX				pmax	pmax				
	comp=Z,16nm,0.8s								
BNX				pmax	pmax				
	comp=Z,290nm,5.4s								
BNX				LR	LR				
	comp=Z,620nm,21.7s								
BNX				LR	LR				
	comp=Z,260nm,14.1s								
BNX				LR	LR				
	comp=Z,550nm,24.9s								
CD2	**Chengdu**	**52.99**	**315**	P	**P**	**22 03 46.4**	**+0.4**		
CD2				pP	pP	22 04 03.3	-0.3		
CD2				sP	sP	22 04 10.1	-1.2		
CD2				S	**S**	**22 11 11.0**	**+0.1**		
CD2				sS	sS	22 11 42.5	+1.9		
CD2				pmax	pmax				
	comp=Z,50nm,0.8s								
CD2				pmax	pmax				
	comp=Z,260nm,4.9s								
CD2				LR	LR				
	comp=Z,430nm,17.2s								
CD2				LR	LR				
	comp=Z,650nm,17.5s								
CD2				LR	LR				
	comp=Z,650nm,16.2s								
TNCH	**TengChong**	**53.98**	**306** ⇑	P	**P**	**22 03 53.8**	**+0.2**		
TNCH				pP	pP	22 04 10.8	-0.3		
TNCH				sP	sP	22 04 20.5	+1.7		
TNCH				PP	**PP**	**22 05 56.1**	**+0.5**		
TNCH				S	**S**	**22 11 18.9**	**-5.9**		
TNCH				sS	sS	22 11 55.3	+0.6		
TNCH				pmax	pmax				
	comp=Z,12nm,1.2s								
TNCH				pmax	pmax				
	comp=Z,180nm,5.7s								
TNCH				LR	LR				
	comp=Z,290nm,20.0s								
TNCH				LR	LR				
	comp=Z,220nm,21.0s								
TNCH				LR	LR				
	comp=Z,680nm,26.6s								
HHC	**Hu-ho-hao-te**	**54.76**	**329** ⇑	*iP*	**P**	**22 03 59.4**	**+0.5**		
HHC				pP	pP	22 04 15.5	-1.0		
HHC				S	**S**	**22 11 33.1**	**-1.5**		
HHC				SS	**SS**	**22 15 18.3**	**-0.5**		
HHC				pmax	pmax				
	comp=Z,53nm,1.0s								
HHC				pmax	pmax				
	comp=Z,140nm,4.1s								
HHC				LR	LR				
	comp=Z,690nm,20.8s								
HHC				LR	LR				
	comp=Z,520nm,20.7s								
HHC				LR	LR				
	comp=Z,2μm,20.2s								
KLR	**Kul'dur**	**55.03**	**349**	*ceP*	**P**	**22 04 00.3**	**-0.2**		
KLR				pmax	pmax				
	comp=Z,18nm,0.8s								
KLR	**Kul'dur**	**55.03**	**349**	P	**P**	**22 04 00.8**	**+0.3**		
	comp=Z,15nm,0.8s,baz=177,slow=4.7,SNR=63								
	comp=Z,15nm,0.8s								
BTO	**Baotou**	**55.38**	**328**	*eP*	**P**	**22 04 05.3**	**+1.9**		
BTO				pP	**sP**	**22 04 25.3**	**-3.4**		
BTO				sP	pP	22 04 33.1	+12		
BTO				PP	**PP**	**22 06 11.9**	**+4.0**		
BTO				S	**S**	**22 11 43.3**	**+0.4**		
BTO				sS	**sS**	**22 12 17.8**	**+5.5**		
BTO				SS	**SS**	**22 15 28.8**	**+0.2**		
BTO				pmax	pmax				
	comp=Z,42nm,0.9s								
BTO				pmax	pmax				
	comp=Z,340nm,6.3s								
BTO				LR	LR				
	comp=Z,960nm,22.8s								
BTO				LR	LR				
	comp=Z,990nm,24.3s								
BTO				LR	LR				
	comp=Z,2μm,22.7s								
LZH	**Lanzhou**	**55.99**	**320**	*eP*	**P**	**22 04 08.5**	**+0.7**		
LZH				pP	pP	22 04 23.8	-1.7		
LZH				sP	sP	22 04 34.9	+1.7		
LZH				S	**S**	**22 11 50.4**	**-0.8**		
LZH				SS	**SS**	**22 15 32.8**	**-5.6**		
LZH				pmax	pmax				
	comp=Z,39nm,1.1s								
LZH				pmax	pmax				
	comp=Z,600nm,6.0s								
LZH				LR	LR				
	comp=Z,460nm,17.4s								
LZH				LR	LR				
	comp=Z,630nm,19.9s								
LZH				LR	LR				
	comp=Z,960nm,20.8s								
HEH	**HeiHe**	**56.90**	**347**	*eP*	**P**	**22 04 13.4**	**-0.4**		
HEH				pP	**pP**	**22 04 30.3**	**-1.3**		
HEH				ScP	**ScP**	**22 09 00.3**	**-2.1**		
HEH				S	**S**	**22 11 56.6**	**-5.8**		
HEH				sS	**sS**	**22 12 31.0**	**-0.6**		
HEH				pmax	pmax				
	comp=Z,8.0nm,0.7s								
PEA0B	**Petropavlovsk-**	**58.70**	**9**	P	**P**	**22 04 27.7**	**+1.3**		
PEA0B	**Petropavlovsk-**	**58.70**	**9**	P	**P**	**22 04 27.7**	**+1.3**		
PEA0B				pmax	pmax				
	comp=Z,130nm,1.4s								
PETK	**Petropavlovsk-**	**58.70**	**9**	P	**P**	**22 04 27.4**	**+1.0**		
PETK	**Petropavlovsk-**	**58.70**	**9**	P	**P**	**22 04 27.4**	**+1.0**		
PETK	**Petropavlovsk-**	**58.70**	**9**	P	**P**	**22 04 27.2**	**+0.8**		
	comp=Z,19nm,0.7s,baz=175,slow=6.9,SNR=19								
PETK				LR	LR	22 27 26.8			
	comp=Z,136nm,20.1s,baz=194,slow=34								
	comp=Z,19nm,0.7s								
ZEA	**Zeya**	**60.20**	**348**	*eP*	**P**	**22 04 36.9**	**+0.2**		
ZEA				pmax	pmax				
	comp=N,40nm,1.4s								
ZEA				pmax	pmax				
	comp=E,10.0nm,1.3s								
ZEA				pmax	pmax				
	comp=Z,80nm,1.3s								
GTA	**Gaotai**	**60.53**	**321**	*eP*	**P**	**22 04 39.9**	**+0.4**		
GTA				pP	pP	22 04 56.5	-0.8		
GTA				PcP	**PcP**	**22 05 26.3**	**+2.8**		
GTA				S	**S**	**22 12 51.0**	**+0.7**		
GTA				pmax	pmax				
	comp=Z,16nm,0.8s								
GTA				pmax	pmax				
	comp=Z,130nm,7.6s								
GTA				LR	LR				
	comp=Z,190nm,16.7s								
GTA				LR	LR				
	comp=Z,250nm,18.5s								
GTA				LR	LR				
	comp=Z,310nm,19.6s								
KIP	**Kipapa**	**61.65**	**63**	*i* P	**P**	**22 04 46.0**	**-1.2**		
KIP				pmax	pmax				
	comp=Z,78nm,1.1s								
KIP	**Kipapa**	**61.65**	**63**	P	**P**	**22 04 48.1**	**+0.9**		
KIP				sP	**sP**	**22 05 11.7**	**-1.3**		
DRV	**Dumont d'Urvil**	**61.84**	**182**	P	**P**	**22 04 48.6**	**+1.0**		
LSA	**Lhasa**	**61.90**	**307**	P	**P**	**22 04 51.0**	**+1.7**		
LSA				pP	**pP**	**22 05 08.6**	**+1.4**		
ULN	**Ulaanbaatar**	**62.10**	**332**	P	**P**	**22 04 50.5**	**+0.6**		
ULN	**Ulaanbaatar**	**62.10**	**332**	*i* P	**P**	**22 04 49.6**	**-0.3**		
ULN				pmax	pmax				
	comp=Z,11nm,0.7s								
ULN	**Ulaanbaatar**	**62.10**	**332**	P	**P**	**22 04 50.5**	**+0.6**		
ULN				pP	**pP**	**22 05 08.0**	**+0.2**		
GOMU	**GeErMu**	**62.11**	**315**	P	**P**	**22 04 51.8**	**+1.3**		
GOMU				pP	pP	22 05 09.5	+1.1		
GOMU				sP	sP	22 05 19.1	+3.0		
GOMU	

comp=Z,364nm,20.0s,baz=180,slow=33
MA2 Magadan 64.35 3 P **P** **22 05 05.2 +0.9**
MA2 Magadan 64.35 3*ce*P **P** **22 05 05.0 +0.6**
MA2 pmax pmax
comp=Z,14nm,1.3s
MA2 Magadan 64.35 3 LR LR 22 31 43.3
comp=Z,59nm,19.9s,baz=190,slow=35
MA2 Magadan 64.35 3 P **P** **22 05 05.4 +1.0**
PPT2 Papeete2 65.19 107 *e*PKIKP P 22 04 51.3 -19
comp=Z,184nm,25.0s
PPT2 *e*S S 22 13 39.6 -10
comp=Z,313nm,31.0s
PPT2 *e*LQ LQ 22 21 54.4
comp=Z,1μm,27.5s
PPT2 *e*LR LR 22 24 45.5
comp=Z,957nm,23.2s
PPT2 *e*LR LR 22 24 53.8
comp=Z,776nm,23.8s
PALK Pallekele 65.22 280 LR LR 22 37 48.5
comp=Z,282nm,20.5s,baz=213,slow=40
ZAK Zakamensk 65.63 332 *e*P **P** **22 05 12.9 -0.1**
ZAK pmax pmax
comp=Z,31nm,0.8s
TBI Tubuai 65.71 113 *e*P P 22 04 55.4 -19
comp=Z,869nm,30.8s
TBI *e*S **S** **22 13 52.7 -2.6**
comp=Z,1μm,29.2s
TBI *e*SS **SS** **22 18 08.2 -2.6**
comp=Z,672nm,30.2s
TBI *e*LQ LQ 22 22 07.6
comp=Z,7μm,36.5s
TBI *e*LR LR 22 24 51.0
comp=Z,1μm,30.5s
TBI *e*LR LR 22 25 05.1
comp=Z,7μm,37.5s
CASY Casey 65.87 195 P **P** **22 05 14.6 +0.5**
CASY IAmb IAmb 22 05 17.3
comp=Z,60nm,0.9s
CASY Casey 65.87 195 P **P** **22 05 14.7 +0.5**
BOD Bodaibo 67.23 343 *e*P **P** **22 05 22.7 -0.2**
BOD pmax pmax
comp=Z,79nm,1.5s
MOY Mondy 67.56 332 *e*P **P** **22 05 26.2 +0.9**
MOY pmax pmax
comp=Z,144nm,2.8s
YAK Yakutsk 67.68 352 *e*P **P** **22 05 23.3 -2.3**
YAK *e**PP **pP** **22 05 41.6 -2.2**
YAK *e*S **S** **22 14 15.6 -1.9**
YAK *e**SS **sS** **22 14 46.1 -1.8**
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax smax
comp=E,261nm,4.5s
YAK smax smax
comp=N,182nm,4.5s
YAK Yakutsk 67.68 352 LR LR 22 33 52.4
comp=N,12nm,21.3s,baz=147,slow=35
SEY Seymchan 67.79 4*ce*P **P** **22 05 26.7 +0.4**
SEY pmax pmax
comp=Z,18nm,1.3s
SEY Seymchan 67.79 4 LR LR 22 33 02.5
comp=Z,105nm,20.9s,baz=148,slow=34
HYB Hyderabad 69.13 291 *e*P **P** **22 05 35.7 0.0**
WMQ Urumqi 70.57 320 *e*P **P** **22 05 44.1 +0.1**
WMQ pP pP 22 06 02.8 +0.5
WMQ LR LR
comp=Z,360nm,24.2s
UNV Unalaska Valle 71.11 28 P **P** **22 05 48.1 +1.2**
baz=232
CCD Concordia, Ant 71.34 186 P **P** **22 05 49.3 +0.8**
CCD sP **sP** **22 06 14.4 0.0**
P08K Saint George I 71.53 25 P **P** **22 05 50.7 +1.3**
baz=228
SPIA Saint Paul Isl 71.63 24 P **P** **22 05 51.9 +1.8**
baz=228
H08S2 Diego Garcia H 72.01 264 P **P** **22 05 53.0 0.0**
baz=45,slow=7.6,SNR=3.0
H08S3 Diego Garcia H 72.02 264 P **P** **22 05 54.1 +1.1**
baz=45,slow=7.6,SNR=8.6
H08S1 Diego Garcia H 72.03 264 P **P** **22 05 53.6 +0.5**
baz=45,slow=7.6,SNR=5.0
VNDA Vanda 73.22 176 P **P** **22 06 00.3 +1.0**
VNDA Vanda 73.22 176 P **P** **22 06 00.3 +1.0**
comp=Z,29nm,0.7s,baz=328,slow=6.8,SNR=179
VNDA LR LR 22 34 24.3
comp=Z,455nm,21.5s,baz=347,slow=33
comp=Z,29nm,0.7s
DGZ Jazzator, Alta 73.49 325 *i* P **P** **22 06 01.6 +0.1**
DGZ pmax pmax
comp=Z,21nm,0.7s
SBA Scott Base 73.90 175 P **P** **22 06 04.7 +1.5**
SBA IAmb IAmb 22 06 16.0
comp=Z,60nm,1.1s
SBA Scott Base 73.90 175 P **P** **22 06 04.7 +1.5**
SBA pmax pmax
comp=Z,60nm,1.1s
BILL Bilibino 74.22 8 P **P** **22 06 05.8 +0.7**
BILL IAmb IAmb 22 06 25.7
comp=Z,73nm,1.6s
TAOE Nuku Hiva Isla 74.38 98 *e*PKIKP P 22 06 00.0 -7.4
comp=Z,103nm,23.2s
SDPT Sand Point 74.84 29 P **P** **22 06 10.0 +1.0**
baz=237
CHNA Chernabura Isl 74.99 30 P **P** **22 06 11.1 +1.2**
baz=238
MK31 Makanchi Array 75.29 321*ce*P **P** **22 06 12.3 +0.4**
MKAR Makanchi Array 75.29 321 P **P** **22 06 12.0 +0.1**
comp=Z,12nm,0.7s,baz=105,slow=6.9,SNR=118
MKAR S **S** **22 15 45.6 -0.3**
comp=Z,0.6nm,1.0s,baz=111,slow=12,SNR=3.8
MKAR LR LR 22 38 30.4
comp=Z,159nm,21.5s,baz=136,slow=35
comp=Z,12nm,0.7s
M11K Mekoryuk 75.32 23 P **P** **22 06 12.8 +1.1**
baz=231
MAKZ Makanchi 75.49 321 P **P** **22 06 13.2 +0.2**
MAKZ Makanchi 75.49 321 P **P** **22 06 13.2 +0.2**
MAKZ pmax pmax
comp=Z,48nm,1.2s
SHLS Shalkode 75.77 317 *e*P **P** **22 06 13.6 -1.2**
SHLS pmax pmax
comp=Z,29nm,1.5s
SHLS Shalkode 75.77 317 *e*P **P** **22 06 13.6 -1.2**
comp=Z,29nm,1.5s,baz=317
S14K Fog Glacier 75.78 28 P **P** **22 06 15.2 +0.7**
baz=238
UZB Uzynbulak 76.07 316 *e*P **P** **22 06 17.0 +0.5**
UZB pmax pmax
comp=Z,32nm,1.3s
UZB Uzynbulak 76.07 316 *e*P **P** **22 06 17.0 +0.5**
comp=Z,32nm,1.3s,baz=316
PRZ Przheval'sk 76.27 316 IAmb IAmb 22 06 39.1
comp=Z,95nm,1.2s
PRZ Przheval'sk 76.27 316 P **P** **22 06 19.2 +1.4**
PRZ pmax pmax
comp=Z,80nm,1.2s
CHGN Chignik 76.33 29 P **P** **22 06 18.5 +1.0**
baz=239
M13K Dall Lake 76.46 24 P **P** **22 06 19.9 +1.8**
baz=234
SATY Saty 76.46 316 *e*P **P** **22 06 19.3 +0.6**
SATY Saty 76.46 316 *e*P **P** **22 06 19.3 +0.6**
baz=316
ZHN Zhinishke 76.48 316 *e*P **P** **22 06 19.1 +0.3**
ZHN Zhinishke 76.48 316 *e*P **P** **22 06 19.1 +0.3**
baz=316
O14K Tigyukauivet M 76.64 25 P **P** **22 06 20.5 +1.2**
baz=236
N14K Kuskokwak Cree 76.85 25 P **P** **22 06 21.9 +1.6**
baz=235
ZAA0 Zalesovo Array 76.93 328 IAmb IAmb 22 06 21.8
comp=Z,29nm,0.8s
ZALV Zalesovo Beam 76.93 328 P **P** **22 06 20.5 -0.5**
comp=Z,33nm,0.7s,baz=110,slow=5.5,SNR=134
ZALV S **S** **22 16 00.3 -3.3**
comp=Z,0.3nm,0.3s,baz=132,slow=46,SNR=2.1
ZALV LR LR 22 38 54.5
comp=Z,558nm,21.9s,baz=134,slow=34
comp=Z,33nm,0.7s
TIXI Tiksi 77.04 355 P **P** **22 06 22.6 +1.4**
TIXI Tiksi 77.04 355*ce*P **P** **22 06 21.2 0.0**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
KSH Kashi 77.07 312 P **P** **22 06 24.5 +2.2**
KSH pP pP 22 06 42.0 +1.2
KSH PP **PP** **22 09 23.5 +6.8**
KSH S **S** **22 16 09.6 +3.6**
KSH sS sS 22 16 44.0 +6.6
KSH LR LR
comp=Z,620nm,16.8s
KSH LR LR
comp=Z,470nm,13.6s
KSH LR LR
comp=Z,780nm,21.3s
TDK Taldyqorghan 77.13 318 *e*P **P** **22 06 22.7 +0.4**
TDK pmax pmax
comp=Z,26nm,0.8s
TDK Taldyqorghan 77.13 318 *e*P **P** **22 06 22.8 +0.4**
comp=Z,26nm,0.8s,baz=318
M14K Bethel 77.21 24 P **P** **22 06 23.4 +1.1**
M14K IAmb IAmb 22 06 41.8
comp=Z,71nm,1.1s
M14K Bethel 77.21 24 P **P** **22 06 23.5 +1.1**
baz=235
O15K Unqaliktiuk R 77.22 26 P **P** **22 06 23.8 +1.3**
baz=237
L14K Kuka Creek 77.27 23 IAmb IAmb 22 06 50.0
comp=Z,42nm,1.1s
L14K Kuka Creek 77.27 23 P **P** **22 06 24.5 +1.8**
baz=234
MDOK Medeo 77.43 316 *e*P **P** **22 06 24.7 +0.5**
MDOK Medeo 77.43 316 *e*P **P** **22 06 24.8 +0.5**
baz=316
CHIR Chirikof Islan 77.45 30 P **P** **22 06 25.1 +1.2**
baz=242
TNSS Tian-Shan 77.46 316 *e*P **P** **22 06 25.0 +0.3**
TNSS Tian-Shan 77.46 316 *e*P **P** **22 06 25.0 +0.3**
baz=316
AAA Alma-Ata 77.54 316 *e*P **P** **22 06 25.1 +0.4**
AAA pmax pmax
comp=Z,34nm,0.9s
AAA Alma-Ata 77.54 316 *e*P **P** **22 06 25.1 +0.4**
comp=Z,34nm,0.9s,baz=316
NIL Nilore 77.58 306 P **P** **22 06 25.2 +0.2**
NIL IAmb IAmb 22 06 51.7
comp=Z,74nm,0.8s
NIL Nilore 77.58 306 P **P** **22 06 25.3 +0.2**
NIL pmax pmax
comp=Z,74nm,0.9s
N15K Kwethluk River 77.65 25 P **P** **22 06 25.7 +0.8**
baz=237
M15K Kasigluk River 77.69 24 P **P** **22 06 26.3 +1.2**
baz=236
CHKK Chushkaly 77.70 317 *e*P **P** **22 06 25.8 +0.3**
CHKK Chushkaly 77.70 317 *e*P **P** **22 06 25.8 +0.3**
baz=317
J14K Nanvaranak Lak 77.78 22 P **P** **22 06 26.9 +1.4**
baz=233
SEM Semipalatinsk 77.96 324 *e*P **P** **22 06 27.7 +0.6**
SEM pmax pmax
comp=Z,35nm,1.7s
SEM Semipalatinsk 77.96 324 *e*P **P** **22 06 27.8 +0.6**
comp=Z,35nm,1.7s,baz=324
TNA Tin City 78.09 18 P **P** **22 06 28.8 +1.6**
baz=228
KUU Kurty 78.16 317 *e*P **P** **22 06 28.1 0.0**
KUU pmax pmax
comp=Z,37nm,1.1s
KUU Kurty 78.16 317 *e*P **P** **22 06 28.1 0.0**
comp=Z,37nm,1.1s,baz=316
O16K Kokwok River B 78.19 26 P **P** **22 06 29.0 +1.2**
baz=239
ANM Nome 78.27 20 P **P** **22 06 29.3 +1.0**
baz=231
K15K Wolf Creek Mou 78.27 23 P **P** **22 06 28.9 +0.6**
K15K Wolf Creek Mou 78.27 23 P **P** **22 06 29.6 +1.3**
baz=235
KZA Kyzart 78.36 315 P **P** **22 06 30.9 +1.1**
SNR=16
TKM2 Tokmak 2 78.37 315 P **P** **22 06 29.5 0.0**
SNR=28
Q17K Contact Creek 78.51 28 P **P** **22 06 30.0 +0.2**
baz=241
SII Sitkinak Islan 78.51 30 P **P** **22 06 30.6 +0.9**
baz=243
F14K Arctic Creek 78.54 19 P **P** **22 06 30.5 +0.8**
baz=230
M16K Timber Creek 78.58 24 P **P** **22 06 30.6 +0.6**
baz=238
O17K Koliganek Bris 78.72 26 P **P** **22 06 31.7 +0.9**
baz=240
KBK Karagaybulak 78.74 315 P **P** **22 06 31.6 0.0**
SNR=7.5
L16K Owhat River 78.75 24 P **P** **22 06 32.0 +1.1**
baz=237
R18K Karluk 78.84 29 P **P** **22 06 32.3 +0.8**
baz=242
UCH Uchtor 78.92 315 P **P** **22 06 30.0 -2.9**
SNR=7.1
ARLS Aral 78.95 314 P **P** **22 06 33.9 +1.2**
ARLS pmax pmax
comp=Z,22nm,1.4s
CHMS Chumysh 78.98 315 P **P** **22 06 33.3 +0.7**
SNR=8.3
G15K Niukluk 78.98 20 P **P** **22 06 33.0 +0.9**
baz=232
KURK Kurchatov 79.04 324 P **P** **22 06 32.9 +0.2**
KURK IAmb IAmb 22 06 52.3
comp=Z,68nm,1.4s
KURK Kurchatov 79.04 324*ce*P **P** **22 06 32.0 -0.7**
KURK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 79.06 315 P **P** **22 06 30.0 -3.2**
SNR=6.2
AAK Ala-Archa 79.06 315 P **P** **22 06 33.5 +0.3**
AAK Ala-Archa 79.06 315*ce*P **P** **22 06 33.3 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 79.06 315 P **P** **22 06 33.1 -0.1**
comp=Z,6.5nm,0.7s,baz=131,slow=6.0,SNR=35
AAK LR LR 22 43 07.7
comp=Z,200nm,21.7s,baz=108,slow=37
comp=Z,6.5nm,0.7s
KURBB Kurchatov Arra 79.06 324 P **P** **22 06 33.0 +0.1**
comp=Z,8.0nm,0.8s,baz=113,slow=4.4,SNR=83
KURBB PP **PP** **22 09 32.6 -0.3**
comp=Z,2.1nm,0.8s,baz=127,slow=6.3,SNR=1.9
KURBB S **S** **22 16 24.9 -1.8**
comp=Z,0.1nm,0.5s,baz=312,slow=39,SNR=2.0
KURBB LR LR 22 42 46.6
comp=Z,196nm,19.3s,baz=169,slow=36
comp=Z,8.0nm,0.8s
N17K Nushagak Hills 79.06 25 P **P** **22 06 33.7 +1.0**
baz=239
Q18K Katmai Hardscr 79.10 27 P **P** **22 06 32.7 -0.3**
baz=242
J16K Anvik River 79.19 22 P **P** **22 06 33.6 +0.3**
baz=236
SGDS Sogindy 79.20 316 *e*P **P** **22 06 33.9 0.0**
SGDS Sogindy 79.20 316 *e*P **P** **22 06 34.0 0.0**
baz=316
F15K North Star Dit 79.23 19 P **P** **22 06 34.6 +1.1**
F15K North Star Dit 79.23 19 P **P** **22 06 33.3 -0.1**
baz=231
USP Ospenovka 79.24 316 P **P** **22 06 34.1 0.0**
SNR=23
OHAK Old Harbor 79.25 29 P **P** **22 06 33.7 0.0**
baz=243
P18K Big Mountain, 79.35 27 P **P** **22 06 33.7 -0.6**
baz=241
H16K Elim 79.38 20 P **P** **22 06 34.2 -0.1**
baz=234
M17K Holitna River 79.41 24 IAmb IAmb 22 07 03.4
comp=Z,51nm,1.0s
M17K Holitna River 79.41 24 P **P** **22 06 34.4 -0.1**
baz=239
L17K Donlin 79.45 24 P **P** **22 06 35.0 +0.3**
baz=238
AML Almayashu 79.48 314 P **P** **22 06 36.6 +0.8**
SNR=22
I17K Unalakleet 79.50 21 P **P** **22 06 35.4 +0.4**
baz=236,SNR=6.7
EKS2 Erkin-Say 79.57 315 P **P** **22 06 37.2 +1.2**
SNR=16
O18K Koktuh Hills 79.59 26 P **P** **22 06 35.6 +0.1**
baz=241
N18K Kilae Creek 79.69 25 P **P** **22 06 36.3 +0.2**
baz=240
K17K Iditarod 79.75 23 IAmb IAmb 22 07 05.5
comp=Z,83nm,1.2s
K17K Iditarod 79.75 23 P **P** **22 06 37.1 +0.7**
baz=238
G16K Koyuk River 79.79 20 P **P** **22 06 37.0 +0.5**
baz=234
KDAK Kodiak Island 79.84 29 P **P** **22 06 37.0 +0.1**
baz=244
KDAK Kodiak Island 79.84 29 P **P** **22 06 37.1 +0.2**
comp=Z,20nm,0.9s,baz=251,slow=4.9,SNR=8.0
KDAK LR LR 22 37 24.8
comp=Z,200nm,21.5s,baz=259,slow=32
comp=Z,20nm,0.9s
Q19K Cape Douglas, 79.86 28 P **P** **22 06 36.6 -0.5**
baz=243
SVW2 Sparrevohn 80.03 25 P **P** **22 06 38.9 +1.0**
SVW2 IAmb IAmb 22 07 07.0
comp=Z,94nm,1.4s
BTLS Baital 80.07 317 *e*P **P** **22 06 38.8 +0.3**
BTLS Baital 80.07 317 *e*P **P** **22 06 38.8 +0.3**
baz=317
M18K Stony River 80.12 25 P **P** **22 06 38.7 +0.3**
baz=240
L18K Granite Mounta 80.14 24 P **P** **22 06 39.4 +0.9**
baz=240
O19K Port Alsworth 80.14 26 P **P** **22 06 39.3 +0.8**
baz=242
Q20K Shuyak Island 80.29 28 P **P** **22 06 40.0 +0.6**
baz=244
N19K Bonanza Creek 80.36 26 IAmb IAmb 22 07 08.4
comp=Z,73nm,1.3s
N19K Bonanza Creek 80.36 26 P **P** **22 06 40.7 +0.8**
baz=242
H17K Granite Mounta 80.37 21 IAmb IAmb 22 07 00.4
comp=Z,76nm,1.4s
H17K Granite Mounta 80.37 21 P **P** **22 06 40.4 +0.7**
baz=236,SNR=7.7
P19K Oil Pt 80.38 27 P **P** **22 06 39.9 +0.1**
baz=243
G17K Kiwalik Mounta 80.43 20 P **P** **22 06 40.5 +0.5**
baz=235
C16K Lisburne Hills 80.64 17 P **P** **22 06 41.7 +0.7**
baz=230
J18K Innoko River 80.76 23 P **P** **22 06 42.1 +0.3**
J18K Innoko River 80.76 23 P **P** **22 06 42.1 +0.3**
baz=239
TTA Tatalina 80.77 23 P **P** **22 06 42.8 +0.9**
baz=240
F17K Baldwin Pennin 80.78 19 P **P** **22 06 42.2 +0.5**
baz=235
O20K Slope Mountain 80.84 27 P **P** **22 06 43.0 +0.6**
baz=244
L19K White Mountain 80.86 24 P **P** **22 06 43.4 +1.0**
L19K IAmb IAmb 22 07 08.0
comp=Z,81nm,1.5s
L19K White Mountain 80.86 24 P **P** **22 06 43.1 +0.7**
baz=241
M19K Big River Lodg 80.92 25 P **P** **22 06 43.0 +0.3**
baz=242
E17K Hotham Inlet 80.97 19 P **P** **22 06 43.4 +0.7**
baz=234
H18K Honhosa River 81.04 21 P **P** **22 06 43.6 +0.4**
H18K Honhosa River 81.04 21 P **P** **22 06 43.2 0.0**
baz=238
KBL Kabul 81.18 306 P **P** **22 06 45.1 +0.2**
KBL Kabul 81.18 306 P **P** **22 06 45.1 +0.2**
KBL pmax pmax
comp=Z,12nm,0.9s
RDOG Red Dog Mine 81.22 17 IAmb IAmb 22 07 13.0
comp=Z,41nm,0.8s
RDOG Red Dog Mine 81.22 17 P **P** **22 06 45.2 +1.1**
baz=233
G18K Tagagawik 81.34 20 P **P** **22 06 45.4 +0.6**
baz=237
GCSA Galena City Sc 81.36 22 P **P** **22 06 45.6 +0.7**
baz=239
DZA Taraz 81.37 315 *e*P **P** **22 06 46.2 +0.7**
DZA Taraz 81.37 315 *e*P **P** **22 06 46.2 +0.7**
baz=314
C17K DeLong Mountai 81.39 17 P **P** **22 06 45.6 +0.5**
baz=232
L20K Farewell, AK 81.41 24 P **P** **22 06 45.8 +0.6**
baz=242
M20K Styx River 81.44 25 P **P** **22 06 46.0 +0.5**
baz=243
J19K Poorman 81.45 23 P **P** **22 06 46.7 +1.3**
baz=240,SNR=5.5
N20K Mount Spurr 81.53 26 P **P** **22 06 46.6 +0.6**
baz=244
BRSE Bradley Lake S 81.55 27 P **P** **22 06 46.9 +0.9**
baz=245
E18K Tukpahlearik C 81.55 19 P **P** **22 06 46.7 +0.8**
baz=235
K20K Telida 81.74 23 P **P** **22 06 48.2 +1.1**
baz=242
CAPN Captain Cook N 81.80 26 P **P** **22 06 48.0 +0.7**
baz=245
H19K Roundabout Mou 81.92 21 IAmb IAmb 22 07 08.3
comp=Z,90nm,1.4s
H19K Roundabout Mou 81.92 21 P **P** **22 06 48.7 +0.8**
baz=239
G19K Purcell Mounta 82.02 20 IAmb IAmb 22 07 08.2
comp=Z,43nm,1.0s
G19K Purcell Mounta 82.02 20 P **P** **22 06 49.1 +0.8**
baz=239
C18K Utukok River 82.08 17 P **P** **22 06 49.5 +0.7**
baz=234
SIMJ Simiganj 82.08 310 P **P** **22 06 49.2 -0.3**
J20K Nowinta River 82.11 23 IAmb IAmb 22 07 09.5
comp=Z,57nm,1.2s
J20K Nowinta River 82.11 23 P **P** **22 06 49.6 +0.8**
baz=242
F19K Shaleruckik Mo 82.15 20 P **P** **22 06 50.0 +1.0**
baz=238
SKT Skwentna 82.16 25 P **P** **22 06 50.1 +0.9**
baz=244
SUA Susitna One 82.28 26 P **P** **22 06 50.3 +0.3**
baz=245
I20K Naaghedeneel 82.28 22 P **P** **22 06 50.1 +0.3**
baz=241
PPLA Purkeypile 82.29 24 P **P** **22 06 50.1 +0.1**
baz=244
SEW Seward 82.29 27 P **P** **22 06 50.0 +0.1**
baz=246
O22K Cooper Landing 82.32 27 P **P** **22 06 50.9 +0.9**
baz=246
B18K Kokolik River 82.33 17 P **P** **22 06 50.8 +0.9**
baz=234
BRZS Berezniki 82.40 322 *e*P **P** **22 06 50.9 +0.2**
BRZS Berezniki 82.40 322 *e*P **P** **22 06 50.9 +0.2**
baz=322
CHM Chimkent 82.47 314 *e*P **P** **22 06 52.0 +0.7**
CHM pmax pmax
comp=Z,42nm,1.4s
CHM Chimkent 82.47 314 *e*P **P** **22 06 52.0 +0.7**
comp=Z,42nm,1.4s,baz=314
H20K Anotleneega Mo 82.47 21 P **P** **22 06 51.4 +0.6**
baz=241
MAW Mawson 82.56 203 P **P** **22 06 51.6 +0.5**
comp=Z,13nm,0.6s,baz=122,slow=8.2,SNR=8.2
comp=Z,13nm,0.6s
RC01 Rabbit Creek A 82.56 26 IAmb IAmb 22 07 10.7
comp=Z,66nm,1.3s
RC01 Rabbit Creek A 82.56 26 P **P** **22 06 51.9 +0.5**
baz=246
CAST Castle Rocks 82.57 24 P **P** **22 06 51.8 +0.5**
baz=244
E19K Redstone River 82.66 19 IAmb IAmb 22 07 21.0
comp=Z,74nm,1.2s
E19K Redstone River 82.66 19 P **P** **22 06 52.1 +0.4**
baz=238
CHUM Lake Minchumin 82.68 23 P **P** **22 06 52.6 +0.7**
baz=243,SNR=16
C19K Lookout Ridge 82.82 17 IAmb IAmb 22 07 21.6
comp=Z,69nm,1.0s
C19K Lookout Ridge 82.82 17 P **P** **22 06 53.2 +0.6**
baz=236
CUT Chulitna 82.88 25 P **P** **22 06 53.4 +0.5**
baz=245
D19K Kuna River 82.93 18 IAmb IAmb 22 07 21.7
comp=Z,56nm,1.1s
D19K Kuna River 82.93 18 P **P** **22 06 53.9 +0.7**
baz=237
F20K Avaraart Lake 82.95 20 P **P** **22 06 54.1 +0.9**
baz=240
A19K Wainwright 83.03 16 P **P** **22 06 54.0 +0.5**
baz=234
PMR Palmer 83.03 26 P **P** **22 06 54.2 +0.5**
baz=246
KTH Kantishna Hill 83.09 24 P **P** **22 06 53.7 -0.5**
KTH IAmb IAmb 22 07 29.5
comp=Z,48nm,1.2s

IMAR Indian Mountai 83.12 21 P P 22 06 54.5 +0.4
P23K Montague Islan 83.20 28 P P 22 06 55.0 +0.4
baz=248
KNK Knik Glacier 83.26 26 P P 22 06 55.5 +0.5
KNK IAmb IAmb 22 07 55.1
comp=Z,53nm,1.3s
KNK Knik Glacier 83.26 26 P P 22 06 54.9 -0.1
baz=247
BPAW Bear Paw Mtn. 83.31 23 P P 22 06 54.6 -0.5
baz=244
H21K Melozitna Rive 83.31 22 P P 22 06 55.4 +0.3
H21K Melozitna Rive 83.31 22 P P 22 06 55.4 +0.3
baz=243
TRF Thorofare Moun 83.31 24 P P 22 06 55.6 +0.2
baz=245
I21K Tanana 83.40 22 IAmb IAmb 22 07 16.0
comp=Z,60nm,1.3s
I21K Tanana 83.40 22 P P 22 06 55.7 +0.2
baz=244
G21K Allakaket 83.46 21 P P 22 06 56.1 +0.3
baz=242
SML Sawmill 83.47 26 IAmb IAmb 22 07 16.3
comp=Z,63nm,1.1s
SML Sawmill 83.47 26 P P 22 06 56.2 +0.1
baz=247
D20K Etivluk River 83.52 18 P P 22 06 56.9 +0.7
baz=239
NRIK Noril'sk 83.53 342 IAmb IAmb 22 07 24.3
NRIK Noril'sk 83.53 342 *ceP P 22 06 54.6 -1.5
NRIK pmax pmax
comp=Z,31nm,0.8s
NRIK Noril'sk 83.53 342 P P 22 06 55.9 -0.2
comp=Z,29nm,0.8s,baz=114,slow=4.9,SNR=44
NRIK LR LR 22 44 40.6
comp=Z,266nm,18.3s,baz=132,slow=36
comp=Z,29nm,0.8s
M23K Glacier View 83.73 26 P P 22 06 57.6 +0.2
baz=248
WAT1 Susitna Watana 83.78 25 P P 22 06 57.3 -0.3
baz=247
F21K Alatna River 83.80 20 P P 22 06 57.8 +0.2
baz=242
MLY Manley 83.80 23 IAmb IAmb 22 07 25.9
comp=Z,42nm,1.0s
MLY Manley 83.80 23 P P 22 06 58.3 +0.6
baz=245,SNR=13
RND Reindeer 83.88 24 IAmb IAmb 22 07 25.3
comp=Z,53nm,1.0s
SCM Sheep Creek Mo 83.92 26 P P 22 06 58.9 +0.5
baz=248
H22K Ishtalitna Cre 83.94 22 P P 22 06 59.2 +0.9
baz=244
MCK McKinley 83.98 24 P P 22 06 58.2 -0.4
baz=246,SNR=11
WAT6 Susitna Watana 84.02 25 P P 22 06 58.7 -0.3
baz=248
B20K Meade River 84.03 17 IAmb IAmb 22 07 37.5
comp=Z,103nm,2.0s
B20K Meade River 84.03 17 P P 22 06 59.0 +0.4
baz=238
EYAK Cordova Ski Ar 84.17 28 P P 22 06 59.7 +0.2
baz=250
E21K Killik River 84.22 19 P P 22 07 00.1 +0.3
baz=241
NEA2 Nenana 84.27 23 IAmb IAmb 22 07 26.7
comp=Z,39nm,1.2s
NEA2 Nenana 84.27 23 P P 22 06 59.7 -0.3
baz=246,SNR=6.7
C21K Knifeblade Rid 84.31 18 P P 22 07 00.5 +0.4
baz=240
G22K Bettles 84.35 21 P P 22 07 01.1 +0.7
baz=244
DHY Denali Highway 84.37 25 IAmb IAmb 22 07 28.7
comp=Z,59nm,1.2s
DHY Denali Highway 84.37 25 P P 22 07 01.1 +0.3
baz=248,SNR=11
F22K John River 84.38 20 P P 22 07 01.2 +0.7
baz=243
I23K Minto, Yukon-K 84.38 23 IAmb IAmb 22 07 28.1
comp=Z,84nm,1.8s
I23K Minto, Yukon-K 84.38 23 P P 22 07 00.8 +0.2
baz=246,SNR=5.1
KLU Klutina 84.42 27 P P 22 07 01.0 0.0
baz=249
M24K Tolsona, Glenn 84.53 26 IAmb IAmb 22 07 21.7
comp=Z,58nm,1.1s
M24K Tolsona, Glenn 84.53 26 P P 22 07 01.8 +0.4
baz=249
B21K Ikpikpuk River 84.59 18 IAmb IAmb 22 07 30.1
comp=Z,32nm,0.9s
B21K Ikpikpuk River 84.59 18 P P 22 07 02.2 +0.7
baz=241
BVAR Borovoye Array 84.61 324 P P 22 07 02.1 +0.1
comp=Z,25nm,0.7s,baz=112,slow=7.1,SNR=146
BVAR S SKSac 22 17 14.9 -5.1
comp=Z,0.3nm,0.7s,baz=347,slow=24,SNR=1.8
BVAR LR LR 22 46 47.2
comp=Z,87nm,19.1s,baz=104,slow=37
comp=Z,25nm,0.7s
BRVK Borovoye 84.68 324 P P 22 07 02.5 +0.2
BRVK IAmb IAmb 22 07 33.3
comp=Z,48nm,1.0s
BRVK Borovoye 84.68 324 *i*P P 22 07 02.6 +0.2
BRVK pmax pmax
comp=Z,14nm,0.6s
MDM Murphy Dome 84.75 23 P P 22 07 01.7 -0.8
MDM IAmb IAmb 22 07 29.0
comp=Z,60nm,1.7s
G23K Bananza Creek 84.79 21 IAmb IAmb 22 07 40.4
comp=Z,37nm,1.2s
G23K Bananza Creek 84.79 21 P P 22 07 03.3 +0.6
baz=245
CCB Clear Creek Bu 84.79 23 IAmb IAmb 22 07 21.8
comp=Z,37nm,1.0s
BMRM Bremner River 84.84 27 P P 22 07 03.9 +0.9
baz=251
D22K Ayikyak River 84.84 19 IAmb IAmb 22 07 31.5
comp=Z,33nm,1.1s
D22K Ayikyak River 84.84 19 P P 22 07 03.5 +0.7
baz=242
COLA College 84.86 23 P P 22 07 02.3 -0.6
COLA IAmb IAmb 22 07 29.4
comp=Z,28nm,0.8s
COLA College 84.86 23 *i*P P 22 07 05.2 +2.3
COLA pmax pmax
comp=Z,9.0nm,1.3s
COLA College 84.86 23 P P 22 07 02.5 -0.4
baz=247
A21K Barrow 84.88 16 P P 22 07 03.1 +0.2
baz=238
COLD Coldfoot 84.94 21 P P 22 07 03.5 +0.1
baz=245,SNR=5.2
HDA Harding Lake 85.05 24 IAmb IAmb 22 07 35.6
comp=Z,106nm,2.0s
HDA Harding Lake 85.05 24 P P 22 07 04.2 +0.3
baz=248,SNR=7.9
N25K Chitina, Valde 85.06 27 P P 22 07 04.6 +0.4
baz=250
HARP HAARP 85.08 26 P P 22 07 04.1 0.0
baz=250
POKR Poker Plat Res 85.12 23 P P 22 07 04.0 -0.3
baz=248
PAX Paxson 85.14 25 P P 22 07 04.6 0.0
baz=250,SNR=6.6
QSPA South Pole Qui 85.15 180 P P 22 07 04.8 +0.2
QSPA South Pole Qui 85.15 180 P P 22 07 04.9 +0.3
comp=Z,124nm,0.9s,baz=331,slow=1.3,SNR=178
QSPA S SKSac 22 17 21.0 -2.3
comp=Z,1.6nm,0.2s,baz=133,slow=21,SNR=2.4
QSPA LR LR 22 45 52.7
comp=Z,400nm,18.5s,baz=5.5,slow=36
comp=Z,124nm,0.9s
A22K Sinclair Lake 85.18 17 P P 22 07 04.7 +0.3
baz=240
IL31 85.20 24 IAmb IAmb 22 07 22.9
comp=Z,44nm,1.2s
ILAR Eielson Array 85.20 24 P P 22 07 03.2 -1.5
comp=Z,14nm,0.7s,baz=252,slow=5.0,SNR=180
ILAR LR LR 22 39 03.4
comp=Z,162nm,21.6s,baz=248,slow=31
comp=Z,14nm,0.7s
H24K Noodor Dome 85.23 22 IAmb IAmb 22 07 39.6
comp=Z,42nm,1.4s
H24K Noodor Dome 85.23 22 P P 22 07 05.0 +0.1
baz=247
K24K Donnelly Dome 85.30 25 P P 22 07 05.2 -0.1
baz=249

B22K Teshekpuk Lake 85.30 17 IAmb IAmb 22 07 32.2
comp=Z,42nm,1.1s
B22K Teshekpuk Lake 85.30 17 P P 22 07 05.4 +0.3
baz=242
GLB Gilahina Butte 85.36 27 P P 22 07 06.0 +0.4
GLB IAmb IAmb 22 07 26.7
comp=Z,42nm,1.3s
E23K Chandalar 85.50 20 P P 22 07 06.2 0.0
baz=245
RIDG Independent Ri 85.67 25 P P 22 07 07.0 -0.1
baz=250
G24K Hadweenzic Riv 85.71 22 P P 22 07 07.8 +0.6
baz=248
J25K Salcha River, 85.76 24 IAmb IAmb 22 07 37.1
comp=Z,33nm,0.8s
J25K Salcha River, 85.76 24 P P 22 07 07.2 -0.4
baz=250
F24K Squaw Lake 85.88 21 IAmb IAmb 22 07 36.6
comp=Z,40nm,1.1s
F24K Squaw Lake 85.88 21 P P 22 07 08.2 +0.1
baz=247
E24K Your Creek 85.89 20 P P 22 07 08.1 0.0
baz=246
C23K Itkillik River 85.93 18 IAmb IAmb 22 07 32.7
comp=Z,47nm,0.9s
C23K Itkillik River 85.93 18 P P 22 07 08.4 +0.3
baz=244
PRP Porcupine Dome 86.01 23 P P 22 07 09.7 +0.8
baz=249
M26K Nabesna, AK 86.03 26 P P 22 07 09.1 +0.2
baz=252
L26K Log Cabin Wild 86.07 26 IAmb IAmb 22 07 36.9
comp=Z,32nm,1.2s
L26K Log Cabin Wild 86.07 26 P P 22 07 09.5 +0.4
baz=252,SNR=5.1
SCRK Sand Creek 86.11 25 P P 22 07 09.5 +0.2
baz=251
D24K Happy Valley 86.22 19 P P 22 07 10.3 +0.7
baz=246
BARN Barnard Glacie 86.23 28 IAmb IAmb 22 07 38.3
comp=Z,60nm,1.3s
G25K Bearman Lake 86.24 22 P P 22 07 10.8 +1.1
baz=249
CTG Chitna Glacier 86.35 28 P P 22 07 10.7 +0.1
baz=254
J26L Joseph Creek 86.45 24 IAmb IAmb 22 07 38.7
comp=Z,26nm,1.1s
J26L Joseph Creek 86.45 24 P P 22 07 11.3 +0.3
baz=251,SNR=12
C24K Franklin Bluff 86.48 19 P P 22 07 11.6 +0.7
baz=246
M27K Edge Creek, AK 86.51 27 IAmb IAmb 22 07 39.5
comp=Z,36nm,1.0s
M27K Edge Creek, AK 86.51 27 P P 22 07 11.7 +0.3
baz=253
PINM Pinnacle 86.63 29 P P 22 07 12.4 +0.5
baz=254
HRA Herat 86.68 305 IAmb IAmb 22 07 39.9
comp=Z,30nm,0.9s
F25K Christian Rive 86.71 21 P P 22 07 13.1 +0.9
baz=249
L27K Beaver Creek, 86.74 26 IAmb IAmb 22 07 33.2
comp=Z,45nm,1.2s
L27K Beaver Creek, 86.74 26 P P 22 07 12.5 +0.1
baz=253
BCAR Beaver Creek A 86.76 26 P P 22 07 12.8 +0.3
I26K Coal Creek Min 86.88 24 P P 22 07 13.7 +0.8
baz=252
E25K Arctic Village 86.92 21 IAmb IAmb 22 07 36.8
comp=Z,34nm,1.4s
E25K Arctic Village 86.92 21 P P 22 07 13.7 +0.6
baz=249,SNR=6.6
K27K Chicken 86.92 25 IAmb IAmb 22 07 34.5
comp=Z,42nm,1.1s
K27K Chicken 86.92 25 P P 22 07 14.0 +0.8
baz=253
PNL Peninsula 86.93 29 P P 22 07 14.5 +1.2
baz=255
BVCY Beaver Creek 86.98 27 P P 22 07 13.9 +0.3
baz=254
YUK3 Moose Creek 86.99 27 P P 22 07 14.3 +0.4
baz=254
D25K Kavik River 87.08 19 IAmb IAmb 22 07 34.6
comp=Z,41nm,1.1s
D25K Kavik River 87.08 19 P P 22 07 14.5 +0.5
baz=248
G26K Porcupine Rive 87.17 22 P P 22 07 14.9 +0.6
baz=251
YUK8 Steele Glacier 87.17 28 P P 22 07 14.9 +0.1
baz=255
F26K Sheenjek River 87.28 21 P P 22 07 15.8 +0.9
baz=251
O29M Mount Kennedy 87.49 29 IAmb IAmb 22 07 44.6
comp=Z,66nm,1.2s
O29M Mount Kennedy 87.49 29 P P 22 07 17.3 +1.1
baz=256
EGAK Eagle 87.52 24 P P 22 07 16.4 +0.3
baz=253,SNR=7.5
I27K Kandik River 87.58 23 P P 22 07 16.9 +0.4
baz=253
YUK4 Talbot Arm 87.71 28 P P 22 07 18.8 +1.5
baz=256,SNR=5.1
P29M Windy Craggy 87.74 30 P P 22 07 17.5 +0.2
baz=257
YUK6 Outpost Mounta 87.75 28 P P 22 07 17.9 +0.3
baz=256
C26K Camden Bay 87.78 19 P P 22 07 18.0 +0.8
baz=250
H27K Steamboat Moun 87.80 23 P P 22 07 18.5 +1.1
baz=253
G27K Dyson Strip 87.92 22 P P 22 07 18.8 +0.8
baz=253
M29M Somme Creek 88.07 27 IAmb IAmb 22 07 47.1
comp=Z,37nm,1.1s
M29M Somme Creek 88.07 27 P P 22 07 19.6 +0.7
baz=256
DAWY Dawson 88.07 25 P P 22 07 19.1 +0.4
baz=255,SNR=12
HYT Haines Junctio 88.13 29 IAmb IAmb 22 07 48.1
comp=Z,43nm,1.0s
HYT Haines Junctio 88.13 29 P P 22 07 20.3 +1.1
baz=257,SNR=5.7
S31K Pelican 88.14 32 P P 22 07 20.0 +1.0
baz=258
I28M Miner Creek 88.21 24 P P 22 07 20.4 +1.0
baz=254
P30M Million Dollar 88.23 29 P P 22 07 20.3 +0.6
baz=257
E27K Coleen River 88.35 21 IAmb IAmb 22 07 41.3
comp=Z,37nm,1.1s
E27K Coleen River 88.35 21 P P 22 07 20.8 +0.8
baz=253
L29M L29M 88.38 26 P P 22 07 21.2 +1.0
baz=256
SIT Sitka 88.43 33 P P 22 07 20.9 +0.4
baz=259
N30M Aishikik Lake 88.47 28 P P 22 07 20.8 +0.1
baz=257
WSAR Wadi Sarin 88.50 293 P P 22 07 21.8 +0.2
comp=Z,2.6nm,0.8s,baz=97,slow=2.7,SNR=2.0
comp=Z,2.6nm,0.8s
O30N Mendenhall 88.79 29 IAmb IAmb 22 07 50.3
comp=Z,58nm,1.4s
O30N Mendenhall 88.79 29 P P 22 07 22.3 +0.1
baz=258
F28M Old Crow 88.81 22 P P 22 07 22.2 +0.1
baz=254,SNR=7.3
K29M Barlow Dome 88.81 26 IAmb IAmb 22 07 57.8
comp=Z,47nm,1.1s
K29M Barlow Dome 88.81 26 P P 22 07 22.6 +0.3
baz=257
I29M Ogilvie Camp, 88.84 24 IAmb IAmb 22 07 57.3
comp=Z,48nm,1.4s
I29M Ogilvie Camp, 88.84 24 P P 22 07 22.8 +0.4
baz=256
M30M Minto, Yukon 88.85 27 P P 22 07 22.7 +0.3
M30M IAmb IAmb 22 07 50.7
comp=Z,33nm,1.3s
M30M Minto, Yukon 88.85 27 P P 22 07 22.8 +0.3
baz=257
D27M Malcolm River 88.88 20 P P 22 07 23.0 +0.6
baz=254
SKAG Skagway 88.90 30 P P 22 07 23.4 +0.7
baz=259
S32K Killisnoo 88.91 32 P P 22 07 23.0 +0.2
baz=259
H29M Whitestone 89.03 23 P P 22 07 23.8 +0.6
baz=256

N31M Braeburn, Yuko 89.09 28 P P 22 07 24.0 +0.4
baz=258
E28M Babbage River 89.20 21 IAmb IAmb 22 07 47.2
comp=Z,33nm,1.4s
E28M Babbage River 89.20 21 P P 22 07 24.0 0.0
baz=255
G29M Pine Creek 89.33 23 P P 22 07 24.8 +0.2
baz=256
WHY Whitehorse 89.35 29 P P 22 07 25.6 +0.6
baz=259
CRAG Craig 89.36 34 P P 22 07 25.4 +0.5
baz=261
MAYO Mayo, Yukon 89.47 26 P P 22 07 25.8 +0.5
baz=258
J30M Hart River 89.48 25 IAmb IAmb 22 07 53.8
comp=Z,39nm,1.3s
J30M Hart River 89.48 25 P P 22 07 25.8 +0.3
baz=258,SNR=16
I30M Mount Dempster 89.60 24 P P 22 07 26.1 0.0
baz=258
EPYK Eagle Plains 89.71 23 IAmb IAmb 22 08 04.0
comp=Z,45nm,1.1s
EPYK Eagle Plains 89.71 23 P P 22 07 26.9 +0.4
baz=257,SNR=6.4
E29M Blow River 89.73 21 IAmb IAmb 22 07 50.8
comp=Z,42nm,1.8s
E29M Blow River 89.73 21 P P 22 07 26.3 -0.1
baz=256
P32M Atlin 89.73 30 P P 22 07 26.7 0.0
baz=260
M31M Drury Creek, Y 89.87 28 P P 22 07 27.0 -0.2
baz=260
WRAK Wrangell Islan 89.94 33 P P 22 07 27.5 0.0
baz=261
G30M tAoh Zraii Nji 90.04 23 IAmb IAmb 22 07 48.6
comp=Z,32nm,1.1s
G30M tAoh Zraii Nji 90.04 23 P P 22 07 27.7 -0.3
baz=258
V35K Ketchikan 90.19 35 P P 22 07 28.0 -0.8
baz=262
P33M Teslin, Yukon 90.28 30 P P 22 07 28.8 -0.5
baz=261
N32M Quiet Lake 90.31 29 P P 22 07 29.3 0.0
baz=261
F30M Barrier River 90.33 22 P P 22 07 28.8 -0.5
baz=258
FARO Faro, Yukon 90.36 28 P P 22 07 29.6 +0.1
baz=260
Q32M Nakina River 90.36 31 P P 22 07 30.3 +0.4
baz=261
GEYT Alibeck 90.42 308 P P 22 07 29.9 -0.5
comp=Z,1.6nm,0.7s,baz=280,slow=28,SNR=2.8
GEYT LR LR 22 49 54.5
comp=Z,210nm,21.9s,baz=104,slow=37
comp=Z,1.6nm,0.7s
H31M Peel River 90.55 24 IAmb IAmb 22 08 15.7
comp=Z,22nm,1.1s
H31M Peel River 90.55 24 P P 22 07 30.2 -0.1
baz=260
G31M Satah River 90.78 23 IAmb IAmb 22 07 55.6
comp=Z,24nm,1.1s
G31M Satah River 90.78 23 P P 22 07 31.2 -0.1
baz=260,SNR=8.7
S34M Telegraph Cree 90.81 32 P P 22 07 31.7 0.0
baz=262
F31M Tsiigehtchic 91.07 22 P P 22 07 32.9 +0.2
baz=260
R33M Jennings River 91.09 31 P P 22 07 32.9 -0.2
baz=262
INK Inuvik 91.30 22 IAmb IAmb 22 07 53.4
comp=Z,20nm,1.1s
INK Inuvik 91.30 22 P P 22 07 35.5 +1.8
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 91.30 22 P P 22 07 33.6 -0.1
baz=260
INK Inuvik 91.30 22 LR LR 22 47 27.4
comp=Z,232nm,18.4s,baz=194,slow=35
DLBC Dease Lake 91.45 32 P P 22 07 34.8 0.0
baz=263
DLBC Dease Lake 91.45 32 LR LR 22 43 27.7
comp=Z,237nm,19.1s,baz=262,slow=32
AKTO Aktyubinsk 91.71 320 P P 22 07 34.7 -1.3
comp=Z,2.7nm,0.7s,baz=90,slow=5.9,SNR=9.0
comp=Z,2.7nm,0.7s
BBB Bella Bella 91.88 38 LR LR 22 41 15.8
comp=Z,318nm,20.6s,baz=252,slow=30
ARU Arti 91.97 326 P P 22 07 35.3 -1.8
ARU IAmb IAmb 22 07 55.6
comp=Z,17nm,1.1s
ARU Arti 91.97 326 *d*iP P 22 07 35.5 -1.6
ARU *PP pP 22 07 53.9 -2.1
ARU 22 11 15.0
ARU S SKSac 22 18 02.7 -1.3
ARU SP SP 22 19 40.5 -2.5
ARU Arti 91.97 326 P P 22 07 35.5 -1.6
comp=Z,2.3nm,0.6s,baz=149,slow=2.8,SNR=6.7
ARU LR LR 22 50 27.8
comp=Z,161nm,19.5s,baz=105,slow=36
comp=Z,2.3nm,0.6s
WTLY Watson Lake, Y 92.26 30 P P 22 07 38.7 +0.3
baz=264
ELIB Princess Elisa 94.80 195 *d*P P 22 07 50.5 +0.5
comp=Z,23nm,1.1s
ELIB *dp*P pP 22 08 08.5 -0.5
ELIB *ds*P sP 22 08 14.8 -1.6
YBH Yreka Blue Hor 94.92 49 LR LR 22 44 00.1
comp=Z,540nm,20.2s,baz=283,slow=31
WRGLY Wrigley 94.98 27 P P 22 07 50.7 0.0
baz=269
GNW Green Mountain 95.02 43 P P 22 07 52.4 +1.1
GNW IAmb IAmb 22 08 12.1
comp=Z,34nm,1.6s
AFDM Forest Hills D 96.17 51 IAmb IAmb 22 08 16.9
comp=Z,22nm,1.7s
PINE Pine Mountain 96.27 47 IAmb IAmb 22 09 16.6
comp=Z,31nm,1.6s
MPK Martis Peak 96.91 51 IAmb IAmb 22 08 20.7
comp=Z,20nm,1.4s
KIRV Kirov 96.97 328 LR LR 22 51 56.5
comp=Z,402nm,21.6s,baz=90,slow=36
PKM Mcpherson Peak 97.02 56 P P 22 08 00.1 -0.9
baz=269
E07A Sunnyside 97.04 44 IAmb IAmb 22 08 21.1
comp=Z,35nm,1.6s
HAWA Hanford 97.27 44 P Pdif 22 08 02.3 +0.7
HAWA IAmb IAmb 22 08 22.8
comp=Z,14nm,1.2s
PAHR Pah Rah Range 97.41 51 IAmb IAmb 22 09 33.6
comp=Z,22nm,1.8s
WVOR Wild Horse Val 97.96 48 P P 22 08 04.9 0.0
WVOR pmax pmax
comp=Z,5.0nm,1.1s
ISA Isabella, Lake 98.12 55 P P 22 08 05.0 -0.8
baz=270
CIS Catalina Islan 98.16 57 P P 22 08 05.3 -0.6
baz=270
NVAR Mina Array Bea 98.25 52 P P 22 08 06.2 -0.3
comp=Z,1.5nm,0.7s,baz=257,slow=5.7,SNR=11
NVAR PP PP 22 12 05.2 -1.7
comp=Z,0.9nm,0.9s,baz=268,slow=5.4,SNR=2.5
NVAR PKKPbc PKKPbc 22 24 40.2 +1.1
comp=Z,0.3nm,0.7s,baz=76,slow=3.8,SNR=2.2
NVAR LR LR 22 44 51.4
comp=Z,544nm,21.5s,baz=277,slow=31
comp=Z,1.5nm,0.7s
BELG Belogornoye 98.26 322 *i*P P 22 08 03.5 -2.3
BELG pmax pmax
comp=Z,8.0nm,1.1s
BELG Belogornoye 98.26 322 P P 22 08 04.9 -0.9
comp=Z,4.5nm,0.8s,baz=193,slow=5.4,SNR=3.9
BELG LR LR 22 53 36.5
comp=Z,190nm,21.8s,baz=104,slow=36
comp=Z,4.5nm,0.8s
FMP Fort Macarthur 98.27 57 P P 22 08 05.9 -0.5
baz=270
CWC Cottonwood Cre 98.44 54 P Pdif 22 08 08.0 +0.7
baz=270
EDW2 Edwards Air Fo 98.52 56 P Pdif 22 08 08.1 +0.6
baz=270
LRMC Laurel Mtn Rad 98.77 55 P Pdif 22 08 09.7 +0.9
baz=270
BFSC Mount Baldy Ra 98.80 56 P Pdif 22 08 09.8 +0.9
baz=270
NEW Newport 98.85 42 LR LR 22 45 33.6
comp=Z,199nm,20.3s,baz=266,slow=31
F10A Beach Ranch, E 98.88 44 IAmb IAmb 22 08 29.2
comp=Z,34nm,1.8s

YKA	**Yellowknife Ar**	**99.07**	**28**	*i* P	**Pdif**		**22 08 08.8**	**-0.5**
YKA	comp=Z,1.0nm,0.6s			pmax	pmax			
YKA	**Yellowknife Ar**	**99.07**	**28**	P	**Pdif**		**22 08 08.5**	**-0.8**
YKA	comp=Z,0.7nm,0.6s,baz=280,slow=5.2,SNR=18			PP	**PP**		**22 12 10.7**	**-1.4**
YKA	comp=Z,1.0nm,1.1s,baz=271,slow=6.1,SNR=3.7			PKKPbc	**PKKPbc**		**22 24 34.4**	**-3.1**
YKA	comp=Z,0.5nm,0.7s,baz=95,slow=2.9,SNR=9.7			LR	LR		22 47 02.8	
TROLL	comp=Z,181nm,20.0s,baz=250,slow=32 comp=Z,0.7nm,0.6s **Troll, Antarti**	**99.57**	**191**	⇑Pdiff	**Pdif**		**22 08 11.4**	**-0.2**
PFO	comp=Z,376nm,1.1s **Pinyon Flats O**	**99.80**	**57**	P	**Pdif**		**22 08 13.9**	**+0.5**
PFO	baz=271 **Pinyon Flats O**	**99.80**	**57**	LR	LR		22 45 30.8	
TPFO	comp=Z,387nm,21.0s,baz=274,slow=31 **Pinon Flats**	**99.80**	**57**	P	**Pdif**		**22 08 14.1**	**+0.8**
MONP2	baz=271 **Monument Peak**	**99.84**	**58**	P	**Pdif**		**22 08 14.2**	**+0.5**
TPNV	baz=271 **Topopah Spring**	**99.91**	**53**	P	**Pdif**		**22 08 13.7**	**-0.1**
SHOC	baz=272 **Shoshone, Teco**	**99.91**	**55**	P	**Pdif**		**22 08 14.4**	**+0.7**
IKP	baz=271 **In-Ko-Pah, Jac**	**100.10**	**58**	P	**Pdif**		**22 08 15.7**	**+1.0**
BELC	baz=271 **Belle Mtn. Jos**	**100.17**	**56**	P	**Pdif**		**22 08 15.6**	**+0.5**
TUQ	baz=271 **Turquoise Moun**	**100.21**	**55**	P	**Pdif**		**22 08 15.7**	**+0.5**
SWSC	baz=271 **Sam W. Stewart**	**100.36**	**58**	P	**Pdif**		**22 08 16.7**	**+1.0**
R11B	baz=271 **Troy Canyon, C**	**100.39**	**52**	P	**Pdif**		**22 08 16.6**	**+0.7**
GMRC	baz=272 **Granite Mounta**	**100.44**	**56**	P	**Pdif**		**22 08 16.9**	**+0.7**
BC3	baz=271 **Big Chuckawall**	**100.64**	**57**	P	**Pdif**		**22 08 17.4**	**+0.3**
SNAA	baz=271 **Sanae**	**100.82**	**190**	P	**Pdif**		**22 08 16.4**	**-0.6**
SNAA	comp=Z,2.3nm,0.9s,baz=174,slow=1.7,SNR=4.9			PP	**PP**		**22 12 24.5**	**-0.4**
IRM	comp=Z,9.9nm,1.0s,baz=153,slow=11,SNR=8.4 **Iron Mountain**	**100.88**	**56**	P	**Pdif**		**22 08 18.6**	**+0.6**
GNI	baz=272 **Garni**	**100.88**	**310**	PKiKP	**PKiKP**		**22 12 42.0**	**-1.5**
HLID	comp=Z,7.9nm,0.7s,baz=302,slow=3.0,SNR=8.0 **Hailey**	**101.01**	**47**	P	**Pdif**		**22 08 18.9**	**+0.3**
MSO	baz=274 **Missoula**	**101.09**	**43**	P	**Pdif**		**22 08 19.3**	**+0.5**
SPR3	baz=275 **Spring Creek 3**	**101.34**	**51**	Pdif	**Pdif**		**22 08 20.9**	**+0.6**
KLMR	**Klimovskoe**	**101.68**	**331**	*e*P	**Pdif**		**22 08 17.0**	**-3.9**
KLMR	comp=Z,26nm,1.8s			pmax	pmax			
KLMR	comp=Z,393nm,19.0s			MLR	MLR			
BOZ	**Bozeman (W)**	**102.81**	**44**	P	**Pdif**		**22 08 27.0**	**+0.4**
214A	baz=276 **Organ Pipe Nat**	**102.91**	**58**	P	**Pdif**		**22 08 27.6**	**+0.5**
H17A	baz=272 **Grant Village**	**103.69**	**46**	P	**Pdif**		**22 08 30.8**	**+0.2**
EGMT	baz=277 **Eagleton**	**103.78**	**42**	P	**Pdif**		**22 08 31.0**	**+0.3**
WUAZ	baz=278 **Wupatki**	**103.91**	**55**	P	**Pdif**		**22 08 32.0**	**+0.3**
ARCES	baz=274 **ARCESS Array B**	**104.49**	**342**	Pdiff	**Pdif**		**22 08 31.8**	**-1.5**
RLMT	comp=Z,3.7nm,0.7s,baz=67,slow=6.7,SNR=5.3 **Red Lodge**	**104.52**	**45**	P	**Pdif**		**22 08 35.0**	**+0.8**
TUC	baz=278 **Tucson**	**104.61**	**58**	P	**Pdif**		**22 08 34.7**	**-0.1**
BW06	baz=274 **Boulder Array**	**104.62**	**47**	P	**Pdif**		**22 08 34.4**	**-0.3**
PDAR	baz=277 **Pinedale Array**	**104.62**	**47**	Pdiff	**Pdif**		**22 08 34.0**	**-0.7**
MVCO	comp=Z,0.7nm,0.7s,baz=258,slow=2.9,SNR=5.6 **Mesa Verde**	**106.07**	**53**	P	**PKiKP**		**22 12 53.3**	**+0.2**
S22A	baz=276 **4UR Ranch, Cre**	**107.33**	**52**	P	**PKiKP**		**22 12 55.1**	**-0.5**
FINES	baz=278 **FINESS Array B**	**107.71**	**334**	Pdiff	**Pdif**		**22 08 45.8**	**-1.9**
TXAR	comp=Z,2.9nm,0.9s,baz=158,slow=21,SNR=1.9 **Lajitas Array**	**110.97**	**61**	PKiKP	**PKiKP**		**22 13 01.7**	**-0.7**
TXAR	comp=Z,0.7nm,1.2s,baz=352,slow=1.4,SNR=2.0			PKKPbc	**PKKPbc**		**22 23 59.0**	**-1.3**
TXAR	comp=Z,0.2nm,0.6s,baz=111,slow=4.9,SNR=3.9			PKKPab	**PKKPab**		**22 24 10.8**	**+0.8**
HFS	comp=Z,1.5nm,0.7s,baz=115,slow=6.6,SNR=17 **Hagfors**	**113.64**	**336**	PKKPbc	PKKPbc		22 23 49.6	-2.7
NOA	comp=Z,3.2nm,0.8s,baz=198,slow=4.2,SNR=4.7 **NORSAR Array B**	**114.08**	**337**	PKKPbc	PKKPbc		22 23 48.5	-2.4
KOLS	comp=Z,1.1nm,0.7s,baz=56,slow=3.3,SNR=3.5 **Kolonicke sedl**	**114.67**	**322**	*e*PP	**PP**		**22 14 07.1**	**+0.3**
VYHS	**Vyhne**	**116.93**	**323**	*e*PKiKP	**PKiKP**		**22 13 13.2**	**+0.1**
VYHS				*e*			22 14 20.1	
VYHS	**Vyhne**	**116.93**	**323**	*e*PKP	**PKiKP**		**22 13 13.2**	**+0.1**
VYHS				*e*PP	**PP**		**22 14 20.1**	**-2.5**
KRLC	**Kraliky**	**117.42**	**325**	*e*PKP	**sPKiKP**		**22 13 39.1**	**-1.8**
KRLC				*ex*	x		22 13 47.8	
OSTC	**Ostas**	**117.51**	**326**	*e*PKP	sPKiKP		22 13 39.3	-1.8
DPC	**Dobruska-Polom**	**117.55**	**326**	*e*PKP	**sPKiKP**		**22 13 40.0**	**-1.2**
DPC				*ex*	x		22 13 47.5	
PRU	**Pruhonice**	**118.72**	**326**	*e*PKP	sPKiKP		22 13 41.2	-2.2
CONA	**Conrad Observa**	**118.96**	**323**	*e*PKiKP	**PKiKP**		**22 13 18.4**	**+1.2**
ZVC	comp=Z,0.8nm,0.5s **Zvikov**	**119.19**	**325**	*e*PKP	sPKiKP		22 13 43.0	-1.4
CKRC	**Cesky Krumlov**	**119.44**	**325**	*e*PKP	PKiKP		22 13 28.4	+10
CKRC				*ex*	x		22 13 41.4	
ARSA	**Arzberg**	**119.48**	**323**	*e*PKiKP	**PKiKP**		**22 13 19.6**	**+1.5**
KHC	comp=Z,1.1nm,0.4s **Kasperske Hory**	**119.70**	**325**	*e*PKP	PKiKP		22 13 28.2	+10
KHC				*ex*	x		22 13 43.6	
GERES	**GERESS Array B**	**119.77**	**325**	PKP	**PKPdf**		**22 13 17.6**	**-1.0**
GERES	comp=Z,0.6nm,0.6s,baz=29,slow=3.0,SNR=2.9			PKKPbc	**PKKPbc**		**22 23 29.8**	**-0.7**
L44A	comp=Z,0.9nm,0.7s,baz=298,slow=2.1,SNR=3.3 **Lake County Fo**	**120.19**	**43**	P	**PKiKP**		**22 13 19.6**	**0.0**
OBKA	baz=293 **Obir**	**120.42**	**322**	*e*PKiKP	**PKiKP**		**22 13 21.2**	**+1.2**
KBA	comp=Z,0.6nm,0.6s **Koelnbreinsper**	**120.86**	**323**	*e*PKiKP	**PKiKP**		**22 13 21.2**	**+0.1**
LESA	comp=Z,0.8nm,0.6s **Schwarzleotal**	**121.08**	**324**	*e*PKP	**PKPdf**		**22 13 20.6**	**-0.7**
SFIN	comp=Z,0.5nm,0.3s **Lafayette**	**121.46**	**45**	P	**PKiKP**		**22 13 22.1**	**0.0**
ABTA	baz=293 **Abfaltersbach**	**121.52**	**323**	*e*PKP	**PKPdf**		**22 13 21.3**	**-0.8**
WATA	comp=Z,1.2nm,0.6s **Walderalm**	**121.77**	**324**	*e*PKP	**PKPdf**		**22 13 22.2**	**-0.4**
WTTA	comp=Z,0.9nm,0.5s **Wattenberg**	**121.77**	**324**	*i* PKP	**PKPdf**		**22 13 22.4**	**-0.2**
CIMO	comp=Z,0.6nm,0.3s **Cimolais**	**121.79**	**323**		**PKiKP**		**22 13 23.1**	**+0.4**
MOTA	**Moosalm**	**122.04**	**325**	*e*PKP	**PKPdf**		**22 13 22.8**	**-0.4**
SQTA	comp=Z,1.2nm,0.6s **Sankt Quirin**	**122.04**	**324**	*e*PKP	**PKPdf**		**22 13 22.6**	**-0.5**
FETA	comp=Z,1.0nm,0.4s **Feichten**	**122.43**	**324**	*i* PKP	**PKPdf**		**22 13 23.8**	**-0.1**
DAVA	comp=Z,0.7nm,0.6s **Damuels**	**122.77**	**325**	*e*PKP	**PKPdf**		**22 13 24.5**	**-0.1**
EKA	comp=Z,0.9nm,0.2s **Eskdalemuir Ar**	**123.49**	**339**	PKP	**PKPdf**		**22 13 23.8**	**-1.6**
EKA	comp=Z,2.1nm,0.8s,baz=34,slow=3.3,SNR=1.4			PKKPbc	**PKKPab**		**22 23 13.6**	**-0.9**
TUE	comp=Z,2.5nm,0.6s,baz=224,slow=3.0,SNR=4.5 **Stuetta**	**123.52**	**325**	PKPdf	**PKPdf**		**22 13 25.9**	**-0.2**
SCHQ	**Schefferville**	**123.92**	**22**	PKP	**PKPdf**		**22 13 25.4**	**-1.0**
SCHQ	comp=Z,1.6nm,0.9s,baz=233,slow=5.1,SNR=1.6			PKKPbc	**PKKPab**		**22 23 12.5**	**-0.1**
LRAL	comp=Z,0.8nm,0.5s,baz=108,slow=3.2,SNR=3.7 **Lakeview Retre**	**124.14**	**53**	P	**PKPdf**		**22 13 27.1**	**-0.2**
PLCA	baz=289 **Paso Flores**	**124.22**	**148**	PKP	**PKPdf**		**22 13 26.9**	**-0.6**
ACSO	comp=Z,1.1nm,0.6s,baz=164,slow=8.0,SNR=2.3 **Alum Creek Sta**	**124.39**	**44**	P	**PKPdf**		**22 13 27.8**	**+0.1**
M53A	baz=296 **WI Miller and**	**125.38**	**41**	P	**PKiKP**		**22 13 29.8**	**-0.1**
ERPA	baz=299 **Erie**	**125.49**	**40**	P	**PKiKP**		**22 13 30.0**	**-0.1**
TZTN	baz=300 **Tazewell**	**125.53**	**48**	P	**PKPdf**		**22 13 30.0**	**0.0**
TIGA	baz=294 **Tifton**	**127.39**	**54**	P	**PKPdf**		**22 13 33.3**	**-0.3**
NHSC	baz=290 **New Hope**	**129.45**	**50**	P	**PKPdf**		**22 13 37.4**	**-0.1**
	baz=294							
L61B	**Northampton**	**129.80**	**36**	P	**PKPdf**		**22 13 37.6**	**-0.3**
PKME	baz=308 **Peaks-Kenny Pk**	**129.85**	**31**	P	**PKPdf**		**22 13 38.2**	**+0.2**
PAL	baz=313 **Palisades**	**129.92**	**38**	P	**PKPdf**		**22 13 38.5**	**+0.3**
DWPF	baz=306 **Disney Wildern**	**130.26**	**57**	P	**PKPdf**		**22 13 39.2**	**0.0**
ESDC	baz=289 **Sonseca Array**	**135.36**	**325**	PKP	**PKiKP**		**22 13 49.8**	**-0.3**
CPUP	comp=Z,0.6nm,1.0s,baz=20,slow=2.7,SNR=2.1 **Villa Florida**	**142.26**	**146**		**PKPdf**		**22 14 00.3**	**-1.2**
CPUP	**Villa Florida**	**142.26**	**146**	PKIKP	**PKPdf**		**22 14 00.3**	**-1.2**
CPUP	**Villa Florida**	**142.26**	**146**	PKhKP	PKPpre		22 13 56.6	
TORD	comp=Z,3.8nm,0.9s,baz=333,slow=2.1,SNR=4.7 **Torodi Ar. Bea**	**142.81**	**285**	PKhKP	PKPpre		22 13 58.4	
ITAB	comp=Z,1.5nm,0.7s,baz=65,slow=4.2,SNR=10.0 **Concordia**	**144.12**	**154**		**PKPab**		**22 14 02.6**	**+0.2**
SDV	**Santo Domingo**	**144.46**	**81**	PKPdf	**PKPab**		**22 14 03.4**	**-0.9**
ETMB	**Extrema**	**145.72**	**115**		**PKPbc**		**22 14 08.1**	**-0.2**
SIV	**San Ignacio**	**146.98**	**129**	PKPbc	**PKPdf**		**22 14 10.9**	**+0.9**
BAUV	comp=Z,21nm,0.6s,baz=226,slow=3.3,SNR=54 **El Baul**	**147.00**	**81**	PKPdf	**PKPdf**		**22 14 10.5**	**+0.5**
PTLB	**Pontes e Lacer**	**148.79**	**131**	PKPdf	**PKPdf**		**22 14 13.8**	**+0.9**
SAML	**Samuel**	**148.80**	**116**	PKPdf	**PKPdf**		**22 14 13.7**	**+0.7**
SAML	**Samuel**	**148.80**	**116**	PKIKP	**PKPdf**		**22 14 13.7**	**+0.7**
VILB	**Vilhena**	**149.41**	**125**		**PKPbc**		**22 14 18.1**	**-0.3**
KIC	**Kosan Boka**	**149.79**	**274**	*e*PKP2	**PKiKP**		**22 14 20.2**	**-0.2**
DBIC	comp=Z,20nm,0.7s **Dimbokro**	**149.90**	**275**	PKPbc	**PKPbc**		**22 14 19.9**	**+0.2**
TIC	comp=Z,9.5nm,0.5s,baz=98,slow=2.7,SNR=27 **Toumodi**	**150.06**	**275**	*e*PKP2	**PKiKP**		**22 14 21.8**	**+0.8**
LIC	comp=Z,165nm,0.5s **Lamto**	**150.08**	**274**	*e*PKP2	**PKPbc**		**22 14 20.4**	**+0.3**
BDFB	comp=Z,44nm,0.7s **Brasilia**	**155.97**	**148**	PKPbc	PKPdf		22 14 33.2	+10
	comp=Z,3.5nm,0.6s,baz=163,slow=2.9,SNR=6.6							

TEH ***14*** *21:56:50.7, 33.˚76N×45.˚73E, h10km≥31km, ML2.8*
ISN ***14*** *21:56:51.2±0.6, 33.˚73N×45.˚72E, h10km≥3km, ML2.8*

ISC 14 21:56:51.3±1.0, 33.77N±0.˚04×45.72E±0.˚04, h10km, n12, σ0s57/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ILBA	**Ilam Banvizeh**	**0.43**	**109**	Pg		**Pg**	**21 56 59.0**	**-0.8**
ILBA				Sg		**Sg**	**21 57 05.8**	**+0.3**
IBDR	**Badra**	**0.68**	**165**	*e*Pg		**Pg**	**21 57 04.0**	**-0.4**
IBDR				*e*Sg		**Sg**	**21 57 13.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.75**	**352**	Pg		**Pg**	**21 57 05.5**	**-0.3**
IGHG	**Ghaleghazi**	**0.90**	**51**	Pg		**Pg**	**21 57 08.7**	**0.0**
IDHR	**Dehrash**	**1.08**	**30**	Pg		**Pg**	**21 57 11.4**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.21**	**65**	Pg		**Pb**	**21 57 14.0**	**-0.4**
BHD	**Baghdad**	**1.22**	**247**	*e*Pg		**Pg**	**21 57 14.5**	**-0.4**
BHD				*e*Sg		**Sn**	**21 57 31.0**	**-0.1**
IKOM	**Komasi**	**1.54**	**74**	Pg		**Pb**	**21 57 20.1**	**0.0**
ILIN	**Lien**	**1.54**	**41**	Pg		**Pb**	**21 57 20.0**	**-0.2**
IKFM	**Kafar-mosalman**	**1.79**	**97**	Pg		**Pb**	**21 57 24.2**	**0.0**
RAFI	**Al-Rafai**	**2.06**	**171**	*e*Pn		**Pn**	**21 57 27.0**	**+1.0**
RAFI				*e*Sn		**Sb**	**21 57 54.0**	**-0.5**
HSAM	**Samen**	**2.44**	**79**	Pn		**Pn**	**21 57 32.4**	**+1.0**

JMA ***14*** *22:08:38.3±0.1, 23.˚8N±0.˚2×121.˚9E±0.˚5, h10km≥2km, MV3.1/14, TAIWAN REGION*
ASIES ***14*** *22:08:38.8, 23.˚84N×121.˚82E, h21km, ML3.9, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr5.52; Mθθ-0.91; Mφφ-3.19; Mrθ-0.37; Mθφ-1.92; Mφr1.07; Fault plane solution: M05.06796×10²¹ NP1:φ=20.80000°, δ50.02000°, λ78.70000°. NP2:φ=218.09000°, δ41.29000°, λ103.16000°. Principal axes: T Plg80.2820°, Azm235.5880°; N Plg8.6400°, Azm28.1260°; P Plg4.4140°, Azm118.7980°;*
TAP ***14*** *22:08:38.8, 23.˚84N×121.˚82E, h21km, ML3.9, C*

ISC 14 22:08:38.9±0.9, 23.82N±0.˚02×121.84E±0.˚02, h21km≥1km, n176, σ0s80/276, 19C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SHUL	**Shoufeng**	**0.26**	**263**	⇓*i*P		**Pb**	**22 08 45.0**	**-0.2**
SHUL	baz=264			*i* S		**Sb**	**22 08 49.9**	**+0.4**
HWA	**Hwalien**	**0.27**	**306**	⇓*i*P		**Pb**	**22 08 44.6**	**-0.6**
HWA	baz=301			*i* S		**Sb**	**22 08 49.5**	**-0.1**
TEGC	**Jichi Village**	**0.30**	**248**	⇓P		**Pb**	**22 08 45.8**	**+0.2**
TEGC	baz=243			S		**Sb**	**22 08 51.5**	**+1.3**
TWD	**Chiawan**	**0.34**	**319**	⇓*i*P		**Pb**	**22 08 45.6**	**-0.7**
TWD	baz=321			*i* S		**Sb**	**22 08 50.4**	**-0.8**
ETM	**Tongmen**	**0.35**	**295**	⇓*i*P		**Pb**	**22 08 45.5**	**-0.8**
ETM	baz=294			S		**Sb**	**22 08 50.8**	**-0.6**
ESL	**Shilin**	**0.37**	**269**	*e*P		**Pb**	**22 08 46.1**	**-0.7**
ESL	baz=266			*i* S		**Sb**	**22 08 51.6**	**-0.5**
ETL	**Fush Village**	**0.39**	**330**	⇓P		**Pb**	**22 08 46.5**	**-0.6**
ETL	baz=324			*i* S		**Sb**	**22 08 52.5**	**-0.2**
EGFH	**Guangfu**	**0.41**	**249**	P		**Pb**	**22 08 47.2**	**-0.1**
EGFH	baz=245			S		**Sb**	**22 08 53.2**	**+0.2**
NACB	**Ninganchiao**	**0.42**	**328**	P		**Pb**	**22 08 46.7**	**-0.8**
NACB	**Ninganchiao**	**0.42**	**328**	⇓*i*P		**Pb**	**22 08 46.8**	**-0.8**
NACB	baz=329			*i* S		**Sb**	**22 08 52.5**	**-0.9**
WARBT	**Fenglin Townsh**	**0.43**	**257**	⇓*i*P		**Pb**	**22 08 47.1**	**-0.6**
WARBT	baz=247			*i* S		**Sb**	**22 08 52.8**	**-0.9**
LXIB	**Xiulin Townshi**	**0.44**	**297**	⇓*i*P		**Pb**	**22 08 47.1**	**-0.9**
LXIB	baz=297			*e*S		**Sb**	**22 08 53.0**	**-1.2**
EHP	**Heping Village**	**0.50**	**350**	*e*P		**Pb**	**22 08 48.8**	**-0.2**
EHP	baz=352			*e*S		**Sn**	**22 08 56.9**	**-1.9**
HGSD	**Ruisui**	**0.50**	**230**	P		**Pb**	**22 08 49.4**	**+0.3**
ETLH	baz=219 **Xiulin Townshi**	**0.51**	**320**	⇓*i*P		**Pb**	**22 08 48.3**	**-0.9**
ETLH	baz=324			S		**Sb**	**22 08 55.6**	**-0.6**
EAHA	**Aohua**	**0.52**	**350**	⇓P		**Pb**	**22 08 49.0**	**-0.3**
EAHA	baz=352			S		**Sb**	**22 08 56.8**	**+0.4**
EOS4	**EOS4**	**0.53**	**55**	⇓P		**Pb**	**22 08 50.0**	**+0.6**
EOS4	baz=58			*e*S		**Sn**	**22 08 58.1**	**-1.0**
EHY	**Hungye**	**0.57**	**237**	P		**Pb**	**22 08 49.9**	**-0.4**
EHY	baz=248			S		**Sb**	**22 08 58.2**	**+0.3**
ECBN	**Changbin**	**0.61**	**216**	*e*P		**Pb**	**22 08 50.6**	**-0.5**
ECBN	baz=200			*e*S		**Sb**	**22 08 59.3**	**0.0**
ENA	baz=200 **Nanau**	**0.61**	**352**	⇑*i*P		**Pb**	**22 08 50.8**	**-0.3**
ENA	baz=353			*i* S		**Sb**	**22 08 59.7**	**+0.3**
WHF	**Hehuan Shan**	**0.62**	**302**	⇓P		**Pb**	**22 08 50.3**	**-1.1**
WHF	baz=290			S		**Sb**	**22 08 59.4**	**-0.5**
OWD	**Renai**	**0.62**	**283**	P		**Pb**	**22 08 50.5**	**-0.8**
OWD	baz=291			*e*S		**Sb**	**22 08 59.2**	**-0.5**
EWUT	baz=291 **Wuta**	**0.63**	**355**	⇑P		**Pb**	**22 08 51.1**	**-0.2**
EWUT	baz=356			S		**Sn**	**22 09 00.6**	**-1.4**
EOS3	**EOS3**	**0.64**	**43**	*e*P		**Pn**	**22 08 52.0**	**-0.6**
VWDT	baz=40 **VWDT**	**0.64**	**264**	⇑P		**Pb**	**22 08 51.2**	**-0.3**
VWDT	baz=263			*i* S		**Sb**	**22 09 00.1**	**-0.1**
YULB	**Yu-li**	**0.65**	**230**	P		**Pb**	**22 08 51.4**	**-0.3**
YULB	**Yu-li**	**0.65**	**230**	⇑*i*P		**Pb**	**22 08 51.3**	**-0.4**
YULB	baz=221			S		**Sb**	**22 08 59.9**	**-0.5**
CHGB	baz=221 **Renai**	**0.66**	**292**	⇓*i*P		**Pb**	**22 08 51.2**	**-0.6**
CHGB	baz=291			*i* S		**Sb**	**22 09 00.2**	**-0.6**
EYUL	baz=291 **Yuli**	**0.67**	**226**	*e*P		**Pb**	**22 08 52.1**	**+0.2**
TWF1	baz=217 **Yuli**	**0.68**	**227**	⇑*i*P		**Pb**	**22 08 51.8**	**-0.3**
TWF1	baz=216			*e*S		**Sb**	**22 09 02.1**	**+0.9**
WUSB	baz=216 **Renai**	**0.68**	**285**	⇓P		**Pb**	**22 08 51.6**	**-0.7**
WUSB	baz=293			S		**Sb**	**22 09 00.8**	**-0.6**
FUSS	baz=293 **Fushou**	**0.69**	**308**	⇓*i*P		**Pb**	**22 08 52.0**	**-0.5**
FUSS	baz=308			*i* S		**Sb**	**22 09 01.6**	**-0.2**
EOS2	baz=308 **EOS2**	**0.70**	**31**	*e*P		**Pn**	**22 08 53.0**	**-0.4**
NNSB	baz=25 **Datong**	**0.74**	**326**	⇓*i*P		**Pb**	**22 08 52.6**	**-0.5**
NNSB	baz=326			S		**Sb**	**22 09 01.9**	**-0.9**
CHKH	baz=326 **Chenggong**	**0.74**	**213**	*e*P		**Pb**	**22 08 53.3**	**+0.1**
TWT	baz=211 **Tachien**	**0.75**	**306**	⇓*i*P		**Pb**	**22 08 53.1**	**-0.2**
TWT	baz=295			*i* S		**Sb**	**22 09 03.4**	**+0.2**
ESAO	baz=295 **Su ao**	**0.75**	**0**	⇑P		**Pb**	**22 08 53.4**	**0.0**
ESAO	baz=1.0			S		**Sn**	**22 09 03.8**	**-1.3**
TDCB	baz=1.0 **Techi**	**0.76**	**305**	⇓*i*P		**Pb**	**22 08 53.1**	**-0.4**
TDCB	baz=297			*i* S		**Sb**	**22 09 03.3**	**-0.2**
LATG	baz=297 **Datong**	**0.77**	**338**	⇓*i*P		**Pb**	**22 08 53.3**	**-0.4**
LATG	baz=328			*i* S		**Sb**	**22 09 03.8**	**0.0**
TWC	baz=328 **Suao**	**0.79**	**1**	⇑*i*P		**Pb**	**22 08 54.0**	**+0.1**
TWC	baz=2.0			*i* S		**Sn**	**22 09 04.9**	**-1.0**
FULB	baz=2.0 **Fuli**	**0.80**	**219**	*e*P		**Pb**	**22 08 53.9**	**-0.2**
FULB	baz=204			*e*S		**Sn**	**22 09 06.8**	**+0.6**
SSLB	baz=204 **Suanglung**	**0.81**	**268**	P		**Pb**	**22 08 54.0**	**-0.4**
SSLB	**Suanglung**	**0.81**	**268**	P		**Pb**	**22 08 53.8**	**-0.6**
SSLB	baz=266			*i* S		**Sb**	**22 09 03.9**	**-1.0**
NDS	baz=266 **Dongshan**	**0.82**	**352**	*e*P		**Pb**	**22 08 54.4**	**0.0**
WPL	baz=353 **Puli Township**	**0.83**	**284**	P		**Pb**	**22 08 54.4**	**-0.3**
NDT	baz=283 **Datong Townshi**	**0.84**	**339**	P		**Pb**	**22 08 54.6**	**-0.1**
NDT	baz=349			S		**Sn**	**22 09 05.8**	**-1.4**
CHKT	baz=349 **Chengkung**	**0.84**	**211**	*e*P		**Pb**	**22 08 53.6**	**-1.1**
ENTT	baz=195 **Nioudou**	**0.85**	**343**	⇑*i*P		**Pb**	**22 08 54.8**	**-0.3**
ENTT	baz=353			S		**Sb**	**22 09 06.2**	**+0.1**
DPDB	baz=353 **Guoxing**	**0.86**	**285**	*e*P		**Pb**	**22 08 55.0**	**-0.3**
DPDB	baz=284			*e*S		**Sb**	**22 09 06.5**	**+0.1**
SMLT	baz=284 **Sun Moon Lake**	**0.86**	**274**	P		**Pb**	**22 08 54.9**	**-0.4**
SMLT	baz=280			S		**Sb**	**22 09 06.2**	**-0.3**
WCS	baz=280 **Beigang Elemen**	**0.88**	**286**	*e*P		**Pb**	**22 08 55.2**	**-0.3**
EHD	baz=294 **Haiduan**	**0.89**	**221**	*e*P		**Pb**	**22 08 55.1**	**-0.5**
TYC	baz=220 **Yuchr**	**0.90**	**276**	⇓P		**Pb**	**22 08 55.4**	**-0.5**
TYC	baz=282			S		**Sb**	**22 09 06.7**	**-0.8**
TWE	baz=282 **Neicheng**	**0.91**	**350**	⇑*i*P		**Pb**	**22 08 55.8**	**-0.3**
TWE	baz=352			S		**Sn**	**22 09 08.6**	**-0.4**
WHYT	baz=352 **Xinyi Township**	**0.91**	**263**	*e*P		**Pb**	**22 08 56.0**	**-0.1**
WHYT	baz=261			S		**Sn**	**22 09 08.0**	**-1.0**
ECS	baz=261 **Chishang**	**0.92**	**219**	*e*P		**Pb**	**22 08 55.9**	**-0.2**
WHP	baz=217 **Taichung City**	**0.94**	**299**	⇓*i*P		**Pn**	**22 08 56.4**	**-0.6**
WHP	baz=293			*e*S		**Sb**	**22 09 07.7**	**-0.9**
YHNB	baz=293 **Yeheng**	**0.95**	**334**	P		**Pn**	**22 08 56.5**	**-0.6**
YHNB	**Yeheng**	**0.95**	**334**	⇑*i*P		**Pb**	**22 08 56.2**	**-0.5**
YHNB	baz=335			S		**Sb**	**22 09 08.4**	**-0.5**
NSK	baz=335 **Sanguang**	**0.96**	**333**	⇑*i*P		**Pb**	**22 08 56.5**	**-0.5**
NSK	baz=334			*i* S		**Sb**	**22 09 08.8**	**-0.4**
FUSB	baz=334 **Fushanzhiwuyua**	**0.96**	**346**	⇑*i*P		**Pb**	**22 08 56.6**	**-0.4**
FUSB	baz=347			*i* S		**Sn**	**22 09 09.7**	**-0.8**
EDH	baz=347 **Donghe**	**0.98**	**210**	*e*P		**Pb**	**22 08 54.1**	**-3.0**
ELDTW	baz=196 **Lidau**	**0.98**	**230**	*e*P		**Pb**	**22 08 56.0**	**-1.3**
ALS	baz=228 **Alishan**	**1.00**	**252**	⇑*i*P		**Pb**	**22 08 57.5**	**-0.1**
ALS	baz=250			*i* S		**Sn**	**22 09 10.8**	**-0.7**
NWLT	baz=250 **Wulai**	**1.00**	**342**	*e*P		**Pb**	**22 08 57.3**	**-0.3**
NWLT	baz=334			*e*S		**Sn**	**22 09 10.5**	**-0.8**
WJS	baz=334 **Zhushan**	**1.02**	**270**	*e*P		**Pn**	**22 08 58.1**	**+0.1**
WJS	baz=272			*e*S		**Sn**	**22 09 12.7**	**+1.0**
EGS	baz=272	**1.02**	**5**	P		**Pn**	**22 08 58.4**	**+0.4**
EGS				*e*S		**Sn**	**22 09 12.9**	**+1.1**
NFF	**Wufeng Townshi**	**1.04**	**321**	*e*P		**Pn**	**22 08 58.3**

	baz=308								
LONT	**Longtian**	**1.12 216**	*e*P	**Pn**	**22 08 59.4**	**0.0**			
	baz=215								
NJD	**Zhudong**	**1.14 323**	*e*P	**Pb**	**22 09 02.2**	**+2.3**			
	baz=324								
TIPB	**Shuangxi**	**1.15 359**	*e*P	**Pb**	**22 09 00.1**	**0.0**			
	baz=12								
TIPB			S	**Sn**	**22 09 15.3**	**+0.4**			
	baz=12								
NSY	**Sanyi**	**1.15 301**	*e*P	**Pb**	**22 09 00.5**	**+0.3**			
	baz=302								
NSY			*e*S	**Sn**	**22 09 15.6**	**+0.6**			
	baz=302								
WYL	**Yuanlin Townsh**	**1.16 277**	*e*P	**Pb**	**22 09 00.2**	**-0.1**			
	baz=276								
WYL			*e*S	**Sn**	**22 09 16.7**	**+1.5**			
	baz=276								
STYH	**Taoyuan**	**1.17 237**	*e*P	**Pn**	**22 08 59.8**	**-0.2**			
	baz=234								
STYH			*e*S	**Sn**	**22 09 16.4**	**+1.0**			
	baz=234								
NHDH	**Xindian Distri**	**1.18 346**	*e*P	**Pb**	**22 09 00.3**	**-0.2**			
	baz=334								
NHDH			*e*S	**Sb**	**22 09 14.8**	**-0.6**			
	baz=334								
WGK	**Gukeng**	**1.18 264**	*e*P	**Pn**	**22 08 59.1**	**-1.1**			
	baz=262								
TWA	**Mucha**	**1.18 349**	*e*P	**Pb**	**22 09 00.2**	**-0.5**			
	baz=336								
TWA			*e*S	**Sn**	**22 09 15.7**	**0.0**			
	baz=336								
STYT	**Tauyuan**	**1.19 237**	*e*P	**Pn**	**22 09 00.2**	**-0.1**			
	baz=234								
STYT			*e*S	**Sn**	**22 09 16.2**	**+0.2**			
	baz=234								
JYNG	**Yonagunijimaku**	**1.19 58**	P	**Pn**	**22 09 00.3**	**-0.1**			
JYNG			S	**Sn**	**22 09 16.2**	**+0.3**			
LDUT	**Ludao**	**1.19 197**	*e*P	**Pn**	**22 08 58.0**	**-2.3**			
	baz=196								
TWB1	**Santiao Chiao**	**1.19 6**	*e*P	**Pb**	**22 09 01.3**	**+0.5**			
	baz=8.0								
TWB1			*e*S	**Sn**	**22 09 16.4**	**+0.4**			
	baz=8.0								
WCKO	**Fanlu**	**1.19 252**	*e*P	**Pb**	**22 09 01.3**	**+0.4**			
	baz=250								
NMLH	**Miaoli**	**1.20 307**	P	**Pb**	**22 09 01.5**	**+0.6**			
	baz=308								
NMLH			*e*S	**Sn**	**22 09 16.9**	**+0.9**			
	baz=308								
TATO	**Taipei**	**1.20 344**	P	**Pb**	**22 09 01.1**	**+0.2**			
WDLH	**Douliu**	**1.20 264**	*e*P	**Pb**	**22 09 01.3**	**+0.3**			
	baz=262								
WCHH	**Zhanghua**	**1.20 283**	*e*P	**Pb**	**22 09 01.3**	**+0.3**			
	baz=281								
WCHH			*e*S	**Sn**	**22 09 18.6**	**+2.4**			
	baz=281								
TWGBT	**Beinan**	**1.22 215**	P	**Pn**	**22 09 00.2**	**-0.5**			
TWGBT	**Beinan**	**1.22 215**	*e*P	**Pn**	**22 08 59.5**	**-1.2**			
	baz=214								
WDJ	**Dajia District**	**1.22 296**	*e*P	**Pb**	**22 09 01.3**	**0.0**			
	baz=296								
WDJ			*e*S	**Sn**	**22 09 17.9**	**+1.4**			
	baz=296								
TWG	**Pinlang**	**1.22 216**	*e*P	**Pn**	**22 08 59.5**	**-1.2**			
	baz=214								
TPUB	**Ta-pu**	**1.23 245**	P	**Pb**	**22 09 01.6**	**+0.2**			
TPUB	**Ta-pu**	**1.23 245** ⇑	P	**Pb**	**22 09 01.3**	**-0.1**			
	baz=234								
TPUB			S	**Sn**	**22 09 16.9**	**+0.2**			
	baz=234								
CHN4	**Tsaushan**	**1.23 248** ⇑	P	**Pb**	**22 09 01.5**	**0.0**			
	baz=245								
CHN4			*e*S	**Sb**	**22 09 19.2**	**+2.2**			
	baz=245								
NJN	**Zhunan**	**1.23 314**	*e*P	**Pb**	**22 09 01.0**	**-0.5**			
	baz=315								
SBCB	**Hsinchu**	**1.24 321**	*e*P	**Pb**	**22 09 01.8**	**+0.1**			
	baz=323								
SBCB			*e*S	**Sb**	**22 09 18.8**	**+1.5**			
	baz=323								
YOJ	**Yonaguni jima**	**1.25 59**	P	**Pb**	**22 09 01.5**	**-0.3**			
YOJ			S	**Sb**	**22 09 17.4**	**+0.1**			
NWF	**Wu-fen Shan**	**1.25 358**	P	**Pb**	**22 09 01.7**	**-0.2**			
	baz=343								
NWF			S	**Sb**	**22 09 19.1**	**+1.6**			
	baz=343								
WFSB	**Wu-fen Shan**	**1.25 358** ⇑	P	**Pb**	**22 09 02.1**	**+0.3**			
	baz=344								
WFSB			S	**Sb**	**22 09 18.1**	**+0.7**			
	baz=344								
TAP	**Taipei**	**1.25 346**	*e*P	**Pn**	**22 09 00.5**	**-0.7**			
	baz=348								
TAP			*e*S	**Sb**	**22 09 18.3**	**+0.8**			
	baz=348								
HSN	**Hsinchu**	**1.26 321**	*e*P	**Pb**	**22 09 01.4**	**-0.6**			
	baz=325								
HSN			*e*S	**Sb**	**22 09 18.9**	**+1.1**			
	baz=325								
WTP	**Ta-pu**	**1.26 243**	P	**Pb**	**22 09 01.6**	**-0.4**			
	baz=240								
WTP			*e*S	**Sb**	**22 09 19.2**	**+1.3**			
	baz=240								
SXI1	**Grass Mountain**	**1.27 1**	P	**Pb**	**22 09 02.4**	**+0.1**			
	baz=18								
SXI1			S	**Sb**	**22 09 20.4**	**+2.2**			
	baz=18								
NTY	**Taoyuan**	**1.28 337**	*e*P	**Pb**	**22 09 01.9**	**-0.4**			
	baz=339								
CHN2	**Minshiung**	**1.28 257**	*e*P	**Pb**	**22 09 02.2**	**-0.1**			
	baz=255								
CHN2			*e*S	**Sb**	**22 09 18.8**	**+0.4**			
	baz=255								
NCUH	**Zhongli**	**1.29 333**	*e*P	**Pb**	**22 09 02.6**	**+0.1**			
	baz=335								
NCUH			*e*S	**Sb**	**22 09 20.4**	**+1.7**			
	baz=335								
NCU	**National Centr**	**1.29 333**	*e*P	**Pb**	**22 09 01.8**	**-0.7**			
	baz=335								
NCU			*e*S	**Sb**	**22 09 19.6**	**+0.9**			
	baz=335								
TNOU	**National Taiwa**	**1.33 357**	*e*P	**Pb**	**22 09 03.5**	**+0.3**			
	baz=346								
TNOU			S	**Sb**	**22 09 21.0**	**+1.3**			
	baz=346								
TWS1	**Kuangyinshan**	**1.33 343**	*e*P	**Pb**	**22 09 02.9**	**-0.3**			
	baz=346								
TWS1			*e*S	**Sb**	**22 09 19.9**	**+0.1**			
	baz=346								
WTK	**Tuku**	**1.34 265**	*e*P	**Pb**	**22 09 02.6**	**-0.7**			
	baz=263								
CHY	**Chiayi**	**1.34 256**	*e*P	**Pb**	**22 09 02.7**	**-0.6**			
	baz=254								
WRL	**Guolierlin Hig**	**1.34 274**	*e*P	**Pb**	**22 09 02.8**	**-0.5**			
	baz=272								
YM01	**YM01**	**1.34 350**	*e*P	**Pb**	**22 09 02.7**	**-0.7**			
	baz=351								
TWK	**Hsinying**	**1.36 246** ⇑	*e*P	**Pb**	**22 09 03.4**	**-0.3**			
	baz=243								
TWK			*e*S	**Sb**	**22 09 21.6**	**+1.0**			
	baz=243								
RLNB	**Erlin**	**1.36 273**	P	**Pb**	**22 09 03.7**	**0.0**			
	baz=271								
RLNB			S	**Sb**	**22 09 21.8**	**+1.2**			
	baz=271								
CHN1	**Nanshi**	**1.36 243**	P	**Pb**	**22 09 03.5**	**-0.2**			
	baz=240								
CHN1			*e*S	**Sb**	**22 09 22.2**	**+1.6**			
	baz=240								
SGST	**Jiashian**	**1.37 238**	P	**Pn**	**22 09 02.9**	**+0.1**			
	baz=234								
SGST			*e*S	**Sb**	**22 09 21.4**	**+0.6**			
	baz=234								
SNST	**Tainan City**	**1.37 244**	*e*P	**Pb**	**22 09 03.9**	**0.0**			
	baz=241								
SNST			*e*S	**Sb**	**22 09 22.0**	**+1.1**			
	baz=241								
SLGT	**Liugui**	**1.37 233**	*e*P	**Pb**	**22 09 03.8**	**-0.1**			
	baz=231								
YM08	**YM08**	**1.38 351**	*e*P	**Pn**	**22 09 02.7**	**-0.3**			
	baz=334								
NHW	**Xinwu Township**	**1.39 329**	*e*P	**Pb**	**22 09 03.7**	**-0.4**			
	baz=329								
NTST	**Danshui**	**1.39 345**	*e*P	**Pb**	**22 09 03.2**	**-0.9**			
	baz=347								
ANP	**Anpu**	**1.39 348**	*e*P	**Pb**	**22 09 04.1**	**-0.2**			
	baz=349								
ECL	**Taimali**	**1.46 214**	*e*P	**Pn**	**22 09 03.9**	**-0.2**			
	baz=213								
TWY	**Chenhua**	**1.47 351**	*e*P	**Pb**	**22 09 05.5**	**0.0**			
	baz=336								
WSF	**Szhu**	**1.49 263**	*e*P	**Pb**	**22 09 05.9**	**-0.1**			
	baz=260								
WSF			*e*S	**Sb**	**22 09 24.2**	**-0.2**			
	baz=260								
ICHU	**Yijhu**	**1.50 253**	*e*P	**Pb**	**22 09 05.9**	**-0.2**			
	baz=249								
ICHU			*e*S	**Sb**	**22 09 26.7**	**+2.0**			
	baz=249								
WSL	**Shuilin Townsh**	**1.51 259**	*e*P	**Pb**	**22 09 05.6**	**-0.5**			
	baz=256								
SSD	**Sandimen**	**1.54 226**	*e*P	**Pn**	**22 09 05.8**	**+0.7**			
	baz=217								
SSD			S	**Sb**	**22 09 26.6**	**+0.8**			
	baz=217								
CHN3	**Shinhua**	**1.54 242**	*e*P	**Pb**	**22 09 06.0**	**-0.8**			
	baz=239								
SCST	**Cishan**	**1.55 233**	*e*P	**Pb**	**22 09 06.8**	**-0.1**			
	baz=217								
TSMG	**Majia**	**1.56 225**	*e*P	**Pb**	**22 09 07.3**	**+0.2**			
	baz=213								
CHN8	**Yiju**	**1.57 253**	*e*P	**Pb**	**22 09 06.2**	**-1.0**			
	baz=249								
CHN8			S	**Sb**	**22 09 27.2**	**+0.6**			
	baz=249								
SSHA	**Shanhua**	**1.58 245**	*e*P	**Pn**	**22 09 05.7**	**0.0**			
	baz=242								
SHHT	**Tainan City**	**1.58 240**	*e*P	**Pb**	**22 09 08.3**	**+0.8**			
	baz=237								
MASBT	**Mashibuluo**	**1.64 223**	*e*P	**Pn**	**22 09 06.8**	**+0.3**			
	baz=217								
MASBT			*e*S	**Sb**	**22 09 29.0**	**+0.5**			
	baz=217								
TWM1	**Shoushan**	**1.64 233**	*e*P	**Pb**	**22 09 07.4**	**-1.0**			
	baz=216								
SGLT	**Jiouru**	**1.65 229**	*e*P	**Pn**	**22 09 07.2**	**+0.5**			
	baz=214								
TSPT	**Pingtung City**	**1.68 228**	*e*P	**Pb**	**22 09 10.2**	**+1.1**			
	baz=212								
EAST	**Anshuo**	**1.70 213**	*e*P	**Pn**	**22 09 07.5**	**+0.2**			
	baz=199								
TAWH	**Dawu Township**	**1.71 211**	*e*P	**Pn**	**22 09 08.3**	**+0.8**			
	baz=210								
TSCK	**Chigu Township**	**1.74 248**	*e*P	**Pn**	**22 09 08.7**	**+0.8**			
	baz=245								
LAY	**Lan-yu**	**1.79 189**	*e*P	**Pn**	**22 09 06.3**	**-2.3**			
	baz=188								
HATJ	**Hateruma jima**	**1.81 82**	P	**Pn**	**22 09 09.3**	**+0.5**			
HATJ			S	**Sn**	**22 09 32.1**	**+0.9**			
PCYT	**Pengchaiyu**	**1.81 7**	*e*P	**Pn**	**22 09 09.8**	**+0.8**			
	baz=7.0								
LYUB	**Lan-yu**	**1.82 187**	*e*P	**Pn**	**22 09 06.2**	**-2.8**			
	baz=187								
SCZT	**Fangliau**	**1.83 218**	*e*P	**Pb**	**22 09 10.3**	**-1.3**			
	baz=209								
SLIU	**Shizi**	**1.86 211**	*e*P	**Pn**	**22 09 08.4**	**-1.2**			
	baz=200								
WSSB	**Gushan**	**1.86 231**	*e*P	**Pb**	**22 09 11.4**	**-0.9**			
	baz=227								
JKRS	**Kuro-shima**	**2.03 78**	P	**Pn**	**22 09 12.9**	**+1.0**			
JKRS			*e*S	**Sn**	**22 09 37.8**	**+1.3**			
WDGT	**Dungji**	**2.08 255**	*e*P	**Pn**	**22 09 12.8**	**+0.3**			
	baz=252								
TWKBT	**Hengchun**	**2.10 207**	*e*P	**Pn**	**22 09 12.3**	**-0.4**			
	baz=198								
PHUB	**P'eng-hu**	**2.10 262**	P	**Pn**	**22 09 13.1**	**+0.3**			
	baz=241								
PHUB			S	**Sn**	**22 09 39.1**	**+0.7**			
	baz=241								
PNG	**Penghu**	**2.11 264**	P	**Pn**	**22 09 13.3**	**+0.4**			
	baz=260								
PNG			*e*S	**Sn**	**22 09 38.8**	**+0.3**			
	baz=260								
JIJ	**Ishigaki jima**	**2.17 75**	P	**Pn**	**22 09 13.7**	**-0.2**			
JIJ			*e*S	**Sn**	**22 09 39.2**	**-0.9**			
VCHM	**Qimei**	**2.29 255**	*e*P	**Pn**	**22 09 15.6**	**+0.1**			
	baz=251								
VCHM			*e*S	**Sn**	**22 09 42.8**	**-0.3**			
	baz=251								
JISG	**Ishigakijimahi**	**2.38 71**	P	**Pn**	**22 09 16.6**	**-0.1**			
JISG			S	**Sn**	**22 09 44.3**	**-1.0**			
VWUC	**VWUC**	**2.47 299**	*e*P	**Pn**	**22 09 18.3**	**+0.3**			
	baz=300								
VWUC			*e*S	**Sn**	**22 09 46.7**	**-0.8**			
	baz=300								
JTJ	**Tarama**	**2.74 72**	*e*P	**Pn**	**22 09 22.4**	**+0.8**			
MATB	**Ma-tsu**	**2.89 324**	*e*P	**Pn**	**22 09 23.0**	**-0.7**			
	baz=341								
MATB			*e*S	**Sn**	**22 09 56.5**	**-1.3**			
	baz=341								
KNM	**Kinmen**	**3.17 282**	*e*P	**Pn**	**22 09 29.0**	**+1.5**			
	baz=280								
KNMB	**Chin-men Tao**	**3.22 282**	*e*P	**Pn**	**22 09 28.1**	**-0.1**			
	baz=282								
LYJJ	**Jianjiangzhen**	**3.31 326**	*e*P	**Pn**	**22 09 29.9**	**+0.4**			
	baz=328								
MHZQ	**Yeshan**	**3.42 312**	*e*P	**Pn**	**22 09 30.3**	**-0.6**			
	baz=313								
XPSS	**Dashiqiu**	**3.44 335**	*e*P	**Pn**	**22 09 30.6**	**-0.6**			
	baz=337								
AXDP	**Jialang**	**3.69 288**	*e*P	**Pn**	**22 09 34.7**	**0.0**			
	baz=288								
ZPLA	**Ao Xicun**	**3.75 273**	*e*P	**Pn**	**22 09 35.4**	**-0.1**			
	baz=271								
DSXP	**Dongshan**	**4.05 269**	*e*P	**Pn**	**22 09 39.5**	**-0.1**			
	baz=267								
SXFK	**Yanhouchang**	**4.59 305**	*e*P	**Pn**	**22 09 46.6**	**-0.5**			
	baz=304								

NEIC ***14*** *22:08:44.8±1.8, 4.°57S±0.°07×145.°14E±0.°08, h49km±8km, mb4.5/23, Error ellipse: s-maj=13.0km s-min=7.4km az=127.0*
IDC ***14*** *22:08:46.3±5.3, 4.°74S×145.°17E, h79km±55km, mb3.5/8, mbtmp3.9/11, ML3.8/3, MS3.5/1, Error ellipse: s-maj=36.0km s-min=29.0km az=120.0*
ISC 14 22:08:43.2±0.6, **4.°59S**±0.°07×**145.°11E**±0.°09, **h38**km, **n42,**
σ1**s03**/43, **mb4.1**/16, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.38**	**42**	Pn	**Pn**	**22 09 34.2**	**+0.7**
PMG	**Port Moresby**	**5.20**	**157**		**Pn**	**22 10 00.2**	**+1.7**
PMG	**Port Moresby**	**5.20**	**157**	P	**Pn**	**22 09 59.8**	**+1.3**
	25nm,0.3s,baz=341,slow=7.1,SNR=59						
PMG				S	**Sn**	**22 10 56.6**	**-0.7**
	102nm,0.6s,baz=335,slow=18,SNR=8.2						
PMG				LR	LR	22 12 16.3	
	comp=Z,600nm,21.3s,baz=274,slow=42						
	113nm,0.5s						
COEN	**Coen**	**9.51**	**191**		**Pn**	**22 10 59.6**	**+2.0**
FAKI	**Fak Fak**	**12.94**	**277**	Pn	**Pn**	**22 11 45.9**	**+1.2**
CTA	**Charters Tower**	**15.45**	**176**	P	**Pn**	**22 12 18.8**	**+0.3**
	0.6nm,0.3s,baz=355,slow=16,SNR=6.4						
	6.5nm,0.7s						
CTAO	**Charters Tower**	**15.45**	**176**		**P**	**22 12 23.0**	**+0.4**
WB0	**Warramunga Arr**	**18.35**	**214**	P	**P**	**22 12 53.7**	**-1.0**
WB0				IAmb	IAmb	22 12 56.5	
	comp=Z,38nm,1.3s						
WR0	**Warramunga Arr**	**18.43**	**213**	P	**P**	**22 12 54.0**	**-1.5**
WR0				IAmb	IAmb	22 13 26.9	
	comp=Z,32nm,1.4s						
WB2	**Warramunga Arr**	**18.52**	**214**	P	**P**	**22 12 55.3**	**-1.2**
WB2				IAmb	IAmb	22 13 02.1	
	comp=Z,31nm,1.5s						
WRA	**Warramunga Arr**	**18.52**	**214**	P	**P**	**22 12 55.4**	**-1.2**
WRA	**Warramunga Arr**	**18.52**	**214**	P	**P**	**22 12 55.0**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=30,slow=11,SNR=25						
	comp=Z,2.9nm,0.6s						
KNRA	**Kununurra**	**19.49**	**234**	P	**P**	**22 13 05.8**	**-1.3**
KNRA				IAmb	IAmb	22 13 27.9	
	comp=Z,53nm,1.3s						
SOEI	**Soe**	**21.30**	**255**	P	**P**	**22 13 28.0**	**+1.1**
ASAR	**Alice Springs**	**21.84**	**209**	P	**P**	**22 13 31.3**	**-1.2**
ASAR	**Alice Springs**	**21.84**	**209**	P	**P**	**22 13 31.5**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=21,slow=13,SNR=12						
	comp=Z,1.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.30**	**233**	P	**P**	**22 13 46.8**	**-1.2**
FITZ				IAmb	IAmb	22 13 48.0	
	comp=Z,5.0nm,0.8s						
ARMA	**Armidale**	**26.42**	**167**	P	**P**	**22 14 17.2**	**+0.6**
ARMA				IAmb	IAmb	22 14 43.8	
	comp=Z,53nm,1.5s						
STKA	**Stephens Creek**	**27.35**	**187**	P	**P**	**22 14 23.0**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=4.1,slow=9.1,SNR=2.9						
	comp=Z,1.8nm,0.7s						

PSA00	**Pilbara Seismi**	**29.76**	**233**	P		**P**	**22 14 45.7**	**-0.6**	
PSA00				IAmb		IAmb	22 14 46.7		
	comp=Z,5.7nm,0.9s								
PSA00	**Pilbara Seismi**	**29.76**	**233**	P		**P**	**22 14 45.8**	**-0.6**	
PSA00				IAmb		IAmb	22 15 13.4		
	comp=Z,29nm,1.4s								
GIRL	**Giralia**	**34.84**	**236**	P		**P**	**22 15 30.7**	**-0.1**	
MRZ	**Mangatainoka R**	**45.16**	**147**	P		**P**	**22 16 56.2**	**0.0**	
MRZ				IAmb		IAmb	22 17 36.1		
	comp=Z,18nm,1.2s								
RPZ	**Rata Peaks**	**45.20**	**153**	P		**P**	**22 16 57.3**	**+0.8**	
BFZ	**Birch Farm**	**45.54**	**147**	P		**P**	**22 16 59.5**	**+0.2**	
GVZ	**Greta Valley S**	**45.54**	**151**	P		**P**	**22 16 59.0**	**-0.2**	
PLWZ	**Palliser**	**45.63**	**148**	P		**P**	**22 16 59.3**	**-0.7**	
SLVN	**Son La**	**47.90**	**304**	P		**P**	**22 17 17.9**	**-0.1**	
SLVN				IAmb		IAmb	22 17 18.4		
	comp=Z,14nm,0.9s								
CMAR	**Chiang Mai Arr**	**50.93**	**298**	P		**P**	**22 17 41.1**	**-0.1**	
	comp=Z,0.4nm,0.4s,baz=125,slow=5.6,SNR=4.1								
	comp=Z,0.4nm,0.4s								
VNDA	**Vanda**	**73.43**	**176**	P		**P**	**22 20 10.3**	**-0.7**	
MK31	**Makanchi Array**	**75.22**	**321**	P		**P**	**22 20 22.0**	**0.0**	
MKAR	**Makanchi Array**	**75.22**	**321**	P		**P**	**22 20 21.2**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=114,slow=6.5,SNR=4.1								
	comp=Z,0.3nm,0.6s								
MAKZ	**Makanchi**	**75.42**	**321**	P		**P**	**22 20 23.4**	**+0.2**	
ZALV	**Zalesovo Beam**	**76.82**	**328**	P		**P**	**22 20 30.2**	**-0.7**	
	comp=Z,0.8nm,0.7s,baz=98,slow=2.9,SNR=4.1								
	comp=Z,0.8nm,0.7s								
KURBB	**Kurchatov Arra**	**78.98**	**323**	P		**P**	**22 20 42.9**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=104,slow=3.9,SNR=2.3								
	comp=Z,0.2nm,0.4s								
E19K	**Redstone River**	**82.39**	**19**	P		**P**	**22 21 02.6**	**+1.6**	
E19K				IAmb		IAmb	22 21 27.7		
	comp=Z,3.0nm,1.1s								
C19K	**Lookout Ridge**	**82.56**	**17**	P		**P**	**22 21 02.7**	**+0.9**	
C19K				IAmb		IAmb	22 21 06.7		
	comp=Z,6.2nm,1.4s								
B21K	**Ikpikpuk River**	**84.33**	**18**	P		**P**	**22 21 12.0**	**+1.1**	
BVAR	**Borovoye Array**	**84.53**	**324**	P		**P**	**22 21 11.4**	**-0.9**	
	comp=Z,0.7nm,0.5s,baz=112,slow=6.9,SNR=12								
	comp=Z,0.7nm,0.5s								
ILAR	**Eielson Array**	**84.94**	**24**	P		**P**	**22 21 12.6**	**-1.5**	
ILAR	**Eielson Array**	**84.94**	**24**	P		**P**	**22 21 13.2**	**-0.9**	
	comp=Z,0.5nm,0.6s,baz=260,slow=5.0,SNR=9.1								
	comp=Z,0.5nm,0.6s								
J25K	**Salcha River,**	**85.48**	**24**	P		**P**	**22 21 17.4**	**+0.6**	
J25K				IAmb		IAmb	22 21 49.3		
	comp=Z,5.6nm,1.4s								

IDC ***14*** *22:17:34.4±5.2, 4.°73S×145.°08E, h75km±55km, mb3.5/9, mbtmp3.9/12, ML3.4/3, Error ellipse: s-maj=37.7km s-min=28.5km az=107.0*
NEIC ***14*** *22:17:35.3±1.4, 4.°74S±0.°07×145.°09E±0.°10, h74km±9km, mb4.3/18, Error ellipse: s-maj=16.6km s-min=5.8km az=125.0*
ISC 14 22:17:34.9±0.6, **4.°73S**±0.°07×**145.°1E**±0.°1, **h75**km, **n38,**
σ0**s77**/39, **mb4.0**/14, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.53**	**41**		**Pn**	**22 18 28.2**	**+0.8**
PMG	**Port Moresby**	**5.09**	**156**		**Pn**	**22 18 48.4**	**-0.3**
PMG	**Port Moresby**	**5.09**	**156**	P	**Pn**	**22 18 48.0**	**-0.7**
	14nm,0.3s,baz=1.5,slow=5.3,SNR=28						
PMG				S	**Sn**	**22 19 46.2**	**0.0**
	72nm,0.6s,baz=133,slow=22,SNR=6.5						
	52nm,0.5s						
COEN	**Coen**	**9.35**	**191**		**Pn**	**22 19 47.6**	**+0.7**
CTA	**Charters Tower**	**15.31**	**176**	P	**Pn**	**22 21 06.8**	**+0.1**
	0.2nm,0.3s,baz=342,slow=16,SNR=1.5						
	2.1nm,0.6s						
WB0	**Warramunga Arr**	**18.20**	**214**	P	**P**	**22 21 41.9**	**0.0**
WB0				IAmb	IAmb	22 21 43.4	
	comp=Z,26nm,1.5s						
WR0	**Warramunga Arr**	**18.27**	**213**	P	**Pn**	**22 21 43.1**	**-0.4**
WR0				IAmb	IAmb	22 21 44.0	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**18.36**	**214**	P	**P**	**22 21 43.7**	**-0.1**
WB2				IAmb	IAmb	22 21 44.7	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**18.37**	**214**	P	**P**	**22 21 43.7**	**-0.1**
WRA	**Warramunga Arr**	**18.37**	**214**	P	**P**	**22 21 42.8**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=37,slow=12,SNR=26						
	comp=Z,3.5nm,0.6s						
KNRA	**Kununurra**	**19.35**	**235**	P	**P**	**22 21 54.2**	**-0.4**
KNRA				IAmb	IAmb	22 21 58.2	
	comp=Z,27nm,0.8s						
SOEI	**Soe**	**21.21**	**255**	P	**P**	**22 22 15.2**	**+0.4**
EIDS	**Eidsvold**	**21.32**	**165**	P	**P**	**22 22 16.9**	**+1.2**
AS31	**Alice Springs**	**21.68**	**209**	P	**P**	**22 22 19.3**	**-0.3**
ASAR	**Alice Springs**	**21.68**	**209**	P	**P**	**22 22 18.0**	**-1.7**
ASAR	**Alice Springs**	**21.68**	**209**	P	**P**	**22 22 18.9**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=35,slow=10,SNR=25						
	comp=Z,2.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.17**	**233**	P	**P**	**22 22 34.7**	**-0.5**
FITZ				IAmb	IAmb	22 22 36.1	
	comp=Z,6.9nm,0.7s						
LIFNC	**LIFOU**	**26.82**	**128**	P	**P**	**22 23 06.8**	**-1.6**
LIFNC				IAmb	IAmb	22 23 06.8	
	comp=Z,27nm,1.0s						
STKA	**Stephens Creek**	**27.20**	**186**	P	**P**	**22 23 11.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=351,slow=13,SNR=1.8						
	comp

IKOM	**Komasi**	**1.55**	**72**	Pg		**Pg**	**22 58 02.3**	**+0.6**
IKFM	**Kafar-mosalman**	**1.78**	**96**	Pg		**Pg**	**22 58 05.7**	**-0.3**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn		**Pn**	**22 58 07.0**	**+1.4**
RAFI				*e*Sn		**Sb**	**22 58 34.0**	**+0.6**
HSAM	**Samen**	**2.44**	**78**	Pn		**Pb**	**22 58 14.0**	**-1.8**

*IDC **14** 23:02:09.9±2.8, 17°.22N×83°.76W, h0km, mb3.6/5, mbtmp3.6/5, ML5.2/1, Error ellipse: s-maj=59.5km s-min=41.0km az=2.0*

*NEIC **14** 23:02:13.2±2.1, 17°.43N±0°.02×83°.80W±0°.08, h10km±2km, mb4.2/11, Error ellipse: s-maj=14.0km s-min=3.0km az=105.0*

ISC 14 23:02:15.8±0.7, 17°.40N±0°.07×83°.90W±0°.09, h35km, n28, σ1§29/30, mb3.8/6, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**5.01**	**305**		**Pn**	**23 03 28.0**	**-0.6**
TEIG				Sn	**Sn**	**23 04 22.9**	**-2.4**
TEIG	**Tepich**	**5.01**	**305**	Pn	**Pn**	**23 03 27.8**	**-0.8**
	87nm,0.3s,baz=63,slow=0.7,SNR=60						
TEIG				Sn	**Sn**	**23 04 22.2**	**-3.1**
	270nm,0.3s,baz=167,slow=19,SNR=16						
ESPN	**Las Esperanzas**	**5.18**	**184**	Pn	**Pn**	**23 03 31.1**	**+0.1**
SOR	**Soroa**	**5.43**	**9**		**Pn**	**23 03 34.1**	**-0.2**
ACON	**Acoyapa**	**5.54**	**193**		**Pn**	**23 03 36.3**	**+0.6**
CAMR	**Camarioca**	**6.11**	**22**	Pn	**Pn**	**23 03 43.5**	**-0.2**
MTDJ	**Mount Denham**	**6.12**	**81**	Pn	**Pn**	**23 03 41.9**	**-1.9**
ORTG	**Ortega, Santa**	**7.15**	**192**	Pn	**Pn**	**23 03 57.6**	**-0.5**
BRU2	**Volcan**	**8.63**	**172**	Pn	**Pn**	**23 04 19.4**	**+0.9**
061Z	**Ochoppi**	**8.88**	**18**	Pn	**Pn**	**23 04 19.6**	**-2.0**
BRDY	**Brady**	**19.48**	**318**	P	**Pn**	**23 06 41.2**	**0.0**
SALI	**Salinas**	**19.67**	**171**	P	**P**	**23 06 40.2**	**-1.7**
T47A	**Sharon Grove**	**19.72**	**352**	P	**P**	**23 06 42.7**	**+0.3**
T47A				IAmb	IAmb	23 06 44.6	
	comp=Z,6.9nm,0.8s						
PBMO	**Poplar Bluff**	**20.15**	**345**	P	**P**	**23 06 48.4**	**+1.4**
PBMO				IAmb	IAmb	23 06 54.5	
	comp=Z,16nm,1.4s						
OZNA	**Ozona**	**20.66**	**314**	P	**P**	**23 06 53.2**	**+0.5**
OZNA				IAmb	IAmb	23 06 56.1	
	comp=Z,7.8nm,0.7s						
USIN	**University of**	**20.76**	**352**	P	**P**	**23 06 53.1**	**-0.5**
USIN				IAmb	IAmb	23 06 55.5	
	comp=Z,17nm,0.7s						
S44A	**Carbondale**	**20.76**	**348**	P	**P**	**23 06 53.4**	**-0.3**
S44A				IAmb	IAmb	23 06 59.0	
	comp=Z,12nm,0.9s						
SIUC	**Southern Illin**	**20.78**	**348**	P	**P**	**23 06 53.2**	**-0.5**
SIUC				IAmb	IAmb	23 06 59.0	
	comp=Z,11nm,1.0s						
SAND	**Sanderson**	**20.82**	**310**	P	**P**	**23 06 55.8**	**+1.4**
CCM	**Cathedral Cave**	**21.57**	**344**	P	**P**	**23 07 02.8**	**+0.4**
CCM				IAmb	IAmb	23 07 07.3	
	comp=Z,11nm,0.7s						
TXAR	**Lajitas Array**	**21.66**	**307**	P	**P**	**23 07 04.4**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=135,slow=9.0,SNR=5.7						
	comp=Z,0.8nm,0.9s						
F33A	**5 Mile Ranch,**	**30.19**	**343**	P	**P**	**23 08 24.3**	**+1.5**
NVAR	**Mina Array Bea**	**36.62**	**312**	P	**P**	**23 09 20.9**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=122,slow=8.6,SNR=2.3						
	comp=Z,0.4nm,0.7s						
SCHQ	**Schefferville**	**39.60**	**15**	P	**P**	**23 09 43.7**	**0.0**
	comp=Z,1.9nm,0.7s,baz=222,slow=12,SNR=4.6						
	comp=Z,1.9nm,0.7s						
YKA	**Yellowknife Ar**	**49.88**	**342**	P	**P**	**23 11 06.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=133,slow=7.6,SNR=9.2						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**62.98**	**335**	P	**P**	**23 12 40.1**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=109,slow=4.9,SNR=8.1						
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**143.74**	**260**	PKP	**PKPdf**	**23 21 46.6**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=88,slow=3.7,SNR=3.2						
ASAR	**Alice Springs**	**144.13**	**254**	PKP	**PKPdf**	**23 21 47.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=105,slow=3.6,SNR=9.1						

PGC 14 23:13:42.7±8.0, 50°.42N×130°.34W, h10km, MLSn3.2/14, Mw3.8/14, Mw3.8/14, 208km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.43**	**80**	Pn	Pn	23 14 06.3	-2.3
HOLB				Sn	Sn	23 14 21.3	-6.2
PHC	**Port Hardy**	**1.88**	**80**	Pn	Pn	23 14 12.9	-1.9
PHC				Sn	Sn	23 14 33.5	-5.0
MAYB	**Maynard**	**2.03**	**89**	Pn	Pn	23 14 14.7	-2.3
BBB	**Bella Bella**	**2.25**	**37**	Pn	Pn	23 14 18.1	-1.8
WOSB	**Woss**	**2.43**	**95**	Pn	Pn	23 14 20.9	-1.6
NCRB	**Newcastle Ridg**	**2.74**	**89**	Pn	Pn	23 14 24.5	-2.3
NCSB	**Newcastle Ridg**	**2.74**	**89**	Pn	Pn	23 14 25.2	-1.6
BUTB	**Butedale**	**2.89**	**23**	Pn	Pn	23 14 27.6	-0.9
BUTB				Sn	Sn	23 15 00.6	-3.1
BNKB	**Banks Island**	**2.93**	**5**	Pn	Pn	23 14 27.7	-1.6
GRIB	**Gribbell Islan**	**3.02**	**14**	Pn	Pn	23 14 29.1	-1.3
SPLB	**Strathcona Par**	**3.06**	**98**	Pn	Pn	23 14 29.6	-1.4
BNAB	**Bonilla**	**3.08**	**357**	Pn	Pn	23 14 29.8	-1.6
CBB	**Campbell River**	**3.22**	**95**	Pn	Pn	23 14 31.6	-1.6
GRNB	**Grenville Isla**	**3.44**	**4**	Pn	Pn	23 14 34.3	-2.0
KITB	**Kitimat**	**3.81**	**15**	Pn	Pn	23 14 39.4	-2.0
TXB	**Texada**	**3.87**	**99**	Pn	Pn	23 14 41.5	-0.8
RUBB	**Prince Rupert**	**3.91**	**1**	Pn	Pn	23 14 42.3	-0.5
SHB	**Sechelt**	**4.25**	**99**	Pn	Pn	23 14 45.3	-2.2
LLLB	**Lillooet**	**5.40**	**85**	Pn	Pn	23 15 02.2	-1.0
JCW	**Jim Creek**	**5.93**	**109**	Pn	Pn	23 15 11.8	+1.2
RPW	**Rockport**	**6.08**	**106**	Pn	Pn	23 15 13.5	+0.8
FMW	**Mount Fremont**	**6.72**	**118**	Pn	Pn	23 15 23.1	+1.7
LTY	**Liberty**	**7.12**	**113**	Pn	Pn	23 15 28.5	+1.6

*IDC **14** 23:21:53.9±0.9, 60°.37N×153°.90W, h157km±10km, mb3.9/15, mbtmp4.4/20, Error ellipse: s-maj=10.3km s-min=9.4km az=74.0*

*NEIC **14** 23:21:56.7±2.2, 60°.33N±0°.04×153°.68W±0°.08, h184km±4km, Error ellipse: s-maj=6.3km s-min=5.7km az=184.0*

*AEIC **14** 23:21:56.8±3.0, 60°.31N±0°.04×153°.61W±0°.08, h187km±3km, ML4.1, mb4.3/188(NEIC), ML4.2/172(NEIC), Error ellipse: s-maj=6.2km s-min=5.6km az=155.0*

ISC 14 23:21:56.6±0.5, 60°.33N±0°.04×153°.67W±0°.04, h183km±5km, n510, σ1§07/530, mb4.3/103, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O19K	**Port Alsworth**	**0.35**	**247**		**Pn**	**23 22 21.0**	**-0.2**
O19K				Sn	**Sn**	**23 22 39.4**	**-0.8**
O19K				IAML		23 22 40.8	
	comp=N,5μm,0.5s						
O19K	**Port Alsworth**	**0.35**	**247**	P	**Pn**	**23 22 20.9**	**-0.3**
	baz=72						
O19K				S	**Sn**	**23 22 39.5**	**-0.6**
	baz=72						
NCT	**North Crescent**	**0.43**	**58**		**Pn**	**23 22 21.5**	**-0.1**
ILSW	**Iliamna Southw**	**0.44**	**143**		**Pn**	**23 22 21.1**	**-0.6**
ILSW				Sn	**Sn**	**23 22 40.0**	**-1.0**
ILSW				IAML		23 22 41.3	
	comp=N,1μm,0.9s						
ILSW				IAML		23 22 42.5	
	comp=E,1μm,0.8s						
RDWB	**Redoubt West**	**0.44**	**69**		**Pn**	**23 22 21.5**	**-0.2**
RDWB					**Sn**	**23 22 40.7**	**-0.4**
RED	**Redoubt Volcan**	**0.45**	**79**		**Pn**	**23 22 21.4**	**-0.2**
IVE	**Iliamna Volcan**	**0.46**	**134**		**Pn**	**23 22 21.4**	**-0.3**
RSO	**Redoubt South**	**0.47**	**74**		**Pn**	**23 22 21.6**	**-0.3**
RDSO	**Redoubt South**	**0.47**	**75**		**Pn**	**23 22 21.6**	**-0.3**
RDSO					**Sn**	**23 22 41.2**	**-0.1**
RDJH	**Redoubt Jeurge**	**0.50**	**58**		**Pn**	**23 22 21.9**	**0.0**
DFR	**Drift River**	**0.55**	**61**		**Pn**	**23 22 21.8**	**-0.3**
O20K	**Slope Mountain**	**0.58**	**115**		**Pn**	**23 22 22.0**	**-0.2**
O20K					**Sn**	**23 22 42.0**	**+0.1**
O20K	**Slope Mountain**	**0.58**	**115**	P	**Pn**	**23 22 22.0**	**-0.2**
	baz=295						
N19K	**Bonanza Creek**	**0.63**	**320**	Pn	**Pn**	**23 22 22.5**	**+0.1**
N19K				IAML		23 22 43.0	
	comp=E,3μm,0.9s						
N19K				IAML		23 22 43.1	
	comp=N,3μm,0.7s						
N19K	**Bonanza Creek**	**0.63**	**320**		**Sn**	**23 22 42.0**	**-0.5**
	baz=139						
RDT	**Redoubt**	**0.67**	**68**		**Pn**	**23 22 22.4**	**-0.3**
P19K	**Oil Pt**	**0.72**	**162**		**Pn**	**23 22 22.8**	**-0.1**
P19K				Sn	**Sn**	**23 22 42.8**	**-0.3**
P19K				IAML		23 22 43.9	
	comp=N,4μm,0.6s						
P19K	**Oil Pt**	**0.72**	**162**	P	**Pn**	**23 22 22.8**	**-0.1**
	baz=344						
P19K				S	**Sn**	**23 22 43.0**	**-0.1**
	baz=344						
O18K	**Koktuh Hills**	**0.91**	**239**		**Pn**	**23 22 24.0**	**0.0**
O18K				Sn	**Sn**	**23 22 44.6**	**-0.5**
O18K				IAML		23 22 45.5	
	comp=E,1μm,1.2s						
O18K	**Koktuh Hills**	**0.91**	**239**	P	**Pn**	**23 22 24.1**	**0.0**
	baz=60						
O18K				S	**Sn**	**23 22 45.0**	**-0.2**
	baz=60						
AU22	**Augustine Moun**	**0.98**	**171**		**Sn**	**23 22 45.4**	**-0.5**
AUCH	**Augustine Cone**	**0.98**	**173**		**Sn**	**23 22 24.4**	**-0.2**
N20K	**Mount Spurr**	**1.13**	**39**	P	**Pn**	**23 22 25.5**	**-0.1**
	baz=218						
SPCR	**Spurr Chakacha**	**1.13**	**39**		**Pn**	**23 22 25.7**	**0.0**
N18K	**Kilae Creek**	**1.15**	**289**	Pn	**Pn**	**23 22 26.0**	**+0.2**
N18K				IAML		23 22 48.6	
	comp=E,1μm,0.6s						
N18K				IAML		23 22 48.8	
	comp=N,1μm,0.9s						
N18K	**Kilae Creek**	**1.15**	**289**		**Sn**	**23 22 47.7**	**-0.7**
SPCN	**Chakachatna No**	**1.15**	**39**		**Pn**	**23 22 26.1**	**+0.3**
SVW2	**Sparrevohn**	**1.21**	**310**	Pn	**Pn**	**23 22 26.2**	**0.0**
SVW2				Sn	**Sn**	**23 22 48.6**	**-0.7**
SVW2				IAML		23 22 49.6	
	comp=E,830nm,0.7s						
SVW2				IAML		23 22 49.6	
	comp=N,1μm,1.1s						
SVW2	**Sparrevohn**	**1.21**	**310**	P	**Pn**	**23 22 26.3**	**0.0**
HOM	**Homer**	**1.22**	**123**		**Pn**	**23 22 26.1**	**-0.2**
HOM				Sn	**Sn**	**23 22 48.8**	**-0.5**
HOM	**Homer**	**1.22**	**123**	P	**Pn**	**23 22 26.2**	**-0.2**
	baz=304						
P18K	**Big Mountain,**	**1.23**	**221**		**Pn**	**23 22 26.2**	**-0.3**
P18K				Sn	**Sn**	**23 22 48.3**	**-1.2**
P18K				IAML		23 22 49.6	
	comp=N,534nm,1.1s						
P18K	**Big Mountain,**	**1.23**	**221**	P	**Pn**	**23 22 26.1**	**-0.4**
	baz=41						
CAPN	**Captain Cook N**	**1.32**	**70**		**Pn**	**23 22 27.9**	**+0.9**
CAPN				IAML		23 22 57.8	
	comp=E,2μm,0.5s						
CAPN				IAML		23 23 05.9	
	comp=N,3μm,0.5s						
Q19K	**Cape Douglas,**	**1.41**	**179**		**Pn**	**23 22 27.3**	**-0.7**
Q19K					**Sn**	**23 22 51.2**	**-1.1**
Q19K	**Cape Douglas,**	**1.41**	**179**	P	**Pn**	**23 22 27.5**	**-0.6**
	baz=0.6						
Q19K				S	**Sn**	**23 22 51.4**	**-0.9**
	baz=0.6						
CNPM	**China Poot**	**1.47**	**122**	Pn	**Pn**	**23 22 28.1**	**-0.4**
BRLK	**Bradley Lake**	**1.51**	**111**		**Pn**	**23 22 28.4**	**-0.5**
BRLK				IAML		23 22 54.7	
	comp=E,4μm,0.2s						
M18K	**Stony River**	**1.57**	**319**		**Pn**	**23 22 29.3**	**-0.1**
M20K	**Styx River**	**1.58**	**9**	Pn	**Pn**	**23 22 30.2**	**+0.6**
BRSE	**Bradley Lake S**	**1.58**	**111**		**Pn**	**23 22 29.1**	**-0.6**
BRSE	**Bradley Lake S**	**1.58**	**111**	P	**Pn**	**23 22 29.0**	**-0.6**
	baz=293						
M19K	**Big River Lodg**	**1.61**	**348**	Pn	**Pn**	**23 22 30.0**	**+0.1**
N17K	**Nushagak Hills**	**1.76**	**278**		**Pn**	**23 22 31.8**	**+0.5**
KAPH	**Katmai Pasha**	**1.78**	**192**		**Pn**	**23 22 31.0**	**-0.6**
O17K	**Koliganek Bris**	**1.81**	**253**		**Pn**	**23 22 32.1**	**+0.3**
P17K	**Kvichak River**	**1.81**	**232**		**Pn**	**23 22 32.1**	**+0.3**
KAHC	**Katmai Hardscr**	**1.82**	**203**	P	**Pn**	**23 22 31.5**	**-0.7**
	baz=22						
Q18K	**Katmai Hardscr**	**1.82**	**203**	P	**Pn**	**23 22 31.5**	**-0.7**
	baz=22						
SUA	**Susitna One**	**1.82**	**50**	Pn	**Pn**	**23 22 31.3**	**-0.8**
SUA				Sn	**Sn**	**23 23 00.1**	**+0.4**
SUA				IAML		23 23 00.9	
	comp=E,1μm,0.7s						
SUA				IAML		23 23 00.9	
	comp=N,1μm,0.6s						
SUA	**Susitna One**	**1.82**	**50**	P	**Pn**	**23 22 31.3**	**-0.8**
	baz=232						
Q20K	**Shuyak Island**	**1.85**	**159**	P	**Pn**	**23 22 31.2**	**-1.0**
	baz=340						
SYI	**Shuyak Island**	**1.85**	**159**	Pn	**Pn**	**23 22 31.1**	**-1.2**
SYI				Sn	**Sn**	**23 22 58.4**	**-1.4**
SYI				IAML		23 22 58.7	
	comp=N,3μm,0.5s						
FIS	**Fire Island**	**1.88**	**63**		**Pn**	**23 22 32.0**	**-0.5**
FIS				IAML		23 23 03.3	
	comp=N,2μm,0.5s						
KAHG	**Katmai Hook Gl**	**1.90**	**194**		**Pn**	**23 22 32.2**	**-0.7**
L19K	**White Mountain**	**1.94**	**343**		**Pn**	**23 22 33.0**	**-0.3**
L19K	**White Mountain**	**1.94**	**343**	P	**Pn**	**23 22 33.2**	**0.0**
	baz=162						
SKT	**Skwentna**	**1.95**	**31**	Pn	**Pn**	**23 22 33.2**	**-0.1**
SKT				IAML		23 23 03.1	
	comp=N,974nm,0.3s						
SKT				IAML		23 23 05.1	
	comp=E,587nm,0.5s						
SKT	**Skwentna**	**1.95**	**31**	P	**Pn**	**23 22 33.2**	**-0.1**
	baz=212						
O22K	**Cooper Landing**	**1.96**	**84**		**Pn**	**23 22 32.2**	**-1.2**
O22K	**Cooper Landing**	**1.96**	**84**	P	**Pn**	**23 22 32.1**	**-1.2**
	baz=267						
RC01	**Rabbit Creek A**	**2.08**	**67**	Pn	**Pn**	**23 22 33.1**	**-1.5**
RC01				IAML		23 23 03.5	
	comp=N,2μm,0.4s						
RC01				IAML		23 23 03.6	
	comp=E,2μm,0.3s						
RC01	**Rabbit Creek A**	**2.08**	**67**	P	**Pn**	**23 22 33.2**	**-1.5**
	baz=249						
M17K	**Holitna River**	**2.13**	**302**	Pn	**Pn**	**23 22 35.5**	**+0.3**
M17K				IAML		23 23 06.1	
	comp=N,390nm,1.5s						
M17K				IAML		23 23 12.3	
	comp=E,303nm,0.8s						
L20K	**Farewell, AK**	**2.16**	**357**		**Pn**	**23 22 36.0**	**+0.5**
Q16K	**King Salmon**	**2.25**	**224**	P	**Pn**	**23 22 36.7**	**+0.1**
	baz=42						
ACHA	**Angle Creek He**	**2.29**	**203**		**Pn**	**23 22 36.4**	**-0.8**
O16K	**Kokwok River B**	**2.35**	**253**	Pn	**Pn**	**23 22 37.4**	**-0.2**
Q17K	**Contact Creek**	**2.37**	**210**	P	**Pn**	**23 22 37.5**	**-0.6**
	baz=29						
L18K	**Granite Mounta**	**2.39**	**324**	Pn	**Pn**	**23 22 38.2**	**+0.1**
N16K	**Nishlik Lake**	**2.54**	**275**		**Pn**	**23 22 40.2**	**+0.4**
PMR	**Palmer**	**2.55**	**58**		**Pn**	**23 22 38.2**	**-1.7**
PMR				IAML		23 23 14.2	
	comp=N,2μm,0.4s						
PMR				IAML		23 23 14.3	
	comp=E,2μm,0.2s						
PMR	**Palmer**	**2.55**	**58**	P	**Pn**	**23 22 37.9**	**-2.0**
P16K	**Nushagak River**	**2.55**	**241**		**Pn**	**23 22 40.5**	**+0.5**
P16K	**Nushagak River**	**2.55**	**241**	P	**Pn**	**23 22 40.5**	**+0.5**
	baz=58						
KDAK	**Kodiak Island**	**2.62**	**167**	Pn	**Pn**	**23 22 38.5**	**-2.3**
KDAK				IAML		23 23 12.8	
	comp=E,1μm,0.3s						
KDAK				IAML		23 23 15.5	
	comp=E,1μm,0.7s						
KDAK	**Kodiak Island**	**2.62**	**167**	P	**Pn**	**23 22 38.5**	**-2.3**
	comp=E,41nm,0.3s,baz=24,slow=9.3,SNR=174						
KDAK				S	**Sn**	**23 23 11.0**	**-4.2**
	comp=E,532nm,0.4s,baz=237,slow=22,SNR=46						
CUT	**Chulitna**	**2.65**	**37**	Pn	**Pn**	**23 22 40.1**	**-1.0**
M16K	**Timber Creek**	**2.69**	**287**	Pn	**Pn**	**23 22 42.1**	**+0.4**
M16K				IAML		23 23 18.9	
	comp=E,192nm,0.9s						
GHO	**Glory Hole Cre**	**2.72**	**56**		**Pn**	**23 22 40.0**	**-2.0**
GHO				IAML		23 23 16.8	
	comp=E,1μm,0.4s						
GHO				IAML		23 23 18.1	
	comp=N,1μm,0.5s						
KNK	**Knik Glacier**	**2.77**	**65**		**Pn**	**23 22 40.7**	**-1.9**
R18K	**Karluk**	**2.81**	**189**		**Pn**	**23 22 40.7**	**-2.3**
TTA	**Tatalina**	**2.84**	**338**	Pn	**Pn**	**23 22 43.0**	**-0.3**
TTA	**Tatalina**	**2.84**	**338**	P	**Pn**	**23 22 43.2**	**-0.2**
L17K	**Donlin**	**2.88**	**311**		**Pn**	**23 22 43.8**	**0.0**
PLK3	**Peulik 3**	**2.97**	**208**		**Pn**	**23 22 44.3**	**-0.8**
SML	**Sawmill**	**2.98**	**58**	Pn	**Pn**	**23 22 43.2**	**-2.0**
SML				IAML		23 23 22.5	
	comp=E,1μm,0.3s						
K20K	**Telida**	**3.04**	**357**		**Pn**	**23 22 46.1**	**+0.3**
K20K				IAML		23 23 25.2	
	comp=E,171nm,1.3s						
OHAK	**Old Harbor**	**3.13**	**176**		**Pn**	**23 22 46.4**	**-0.5**
OHAK				IAML		23 23 23.4	
	comp=N,1μm,0.5s						
OHAK				IAML		23 23 23.5	
	comp=E,688nm,0.4s						
OHAK	**Old Harbor**	**3.13**	**176**	P	**Pn**	**23 22 44.4**	**-2.5**
L16K	**Owhat River**	**3.15**	**299**	Pn	**Pn**	**23 22 47.4**	**+0.4**
L16K				IAML		23 23 29.7	
	comp=E,142nm,1.8s						
CAST	**Castle Rocks**	**3.19**	**13**	Pn	**Pn**	**23 22 47.7**	**+0.2**
N15K	**Kwethluk River**	**3.21**	**270**	Pn	**Pn**	**23 22 48.0**	**+0.2**
K17K	**Iditarod**	**3.26**	**319**		**Pn**	**23 22 48.6**	**+0.1**
O15K	**Ungalikthiuk R**	**3.32**	**252**		**Pn**	**23 22 49.6**	**+0.3**
SCM	**Sheep Creek Mo**	**3.43**	**61**		**Pn**	**23 22 48.9**	**-1.7**
R16K	**Pilot Point**	**3.43**	**218**		**Pn**	**23 22 50.1**	**-0.5**
R16K	**Pilot Point**	**3.43**	**218**	IAML		23 24 41.6	
	comp=N,622nm,2.8s						
R16K				IAML		23 24 59.8	
	comp=E,729nm,2.6s						
J18K	**Innoko River**	**3.46**	**337**		**Pn**	**23 22 50.6**	**-0.3**
KTH	**Kantishna Hill**	**3.48**	**21**		**Pn**	**23 22 50.5**	**-0.8**
KTH				IAML		23 23 33.4	
	comp=E,240nm,0.5s						
KTH				IAML		23 23 34.4	
	comp=N,331nm,0.6s						
M15K	**Kasigluk River**	**3.49**	**279**		**Pn**	**23 22 51.7**	**+0.4**
TRF	**Thorofare Moun**	**3.51**	**26**	Pn	**Pn**	**23 22 50.9**	**-0.9**
TRF				IAML		23 23 34.9	
	comp=N,648nm,0.4s						
TRF				IAML		23 23 37.0	
	comp=E,453nm,0.8s						
HIN	**Hinchinbrook I**	**3.56**	**86**		**Pn**	**23 22 50.9**	**-1.3**
FID	**Port Fidalgo**	**3.58**	**80**	Pn	**Pn**	**23 22 51.1**	**-1.3**
CHUM	**Lake Minchumin**	**3.62**	**10**		**Pn**	**23 22 52.9**	**0.0**
J19K	**Poorman**	**3.79**	**347**	Pn	**Pn**	**23 22 54.9**	**-0.1**
SII	**Sitkinak Islan**	**3.79**	**184**	Pn	**Pn**	**23 22 53.7**	**-1.5**
SII				IAML		23 23 39.0	
	comp=N,813nm,0.5s						
SII				IAML		23 23 43.0	
	comp=E,691nm,0.5s						
Q23K	**Middleton Isla**	**3.80**	**101**	Pn	**Pn**	**23 22 54.4**	**-0.7**
Q23K				IAML		23 23 40.1	
	comp=N,586nm,1.8s						
Q23K				IAML		23 23 47.8	
	comp=E,456nm,1.6s						
MID	**Middleton Isla**	**3.80**	**101**	Pn	**Pn**	**23 22 54.2**	**-1.0**
MID				IAML		23 23 40.1	
	comp=N,536nm,1.8s						
MID				IAML		23 23 42.2	
	comp=E,470nm,1.5s						
MID	**Middleton Isla**	**3.80**	**101**	P	**Pn**	**23 22 54.7**	**-0.5**
RND	**Reindeer**	**3.83**	**34**	Pn	**Pn**	**23 22 54.4**	**-1.2**
RND				IAML		23 23 43.1	
	comp=E,529nm,0.4s						
RND				IAML		23 23 43.7	
	comp=N,483nm,0.5s						
J20K	**Nowinta River**	**3.87**	**357**		**Pn**	**23 22 56.2**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.93**	**83**	Pn	**Pn**	**23 22 55.9**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.93**	**83**	P	**Pn**	**23 22 56.0**	**-0.8**
KLU	**Klutina**	**3.96**	**70**		**Pn**	**23 22 55.9**	**-1.3**
DIV	**Divide**	**3.96**	**75**	Pn	**Pn**	**23 22 56.1**	**-1.2**
BPAW	**Bear Paw Mtn.**	**3.98**	**17**		**Pn**	**23 22 56.2**	**-1.3**
BPAW				IAML		23 23 43.6	
	comp=N,230nm,0.8s						
BPAW				IAML		23 23 43.9	
	comp=E,229nm,0.6s						
O14K	**Tigyukauivet M**	**3.99**	**258**	Pn	**Pn**	**23 22 57.5**	**0.0**
O14K				IAML		23 25 52.4	
	comp=N,89nm,3.7s						
N14K	**Kuskokwak Cree**	**4.03**	**268**		**Pn**	**23 22 59.1**	**+1.0**
M24K	**Tolsona, Glenn**	**4.04**	**61**		**Pn**	**23 22 57.6**	**-0.6**
DHY	**Denali Highway**	**4.07**	**45**		**Pn**	**23 22 57.3**	**-1.4**
DHY				IAML		23 23 47.8	
	comp=E,676nm,0.5s						
M14K	**Bethel**	**4.12**	**279**		**Pn**	**23 22 59.8**	**+0.6**
M14K				IAML		23 24 12.0	
	comp=N,121nm,3.6s						
M14K				IAML		23 24 26.2	
	comp=E,82nm,3.0s						
ANNW	**Aniakchak Nort**	**4.13**	**217**		**Pn**	**23 22 58.8**	**-0.6**
K15K	**Wolf Creek Mou**	**4.27**	**301**		**Pn**	**23 23 01.2**	**+0.1**
ANPB	**Aniakchak Plen**	**4.29**	**216**		**Pn**	**23 22 59.9**	**-1.5**
BWN	**Browne**	**4.32**	**25**		**Pn**	**23 23 01.4**	**-0.4**
BWN				IAML		23 23 54.8	
	comp=E,247nm,0.7s						
BWN				IAML		23 23 59.4	
	comp=N,225nm,0.5s						
J16K	**Anvik River**	**4.42**	**315**		**Pn**	**23 23 02.5**	**-0.6**
RAGM	**Ragged Mountai**	**4.47**	**85**		**Pn**	**23 23 02.7**	**-1.0**
BMRM	**Bremner River**	**4.51**	**78**	Pn	**Pn**	**23 23 03.7**	**-0.5**
L14K	**Kuka Creek**	**4.53**	**287**	Pn	**Pn**	**23 23 05.0**	**+0.7**
L14K				IAML		23 25 22.3	
	comp=N,57nm,4.8s						
N25K	**Chitina, Valde**	**4.60**	**70**		**Pn**	**23 23 04.6**	**-0.8**
CHIR	**Chirikof Islan**	**4.64**	**194**	Pn	**Pn**	**23 23 03.3**	**-2.7**
CHIR				IAML		23 24 42.2	
	comp=E,315nm,5.0s						
CHIR				IAML		23 25 00.9	
	comp=

comp=N,301nm,0.5s
COLA IAML 23 24 23.9
comp=N,336nm,0.5s
COLA College 5.29 28 P **Pn** **23 23 13.1 -1.0**
H18K Honhosa River 5.30 338 Pn **Pn** **23 23 14.7 +0.4**
J14K Nanvaranak Lak 5.31 301 Pn **Pn** **23 23 14.6 +0.2**
J14K IAML 23 24 19.4
comp=E,37nm,3.0s
H21K Melozitna Rive 5.36 4 Pn **Pn** **23 23 15.0 -0.1**
H21K IAML 23 25 03.5
comp=N,35nm,4.7s
H19K Roundabout Mou 5.37 348 **Pn** **23 23 15.6 +0.4**
RIDG Independent Ri 5.38 47 **Pn** **23 23 15.4 +0.1**
SNH Sunshine Point 5.40 87 Pn **Pn** **23 23 14.8 -0.8**
SNH IAML 23 25 00.6
comp=E,232nm,2.9s
MENT Mentasta 5.42 57 **Pn** **23 23 15.5 -0.4**
H17K Granite Mounta 5.44 331 Pn **Pn** **23 23 16.1 -0.1**
IL31 5.45 32 **Pn** **23 23 15.2 -1.0**
ILAR Eielson Array 5.45 32 **Pn** **23 23 15.3 -0.9**
ILAR Eielson Array 5.45 32 P **Pn** **23 23 14.8 -1.4**
comp=E,14nm,0.3s,baz=220,slow=13,SNR=227
ILAR S **Sn** **23 24 15.4 -3.5**
comp=E,76nm,0.6s,baz=208,slow=26,SNR=6.0
IL03 Eielson Array 5.46 32 Pn **Pn** **23 23 15.5 -0.8**
M26K Nabesna, AK 5.54 63 **Pn** **23 23 17.6 +0.1**
PTPK Patty Peak 5.56 76 **Pn** **23 23 18.0 +0.1**
POKR Poker Plat Res 5.59 28 **Pn** **23 23 17.2 -0.9**
KIAG Kiagna River 5.60 79 **Pn** **23 23 18.1 -0.3**
L26K Log Cabin Wild 5.61 57 **Pn** **23 23 18.8 +0.4**
IMAR Indian Mountai 5.67 360 **Pn** **23 23 19.4 +0.3**
H22K Ishtalitna Cre 5.68 10 **Pn** **23 23 18.1 -1.1**
J25K Salcha River, 5.76 38 **Pn** **23 23 19.9 -0.5**
SCRK Sand Creek 5.83 47 **Pn** **23 23 20.8 -0.5**
H16K Elim 5.87 321 **Pn** **23 23 21.6 -0.1**
BARN Barnard Glacie 5.94 78 Pn **Pn** **23 23 22.9 -0.1**
G18K Tagagawik 6.02 340 Pn **Pn** **23 23 23.8 0.0**
M27K Edge Creek, AK 6.03 65 Pn **Pn** **23 23 24.4 +0.5**
G19K Purcell Mounta 6.03 347 Pn **Pn** **23 23 24.6 +0.7**
G17K Kiwalik Mounta 6.09 331 **Pn** **23 23 23.9 -0.7**
CTGM Chitina Glacie 6.10 79 Pn **Pn** **23 23 24.9 0.0**
H24K Noodor Dome 6.12 23 Pn **Pn** **23 23 23.5 -1.5**
SDPT Sand Point 6.18 219 Pn **Pn** **23 23 26.1 +0.3**
SDPT Sand Point 6.18 219 P **Pn** **23 23 26.6 +0.8**
G21K Allakaket 6.21 1 **Pn** **23 23 26.0 -0.1**
M11K Mekoryuk 6.22 276 **Pn** **23 23 26.9 +0.6**
L27K Beaver Creek, 6.26 59 Pn **Pn** **23 23 27.0 +0.1**
LOGN Logan Glacier 6.26 80 **Pn** **23 23 26.8 -0.3**
BCAR Beaver Creek A 6.28 59 **Pn** **23 23 27.1 -0.1**
J26L Joseph Creek 6.28 44 Pn **Pn** **23 23 27.1 -0.1**
CNBA Chernabura Isl 6.38 213 Pn **Pn** **23 23 28.1 -0.4**
PRP Porcupine Dome 6.39 32 **Pn** **23 23 27.4 -1.2**
SAMH Samovar Hills 6.42 86 **Pn** **23 23 27.6 -1.5**
G16K Koyuk River 6.43 326 Pn **Pn** **23 23 29.1 -0.1**
BVCY Beaver Creek 6.50 46 **Pn** **23 23 28.0 0.0**
K27K Chicken 6.57 51 Pn **Pn** **23 23 30.5 -0.3**
G23K Bananza Creek 6.61 13 **Pn** **23 23 30.0 -1.4**
PN7A Pavlof North-7 6.62 226 **Pn** **23 23 30.4 -1.3**
G15K Niukluk 6.68 319 **Pn** **23 23 32.9 +0.5**
PCA Pinnacle 6.69 86 Pn **Pn** **23 23 32.5 -0.1**
F19K Shaleruckik Mo 6.78 346 Pn **Pn** **23 23 34.1 +0.5**
F20K Avaraart Lake 6.80 353 Pn **Pn** **23 23 34.7 +0.8**
YUK8 Steele Glacier 6.87 76 **Pn** **23 23 35.8 +0.7**
ANM Nome 6.89 313 **Pn** **23 23 35.2 +0.2**
F21K Alatna River 6.92 1 Pn **Pn** **23 23 35.5 0.0**
I26K Coal Creek Min 6.93 39 Pn **Pn** **23 23 34.8 -0.8**
G24K Hadweenzic Riv 6.96 21 Pn **Pn** **23 23 34.2 -1.8**
F17K Baldwin Pennin 7.01 334 Pn **Pn** **23 23 38.0 +1.4**
BCPM Bancas Point 7.02 87 **Pn** **23 23 37.7 +0.8**
COLD Coldfoot 7.09 11 Pn **Pn** **23 23 36.7 -0.9**
PNL Peninsula 7.19 89 **Pn** **23 23 39.2 +0.1**
PNL Peninsula 7.19 89 P **Pn** **23 23 39.5 +0.4**
F22K John River 7.23 5 **Pn** **23 23 39.3 -0.3**
G25K Bearman Lake 7.28 24 **Pn** **23 23 38.5 -1.7**
EGAK Eagle 7.29 47 **Pn** **23 23 39.1 -1.3**
FYU Fort Yukon 7.30 27 **Pn** **23 23 38.4 -2.1**
E19K Redstone River 7.32 349 **Pn** **23 23 41.4 +0.7**
F15K North Star Dit 7.34 322 Pn **Pn** **23 23 41.2 +0.2**
O29M Mount Kennedy 7.50 84 Pn **Pn** **23 23 43.0 -0.2**
YUK6 Outpost Mounta 7.55 79 **Pn** **23 23 45.0 +0.9**
M29M Somme Creek 7.60 67 **Pn** **23 23 44.6 0.0**
F24K Squaw Lake 7.65 17 Pn **Pn** **23 23 43.8 -1.2**
DAWY Dawson 7.65 55 **Pn** **23 23 45.4 +0.3**
E17K Hotham Inlet 7.67 335 **Pn** **23 23 45.5 +0.2**
ISNN Isanotski Nort 7.74 229 **Pn** **23 23 45.5 -0.8**
E18K Tukpahlearik C 7.74 340 Pn **Pn** **23 23 47.5 +1.3**
YUK5 Granite Creek 7.79 77 **Pn** **23 23 47.3 +0.2**
ISLZ Isanotski Laza 7.79 228 **Pn** **23 23 45.6 -1.5**
L29M L29M 7.88 63 Pn **Pn** **23 23 49.1 +0.9**
E23K Chandalar 7.98 11 **Pn** **23 23 48.8 -0.9**
G26K Porcupine Rive 7.96 29 **Pn** **23 23 46.8 -2.2**
HYT Haines Junctio 7.98 79 **Pn** **23 23 49.9 +0.4**
P29M Windy Craggy 8.02 88 Pn **Pn** **23 23 49.9 -0.2**
H27K Steamboat Moun 8.05 38 **Pn** **23 23 49.0 -1.3**
F25K Christian Rive 8.09 22 **Pn** **23 23 49.0 -1.9**
E24K Your Creek 8.09 14 Pn **Pn** **23 23 50.0 -0.8**
I28M Miner Creek 8.09 45 **Pn** **23 23 50.1 -0.9**
E21K Killik River 8.14 359 Pn **Pn** **23 23 51.1 -0.5**
N30M Aishikik Lake 8.16 75 Pn **Pn** **23 23 50.9 -1.0**
BMAR Burnt Mountain 8.16 25 **Pn** **23 23 50.1 -1.7**
J29N Klondike Camp 8.27 53 **Pn** **23 23 54.1 +0.8**
TNA Tin City 8.34 315 Pn **Pn** **23 23 55.2 +1.2**
K29M Barlow Dome 8.35 58 Pn **Pn** **23 23 54.9 +0.6**
M30M Minto, Yukon 8.38 67 **Pn** **23 23 55.6 +0.9**
G27K Doyon Strip 8.41 34 Pn **Pn** **23 23 53.5 -1.5**
F26K Sheenjek River 8.48 25 **Pn** **23 23 53.7 -2.2**
E25K Arctic Village 8.57 21 **Pn** **23 23 55.4 -1.7**
I29M Ogilvie Camp, 8.63 48 **Pn** **23 23 57.6 -0.4**
O30N Mendenhall 8.67 79 **Pn** **23 23 59.0 +0.4**
N31M Braeburn, Yuko 8.79 75 **Pn** **23 24 00.3 +0.2**
C21K Knifeblade Rid 8.87 357 **Pn** **23 24 00.4 -0.7**
C18K Utukok River 8.95 342 Pn **Pn** **23 24 02.5 +0.4**
MAYO Mayo, Yukon 8.98 61 Pn **Pn** **23 24 01.0 -1.5**
H29M Whitestone 9.05 43 Pn **Pn** **23 24 03.1 -0.4**
J30M Hart River 9.07 55 Pn **Pn** **23 24 05.5 +1.7**
C19K Lookout Ridge 9.16 347 Pn **Pn** **23 24 05.7 +0.9**
SKAG Skagway 9.26 87 **Pn** **23 24 08.6 +2.4**
S31K Pelican 9.27 97 Pn **Pn** **23 24 08.0 +1.7**
WHY Whitehorse 9.27 80 **Pn** **23 24 06.5 0.0**
I30M Mount Dempster 9.30 51 **Pn** **23 24 07.1 +0.3**
B21K Ikpikpuk River 9.34 358 Pn **Pn** **23 24 06.2 -0.9**
E27K Coleen River 9.45 28 Pn **Pn** **23 24 07.1 -1.5**
M31M Drury Creek, Y 9.46 70 **Pn** **23 24 10.1 +1.2**
F28M Old Crow 9.47 34 **Pn** **23 24 07.4 -1.5**
EPYK Eagle Plains 9.70 44 **Pn** **23 24 11.5 -0.4**
BESE Bessie Mountai 9.73 92 **Pn** **23 24 14.3 +1.8**
FARO Faro, Yukon 9.95 70 **Pn** **23 24 17.1 +1.8**
P32M Atlin 10.03 86 **Pn** **23 24 17.8 +1.5**
B22K Teshekpuk Lake 10.05 0 **Pn** **23 24 14.9 -1.5**
JIS Juneau Island 10.07 93 Pn **Pn** **23 24 16.9 +0.2**
SIT Sitka 10.09 101 Pn **Pn** **23 24 16.9 0.0**
N32M Quiet Lake 10.10 76 Pn **Pn** **23 24 18.5 +1.2**
G30M tAoh Zraii Nji 10.19 42 Pn **Pn** **23 24 18.0 -0.3**
E28M Babbage River 10.27 30 Pn **Pn** **23 24 18.1 -1.2**
H31M Peel River 10.31 50 **Pn** **23 24 19.4 -0.5**
P33M Teslin, Yukon 10.35 82 **Pn** **23 24 20.6 +0.1**
D27M Malcolm River 10.43 26 Pn **Pn** **23 24 20.8 -0.6**
E29M Blow River 10.54 33 Pn **Pn** **23 24 22.1 -0.8**
G31M Satah River 10.82 44 **Pn** **23 24 25.6 -0.8**
Q32M Nakina River 10.91 88 **Pn** **23 24 27.6 -0.2**
R33M Jennings River 11.44 85 **Pn** **23 24 35.5 +0.9**
U33K Whale Pass 11.61 102 Pn **Pn** **23 24 38.4 +1.7**
INK Inuvik 11.78 39 **Pn** **23 24 38.7 0.0**
INK Inuvik 11.78 39 P **Pn** **23 24 37.8 -0.9**
comp=E,13nm,0.3s,baz=209,slow=9.6,SNR=85
INK S **Sn** **23 26 46.2 -3.2**
comp=E,7.3nm,1.1s,baz=335,slow=9.5,SNR=3.8
CRAG Craig 11.94 105 P **P** **23 24 47.4 +1.0**
DLBC Dease Lake 12.18 89 P **P** **23 24 48.4 -0.7**
DLBC Dease Lake 12.18 89 P **Pn** **23 24 44.5 +0.5**
comp=E,5.3nm,0.9s,baz=297,slow=12,SNR=6.7
T35M Bob Quinn 12.62 95 P **P** **23 24 55.2 +1.2**
V35K Ketchikan 12.74 103 P **P** **23 24 55.3 +0.1**
RUBB Prince Rupert 13.96 105 P **P** **23 25 11.1 +2.4**
ATKA Atka Island 13.96 243 Pn **Pn** **23 25 05.8 -0.7**
GRNB Grenville Isla 14.38 106 P **P** **23 25 13.7 +0.3**
ADK Adak 15.30 247 **Pn** **23 25 22.8 -0.2**
C36M Paulatuk 15.31 42 **Pn** **23 25 21.7 -1.1**
A36M Sachs Harbour 16.15 32 P **P** **23 25 32.4 -0.3**
HILA High Level 18.57 79 P **P** **23 25 59.3 0.0**

YKA Yellowknife Ar 18.62 66 P **P** **23 26 00.2 +0.4**
YKA Yellowknife Ar 18.62 66 P **P** **23 26 00.1 +0.3**
comp=E,15nm,0.8s,baz=280,slow=10,SNR=147
NLWA Neilton Lookou 21.60 113 P **P** **23 26 33.5 +1.7**
EDM Edmonton 22.90 90 P **P** **23 26 43.8 -0.3**
LON Longmire 23.02 112 P **P** **23 26 47.4 +2.1**
LON IAmb IAmb 23 27 03.7
comp=Z,13nm,1.5s
B08A Colville Reser 23.02 106 P **P** **23 26 46.4 +1.1**
B08A IAmb IAmb 23 26 47.8
comp=Z,8.3nm,0.7s
LTY Liberty 23.18 109 P **P** **23 26 47.6 +0.8**
LTY IAmb IAmb 23 26 49.2
comp=Z,8.4nm,0.6s
MXC Moxie City 23.85 110 P **P** **23 26 51.9 -0.9**
C09A Chrisman Ranch 23.92 106 P **P** **23 26 53.1 -0.3**
C09A IAmb IAmb 23 26 55.3
comp=Z,4.6nm,0.6s
E07A Sunnyside 24.07 110 P **P** **23 26 54.7 -0.1**
E07A IAmb IAmb 23 26 57.6
comp=Z,10nm,0.8s
D08A Wollman Farm, 24.14 108 P **P** **23 26 55.9 +0.4**
D08A IAmb IAmb 23 26 59.8
comp=Z,6.0nm,0.6s
NEW Newport 24.15 104 P **P** **23 26 56.0 +0.4**
NEW IAmb IAmb 23 26 57.9
comp=Z,7.3nm,0.9s
HAWA Hanford 24.34 110 P **P** **23 26 59.7 +2.4**
H04A Detroit Lake 24.42 116 P **P** **23 27 00.3 +2.3**
H04A IAmb IAmb 23 27 01.4
comp=Z,12nm,1.2s
E08A Dider Farm, El 24.49 109 P **P** **23 27 00.2 +1.6**
E08A IAmb IAmb 23 27 03.3
comp=Z,5.1nm,0.8s
DBO Dodson Butte 25.19 119 P **P** **23 27 07.2 +2.2**
K02D Willamette Mer 25.35 121 P **P** **23 27 08.0 +1.5**
K02D IAmb IAmb 23 27 10.0
comp=Z,6.0nm,0.8s
PINE Pine Mountain 25.67 115 P **P** **23 27 11.9 +2.3**
HUMO Hull Mountain 25.73 120 P **P** **23 27 12.0 +2.2**
F10A Beach Ranch, E 25.74 107 P **P** **23 27 11.1 +1.1**
F10A IAmb IAmb 23 27 12.1
comp=Z,7.0nm,0.8s
J05D Fort Rock, OR 25.94 116 P **P** **23 27 14.3 +2.4**
J05D IAmb IAmb 23 27 15.3
comp=Z,8.3nm,1.3s
I07A Izee 26.10 113 P **P** **23 27 15.0 +1.7**
L04D Klamath Falls 26.32 119 P **P** **23 27 17.2 +1.8**
L04D IAmb IAmb 23 27 36.9
comp=Z,9.2nm,1.1s
BMO Blue Mountains 26.53 109 P **P** **23 27 18.7 +1.6**
BMO IAmb IAmb 23 27 19.6
comp=Z,4.7nm,0.8s
PLID Pearl Lake 26.97 107 P **P** **23 27 22.2 +1.0**
OVMT Ovando 26.99 101 P **P** **23 27 21.8 +0.6**
BPMT Black Pine Rid 27.22 102 P **P** **23 27 24.2 +0.8**
LYMT Lyon Mountain 27.41 100 P **P** **23 27 26.2 +1.2**
HRY Holter Researc 27.81 100 P **P** **23 27 29.6 +1.1**
KCPM Cahto Peak 27.88 124 P **P** **23 27 29.7 +0.5**
EGMT Eagleton 27.93 96 P **P** **23 27 30.3 +0.9**
EGMT IAmb IAmb 23 27 31.1
comp=Z,7.1nm,1.0s
LRM Limekiln Ridge 28.14 102 P **P** **23 27 33.1 +1.5**
MFID Camas Ranch 28.31 110 P **P** **23 27 34.7 +1.7**
MFID IAmb IAmb 23 27 35.3
comp=Z,3.5nm,0.8s
MCMT McKenzie Canyo 28.67 104 P **P** **23 27 37.7 +1.4**
BOZ Bozeman (W) 28.70 102 P **P** **23 27 37.2 +0.8**
BOZ IAmb IAmb 23 27 38.8
comp=Z,3.5nm,0.7s
HLID Hailey 28.87 108 P **P** **23 27 38.7 +0.8**
FCC Fort Churchill 29.35 66 P **P** **23 27 42.6 +0.8**
FCC IAmb IAmb 23 28 24.6
comp=Z,6.2nm,1.3s
YHL Hebgen Lake 29.46 102 P **P** **23 27 45.0 +1.7**
PAHR Pah Rah Range 29.65 119 P **P** **23 27 46.5 +1.6**
YHH Holmes Hill 29.67 102 P **P** **23 27 47.1 +2.0**
MPK Martis Peak 29.71 120 P **P** **23 27 45.8 +0.3**
MPK IAmb IAmb 23 27 48.9
comp=Z,4.4nm,0.7s
EMB Emerald Bay 29.94 120 P **P** **23 27 49.1 +1.6**
EMB IAmb IAmb 23 27 49.7
comp=Z,4.0nm,0.5s
PNTR Pine Nut 30.07 120 P **P** **23 27 50.6 +2.0**
PNTR IAmb IAmb 23 27 51.5
comp=Z,4.0nm,0.8s
RLMT Red Lodge 30.20 100 P **P** **23 27 52.1 +2.4**
FLWY Flagg Ranch 30.26 103 P **P** **23 27 49.9 -0.4**
IMW Indian Meadow 30.28 103 P **P** **23 27 51.4 +0.8**
MOOW Moose Ponds 30.49 103 P **P** **23 27 52.6 +0.3**
TPAW Teton Pass 30.58 104 P **P** **23 27 55.4 +2.3**
TPAW IAmb IAmb 23 27 56.3
comp=Z,7.5nm,0.7s
LAO LASA Array 30.59 95 P **P** **23 27 55.0 +2.0**
CMB Columbia Colle 30.61 122 P **P** **23 27 54.5 +1.3**
WAKR Walker 30.62 120 P **P** **23 27 55.6 +2.1**
LOHW Long Hollow 30.66 103 P **P** **23 27 56.0 +2.2**
LOHW IAmb IAmb 23 27 56.9
comp=Z,5.7nm,0.8s
ELK Elko 30.67 112 P **P** **23 27 56.3 +2.4**
ELK IAmb IAmb 23 27 56.6
comp=Z,3.7nm,0.5s
REDW Red Top Meadow 30.72 104 P **P** **23 27 56.8 +2.4**
KVN Kaiserville 30.75 118 P **P** **23 27 56.1 +1.5**
KVN IAmb IAmb 23 27 57.3
comp=Z,5.7nm,1.2s
RYN Ryan 30.92 119 P **P** **23 27 57.4 +1.4**
NVAR Mina Array Bea 31.18 119 P **P** **23 28 00.5 +2.1**
NVAR Mina Array Bea 31.18 119 P **P** **23 28 00.2 +1.9**
comp=Z,2.4nm,0.7s,baz=312,slow=8.9,SNR=19
comp=Z,2.4nm,0.7s
NV11 Mina Array Sit 31.24 118 P **P** **23 28 00.2 +1.4**
HWUT Hardware Ranch 31.72 107 P **P** **23 28 05.0 +1.9**
BW06 Boulder Array 31.80 103 P **P** **23 28 04.4 +0.7**
PD31 Pinedale Array 31.80 103 P **P** **23 28 04.8 +1.0**
PDAR Pinedale Array 31.80 103 P **P** **23 28 05.2 +1.5**
comp=Z,1.3nm,0.6s,baz=321,slow=3.9,SNR=15
comp=Z,1.3nm,0.6s
PMPB Monarch Peak 31.98 124 P **P** **23 28 07.6 +2.3**
PMPB IAmb IAmb 23 28 33.6
comp=Z,11nm,1.3s
DUG Dugway, Tooele 32.23 110 P **P** **23 28 07.9 +0.4**
R11B Troy Canyon, C 32.45 115 P **P** **23 28 10.9 +1.5**
R11B ScP **ScP** **23 34 17.1 -0.8**
SPR3 Spring Creek 3 32.49 113 P **P** **23 28 09.9 -0.1**
SPR3 IAmb IAmb 23 28 13.2
comp=Z,3.7nm,0.7s
NLU North Lily Min 32.77 109 P **P** **23 28 14.0 +1.8**
NLU IAmb IAmb 23 28 14.6
comp=Z,4.7nm,0.7s
BSUT Blindstream Ca 32.93 107 P **P** **23 28 16.1 +2.3**
BSUT IAmb IAmb 23 28 16.7
comp=Z,5.0nm,0.7s
WCT Wildcat Mounta 33.27 118 P **P** **23 28 18.1 +1.6**
TPNV Topopah Spring 33.31 118 P **P** **23 28 18.8 +1.9**
TPNV IAmb IAmb 23 28 19.4
comp=Z,3.6nm,0.6s
ULM Lac du Bonnet 33.35 81 P **P** **23 28 17.6 +0.7**
ULM IAmb IAmb 23 28 18.0
comp=Z,5.9nm,0.5s
ULM Lac du Bonnet 33.35 81 P **P** **23 28 17.4 +0.5**
comp=Z,4.7nm,0.5s,baz=310,slow=9.0,SNR=17
comp=Z,4.7nm,0.5s
E28A Huff 33.42 90 P **P** **23 28 17.8 +0.2**
RDMU Red Mountain 33.47 106 P **P** **23 28 18.2 -0.1**
RDMU IAmb IAmb 23 28 21.0
comp=Z,9.6nm,1.3s
RSSD Black Hills 33.50 96 P **P** **23 28 16.5 -2.0**
RSSD IAmb IAmb 23 28 21.0
comp=Z,6.1nm,0.8s
MVU Marysvale 33.86 111 P **P** **23 28 23.9 +2.1**
MSU Marysvale 33.87 111 P **P** **23 28 23.4 +1.6**
Q16A Castle Valley 34.02 110 P **P** **23 28 23.8 +0.8**
Q16A IAmb IAmb 23 28 26.5
comp=Z,9.5nm,1.1s
SHPR Sheep Range 34.16 117 P **P** **23 28 24.6 +0.4**
SRU San Rafael Swe 34.17 109 P **P** **23 28 26.6 +2.3**
MTPU Mount Pierson 34.25 112 P **P** **23 28 25.4 +0.2**
O20A White River Ci 34.45 105 P **P** **23 28 28.0 +1.3**
O20A IAmb IAmb 23 28 28.9
comp=Z,6.1nm,0.5s
LCMT Little Creek M 34.60 114 P **P** **23 28 28.8 +0.8**
PKCU Pink Cliffs 34.68 112 P **P** **23 28 31.2 +2.4**
KNB Kanab 34.79 113 P **P** **23 28 31.5 +1.8**

V12A Nelson 34.95 117 P **P** **23 28 32.7 +1.8**
HMU Henry Mountain 35.00 110 P **P** **23 28 33.2 +1.6**
PV21 Cone Mtn., Par 35.34 108 P **P** **23 28 35.8 +1.4**
PV21 IAmb IAmb 23 28 36.2
comp=Z,4.3nm,0.6s
PV23 Carpenter Ridg 35.41 108 P **P** **23 28 36.6 +1.6**
PV22 Blue Mesa, Par 35.45 107 P **P** **23 28 36.9 +1.6**
PV22 IAmb IAmb 23 28 38.0
comp=Z,4.8nm,0.8s
PV14 Lion Creek, Pa 35.46 108 P **P** **23 28 36.6 +1.2**
PV14 IAmb IAmb 23 28 37.7
comp=Z,4.2nm,0.6s
PV04 Paradox Valley 35.50 108 P **P** **23 28 37.6 +1.9**
U15A North Rim 35.52 113 P **P** **23 28 38.0 +2.0**
PV19 Morning Glory 35.53 108 P **P** **23 28 38.0 +2.0**
PV19 IAmb IAmb 23 28 38.2
comp=Z,4.4nm,0.7s
PV16 Nyswonger Mesa 35.56 108 P **P** **23 28 37.6 +1.3**
PV16 IAmb IAmb 23 28 38.5
comp=Z,4.9nm,0.8s
PV17 East Wray Mesa 35.57 108 P **P** **23 28 37.9 +1.6**
PV17 IAmb IAmb 23 28 38.2
comp=Z,5.6nm,0.6s
PV07 Paradox Valley 35.59 107 P **P** **23 28 37.8 +1.3**
PV11 David Mesa, Pa 35.59 108 P **P** **23 28 37.9 +1.4**
PV11 IAmb IAmb 23 28 41.3
comp=Z,8.0nm,0.8s
PV18 Skein Mesa, Pa 35.62 108 P **P** **23 28 38.0 +1.3**
PV18 IAmb IAmb 23 28 39.0
comp=Z,5.8nm,0.7s
PV03 Paradox Valley 35.64 108 P **P** **23 28 38.2 +1.3**
B35A Bob, Littlefor 35.65 82 P **P** **23 28 37.6 +1.0**
PV05 Paradox Valley 35.66 108 P **P** **23 28 38.3 +1.2**
PV05 IAmb IAmb 23 28 39.5
comp=Z,4.6nm,0.7s
PV02 Paradox Valley 35.73 108 P **P** **23 28 39.0 +1.3**
PV02 IAmb IAmb 23 28 40.0
comp=Z,5.0nm,0.9s
PV15 Paradox Valley 35.74 107 P **P** **23 28 38.8 +0.9**
PV15 IAmb IAmb 23 28 39.9
comp=Z,5.2nm,0.7s
PV01 Paradox Valley 35.87 108 P **P** **23 28 40.4 +1.5**
PV01 IAmb IAmb 23 28 41.2
comp=Z,7.6nm,0.6s
MVCO Mesa Verde 36.64 108 P **P** **23 28 46.7 +1.2**
WUAZ Wupatki 36.69 113 P **P** **23 28 47.9 +2.1**
Q24A Divide 36.85 103 P **P** **23 28 46.9 -0.5**
Q24A IAmb IAmb 23 28 49.5
comp=Z,3.8nm,0.7s
F36A Milaca 37.48 85 P **P** **23 28 52.5 +0.4**
SDCO Great Sand Dun 37.64 105 P **P** **23 28 55.0 +1.0**
E38A The Farm, Brul 37.93 82 P **P** **23 28 56.2 +0.3**
I37A Lemond, Waseca 38.86 87 P **P** **23 29 05.0 +1.3**
G40A Rib Lake 39.54 83 P **P** **23 29 09.8 +0.5**
LENM Lemitar 39.84 110 P **P** **23 29 13.1 +1.0**
E43A Lone Tree Farm 40.33 79 P **P** **23 29 16.3 +0.6**
KSU1 Kansas State U 40.94 95 P **P** **23 29 20.6 -0.2**
KSU1 IAmb IAmb 23 29 22.2
comp=Z,9.4nm,0.8s
I42A Draeger Farm, 41.17 83 P **P** **23 29 23.0 +0.3**
I42A IAmb IAmb 23 30 02.2
comp=Z,14nm,0.9s
JFWS Jewell Farm 41.23 85 P **P** **23 29 22.9 -0.2**
L40A Anamosa 41.38 87 P **P** **23 29 24.4 +0.1**
E46A Sault Ste Mari 41.65 77 P **P** **23 29 27.0 +0.5**
OK035 E0210 Rd and N 41.77 99 P **P** **23 29 28.3 +0.7**
MSTX Muleshoe 41.99 105 P **P** **23 29 28.4 -1.2**
MSTX IAmb IAmb 23 29 31.5
comp=Z,6.1nm,0.8s
MNTX Cornudas Mount 42.63 110 P **P** **23 29 36.1 +1.5**
GDL2 Guadalupe Moun 42.69 109 P **P** **23 29 36.0 +0.8**
T35A Sooner Cattle 42.69 97 P **P** **23 29 35.1 +0.1**
T35A IAmb IAmb 23 29 36.2
comp=Z,6.3nm,0.8s
CLN7 Carlsbad 7 42.78 108 P **P** **23 29 36.2 +0.3**
P40A Paris 42.88 90 P **P** **23 29 36.4 -0.1**
P40A IAmb IAmb 23 29 37.5
comp=Z,14nm,1.2s
WMOK Wichita Mounta 43.30 101 P **P** **23 29 41.1 +1.1**
NRIK Noril'sk 43.45 333 P **P** **23 29 40.2 -0.4**
NRIK IAmb IAmb 23 29 41.2
comp=Z,4.2nm,0.5s
NRIK Noril'sk 43.45 333 P **P** **23 29 40.3 -0.4**
comp=Z,3.7nm,0.5s,baz=47,slow=6.9,SNR=9.0
comp=Z,3.7nm,0.5s
VHRN Van Horn 43.58 110 P **P** **23 29 44.3 +2.0**
SCHQ Schefferville 43.66 57 P **P** **23 29 42.3 -0.3**
SCHQ IAmb IAmb 23 29 52.5
comp=Z,15nm,1.4s
SCHQ Schefferville 43.66 57 P **P** **23 29 42.1 -0.5**
comp=Z,2.5nm,0.4s,baz=305,slow=7.1,SNR=17
comp=Z,2.5nm,0.4s
S39A Bolivar 43.66 93 P **P** **23 29 41.5 -1.3**
R40A Maddies Statio 43.72 92 P **P** **23 29 42.8 -0.5**
R40A IAmb IAmb 23 29 43.5
comp=Z,4.5nm,0.6s
W35A Tecumseh 43.91 99 P **P** **23 29 44.4 -0.4**
W35A IAmb IAmb 23 29 45.8
comp=Z,7.8nm,0.7s
U38A Gravette 44.12 95 P **P** **23 29 45.8 -0.7**
U38A IAmb IAmb 23 29 46.7
comp=Z,5.7nm,0.8s
HHAR Hobbs 44.46 95 P **P** **23 29 48.7 -0.5**
SGCY Sterling City 44.47 105 P **P** **23 29 49.6 +0.3**
SGCY IAmb IAmb 23 29 50.8
comp=Z,10.0nm,0.6s
MGMO Mountain Grove 44.61 93 P **P** **23 29 49.5 -0.8**
SFIN Lafayette 44.69 85 P **P** **23 29 51.0 +0.1**
SFIN IAmb IAmb 23 29 51.8
comp=Z,9.8nm,0.7s
N47A Urbana 45.01 84 P **P** **23 29 52.8 -0.6**
N47A IAmb IAmb 23 29 54.1
comp=Z,15nm,0.8s
PLPT Palo Pinto 45.09 102 P **P** **23 29 54.6 +0.4**
PLPT IAmb IAmb 23 29 55.0
comp=Z,5.8nm,0.5s
P46A Rosedale 45.22 86 P **P** **23 29 55.3 +0.2**
P46A IAmb IAmb 23 29 56.5
comp=Z,10.0nm,0.7s
OZNA Ozona 45.28 106 P **P** **23 29 56.7 +0.9**
OZNA IAmb IAmb 23 29 57.8
comp=Z,9.1nm,1.1s
TX31 Lajitas Ar. Si 45.41 110 P **P** **23 29 58.0 +1.2**
TXAR Lajitas Array 45.41 110 P **P** **23 29 58.1 +1.2**
comp=Z,1.5nm,0.7s,baz=328,slow=5.9,SNR=20
comp=Z,1.5nm,0.7s
S44A Carbondale 45.68 90 P **P** **23 29 58.0 -0.8**
N49A Columbus Grove 45.72 82 P **P** **23 29 58.8 -0.3**
N49A IAmb IAmb 23 29 59.8
comp=Z,18nm,1.2s
O48B Farmland 45.75 84 P **P** **23 29 58.3 -0.9**
PBMO Poplar Bluff 45.81 91 P **P** **23 29 59.4 -0.4**
JCT Junction City 46.29 105 P **P** **23 30 04.2 +0.6**
TRQ Mont Tremblant 46.40 70 P **P** **23 30 03.6 -0.8**
TRQ IAmb IAmb 23 30 13.4
comp=Z,20nm,1.4s
N51A Ashland 46.61 81 P **P** **23 30 05.8 -0.2**
N51A IAmb IAmb 23 30 06.4
comp=Z,8.2nm,0.5s
M52A Chesterland 46.64 80 P **P** **23 30 06.2 0.0**
LDAQ Lac Daran 46.65 66 P **P** **23 30 06.7 +0.5**
LDAQ IAmb IAmb 23 30 23.2
comp=Z,17nm,1.4s
DRIO Del Rio 46.77 107 P **P** **23 30 07.7 +0.3**
DRIO IAmb IAmb 23 30 08.6
comp=Z,12nm,1.4s
WBO Williamsburg 46.97 72 P **P** **23 30 08.1 -0.6**
WBO IAmb IAmb 23 30 22.4
comp=Z,11nm,1.3s
M53A Wt Miller and 47.05 79 P **P** **23 30 09.7 +0.3**
ALLY Alegheny Colle 47.15 79 P **P** **23 30 10.5 +0.4**
WVNY West Valley, N 47.33 77 P **P** **23 30 11.9 +0.4**
WVNY IAmb IAmb 23 30 12.4
comp=Z,10nm,0.8s
N53A Lisbon 47.45 80 P **P** **23 30 12.6 +0.1**
N53A IAmb IAmb 23 30 40.7
comp=Z,24nm,1.3s
Q51A Peebles 47.59 83 P **P** **23 30 13.5 0.0**
O53A New Philadelph 47.70 81 P **P** **23 30 13.1 -1.2**
O53A IAmb IAmb 23 30 26.7
comp=Z,16nm,1.2s
P52A Corning 47.72 82 P **P** **23 30 13.8 -0.7**
P52A IAmb IAmb 23 30 19.7
comp=Z,14nm,1.2s

J57A	**Williamstown**	**47.82**	**74**	P	**P**	**23 30 14.8**	**-0.4**
J57A				IAmb	IAmb	23 30 28.7	
	comp=Z,16nm,1.2s						
SSFO	**Shawnee State**	**47.91**	**84**	P	**P**	**23 30 15.6**	**-0.5**
M55A	**Ridgway**	**47.96**	**78**	P	**P**	**23 30 16.7**	**+0.3**
L56A	**Greenwood**	**48.04**	**76**	P	**P**	**23 30 17.4**	**+0.4**
OXF	**Oxford**	**48.11**	**92**	P	**P**	**23 30 18.2**	**+0.6**
O54A	**Avella**	**48.16**	**80**	P	**P**	**23 30 17.7**	**-0.2**
O54A				IAmb	IAmb	23 30 18.3	
	comp=Z,15nm,0.9s						
P53A	**Whipple**	**48.20**	**81**	P	**P**	**23 30 18.0**	**-0.2**
J58A	**Remsen**	**48.20**	**73**	P	**P**	**23 30 17.9**	**-0.3**
D62A	**Allapoint, All**	**48.30**	**66**	P	**P**	**23 30 18.5**	**-0.4**
PLAL	**Pickwick Lake**	**48.40**	**91**	P	**P**	**23 30 19.8**	**0.0**
PLAL				IAmb	IAmb	23 30 20.1	
	comp=Z,5.6nm,0.6s						
V48A	**Smith Brothers**	**48.43**	**89**	P	**P**	**23 30 19.7**	**-0.2**
V48A				IAmb	IAmb	23 31 02.7	
	comp=Z,12nm,1.5s						
ARCES	**ARCESS Array B**	**50.42**	**0**	P	**P**	**23 30 34.4**	**-0.2**
	comp=Z,4.9nm,1.0s,baz=354,slow=7.3,SNR=1.6						
	comp=Z,4.9nm,1.0s						
V53A	**Saluda**	**50.47**	**86**	P	**P**	**23 30 35.6**	**+0.1**
V53A				IAmb	IAmb	23 30 36.4	
	comp=Z,20nm,1.4s						
WUPA	**West Chester U**	**50.67**	**77**	P	**P**	**23 30 36.6**	**-0.3**
V55A	**Taylorsville**	**51.12**	**84**	P	**P**	**23 30 39.9**	**-0.4**
V55A				IAmb	IAmb	23 31 04.4	
	comp=Z,14nm,1.2s						
LMN	**Caledonia Moun**	**51.15**	**64**	P	**P**	**23 30 39.6**	**-0.7**
Y52A	**Lilburn**	**51.29**	**88**	P	**P**	**23 30 41.1**	**-0.5**
Y52A				IAmb	IAmb	23 31 13.6	
	comp=Z,20nm,1.4s						
JSRW	**J. Sargeant Re**	**51.31**	**80**	P	**P**	**23 30 41.5**	**-0.2**
HODGE	**Hodges**	**51.89**	**86**	P	**P**	**23 30 45.7**	**-0.3**
HODGE				IAmb	IAmb	23 30 51.6	
	comp=Z,19nm,1.5s						
T59A	**Double "B" Far**	**52.04**	**80**	P	**P**	**23 30 46.7**	**-0.3**
JSC	**Jenkinsville**	**52.35**	**86**	P	**P**	**23 30 48.9**	**-0.4**
BIRD	**Birdtown, Kers**	**52.45**	**85**	P	**P**	**23 30 49.9**	**-0.2**
KSRS	**Korea Array**	**52.78**	**282**	P	**P**	**23 30 52.5**	**0.0**
	comp=Z,3.7nm,0.8s,baz=33,slow=6.9,SNR=11						
	comp=Z,3.7nm,0.8s						
ULN	**Ulaanbaatar**	**54.03**	**305**	P	**P**	**23 31 02.1**	**+0.5**
ULN				IAmb	IAmb	23 31 03.3	
	comp=Z,3.3nm,0.6s						
SONM	**Songino Array**	**54.32**	**305**	P	**P**	**23 31 04.3**	**+0.6**
SONM				IAmb	IAmb	23 31 05.9	
	comp=Z,4.3nm,0.7s						
SONM	**Songino Array**	**54.32**	**305**	P	**P**	**23 31 03.9**	**+0.2**
	comp=Z,6.3nm,0.8s,baz=50,slow=5.4,SNR=38						
	comp=Z,6.3nm,0.8s						
ZAA0	**Zalesovo Array**	**56.91**	**323**	P	**P**	**23 31 21.6**	**-0.2**
ZAA0				IAmb	IAmb	23 31 22.2	
	comp=Z,8.1nm,1.2s						
ZALV	**Zalesovo Beam**	**56.91**	**323**	P	**P**	**23 31 21.7**	**-0.1**
ZALV	**Zalesovo Beam**	**56.91**	**323**	P	**P**	**23 31 21.3**	**-0.6**
	comp=Z,3.2nm,0.4s,baz=35,slow=6.7,SNR=19						
	comp=Z,3.2nm,0.4s						
HHC	**Hu-ho-hao-te**	**57.73**	**297**	*eP*	**P**	**23 31 28.5**	**+0.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
FINES	**FINESS Array B**	**58.55**	**0**	P	**P**	**23 31 32.5**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=354,slow=9.8,SNR=3.8						
	comp=Z,2.4nm,0.9s						
KURK	**Kurchatov**	**61.56**	**325**	P	**P**	**23 31 53.2**	**-0.6**
KURK				IAmb	IAmb	23 31 53.9	
	comp=Z,5.3nm,0.9s						
BRVK	**Borovoye**	**61.61**	**332**	P	**P**	**23 31 53.6**	**-0.5**
BRVK				IAmb	IAmb	23 31 54.1	
	comp=Z,4.8nm,0.8s						
BVAR	**Borovoye Array**	**61.62**	**331**	P	**P**	**23 31 53.5**	**-0.6**
	comp=Z,7.4nm,0.7s,baz=29,slow=6.8,SNR=43						
	comp=Z,7.4nm,0.7s						
KURBB	**Kurchatov Arra**	**61.67**	**325**	P	**P**	**23 31 53.8**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=29,slow=6.7,SNR=36						
	comp=Z,3.6nm,0.7s						
MK31	**Makanchi Array**	**63.96**	**321**	P	**P**	**23 32 08.8**	**-1.0**
MKAR	**Makanchi Array**	**63.96**	**321**	P	**P**	**23 32 09.0**	**-0.7**
MKAR	**Makanchi Array**	**63.96**	**321**	P	**P**	**23 32 08.7**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=39,slow=7.0,SNR=37						
	comp=Z,2.1nm,0.7s						
GTA	**Gaotai**	**63.96**	**304**	*eP*	**P**	**23 32 09.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**64.05**	**321**	P	**P**	**23 32 09.3**	**-1.0**
MAKZ				IAmb	IAmb	23 32 10.1	
	comp=Z,2.9nm,0.5s						
WMQ	**Urumqi**	**64.79**	**315**	*eP*	**P**	**23 32 17.8**	**+2.6**
ABKAR	**Akbulak array**	**67.42**	**337**	P	**P**	**23 32 31.2**	**-0.5**
ABKAR				IAmb	IAmb	23 32 31.7	
	comp=Z,4.5nm,0.7s						
MTDJ	**Mount Denham**	**67.48**	**93**	P	**P**	**23 32 32.5**	**-0.1**
PZH	**PanZhiHua**	**74.17**	**296**	P	**P**	**23 33 12.3**	**-0.7**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
SIMJ	**Simiganj**	**75.33**	**327**	P	**P**	**23 33 18.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**82.42**	**294**	P	**P**	**23 33 57.4**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=14,slow=6.2,SNR=10						
	comp=Z,1.3nm,0.5s						
QSPA	**South Pole Qui**	**150.13**	**180**	PKPbc	**PKPbc**	**23 41 22.4**	**-1.5**
	comp=Z,4.0nm,0.7s,baz=342,slow=1.9,SNR=11						

*ISK **14** 23:36:27.4,41.12N×39.74E,h5km,ML2.3/9*
*AFAD **14** 23:36:30.6±0.0,41.06N×39.92E,h7km±3km,ML2.5*
ISC 14 23:36:27.9±1.3,41.19N±0.05×39.76E±0.03,h14km±8km,
n19,σ1ᵎ62/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACK	**Trabzon**	**0.24**	**179**	P	**Pg**	**23 36 34.1**	**+0.9**
MACK				S	**Sg**	**23 36 37.9**	**+1.1**
MACK				*i* AML	AML	23 36 38.0	
	comp=N,3μm,0.2s						
MACK				*i* AML	AML	23 36 38.0	
	comp=E,2μm,0.2s						
MACK				*i* AML	AML	23 36 39.0	
	comp=Z,1μm,0.1s						
IZDR	**Rize**	**0.73**	**123**	P	**Pg**	**23 36 41.5**	**-0.5**
IZDR				S	**Sg**	**23 36 50.4**	**-1.2**
CHOM	**Cayeli-Rize**	**0.76**	**97**	Pg	**Pg**	**23 36 42.9**	**+0.2**
CHOM				Sg	**Sb**	**23 36 53.9**	**+0.8**
ESPY	**Espiye-Giresun**	**0.83**	**251**	Pg	**Pg**	**23 36 43.3**	**-0.6**
ESPY				Sg	**Sg**	**23 36 54.1**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**0.84**	**160**	Pg	**Pg**	**23 36 43.2**	**-1.1**
BAYT				Sg	**Sb**	**23 36 54.2**	**-1.5**
BAYB	**BAYBURT**	**1.00**	**158**	P	**Pg**	**23 36 46.5**	**-0.8**
BAYB				S	**Sb**	**23 36 58.8**	**-1.5**
KRIK	**Erzurum-spir**	**1.23**	**133**	P	Pn	23 36 58.6	+7.8
KRIK				S	**Sn**	**23 37 14.0**	**+6.7**
KOPT	**Kop Dagi**	**1.30**	**154**	P	**Pb**	**23 36 52.2**	**0.0**
KOPT				S	**Sb**	**23 37 07.9**	**-0.9**
KOPT				*i* AML	AML	23 37 13.0	
	comp=N,68nm,0.4s						
BCA	**Borcka**	**1.42**	**79**	Pn	**Pn**	**23 36 54.3**	**+1.0**
DBAD	**Bademkaya**	**1.47**	**96**	P	**Pn**	**23 36 53.9**	**-0.1**
DBAD				S	**Sb**	**23 37 12.1**	**-1.5**
DBAD				*i* AML	AML	23 37 13.0	
	comp=E,74nm,0.3s						
DBAD				*i* AML	AML	23 37 14.0	
	comp=Z,48nm,0.4s						
DBAD				*i* AML	AML	23 37 14.0	
	comp=N,73nm,0.3s						
DDEM	**Demirkent**	**1.53**	**100**	P	**Pn**	**23 36 55.2**	**+0.3**
DDEM				S	**Sn**	**23 37 14.5**	**-0.2**
DDEM				*i* AML	AML	23 37 18.0	
	comp=N,295nm,0.4s						
DDEM				*i* AML	AML	23 37 19.0	
	comp=E,100nm,0.4s						
ERZN	**Erzincan**	**1.60**	**181**	Pn	**Pn**	**23 36 56.1**	**+0.2**
ERZN				Sn	**Sg**	**23 37 17.1**	**-2.3**
DAGI	**Agillar**	**1.63**	**93**	P	**Pn**	**23 36 56.1**	**-0.2**
DAGI				S	**Sn**	**23 37 15.2**	**-1.9**
ETEKE	**Tekederesi - E**	**1.74**	**143**	P	**Pg**	**23 37 00.4**	**-1.0**
ETEKE				S	**Sg**	**23 37 24.4**	**+0.3**
ERZM	**Erzurum**	**1.77**	**136**	P	**Pg**	**23 37 00.9**	**-1.0**
ERZM				S	**Sg**	**23 37 25.2**	**+0.3**
YEDI	**Yedisu-Bingol**	**1.85**	**161**	Pn	**Pn**	**23 36 59.8**	**+0.5**
YEDI				Sn	**Sb**	**23 37 23.5**	**-1.1**
RSDY	**Resadiye-TOKAT**	**2.01**	**248**	Pn	**Pn**	**23 37 02.2**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.06**	**107**	Pn	**Pn**	**23 37 03.4**	**+1.1**
PTK	**Pertek**	**2.31**	**187**	Pn	**Pn**	**23 37 06.6**	**+0.9**

*IDC **14** 23:42:06.9±5.1,16.40N×101.02W,h0km,mb3.6/4,*
mbtmp3.5/6,ML3.0/2,Error ellipse: s-maj=99.4km
s-min=24.5km az=11.0
*MEX **14** 23:42:10.3±0.5,16.60N×101.06W,h10km,MD4.2*
ISC 14 23:42:09.8±1.6,16.80N±0.06×101.02W±0.04,h5km±9km,
n24,σ1ᵎ93/39,mb3.6/4,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATYC	**Atoyac**	**0.69**	**53**	*eP*	**Pb**	**23 42 24.1**	**-0.4**
ATYC				*eS*	**Sg**	**23 42 30.8**	**-1.4**
CAIG	**El Cayaco**	**0.76**	**71**	*iP*	**Pg**	**23 42 24.8**	**+0.4**
CAIG				*eS*	**Sg**	**23 42 34.5**	**+0.3**
PET2	**Petatlan**	**0.77**	**342**	*iP*	**Pb**	**23 42 25.5**	**-0.3**
PET2				*eS*	**Sg**	**23 42 32.9**	**-1.8**
ZIIG	**Zihuatanejo**	**0.91**	**332**	*iP*	**Pg**	**23 42 27.5**	**+0.2**
ZIIG				*eS*	**Sg**	**23 42 39.5**	**+0.4**
DAIG	**Los Arroyos**	**1.32**	**80**	*eP*	**Pn**	**23 42 33.0**	**-2.0**
DAIG				*eS*	**Sb**	**23 42 47.3**	**-5.2**
ARIG	**Puente Sto Nin**	**1.61**	**23**	*eP*	**Pn**	**23 42 38.2**	**-0.7**
ARIG				*eS*	**Sn**	**23 43 00.0**	**-0.1**
MEIG	**Mezcala**	**1.74**	**50**	*eP*	**Pn**	**23 42 40.2**	**-0.7**
MEIG				*eS*	**Sn**	**23 43 04.0**	**+0.5**
PLIG	**Platanillo**	**2.14**	**42**	*eP*	**Pn**	**23 42 46.0**	**-0.4**
PLIG				*eS*	**Sb**	**23 43 16.2**	**0.0**
MGIG	**Malinaltepec**	**2.32**	**79**	*eP*	**Pn**	**23 42 46.6**	**-2.3**
TLIG	**Tlapa**	**2.46**	**72**	*eP*	**Pn**	**23 42 50.1**	**-0.7**
TLIG				*eS*	**Sn**	**23 43 19.2**	**-2.1**
MMIG	**Aquila**	**2.67**	**304**	*eP*	**Pn**	**23 42 52.5**	**-1.0**
MMIG				*eS*	Sg	23 43 47.5	+12
YAIG	**Yautepec**	**2.77**	**42**	*eP*	**Pn**	**23 42 54.0**	**-1.0**
YAIG				*iS*	**Sn**	**23 43 31.9**	**+2.9**
PNIG	**Pinotepa**	**2.80**	**98**	*eP*	**Pn**	**23 42 53.9**	**-1.4**
PNIG				*eS*	**Sg**	**23 43 46.7**	**+6.9**
MOIG	**Morelia**	**2.87**	**357**	*eP*	**Pb**	**23 42 59.7**	**-2.0**
MOIG				*iS*	**Sb**	**23 43 38.3**	**+1.1**
FTIG	**Fresnillo de T**	**2.97**	**68**	*iP*	**Pn**	**23 42 57.5**	**-0.2**
FTIG				*iS*	**Sn**	**23 43 33.6**	**-0.2**
UNM	**Universidad Na**	**3.06**	**35**	*eP*	**Pn**	**23 42 59.7**	**+0.5**
UNM				*eS*	**Sg**	**23 43 46.7**	**-1.7**
PPM	**Popocatepetl**	**3.20**	**45**	*eP*	**Pn**	**23 43 00.7**	**-0.6**
PPM				*eS*	**Sb**	**23 43 48.6**	**+1.5**
JRQG	**Juriquilla Cam**	**3.92**	**8**	*eP*	**Pb**	**23 43 20.4**	**+0.8**
JRQG				*iS*	**Sb**	**23 44 08.7**	**+1.1**
CMIG	**Matias Romero**	**5.88**	**86**	Pn	**Pn**	**23 43 36.2**	**-1.4**
	0.2nm,0.3s,baz=22,slow=7.2,SNR=2.7						
CMIG				Lg	Lg	23 45 15.9	
	1.1nm,0.3s,baz=356,slow=19,SNR=2.4						
	3.2nm,0.7s						
TXAR	**Lajitas Array**	**12.71**	**349**	Pn	Pn	23 45 16.6	+5.2
	baz=172,slow=7.3,SNR=2.4						
	0.2nm,0.8s						
NVAR	**Mina Array Bea**	**26.35**	**328**	P	**P**	**23 47 49.4**	**+2.3**
	1.1nm,0.7s,baz=155,slow=10,SNR=8.2						
	1.1nm,0.7s						
PDAR	**Pinedale Array**	**26.89**	**346**	P	**P**	**23 47 53.6**	**+1.6**
	1.3nm,0.9s,baz=142,slow=12,SNR=7.8						
	1.3nm,0.9s						
YKA	**Yellowknife Ar**	**46.63**	**351**	P	**P**	**23 50 38.6**	**-0.2**
	0.8nm,0.8s,baz=159,slow=7.4,SNR=13						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**56.95**	**338**	P	**P**	**23 51 55.6**	**-0.3**
	0.2nm,0.7s,baz=145,slow=6.8,SNR=2.5						
	0.2nm,0.7s						

*ISN **14** 23:54:35.9±1.1,33.68N×45.70E,h11km±217km,ML2.3*
*TEH **14** 23:54:35.7,33.69N×45.70E,h9km±54km,ML2.6*
ISC 14 23:54:36.5±1.0,33.69N±0.04×45.70E±0.04,h13km,n10,
σ0ᵎ77/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**98**	Pg	**Pg**	**23 54 44.3**	**-0.7**
ILBA				Sg	**Sg**	**23 54 50.5**	**-0.2**
IBDR	**Badra**	**0.61**	**162**	*e*Pg	**Pg**	**23 54 47.0**	**-1.3**
	baz=341						
IBDR				*e*Sg	**Sg**	**23 54 56.0**	**-0.4**
IBDR				AML	AML	23 55 01.8	
	comp=N,141nm,0.6s						
IBDR				AML	AML	23 55 10.2	
	comp=E,171nm,0.4s						
KGS1	**Ghasr-e-Shirin**	**0.82**	**353**	Pg	**Pg**	**23 54 51.2**	**-1.1**
IGHG	**Ghaleghazi**	**0.96**	**48**	Pg	**Pg**	**23 54 54.7**	**-0.4**
IDHR	**Dehrash**	**1.16**	**29**	Pg	**Pb**	**23 54 58.1**	**-0.3**
BHD	**Baghdad**	**1.18**	**250**	*e*Pg	**Pg**	**23 54 59.0**	**-0.2**
BHD				*e*Sg	**Sn**	**23 55 15.0**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.26**	**62**	Pg	**Pb**	**23 54 59.8**	**-0.3**
IKOM	**Komasi**	**1.58**	**72**	Pg	**Pb**	**23 55 05.9**	**+0.3**
IKFM	**Kafar-mosalman**	**1.80**	**95**	Pg	**Pb**	**23 55 09.7**	**+0.5**
HSAM	**Samen**	**2.47**	**77**	Pn	**Pn**	**23 55 17.8**	**+1.2**

*IDC **15** 00:04:50.6±1.6,32.85S×178.82W,h0km,mb3.9/2,*
mbtmp4.0/3,ML4.0/1,Error ellipse: s-maj=44.9km
s-min=37.8km az=138.0
ISC 15 00:04:57.9±1.6,33.1S±0.2×179.0W±0.3,h45km,n12,
σ0ᵎ85/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.03**	**210**	Pn	**Pn**	**00 06 24.7**	**+0.1**
	3.6nm,0.3s,baz=47,slow=2.8,SNR=44						
URZ				Sn	**Sn**	**00 07 32.1**	**-0.2**
	1.7nm,0.3s,baz=80,slow=5.7,SNR=1.7						
	6.7nm,0.3s						
ASAR	**Alice Springs**	**42.17**	**270**	P	**P**	**00 12 46.5**	**+0.1**
	1.3nm,0.6s,baz=107,slow=7.6,SNR=16						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**43.41**	**276**	P	**P**	**00 12 56.4**	**0.0**
	0.7nm,0.4s,baz=114,slow=7.7,SNR=9.6						
	0.7nm,0.4s						
H03S2	**Juan Fernandez**	**79.70**	**124**	T	T	01 45 26.9	
	baz=241						
H03S1	**Juan Fernandez**	**79.72**	**124**	T	T	01 45 29.1	
	baz=241						
H03S3	**Juan Fernandez**	**79.72**	**124**	T	T	01 45 31.4	
	baz=241						
H03N3	**Juan Fernandez**	**79.91**	**123**	T	T	01 45 36.9	
	baz=240,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**79.92**	**123**	T	T	01 45 32.5	
	baz=240,slow=72,SNR=10.0						
H03N1	**Juan Fernandez**	**79.93**	**123**	T	T	01 45 29.7	
	baz=240,slow=72,SNR=21						
FINES	**FINESS Array B**	**147.34**	**338**	PKPbc	**PKPdf**	**00 24 34.4**	**+1.1**
	1.7nm,0.6s,baz=27,slow=2.6,SNR=11						
HFS	**Hagfors**	**151.68**	**347**	PKPbc	**PKPbc**	**00 24 45.3**	**-1.3**
	1.8nm,0.8s,baz=45,slow=0.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**160.13**	**182**	PKPab	**PKPab**	**00 25 32.8**	**+0.1**
	0.2nm,0.6s,baz=184,slow=4.5,SNR=1.8						

*IDC **15** 00:13:18.8±6.8,2.59N×128.20E,h101km±64km,mb3.6/10,*
mbtmp3.9/10,Error ellipse: s-maj=43.9km s-min=16.4km
az=73.0
*DJA **15** 00:13:25.3±0.6,3.1N±4.1×12.8E±1.1,h127km±10km,M4.4/9,*
mb4.4/5,mB4.7/2,MLv4.4/9,Mw(mB)4.0/2
*NEIC **15** 00:13:25.1±1.3,2.6N±0.1×128.31E±0.08,h149km±9km,*
mb4.1/26,Error ellipse: s-maj=16.6km s-min=11.0km
az=205.0
ISC 15 00:13:22.3±1.4,2.65N±0.07×128.3E±0.1,h133km±13km,
n51,σ1ᵎ05/59,mb4.1/22,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.10**	**207**	Pn	**Pn**	**00 13 59.6**	**+2.0**
TNTI	**Ternate**	**2.10**	**207**	P	**Pn**	**00 13 58.1**	**+0.4**
TNTI				S	**Sn**	**00 14 23.1**	**-1.7**
SGSI	**Sangihe**	**2.98**	**290**	P	**Pn**	**00 14 09.5**	**+0.8**
SGSI				S	**Sn**	**00 14 42.8**	**-1.7**
KMSI	**Cibinong**	**4.81**	**245**	P	**Pn**	**00 14 32.2**	**-0.7**
SANI	**Sanana**	**5.22**	**207**	P	**Pn**	**00 14 37.6**	**-0.8**
	11nm,1.0s,0.1nm						
GTOI	**Gorontalo**	**5.68**	**249**	P	**Pn**	**00 14 45.8**	**+1.3**
	61nm,0.7s,840nm0.3nm						
LUWI	**Luwuk**	**6.66**	**237**	Pn	**Pn**	**00 14 57.6**	**-0.1**
LUWI				Sn	**Sn**	**00 16 14.8**	**+2.5**
LUWI	**Luwuk**	**6.66**	**237**	P	**Pn**	**00 14 57.1**	**-0.6**
TOLI2	**Tolitoli**	**7.69**	**259**	Pn	**Pn**	**00 15 11.2**	**-0.4**
KNRA	**Kununurra**	**18.22**	**179**	P	**P**	**00 17 26.2**	**+1.0**
KNRA				IAmb	IAmb	00 17 51.6	
	comp=Z,18nm,1.3s						
WB0	**Warramunga Arr**	**23.06**	**165**	P	**P**	**00 18 16.7**	**+0.4**
WB0				IAmb	IAmb	00 18 58.3	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**23.22**	**166**	P	**P**	**00 18 17.9**	**+0.2**
WRA	**Warramunga Arr**	**23.22**	**166**	P	**P**	**00 18 17.1**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=344,slow=10.0,SNR=7.7						
	comp=Z,0.7nm,0.5s						
WB2	**Warramunga Arr**	**23.22**	**165**	P	**P**	**00 18 18.3**	**+0.5**
WB2				IAmb	IAmb	00 18 35.2	
	comp=Z,16nm,1.5s						
WR0	**Warramunga Arr**	**23.28**	**165**	P	**P**	**00 18 19.0**	**+0.7**
WR0				IAmb	IAmb	00 18 30.3	
	comp=Z,10nm,1.5s						
ASAR	**Alice Springs**	**26.72**	**169**	P	**P**	**00 18 49.1**	**-0.3**
ASAR	**Alice Springs**	**26.72**	**169**	P	**P**	**00 18 48.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=353,slow=6.6,SNR=2.1						
ASAR				PcP	**PcP**	**00 22 09.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=356,slow=2.1,SNR=5.1						
	comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.79**	**301**	P	**P**	**00 19 41.1**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=110,slow=7.9,SNR=1.3						
	comp=Z,0.6nm,0.5s						
KSRS	**Korea Array**	**34.64**	**359**	P	**P**	**00 19 59.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=170,slow=15,SNR=2.8						
	comp=Z,0.8nm,0.5s						
MJAR	**Matsushiro Arr**	**34.94**	**14**	P	**P**	**00 20 00.6**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=192,slow=8.7,SNR=2.0						
	comp=Z,0.9nm,0.4s						
SONM	**Songino Array**	**48.83**	**340**	P	**P**	**00 21 55.2**	**+0.9**
SONM				PcP	**PcP**	**00 23 17.7**	**+0.8**
SONM	**Songino Array**	**48.83**	**340**	P	**P**	**00 21 54.7**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=150,slow=8.7,SNR=6.8						
SONM				PcP	**PcP**	**00 23 17.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=143,slow=2.4,SNR=2.4						
	comp=Z,0.8nm,0.6s						
MK31	**Makanchi Array**	**59.35**	**325**	P	**P**	**00 23 11.1**	**+0.7**
MK31				IAmb	IAmb	00 23 11.3	
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**59.35**	**325**	P	**P**	**00 23 11.1**	**+0.7**
MKAR	**Makanchi Array**	**59.35**	**325**	P	**P**	**00 23 10.8**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=116,slow=8.0,SNR=56						
MKAR				PcP	**PcP**	**00 23 56.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=124,slow=7.1,SNR=6.1						
	comp=Z,1.5nm,0.4s						
MLZ	**Mavora Lakes**	**59.44**	**148**	PcP	**PcP**	**00 23 56.3**	**-1.1**
MAKZ	**Makanchi**	**59.53**	**325**	P	**P**	**00 23 12.3**	**+0.6**
MAKZ				IAmb	IAmb	00 23 14.4	
	comp=Z,3.5nm,1.4s						
MAKZ				PcP	**PcP**	**00 23 57.8**	**0.0**
ZALV	**Zalesovo Beam**	**62.27**	**333**	P	**P**	**00 23 29.3**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=122,slow=6.6,SNR=3.0						
	comp=Z,0.5nm,0.4s						
KBL	**Kabul**	**63.44**	**307**	P	**P**	**00 23 38.8**	**+0.4**
KURBB	**Kurchatov Arra**	**63.50**	**327**	P	**P**	**00 23 38.2**	**0.0**
	comp=Z,1.6nm,0.4s,baz=128,slow=6.2,SNR=9.2						
	comp=Z,1.6nm,0.4s						
BTK	**Batken**	**63.81**	**314**	P	**P**	**00 23 41.4**	**+0.7**
BTK				IAmb	IAmb	00 24 00.1	
	comp=Z,5.1nm,1.5s						
BVAR	**Borovoye Array**	**69.09**	**327**	P	**P**	**00 24 13.3**	**-0.5**
	comp=Z,3.2nm,1.1s,baz=151,slow=6.4,SNR=5.0						
	comp=Z,3.2nm,1.1s						
BRVK	**Borovoye**	**69.16**	**327**	P	**P**	**00 24 14.2**	**0.0**
KEKH	**Kekaha**	**72.29**	**68**	P	**P**	**00 24 32.4**	**-1.4**
ABKAR	**Akbulak array**	**73.99**	**321**	P	**P**	**00 24 42.9**	**-0.3**
ANM	**Nome**	**77.59**	**24**	P	**P**	**00 25 03.9**	**+0.5**
C18K	**Utukok River**	**80.50**	**20**	P	**P**	**00 25 20.3**	**+1.0**
C18K				IAmb	IAmb	00 25 56.7	
	comp=Z,5.5nm,1.4s						
L18K	**Granite Mounta**	**80.69**	**27**	P	**P**	**00 25 21.9**	**+1.6**
O18K	**Koktuh Hills**	**80.93**	**30**	P	**P**	**00 25 22.1**	**+0.5**
J18K	**Innoko River**	**80.94**	**26**	P	**P**	**00 25 22.4**	**+0.8**
J18K				IAmb	IAmb	00 25 42.4	
	comp=Z,7.0nm,1.3s						
G19K	**Purcell Mounta**	**81.38**	**23**	P	**P**	**00 25 25.3**	**+1.4**
G19K				IAmb	IAmb	00 25 30.6	
	comp=Z,4.3nm,1.2s						
D19K	**Kuna River**	**81.55**	**21**	P	**P**	**00 25 26.3**	**+1.5**
D19K				IAmb	IAmb	00 25 30.9	
	comp=Z,6.5nm,1.4s						
IMAR	**Indian Mountai**	**82

IKOM	**Komasi**	**1.62**	**39**	Pg		**Pg**	**00 25 52.5**	**-0.4**
BHD	**Baghdad**	**1.64**	**283**	*e*Pn		**Pn**	**00 25 47.0**	**-3.3**
BHD				*e*Sn		**Sg**	**00 26 18.0**	**+3.4**
KGS1	**Ghasr-e-Shirin**	**1.69**	**340**	Pg		**Pg**	**00 25 54.5**	**+0.2**
IDHR	**Dehrash**	**1.79**	**3**	Pg		**Pg**	**00 25 55.3**	**-0.7**
HSAM	**Samen**	**2.33**	**55**	Pn		**Pb**	**00 26 02.2**	**-1.4**
HAGD	**Aghdareh**	**3.04**	**50**	Pn		**Pb**	**00 26 12.0**	**-3.9**
SDS1	**Sardasht. Az.**	**3.30**	**349**	Pn		**Pn**	**00 26 16.4**	**+3.2**
IPIR	**Pirpir**	**3.88**	**92**	Pn		**Pn**	**00 26 23.9**	**+2.5**

*ISN **15** 00:41:49.5±0.4, 33°.68N×45°.69E, h9km, ML2.5*
TEH 15 00:41:50.3, 33°.67N×45°.69E, h9km±73km, ML2.5,
Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.43**	**96**	Pg	Pg	00 41 58.9	+0.1
ILBA				Sg	Sg	00 42 05.4	+0.9
IBDR	**Badra**	**0.59**	**160**	*e*Pg	Pg	00 42 01.0	-0.8
	baz=340						
IBDR				*e*Sg	Sg	00 42 10.0	+0.5
KGS1	**Ghasr-e-Shirin**	**0.84**	**354**	Pg	Pg	00 42 06.5	0.0
IGHG	**Ghaleghazi**	**0.98**	**48**	Pg	Pb	00 42 09.8	+0.1
IDHR	**Dehrash**	**1.18**	**29**	Pg	Pb	00 42 13.0	0.0
KCHF	**Cheshme Sefid,**	**1.27**	**61**	Pg	Pg	00 42 15.6	+0.8
IKOM	**Komasi**	**1.60**	**71**	Pg	Pg	00 42 21.2	+0.3
ILIN	**Lien**	**1.63**	**40**	Pg	Pb	00 42 21.1	+0.3
IKFM	**Kafar-mosalman**	**1.81**	**94**	Pg	Pg	00 42 25.0	0.0

*NEIC **15** 00:44:35.1±0.7, 36°.44N±0°.04×98°.77W±0°.03, h12km±7km, Error ellipse: s-maj=6.5km s-min=1.8km az=144.0*
TUL 15 00:44:35.2±1.1, 36°.45N±0°.02×98°.77W±0°.02, h7km±6km, ML2.7, mb_Lg2.4/19(NEIC), **ML2.7**/16(NEIC), **Error ellipse: s-maj=3.5km s-min=1.7km az=138.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.04**	**40**		Pg	00 44 37.1	+0.4
OK038				Sg	Sg	00 44 38.6	+0.8
U32A	**Winter Ranch,**	**0.20**	**249**	Pg	Pg	00 44 39.4	+0.2
U32A				Sg	Sg	00 44 42.5	+0.6
OK035	**E0210 Rd and N**	**0.26**	**11**	Pg	Pg	00 44 40.9	+0.4
OK035				IAML		00 44 45.2	
	948nm,0.3s						
OK035				IAML		00 44 45.2	
	1µm,0.3s						
OK035				Sg	Sg	00 44 45.0	+1.0
OK032	**Salt Plains WL**	**0.57**	**52**		Pg	00 44 46.3	0.0
OK032				Sg	Sg	00 44 54.3	+0.5
OK032				IAML		00 44 59.2	
	544nm,0.2s						
CROK	**Carrier**	**0.64**	**85**	Pg	Pg	00 44 47.4	-0.1
CROK				Sg	Sg	00 44 56.3	+0.5
CROK				IAML		00 44 57.3	
	comp=N,468nm,0.2s						
CROK				IAML		00 44 58.3	
	comp=E,381nm,0.3s						
ELIS	**Ellis County**	**0.65**	**234**		Pg	00 44 47.7	0.0
ELIS				Sg	Sg	00 44 57.0	+0.8
ELIS				IAML		00 44 57.2	
	comp=E,391nm,0.3s						
ELIS				IAML		00 45 03.9	
	comp=N,341nm,0.3s						
CSTR	**Hydro, Custer**	**0.81**	**175**	Pg	Pg	00 44 50.6	-0.1
KAN14	**Manchester OK**	**0.82**	**52**		Pg	00 44 51.1	+0.1
KAN14				Sg	Sg	00 45 01.2	-0.6
GC02	**Grant County #**	**0.84**	**61**	Pg	Pg	00 44 51.0	-0.2
KAN10	**Anthony SW Sta**	**0.86**	**39**	Pg	Pg	00 44 51.8	0.0
KAN05	**Bluff City Nor**	**0.98**	**47**	Pg	Pg	00 44 52.3	-1.7
KAN17	**Caldwell West**	**1.00**	**53**		Pg	00 44 54.2	-0.2
KAN08	**Anthony NE Sta**	**1.01**	**39**	Pg	Pg	00 44 53.5	-1.0
KAN12	**Harper NE Stat**	**1.05**	**36**	Pg	Pg	00 44 55.0	-0.4
KAN01	**Argonia South**	**1.07**	**49**		Pg	00 44 55.4	-0.4
KAN06	**Argonia West S**	**1.08**	**42**		Pg	00 44 55.6	-0.4
KAN09	**Caldwell North**	**1.15**	**53**		Pg	00 44 56.8	-0.5
KAN13	**South Haven SW**	**1.18**	**61**		Pg	00 44 57.3	-0.6
KS21	**Milan North St**	**1.22**	**46**	Pg	Pb	00 44 58.0	-0.6
OK029	**Liberty Lake**	**1.25**	**121**	Pg	Pn	00 44 58.9	-0.2
BLOK	**Blackwell**	**1.29**	**76**	Pg	Pn	00 44 59.1	-0.5
ADOK	**Arcadia Dam**	**1.39**	**125**		Pg	00 45 01.6	-0.1
OK048	**Pawnee Station**	**1.48**	**91**		Pn	00 45 02.2	+0.1
OKCSW	**OKLAHOMA CITY**	**1.50**	**134**		Pn	00 45 02.2	-0.3
OK033	**Mehan**	**1.54**	**105**		Pb	00 45 03.5	-0.4
OK051	**E0350 and S346**	**1.56**	**87**		Pn	00 45 03.7	+0.3
FNO	**Franklin**	**1.63**	**136**		Pn	00 45 04.6	+0.3
OK052	**Battle Ridge R**	**1.66**	**105**		Pn	00 45 04.9	+0.2
QUOK	**Quay**	**1.69**	**99**		Pn	00 45 05.5	+0.4
WMOK	**Wichita Mounta**	**1.71**	**180**		Pn	00 45 05.2	-0.2
SMWD	**Samnorwood**	**1.80**	**222**		Pn	00 45 07.3	+0.6
T35A	**Sooner Cattle**	**1.88**	**75**		Pn	00 45 08.5	+0.8
T35A				IAmb_Lg		00 45 36.5	
	comp=Z,15nm,0.7s						
DEOK	**Depew**	**1.94**	**108**		Pn	00 45 09.3	+0.7
R32A	**Long Quarter,**	**1.97**	**1**		Pn	00 45 09.7	+0.6
X34A	**Smith Ranch, M**	**2.00**	**157**		Pn	00 45 09.9	+0.6
X34A				IAmb_Lg		00 45 41.6	
	comp=Z,29nm,0.7s						
W35A	**Tecumseh**	**2.01**	**129**		Pb	00 45 11.6	-0.5
TUL3	**Leonard**	**2.47**	**102**	Pn	Pn	00 45 16.0	+0.2
TUL3				IAmb_Lg		00 45 55.2	
	comp=Z,21nm,1.3s						
CBKS	**Cedar Bluff**	**2.48**	**342**	Pn	Pb	00 45 18.5	-1.7
WTFS	**Witchita Falls**	**2.69**	**175**		Pn	00 45 19.4	+0.6
LOOK	**Love County**	**2.78**	**152**	Pn	Pn	00 45 20.5	+0.5
AMTX	**Amarillo**	**2.84**	**237**		Pn	00 45 20.5	-0.5
AMTX				IAmb_Lg		00 46 09.3	
	comp=Z,12nm,0.8s						
RLO	**Rose Lookout**	**3.04**	**94**	Pn	Pn	00 45 23.8	+0.1
KSU1	**Kansas State U**	**3.15**	**32**	Pn	Pn	00 45 25.4	+0.2
KSU1				IAmb_Lg		00 46 14.2	
	comp=Z,9.3nm,0.8s						
RTBA	**Rita Blanca**	**3.20**	**271**		Pn	00 45 26.6	+0.6
DKNS	**Dickens**	**3.29**	**213**	Pn	Pn	00 45 29.1	+1.9
DKNS				IAmb_Lg		00 46 20.7	
	comp=Z,10.0nm,0.7s						
Z35A	**Perchaven, San**	**3.35**	**158**	Pn	Pn	00 45 26.7	-1.3
U38A	**Gravette**	**3.54**	**89**		Pg	00 45 41.3	-1.7
PLPT	**Palo Pinto**	**3.65**	**174**		Pn	00 45 33.7	+1.6
ABTX	**Abilene, Hawle**	**3.88**	**191**		Pb	00 45 45.6	+1.6
HHAR	**Hobbs**	**3.90**	**91**		Pb	00 45 44.7	+0.4
SN05	**Snyder 5**	**3.96**	**207**	IAmb_Lg		00 46 42.1	
	comp=Z,7.7nm,0.8s						
SN01	**Snyder 1**	**3.98**	**207**	Pg	Pb	00 45 47.5	+1.7
SN01				IAmb_Lg		00 46 43.0	
	comp=Z,7.2nm,0.8s						
POST	**Post**	**4.05**	**214**	Pg	Pb	00 45 49.6	+2.7
S39A	**Bolivar**	**4.53**	**73**		Pb	00 45 58.0	+3.0
T25A	**Trinidad**	**4.58**	**280**	Pg	Pg	00 45 59.9	-3.0
T25A				IAmb_Lg		00 47 05.5	
	comp=Z,10nm,0.9s						
WHTX	**Lake Whitney,**	**4.58**	**166**	Pg	Pb	00 45 59.0	+3.1
SGCY	**Sterling City**	**4.93**	**204**	Pg	Pb	00 46 05.5	+3.7
R40A	**Maddies Statio**	**5.50**	**69**	IAmb_Lg		00 47 30.7	
	comp=Z,4.4nm,0.8s						
F33A	**5 Mile Ranch,**	**9.56**	**10**	IAmb_Lg		00 49 32.3	
	comp=Z,3.7nm,1.0s						

IDC 15 00:58:20.1±2.5, 6°.00S×129°.93E, h0km, mb3.3/1, mbtmp3.9/3, ML3.3/2, Error ellipse: s-maj=151.8km s-min=32.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.51**	**163**	Pn	Pn	01 01 45.0	-1.9
	0.1nm,0.3s,baz=346,slow=13,SNR=2.4						
WRA				Sn	Sn	01 04 18.7	-10
	0.6nm,0.3s,baz=334,slow=22,SNR=9.2						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**17.98**	**168**	P	P	01 02 32.7	+0.4
	0.2nm,0.3s,baz=350,slow=11,SNR=3.8						
ASAR				S	Sn	01 05 41.3	-12
	0.2nm,0.4s,baz=349,slow=30,SNR=1.5						
	12nm,0.3s						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	01 09 17.2	0.0
	0.2nm,0.5s,baz=112,slow=7.9,SNR=4.3						
	0.2nm,0.5s						

*JMA **15** 01:01:53.9±0.2, 25°.0N±0°.8×123°.7E±0°.3, h0km, MV2.9/9, NW OFF ISHIGAKIJIMA IS*

*IDC **15** 01:01:55.9±61.0, 23°.88N×126°.13E, h0km, mb3.6/3, mbtmp3.6/3, MS3.4/2, Error ellipse: s-maj=1104.0km s-min=195.1km az=129.0*
ISC 15 01:01:52.6±2.1, 25°.0N±0°.1×123°.71E±0°.05, h10km, n12, σ1s04/13, mb3.5/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.66**	**124**	*e*P	Pn	**01 02 07.6**	**-0.5**
JISG				S	Sn	**01 02 17.2**	**-1.3**
JIJ	**Ishigaki jima**	**0.71**	**146**	*i* P	Pn	**01 02 08.5**	**-0.3**
JIJ				*e*S	Sn	**01 02 19.1**	**-0.7**
JKRS	**Kuro-shima**	**0.77**	**159**	S	Sn	**01 02 19.8**	**-1.4**
YOJ	**Yonaguni jima**	**0.80**	**232**	P	Pn	**01 02 10.2**	**+0.2**
YOJ				*e*S	Sn	**01 02 21.2**	**-0.8**
JYNG	**Yonagunijimaku**	**0.86**	**234**	*e*P	Pn	**01 02 11.0**	**+0.3**
JYNG				*e*S	Sn	**01 02 22.7**	**-0.7**
HATJ	**Hateruma jima**	**0.90**	**174**	P	Pn	**01 02 12.5**	**+1.2**
HATJ				S	Sn	**01 02 26.1**	**+1.6**
JTJ	**Tarama**	**0.96**	**109**	P	Pn	**01 02 13.2**	**+1.0**
JTJ				S	Sn	**01 02 26.4**	**+0.5**
KSRS	**Korea Array**	**12.97**	**15**	LR	LR	01 10 31.3	
	comp=Z,32nm,19.0s,baz=340,slow=38						
SONM	**Songino Array**	**26.63**	**333**	P	P	01 07 53.8	+22
	0.5nm,0.8s,baz=134,slow=8.3,SNR=3.8						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**39.41**	**314**	P	P	01 09 46.5	+24
	0.8nm,0.7s,baz=100,slow=8.1,SNR=7.2						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**40.88**	**325**	P	P	01 09 57.0	+22
	0.8nm,0.7s,baz=98,slow=7.4,SNR=4.4						
	0.8nm,0.7s						
OBN	**Obninsk**	**68.31**	**322**	LR	LR	01 48 06.1	
	comp=Z,130nm,19.0s,baz=356,slow=39						

*UCR **15** 01:23:11.6±0.9, 8°.28N×82°.83W, h15km±5km, MW3.6*
*CATAC **15** 01:23:11.4±1.2, 8°.23N×83°.08W, h1km±5km, ML3.5*
*UPA **15** 01:23:12.0±1.3, 8°.33N×82°.80W, h18km±4km, MD3.3*
ISC 15 01:23:12.1±1.0, 8°.33N±0°.04×82°.85W±0°.03, h18km±3km, n40, σ1s17/56, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.12**	**196**	*i*P	**Pg**	**01 23 15.8**	**-0.3**
PTPM				*e*S	**Sg**	**01 23 20.2**	**+1.5**
CDITO	**Canoas**	**0.25**	**354**	*i*P	**Pg**	**01 23 17.8**	**0.0**
CDITO				*e*S	**Sg**	**01 23 22.6**	**+0.9**
CDITO	**Canoas**	**0.25**	**354**	*e*P	**Pg**	**01 23 17.8**	**0.0**
CDITO				*e*S	**Sb**	**01 23 23.3**	**+1.6**
DVD	**David**	**0.41**	**74**	*i*P	**Pg**	**01 23 19.6**	**-0.8**
DVD				*e*S	**Sb**	**01 23 26.0**	**-0.6**
EDAD	**Golfito**	**0.46**	**316**	*e*P	**Pg**	**01 23 20.1**	**-1.3**
EDAD				*e*S	**Sg**	**01 23 27.8**	**+0.2**
PIRO	**Carate, Puerto**	**0.49**	**279**	*e*P	**Pg**	**01 23 21.1**	**-1.0**
JIME	**Puerto Jimenez**	**0.52**	**294**	*e*P	**Pg**	**01 23 22.3**	**-0.2**
POTG	**Potrero Grande**	**0.77**	**339**	*e*P	**Pg**	**01 23 26.4**	**-0.9**
POTG	**Potrero Grande**	**0.77**	**339**	*i* P	**Pg**	**01 23 26.6**	**-0.6**
POTG				*i* S	**Sg**	**01 23 38.0**	**+0.5**
POTG				IAML		01 23 39.6	
	comp=Z,3µm,1.0s						
EDPN	**Palmar Norte**	**0.88**	**316**	*e*P	**Pb**	**01 23 27.6**	**-1.2**
CHGR2	**Aguacate**	**0.92**	**49**	*e*P	**Pb**	**01 23 27.5**	**-2.0**
CHGR2				*e*S	**Sb**	**01 23 40.0**	**-1.5**
EDBA	**Buenos Aires**	**0.94**	**333**	*e*P	**Pb**	**01 23 29.5**	**-0.3**
DRK0	**Durika**	**1.01**	**337**	*e*P	**Pb**	**01 23 29.9**	**-1.2**
OCHAL	**Ojochal**	**1.10**	**314**	*i* P	**Pn**	**01 23 31.2**	**-1.4**
OCHAL				*i* S	**Sb**	**01 23 45.3**	**-1.3**
OCHAL				IAML		01 23 51.8	
	comp=Z,13nm,1.0s						
CNI2	**El Empalme, Bo**	**1.15**	**19**	*e*P	**Pn**	**01 23 32.0**	**-1.3**
CNI2				*e*S	**Sb**	**01 23 47.2**	**-0.8**
BRIBI	**Bribri**	**1.29**	**360**	*e*P	**Pn**	**01 23 35.7**	**+0.5**
BUS1	**Rivas**	**1.51**	**324**	*e*P	**Pn**	**01 23 37.8**	**-0.8**
CDM	**Cerro de Muert**	**1.52**	**323**	*e*P	**Pn**	**01 23 37.9**	**-0.8**
CDM	**Cerro de Muert**	**1.52**	**323**	*i* P	**Pn**	**01 23 38.0**	**-0.8**
CDM				*i* S	**Sn**	**01 23 58.9**	**+0.6**
CDM				IAML		01 24 05.5	
	comp=Z,260nm,1.0s						
LCR2	**La Lucha 2**	**1.81**	**321**	*e*P	**Pn**	**01 23 43.6**	**+1.0**
LCR2	**La Lucha 2**	**1.81**	**321**	*i* P	**Pn**	**01 23 43.2**	**+0.6**
LCR2				*i* S	**Sn**	**01 24 06.4**	**+1.1**
LCR2				IAML		01 24 13.3	
	comp=Z,360nm,1.0s						
PCAYA	**Pacayas**	**1.85**	**329**	*e*P	**Pn**	**01 23 43.0**	**-0.1**
VTCV	**VTCV, Calle Va**	**1.86**	**332**	*e*P	**Pn**	**01 23 44.0**	**+0.7**
ICR3	**Volcano Irazu**	**1.91**	**329**	*e*P	**Pn**	**01 23 44.9**	**+0.2**
OCM	**Ochomogo**	**1.91**	**325**	*e*P	**Pn**	**01 23 45.1**	**+1.2**
OCM	**Ochomogo**	**1.91**	**325**	*i* P	**Pn**	**01 23 44.0**	**+0.1**
OCM				*i* S	**Sn**	**01 24 09.5**	**+1.9**
OCM				IAML		01 24 14.0	
	comp=Z,270nm,1.0s						
VTLO	**VTLO**	**1.92**	**333**	*e*P	**Pn**	**01 23 44.6**	**+0.5**
VICA	**Volcano Irazu**	**1.92**	**329**	*e*P	**Pb**	**01 23 48.2**	**+1.4**
BELE	**Belen**	**2.11**	**321**	*e*P	**Pn**	**01 23 48.1**	**+1.6**
JACO	**JACO, Garabito**	**2.23**	**307**	*e*P	**Pn**	**01 23 46.2**	**-1.9**
JACO	**JACO, Garabito**	**2.23**	**307**	*i* P	**Pn**	**01 23 47.0**	**-1.1**
JACO				*i* S	**Sn**	**01 24 15.0**	**-0.2**
JACO				IAML		01 24 23.6	
	comp=Z,100nm,1.0s						
RIFO	**Rio Frio, Sara**	**2.25**	**332**	*e*P	**Pn**	**01 23 48.1**	**-0.3**
SOCE	**Pocosol**	**2.69**	**320**	*i* P	**Sn**	**01 24 27.8**	**+1.1**
SOCE				*i* S	**Sn**	**01 24 55.1**	**+1.0**
SOCE				IAML		01 24 38.9	
	comp=Z,400nm,1.0s						
VACR	**Volcan Arenal**	**2.80**	**320**	*e*P	**Pn**	**01 23 58.1**	**+2.2**
ARE1	**Arenal 1**	**2.81**	**319**	*e*P	**Pn**	**01 23 58.1**	**+1.9**
CEDE	**Laguna Cedeo**	**2.83**	**320**	*e*P	**Pn**	**01 23 58.5**	**+2.1**
BCIP	**Isla Barro Col**	**3.09**	**74**	*e*P	**Pn**	**01 24 02.6**	**+2.7**
ORTG	**Ortega, Santa**	**3.28**	**308**	*e*P	**Pn**	**01 24 03.8**	**+1.2**
ORTG	**Ortega, Santa**	**3.28**	**308**	*i* P	**Pn**	**01 24 03.0**	**+0.4**
ORTG				*i* S	**Sn**	**01 24 40.9**	**-0.3**
ORTG				IAML		01 26 25.3	
	comp=Z,83nm,1.0s						
HZTE	**Horizontes, Gu**	**3.60**	**311**	*i* P	**Pn**	**01 24 07.4**	**+0.4**
HZTE				*i* S	**Sn**	**01 24 49.1**	**-0.1**
HZTE				IAML		01 24 52.8	
	comp=Z,250nm,1.0s						

*TEH **15** 01:34:41.3, 33°.79N×45°.70E, h8km±59km, ML3.3*
*ISN **15** 01:34:42.1±0.5, 33°.81N×45°.72E, h14km±3km, ML3.2*
ISC 15 01:34:41.8±0.9, 33°.80N±0°.03×45°.69E±0°.04, h10km, n16, σ0s99/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.71**	**353**	Pg	**Pg**	**01 34 55.5**	**-0.1**
IBDR	**Badra**	**0.71**	**164**	*e*Pg	**Pg**	**01 34 55.5**	**-0.1**
IBDR				*e*Sg	**Sb**	**01 35 06.0**	**-0.2**
IGHG	**Ghaleghazi**	**0.90**	**54**	Pg	**Pb**	**01 34 59.3**	**-0.4**
IDHR	**Dehrash**	**1.07**	**32**	Pg	**Pg**	**01 35 01.8**	**-0.6**
BHD	**Baghdad**	**1.22**	**245**	*e*Pg	**Pg**	**01 35 05.0**	**-0.2**
BHD				*e*Sg	**Sn**	**01 35 21.5**	**+0.2**
BHD				AML	AML	01 35 25.8	
	comp=E,1µm,0.7s						
KCHF	**Cheshme Sefid,**	**1.22**	**67**	Pg	**Pg**	**01 35 05.1**	**-0.1**
ILIN	**Lien**	**1.54**	**43**	Pg	**Pg**	**01 35 11.2**	**-0.1**
IKOM	**Komasi**	**1.56**	**76**	Pg	**Pg**	**01 35 11.0**	**-0.7**
IKFM	**Kafar-mosalman**	**1.82**	**98**	Pn	**Pb**	**01 35 14.7**	**-0.5**
RAFI	**Al-Rafai**	**2.10**	**170**	*e*Pn	**Pb**	**01 35 19.0**	**-1.0**
RAFI				*e*Sn	**Sb**	**01 35 45.5**	**-0.6**
RAFI				AML	AML	01 35 50.3	
	comp=E,231nm,0.4s						
RAFI				AML	AML	01 35 54.2	
	comp=N,131nm,0.6s						
IALM	**Almabolaq**	**2.31**	**62**	Pn	**Pb**	**01 35 22.5**	**-1.2**
SDS1	**Sardasht. Az.**	**2.35**	**356**	Pn	**Pb**	**01 35 22.7**	**-1.7**
HSAM	**Samen**	**2.45**	**80**	Pn	**Pn**	**01 35 23.0**	**+0.9**
MAHB	**Mahabad**	**2.96**	**0**	Pn	**Pn**	**01 35 30.9**	**+1.9**
HAGD	**Aghdareh**	**3.03**	**69**	Pn	**Pn**	**01 35 31.6**	**+1.5**
QAMS	**Qamsar**	**4.75**	**89**	Pn	**Pn**	**01 35 55.2**	**+1.4**

*IDC **15** 01:38:47.5±1.3, 54°.13N×169°.29E, h0km, mb3.4/6, mbtmp3.5/8, ML3.6/2, MS2.6/1, Error ellipse: s-maj=47.0km s-min=17.3km az=10.0*
*KRSC **15** 01:38:49.8±1.0, 53°.85N×169°.08E, h61km±31km, Ml4.3*
*MOS **15** 01:38:51.0±0.8, 53°.86N×169°.17E, h60km, mb4.0/1, Error ellipse: s-maj=15.1km s-min=7.5km az=19.1*
ISC 15 01:38:51.0±0.8, 53°.90N±0°.07×169°.16E±0°.05, h25km, n61, σ1s46/64, mb3.3/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.27**	**306**	PN	**Pn**	**01 39 25.8**	**-1.0**
BKI				S	**Sn**	**01 39 53.7**	**-0.2**
BKI	**Bering**	**2.27**	**306**	*e*P	**Pn**	**01 39 25.8**	**-1.0**
BKI				*e*S	**Sn**	**01 39 53.7**	**-0.2**
SHEM	**Shemya Is, Ala**	**3.19**	**110**	Pn	**Pn**	**01 39 38.6**	**-0.8**
	10nm,0.3s,baz=304,slow=5.0,SNR=11						
SHEM				Sn	**Sn**	**01 40 17.6**	**+1.1**
	22nm,0.3s,baz=227,slow=18,SNR=4.4						
SHEM				LR	LR	01 40 51.9	
	comp=Z,92nm,18.4s,baz=200,slow=39						
	43nm,0.4s						
SMY	**Shemya**	**3.19**	**110**	PN	**Pn**	**01 39 39.2**	**-0.2**
SMY				S	**Sn**	**01 40 18.1**	**+1.5**
SMKR	**Semkarok**	**5.16**	**304**	PN	**Pn**	**01 40 08.3**	**+1.8**
SMKR	**Semkarok**	**5.16**	**304**	*e*P	**Pn**	**01 40 08.3**	**+1.8**
TUMD	**Tumrok D**	**5.26**	**288**	*e*P	**Pn**	**01 40 09.3**	**+1.4**
TUMD				*e*S	**Sn**	**01 41 06.4**	**-1.4**
BDR	**Baidarnaya**	**5.28**	**304**	PN	**Pn**	**01 40 09.3**	**+1.1**
BDR	**Baidarnaya**	**5.28**	**304**	*e*P	**Pn**	**01 40 09.3**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**5.29**	**296**	PN	**Pn**	**01 40 09.6**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**5.29**	**296**	*e*P	**Pn**	**01 40 09.6**	**+1.2**
BZMR	**Bezymyannaya**	**5.40**	**296**	PN	**Pn**	**01 40 10.8**	**+0.9**
BZMR	**Bezymyannaya**	**5.40**	**296**	*e*P	**Pn**	**01 40 10.8**	**+0.9**
BZWR	**Bezymyannyi-We**	**5.41**	**296**	PN	**Pn**	**01 40 12.3**	**+2.2**
BZWR	**Bezymyannyi-We**	**5.41**	**296**	*e*P	**Pn**	**01 40 12.3**	**+2.2**
TUMR	**Tumrok**	**5.42**	**288**	PN	**Pn**	**01 40 12.0**	**+1.8**
TUMR	**Tumrok**	**5.42**	**288**	*e*P	**Pn**	**01 40 12.0**	**+1.8**
KMNR	**Kamenistaya**	**5.48**	**293**	PN	**Pn**	**01 40 11.9**	**+0.9**
KMNR	**Kamenistaya**	**5.48**	**293**	*e*P	**Pn**	**01 40 11.9**	**+0.9**
KMNR				*e*S	**Sn**	**01 41 13.3**	**0.0**
SPN	**Mys Shipunski**	**5.51**	**265**	PN	**Pn**	**01 40 12.4**	**+1.0**
SPN	**Mys Shipunski**	**5.51**	**265**	*e*P	**Pn**	**01 40 12.4**	**+1.0**
KII	**Karymskiy**	**5.73**	**275**	PN	**Pn**	**01 40 16.5**	**+2.0**
KII	**Karymskiy**	**5.73**	**275**	*e*P	**Pn**	**01 40 16.5**	**+2.0**
NLC	**Nalytchevo**	**5.90**	**267**	PN	**Pn**	**01 40 16.8**	**+0.2**
NLC	**Nalytchevo**	**5.90**	**267**	*e*P	**Pn**	**01 40 16.8**	**+0.2**
SRDR	**Sredinnyy**	**5.93**	**298**	PN	**Pn**	**01 40 20.1**	**+2.9**
SRDR	**Sredinnyy**	**5.93**	**298**	*e*P	**Pn**	**01 40 20.1**	**+2.9**
UGLR	**Uglovaya**	**6.20**	**268**	PN	**Pn**	**01 40 22.4**	**+1.5**
UGLR	**Uglovaya**	**6.20**	**268**	*e*P	**Pn**	**01 40 22.4**	**+1.5**
SMAR	**Somma**	**6.20**	**268**	PN	**Pn**	**01 40 22.2**	**+1.1**
SMAR	**Somma**	**6.20**	**268**	*e*P	**Pn**	**01 40 22.2**	**+1.1**
AVH	**Avacha**	**6.24**	**268**	PN	**Pn**	**01 40 22.8**	**+1.4**
AVH	**Avacha**	**6.24**	**268**	*e*P	**Pn**	**01 40 22.8**	**+1.4**
DALK	**Dalny**	**6.28**	**266**	PN	**Pn**	**01 40 22.3**	**+0.5**
DALK	**Dalny**	**6.28**	**266**	*e*P	**Pn**	**01 40 22.3**	**+0.5**
DALK				*e*S	**Sn**	**01 41 32.5**	**-0.1**
KRX	**Arik**	**6.28**	**269**	PN	**Pn**	**01 40 23.4**	**+1.4**
KRX	**Arik**	**6.28**	**269**	*e*P	**Pn**	**01 40 23.4**	**+1.4**
KOK	**Koryaka**	**6.30**	**269**	PN	**Pn**	**01 40 23.6**	**+1.4**
KOK	**Koryaka**	**6.30**	**269**	*e*P	**Pn**	**01 40 23.6**	**+1.4**
PET	**Petropavlovsk**	**6.34**	**266**	PN	**Pn**	**01 40 24.3**	**+1.7**
PET	**Petropavlovsk**	**6.34**	**266**	*e*P	**Pn**	**01 40 24.3**	**+1.7**
GRL	**Gorelyy**	**6.79**	**263**	PN	**Pn**	**01 40 31.3**	**+2.3**
GRL	**Gorelyy**	**6.79**	**263**	*e*P	**Pn**	**01 40 31.3**	**+2.3**
PETK	**Petropavlovsk-**	**6.88**	**268**	Pn	**Pn**	**01 40 31.5**	**+1.4**
	3.1nm,0.3s,baz=81,slow=20,SNR=75						
PETK				Sn	**Sn**	**01 41 47.2**	**-0.4**
	1.4nm,0.3s,baz=70,slow=25,SNR=1.2						
	4.4nm,0.5s						
ASAK	**Asacha**	**6.94**	**262**	PN	**Pn**	**01 40 33.0**	**+1.9**
ASAK	**Asacha**	**6.94**	**

MCW	**Mount Constitu**	**5.03**	**109**	Pn	**Pn**	**02 17 39.9**	**+2.6**
LLLB	**Lillooet**	**5.20**	**86**	Pn	**Pn**	**02 17 41.0**	**+1.4**
FSJB	**Fort St James**	**5.29**	**39**	Pn	**Pn**	**02 17 42.6**	**+1.9**
MBW	**Mount Baker**	**5.56**	**105**	Pn	**Pn**	**02 17 47.4**	**+2.7**
CMW	**Cultus Mountai**	**5.57**	**109**	Pn	**Pn**	**02 17 47.7**	**+2.9**
JCW	**Jim Creek**	**5.79**	**111**	Pn	**Pn**	**02 17 49.7**	**+2.1**
B06A	**Marblemount**	**5.92**	**106**	Pn	**Pn**	**02 17 51.6**	**+2.2**
RPW	**Rockport**	**5.93**	**107**	Pn	**Pn**	**02 17 51.9**	**+2.3**
T35M	**Bob Quinn**	**6.48**	**359**	Pn	**Pn**	**02 17 59.7**	**+2.6**
FMW	**Mount Fremont**	**6.59**	**120**	Pn	**Pn**	**02 18 02.1**	**+3.2**
LTY	**Liberty**	**6.98**	**114**	Pn	**Pn**	**02 18 07.3**	**+3.2**
DLBC	**Dease Lake**	**7.94**	**0**	Pn	**Pn**	**02 18 18.5**	**+1.3**
	0.1nm,0.3s,baz=169,slow=21,SNR=1.3						
DLBC				Sn	**Sn**	**02 19 48.5**	**+1.5**
	baz=198,slow=20 0.9nm,0.5s						
DLBC	**Dease Lake**	**7.94**	**0**	Pn	**Pn**	**02 18 20.4**	**+3.2**
BDMTA	**Bald Mountain**	**8.02**	**53**	Pn	**Pn**	**02 18 22.2**	**+4.0**
YKA	**Yellowknife Ar**	**14.67**	**29**	Pn	Pn	02 19 44.1	-4.9
	baz=220,slow=11,SNR=2.0 0.1nm,0.5s						
NVAR	**Mina Array Bea**	**14.68**	**141**	Pn	**Pn**	**02 19 51.0**	**+1.5**
	0.1nm,0.3s,baz=344,slow=9.4,SNR=1.8 0.3nm,0.7s						
PDAR	**Pinedale Array**	**16.02**	**111**	Pn	**Pn**	**02 20 05.0**	**-2.3**
	0.1nm,0.3s,baz=308,slow=10,SNR=4.5						
PDAR				LR	LR	02 27 05.1	
	comp=Z,71nm,21.1s,baz=295,slow=41 0.2nm,0.8s						
ILAR	**Eielson Array**	**16.81**	**335**	Pn	**Pn**	**02 20 18.6**	**+1.7**
	baz=143,slow=9.6,SNR=4.6 0.2nm,0.9s						
ULM	**Lac du Bonnet**	**21.68**	**77**	P	**P**	**02 21 12.2**	**-0.2**
	0.9nm,0.4s,baz=278,slow=11,SNR=1.8 0.9nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**57.94**	**262**	T	T	03 28 54.8	
	baz=42,slow=75,SNR=138						
H11N3	**WAKE ISLAND Hy**	**57.95**	**262**	T	T	03 28 46.1	
	baz=42,slow=75,SNR=307						
H11N1	**WAKE ISLAND Hy**	**57.96**	**262**	T	T	03 28 54.1	
	baz=42,slow=75,SNR=140						

TAP ***15*** *02:19:02.6,24.˝39N×122.˝27E,h69km,ML3.0,C*
JMA ***15*** *02:19:03.1±0.1,24.˝3N±0.˝7×122.˝3E±0.˝2,h60km±1km, MV2.1/11, TAIWAN REGION*

ISC 15 02:19:02.6±1.3,24˚38N±0.˚03×122˚31E±0.˚03,h67km±6km, n81,σ1s12/135,13C-9D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.08**	**302**	*eP*		**Pn**	**Pn**	**02 19 12.9**	**+0.6**
	baz=285								
EOS2				*eS*		**Sn**	**Sn**	**02 19 20.5**	**+1.2**
	baz=285								
EOS3	**EOS3**	**0.09**	**175**	⇑P		**Pn**	**Pn**	**02 19 12.9**	**+0.6**
	baz=207								
EOS3				S		**Sn**	**Sn**	**02 19 20.4**	**+1.1**
	baz=207								
EOS4	**EOS4**	**0.25**	**178**	⇓*i*P		**Pn**	**Pn**	**02 19 12.9**	**+0.2**
	baz=178								
EOS4				S		**Sn**	**Sn**	**02 19 20.5**	**+0.4**
	baz=178								
ESAO	**Su ao**	**0.47**	**295**	⇑*i*P		**Pn**	**Pn**	**02 19 14.8**	**-0.1**
	baz=296								
ESAO				S		**Sn**	**Sn**	**02 19 23.3**	**-0.5**
	baz=296								
TWC	**Suao**	**0.48**	**299**	*eP*		**Pn**	**Pn**	**02 19 14.7**	**-0.3**
	baz=304								
TWC				*i* S		**Sn**	**Sn**	**02 19 23.5**	**-0.5**
	baz=304								
EWUT	**Wuta**	**0.49**	**278**	⇑*i*P		**Pn**	**Pn**	**02 19 14.7**	**-0.4**
	baz=274								
EWUT				S		**Sn**	**Sn**	**02 19 23.8**	**-0.4**
	baz=274								
ENA	**Nanau**	**0.52**	**276**	⇑*i*P		**Pn**	**Pn**	**02 19 15.2**	**-0.1**
	baz=275								
ENA				S		**Sn**	**Sn**	**02 19 24.8**	**+0.1**
	baz=275								
EAHA	**Aohua**	**0.52**	**265**	⇑*e*P		**Pn**	**Pn**	**02 19 14.5**	**-0.9**
	baz=267								
EAHA				S		**Sn**	**Sn**	**02 19 24.9**	**+0.2**
	baz=267								
EGS		**0.58**	**324**	P		**Pn**	**Pn**	**02 19 15.6**	**-0.4**
	baz=327								
JYNG	**Yonagunijimaku**	**0.58**	**82**	P		**Pn**	**Pn**	**02 19 16.4**	**+0.3**
JYNG				S		**Sn**	**Sn**	**02 19 26.0**	**+0.1**
NDS	**Dongshan**	**0.60**	**296**	*i* P		**Pn**	**Pn**	**02 19 16.6**	**+0.3**
	baz=301								
NDS				S		**Sn**	**Sn**	**02 19 26.7**	**+0.6**
	baz=301								
YOJ	**Yonaguni jima**	**0.65**	**82**	P		**Pn**	**Pn**	**02 19 17.1**	**+0.4**
YOJ				S		**Sn**	**Sn**	**02 19 27.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.65**	**82**	*i* P		**Pn**	**Pn**	**02 19 17.3**	**+0.6**
	baz=83								
YOJ				S		**Sn**	**Sn**	**02 19 27.7**	**+0.7**
	baz=83								
ETL	**Fush Village**	**0.66**	**251**	*e*P		**Pn**	**Pn**	**02 19 15.8**	**-1.1**
	baz=243								
ETL				S		**Sn**	**Sn**	**02 19 26.8**	**-0.7**
	baz=243								
TWE	**Neicheng**	**0.68**	**301**	P		**Pn**	**Pn**	**02 19 17.6**	**+0.5**
	baz=307								
TWE				S		**Sn**	**Sn**	**02 19 28.1**	**+0.4**
	baz=307								
NACB	**Ninganchiao**	**0.68**	**253**	P		**Pn**	**Pn**	**02 19 16.8**	**-0.3**
NACB	**Ninganchiao**	**0.68**	**253**	P		**Pn**	**Pn**	**02 19 16.8**	**-0.3**
	baz=245								
NACB				S		**Sn**	**Sn**	**02 19 27.2**	**-0.6**
	baz=245								
TWB1	**Santiao Chiao**	**0.69**	**335**	⇓*i*P		**Pn**	**Pn**	**02 19 16.9**	**-0.4**
	baz=331								
TWB1				S		**Sn**	**Sn**	**02 19 26.6**	**-1.4**
	baz=331								
TWD	**Chiawan**	**0.71**	**246**	⇑*i*P		**Pn**	**Pn**	**02 19 17.1**	**-0.4**
	baz=237								
TWD				S		**Sn**	**Sn**	**02 19 27.7**	**-0.7**
	baz=237								
ENTT	**Nioudou**	**0.73**	**291**	*i* P		**Pn**	**Pn**	**02 19 18.0**	**+0.4**
	baz=285								
LATG	**Datong**	**0.73**	**283**	⇓*i*P		**Pn**	**Pn**	**02 19 18.0**	**+0.2**
	baz=277								
LATG				*e*S		**Sn**	**Sn**	**02 19 30.1**	**+1.2**
	baz=277								
TIPB	**Shuangxi**	**0.74**	**324**	⇑P		**Pn**	**Pn**	**02 19 17.4**	**-0.5**
	baz=330								
TIPB				*i* S		**Sn**	**Sn**	**02 19 27.9**	**-1.1**
	baz=330								
NDT	**Datong Townshi**	**0.76**	**288**	⇑P		**Pn**	**Pn**	**02 19 18.6**	**+0.5**
	baz=284								
NDT				*i* S		**Sn**	**Sn**	**02 19 29.8**	**+0.4**
	baz=284								
FUSB	**Fushanzhiwuyua**	**0.76**	**300**	P		**Pn**	**Pn**	**02 19 18.4**	**+0.2**
	baz=307								
FUSB				*e*S		**Sn**	**Sn**	**02 19 31.6**	**+2.1**
	baz=307								
ETLH	**Xiulin Townshi**	**0.77**	**258**	⇓P		**Pn**	**Pn**	**02 19 18.0**	**-0.3**
	baz=251								
ETLH				*e*S		**Sn**	**Sn**	**02 19 29.0**	**-0.8**
	baz=251								
SXI1	**Grass Mountain**	**0.82**	**331**	P		**Pn**	**Pn**	**02 19 18.3**	**-0.5**
	baz=337								
SXI1				S		**Sn**	**Sn**	**02 19 29.9**	**-0.8**
	baz=337								
NWLT	**Wulai**	**0.84**	**299**	⇑P		**Pn**	**Pn**	**02 19 19.6**	**+0.6**
	baz=305								
NWLT				S		**Sn**	**Sn**	**02 19 31.7**	**+0.6**
	baz=305								
NWF	**Wu-fen Shan**	**0.84**	**325**	S		**Sn**	**Sn**	**02 19 30.4**	**-0.9**
	baz=328								
WFSB	**Wu-fen Shan**	**0.84**	**325**	S		**Sn**	**Sn**	**02 19 29.9**	**-1.2**
	baz=328								
NNSB	**Datong**	**0.85**	**274**	⇓P		**Pn**	**Pn**	**02 19 19.1**	**-0.1**
	baz=273								
NNSB				S		**Sn**	**Sn**	**02 19 31.1**	**-0.4**
	baz=273								
ETM	**Tongmen**	**0.85**	**241**	P		**Pn**	**Pn**	**02 19 18.7**	**-0.4**
	baz=233								
ETM				S		**Sn**	**Sn**	**02 19 30.6**	**-0.7**
	baz=233								
LXIB	**Xiulin Townshi**	**0.89**	**247**	*i* P		**Pn**	**Pn**	**02 19 19.6**	**-0.1**
	baz=245								
LXIB				S		**Sn**	**Sn**	**02 19 31.5**	**-0.9**
	baz=245								
TWA	**Mucha**	**0.89**	**313**	*i* P		**Pn**	**Pn**	**02 19 19.6**	**-0.1**
	baz=323								
TWA				S		**Sn**	**Sn**	**02 19 32.1**	**-0.2**
	baz=323								
SHUL	**Shoufeng**	**0.90**	**230**	*i* S		**Sn**	**Sn**	**02 19 32.1**	**-0.3**
	baz=227								
YHNB	**Yeheng**	**0.90**	**289**	P		**Pn**	**Pn**	**02 19 20.2**	**+0.4**
YHNB	**Yeheng**	**0.90**	**289**	⇓P		**Pn**	**Pn**	**02 19 20.1**	**+0.4**
	baz=290								
YHNB				S		**Sn**	**Sn**	**02 19 32.6**	**+0.1**
	baz=290								
NSK	**Sanguang**	**0.92**	**289**	*i* P		**Pn**	**Pn**	**02 19 20.3**	**+0.3**
	baz=290								
NSK				S		**Sn**	**Sn**	**02 19 32.6**	**-0.2**
	baz=290								
TATO	**Taipei**	**0.96**	**309**	P		**Pn**	**Pn**	**02 19 21.9**	**+1.5**
FUSS	**Fushou**	**0.98**	**263**	⇓P		**Pn**	**Pn**	**02 19 21.1**	**+0.1**
	baz=262								
FUSS				*i* S		**Sn**	**Sn**	**02 19 34.3**	**-0.2**
	baz=262								
WHF	**Hehuan Shan**	**0.98**	**257**	⇑P		**Pn**	**Pn**	**02 19 21.3**	**+0.2**
	baz=256								
WHF				S		**Sn**	**Sn**	**02 19 34.3**	**-0.5**
	baz=256								
YM01	**YM01**	**1.02**	**319**	*e*P		**Pn**	**Pn**	**02 19 20.4**	**-0.9**
	baz=321								
YM01				*e*S		**Sn**	**Sn**	**02 19 34.0**	**-1.1**
	baz=321								
TWT	**Tachien**	**1.04**	**264**	*i* P		**Pn**	**Pn**	**02 19 22.3**	**+0.6**
	baz=259								
TWT				S		**Sn**	**Sn**	**02 19 35.9**	**0.0**
	baz=259								
YM08	**YM08**	**1.04**	**321**	*e*S		**Sn**	**Sn**	**02 19 32.6**	**-2.9**
	baz=323								
TDCB	**Techi**	**1.06**	**264**	*e*P		**Pn**	**Pn**	**02 19 23.0**	**+1.2**
	baz=259								
TDCB				*e*S		**Sn**	**Sn**	**02 19 36.1**	**0.0**
	baz=259								
WARBT	**Fenglin Townsh**	**1.07**	**232**	⇑*i*P		**Pn**	**Pn**	**02 19 21.4**	**-0.5**
	baz=230								
WARBT				S		**Sn**	**Sn**	**02 19 34.9**	**-1.3**
	baz=230								
EGFH	**Guangfu**	**1.07**	**229**	S		**Sn**	**Sn**	**02 19 35.7**	**-0.5**
	baz=221								
CHGB	**Renai**	**1.08**	**253**	*e*P		**Pn**	**Pn**	**02 19 22.4**	**+0.2**
	baz=245								
CHGB				*e*S		**Sn**	**Sn**	**02 19 37.0**	**+0.2**
	baz=245								
NFF	**Wufeng Townshi**	**1.11**	**284**	⇓*e*P		**Pn**	**Pn**	**02 19 23.2**	**+0.7**
	baz=294								
NFF				*i* S		**Sn**	**Sn**	**02 19 37.8**	**+0.4**
	baz=294								
OWD	**Renai**	**1.12**	**248**	*e*P		**Pn**	**Pn**	**02 19 22.8**	**+0.2**
	baz=242								
OWD				*e*S		**Sn**	**Sn**	**02 19 36.6**	**-0.9**
	baz=242								
WUSB	**Renai**	**1.15**	**251**	⇑P		**Pn**	**Pn**	**02 19 23.5**	**+0.5**
	baz=245								
WUSB				S		**Sn**	**Sn**	**02 19 38.1**	**-0.2**
	baz=245								
HGSD	**Ruisui**	**1.20**	**223**	*e*P		**Pn**	**Pn**	**02 19 25.1**	**+1.6**
	baz=218								
HGSD				S		**Sn**	**Sn**	**02 19 38.7**	**-0.4**
	baz=218								
LIOB	**Emei**	**1.21**	**283**	*e*P		**Pn**	**Pn**	**02 19 24.5**	**+0.8**
	baz=284								
LIOB				*e*S		**Sn**	**Sn**	**02 19 40.3**	**+0.9**
	baz=284								
NSTT	**Nanjuang**	**1.22**	**282**	P		**Pn**	**Pn**	**02 19 24.7**	**+0.9**
	baz=283								
NSTT				S		**Sn**	**Sn**	**02 19 40.2**	**+0.6**
	baz=283								
VWDT	**VWDT**	**1.23**	**240**	P		**Pn**	**Pn**	**02 19 24.4**	**+0.4**
	baz=232								
VWDT				S		**Sn**	**Sn**	**02 19 39.8**	**-0.2**
	baz=232								
WHP	**Taichung City**	**1.25**	**266**	⇑P		**Pn**	**Pn**	**02 19 25.9**	**+1.7**
	baz=266								
WHP				S		**Sn**	**Sn**	**02 19 41.6**	**+1.2**
	baz=266								
EHY	**Hungye**	**1.25**	**226**	P		**Pn**	**Pn**	**02 19 23.0**	**-1.2**
	baz=224								
EHY				S		**Sn**	**Sn**	**02 19 38.4**	**-2.0**
	baz=224								
ECBN	**Changbin**	**1.31**	**217**	S		**Sn**	**Sn**	**02 19 40.7**	**-1.2**
	baz=206								
WCS	**Beigang Elemen**	**1.31**	**256**	P		**Pn**	**Pn**	**02 19 26.1**	**+1.0**
	baz=252								
WCS				S		**Sn**	**Sn**	**02 19 42.7**	**+0.8**
	baz=252								
YULB	**Yu-li**	**1.35**	**224**	⇓*e*P		**Pn**	**Pn**	**02 19 25.4**	**-0.1**
	baz=230								
YULB				S		**Sn**	**Sn**	**02 19 41.0**	**-1.6**
	baz=230								
EYUL	**Yuli**	**1.37**	**222**	*e*S		**Sn**	**Sn**	**02 19 43.8**	**+0.7**
	baz=229								
SSLB	**Suanglung**	**1.37**	**245**	P		**Pn**	**Pn**	**02 19 28.2**	**+2.4**
SSLB	**Suanglung**	**1.37**	**245**	*e*P		**Pn**	**Pn**	**02 19 27.8**	**+2.0**
	baz=239								
SSLB				*e*S		**Sn**	**Sn**	**02 19 43.4**	**+0.2**
	baz=239								
TWF1	**Yuli**	**1.38**	**222**	P		**Pn**	**Pn**	**02 19 25.6**	**-0.3**
	baz=229								
TWF1				*i* S		**Sn**	**Sn**	**02 19 42.1**	**-1.3**
	baz=229								
SMLT	**Sun Moon Lake**	**1.38**	**249**	*e*P		**Pn**	**Pn**	**02 19 28.0**	**+2.0**
	baz=244								
SMLT				*e*S		**Sn**	**Sn**	**02 19 45.9**	**+2.4**
	baz=244								
TYC	**Yuchr**	**1.41**	**251**	*e*P		**Pn**	**Pn**	**02 19 27.4**	**+1.1**
	baz=244								
TYC				*e*S		**Sn**	**Sn**	**02 19 45.9**	**+1.8**
	baz=244								
CHKH	**Chenggong**	**1.45**	**216**	S		**Sn**	**Sn**	**02 19 43.2**	**-1.7**
	baz=205								
FULB	**Fuli**	**1.50**	**219**	*e*S		**Sn**	**Sn**	**02 19 45.0**	**-1.2**
	baz=209								
CHKT	**Chengkung**	**1.54**	**214**	*e*S		**Sn**	**Sn**	**02 19 44.2**	**-2.9**
	baz=204								
JKRS	**Kuro-shima**	**1.56**	**95**	P		**Pn**	**Pn**	**02 19 29.1**	**+0.8**
ELDTW	**Lidau**	**1.67**	**225**	*e*S		**Sn**	**Sn**	**02 19 49.6**	**-0.9**
	baz=219								
EDH	**Donghe**	**1.67**	**214**	*e*P		**Pn**	**Pn**	**02 19 27.9**	**-1.9**
	baz=206								
EDH				*e*S		**Sn**	**Sn**	**02 19 47.6**	**-2.8**
	baz=206								
JIJ	**Ishigaki jima**	**1.67**	**90**	*e*P		**Pn**	**Pn**	**02 19 30.2**	**+0.4**
JIJ				*e*S		**Sn**	**Sn**	**02 19 50.1**	**-0.3**
CHN5	**Tsauling**	**1.68**	**243**	S		**Sn**	**Sn**	**02 19 52.8**	**+2.0**
	baz=234								
JISG	**Ishigakijimahi**	**1.84**	**83**	S		**Sn**	**Sn**	**02 19 54.6**	**+0.3**
CHN4	**Tsaushan**	**1.87**	**237**	S		**Sn**	**Sn**	**02 19 58.2**	**+3.0**
	baz=236								
TPUB	**Ta-pu**	**1.87**	**236**	*e*S		**Sn**	**Sn**	**02 19 57.2**	**+2.0**
	baz=227								
WTP	**Ta-pu**	**1.92**	**234**	*e*S		**Sn**	**Sn**	**02 19 58.9**	**+2.5**
	baz=233								
TWG	**Pinlang**	**1.92**	**216**	*e*S		**Sn**	**Sn**	**02 19 54.2**	**-2.1**
	baz=221								
CHN1	**Nanshi**	**2.02**	**234**	*e*S		**Sn**	**Sn**	**02 20 01.5**	**+2.8**
	baz=233								
SLGT	**Liugui**	**2.05**	**228**	*e*S		**Sn**	**Sn**	**02 20 01.4**	**+1.8**
	baz=227								
VWUC	**VWUC**	**2.67**	**284**	*e*P		**Pn**	**Pn**	**02 19 41.0**	**-2.3**
	baz=286								

MOS ***15*** *02:28:31.5±1.0,15.˝11S×167.˝43E,h106km,mb5.2/23, Error ellipse: s-maj=8.7km s-min=8.0km az=130.0*
NEIC ***15*** *02:28:34.2,15.˝22S×167.˝52E,h120km*
NEIC ***15*** *02:28:34.6±2.3,15.˝22S±0.˝08×167.˝51E±0.˝09,h118km±4km, mb5.2/139,Mww5.4/29,Error ellipse: s-maj=12.9km s-min=11.5km az=71.0*
NEIC ***15*** *02:28:34.2,15.˝12S×167.˝32E,h120km,Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17^Nm; Mrr1.49; Mθθ-0.05; Mφφ-1.44; Mrθ-0.25; Mθφ-0.02; Mφr-0.18; Fault plane solution: M0.1.49000×10^17^ NP1: φs189.62000°,δ49.29000°,λ101.56000°. NP2: φs352.20000°,δ42.04000°,λ76.88000°. Principal axes: T 1.5350, Plg81.0000°, Azm159.0000°; N -0.0852, Plg9.0000°, Azm2.0000°; P -1.4499, Plg4.0000°, Azm271.0000°;*
IDC ***15*** *02:28:34.7±0.6,15.˝20S×167.˝35E,h125km±4km,mb4.6/26, mbtmp5.0/27,MS4.0/35 Error ellipse: s-maj=10.4km s-min=9.1km az=92.0*
BJI ***15*** *02:28:34.1±0.0,14.˝77S×167.˝74E,h125km,mb5.1/68, mB5.2/41*

GCMT ***15*** *02:28:36.6±0.1,15.˝14S±0.˝01×167.˝29E±0.˝01,h122km, MW5.4/152,Moment Tensor Solution. s120,c191; s152,c276; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.41±.02; Mθθ0.07±.02; Mφφ-1.48±.02; Mrθ-0.34±.02; Mθφ-0.20±.02; Mφr-0.20±.02; Best double couple: M0.1.51400×10^17^ NP1:φs199.00000°,δ51.00000°, λ106.00000°. NP2:φs355.00000°,δ42.00000°,λ71.00000°. Principal axes: T 1.5020, Plg77.0000°, Azm167.0000°; N 0.0260, Plg13.0000°, Azm9.0000°; P -1.5260, Plg5.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***15*** *02:28:36.5,15.˝19S×167.˝28E,h113km,mb5.3/84, Vanuatu Islands*

ISC 15 02:28:35.5±0.3,15.˝18S±0.˝04×167.˝43E±0.˝04,h130km±2km, h130km:pP-P,n808,σ1s65/812,mb5.2/165,35C-33D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.57**	**182**	Pn		**Pn**	**Pn**	**02 29 54.1**	**-2.1**
LIFNC	**LIFOU**	**5.57**	**182**	P		**Pn**	**Pn**	**02 29 55.6**	**-0.6**
KOUNC	**Koumac, New Ca**	**6.12**	**209**	Pn		**Pn**	**Pn**	**02 30 03.6**	**0.0**
KOUNC	**Koumac, New Ca**	**6.12**	**209**	P		**Pn**	**Pn**	**02 30 04.2**	**+0.5**
MARNC	**Mare, Loyalty**	**6.30**	**175**	Pn		**Pn**	**Pn**	**02 30 04.0**	**-2.0**
MARNC	**Mare, Loyalty**	**6.30**	**175**	P		**Pn**	**Pn**	**02 30 04.5**	**-1.5**
YATNC	**Mamie plateau,**	**6.86**	**184**	P		**Pn**	**Pn**	**02 30 13.5**	**-0.1**
DZM	**Mont Dzumac**	**6.92**	**188**	Pn		**Pn**	**Pn**	**02 30 13.5**	**-1.0**
DZM	**Mont Dzumac**	**6.92**	**188**	P		**Pn**	**Pn**	**02 30 15.1**	**+0.6**
DZM	**Mont Dzumac**	**6.92**	**188**	*e*Pn		**Pn**	**Pn**	**02 30 14.3**	**-0.2**
	585nm,0.8s								
DZM				*e*Sn		**Sn**	**Sn**	**02 31 34.3**	**+2.4**
	1μm,0.9s								
DZM				*e*LR		LR	LR	02 31 50.2	
	2μm,31.4s								
DZM	**Mont Dzumac**	**6.92**	**188**	P		**Pn**	**Pn**	**02 30 12.5**	**-2.0**
	136nm,0.3s,baz=1.1,slow=16,SNR=325								
DZM				S		**Sn**	**Sn**	**02 31 30.1**	**-1.8**
	108nm,0.5s,baz=355,slow=23,SNR=3.2								
NOUC	**Port Laguerre**	**6.97**	**189**	P		**Pn**	**Pn**	**02 30 16.6**	**+1.6**
ONTNC	**Ouen Toro**	**7.15**	**187**	Pn		**Pn**	**Pn**	**02 30 17.6**	**+0.1**
ONTNC	**Ouen Toro**	**7.15**	**187**	P		**Pn**	**Pn**	**02 30 19.4**	**+1.9**
OUENC	**Ouen Island, N**	**7.22**	**184**	Pn		**Pn**	**Pn**	**02 30 18.7**	**+0.2**
OUENC	**Ouen Island, N**	**7.22**	**184**	P		**Pn**	**Pn**	**02 30 20.2**	**+1.7**
PINNC	**Pines Island,**	**7.40**	**180**	Pn		**Pn**	**Pn**	**02 30 20.2**	**-0.6**
PINNC	**Pines Island,**	**7.40**	**180**	P		**Pn**	**Pn**	**02 30 21.5**	**+0.7**
HNR	**Honiara**	**9.27**	**307**	Pn		**Pn**	**Pn**	**02 30 46.8**	**+0.7**
HNR	**Honiara**	**9.27**	**307**	P		**Pn**	**Pn**	**02 30 47.6**	**+1.5**
HNR	**Honiara**	**9.27**	**307**	P		**Pn**	**Pn**	**02 30 46.8**	**+0.7**
HNR	**Honiara**	**9.27**	**307**	P		**Pn**	**Pn**	**02 30 45.6**	**-0.5**
	5μm,0.5s,baz=198,slow=3.3,SNR=44								
HNR				S		**Sn**	**Sn**	**02 32 26.9**	**-1.8**
	6μm,0.6s,baz=56,slow=15,SNR=2.5								
HNR				LR		LR	LR	02 34 23.8	
	comp=Z,11μm,18.4s,baz=154,slow=38								
YSA	**Yasawairara**	**9.88**	**100**	P		**Pn**	**Pn**	**02 30 58.4**	**+4.1**
ALOT	**Alotau**	**17.24**	**284**	P		**P**	**P**	**02 32 27.9**	**-0.1**
TARA	**Tarawa**	**17.30**	**19**	P		**P**	**P**	**02 32 28.2**	**-0.4**
TARA	**Tarawa**	**17.30**	**19**	P		**Pn**	**Pn**	**02 32 32.7**	**+3.5**
EIDS	**Eidsvold**	**18.36**	**234**	P		**Pn**	**P**	**02 32 41.7**	**-0.1**
	baz=18,SNR=11								
EIDS	**Eidsvold**	**18.36**	**234**	P		**Pn**	**Pn**	**02 32 42.4**	**+0.6**
EIDS	**Eidsvold**	**18.36**	**234**	P		**Pn**	**Pn**	**02 32 41.5**	**-0.3**
RABL	**Rabaul**	**18.57**	**304**	P		**Pn**	**Pn**	**02 32 44.0**	**-0.4**
TV1H	**Townsville Har**	**20.12**	**255**	P		Pn	02 33 02.4		**0.0**
	60nm,0.8s								
AFI	**Afiamalu**	**20.17**	**89**	P		**P**	**P**	**02 32 58.3**	**-1.7**
AFI	**Afiamalu**	**20.17**	**89**	P		Pn	02 33 06.6		**+3.5**
	130nm,0.7s								
AFI	**Afiamalu**	**20.17**	**89**	P		**P**	**P**	**02 32 58.3**	**-1.7**
PMG	**Port Moresby**	**20.61**	**284**	P		**P**	**P**	**02 33 01.9**	**-2.7**
	7.5nm,0.3s,baz=211,slow=18,SNR=2.6 7.5nm,0.3s								
CTA	**Charters Tower**	**20.75**	**253**	P		**P**	**P**	**02 33 05.0**	**-1.1**
	12nm,0.5s,baz=84,slow=12,SNR=28								
CTA				PcP		**PcP**	**PcP**	**02 37 10.6**	**+0.1**
	4.5nm,0.6s,baz=114,slow=7.2,SNR=3.0 12nm,0.5s								
CTAO	**Charters Tower**	**20.75**	**253**	P		**P**	**P**	**02 33 07.4**	**+1.2**
CTAO	**Charters Tower**	**20.75**	**253**	P		**P**	**P**	**02 33 07.0**	**+0.8**
CTAO	**Charters Tower**	**20.75**	**253**	P		**P**	**P**	**02 33 07.4**	**+1.2**
ARMA	**Armidale**	**20.99**	**221**	P		**P**	**P**	**02 33 10.2**	**+1.5**
	baz=21,SNR=14								
ARMA	**Armidale**	**20.99**	**221**	P		**P**	**P**	**02 33 09.8**	**+1.2**
ARMA	**Armidale**	**20.99**	**221**	P		Pn	02 33 11.5		**-1.2**
AUPHS	**Peel High Scho**	**21.92**	**221**	P		**P**	**P**	**02 33 19.9**	**+1.4**
NIUE	**Niue**	**21.98**	**103**	P		**P**	**P**	**02 33 18.6**	**-0.6**

STKA Stephens Creek 28.82 230 P **P** **02 34 21.0 -0.5**
comp=Z,61nm,0.5s,baz=43,slow=8.2,SNR=168
STKA PcP **PcP** **02 37 28.1 -0.1**
comp=Z,13nm,0.7s,baz=80,slow=2.5,SNR=5.0
STKA ScP **ScP** **02 40 59.1 +1.4**
comp=Z,2.5nm,0.7s,baz=11,slow=5.8,SNR=3.4
STKA LR LR 02 44 58.6
comp=Z,237nm,20.0s,baz=94,slow=34
comp=Z,61nm,0.5s
TOO Toolangi 29.58 217 P **P** **02 34 29.5 +1.2**
baz=30,SNR=13
TOO Toolangi 29.58 217 P **P** **02 34 28.5 +0.3**
TOO IAmb IAmb 02 34 30.7
comp=Z,29nm,0.8s
TOO Toolangi 29.58 217 P **P** **02 34 29.4 +1.2**
TOO Toolangi 29.58 217 P **P** **02 34 28.5 +0.3**
TOO pmax pmax
comp=Z,29nm,0.8s
MLZ Mavora Lakes 30.10 179 IAmb IAmb 02 34 35.7
comp=Z,62nm,1.1s
DCZ Deep Cove 30.19 180 IAmb IAmb 02 34 36.6
comp=Z,68nm,0.9s
BRAT Ballarat 30.49 219 P **P** **02 34 38.9 +2.7**
comp=Z,17nm,0.8s
WHZ Wether Hill Ro 30.62 179 IAmb IAmb 02 34 39.3
comp=Z,41nm,0.8s
GEXS Deakin Univers 30.71 217 P **P** **02 34 41.0 +2.9**
comp=Z,111nm,0.6s
GLAD Gladstone 30.75 209 P **P** **02 34 40.1 +1.7**
comp=Z,148nm,0.8s
LCRK Leigh Creek 30.80 235 P **P** **02 34 40.8 +1.8**
ARPS Mount Arapiles 31.31 222 P **P** **02 34 44.5 +1.0**
baz=31,SNR=6.5
ARPS Mount Arapiles 31.31 222 P **P** **02 34 44.6 +1.1**
HTT Hallett 31.54 230 P **P** **02 34 46.8 +1.2**
baz=32,SNR=36
HTT Hallett 31.54 230 P **P** **02 34 47.1 +1.5**
WR0 Warramunga Arr 31.68 257 P **P** **02 34 45.8 -1.1**
RAR Rarotonga 31.69 106 P **P** **02 34 46.2 -0.8**
RAR IAmb IAmb 02 34 49.7
comp=Z,36nm,0.8s
RAR Rarotonga 31.69 106 P **P** **02 34 50.7 +3.7**
RAR Rarotonga 31.69 106 P **P** **02 34 46.2 -0.8**
RAR pmax pmax
comp=Z,36nm,0.9s
RAR Rarotonga 31.69 106 LR LR 02 46 41.7
comp=Z,112nm,18.8s,baz=278,slow=34
RAR Rarotonga 31.69 106 P **P** **02 34 47.7 +0.7**
WB0 Warramunga Arr 31.81 257 P **P** **02 34 47.6 -0.5**
WB0 IAmb IAmb 02 35 16.7
comp=Z,78nm,1.6s
WB2 Warramunga Arr 31.86 257 P **P** **02 34 47.7 -0.7**
WRA Warramunga Arr 31.87 257 P **P** **02 34 47.5 -1.1**
comp=Z,6.8nm,0.6s,baz=85,slow=9.0,SNR=32
WRA PcP **PcP** **02 37 36.9 +0.5**
comp=Z,3.6nm,0.6s,baz=84,slow=3.2,SNR=6.8
WRA S **S** **02 39 47.6 -2.4**
comp=Z,1.9nm,1.1s,baz=121,slow=15,SNR=7.0
WRA ScP **ScP** **02 41 07.9 0.0**
comp=Z,6.6nm,1.1s,baz=83,slow=3.0,SNR=8.1
WRA PKiKP **PKiKP** **02 45 03.5 -1.4**
comp=Z,2.3nm,0.6s,baz=6.9,slow=0.5,SNR=22
WRA LR LR 02 47 49.1
comp=Z,1μm,18.1s,baz=84,slow=36
comp=Z,6.8nm,0.6s
OOD Oodnadatta 31.99 242 P **P** **02 34 51.9 +2.4**
MOO Moorlands 32.27 209 P **P** **02 34 53.0 +1.2**
baz=32,SNR=6.7
WHYH Whyalla 32.37 231 P **P** **02 34 53.9 +1.2**
comp=Z,96nm,0.7s
TAU Tasmania Unive 32.58 208 P **P** **02 34 55.3 +0.9**
TAU pP **pP** **02 35 23.4 +1.2**
TAU PcP **PcP** **02 37 39.2 +1.4**
AS31 Alice Springs 32.66 250 P **P** **02 34 55.0 -0.5**
ASAR Alice Springs 32.66 250 P **P** **02 34 55.2 -0.2**
ASAR Alice Springs 32.66 250 P **P** **02 34 54.9 -0.6**
comp=Z,40nm,0.7s,baz=82,slow=9.1,SNR=283
ASAR PcP **PcP** **02 37 40.0 +1.4**
comp=Z,2.7nm,0.5s,baz=72,slow=3.2,SNR=3.2
ASAR S **S** **02 39 58.7 -3.6**
comp=Z,0.5nm,0.6s,baz=81,slow=18,SNR=2.4
ASAR ScP **ScP** **02 41 11.6 +1.0**
comp=Z,4.5nm,0.8s,baz=91,slow=3.3,SNR=13
ASAR PKiKP **PKiKP** **02 45 04.0 -1.4**
comp=Z,1.3nm,0.7s,baz=98,slow=1.4,SNR=19
ASAR LR LR 02 48 20.0
comp=Z,592nm,18.3s,baz=89,slow=36
comp=Z,40nm,0.7s
BBOO Buckleboo 33.43 233 P **P** **02 35 03.0 +1.0**
baz=34,SNR=112
BBOO Buckleboo 33.43 233 P **P** **02 35 02.8 +0.8**
BBOO Buckleboo 33.43 233 P **P** **02 35 03.5 +1.5**
KDU Kakadu 33.99 270 P **P** **02 35 06.8 -0.2**
baz=34,SNR=3.6
MULG Mulgathing 34.10 238 P **P** **02 35 08.6 +0.8**
MTN Manton Dam 35.27 269 P **P** **02 35 18.5 +0.4**
baz=35,SNR=4.6
MTN Manton Dam 35.27 269 P **P** **02 35 16.8 -1.2**
MTN IAmb IAmb 02 35 48.4
comp=Z,61nm,1.7s
GUMO Guam 36.26 321 LR LR 02 51 39.6
comp=Z,204nm,18.6s,baz=153,slow=38
KNRA Kununurra 37.24 264 P **P** **02 35 34.4 -0.4**
baz=37,SNR=14
KNRA Kununurra 37.24 264 P **P** **02 35 34.1 -0.7**
KNRA Kununurra 37.24 264 P **P** **02 35 36.1 +1.3**
WRKA Warakurna 37.91 249 P **P** **02 35 40.4 -0.1**
baz=38,SNR=64
WRKA Warakurna 37.91 249 P **P** **02 35 41.0 +0.5**
SIJI Sorong 38.43 288 P **P** **02 35 45.7 +0.9**
comp=Z,18nm,0.9s
SWI Sorong 38.44 288 P **P** **02 35 46.4 +1.5**
SWI pmax pmax
comp=Z,36nm,1.4s
SWI Sorong 38.44 288 P **P** **02 35 45.7 +0.8**
comp=Z,35nm,1.4s
FORT Forrest 39.20 240 P **P** **02 35 51.8 +0.7**
baz=39,SNR=64
FORT Forrest 39.20 240 P **P** **02 35 51.6 +0.5**
FORT Forrest 39.20 240 P **P** **02 35 52.7 +1.6**
FITZ Fitzroy Crossi 40.08 260 P **P** **02 35 58.7 +0.1**
baz=40,SNR=37
FITZ Fitzroy Crossi 40.08 260 P **P** **02 35 58.1 -0.4**
FITZ Fitzroy Crossi 40.08 260 P **P** **02 35 59.0 +0.5**
KRAI Karang Ratu 40.20 283 P **P** **02 35 59.9 +0.3**
PAE Paea 41.25 100 *e*P **P** **02 36 09.0 +0.9**
comp=Z,44nm,0.9s
PPT2 Papeete2 41.26 99 *e*P P 02 36 01.6 -6.7
comp=Z,129nm,26.0s
PPT2 *e*S **S** **02 42 11.9 -1.0**
comp=Z,288nm,25.2s
PPT2 *e*LQ LQ 02 45 37.6
comp=Z,626nm,24.2s
PPT2 *e*LR LR 02 47 32.7
comp=Z,2μm,31.8s
PPT2 *e*LR LR 02 47 36.1
comp=Z,948nm,32.8s
PPT Papeete 41.26 99 P **P** **02 36 09.0 +0.8**
comp=Z,187nm,0.7s,baz=68,slow=3.3,SNR=24
PPTF Pamatai, Papee 41.27 99 P **P** **02 36 08.6 +0.3**
PPTF Pamatai, Papee 41.27 99 P **P** **02 36 11.3 +2.9**
PPTF Pamatai, Papee 41.27 99 P **P** **02 36 09.4 +1.0**
PPTF sP **sP** **02 36 50.0 -0.9**
TBI Tubuai 41.38 108 *e*P **P** **02 36 06.3 -2.8**
comp=Z,398nm,27.0s
TBI *e*S **S** **02 42 20.9 +6.5**
comp=Z,825nm,24.0s
TBI *e*LQ LQ 02 45 41.7
comp=Z,3μm,33.8s
TBI *e*LR LR 02 47 28.9
comp=Z,1μm,31.0s
TBI *e*LR LR 02 47 29.4
comp=Z,7μm,34.5s
NLAI Namlea 41.45 283 P **P** **02 36 11.9 +2.1**
comp=Z,33nm,1.8s
TIAR Tiarei 41.48 99 *e*P **P** **02 36 11.1 +1.1**
comp=Z,0.4nm,0.8s
TVO Taravao 41.56 100 *e*P **P** **02 36 11.8 +1.1**
comp=Z,85nm,0.7s
MEH Mehetia 42.68 100 *e*P **P** **02 36 20.3 +0.5**
comp=Z,44nm,0.9s
PMOR Pomariorio Ree 43.08 96 *e*P **P** **02 36 24.2 +1.2**
comp=Z,350nm,1.1s
VAH Vaihoa 43.31 96 *e*P **P** **02 36 24.7 -0.1**
comp=Z,116nm,1.0s
KMBL Kambalda 44.50 241 P **P** **02 36 34.4 +0.2**
baz=44,SNR=28

KMBL Kambalda 44.50 241 P **P** **02 36 34.7 +0.5**
EDFI Ende, Flores 45.13 273 P **P** **02 36 40.2 +0.7**
comp=Z,41nm,0.9s
PSA00 Pilbara Seismi 45.46 255 P **P** **02 36 41.2 -0.7**
PSA00 IAmb IAmb 02 37 27.5
comp=Z,45nm,1.3s
PSA00 Pilbara Seismi 45.46 255 P **P** **02 36 43.5 +1.6**
GTOI Gorontalo 46.62 286 P **P** **02 36 54.3 +3.2**
comp=Z,8.7nm,0.7s
MEEK Meekatharra 46.75 248 P **P** **02 36 52.2 +0.2**
baz=47,SNR=40
MEEK Meekatharra 46.75 248 P **P** **02 36 53.1 +1.1**
DAV Davao City (W) 46.99 295 LR LR 02 56 36.7
comp=Z,86nm,18.4s,baz=134,slow=36
BKSI Bulukumba 47.47 277 P **P** **02 36 59.9 +2.2**
comp=Z,33nm,0.7s
KAPI Kappang 47.91 277 P **P** **02 37 01.1 +0.1**
KAPI IAmb IAmb 02 37 34.6
comp=Z,84nm,1.4s
KAPI Kappang 47.91 277 P **P** **02 37 01.1 +0.1**
KAPI pmax pmax
comp=Z,83nm,1.5s
KLBR Kellerberrin 48.02 241 P **P** **02 37 01.3 -0.4**
baz=48,SNR=24
KLBR Kellerberrin 48.02 241 P **P** **02 37 02.7 +1.0**
DBNI Kabupaten Domp 48.44 272 P **P** **02 37 05.8 +0.6**
comp=Z,80nm,0.7s
JCJ Chichijima 48.65 330 LR LR 02 58 52.2
comp=Z,82nm,18.2s,baz=103,slow=37
NWAO Narrogin (SRO) 48.65 239 P **P** **02 37 06.5 -0.1**
baz=49,SNR=13
NWAO P **P** **02 37 06.5 -0.1**
baz=49,SNR=13
NWAO Narrogin (SRO) 48.65 239 P **P** **02 37 06.3 -0.2**
NWAO IAmb IAmb 02 37 08.9
comp=Z,40nm,0.7s
NWAO Narrogin (SRO) 48.65 239 P **P** **02 37 06.8 +0.3**
NWAO Narrogin (SRO) 48.65 239 P **P** **02 37 06.3 -0.2**
NWAO pmax pmax
comp=Z,40nm,0.7s
NWAO Narrogin (SRO) 48.65 239 LR LR 02 58 19.9
comp=Z,391nm,18.3s,baz=204,slow=37
NWAO Narrogin (SRO) 48.65 239 P **P** **02 37 06.4 -0.1**
NWAO pP **pP** **02 37 34.7 -1.9**
BLDU Ballidu 48.79 243 P **P** **02 37 07.3 -0.2**
baz=49,SNR=5.2
RKGY Rocky Gully 49.14 237 P **P** **02 37 10.9 +0.7**
baz=49,SNR=6.8
MORW Morawa 49.21 245 P **P** **02 37 11.0 +0.2**
baz=49,SNR=14
MORW Morawa 49.21 245 P **P** **02 37 10.5 -0.3**
MORW IAmb IAmb 02 37 12.2
comp=Z,31nm,0.8s
MORW Morawa 49.21 245 P **P** **02 37 11.6 +0.7**
MUN Mundaring 49.38 241 P **P** **02 37 12.9 +0.8**
baz=49,SNR=3.6
MUN Mundaring 49.38 241 P **P** **02 37 15.9 +3.8**
MPSI Mapaga 49.42 284 P **P** **02 37 13.7 +1.1**
comp=Z,52nm,1.1s
TWSI Taliwang, Sumb 49.77 271 P **P** **02 37 16.6 +1.3**
comp=Z,69nm,0.9s
KHU Kahuku 49.93 48 P **P** **02 37 17.0 +0.4**
KHU Kahuku 49.93 48 P **P** **02 37 17.0 +0.4**
KHU pmax pmax
comp=Z,458nm,1.6s
GIRL Giralia 50.65 253 P **P** **02 37 23.2 +1.4**
baz=51,SNR=7.7
GIRL Giralia 50.65 253 P **P** **02 37 23.0 +1.2**
TAOE Nuku Hiva Isla 51.56 89 *e*P P 02 37 22.7 -6.1
comp=Z,120nm,25.8s
TAOE *e*S **S** **02 44 44.1 +4.1**
comp=Z,308nm,25.5s
DRV Dumont d'Urvil 54.55 193 P **P** **02 37 49.7 0.0**
DRV sP **sP** **02 38 34.1 -0.5**
DRV PcP **PcP** **02 38 51.4 +0.1**
UGM Wanagama 56.09 271 P **P** **02 38 01.9 +0.1**
JOW Kunigami 56.48 317 P **P** **02 38 05.2 +1.1**
comp=Z,33nm,0.7s,baz=162,slow=8.3,SNR=4.5
comp=Z,33nm,0.7s
JMN Monobe 58.21 327 P **P** **02 38 16.1 -0.1**
JMN IAmb IAmb 02 38 17.9
comp=Z,32nm,1.0s
MJAR Matsushiro Arr 58.37 333 P **P** **02 38 15.5 -1.8**
comp=Z,3.2nm,0.5s,baz=169,slow=7.8,SNR=8.2
MJAR pP **pP** **02 38 46.0 -1.8**
comp=Z,2.2nm,0.4s,baz=170,slow=8.5,SNR=3.0
comp=Z,3.2nm,0.5s
MAJO Matsushiro 58.37 333 P **P** **02 38 17.4 +0.2**
MAJO IAmb IAmb 02 38 19.1
comp=Z,33nm,1.4s
MAJO Matsushiro 58.37 333 *i*P **P** **02 38 15.8 -1.5**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MAJO Matsushiro 58.37 333 P **P** **02 38 17.4 +0.2**
MJB9 Matsu-Tunnel 58.38 333 P **P** **02 38 18.5 +1.2**
MJB9 IAmb IAmb 02 38 20.1
comp=Z,32nm,1.4s
YOJ Yonaguni jima 58.58 312 P **P** **02 38 19.0 +0.1**
YOJ Yonaguni jima 58.58 312 P **P** **02 38 19.0 +0.1**
YOJ pmax pmax
comp=Z,385nm,1.9s
YULB Yu-li 59.20 310 P **P** **02 38 22.7 -0.5**
JNU Nakatsue 59.37 324 P **P** **02 38 24.0 -0.2**
JNU Nakatsue 59.37 324 P **P** **02 38 24.1 -0.2**
comp=Z,12nm,0.5s,baz=296,slow=0.3,SNR=12
comp=Z,12nm,0.5s
SSLB Suanglung 59.68 310 P **P** **02 38 25.8 -0.8**
SSLB IAmb IAmb 02 38 27.7
comp=Z,22nm,0.6s
SSLB Suanglung 59.68 310 P **P** **02 38 29.4 +2.8**
YHNB Yeheng 59.89 311 P **P** **02 38 27.4 -0.6**
XMIS Christmas Isla 60.25 266 P **P** **02 38 30.2 -0.5**
SBJI Serang 60.75 271 P **P** **02 38 34.7 +0.7**
comp=Z,1μm,0.5s,comp=Z,18μm
JTM Tenmabayashi 60.81 337 P **P** **02 38 33.4 -0.5**
PPBI Pangkal Pinang 61.75 276 P **P** **02 38 44.2 +3.4**
comp=Z,101nm,0.5s
VNDA Vanda 62.42 181 P **P** **02 38 44.2 0.0**
VNDA IAmb IAmb 02 38 49.2
comp=Z,12nm,0.7s
VNDA Vanda 62.42 181 P **P** **02 38 44.4 +0.2**
comp=Z,111nm,0.6s,baz=1.5,slow=6.7,SNR=86
comp=Z,11nm,0.6s
VNDA Vanda 62.42 181 P **P** **02 38 44.5 +0.3**
SBA Scott Base 62.69 180 P **P** **02 38 46.4 +0.4**
SBA IAmb IAmb 02 38 50.4
comp=Z,46nm,0.9s
SBA Scott Base 62.69 180 P **P** **02 38 46.4 +0.4**
SBA pmax pmax
comp=Z,46nm,1.0s
SBA Scott Base 62.69 180 P **P** **02 38 47.6 +1.6**
JKA Kamikawa-asahi 63.21 340 P **P** **02 38 51.7 +1.9**
ASAJ Asahikawa 63.21 340 P **P** **02 38 51.7 +1.9**
ASAJ pmax pmax
comp=Z,221nm,1.9s
ASAJ Asahikawa 63.21 340 P **P** **02 38 50.8 +1.0**
comp=Z,19nm,0.9s,baz=256,slow=5.0,SNR=5.2
ASAJ LR LR 03 03 31.8
comp=Z,84nm,20.1s,baz=112,slow=33
comp=Z,19nm,0.9s
KSRS Korea Array 64.19 326 P **P** **02 38 56.7 +0.3**
comp=Z,3.1nm,0.6s,baz=141,slow=6.9,SNR=13
KSRS pP **pP** **02 39 26.3 -1.3**
comp=Z,2.3nm,0.8s,baz=141,slow=5.8,SNR=2.9
KSRS LR LR 03 05 25.5
comp=Z,50nm,19.4s,baz=185,slow=34
comp=Z,3.1nm,0.6s
CCD Concordia, Ant 64.50 192 P **P** **02 38 58.3 0.0**
YSS Yuzh-Sakhalins 65.70 342 *e*P **P** **02 39 07.4 +1.5**
YSS *e*S **S** **02 47 41.8 +0.3**
YSS *e*PS **PnS** **02 48 12.6 -8.9**
YSS *e*PPS PPS 02 48 54.1
YSS pmax pmax
comp=Z,40nm,1.2s
NJ2 Nanjing 66.10 316 *e*P **P** **02 39 09.3 +0.5**
NJ2 pP **PcP** **02 39 39.1 +0.8**
NJ2 sP **sP** **02 39 51.1 -3.1**
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,150nm,5.0s
SKR Severo-Kuril's 66.32 352 *e*P P 02 39 26.3 +16
SKR *e*PPP PPP 02 43 12.7
SKR *e*SS SS 02 52 06.5 -1.7
SKR pmax pmax
comp=Z,200nm,4.0s

SKR MLR MLR
comp=Z,300nm,16.0s
USRK Ussuriysk Ar. 67.35 333 P **P** **02 39 17.1 +0.6**
USRK Ussuriysk Ar. 67.35 333 P **P** **02 39 17.3 +0.8**
comp=Z,13nm,1.0s,baz=126,slow=5.9,SNR=13
comp=Z,13nm,1.0s
USA0B Ussuriysk Arra 67.35 333 P **P** **02 39 17.1 +0.6**
USA0B Ussuriysk Arra 67.35 333 *i*P **P** **02 39 16.3 -0.2**
PDSI Padang 67.55 275 P **P** **02 39 17.5 -1.0**
SHEM Shemya Is, Ala 67.87 4 LR LR 03 03 21.0
comp=Z,118nm,21.3s,baz=70,slow=31
UBPT Khong Chiam 68.29 294 P **P** **02 39 24.2 +1.2**
UBPT IAmb IAmb 02 39 24.7
comp=Z,73nm,1.5s
WHN Wuhan 68.35 312 ⇑P **P** **02 39 24.0 +0.9**
WHN pP **pP** **02 39 54.3 -0.3**
PEA0B Petropavlovsk- 68.52 354 P **P** **02 39 24.1 +0.5**
PEA0B IAmb IAmb 02 39 25.5
comp=Z,75nm,1.2s
PEA0B Petropavlovsk- 68.52 354 *ce*P **P** **02 39 24.0 +0.4**
PETK Petropavlovsk- 68.52 354 P **P** **02 39 24.1 +0.5**
PETK Petropavlovsk- 68.52 354 P **P** **02 39 24.1 +0.5**
PETK Petropavlovsk- 68.52 354 P **P** **02 39 23.7 0.0**
comp=Z,9.0nm,0.8s,baz=146,slow=7.1,SNR=11
PETK LR LR 03 05 01.7
comp=Z,84nm,19.7s,baz=161,slow=32
comp=Z,9.0nm,0.8s
MDJ Mudanjiang 68.75 332 P **P** **02 39 26.8 +1.6**
MDJ PcP **PcP** **02 39 48.9 -0.1**
MDJ pP pP 02 39 59.1 +2.3
MDJ sP sP 02 40 12.4 +1.7
MDJ PP **PP** **02 42 01.8 +2.9**
MDJ ScS **ScS** **02 49 14.3 +1.1**
MDJ pmax pmax
comp=Z,34nm,0.8s
MDJ pmax pmax
comp=Z,220nm,5.1s
MDJ Mudanjiang 68.75 332 P **P** **02 39 26.8 +1.6**
comp=Z,35nm,0.9s
MDJ Mudanjiang 68.75 332 P **P** **02 39 26.4 +1.2**
DL2 Dalian 68.75 323 P **P** **02 39 26.6 +1.3**
DL2 pmax pmax
comp=Z,24nm,0.6s
PSI Prapat 70.07 279 P **P** **02 39 34.4 +0.2**
PSI Prapat 70.07 279 P **P** **02 39 34.0 -0.2**
comp=Z,17nm,0.8s
CN2 Changchun 70.11 329 P **P** **02 39 34.3 +0.7**
CN2 pmax pmax
comp=Z,20nm,0.6s
BNX BinXian 70.60 331 ⇑P **P** **02 39 36.6 0.0**
BNX pmax pmax
comp=Z,46nm,0.6s
BNX pmax pmax
comp=Z,76nm,4.3s
GSI Gunungsitoli 70.94 277 P **P** **02 39 38.6 -0.8**
GSI IAmb IAmb 02 39 42.1
comp=Z,32nm,0.7s
GSI Gunungsitoli 70.94 277 P **P** **02 39 42.5 +3.2**
GSI Gunungsitoli 70.94 277 P **P** **02 39 40.4 +1.1**
GRNR Gornyy 71.06 340 ⇑*i*P **P** **02 39 40.7 +1.4**
GRNR pmax pmax
comp=E,3.0nm,1.2s
GRNR pmax pmax
comp=N,5.0nm,0.8s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
SURA Surathani 71.39 285 P **P** **02 39 44.2 +2.2**
comp=Z,44nm,1.3s
NONG Nongkai 71.43 295 P **P** **02 39 43.8 +1.6**
comp=Z,41nm,1.5s
KLR Kul'dur 71.48 336 *ce*P **P** **02 39 41.8 +0.1**
KLR pmax pmax
comp=Z,55nm,1.7s
KLR Kul'dur 71.48 336 P **P** **02 39 41.9 +0.1**
comp=Z,8.2nm,1.0s,baz=154,slow=6.1,SNR=16
KLR LR LR 03 08 12.8
comp=Z,71nm,22.0s,baz=164,slow=33
comp=Z,8.2nm,1.0s
ENH Enshi 71.77 309 P **P** **02 39 44.7 +0.7**
comp=Z,37nm,1.1s
LYN LuoYang 71.90 315 ⇑P **P** **02 39 45.3 +0.7**
LYN pP pP 02 40 15.8 -0.7
LYN sP sP 02 40 30.5 +0.2
LYN S **S** **02 48 50.6 -4.7**
LYN pmax pmax
comp=Z,59nm,1.1s
LYN pmax pmax
comp=Z,360nm,8.7s
HNS HongShan 72.03 318 ⇓P **P** **02 39 45.5 +0.1**
HNS PcP **PcP** **02 40 05.6 +2.4**
HNS pP **pP** **02 40 15.8 -1.4**
HNS sP **sP** **02 40 30.8 -0.3**
HNS S **S** **02 48 55.8 -0.9**
HNS pmax pmax
comp=Z,21nm,0.8s
HNS LR LR
comp=Z,280nm,20.2s
GYA Guiyang 72.09 305 ⇓*i*P **P** **02 39 47.3 +1.1**
GYA pP pP 02 40 17.3 -0.7
GYA sP sP 02 40 31.3 -0.6
GYA S **S** **02 48 58.9 +0.8**
GYA pmax pmax
comp=Z,37nm,0.6s
GYA pmax pmax
comp=Z,180nm,3.8s
BJT Baijiatuao 72.70 321 P **P** **02 39 50.4 +1.1**
comp=Z,18nm,1.1s
BJI Beijing 72.71 321 P **P** **02 39 49.8 +0.5**
BJI S **SKiKP** **02 49 08.3 -2.2**
BJI SS **SS** **02 53 49.9 +3.0**
BJI pmax pmax
comp=Z,8.0nm,1.0s
BJI pmax pmax
comp=Z,100nm,4.0s
MLSI Meulaboh, Aceh 72.91 279 P **P** **02 39 54.0 +2.9**
TIY Taiyuan 73.69 317 *e*P **P** **02 39 57.0 +1.7**
TIY S **S** **02 49 18.3 +2.6**
TIY pmax pmax
comp=Z,21nm,0.5s
TIY pmax pmax
comp=Z,310nm,4.5s
HEH HeiHe 74.02 335 *e*P **P** **02 39 56.4 -0.4**
HEH pmax pmax
comp=Z,16nm,1.2s
XAN Xi'an 74.10 313 ⇑P **P** **02 39 58.4 +0.7**
XAN pmax pmax
comp=Z,33nm,0.7s
KMI Kunming 74.67 302 ⇑P **P** **02 40 03.1 +1.7**
KMI pP pP 02 40 34.0 +0.5
KMI sP sP 02 40 47.8 +0.5
KMI S **S** **02 49 28.6 +1.2**
KMI pmax pmax
comp=Z,44nm,1.0s
KMI pmax pmax
comp=Z,200nm,4.2s
CRAI Chiangrai 74.69 296 IAmb IAmb 02 40 03.9
comp=Z,30nm,0.9s
QSPA South Pole Qui 74.85 180 P **P** **02 40 01.7 0.0**
comp=Z,68nm,0.7s,baz=6.3,slow=1.3,SNR=144
comp=Z,68nm,0.7s
XLT XiLinHaoTe 75.16 324 ⇓*i*P **P** **02 40 04.3 +0.7**
XLT PcP **PcP** **02 40 17.1 +0.6**
XLT pP pP 02 40 37.3 +1.6
XLT sP sP 02 40 51.8 +2.3
XLT S **S** **02 49 33.9 +2.1**
XLT SKS **SKSac** **02 49 58.5 -2.4**
XLT sS sS 02 50 24.8 -0.8
XLT pmax pmax
comp=Z,20nm,1.0s
XLT pmax pmax
comp=Z,220nm,7.0s
CM31 Chiang Mai Arr 75.27 294 P **P** **02 40 06.1 +1.4**
CM31 IAmb IAmb 02 40 41.7
comp=Z,38nm,1.2s
CMAR Chiang Mai Arr 75.27 294 P **P** **02 40 04.7 0.0**
CMAR Chiang Mai Arr 75.27 294 P **P** **02 40 04.7 0.0**
CMAR Chiang Mai Arr 75.27 294 P **P** **02 40 03.5 -1.2**
comp=Z,6.6nm,0.6s,baz=134,slow=2.6,SNR=5.5
comp=Z,6.6nm,0.6s
CMMT Chiang Mai 75.40 294 P **P** **02 40 06.7 +1.2**
comp=Z,72nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 75.40 294 P **P** **02 40 06.3 +0.8**
CHTO Chiang Mai 75.40 294 P **P** **02 40 07.7 +2.2**
CHTO Chiang Mai 75.40 294 P **P** **02 40 06.3 +0.8**
CHTO pmax pmax

	comp=Z,16nm,0.7s								
CHTO	**Chiang Mai**	**75.40**	**294**		P		**P**	**02 40 06.7**	**+1.2**
	comp=Z,26nm,1.1s,comp=Z,401nm								
MA2	**Magadan**	**75.71**	**351**	*ce*	P		**P**	**02 40 05.2**	**-1.1**
MA2					pmax		pmax		
	comp=Z,43nm,2.5s								
MA2	**Magadan**	**75.71**	**351**		LR		LR	03 10 34.5	
	comp=Z,68nm,18.5s,baz=167,slow=33								
HHC	**Hu-ho-hao-te**	**76.02**	**320**	⇑	*i* P		**P**	**02 40 09.8**	**+1.1**
HHC					S		**S**	**02 49 44.9**	**+3.4**
HHC					pmax		pmax		
	comp=Z,32nm,0.9s								
HHC					pmax		pmax		
	comp=Z,280nm,5.0s								
PZH	**PanZhiHua**	**76.07**	**303**		P		**P**	**02 40 09.9**	**+0.6**
PZH					sP		**sP**	**02 40 58.8**	**+3.6**
PZH					S		**S**	**02 49 42.3**	**-0.3**
PZH					ScS		**ScS**	**02 50 14.5**	**+1.8**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,120nm,4.5s								
CD2	**Chengdu**	**76.40**	**308**		P		**P**	**02 40 11.9**	**+0.9**
CD2					S		**S**	**02 49 45.5**	**-0.4**
CD2					SKS		**SKSac**	**02 50 09.3**	**-1.3**
CD2					pmax		pmax		
	comp=Z,30nm,0.5s								
HIA	**Hailar**	**76.75**	**330**		P		**P**	**02 40 13.6**	**+1.1**
	comp=Z,17nm,0.8s								
HIA	**Hailar**	**76.75**	**330**	*i*	P		**P**	**02 40 12.3**	**-0.2**
HIA					pmax		pmax		
	comp=Z,32nm,1.9s								
ZEA	**Zeya**	**76.76**	**337**	*e*	P		**P**	**02 40 13.6**	**+1.2**
ZEA					pmax		pmax		
	comp=N,10.0nm,1.0s								
ZEA					pmax		pmax		
	comp=Z,20nm,0.9s								
BTO	**Baotou**	**76.86**	**319**	*e*	P		**P**	**02 40 14.9**	**+1.5**
BTO					pP		**pP**	**02 40 46.6**	**+1.1**
BTO					sP		**sP**	**02 41 00.4**	**+1.2**
BTO					PP		**PP**	**02 43 12.0**	**+3.7**
BTO					S		**S**	**02 49 51.3**	**+0.7**
BTO					sS		**sS**	**02 50 46.8**	**+2.8**
BTO					pmax		pmax		
	comp=Z,37nm,1.8s								
BTO					pmax		pmax		
	comp=Z,290nm,7.1s								
BTO					LR		LR		
	comp=Z,460nm,15.0s								
BTO					LR		LR		
	comp=Z,370nm,16.2s								
BTO					LR		LR		
	comp=Z,320nm,14.0s								
M11K	**Mekoryuk**	**78.24**	**13**		P		**P**	**02 40 18.2**	**-2.2**
	baz=206								
SII	**Sitkinak Islan**	**78.33**	**21**		P		**P**	**02 40 18.8**	**-2.2**
	baz=218								
LZH	**Lanzhou**	**78.73**	**312**	⇑	P		**P**	**02 40 25.5**	**+1.6**
LZH					pP		pP	02 40 56.4	-0.1
LZH					sP		sP	02 41 10.3	+0.1
LZH					S		**S**	**02 50 15.9**	**+4.8**
LZH					pmax		pmax		
	comp=Z,45nm,1.2s								
LZH					pmax		pmax		
	comp=Z,340nm,4.5s								
SEY	**Seymchan**	**78.74**	**353**	*ce*	P		**P**	**02 40 22.2**	**-0.9**
SEY					pmax		pmax		
	comp=Z,62nm,2.5s								
SEY	**Seymchan**	**78.74**	**353**		LR		LR	03 11 46.8	
	comp=Z,68nm,19.9s,baz=318,slow=33								
N14K	**Kuskokwak Cree**	**78.89**	**15**		P		**P**	**02 40 24.0**	**0.0**
	baz=210								
M13K	**Dail Lake**	**78.91**	**14**		P		**P**	**02 40 24.4**	**+0.3**
	baz=209								
R18K	**Karluk**	**79.04**	**20**		P		**P**	**02 40 24.1**	**-0.7**
	baz=217								
MND	**Mandalay**	**79.04**	**296**		P		**P**	**02 40 27.2**	**+1.5**
	comp=Z,21nm,1.3s								
N15K	**Kwethluk River**	**79.52**	**16**		P		**P**	**02 40 26.2**	**-1.2**
	baz=212								
M14K	**Bethel**	**79.55**	**15**		P		**P**	**02 40 27.5**	**0.0**
	baz=210								
KDAK	**Kodiak Island**	**79.83**	**20**		P		**P**	**02 40 29.2**	**+0.1**
	baz=219								
KDAK	**Kodiak Island**	**79.83**	**20**		LR		LR	03 12 00.9	
	comp=Z,121nm,18.6s,baz=222,slow=33								
M16K	**Timber Creek**	**80.54**	**16**		P		**P**	**02 40 32.8**	**-0.1**
	baz=213								
J14K	**Nanvaranak Lak**	**80.93**	**13**		P		**P**	**02 40 34.6**	**-0.3**
	baz=208								
K15K	**Wolf Creek Mou**	**80.99**	**14**		P		**P**	**02 40 34.9**	**-0.4**
	baz=210								
L16K	**Owhat River**	**80.99**	**15**		P		**P**	**02 40 35.2**	**-0.1**
	baz=212								
MAW	**Mawson**	**81.53**	**202**		P		**P**	**02 40 38.5**	**+0.3**
	comp=Z,14nm,0.8s,baz=116,slow=8.5,SNR=8.4								
MAW					LR		LR	03 14 19.8	
	comp=Z,88nm,18.3s,baz=60,slow=34								
	comp=Z,14nm,0.8s								
HOM	**Homer**	**81.59**	**20**		P		**P**	**02 40 38.8**	**+0.3**
	baz=220								
O20K	**Slope Mountain**	**81.61**	**19**		P		**P**	**02 40 38.6**	**-0.1**
	baz=219								
CNPM	**China Poot**	**81.62**	**20**		P		**P**	**02 40 38.5**	**-0.2**
CNPM					lAmb		lAmb	02 41 44.0	
	comp=Z,108nm,1.5s								
L17K	**Donlin**	**81.65**	**16**		P		**P**	**02 40 38.6**	**-0.1**
	baz=213								
M18K	**Stony River**	**81.78**	**17**		P		**P**	**02 40 40.1**	**+0.7**
	baz=216								
K17K	**Iditarod**	**82.14**	**15**		P		**P**	**02 40 41.1**	**-0.2**
	baz=213								
L18K	**Granite Mounta**	**82.14**	**16**		P		**P**	**02 40 41.5**	**+0.1**
	baz=215								
YAK	**Yakutsk**	**82.50**	**343**		P		**P**	**02 40 42.7**	**-0.5**
YAK	**Yakutsk**	**82.50**	**343**	*ce*	P		**P**	**02 40 43.0**	**-0.2**
YAK					pmax		pmax		
	comp=Z,111nm,1.7s								
ULN	**Ulaanbaatar**	**82.58**	**324**		P		**P**	**02 40 44.2**	**0.0**
ULN					lAmb		lAmb	02 40 45.6	
	comp=Z,48nm,1.2s								
ULN	**Ulaanbaatar**	**82.58**	**324**	*c*	*i* P		**P**	**02 40 44.7**	**+0.6**
ULN					pmax		pmax		
	comp=Z,98nm,2.1s								
ULN	**Ulaanbaatar**	**82.58**	**324**		P		**P**	**02 40 44.8**	**+0.6**
	comp=Z,189nm,1.3s,comp=Z,3µm								
CAPN	**Captain Cook N**	**82.60**	**19**		P		**P**	**02 40 45.2**	**+1.5**
	baz=220								
L19K	**White Mountain**	**82.61**	**17**		P		**P**	**02 40 45.3**	**+1.4**
	baz=216								
TNA	**Tin City**	**82.62**	**10**		P		**P**	**02 40 44.5**	**+0.8**
	baz=204								
F14K	**Arctic Creek**	**82.81**	**11**		P		**P**	**02 40 44.4**	**-0.3**
	baz=205								
G15K	**Niukluk**	**82.82**	**12**		P		**P**	**02 40 45.2**	**+0.4**
	baz=208								
O22K	**Cooper Landing**	**82.85**	**20**		P		**P**	**02 40 46.7**	**+1.7**
	baz=221								
M20K	**Styx River**	**82.87**	**18**		P		**P**	**02 40 46.6**	**+1.3**
	baz=218								
H16K	**Elim**	**82.87**	**13**		P		**P**	**02 40 46.9**	**+1.9**
	baz=209								
TTA	**Tatalina**	**82.91**	**16**		P		**P**	**02 40 47.6**	**+2.2**
	baz=215								
SONM	**Songino Array**	**82.94**	**324**		P		**P**	**02 40 46.2**	**+0.2**
SONM					lAmb		lAmb	02 40 48.9	
	comp=Z,61nm,1.6s								
SONM	**Songino Array**	**82.94**	**324**		P		**P**	**02 40 46.2**	**+0.2**
SONM					pmax		pmax		
	comp=Z,61nm,1.6s								
SONM	**Songino Array**	**82.94**	**324**		P		**P**	**02 40 45.8**	**-0.2**
	comp=Z,5.9nm,0.4s,baz=151,slow=6.7,SNR=70								
SONM					pP		**pP**	**02 41 17.9**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=133,slow=4.5,SNR=2.3								
SONM					LR		LR	03 20 30.2	
	comp=Z,61nm,18.0s,baz=78,slow=38								
	comp=Z,5.9nm,0.4s								
GTA	**Gaotai**	**83.08**	**314**	*e*	P		**P**	**02 40 48.1**	**+1.2**
GTA					pP		pP	02 41 17.0	-2.7
GTA					SKS		**S**	**02 50 53.3**	**-2.7**
GTA					S		**SKSac**	**02 50 56.4**	**-0.6**
GTA					sS		sS	02 51 50.4	-0.9
GTA					pmax		pmax		
	comp=Z,31nm,1.3s								
L20K	**Farewell, AK**	**83.13**	**17**		P		**P**	**02 40 48.2**	**+1.7**
	baz=217								
J18K	**Innoko River**	**83.16**	**15**		P		**P**	**02 40 48.1**	**+1.5**
	baz=215								
Q23K	**Middleton Isla**	**83.23**	**22**		P		**P**	**02 40 48.9**	**+1.9**
	baz=224								
SUA	**Susitna One**	**83.26**	**19**		lAmb		lAmb	02 41 57.6	
	comp=Z,85nm,2.0s								
SUA	**Susitna One**	**83.26**	**19**		P		**P**	**02 40 48.0**	**+0.7**
	baz=220								
RC01	**Rabbit Creek A**	**83.30**	**19**		P		**P**	**02 40 48.2**	**+0.8**
	baz=221								
F15K	**North Star Dit**	**83.33**	**11**		P		**P**	**02 40 48.2**	**+0.7**
	baz=207								
SKT	**Skwentna**	**83.42**	**18**		P		**P**	**02 40 48.5**	**+0.5**
	baz=220								
G16K	**Koyuk River**	**83.51**	**12**		P		**P**	**02 40 49.6**	**+1.3**
	baz=209								
H17K	**Granite Mounta**	**83.64**	**13**		P		**P**	**02 40 49.9**	**+1.0**
	baz=212								
K20K	**Telida**	**83.78**	**16**		P		**P**	**02 40 50.9**	**+1.1**
	baz=217								
PMR	**Palmer**	**83.87**	**19**		P		**P**	**02 40 51.2**	**+1.0**
PMR					lAmb		lAmb	02 42 04.2	
	comp=Z,108nm,2.0s								
PMR	**Palmer**	**83.87**	**19**		P		**P**	**02 40 51.9**	**+1.7**
	comp=Z,12nm,1.4s								
PMR	**Palmer**	**83.87**	**19**		P		**P**	**02 40 51.2**	**+1.0**
PMR					pmax		pmax		
	comp=Z,108nm,2.0s								
PMR	**Palmer**	**83.87**	**19**		P		**P**	**02 40 50.4**	**+0.2**
	baz=222								
J19K	**Poorman**	**83.88**	**15**		P		**P**	**02 40 50.6**	**+0.3**
	baz=216								
PPLA	**Purkeypile**	**83.94**	**17**		P		**P**	**02 40 50.9**	**+0.1**
	baz=219								
KNK	**Knik Glacier**	**83.95**	**20**		P		**P**	**02 40 52.0**	**+1.3**
	baz=222								
G17K	**Kiwalik Mounta**	**83.96**	**13**		P		**P**	**02 40 52.7**	**+2.1**
	baz=211								
GHO	**Glory Hole Cre**	**84.07**	**19**		P		**P**	**02 40 51.3**	**-0.1**
GHO					lAmb		lAmb	02 41 39.1	
	comp=Z,40nm,1.3s								
CUT	**Chulitna**	**84.13**	**18**		P		**P**	**02 40 51.5**	**0.0**
	baz=221								
HOPS	**Hopland Field**	**84.23**	**47**		P		**P**	**02 40 51.7**	**-1.0**
HOPS					lAmb		lAmb	02 42 12.5	
	comp=Z,70nm,1.8s								
KAIM	**Kayak Island**	**84.28**	**22**		P		**P**	**02 40 54.2**	**+1.8**
	baz=226								
SML	**Sawmill**	**84.29**	**19**		P		**P**	**02 40 53.0**	**+0.5**
SML					lAmb		lAmb	02 42 09.9	
	comp=Z,45nm,1.5s								
SML	**Sawmill**	**84.29**	**19**		P		**P**	**02 40 52.0**	**-0.4**
SML					pmax		pmax		
	comp=Z,45nm,1.5s								
SML	**Sawmill**	**84.29**	**19**		P		**P**	**02 40 52.6**	**+0.1**
	baz=222								
CAST	**Castle Rocks**	**84.38**	**17**		P		**P**	**02 40 51.6**	**-1.2**
CAST	**Castle Rocks**	**84.38**	**17**		P		**P**	**02 40 51.9**	**-0.9**
	baz=219								
J20K	**Nowinta River**	**84.41**	**16**		P		**P**	**02 40 54.4**	**+1.4**
	baz=217								
SNCC	**San Nicolas Is**	**84.61**	**54**		P		**P**	**02 40 55.2**	**+0.5**
	baz=248								
SCM	**Sheep Creek Mo**	**84.63**	**20**		P		**P**	**02 40 54.5**	**+0.4**
SCM	**Sheep Creek Mo**	**84.63**	**20**		P		**P**	**02 40 54.6**	**+0.4**
SCM					pmax		pmax		
	comp=Z,122nm,1.8s								
SCM	**Sheep Creek Mo**	**84.63**	**20**		P		**P**	**02 40 54.3**	**+0.1**
	baz=223								
F17K	**Baldwin Pennin**	**84.65**	**12**		lAmb		lAmb	02 41 54.1	
	comp=Z,38nm,1.6s								
F17K	**Baldwin Pennin**	**84.65**	**12**		P		**P**	**02 40 55.9**	**+1.8**
	baz=210								
CHUM	**Lake Minchumin**	**84.67**	**17**		P		**P**	**02 40 54.8**	**+0.5**
	baz=219								
G18K	**Tagagawik**	**84.73**	**13**		P		**P**	**02 40 54.5**	**0.0**
	baz=213								
KTH	**Kantishna Hill**	**84.81**	**17**		P		**P**	**02 40 54.6**	**-0.4**
KLU	**Klutina**	**84.85**	**21**		P		**P**	**02 40 56.8**	**+1.5**
	baz=225								
TRF	**Thorofare Moun**	**84.92**	**18**		P		**P**	**02 40 56.3**	**+0.5**
	baz=221								
H19K	**Roundabout Mou**	**84.93**	**14**		P		**P**	**02 40 57.0**	**+1.5**
	baz=215								
WAT1	**Susitna Watana**	**84.97**	**19**		P		**P**	**02 40 57.1**	**+1.3**
	baz=222								
PKM	**McPherson Peak**	**85.00**	**52**		P		**P**	**02 40 56.3**	**-0.5**
	baz=248								
WAT6	**Susitna Watana**	**85.04**	**19**		P		**P**	**02 40 57.2**	**+0.8**
	baz=223								
E17K	**Hotham Inlet**	**85.09**	**12**		P		**P**	**02 40 57.5**	**+1.2**
	baz=210								
BPAW	**Bear Paw Mtn.**	**85.21**	**17**		P		**P**	**02 40 57.2**	**+0.2**
	baz=220								
H20K	**Anotleneega Mo**	**85.28**	**15**		P		**P**	**02 40 58.7**	**+1.4**
	baz=216								
G19K	**Purcell Mounta**	**85.29**	**14**		P		**P**	**02 40 58.5**	**+1.1**
	baz=214								
BCW	**Bitter Crk WRg**	**85.33**	**52**		lAmb		lAmb	02 41 40.4	
	comp=Z,47nm,1.8s								
N25K	**Chitina, Valde**	**85.39**	**21**		P		**P**	**02 40 58.8**	**+0.8**
	baz=226								
C16K	**Lisburne Hills**	**85.52**	**10**		P		**P**	**02 40 59.6**	**+1.3**
	baz=206								
DHY	**Denali Highway**	**85.52**	**19**		P		**P**	**02 40 58.9**	**+0.2**
	baz=223								
CIS	**Catalina Islan**	**85.53**	**54**		P		**P**	**02 40 58.3**	**-1.0**
	baz=248								
MCK	**McKinley**	**85.53**	**18**		P		**P**	**02 40 58.5**	**-0.1**
	baz=222								
E18K	**Tukpahlearik C**	**85.62**	**12**		P		**P**	**02 40 59.6**	**+0.6**
	baz=211								
F19K	**Shaleruckik Mo**	**85.71**	**13**		P		**P**	**02 41 00.2**	**+0.9**
	baz=213								
RDOG	**Red Dog Mine**	**85.74**	**11**		P		**P**	**02 41 01.9**	**+2.4**
	baz=208								
HARP	**HAARP**	**85.75**	**20**		P		**P**	**02 41 00.9**	**+1.2**
	baz=225								
I21K	**Tanana**	**85.78**	**16**		P		**P**	**02 41 01.7**	**+2.0**
	baz=219								
ARVC	**Arvin**	**85.84**	**52**		P		**P**	**02 40 59.6**	**-1.1**
	baz=248								
VES	**Vestal, Richgr**	**85.91**	**51**		P		**P**	**02 41 01.7**	**+0.6**
	baz=248								
H21K	**Melozitna Rive**	**85.94**	**15**		P		**P**	**02 41 02.5**	**+1.9**
	baz=218								
PINM	**Pinnacle**	**85.95**	**23**		P		**P**	**02 41 02.4**	**+1.6**
	baz=230								
IMAR	**Indian Mountai**	**85.96**	**15**		P		**P**	**02 41 00.1**	**-0.5**
ZAK	**Zakamensk**	**86.00**	**325**	*e*	P		**P**	**02 41 00.3**	**-1.0**
ZAK					pmax		pmax		
	comp=Z,28nm,1.3s								
PNL	**Peninsula**	**86.01**	**24**		P		**P**	**02 41 01.6**	**+0.5**
	baz=231								
PAX	**Paxson**	**86.05**	**20**		P		**P**	**02 41 03.0**	**+1.7**
	baz=225								
C17K	**DeLong Mountai**	**86.06**	**10**		P		**P**	**02 41 02.9**	**+1.8**
	baz=208								
NEA2	**Nenana**	**86.13**	**17**		P		**P**	**02 41 02.0**	**+0.5**
	baz=222								
CRAG	**Craig**	**86.24**	**29**		P		**P**	**02 41 00.1**	**-2.1**
	baz=236								
BELA	**Belgrano 2**	**86.27**	**175**		P		**P**	**02 41 00.4**	**-1.8**
BELA					lAmb		lAmb	02 41 03.0	
	comp=Z,22nm,0.7s								
ISA	**Isabella, Lake**	**86.31**	**52**		lAmb		lAmb	02 41 40.5	
	comp=Z,30nm,1.4s								
ISA	**Isabella, Lake**	**86.31**	**52**		P		**P**	**02 41 02.3**	**-0.9**
	baz=248,SNR=5.7								
F20K	**Avaraart Lake**	**86.35**	**14**		P		**P**	**02 41 02.5**	**0.0**
	baz=215								
E19K	**Redstone River**	**86.35**	**13**		P		**P**	**02 41 04.2**	**+1.7**
	baz=214								
EDW2	**Edwards Air Fo**	**86.39**	**53**		P		**P**	**02 41 02.6**	**-0.9**
	baz=249,SNR=6.1								
BFSC	**Mount Baldy Ra**	**86.42**	**53**		P		**P**	**02 41 03.0**	**-0.8**
	baz=249								
G21K	**Allakaket**	**86.44**	**15**		P		**P**	**02 41 04.1**	**+1.1**
	baz=217								
I23K	**Minto, Yukon-K**	**86.47**	**17**		P		**P**	**02 41 03.9**	**+0.8**
	baz=221								
M26K	**Nabesna, AK**	**86.48**	**21**		P		**P**	**02 41 04.5**	**+1.1**
	baz=227								
H22K	**Ishtalitna Cre**	**86.49**	**16**		P		**P**	**02 41 06.0**	**+2.8**
	baz=220								
K24K	**Donnelly Dome**	**86.55**	**19**		P		**P**	**02 41 06.5**	**+3.0**
	baz=225								
MURC	**Murrieta**	**86.55**	**54**		P		**P**	**02 41 04.8**	**+0.4**
	baz=249								
C18K	**Utukok River**	**86.57**	**11**		P		**P**	**02 41 04.7**	**+1.1**
	baz=210								
U33K	**Whale Pass**	**86.60**	**29**		P		**P**	**02 41 03.7**	**-0.2**
	baz=236								
HDA	**Harding Lake**	**86.62**	**18**		P		**P**	**02 41 04.3**	**+0.4**
	baz=224								
OMMB	**Old Mammoth Mi**	**86.63**	**50**		P		**P**	**02 41 04.8**	**-0.2**
BAR	**Barrett**	**86.64**	**55**		lAmb		lAmb	02 41 42.1	
	comp=Z,39nm,1.8s								
COLA	**College**	**86.69**	**18**		P		**P**	**02 41 06.7**	**+2.5**
	comp=Z,4.4nm,2.6s								
R31K	**City Hall, Gus**	**86.74**	**26**		P		**P**	**02 41 07.4**	**+2.8**
	baz=234								
L26K	**Log Cabin Wild**	**86.79**	**20**		P		**P**	**02 41 05.4**	**+0.6**
	baz=227								
RIDG	**Independent Ri**	**86.80**	**19**		P		**P**	**02 41 06.0**	**+1.2**
	baz=226								
M27K	**Edge Creek, AK**	**86.84**	**21**		P		**P**	**02 41 05.3**	**+0.1**
	baz=226								
LRMC	**Laurel Mtn Rad**	**86.84**	**52**		P		**P**	**02 41 06.2**	**+0.4**
	baz=249								
CWC	**Cottonwood Cre**	**86.89**	**51**		P		**P**	**02 41 06.7**	**+0.7**
	baz=249								
YUK8	**Steele Glacier**	**86.90**	**23**		P		**P**	**02 41 06.2**	**+0.5**
	baz=230								
IL31		**86.90**	**18**		lAmb		lAmb	02 42 11.4	
	comp=Z,44nm,2.0s								
ILAR	**Eielson Array**	**86.90**	**18**		P		**P**	**02 41 04.1**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=235,slow=5.0,SNR=39								
ILAR					PKKP		**PKKPdf**	**02 58 56.9**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=343,slow=2.2,SNR=11								
ILAR					LR		LR	03 12 56.4	
	comp=Z,94nm,19.9s,baz=214,slow=31								
	comp=Z,2.6nm,0.6s								
MONP2	**Monument Peak**	**86.91**	**55**		P		**P**	**02 41 06.2**	**-0.1**
	baz=250								
YUK3	**Moose Creek**	**86.96**	**22**		P		**P**	**02 41 06.7**	**+0.9**
	baz=230								
POKR	**Poker Plat Res**	**87.00**	**17**		P		**P**	**02 41 06.7**	**+1.0**
	baz=223								
BBRC	**Big Bear Solar**	**87.00**	**53**		P		**P**	**02 41 08.4**	**+1.6**
	baz=249								
TIN	**Tinemaha, Big**	**87.00**	**50**		P		**P**	**02 41 07.9**	**+1.3**
	baz=248								
F21K	**Alatna River**	**87.01**	**14**		P		**P**	**02 41 08.2**	**+2.5**
	baz=217								
BBB	**Bella Bella**	**87.06**	**34**		LR		LR	03 16 10.5	
	comp=Z,200nm,18.4s,baz=230,slow=33								
B18K	**Kokolik River**	**87.09**	**10**		P		**P**	**02 41 06.9**	**+0.9**
	baz=210								
WRAK	**Wrangell Islan**	**87.13**	**29**		P		**P**	**02 41 07.4**	**+1.0**
	baz=237								
PFO	**Pinyon Flats O**	**87.13**	**54**		P		**P**	**02 41 05.2**	**-2.0**
PFO	**Pinyon Flats O**	**87.13**	**54**	*i*	P		**P**	**02 41 05.0**	**-2.3**
PFO					pmax		pmax		
	comp=Z,34nm,3.2s								
PFO	**Pinyon Flats O**	**87.13**	**54**		P		**P**	**02 41 08.1**	**+0.9**
	baz=250								
PFO	**Pinyon Flats O**	**87.13**	**54**		LR		LR	03 11 09.1	
	comp=Z,205nm,21.8s,baz=300,slow=29								
TPFO	**Pinon Flats**	**87.13**	**54**		P		**P**	**02 41 08.1**	**+0.9**
	baz=250								
YUK6	**Outpost Mounta**	**87.22**	**23**		P		**P**	**02 41 08.8**	**+1.7**
	baz=232								
YUH	**Yuha Desert**	**87.23**	**55**		lAmb		lAmb	02 41 45.3	
	comp=Z,58nm,1.9s								
E20K	**Nigu River**	**87.24**	**13**		P		**P**	**02 41 07.9**	**+1.0**
	baz=215								
J25K	**Salcha River,**	**87.25**	**18**		P		**P**	**02 41 08.2**	**+1.1**
	baz=225								
G22K	**Bettles**	**87.25**	**15**		P		**P**	**02 41 08.2**	**+1.3**
	baz=219								
J05D	**Fort Rock, OR**	**87.26**	**44**		P		**P**	**02 41 06.3**	**-1.4**
P30M	**Million Dollar**	**87.26**	**24**		P		**P**	**02 41 09.6**	**+2.4**
	baz=233								
C19K	**Lookout Ridge**	**87.27**	**11**		P		**P**	**02 41 08.3**	**+1.3**
	baz=212								
L27K	**Beaver Creek,**	**87.33**	**21**		P		**P**	**02 41 08.5**	**+1.1**
	baz=228								
YUK4	**Talbot Arm**	**87.36**	**23**		P		**P**	**02 41 08.5**	**+0.7**
	baz=231								
SWSC	**Sam W. Stewart**	**87.42**	**55**		P		**P**	**02 41 08.9**	**+0.4**
	baz=250								
NVAR	**Mina Array Bea**	**87.45**	**49**		P		**P**	**02 41 08.5**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=228,slow=7.1,SNR=17								
NVAR					pP		**pP**	**02 41 40.4**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=227,slow=5.4,SNR=2.0								
NVAR					LR		LR	03 15 40.9	
	comp=Z,93nm,18.7s,baz=266,slow=32								
	comp=Z,2.6nm,0.7s								
GSC	**Goldstone, Bar**	**87.45**	**53**		lAmb		lAmb	02 41 46.3	
	comp=Z,54nm,1.8s								
GSC	**Goldstone, Bar**	**87.45**	**53**		P		**P**	**02 41 07.2**	**-1.6**
	baz=249,SNR=5.6								
HYT	**Haines Junctio**	**87.47**	**24**		P		**P**	**02 41 08.0**	**-0.2**
	baz=232								
D20K	**Etivluk River**	**87.53**	**12**		P		**P**	**02 41 09.5**	**+1.3**
	baz=214								
F22K	**John River**	**87.55**	**14**		P		**P**	**02 41 09.6**	**+1.3**
	baz=219								
NV11	**Mina Array Sit**	**87.56**	**49**		P		**P**	**02 41 08.3**	**-0.9**
GRAC	**Grapevine Rang**	**87.62**	**51**		lAmb		lAmb	02 41 50.6	
	comp=Z,47nm,1.5s								
GRAC	**Grapevine Rang**	**87.62**	**51**		P		**P**	**02 41 09.4**	**-0.1**
	baz=249								
BELC	**Belle Mtn. Jos**	**87.63**	**54**		P		**P**	**02 41 09.3**	**-0.3**
	baz=250,SNR=7.3								
HEC	**Hector,Ludlow**	**87.65**	**53**		P		**P**	**02 41 08.0**	**-1.6**
	baz=250								
PINE	**Pine Mountain**	**87.66**	**43**		lAmb		lAmb	02 41 46.2	
	comp=Z,22nm,1.4s				

PALK Pallekele 88.74 278 LR LR 03 20 25.9
comp=Z,72nm,20.7s,baz=218,slow=35
M30M Minto, Yukon 88.81 23 P **P** **02 41 15.4 +1.0**
baz=233
DAWY Dawson 88.81 21 P **P** **02 41 15.7 +1.3**
baz=230
E24K Your Creek 88.89 15 P **P** **02 41 16.8 +2.1**
baz=222
BMN Battle Mountai 88.95 48 IAmb IAmb 02 41 53.3
comp=Z,40nm,1.7s
V12A Nelson 89.09 53 P **P** **02 41 16.3 -0.2**
V12A IAmb IAmb 02 41 54.3
comp=Z,42nm,1.6s
SHPR Sheep Range 89.12 52 IAmb IAmb 02 41 54.5
comp=Z,27nm,1.5s
J08A Circle Bar Ran 89.14 45 IAmb IAmb 02 41 53.8
comp=Z,24nm,1.3s
PDMCI Parker Dam,Lak 89.18 54 P **P** **02 41 17.1 +0.3**
baz=251,SNR=6.0
LPIG La Paz 89.25 65 LR LR 03 17 09.8
comp=Z,55nm,18.4s,baz=256,slow=33
DLBC Dease Lake 89.26 28 P **P** **02 41 17.4 +0.8**
baz=239
DLBC Dease Lake 89.26 28 LR LR 03 14 59.4
comp=Z,126nm,18.7s,baz=234,slow=31
F25K Christian Rive 89.28 16 P **P** **02 41 18.3 +1.7**
baz=225
G26K Porcupine Rive 89.35 17 P **P** **02 41 17.1 +0.4**
baz=226
R11B Troy Canyon, C 89.42 50 IAmb IAmb 02 41 55.4
comp=Z,26nm,1.6s
R11B Troy Canyon, C 89.42 50 P **P** **02 41 18.4 +0.3**
baz=250
E07A Sunnyside 89.45 41 IAmb IAmb 02 41 55.0
comp=Z,32nm,1.4s
214A Organ Pipe Nat 89.49 57 P **P** **02 41 18.8 +0.5**
baz=252,SNR=5.9
PRN Pahroc Range 89.50 51 IAmb IAmb 02 41 56.3
comp=Z,49nm,1.5s
B22K Teshekpuk Lake 89.51 12 P **P** **02 41 19.1 +1.7**
baz=218
I28M Miner Creek 89.52 19 P **P** **02 41 19.0 +1.3**
baz=230
H27K Steamboat Moun 89.53 18 P **P** **02 41 18.5 +0.8**
baz=229
G08A Pilot Rock 89.54 43 P **P** **02 41 17.7 -0.6**
G08A IAmb IAmb 02 41 55.4
comp=Z,19nm,1.2s
HAWA Hanford 89.59 41 IAmb IAmb 02 41 55.0
comp=Z,42nm,1.6s
D24K Happy Valley 89.61 14 P **P** **02 41 19.2 +1.3**
baz=222
E25K Arctic Village 89.68 16 P **P** **02 41 19.2 +0.9**
baz=225
A21K Barrow 89.68 11 P **P** **02 41 19.3 +1.1**
baz=214
C23K Itkillik River 89.72 13 P **P** **02 41 20.0 +1.6**
baz=220
A22K Sinclair Lake 89.73 12 P **P** **02 41 19.5 +1.1**
baz=216
F26K Sheenjek River 89.76 17 P **P** **02 41 20.2 +1.4**
baz=226
ELIB Princess Elisa 89.81 191 *d*P **P** **02 41 18.6 -0.6**
comp=Z,12nm,0.8s
G27K Doyon Strip 89.88 18 P **P** **02 41 19.5 +0.2**
baz=228
E08A Dider Farm, El 89.93 41 IAmb IAmb 02 41 57.3
comp=Z,45nm,1.3s
TIXI Tiksi 90.44 349 P **P** **02 41 20.6 -1.1**
TIXI Tiksi 90.44 349 *ce*P **P** **02 41 21.2 -0.5**
TIXI pmax pmax
comp=Z,20nm,1.7s
ELK Elko 90.48 48 LR LR 03 18 56.5
comp=Z,105nm,18.2s,baz=262,slow=33
SPR3 Spring Creek 3 90.56 50 IAmb IAmb 02 42 00.1
comp=Z,22nm,1.3s
LCMT Little Creek M 90.74 52 IAmb IAmb 02 42 01.9
comp=Z,26nm,1.3s
F10A Beach Ranch, E 90.92 42 IAmb IAmb 02 42 01.4
comp=Z,24nm,1.1s
G29M Pine Creek 91.04 19 P **P** **02 41 24.3 -0.4**
baz=232
EPYK Eagle Plains 91.12 19 P **P** **02 41 24.5 -0.6**
baz=233
X16A Lo Mia Camp, P 91.34 55 P **P** **02 41 26.8 -0.2**
X16A IAmb IAmb 02 42 05.1
comp=Z,13nm,1.2s
G30M tAoh Zraii Nji 91.65 19 P **P** **02 41 28.3 +0.7**
baz=233
E28M Babbage River 91.66 17 P **P** **02 41 28.1 +0.5**
baz=230
D27M Malcolm River 91.68 16 P **P** **02 41 29.0 +1.4**
baz=229
NEW Newport 91.80 40 P **P** **02 41 28.4 -0.3**
baz=249
HLID Hailey 91.98 45 P **P** **02 41 29.7 -0.1**
baz=251
DUG Dugway, Tooele 92.05 49 P **P** **02 41 30.3 +0.1**
baz=252
F30M Barrier River 92.16 19 P **P** **02 41 30.6 +0.8**
baz=234
G31M Satah River 92.24 20 P **P** **02 41 30.7 +0.6**
baz=235
TROLL Troll, Antarti 92.43 185 ⇑P **P** **02 41 31.0 -0.4**
comp=Z,3µm,0.5s
NVL N'lazarevskaya 92.63 188 *e*P **P** **02 41 29.3 -2.8**
NVL pmax pmax
comp=Z,24nm,0.7s
SNAA Sanae 93.11 183 P **P** **02 41 33.0 -1.4**
comp=Z,25nm,0.6s,baz=197,slow=7.0,SNR=111
SNAA PKKPbc **PKKPdf** **02 58 40.9 -1.0**
comp=Z,1.0nm,0.9s,baz=0.0,slow=14,SNR=3.2
SNAA LR LR 03 20 18.7
comp=Z,185nm,20.5s,baz=123,slow=33
comp=Z,25nm,0.6s
WMQ Urumqi 93.15 314 *e*P **P** **02 41 34.4 -0.6**
WMQ pP pP 02 42 08.3 +0.1
WMQ pmax pmax
comp=Z,24nm,0.9s
INK Inuvik 93.26 19 P **P** **02 41 34.3 -0.6**
baz=236
INK Inuvik 93.26 19 LR LR 03 16 20.2
comp=Z,118nm,20.6s,baz=187,slow=31
MSO Missoula 93.35 42 P **P** **02 41 35.2 -0.8**
baz=251
VNA3 Neumayer Olymp 93.77 181 ⇑P **P** **02 41 36.3 -1.1**
comp=Z,64nm,0.6s
VNA2 Neumayer--Watz 94.04 182 ⇑P **P** **02 41 38.0 -0.6**
comp=Z,60nm,0.5s,baz=178,slow=5.0
VNA1 Neumayer--Stat 94.34 181 P **P** **02 41 39.4 -0.5**
comp=Z,20nm,0.6s
WRGLY Wrigley 94.36 25 P **P** **02 41 41.5 +1.4**
baz=245
BOZ Bozeman (W) 94.51 44 P **P** **02 41 41.6 +0.2**
baz=253
DGZ Jazzator, Alta 95.10 320 *i* P **P** **02 41 43.2 -0.8**
DGZ pmax pmax
comp=Z,12nm,0.7s
PDAR Pinedale Array 95.14 47 P **P** **02 41 43.1 -1.3**
comp=Z,0.2nm,0.4s,baz=241,slow=3.1,SNR=2.4
PDAR PKKPbc **PKKPbc** **02 58 38.5 -1.3**
comp=Z,0.5nm,0.6s,baz=97,slow=5.3,SNR=4.8
PDAR LR LR 03 22 23.7
comp=Z,47nm,18.4s,baz=282,slow=34
comp=Z,0.2nm,0.4s
O20A White River Ci 95.39 50 P **P** **02 41 45.8 +0.2**
baz=255
ANMO Albuquerque 95.43 55 LR LR 03 18 49.3
comp=Z,59nm,19.2s,baz=8.0,slow=32
RLMT Red Lodge 95.97 45 P **P** **02 41 48.5 +0.3**
baz=254
TXAR Lajitas Array 96.36 61 P **P** **02 41 50.3 +0.2**
comp=Z,0.5nm,0.7s,baz=220,slow=5.2,SNR=12
TXAR pP **pP** **02 42 21.4 -1.1**
comp=Z,0.5nm,0.6s,baz=206,slow=4.2,SNR=2.6
TXAR PP **PP** **02 45 43.7 -2.0**
comp=Z,1.5nm,1.2s,baz=266,slow=5.0,SNR=6.6
TXAR PKKPbc **PKKPbc** **02 58 34.7 -1.0**
comp=Z,0.2nm,0.5s,baz=87,slow=4.5,SNR=6.3
TXAR LR LR 03 20 16.1
comp=Z,40nm,18.3s,baz=298,slow=32
comp=Z,0.5nm,0.7s
MK31 Makanchi Array 97.63 316 P **P** **02 41 54.4 -1.0**
MK31 Makanchi Array 97.63 316 *i* P **P** **02 41 54.5 -0.9**
MKAR Makanchi Array 97.63 316 P **P** **02 41 54.6 -0.7**
MKAR Makanchi Array 97.63 316 P **P** **02 41 55.4 0.0**
comp=Z,9.0nm,0.6s,baz=86,slow=6.4,SNR=107
MKAR pP **pP** **02 42 28.5 -0.1**
comp=Z,3.0nm,0.8s,baz=74,slow=9.1,SNR=2.9
MKAR PKiKP **PKiKP** **02 46 28.7 -0.3**
comp=Z,0.5nm,0.5s,baz=163,slow=1.2,SNR=9.4
MKAR PKKPbc **PKKPbc** **02 58 29.4 -3.4**
comp=Z,0.4nm,0.6s,baz=273,slow=3.7,SNR=5.9
MKAR LR LR 03 25 37.5
comp=Z,36nm,21.8s,baz=104,slow=35
comp=Z,9.0nm,0.6s
ZAA0 Zalesovo Array 97.84 324 P **P** **02 41 54.2 -1.8**
ZALV Zalesovo Beam 97.84 324 P **P** **02 41 54.4 -1.7**
ZALV Zalesovo Beam 97.84 324 P **P** **02 41 54.5 -1.5**
comp=Z,7.3nm,0.6s,baz=117,slow=4.8,SNR=35
ZALV pP **pP** **02 42 27.6 -1.6**
comp=Z,1.6nm,0.6s,baz=116,slow=3.4,SNR=2.3
comp=Z,7.3nm,0.6s
MAKZ Makanchi 97.84 316 P **P** **02 41 55.2 -1.1**
MAKZ Makanchi 97.84 316 P **P** **02 41 55.2 -1.1**
MAKZ pmax pmax
comp=Z,25nm,1.5s
YKA Yellowknife Ar 97.87 27 P **P** **02 41 54.4 -1.6**
comp=Z,2.1nm,1.0s,baz=256,slow=4.5,SNR=18
YKA pP **pP** **02 42 29.8 +1.4**
comp=Z,1.6nm,1.0s,baz=254,slow=4.9,SNR=3.8
YKA PKiKP **PKiKP** **02 46 28.7 -0.2**
comp=Z,0.2nm,0.5s,baz=253,slow=1.4,SNR=6.0
YKA PKKPbc **PKKPbc** **02 58 29.9 -2.8**
comp=Z,0.9nm,0.7s,baz=73,slow=2.8,SNR=14
YKA LR LR 03 27 54.2
comp=Z,65nm,18.1s,baz=260,slow=36
comp=Z,2.1nm,1.0s
OGNE Ogallala 100.18 50 P **Pdif** **02 42 06.8 -0.2**
baz=259
NRIK Noril'sk 100.54 339 P **Pdif** **02 42 06.7 -1.1**
comp=Z,4.7nm,1.0s,baz=128,slow=4.7,SNR=6.6
KURK Kurchatov 100.84 320 P **Pdif** **02 42 09.3 -0.2**
KURBB Kurchatov Arra 100.88 320 P **Pdif** **02 42 09.3 -0.4**
comp=Z,0.8nm,0.5s,baz=94,slow=4.7,SNR=10
KURBB PKiKP **PKiKP** **02 46 33.8 -0.9**
comp=Z,0.7nm,0.7s,baz=111,slow=2.1,SNR=6.5
KURBB PKKPbc **PKKPbc** **02 58 21.0 -2.7**
comp=Z,0.4nm,0.6s,baz=286,slow=3.5,SNR=4.8
BVAR Borovoye Array 106.19 321 Pdiff **Pdif** **02 42 31.7 -1.5**
comp=Z,1.1nm,0.6s,baz=94,slow=6.2,SNR=6.8
BVAR PKiKP **PKiKP** **02 46 44.3 0.0**
comp=Z,1.2nm,0.4s,baz=122,slow=2.0,SNR=10
GEYT Alibeck 114.31 305 *i* PKiKP PKPdf 02 47 00.0 -0.2
GEYT Alibeck 114.31 305 PKiKP PKPdf 02 46 60.0 -0.2
comp=Z,2.4nm,0.7s,baz=48,slow=2.2,SNR=4.8
SPA0 Spitsbergen Ar 115.39 354 *e*PKPdf **PKiKP** **02 47 00.7 -0.4**
SPITS Spitsbergen Ar 115.39 354 PKP **PKiKP** **02 47 00.5 -0.6**
comp=Z,5.8nm,0.6s,baz=62,slow=4.1,SNR=8.9
DWPF Disney Wildern 115.44 66 P **PKPdf** **02 47 01.6 -1.0**
baz=266
KMSC Kings Mountain 115.83 58 P **PKPdf** **02 47 01.5 -1.6**
baz=269
O53A New Philadelph 115.89 52 P **PKPdf** **02 47 02.2 -0.9**
baz=272
M53A WI Miller and 116.25 51 P **PKPdf** **02 47 00.6 -3.1**
baz=273
BLA Blacksburg 116.57 56 P **PKPdf** **02 47 01.5 -3.0**
baz=271
KIRV Kirov 117.33 329 *c* *i* PKiKP **PKPdf** **02 47 03.3 -1.9**
GUY2C Guyana, Caldas 117.59 92 *e*P **PKPdf** **02 47 05.9 -1.8**
ROSC El Rosal 118.51 93 PKP **PKPdf** **02 47 08.3 -1.0**
comp=Z,3.9nm,0.4s,baz=312,slow=12,SNR=2.1
VADS Vadso 119.35 345 *e*PKPdf **PKiKP** **02 47 08.9 0.0**
APA Apatity 119.85 341 ⇓ *i* PKiKP **PKPdf** **02 47 09.4 -0.5**
APA *i* 02 47 54.0
APA pmax pmax
comp=Z,8.0nm,0.9s
BELG Belogornoye 119.98 322 *i* PKiKP **PKPdf** **02 47 09.1 -1.4**
OCAC Ocana 120.27 89 *e*P **PKPdf** **02 47 11.3 -1.1**
HAMF Hammerfest 120.32 347 *e*PKPdf **PKPdf** **02 47 10.3 -0.4**
HAMF IAmb IAmb 02 47 21.0
comp=Z,1µm,3.2s
LONY Lake Ozonia 120.38 47 P **PKPdf** **02 47 07.7 -3.9**
baz=279
ARA0 ARCESS Array S 120.72 345 *e*PKPdf **PKPdf** **02 47 11.3 -0.2**
ARCES ARCESS Array B 120.72 345 PKP **PKPdf** **02 47 11.1 -0.5**
comp=Z,16nm,0.5s,baz=84,slow=2.0,SNR=138
ARCES PKKPbc **PKKPab** **02 57 16.4 -0.7**
comp=Z,3.2nm,0.9s,baz=211,slow=2.1,SNR=5.5
KTK1 Kautokeino 121.66 346 *e*PKPdf **PKPdf** **02 47 12.2 -1.1**
JETT Jettan, Norway 121.88 347 *e*PKPdf **PKiKP** **02 47 14.3 +0.3**
TRO Tromso 122.14 348 *e*PKPdf **PKPdf** **02 47 13.2 -1.0**
LBNH Lisbon 122.32 47 P **PKPdf** **02 47 11.9 -3.4**
baz=280
SCHQ Schefferville 122.58 34 PKP **PKPdf** **02 47 13.8 -1.7**
comp=Z,1.7nm,0.5s,baz=248,slow=4.5,SNR=6.9
SCHQ PKKPbc **PKKPab** **02 57 10.3 +0.8**
comp=Z,2.8nm,0.5s,baz=71,slow=1.9,SNR=10
SDV Santo Domingo 123.00 89 PKPdf **PKPdf** **02 47 15.2 -2.6**
SDV Santo Domingo 123.00 89 *e*P **PKPdf** **02 47 15.6 -2.2**
BOSA Boshof 123.13 220 PKiKP **PKPdf** **02 47 17.0 -0.6**
BOSA Boshof 123.13 220 PKP **PKPdf** **02 47 16.9 -0.6**
comp=Z,9.1nm,0.8s,baz=131,slow=1.6,SNR=19
VRH Novokhopyorsk 123.83 322 *e*PKiKP **PKPdf** **02 47 16.9 -1.1**
VRH pmax pmax
comp=Z,20nm,0.6s
STEI Steigen 124.31 348 *e*PKPdf **PKPdf** **02 47 18.4 +0.1**
STEI IAmb IAmb 02 47 20.4
comp=Z,107nm,1.5s
SAML Samuel 124.42 112 *e*P **PKPdf** **02 47 19.0 -1.3**
GNI Garni 124.52 308 *i* PKiKP **PKPdf** **02 47 19.5 -0.4**
ZEI Tsey 124.66 312 *i* PKiKP **PKPdf** **02 47 18.5 -1.6**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
FAUS Fauske 124.76 347 *e*PKPdf **PKPdf** **02 47 19.1 -0.2**
LPSR Galich'ya Gora 124.94 324 *e*PKiKP **PKPdf** **02 47 17.9 -2.2**
LPSR pmax pmax
comp=Z,40nm,1.6s
VORR Voronezh 125.14 323 *e*PKiKP **PKPdf** **02 47 19.8 -0.7**
VORR pmax pmax
comp=Z,40nm,0.3s
OBN Obninsk 125.16 328 ⇑ *e*PKiKP **PKPdf** **02 47 19.4 -1.0**
OBN *e* 02 48 00.0
OBN *e* 02 49 12.7
OBN pmax pmax
comp=Z,45nm,1.8s
KBZ Khabaz 125.17 313 *i* PKiKP **PKPdf** **02 47 19.6 -1.1**
KBZ Khabaz 125.17 313 PKP **PKPdf** **02 47 20.1 -0.6**
comp=Z,4.1nm,0.7s,baz=109,slow=3.9,SNR=9.6
AKH Akhalkalaki 125.23 310 PKPdf **PKPdf** **02 47 21.4 +0.1**
AKH Akhalkalaki 125.23 310 PKiKP **PKPdf** **02 47 21.4 +0.1**
KIV Kislovodsk 125.26 313 *i* PKiKP **PKPdf** **02 47 19.6 -1.5**
KIV pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 125.33 323 *e*PKiKP **PKPdf** **02 47 18.8 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
LBTB Lobatse 125.40 223 PKPdf **PKPdf** **02 47 21.4 -0.6**
LBTB Lobatse 125.40 223 PKiKP **PKPdf** **02 47 21.4 -0.6**
MOR8 Moi Rana 125.96 347 *e*PKPdf **PKPdf** **02 47 21.0 -0.7**
KONS Konsvik 125.96 348 *e*PKPdf **PKPdf** **02 47 21.7 +0.2**
STOK Stokkvaagen 126.13 348 *e*PKPdf **PKiKP** **02 47 22.3 0.0**
FINES FINESS Array B 126.19 338 PKP **PKPdf** **02 47 21.4 -0.8**
comp=Z,6.3nm,0.5s,baz=20,slow=3.1,SNR=34
GURO Guroymak-BITLI 126.87 307 PKPdf **PKiKP** **02 47 24.9 0.0**
KIBK Kibwezi 126.98 255 PKPdf **PKPdf** **02 47 24.7 -0.6**
NSS Namsos 127.91 347 *e*PKPdf **PKPdf** **02 47 25.5 +0.2**
KMBO Kilima Mbogo 128.15 256 PKPdf **PKPdf** **02 47 27.4 -0.3**
KMBO Kilima Mbogo 128.15 256 *i* PKiKP **PKPdf** **02 47 25.8 -1.9**
KMBO Kilima Mbogo 128.15 256 PKP **PKPdf** **02 47 26.1 -1.7**
comp=Z,5.3nm,0.8s,baz=59,slow=6.5,SNR=14
LSZ Lusaka 129.62 235 PKPdf **PKPdf** **02 47 29.9 -0.4**
LSZ Lusaka 129.62 235 PKiKP **PKPdf** **02 47 29.9 -0.4**
MOL Molde 130.57 348 *e*PKPdf **PKPdf** **02 47 30.8 +0.3**
PABE Paberze 130.94 333 PKPdf **PKPdf** **02 47 31.8 +0.4**
NB2 NORSAR Subarra 131.09 345 PKPdf **PKPdf** **02 47 32.0 +0.4**
comp=Z,2.4nm,0.6s,baz=31,slow=1.9
NB2 SKPa **SKPab** **02 50 47.4 +2.6**
comp=Z,2.3nm,0.8s,baz=30,slow=3.0
NOA NORSAR Array B 131.09 345 PKP **PKPdf** **02 47 31.6 0.0**
comp=Z,3.4nm,0.6s,baz=32,slow=2.0,SNR=18
AKASG Malin Array Be 131.19 326 PKP **PKPdf** **02 47 31.3 -0.7**
comp=Z,1.8nm,0.5s,baz=42,slow=2.5,SNR=11
HFS Hagfors 131.19 343 PKP **PKPdf** **02 47 31.1 -0.7**
comp=Z,3.9nm,0.6s,baz=93,slow=5.0,SNR=11
NC602 NORSAR Array S 131.27 345 *e*PKPdf **PKPdf** **02 47 32.2 +0.3**
SKAR Skarsila 132.10 346 *e*PKPdf **PKPdf** **02 47 32.6 -1.0**
HYA Hoyanger 132.12 348 *e*PKPdf **PKPdf** **02 47 34.0 +0.5**
OSL Oslo 132.17 344 *e*PKPdf **PKiKP** **02 47 34.6 -0.1**
BR131 Keskin Array S 132.91 311 PKPdf **PKPdf** **02 47 35.7 -0.2**
BR131 Keskin Array S 132.91 311 PKiKP **PKPdf** **02 47 35.7 -0.2**
BRTR Keskin Array B 132.91 311 *c* *i* PKiKP **PKPdf** **02 47 36.0 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 132.91 311 PKP **PKPdf** **02 47 35.6 -0.2**
comp=Z,1.8nm,0.6s,baz=145,slow=4.8,SNR=15
SORM Soroca 132.99 323 ⇑P **PKPdf** **02 47 34.9 -0.6**
SORM Soroca 132.99 323 ⇑PKiKP **PKPdf** **02 47 34.9 -0.6**
MMAI Mount Meron Ar 133.17 301 PKP **PKPdf** **02 47 36.9 +0.5**
comp=Z,1.2nm,0.5s,baz=72,slow=8.0,SNR=4.8
ODD1 Odda 133.17 347 *e*PKPdf **PKPdf** **02 47 35.4 -0.2**
MILM Milestii Mici 133.31 321 ⇑P **PKPdf** **02 47 36.1 -0.1**
MILM Milestii Mici 133.31 321 ⇑PKiKP **PKPdf** **02 47 36.1 -0.1**
VARL Varlezi 134.39 321 ⇓P **PKiKP** **02 47 39.8 +0.2**
BURAR Bucovina Array 135.06 324 ⇓P **PKiKP** **02 47 41.7 +0.6**
BURAR Bucovina Array 135.06 324 ⇓PKiKP **PKiKP** **02 47 41.7 +0.6**
VRI Vrincioaia 135.09 321 ⇑P **PKPdf** **02 47 39.3 -0.3**
VRI Vrincioaia 135.09 321 ⇑PKiKP **PKPdf** **02 47 39.3 -0.3**
PLOR Plostina 135.14 321 ⇓P **PKiKP** **02 47 40.5 -0.7**
PLOR Plostina 135.14 321 ⇓PKiKP **PKiKP** **02 47 40.5 -0.7**
MLR Muntele Rosu 135.75 321 ⇑P **PKPdf** **02 47 39.7 -1.3**
MLR Muntele Rosu 135.75 321 ⇑PKiKP **PKPdf** **02 47 39.7 -1.3**
MLR Muntele Rosu 135.75 321 PKP **PKPdf** **02 47 39.3 -1.6**
comp=Z,3.4nm,0.8s,baz=34,slow=11,SNR=3.0
DOPR Dopca 135.84 322 ⇓P **PKiKP** **02 47 42.6 0.0**
KOLS Kolonicke sedl 135.90 327 *e*PKiKP **PKiKP** **02 47 42.8 +0.2**
KOLS Kolonicke sedl 135.90 327 *e*PKP **PKiKP** **02 47 42.8 +0.2**
VOIR 136.32 322 ⇓P **PKiKP** **02 47 43.1 -0.6**
VOIR 136.32 322 ⇓PKiKP **PKiKP** **02 47 43.1 -0.6**
CRVS Cervenica-Dubn 136.34 328 *e*PKiKP **PKiKP** **02 47 42.8 -0.7**
CRVS Cervenica-Dubn 136.34 328 *e*PKP **PKiKP** **02 47 42.8 -0.7**
ARR Arges 136.61 322 ⇑P **PKPdf** **02 47 42.1 -0.4**
ELND Elena 137.05 318 ⇓P **PKiKP** **02 47 46.5 +1.4**
LANS Liptovska Anna 137.19 329 *e*PKiKP **PKiKP** **02 47 47.6 +2.3**
GZR Gura Zlata 137.69 323 ⇑P **PKPdf** **02 47 44.5 0.0**
GZR Gura Zlata 137.69 323 ⇑PKiKP **PKPdf** **02 47 44.5 0.0**
MORC Moravsky Berou 137.69 331 ⇑P **PKiKP** **02 47 46.3 0.0**
MORC Moravsky Berou 137.69 331 *e*PKP **PKPdf** **02 47 44.5 +0.2**
MORC Moravsky Berou 137.69 331 ⇑PKiKP **PKiKP** **02 47 46.3 0.0**
OSTC Ostas 137.74 333 *e*PKiKP **PKiKP** **02 47 46.3 0.0**
OSTC Ostas 137.74 333 *e*PKPpre PKPpre 02 47 46.3
OSTC *e*PKPDF PKiKP 02 47 57.2 +11
SIRR Siria 137.83 324 ⇓P **PKPdf** **02 47 44.2 -0.4**
KRLC Kraliky 137.83 332 *e*PKHKP PKPpre 02 47 37.5
KRLC Kraliky 137.83 332 *e*PKPpre PKPpre 02 47 37.5
KRLC *e*PKPDF **PKiKP** **02 47 46.1 -0.5**
DPC Dobruska-Polom 137.84 333 *e*PKHKP PKPpre 02 47 36.6
DPC Dobruska-Polom 137.84 333 *e*PKPpre PKPpre 02 47 36.6
DPC *e*PKPDF **PKiKP** **02 47 46.9 +0.3**
SURR Surduc 137.87 324 ⇓P **PKPdf** **02 47 42.5 -2.2**
VYHS Vyhne 137.94 329 *e*PKiKP **PKPdf** **02 47 44.7 -0.1**
VYHS Vyhne 137.94 329 *e*PKP **PKPdf** **02 47 44.7 -0.1**
HERR Herculane 138.19 322 ⇓P **PKPdf** **02 47 45.2 -0.1**
BZS Buzias 138.24 324 ⇓P **PKPdf** **02 47 44.9 -0.5**
BZS Buzias 138.24 324 ⇓PKiKP **PKPdf** **02 47 44.9 -0.5**
VRAC Vranov 138.46 331 *e*PKP **PKPdf** **02 47 46.1 +0.4**
BRG Berggiesshubel 138.48 335 *e*PKP PKPdf 02 47 36.8 -8.9
BRG Amp 02 47 40.9
comp=Z,4.1nm,0.7s
BRG Berggiesshubel 138.48 335 P **PKiKP** **02 47 48.0 +0.2**
BRG Amp 02 47 49.4
comp=Z,3.8nm,0.6s
BRG Berggiesshubel 138.48 335 *e*PKHKP PKPpre 02 47 36.7
BRG pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 138.52 336 *e*PKiKP **PKPdf** **02 47 46.0 +0.3**
CLL *e* 02 48 22.0
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 138.52 336 *e*PKPdf **PKPdf** **02 47 46.0 +0.3**
comp=Z,5.0nm,0.6s
CLL *ep*PKiKP **pPKiKP** **02 48 22.0 -0.1**
CLL *e*PP **PP** **02 50 40.0 +3.2**
CLL *e*SKPab **SKPab** **02 51 17.0 -0.4**
CLL *e*SKSac **SKSac** **02 54 52.0 +3.4**
CLL *e*SKKSac **SKKSac** **02 57 20.0 +1.2**
MDVR Moldovita 138.66 323 ⇓P **PKPdf** **02 47 39.0 -7.3**
BLKB Belogradchik 138.72 321 ⇓P PKPdf 02 47 37.5 -8.9
KRUC Moravsky 138.73 331 *e*PKP **PKPdf** **02 47 46.7 +0.5**
MODS Modra-Piesok 138.79 330 *e*PKiKP **PKPdf** **02 47 44.9 -1.4**
MODS Modra-Piesok 138.79 330 *e*PKP **PKPdf** **02 47 44.9 -1.4**
PRU Pruhonice 138.89 333 *e*PKiKP PKPpre 02 47 40.4
PRU Pruhonice 138.89 333 *e*PKPpre PKPpre 02 47 40.4
PRU *e*PKPDF **PKiKP** **02 47 49.2 +0.5**
EKA Eskdalemuir Ar 139.27 352 PKhKP PKPpre 02 47 36.0
comp=Z,1.7nm,0.4s,baz=0.6,slow=2.2,SNR=11
ZVC Zvikov 139.45 333 *e*PKPpre PKPpre 02 47 40.1
ZVC *e*PKPDF **PKiKP** **02 47 49.2 -0.6**
FRGS Fruska Gora 139.53 324 *e*P PKPpre 02 47 39.8
NKC Novy Kostel 139.58 335 *e*PKiKP PKPpre 02 47 41.8
NKC Novy Kostel 139.58 335 *e*PKPpre PKPpre 02 47 41.8
NKC *e*PKPDF **PKiKP** **02 47 50.2 +0.1**
RONA Rosalia, Austr 139.73 330 *e*PKP **PKPdf** **02 47 48.1 -0.1**
comp=Z,5.6nm,0.9s
CONA Conrad Observa 139.78 330 *e*PKP **PKPdf** **02 47 48.9 +0.6**
comp=Z,4.5nm,1.0s
CKRC Cesky Krumlov 139.86 332 *e*PKHKP PKPpre 02 47 40.3
CKRC Cesky Krumlov 139.86 332 *e*PKPpre PKPpre 02 47 40.3
CKRC *e*PKPDF **PKiKP** **02 47 50.0 -0.7**
KHC Kasperske Hory 139.95 333 *e*PKHKP PKPpre 02 47 42.2
KHC Kasperske Hory 139.95 333 *e*PKPpre PKPpre 02 47 42.2
KHC *e*PKPDF **PKiKP** **02 47 50.6 -0.3**
GERES GERESS Array B 140.11 333 PKhKP PKPpre 02 47 41.9
comp=Z,2.1nm,0.5s,baz=38,slow=3.2,SNR=12
ARSA Arzberg 140.42 330 *i* PKP **PKPdf** **02 47 50.0 +0.7**
comp=Z,1.1nm,0.6s
BBLS Lazići 140.54 323 *e*P **PKPdf** **02 47 45.5 -4.2**
SJES Sjenica 140.56 322 *e*P **PKPdf** **02 47 43.7 -6.1**
MOA Molln 140.59 331 *i* PKP **PKPdf** **02 47 45.2 -4.4**
comp=Z,4.7nm,0.9s
HAPS Han Pijesak,Bl 140.67 324 *e*P **PKPdf** **02 47 43.4 -6.6**
RUDO Rudo 140.71 323 *e*P PKPdf 02 47 41.6 -8.4
BIOA Bad Ischl, Aus 140.99 332 *i* PKP **PKPdf** **02 47 46.0 -4.4**
comp=Z,3.0nm,0.7s
SOKA Soboth 141.06 329 *i* PKP **PKPdf** **02 47 46.7 -3.9**
comp=Z,2.8nm,0.5s
A051A Mrakovica 141.22 326 *e*P **PKPdf** **02 47 45.3 -5.6**
BLY Banja Luka 141.25 326 *e*P **PKPdf** **02 47 44.9 -6.0**
OBKA Obir 141.42 330 *e*PKP **PKPdf** **02 47 48.4 -2.8**
comp=Z,5.4nm,0.9s
OBKA Obir 141.42 330 *e*P **PKPdf** **02 47 45.4 -5.9**
CRES Cresnjev 141.44 328 *e*P **PKPdf** **02 47 45.4 -5.8**
MGRS Mrkonjic Grad 141.51 325 *e*P PKPdf 02 47 41.3 -10
BTNL Ternell 141.58 341 *d*PKPdf **PKPdf** **02 47 46.2 -5.0**
KBA Koelnbreinsper 141.58 331 *i* PKP **PKPdf** **02 47 47.5 -4.1**
comp=Z,1.9nm,0.4s
MEM Membach 141.60 341 *d*PKPdf **PKPdf** **02 47 46.9 -4.4**
BRY Bratogost 141.62 322 *e*P **PKPdf** **02 47 44.3 -7.5**
LESA Schwarzleotal 141.63 332 *i* PKP **PKPdf** **02 47 47.4 -4.2**
comp=Z,7.4nm,0.7s
DRME Dracevica, Mon 141.65 321 *e*P **PKPdf** **02 47 45.2 -6.5**
BSTI Sart Tilman 141.76 341 *d*PKPdf **PKPdf** **02 47 48.0 -3.6**
MYKA Terra Mystica 141.77 331 *i* PKP **PKPdf** **02 47 47.6 -4.3**
comp=Z,3.6nm,0.4s
A050A Klekovaca 141.77 326 *e*P **PKPdf** **02 47 46.5 -5.5**
BHOU Houvegnez 141.82 341 *d*PKP **PKiKP** **02 47 55.9 +1.2**
BCLA Clavier 141.98 341 *d*PKPdf **PKPdf** **02 47 48.5 -3.5**
BCLA *d*PKiKP **PKiKP** **02 47 52.2 -2.8**
BCLA *dp*PKiKP **pPKiKP** **02 48 27.9 -1.3**
CEY Cerknica 142.02 329 *e*P **PKPdf** **02 47 47.1 -5.2**
WATA Walderalm 142.18 333 *i* PKP **PKPdf** **02 47 49.2 -3.5**
comp=Z,6.6nm,0.6s
ABTA Abfaltersbach 142.21 332 *i* PKP **PKPdf** **02 47 48.3 -4.4**
comp=Z,10.0nm,0.8s
WTTA Wattenberg 142.21 333 *i* PKP **PKPdf** **02 47 49.0 -3.8**
comp=Z,10nm,0.8s,SNR=8.1
RCHB Rochefort 142.24 341 *d*PKPdf **PKPdf** **02 47 47.2 -5.3**
BMRD Maredsous 142.25 342 *d*PKPdf **PKPdf** **02 47 49.1 -3.4**
WLF Walferdange 142.37 340 *d*PKPdf **PKPdf** **02 47 48.3 -4.5**
MOTA Mooosalm 142.38 333 *i* PKP **PKPdf** **02 47 49.5 -3.6**
comp=Z,22nm,0.9s,SNR=7.7
RETA Reutte 142.42 334 *i* PKP **PKPdf** **02 47 49.7 -3.3**
comp=Z,8.1nm,0.6s
SQTA Sankt Quirin 142.43 333 *i* PKP **PKPdf** **02 47 49.6 -3.5**
comp=Z,20nm,0.8s,SNR=6.7
DOU Dourbes 142.48 342 *d*PKPdf **PKPdf** **02 47 49.1 -3.8**
BFO Black Forest 142.72 337 PKPpre PKPpre 02 47 47.5
BFO Black Forest 142.72 337 PKHKP PKPpre 02 47 47.5
FETA Feichten 142.79 333 *i* PKP **PKPdf** **02 47 51.1 -2.7**
comp=Z,30nm,0.7s,SNR=16
DAVA Damuels 142.95 334 *i* PKP **PKPdf** **02 47 51.5 -2.5**
comp=Z,31nm,0.6s,SNR=11
ECH Echery 143.25 338 PKPdf PKPab 02 47 50.1 -0.4
ECH Echery 143.25 338 PKHKP PKPpre 02 47 50.1

DAVOX	Davos/Dischmat	143.35	334	PKP	PKPbc	02 47 52.9	+0.6	
	comp=Z,53nm,0.6s,baz=151,slow=2.8,SNR=181							
SGRT	San Giovanni R	143.96	323	PKPdf	PKPab	02 47 53.4	-0.1	
MATE	Matera	144.06	321	⇑P	**PKPab**	**02 47 54.0**	**+0.3**	
TIP	Timpagrande	144.88	319	PKPdf	**PKPdf**	**02 47 57.4**	**-0.2**	
SSB	Saint Sauveur	146.70	338		**PKPbc**	**02 48 02.0**	**-0.3**	
SSB	Saint Sauveur	146.70	338	PKP2	**PKPbc**	**02 48 02.0**	**-0.3**	
VAE	Valguarnera	147.37	318	PKPbc	**PKiKP**	**02 48 05.6**	**-1.0**	
	comp=Z,9.8nm,0.9s,baz=45,slow=2.9,SNR=1.6							
KEST	Kesra	151.65	320	PKPbc	**PKiKP**	**02 48 15.4**	**-0.1**	
	comp=Z,30nm,0.6s,baz=149,slow=0.9,SNR=48							
PBRG	Braganca	152.99	350	*e*PKPbc	**PKPbc**	**02 48 16.6**	**-1.2**	
PGAV	Gavieira, Arco	153.05	353	*e*PKPdf	**PKPdf**	**02 48 10.0**	**-0.6**	
PGAV	Gavieira, Arco	153.05	353	*e*PKPbc	**PKPbc**	**02 48 16.6**	**-1.4**	
POLO	Lamas de Olo	153.57	352	*e*PKPbc	**PKiKP**	**02 48 19.6**	**+0.3**	
POLO	Lamas de Olo	153.57	352	*e*PKPab	**PKPab**	**02 48 32.8**	**+0.8**	
PVRL	Vila Real	153.66	352	*e*PKPbc	**PKiKP**	**02 48 19.9**	**+0.5**	
PVRL	Vila Real	153.66	352	*e*PKPab	**PKPab**	**02 48 32.6**	**+0.3**	
MVO	Moncorvo	153.66	351	*e*PKPbc	**PKiKP**	**02 48 20.1**	**+0.7**	
MVO	Moncorvo	153.66	351	*e*PKPab	**PKPab**	**02 48 32.3**	**-0.1**	
PTO	Porto	153.90	353	*e*PKPbc	**PKPbc**	**02 48 19.5**	**-0.2**	
PTO	Porto	153.90	353	*e*PKPab	**PKPab**	**02 48 34.5**	**+1.2**	
PVIS	Viseu	154.23	352	*e*PKPbc	**PKiKP**	**02 48 21.5**	**+0.9**	
PVIS	Viseu	154.23	352	*e*PKPab	**PKPab**	**02 48 35.9**	**+1.1**	
ESDC	Sonseca Array	154.46	344	PKP	**PKPdf**	**02 48 12.1**	**-0.5**	
	comp=Z,1.1nm,1.0s,baz=338,slow=2.2,SNR=6.4							
ESDC				PKPbc	**PKPbc**	**02 48 21.0**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=4.1,slow=2.6,SNR=17							
MTE	Manteigas	154.49	351	*e*PKPdf	**PKPdf**	**02 48 13.0**	**+0.3**	
MTE	Manteigas	154.49	351	*e*PKPbc	**PKPbc**	**02 48 21.1**	**0.0**	
MTE	Manteigas	154.49	351	*e*PKPab	**PKPab**	**02 48 36.9**	**+1.0**	
PCAS	Casmilo, Conde	154.96	353	*e*PKPbc	**PKiKP**	**02 48 22.9**	**+0.8**	
PCAS	Casmilo, Conde	154.96	353	*e*PKPab	**PKPab**	**02 48 37.4**	**-0.4**	
PCBR	Castelo Branco	155.03	351	*e*PKPdf	**PKPdf**	**02 48 13.8**	**+0.5**	
PCBR	Castelo Branco	155.03	351	*e*PKPbc	PKPdf	02 48 22.5	+9.2	
PCBR	Castelo Branco	155.03	351	*e*PKPab	**PKPab**	**02 48 39.1**	**+1.0**	
PMRV	Marv??o	155.42	350	*e*PKPab	**PKPab**	**02 48 41.3**	**+1.5**	
PMTG	Montargil	155.89	352	*e*PKPab	**PKPab**	**02 48 41.2**	**-0.6**	
PESTR	Estremoz	156.00	350	*e*PKPab	**PKPab**	**02 48 43.3**	**+1.0**	
EVO	Evora	156.39	351	*e*PKPab	**PKPab**	**02 48 45.1**	**+1.1**	
PBAR	Barrancos	156.57	349	*e*PKPab	**PKPab**	**02 48 45.8**	**+1.0**	
PBEJ	Beja	156.86	351	*e*PKPab	**PKPab**	**02 48 46.8**	**+0.8**	
MESJ	Messejana	157.10	351	*e*PKPab	**PKPab**	**02 48 48.5**	**+1.4**	
PCVE	Castro Verde	157.28	351	*e*PKPab	**PKPab**	**02 48 49.9**	**+2.1**	
MORF	Marmelete	157.69	352	*e*PKPab	**PKPab**	**02 48 51.2**	**+1.5**	
MDT	Midelt	161.01	339	PKP	**PKPdf**	**02 48 20.9**	**-0.1**	
	comp=Z,3.0nm,1.0s,baz=7.4,slow=1.6,SNR=3.2							
TORD	Torodi Ar. Bea	166.02	263	PKP	**PKPdf**	**02 48 23.9**	**-2.1**	
	comp=Z,8.6nm,0.6s,baz=23,slow=1.4,SNR=105							
DBIC	Dimbokro	168.65	223	⇓PKIKP	**PKPdf**	**02 48 27.6**	**-0.3**	
DBIC	Dimbokro	168.65	223	PKP	**PKPdf**	**02 48 26.4**	**-1.5**	
	comp=Z,7.7nm,0.9s,baz=121,slow=2.6,SNR=9.1							

*IDC **15** 02:39:20.8±1.2,38°.24N×138°.59E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=27.2km s-min=23.5km az=13.0*

ISC 15 02:39:23.1±1.0, 38°.1N±0°.1×138°.4E±0°.3, h19km, n6, σ0s48/6, mb3.8/5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MJAR	Matsushiro Arr	1.53	186	P			**Pg**	02 39 52.7	**+0.1**
	0.3nm,0.3s,baz=11,slow=39,SNR=6.0								
ILAR	Eielson Array	49.91	33	P			**P**	**02 48 15.5**	**+0.5**
	0.7nm,1.0s,baz=279,slow=7.0,SNR=3.5								
	0.7nm,1.0s								
AKASG	Malin Array Be	72.01	321	P			**P**	**02 50 45.1**	**-0.2**
	0.7nm,0.6s,baz=49,slow=4.6,SNR=5.5								
	0.7nm,0.6s								
HFS	Hagfors	72.14	334	P			**P**	**02 50 46.3**	**+0.3**
	3.8nm,0.8s,baz=54,slow=6.1,SNR=5.1								
	3.8nm,0.8s								
NOA	NORSAR Array B	72.29	336	P			**P**	**02 50 46.9**	**0.0**
	0.9nm,0.9s,baz=30,slow=3.1,SNR=3.4								
	0.9nm,0.9s								
NVAR	Mina Array Bea	76.25	52	P			**P**	**02 51 10.1**	**-0.5**
	0.2nm,0.5s,baz=256,slow=3.6,SNR=2.1								
	0.2nm,0.5s								

JMA 15 02:39:43.8±0.1, 36°.4N±0°.2×138°.0E±0°.3, h12km, MV0.6/24, CENTRAL NAGANO PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JNG	Nsakai	0.10	75	*i* P			Pg	02 39 46.6	-0.2
JNG				S			Sg	02 39 48.4	-0.4
MAT	Matsushiro	0.24	48	*i* P			Pg	02 39 48.8	-0.1
MAT				S			Sg	02 39 52.2	-0.2
JNT	Takato	0.52	166	*e*P			Pg	02 39 54.3	+0.3
JNT				*e*S			Sg	02 40 01.3	+0.3
JTT	Ttatey	0.57	293	*e*S			Sg	02 40 02.9	+0.4

TRN 15 02:41:60.0, 17°.36N×61°.81W, h22km, MD3.7, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ANBD	Bethesda, Anti	0.31	173	⇑*i* P			Pn	02 42 08.9	-0.3
ANBD				*e*S			Sn	02 42 14.8	-0.3
MBFL	Flemmings, Mon	0.72	213	*e*P			Pn	02 42 16.2	+1.4
MBFL				*e*S			Sn	02 42 27.1	+1.9
ABD	La Joyeuse, An	0.93	161	*e*P			Pn	02 42 18.5	+0.8
ABD				*e*S			Sn	02 42 32.5	+2.1
CBE	Ff, Capester	1.29	172	*e*P			Pb	02 42 24.9	+1.2
CBE				*e*S			Sb	02 42 42.9	+2.9
MPOM	Morne Pois Mar	3.04	162	*e*P			Pn	02 42 49.0	+2.3

IDC 15 02:47:14.2±2.1, 2°.95N×126°.48E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=205.4km s-min=23.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
WRA	Warramunga Arr	24.03	162	P			P	02 52 31.2	+0.1
	1.8nm,1.0s,baz=341,slow=11,SNR=5.0								
	1.8nm,1.0s								
ASAR	Alice Springs	27.43	165	P			P	02 53 02.5	+0.6
	0.4nm,0.9s,baz=341,slow=11,SNR=2.0								
	0.4nm,0.9s								
MKAR	Makanchi Array	58.05	326	P			P	02 57 09.2	+0.1
	0.1nm,0.4s,baz=110,slow=8.7,SNR=5.9								
	0.1nm,0.4s								
KURBB	Kurchatov Arra	62.26	328	P			P	02 57 37.1	-0.8
	0.2nm,0.3s,baz=132,slow=5.9,SNR=2.4								
	0.2nm,0.3s								

*IDC **15** 02:57:32.3±2.5,5°.06S×145°.57E, h0km, mb3.4/2, mbtmp3.6/4, ML2.6/2, Error ellipse: s-maj=66.6km s-min=40.3km az=86.0*

ISC 15 02:57:40.1±2.0, 5°.2S±0°.2×145°.7E±0°.3, h64km, n6, σ0s99/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PMG	Port Moresby	4.40	160	Pn			**Pn**	**02 58 43.5**	**-0.8**
	2.6nm,0.3s,baz=295,slow=14,SNR=2.6								
PMG				Sn			**Sn**	**02 59 35.0**	**+0.6**
	1.0nm,0.3s,baz=330,slow=14,SNR=3.5								
	4.9nm,0.3s								
WRA	Warramunga Arr	18.30	216	P			**Pn**	**03 01 49.1**	**-0.6**
	0.1nm,0.3s,baz=40,slow=12,SNR=7.5								
	2.5nm,0.9s								
ASAR	Alice Springs	21.54	211	P			**P**	**03 02 24.3**	**+0.1**
	0.4nm,0.8s,baz=35,slow=12,SNR=3.3								
	0.4nm,0.8s								
STKA	Stephens Creek	26.77	188	P			**P**	**03 03 15.2**	**+1.1**
	1.8nm,0.7s,baz=18,slow=3.2,SNR=3.4								
	1.8nm,0.7s								
TORD	Torodi Ar. Bea	143.61	285	PKP			**PKPdf**	**03 17 08.0**	**-0.7**
	0.4nm,0.8s,baz=82,slow=3.5,SNR=2.5								
DBIC	Dimbokro	150.64	274	PKPbc			**PKiKP**	**03 17 27.6**	**+0.9**
	2.5nm,0.8s,baz=79,slow=5.2,SNR=3.6								

*IDC **15** 02:58:27.7±0.8,28°.87N×139°.58E, h410km±9km, mb3.0/8, mbtmp3.8/10, Error ellipse: s-maj=22.5km s-min=11.1km az=79.0*

ISC 15 02:58:26.9±0.8, 28°.82N±0°.1×139°.5E±0°.2, h400km, n10, σ1s30/12, mb3.1/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JCJ	Chichijima	2.96	125	P			**Pn**	**02 59 29.6**	**-0.3**
	162nm,1.0s,baz=120,slow=23,SNR=15								
JCJ				S			**S**	**03 00 22.6**	**+1.8**
	165nm,0.4s,baz=272,slow=23,SNR=18								
JHJ	Hachijo jima 2	4.30	4	P			**Pn**	**02 59 41.8**	**+0.1**
	53nm,0.8s,baz=221,slow=21,SNR=1.8								
JHJ				S				**03 00 45.1**	**+2.6**
	38nm,0.3s,baz=233,slow=20,SNR=2.3								
MKAR	Makanchi Array	47.52	308	P			**P**	**03 06 23.9**	**+0.1**
	0.5nm,0.5s,baz=82,slow=10.0,SNR=5.0								
	0.5nm,0.5s								
WRA	Warramunga Arr	48.73	186	P			**P**	**03 06 33.7**	**+0.6**
	1.2nm,0.6s,baz=1.7,slow=7.8,SNR=15								
	1.2nm,0.6s								
KURBB	Kurchatov Arra	50.11	313	P			**P**	**03 06 43.3**	**+0.2**
	2.5nm,0.2s,baz=92,slow=7.2,SNR=2.3								
	2.5nm,0.2s								
ASAR	Alice Springs	52.45	186	P			**P**	**03 07 01.1**	**+0.5**
	0.3nm,0.5s,baz=17,slow=12,SNR=9.7								
	0.3nm,0.5s								
BVAR	Borovoye Array	55.14	317	P			**P**	**03 07 19.2**	**-0.2**
	0.7nm,0.6s,baz=96,slow=7.4,SNR=1.5								
	0.7nm,0.6s								
ILAR	Eielson Array	57.38	29	P			**P**	**03 07 33.4**	**-1.5**
	0.8nm,1.1s,baz=258,slow=6.2,SNR=4.9								
	0.8nm,1.1s								
YKA	Yellowknife Ar	71.77	28	P			**P**	**03 09 05.5**	**-1.3**
	0.1nm,0.6s,baz=298,slow=6.2,SNR=4.7								
	0.1nm,0.6s								
NVAR	Mina Array Bea	81.33	51	P			**P**	**03 10 00.9**	**+0.4**
	0.5nm,0.7s,baz=302,slow=5.1,SNR=5.1								
	0.5nm,0.7s								

*IDC **15** 02:58:41.8±0.6,38°.07N×73°.87E, h0km, mb4.2/20, mbtmp4.1/28, ML3.4/8, MS3.4/4, Error ellipse: s-maj=12.7km s-min=12.0km az=17.0*
*NNC **15** 02:58:44.2±2.6,38°.16N×73°.91E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=21.3km s-min=15.0km az=146.0*
*SOME **15** 02:58:45.3,38°.32N×74°.05E, h5km*
*MOS **15** 02:58:48.5±1.3,38°.26N×73°.81E, h58km, mb4.6/10, Error ellipse: s-maj=7.6km s-min=4.4km az=87.2*
*NEIC **15** 02:58:50.4±1.6,38°.26N±0°.06×73°.92E±0°.08, h52km±6km, mb4.5/39, Error ellipse: s-maj=9.9km s-min=8.5km az=118.0*

ISC 15 02:58:43.2±0.3, 37°.95N±0°.03×73°.83E±0°.04, h10km, n195, σ2s27/204, mb4.4/51, 16C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KSH	Kashi	2.30	46	P			Pn	02 59 13.0	-8.3
KSH				S			Sn	02 59 33.4	-16
KSH				pmax			pmax		
	comp=Z,130nm,1.1s								
KSH				smax			smax		
	comp=N,2μm,0.9s								
KSH				smax			smax		
	comp=E,1μm,0.9s								
BTK	Batken	3.15	313	Pn			**Pn**	**02 59 36.5**	**+3.5**
BTK	Batken	3.15	313	PN			**Pn**	**02 59 36.5**	**+3.5**
ARSB	Arslanbob	3.44	349	Pn			**Pn**	**02 59 37.3**	**+0.4**
ARSB	Arslanbob	3.44	349	PN			**Pn**	**02 59 37.3**	**+0.4**
SIMJ	Simiganj	3.86	282	Pn			**Pn**	**02 59 46.2**	**+3.5**
NRN	Naryn	3.87	25	Pn			**Pn**	**02 59 43.4**	**+0.4**
NRN	Naryn	3.87	25	PN			**Pn**	**02 59 43.4**	**+0.4**
AML	Almayashu	4.18	359	P			**Pn**	**02 59 48.5**	**+1.0**
	SNR=38								
AML	Almayashu	4.18	359	⇓Pn			**Pn**	**02 59 48.0**	**+0.6**
	comp=E,6.6nm,0.6s								
AML				⇓Sn			**Sn**	**03 00 39.4**	**+2.9**
	comp=E,77nm,1.1s								
AML	Almayashu	4.18	359	*i* PN			**Pn**	**02 59 48.0**	**+0.6**
AML				pmax			pmax		
	comp=Z,7.0nm,0.6s								
KZA	Kyzart	4.27	14	P			**Pn**	**02 59 49.3**	**+0.6**
	SNR=8.9								
UCH	Uchtor	4.31	7	P			**Pn**	**02 59 50.6**	**+1.4**
	SNR=85								
NIL	Nilore	4.31	186	Pn			**Pb**	**02 59 57.8**	**-1.3**
NIL	Nilore	4.31	186	PN			**Pb**	**02 59 57.8**	**-1.3**
ULHL	Ulahol	4.68	23	P			**Pn**	**02 59 57.1**	**+3.0**
	SNR=9.1								
EKS2	Erkin-Say	4.71	360	P			**Pn**	**02 59 55.9**	**+1.5**
	SNR=20								
AAK	Ala-Archa	4.71	6	P			**Pn**	**02 59 56.2**	**+1.6**
	SNR=27								
AAK	Ala-Archa	4.71	6	Pn			**Pn**	**02 59 55.6**	**+1.1**
AAK	Ala-Archa	4.71	6	Pn			**Pn**	**02 59 55.4**	**+0.9**
	comp=Z,3.1nm,0.3s,baz=180,slow=7.2,SNR=47								
AAK				Sn			**Sn**	**03 00 44.4**	**-4.9**
	comp=Z,2.9nm,0.3s,baz=180,slow=18,SNR=3.9								
AAK				Lg			Lg	03 00 57.7	
	comp=Z,2.4nm,0.3s,baz=131,slow=20,SNR=1.6								
	comp=Z,19nm,0.5s								
KBK	Karagaybulak	4.78	10	P			**Pn**	**02 59 57.8**	**+2.3**
	SNR=30								
MRKS	Mete	4.82	355	*e*P			**Pb**	**03 00 06.4**	**-1.3**
	comp=Z,11nm,0.6s								
MRKS				*e*S			**Sb**	**03 01 04.9**	**-0.9**
	comp=Z,76nm,0.3s								
BOOM	Boomskoye usch	4.82	19	Pn			**Pn**	**02 59 57.2**	**+1.2**
BOOM	Boomskoye usch	4.82	19	PN			**Pn**	**02 59 57.2**	**+1.2**
TARG	Taragay, Kyrgy	4.86	38	Pn			**Pn**	**02 59 58.4**	**+1.6**
TARG	Taragay, Kyrgy	4.86	38	PN			**Pn**	**02 59 58.4**	**+1.6**
CHMS	Chumysh	5.10	8	P			**Pn**	**03 00 01.0**	**+1.3**
	SNR=9.6								
CHMS	Chumysh	5.10	8	Pg			**Pg**	**03 00 23.4**	**+2.6**
	comp=Z,134nm,0.4s								
CHMS				Lg			Lg	03 01 34.1	
	comp=Z,634nm,1.0s								
KBL	Kabul	5.14	230	Pn			Pb	03 00 08.7	-4.7
KBL	Kabul	5.14	230	PN			Pb	03 00 08.7	-4.7
TKM2	Tokmak 2	5.15	15	P			**Pn**	**03 00 01.9**	**+1.4**
	SNR=16								
TKM2	Tokmak 2	5.15	15	⇑Pn			**Pn**	**03 00 01.0**	**+0.5**
	comp=Z,39nm,0.8s								
TKM2				Sn			**Sn**	**03 00 54.5**	**-5.7**
TKM2	Tokmak 2	5.15	15	*i* PN			**Pn**	**03 00 01.0**	**+0.5**
TKM2				pmax			pmax		
	comp=Z,39nm,0.8s								
JMU	Jammu	5.29	170	*e*P			Pb	03 00 10.9	-4.9
JMU				*e*S			**Sb**	**03 01 16.3**	**-3.0**
USP	Ospenovka	5.34	5	P			**Pn**	**03 00 04.1**	**+1.1**
	SNR=12								
KST	Kastek	5.35	17	Pg			**Pb**	**03 00 17.6**	**+0.8**
	comp=Z,26nm,0.7s								
KST				Lg			Lg	03 01 25.3	
	comp=Z,67nm,0.9s								
KST	Kastek	5.35	17	*e*P			**Pb**	**03 00 17.9**	**+1.1**
	comp=Z,28nm,0.5s								
KST				*e*S			**Sb**	**03 01 24.5**	**+3.4**
	comp=Z,37nm,0.4s								
CHM	Chimkent	5.44	325	*e*P			Pb	03 00 23.4	+5.2
	comp=Z,97nm,0.1s								
CHM				*e*S			**Sg**	**03 01 34.1**	**-3.5**
	comp=Z,461nm,0.3s								
IZV	Izvestkoviy	5.51	22	Pg			**Pb**	**03 00 21.0**	**+1.4**
	comp=Z,42nm,0.7s								
IZV				Lg			Lg	03 01 30.5	
	comp=Z,50nm,1.0s								
IZV	Izvestkoviy	5.51	22	*e*P			**Pb**	**03 00 21.0**	**+1.4**
	comp=Z,42nm,0.7s								
IZV				*e*S			**Sb**	**03 01 29.9**	**+4.1**
	comp=Z,46nm,0.4s								
SGDS	Sogindy	5.54	6	Pg			**Pb**	**03 00 21.4**	**+1.4**
	comp=Z,20nm,0.7s								
SGDS				Lg			Lg	03 01 31.3	
	comp=Z,36nm,1.0s								
MTBS	Maitube	5.54	20	Pg			**Pb**	**03 00 21.0**	**+0.8**
	comp=Z,26nm,0.9s								
MTBS				Lg			Lg	03 01 29.8	
	comp=Z,29nm,0.9s								
MTBS	Maitube	5.54	20	*e*P			**Pb**	**03 00 21.0**	**+0.8**
	comp=Z,12nm,0.3s								
MTBS				*e*S			**Sb**	**03 01 29.8**	**+3.1**
	comp=Z,29nm,0.5s								
TNSS	Tian-Shan	5.62	24	Pg			**Pb**	**03 00 20.5**	**-1.0**
	comp=Z,30nm,0.7s								
TNSS				Lg			Lg	03 01 29.8	
	comp=Z,23nm,0.9s								
TNSS	Tian-Shan	5.62	24	*e*P			**Pb**	**03 00 20.9**	**-0.6**
	comp=Z,30nm,0.3s								
TNSS				*e*S			**Sb**	**03 01 29.8**	**+0.8**
	comp=Z,23nm,0.9s								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
THN	Thein Dam	5.71	164	*e*P			Pb	03 00 15.9	-7.0
THN				*e*S			**Sb**	**03 01 26.1**	**-5.4**
PRZ	Przheval'sk	5.73	36	Pn			**Pn**	**03 00 10.6**	**+2.2**
PRZ	Przheval'sk	5.73	36	PN			**Pn**	**03 00 10.6**	**+2.2**
KK31	Karatay Array	5.74	335	⇑Pn			**Pn**	**03 00 09.9**	**+1.4**
	comp=Z,3.4nm,0.3s,baz=142,slow=13,SNR=202								
KK31				⇑Pg			**Pb**	**03 00 25.2**	**+1.8**
	comp=Z,32nm,0.8s,baz=150,slow=14,SNR=5.5								
KK31				⇓Sn			**Sn**	**03 01 13.4**	**-0.9**
	comp=Z,50nm,0.7s,baz=155,slow=22,SNR=3.7								
KK31				⇓Lg			Lg	03 01 37.0	
	comp=Z,37nm,0.6s								
KK31	Karatay Array	5.74	335	Pn			**Pn**	**03 00 09.4**	**+1.0**
KK31	Karatay Array	5.74	335	*e*PN			**Pn**	**03 00 09.8**	**+1.4**
KK31				*e*				03 01 13.4	
KKAR	Karatay Array	5.74	335	Pn			**Pn**	**03 00 09.3**	**+0.8**
KKAR	Karatay Array	5.74	335	Pn			**Pn**	**03 00 09.6**	**+1.1**
KKAR	Karatay Array	5.74	335	PN			**Pn**	**03 00 09.6**	**+1.1**
MDOK	Medeo	5.76	24	⇑Pg			**Pb**	**03 00 23.7**	**-0.1**
	comp=Z,46nm,0.8s								
MDOK				Pg			**Pb**	**03 00 25.1**	**+1.3**
	comp=Z,30nm,1.2s								
MDOK				⇑Lg			Lg	03 01 36.1	
	comp=Z,150nm,1.4s								
MDOK				Lg			Lg	03 01 37.7	
	comp=Z,59nm,1.2s								
MDOK	Medeo	5.76	24	*e*P			**Pb**	**03 00 25.5**	**+1.7**
	comp=Z,30nm,1.2s								
MDOK				*e*S			**Sb**	**03 01 37.7**	**+4.7**
	comp=Z,59nm,1.2s								
DHRM	DHARAMSHALA	6.03	160	*e*P			Pn	03 00 20.1	+7.4
DHRM				*e*S			**Sb**	**03 01 33.2**	**-7.8**
DHRM				IAML				03 01 37.6	
	comp=E,214nm,0.5s								
DHRM				IAML				03 01 39.0	
	comp=N,172nm,1.0s								
KUU	Kurty	6.24	17	Pg			**Pb**	**03 00 32.3**	**+0.3**
	comp=N,33nm,0.8s								
KUU				Lg			Lg	03 01 49.9	
	comp=N,40nm,1.3s								
KUU	Kurty	6.24	17	*e*P			**Pb**	**03 00 32.2**	**+0.3**
	comp=N,32nm,0.4s								
KUU				*e*S			**Sb**	**03 01 49.3**	**+2.7**
	comp=N,39nm,0.8s								
CHKK	Chushkaly	6.37	21	Pg			**Pb**	**03 00 36.0**	**+1.9**
	comp=N,34nm,0.7s								
CHKK				Lg			Lg	03 01 56.3	
	comp=N,26nm,0.8s								
CHKK	Chushkaly	6.37	21	*e*P			**Pb**	**03 00 36.4**	**+2.3**
	comp=N,34nm,0.7s								
CHKK				*e*S			**Sb**	**03 01 56.3**	**+6.0**
	comp=N,26nm,0.8s								
PDGK	Podgornoye	6.89	37	⇑Pn			**Pn**	**03 00 24.8**	**+0.5**
	comp=N,30nm,1.0s								
PDGK	Podgornoye	6.89	37	PN			**Pn**	**03 00 24.8**	**+0.5**
BTLS	Baital	7.09	1	Pg			**Pb**	**03 00 49.0**	**+2.5**
	comp=N,3.5nm,0.5s								
BTLS				Lg			Lg	03 02 18.0	
	comp=N,6.6nm,0.8s								
BTLS	Baital	7.09	1	*e*P			**Pb**	**03 00 49.0**	**+2.5**
	comp=N,3.5nm,0.3s								
BTLS				*e*S			**Sb**	**03 02 18.0**	**+7.0**
	comp=N,6.6nm,0.8s								
SMLA	Simla	7.34	157	*e*P			Pn	03 00 36.9	+6.5
SMLA				*e*S			**Sn**	**03 01 59.7**	**+6.0**
SMLA				IAML				03 02 05.9	
	comp=N,138nm,0.5s								
SMLA				IAML				03 02 06.3	
	comp=E,100nm,0.5s								
DJR	Jarkent	7.81	33	Pg			Pb	03 01 04.4	+5.8
	comp=E,4.9nm,0.6s								
DJR				Lg			Lg	03 02 44.4	
	comp=E,12nm,1.0s								
DJR	Jarkent	7.81	33	*e*P			Pb	03 01 04.4	+5.8
	comp=E,4.4nm,0.3s								
DJR				*e*S			Sg	03 02 44.4	-9.3
	comp=E,12nm,0.4s								
PTH	Pithoragarh	9.92	146	*e*P			Pn	03 01 13.3	+7.3
HRA	Herat	10.01	253	Pn			Pn	03 01 12.3	+5.0
MAKZ	Makanchi	10.71	32	Pn			**Pn**	**03 01 17.6**	**+1.0**
MAKZ	Makanchi	10.71	32	P			**Pn**	**03 01 17.6**	**+1.0**
MK31	Makanchi Array	10.83	33	⇓P			**Pn**	**03 01 18.8**	**+0.6**
	comp=E,16nm,1.2s,baz=215,slow=13,SNR=39								
MK31

	comp=Z,1.7nm,0.3s								
GNI	**Garni**	**22.65**	**285**	*i* P		**P**		**03 03 42.9**	**-1.8**
GNI				pmax		pmax			
	comp=Z,34nm,1.2s								
BELG	**Belogornoye**	**23.28**	**317**	*i* P		**P**		**03 03 50.0**	**-0.8**
BELG				pmax		pmax			
	comp=Z,7.0nm,1.3s								
ONI	**Oni**	**23.57**	**291**	P		**P**		**03 03 56.1**	**+2.2**
ONI				IAmb		IAmb		03 04 02.9	
	comp=Z,14nm,1.1s								
ONI	**Oni**	**23.57**	**291**	P		**P**		**03 03 56.1**	**+2.2**
ONI				pmax		pmax			
	comp=Z,14nm,1.1s								
LZH	**Lanzhou**	**24.00**	**85**	*e*P		**P**		**03 03 59.4**	**+1.2**
LZH				pP		sP		03 04 06.9	+2.6
LZH				pmax		pmax			
	comp=Z,12nm,1.1s								
ZAK	**Zakamensk**	**24.34**	**50**	*e*P		**P**		**03 04 01.7**	**+0.5**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
SONM	**Songino Array**	**25.66**	**57**	P		**P**		**03 04 13.9**	**+0.7**
SONM				IAmb		IAmb		03 04 18.2	
	comp=Z,14nm,1.0s								
SONM	**Songino Array**	**25.66**	**57**	P		**P**		**03 04 13.9**	**+0.7**
SONM				pmax		pmax			
	comp=Z,14nm,1.0s								
SONM	**Songino Array**	**25.66**	**57**	P		**P**		**03 04 13.7**	**+0.6**
	comp=Z,12nm,1.0s,baz=254,slow=10.0,SNR=43								
	comp=Z,12nm,1.0s								
KIRV	**Kirov**	**26.01**	**330**	*ce*P		**P**		**03 04 14.8**	**-1.2**
ULN	**Ulaanbaatar**	**26.10**	**57**	P		**P**		**03 04 16.6**	**-0.6**
ULN				IAmb		IAmb		03 04 21.7	
	comp=Z,17nm,1.2s								
ULN	**Ulaanbaatar**	**26.10**	**57**	*i* P		**P**		**03 04 16.9**	**-0.3**
ULN				pmax		pmax			
	comp=Z,17nm,1.4s								
PZH	**PanZhiHua**	**26.13**	**108**	P		**P**		**03 04 23.0**	**+5.4**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,130nm,5.1s								
HHC	**Hu-ho-hao-te**	**29.16**	**72**	*e*P		**P**		**03 04 47.4**	**+2.8**
HHC				pmax		pmax			
	comp=Z,16nm,0.5s								
HHC				pmax		pmax			
	comp=Z,200nm,4.5s								
CMAR	**Chiang Mai Arr**	**29.29**	**125**	P		**P**		**03 04 47.8**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=12,slow=14,SNR=1.3								
	comp=Z,0.9nm,0.3s								
SLVN	**Son La**	**30.76**	**114**	P		**P**		**03 05 00.7**	**+1.8**
BR131	**Keskin Array S**	**31.18**	**286**	P		**P**		**03 05 04.4**	**+1.9**
BR131				IAmb		IAmb		03 05 13.4	
	comp=Z,9.3nm,1.4s								
BR131	**Keskin Array S**	**31.18**	**286**	P		**P**		**03 05 04.4**	**+1.9**
BR131				pmax		pmax			
	comp=Z,9.0nm,1.4s								
BRTR	**Keskin Array B**	**31.18**	**286**	P		**P**		**03 05 04.3**	**+1.8**
BRTR	**Keskin Array B**	**31.18**	**286**	P		**P**		**03 05 04.3**	**+1.9**
BRTR	**Keskin Array B**	**31.18**	**286**	P		**P**		**03 05 03.8**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=100,slow=8.5,SNR=7.9								
	comp=Z,1.4nm,0.8s								
XLT	**XiLinHaoTe**	**32.21**	**66**	*e*P		**P**		**03 05 14.1**	**+2.6**
XLT				pP		sP		03 05 27.3	+10
XLT				pmax		pmax			
	comp=Z,5.0nm,1.0s								
XLT				pmax		pmax			
	comp=Z,100nm,5.3s								
NRIK	**Noril'sk**	**32.32**	**9**	*ce*P		**P**		**03 05 10.5**	**-1.6**
NRIK				pmax		pmax			
	comp=Z,10.0nm,2.0s								
EIL	**Elat**	**33.15**	**267**	LR		LR		03 20 35.1	
	comp=Z,79nm,19.4s,baz=30,slow=40								
AKASG	**Malin Array Be**	**33.85**	**307**	*ce*P		**P**		**03 05 26.6**	**+1.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**33.85**	**307**	P		**P**		**03 05 25.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=77,slow=8.9,SNR=7.3								
	comp=Z,0.7nm,0.5s								
AKBB	**Malin Array Si**	**33.85**	**307**	P		**P**		**03 05 25.9**	**+0.3**
AKBB	**Malin Array Si**	**33.85**	**307**	P		**P**		**03 05 25.9**	**+0.3**
AKBB				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KIEV	**Kiev**	**33.85**	**307**	P		**P**		**03 05 25.8**	**+0.1**
KIEV	**Kiev**	**33.85**	**307**	P		**P**		**03 05 25.8**	**+0.1**
KIEV				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NJ2	**Nanjing**	**37.07**	**85**	*e*P		**P**		**03 05 54.4**	**+0.9**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,180nm,3.5s								
FIA1	**FINESS Array S**	**37.59**	**324**	P		**P**		**03 05 57.6**	**+0.1**
FINES	**FINESS Array B**	**37.59**	**324**	*i* P		**P**		**03 05 58.2**	**+0.7**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.4s								
FINES	**FINESS Array B**	**37.59**	**324**	P		**P**		**03 05 56.5**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=110,slow=9.2,SNR=18								
	comp=Z,1.4nm,0.4s								
HEH	**HeiHe**	**39.58**	**54**	*e*P		**P**		**03 06 15.5**	**+1.1**
HEH				pmax		pmax			
	comp=Z,15nm,0.9s								
VYHS	**Vyhne**	**40.63**	**303**	*e*P		**P**		**03 06 24.3**	**+1.1**
VYHS	**Vyhne**	**40.63**	**303**	*e*P		**P**		**03 06 24.3**	**+1.1**
ARCES	**ARCESS Array B**	**40.70**	**336**	P		**P**		**03 06 23.5**	**0.0**
ARCES	**ARCESS Array B**	**40.70**	**336**	P		**P**		**03 06 23.5**	**0.0**
ARCES				pmax		pmax			
	comp=Z,31nm,1.4s								
ARCES	**ARCESS Array B**	**40.70**	**336**	P		**P**		**03 06 23.4**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=101,slow=7.7,SNR=14								
	comp=Z,2.0nm,0.4s								
PUK	**Puka**	**40.95**	**293**	P		**P**		**03 06 27.6**	**+1.6**
PUK				IAmb		IAmb		03 06 37.9	
	comp=Z,19nm,1.5s								
YAK	**Yakutsk**	**41.48**	**36**	*ce*P		**P**		**03 06 29.9**	**0.0**
YAK				pmax		pmax			
	comp=Z,12nm,0.6s								
MDJ	**Mudanjiang**	**41.73**	**62**	P		**P**		**03 06 30.8**	**-1.5**
MDJ				pP		sP		03 06 44.4	+5.9
MDJ				sP		pP		03 06 49.6	+13
MDJ				PP		**PP**		**03 08 04.5**	**-4.1**
MDJ				PcP		**PcP**		**03 08 29.6**	**+1.0**
MDJ				ScP		**ScP**		**03 12 14.8**	**-4.1**
MDJ				PcS		**PcS**		**03 12 18.6**	**-1.4**
MDJ				S		S		03 12 40.0	-9.3
MDJ				sS		sS		03 13 03.4	+6.9
MDJ				SS		**SS**		**03 15 46.6**	**-8.0**
MDJ				ScS		**ScS**		**03 16 30.8**	**-4.7**
MDJ				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MDJ				pmax		pmax			
	comp=Z,160nm,3.5s								
KSRS	**Korea Array**	**42.29**	**73**	LR		LR		03 26 07.7	
	comp=Z,41nm,19.0s,baz=160,slow=39								
KLR	**Kul'dur**	**42.47**	**55**	*ce*P		**P**		**03 06 38.2**	**0.0**
KLR				pmax		pmax			
	comp=Z,15nm,2.0s								
KLR	**Kul'dur**	**42.47**	**55**	P		**P**		**03 06 37.9**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=286,slow=9.3,SNR=12								
	comp=Z,2.8nm,0.5s								
HFS	**Hagfors**	**43.35**	**321**	P		**P**		**03 06 44.3**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=98,slow=11,SNR=13								
	comp=Z,1.6nm,0.4s								
CUC	**Castrocucco**	**44.46**	**292**	P		**P**		**03 06 56.6**	**+2.1**
CUC				IAmb		IAmb		03 07 03.0	
	comp=Z,12nm,1.3s								
NC303	**NORSAR Array S**	**44.54**	**322**	P		**P**		**03 06 55.3**	**+0.5**
NB2	**NORSAR Subarra**	**44.61**	**322**	P		**P**		**03 06 55.4**	**0.0**
	comp=Z,1.9nm,0.6s,baz=92,slow=8.6								
NOA	**NORSAR Array B**	**44.61**	**322**	P		**P**		**03 06 54.1**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=103,slow=7.0,SNR=4.7								
	comp=Z,0.8nm,0.4s								
NC204	**NORSAR Array S**	**44.83**	**322**	P		**P**		**03 06 57.3**	**+0.2**
WTTA	**Wattenberg**	**45.61**	**303**	*e*P		**P**		**03 07 06.2**	**+2.5**
	comp=Z,0.7nm,0.4s								
FUORN	**Ofenpass-Fuorn**	**46.66**	**302**	P		**P**		**03 07 14.2**	**+2.1**
DAVA	**Damuels**	**46.77**	**303**	*i* P		**P**		**03 07 13.6**	**+0.8**
	comp=Z,2.1nm,0.5s								
SENIN	**Lac Senin/Sane**	**48.71**	**302**	P		**P**		**03 07 27.9**	**0.0**
MJAR	**Matsushiro Arr**	**50.34**	**71**	P		**P**		**03 07 38.9**	**-1.4**
	comp=Z,3.1nm,0.7s,baz=289,slow=9.8,SNR=7.5								
	comp=Z,3.1nm,0.7s								
EKA	**Eskdalemuir Ar**	**52.82**	**316**	P		**P**		**03 07 59.0**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=88,slow=8.0,SNR=3.5								
	comp=Z,1.7nm,0.8s								
ESBB	**Sonseca Array**	**58.77**	**298**	P		**P**		**03 08 42.7**	**+1.2**
ESDC	**Sonseca Array**	**58.77**	**298**	P		**P**		**03 08 42.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=53,slow=7.3,SNR=13								
	comp=Z,0.9nm,0.7s								
B20K	**Meade River**	**66.18**	**17**	IAmb		IAmb		03 09 31.6	
	comp=Z,3.3nm,0.7s								
C18K	**Utukok River**	**66.18**	**19**	IAmb		IAmb		03 09 31.4	
	comp=Z,2.9nm,0.8s								
C19K	**Lookout Ridge**	**66.26**	**18**	IAmb		IAmb		03 09 32.0	
	comp=Z,3.8nm,0.8s								
B21K	**Ikpikpuk River**	**67.06**	**17**	IAmb		IAmb		03 09 36.9	
	comp=Z,3.8nm,0.7s								
D19K	**Kuna River**	**67.08**	**18**	IAmb		IAmb		03 09 41.6	
	comp=Z,5.3nm,0.8s								
TOA0	**Torodi Ar. Sit**	**67.99**	**270**	P		**P**		**03 09 43.5**	**+0.7**
TOA0				IAmb		IAmb		03 09 45.0	
	comp=Z,10.0nm,1.4s								
TORD	**Torodi Ar. Bea**	**67.99**	**270**	P		**P**		**03 09 43.6**	**+0.8**
TORD				IAmb		IAmb		03 09 45.0	
	comp=Z,2.5nm,0.6s								
TORD	**Torodi Ar. Bea**	**67.99**	**270**	P		**P**		**03 09 42.9**	**0.0**
	comp=Z,3.4nm,0.4s,baz=47,slow=5.9,SNR=91								
	comp=Z,3.4nm,0.4s								
INK	**Inuvik**	**72.10**	**10**	P		**P**		**03 10 07.1**	**-0.1**
INK	**Inuvik**	**72.10**	**10**	P		**P**		**03 10 07.1**	**-0.1**
INK				pmax		pmax			
	comp=Z,6.0nm,1.4s								
C36M	**Paulatuk**	**72.21**	**7**	P		**P**		**03 10 07.2**	**-0.6**
C36M				IAmb		IAmb		03 10 08.3	
	comp=Z,11nm,1.1s								
ILAR	**Eielson Array**	**72.76**	**17**	P		**P**		**03 10 09.2**	**-2.0**
	comp=Z,1.5nm,0.7s,baz=318,slow=5.3,SNR=4.1								
	comp=Z,1.5nm,0.7s								
F31M	**Tsiigehtchic**	**72.87**	**11**	P		**P**		**03 10 11.7**	**-0.1**
PSA00	**Pilbara Seismi**	**73.31**	**136**	P		**P**		**03 10 16.7**	**+1.7**
PSA00				IAmb		IAmb		03 10 17.3	
	comp=Z,9.0nm,1.3s								
DBIC	**Dimbokro**	**77.01**	**268**	P		**P**		**03 10 37.1**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=31,slow=5.6,SNR=7.6								
	comp=Z,3.3nm,0.8s								
HYT	**Haines Junctio**	**78.29**	**15**	P		**P**		**03 10 41.4**	**-1.8**
HYT				IAmb		IAmb		03 10 58.5	
	comp=Z,5.4nm,1.0s								
YKA	**Yellowknife Ar**	**79.67**	**4**	P		**P**		**03 10 50.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=349,slow=5.4,SNR=19								
	comp=Z,1.1nm,0.8s								
BOSA	**Boshof**	**80.32**	**222**	P		**P**		**03 10 55.3**	**+0.8**
	comp=Z,3.2nm,1.0s,baz=124,slow=4.2,SNR=2.4								
	comp=Z,3.2nm,1.0s								
WB0	**Warramunga Arr**	**80.79**	**124**	P		**P**		**03 10 57.9**	**+0.8**
WB0				IAmb		IAmb		03 11 19.2	
	comp=Z,12nm,1.5s								
WRA	**Warramunga Arr**	**80.88**	**124**	P		**P**		**03 10 57.9**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=326,slow=5.1,SNR=13								
	comp=Z,2.0nm,0.8s								
WB2	**Warramunga Arr**	**80.89**	**124**	P		**P**		**03 10 58.3**	**+0.6**
WB2				IAmb		IAmb		03 11 15.5	
	comp=Z,9.6nm,1.4s								
WR0	**Warramunga Arr**	**81.03**	**124**	P		**P**		**03 10 58.9**	**+0.5**
WR0				IAmb		IAmb		03 11 14.6	
	comp=Z,12nm,1.4s								
ASAR	**Alice Springs**	**83.27**	**127**	P		**P**		**03 11 11.4**	**+1.2**
ASAR	**Alice Springs**	**83.27**	**127**	P		**P**		**03 11 11.4**	**+1.2**
ASAR	**Alice Springs**	**83.27**	**127**	P		**P**		**03 11 10.2**	**0.0**
	comp=Z,0.9nm,0.8s,baz=315,slow=4.6,SNR=10								
	comp=Z,0.9nm,0.8s								
PLCA	**Paso Flores**	**152.42**	**253**	PKIKP		**PKPbc**		**03 18 40.0**	**+0.6**
PLCA	**Paso Flores**	**152.42**	**253**	PKPbc		**PKPbc**		**03 18 40.0**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=3.0,slow=3.4,SNR=10								

RSNC 15 03:03:47.3±2.5, 6°35N×76°15W, h0km±12km, ML2.2,2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.50**	**164**	*i*P	Pg	03 03 56.3	-0.5
CBOC				*e*S	Sg	03 04 03.4	+0.1
CBOC				*i*		03 04 07.5	
	comp=Z,100nm,0.3s						
CBOC	**Ciudad Bolivar**	**0.50**	**164**	*i*P	Pg	03 03 56.3	-0.5
CBOC				*e*S	Sg	03 04 03.4	+0.1
CBOC				*i*		03 04 07.5	
	comp=Z,100nm,0.3s						
DBBC	**Dabeiba**	**0.67**	**355**	*e*P	Pg	03 03 58.7	-1.5
DBBC				*e*S	Sg	03 04 09.3	+0.4
DBBC				*i*		03 04 11.6	
	comp=Z,118nm,0.7s						
DBBC	**Dabeiba**	**0.67**	**355**	*e*P	Pg	03 03 58.7	-1.5
DBBC				*e*S	Sg	03 04 09.3	+0.4
DBBC				*i*		03 04 11.6	
	comp=Z,118nm,0.7s						
GUY2C	**Guyana, Caldas**	**1.36**	**145**	*e*P	Pg	03 04 11.9	-1.5
GUY2C				*e*S	Sg	03 04 31.4	+0.2
GUY2C				*i*		03 04 37.2	
	comp=Z,29nm,0.7s						
GUY2C	**Guyana, Caldas**	**1.36**	**145**	*e*P	Pg	03 04 11.9	-1.5
GUY2C				*e*S	Sg	03 04 31.4	+0.2
GUY2C				*i*		03 04 37.2	
	comp=Z,29nm,0.7s						
PLMC	**San Jos del P**	**1.44**	**185**	*e*P	Pn	03 04 11.2	-3.5
PLMC				*e*S	Sg	03 04 32.0	-1.5
PLMC				*i*		03 04 38.4	
	comp=Z,47nm,0.6s						
PLMC	**San Jos del P**	**1.44**	**185**	*e*P	Pn	03 04 11.1	-3.5
PLMC				*e*S	Sg	03 04 33.7	+0.2
PLMC				*i*		03 04 38.4	
	comp=Z,47nm,0.6s						
UREC	**San Jos de Ur**	**1.53**	**24**	*e*P	Pn	03 04 14.0	-1.9
UREC				*e*S	Sg	03 04 36.1	-0.3
UREC				*i*		03 04 38.4	
	comp=Z,38nm,0.4s						
UREC	**San Jos de Ur**	**1.53**	**24**	*e*P	Pn	03 04 14.0	-1.9
UREC				*e*S	Sg	03 04 36.1	-0.3
UREC				*i*		03 04 38.4	
	comp=Z,38nm,0.4s						
APAC	**Apartado, Choc**	**1.60**	**345**	*e*P	Pn	03 04 16.4	-0.5
APAC				*e*S	Sg	03 04 41.0	+2.1
APAC				*i*		03 04 46.7	
	comp=Z,17nm,0.5s						
APAC	**Apartado, Choc**	**1.60**	**345**	*e*P	Pn	03 04 16.4	-0.5
APAC				*e*S	Sg	03 04 41.0	+2.1
APAC				*i*		03 04 46.7	
	comp=Z,17nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.69**	**83**	*e*P	Pn	03 04 16.8	-1.4
PTBC				*i*		03 04 44.7	
	comp=Z,11nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.69**	**83**	*e*P	Pn	03 04 16.8	-1.4
PTBC				*i*		03 04 44.7	
	comp=Z,11nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.72**	**48**	*e*P	Pn	03 04 17.4	-1.1
ZARC				*e*S	Sn	03 04 40.2	-0.9
ZARC				*i*		03 04 44.3	
	comp=Z,31nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.72**	**48**	*e*P	Pn	03 04 17.4	-1.1
ZARC				*e*S	Sn	03 04 40.2	-0.9
ZARC				*i*		03 04 44.3	
	comp=Z,31nm,0.5s						
SPBC	**San Pablo de B**	**2.18**	**108**	*e*P	Pn	03 04 25.3	+0.3
SPBC	**San Pablo de B**	**2.18**	**108**	*e*P	Pn	03 04 25.3	+0.3
YOTC	**Yotoco, Valle**	**2.35**	**185**	*e*P	Pn	03 04 24.9	-2.5
YOTC				*e*S	Sb	03 04 59.4	-1.0
YOTC				*i*		03 05 00.8	
	comp=Z,5.9nm,0.5s						
YOTC	**Yotoco, Valle**	**2.35**	**185**	*e*P	Pn	03 04 24.9	-2.5
YOTC				*e*S	Sb	03 04 59.4	-1.0
YOTC				*i*		03 05 00.8	
	comp=Z,5.9nm,0.5s						

*IDC **15** 03:10:04.5±0.9, 30°64N×131°92E, h0km, mb3.8/9, mbtmp3.7/11, ML2.8/2, Error ellipse: s-maj=29.5km s-min=20.6km az=86.0*
*JMA **15** 03:10:08.1±0.1, 30°6N±0°4×132°0E±0°9, h59km±2km, MV3.2/36, E OFF TANEGASHIMA ISLAND*

ISC 15 03:10:05.9±1.7, 30°61N±0°05×132°02E±0°05, h10km±10km, n25, σ1§09/35, mb3.7/9, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.90**	**273**	*i* P	**Pn**	**03 10 25.1**	**+0.6**
JTN				S	**Sn**	**03 10 38.1**	**+0.7**
JMTN	**Minamitane**	**0.99**	**258**	P	**Pn**	**03 10 26.5**	**+0.7**
JMTN				*e*S	**Sn**	**03 10 40.4**	**+0.7**
JTSR	**Tashiro 2**	**1.09**	**301**	P	**Pn**	**03 10 27.6**	**+0.4**
JTSR				*e*S	**Sn**	**03 10 41.8**	**-0.6**
JNAR	**Kushima--Naru**	**1.11**	**325**	P	**Pn**	**03 10 28.5**	**+1.0**
JNAR				S	**Sn**	**03 10 43.1**	**+0.2**
JNKG	**Nichinankitago**	**1.18**	**332**	P	**Pg**	**03 10 29.4**	**+0.7**
JNKG				S	**Sn**	**03 10 44.8**	**+0.3**
JYAK	**Yakushimahirau**	**1.35**	**254**	P	**Pg**	**03 10 31.3**	**-0.6**
JYAK				S	**Sg**	**03 10 49.5**	**+0.1**
JTZ	**Takazaki**	**1.51**	**328**	P	**Pb**	**03 10 34.0**	**0.0**
JTZ				S	**Sb**	**03 10 52.9**	**-0.3**
JKC	**Kuchinoerabu**	**1.58**	**265**	P	**Pb**	**03 10 34.8**	**-0.3**
JSU	**Suzuyama**	**1.61**	**304**	P	**Pb**	**03 10 35.2**	**-0.5**
JTSN	**Tsuno**	**1.69**	**345**	*i* P	**Pb**	**03 10 36.3**	**-0.7**
JTSN				S	**Sn**	**03 10 57.3**	**+0.3**
JNN	**Nakanoshima**	**2.01**	**248**	P	**Pb**	**03 10 40.7**	**-1.7**
JNN				eS	**Sn**	**03 11 04.6**	**-0.3**
JIJ3	**Izumi3**	**2.19**	**332**	P	**Pb**	**03 10 43.8**	**-1.7**
JTO	**Tosashimizu**	**2.34**	**16**	P	**Pn**	**03 10 43.6**	**-0.7**
JTO				S	**Sn**	**03 11 09.7**	**-3.4**
UWA2	**Uwa jima 2**	**2.65**	**11**	P	**Pn**	**03 10 49.1**	**+0.5**
MJAR	**Matsushiro Arr**	**7.85**	**39**	Pn	**Pn**	**03 12 02.5**	**+2.4**
	0.1nm,0.3s,baz=243,slow=14,SNR=4.7						
	0.8nm,0.4s						
KLR	**Kul'dur**	**18.60**	**359**	P	**Pn**	**03 14 24.8**	**+1.4**
	baz=186,slow=7.4,SNR=3.8						
	0.8nm,0.6s						
SONM	**Songino Array**	**26.08**	**318**	P	**P**	**03 15 38.3**	**-1.3**
	0.2nm,0.4s,baz=133,slow=8.5,SNR=2.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.16**	**313**	P	**P**	**03 18 13.5**	**-1.1**
	1.7nm,0.2s,baz=174,slow=9.2,SNR=2.3						
	1.7nm,0.2s						
BVAR	**Borovoye Array**	**49.36**	**316**	P	**P**	**03 18 56.2**	**+0.9**
	0.4nm,0.5s,baz=104,slow=6.1,SNR=3.6						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**50.31**	**177**	P	**P**	**03 19 03.1**	**+0.3**
	0.8nm,0.9s,baz=354,slow=8.3,SNR=3.6						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**54.00**	**178**	P	**P**	**03 19 31.3**	**+1.2**
	0.5nm,0.8s,baz=18,slow=12,SNR=5.7						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**59.00**	**30**	P	**P**	**03 20 05.8**	**+0.5**
	0.8nm,0.8s,baz=286,slow=7.3,SNR=9.6						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**70.70**	**331**	P	**P**	**03 21 21.2**	**-0.3**
	5.0nm,1.1s,baz=64,slow=6.3,SNR=3.4						
	5.0nm,1.1s						
YKA	**Yellowknife Ar**	**73.15**	**26**	P	**P**	**03 21 36.2**	**0.0**
	0.4nm,0.8s,baz=302,slow=5.5,SNR=6.5						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**85.09**	**48**	P	**P**	**03 22 41.6**	**-0.7**
	0.5nm,0.7s,baz=260,slow=5.4,SNR=2.3						
	0.5nm,0.7s						

*TEH **15** 04:17:49.1, 36°15N×59°14E, h7km±48km, ML3.4*
*IDC **15** 04:17:51.9±2.6, 36°42N×59°18E, h0km, mb3.4/2, mbtmp3.7/7, ML3.5/5, Error ellipse: s-maj=40.2km s-min=15.7km az=165.0*

ISC 15 04:17:50.3±1.0, 36°21N±0°04×59°22E±0°04, h6km±9km, n24, σ1§38/28, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**0.14**	**136**	Pg	**Pg**	**04 17 52.9**	**-0.4**
IMOG				Sg	**Sg**	**04 17 56.0**	**+0.7**
IPAY	**Payeh**	**0.30**	**323**	Pg	**Pg**	**04 17 56.8**	**+0.4**
IPAY				Sg	**Sg**	**04 18 01.4**	**+1.1**
IAKL	**Akhelmad**	**0.54**	**317**	Pg	**Pg**	**04 18 00.1**	**-0.8**
IAKL				Sg	**Sg**	**04 18 07.1**	**-0.9**
IKRD	**Kardeh**	**0.61**	**23**	Pg	**Pb**	**04 18 03.8**	**+0.1**
IKRD				Sg	**Sb**	**04 18 13.3**	**+0.6**
IMYA	**Miami**	**0.72**	**79**	Pg	**Pg**	**04 18 04.8**	**+0.5**
JRKH	**Jarkhoshk**	**0.96**	**108**	Pg	**Pg**	**04 18 08.3**	**-0.6**
IEMG	**Emamgholi**	**1.29**	**339**	Pg	**Pg**	**04 18 14.5**	**-0.5**
ISFR	**Sfrayin**	**1.29**	**311**	Pg	**Pn**	**04 18 13.8**	**-1.5**
TBJM	**Torbat-e-JAM**	**1.30**	**136**	Pg	**Pn**	**04 18 13.9**	**-1.4**
SBZV	**Sabzevar**	**1.31**	**278**	Pg	**Pn**	**04 18 13.2**	**-2.3**
GEYT	**Alibeck**	**1.93**	**333**	Pn	**Pn**	**04 18 24.9**	**+1.1**
	25nm,0.3s,baz=151,slow=18,SNR=83						
AFRZ	**Afriz**	**2.78**	**184**	Pn	**Pn**	**04 18 35.6**	**0.0**
TNSJ	**Nastanj**	**3.10**	**224**	Pn	**Pn**	**04 18 39.7**	**-0.2**
TKDS	**Koohdasht(Taba**	**3.11**	**214**	Pn	**Pn**	**04 18 39.6**	**-0.5**
ITEG	**Tejag**	**3.33**	**187**	Pn	**Pn**	**04 18 43.0**	**-0.1**
TPRV	**Parvadeh(Tabas**	**3.80**	**214**	Pn	**Pn**	**04 18 49.1**	**-0.5**
ANAR	**Anarak**	**5.43**	**238**	Pn	**Pn**	**04 19 11.0**	**-1.0**
GNI	**Garni**	**12.05**	**293**	Pn	**Pn**	**04 20 46.6**	**+3.8**
	2.9nm,0.3s,baz=136,slow

MSW Makushin Switc 2.25 270 Pn 04 19 10.7 0.0
MGOD Makushin Gods 2.31 267 Pn 04 19 11.3 -0.3
MAPS Pakushin South 2.35 267 Pn 04 19 11.8 -0.3
VNFG Fog Glacier, M 3.03 39 Pn **Pn 04 19 23.5 +1.9**
CHGN Chignik 3.50 47 Pn **Pn 04 19 29.1 +1.2**
CHGN IAML 04 20 33.5
comp=N,190nm,0.9s
CHGN IAML 04 20 35.8
comp=E,203nm,1.2s
P08K Saint George I 4.58 308 Pn 04 19 43.7 +1.0
O14K Tigyukauivet M 5.36 9 Pn **Pn 04 19 55.8 +2.3**
O15K Ungalikthiuk R 5.49 17 Pn 04 19 57.8 +2.6
P16K Nushagak River 5.76 27 Pn 04 20 02.2 +3.3
N14K Kuskokwak Cree 6.00 6 Pn 04 20 04.5 +2.4
O16K Kokwok River B 6.23 24 Pn **Pn 04 20 07.7 +2.4**
P17K Kvichak River 6.35 32 Pn 04 20 10.5 +3.5
OHAK Old Harbor 6.38 56 Pn **Pn 04 20 06.2 -1.2**
N15K Kwethluk River 6.39 13 Pn **Pn 04 20 09.1 +1.5**
M13K Dall Lake 6.45 358 Pn **Pn 04 20 11.3 +3.0**
M11K Mekoryuk 6.65 346 Pn 04 20 14.0 +3.0
M14K Bethel 6.81 4 Pn **Pn 04 20 15.5 +2.3**
M15K Kasigluk River 6.84 10 Pn 04 20 15.9 +2.2
KDAK Kodiak Island 6.97 53 Pn **Pn 04 20 14.3 -1.3**
KDAK Kodiak Island 6.97 53 Pn **Pn 04 20 13.8 -1.8**
comp=E,0.3nm,0.3s,baz=256,slow=11,SNR=1.4
KDAK Sn **Sn 04 21 30.6 -3.3**
comp=E,0.3nm,0.3s,baz=345,slow=16,SNR=0.9
comp=E,25nm,1.2s
Q19K Cape Douglas, 7.16 42 Pn **Pn 04 20 20.0 +1.9**
O18K Koktuh Hills 7.25 33 Pn **Pn 04 20 22.2 +2.8**
L14K Kuka Creek 7.38 1 Pn **Pn 04 20 23.2 +2.1**
M16K Timber Creek 7.38 15 Pn **Pn 04 20 23.4 +2.3**
SYI Shuyak Island 7.49 48 Pn **Pn 04 20 25.1 +2.5**
M17K Holitna River 8.00 20 Pn **Pn 04 20 30.9 +1.3**
ILSW Iliamna Southw 8.05 38 Pn **Pn 04 20 32.6 +2.1**
N19K Bonanza Creek 8.23 30 Pn **Pn 04 20 36.5 +3.5**
K15K Wolf Creek Mou 8.37 5 Pn **Pn 04 20 36.9 +2.3**
CNPM China Poot 8.50 45 Pn **Pn 04 20 37.9 +1.4**
RSO Redoubt South 8.53 36 Pn **Pn 04 20 40.2 +3.2**
ADK Adak 8.54 261 Pn **Pn 04 20 38.5 +1.4**
BRLK Bradley Lake 8.79 44 Pn **Pn 04 20 43.8 +3.3**
J14K Nanvaranak Lak 8.79 358 Pn **Pn 04 20 40.8 +0.3**
L18K Granite Mounta 8.90 19 Pn **Pn 04 20 43.9 +2.0**
M19K Big River Lodg 9.15 26 Pn **Pn 04 20 46.8 +1.4**
L19K White Mountain 9.27 24 Pn **Pn 04 20 48.3 +1.3**
J16K Anvik River 9.41 7 Pn **Pn 04 20 49.8 +0.9**
M20K Styx River 9.48 29 Pn **Pn 04 20 53.8 +3.8**
TTA Tatalina 9.68 19 Pn **Pn 04 20 52.8 +0.1**
SUA Susitna One 9.93 36 Pn **Pn 04 20 57.0 +0.8**
SKT Skwentna 10.04 33 Pn **Pn 04 20 59.9 +2.3**
RC01 Rabbit Creek A 10.05 40 Pn **Pn 04 20 58.8 +1.0**
K20K Telida 10.47 23 Pn **Pn 04 21 04.4 +1.0**
ANM Nome 10.68 354 Pn **Pn 04 21 09.2 +2.9**
J19K Poorman 10.72 18 Pn **Pn 04 21 09.3 +2.4**
KNK Knik Glacier 10.74 40 Pn **Pn 04 21 07.9 +0.7**
GHO Glory Hole Cre 10.79 38 Pn **Pn 04 21 08.4 +0.5**
HIN Hinchinbrook I 10.99 48 Pn **Pn 04 21 09.9 -0.7**
CAST Castle Rocks 11.01 26 Pn **Pn 04 21 12.9 +2.1**
AMKA Amchitka 11.07 264 Pn **Pn 04 21 10.9 -0.7**
J20K Nowinta River 11.17 20 Pn **Pn 04 21 15.3 +2.3**
SCM Sheep Creek Mo 11.42 40 Pn **Pn 04 21 15.7 -0.8**
G16K Koyuk River 11.45 1 Pn **Pn 04 21 19.2 +2.4**
KLU Klutina 11.79 44 Pn **Pn 04 21 20.7 -0.8**
F15K North Star Dit 11.79 357 Pn **Pn 04 21 23.9 +2.5**
BPAW Bear Paw Mtn. 11.85 26 Pn **Pn 04 21 24.7 +2.4**
RND Reindeer 11.93 32 Pn **Pn 04 21 24.6 +1.1**
M24K Tolsona, Glenn 12.03 41 Pn **Pn 04 21 24.7 -0.1**
N25K Chitina, Valde 12.39 45 Pn **Pn 04 21 29.6 -0.1**
I21K Tanana 12.51 22 Pn **Pn 04 21 33.3 +2.1**
GLB Gilahina Butte 12.64 46 Pn **Pn 04 21 35.2 +2.1**
VRDI Verde Repeater 12.70 47 Pn **Pn 04 21 35.7 +1.7**
H21K Melozitna Rive 12.75 19 Pn **Pn 04 21 34.7 +0.1**
IMAR Indian Mountai 12.87 17 Pn **Pn 04 21 38.8 +2.6**
MDM Murphy Dome 13.27 28 Pn **Pn 04 21 41.8 +0.1**
G21K Allakaket 13.39 17 Pn **Pn 04 21 47.4 +4.0**
M26K Nabesna, AK 13.44 43 Pn **Pn 04 21 43.7 -0.3**
ILAR Eielson Array 13.52 31 Pn **Pn 04 21 43.9 -1.2**
baz=321,slow=34,SNR=1.6
ILAR Sn **Sn 04 24 09.8 -4.2**
baz=322,slow=33,SNR=1.1
comp=E,0.2nm,0.6s
F20K Avaraart Lake 13.57 12 Pn **Pn 04 21 43.5 -2.2**
E19K Redstone River 13.79 9 Pn **Pn 04 21 52.6 +3.8**
J25K Salcha River, 13.88 33 Pn **Pn 04 21 48.4 -1.7**
M27K Edge Creek, AK 13.88 44 Pn **Pn 04 21 49.7 -0.4**
SCRK Sand Creek 13.94 37 Pn **Pn 04 21 51.1 +0.2**
H24K Noodor Dome 14.03 26 Pn **Pn 04 21 52.0 -0.1**
F21K Alatna River 14.04 15 Pn **Pn 04 21 53.8 +1.5**
G23K Bananza Creek 14.23 21 Pn **Pn 04 21 52.8 -2.1**
L27K Beaver Creek, 14.24 42 Pn **Pn 04 21 56.1 +1.2**
BCAR Beaver Creek A 14.26 42 Pn **Pn 04 21 55.7 +0.5**
C16K Lisburne Hills 14.38 356 Pn **P 04 22 00.6 -2.8**
J26L Joseph Creek 14.40 35 Pn **Pn 04 21 56.7 -0.6**
O29M Mount Kennedy 14.62 55 Pn **Pn 04 22 00.5 +0.3**
I26K Coal Creek Min 15.05 33 Pn **Pn 04 22 06.7 +0.9**
I26K IAmb IAmb 04 22 36.4
comp=Z,9.5nm,1.5s
M29M Somme Creek 15.36 47 Pn **Pn 04 22 10.5 +0.5**
M29M IAmb IAmb 04 22 27.1
comp=Z,11nm,1.2s
F24K Squaw Lake 15.38 22 Pn **Pn 04 22 11.6 +1.5**
F24K IAmb IAmb 04 22 37.5
comp=Z,4.4nm,1.2s
EGAK Eagle 15.40 37 Pn **Pn 04 22 10.3 -0.2**
DAWY Dawson 15.68 41 Pn **Pn 04 22 13.9 -0.3**
D22K Ayikyak River 15.69 14 Pn **Pn 04 22 15.8 +1.5**
D22K IAmb IAmb 04 22 44.0
comp=Z,5.6nm,1.3s
E24K Your Creek 15.71 20 Pn **Pn 04 22 15.0 +0.5**
E24K IAmb IAmb 04 22 37.1
comp=Z,9.7nm,1.3s
BMAR Burnt Mountain 16.10 26 Pn **Pn 04 22 20.0 +0.4**
M30M Minto, Yukon 16.13 47 P 04 22 23.0 +0.1
B21K Ikpikpuk River 16.15 11 Pn **P 04 22 22.1 -1.0**
I28M Miner Creek 16.21 36 Pn **P 04 22 23.4 -0.5**
I28M IAmb IAmb 04 22 46.0
comp=Z,5.4nm,1.2s
B20K Meade River 16.30 7 Pn **Pn 04 22 22.8 +0.9**
B20K IAmb IAmb 04 22 28.9
comp=Z,6.7nm,1.3s
E25K Arctic Village 16.39 23 Pn **P 04 22 24.8 -1.0**
C23K Itkillik River 16.87 15 Pn **Pn 04 22 28.9 -0.3**
C23K IAmb IAmb 04 22 36.5
comp=Z,3.6nm,0.9s
B22K Teshekpuk Lake 16.97 11 P 04 22 31.9 -0.1
B22K IAmb IAmb 04 22 56.9
comp=Z,6.6nm,1.3s
H29M Whitestone 17.18 35 Pn **Pn 04 22 31.7 -1.3**
G29M Pine Creek 17.68 33 Pn **Pn 04 22 39.1 -0.2**
G29M IAmb IAmb 04 22 46.5
comp=Z,18nm,1.5s
G30M tAoh Zraii Nji 18.31 34 P P 04 22 46.5 -0.6
H31M Peel River 18.40 39 P Pn 04 22 49.0 +0.9
H31M IAmb IAmb 04 23 02.5
comp=Z,5.6nm,0.9s
E29M Blow River 18.61 29 P P 04 22 50.2 +0.1
G31M Satah River 18.95 36 P P 04 22 53.4 -0.5
G31M IAmb IAmb 04 22 56.4
comp=Z,5.8nm,1.4s
INK Inuvik 19.89 32 P P 04 23 03.3 -0.8
INK IAmb IAmb 04 23 23.2
comp=Z,5.8nm,1.4s
INK Inuvik 19.89 32 P P 04 23 03.5 -0.7
comp=Z,0.1nm,0.3s,baz=184,slow=1.4,SNR=1.5
comp=Z,0.5nm,0.5s
PEA0B Petropavlovsk- 23.18 284 P P 04 23 38.9 -0.6
PETK Petropavlovsk- 23.18 284 P P 04 23 38.8 -0.7
PETK Petropavlovsk- 23.18 284 P P 04 23 37.3 -2.2
comp=Z,1.4nm,0.4s,baz=80,slow=14,SNR=11
comp=Z,1.4nm,0.4s
A36M Sachs Harbour 24.18 28 P P 04 23 49.7 +0.9
YKA Yellowknife Ar 26.25 52 P P 04 24 10.5 +2.8
YKA Yellowknife Ar 26.25 52 P P 04 24 09.8 +2.1
comp=Z,0.4nm,0.8s,baz=293,slow=6.7,SNR=5.2
comp=Z,0.4nm,0.8s
I07A Izee 29.74 91 P P 04 24 41.2 +2.0
I07A IAmb IAmb 04 24 57.4
comp=Z,4.3nm,1.5s
J08A Circle Bar Ran 30.77 92 P P 04 24 50.5 +2.2
J08A IAmb IAmb 04 24 51.0
comp=Z,2.0nm,0.7s
WAKR Walker 33.26 100 P P 04 25 12.1 +1.8
WAKR IAmb IAmb 04 25 13.7
comp=Z,1.4nm,0.7s
TIXI Tiksi 33.38 328 P P 04 25 11.2 +0.5
NVAR Mina Array Bea 33.97 99 P P 04 25 17.7 +1.1
NVAR Mina Array Bea 33.97 99 P P 04 25 18.4 +1.9
comp=Z,1.1nm,0.7s,baz=296,slow=8.8,SNR=9.4
comp=Z,1.1nm,0.7s
ELK Elko 34.27 93 P P 04 25 20.6 +1.5
ELK IAmb IAmb 04 25 21.4
comp=Z,1.3nm,0.7s
BCW Bitter Crk WRg 35.74 104 P P 04 25 33.1 +1.3
TPNV Topopah Spring 36.17 99 P P 04 25 36.5 +1.1
PDAR Pinedale Array 36.38 86 P P 04 25 37.4 +0.1
comp=Z,0.2nm,0.6s,baz=273,slow=6.2,SNR=2.1
comp=Z,0.2nm,0.6s
FCC Fort Churchill 36.91 54 P P 04 25 40.0 -1.2
PKCU Pink Cliffs 38.14 95 P P 04 25 53.2 +0.9
HMU Henry Mountain 38.74 93 P P 04 25 58.9 +1.6
HMU IAmb IAmb 04 26 25.6
comp=Z,4.3nm,1.2s
O20A White River Ci 38.78 88 P P 04 25 57.9 +0.3
ESJX Sierra Juarez 39.86 104 P P 04 26 07.8 +1.3
ESJX IAmb IAmb 04 26 09.1
comp=Z,1.4nm,0.9s
H11N2 WAKE ISLAND Hy 41.24 226 T T 05 10 14.1
baz=26,slow=76,SNR=87
H11N3 WAKE ISLAND Hy 41.24 226 T T 05 10 27.2
baz=26,slow=76,SNR=111
H11N1 WAKE ISLAND Hy 41.25 226 T T 05 10 16.8
baz=26,slow=76,SNR=80
H11S1 WAKE ISLAND Hy 42.41 225 T T 05 11 49.4
baz=26,slow=76,SNR=77
H11S2 WAKE ISLAND Hy 42.42 225 T T 05 11 52.3
baz=26,slow=76,SNR=73
H11S3 WAKE ISLAND Hy 42.42 225 T T 05 11 52.4
baz=26,slow=76,SNR=81
TXAR Lajitas Array 48.97 95 P P 04 27 20.1 +0.8
comp=Z,0.8nm,0.8s,baz=298,slow=5.7,SNR=11
comp=Z,0.8nm,0.8s
SONM Songino Array 53.70 303 P P 04 27 55.4 +0.8
comp=Z,0.2nm,0.4s,baz=86,slow=2.0,SNR=2.2
comp=Z,0.2nm,0.4s
KURBB Kurchatov Arra 63.73 321 P P 04 29 03.6 -0.4
comp=Z,0.2nm,0.4s,baz=20,slow=8.1,SNR=5.2
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 64.51 328 P P 04 29 09.4 +0.2
comp=Z,0.8nm,0.6s,baz=346,slow=3.0,SNR=2.8
comp=Z,0.8nm,0.6s
FINES FINESS Array B 64.69 355 P P 04 29 08.9 -1.3
comp=Z,26nm,1.3s,baz=27,slow=6.4,SNR=6.1
NOA NORSAR Array B 65.23 3 P P 04 29 14.3 +0.5
comp=Z,1.4nm,1.0s,baz=281,slow=9.1,SNR=1.8
comp=Z,1.4nm,1.0s
MKAR Makanchi Array 65.38 317 P P 04 29 13.0 -2.0
comp=Z,0.2nm,0.6s,baz=65,slow=6.9,SNR=2.7
comp=Z,0.2nm,0.6s
HFS Hagfors 66.20 2 P P 04 29 18.8 -1.2
comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=8.8
comp=Z,1.1nm,0.4s
H03N2 Juan Fernandez 113.04 115 T T 06 40 16.8
baz=323,slow=77,SNR=23
H03N1 Juan Fernandez 113.06 115 T T 06 40 17.1
baz=323,slow=77,SNR=28
H03N3 Juan Fernandez 113.06 115 T T 06 40 16.3
baz=323,slow=77,SNR=20
MAW Mawson 154.56 220 PKPbc **PKPbc 04 38 31.9 +0.1**
comp=Z,6.3nm,1.0s,baz=84,slow=10,SNR=1.3

*NNC **15** 04:26:58.0±4.4,38.67N×70.70E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=41.4km s-min=28.2km az=155.0*

SOME 15 04:27:22.6,39.73N×73.15E,h0km,4C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.43**	**10**	⇑Pn	Pn	04 28 01.7	-2.2
	0.3nm,0.6s						
AML				⇓Sn	Sg	04 28 52.8	+12
	0.7nm,0.6s						
MRKS	**Merke**	**3.01**	**1**	*e*P	Pg	04 28 20.0	-0.3
	6.4nm,0.5s						
MRKS				*e*S	Sg	04 29 01.4	+2.1
	7.5nm,0.3s						
TKM2	**Tokmak 2**	**3.68**	**29**	⇑Pn	Pn	04 28 23.9	+2.9
	3.3nm,0.8s						
TKM2				⇑Sn	Sg	04 29 31.6	+11
	1.8nm,0.6s						
CHM	**Chimkent**	**3.72**	**315**	*e*P	Pg	04 28 32.2	-1.8
	55nm,0.1s						
CHM				*e*S	Sg	04 29 22.2	0.0
	116nm,0.1s						
KK31	**Karatay Array**	**3.91**	**330**	Pn	Pn	04 28 07.3	-17
	0.6nm,0.3s,baz=176,slow=12,SNR=16						
KK31				⇑Sn	Sn	04 28 59.6	-11
	2.2nm,0.5s,baz=170,slow=28,SNR=6.7						

IDC 15 04:28:34.8±8.7,22.68S×148.61E,h0km,mbtmp3.1/2, ML2.8/2,Error ellipse: s-maj=101.2km s-min=65.2km az=179.0,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**11.07**	**213**	Lg	Lg	04 34 22.1	
	0.1nm,0.3s,baz=140,slow=19,SNR=2.0						
ASAR	**Alice Springs**	**13.56**	**263**	Pn	Pn	04 31 49.2	+0.6
	0.1nm,0.3s,baz=98,slow=12,SNR=2.8						
ASAR				Sn	Sn	04 34 17.8	-2.3
	0.1nm,0.3s,baz=88,slow=20,SNR=7.9						
ASAR				Lg	Lg	04 35 44.5	
	0.1nm,0.3s,baz=84,slow=29,SNR=7.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**13.57**	**279**	Pn	Pn	04 31 48.2	-0.6
	baz=106,slow=11,SNR=0.9						
WRA				Lg	Lg	04 35 47.1	
	0.1nm,0.3s,baz=106,slow=28,SNR=2.6						
	0.4nm,0.8s						
I07AU	**WARRAMUNGA INE**	**13.58**	**279**	I	I	05 52 45.0	
	0.2nm,1.5s,baz=105,slow=301,SNR=6.0						

*IDC **15** 04:29:54.8±1.9,31.46S×178.11W,h0km,mb4.4/2, mbtmp4.2/3,ML3.0/1,Error ellipse: s-maj=45.2km s-min=36.3km az=106.0*

ISC 15 04:29:59.1±1.9,31.55S±0.1×178.0W±0.3,h35km,n12, σ1§43/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.22**	**1**	Sn	Sn	**04 31 00.2**	**+0.7**
	98nm,0.3s,baz=68,slow=20,SNR=2.4						
URZ	**Urewera**	**7.89**	**210**	Pn	Pn	**04 31 49.8**	**-1.5**
	0.2nm,0.3s,baz=30,slow=20,SNR=1.2						
URZ				Sn	Sn	**04 33 21.4**	**+2.2**
	2.3nm,0.3s,baz=101,slow=18,SNR=6.7						
	3.7nm,0.8s						
ASAR	**Alice Springs**	**43.09**	**268**	P	P	**04 37 55.5**	**-0.7**
	1.6nm,0.5s,baz=105,slow=7.0,SNR=18						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**44.18**	**273**	P	P	**04 38 04.8**	**-0.1**
	4.5nm,0.4s,baz=111,slow=8.1,SNR=42						
	4.5nm,0.4s						
H03S2	**Juan Fernandez**	**79.85**	**123**	T	T	06 11 22.5	
	baz=238,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**79.86**	**123**	T	T	06 11 23.7	
	baz=238,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**79.86**	**123**	T	T	06 11 22.5	
	baz=238,slow=74,SNR=10						
H03N3	**Juan Fernandez**	**80.04**	**123**	T	T	06 11 19.8	
	baz=241,slow=72,SNR=6.3						
H03N2	**Juan Fernandez**	**80.05**	**123**	T	T	06 11 28.5	
	baz=241,slow=72,SNR=3.1						
H03N1	**Juan Fernandez**	**80.06**	**123**	T	T	06 11 24.2	
	baz=241,slow=72,SNR=16						
FINES	**FINESS Array B**	**146.16**	**339**	PKPbc	**PKPab**	**04 49 35.6**	**0.0**
	1.0nm,0.5s,baz=61,slow=4.3,SNR=8.5						
TORD	**Torodi Ar. Bea**	**161.76**	**179**	PKPab	**PKPab**	**04 50 43.0**	**+0.7**
	0.6nm,1.0s,baz=193,slow=3.1,SNR=3.7						

IDC 15 04:40:31.9±21.0,24.32S×178.80E,h0km,mb3.9/3, mbtmp4.1/4,ML4.7/1,Error ellipse: s-maj=400.5km s-min=56.4km az=63.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.97**	**185**	Pn	Pn	04 43 51.4	+0.2
	3.5nm,0.3s,baz=9.8,slow=4.2,SNR=17						
URZ				Sn	Sn	04 46 15.1	-12
	1.1nm,0.3s,baz=273,slow=22,SNR=13						
	7.4nm,0.3s						
STKA	**Stephens Creek**	**33.55**	**249**	P	P	04 47 12.8	-0.7
	0.6nm,0.4s,baz=84,slow=6.0,SNR=1.1						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**40.88**	**261**	P	P	04 48 16.1	0.0
	0.7nm,0.4s,baz=93,slow=7.1,SNR=20						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**41.28**	**267**	P	P	04 48 19.4	+0.1
	1.0nm,0.7s,baz=104,slow=8.0,SNR=17						
	1.0nm,0.7s						

*VAO **15** 04:58:31.2±0.6,21.22S×68.68W,h10km,mb4.9*
*IDC **15** 04:58:38.7±0.9,21.62S×68.31W,h100km±8km,mb3.9/10, mbtmp4.3/13,MS2.8/3, Error ellipse: s-maj=18.6km s-min=14.1km az=124.0*
*SJA **15** 04:58:39.8±2.0,21.65S×68.52W,h100km,ML4.4,MW4.2*
*GUC **15** 04:58:40.8±0.7,21.72S×68.57W,h112km±3km,ML4.5*
*NEIC **15** 04:58:40.5±1.3,21.71S±0.02×68.64W±0.05,h119km±5km, mb4.3/34,Mwr4.3(GUC), Error ellipse: s-maj=7.3km s-min=3.4km az=94.0*

ISC 15 04:58:39.3±0.6,21.67S±0.03×68.55W±0.04,h112km±5km, n172,σ1§57/197,mb4.4/22,17C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.65**	**259**		**Pn**	**04 58 59.2**	**+1.5**
PB09				Sn	**Sn**	**04 59 12.6**	**+1.2**
PB09	**IPOC Station P**	**0.65**	**259**	*e*P	**Pn**	**04 58 59.1**	**+1.5**
PB09				*e*S	**Sn**	**04 59 11.7**	**+0.2**
PB09				*e*S		04 59 14.1	
PB09				IAML		04 59 17.2	
	comp=Z,5μm,0.3s						
PB09	**IPOC Station P**	**0.65**	**259**	⇑*i*P	**Pn**	**04 58 59.1**	**+1.5**
PB09				*e*S	**Sn**	**04 59 12.6**	**+1.2**
LVC	**Limon Verde**	**0.99**	**199**	*e*P	**Pn**	**04 59 02.1**	**+1.1**
LVC				*e*S	**Sn**	**04 59 19.4**	**+2.1**
LVC				IAML		04 59 20.9	
	comp=Z,3μm,0.6s						
LVC	**Limon Verde**	**0.99**	**199**	P	**Pn**	**04 59 02.0**	**+1.1**
	comp=Z,969nm,0.3s,baz=16,slow=8.2,SNR=2595						
LVC				S	**Sn**	**04 59 17.7**	**+0.4**
	comp=Z,2μm,0.3s,baz=144,slow=19,SNR=21						
LVC				LR	LR	04 59 37.8	
	comp=Z,147nm,21.1s,baz=280,slow=52						
LVC	**Limon Verde**	**0.99**	**199**	⇑*i*P	**Pn**	**04 59 02.0**	**+1.0**
LVC				*e*S	**Sn**	**04 59 17.8**	**+0.5**
LVC				IAML		04 59 19.6	
	comp=Z,18μm,0.3s						
PB01	**IPOC Station P**	**1.07**	**305**	Pn	**Pn**	**04 59 02.5**	**+1.1**
PB01				Sn	**Sn**	**04 59 19.6**	**+1.4**
PB01	**IPOC Station P**	**1.07**	**305**	*e*P	**Pn**	**04 59 02.4**	**+1.1**
PB01				*e*S	**Sn**	**04 59 20.2**	**+2.0**
PB01				IAML		04 59 22.4	
	comp=Z,8μm,0.2s						
PB01	**IPOC Station P**	**1.07**	**305**	⇑*i*P	**Pn**	**04 59 02.5**	**+1.1**
PB01				*e*S	**Sn**	**04 59 19.4**	**+1.2**
PB01				IAML		04 59 21.1	
	comp=N,14μm,0.3s						
PB07	**IPOC Station P**	**1.24**	**267**	Pn	**Pn**	**04 59 04.0**	**+0.7**
PB07				Sn	**Sn**	**04 59 22.2**	**+0.6**
PB07	**IPOC Station P**	**1.24**	**267**	*e*P	**Pn**	**04 59 04.2**	**+0.9**
PB07				*e*S	**Sn**	**04 59 23.2**	**+1.6**
PB07				IAML		04 59 24.1	
	comp=Z,6μm,0.4s						
PB07	**IPOC Station P**	**1.24**	**267**	⇑*i*P	**Pn**	**04 59 04.2**	**+0.9**
PB07				*e*S	**Sn**	**04 59 22.3**	**+0.7**
PB07				IAML		04 59 23.8	
	comp=N,9μm,0.3s						
PB02	**IPOC Station P**	**1.30**	**285**	Pn	**Pn**	**04 59 04.8**	**+0.9**
PB02				Sn	**Sn**	**04 59 23.3**	**+0.7**
PB02	**IPOC Station P**	**1.30**	**285**	*e*P	**Pn**	**04 59 04.8**	**+0.9**
PB02				*e*S	**Sn**	**04 59 24.4**	**+1.7**
PB02				IAML		04 59 25.4	
	comp=Z,15μm,0.4s						
PB02	**IPOC Station P**	**1.30**	**285**	⇑*i*P	**Pn**	**04 59 04.9**	**+0.9**
PB02				*e*S	**Sn**	**04 59 23.4**	**+0.7**
PB02				IAML		04 59 24.8	
	comp=N,19μm,0.2s						
AF01	**San Pedro de A**	**1.32**	**165**	Pn	**Pn**	**04 59 06.3**	**+1.9**
AF01				Sn	**Sn**	**04 59 26.1**	**+2.6**
AF01	**San Pedro de A**	**1.32**	**165**	*i* P	**Pn**	**04 59 06.4**	**+2.0**
PB06	**IPOC Station P**	**1.40**	**222**	Pn	**Pn**	**04 59 06.2**	**+1.0**
PB06	**IPOC Station P**	**1.40**	**222**	*e*P	Pn	04 59 00.7	-4.5
PB06				*e*P		04 59 06.2	
PB06				*e*S	**Sn**	**04 59 26.4**	**+1.6**
PB06				IAML		04 59 28.2	
	comp=Z,3μm,0.3s						
PB06	**IPOC Station P**	**1.40**	**222**	⇑*i*P	**Pn**	**04 59 06.2**	**+1.0**
PB06				*e*S	**Sn**	**04 59 25.4**	**+0.6**
PB06				IAML		04 59 26.9	
	comp=E,8μm,0.2s						
PX03	**IPOC Station P**	**1.61**	**321**	*i* P	**Pn**	**04 59 08.4**	**+0.7**
PB08	**IPOC Station P**	**1.62**	**340**	Pn	**Pn**	**04 59 10.0**	**+2.0**
PB08	**IPOC Station P**	**1.62**	**340**	*e*P	**Pn**	**04 59 09.4**	**+1.4**
PB08				*e*S	**Sn**	**04 59 33.1**	**+3.3**
PB08				IAML		04 59 34.8	
	comp=Z,2μm,0.2s						
PB08	**IPOC Station P**	**1.62**	**340**	⇓*i*P	**Pn**	**04 59 10.2**	**+2.1**
PB08				*e*S	**Sn**	**04 59 32.0**	**+2.2**
PB08				IAML		04 59 34.1	
	comp=E,6μm,0.7s						
PB04	**IPOC Station P**	**1.62**	**246**		**Pn**	**04 59 08.4**	**+0.6**
PB04	**IPOC Station P**	**1.62**	**246**	*e*P	**Pn**	**04 59 08.3**	**+0.6**
PB04				*e*S	**Sn**	**04 59 30.9**	**+1.3**
PB04				*e*S		04 59 30.9	
PB04				IAML		04 59 34.7	
	comp=Z,3μm,0.2s						
PB04	**IPOC Station P**	**1.62**	**246**	⇑*i*P	**Pn**	**04 59 08.4**	**+0.6**
PB04				IAML		04 59 35.1	
	comp=N,4μm,0.4s						
PATCX	**Punta Patache**	**1.71**	**299**	Pn	**Pn**	**04 59 09.8**	**+1.0**
PATCX	**Punta Patache**	**1.71**	**299**	*e*P	**Pn**	**04 59 09.8**	**+1.0**
PATCX				*e*S	**Sn**	**04 59 32.8**	**+1.4**
PATCX				IAML		04 59 38.7	
	comp=Z,5μm,0.6s						
PATCX	**Punta Patache**	**1.71**	**299**	⇑*i*P	**Pn**	**04 59 09.8**	**+1.0**
PATCX				*e*S	**Sn**	**04 59 32.0**	**+0.6**
PATCX				IAML		04 59 33.8	
	comp=N,13μm,0.2s						
PB15	**IPOC Station P**	**1.75**	**209**	Pn	**Pn**	**04 59 10.7**	**+1.2**
PB15	**IPOC Station P**	**1.75**	**209**	*e*P	**Pn**	**04 59 10.5**	**+1.1**
PB15				*e*S	**Sn**	**04 59 34.5**	**+2.1**
PB15	**IPOC Station P**	**1.75**	**209**	⇑*i*P	**Pn**	**04 59 10.3**	**+0.9**
PB15				*e*S	**Sn**	**04 59 33.1**	**+0.7**
TA01	**Diego Aracena**	**1.87**	**306**	Pn	**Pn**	**04 59 11.4**	**+0.6**
TA01	**Diego Aracena**	**1.87**	**306**	*e*P	**Pn**	**04 59 11.4**	**+0.6**
TA01				*e*S	**Sn**	**04 59 36.1**	**+1.4**
TA01				IAML		04 59 37.1	
	comp=Z,3μm,0.8s						
TA01	**Diego Aracena**	**1.87**	**306**	⇑*i*P	**Pn**	**04 59 11.3**	**+0.6**
PB05	**IPOC Station P**	**1.93**	**232**	Pn	**Pn**	**04 59 11.7**	**+0.1**
PB05	**IPOC Station P**	**1.93**	**232**	*e*P	**Pn**	**04 59 11.9**	**+0.3**
PB05				*e*S	**Sn**	**04 59 36.4**	**+0.2**
PB05				IAML		04 59 37.4	
	comp=Z,2μm,0.4s						
PB05	**IPOC Station P**	**1.93**	**232**	⇑*i*P	**Pn**	**04 59 11.9**	**+0.3**
PB05				*e*S	**Sn**	**04 59 35.7**	**-0.5**
PB05				IAML		04 59 42.1	
	comp=E,3μm,0.6s						
TA02	**Huaiquique**	**2.03**	**313**	Pn	**Pn**	**04 59 12

PB11 IAML 04 59 44.0
comp=Z,2μm,0.3s
PB11 IPOC Station P 2.16 331 ⇓*i*P **Pn** **04 59 15.5 +0.9**
YJA Yavi 2.87 101 *e*P **Pn** **04 59 26.6 +2.6**
PB14 IPOC Station P 3.40 210 Pn **Pn** **04 59 30.7 -0.3**
PB14 IPOC Station P 3.40 210 *e*P **Pn** **04 59 30.9 -0.1**
PB14 *e*P 04 59 30.9
PB14 *e*S Sn 04 59 56.1 -15
PB14 IAML 05 00 01.7
comp=Z,432nm,0.6s
PB14 IPOC Station P 3.40 210 *i*P **Pn** **04 59 31.5 +0.6**
PB16 IPOC Station P 3.44 345 Pn **Pn** **04 59 32.5 +0.8**
PB16 IPOC Station P 3.44 345 *e*P **Pn** **04 59 32.9 +1.2**
PB16 *e*S Sn 05 00 00.7 -11
PB12 IPOC Station P 3.46 331 Pn **Pn** **04 59 30.3 -1.3**
PB12 IPOC Station P 3.46 331 *e*P **Pn** **04 59 30.8 -0.8**
PB12 *e*S **Sn** **05 00 11.7 -0.4**
PB12 IAML 05 00 37.8
comp=Z,586nm,0.5s
GO02 Mina Guanaco 3.61 195 Pn **Pn** **04 59 33.7 +0.1**
GO02 Mina Guanaco 3.61 195 *e*S Sn 05 00 33.1 +17
GO02 IAML 05 00 40.8
comp=Z,893nm,0.5s
GO02 Mina Guanaco 3.61 195 *i*P **Pn** **04 59 33.9 +0.2**
AP01 Chacalluta 3.69 333 Pn **Pn** **04 59 33.7 -0.8**
AP01 Chacalluta 3.69 333 *e*P **Pn** **04 59 34.8 +0.3**
AP01 *e*S Sn 05 00 00.7 -17
AP01 IAML 05 00 39.0
comp=Z,995nm,0.5s
SLA San Lorenzo 4.14 138 *e*P **Pn** **04 59 43.6 +3.0**
SLA *e*S **Sn** **05 00 29.6 +1.4**
PB18 Visviri 4.15 348 Pn **Pn** **04 59 43.4 +2.2**
AC01 Pan de Azucar 4.84 202 Pn **Pn** **04 59 48.2 -1.7**
AC01 Pan de Azucar 4.84 202 *e*P **Pn** **04 59 48.1 -1.7**
AC01 *e*S **Sn** **05 00 51.6 +6.8**
AC01 IAML 05 01 01.8
comp=Z,492nm,0.5s
LPAZ La Paz 5.37 4 Pn **Pn** **04 59 59.0 +1.3**
AC06 Mina Casimiro 5.90 196 Pn **Pn** **05 00 01.8 -2.4**
GO03 Copiap 6.09 194 Pn **Pn** **05 00 04.6 -2.3**
AC04 Llanos de Chal 6.90 199 Pn Pn 05 00 13.0 -4.8
LCO Las Campanas 7.57 194 Pn Pn 05 00 22.5 -4.6
CO01 Juntas del Tor 8.39 189 Pn **Pn** **05 00 35.3 -3.0**
TICA Tres Isletas 8.82 124 *e*P **Pn** **05 00 44.2 +0.3**
SIV San Ignacio 9.06 53 P **Pn** **05 00 44.0 -3.2**
comp=Z,35nm,0.5s,baz=237,slow=11,SNR=177
SIV S Sn 05 02 19.3 -8.1
comp=Z,3.3nm,0.5s,baz=312,slow=23,SNR=6.3
SIV LR LR 05 04 45.7
comp=Z,49nm,19.1s,baz=296,slow=42
CO02 Combarbal 9.75 192 Pn Pn 05 00 51.3 -5.2
ESFA Espinillo Form 9.81 111 *e*P **Pn** **05 00 56.9 -0.4**
CFA Coronel Fontan 9.90 178 P **Pn** **05 00 55.0 -3.5**
comp=Z,4.5nm,0.3s,baz=319,slow=11,SNR=19
CFA S Sn 05 02 39.1 -8.7
comp=Z,2.8nm,0.3s,baz=359,slow=13,SNR=1.5
CFA LR LR 05 05 14.0
comp=Z,59nm,19.0s,baz=62,slow=40
MURT Porto Murtinho 10.18 92 *e*P **Pn** **05 00 59.9 -2.4**
PTLB Pontes e Lacer 10.86 57 Pn **Pn** **05 01 08.2 -3.3**
VA03 San Esteban 11.19 189 Pn **Pn** **05 01 12.8 -3.2**
CPUP Villa Florida 11.26 117 P Pn 05 01 12.8 -4.0
comp=Z,1.5nm,0.6s,baz=303,slow=13,SNR=2.7
CPUP LR LR 05 06 42.5
comp=Z,41nm,19.4s,baz=268,slow=44
CPUP Villa Florida 11.26 117 *e*P **Pn** **05 01 16.1 -0.8**
MT02 Curacav 11.77 191 Pn Pn 05 01 19.1 -4.5
ETMB Extrema 12.00 11 Pn **Pn** **05 01 24.1 -2.6**
AQDB Aquidauana 12.06 87 Pn **Pn** **05 01 24.6 -2.9**
AQDB Aquidauana 12.06 87 *e*P **Pn** **05 01 24.4 -3.1**
LMEL Las Melosas 12.22 186 Pn **Pn** **05 01 29.8 +0.1**
MT09 Talagante 12.25 190 Pn **Pn** **05 01 26.9 -3.3**
MT01 Popeta 12.38 191 Pn **Pn** **05 01 27.6 -4.1**
BO04 La Punta 12.41 188 Pn **Pn** **05 01 29.9 -2.2**
BO01 Tunca 12.87 189 Pn **Pn** **05 01 34.9 -3.1**
RVDE Rio Verde (Bra 13.04 81 *e*P **Pn** **05 01 37.0 -3.4**
BO02 Sierra Bellavi 13.22 188 Pn **Pn** **05 01 41.5 -1.2**
ITQB Itaqui 13.38 129 *e*P **Pn** **05 01 46.1 +1.4**
SALV Santo Antonio 13.46 67 *e*P Pn 05 01 40.7 -5.1
PP1B Ponte de Pedra 13.50 75 *e*P **Pn** **05 01 43.6 -2.8**
GO05 Huala 13.62 192 Pn **Pn** **05 01 44.5 -3.4**
SAML Samuel 13.66 23 *e*P Pn 05 01 40.1 -8.4
RPRD Ribas do Rio P 13.92 88 *e*P **Pn** **05 01 50.2 -1.6**
UNIS Unistalda (Bra 14.23 124 *e*P **Pn** **05 01 56.7 +0.9**
ML02 Panimavida 14.27 189 Pn **Pn** **05 01 54.3 -1.8**
CZSB Cruzeiro do Su 14.42 343 *e*P Pn 05 01 48.7 -10
RODS Rosario do Sul 14.79 129 *e*P **P** **05 02 05.5 -0.3**
C2SB Chapadao do Su 15.03 82 *e*P **Pn** **05 02 04.7 -1.2**
PTGB Pitanga 15.46 104 *e*P **P** **05 02 14.1 +0.7**
ALGR Alto Alegre (B 15.73 120 *e*P **P** **05 02 16.8 +0.4**
ITAB Concordia 15.94 114 Pn **Pn** **05 02 17.8 +0.6**
ITAB IAmb IAmb 05 02 19.9
comp=Z,30nm,1.3s
ITAB Concordia 15.94 114 *e*P **Pn** **05 02 18.2 +1.0**
PCMB Pacaembu 16.08 93 *e*P **Pn** **05 02 18.7 -0.3**
LDASE Londrina, Braz 16.20 99 *e*P **Pn** **05 02 21.5 +1.0**
PLTB Pedras Altas 16.70 130 Pn **Pn** **05 02 25.4 -1.2**
PLTB IAmb IAmb 05 02 36.7
comp=Z,19nm,1.3s
ITRB Iturama 17.14 87 *e*P **P** **05 02 31.6 -0.3**
TRQA Tornquist 17.29 162 **P** **05 02 31.9 -1.6**
TRQA IAmb IAmb 05 02 36.4
comp=Z,12nm,0.9s
GO06 Curarrehue 18.03 187 **P** **05 02 41.8 +0.1**
GO06 IAmb IAmb 05 02 43.0
comp=Z,25nm,1.1s
LR05 Currie 18.74 188 P **P** **05 02 49.3 +0.1**
LR05 IAmb IAmb 05 02 51.3
comp=Z,16nm,0.7s
PLCA Paso Flores 19.08 185 P **P** **05 02 53.0 -0.1**
PLCA IAmb IAmb 05 02 59.2
comp=Z,9.8nm,0.8s
PLCA Paso Flores 19.08 185 P **P** **05 02 52.3 -0.8**
comp=Z,2.3nm,0.4s,baz=359,slow=9.3,SNR=25
SNDB Serra Nova Dou 19.11 62 *e*P **P** **05 02 52.3 -1.2**
NPGB Novo Progresso 19.33 43 *e*P **P** **05 02 53.8 -2.2**
MACA Manacapuru-AM 19.92 24 P **P** **05 03 00.2 -2.1**
MACA Manacapuru-AM 19.92 24 *e*P **P** **05 03 00.5 -1.8**
LL05 Los Muermos 20.11 191 P **P** **05 03 03.1 -1.0**
BDFB Brasilia 20.35 76 P **P** **05 03 05.8 -1.3**
BDFB IAmb IAmb 05 03 09.0
comp=Z,17nm,1.2s
BDFB Brasilia 20.35 76 P **P** **05 03 04.9 -2.2**
comp=Z,4.9nm,0.5s,baz=248,slow=9.0,SNR=12
comp=Z,4.9nm,0.5s
LL01 San Ignacio de 20.90 188 P **P** **05 03 12.4 -0.3**
LL01 IAmb IAmb 05 03 15.5
comp=Z,20nm,1.0s
LL06 Loncomilla 20.93 191 P **P** **05 03 12.7 -0.2**
ITTB Itaituba 21.22 38 *e*P **P** **05 03 14.7 -1.7**
LL02 Futaleuf 21.64 187 P **P** **05 03 20.3 -0.2**
LL02 IAmb IAmb 05 03 27.4
comp=Z,15nm,1.2s
COYC Coyhaique 24.02 186 P **P** **05 03 43.4 -0.3**
COYC IAmb IAmb 05 04 03.1
comp=Z,8.3nm,1.0s
MALB Monte Alegre 24.11 37 *e*P **P** **05 03 44.1 -0.7**
BOAV Boa Vista 25.17 19 P **P** **05 03 54.4 0.0**
BOAV IAmb IAmb 05 03 55.4
comp=Z,5.9nm,0.6s
BOAV Boa Vista 25.17 19 *e*P **P** **05 03 54.4 0.0**
MCPB Macapa, AP 26.60 39 *e*P **P** **05 04 08.0 +0.7**
GO08 Villa O'Higgin 26.93 186 P **P** **05 04 08.6 -1.3**
GO08 IAmb IAmb 05 04 24.5
comp=Z,18nm,1.4s
MG02 Cerro Sombrero 31.06 181 P **P** **05 04 47.6 +1.1**
RCBR Riachuelo 35.29 68 *e*P **P** **05 05 25.7 +1.9**
BELA Belgrano 2 58.54 172 P **P** **05 08 23.8 +0.2**
W50A Signal Mountai 58.75 344 P **P** **05 08 25.7 +0.1**
HNDO Hondo 58.88 329 P **P** **05 08 27.1 +0.6**
HNDO IAmb IAmb 05 08 28.4
comp=Z,4.2nm,0.8s
VNA3 Neumayer Olymp 59.81 161 ⇑P **P** **05 08 33.6 +1.2**
comp=Z,4.9nm,0.7s
WVT Waverly 60.31 342 P **P** **05 08 35.0 -1.2**
WVT IAmb IAmb 05 08 36.6
comp=Z,5.2nm,1.0s
VNA2 Neumayer--Watz 60.38 161 ⇑P **P** **05 08 37.3 +1.0**
comp=Z,5.4nm,0.6s,baz=291,slow=6.0
TXAR Lajitas Array 60.95 325 P **P** **05 08 40.9 +0.1**
TXAR Lajitas Array 60.95 325 P **P** **05 08 41.7 +0.8**
comp=Z,0.5nm,0.8s,baz=150,slow=7.6,SNR=5.8
comp=Z,0.5nm,0.8s
TX31 Lajitas Ar. Si 60.96 325 P **P** **05 08 40.6 -0.2**
SNAA Sanae 62.01 161 P **P** **05 08 48.1 +0.7**
comp=Z,4.6nm,0.7s,baz=275,slow=7.1,SNR=15
comp=Z,4.6nm,0.7s
VHRN Van Horn 62.80 325 P **P** **05 08 53.9 +0.7**
S39A Bolivar 63.48 338 P **P** **05 08 57.6 +0.2**
S39A IAmb IAmb 05 08 58.7
comp=Z,5.6nm,1.0s
TROLL Troll, Antarti 63.73 161 ⇑P **P** **05 08 60.0 +1.2**
comp=Z,334nm,0.8s
ERPA Erie 64.34 351 P **P** **05 09 02.8 -0.1**
LIC Lamto 68.12 74⇑*e*P **P** **05 09 27.5 -0.2**
comp=Z,4.9nm,0.4s
TIC Toumodi 68.31 73⇑*e*P **P** **05 09 29.4 +0.5**
comp=Z,14nm,0.5s
KIC Kosan Boka 68.43 74⇑*e*P **P** **05 09 28.9 -0.8**
comp=Z,11nm,0.5s
DBIC Dimbokro 68.47 73 P **P** **05 09 29.5 -0.3**
DBIC IAmb IAmb 05 09 31.0
comp=Z,6.3nm,0.6s
DBIC Dimbokro 68.47 73 P **P** **05 09 29.6 -0.2**
comp=Z,4.4nm,0.4s,baz=231,slow=7.1,SNR=16
comp=Z,4.4nm,0.4s
QSPA South Pole Qui 68.53 180 P **P** **05 09 31.1 +1.5**
comp=Z,5.2nm,0.5s,baz=181,slow=0.4,SNR=52
comp=Z,5.2nm,0.5s
SDCO Great Sand Dun 68.56 329 P **P** **05 09 31.6 +1.3**
SRU San Rafael Swe 72.10 327 P **P** **05 09 53.3 +1.6**
BSUT Blindstream Ca 73.29 328 P **P** **05 10 00.4 +1.4**
PDAR Pinedale Array 74.42 330 P **P** **05 10 06.0 +0.7**
comp=Z,0.3nm,0.5s,baz=130,slow=6.1,SNR=3.4
comp=Z,0.3nm,0.5s
REDW Red Top Meadow 75.48 330 P **P** **05 10 13.2 +1.8**
MOOW Moose Ponds 75.73 330 P **P** **05 10 13.9 +1.1**
VNDA Vanda 76.74 190 P **P** **05 10 20.0 +2.2**
comp=Z,1.4nm,0.9s,baz=130,slow=3.1,SNR=3.8
comp=Z,1.4nm,0.9s
TORD Torodi Ar. Bea 77.10 70 P **P** **05 10 19.9 -0.9**
TORD IAmb IAmb 05 10 21.7
comp=Z,2.9nm,0.7s
TORD Torodi Ar. Bea 77.10 70 P **P** **05 10 20.0 -0.9**
comp=Z,2.6nm,0.3s,baz=256,slow=5.4,SNR=27
comp=Z,2.6nm,0.3s
PAHR Pah Rah Range 77.31 322 P **P** **05 10 23.1 +1.4**
PAHR IAmb IAmb 05 10 25.0
comp=Z,4.2nm,0.9s
PLID Pearl Lake 79.25 328 P **P** **05 10 33.5 +1.1**
FCC Fort Churchill 82.87 347 P **P** **05 10 51.6 +0.7**
BOSA Boshof 83.08 118 P **P** **05 10 51.9 -1.2**
comp=Z,3.0nm,0.9s,baz=271,slow=1.9,SNR=2.2
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 91.45 340 P **P** **05 11 33.0 +0.6**
comp=Z,1.6nm,0.9s,baz=132,slow=4.5,SNR=23
comp=Z,1.6nm,0.9s
ASAR Alice Springs 129.92 207 PKP **PKiKP** **05 17 37.0 -0.3**
comp=Z,0.9nm,0.6s,baz=160,slow=2.2,SNR=6.4
WRA Warramunga Arr 132.98 210 PKP **PKiKP** **05 17 43.2 -0.3**
comp=Z,1.0nm,0.7s,baz=166,slow=1.7,SNR=7.7
MKAR Makanchi Array 145.57 36 PKPbc **PKPab** **05 18 05.3 +0.1**
comp=Z,1.0nm,0.8s,baz=330,slow=2.9,SNR=9.0

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*PGC **15** 05:38:43.6±3.9, 50.52N×130.12W, h10km, MLSn3.4/26, Mw4.0/26, 192km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **15** 05:38:44.3±1.6, 50.59N×129.84W, h0km, mb3.6/2, mbtmp3.4/10, ML3.4/7, MS3.5/5, Error ellipse: s-maj=24.9km s-min=11.4km az=78.0*
*NEIC **15** 05:38:44.4±1.9, 50.57N±0.05×130.05W±0.09, h17km±6km, mb3.9/13, ML3.4/28, Mwr4.0(OTT), Error ellipse: s-maj=9.5km s-min=5.5km az=50.0*
ISC 15 05:38:43.5±0.7, 50.57N±0.05×130.05W±0.05, h10km, n161, σ1s21/174, mb3.9/4, MS3.5/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.23**	**86**	Pn		**Pn**		**05 39 05.1**	**-1.6**
HOLB				Sn		**Sb**		**05 39 21.0**	**-1.6**
HOLB				IAML				05 39 35.4	
	comp=N,965nm,0.7s								
HOLB				IAML				05 39 36.4	
	comp=E,787nm,0.6s								
HOLB	**Holberg**	**1.23**	**86**	P		**Pn**		**05 39 05.1**	**-1.6**
HOLB				S		**Sb**		**05 39 21.2**	**-1.5**
PHC	**Port Hardy**	**1.67**	**84**	Pn		**Pn**		**05 39 11.7**	**-1.1**
PHC				Sn		**Sn**		**05 39 32.1**	**-2.2**
MAYB	**Maynard**	**1.85**	**94**	Pn		**Pn**		**05 39 13.7**	**-1.7**
HG4B	**Hotspring**	**1.87**	**338**	Pn		**Pn**		**05 39 13.2**	**-2.4**
HG4B	**Hotspring**	**1.87**	**338**	Pn		**Pn**		**05 39 13.2**	**-2.4**
HG4B				Sn		**Sn**		**05 39 36.4**	**-2.8**
EDB	**Eliza Dome**	**2.01**	**109**	Pn		**Pn**		**05 39 15.3**	**-2.2**
EDB	**Eliza Dome**	**2.01**	**109**	Pn		**Pn**		**05 39 15.3**	**-2.2**
BBB	**Bella Bella**	**2.02**	**36**	Pn		**Pn**		**05 39 17.2**	**-0.5**
BBB	**Bella Bella**	**2.02**	**36**	Pn		**Pn**		**05 39 16.6**	**-1.0**
	comp=E,5.5nm,0.3s,baz=240,slow=6.3,SNR=24								
BBB				Sn		**Sn**		**05 39 42.2**	**-0.7**
	comp=E,30nm,0.3s,baz=121,slow=6.9,SNR=10								
BBB				LR		LR		05 40 05.4	
	comp=E,417nm,21.2s,baz=230,slow=42								
BBB	**Bella Bella**	**2.02**	**36**	Pn		**Pn**		**05 39 17.1**	**-0.6**
BBB				Sn		**Sn**		**05 39 40.9**	**-2.0**
WOSB	**Woss**	**2.27**	**99**	Pn		**Pn**		**05 39 19.6**	**-1.5**
WOSB				Sn		**Sn**		**05 39 48.3**	**-0.8**
WOSB	**Woss**	**2.27**	**99**	Pn		**Pn**		**05 39 19.6**	**-1.5**
WOSB				Sn		**Sn**		**05 39 48.3**	**-0.8**
BNB	**Barry Inlet**	**2.27**	**333**	Pn		**Pn**		**05 39 20.1**	**-1.0**
BNB	**Barry Inlet**	**2.27**	**333**	Pn		**Pn**		**05 39 20.1**	**-1.0**
BAIB	**Barry Inlet**	**2.27**	**333**	Pn		**Pn**		**05 39 20.0**	**-1.1**
BAIB				Sn		**Sn**		**05 39 45.6**	**-3.6**
NCRB	**Newcastle Ridg**	**2.56**	**92**	Pn		**Pn**		**05 39 24.4**	**-0.7**
NCRB	**Newcastle Ridg**	**2.56**	**92**	Pn		**Pn**		**05 39 24.4**	**-0.7**
NCSB	**Newcastle Ridg**	**2.56**	**92**	Pn		**Pn**		**05 39 24.3**	**-0.9**
NCSB				Sn		**Sn**		**05 39 53.8**	**-2.5**
BUTB	**Butedale**	**2.68**	**21**	Pn		**Pn**		**05 39 26.9**	**0.0**
BUTB				Sn		**Sn**		**05 39 58.6**	**-0.8**
BUTB	**Butedale**	**2.68**	**21**	Pn		**Pn**		**05 39 26.9**	**0.0**
BUTB				Sn		**Sn**		**05 39 58.6**	**-0.8**
BNKB	**Banks Island**	**2.77**	**2**	Pn		**Pn**		**05 39 26.3**	**-1.6**
BNKB				Sn		**Sn**		**05 40 00.6**	**-0.7**
BNKB	**Banks Island**	**2.77**	**2**	Pn		**Pn**		**05 39 26.3**	**-1.6**
BNKB				Sn		**Sn**		**05 40 00.6**	**-0.7**
GRIB	**Gribbell Islan**	**2.83**	**11**	Pn		**Pn**		**05 39 27.7**	**-1.1**
GRIB				Sn		**Sn**		**05 40 01.5**	**-1.4**
SPLB	**Strathcona Par**	**2.91**	**102**	Pn		**Pn**		**05 39 28.4**	**-1.4**
SPLB	**Strathcona Par**	**2.91**	**102**	Pn		**Pn**		**05 39 28.4**	**-1.4**
BNAB	**Bonilla**	**2.95**	**353**	Pn		**Pn**		**05 39 29.0**	**-1.4**
BNAB	**Bonilla**	**2.95**	**353**	Pn		**Pn**		**05 39 29.0**	**-1.4**
DIB	**Dawson Inlet,**	**3.03**	**331**	Pn		**Pn**		**05 39 31.1**	**-0.4**
DIB	**Dawson Inlet,**	**3.03**	**331**	Pn		**Pn**		**05 39 31.1**	**-0.4**
CBB	**Campbell River**	**3.05**	**98**	Pn		**Pn**		**05 39 30.9**	**-0.9**
CBB				IAML				05 40 36.0	
	comp=E,88nm,1.1s								
CBB				IAML				05 40 41.1	
	comp=N,95nm,1.0s								
CBB	**Campbell River**	**3.05**	**98**	Pn		**Pn**		**05 39 30.9**	**-0.9**
CBB				Sn		**Sn**		**05 40 07.2**	**-1.2**
GRNB	**Grenville Isla**	**3.28**	**1**	Pn		**Pn**		**05 39 33.4**	**-1.6**
GRNB				IAML				05 41 34.0	
	comp=E,82nm,4.9s								
GRNB	**Grenville Isla**	**3.28**	**1**	Pn		**Pn**		**05 39 33.2**	**-1.8**
GRNB				Sn		**Sn**		**05 40 11.7**	**-2.3**
OZB	**Mount Ozzard**	**3.37**	**117**	Pn		**Pn**		**05 39 36.2**	**0.0**
OZB				IAML				05 40 57.7	
	comp=N,75nm,2.2s								
OZB				IAML				05 41 24.8	
	comp=E,77nm,2.8s								
OZB	**Mount Ozzard**	**3.37**	**117**	Pn		**Pn**		**05 39 34.1**	**-2.1**
KITB	**Kitimat**	**3.62**	**13**	Pn		**Pn**		**05 39 38.5**	**-1.0**
KITB				Sn		**Sn**		**05 40 22.8**	**+0.6**
KITB	**Kitimat**	**3.62**	**13**	Pn		**Pn**		**05 39 38.5**	**-1.0**
KITB				Sn		**Sn**		**05 40 22.8**	**+0.6**
TXB	**Texada**	**3.72**	**101**	Pn		**Pn**		**05 39 39.3**	**-1.7**
TXB	**Texada**	**3.72**	**101**	Pn		**Pn**		**05 39 39.3**	**-1.7**
RUBB	**Prince Rupert**	**3.76**	**358**	Pn		**Pn**		**05 39 42.0**	**+0.5**
RUBB				IAML				05 41 29.2	
	comp=E,55nm,3.3s								
RUBB	**Prince Rupert**	**3.76**	**358**	Pn		**Pn**		**05 39 40.5**	**-1.0**
SHB	**Sechelt**	**4.09**	**101**	Pn		**Pn**		**05 39 44.9**	**-1.3**
SHB	**Sechelt**	**4.09**	**101**	Pn		**Pn**		**05 39 44.9**	**-1.3**
NLLB	**Nanaimo Lost L**	**4.14**	**107**	Pn		**Pn**		**05 39 46.4**	**-0.4**
NLLB	**Nanaimo Lost L**	**4.14**	**107**	Pn		**Pn**		**05 39 46.4**	**-0.4**
PFB	**Port Renfrew**	**4.16**	**117**	Pn		**Pn**		**05 39 46.8**	**-0.3**
PFB	**Port Renfrew**	**4.16**	**117**	Pn		**Pn**		**05 39 46.8**	**-0.3**
PTRF	**Port Renfrew**	**4.19**	**117**	Pn		**Pn**		**05 39 47.1**	**-0.4**
B926	**Mesachie Lake**	**4.22**	**112**	Pn		**Pn**		**05 39 47.9**	**0.0**
B926	**Mesachie Lake**	**4.22**	**112**	Pn		**Pn**		**05 39 47.9**	**0.0**
CLRS	**Cowichan Lake**	**4.22**	**112**	Pn		**Pn**		**05 39 48.2**	**+0.4**
CLRS				IAML				05 41 16.3	
	comp=E,40nm,2.5s								
CLRS	**Cowichan Lake**	**4.22**	**112**	Pn		**Pn**		**05 39 47.9**	**+0.1**
GOBB	**Galiano Island**	**4.54**	**108**	Pn		**Pn**		**05 39 52.5**	**+0.3**
GOBB	**Galiano Island**	**4.54**	**108**	Pn		**Pn**		**05 39 52.5**	**+0.3**
SYMB	**Survey Mountai**	**4.54**	**114**	Pn		**Pn**		**05 39 52.4**	**+0.1**
SYMB	**Survey Mountai**	**4.54**	**114**	Pn		**Pn**		**05 39 52.4**	**+0.1**
OBC	**Olympics--Boni**	**4.66**	**121**	Pn		**Pn**		**05 39 53.7**	**-0.2**
OBC	**Olympics--Boni**	**4.66**	**121**	Pn		**Pn**		**05 39 53.7**	**-0.2**
PGC	**Sidney**	**4.70**	**112**	Pn		**Pn**		**05 39 54.8**	**+0.3**
PGC				IAML				05 41 45.0	
	comp=N,34nm,3.8s								
PGC				IAML				05 41 48.2	
	comp=E,28nm,5.0s								
PGC	**Sidney**	**4.70**	**112**	Pn		**Pn**		**05 39 54.8**	**+0.3**
STW	**Striped Peak**	**4.82**	**118**	Pn		**Pn**		**05 39 54.9**	**-1.2**
STW	**Striped Peak**	**4.82**	**118**	Pn		**Pn**		**05 39 54.9**	**-1.2**
V35K	**Ketchikan**	**4.86**	**349**	Pn		**Pn**		**05 39 56.2**	**-0.3**
B04A	**Port Angeles**	**4.97**	**118**	Pn		**Pn**		**05 39 57.8**	**-0.3**
B04A				IAML				05 41 41.2	
	comp=E,32nm,4.9s								
HNBB	**Haney**	**5.00**	**102**	Pn		**Pn**		**05 39 58.9**	**+0.4**
HNBB	**Haney**	**5.00**	**102**	Pn		**Pn**		**05 39 58.9**	**+0.4**
MCW	**Mount Constitu**	**5.06**	**109**	Pn		**Pn**		**05 39 59.5**	**+0.1**
MCW	**Mount Constitu**	**5.06**	**109**	Pn		**Pn**		**05 39 59.5**	**+0.1**
NLWA	**Neilton Lookou**	**5.17**	**126**	Pn		**Pn**		**05 40 00.8**	**-0.1**
NLWA				IAML				05 41 07.0	
	comp=E,24nm,4.7s								
NLWA				IAML				05 42 45.2	
	comp=E,24nm,4.4s								
LLLB	**Lillooet**	**5.21**	**86**	Pn		**Pn**		**05 40 01.6**	**+0.2**
LLLB	**Lillooet**	**5.21**	**86**	Pn		**Pn**		**05 40 01.6**	**+0.2**
CRAG	**Craig**	**5.25**	**341**	Pn		**Pn**		**05 40 00.8**	**-1.0**
FSJB	**Fort St James**	**5.25**	**40**	Pn		**Pn**		**05 40 03.1**	**+1.1**
FSJB	**Fort St James**	**5.25**	**40**	Pn		**Pn**		**05 40 03.1**	**+1.1**
FSJB				Sn		**Sn**		**05 41 02.1**	**-0.3**
WISH	**Wishkah**	**5.40**	**127**	Pn		**Pn**		**05 40 04.2**	**+0.2**
HDW	**Hoodsport**	**5.45**	**120**	Pn		**Pn**		**05 40 04.9**	**+0.1**
HDW	**Hoodsport**	**5.45**	**120**	Pn		**Pn**		**05 40 04.9**	**+0.1**
MBW	**Mount Baker**	**5.59**	**106**	Pn		**Pn**		**05 40 07.7**	**+0.9**
MBW	**Mount Baker**	**5.59**	**106**	Pn		**Pn**		**05 40 07.7**	**+0.9**
CMW	**Cultus Mountai**	**5.60**	**110**	Pn		**Pn**		**05 40 07.3**	**+0.5**
CMW	**Cultus Mountai**	**5.60**	**110**	Pn		**Pn**		**05 40 07.3**	**+0.5**
GNW	**Green Mountain**	**5.62**	**120**	Pn		**Pn**		**05 40 08.2**	**+1.1**
GNW	**Green Mountain**	**5.62**	**120**	Pn		**Pn**		**05 40 07.8**	**+0.7**
HOPB	**Hope**	**5.69**	**99**	Pn		**Pn**		**05 40 08.8**	**+0.7**
HOPB	**Hope**	**5.69**	**99**	Pn		**Pn**		**05 40 08.8**	**+0.7**
JCW	**Jim Creek**	**5.81**	**111**	Pn		**Pn**		**05 40 10.6**	**+0.9**
JCW	**Jim Creek**	**5.81**	**111**	Pn		**Pn**		**05 40 10.6**	**+0.9**
B06A	**Marblemount**	**5.94**	**107**	Pn		**Pn**		**05 40 12.3**	**+0.8**
RPW	**Rockport**	**5.95**	**108**	Pn		**Pn**		**05 40 11.5**	**-0.2**
RPW	**Rockport**	**5.95**	**108**	Pn		**Pn**		**05 40 11.5**	**-0.2**
WRAK	**Wrangell Islan**	**6.02**	**348**	Pn		**Pn**		**05 40 13.7**	**+1.2**
D05A	**Enumclaw**	**6.30**	**119**	Pn		**Pn**		**05 40 16.0**	**-0.4**
T35M	**Bob Quinn**	**6.42**	**359**	Pn		**Pn**		**05 40 19.2**	**+1.1**
T35M	**Bob Quinn**	**6.42**	**359**	Pn		**Pn**		**05 40 19.4**	**+1.3**
T35M	**Bob Quinn**	**6.42**	**359**	Pn		**Pn**		**05 40 19.4**	**+1.3**
T35M				Sn		**Sn**		**05 41 31.6**	**+0.2**
F04D	**Rainier, OR**	**6.50**	**131**	Pn		**Pn**		**05 40 18.9**	**-0.2**
LON	**Longmire**	**6.66**	**122**			**Pn**		**05 40 22.8**	**+1.4**
LON	**Longmire**	**6.66**	**122**	Pn		**Pn**		**05 40 22.8**	**+1.4**
LTY	**Liberty**	**7.01**	**115**	Pn		**Pn**		**05 40 28.0**	**+1.7**
LTY	**Liberty**	**7.01**	**115**	Pn		**Pn**		**05 40 27.6**	**+1.3**
BMTB	**Bullhead Mount**	**7.25**	**38**	Sn		**Sn**		**05 41 51.9**	**+0.1**
S34M	**Telegraph Cree**	**7.38**	**356**	Pn		**Pn**		**05 40 31.7**	**+0.4**
MXC	**Moxie City**	**7.61**	**118**	Pn		**Pn**		**05 40 35.9**	**+1.6**
DLBC	**Dease Lake**	**7.88**	**0**	Pn		**Pn**		**05 40 37.8**	**-0.4**
DLBC	**Dease Lake**	**7.88**	**0**	Pn		**Pn**		**05 40 39.3**	**+1.2**
	comp=E,0.4nm,0.3s,baz=185,slow=16,SNR=5.5								
DLBC				LR		LR		05 43 48.9	
	comp=E,241nm,19.2s,baz=252,slow=39								
	comp=E,2.1nm,0.6s								
DLBC	**Dease Lake**	**7.88**	**0**	Pn		**Pn**		**05 40 39.9**	**+1.8**
H04A	**Detroit Lake**	**7.93**	**135**	Pn		**Pn**		**05 40 37.6**	**-1.2**
BDMTA	**Bald Mountain**	**7.99**	**54**	Pn		**Pn**		**05 40 41.7**	**+2.1**
BDMTA	**Bald Mountain**	**7.99**	**54**	Pn		**Pn**		**05 40 41.7**	**+2.1**
HAWA	**Hanford**	**8.14**	**117**	Pn		**Pn**		**05 40 43.3**	**+1.7**
D08A	**Wollman Farm,**	**8.14**	**111**	Pn		**Pn**		**05 40 42.4**	**+0.7**
C09A	**Chrisman Ranch**	**8.20**	**105**			**Pn**		**05 40 43.0**	**+0.5**
NBC5	**NorthernBC 5**	**8.20**	**29**	Pn		**Pn**		**05 40 44.7**	**+2.2**
NBC5	**NorthernBC 5**	**8.20**	**29**	Pn		**Pn**		**05 40 44.7**	**+2.2**
NBC5				Sn		**Sn**		**05 42 15.7**	**+0.4**
Q32M	**Nakina River**	**8.51**

H11N2	**WAKE ISLAND Hy 57.94 262**	T	T	06 51 14.0	
	baz=42,slow=75,SNR=122				
H11N3	**WAKE ISLAND Hy 57.95 262**	T	T	06 51 16.9	
	baz=42,slow=75,SNR=150				
H11N1	**WAKE ISLAND Hy 57.96 262**	T	T	06 51 20.7	
	baz=42,slow=75,SNR=94				
H11S1	**WAKE ISLAND Hy 58.97 261**	T	T	06 52 36.6	
	baz=48,slow=74,SNR=9.9				
H11S2	**WAKE ISLAND Hy 58.98 261**	T	T	06 52 36.6	
	baz=48,slow=74,SNR=6.1				
H11S3	**WAKE ISLAND Hy 58.99 261**	T	T	06 52 37.0	
	baz=48,slow=74,SNR=5.3				

AUST 15 06:02:05.0±2.2, 33.39S×116.27E, h0km, Error ellipse: s-maj=20.7km s-min=9.9km az=85.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**0.93**	**60**	P		Pb	06 02 23.7	-0.3
	baz=0.9,SNR=4.6							
NWAO				P		Pb	06 02 23.7	-0.3
	baz=0.9,SNR=4.6							
NWAO				S		Sg	06 02 35.4	+0.6
	baz=0.9							
NWAO				S		Sg	06 02 35.4	+0.6
	baz=0.9							
RKGY	**Rocky Gully**	**1.35**	**155**	P		Pg	06 02 30.7	-0.2
	baz=1.3,SNR=25							
RKGY				S		Sn	06 02 49.6	-0.2
	baz=1.3							
MUN	**Mundaring**	**1.41**	**358**	P		Pb	06 02 32.1	-0.1
	baz=1.4,SNR=5.4							
MUN				S		Sn	06 02 51.6	+0.3
	baz=1.4,SNR=4.8							
KLBR	**Kellerberrin**	**2.19**	**35**	P		Pb	06 02 44.1	-1.4
	baz=2.2,SNR=9.4							
KLBR				S		Sb	06 03 11.8	-1.3
	baz=2.2							

*IDC **15** 06:13:15.7±3.2, 17.65S×178.46W, h561km±39km, mb3.1/6, mbtmp4.0/7, Error ellipse: s-maj=104.1km s-min=13.6km az=155.0*

ISC 15 06:13:14.5±1.9, 17.6S±0.7×178.5W±0.4, h547km, n7, σ0.9 53/8, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.88**	**250**	P		**P**	**06 16 23.2**	**+0.3**
	2.2nm,0.7s,baz=93,slow=22,SNR=6.5							
WRA	**Warramunga Arr**	**44.64**	**259**	P		**P**	**06 20 39.0**	**0.0**
	1.2nm,0.5s,baz=97,slow=7.0,SNR=21							
	1.2nm,0.5s							
ASAR	**Alice Springs**	**44.82**	**254**	P		**P**	**06 20 40.4**	**0.0**
	4.5nm,0.5s,baz=87,slow=8.9,SNR=49							
ASAR				S		**S**	**06 26 37.9**	**-0.4**
	0.3nm,0.8s,baz=89,slow=17,SNR=5.7							
	4.5nm,0.5s							
NVAR	**Mina Array Bea**	**79.24**	**44**	P		**P**	**06 24 24.0**	**+0.4**
	0.9nm,0.7s,baz=225,slow=8.7,SNR=10							
	0.9nm,0.7s							
ILAR	**Eielson Array**	**85.61**	**13**	P		**P**	**06 24 55.0**	**+0.2**
	0.2nm,0.4s,baz=221,slow=5.1,SNR=14							
	0.2nm,0.4s							
TXAR	**Lajitas Array**	**85.88**	**58**	P		**P**	**06 24 57.2**	**+0.2**
	1.2nm,0.7s,baz=218,slow=6.4,SNR=18							
	1.2nm,0.7s							
PDAR	**Pinedale Array**	**87.17**	**43**	P		**P**	**06 25 02.1**	**-1.0**
	0.3nm,0.7s,baz=183,slow=3.0,SNR=4.8							
	0.3nm,0.7s							

*IDC **15** 06:16:51.2±7.4, 17.31S×178.78W, h535km±88km, mb3.2/8, mbtmp4.0/9, Error ellipse: s-maj=49.6km s-min=28.9km az=150.0*

ISC 15 06:16:51.4±0.9, 17.3S±0.3×178.8W±0.2, h539km, n9, σ0.9 53/9, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.67**	**249**	P		**P**	**06 19 58.0**	**+0.3**
	2.1nm,0.7s,baz=70,slow=20,SNR=1.8							
STKA	**Stephens Creek**	**38.59**	**240**	P		**P**	**06 23 27.6**	**-0.8**
	1.5nm,0.5s,baz=88,slow=8.5,SNR=3.8							
	1.5nm,0.5s							
WRA	**Warramunga Arr**	**44.36**	**259**	P		**P**	**06 24 14.5**	**+0.3**
	1.0nm,0.5s,baz=96,slow=7.8,SNR=16							
	1.0nm,0.5s							
ASAR	**Alice Springs**	**44.58**	**254**	P		**P**	**06 24 16.3**	**+0.3**
	6.1nm,0.7s,baz=86,slow=8.7,SNR=46							
	6.1nm,0.7s							
NVAR	**Mina Array Bea**	**79.25**	**44**	P		**P**	**06 28 01.7**	**+0.4**
	0.5nm,0.7s,baz=227,slow=9.8,SNR=6.1							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**85.38**	**13**	P		**P**	**06 28 31.5**	**+0.2**
	0.3nm,0.4s,baz=218,slow=5.1,SNR=12							
	0.3nm,0.4s							
TXAR	**Lajitas Array**	**86.00**	**58**	P		**P**	**06 28 35.0**	**-0.2**
	0.7nm,0.7s,baz=219,slow=6.5,SNR=10							
	0.7nm,0.7s							
PDAR	**Pinedale Array**	**87.18**	**44**	P		**P**	**06 28 40.0**	**-0.7**
	0.4nm,0.6s,baz=208,slow=4.1,SNR=4.7							
	0.4nm,0.6s							
PLCA	**Paso Flores**	**92.04**	**134**	P		**P**	**06 29 03.6**	**+0.4**
	1.7nm,1.0s,baz=236,slow=10,SNR=2.9							
	1.7nm,1.0s							

IDC 15 06:24:53.5±2.0, 6.65S×129.26E, h0km, mb3.6/1, mbtmp3.8/3, ML3.9/2, MS3.9/7, Error ellipse: s-maj=113.9km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.11**	**160**	Pn		Pn	06 28 14.5	-0.2
	0.6nm,0.3s,baz=339,slow=13,SNR=24							
WRA					Sn	Sn	06 30 39.8	-12
	0.3nm,0.3s,baz=333,slow=23,SNR=5.1							
	0.8nm,0.3s							
ASAR	**Alice Springs**	**17.50**	**166**	P		Pn	06 28 59.3	+0.2
	0.5nm,0.3s,baz=342,slow=9.8,SNR=32							
ASAR				S		Sn	06 32 05.4	-9.3
	0.5nm,0.9s,baz=353,slow=22,SNR=2.6							
	1.2nm,0.4s							
MJAR	**Matsushiro Arr**	**43.77**	**10**	LR		LR	06 50 21.1	
	comp=Z,30nm,21.3s,baz=342,slow=35							
SONM	**Songino Array**	**57.88**	**342**	LR		LR	07 01 36.3	
	comp=Z,127nm,20.6s,baz=164,slow=38							
PETK	**Petropavlovsk-**	**64.22**	**19**	LR		LR	06 59 45.6	
	comp=Z,38nm,22.0s,baz=252,slow=33							
MKAR	**Makanchi Array**	**67.53**	**327**	P		P	06 35 51.6	0.0
	0.3nm,0.5s,baz=115,slow=8.1,SNR=7.1							
	0.3nm,0.5s							
AAK	**Ala-Archa**	**69.80**	**320**	LR		LR	07 10 08.4	
	comp=Z,103nm,19.8s,baz=113,slow=39							
ZALV	**Zalesovo Beam**	**70.95**	**334**	LR		LR	07 10 00.1	
	comp=Z,152nm,18.4s,baz=132,slow=38							
GEYT	**Alibeck**	**79.43**	**310**	LR		LR	07 17 45.8	
	comp=Z,103nm,18.9s,baz=339,slow=40							
NRIK	**Noril'sk**	**81.04**	**346**	LR		LR	07 15 18.5	
	comp=Z,124nm,19.4s,baz=162,slow=37							

*BJI **15** 06:31:42.4±0.0, 0.45S×124.06E, h252km, mb4.8/83, mB5.0/45*
*NEIC **15** 06:31:50.6, 0.45N×123.67E, h240km*
*MOS **15** 06:31:50.9±0.9, 0.49N×123.57E, h264km, mb5.1/45, Error ellipse: s-maj=8.4km s-min=4.4km az=117.3*
*NEIC **15** 06:31:50.9±2.0, 0.44N±0.07×123.67E±0.07, h238km±5km, mb5.0/76, Mww5.3/33, Error ellipse: s-maj=10.4km s-min=9.1km az=212.0*
*NEIC **15** 06:31:50.6, 0.35N×123.67E, h240km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16 Nm; Mrr3.55; Mθθ-5.51; Mϕϕ 1.96; Mrθ6.07; Mθϕ-1.49; Mϕr5.34; Fault plane solution: M0 9.52000×10^16 NP1:ϕs51.57000°, δ77.55000°, λ69.66000°. NP2:ϕs291.39000°, δ23.71000°, λ147.58000°. Principal axes: T 9.1991, Plg53.0000°, Azm297.0000°; N 0.6433, Plg20.0000°, Azm56.0000°; P -9.8424, Plg30.0000°, Azm158.0000°;*
*GCMT **15** 06:31:50.9±0.2, 0.38N±0.01×123.69E±0.01, h240km±1km, MW5.3/113, Moment Tensor Solution. s93,c135; s113,c183; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.41±.02; Mθθ-0.66±.02; Mϕϕ0.24±.03; Mrθ0.68±.02; Mθϕ-0.33±.02; Mϕr0.81±.02; Best double couple: M1.24000×10^17 NP1:ϕs42.00000°, δ79.00000°, λ67.00000°. NP2:ϕs287.00000°, δ25.00000°, λ153.00000°. Principal axes: T 1.1920, Plg51.0000°, Azm286.0000°; N 0.0960, Plg22.0000°, Azm47.0000°; P -1.2880, Plg30.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **15** 06:31:51.2±0.1, 1.1N±2.2×12.4E±.4°, h242km±1km, M5.0/61, mb5.1/61, mB5.5/37, MLv5.4/17, Mw(mB)4.9/37, MwMwp5.0/4, Mwp5.2/4*
*IDC **15** 06:31:52.1±0.9, 0.46N×123.56E, h259km±8km, mb4.7/41, mbtmp5.2/43, Error ellipse: s-maj=10.5km s-min=5.6km az=67.0*

ISC 15 06:31:50.9±0.3, 0.39N±0.03×123.57E±0.04, h248km±2km, h248km: pP-P, n699, c1937/779, mb5.0/145, 43C-9D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KMSI	**Cibinong**	**0.45**	**66**	P		**Pn**	**06 32 23.9**	**+0.5**
KMSI				S		**S**	**06 32 48.1**	**-0.7**
GTOI	**Gorontalo**	**0.61**	**293**	P		**Pn**	**06 32 25.2**	**+1.3**
GTOI				S		**S**	**06 32 50.9**	**+1.2**
LUWI	**Luwuk**	**1.63**	**209**			**Pn**	**06 32 30.5**	**+0.4**
LUWI					Sn	**S**	**06 32 59.6**	**-1.4**
LUWI	**Luwuk**	**1.63**	**209**	P		**Pn**	**06 32 30.5**	**+0.4**
LUWI	**Luwuk**	**1.63**	**209**	P		**Pn**	**06 32 30.4**	**+0.4**
TOLI2	**Tolitoli**	**2.88**	**284**			**Pn**	**06 32 43.3**	**+1.3**
TOLI2					Sn	**S**	**06 33 21.9**	**-0.3**
TOLI2	**Tolitoli**	**2.88**	**284**	P		**Pn**	**06 32 43.1**	**+1.2**
SANI	**Sanana**	**3.43**	**135**	P		**Pn**	**06 32 46.5**	**-1.5**
SANI	**Sanana**	**3.43**	**135**	P		**Pn**	**06 32 46.1**	**-1.9**
MPSI	**Mapaga**	**3.67**	**269**	P		**Pn**	**06 32 50.1**	**-0.7**
SGSI	**Sangihe**	**3.81**	**31**	P		**Pn**	**06 32 51.4**	**-1.1**
TNTI	**Ternate**	**3.82**	**84**			**Pn**	**06 32 51.4**	**-1.0**
TNTI	**Ternate**	**3.82**	**84**	P		**Pn**	**06 32 51.5**	**-1.0**
TNTI	**Ternate**	**3.82**	**84**	P		**Pn**	**06 32 51.3**	**-1.2**
LBMI	**Labuha**	**4.06**	**105**	P		**Pn**	**06 32 53.9**	**-1.5**
NLAI	**Namlea**	**5.05**	**136**	P		**Pn**	**06 33 07.3**	**0.0**
TTSI	**Tana Toraja**	**5.07**	**228**	P		**Pn**	**06 33 10.0**	**+2.5**
	481nm,1.0s,5μm2.5nm							
MMSI	**Mamuju**	**5.57**	**237**	P		**Pn**	**06 33 15.3**	**+1.5**
	81nm,0.6s,1μm0.6nm							
KRAI	**Karang Ratu**	**6.07**	**127**	P		**Pn**	**06 33 21.0**	**+1.0**
	247nm,0.6s,6μm2.0nm							
KAPI	**Kappang**	**6.59**	**215**	Pn		**Pn**	**06 33 28.0**	**+1.6**
KAPI	**Kappang**	**6.59**	**215**	P		**Pn**	**06 33 28.0**	**+1.6**
KAPI	**Kappang**	**6.59**	**215**	P		**Pn**	**06 33 29.0**	**+2.6**
	55nm,0.5s,baz=32,slow=12,SNR=33							
KAPI				S		**S**	**06 34 46.0**	**+3.1**
	35nm,0.5s,baz=50,slow=23,SNR=1.0							
BKSI	**Bulukumba**	**6.64**	**211**	P		**Pn**	**06 33 28.3**	**+1.2**
	128nm,0.9s,2μm0.6nm							
SWI	**Sorong**	**7.79**	**99**	P		**Pn**	**06 33 42.2**	**+0.5**
SWI				pmax		pmax		
	comp=Z,258nm,0.8s							
SWI	**Sorong**	**7.79**	**99**	P		**Pn**	**06 33 41.3**	**-0.4**
	comp=Z,258nm,0.7s,comp=Z,3μmcomp=Z,0.9nm							
SIJI	**Sorong**	**7.80**	**99**	P		**Pn**	**06 33 41.9**	**+0.1**
	comp=Z,187nm,0.8s,comp=Z,3μmcomp=Z,0.6nm							
BNDI	**Bandanaira**	**7.99**	**128**	P		**Pn**	**06 33 45.6**	**+1.4**
BNDI	**Bandanaira**	**7.99**	**128**	P		**Pn**	**06 33 45.1**	**+0.9**
	comp=Z,1μm,0.9s,comp=Z,36μmcomp=Z,14μmcomp=Z,4.3nm							
MTKI	**Muara Teweh, K**	**8.77**	**261**	P		**Pn**	**06 33 55.6**	**+1.5**
	comp=Z,233nm,1.0s							
MMRI	**Maumere**	**9.07**	**188**	Pn		**Pn**	**06 33 59.8**	**+1.9**
MMRI	**Maumere**	**9.07**	**188**	P		**Pn**	**06 34 00.7**	**+2.9**
	comp=Z,147nm,0.6s,comp=Z,5μmcomp=Z,2μm							
KKM	**Kota Kinabalu**	**9.24**	**308**	Pn		**Pn**	**06 34 02.6**	**+2.5**
KKM	**Kota Kinabalu**	**9.24**	**308**	P		**Pn**	**06 34 00.6**	**+0.5**
	comp=Z,189nm,1.0s							
EDFI	**Ende, Flores**	**9.27**	**192**	P		**Pn**	**06 34 03.2**	**+2.7**
	comp=Z,167nm,1.7s,comp=Z,3μm							
FAKI	**Fak Fak**	**9.28**	**111**	Pn		**Pn**	**06 34 00.2**	**-0.3**
FAKI	**Fak Fak**	**9.28**	**111**	P		**Pn**	**06 34 00.6**	**+0.1**
FAKI	**Fak Fak**	**9.28**	**111**	P		**Pn**	**06 33 59.8**	**-0.7**
	comp=Z,245nm,1.2s,comp=Z,3μm							
BBKI	**Banjar Baru**	**9.53**	**246**	P		**Pn**	**06 34 06.5**	**+2.9**
	comp=Z,122nm,0.5s,comp=Z,8μm							
SOEI	**Soe**	**10.11**	**176**	Pn		**Pn**	**06 34 13.5**	**+2.5**
SOEI	**Soe**	**10.11**	**176**	P		**P**	**06 34 14.3**	**-2.5**
SOEI	**Soe**	**10.11**	**176**	P		**Pn**	**06 34 12.8**	**+1.7**
	comp=Z,295nm,1.1s,comp=Z,7μmcomp=Z,4μm							
DBNI	**Kabupaten Domp**	**10.27**	**211**	P		**P**	**06 34 15.9**	**-2.6**
	comp=Z,64nm,0.9s,comp=Z,5μm							
PLAI	**Plampang**	**10.82**	**212**	P		**P**	**06 34 23.6**	**-1.1**
PLAI	**Plampang**	**10.82**	**212**	P		**P**	**06 34 22.7**	**-2.0**
	comp=Z,343nm,0.9s,comp=Z,3μm							
KMPI	**Kaimana, Papua**	**10.90**	**112**	P		**Pn**	**06 34 21.8**	**+0.8**
	comp=Z,191nm,0.9s,comp=Z,3μm							
BASI	**Baing, Sumba**	**10.95**	**196**	P		**P**	**06 34 25.3**	**-0.8**
	comp=Z,283nm,1.0s,comp=Z,3μm							
TWSI	**Taliwang, Sumb**	**11.25**	**216**	P		**P**	**06 34 27.6**	**-1.9**
	comp=Z,171nm,0.8s,comp=Z,2μm							
SAUI	**Saumlaki**	**11.34**	**137**	Pn		**Pn**	**06 34 26.4**	**-0.1**
SAUI	**Saumlaki**	**11.34**	**137**	P		**Pn**	**06 34 27.5**	**+1.0**
SAUI	**Saumlaki**	**11.34**	**137**	P		**Pn**	**06 34 27.4**	**+1.0**
	comp=Z,584nm,1.0s,comp=Z,9μm							
SBUM	**Sibu**	**11.53**	**280**	Pn		**P**	**06 34 31.3**	**-1.2**
SBUM	**Sibu**	**11.53**	**280**	P		**Pn**	**06 34 30.5**	**+1.7**
	comp=Z,144nm,1.7s,comp=Z,2μm							
SRBI	**Singaraja**	**11.85**	**225**	P		P	06 34 41.6	+5.6
STKI	**Sintang**	**12.10**	**268**	P		**P**	**06 34 38.4**	**-0.4**
	comp=Z,229nm,1.2s							
KMMI	**Kalianget**	**12.10**	**232**	P		**P**	**06 34 39.7**	**+0.8**
	comp=Z,384nm,0.5s,comp=Z,5μm							
ABJI	**Asem Bagus**	**12.36**	**229**	P		**P**	**06 34 41.4**	**-0.4**
	comp=Z,141nm,1.5s,comp=Z,3μm							
BLJI	**Banyuglugur**	**12.82**	**231**	P		**P**	**06 34 47.6**	**+0.8**
	comp=Z,250nm,0.6s,comp=Z,5μm							
JAGI	**Jajag, Banyuwa**	**12.87**	**227**			**P**	**06 34 47.5**	**+0.1**
JAGI	**Jajag, Banyuwa**	**12.87**	**227**	P		**P**	**06 34 49.8**	**+2.4**
JAGI	**Jajag, Banyuwa**	**12.87**	**227**	P		**P**	**06 34 49.4**	**+2.0**
	comp=Z,151nm,1.0s,comp=Z,3μm							
KSM	**Kuching**	**13.30**	**275**	P		**P**	**06 34 54.0**	**+1.8**
KSM	**Kuching**	**13.30**	**275**	P		**P**	**06 34 55.0**	**+2.8**
KSM	**Kuching**	**13.30**	**275**	P		**P**	**06 34 52.4**	**+0.2**
	comp=Z,914nm,1.3s,comp=Z,9μm							
TGY	**Tagaytay City**	**13.87**	**349**	P		**P**	**06 35 00.7**	**+2.2**
	comp=Z,372nm,0.5s,baz=203,slow=4.7,SNR=9.1							
SJI	**Sawahan**	**14.27**	**235**	P		**P**	**06 35 05.5**	**+2.4**
	comp=Z,125nm,1.6s,comp=Z,4μm							
NGJI	**Ngawi**	**14.33**	**237**	P		**P**	**06 35 06.1**	**+2.5**
	comp=Z,104nm,0.9s							
SMRI	**Semarang**	**15.04**	**240**	P		**Pn**	**06 35 13.9**	**+2.0**
MTN	**Manton Dam**	**15.14**	**151**	P		**Pn**	**06 35 12.6**	**-0.5**
	baz=15,SNR=518							
UGM	**Wanagama**	**15.40**	**237**	P		**Pn**	**06 35 19.0**	**+2.8**
KDU	**Kakadu**	**15.71**	**146**	P		**P**	**06 35 19.0**	**+0.1**
	baz=16,SNR=294							
KPJI	**Karang Pucung**	**16.49**	**242**	P		**Pn**	**06 35 28.6**	**-0.5**
	comp=Z,123nm,1.0s							
KNRA	**Kununurra**	**16.77**	**162**	P		**P**	**06 35 31.2**	**+0.7**
	baz=17,SNR=496							
GENI	**Genyem**	**16.86**	**100**	P		**P**	**06 35 31.8**	**+0.3**
	comp=Z,116nm,0.7s							
CMJI	**Cimerak**	**17.12**	**241**	P		**P**	**06 35 35.0**	**+0.7**
	comp=Z,78nm,0.6s							
LEM	**Lembang**	**17.46**	**245**	P		**P**	**06 35 39.5**	**+1.4**
LEM				pmax		pmax		
	comp=Z,64nm,1.1s							
LEM	**Lembang**	**17.46**	**245**	P		**P**	**06 35 39.2**	**+1.1**
	comp=Z,25nm,0.3s,baz=354,slow=21,SNR=4.3							
BBJI	**Bungbulang**	**17.69**	**244**	P		**P**	**06 35 40.3**	**-0.3**
	comp=Z,100nm,0.8s,comp=Z,2μm							
CNJI	**Cibinong**	**18.09**	**245**	P		**P**	**06 35 44.4**	**-0.5**
	comp=Z,35nm,0.8s,comp=Z,807nm							
FITZ	**Fitzroy Crossi**	**18.49**	**174**	P		**P**	**06 35 49.0**	**-0.1**
	baz=19,SNR=130							
TABU	**Tabubil**	**18.51**	**108**	P		**P**	**06 35 49.8**	**+0.4**
DLV	**T Lat**	**18.86**	**308**	P		**Pn**	**06 35 55.7**	**-1.4**
MMPI	**Merauke**	**18.93**	**118**	P		**P**	**06 35 55.0**	**+1.2**
DSRI	**Dabo**	**19.01**	**267**	P		**P**	**06 35 56.0**	**+1.2**
	comp=Z,75nm,1.2s,comp=Z,4μm							
KASI	**Kota Agung**	**19.93**	**253**	P		**P**	**06 36 05.4**	**+0.8**
	comp=Z,53nm,0.4s							
UBSI	**University, Be**	**21.68**	**259**	P		**P**	**06 36 21.8**	**-0.6**
	comp=Z,267nm,0.4s							
TWG	**Pinlang**	**22.43**	**354**	P		**P**	**06 36 29.5**	**+0.4**
BKNI	**Bangkinang**	**22.53**	**270**	P		**P**	**06 36 32.2**	**+2.0**
BKNI	**Bangkinang**	**22.53**	**270**	P		**P**	**06 36 31.6**	**+1.4**
	comp=Z,83nm,0.5s							
WRA	**Warramunga Arr**	**22.80**	**153**	P		**P**	**06 36 32.3**	**-0.3**
WRA	**Warramunga Arr**	**22.80**	**153**	*i* P		**P**	**06 36 32.2**	**-0.4**
WRA				pmax		pmax		
	comp=Z,182nm,0.3s							
WRA	**Warramunga Arr**	**22.80**	**153**	P		**P**	**06 36 33.0**	**+0.4**
	comp=Z,110nm,0.3s,baz=330,slow=10,SNR=1194							
WRA				S		**S**	**06 40 17.7**	**-5.3**
	comp=Z,16nm,0.7s,baz=334,slow=16,SNR=5.2							
WRA				ScP		**ScP**	**06 43 29.1**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=333,slow=3.1,SNR=4.9							
	comp=Z,110nm,0.3s							
QIZ	**Qiongzhong**	**22.90**	**325**	P		**P**	**06 36 34.8**	**+1.3**
QIZ				pP		**pP**	**06 37 15.5**	**+0.4**
QIZ				S		**S**	**06 40 28.4**	**+3.9**
QIZ				pmax		pmax		
	comp=Z,45nm,1.6s							
QIZ				LR		LR		
	comp=Z,430nm,13.5s							
QIZ				LR		LR		
	comp=Z,400nm,12.2s							
QIZ				LR		LR		
	comp=Z,500nm,12.2s							
QIZ	**Qiongzhong**	**22.90**	**325**	P		**P**	**06 36 34.6**	**+1.1**
WR0	**Warramunga Arr**	**22.91**	**153**	P		**P**	**06 36 33.4**	**-0.2**
TPUB	**Ta-pu**	**22.95**	**353**	P		**P**	**06 36 33.8**	**-0.1**
TPUB	**Ta-pu**	**22.95**	**353**	P		**P**	**06 36 37.3**	**+3.4**
YULB	**Yu-li**	**22.97**	**355**	P		**P**	**06 36 32.8**	**-1.3**
YULB	**Yu-li**	**22.97**	**355**	P		**P**	**06 36 35.9**	**+1.8**
PDSI	**Padang**	**23.14**	**267**	P		**P**	**06 36 35.7**	**-0.1**
	comp=Z,205nm,1.1s							
UBPT	**Khong Chiam**	**23.20**	**310**	P		**P**	**06 36 37.5**	**+1.3**
UBPT	**Khong Chiam**	**23.20**	**310**	P		**P**	**06 36 40.5**	**+4.2**
	comp=Z,48nm,0.6s							
KULM	**Kulim**	**23.39**	**282**	P		**P**	**06 36 39.0**	**+0.9**
KULM	**Kulim**	**23.39**	**282**	P		**P**	**06 36 38.6**	**+0.5**
	comp=Z,84nm,1.4s,comp=Z,1μm							
SSLB	**Suanglung**	**23.39**	**354**	P		**P**	**06 36 37.0**	**-0.9**
SSLB	**Suanglung**	**23.39**	**354**	P		**P**	**06 36 40.2**	**+2.3**
NACB	**Ninganchiao**	**23.72**	**356**	P		**P**	**06 36 40.2**	**-0.6**
NACB	**Ninganchiao**	**23.72**	**356**	P		**P**	**06 36 42.8**	**+2.0**
PPSI	**Pulau Pagai**	**23.76**	**262**	P		P	06 36 50.6	+9.2
SKLT	**Songkhla**	**23.86**	**287**	P		**P**	**06 36 46.7**	**+4.5**
	comp=Z,65nm,1.8s							
SKLT	**Songkhla**	**23.86**	**287**	P		**P**	**06 36 43.8**	**+1.6**
	comp=Z,163nm,1.8s,comp=Z,3μm							
YOJ	**Yonaguni jima**	**23.93**	**359**	P		**P**	**06 36 42.8**	**0.0**
YOJ	**Yonaguni jima**	**23.93**	**359**	P		**P**	**06 36 44.4**	**+1.6**
YOJ	**Yonaguni jima**	**23.93**	**359**	P		**P**	**06 36 42.8**	**0.0**
COEN	**Coen**	**24.09**	**127**	P		**P**	**06 36 44.1**	**-0.3**
YHNB	**Yeheng**	**24.23**	**355**	P		**P**	**06 36 45.4**	**-0.2**
YHNB	**Yeheng**	**24.23**	**355**	P		**P**	**06 36 46.9**	**+1.3**
TATO	**Taipei**	**24.52**	**355**	P		**P**	**06 36 48.7**	**+0.6**
SISI	**Saibi**	**24.54**	**266**	P		**P**	**06 36 48.8**	**+0.4**
GIRL	**Giralia**	**24.64**	**201**	P		**P**	**06 36 50.8**	**+1.6**
	baz=25,SNR=12							
RPSI	**Rantau Prapat**	**24.74**	**276**	P		**P**	**06 36 51.0**	**+0.7**
RPSI				IAmb		IAmb	06 36 52.9	
	comp=Z,30nm,1.1s							
PSI	**Prapat**	**24.75**	**276**	P		**P**	**06 36 51.0**	**+0.5**
PSI				pmax		pmax		
	comp=Z,30nm,1.1s							
PSI	**Prapat**	**24.75**	**276**	P		**P**	**06 36 51.2**	**+0.7**
	comp=Z,26nm,1.1s,comp=Z,445nm							
QZH	**Quanzhou**	**24.88**	**349**	⇑*i*P		**P**	**06 36 53.8**	**+2.5**
QZH				S		**S**	**06 40 55.1**	**-0.6**
QZH				pmax		pmax		
	comp=Z,80nm,0.9s							
SRIT	**Nakonsritamara**	**25.22**	**290**	P		**P**	**06 36 55.2**	**+0.6**
SRIT				IAmb		IAmb	06 36 57.5	
	comp=Z,96nm,1.4s							
PMG	**Port Moresby**	**25.43**	**113**	P		**P**	**06 36 56.6**	**+0.2**
PMG	**Port Moresby**	**25.43**	**113**	P		**P**	**06 36 57.3**	**+0.8**
PMG	**Port Moresby**	**25.43**	**113**	P		**P**	**06 36 57.2**	**+0.8**
PMG	**Port Moresby**	**25.43**	**113**	P		**P**	**06 36 56.7**	**+0.3**
	comp=Z,58nm,0.7s,baz=331,slow=2.9,SNR=19							
	comp=Z,58nm,0.7s							
WRKA	**Warakurna**	**25.69**	**170**	P		**P**	**06 36 59.3**	**+0.6**
	baz=26,SNR=755							
AS31	**Alice Springs**	**25.94**	**158**	P		**P**	**06 37 00.5**	**-0.5**
ASAR	**Alice Springs**	**25.94**	**158**	P		**P**	**06 37 01.0**	**+0.1**
ASAR	**Alice Springs**	**25.94**	**158**	P		**P**	**06 37 01.6**	**+0.6**
	comp=Z,21nm,0.3s,baz=330,slow=8.6,SNR=478							
ASAR				PcP		**PcP**	**06

baz=32,SNR=206
BLDU Ballidu 31.52 191 P **P** **06 37 50.3 +0.2**
baz=32,SNR=45
KMBL Kambalda 31.63 183 P **P** **06 37 51.4 +0.3**
baz=32,SNR=46
KMI Kunming 31.78 322 ⇑P **P** **06 37 54.6 +1.9**
KMI sP PP 06 39 10.3 +0.2
KMI S **S** **06 42 47.8 +3.3**
KMI pmax pmax
comp=Z,21nm,2.1s
KMI pmax pmax
comp=Z,330nm,6.3s
KMI LR LR
comp=Z,230nm,18.9s
KMI LR LR
comp=Z,370nm,13.0s
NJ2 Nanjing 31.80 352 *e*P **P** **06 37 53.3 +0.8**
NJ2 pmax pmax
comp=Z,55nm,0.9s
NJ2 pmax pmax
comp=Z,160nm,4.7s
JCJ Chichijima 32.02 32 P **P** **06 37 54.9 +0.4**
KLBR Kellerberrin 32.28 189 P **P** **06 37 57.1 +0.3**
baz=32,SNR=28
ENH Enshi 32.59 337 P **P** **06 38 01.0 +1.4**
MUN Mundaring 32.94 192 P **P** **06 38 03.2 +0.7**
baz=33,SNR=4.3
JNU Nakatsue 33.27 11 P **P** **06 38 08.0 +2.6**
PZH PanZhiHua 33.40 323 P **P** **06 38 07.3 +0.7**
PZH sP **PP** **06 39 25.3 -2.6**
PZH S **S** **06 43 11.0 +1.7**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,210nm,4.0s
QLP Quilpie 33.40 145 P **P** **06 38 07.2 +0.6**
baz=34,SNR=8.6
NWAO Narrogin (SRO) 33.68 190 P **P** **06 38 09.5 +0.7**
baz=34,SNR=20
NWAO P **P** **06 38 09.5 +0.7**
baz=34,SNR=20
NWAO Narrogin (SRO) 33.68 190 P **P** **06 38 08.9 +0.2**
NWAO Narrogin (SRO) 33.68 190 P **P** **06 38 09.6 +0.8**
NWAO Narrogin (SRO) 33.68 190 P **P** **06 38 09.3 +0.6**
comp=Z,47nm,1.0s,baz=22,slow=6.7,SNR=24
comp=Z,47nm,1.0s
NWAO Narrogin (SRO) 33.68 190 P **P** **06 38 09.4 +0.6**
NWAO Narrogin (SRO) 33.68 190 P **P** **06 38 09.2 +0.4**
TNCH TengChong 34.44 317 P **P** **06 38 16.8 +1.1**
TNCH pP pP 06 39 05.6 +1.1
TNCH sP sP 06 39 32.8 +0.2
TNCH pmax pmax
comp=Z,110nm,0.6s
JMN Monobe 34.55 15 P **P** **06 38 16.4 +0.1**
JMN Monobe 34.55 15 P **P** **06 38 16.9 +0.6**
BBOO Buckleboo 35.06 162 P **P** **06 38 21.0 +0.3**
baz=35,SNR=126
LYN LuoYang 35.53 344 ⇑P **P** **06 38 24.4 -0.2**
LYN pP pwP 06 39 21.8 +1.4
LYN PP **PnPn** **06 39 57.5 +3.9**
LYN S **S** **06 43 41.3 -0.2**
LYN pmax pmax
comp=Z,36nm,1.0s
LYN pmax pmax
comp=Z,270nm,7.8s
CD2 Chengdu 35.70 330 P **P** **06 38 26.3 +0.1**
CD2 sP sP 06 39 43.3 +0.4
CD2 S **S** **06 43 42.1 -2.2**
CD2 SS **SS** **06 46 35.6 +4.0**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,180nm,3.6s
CD2 LR LR
comp=Z,300nm,12.7s
CD2 LR LR
comp=Z,410nm,11.6s
CD2 LR LR
comp=Z,340nm,14.5s
TJN Taejon 35.98 5 *i*P **P** **06 38 28.1 -0.2**
TIA Tai'an 36.14 351 P **P** **06 38 30.0 +0.2**
TIA pmax pmax
comp=Z,13nm,1.7s
XAN Xi'an 36.18 339 P **P** **06 38 29.5 -0.7**
XAN sP pwP 06 39 26.8 +0.8
XAN S **S** **06 43 52.3 +0.8**
XAN pmax pmax
comp=Z,45nm,1.1s
XAN pmax pmax
comp=Z,410nm,4.6s
XAN Xi'an 36.18 339 ⇑P **P** **06 38 29.8 -0.4**
XAN S **S** **06 43 51.9 +0.4**
XAN pmax pmax
comp=Z,45nm,0.9s
XAN pmax pmax
comp=Z,320nm,5.5s
XAN LR LR
comp=Z,600nm,14.4s
XAN LR LR
comp=Z,500nm,11.0s
XAN LR LR
comp=Z,710nm,15.2s
STKA Stephens Creek 36.35 154 P **P** **06 38 32.2 +0.6**
baz=36,SNR=109
STKA Stephens Creek 36.35 154 P **P** **06 38 32.3 +0.6**
STKA Stephens Creek 36.35 154 *i*P **P** **06 38 31.8 +0.2**
STKA Stephens Creek 36.35 154 P **P** **06 38 32.2 +0.6**
comp=Z,54nm,0.5s,baz=332,slow=8.1,SNR=140
STKA ScP **ScP** **06 44 13.2 -0.2**
comp=Z,8.4nm,0.8s,baz=351,slow=5.5,SNR=5.5
comp=Z,54nm,0.5s
HTT Hallett 36.62 158 P **P** **06 38 34.5 +0.6**
baz=37,SNR=94
EIDS Eidsvold 36.92 136 P **P** **06 38 35.8 -0.7**
baz=37,SNR=6.0
INU Inuyama 36.97 18 P **P** **06 38 36.0 -0.8**
KSAR Wonju Array Be 37.08 6 P **P** **06 38 36.2 -1.4**
KSAR Wonju Array Be 37.08 6 P **P** **06 38 36.2 -1.4**
KSRS Korea Array 37.10 6 P **P** **06 38 37.8 +0.1**
comp=Z,12nm,0.7s,baz=186,slow=9.8,SNR=20
KSRS ScP **ScP** **06 44 14.7 -1.3**
comp=Z,1.5nm,0.7s,baz=184,slow=3.8,SNR=4.6
comp=Z,12nm,0.7s
KS19 Wonju Array Si 37.14 6 P **P** **06 38 38.3 +0.2**
KS19 IAmb IAmb 06 38 41.2
comp=Z,24nm,0.8s
HNS HongShan 37.72 348 ⇓P **P** **06 38 42.6 -0.4**
HNS pP **pwP** **06 39 39.3 +0.2**
HNS S **S** **06 44 14.1 -0.4**
HNS ScP **ScP** **06 44 18.3 0.0**
HNS pmax pmax
comp=Z,31nm,1.3s
HNS pmax pmax
comp=Z,320nm,4.5s
HNS LR LR
comp=Z,390nm,22.9s
HNS LR LR
comp=Z,360nm,21.6s
CMSA Cobar Meteorol 38.05 149 P **P** **06 38 47.1 +1.2**
baz=38,SNR=63
MAJO Matsushiro 38.45 19 P **P** **06 38 47.3 -1.8**
MAJO IAmb IAmb 06 38 49.0
comp=Z,22nm,0.8s
MAJO Matsushiro 38.45 19 *i*P **P** **06 38 46.0 -3.1**
MAJO pmax pmax
comp=Z,21nm,0.8s
MAJO Matsushiro 38.45 19 P **P** **06 38 47.7 -1.4**
MJAR Matsushiro Arr 38.45 19 P **P** **06 38 48.0 -1.1**
comp=Z,15nm,0.8s,baz=190,slow=9.1,SNR=32
MJAR ScP **ScP** **06 44 19.6 -1.6**
comp=Z,5.1nm,0.8s,baz=195,slow=4.6,SNR=6.3
comp=Z,15nm,0.8s
MJB9 Matsu-Tunnel 38.45 19 P **P** **06 38 47.9 -1.3**
LZH Lanzhou 39.96 335 ⇓*i*P **P** **06 39 03.8 +2.0**
LZH sP sP 06 40 22.6 +3.5
LZH SS SS 06 48 01.9 +5.4
LZH pmax pmax
comp=Z,43nm,1.0s
LZH pmax pmax
comp=Z,270nm,5.3s
BJT Baijiatuau 40.01 351 P **P** **06 39 02.6 +0.7**
BJT Baijiatuau 40.01 351 P **P** **06 39 03.7 +1.8**
BJT Baijiatuau 40.01 351 P **P** **06 39 02.6 +0.7**
BJT pmax pmax
comp=Z,28nm,0.9s
BJT Baijiatuau 40.01 351 P **P** **06 39 02.5 +0.5**

BJI Beijing 40.03 351 P **P** **06 39 02.9 +0.8**
BJI PcP **PcP** **06 41 02.5 +0.7**
BJI pmax pmax
comp=Z,16nm,0.6s
JMM Marumori 40.53 21 P **P** **06 39 06.6 +0.4**
JMM IAmb IAmb 06 39 09.9
comp=Z,38nm,0.6s
JMM Marumori 40.53 21 P **P** **06 39 07.2 +1.0**
ARMA Armidale 40.64 141 P **P** **06 39 09.1 +1.8**
baz=41,SNR=30
ARPS Mount Arapiles 40.67 157 P **P** **06 39 08.4 +1.0**
baz=41,SNR=66
SNY Shenyang 41.25 0 ⇓P **P** **06 39 11.1 -0.8**
SNY pmax pmax
comp=Z,12nm,0.6s
HHC Hu-ho-hao-te 41.72 346 *e*P **P** **06 39 14.8 -1.2**
HHC sP sP 06 40 36.4 +3.2
HHC S **S** **06 45 17.9 +3.9**
HHC sS sS 06 46 48.4 +2.7
HHC pmax pmax
comp=Z,39nm,0.8s
HHC pmax pmax
comp=Z,290nm,4.5s
BTO Baotou 41.88 345 *e*P **P** **06 39 19.8 +2.6**
BTO pP **pwP** **06 40 13.0 -1.3**
BTO sP sP 06 40 41.3 +6.8
BTO PP **PnPn** **06 41 04.5 -3.6**
BTO S **S** **06 45 21.6 +5.2**
BTO sS **sS** **06 46 52.6 +4.5**
BTO SS **SS** **06 48 34.6 +1.0**
BTO pmax pmax
comp=Z,40nm,1.1s
BTO pmax pmax
comp=Z,380nm,10.0s
BTO LR LR
comp=Z,380nm,15.2s
BTO LR LR
comp=Z,1μm,14.4s
BTO LR LR
comp=Z,400nm,16.7s
MGCD Mangrove Creek 42.30 145 P **P** **06 39 23.0 +2.3**
baz=42,SNR=30
LSA Lhasa 42.45 316 P **P** **06 39 23.6 +1.2**
LSA IAmb IAmb 06 39 26.5
comp=Z,62nm,0.6s
LSA Lhasa 42.45 316 P **P** **06 39 23.7 +1.2**
LSA pmax pmax
comp=Z,62nm,0.6s
LSA Lhasa 42.45 316 P **P** **06 39 24.5 +2.0**
LSA Lhasa 42.45 316 P **P** **06 39 23.9 +1.4**
CAN Canberra 42.73 149 P **P** **06 39 25.6 +1.5**
CAN Canberra 42.73 149 P **P** **06 39 26.0 +1.9**
CAN Canberra 42.73 149 P **P** **06 39 25.6 +1.5**
CAN pmax pmax
comp=Z,168nm,0.6s
CAN Canberra 42.73 149 P **P** **06 39 26.0 +1.9**
TOO Toolangi 42.87 154 P **P** **06 39 27.0 +1.9**
baz=43,SNR=34
CNB Canberra Magne 42.91 148 P **P** **06 39 27.4 +1.8**
baz=43,SNR=54
JTM Tenmabayashi 43.23 19 P **P** **06 39 28.2 +0.3**
JTM IAmb IAmb 06 39 30.7
comp=Z,70nm,1.0s
JTM Tenmabayashi 43.23 19 P **P** **06 39 30.3 +2.3**
CN2 Changchun 43.25 2 P **P** **06 39 27.3 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
PALK Pallekele 43.28 280 P **P** **06 39 29.8 +0.9**
PALK Pallekele 43.28 280 *i*P **P** **06 39 28.1 -0.8**
PALK pmax pmax
comp=Z,77nm,2.0s
PALK Pallekele 43.28 280 P **P** **06 39 30.1 +1.2**
XLT XiLinHaoTe 43.83 352 ⇑*i*P **P** **06 39 31.8 -1.0**
XLT sP sP 06 40 54.9 +4.5
XLT pmax pmax
comp=Z,44nm,1.1s
XLT pmax pmax
comp=Z,210nm,3.6s
MILA Mila 44.16 150 P **P** **06 39 35.6 +0.1**
baz=44,SNR=4.5
USA0B Ussuriysk Arra 44.26 9 P **P** **06 39 35.7 -0.4**
USA0B Ussuriysk Arra 44.26 9 *i*P **P** **06 39 34.5 -1.5**
USRK Ussuriysk Ar. 44.26 9 P **P** **06 39 36.0 -0.1**
USRK Ussuriysk Ar. 44.26 9 P **P** **06 39 36.0 -0.1**
USRK Ussuriysk Ar. 44.26 9 P **P** **06 39 35.9 -0.2**
comp=Z,27nm,0.7s,baz=197,slow=7.1,SNR=40
comp=Z,27nm,0.7s
MDJ Mudanjiang 44.36 6 P **P** **06 39 37.3 +0.5**
MDJ pP pP 06 40 28.0 +0.7
MDJ sP sP 06 40 54.8 +0.2
MDJ PcP **PcP** **06 41 14.8 -1.4**
MDJ PP **PP** **06 41 25.5 -0.4**
MDJ ScP **ScP** **06 44 43.9 -0.6**
MDJ PcS **PcS** **06 45 09.3 -0.4**
MDJ S **S** **06 45 55.8 +3.8**
MDJ sS sS 06 47 25.0 +0.5
MDJ pmax pmax
comp=Z,21nm,0.8s
MDJ pmax pmax
comp=Z,410nm,4.0s
MDJ Mudanjiang 44.36 6 P **P** **06 39 36.6 -0.2**
MDJ IAmb IAmb 06 39 40.7
comp=Z,73nm,0.8s
MDJ Mudanjiang 44.36 6 P **P** **06 39 39.4 +2.6**
MDJ Mudanjiang 44.36 6 P **P** **06 39 37.4 +0.5**
GTA Gaotai 44.49 334 *e*P **P** **06 39 38.3 +0.1**
GTA pP pwP 06 40 37.3 +2.5
GTA sP sP 06 41 00.8 +4.6
GTA PcP **PcP** **06 41 17.8 +0.8**
GTA ScP **ScP** **06 44 45.4 0.0**
GTA SS **SS** **06 49 18.4 -1.6**
GTA pmax pmax
comp=Z,27nm,1.0s
GTA LR LR
comp=Z,240nm,19.6s
GTA LR LR
comp=Z,290nm,17.5s
GTA LR LR
comp=Z,160nm,17.1s
GOMU GeErMu 44.51 326 P **P** **06 39 40.6 +1.9**
GOMU pmax pmax
comp=Z,23nm,1.0s
KOUNC Koumac, New Ca 44.94 120 P **P** **06 39 42.2 +0.4**
ERM Erimo 45.04 21 P **P** **06 39 44.3 +2.1**
JEM Erimo 45.04 21 P **P** **06 39 44.5 +2.2**
BNX BinXian 45.28 4 ⇓P **P** **06 39 43.9 -0.2**
BNX pmax pmax
comp=Z,14nm,0.9s
BNX pmax pmax
comp=Z,220nm,4.6s
ASAJ Asahikawa 46.72 19 P **P** **06 39 55.6 +0.3**
ASAJ pmax pmax
comp=Z,33nm,0.8s
JKA Kamikawa-asahi 46.72 19 P **P** **06 39 55.6 +0.3**
NOUC Port Laguerre 47.27 121 P **P** **06 40 00.8 +1.0**
DZM Mont Dzumac 47.37 121 P **P** **06 40 01.7 +0.9**
DZM Mont Dzumac 47.37 121 P **P** **06 40 02.5 +1.6**
DZM Mont Dzumac 47.37 121 *e*P **P** **06 40 00.2 -0.7**
comp=Z,53nm,0.9s
DZM *e*S **S** **06 46 37.1 +1.2**
comp=Z,83nm,23.9s
DZM Mont Dzumac 47.37 121 P **P** **06 40 01.7 +0.9**
comp=Z,21nm,0.7s,baz=283,slow=6.7,SNR=27
comp=Z,21nm,0.7s
DZM Mont Dzumac 47.37 121 P **P** **06 40 01.8 +0.9**
HYB Hyderabad 47.40 293 *e*P **P** **06 40 00.6 -0.4**
HYB IVmB_BB 06 40 02.2
comp=Z,764nm,2.3s
ONTNC Ouen Toro 47.47 121 P **P** **06 40 02.6 +1.1**
YATNC Mamie plateau, 47.75 121 P **P** **06 40 05.4 +1.7**
comp=Z,59nm,1.0s
OUENC Ouen Island, N 47.85 121 P **P** **06 40 05.0 +0.7**
OUENC Ouen Island, N 47.85 121 P **P** **06 40 06.5 +2.2**
HIA Hailar 48.80 357 P **P** **06 40 10.7 -0.5**
KLR Kul'dur 49.16 7 *ce*P **P** **06 40 12.7 -1.1**
KLR pmax pmax
comp=Z,14nm,0.8s
YSS Yuzh-Sakhalins 49.31 17 *e*P **P** **06 40 15.7 +0.7**
YSS *e*S **S** **06 47 03.1 +1.1**
YSS pmax pmax
comp=Z,300nm,3.8s
YSS pmax pmax
comp=Z,20nm,1.1s
ULN Ulaanbaatar 49.41 345 P **P** **06 40 15.6 -0.5**

ULN IAmb IAmb 06 40 18.2
comp=Z,41nm,0.9s
ULN Ulaanbaatar 49.41 345 *i*P **P** **06 40 14.8 -1.2**
ULN pmax pmax
comp=Z,53nm,1.0s
ULN Ulaanbaatar 49.41 345 P **P** **06 40 15.9 -0.1**
ULN Ulaanbaatar 49.41 345 P **P** **06 40 15.4 -0.5**
ULN ScP **ScP** **06 45 04.8 -1.1**
ULN Ulaanbaatar 49.41 345 P **P** **06 40 15.5 -0.5**
comp=Z,220nm,1.0s,comp=Z,3μm
SONM Songino Array 49.55 345 P **P** **06 40 16.5 -0.6**
SONM IAmb IAmb 06 40 19.6
comp=Z,32nm,0.7s
SONM Songino Array 49.55 345 P **P** **06 40 16.7 -0.3**
comp=Z,37nm,0.9s,baz=160,slow=8.5,SNR=75
SONM ScP **ScP** **06 45 03.4 -3.1**
comp=Z,2.2nm,0.8s,baz=161,slow=5.3,SNR=6.6
comp=Z,37nm,0.9s
HEH HeiHe 49.78 3 *e*P **P** **06 40 17.1 -1.4**
HEH pP **pP** **06 41 07.8 -2.3**
HEH ScP **ScP** **06 45 05.6 -1.6**
HEH S **S** **06 47 10.0 +1.6**
HEH pmax pmax
comp=Z,41nm,0.8s
HEH pmax pmax
comp=Z,160nm,3.7s
GRNR Gornyy 51.37 10 ⇓*i*P **P** **06 40 30.2 -0.2**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=Z,140nm,13.0s
ZAK Zakamensk 52.72 344 *e*P **P** **06 40 39.1 -1.3**
ZAK *e* 06 41 38.3
ZAK pmax pmax
comp=Z,16nm,1.2s
ZAK pmax pmax
comp=Z,8.0nm,1.5s
TYV Tymovskoe 52.83 15 *e*P **P** **06 40 41.3 +0.2**
TYV *e*S **S** **06 47 51.3 +1.3**
TYV pmax pmax
comp=Z,14nm,1.4s
TYV pmax pmax
comp=Z,500nm,6.6s
TYV smax smax
comp=N,400nm,9.3s
TYV smax smax
comp=E,600nm,9.3s
ZEA Zeya 53.25 3 *e*P **P** **06 40 43.8 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
WMQ Urumqi 53.76 328 *e*P **P** **06 40 48.4 +0.3**
WMQ PcP **PcP** **06 41 50.3 -0.3**
WMQ sP sP 06 42 06.8 -1.2
WMQ pmax pmax
comp=Z,71nm,1.1s
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=Z,130nm,13.1s
WUS Wushi 57.04 321 P **P** **06 41 11.7 +0.2**
NIL Nilore 57.56 310 P **P** **06 41 15.3 +0.1**
SHLS Shalkode 57.99 323 *e*P **P** **06 41 16.1 -2.0**
SHLS pmax pmax
comp=Z,45nm,1.0s
SHLS Shalkode 57.99 323 *e*P **P** **06 41 16.2 -2.0**
comp=Z,45nm,1.0s,baz=323
DGZ Jazzator, Alta 58.02 333 *i*P **P** **06 41 17.8 -0.4**
DGZ pmax pmax
comp=Z,58nm,0.8s
PDGK Podgornoye 58.07 323 P **P** **06 41 17.8 -0.9**
UZB Uzynbulak 58.25 323 *e*P **P** **06 41 19.6 -0.3**
UZB pmax pmax
comp=Z,41nm,1.2s
UZB Uzynbulak 58.25 323 *e*P **P** **06 41 19.7 -0.3**
comp=Z,41nm,1.2s,baz=323
KSH Kashi 58.27 318 P **P** **06 41 20.4 +0.3**
KSH PcP **PcP** **06 42 09.4 +1.0**
KSH pmax pmax
comp=Z,41nm,1.1s
SATY Saty 58.57 322 *e*P **P** **06 41 22.0 -0.1**
SATY pmax pmax
comp=Z,46nm,0.8s
SATY Saty 58.57 322 *e*P **P** **06 41 22.1 -0.1**
comp=Z,46nm,0.8s,baz=322
MK31 Makanchi Array 58.58 328 P **P** **06 41 21.5 -0.6**
MK31 IAmb IAmb 06 41 24.7
comp=Z,54nm,0.8s
MK31 Makanchi Array 58.58 328 *i*P **P** **06 41 21.4 -0.6**
MK31 pmax pmax
comp=Z,20nm,0.4s
MKAR Makanchi Array 58.58 328 P **P** **06 41 21.4 -0.5**
MKAR Makanchi Array 58.58 328 P **P** **06 41 21.7 -0.3**
comp=Z,39nm,0.3s,baz=121,slow=8.4,SNR=399
MKAR PcP **PcP** **06 42 08.6 -0.8**
comp=Z,6.5nm,0.6s,baz=145,slow=3.7,SNR=1.8
MKAR ScP **ScP** **06 45 43.6 -2.3**
comp=Z,3.6nm,0.7s,baz=119,slow=4.7,SNR=6.0
comp=Z,39nm,0.3s
ZHN Zhinishke 58.62 323 *e*P **P** **06 41 22.1 -0.3**
ZHN Zhinishke 58.62 323 *e*P **P** **06 41 22.2 -0.3**
baz=323
MAKZ Makanchi 58.76 328 P **P** **06 41 22.6 -0.6**
MAKZ IAmb IAmb 06 41 25.8
comp=Z,54nm,0.9s
MAKZ Makanchi 58.76 328 P **P** **06 41 22.6 -0.6**
MAKZ pmax pmax
comp=Z,55nm,0.9s
MAKZ Makanchi 58.76 328 P **P** **06 41 22.5 -0.6**
MAKZ ScP **ScP** **06 45 45.1 -1.5**
MDOK Medeo 59.46 322 *e*P **P** **06 41 27.9 -0.3**
MDOK *e*S **S** **06 49 17.7 -0.1**
MDOK Medeo 59.46 322 *e*P **P** **06 41 28.0 -0.3**
baz=322
MDOK *e*S **S** **06 49 17.7 -0.1**
baz=322
ULHL Ulahol 59.48 321 P **P** **06 41 30.1 +1.6**
SNR=5.3
ARXS Arharly 59.56 323 *e*P **P** **06 41 27.9 -0.9**
AAA Alma-Ata 59.57 322 *e*P **P** **06 41 28.9 0.0**
AAA pmax pmax
comp=Z,33nm,0.6s
AAA Alma-Ata 59.57 322 *e*P **P** **06 41 28.9 0.0**
comp=Z,33nm,0.6s,baz=322
TDK Taldyqorghan 59.67 324 *e*P **P** **06 41 29.2 -0.2**
TDK pmax pmax
comp=Z,42nm,0.7s
TDK Taldyqorghan 59.67 324 *e*P **P** **06 41 29.2 -0.2**
comp=Z,42nm,0.7s,baz=324
PETK Petropavlovsk- 59.70 23 P **P** **06 41 29.2 -0.3**
PETK Petropavlovsk- 59.70 23 P **P** **06 41 29.7 +0.2**
comp=Z,12nm,0.7s,baz=179,slow=4.1,SNR=16
comp=Z,12nm,0.7s
BOOM Boomskoye usch 59.80 321 P **P** **06 41 30.9 +0.3**
BOOM IAmb IAmb 06 41 33.7
comp=Z,49nm,1.1s
BOOM Boomskoye usch 59.80 321 P **P** **06 41 30.9 +0.3**
BOOM pmax pmax
comp=Z,49nm,1.1s
JCZ Jackson Bay 59.80 144 P **P** **06 41 32.4 +1.9**
CHKK Chushkaly 59.87 323 *e*P **P** **06 41 30.4 -0.4**
CHKK Chushkaly 59.87 323 *e*P **P** **06 41 30.5 -0.4**
baz=323
PET Petropavlovsk 60.02 24 P **P** **06 41 32.1 +0.6**
KZA Kyzart 60.03 320 P **P** **06 41 32.9 +0.5**
SNR=24
TKM2 Tokmak 2 60.24 321 P **P** **06 41 35.3 +1.7**
SNR=31
TKM2 Tokmak 2 60.24 321 *i*P **P** **06 41 32.6 -1.0**
TKM2 pmax pmax
comp=Z,32nm,0.5s
KUU Kurty 60.29 322 *c*⇓P **P** **06 41 33.0 -0.6**
KUU *e*S **S** **06 49 27.8 -0.2**
KUU Kurty 60.29 322 ⇑*i*P **P** **06 41 33.1 -0.6**
baz=322
KUU *e*S **S** **06 49 27.9 -0.2**
baz=322
WHZ Wether Hill Ro 60.38 146 P **P** **06 41 35.2 +1.0**
WHZ IAmb IAmb 06 41 35.4
comp=Z,21nm,0.7s
QRZ Quartz Range 60.41 139 P **P** **06 41 36.3 +1.8**
KBK Karagaybulak 60.51 321 P **P** **06 41 36.6 +1.2**
SNR=27
UCH Uchtor 60.58 320 P **P** **06 41 36.4 +0.3**
SNR=35

AAK Ala-Archa 60.79 320 P P 06 41 37.9 +0.6
SNR=33
AAK Ala-Archa 60.79 320 P P 06 41 37.5 +0.2
AAK IAmb IAmb 06 41 41.7
comp=Z,55nm,1.0s
AAK Ala-Archa 60.79 320 P P 06 41 37.7 +0.5
comp=Z,27nm,0.4s,baz=131,slow=5.3,SNR=89
comp=Z,27nm,0.4s
AAK Ala-Archa 60.79 320 P P 06 41 38.0 +0.6
AAK Ala-Archa 60.79 320 P P 06 41 37.8 +0.5
AAK ScP ScP 06 45 55.3 -0.6
LBZ Lake Benmore 60.81 143 P P 06 41 37.0 -0.2
LBZ IAmb IAmb 06 41 38.9
comp=Z,28nm,0.7s
CHMS Chumysh 60.81 321 P P 06 41 38.7 +1.4
SNR=10
RPZ Rata Peaks 60.97 142 P P 06 41 39.3 +1.0
RPZ IAmb IAmb 06 41 40.4
comp=Z,61nm,0.9s
RPZ Rata Peaks 60.97 142 P P 06 41 40.4 +2.2
TOZ Tahuroa Road 61.01 134 P P 06 41 39.9 +1.3
TOZ IAmb IAmb 06 41 41.5
comp=Z,20nm,0.7s
AML Almayashu 61.06 319 P P 06 41 39.8 +0.4
SNR=43
AML Almayashu 61.06 319 *i* P P 06 41 38.3 -1.1
AML pmax pmax
comp=Z,11nm,1.0s
USP Ospenovka 61.10 321 P P 06 41 40.9 +1.7
SNR=9.5
SGDS Sogindy 61.12 321 *c i* P P 06 41 38.8 -0.5
SGDS Sogindy 61.12 321 ⇑ *i* P P 06 41 38.8 -0.5
baz=321
KBL Kabul 61.12 310 P P 06 41 38.5 -1.2
KBL IAmb IAmb 06 41 41.8
comp=Z,39nm,0.8s
KBL Kabul 61.12 310 P P 06 41 38.5 -1.2
KBL pmax pmax
comp=Z,39nm,0.8s
KBL Kabul 61.12 310 P P 06 41 39.3 -0.4
SNR=21
EKS2 Erkin-Say 61.26 320 P P 06 41 40.7 +0.3
SNR=45
OXZ Oxford 61.37 142 P P 06 41 41.2 +0.3
OXZ IAmb IAmb 06 41 43.9
comp=Z,26nm,0.6s
ODZ Otahua Downs 61.45 144 P P 06 41 43.6 +2.2
TUWZ Tuamarina 61.63 139 P P 06 41 42.9 +0.2
YAK Yakutsk 61.66 3 P P 06 41 41.8 -0.6
YAK Yakutsk 61.66 3 *eP* P 06 41 42.0 -0.4
YAK *e* 06 42 21.3
YAK *e**PP pP 06 42 38.1 +1.5
YAK *e* 06 44 01.0
YAK *e*PPP PPP 06 45 30.8
YAK *e*SS S 06 49 43.9 -0.6
YAK *e*SS SS 06 53 50.5 -0.3
YAK pmax pmax
comp=Z,93nm,0.6s
YAK pmax pmax
comp=N,22nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,223nm,5.7s
YAK pmax pmax
comp=N,40nm,3.1s
YAK pmax pmax
comp=E,62nm,3.5s
YAK smax smax
comp=N,225nm,6.8s
YAK smax smax
comp=E,117nm,5.5s
YAK Yakutsk 61.66 3 P P 06 41 42.0 -0.4
TCW Tory Channel 61.75 138 P P 06 41 43.8 +0.3
KHZ Kahutara 61.85 140 P P 06 41 44.3 +0.2
KHZ Kahutara 61.85 140 P P 06 41 45.4 +1.3
SEM Semipalatinsk 61.92 330 *eP* P 06 41 44.2 -0.5
SEM Semipalatinsk 61.92 330 *eP* P 06 41 44.2 -0.5
baz=330
SNZO South Karori 62.08 138 P P 06 41 45.7 +0.1
SNZO South Karori 62.08 138 P P 06 41 46.1 +0.5
SNZO South Karori 62.08 138 P P 06 41 45.7 +0.1
SNZO PcP PcP 06 42 24.3 +0.8
ZALV Zalesovo Beam 62.19 335 P P 06 41 44.7 -1.5
comp=E,9.0nm,0.3s,baz=114,slow=7.2,SNR=30
comp=E,9.0nm,0.3s
BTLS Baital 62.29 322 *ceP* P 06 41 46.2 -0.8
BTLS Baital 62.29 322 ⇑ *eP* P 06 41 46.2 -0.8
baz=322
MRZ Mangatainoka R 62.37 137 P P 06 41 47.2 -0.4
MRZ IAmb IAmb 06 41 48.3
comp=Z,21nm,0.6s
URZ Urewera 62.38 134 P P 06 41 48.5 +0.8
URZ Urewera 62.38 134 P P 06 41 48.0 +0.3
comp=Z,14nm,0.6s,baz=337,slow=4.7,SNR=12
comp=Z,14nm,0.6s
MA2 Magadan 62.71 15 P P 06 41 50.2 +0.8
MA2 IAmb IAmb 06 41 51.3
comp=Z,41nm,0.8s
MA2 Magadan 62.71 15 *ceP* P 06 41 50.1 +0.6
MA2 pmax pmax
comp=Z,55nm,1.0s
MA2 Magadan 62.71 15 P P 06 41 50.1 +0.6
SIMJ Simiganj 62.73 314 P P 06 41 49.4 -0.8
SIMJ IAmb IAmb 06 41 51.7
comp=Z,35nm,1.0s
SIMJ Simiganj 62.73 314 P P 06 41 49.0 -1.2
KURBB Kurchatov Arra 62.91 330 P P 06 41 50.3 -0.6
comp=Z,71nm,0.9s,baz=116,slow=6.3,SNR=257
comp=Z,71nm,0.9s
KURK Kurchatov 62.92 330 P P 06 41 50.3 -0.8
KURK Kurchatov 62.92 330 *i* P P 06 41 49.7 -1.3
KURK pmax pmax
comp=Z,166nm,0.9s
KURK Kurchatov 62.92 330 P P 06 41 50.4 -0.6
KURK Kurchatov 62.92 330 P P 06 41 50.2 -0.8
DZA Taraz 62.96 319 *eP* P 06 41 51.6 +0.1
DZA Taraz 62.96 319 *eP* P 06 41 51.6 +0.1
baz=319
KK31 Karatay Array 63.59 319 P P 06 41 55.8 +0.2
KK31 IAmb IAmb 06 41 58.0
comp=Z,19nm,0.8s
KK31 Karatay Array 63.59 319 P P 06 41 55.8 +0.2
KK31 pmax pmax
comp=Z,19nm,0.8s
KKAR Karatay Array 63.59 319 P P 06 41 54.7 -0.9
KKAR Karatay Array 63.59 319 P P 06 41 54.7 -0.9
CHM Chimkent 63.84 318 *eP* P 06 41 57.4 +0.2
CHM Chimkent 63.84 318 *eP* P 06 41 57.5 +0.2
baz=318
OTUK Ortayu 64.94 325 P P 06 42 03.4 -0.8
BRZS Berezniki 65.64 327 *c i* P P 06 42 07.8 -0.9
BRZS pmax pmax
comp=Z,34nm,0.9s
BRZS Berezniki 65.64 327 ⇑ *i* P P 06 42 07.9 -0.9
comp=Z,34nm,0.9s,baz=327
SEY Seymchan 65.99 14 *ceP* P 06 42 11.4 +0.8
SEY pmax pmax
comp=Z,42nm,1.7s
JLN Jalan Bani Buh 66.00 294 P P 06 42 09.5 -2.0
HRA Herat 66.38 308 P P 06 42 12.9 -1.1
HRA IAmb IAmb 06 43 38.5
comp=Z,40nm,1.8s
WBK Wadi Bani Khal 66.49 294 P P 06 42 15.0 +0.3
WSAR Wadi Sarin 66.90 295 P P 06 42 15.6 -1.6
MHTO MHTO 67.14 293 P P 06 42 17.1 -1.6
CASY Casey 67.18 186 P P 06 42 18.6 +0.6
JMDO Jabal Madar 67.24 294 P P 06 42 17.7 -1.6
DQM DQM 67.39 291 P P 06 42 18.8 -1.5
SMDO Samad 67.40 295 P P 06 42 19.5 -0.9
BIDO Bidbid 67.41 295 P P 06 42 19.8 -0.6
DRV Dumont d'Urvil 67.92 173 P P 06 42 23.0 +0.3
BSY Bisya 68.12 294 P P 06 42 23.4 -1.5
SNR=5.7
BVAR Borovoye Array 68.44 329 P P 06 42 25.4 -0.9
comp=Z,59nm,0.9s,baz=132,slow=8.2,SNR=79
comp=Z,59nm,0.9s
BRVK Borovoye 68.52 329 P P 06 42 25.8 -0.9
BRVK Borovoye 68.52 329 *ceP* P 06 42 25.3 -1.3
BRVK pmax pmax
comp=Z,126nm,1.7s
BRVK Borovoye 68.52 329 P P 06 42 25.9 -0.7
BRVK Borovoye 68.52 329 P P 06 42 25.8 -0.9
ARQ Araqi 68.83 295 P P 06 42 27.5 -1.7
SHAO Shalim 68.94 289 P P 06 42 28.2 -1.7

SOHO SOHO 68.95 296 P P 06 42 30.4 +0.5
MDH Madha 69.35 297 P P 06 42 31.2 -1.2
HATD Hatta, Dubai 69.42 296 P P 06 42 30.9 -1.9
ASHO Ashiyiah 69.46 296 P P 06 42 32.5 -0.6
MASF Masafi 69.49 297 P P 06 42 32.0 -1.2
DMTO DMTO 69.54 289 P P 06 42 32.2 -1.4
SHME Shamm 69.62 298 P P 06 42 32.6 -1.4
ALNE Al Ain 69.64 295 P P 06 42 33.2 -0.9
SNR=8.1
FAQ Al Faqa, Dubai 69.89 296 P P 06 42 34.6 -1.0
ASUD Al Ashush, Dub 70.11 296 P P 06 42 36.9 0.0
SNR=8.2
DOK Doka 70.42 290 P P 06 42 37.1 -1.8
GEYT Alibeck 70.57 310 P P 06 42 38.6 -1.0
GEYT Alibeck 70.57 310 P P 06 42 39.3 -0.3
comp=Z,13nm,0.9s,baz=132,slow=2.2,SNR=12
comp=Z,13nm,0.9s
GYA0 ALIBECK ARRAY 70.57 310 P P 06 42 39.7 +0.1
GYA0 pmax pmax
comp=Z,12nm,0.9s
GYA0B ALIBECK ARRAY 70.57 310 P P 06 42 39.7 +0.1
WHFO Wadi Hawf 70.68 289 P P 06 42 39.0 -1.6
ABTO Aybut 71.07 288 P P 06 42 41.0 -1.9
TIXI Tiksi 71.23 2 P P 06 42 41.6 -1.1
TIXI IAmb IAmb 06 42 44.6
comp=Z,45nm,0.8s
TIXI Tiksi 71.23 2 P P 06 42 41.6 -1.1
TIXI pmax pmax
comp=Z,45nm,0.8s
JRN Qarnain Island 72.39 296 P P 06 42 49.1 -1.4
AB31 Akbulak array 72.77 322 *eP* P 06 42 51.3 -1.0
ABKAR Akbulak array 72.77 322 P P 06 42 51.1 -1.3
NRIK Noril'sk 72.94 347 P P 06 42 52.5 -0.4
NRIK IAmb IAmb 06 42 53.4
comp=Z,21nm,0.6s
NRIK Noril'sk 72.94 347 *ceP* P 06 42 52.3 -0.6
NRIK pmax pmax
comp=Z,20nm,0.6s
NRIK Noril'sk 72.94 347 P P 06 42 52.4 -0.4
comp=Z,14nm,0.4s,baz=123,slow=5.4,SNR=34
comp=Z,14nm,0.4s
ATKA Atka Island 73.02 35 P P 06 42 53.7 0.0
BILL Bilibino 73.58 15 P P 06 42 56.1 -0.6
TRNA Turayna 73.83 296 P P 06 42 57.7 -1.3
SMRA Abu-Samra 74.18 296 P P 06 42 59.9 -1.2
SHMA Al-Shehemyia 74.20 297 P P 06 42 59.7 -1.4
AKTO Aktyubinsk 74.34 323 P P 06 43 00.8 -0.7
comp=Z,42nm,0.3s,baz=101,slow=4.3,SNR=86
comp=Z,42nm,0.3s
SAKB Bahrain 74.59 297 P P 06 43 02.0 -1.4
SVE Sverdlovsk 75.18 330 *deP* P 06 43 05.2 -0.9
SVE pmax pmax
comp=Z,98nm,0.9s
ARU Arti 76.09 329 P P 06 43 09.7 -1.6
ARU Arti 76.09 329 *c i* P P 06 43 09.7 -1.6
ARU S S 06 52 33.9 0.0
ARU SS SS 06 57 30.9 -1.9
ARU pmax pmax
comp=Z,76nm,0.9s
ARU Arti 76.09 329 P P 06 43 10.2 -1.1
comp=Z,45nm,0.6s,baz=113,slow=4.2,SNR=15
comp=Z,45nm,0.6s
ABPO Ambohimpanom 77.22 251 P P 06 43 19.4 +0.8
ABPO Ambohimpanom 77.22 251 P P 06 43 19.4 +0.8
ABPO pmax pmax
comp=Z,138nm,1.9s
VOI Vohitsoka 77.88 248 P P 06 43 22.4 +0.3
VOI Vohitsoka 77.88 248 P P 06 43 23.1 +1.0
VOI Vohitsoka 77.88 248 P P 06 43 22.5 +0.4
UNV Unalaska Valle 77.94 35 P P 06 43 22.5 +1.0
baz=254
AKUT Akutan 78.44 35 P P 06 43 26.0 +1.7
MAW Mawson 79.56 200 P P 06 43 31.1 +1.0
comp=Z,9.9nm,0.6s,baz=80,slow=7.8,SNR=11
comp=Z,9.9nm,0.6s
FALS False Pass 79.95 34 P P 06 43 32.5 +0.1
baz=256
VNDA Vanda 80.56 172 P P 06 43 36.1 +0.9
VNDA Vanda 80.56 172 P P 06 43 36.2 +0.9
VNDA pmax pmax
comp=Z,9.0nm,0.8s
VNDA Vanda 80.56 172 P P 06 43 35.9 +0.6
comp=Z,7.9nm,0.7s,baz=316,slow=6.0,SNR=39
comp=Z,7.9nm,0.7s
TNA Tin City 80.87 23 P P 06 43 38.0 +0.8
baz=250
BELG Belogornoye 81.13 323 P P 06 43 37.7 -1.1
comp=Z,64nm,0.6s,baz=162,slow=1.9,SNR=32
comp=Z,64nm,0.6s
KIRV Kirov 81.44 329 *ceP* P 06 43 39.3 -0.9
KIRV Kirov 81.44 329 P P 06 43 39.4 -0.8
comp=Z,92nm,0.6s,baz=98,slow=0.7,SNR=19
comp=Z,92nm,0.6s
F14K Arctic Creek 81.47 23 P P 06 43 41.8 +1.5
baz=252
ANM Nome 81.59 24 P P 06 43 41.6 +0.7
ANM Nome 81.59 24 P P 06 43 41.6 +0.7
ANM pmax pmax
comp=Z,7.0nm,0.6s
ANM Nome 81.59 24 P P 06 43 42.3 +1.3
baz=253
SDPT Sand Point 81.71 34 P P 06 43 43.2 +1.5
SDPT Sand Point 81.71 34 P P 06 43 42.3 +0.6
baz=258
L14K Kuka Creek 81.90 28 P P 06 43 44.1 +1.5
baz=256
M14K Bethel 82.10 29 P P 06 43 45.0 +1.4
M14K IAmb IAmb 06 43 47.2
comp=Z,28nm,0.8s
M14K Bethel 82.10 29 P P 06 43 44.9 +1.3
baz=256
ZEI Tsey 82.15 313 *eP* P 06 43 41.4 -3.2
ZEI pmax pmax
comp=Z,18nm,0.9s
F15K North Star Dit 82.21 23 P P 06 43 45.2 +1.1
baz=253
G15K Niukluk 82.26 24 P P 06 43 45.0 +0.6
baz=254
AKH Akhalkalaki 82.29 312 P P 06 43 45.8 +0.5
AKH Akhalkalaki 82.29 312 P P 06 43 45.8 +0.5
AKH pmax pmax
comp=Z,95nm,0.9s
K15K Wolf Creek Mou 82.66 27 P P 06 43 48.3 +1.8
baz=257
M15K Kasigluk River 82.70 29 P P 06 43 48.0 +1.2
baz=258
C16K Lisburne Hills 82.70 21 P P 06 43 47.5 +0.9
baz=252
N15K Kwethluk River 82.88 29 P P 06 43 49.3 +1.6
baz=258
H16K Elim 82.91 25 P P 06 43 49.1 +1.3
baz=256
KBZ Khabaz 82.98 314 *ceP* P 06 43 46.1 -2.4
KBZ pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 82.98 314 P P 06 43 48.0 -0.6
comp=Z,12nm,0.9s,baz=189,slow=5.6,SNR=11
comp=Z,12nm,0.9s
G16K Koyuk River 83.05 24 P P 06 43 49.6 +1.2
baz=256
KIV Kislovodsk 83.16 314 *eP* P 06 43 48.7 -0.9
KIV pmax pmax
comp=Z,11nm,1.1s
J16K Anvik River 83.30 26 P P 06 43 51.5 +1.8
baz=257
D17K Noatak River 83.36 22 P P 06 43 51.7 +1.7
baz=255
L16K Owhat River 83.48 28 P P 06 43 52.5 +1.7
baz=259
RDOG Red Dog Mine 83.52 21 P P 06 43 52.6 +1.8
baz=255
C17K DeLong Mountai 83.53 21 P P 06 43 52.4 +1.6
baz=254
N16K Nishlik Lake 83.58 29 P P 06 43 52.8 +1.4
baz=259
M16K Timber Creek 83.59 29 P P 06 43 52.8 +1.4
baz=259
E17K Hotham Inlet 83.67 22 P P 06 43 53.3 +1.7
baz=256
F17K Baldwin Pennin 83.74 23 P P 06 43 53.6 +1.7
baz=256
O16K Kokwok River B 83.76 30 P P 06 43 53.0 +0.8
baz=260
G17K Kiwalik Mounta 83.77 24 P P 06 43 53.4 +1.3
baz=257
H17K Granite Mounta 83.95 25 P P 06 43 54.5 +1.5
baz=258
K17K Iditarod 84.21 27 P P 06 43 55.6 +1.2
baz=260
E18K Tukpahlearik C 84.21 22 P P 06 43 55.9 +1.6
baz=257
B18K Kokolik River 84.24 20 P P 06 43 56.3 +1.9
baz=256
C18K Utukok River 84.28 21 P P 06 43 56.0 +1.3
baz=256
VRH Novokhopyorsk 84.58 321 *eP* P 06 43 55.2 -1.2
VRH pmax pmax
comp=Z,53nm,0.9s
H18K Honhosa River 84.63 25 P P 06 43 57.2 +0.7
baz=259
G18K Tagagawik 84.66 24 P P 06 43 57.2 +0.6
baz=259
Q17K Contact Creek 84.69 32 P P 06 43 56.6 -0.4
baz=262
A19K Wainwright 84.69 19 P P 06 43 58.2 +1.5
baz=256
L18K Granite Mounta 84.87 28 P P 06 43 58.6 +0.9
baz=261
C19K Lookout Ridge 84.95 21 P P 06 43 59.6 +1.6
baz=258
J18K Innoko River 85.05 26 P P 06 43 59.5 +0.9
baz=261
GCSA Galena City Sc 85.19 25 P P 06 43 59.6 +0.5
baz=261
SOC Sochi 85.27 314 *eP* P 06 43 56.8 -3.3
SOC *e* 06 47 18.7
SOC *e*PPP PPP 06 49 12.3
SOC *e*S SKSac 06 53 56.9 -4.3
SOC *e**SS sS 06 55 44.2 -7.0
SOC *e*SS SS 06 59 46.5 -3.2
SOC *e*SSS SSS 07 03 18.3
TTA Tatalina 85.29 27 P P 06 44 01.4 +1.6
TTA Tatalina 85.29 27 P P 06 44 00.3 +0.5
baz=262
G19K Purcell Mounta 85.33 24 P P 06 44 00.7 +0.8
baz=260
D19K Kuna River 85.35 21 P P 06 44 00.6 +0.5
baz=259
H19K Roundabout Mou 85.49 24 P P 06 44 01.8 +1.1
baz=261
E19K Redstone River 85.50 22 P P 06 44 01.6 +0.9
baz=260
KIBK Kibwezi 85.54 268 P P 06 44 00.6 -1.5
J19K Poorman 85.61 26 P P 06 44 02.0 +0.6
baz=262
L19K White Mountain 85.72 28 P P 06 44 03.1 +1.1
baz=263
N19K Bonanza Creek 85.72 29 P P 06 44 02.9 +0.8
baz=263
D20K Etivluk River 85.94 21 P P 06 44 03.6 +0.7
baz=261
OHAK Old Harbor 85.95 33 P P 06 44 04.0 +0.9
F20K Avaraart Lake 86.01 23 P P 06 44 03.8 +0.6
baz=262
E20K Nigu River 86.02 22 P P 06 44 03.9 +0.6
baz=261
H20K Anotleneega Mo 86.13 24 P P 06 44 04.6 +0.7
baz=262
VSR Storozhevoye 86.18 321 *eP* P 06 44 02.2 -2.2
VSR pmax pmax
comp=Z,40nm,0.5s
VORR Voronezh 86.19 322 *eP* P 06 44 03.7 -0.7
VORR pmax pmax
comp=Z,113nm,1.0s
K20K Telida 86.22 27 P P 06 44 04.9 +0.5
baz=263
J20K Nowinta River 86.28 26 P P 06 44 05.4 +0.8
baz=263
KMBO Kilima Mbogo 86.32 269 *i* P P 06 44 05.4 -0.8
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 86.32 269 P P 06 44 05.1 -1.1
comp=Z,8.1nm,0.8s,baz=54,slow=5.6,SNR=10
comp=Z,8.1nm,0.8s
KMBO Kilima Mbogo 86.32 269 P P 06 44 05.9 -0.3
A21K Barrow 86.36 19 P P 06 44 05.8 +1.0
baz=260
LPSR Galich'ya Gora 86.42 323 *eP* P 06 44 02.2 -3.3
LPSR pmax pmax
comp=Z,70nm,0.8s
M20K Styx River 86.49 28 P P 06 44 06.2 +0.4
baz=264
C21K Knifeblade Rid 86.66 21 P P 06 44 07.0 +0.6
baz=262
IMAR Indian Mountai 86.66 24 P P 06 44 06.5 +0.1
KLMR Klimovskoe 86.75 331 *eP* P 06 44 04.3 -2.6
KLMR pmax pmax
comp=Z,58nm,0.5s
G21K Allakaket 86.81 23 P P 06 44 07.6 +0.5
baz=264
A22K Sinclair Lake 86.84 19 P P 06 44 07.9 +0.8
baz=262
ASF Jabal al Asfar 86.97 302 P P 06 44 09.1 +0.3
comp=Z,7.7nm,0.5s,baz=103,slow=2.5,SNR=11
comp=Z,7.7nm,0.5s
CAST Castle Rocks 87.11 27 P P 06 44 08.8 +0.1
CAST Castle Rocks 87.11 27 P P 06 44 08.9 +0.3
baz=265
PPT2 Papeete2 87.12 108 *eP* P 06 44 10.8 +1.1
comp=Z,52nm,25.2s
PPT2 Papeete2 87.12 108 *eS* SKSac 06 54 14.5 +0.7
comp=Z,128nm,28.2s
PPT2 Papeete2 87.12 108 *e*LQ LQ 07 08 27.5
comp=Z,244nm,23.0s
B22K Teshekpuk Lake 87.27 20 P P 06 44 09.7 +0.5
baz=264
I21K Tanana 87.31 25 P P 06 44 10.1 +0.6
baz=265
TBI Tubuai 87.37 113 *e*S S 06 54 26.0 -4.3
comp=Z,543nm,29.0s
TBI Tubuai 87.37 113 *e*LQ LQ 07 08 33.6
comp=Z,1μm,25.0s
MOS Moscow 87.39 326 *eP* P 06 44 06.5 -3.5
MOS pmax pmax
comp=Z,64nm,1.0s
SUA Susitna One 87.59 29 P P 06 44 10.9 -0.2
baz=266
H22K Ishtalitna Cre 87.61 24 P P 06 44 11.8 +0.8
baz=266
G22K Bettles 87.64 23 P P 06 44 11.3 +0.3
baz=265
BPAW Bear Paw Mtn. 87.65 26 P P 06 44 11.6 +0.4
baz=266
MLY Manley 87.82 25 P P 06 44 11.9 -0.1
MLY Manley 87.82 25 P P 06 44 11.9 -0.1
baz=266
OBN Obninsk 87.96 325 ⇑ *eP* P 06 44 11.0 -1.7
OBN *eS* S 06 54 36.4 +1.9
OBN pmax pmax
comp=Z,60nm,1.7s
OBN Obninsk 87.96 325 P P 06 44 12.2 -0.5
comp=Z,26nm,0.4s,baz=88,slow=6.4,SNR=4.0
comp=Z,26nm,0.4s
COLD Coldfoot 88.17 23 P P 06 44 14.1 +0.5
baz=267
C23K Itkillik River 88.19 20 P P 06 44 14.0 +0.5
baz=266
LODK Lodwar 88.19 273 P P 06 44 15.2 +0.4
G23K Bananza Creek 88.22 23 P P 06 44 14.7 +0.9
baz=267
MMAI Mount Meron Ar 88.25 303 P P 06 44 14.8 +0.1
comp=Z,1.9nm,0.3s,baz=79,slow=8.6,SNR=6.3
comp=Z,1.9nm,0.3s
I23K Minto, Yukon-K 88.41 25 P P 06 44 15.0 +0.3
baz=267
E23K Chandalar 88.44 22 P P 06 44 15.8 +0.9
baz=267
MCK McKinley 88.54 26 P P 06 44 15.1 -0.3
baz=268
WAT1 Susitna Watana 88.68 27 P P 06 44 15.7 -0.3
baz=268
D24K Happy Valley 88.78 21 P P 06 44 16.9 +0.5
baz=268
C24K Franklin Bluff 88.84 20 P P 06 44 17.1 +0.5
baz=268
H24K Noodor Dome 89.05 24 P P 06 44 18.5 +0.8
baz=269
WAT6 Susitna Watana 89.05 28 P P 06 44 17.7 -0.2
baz=269
F24K Squaw Lake 89.08 23 P P 06 44 18.2 +0.4
F24K Squaw Lake 89.08 23 P P 06 44 18.7 +0.8
baz=269
DHY Denali Highway 89.22 27 P P 06 44 18.7 0.0

baz=269
G24K Hadweenzic Riv 89.23 23 P P 06 44 19.1 +0.6
baz=269
HDA Harding Lake 89.42 26 P P 06 44 17.9 -1.6
baz=270
ILAR Eielson Array 89.45 25 P P 06 44 18.0 -1.6
ILAR Eielson Array 89.45 25 P P 06 44 17.9 -1.6
comp=Z,1.2nm,0.6s,baz=247,slow=4.6,SNR=32
comp=Z,1.2nm,0.6s
BR131 Keskin Array S 89.70 310 *i* P P 06 44 18.9 -2.6
BR131 Keskin Array S 89.70 310 P P 06 44 20.1 -1.4
BRTR Keskin Array B 89.70 310 *i* P P 06 44 20.2 -1.3
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 89.70 310 P P 06 44 20.4 -1.1
comp=Z,2.9nm,0.7s,baz=128,slow=4.9,SNR=16
BRTR PP PP 06 47 57.2 0.0
comp=Z,1.2nm,0.8s,baz=87,slow=10.0,SNR=4.0
comp=Z,2.9nm,0.7s
APA Apatity 89.70 337 ⇓ *i* P P 06 44 22.9 +2.2
APA pmax pmax
comp=Z,11nm,0.7s
G25K Bearman Lake 89.77 23 P P 06 44 22.0 +1.0
baz=270
M24K Tolsona, Glenn 89.78 28 P P 06 44 22.0 +0.7
baz=270
KLU Klutina 89.90 29 P P 06 44 22.1 +0.2
baz=271
K24K Donnelly Dome 89.94 26 P P 06 44 21.4 -0.6
baz=271
F25K Christian Rive 89.94 23 P P 06 44 22.7 +0.8
baz=271
E25K Arctic Village 89.96 22 P P 06 44 22.7 +0.7
baz=271
J25K Salcha River, 90.11 26 P P 06 44 21.7 -1.1
baz=271
QSPA South Pole Qui 90.32 180 P P 06 44 23.9 +0.2
comp=Z,1.9nm,0.3s,baz=318,slow=1.2,SNR=7.9
comp=Z,1.9nm,0.3s
F26K Sheenjek River 90.51 22 P P 06 44 25.6 +1.1
baz=272
G26K Porcupine Rive 90.68 23 P P 06 44 26.4 +1.1
baz=272
SCRK Sand Creek 90.73 26 P P 06 44 26.1 +0.4
baz=272
J26L Joseph Creek 90.89 26 P P 06 44 26.5 +0.1
baz=273
E27K Coleen River 91.44 22 P P 06 44 29.3 +0.5
baz=275
G27K Doyon Strip 91.53 23 P P 06 44 29.9 +0.7
baz=274
K27K Chicken 91.57 26 P P 06 44 30.8 +1.4
baz=274
D27M Malcolm River 91.58 21 P P 06 44 30.2 +0.7
baz=275
H27K Steamboat Moun 91.63 24 P P 06 44 30.8 +1.1
baz=275
I27K Kandik River 91.64 24 P P 06 44 30.9 +1.1
baz=274
L27K Beaver Creek, 91.75 27 P P 06 44 31.4 +1.0
baz=274
CTG Chitna Glacier 92.14 29 P P 06 44 33.3 +1.0
baz=275
F28M Old Crow 92.15 22 P P 06 44 32.7 +0.6
baz=276
E28M Babbage River 92.16 21 P P 06 44 32.6 +0.5
baz=276
I28M Miner Creek 92.36 25 P P 06 44 33.9 +0.8
baz=276
AKASG Malin Array Be 92.46 321 P P 06 44 32.2 -1.6
comp=Z,1.7nm,0.5s,baz=69,slow=4.6,SNR=14
comp=Z,1.7nm,0.5s
AKBB Malin Array Si 92.46 321 *ce* P P 06 44 31.3 -2.5
AKBB pmax pmax
comp=Z,46nm,3.7s
ARCES ARCESS Array B 92.46 340 P P 06 44 32.1 -1.4
comp=Z,5.4nm,0.5s,baz=86,slow=5.7,SNR=27
comp=Z,5.4nm,0.5s
KIEV Kiev 92.47 321 ⇑P P 06 44 31.4 -2.5
KIEV Kiev 92.47 321 P P 06 44 32.7 -1.1
KIEV pmax pmax
comp=Z,11nm,1.1s
DAWY Dawson 92.74 26 P P 06 44 35.9 +1.0
baz=276
E29M Blow River 92.79 22 P P 06 44 35.3 +0.4
baz=278
H29M Whitestone 92.90 24 P P 06 44 36.1 +0.6
baz=278
G29M Pine Creek 92.95 23 P P 06 44 36.1 +0.3
baz=278
MNK Minsk 93.00 324 *i* P P 06 44 34.6 -1.6
MNK *i* *PP pP 06 45 34.0 -2.3
MNK *i* 06 48 19.2
MNK *i* S SKSac 06 54 44.4 -1.6
MNK *i* *SS pS 06 56 31.8 -4.1
MNK *i* SS SS 07 01 38.8 -1.9
MNK *i* SSS SSS 07 05 21.9
MNK pmax pmax
comp=N,33nm,1.6s
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=Z,39nm,0.8s
MNK MLR MLR
comp=Z,165nm,16.0s
MNK MLR MLR
comp=E,32nm,11.0s
MNK MLR MLR
comp=N,69nm,8.0s
I29M Ogilvie Camp, 93.04 25 P P 06 44 36.6 +0.3
baz=278
SPITS Spitsbergen Ar 93.11 349 P P 06 44 35.6 -0.8
comp=N,7.3nm,0.4s,baz=95,slow=8.0,SNR=29
comp=N,7.3nm,0.4s
SORM Soroca 93.20 318 ⇑P P 06 44 32.5 -4.8
SORM Soroca 93.20 318 ⇑P P 06 44 32.5 -4.8
FINES FINESS Array B 93.25 331 P P 06 44 35.7 -1.5
comp=N,5.0nm,0.6s,baz=99,slow=4.8,SNR=28
comp=N,5.0nm,0.6s
VSU Vasula 93.25 328 *ce* P P 06 44 37.4 +0.1
VSU pmax pmax
comp=Z,20nm,0.7s
M29M Somme Creek 93.35 27 P P 06 44 38.8 +0.9
baz=277
L29M L29M 93.42 27 P P 06 44 39.1 +1.1
baz=278
EPYK Eagle Plains 93.54 23 P P 06 44 38.2 -0.3
baz=279
K29M Barlow Dome 93.59 26 P P 06 44 39.2 +0.4
baz=278
G30M tAoh Zraii Nji 93.64 23 P P 06 44 38.5 -0.4
baz=280
F30M Barrier River 93.70 22 P P 06 44 39.3 +0.1
baz=280
I30M Mount Dempster 93.86 25 P P 06 44 40.4 +0.3
baz=279
J30M Hart River 93.99 25 P P 06 44 41.4 +0.7
baz=279
M30M Minto, Yukon 94.10 27 P P 06 44 42.3 +1.1
baz=279
N30M Aishikik Lake 94.13 28 P P 06 44 42.4 +1.0
baz=278
INK Inuvik 94.40 21 P P 06 44 42.1 -0.3
baz=282
G31M Satah River 94.40 23 P P 06 44 42.2 -0.1
baz=281
TESR Tescani 94.49 317 ⇑P P 06 44 39.5 -3.7
VRI Vrincioaia 94.49 316 ⇑P P 06 44 40.7 -2.6
VRI Vrincioaia 94.49 316 ⇑P P 06 44 40.7 -2.6
F31M Tsiigehtchic 94.50 22 P P 06 44 42.4 -0.4
baz=282
PLOR Plostina 94.55 316 ⇑P P 06 44 41.0 -2.6
PLOR Plostina 94.55 316 ⇑P P 06 44 41.0 -2.6
H31M Peel River 94.59 24 P P 06 44 43.1 -0.3
baz=281
N31M Braeburn, Yuko 94.75 28 P P 06 44 45.0 +0.9
baz=280
MLR Muntele Rosu 95.08 316 ⇑P P 06 44 44.4 -1.7
MLR Muntele Rosu 95.08 316 P P 06 44 45.7 -0.5
comp=Z,3.3nm,0.5s,baz=69,slow=0.7,SNR=8.5
MLR PP PP 06 48 37.0 -2.0
comp=Z,4.6nm,0.8s,baz=171,slow=7.7,SNR=5.6
comp=Z,3.3nm,0.5s
M31M Drury Creek, Y 95.27 27 P P 06 44 47.4 +1.0
baz=281
LSZ Lusaka 95.29 255 P P 06 44 47.6 -0.1
LSZ pmax pmax
comp=Z,15nm,0.9s
LSZ Lusaka 95.29 255 P P 06 44 46.2 -1.5
DOPR Dopca 95.41 316 ⇑P P 06 44 45.3 -2.2
FARO Faro, Yukon 95.74 27 P P 06 44 49.4 +0.8
baz=282
ARR Arges 96.01 316 ⇑P P 06 44 47.4 -2.9
A36M Sachs Harbour 96.08 17 P P 06 44 50.1 +0.2
baz=290
N32M Quiet Lake 96.09 28 P P 06 44 51.1 +0.8
baz=282
TAOE Nuku Hiva Isla 96.27 99 *e* LR LR 07 16 04.4
comp=Z,150nm,26.7s
MARR Marisel-Cluj 96.89 317 ⇑P P 06 44 52.7 -1.6
KOLS Kolonicke sedl 97.12 319 *e* P Pdif 06 44 56.3 +1.1
KOLS Kolonicke sedl 97.12 319 *e* PDIFF Pdif 06 44 56.3 +1.1
GZR Gura Zlata 97.30 316 ⇑P P 06 44 55.3 -0.8
DJES Djerdap 97.58 315 ⇓P P 06 44 56.3 -1.1
BLKB Belogradchik 97.62 314 ⇑P P 06 44 56.2 -1.3
HERR Herculane 97.63 315 ⇑P P 06 44 57.0 -0.4
CRVS Cervenica-Dubn 97.66 319 *e* P Pdif 06 44 58.1 +0.5
CRVS Cervenica-Dubn 97.66 319 *e* PDIFF Pdif 06 44 58.1 +0.5
SURR Surduc 97.70 316 ⇓P P 06 44 56.2 -1.6
BZS Buzias 98.08 316 ⇑P P 06 44 58.7 -0.8
BZS Buzias 98.08 316 ⇑P P 06 44 58.7 -0.8
WTLY Watson Lake, Y 98.39 29 P Pdif 06 45 02.1 +1.5
baz=286
HFS Hagfors 99.45 331 P Pdif 06 45 03.3 -2.0
comp=Z,2.4nm,0.4s,baz=95,slow=11,SNR=21
comp=Z,2.4nm,0.4s
NOA NORSAR Array B 100.32 333 P Pdif 06 45 08.0 -1.2
NOA NORSAR Array B 100.32 333 P Pdif 06 45 08.0 -1.2
comp=Z,3.0nm,1.0s,baz=71,slow=4.4,SNR=3.3
YKA Yellowknife Ar 103.82 24 Pdiff Pdif 06 45 24.4 -0.3
comp=Z,0.3nm,0.6s,baz=298,slow=4.9,SNR=4.8
YKA PKiKP PKiKP 06 49 40.5 -0.6
comp=Z,0.2nm,0.3s,baz=18,slow=2.8,SNR=11
YKA PKKPbc PKKPbc 07 01 13.3 -4.2
comp=Z,0.2nm,0.4s,baz=116,slow=2.8,SNR=8.9
NVAR Mina Array Bea 111.47 48 PKiKP PKiKP 06 49 56.7 +0.2
comp=Z,0.7nm,0.7s,baz=232,slow=2.3,SNR=6.2
NVAR PKKPbc PKKPbc 07 00 52.5 -0.5
comp=Z,0.2nm,0.5s,baz=108,slow=2.9,SNR=3.6
HLID Hailey 112.38 42 P PKiKP 06 49 59.3 +1.4
baz=294
EGMT Eagleton 113.32 36 P PKiKP 06 50 00.2 +0.7
baz=299
PDAR Pinedale Array 115.93 41 PKP PKiKP 06 50 05.0 +0.1
comp=Z,0.4nm,0.4s,baz=63,slow=2.9,SNR=7.4
PDAR PKKPbc PKKPbc 07 00 37.2 -0.9
comp=Z,0.7nm,0.6s,baz=106,slow=6.5,SNR=4.4
ESDC Sonseca Array 117.76 316 PP PP 06 51 26.3 +1.4
comp=Z,2.9nm,1.2s,baz=42,slow=6.8,SNR=6.8
O20A White River Ci 118.01 43 P PKiKP 06 50 09.7 +0.7
baz=297
RSSD Black Hills 118.74 37 P PKiKP 06 50 10.4 +0.1
baz=303
MVCO Mesa Verde 119.12 46 P PKiKP 06 50 12.4 +1.1
baz=296
ULM Lac du Bonnet 119.38 28 PKP PKPdf 06 50 10.2 -0.8
comp=Z,3.4nm,0.6s,baz=332,slow=1.2,SNR=9.0
S22A 4UR Ranch, Cre 120.08 45 P PKiKP 06 50 14.4 +1.3
baz=297
TORD Torodi Ar. Bea 120.85 286 PKP PKPdf 06 50 14.1 -0.6
comp=Z,3.6nm,0.7s,baz=89,slow=2.3,SNR=26
TORD PKKPbc PKKPab 07 00 21.0 0.0
comp=Z,0.7nm,0.7s,baz=291,slow=4.0,SNR=4.9
SDCO Great Sand Dun 121.01 44 P PKiKP 06 50 16.1 +1.1
baz=298
ANMO Albuquerque 121.59 48 P PKiKP 06 50 17.1 +1.0
baz=296
121A Cookes Peak, D 121.59 51 P PKiKP 06 50 17.2 +1.0
baz=323
ECSD EROS Data Cent 123.31 34 P PKPdf 06 50 18.6 -0.1
baz=310
MNTX Cornudas Mount 123.79 51 P PKiKP 06 50 21.1 +0.8
baz=295
SCHQ Schefferville 124.30 7 PKP PKPdf 06 50 20.4 +0.1
comp=Z,4.1nm,0.4s,baz=9.8,slow=3.1,SNR=24
TXAR Lajitas Array 126.12 53 PKP PKPdf 06 50 24.1 -0.5
comp=Z,0.5nm,0.5s,baz=196,slow=2.0,SNR=14
KSU1 Kansas State U 126.17 38 P PKiKP 06 50 25.0 +0.2
baz=307
DBIC Dimbokro 128.06 279 PKP PKPdf 06 50 28.0 -0.6
comp=Z,3.9nm,0.7s,baz=312,slow=1.1,SNR=5.2
JCT Junction City 128.62 49 P PKiKP 06 50 30.2 +0.2
baz=299
M53A WI Miller and 132.93 25 P PKiKP 06 50 37.8 -0.5
baz=326
P52A Corning 133.75 28 P PKiKP 06 50 39.6 -0.4
baz=323
PLCA Paso Flores 137.85 164 PKP PKPdf 06 50 46.0 -0.4
comp=Z,1.7nm,0.8s,baz=235,slow=3.2,SNR=5.5
PLCA SKPbc SKPbc 06 53 55.5 -1.3
comp=Z,5.5nm,0.8s,baz=189,slow=2.5,SNR=10.0
CPUP Villa Florida 154.20 178 PKPbc PKiKP 06 51 22.7 +0.4
comp=Z,1.8nm,0.8s,baz=62,slow=0.8,SNR=4.4
ZARC Zaragoza, Cauc 160.02 67 *e* P PKPdf 06 51 21.5 -0.1
SPBC San Pablo de B 161.39 71 *e* P PKPdf 06 51 21.9 -1.4
SAML Samuel 169.16 142 *e* P PKPab 06 52 43.4 +0.7

*TRN **15** 06:38:03.5, 10°.93N×62°.27W, h97km, MD3.8*
*FUNV **15** 06:38:05.2, 10°.91N×62°.25W, h92km, MW3.4*
ISC 15 06:38:02.9±1.4, 10°.94N±0°.05×62°.30W±0°.05, h102km±14km, n26, σ1§61/41, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.93	108	*eP*		Pn	Pn	06 38 23.1	+0.3
TRN				*eS*		Sn	Sn	06 38 35.7	-2.0
CRUV	Carupano	0.96	254	⇓ *iP*		Pn	Pn	06 38 24.3	+1.2
CRUV				*eS*		Sn	Sn	06 38 36.6	+0.4
TPP	Pointe-a-Pierr	1.04	127	*eS*		Sn	Sn	06 38 38.7	-1.1
GRFF	Grenada Fort F	1.23	27	*eP*		Pn	Pn	06 38 26.6	+0.5
GRFF				*eS*		Sn	Sn	06 38 43.0	-0.6
GRGR	Grenville	1.34	28	*eP*		Pn	Pn	06 38 27.8	+0.4
GRGR				*eS*		Sn	Sn	06 38 45.9	0.0
GRW	Mount Saint Ca	1.36	27	*eP*		Pn	Pn	06 38 28.5	+0.7
GRW				*eS*		Sn	Sn	06 38 45.7	-0.7
GRHS	Sauteurs	1.43	27	*eP*		Pn	Pn	06 38 29.2	+0.8
GRHS				*eS*		Sn	Sn	06 38 47.2	-0.5
GCMP	Grenada, Carri	1.75	29	*eP*		Pn	Pn	06 38 33.2	+0.7
GCMP				*eS*		Sn	Sn	06 38 54.6	-0.4
CUMV	Cumana_UDO	1.93	255	*eP*		Pn	Pn	06 38 37.4	+2.6
CUMV				*eS*		Sn	Sn	06 38 59.9	+0.9
PCRV	Puerto La Cruz	2.42	252	*eP*		Pn	Pn	06 38 43.1	+2.0
PCRV				*eS*		Sn	Sn	06 39 09.1	-1.3
SVOC	Richmond Hill,	2.44	26	*eP*		Pn	Pn	06 38 41.3	+0.1
SVOC				*eS*		Sn	Sn	06 39 09.2	-1.4
SVB	Belmont	2.53	24	*eP*		Pn	Pn	06 38 44.1	+1.5
SVB				*eS*		Sn	Sn	06 39 13.2	+0.3
SLBI	Saint Lucia, B	3.32	23	*eP*		Pn	Pn	06 38 53.6	+0.6
SLBI				*eS*		Sn	Sn	06 39 29.9	-1.8
BBGH	Gun Hill	3.46	51	*eP*		Pn	Pn	06 38 55.5	+0.6
BBGH				*eS*		Sn	Sn	06 39 36.3	+1.2
BIM	Bigot	3.75	19	*eP*		Pn	Pn	06 39 00.4	+1.6
BIM				*eS*		Sn	Sn	06 39 40.9	-1.2
MPOM	Morne Pois Mar	3.75	22	*eP*		Pn	Pn	06 39 00.6	+1.7
MPOM				*eS*		Sn	Sn	06 39 39.7	-2.4
LUEV	Luepa	5.14	171	*eP*		Pn	Pn	06 39 17.8	+0.1
BENV	Beln	5.30	260	*eP*		Pn	Pn	06 39 21.9	+2.0
CACV	CAICARA DEL OR	5.37	232	*eP*		Pn	Pn	06 39 16.2	-4.5
TURV	Turiamo	5.47	265	*eP*		Pn	Pn	06 39 23.5	+1.5
BAUV	El Baul	6.00	251	*eP*		Pn	Pn	06 39 29.2	0.0
BAUV				*eS*		Sn	Sn	06 40 32.2	-4.4
BAUV	El Baul	6.00	251	*eP*		Pn	Pn	06 39 29.1	-0.1
BAUV	El Baul	6.00	251	*eS*		Sn	Sn	06 40 34.4	-2.2
ANBD	Bethesda, Anti	6.09	5	*eP*		Pn	Pn	06 39 31.3	+0.8
ANBD	Bethesda, Anti	6.09	5	*eS*		Sn	Sn	06 40 34.6	-4.2
SOCV	Socops	8.84	253	*eP*		Pn	Pn	06 40 07.4	-0.5

*IDC **15** 06:58:54.3±1.9, 34°.63N×45°.50E, h0km, mb3.8/7, mbtmp3.7/9, ML3.8/2, MS3.4/2, Error ellipse: s-maj=43.8km s-min=24.1km az=164.0*
*TEH **15** 06:58:55.9, 34°.67N×45°.67E, h11km±17km, ML3.6*
*ISN **15** 06:58:58.7±0.9, 34°.70N×45°.67E, h29km±6km, ML3.5*
ISC 15 06:58:56.8±1.2, 34°.69N±0°.04×45°.61E±0°.04, h10km±9km, n35, σ1§45/37, mb3.6/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.18	186	Pg		Pg	Pg	06 59 00.7	0.0
IDHR	Dehrash	0.64	89	Pg		Pg	Pg	06 59 08.2	-1.0
IGHG	Ghaleghazi	0.87	114	Pg		Pg	Pg	06 59 12.9	-0.6
ILIN	Lien	1.13	78	Pg		Pg	Pg	06 59 18.0	-0.6
ILBA	Ilam Banvizeh	1.17	155	Pg		Pg	Pg	06 59 18.4	-0.8
KCHF	Cheshme Sefid,	1.25	109	Pg		Pg	Pg	06 59 20.0	-0.8
KCHF				Sg		Sb	Sb	06 59 37.8	+1.1
SDS1	Sardasht. Az.	1.46	356	Pg		Pn	Pn	06 59 25.4	+2.0
IBDR	Badra	1.60	170	*e* Pg		Pg	Pg	06 59 28.0	+0.6
IBDR				*e* Sg		Sg	Sg	06 59 48.0	-0.1
IBDR				AML		AML	AML	06 59 52.2	
comp=E,891nm,0.8s									
IBDR				AML		AML	AML	06 59 57.2	
comp=N,496nm,0.6s									
IKOM	Komasi	1.65	108	Pg		Pg	Pn	06 59 27.4	+1.5
BHD	Baghdad	1.75	216	*e* Pn		Pb	Pb	06 59 29.0	+0.1
BHD				*e* Sn		Sg	Sg	06 59 52.0	-0.9
MAHB	Mahabad	2.08	2	Pn		Pn	Pn	06 59 33.5	+1.7
IALM	Almabolaq	2.11	85	Pn		Pn	Pn	06 59 34.1	+1.7
IKFM	Kafar-mosalman	2.19	121	Pn		Pn	Pn	06 59 34.5	+1.4
HSAM	Samen	2.52	100	Pn		Pn	Pn	06 59 39.4	+1.5
HAGD	Aghdareh	2.91	86	Pn		Pn	Pn	06 59 44.8	+1.5
IHSH	Hashtrud	2.93	27	Pn		Pn	Pn	06 59 46.1	+2.3
RAFI	Al-Rafai	2.99	172	*e* Pn		Pn	Pn	06 59 46.0	+1.9
RAFI				*e* Sn		Sn	Sn	07 00 21.0	+1.0
IAZR	Azarshahr	3.00	6	Pn		Pn	Pn	06 59 47.0	+2.4
QSDN	Sirdan	3.42	57	Pn		Pn	Pn	06 59 52.2	+1.8
ISRB	Sarab	3.54	27	Pn		Pn	Pn	06 59 54.5	+2.5
IRAZ	Razeghan	3.61	77	Pn		Pn	Pn	06 59 55.0	+2.0
IHRS	Heris	3.80	17	Pn		Pn	Pn	06 59 57.8	+2.3
QAMS	Qamsar	4.88	100	Pn		Pn	Pn	07 00 12.1	+1.6
IKLH	Kolahrood	5.14	104	Pn		Pn	Pn	07 00 15.6	+1.6
AKTO	Aktyubinsk	18.16	26	P		Pn	Pn	07 03 09.0	+0.2
comp=N,0.1nm,0.3s,baz=236,slow=9.4,SNR=4.5									
comp=N,1.1nm,0.5s									
AKASG	Malin Array Be	19.96	328	P		P	P	07 03 28.8	-0.1
comp=N,0.5nm,0.3s,baz=140,slow=10,SNR=2.2									
comp=N,0.2nm,0.2s									
BVAR	Borovoye Array	25.39	36	P		P	P	07 04 24.1	+0.1
comp=N,1.6nm,0.6s,baz=240,slow=8.7,SNR=8.4									
comp=N,1.6nm,0.6s									
KURBB	Kurchatov Arra	28.68	46	P		P	P	07 04 54.1	+0.5
comp=N,0.4nm,0.7s,baz=251,slow=8.8,SNR=4.6									
comp=N,0.4nm,0.7s									
FINES	FINESS Array B	29.54	341	P		P	P	07 05 00.2	-0.9
comp=N,3.6nm,1.0s,baz=134,slow=12,SNR=3.5									
comp=N,3.6nm,1.0s									
KEST	Kesra	29.55	283	LR		LR	LR	07 18 11.4	
comp=N,39nm,18.1s,baz=240,slow=39									
MKAR	Makanchi Array	30.04	55	P		P	P	07 05 05.9	+0.1
comp=N,0.7nm,0.7s,baz=258,slow=7.6,SNR=6.4									
comp=N,0.7nm,0.7s									
HFS	Hagfors	32.80	331	P		P	P	07 05 29.0	-0.9
comp=N,1.6nm,0.4s,baz=134,slow=10,SNR=12									
comp=N,1.6nm,0.4s									
TORD	Torodi Ar. Bea	45.07	253	P		P	P	07 07 11.5	-1.6
comp=N,0.2nm,0.4s,baz=54,slow=7.4,SNR=1.8									
comp=N,0.2nm,0.4s									
LBTB	Lobatse	62.34	201	LR		LR	LR	07 37 39.5	
comp=N,47nm,18.5s,baz=170,slow=37									
YKA	Yellowknife Ar	81.85	351	P		P	P	07 11 14.7	-1.1
comp=N,0.3nm,0.6s,baz=10.0,slow=5.7,SNR=6.4									
comp=N,0.3nm,0.6s									

*IDC **15** 07:03:16.0±1.1, 49°.89S×110°.83E, h0km, mb4.1/5, mbtmp4.1/5, MS3.2/3, Error ellipse: s-maj=55.6km s-min=21.7km az=109.0*
*NEIC **15** 07:03:17±1.4, 49°.8S±0°.1×111°.1E±0°.3, h10km±1km, mb4.5/11, Error ellipse: s-maj=31.5km s-min=20.0km az=280.0*
ISC 15 07:03:16.9±0.9, 49°.9S±0°.1×111°.2E±0°.2, h10km, n27, σ1§01/23, mb4.4/11, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.10	9	T		T	T	07 22 26.4	
baz=188,slow=74,SNR=20									
H01W1	Cape Leeuwin H	15.11	9	T		T	T	07 22 26.1	
baz=188,slow=74,SNR=21									
H01W3	Cape Leeuwin H	15.12	9	T		T	T	07 22 27.3	
baz=188,slow=74,SNR=23									
NWAO	Narrogin (SRO)	17.50	17	LR		LR	LR	07 11 35.6	
comp=Z,98nm,20.8s,baz=44,slow=28									
TOO	Toolangi	27.39	76	P		P	P	07 09 02.9	+0.5
TOO				IAmb		IAmb	IAmb	07 09 03.2	
comp=Z,16nm,1.1s									
ASAR	Alice Springs	31.59	42	P		P	P	07 09 39.4	-0.3
ASAR	Alice Springs	31.59	42	P		P	P	07 09 42.1	+2.3
comp=Z,1.3nm,0.9s,baz=210,slow=7.9,SNR=9.0									
ASAR				LR		LR	LR	07 21 43.3	
comp=Z,58nm,20.1s,baz=200,slow=35									
comp=Z,1.3nm,0.9s									
AS31	Alice Springs	31.59	42	P		P	P	07 09 39.8	0.0
VNDA	Vanda	33.55	162	P		P	P	07 09 56.5	+0.2
WRA	Warramunga Arr	35.06	40	P		P	P	07 10 12.4	+2.4
comp=Z,2.4nm,1.0s,baz=207,slow=8.7,SNR=5.8									
comp=Z,2.4nm,1.0s									
WB2	Warramunga Arr	35.07	40	P		P	P	07 10 09.5	-0.6
WB2				IAmb		IAmb	IAmb	07 10 19.8	
comp=Z,4.5nm,0.9s									
WR0	Warramunga Arr	35.13	40	P		P	P	07 10 11.3	+0.6
WR0				IAmb		IAmb	IAmb	07 10 20.7	
comp=Z,6.5nm,1.1s									
WB0	Warramunga Arr	35.24	40	P		P	P	07 10 11.5	-0.1
WB0				IAmb		IAmb	IAmb	07 10 16.8	
comp=Z,6.4nm,1.1s									
KNRA	Kununurra	36.95	29	P		P	P	07 10 24.5	-1.6
QSPA	South Pole Qui	40.27	180	P		P	P	07 10 54.6	+0.8
QSPA				IAmb		IAmb	IAmb	07 11 02.1	
comp=Z,10nm,1.3s									
QSPA	South Pole Qui	40.27	180	P		P	P	07 10 54.3	+0.5
comp=Z,2.7nm,0.6s,baz=283,slow=1.5,SNR=8.0									
comp=Z,2.7nm,0.6s									
MQZ	McQueen's Vall	41.46	106	P		P	P	07 11 03.8	+0.2
SNAA	Sanae	50.23	202	P		P	P	07 12 12.0	-0.6
comp=Z,2.4nm,0.9s,baz=80,slow=18,SNR=2.6									
comp=Z,2.4nm,0.9s									
BELA	Belgrano 2	50.81	189	P		P	P	07 12 16.4	-0.4
BELA				IAmb		IAmb	IAmb	07 12 18.5	
comp=Z,3.9nm,0.8s									
KOUNC	Koumac, New Ca	50.90	75	P		P	P	07 12 16.5	-1.7
KOUNC				IAmb		IAmb	IAmb	07 12 16.9	
comp=Z,14nm,1.0s									
CMAR	Chiang Mai Arr	68.88	347	P		P	P	07 14 21.2	-0.5
CMAR	Chiang Mai Arr	68.88	347	P		P	P	07 14 22.4	+0.7
comp=Z,1.0nm,0.3s,baz=192,slow=5.7,SNR=4.8									
CMAR				LR		LR	LR	07 42 31.4	
comp=Z,11nm,18.9s,baz=85,slow=34									
comp=Z,1.0nm,0.3s									
TX31	Lajitas Ar. Si	146.62	115	PKPbc		PKPab	PKPab	07 22 59.8	+0.2
TXAR	Lajitas Array	146.62	115	PKPbc		PKPab	PKPab	07 22 59.6	-0.1
TXAR	Lajitas Array	146.62	115	PKPbc		PKPab	PKPab	07 22 59.4	-0.3
comp=Z,0.9nm,0.7s,baz=198,slow=6.2,SNR=11									
PDAR	Pinedale Array	151.23	88	PKPbc		PKiKP	PKiKP	07 23 11.3	+0.6
comp=Z,0.4nm,0.7s,baz=197,slow=2.8,SNR=3.2									
YKA	Yellowknife Ar	152.19	46	PKPbc		PKiKP	PKiKP	07 23 12.1	+0.4
comp=Z,0.3nm,0.8s,baz=289,slow=1.9,SNR=2.8									

PGC 15 07:09:42.7±3.2, 50°.48N×130°.16W, h10km, MLSn3.0/9, Mw3.6/9, 195km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.31	82	Pn		Pn	Pn	07 10 04.9	-2.2
HOLB				Sn		Sn	Sb	07 10 20.4	-3.8
PHC	Port Hardy	1.76	81	Pn		Pn	Pn	07 10 11.2	-2.0
PHC				Sn		Sn	Sn	07 10 31.8	-3.7
MAYB	Maynard	1.92	91	Pn		Pn	Pn	07 10 13.2	-2.3
HG4B	Hotspring	1.93	341	Pn		Pn	Pn	07 10 13.2	-2.4
HG4B				Sn		Sn	Sn	07 10 36.3	-3.6
BBB	Bella Bella	2.14	36	Pn		Pn	Pn	07 10 16.9	-1.6
BBB				Sn		Sn	Sn	07 10 40.6	-4.5
WOSB	Woss	2.33	96	Pn		Pn	Pn	07 10 19.4	-1.7
WOSB				Sn		Sn	Sn	07 10 45.9	-3.9
NCRB	Newcastle Ridg	2.63	90	Pn		Pn	Pn	07 10 24.2	-1.1
NCSB	Newcastle Ridg	2.63	90	Pn		Pn	Pn	07 10 24.3	-1.0
BUTB	Butedale	2.80	22	Pn		Pn	Pn	07 10 26.6	-1.1
BUTB				Sn		Sn	Sn	07 10 59.0	-2.4
BNKB	Banks Island	2.86	3	Pn		Pn	Pn	07 10 26.5	-2.0
BNKB				Sn		Sn	Sn	07 11 00.1	-2.9
GRIB	Gribbell Islan	2.94	12	Pn		Pn	Pn	07 10 27.4	-2.0
GRIB				Sn		Sn

LLLB	**Lillooet**	**5.28**	**85**	Pn	Pn	07 11 01.2 -0.5

IDC ***15*** *07:34:37.1±4.7, 71°19'N×10°41'W, h0km, mb3.5/2, mbtmp3.9/5, ML2.9/2, Error ellipse: s-maj=76.5km s-min=27.1km az=43.0*
BER ***15*** *07:34:39.6±0.8, 71°53'N×10°12'W, h0km±17km, ML3.2, Confirmed Earthquake*
NAO ***15*** *07:34:40.0±3.7, 71°55'N×10°03'W, ML3.7*
ISC 15 07:34:42.2±1.4, 71°53'N±0'.05×9°2'W±0'.1, h10km, n20, σ1§45/25, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**0.59**	**157**	Pg	**Pb**	**07 34 54.1**	**-0.6**
JMIC				Lg	Lg	07 35 05.0	
JMIC	**Jan Mayen**	**0.59**	**157**	*eP*	**Pg**	**07 34 54.0**	**+0.3**
JMIC				*eS*	**Sn**	**07 35 05.7**	**-0.6**
JMIC				IAML		07 35 05.9	
	comp=Z,759nm,0.4s						
JMIC	**Jan Mayen**	**0.59**	**157**	Pn	**Pg**	**07 34 53.1**	**-0.6**
	comp=Z,52nm,0.3s,baz=142,slow=12,SNR=1.2						
JMIC				Sn	**Sn**	**07 35 05.5**	**-0.8**
	comp=Z,206nm,0.3s,baz=157,slow=18,SNR=11						
JNE	**Jan Mayen East**	**0.62**	**151**	*eP*	**Pb**	**07 34 55.2**	**+0.1**
JNE				*eS*	**Sn**	**07 35 07.2**	**+0.3**
JNE				IAML		07 35 08.2	
	comp=Z,400nm,0.2s						
JMI	**Jan Mayen**	**0.62**	**165**	Pg	**Pb**	**07 34 54.9**	**-0.3**
JMI				Lg	Lg	07 35 05.2	
JMI	**Jan Mayen**	**0.62**	**165**	*eP*	**Pb**	**07 34 55.0**	**-0.3**
JMI				*eS*	**Sn**	**07 35 05.1**	**-2.0**
JMI				IAML		07 35 07.3	
	comp=Z,1μm,0.3s						
DAG	**Danmarks Havn**	**5.86**	**338**	*e*	**Pn**	**07 36 09.2**	**+0.2**
BRBA	**Barentsburg A**	**8.90**	**32**	Pn	**Pn**	**07 36 50.7**	**+0.1**
BRBB	**Barentsburg B**	**8.92**	**32**	Pn	**Pn**	**07 36 50.5**	**-0.4**
KBS	**Kingsbay**	**9.10**	**26**	Pn	**Pn**	**07 36 51.9**	**-1.4**
KBS				Sn	**Sn**	**07 38 31.8**	**-3.7**
KBS	**Kingsbay**	**9.10**	**26**	*eP*	**Pn**	**07 36 52.0**	**-1.2**
SPA0	**Spitsbergen Ar**	**9.34**	**33**	Pn	**Pn**	**07 36 57.5**	**+0.9**
	baz=240,slow=16						
SPA0	**Spitsbergen Ar**	**9.34**	**33**	*eP*	**Pn**	**07 36 57.0**	**+0.4**
SPITS	**Spitsbergen Ar**	**9.34**	**33**	Pn	**Pn**	**07 36 57.7**	**+1.1**
	comp=Z,15nm,0.6s,baz=234,slow=12,SNR=26						
HOPEN	**Hopen**	**10.51**	**46**	*eP*	**Pn**	**07 37 12.4**	**-0.3**
ARA0	**ARCESS Array S**	**11.64**	**83**	Pn	**Pn**	**07 37 31.9**	**+3.8**
	baz=289,slow=12						
ARCES	**ARCESS Array B**	**11.64**	**83**	Pn	**Pn**	**07 37 30.5**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=298,slow=12,SNR=7.1						
	comp=Z,4.4nm,1.0s						
FINES	**FINESS Array B**	**17.01**	**108**	P	**Pn**	**07 38 39.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=305,slow=17,SNR=1.3						
	comp=Z,3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**42.38**	**71**	P	**P**	**07 42 36.8**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=330,slow=7.7,SNR=4.9						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**46.93**	**70**	P	**P**	**07 43 13.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=321,slow=6.2,SNR=5.2						
	comp=Z,0.4nm,0.6s						

AEIC ***15*** *07:44:02.4±1.9, 54°57'N±0°.04×161°.23W±0°.05, h26km±6km, Error ellipse: s-maj=6.2km s-min=4.2km az=169.0*
NEIC ***15*** *07:44:03.1±1.9, 54°.61'N±0°.06×161°.23W±0°.05, h28km±11km, mb3.5/6, ML3.5/16, ML3.2(AEIC), Error ellipse: s-maj=8.6km s-min=4.1km az=179.0*
ISC 15 07:44:03.4±1.8, 54°59'N±0°.07×161°21'W±0°.04, h39km±8km, n91, σ0§96/95, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DT1	**Dutton Round H**	**0.81**	**311**		**Pn**	**07 44 17.0**	**-1.3**
HAG	**Hague Volcano**	**0.83**	**332**		**Pn**	**07 44 18.1**	**-0.5**
PVV	**Pavlof Volcano**	**0.86**	**337**		**Pn**	**07 44 18.3**	**-0.6**
PVV					**Sn**	**07 44 29.7**	**-0.5**
SDPT	**Sand Point**	**0.87**	**29**		**Pn**	**07 44 18.6**	**-0.5**
SDPT	**Sand Point**	**0.87**	**29**		**Sn**	**07 44 30.5**	**-0.1**
SDPT	**Sand Point**	**0.87**	**29**	IAML		07 44 31.8	
	comp=N,836nm,0.3s						
SDPT				IAML		07 44 34.2	
	comp=E,961nm,0.4s						
SDPT	**Sand Point**	**0.87**	**29**	P	**Pn**	**07 44 18.6**	**-0.5**
SDPT	**Sand Point**	**0.87**	**29**	P	**Pn**	**07 44 18.7**	**-0.4**
	baz=209						
SDPT				S	**Sn**	**07 44 30.5**	**-0.1**
	baz=209						
PS1A	**Pavlof South-1**	**0.89**	**340**		**Pn**	**07 44 18.9**	**-0.4**
PS1A					**Sn**	**07 44 30.7**	**-0.3**
PN7A	**Pavlof North-7**	**0.96**	**332**		**Pn**	**07 44 20.1**	**-0.3**
CNBA	**Chernabura Isl**	**0.97**	**75**		**Pn**	**07 44 19.3**	**-1.1**
CNBA					**Sn**	**07 44 33.3**	**+0.3**
CHNA	**Chernabura Isl**	**0.97**	**75**	P	**Pn**	**07 44 19.3**	**-1.1**
	baz=255						
CHNA				S	**Sn**	**07 44 33.3**	**+0.2**
	baz=255						
FALS	**False Pass**	**1.31**	**283**		**Pn**	**07 44 24.4**	**-0.6**
FALS					**Sn**	**07 44 40.8**	**-0.5**
FALS	**False Pass**	**1.31**	**283**	P	**Pn**	**07 44 24.8**	**-0.3**
FALS	**False Pass**	**1.31**	**283**	P	**Pn**	**07 44 24.4**	**-0.6**
	baz=102						
FALS				S	**Sn**	**07 44 40.8**	**-0.5**
	baz=102						
ISLZ	**Isanotski Laza**	**1.46**	**276**		**Pn**	**07 44 26.7**	**-0.5**
ISNN	**Isanotski Nort**	**1.51**	**280**		**Pn**	**07 44 28.1**	**+0.2**
SSLN	**Shishaldin Nor**	**1.63**	**279**		**Pn**	**07 44 30.1**	**+0.6**
S14K	**Fog Glacier**	**1.95**	**28**	P	**Pn**	**07 44 35.4**	**+1.5**
	baz=210						
VNFG	**Fog Glacier, M**	**1.95**	**28**		**Pn**	**07 44 35.4**	**+1.5**
VNFG	**Fog Glacier, M**	**1.95**	**28**	IAML		07 45 14.1	
	comp=N,408nm,1.8s						
VNFG				IAML		07 45 15.2	
	comp=E,356nm,0.7s						
WESE	**West Dahl East**	**1.97**	**268**		**Pn**	**07 44 35.1**	**+0.8**
WEBT	**Westdahl Beart**	**2.06**	**272**		**Pn**	**07 44 36.6**	**+1.1**
CHGN	**Chignik**	**2.34**	**42**		**Pn**	**07 44 40.4**	**+1.1**
CHGN	**Chignik**	**2.34**	**42**	P	**Pn**	**07 44 40.4**	**+1.1**
	baz=224						
AKSA	**Akutan Strait**	**2.66**	**262**		**Pn**	**07 44 45.1**	**+1.4**
AKUT	**Akutan**	**2.71**	**262**	Pn	**Pn**	**07 44 43.2**	**-1.1**
AKUT				IAML		07 45 43.9	
	comp=E,130nm,4.2s						
AKUT				IAML		07 46 19.9	
	comp=N,117nm,4.3s						
AKUT	**Akutan**	**2.71**	**262**	P	**Pn**	**07 44 46.6**	**+2.3**
AKLV	**Akutan Long Va**	**2.81**	**263**		**Pn**	**07 44 47.2**	**+1.5**
AKV	**Akutan Volcano**	**2.82**	**262**		**Pn**	**07 44 47.7**	**+1.8**
UNV	**Unalaska Valle**	**3.20**	**259**		**Pn**	**07 44 51.6**	**+0.6**
UNV	**Unalaska Valle**	**3.20**	**259**	P	**Pn**	**07 44 52.3**	**+1.3**
UNV	**Unalaska Valle**	**3.20**	**259**	P	**Pn**	**07 44 51.6**	**+0.6**
	baz=75						
MNAT	**Makushin Natee**	**3.29**	**260**		**Pn**	**07 44 53.3**	**+1.0**
MSW	**Makushin Switc**	**3.34**	**261**		**Pn**	**07 44 53.8**	**+0.9**
CHIR	**Chirikof Islan**	**3.43**	**67**	Pn	**Pn**	**07 44 54.6**	**+0.4**
R16K	**Pilot Point**	**3.62**	**33**		**Pn**	**07 44 58.5**	**+1.8**
R16K	**Pilot Point**	**3.62**	**33**	P	**Pn**	**07 44 58.5**	**+1.8**
	baz=216						
O14K	**Tigyukauivet M**	**4.68**	**360**	Pn	**Pn**	**07 45 11.1**	**-0.2**
O14K				IAML		07 46 11.1	
	comp=E,47nm,3.7s						
O14K				IAML		07 47 17.6	
	comp=N,50nm,3.3s						
P16K	**Nushagak River**	**4.79**	**20**		**Pn**	**07 45 14.0**	**+1.1**
P16K	**Nushagak River**	**4.79**	**20**	P	**Pn**	**07 45 14.0**	**+1.1**
	baz=203						
ANCK	**Angle Creek**	**4.81**	**39**		**Pn**	**07 45 14.6**	**+1.3**
ACHA	**Angle Creek He**	**4.89**	**40**		**Pn**	**07 45 15.6**	**+1.3**
OHAK	**Old Harbor**	**5.18**	**56**	Pn	**Pn**	**07 45 18.1**	**-0.1**
OHAK	**Old Harbor**	**5.18**	**56**	P	**Pn**	**07 45 17.8**	**-0.4**
O16K	**Kokwok River B**	**5.30**	**17**		**Pn**	**07 45 20.4**	**+0.6**
O16K	**Kokwok River B**	**5.30**	**17**	IAML		07 46 55.7	
	comp=E,32nm,3.7s						
O16K				IAML		07 47 00.1	
	comp=N,27nm,4.5s						
O16K	**Kokwok River B**	**5.30**	**17**	P	**Pn**	**07 45 20.4**	**+0.6**
	baz=200						
P17K	**Kvichak River**	**5.31**	**28**		**Pn**	**07 45 20.9**	**+0.9**
P17K	**Kvichak River**	**5.31**	**28**	P	**Pn**	**07 45 20.8**	**+0.9**
	baz=212						
N14K	**Kuskokwak Cree**	**5.36**	**357**		**Pn**	**07 45 20.9**	**+0.3**
N14K	**Kuskokwak Cree**	**5.36**	**357**	P	**Pn**	**07 45 20.9**	**+0.3**
	baz=177						
KAHG	**Katmai Hook Gl**	**5.38**	**41**		**Pn**	**07 45 21.7**	**+0.7**
N15K	**Kwethluk River**	**5.63**	**6**	Pn	**Pn**	**07 45 24.5**	**+0.1**
KDAK	**Kodiak Island**	**5.78**	**53**	Pn	**Pn**	**07 45 25.4**	**-1.1**
M13K	**Dall Lake**	**5.96**	**350**		**Pn**	**07 45 29.7**	**+0.9**
M13K	**Dall Lake**	**5.96**	**350**	P	**Pn**	**07 45 29.7**	**+0.9**
	baz=168						
Q19K	**Cape Douglas,**	**6.02**	**41**		**Pn**	**07 45 30.8**	**+1.1**
Q19K	**Cape Douglas,**	**6.02**	**41**	P	**Pn**	**07 45 30.8**	**+1.1**
	baz=227						
N16K	**Nishlik Lake**	**6.05**	**12**		**Pn**	**07 45 31.3**	**+1.1**
N16K	**Nishlik Lake**	**6.05**	**12**	P	**Pn**	**07 45 31.3**	**+1.1**
	baz=194						
M14K	**Bethel**	**6.20**	**357**	Pn	**Pn**	**07 45 32.9**	**+0.8**
O18K	**Koktuh Hills**	**6.20**	**29**		**Pn**	**07 45 34.5**	**+2.2**
O18K	**Koktuh Hills**	**6.20**	**29**	P	**Pn**	**07 45 34.4**	**+2.2**
	baz=214						
Q20K	**Shuyak Island**	**6.32**	**47**	P	**Pn**	**07 45 34.9**	**+1.0**
	baz=234						
SYI	**Shuyak Island**	**6.32**	**47**		**Pn**	**07 45 34.9**	**+1.0**
M16K	**Timber Creek**	**6.56**	**10**	Pn	**Pn**	**07 45 37.0**	**-0.2**
SVW2	**Sparrevohn**	**7.18**	**22**		**Pn**	**07 45 46.8**	**+1.1**
N19K	**Bonanza Creek**	**7.21**	**27**	Pn	**Pn**	**07 45 48.2**	**+2.1**
TTA	**Tatalina**	**8.79**	**16**	P	**Pn**	**07 46 08.4**	**+0.6**
J18K	**Innoko River**	**9.20**	**13**	Pn	**Pn**	**07 46 12.8**	**-0.5**
KNK	**Knik Glacier**	**9.61**	**39**	Pn	**Pn**	**07 46 18.6**	**-0.4**
J19K	**Poorman**	**9.85**	**15**	Pn	**Pn**	**07 46 22.3**	**0.0**
TRF	**Thorofare Moun**	**10.50**	**28**	Pn	**Pn**	**07 46 31.1**	**-0.2**
M24K	**Tolsona, Glenn**	**10.89**	**40**	Pn	**Pn**	**07 46 36.4**	**-0.1**
F15K	**North Star Dit**	**11.29**	**353**	Pn	**Pn**	**07 46 42.0**	**+0.1**
IMAR	**Indian Mountai**	**12.00**	**15**	Pn	**Pn**	**07 46 52.0**	**+0.4**
M26K	**Nabesna, AK**	**12.29**	**43**	Pn	**Pn**	**07 46 55.8**	**+0.2**
L26K	**Log Cabin Wild**	**12.50**	**40**	Pn	**Pn**	**07 46 58.9**	**+0.5**
G21K	**Allakaket**	**12.54**	**14**	Pn	**Pn**	**07 46 59.0**	**+0.1**
L27K	**Beaver Creek,**	**13.10**	**42**	Pn	**Pn**	**07 47 05.7**	**-0.9**
BCAR	**Beaver Creek A**	**13.12**	**42**	Pn	**Pn**	**07 47 06.2**	**-0.6**
J26L	**Joseph Creek**	**13.32**	**35**	Pn	**Pn**	**07 47 08.6**	**-1.0**
D19K	**Kuna River**	**14.03**	**5**	Pn	**Pn**	**07 47 20.9**	**+1.6**
C23K	**Itkillik River**	**16.04**	**13**		**Pn**	**07 47 46.2**	**+0.6**
C23K				IAmb	IAmb	07 47 51.4	
	comp=Z,5.1nm,1.2s						
H29M	**Whitestone**	**16.09**	**35**		**Pn**	**07 47 46.3**	**-0.1**
Q32M	**Nakina River**	**16.38**	**63**		**Pn**	**07 47 49.8**	**-0.5**
G29M	**Pine Creek**	**16.61**	**33**		**Pn**	**07 47 53.0**	**+0.1**
G29M				IAmb	IAmb	07 48 34.7	
	comp=Z,5.9nm,1.4s						
EPYK	**Eagle Plains**	**16.73**	**35**	P	**P**	**07 47 56.0**	**-0.3**
H31M	**Peel River**	**17.28**	**39**	P	**Pn**	**07 48 00.9**	**-0.4**
H31M				IAmb	IAmb	07 48 10.8	
	comp=Z,6.1nm,1.3s						
INK	**Inuvik**	**18.83**	**32**	P	**P**	**07 48 19.2**	**-0.2**
INK				IAmb	IAmb	07 48 19.7	
	comp=Z,3.6nm,1.4s						

IDC 15 07:48:41.6±3.7, 55°56N×85°87E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.5km s-min=23.9km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**201**	I	I	07 59 40.0	
	baz=22,slow=350,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.73**	**201**	Pg	Pn	07 49 11.1	-1.7
	1.6nm,0.3s,baz=18,slow=17,SNR=16						
ZALV				Lg	Lg	07 49 37.1	
	1.1nm,0.3s,baz=19,slow=26,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.63**	**225**	Pn	Pn	07 50 20.1	-0.1
	0.1nm,0.3s,baz=42,slow=14,SNR=5.1						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**9.06**	**196**	Pn	Pn	07 50 54.1	+0.5
	baz=14,slow=12,SNR=1.9						
	0.1nm,0.4s						

NEIC ***15*** *08:02:00.8±1.1, 3°02S±0°.09×141°.90E±0°.08, h34km±5km, mb4.6/72, Error ellipse: s-maj=12.7km s-min=11.0km az=205.0*
IDC ***15*** *08:02:05.2±3.5, 3°11S×141°.98E, h84km±33km, mb3.8/11, mbtmp4.1/13, MS3.4/10, Error ellipse: s-maj=32.1km s-min=13.2km az=94.0*
ISC 15 08:02:00.2±0.4, 3°12S±0°.05×141°85E±0°.07, h30km, n134, σ1§31/123, mb4.5/53, MS3.4/7, 1C-1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.76**	**287**	P	**Pn**	**08 02 27.6**	**-1.0**
TABU	**Tabubil**	**2.23**	**196**	P	**Pb**	**08 02 39.9**	**+0.1**
MANU	**Manus Island**	**5.61**	**79**		**Pn**	**08 03 20.1**	**-1.5**
MANU	**Manus Island**	**5.61**	**79**	P	Pn	08 03 27.1	+5.5
	50nm,1.1s						
PMG	**Port Moresby**	**8.18**	**140**	Pn	**Pn**	**08 03 58.0**	**+1.1**
PMG	**Port Moresby**	**8.18**	**140**	P	**Pn**	**08 04 01.6**	**+4.7**
	11nm,0.7s,baz=352,slow=13,SNR=2.5						
PMG				LR	LR	08 07 54.2	
	comp=Z,359nm,20.6s,baz=316,slow=43						
FAKI	**Fak Fak**	**9.59**	**271**	Pn	**Pn**	**08 04 17.5**	**+1.2**
COEN	**Coen**	**10.85**	**173**	Pn	**Pn**	**08 04 34.1**	**+0.5**
KDU	**Kakadu**	**13.29**	**224**	P	**Pn**	**08 05 07.2**	**+0.4**
MTN	**Manton Dam**	**14.35**	**227**		**Pn**	**08 05 21.0**	**-0.3**
MTN	**Manton Dam**	**14.35**	**227**	P	**Pn**	**08 05 22.8**	**+1.4**
MTSU	**Mount Surprise**	**15.12**	**171**	P	**P**	**08 05 36.6**	**-0.1**
CTA	**Charters Tower**	**17.41**	**166**	LR	LR	08 13 38.6	
	comp=Z,124nm,20.4s,baz=38,slow=40						
QIS	**Mount Isa**	**17.48**	**187**	P	**P**	**08 06 04.6**	**+1.8**
KNRA	**Kununurra**	**17.94**	**225**	P	**P**	**08 06 08.4**	**+0.4**
KNRA				IAmb	IAmb	08 06 33.3	
	comp=Z,32nm,0.8s						
KNRA	**Kununurra**	**17.94**	**225**	P	**P**	**08 06 09.4**	**+1.5**
WB0	**Warramunga Arr**	**18.08**	**203**	P	**Pn**	**08 06 09.5**	**+0.2**
WR0	**Warramunga Arr**	**18.20**	**203**	P	**P**	**08 06 10.4**	**-0.4**
WRAB	**Tennant Creek**	**18.25**	**203**	P	**P**	**08 06 09.8**	**-1.6**
WB2	**Warramunga Arr**	**18.26**	**203**	P	**P**	**08 06 11.0**	**-0.4**
WRA	**Warramunga Arr**	**18.26**	**203**	P	**P**	**08 06 11.9**	**+0.4**
WRA	**Warramunga Arr**	**18.26**	**203**	P	**P**	**08 06 11.7**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=22,slow=13,SNR=29						
WRA				S	**Sn**	**08 09 28.2**	**-6.5**
	comp=Z,2.6nm,1.0s,baz=32,slow=23,SNR=3.9						
SOEI	**Soe**	**18.67**	**248**	P	**P**	**08 06 16.5**	**+0.4**
SOEI	**Soe**	**18.67**	**248**	P	**P**	**08 06 16.2**	**+0.1**
DAV	**Davao City (W)**	**19.14**	**302**	LR	LR	08 14 09.6	
	comp=Z,68nm,19.4s,baz=140,slow=38						
FITZ	**Fitzroy Crossi**	**21.77**	**226**	P	**P**	**08 06 49.4**	**-0.2**
AS01	**Alice Springs**	**21.81**	**200**	P	**P**	**08 06 52.4**	**+2.3**
AS31	**Alice Springs**	**21.82**	**200**	P	**P**	**08 06 50.5**	**+0.3**
ASAR	**Alice Springs**	**21.83**	**200**	P	**P**	**08 06 49.9**	**-0.4**
ASAR	**Alice Springs**	**21.83**	**200**	P	**P**	**08 06 50.0**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=29,slow=11,SNR=22						
ASAR				S	**S**	**08 10 49.3**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=19,slow=15,SNR=2.5						
ASAR				LR	LR	08 17 08.3	
	comp=Z,72nm,18.8s,baz=33,slow=41						
	comp=Z,2.1nm,0.7s						
KAPI	**Kappang**	**22.12**	**264**	LR	LR	08 17 23.0	
	comp=Z,52nm,20.3s,baz=91,slow=41						
EIDS	**Eidsvold**	**23.84**	**159**	P	**P**	**08 07 11.4**	**+0.5**
EIDS				IAmb	IAmb	08 07 27.7	
	comp=Z,13nm,1.1s						
INKA	**Innaminka**	**24.51**	**182**	P	**P**	**08 07 19.7**	**+2.7**
OOD	**Oodnadatta**	**25.24**	**193**	P	**P**	**08 07 26.3**	**+2.7**
WRKA	**Warakurna**	**25.41**	**210**	P	**P**	**08 07 26.8**	**+1.5**
JAGI	**Jajag, Banyuwa**	**28.06**	**258**	P	**P**	**08 07 48.9**	**-0.3**
PSA00	**Pilbara Seismi**	**28.18**	**228**	P	**P**	**08 07 51.6**	**+1.3**
PSA00				IAmb	IAmb	08 07 58.7	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**28.61**	**180**	P	**P**	**08 07 55.5**	**+1.5**
STKA	**Stephens Creek**	**28.61**	**180**	P	**P**	**08 07 54.5**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=58,slow=2.1,SNR=3.8						
	comp=Z,1.8nm,0.8s						
BBOO	**Buckleboo**	**30.04**	**190**	P	**P**	**08 08 07.4**	**+0.8**
BBOO				IAmb	IAmb	08 08 11.1	
	comp=Z,20nm,1.3s						
DZM	**Mont Dzumac**	**30.41**	**130**	P	**P**	**08 08 09.7**	**-0.5**
DZM				IAmb	IAmb	08 08 12.6	
	comp=Z,7.5nm,0.9s						
FORT	**Forrest**	**30.45**	**204**	P	**P**	**08 08 11.0**	**+0.8**
JOW	**Kunigami**	**32.53**	**337**	LR	LR	08 20 09.9	
	comp=Z,13nm,20.9s,baz=139,slow=33						
H11S3	**WAKE ISLAND Hy**	**32.55**	**48**	T	T	08 42 34.3	
	baz=230,slow=75,SNR=58						
H11S2	**WAKE ISLAND Hy**	**32.56**	**48**	T	T	08 42 35.5	
	baz=230,SNR=31						
H11S1	**WAKE ISLAND Hy**	**32.56**	**48**	T	T	08 42 35.0	
	baz=230,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**33.47**	**46**	T	T	08 43 33.1	
	baz=229,slow=76,SNR=174						
H11N2	**WAKE ISLAND Hy**	**33.48**	**46**	T	T	08 43 35.1	
	baz=229,slow=76,SNR=196						
H11N3	**WAKE ISLAND Hy**	**33.48**	**46**	T	T	08 43 38.7	
	baz=229,slow=76,SNR=138						
MORW	**Morawa**	**35.61**	**221**	P	**P**	**08 08 56.0**	**+0.7**
JHJ	**Hachijo jima 2**	**36.09**	**357**	LR	LR	08 20 36.2	
	comp=Z,105nm,20.5s,baz=66,slow=31						
JNU	**Nakatsue**	**37.51**	**345**	LR	LR	08 23 47.2	
	comp=Z,58nm,19.6s,baz=9.0,slow=35						
NWAO	**Narrogin (SRO)**	**37.56**	**215**	LR	LR	08 27 00.1	
	comp=Z,66nm,21.7s,baz=146,slow=40						
NJ2	**Nanjing**	**41.23**	**330**	*eP*	**P**	**08 09 44.6**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,170nm,4.5s						
RPSI	**Rantau Prapat**	**43.30**	**277**	P	**P**	**08 09 59.0**	**-0.6**
RPSI				IAmb	IAmb	08 10 01.7	
	comp=Z,8.1nm,0.7s						
JTM	**Tenmabayashi**	**43.70**	**359**	P	**P**	**08 10 01.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**47.37**	**299**	P	**P**	**08 10 32.8**	**+0.8**
	comp=Z,1.5nm,0.2s,baz=120,slow=5.3,SNR=1.6						
CMAR				LR	LR	08 31 20.1	
	comp=Z,14nm,19.7s,baz=35,slow=37						
	comp=Z,1.5nm,0.2s						
HNS	**HongShan**	**47.55**	**330**	⇑P	**P**	**08 10 32.1**	**-0.9**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RTZ	**Ruatahuna**	**47.68**	**142**	P	**P**	**08 10 33.9**	**-0.2**
TUWZ	**Tuamarina**	**47.80**	**147**	P	**P**	**08 10 34.6**	**-0.3**
TCW	**Tory Channel**	**47.83**	**147**	P	**P**	**08 10 34.6**	**-0.5**
PZH	**PanZhiHua**	**48.67**	**310**	P	**P**	**08 10 44.8**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,3.9s						
MDJ	**Mudanjiang**	**48.77**	**348**	P	**P**	**08 10 43.0**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,14nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,210nm,5.4s						
BNX	**BinXian**	**50.31**	**347**	⇓P	**P**	**08 10 53.0**	**-1.0**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,140nm,4.3s						
HHC	**Hu-ho-hao-te**	**51.76**	**331**	*eP*	**P**	**08 11 07.8**	**+2.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,5.2s						
GTA	**Gaotai**	**57.29**	**322**	*eP*	**P**	**08 11 45.9**	**+0.5**
GTA				sP	sP	08 11 59.0	+0.8
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ULN	**Ulaanbaatar**	**59.19**	**333**	P	**P**	**08 11 58.2**	**-0.4**
SONM	**Songino Array**	**59.46**	**333**	P	**P**	**08 11 59.6**	**-0.8**
SONM	**Songino Array**	**59.46**	**333**	P	**P**	**08 12 00.3**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=153,slow=8.4,SNR=4.4						
	comp=Z,0.4nm,0.5s						
WMQ	**Urumqi**	**67.30**	**321**	*eP*	**P**	**08 12 52.3**	**0.0**
WMQ				PcP	**PcP**	**08 13 21.6**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MK31	**Makanchi Array**	**72.04**	**321**	P	**P**	**08 13 21.0**	**-0.4**
MKAR	**Makanchi Array**	**72.04**	**321**	P	**P**	**08 13 21.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=111,slow=6.6,SNR=8.5						
	comp=Z,0.8nm,0.7s						
MAKZ	**Makanchi**	**72.24**	**321**	P	**P**	**08 13 22.1**	**-0.6**
ZALV	**Zalesovo Beam**	**73.88**	**329**	P	**P**	**08 13 30.8**	**-1.3**
ZALV	**Zalesovo Beam**	**73.88**	**329**	P	**P**	**08 13 30.5**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=76,slow=6.3,SNR=4.2						
	comp=Z,0.8nm,0.6s						
BOOM	**Boomskoye usch**	**74.63**	**316**	P	**P**	**08 13 37.5**	**+0.5**
BOOM				IAmb	IAmb	08 13 38.3	
	comp=Z,3.7nm,0.6s						
VNDA	**Vanda**	**75.12**	**176**	P	**P**	**08 13 39.1**	**+0.1**
KURBB	**Kurchatov Arra**	**75.88**	**324**	P	**P**	**08 13 42.8**	**-1.0**
	comp=Z,0.4nm,0.6s,

comp=Z,7.1nm,1.4s
G27K Doyon Strip 87.55 23 P P 08 14 44.3 -0.6
G27K IAmb IAmb 08 14 57.6
comp=Z,5.5nm,1.5s
DAWY Dawson 87.87 26 P P 08 14 45.3 -1.3
DAWY IAmb IAmb 08 14 46.9
comp=Z,2.8nm,0.7s
E27K Coleen River 87.90 21 P P 08 14 46.1 -0.5
I28M Miner Creek 87.93 24 P P 08 14 46.5 -0.4
I28M IAmb IAmb 08 14 46.6
comp=Z,2.2nm,0.8s
L29M L29M 88.25 27 P P 08 14 48.0 -0.4
F28M Old Crow 88.40 22 P P 08 14 48.2 -0.8
F28M IAmb IAmb 08 14 51.5
comp=Z,5.1nm,1.4s
E28M Babbage River 88.73 21 P P 08 14 50.0 -0.5
E28M IAmb IAmb 08 14 52.5
comp=Z,2.0nm,0.8s
M30M Minto, Yukon 88.76 27 P P 08 14 49.9 -1.0
M30M IAmb IAmb 08 14 53.1
comp=Z,2.8nm,1.1s
G29M Pine Creek 88.97 23 P P 08 14 50.8 -0.9
J30M Hart River 89.28 25 P P 08 14 52.9 -0.4
J30M IAmb IAmb 08 15 10.6
comp=Z,2.5nm,0.8s
EPYK Eagle Plains 89.39 23 P P 08 14 52.9 -0.8
H31M Peel River 90.27 24 P P 08 14 57.1 -0.8
H31M IAmb IAmb 08 15 25.5
comp=Z,7.6nm,1.5s
FARO Faro, Yukon 90.30 28 P P 08 14 57.5 -0.5
G31M Satah River 90.44 23 P P 08 14 57.4 -1.1
YKA Yellowknife Ar 99.00 27 P P 08 15 35.6 -2.1
comp=Z,0.2nm,0.6s,baz=283,slow=5.1,SNR=4.5
comp=Z,0.2nm,0.6s
DBIC Dimbokro 146.65 277 PKPbc PKPbc 08 21 39.4 -0.7
comp=Z,3.2nm,0.8s,baz=95,slow=4.6,SNR=2.4

IDC ***15*** *08:02:47.2±3.1,53.80N×88.31E,h0km,mbtmp3.1/3, ML2.5/3,Error ellipse: s-maj=27.7km s-min=18.1km az=59.0*
NNC ***15*** *08:02:48.3±5.9,53.52N×88.27E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=43.8km s-min=27.4km az=65.0, Suspected Mining explosion.*
ISC 15 08:02:50.2±3.7,53.7N±0.1×88.0E±0.2,h0km,n9,σ1§10/12, 7C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
I46RU	**ZALESOVO INFRA**	**1.91**	**278**	I		I	08 19 20.8	
	0.1nm,1.7s,baz=90,slow=344,SNR=0.9							
ZAA0	**Zalesovo Array**	**1.91**	**278**	P		**Pn**	**08 03 24.3**	**+0.2**
	2.0nm,0.8s							
ZAA0				⇑S		**Sg**	**08 03 52.0**	**+0.4**
	3.3nm,0.8s							
ZALV	**Zalesovo Beam**	**1.91**	**278**	Pn		**Pn**	**08 03 23.3**	**-0.7**
	2.6nm,0.3s,baz=92,slow=12,SNR=30							
ZALV				Lg		Lg	08 03 52.2	
	3.3nm,0.3s,baz=91,slow=25,SNR=18							
	8.6nm,0.5s							
KURK	**Kurchatov**	**6.51**	**246**	⇑Pn		**Pn**	**08 04 26.8**	**-0.4**
	1.1nm,0.8s							
KURK				⇓Sn		**Sn**	**08 05 41.1**	**-0.9**
	3.6nm,1.4s							
KURK				⇑Lg		Lg	08 06 15.2	
	9.1nm,1.2s							
KURBB	**Kurchatov Arra**	**6.61**	**246**	⇓Pn		**Pn**	**08 04 28.8**	**+0.3**
	1.5nm,0.4s							
KURBB				⇑Sn		**Sn**	**08 05 45.6**	**+1.2**
	2.3nm,0.5s							
KURBB				⇑Lg		Lg	08 06 19.6	
	15nm,1.0s							
KURBB	**Kurchatov Arra**	**6.61**	**246**	Pn		**Pn**	**08 04 29.2**	**+0.8**
	0.2nm,0.3s,baz=62,slow=14,SNR=10							
KURBB				Lg		Lg	08 06 22.4	
	baz=60,slow=30,SNR=6.3							
	1.2nm,0.5s							
MK31	**Makanchi Array**	**7.84**	**210**	Pn		**Pn**	**08 04 47.0**	**+1.6**
	0.3nm,0.5s,baz=30,slow=14,SNR=5.2							
MK31				⇑Sn		**Sn**	**08 06 12.7**	**-2.0**
	1.2nm,0.8s,baz=35,slow=27							
MK31				⇑Lg		Lg	08 06 52.0	
	3.4nm,0.8s,baz=39,slow=37							
MKAR	**Makanchi Array**	**7.84**	**210**	Pn		**Pn**	**08 04 45.4**	**0.0**
	0.2nm,0.3s,baz=20,slow=14,SNR=6.2							
MKAR				Sn		**Sn**	**08 06 14.3**	**-0.5**
	0.1nm,0.3s,baz=37,slow=25,SNR=2.4							
MKAR				Lg		Lg	08 06 55.9	
	0.1nm,0.3s,baz=21,slow=28,SNR=2.2							
	0.4nm,0.4s							
I34MN	**SONGINO INFRAS**	**13.04**	**110**	I		I	09 17 50.0	
	baz=307,slow=334,SNR=0.9							

IDC ***15*** *08:18:21.6±0.5, 16.03S×178.78W,h0km,mb4.5/18, mbtmp4.5/19,ML3.1/1,MS4.5/53,Error ellipse: s-maj=21.0km s-min=16.0km az=141.0*
MOS ***15*** *08:18:23.2±1.9, 16.09S×178.73W,h16km,mb5.3/26, Error ellipse: s-maj=11.3km s-min=8.8km az=147.0*
NEIC ***15*** *08:18:23.9±1.1,15.71S±0.09×178.97W±0.08,h10km±1km, mb5.2/105,Error ellipse: s-maj=15.7km s-min=13.0km az=178.0*
GCMT ***15*** *08:18:25.9±0.1,15.87S±0.01×178.60W±0.01,h16km, MW5.2/126,Moment Tensor Solution. s79,c126; s126,c217; Duration: 1§0 Moment tensor: Scale 10[16] Nm; Mrr0.69±.14; Mθθ-3.65±.15; Mϕϕ2.97±.13; Mrθ0.51±.36; Mθϕ7.49±.13; Mϕr-0.04±.35; Best double couple: M₀8.20400×10[16] NP1:ϕ₁258.00000°,δ89.00000°, λ-3.00000°. NP2:ϕ₂348.00000°,δ87.00000°, λ-179.00000°. Principal axes: T 7.8570, Plg2.0000°, Azm303.0000°; N 0.7000, Plg87.0000°, Azm68.0000°; P -8.5510, Plg3.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 08:18:24.4±0.3,16.03S±0.07×178.78W±0.07,h10km, n595,σ1§29/499,mb5.1/90,MS4.6/60,7C-19D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	**Afiamalu**	**7.09**	**74**	Pn		**Pn**	**08 20 07.6**	**-0.7**
AFI	**Afiamalu**	**7.09**	**74**	P		**Pn**	**08 20 07.6**	**-0.7**
FUNA	**Funafuti**	**7.72**	**345**	Pn		Pn	08 20 11.2	-5.7
NIUE	**Niue**	**8.97**	**111**	Pn		**Pn**	**08 20 37.9**	**+3.8**
RAO	**Raoul Island**	**13.18**	**177**	LR		LR	08 25 44.2	
	comp=Z,2μm,18.5s,baz=352,slow=34							
MARNC	**Mare, Loyalty**	**13.61**	**245**	Pn		**Pn**	**08 21 36.7**	**-0.9**
LIFNC	**LIFOU**	**14.08**	**248**	Pn		**Pn**	**08 21 42.4**	**-1.6**
PINNC	**Pines Island,**	**14.55**	**241**	Pn		Pn	08 21 47.7	-2.7
OUENC	**Ouen Island, N**	**14.98**	**243**	Pn		**Pn**	**08 21 53.7**	**-2.6**
DZM	**Mont Dzumac**	**15.20**	**244**	Pn		**Pn**	**08 21 55.4**	**-3.9**
DZM	**Mont Dzumac**	**15.20**	**244**	*e*P		**Pn**	**08 22 02.2**	**+2.9**
	157nm,1.3s							
DZM				*e*LR		LR	08 25 46.0	
	2μm,25.6s							
DZM	**Mont Dzumac**	**15.20**	**244**	Pn		**Pn**	**08 22 01.0**	**+1.7**
	0.1nm,0.3s,baz=56,slow=6.3,SNR=1.8							
DZM				LR		LR	08 26 53.9	
	comp=Z,2μm,19.6s,baz=74,slow=34							
ONTNC	**Ouen Toro**	**15.27**	**244**	Pn		**Pn**	**08 21 59.2**	**-1.0**
KOUNC	**Koumac, New Ca**	**16.69**	**252**	Pn		**Pn**	**08 22 14.7**	**-3.8**
RAR	**Rarotonga**	**18.73**	**109**	Pn		**P**	**08 22 41.9**	**-1.5**
	0.6nm,0.3s,baz=108,slow=16,SNR=3.6							
RAR				LR		LR	08 28 08.1	
	comp=Z,979nm,19.0s,baz=266,slow=31							
	14nm,1.0s							
HNR	**Honiara**	**21.75**	**285**	LR		LR	08 30 26.5	
	comp=Z,63μm,18.9s,baz=118,slow=33							
TOZ	**Tahuroa Road**	**22.20**	**192**	P		**P**	**08 23 22.6**	**+1.7**
TOZ				IAmb		IAmb	08 23 33.0	
	comp=Z,100nm,1.6s							
URZ	**Urewera**	**22.44**	**188**	LR		LR	08 31 18.8	
	comp=Z,3μm,18.6s,baz=122,slow=35							
HIZ	**Hauiti**	**23.08**	**193**	P		**P**	**08 23 32.0**	**+1.8**
HIZ				IAmb		IAmb	08 23 40.0	
	comp=Z,137nm,1.3s							
PAE	**Paea**	**27.99**	**98**	*e*LR		LR	08 31 16.5	
	comp=Z,212nm,23.3s							
PPT	**Papeete**	**27.99**	**97**	LR		LR	08 32 21.2	
	comp=Z,500nm,18.9s,baz=266,slow=30							
PPT2	**Papeete2**	**27.99**	**97**	*e*P		P	08 24 09.0	-6.7
	comp=Z,29nm,21.0s							
PPT2				*e*S		S	08 28 45.7	-14
	comp=Z,224nm,33.8s							
PPT2				*e*LR		LR	08 31 06.4	
	comp=Z,1μm,29.0s							
PPT2				*e*LR		LR	08 31 18.0	
	comp=Z,2μm,26.2s							
TVO	**Taravao**	**28.30**	**98**	*e*LR		LR	08 31 19.4	
	comp=Z,517nm,24.5s							
TBI	**Tubuai**	**28.51**	**109**	*e*S		S	08 28 56.0	-12
	comp=Z,1μm,26.8s							
TBI				*e*LR		LR	08 31 34.9	
	comp=Z,3μm,29.2s							
TBI				*e*LR		LR	08 31 39.2	
	comp=Z,8μm,26.5s							
RPZ	**Rata Peaks**	**28.92**	**195**	LR		LR	08 33 39.5	
	comp=Z,1000nm,21.9s,baz=7.5,slow=32							
CTA	**Charters Tower**	**33.45**	**258**	P		**P**	**08 25 02.9**	**-0.9**
	comp=Z,4.6nm,0.9s,baz=61,slow=11,SNR=4.4							
CTA				LR		LR	08 37 11.6	
	comp=Z,766nm,18.7s,baz=83,slow=34							
	comp=Z,4.6nm,0.9s							
CTAO	**Charters Tower**	**33.45**	**258**	P		P	08 25 01.7	-2.1
CTAO	**Charters Tower**	**33.45**	**258**	P		P	08 25 01.7	-2.1
CTAO				pmax		pmax		
	comp=Z,19nm,1.2s							
PMG	**Port Moresby**	**33.83**	**277**	LR		LR	08 35 37.1	
	comp=Z,721nm,21.1s,baz=94,slow=31							
TAOE	**Nuku Hiva Isla**	**38.35**	**84**	*e*LR		LR	08 36 00.6	
	comp=Z,847nm,26.0s							
STKA	**Stephens Creek**	**39.25**	**239**	P		**P**	**08 25 52.6**	**-0.7**
STKA	**Stephens Creek**	**39.25**	**239**	⇓*i*P		**P**	**08 25 52.8**	**-0.5**
STKA	**Stephens Creek**	**39.25**	**239**	P		**P**	**08 25 52.5**	**-0.7**
	comp=Z,32nm,1.3s,baz=35,slow=9.2,SNR=7.6							
	comp=Z,32nm,1.3s							
BBOO	**Buckleboo**	**44.02**	**239**	P		**P**	**08 26 32.6**	**+0.2**
BBOO				IAmb		IAmb	08 26 37.2	
	comp=Z,25nm,1.0s							
WR0	**Warramunga Arr**	**44.46**	**258**	P		P	08 26 33.1	-3.0
WB0	**Warramunga Arr**	**44.61**	**258**	P		P	08 26 34.1	-3.2
WB0				IAmb		IAmb	08 26 40.9	
	comp=Z,33nm,1.2s							
WB2	**Warramunga Arr**	**44.64**	**258**	P		P	08 26 35.2	-2.3
WB2				IAmb		IAmb	08 26 41.3	
	comp=Z,28nm,1.2s							
WRAB	**Tennant Creek**	**44.64**	**258**	P		P	08 26 34.7	-2.8
WRAB	**Tennant Creek**	**44.64**	**258**	P		P	08 26 34.7	-2.8
WRAB				pmax		pmax		
	comp=Z,18nm,1.1s							
WRA	**Warramunga Arr**	**44.65**	**258**	P		P	08 26 35.2	-2.4
WRA	**Warramunga Arr**	**44.65**	**258**	P		P	08 26 35.4	-2.2
	comp=Z,18nm,1.2s,baz=91,slow=8.0,SNR=18							
WRA				LR		LR	08 45 50.7	
	comp=Z,628nm,18.1s,baz=98,slow=37							
	comp=Z,18nm,1.2s							
AS31	**Alice Springs**	**44.98**	**252**	P		P	08 26 38.1	-2.1
ASAR	**Alice Springs**	**44.98**	**252**	P		P	08 26 38.2	-2.0
	comp=Z,12nm,0.8s,baz=86,slow=8.2,SNR=49							
ASAR				LR		LR	08 44 26.0	
	comp=Z,743nm,18.3s,baz=94,slow=35							
	comp=Z,12nm,0.8s							
KRAI	**Karang Ratu**	**53.42**	**278**	P		**P**	**08 27 43.6**	**-1.4**
SOEI	**Soe**	**55.73**	**269**	P		**P**	**08 28 01.9**	**+0.1**
	comp=Z,65nm,1.5s							
JCJ	**Chichijima**	**57.21**	**318**	LR		LR	08 48 32.9	
	comp=Z,500nm,20.8s,baz=98,slow=32							
DAV	**Davao City (W)**	**59.66**	**288**	LR		LR	08 52 04.3	
	comp=Z,176nm,20.1s,baz=118,slow=34							
NWAO	**Narrogin (SRO)**	**59.79**	**241**	LR		LR	08 52 13.8	
	comp=Z,818nm,21.6s,baz=95,slow=34							
KAPI	**Kappang**	**61.22**	**273**	LR		LR	08 54 26.7	
	comp=Z,52nm,21.7s,baz=102,slow=35							
VNDA	**Vanda**	**62.27**	**185**	P		**P**	**08 28 45.2**	**-0.9**
	comp=Z,3.3nm,1.2s,baz=8.1,slow=6.4,SNR=4.2							
	comp=Z,3.3nm,1.2s							
JHJ	**Hachijo jima 2**	**62.88**	**321**	LR		LR	08 57 41.1	
	comp=Z,146nm,18.4s,baz=96,slow=38							
RPN	**Rapa Nui**	**64.83**	**113**	LR		LR	08 49 40.5	
	comp=Z,314nm,21.1s,baz=248,slow=29							
MJAR	**Matsushiro Arr**	**66.20**	**323**	P		P	08 29 11.0	-1.4
	comp=Z,7.4nm,1.0s,baz=135,slow=10.0,SNR=3.3							
MJAR				LR		LR	08 52 58.8	
	comp=Z,318nm,21.8s,baz=126,slow=31							
	comp=Z,7.4nm,1.0s							
MAJO	**Matsushiro**	**66.20**	**323**	⇓*e*P		P	08 29 11.3	-1.2
MAJO				pmax		pmax		
	comp=Z,45nm,1.6s							
JOW	**Kunigami**	**66.76**	**309**	LR		LR	08 52 13.0	
	comp=Z,253nm,21.9s,baz=171,slow=30							
JNU	**Nakatsue**	**68.54**	**316**	LR		LR	08 54 14.9	
	comp=Z,112nm,21.4s,baz=120,slow=31							
SHEM	**Shemya Is, Ala**	**68.75**	**355**	LR		LR	08 53 37.1	
	comp=Z,242nm,19.7s,baz=100,slow=31							
ASAJ	**Asahikawa**	**69.47**	**331**	LR		LR	08 53 48.9	
	comp=Z,329nm,22.0s,baz=148,slow=31							
UNV	**Unalaska Valle**	**70.39**	**8**	P		P	08 29 36.5	-1.7
	baz=193							
YSS	**Yuzh-Sakhalins**	**71.59**	**333**	*e*P		P	08 29 35.6	-10
YSS				pmax		pmax		
	comp=Z,20nm,1.3s							
PEA0B	**Petropavlovsk-**	**71.78**	**345**	⇑*e*P		**P**	**08 29 49.2**	**+2.4**
PETK	**Petropavlovsk-**	**71.78**	**345**	P		P	08 29 44.2	-2.7
PETK	**Petropavlovsk-**	**71.78**	**345**	P		P	08 29 45.5	-1.3
	comp=Z,3.9nm,0.9s,baz=119,slow=12,SNR=2.2							
PETK				LR		LR	08 55 54.6	
	comp=Z,251nm,20.8s,baz=161,slow=31							
	comp=Z,3.9nm,0.9s							
FALS	**False Pass**	**71.81**	**9**	P		**P**	**08 29 45.6**	**-1.2**
	baz=196							
LEM	**Lembang**	**72.42**	**268**	LR		LR	09 02 16.6	
	comp=Z,118nm,21.1s,baz=168,slow=36							
CHNA	**Chernabura Isl**	**72.45**	**12**	P		**P**	**08 29 50.0**	**-0.7**
	baz=200							
P08K	**Saint George I**	**72.77**	**5**	P		**P**	**08 29 52.1**	**-0.5**
	baz=190							
KSRS	**Korea Array**	**73.07**	**318**	P		**P**	**08 29 55.3**	**+0.5**
	comp=Z,6.3nm,1.1s,baz=126,slow=6.2,SNR=2.1							
KSRS				LR		LR	08 56 12.7	
	comp=Z,160nm,21.3s,baz=125,slow=31							
	comp=Z,6.3nm,1.1s							
KSAR	**Wonju Array Be**	**73.09**	**318**	P		P	08 29 51.7	-3.2
KSAR	**Wonju Array Be**	**73.09**	**318**	P		P	08 29 51.7	-3.2
SPIA	**Saint Paul Isl**	**73.28**	**5**	P		**P**	**08 29 55.0**	**-0.6**
	baz=189							
S14K	**Fog Glacier**	**73.83**	**11**	P		**P**	**08 29 58.8**	**-0.2**
	baz=200							
QSPA	**South Pole Qui**	**74.01**	**180**	P		**P**	**08 29 59.2**	**-1.0**
	comp=Z,17nm,1.1s,baz=37,slow=2.3,SNR=13							
QSPA				LR		LR	08 56 45.1	
	comp=Z,311nm,21.8s,baz=39,slow=31							
	comp=Z,17nm,1.1s							
CHGN	**Chignik**	**74.06**	**12**	P		**P**	**08 29 59.7**	**-0.5**
	baz=201							
CHIR	**Chirikof Islan**	**74.19**	**13**	P		**P**	**08 30 00.4**	**-0.6**
	baz=203							
USA0B	**Ussuriysk Arra**	**74.87**	**326**	P		P	08 30 02.0	-3.2
USA0B				IAmb		IAmb	08 30 39.3	
	comp=Z,55nm,1.6s							
USA0B	**Ussuriysk Arra**	**74.87**	**326**	P		P	08 30 02.0	-3.2
USA0B				pmax		pmax		
	comp=Z,55nm,1.7s							
USRK	**Ussuriysk Ar.**	**74.87**	**326**	LR		LR	08 58 26.7	
	comp=Z,146nm,20.6s,baz=129,slow=32							
SCZ2	**Santa Cruz Isl**	**75.11**	**48**	P		**P**	**08 30 06.7**	**-0.2**
	baz=239							
SAO	**San Andreas Ge**	**75.33**	**44**	P		**P**	**08 30 06.0**	**-2.1**
SAO				IAmb		IAmb	08 30 13.9	
	comp=Z,22nm,1.2s							
SAO	**San Andreas Ge**	**75.33**	**44**	P		**P**	**08 30 06.0**	**-2.1**
SAO				pmax		pmax		
	comp=Z,22nm,1.3s							
PKM	**Mcpherson Peak**	**75.45**	**47**	P		**P**	**08 30 09.1**	**+0.1**
	baz=239							
PMPB	**Monarch Peak**	**75.47**	**45**	P		**P**	**08 30 07.0**	**-2.0**
BBGB	**Big Mountain B**	**75.51**	**45**	P		**P**	**08 30 07.5**	**-1.7**
HOPS	**Hopland Field**	**75.51**	**42**	P		**P**	**08 30 09.0**	**-0.1**
SMMC	**Simmler**	**75.55**	**46**	P		**P**	**08 30 09.8**	**+0.4**
	baz=238							
CIS	**Catalina Islan**	**75.68**	**49**	P		**P**	**08 30 10.5**	**+0.3**
	baz=240							
BCW	**Bitter Crk WRg**	**75.76**	**47**	P		**P**	**08 30 09.9**	**-0.8**
BCW				IAmb		IAmb	08 30 17.6	
	comp=Z,20nm,1.2s							
KMRM	**Mail Ridge**	**75.82**	**40**	P		**P**	**08 30 11.2**	**+0.3**
OHAK	**Old Harbor**	**76.01**	**14**	P		**P**	**08 30 11.4**	**0.0**
	baz=206							
CCX	**Cicese**	**76.21**	**51**	P		**P**	**08 30 14.1**	**+0.9**
ARVC	**Arvin**	**76.26**	**47**	P		**P**	**08 30 14.2**	**+0.8**
	baz=239							
O14K	**Tigyukauivet M**	**76.37**	**9**	P		**P**	**08 30 13.1**	**-0.4**
	baz=198							
109C	**Camp Elliot, M**	**76.38**	**50**	P		**P**	**08 30 15.4**	**+1.2**
	baz=241							
Q17K	**Contact Creek**	**76.39**	**12**	P		**P**	**08 30 14.2**	**+0.4**
	baz=203							
MDJ	**Mudanjiang**	**76.45**	**325**	P		P	08 30 11.8	-2.5
MDJ				pP		pP	08 30 14.9	-1.9
MDJ				PcP		pwP	08 30 22.9	+2.8
MDJ				PP		**PP**	**08 33 03.5**	**-2.9**
MDJ				S		**S**	**08 39 58.9**	**-1.0**
MDJ				sS		pS	08 40 04.9	+1.9
MDJ				ScS		**SKSac**	**08 40 27.8**	**+1.9**
MDJ				SS		**SS**	**08 44 55.3**	**+0.3**
MDJ				pmax		pmax		
	comp=Z,12nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,120nm,3.7s							
MDJ				LR		LR		
	comp=Z,350nm,16.3s							
MDJ				LR		LR		
	comp=Z,250nm,16.0s							
MDJ				LR		LR		
	comp=Z,380nm,19.1s							
VES	**Vestal, Richgr**	**76.46**	**46**	P		**P**	**08 30 14.8**	**+0.3**
	baz=239							
NJ2	**Nanjing**	**76.48**	**309**	*e*P		P	08 30 11.4	-3.3
NJ2				pmax		pmax		
	comp=Z,11nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,200nm,3.5s							
ELS	**Elsinore Mount**	**76.52**	**49**	P		**P**	**08 30 13.3**	**-1.7**
ELS				IAmb		IAmb	08 30 25.6	
	comp=Z,27nm,1.9s							
O15K	**Ungalikthiuk R**	**76.53**	**10**	P		**P**	**08 30 14.6**	**+0.3**
	baz=199							
Q16K	**King Salmon**	**76.63**	**12**	P		**P**	**08 30 15.1**	**+0.2**
	baz=202							
BFSC	**Mount Baldy Ra**	**76.65**	**48**	P		**P**	**08 30 15.5**	**-0.3**
	baz=240							
MURC	**Murrieta**	**76.66**	**49**	P		**P**	**08 30 15.1**	**-0.7**
	baz=241							
KDAK	**Kodiak Island**	**76.68**	**14**	⇑*e*P		**P**	**08 30 18.8**	**+3.6**
KDAK	**Kodiak Island**	**76.68**	**14**	P		**P**	**08 30 15.0**	**-0.2**
	baz=206							
KDAK	**Kodiak Island**	**76.68**	**14**	LR		LR	08 55 41.0	
	comp=Z,300nm,20.2s,baz=225,slow=29							
P16K	**Nushagak River**	**76.71**	**11**	P		**P**	**08 30 15.1**	**-0.2**
	baz=201							
EDW2	**Edwards Air Fo**	**76.73**	**48**	P		**P**	**08 30 15.8**	**-0.3**
	baz=240							
CMB	**Columbia Colle**	**76.73**	**44**	P		**P**	**08 30 14.9**	**-1.2**
CMB				IAmb		IAmb	08 30 31.4	
	comp=Z,19nm,1.4s							
CMB	**Columbia Colle**	**76.73**	**44**	P		**P**	**08 30 14.9**	**-1.2**
CMB				pmax		pmax		
	comp=Z,19nm,1.4s							
ISA	**Isabella, Lake**	**76.79**	**47**	P		**P**	**08 30 16.4**	**-0.1**
	baz=239,SNR=5.7							
ESJX	**Sierra Juarez**	**76.81**	**51**	P		**P**	**08 30 15.3**	**-1.5**
ESJX				IAmb		IAmb	08 30 22.9	
	comp=Z,28nm,2.0s							
M11K	**Mekoryuk**	**76.83**	**6**	P		**P**	**08 30 15.1**	**-0.9**
	baz=193							
ORV	**Oroville**	**76.84**	**42**	P		**P**	**08 30 14.9**	**-1.6**
ORV	**Oroville**	**76.84**	**42**	P		**P**	**08 30 15.0**	**-1.6**
ORV				pmax		pmax		
	comp=Z,19nm,1.5s							
AFDM	**Forest Hills D**	**76.84**	**43**	P		**P**	**08 30 15.1**	**-1.6**
AFDM				IAmb		IAmb	08 30 22.0	
	comp=Z,18nm,1.3s							
CCAC	**Calif City Air**	**76.85**	**47**	P		**P**	**08 30 16.2**	**-0.6**
CCAC				IAmb		IAmb	08 30 27.8	
	comp=Z,29nm,1.7s							
MONP2	**Monument Peak**	**76.88**	**50**	P		**P**	**08 30 16.7**	**-0.5**
	baz=241							
N14K	**Kuskokwak Cree**	**76.95**	**9**	P		**P**	**08 30 16.9**	**+0.2**
	baz=197							
IKP	**In-Ko-Pah, Jac**	**77.00**	**50**	P		**P**	**08 30 17.4**	**-0.4**
	baz=242							
P17K	**Kvichak River**	**77.15**	**12**	P		**P**	**08 30 18.5**	**+0.7**
	baz=202							
M13K	**Dall Lake**	**77.19**	**8**	P		**P**	**08 30 17.8**	**-0.3**
	baz=195							
PFO	**Pinyon Flats O**	**77.20**	**49**	P		**P**	**08 30 17.3**	**-1.6**
PFO				IAmb		IAmb	08 30 23.6	
	comp=Z,27nm,1.9s							
PFO	**Pinyon Flats O**	**77.20**	**49**	P		**P**	**08 30 17.3**	**-1.6**
PFO				pmax		pmax		
	comp=Z,27nm,2.0s							
PFO	**Pinyon Flats O**	**77.20**	**49**	P		**P**	**08 30 18.1**	**-0.9**
	baz=241							
PFO	**Pinyon Flats O**	**77.20**	**49**	LR		LR	08 57 16.3	
	comp=Z,582nm,19.4s,baz=264,slow=30							
TPFO	**Pinon Flats**	**77.20**	**49**	P		**P**	**08 30 18.9**	**-0.1**
	baz=241							
O16K	**Kokwok River B**	**77.22**	**11**	P		**P**	**08 30 18.4**	**+0.2**
	baz=201							
LRMC	**Laurel Mtn Rad**	**77.25**	**47**	P		**P**	**08 30 18.4**	**-0.8**
	baz=242							
K02D	**Willamette Mer**	**77.29**	**38**	P		**P**	**08 30 17.6**	**-1.6**
YBH	**Yreka Blue Hor**	**77.31**	**40**	P		**P**	**08 30 18.5**	**-0.8**
YBH				IAmb		IAmb	08 30 25.5	
	comp=Z,22nm,1.1s							
YBH	**Yreka Blue Hor**	**77.31**	**40**	P		**P**	**08 30 18.5**	**-0.8**
YBH				pmax		pmax		
	comp=Z,22nm,1.2s							
YBH	**Yreka Blue Hor**	**77.31**	**40**	LR		LR	08 56 27.3	
	comp=Z,604nm,21.0s,baz=239,slow=30							
SWSC	**Sam W. Stewart**	**77.37**	**50**	P		**P**	**08 30 20.0**	**+0.3**
	baz=242							
N15K	**Kwethluk River**	**77.42**	**9**	P		**P**	**08 30 19.3**	**-0.1**
	baz=199							
RRX	**Edison Barstow**	**77.44**	**48**	P		**P**	**08 30 20.4**	**+0.3**
	baz=240							
CWC	**Cottonwood Cre**	**77.46**	**46**	P		**P**	**08 30 20.9**	**+0.6**
	baz=240							
Q20K	**Shuyak Island**	**77.47**	**14**	P		**P**	**08 30 19.1**	**-0.6**
	baz=206					

KLR **Kul'dur** 78.32 329 LR LR 09 00 40.4
comp=Z,238nm,19.9s,baz=150,slow=32
CN2 **Changchun** 78.32 322 P P 08 30 25.3 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,15.0s
NVAR **Mina Array Bea** 78.33 44 P P 08 30 23.6 -1.6
NVAR **Mina Array Bea** 78.33 44 P P 08 30 24.6 -0.7
comp=Z,2.9nm,1.0s,baz=232,slow=9.7,SNR=16
NVAR LR LR 08 56 40.2
comp=Z,315nm,21.4s,baz=246,slow=29
comp=Z,2.9nm,1.0s
GMRC **Granite Mounta** 78.35 49 P P 08 30 24.5 -0.8
baz=241
QIZ **Qiongzhong** 78.37 294 P P 08 30 23.5 -2.1
QIZ S S 08 40 18.9 -2.8
QIZ LR LR
comp=Z,290nm,29.9s
QIZ LR LR
comp=Z,340nm,26.5s
QIZ LR LR
comp=Z,390nm,23.3s
M16K **Timber Creek** 78.42 10 P P 08 30 25.1 +0.1
baz=200
IRM **Iron Mountain** 78.42 49 P P 08 30 24.5 -1.2
baz=242
NV11 **Mina Array Sit** 78.43 44 P P 08 30 23.5 -2.3
NV11 IAmb IAmb 08 30 36.7
comp=Z,41nm,1.4s
SHOC **Shoshone, Teco** 78.45 47 P P 08 30 25.1 -0.7
baz=241
GMN **Gold Mountain** 78.46 46 P P 08 30 24.8 -1.3
TUQ **Turquoise Moun** 78.48 48 P P 08 30 25.4 -0.6
baz=241
O19K **Port Alsworth** 78.49 12 P P 08 30 23.4 -1.9
O19K **Port Alsworth** 78.49 12 P P 08 30 24.5 -0.8
baz=204,SNR=6.3
K13K **Kusilvak Mount** 78.51 7 P P 08 30 24.5 -0.9
baz=194
HOM **Homer** 78.58 14 P P 08 30 25.6 -0.3
baz=207
N18K **Kilae Creek** 78.63 11 P P 08 30 25.4 -0.8
baz=203
WCT **Wildcat Mounta** 78.65 46 P P 08 30 25.3 -1.6
O20K **Slope Mountain** 78.75 13 P P 08 30 25.9 -0.9
baz=206
113A **Mohawk Valley,** 78.80 51 P P 08 30 26.6 -1.1
113A IAmb IAmb 08 30 33.4
comp=Z,30nm,1.6s
BRSE **Bradley Lake S** 78.86 14 P P 08 30 26.8 -0.6
baz=208
K05A **Summer Lake** 78.98 39 P P 08 30 28.4 -0.4
K05A IAmb IAmb 08 30 33.1
comp=Z,53nm,1.5s
L16K **Owhat River** 78.99 9 P P 08 30 27.4 -0.6
baz=199
TPNV **Topopah Spring** 78.99 46 P P 08 30 28.2 -0.6
TPNV **Topopah Spring** 78.99 46 P P 08 30 28.2 -0.6
TPNV pmax pmax
comp=Z,20nm,1.5s
TPNV **Topopah Spring** 78.99 46 P P 08 30 28.6 -0.3
baz=241
M17K **Holitna River** 79.03 10 P P 08 30 28.0 -0.3
baz=201
N19K **Bonanza Creek** 79.03 12 P P 08 30 27.8 -0.6
baz=204
J05D **Fort Rock, OR** 79.09 39 P P 08 30 27.8 -1.5
214A **Organ Pipe Nat** 79.15 52 P P 08 30 28.5 -1.1
214A IAmb IAmb 08 30 35.8
comp=Z,33nm,1.6s
214A **Organ Pipe Nat** 79.15 52 P P 08 30 29.9 +0.2
baz=244
PDMCI **Parker Dam,Lak** 79.23 50 P P 08 30 30.2 +0.2
baz=242
K15K **Wolf Creek Mou** 79.25 8 P P 08 30 29.2 -0.2
baz=197
MA2 **Magadan** 79.30 345 P P 08 30 26.9 -2.9
MA2 IAmb IAmb 08 30 34.0
comp=Z,30nm,1.5s
MA2 **Magadan** 79.30 345 ⇓ *e* P P 08 30 31.6 +1.8
MA2 pmax pmax
comp=Z,20nm,1.3s
MA2 **Magadan** 79.30 345 LR LR 09 01 31.5
comp=Z,252nm,19.9s,baz=154,slow=33
H04A **Detroit Lake** 79.32 37 P P 08 30 29.2 -1.2
H04A IAmb IAmb 08 30 34.8
comp=Z,58nm,1.7s
M18K **Stony River** 79.40 11 P P 08 30 30.1 -0.2
baz=203
J14K **Nanvaranak Lak** 79.43 7 P P 08 30 30.5 +0.2
baz=195
SEW **Seward** 79.49 14 P P 08 30 30.2 -0.6
baz=209
PINE **Pine Mountain** 79.55 39 P P 08 30 29.9 -1.9
CAPN **Captain Cook N** 79.69 13 P P 08 30 31.4 -0.4
baz=207
Q23K **Middleton Isla** 79.69 16 P P 08 30 31.6 -0.3
baz=212
O22K **Cooper Landing** 79.76 14 P P 08 30 32.1 -0.1
baz=209
N20K **Mount Spurr** 79.84 13 P P 08 30 32.7 -0.2
baz=206
Y14A **Wickenburg** 79.89 50 P P 08 30 33.0 -0.8
P23K **Montague Islan** 79.91 15 P P 08 30 33.1 0.0
baz=211
L18K **Granite Mounta** 79.92 10 P P 08 30 33.3 +0.1
baz=202
M19K **Big River Lodg** 80.05 11 P P 08 30 33.6 -0.2
baz=204
PRN **Pahroc Range** 80.05 46 P P 08 30 33.4 -1.2
PRN IAmb IAmb 08 30 40.6
comp=Z,39nm,1.5s
BMN **Battle Mountai** 80.08 43 P P 08 30 33.0 -1.7
BMN **Battle Mountai** 80.08 43 P P 08 30 33.0 -1.7
BMN pmax pmax
comp=Z,23nm,1.3s
K17K **Iditarod** 80.12 9 P P 08 30 34.6 +0.4
baz=200
R11B **Troy Canyon, C** 80.14 45 P P 08 30 33.4 -1.7
R11B **Troy Canyon, C** 80.14 45 P P 08 30 35.1 0.0
baz=241
L19K **White Mountain** 80.22 11 P P 08 30 35.3 +0.6
baz=204
WVOR **Wild Horse Val** 80.22 41 P P 08 30 33.7 -1.7
WVOR IAmb IAmb 08 30 40.3
comp=Z,65nm,1.9s
WVOR **Wild Horse Val** 80.22 41 P P 08 30 33.7 -1.7
WVOR pmax pmax
comp=Z,65nm,1.9s
M20K **Styx River** 80.27 12 P P 08 30 35.2 0.0
baz=205
RC01 **Rabbit Creek A** 80.29 14 P P 08 30 35.8 +0.6
baz=208
J16K **Anvik River** 80.32 8 P P 08 30 35.7 +0.5
baz=198,SNR=5.8
SUA **Susitna One** 80.40 13 P P 08 30 35.5 -0.3
baz=208
I07A **Izee** 80.58 39 P P 08 30 35.1 -2.1
I07A IAmb IAmb 08 30 43.1
comp=Z,28nm,1.4s
KAIM **Kayak Island** 80.64 17 P P 08 30 37.3 +0.2
baz=214
L20K **Farewell, AK** 80.67 11 P P 08 30 37.5 +0.3
baz=204
SKT **Skwentna** 80.69 13 P P 08 30 37.4 +0.1
baz=207
TTA **Tatalina** 80.70 10 P P 08 30 37.7 +0.3
baz=202,SNR=7.8
J08A **Circle Bar Ran** 80.81 40 P P 08 30 37.7 -0.8
J08A IAmb IAmb 08 30 43.4
comp=Z,37nm,1.7s
TUC **Tucson** 80.85 53 P P 08 30 38.2 -0.7
TUC IAmb IAmb 08 30 44.5
comp=Z,30nm,1.6s
TUC **Tucson** 80.85 53 P P 08 30 38.2 -0.7
TUC pmax pmax
comp=Z,30nm,1.6s
TUC **Tucson** 80.85 53 P P 08 30 38.8 -0.1
baz=245
BBB **Bella Bella** 80.85 29 LR LR 09 00 18.4
comp=Z,516nm,18.2s,baz=222,slow=31

PMR **Palmer** 80.88 14 P P 08 30 38.3 +0.1
baz=209
D05A **Enumclaw** 80.88 35 P P 08 30 35.7 -2.9
I17K **Unalakleet** 80.89 8 P P 08 30 38.3 0.0
baz=198
Q12A **Willow Creek R** 80.99 45 P P 08 30 38.0 -1.7
Q12A IAmb IAmb 08 30 44.6
comp=Z,54nm,1.9s
ANM **Nome** 81.00 6 P P 08 30 38.7 -0.2
baz=193
J18K **Innoko River** 81.08 10 P P 08 30 39.2 -0.1
baz=202
LCMT **Little Creek M** 81.13 48 P P 08 30 40.0 -0.4
HEH **HeiHe** 81.14 328 *e* P P 08 30 42.9 +3.0
HEH pmax pmax
comp=Z,12nm,1.4s
HEH LR LR
comp=Z,220nm,21.8s
HEH LR LR
comp=Z,300nm,20.8s
HEH LR LR
comp=Z,500nm,20.2s
SML **Sawmill** 81.25 14 P P 08 30 38.5 -1.9
SML IAmb IAmb 08 30 44.5
comp=Z,51nm,1.4s
SML **Sawmill** 81.25 14 P P 08 30 38.5 -1.8
SML pmax pmax
comp=Z,50nm,1.4s
SML **Sawmill** 81.25 14 P P 08 30 39.9 -0.5
baz=210
X16A **Lo Mia Camp, P** 81.27 51 P P 08 30 39.7 -1.6
SIT **Sitka** 81.29 22 P P 08 30 40.9 +0.4
baz=222
SPR3 **Spring Creek 3** 81.31 45 P P 08 30 40.4 -1.2
SPR3 IAmb IAmb 08 30 46.8
comp=Z,28nm,1.5s
CUT **Chulitna** 81.34 13 P P 08 30 41.0 +0.3
baz=208
M23K **Glacier View** 81.38 14 P P 08 30 40.9 -0.1
baz=210
PPLA **Purkeypile** 81.38 12 P P 08 30 41.2 +0.1
baz=206
H16K **Elim** 81.41 7 P P 08 30 40.8 -0.2
baz=196,SNR=5.3
U33K **Whale Pass** 81.43 24 P P 08 30 41.6 +0.3
baz=224
KNB **Kanab** 81.43 48 P P 08 30 40.2 -1.9
KNB IAmb IAmb 08 30 48.4
comp=Z,29nm,1.6s
KNB **Kanab** 81.43 48 P P 08 30 40.2 -1.9
KNB pmax pmax
comp=Z,29nm,1.6s
K20K **Telida** 81.44 11 P P 08 30 41.3 0.0
baz=204
BMRM **Bremner River** 81.46 16 P P 08 30 41.3 -0.2
baz=213
V35K **Ketchikan** 81.47 25 P P 08 30 41.5 0.0
baz=226
SCM **Sheep Creek Mo** 81.51 14 P P 08 30 41.8 +0.1
baz=211
SZCU **Shurtz Canyon** 81.51 47 P P 08 30 41.0 -1.6
SZCU IAmb IAmb 08 30 48.6
comp=Z,32nm,1.9s
ELK **Elko** 81.55 43 P P 08 30 41.4 -1.2
ELK **Elko** 81.55 43 P P 08 30 41.4 -1.2
ELK pmax pmax
comp=Z,19nm,1.5s
ELK **Elko** 81.55 43 LR LR 08 59 11.9
comp=Z,389nm,21.0s,baz=252,slow=30
G15K **Nikuluk** 81.56 6 P P 08 30 41.8 0.0
baz=194
G08A **Pilot Rock** 81.56 38 P P 08 30 41.5 -1.0
G08A IAmb IAmb 08 30 47.2
comp=Z,54nm,1.7s
KLU **Klutina** 81.56 15 P P 08 30 42.1 +0.1
baz=212
319A **Douglas** 81.62 54 P P 08 30 40.7 -2.4
319A IAmb IAmb 08 30 48.8
comp=Z,19nm,1.1s
S31K **Pelican** 81.64 21 P P 08 30 42.9 +0.5
baz=221
E07A **Sunnyside** 81.73 37 P P 08 30 41.8 -1.4
E07A IAmb IAmb 08 30 48.8
comp=Z,36nm,1.6s
J19K **Poorman** 81.75 10 P P 08 30 42.7 -0.2
baz=203
TNA **Tin City** 81.76 5 P P 08 30 43.2 +0.3
baz=191
WUAZ **Wupatki** 81.80 50 P P 08 30 43.8 -0.2
baz=244
F14K **Arctic Creek** 81.81 5 P P 08 30 42.5 -0.6
baz=192
HAWA **Hanford** 81.83 37 P P 08 30 42.6 -1.1
HAWA IAmb IAmb 08 30 49.3
comp=Z,37nm,1.5s
CAST **Castle Rocks** 81.87 12 P P 08 30 40.0 -3.6
CAST **Castle Rocks** 81.87 12 P P 08 30 42.7 -0.9
baz=206,SNR=5.1
SEY **Seymchan** 81.88 347 ⇓ *i* P P 08 30 45.6 +2.1
SEY **Seymchan** 81.88 347 LR LR 09 01 49.5
comp=Z,90nm,20.9s,baz=17,slow=32
WRAK **Wrangell Islan** 81.95 24 P P 08 30 44.1 +0.1
baz=225
HNS **HongShan** 81.99 312 ⇑ P P 08 30 49.9 +5.2
HNS **HongShan** 81.99 312 *e* S S 08 41 04.6 +5.5
HNS LR LR
comp=E,300nm,19.2s
HNS LR LR
comp=Z,250nm,19.9s
H17K **Granite Mounta** 82.00 8 P P 08 30 43.7 -0.5
baz=198
T33K **Petersburg** 82.00 23 P P 08 30 44.0 -0.3
baz=224
N25K **Chitina, Valde** 82.00 16 P P 08 30 43.9 -0.5
baz=213
M24K **Tolsona, Glenn** 82.03 15 P P 08 30 44.1 -0.4
baz=212
WAT6 **Susitna Watana** 82.06 14 P P 08 30 43.6 -1.2
baz=210,SNR=5.8
WAT1 **Susitna Watana** 82.09 13 P P 08 30 43.9 -0.8
baz=210
G16K **Koyuk River** 82.13 7 P P 08 30 44.3 -0.5
baz=196
R31K **City Hall, Gus** 82.15 21 P P 08 30 44.9 -0.2
baz=222
J20K **Nowinta River** 82.18 11 P P 08 30 45.1 0.0
baz=204,SNR=5.9
F15K **North Star Dit** 82.19 6 P P 08 30 44.8 -0.4
baz=194
CHUM **Lake Minchumin** 82.25 11 P P 08 30 45.4 -0.1
baz=206
DUN6 **Lazy B Ranch** 82.25 53 P P 08 30 45.2 -1.2
GCSA **Galena City Sc** 82.25 9 P P 08 30 45.9 +0.5
baz=201,SNR=5.8
TRF **Thorofare Moun** 82.27 12 P P 08 30 45.3 -0.5
baz=208
BMO **Blue Mountains** 82.32 39 P P 08 30 44.5 -1.9
BMO IAmb IAmb 08 30 51.1
comp=Z,33nm,1.6s
BMO **Blue Mountains** 82.32 39 P P 08 30 44.5 -1.9
BMO pmax pmax
comp=Z,33nm,1.7s
CTG **Chitna Glacier** 82.36 17 P P 08 30 45.9 -0.5
baz=216
P29M **Windy Craggy** 82.41 20 P P 08 30 46.4 -0.1
baz=220
H18K **Honhosa River** 82.41 9 P P 08 30 45.7 -0.6
baz=200
G17K **Kiwalik Mounta** 82.44 8 P P 08 30 46.1 -0.4
baz=198
HARP **HAARP** 82.53 15 P P 08 30 46.8 -0.2
baz=213
MSU **Marysvale** 82.57 47 P P 08 30 46.8 -1.3
MSU **Marysvale** 82.57 47 P P 08 30 46.8 -1.3
DHY **Denali Highway** 82.57 14 P P 08 30 46.8 -0.6
baz=211
O29M **Mount Kennedy** 82.67 19 P P 08 30 47.3 -0.7
baz=219
I20K **Naaghedeneel** 82.69 10 P P 08 30 47.3 -0.4
baz=204
BPAW **Bear Paw Mtn.** 82.70 12 P P 08 30 48.0 +0.1
baz=207
MCK **McKinley** 82.80 13 P P 08 30 48.1 -0.4
baz=209
DUG **Dugway, Tooele** 82.91 45 P P 08 30 47.7 -2.0
DUG IAmb IAmb 08 30 54.5
comp=Z,22nm,1.6s

DUG **Dugway, Tooele** 82.91 45 P P 08 30 47.7 -2.0
DUG pmax pmax
comp=Z,22nm,1.6s
DUG **Dugway, Tooele** 82.91 45 P P 08 30 49.5 -0.2
baz=242
PAX **Paxson** 82.93 15 P P 08 30 48.3 -0.9
baz=212
P30M **Million Dollar** 83.04 20 P P 08 30 49.3 -0.5
baz=220
H19K **Roundabout Mou** 83.05 9 P P 08 30 49.8 +0.3
baz=202
G18K **Tagagawik** 83.08 8 P P 08 30 49.4 -0.4
baz=200
SKAG **Skagway** 83.08 21 P P 08 30 49.2 -0.7
baz=222
YUK8 **Steele Glacier** 83.08 18 P P 08 30 49.4 -0.8
baz=218
M26K **Nabesna, AK** 83.08 16 P P 08 30 49.3 -0.7
baz=215
T35M **Bob Quinn** 83.17 24 P P 08 30 50.3 -0.2
baz=227
YUK6 **Outpost Mounta** 83.23 19 P P 08 30 49.7 -1.3
baz=219
121A **Cookes Peak, D** 83.25 54 P P 08 30 50.9 -0.7
baz=247
121A **Cookes Peak, D** 83.25 54 P P 08 30 51.6 -0.1
baz=247
H20K **Anotleneega Mo** 83.27 10 P P 08 30 50.4 -0.4
baz=203,SNR=6.4
F17K **Baldwin Pennin** 83.27 7 P P 08 30 49.8 -0.9
baz=197
YUK3 **Moose Creek** 83.27 17 P P 08 30 50.6 -0.6
baz=217
M27K **Edge Creek, AK** 83.35 16 P P 08 30 51.0 -0.5
baz=216
ZEA **Zeya** 83.38 331 *e* P P 08 30 55.2 +3.6
ZEA pmax pmax
comp=Z,20nm,1.2s
HYT **Haines Junctio** 83.41 19 P P 08 30 51.1 -0.7
baz=220
HLID **Hailey** 83.46 41 P P 08 30 52.0 -0.5
baz=241,SNR=6.8
S34M **Telegraph Cree** 83.47 23 P P 08 30 49.8 -2.2
S34M IAmb IAmb 08 30 56.2
comp=Z,21nm,1.1s
S34M **Telegraph Cree** 83.47 23 P P 08 30 52.0 0.0
baz=226
I21K **Tanana** 83.48 11 P P 08 30 51.3 -0.6
baz=206
L26K **Log Cabin Wild** 83.51 15 P P 08 30 51.1 -1.0
baz=214
NEA2 **Nenana** 83.53 12 P P 08 30 52.3 +0.1
baz=209
G19K **Purcell Mounta** 83.53 9 P P 08 30 51.7 -0.4
baz=201
K24K **Donnelly Dome** 83.57 14 P P 08 30 51.6 -0.8
baz=212
MLY **Manley** 83.58 12 P P 08 30 49.6 -2.9
MLY IAmb IAmb 08 30 55.9
comp=Z,29nm,1.3s
MLY **Manley** 83.58 12 P P 08 30 51.6 -0.9
baz=207,SNR=7.3
BVCY **Beaver Creek** 83.67 17 P P 08 30 52.1 -0.9
baz=217
P32M **Atlin** 83.73 21 P P 08 30 52.8 -0.6
baz=224
RIDG **Independent Ri** 83.74 14 P P 08 30 52.8 -0.5
baz=213
H21K **Melozitna Rive** 83.77 11 P P 08 30 53.0 -0.4
baz=205
Q32M **Nakina River** 83.79 22 P P 08 30 53.0 -0.9
baz=225
GYA **Guiyang** 83.80 300 P P 08 30 54.6 0.0
GYA S S 08 41 18.6 +0.3
GYA pmax pmax
comp=Z,240nm,3.7s
O30N **Mendenhall** 83.81 20 P P 08 30 53.2 -0.6
baz=221
E17K **Hotham Inlet** 83.82 7 P P 08 30 53.0 -0.5
baz=197
HDA **Harding Lake** 83.82 13 P P 08 30 53.2 -0.4
baz=211,SNR=6.5
CTU **Camp Tracy** 83.86 45 P P 08 30 53.4 -1.2
IMAR **Indian Mountai** 83.91 10 P P 08 30 51.1 -2.9
L27K **Beaver Creek,** 83.94 16 P P 08 30 53.4 -0.9
baz=216
BCAR **Beaver Creek A** 83.95 16 P P 08 30 52.5 -1.9
I23K **Minto, Yukon-K** 83.96 12 P P 08 30 51.4 -2.9
I23K **Minto, Yukon-K** 83.96 12 P P 08 30 53.4 -0.9
baz=209,SNR=5.1
N30M **Aishikik Lake** 84.03 19 P P 08 30 54.0 -0.8
baz=220
MDM **Murphy Dome** 84.03 13 P P 08 30 52.5 -2.3
COLA **College** 84.03 13 P P 08 30 52.6 -2.1
COLA **College** 84.03 13 P P 08 30 52.6 -2.0
COLA pmax pmax
comp=Z,74nm,1.4s
COLA **College** 84.03 13 P P 08 30 53.8 -0.9
baz=210
F19K **Shaleruckit Mo** 84.08 8 P P 08 30 54.1 -0.8
baz=200
WHY **Whitehorse** 84.12 20 P P 08 30 54.5 -0.9
baz=222
SCRK **Sand Creek** 84.14 15 P P 08 30 54.1 -1.3
SCRK **Sand Creek** 84.14 15 P P 08 30 54.9 -0.6
baz=214
IL31 84.15 13 P P 08 30 53.2 -2.1
ILAR **Eielson Array** 84.15 13 P P 08 30 53.1 -2.2
comp=Z,10nm,1.0s,baz=227,slow=5.0,SNR=18
ILAR LR LR 09 00 59.9
comp=Z,175nm,20.0s,baz=216,slow=30
comp=Z,10nm,1.0s
NEW **Newport** 84.22 36 P P 08 30 55.3 -0.8
baz=239
NEW **Newport** 84.22 36 LR LR 09 00 19.9
comp=Z,202nm,20.5s,baz=230,slow=30
H22K **Ishtalitna Cre** 84.24 11 P P 08 30 55.4 -0.4
baz=207,SNR=6.2
DLBC **Dease Lake** 84.26 23 P P 08 30 55.2 -0.9
baz=227
DLBC **Dease Lake** 84.26 23 LR LR 09 04 09.1
comp=Z,546nm,18.2s,baz=268,slow=33
TCUT **Toone Canyon** 84.28 44 P P 08 30 55.7 -1.1
D17K **Noatak River** 84.28 6 P P 08 30 55.7 -0.2
baz=195
E18K **Tukpahlearik C** 84.28 7 P P 08 30 55.7 -0.2
baz=198
POKR **Poker Plat Res** 84.33 13 P P 08 30 56.1 -0.1
baz=210,SNR=5.6
J25K **Salcha River,** 84.36 14 P P 08 30 55.9 -0.5
baz=212
M29M **Somme Creek** 84.38 18 P P 08 30 56.0 -0.7
baz=219
G21K **Allakaket** 84.43 10 P P 08 30 56.0 -0.7
baz=205
Y22A **Socorro** 84.44 53 P P 08 30 56.9 -0.9
baz=247
N31M **Braeburn, Yuko** 84.45 19 P P 08 30 56.0 -1.0
baz=222
P33M **Teslin, Yukon** 84.50 21 P P 08 30 56.2 -1.1
baz=224
Y22D **IRIS PASSCAL I** 84.53 52 P P 08 30 58.3 +0.2
baz=247
Y22F **Passcal Instru** 84.53 52 P P 08 30 58.3 +0.2
baz=247
BILL **Bilibino** 84.54 354 P P 08 30 55.9 -1.3
BILL IAmb IAmb 08 31 02.3
comp=Z,26nm,1.6s
BILL **Bilibino** 84.54 354 *i* P P 08 30 55.9 -1.3
R33M **Jennings River** 84.57 22 P P 08 30 57.5 -0.2
baz=226
F20K **Avaraart Lake** 84.58 9 P P 08 30 57.0 -0.3
baz=202
MVCO **Mesa Verde** 84.62 49 P P 08 30 57.8 -0.8
baz=246
C16K **Lisburne Hills** 84.64 5 P P 08 30 57.5 -0.2
baz=193
RDOG **Red Dog Mine** 84.64 6 P P 08 30 58.0 +0.3
baz=196
K27K **Chicken** 84.66 15 P P 08 30 57.7 -0.2
baz=216
J26L **Joseph Creek** 84.69 15 P P 08 30 57.2 -0.9
baz=214
E19K **Redstone River** 84.74 8 P P 08 30 57.2 -1.1
baz=201
VHRN **Van Horn** 84.77 56 P P 08 30 58.1 -1.3
MNTX **Cornudas Mount** 84.80 55 P P 08 30 59.5 +0.1

baz=248
MNTX **Cornudas Mount** 84.80 55 P P 08 30 58.5 -0.9
baz=248
H24K **Noodor Dome** 84.87 12 P P 08 30 58.6 -0.4
baz=210
M30M **Minto, Yukon** 84.97 18 P P 08 30 58.5 -1.1
M30M **Minto, Yukon** 84.97 18 P P 08 30 59.0 -0.6
baz=220
L29M **L29M** 84.99 17 P P 08 30 59.1 -0.6
baz=219
C17K **DeLong Mountai** 85.03 6 P P 08 30 58.8 -0.9
baz=195
F21K **Alatna River** 85.08 10 P P 08 30 58.9 -1.1
baz=205
N32M **Quiet Lake** 85.08 20 P P 08 30 59.8 -0.4
baz=224
PRP **Porcupine Dome** 85.09 13 P P 08 30 58.3 -1.9
PRP **Porcupine Dome** 85.09 13 P P 08 30 59.0 -1.2
baz=212
G22K **Bettles** 85.14 10 P P 08 30 59.4 -0.8
baz=206
G23K **Bananza Creek** 85.22 11 P P 08 30 59.8 -0.9
baz=208,SNR=6.5
ANMO **Albuquerque** 85.22 52 P P 08 31 00.4 -1.3
ANMO IAmb IAmb 08 31 07.3
comp=Z,16nm,1.5s
ANMO **Albuquerque** 85.22 52 *de*P P 08 31 00.3 -1.4
ANMO pmax pmax
comp=Z,13nm,1.5s
ANMO **Albuquerque** 85.22 52 P P 08 31 00.4 -1.3
baz=247
ANMO **Albuquerque** 85.22 52 P P 08 31 00.5 -1.1
baz=247
ANMO **Albuquerque** 85.22 52 LR LR 09 02 09.8
comp=Z,464nm,19.5s,baz=344,slow=31
AHID **Auburn Hatcher** 85.23 43 P P 08 30 60.0 -1.5
TX31 **Lajitas Ar. Si** 85.30 58 P P 08 31 01.0 -1.1
TX31 **Lajitas Ar. Si** 85.30 58 P P 08 31 00.8 -1.3
baz=249
TXAR **Lajitas Array** 85.30 58 P P 08 30 59.7 -2.3
TXAR **Lajitas Array** 85.30 58 P P 08 31 00.9 -1.2
comp=Z,1.3nm,0.8s,baz=232,slow=4.4,SNR=15
TXAR LR LR 09 01 60.0
comp=Z,319nm,19.1s,baz=240,slow=31
comp=Z,1.3nm,0.8s
MSO **Missoula** 85.35 39 P P 08 31 01.0 -0.9
baz=241
C18K **Utukok River** 85.39 6 P P 08 31 00.2 -1.4
baz=197
DAWY **Dawson** 85.40 16 P P 08 31 01.0 -0.6
baz=218,SNR=7.5
M31M **Drury Creek, Y** 85.43 19 P P 08 31 00.7 -1.1
baz=223
I26K **Coal Creek Min** 85.45 14 P P 08 31 01.3 -0.6
baz=214
MAW **Mawson** 85.49 200 LR LR 09 04 20.4
comp=Z,332nm,21.3s,baz=101,slow=32
EGAK **Eagle** 85.51 15 P P 08 31 00.5 -1.6
EGAK **Eagle** 85.51 15 P P 08 31 01.1 -1.0
baz=216,SNR=5.1
D19K **Kuna River** 85.61 8 P P 08 31 01.7 -0.9
baz=200
E20K **Nigu River** 85.64 8 P P 08 31 01.8 -1.0
baz=202
COLD **Coldfoot** 85.65 11 P P 08 31 01.8 -0.9
baz=208,SNR=6.4
TPAW **Teton Pass** 85.65 43 P P 08 31 01.5 -2.2
TPAW IAmb IAmb 08 31 09.7
comp=Z,17nm,1.3s
REDW **Red Top Meadow** 85.66 43 P P 08 31 01.3 -2.4
PMSA **Palmer Station** 85.67 157 LR LR 09 03 51.6
comp=Z,89nm,19.4s,baz=231,slow=32
G24K **Hadweenzic Riv** 85.70 12 P P 08 31 02.5 -0.6
baz=210
ALPN **Alpine** 85.70 57 P P 08 31 02.2 -1.9
HHC **Hu-ho-hao-te** 85.71 314 *e*P P 08 31 03.3 -0.5
HHC *e*S SKSac 08 41 27.4 -2.3
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,280nm,5.5s
HHC LR LR
comp=Z,280nm,12.4s
HHC LR LR
comp=Z,330nm,14.9s
HHC LR LR
comp=Z,400nm,15.5s
K29M **Barlow Dome** 85.74 17 P P 08 31 02.3 -1.2
baz=220
FARO **Faro, Yukon** 85.78 20 P P 08 31 02.8 -0.8
baz=224
WTLY **Watson Lake, Y** 85.87 23 P P 08 31 04.2 +0.1
baz=228
MOOW **Moose Ponds** 85.90 42 P P 08 31 03.6 -1.3
MOOW IAmb IAmb 08 31 09.9
comp=Z,22nm,1.6s
LOHW **Long Hollow** 85.93 43 P P 08 31 04.3 -0.8
LOHW IAmb IAmb 08 31 10.8
comp=Z,31nm,1.6s
D20K **Etivluk River** 86.00 8 P P 08 31 04.2 -0.3
baz=202
C19K **Lookout Ridge** 86.01 7 P P 08 31 03.9 -0.7
baz=199
MAYO **Mayo, Yukon** 86.02 18 P P 08 31 03.6 -1.1
baz=221
J29N **Klondike Camp** 86.02 16 P P 08 31 03.8 -1.0
baz=219
B18K **Kokolik River** 86.02 6 P P 08 31 04.6 0.0
baz=197
O20A **White River Ci** 86.02 46 P P 08 31 04.6 -1.0
O20A IAmb IAmb 08 31 08.5
comp=Z,42nm,1.9s
O20A **White River Ci** 86.02 46 P P 08 31 04.7 -0.8
baz=246
G25K **Bearman Lake** 86.03 12 P P 08 31 04.1 -0.6
baz=212
S22A **4UR Ranch, Cre** 86.05 49 P P 08 31 04.5 -1.4
baz=247
I27K **Kandik River** 86.07 15 P P 08 31 04.5 -0.4
baz=216
FLWY **Flagg Ranch** 86.08 42 P P 08 31 04.3 -1.5
BOZ **Bozeman (W)** 86.18 40 P P 08 31 05.2 -1.0
baz=243
E22K **Anaktuvuk Pass** 86.18 10 P P 08 31 04.2 -1.3
baz=206
BW06 **Boulder Array** 86.25 44 P P 08 31 05.1 -1.5
baz=245
PDAR **Pinedale Array** 86.25 44 P P 08 31 05.0 -1.6
PDAR **Pinedale Array** 86.25 44 P P 08 31 05.2 -1.5
comp=Z,1.4nm,1.0s,baz=191,slow=1.5,SNR=9.1
PDAR LR LR 09 02 34.6
comp=Z,338nm,20.2s,baz=264,slow=31
comp=Z,1.4nm,1.0s
H17A **Grant Village** 86.30 42 P P 08 31 05.9 -1.0
baz=244
YHH **Holmes Hill** 86.30 41 P P 08 31 05.6 -1.3
F24K **Squaw Lake** 86.33 11 P P 08 31 04.6 -1.6
baz=210
I28M **Miner Creek** 86.36 15 P P 08 31 04.5 -1.9
I28M IAmb IAmb 08 31 09.7
comp=Z,31nm,1.6s
I28M **Miner Creek** 86.36 15 P P 08 31 04.8 -1.6
baz=217
E23K **Chandalar** 86.49 11 P P 08 31 06.2 -0.9
baz=208
H27K **Steamboat Moun** 86.60 14 P P 08 31 06.8 -0.8
baz=216
J30M **Hart River** 86.64 17 P P 08 31 06.9 -1.0
baz=221
KMI **Kunming** 86.66 297 ⇑P P 08 31 07.9 -1.1
KMI pmax pmax
comp=Z,15nm,1.5s
KMI LR LR
comp=Z,260nm,17.7s
KMI LR LR
comp=Z,300nm,20.3s
KMI LR LR
comp=Z,480nm,20.4s
C21K **Knifeblade Rid** 86.67 8 P P 08 31 07.5 -0.3
baz=203
G26K **Porcupine Rive** 86.68 13 P P 08 31 07.5 -0.3
baz=214
I29M **Ogilvie Camp,** 86.71 16 P P 08 31 07.7 -0.4
baz=219,SNR=5.8
E24K **Your Creek** 86.71 11 P P 08 31 07.5 -0.6
baz=209
D22K **Ayikyak River** 86.72 9 P P 08 31 07.2 -0.9
baz=205
F25K **Christian Rive** 86.84 12 P P 08 31 08.3 -0.5
baz=212
A19K **Wainwright** 86.90 6 P P 08 31 08.5 -0.4
baz=197
BMAR **Burnt Mountain** 86.92 13 P P 08 31 07.1 -2.0
SDCO **Great Sand Dun** 87.02 49 P P 08 31 09.9 -0.7
baz=248
G27K **Doyon Strip** 87.04 14 P P 08 31 09.5 -0.2
baz=216
I30M **Mount Dempster** 87.12 17 P P 08 31 09.5 -0.7
baz=221
F26K **Sheenjek River** 87.23 13 P P 08 31 09.9 -0.7
baz=213
E25K **Arctic Village** 87.30 12 P P 08 31 09.9 -1.0
baz=212
H29M **Whitestone** 87.36 15 P P 08 31 10.9 -0.4
baz=219
RLMT **Red Lodge** 87.46 42 P P 08 31 11.8 -0.6
baz=245
T25A **Trinidad** 87.59 50 P P 08 31 11.7 -1.6
T25A **Trinidad** 87.59 50 P P 08 31 12.4 -0.9
baz=248
D24K **Happy Valley** 87.60 10 P P 08 31 11.9 -0.4
baz=209
MSTX **Muleshoe** 87.68 54 P P 08 31 12.9 -0.8
baz=249
KOTAN **Kotaneelee Air** 87.69 24 P P 08 31 12.4 -0.6
baz=232
ISCO **Idaho Springs** 87.74 48 P P 08 31 13.1 -1.0
baz=247
Q24A **Divide** 87.75 48 P P 08 31 13.2 -0.9
baz=248
CD2 **Chengdu** 87.75 303 P P 08 31 11.8 -2.2
EPYK **Eagle Plains** 87.90 16 P P 08 31 13.3 -0.5
baz=220
C23K **Ikkil River** 87.91 9 P P 08 31 13.3 -0.4
baz=207
CMAR **Chiang Mai Arr** 87.92 290 *i* P P 08 31 17.0 +2.0
CMAR pmax pmax
comp=Z,3.0nm,0.3s
CMAR **Chiang Mai Arr** 87.92 290 P P 08 31 14.3 -0.7
comp=Z,2.2nm,0.3s,baz=95,slow=3.4,SNR=4.5
comp=Z,2.2nm,0.3s
N23A **Red Feather La** 87.93 46 P P 08 31 13.5 -1.4
baz=247
B22K **Teshekpuk Lake** 87.95 8 P P 08 31 14.2 +0.3
baz=205
PZH **PanZhiHua** 87.96 298 P P 08 31 14.5 -0.7
PZH S S 08 41 50.4 -8.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,180nm,4.2s
PZH LR LR
comp=Z,170nm,19.6s
PZH LR LR
comp=Z,220nm,18.0s
PZH LR LR
comp=Z,320nm,21.6s
G29M **Pine Creek** 87.99 15 P P 08 31 13.6 -0.7
baz=219
F28M **Old Crow** 88.10 14 P P 08 31 13.6 -1.2
baz=217
C24K **Franklin Bluff** 88.12 10 P P 08 31 13.5 -1.2
baz=209
E27K **Coleen River** 88.18 13 P P 08 31 14.5 -0.7
baz=216
K22A **Casper** 88.23 45 P P 08 31 14.6 -1.6
baz=247
A22K **Sinclair Lake** 88.35 8 P P 08 31 14.6 -1.2
baz=203
EGMT **Eagleton** 88.42 39 P P 08 31 15.9 -0.9
baz=244
A21K **Barrow** 88.45 7 P P 08 31 15.4 -0.9
baz=202
833A **Chaparral WMA,** 88.48 60 P P 08 31 16.7 -0.7
baz=251
G30M **tAoh Zraii Nji** 88.50 15 P P 08 31 14.8 -1.9
baz=221
C26K **Camden Bay** 88.96 11 P P 08 31 17.7 -1.0
baz=213
G31M **Satah River** 88.96 16 P P 08 31 16.6 -2.2
G31M IAmb IAmb 08 31 53.5
comp=Z,38nm,2.0s
G31M **Satah River** 88.96 16 P P 08 31 17.8 -1.0
baz=223
E28M **Babbage River** 88.97 13 P P 08 31 17.7 -1.1
baz=218
CMIG **Matias Romero** 88.99 72 LR LR 09 01 18.8
comp=Z,169nm,21.9s,baz=254,slow=29
F30M **Barrier River** 89.09 15 P P 08 31 18.4 -1.0
baz=221
E29M **Blow River** 89.18 14 P P 08 31 18.9 -0.9
baz=219
D27M **Malcolm River** 89.18 13 P P 08 31 18.8 -1.1
baz=216
F31M **Tsiigehtchic** 89.49 16 P P 08 31 19.4 -1.8
F31M IAmb IAmb 08 31 26.5
comp=Z,29nm,1.6s
F31M **Tsiigehtchic** 89.49 16 P P 08 31 20.9 -0.3
baz=223
D28M **Stokes Point** 89.72 13 P P 08 31 22.5 +0.2
baz=218
LAO **LASA Array** 90.04 41 P P 08 31 23.7 -0.7
baz=247
INK **Inuvik** 90.18 15 P P 08 31 22.7 -1.8
baz=223
INK **Inuvik** 90.18 15 LR LR 09 05 25.2
comp=Z,138nm,20.4s,baz=188,slow=31
RSSD **Black Hills** 90.47 44 P P 08 31 25.3 -1.4
RSSD IAmb IAmb 08 31 32.5
comp=Z,29nm,1.7s
RSSD **Black Hills** 90.47 44 P P 08 31 25.3 -1.4
RSSD pmax pmax
comp=Z,29nm,1.7s
RSSD **Black Hills** 90.47 44 P P 08 31 25.6 -1.1
baz=248
ELIB **Princess Elisa** 90.97 187 *d*P P 08 31 27.2 -1.3
comp=Z,9.0nm,1.0s
SONM **Songino Array** 91.90 319 P P 08 31 33.3 +0.2
comp=Z,1.1nm,1.1s,baz=104,slow=3.1,SNR=6.2
SONM LR LR 09 07 59.0
comp=Z,126nm,20.9s,baz=104,slow=32
comp=Z,1.1nm,1.1s
HKT **Hockley** 91.94 60⇑ *e*P P 08 31 34.3 +0.8
HKT pmax pmax
comp=Z,17nm,1.7s
DGMT **Dagmar** 91.99 40 P P 08 31 32.9 -0.6
baz=248
SNAA **Sanae** 92.47 179 P P 08 31 34.3 -1.1
comp=Z,2.9nm,1.0s,baz=237,slow=4.3,SNR=3.7
SNAA LR LR 09 11 06.4
comp=Z,201nm,19.1s,baz=248,slow=34
comp=Z,2.9nm,1.0s
YKA **Yellowknife Ar** 92.79 25 P P 08 31 35.9 -0.8
comp=Z,0.8nm,1.0s,baz=245,slow=3.6,SNR=6.4
YKA LR LR 09 08 59.9
comp=Z,673nm,18.5s,baz=262,slow=33
comp=Z,0.8nm,1.0s
PLCA **Paso Flores** 92.88 134 P P 08 31 37.0 -0.9
comp=Z,1.8nm,0.9s,baz=245,slow=4.8,SNR=3.5
PLCA LR LR 09 04 00.9
comp=Z,158nm,21.2s,baz=224,slow=30
comp=Z,1.8nm,0.9s
TUL3 **Leonard** 93.73 54 P P 08 31 41.4 -0.2
baz=253
KSU1 **Kansas State U** 94.04 51 P P 08 31 42.6 -0.5
baz=253
MDND **Maddock** 94.66 42 P P 08 31 45.0 -0.7
baz=252
A36M **Sachs Harbour** 94.76 15 P P 08 31 43.3 -2.3
A36M IAmb IAmb 08 31 48.6
comp=Z,9.5nm,1.2s
A36M **Sachs Harbour** 94.76 15 P P 08 31 45.1 -0.5
baz=231
ECSD **EROS Data Cent** 95.40 46 P P 08 31 48.3 -0.9
baz=253
TEIG **Tepich** 95.87 71 LR LR 09 06 15.3
comp=Z,1µm,21.4s,baz=360,slow=30
ULM **Lac du Bonnet** 97.71 40 LR LR 09 08 43.6
comp=Z,435nm,21.5s,baz=272,slow=31
CFA **Coronel Fontan** 98.33 126 LR LR 09 06 13.3
comp=Z,115nm,21.6s,baz=261,slow=29
KURBB **Kurchatov Arra** 110.25 319 PKiKP PKiKP 08 36 55.5 -1.0
comp=Z,1.3nm,1.0s,baz=92,slow=1.0,SNR=5.4
KSH **Kashi** 111.68 307 *e*PKP PKiKP 08 36 58.0 -1.8
AAK **Ala-Archa** 112.92 310 ⇓ *i*PKIKP PKiKP 08 37 04.6 +2.5
BVAR **Borovoye Array** 115.17 321 PKP PKiKP 08 37 05.8 0.0
comp=Z,1.2nm,0.7s,baz=63,slow=4.0,SNR=5.7
BRVK **Borovoye** 115.23 321 ⇓ *i*PKIKP PKiKP 08 37 06.3 +0.4
ARU **Arti** 121.09 327 *i* PKIKP PKPdf 08 37 16.5 -0.6
ARU 08 44 28.4
KIRV **Kirov** 124.72 332 ⇑ *i*PKIKP PKPdf 08 37 26.0 +2.0
GEYT **Alibeck** 125.68 305 PKP PKPdf 08 37 25.6 -0.9
comp=Z,1.7nm,0.7s,baz=93,slow=5.8,SNR=1.8
KLMR **Klimovskoe** 127.50 338 *e*PKIKP PKPdf 08 37 30.5 +1.2
KLMR pmax pmax
comp=Z,57nm,1.7s
BELG **Belogornoye** 128.55 325 ⇓ *i*PKIKP PKPdf 08 37 32.6 +1.1
OBN **Obninsk** 132.47 333 ⇑ *e*PKIKP PKPdf 08 37 37.2 -1.6
OBN *e* 08 40 05.7
OBN pmax pmax
comp=Z,69nm,2.6s
KIV **Kislovodsk** 135.25 317 *i* PKIKP PKPdf 08 37 45.9 +1.3
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,185nm,24.0s
AKASG **Malin Array Be** 138.74 333 PKP PKPdf 08 37 49.7 -1.0
comp=Z,1.4nm,0.6s,baz=36,slow=1.4,SNR=7.9
AKBB **Malin Array Si** 138.74 333 ‖ *e*PKIKP PKPdf 08 37 51.0 +0.3
BRTR **Keskin Array B** 143.20 316 PKP PKPbc 08 37 58.7 +2.5
comp=Z,2.5nm,1.0s,baz=182,slow=3.7,SNR=8.2
CRVS **Cervenica-Dubn** 143.28 338 *e*PKIKP PKPbc 08 37 58.8 +2.8
CRVS **Cervenica-Dubn** 143.28 338 *e*PKP PKPbc 08 37 58.8 +2.8
DPC **Dobruska-Polom** 143.66 344 *e*PKIKP PKPbc 08 38 00.9 +3.9
DPC **Dobruska-Polom** 143.66 344 *e*PKP PKPbc 08 38 00.9 +3.9
MORC **Moravsky Berou** 143.83 342 *e*PKP PKPbc 08 38 00.5 +2.9
VRAC **Vranov** 144.52 343 *e*PKP PKPab 08 38 02.5 +3.0
VYHS **Vyhne** 144.54 340 *e*PKIKP PKPdf 08 38 03.5 +2.3
VYHS **Vyhne** 144.54 340 *e*PKP PKPdf 08 38 03.5 +2.3
JAVC **Velka Javorina** 144.60 341 *e*PKP PKPdf 08 38 04.6 +3.2
KRUC **Moravsky** 144.80 343 *e*PKP PKPbc 08 38 03.9 +3.3
MMAI **Mount Meron Ar** 144.80 305 PKP PKPab 08 38 00.3 -0.8
comp=Z,36nm,0.9s,baz=207,slow=1.7,SNR=13
MODS **Modra-Piesok** 145.15 341 *e*PKIKP PKPdf 08 38 05.9 +3.6
MODS **Modra-Piesok** 145.15 341 *e*PKP PKPdf 08 38 05.9 +3.6
BTNL **Ternell** 145.31 354 *d*PKP PKPab 08 38 07.1 +4.7
BSTI **Sart Tilman** 145.36 355 *d*PKP PKPdf 08 38 03.9 +1.4
ZST **Bratislava** 145.36 341 *e*PKIKP PKPab 08 38 06.5 +3.9
ZST **Bratislava** 145.36 341 *e*PKP PKPab 08 38 06.5 +3.9
KHC **Kasperske Hory** 145.48 346 *e*PKIKP PKPab 08 38 06.5 +3.5
KHC **Kasperske Hory** 145.48 346 *e*PKP PKPab 08 38 06.5 +3.5
BCLA **Clavier** 145.54 355 *d*PKP PKPdf 08 38 05.2 +2.4
BHOU **Houvegnez** 145.55 355 *d*PKP PKPab 08 38 06.1 +2.9
CKRC **Cesky Krumlov** 145.59 345 *e*PKP2 PKPab 08 38 06.7 +3.3
CKRC **Cesky Krumlov** 145.59 345 *e*PKP PKPab 08 38 06.7 +3.3
BMRD **Maredsous** 145.70 356 *d*PKP PKPdf 08 38 04.9 +1.8
GERES **GERESS Array B** 145.72 345 PKPbc PKPdf 08 38 00.7 -2.6
comp=Z,5.0nm,0.9s,baz=286,slow=5.4,SNR=5.0
RCHB **Rochefort** 145.81 355 *d*PKP PKPab 08 38 07.1 +2.9
DOU **Dourbes** 145.91 356 *d*PKP PKPdf 08 38 05.2 +1.8
CONA **Conrad Observa** 145.98 342 *ep*PKP PKPdf 08 38 04.3 +0.5
comp=Z,41nm,1.4s,SNR=5.4
RONA **Rosalia, Austr** 146.05 342 *ep*PKP PKPdf 08 38 04.9 +1.1
comp=Z,27nm,1.2s
WLF **Walferdange** 146.22 354 *d*PKP PKPab 08 38 08.5 +2.8
MOA **Molln** 146.49 344 *ep*PKP PKPdf 08 38 05.5 +0.9
comp=Z,15nm,1.1s
ARSA **Arzberg** 146.69 342 *ep*PKP PKPdf 08 38 06.2 +1.2
comp=Z,11nm,1.1s
LESA **Schwarzleotal** 147.29 346 *ep*PKP PKPbc 08 38 10.1 +1.8
comp=Z,20nm,1.2s
SOKA **Soboth** 147.35 342 *e*PKP PKPdf 08 38 05.9 -0.2
comp=Z,23nm,1.7s,SNR=6.2
KBA **Koelnbreinsper** 147.45 345 PKP PKPdf 08 38 04.2 -2.2
comp=Z,10nm,0.9s
WATA **Walderalm** 147.63 347 *ep*PKP PKPdf 08 38 07.8 +1.1
comp=Z,16nm,1.1s
RETA **Reutte** 147.65 348 *e*PKiKP PKPdf 08 38 09.4 +2.8
comp=Z,18nm,1.3s
WTTA **Wattenberg** 147.68 347 *e*PKP PKPdf 08 38 09.2 +2.4
comp=Z,39nm,1.4s,SNR=6.3
MOTA **Moosalm** 147.72 347 *ep*PKP PKPdf 08 38 08.5 +1.7
comp=Z,27nm,1.1s
MYKA **Terra Mystica** 147.78 344 *ep*PKP PKPdf 08 38 10.4 +3.5
comp=Z,23nm,1.2s,SNR=5.5
SQTA **Sankt Quirin** 147.81 347 *e*PKiKP PKPdf 08 38 10.1 +3.1
comp=Z,29nm,1.3s
ABTA **Abfaltersbach** 147.96 345 *ep*PKP PKPdf 08 38 08.6 +1.4
comp=Z,23nm,1.3s
DAVA **Damuels** 148.02 349 *e*PKP PKPdf 08 38 09.5 +2.2
comp=Z,31nm,1.5s
FETA **Feichten** 148.10 348 *e*PKP PKPdf 08 38 10.0 +2.5
comp=Z,23nm,1.2s
TORD **Torodi Ar. Bea** 177.10 189 PKP PKPdf 08 38 34.4 -1.6
comp=Z,0.7nm,0.9s,baz=249,slow=0.6,SNR=3.5

IDC 15 08:21:19.1±7.4, 62°26S×164°76E, h0km, mb3.9/3, mbtmp3.9/4, ML3.5/1, MS3.8/2, Error ellipse: s-maj=220.7km s-min=31.4km az=84.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	15.37	182	Pn	Pn	08 24 56.9	+0.1
	0.2nm,0.3s,baz=0.7,slow=14,SNR=6.8						
VNDA				LR	LR	08 29 47.9	
	comp=Z,290nm,18.1s,baz=341,slow=33						
	0.9nm,0.4s						
QSPA	**South Pole Qui**	27.83	180	LR	LR	08 36 22.7	
	comp=Z,172nm,18.0s,baz=354,slow=32						
MAW	**Mawson**	38.80	217	P	P	08 28 44.6	-0.2
	5.5nm,0.9s,baz=143,slow=10,SNR=2.2						
	5.5nm,0.9s						
H01W1	**Cape Leeuwin H**	41.64	287	T	T	09 14 00.4	
	baz=146,slow=75,SNR=81						
H01W2	**Cape Leeuwin H**	41.64	287	T	T	09 14 00.7	
	baz=146,slow=75,SNR=90						
H01W3	**Cape Leeuwin H**	41.65	287	T	T	09 14 01.6	
	baz=146,slow=75,SNR=84						
ASAR	**Alice Springs**	43.86	317	P	P	08 29 26.6	-0.2
	1.4nm,0.8s,baz=157,slow=8.0,SNR=6.4						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	47.21	320	P	P	08 29 53.6	+0.1
	0.4nm,0.7s,baz=161,slow=5.3,SNR=2.6						
	0.4nm,0.7s						
H03S2	**Juan Fernandez**	71.51	128	T	T	09 51 15.1	
	baz=204,slow=74,SNR=67						
H03S1	**Juan Fernandez**	71.51	128	T	T	09 51 16.4	
	baz=204,slow=74,SNR=77						
H03S3	**Juan Fernandez**	71.52	128	T	T	09 51 16.0	
	baz=204,slow=74,SNR=62						
H03N3	**Juan Fernandez**	71.85	128	T	T	09 51 40.2	
	baz=214,slow=74,SNR=5.7						
H03N2	**Juan Fernandez**	71.86	128	T	T	09 51 43.6	
	baz=214,slow=74,SNR=11						
H03N1	**Juan Fernandez**	71.87	128	T	T	09 51 57.3	
	baz=214,slow=74,SNR=5.4						
H08S2	**Diego Garcia H**	84.35	264	T	T	10 07 32.5	
	baz=151,slow=76,SNR=13						
H08S1	**Diego Garcia H**	84.36	264	T	T	10 07 33.3	
	baz=151,slow=76,SNR=8.9						
H08S3	**Diego Garcia H**	84.37	264	T	T	10 07 39.1	
	baz=151,slow=76,SNR=16						
H06S1	**SOCORRO T**	103.77	76	T	T	10 30 58.2	
	SNR=3.6						

IDC 15 08:23:46.4±2.1, 5°15S×101°88E, h0km, mb3.7/7, mbtmp3.8/8, ML4.0/1, MS3.0/1, Error ellipse: s-maj=95.3km s-min=18.9km az=51.0

DJA 15 08:23:54.8±0.8, 5°S±7°×10°3E±°, h36km±24km, M4.5/11, mb4.5/4, mB4.8/1, MLv4.4/11, Mw(mB)4.1/1

ISC 15 08:23:54.4±0.8, 4.78S±0.06×102.63E±0.06, h44km, n31, σ1§10/25, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	0.67	212	P	Pn	08 24 07.9	+0.4
UBSI	**University, Be**	1.07	341	P	Pn	08 24 13.5	+0.5
UBSI				S	Sn	08 24 28.2	+1.5
LWLI	**Liwa**	1.45	99	P	Pn	08 24 19.3	+1.1
LWLI				S	Sn	08 24 33.9	-2.2
KASI	**Kota Agung**	2.00	112	P	Pn	08 24 26.6	+0.9
KASI				S	Sn	08 24 50.6	+1.0
KRJI	**Kerinci**	2.91	336	P	Pn	08 24 39.0	+0.6
PPSI	**Pulau Pagai**	3.29	307	P	Pn	08 24 44.3	+0.8
PDSI	**Padang**	4.41	331	P	Pn	08 24 59.6	+0.7
PDSI				S	Sn	08 25 49.5	+0.5
DSRI	**Dabo**	4.70	25	P	Pn	08 25 03.7	+0.9

CNJI	**Cibinong**	**5.13**	**120**	P		**Pn**	**08 25 09.4**	**+0.6**	
	17nm,0.9s,1μm0.1nm								
LEM	**Lembang**	**5.36**	**113**	Pn		Pn	08 25 17.6	+5.5	
	4.2nm,0.3s,baz=316,slow=16,SNR=4.3								
LEM				LR		LR	08 27 39.2		
	comp=Z,134nm,18.9s,baz=27,slow=39								
	28nm,0.6s								
BBJI	**Bungbulang**	**5.66**	**118**	P		**Pn**	**08 25 16.7**	**+0.6**	
	35nm,0.6s,0.2nm								
PBSI	**Pulau Batu**	**6.39**	**317**	P		**Pn**	**08 25 26.7**	**+0.6**	
	43nm,0.9s,0.3nm								
CMJI	**Cimerak**	**6.51**	**118**	P		**Pn**	**08 25 28.0**	**+0.3**	
H08S2	**Diego Garcia H**	**30.09**	**263**	T		T	09 00 53.9		
	baz=87,slow=74,SNR=3.9								
H08S3	**Diego Garcia H**	**30.10**	**263**	T		T	09 01 22.9		
	baz=87,slow=74								
H08S1	**Diego Carcia H**	**30.11**	**263**	T		T	09 01 29.2		
	baz=87								
H01W3	**Cape Leeuwin H**	**31.79**	**162**	T		T	09 04 13.8		
	baz=339,slow=74								
H01W2	**Cape Leeuwin H**	**31.81**	**162**	T		T	09 04 16.6		
	baz=339,slow=74								
H01W1	**Cape Leeuwin H**	**31.81**	**162**	T		T	09 04 15.2		
	baz=339								
ASAR	**Alice Springs**	**35.51**	**125**	P		**P**	**08 30 47.9**	**+0.5**	
	0.5nm,0.4s,baz=294,slow=7.8,SNR=14								
	0.5nm,0.4s								
LZH	**Lanzhou**	**40.67**	**2**	*e*P		**P**	**08 31 27.8**	**-2.9**	
LZH				pP		pP	08 31 35.5	-7.2	
LZH				pmax		pmax			
	comp=Z,18nm,0.9s								
STKA	**Stephens Creek**	**45.35**	**131**	P		**P**	**08 32 09.9**	**+1.3**	
	comp=Z,0.8nm,0.5s,baz=300,slow=12,SNR=3.9								
	comp=Z,0.8nm,0.5s								
SONM	**Songino Array**	**52.50**	**3**	P		**P**	**08 33 03.5**	**+0.4**	
	comp=Z,0.6nm,0.7s,baz=181,slow=10,SNR=4.2								
	comp=Z,0.6nm,0.7s								
MKAR	**Makanchi Array**	**54.42**	**343**	P		**P**	**08 33 16.3**	**-0.8**	
	comp=Z,0.3nm,0.4s,baz=150,slow=8.6,SNR=5.1								
	comp=Z,0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**58.96**	**342**	P		**P**	**08 33 48.4**	**-0.8**	
	comp=Z,0.3nm,0.7s,baz=162,slow=6.2,SNR=3.1								
	comp=Z,0.3nm,0.7s								
H04N2	**CROZET ISLANDS**	**60.20**	**218**	T		T	09 38 43.2		
	baz=62,slow=74								
H04N1	**CROZET ISLANDS**	**60.21**	**218**	T		T	09 38 33.5		
	baz=62								
H04N3	**CROZET ISLANDS**	**60.21**	**218**	T		T	09 38 27.5		
	baz=62,slow=74								
ZALV	**Zalesovo Beam**	**60.39**	**348**	P		**P**	**08 33 59.2**	**+0.2**	
	comp=Z,1.3nm,0.4s,baz=160,slow=5.6,SNR=6.8								
	comp=Z,1.3nm,0.4s								
BVAR	**Borovoye Array**	**63.69**	**339**	P		**P**	**08 34 20.4**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=134,slow=11,SNR=4.2								
	comp=Z,0.6nm,0.5s								
TXAR	**Lajitas Array**	**145.13**	**43**	PKPbc		**PKPbc**	**08 43 27.5**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=330,slow=1.6,SNR=4.1								

*IDC **15** 08:37:09.0±0.7,2.°96S×142.°02E, h0km, mb4.1/13, mbtmp4.2/15, ML4.3/1, Error ellipse: s-maj=34.5km s-min=15.8km az=80.0*
*DJA **15** 08:37:11.9±1.8,3.°5S×4.°4×2.°2E±.°, h11km±14km, M4.8/8, mb4.5/8, MLv4.8/3*
*NEIC **15** 08:37:15.7±1.6,3.°13S±0.°09×141.°91E±0.°08, h40km±8km, mb4.5/35, Error ellipse: s-maj=13.0km s-min=11.7km az=176.0*

ISC 15 08:37:15.0±0.4,**3.°10S**±0.°05×**141.°92E**±0.°06,**h35**km,**n95,** σ1**s50**/92,**mb4.5**/34,**1C-1D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
GENI	**Genyem**	**1.82**	**286**	P		**Pn**	**08 37 43.0**		**-0.9**
GENI	**Genyem**	**1.82**	**286**	P		**Pn**	**08 37 42.3**		**-1.6**
GENI				S		**Sn**	**08 38 06.6**		**+0.8**
TABU	**Tabubil**	**2.26**	**198**	P		**Pn**	**08 37 53.2**		**+3.2**
MANU	**Manus Island**	**5.54**	**79**	Pn		**Pn**	**08 38 36.2**		**+1.1**
MANU	**Manus Island**	**5.54**	**79**	P		Pn	08 38 49.0		+14
	43nm,1.0s								
MMPI	**Merauke**	**5.54**	**196**	P		**Pn**	**08 38 36.2**		**+1.1**
	341nm,0.5s,3.7nm								
MMPI				S		**Sn**	**08 39 40.7**		**+3.1**
	341nm,0.5s,3.7nm								
PMG	**Port Moresby**	**8.14**	**141**	Pn		**Pn**	**08 39 11.0**		**+0.2**
PMG	**Port Moresby**	**8.14**	**141**	Pn		**Pn**	**08 39 11.0**		**+0.2**
	31nm,1.2s,baz=170,slow=11,SNR=2.5								
FAKI	**Fak Fak**	**9.66**	**271**	Pn		**Pn**	**08 39 31.8**		**+0.1**
KDU	**Kakadu**	**13.35**	**224**	P		**Pn**	**08 40 20.6**		**-1.5**
MTN	**Manton Dam**	**14.41**	**227**	Pn		**Pn**	**08 40 35.5**		**-1.1**
MTN	**Manton Dam**	**14.41**	**227**	P		**Pn**	**08 40 35.9**		**-0.7**
MTSU	**Mount Surprise**	**15.12**	**171**	P		**P**	**08 40 51.0**		**0.0**
QIS	**Mount Isa**	**17.50**	**187**	P		**P**	**08 41 18.2**		**+0.9**
KNRA	**Kununurra**	**18.00**	**225**			**Pn**	**08 41 20.5**		**-2.1**
KNRA				IAmb		IAmb	08 41 33.1		
	comp=Z,31nm,0.8s								
KNRA	**Kununurra**	**18.00**	**225**	P		**P**	**08 41 22.8**		**0.0**
WB0	**Warramunga Arr**	**18.12**	**203**			**Pn**	**08 41 22.9**		**-1.1**
WR0	**Warramunga Arr**	**18.24**	**203**	P		**P**	**08 41 23.3**		**-2.1**
WR0				IAmb		IAmb	08 41 40.4		
	comp=Z,46nm,1.0s								
WRAB	**Tennant Creek**	**18.29**	**203**	P		**Pn**	**08 41 25.2**		**-0.9**
WRAB				IAmb		IAmb	08 41 39.5		
	comp=Z,14nm,0.8s								
WB2	**Warramunga Arr**	**18.30**	**203**	P		**Pn**	**08 41 26.1**		**-0.1**
WB2				IAmb		IAmb	08 41 40.3		
	comp=Z,22nm,1.1s								
WRA	**Warramunga Arr**	**18.30**	**203**			**P**	**08 41 25.2**		**-1.0**
WRA	**Warramunga Arr**	**18.30**	**203**	P		**Pn**	**08 41 25.5**		**-0.8**
	comp=Z,1.0nm,0.3s,baz=26,slow=12,SNR=31								
WRA				S		**Sn**	**08 44 41.4**		**-8.4**
	comp=Z,2.8nm,1.0s,baz=17,slow=23,SNR=3.8								
	comp=Z,5.9nm,0.7s								
SOEI	**Soe**	**18.74**	**249**	P		**P**	**08 41 30.0**		**-1.1**
SOEI	**Soe**	**18.74**	**249**	P		**Pn**	**08 41 32.0**		**+0.2**
SOEI	**Soe**	**18.74**	**249**	P		**Pn**	**08 41 31.6**		**-0.2**
	comp=Z,135nm,0.9s								
GTOI	**Gorontalo**	**19.27**	**281**	P		**Pn**	**08 41 38.4**		**+0.4**
	comp=Z,14nm,0.6s								
EDFI	**Ende, Flores**	**20.88**	**254**	P		**P**	**08 41 53.0**		**-1.5**
	comp=Z,16nm,1.3s								
FITZ	**Fitzroy Crossi**	**21.83**	**226**	P		**P**	**08 42 03.7**		**-0.8**
FITZ	**Fitzroy Crossi**	**21.83**	**226**	P		**P**	**08 42 06.2**		**+1.7**
AS01	**Alice Springs**	**21.85**	**200**	P		**P**	**08 42 06.3**		**+1.6**
AS31	**Alice Springs**	**21.86**	**200**	P		**P**	**08 42 04.6**		**-0.3**
ASAR	**Alice Springs**	**21.86**	**200**	P		**P**	**08 42 04.2**		**-0.7**
ASAR	**Alice Springs**	**21.86**	**200**	P		**P**	**08 42 04.6**		**-0.3**
	comp=Z,2.1nm,0.6s,baz=28,slow=11,SNR=34								
ASAR				S		**S**	**08 46 06.2**		**+1.4**
	comp=Z,1.6nm,0.8s,baz=20,slow=28,SNR=4.8								
	comp=Z,2.1nm,0.6s								
EIDS	**Eidsvold**	**23.83**	**159**	P		**P**	**08 42 25.1**		**+0.1**
EIDS				IAmb		IAmb	08 42 28.8		
	comp=Z,20nm,1.4s								
WRKA	**Warakurna**	**25.45**	**210**	P		**P**	**08 42 40.3**		**+0.4**
PSA00	**Pilbara Seismi**	**28.24**	**228**	P		**P**	**08 43 05.3**		**+0.3**
PSA00				IAmb		IAmb	08 43 06.1		
	comp=Z,5.7nm,1.0s								
STKA	**Stephens Creek**	**28.62**	**181**	P		**P**	**08 43 08.0**		**-0.2**
STKA	**Stephens Creek**	**28.62**	**181**	P		**P**	**08 43 09.5**		**+1.2**
	comp=Z,0.6nm,0.4s,baz=44,slow=12,SNR=3.0								
	comp=Z,0.6nm,0.4s								
DZM	**Mont Dzumac**	**30.37**	**130**	P		**P**	**08 43 23.2**		**-0.7**
DZM				IAmb		IAmb	08 43 48.9		
	comp=Z,14nm,1.2s								
FORT	**Forrest**	**30.49**	**204**	P		**P**	**08 43 25.6**		**+0.9**
ONTNC	**Ouen Toro**	**30.51**	**131**	P		**P**	**08 43 25.6**		**+0.5**
H11S3	**WAKE ISLAND Hy**	**32.49**	**48**	T		T	09 17 42.5		
	baz=231,slow=75,SNR=47								
H11S2	**WAKE ISLAND Hy**	**32.50**	**48**	T		T	09 17 42.0		
	baz=231,slow=75,SNR=21								
H11S1	**WAKE ISLAND Hy**	**32.51**	**48**	T		T	09 17 45.3		
	baz=231,slow=75,SNR=28								
CAN	**Canberra**	**32.72**	**169**	P		**P**	**08 43 43.8**		**-0.7**
H11N1	**WAKE ISLAND Hy**	**33.41**	**46**	T		T	09 18 49.0		
	baz=229,slow=75,SNR=253								
H11N2	**WAKE ISLAND Hy**	**33.42**	**46**	T		T	09 18 50.3		
	baz=229,slow=75,SNR=298								
H11N3	**WAKE ISLAND Hy**	**33.42**	**46**	T		T	09 18 50.4		
	baz=229,slow=75,SNR=209								
MORW	**Morawa**	**35.66**	**221**	P		**P**	**08 44 10.9**		**+0.9**
NJ2	**Nanjing**	**41.26**	**330**	*e*P		**P**	**08 44 58.1**		**+1.2**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.5s								
RPSI	**Rantau Prapat**	**43.36**	**277**	P		**P**	**08 45 15.0**		**+0.6**
RPSI				IAmb		IAmb	08 45 15.8		
	comp=Z,8.7nm,0.7s								

CMAR	**Chiang Mai Arr**	**47.43**	**299**	P		**P**	**08 45 46.2**		**-0.4**
	comp=Z,2.2nm,0.3s,baz=125,slow=5.1,SNR=4.5								
	comp=Z,2.2nm,0.3s								
HNS	**HongShan**	**47.57**	**330**	⇑P		**P**	**08 45 46.3**		**-1.0**
HNS				pmax		pmax			
	comp=Z,7.0nm,1.0s								
PZH	**PanZhiHua**	**48.72**	**310**	P		**P**	**08 46 00.6**		**+4.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,120nm,4.1s								
MDJ	**Mudanjiang**	**48.77**	**348**	P		**P**	**08 45 58.8**		**+2.3**
MDJ				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,160nm,4.4s								
BNX	**BinXian**	**50.31**	**347**	⇓P		**P**	**08 46 07.0**		**-1.2**
BNX				pmax		pmax			
	comp=Z,9.0nm,0.7s								
BNX				pmax		pmax			
	comp=Z,210nm,4.3s								
HHC	**Hu-ho-hao-te**	**51.79**	**331**	*e*P		**P**	**08 46 20.4**		**+0.9**
HHC				pmax		pmax			
	comp=Z,14nm,0.5s								
HHC				pmax		pmax			
	comp=Z,170nm,6.3s								
GTA	**Gaotai**	**57.32**	**322**	*e*P		**P**	**08 47 00.1**		**+0.3**
GTA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
SONM	**Songino Array**	**59.48**	**333**	P		**P**	**08 47 14.2**		**-0.5**
	comp=Z,0.8nm,0.9s,baz=134,slow=6.4,SNR=4.9								
	comp=Z,0.8nm,0.9s								
WMQ	**Urumqi**	**67.33**	**320**	*e*P		**P**	**08 48 08.6**		**+1.9**
WMQ				LR		LR			
	comp=Z,230nm,24.1s								
MK31	**Makanchi Array**	**72.08**	**321**	P		**P**	**08 48 34.4**		**-1.4**
MK31				IAmb		IAmb	08 48 42.6		
	comp=Z,5.2nm,1.4s								
MKAR	**Makanchi Array**	**72.08**	**321**	P		**P**	**08 48 35.4**		**-0.3**
MKAR	**Makanchi Array**	**72.08**	**321**	P		**P**	**08 48 34.8**		**-0.9**
	comp=Z,1.1nm,0.9s,baz=113,slow=6.9,SNR=8.1								
	comp=Z,1.1nm,0.9s								
MAKZ	**Makanchi**	**72.28**	**321**	P		**P**	**08 48 37.5**		**+0.5**
MAKZ				IAmb		IAmb	08 48 41.9		
	comp=Z,5.9nm,1.2s								
PRZ	**Przheval'sk**	**72.95**	**316**	P		**P**	**08 48 42.3**		**+1.0**
ZALV	**Zalesovo Beam**	**73.91**	**329**	P		**P**	**08 48 45.3**		**-1.1**
	comp=Z,0.7nm,0.6s,baz=102,slow=6.2,SNR=3.9								
	comp=Z,0.7nm,0.6s								
VNDA	**Vanda**	**75.12**	**176**	P		**P**	**08 48 53.5**		**+0.3**
VNDA				IAmb		IAmb	08 49 10.0		
	comp=Z,3.6nm,1.3s								
VNDA	**Vanda**	**75.12**	**176**	P		**P**	**08 48 53.4**		**+0.3**
	comp=Z,1.4nm,1.0s,baz=350,slow=6.9,SNR=5.3								
	comp=Z,1.4nm,1.0s								
KURBB	**Kurchatov Arra**	**75.91**	**324**	P		**P**	**08 48 57.4**		**-0.6**
	comp=Z,1.0nm,0.8s,baz=103,slow=4.5,SNR=8.0								
	comp=Z,1.0nm,0.8s								
KK31	**Karatay Array**	**78.67**	**315**	P		**P**	**08 49 14.2**		**+0.5**
KKAR	**Karatay Array**	**78.67**	**315**	P		**P**	**08 49 13.0**		**-0.8**
NRIK	**Noril'sk**	**81.02**	**343**	P		**P**	**08 49 25.3**		**-0.5**
	comp=Z,1.0nm,0.4s,baz=64,slow=6.6,SNR=3.8								
	comp=Z,1.0nm,0.4s								
BVAR	**Borovoye Array**	**81.48**	**325**	P		**P**	**08 49 27.8**		**-0.9**
	comp=Z,1.9nm,0.6s,baz=113,slow=6.2,SNR=7.5								
	comp=Z,1.9nm,0.6s								
G19K	**Purcell Mounta**	**81.50**	**21**	P		**P**	**08 49 28.1**		**-0.3**
G19K				IAmb		IAmb	08 49 29.1		
	comp=Z,7.7nm,0.9s								
CAST	**Castle Rocks**	**82.26**	**25**	P		**P**	**08 49 32.4**		**-0.2**
F20K	**Avaraart Lake**	**82.40**	**21**	P		**P**	**08 49 33.2**		**+0.1**
F20K				IAmb		IAmb	08 49 34.0		
	comp=Z,6.8nm,1.1s								
IMAR	**Indian Mountai**	**82.65**	**22**	P		**P**	**08 49 34.0**		**-0.5**
G21K	**Allakaket**	**82.96**	**21**	P		**P**	**08 49 35.5**		**-0.7**
G21K				IAmb		IAmb	08 49 57.0		
	comp=Z,5.6nm,1.2s								
MLY	**Manley**	**83.42**	**23**	P		**P**	**08 49 38.1**		**-0.5**
MLY				IAmb		IAmb	08 49 45.6		
	comp=Z,5.6nm,1.5s								
I23K	**Minto, Yukon-K**	**84.01**	**23**	P		**P**	**08 49 41.0**		**-0.5**
I23K				IAmb		IAmb	08 49 43.6		
	comp=Z,8.0nm,1.5s								
DHY	**Denali Highway**	**84.12**	**26**	P		**P**	**08 49 41.3**		**-1.1**
DHY				IAmb		IAmb	08 49 42.2		
	comp=Z,6.0nm,0.8s								
M24K	**Tolsona, Glenn**	**84.35**	**27**	P		**P**	**08 49 42.9**		**-0.5**
IL31		**84.87**	**24**	P		**P**	**08 49 43.6**		**-2.2**
IL31				IAmb		IAmb	08 49 43.9		
	comp=Z,5.9nm,0.9s								
ILAR	**Eielson Array**	**84.87**	**24**	P		**P**	**08 49 43.4**		**-2.6**
ILAR	**Eielson Array**	**84.87**	**24**	P		**P**	**08 49 43.5**		**-2.4**
	comp=Z,3.8nm,0.7s,baz=258,slow=4.7,SNR=57								
	comp=Z,3.8nm,0.7s								
IL03	**Eielson Array**	**84.89**	**24**	P		**P**	**08 49 43.9**		**-2.1**
C23K	**Itkillik River**	**85.28**	**19**	P		**P**	**08 49 48.1**		**+0.2**
E25K	**Arctic Village**	**86.41**	**21**	P		**P**	**08 49 53.2**		**-0.3**
E25K				IAmb		IAmb	08 50 00.9		
	comp=Z,3.0nm,0.8s								
BCAR	**Beaver Creek A**	**86.57**	**26**	P		**P**	**08 49 53.9**		**-0.6**
BMAR	**Burnt Mountain**	**86.57**	**22**	P		**P**	**08 49 54.7**		**+0.3**
K27K	**Chicken**	**86.67**	**25**	P		**P**	**08 49 55.2**		**+0.3**
QSPA	**South Pole Qui**	**86.84**	**180**	P		**P**	**08 49 56.3**		**+0.5**
	comp=Z,1.8nm,0.6s,baz=263,slow=0.8,SNR=6.2								
	comp=Z,1.8nm,0.6s								
ABKAR	**Akbulak array**	**87.10**	**319**	P		**P**	**08 49 55.8**		**-1.5**
YKA	**Yellowknife Ar**	**98.95**	**27**	P		**P**	**08 50 50.1**		**-1.5**
	comp=Z,0.6nm,0.8s,baz=284,slow=5.5,SNR=8.5								
	comp=Z,0.6nm,0.8s								
DBIC	**Dimbokro**	**146.72**	**277**	PKPbc		**PKPbc**	**08 56 53.3**		**-1.1**
	comp=Z,6.4nm,1.1s,baz=73,slow=5.3,SNR=2.9								

*CNRM **15** 08:39:49.9,35.°74N×3.°74W, h7km, ML2.2*
*MDD **15** 08:39:51.8±0.7,35.°43N×3.°83W, h0km±8km, mb_Lg2.4/5, Error ellipse: s-maj=6.5km s-min=3.0km az=18.0*
*SFS **15** 08:39:52.9,35.°35N×3.°77W, h20km, ML2.2/7, ML2.7/6, MLv2.0/7*

ISC 15 08:39:51.1±1.3,**35.°47N**±0.°02×**3.°78W**±0.°02,**h3**km±11km, **n29,** σ1**s39**/40,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
PALE	**Palemas**	**0.28**	**207**	P		**Pn**	**08 40 00.4**		**-1.7**
PALE	**Palemas**	**0.28**	**207**	S		**Sb**	**08 40 06.4**		**+2.5**
GOG	**Mont Gurugu**	**0.69**	**110**	P		**Pb**	**08 40 06.2**		**+0.4**
GOG	**Mont Gurugu**	**0.69**	**110**	S		**Sb**	**08 40 14.8**		**-0.9**
EMEL	**Melilla**	**0.69**	**103**	Pg		**Pb**	**08 40 06.6**		**+0.7**
EMEL				Sg		**Sb**	**08 40 15.0**		**-0.9**
EMLI	**Melilla**	**0.70**	**103**	Pg		**Pb**	**08 40 06.4**		**+0.5**
EMLI				Sg		**Sb**	**08 40 15.0**		**-1.1**
EALB	**Alboran**	**0.77**	**52**	Pg		**Pn**	**08 40 08.6**		**-0.4**
EALB				Sg		**Sb**	**08 40 18.9**		**+0.8**
EALB	**Alboran**	**0.77**	**52**	Pg		**Pn**	**08 40 08.5**		**-0.4**
EALB				Sg		**Sb**	**08 40 18.9**		**+0.8**
EALB				*i* Vmb_Lg			08 40 19.6		
AKLM	**AKL**	**0.95**	**184**	P		**Pn**	**08 40 12.7**		**+1.2**
AKLM	**AKL**	**0.95**	**184**	S		**Sn**	**08 40 29.2**		**+3.5**
CHAS	**Isla Isabel II**	**1.14**	**104**	Pg		**Pg**	**08 40 12.7**		**-0.3**
CHAS				Sg		**Sg**	**08 40 26.2**		**-1.6**
TAF	**Taforalt**	**1.30**	**120**	P		**Pn**	**08 40 15.7**		**-0.5**
TAF	**Taforalt**	**1.30**	**120**	S		**Sn**	**08 40 35.5**		**+1.4**
SMIR	**Smir Dam**	**1.32**	**280**	P		**Pn**	**08 40 15.9**		**-0.6**
SMIR	**Smir Dam**	**1.32**	**280**	S		**Sb**	**08 40 32.0**		**-1.9**
CHEFC	**Chefchaouen**	**1.32**	**255**	P		**Pg**	**08 40 18.9**		**+2.4**
CHEFC	**Chefchaouen**	**1.32**	**255**	S		**Sn**	**08 40 35.7**		**+0.9**
EMIJ	**Mijas**	**1.36**	**324**	Pg		**Pg**	**08 40 19.0**		**+1.8**
EMIJ				Sg		**Sb**	**08 40 35.2**		**+0.2**
EMIJ				*i* Vmb_Lg			08 40 40.5		
CEU	**Ceuta**	**1.36**	**289**	Pn		**Pn**	**08 40 16.2**		**-0.8**
CEU				Sn		**Sb**	**08 40 33.1**		**-2.1**
ECEU	**Ceuta**	**1.37**	**289**	Sn		**Sb**	**08 40 34.2**		**-1.1**
ECEU	**Ceuta**	**1.37**	**289**	Sg		**Sb**	**08 40 34.0**		**-1.2**
ECEU				*i* Vmb_Lg			08 40 36.0		
ELGU	**Los Guajares,**	**1.41**	**5**	Pn		**Pb**	**08 40 18.7**		**+0.7**
ELGU				Sn		**Sn**	**08 40 36.0**		**-0.9**
ELGU	**Los Guajares,**	**1.41**	**5**	Pg		**Pn**	**08 40 18.2**		**+0.5**
ELGU				Sg		**Sn**	**08 40 35.9**		**-1.0**
ELGU				*i* Vmb_Lg			08 40 38.9		
EBER	**Berja**	**1.60**	**27**	Pn		**Pb**	**08 40 21.9**		**+0.4**
EBER				Sn		**Sn**	**08 40 41.5**		**-0.4**
EBER	**Berja**	**1.60**	**27**	Pn		**Pb**	**08 40 22.4**		**+1.0**
EBER				Sn		**Sn**	**08 40 41.1**		**-0.8**
EBER				*i* Vmb_Lg			08 40 45.6		

MD31	**MD31**	**2.71**	**198**	P		**Pb**	**08 40 38.7**		**-1.7**
MD31	**MD31**	**2.71**	**198**	S		**Sb**	**08 41 15.0**		**+0.9**
MDT	**MidelT**	**2.73**	**195**	P		**Pb**	**08 40 39.1**		**-1.6**
MDT	**MidelT**	**2.73**	**195**	S		**Sg**	**08 41 16.7**		**-2.2**

*RSPR **15** 08:43:12.1, 18.°37N×64.°63W, h96km±5km, MD3.1/4*
*NEIC **15** 08:43:12.4±1.1, 18.°6N±0.°1×64.°62W±0.°04, h35km±2km, ML2.4/11, Md3.1/4(RSPR), Error ellipse: s-maj=19.4km s-min=3.1km az=342.0*

ISC 15 08:43:11.6±2.4,**18.°7N**±0.°3×**64.°61W**±0.°05,**h53**km,**n19,** σ0**s77**/23,**4C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
GCPR	**Guaynabo City**	**1.44**	**256**	Pn		**Pn**	**08 43 35.9**		**+0.5**
SJG	**San Juan**	**1.56**	**250**	⇑*e*P		**Pn**	**08 43 37.1**		**0.0**
SJG	**San Juan**	**1.56**	**250**	*e*S		**Sn**	**08 43 57.0**		**+0.8**
SJG	**San Juan**	**1.56**	**250**			**Pn**	**08 43 37.7**		**+0.7**
SJG				Sn		**Sn**	**08 43 57.3**		**+1.1**
SJG				IAML			08 43 58.3		
	28nm,0.6s								
SJG				IAML			08 43 58.8		
	32nm,0.2s								
SMRT	**St. Maarten**	**1.58**	**113**	Pn		**Pn**	**08 43 37.8**		**+0.5**
SMRT				IAML			08 44 01.3		
	comp=N,59nm,0.3s								
IGPR	**InterUniversit**	**1.58**	**244**	⇓*e*P		**Pn**	**08 43 37.6**		**+0.2**
IGPR	**InterUniversit**	**1.58**	**244**	*e*S		**Sn**	**08 43 56.5**		**-0.2**
IGPR	**InterUniversit**	**1.58**	**244**			**Pn**	**08 43 37.6**		**+0.2**
IGPR						**Sn**	**08 43 56.5**		**-0.2**
CELP	**Cerrillos**	**1.96**	**253**	⇑*e*P		**Pn**	**08 43 42.6**		**+0.2**
CELP	**Cerrillos**	**1.96**	**253**	*e*S		**Sn**	**08 44 06.0**		**0.0**
CELP	**Cerrillos**	**1.96**	**253**			**Pn**	**08 43 43.1**		**+0.6**
CELP				IAML			08 44 16.8		
	comp=E,22nm,3.3s								
CELP				IAML			08 44 49.8		
	comp=N,23nm,4.0s								
LSP	**Las Mesas**	**2.40**	**259**	⇑*e*P		**Pn**	**08 43 48.3**		**-0.2**
LSP	**Las Mesas**	**2.40**	**259**	*e*S		**Sn**	**08 44 17.3**		**+0.5**
LSP	**Las Mesas**	**2.40**	**259**			**Pn**	**08 43 48.3**		**-0.2**
LSP						**Sn**	**08 44 17.3**		**+0.5**
MLPR	**Magueyes Islan**	**2.41**	**254**	Pn		**Pn**	**08 43 46.6**		**-2.1**
MLPR				IAML			08 45 01.6		
	comp=N,27nm,3.5s								
CRPR	**Cabo Rojo, PR**	**2.46**	**255**	⇑*e*P		**Pn**	**08 43 49.1**		**-0.3**
CRPR	**Cabo Rojo, PR**	**2.46**	**255**	*e*S		**Sn**	**08 44 18.4**		**+0.1**
CRPR	**Cabo Rojo, PR**	**2.46**	**255**			**Pn**	**08 43 47.8**		**-1.5**
CRPR				IAML			08 44 10.4		
	comp=N,26nm,1.9s								
CRPR						**Sn**	**08 44 17.3**		**-0.9**
ANBD	**Bethesda, Anti**	**3.15**	**120**	*e*P		**Pn**	**08 43 58.2**		**-0.6**

IDC 15 08:45:25.0±513.0,**51.°67N**×**10.°47E, h0**km,**Error ellipse: s-maj=233.2km s-min=87.2km az=135.0,Germany**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
I26DE	**FREYUNG INFRAS**	**3.51**	**142**	I		I	09 06 57.8		
	0.1nm,1.3s,ba

comp=Z,1μm,0.5s
CN2 Changchun 4.10 228 Pn **Pn** 09 06 59.4 -1.7
CN2 Pg **Pb** 09 07 12.5 +1.9
CN2 smax smax
comp=N,600nm,0.6s
CN2 smax smax
comp=E,530nm,0.6s
KHBR Khabarovsk 4.10 61 *e*Pn **Pn** 09 07 01.7 +0.5
KHBR *e*Pg **Pb** 09 07 12.4 +1.7
KHBR AMB AMB 09 07 14.9
comp=E,58nm,0.4s
KHBR *e*Sg **Sg** 09 08 06.6 -3.5
KHBR A A 09 08 10.3
comp=E,350nm,0.5s
MSHR Mys Shultsa 4.19 165 *de*P **Pn** 09 07 02.0 -0.3
TEY Ternei 5.12 106 *e*P **Pn** 09 07 14.4 -0.7
TEY *e* 09 08 17.4
TEY Ternei 5.12 106 *e*Pn **Pn** 09 07 14.2 -0.9
TEY *e*Pg **Pb** 09 07 29.4 +1.4
TEY AMB AMB 09 07 33.8
comp=E,16nm,0.6s
TEY *e*Sg **Sg** 09 08 35.6 -7.0
TEY A A 09 08 42.3
comp=E,360nm,0.8s
HYSN Hyesan 5.34 192 Pn **Pn** 09 07 18.3 0.0
HYSN AML AML
comp=N,554nm,0.4s
HYSN AML AML
comp=E,1μm,0.6s
HYSN AML AML
comp=Z,209nm,0.2s
KGE Kanggye 6.09 202 Pn **Pn** 09 07 28.1 -0.4
KGE Sg **Sb** 09 09 05.0 +7.5
KGE AML AML
comp=N,3.7nm,0.1s
KGE AML AML
comp=E,394nm,0.8s
KGE AML AML
comp=Z,235nm,0.8s
GRNR Gornyy 6.11 45 *e*P Pn 09 07 35.2 +6.5
GRNR *e* 09 08 50.1
GRNR pmax pmax
comp=E,9.0nm,0.5s
GRNR pmax pmax
comp=N,7.0nm,0.6s
GRNR pmax pmax
comp=Z,10.0nm,0.6s
GRNR smax smax
comp=N,40nm,0.5s
GRNR MLR MLR
comp=E,280nm,14.0s
GRNR MLR MLR
comp=N,300nm,10.0s
GRNR MLR MLR
comp=Z,550nm,11.0s
GRNR Gornyy 6.11 45 *e*Sg **Sg** 09 09 10.4 -3.9
GRNR A A 09 09 22.7
comp=Z,106nm,0.9s
OCTB Oktyabr'skiy 6.43 355 *e*Pn **Pn** 09 07 35.1 +2.0
OCTB *e*Pg **Pg** 09 07 57.2 -4.3
OCTB *e*Sg **Sg** 09 09 20.5 -4.2
OCTB A A 09 09 21.8
comp=Z,165nm,1.1s
SNY Shenyang 6.48 224 ⇓Pg **Pg** 09 08 01.3 -1.2
SNY Sg **Sg** 09 09 20.3 -6.1
SNY smax smax
comp=N,190nm,0.9s
SNY smax smax
comp=E,280nm,0.7s
EKMR Ekimchan 6.79 17 *e*Pn **Pn** 09 07 39.3 +1.2
EKMR *e*Pg Pg 09 08 03.0 -5.5
EKMR AMB AMB 09 08 07.7
comp=E,16nm,0.7s
EKMR *e*Sg **Sg** 09 09 31.4 -5.0
EKMR A A 09 09 34.9
comp=E,108nm,0.7s
HHU Hamhung 6.87 194 Sg **Sg** 09 09 31.4 -7.5
HHU AML AML
comp=N,240nm,0.8s
HHU AML AML
comp=E,185nm,0.8s
HHU AML AML
comp=Z,129nm,0.6s
HIA Hailar 7.16 295 Pn **Pn** 09 07 43.2 +0.1
HIA Hailar 7.16 295 P **Pn** 09 07 43.3 +0.1
ZEA Zeya 7.28 349 *e*P **Pn** 09 07 46.9 +2.1
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=N,400nm,6.0s
ZEA MLR MLR
comp=Z,300nm,5.0s
ZEA Zeya 7.28 349 *e*Sg **Sg** 09 09 47.8 -4.3
ZEA A A 09 09 50.2
comp=Z,129nm,0.9s
SUJ Sinuiju 7.52 212 Pn **Pn** 09 07 48.2 +0.1
SUJ Pg **Pg** 09 08 19.8 -2.6
SUJ Sg **Sg** 09 09 52.6 -7.2
SUJ AML AML
comp=N,135nm,0.5s
SUJ AML AML
comp=E,171nm,0.7s
SUJ AML AML
comp=Z,141nm,1.0s
PYS Pyongsong 7.88 202 Pn **Pn** 09 07 53.3 +0.3
PYS AML AML
comp=N,473nm,0.9s
PYS AML AML
comp=E,865nm,0.8s
PYS AML AML
comp=Z,126nm,0.6s
PYAG Pyongyang 8.09 202 Pn **Pn** 09 07 56.4 +0.4
PYAG Sg **Sg** 09 10 11.0 -7.0
BMKR Bomnak 8.11 357 *e*Sg **Sg** 09 10 14.5 -4.0
BMKR A A 09 10 20.9
comp=Z,103nm,0.6s
YSS Yuzh-Sakhalins 9.00 83 *e*P **Pn** 09 08 09.8 +1.4
YSS pmax pmax
comp=Z,20nm,0.9s
KS19 Wonju Array Si 9.21 189 Pn **Pn** 09 08 11.1 -0.3
KSRS Korea Array 9.25 189 *e*P **Pn** 09 08 13.3 +1.4
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 9.25 189 Pn **Pn** 09 08 13.1 +1.2
comp=Z,1.3nm,0.3s,baz=2.2,slow=13,SNR=12
KSRS Sn **Sn** 09 09 58.1 +2.1
comp=Z,0.2nm,0.3s,baz=5.3,slow=19,SNR=4.0
KSRS Lg Lg 09 10 48.2
comp=Z,1.4nm,0.3s,baz=15,slow=25,SNR=8.9
comp=Z,1.7nm,0.4s
ASAJ Asahikawa 9.46 101 LR LR 09 12 03.9
comp=Z,160nm,19.2s,baz=146,slow=39
MJAR Matsushiro Arr 11.93 145 Pn **Pn** 09 08 50.8 +2.2
comp=Z,5.6nm,1.1s,baz=324,slow=15,SNR=4.6
MJAR LR LR 09 13 07.0
comp=Z,73nm,18.6s,baz=318,slow=36
HNS HongShan 14.41 236 ⇓P **Pn** 09 09 22.0 -0.4
HNS pmax pmax
comp=Z,9.0nm,1.1s
BOD Bodaibo 14.70 325 *e*P **P** 09 09 36.2 +3.7
BOD pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 15.39 283 *de*P **Pn** 09 09 37.6 +1.9
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN Ulaanbaatar 15.39 283 P **Pn** 09 09 37.6 +1.9
YAK Yakutsk 15.44 0 ⇑*e*P **P** 09 09 41.5 +0.9
YAK pmax pmax
comp=Z,9.0nm,0.5s
YAK Yakutsk 15.44 0 Lg Lg 09 13 59.8
baz=248,slow=19
SONM Songino Array 15.83 283 Pn **Pn** 09 09 41.2 -0.3
comp=Z,0.1nm,0.3s,baz=95,slow=14,SNR=2.7
SONM Sn **Sn** 09 12 37.9 +1.0
comp=Z,0.2nm,0.3s,baz=83,slow=23,SNR=2.0
SONM Lg Lg 09 14 19.4
comp=Z,0.1nm,0.3s,baz=99,slow=28,SNR=3.3
SONM LR LR 09 16 28.5
comp=Z,175nm,19.2s,baz=131,slow=40
comp=Z,0.3nm,0.4s
LYN LuoYang 17.72 233 ⇑P **P** 09 10 06.3 +0.2
LYN pmax pmax
comp=Z,18nm,0.7s
PEA0B Petropavlovsk- 19.13 60 P **Pn** 09 10 24.1 +1.8
PEA0B IAmb IAmb 09 10 56.1
comp=Z,52nm,1.2s
PEA0B Petropavlovsk- 19.13 60 P **Pn** 09 10 24.1 +1.8
PEA0B pmax pmax
comp=Z,53nm,1.3s
PETK Petropavlovsk- 19.13 60 P **Pn** 09 10 23.4 +1.1
PETK Petropavlovsk- 19.13 60 P **Pn** 09 10 23.4 +1.1
PETK Petropavlovsk- 19.13 60 P **Pn** 09 10 23.0 +0.7
comp=Z,0.7nm,0.3s,baz=242,slow=3.2,SNR=17
comp=Z,6.8nm,0.8s
PET Petropavlovsk 19.69 60 ⇑*e*P **Pn** 09 10 27.9 -1.1
PET pmax pmax
comp=Z,33nm,1.1s
SEY Seymchan 20.76 30 ⇑*e*P Pn 09 10 40.0 -1.4
SEY pmax pmax
comp=Z,14nm,0.9s
SEY Seymchan 20.76 30 P Pn 09 10 40.3 -1.2
comp=Z,9.7nm,0.8s,baz=224,slow=8.0,SNR=15
comp=Z,9.7nm,0.8s
TIXI Tiksi 25.10 359 *ce*P **P** 09 11 24.0 +1.1
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 25.10 359 P **P** 09 11 24.0 +1.1
DGZ Jazzator, Alta 28.06 292 ⇓*e*P **P** 09 11 51.9 +2.0
DGZ pmax pmax
comp=Z,6.0nm,0.8s
SHEM Shemya Is, Ala 29.03 61 LR LR 09 24 57.0
comp=Z,57nm,20.0s,baz=320,slow=39
ZALV Zalesovo Beam 29.15 301 *e*P **P** 09 12 03.3 +3.9
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 29.15 301 P **P** 09 11 59.5 +0.1
comp=Z,0.5nm,0.3s,baz=90,slow=7.4,SNR=3.6
comp=Z,0.5nm,0.3s
MK31 Makanchi Array 32.09 288 P **P** 09 12 25.9 +0.4
MK31 Makanchi Array 32.09 288 P **P** 09 12 25.9 +0.4
MK31 pmax pmax
comp=Z,3.0nm,1.3s
MKAR Makanchi Array 32.09 288 P **P** 09 12 25.4 -0.1
MKAR Makanchi Array 32.09 288 *e*P **P** 09 12 26.2 +0.7
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 32.09 288 P **P** 09 12 26.0 +0.5
comp=Z,1.0nm,0.8s,baz=82,slow=8.8,SNR=7.4
MKAR PcP **PcP** 09 15 13.8 -0.8
comp=Z,0.2nm,0.5s,baz=62,slow=2.8,SNR=4.5
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 32.09 288 P **P** 09 12 26.0 +0.5
KURK Kurchatov 33.40 296 P **P** 09 12 36.9 +0.1
KURK IAmb IAmb 09 12 45.9
comp=Z,4.5nm,0.8s
KURK Kurchatov 33.40 296 *de*P **P** 09 12 37.3 +0.5
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 33.40 296 P **P** 09 12 36.9 +0.1
KURBB Kurchatov Arra 33.47 296 P **P** 09 12 37.8 +0.3
comp=Z,4.1nm,0.8s,baz=80,slow=9.6,SNR=23
KURBB PcP **PcP** 09 15 17.8 -0.5
comp=Z,0.4nm,0.3s,baz=76,slow=3.0,SNR=4.6
comp=Z,4.1nm,0.8s
BVAR Borovoye Array 37.79 302 P **P** 09 13 15.0 +0.4
comp=Z,0.6nm,0.4s,baz=96,slow=7.4,SNR=4.8
comp=Z,0.6nm,0.4s
BRVK Borovoye 37.84 302 P **P** 09 13 15.8 +0.8
BRVK Borovoye 37.84 302 ⇓*e*P **P** 09 13 15.0 0.0
BRVK pmax pmax
comp=Z,19nm,4.0s
AAK Ala-Archa 38.78 285 ⇓*e*P **P** 09 13 23.4 +0.2
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 38.78 285 P **P** 09 13 23.4 +0.2
C18K Utukok River 40.18 32 P **P** 09 13 34.1 -0.3
E18K Tukpahlearik C 40.49 34 P **P** 09 13 37.5 +0.6
D19K Kuna River 41.32 32 P **P** 09 13 44.3 +0.5
D19K IAmb IAmb 09 14 03.8
comp=Z,13nm,1.4s
E19K Redstone River 41.78 34 P **P** 09 13 47.8 +0.2
H19K Roundabout Mou 42.41 36 P **P** 09 13 53.1 +0.4
H19K IAmb IAmb 09 13 54.4
comp=Z,15nm,1.1s
J19K Poorman 43.08 39 P **P** 09 13 58.4 +0.2
J19K IAmb IAmb 09 14 02.2
comp=Z,7.8nm,1.0s
D24K Happy Valley 44.53 30 P **P** 09 14 10.6 +0.8
D24K IAmb IAmb 09 14 12.0
comp=Z,3.5nm,0.8s
ABKAR Akbulak array 45.25 300 P **P** 09 14 16.4 +0.7
ABKAR IAmb IAmb 09 14 19.1
comp=Z,5.4nm,1.2s
NEA2 Nenana 45.67 37 P **P** 09 14 19.5 +0.6
NEA2 IAmb IAmb 09 14 19.9
comp=Z,5.2nm,0.9s
AKTO Aktyubinsk 45.90 302 LR LR 09 35 54.1
comp=Z,217nm,18.9s,baz=323,slow=39
POKR Poker Plat Res 46.17 36 P **P** 09 14 22.9 +0.1
CCB Clear Creek Bu 46.17 36 P **P** 09 14 22.5 -0.4
CCB IAmb IAmb 09 14 27.2
comp=Z,5.9nm,0.9s
ILAR Eielson Array 46.51 36 *e*P **P** 09 14 25.7 +0.2
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 46.51 36 P **P** 09 14 25.9 +0.4
comp=Z,2.3nm,0.8s,baz=286,slow=8.6,SNR=24
comp=Z,2.3nm,0.8s
PRP Porcupine Dome 46.80 35 P **P** 09 14 28.1 +0.2
PRP IAmb IAmb 09 14 29.9
comp=Z,5.9nm,0.9s
KIRV Kirov 47.27 315 ⇓*e*P **P** 09 14 31.6 +0.1
E28M Babbage River 47.90 30 IAmb IAmb 09 14 37.7
comp=Z,3.2nm,0.8s
G30M tAoh Zrail Nji 49.71 31 IAmb IAmb 09 14 58.0
comp=Z,7.4nm,1.2s
EPYK Eagle Plains 49.80 32 P **P** 09 14 51.8 +0.9
INK Inuvik 50.05 29 P **P** 09 14 53.8 +1.2
INK Inuvik 50.05 29 P **P** 09 14 53.7 +1.0
comp=Z,7.0nm,0.6s,baz=308,slow=7.2,SNR=55
comp=Z,7.0nm,0.6s
F31M Tsiigehtchic 50.37 30 P **P** 09 14 56.1 +1.0
F31M IAmb IAmb 09 14 56.2
comp=Z,5.8nm,0.8s
G31M Satah River 50.42 31 P **P** 09 14 55.8 +0.3
G31M IAmb IAmb 09 14 56.3
comp=Z,6.6nm,0.8s
A36M Sachs Harbour 50.75 23 P **P** 09 14 58.8 +0.9
BELG Belogornoye 50.86 309 ⇑*e*P **P** 09 15 00.0 +1.0
BELG pmax pmax
comp=Z,6.0nm,2.2s
ARCES ARCESS Array B 51.75 334 P **P** 09 15 05.7 +0.2
comp=Z,5.2nm,1.0s,baz=30,slow=3.4,SNR=6.0
comp=Z,5.2nm,1.0s
OBN Obninsk 55.12 316 ⇓*e*P **P** 09 15 33.3 +2.9
OBN *e* 09 16 29.2
OBN *e* 09 17 37.7
OBN pmax pmax
comp=Z,112nm,4.0s
OBN MLR MLR
comp=Z,348nm,18.0s
RES Resolute Bay 55.39 13 P **P** 09 15 32.3 +0.2
RES IAmb IAmb 09 15 32.8
comp=Z,4.6nm,0.8s
RES Resolute Bay 55.39 13 P **P** 09 15 32.3 +0.2
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 55.39 13 P **P** 09 15 32.1 0.0
comp=Z,4.6nm,0.7s,baz=315,slow=7.2,SNR=22
comp=Z,4.6nm,0.7s
FINES FINESS Array B 56.10 326 *e*P **P** 09 15 37.7 +0.4
FINES pmax pmax
comp=Z,15nm,0.8s
FINES FINESS Array B 56.10 326 P **P** 09 15 37.8 +0.4
comp=Z,14nm,0.8s,baz=53,slow=7.5,SNR=38
FINES PcP **PcP** 09 16 34.3 -1.0
comp=Z,1.1nm,0.5s,baz=56,slow=5.2,SNR=3.8
comp=Z,14nm,0.8s
KIV Kislovodsk 58.16 302 *e*P **P** 09 15 54.2 +1.8
KIV pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 59.82 29 *e*P **P** 09 16 03.3 -0.1
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 59.82 29 P **P** 09 16 03.5 +0.1
comp=Z,0.5nm,0.5s,baz=313,slow=6.7,SNR=15
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 61.32 315 P **P** 09 16 13.9 0.0
comp=Z,2.5nm,0.7s,baz=46,slow=7.5,SNR=12
comp=Z,2.5nm,0.7s
AKBB Malin Array Si 61.32 315 ⇑*e*P **P** 09 16 13.5 -0.4
AKBB pmax pmax
comp=Z,39nm,3.9s
HFS Hagfors 61.55 329 P **P** 09 16 14.9 -0.4
comp=Z,2.4nm,0.5s,baz=57,slow=5.5,SNR=14
comp=Z,2.4nm,0.5s
NB2 NORSAR Subarra 61.75 331 P **P** 09 16 16.7 0.0
NB2 NORSAR Subarra 61.75 331 P **P** 09 16 16.4 -0.3
comp=Z,4.3nm,0.7s,baz=44,slow=6.5
NOA NORSAR Array B 61.75 331 P **P** 09 16 16.5 -0.2
comp=Z,2.1nm,0.6s,baz=43,slow=6.7,SNR=6.6
comp=Z,2.1nm,0.6s
NORES NORESS Array B 61.87 331 P **P** 09 16 17.0 -0.4
BR131 Keskin Array S 66.07 303 P **P** 09 16 45.5 -0.1
BR131 Keskin Array S 66.07 303 *d* P **P** 09 16 46.2 +0.6
BRTR Keskin Array B 66.07 303 P **P** 09 16 45.6 0.0
BRTR Keskin Array B 66.07 303 *e*P **P** 09 16 46.2 +0.6
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 66.07 303 P **P** 09 16 45.9 +0.3
comp=Z,3.4nm,0.7s,baz=59,slow=5.5,SNR=15
comp=Z,3.4nm,0.7s
CRVS Cervenica-Dubn 66.27 317 *e*P **P** 09 16 46.4 -0.1
CRVS Cervenica-Dubn 66.27 317 *e*P **P** 09 16 46.4 -0.1
WRA Warramunga Arr 66.39 175 P **P** 09 16 47.7 +0.2
comp=Z,0.5nm,0.8s,baz=353,slow=7.2,SNR=2.7
comp=Z,0.5nm,0.8s
VYHS Vyhne 67.78 318 *e*P **P** 09 16 57.7 +1.5
VYHS Vyhne 67.78 318 *e*P **P** 09 16 57.7 +1.5
KHC Kasperske Hory 69.67 321 ⇓*e*P **P** 09 17 07.5 -0.5
ASAR Alice Springs 70.06 176 P **P** 09 17 09.8 -0.7
comp=Z,0.2nm,0.7s,baz=354,slow=5.8,SNR=2.4
comp=Z,0.2nm,0.7s
EKA Eskdalemuir Ar 70.91 334 P **P** 09 17 15.7 +0.3
comp=Z,2.3nm,0.8s,baz=21,slow=6.1,SNR=2.3
comp=Z,2.3nm,0.8s
BCLA Clavier 72.05 326 *dx* sP 09 17 29.1 +2.2
BMRD Maredsous 72.35 326 *dP* **P** 09 17 23.4 -0.7
PAHR Pah Rah Range 74.29 48 IAmb IAmb 09 17 39.9
comp=Z,3.1nm,1.0s
MOOW Moose Ponds 75.37 41 P **P** 09 17 42.8 +0.5
MOOW IAmb IAmb 09 17 45.2
comp=Z,6.8nm,1.5s
KVN Kaiserville 75.44 48 P **P** 09 17 43.3 +0.6
KVN IAmb IAmb 09 17 47.1
comp=Z,4.5nm,1.2s
KVN Kaiserville 75.44 48 P **P** 09 17 43.3 +0.6
KVN pmax pmax
comp=Z,4.0nm,1.2s
ELK Elko 75.59 45 P **P** 09 17 44.6 +1.0
comp=Z,1.2nm,0.8s,baz=265,slow=8.6,SNR=4.5
comp=Z,1.2nm,0.8s
NVAR Mina Array Bea 75.80 49 P **P** 09 17 46.0 +1.2
comp=Z,1.8nm,0.7s,baz=306,slow=5.2,SNR=17
comp=Z,1.8nm,0.7s
PDAR Pinedale Array 76.68 41 P **P** 09 17 50.0 +0.2
comp=Z,0.4nm,0.6s,baz=353,slow=0.7,SNR=5.3
comp=Z,0.4nm,0.6s
SPR3 Spring Creek 3 77.38 46 P **P** 09 17 53.9 0.0
SPR3 IAmb IAmb 09 17 56.6
comp=Z,6.1nm,1.3s
QSM Queen of Sheba 78.41 49 IAmb IAmb 09 18 01.6
comp=Z,3.9nm,1.1s
TXAR Lajitas Array 90.36 44 P **P** 09 19 01.1 +1.1
comp=Z,0.7nm,0.8s,baz=287,slow=4.6,SNR=7.6
comp=Z,0.7nm,0.8s
SNAA Sanae 146.58 205 PKP2 **PKPbc** 09 25 38.0 -0.8
SNAA Sanae 146.58 205 PKPbc **PKPbc** 09 25 38.0 -0.8
comp=Z,1.6nm,0.9s,baz=314,slow=3.8,SNR=3.8
BDFB Brasilia 149.05 356 PKPbc **PKPbc** 09 25 46.8 -0.3
comp=Z,1.7nm,0.5s,baz=90,slow=2.0,SNR=3.0

BUL ***15*** *09:16:30.1±0.3,22.6°64S×32.5°35E,h10km±4km,MD3.6*
PRE 15 09:16:41.3±1.6, 23.71S×30.41E, h5km, ML3.0, 4C-1D,
South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TZAN	**Tzaneen,Limpop**	**0.31**	**225**	⇑*i*P		Pb	09 16 49.2	-0.1
TZAN				*e*S		Sb	09 16 53.5	-1.2
MPHEP	**Siloam, Limpop**	**0.83**	**345**	⇑*i*P		Pb	09 16 58.0	-0.3
MPHEP				*e*S		Sg	09 17 08.1	+0.1
MPHEP				IAML			09 17 08.6	
comp=Z,633nm,0.3s								
MOPA	**Mopani**	**0.93**	**78**	*i* P		Pg	09 16 54.0	-5.1
MOPA				*i* S		Sg	09 17 11.5	+0.4
MOPA	**Mopani**	**0.93**	**78**	⇑*i*P		Pb	09 16 59.6	-0.2
MOPA				*e*S		Sg	09 17 11.3	+0.2
MOPA				IAML			09 17 12.0	
comp=Z,907nm,0.4s								
PILG	**Pilgrimsrest,**	**1.25**	**167**	⇓*i*P		Pn	09 17 06.3	+0.7
PILG				*e*S		Sb	09 17 22.3	+0.4
PILG				IAML			09 17 25.7	
comp=Z,170nm,0.4s								
DULL	**Dullstroom, Mp**	**1.66**	**187**	⇑*i*P		Pg	09 17 13.0	-0.2
DULL				*e*S		Sb	09 17 34.1	+0.3
DULL				IAML			09 17 35.7	
comp=Z,184nm,0.3s								
RUST	**Rust De Winter**	**2.29**	**228**	*e*P		Pn	09 17 21.6	+1.7
RUST				*e*S		Sn	09 17 50.3	+1.6
RUST				IAML			09 17 57.2	
comp=Z,247nm,0.5s								
CRLN	**Carolina, Mapu**	**2.30**	**189**	*e*P		Pb	09 17 21.9	-1.5
CRLN				*e*S		Sn	09 17 49.9	+1.0
CRLN				IAML			09 17 56.5	
comp=Z,49nm,0.5s								
LEPH	**Lephalale, Lim**	**2.40**	**266**	*e*P		Pn	09 17 21.3	-0.1
LEPH				*e*S		Sn	09 17 51.0	-0.1
LEPH				IAML			09 18 00.1	
comp=Z,132nm,0.5s								
NHAM	**Northam, North**	**3.07**	**246**	*e*P		Pn	09 17 31.8	+1.2
NHAM				*e*S		Sn	09 18 08.8	+1.2
NHAM				IAML			09 18 19.7	
comp=Z,58nm,0.3s								
HRAO	**HartRAO**	**3.29**	**228**	*e*P		Pn	09 17 35.1	+1.4
HRAO				*e*S		Sn	09 18 13.8	+0.4
POGA	**Pongola**	**3.81**	**162**	*e*P		Pn	09 17 40.7	+0.1
POGA				*e*S		Sn	09 18 24.7	-1.1
POGA				IAML			09 18 42.0	
comp=Z,10nm,0.7s								
WDLM	**Western Deep L**	**3.83**	**224**	*e*P		Pn	09 17 42.3	+1.2
WDLM				*e*S		Sn	09 18 26.1	-0.5
WDLM				IAML			09 18 44.3	
comp=Z,86nm,0.5s								
KSR	**Koster**	**3.84**	**236**	*e*P		Pn	09 17 42.1	+0.9
KSR				*e*S		Sn	09 18 27.2	+0.3
KSR				IAML			09 18 47.6	
comp=Z,232nm,0.4s								
NWCL	**Newcastle**	**4.04**	**187**	*e*P		Pn	09 17 44.5	+0.6
NWCL				*e*S		Sn	09 18 29.5	-2.1
NWCL				IAML			09 18 48.7	
comp=Z,47nm,0.3s								
PRYS	**Parys**	**4.23**	**220**	*e*P		Pn	09 17 47.4	+0.8
PRYS				*e*S		Sn	09 18 34.9	-1.4
PRYS				IAML			09 18 57.1	
comp=Z,57nm,0.4s								
LBTB	**Lobatse**	**4.58**	**253**	*i* P		Pg	09 18 06.1	-3.0
LBTB				*i* S		Sg	09 19 16.0	+7.6
LBTB	**Lobatse**	**4.58**	**253**	*e*P		Pn	09 17 52.1	+0.7
LBTB				IAML			09 19 08.3	
comp=Z,38nm,0.6s								
SNKL	**Senekal, Frees**	**5.13**	**207**	*e*P		Pn	09 18 00.1	+1.2
SNKL				*e*S		Sn	09 18 57.2	-1.4
SNKL				IAML			09 19 25.6	
comp=Z,44nm,0.5s								
SWZ	**Schweizer**	**5.75**	**232**	*e*P		Pn	09 18 08.8	+1.4
SWZ				*e*S		Sn	09 19 11.1	-2.7
SWZ				IAML			09 19 43.6	
comp=Z,23nm,0.4s								
BOSA	**Boshof**	**6.73**	**222**	*i* P		Pb	09 18 34.1	-4.7
BOSA				*i* S		Sb	09 20 04.6	+5.0
BOSA	**Boshof**	**6.73**	**222**	*e*P		Pn	09 18 21.6	+0.7
BOSA				*e*S		Sn	09 19 35.8	-2.2
BOSA				IAML			09 20 12.3	
comp=Z,17nm,0.6s								
UPI	**Upington**	**9.45**	**239**	*e*P		Pn	09 18 59.5	+1.4
UPI				*e*S		Sn	09 20 39.2	-5.7
UPI				IAML			09 21 48.4	
comp=Z,7.1nm,0.6s								
GRAF	**Camdeboo Natio**	**10.01**	**210**	*e*P		Pn	09 19 07.3	+1.4
GRAF				*e*S		Sn	09 20 53.3	-5.4
GRAF				IAML			09 22 06.7	
comp=Z,5.8nm,0.5s								
BRAK	**Brakfontein**	**10.43**	**218**	*e*P		Pn	09 19 12.4	+0.8

BRAK				*e*S	Sn	09 21 02.0	-7.1
BRAK				IAML		09 22 17.0	
	comp=Z,13nm,0.6s							
ROOI	**Rooidraai Farm**	**10.64**	**213**	*e*P	Pn	09 19 14.8	+0.3
FRAZ	**Fraserburg**	**11.42**	**222**	*e*P	Pn	09 19 25.7	+0.5
KOMG	**Komaggas**	**13.04**	**240**	*e*P	Pn	09 19 48.6	+1.3

TEH 15 09:45:39.8,31°48N×56°40E, h8km±54km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.52**	**167**	Pg	Pg	09 45 50.2	+0.2
IBAF	**Bafgh**	**0.72**	**279**	Pg	Pg	09 45 53.5	-0.1
KHGB	**Koh Gabri**	**1.10**	**176**	Pg	Pb	09 46 01.2	-0.1
KRM1	**Kerman Provinc**	**1.23**	**142**	Pg	Pn	09 46 04.2	+0.7
TVBK	**TV Kerman**	**1.52**	**168**	Pg	Pg	09 46 09.2	+0.3
IMEH	**Mehriz**	**1.53**	**267**	Pg	Pb	09 46 08.7	+0.2
TPRV	**Parvadeh(Tabas**	**1.57**	**9**	Pg	Pg	09 46 10.1	+0.3
NGRK	**Negar Kerman**	**1.85**	**171**	Pn	Pb	09 46 14.3	+0.2
ICHK	**Chekchek**	**1.86**	**295**	Pn	Pb	09 46 14.8	+0.6
CHMN	**Cheshme madani**	**1.89**	**148**	Pn	Pb	09 46 15.0	+0.3
TKDS	**Koohdasht(Taba**	**2.22**	**16**	Pn	Pb	09 46 19.4	-0.8
ISAD	**Sadrabad**	**2.35**	**281**	Pn	Pb	09 46 21.4	-1.2
IKOO	**Kooshah**	**2.41**	**66**	Pn	Pn	09 46 21.1	+1.3
ITEG	**Tejag**	**2.45**	**54**	Pn	Pn	09 46 22.2	+1.9
TNSJ	**Nastanj**	**2.49**	**4**	Pn	Pb	09 46 23.2	-1.6
ANAR	**Anarak**	**2.83**	**308**	Pn	Pn	09 46 27.9	+2.4
KBAM	**BAM**	**2.93**	**142**	Pn	Pn	09 46 28.8	+1.9
AFRZ	**Afriz**	**2.94**	**48**	Pn	Pn	09 46 28.8	+1.8
IRAM	**Ramesheh**	**3.44**	**277**	Pn	Pn	09 46 36.0	+2.1
IZEF	**Zefreh**	**3.73**	**293**	Pn	Pn	09 46 40.9	+3.0
KRSH	**Karshahi**	**4.37**	**306**	Pn	Pn	09 46 48.9	+2.3
ISFB	**Sefidab**	**4.52**	**310**	Pn	Pn	09 46 50.8	+2.1
SBZV	**Sabzevar**	**5.00**	**11**	Pn	Pn	09 46 58.3	+2.9
ISFR	**Sfrayin**	**5.72**	**13**	Pn	Pn	09 47 08.6	+3.3

RSNC 15 10:01:49.3±2.5,3°94N×77°26W, h58km±10km, ML3.4, Mw3.5,3C-6D, Fault plane solution: NP1:ϕ≅107.00000°, δ≅62.00000°, λ≅118.00000°**., Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	**Bahia Malaga**	**0.11**	**314**	⇑*i*P	Pn	10 01 58.7	+0.6
MALC				*e*S	Sn	10 02 07.4	+2.9
MALC				*i*		10 02 11.7	
	comp=Z,6μm,0.4s						
YOTC	**Yotoco, Valle**	**0.91**	**87**	⇓*e*P	Pn	10 02 03.9	-2.4
YOTC				*e*S	Sn	10 02 16.1	-2.7
YOTC				*i*		10 02 17.1	
	comp=Z,1μm,0.3s						
JAMC	**Jamundi, Valle**	**0.93**	**141**	⇓*e*P	Pn	10 02 04.6	-1.9
JAMC				*e*S	Sn	10 02 16.7	-2.5
JAMC				*i*		10 02 18.8	
	comp=Z,922nm,0.2s						
PIZC	**Pizarro, Choco**	**1.02**	**354**	⇓*i*P	Pn	10 02 07.1	-0.5
PIZC				*e*S	Sn	10 02 21.4	+0.3
PIZC				*i*		10 02 24.2	
	comp=Z,307nm,0.2s						
GR1C	**Gorgona, Isla**	**1.30**	**224**	⇑*e*P	Pn	10 02 09.8	-1.4
GR1C				*e*S	Sn	10 02 26.3	-1.4
GR1C				*i*		10 02 27.4	
	comp=Z,5μm,0.3s						
PLMC	**San Jos del P**	**1.37**	**45**	⇓*i*P	Pn	10 02 09.9	-2.3
PLMC				*e*S	Sn	10 02 26.9	-2.6
PLMC				*i*		10 02 28.7	
	comp=Z,1μm,0.2s						
POPC	**Popayan, Colom**	**1.51**	**157**	*e*P	Pn	10 02 13.2	-1.1
POPC				*e*S	Sn	10 02 31.8	-1.2
ARMEC	**Armenia, Quind**	**1.71**	**69**	*e*P	Pn	10 02 17.4	+0.4
ARMEC				*e*S	Sn	10 02 37.0	-0.8
BBAC	**Balboa, Cauca**	**1.91**	**180**	⇓*i*P	Pn	10 02 18.3	-1.3
BBAC				*e*S	Sn	10 02 40.0	-2.6
BBAC				*i*		10 02 45.0	
	comp=Z,373nm,0.3s						
ORTC	**Ortega, Tolima**	**2.01**	**91**	*e*P	Pn	10 02 20.8	-0.1
ORTC				*e*S	Sn	10 02 45.1	+0.1
ORTC				*i*		10 02 49.0	
	comp=Z,234nm,0.5s						
NIZA	**Niza - Manizal**	**2.10**	**58**	*e*P	Pn	10 02 23.4	+1.0
NIZA				*e*S	Sn	10 02 48.5	+0.9
RECRC	**Villamaria, Ca**	**2.15**	**62**	*e*P	Pn	10 02 23.3	0.0
RECRC				*e*S	Sn	10 02 49.1	-0.1
BETC	**Betania**	**2.20**	**124**	*e*P	Pn	10 02 25.3	+1.7
BETC				*e*S	Sn	10 02 50.5	+0.7
BETC				*i*		10 02 57.0	
	comp=Z,116nm,0.4s						
SOLC	**Bahia Solano**	**2.28**	**356**	*e*P	Pn	10 02 23.0	-1.5
SOLC				*e*S	Sn	10 02 49.1	-2.4
SOLC				*i*		10 02 52.1	
	comp=Z,1μm,0.3s						
GUY2C	**Guyana, Caldas**	**2.28**	**56**	*e*P	Pn	10 02 24.6	-0.4
GUY2C				*e*S	Sn	10 02 51.8	-0.3
GUY2C				*i*		10 02 56.6	
	comp=Z,149nm,0.6s						
CBOC	**Ciudad Bolivar**	**2.28**	**33**	*e*P	Pn	10 02 23.0	-1.8
CBOC				*i*		10 02 57.3	
	comp=Z,125nm,0.5s						
CRUC	**La Cruz**	**2.38**	**173**	*e*P	Pn	10 02 25.8	-0.4
CRUC				*e*S	Sn	10 02 56.8	+2.4
PRAC	**Prado**	**2.38**	**95**	⇑*e*P	Pn	10 02 25.8	-0.2
PRAC				*e*S	Sn	10 02 54.3	+0.2
PRAC				*i*		10 03 00.2	
	comp=Z,234nm,0.5s						
GARC	**Garzon, Huila**	**2.48**	**135**	*e*P	Pn	10 02 27.7	+0.2
GARC				*e*S	Sn	10 02 57.9	+1.1
GARC				*i*		10 03 01.0	
	comp=Z,170nm,0.3s						
TUMC	**Tumaco**	**2.56**	**215**	*e*S	Sn	10 02 57.9	-0.5
GCUF	**Volcan Galeras**	**2.70**	**182**	⇓*e*P	Pn	10 02 30.2	-0.6
GCUF				*e*S	Sn	10 03 00.9	-1.5
GCUF				*i*		10 03 11.5	
	comp=Z,68nm,0.3s						
CMBC	**Cumbal**	**3.03**	**191**	*e*P	Pn	10 02 34.5	-0.8
CMBC				*e*S	Sn	10 03 10.5	-0.1
ROSC	**El Rosal**	**3.06**	**73**	*e*P	Pn	10 02 37.2	+1.6
ROSC				*i*		10 03 00.6	
	comp=Z,46nm,0.4s						
CVER	**Cruz Verde, Cu**	**3.23**	**80**	*e*P	Pn	10 02 39.0	+1.0
DBBC	**Dabeiba**	**3.23**	**19**	*e*P	Pn	10 02 36.7	-1.0
DBBC				*e*S	Sn	10 03 15.8	+0.8
DBBC				*i*		10 03 17.7	
	comp=Z,28nm,0.4s						
PTAC	**Punta Ardita,**	**3.23**	**350**	*e*P	Pn	10 02 36.1	-1.6
PTAC				*i*		10 03 14.1	
	comp=Z,170nm,0.1s						
TULM	**Tulcn-Chalpat**	**3.25**	**189**	*e*P	Pn	10 02 38.5	+0.2
TULM				*e*S	Sn	10 03 15.9	0.0
TULM				*i*		10 03 18.1	
	comp=Z,24nm,0.5s						
BONI	**La Bonita**	**3.47**	**184**	*e*P	Pn	10 02 42.5	+1.3
BONI				*e*S	Sn	10 03 25.3	+4.1
BONI				*i*		10 03 26.6	
	comp=Z,36nm,0.2s						
VILC	**Villavicencio,**	**3.56**	**87**	*e*P	Pn	10 02 43.4	+1.2
VILC				*e*S	Sn	10 03 24.7	+1.5
VILC				*i*		10 03 29.1	
	comp=Z,67nm,0.5s						
SPBC	**San Pablo de B**	**3.60**	**62**	*e*P	Pn	10 02 43.4	+0.6
CUSE	**Cuicocha Este**	**3.79**	**198**	*e*P	Pn	10 02 44.4	-1.2
CUSE				*e*S	Sn	10 03 26.4	-2.7
CUSE				*i*		10 03 30.4	
	comp=Z,247nm,0.2s						
PTBC	**PUERTO BERRIO,**	**3.80**	**47**	*e*P	Pn	10 02 45.4	-0.1
PTBC				*e*S	Sn	10 03 28.0	-1.0
PTBC				*i*		10 03 42.7	
	comp=Z,16nm,0.6s						
OTAV	**Otavalo**	**3.87**	**198**	*e*P	Pn	10 02 44.9	-1.8
OTAV				*e*S	Sn	10 03 27.3	-3.8
PAC1	**Pacto, Paraso**	**3.96**	**203**	*e*P	Pn	10 02 44.7	-3.0
PAC1				*e*S	Sn	10 03 27.4	-5.5
PAC1				*i*		10 03 33.1	
	comp=Z,256nm,0.3s						
APAC	**Apartado, Choc**	**3.99**	**10**	*e*P	Pn	10 02 50.8	+2.8
APAC				*i*		10 03 45.0	
	comp=Z,18nm,0.5s						
UREC	**San Jos de Ur**	**4.16**	**24**	*e*P	Pn	10 02 50.7	+0.4
UREC				*e*S	Sn	10 03 37.2	-0.5
UREC				*i*		10 03 42.6	
	comp=Z,18nm,0.7s						
ZARC	**Zaragoza, Cauc**	**4.26**	**34**	*e*P	Pn	10 02 53.2	+1.4
ZARC				*e*S	Sn	10 03 40.1	-0.2
ZARC				*i*		10 03 52.0	
	comp=Z,21nm,0.6s						
PTLC	**Puerto Leguiza**	**4.48**	**147**	*e*P	Pn	10 02 58.0	+3.3
UPD2	**Meteti**	**4.64**	**351**	*e*P	Pn	10 02 57.4	+0.5
UPD2				*e*S	Sn	10 03 48.9	-0.6
UPD2				*i*		10 03 55.0	
	comp=Z,26nm,0.5s						
BARC	**Barichara**	**4.84**	**57**	*e*P	Pn	10 03 00.4	+0.6
BARC				*e*S	Sn	10 03 56.9	+2.2
BARC				*i*		10 04 01.6	
	comp=Z,28nm,0.5s						
PIAT	**Ana Tenorio**	**5.00**	**192**	*e*P	Pn	10 03 02.4	+0.1
PAMC	**Pamplona, Colo**	**5.66**	**53**	*e*P	Pn	10 03 12.2	+0.9
OCAC	**Ocana**	**5.80**	**42**	*e*P	Pn	10 03 16.1	+3.2
OCAC				*e*S	Sn	10 04 15.3	-2.8
OCAC				*i*		10 04 21.4	
	comp=Z,46nm,0.5s						

*IDC **15** 10:05:47.0±2.0,2°.82S×128°.25E, h0km, mb3.8/2, mbtmp3.9/3, ML3.9/1, MS2.8/1, Error ellipse: s-maj=137.8km s-min=26.3km az=68.0*
*DJA **15** 10:05:51.5±0.5,3°.5S×12°.8E±°, h19km±5km, M4.0/13, mb4.1/3, mB5.6/1, MLv4.0/13, Mw(mB)5.1/1*
ISC 15 10:05:53.0±1.0,**3°.05S**±0°.06×**128°.00E**±0°.05,**h38km, n14,** σ1**§06/17, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAI	**Karang Batu**	**0.47**	**124**	P	**Pn**	**10 06 02.7**	**-0.6**
KRAI				S	**Sn**	**10 06 10.1**	**-0.5**
NLAI	**Namlea**	**0.92**	**258**	P	**Pn**	**10 06 09.9**	**+0.5**
NLAI				S	**Sn**	**10 06 22.1**	**+0.7**
SANI	**Sanana**	**2.24**	**296**	P	**Pn**	**10 06 25.9**	**-1.7**
SANI				S	**Sn**	**10 06 54.4**	**+0.3**
BNDI	**Bandanaira**	**2.40**	**128**	P	**Pn**	**10 06 29.6**	**-0.2**
LBMI	**Labuha**	**2.45**	**348**	P	**Pn**	**10 06 30.5**	**0.0**
LBMI				S	**Sn**	**10 06 59.8**	**+0.6**
TNTI	**Ternate**	**3.85**	**351**	P	**Pn**	**10 06 48.1**	**-1.7**
SWI	**Sorong**	**3.92**	**56**	P	**Pn**	**10 06 51.4**	**+0.7**
SJI	**Sorong**	**3.92**	**56**	P	**Pn**	**10 06 51.3**	**+0.6**
FAKI	**Fak Fak**	**4.25**	**88**	P	**Pn**	**10 06 56.1**	**+0.9**
GTOI	**Gorontalo**	**6.19**	**306**	P	**Pn**	**10 07 24.4**	**+2.5**
	9.4nm,0.9s,0.0nm						
KAPI	**Kappang**	**8.46**	**256**	LR	LR	10 11 26.1	
	comp=Z,54nm,19.1s,baz=101,slow=39						
WRA	**Warramunga Arr**	**17.89**	**160**	P	**Pn**	**10 09 58.8**	**-0.3**
	0.4nm,0.3s,baz=340,slow=12,SNR=18						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**21.27**	**165**	P	**P**	**10 10 36.5**	**+0.1**
	5.4nm,0.9s,baz=348,slow=12,SNR=41						
	5.4nm,0.9s						
MKAR	**Makanchi Array**	**63.85**	**327**	P	**P**	**10 16 21.5**	**-0.3**
	0.8nm,0.8s,baz=132,slow=6.9,SNR=5.5						
	0.8nm,0.8s						

IDC 15 10:33:59.5±2.4,**7°.01S**×**130°.03E, h0km, mb3.5/1, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=144.1km s-min=33.4km az=69.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.52**	**162**	Pn	Pn	10 37 12.1	-0.7
	0.1nm,0.3s,baz=345,slow=13,SNR=3.2						
WRA				Sn	Sn	10 39 32.4	-12
	0.2nm,0.3s,baz=152,slow=20,SNR=7.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**16.98**	**168**	Pn	Pn	10 37 59.3	+0.6
	0.1nm,0.3s,baz=347,slow=9.0,SNR=4.5						
ASAR				Sn	Sn	10 40 58.1	-10
	0.1nm,0.3s,baz=360,slow=28,SNR=5.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**68.25**	**327**	P	P	10 45 02.2	0.0
	0.2nm,0.4s,baz=122,slow=7.8,SNR=4.8						
	0.2nm,0.4s						

*SCB **15** 11:00:49.4±1.1, 16°.81S×65°.92W, h20km±6km, ML4.0/2, Error ellipse: s-maj=4.4km s-min=3.5km az=358.0*
*VAO **15** 11:00:53.2±0.4, 16°.96S×65°.74W, h10km, mb4.4*
ISC 15 11:00:56.2±1.0,**16°.93S**±0°.06×**65°.80W**±0°.05,**h35km, n25,** σ1**§66/40, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOET	**ToroToro**	**1.18**	**181**	Pg	**Pn**	**11 01 13.3**	**-3.4**
AOEA	**Aiquile**	**1.36**	**157**	Pg	**Pn**	**11 01 17.3**	**-1.7**
AOEA	**Aiquile**	**1.36**	**157**	Pg	**Pn**	**11 01 18.1**	**-0.9**
AOEA				Sg	**Sn**	**11 01 39.2**	**+3.2**
AOEA				IAML		11 01 41.3	
	4μm,0.6s						
BBOE	**La Paz, Chanca**	**2.10**	**273**	Pn	**Pn**	**11 01 27.5**	**-1.9**
BS00	**La Paz**	**2.28**	**280**	Pg	**Pn**	**11 01 29.6**	**-2.2**
SOEJ	**Jacaque**	**2.29**	**268**	Pg	**Pn**	**11 01 30.7**	**-1.3**
SOEJ				Sg	**Sn**	**11 02 00.8**	**+1.5**
SOEJ				IAML		11 02 03.4	
	578nm,0.7s						
LPAZ	**La Paz**	**2.32**	**285**	Pg	**Pn**	**11 01 30.5**	**-2.1**
SOEO	**Opoqueri**	**2.57**	**230**	Pn	**Pn**	**11 01 36.9**	**+1.0**
MOCB	**Mochara**	**4.31**	**178**	Pn	**Pn**	**11 02 01.8**	**+2.1**
SIV	**San Ignacio**	**4.63**	**79**	Pn	**Pn**	**11 02 04.9**	**+1.1**
PTLB	**Pontes e Lacer**	**6.57**	**78**	*e*P	**Pn**	**11 02 29.5**	**-0.9**
PTLB				*e*S	**Sn**	**11 03 45.7**	**+1.7**
VILB	**Vilhena**	**6.70**	**55**	*e*P	**Pn**	**11 02 33.0**	**+0.8**
VILB				*e*S	**Sn**	**11 03 48.5**	**+1.1**
BBLB	**La Banda, Boli**	**6.89**	**106**	*e*P	**Pn**	**11 02 34.0**	**-0.8**
BBLB				*e*S	**Sn**	**11 03 50.6**	**-1.4**
ETMB	**Extrema**	**7.08**	**357**	Pn	**Pn**	**11 02 35.0**	**-2.4**
ETMB	**Extrema**	**7.08**	**357**	*e*P	**Pn**	**11 02 34.2**	**-3.2**
ETMB				*e*S	**Sn**	**11 03 59.6**	**+3.0**
CCRS	**Cacerres, MT,**	**7.56**	**94**	*e*P	**Pn**	**11 02 43.9**	**-0.2**
CCRS				*e*S	**Sn**	**11 04 09.2**	**+0.6**
PTET	**Porto Estrela**	**8.44**	**81**	*e*P	**Pn**	**11 02 55.5**	**-0.6**
PTET				*e*S	**Sn**	**11 04 30.8**	**+0.5**
POCN	**Pocone**	**8.69**	**89**	*e*P	**Pn**	**11 02 58.5**	**-1.0**
POCN				*e*S	**Sn**	**11 04 36.8**	**+0.6**
PANT	**Pantanal (Braz**	**8.98**	**105**	*e*P	**Pn**	**11 03 02.4**	**-1.1**
PANT				*e*S	**Sn**	**11 04 44.0**	**+0.7**
MURT	**Porto Murtinho**	**9.05**	**123**	*e*P	**Pn**	**11 03 02.2**	**-2.3**
MURT				*e*S	**Sn**	**11 04 45.9**	**+0.7**
SALV	**Santo Antonio**	**9.75**	**85**	*e*P	**Pn**	**11 03 13.5**	**-0.5**
SALV				*e*S	**Sn**	**11 05 03.2**	**+0.8**
NBRS	**Nobres**	**9.99**	**76**	*e*P	**Pn**	**11 03 16.3**	**-1.1**
NBRS				*e*S	**Sn**	**11 05 09.3**	**+0.9**
PDRB	**Porto dos Gac**	**10.25**	**60**	*e*P	**Pn**	**11 03 19.4**	**-1.6**
PDRB				*e*S	**Sn**	**11 05 15.9**	**+1.1**
PP1B	**Ponte de Pedra**	**10.45**	**95**	*e*P	**Pn**	**11 03 22.4**	**-1.3**
ANTJ	**Antonio Joao (**	**10.53**	**120**	*e*P	**Pn**	**11 03 23.3**	**-1.4**
ANTJ				*e*S	**Sn**	**11 05 21.0**	**-0.4**

*IDC **15** 11:02:14.1±0.9, 62°.17S×165°.08E, h0km, mb4.2/8, mbtmp4.3/10, ML4.0/2, MS3.9/20, Error ellipse: s-maj=42.4km s-min=16.7km az=75.0*
*NEIC **15** 11:02:14.7±1.9, 62°.34S±0°.08×165°.1E±0°.6, h10km±2km, mb4.6/9, Error ellipse: s-maj=45.9km s-min=8.0km az=75.0*
ISC 15 11:02:15.4±0.7,**62°.23S**±0°.08×**165°.0E**±0°.2,**h10km, n46,** σ1**§25/24, mb4.3/12, MS4.0/19, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.40**	**183**		**Pn**	**11 05 49.5**	**-2.8**
VNDA	**Vanda**	**15.40**	**183**	Pn	**Pn**	**11 05 52.6**	**+0.3**
	0.6nm,0.3s,baz=352,slow=13,SNR=32						
VNDA				LR	LR	11 10 43.9	
	comp=Z,845nm,18.7s,baz=352,slow=33						
	3.6nm,0.5s						
SBA	**Scott Base**	**15.71**	**179**		**Pn**	**11 05 54.0**	**-2.4**
SBA				IAmb	IAmb	11 06 34.8	
	comp=Z,43nm,1.4s						
RPZ	**Rata Peaks**	**18.88**	**14**	P	**Pn**	**11 06 36.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=225,slow=11,SNR=1.9						
RPZ				LR	LR	11 12 56.5	
	comp=Z,477nm,19.3s,baz=199,slow=34						
	comp=Z,19nm,1.1s						
MRZ	**Mangatainoka R**	**22.52**	**21**	P	**P**	**11 07 14.9**	**-0.1**
MRZ				IAmb	IAmb	11 07 16.2	
	comp=Z,52nm,1.3s						
URZ	**Urewera**	**25.12**	**23**	LR	LR	11 17 21.7	
	comp=Z,300nm,18.7s,baz=300,slow=36						

QSPA	**South Pole Qui**	**27.86**	**180**	P	**P**	**11 08 06.0**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=56,slow=4.8,SNR=2.7						
QSPA				LR	LR	11 18 15.0	
	comp=Z,285nm,18.7s,baz=24,slow=34						
	comp=Z,0.9nm,0.3s						
CAN	**Canberra**	**28.76**	**332**	P	**P**	**11 08 13.8**	**+0.8**
STKA	**Stephens Creek**	**33.91**	**323**	P	**P**	**11 08 59.4**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=145,slow=4.7,SNR=5.4						
STKA				LR	LR	11 20 34.5	
	comp=Z,212nm,19.9s,baz=180,slow=32						
	comp=Z,3.0nm,0.8s						
MAW	**Mawson**	**38.90**	**217**	P	**P**	**11 09 42.2**	**+1.8**
	comp=Z,4.4nm,0.8s,baz=119,slow=10,SNR=2.6						
MAW				LR	LR	11 27 07.8	
	comp=Z,80nm,19.2s,baz=142,slow=38						
	comp=Z,4.4nm,0.8s						
BELA	**Belgrano 2**	**39.62**	**174**	P	**P**	**11 09 45.9**	**-0.4**
BELA				IAmb	IAmb	11 10 17.7	
	comp=Z,15nm,1.5s						
H01W1	**Cape Leeuwin H**	**41.75**	**287**	T	T	11 54 53.8	
	baz=147,slow=75,SNR=235						
H01W2	**Cape Leeuwin H**	**41.75**	**287**	T	T	11 54 54.1	
	baz=147,slow=75,SNR=257						
H01W3	**Cape Leeuwin H**	**41.77**	**287**	T	T	11 54 55.0	
	baz=147,slow=75,SNR=244						
NWAO	**Narrogin (SRO)**	**42.05**	**292**	LR	LR	11 23 20.8	
	comp=Z,190nm,20.3s,baz=159,slow=30						
AS31	**Alice Springs**	**43.92**	**317**	P	**P**	**11 10 22.6**	**+0.4**
ASAR	**Alice Springs**	**43.92**	**317**	P	**P**	**11 10 22.5**	**+0.3**
ASAR	**Alice Springs**	**43.92**	**317**	P	**P**	**11 10 22.7**	**+0.6**
	comp=Z,7.1nm,0.9s,baz=161,slow=8.1,SNR=45						
ASAR				PcP	**PcP**	**11 12 07.4**	**-0.6**
	comp=Z,1.4nm,1.1s,baz=145,slow=3.8,SNR=3.3						
	comp=Z,7.1nm,0.9s						
CTA	**Charters Tower**	**44.07**	**334**	P	**P**	**11 10 22.2**	**-1.1**
	comp=Z,3.7nm,1.0s,baz=144,slow=6.5,SNR=2.4						
CTA				LR	LR	11 26 48.8	
	comp=Z,147nm,18.1s,baz=112,slow=34						
	comp=Z,3.7nm,1.0s						
SNAA	**Sanae**	**46.11**	**185**	P	**P**	**11 10 39.3**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=187,slow=7.6,SNR=7.1						
	comp=Z,4.2nm,0.9s						
WR0	**Warramunga Arr**	**47.20**	**319**	P	**P**	**11 10 47.9**	**-0.2**
WR0				IAmb	IAmb	11 10 55.7	
	comp=Z,4.1nm,0.9s						
WB2	**Warramunga Arr**	**47.27**	**319**	P	**P**	**11 10 48.0**	**-0.6**
WB2				IAmb	IAmb	11 10 49.4	
	comp=Z,8.6nm,1.4s						
WRA	**Warramunga Arr**	**47.27**	**319**	P	**P**	**11 10 48.3**	**-0.3**
	comp=Z,2.8nm,1.2s,baz=173,slow=15,SNR=5.8						
WRA				PcP	**PcP**	**11 12 17.7**	**-2.0**
	comp=Z,1.3nm,1.1s,baz=162,slow=3.2,SNR=4.3						
	comp=Z,2.8nm,1.2s						
PMSA	**Palmer Station**	**48.18**	**154**	LR	LR	11 27 48.2	
	comp=Z,72nm,18.1s,baz=198,slow=32						
HNR	**Honiara**	**52.83**	**354**	LR	LR	11 30 53.7	
	comp=Z,2μm,18.2s,baz=343,slow=33						
KNRA	**Kununurra**	**53.06**	**315**	P	**P**	**11 11 30.6**	**-1.8**
PMG	**Port Moresby**	**54.31**	**338**	LR	LR	11 32 31.2	
	comp=Z,110nm,18.8s,baz=152,slow=34						
RPN	**Rapa Nui**	**64.37**	**100**	LR	LR	11 33 01.2	
	comp=Z,90nm,19.4s,baz=216,slow=29						
KAPI	**Kappang**	**66.11**	**309**	LR	LR	11 40 12.6	
	comp=Z,37nm,19.5s,baz=152,slow=34						
PLCA	**Paso Flores**	**68.09**	**137**	P	**P**	**11 13 16.3**	**+1.4**
	comp=Z,2.4nm,1.2s,baz=278,slow=7.1,SNR=1.9						
	comp=Z,2.4nm,1.2s						
H03S2	**Juan Fernandez**	**71.42**	**128**	T	T	12 32 26.3	
	baz=204,slow=74,SNR=133						
H03S1	**Juan Fernandez**	**71.43**	**128**	T	T	12 32 28.4	
	baz=204,slow=74,SNR=136						
H03S3	**Juan Fernandez**	**71.44**	**128**	T	T	12 32 27.8	
	baz=204,slow=74,SNR=101						
SUR	**Sutherland**	**81.41**	**210**	LR	LR	11 49 57.6	
	comp=Z,66nm,18.2s,baz=172,slow=35						
BOSA	**Boshof**	**83.89**	**215**	LR	LR	11 49 53.1	
	comp=Z,102nm,18.9s,baz=196,slow=34						
H08S2	**Diego Garcia H**	**84.48**	**264**	T	T	12 48 30.3	
	baz=151,slow=76,SNR=29						
H08S1	**Diego Carcia H**	**84.49**	**264**	T	T	12 48 31.0	
	baz=151,slow=76,SNR=22						
H08S3	**Diego Garcia H**	**84.50**	**264**	T	T	12 48 31.8	
	baz=151,slow=76,SNR=29						
LBTB	**Lobatse**	**87.21**	**216**	LR	LR	11 52 00.9	
	comp=Z,57nm,18.8s,baz=168,slow=34						
NNA	**Nana**	**91.93**	**120**	LR	LR	11 47 11.1	
	comp=Z,78nm,20.3s,baz=206,slow=29						
TSUM	**Tsumeb**	**94.83**	**211**	LR	LR	11 55 32.1	
	comp=Z,66nm,21.6s,baz=181,slow=34						
CMAR	**Chiang Mai Arr**	**95.62**	**299**	LR	LR	11 57 03.3	
	comp=Z,31nm,19.1s,baz=150,slow=34						
ATAH	**Atahualpa**	**95.68**	**117**	LR	LR	11 49 05.4	
	comp=Z,77nm,20.5s,baz=288,slow=29						
JHJ	**Hachijo jima 2**	**97.18**	**339**	LR	LR	11 59 56.9	
	comp=Z,51nm,18.3s,baz=111,slow=36						

comp=Z,800nm,3.0s
SKR eS Sn 11 10 22.5 -2.3
SKR A A 11 10 25.1
comp=Z,620nm,4.0s
SKR A A 11 10 25.1
comp=Z,750nm,4.0s
SKR AMS AMS 11 12 42.0
comp=Z,1µm,10.0s
SKR AMS AMS 11 12 42.0
comp=Z,990nm,10.0s
SKR AMS AMS 11 12 42.0
comp=Z,1µm,10.0s
YUK Yuzh-Kuril'sk 5.49 250 ePN **Pn 11 09 35.5 +0.7**
YUK pmax pmax
comp=Z,159nm,0.3s
YUK Yuzh-Kuril'sk 5.49 250 eP **Pn 11 09 35.5 +0.7**
YUK AMB AMB 11 09 36.7
comp=Z,150nm,0.3s
YUK eS Sn 11 10 35.9 -0.9
YUK A A 11 10 39.0
comp=Z,2µm,2.0s
YUK A A 11 10 39.0
comp=Z,930nm,2.0s
YUK A A 11 10 43.6
comp=Z,230nm,0.4s
YUK A A 11 10 43.6
comp=Z,200nm,0.4s
RUSJ Misakicho 5.87 253 ePN **Pn 11 09 42.1 +2.2**
RUSJ eS Sn 11 10 47.9 +1.8
NEM2 Nemuro 2 5.88 245 eP **Pn 11 09 38.4 -1.7**
NEM2 eS Sn 11 10 42.1 -4.3
NMR Nemuro--Hokkai 5.89 245 ePN **Pn 11 09 38.5 -1.7**
NMR Nemuro--Hokkai 5.89 245 eP **Pn 11 09 38.7 -1.5**
PAU Pauzhetka 5.91 24 eP **Pn 11 09 41.3 +0.9**
PAU AMB AMB 11 09 42.9
comp=Z,30nm,0.5s
PAU eS Sn 11 10 44.6 -2.3
JRA Rausu 6.02 252 eP **Pn 11 09 42.8 +0.8**
JNK Nakash 6.43 250 eP **Pn 11 09 47.6 0.0**
JNK eS Sn 11 11 00.3 +0.3
AKK Akkeshi 6.62 245 eP **Pn 11 09 52.7 +2.4**
JAK Akkeshi 6.73 245 eP **Pn 11 09 49.9 -1.8**
JAK eS Sn 11 11 03.1 -4.0
JTKR Abashiri--Toko 6.81 255 eP **Pn 11 09 53.8 +0.9**
YSS Yuzh-Sakhalins 7.14 280 Pn **Pn 11 09 55.4 -2.0**
YSS Yuzh-Sakhalins 7.14 280 ePN **Pn 11 10 00.3 +2.9**
YSS eS Sn 11 11 20.5 +3.1
YSS pmax pmax
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 7.14 280 eP **Pn 11 09 58.3 +0.9**
JAR Ashorobuto 7.18 250 eP **Pn 11 09 57.8 -0.1**
JAR eS Sn 11 11 18.2 -0.2
PEA0B Petropavlovsk- 7.62 22 Pn **Pn 11 10 03.8 -0.2**
PEA0B Petropavlovsk- 7.62 22⇓ePN **Pn 11 10 04.2 +0.2**
PETK Petropavlovsk- 7.62 22 Pn **Pn 11 10 03.4 -0.6**
PETK Petropavlovsk- 7.62 22 P **Pn 11 10 04.0 +0.1**
comp=Z,0.9nm,0.3s,baz=179,slow=12,SNR=9.9
comp=Z,7.2nm,0.7s
JKK2 Kamakawa 2 7.63 257 eP **Pn 11 10 05.2 +1.1**
JKA Kamikawa-asahi 7.65 259 Pn **Pn 11 10 06.5 +2.1**
JKA Kamikawa-asahi 7.65 259 eP **Pn 11 10 06.5 +2.1**
ASAJ Asahikawa 7.65 259 PN **Pn 11 10 06.5 +2.1**
ASAJ Asahikawa 7.65 259 P **Pn 11 10 05.9 +1.4**
comp=Z,3.1nm,0.3s,baz=90,slow=19,SNR=14
ASAJ LR LR 11 12 48.1
comp=Z,312nm,21.0s,baz=38,slow=36
comp=Z,5.8nm,0.3s
JCH Churui 7.77 247 eP **Pn 11 10 04.8 -1.2**
JCH eS Sn 11 11 28.6 -4.2
PET Petropavlovsk 7.81 26 ePN **Pn 11 10 07.2 +0.6**
PET pmax pmax
comp=Z,28nm,1.0s
PET MLR MLR
comp=Z,500nm,12.0s
PET MLR MLR
comp=Z,400nm,13.0s
PET Petropavlovsk 7.81 26 eP **Pn 11 10 07.2 +0.6**
PET AMB AMB 11 10 12.3
comp=Z,30nm,1.0s
PET eS Sn 11 11 31.0 -2.9
UGL Uglegorsk 7.99 296 eP **Pn 11 10 09.8 +0.8**
UGL AMB AMB 11 10 13.4
comp=Z,30nm,0.7s
ERM Erimo 8.21 244 Pn **Pn 11 10 11.2 -0.9**
ERM Erimo 8.21 244 PN **Pn 11 10 11.2 -0.9**
JNBK Urakawa-nobuka 8.32 246 eP **Pn 11 10 12.0 -1.6**
TYV Tymovskoe 8.37 308 ePN **Pn 11 10 16.4 +2.2**
TYV pmax pmax
comp=Z,11nm,1.0s
TYV pmax pmax
comp=Z,300nm,4.8s
TYV MLR MLR
comp=Z,900nm,16.0s
TYV Tymovskoe 8.37 308 eP **Pn 11 10 16.0 +1.8**
TYV AMB AMB 11 10 22.0
comp=Z,350nm,4.0s
TYV eS Sn 11 11 44.3 -3.3
TYV AMS AMS 11 13 08.5
comp=Z,980nm,15.0s
TYV AMS AMS 11 13 08.5
comp=Z,2µm,15.0s
TYV AMS AMS 11 13 08.5
comp=Z,950nm,15.0s
OKH Okha 9.89 322 eP **Pn 11 10 36.3 +1.3**
JANG Nango 10.18 240 eP Pn 11 10 34.8 -4.2
JANG eS Sn 11 12 22.6 -9.4
JTM Tenmabayashi 10.20 243 Pn Pn 11 10 36.6 -2.7
NKL Nikolayevsk 10.66 316 eP **Pn 11 10 46.5 +1.0**
NKL eS **Sn 11 12 38.9 -4.7**
MA2 Magadan 13.55 355 P **Pn 11 11 26.2 +1.1**
comp=Z,2.9nm,0.4s,baz=166,slow=7.8,SNR=5.5
MA2 LR LR 11 17 02.9
comp=Z,114nm,19.3s,baz=174,slow=39
MJA0 Matsu Arr-Jizo 14.64 234 eP **P 11 11 45.6 -0.4**
MJAR Matsushiro Arr 14.66 235 P **Pn 11 11 40.6 +0.2**
baz=41,slow=15,SNR=4.2
MJAR LR LR 11 18 51.9
comp=Z,99nm,18.4s,baz=44,slow=43
comp=Z,3.7nm,0.9s
KLR Kul'dur 14.67 290⇓eP **Pn 11 11 42.1 +1.8**
KLR pmax pmax
comp=Z,15nm,2.5s
KLR Kul'dur 14.67 290 P **Pn 11 11 41.8 +1.5**
comp=Z,0.1nm,0.3s,baz=95,slow=12,SNR=3.7
KLR LR LR 11 17 29.2
comp=Z,322nm,18.2s,baz=104,slow=38
comp=Z,1.5nm,0.8s
KLR Kul'dur 14.67 290 eP **Pn 11 11 39.3 -1.0**
USRK Ussuriysk Ar. 14.97 270 P **Pn 11 11 44.4 0.0**
comp=Z,0.5nm,0.3s,baz=67,slow=12,SNR=7.9
USRK LR LR 11 17 02.6
comp=Z,229nm,21.5s,baz=41,slow=35
comp=Z,3.6nm,0.6s
SHEM Shemya Is, Ala 15.19 57 LR LR 11 16 40.1
comp=Z,98nm,21.8s,baz=316,slow=33
JHJ Hachijo jima 2 16.49 223 LR LR 11 21 49.3
comp=Z,52nm,19.0s,baz=20,slow=49
SEY Seymchan 16.86 359 P **Pn 11 12 08.8 +0.3**
comp=Z,0.2nm,0.3s,baz=251,slow=22,SNR=4.3
comp=Z,1.1nm,0.3s
HEH HeiHe 17.55 293 eP **Pn 11 12 16.6 -0.6**
HEH pmax pmax
comp=Z,10.0nm,1.1s
ZEA Zeya 18.20 304 eP **Pn 11 12 25.9 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,100nm,12.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
ZEA Zeya 18.20 304 eP **Pn 11 12 25.9 +0.7**
CN2 Changchun 19.63 273 P **P 11 12 40.3 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,400nm,18.0s
KSRS Korea Array 20.57 254 P **P 11 12 53.8 +2.6**
comp=Z,3.2nm,0.9s,baz=61,slow=10,SNR=7.9
KSRS LR LR 11 19 56.6
comp=Z,110nm,20.1s,baz=60,slow=34
comp=Z,3.2nm,0.9s
YAK Yakutsk 20.83 328 P **P 11 12 52.8 -1.0**
comp=Z,0.7nm,0.4s,baz=136,slow=8.2,SNR=2.4
YAK LR LR 11 21 16.5
comp=Z,7.8nm,18.0s,baz=122,slow=38
JNU Nakatsue 21.36 240 P **P 11 12 59.5 -0.3**
comp=Z,7.2nm,0.9s,baz=353,slow=17,SNR=2.4
JNU LR LR 11 22 51.0
comp=Z,112nm,18.2s,baz=42,slow=41
comp=Z,7.2nm,0.9s
TIXI Tiksi 28.06 344 LR LR 11 24 19.0
comp=Z,5.4nm,20.2s,baz=186,slow=34
H11N2 WAKE ISLAND Hy 28.68 152 T T 11 45 50.3
baz=340,slow=75,SNR=55
H11N1 WAKE ISLAND Hy 28.70 152 T T 11 45 51.9
baz=340,slow=75,SNR=50
H11N3 WAKE ISLAND Hy 28.70 152 T T 11 46 10.1
baz=340,slow=75,SNR=42
H11S1 WAKE ISLAND Hy 29.76 153 T T 11 47 17.8
baz=341,slow=76,SNR=51
H11S3 WAKE ISLAND Hy 29.77 153 T T 11 47 19.1
baz=341,slow=76,SNR=26
H11S2 WAKE ISLAND Hy 29.78 153 T T 11 47 20.3
baz=341,slow=76,SNR=5.6
C16K Lisburne Hills 30.64 29 P **P 11 14 26.5 +0.3**
ULN Ulaanbaatar 31.06 290⇓eP **P 11 14 31.2 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.5s
ULN Ulaanbaatar 31.06 290 eP **P 11 14 31.2 +0.8**
SONM Songino Array 31.50 290 P **P 11 14 35.4 +1.3**
comp=Z,0.4nm,0.3s,baz=69,slow=8.0,SNR=4.2
SONM LR LR 11 28 13.7
comp=Z,205nm,18.2s,baz=29,slow=38
comp=Z,0.4nm,0.3s
C18K Utukok River 32.20 30 P **P 11 14 39.1 -0.9**
J19K Poorman 33.24 39 P **P 11 14 49.6 +0.6**
J19K IAmb IAmb 11 15 03.6
comp=Z,6.0nm,1.1s
IMAR Indian Mountai 34.31 36 P **P 11 14 58.5 +0.2**
D22K Ayikyak River 35.24 31 P **P 11 15 07.3 +1.0**
D22K IAmb IAmb 11 15 24.4
comp=Z,3.2nm,0.8s
B22K Teshekpuk Lake 35.32 28 P **P 11 15 08.0 +1.0**
B22K IAmb IAmb 11 15 28.1
comp=Z,13nm,1.5s
E22K Anaktuvuk Pass 35.41 32 P **P 11 15 09.2 +1.4**
E22K IAmb IAmb 11 15 23.6
comp=Z,8.2nm,1.1s
XAN Xi'an 35.41 266⇑P **P 11 15 10.0 +1.7**
XAN pP pP 11 15 14.4 -2.1
XAN pmax pmax
comp=Z,7.0nm,1.4s
SML Sawmill 36.47 43 P **P 11 15 17.2 +0.2**
F24K Squaw Lake 36.81 33 P **P 11 15 19.1 -0.7**
ILAR Eielson Array 37.08 38 P **P 11 15 23.4 +1.3**
comp=Z,2.0nm,1.1s,baz=258,slow=7.1,SNR=9.8
comp=Z,2.0nm,1.1s
LZH Lanzhou 37.86 273 eP **P 11 15 30.1 +0.9**
LZH pP pwP 11 15 46.1 +4.7
LZH sP sP 11 15 57.3 +17
LZH pmax pmax
comp=Z,28nm,1.1s
BMAR Burnt Mountain 38.07 34 **P 11 15 31.8 +1.2**
GTA Gaotai 39.02 280 eP **P 11 15 39.9 +1.0**
GTA pmax pmax
comp=Z,5.0nm,1.2s
K27K Chicken 39.19 39 P **P 11 15 40.2 +0.3**
K27K IAmb IAmb 11 15 45.7
comp=Z,9.1nm,1.1s
L27K Beaver Creek, 39.39 41 P **P 11 15 41.9 +0.2**
L27K IAmb IAmb 11 16 00.3
comp=Z,8.7nm,1.4s
BCAR Beaver Creek A 39.41 41 P **P 11 15 43.8 +2.0**
EGAK Eagle 39.53 38 P **P 11 15 42.5 -0.1**
EGAK IAmb IAmb 11 16 01.8
comp=Z,10nm,1.3s
F28M Old Crow 39.88 33 P **P 11 15 44.3 -1.3**
F28M IAmb IAmb 11 15 49.8
comp=Z,9.3nm,1.4s
H29M Whitestone 40.57 35 P **P 11 15 52.6 +1.3**
H29M IAmb IAmb 11 16 10.2
comp=Z,8.5nm,1.3s
I30M Mount Dempster 41.50 37 P **P 11 15 59.2 +0.1**
I30M IAmb IAmb 11 16 13.7
comp=Z,6.4nm,1.1s
INK Inuvik 42.21 32 P **P 11 16 05.2 +0.5**
INK Inuvik 42.21 32 P **P 11 16 05.2 +0.5**
INK pmax pmax
comp=Z,6.0nm,1.0s
DGZ Jazzator, Alta 42.87 300⇓eP **P 11 16 12.4 +1.9**
DGZ pmax pmax
comp=Z,4.0nm,1.6s
ZALV Zalesovo Beam 42.94 306 eP **P 11 16 09.7 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 42.94 306 P **P 11 16 08.2 -2.6**
comp=Z,0.5nm,0.3s,baz=68,slow=8.3,SNR=3.6
ZALV LR LR 11 34 57.8
comp=Z,258nm,18.2s,baz=41,slow=37
comp=Z,0.5nm,0.3s
A36M Sachs Harbour 44.44 26 **P 11 16 23.8 +1.2**
MK31 Makanchi Array 47.19 298 P **P 11 16 43.1 -1.6**
MK31 Makanchi Array 47.19 298d iP **P 11 16 43.5 -1.2**
MKAR Makanchi Array 47.19 298 P **P 11 16 42.9 -1.8**
MKAR Makanchi Array 47.19 298 P **P 11 16 43.6 -1.1**
comp=Z,1.6nm,0.8s,baz=64,slow=8.2,SNR=15
MKAR LR LR 11 37 41.3
comp=Z,170nm,18.3s,baz=86,slow=38
comp=Z,1.6nm,0.8s
KURK Kurchatov 47.67 304⇓eP **P 11 16 46.9 -1.5**
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 47.67 304 eP **P 11 16 46.9 -1.5**
KURBB Kurchatov Arra 47.77 304 P **P 11 16 47.4 -1.7**
comp=Z,0.9nm,0.3s,baz=62,slow=7.6,SNR=6.9
KURBB LR LR 11 38 21.9
comp=Z,112nm,19.2s,baz=179,slow=38
comp=Z,0.9nm,0.3s
BVAR Borovoye Array 51.22 310 P **P 11 17 14.2 -1.2**
comp=Z,0.6nm,0.3s,baz=50,slow=9.0,SNR=7.0
BVAR LR LR 11 40 47.3
comp=Z,152nm,19.4s,baz=11,slow=38
comp=Z,0.6nm,0.3s
BRVK Borovoye 51.26 310⇑eP **P 11 17 14.3 -1.4**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 51.26 310 eP **P 11 17 14.3 -1.4**
RES Resolute Bay 51.45 18 P **P 11 17 15.5 -1.3**
RES IAmb IAmb 11 17 43.2
comp=Z,3.6nm,1.1s
RES Resolute Bay 51.45 18 P **P 11 17 15.5 -1.3**
RES pmax pmax
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 51.46 36 eP **P 11 17 18.2 +1.2**
YKA Yellowknife Ar 51.46 36 P **P 11 17 17.7 +0.7**
comp=Z,0.3nm,0.7s,baz=300,slow=7.7,SNR=6.3
comp=Z,0.3nm,0.7s
CBB Campbell River 52.07 54 P **P 11 17 21.1 -0.7**
CMAR Chiang Mai Arr 52.17 257 eP **P 11 17 24.1 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Ar 52.17 257 P **P 11 17 23.8 +0.9**
comp=Z,1.5nm,0.7s,baz=35,slow=7.3,SNR=11
comp=Z,1.5nm,0.7s
BOOM Boomskoye usch 53.25 296 P **P 11 17 29.9 -0.9**
BOOM Boomskoye usch 53.25 296 P **P 11 17 29.9 -0.9**
BOOM pmax pmax
comp=Z,11nm,1.1s
AAK Ala-Archa 54.07 297⇑iP **P 11 17 37.3 +0.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 54.07 297 LR LR 11 41 51.8
comp=Z,124nm,18.1s,baz=6.0,slow=37
AAK Ala-Archa 54.07 297 eP **P 11 17 37.3 +0.5**
TULEG Thule 54.76 11 iP P 11 17 30.8 -10
TULEG IAmb IAmb 11 17 33.0
comp=Z,46nm,0.8s
KSH Kashi 54.85 293 eP **P 11 17 45.4 +2.9**
ARU Arti 55.45 318 LR LR 11 44 09.4
comp=Z,89nm,21.4s,baz=303,slow=39
NEEM North Greenlan 55.80 6 iP **P 11 17 49.0 0.0**
NEEM IAmb IAmb 11 17 50.2
comp=Z,9.4nm,0.9s
KKAR Karatay Array 56.26 299 P **P 11 17 50.9 -1.5**
KKAR Karatay Array 56.26 299 P **P 11 17 50.9 -1.5**
ARCES ARCESS Array B 58.43 341 P **P 11 18 06.6 -0.8**
comp=Z,3.4nm,0.9s,baz=30,slow=7.5,SNR=1.5
comp=Z,3.4nm,0.9s
ABKAR Akbulak array 58.79 310 P **P 11 18 08.9 -1.2**
AKTO Aktyubinsk 59.11 312 LR LR 11 47 03.2
comp=Z,221nm,18.6s,baz=213,slow=39
PLID Pearl Lake 60.08 55 P **P 11 18 20.4 +1.1**
PLID IAmb IAmb 11 18 27.4
comp=Z,5.2nm,0.8s
SUMG Summit 61.34 4 iP **P 11 18 28.0 +0.3**
FCC Fort Churchill 61.82 33 P **P 11 18 30.4 -0.2**
FCC Fort Churchill 61.82 33 P **P 11 18 30.4 -0.2**
FCC pmax pmax
comp=Z,9.0nm,1.5s
NVAR Mina Array Bea 62.77 62 P **P 11 18 39.0 +1.3**
comp=Z,1.8nm,0.7s,baz=298,slow=6.6,SNR=14
comp=Z,1.8nm,0.7s
BELG Belogornoye 62.97 318⇓eP **P 11 18 37.8 -0.6**
BELG pmax pmax
comp=Z,4.0nm,1.6s
FINES FINESS Array B 64.59 335 eP **P 11 18 48.6 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.59 335 P **P 11 18 48.2 -0.8**
comp=Z,1.1nm,0.4s,baz=31,slow=5.7,SNR=8.8
comp=Z,1.1nm,0.4s
ICESG Greenland Ices 64.73 5 iP **P 11 18 51.2 +1.0**
PDAR Pinedale Array 65.16 54 P **P 11 18 54.0 +0.6**
comp=Z,0.9nm,0.8s,baz=294,slow=1.5,SNR=8.1
comp=Z,0.9nm,0.8s
VSU Vasula 66.75 333⇓eP **P 11 19 04.7 +1.8**
VSU pmax pmax
comp=Z,137nm,3.9s
WRA Warramunga Arr 67.90 199 P **P 11 19 10.3 -0.3**
comp=Z,1.4nm,0.8s,baz=15,slow=6.4,SNR=8.3
comp=Z,1.4nm,0.8s
NB2 NORSAR Subarra 68.81 341 P **P 11 19 15.2 -0.8**
comp=Z,1.0nm,0.5s,baz=26,slow=6.5
NOA NORSAR Array B 68.81 341 eP **P 11 19 15.9 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 68.81 341 P **P 11 19 15.1 -0.8**
comp=Z,1.9nm,0.9s,baz=29,slow=6.7,SNR=4.6
comp=Z,1.9nm,0.9s
HFS Hagfors 69.03 340 P **P 11 19 16.8 -0.4**
comp=Z,9.4nm,1.0s,baz=61,slow=4.2,SNR=9.6
comp=Z,9.4nm,1.0s
KIV Kislovodsk 71.20 314 eP **P 11 19 33.2 +2.2**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 71.26 314 eP **P 11 19 32.2 +1.0**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 71.26 314 P **P 11 19 31.5 +0.3**
comp=Z,4.5nm,0.8s,baz=34,slow=12,SNR=8.2
KBZ LR LR 11 55 45.5
comp=Z,167nm,18.6s,baz=353,slow=40
comp=Z,4.5nm,0.8s
KBZ Khabaz 71.26 314 eP **P 11 19 32.2 +1.0**
ASAR Alice Springs 71.59 198 P **P 11 19 34.1 +0.8**
comp=Z,0.9nm,0.9s,baz=9.8,slow=5.9,SNR=6.9
comp=Z,0.9nm,0.9s
AKASG Malin Array Be 72.04 326 P **P 11 19 35.4 -0.4**
comp=Z,2.8nm,0.5s,baz=33,slow=6.3,SNR=12
comp=Z,2.8nm,0.5s
AKBB Malin Array Si 72.04 326⇓iP **P 11 19 35.2 -0.6**
AKBB pmax pmax
comp=Z,23nm,2.2s
KOLS Kolonicke sedl 76.08 329 eP **P 11 20 00.5 +1.1**
KOLS Kolonicke sedl 76.08 329 eP **P 11 20 00.5 +1.1**
CRVS Cervenica-Dubn 76.40 329 eP **P 11 20 02.6 +1.4**
CRVS Cervenica-Dubn 76.40 329 eP **P 11 20 02.6 +1.4**
EKA Eskdalemuir Ar 76.94 346 P **P 11 20 03.3 -0.9**
comp=Z,1.1nm,0.6s,baz=26,slow=5.0,SNR=3.7
comp=Z,1.1nm,0.6s
TXAR Lajitas Array 77.85 60 P **P 11 20 10.5 +0.7**
comp=Z,1.2nm,0.6s,baz=305,slow=4.2,SNR=11
comp=Z,1.2nm,0.6s
MODS Modra-Piesok 78.28 332 eP **P 11 20 13.1 +1.3**
MODS Modra-Piesok 78.28 332 eP **P 11 20 13.1 +1.3**
KHC Kasperske Hory 78.79 334⇓eP **P 11 20 14.9 +0.3**
KHC Kasperske Hory 78.79 334 eP **P 11 20 14.0 -0.6**
BRTR Keskin Array B 78.82 317 P **P 11 20 15.8 +0.8**
comp=Z,1.8nm,1.0s,baz=92,slow=3.7,SNR=5.9
comp=Z,1.8nm,1.0s
GERES GERESS Array B 79.00 334 P **P 11 20 16.1 +0.3**
comp=Z,0.8nm,0.7s,baz=27,slow=6.6,SNR=3.5
comp=Z,0.8nm,0.7s
CONA Conrad Observa 79.13 332 eP **P 11 20 17.3 +0.7**
comp=Z,6.6nm,1.5s
SOKA Soboth 80.50 332 eP **P 11 20 24.4 +0.4**
comp=Z,5.7nm,1.0s
LESA Schwarzleotal 80.58 334 iP **P 11 20 25.1 +0.7**
comp=Z,6.1nm,1.0s
KBA Koelnbreinsper 80.68 333 iP **P 11 20 26.2 +1.1**
comp=Z,6.0nm,0.8s
WATA Walderalm 80.99 335 eP **P 11 20 26.8 +0.1**
comp=Z,0.5nm,0.2s
WTTA Wattenberg 81.04 335 iP **P 11 20 26.1 -0.9**
comp=Z,2.1nm,0.4s
MOTA Moosalm 81.12 335 iP **P 11 20 28.2 +0.8**
comp=Z,1.9nm,0.5s
FETA Feichten 81.53 335 iP **P 11 20 29.7 +0.1**
comp=Z,2.5nm,0.9s
PPT Papeete 81.83 126 LR LR 11 51 37.8
comp=Z,54nm,19.7s,baz=286,slow=32
MMAI Mount Meron Ar 83.19 311 P **P 11 20 39.9 +1.4**
comp=Z,0.9nm,0.3s,baz=19,slow=9.2,SNR=2.1
MMAI LR LR 12 00 38.2
comp=Z,36nm,18.3s,baz=352,slow=38
comp=Z,0.9nm,0.3s
EIL Elat 86.06 310 LR LR 12 06 11.9
comp=Z,52nm,18.4s,baz=341,slow=40
VAE Valguarnera 88.85 328 LR LR 12 05 27.0
comp=Z,214nm,18.4s,baz=154,slow=39
PLCA Paso Flores 148.20 96 PKPbc **PKPbc 11 27 57.5 -0.1**
comp=Z,2.4nm,0.9s,baz=230,slow=5.7,SNR=4.8

PRE 15 11:09:54.4±0.6, 18°54'S×34°56'E, h5km, ML3.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**5.77**	**210**	*i* P		Pn 11 11 13.0	-7.7
MOPA				*i* S		Sn 11 12 21.1	-6.2
MOPA	**Mopani**	**5.77**	**210**	*e*P		Pn 11 11 23.2	+2.5
MOPA				*e*S		Sn 11 12 30.0	+2.7
MOPA				IAML		11 13 03.8	
	comp=Z,103nm,0.6s						
MUSN	**Musina, Limpop**	**5.77**	**229**	*i* P		Pb 11 11 34.5	-1.2
MUSN				*i* S		Sg 11 12 59.1	-0.8
MUSN	**Musina, Limpop**	**5.77**	**229**	*e*P		Pn 11 11 22.3	+1.4
MUSN				*e*S		Sn 11 12 25.8	-1.8
MUSN				IAML		11 13 07.4	
	comp=Z,95nm,0.4s						
MUSN	**Musina, Limpop**	**5.77**	**229**	*e*P		Pn 11 11 22.6	+1.7
MUSN				*e*S		Sn 11 12 27.4	-0.1
MUSN				IAML		11 13 02.0	
	comp=Z,111nm,0.5s						
MPHEP	**Siloam, Limpop**	**5.97**	**223**	*e*P		Pn 11 11 25.7	+2.1
MPHEP				*e*S		Sn 11 12 33.5	+0.9
MPHEP				IAML		11 13 10.2	
	comp=Z,159nm,0.5s						
HOED	**Hoedspruit, Li**	**6.75**	**209**	*e*P		Pn 11 11 37.0	+2.8
HOED				*e*S		Sn 11 12 51.5	0.0
HOED				IAML		11 13 35.0	
	comp=Z,30nm,0.6s						
PILG	**Pilgrimsrest,**	**7.30**	**209**	*e*P		Pn 11 11 42.9	+0.9
PILG				*e*S		Sn 11 13 02.9	-2.4
PILG				IAML		11 13 40.6	
	comp=Z,14nm,0.5s						
PILG	**Pilgrimsrest,**	**7.30**	**209**	*e*P		Pn 11 11 44.0	+2.0
PILG				*e*S		Sn 11 13 06.9	+1.5
PILG				IAML		11 14 06.3	
	comp=Z,24nm,0.6s						
WTBG	**Waterberg Wild**	**7.74**	**222**	*e*P		Pn 11 11 49.5	+1.6
WTBG				*e*S		Sn 11 13 14.6	-1.4
WTBG				IAML		11 14 03.9	
	comp=Z,67nm,0.8s						
DULL	**Dullstroom, Mp**	**7.92**	**210**	*e*P		Pn 11 11 52.9	+2.4
DULL				*e*S		Sn 11 13 20.1	-0.4
DULL				IAML		11 14 12.0	
	comp=Z,27nm,0.5s						
LEPH	**Lephalale, Lim**	**8.23**	**229**	*e*P		Pn 11 11 55.8	+1.1
LEPH				*e*S		Sn 11 13 24.9	-3.3
LEPH				IAML		11 14 23.2	
	comp=Z,117nm,0.6s						

LEPH	**Lephalale, Lim**	**8.23 229**	*e*P		Pn	11 11 56.2	+1.5
LEPH			*e*S		Sn	11 13 28.1	-0.1
LEPH			IAML			11 14 22.9	
	comp=Z,117nm,0.7s						
RUST	**Rust De Winter**	**8.71 219**	*e*P		Pn	11 12 03.4	+2.2
RUST			*e*S		Sn	11 13 39.2	-0.6
RUST			IAML			11 14 33.5	
	comp=Z,26nm,0.6s						
TSWA	**Tswaing Meteor**	**9.11 220**	*e*P		Pn	11 12 08.3	+1.6
TSWA			*e*S		Sn	11 13 48.2	-1.6
TSWA			IAML			11 14 49.6	
	comp=Z,24nm,0.7s						
SLR	**Silverton**	**9.22 218**	*e*P		Pn	11 12 09.4	+1.1
NHAM	**Northam, North**	**9.25 225**	*e*P		Pn	11 12 10.0	+1.3
NHAM			*e*S		Sn	11 13 52.5	-0.7
NHAM			IAML			11 14 55.4	
	comp=Z,28nm,0.6s						
NYAT	**Nyati, Northwe**	**9.39 222**	*e*P		Pn	11 12 12.6	+2.0
NYAT			IAML			11 15 05.1	
	comp=Z,22nm,0.5s						
HRAO	**HartRAO**	**9.70 220**	*e*P		Pn	11 12 16.2	+1.4
HRAO			*e*S		Sn	11 13 59.2	-5.0
HRAO			IAML			11 14 14.2	
	comp=Z,7.2nm,0.4s						
HRAO	**HartRAO**	**9.70 220**	*e*P		Pn	11 12 16.2	+1.5
HRAO			*e*S		Sn	11 14 02.7	-1.5
NWCL	**Newcastle**	**10.11 204**	*e*P		Pn	11 12 22.4	+2.0
LBTB	**Lobatse**	**10.53 231**	*i* P		Pn	11 12 27.8	+1.6
LBTB			*i* S		Sn	11 14 31.2	+6.7
LBTB	**Lobatse**	**10.53 231**	*e*P		Pn	11 12 27.7	+1.6
LBTB			*e*S		Sn	11 14 19.1	-5.5
LBTB			IAML			11 14 52.2	
	comp=Z,4.3nm,0.3s						
LBTB	**Lobatse**	**10.53 231**	*e*P		Pn	11 12 25.4	-0.8
LBTB			*e*S		Sn	11 14 19.4	-5.2
PRYS	**Parys**	**10.66 217**	*e*P		Pn	11 12 29.1	+1.1
PRYS			*e*S		Sn	11 14 22.4	-5.6
PRYS			IAML			11 14 45.2	
	comp=Z,3.0nm,0.7s						
PRYS	**Parys**	**10.66 217**	*e*P		Pn	11 12 28.4	+0.4
SWZ	**Schweizer**	**12.09 223**	*e*P		Pn	11 12 47.6	+0.1
BOSA	**Boshof**	**13.16 219**	*e*P		Pn	11 13 01.8	-0.3
GRAF	**Camdeboo Natio**	**16.41 212**	*e*P		P	11 13 48.2	-0.3
BFON	**Badsfontein, M**	**16.45 215**	*e*P		P	11 13 49.9	+1.0
BRAK	**Brakfontein**	**16.87 216**	*e*P		P	11 13 53.5	-0.2
ROOI	**Rooidraai Farm**	**17.06 213**	*e*P		P	11 13 57.5	+1.8
FRAZ	**Fraserburg**	**17.84 219**	*e*P		P	11 14 04.8	+0.4
SUR	**Sutherland**	**18.52 219**	*e*P		Pn	11 14 17.4	+5.4

IDC 15 11:17:26.3±8.1, 5°41S × 146°53E, h164 km ± 85 km, mb3.2/2, mbtmp3.7/4, Error ellipse: s-maj=102.6km s-min=27.4km az=135.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.02**	**171**	P	Pn	11 18 27.5	+0.3
	4.5nm,0.4s,baz=159,slow=11,SNR=2.0						
PMG				S	Sn	11 19 15.0	+0.3
	12nm,0.4s,baz=171,slow=22,SNR=15						
WRA	**Warramunga Arr**	**18.69**	**218**	P	P	11 21 31.6	-0.7
	1.0nm,0.4s,baz=41,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.85**	**213**	P	P	11 22 06.2	+0.2
	0.7nm,0.4s,baz=36,slow=8.0,SNR=18						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**85.13**	**23**	P	P	11 29 43.7	+0.2
	0.5nm,0.7s,baz=249,slow=5.3,SNR=8.4						
	0.5nm,0.7s						

*IDC **15** 11:28:41.2±0.7, 54°86N × 168°20E, h0 km, mb3.8/13, mbtmp3.8/15, ML3.8/2, MS3.5/16, Error ellipse: s-maj=25.0km s-min=13.9km az=173.0*
*MOS **15** 11:28:41.8±0.6, 54°51N × 168°27E, h24 km ± 4 km, mb4.2/6, Error ellipse: s-maj=9.8km s-min=6.3km az=10.3*
*KRSC **15** 11:28:42.7±0.9, 54°45N × 167°84E, h24 km ± 15 km, Ml4.6*
*NEIC **15** 11:28:46±1.7, 54°5N±0°2 × 168°24E±0°04, h37 km ± 11 km, mb4.0/46, Error ellipse: s-maj=26.5km s-min=3.4km az=175.0*

ISC 15 11:28:46.3±0.5, 54°57N±0°07 × 168°23E±0°04, h35 km, n165, σ1s 49/154, mb4.0/30, MS3.6/12, 4C-5D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.45**	**297**	PN	**Pn**	**11 29 05.8**	**-4.1**
BKI				S	**Sn**	**11 29 23.6**	**-4.0**
BKI	**Bering**	**1.45**	**297**	*e*P	**Pn**	**11 29 05.8**	**-4.1**
BKI				*e*S	**Sn**	**11 29 23.6**	**-4.0**
SHEM	**Shemya Is, Ala**	**3.95**	**115**	Pn	**Pn**	**11 29 43.4**	**-0.9**
	41nm,0.3s,baz=12,slow=4.1,SNR=14						
SHEM				Sn	**Sn**	**11 30 29.0**	**-0.4**
	9.7nm,0.3s,baz=142,slow=15,SNR=1.4						
SHEM				LR	LR	11 31 07.7	
	comp=Z,194nm,21.0s,baz=332,slow=36						
	116nm,0.4s						
SMY	**Shemya**	**3.95**	**115**	Pn	**Pn**	**11 29 43.1**	**-1.2**
SMY	**Shemya**	**3.95**	**115**	PN	**Pn**	**11 29 43.1**	**-1.2**
SMKR	**Semkarok**	**4.33**	**300**	PN	**Pn**	**11 29 48.8**	**-0.8**
SMKR	**Semkarok**	**4.33**	**300**	*e*P	**Pn**	**11 29 48.8**	**-0.8**
SMKR				*e*S	**Sn**	**11 30 38.4**	**-0.4**
BDR	**Baidarnaya**	**4.46**	**299**	PN	**Pn**	**11 29 50.4**	**-0.9**
BDR	**Baidarnaya**	**4.46**	**299**	*e*P	**Pn**	**11 29 50.4**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**4.52**	**291**	PN	**Pn**	**11 29 52.6**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**4.52**	**291**	*e*P	**Pn**	**11 29 52.6**	**+0.3**
TUMD	**Tumrok D**	**4.56**	**281**	*e*P	**Pn**	**11 29 51.4**	**-1.3**
TUMD				*e*S	**Sn**	**11 30 43.2**	**-1.3**
BZP	**Bezymyannyi-Pe**	**4.60**	**290**	*e*P	**Pn**	**11 29 52.7**	**-0.7**
BZMR	**Bezymyannaya**	**4.63**	**290**	PN	**Pn**	**11 29 54.2**	**+0.4**
BZMR	**Bezymyannaya**	**4.63**	**290**	*e*P	**Pn**	**11 29 54.2**	**+0.4**
BZWR	**Bezymyannyi-We**	**4.64**	**291**	PN	**Pn**	**11 29 53.9**	**0.0**
BZWR	**Bezymyannyi-We**	**4.64**	**291**	*e*P	**Pn**	**11 29 53.9**	**0.0**
KLY	**Klyuchi**	**4.65**	**295**	PN	**Pn**	**11 29 52.2**	**-1.7**
KLY	**Klyuchi**	**4.65**	**295**	*e*P	**Pn**	**11 29 52.2**	**-1.7**
KLY				*e*S	**Sn**	**11 30 44.3**	**-2.4**
TUMR	**Tumrok**	**4.72**	**282**	PN	**Pn**	**11 29 51.4**	**-3.5**
TUMR	**Tumrok**	**4.72**	**282**	*e*P	**Pn**	**11 29 54.3**	**-0.7**
KIRR	**Kirishev**	**4.72**	**290**	PN	**Pn**	**11 29 54.4**	**-0.6**
KIRR	**Kirishev**	**4.72**	**290**	*e*P	**Pn**	**11 29 54.4**	**-0.6**
KMNR	**Kamenistaya**	**4.73**	**288**	PN	**Pn**	**11 29 54.9**	**-0.2**
KMNR	**Kamenistaya**	**4.73**	**288**	*e*P	**Pn**	**11 29 54.9**	**-0.2**
KMNR				*e*S	**Sn**	**11 30 47.9**	**-0.9**
KPT	**Kopyto**	**4.79**	**290**	PN	**Pn**	**11 29 55.4**	**-0.5**
KPT	**Kopyto**	**4.79**	**290**	*e*P	**Pn**	**11 29 55.4**	**-0.5**
KOZ	**Kozyrevsk**	**5.00**	**291**	PN	**Pn**	**11 29 58.5**	**-0.2**
KOZ	**Kozyrevsk**	**5.00**	**291**	*e*P	**Pn**	**11 29 58.5**	**-0.2**
SPN	**Mys Shipunski**	**5.08**	**256**	PN	**Pn**	**11 29 57.9**	**-1.9**
SPN	**Mys Shipunski**	**5.08**	**256**	*e*P	**Pn**	**11 29 57.9**	**-1.9**
SPN				*e*S	**Sn**	**11 30 53.8**	**-3.4**
SRDR	**Sredinnyy**	**5.15**	**293**	PN	**Pn**	**11 30 00.3**	**-0.6**
SRDR	**Sredinnyy**	**5.15**	**293**	*e*P	**Pn**	**11 30 00.3**	**-0.6**
SRDR				*e*S	**Sn**	**11 30 58.4**	**-0.6**
KII	**Karymskiy**	**5.17**	**268**	PN	**Pn**	**11 30 00.3**	**-0.8**
KII	**Karymskiy**	**5.17**	**268**	*e*P	**Pn**	**11 30 00.3**	**-0.8**
NLC	**Nalytchevo**	**5.44**	**259**	PN	**Pn**	**11 30 03.7**	**-1.1**
NLC	**Nalytchevo**	**5.44**	**259**	*e*P	**Pn**	**11 30 03.7**	**-1.1**
NLC				*e*S	**Sn**	**11 31 02.9**	**-3.1**
ESO	**Esso**	**5.62**	**288**	PN	**Pn**	**11 30 06.6**	**-0.6**
ESO	**Esso**	**5.62**	**288**	*e*P	**Pn**	**11 30 06.6**	**-0.6**
SMAR	**Somma**	**5.72**	**261**	PN	**Pn**	**11 30 07.5**	**-1.4**
SMAR	**Somma**	**5.72**	**261**	*e*P	**Pn**	**11 30 07.5**	**-1.4**
UGLR	**Uglovaya**	**5.73**	**260**	PN	**Pn**	**11 30 07.6**	**-1.2**
UGLR	**Uglovaya**	**5.73**	**260**	*e*P	**Pn**	**11 30 07.6**	**-1.2**
AVH	**Avacha**	**5.76**	**261**	PN	**Pn**	**11 30 08.1**	**-1.1**
AVH	**Avacha**	**5.76**	**261**	*e*P	**Pn**	**11 30 08.1**	**-1.1**
KRX	**Arik**	**5.79**	**262**	PN	**Pn**	**11 30 08.6**	**-1.0**
KRX	**Arik**	**5.79**	**262**	*e*P	**Pn**	**11 30 08.6**	**-1.0**
KOK	**Koryaka**	**5.81**	**261**	PN	**Pn**	**11 30 08.8**	**-1.2**
KOK	**Koryaka**	**5.81**	**261**	*e*P	**Pn**	**11 30 08.8**	**-1.2**
DALK	**Dalny**	**5.82**	**258**	PN	**Pn**	**11 30 08.5**	**-1.5**
DALK	**Dalny**	**5.82**	**258**	*e*P	**Pn**	**11 30 08.5**	**-1.5**
DALK				*e*S	**Sn**	**11 31 12.3**	**-3.2**
PET	**Petropavlovsk**	**5.88**	**259**		**Pn**	**11 30 09.6**	**-1.3**
PET	**Petropavlovsk**	**5.88**	**259**	*e*Pn	**Pn**	**11 30 09.9**	**-0.9**
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PET				MLR	MLR		
	comp=Z,400nm,12.0s						
PET	**Petropavlovsk**	**5.88**	**259**	*e*P	**Pn**	**11 30 09.5**	**-1.3**
PET				*e*S	**Sn**	**11 31 14.4**	**-2.6**
RUS	**Russkaya**	**6.18**	**254**	PN	**Pn**	**11 30 13.7**	**-1.2**
RUS	**Russkaya**	**6.18**	**254**	*e*P	**Pn**	**11 30 13.7**	**-1.2**
KRMR	**Karymshinskiy**	**6.25**	**258**	PN	**Pn**	**11 30 14.6**	**-1.2**
KRMR	**Karymshinskiy**	**6.25**	**258**	*e*P	**Pn**	**11 30 14.6**	**-1.2**
KRMR				*e*S	**Sn**	**11 31 22.7**	**-3.2**
GRL	**Gorelyy**	**6.38**	**256**	PN	**Pn**	**11 30 17.6**	**-0.2**
GRL	**Gorelyy**	**6.38**	**256**	*e*P	**Pn**	**11 30 17.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.40**	**261**	Pn	**Pn**	**11 30 17.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**6.40**	**261**	*d* PN	**Pn**	**11 30 17.9**	**-0.1**
PETK	**Petropavlovsk-**	**6.40**	**261**	Pn	**Pn**	**11 30 17.4**	**-0.6**
PETK	**Petropavlovsk-**	**6.40**	**261**	Pn	**Pn**	**11 30 17.1**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=74,slow=18,SNR=121						
PETK				Sn	**Sn**	**11 31 31.1**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=45,slow=19,SNR=6.0						
PETK				LR	LR	11 33 03.9	
	comp=Z,208nm,19.0s,baz=73,slow=41						
	comp=Z,5.1nm,0.5s						
ASAK	**Asacha**	**6.54**	**255**	PN	**Pn**	**11 30 19.0**	**-1.0**
ASAK	**Asacha**	**6.54**	**255**	*e*P	**Pn**	**11 30 19.0**	**-1.0**
KDTR	**Khodutka, Kamc**	**6.70**	**250**	PN	**Pn**	**11 30 20.2**	**-1.8**
KDTR	**Khodutka, Kamc**	**6.70**	**250**	*e*P	**Pn**	**11 30 20.2**	**-1.8**
AMKA	**Amchitka**	**7.41**	**111**	Pn	**Pn**	**11 30 31.6**	**-0.2**
SKR	**Severo-Kuril's**	**8.33**	**247**	*e*PN	**Pn**	**11 30 44.9**	**+0.5**
ADK	**Adak**	**9.44**	**100**	Pn	**Pn**	**11 30 58.6**	**-1.0**
ADK	**Adak**	**9.44**	**100**	PN	**Pn**	**11 30 58.6**	**-1.0**
MA2	**Magadan**	**10.73**	**305**	LR	LR	11 35 11.5	
	comp=Z,160nm,20.1s,baz=103,slow=37						
SEY	**Seymchan**	**11.71**	**322**	*e*PN	**Pn**	**11 31 31.8**	**+1.2**
SEY				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SEY	**Seymchan**	**11.71**	**322**	Pn	**Pn**	**11 31 29.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=99,slow=16,SNR=4.1						
SEY				LR	LR	11 35 48.0	
	comp=Z,209nm,20.4s,baz=76,slow=37						
M13K	**Dall Lake**	**16.27**	**57**		**P**	**11 32 32.8**	**-1.6**
L14K	**Kuka Creek**	**16.75**	**54**	Pn	**Pn**	**11 32 37.0**	**-0.7**
M14K	**Bethel**	**17.00**	**57**		**P**	**11 32 42.1**	**-0.3**
M14K				IAmb	IAmb	11 32 56.9	
	comp=Z,15nm,0.9s						
K15K	**Wolf Creek Mou**	**17.48**	**52**	P	**P**	**11 32 48.3**	**+0.5**
K15K				IAmb	IAmb	11 33 22.9	
	comp=Z,22nm,1.4s						
M17K	**Holitna River**	**19.26**	**55**	P	**Pn**	**11 33 08.5**	**0.0**
M17K				IAmb	IAmb	11 33 34.9	
	comp=Z,8.2nm,1.0s						
H18K	**Honhosa River**	**19.57**	**44**	P	**Pn**	**11 33 12.2**	**-0.1**
ASAJ	**Asahikawa**	**19.59**	**248**	LR	LR	11 40 54.0	
	comp=Z,84nm,19.0s,baz=348,slow=37						
J18K	**Innoko River**	**19.87**	**49**	P	**Pn**	**11 33 14.1**	**-1.8**
J18K				IAmb	IAmb	11 33 27.3	
	comp=Z,7.2nm,1.1s						
C18K	**Utukok River**	**19.93**	**33**	P	**Pn**	**11 33 15.2**	**-1.4**
N18K	**Kilae Creek**	**19.96**	**58**	P	**Pn**	**11 33 15.6**	**-1.4**
N18K				IAmb	IAmb	11 33 38.1	
	comp=Z,13nm,1.3s						
TTA	**Tatalina**	**20.10**	**51**	P	Pn	11 33 16.7	-1.9
TTA	**Tatalina**	**20.10**	**51**	P	Pn	11 33 16.7	-1.9
TTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
J19K	**Poorman**	**20.45**	**48**	P	Pn	11 33 19.9	-2.7
J19K				IAmb	IAmb	11 33 30.0	
	comp=Z,11nm,1.2s						
L19K	**White Mountain**	**20.55**	**53**	P	Pn	11 33 21.3	-2.5
L19K				IAmb	IAmb	11 33 50.3	
	comp=Z,9.0nm,1.1s						
N19K	**Bonanza Creek**	**20.66**	**57**	P	Pn	11 33 22.4	-2.7
N19K				IAmb	IAmb	11 33 27.4	
	comp=Z,6.1nm,0.8s						
C19K	**Lookout Ridge**	**20.66**	**33**	P	Pn	11 33 23.3	-1.8
E19K	**Redstone River**	**20.76**	**38**	P	Pn	11 33 24.1	-2.1
E19K				IAmb	IAmb	11 34 06.8	
	comp=Z,8.1nm,1.3s						
D19K	**Kuna River**	**20.86**	**35**	P	**P**	**11 33 23.5**	**-1.3**
D19K				IAmb	IAmb	11 33 35.5	
	comp=Z,8.0nm,1.1s						
K20K	**Telida**	**21.03**	**50**	P	**P**	**11 33 25.9**	**-0.7**
J20K	**Nowinta River**	**21.11**	**48**	P	**P**	**11 33 27.1**	**-0.4**
J20K				IAmb	IAmb	11 33 49.7	
	comp=Z,5.0nm,0.9s						
YAK	**Yakutsk**	**21.30**	**306**	*e*P	**P**	**11 33 33.1**	**+3.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK	**Yakutsk**	**21.30**	**306**	LR	LR	11 41 41.5	
	comp=Z,7.9nm,18.2s,baz=0.5,slow=37						
IMAR	**Indian Mountai**	**21.64**	**43**	P	**P**	**11 33 33.0**	**0.0**
KDAK	**Kodiak Island**	**21.83**	**66**	P	**P**	**11 33 32.1**	**-3.1**
	comp=Z,6.5nm,0.7s,baz=28,slow=19,SNR=2.0						
	comp=Z,6.5nm,0.7s						
G21K	**Allakaket**	**21.86**	**42**	P	**P**	**11 33 36.1**	**+0.6**
G21K				IAmb	IAmb	11 34 06.8	
	comp=Z,6.9nm,1.4s						
CAST	**Castle Rocks**	**21.93**	**50**	P	**P**	**11 33 36.2**	**0.0**
H21K	**Melozitna Rive**	**21.95**	**44**	P	**P**	**11 33 37.2**	**+0.8**
H21K				IAmb	IAmb	11 33 53.1	
	comp=Z,8.2nm,1.4s						
KTH	**Kantishna Hill**	**22.46**	**50**	P	**P**	**11 33 42.3**	**+0.3**
B21K	**Ikpikpuk River**	**22.48**	**34**	P	**P**	**11 33 42.1**	**+0.1**
B21K				IAmb	IAmb	11 34 13.5	
	comp=Z,9.7nm,1.4s						
TRF	**Thorofare Moun**	**22.73**	**50**	P	**P**	**11 33 45.0**	**0.0**
D22K	**Ayikyak River**	**22.85**	**36**	P	**P**	**11 33 46.4**	**+0.4**
E22K	**Anaktuvuk Pass**	**22.93**	**38**	P	**P**	**11 33 46.6**	**-0.3**
KLR	**Kul'dur**	**22.95**	**272**	*e*P	**P**	**11 33 49.1**	**+1.9**
KLR				pmax	pmax		
	comp=Z,12nm,2.3s						
KLR	**Kul'dur**	**22.95**	**272**	LR	LR	11 44 05.4	
	comp=Z,64nm,18.2s,baz=39,slow=40						
B22K	**Teshekpuk Lake**	**23.14**	**32**	P	**P**	**11 33 48.2**	**-0.6**
B22K				IAmb	IAmb	11 33 58.9	
	comp=Z,4.6nm,0.8s						
I23K	**Minto, Yukon-K**	**23.29**	**46**	P	**P**	**11 33 49.6**	**-0.8**
C23K	**Itkillik River**	**23.85**	**34**	P	**P**	**11 33 55.0**	**-0.9**
CCB	**Clear Creek Bu**	**23.90**	**48**	P	**P**	**11 33 55.2**	**-1.1**
CCB				IAmb	IAmb	11 34 05.8	
	comp=Z,3.3nm,0.7s						
DHY	**Denali Highway**	**24.04**	**51**	P	**P**	**11 33 57.3**	**-0.5**
DHY				IAmb	IAmb	11 34 01.7	
	comp=Z,7.1nm,1.2s						
E24K	**Your Creek**	**24.12**	**39**	P	**P**	**11 33 58.1**	**-0.3**
E24K				IAmb	IAmb	11 34 01.1	
	comp=Z,5.4nm,1.0s						
F24K	**Squaw Lake**	**24.23**	**41**	P	**P**	**11 33 59.9**	**+0.4**
HDA	**Harding Lake**	**24.26**	**48**	P	**P**	**11 33 58.3**	**-1.4**
HDA				IAmb	IAmb	11 34 44.2	
	comp=Z,8.0nm,1.4s						
IL31		**24.30**	**47**	P	**P**	**11 33 58.6**	**-1.3**
IL31				IAmb	IAmb	11 34 15.3	
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**24.30**	**47**	P	**P**	**11 33 58.9**	**-1.1**
ILAR	**Eielson Array**	**24.30**	**47**	P	**P**	**11 33 58.9**	**-1.1**
ILAR	**Eielson Array**	**24.30**	**47**	P	**P**	**11 33 58.5**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=254,slow=7.8,SNR=18						
ILAR				LR	LR	11 43 28.1	
	comp=Z,120nm,18.0s,baz=195,slow=37						
	comp=Z,1.4nm,0.8s						
PRP	**Porcupine Dome**	**24.93**	**46**	P	**P**	**11 34 06.5**	**+0.6**
PRP				IAmb	IAmb	11 34 10.2	
	comp=Z,4.7nm,0.8s						
J25K	**Salcha River,**	**24.95**	**48**	P	**P**	**11 34 05.0**	**-1.0**
FYU	**Fort Yukon**	**25.13**	**43**	P	**P**	**11 34 07.1**	**-0.3**
FYU				IAmb	IAmb	11 34 09.1	
	comp=Z,3.4nm,0.8s						
E25K	**Arctic Village**	**25.21**	**39**	P	**P**	**11 34 08.5**	**+0.3**
BMAR	**Burnt Mountain**	**25.48**	**41**	P	**P**	**11 34 10.5**	**-0.2**
J26L	**Joseph Creek**	**25.73**	**48**	P	**P**	**11 34 11.8**	**-1.2**
L27K	**Beaver Creek,**	**26.56**	**51**	P	**P**	**11 34 20.9**	**+0.3**
BCAR	**Beaver Creek A**	**26.58**	**51**	P	**P**	**11 34 20.6**	**-0.2**
EGAK	**Eagle**	**26.76**	**47**	P	**P**	**11 34 20.5**	**-1.7**
G29M	**Pine Creek**	**28.01**	**43**	P	**P**	**11 34 33.9**	**+0.5**
G31M	**Satah River**	**29.48**	**42**	P	**P**	**11 34 45.7**	**-0.8**
G31M				IAmb	IAmb	11 34 57.1	
	comp=Z,3.1nm,1.1s						
F31M	**Tsiigehtchic**	**29.66**	**41**	P	**P**	**11 34 47.0**	**-0.9**
INK	**Inuvik**	**29.70**	**40**	P	**P**	**11 34 47.2**	**-1.1**
INK				IAmb	IAmb	11 35 05.4	
	comp=Z,3.7nm,1.4s						
INK	**Inuvik**	**29.70**	**40**	P	**P**	**11 34 47.2**	**-1.1**
INK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KSRS	**Korea Array**	**32.26**	**255**	LR	LR	11 49 01.6	
	comp=Z,36nm,18.1s,baz=130,slow=38						
TJN	**Taejon**	**33.34**	**254**	*e*P	**P**	**11 35 23.9**	**+3.2**
H11N2	**WAKE ISLAND Hy**	**34.80**	**182**	T	T	12 12 16.5	
	baz=1.2,slow=76,SNR=2285						
H11N3	**WAKE ISLAND Hy**	**34.81**	**182**	T	T	12 12 18.4	
	baz=1.2,slow=76,SNR=1080						
H11N1	**WAKE ISLAND Hy**	**34.81**	**182**	T	T	12 12 24.5	
	baz=1.2,slow=76,SNR=1259						
H11S1	**WAKE ISLAND Hy**	**36.02**	**182**	T	T	12 13 50.4	
	baz=1.1,slow=76,SNR=209						
H11S3	**WAKE ISLAND Hy**	**36.03**	**182**	T	T	12 13 48.2	
	baz=1.1,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**36.03**	**182**	T	T	12 13 50.1	
	baz=1.1,slow=76,SNR=276						
SONM	**Songino Array**	**38.19**	**286**	P	**P**	**11 36 01.2**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=59,slow=8.7,SNR=4.2						
SONM				LR	LR	11 53 49.4	
	comp=Z,86nm,20.4s,baz=14,slow=40						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**38.73**	**46**	*e*P	**P**	**11 36 09.2**	**+2.7**
YKA	**Yellowknife Ar**	**38.73**	**46**	P	**P**	**11 36 06.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=294,slow=8.0,SNR=5.6						
	comp=Z,0.3nm,0.6s						
NEW	**Newport**	**44.94**	**66**	LR	LR	11 54 45.6	
	comp=Z,94nm,18.2s,baz=264,slow=35						
DGZ	**Jazzator, Alta**	**47.25**	**299**	*e*P	**P**	**11 37 18.7**	**+2.9**
NVAR	**Mina Array Bea**	**50.70**	**77**	P	**P**	**11 37 42.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=316,slow=6.2,SNR=3.5						
	comp=Z,0.4nm,0.7s						
KURK	**Kurchatov**	**50.94**	**305**	*e*P	P	11 37 47.5	+3.8
KURK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KURBB	**Kurchatov Arra**	**51.05**	**305**	P	**P**	**11 37 43.0**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=57,slow=7.8,SNR=5.4						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**51.75**	**299**	*e*P	**P**	**11 37 51.7**	**+1.8**
MKAR	**Makanchi Array**	**51.75**	**299**	P	**P**	**11 37 47.7**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=48,slow=6.3,SNR=3.4						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**52.55**	**67**	P	**P**	**11 37 54.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=322,slow=1.7,SNR=7.4						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**53.13**	**312**	P	**P**	**11 37 58.9**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=63,slow=7.5,SNR=14						
BVAR				LR	LR	12 03 40.6	
	comp=Z,103nm,19.6s,baz=3.2,slow=40						
	comp=Z,1.6nm,0.4s						
BRVK	**Borovoye**	**53.16**	**312**	*e*P	**P**	**11 38 03.0**	**+2.8**
BRVK				pmax	pmax		
	comp=Z,26nm,3.7s						
ARCES	**ARCESS Array B**	**53.26**	**345**	P	**P**	**11 37 59.4**	**-1.4**
	comp=Z,5.0nm,1.1s,baz=27,slow=8.1,SNR=1.2						
	comp=Z,5.0nm,1.1s						
ULM	**Lac du Bonnet**	**54.20**	**52**	LR	LR	12 01 25.8	
	comp=Z,78nm,18.8s,baz=316,slow=36						
ANMO	**Albuquerque**	**59.82**	**71**	LR	LR	12 04 29.7	
	comp=Z,74nm,18.7s,baz=42,slow=36						
CMAR	**Chiang Mai Arr**	**63.17**	**264**	LR	LR	12 08 04.7	
	comp=Z,23nm,19.2s,baz=280,slow=37						
TXAR	**Lajitas Array**	**65.60**	**73**	P	**P**	**11 39 26.8**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=299,slow=5.1,SNR=24						
	comp=Z,0.9nm,0.6s						
BRTR	**Keskin Array B**	**78.33**	**326**	LR	LR	12 19 45.5	
	comp=Z,84nm,18.1s,baz=336,slow=39						
WRA	**Warramunga Arr**	**79.69**	**212**	P	**P**	**11 40 52.1**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=25,slow=6.1,SNR=2.1						
	comp=Z,0.5nm,0.8s						
PALK	**Pallekele**	**82.69**	**272**	LR	LR	12 24 36.9	
	comp=Z,32nm,18.4s,baz=93,slow=41						
ASAR	**Alice Springs**	**83.32**	**211**	P	**P**	**11

EBAD Sg Sb 11 52 03.6 -0.2
PSANT Santarm 0.75 311 eP Pb 11 51 53.8 -0.2
PSANT eS Sg 11 52 03.9 -0.1
PSANT A A 11 52 04.1
43µm,0.2s
PNCL Nicolau / Gran 0.78 215⇑eP Pg 11 51 54.9 +0.3
PNCL eS Sn 11 52 06.3 -0.5
PNCL A A 11 52 07.4
9µm,0.6s
PNCL Nicolau / Gran 0.78 215 Pg Pg 11 51 54.9 +0.3
PNCL Sg Sn 11 52 06.2 -0.6
PMRV Marv??o 0.81 33⇑iP Pb 11 51 54.9 -0.1
PMRV eS Sb 11 52 05.0 -0.7
PMRV A A 11 52 07.3
24µm,0.2s
INMG Instituto de M 0.91 272⇓eP Pn 11 51 57.5 +0.2
INMG eS Sn 11 52 10.6 +0.6
INMG A A 11 52 15.2
17µm,0.5s
LIS Lisbon 0.93 268 eP Pn 11 51 57.6 0.0
LIS eS Sg 11 52 09.8 +0.2
LIS IAML 11 52 17.0
comp=N,57µm,0.5s
PBAR Barrancos 0.93 128⇓eP Pb 11 51 57.1 +0.1
PBAR eS Sb 11 52 09.2 +0.1
PBAR A A 11 52 12.4
comp=N,31µm,0.5s
PBAR Barrancos 0.93 128 Sg Sb 11 52 09.0 0.0
PBAR Pg Pb 11 51 56.9 -0.1
MESJ Messejana 0.93 192⇑eP Pb 11 51 57.5 +0.4
MESJ eS Sn 11 52 10.9 +0.2
MESJ A A 11 52 12.9
comp=N,14µm,0.5s
MESJ Messejana 0.93 192 Pg Pb 11 51 57.5 +0.4
MESJ Sg Sg 11 52 09.9 +0.1
MESJ Messejana 0.93 192 eP Pg 11 51 57.7 +0.2
MESJ eS Sg 11 52 10.3 +0.5
MESJ IAML 11 52 11.8
comp=E,23µm,0.5s
PSBE So Bento 1.00 320⇓iP Pn 11 51 58.5 -0.2
PSBE eS Sg 11 52 11.8 -0.1
PSBE A A 11 52 12.7
comp=E,8µm,0.2s
PMAFR Mafra 1.05 282⇓eP Pb 11 51 59.1 0.0
PMAFR eS Sg 11 52 13.5 0.0
PMAFR A A 11 52 20.1
comp=E,20µm,0.8s
PMAFR Mafra 1.05 282 Pg Pb 11 51 59.0 0.0
PMAFR Sg Sg 11 52 13.4 0.0
PSINE Sines 1.06 222 eP Pn 11 51 59.8 +0.3
PSINE eS Sg 11 52 15.1 +1.2
PSINE A A 11 52 16.8
comp=E,9µm,0.4s
PCVE Castro Verde 1.12 183⇓eP Pb 11 52 00.8 +0.5
PCVE eS Sg 11 52 15.8 +0.1
PCVE A A 11 52 22.0
comp=E,17µm,0.7s
PCVE Castro Verde 1.12 183 Pg Pb 11 52 00.8 +0.5
PCVE Sg Sg 11 52 16.0 +0.2
PCBR Castelo Branco 1.15 19 eP Pn 11 52 00.4 -0.3
PCBR eS Sb 11 52 15.0 -0.5
PCBR A A 11 52 16.0
comp=E,22µm,0.4s
PCASC Cascais 1.19 271 eP Pb 11 52 01.9 +0.4
PCASC eS Sg 11 52 18.0 +0.1
PCASC A A 11 52 23.3
comp=E,7µm,0.5s
EGRO El Granado 1.27 162 Pn Pb 11 52 02.9 0.0
EGRO Sn Sg 11 52 20.3 -0.4
EGRO El Granado 1.27 162 ⇓Pn Pb 11 52 02.9 0.0
EGRO Pg Pg 11 52 03.9 -0.2
EGRO Sg Sg 11 52 20.5 -0.1
EGRO iVmb_Lg 11 52 23.8
PTEO Sao Teotonio 1.34 207⇑eP Pn 11 52 03.6 +0.2
PTEO iS Sg 11 52 22.6 -0.3
PTEO A A 11 52 25.4
comp=E,22µm,0.5s
PVAQ Vaqueiros 1.36 172⇓eP Pn 11 52 04.2 +0.6
PVAQ S Sb 11 52 22.5 +1.0
PVAQ Vaqueiros 1.36 172 Pn 11 52 04.0 +0.4
PVAQ Sb 11 52 21.8 +0.2
PVAQ Vaqueiros 1.36 172 Pn Pn 11 52 04.1 +0.6
PVAQ Sn Sg 11 52 22.8 -0.6
PCAS Casmilo, Conde 1.36 343⇓eP Pn 11 52 03.2 -0.5
PCAS eS Sb 11 52 21.9 +0.3
PCAS A A 11 52 23.7
comp=E,15µm,0.4s
EMIN Mina Concepcio 1.42 134 Pn Pn 11 52 04.8 +0.5
EMIN Sn Sg 11 52 24.7 -0.5
EMIN Mina Concepcio 1.42 134 ⇓Pn Pn 11 52 04.9 +0.5
EMIN Pg Pb 11 52 05.9 +0.6
EMIN Sg Sg 11 52 24.7 -0.5
EMIN iVmb_Lg 11 52 27.6
COI Coimbra 1.49 347 ePg Pb 11 52 06.8 +0.1
COI eSn Sb 11 52 25.2 -0.2
COI A A 11 52 30.1
comp=E,16µm,0.3s
COI Coimbra 1.49 347 Pn Pn 11 52 04.9 -0.6
PBDV Barranco-do-Ve 1.51 179⇓ePn Pn 11 52 06.3 +0.6
PBDV eSg Sb 11 52 27.1 +1.3
PBDV A A 11 52 34.0
comp=E,15µm,0.5s
MORF Marmelete 1.54 201⇑ePn Pn 11 52 06.5 +0.3
MORF eSg Sb 11 52 28.2 +1.4
MORF A A 11 52 31.6
comp=E,9µm,0.7s
MORF Marmelete 1.54 201 Pn Pn 11 52 06.4 +0.3
MORF Marmelete 1.54 201 eP Pn 11 52 06.5 +0.3
MORF eS Sb 11 52 27.6 +0.7
MORF IAML 11 52 29.3
comp=E,16µm,0.7s
PALJ Aljezur 1.57 205 ePn Pb 11 52 07.8 -0.3
PALJ eSg Sg 11 52 29.6 -0.6
PTAV Tavira 1.64 171 eSg Sg 11 52 31.5 -0.9
PALBU Albufeira 1.67 188 ePn Pn 11 52 08.7 +0.9
PALBU eSn Sb 11 52 30.7 +0.3
PALBU A A 11 52 40.4
comp=E,20µm,0.6s
MTE Manteigas 1.68 11 ePn Pn 11 52 07.6 -0.5
MTE Manteigas 1.68 11 ePg Pb 11 52 10.1 +0.2
MTE eSg Sb 11 52 30.8 +0.1
MTE A A 11 52 32.3
comp=E,11µm,0.4s
MTE Manteigas 1.68 11 Pn Pn 11 52 07.5 -0.5
PPOR Portimao 1.68 196 ePg Pg 11 52 11.8 +0.1
PPOR eSn Sg 11 52 32.3 -1.2
PPOR A A 11 52 38.0
comp=E,8µm,0.8s
PFARO Faro 1.72 179 ePn Pb 11 52 09.8 -0.8
PFARO Faro 1.72 179 ePg Pg 11 52 12.4 -0.2
PFARO eSg Sg 11 52 34.7 -0.3
PFARO A A 11 52 39.9
comp=E,17µm,0.8s
PLAGO Lagos 1.75 199 ePn Pn 11 52 09.6 +0.7
PLAGO Lagos 1.75 199 ePg Pg 11 52 13.2 +0.2
PLAGO eSg Sg 11 52 35.2 -0.6
PLAGO A A 11 52 39.8
comp=E,10µm,0.5s
PFVI Vila Bisbo 1.75 203⇑ePn Pn 11 52 09.2 +0.1
PFVI Vila Bisbo 1.75 203 ePg Pg 11 52 12.5 -0.6
PFVI eSn Sb 11 52 33.5 +0.7
PFVI A A 11 52 37.3
comp=E,6µm,0.6s
PFVI Vila Bisbo 1.75 203 Pn Pn 11 52 08.6 -0.4
PFVI Vila Bisbo 1.75 203 Pn Pn 11 52 09.1 +0.1
PFVI Sn Sb 11 52 33.2 +0.4
PSVI Cabo S. Vicent 1.91 206 ePn Pn 11 52 12.3 +1.2
PSVI eSg Sg 11 52 39.7 -1.2
PSVI A A 11 52 46.5
comp=E,8µm,0.5s
ARNO Arenosillo 1.92 149 Sg Sg 11 52 41.9 +0.7
ARNO Pn Pn 11 52 12.5 +1.2
ARNO Pg Pg 11 52 15.5 -0.7
EPLA Plasencia 1.96 48 Pn Pn 11 52 11.6 -0.3
EPLA Pg Pb 11 52 14.4 -0.3
EPLA Sg Sb 11 52 38.3 -0.6
EPLA iVmb_Lg 11 52 47.0
PVIS Viseu 1.96 2 ePn Pn 11 52 12.0 +0.1
PVIS Viseu 1.96 2 ePg Pb 11 52 15.3 +0.6
PVIS eSg Sb 11 52 39.5 +0.6
PVIS A A 11 52 47.1
comp=E,6µm,0.3s

ECAB El Cabril 2.11 108 Pn Pn 11 52 13.3 -0.6
ECAB Sg Sg 11 52 46.6 -0.8
ECAB El Cabril 2.11 108 Pg Pb 11 52 17.3 +0.1
ECAB Sg Sb 11 52 43.7 +0.5
ECAB iVmb_Lg 11 52 50.0
PTO Porto 2.43 349 ePn Pn 11 52 18.2 -0.1
PTO Porto 2.43 349 ePg Pb 11 52 24.4 +1.7
PTO eSn Sn 11 52 46.7 -1.0
PTO eSg Sg 11 52 56.2 -1.4
PTO A A 11 53 01.0
comp=E,4µm,0.6s
MVO Moncorvo 2.51 16⇑ePn Pn 11 52 18.9 -0.7
MVO Moncorvo 2.51 16 ePg Pg 11 52 26.5 -1.2
MVO eSn Sn 11 52 48.5 -1.3
MVO eSg Sg 11 52 59.0 -1.3
MVO A A 11 53 03.0
comp=E,7µm,0.6s
ESPR Espera 2.52 138 Pn Pn 11 52 20.6 +1.2
ESPR Espera 2.52 138 Pn Pn 11 52 20.7 +1.2
ESPR Pg Pb 11 52 25.9 +1.8
ESPR Sn Sn 11 52 51.2 +1.4
ESPR Sg Sb 11 52 57.8 +3.1
ESPR iVmb_Lg 11 53 07.0
PVRL Vila Real 2.53 4 ePn Pn 11 52 19.3 -0.4
PVRL Vila Real 2.53 4 ePg Pg 11 52 27.4 -0.5
PVRL eSn Sn 11 52 49.0 -1.1
PVRL eSg Sb 11 52 57.5 +2.3
PVRL A A 11 52 58.9
comp=E,5µm,0.3s
POLO Lamas de Olo 2.62 3 ePn Pn 11 52 20.6 -0.5
POLO Lamas de Olo 2.62 3 ePg Pb 11 52 26.9 +0.9
POLO eSn Sn 11 52 50.7 -1.8
POLO eSg Sb 11 52 59.8 +1.9
POLO A A 11 53 04.5
comp=E,2µm,0.4s
SFS San Fernando 2.68 148 Pn Pn 11 52 22.4 +0.8
SFS San Fernando 2.68 148 Pn Pn 11 52 22.5 +0.8
SFS Sn Sn 11 52 54.7 +1.0
EADA Adamuz 2.72 101 Pn Pn 11 52 22.0 -0.5
EADA Sg Sg 11 53 04.5 -2.4
EADA Adamuz 2.72 101 Pn Pn 11 52 21.9 -0.5
EADA Pg Pb 11 52 26.9 -0.8
EADA Sn Sn 11 52 54.7 -0.9
EADA Sg Sb 11 53 03.8 +2.9
EADA iVmb_Lg 11 53 10.3
EJUZ Juzbado, Salam 2.83 34 Pn Pn 11 52 23.6 -0.2
EJUZ Sg Sb 11 53 06.2 +2.5
PAB San Pablo 2.92 73 Pn Pn 11 52 24.5 -0.8
PAB San Pablo 2.92 73 Pn Pn 11 52 24.4 -0.8
PAB Sn Sn 11 52 58.1 -1.8
PAB Sg Sb 11 53 06.1 -0.5
PAB iVmb_Lg 11 53 13.5
PCAB Cabril 2.96 359 ePn Pn 11 52 25.1 -0.5
PCAB eSn Sn 11 52 59.4 -1.2
PCAB eSg Sg 11 53 12.0 -2.4
PCAB A A 11 53 14.1
comp=E,5µm,0.4s
EJIF Jimena Fronter 3.04 138 Pn Pn 11 52 27.8 +1.1
EJIF Sn Sn 11 53 03.4 +0.8
EJIF Sg Sg 11 53 17.8 +0.9
ELOB Lobios 3.11 359 Pn Pn 11 52 27.2 -0.6
ELOB Sn Sn 11 53 01.5 -3.1
ELOB Sg Sb 11 53 13.4 +1.4
ELOB iVmb_Lg 11 53 19.9
PBRG Braganca 3.19 17 ePn Pn 11 52 28.3 -0.5
PBRG eSn Sn 11 53 04.0 -2.5
PBRG eSg Sg 11 53 18.5 -3.4
PBRG A A 11 53 20.2
comp=E,2µm,0.7s
PGAV Gavieira, Arco 3.22 356⇓ePn Pn 11 52 27.0 -2.2
PGAV eSn Sn 11 53 03.1 -4.1
PGAV eSg Sb 11 53 17.6 +2.5
PGAV A A 11 53 28.0
comp=E,2µm,0.3s
ESDC Sonseca Array 3.24 72 Pn Pn 11 52 29.0 -0.5
ESDC Sonseca Array 3.24 72 Pn Pn 11 52 29.9 +0.4
comp=E,59nm,0.3s,baz=257,slow=13,SNR=803
ESDC Lg Lg 11 53 16.9
comp=E,389nm,0.3s,baz=251,slow=29,SNR=22
ESBB Sonseca Array 3.25 72 Pn Pn 11 52 29.1 -0.4
ECAL Calabor 3.32 16 Pn Pn 11 52 30.3 -0.3
ECAL Sn Sn 11 53 07.8 -1.9
ECAL Calabor 3.32 16 Pn Pn 11 52 30.4 -0.3
ECAL Sn Sn 11 53 07.7 -2.0
ECAL Sg Sg 11 53 22.8 -3.3
ECAL iVmb_Lg 11 53 31.5
EMIJ Mijas 3.35 130 Pn Pn 11 52 32.2 +1.3
EMIJ Mijas 3.35 130 Pn Pn 11 52 32.2 +1.3
EMIJ Pg Pb 11 52 37.7 -0.6
EMIJ Sn Sn 11 53 11.5 +1.2
EMIJ Sg Sg 11 53 24.8 -2.0
EMIJ iVmb_Lg 11 53 37.2
EMAL Malaga-Limoner 3.44 124 Pn Pn 11 52 34.0 +1.8
EMAL Sg Sg 11 53 29.1 -0.6
EZAM Zamans 3.44 351 Pn Pn 11 52 32.1 -0.1
EZAM Sn Sn 11 53 08.9 -3.6
EZAM Sg Sb 11 53 25.0 +3.7
EZAM iVmb_Lg 11 53 32.2
EGOR Sierra Gorda, 3.46 117 Pn Pn 11 52 33.9 +1.3
EGOR Sg Sg 11 53 27.6 -3.0
EGOR Sierra Gorda, 3.46 117 Pn Pn 11 52 34.3 +1.6
EGOR Pg Pb 11 52 39.2 -1.1
EGOR Sg Sb 11 53 26.5 +4.3
EGOR iVmb_Lg 11 53 38.8
GUD Guadarrama 3.50 56 Pn Pn 11 52 32.3 -0.8
GUD Pg Pb 11 52 41.1 +0.2
GUD Sn Sn 11 53 12.1 -2.0
GUD Sg Sb 11 53 26.7 +3.6
ECEU Ceuta 3.52 143 Pn Pn 11 52 34.9 +1.5
ECEU Ceuta 3.52 143 ⇓Pn Pn 11 52 34.8 +1.5
ECEU Sn Sn 11 53 16.7 +2.2
ECEU Sg Sb 11 53 20.5 -3.2
CEU Ceuta 3.52 143 Pn Pn 11 52 35.2 +2.0
CEU Sn Sn 11 53 14.3 -0.1
EQTA Presa de Quent 3.89 112 Pn Pn 11 52 40.0 +1.5
EQUE Quentar 3.90 112 Pn Pn 11 52 40.3 +1.7
EQUE Sn Sn 11 53 25.4 +1.5
EQUE Sg Sg 11 53 40.0 -4.5
EQUE iVmb_Lg 11 53 53.1
ELGU Los Guajares, 3.92 117 Pn Pn 11 52 40.5 +1.6
ELGU Los Guajares, 3.92 117 Pn Pn 11 52 40.3 +2.0
ELGU Pg Pb 11 52 45.7 -2.4
ELGU Sn Sn 11 53 25.8 +1.3
ELGU Sg Sg 11 53 41.2 -4.1
ELGU iVmb_Lg 11 53 57.3
EQES Quesada 3.97 102 Pn Pn 11 52 39.1 -0.4
EQES Pg Pb 11 52 44.0 -4.9
EQES Sn Sn 11 53 25.6 -0.2
EQES Sg Sb 11 53 41.5 +4.8
EQES iVmb_Lg 11 53 59.6
UCM Universidad Co 3.97 65 Pn Pn 11 52 39.3 -0.2
UCM Sn Sn 11 53 24.0 -1.7
EAGO Agolada(Pontev 4.05 359 Pn Pn 11 52 40.2 -0.4
EAGO Sn Sn 11 53 22.4 -5.2
EAGO Sg Sb 11 53 42.3 +3.5
EBER Berja 4.42 113 Pn Pn 11 52 47.6 +1.7
EBER Berja 4.42 113 Pn Pn 11 52 48.2 +2.3
EBER Sn Sn 11 53 38.2 +1.1
EBER Sg Sb 11 53 53.1 +3.2
EBER iVmb_Lg 11 54 07.7
EPON Pontenova 4.61 7 Pn Pn 11 52 48.1 -0.2
EPON Sn Sn 11 53 40.0 -1.5
EPON Sg Sb 11 54 00.9 +5.8
EPON iVmb_Lg 11 54 11.4
PVLZ Peæn de 4.62 139 Pn Pn 11 52 49.1 +0.6
PVLZ Sn Sn 11 53 41.2 -0.6
EALB Alboran 4.83 124 Pn Pn 11 52 53.0 +1.7
EALB Sn Sn 11 53 45.3 -1.5
EALB Alboran 4.83 124 Sn Sn 11 53 49.5 +2.8
RTC Rabat Centre 4.84 169 Sn Sn 11 53 45.1 -1.9
ENIJ Nijar 4.89 110 Pn Pn 11 52 54.1 +1.9
ENIJ Nijar 4.89 110 Pn Pn 11 52 53.7 +1.5
ENIJ Sn Sn 11 53 51.8 +3.4
ENIJ Sg Sg 11 54 10.4 -6.1
EARI Arriondas 5.00 24 Pn Pn 11 52 54.0 +0.4
EARI Sn Sn 11 53 47.0 -4.0
EARI Sg Sb 11 54 11.4 +5.1
EARI iVmb_Lg 11 54 24.2
EZAR Zarzadilla de 5.01 98 Sn Sn 11 53 50.2 -1.2
EZAR Sg Sg 11 54 17.1 -3.1

ETOB Tobarra 5.02 89 Pn Pn 11 52 52.9 -1.1
ETOB Tobarra 5.02 89 Pn Pn 11 52 52.9 -1.1
ETOB Sg Sb 11 54 12.3 +5.3
ETOB iVmb_Lg 11 54 26.4
ELOR Lorca, Murcia 5.03 101 Sn Sn 11 53 48.9 -2.8
ELOR Sg Sb 11 54 13.5 +6.5
TLOR Lorca, Murcia 5.06 101 Pn Pn 11 52 54.9 +0.4
TLOR Lorca, Murcia 5.06 101 Sn Sn 11 53 52.4 -0.3
TLOR Sg Sg 11 54 16.5 -5.5
E1002 Yechar (Murcia 5.17 96 Sn Sn 11 53 52.7 -2.5
E1002 Sg Sg 11 54 22.9 -2.5
E001A Albudeite (Mur 5.22 96 Sn Sn 11 53 54.3 -2.1
E001A Sg Sg 11 54 24.2 -2.6
EMLI Melilla 5.29 129 Pn Pn 11 52 58.4 +0.8
EMLI Sn Sn 11 53 56.1 -2.0
EVIV Cofrentes, Val 5.36 82 Pn Pn 11 52 57.8 -0.9
EVIV Sn Sn 11 53 57.2 -2.8
EVIV Sg Sg 11 54 24.8 -6.6
EVIV iVmb_Lg 11 54 42.8
EMUR La Murta 5.37 98 Pn Pn 11 52 58.8 +0.1
EMUR La Murta 5.37 98 Pn Pn 11 52 58.3 -0.4
EMUR Sn Sn 11 54 00.6 +0.4
EMUR Sg Sg 11 54 25.6 -6.1
EMUR iVmb_Lg 11 54 39.5
AVE Averroes 5.46 175 Pn Pn 11 53 00.6 +0.6
AVE Averroes 5.46 175 Pn Pn 11 53 01.3 +1.3
AVE Sn Sn 11 54 00.8 -1.6
ECHE Chera 5.50 79 Pn Pn 11 52 59.9 -0.8
ECHE Chera 5.50 79 Pn Pn 11 52 59.8 -0.8
ECHE Sg Sb 11 54 26.1 +5.3
ECHE iVmb_Lg 11 54 41.7
CART Cartagena 5.61 100 Pn Pn 11 53 00.8 -1.2
CART Cartagena 5.61 100 Pn Pn 11 53 02.2 +0.2
CART Sg Sg 11 54 34.6 -4.8
ELAN Lanestosa 5.64 36 Pn Pn 11 53 02.2 -0.2
ELAN Sg Sb 11 54 31.6 +7.0
ELAN iVmb_Lg 11 54 49.2
CHAS Isla Isabel II 5.69 127 Pn Pn 11 53 02.8 -0.3
CHAS Sn Sn 11 54 04.6 -3.3
ETRV Los Montesinos 5.71 95 Sg Sg 11 54 37.7 -4.9
IFR Ifrane 5.71 155 Pn Pn 11 53 03.7 +0.2
IFR Sn Sn 11 54 04.5 -4.2
AFON Font Roja 5.81 89 Sg Sg 11 54 41.9 -3.9
EMOS Mosqueruela 6.01 72 Pn Pn 11 53 07.8 +0.1
EMOS Sg Sb 11 54 42.6 +7.1
EMOS iVmb_Lg 11 55 01.2
EBEN2 Beniarda presa 6.08 88 Sg Sg 11 54 47.9 -6.7
EARA Aranguren 6.29 48 Pn Pn 11 53 11.3 -0.1
EARA Sg Sg 11 54 55.0 -6.3
EARA iVmb_Lg 11 55 14.5
ESAC San Caprasio 6.46 60 Pn Pn 11 53 12.1 -1.6
ESAC Sg Sg 11 55 01.1 -5.4
ESAC iVmb_Lg 11 55 23.1
MDT Midelt 6.52 154 Pn Pn 11 53 14.8 +0.1
comp=E,20nm,0.3s,baz=328,slow=13,SNR=795
MDT Sn Sn 11 54 23.6 -5.1
comp=E,14nm,0.3s,baz=225,slow=20,SNR=5.5
EORO Oroz-Betelu 6.53 49 Pn Pn 11 53 14.8 +0.1
EORO Sn Sn 11 54 29.1 +0.4
EORO Sg Sb 11 54 57.6 +7.4
EORO iVmb_Lg 11 55 14.0
EALK Alkurruntz 6.62 46 Pn Pn 11 53 15.4 -0.5
EALK Sn Sn 11 54 25.5 -5.5
EALK Sg Sg 11 55 02.7 -9.2
EALK iVmb_Lg 11 55 20.7
USTO Oran 6.64 115 P Sn 11 54 32.0 +0.6
SJPF Ste Jean 6.71 47 ePn Pn 11 53 17.0 -0.1
SJPF eSn Sn 11 54 27.5 -5.6
comp=E,139nm,0.5s
SJPF eSg Sg 11 55 09.5 -5.1
comp=E,1µm,1.0s
ERTA Horta de San J 6.75 68 Pn Pn 11 53 16.9 -0.9
ERTA Sg Sg 11 55 08.9 -7.2
ERTA iVmb_Lg 11 55 22.9
ECOL Islas Columbre 6.80 78 Sg Sb 11 55 07.2 +9.1
ETSF Etsaut 6.98 51 ePn Pn 11 53 20.8 -0.1
ETSF Etsaut 6.98 51 eP Pn 11 53 24.4 +3.5
ETSF eSn Sn 11 54 33.2 -6.6
comp=E,124nm,0.6s
ETSF eSg Sg 11 55 17.7 -5.5
comp=E,393nm,0.8s
ODJA Bouhanifia 7.12 116 P Sn 11 54 36.0 -7.4
EIBI Ibiza 7.27 85 Sg Sb 11 55 20.2 +8.8
OKGL Djebel Kef Gue 7.37 109 P Sn 11 54 39.0 -10
EPOB Poblet 7.41 67 Pn Pn 11 53 25.2 -1.6
EPOB Sn Sn 11 54 45.5 -4.9
EPOB Sg Sg 11 55 31.3 -5.8
EPOB iVmb_Lg 11 55 54.5
EPF Esparros 7.61 53 ePn Pn 11 53 29.3 -0.2
EPF eSn Sn 11 54 49.3 -5.9
comp=E,78nm,0.4s
EPF eSg Sb 11 55 37.4 +16
comp=E,303nm,0.6s
TIO Tiouine 7.83 176 Pn Pn 11 53 33.1 +0.5
TIO Sn Sn 11 54 56.6 -4.4
EMIR Miracle 7.91 63 Pn Pn 11 53 32.5 -1.1
EMIR iVmb_Lg 11 55 58.5
ETOS Mallorca 8.43 80 Pn Pn 11 53 40.0 -0.7
MTLF Montolieu 8.95 56 ePn Pn 11 53 47.2 -0.7
MTLF eSn Sn 11 55 21.2 -7.1
comp=E,66nm,0.6s
MTLF eSg 11 56 19.3
comp=E,347nm,1.1s
LFF La Frestale 8.96 44 ePn Pn 11 53 46.6 -1.4
LFF eSn Sn 11 55 21.4 -7.1
comp=E,33nm,0.4s
LFF eSg 11 56 20.1
comp=E,194nm,0.8s
EJON La Jonquera 9.04 62 Pn Pn 11 53 47.6 -1.6
EJON La Jonquera 9.04 62 Pn Pn 11 53 47.7 -1.5
MAHO Mahon 9.55 79 Pn Pn 11 53 53.7 -2.3
RJF Les Rejaudoux 9.62 44 ePn Pn 11 53 55.3 -1.7
RJF eSn Sn 11 55 37.0 -7.7
comp=E,30nm,0.4s
RJF eSg 11 56 40.1
comp=E,128nm,0.8s
CAF Calviac 9.70 47 ePn Pn 11 53 56.4 -1.7
CAF Calviac 9.70 47 eP Pn 11 54 02.1 +4.0
CAF eSn Sn 11 55 38.7 -7.8
comp=E,70nm,0.7s
CAF eSg 11 56 42.5
comp=E,100nm,0.9s
MFF Saint Martin d 9.73 34 ePn Pn 11 53 57.1 -1.4
MFF eSn Sn 11 55 39.3 -7.9
comp=E,90nm,0.8s
QUIF Quistinic 9.80 19 ePn Pn 11 53 58.0 -1.5
QUIF eSn Sn 11 55 40.8 -8.3
comp=E,40nm,0.7s
ROSF Rostrenen 10.16 18 ePn Pn 11 54 02.9 -1.6
ROSF eSn Sn 11 55 49.5 -8.5
comp=E,85nm,0.8s
SGMF Saint Gilles 10.28 21 ePn Pn 11 54 04.2 -1.8
SGMF eSn Sn 11 55 52.1 -8.6
comp=E,83nm,0.9s
LASF Ste Croix 10.35 55 ePn Pn 11 54 05.3 -1.7
LASF eSn Sn 11 55 54.5 -8.0
LASF eSg 11 57 02.9
comp=E,124nm,0.8s
TCF Toulx Ste Croi 10.63 42 ePn Pn 11 54 09.3 -1.6
TCF Toulx Ste Croi 10.63 42 eP Pn 11 54 15.2 +4.3
TCF eSn Sn 11 56 01.1 -8.3
comp=E,39nm,0.4s
GRR Gorron 10.92 26 ePn Pn 11 54 12.6 -2.2
GRR eSn Sn 11 56 07.5 -9.0
comp=E,312nm,1.4s
BGF Bois d'Agland 11.14 42 ePn Pn 11 54 16.1 -1.7
BGF eSn Sn 11 56 13.2 -8.7
comp=E,66nm,0.4s
VIVF Saint-Julien-l 11.23 53 ePn Pn 11 54 17.5 -1.6
VIVF eSn Sn 11 56 15.3 -8.8
comp=E,19nm,0.5s
VIVF eSg 11 57 30.3
comp=E,99nm,0.9s
LDF La Druitiere 11.35 27 ePn Pn 11 54 19.2 -1.5
LDF eSn Sn 11 56 18.4 -8.7
comp=E,21nm,0.7s
SSB Saint Sauveur 11.36 51 Pn Pn 11 54 18.8 -2.1
FLN La Foliniere 11.37 26 ePn Pn 11 54 19.2 -1.7
baz=211
FLN eSn Sn 11 56 18.2 -9.3
comp=E,20nm,0.6s
SMRF Simiane la Rot 11.43 59 ePn Pn 11 54 20.6 -1.3

SMRF eSg 11 57 36.9
comp=E,238nm,1.3s
HYF Humbligny 11.51 39 ePn **Pn 11 54 21.3 -1.6**
HYF eSn Sn 11 56 22.1 -8.9
AVF Avril sur Loir 11.55 42 ePn **Pn 11 54 21.6 -1.9**
AVF eSn Sn 11 56 23.3 -8.7
AVF eSg 11 57 40.6
comp=E,112nm,1.2s
SMF Signal de Mont 11.72 44 ePn **Pn 11 54 23.9 -1.9**
SMF eSn Sn 11 56 27.3 -8.9
comp=E,9.8nm,0.4s
SMF eSg 11 57 46.0
comp=E,129nm,1.3s
SSF Saint Saulge 11.81 42 ePn **Pn 11 54 24.8 -2.2**
SSF eSn Sn 11 56 28.0 -10
comp=E,1.8nm,0.3s
SSF eSg 11 57 48.6
comp=E,139nm,1.3s
LMR La Mourre 11.85 63 ePn **Pn 11 54 25.6 -1.9**
LMR eSn Sn 11 56 30.8 -8.4
comp=E,206nm,1.6s
CLF Chambon-Foret 11.87 35 Pn **Pn 11 54 24.8 -3.0**
ORIF Oris-en-Rattie 12.02 55 ePn **Pn 11 54 28.7 -1.2**
ORIF eSn Sn 11 56 33.7 -10
ORIF eSg 11 57 56.8
comp=E,49nm,1.0s
LOR Lormes 12.13 42 ePn **Pn 11 54 28.9 -2.4**
baz=230
LOR eSn Sn 11 56 36.6 -9.5
comp=E,10nm,0.4s
MBDF Montbardon 12.52 57 ePn **Pn 11 54 35.6 -1.2**
MBDF eSn Sn 11 56 46.0 -10
comp=E,114nm,1.5s
BNI Bardonecchia 12.59 55 Pn **Pn 11 54 36.4 -1.4**
SBF Sospel 12.65 61 ePn **Pn 11 54 37.5 -1.1**
SBF eSg 11 58 15.0
comp=E,68nm,1.0s
LPL La Plagne 12.82 53 ePn **Pn 11 54 39.2 -1.9**
LPL eSg 11 58 20.5
comp=E,123nm,1.6s
LPG La Plagne 12.83 54 ePn **Pn 11 54 40.0 -1.2**
LPG eSg 11 58 20.8
comp=E,8.5nm,0.2s
CABF La Chapelle 12.97 48 ePn **Pn 11 54 41.1 -1.8**
CABF eSn Sn 11 56 57.4 -9.4
comp=E,23nm,0.9s
CABF eSg 11 58 24.7
comp=E,178nm,1.3s
SFTF Sexfontaines 13.34 41 ePn **Pn 11 54 46.1 -1.8**
SFTF eSn Sn 11 57 05.9 -10
comp=E,20nm,0.6s
PGF Pioggiola 13.43 68 ePn **Pn 11 54 47.2 -2.0**
PGF eSn Sn 11 57 08.4 -10
comp=E,28nm,0.9s
MEZF Maizieres J'vi 13.54 40 ePn **Pn 11 54 48.8 -1.8**
MEZF eSn Sn 11 57 10.6 -10
comp=E,14nm,0.4s
SENIN Lac Senin/Sane 13.57 51 Pn **Pn 11 54 50.1 -1.1**
HAU Haudompre 13.90 44 eSn Sn 11 57 19.4 -10
comp=E,8.1nm,0.5s
HINF Hinteralfeld 14.07 45 eSn Sn 11 57 23.3 -10
comp=E,0.9nm,0.3s
KEST Kesra 14.12 97 Pn **Pn 11 54 58.3 -0.4**
KEST Kesra 14.12 97 Pn **Pn 11 54 56.9 -1.8**
comp=E,0.1nm,0.3s,baz=272,slow=18,SNR=1.6
KEST Lg Lg 11 59 05.3
comp=E,0.6nm,0.3s,baz=18,slow=21,SNR=6.9
KEST LR LR 11 59 45.2
comp=E,226nm,19.0s,baz=257,slow=34
comp=E,1.5nm,0.5s
MSSA Maissana 14.22 61 Pn **Pn 11 54 59.4 -0.6**
BAIF Baives 14.24 34 ePn **Pn 11 54 58.0 -2.2**
BAIF eSn Sn 11 57 27.1 -11
comp=E,9.8nm,0.4s
DOU Dourbes 14.44 34 dP **Pn 11 55 01.1 -1.8**
ECH Echery 14.47 44 Pn **Pn 11 55 01.4 -1.9**
GIVF Givet 14.54 35 ePn **Pn 11 55 03.2 -1.1**
GIVF eSn Sn 11 57 34.4 -11
comp=E,27nm,0.6s
BMRD Maredsous 14.66 34 dP **Pn 11 55 03.6 -2.3**
BMRD dPP **PnPn 11 55 13.4 -0.5**
RCHB Rochefort 14.76 35 dP **Pn 11 55 07.2 -0.1**
WLF Walferdange 14.86 38 Pn **Pn 11 55 05.3 -3.2**
WLF Walferdange 14.86 38 dP **Pn 11 55 06.2 -2.4**
WLF dPP **P 11 55 13.9 -0.3**
BGES Gesves 14.87 34 dP **Pn 11 55 06.5 -2.1**
BCLA Clavier 14.99 35 dPP **PbPb 11 55 59.2 -0.5**
BHOU Houvegnez 15.26 36 dP **Pn 11 55 12.4 -1.5**
DAVOX Davos/Dischmat 15.34 53 Pn **Pn 11 55 16.0 +0.8**
comp=E,0.2nm,0.3s,baz=285,slow=16,SNR=4.0
DAVOX LR LR 12 01 31.5
comp=E,225nm,18.5s,baz=252,slow=39
comp=E,3.3nm,0.9s
MEM Membach 15.44 35 dP **Pn 11 55 15.0 -1.3**
FUORN Ofenpass-Fuorn 15.52 54 Pn **Pn 11 55 17.6 0.0**
DAVA Damuels 15.57 51 ePn **Pn 11 55 20.2 +2.1**
comp=E,18nm,1.0s
FETA Feichten 15.97 53 ePn **P 11 55 25.7 -1.2**
comp=E,9.9nm,1.0s
RETA Reutte 16.19 51 ePn **P 11 55 28.2 -0.9**
comp=E,11nm,1.0s
CTI Castel Tesino 16.20 57 Pn **Pn 11 55 25.9 -0.3**
MOTA Moosalm 16.34 52 *i* Pn **Pn 11 55 29.1 +1.0**
comp=E,5.1nm,0.8s
SQTA Sankt Quirin 16.35 53 ePn **Pn 11 55 28.5 +0.3**
comp=E,10nm,1.0s
WATA Walderalm 16.63 53 ePn **Pn 11 55 31.7 0.0**
comp=E,8.2nm,0.9s
WTTA Wattenberg 16.64 53 ePn **Pn 11 55 33.1 +1.2**
comp=E,9.5nm,0.8s
CIMO Cimolais 16.80 57 **Pn 11 55 33.0 -0.8**
CIMO IAmb IAmb 11 55 38.7
comp=Z,20nm,1.4s
EKA Eskdalemuir Ar 16.90 9 Pn **P 11 55 37.6 +0.7**
baz=176,slow=12
comp=Z,0.4nm,0.3s
STAL STALIGIAL 16.96 57 **Pn 11 55 36.4 +0.6**
STAL IAmb IAmb 11 55 40.3
comp=Z,15nm,1.1s
ABTA Abfaltersbach 17.00 55 ePn **P 11 55 38.8 +0.7**
comp=Z,7.1nm,0.8s
CLUD Cludinico 17.14 57 **Pn 11 55 38.6 +0.6**
CLUD IAmb IAmb 11 55 51.6
comp=Z,16nm,0.9s
LESA Schwarzleotal 17.35 53 *i* Pn **P 11 55 43.5 +1.4**
comp=Z,14nm,0.9s
KBA Koelnbreinsper 17.65 55 *i* Pn **P 11 55 46.9 +1.5**
comp=Z,6.6nm,1.0s
MYKA Terra Mystica 17.69 57 ePn **P 11 55 47.7 +1.9**
comp=Z,0.2nm,0.3s
GERES GERESS Array B 18.55 50 P **P 11 55 53.9 -1.4**
GERES GERESS Array B 18.55 50 P **Pn 11 55 56.4 +0.8**
comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=7.6
GERES LR LR 12 02 43.8
comp=Z,225nm,18.7s,baz=262,slow=36
comp=Z,2.6nm,0.9s
KHC Kasperske Hory 18.60 49 P **P 11 55 54.7 -1.0**
KHC Kasperske Hory 18.60 49 ePn **Pn 11 55 57.0 +1.0**
SOKA Soboth 18.62 57 *i* Pn **Pn 11 55 58.1 +1.7**
comp=Z,11nm,0.8s
CEL Celeste 18.67 84 P **P 11 55 55.7 -0.9**
CEL IAmb IAmb 11 56 25.4
comp=Z,16nm,1.2s
ARSA Arzberg 19.11 56 ePn **P 11 56 01.4 +0.1**
comp=Z,1.0nm,0.4s
TIP Timpagrande 19.22 81 P **P 11 56 02.0 -0.6**
TIP IAmb IAmb 11 56 20.1
comp=Z,14nm,1.2s
RONA Rosalia, Austr 19.75 55 ePn **P 11 56 08.3 0.0**
comp=Z,6.8nm,0.8s
KRUC Moravsky 20.27 52 ePN **P 11 56 14.8 +0.9**
VRAC Vranov 20.48 51 ePN Pn 11 56 17.5 -0.9
VRAC Vranov 20.48 51 P Pn 11 56 17.6 -0.8
comp=Z,5.7nm,0.6s,baz=238,slow=10,SNR=6.4
VRAC LR LR 12 04 35.4
comp=Z,159nm,20.5s,baz=289,slow=38
comp=Z,5.7nm,0.6s
MODS Modra-Piesok 20.58 54 ePn Pn 11 56 19.7 0.0
MORC Moravsky Berou 21.23 50 P **P 11 56 23.5 -0.9**
MORC Moravsky Berou 21.23 50 ePN **P 11 56 22.4 -2.0**
PUK Puka 21.43 72 P **P 11 56 25.4 -1.2**
LANS Liptovska Anna 22.20 53 eP **P 11 56 36.2 +1.4**
NOA NORSAR Array B 25.31 22 LR LR 12 07 54.4
comp=Z,96nm,19.3s,baz=335,slow=38
HFS Hagfors 25.39 26 P **P 11 57 06.9 +1.4**
comp=Z,4.8nm,0.8s,baz=199,slow=7.6,SNR=2.5
HFS LR LR 12 08 10.5
comp=Z,326nm,19.2s,baz=4.0,slow=39
comp=Z,4.8nm,0.8s
BUR08 Bucovina Ar. S 25.60 59 P **P 11 57 04.2 -3.5**
BURAR Bucovina Array 25.60 59 P **P 11 57 06.5 -1.2**
IDI Anoyia 26.38 87 LR LR 12 07 36.5
comp=Z,37nm,18.8s,baz=286,slow=36
TOAO Torodi Ar. Sit 26.90 159 P **P 11 57 19.7 +0.1**
TORD Torodi Ar. Bea 26.90 159 P **P 11 57 19.6 0.0**
TORD IAmb IAmb 11 57 42.7
comp=Z,7.6nm,1.1s
TORD Torodi Ar. Bea 26.90 159 P **P 11 57 20.2 +0.6**
comp=Z,1.0nm,0.8s,baz=354,slow=10,SNR=3.5
comp=Z,1.0nm,0.8s
NACGM Naroch 28.36 44 eP P 11 57 39.1 +6.8
comp=E,725nm,0.8s
AKASG Malin Array Be 28.69 53 LR LR 12 09 15.2
comp=E,194nm,20.9s,baz=316,slow=37
FINES FINESS Array B 30.90 32 P **P 11 57 54.8 0.0**
comp=E,3.8nm,0.9s,baz=226,slow=7.7,SNR=5.1
comp=E,3.8nm,0.9s
BRTR Keskin Array B 32.03 75 LR LR 12 10 33.8
comp=E,106nm,19.9s,baz=310,slow=36
ARCES ARCESS Array B 35.61 19 P **P 11 58 36.3 +0.5**
comp=E,2.0nm,0.8s,baz=228,slow=10,SNR=1.4
comp=E,2.0nm,0.8s
ABKAR Akbulak array 48.42 54 P **P 12 00 19.9 -0.6**
KK31 Karatay Array 57.40 58 P **P 12 01 26.7 -0.2**
KK31 IAmb IAmb 12 02 06.9
comp=Z,1.4nm,1.0s
KKAR Karatay Array 57.40 58 P **P 12 01 27.1 +0.2**
KKAR IAmb IAmb 12 02 06.9
comp=Z,1.4nm,1.0s
KURBB Kurchatov Arra 59.27 48 P **P 12 01 40.2 +0.5**
comp=Z,0.8nm,0.8s,baz=294,slow=7.7,SNR=4.3
comp=Z,0.8nm,0.8s
AAK Ala Archa 60.24 57 LR LR 12 31 51.8
comp=Z,88nm,19.5s,baz=326,slow=40
ZALV Zalesovo Beam 61.29 42 P **P 12 01 53.5 -0.1**
comp=Z,0.4nm,0.4s,baz=293,slow=7.4,SNR=2.1
comp=Z,0.4nm,0.4s
MKAR Makanchi Array 63.22 50 P **P 12 02 08.0 +1.3**
comp=Z,0.3nm,0.6s,baz=292,slow=3.9,SNR=2.6
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 63.37 330 P **P 12 02 09.8 +2.5**
comp=Z,0.2nm,0.7s,baz=57,slow=7.2,SNR=3.4
comp=Z,0.2nm,0.7s
LSZ Lusaka 63.51 140 LR LR 12 33 44.4
comp=Z,81nm,18.8s,baz=110,slow=40
WMQ Urumqi 68.02 51 eP **P 12 02 39.5 +1.7**
LBTB Lobatse 70.79 148 LR LR 12 34 38.7
comp=Z,71nm,18.6s,baz=186,slow=36
ILAR Eielson Array 71.90 343 P **P 12 03 01.9 +0.7**
comp=Z,0.1nm,0.6s,baz=31,slow=4.5,SNR=1.5
comp=Z,0.1nm,0.6s
PDAR Pinedale Array 72.18 311 P **P 12 03 03.0 -0.5**
comp=Z,0.4nm,0.6s,baz=83,slow=4.8,SNR=3.1
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 76.35 297 P **P 12 03 28.6 +0.7**
comp=Z,0.3nm,0.9s,baz=54,slow=6.8,SNR=2.4
comp=Z,0.3nm,0.9s
HHC Hu-ho-hao-te 83.46 42 eP **P 12 04 04.3 -1.9**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,240nm,5.7s
PZH PanZhiHua 87.69 58 P **P 12 04 27.1 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.0s
CMAR Chiang Mai Arr 91.13 65 P **P 12 04 45.4 +1.8**
comp=Z,0.2nm,0.3s,baz=308,slow=4.4,SNR=4.1
comp=Z,0.2nm,0.3s
WRA Warramunga Arr 142.51 71 PKP **PKPdf 12 11 11.4 -0.3**
comp=Z,0.5nm,0.8s,baz=310,slow=3.9,SNR=3.1
ASAR Alice Springs 144.37 76 PKP **PKPdf 12 11 14.2 -0.6**
comp=Z,1.7nm,0.9s,baz=329,slow=1.6,SNR=10

*GCMT **15** 12:16:35.0±0.4, 15.93S±0.02×178.64W±0.02, h12km, MW4.8/68, Moment Tensor Solution. s19,c21; s68,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.77±.11; $M_{\theta\theta}$-2.06±.10; $M_{\phi\phi}$ 1.29±.08; $M_{r\theta}$-0.66±.29; $M_{\theta\phi}$0.87±.09; $M_{\phi r}$0.63±.27; Best double couple: $M_0$2.11100×10^{16} NP1:ϕ324.00000°, δ80.00000°, λ149.00000°. NP2: ϕ60.00000°, δ59.00000°, λ11.00000°. Principal axes: T 1.7530, Plg29.0000°, Azm277.0000°; N 0.7130, Plg57.0000°, Azm128.0000°; P -2.4690, Plg14.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

*IDC **15** 12:16:50.5±10.0, 16.23S×178.84W, h189km±102km, mb3.6/8, mbtmp4.1/9, MS3.9/35 Error ellipse: s-maj=89.5km s-min=25.4km az=151.0*

ISC 15 12:16:30.3±1.4, 16.05S±0.6×178.7W±0.4, h10km, n37, σ1 22/9, mb4.2/8, MS3.9/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.21**	**177**	LR	LR	12 23 53.8	
	comp=Z,699nm,21.3s,baz=115,slow=33						
DZM	**Mont Dzumac**	**15.32**	**244**	P	**P**	**12 20 13.9**	**+2.3**
	5.0nm,1.0s,baz=223,slow=24,SNR=3.0						
DZM				LR	LR	12 25 22.5	
	comp=Z,137nm,19.2s,baz=46,slow=34						
RAR	**Rarotonga**	**18.63**	**109**	LR	LR	12 25 55.0	
	comp=Z,573nm,21.6s,baz=258,slow=29						
URZ	**Urewera**	**22.49**	**189**	LR	LR	12 29 18.1	
	comp=Z,492nm,18.3s,baz=281,slow=34						
PPT	**Papete**	**27.88**	**97**	LR	LR	12 30 40.5	
	comp=Z,119nm,20.9s,baz=252,slow=30						
RPZ	**Rata Peaks**	**28.98**	**195**	LR	LR	12 31 48.2	
	comp=Z,233nm,21.9s,baz=15,slow=31						
CTA	**Charters Tower**	**33.57**	**258**	LR	LR	12 35 19.5	
	comp=Z,226nm,19.1s,baz=86,slow=33						
PMG	**Port Moresby**	**33.95**	**277**	LR	LR	12 35 51.2	
	comp=Z,105nm,18.5s,baz=86,slow=34						
STKA	**Stephens Creek**	**39.37**	**229**	P	**P**	**12 23 59.4**	**-0.8**
	4.8nm,1.1s,baz=59,slow=12,SNR=3.6						
STKA				LR	LR	12 38 24.4	
	comp=Z,180nm,20.9s,baz=63,slow=33						
	4.8nm,1.1s						
WRA	**Warramunga Arr**	**44.77**	**258**	P	**P**	**12 24 43.6**	**-0.9**
	3.9nm,1.1s,baz=89,slow=8.1,SNR=8.8						
	3.9nm,1.1s						
ASAR	**Alice Springs**	**45.10**	**252**	P	**P**	**12 24 46.5**	**-0.7**
	6.5nm,0.9s,baz=83,slow=8.6,SNR=40						
ASAR				LR	LR	12 42 24.7	
	comp=Z,262nm,19.4s,baz=107,slow=34						
	6.5nm,0.9s						
GUMO	**Guam**	**46.52**	**307**	LR	LR	12 43 04.6	
	comp=Z,76nm,20.5s,baz=120,slow=34						
DAV	**Davao City (W)**	**59.76**	**288**	LR	LR	12 52 33.7	
	comp=Z,59nm,18.0s,baz=106,slow=36						
NWAO	**Narrogin (SRO)**	**59.91**	**241**	LR	LR	12 50 30.0	
	comp=Z,142nm,20.9s,baz=64,slow=34						
KAPI	**Kappang**	**61.34**	**273**	LR	LR	12 54 01.2	
	comp=Z,18nm,18.0s,baz=64,slow=36						
RPN	**Rapa Nui**	**64.73**	**113**	LR	LR	12 47 47.7	
	comp=Z,78nm,21.8s,baz=245,slow=29						
MJAR	**Matsushiro Arr**	**66.24**	**323**	LR	LR	12 51 18.0	
	comp=Z,54nm,20.3s,baz=110,slow=31						
JOW	**Kunigami**	**66.83**	**309**	LR	LR	12 50 07.0	
	comp=Z,52nm,21.8s,baz=125,slow=30						
JNU	**Natatsue**	**68.60**	**316**	LR	LR	12 53 20.3	
	comp=Z,57nm,19.2s,baz=344,slow=32						
SHEM	**Shemya Is, Ala**	**68.73**	**355**	LR	LR	12 50 45.8	
	comp=Z,62nm,20.8s,baz=302,slow=30						
PETK	**Petropavlovsk-**	**71.78**	**345**	LR	LR	12 58 42.7	
	comp=Z,27nm,18.2s,baz=314,slow=35						
QSPA	**South Pole Qui**	**74.05**	**180**	LR	LR	12 58 00.9	
	comp=Z,80nm,18.5s,baz=74,slow=34						
KDAK	**Kodiak Island**	**76.62**	**14**	LR	LR	12 54 19.6	
	comp=Z,104nm,21.0s,baz=171,slow=29						
PFO	**Pinyon Flats O**	**77.09**	**49**	LR	LR	12 58 35.2	
	comp=Z,100nm,19.1s,baz=300,slow=32						
YBH	**Yreka Blue Hor**	**77.21**	**39**	P	**P**	**12 28 25.7**	**+1.0**
	1.9nm,0.8s,baz=270,slow=4.0,SNR=4.1						
YBH				LR	LR	12 54 34.3	
	comp=Z,162nm,19.7s,baz=268,slow=29						
	1.9nm,0.8s						
LPIG	**La Paz**	**77.70**	**60**	LR	LR	12 55 13.2	
	comp=Z,77nm,19.7s,baz=338,slow=30						
NVAR	**Mina Array Bea**	**78.23**	**44**	P	**P**	**12 28 31.3**	**+0.6**
	1.3nm,1.0s,baz=229,slow=9.2,SNR=6.9						
	1.3nm,1.0s						
KLR	**Kul'dur**	**78.35**	**329**	LR	LR	12 56 23.8	
	comp=Z,46nm,21.1s,baz=156,slow=30						
BBB	**Bella Bella**	**80.77**	**29**	LR	LR	12 56 49.3	
	comp=Z,141nm,19.3s,baz=210,slow=30						
ELK	**Elko**	**81.44**	**43**	LR	LR	13 01 26.3	
	comp=Z,100nm,19.2s,baz=292,slow=33						
ILAR	**Eielson Array**	**84.09**	**13**	P	**P**	**12 29 00.8**	**-0.1**
	2.2nm,1.2s,baz=220,slow=3.4,SNR=9.5						
ILAR				LR	LR	13 03 09.3	
	comp=Z,68nm,18.4s,baz=231,slow=33						
	2.2nm,1.2s						
NEW	**Newport**	**84.12**	**36**	LR	LR	13 01 15.3	
	comp=Z,100nm,18.7s,baz=228,slow=32						
DLBC	**Dease Lake**	**84.18**	**23**	LR	LR	13 05 24.1	
	comp=Z,186nm,18.3s,baz=273,slow=34						
TXAR	**Lajitas Array**	**85.19**	**58**	P	**P**	**12 29 07.3**	**-0.1**
	0.3nm,0.8s,baz=225,slow=5.0,SNR=3.0						
TXAR				LR	LR	13 02 31.5	
	comp=Z,47nm,19.4s,baz=352,slow=32						
	0.3nm,0.8s						
MAW	**Mawson**	**85.57**	**200**	LR	LR	13 05 05.9	
	comp=Z,104nm,18.1s,baz=96,slow=34						
PDAR	**Pinedale Array**	**86.14**	**44**	P	**P**	**12 29 11.5**	**-0.5**
	0.9nm,1.1s,baz=337,slow=4.3,SNR=4.0						
PDAR				LR	LR	13 00 41.4	
	comp=Z,66nm,19.9s,baz=287,slow=30						
	0.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**88.02**	**290**	LR	LR	13 08 31.7	
	comp=Z,29nm,18.8s,baz=110,slow=35						

IDC 15 12:20:49.3±2.0, 14.41S×179.94E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=137.4km s-min=25.4km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.82**	**256**	P	P	12 28 57.7	+0.2
	1.1nm,1.0s,baz=88,slow=8.4,SNR=4.8						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**44.32**	**251**	P	P	12 29 01.2	-0.3
	2.2nm,0.9s,baz=84,slow=8.6,SNR=15						
	2.2nm,0.9s						
NVAR	**Mina Array Bea**	**78.05**	**45**	P	P	12 32 51.6	+1.3
	0.8nm,0.9s,baz=241,slow=5.6,SNR=3.6						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**82.87**	**14**	P	P	12 33 14.6	-0.8
	0.7nm,1.1s,baz=218,slow=5.7,SNR=2.8						
	0.7nm,1.1s						
TXAR	**Lajitas Array**	**85.49**	**58**	P	P	12 33 28.9	-0.8
	0.3nm,0.8s,baz=238,slow=7.2,SNR=3.8						
	0.3nm,0.8s						

*SOME **15** 12:21:32.9, 42.07N×83.72E, h15km*
*NNC **15** 12:21:36.0±2.5, 42.12N×83.57E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=19.8km s-min=12.2km az=164.0*

ISC 15 12:21:39.8±2.1, 42.33N±0.10×83.40E±0.07, h10km, n33, σ2 18/46, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.50**	**297**	Pg	**Pb**	**12 22 23.5**	**-1.5**
	4.1nm,0.2s						
KTMS				Lg	Lg	12 23 01.2	
	24nm,0.3s						
KTMS	**Ketmen**	**2.50**	**297**	eP	**Pb**	**12 22 24.1**	**-0.8**
	4.1nm,0.2s						
KTMS				eS	**Sg**	**12 23 01.2**	**+1.0**
	24nm,0.3s						
SHLS	**Shalkode**	**3.02**	**287**	Pg	**Pn**	**12 22 29.5**	**+1.8**
	28nm,0.3s						
SHLS				Lg	Lg	12 23 10.3	
	50nm,0.4s						
SHLS	**Shalkode**	**3.02**	**287**	eP	**Pn**	**12 22 29.6**	**+1.8**
	28nm,0.3s						
SHLS				eS	**Sb**	**12 23 10.3**	**-0.3**
	50nm,0.4s						
PDGK	**Podgornoye**	**3.05**	**290**	Pg	**Pb**	**12 22 33.8**	**-0.3**
	1.4nm,0.3s						
PDGK				Lg	Lg	12 23 17.7	
	15nm,0.2s						
PDGK	**Podgornoye**	**3.05**	**290**	⇑Pg	**Pg**	**12 22 38.2**	**+0.1**
	4.6nm,0.6s						
PDGK				⇓Lg	Lg	12 23 19.0	
	15nm,0.4s						
DJR	**Jarkent**	**3.31**	**308**	Pg	**Pb**	**12 22 38.8**	**+0.2**
	6.7nm,0.4s						
DJR				Lg	Lg	12 23 27.2	
	11nm,0.3s						
DJR	**Jarkent**	**3.31**	**308**	eP	**Pb**	**12 22 39.3**	**+0.6**
	2.8nm,0.2s						
DJR				eS	**Sg**	**12 23 27.2**	**+1.2**
	11nm,0.3s						
UZB	**Uzunbulak**	**3.33**	**286**	Pg	**Pb**	**12 22 39.4**	**+0.4**
	3.5nm,0.3s						
UZB				Lg	Lg	12 23 27.2	
	20nm,0.3s						
UZB	**Uzunbulak**	**3.33**	**286**	eP	**Pb**	**12 22 39.4**	**+0.4**
	3.5nm,0.3s						
UZB				eS	**Sg**	**12 23 27.2**	**+0.5**
	20nm,0.3s						
KNOS	**Konyrlen**	**3.69**	**305**	Pg	**Pg**	**12 22 50.6**	**+0.2**
	9.2nm,0.3s						
KNOS				Lg	Lg	12 23 46.7	
	18nm,0.2s						
SATY	**Saty**	**3.75**	**283**	Pg	**Pb**	**12 22 45.2**	**-1.0**
	4.0nm,0.2s						
SATY				Lg	Lg	12 23 37.2	
	10nm,0.2s						
SATY	**Saty**	**3.75**	**283**	eP	**Pb**	**12 22 45.2**	**-1.0**
	4.0nm,0.2s						
SATY				eS	**Sg**	**12 23 37.2**	**-3.2**
	10nm,0.2s						
BLB	**Baldybastay**	**4.01**	**298**	Pg	**Pb**	**12 22 51.1**	**+0.5**
	8.6nm,0.5s						
BLB				Lg	Lg	12 23 48.0	
	5.3nm,0.2s						
KURS	**Kuram**	**4.01**	**289**	Pg	**Pg**	**12 22 55.0**	**-1.7**
	4.8nm,0.7s						
KURS				Lg	Lg	12 23 54.1	
	6.6nm,0.6s						
KURS	**Kuram**	**4.01**	**289**	eP	**Pb**	**12 22 50.7**	**0.0**
	4.4nm,0.6s						
KURS				eS	**Sg**	**12 23 46.9**	**-1.8**
	4.5nm,0.3s						
KAPS	**Kapalarasan**	**4.16**	**317**	Pg	**Pg**	**12 22 56.4**	**-3.1**
	3.7nm,0.6s						
KAPS				Lg	Lg	12 23 56.5	
	9.4nm,0.4s						
KAPS	**Kapalarasan**	**4.16**	**317**	eP	**Pg**	**12 22 56.4**	**-3.1**
	3.7nm,0.6s						
KAPS				eS	**Sg**	**12 23 56.5**	**+3.2**
	9.4nm,0.4s						
MK31	**Makanchi Array**	**4.53**	**350**	Pn	**Pn**	**12 22 50.1**	**+1.6**
	baz=153,slow=14,SNR=44						
MK31				⇑Pg	**Pg**	**12 23 03.6**	**-3.0**
	4.4nm,0.5s,baz=172,slow=18,SNR=18						
MK31				⇑Lg	Lg	12 24 09.4	
	22nm,0.6s,baz=171,slow=29,SNR=11						
KOTS	**Kotyrbulak**	**4.72**	**283**	Pg	**Pg**	**12 23 07.2**	**-3.0**
	4.1nm,0.3s						
KOTS				Lg	Lg	12 24 15.3	
	18nm,0.3s						
KOTS	**Kotyrbulak**	**4.72**	**283**	eP	**Pb**	**12 23 04.7**	**+2.0**
	3.3nm,0.2s						
KOTS				eS	**Sg**	**12 24 10.6**	**-0.7**
	12nm,0.3s						
MDOK	**Medeo**	**4.75**	**282**	Pg	**Pb**	**12 23 05.8**	**+2.5**
	2.1nm,0.3s						
MDOK				Lg	Lg	12 24 12.5	
	4.6nm,0.4s						
MDOK	**Medeo**	**4.75**	**282**	eP	**Pb**	**12 23 05.8**	**+2.5**
	2.1nm,0.3s						
MDOK				eS	**Sg**	**12 24 12.4**	**0.0**
	4.6nm,0.4s						
TNSS	**Tian-Shan**	**4.81**	**281**	eP	**Pg**	**12 23 08.8**	**-3.2**
	2.8nm,0.3s						
TNSS				eS	**Sg**	**12 24 17.8**	**+3.5**
	2.1nm,0.6s						
CHKK	**Chushkaly**	**4.94**	**290**	Pg	**Pb**	**12 23 08.1**	**+1.8**
	0.8nm,0.2s						
CHKK				Lg	Lg	12 24 17.1	
	7.5nm,0.4s						
CHKK	**Chushkaly**	**4.94**	**290**	eP	**Pb**	**12 23 08.1**	**+1.8**
	0.8nm,0.2s						
CHKK				eS	**Sg**	**12 24 17.1**	**-1.2**
	7.5nm,0.4s						

KTBS	**Karatobe**	**5.12 288**		Pg	**Pg**	**12 23 13.7**	**-4.1**
	1.3nm,0.4s							
KTBS				Lg	Lg	12 24 26.2		
	14nm,0.6s							
KTBS	**Karatobe**	**5.12 288**	*eP*		**Pg**	**12 23 13.7**	**-4.1**
	1.3nm,0.4s							
KTBS			*eS*		**Sg**	**12 24 26.2**	**+2.1**
	14nm,0.6s							
ZSN	**Zaisan**	**5.22 11**		Pg	**Pb**	**12 23 13.1**	**+1.9**
	5.8nm,0.5s							
ZSN				Lg	Lg	12 24 24.9		
	14nm,0.7s							
ZSN	**Zaisan**	**5.22 11**	*eP*		**Pb**	**12 23 13.1**	**+1.9**
	5.8nm,0.5s							
ZSN			*eS*		**Sg**	**12 24 24.9**	**-2.5**
	14nm,0.7s							
KST	**Kastek**	**5.53 280**	*eP*		**Pg**	**12 23 22.1**	**-3.6**
	2.5nm,0.5s							
KST			*eS*		**Sg**	**12 24 40.9**	**+3.6**
	5.0nm,0.4s							
KURBB	**Kurchatov Arra**	**8.95 340**	⇑Lg		Lg	12 26 23.6		
	5.4nm,0.7s							
KURK	**Kurchatov**	**9.01 340**	⇑Lg		Lg	12 26 25.6		
	2.0nm,0.6s							

IDC ***15*** *12:49:45.8±1.5, 14°.23S×170°.28E, h611km±17km, mb3.6/19, mbtmp4.5/20, Error ellipse: s-maj=15.9km s-min=11.6km az=104.0*
NEIC ***15*** *12:49:47.3±1.5, 14°.3S±0°.1×170°.3E±0°.1, h627km±8km, mb4.5/71, Error ellipse: s-maj=15.6km s-min=14.8km az=104.0*
NOU ***15*** *12:49:47.1, 14°.24S×170°.19E, h625km, mb4.7/64, Vanuatu Islands Region*

ISC 15 12:49:45.3±0.4, 14°.21S±0°.06×170°.21E±0°.06, h600km, n182, σ1§30/182, mb4.5/59, 1D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**7.12 203**		P	**P**	**12 51 38.1**	**+1.7**
LIFNC	**LIFOU**	**7.12 203**		P	**P**	**12 51 38.2**	**+1.8**
YSA	**Yasawairara**	**7.52 110**		P	**P**	**12 51 43.0**	**+2.9**
MARNC	**Mare, Loyalty**	**7.53 196**		P	**P**	**12 51 41.8**	**+1.7**
MARNC	**Mare, Loyalty**	**7.53 196**		P	**P**	**12 51 41.8**	**+1.7**
YATNC	**Mamie plateau,**	**8.43 202**		P	**P**	**12 51 50.5**	**+1.9**
KOUNC	**Koumac, New Ca**	**8.47 221**		P	**P**	**12 51 51.9**	**+2.8**
KOUNC	**Koumac, New Ca**	**8.47 221**		P	**P**	**12 51 52.8**	**+3.7**
DZM	**Mont Dzumac**	**8.60 204**		P	**P**	**12 51 53.0**	**+2.5**
DZM	**Mont Dzumac**	**8.60 204**		P	**P**	**12 51 53.1**	**+2.7**
	38nm,0.4s,baz=46,slow=8.1,SNR=92						
PINNC	**Pines Island,**	**8.77 197**		P	**P**	**12 51 54.5**	**+2.6**
PINNC	**Pines Island,**	**8.77 197**		P	**P**	**12 51 54.6**	**+2.7**
OUENC	**Ouen Island, N**	**8.77 201**		P	**P**	**12 51 54.7**	**+2.7**
OUENC	**Ouen Island, N**	**8.77 201**		P	**P**	**12 51 54.9**	**+2.9**
ONTNC	**Ouen Toro**	**8.81 203**		P	**P**	**12 51 54.5**	**+2.1**
DGTI	**Dogotuki**	**9.42 104**		P	**P**	**12 52 00.3**	**+1.9**
HNR	**Honiara**	**11.11 294**		P	**P**	**12 52 16.8**	**+1.6**
HNR	**Honiara**	**11.11 294**		P	**P**	**12 52 16.5**	**+1.2**
	2µm,0.5s,baz=146,slow=12,SNR=24						
HNR				S	**S**	**12 54 20.2**	**+1.8**
	254nm,0.4s,baz=144,slow=22,SNR=1.3						
TARA	**Tarawa**	**15.69 10**		P	**P**	**12 53 00.8**	**+0.9**
AFI	**Afiamalu**	**17.48 91**		P	**P**	**12 53 16.8**	**+0.5**
AFI	**Afiamalu**	**17.48 91**		P	**P**	**12 53 18.4**	**+2.1**
NIUE	**Niue**	**19.63 107**		P	**P**	**12 53 36.1**	**+0.3**
NIUE	**Niue**	**19.63 107**		P	**P**	**12 53 37.4**	**+1.6**
EIDS	**Eidsvold**	**21.12 235**		P	**P**	**12 53 49.4**	**+0.2**
EIDS				IAmb	IAmb	12 54 06.0	
	comp=Z,9.8nm,0.6s						
EIDS	**Eidsvold**	**21.12 235**		P	**P**	**12 53 49.5**	**+0.3**
TV1H	**Townsville Har**	**22.97 254**		P	**P**	**12 54 06.6**	**+0.9**
PMG	**Port Moresby**	**23.06 279**		P	**P**	**12 54 07.5**	**+1.0**
PMG				IAmb	IAmb	12 54 08.8	
	comp=Z,18nm,0.8s						
ARMA	**Armidale**	**23.52 224**		P	**P**	**12 54 10.8**	**+0.2**
ARMA	**Armidale**	**23.52 224**		P	**P**	**12 54 11.4**	**+0.8**
CTA	**Charters Tower**	**23.62 252**		P	**P**	**12 54 12.2**	**+0.8**
CTA	**Charters Tower**	**23.62 252**		P	**P**	**12 54 12.1**	**+0.6**
	comp=Z,14nm,0.6s,baz=78,slow=11,SNR=43						
	comp=Z,14nm,0.6s						
CTAO	**Charters Tower**	**23.62 252**		P	**P**	**12 54 12.4**	**+0.9**
CTAO	**Charters Tower**	**23.62 252**		P	**P**	**12 54 12.2**	**+0.8**
TOZ	**Tahuroa Road**	**23.90 170**		P	**P**	**12 54 14.7**	**+1.1**
TOZ				IAmb	IAmb	12 54 48.1	
	comp=Z,16nm,1.2s						
HIZ	**Hauiti**	**24.56 171**		P	**P**	**12 54 20.3**	**+0.8**
URZ	**Urewera**	**24.73 167**		P	**P**	**12 54 20.8**	**-0.1**
RTZ	**Ruatahuna**	**25.04 167**		P	**P**	**12 54 23.0**	**-0.8**
MTSU	**Mount Surprise**	**25.17 258**		P	**P**	**12 54 25.1**	**+0.0**
COEN	**Coen**	**26.22 267**		P	**P**	**12 54 34.4**	**-0.1**
COEN				IAmb	IAmb	12 54 36.2	
	comp=Z,12nm,0.7s						
QRZ	**Quartz Range**	**26.60 176**		P	**P**	**12 54 38.6**	**+1.2**
BFZ	**Birch Farm**	**26.90 170**		P	**P**	**12 54 39.9**	**-0.1**
NNZ	**Nelson**	**27.05 175**		P	**P**	**12 54 41.2**	**-0.1**
NNZ				IAmb	IAmb	12 54 42.7	
	comp=Z,15nm,1.0s						
QLP	**Quilpie**	**27.22 239**		P	**P**	**12 54 43.5**	**+0.4**
SNZO	**South Karori**	**27.29 173**		P	**P**	**12 54 42.5**	**-0.8**
SNZO	**South Karori**	**27.29 173**		P	**P**	**12 54 43.8**	**+0.5**
TUWZ	**Tuamarina**	**27.32 174**		P	**P**	**12 54 43.2**	**-0.4**
CNB	**Canberra Magne**	**28.17 218**		P	**P**	**12 54 52.1**	**+0.8**
KHZ	**Kahutara**	**28.26 175**		P	**P**	**12 54 51.2**	**-0.6**
CMSA	**Cobar Meteorol**	**28.32 228**		P	**P**	**12 54 53.0**	**+0.5**
CAN	**Canberra**	**28.40 218**		P	**P**	**12 54 52.8**	**-0.5**
CAN	**Canberra**	**28.40 218**		P	**P**	**12 54 53.3**	**+0.1**
RPZ	**Rata Peaks**	**29.42 179**		P	**P**	**12 55 01.9**	**+0.1**
QIS	**Mount Isa**	**29.85 253**		P	**P**	**12 55 06.5**	**+0.5**
INKA	**Innaminka**	**30.54 239**		P	**P**	**12 55 12.3**	**+0.6**
DCZ	**Deep Cove**	**31.27 184**		P	**P**	**12 55 17.6**	**0.0**
STKA	**Stephens Creek**	**31.52 231**		P	**P**	**12 55 20.7**	**+0.7**
STKA	**Stephens Creek**	**31.52 231**		P	**P**	**12 55 20.9**	**+0.8**
STKA	**Stephens Creek**	**31.52 231**		P	**P**	**12 55 20.8**	**+0.8**
	comp=Z,15nm,0.5s,baz=59,slow=8.3,SNR=43						
	comp=Z,15nm,0.5s						
TOO	**Toolangi**	**32.00 219**		P	**P**	**12 55 24.6**	**+0.6**
TOO				IAmb	IAmb	12 55 25.6	
	comp=Z,18nm,0.7s						
TOO	**Toolangi**	**32.00 219**		P	**P**	**12 55 24.9**	**+0.8**
GLAD	**Gladstone**	**32.96 212**		P	**P**	**12 55 32.6**	**+0.6**
LCRK	**Leigh Creek**	**33.57 236**		P	**P**	**12 55 37.7**	**+0.4**
ARPS	**Mount Arapiles**	**33.85 223**		P	**P**	**12 55 40.5**	**+1.0**
HTT	**Hallett**	**34.23 231**		P	**P**	**12 55 43.6**	**+0.7**
WR0	**Warramunga Arr**	**34.53 255**		P	**P**	**12 55 45.1**	**-0.4**
WR0				IAmb	IAmb	12 55 45.4	
	comp=Z,7.0nm,0.7s						
WB0	**Warramunga Arr**	**34.66 256**		P	**P**	**12 55 46.1**	**-0.4**
WB2	**Warramunga Arr**	**34.71 255**		P	**P**	**12 55 46.5**	**-0.4**
WB2				IAmb	IAmb	12 55 47.4	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**34.71 255**		P	**P**	**12 55 46.5**	**-0.4**
WRAB				IAmb	IAmb	12 55 46.9	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**34.72 255**		P	**P**	**12 55 46.0**	**-1.1**
WRA	**Warramunga Arr**	**34.72 255**		P	**P**	**12 55 46.6**	**-0.5**
	comp=Z,16nm,0.6s,baz=86,slow=8.7,SNR=180						
WRA				S	**S**	**13 00 32.5**	**-3.5**
	comp=Z,1.8nm,0.8s,baz=83,slow=13,SNR=5.3						
WRA				ScP	**ScP**	**13 00 52.1**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=87,slow=3.7,SNR=13						
	comp=Z,16nm,0.6s						
OOD	**Oodnadatta**	**34.82 242**		P	**P**	**12 55 48.4**	**+0.7**
AS01	**Alice Springs**	**35.48 249**		P	**P**	**12 55 53.0**	**-0.3**
AS31	**Alice Springs**	**35.52 249**		P	**P**	**12 55 53.5**	**-0.2**
AS31				IAmb	IAmb	12 55 54.2	
	comp=Z,12nm,0.8s						
AS31				S	**S**	**13 00 44.1**	**-4.0**
ASAR	**Alice Springs**	**35.52 249**		P	**P**	**12 55 53.4**	**-0.3**
	comp=Z,27nm,0.6s,baz=73,slow=9.7,SNR=604						
ASAR				S	**S**	**13 00 43.8**	**-4.3**
	comp=Z,2.1nm,0.6s,baz=78,slow=15,SNR=11						
ASAR				ScP	**ScP**	**13 00 54.8**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=95,slow=4.1,SNR=16						
	comp=Z,27nm,0.6s						
BBOO	**Buckleboo**	**36.16 233**		P	**P**	**12 55 59.2**	**+0.4**
BBOO	**Buckleboo**	**36.16 233**		P	**P**	**12 55 58.9**	**+0.1**
KDU	**Kakadu**	**36.71 268**		P	**P**	**12 56 03.5**	**0.0**
MULG	**Mulgathing**	**36.90 238**		P	**P**	**12 56 04.9**	**+0.1**
MTN	**Manton Dam**	**37.99 267**		P	**P**	**12 56 14.6**	**+0.7**
MTN				IAmb	IAmb	12 56 15.5	
	comp=Z,31nm,1.2s						
MTN	**Manton Dam**	**37.99 267**		P	**P**	**12 56 14.7**	**+0.8**
FAKI	**Fak Fak**	**39.11 283**		P	**P**	**12 56 22.9**	**0.0**
FAKI				IAmb	IAmb	12 57 01.1	
	comp=Z,15nm,1.0s						
FAKI	**Fak Fak**	**39.11 283**		P	**P**	**12 56 23.3**	**+0.3**
KNRA	**Kununurra**	**40.03 262**		P	**P**	**12 56 30.1**	**-0.1**
KNRA				IAmb	IAmb	12 56 31.0	
	comp=Z,23nm,0.7s						
KNRA	**Kununurra**	**40.03 262**		P	**P**	**12 56 30.2**	**-0.1**
WRKA	**Warakurna**	**40.78 248**		P	**P**	**12 56 36.5**	**+0.4**
FORT	**Forrest**	**42.02 240**		P	**P**	**12 56 45.6**	**-0.1**
FORT	**Forrest**	**42.02 240**		P	**P**	**12 56 45.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.91 259**		P	**P**	**12 56 53.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**42.91 259**		P	**P**	**12 56 53.4**	**+0.5**
KMBL	**Kambalda**	**47.33 240**		P	**P**	**12 57 25.9**	**-0.5**
PSA00	**Pilbara Seismi**	**48.32 254**		P	**P**	**12 57 33.9**	**0.0**
PSA00				IAmb	IAmb	12 57 35.3	
	comp=Z,16nm,1.4s						
MEEK	**Meekatharra**	**49.62 247**		P	**P**	**12 57 43.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**51.46 239**		P	**P**	**12 57 55.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**51.46 239**		P	**P**	**12 57 55.8**	**-0.8**
PLAI	**Plampang**	**51.58 270**		P	**P**	**12 57 57.5**	**-0.2**
MORW	**Morawa**	**52.06 244**		P	**P**	**12 58 00.6**	**-0.4**
MORW				IAmb	IAmb	12 58 04.5	
	comp=Z,25nm,1.2s						
GIRL	**Giralia**	**53.52 252**		P	**P**	**12 58 11.8**	**+0.5**
GIRL	**Giralia**	**53.52 252**		P	**P**	**12 58 12.0**	**+0.6**
MJAR	**Matsushiro Arr**	**58.82 330**		P	**P**	**12 58 47.4**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=162,slow=7.0,SNR=16						
	comp=Z,4.1nm,0.5s						
MAJO	**Matsushiro**	**58.82 330**		P	**P**	**12 58 47.4**	**-0.1**
MAJO				IAmb	IAmb	12 58 48.4	
	comp=Z,54nm,1.4s						
MAJO	**Matsushiro**	**58.82 330**		P	**P**	**12 58 47.9**	**+0.4**
MJB9	**Matsu-Tunnel**	**58.83 330**		P	**P**	**12 58 48.3**	**+0.8**
MJB9				IAmb	IAmb	12 58 49.4	
	comp=Z,53nm,1.4s						
JNU	**Nakatsue**	**60.21 322**		P	**P**	**12 58 57.2**	**+0.4**
JTM	**Tenmabayashi**	**61.02 335**		P	**P**	**12 59 02.1**	**+0.1**
SSLB	**Suanglung**	**61.19 308**		P	**P**	**12 59 02.9**	**-0.5**
JKA	**Kamikawa-asahi**	**63.27 338**		P	**P**	**12 59 15.9**	**-0.4**
JKA				IAmb	IAmb	12 59 46.9	
	comp=Z,25nm,1.2s						
VNDA	**Vanda**	**63.47 182**		P	**P**	**12 59 16.8**	**-0.3**
VNDA	**Vanda**	**63.47 182**		P	**P**	**12 59 16.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=353,slow=8.4,SNR=5.7						
	comp=Z,0.6nm,0.6s						
KSRS	**Korea Array**	**64.96 324**		P	**P**	**12 59 26.6**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=134,slow=7.2,SNR=5.1						
	comp=Z,1.0nm,0.7s						
ATKA	**Atka Island**	**67.50 10**		P	**P**	**12 59 42.2**	**-0.3**
	comp=Z,87nm,1.9s						
PET	**Petropavlovsk**	**67.69 352**		P	**P**	**12 59 43.4**	**-0.3**
PET				IAmb	IAmb	13 00 12.9	
	comp=Z,39nm,1.4s						
PET	**Petropavlovsk**	**67.69 352**		P	**P**	**12 59 44.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**67.76 331**		P	**P**	**12 59 44.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**67.76 331**		P	**P**	**12 59 45.1**	**+0.8**
	comp=Z,3.9nm,0.6s,baz=144,slow=7.2,SNR=7.8						
	comp=Z,3.9nm,0.6s						
PEA0B	**Petropavlovsk-**	**67.90 352**		P	**P**	**12 59 45.3**	**+0.3**
PETK	**Petropavlovsk-**	**67.90 352**		P	**P**	**12 59 45.2**	**+0.2**
	comp=Z,12nm,0.6s,baz=133,slow=4.6,SNR=50						
	comp=Z,12nm,0.6s						
UNV	**Unalaska Valle**	**70.64 14**		P	**P**	**13 00 00.4**	**-0.9**
CN2	**Changchun**	**70.71 327**		P	**P**	**13 00 02.6**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN	**LuoYang**	**73.17 313**	⇓	P	**P**	**13 00 17.5**	**+1.1**
LYN				pmax	pmax		
	comp=Z,17nm,0.7s						
HEH	**HeiHe**	**74.35 333**	*e*	P	**P**	**13 00 23.3**	**+0.7**
HEH				pmax	pmax		
	comp=Z,11nm,0.7s						
QSPA	**South Pole Qui**	**75.82 180**		P	**P**	**13 00 29.2**	**-1.7**
QSPA	**South Pole Qui**	**75.82 180**		P	**P**	**13 00 29.8**	**-1.0**
	comp=Z,5.3nm,1.0s,baz=348,slow=0.9,SNR=23						
	comp=Z,5.3nm,1.0s						
O14K	**Tigyukauivet M**	**76.79 15**		P	**P**	**13 00 35.2**	**-0.6**
OHAK	**Old Harbor**	**77.32 19**		P	**P**	**13 00 38.2**	**-0.7**
OHAK				IAmb	IAmb	13 00 44.1	
	comp=Z,27nm,1.2s						
OHAK	**Old Harbor**	**77.32 19**		P	**P**	**13 00 39.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**77.36 293**		P	**P**	**13 00 41.1**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=126,slow=3.8,SNR=11						
	comp=Z,1.2nm,0.5s						
M14K	**Bethel**	**77.95 14**		P	**P**	**13 00 41.5**	**-0.6**
M14K				IAmb	IAmb	13 01 03.4	
	comp=Z,30nm,1.4s						
KDAK	**Kodiak Island**	**78.00 19**		P	**P**	**13 00 41.8**	**-0.7**
KDAK				IAmb	IAmb	13 01 19.1	
	comp=Z,36nm,1.4s						
M16K	**Timber Creek**	**78.90 15**		P	**P**	**13 00 47.0**	**-0.2**
M16K				IAmb	IAmb	13 00 58.9	
	comp=Z,13nm,1.1s						
SVW2	**Sparrevohn**	**79.83 16**		P	**P**	**13 00 52.6**	**+0.5**
L18K	**Granite Mounta**	**80.49 15**		P	**P**	**13 00 56.1**	**+0.6**
L18K				IAmb	IAmb	13 00 57.0	
	comp=Z,8.6nm,0.8s						
J16K	**Anvik River**	**80.49 13**		P	**P**	**13 00 56.4**	**+0.9**
L19K	**White Mountain**	**80.93 16**		P	**P**	**13 00 58.9**	**+1.1**
L19K				IAmb	IAmb	13 01 00.1	
	comp=Z,28nm,0.9s						
M20K	**Styx River**	**81.15 17**		P	**P**	**13 00 58.7**	**-0.4**
TTA	**Tatalina**	**81.26 15**		P	**P**	**13 00 59.8**	**+0.2**
TTA				IAmb	IAmb	13 01 01.1	
	comp=Z,12nm,0.9s						
TTA	**Tatalina**	**81.26 15**		P	**P**	**13 01 00.2**	**+0.6**
SUA	**Susitna One**	**81.50 18**		P	**P**	**13 01 00.1**	**-0.8**
SUA				IAmb	IAmb	13 01 00.7	
	comp=Z,23nm,1.2s						
J18K	**Innoko River**	**81.54 14**		P	**P**	**13 01 01.4**	**+0.5**
J18K				IAmb	IAmb	13 01 02.2	
	comp=Z,19nm,0.8s						
G16K	**Koyuk River**	**82.01 11**		P	**P**	**13 01 03.0**	**-0.2**
BILL	**Bilibino**	**82.07 359**		P	**P**	**13 01 03.1**	**-0.4**
BILL				IAmb	IAmb	13 01 03.9	
	comp=Z,16nm,1.2s						
PMR	**Palmer**	**82.09 18**		P	**P**	**13 01 02.9**	**-0.8**
J19K	**Poorman**	**82.25 14**		P	**P**	**13 01 05.1**	**+0.6**
J19K				IAmb	IAmb	13 01 06.1	
	comp=Z,9.6nm,0.8s						
CAST	**Castle Rocks**	**82.68 16**		P	**P**	**13 01 05.5**	**-1.2**
CAST				IAmb	IAmb	13 01 06.4	
	comp=Z,13nm,0.7s						
J20K	**Nowinta River**	**82.76 15**		P	**P**	**13 01 07.2**	**+0.2**
J20K				IAmb	IAmb	13 01 08.3	
	comp=Z,8.8nm,0.8s						
F17K	**Baldwin Pennin**	**83.16 11**		P	**P**	**13 01 09.6**	**+0.7**
F17K				IAmb	IAmb	13 01 10.4	
	comp=Z,19nm,0.8s						
TRF	**Thorofare Moun**	**83.20 17**		P	**P**	**13 01 08.4**	**-1.0**
TRF				IAmb	IAmb	13 01 23.2	
	comp=Z,12nm,1.3s						
H19K	**Roundabout Mou**	**83.35 13**		P	**P**	**13 01 10.1**	**+0.2**
H19K				IAmb	IAmb	13 01 11.3	
	comp=Z,7.9nm,0.8s						
SONM	**Songino Array**	**83.80 323**		P	**P**	**13 01 12.1**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=120,slow=5.5,SNR=5.3						
	comp=Z,0.7nm,0.6s						
E18K	**Tukpahlearik C**	**84.14 11**		P	**P**	**13 01 13.8**	**0.0**
E18K				IAmb	IAmb	13 01 15.3	
	comp=Z,7.1nm,0.8s						
GTA	**Gaotai**	**84.39 313**	*eP*		**P**	**13 01 16.5**	**+0.7**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NVAR	**Mina Array Bea**	**84.78 48**		P	**P**	**13 01 18.4**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=227,slow=7.6,SNR=19						
	comp=Z,1.4nm,0.7s						
C18K	**Utukok River**	**85.13 10**		P	**P**	**13 01 18.8**	**+0.1**
IL31		**85.17 17**		P	**P**	**13 01 17.0**	**-1.8**
ILAR	**Eielson Array**	**85.17 17**		P	**P**	**13 01 16.9**	**-1.9**
	comp=Z,3.7nm,0.6s,baz=237,slow=5.0,SNR=70						
	comp=Z,3.7nm,0.6s						
WCT	**Wildcat Mounta**	**85.41 50**		P	**P**	**13 01 19.8**	**-0.9**
PRN	**Pahroc Range**	**86.80 50**		P	**P**	**13 01 27.1**	**-0.3**
PRN				IAmb	IAmb	13 01 29.0	
	comp=Z,7.0nm,1.1s						
EGAK	**Eagle**	**86.89 19**		P	**P**	**13 01 25.2**	**-1.8**
D22K	**Ayikyak River**	**86.96 13**		P	**P**	**13 01 27.1**	**-0.2**
PDAR	**Pinedale Array**	**92.51 47**		P	**P**	**13 01 52.1**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=200,slow=3.9,SNR=5.9						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**93.53 61**		P	**P**	**13 01 58.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=227,slow=4.8,SNR=7.3						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**95.79 27**		P	**P**	**13 02 07.2**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=256,slow=4.8,SNR=20						
	comp=Z,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**98.67 323**		P	Pdif	13 02 19.5	-1.5
	comp=Z,0.3nm,0.3s,baz=130,slow=5.3,SNR=2.5						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**98.80 316**		P	Pdif	13 02 21.9	+0.1
	comp=Z,0.7nm,0.8s,baz=83,slow=6.3,SNR=14						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**101.90 319**		P	**Pdif**	**13 02 34.1**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=85,slow=4.5,SNR=2.4						
ROSC	**El Rosal**	**115.85 91**		PKPdf	**PKPdf**	**13 07 19.2**	**-3.0**
ARCES	**ARCESS Array B**	**120.44 346**		PKP	**PKPdf**	**13 07 27.6**	**-1.4**
	comp=Z,2.2nm,0.3s,baz=67,slow=2.2,SNR=26						
FINES	**FINESS Array B**	**126.27 340**		PKP	**PKPdf**	**13 07 39.4**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=122,slow=2.9,SNR=12						
NB2	**NORSAR Subarra**	**130.82 347**		PKP	**PP**	**13 10 17.5**	**+3.6**
	comp=Z,1.5nm,0.7s,baz=34,slow=3.8						
NOA	**NORSAR Array B**	**130.82 347**		PKP	**PKPdf**	**13 07 47.0**	**-2.0**
	comp=Z,1.1nm,1.0s,baz=7.9,slow=4.2,SNR=1.6						
HFS	**Hagfors**	**131.02 345**		PKP	**PKPdf**	**13 07 48.7**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=105,slow=2.2,SNR=1.2						
BRTR	**Keskin Array B**	**134.30 312**		PKP	**PKPdf**	**13 07 56.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=43,slow=3.9,SNR=1.8						
WTTA	**Wattenberg**	**142.51 336**	*e*	PKP	**PKPdf**	**13 08 08.4**	**-2.8**
	comp=Z,2.5nm,0.5s						
ABTA	**Abfaltersbach**	**142.57 335**	*i*	PKP	**PKPdf**	**13 08 07.8**	**-3.4**
	comp=Z,3.9nm,0.6s						
MOTA	**Moosalm**	**142.65 336**	*i*	PKP	**PKPdf**	**13 08 08.3**	**-3.0**
	comp=Z,5.8nm,0.9s						
RETA	**Reutte**	**142.66 337**	*e*	PKP	**PKPdf**	**13 08 08.1**	**-3.2**
	comp=Z,2.6nm,0.5s						
SQTA	**Sankt Quirin**	**142.71 336**	*i*	PKP	**PKPdf**	**13 08 08.4**	**-3.0**
	comp=Z,4.0nm,0.5s						
FETA	**Feichten**	**143.06 336**	*i*	PKP	PKPab	13 08 10.1	+0.1
	comp=Z,6.1nm,0.5s						
DAVA	**Damuels**	**143.16 338**	*i*	PKP	PKPab	13 08 10.5	+0.1
	comp=Z,9.7nm,0.5s,SNR=4.2						
FUORN	**Ofenpass-Fuorn**	**143.57 337**		PKPdf	PKPab	13 08 12.1	0.0
TUE	**Stuetta**	**144.05 337**		PKPdf	PKPbc	13 08 13.5	0.0
ESDC	**Sonseca Array**	**154.12 350**		PKPab	**PKPab**	**13 08 55.0**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=8.7,slow=2.4,SNR=7.9						
TORD	**Torodi Ar. Bea**	**168.79 266**		PKP	**PKPdf**	**13 08 43.8**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=89,slow=3.3,SNR=3.1						

TAP 15 12:54:16.4, 24°.63N×121°.99E, h7km, ML1.2, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.13 260**		⇑P	Pg	12 54 19.1	-0.1
	baz=258						
TWC				S	Sg	12 54 21.3	+0.3
	baz=258						
ESAO	**Su ao**	**0.15 247**		P	Pg	12 54 19.6	+0.2
	baz=247						
ESAO				*i* S	Sg	12 54 22.2	+0.8
	baz=247						
EGS		**0.22 346**		*i* P	Pg	12 54 21.6	+0.8
	baz=347						
EGS				*e*S	Sg	12 54 24.6	+1.0
	baz=347						
NDS	**Dongshan**	**0.25 270**	⇑	*e*P	Pg	12 54 22.2	+0.9
	baz=270						
NDS				*i* S	Sg	12 54 25.3	+0.6
	baz=270						
EOS2	**EOS2**	**0.30 134**		*e*P	Pg	12 54 22.8	+0.5
	baz=151						
EOS2				S	Sg	12 54 26.1	-0.3
	baz=151						
FUSB	**Fushanzhiwuyua**	**0.39 289**		*i* P	Pg	12 54 24.7	+0.7
	baz=288						
LATG	**Datong**	**0.43 257**		*e*P	Pg	12 54 24.4	-0.5
	baz=257						

IDC ***15*** *13:06:23.4±3.6, 52°.55N×62°

EWUT *i* S **Sn** 13 08 27.9 +0.1
baz=188
ENA **Nanau** 0.27 193 *e*P **Pn** 13 08 19.5 +0.3
baz=197
ENA *e*S **Sn** 13 08 27.9 -0.2
baz=197
NDT **Datong Townshi** 0.28 252 P **Pn** 13 08 19.4 +0.2
baz=263
NDT *e*S **Sn** 13 08 27.6 -0.6
baz=263
TIPB **Shuangxi** 0.28 3 ⇑P **Pn** 13 08 19.5 +0.1
baz=358
TIPB *e*S **Sn** 13 08 27.9 -0.4
baz=358
NWLT **Wulai** 0.29 288 P **Pn** 13 08 19.2 -0.2
baz=291
NWLT *e*S **Sn** 13 08 27.4 -1.0
baz=291
LATG **Datong** 0.30 239 *e*P **Pn** 13 08 19.6 +0.1
baz=251
LATG *e*S **Sn** 13 08 28.2 -0.4
baz=251
TWA **Mucha** 0.35 325 P **Pn** 13 08 20.1 +0.3
baz=322
TWA *e*S **Sn** 13 08 29.0 -0.1
baz=322
TWB1 **Santiao Chiao** 0.36 27 *i* P **Pn** 13 08 19.9 +0.1
baz=36
TWB1 *i* S **Sn** 13 08 28.7 -0.4
baz=36
EAHA **Aohua** 0.36 190 *e*P **Pn** 13 08 19.8 0.0
baz=195
EAHA *e*S **Sn** 13 08 28.9 -0.2
baz=195
NHDH **Xindian Distri** 0.38 317 *e*P **Pn** 13 08 20.0 +0.1
baz=311
NHDH *e*S **Sn** 13 08 29.0 -0.3
baz=311
NWF **Wu-fen Shan** 0.38 356 *e*P **Pn** 13 08 20.3 +0.2
baz=352
NWF *e*S **Sn** 13 08 29.6 +0.1
baz=352
WFSB **Wu-fen Shan** 0.38 356 P **Pn** 13 08 20.4 +0.4
baz=352
WFSB *e*S **Sn** 13 08 29.6 +0.2
baz=352
YHNB **Yeheng** 0.39 267 P **Pn** 13 08 19.8 -0.3
YHNB **Yeheng** 0.39 267 P **Pn** 13 08 19.7 -0.3
baz=270
YHNB *e*S **Sn** 13 08 28.5 -1.1
baz=270
TATO **Taipei** 0.41 315 P **Pn** 13 08 20.2 +0.1
TATO **Taipei** 0.41 315 *i* P **Pn** 13 08 20.2 +0.1
baz=311
TATO S **Sn** 13 08 29.2 -0.4
baz=311
NSK **Sanguang** 0.41 268 *i* P **Pn** 13 08 19.9 -0.3
baz=270
NSK S **Sn** 13 08 28.9 -1.0
baz=270
SXI1 **Grass Mountain** 0.41 9 *i* P **Pn** 13 08 20.3 +0.1
baz=11
SXI1 *e*S **Sn** 13 08 29.6 -0.3
baz=11
NHY **Taipei** 0.41 328 *e*P **Pn** 13 08 20.6 +0.4
baz=324
NHY *e*S **Sn** 13 08 29.9 +0.2
baz=324
TAP **Taipei** 0.44 322 *e*S **Sn** 13 08 30.6 +0.5
baz=319
TNOU **National Taiwa** 0.46 356 P **Pn** 13 08 20.7 +0.2
baz=352
TNOU *e*S **Sn** 13 08 30.4 0.0
baz=352
NNSB **Datong** 0.47 236 P **Pn** 13 08 20.8 +0.1
baz=240
NNSB *e*S **Sn** 13 08 29.9 -0.8
baz=240
NNSH **Datong** 0.47 236 P **Pn** 13 08 20.9 +0.2
baz=241
NNSH S **Sn** 13 08 30.0 -0.7
baz=241
NNS **Nan Shan** 0.47 238 P **Pn** 13 08 20.9 +0.1
baz=241
NNS S **Sn** 13 08 30.0 -0.7
baz=241
EOS2 **EOS2** 0.47 125 P **Pn** 13 08 21.1 +0.7
baz=117
EOS2 *e*S **Sn** 13 08 31.5 +1.3
baz=117
YM01 **YM01** 0.51 335 P **Pn** 13 08 21.4 +0.4
baz=329
YM01 *e*S **Sn** 13 08 31.5 +0.3
baz=329
YM08 **YM08** 0.54 338 P **Pn** 13 08 21.4 +0.2
baz=331
YM08 *e*S **Sn** 13 08 31.3 -0.3
baz=331
TWS1 **Kuangyinshan** 0.54 319 *e*P **Pn** 13 08 21.7 +0.5
baz=311
TWS1 *e*S **Sn** 13 08 32.5 +0.8
baz=311
NACB **Ninganchiao** 0.55 201 P **Pn** 13 08 20.7 -0.6
NACB **Ninganchiao** 0.55 201 *e*P **Pn** 13 08 20.5 -0.8
baz=209
NACB *e*S **Sn** 13 08 30.7 -1.0
baz=209
ETL **Fush Village** 0.55 198 *e*P **Pn** 13 08 20.9 -0.5
baz=205
ETL *e*S **Sn** 13 08 31.0 -0.9
baz=205
ANP **Anpu** 0.56 332 *e*P **Pn** 13 08 21.7 +0.1
baz=334
ANP *e*S **Sn** 13 08 32.1 0.0
baz=334
ETLH **Xiulin Townshi** 0.56 212 *e*P **Pn** 13 08 21.2 -0.4
baz=211
ETLH *e*S **Sn** 13 08 31.6 -0.5
baz=211
NTST **Danshui** 0.57 326 P **Pn** 13 08 22.2 +0.7
baz=334
NTST S **Sn** 13 08 33.0 +0.9
baz=334
EOS3 **EOS3** 0.61 131 *e*P **Pn** 13 08 22.2 +0.4
baz=133
EOS3 *e*S **Sn** 13 08 34.2 +1.7
baz=133
TWY **Chenhua** 0.61 342 P **Pn** 13 08 22.6 +0.7
baz=336
TWY *e*S **Sn** 13 08 33.6 +0.8
baz=336
NCU **National Centr** 0.63 297 *e*P **Pn** 13 08 22.2 +0.1
baz=289
NCU *e*S **Sn** 13 08 33.4 +0.3
baz=289
NFF **Wufeng Townshi** 0.63 265 *e*P **Pn** 13 08 22.1 -0.1
baz=274
NFF *e*S **Sn** 13 08 32.6 -0.6
baz=274
NCUH **Zhongli** 0.63 296 P **Pn** 13 08 22.3 +0.2
baz=289
NCUH *e*S **Sn** 13 08 33.1 0.0
baz=289
TWD **Chiawan** 0.64 198 *e*P **Pn** 13 08 21.5 -0.6
baz=205
TWD *e*S **Sn** 13 08 31.7 -1.4
baz=205
NJD **Zhudong** 0.66 274 *e*P **Pn** 13 08 22.1 -0.3
baz=276
NJD *e*S **Sn** 13 08 34.0 +0.4
baz=276
FUSS **Fushou** 0.68 230 *e*P **Pn** 13 08 23.1 +0.3
baz=223
FUSS *e*S **Sn** 13 08 34.2 -0.2
baz=223
TWT **Tachien** 0.72 233 *e*P **Pn** 13 08 24.4 +1.2
baz=227
TWT *e*S **Sn** 13 08 35.2 +0.1
baz=227
LIOB **Emei** 0.72 267 *e*P **Pn** 13 08 23.1 +0.1
baz=267
LIOB *e*S **Sn** 13 08 34.7 -0.1
baz=267
HWA **Hwalien** 0.73 195 *e*P **Pn** 13 08 22.7 -0.4
baz=202
HWA *e*S **Sn** 13 08 34.9 0.0
baz=202
EOS4 **EOS4** 0.73 140 *e*P **Pn** 13 08 22.6 -0.2
baz=147
EOS4 *e*S **Sn** 13 08 33.6 -0.7
baz=147
WHF **Hehuan Shan** 0.73 223 *e*P **Pn** 13 08 23.6 0.0
baz=216
WHF S **Sn** 13 08 35.7 0.0
baz=216
TDCB **Techi** 0.73 234 *e*P **Pn** 13 08 24.1 +0.8
baz=227
TDCB *e*S **Sn** 13 08 35.2 0.0
baz=227
NSTT **Nanjuang** 0.74 266 P **Pn** 13 08 23.2 0.0
baz=265
NSTT *e*S **Sn** 13 08 34.6 -0.4
baz=265
LXIB **Xiulin Townshi** 0.76 209 *e*P **Pn** 13 08 23.1 -0.4
baz=207
LXIB *e*S **Sn** 13 08 34.6 -1.1
baz=207
SBCB **Hsinchu** 0.76 278 *e*P **Pn** 13 08 23.6 +0.2
baz=278
SBCB *e*S **Sn** 13 08 35.0 -0.4
baz=278
HSN **Hsinchu** 0.77 279 *e*P **Pn** 13 08 23.5 0.0
baz=281
HSN *e*S **Sn** 13 08 35.0 -0.7
baz=281
ETM **Tongmen** 0.77 202 *e*P **Pn** 13 08 22.4 -1.2
baz=201
ETM *e*S **Sn** 13 08 33.8 -2.0
baz=201
CHGB **Renai** 0.85 223 P **Pn** 13 08 25.2 +0.5
baz=215
CHGB *e*S **Sn** 13 08 37.5 -0.2
baz=215
WHP **Taichung City** 0.89 243 *e*P **Pn** 13 08 25.7 +0.8
baz=251
WHP *e*S **Sn** 13 08 38.4 +0.2
baz=251
SHUL **Shoufeng** 0.92 194 *e*P **Pn** 13 08 25.2 -0.1
baz=201
SHUL *e*S **Sn** 13 08 39.1 +0.4
baz=201
OWD **Renai** 0.93 218 *e*P **Pn** 13 08 25.9 +0.3
baz=213
OWD *e*S **Sn** 13 08 39.2 0.0
baz=213
ESL **Shilin** 0.94 202 *e*P **Pn** 13 08 24.1 -1.4
baz=194
ESL *e*S **Sn** 13 08 37.7 -1.3
baz=194
WUSB **Renai** 0.94 222 *e*P **Pn** 13 08 26.3 +0.7
baz=215
WUSB *e*S **Sn** 13 08 39.5 +0.2
baz=215
NMLH **Miaoli** 0.94 261 *e*P **Pn** 13 08 25.8 +0.4
baz=261
NMLH *e*S **Sn** 13 08 39.3 +0.2
baz=261
PCYT **Pengchaiyu** 0.97 14 *e*P **Pn** 13 08 26.4 +0.6
baz=16
PCYT *e*S **Sn** 13 08 41.4 +1.7
baz=16
NSY **Sanyi** 0.99 254 *e*P **Pn** 13 08 26.8 +0.7
baz=253
NSY *e*S **Sn** 13 08 40.8 +0.6
baz=253
TWQ1 **Liyutan** 1.00 250 *e*P **Pn** 13 08 26.7 +0.5
baz=249
TWQ1 *e*S **Sn** 13 08 40.5 +0.1
baz=249
TEGC **Jichi Village** 1.00 194 *e*P **Pn** 13 08 26.4 +0.1
baz=201
TEGC *e*S **Sn** 13 08 42.6 +2.1
baz=201
WCS **Beigang Elemen** 1.03 233 *e*P **Pn** 13 08 27.3 +0.7
baz=240
WCS *e*S **Sn** 13 08 41.5 +0.5
baz=240
WARBT **Fenglin Townsh** 1.04 202 P **Pn** 13 08 25.3 -1.4
baz=196
WARBT *e*S **Sn** 13 08 39.3 -2.0
baz=196
JYNG **Yonagunijimaku** 1.06 103 P **Pn** 13 08 26.7 -0.2
JYNG S **Sn** 13 08 40.8 -0.9
VWDT **VWDT** 1.11 213 P **Pn** 13 08 28.0 +0.4
baz=207
VWDT *e*S **Sn** 13 08 42.8 0.0
baz=207
WDJ **Dajia District** 1.12 253 *e*P **Pn** 13 08 28.2 +0.6
baz=252
WDJ *e*S **Sn** 13 08 43.1 +0.2
baz=252
YOJ **Yonaguni jima** 1.12 101 P **Pn** 13 08 27.6 0.0
YOJ **Yonaguni jima** 1.12 101 P **Pn** 13 08 27.5 -0.2
YOJ S **Sn** 13 08 42.0 -0.9
YOJ **Yonaguni jima** 1.12 101 P **Pn** 13 08 27.4 -0.2
baz=101
YOJ S **Sn** 13 08 41.8 -1.1
baz=101
SMLT **Sun Moon Lake** 1.15 226 *e*P **Pn** 13 08 28.9 +0.8
baz=233
SMLT *e*S **Sn** 13 08 45.0 +1.1
baz=233
TYC **Yuchr** 1.17 228 P **Pn** 13 08 28.9 +0.6
baz=235
TYC *e*S **Sn** 13 08 44.3 +0.4
baz=235
SSLB **Suanglung** 1.19 221 P **Pn** 13 08 29.3 +0.7
SSLB **Suanglung** 1.19 221 *i* P **Pn** 13 08 29.2 +0.7
baz=231
SSLB S **Sn** 13 08 45.3 +0.8
baz=231
HGSD **Ruisui** 1.24 196 P **Pn** 13 08 29.3 +0.1
baz=202
HGSD *e*S **Sn** 13 08 46.3 +0.6
baz=202
EHY **Hungye** 1.26 201 *e*P **Pn** 13 08 27.8 -1.6
baz=199
EHY *e*S **Sn** 13 08 45.0 -1.1
baz=199
WNT **Mingjian** 1.30 232 P **Pn** 13 08 30.2 +0.2
baz=240
WNT *e*S **Sn** 13 08 47.7 +0.7
baz=240
WJS **Zhushan** 1.31 229 *e*P **Pn** 13 08 30.8 +0.7
baz=238
WJS *e*S **Sn** 13 08 48.0 +0.8
baz=238
WHYT **Xinyi Township** 1.32 222 *i* P **Pn** 13 08 30.9 +0.8
baz=229
WHYT S **Sn** 13 08 48.7 +1.3
baz=229
YULB **Yu-li** 1.37 200 P **Pn** 13 08 30.3 -0.6
YULB **Yu-li** 1.37 200 *e*P **Pn** 13 08 29.8 -1.1
baz=199
YULB *e*S **Sn** 13 08 47.8 -0.9
baz=199
EYUL **Yuli** 1.41 199 *e*P **Pn** 13 08 32.4 +1.1
baz=198
TWF1 **Yuli** 1.41 199 *e*P **Pn** 13 08 30.2 -1.2
baz=198
TWF1 *e*S **Sn** 13 08 48.0 -1.5
baz=198
ALS **Alishan** 1.49 218 *e*P **Pn** 13 08 33.3 +0.7
baz=226
ALS *e*S **Sn** 13 08 53.4 +1.6
baz=226
CHN5 **Tsauling** 1.50 224 *e*P **Pn** 13 08 33.3 +0.7
baz=231
CHN5 S **Sn** 13 08 52.6 +0.9
baz=231
WGK **Gukeng** 1.51 229 P **Pn** 13 08 33.5 +0.8
baz=238
WGK *e*S **Sn** 13 08 52.7 +0.8
baz=238
WRL **Guolierlin Hig** 1.52 239 P **Pn** 13 08 32.8 0.0
baz=238
WRL S **Sn** 13 08 51.6 -0.5
baz=238
WDLH **Douliu** 1.53 230 P **Pn** 13 08 33.4 +0.6
baz=238
WDLH *e*S **Sn** 13 08 52.3 +0.1
baz=238
CHKH **Chenggong** 1.54 194 *e*P **Pn** 13 08 32.7 -0.3
baz=199
CHKH *e*S **Sn** 13 08 52.2 -0.2
baz=199
FULB **Fuli** 1.56 198 *e*P **Pn** 13 08 33.5 +0.3
baz=197
FULB *e*S **Sn** 13 08 53.6 +0.7
baz=197
WTCT **Ta-ch'eng** 1.62 240 *e*S **Sn** 13 08 54.6 +0.3
baz=238
EHD **Haiduan** 1.63 200 *e*P **Pn** 13 08 33.5 -0.7
baz=199
EHD S **Sn** 13 08 53.8 -0.8
baz=199
CHKT **Chengkung** 1.63 194 *e*P **Pn** 13 08 33.7 -0.5
baz=198
CHKT *e*S **Sn** 13 08 52.3 -2.4
baz=198
WTK **Tuku** 1.63 233 *e*P **Pn** 13 08 34.7 +0.4
baz=231
WTK *e*S **Sn** 13 08 54.8 +0.1
baz=231
ELDTW **Lidau** 1.66 206 *e*P **Pn** 13 08 35.0 +0.3
baz=198
ELDTW *e*S **Sn** 13 08 55.5 0.0
baz=198
WCKO **Fanlu** 1.66 222 P **Pn** 13 08 35.4 +0.7
baz=227
WCKO *e*S **Sn** 13 08 56.2 +0.8
baz=227
CHN4 **Tsaushan** 1.73 220 *e*P **Pn** 13 08 36.1 +0.5
baz=218
CHN4 *e*S **Sn** 13 09 00.7 +3.6
baz=218
CHY **Chiayi** 1.73 227 *e*P **Pn** 13 08 36.0 +0.4
baz=235
CHY *e*S **Sn** 13 08 57.4 +0.3
baz=235
TPUB **Ta-pu** 1.75 218 P **Pn** 13 08 36.6 +0.8
TPUB **Ta-pu** 1.75 218 *e*P **Pn** 13 08 36.4 +0.6
baz=216
TPUB *e*S **Sn** 13 08 58.4 +0.9
baz=216
EDH **Donghe** 1.77 195 *e*P **Pn** 13 08 34.5 -1.6
baz=202
EDH *e*S **Sn** 13 08 55.2 -2.7
baz=202
STYH **Taoyuan** 1.78 212 *e*P **Pn** 13 08 37.1 +0.9
baz=222
STYH *e*S **Sn** 13 09 01.2 +3.1
baz=222
WSF **Szhu** 1.79 235 *e*P **Pn** 13 08 36.6 +0.3
baz=233
WSF *e*S **Sn** 13 08 58.7 +0.4
baz=233
WTP **Ta-pu** 1.80 217 *e*P **Pn** 13 08 37.2 +0.6
baz=227
WTP *e*S **Sn** 13 09 01.4 +2.6
baz=227
TWK **Hsinying** 1.86 221 *e*P **Pn** 13 08 37.6 +0.3
baz=219
TWK *e*S **Sn** 13 09 02.7 +2.6
baz=219
LONT **Longtian** 1.88 199 *e*P **Pn** 13 08 39.9 +2.4
baz=192
LONT *e*S **Sn** 13 09 00.6 +0.1
baz=192
SNST **Tainan City** 1.89 220 *e*P **Pn** 13 08 38.4 +0.8
baz=218
SNST *e*S **Sn** 13 09 04.2 +3.4
baz=218
CHN1 **Nanshi** 1.90 218 *e*P **Pn** 13 08 39.3 +1.5
baz=217
CHN1 *e*S **Sn** 13 09 02.0 +1.0
baz=217
ICHU **Yijhu** 1.92 227 *e*S **Sn** 13 09 02.5 +1.0
baz=225
HATJ **Hateruma jima** 1.93 109 S **Sn** 13 09 02.3 +0.7
SGST **Jiashian** 1.95 215 *e*P **Pn** 13 08 38.1 -0.4
baz=223
SGST *e*S **Sn** 13 09 02.4 +0.1
baz=223
TWG **Pinlang** 1.98 200 *e*P **Pn** 13 08 37.4 -1.4
baz=193
TWG *e*S **Sn** 13 09 00.9 -1.9
baz=193
TWGBT **Beinan** 1.98 200 P **Pn** 13 08 38.0 -0.8
TWGBT **Beinan** 1.98 200 *e*P **Pn** 13 08 37.3 -1.5
baz=193
TWGBT *e*S **Sn** 13 09 00.3 -2.5
baz=193
CHN8 **Yiju** 1.98 228 *e*P **Pn** 13 08 38.3 -0.5
baz=236
CHN8 S **Sn** 13 09 03.7 +0.9
baz=236
SLGT **Liugui** 1.99 212 P **Pn** 13 08 40.5 +1.5
baz=221
SLGT *e*S **Sn** 13 09 05.9 +2.6
baz=221
JKRS **Kuro-shima** 2.06 102 P **Pn** 13 08 40.2 +0.4
JKRS S **Sn** 13 09 04.5 -0.2
JIJ **Ishigaki jima** 2.15 98 P **Pn** 13 08 41.0 -0.1
JIJ S **Sn** 13 09 06.0 -1.0
SCST **Cishan** 2.16 214 *e*P **Pn** 13 08 43.3 +2.1
baz=223
SCST *e*S **Sn** 13 09 08.9 +1.7
baz=223
VWUC **VWUC** 2.16 279 *e*P **Pn** 13 08 41.0 -0.2
baz=276
VWUC *e*S **Sn** 13 09 05.2 -2.1
baz=276
TSCK **Chigu Township** 2.20 226 *e*P **Pn** 13 08 41.9 +0.1
baz=224
TSCK *e*S **Sn** 13 09 07.7 -0.5
baz=224
ECL **Taimali** 2.22 201 *e*P **Pn** 13 08 44.0 +1.9
baz=193
ECL *e*S **Sn** 13 09 07.1 -1.7
baz=193
MATB **Ma-tsu** 2.23 311 *e*P **Pn** 13 08 41.8 -0.3
baz=308
MATB *e*S **Sn** 13 09 07.0 -1.8
baz=308
TSMG **Majia** 2.24 209 P **Pn** 13 08 44.2 +1.8
baz=218
TSMG *e*S **Sn** 13 09 11.4 +2.2
baz=218
JISG **Ishigakijimahi** 2.28 92 P **Pn** 13 08 43.1 +0.3
JISG S **Sn** 13 09 09.9 -0.2
MASBT **Mashibuluo** 2.33 208 *e*P **Pn** 13 08 44.9 +1.3
baz=206
MASBT *e*S **Sn** 13 09 13.8 +2.5
baz=206
PNG **Penghu** 2.34 242 *e*P **Pn** 13 08 43.8 +0.2
baz=241
PNG *e*S **Sn** 13 09 09.6 -1.9
baz=241
PHUB **P'eng-hu** 2.35 241 *e*P **Pn** 13 08 43.5 -0.3
baz=240
PHUB *e*S **Sn** 13 09 10.0 -1.8
baz=240
WDGT **Dungji** 2.42 235 *e*S **Sn** 13 09 13.6 +0.1
baz=234
EAST **Anshuo** 2.46 201 *e*P **Pn** 13 08 47.2 +2.0
baz=193
EAST *e*S **Sn** 13 09 13.4 -1.0
baz=193
TAWH **Dawu Township** 2.48 200 *e*P **Pn** 13 08 47.3 +1.7
baz=190
TAWH *e*S **Sn** 13 09 13.8 -1.2
baz=190
SCZT **Fangliau** 2.55 206 *e*P **Pn** 13 08 48.0 +1.5
baz=215
SCZT *e*S **Sn** 13 09 19.9 +3.3
baz=215
LYJJ **Jianjiangzhen** 2.62 316 *e*P **Pn** 13 08 47.0 -0.4
baz=312
LYJJ *e*S **Sn** 13 09 18.0 -0.1
baz=312
VCHM **Qimei** 2.63 236 *e*P **Pn** 13 08 46.2 -1.3
baz=236
SLIU **Shizi** 2.63 201 *e*P **Pn** 13 08 48.9 +1.3
baz=201
JTJ **Tarama** 2.63 90 S **Sn** 13 09 19.9 +1.3
XPSS **Dashiqiu** 2.67 327 *e*P **Pn** 13 08 47.6 -0.4
baz=324
XPSS *e*S **Sn** 13 09 19.5 +0.1
baz=324
LYUB **Lan-yu** 2.68 184 *e*P **Pn** 13 08 46.5 -1.7
baz=178
MHZQ **Yeshan** 2.88 300 *e*P **Pn** 13 08 50.6 -0.2
baz=297

KNMB	**Chin-men Tao**	**3.12**	**267**	*e*P	**Pn**	**13 08 53.4**	**-0.8**
	baz=265						
AXDP	**Jialang**	**3.49**	**274**	*e*P	**Pn**	**13 08 59.1**	**-0.2**
	baz=271						
AXDP				*e*S	**Sn**	**13 09 37.5**	**-1.9**
	baz=271						

TAP ***15*** *13:17:41.8,24.˚57N×122.˚47E,h12km±1km,ML3.0,D*
JMA ***15*** *13:17:41.8±0.1,25.˚N±1.˚×122.˚5E±0.˚3,h12km±2km,*
MV2.1/11,NW OFF ISHIGAKIJIMA IS
ISC 15 13:17:41.1±1.0**,24.˚57N**±0.˚02**×122.˚53E**±0.˚02**,h11**km±9km**,**
n73,σ0**942**/113**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.31**	**242**	*i* P	**Pb**	**13 17 48.4**	**-0.2**
	baz=236						
EOS2				*i* S	**Sb**	**13 17 53.8**	**+0.3**
	baz=236						
EOS3	**EOS3**	**0.34**	**215**	*i* P	**Pb**	**13 17 48.9**	**-0.1**
	baz=207						
EOS3				S	**Sb**	**13 17 54.2**	**-0.1**
	baz=207						
JYNG	**Yonagunijimaku**	**0.40**	**107**	P	**Pb**	**13 17 49.7**	**-0.4**
JYNG				S	**Sb**	**13 17 55.3**	**-0.8**
YOJ	**Yonaguni jima**	**0.45**	**103**	P	**Pb**	**13 17 50.6**	**-0.4**
YOJ				S	**Sg**	**13 17 56.6**	**+0.7**
EOS4	**EOS4**	**0.48**	**204**	*i* P	**Pb**	**13 17 51.4**	**+0.1**
	baz=197						
EOS4				S	**Sb**	**13 17 58.7**	**+0.4**
	baz=197						
EGS		**0.61**	**297**	P	**Pg**	**13 17 53.2**	**+0.3**
	baz=299						
TWC	**Suao**	**0.62**	**274**	*e*P	**Pg**	**13 17 52.8**	**-0.4**
	baz=274						
ESAO	**Su ao**	**0.62**	**271**	*e*P	**Pg**	**13 17 53.4**	**+0.1**
	baz=271						
TWB1	**Santiao Chiao**	**0.66**	**312**	*e*P	**Pb**	**13 17 54.4**	**-0.2**
	baz=315						
TWB1				*e*S	**Sg**	**13 18 02.2**	**-0.4**
	baz=315						
EWUT	**Wuta**	**0.69**	**260**	*e*P	**Pg**	**13 17 54.6**	**+0.1**
	baz=259						
EWUT				*e*S	**Sg**	**13 18 04.3**	**+0.6**
	baz=259						
ENA	**Nanau**	**0.73**	**259**	*e*P	**Pg**	**13 17 55.4**	**+0.1**
	baz=258						
ENA				*e*S	**Sg**	**13 18 04.5**	**-0.3**
	baz=258						
NDS	**Dongshan**	**0.74**	**275**	*e*P	**Pg**	**13 17 55.5**	**+0.1**
	baz=275						
NDS				*e*S	**Sb**	**13 18 06.3**	**+0.1**
	baz=275						
EAHA	**Aohua**	**0.76**	**252**	P	**Pb**	**13 17 56.3**	**0.0**
	baz=250						
EAHA				*e*S	**Sb**	**13 18 06.6**	**0.0**
	baz=250						
TIPB	**Shuangxi**	**0.76**	**302**	P	**Pb**	**13 17 56.2**	**-0.1**
	baz=304						
TIPB				S	**Sb**	**13 18 06.6**	**0.0**
	baz=304						
SXI1	**Grass Mountain**	**0.80**	**312**	P	**Pb**	**13 17 57.3**	**+0.3**
	baz=314						
SXI1				*e*S	**Sb**	**13 18 08.0**	**+0.3**
	baz=314						
TWE	**Neicheng**	**0.80**	**281**	P	**Pg**	**13 17 56.4**	**-0.2**
	baz=281						
TWE				*e*S	**Sb**	**13 18 07.5**	**-0.3**
	baz=281						
NWF	**Wu-fen Shan**	**0.85**	**307**	*e*P	**Pb**	**13 17 58.3**	**+0.4**
	baz=308						
WFSB	**Wu-fen Shan**	**0.85**	**307**	P	**Pn**	**13 17 58.3**	**-0.6**
	baz=308						
WFSB				*e*S	**Sb**	**13 18 09.7**	**+0.5**
	baz=308						
FUSB	**Fushanzhiwuyua**	**0.88**	**283**	*e*P	**Pg**	**13 17 58.1**	**0.0**
	baz=283						
FUSB				*e*S	**Sb**	**13 18 09.9**	**-0.3**
	baz=283						
ENTT	**Nioudou**	**0.88**	**275**	*e*P	**Pb**	**13 17 58.5**	**+0.2**
	baz=275						
ENTT				S	**Sb**	**13 18 10.1**	**-0.1**
	baz=275						
TNOU	**National Taiwa**	**0.90**	**310**	*e*P	**Pb**	**13 17 59.0**	**+0.3**
	baz=312						
TNOU				*e*S	**Sb**	**13 18 10.4**	**-0.3**
	baz=312						
LATG	**Datong**	**0.91**	**268**	*e*P	**Pb**	**13 17 58.9**	**-0.1**
	baz=268						
LATG				S	**Sb**	**13 18 11.3**	**+0.1**
	baz=268						
ETL	**Fush Village**	**0.92**	**244**	*e*P	**Pg**	**13 17 58.9**	**0.0**
	baz=242						
NDT	**Datong Townshi**	**0.93**	**273**	*e*P	**Pg**	**13 17 58.9**	**0.0**
	baz=272						
NDT				*e*S	**Sb**	**13 18 11.8**	**+0.3**
	baz=272						
NACB	**Ninganchiao**	**0.94**	**246**	P	**Pg**	**13 17 59.0**	**-0.2**
	baz=244						
NACB				*e*S	**Sg**	**13 18 11.8**	**+0.4**
	baz=244						
TWA	**Mucha**	**0.95**	**296**	*e*P	**Pn**	**13 18 00.2**	**-0.2**
	baz=297						
TWA				*e*S	**Sg**	**13 18 11.8**	**-0.1**
	baz=297						
NWLT	**Wulai**	**0.96**	**283**	*e*P	**Pb**	**13 17 59.9**	**+0.1**
	baz=283						
NWLT				*e*S	**Sg**	**13 18 11.8**	**-0.2**
	baz=283						
NHDH	**Xindian Distri**	**1.00**	**294**	*e*P	**Pn**	**13 18 01.1**	**+0.1**
	baz=294						
NHDH				*e*S	**Sb**	**13 18 13.5**	**+0.1**
	baz=294						
ETLH	**Xiulin Townshi**	**1.02**	**250**	*e*P	**Pg**	**13 18 00.7**	**-0.1**
	baz=248						
ETLH				*e*S	**Sg**	**13 18 14.0**	**0.0**
	baz=248						
YM01	**YM01**	**1.05**	**304**	*e*P	**Pn**	**13 18 01.6**	**-0.1**
	baz=305						
YM01				S	**Sb**	**13 18 14.7**	**-0.2**
	baz=305						
NNSB	**Datong**	**1.05**	**263**	*e*P	**Pg**	**13 18 01.1**	**-0.3**
	baz=262						
NNSB				*e*S	**Sg**	**13 18 14.4**	**-0.7**
	baz=262						
NNSH	**Datong**	**1.05**	**263**	*e*P	**Pg**	**13 18 01.3**	**-0.1**
	baz=262						
YM08	**YM08**	**1.05**	**306**	P	**Pb**	**13 18 01.4**	**0.0**
	baz=307						
YM08				*e*S	**Sg**	**13 18 14.8**	**-0.4**
	baz=307						
YHNB	**Yeheng**	**1.06**	**276**	P	**Pn**	**13 18 01.7**	**-0.2**
	baz=275						
YHNB				*e*S	**Sg**	**13 18 14.4**	**-0.7**
	baz=275						
NNS	**Nan Shan**	**1.06**	**264**	P	**Pb**	**13 18 01.6**	**+0.1**
	baz=262						
NNS				*e*S	**Sg**	**13 18 14.6**	**-0.8**
	baz=262						
NSK	**Sanguang**	**1.07**	**276**	*e*P	**Pg**	**13 18 01.9**	**+0.1**
	baz=276						
NSK				*e*S	**Sg**	**13 18 15.4**	**-0.3**
	baz=276						
TWY	**Chenhua**	**1.10**	**310**	*e*P	**Pb**	**13 18 01.9**	**-0.2**
	baz=311						
TWY				*e*S	**Sg**	**13 18 16.8**	**+0.1**
	baz=311						
TWS1	**Kuangyinshan**	**1.14**	**298**	*e*P	**Pn**	**13 18 02.9**	**-0.1**
	baz=299						
TWS1				*e*S	**Sg**	**13 18 18.1**	**+0.1**
	baz=299						
LXIB	**Xiulin Townshi**	**1.15**	**242**	*e*P	**Pb**	**13 18 03.3**	**+0.2**
	baz=240						
FUSS	**Fushou**	**1.21**	**255**	*e*P	**Pn**	**13 18 04.1**	**-0.1**
	baz=254						
WHF	**Hehuan Shan**	**1.23**	**250**	*e*P	**Pb**	**13 18 04.5**	**0.0**
	baz=249						
ESL	**Shilin**	**1.25**	**233**	*e*P	**Pn**	**13 18 04.1**	**-0.4**
	baz=231						
NFF	**Wufeng Townshi**	**1.29**	**273**	*e*P	**Pg**	**13 18 05.8**	**0.0**
	baz=273						
CHGB	**Renai**	**1.33**	**248**	*e*P	**Pg**	**13 18 06.7**	**-0.1**
	baz=247						
CHGB				*e*S	**Sg**	**13 18 25.4**	**+1.2**
	baz=247						
WARBT	**Fenglin Townsh**	**1.34**	**231**	*e*P	**Pn**	**13 18 05.7**	**0.0**
	baz=229						
WARBT				*e*S	**Sb**	**13 18 23.7**	**+0.3**
	baz=229						
OWD	**Renai**	**1.38**	**244**	*e*P	**Pb**	**13 18 07.2**	**+0.3**
	baz=242						
LIOB	**Emei**	**1.38**	**274**	*e*P	**Pg**	**13 18 07.8**	**+0.2**
	baz=273						
JKRS	**Kuro-shima**	**1.39**	**103**	*e*P	**Pn**	**13 18 06.2**	**-0.2**
JKRS				S	**Sn**	**13 18 24.5**	**-0.1**
NSTT	**Nanjuang**	**1.39**	**273**	*e*P	**Pg**	**13 18 08.1**	**+0.3**
	baz=272						
NSTT				*e*S	**Sg**	**13 18 26.5**	**+0.6**
	baz=272						
WUSB	**Renai**	**1.41**	**246**	*e*P	**Pg**	**13 18 08.0**	**-0.2**
	baz=245						
WUSB				*e*S	**Sg**	**13 18 26.3**	**-0.2**
	baz=245						
SBCB	**Hsinchu**	**1.42**	**279**	*e*P	**Pg**	**13 18 09.5**	**+1.0**
	baz=279						
HGSD	**Ruisui**	**1.47**	**224**	*e*P	**Pn**	**13 18 07.6**	**+0.1**
	baz=221						
WHP	**Taichung City**	**1.47**	**259**	*e*P	**Pg**	**13 18 09.7**	**+0.4**
	baz=258						
JIJ	**Ishigaki jima**	**1.48**	**97**	*e*P	**Pb**	**13 18 09.0**	**+0.3**
JIJ				S	**Sg**	**13 18 28.9**	**+0.1**
VWDT	**VWDT**	**1.50**	**238**	*e*P	**Pb**	**13 18 08.7**	**-0.3**
	baz=236						
VWDT				*e*S	**Sb**	**13 18 28.8**	**+0.8**
	baz=236						
EHY	**Hungye**	**1.53**	**227**	*e*P	**Pn**	**13 18 08.4**	**+0.1**
	baz=224						
WCS	**Beigang Elemen**	**1.56**	**251**	*e*P	**Pg**	**13 18 11.1**	**+0.1**
	baz=250						
JISG	**Ishigakijimahi**	**1.62**	**89**	S	**Sb**	**13 18 32.2**	**+0.7**
YULB	**Yu-li**	**1.62**	**224**	*e*P	**Pn**	**13 18 09.1**	**-0.5**
	baz=222						
SSLB	**Suanglung**	**1.63**	**242**	*e*P	**Pb**	**13 18 11.0**	**-0.2**
	baz=240						
SMLT	**Sun Moon Lake**	**1.64**	**246**	*e*P	**Pb**	**13 18 11.5**	**+0.1**
	baz=244						
TWF1	**Yuli**	**1.65**	**223**	*e*P	**Pn**	**13 18 10.1**	**+0.1**
	baz=221						
TWF1				*e*S	**Sn**	**13 18 31.2**	**0.0**
	baz=221						
TYC	**Yuchr**	**1.66**	**247**	*e*P	**Pb**	**13 18 11.7**	**0.0**
	baz=245						
WHYT	**Xinyi Township**	**1.76**	**241**	*e*P	**Pb**	**13 18 13.2**	**-0.2**
	baz=239						
WJS	**Zhushan**	**1.80**	**246**	*e*P	**Pb**	**13 18 14.7**	**+0.5**
	baz=245						
EHD	**Haiduan**	**1.86**	**221**	*e*P	**Pn**	**13 18 12.7**	**-0.2**
	baz=219						
ALS	**Alishan**	**1.89**	**237**	*e*P	**Pb**	**13 18 15.6**	**-0.3**
	baz=235						
CHN5	**Tsauling**	**1.95**	**241**	*e*P	**Pb**	**13 18 16.8**	**+0.2**
	baz=239						
WCKO	**Fanlu**	**2.09**	**238**	*e*P	**Pb**	**13 18 18.7**	**-0.3**
	baz=236						
STYH	**Taoyuan**	**2.12**	**230**	*e*P	**Pb**	**13 18 18.2**	**-1.3**
	baz=228						
TPUB	**Ta-pu**	**2.15**	**234**	*e*P	**Pb**	**13 18 18.9**	**-1.0**
	baz=233						
SGST	**Jiashian**	**2.31**	**231**	*e*P	**Pn**	**13 18 20.6**	**+1.5**
	baz=229						
SLGT	**Liugui**	**2.33**	**228**	*e*P	**Pb**	**13 18 21.9**	**-1.2**
	baz=226						

SOME ***15*** *13:27:52.8,39.˚77N×72.˚27E,h10km*
NNC ***15*** *13:27:55.1±5.6,39.˚65N×71.˚38E,h0km,mb3.6,mpv3.1,*
Error ellipse: s-maj=51.6km s-min=29.0km az=171.0
ISC 15 13:27:51.5±2.4**,39.˚5N**±0.˚2**×71.˚94E**±0.˚08**,h10**km**,n8,**
σ2**966**/13**, 4C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.94**	**26**	Pg	**Pg**	**13 28 48.1**	**+0.2**
	1.7nm,0.5s						
AML				⇓Lg	Lg	13 29 33.2	
	9.1nm,0.7s						
MRKS	**Merke**	**3.38**	**16**	*e*P	**Pb**	**13 28 50.5**	**-1.0**
	2.0nm,0.2s						
MRKS				*e*S	**Sg**	**13 29 36.5**	**-3.5**
	11nm,0.3s						
KK31	**Karatay Array**	**3.75**	**344**	Pn	**Pn**	**13 28 48.3**	**-1.2**
	0.7nm,0.4s,baz=171,slow=12,SNR=11						
KK31				⇑Pg	**Pb**	**13 28 57.7**	**-0.2**
	5.0nm,0.5s,baz=163,slow=12,SNR=23						
KK31				⇑Lg	Lg	13 29 49.8	
	9.5nm,0.5s,baz=175,slow=22,SNR=4.2						
TKM2	**Tokmak 2**	**4.39**	**38**	⇓Pn	**Pb**	**13 29 06.8**	**-2.0**
	1.4nm,0.4s						
TKM2				⇑Pg	**Pg**	**13 29 19.1**	**+3.5**
	12nm,1.1s						
TKM2				⇓Lg	Lg	13 30 22.5	
	10nm,0.7s						
KST	**Kastek**	**4.66**	**39**	*e*P	**Pb**	**13 29 10.2**	**-3.1**
	2.3nm,0.3s						
KST				*e*S	**Sb**	**13 30 12.0**	**+2.5**
	7.3nm,0.3s						
DGS	**Degeres**	**4.72**	**36**	*e*P	**Pb**	**13 29 12.0**	**-2.4**
	2.4nm,0.3s						
DGS				*e*S	**Sb**	**13 30 15.2**	**+4.0**
	5.9nm,0.3s						
AB31	**Akbulak array**	**12.96**	**323**	P	**Pn**	**13 30 56.9**	**+1.2**
	0.8nm,0.5s,baz=143,slow=12,SNR=15						
AKTO	**Aktyubinsk**	**14.68**	**323**	⇑P	**P**	**13 31 24.9**	**-0.6**
	3.4nm,0.9s						

MOS ***15*** *13:31:39.9±0.9,44.˚88N×142.˚54E,h275km,mb3.8/1,Error*
ellipse: s-maj=16.7km s-min=11.2km az=81.5
JMA ***15*** *13:31:40.2±0.2,44.˚9N±1.˚0×14˚2E±˚,h279km±1km,*
MV3.2/38,SOYA REGION
SKHL ***15*** *13:31:40.4±0.2,44.˚90N×142.˚70E,h287km±8km,mb4.6/3,*
msha4.7/4
IDC ***15*** *13:31:41.2±0.4,44.˚91N×142.˚51E,h270km±4km,mb3.0/10,*
mbtmp3.7/15,Error ellipse: s-maj=16.7km s-min=12.8km
az=134.0
ISC 15 13:31:40.8±0.6**,44.˚84N**±0.˚05**×142.˚64E**±0.˚05**,h273**km±5km**,**
n47,σ1**913**/72**,mb3.2**/10**,1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.12**	**342**	*e*P	**Pn**	**13 32 15.8**	**+0.2**
JSE				*e*S	**S**	**13 32 42.8**	**-0.4**
JWK2	**Keihoku**	**0.71**	**312**	*e*P	**Pn**	**13 32 16.8**	**-0.1**
JWK2				*e*S	**S**	**13 32 45.5**	**+0.1**
JSS	**Shosan**	**0.71**	**232**	*e*P	**Pn**	**13 32 17.0**	**0.0**
JSS				*e*S	**S**	**13 32 45.4**	**-0.3**
ASAJ	**Asahikawa**	**0.72**	**182**	*e*P	**Pn**	**13 32 17.5**	**+0.3**
ASAJ				*e*S	**S**	**13 32 46.5**	**+0.7**
ASAJ	**Asahikawa**	**0.72**	**182**	P	**Pn**	**13 32 17.7**	**+0.6**
	59nm,0.3s,baz=279,slow=7.9,SNR=257						
ASAJ				S	**S**	**13 32 46.7**	**+0.9**
	44nm,0.9s,baz=82,slow=30,SNR=20						
JKA	**Kamikawa-asahi**	**0.72**	**182**	*e*P	**Pn**	**13 32 17.7**	**+0.6**
JYG	**Yagishiri**	**0.96**	**245**	*e*P	**Pn**	**13 32 17.7**	**-0.3**
JYG				*e*S	**S**	**13 32 46.8**	**-0.7**
JKK2	**Kamakawa 2**	**0.97**	**175**	*e*P	**Pn**	**13 32 18.6**	**+0.4**
JKK2				*e*S	**S**	**13 32 48.0**	**+0.2**
JMP	**Maruseppu**	**0.98**	**148**	*e*P	**Pn**	**13 32 18.9**	**+0.6**
JMP				*e*S	**S**	**13 32 48.4**	**+0.5**
JRBN	**Rebuntou**	**1.26**	**298**	*e*P	**Pn**	**13 32 18.6**	**-1.0**
JRBN				*e*S	**S**	**13 32 47.9**	**-2.4**
JTKR	**Abashiri--Toko**	**1.26**	**133**	*e*P	**Pn**	**13 32 20.6**	**+0.8**
JTKR				*e*S	**S**	**13 32 51.1**	**+0.6**
JHR	**Hokuryu**	**1.28**	**211**	*e*P	**Pn**	**13 32 20.1**	**+0.1**
JAB	**Ashibetsu**	**1.37**	**193**	*e*P	**Pn**	**13 32 20.4**	**-0.1**
JAB				*e*S	**S**	**13 32 51.8**	**-0.1**
JAR	**Ashorobuto**	**1.75**	**152**	*e*P	**Pn**	**13 32 23.7**	**+0.5**
JAR				*e*S	**S**	**13 32 57.1**	**+0.4**
JRA	**Rausu**	**2.00**	**116**	*e*P	**Pn**	**13 32 26.6**	**+1.5**
RUSJ	**Misakicho**	**2.01**	**111**	*e*PN	**Pn**	**13 32 26.9**	**+1.7**
RUSJ				S	**S**	**13 33 03.1**	**+2.6**
YSS	**Yuzh-Sakhalins**	**2.12**	**2**	⇓*e*PN	**Pn**	**13 32 26.1**	**0.0**
YSS				*e*S	**S**	**13 33 00.5**	**-1.6**
YSS				pmax	pmax		
	comp=Z,210nm,0.4s						
YSS				smax	smax		
	comp=N,80nm,0.7s						
YSS	**Yuzh-Sakhalins**	**2.12**	**2**	*e*P	**Pn**	**13 32 26.1**	**0.0**
YSS				AMB	AMB	13 32 26.4	
	comp=N,210nm,0.4s						
YSS				*e*S	**S**	**13 33 00.5**	**-1.6**
YSS				A	A	13 33 01.1	
	comp=N,40nm,0.4s						
YSS				A	A	13 33 01.1	
	comp=N,30nm,0.4s						
JEW	**Eniwo**	**2.18**	**204**	*e*P	**Pn**	**13 32 26.8**	**0.0**
JCH	**Churui**	**2.29**	**166**	*e*P	**Pn**	**13 32 26.4**	**-1.4**
JCH				*e*S	**S**	**13 33 01.8**	**-3.3**
JAK	**Akkeshi**	**2.37**	**140**	*e*P	**Pn**	**13 32 27.9**	**-0.7**
JAK				*e*S	**S**	**13 33 04.7**	**-1.7**
AKK	**Akkeshi**	**2.42**	**138**	*e*P	**Pn**	**13 32 28.5**	**-0.5**
AKK				*e*S	**S**	**13 33 05.1**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**2.44**	**108**	*e*P	**Pn**	**13 32 29.9**	**+0.7**
YUK				*e*S	**S**	**13 33 07.6**	**0.0**
JNBK	**Urakawa-nobuka**	**2.56**	**178**	*e*P	**Pn**	**13 32 29.9**	**-0.5**
JNBK				*e*S	**S**	**13 33 08.2**	**-1.5**
NMR	**Nemuro--Hokkai**	**2.67**	**122**	*e*PN	**Pn**	**13 32 30.7**	**-0.7**
NMR				*e*S	**S**	**13 33 09.2**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.67**	**122**	*e*P	**Pn**	**13 32 30.7**	**-0.7**
NMR				*e*S	**S**	**13 33 09.2**	**-2.3**
NEM2	**Nemuro 2**	**2.68**	**122**	*e*P	**Pn**	**13 32 30.9**	**-0.6**
NEM2				*e*S	**S**	**13 33 09.1**	**-2.6**
SHO	**Shikotan**	**3.16**	**106**	*e*PN	**Pn**	**13 32 36.0**	**-0.4**
SHO				*e*S	**S**	**13 33 18.7**	**-1.9**
SHO				smax	smax		
	comp=N,49nm,0.4s						
SHO				smax	smax		
	comp=E,59nm,0.4s						
SHO	**Shikotan**	**3.16**	**106**	*e*P	**Pn**	**13 32 36.0**	**-0.4**
SHO				*e*S	**S**	**13 33 18.7**	**-1.9**
SHO				A	A	13 33 20.6	
	comp=E,50nm,0.4s						
SHO				A	A	13 33 20.6	
	comp=E,60nm,0.4s						
MJAR	**Matsushiro Arr**	**8.95**	**204**	P	**Pn**	**13 33 45.3**	**-0.7**
	comp=E,1.2nm,0.7s,baz=338,slow=4.9,SNR=4.9						
PETK	**Petropavlovsk-**	**12.88**	**45**	P	**P**	**13 34 34.6**	**-1.0**
	comp=E,2.0nm,0.8s,baz=216,slow=11,SNR=11						
KSRS	**Korea Array**	**13.31**	**241**	P	**Pn**	**13 34 39.5**	**-0.3**
	comp=E,0.6nm,0.5s,baz=50,slow=10,SNR=4.7						
MA2	**Magadan**	**15.56**	**16**	P	**Pn**	**13 35 05.6**	**-0.8**
	comp=E,5.0nm,0.6s,baz=209,slow=11,SNR=9.1						
SEY	**Seymchan**	**18.97**	**14**	P	**P**	**13 35 41.8**	**-0.3**
	comp=E,2.5nm,0.5s,baz=190,slow=9.4,SNR=18						
SONM	**Songino Array**	**25.06**	**290**	P	**P**	**13 36 40.8**	**+0.2**
	comp=E,1.3nm,0.6s,baz=92,slow=9.0,SNR=10						
	comp=E,1.3nm,0.6s						
MKAR	**Makanchi Array**	**41.20**	**295**	P	**P**	**13 38 58.7**	**-0.3**
	comp=E,0.4nm,0.7s,baz=81,slow=9.0,SNR=4.0						
	comp=E,0.4nm,0.7s						
KURK	**Kurchatov**	**42.22**	**302**	P	**P**	**13 39 07.3**	**+0.2**
KURK	**Kurchatov**	**42.22**	**302**	*e*P	**P**	**13 39 07.3**	**+0.2**
KURBB	**Kurchatov Arra**	**42.30**	**302**	P	**P**	**13 39 07.3**	**-0.5**
	comp=E,0.4nm,0.4s,baz=70,slow=8.4,SNR=4.3						
	comp=E,0.4nm,0.4s						
ILAR	**Eielson Array**	**42.54**	**37**	P	**P**	**13 39 09.8**	**+0.3**
	comp=E,0.5nm,0.9s,baz=288,slow=10,SNR=5.9						
	comp=E,0.5nm,0.9s						
BVAR	**Borovoye Array**	**46.28**	**307**	P	**P**	**13 39 39.0**	**-0.1**
BVAR	**Borovoye Array**	**46.28**	**307**	P	**P**	**13 39 39.0**	**-0.1**
	comp=E,0.5nm,0.6s,baz=156,slow=43,SNR=2.1						
	comp=E,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**56.67**	**33**	P	**P**	**13 40 56.2**	**+0.7**
	comp=E,0.3nm,0.6s,baz=303,slow=6.7,SNR=6.5						
	comp=E,0.3nm,0.6s						
FINES	**FINESS Array B**	**62.39**	**331**	P	**P**	**13 41 33.5**	**-0.8**
	comp=E,1.4nm,0.7s,baz=35,slow=7.0,SNR=3.9						
	comp=E,1.4nm,0.7s						
ASAR	**Alice Springs**	**68.64**	**189**	P	**P**	**13 42 15.8**	**+1.1**
	comp=E,0.8nm,0.6s,baz=6.8,slow=5.9,SNR=23						
	comp=E,0.8nm,0.6s						
PDAR	**Pinedale Array**	**71.62**	**48**	P	**P**	**13 42 33.9**	**+0.9**
	comp=E,0.7nm,0.6s,baz=284,slow=1.8,SNR=12						
	comp=E,0.7nm,0.6s						
TXAR	**Lajitas Array**	**84.67**	**53**	P	**P**	**13 43 45.8**	**+1.6**
	comp=E,0.3nm,0.7s,baz=304,slow=4.3,SNR=4.7						
	comp=E,0.3nm,0.7s						

TEH ***15*** *13:39:12.5,34.˚51N×45.˚71E,h12km±26km,ML2.9*
ISN ***15*** *13:39:14.1±0.6,34.˚53N×45.˚62E,h18km±11km,ML2.9*
ISC 15 13:39:12.7±1.2**,34.˚55N**±0.˚05×**45.˚69E**±0.˚04**,h9**km±11**km,**
n11,σ0**985**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.10**	**245**	Pg	**Pg**	**13 39 15.6**	**+0.5**
IDHR	**Dehrash**	**0.59**	**75**	Pg	**Pg**	**13 39 24.0**	**-0.1**
IGHG	**Ghaleghazi**	**0.75**	**106**	Pg	**Pg**	**13 39 27.2**	**0.0**
ILBA	**Ilam Banvizeh**	**1.01**	**155**	Pg	**Pb**	**13 39 31.2**	**-1.2**
ILIN	**Lien**	**1.11**	**70**	Pg	**Pb**	**13 39 34.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.15**	**103**	Pg	**Pb**	**13 39 33.9**	**-0.9**
IKRK	**Kirkuk**	**1.40**	**308**	*e*Pg	**Pn**	**13 39 38.5**	**+0.1**
IKRK				*e*Sg	**Sb**	**13 39 57.0**	**0.0**
IKRK				AML	AML	13 40 04.2	
	comp=E,236nm,0.3s						
IKRK				AML	AML	13 40 04.6	
	comp=N,211nm,0.6s						
IBDR	**Badra**	**1.45**	**172**	*e*Pg	**Pb**	**13 39 40.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**13 39 59.0**	**-0.2**
IKOM	**Komasi**	**1.55**	**103**	Pg	**Pb**	**13 39 42.2**	**+0.6**
BHD	**Baghdad**	**1.68**	**221**	*e*Pn	**Pb**	**13 39 44.0**	**+0.3**
BHD				*e*Sn	**Sg**	**13 40 05.0**	**-1.6**
IKFM	**Kafar-mosalman**	**2.06**	**119**	Pn	**Pn**	**13 39 48.7**	**+1.3**

TEH ***15*** *13:50:03.7,35.˚75N×52.˚66E,h8km±18km,ML4.2*
IDC ***15*** *13:50:04.2±0.7,35.˚62N×52.˚60E,h0km,mb4.1/23,*
mbtmp4.1/30,ML3.7/7,MS3.6/24,Error ellipse:
s-maj=14.7km s-min=10.8km az=5.0
MOS ***15*** *13:50:04.6±1.2,35.˚73N×52.˚60E,h7km,mb4.5/29,Error*
ellipse: s-maj=6.4km s-min=4.3km az=126.6
NEIC ***15*** *13:50:06.6±1.9,35.˚74N±0.˚08×52.˚69E±0.˚07,h10km±1km,*
mb4.4/50,Error ellipse: s-maj=13.8km s-min=9.1km
az=175.0
ISC 15 13:50:05.2±0.3**,35.˚76N**±0.˚03×**52.˚65E**±0.˚02**,h5**km**,n272,**
σ1**863**/269**,mb4.4**/83**,MS3.7**/15**,11C-4D, Northern and**
central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IALA	**Alasht**	**0.34**	**23**	Pg	**Pg**	**13 50 10.7**	**-1.3**
IALA				Sg	**Sg**	**13 50 16.6**	**-0.1**
**

TPRV Parvadeh(Tabas 4.31 128 Pn **Pn** 13 51 11.9 +0.3
IKOM Komasi 4.51 251 Pn **Pn** 13 51 15.3 +1.0
ISFR Sfrayin 4.51 72 Pn **Pn** 13 51 15.7 +1.3
IKFM Kafar-mosalman 4.54 242 Pn **Pn** 13 51 15.7 +1.1
IHSH Hashtrud 4.60 291 Pn **Pn** 13 51 16.4 +0.6
IMEH Mehriz 4.66 159 Pn **Pn** 13 51 16.7 +0.2
ILIN Lien 4.72 261 Pn **Pn** 13 51 18.8 +1.4
IBAF Bafgh 4.82 149 Pn **Pn** 13 51 18.9 +0.2
KLNJ Kolanjah 4.83 191 Pn **Pn** 13 51 19.7 +0.8
KCHF Cheshme Sefid, 4.83 254 Pn **Pn** 13 51 20.3 +1.5
GEYT Alibeck 4.89 62 Pn **Pn** 13 51 20.8 +1.3
GEYT Alibeck 4.89 62 Pn **Pn** 13 51 21.5 +2.0
6.4nm,0.3s,baz=252,slow=9.0,SNR=40
GEYT Sn **Sn** 13 52 21.0 +4.5
baz=272,slow=15
GEYT LR LR 13 53 39.7
comp=Z,1µm,19.2s,baz=288,slow=43
29nm,0.5s
GYA0B ALIBECK ARRAY 4.89 62 Pn **Pn** 13 51 20.4 +1.0
IAKL Akhelmad 5.01 79 Pn **Pn** 13 51 21.8 +0.4
IEMG Emamgholi 5.11 69 Pn **Pn** 13 51 23.6 +1.0
IHRS Heris 5.16 301 Pn **Pn** 13 51 24.8 +1.5
IGHG Ghaleghazi 5.19 256 Pn **Pn** 13 51 24.9 +1.2
IDHR Dehrash 5.23 260 Pn **Pn** 13 51 24.7 +0.3
IMOG Moghan 5.44 84 Pn **Pn** 13 51 27.8 +0.5
IKRD Kardeh 5.64 78 Pn **Pn** 13 51 30.6 +0.6
AFRZ Afriz 5.75 112 Pn **Pn** 13 51 31.8 +0.4
ITEG Tejag 5.80 118 Pn **Pn** 13 51 32.8 +0.6
ISHB Shabestar 6.16 296 Pn **Pn** 13 51 38.4 +1.3
IKOO Kooshah 6.24 120 Pn **Pn** 13 51 38.7 +0.5
JRKH Jarkhoshk 6.26 86 Pn **Pn** 13 51 39.1 +0.8
IMRD Marand 6.27 300 Pn **Pn** 13 51 40.1 +1.5
TBJM Torbat-e-JAM 6.29 92 Pn **Pn** 13 51 39.2 +0.4
NAX Nakhchivan 6.63 303 P **Pn** 13 51 44.1 +0.7
MNGR Mingechevir, A 6.64 320 P **Pn** 13 51 44.4 +0.9
SEKA Sheki 6.91 323 P **Pn** 13 51 47.9 +0.6
GANJ Ganja 6.97 316 P **Pn** 13 51 48.1 +0.1
ZKTA Zakatala 7.52 323 P **Pn** 13 51 56.5 +0.9
NHDN Nehbandan 7.56 123 Pn **Pn** 13 51 56.9 +0.6
GNI Garni 7.62 307 Pn **Pn** 13 52 00.4 +3.3
GNI Garni 7.62 307 P **Pn** 13 52 00.4 +3.3
GNI Garni 7.62 307 Pn Pn 13 52 02.0 +4.9
2.8nm,0.3s,baz=34,slow=4.7,SNR=8.9
12nm,0.6s
MAK Makhachkala 8.21 333 *e*P **Pn** 13 52 01.7 -3.3
MAK *e*S **Sn** 13 53 35.0 -3.2
MAK pmax pmax
comp=Z,339nm,1.1s
MAK MLR MLR
comp=Z,373nm,7.0s
ZEI Tsey 9.75 319 *e*P **Pn** 13 52 28.4 +2.1
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ONI Oni 9.86 316 Pn **Pn** 13 52 28.7 +1.0
ONI Oni 9.86 316 P **Pn** 13 52 29.1 +1.4
KBZ Khabaz 10.93 320 Pn **Pn** 13 52 44.4 +2.1
comp=Z,0.1nm,0.3s,baz=117,slow=4.5,SNR=2.9
KBZ Sn **Sn** 13 54 44.7 -0.1
comp=Z,0.1nm,0.3s,baz=73,slow=20,SNR=1.5
KBZ LR LR 13 57 17.2
comp=Z,76nm,21.7s,baz=127,slow=39
comp=Z,1.7nm,0.7s
KIV Kislovodsk 11.20 320 *e*P **Pn** 13 52 46.1 +0.1
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,99nm,13.0s
WSAR Wadi Sarin 13.52 156 Pn **Pn** 13 53 17.4 -0.4
comp=Z,0.3nm,0.3s,baz=344,slow=6.7,SNR=4.8
WSAR LR LR 13 58 55.0
comp=Z,73nm,20.6s,baz=26,slow=40
comp=Z,2.1nm,0.6s
ASF Jabal al Asfar 13.55 259 LR LR 13 59 31.6
comp=Z,327nm,21.1s,baz=167,slow=42
MMAI Mount Meron Ar 14.50 264 LR LR 13 59 57.3
comp=Z,166nm,18.3s,baz=30,slow=41
ABKAR Akbulak array 14.51 19 Pn **Pn** 13 53 28.0 -3.1
QRNJ Al-Qirein 14.56 261 P Pn 13 53 19.1 -13
HMDT Nahal Hemdat 14.62 261 P Pn 13 53 17.9 -15
ANN Anapa 14.69 313 P **Pn** 13 53 31.7 -1.9
ANN pmax pmax
comp=Z,52nm,1.1s
UJAP Al Uja 14.77 260 P Pn 13 53 20.7 -14
AKTO Aktyubinsk 15.17 13 Pn **Pn** 13 53 37.1 -3.0
comp=Z,1.5nm,0.3s,baz=203,slow=11,SNR=26
AKTO Sn **Sn** 13 56 18.9 -10
comp=Z,1.0nm,0.3s,baz=93,slow=23,SNR=6.7
comp=Z,6.0nm,0.4s
BR131 Keskin Array S 15.54 290 Pn **Pn** 13 53 45.2 0.0
BR131 Keskin Array S 15.54 290⇓ *e*P **P** 13 53 47.7 -2.0
BRTR Keskin Array B 15.54 290 Pn **Pn** 13 53 45.4 +0.2
BRTR Keskin Array B 15.54 290 *e*P **Pn** 13 53 47.2 +2.0
BRTR Keskin Array B 15.54 290 Pn **Pn** 13 53 47.0 +1.8
comp=Z,0.1nm,0.3s,baz=127,slow=16,SNR=5.1
BRTR LR LR 14 00 21.4
comp=Z,258nm,19.3s,baz=77,slow=40
comp=Z,0.5nm,0.5s
KK31 Karatay Array 15.61 57 Pn **Pn** 13 53 45.6 -0.4
KK31 Karatay Array 15.61 57 P **Pn** 13 53 45.6 -0.4
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 15.61 57 Pn **Pn** 13 53 45.3 -0.7
KKAR Karatay Array 15.61 57 P **Pn** 13 53 45.3 -0.7
KKAR pmax pmax
comp=Z,4.0nm,0.8s
EIL Elat 16.08 253 LR LR 14 01 29.1
comp=Z,251nm,18.2s,baz=67,slow=43
ARSB Arslanbob 16.84 65 **Pn** 13 54 00.6 -1.2
ARSB Arslanbob 16.84 65 P **Pn** 13 54 00.6 -1.2
ARSB pmax pmax
comp=Z,4.0nm,1.3s
BELG Belogornoye 17.00 349 P **Pn** 13 54 00.8 -2.9
comp=Z,25nm,1.0s,baz=181,slow=3.0,SNR=7.9
BELG S Sn 13 56 59.8 -13
comp=Z,9.5nm,0.8s,baz=254,slow=20,SNR=3.5
BELG LR LR 14 03 29.6
comp=Z,166nm,20.7s,baz=303,slow=47
VRH Novokhopyorsk 17.32 336 *e*P **P** 13 54 09.7 +0.7
VRH pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 18.23 332 *e*P **Pn** 13 54 13.5 -5.4
VSR pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 18.25 61 P **P** 13 54 20.4 +0.8
AAK Ala-Archa 18.25 61⇑ *e*P **P** 13 54 22.3 +2.7
AAK Ala-Archa 18.25 61 P **P** 13 54 21.1 +1.5
comp=Z,0.2nm,0.3s,baz=252,slow=1.3,SNR=6.7
AAK LR LR 14 02 38.7
comp=Z,166nm,21.0s,baz=284,slow=41
comp=Z,2.0nm,0.7s
ELL Elmali 18.36 280 P **P** 13 54 23.2 +2.3
ELL IAmb IAmb 13 54 25.5
comp=Z,52nm,1.0s
ELL Elmali 18.36 280 P **P** 13 54 23.2 +2.3
ELL pmax pmax
comp=Z,52nm,1.0s
VORR Voronezh 18.58 333 *e*P **P** 13 54 22.9 -0.1
VORR pmax pmax
comp=Z,72nm,0.4s
KSH Kashi 18.84 72 P **P** 13 54 24.8 -1.3
KSH sP sP 13 54 30.8 +1.8
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH LR LR
comp=N,170nm,9.0s
KSH LR LR
comp=E,670nm,18.7s
KSH LR LR
comp=Z,670nm,17.8s
LPSR Galich'ya Gora 19.44 334 *e*P **P** 13 54 26.2 -6.2
LPSR pmax pmax
comp=Z,50nm,1.2s
ARG Arkhangelos 19.84 279 P **Pn** 13 54 39.3 +0.9
ARG Arkhangelos 19.84 279 P **Pn** 13 54 39.3 +0.9
ARG pmax pmax
comp=Z,68nm,1.2s
ARU Arti 21.06 9 P **P** 13 54 51.2 +1.3
ARU IAmb IAmb 13 55 11.3
comp=Z,12nm,0.8s
ARU Arti 21.06 9*c i*P **P** 13 54 51.2 +1.3
ARU 13 55 08.7
ARU S Sn 13 58 49.6 -1.0
ARU SS **SnSn** 13 59 11.2 +5.7
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 21.06 9 P **P** 13 54 50.6 +0.6
comp=Z,9.8nm,0.7s,baz=216,slow=5.0,SNR=16
ARU LR LR 14 04 51.5
comp=Z,187nm,20.7s,baz=224,slow=42
comp=Z,9.8nm,0.7s
BRVK Borovoye 21.29 30 P **P** 13 54 53.1 +0.6
BRVK Borovoye 21.29 30⇓ *e*P **P** 13 54 53.7 +1.2
BRVK pmax pmax
comp=Z,14nm,1.3s
BVAR Borovoye Array 21.31 30 P **P** 13 54 53.6 +0.9
comp=Z,10.0nm,0.8s,baz=213,slow=10,SNR=25
BVAR S **S** 13 58 49.1 -0.6
comp=Z,1.1nm,0.6s,baz=232,slow=19,SNR=5.0
BVAR LR LR 14 04 56.6
comp=Z,347nm,19.4s,baz=262,slow=42
comp=Z,10.0nm,0.8s
SVE Sverdlovsk 21.75 12 *e*P **P** 13 55 00.2 +2.8
OBN Obninsk 22.30 335⇑ *e*P **P** 13 55 03.8 +0.6
OBN *e* 13 55 29.7
OBN *e*S **S** 13 59 06.3 -2.4
OBN pmax pmax
comp=Z,31nm,1.2s
OBN MLR MLR
comp=Z,128nm,9.0s
MLR Muntele Rosu 22.38 304 P **P** 13 55 06.1 +1.6
comp=Z,16nm,1.1s,baz=76,slow=2.8,SNR=11
comp=Z,16nm,1.1s
AKASG Malin Array Be 22.54 319 *e*P **P** 13 55 08.3 +2.4
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 22.54 319 P **P** 13 55 06.5 +0.6
comp=Z,2.0nm,0.7s,baz=130,slow=9.2,SNR=13
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 22.54 319 P **P** 13 55 06.7 +0.8
AKBB IAmb IAmb 13 55 12.9
comp=Z,9.3nm,1.0s
AKBB Malin Array Si 22.54 319⇓ *i*P **P** 13 55 07.3 +1.4
AKBB pmax pmax
comp=Z,45nm,2.7s
KIEV Kiev 22.54 319 P **P** 13 55 06.7 +0.8
KIEV IAmb IAmb 13 55 13.0
comp=Z,8.4nm,1.0s
KIEV Kiev 22.54 319 P **P** 13 55 06.7 +0.8
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIRV Kirov 22.93 356⇑ *e*P **P** 13 55 12.3 +2.4
KIRV Kirov 22.93 356 P **P** 13 55 11.6 +1.6
comp=Z,28nm,0.7s,baz=177,slow=3.1,SNR=8.2
comp=Z,28nm,0.7s
SRS Serrai 23.32 292 P **P** 13 55 12.2 -1.9
SRS pmax pmax
comp=Z,19nm,1.6s
BURAR Bucovina Array 23.53 309 P **P** 13 55 16.9 +0.6
KURBB Kurchatov Arra 23.85 43 P **P** 13 55 20.8 +1.6
comp=Z,1.4nm,0.7s,baz=243,slow=9.5,SNR=11
KURBB LR LR 14 05 50.7
comp=Z,139nm,18.8s,baz=244,slow=40
comp=Z,1.4nm,0.7s
KURK Kurchatov 23.94 43 P **P** 13 55 20.9 +0.8
KURK IAmb IAmb 13 55 28.9
comp=Z,6.7nm,0.9s
KURK Kurchatov 23.94 43*ce*P **P** 13 55 22.4 +2.3
KURK pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 24.51 54 P **P** 13 55 26.0 +0.5
MAKZ IAmb IAmb 13 55 30.0
comp=Z,12nm,1.4s
MAKZ Makanchi 24.51 54 P **P** 13 55 26.0 +0.5
MAKZ pmax pmax
comp=Z,12nm,1.4s
MK31 Makanchi Array 24.71 54 P **P** 13 55 28.0 +0.7
MK31 Makanchi Array 24.71 54*c i*P **P** 13 55 28.7 +1.4
MKAR Makanchi Array 24.71 54 P **P** 13 55 28.0 +0.7
MKAR Makanchi Array 24.71 54 *e*P **P** 13 55 28.6 +1.3
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 24.71 54 P **P** 13 55 28.7 +1.3
comp=Z,3.3nm,0.7s,baz=247,slow=8.9,SNR=33
MKAR LR LR 14 06 20.8
comp=Z,171nm,20.3s,baz=276,slow=39
comp=Z,3.3nm,0.7s
FNA Florina 24.98 291 P **P** 13 55 30.8 +1.0
FNA Florina 24.98 291 P **P** 13 55 30.8 +1.0
FNA pmax pmax
comp=Z,5.0nm,0.9s
BZS Buzias 25.36 302 P **P** 13 55 34.4 +1.2
BZS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 25.82 310 *e*P **P** 13 55 41.2 +3.9
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 25.82 310 *e*P **P** 13 55 41.2 +3.9
NACGM Naroch 26.15 325 *e*P **P** 13 55 35.0 -5.2
comp=Z,14nm,0.7s,baz=127
CRVS Cervenica-Dubn 26.32 310 *e*P **P** 13 55 44.1 +2.2
CRVS pmax pmax
comp=Z,50nm,1.6s
CRVS Cervenica-Dubn 26.32 310 *e*P **P** 13 55 44.1 +2.2
KLMR Klimovskoe 26.48 346 *e*P **P** 13 55 42.7 -0.4
KLMR pmax pmax
comp=Z,43nm,1.8s
STHS Stebnicka Huta 26.62 311 *e*P **P** 13 55 44.3 -0.3
STHS Stebnicka Huta 26.62 311 *e*P **P** 13 55 44.3 -0.3
PSZ Piszkesteto 27.05 307 P **P** 13 55 49.7 +1.2
PSZ IAmb IAmb 13 56 29.8
comp=Z,19nm,1.5s
PSZ Piszkesteto 27.05 307 P **P** 13 55 49.7 +1.2
PSZ pmax pmax
comp=Z,19nm,1.5s
OJC Ojcow 27.77 312 P **P** 13 55 55.9 +1.1
OJC pmax pmax
comp=Z,16nm,2.8s
VYHS Vyhne 27.88 308 *e*P **P** 13 55 57.6 +1.8
VYHS pmax pmax
comp=Z,12nm,1.2s
VYHS Vyhne 27.88 308 *e*P **P** 13 55 57.6 +1.8
TIP Timpagrande 28.57 288 P **P** 13 56 03.5 +1.3
TIP IAmb IAmb 13 56 26.6
comp=Z,18nm,1.5s
SMOL Smolenice 28.79 307 *e*P **P** 13 56 05.7 +1.7
SMOL pmax pmax
comp=Z,8.0nm,1.2s
ZALV Zalesovo Beam 28.81 41 P **P** 13 56 04.8 +0.8
ZALV Zalesovo Beam 28.81 41 *e*P **P** 13 56 06.0 +2.0
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 28.81 41 P **P** 13 56 04.7 +0.6
comp=Z,2.5nm,0.7s,baz=249,slow=8.7,SNR=9.1
ZALV LR LR 14 08 56.1
comp=Z,87nm,18.9s,baz=305,slow=39
comp=Z,2.5nm,0.7s
DGZ Jazzator, Alta 28.81 50⇑ *e*P **P** 13 56 06.7 +2.4
DGZ pmax pmax
comp=Z,10.0nm,4.0s
MODS Modra-Piesok 28.86 307 *e*P **P** 13 56 06.1 +1.5
MODS pmax pmax
comp=Z,16nm,1.1s
MODS Modra-Piesok 28.86 307 *e*P **P** 13 56 06.1 +1.5
KLNR Kaliningrad 29.24 320⇑ *e*P **P** 13 56 09.0 +1.2
RONA Rosalia, Austr 29.36 305 *e*pP **P** 13 56 10.1 +1.0
comp=Z,4.0nm,0.6s
KRUC Moravsky 29.58 308 P **P** 13 56 11.2 +0.2
CONA Conrad Observa 29.69 306 *e*pP **P** 13 56 13.0 +0.9
comp=Z,4.3nm,1.2s
ARSA Arzberg 29.80 304 *i* pP **P** 13 56 14.5 +1.5
comp=Z,9.4nm,1.0s
SOKA Soboth 30.05 303 *i* pP **P** 13 56 16.5 +1.2
comp=Z,8.1nm,1.4s
OBKA Obir 30.36 303 *e*pP **P** 13 56 20.3 +2.2
comp=Z,8.5nm,1.3s
GOPC GO Pecny, Ondr 30.79 309 *e*P **P** 13 56 23.8 +2.1
GOPC GO Pecny, Ondr 30.79 309 *e*P **P** 13 56 23.8 +2.1
CKRC Cesky Krumlov 30.88 307 *e*P **P** 13 56 23.0 +0.6
CKRC Cesky Krumlov 30.88 307 *e*P **P** 13 56 23.0 +0.6
KBA Koelnbreinsper 31.25 303 *e*pP **P** 13 56 27.2 +1.2
comp=Z,13nm,1.6s
KBA Koelnbreinsper 31.25 303 P **P** 13 56 23.6 -2.4
KBA pmax pmax
comp=Z,7.0nm,1.1s
GEC2 GERESS Array S 31.27 307 P **P** 13 56 26.1 0.0
GERES GERESS Array B 31.27 307 P **P** 13 56 26.0 0.0
GERES GERESS Array B 31.27 307 *e*P **P** 13 56 27.0 +0.9
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 31.27 307 P **P** 13 56 26.8 +0.7
comp=Z,6.9nm,0.9s,baz=98,slow=9.6,SNR=19
comp=Z,6.9nm,0.9s
KHC Kasperske Hory 31.41 307 *e*P **P** 13 56 27.6 +0.5
KHC Kasperske Hory 31.41 307 *e*P **P** 13 56 27.6 +0.5
CLTB Caltabellotta 31.52 285 P **P** 13 56 28.4 +0.1
LESA Schwarzleotal 31.75 304 *e*pP **P** 13 56 30.6 +0.4
comp=Z,13nm,1.5s
ABTA Abfaltersbach 31.79 303 *i* pP **P** 13 56 31.2 +0.6
comp=Z,9.1nm,1.1s
CLL Collm 32.22 311 *e*P **P** 13 56 35.0 +0.8
CLL Collm 32.22 311 *e*P **P** 13 56 35.0 +0.8
comp=Z,15nm,1.1s
CLL *e*PP **PP** 13 57 45.0 -1.7
WTTA Wattenberg 32.43 304 *i* pP **P** 13 56 35.8 -0.6
comp=Z,11nm,1.1s
WTTA Wattenberg 32.43 304 P **P** 13 56 36.0 -0.3
WTTA pmax pmax
comp=Z,23nm,1.0s
WATA Walderalm 32.48 304 *i* pP **P** 13 56 36.5 -0.3
comp=Z,18nm,1.0s
SQTA Sankt Quirin 32.72 303 *i* pP **P** 13 56 38.5 -0.3
comp=Z,8.2nm,0.7s
MOTA Moosalm 32.80 304 *i* pP **P** 13 56 39.0 -0.5
comp=Z,8.3nm,1.1s
FETA Feichten 33.03 303 *i* pP **P** 13 56 41.5 0.0
comp=Z,25nm,1.1s
RETA Reutte 33.05 304 *i* pP **P** 13 56 40.2 -1.4
comp=Z,11nm,1.2s
DAVA Damuels 33.62 303 *i* pP **P** 13 56 46.3 -0.4
comp=Z,26nm,1.1s
HFS Hagfors 34.88 327 P **P** 13 56 57.8 +0.5
comp=Z,2.3nm,0.5s,baz=114,slow=9.9,SNR=7.8
comp=Z,2.3nm,0.5s
KEST Kesra 34.93 283 P **P** 13 56 58.9 +0.8
KEST Kesra 34.93 283 P **P** 13 56 59.4 +1.3
comp=Z,14nm,1.0s,baz=335,slow=7.3,SNR=8.3
comp=Z,14nm,1.0s
SENIN Lac Senin/Sane 35.35 302 P **P** 13 57 01.3 -0.5
ECH Echery 35.52 305 P **P** 13 57 02.6 -0.4
ECH Echery 35.52 305 P **P** 13 57 02.6 -0.4
ECH pmax pmax
comp=Z,16nm,1.2s
BNI Bardonecchia 35.79 299 P **P** 13 57 05.2 -0.3
BNI Bardonecchia 35.79 299 P **P** 13 57 05.2 -0.3
BNI pmax pmax
comp=Z,30nm,1.3s
NB2 NORSAR Subarra 36.38 327 P **P** 13 57 10.5 +0.3
comp=Z,0.5nm,0.5s,baz=116,slow=8.6
NOA NORSAR Array B 36.38 327 *e*P **P** 13 57 11.7 +1.5
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 36.38 327 P **P** 13 57 10.2 0.0
comp=Z,0.6nm,0.5s,baz=116,slow=8.2,SNR=3.6
comp=Z,0.6nm,0.5s
ARCES ARCESS Array B 36.94 345 P **P** 13 57 15.2 +0.4
comp=Z,2.4nm,0.8s,baz=138,slow=8.4,SNR=3.1
comp=Z,2.4nm,0.8s
KMBO Kilima Mbogo 39.41 205 LR LR 14 14 45.4
comp=Z,62nm,19.3s,baz=88,slow=38
SONM Songino Array 41.06 56 *e*P **P** 13 57 53.0 +3.2
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 41.06 56 P **P** 13 57 50.6 +0.8
comp=Z,0.3nm,0.5s,baz=297,slow=6.5,SNR=4.4
comp=Z,0.3nm,0.5s
ULN Ulaanbaatar 41.50 56 P **P** 13 57 54.4 +1.0
ULN IAmb IAmb 13 57 57.2
comp=Z,6.8nm,1.3s
ULN Ulaanbaatar 41.50 56⇑ *i*P **P** 13 57 55.7 +2.3
ULN pmax pmax
comp=Z,7.0nm,1.5s
EKA Eskdalemuir Ar 42.38 315 P **P** 13 58 00.8 +0.5
comp=Z,4.0nm,0.7s,baz=102,slow=7.8,SNR=8.1
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 44.24 100 *e*P **P** 13 58 17.9 +2.2
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 44.24 100 P **P** 13 58 15.4 -0.3
comp=Z,1.0nm,0.6s,baz=301,slow=8.7,SNR=6.9
CMAR LR LR 14 22 16.1
comp=Z,22nm,18.4s,baz=330,slow=44
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 44.32 293 P **P** 13 58 15.2 -1.0
ESDC Sonseca Array 44.32 293 P **P** 13 58 15.3 -1.0
comp=Z,2.1nm,0.9s,baz=66,slow=8.1,SNR=11
comp=Z,2.1nm,0.9s
TOA0 Torodi Ar. Sit 50.91 257 P **P** 13 59 05.6 -2.0
TOA0 IAmb IAmb 13 59 07.9
comp=Z,6.0nm,1.3s
TORD Torodi Ar. Bea 50.91 257 P **P** 13 59 05.6 -2.0
TORD Torodi Ar. Bea 50.91 257 P **P** 13 59 05.8 -1.9
comp=Z,1.9nm,0.9s,baz=42,slow=9.9,SNR=6.7
comp=Z,1.9nm,0.9s
WHN Wuhan 51.18 77 P **P** 13 59 08.9 -0.6
TIXI Tiksi 52.17 23⇑ *i*P **P** 13 59 17.7 +1.4
TIXI pmax pmax
comp=Z,7.0nm,1.4s
TIXI Tiksi 52.17 23 LR LR 14 25 33.0
comp=Z,5.9nm,18.2s,baz=6.5,slow=41
ZEA Zeya 53.39 46 *e*P **P** 13 59 28.7 +3.1
KULM Kulim 53.48 113 P **P** 13 59 24.9 -1.8
OPO Ambohidratompo 54.28 186 LR LR 14 21 34.2
comp=Z,98nm,21.8s,baz=358,slow=35
HEH HeiHe 54.31 50 *e*P **P** 13 59 32.8 +0.4
HEH pmax pmax
comp=Z,10.0nm,1.0s
LSZ Lusaka 55.80 209 LR LR 14 23 52.9
comp=Z,78nm,21.1s,baz=130,slow=36
KLR Kul'dur 57.30 50⇑ *i*P **P** 13 59 55.6 +1.7
KLR pmax pmax
comp=Z,13nm,1.9s
KSRS Korea Array 58.88 64 *e*P **P** 14 00 05.9 +0.8
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 58.88 64 P **P** 14 00 05.4 +0.3
comp=Z,2.4nm,0.8s,baz=288,slow=6.2,SNR=9.2
comp=Z,2.4nm,0.8s
DBIC Dimbokro 59.92 255 LR LR 14 29 08.7
comp=Z,79nm,18.4s,baz=9.5,slow=39
SEY Seymchan 62.97 30⇓ *i*P **P** 14 00 34.9 +2.4
SEY pmax pmax
comp=Z,6.0nm,1.3s
MA2 Magadan 63.74 34 LR LR 14 32 07.5
comp=Z,44nm,18.3s,baz=330,slow=40
LBTB Lobatse 65.64 207 P **P** 14 00 50.0 -0.5
LBTB Lobatse 65.64 207 P **P** 14 00 50.0 -0.5
LBTB pmax pmax
comp=Z,9.0nm,1.5s
LBTB Lobatse 65.64 207 LR LR 14 31 05.3
comp=Z,109nm,20.7s,baz=16,slow=38
BOSA Boshof 69.04 206 P **P** 14 01 10.9 -1.2
comp=Z,3.4nm,0.5s,baz=11,slow=5.6,SNR=12
BOSA LR LR 14 33 58.9
comp=Z,104nm,20.1s,baz=118,slow=38
comp=Z,3.4nm,0.5s
B20K Meade River 72.32 10 P **P** 14 01 32.4 +1.0
B20K IAmb IAmb 14 01 48.1
comp=Z,2.8nm,1.1s
C16K Lisburne Hills 72.46 14 P **P** 14 01 33.4 +1.1
C16K IAmb IAmb 14 01 34.3
comp=Z,2.6nm,0.9s
B22K Teshekpuk Lake 72.53 9 P **P** 14 01 33.3 +0.7
B22K IAmb IAmb 14 01 35.8
comp=Z,5.3nm,1.1s
C18K Utukok River 72.90 12 P **P** 14 01 35.5 +0.6
C18K IAmb IAmb 14 01 37.9
comp=Z,3.0nm,0.8s
B21K Ikpikpuk River 73.04 10 P **P** 14 01 36.4 +0.8
B21K IAmb IAmb 14 01 38.7
comp=Z,3.0nm,0.8s
C23K Itkillik River 73.34 8 P **P** 14 01 38.5 +1.1
D22K Ayikyak River 73.98 9 P **P** 14 01 42.8 +1.5
D22K IAmb IAmb 14 01 49.3
comp=Z,6.3nm,1.2s
SUR Sutherland 74.07 208 LR LR 14 35 43.4
comp=Z,174nm,18.1s,baz=1.0,slow=37
E19K Redstone River 74.64 11 P **P** 14 01 45.8 +0.7
E19K IAmb IAmb 14 01 47.2
comp=Z,3.2nm,0.9s
E22K Anaktuvuk Pass 74.80 9 P **P** 14 01 46.1 0.0
E22K IAmb IAmb 14 02 05.7
comp=Z,6.2nm,1.4s
G19K Purcell Mounta 75.86 12 P **P** 14 01 52.5 +0.3
G19K IAmb IAmb 14 01 54.2
comp=Z,7.0nm,1.4s
SCHQ Schefferville 75.93 329 P **P** 14 01 53.1 +0.3
H18K Honhosa River 76.53 13 P **P** 14 01 56.8 +0.7
H18K IAmb IAmb 14 01 58.1

	comp=Z,6.7nm,1.2s						
IMAR	**Indian Mountai**	**76.54**	**11**	P	**P**	**14 01 56.2**	**+0.1**
H21K	**Melozitna Rive**	**76.99**	**11**	P	**P**	**14 01 59.6**	**+1.0**
H21K				IAmb	IAmb	14 02 14.7	
	comp=Z,4.3nm,1.3s						
G31M	**Satah River**	**77.50**	**3**	P	**P**	**14 02 02.0**	**+0.6**
G31M				IAmb	IAmb	14 02 02.9	
	comp=Z,3.2nm,0.9s						
H29M	**Whitestone**	**77.98**	**5**	P	**P**	**14 02 04.4**	**+0.2**
H29M				IAmb	IAmb	14 02 17.1	
	comp=Z,8.2nm,1.5s						
ILAR	**Eielson Array**	**78.62**	**8**	*e*P	**P**	**14 02 08.8**	**+1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR	**Eielson Array**	**78.62**	**8**	P	**P**	**14 02 08.2**	**+0.4**
	comp=Z,1.2nm,1.1s,baz=347,slow=3.9,SNR=5.2						
	comp=Z,1.2nm,1.1s						
CAST	**Castle Rocks**	**79.20**	**11**	P	**P**	**14 02 11.4**	**+0.5**
CAST				IAmb	IAmb	14 02 13.7	
	comp=Z,8.9nm,1.0s						
BCAR	**Beaver Creek A**	**80.83**	**7**	P	**P**	**14 02 20.4**	**+0.6**
SUA	**Susitna One**	**81.26**	**11**	P	**P**	**14 02 23.3**	**+1.1**
SUA				IAmb	IAmb	14 02 46.0	
	comp=Z,4.7nm,1.0s						
YKA	**Yellowknife Ar**	**81.54**	**354**	*e*P	**P**	**14 02 25.4**	**+1.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**81.54**	**354**	P	**P**	**14 02 23.1**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=56,slow=9.0,SNR=6.9						
	comp=Z,0.2nm,0.8s						
FCC	**Fort Churchill**	**81.82**	**343**	P	**P**	**14 02 25.7**	**+0.7**
FCC				IAmb	IAmb	14 02 41.7	
	comp=Z,4.5nm,1.4s						
FCC	**Fort Churchill**	**81.82**	**343**	P	**P**	**14 02 25.7**	**+0.7**
FCC				pmax	pmax		
	comp=Z,5.0nm,1.4s						
D62A	**Allapoint, All**	**82.37**	**324**	P	**P**	**14 02 28.6**	**+0.5**
ASAR	**Alice Springs**	**96.83**	**114**	P	**P**	**14 03 35.4**	**-2.1**
	comp=Z,0.1nm,0.5s,baz=310,slow=4.3,SNR=5.6						
	comp=Z,0.1nm,0.5s						

*NEIC **15** 14:14:59.8±0.9,9°.68S±0°.05×107°.52E±0°.06,h10km±1km, mb4.6/28, Error ellipse: s-maj=11.8km s-min=4.2km az=129.0*
*DJA **15** 14:15:01.9±0.9,10°S±2°×10°7E±°,h27km±9km,M4.9/23, mb5.1/13,mB5.5/5,MLv4.8/23,Mw(mB)5.0/5*
*IDC **15** 14:15:07.7±3.8,9°.21S×107°.71E,h50km±29km,mb4.0/11, mbtmp4.2/12,ML4.4/1,MS3.1/2,Error ellipse: s-maj=59.1km s-min=14.6km az=54.0*
ISC 15 14:14:58.5±3.1,**9°.62S**±0°.06×**107°.45E**±0°.05,**h4**km±21km, **n101**,σ1§**27**/99,**mb4.5**/26,**1D**,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.92**	**245**	P	**Pb**	**14 15 34.4**	**+0.3**
XMIS	**Christmas Isla**	**1.96**	**244**	Pn	**Pn**	**14 15 34.0**	**+1.3**
XMIS	**Christmas Isla**	**1.96**	**244**	P	**Pb**	**14 15 34.9**	**0.0**
CMJI	**Cimerak**	**2.08**	**28**	P	**Pn**	**14 15 33.3**	**-0.9**
CMJI				S	**Sn**	**14 16 00.9**	**+0.4**
BBJI	**Bungbulang**	**2.16**	**5**	P	**Pn**	**14 15 34.6**	**-0.7**
BBJI	**Bungbulang**	**2.16**	**5**	P	**Pn**	**14 15 34.6**	**-0.7**
BBJI				S	**Sn**	**14 16 02.1**	**-0.5**
CNJI	**Cibinong**	**2.32**	**352**	P	**Pn**	**14 15 36.8**	**-0.7**
CNJI				S	**Sn**	**14 16 06.0**	**-0.5**
KPJI	**Karang Pucung**	**2.71**	**33**	P	**Pn**	**14 15 43.7**	**+0.9**
SKJI	**Sukabumi**	**2.75**	**341**	P	**Pn**	**14 15 43.6**	**+0.2**
SKJI				S	**Sn**	**14 16 16.8**	**-0.3**
LEM	**Lembang**	**2.78**	**3**	P	**Pn**	**14 15 44.7**	**+0.7**
	88nm,0.3s,baz=147,slow=22,SNR=82						
LEM				S	**Sn**	**14 16 19.9**	**+1.7**
	676nm,0.7s,baz=346,slow=23,SNR=11						
LEM				LR	LR	14 16 39.7	
	comp=Z,312nm,21.2s,baz=242,slow=39						
	555nm,0.5s						
LEM	**Lembang**	**2.78**	**3**	P	**Pn**	**14 15 44.8**	**+0.7**
DBJI	**Dramaga**	**3.13**	**347**	P	**Pn**	**14 15 48.9**	**+0.3**
YOGI	**Yogyakarta**	**3.34**	**58**	P	**Pn**	**14 15 51.0**	**-0.5**
UGM	**Wanagama**	**3.48**	**61**		**Pn**	**14 15 53.7**	**+0.2**
UGM	**Wanagama**	**3.48**	**61**	P	**Pn**	**14 15 53.9**	**+0.4**
UGM	**Wanagama**	**3.48**	**61**	P	**Pn**	**14 15 54.0**	**+0.4**
SMRI	**Semarang**	**3.91**	**49**	Pn	**Pn**	**14 16 00.0**	**+0.6**
SMRI	**Semarang**	**3.91**	**49**	P	**Pn**	**14 16 01.9**	**+2.5**
SMRI	**Semarang**	**3.91**	**49**	P	**Pn**	**14 15 59.9**	**+0.5**
NGJI	**Ngawi**	**4.56**	**61**	P	**Pn**	**14 16 10.4**	**+2.1**
SJI	**Sawahan**	**4.66**	**67**	P	**Pn**	**14 16 11.4**	**+1.6**
KASI	**Kota Agung**	**5.02**	**324**	P	**Pn**	**14 16 15.7**	**+1.1**
GRJI	**Gresik**	**5.66**	**62**	P	**Pn**	**14 16 24.4**	**+0.9**
	186nm,0.7s,1.1nm						
LWLI	**Liwa**	**5.68**	**323**	P	**Pn**	**14 16 23.5**	**-0.3**
	72nm,0.8s,0.8nm						
BLJI	**Banyuglugur**	**6.36**	**73**	P	**Pn**	**14 16 34.6**	**+1.6**
	170nm,0.5s,5μm1.3nm						
EGSI	**Enggano, Bengk**	**6.66**	**309**	P	**Pn**	**14 16 37.2**	**0.0**
	66nm,1.3s,0.4nm						
JAGI	**Jajag, Banyuwa**	**6.72**	**81**	Pn	**Pn**	**14 16 36.6**	**-1.4**
JAGI	**Jajag, Banyuwa**	**6.72**	**81**	P	**Pn**	**14 16 39.9**	**+1.9**
JAGI	**Jajag, Banyuwa**	**6.72**	**81**	P	**Pn**	**14 16 39.6**	**+1.6**
	132nm,0.6s,2μm0.6nm						
KMMI	**Kalianget**	**6.94**	**69**	P	**Pn**	**14 16 41.0**	**0.0**
	92nm,2.0s,0.5nm						
ABJI	**Asem Bagus**	**6.95**	**75**	P	**Pn**	**14 16 43.4**	**+2.2**
	158nm,0.4s,3μm0.7nm						
LHSI	**Lahat**	**6.95**	**326**	P	**Pn**	**14 16 41.8**	**+0.5**
	7μm,0.9s,29nm						
PPBI	**Pangkal Pinang**	**7.53**	**350**	P	**Pn**	**14 16 49.9**	**+0.8**
DNP	**Denpasar**	**7.72**	**84**	P	**Pn**	**14 16 52.8**	**+1.0**
	340nm,0.9s,20μm2.3nm						
UBSI	**University, Be**	**7.77**	**318**	P	**Pn**	**14 16 53.0**	**+0.6**
	230nm,0.8s,0.9nm						
SRBI	**Singaraja**	**7.82**	**79**	P	**Pn**	**14 16 54.6**	**+1.4**
	65nm,0.7s,0.3nm						
TWSI	**Taliwang, Sumb**	**9.36**	**85**	P	**Pn**	**14 17 14.5**	**+0.3**
	57nm,0.6s,866nm						
DSRI	**Dabo**	**9.52**	**342**	P	**Pn**	**14 17 16.5**	**0.0**
	18nm,1.2s						
PPSI	**Pulau Pagai**	**10.05**	**312**	P	**Pn**	**14 17 23.8**	**0.0**
	91nm,1.3s						
PLAI	**Plampang**	**10.23**	**86**	P	**Pn**	**14 17 28.4**	**+2.2**
PLAI	**Plampang**	**10.23**	**86**	P	**Pn**	**14 17 26.7**	**+0.5**
	65nm,0.8s						
COCO	**West Island**	**10.73**	**255**	Pn	**Pn**	**14 17 32.9**	**-0.2**
BKB	**Balikpapan**	**12.54**	**49**	Pn	**Pn**	**14 17 59.1**	**+1.2**
PMSI	**Majene**	**12.91**	**63**	P	**Pn**	**14 18 03.7**	**+0.7**
	142nm,0.9s						
KAPI	**Kappang**	**13.03**	**70**	LR	LR	14 23 34.7	
	comp=Z,107nm,21.2s,baz=135,slow=40						
EDFI	**Ende, Flores**	**14.09**	**88**	P	**Pn**	**14 18 17.2**	**-1.9**
GIRL	**Giralia**	**14.49**	**154**	Pn	**Pn**	**14 18 24.4**	**-0.1**
GIRL	**Giralia**	**14.49**	**154**	P	**Pn**	**14 18 24.8**	**+0.3**
MMRI	**Maumere**	**14.63**	**87**	Pn	**Pn**	**14 18 25.7**	**-0.9**
SOEI	**Soe**	**16.58**	**92**		**P**	**14 18 54.6**	**-0.2**
SOEI				IAmb	IAmb	14 19 29.0	
	comp=Z,30nm,0.7s						
PSA00	**Pilbara Seismi**	**16.83**	**136**	Pn	**Pn**	**14 18 53.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.55**	**117**	P	**P**	**14 19 24.4**	**-3.0**
UBPT	**Khong Chiam**	**24.82**	**355**	P	**P**	**14 20 22.0**	**0.0**
UBPT				IAmb	IAmb	14 20 53.5	
	comp=Z,22nm,1.5s						
FAKI	**Fak Fak**	**25.52**	**76**	P	**P**	**14 20 27.3**	**-1.2**
FAKI				IAmb	IAmb	14 21 06.3	
	comp=Z,16nm,0.9s						
WB0	**Warramunga Arr**	**27.90**	**114**	P	**P**	**14 20 48.6**	**-1.3**
WB0				IAmb	IAmb	14 21 29.4	
	comp=Z,9.8nm,1.4s						
WRA	**Warramunga Arr**	**27.91**	**115**	P	**P**	**14 20 52.9**	**+2.9**
	comp=Z,0.9nm,0.8s,baz=287,slow=12,SNR=5.5						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**27.92**	**115**	P	**P**	**14 20 49.2**	**-0.9**
ASAR	**Alice Springs**	**28.86**	**122**	P	**P**	**14 21 01.1**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=305,slow=8.2,SNR=10.0						
ASAR				PcP	**PcP**	**14 24 12.2**	**+4.1**
	comp=Z,0.3nm,0.6s,baz=303,slow=1.6,SNR=5.3						
	comp=Z,0.7nm,0.7s						
CM31	**Chiang Mai Arr**	**29.14**	**343**	P	**P**	**14 21 00.9**	**0.0**
CMAR	**Chiang Mai Arr**	**29.14**	**343**	P	**P**	**14 21 00.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**29.14**	**343**	P	**P**	**14 21 01.8**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=178,slow=8.8,SNR=5.4						
	comp=Z,1.5nm,0.6s						
CHTO	**Chiang Mai**	**29.48**	**343**	P	**P**	**14 21 04.0**	**+0.2**
H08S2	**Diego Garcia H**	**34.61**	**270**	T	T	14 58 24.3	
	baz=95,slow=75,SNR=17						
H08S3	**Diego Garcia H**	**34.62**	**270**	T	T	14 58 26.3	
	baz=95,slow=75,SNR=21						
H08S1	**Diego Garcia H**	**34.62**	**270**	T	T	14 58 28.2	
	baz=95,slow=75,SNR=16						
SSLB	**Suanglung**	**35.73**	**21**	P	**P**	**14 21 58.4**	**-0.2**
YHNB	**Yeheng**	**36.69**	**21**	P	**P**	**14 22 06.3**	**-0.5**
STKA	**Stephens Creek**	**38.59**	**130**	P	**P**	**14 22 26.3**	**+3.4**
	comp=Z,3.8nm,0.9s,baz=284,slow=10,SNR=5.2						
	comp=Z,3.8nm,0.9s						
XAN	**Xi'an**	**43.44**	**2**	⇓P	**P**	**14 23 02.9**	**+0.1**
XAN				pP	pwP	14 23 08.1	-2.1
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
TOO	**Toolangi**	**44.12**	**135**	P	**P**	**14 23 05.0**	**-3.2**
TOO				IAmb	IAmb	14 23 32.7	
	comp=Z,32nm,1.4s						
LZH	**Lanzhou**	**45.59**	**356**	*e*P	**P**	**14 23 21.1**	**+1.1**
LZH				pP	pwP	14 23 28.3	+0.8
LZH				sP	pP	14 23 32.1	+13
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**49.30**	**352**	*e*P	**P**	**14 23 50.4**	**+1.6**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
JMN	**Monobe**	**49.90**	**29**	P	**P**	**14 23 51.1**	**-2.3**
BJT	**Baijiatuan**	**50.05**	**9**	P	**P**	**14 23 53.1**	**-1.2**
BJT				IAmb	IAmb	14 23 55.5	
	comp=Z,3.7nm,0.7s						
HNR	**Honiara**	**51.73**	**94**	LR	LR	14 48 43.3	
	comp=Z,618nm,18.3s,baz=207,slow=39						
MSEY	**Mahe Island**	**51.76**	**272**	P	**P**	**14 24 06.4**	**-1.4**
SONM	**Songino Array**	**57.21**	**359**	P	**P**	**14 24 47.5**	**+0.5**
SONM	**Songino Array**	**57.21**	**359**	P	**P**	**14 24 47.7**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=174,slow=8.1,SNR=17						
	comp=Z,2.8nm,0.6s						
ULN	**Ulaanbaatar**	**57.23**	**360**	P	**P**	**14 24 47.3**	**+0.2**
ULN				IAmb	IAmb	14 24 57.7	
	comp=Z,5.7nm,0.5s						
H04N2	**CROZET ISLANDS**	**59.59**	**222**	T	T	15 30 01.1	
	baz=70,slow=75,SNR=46						
H04N1	**CROZET ISLANDS**	**59.61**	**222**	T	T	15 30 00.1	
	baz=70,slow=75,SNR=6.8						
H04N3	**CROZET ISLANDS**	**59.61**	**222**	T	T	15 29 59.7	
	baz=70,slow=75,SNR=14						
MK31	**Makanchi Array**	**60.49**	**340**	P	**P**	**14 25 09.9**	**+0.3**
MK31				IAmb	IAmb	14 25 30.4	
	comp=Z,4.5nm,1.4s						
MKAR	**Makanchi Array**	**60.49**	**340**	P	**P**	**14 25 09.9**	**+0.3**
MKAR	**Makanchi Array**	**60.49**	**340**	P	**P**	**14 25 10.3**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=155,slow=8.3,SNR=18						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**65.05**	**340**	P	**P**	**14 25 40.7**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=155,slow=5.9,SNR=21						
	comp=Z,2.2nm,0.6s						
KURK	**Kurchatov**	**65.10**	**340**	P	**P**	**14 25 40.9**	**+0.6**
KURK				IAmb	IAmb	14 25 53.5	
	comp=Z,7.3nm,1.2s						
ZAA0	**Zalesovo Array**	**66.17**	**346**	P	**P**	**14 25 46.5**	**-0.6**
ZAA0				IAmb	IAmb	14 25 49.7	
	comp=Z,4.7nm,1.0s						
ZALV	**Zalesovo Beam**	**66.17**	**346**	P	**P**	**14 25 46.4**	**-0.6**
ZALV	**Zalesovo Beam**	**66.17**	**346**	P	**P**	**14 25 46.9**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=148,slow=6.1,SNR=7.2						
	comp=Z,1.5nm,0.5s						
BHW	**Baring Head**	**66.78**	**131**	P	**P**	**14 25 50.2**	**-1.2**
BVAR	**Borovoye Array**	**69.94**	**337**	P	**P**	**14 26 11.6**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=146,slow=8.3,SNR=13						
	comp=Z,3.8nm,0.7s						
BRVK	**Borovoye**	**70.01**	**337**	P	**P**	**14 26 11.6**	**+0.4**
BRVK				IAmb	IAmb	14 26 15.8	
	comp=Z,2.9nm,0.9s						
ABKAR	**Akbulak array**	**71.88**	**329**	P	**P**	**14 26 23.2**	**+0.5**
ABKAR	**Akbulak array**	**71.88**	**329**	P	**P**	**14 26 23.1**	**+0.5**
ABKAR				IAmb	IAmb	14 26 28.3	
	comp=Z,7.5nm,1.2s						
YAK	**Yakutsk**	**73.51**	**11**	P	**P**	**14 26 30.8**	**-1.3**
YAK				IAmb	IAmb	14 26 32.6	
	comp=Z,9.7nm,0.8s						
YAK	**Yakutsk**	**73.51**	**11**	P	**P**	**14 26 31.1**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=113,slow=18,SNR=5.0						
PEA0B	**Petropavlovsk-**	**75.66**	**29**	P	**P**	**14 26 43.6**	**-1.2**
PETK	**Petropavlovsk-**	**75.66**	**29**	P	**P**	**14 26 44.5**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=204,slow=2.6,SNR=11						
	comp=Z,4.4nm,0.8s						
MA2	**Magadan**	**77.16**	**21**	P	**P**	**14 26 54.1**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=202,slow=10,SNR=4.5						
	comp=Z,2.4nm,0.5s						
TXAR	**Lajitas Array**	**144.90**	**52**	PKP	**PKPdf**	**14 34 38.8**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=293,slow=1.8,SNR=7.4						

*NEIC **15** 14:20:40.8±1.0, 19°.70N±0°.02×156°.17W±0°.09, h26km±10km, Error ellipse: s-maj=12.0km s-min=2.6km az=87.0*
HVO 15 14:20:43.5±3.1,**19°.74N**±0°.01×**156°.130W**±0°.009, **h9**km±5km,**ML2.6**/10,**ML2.8**/40(NEIC),**Error ellipse: s-maj=2.1km s-min=1.2km az=195.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.13**	**128**		Pg	14 20 47.0	+0.5
KKH					Sg	14 20 49.7	+1.2
KHLU	**Kahalu`u**	**0.27**	**123**		Pg	14 20 48.5	-0.4
KHLU					Sg	14 20 52.1	-0.3
KHLU	**Kahalu`u**	**0.27**	**123**	IAML		14 20 53.5	
	comp=N,390nm,0.1s						
KHLU				IAML		14 20 55.4	
	comp=E,375nm,0.2s						
HUH	**Hualalai**	**0.28**	**101**		Pg	14 20 48.6	-0.6
HUH					Sg	14 20 52.8	-0.3
HUH	**Hualalai**	**0.28**	**101**	IAML		14 20 57.3	
	comp=N,1μm,0.2s						
HUH				IAML		14 20 59.4	
	comp=E,688nm,0.2s						
CPH	**Captain Cook**	**0.32**	**141**		Pg	14 20 49.7	-0.1
MHA	**Mahukona**	**0.49**	**25**	Pg	Pg	14 20 53.0	-0.2
ALEP	**Alea Permanent**	**0.50**	**113**		Pg	14 20 52.1	-1.1
ALEP					Sg	14 21 00.5	+0.7
HPAH	**Hawaii Prepara**	**0.50**	**54**		Pg	14 20 52.4	-0.8
HPAH					Sg	14 20 59.2	-0.6
HPAH	**Hawaii Prepara**	**0.50**	**54**	IAML		14 20 59.5	
	comp=E,580nm,0.3s						
HPAH				IAML		14 21 01.3	
	comp=N,291nm,0.2s						
MLOA	**Mauna Loa Obse**	**0.56**	**111**	IAML		14 21 02.1	
	comp=E,467nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.56**	**111**		Pg	14 20 53.5	-0.9
MLOA					Sg	14 21 01.7	-0.2
MWH	**Moku'aweowe**	**0.56**	**117**	Pg	Pg	14 20 53.7	-0.8
MWH				IAML		14 21 02.5	
	comp=N,520nm,0.2s						
MWH				IAML		14 21 10.5	
	comp=E,851nm,0.6s						
POHA	**Pohakuloa**	**0.56**	**88**	Pg	Pg	14 20 53.5	-1.0
HMH	**Humu'ula Sheep**	**0.62**	**102**		Pg	14 20 54.6	-1.0
HMH	**Humu'ula Sheep**	**0.62**	**102**	IAML		14 21 03.5	
	comp=N,363nm,2.5s						
HMH				IAML		14 21 04.9	
	comp=E,541nm,0.5s						
KHU	**Kahuku**	**0.69**	**135**		Pg	14 20 55.1	-1.7
KHU	**Kahuku**	**0.69**	**135**	IAML		14 21 05.7	
	comp=N,408nm,3.7s						
AIN	**Ainahou**	**0.73**	**120**		Pg	14 20 55.8	-1.8
AIN	**Ainahou**	**0.73**	**120**	IAML		14 21 20.0	
	comp=E,319nm,4.5s						
MLH	**Mauna Loa**	**0.74**	**109**		Pg	14 20 56.0	-1.8
MLH				IAML		14 21 06.2	
	comp=N,527nm,2.7s						
MLH				IAML		14 21 07.0	
	comp=E,610nm,0.3s						
HPO	**Honuapo**	**0.84**	**140**		Pg	14 20 55.2	-4.6
RSD	**Rainshed**	**0.85**	**109**		Pg	14 20 57.3	-2.5
RSD	**Rainshed**	**0.85**	**109**	IAML		14 21 10.8	
	comp=E,403nm,1.1s						
RSD				IAML		14 21 26.0	
	comp=N,414nm,3.7s						
WRMHI	**West Rim**	**0.85**	**113**		Pg	14 20 57.1	-2.7
UWE	**Uwekahuna**	**0.85**	**112**		Sg	14 21 09.8	-1.2
UWE	**Uwekahuna**	**0.85**	**112**	Pg	Pg	14 20 57.3	-2.6
OBL	**Observatory Le**	**0.86**	**112**	Pg	Pg	14 20 57.9	-2.1
SDHHI	**Sand Hill**	**0.86**	**114**	Pg	Pg	14 20 57.6	-2.5
UWB	**Uwekahuna B**	**0.86**	**111**	Pg	Pg	14 20 57.1	-3.0
UWB				IAML		14 21 11.3	
	comp=N,357nm,3.9s						
UWB				IAML		14 21 12.8	
	comp=E,312nm,1.2s						
SBLHI	**Steaming Bluff**	**0.87**	**111**		Sg	14 21 09.5	-2.1
HATHI	**Halema'uma'u T**	**0.88**	**111**	Pg	Pg	14 20 57.3	-3.1
HATHI				IAML		14 21 03.4	
	comp=N,567nm,1.0s						
HLP	**Hilina Pali**	**0.89**	**119**		Pg	14 20 57.8	-2.8
HLP	**Hilina Pali**	**0.89**	**119**	IAML		14 21 03.8	
	comp=N,716nm,4.0s						
HLP				IAML		14 21 04.0	
	comp=E,620nm,3.8s						
PUH	**Pauahi**	**0.94**	**113**	Pg	Pg	14 20 57.8	-3.7
PUH				IAML		14 21 16.7	
	comp=E,235nm,3.5s						
PUH				IAML		14 21 19.7	
	comp=N,402nm,4.0s						
STCH	**Steam Cracks**	**1.01**	**110**	IAML		14 21 17.5	
	comp=N,273nm,2.3s						
STCH				IAML		14 21 21.2	
	comp=E,238nm,3.4s						
STCH	**Steam Cracks**	**1.01**	**110**		Pg	14 20 59.2	-3.7
STCH					Sg	14 21 11.8	-4.3
JOKA	**Jonika Flow**	**1.10**	**106**		Pg	14 21 00.3	-4.4

*IDC **15** 14:27:14.1±2.4, 15°.36S×70°.86W,h122km±21km,mb3.6/7, mbtmp4.1/10,Error ellipse: s-maj=25.3km s-min=16.0km az=57.0*
*VAO **15** 14:27:14.6±0.6, 15°.57S×71°.24W,h127km±6km,mb4.5 NEIC **15** 14:27:14.2±2.5, 15°.52S±0°.07×71°.4W±0°.1,h134km±8km, mb4.5/19,Error ellipse: s-maj=14.4km s-min=9.9km az=72.0*
*GUC **15** 14:27:20.0±2.1, 16°.09S×71°.57W,h179km±14km,ML4.4*
ISC 15 14:27:16.8±0.5,**15°.66S**±0°.05×**71°.25W**±0°.07,**h167**km, **n127**,σ2§**07**/140,**mb4.1**/13,**6C**,**Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**2.56**	**139**		**Pn**	**14 27 57.7**	**-2.3**
PB18	**Visviri**	**2.56**	**139**	*e*P	**Pn**	**14 28 03.8**	**+3.8**
PB18				*e*S	**Sn**	**14 28 38.3**	**+4.8**
AP01	**Chacalluta**	**2.83**	**162**		**Pn**	**14 28 03.5**	**+0.8**
AP01	**Chacalluta**	**2.83**	**162**	⇑*e*P	**Pn**	**14 28 03.5**	**+0.8**
AP01				*e*S	**Sn**	**14 28 38.0**	**-0.5**
AP01				IAML		14 28 39.4	
	comp=N,2μm,0.1s						
LPAZ	**La Paz**	**3.06**	**102**		**Pn**	**14 28 06.7**	**+0.5**
PB12	**IPOC Station P**	**3.06**	**163**	Pn	**Pn**	**14 28 06.0**	**+0.3**
PB12	**IPOC Station P**	**3.06**	**163**	⇑*i*P	**Pn**	**14 28 06.1**	**+0.3**
PB12				*i* S	**Sn**	**14 28 42.4**	**-1.5**
PB16	**IPOC Station P**	**3.14**	**148**		**Pn**	**14 28 08.5**	**+1.3**
PB16	**IPOC Station P**	**3.14**	**148**	⇑*i*P	**Pn**	**14 28 08.9**	**+1.8**
PB16				*i* S	**Sn**	**14 28 47.5**	**+1.3**
PB16				IAML		14 28 49.8	
	comp=E,261nm,0.6s						
PB11	**IPOC Station P**	**4.35**	**160**	Pn	**Pn**	**14 28 21.7**	**-0.5**
PB11	**IPOC Station P**	**4.35**	**160**	⇑*i*P	**Pn**	**14 28 21.7**	**-0.5**
PB11				*i* S	**Sn**	**14 29 10.1**	**-3.2**
GO01	**Chusmiza**	**4.44**	**154**		**Pn**	**14 28 24.9**	**+1.2**
GO01	**Chusmiza**	**4.44**	**154**	⇑*i*P	**Pn**	**14 28 25.1**	**+1.4**
GO01				*i* S	**Sn**	**14 29 16.3**	**+0.4**
TA02	**Huaiquique**	**4.71**	**167**		**Pn**	**14 28 26.1**	**-0.5**
TA02	**Huaiquique**	**4.71**	**167**	⇑*e*P	**Pn**	**14 28 26.5**	**-0.2**
TA02				*i* S	**Sn**	**14 29 17.7**	**-3.6**
HMBC	**Humberstone**	**4.77**	**164**	*e*P	**Pn**	**14 28 26.6**	**-1.0**
HMBC				*i* S	**Sn**	**14 29 18.7**	**-4.4**
PB08	**IPOC Station P**	**4.88**	**156**		**Pn**	**14 28 29.6**	**+0.3**
PB08	**IPOC Station P**	**4.88**	**156**	*e*P	**Pn**	**14 28 30.0**	**+0.6**
PB08				*i* S	**Sn**	**14 29 24.6**	**-1.4**
TA01	**Diego Aracena**	**4.98**	**168**	Pn	**Pn**	**14 28 29.2**	**-1.1**
TA01	**Diego Aracena**	**4.98**	**168**	*e*P	**Pn**	**14 28 29.4**	**-0.9**
TA01				*i* S	**Sn**	**14 29 23.4**	**-4.4**
PATCX	**Punta Patache**	**5.24**	**169**		**Pn**	**14 28 32.8**	**-0.9**
PATCX	**Punta Patache**	**5.24**	**169**	*e*P	**Pn**	**14 28 32.7**	**-0.9**
PATCX				*i* S	**Sn**	**14 29 29.6**	**-4.4**
PB01	**IPOC Station P**	**5.61**	**163**		**Pn**	**14 28 37.0**	**-1.6**
PB02	**IPOC Station P**	**5.77**	**167**		**Pn**	**14 28 39.1**	**-1.6**
PB07	**IPOC Station P**	**6.17**	**168**		**Pn**	**14 28 44.5**	**-1.5**
PB09	**IPOC Station P**	**6.39**	**163**		**Pn**	**14 28 48.0**	**-1.0**
NNA	**Nana**	**6.55**	**303**	Pn	Pn	14 28 46.2	-4.8
NNA	**Nana**	**6.55**	**303**	P	**Pn**	**14 28 50.1**	**-0.9**
	comp=E,42nm,0.3s,baz=157,slow=7.9,SNR=18						
NNA				S	**Sn**	**14 30 01.1**	**-3.9**
	comp=E,19nm,0.3s,baz=26,slow=9.0,SNR=5.6						
PB04	**IPOC Station

ITAB Concordia 21.16 126 *e*P P **14 31 51.6 +2.6**
CPSB Cacapava Do Su 21.95 135 *e*P P **14 32 00.0 +2.8**
IPMB Ipameri, GO 22.17 99 *e*P P **14 31 57.8 -1.8**
BARC Barichara 22.19 355 *e*P P **14 31 58.1 -1.8**
PTBC PUERTO BERRIO, 22.29 352 *e*P P **14 31 54.7 -5.9**
BDFB Brasilia 22.37 93 P P **14 31 58.8 -2.8**
comp=Z,4.4nm,0.6s,baz=54,slow=19,SNR=3.2
comp=Z,4.4nm,0.6s
PLTB Pedras Altas 22.70 138 P P **14 32 05.0 +0.6**
PLTB IAmb IAmb 14 32 40.3
comp=Z,28nm,1.4s
PAMC Pamplona, Colo 22.90 356 *e*P P **14 32 06.1 -0.7**
SPB Sao Paulo 23.75 113 P P **14 32 14.9 +0.9**
SPB IAmb IAmb 14 32 16.2
comp=Z,20nm,0.8s
MCPB Macapa, AP 24.29 53 *e*P P **14 32 19.9 +0.9**
SDV Santo Domingo 24.40 1 P P **14 32 20.0 -0.1**
SDV IAmb IAmb 14 32 22.0
comp=Z,22nm,0.8s
SDV Santo Domingo 24.40 1 *e*P P **14 32 19.8 -0.3**
SDV Santo Domingo 24.40 1 *e*P P **14 32 19.5 -0.6**
BAUV El Baul 24.65 8 P P **14 32 21.6 -0.6**
PLCA Paso Flores 24.99 179 P P **14 32 28.6 +3.5**
comp=Z,1.1nm,0.8s,baz=4.3,slow=12,SNR=3.1
comp=Z,1.1nm,0.8s
SJCC San Jacinto, C 25.69 351 P P **14 32 30.5 -1.1**
SJCC IAmb IAmb 14 32 34.1
comp=Z,22nm,0.9s
SJCC San Jacinto, C 25.69 351 *e*P P **14 32 30.7 -0.9**
JANB Januaria 25.98 92 *e*P P **14 32 33.2 -1.1**
TXAR Lajitas Array 54.60 325 P P **14 36 29.1 +0.9**
comp=Z,0.2nm,0.5s,baz=139,slow=8.4,SNR=2.2
comp=Z,0.2nm,0.5s
S44A Carbondale 55.71 343 P P **14 36 36.3 +0.5**
SIUC Southern Illin 55.72 343 P P **14 36 36.6 +0.6**
SIUC IAmb IAmb 14 36 38.7
comp=Z,6.9nm,0.7s
SNAA Sanae 68.49 162 P P **14 38 03.9 +3.2**
comp=Z,1.8nm,0.6s,baz=273,slow=8.5,SNR=8.5
comp=Z,1.8nm,0.6s
QSPA South Pole Qui 74.50 180 P P **14 38 39.7 +2.9**
QSPA IAmb IAmb 14 38 44.4
comp=Z,8.3nm,1.4s
QSPA South Pole Qui 74.50 180 P P **14 38 40.6 +3.9**
comp=Z,1.7nm,0.8s,baz=203,slow=2.2,SNR=5.5
comp=Z,1.7nm,0.8s
TOA0 Torodi Ar. Sit 77.61 72 P P **14 38 54.0 -1.1**
TORD Torodi Ar. Bea 77.61 72 P P **14 38 53.9 -1.3**
TORD Torodi Ar. Bea 77.61 72 P P **14 38 54.4 -0.7**
comp=Z,2.1nm,0.5s,baz=267,slow=4.8,SNR=20
comp=Z,2.1nm,0.5s
YKA Yellowknife Ar 84.97 341 P P **14 39 34.2 +1.4**
YKA Yellowknife Ar 84.97 341 P P **14 39 34.4 +1.5**
comp=Z,0.6nm,0.6s,baz=135,slow=4.9,SNR=13
comp=Z,0.6nm,0.6s
ASAR Alice Springs 133.82 213 PKP **PKiKP 14 46 17.3 +1.2**
comp=Z,0.4nm,0.7s,baz=108,slow=3.0,SNR=2.6
WRA Warramunga Arr 136.59 216 PKP **PKiKP 14 46 22.3 +0.6**
comp=Z,0.9nm,0.7s,baz=140,slow=1.8,SNR=4.9
ZALV Zalesovo Beam 137.47 21 PKP **PKiKP 14 46 23.2 +0.8**
comp=Z,1.6nm,0.6s,baz=287,slow=1.7,SNR=9.1
KURBB Kurchatov Arra 137.48 28 PKP **PKiKP 14 46 23.4 +0.9**
comp=Z,0.4nm,0.5s,baz=318,slow=2.8,SNR=5.1
MKAR Makanchi Array 141.95 30 PKhKP PKPpre 14 46 25.8
comp=Z,0.2nm,0.4s,baz=330,slow=2.5,SNR=8.3
MJAR Matsushiro Arr 146.57 314 PKPbc **PKiKP 14 46 41.6 0.0**
comp=Z,3.0nm,0.7s,baz=204,slow=2.6,SNR=5.4
SONM Songino Array 147.86 3 PKPbc **PKPab 14 46 44.7 -0.5**
comp=Z,2.2nm,0.7s,baz=331,slow=1.8,SNR=13
KSRS Korea Array 152.45 326 PKPbc **PKiKP 14 46 56.4 +2.7**
comp=Z,1.3nm,0.6s,baz=0.3,slow=2.3,SNR=5.8

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*IDC **15** 14:27:44.2±0.7,31°.70N×46°.89E,h0km,mb4.1/19, mbtmp4.1/22,ML3.6/3,MS3.6/23,Error ellipse: s-maj=16.1km s-min=12.8km az=157.0*
*MOS **15** 14:27:44.0±1.1,31°.64N×46°.95E,h11km,mb4.5/18,Error ellipse: s-maj=7.7km s-min=5.8km az=108.9*
*TEH **15** 14:27:45.5,31°.66N×46°.89E,h22km±34km,ML4.4*
*NEIC **15** 14:27:45.9±0.9,31°.65N±0°.07×46°.96E±0°.09,h10km±1km, mb4.5/74,Error ellipse: s-maj=16.1km s-min=8.4km az=230.0*
*ISN **15** 14:27:46.4±0.7,31°.82N×46°.97E,h6km±13km,ML4.4*
*OMAN **15** 14:27:56.7±0.5,30°.73N×47°.26E,h10km,mb4.4/26,Error ellipse: s-maj=12.5km s-min=7.5km az=29.0*

ISC 15 14:27:45.5±0.4,**31°.59N**±0°.05×**46°.96E**±0°.03,**h10km**,**n304,** σ1ᵍ**72**/299,**mb4.5**/73,**MS3.7**/19,**18C-33D**,**Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**0.73**	**280**	*e*Pg		**Pg**	**Pn**	**14 28 01.0**	**+1.3**
RAFI				*e*Sg		**Sg**	**Sn**	**14 28 11.2**	**+1.9**
RAFI				AML	AML			14 28 13.7	
	comp=N,7μm,0.7s								
RAFI				AML	AML			14 28 14.1	
	comp=E,4μm,0.8s								
AHWZ	**Ahwaz**	**1.46**	**100**	Pg		**Pn**	**Pn**	**14 28 15.1**	**+3.2**
AHWZ				Sg		**Sg**	**Sg**	**14 28 37.3**	**+4.8**
IBDR	**Badra**	**1.75**	**330**	*e*Pn		**Pn**	**Pn**	**14 28 16.5**	**+0.6**
IBDR				*e*Sn		**Sn**	**Sn**	**14 28 38.0**	**-0.2**
IBDR				AML	AML			14 28 43.3	
	comp=N,2μm,0.8s								
IBDR				AML	AML			14 28 57.4	
	comp=E,3μm,0.7s								
IKFM	**Kafar-mosalman**	**2.07**	**21**	Pn		**Pn**	**Pn**	**14 28 21.3**	**+1.1**
IKOM	**Komasi**	**2.62**	**10**	Pn		**Pn**	**Pn**	**14 28 29.2**	**+1.2**
KCHF	**Cheshme Sefid,**	**2.68**	**1**	Pn		**Pn**	**Pn**	**14 28 29.3**	**+0.4**
IGHG	**Ghaleghazi**	**2.75**	**353**	Pn		**Pn**	**Pn**	**14 28 30.5**	**+0.7**
BHD	**Baghdad**	**2.75**	**308**	*e*Pn		**Pn**	**Pn**	**14 28 31.0**	**+1.4**
BHD				*e*Sn		**Sn**	**Sn**	**14 29 04.0**	**+1.1**
BHD				AML	AML			14 29 26.8	
	comp=E,930nm,0.6s								
HSAM	**Samen**	**2.95**	**27**	Pn		**Pn**	**Pn**	**14 28 34.1**	**+1.4**
IBZA	**Bozab**	**2.97**	**15**	Pn		**Pn**	**Pn**	**14 28 34.1**	**+1.2**
IDHR	**Dehrash**	**3.14**	**351**	Pn		**Pn**	**Pn**	**14 28 35.6**	**+0.4**
JHBN	**Jahan bin**	**3.21**	**78**	Pn		**Pn**	**Pn**	**14 28 38.5**	**+2.2**
ILIN	**Lien**	**3.32**	**0**	Pn		**Pn**	**Pn**	**14 28 38.4**	**+0.7**
ZNGN	**Zangian**	**3.35**	**80**	Pn		**Pn**	**Pn**	**14 28 40.7**	**+2.4**
IALM	**Almabolaq**	**3.41**	**17**	Pn		**Pn**	**Pn**	**14 28 40.1**	**+1.0**
IBRJ	**Brojen**	**3.67**	**84**	Pn		**Pn**	**Pn**	**14 28 44.9**	**+2.2**
HAGD	**Aghdareh**	**3.70**	**29**	Pn		**Pn**	**Pn**	**14 28 44.5**	**+1.5**
KLNJ	**Kolanjah**	**4.01**	**97**	Pn		**Pn**	**Pn**	**14 28 49.3**	**+2.0**
IKLH	**Kolahrood**	**4.27**	**65**	Pn		**Pn**	**Pn**	**14 28 53.5**	**+2.7**
QAMS	**Qamsar**	**4.31**	**59**	Pn		**Pn**	**Pn**	**14 28 54.3**	**+3.0**
IKRK	**Kirkuk**	**4.38**	**331**	*e*Pn		**Pn**	**Pn**	**14 29 53.0**	**+0.9**
IKRK				*e*Sn		**Sn**	**Sn**	**14 29 42.0**	**-1.3**
IKRK				AML	AML			14 30 31.2	
	comp=N,242nm,0.7s								
IKRK				AML	AML			14 30 33.3	
	comp=E,323nm,0.5s								
IGAR	**Gharneh**	**4.39**	**78**	Pn		**Pn**	**Pn**	**14 28 55.0**	**+2.5**
IRAZ	**Razeghan**	**4.54**	**32**	Pn		**Pn**	**Pn**	**14 28 56.7**	**+2.3**
IRAM	**Ramesheh**	**4.62**	**86**	Pn		**Pn**	**Pn**	**14 28 57.6**	**+1.9**
IQOM	**Qom**	**4.73**	**46**	Pn		**Pn**	**Pn**	**14 28 58.5**	**+1.4**
IZEF	**Zefreh**	**4.73**	**73**	Pn		**Pn**	**Pn**	**14 28 59.2**	**+2.1**
DSBU	**Dashti - Bushe**	**4.93**	**130**	Pn		**Pn**	**Pn**	**14 29 02.5**	**+2.9**
KRSH	**Karshahi**	**4.96**	**60**	Pn		**Pn**	**Pn**	**14 29 02.6**	**+2.4**
ISFB	**Sefidab**	**5.22**	**57**	Pn		**Pn**	**Pn**	**14 29 05.3**	**+1.6**
IVRN	**Varamin**	**5.24**	**48**	Pn		**Pn**	**Pn**	**14 29 05.5**	**+1.5**
IDMV	**Damavand**	**5.80**	**45**	Pn		**Pn**	**Pn**	**14 29 13.1**	**+1.1**
ANAR	**Anarak**	**5.94**	**73**	Pn		**Pn**	**Pn**	**14 29 15.7**	**+2.0**
KLST	**Kelardasht - M**	**5.97**	**34**	Pn		**Pn**	**Pn**	**14 29 16.1**	**+1.8**
SAKB	**Bahrain**	**6.41**	**150**	Pn		**Pn**	**Pn**	**14 29 23.6**	**+3.5**
SAKB	**Bahrain**	**6.41**	**150**	P		**Pn**	**Pn**	**14 29 23.7**	**+3.7**
SHMA	**Al-Shehemyia**	**6.71**	**147**	P		**Pn**	**Pn**	**14 29 26.7**	**+2.7**
IHRS	**Heris**	**6.71**	**1**	Pn		**Pn**	**Pn**	**14 29 24.7**	**+0.4**
SMRA	**Abu-Samra**	**7.62**	**153**	P		**Pn**	**Pn**	**14 29 38.8**	**+2.2**
	SNR=5.6								
SMRA				S		**Sn**	**Sn**	**14 31 01.0**	**-2.1**
TRNA	**Turayna**	**7.79**	**150**	P		**Pn**	**Pn**	**14 29 41.4**	**+2.4**
TRNA				S		**Sn**	**Sn**	**14 31 03.2**	**-4.1**
TPRV	**Parvadeh(Tabas**	**8.36**	**78**	Pn		**Pn**	**Pn**	**14 29 48.8**	**+2.0**
JRN	**Qarnain Island**	**8.41**	**140**	Pn		**Pn**	**Pn**	**14 29 49.3**	**+1.8**
JRN	**Qarnain Island**	**8.41**	**140**	P		**Pn**	**Pn**	**14 29 48.8**	**+1.3**
JRN				S		**Sn**	**Sn**	**14 31 20.2**	**-2.4**
ASF	**Jabal al Asfar**	**8.58**	**277**	Pn		**Pn**	**Pn**	**14 29 49.2**	**-0.7**
	comp=E,0.5nm,0.3s,baz=59,slow=20,SNR=1.9								
ASF				Sn		**Sn**	**Sn**	**14 31 27.9**	**+1.2**
	baz=239,slow=19								
ASF				Lg		Lg	Lg	14 32 17.9	
	comp=E,0.9nm,0.3s,baz=329,slow=21,SNR=4.1								
	comp=E,1.7nm,0.4s								
ASF	**Jabal al Asfar**	**8.58**	**277**	P		**Pn**	**Pn**	**14 29 48.7**	**-1.1**
ESRB	**Sir Abu**	**9.01**	**133**	Pn		**Pn**	**Pn**	**14 29 57.9**	**+2.2**
HSUJ	**Al Zarqa**	**9.18**	**276**	P		Pn	Pn	14 29 54.1	-3.9
GHWR	**Ruwais**	**9.23**	**144**	Pn		**Pn**	**Pn**	**14 30 02.2**	**+3.6**
SHMJ	**Saham**	**9.56**	**280**	P		**Pn**	**Pn**	**14 30 05.9**	**+2.7**
NATI	**Neve Ativ**	**9.63**	**283**	P		Pn	Pn	14 30 00.1	-4.1
KARJ	**KARJ**	**9.68**	**270**	P		Pn	Pn	14 30 01.6	-3.3
GEM	**Giv'at Ha'Em**	**9.69**	**283**	P		**Pn**	**Pn**	**14 30 03.9**	**-1.1**
QRNJ	**Al-Qirein**	**9.70**	**277**	P		**Pn**	**Pn**	**14 30 02.9**	**-2.2**
HMDT	**Nahal Hemdat**	**9.74**	**277**	P		Pn	Pn	14 30 01.6	-4.1
UMQ	**Umm Al-Quwin**	**9.75**	**126**	P		**Pn**	**Pn**	**14 30 08.5**	**+2.7**
UMQ				S		**Sn**	**Sn**	**14 31 54.2**	**-1.1**
SHME	**Shamm**	**9.76**	**122**	Pn		**Pn**	**Pn**	**14 30 06.8**	**+0.9**
SHME				Sn		**Sn**	**Sn**	**14 31 50.9**	**-4.7**
SHME	**Shamm**	**9.76**	**122**	P		**Pn**	**Pn**	**14 30 10.6**	**+4.7**
	SNR=5.7								
DSI	**Dead Sea**	**9.88**	**273**	P		Pn	Pn	14 30 03.1	-4.5
MMAI	**Mount Meron Ar**	**9.88**	**281**	Lg		Lg	Lg	14 33 02.7	
	comp=E,0.9nm,0.3s,baz=66,slow=42,SNR=2.4								
MMAI				LR		LR	LR	14 34 23.0	
	comp=E,74nm,20.0s,baz=326,slow=41								
BANOM	**Banah**	**9.95**	**122**	Pn		**Pn**	**Pn**	**14 30 10.0**	**+1.4**
BANOM	**Banah**	**9.95**	**122**	P		**Pn**	**Pn**	**14 30 10.6**	**+2.0**
BANOM				S		**Sn**	**Sn**	**14 31 57.1**	**-3.3**
AJN	**Ajban**	**9.96**	**133**	*i* Pn		**Pn**	**Pn**	**14 30 10.7**	**+2.0**
	SNR=8.0								
AJN	**Ajban**	**9.96**	**133**	P		**Pn**	**Pn**	**14 30 10.9**	**+2.2**
	SNR=8.1								
AJN				S		**Sn**	**Sn**	**14 31 57.8**	**-2.8**
BLGI	**Bet Lehem HaGe**	**10.04**	**280**	P		Pn	Pn	14 30 06.9	-2.9
NAZ	**Nazwa, Dubai**	**10.10**	**128**	*i* Pn		**Pn**	**Pn**	**14 30 12.6**	**+1.9**
	SNR=9.5								
NAZ	**Nazwa, Dubai**	**10.10**	**128**	P		**Pn**	**Pn**	**14 30 12.8**	**+2.2**
	SNR=7.0								
NAZ				S		**Sn**	**Sn**	**14 31 59.3**	**-4.7**
YTIR	**Yattir**	**10.12**	**272**	P		Pn	Pn	14 30 07.6	-3.3
ASUD	**Al Ashush, Dub**	**10.13**	**131**	*i* Pn		**Pn**	**Pn**	**14 30 12.7**	**+1.6**
	SNR=11								
ASUD	**Al Ashush, Dub**	**10.13**	**131**	P		**Pn**	**Pn**	**14 30 13.2**	**+2.2**
	SNR=11								
ASUD				S		**Sn**	**Sn**	**14 32 00.4**	**-4.4**
SLTI	**Sal'it**	**10.15**	**277**	P		Pn	Pn	14 30 06.1	-5.2
MASF	**Masafi**	**10.19**	**125**	P		**Pn**	**Pn**	**14 30 12.7**	**+0.8**
	SNR=11								
MASF				S		**Sn**	**Sn**	**14 31 59.8**	**-6.4**
MSFE	**Esma-Masafi**	**10.20**	**125**	*i* Pn		**Pn**	**Pn**	**14 30 12.9**	**+0.9**
	SNR=11								
OFRI	**Ofer**	**10.21**	**279**	P		**Pn**	**Pn**	**14 30 10.8**	**-1.4**
FAQ	**Al Faqa, Dubai**	**10.22**	**130**	P		**Pn**	**Pn**	**14 30 14.9**	**+2.6**
	SNR=5.3								
FAQ				S		**Sn**	**Sn**	**14 32 03.4**	**-3.6**
MZR	**Muzera**	**10.33**	**144**	Pn		**Pn**	**Pn**	**14 30 12.9**	**-0.9**
MDH	**Madha**	**10.33**	**125**	*i* Pn		**Pn**	**Pn**	**14 30 15.2**	**+1.4**
	SNR=16								
MDH	**Madha**	**10.33**	**125**	P		**Pn**	**Pn**	**14 30 15.7**	**+1.9**
	SNR=16								
MDH				S		Sn		14 32 02.2	-7.6
PRNI	**Paran**	**10.34**	**266**	P		Pn		14 30 10.4	-3.5
EIL	**Elat**	**10.52**	**263**	Lg		Lg		14 33 25.6	
	comp=E,0.6nm,0.3s,baz=170,slow=20,SNR=4.4								
EIL				LR		LR		14 33 48.3	
	comp=E,83nm,21.3s,baz=75,slow=35								
EIL	**Elat**	**10.52**	**263**	P		Pn		14 30 13.2	-3.2
HATD	**Hatta, Dubai**	**10.53**	**128**	*i* Pn		**Pn**		**14 30 18.4**	**+1.9**
	SNR=19								
HATD	**Hatta, Dubai**	**10.53**	**128**	P		**Pn**		**14 30 17.4**	**+1.0**
	SNR=19								
HATD				S		**Sn**		**14 32 09.1**	**-5.3**
	SNR=8.6								
MBRI	**Mt Berech**	**10.53**	**263**	P		Pn		14 30 12.5	-4.0
ASHO	**Ashiyiah**	**10.57**	**128**	*i* Pn		**Pn**		**14 30 18.0**	**+0.9**
	SNR=28								
ASHO	**Ashiyiah**	**10.57**	**128**	P		**Pn**		**14 30 18.2**	**+1.1**
	SNR=29								
ASHO				S		**Sn**		**14 32 11.7**	**-4.0**
ALNE	**Al Ain**	**10.81**	**132**	*i* Pn		**Pn**		**14 30 21.4**	**+1.1**
	SNR=9.1								
ALNE	**Al Ain**	**10.81**	**132**	P		**Pn**		**14 30 22.1**	**+1.7**
	SNR=11								
ALNE				S		**Sn**		**14 32 17.7**	**-3.6**
GEYT	**Alibeck**	**11.14**	**52**	LR		LR		14 36 08.4	
	comp=E,89nm,20.4s,baz=268,slow=45								
JASK	**Jask - Hormozg**	**11.14**	**118**	P		**Pn**		**14 30 25.4**	**+0.6**
JASK				S		Sn		14 32 22.9	-6.6
SOHO	**SOHO**	**11.26**	**129**	*i* Pn		**Pn**		**14 30 27.0**	**+0.5**
	SNR=22								
SOHO	**SOHO**	**11.26**	**129**	P		**Pn**		**14 30 27.0**	**+0.5**
SOHO				S		Sn		14 32 24.4	-8.1
ARQ	**Araqi**	**11.81**	**132**	P		**Pn**		**14 30 34.5**	**+0.4**
	SNR=15								
ARQ				S		**Sn**		**14 32 40.3**	**-5.7**
CSS	**Mathiatis**	**11.89**	**290**	Pn		**Pn**		**14 30 35.7**	**+0.6**
KBZ	**Khabaz**	**12.53**	**346**	LR		LR		14 36 42.2	
	comp=E,231nm,21.0s,baz=170,slow=43								
BSY	**Bisya**	**12.67**	**132**	P		**Pn**		**14 30 46.7**	**+0.8**
	SNR=30								
BSY				S		Sn		14 32 58.5	-8.6
KIV	**Kislovodsk**	**12.79**	**346**	Pn		**Pn**		**14 30 47.6**	**+0.1**
KIV	**Kislovodsk**	**12.79**	**346**	*e*P		Pn		14 30 44.2	-3.3
KIV				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,115nm,13.0s								
SMDO	**Samad**	**13.01**	**128**	P		**Pn**		**14 30 52.0**	**+1.5**
	SNR=17								
SMDO				S		**Sn**		**14 33 10.2**	**-5.2**
SOC	**Sochi**	**13.27**	**336**	*e*P		Pn		14 30 50.9	-3.0
SOC				*e*				14 33 17.1	
SOC				MLR		MLR			
	comp=Z,106nm,14.0s								
WSAR	**Wadi Sarin**	**13.28**	**126**	Pn		**Pn**		**14 30 53.9**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=308,slow=12,SNR=22								
WSAR				Sn		Sn		14 33 14.5	-7.5
	comp=Z,0.8nm,0.3s,baz=159,slow=20,SNR=8.0								
	comp=Z,9.8nm,0.5s								
WSAR	**Wadi Sarin**	**13.28**	**126**	P		**Pn**		**14 30 54.5**	**+0.3**
	SNR=16								
WSAR				S		Sn		14 33 14.9	-7.1
JMDO	**Jabal Madar**	**13.52**	**130**	P		**Pn**		**14 30 59.0**	**+1.5**
	SNR=11								
JMDO				S		**Sn**		**14 33 21.2**	**-6.6**
BR131	**Keskin Array S**	**13.52**	**311**	Pn		**Pn**		**14 30 59.0**	**+1.4**
BR131	**Keskin Array S**	**13.52**	**311**	⇓*e*P		**Pn**		**14 30 57.9**	**+0.4**
BRTR	**Keskin Array B**	**13.52**	**311**	*e*P		**Pn**		**14 30 59.7**	**+2.2**
BRTR				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BRTR	**Keskin Array B**	**13.52**	**311**	Pn		**Pn**		**14 30 58.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=7.8								
BRTR				LR		LR		14 36 45.8	
	comp=Z,225nm,18.3s,baz=118,slow=40								
	comp=Z,2.5nm,1.0s								
WBK	**Wadi Bani Khal**	**13.93**	**127**	P		**Pn**		**14 31 04.2**	**+1.1**
	SNR=8.4								
WBK				S		Sn		14 33 30.7	-7.3
BR231	**Keskin MP Arra**	**14.15**	**309**	P		**P**		**14 31 16.1**	**+2.4**
MHTO	**MHTO**	**14.45**	**134**	P		**Pn**		**14 31 10.2**	**+0.1**
	SNR=22								
MHTO				S		Sn		14 33 43.6	-6.8
DOK	**Doka**	**14.45**	**152**	P		**Pn**		**14 31 09.3**	**-0.8**
	SNR=8.1								
DOK				S		Sn		14 33 42.4	-8.1
JLN	**Jalan Bani Buh**	**14.54**	**127**	P		**Pn**		**14 31 11.1**	**-0.3**
	SNR=12								
JLN				S		Sn		14 33 44.0	-8.7
WHFO	**Wadi Hawf**	**14.95**	**154**	P		**Pn**		**14 31 15.5**	**-1.5**
	SNR=29								
WHFO				S		Sn		14 33 51.8	-11
DQM	**DQM**	**15.01**	**138**	P		**Pn**		**14 31 17.4**	**-0.4**
	SNR=8.0								
DQM				S		Sn		14 33 55.4	-8.7
	SNR=5.4								
MDUB	**Mudurnu**	**15.51**	**309**	P		**Pn**		**14 31 29.1**	**+4.7**
DMTO	**DMTO**	**15.60**	**150**	P		**Pn**		**14 31 23.6**	**-1.9**
	SNR=7.0								
DMTO				S		Sn		14 34 08.1	-10
	SNR=7.9								
ALN	**Alexandroupoli**	**19.22**	**305**	P		**P**		**14 32 09.0**	**-0.6**
ALN	**Alexandroupoli**	**19.22**	**305**	P		**P**		**14 32 09.0**	**-0.6**
ALN				pmax		pmax			
	comp=Z,12nm,1.2s								
JURR	**Jurilovca**	**19.31**	**318**	⇓P		**P**		**14 32 09.9**	**-0.7**
TIRR	**Tirgusor**	**19.40**	**317**	P		**P**		**14 32 10.6**	**-1.0**
TIRR	**Tirgusor**	**19.40**	**317**	P		**P**		**14 32 10.6**	**-1.0**
TIRR				pmax		pmax			
	comp=Z,63nm,1.3s								
RDO	**Rodhopi**	**19.67**	**305**	P		**P**		**14 32 13.7**	**-0.9**
HARR	**Harsova**	**19.81**	**317**	⇓P		**P**		**14 32 17.2**	**+1.1**
HARR	**Harsova**	**19.81**	**317**	⇓P		**P**		**14 32 17.2**	**+1.1**
VRH	**Novokhopyorsk**	**19.97**	**350**	*e*P		**P**		**14 32 15.2**	**-2.6**
VRH				pmax		pmax			
	comp=Z,10.0nm,0.4s								
ABKAR	**Akbulak array**	**20.17**	**25**	P		**P**		**14 32 19.1**	**-0.9**
ABKAR	**Akbulak array**	**20.17**	**25**	P		**P**		**14 32 19.0**	**-0.9**
ATD	**Arta Tunnel**	**20.32**	**192**	P		**P**		**14 32 23.9**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=276,slow=19,SNR=1.9								
VLDR	**Vladesti**	**20.41**	**320**	⇑P		**P**		**14 32 22.4**	**-0.2**
VSR	**Storozhevoye**	**20.44**	**346**	*i* P		P		14 32 18.0	-4.8
VSR				pmax		pmax			
	comp=Z,20nm,1.2s								
AKTO	**Aktyubinsk**	**20.55**	**20**	P		**P**		**14 32 22.9**	**-1.2**
	comp=Z,3.8nm,0.5s,baz=206,slow=10,SNR=16								
AKTO				LR		LR		14 42 58.8	
	comp=Z,142nm,20.1s,baz=298,slow=45								
	comp=Z,3.8nm,0.5s								
BELG	**Belogornoye**	**20.79**	**1**	⇑*e*P		**P**		**14 32 25.1**	**-1.6**
BELG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BELG	**Belogornoye**	**20.79**	**1**	P		**P**		**14 32 25.0**	**-1.6**
	comp=Z,31nm,0.9s,baz=214,slow=7.3,SNR=4.6								
BELG				LR		LR		14 41 45.4	
	comp=Z,188nm,19.1s,baz=159,slow=41								
	comp=Z,31nm,0.9s								
VORR	**Voronezh**	**20.86**	**346**	*e*P		P		14 32 23.3	-4.1
VORR				pmax		pmax			
	comp=Z,70nm,0.4s								
BTK	**Batken**	**21.06**	**60**	P		**P**		**14 32 29.6**	**-0.2**
BTK				IAmb	IAmb			14 32 31.7	
	comp=Z,15nm,1.1s								
BTK	**Batken**	**21.06**	**60**	P		**P**		**14 32 29.6**	**-0.2**
BTK				pmax		pmax			
	comp=Z,15nm,1.1s								
VRI	**Vrincioaia**	**21.18**	**318**	⇓P		**P**		**14 32 31.1**	**+0.1**
VRI	**Vrincioaia**	**21.18**	**318**	⇓P		**P**		**14 32 31.1**	**+0.1**
NEHR	**Nehoiu**	**21.19**	**317**	⇓P		**P**		**14 32 31.4**	**+0.4**
PLOR	**Plostina**	**21.22**	**318**	⇑P		**P**		**14 32 31.1**	**-0.3**
AGG	**Agios Georgios**	**21.38**	**297**	P		**P**		**14 32 32.9**	**-0.4**
AGG	**Agios Georgios**	**21.38**	**297**	P		**P**		**14 32 32.9**	**-0.4**
AGG				pmax		pmax			
	comp=Z,12nm,1.3s								
MLR	**Muntele Rosu**	**21.43**	**316**	⇓P		**P**		**14 32 34.5**	**+0.7**
MLR	**Muntele Rosu**	**21.43**	**316**	P		**P**		**14 32 34.4**	**+0.6**
MLR	**Muntele Rosu**	**21.43**	**316**	⇓P		**P**		**14 32 34.5**	**+0.7**
MLR	**Muntele Rosu**	**21.43**	**316**	P		**P**		**14 32 33.3**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=79,slow=10,SNR=3.8								
	comp=Z,3.0nm,0.6s								
TESR	**Tescani**	**21.61**	**319**	⇓P		**P**		**14 32 35.5**	**0.0**
TURR	**Turia**	**21.70**	**318**	⇑P		**P**		**14 32 37.0**	**+0.4**
SORM	**Soroca**	**21.75**	**325**	⇓P		**P**		**14 32 35.5**	**-1.5**
SORM	**Soroca**	**21.75**	**325**	⇓P		**P**		**14 32 35.5**	**-1.5**
LPSR	**Galich'ya Gora**	**21.80**	**347**	*e*P		P		14 32 32.1	-5.4
LPSR				pmax		pmax			
	comp=Z,40nm,0.6s								
OZUR		**21.86**	**318**	⇑P		**P**		**14 32 39.4**	**+1.2**
KK31	**Karatay Array**	**21.89**	**52**	P		**P**		**14 32 38.3**	**-0.3**
KK31	**Karatay Array**	**21.89**	**52**	P		**P**		**14 32 38.3**	**-0.3**
KK31				pmax		pmax			

comp=Z,123nm,21.6s,baz=158,slow=39
comp=Z,2.2nm,0.8s
KURK Kurchatov 30.21 42 P P 14 33 55.9 -0.1
KURK IAmb IAmb 14 33 57.6
comp=Z,3.8nm,0.8s
KURK Kurchatov 30.21 42 ⇓ *i* P P 14 33 56.4 +0.4
KURK pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 31.00 50 P P 14 34 03.1 0.0
MK31 Makanchi Array 31.00 50 *c* *i* P P 14 34 03.4 +0.3
MKAR Makanchi Array 31.00 50 P P 14 34 03.1 0.0
MKAR Makanchi Array 31.00 50 P P 14 34 03.5 +0.4
comp=Z,1.6nm,0.5s,baz=249,slow=12,SNR=40
MKAR LR LR 14 48 25.1
comp=Z,157nm,18.0s,baz=296,slow=40
comp=Z,1.6nm,0.5s
DAVOX Davos/Dischmat 32.16 309 LR LR 14 49 00.1
comp=Z,239nm,20.7s,baz=326,slow=40
FIA1 FINESS Array S 32.83 342 P P 14 34 18.1 -0.8
FINES FINESS Array B 32.83 342 P P 14 34 18.2 -0.7
FINES FINESS Array B 32.83 342 *i* P P 14 34 18.3 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 32.83 342 P P 14 34 17.9 -1.0
comp=Z,1.8nm,0.6s,baz=135,slow=6.9,SNR=13
comp=Z,1.8nm,0.6s
KMBO Kilima Mbogo 33.82 198 LR LR 14 47 11.9
comp=Z,76nm,21.0s,baz=94,slow=34
BNI Bardonecchia 33.99 305 P P 14 34 28.1 -1.2
BNI IAmb IAmb 14 35 09.4
comp=Z,8.9nm,1.2s
BNI Bardonecchia 33.99 305 P P 14 34 28.2 -1.2
BNI pmax pmax
comp=Z,9.0nm,1.3s
ZAA0 Zalesovo Array 35.04 39 P P 14 34 37.2 -1.0
ZAA0 IAmb IAmb 14 34 39.1
comp=Z,4.7nm,0.7s
ZALV Zalesovo Beam 35.04 39 P P 14 34 37.2 -1.0
ZALV Zalesovo Beam 35.04 39 *i* P P 14 34 38.0 -0.2
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 35.04 39 P P 14 34 38.0 -0.2
comp=Z,3.7nm,0.5s,baz=253,slow=9.2,SNR=21
ZALV LR LR 14 50 19.4
comp=Z,182nm,19.3s,baz=287,slow=39
comp=Z,3.7nm,0.5s
DGZ Jazzator, Alta 35.12 47 ⇑ *i* P P 14 34 39.7 +0.6
DGZ pmax pmax
comp=Z,2.0nm,0.9s
HFS Hagfors 36.06 332 P P 14 34 46.4 -0.5
comp=Z,3.0nm,0.7s,baz=134,slow=8.5,SNR=8.0
HFS LR LR 14 51 38.0
comp=Z,276nm,18.4s,baz=360,slow=40
comp=Z,3.0nm,0.7s
LVZ Lovozero 37.05 352 P P 14 34 56.5 +1.1
LVZ Lovozero 37.05 352 P P 14 34 56.5 +1.1
LVZ pmax pmax
comp=Z,89nm,1.5s
PALK Pallekele 39.69 120 LR LR 14 52 29.0
comp=Z,55nm,19.2s,baz=42,slow=37
ESDC Sonseca Array 41.70 296 P P 14 35 34.0 -0.5
comp=Z,1.5nm,0.9s,baz=86,slow=7.8,SNR=6.8
comp=Z,1.5nm,0.9s
NRIK Noril'sk 44.16 19 ⇓ *e* P P 14 35 54.0 0.0
NRIK pmax pmax
comp=Z,9.0nm,2.1s
TOA0 Torodi Ar. Sit 45.34 257 P P 14 36 04.0 -0.1
TOA0 IAmb IAmb 14 36 04.8
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 45.34 257 P P 14 36 03.5 -0.6
TORD IAmb IAmb 14 36 07.5
comp=Z,5.6nm,1.0s
TORD Torodi Ar. Bea 45.34 257 P P 14 36 04.1 0.0
comp=Z,5.8nm,0.8s,baz=51,slow=9.8,SNR=32
comp=Z,5.8nm,0.8s
LZH Lanzhou 46.89 68 *e* P P 14 36 11.3 -5.0
LZH pP pP 14 36 17.4 -2.1
LZH pmax pmax
comp=Z,14nm,1.0s
SONM Songino Array 47.34 52 P P 14 36 19.8 +0.2
comp=Z,0.5nm,0.5s,baz=279,slow=11,SNR=4.9
comp=Z,0.5nm,0.5s
ULN Ulaanbaatar 47.78 52 P P 14 36 23.0 -0.1
ULN IAmb IAmb 14 36 24.3
comp=Z,5.2nm,1.1s
ULN Ulaanbaatar 47.78 52 *de* P P 14 36 23.5 +0.4
ULN pmax pmax
comp=Z,6.0nm,1.1s
CMAR Chiang Mai Arr 48.48 93 *ce* P P 14 36 29.2 +0.6
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 48.48 93 P P 14 36 29.4 +0.9
comp=Z,0.9nm,0.8s,baz=294,slow=7.3,SNR=7.8
CMAR LR LR 15 02 50.0
comp=Z,19nm,19.4s,baz=270,slow=43
comp=Z,0.9nm,0.8s
CRAI Chiangrai 48.94 90 P P 14 36 32.5 +0.3
LYN LuoYang 54.10 68 *e* P P 14 37 15.0 +4.4
LYN pmax pmax
comp=Z,15nm,0.8s
DBIC Dimbokro 54.26 254 P P 14 37 11.7 -0.3
DBIC Dimbokro 54.26 254 P P 14 37 12.0 +0.1
comp=Z,5.5nm,0.7s,baz=22,slow=8.0,SNR=8.4
comp=Z,5.5nm,0.7s
KIC Kosan Boka 54.34 254 ⇑ *e* P P 14 37 12.3 -0.3
comp=Z,13nm,0.7s
TIC Toumodi 54.41 254 ⇑ *e* P P 14 37 11.0 -2.1
comp=Z,9.9nm,0.7s
LIC Lamto 54.65 254 ⇓ *i* P P 14 37 14.8 0.0
comp=Z,24nm,0.6s
BOSA Boshof 63.34 201 P P 14 38 15.3 +0.4
BOSA Boshof 63.34 201 P P 14 38 15.4 +0.4
BOSA pmax pmax
comp=Z,20nm,1.5s
BOSA Boshof 63.34 201 P P 14 38 15.4 +0.4
comp=Z,4.8nm,0.8s,baz=1.7,slow=5.3,SNR=3.7
BOSA LR LR 15 07 51.5
comp=Z,81nm,19.4s,baz=44,slow=38
comp=Z,4.8nm,0.8s
KSRS Korea Array 65.02 60 P P 14 38 25.8 -0.1
comp=Z,0.5nm,0.4s,baz=286,slow=10,SNR=4.7
comp=Z,0.5nm,0.4s
SUR Sutherland 68.27 204 LR LR 15 12 26.3
comp=Z,77nm,18.7s,baz=188,slow=39
SEY Seymchan 68.91 28 ⇑ *i* P P 14 38 50.4 +0.2
SEY pmax pmax
comp=Z,4.0nm,0.6s
MA2 Magadan 69.81 32 ⇓ *e* P P 14 38 55.7 -0.2
MA2 pmax pmax
comp=Z,18nm,2.9s
MA2 Magadan 69.81 32 LR LR 15 13 53.9
comp=Z,56nm,19.5s,baz=325,slow=40
PETK Petropavlovsk- 76.48 35 LR LR 15 17 42.6
comp=Z,46nm,20.4s,baz=313,slow=39
A36M Sachs Harbour 76.56 358 P P 14 39 34.8 -0.7
A36M IAmb IAmb 14 39 36.1
comp=Z,3.9nm,0.9s
B20K Meade River 77.19 8 P P 14 39 39.2 +0.1
B20K IAmb IAmb 14 39 41.8
comp=Z,3.3nm,1.1s
B22K Teshekpuk Lake 77.30 7 P P 14 39 39.8 0.0
B22K IAmb IAmb 14 40 17.4
comp=Z,5.0nm,1.2s
B21K Ikpikpuk River 77.86 8 P P 14 39 43.0 +0.1
B21K IAmb IAmb 14 39 50.4
comp=Z,1.9nm,0.8s
C18K Utukok River 77.90 10 P P 14 39 42.8 -0.4
C18K IAmb IAmb 14 40 02.7
comp=Z,4.1nm,1.1s
C23K Itkillik River 78.06 6 P P 14 39 44.5 +0.6
C23K IAmb IAmb 14 40 25.4
comp=Z,7.6nm,1.5s
LUWI Luwuk 78.48 98 P P 14 39 47.6 +0.4
D19K Kuna River 78.49 9 P P 14 39 46.4 0.0
D19K IAmb IAmb 14 39 46.8
comp=Z,8.1nm,1.4s
D22K Ayikyak River 78.78 7 P P 14 39 48.5 +0.4
D22K IAmb IAmb 14 40 06.0
comp=Z,5.1nm,1.5s
E18K Tukpahlearik C 79.12 10 P P 14 39 49.8 0.0
E18K IAmb IAmb 14 40 00.7
comp=Z,4.8nm,1.4s
E19K Redstone River 79.58 9 P P 14 39 52.2 -0.2
E19K IAmb IAmb 14 39 54.7
comp=Z,8.3nm,1.5s
E22K Anaktuvuk Pass 79.59 7 P P 14 39 51.9 -0.6
E22K IAmb IAmb 14 39 53.3
comp=Z,8.3nm,1.4s
F20K Avaraart Lake 80.17 9 P P 14 39 55.5 0.0
F20K IAmb IAmb 14 40 25.9
comp=Z,6.0nm,1.5s
E29M Blow River 80.26 2 P P 14 39 56.1 +0.1
E29M IAmb IAmb 14 39 56.3
comp=Z,6.9nm,1.3s
E27K Coleen River 80.32 3 P P 14 39 56.9 +0.5
F24K Squaw Lake 80.56 6 P P 14 39 58.3 +0.5
F24K IAmb IAmb 14 39 58.8
comp=Z,7.3nm,1.4s
G19K Purcell Mounta 80.83 10 P P 14 39 59.0 -0.1
G19K IAmb IAmb 14 39 59.8
comp=Z,3.9nm,0.6s
BMAR Burnt Mountain 80.90 4 P P 14 39 59.7 +0.1
G21K Allakaket 80.95 8 P P 14 39 59.7 -0.1
F31M Tsiigehtchic 81.27 0 P P 14 40 01.4 0.0
F31M IAmb IAmb 14 40 15.2
comp=Z,8.7nm,1.5s
IMAR Indian Mountai 81.43 8 P P 14 40 02.2 -0.2
G27K Doyon Strip 81.69 3 P P 14 40 04.0 +0.2
G30M tAoh Zrail Nji 81.71 1 P P 14 40 03.5 -0.3
G31M Satah River 81.79 0 P P 14 40 04.1 -0.1
H21K Melozitna Rive 81.86 8 P P 14 40 04.8 +0.2
H21K IAmb IAmb 14 40 09.1
comp=Z,7.4nm,1.5s
H29M Whitestone 82.42 2 P P 14 40 07.6 +0.1
H31M Peel River 82.91 1 P P 14 40 10.0 -0.2
H31M IAmb IAmb 14 40 41.7
comp=Z,4.9nm,1.2s
J19K Poorman 83.08 10 P P 14 40 11.2 +0.3
J19K IAmb IAmb 14 40 52.4
comp=Z,4.5nm,1.4s
J20K Nowinta River 83.11 9 P P 14 40 11.4 +0.2
J20K IAmb IAmb 14 40 38.8
comp=Z,6.5nm,1.4s
ILAR Eielson Array 83.34 6 P P 14 40 12.2 -0.2
ILAR Eielson Array 83.34 6 P P 14 40 12.1 -0.3
comp=Z,0.5nm,0.9s,baz=326,slow=4.1,SNR=5.1
comp=Z,0.5nm,0.9s
J18K Innoko River 83.41 10 P P 14 40 12.0 -0.7
J18K IAmb IAmb 14 40 20.3
comp=Z,4.0nm,1.2s
BPAW Bear Paw Mtn. 83.58 8 P P 14 40 14.2 +0.6
BPAW IAmb IAmb 14 40 14.8
comp=Z,5.2nm,1.3s
J26L Joseph Creek 83.87 5 P P 14 40 15.2 0.0
J26L IAmb IAmb 14 40 57.4
comp=Z,3.8nm,1.4s
K20K Telida 83.90 9 P P 14 40 15.3 +0.1
KTH Kantishna Hill 84.12 8 P P 14 40 17.0 +0.6
K27K Chicken 84.43 4 P P 14 40 18.4 +0.4
K27K IAmb IAmb 14 40 20.7
comp=Z,4.0nm,1.1s
L18K Granite Mounta 84.59 11 P P 14 40 19.3 +0.6
YKA Yellowknife Ar 85.08 352 P P 14 40 20.8 -0.4
comp=Z,0.3nm,0.6s,baz=16,slow=9.5,SNR=5.6
comp=Z,0.3nm,0.6s
BCAR Beaver Creek A 85.41 4 P P 14 40 23.6 +0.7
M27K Edge Creek, AK 86.11 4 P P 14 40 27.6 +1.0
SUA Susitna One 86.16 8 P P 14 40 27.1 +0.3
O30N Mendenhall 87.94 1 P P 14 40 35.6 +0.2
NEW Newport 99.23 349 LR LR 15 27 40.5
comp=Z,66nm,18.7s,baz=266,slow=36
QSPA South Pole Qui 121.43 180 PKP **PKPdf 14 46 38.3 0.0**
comp=Z,2.1nm,0.9s,baz=279,slow=2.3,SNR=7.5

*CATAC **15** 14:36:01.6±1.0, 14°.52N×92°.69W, h17km±8km, ML4.1*
*MEX **15** 14:36:04.1±1.0, 14°.62N×92°.66W, h66km±15km, MD4.2*
*GCG **15** 14:36:06.0±0.6, 14°.97N×92°.41W, h50km±33km, MD3.8*
ISC 15 14:36:02.9±1.6, 14°.56N±0°.06×92°.70W±0°.05, h31km±12km, n24, σ0°.74/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THIG		**0.55**	**50**	***e*** **P**		**Pb**	**14 36 14.7**	**+0.6**
THIG				***i*** **S**		**Sn**	**14 36 23.6**	**+0.8**
SMCA	**Catarina**	**0.68**	**64**	***i*** **P**		**Pn**	**14 36 15.8**	**-0.6**
SMCA				IAML			14 36 26.2	
	comp=Z,8μm,1.0s							
PATR	**El Naranjo**	**0.72**	**39**	***e*** **P**		**Pn**	**14 36 16.1**	**-1.1**
PATR				***e*** **S**		**Sb**	**14 36 26.4**	**-0.4**
CHUJ	**Union Juarez**	**0.79**	**47**	***e*** **P**		**Pn**	**14 36 17.2**	**-0.8**
CHUJ				***e*** **S**		**Sb**	**14 36 27.9**	**-0.8**
PAVE	**Pavencul**	**0.81**	**39**	***e*** **P**		**Pn**	**14 36 17.8**	**-0.6**
PAVE				***e*** **S**		**Sn**	**14 36 28.9**	**-0.7**
RTAL	**Retalhuleu**	**0.97**	**92**	***e*** **P**		**Pn**	**14 36 20.2**	**-0.2**
RTAL				***e*** **S**		**Sn**	**14 36 32.6**	**-0.7**
RTAL	**Retalhuleu**	**0.97**	**92**	***i*** **P**		**Pn**	**14 36 18.9**	**-1.6**
RTAL				***i*** **S**		**Sn**	**14 36 32.9**	**-0.4**
RTAL				IAML			14 36 36.9	
	comp=Z,2μm,1.0s							
SMSP	**San Marcos**	**0.98**	**65**	***e*** **P**		**Pn**	**14 36 20.3**	**-0.6**
SMSP				***i*** **S**		**Sn**	**14 36 33.2**	**-0.7**
SMSP	**San Marcos**	**0.98**	**65**	***i*** **P**		**Pn**	**14 36 20.2**	**-0.6**
SMSP				IAML			14 36 34.2	
	comp=Z,18μm,1.0s							
STG3	**Santiaguito 3,**	**1.11**	**82**	***e*** **P**		**Pn**	**14 36 22.3**	**-0.1**
SULM	**Suchitepequez,**	**1.13**	**103**	***e*** **P**		**Pb**	**14 36 24.1**	**+0.3**
SULM				***e*** **S**		**Sn**	**14 36 37.5**	**+0.4**
PCIG		**1.25**	**336**	***e*** **P**		**Pn**	**14 36 24.0**	**-0.2**
PCIG				***e*** **S**		**Sn**	**14 36 39.4**	**-0.5**
SOKI	**Kika Raxquin**	**1.28**	**78**	***i*** **P**		**Pn**	**14 36 25.3**	**+0.2**
SOKI				***i*** **S**		**Sn**	**14 36 41.8**	**+0.4**
SOKI				IAML			14 36 47.3	
	comp=Z,630nm,1.0s							
HUEH	**Huehuetenango**	**1.39**	**57**	***e*** **P**		**Pn**	**14 36 26.7**	**+0.4**
HUEH				***e*** **S**		**Sn**	**14 36 44.4**	**+0.7**
HUEH	**Huehuetenango**	**1.39**	**57**	***i*** **P**		**Pn**	**14 36 26.7**	**+0.4**
HUEH				***i*** **S**		**Sn**	**14 36 44.7**	**+1.0**
HUEH				IAML			14 36 50.1	
	comp=Z,5μm,1.0s							
QUIS	**Sacapulas**	**1.72**	**65**	***i*** **P**		**Pn**	**14 36 30.9**	**+0.1**
QUIS				IAML			14 36 32.0	
	comp=Z,2μm,1.0s							
QUIS				***i*** **S**		**Sn**	**14 36 53.3**	**+1.5**
CCIG	**Comitan**	**1.80**	**18**	***e*** **P**		**Pn**	**14 36 32.6**	**+0.6**
CCIG				***e*** **S**		**Sn**	**14 36 54.6**	**+0.6**
FUG	**Fuego 3**	**1.80**	**93**	***e*** **P**		**Pn**	**14 36 32.5**	**+0.4**
FUG				***e*** **S**		**Sn**	**14 36 53.5**	**-0.5**
PCG	**Pacaya**	**2.04**	**94**	***e*** **P**		**Pn**	**14 36 36.5**	**+1.2**
PCG				***e*** **S**		**Sn**	**14 36 59.4**	**-0.4**
NUBE	**Las Nubes**	**2.91**	**103**	***i*** **P**		**Pn**	**14 36 47.5**	**+0.3**
UXUV	**UXUV**	**3.08**	**333**	***e*** **P**		**Pn**	**14 36 50.1**	**+0.7**
CMIG	**Matias Romero**	**3.28**	**320**	***e*** **P**		**Pn**	**14 36 52.4**	**+0.2**
HUIG	**Huatulco**	**3.50**	**291**	***e*** **P**		**Pn**	**14 36 54.5**	**-0.8**
PETF	**Flores**	**3.60**	**49**	***i*** **P**		**Pn**	**14 36 55.2**	**-1.4**

*IDC **15** 14:37:16.8±2.1, 8°.86S×123°.71E, h0km, mb3.4/1, mbtmp3.8/3, ML4.2/2, MS2.8/1, Error ellipse: s-maj=254.5km s-min=31.9km az=56.0*
*DJA **15** 14:37:28.6±0.4, 9°.S±4°×12°.4E±°, h108km±4km, M3.8/11, mb4.0/5, mB5.2/1, MLv3.8/11, Mw(mB)4.6/1*
ISC 15 14:37:28.1±1.0, 8°.95S±0°.07×124°.10E±0°.08, h100km, n22, σ26°.27/23, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SOEI	**Soe**	**0.82**	**168**	**P**		**Pn**	**14 37 49.7**	**+2.9**
SOEI	**Soe**	**0.82**	**168**	**P**		**Pn**	**14 37 49.6**	**+2.8**
SOEI				**S**		**Sn**	**14 38 03.7**	**+2.9**
MMRI	**Maumere**	**1.86**	**280**	**P**		**Pn**	**14 38 00.9**	**+2.0**
MMRI	**Maumere**	**1.86**	**280**	**P**		**Pn**	**14 38 00.4**	**+1.5**
EDFI	**Ende, Flores**	**2.39**	**275**	**P**		**Pn**	**14 38 07.3**	**+1.5**
BASI	**Baing, Sumba**	**3.69**	**250**	**P**		**Pn**	**14 38 23.3**	**+0.2**
BBSI	**Bau Bau**	**3.76**	**336**	**P**		**Pn**	**14 38 25.5**	**+1.4**
BKSI	**Bulukumba**	**5.34**	**312**	**P**		**Pn**	**14 38 44.4**	**-1.1**
	14nm,0.8s,0.1nm							
PLAI	**Plampang**	**6.25**	**271**	**P**		**Pn**	**14 38 58.7**	**+0.9**
PLAI	**Plampang**	**6.25**	**271**	**P**		**Pn**	**14 38 58.7**	**+0.9**
	43nm,1.3s,0.2nm							
TWSI	**Taliwang, Sumb**	**7.13**	**271**	**P**		**Pn**	**14 39 09.8**	**0.0**
	20nm,1.1s,0.1nm							
MTNI	**Mataram**	**7.84**	**272**	**P**		**Pn**	**14 39 21.6**	**+2.1**
MTN	**Manton Dam**	**7.92**	**120**	**P**		**Pn**	**14 39 21.8**	**+1.3**
KNRA	**Kununurra**	**8.09**	**146**	**P**		**Pn**	**14 39 23.1**	**+0.3**
KDU	**Kakadu**	**9.03**	**115**	**P**		**Pn**	**14 39 35.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**9.21**	**171**	**P**		**Pn**	**14 39 37.4**	**-0.7**
WRA	**Warramunga Arr**	**14.75**	**139**	**Pn**		**Pn**	**14 40 50.1**	**-1.6**
	1.4nm,0.3s,baz=315,slow=15,SNR=45							
WRA				**Sn**		**Sn**	14 43 24.2	-10
	0.6nm,0.3s,baz=304,slow=24,SNR=6.0							
	1.6nm,0.4s							
WRKA	**Warakurna**	**16.49**	**166**	**P**		**P**	**14 41 14.9**	**+0.5**
ASAR	**Alice Springs**	**17.38**	**148**	**P**		**Pn**	**14 41 25.2**	**+0.7**
	0.5nm,0.3s,baz=322,slow=12,SNR=48							
ASAR				**S**		**Sn**	**14 44 30.7**	**-7.3**
	0.6nm,0.6s,baz=312,slow=21,SNR=3.6							
	2.4nm,0.7s							
AS01	**Alice Springs**	**17.41**	**148**	**P**		**Pn**	**14 41 25.4**	**+0.7**
	4.9nm,0.8s							
KSRS	**Korea Array**	**46.30**	**4**	**LR**		**LR**	15 06 02.5	
	comp=Z,12nm,20.8s,baz=355,slow=37							
MKAR	**Makanchi Array**	**66.82**	**330**	**P**		**P**	**14 48 08.7**	**-0.4**
	0.2nm,0.6s,baz=138,slow=7.8,SNR=4.7							
	0.2nm,0.6s							

IDC 15 14:44:51.4±2.1, 11°.05S×164°.53E, h0km, mb3.4/3, mbtmp3.7/4, ML5.2/1, MS3.2/2, Error ellipse: s-maj=53.8km s-min=32.8km az=155.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**4.79**	**289**	**P**		**Pn**	**14 46 06.3**	**+1.5**
	99nm,0.3s,baz=120,slow=6.0,SNR=5.8							
HNR				**S**		**Sn**	**14 46 59.7**	**-1.4**
	30nm,0.3s,baz=200,slow=18,SNR=1.0							
	210nm,0.4s							
CTA	**Charters Tower**	**19.75**	**241**	**LR**		**LR**	14 57 07.4	
	comp=Z,61nm,18.3s,baz=91,slow=37							
WRA	**Warramunga Arr**	**30.36**	**249**	**P**		**P**	14 51 06.0	+0.7
	0.7nm,0.9s,baz=79,slow=9.3,SNR=3.4							
	0.7nm,0.9s							
ASAR	**Alice Springs**	**31.73**	**243**	**P**		**P**	14 51 16.5	-0.8
	0.3nm,1.0s,baz=63,slow=10.0,SNR=4.1							
	0.3nm,1.0s							
ASAJ	**Asahikawa**	**58.41**	**342**	**LR**		**LR**	15 14 18.9	
	comp=Z,24nm,20.9s,baz=171,slow=30							
ILAR	**Eielson Array**	**83.90**	**19**	**P**		**P**	14 57 22.7	-0.1
	0.3nm,0.7s,baz=227,slow=5.4,SNR=4.8							
	0.3nm,0.7s							

*IDC **15** 14:45:12.0±5.5, 48°.08N×153°.44E, h156km±39km, mb3.3/4, mbtmp3.7/6, Error ellipse: s-maj=163.3km s-min=23.4km az=133.0*
ISC 15 14:45:13.0±3.6, 48°.3N±0°.4×153°.2E±0°.4, h150km, n6, σ0°.23/6, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.65**	**29**	**P**		**Pn**	**14 46 34.9**	**+0.1**
	2.5nm,1.0s,baz=186,slow=14,SNR=1.8							
ASAJ	**Asahikawa**	**8.42**	**244**	**P**		**Pn**	**14 47 11.8**	**-0.1**
	13nm,1.1s,baz=61,slow=12,SNR=5.0							
KSRS	**Korea Array**	**21.33**	**249**	**P**		**P**	**14 49 48.1**	**+0.1**
	0.6nm,0.5s,baz=50,slow=9.7,SNR=4.7							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**46.30**	**296**	**P**		**P**	**14 53 23.3**	**0.0**
	0.4nm,0.6s,baz=64,slow=9.4,SNR=5.0							
	0.4nm,0.6s							
BVAR	**Borovoye Array**	**49.94**	**308**	**P**		**P**	**14 53 51.3**	**+0.2**
	0.4nm,0.4s,baz=55,slow=8.4,SNR=4.5							
	0.4nm,0.4s							
FINES	**FINESS Array B**	**62.69**	**334**	**P**		**P**	**14 55 20.9**	**-0.3**
	3.5nm,1.0s,baz=76,slow=7.3,SNR=4.5							
	3.5nm,1.0s							

*CATAC **15** 14:47:17.7±0.6, 10°.80N×86°.53W, h9km±5km, ML4.1*
*NEIC **15** 14:47:18.4±1.5, 10°.91N±0°.06×86°.45W±0°.04, h20km±4km, mb4.4/33, Error ellipse: s-maj=10.0km s-min=3.4km az=214.0*
*IDC **15** 14:47:23.0±2.6, 11°.53N×85°.79W, h42km±33km, mb3.5/6, mbtmp3.7/7, ML3.5/1, MS4.1/1, Error ellipse: s-maj=68.5km s-min=23.8km az=50.0*
ISC 15 14:47:17.7±1.5, 10°.83N±0°.04×86°.52W±0°.05, h17km±9km, n106, σ1°25/118, mb4.2/21, 10C-7D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**0.91**	**97**			**Pb**	**14 47 35.8**	**+0.7**
HZTE					Sn	**Sg**	**14 47 47.9**	**+0.3**
HZTE	**Horizontes, Gu**	**0.91**	**97**	***i*** **P**		**Pb**	**14 47 35.8**	**+0.7**
HZTE				***i*** **S**		**Sb**	**14 47 48.9**	**+1.9**
HZTE				IAML			14 47 54.9	
	comp=Z,8μm,1.0s							
MSHP	**Masachapa**	**1.00**	**359**	***i*** **P**		**Pn**	**14 47 38.5**	**+1.5**
MSHP				IAML			14 47 39.1	
	comp=Z,2μm,1.0s							
MSHP				***i*** **S**		**Sn**	**14 47 52.6**	**+1.9**
NADN	**Granada**	**1.03**	**27**	**⇓** ***i*** **P**		**Pg**	**14 47 37.8**	**0.0**
ADRN	**Diriamba**	**1.06**	**15**	***i*** **P**		**Pn**	**14 47 39.0**	**+1.1**
ADRN				***i*** **S**		**Sb**	**14 47 53.5**	**+2.2**
ADRN				IAML			14 48 00.8	
	comp=Z,15μm,1.0s							
JAPN	**AI SSO del Vol**	**1.08**	**50**	**⇓** ***i*** **P**		**Pg**	**14 47 38.6**	**-0.1**
JAPN				IAML			14 47 39.6	
	comp=Z,6μm,1.0s							
OMEN	**AI SSO del Vol**	**1.11**	**52**	***i*** **P**		**Pb**	**14 47 36.6**	**-1.9**
OMEN				IAML			14 47 37.7	
	comp=Z,5μm,1.0s							
OMEN				***i*** **S**		**Sg**	**14 47 53.4**	**-0.3**
MORN	**AI O del Volca**	**1.11**	**50**	**⇓** ***i*** **P**		**Pb**	**14 47 38.7**	**+0.1**
MORN				IAML			14 47 39.5	
	comp=Z,16μm,1.0s							
VRLE	**La Escondida,**	**1.13**	**92**	***i*** **P**		**Pg**	**14 47 39.5**	**-0.2**
VRLE				***i*** **S**		**Sg**	**14 47 54.2**	**-0.4**
VRLE				IAML			14 47 56.5	
	comp=Z,3μm,1.0s							
ORTG	**Ortega, Santa**	**1.14**	**114**			**Pg**	**14 47 39.2**	**-0.6**
ORTG					Sn	**Sg**	**14 47 53.3**	**-1.4**
ORTG	**Ortega, Santa**	**1.14**	**114**	***i*** **P**		**Pg**	**14 47 39.3**	**-0.5**
ORTG				***i*** **S**		**Sg**	**14 47 53.3**	**-1.4**
ORTG				IAML			14 48 02.1	
	comp=Z,1μm,1.0s							
CONN	**Concepcion**	**1.14**	**50**	**⇑** ***i*** **P**		**Pb**	**14 47 39.2**	**+0.1**
CONN				IAML			14 47 39.6	
	comp=Z,24μm,1.0s							
CONN				***i*** **S**		**Sn**	**14 47 57.6**	**+3.4**
CRUN	**El Crucero**	**1.17**	**10**	***i*** **P**		**Pb**	**14 47 40.5**	**+0.9**
CRUN				IAML			14 47 59.3	
	comp=Z,10.0nm,1.0s							
NANN	**Nandasmo**	**1.17**	**19**	**⇑** ***i*** **P**		**Pg**	**14 47 41.0**	**+0.5**
NANN				IAML			14 48 01.4	
	comp=Z,59μm,1.0s							
MASN	**Masaya**	**1.21**	**17**	***i*** **P**		**Pn**	**14 47 39.7**	**-0.2**
MASN				IAML			14 47 46.1	
	comp=Z,850nm,1.0s							
AMYN	**Masaya**	**1.22**	**19**	***i*** **P**		**Pn**	**14 47 40.3**	**+0.2**
AMYN				***i*** **S**		**Sb**	**14 47 56.9**	**+0.9**
AMYN				IAML			14 48 00.9	
	comp=Z,7μm,1.0s							
MAS3	**AI N del Volca**	**1.24**	**16**	**⇑** ***i*** **P**		**Pn**	**14 47 41.0**	**+0.7**
MAS3				IAML			14 47 41.3	
	comp=Z,4μm,1.0s							
MAFN	**Magfor**	**1.29**	**12**	***i*** **P**		**Pn**	**14 47 41.3**	**+0.3**
MAFN				IAML			14 48 20.6	
	comp=Z,6μm,1.0s							
UNAN	**Cigeo UNAN**	**1.30**	**11**	**⇓** ***i*** **P**		**Pn**	**14 47 42.3**	**+1.1**
UNAN				IAML			14 48 05.3	
	comp=Z,13μm,1.0s							
TISN	**Laguna Tiscapa**	**1.33**	**10**	***i*** **P**		**Pn**	**14 47 41.3**	**-0.3**
TISN				IAML			14 48 01.8	
	comp=Z,180nm,1.0s							
SAPS	**Ciudad Sandino**	**1.34**	**5**	**⇑** ***i*** **P**		**Pn**	**14 47 42.3**	**+0.6**
SAPS				IAML			14 48 08.4	
	comp=Z,4μm,1.0s							
COPN	**Copaltepe**	**1.35**	**357**	**⇑** ***i*** **P**		**Pn**	**14 47 41.9**	**+0.1**
COPN				IAML			14 48 02.3	
	comp=Z,6μm,1.0s							
WILN	**Americas 2**	**1.37**	**14**	**⇓** ***i*** **P**		**Pn

INDI IAML 14 48 17.2
comp=Z,660nm,1.0s
AMTN Mateare 1.41 3 *i* P **Pn 14 47 43.6 +1.0**
AMTN IAML 14 48 39.6
comp=Z,8μm,1.0s
APYN Apoyeque 1.41 7 *i* P **Pn 14 47 43.4 +0.7**
APYN IAML 14 48 04.0
comp=Z,3μm,1.0s
LEVN Ruinas Leon Vi 1.57 356 *i* P **Pn 14 47 45.5 +0.7**
LEVN IAML 14 48 14.3
comp=Z,2μm,1.0s
MOMN Momotombo 1.57 359⇑ *i* P **Pn 14 47 45.4 +0.4**
MOMN IAML 14 48 08.1
comp=Z,53nm,1.0s
MOM2 El Cardon 1.60 1⇑ *i* P **Pn 14 47 46.1 +0.8**
MOM2 IAML 14 48 10.1
comp=Z,2μm,1.0s
JTS Las Juntas de 1.63 109 **Pn 14 47 46.0 +0.3**
JTS Las Juntas de 1.63 109 P **Pn 14 47 47.2 +1.6**
comp=Z,79nm,0.4s,baz=144,slow=16,SNR=48
JTS S **Sb 14 48 08.6 +1.0**
comp=Z,97nm,0.3s,baz=138,slow=14,SNR=6.5
MACN El Madrono 1.64 355⇑ *i* P **Pn 14 47 46.7 +0.9**
MACN IAML 14 48 13.0
comp=Z,2μm,1.0s
CNGA Al SSO del Vol 1.67 354⇓ *i* P **Pn 14 47 47.9 +1.6**
CNGA IAML 14 48 18.2
comp=Z,2μm,1.0s
CNGN Cerro Negro 1.67 354 **Pn 14 47 46.9 +0.6**
CNGN Cerro Negro 1.67 354 *i* P **Pn 14 47 47.1 +0.8**
CNGN IAML 14 48 16.6
comp=Z,3μm,1.0s
ACON Acoyapa 1.74 49 **Pn 14 47 47.0 -0.1**
ACON Acoyapa 1.74 49 *i* P **Pn 14 47 47.2 0.0**
ACON IAML 14 48 16.1
comp=Z,560nm,1.0s
ILCN San Idelfonso 1.75 354 *i* P **Pn 14 47 47.8 +0.4**
ILCN IAML 14 48 12.3
comp=Z,380nm,1.0s
ARE1 Arenal 1 1.80 101 **Pn 14 47 47.6 -0.5**
BRAN Las Pilas 1.89 5 *i* P Pn 14 47 42.0 -7.3
BRAN IAML 14 48 03.3
comp=Z,4μm,1.0s
SOCE Pocosol 1.92 103 Pn **Pn 14 47 50.2 +0.5**
CRIN San Cristobal 1.94 344 Pn **Pn 14 47 49.0 -0.9**
COVE Coope Vega, Sa 2.08 93 **Pn 14 47 52.4 +0.5**
JACO JACO, Garabito 2.16 122 Pn **Pn 14 47 55.2 +2.2**
CPMI Catarata Coope 2.17 104 *i* P **Pb 14 47 57.0 +0.3**
CPMI IAML 14 48 39.6
comp=Z,640nm,1.0s
MATN Matagalpa 2.17 15 **Pn 14 47 51.7 -1.5**
ESPN Las Esperanzas 2.56 58 Pn **Pn 14 47 59.2 +0.6**
LCR2 La Lucha 2 2.70 113 **Pn 14 48 01.7 +1.2**
RIMA Rio Macho 2.81 112 **Pn 14 48 03.5 +1.4**
SRBA San Rafael, Bu 3.49 117 Pn **Pn 14 48 13.2 +1.8**
DRK0 Durika 3.58 115 Pn **Pn 14 48 14.9 +2.3**
RGM0 Gandoca 4.04 107 Pn **Pn 14 48 20.2 +1.4**
TEIG Tepich 9.50 350 LR LR 14 53 38.9
comp=Z,1μm,18.4s,baz=298,slow=42
CMIG Matias Romero 10.23 308 P **Pn 14 49 47.9 +4.0**
comp=Z,0.4nm,0.3s,baz=149,slow=12,SNR=2.3
comp=Z,4.8nm,0.9s
SJCC San Jacinto, C 11.19 94 Pn **Pn 14 49 58.6 +1.5**
BAUV El Baul 18.30 94 P **Pn 14 51 31.6 +0.6**
BAUV IAmb IAmb 14 51 57.8
comp=Z,21nm,1.3s
154A Montrose 21.91 8 P **P 14 52 09.1 -1.1**
Y49A Blount Mountai 22.93 0 P **P 14 52 21.0 0.0**
Y49A IAmb IAmb 14 53 00.6
comp=Z,18nm,1.4s
TXAR Lajitas Array 24.41 321 P **P 14 52 36.6 +1.1**
TXAR Lajitas Array 24.41 321 P **P 14 52 36.9 +1.3**
comp=Z,1.7nm,0.8s,baz=138,slow=9.4,SNR=21
comp=Z,1.7nm,0.8s
TX31 Lajitas Ar. Si 24.41 321 P **P 14 52 36.3 +0.8**
WHAR Wooly Hollow 24.91 349 P **P 14 52 37.9 -2.0**
WHAR IAmb IAmb 14 52 39.8
comp=Z,5.0nm,0.8s
FCAR Ozark Folk Cen 25.47 349 P **P 14 52 44.0 -1.0**
LCAR Lake Charles 25.48 351 P **P 14 52 43.7 -1.4**
P38A Dawn 29.35 349 P **P 14 53 17.1 -2.6**
P38A IAmb IAmb 14 53 18.6
comp=Z,5.7nm,0.6s
L42A Oliver, Polo 31.18 355 P **P 14 53 34.3 -1.6**
SDCO Great Sand Dun 31.77 331 P **P 14 53 42.3 +0.8**
SDCO IAmb IAmb 14 54 17.5
comp=Z,4.6nm,1.5s
LONY Lake Ozonia 35.21 15 P **P 14 54 09.5 -1.5**
PDAR Pinedale Array 37.63 332 P **P 14 54 32.4 +0.4**
comp=Z,0.5nm,0.7s,baz=122,slow=11,SNR=5.2
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 39.52 319 P **P 14 54 51.0 +2.9**
comp=Z,0.7nm,0.6s,baz=126,slow=7.5,SNR=5.1
NVAR PcP **PcP 14 56 57.4 +1.9**
comp=Z,0.2nm,0.3s,baz=144,slow=4.0,SNR=4.3
comp=Z,0.7nm,0.6s
ULM Lac du Bonnet 40.06 351 P **P 14 54 49.0 -3.0**
ULM IAmb IAmb 14 55 22.2
comp=Z,8.6nm,1.5s
ULM Lac du Bonnet 40.06 351 P **P 14 54 49.2 -2.8**
comp=Z,1.6nm,0.4s,baz=180,slow=9.1,SNR=5.9
comp=Z,1.6nm,0.4s
BATG Bathurst New B 40.23 22 P **P 14 54 51.2 -2.3**
BATG IAmb IAmb 14 54 59.3
comp=Z,21nm,1.4s
LYMT Lyon Mountain 42.11 334 P **P 14 55 09.6 +0.3**
YKA Yellowknife Ar 55.41 345 P **P 14 56 49.3 -1.6**
comp=Z,0.3nm,0.6s,baz=141,slow=6.8,SNR=8.1
comp=Z,0.3nm,0.6s
H31M Peel River 63.78 340 P **P 14 57 47.7 -0.9**
H31M IAmb IAmb 14 57 58.8
comp=Z,8.0nm,1.4s
RES Resolute Bay 64.01 358 P **P 14 57 48.0 -1.9**
G31M Satah River 64.42 341 P **P 14 57 51.6 -1.1**
G31M IAmb IAmb 14 57 52.9
comp=Z,4.6nm,1.2s
BCAR Beaver Creek A 65.10 336 P **P 14 57 56.7 -0.6**
L27K Beaver Creek, 65.12 336 P **P 14 57 57.3 -0.1**
H29M Whitestone 65.38 339 P **P 14 57 58.0 -1.0**
G29M Pine Creek 65.63 340 P **P 14 57 59.8 -0.8**
J26L Joseph Creek 66.45 337 P **P 14 58 06.0 -0.1**
F28M Old Crow 66.61 340 P **P 14 58 06.1 -0.9**
F28M IAmb IAmb 14 58 11.1
comp=Z,2.5nm,1.2s
I26K Coal Creek Min 66.65 338 P **P 14 58 06.2 -1.0**
I26K IAmb IAmb 14 58 06.6
comp=Z,7.4nm,1.4s
J25K Salcha River, 67.21 336 P **P 14 58 10.3 -0.5**
GHO Glory Hole Cre 67.64 333 P **P 14 58 13.3 -0.3**
ILAR Eielson Array 67.87 336 P **P 14 58 13.9 -1.0**
ILAR Eielson Array 67.87 336 P **P 14 58 13.7 -1.3**
comp=Z,0.5nm,0.7s,baz=131,slow=4.0,SNR=16
comp=Z,0.5nm,0.7s
BMAR Burnt Mountain 68.11 339 P **P 14 58 16.2 -0.3**
RND Reindeer 68.17 335 P **P 14 58 16.8 -0.1**
E25K Arctic Village 68.75 340 P **P 14 58 20.0 -0.5**
E25K IAmb IAmb 14 58 34.2
comp=Z,4.2nm,1.4s
SKT Skwentna 68.87 333 P **P 14 58 20.8 -0.5**
SKT IAmb IAmb 14 58 43.1
comp=Z,8.6nm,1.5s
CAST Castle Rocks 69.55 334 P **P 14 58 24.4 -1.1**
CAST IAmb IAmb 14 58 31.4
comp=Z,6.1nm,1.5s
M20K Styx River 69.57 332 P **P 14 58 24.6 -1.2**
G21K Allakaket 71.04 337 P **P 14 58 34.5 0.0**
G21K IAmb IAmb 14 58 41.8
comp=Z,7.1nm,1.4s
C23K Itkillik River 71.11 341 P **P 14 58 34.5 -0.3**
D22K Ayikyak River 71.47 340 P **P 14 58 36.4 -0.7**
B21K Ikpikpuk River 72.35 340 P **P 14 58 41.0 -1.4**
B21K IAmb IAmb 14 59 11.8
comp=Z,3.8nm,1.5s
D19K Kuna River 73.27 339 P **P 14 58 47.0 -0.9**
D19K IAmb IAmb 14 58 57.2
comp=Z,2.7nm,1.2s
B20K Meade River 73.31 340 P **P 14 58 47.3 -0.7**
C16K Lisburne Hills 75.87 338 P **P 14 59 02.5 -0.4**
ASAR Alice Springs 139.49 246 PKP **PKPdf 15 06 45.5 +0.3**
comp=Z,0.2nm,0.6s,baz=95,slow=2.9,SNR=1.7
WRA Warramunga Arr 139.67 252 PKP **PKPdf 15 06 47.2 +1.6**
comp=Z,2.1nm,0.9s,baz=93,slow=1.6,SNR=8.8

*IDC **15** 14:55:06.0±1.2,56.70S×24.80W,h0km,mb3.9/2, mbtmp3.9/3,ML3.5/1,Error ellipse: s-maj=81.0km s-min=29.2km az=89.0*
*NEIC **15** 14:55:07.0±1.8,56.9S±0.1×24.9W±0.2,h10km±1km, mb4.7/19,Error ellipse: s-maj=26.5km s-min=17.8km az=38.0*
ISC 15 14:55:08.9±0.8,56.8S±0.1×24.9W±0.1,h22km,n29, σ1°05/29,mb4.6/12,3D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.04**	**286**	Pn	**Pn**	**14 56 52.6**	**+2.2**
VNA1	**Neumayer--Stat**	**15.63**	**159**	⇓P	**Pn**	**14 58 46.9**	**-0.5**
	comp=Z,1.0nm,0.2s						
VNA3	**Neumayer Olymp**	**15.87**	**162**	⇓P	**Pn**	**14 58 49.7**	**-0.8**
	comp=Z,1.2nm,0.2s						
VNA2	**Neumayer--Watz**	**16.02**	**159**	⇓P	**Pn**	**14 58 51.7**	**-0.8**
	comp=Z,1.2nm,0.2s,baz=331,slow=15						
SNAA	**Sanae**	**17.54**	**157**	P	**P**	**14 59 14.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=5.1						
	comp=Z,3.1nm,0.8s						
EFI	**East Falkland**	**19.91**	**271**	P	**P**	**14 59 38.3**	**-0.4**
EFI				IAmb	IAmb	15 00 12.2	
	comp=Z,108nm,1.4s						
BELA	**Belgrano 2**	**21.43**	**186**	P	**P**	**14 59 53.9**	**-1.1**
MG02	**Cerro Sombrero**	**25.51**	**260**	P	**P**	**15 00 34.1**	**-1.2**
GO09	**Cerro Castillo**	**27.92**	**261**	P	**P**	**15 00 55.2**	**-1.9**
TRQA	**Tornquist**	**30.78**	**292**	P	**P**	**15 01 21.3**	**-1.3**
TRQA				IAmb	IAmb	15 01 54.4	
	comp=Z,7.2nm,1.3s						
PLTB	**Pedras Altas**	**31.95**	**309**	P	**P**	**15 01 33.4**	**+0.5**
PLCA	**Paso Flores**	**33.37**	**279**	P	**P**	**15 01 43.6**	**-1.8**
PLCA				IAmb	IAmb	15 02 16.0	
	comp=Z,8.1nm,1.4s						
QSPA	**South Pole Qui**	**33.44**	**180**	P	**P**	**15 01 46.1**	**+0.2**
QSPA	**South Pole Qui**	**33.44**	**180**	P	**P**	**15 01 46.4**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=201,slow=3.0,SNR=11						
	comp=Z,1.6nm,0.6s						
ITAB	**Concordia**	**35.34**	**315**	P	**P**	**15 02 03.8**	**+1.4**
ITAB				IAmb	IAmb	15 02 46.0	
	comp=Z,25nm,1.4s						
CO01	**Juntas del Tor**	**41.27**	**291**	P	**P**	**15 02 51.9**	**-0.7**
GO02	**Mina Guanaco**	**44.96**	**296**	P	**P**	**15 03 21.8**	**-0.7**
GO02				IAmb	IAmb	15 03 27.3	
	comp=Z,12nm,1.3s						
VNDA	**Vanda**	**45.87**	**182**	P	**P**	**15 03 30.0**	**+1.3**
LVC	**Limon Verde**	**46.77**	**298**	P	**P**	**15 03 36.6**	**-0.3**
LVC				IAmb	IAmb	15 03 40.0	
	comp=Z,6.0nm,0.8s						
PB09	**IPOC Station P**	**47.62**	**298**	P	**P**	**15 03 43.6**	**+0.3**
PB09				IAmb	IAmb	15 04 27.2	
	comp=Z,16nm,1.4s						
PB07	**IPOC Station P**	**47.99**	**298**	P	**P**	**15 03 45.6**	**-0.7**
PB07				IAmb	IAmb	15 04 09.5	
	comp=Z,11nm,1.2s						
PB02	**IPOC Station P**	**48.34**	**298**	P	**P**	**15 03 49.1**	**+0.3**
GO01	**Chusmiza**	**49.42**	**300**	P	**P**	**15 03 57.5**	**0.0**
GO01				IAmb	IAmb	15 04 11.2	
	comp=Z,4.2nm,0.8s						
LPAZ	**La Paz**	**51.85**	**303**	P	**P**	**15 04 16.4**	**+0.3**
CASY	**Casey**	**52.76**	**159**	P	**P**	**15 04 21.8**	**+0.3**
CASY				IAmb	IAmb	15 04 21.9	
	comp=Z,14nm,0.9s						
TOA0	**Torodi Ar. Sit**	**73.12**	**27**	P	**P**	**15 06 36.9**	**-0.5**
TOA0				IAmb	IAmb	15 07 09.9	
	comp=Z,4.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.12**	**27**	P	**P**	**15 06 36.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=189,slow=6.9,SNR=4.1						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**137.58**	**317**	PKP	**PKiKP**	**15 14 30.3**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=126,slow=3.2,SNR=3.8						
ILAR	**Eielson Array**	**151.57**	**310**	PKPbc	**PKiKP**	**15 15 00.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=132,slow=2.6,SNR=11						

*ISN **15** 15:04:29.7±208.0,33.11N×45.94E,h10km±591km,ML3.7*
*IDC **15** 15:04:57.7±2.2,33.67N×45.48E,h0km,mb3.3/4, mbtmp3.3/4,MS4.0/1,Error ellipse: s-maj=59.9km s-min=29.8km az=154.0*
*TEH **15** 15:04:58.0,33.69N×45.68E,h11km±46km,ML3.5*
*NEIC **15** 15:04:59.1±1.7,33.6N±0.1×45.7E±0.1,h10km±2km, mb4.1/5,Error ellipse: s-maj=20.5km s-min=12.8km az=147.0*
ISC 15 15:04:58.2±0.6,33.63N±0.03×45.60E±0.04,h10km,n37, σ1°24/42,mb3.7/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.59**	**152**	*e*Pg	**Pg**	**15 05 08.0**	**-1.6**
IBDR				*e*Sg	**Sg**	**15 05 16.5**	**-0.8**
KGS1	**Ghasr-e-Shirin**	**0.87**	**359**	Pg	**Pg**	**15 05 13.8**	**-1.2**
IGHG	**Ghaleghazi**	**1.06**	**49**	Pg	**Pg**	**15 05 17.2**	**-1.4**
BHD	**Baghdad**	**1.08**	**251**	*e*Pg	**Pn**	**15 05 19.0**	**-0.4**
BHD				*e*Sg	**Sn**	**15 05 34.0**	**-0.5**
BHD				AML	AML	15 05 44.5	
	comp=E,3μm,0.6s						
IDHR	**Dehrash**	**1.25**	**31**	Pg	**Pn**	**15 05 20.4**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.36**	**61**	Pg	**Pb**	**15 05 22.7**	**-1.1**
KCHF				Sg	**Sg**	**15 05 41.9**	**0.0**
IKOM	**Komasi**	**1.68**	**71**	Pg	**Pg**	**15 05 28.9**	**-1.4**
IKOM				Sg	**Sg**	**15 05 51.2**	**-0.9**
ILIN	**Lien**	**1.71**	**41**	Pg	**Pb**	**15 05 29.2**	**-0.6**
IKFM	**Kafar-mosalman**	**1.88**	**93**	Pn	**Pb**	**15 05 31.8**	**-0.7**
RAFI	**Al-Rafai**	**1.95**	**167**	*e*Pn	**Pb**	**15 05 32.5**	**-1.3**
RAFI				*e*Sn	**Sb**	**15 05 57.5**	**-0.7**
IKRK	**Kirkuk**	**2.05**	**330**	*e*Pn	**Pn**	**15 05 33.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**15 05 59.0**	**-2.0**
IKRK				AML	AML	15 06 07.5	
	comp=E,276nm,0.3s						
IKRK				AML	AML	15 06 07.9	
	comp=N,420nm,0.5s						
IALM	**Almabolaq**	**2.45**	**59**	Pn	**Pb**	**15 05 40.1**	**-2.5**
HSAM	**Samen**	**2.56**	**76**	Pn	**Pn**	**15 05 40.7**	**+0.7**
MAHB	**Mahabad**	**3.13**	**2**	Pn	**Pn**	**15 05 48.5**	**+0.8**
HAGD	**Aghdareh**	**3.16**	**67**	Pn	**Pn**	**15 05 49.2**	**+1.0**
ISRB	**Sarab**	**4.51**	**21**	Pn	**Pn**	**15 06 08.0**	**+1.3**
IPIR	**Pirpir**	**4.54**	**101**	Pn	**Pn**	**15 06 08.1**	**+0.9**
ISHB	**Shabestar**	**4.64**	**0**	Pn	**Pn**	**15 06 09.8**	**+1.3**
IHRS	**Heris**	**4.82**	**14**	Pn	**Pn**	**15 06 12.2**	**+1.1**
QAMS	**Qamsar**	**4.83**	**87**	Pn	**Pn**	**15 06 12.4**	**+1.1**
IKLH	**Kolahrood**	**5.00**	**92**	Pn	**Pn**	**15 06 14.5**	**+0.9**
KRSH	**Karshahi**	**5.45**	**85**	Pn	**Pn**	**15 06 20.4**	**+0.7**
IZEF	**Zefreh**	**5.68**	**96**	Pn	**Pn**	**15 06 24.4**	**+1.4**
KLNJ	**Kolanjah**	**5.71**	**116**	Pn	**Pn**	**15 06 24.6**	**+1.3**
IRAM	**Ramesheh**	**6.00**	**106**	Pn	**Pn**	**15 06 28.6**	**+1.4**
ABKAR	**Akbulak array**	**18.90**	**30**	P	**Pn**	**15 09 18.5**	**-0.9**
AGG	**Agios Georgios**	**19.49**	**293**	Pn	**Pn**	**15 09 28.2**	**+1.7**
AKASG	**Malin Array Be**	**20.86**	**330**	P	**P**	**15 09 39.7**	**-0.3**
	comp=N,0.2nm,0.4s,baz=138,slow=10,SNR=5.6						
	comp=N,0.2nm,0.4s						
OBN	**Obninsk**	**22.39**	**346**	LR	LR	15 18 35.6	
	comp=N,374nm,19.1s,baz=348,slow=37						
BVAR	**Borovoye Array**	**26.25**	**35**	P	**P**	**15 10 35.5**	**+2.2**
	comp=N,0.4nm,0.5s,baz=245,slow=9.1,SNR=4.5						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**30.66**	**54**	P	**P**	**15 11 13.6**	**+0.8**
	comp=N,0.2nm,0.4s,baz=259,slow=8.6,SNR=3.3						
	comp=N,0.2nm,0.4s						
BNI	**Bardonecchia**	**31.90**	**303**	P	**P**	**15 11 25.4**	**+1.5**
TORD	**Torodi Ar. Bea**	**44.75**	**254**	P	**P**	**15 13 12.4**	**+0.3**
	comp=N,0.3nm,0.7s,baz=40,slow=7.5,SNR=1.9						
	comp=N,0.3nm,0.7s						
C18K	**Utukok River**	**76.10**	**10**	P	**P**	**15 16 46.9**	**+1.2**
C18K				IAmb	IAmb	15 16 48.1	
	comp=Z,4.0nm,1.4s						
E19K	**Redstone River**	**77.75**	**9**	P	**P**	**15 16 56.0**	**+1.0**
E19K				IAmb	IAmb	15 17 17.3	
	comp=Z,2.8nm,1.4s						
G19K	**Purcell Mounta**	**79.02**	**9**	P	**P**	**15 17 02.2**	**+0.2**
G19K				IAmb	IAmb	15 17 31.6	
	comp=Z,1.5nm,1.1s						
IMAR	**Indian Mountai**	**79.58**	**8**	P	**P**	**15 17 03.4**	**-1.7**

*NEIC **15** 15:15:34.8±1.0,20.90N±0.08×156.12W±0.06, h35km±14km,Error ellipse: s-maj=13.3km s-min=1.6km az=214.0*
HVO 15 15:15:36.6±1.3,20.96N±0.08×156.11W±0.07,h32km±7km, ML3.0/6,MLS.2/40(NEIC),Error ellipse: s-maj=14.2km s-min=4.0km az=220.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHLH	**Kahului Airpor**	**0.30**	**259**		Pb	15 15 43.9	-0.4
KHLH	**Kahului Airpor**	**0.30**	**259**		Sb	15 15 49.3	-0.2
KHLH	**Kahului Airpor**	**0.30**	**259**	IAML		15 15 47.2	
	comp=E,194nm,4.8s						
MHA	**Mahukona**	**0.79**	**166**		Pn	15 15 49.7	-1.9
MHA					Sn	15 15 57.3	-5.0
HPAH	**Hawaii Prepara**	**1.00**	**157**		Pn	15 15 51.7	-2.9
HPAH					Sn	15 16 02.3	-5.3
HUH	**Hualalai**	**1.29**	**169**		Pn	15 15 56.1	-2.6
HUH				IAML		15 16 23.8	
	comp=E,378nm,4.2s						
HUH	**Hualalai**	**1.29**	**169**		Sn	15 16 11.1	-4.1
HUH	**Hualalai**	**1.29**	**169**	IAML		15 16 08.2	
	comp=N,255nm,4.8s						
POHA	**Pohakuloa**	**1.31**	**156**		Pn	15 15 56.1	-2.9
POHA					Sn	15 16 10.2	-5.4
KHLU	**Kahalu`u**	**1.37**	**172**		Pn	15 15 56.6	-3.1
KHLU					Sn	15 16 10.9	-6.0
HMH	**Humu'ula Sheep**	**1.47**	**156**		Pn	15 15 58.6	-2.7
HMH	**Humu'ula Sheep**	**1.47**	**156**	IAML		15 16 19.0	
	comp=N,201nm,4.9s						
HMH				IAML		15 16 21.1	
	comp=E,284nm,4.1s						
ALEP	**Alea Permanent**	**1.48**	**163**		Pn	15 15 58.9	-2.5
MLOA	**Mauna Loa Obse**	**1.50**	**160**	Pn	Pn	15 15 58.9	-2.9
WMR	**Waimanalo Ridg**	**1.51**	**284**		Pn	15 15 59.3	-2.3
WMR					Sn	15 16 16.3	-3.9
MWH	**Moku'aweowe**	**1.54**	**162**		Pn	15 15 59.4	-3.1
MWH	**Moku'aweowe**	**1.54**	**162**	IAML		15 16 21.2	
	comp=E,280nm,3.8s						
MWH				IAML		15 16 54.1	
	comp=N,297nm,3.4s						
MLH	**Mauna Loa**	**1.61**	**155**		Pn	15 16 00.3	-2.7
MLH					Sn	15 16 18.5	-4.4
MLH	**Mauna Loa**	**1.61**	**155**	IAML		15 16 53.5	
	comp=N,310nm,3.2s						
MLH				IAML		15 16 57.9	
	comp=E,308nm,3.5s						
DHH	**Diamond Head**	**1.61**	**281**		Pn	15 15 59.3	-3.6
RSD	**Rainshed**	**1.68**	**152**		Pn	15 16 01.5	-2.5
RSD				IAML		15 16 29.1	
	comp=N,349nm,3.4s						
RSD	**Rainshed**	**1.68**	**152**		Sn	15 16 19.8	-4.7
RSD	**Rainshed**	**1.68**	**152**	IAML		15 16 16.4	
	comp=E,228nm,3.8s						
AIN	**Ainahou**	**1.69**	**159**		Pn	15 16 01.5	-2.7
AIN					Sn	15 16 20.0	-4.9
AIN	**Ainahou**	**1.69**	**159**	IAML		15 17 00.8	
	comp=E,251nm,4.3s						
WRMHI	**West Rim**	**1.72**	**154**		Pn	15 16 01.6	-2.9
HATHI	**Halema'uma'u T**	**1.72**	**152**	Pn	Pn	15 16 01.6	-3.0
HATHI				IAML		15 16 32.9	
	comp=N,354nm,2.7s						
KHU	**Kahuku**	**1.77**	**165**		Pn	15 16 02.1	-3.2
KHU					Sn	15 16 21.5	-5.2
PUH	**Pauahi**	**1.79**	**152**		Pn	15 16 02.6	-2.8
PUH					Sn	15 16 21.6	-5.5
PUH	**Pauahi**	**1.79**	**152**	IAML		15 16 36.6	
	comp=N,310nm,4.3s						
PUH				IAML		15 16 54.1	
	comp=E,178nm,4.0s						
HON	**Honolulu**	**1.80**	**282**		Pn	15 16 02.4	-3.1
HON					Sn	15 16 24.0	-3.4
HON	**Honolulu**	**1.80**	**282**	IAML		15 16 34.0	
	comp=E,280nm,3.2s						
HON				IAML		15 17 07.4	
	comp=N,208nm,3.6s						
HLP	**Hilina Pali**	**1.82**	**155**		Pn	15 16 03.0	-2.8
HLP					Sn	15 16 22.4	-5.4
STCH	**Steam Cracks**	**1.82**	**149**		Sn	15 16 21.7	-6.2
STCH	**Steam Cracks**	**1.82**	**149**	Pn	Pn	15 16 02.8	-3.0
STCH				IAML		15 16 44.9	
	comp=N,249nm,3.2s						
STCH				IAML		15 16 57.1	
	comp=E,183nm,1.9s						
HTC	**Hot Caves**	**1.84**	**159**		Pn	15 16 03.2	-2.8
JOKA	**Jonika Flow**	**1.84**	**145**		Pn	15 16 03.2	-2.9
JOKA					Sn	15 16 23.3	-4.9
KIP	**Kipapa**	**1.84**	**285**		Sn	15 16 24.8	-3.4
KIP	**Kipapa**	**1.84**	**285**	Pn	Pn	15 16 05.4	-0.6
KIP	**Kipapa**	**1.84**	**285**	IAML		15 16 38.6	
	comp=E,185nm,3.7s						
KIP				IAML		15 17 01.1	
	comp=E,169nm,4.2s						
KEKH	**Kekaha**	**3.51**	**288**	Pn	Pn	15 16 27.4	-1.6

*IDC **15** 15:29:44.7±1.5,54.12N×161.14E,h0km,mb3.4/3, mbtmp3.5/5,ML4.8/1,Error ellipse: s-maj=33.9km s-min=19.9km az=11.0*
*KRSC **15** 15:29:50.0±0.6,53.97N×160.87E,h74km±17km,Ml3.9*
ISC 15 15:29:48.4±1.3,53.96N±0.03×161.22E±0.04,h25km±12km, n38,σ1°19/51,mb3.5/3,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**1.05**	**275**	*e*P	**Pb**	**15 30 08.1**	**+0.1**
KII				*e*S	**Sb**	**15 30 19.7**	**-1.5**
SPN	**Mys Shipunski**	**1.12**	**220**	*e*P	**Pb**	**15 30 10.7**	**+1.6**
SPN				*e*S	**Sb**	**15 30 24.4**	**+1.1**
TUMD	**Tumrok D**	**1.33**	**339**	*i* P	**Pb**	**15 30 13.4**	**+0.6**
TUMD				*e*S	**Sb**	**15 30 29.6**	**+0.1**
NLC	**Nalytchevo**	**1.37**	**236**	*e*P	**Pn**	**15 30 12.4**	**+0.5**
NLC				*e*S	**Sn**	**15 30 28.4**	**-0.9**
TUMR	**Tumrok**	**1.47**	**335**	*i* P	**Pb**	**15 30 15.6**	**+0.5**
TUMR				*e*S	**Sb**	**15 30 33.3**	**0.0**
SMAR	**Somma**	**1.60**	**245**	*e*P	**Pn**	**15 30 16.4**	**+1.0**
UGLR	**Uglovaya**	**1.61**	**243**	*e*P	**Pb**	**15 30 16.7**	**-0.9**
UGLR				*e*S	**Sn**	**15 30 35.0**	**-0.5**
AVH	**Avacha**	**1.64**	**246**	*e*P	**Pb**	**15 30 16.9**	**-1.0**
AVH				*e*S	**Sn**	**15 30 35.7**	**-0.2**
KRX	**Arik**	**1.65**	**250**	*e*P	**Pn**	**15 30 16.6**	**+0.7**
KOK	**Koryaka**	**1.68**	**248**	*e*P	**Pn**	**15 30 17.2**	**+0.9**
DALK	**Dalny**	**1.74**	**239**	*e*P	**Pn**	**15 30 18.0**	**+1.0**
DALK				*e*S	**Sn**	**15 30 37.6**	**-0.9**
PET	**Petropavlovsk**	**1.80**	**240**	*e*P	**Pn**	**15 30 18.7**	**+0.9**
PET				*e*S	**Sn**	**15 30 38.6**	**-1.2**
KMNR	**Kamenistaya**	**1.89**	**343**	*e*P	**Pb**	**15 30 21.9**	**-0.4**
BZP	**Bezymyannyi-Pe**	**2.00**	**349**	*e*P	**Pb**	**15 30 23.4**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**2.01**	**352**	*e*P	**Pb**	**15 30 24.0**	**-0.3**
BZMR	**Bezymyannaya**	**2.02**	**348**	*e*P	**Pb**	**15 30 24.0**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.05**	**349**	*e*P	**Pb**	**15 30 24.7**	**-0.4**
KIRR	**Kirishev**	**2.06**	**346**	*e*P	**Pb**	**15 30 24.2**	**-1.0**
KPT	**Kopyto**	**2.09**	**344**	*e*P	**Pb**	**15 30 24.1**	**-1.6**
KRMR	**Karymshinskiy**	**2.17**	**240**	*e*P	**Pn**	**15 30 23.7**	**+0.8**
KRMR				*e*S	**Sn**	**15 30 48.0**	**-1.0**
RUS	**Russkaya**	**2.23**	**228**	*e*P	**Pn**	**15 30 24.7**

0.2nm,0.5s

IDC ***15*** *15:46:24.2±11.0, 15.28S×173.12W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=500.0km s-min=35.9km az=139.0*
NOU ***15*** *15:46:40.9, 14.04S×172.07W, h79km, MLv3.5/5, Samoa Islands*

ISC 15 15:46:27.3±10.0, 15°S±2°×173°W±°, h29km, n5, σ1§65/5, mb3.5/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.73**	**38**	P	**Pn**	**15 46 54.5**	**-1.0**
WRA	**Warramunga Arr**	**50.37**	**257**	P	**P**	**15 55 21.2**	**-1.1**
	0.4nm,0.9s,baz=92,slow=6.9,SNR=1.6						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**50.63**	**252**	P	**P**	**15 55 24.1**	**-0.1**
	0.3nm,0.6s,baz=91,slow=7.5,SNR=9.8						
	0.3nm,0.6s						
JAGI	**Jajag, Banyuwa**	**71.47**	**266**	P	**P**	**15 57 45.8**	**0.0**
	39nm,1.4s						
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**15 58 47.2**	**+1.8**
	0.3nm,0.7s,baz=224,slow=5.0,SNR=8.7						
	0.3nm,0.7s						

DJA ***15*** *15:55:42.1±0.4, 9.3S×12.3E±°, h141km±4km, M4.0/10, mb4.6/3, mB5.0/2, MLv3.6/10, Mw(mB)4.3/2*
IDC ***15*** *15:55:52.7±5.2, 8.11S×124.25E, h268km±55km, mb2.6/1, mbtmp3.3/3, Error ellipse: s-maj=179.2km s-min=16.5km az=60.0*

ISC 15 15:55:41.2±0.9, 8.78S±0.07×123.22E±0.06, h150km, n21, σ2§11/27, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.98**	**278**	P	**Pn**	**15 56 06.7**	**+0.9**
MMRI	**Maumere**	**0.98**	**278**	P	**Pn**	**15 56 06.6**	**+0.8**
MMRI				S	**Sn**	**15 56 25.3**	**+0.7**
SOEI	**Soe**	**1.42**	**133**	P	**Pn**	**15 56 13.0**	**+3.0**
SOEI	**Soe**	**1.42**	**133**	P	**Pn**	**15 56 11.2**	**+1.2**
SOEI				S	**Sn**	**15 56 32.1**	**0.0**
EDFI	**Ende, Flores**	**1.52**	**271**	P	**Pn**	**15 56 11.9**	**+0.9**
EDFI				S	**Sn**	**15 56 33.4**	**-0.4**
BASI	**Baing, Sumba**	**2.98**	**241**	P	**Pn**	**15 56 29.1**	**+0.8**
BASI				S	**Sn**	**15 57 04.2**	**-0.5**
BBSI	**Bau Bau**	**3.33**	**349**	P	**Pn**	**15 56 33.3**	**+0.5**
DBNI	**Kabupaten Domp**	**4.86**	**273**	P	**Pn**	**15 56 52.9**	**+0.1**
PLAI	**Plampang**	**5.38**	**269**	P	**Pn**	**15 56 59.5**	**-0.2**
PLAI	**Plampang**	**5.38**	**269**	P	**Pn**	**15 56 59.2**	**-0.5**
	36nm,0.8s,0.2nm						
TWSI	**Taliwang, Sumb**	**6.27**	**270**	P	**Pn**	**15 57 10.5**	**-1.0**
	23nm,0.5s,1μm0.2nm						
PMSI	**Majene**	**6.77**	**320**	P	**Pn**	**15 57 18.0**	**-0.2**
SAUI	**Saumlaki**	**8.03**	**85**	P	**Pn**	**15 57 34.1**	**-1.0**
	78nm,0.6s						
KNRA	**Kununurra**	**8.74**	**142**	P	**Pn**	**15 57 46.0**	**+1.5**
MTN	**Manton Dam**	**8.76**	**118**	P	**Pn**	**15 57 46.7**	**+1.9**
KDU	**Kakadu**	**9.88**	**114**	P	**Pn**	**15 58 00.2**	**+0.5**
WRA	**Warramunga Arr**	**15.46**	**137**	P	**P**	**15 59 14.8**	**+2.3**
	0.4nm,0.6s,baz=321,slow=13,SNR=9.4						
WRA				S	**Sn**	**16 01 55.4**	**-8.0**
	0.8nm,0.5s,baz=311,slow=24,SNR=7.7						
WRKA	**Warakurna**	**16.88**	**164**	P	**Pn**	**15 59 30.9**	**+2.2**
ASAR	**Alice Springs**	**17.99**	**147**	P	**Pn**	**15 59 44.6**	**+2.5**
	0.4nm,0.5s,baz=328,slow=12,SNR=9.4						
ASAR				S	**S**	**16 02 58.0**	**-1.4**
	0.8nm,0.7s,baz=316,slow=22,SNR=8.9						
AS01	**Alice Springs**	**18.02**	**147**	P	**Pn**	**15 59 42.2**	**-0.1**
MKAR	**Makanchi Array**	**66.24**	**331**	P	**P**	**16 06 11.8**	**-1.3**
	0.1nm,0.5s,baz=120,slow=8.5,SNR=2.2						
	0.1nm,0.5s						

ROM 15 15:58:23.2±0.0, 43.070N±0.002×13.032E±0.004, h10km, ML2.1/72, Error ellipse: s-maj=0.3km s-min=0.2km az=63.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.11**	**173**	P	Pg	15 58 26.4	+0.3
FEMA				S	Sg	15 58 28.6	+0.5
FEMA				AML	AML		
	comp=E,4320μm,0.4s						
FEMA				AML	AML		
	comp=N,3800μm,0.2s						
FEMA				AML	AML		
	comp=E,4320μm,0.4s						
FEMA				AML	AML		
	comp=N,3800μm,0.2s						
FEMA				AML	AML		
	comp=E,4315μm,0.4s						
CESI	**CESI - Serrava**	**0.11**	**235**	P	Pg	15 58 26.5	+0.5
CESI				S	Sg	15 58 28.8	+0.7
CESI				AML	AML		
	comp=E,1975μm,0.2s						
CESI				AML	AML		
	comp=N,2035μm,1.3s						
CESI				AML	AML		
	comp=E,1975μm,1.8s						
CESI				AML	AML		
	comp=N,2035μm,0.7s						
CSP1	**Cessapalombo**	**0.13**	**80**	P	Pg	15 58 26.7	+0.4
CSP1				S	Sg	15 58 29.0	+0.5
CSP1				AML	AML		
	comp=N,376μm,0.8s						
CSP1				AML	AML		
	comp=N,377μm,0.8s						
CSP1				AML	AML		
	comp=E,1735μm,0.3s						
CSP1				AML	AML		
	comp=N,376μm,1.2s						
MDAR	**Monte D'Aria**	**0.15**	**33**	P	Pg	15 58 27.0	+0.4
MDAR				S	Sg	15 58 29.6	+0.6
GAG1	**Gagliole**	**0.17**	**9**	P	Pg	15 58 27.8	+0.8
MC2	**Monte Cornacci**	**0.20**	**143**	P	Pg	15 58 28.4	+1.0
MC2				S	Sg	15 58 31.5	+1.2
SNTG	**Esanatoglia**	**0.20**	**340**	P	Pg	15 58 28.0	+0.6
SNTG				S	Sg	15 58 31.5	+1.2
SNTG				AML	AML		
	comp=N,498μm,1.3s						
SNTG				AML	AML		
	comp=E,304μm,0.5s						
SNTG				AML	AML		
	comp=N,336μm,0.2s						
SNTG				AML	AML		
	comp=E,349μm,1.4s						
SNTG				AML	AML		
	comp=N,498μm,0.7s						
NRCA	**Norcia**	**0.24**	**166**	P	Pg	15 58 28.8	+0.6
NRCA				S	Sg	15 58 32.8	+1.2
NRCA				AML	AML		
	comp=E,2335μm,1.0s						
NRCA				AML	AML		
	comp=E,2440μm,0.9s						
NRCA				AML	AML		
	comp=N,2065μm,0.3s						
NRCA				AML	AML		
	comp=N,2140μm,0.1s						
NRCA				AML	AML		
	comp=E,2335μm,1.0s						
NRCA				AML	AML		
	comp=E,2440μm,1.1s						
T1221	**Campello sul C**	**0.25**	**213**	P	Pg	15 58 29.0	+0.7
T1221				S	Sg	15 58 33.1	+1.4
T1221				AML	AML		
	comp=E,508μm,0.4s						
T1221				AML	AML		
	comp=N,568μm,1.2s						
T1221				AML	AML		
	comp=N,568μm,1.2s						
T1221				AML	AML		
	comp=N,568μm,0.8s						
EL6	**Elcito**	**0.26**	**11**	P	Pg	15 58 29.1	+0.5
EL6				S	Sb	15 58 33.7	-1.0
EL6				AML	AML		
	comp=E,1330μm,0.2s						
EL6				AML	AML		
	comp=N,786μm,1.0s						
ASSB	**Assisi San Ben**	**0.28**	**264**	P	Pg	15 58 29.3	+0.5
ASSB				S	Sb	15 58 33.9	-1.1
ASSB				AML	AML		
	comp=N,1170μm,0.2s						
ASSB				AML	AML		
	comp=E,1055μm,0.4s						
MMO1	**Montemonaco**	**0.28**	**128**	P	Pg	15 58 29.2	+0.4
MMO1				S	Sb	15 58 33.9	-1.2
FOSV	**Fossato di Vico**	**0.30**	**319**	P	Pg	15 58 29.8	+0.6
FOSV				S	Sb	15 58 34.8	-0.9
FOSV				AML	AML		
	comp=E,197μm,1.2s						
FOSV				AML	AML		
	comp=N,352μm,0.3s						
FOSV				AML	AML		
	comp=E,198μm,1.2s						
FOSV				AML	AML		
	comp=E,198μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.31**	**292**	P	Pg	15 58 30.0	+0.6
ATCC				S	Sb	15 58 35.4	-0.6
ATCC				AML	AML		
	comp=N,1555μm,0.3s						
ATCC				AML	AML		
	comp=E,797μm,0.1s						
MF5	**Montefalcone A**	**0.33**	**104**	P	Pb	15 58 30.7	-0.5
MF5				S	Sb	15 58 36.4	0.0
MF5				AML	AML		
	comp=E,592μm,0.8s						
MF5				AML	AML		
	comp=N,586μm,1.2s						
MF5				AML	AML		
	comp=N,586μm,0.8s						
MF5				AML	AML		
	comp=E,592μm,1.2s						
T1214	**Arquata del Tr**	**0.34**	**157**	P	Pg	15 58 30.4	+0.4
T1214				S	Sb	15 58 35.9	-0.9
T1214				AML	AML		
	comp=N,459μm,1.4s						
T1214				AML	AML		
	comp=N,422μm,1.3s						
T1214				AML	AML		
	comp=E,454μm,1.4s						
T1214				AML	AML		
	comp=N,423μm,1.3s						
T1214				AML	AML		
	comp=E,410μm,1.4s						
GAVE	**Gavelli**	**0.39**	**195**	P	Pg	15 58 31.4	+0.5
GAVE				S	Sb	15 58 37.8	-0.6
GAVE				AML	AML		
	comp=N,714μm,0.4s						
GAVE				AML	AML		
	comp=E,705μm,0.4s						
MTRA	**Matera**	**0.41**	**139**	P	Pg	15 58 31.7	+0.4
MTRA				S	Sb	15 58 38.2	-0.7
MTRA				AML	AML		
	comp=N,266μm,0.6s						
MTRA				AML	AML		
	comp=E,348μm,0.7s						

ROM 15 15:59:10.0±0.0, 43.070N±0.002×13.029E±0.004, h10km, ML1.7/16, 4C, Error ellipse: s-maj=0.3km s-min=0.2km az=286.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.11**	**235**	↑P	Pg	15 59 13.3	+0.4
CESI				S	Sg	15 59 15.6	+0.7
CESI				AML	AML		
	comp=E,300μm,0.1s						
CESI				AML	AML		
	comp=N,393μm,1.3s						
CESI				AML	AML		
	comp=N,393μm,0.7s						
CSP1	**Cessapalombo**	**0.13**	**80**	↑P	Pg	15 59 13.4	+0.3
CSP1				S	Sg	15 59 16.0	+0.5
CSP1				AML	AML		
	comp=E,315μm,0.3s						
CSP1				AML	AML		
	comp=N,57μm,0.6s						
CSP1				AML	AML		
	comp=N,57μm,0.8s						
SNTG	**Esanatoglia**	**0.20**	**341**	P	Pg	15 59 14.8	+0.6
SNTG				S	Sg	15 59 18.4	+1.3
SNTG				AML	AML		
	comp=E,74μm,0.1s						
SNTG				AML	AML		
	comp=N,65μm,0.2s						
SNTG				AML	AML		
	comp=N,65μm,0.2s						
SNTG				AML	AML		
	comp=E,74μm,1.9s						
MC2	**Monte Cornacci**	**0.20**	**143**	P	Pg	15 59 14.8	+0.5
MC2				S	Sg	15 59 18.4	+1.2
GUMA	**Gualdo di Mace**	**0.23**	**92**	↑P	Pb	15 59 15.5	-0.7
GUMA				S	Sg	15 59 19.7	+1.8
NRCA	**Norcia**	**0.24**	**165**	↑P	Pg	15 59 15.5	+0.5
NRCA				S	Sg	15 59 19.6	+1.2
NRCA				AML	AML		
	comp=N,386μm,0.1s						
NRCA				AML	AML		
	comp=E,350μm,1.0s						
T1221	**Campello sul C**	**0.25**	**213**	P	Pg	15 59 15.7	+0.6
T1221				S	Sg	15 59 20.1	+1.5
EL6	**Elcito**	**0.27**	**12**	P	Pg	15 59 15.9	+0.4
EL6				S	Sb	15 59 20.6	-1.0
MMO1	**Montemonaco**	**0.28**	**128**	P	Pg	15 59 16.1	+0.4
MMO1				S	Sb	15 59 20.7	-1.2
T1214	**Arquata del Tr**	**0.34**	**157**	P	Pg	15 59 17.3	+0.5
T1214				S	Sb	15 59 22.8	-0.8
MTRA	**Matera**	**0.41**	**139**	P	Pg	15 59 18.5	+0.4
MTRA				S	Sb	15 59 25.2	-0.6

IDC 15 16:00:18.7±2.4, 6.13S×129.73E, h0km, mb3.6/1, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=160.1km s-min=32.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.44**	**162**	Pn	Pn	16 03 45.3	+0.8
	0.5nm,0.7s,baz=345,slow=13,SNR=1.3						
WRA				Sn	Sn	16 06 10.3	-15
	0.3nm,0.3s,baz=342,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.89**	**167**	P	Pn	16 04 28.6	-0.6
	0.1nm,0.3s,baz=351,slow=11,SNR=4.8						
ASAR				S	Sn	16 07 33.5	-16
	0.3nm,0.8s,baz=354,slow=28,SNR=2.6						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	16 11 15.8	0.0
	0.2nm,0.4s,baz=126,slow=7.5,SNR=6.3						
	0.2nm,0.4s						

DJA 15 16:00:40.1±1.4, 3.3S±6.3×13.6E±°, h16km±10km, M4.2/7, mb4.7/2, MLv4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.10**	**248**	P	Pn	16 01 15.2	+0.6
FAKI	**Fak Fak**	**3.40**	**269**	P	Pn	16 01 30.9	-1.6
FAKI				S	Sn	16 02 13.1	+0.6
GENI	**Genyem**	**4.52**	**87**	P	Pn	16 01 49.0	+1.0
GENI				S	Sn	16 02 40.5	+0.3
SIJI	**Sorong**	**4.81**	**294**	P	Pn	16 01 51.9	-0.1
SIJI				S	Sn	16 02 48.6	+1.2
SWI	**Sorong**	**4.82**	**294**	P	Pn	16 01 52.0	-0.1
NLAI	**Namlea**	**8.55**	**267**	P	Pn	16 02 49.8	+6.5

IDC ***15*** *16:11:09.5±0.7, 5.61S×110.55E, h529km±8km, mb3.6/20, mbtmp4.5/21, Error ellipse: s-maj=16.4km s-min=7.2km az=54.0*
NEIC ***15*** *16:11:09.9±1.3, 5.58S±0.06×110.40E±0.08, h531km±7km, mb4.4/61, Error ellipse: s-maj=13.0km s-min=5.8km az=122.0*
DJA ***15*** *16:11:10.2±0.2, 6.5±4.1×11.0E±°, h529km±3km, M4.4/25, mB4.8/6, mb4.5/20, MLv4.6/25, Mw(mB)4.1/6*

ISC 15 16:11:10.7±0.3, 5.66S±0.05×110.43E±0.06, h550km, n177, σ1§60/183, mb4.2/50, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRI	**Semarang**	**1.39**	**180**		**P**	**16 12 15.3**	**-2.8**
SMRI	**Semarang**	**1.39**	**180**	P	**P**	**16 12 16.8**	**-1.3**
SMRI	**Semarang**	**1.39**	**180**	P	**P**	**16 12 16.1**	**-2.0**
SMRI				S	**S**	**16 13 09.2**	**-3.6**
NGJI	**Ngawi**	**1.99**	**149**	P	**P**	**16 12 19.4**	**-0.9**
NGJI				S	**S**	**16 13 12.4**	**-4.5**
YOGI	**Yogyakarta**	**2.15**	**184**	P	**P**	**16 12 18.0**	**-3.1**
YOGI				S	**S**	**16 13 13.1**	**-5.3**
KPJI	**Karang Pucung**	**2.24**	**222**	P	**P**	**16 12 19.2**	**-2.3**
KPJI				S	**S**	**16 13 15.9**	**-3.2**
UGM	**Wanagama**	**2.25**	**178**		**P**	**16 12 18.9**	**-2.7**
UGM	**Wanagama**	**2.25**	**178**	P	**P**	**16 12 19.2**	**-2.4**
UGM	**Wanagama**	**2.25**	**178**	P	**P**	**16 12 19.2**	**-2.4**
UGM				S	**S**	**16 13 13.9**	**-5.4**
JCJI	**Jatiwangi**	**2.30**	**249**	P	**P**	**16 12 19.8**	**-2.0**
JCJI				S	**S**	**16 13 16.5**	**-3.2**
GRJI	**Gresik**	**2.39**	**122**	P	**P**	**16 12 21.0**	**-1.3**
GRJI				S	**S**	**16 13 17.7**	**-2.8**
SJI	**Sawahan**	**2.46**	**147**	P	**P**	**16 12 20.7**	**-2.0**
SJI				S	**S**	**16 13 18.1**	**-3.2**
CMJI	**Cimerak**	**2.89**	**223**	P	**P**	**16 12 21.5**	**-3.6**
LEM	**Lembang**	**3.03**	**247**	P	**P**	**16 12 24.7**	**-1.5**
	115nm,0.7s,baz=43,slow=5.7,SNR=29						
LEM				S	**S**	**16 13 23.9**	**-3.6**
	143nm,0.8s,baz=335,slow=21,SNR=13						
LEM	**Lembang**	**3.03**	**247**	P	**P**	**16 12 24.4**	**-1.7**
LEM				S	**S**	**16 13 23.2**	**-4.3**
BBJI	**Bungbulang**	**3.29**	**237**	P	P	16 12 25.0	-2.7
BBJI	**Bungbulang**	**3.29**	**237**	P	P	16 12 24.8	-2.9
CBJI	**Citeko**	**3.64**	**258**	P	**P**	**16 12 27.8**	**-2.2**
CNJI	**Cibinong**	**3.67**	**243**	P	P	16 12 27.0	-3.2
BLJI	**Banyuglugur**	**3.77**	**124**	P	**P**	**16 12 28.9**	**-2.0**
DBJI	**Dramaga**	**3.77**	**256**	P	**P**	**16 12 28.4**	**-2.5**
KMMI	**Kalianget**	**3.78**	**112**	P	**P**	**16 12 29.7**	**-1.3**
SKJI	**Sukabumi**	**4.08**	**251**	P	P	16 12 30.6	-2.6
SBJI	**Serang**	**4.30**	**264**	P	**P**	16 12 30.3	-4.6
ABJI	**Asem Bagus**	**4.33**	**120**	P	**P**	**16 12 34.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.63**	**127**		**P**	**16 12 35.1**	**-2.4**
JAGI	**Jajag, Banyuwa**	**4.63**	**127**	P	**P**	**16 12 35.2**	**-2.4**
JAGI	**Jajag, Banyuwa**	**4.63**	**127**	P	**P**	**16 12 35.2**	**-2.4**
SRBI	**Singaraja**	**5.33**	**117**	P	**P**	**16 12 42.6**	**-0.8**
	368nm,0.8s,3μm1.3nm						
DNP	**Denpasar**	**5.61**	**123**	P	**P**	**16 12 45.1**	**-0.8**
	389nm,1.4s,2.0nm						
STKI	**Sintang**	**5.78**	**10**	P	**P**	**16 12 47.3**	**-0.1**
	83nm,1.0s,0.4nm						
KASI	**Kota Agung**	**5.91**	**271**	P	**P**	**16 12 46.1**	**-2.4**
	160nm,0.9s,3μm0.7nm						
LWLI	**Liwa**	**6.38**	**275**	P	**P**	**16 12 51.6**	**-1.4**
	161nm,0.7s,0.8nm						
MTKI	**Muara Teweh, K**	**6.46**	**44**	P	**P**	**16 12 53.0**	**-0.7**
	84nm,0.7s,0.4nm						
XMI	**Christmas Isla**	**6.69**	**224**	P	**P**	**16 12 54.7**	**-1.1**
XMIS	**Christmas Isla**	**6.74**	**224**		**P**	**16 12 54.6**	**-1.6**
XMIS	**Christmas Isla**	**6.74**	**224**	P	**P**	**16 12 55.0**	**-1.2**
KSM	**Kuching**	**7.08**	**359**	P	**P**	**16 12 57.5**	**-2.1**
KSM	**Kuching**	**7.08**	**359**	P	**P**	**16 12 59.0**	**-0.6**
	49nm,1.0s,0.2nm						
TWSI	**Taliwang, Sumb**	**7.10**	**116**	P	**P**	**16 12 57.6**	**-2.0**
	47nm,1.5s,0.3nm						
JMBI	**JAMBI**	**7.86**	**300**	P	**P**	**16 13 08.2**	**+1.0**
PLAI	**Plampang**	**7.94**	**114**	P	**P**	**16 13 05.3**	**-2.6**
PLAI	**Plampang**	**7.94**	**114**	P	**P**	**16 13 04.7**	**-3.2**
	24nm,0.5s,0.3nm						
EGSI	**Enggano, Bengk**	**8.12**	**272**	P	P	16 13 07.1	-2.6
	143nm,1.0s						
SBUM	**Sibu**	**8.25**	**13**		**P**	**16 13 10.8**	**-0.2**
SBUM	**Sibu**	**8.25**	**13**	P	**P**	**16 13 10.9**	**-0.1**
	82nm,0.8s,689nm						
MMSI	**Mamuju**	**8.95**	**71**	P	**P**	**16 13 18.1**	**0.0**
	42nm,1.0s						
KAPI	**Kappang**	**9.30**	**87**	P	**P**	**16 13 20.5**	**-1.1**
MPSI	**Mapaga**	**11.17**	**58**	P	**P**	**16 13 41.0**	**+0.2**
	51nm,1.0s,1μm						
TOLI2	**Tolitoli**	**12.33**	**57**		**P**	**16 13 50.5**	**-2.2**
TOLI2	**Tolitoli**	**12.33**	**57**	P	**P**	**16 13 52.9**	**+0.1**
KKM	**Kota Kinabalu**	**12.98**	**27**		**P**	**16 13 57.6**	**-2.0**
KKM	**Kota Kinabalu**	**12.98**	**27**	P	**P**	**16 13 58.4**	**-1.1**
RPSI	**Rantau Prapat**	**14.17**	**306**	P	P	16 14 08.3	-3.5
PSI	**Prapat**	**14.23**	**306**	P	**P**	**16 14 14.0**	**+1.4**
SOEI	**Soe**	**14.30**	**107**		**P**	**16 14 09.8**	**-3.4**
KULM	**Kulim**	**14.61**	**318**		**P**	**16 14 15.3**	**-1.0**
SANI	**Sanana**	**15.93**	**78**	P	**P**	**16 14 29.6**	**-0.1**
	34nm,0.9s						
SKLT	**Songkhla**	**16.07**	**322**	P	**P**	**16 14 30.7**	**-0.3**
MLSI	**Meulaboh, Aceh**	**17.13**	**305**	P	**P**	**16 14 41.9**	**+1.2**
	95nm,0.4s						
LHMI	**Lhok Sumawe**	**17.27**	**309**	P	**P**	**16 14 42.6**	**+0.6**
LHMI	**Lhok Sumawe**	**17.27**	**309**	P	**P**	**16 14 43.0**	**+1.0**
GIRL	**Giralia**	**17.28**	**168**	P	**P**	**16 14 43.5**	**+1.5**
GIRL	**Giralia**	**17.28**	**168**	P	**P**	**16 14 44.1**	**+2.1**
LBMI	**Labuha**	**17.75**	**74**	P	**P**	**16 14 50.1**	**+3.6**
	81nm,0.8s						
TNTI	**Ternate**	**18.08**	**70**	P	**P**	**16 14 48.6**	**-0.8**
TNTI	**Ternate**	**18.08**	**70**	P	**P**	**16 14 52.2**	**+2.8**
PSA00	**Pilbara Seismi**	**18.26**	**151**	P	**P**	**16 14 51.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.33**	**131**	P	**P**	**16 15 00.9**	**+0.1**
KNRA	**Kununurra**	**20.56**	**120**	P	**P**	**16 15 11.7**	**-0.3**
KNRA				IAmb	IAmb	16 15 23.3	
	comp=Z,27nm,1.3s						
KNRA	**Kununurra**	**20.56**	**120**	P	**P**	**16 15 11.9**	**-0.1**
MTN	**Manton Dam**	**21.63**	**111**	P	**P**	**16 15 21.9**	**+0.2**
MTN				IAmb	IAmb	16 15 59.8	
	comp=Z,25nm,1.3s						
MTN	**Manton Dam**	**21.63**	**111**	P	**P**	**16 15 23.2**	**+1.5**
MEEK	**Meekatharra**	**22.28**	**160**	P	**P**	**16 15 28.1**	**+0.7**
MORW	**Morawa**	**23.89**	**168**	P	**P**	**16 15 41.8**	**+0.2**
MORW				IAmb	IAmb	16 16 17.2	
	comp=Z,20nm,1.5s						
MORW	**Morawa**	**23.89**	**168**	P	**P**	**16 15 42.8**	**+1.2**
BLDU	**Ballidu**	**25.52**	**167**	P	**P**	**16 15 57.0**	**+0.9**
WRKA	**Warakurna**	**25.79**	**140**	P	**P**	**16 15 59.0**	**+0.5**
CM31	**Chiang Mai Arr**	**26.50**	**335**	P	**P**	**16 16 04.5**	**-0.4**
CM31				IAmb	IAmb	16 16 07.7	
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.50**	**335**	P	**P**	**16 16 04.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**26.50**	**335**	P	**P**	**16 16 06.5**	**+1.7**
	comp=Z,6.8nm,0.9s,baz=170,slow=8.0,SNR=52						
CMAR				PcP	**PcP**	**16 19 12.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=203,slow=3.3,SNR=5.1						
	comp=Z,6.8nm,0.9s						
CHTO	**Chiang Mai**	**26.82**	**335**	P	**P**	**16 16 06.1**	**-1.6**
CHTO				IAmb	IAmb	16 16 09.6	
	comp=Z,3.2nm,0.6s						
WB0	**Warramunga Arr**	**27.20**	**123**	P	**P**	**16 16 11.3**	**+0.3**
WB0				IAmb	IAmb	16 16 29.9	
	comp=Z,3.8nm,1.0s						
WRA	**Warramunga Arr**	**27.24**	**124**	P	**P**	**16 16 11.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=314,slow=9.6,SNR=8.3						
WRA				PcP	**PcP**	**16 19 14.5**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=304,slow=2.0,SNR=6.1						
WRA				S	**S**	**16 20 10.3**	**-2.0**
	comp=Z,1.4nm,0.9s,baz=295,slow=18,SNR=5.6						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**27.25**	**124**	P	**P**	**16 16 11.6**	**+0.2**
WB2				IAmb	IAmb	16 16 21.7	
	comp=Z,8.6nm,1.4s						
WR0	**Warramunga Arr**	**27.41**	**123**	P	**P**	**16 16 13.3**	**+0.5**
WR0				IAmb	IAmb	16 16 31.1	
	comp=Z,6.8nm,1.3s						
CRAI	**Chiangrai**	**27.56**	**339**	P	**P**	**16 16 13.3**	**-0.7**
CRAI				IAmb	IAmb	16 16 16.6	
	comp=Z,5.1nm,1.1s						
KMBL	**Kambalda**	**27.74**	**159**	P	**P**	**16 16 16.5**	**+0.9**
	comp=Z,36nm,1.9s						
NWAO	**Narrogin (SRO)**	**27.87**	**168**	P	**P**	**16 16 17.2**	**+0.6**
AS31	**Alice Springs**	**28.83**	**131**	P	**P**	**16 16 25.1**	**-0.2**
ASAR	**Alice Springs**	**28.83**	**131**	P	**P**	**16 16 24.7**	**-0.5**
ASAR	**Alice Springs**	**28.83**	**131**	P	**P**	**16 16 25.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=306,slow=8.0,SNR=24						
ASAR				PcP	**PcP**	**16 19 18.6**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=313,slow=2.5,SNR=8.9						
ASAR				S	**S**	**16 20 34.2**	**-2.

MULG	**Mulgathing**	**33.09 141**	P	**P**	**16 17 02.7**	**+1.1**
BBOO	**Buckleboo**	**36.06 142**	P	**P**	**16 17 26.8**	**+0.5**
BBOO			IAmb	IAmb	16 17 32.4	
	comp=Z,18nm,1.4s					
CTAO	**Charters Tower**	**37.64 116**	P	**P**	**16 17 39.5**	**0.0**
CTAO			IAmb	IAmb	16 18 07.0	
	comp=Z,19nm,1.5s					
HTT	**Hallett**	**38.27 140**	P	**P**	**16 17 45.6**	**+1.1**
STKA	**Stephens Creek**	**39.11 136**	P	**P**	**16 17 51.9**	**+0.6**
STKA	**Stephens Creek**	**39.11 136**	P	**P**	**16 17 52.2**	**+1.0**
STKA	**Stephens Creek**	**39.11 136**	P	**P**	**16 17 52.2**	**+1.0**
	comp=Z,4.3nm,0.4s,baz=313,slow=8.0,SNR=21					
	comp=Z,4.3nm,0.4s					
LSA	**Lhasa**	**39.73 333**	P	**P**	**16 17 56.8**	**+0.1**
LSA			IAmb	IAmb	16 17 59.3	
	comp=Z,11nm,0.7s					
CMSA	**Cobar Meteorol**	**41.86 132**	P	**P**	**16 18 14.6**	**+1.5**
CAN	**Canberra**	**46.16 135**	P	**P**	**16 18 47.8**	**+1.4**
MJAR	**Matsushiro Arr**	**49.38 30**	P	**P**	**16 19 09.2**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=123,slow=8.0,SNR=4.4					
	comp=Z,1.1nm,0.6s					
CN2	**Changchun**	**51.06 14**	P	P	16 19 09.5	-13
CN2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
NIL	**Nilore**	**52.60 321**	P	**P**	**16 19 32.3**	**-1.5**
ULN	**Ulaanbaatar**	**53.37 357**	P	**P**	**16 19 39.2**	**+0.1**
SONM	**Songino Array**	**53.38 357**	P	**P**	**16 19 39.6**	**+0.5**
SONM	**Songino Array**	**53.38 357**	P	**P**	**16 19 39.9**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=178,slow=7.8,SNR=21					
SONM			PcP	**PcP**	**16 20 38.4**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=164,slow=4.3,SNR=5.4					
SONM			ScP	**ScP**	**16 23 45.0**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=162,slow=3.6,SNR=2.4					
	comp=Z,3.1nm,0.6s					
MSEY	**Mahe Island**	**54.72 268**	P	**P**	**16 19 49.1**	**-0.1**
MSEY			IAmb	IAmb	16 20 07.5	
	comp=Z,58nm,1.3s					
KSH	**Kashi**	**55.06 328**	P	**P**	**16 19 50.5**	**-0.7**
KSH			pmax	pmax		
	comp=Z,8.0nm,0.6s					
KBL	**Kabul**	**55.87 319**	P	**P**	**16 19 55.8**	**-1.2**
KBL			IAmb	IAmb	16 19 56.9	
	comp=Z,6.6nm,0.8s					
PRZ	**Przheval'sk**	**56.07 332**	P	**P**	**16 19 57.4**	**-0.7**
NRN	**Naryn**	**56.45 329**	P	**P**	**16 20 00.7**	**-0.3**
MK31	**Makanchi Array**	**57.87 338**	P	**P**	**16 20 10.6**	**+0.4**
MK31			IAmb	IAmb	16 20 11.3	
	comp=Z,6.5nm,0.5s					
MKAR	**Makanchi Array**	**57.87 338**	P	**P**	**16 20 10.4**	**+0.2**
MKAR	**Makanchi Array**	**57.87 338**	P	**P**	**16 20 10.7**	**+0.5**
	comp=Z,11nm,0.4s,baz=151,slow=7.5,SNR=341					
	comp=Z,11nm,0.4s					
MAKZ	**Makanchi**	**58.00 337**	P	**P**	**16 20 11.1**	**0.0**
AAK	**Ala-Archa**	**58.09 329**	P	**P**	**16 20 12.1**	**+0.1**
AAK			IAmb	IAmb	16 20 13.6	
	comp=Z,12nm,1.3s					
SIMJ	**Simiganj**	**58.44 323**	P	**P**	**16 20 12.4**	**-2.0**
KK31	**Karatay Array**	**60.50 327**	P	**P**	**16 20 26.9**	**-1.0**
KKAR	**Karatay Array**	**60.50 327**	P	**P**	**16 20 27.0**	**-0.9**
KKAR	**Karatay Array**	**60.50 327**	P	**P**	**16 20 26.9**	**-1.0**
KKAR			IAmb	IAmb	16 20 29.4	
	comp=Z,3.4nm,0.6s					
KURBB	**Kurchatov Arra**	**62.44 338**	P	**P**	**16 20 40.8**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=156,slow=5.5,SNR=22					
KURBB			PcP	**PcP**	**16 21 14.0**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=152,slow=3.6,SNR=8.3					
	comp=Z,2.0nm,0.3s					
KURK	**Kurchatov**	**62.48 338**	P	**P**	**16 20 40.3**	**-0.3**
KURK			IAmb	IAmb	16 20 41.6	
	comp=Z,7.6nm,1.0s					
ZAA0	**Zalesovo Array**	**63.16 343**	P	**P**	**16 20 44.4**	**-0.5**
ZAA0			IAmb	IAmb	16 20 45.1	
	comp=Z,7.7nm,0.4s					
ZALV	**Zalesovo Beam**	**63.16 343**	P	**P**	**16 20 44.2**	**-0.7**
ZALV	**Zalesovo Beam**	**63.16 343**	P	**P**	**16 20 44.7**	**-0.1**
	comp=Z,6.2nm,0.3s,baz=154,slow=5.2,SNR=40					
ZALV			PcP	**PcP**	**16 21 15.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=177,slow=5.7,SNR=3.9					
	comp=Z,6.2nm,0.3s					
VOI	**Vohitsoka**	**63.47 248**	P	**P**	**16 20 48.3**	**+0.6**
VOI			IAmb	IAmb	16 21 22.1	
	comp=Z,24nm,1.3s					
LBZ	**Lake Benmore**	**64.68 137**	P	**P**	**16 20 55.8**	**+0.9**
LBZ			IAmb	IAmb	16 21 19.6	
	comp=Z,25nm,1.1s					
GEYT	**Alibeck**	**65.09 316**	P	**P**	**16 20 57.7**	**+0.2**
GEYT	**Alibeck**	**65.09 316**	P	**P**	**16 20 57.6**	**0.0**
	comp=Z,3.5nm,0.5s,baz=113,slow=9.8,SNR=8.3					
	comp=Z,3.5nm,0.5s					
GYA0B	**ALIBECK ARRAY**	**65.09 316**	P	**P**	**16 20 57.7**	**+0.1**
GYA0B			IAmb	IAmb	16 20 58.3	
	comp=Z,3.9nm,0.7s					
THZ	**Tophouse**	**65.86 133**	P	**P**	**16 21 02.7**	**+0.4**
THZ			IAmb	IAmb	16 21 42.9	
	comp=Z,26nm,1.3s					
NNZ	**Nelson**	**66.06 133**	P	**P**	**16 21 04.4**	**+0.9**
NNZ			IAmb	IAmb	16 21 37.2	
	comp=Z,24nm,0.9s					
TCW	**Tory Channel**	**66.72 133**	P	**P**	**16 21 08.1**	**+0.5**
BVAR	**Borovoye Array**	**67.53 335**	P	**P**	**16 21 12.5**	**+0.2**
	comp=Z,3.4nm,0.6s					
	comp=Z,3.4nm,0.6s					
MRZ	**Mangatainoka R**	**67.56 132**	P	**P**	**16 21 13.6**	**+0.8**
MRZ			IAmb	IAmb	16 21 19.2	
	comp=Z,26nm,1.4s					
BRVK	**Borovoye**	**67.60 335**	P	**P**	**16 21 12.7**	**0.0**
RTZ	**Ruatahuna**	**68.22 129**	P	**P**	**16 21 17.0**	**+0.1**
YAK	**Yakutsk**	**69.11 10**	P	**P**	**16 21 21.0**	**-0.6**
YAK			IAmb	IAmb	16 21 22.2	
	comp=Z,12nm,1.2s					
MAW	**Mawson**	**69.65 198**	P	**P**	**16 21 25.2**	**+0.4**
ABKAR	**Akbulak array**	**70.07 327**	P	**P**	**16 21 27.8**	**+0.1**
ABKAR	**Akbulak array**	**70.07 327**	P	**P**	**16 21 27.7**	**+0.1**
ABKAR			IAmb	IAmb	16 21 28.6	
	comp=Z,20nm,0.7s					
PETK	**Petropavlovsk-**	**70.79 28**	P	**P**	**16 21 30.3**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=270,slow=3.7,SNR=1.8					
	comp=Z,3.0nm,0.9s					
NRIK	**Noril'sk**	**76.47 352**	P	**P**	**16 22 03.2**	**-0.6**
VNDA	**Vanda**	**76.67 170**	P	**P**	**16 22 06.2**	**+1.4**
VNDA	**Vanda**	**76.67 170**	P	**P**	**16 22 06.3**	**+1.5**
	comp=Z,1.2nm,0.4s,baz=316,slow=5.8,SNR=5.9					
	comp=Z,1.2nm,0.4s					
POGA	**Pongola**	**77.42 243**	P	**P**	**16 22 10.0**	**+0.1**
POGA			IAmb	IAmb	16 22 18.7	
	comp=Z,12nm,1.1s					
KBZ	**Khabaz**	**77.98 317**	P	**P**	**16 22 13.2**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=50,slow=1.9,SNR=5.5					
	comp=Z,3.2nm,0.8s					
MMAI	**Mount Meron Ar**	**80.62 305**	P	**P**	**16 22 28.6**	**+1.8**
	comp=Z,3.0nm,0.6s,baz=88,slow=7.6,SNR=4.4					
	comp=Z,3.0nm,0.6s					
BOSA	**Boshof**	**83.09 242**	P	**P**	**16 22 40.2**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=102,slow=3.6,SNR=7.7					
	comp=Z,2.2nm,0.6s					
BILL	**Bilibino**	**83.14 18**	P	**P**	**16 22 38.6**	**-0.1**
BR131	**Keskin Array S**	**83.51 311**	P	**P**	**16 22 40.9**	**-0.6**
BR131			IAmb	IAmb	16 22 42.6	
	comp=Z,4.3nm,0.8s					
BRTR	**Keskin Array B**	**83.51 311**	P	**P**	**16 22 40.3**	**-1.1**
BRTR	**Keskin Array B**	**83.51 311**	P	**P**	**16 22 41.9**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=135,slow=6.5,SNR=15					
	comp=Z,2.8nm,0.7s					
QSPA	**South Pole Qui**	**84.32 180**	P	**P**	**16 22 45.9**	**+1.0**
QSPA			IAmb	IAmb	16 22 46.8	
	comp=Z,3.7nm,0.7s					
QSPA	**South Pole Qui**	**84.32 180**	P	**P**	**16 22 46.1**	**+1.2**
	comp=Z,3.7nm,0.6s,baz=289,slow=0.5,SNR=30					
	comp=Z,3.7nm,0.6s					
AKASG	**Malin Array Be**	**88.78 321**	P	**P**	**16 23 05.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=85,slow=4.6,SNR=20					
	comp=Z,1.3nm,0.5s					
FINES	**FINESS Array B**	**92.22 331**	P	**P**	**16 23 22.1**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=124,slow=3.4,SNR=8.6					
	comp=Z,4.6nm,1.0s					
TORD	**Torodi Ar. Bea**	**109.48 282**	PKiKP	**PKiKP**	**16 28 40.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=45,slow=2.5,SNR=4.7					
YKA	**Yellowknife Ar**	**114.41 21**	PKP	PKPdf	16 28 48.3	+0.3
	comp=Z,0.1nm,0.3s,baz=338,slow=1.9,SNR=5.6					
TXAR	**Lajitas Array**	**140.11 50**	PKhKP	PKPpre	16 29 34.5	
	comp=Z,0.2nm,0.5s,baz=332,slow=1.8,SNR=3.9					
TXAR			PKP	**PKPdf**	**16 29 40.1**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=309,slow=1.9,SNR=2.8					
FCAR	**Ozark Folk Cen**	**143.46 32**		PKPab	16 29 42.2	+0.4
PBMO	**Poplar Bluff**	**143.61 29**	PKPbc	PKPab	16 29 42.7	+0.3
CO03	**El Pedregal**	**143.70 178**		PKPab	16 29 44.0	+1.0
LCAR	**Lake Charles**	**143.82 30**	PKPbc	PKPab	16 29 42.9	-0.2
CPUP	**Villa Florida**	**146.06 200**	PKPbc	**PKPbc**	**16 29 51.5**	**+1.4**
	comp=Z,2.9nm,0.4s,baz=144,slow=0.6,SNR=6.9					

TEH ***15*** *17:00:49.7,33.62N×45.70E,h8km±43km, ML3.6*
ISN ***15*** *17:00:51.7±1.1,33.63N×45.65E,h40km±4km, ML3.3*
ISC 15 17:00:50.1±0.9,33.65N±0.03×45.64E±0.04,h13km,n23,
σ1s94/27,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.59**	**156**	*e*Pg		**Pn**		**17 01 03.5**	**-0.6**
IBDR				*e*Sg		**Sn**		**17 01 13.0**	**-0.6**
IBDR				AML		AML		17 01 31.2	
	comp=N,1μm,0.6s								
IBDR				AML		AML		17 01 35.0	
	comp=E,716nm,0.5s								
KGS1	**Ghasr-e-Shirin**	**0.86**	**357**	Pg		**Pn**		**17 01 07.7**	**-0.2**
IGHG	**Ghaleghazi**	**1.03**	**48**	Pg		**Pn**		**17 01 10.3**	**-0.1**
BHD	**Baghdad**	**1.12**	**251**	*e*Pg		**Pg**		**17 01 12.0**	**+0.3**
BHD				*e*Sg		**Sn**		**17 01 28.0**	**+1.2**
BHD				AML		AML		17 01 37.5	
	comp=E,3μm,0.5s								
IDHR	**Dehrash**	**1.22**	**30**	Pg		**Pg**		**17 01 13.5**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.32**	**61**	Pg		**Pg**		**17 01 14.7**	**-0.8**
IKOM	**Komasi**	**1.64**	**71**	Pg		**Pg**		**17 01 21.8**	**+0.2**
ILIN	**Lien**	**1.67**	**40**	Pg		**Pg**		**17 01 22.0**	**-0.2**
IKFM	**Kafar-mosalman**	**1.84**	**93**	Pg		**Pg**		**17 01 24.6**	**-0.8**
RAFI	**Al-Rafai**	**1.96**	**168**	*e*Pn		**Pb**		**17 01 24.0**	**-1.6**
RAFI				*e*Sn		**Sn**		**17 01 47.0**	**-0.4**
RAFI				AML		AML		17 01 57.6	
	comp=E,278nm,0.2s								
RAFI				AML		AML		17 01 59.7	
	comp=N,261nm,0.4s								
IBZA	**Bozab**	**2.01**	**65**	Pn		**Pb**		**17 01 26.7**	**0.0**
IKRK	**Kirkuk**	**2.05**	**329**	*e*Pn		**Pn**		**17 01 25.0**	**+0.7**
IKRK				*e*Sn		**Sn**		**17 01 51.0**	**+1.2**
IKRK				AML		AML		17 02 01.3	
	comp=N,234nm,0.5s								
IKRK				AML		AML		17 02 09.1	
	comp=E,264nm,0.6s								
IALM	**Almabolaq**	**2.42**	**59**	Pn		**Pb**		**17 01 32.8**	**-0.8**
HSAM	**Samen**	**2.52**	**76**	Pn		**Pb**		**17 01 33.3**	**-2.1**
MAHB	**Mahabad**	**3.11**	**1**	Pn		**Pb**		**17 01 42.7**	**-2.7**
HAGD	**Aghdareh**	**3.12**	**67**	Pn		**Pb**		**17 01 41.8**	**-3.9**
ZNGN	**Zangian**	**4.64**	**108**	Pn		**Pn**		**17 02 02.3**	**+2.1**
QAMS	**Qamsar**	**4.80**	**87**	Pn		**Pn**		**17 02 05.1**	**+2.8**
IHRS	**Heris**	**4.80**	**13**	Pn		**Pn**		**17 02 05.4**	**+3.2**
IKLH	**Kolahrood**	**4.97**	**92**	Pn		**Pn**		**17 02 07.7**	**+3.1**
IZEF	**Zefreh**	**5.65**	**96**	Pn		**Pn**		**17 02 16.9**	**+2.9**
KLNJ	**Kolanjah**	**5.68**	**116**	Pn		**Pn**		**17 02 17.1**	**+2.6**
IRAM	**Ramesheh**	**5.97**	**106**	Pn		**Pn**		**17 02 21.1**	**+2.8**

IDC ***15*** *17:08:28.6±2.7,0.80N×127.00E,h0km, mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=264.0km s-min=26.0km az=66.0*
DJA ***15*** *17:08:34.8±0.3,0.7N±3.3×12.76E±.5,h10km,M3.3/8,MLv3.3/8*
ISC 15 17:08:33.2±1.0,0.21N±0.06×125.89E±0.05,h10km,n9,
σ1s50/12,mb3.1/3,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.58**	**69**	P		P	**Pn**	**17 09 02.3**	**+1.1**
TNTI				S		S	**Sg**	**17 09 24.5**	**+0.6**
LBMI	**Labuha**	**1.81**	**118**	P		**Pb**		**17 09 06.0**	**-0.5**
LBMI				S		**Sb**		**17 09 29.2**	**-0.1**
KMSI	**Cibinong**	**1.95**	**281**	P		**Pn**		**17 09 07.7**	**+1.4**
SANI	**Sanana**	**2.24**	**178**	P		**Pn**		**17 09 11.7**	**+1.3**
SANI				S		**Sn**		**17 09 39.9**	**+1.7**
LUWI	**Luwuk**	**3.36**	**248**	P		**Pn**		**17 09 26.8**	**+1.0**
SGSI	**Sangihe**	**3.48**	**354**	P		**Pn**		**17 09 29.4**	**+2.0**
WRA	**Warramunga Arr**	**21.67**	**158**	P		**P**		**17 13 23.8**	**-0.3**
	0.4nm,0.6s,baz=340,slow=12,SNR=2.8								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**24.97**	**162**	P		**P**		**17 13 55.8**	**-1.4**
	0.3nm,0.6s,baz=341,slow=8.6,SNR=9.8								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**59.99**	**327**	P		P		**17 18 37.9**	**-2.2**
	0.2nm,0.4s,baz=122,slow=8.0,SNR=6.9								
	0.2nm,0.4s								

KRSC 15 17:22:29.4±0.7,55.75N×162.67E,h24km±14km,MI4.0,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.51**	**2**	*e*P		P	Pb	17 22 40.2	+0.6
KBG				*e*S		S	Sn	17 22 47.8	-1.1
SMKR	**Semkarok**	**1.07**	**322**	*e*P		P	Pn	17 22 48.7	-0.2
ZLN	**Zelenaya**	**1.08**	**285**	*e*P		P	Pb	17 22 49.6	+0.1
BZGR	**Bezymyannyi-Gr**	**1.13**	**281**	*e*P		P	Pb	17 22 50.2	0.0
CIRK	**Tsirk**	**1.14**	**290**	*e*P		P	Pb	17 22 50.3	-0.2
BDR	**Baidarmaya**	**1.16**	**316**	*e*P		P	Pn	17 22 50.4	+0.3
BZP	**Bezymyannyi-Pe**	**1.21**	**279**	*e*P		P	Pb	17 22 51.4	-0.3
BZMR	**Bezymyannaya**	**1.24**	**279**	*e*P		P	Pb	17 22 51.9	-0.3
BZWR	**Bezymyannyi-We**	**1.24**	**281**	*e*P		P	Pb	17 22 51.9	-0.3
KLY	**Klyuchi**	**1.26**	**297**	*e*P		P	Pn	17 22 50.2	-1.3
KLY				*e*S		S	Sn	17 23 05.2	-2.5
KIRR	**Kirishev**	**1.33**	**280**	*e*P		P	Pb	17 22 53.2	-0.4
KMNR	**Kamenistaya**	**1.37**	**271**	*e*P		P	Pb	17 22 54.5	+0.1
KPT	**Kopyto**	**1.40**	**280**	*e*P		P	Pb	17 22 54.5	-0.3
TUMD	**Tumrok D**	**1.40**	**248**	*e*P		P	Pb	17 22 55.1	+0.2
TUMR	**Tumrok**	**1.51**	**253**	*e*P		P	Pb	17 22 57.5	+0.8
KOZ	**Kozyrevsk**	**1.60**	**282**	*e*P		P	Pb	17 22 58.2	0.0
KOZ				*e*S		S	Sb	17 23 19.2	+1.1
SRDR	**Sredinnyy**	**1.75**	**290**	*e*P		P	Pb	17 22 59.7	-1.1
SRDR				*e*S		S	Sb	17 23 21.7	-0.7
BKI	**Bering**	**1.96**	**105**	*e*P		P	Pb	17 23 03.2	-1.1
BKI				*e*S		S	Sb	17 23 28.6	+0.3
ESO	**Esso**	**2.24**	**276**	*e*P		P	Pn	17 23 06.6	+1.6
KII	**Karymskiy**	**2.53**	**229**	*e*P		P	Pb	17 23 12.4	-1.7
SPN	**Mys Shipunski**	**3.07**	**211**	*e*S		S	Sn	17 23 54.8	+2.5
NLC	**Nalytchevo**	**3.23**	**218**	*e*P		P	Pn	17 23 20.7	+2.2
NLC				*e*S		S	Sn	17 23 58.3	+2.2
KRX	**Arik**	**3.35**	**226**	*e*P		P	Pb	17 23 24.2	-3.8
SMAR	**Somma**	**3.36**	**224**	*e*P		P	Pn	17 23 23.8	+3.3
AVH	**Avacha**	**3.38**	**224**	*e*P		P	Pn	17 23 24.4	+3.8
UGLR	**Uglovaya**	**3.39**	**223**	*e*P		P	Pn	17 23 24.1	+3.3
KOK	**Koryaka**	**3.40**	**225**	*e*P		P	Pb	17 23 25.4	-3.6
OSSR	**Ossora**	**3.52**	**3**	*e*P		P	Pn	17 23 24.0	+1.6
DALK	**Dalny**	**3.56**	**222**	*e*P		P	Pn	17 23 26.2	+3.2
PET	**Petropavlovsk**	**3.60**	**222**	*e*P		P	Pn	17 23 27.4	+3.8
PET				*e*S		S	Sn	17 24 09.5	+4.2
PALN	**Palana**	**3.65**	**338**	*e*P		P	Pb	17 23 30.1	-3.0
KRMR	**Karymshinskiy**	**3.95**	**224**	*e*P		P	Pn	17 23 32.5	+4.1
KRMR				*e*S		S	Sb	17 24 20.4	-5.2
GRL	**Gorelyy**	**4.19**	**222**	*e*P		P	Pn	17 23 36.2	+4.4
ASAK	**Asaach**	**4.39**	**222**	*e*P		P	Pn	17 23 38.8	+4.4
KDTR	**Khodutka, Kamc**	**4.79**	**216**	*e*P		P	Pn	17 23 43.6	+3.7
TILK	**Tilichiki**	**5.06**	**20**	*e*P		P	Pn	17 23 47.4	+3.8
KMSK	**Kamenskaya**	**6.98**	**14**	*e*P		P	Pn	17 24 15.5	+5.7

IDC ***15*** *17:52:38.0±12.0,3.43S×103.74E,h332km±123km, mb3.0/8,mbtmp3.7/8,Error ellipse: s-maj=123.6km s-min=12.9km az=57.0*
DJA ***15*** *17:52:38.9±0.3,3.3S±4.4×10.74E±.5,h338km±4km, M4.4/19, mb4.2/11,mB4.7/2,MLv4.5/19,Mw(mB)4.0/2*
ISC 15 17:52:39.6±0.7,3.28S±0.08×104.08E±0.08,h350km,n29,
σ1s50/33,mb3.2/8,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.78**	**226**	P		P	**Pn**	**17 53 22.6**	**-1.9**
LWLI	**Liwa**	**1.73**	**181**	P		P	**Pn**	**17 53 28.9**	**-0.3**
LWLI				S		S	**Sn**	**17 53 37.4**	**-1.6**
UBSI	**University, Be**	**1.87**	**255**	P		P	**Pn**	**17 53 29.4**	**-0.6**
UBSI				S		S	**Sn**	**17 54 07.1**	**-3.3**
KASI	**Kota Agung**	**2.27**	**170**	P		P	**Pn**	**17 53 31.9**	**-0.9**
KASI				S		S	**Sn**	**17 54 13.1**	**-2.5**
EGSI	**Enggano, Bengk**	**2.73**	**221**	P		P	**Pn**	**17 53 36.8**	**+0.2**
DSRI	**Dabo**	**2.83**	**10**	P		P	**Pn**	**17 53 36.4**	**-1.1**
KRJI	**Kerinci**	**2.87**	**294**	P		P	**Pn**	**17 53 38.0**	**+0.1**
PPSI	**Pulau Pagai**	**4.10**	**277**	P		P	**Pn**	**17 53 49.2**	**-0.4**
TPRI	**Tanjung Pinang**	**4.20**	**6**	P		P	**Pn**	**17 53 49.0**	**-1.6**
PDSI	**Padang**	**4.32**	**303**	P		P	**Pn**	**17 53 50.8**	**-1.1**
CNJI	**Cibinong**	**5.02**	**143**	P		P	**Pn**	**17 53 56.7**	**-2.7**
	14nm,0.8s,0.1nm								
SISI	**Saibi**	**5.35**	**291**	P		P	**Pn**	**17 54 02.6**	**-0.5**
	29nm,0.9s,981nm0.4nm								
BBJI	**Bungbulang**	**5.46**	**140**	P		P	**Pn**	**17 54 02.3**	**-2.1**
	28nm,0.9s,0.2nm								
CMJI	**Cimerak**	**6.24**	**136**	P		P	**Pn**	**17 54 10.6**	**-2.5**
	55nm,2.1s,0.4nm								
KPJI	**Karang Pucung**	**6.28**	**130**	P		P	**Pn**	**17 54 12.2**	**-1.5**
	51nm,0.6s,0.2nm								
PBSI	**Pulau Batu**	**6.63**	**299**	P		P	**Pn**	**17 54 16.6**	**-1.1**
	37nm,0.4s,0.3nm								
SMRI	**Semarang**	**7.35**	**121**	P		P	**Pn**	**17 54 24.8**	**-1.4**
	177nm,2.5s,0.9nm								
UGM	**Wanagama**	**7.89**	**126**	P		P	**Pn**	**17 54 31.9**	**-0.6**
	210nm,1.8s,1.3nm								
GSI	**Gunungsitoli**	**7.94**	**305**	P		P	**Pn**	**17 54 31.9**	**-1.2**
	21nm,0.6s,0.2nm								
KULM	**Kulim**	**9.18**	**338**	P		P	**Pn**	**17 54 46.9**	**-0.9**
	14nm,1.9s								
PLAI	**Plampang**	**14.69**	**113**	P		P	**P**	**17 55 50.8**	**-0.1**
PLAI				S		P	**P**	**17 55 51.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**22.19**	**347**	P		P	**P**	**17 57 08.1**	**+0.5**
	0.6nm,0.4s,baz=181,slow=8.7,SNR=11								
	0.6nm,0.4s								
WRA	**Warramunga Arr**	**33.84**	**122**	P		P	**P**	**17 58 51.5**	**+0.9**
	0.5nm,0.5s,baz=291,slow=8.6,SNR=9.2								
	0.5nm,0.5s								
ASAR	**Alice Springs**	**35.23**	**128**	P		P	**P**	**17 59 03.6**	**+1.3**
	0.7nm,0.4s,baz=301,slow=7.9,SNR=21								
	0.7nm,0.4s								
STKA	**Stephens Creek**	**45.28**	**133**	P		P	**P**	**18 00 25.8**	**+2.0**
	1.2nm,0.5s,baz=276,slow=3.2,SNR=5.2								
	1.2nm,0.5s								
SONM	**Songino Array**	**50.94**	**2**	P		P	**P**	**18 01 08.5**	**+2.0**
	0.4nm,0.5s,baz=182,slow=7.0,SNR=3.7								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**53.44**	**341**	P		P	**P**	**18 01 24.8**	**+0.2**
	0.6nm,0.6s,baz=144,slow=8.3,SNR=4.6								
	0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**58.00**	**341**	P		P	**P**	**18 01 56.8**	**+0.3**
	0.2nm,0.3s,baz=148,slow=5.5,SNR=1.1								
	0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**59.25**	**347**	P		P	**P**	**18 02 04.4**	**-0.7**
	0.6nm,0.3s,baz=165,slow=6.0,SNR=2.9								
	0.6nm,0.3s								

NOU ***15*** *18:07:08.3,21.47S×169.32E,h7km, MLv3.8/10, Southeast of Loyalty Islands*
IDC ***15*** *18:07:12.4±3.0,22.47S×168.95E,h0km,mb3.7/3, mbtmp3.6/4,ML2.7/1,MS3.5/6,Error ellipse: s-maj=84.3km s-min=42.8km az=173.0*
ISC 15 18:07:13.2±3.2,21.55S±0.1×169.1E±0.2,h29km,n17,
σ0s85/13,mb3.9/3,MS3.5/5,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.03**	**269**	P		P	**Pn**	**18 07 30.7**	**-1.0**
LIFNC	**LIFOU**	**1.90**	**291**	P		P	**Pn**	**18 07 42.1**	**-1.6**
PINNC	**Pines Island,**	**1.94**	**234**	P		P	**Pn**	**18 07 43.1**	**-1.2**
YATNC	**Mamie plateau,**	**2.17**	**254**	P		P	**Pn**	**18 07 46.8**	**-0.7**
OUENC	**Ouen Island, N**	**2.34**	**246**	P		P	**Pn**	**18 07 49.4**	**-0.3**
DZM	**Mont Dzumac**	**2.58**	**256**	P		P	**Pn**	**18 07 53.1**	**0.0**
DZM	**Mont Dzumac**	**2.58**	**256**	Pn		P	**Pn**	**18 07 52.8**	**-0.3**
	1.9nm,0.

IGHG	Ghaleghazi	2.87	358	Pn	Pn	18 35 53.9 +0.1
HSAM	Samen	3.17	30	Pn	Pn	18 35 56.9 -1.2
IDHR	Dehrash	3.25	355	Pn	Pn	18 35 58.2 -0.9
ZNGN	Zangian	3.58	78	Pn	Pn	18 36 03.5 -0.3
IPIR	Pirpir	3.75	70	Pn	Pn	18 36 05.0 -1.0
HAGD	Aghdareh	3.92	31	Pn	Pn	18 36 08.4 0.0
QAMS	Qamsar	4.56	59	Pn	Pn	18 36 16.9 -0.2

NEIC ***15*** *18:54:09.4±2.0,5.˚62N±0.˚06×126.˚25E±0.˚10,h119km±5km, mb4.4/46, Error ellipse: s-maj=14.7km s-min=8.6km az=74.0*
DJA ***15*** *18:54:09.6±0.8,6.˚1N±2.˚×12.˚6E±.˚, h30km±9km, M4.7/20, mB5.1/8, mb4.8/20, MLv4.9/13, Mw(mB)4.4/8*
IDC ***15*** *18:54:09.2±1.1,5.˚70N×126.˚31E, h121km±8km, mb3.8/18, mbtmp4.2/19, MS3.3/4, Error ellipse: s-maj=28.6km s-min=9.7km az=70.0*

ISC 15 18:54:07.1±0.4,5.˚64N±0.˚04×126.˚43E±0.˚06,h100km,n113,σ1ℓ59/127,mb4.3/37,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.65**	**329**	Pn	**Pn**	**18 54 37.4**	**+2.1**
DAV	**Davao City (W)**	**1.65**	**329**	P	**Pn**	**18 54 37.9**	**+2.7**
DAV	**Davao City (W)**	**1.65**	**329**	P	**Pn**	**18 54 37.6**	**+2.4**
	665nm,0.3s,baz=221,slow=3.7,SNR=25						
DAV				S	**Sn**	**18 54 58.8**	**+2.3**
	1μm,0.3s,baz=90,slow=20,SNR=3.6						
DAV				LR	LR	18 55 29.1	
	comp=Z,518nm,21.7s,baz=40,slow=52						
DAV	**Davao City (W)**	**1.65**	**329**	P	**Pn**	**18 54 37.3**	**+2.1**
DAV				S	**Sn**	**18 55 00.6**	**+4.0**
SGSI	**Sangihe**	**2.14**	**205**	P	**Pn**	**18 54 43.6**	**+2.1**
SGSI				S	**Sn**	**18 55 05.8**	**-2.0**
TNTI	**Ternate**	**4.93**	**169**	P	**Pn**	**18 55 20.4**	**+1.5**
TNTI				Sn	**Sn**	**18 56 13.2**	**-1.6**
TNTI	**Ternate**	**4.93**	**169**	P	**Pn**	**18 55 20.0**	**+1.1**
TNTI				S	**Sn**	**18 56 14.5**	**-0.3**
KMSI	**Cibinong**	**5.60**	**206**	P	**Pn**	**18 55 28.8**	**+0.9**
	162nm,0.8s,3μm1.2nm						
GTOI	**Gorontalo**	**6.03**	**215**	P	**Pn**	**18 55 35.3**	**+1.5**
	54nm,0.7s,532nm0.2nm						
GTOI				S	**Sn**	**18 56 44.6**	**+3.1**
	54nm,0.7s,532nm0.2nm						
LBMI	**Labuha**	**6.33**	**170**	P	**Pn**	**18 55 39.5**	**+1.6**
	158nm,0.8s,2μm0.9nm						
LBMI				S	**Sn**	**18 56 49.2**	**+0.3**
	158nm,0.8s,2μm0.9nm						
MRSI	**Marisa**	**6.81**	**221**	P	**Pn**	**18 55 47.1**	**+2.6**
	93nm,0.9s,1μm0.4nm						
MRSI				S	**Sn**	**18 57 01.8**	**+1.2**
	93nm,0.9s,1μm0.4nm						
TOLI2	**Tolitoli**	**7.21**	**232**	Pn	**Pn**	**18 55 50.7**	**+0.8**
TOLI2				Sn	**Sn**	**18 57 07.5**	**-2.9**
TOLI2	**Tolitoli**	**7.21**	**232**	P	**Pn**	**18 55 50.9**	**+1.0**
LUWI	**Luwuk**	**7.58**	**209**	Pn	**Pn**	**18 55 54.6**	**-0.3**
LUWI	**Luwuk**	**7.58**	**209**	P	**Pn**	**18 55 56.8**	**+1.9**
	123nm,0.8s,2μm0.6nm						
LUWI				S	**Sn**	**18 57 23.8**	**+4.6**
	123nm,0.8s,2μm0.6nm						
SANI	**Sanana**	**7.66**	**183**	P	**Pn**	**18 55 54.3**	**-1.6**
SANI	**Sanana**	**7.66**	**183**	P	**Pn**	**18 55 54.5**	**-1.4**
	114nm,0.8s,3μm0.6nm						
SANI				S	Sn	18 57 13.0	-8.1
	114nm,0.8s,3μm0.6nm						
SWI	**Sorong**	**8.07**	**143**	P	**Pn**	**18 56 04.6**	**+3.1**
SIJI	**Sorong**	**8.08**	**143**	P	**Pn**	**18 56 03.6**	**+1.9**
	17nm,0.5s,798nm0.1nm						
MPSI	**Mapaga**	**8.38**	**231**	P	**Pn**	**18 56 08.1**	**+2.3**
	13nm,1.1s						
NLAI	**Namlea**	**8.85**	**176**	P	**Pn**	**18 56 11.8**	**-0.4**
	45nm,0.6s,3μm						
KKM	**Kota Kinabalu**	**10.17**	**273**	P	Pn	18 56 35.5	+5.3
	33nm,1.4s						
FAKI	**Fak Fak**	**10.30**	**146**	Pn	**Pn**	**18 56 33.6**	**+1.6**
FAKI	**Fak Fak**	**10.30**	**146**	P	**Pn**	**18 56 34.0**	**+2.0**
TTSI	**Tana Toraja**	**10.87**	**218**	P	**Pn**	**18 56 42.3**	**+2.7**
	38nm,1.1s						
MMSI	**Mamuju**	**11.18**	**222**	P	**Pn**	**18 56 47.1**	**+3.3**
	8.9nm,0.6s						
BKB	**Balikpapan**	**11.73**	**234**	P	**Pn**	**18 56 51.8**	**+0.5**
	146nm,1.7s						
KAPI	**Kappang**	**12.51**	**212**	P	**Pn**	**18 57 02.0**	**+0.4**
	8.9nm,0.3s,baz=81,slow=13,SNR=3.7						
KAPI				LR	LR	19 03 07.9	
	comp=Z,33nm,18.1s,baz=78,slow=43						
BKSI	**Bulukumba**	**12.58**	**210**	P	**Pn**	**18 57 05.9**	**+3.4**
	15nm,1.1s						
MKS	**Makassar**	**12.83**	**213**	P	**Pn**	**18 57 09.0**	**+3.1**
	84nm,1.4s						
SBUM	**Sibu**	**14.52**	**258**		**P**	**18 57 33.1**	**+1.5**
PKKI	**Palangkaraya**	**14.70**	**238**	P	**P**	**18 57 35.2**	**+1.6**
	47nm,0.4s						
MMRI	**Maumere**	**14.79**	**196**	P	**Pn**	**18 57 33.7**	**+2.5**
	28nm,1.1s						
EDFI	**Ende, Flores**	**15.06**	**198**	P	**P**	**18 57 39.1**	**+1.4**
	11nm,0.8s						
SOEI	**Soe**	**15.45**	**188**	P	**Pn**	**18 57 41.6**	**+1.9**
SOEI				IAmb	IAmb	18 58 00.8	
	comp=Z,23nm,0.7s						
SOEI	**Soe**	**15.45**	**188**	P	**P**	**18 57 44.1**	**+2.1**
YULB	**Yu-li**	**18.32**	**345**	P	**Pn**	**18 58 15.6**	**+0.8**
YULB				IAmb	IAmb	18 58 41.4	
	comp=Z,27nm,1.3s						
TPUB	**Ta-pu**	**18.42**	**343**	P	**P**	**18 58 14.7**	**0.0**
TPUB				IAmb	IAmb	18 58 54.9	
	comp=Z,28nm,1.1s						
JAGI	**Jajag, Banyuwa**	**18.61**	**221**	P	**P**	**18 58 17.5**	**+0.7**
JAGI				IAmb	IAmb	18 58 18.4	
	comp=Z,41nm,1.2s						
MTN	**Manton Dam**	**18.95**	**166**	P	**P**	**18 58 20.7**	**+0.2**
MTN				IAmb	IAmb	18 58 47.1	
	comp=Z,36nm,1.5s						
KDU	**Kakadu**	**19.18**	**162**	P	**Pn**	**18 58 25.0**	**+0.1**
KNRA	**Kununurra**	**21.31**	**174**		**P**	**18 58 46.6**	**+0.6**
KNRA	**Kununurra**	**21.31**	**174**	P	**P**	**18 58 47.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.60**	**182**	P	**P**	**18 59 09.4**	**+0.4**
WB0	**Warramunga Arr**	**26.44**	**163**	P	**P**	**18 59 34.5**	**-0.3**
WB0				IAmb	IAmb	19 00 10.0	
	comp=Z,8.6nm,0.8s						
WRA	**Warramunga Arr**	**26.59**	**163**	P	**P**	**18 59 37.1**	**+1.0**
WRA	**Warramunga Arr**	**26.59**	**163**	P	**P**	**18 59 36.6**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=341,slow=11,SNR=16						
WRA				PcP	**PcP**	**19 02 58.1**	**0.0**
	comp=Z,1.4nm,0.8s,baz=339,slow=2.1,SNR=4.6						
	comp=Z,1.3nm,0.4s						
WB2	**Warramunga Arr**	**26.59**	**163**	P	**P**	**18 59 36.3**	**+0.1**
WB2				IAmb	IAmb	19 00 16.9	
	comp=Z,6.7nm,0.8s						
PSA00	**Pilbara Seismi**	**27.81**	**193**	P	**P**	**18 59 46.8**	**-0.2**
PSA00				IAmb	IAmb	18 59 47.3	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**27.81**	**193**	P	**P**	**18 59 46.5**	**-0.4**
PSA00				IAmb	IAmb	19 00 20.8	
	comp=Z,3.7nm,0.9s						
QIS	**Mount Isa**	**29.08**	**154**	P	**P**	**18 59 59.4**	**+1.1**
GSI	**Gunungsitoli**	**29.11**	**263**	P	**P**	**18 59 56.2**	**-2.5**
GSI				IAmb	IAmb	19 00 00.1	
	comp=Z,18nm,1.2s						
CRAI	**Chiangrai**	**29.17**	**302**	P	**P**	**18 59 58.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**29.68**	**298**	P	**P**	**19 00 04.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=112,slow=6.7,SNR=6.2						
CMAR				PcP	**PcP**	**19 03 06.3**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=162,slow=1.1,SNR=7.0						
CMAR				ScP	**ScP**	**19 06 36.3**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=108,slow=2.0,SNR=4.9						
CMAR				LR	LR	19 15 04.3	
	comp=Z,19nm,18.1s,baz=100,slow=42						
	comp=Z,0.8nm,0.7s						
AS31	**Alice Springs**	**30.03**	**166**	P	**P**	**19 00 07.3**	**+0.5**
ASAR	**Alice Springs**	**30.03**	**166**	P	**P**	**19 00 07.0**	**+0.3**
ASAR	**Alice Springs**	**30.03**	**166**	P	**P**	**19 00 07.3**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=344,slow=7.0,SNR=94						
ASAR				PcP	**PcP**	**19 03 06.9**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=355,slow=2.7,SNR=12						
	comp=Z,4.0nm,0.6s						
AS01	**Alice Springs**	**30.04**	**166**	P	**P**	**19 00 08.8**	**+2.0**
	comp=Z,6.9nm,0.8s						
GIRL	**Giralia**	**30.54**	**203**	P	**P**	**19 00 11.3**	**+0.2**
PZH	**PanZhiHua**	**31.39**	**314**	P	**P**	**19 00 20.1**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,5.0s						
KSRS	**Korea Array**	**31.69**	**2**	P	**P**	**19 00 21.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=190,slow=8.4,SNR=4.3						
	comp=Z,0.5nm,0.5s						
CTAO	**Charters Tower**	**32.16**	**143**	P	**P**	**19 00 26.9**	**+1.5**
FORT	**Forrest**	**36.25**	**178**	P	**P**	**19 01 01.2**	**+0.5**
HHC	**Hu-ho-hao-te**	**37.50**	**341**	*eP*	**P**	**19 01 13.9**	**+2.6**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
BBOO	**Buckleboo**	**39.32**	**167**	P	**P**	**19 01 27.4**	**+0.9**
NWAO	**Narrogin (SRO)**	**39.34**	**192**	P	**P**	**19 01 26.7**	**0.0**
NWAO	**Narrogin (SRO)**	**39.34**	**192**	P	**P**	**19 01 26.7**	**0.0**
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**19 01 33.1**	**+0.8**
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**19 01 33.5**	**+1.2**
	comp=Z,7.0nm,0.6s,baz=333,slow=8.5,SNR=15						
	comp=Z,7.0nm,0.6s						
ARMA	**Armidale**	**43.23**	**148**	P	**P**	**19 01 59.3**	**+0.6**
KLR	**Kul'dur**	**43.67**	**5**	LR	LR	19 21 20.5	
	comp=Z,72nm,19.1s,baz=338,slow=37						
SONM	**Songino Array**	**45.40**	**341**	P	**P**	**19 02 15.1**	**-0.7**
SONM	**Songino Array**	**45.40**	**341**	P	**P**	**19 02 15.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=153,slow=7.3,SNR=6.0						
SONM				PcP	**PcP**	**19 03 52.6**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=154,slow=3.2,SNR=6.8						
SONM				LR	LR	19 25 12.3	
	comp=Z,113nm,18.8s,baz=352,slow=41						
	comp=Z,0.6nm,0.6s						
TOO	**Toolangi**	**46.52**	**159**	P	**P**	**19 02 24.1**	**-0.5**
TOO				IAmb	IAmb	19 02 31.5	
	comp=Z,15nm,1.3s						
DZM	**Mont Dzumac**	**47.89**	**126**	P	**P**	**19 02 36.5**	**+0.9**
WMQ	**Urumqi**	**51.00**	**324**	*eP*	**P**	**19 03 00.3**	**+1.4**
MK31	**Makanchi Array**	**55.83**	**325**	P	**P**	**19 03 32.7**	**-1.4**
MKAR	**Makanchi Array**	**55.83**	**325**	P	**P**	**19 03 32.4**	**-1.7**
MKAR	**Makanchi Array**	**55.83**	**325**	P	**P**	**19 03 32.6**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=118,slow=7.2,SNR=39						
MKAR				ScP	**ScP**	**19 08 20.6**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=103,slow=4.6,SNR=2.9						
	comp=Z,1.4nm,0.4s						
MAKZ	**Makanchi**	**56.01**	**325**	P	**P**	**19 03 33.9**	**-1.5**
MAKZ				IAmb	IAmb	19 03 40.1	
	comp=Z,4.7nm,1.4s						
YAK	**Yakutsk**	**56.32**	**2**	P	**P**	**19 03 37.0**	**-0.2**
NIL	**Nilore**	**56.53**	**307**	P	**P**	**19 03 37.2**	**-2.2**
ZALV	**Zalesovo Beam**	**58.76**	**333**	P	**P**	**19 03 54.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=138,slow=5.2,SNR=2.3						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**59.98**	**327**	P	**P**	**19 04 01.4**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=122,slow=6.9,SNR=15						
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**59.98**	**327**	P	**P**	**19 04 01.0**	**-1.9**
KURK				IAmb	IAmb	19 04 08.4	
	comp=Z,5.8nm,1.3s						
KKAR	**Karatay Array**	**61.64**	**316**	P	**P**	**19 04 12.0**	**-2.4**
BVAR	**Borovoye Array**	**65.56**	**327**	P	**P**	**19 04 38.5**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=72,slow=4.7,SNR=6.1						
	comp=Z,0.7nm,0.5s						
TIXI	**Tiksi**	**65.94**	**1**	P	**P**	**19 04 41.9**	**-0.2**
TIXI				IAmb	IAmb	19 04 42.5	
	comp=Z,5.2nm,1.1s						
NRIK	**Noril'sk**	**68.51**	**346**	P	**P**	**19 04 58.1**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=133,slow=9.1,SNR=3.9						
	comp=Z,2.5nm,0.5s						
GEYT	**Alibeck**	**69.47**	**308**	P	**P**	**19 05 03.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=114,slow=6.5,SNR=1.7						
	comp=Z,0.3nm,0.3s						
ABKAR	**Akbulak array**	**70.49**	**320**	P	**P**	**19 05 09.4**	**-1.5**
ABKAR	**Akbulak array**	**70.49**	**320**	P	**P**	**19 05 08.5**	**-2.4**
ABKAR				IAmb	IAmb	19 05 45.7	
	comp=Z,1.7nm,1.1s						
SUA	**Susitna One**	**81.64**	**29**	P	**P**	**19 06 13.6**	**-0.5**
SUA				IAmb	IAmb	19 06 15.8	
	comp=Z,11nm,1.1s						
MLY	**Manley**	**81.89**	**25**	P	**P**	**19 06 14.6**	**-0.7**
G23K	**Bananza Creek**	**82.29**	**23**	P	**P**	**19 06 18.4**	**+1.0**
G23K				IAmb	IAmb	19 06 19.9	
	comp=Z,3.7nm,0.8s						
H24K	**Noodor Dome**	**83.12**	**24**	P	**P**	**19 06 22.5**	**+0.9**
H24K				IAmb	IAmb	19 06 24.3	
	comp=Z,5.0nm,0.9s						
G24K	**Hadweenzic Riv**	**83.31**	**24**	P	**P**	**19 06 23.9**	**+1.3**
G24K				IAmb	IAmb	19 06 24.8	
	comp=Z,6.2nm,0.9s						
HDA	**Harding Lake**	**83.49**	**26**	P	**P**	**19 06 22.9**	**-0.6**
HDA				IAmb	IAmb	19 06 23.9	
	comp=Z,5.8nm,0.9s						
ILAR	**Eielson Array**	**83.52**	**26**	P	**P**	**19 06 23.0**	**-0.6**
ILAR	**Eielson Array**	**83.52**	**26**	P	**P**	**19 06 22.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=230,slow=6.0,SNR=15						
	comp=Z,1.2nm,0.8s						
E25K	**Arctic Village**	**84.06**	**22**	P	**P**	**19 06 27.3**	**+0.9**
E25K				IAmb	IAmb	19 06 28.2	
	comp=Z,4.1nm,1.1s						
BMAR	**Burnt Mountain**	**84.44**	**23**	P	**P**	**19 06 29.8**	**+1.4**
VNDA	**Vanda**	**85.35**	**173**	P	**P**	**19 06 32.8**	**+0.2**
VNDA				IAmb	IAmb	19 07 00.1	
	comp=Z,4.3nm,1.4s						
VNDA	**Vanda**	**85.35**	**173**	P	**P**	**19 06 32.6**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=308,slow=7.8,SNR=7.2						
	comp=Z,1.5nm,0.8s						
E27K	**Coleen River**	**85.54**	**22**	P	**P**	**19 06 34.5**	**+0.7**
E27K				IAmb	IAmb	19 07 00.6	
	comp=Z,7.4nm,1.5s						
F28M	**Old Crow**	**86.24**	**23**	P	**P**	**19 06 37.4**	**+0.2**
F28M				IAmb	IAmb	19 06 39.2	
	comp=Z,2.0nm,0.8s						
E28M	**Babbage River**	**86.26**	**22**	P	**P**	**19 06 37.7**	**+0.3**
ARCES	**ARCESS Array B**	**88.56**	**340**	P	**P**	**19 06 47.3**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=82,slow=5.7,SNR=8.2						
	comp=Z,2.5nm,0.8s						
BRTR	**Keskin Array B**	**88.58**	**310**	P	**P**	**19 06 46.8**	**-2.4**
	comp=Z,0.9nm,1.0s,baz=130,slow=2.3,SNR=4.0						
	comp=Z,0.9nm,1.0s						
FINES	**FINESS Array B**	**90.01**	**332**	P	**P**	**19 06 53.2**	**-2.0**
	comp=Z,2.8nm,0.9s,baz=45,slow=5.7,SNR=6.3						
	comp=Z,2.8nm,0.9s						
QSPA	**South Pole Qui**	**95.54**	**180**	P	**P**	**19 07 20.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=320,slow=3.4,SNR=4.3						
	comp=Z,1.7nm,0.8s						
TXAR	**Lajitas Array**	**120.66**	**51**	PKP	**PKPdf**	**19 12 47.1**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=243,slow=0.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.02**	**289**	PKP	**PKPdf**	**19 12 49.8**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=68,slow=2.3,SNR=20						

IDC ***15*** *19:09:22.7±1.5, 12.˚50N×87.˚58W, h0km, mb3.9/6, mbtmp3.9/8, ML3.3/2, MS4.1/1, Error ellipse: s-maj=53.4km s-min=21.5km az=45.0*
NEIC ***15*** *19:09:23.9±2.3, 12.˚16N±0.˚05×87.˚99W±0.˚05, h10km±2km, mb4.5/29, Error ellipse: s-maj=8.9km s-min=7.8km az=264.0*
CATAC ***15*** *19:09:24.0±0.7, 11.˚90N×88.˚10W, h26km±8km, ML4.1*
SNET ***15*** *19:09:25.5±1.2, 12.˚04N×88.˚14W, h18km±13km, ML3.8*

ISC 15 19:09:21.3±1.5,12.˚01N±0.˚05×88.˚06W±0.˚03,h4km±9km,n110,σ1ℓ39/127,mb4.4/18,21C-12D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.08**	**27**	*i*⇓P	**Pn**	**19 09 44.4**	**+1.1**
CSGN				IAML		19 10 10.8	
	comp=Z,12μm,1.0s						
CHNN	**El Viejo**	**1.10**	**56**	*i* P	**Pn**	**19 09 44.6**	**+1.1**
CHNN				IAML		19 09 45.0	
	comp=Z,11μm,1.0s						
CHNN				*i* S	**Sn**	**19 10 00.1**	**+0.9**
CRIN	**San Cristobal**	**1.21**	**55**		**Pn**	**19 09 46.6**	**+1.6**
CRIN	**San Cristobal**	**1.21**	**55**	*i*⇑P	**Pn**	**19 09 46.6**	**+1.6**
CRIN				*i* S	**Sn**	**19 10 05.5**	**+3.6**
CRIN				IAML		19 10 12.5	
	comp=Z,11μm,1.0s						
JUCU	**Jucuarɲn**	**1.25**	**352**	*eP*	**Pn**	**19 09 47.0**	**+1.4**
JUCU				*eS*	**Sn**	**19 10 04.3**	**+1.3**
JUCU				IAML		19 10 06.5	
	comp=Z,1μm,0.3s						
CNCH	**Conchagua**	**1.28**	**10**	*eP*	**Pn**	**19 09 47.8**	**+1.7**
CNCH	**Conchagua**	**1.28**	**10**	*i*⇑P	**Pn**	**19 09 47.8**	**+1.7**
CNCH				IAML		19 10 09.5	
	comp=Z,7μm,1.0s						
LCND	**La Caada**	**1.31**	**7**	*eP*	**Pn**	**19 09 48.3**	**+1.9**
LCND				IAML		19 10 13.6	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**1.31**	**7**	*i*⇓P	**Pn**	**19 09 48.3**	**+1.9**
LCND				IAML		19 10 13.4	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**1.33**	**17**	*e*⇑P		**19 09 48.2**	**+1.3**
AMPH				*e*S		**19 10 07.6**	**+2.8**
AMPH	**Amapala**	**1.33**	**17**	*i*⇑P		**19 09 48.2**	**+1.3**
AMPH				*i* S		**19 10 07.3**	**+2.5**
TELN	**Telica**	**1.34**	**64**	*i*⇑P		**19 09 46.5**	**-0.6**
TELN				IAML		19 10 09.5	
	comp=Z,220nm,1.0s						
HERN	**Volcan Telica**	**1.34**	**63**	*i*⇑P		**19 09 47.6**	**+0.4**
HERN				*i* S		**19 10 07.6**	**+2.3**
HERN				IAML		19 10 10.7	
	comp=Z,2μm,1.0s						
ROCN	**Rota Cerro Neg**	**1.39**	**68**	*i*⇓P		**19 09 47.4**	**-0.1**
ROCN				IAML		19 10 24.9	
	comp=Z,1μm,1.0s						
CNGA	**Al SSO del Vol**	**1.42**	**70**	*i*⇓P		**19 09 48.8**	**+0.3**
CNGA				IAML		19 10 15.8	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**1.42**	**70**	Pn		**19 09 48.5**	**+0.1**
CNGN	**Cerro Negro**	**1.42**	**70**	*i*⇑P		**19 09 48.5**	**+0.1**
CNGN				IAML		19 10 19.5	
	comp=Z,4μm,1.0s						
LCY	**Lacayo**	**1.43**	**351**	*eP*		**19 09 49.7**	**+1.0**
VSM	**San Miguel**	**1.43**	**352**	*eP*		**19 09 50.1**	**+1.3**
MACN	**El Madrono**	**1.43**	**71**	*i*⇓P		**19 09 49.1**	**+0.3**
MACN				IAML		19 10 16.3	
	comp=Z,2μm,1.0s						
COPN	**Copaltepe**	**1.45**	**83**	*i*⇑P		**19 09 48.9**	**+0.6**
COPN				IAML		19 10 16.4	
	comp=Z,4μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.47**	**74**	*i*⇑P		**19 09 49.5**	**+0.3**
LEVN				IAML		19 10 19.1	
	comp=Z,3μm,1.0s						
PACA	**Pacayal**	**1.48**	**350**	*eP*		**19 09 50.7**	**+0.9**
PACA	**Pacayal**	**1.48**	**350**	*i*⇓P		**19 09 50.6**	**+0.9**
PACA				IAML		19 10 18.4	
	comp=Z,14μm,1.0s						
MSHP	**Masachapa**	**1.50**	**97**	*i*⇓P		**19 09 50.5**	**+1.4**
MSHP				IAML		19 10 22.1	
	comp=Z,320nm,1.0s						
TECA	**Tecapa**	**1.54**	**344**	*e*⇑P		**19 09 51.4**	**+0.5**
MOMN	**Momotombo**	**1.54**	**75**	*i*⇑P		**19 09 50.4**	**+0.8**
MOMN				IAML		19 10 15.7	
	comp=Z,95nm,1.0s						
COEB	**Comit de Eme**	**1.55**	**343**	*eP*		**19 09 51.4**	**+0.2**
MOM2	**El Cardon**	**1.60**	**74**	*i*⇑P		**19 09 51.4**	**-0.1**
MOM2				IAML		19 10 23.0	
	comp=Z,2μm,1.0s						
SAPS	**Ciudad Sandino**	**1.63**	**84**	*i*⇑P		**19 09 51.9**	**+1.1**
SAPS				IAML		19 10 20.5	
	comp=Z,3μm,1.0s						
TECO	**Alcaldia de Te**	**1.68**	**335**	*eP*		**19 09 52.7**	**-0.1**
TECO	**Alcaldia de Te**	**1.68**	**335**	*i* P		**19 09 52.5**	**+1.0**
TECO				IAML		19 10 19.1	
	comp=Z,550nm,1.0s						
PQSS	**Presa 15 de Se**	**1.68**	**343**	*eP*		**19 09 53.5**	**-0.1**
PQSS	**Presa 15 de Se**	**1.68**	**343**	*i*⇓P		**19 09 53.3**	**+0.5**
PQSS				IAML		19 09 54.6	
	comp=Z,540nm,1.0s						
PQSS				*i* S	**Sg**	**19 10 14.6**	**-0.8**
APYN	**Apoyeque**	**1.69**	**82**	*i*⇓P		**19 09 52.6**	**+1.0**
APYN				IAML		19 10 24.1	
	comp=Z,2μm,1.0s						
APQ2	**Apoyeque**	**1.71**	**83**	*i*⇑P		**19 09 53.1**	**+1.2**
APQ2				IAML		19 10 30.2	
	comp=Z,2μm,1.0s						
UNAN	**Cigeo UNAN**	**1.76**	**86**	*i*⇑P		**19 09 53.6**	**+1.1**
UNAN				*i* S		**19 10 15.6**	**-0.9**
UNAN				IAML		19 10 29.9	
	comp=Z,7μm,1.0s						
CAHU	**Cacacuatique**	**1.76**	**355**	*eP*		**19 09 55.0**	**-0.1**
TISN	**Laguna Tiscapa**	**1.76**	**85**	*i*⇑P		**19 09 52.7**	**+0.1**
TISN				IAML		19 10 23.3	
	comp=Z,130nm,1.0s						
UESV	**Universidad de**	**1.77**	**337**	*i* P		**19 09 54.2**	**-0.2**
UESV				IAML		19 10 22.2	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**1.79**	**334**	*eP*		**19 09 54.9**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.81**	**339**	*e*⇑P		**19 09 55.5**	**+0.5**
SCLA				*e*S		**19 10 17.8**	**-1.7**
SCLA	**Alcaldia de Sa**	**1.81**	**339**	*i*⇑P		**19 09 55.3**	**+0.3**
SCLA				*i* S		**19 10 17.8**	**-1.7**
SCLA				IAML		19 10 30.4	
	comp=Z,750nm,1.0s						
WILN	**Americas 2**	**1.84**	**85**	*i*⇓P		**19

comp=Z,8.4nm,0.6s
Z35A Perchaven, San 22.83 340 P **P** 19 14 27.2 +1.7
Z35A lAmb lAmb 19 14 29.0
comp=Z,24nm,1.0s
SGCY Sterling City 23.18 331 P **P** 19 14 28.1 -1.1
SGCY lAmb lAmb 19 14 31.7
comp=Z,11nm,0.9s
ALPN Alpine 23.29 324 P **P** 19 14 31.5 +1.0
LOOK Love County 23.41 341 P **P** 19 14 33.7 +2.3
LOOK lAmb lAmb 19 14 35.1
comp=Z,25nm,1.0s
MNHN Monahans 23.55 327 P **P** 19 14 32.9 0.0
MNHN lAmb lAmb 19 14 35.7
comp=Z,6.9nm,0.7s
ODSA Odessa 24.05 329 P **P** 19 14 35.8 -2.0
ODSA lAmb lAmb 19 14 40.1
comp=Z,14nm,1.0s
POST Post 24.31 332 P **P** 19 14 39.2 -0.9
POST lAmb lAmb 19 14 42.9
comp=Z,12nm,0.8s
FNO Franklin 24.65 341 P **P** 19 14 43.2 +0.1
OK052 Battle Ridge R 25.16 343 P **P** 19 14 45.5 -2.2
QUOK Quay 25.30 343 P **P** 19 14 48.1 -0.8
QUOK lAmb lAmb 19 14 49.8
comp=Z,13nm,0.7s
SMWD Samnorwood 25.52 336 P **P** 19 14 51.2 +0.2
OK048 Pawnee Station 25.59 343 P **P** 19 14 50.8 -0.8
S39A Bolivar 26.01 350 P **P** 19 14 54.6 -0.7
S39A lAmb lAmb 19 14 56.2
comp=Z,12nm,0.7s
R50A Paris 26.38 7 P **P** 19 14 57.2 -1.5
SAML Samuel 32.33 129 P **P** 19 15 52.0 +0.1
ECSD EROS Data Cent 32.47 348 P **P** 19 15 51.1 -1.7
ECSD lAmb lAmb 19 15 53.2
comp=Z,4.4nm,0.8s
F33A 5 Mile Ranch, 34.44 350 P **P** 19 16 08.7 -1.2
PDAR Pinedale Array 35.88 333 P **P** 19 16 23.2 +0.4
comp=Z,0.3nm,0.6s,baz=124,slow=11,SNR=2.4
PDAR PcP **PcP** 19 18 50.9 +0.8
comp=Z,0.4nm,0.7s,baz=109,slow=5.0,SNR=3.9
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 37.65 320 PcP **PcP** 19 18 57.5 +2.1
comp=Z,0.4nm,0.6s,baz=145,slow=4.9,SNR=2.8
ULM Lac du Bonnet 38.67 352 P **P** 19 16 44.2 -1.7
comp=Z,5.6nm,0.6s,baz=169,slow=9.7,SNR=12
comp=Z,5.6nm,0.6s
SCHQ Schefferville 45.87 17 P **P** 19 17 42.4 -2.3
comp=Z,3.6nm,0.5s,baz=239,slow=6.6,SNR=8.1
comp=Z,3.6nm,0.5s
YKA Yellowknife Ar 53.88 345 P **P** 19 18 44.8 -0.6
comp=Z,0.9nm,0.7s,baz=136,slow=7.8,SNR=20
YKA PcP **PcP** 19 19 50.2 -0.8
comp=Z,0.1nm,0.5s,baz=148,slow=3.6,SNR=2.1
comp=Z,0.9nm,0.7s
ILAR Eielson Array 66.18 336 P **P** 19 20 09.6 -0.3
comp=Z,0.4nm,0.8s,baz=108,slow=5.8,SNR=5.1
comp=Z,0.4nm,0.8s
CMAR Chiang Mai Arr 148.95 347 PKPbc **PKPbc** 19 29 11.9 +0.5
comp=Z,0.7nm,0.4s,baz=335,slow=3.3,SNR=8.1

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*TIR **15** 19:27:15.1,37.°82N×22.°22E,h0km±4km,Ml3.8*
*IDC **15** 19:27:16.8±1.0,37.°72N×22.°03E,h0km, mb3.8/17, mbtmp3.8/21,ML3.6/4,MS3.2/2,Error ellipse: s-maj=21.9km s-min=14.5km az=175.0*
*ATH **15** 19:27:17.0,37.°74N×22.°02E,h8km±1km,ML3.6/30, Manual Solution by N.Liadopoulou This location: 2020/05/05 15:34:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*MOS **15** 19:27:17.9±1.1,37.°77N×22.°04E,h13km,mb4.5/7,Error ellipse: s-maj=9.0km s-min=5.6km az=70.1*
*THE **15** 19:27:17.4,37.°73N×22.°03E,h3km±1km,ML3.6/12,Error ellipse: s-maj=1.1km s-min=0.4km az=29.0*
*AFAD **15** 19:27:18.0±0.0,37.°77N×22.°27E,h34km±12km,MW4.0*
*NEIC **15** 19:27:19.7±2.1,37.°83N±0.°06×22.°04E±0.°08,h10km±1km, mb4.4/26,Error ellipse: s-maj=10.6km s-min=10.5km az=179.0*
*ISK **15** 19:27:19.8,37.°73N×22.°26E,h69km,ML3.2/21*
*NAO **15** 19:27:30.9,39.°21N×24.°42E,h33km,mb3.5*

ISC 15 19:27:17.8±1.0,**37.74N**±0.°02×**22.°04E**±0.°02,**h6**km±6km, **n254,σ1s28/296,mb4.2/33,11C-8D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUR	**Goura**	**0.31**	**51**	P	**Pg**	**19 27 23.5**	**-0.4**
GUR				S	**Sg**	**19 27 28.2**	**+0.2**
	17μm,0.4s						
GUR	**Goura**	**0.31**	**51**	P	**Pg**	**19 27 23.6**	**-0.3**
GUR				S	**Sg**	**19 27 28.8**	**+0.8**
KLV	**Kalavryta, Ach**	**0.31**	**16**	P	**Pg**	**19 27 23.6**	**-0.4**
KLV				S	**Sg**	**19 27 28.8**	**+0.7**
	9μm,0.9s						
KLV	**Kalavryta, Ach**	**0.31**	**16**	P	**Pg**	**19 27 23.6**	**-0.4**
KLV				S	**Sg**	**19 27 28.6**	**+0.4**
ALIK	**Aliki, Aigiali**	**0.52**	**6**	P	**Pg**	**19 27 27.7**	**-0.1**
ALIK				S	**Sg**	**19 27 35.5**	**+0.9**
RLS	**Riolos of Patr**	**0.55**	**305**	P	**Pg**	**19 27 27.5**	**-0.9**
RLS				S	**Sg**	**19 27 35.8**	**+0.2**
	8μm,0.4s						
RLS	**Riolos of Patr**	**0.55**	**305**	P	**Pg**	**19 27 27.6**	**-0.9**
RLS				S	**Sg**	**19 27 35.7**	**+0.2**
THAL	**Thalero**	**0.57**	**59**	P	**Pg**	**19 27 28.4**	**-0.5**
THAL				S	**Sg**	**19 27 37.0**	**+0.6**
	14μm,0.5s						
UPR	**University Cam**	**0.57**	**340**	P	**Pg**	**19 27 29.0**	**+0.1**
UPR				S	**Sg**	**19 27 36.8**	**+0.4**
KLMT	**Kalamata**	**0.68**	**179**	P	**Pg**	**19 27 30.5**	**-0.4**
KLMT				S	**Sg**	**19 27 39.5**	**-0.2**
	5μm,0.5s						
EFP	**Efpalio**	**0.69**	**351**	P	**Pg**	**19 27 30.5**	**-0.6**
EFP				S	**Sg**	**19 27 40.6**	**+0.5**
	3μm,0.4s						
EFP	**Efpalio**	**0.69**	**351**	P	**Pg**	**19 27 30.5**	**-0.6**
EFP				S	**Sg**	**19 27 40.4**	**+0.3**
LOUT	**Loutraki**	**0.78**	**71**	P	**Pg**	**19 27 32.2**	**-0.7**
LOUT				S	**Sg**	**19 27 43.7**	**+0.8**
	4μm,0.6s						
LOUT	**Loutraki**	**0.78**	**71**	P	**Pg**	**19 27 32.1**	**-0.7**
LOUT				S	**Sg**	**19 27 43.5**	**+0.5**
DLFA	**Delphi**	**0.82**	**26**	P	**Pg**	**19 27 32.4**	**-1.1**
DLFA				S	**Sg**	**19 27 44.6**	**+0.4**
ANX	**Ano Chora**	**0.85**	**354**	P	**Pg**	**19 27 33.6**	**-0.6**
ANX				S	**Sb**	**19 27 46.5**	**-0.4**
	4μm,0.4s						
ANX	**Ano Chora**	**0.85**	**354**	P	**Pg**	**19 27 33.7**	**-0.5**
ANX				S	**Sb**	**19 27 46.3**	**-0.7**
PYL	**PYLOS**	**0.88**	**196**	P	**Pg**	**19 27 33.9**	**-0.8**
PYL				S	**Sg**	**19 27 45.9**	**-0.1**
KRND	**KRANIDI**	**0.95**	**112**	P	**Pg**	**19 27 35.3**	**-0.8**
KRND				S	**Sg**	**19 27 49.0**	**+0.5**
	6μm,0.5s						
KRND	**KRANIDI**	**0.95**	**112**	P	**Pg**	**19 27 35.4**	**-0.8**
KRND				S	**Sb**	**19 27 49.2**	**-0.4**
LTHK	**Lithakia**	**0.95**	**268**	P	**Pg**	**19 27 35.6**	**-0.5**
LTHK				S	**Sb**	**19 27 49.0**	**-0.7**
	9μm,0.6s						
LTHK	**Lithakia**	**0.95**	**268**	P	**Pg**	**19 27 35.6**	**-0.5**
PVO	**Paravola**	**0.96**	**335**	P	**Pg**	**19 27 35.7**	**-0.6**
PVO				S	**Sb**	**19 27 49.5**	**-0.4**
PVO	**Paravola**	**0.96**	**335**	P	**Pg**	**19 27 35.7**	**-0.6**
PVO				S	**Sb**	**19 27 49.5**	**-0.4**
KRI1	**kERI**	**0.97**	**266**	P	**Pg**	**19 27 36.0**	**-0.5**
KRI1				S	**Sb**	**19 27 49.8**	**-0.4**
	8μm,0.7s						
VIL2	**Platees**	**1.08**	**64**	P	**Pg**	**19 27 37.6**	**-0.9**
VILL	**Villia**	**1.09**	**67**	P	**Pg**	**19 27 37.3**	**-1.5**
AST1	**Astakos**	**1.09**	**317**	P	**Pg**	**19 27 38.3**	**-0.5**
AST1				S	**Sb**	**19 27 53.8**	**+0.1**
	2μm,0.6s						
AXAR	**Agios Charalam**	**1.13**	**25**	P	**Pg**	**19 27 38.0**	**-1.6**
AXAR	**Agios Charalam**	**1.13**	**25**	P	**Pg**	**19 27 38.2**	**-1.3**
AXAR				S	**Sn**	**19 27 55.4**	**-0.8**
EVR	**Evrytania**	**1.19**	**351**	P	**Pb**	**19 27 40.6**	**-0.2**
EVR	**Evrytania**	**1.19**	**351**	P	**Pb**	**19 27 40.6**	**-0.2**
YDRA	**Hydra**	**1.20**	**109**	P	**Pg**	**19 27 39.8**	**-1.0**
YDRA				S	**Sb**	**19 27 56.9**	**+0.1**
VLS	**Valsamata**	**1.22**	**291**	P	**Pg**	**19 27 39.6**	**-1.7**
VLS	**Valsamata**	**1.22**	**291**	P	**Pg**	**19 27 39.5**	**-1.8**
VLI	**Veliai**	**1.25**	**145**	P	**Pg**	**19 27 40.8**	**-1.0**
VLI	**Veliai**	**1.25**	**145**	P	**Pg**	**19 27 40.8**	**-1.0**
VLI				S	**Sb**	**19 27 58.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.27**	**3**	P	**Pg**	**19 27 41.2**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.27**	**3**	P	**Pg**	**19 27 41.2**	**-1.0**
MAKR				S	**Sg**	**19 27 58.0**	**-0.7**
AGG	**Agios Georgios**	**1.30**	**10**	Pn	**Pg**	**19 27 42.9**	**+0.2**
AGG				Sn	**Sg**	**19 27 59.2**	**-0.4**
AGG	**Agios Georgios**	**1.30**	**10**	Pn	**Pn**	**19 27 40.7**	**-1.9**
AGG	**Agios Georgios**	**1.30**	**10**	P	**Pn**	**19 27 40.9**	**-1.7**
AGG	**Agios Georgios**	**1.30**	**10**	P	**Pn**	**19 27 41.7**	**-0.9**
AGG				S	**Sn**	**19 28 00.0**	**-0.3**
AGG				*i* AML	AML	19 28 06.0	
	comp=N,185nm,0.5s						
AGG	**Agios Georgios**	**1.30**	**10**	P	**Pn**	**19 27 40.7**	**-1.9**
AGG	**Agios Georgios**	**1.30**	**10**	P	**Pn**	**19 27 40.9**	**-1.7**
MNVA	**Monemvasia**	**1.32**	**143**	P	**Pn**	**19 27 41.7**	**-1.1**
MNVA				S	**Sb**	**19 27 59.1**	**-1.2**
VSK1	**VASILIKIADES**	**1.34**	**300**	P	**Pn**	**19 27 42.2**	**-0.9**
LXRA	**Lixouri, Kepha**	**1.34**	**290**	P	**Pn**	**19 27 42.3**	**-0.9**
ATH	**Athens Observa**	**1.35**	**80**	P	**Pn**	**19 27 42.8**	**-0.4**
ATH	**Athens Observa**	**1.35**	**80**	P	**Pn**	**19 27 42.8**	**-0.4**
ATH	**Athens Observa**	**1.35**	**80**	P	**Pn**	**19 27 42.8**	**-0.4**
FSK	**Fiskardo**	**1.37**	**302**	P	**Pn**	**19 27 42.0**	**-1.5**
FSK	**Fiskardo**	**1.37**	**302**	P	**Pn**	**19 27 42.2**	**-1.2**
KEF4	**Livadi, Kephal**	**1.38**	**292**	P	**Pn**	**19 27 42.1**	**-1.5**
KEF4	**Livadi, Kephal**	**1.38**	**292**	P	**Pn**	**19 27 42.3**	**-1.2**
VLY	**Voula,Athens**	**1.40**	**85**	P	**Pn**	**19 27 43.3**	**-0.6**
VLY	**Voula,Athens**	**1.40**	**85**	P	**Pn**	**19 27 43.2**	**-0.7**
VLY				S	**Sb**	**19 28 01.8**	**-0.6**
EVGI	**Lefkada island**	**1.40**	**309**	P	**Pn**	**19 27 43.1**	**-0.9**
EVGI	**Lefkada island**	**1.40**	**309**	P	**Pn**	**19 27 43.0**	**-0.9**
ATHU	**Athens Univers**	**1.40**	**80**	P	**Pn**	**19 27 43.5**	**-0.5**
ATHU	**Athens Univers**	**1.40**	**80**	P	**Pn**	**19 27 43.7**	**-0.3**
DMLN	**Damoulianata-K**	**1.41**	**291**	P	**Pn**	**19 27 43.1**	**-0.9**
DMLN	**Damoulianata-K**	**1.41**	**291**	P	**Pn**	**19 27 43.5**	**-0.5**
KEF3	**Kipouria, Keph**	**1.41**	**289**	P	**Pn**	**19 27 42.6**	**-1.5**
KEF3	**Kipouria, Keph**	**1.41**	**289**	P	**Pn**	**19 27 42.8**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.43**	**313**	P	**Pn**	**19 27 43.5**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.43**	**313**	P	**Pn**	**19 27 43.5**	**-0.9**
PTL	**Penteli**	**1.48**	**78**	P	**Pn**	**19 27 44.9**	**-0.1**
PTL				S	**Sn**	**19 28 03.8**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.49**	**310**	P	**Pn**	**19 27 44.5**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.49**	**310**	P	**Pn**	**19 27 44.9**	**-0.3**
LKD2	**Lefkada island**	**1.51**	**314**	P	**Pb**	**19 27 45.8**	**-0.5**
	baz=309						
LKD2				S	**Sg**	**19 28 09.1**	**+2.8**
	baz=309						
LKD2				AMP			
	comp=N,3.7nm,0.6s,baz=309						
LKD2	**Lefkada island**	**1.51**	**314**	P	**Pn**	**19 27 44.9**	**-0.6**
LKD2	**Lefkada island**	**1.51**	**314**	P	**Pn**	**19 27 45.0**	**-0.4**
DION	**Dionisos Attik**	**1.54**	**77**	P	**Pn**	**19 27 45.9**	**0.0**
DION				S	**Sn**	**19 28 04.9**	**-1.3**
NEO	**Neokhori**	**1.82**	**30**	P	**Pn**	**19 27 49.3**	**-0.4**
NEO	**Neokhori**	**1.82**	**30**	P	**Pn**	**19 27 49.5**	**-0.2**
THL	**Klokotos Trika**	**1.82**	**359**	P	**Pn**	**19 27 49.6**	**-0.1**
THL	**Klokotos Trika**	**1.82**	**359**	P	**Pn**	**19 27 49.4**	**-0.3**
KYMI	**Kymi, Euboea I**	**1.85**	**61**	P	**Pn**	**19 27 49.7**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.85**	**61**	P	**Pn**	**19 27 49.9**	**-0.3**
XOR	**Xorichti**	**1.85**	**29**	P	**Pn**	**19 27 49.9**	**-0.4**
TYRN	**Tyrnavos**	**1.97**	**4**	P	**Pn**	**19 27 51.6**	**-0.2**
TYRN	**Tyrnavos**	**1.97**	**4**	P	**Pn**	**19 27 51.8**	**+0.1**
ANKY	**Antikythira Is**	**2.13**	**151**	P	**Pn**	**19 27 53.5**	**-0.4**
ANKY				S	**Sn**	**19 28 18.8**	**-1.9**
MHLO	**Agia Marina, M**	**2.16**	**118**	P	**Pn**	**19 27 54.0**	**-0.4**
SKY	**Skiros Island**	**2.28**	**59**	P	**Pn**	**19 27 55.5**	**-0.6**
PAIG	**Paliouri**	**2.53**	**30**	Pn	**Pn**	**19 27 59.3**	**-0.2**
PAIG	**Paliouri**	**2.53**	**30**	P	**Pn**	**19 27 59.3**	**-0.2**
KEK	**Kerkira**	**2.63**	**319**	Pn	**Pb**	**19 28 03.2**	**-2.2**
KEK	**Kerkira**	**2.63**	**319**	Pn	**Pn**	**19 28 00.3**	**-0.6**
KEK	**Kerkira**	**2.63**	**319**	P	**Pn**	**19 28 00.8**	**-0.2**
LSK	**Leskovik**	**2.65**	**335**	P	**Pb**	**19 28 03.5**	**-2.3**
	baz=333						
LSK				S	**Sb**	**19 28 38.1**	**-0.5**
	baz=333						
LSK				AMP			
	comp=N,1.9nm,0.9s,baz=333						
SRN	**Sarande**	**2.66**	**324**	P	**Pn**	**19 28 03.3**	**+2.0**
	baz=321						
SRN				S	**Sb**	**19 28 40.7**	**+1.8**
	baz=321						
CHAN	**Chania**	**2.74**	**143**	P	**Pn**	**19 28 02.3**	**-0.1**
IMMV	**Iera Moni Meta**	**2.76**	**145**	P	**Pn**	**19 28 01.8**	**-0.9**
APE	**Apeiranthos**	**2.86**	**103**	⇑P	**Pn**	**19 28 04.0**	**0.0**
APE	**Apeiranthos**	**2.86**	**103**	Pn	**Pn**	**19 28 02.0**	**-2.1**
APE	**Apeiranthos**	**2.86**	**103**	P	**Pn**	**19 28 03.9**	**-0.2**
APE	**Apeiranthos**	**2.86**	**103**	P	**Pn**	**19 28 02.2**	**-1.9**
APE	**Apeiranthos**	**2.86**	**103**	*i* P	**Pn**	**19 28 03.8**	**-0.3**
APE	**Apeiranthos**	**2.86**	**103**	P	**Pn**	**19 28 03.8**	**-0.3**
HORT	**Hortiatis**	**2.97**	**16**	Pn	**Pn**	**19 28 06.4**	**+0.8**
OUR	**Ouranopolis**	**3.00**	**30**	Pn	**Pn**	**19 28 05.7**	**-0.2**
SNT5	**Nea Kammeni, S**	**3.00**	**115**	P	**Pn**	**19 28 06.1**	**+0.1**
KBN	**Korca**	**3.04**	**342**	P	**Pn**	**19 28 08.7**	**+2.1**
	baz=339						
KBN				S	**Sb**	**19 28 48.4**	**-1.3**
	baz=339						
KBN	**Korca**	**3.04**	**342**	P	**Pn**	**19 28 08.6**	**+2.1**
FNA	**Florina**	**3.08**	**351**	Pn	**Pn**	**19 28 08.1**	**+1.0**
FNA	**Florina**	**3.08**	**351**	Pn	**Pn**	**19 28 07.3**	**+0.2**
FNA	**Florina**	**3.08**	**351**	P	**Pn**	**19 28 08.8**	**+1.7**
	baz=348						
FNA				S	**Sb**	**19 28 49.2**	**-1.7**
	baz=348						
FNA				AMP			
	comp=N,0.1nm,0.8s,baz=348						
FNA	**Florina**	**3.08**	**351**	P	**Pn**	**19 28 07.9**	**+0.8**
FNA	**Florina**	**3.08**	**351**	P	**Pn**	**19 28 07.3**	**+0.2**
GRG	**Griva**	**3.22**	**5**	Pn	**Pn**	**19 28 10.1**	**+1.1**
LIA	**Limnos Island**	**3.27**	**48**	P	**Pn**	**19 28 08.8**	**-0.8**
SIGR	**SIGRI**	**3.33**	**63**	Pn	**Pn**	**19 28 09.3**	**-1.2**
GVD	**Gavdhos**	**3.34**	**150**	P	**Pn**	**19 28 10.6**	**0.0**
IDI	**Anoyia**	**3.36**	**136**	P	**Pn**	**19 28 10.8**	**-0.2**
KSTL	**Kastelli Herak**	**3.45**	**134**	P	**Pn**	**19 28 15.1**	**+3.0**
KNT	**Kendrikon**	**3.48**	**11**	Pn	**Pn**	**19 28 10.7**	**+1.2**
OHR	**Ohrid**	**3.50**	**344**	*i* Pn	**Pb**	**19 28 19.5**	**-0.7**
ZEYE	**Izmir, Urla-Ze**	**3.56**	**81**	P	**Pn**	**19 28 11.7**	**-1.9**
KARB	**zmir-Karabur**	**3.57**	**74**	P	**Pn**	**19 28 11.7**	**-2.0**
SRS	**Serrai**	**3.58**	**19**	P	**Pn**	**19 28 14.9**	**+1.0**
VAY	**Valandovo**	**3.60**	**6**	*i* Pn	**Pn**	**19 28 16.5**	**+2.4**
KOCA	**Canakkale, Ayv**	**3.66**	**60**	P	**Pn**	**19 28 12.9**	**-2.1**
BOZC	**Bozcaada**	**3.77**	**55**	P	**Pn**	**19 28 12.5**	**-4.1**
DGB	**zmir**	**3.84**	**84**	P	**Pn**	**19 28 17.1**	**-0.5**
GOAD	**anakkale-G¶**	**3.87**	**50**	P	**Pn**	**19 28 15.9**	**-1.9**
GADA	**Gvkgeada**	**3.88**	**50**	Pn	**Pn**	**19 28 17.9**	**-0.1**
EZN	**Ezine**	**3.94**	**57**	Pn	**Pn**	**19 28 18.1**	**-0.8**
EZN	**Ezine**	**3.94**	**57**	P	**Pn**	**19 28 18.2**	**-0.7**
EZN	**Ezine**	**3.94**	**57**	P	**Pn**	**19 28 18.1**	**-0.8**
RFT7	**Candarli**	**4.03**	**71**	Pn	**Pn**	**19 28 18.9**	**-1.1**
FRMA	**Ierapetra Chan**	**4.04**	**131**	P	**Pn**	**19 28 20.6**	**+0.4**
DKL	**Dikili**	**4.05**	**69**	Pn	**Pn**	**19 28 19.4**	**-0.9**
DKL	**Dikili**	**4.05**	**69**	P	**Pn**	**19 28 18.2**	**-2.1**
BAYC	**CANAKKALE_Bayr**	**4.05**	**59**	P	**Pn**	**19 28 17.8**	**-2.6**
PEHC	**Pehcevo**	**4.08**	**9**	*i* Pn	**Pn**	**19 28 24.9**	**+4.0**
COMU	**Canakkale**	**4.18**	**54**	Pn	**Pn**	**19 28 21.5**	**-0.7**
BUHA	**Balikesir, Bur**	**4.32**	**64**	P	**Pn**	**19 28 23.5**	**-0.5**
RDO	**Rodhopi**	**4.34**	**37**	Pn	**Pn**	**19 28 24.5**	**+0.1**
RDO	**Rodhopi**	**4.34**	**37**	Pn	**Pn**	**19 28 23.8**	**-0.6**
GELI	**Tayfur-Gelibol**	**4.35**	**51**	Pn	**Pn**	**19 28 23.7**	**-0.8**
ENEZ	**Enez**	**4.37**	**46**	Pn	**Pn**	**19 28 24.7**	**-0.1**
TIP	**Timpagrande**	**4.38**	**291**	⇑P	**Pn**	**19 28 26.6**	**+1.5**
TIP	**Timpagrande**	**4.38**	**291**	Pn	**Pn**	**19 28 25.7**	**+0.6**
ALN	**Alexandroupoli**	**4.42**	**43**	Pn	**Pn**	**19 28 25.7**	**+0.2**
ALN	**Alexandroupoli**	**4.42**	**43**	Pn	**Pn**	**19 28 24.4**	**-1.1**
ALN	**Alexandroupoli**	**4.42**	**43**	P	**Pn**	**19 28 23.9**	**-1.6**
ALN				S	**Pg**	**19 28 41.0**	**-1.5**
ALN				*i* AML	AML	19 28 51.0	
	comp=N,11nm,1.1s						
ALN	**Alexandroupoli**	**4.42**	**43**	P	**Pn**	**19 28 24.4**	**-1.1**
ERIK	**Erikli-Kesan**	**4.54**	**49**	P	**Pn**	**19 28 23.9**	**-3.2**
PUK	**Puka**	**4.60**	**340**	Pn	**Pn**	**19 28 29.5**	**+1.5**
KDZ	**Kurdzhali**	**4.64**	**32**	Pn	**Pn**	**19 28 28.1**	**-0.4**
KDZ	**Kurdzhali**	**4.64**	**32**	P	**Pn**	**19 28 28.1**	**-0.4**
KARP	**Karpathos**	**4.67**	**116**	Pn	**Pn**	**19 28 31.5**	**+2.6**
STEP	**BALIKESIR_Sava**	**4.74**	**68**	P	**Pn**	**19 28 31.5**	**+1.6**
PLD	**Plovdiv**	**4.87**	**24**	Pn	**Pn**	**19 28 30.8**	**-0.8**
PLD	**Plovdiv**	**4.87**	**24**	P	**Pn**	**19 28 34.6**	**+3.0**
CEL	**Celeste**	**4.88**	**278**		**Pn**	**19 28 32.1**	**+0.3**
BALB	**Balikesir**	**4.95**	**66**	Pn	**Pn**	**19 28 33.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**4.96**	**52**	P	Pn	19 28 27.7	-5.2
BKES	**Balkesir-Mer**	**5.02**	**65**	P	**Pn**	**19 28 33.4**	**-0.2**
MATE	**Matera**	**5.06**	**307**	⇓P	**Pn**	**19 28 37.7**	**+3.5**
ARG	**Arkhangelos**	**5.11**	**106**		**Pn**	**19 28 35.5**	**+0.6**
ARG	**Arkhangelos**	**5.11**	**106**	P	**Pn**	**19 28 35.5**	**+0.6**
CUC	**Castrocucco**	**5.35**	**297**		**Pn**	**19 28 38.8**	**+0.5**
BLKB	**Belogradchik**	**5.89**	**5**	⇓P	**Pn**	**19 28 47.6**	**+1.9**
ELND	**Elena**	**5.95**	**28**	⇓P	**Pn**	**19 28 46.4**	**-0.1**
VAE	**Valguarnera**	**6.06**	**270**	Pn	**Pn**	**19 28 49.5**	**+1.4**
	comp=N,1.7nm,0.3s,baz=180,slow=2.0,SNR=2.0						
VAE				Sn	**Sn**	**19 30 00.8**	**+3.0**
	comp=N,0.6nm,0.3s,baz=291,slow=20,SNR=1.0						
	comp=N,3.4nm,0.5s						
RAFF	**Raffo Rosso**	**6.13**	**267**	Pn	**Pn**	**19 28 50.7**	**+1.8**
WDD	**Wied Dalam**	**6.32**	**255**	Pn	**Pn**	**19 28 52.2**	**+0.6**
ELL	**Elmali**	**6.36**	**97**		**Pn**	**19 28 55.3**	**+3.1**
ELL	**Elmali**	**6.36**	**97**	P	**Pn**	**19 28 55.3**	**+3.1**
CLTB	**Caltabellotta**	**7.00**	**271**	Pn	**Pn**	**19 29 01.4**	**+0.4**
INTR	**Introdacqua**	**7.57**	**307**	Pn	**Pn**	**19 29 10.9**	**+2.1**
MDUB	**Mudurnu**	**7.62**	**66**	Pn	**Pn**	**19 29 09.6**	**+0.1**
VOIR		**8.01**	**15**	⇑P	**Pn**	**19 29 15.5**	**+0.7**
MLR	**Muntele Rosu**	**8.27**	**19**	⇑P	**Pn**	**19 29 21.8**	**+3.3**
MLR	**Muntele Rosu**	**8.27**	**19**	Pn	**Pn**	**19 29 20.2**	**+1.7**
MLR	**Muntele Rosu**	**8.27**	**19**	Pn	**Pn**	**19 29 21.8**	**+3.3**
	comp=N,0.4nm,0.3s,baz=225,slow=9.0,SNR=5.5						
	comp=N,3.4nm,0.7s						
NRCA	**Norcia**	**8.50**	**309**	Pn	**Pn**	**19 29 23.5**	**+1.8**
PLOR	**Plostina**	**8.80**	**22**	⇑P	**Pn**	**19 29 28.5**	**+2.8**
TURR	**Turia**	**8.82**	**18**	⇓P	**Pn**	**19 29 27.7**	**+1.9**
VRI	**Vrincioaia**	**8.84**	**22**	⇑P	**Pn**	**19 29 28.5**	**+2.4**
BR131	**Keskin Array S**	**9.28**	**74**	Pn	**Pn**	**19 29 33.9**	**+1.6**
BR131	**Keskin Array S**	**9.28**	**74**	*c iP*	**Pn**	**19 29 34.7**	**+2.4**
BRTR	**Keskin Array B**	**9.28**	**74**	*i* P	**Pn**	**19 29 34.7**	**+2.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**9.28**	**74**	Pn	**Pn**	**19 29 34.1**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=257,slow=13,SNR=18						
	comp=Z,2.1nm,0.5s						
SOKA	**Soboth**	**10.32**	**332**	*i* Pn	**Pn**	**19 29 47.0**	**+0.4**
	comp=Z,0.3nm,0.2s						
SOKA				*e*Sn	**Sn**	**19 31 37.9**	**-4.7**
	comp=Z,0.3nm,0.3s						
OBKA	**Obir**	**10.37**	**330**	*i* Pn	**Pn**	**19 29 49.1**	**+2.0**
	comp=Z,0.9nm,0.4s						
OBKA				*e*Sn	**Sn**	**19 31 40.1**	**-3.7**
	comp=Z,3.4nm,0.7s						
VYHS	**Vyhne**	**11.00**	**349**	*e*P	**Pn**	**19 29 56.0**	**+0.3**
VYHS	**Vyhne**	**11.00**	**349**	*e*PN	**Pn**	**19 29 56.0**	**+0.3**
MMAI	**Mount Meron Ar**	**11.88**	**109**	Pn	**Pn**	**19 30 07.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=302,slow=12,SNR=1.6						
MMAI				LR	LR	19 36 07.2	
	comp=Z,64nm,18.8s,baz=286,slow=45						
	comp=Z,1.0nm,0.5s						
NACGM	**Naroch**	**17.47**	**9**	*e*P	**Pn**	**19 31 21.9**	**0.0**
	comp=Z,12nm,1.1s,baz=193						
GNI	**Garni**	**17.82**	**75**	LR	LR	19 39 01.0	
	comp=Z,115nm,20.0s,baz=316,slow=40						
ESDC	**Sonseca Array**	**20.36**	**284**	P	**P**	**19 31 55.5**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=79,slow=12,SNR=6.6						
	comp=Z,1.7nm,1.0s						
VSU	**Vasula**	**20.96**	**7**	⇑*e*P	Pn	19 32 02.6	-1.3
VSU				pmax	pmax		
	comp=Z,30nm,1.0s						
HFS	**Hagfors**	**23.03**	**349**	P	**P**	**19 32 23.6**	**+0.1**
	comp=Z,5.1nm,0.5s,baz=156,slow=11,SNR=14						
	comp=Z,5.1nm,0.5s						
FINES

J26L				IAmb	IAmb	19 39 58.1	
	comp=Z,3.1nm,1.3s						
DAWY	**Dawson**	**77.47**	**352**	P	**P**	**19 39 14.6**	**+0.7**
DAWY				IAmb	IAmb	19 39 52.3	
	comp=Z,6.9nm,1.4s						
HDA	**Harding Lake**	**77.81**	**355**	P	**P**	**19 39 16.3**	**+0.7**
HDA				IAmb	IAmb	19 39 20.2	
	comp=Z,6.7nm,1.4s						
BPAW	**Bear Paw Mtn.**	**78.34**	**357**	P	**P**	**19 39 19.0**	**+0.4**
J20K	**Nowinta River**	**78.37**	**358**	P	**P**	**19 39 20.1**	**+1.4**
J20K				IAmb	IAmb	19 39 52.1	
	comp=Z,5.0nm,1.5s						
BCAR	**Beaver Creek A**	**78.70**	**353**	P	**P**	**19 39 22.1**	**+1.4**
M29M	**Somme Creek**	**78.92**	**351**	P	**P**	**19 39 22.6**	**+0.6**
M29M				IAmb	IAmb	19 39 25.4	
	comp=Z,3.8nm,0.8s						
CAST	**Castle Rocks**	**79.07**	**357**	P	**P**	**19 39 24.0**	**+1.3**
J18K	**Innoko River**	**79.13**	**359**	P	**P**	**19 39 24.7**	**+1.8**
K17K	**Iditarod**	**79.88**	**0**	P	**P**	**19 39 28.4**	**+1.4**

*IDC **15** 19:37:32.9±2.2,6°.59S×130°.07E,h0km,mb3.3/1, mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=105.2km s-min=32.3km az=69.0*

ISC 15 19:37:50.4±1.6,7.7S±0.1×129.0E±0.1,h150km,n8, σ2§62/15,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.54**	**158**	P	**Pn**	**19 39 13.6**	**+2.6**
	baz=5.3						
MTN				S	**Sn**	**19 40 15.8**	**+1.8**
	baz=5.3						
KDU	**Kakadu**	**6.04**	**145**	P	**Pn**	**19 39 17.8**	**+0.1**
	baz=5.8						
KDU				S	**Sn**	**19 40 26.1**	**+0.2**
	baz=5.8						
KNRA	**Kununurra**	**7.93**	**181**	P	**Pn**	**19 39 44.4**	**+1.5**
	baz=7.6						
KNRA				S	**Sn**	**19 41 09.9**	**-1.5**
	baz=7.6						
FITZ	**Fitzroy Crossi**	**10.83**	**197**	P	**Pn**	**19 40 23.1**	**+1.7**
	baz=10						
FITZ				S	**Sn**	**19 42 18.8**	**-2.5**
	baz=10						
WRA	**Warramunga Arr**	**13.24**	**157**	Pn	**Pn**	**19 40 53.2**	**+0.5**
	0.1nm,0.3s,baz=343,slow=10,SNR=7.1						
WRA				Sn	**Sn**	**19 43 12.2**	**-7.1**
	0.4nm,0.3s,baz=342,slow=22,SNR=8.8 0.3nm,0.6s						
WB2	**Warramunga Arr**	**13.25**	**157**	P	**Pn**	**19 40 53.6**	**+0.8**
	baz=13						
WB2				S	**Sn**	**19 43 20.5**	**+1.1**
	baz=13						
ASAR	**Alice Springs**	**16.57**	**164**	P	**Pn**	**19 41 35.8**	**+1.6**
	0.1nm,0.3s,baz=338,slow=10,SNR=12						
ASAR				S	**S**	**19 44 37.0**	**-1.4**
	0.4nm,0.8s,baz=357,slow=31,SNR=1.7 0.3nm,0.4s						
MKAR	**Makanchi Array**	**68.25**	**327**	P	**P**	**19 48 33.5**	**-1.4**
	0.1nm,0.4s,baz=108,slow=8.1,SNR=4.6 0.1nm,0.4s						

*IDC **15** 19:40:01.1±2.9,36°.22N×70°.78E,h183km±24km,mb3.5/13, mbtmp4.0/19,Error ellipse: s-maj=21.5km s-min=15.8km az=171.0*

*NNC **15** 19:40:10.8±3.8,36°.96N×70°.92E,h238km±52km,mb3.2, mpv4.4,Error ellipse: s-maj=39.9km s-min=33.0km az=3.0*

ISC 15 19:40:02.3±1.0,36°.37N±0°.10×70.79E±0°.10,h188km,n34, σ1§52/38,mb3.7/12,5C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.18**	**21**	P	**Pn**	**19 41 33.8**	**+1.7**
	SNR=182						
AML	**Almayashu**	**6.18**	**21**	⇓P	**Pn**	**19 41 33.9**	**+1.7**
	9.0nm,0.5s						
AML				⇓S	**Sn**	**19 42 41.6**	**-1.4**
	22nm,0.6s						
UCH	**Uchtor**	**6.53**	**25**	P	**Pn**	**19 41 38.3**	**+1.7**
	SNR=71						
KZA	**Kyzart**	**6.67**	**30**	P	**Pn**	**19 41 40.2**	**+1.6**
	SNR=6.0						
EKS2	**Erkin-Say**	**6.70**	**19**	P	**Pn**	**19 41 40.5**	**+1.9**
	SNR=15						
KK31	**Karatay Array**	**6.73**	**358**	⇑P	**Pn**	**19 41 40.0**	**+1.1**
	10nm,0.4s,baz=189,slow=19,SNR=95						
KK31				⇑S	**Sn**	**19 42 52.2**	**-3.1**
	11nm,0.5s,baz=182,slow=21,SNR=6.0						
AAK	**Ala-Archa**	**6.89**	**23**	P	**Pn**	**19 41 43.1**	**+2.0**
	SNR=23						
AAK	**Ala-Archa**	**6.89**	**23**	P	**Pn**	**19 41 43.0**	**+2.0**
	15nm,0.3s,baz=199,slow=7.3,SNR=128						
AAK				S	**Sn**	**19 42 58.3**	**-1.0**
	18nm,0.6s,baz=338,slow=21,SNR=8.1						
KBK	**Karagaybulak**	**7.06**	**26**	P	**Pn**	**19 41 45.3**	**+2.0**
	SNR=22						
ULHL	**Ulahol**	**7.24**	**34**	P	**Pn**	**19 41 47.6**	**+1.9**
	SNR=6.9						
CHMS	**Chumysh**	**7.29**	**24**	P	**Pn**	**19 41 48.2**	**+1.9**
	SNR=6.2						
USP	**Ospenovka**	**7.46**	**21**	P	**Pn**	**19 41 50.0**	**+1.6**
	SNR=6.4						
TKM2	**Tokmak 2**	**7.52**	**28**	P	**Pn**	**19 41 51.1**	**+1.7**
	SNR=25						
TKM2	**Tokmak 2**	**7.52**	**28**	⇑P	**Pn**	**19 41 51.1**	**+1.7**
	46nm,0.7s						
TKM2				⇑S	**Sn**	**19 43 10.4**	**-4.0**
	15nm,1.1s						
GEYT	**Alibeck**	**10.23**	**283**	P	**Pn**	**19 42 24.7**	**-0.1**
	0.8nm,0.5s,baz=92,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**13.50**	**36**	P	**Pn**	**19 43 06.7**	**+0.3**
	1.1nm,0.7s,baz=216,slow=9.6,SNR=19						
AB31	**Akbulak array**	**15.12**	**332**	⇓P	**Pn**	**19 43 26.5**	**+0.2**
	1.4nm,0.4s,baz=146,slow=12,SNR=53						
KURBB	**Kurchatov Arra**	**15.30**	**19**	P	**Pn**	**19 43 28.5**	**0.0**
	0.8nm,0.4s,baz=209,slow=10,SNR=9.9						
BVAR	**Borovoye Array**	**16.66**	**359**	P	**P**	**19 43 44.5**	**+0.5**
	1.4nm,0.4s,baz=153,slow=8.9,SNR=13						
AKTO	**Aktyubinsk**	**16.81**	**331**	⇑P	**Pn**	**19 43 47.2**	**+0.4**
	3.5nm,0.5s						
AKTO	**Aktyubinsk**	**16.81**	**331**	P	**Pn**	**19 43 46.8**	**+0.1**
	9.7nm,0.5s,baz=144,slow=8.1,SNR=42						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**19 44 22.3**	**+0.9**
	4.0nm,0.5s,baz=216,slow=12,SNR=14 4.0nm,0.5s						
ARU	**Arti**	**21.70**	**341**	P	**P**	**19 44 38.8**	**+0.5**
	5.5nm,0.5s,baz=144,slow=9.3,SNR=12 5.5nm,0.5s						
AKASG	**Malin Array Be**	**32.90**	**309**	P	**P**	**19 46 18.6**	**+0.2**
	0.4nm,0.5s,baz=82,slow=6.8,SNR=4.9 0.4nm,0.5s						
NRIK	**Noril'sk**	**34.29**	**10**	P	**P**	**19 46 31.5**	**+1.3**
	4.6nm,0.4s,baz=204,slow=6.3,SNR=6.3 4.6nm,0.4s						
FINES	**FINESS Array B**	**37.50**	**326**	P	**P**	**19 46 57.9**	**+0.4**
	1.2nm,0.4s,baz=122,slow=9.7,SNR=14 1.2nm,0.4s						
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**19 47 28.9**	**+0.8**
	4.4nm,0.8s,baz=106,slow=7.7,SNR=7.9 4.4nm,0.8s						
HFS	**Hagfors**	**43.06**	**322**	P	**P**	**19 47 43.2**	**0.0**
	1.8nm,0.5s,baz=98,slow=11,SNR=8.6 1.8nm,0.5s						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**19 47 53.4**	**-0.4**
	0.7nm,0.5s,baz=108,slow=7.2,SNR=4.5 0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.54**	**269**	P	**P**	**19 50 24.4**	**-1.5**
	1.3nm,0.5s,baz=44,slow=6.0,SNR=13 1.3nm,0.5s						
ILAR	**Eielson Array**	**74.95**	**16**	P	**P**	**19 51 21.6**	**-0.7**
	0.5nm,0.9s,baz=297,slow=4.6,SNR=6.3 0.5nm,0.9s						
YKA	**Yellowknife Ar**	**81.39**	**3**	P	**P**	**19 51 57.8**	**+0.1**
	0.6nm,0.7s,baz=349,slow=5.5,SNR=13 0.6nm,0.7s						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**19 52 01.0**	**-0.9**
	0.3nm,0.5s,baz=328,slow=4.9,SNR=2.3 0.3nm,0.5s						
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**19 52 12.6**	**-0.7**
	0.3nm,0.6s,baz=314,slow=4.5,SNR=2.0 0.3nm,0.6s						

NEIC 15 20:21:38.7±0.9,37.40N±0°.02×97.42W±0°.02,h5km±1km, mb_Lg2.3/14,ML2.6/30,Error ellipse: s-maj=3.6km

s-min=2.6km az=55.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KS21	**Milan North St**	**0.23**	**240**	Pg	Pg	20 21 43.7	+0.6
KS21				Sg	Sg	20 21 47.1	+1.1
KS21	**Milan North St**	**0.23**	**240**	IAML		20 21 47.3	
	2μm,0.2s						
KS21				IAML		20 21 47.3	
	3μm,0.2s						
KAN09	**Caldwell North**	**0.31**	**211**		Pg	20 21 45.4	+0.7
KAN09				IAML		20 21 52.7	
	comp=N,956nm,0.3s						
KAN09				IAML		20 21 53.4	
	comp=E,827nm,0.2s						
KAN01	**Argonia South**	**0.37**	**228**	Pg	Pg	20 21 46.3	+0.5
KAN01				Sg	Sg	20 21 51.6	+1.0
KAN01				IAML		20 21 51.9	
	comp=E,550nm,0.4s						
KAN01				IAML		20 21 51.9	
	comp=N,882nm,0.2s						
KAN06	**Argonia West S**	**0.38**	**247**	Pg	Pg	20 21 46.5	+0.4
KAN06					Sg	20 21 51.9	+0.8
KAN06				IAML		20 21 52.4	
	comp=N,568nm,0.3s						
KAN13	**South Haven SW**	**0.39**	**187**	Pg	Pg	20 21 46.7	+0.5
KAN13				IAML		20 21 56.0	
	comp=E,484nm,0.3s						
KAN13				IAML		20 21 59.5	
	comp=N,663nm,0.4s						
KAN17	**Caldwell West**	**0.45**	**218**	Pg	Pg	20 21 47.9	+0.6
KAN17				IAML		20 21 59.9	
	comp=E,593nm,0.3s						
KAN17				IAML		20 22 00.1	
	comp=N,522nm,0.3s						
KAN05	**Bluff City Nor**	**0.46**	**231**	Sg	Sg	20 21 54.8	+1.1
KAN08	**Anthony NE Sta**	**0.47**	**249**	Sg	Sg	20 21 54.9	+1.0
KAN12	**Harper NE Stat**	**0.47**	**258**		Pg	20 21 48.2	+0.4
KAN12				Sg	Sg	20 21 54.8	+0.8
KAN12				IAML		20 22 01.3	
	comp=E,746nm,0.3s						
KAN14	**Manchester OK**	**0.62**	**225**	Pg	Pg	20 21 51.1	+0.5
GC02	**Grant County #**	**0.65**	**213**		Pg	20 21 51.6	+0.4
BLOK	**Blackwell**	**0.66**	**166**	Pg	Pg	20 21 51.5	+0.1
BLOK				IAML		20 22 01.4	
	comp=E,318nm,0.3s						
BLOK				IAML		20 22 09.7	
	comp=N,339nm,0.2s						
OK032	**Salt Plains WL**	**0.87**	**227**	Pg	Pg	20 21 53.9	-1.5
T35A	**Sooner Cattle**	**0.87**	**123**		Pg	20 21 55.6	+0.2
CROK	**Carrier**	**1.00**	**207**		Pg	20 21 58.0	+0.1
CROK				IAML		20 22 20.9	
	comp=E,208nm,0.2s						
CROK				IAML		20 22 21.3	
	comp=N,193nm,0.3s						
OK051	**E0350 and S346**	**1.01**	**152**	Pg	Pb	20 21 58.9	+0.2
OK048	**Pawnee Station**	**1.05**	**159**	Pg	Pg	20 21 59.1	+0.2
OK048				IAML		20 22 16.5	
	comp=N,206nm,0.2s						
OK048				IAML		20 22 19.5	
	comp=N,173nm,0.2s						
QUOK	**Quay**	**1.35**	**155**		Pn	20 22 04.2	0.0
OK038	**West end E0370**	**1.40**	**229**		Pn	20 22 04.0	-0.9
OK033	**Mehan**	**1.41**	**164**		Pn	20 22 04.3	-0.7
R32A	**Long Quarter,**	**1.45**	**315**	Pg	Pn	20 22 05.8	+0.3
OK052	**Battle Ridge R**	**1.49**	**160**		Pn	20 22 05.8	-0.3
OK029	**Liberty Lake**	**1.60**	**181**		Pn	20 22 06.0	-1.6
OK029				IAmb_Lg		20 22 29.9	
	comp=Z,14nm,0.8s						
U32A	**Winter Ranch,**	**1.63**	**232**	Pg	Pb	20 22 09.0	-0.2
DEOK	**Depew**	**1.72**	**154**		Pn	20 22 08.3	-1.0
ADOK	**Arcadia Dam**	**1.74**	**179**	Pn	Pn	20 22 08.0	+0.2
KSU1	**Kansas State U**	**1.81**	**20**		Pb	20 22 11.7	-0.7
KSU1				IAmb_Lg		20 22 40.4	
	comp=Z,10nm,0.8s						
TUL3	**Leonard**	**1.98**	**138**	Pn	Pn	20 22 12.6	-0.2
CSTR	**Hydro, Custer**	**2.03**	**211**		Pn	20 22 12.4	-1.2
ELIS	**Ellis County**	**2.09**	**231**	Pn	Pn	20 22 12.9	-1.4
FNO	**Franklin**	**2.14**	**180**	IAmb_Lg		20 22 46.3	
	comp=Z,10nm,0.9s						
RLO	**Rose Lookout**	**2.28**	**122**	Pn	Pn	20 22 16.7	-0.3
CBKS	**Cedar Bluff**	**2.31**	**308**	Pn	Pn	20 22 17.0	-0.5
CBKS				IAmb_Lg		20 22 56.1	
	comp=Z,18nm,0.8s						
U38A	**Gravette**	**2.61**	**111**		Pn	20 22 21.3	-0.3
HHAR	**Hobbs**	**3.00**	**111**	Pn	Pn	20 22 27.2	+0.3
S39A	**Bolivar**	**3.27**	**84**		Pn	20 22 30.7	+0.1
S39A				IAmb_Lg		20 23 21.0	
	comp=Z,6.1nm,1.1s						
MGMO	**Mountain Grove**	**4.11**	**92**	IAmb_Lg		20 23 48.6	
	comp=Z,18nm,0.8s						
R40A	**Maddies Statio**	**4.17**	**76**	IAmb_Lg		20 23 53.2	
	comp=Z,15nm,0.8s						
T25A	**Trinidad**	**5.58**	**269**	IAmb_Lg		20 24 39.4	
	comp=Z,5.5nm,0.8s						

*AFAD **15** 20:24:10.0±0.0,38°.13N×23°.84E,h13km±32km,MW4.2*

*IDC **15** 20:24:12.1±0.5,38°.16N×23°.87E,h0km,mb4.1/26, mbtmp4.0/36,ML3.5/10,MS3.1/2,Error ellipse: s-maj=12.4km s-min=10.4km az=148.0*

*ISK **15** 20:24:12.6,38°.19N×23°.96E,h4km,ML4.0/40*

*MOS **15** 20:24:12.9±0.9,38°.14N×23°.95E,h12km,mb4.6/17,Error ellipse: s-maj=5.8km s-min=3.0km az=91.0*

*PDG **15** 20:24:13.9±0.5,38°.16N×23°.97E,h16km,ML4.3/12,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*

*THE **15** 20:24:14.9,38°.17N×23°.85E,h12km±2km,ML4.5/8,Error ellipse: s-maj=4.1km s-min=0.7km az=120.0*

*NEIC **15** 20:24:14.8±2.7,38°.20N±0°.04×23°.94E±0°.06,h10km±1km, mb4.3/23,Error ellipse: s-maj=8.5km s-min=7.0km az=286.0*

*MED_RC **15** 20:24:14.0±0.7,38°.07N×24°.02E,h18km±2km,MW4.2/7, Moment Tensor Solution.Mantle waves: s7,c8; Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; Mrr=-2.71±.52; Mθθ2.00±.42; Mϕϕ0.71±.29; Mrθ0.27±.58; Mϕϕ-1.07±.14; Mrϕ1.30±.45; Best double couple: M₀2.93000×10¹⁵ NP1:ϕs140.00000°,δ53.00000°,λ-64.00000°. NP2: ϕs281.00000°,δ44.00000°,λ-120.00000°. Principal axes: T 2.6400, Plg5.0000°, Azm212.0000°; N 0.5800, Plg21.0000°, Azm304.0000°; P -3.2200, Plg69.0000°, Azm109.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*ATH **15** 20:24:14.5,38°.14N×23°.95E,h9km,Mw4.1,Moment Tensor Solution. s9 Moment tensor: Mrr-1.65; Mθθ1.67; Mϕϕ-0.02; Mrθ0.05; Mϕϕ-0.53; Mrr0.14; Fault plane solution: NP1:ϕs280.00000°,δ45.00000°,λ-98.00000°. NP2:ϕs112.00000°,δ45.00000°,λ-82.00000°.*

*TIR **15** 20:24:16.4,38°.39N×23°.96E,h50km±35km,Ml4.1*

*NAO **15** 20:24:34.3,39°.23N×20°.54E,h33km,mb3.6*

ISC 15 20:24:14.3±0.5,38°.15N±0°.02×23°.92E±0°.02,h14km±3km, n433,σ1§41/498,mb4.3/52,58C-29D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DION	**Dionisos Attik**	**0.08**	**172**	P	**Pg**	**20 24 18.0**	**+0.8**
DION				S	**Sg**	**20 24 19.7**	**+0.5**
	1854μm,0.3s						
DION	**Dionisos Attik**	**0.08**	**172**	P	**Pg**	**20 24 17.6**	**+0.5**
DION				S	**Sg**	**20 24 19.3**	**+0.2**
DION				AML	AML	20 24 19.8	
DION				AML	AML	20 24 19.9	
PTL	**Penteli**	**0.11**	**203**	P	**Pb**	**20 24 18.4**	**0.0**
PTL				S	**Sg**	**20 24 20.3**	**+0.4**
PTL	**Penteli**	**0.11**	**203**	P	**Pb**	**20 24 18.1**	**-0.2**
PTL				S	**Sg**	**20 24 19.6**	**-0.2**
ATHU	**Athens Univers**	**0.22**	**210**	P	**Pg**	**20 24 18.8**	**-0.3**
ATHU				S	**Sg**	**20 24 21.8**	**-0.6**
ATHU				AML	AML	20 24 22.2	
ATHU				AML	AML	20 24 22.3	
	comp=E,66063μm,0.3s						
ATH	**Athens Observa**	**0.24**	**222**	P	**Pg**	**20 24 19.5**	**0.0**
ATH				S	**Sg**	**20 24 23.2**	**+0.2**
	comp=E,326μm,0.2s						
ATH	**Athens Observa**	**0.24**	**222**	P	**Pg**	**20 24 19.5**	**0.0**
ATH				S	**Sg**	**20 24 23.2**	**+0.2**
ATH	**Athens Observa**	**0.24**	**222**	P	**Pg**	**20 24 19.5**	**0.0**
ATH				S	**Sg**	**20 24 23.0**	**0.0**
ATH				AML	AML	20 24 23.4	
ATH				AML	AML	20 24 23.4	
VLY	**Voula,Athens**	**0.32**	**198**	P	**Pg**	**20 24 20.6**	**-0.2**
VLY	**Voula,Athens**	**0.32**	**198**	P	**Pg**	**20 24 20.6**	**-0.2**
VLY				S	**Sg**	**20 24 24.5**	**-0.8**
VLY				AML	AML	20 24 25.4	
VLY				AML	AML	20 24 26.1	
KYMI	**Kymi, Euboea I**	**0.50**	**16**	P	**Pb**	**20 24 24.7**	**-0.2**
KYMI				S	**Sb**	**20 24 31.8**	**-0.3**
KYMI				AML	AML	20 24 34.9	
	comp=E,71490μm,0.4s						
KYMI				AML	AML	20 24 35.5	
VIL2	**Platees**	**0.52**	**277**	P	**Pg**	**20 24 24.1**	**-0.4**
VIL2				S	**Sg**	**20 24 30.4**	**-1.0**
VIL2				AML	AML	20 24 37.2	
VIL2				AML	AML	20 24 38.3	
	comp=N,81886μm,0.4s						
LOUT	**Loutraki**	**0.77**	**258**	P	**Pg**	**20 24 28.9**	**-0.3**
SKY	**Skiros Island**	**0.88**	**34**	P	**Pn**	**20 24 31.6**	**-0.7**
SKY				S	**Sn**	**20 24 44.7**	**-0.2**
	comp=N,46μm,0.5s						
SKY	**Skiros Island**	**0.88**	**34**	P	**Pn**	**20 24 31.5**	**-0.8**
SKY				S	**Sn**	**20 24 44.9**	**0.0**
SKY				AML	AML	20 24 45.8	
	comp=N,70670μm,0.5s						
SKY				AML	AML	20 24 46.3	
YDRA	**Hydra**	**0.88**	**204**	P	**Pg**	**20 24 30.4**	**-0.9**
YDRA				S	**Sb**	**20 24 43.4**	**+0.4**
YDRA				AML	AML	20 24 44.9	
YDRA				AML	AML	20 24 45.2	
KRND	**KRANIDI**	**0.98**	**219**	P	**Pb**	**20 24 32.7**	**-0.5**
KRND				S	**Sn**	**20 24 47.6**	**+0.1**
	comp=N,22μm,0.5s						
KRND	**KRANIDI**	**0.98**	**219**	P	**Pb**	**20 24 32.7**	**-0.5**
KRND				S	**Sg**	**20 24 46.0**	**-0.1**
KRND				AML	AML	20 24 50.9	
	comp=E,42975μm,0.5s						
KRND				AML	AML	20 24 52.0	
	comp=N,42866μm,0.5s						
ALNA	**Alonissos**	**0.99**	**358**	P	**Pg**	**20 24 33.2**	**-0.3**
ALNA				S	**Sn**	**20 24 47.3**	**-0.4**
ALNA				AML	AML	20 24 51.4	
	comp=N,47897μm,0.7s						
ALNA				AML	AML	20 24 54.3	
	comp=E,66711μm,0.9s						
THAL	**Thalero**	**1.00**	**264**	P	**Pb**	**20 24 33.5**	**0.0**
THAL				S	**Sb**	**20 24 46.5**	**+0.1**
THAL				AML	AML	20 24 51.2	
	comp=N,55408μm,0.3s						
THAL				AML	AML	20 24 56.0	
	comp=E,39196μm,0.3s						
TNSA	**Tinos**	**1.16**	**122**	P	**Pb**	**20 24 35.1**	**-1.0**
AXAR	**Agios Charalam**	**1.16**	**302**	P	**Pb**	**20 24 35.9**	**-0.4**
AXAR				S	**Sg**	**20 24 52.2**	**+0.2**
AXAR				AML	AML	20 24 57.6	
	comp=N,74397μm,0.3s						
AXAR				AML	AML	20 25 03.1	
	comp=E,45102μm,0.4s						
DLFA	**Delphi**	**1.17**	**287**	P	**Pn**	**20 24 35.6**	**-0.7**
DLFA				S	**Sb**	**20 24 52.1**	**+0.7**
DLFA				AML	AML	20 24 55.1	
	comp=E,14737μm,0.4s						
DLFA				AML	AML	20 25 01.2	
	comp=N,17977μm,0.6s						
GUR	**Goura**	**1.27**	**261**	P	**Pn**	**20 24 37.7**	**-0.1**
GUR				S	**Sb**	**20 24 53.7**	**-0.6**
GUR				AML	AML	20 24 56.1	
	comp=N,29799μm,0.5s						
GUR				AML	AML	20 24 58.9	
	comp=E,38583μm,0.3s						
NEO	**Neokhori**	**1.27**	**335**	P	**Pn**	**20 24 37.9**	**+0.1**
NEO				S	**Sn**	**20 24 54.9**	**+0.1**
	comp=E,22μm,0.3s						
NEO	**Neokhori**	**1.27**	**335**	P	**Pn**	**20 24 37.9**	**+0.1**
NEO				AML	AML	20 25 00.4	
	comp=E,26799μm,0.4s						
NEO				AML	AML	20 25 00.5	
	comp=N,51892μm,0.3s						
XOR	**Xorichti**	**1.34**	**335**	P	**Pn**	**20 24 38.6**	**-0.1**
XOR				S	**Sb**	**20 24 55.1**	**-1.2**
	comp=N,9μm,0.4s						
XOR	**Xorichti**	**1.34**	**335**	P	**Pn**	**20 24 38.6**	**-0.1**
XOR				AML	AML	20 25 00.3	
	comp=N,22032μm,0.5s						
XOR				AML	AML	20 25 04.2	
	comp=E,14057μm,0.4s						
PSRA	**Psara**	**1.35**	**73**	P	**Pn**	**20 24 38.3**	**-0.5**
PSRA				AML	AML	20 24 59.1	
	comp=N,11754μm,0.8s						
PSRA				AML	AML	20 25 00.3	
	comp=E,21118μm,0.7s						
KLV	**Kalavryta, Ach**	**1.40**	**266**	P	**Pn**	**20 24 39.4**	**-0.2**
KLV				S	**Sn**	**20 24 56.0**	**-1.9**
	comp=E,3μm,0.5s						
KLV	**Kalavryta, Ach**	**1.40**	**266**	P	**Pn**	**20 24 39.4**	**-0.2**
KLV				S	**Sn**	**20 24 57.9**	**0.0**
KLV				AML	AML	20 25 03.4	
	comp=E,5432μm,0.6s						
KLV				AML	AML	20 25 10.3	
	comp=N,3396μm,0.7s						
MHLO	**Agia Marina, M**	**1.51**	**165**	P	**Pn**	**20 24 41.1**	**+0.1**
MHLO				AML	AML	20 25 06.5	
	comp=E,68125μm,0.5s						
MHLO				AML	AML	20 25 08.0	
	comp=N,38646μm,0.5s						
AGG	**Agios Georgios**	**1.52**	**305**	Pn	**Pn**	**20 24 41.5**	**+0.3**
AGG				Sn	**Sb**	**20 25 02.1**	**+0.6**
AGG	**Agios Georgios**	**1.52**	**305**	Pn	**Pb**	**20 24 42.0**	**-0.4**
AGG	**Agios Georgios**	**1.52**	**305**	P	**Pb**	**20 24 42.2**	**-0.2**
AGG				S	**Sn**	**20 25 00.6**	**-0.2**
AGG	**Agios Georgios**	**1.52**	**305**	P	**Pb**	**20 24 42.0**	**-0.4**
AGG	**Agios Georgios**	**1.52**	**305**	P	**Pb**	**20 24 41.9**	**-0.4**
EFP	**Efpalio**	**1.61**	**280**	P	**Pn**	**20 24 43.0**	**+0.6**
EFP				AML	AML	20 25 15.3	
	comp=E,7713μm,0.4s						
EFP				AML	AML	20 25 19.6	
	comp=N,8649μm,0.8s						
EFSA	**Agios Efstrati**	**1.62**	**31**	P	**Pn**	**20 24 41.5**	**-0.9**
MNVA	**Monemvasia**	**1.62**	**206**	P	**Pn**	**20 24 43.4**	**-0.7**
MNVA				AML	AML	20 25 11.0	
	comp=E,12246μm,0.5s						
MNVA				AML	AML	20 25 12.9	
	comp=N,9079μm,0.7s						
ANX	**Ano Chora**	**1.63**	**286**	P	**Pn**	**20 24 43.5**	**+0.7**
ANX				AML	AML	20 25 16.5	
	comp=E,14184μm,0.6s						
ANX				AML	AML	20 25 17.8	
	comp=N,18897μm,0.8s						
VLI	**Veliai**	**1.63**	**209**	P	**Pn**	**20 24 42.3**	**-0.4**
VLI				S	**Sn**	**20 25 00.2**	**-3.3**
	comp=N,9μm,0.5s						
VLI	**Veliai**	**1.63**	**209**	P	**Pn**	**20 24 42.3**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.64**	**302**	P	**Pb**	**20 24 43.9**	**-0.5**
MAKR				AML	AML	20 25 13.5	
	comp=N,12631μm,0.6s						
MAKR				AML	AML	20 25 18.3	
	comp=E,8921μm,0.5s						
APE	**Apeiranthos**	**1.68**	**130**	Pn	**Pn**	**20 24 42.9**	**-0.4**
APE				Sn	**Sb**	**20 25 06.2**	**+0.2**

LIA	**Limnos Island**	**2.00**	**29**	P		**Pn**	**20 24 47.0**	**-0.7**
LIA				AML		AML	20 25 20.7	
	comp=E,9915µm,0.7s							
LIA				AML		AML	20 25 21.2	
	comp=N,8268µm,0.7s							
KARB	**zmir-Karabur**	**2.02**	**75**	P		**Pb**	**20 24 50.8**	**-0.1**
KARB				S		**Sg**	**20 25 17.8**	**-1.6**
TYRN	**Tyrnavos**	**2.04**	**320**	P		**Pn**	**20 24 48.8**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**2.04**	**87**	P		**Pn**	**20 24 48.0**	**-0.2**
THL	**Klokotos Trika**	**2.05**	**314**	P		**Pn**	**20 24 48.3**	**-0.2**
THL				AML		AML	20 25 29.0	
	comp=N,1475µm,0.6s							
THL				AML		AML	20 25 30.4	
	comp=E,1452µm,0.6s							
CMBO	**Columbo, Santo**	**2.06**	**144**	P		**Pn**	**20 24 48.5**	**0.0**
THR5	**Thira Island,**	**2.07**	**146**	P		**Pn**	**20 24 48.7**	**-0.1**
THR2	**Thira island,**	**2.09**	**144**	P		**Pn**	**20 24 49.4**	**+0.4**
THR9	**Santorini-Faro**	**2.13**	**147**	P		**Pn**	**20 24 49.4**	**-0.1**
PRK	**Paraskevi**	**2.14**	**59**	P		**Pn**	**20 24 49.6**	**-0.1**
PYL	**PYLOS**	**2.14**	**235**	P		**Pn**	**20 24 50.8**	**+1.1**
PYL				AML		AML	20 25 27.2	
	comp=E,4956µm,0.6s							
PYL				AML		AML	20 25 35.6	
	comp=N,3359µm,0.9s							
GPNR	**Gulpinar-Canak**	**2.16**	**52**	Pn		**Pn**	**20 24 50.1**	**+0.1**
GPNR	**Gulpinar-Canak**	**2.16**	**52**	P		**Pn**	**20 24 46.2**	**-3.8**
OUR	**Ouranopolis**	**2.18**	**1**	Pn		**Pn**	**20 24 50.3**	**+0.1**
OUR	**Ouranopolis**	**2.18**	**1**	P		**Pn**	**20 24 50.0**	**-0.2**
KOCA	**Canakkale, Ayv**	**2.19**	**51**	P		**Pn**	**20 24 49.5**	**-0.9**
FOCM	**Foa**	**2.28**	**75**	Pn		**Pn**	**20 24 51.3**	**-0.2**
FOCM	**Foa**	**2.28**	**75**	P		**Pb**	**20 24 54.5**	**-0.8**
ANKY	**Antikythira Is**	**2.34**	**192**	P		**Pn**	**20 24 51.9**	**-0.5**
ANKY				AML		AML	20 25 35.0	
	comp=N,6116µm,0.5s							
ANKY				AML		AML	20 25 35.2	
	comp=E,5898µm,0.8s							
DGB	**zmir**	**2.34**	**92**	P		**Pn**	**20 24 52.3**	**-0.1**
SMG	**Samos**	**2.35**	**100**	P		**Pn**	**20 24 52.4**	**-0.2**
SMG				AML		AML	20 25 19.9	
	comp=N,2135µm,0.6s							
SMG				AML		AML	20 25 41.5	
	comp=E,1460µm,0.5s							
GMLD	**Gumuldur**	**2.36**	**91**	Pn		**Pn**	**20 24 52.6**	**-0.1**
BOZC	**Bozcaada**	**2.37**	**44**	P		**Pn**	**20 24 51.1**	**-1.7**
AYVA	**Ayvalik**	**2.45**	**61**	P		**Pn**	**20 24 54.1**	**+0.2**
BLCB	**Balcova**	**2.47**	**84**	Pn		**Pn**	**20 24 54.3**	**+0.1**
BLCB	**Balcova**	**2.47**	**84**	P		**Pn**	**20 24 54.5**	**+0.3**
LTHK	**Lithakia**	**2.48**	**261**	P		**Pn**	**20 24 56.2**	**+1.9**
LTHK				AML		AML	20 25 43.8	
	comp=N,4846µm,1.5s							
LTHK				AML		AML	20 25 46.6	
	comp=E,4484µm,0.7s							
RFT7	**Candarli**	**2.48**	**70**	Pn		**Pn**	**20 24 54.3**	**-0.1**
EZN	**Ezine**	**2.51**	**48**	Pn		**Pn**	**20 24 54.7**	**0.0**
EZN	**Ezine**	**2.51**	**48**	P		**Pn**	**20 24 55.1**	**+0.3**
EZN	**Ezine**	**2.51**	**48**	P		**Pn**	**20 24 54.7**	**0.0**
DKL	**Dikili**	**2.51**	**68**	Pn		**Pn**	**20 24 54.7**	**-0.1**
DKL	**Dikili**	**2.51**	**68**	P		**Pb**	**20 24 57.2**	**-2.0**
HORT	**Hortiatis**	**2.52**	**346**	Pn		**Pn**	**20 24 55.6**	**+0.6**
HORT	**Hortiatis**	**2.52**	**346**	P		**Pn**	**20 24 55.4**	**+0.3**
HORT				AML		AML	20 25 25.9	
	comp=N,1608µm,0.6s							
HORT				AML		AML	20 25 26.1	
	comp=E,1735µm,0.6s							
THAS	**Thassos island**	**2.53**	**14**	P		**Pn**	**20 24 54.1**	**-0.8**
THAS				AML		AML	20 25 41.2	
	comp=N,798µm,0.4s							
THAS				AML		AML	20 25 41.5	
	comp=E,1324µm,0.6s							
GOAD	**anakkale-G¶**	**2.53**	**37**	P		**Pn**	**20 24 54.5**	**-0.6**
GADA	**Gvkgeada**	**2.55**	**36**	Pn		**Pn**	**20 24 55.2**	**-0.1**
ECEA	**Canakkale, Ece**	**2.58**	**42**	P		**Pn**	**20 24 56.9**	**+1.2**
THE	**Thessaloniki**	**2.58**	**344**	P		**Pn**	**20 24 56.4**	**+0.6**
THE	**Thessaloniki**	**2.58**	**344**	P		**Pn**	**20 24 56.0**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**2.59**	**51**	P		**Pn**	**20 24 54.5**	**-1.4**
VLS	**Valsamata**	**2.62**	**272**	P		**Pn**	**20 24 57.2**	**+0.8**
VLS				AML		AML	20 25 45.9	
	comp=E,1360µm,0.4s							
VLS				AML		AML	20 25 49.0	
	comp=N,2046µm,0.9s							
SMTH	**Samothraki Isl**	**2.63**	**28**	P		**Pn**	**20 24 55.2**	**-1.2**
SMTH				AML		AML	20 25 41.2	
	comp=N,738µm,0.6s							
SMTH				AML		AML	20 25 41.6	
	comp=E,649µm,0.6s							
CHAN	**Chania**	**2.63**	**178**	P		**Pn**	**20 24 55.7**	**-0.8**
LKD2	**Lefkada island**	**2.64**	**285**	P		**Pb**	**20 24 59.6**	**-1.8**
	baz=280							
LKD2				S		**Sn**	**20 25 31.6**	**+3.1**
	baz=280							
LKD2				AMP				
	comp=N,5.0nm,0.8s,baz=280							
FSK	**Fiskardo**	**2.66**	**278**	P		**Pn**	**20 24 58.5**	**+1.7**
FSK				AML		AML	20 25 48.7	
	comp=N,1882µm,0.7s							
FSK				AML		AML	20 25 50.9	
	comp=E,2450µm,0.6s							
GCAM	**G?zlcami?**	**2.66**	**99**	Pn		**Pn**	**20 24 57.2**	**+0.4**
GCAM	**G?zlcami?**	**2.66**	**99**	P		**Pn**	**20 24 56.6**	**-0.2**
KOKK	**Kokkinochori,**	**2.66**	**1**	P		**Pn**	**20 24 56.8**	**-0.1**
KPRO	**Kipouro**	**2.68**	**313**	P		**Pn**	**20 24 58.4**	**+1.2**
IMMV	**Iera Moni Meta**	**2.69**	**179**	P		**Pn**	**20 24 57.2**	**-0.1**
IMMV				AML		AML	20 25 37.4	
	comp=E,7135µm,1.0s							
IMMV				AML		AML	20 25 47.3	
	comp=N,4979µm,0.5s							
SOH	**Sokhos**	**2.70**	**351**	P		**Pn**	**20 24 56.8**	**-0.6**
KEF4	**Livadi, Kephal**	**2.76**	**273**	P		**Pn**	**20 24 59.4**	**+1.3**
COMU	**Canakkale**	**2.78**	**45**	Pn		**Pn**	**20 24 58.4**	**-0.1**
DMLN	**Damoulianata-K**	**2.80**	**273**	P		**Pn**	**20 24 59.3**	**+0.6**
KEF3	**Kipouria, Keph**	**2.81**	**272**	P		**Pn**	**20 25 00.4**	**+1.5**
BODT	**Bodrum**	**2.90**	**111**	Pn		**Pn**	**20 25 00.9**	**+0.7**
IDI	**Anoyia**	**2.96**	**164**	P		**Pn**	**20 25 00.5**	**-0.5**
IDI				AML		AML	20 25 46.3	
	comp=N,1184µm,0.5s							
IDI				AML		AML	20 25 52.3	
	comp=E,1638µm,0.8s							
SRS	**Serrai**	**2.97**	**355**	P		**Pn**	**20 25 01.4**	**+0.3**
SRS	**Serrai**	**2.97**	**355**	P		**Pn**	**20 25 01.3**	**+0.1**
SRS				AML		AML	20 25 52.0	
	comp=E,578µm,1.1s							
SRS				AML		AML	20 25 57.6	
	comp=N,685µm,1.4s							
GELI	**Tayfur-Gelibol**	**2.99**	**41**	Pn		**Pn**	**20 25 01.7**	**+0.3**
ENZZ	**Sultanice-Enez**	**2.99**	**34**	Pn		**Pn**	**20 25 01.1**	**-0.3**
GRG	**Griva**	**3.04**	**338**	Pn		**Pn**	**20 25 02.9**	**+0.9**
GRG	**Griva**	**3.04**	**338**	P		**Pn**	**20 25 02.5**	**+0.4**
GRG	**Griva**	**3.04**	**338**	P		**Pn**	**20 25 02.4**	**+0.4**
CANM	**Can-anakkale**	**3.06**	**52**	Pn		**Pn**	**20 25 02.5**	**+0.1**
ENEZ	**Enez**	**3.10**	**33**	Pn		**Pn**	**20 25 03.4**	**+0.5**
KNT	**Kendrikon**	**3.11**	**346**	Pn		**Pn**	**20 25 03.4**	**+0.4**
KNT	**Kendrikon**	**3.11**	**346**	P		**Pn**	**20 25 04.2**	**+1.2**
KNT	**Kendrikon**	**3.11**	**346**	P		**Pn**	**20 25 03.9**	**+0.9**
LPK	**Lapseki**	**3.12**	**44**	Pn		**Pn**	**20 25 03.6**	**+0.4**
NEST	**Nestorio**	**3.17**	**316**	P		**Pn**	**20 25 05.8**	**+1.8**
NEST				AML		AML	20 26 16.3	
	comp=N,1012µm,1.1s							
NEST				AML		AML	20 26 19.3	
	comp=E,990µm,1.3s							
MLSB	**Milas**	**3.17**	**104**	Pn		**Pn**	**20 25 04.8**	**+0.8**
ALN	**Alexandroupoli**	**3.19**	**30**	Pn		**Pn**	**20 25 04.2**	**0.0**
ALN	**Alexandroupoli**	**3.19**	**30**			**Pn**	**20 25 03.3**	**-0.9**
ALN	**Alexandroupoli**	**3.19**	**30**	P		**Pn**	**20 25 03.3**	**-0.9**
ERIK	**Erikli-Kesan**	**3.22**	**38**	Pn		**Pn**	**20 25 04.9**	**+0.4**
ERIK	**Erikli-Kesan**	**3.22**	**38**	P		**Pn**	**20 25 04.6**	**+0.1**
RDO	**Rodhopi**	**3.24**	**22**	Pn		**Pn**	**20 25 05.2**	**+0.4**
RDO	**Rodhopi**	**3.24**	**22**			**Pn**	**20 25 03.9**	**-0.9**
LSK	**Leskovik**	**3.26**	**309**	P		**Pn**	**20 25 08.3**	**+3.1**
	baz=306							
LSK				S		**Sn**	**20 25 45.5**	**+1.6**
	baz=306							
LSK				AMP				
	comp=N,6.7nm,0.7s,baz=306							
FNA	**Florina**	**3.28**	**324**	Pn		**Pn**	**20 25 06.2**	**+0.8**
FNA	**Florina**	**3.28**	**324**			**Pn**	**20 25 06.9**	**+1.5**
FNA	**Florina**	**3.28**	**324**	P		**Pn**	**20 25 07.1**	**+1.6**
	baz=322							
FNA				S		**Sn**	**20 25 44.6**	**+0.3**
	baz=322							
FNA				AMP				
	comp=N,0.5nm,0.5s,baz=322							
FNA	**Florina**	**3.28**	**324**	P		**Pn**	**20 25 07.0**	**+1.6**
FNA	**Florina**	**3.28**	**324**	P		**Pn**	**20 25 06.9**	**+1.5**
FNA	**Florina**	**3.28**	**324**	P		**Pn**	**20 25 07.0**	**+1.6**
VAY	**Valandovo**	**3.33**	**342**	P		**Pn**	**20 25 07.4**	**+1.4**
VAY	**Valandovo**	**3.33**	**342**	*i* Pn		**Pn**	**20 25 07.5**	**+1.4**
MMB	**Musomishta**	**3.39**	**358**	P		**Pn**	**20 25 07.8**	**+0.9**
BALB	**Balikesir**	**3.43**	**63**	Pn		**Pn**	**20 25 07.9**	**+0.5**
BALB	**Balikesir**	**3.43**	**63**			**Pn**	**20 25 08.5**	**+1.1**
KRBG	**Karabiga-Canak**	**3.44**	**48**	Pn		**Pn**	**20 25 07.8**	**+0.2**
KRBG	**Karabiga-Canak**	**3.44**	**48**	P		**Pn**	**20 25 07.3**	**-0.3**
KBN	**Korca**	**3.46**	**316**	Pn		**Pn**	**20 25 10.4**	**+2.5**
KBN	**Korca**	**3.46**	**316**	P		**Pn**	**20 25 10.4**	**+2.5**
	baz=314							
KBN				S		**Sn**	**20 25 49.9**	**+1.2**
	baz=314							
KBN				AMP				
	comp=E,1.3nm,1.1s,baz=314							
KBN	**Korca**	**3.46**	**316**	P		**Pn**	**20 25 10.4**	**+2.5**
GONE	**Gonen-Balikesi**	**3.49**	**56**	Pn		**Pn**	**20 25 08.6**	**+0.4**
SRN	**Sarande**	**3.51**	**301**	P		**Pn**	**20 25 11.0**	**+2.6**
	baz=298							
SRN				S		**Sn**	**20 25 52.9**	**+3.2**
	baz=298							
SRN				AMP				
	comp=E,0.7nm,1.1s,baz=298							
ZKR	**Zakros**	**3.55**	**148**	P		**Pn**	**20 25 09.7**	**+0.6**
KEK	**Kerkira**	**3.57**	**297**	Pn		**Pn**	**20 25 11.2**	**+1.8**
KEK	**Kerkira**	**3.57**	**297**			**Pn**	**20 25 10.2**	**+0.9**
RKY	**Sarkoy-Tekirda**	**3.57**	**44**	Pn		**Pn**	**20 25 10.2**	**+0.8**
RKY	**Sarkoy-Tekirda**	**3.57**	**44**	P		**Pn**	**20 25 09.5**	**+0.1**
RZN	**Rozhen**	**3.59**	**10**	P		**Pn**	**20 25 09.4**	**-0.4**
UKOP	**Uzunkopru-Edir**	**3.63**	**34**	Pn		**Pn**	**20 25 10.0**	**-0.2**
KDZ	**Kurdzhali**	**3.64**	**17**	Pn		**Pn**	**20 25 10.2**	**-0.1**
KDZ	**Kurdzhali**	**3.64**	**17**	P		**Pn**	**20 25 10.1**	**-0.2**
KARP	**Karpathos**	**3.68**	**134**	Pn		**Pn**	**20 25 11.3**	**+0.4**
PEHC	**Pehcevo**	**3.70**	**348**	*i* Pn		**Pn**	**20 25 11.5**	**+0.3**
KKB	**Krupnik**	**3.73**	**351**	P		**Pn**	**20 25 12.4**	**+0.8**
KKB				S		**Sn**	**20 25 55.2**	**-0.2**
EDC	**Edincik**	**3.76**	**53**	Pn		**Pn**	**20 25 12.9**	**+0.9**
OHR	**Ohrid**	**3.81**	**322**	*i* Pn		**Pn**	**20 25 16.0**	**+3.3**
ARG	**Arkhangelos**	**3.88**	**119**			**Pn**	**20 25 14.4**	**+0.9**
ARG	**Arkhangelos**	**3.88**	**119**	P		**Pn**	**20 25 14.4**	**+0.9**
PLD	**Plovdiv**	**4.04**	**9**	Pn		**Pn**	**20 25 16.0**	**+0.2**
PLD	**Plovdiv**	**4.04**	**9**	P		**Pn**	**20 25 16.6**	**+0.8**
DIM	**Dimitrovgrad**	**4.09**	**18**	P		**Pn**	**20 25 16.4**	**-0.1**
VLO	**Vlora**	**4.14**	**305**	Pn		**Pn**	**20 25 18.9**	**+1.8**
VLO	**Vlora**	**4.14**	**305**	P		**Pn**	**20 25 19.2**	**+2.1**
	baz=303							
VLO	**Vlora**	**4.14**	**305**	P		**Pn**	**20 25 18.9**	**+1.8**
SKO	**Skopje**	**4.26**	**334**	*i* Pn		**Pn**	**20 25 21.1**	**+2.2**
EDRB	**Edirne**	**4.28**	**30**	Pn		**Pn**	**20 25 20.1**	**+1.0**
PGB	**Panagyurishte**	**4.36**	**2**	P		**Pn**	**20 25 21.4**	**+1.2**
PGB				S		**Sn**	**20 26 12.4**	**+1.5**
PHP	**Peshkopia**	**4.43**	**324**	P		**Pn**	**20 25 23.2**	**+2.0**
	baz=322							
PHP				S		**Sn**	**20 26 16.1**	**+3.6**
	baz=322							
PHP				AMP				
	comp=N,0.7nm,2.1s,baz=322							
PHP	**Peshkopia**	**4.43**	**324**	P		**Pn**	**20 25 23.2**	**+2.0**
PHP				S		**Sn**	**20 26 16.1**	**+3.6**
TIR	**Tirane**	**4.46**	**317**	P		**Pn**	**20 25 23.9**	**+2.3**
	baz=315							
TIR	**Tirane**	**4.46**	**317**	P		**Pn**	**20 25 23.9**	**+2.3**
SCTE	**Santa Cesarea**	**4.65**	**296**	P		**Pn**	**20 25 25.8**	**+1.6**
	baz=294							
SCTE				AMP				
	comp=E,0.2nm,0.5s,baz=294							
JMB	**Yambol**	**4.77**	**24**	P		**Pn**	**20 25 26.3**	**+0.5**
PUK	**Puka**	**4.96**	**323**			**Pn**	**20 25 31.5**	**+2.9**
PUK	**Puka**	**4.96**	**323**	P		**Pn**	**20 25 31.9**	**+3.4**
	baz=321							
PUK				S		**Sn**	**20 26 27.9**	**+2.1**
	baz=321							
PUK				AMP				
	comp=E,0.5nm,0.9s,baz=321							
ELL	**Elmali**	**4.97**	**105**			**Pn**	**20 25 30.4**	**+1.7**
ELL	**Elmali**	**4.97**	**105**	P		**Pn**	**20 25 30.4**	**+1.7**
BCI	**Bajram Curri**	**5.14**	**326**	P		**Pn**	**20 25 33.8**	**+2.9**
	baz=325							
BCI				S		**Sn**	**20 26 30.4**	**+0.4**
	baz=325							
ULC	**Ulcinj**	**5.23**	**318**	P		**Pn**	**20 25 34.2**	**+2.0**
ULC				S		**Sn**	**20 26 31.0**	**-1.3**
ULC	**Ulcinj**	**5.23**	**318**	*i* Pn	⇑	**Pn**	**20 25 34.2**	**+2.0**
ULC				*i* Sn		**Sn**	**20 26 32.8**	**+0.5**
PLVB	**Pleven**	**5.25**	**6**	P	⇓	**Pn**	**20 25 33.2**	**+0.7**
PVY	**Plav**	**5.37**	**327**	P	⇓	**Pn**	**20 25 35.5**	**+1.3**
PVY				*i* Sn		**Sn**	**20 26 36.1**	**+0.3**
DRME	**Dracevica, Mon**	**5.42**	**319**	P	⇑	**Pn**	**20 25 35.9**	**+1.1**
DRME				*i* Sn		**Sn**	**20 26 37.5**	**+0.5**
DRME	**Dracevica, Mon**	**5.42**	**319**	P	⇑	**Pn**	**20 25 36.9**	**+2.1**
BLKB	**Belogradchik**	**5.54**	**351**	P	⇑	**Pn**	**20 25 37.5**	**+1.0**
IVA	**Berane**	**5.62**	**328**	P	⇑	**Pn**	**20 25 39.3**	**+1.7**
IVA				*i* Sn		**Sn**	**20 26 42.6**	**+0.5**
BUM	**Brajici-Budva**	**5.65**	**319**	P	⇑	**Pn**	**20 25 39.7**	**+1.7**
BUM				*i* Sn		**Sn**	**20 26 42.8**	**0.0**
TIP	**Timpagrande**	**5.70**	**283**	P	⇑	**Pn**	**20 25 40.4**	**+1.8**
TIP	**Timpagrande**	**5.70**	**283**	Pn		**Pn**	**20 25 39.9**	**+1.2**
BOVS	**Bovan**	**5.73**	**344**	P	⇑	**Pn**	**20 25 39.4**	**+0.4**
KOME	**Kolasin**	**5.77**	**326**	*i* Pn	⇓	**Pn**	**20 25 41.9**	**+2.3**
KOME				*i* Sn		**Sn**	**20 26 46.3**	**+0.6**
CEME	**Cevo**	**5.82**	**321**	*i* Pn	⇓	**Pn**	**20 25 42.0**	**+1.7**
CEME				*i* Sn		**Sn**	**20 26 46.9**	**+0.1**
SJES	**Sjenica**	**5.92**	**331**	P	⇑	**Pn**	**20 25 43.5**	**+1.8**
NKME	**Niksic**	**5.96**	**322**	*i* Pn	⇓	**Pn**	**20 25 44.2**	**+1.9**
NKME				*i* Sn		**Sn**	**20 26 50.3**	**-0.1**
HCY	**Herceg Novi**	**5.96**	**318**	P	⇑	**Pn**	**20 25 43.2**	**+0.9**
HCY	**Herceg Novi**	**5.96**	**318**	P	⇑	**Pn**	**20 25 43.2**	**+0.9**
HCY				*i* Sn		**Sn**	**20 26 51.0**	**+0.6**
HCY	**Herceg Novi**	**5.96**	**318**	P	⇑	**Pn**	**20 25 42.4**	**+0.1**
COPA	**Copaceanca**	**6.05**	**9**	P	⇓	**Pn**	**20 25 44.7**	**+1.3**
MDUB	**Mudurnu**	**6.10**	**65**			**Pn**	**20 25 44.4**	**+0.2**
PLE	**Pljevlja**	**6.21**	**328**	P		**Pn**	**20 25 47.2**	**+1.5**
PLE	**Pljevlja**	**6.21**	**328**	P	⇑	**Pn**	**20 25 47.2**	**+1.5**
PLE				*i* Sn		**Sn**	**20 26 56.0**	**-0.6**
TREB	**Trebinje**	**6.23**	**319**	P	⇑	**Pn**	**20 25 46.4**	**+0.5**
BRY	**Bratogost**	**6.27**	**321**	*i* Pn	⇓	**Pn**	**20 25 48.4**	**+1.9**
BRY				*i* Sn		**Sn**	**20 26 58.2**	**+0.2**
BRY	**Bratogost**	**6.27**	**321**	P	⇑	**Pn**	**20 25 48.3**	**+1.8**
UPM	**Unac-Piva**	**6.32**	**325**	P	⇑	**Pn**	**20 25 48.8**	**+1.5**
UPM				*i* Sn		**Sn**	**20 26 59.4**	**0.0**
UPM	**Unac-Piva**	**6.32**	**325**	P	⇑	**Pn**	**20 25 50.2**	**+2.9**
CEL	**Celeste**	**6.32**	**273**			**Pn**	**20 25 48.0**	**+0.8**
HUMR	**Humele**	**6.42**	**7**	P	⇑	**Pn**	**20 25 49.1**	**+0.7**
RUDO	**Rudo**	**6.46**	**329**	P	⇑	**Pn**	**20 25 51.1**	**+2.1**
CUC	**Castrocucco**	**6.57**	**289**	Pn		**Pn**	**20 25 51.3**	**+0.7**
DJES	**Djerdap**	**6.59**	**351**	P	⇓	**Pn**	**20 25 51.1**	**+0.2**
DJES	**Djerdap**	**6.59**	**351**			**Pn**	**20 25 50.9**	**0.0**
BBLS	**Lazići**	**6.65**	**331**	P	⇑	**Pn**	**20 25 52.8**	**+1.1**
STON	**Ston**	**6.68**	**317**	P	⇑	**Pn**	**20 25 52.1**	**0.0**
NEVS	**Nevesinje**	**6.78**	**321**	*e*Pn		**Pn**	**20 25 55.6**	**+2.1**
HERR	**Herculane**	**6.81**	**351**	P	⇓	**Pn**	**20 25 54.0**	**+0.1**
MDVR	**Moldovita**	**6.83**	**347**	P	⇑	**Pn**	**20 25 55.1**	**+1.0**
HAPS	**Han Pijesak,Bl**	**7.01**	**329**	P	⇑	**Pn**	**20 25 58.8**	**+2.1**
TLBR	**Topalu**	**7.10**	**25**	P	⇓	**Pn**	**20 25 58.6**	**+0.8**
MTUR	**Matau**	**7.12**	**7**	P	⇓	**Pn**	**20 25 59.7**	**+1.5**
MTUR	**Matau**	**7.12**	**7**	P		**Pn**	**20 25 59.6**	**+1.5**
TIRR	**Tirgusor**	**7.15**	**27**	P	⇓	**Pn**	**20 25 59.5**	**+1.0**
TIRR	**Tirgusor**	**7.15**	**27**	P		**Pn**	**20 25 59.4**	**+1.0**
HARR	**Harsova**	**7.19**	**23**	P	⇓	**Pn**	**20 25 59.9**	**+0.8**
HARR	**Harsova**	**7.19**	**23**	P		**Pn**	**20 25 59.8**	**+0.8**
TEKS	**Tekeris**	**7.19**	**334**	*e*Pn		**Pn**	**20 26 00.0**	**+0.9**
ARR	**Arges**	**7.23**	**4**	P	⇑	**Pn**	**20 26 00.3**	**+0.6**
GZR	**Gura Zlata**	**7.28**	**354**	P	⇑	**Pn**	**20 26 00.4**	**0.0**
GZR	**Gura Zlata**	**7.28**	**354**	P		**Pn**	**20 26 00.4**	**0.0**
LOT	**Lotru**	**7.29**	**359**	P	⇑	**Pn**	**20 26 01.5**	**+0.9**
VOIR		**7.33**	**6**	P	⇑	**Pn**	**20 26 01.7**	**+0.6**
VOIR		**7.33**	**6**	P		**Pn**	**20 26 01.6**	**+0.6**
NEHR	**Nehoiu**	**7.48**	**13**	P	⇓	**Pn**	**20 26 04.4**	**+1.3**
MLR	**Muntele Rosu**	**7.49**	**11**	P	⇑	**Pn**	**20 26 04.6**	**+1.4**
MLR	**Muntele Rosu**	**7.49**	**11**	Pn		**Pn**	**20 26 03.0**	**-0.3**
MLR	**Muntele Rosu**	**7.49**	**11**	P		**Pn**	**20 26 04.6**	**+1.4**
MLR	**Muntele Rosu**	**7.49**	**11**	Pn		**Pn**	**20 26 03.9**	**+0.6**
	comp=E,1.0nm,0.3s,baz=204,slow=3.0,SNR=21							
MLR				Sn		**Sn**	**20 27 25.4**	**-2.5**
	baz=34,slow=23 comp=E,10.0nm,0.5s							
VAE	**Valguarnera**	**7.56**	**268**	Pn		**Pn**	**20 26 05.0**	**+0.8**
	comp=E,0.5nm,0.3s,baz=111,slow=20,SNR=2.8							
VAE				Sn		**Sn**	**20 27 28.6**	**-1.1**
	comp=E,3.0nm,0.3s,baz=336,slow=7.2,SNR=2.2 comp=E,8.2nm,0.8s							
RAFF	**Raffo Rosso**	**7.64**	**266**	Pn		**Pn**	**20 26 05.7**	**+0.5**
FRGS	**Fruska Gora**	**7.64**	**338**	*i* Pn	⇑	**Pn**	**20 26 01.5**	**-3.8**
BZS	**Buzias**	**7.65**	**348**	P	⇓	**Pn**	**20 26 05.9**	**+0.4**
BZS	**Buzias**	**7.65**	**348**	P		**Pn**	**20 26 05.8**	**+0.4**
BISRR	**Bisoca**	**7.67**	**15**	P	⇓	**Pn**	**20 26 07.4**	**+1.7**
CFR	**Carcaliu**	**7.69**	**23**	P	⇑	**Pn**	**20 26 07.1**	**+1.1**
CFR	**Carcaliu**	**7.69**	**23**	P		**Pn**	**20 26 07.0**	**+1.1**
SURR	**Surduc**	**7.71**	**351**	P	⇑	**Pn**	**20 26 07.4**	**+1.2**
BR131	**Keskin Array S**	**7.74**	**75**	Pn		**Pn**	**20 26 08.7**	**+2.0**
BR131	**Keskin Array S**	**7.74**	**75**	*e*P	⇑	**Pn**	**20 26 09.2**	**+2.5**
BRTR	**Keskin Array B**	**7.74**	**75**	Pn		**Pn**	**20 26 07.0**	**+0.3**
BRTR	**Keskin Array B**	**7.74**	**75**	Pn		**Pn**	**20 26 08.6**	**+2.0**
	comp=E,0.3nm,0.3s,baz=256,slow=13,SNR=17 comp=E,2.8nm,0.7s							
DEV	**Deva**	**7.76**	**355**	P		**Pn**	**20 26 08.1**	**+1.2**
DEV				pmax		pmax		
	comp=Z,41nm,0.7s							
COVR	**Voineasa-Covas**	**7.87**	**12**	P	⇓	**Pn**	**20 26 09.3**	**+0.8**
DOPR	**Dopca**	**7.88**	**7**	P	⇓	**Pn**	**20 26 09.6**	**+1.0**
PLOR	**Plostina**	**7.96**	**14**	P	⇑	**Pn**	**20 26 11.4**	**+1.8**
PLOR	**Plostina**	**7.96**	**14**	P		**Pn**	**20 26 11.4**	**+1.8**
VRI	**Vrincioaia**	**7.98**	**14**	P	⇑	**Pn**	**20 26 11.8**	**+1.8**
VRI	**Vrincioaia**	**7.98**	**14**	P		**Pn**	**20 26 11.7**	**+1.8**
MDB	**Medias**	**7.99**	**2**	P	⇑	**Pn**	**20 26 11.4**	**+1.4**
MDB	**Medias**	**7.99**	**2**	P		**Pn**	**20 26 11.4**	**+1.4**
BOSR	**Bodos**	**8.02**	**9**	P	⇑	**Pn**	**20 26 12.1**	**+1.6**
OZUR		**8.06**	**9**	P	⇑	**Pn**	**20 26 12.0**	**+1.1**
MGRS	**Mrkonjic Grad**	**8.10**	**323**	*e*Pn		**Pn**	**20 26 13.4**	**+1.8**
SCTR	**Scanteiesti**	**8.10**	**21**	P	⇑	**Pn**	**20 26 13.4**	**+1.8**
VARL	**Varlezi**	**8.27**	**19**	P	⇓	**Pn**	**20 26 15.7**	**+1.8**
SIRR	**Siria**	**8.28**	**349**	P	⇑	**Pn**	**20 26 14.3**	**+0.3**
BLY	**Banja Luka**	**8.30**	**325**	*i* Pn	⇑	**Pn**	**20 26 17.3**	**+3.0**
A050A	**Klekovaca**	**8.42**	**321**	*i* Pn

MNK *i* S **Sn** **20 31 09.4 -0.5**
MNK pmax pmax
comp=Z,14nm,1.4s
MNK pmax pmax
comp=E,9.0nm,1.4s
MNK pmax pmax
comp=N,20nm,0.7s
MNK MLR MLR
comp=Z,242nm,10.0s
MNK MLR MLR
comp=E,68nm,9.0s
MNK MLR MLR
comp=N,229nm,10.0s
NACGM Naroch 16.87 6 *e*P **P** **20 28 10.9 -1.1**
comp=Z,17nm,1.2s,baz=188
VSR Storozhevoye 16.93 35 *e*P **P** **20 28 13.3 +0.7**
VSR pmax pmax
comp=Z,5.0nm,1.0s
VORR Voronezh 17.27 34 *e*P **P** **20 28 19.0 +2.6**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 17.83 31 *e*P **P** **20 28 21.9 -0.7**
LPSR pmax pmax
comp=Z,8.0nm,1.0s
VRH Novokhopyorsk 18.11 38 *e*P **Pn** **20 28 22.9 -2.5**
VSU Vasula 20.41 4⇑*e*P Pn 20 28 52.1 -0.7
ESBB Sonseca Array 21.72 283 P **P** **20 29 04.5 -0.6**
ESBB IAmb IAmb 20 29 12.8
comp=Z,18nm,1.4s
ESDC Sonseca Array 21.72 283 P **P** **20 29 04.3 -0.9**
ESDC Sonseca Array 21.72 283 P **P** **20 29 04.5 -0.7**
comp=Z,3.2nm,0.8s,baz=76,slow=11,SNR=21
comp=Z,3.2nm,0.8s
BELG Belogornoye 21.80 42⇑*i*P **P** **20 29 08.2 +2.5**
BELG pmax pmax
comp=Z,4.0nm,1.1s
BELG Belogornoye 21.80 42 P **P** **20 29 05.8 +0.1**
comp=Z,13nm,1.1s,baz=220,slow=8.8,SNR=6.4
comp=Z,13nm,1.1s
PAB San Pablo 22.03 282 P **P** **20 29 05.6 -2.9**
PAB IAmb IAmb 20 29 11.9
comp=Z,10nm,1.0s
PAB San Pablo 22.03 282 P **P** **20 29 05.6 -2.9**
PAB pmax pmax
comp=Z,10.0nm,1.0s
HFS Hagfors 22.94 347 P **P** **20 29 17.8 -0.1**
comp=Z,14nm,1.2s,baz=165,slow=13,SNR=5.3
comp=Z,14nm,1.2s
FINES FINESS Array B 23.35 3 P **P** **20 29 22.2 +0.2**
comp=Z,2.3nm,0.9s,baz=172,slow=11,SNR=1.3
comp=Z,2.3nm,0.9s
NC602 NORSAR Array S 23.91 345 P **P** **20 29 25.8 -1.7**
NC602 IAmb IAmb 20 29 36.3
comp=Z,15nm,1.2s
NB201 NORSAR Array S 24.25 345 P **P** **20 29 29.9 -0.8**
NB2 NORSAR Subarra 24.25 345 P **P** **20 29 31.2 +0.4**
comp=Z,1.7nm,0.6s,baz=161,slow=10
NOA NORSAR Array B 24.25 345 P **P** **20 29 31.2 +0.4**
comp=Z,1.0nm,0.6s,baz=150,slow=9.9,SNR=7.1
comp=Z,1.0nm,0.6s
KLMR Klimovskoe 24.75 18 *e*P **P** **20 29 35.5 +0.3**
KLMR pmax pmax
comp=Z,28nm,2.1s
PVAQ Vaqueiros 24.96 278 P **P** **20 29 36.5 -0.8**
EKA Eskdalemuir Ar 25.05 322 P **P** **20 29 37.5 -0.5**
comp=Z,8.0nm,0.8s,baz=120,slow=9.0,SNR=2.2
comp=Z,8.0nm,0.8s
ESK Eskdalemuir 25.06 322 P **P** **20 29 37.1 -1.0**
ESK Eskdalemuir 25.06 322 P **P** **20 29 37.1 -1.0**
ESK pmax pmax
comp=Z,39nm,1.2s
MESJ Messejana 25.27 279 P **P** **20 29 39.5 -0.6**
MESJ Messejana 25.27 279 P **P** **20 29 39.5 -0.6**
MESJ pmax pmax
comp=Z,16nm,1.1s
KIRV Kirov 26.26 31⇓*e*P **P** **20 29 48.4 -0.5**
GEYT Alibeck 26.85 80 P **P** **20 29 54.3 -0.2**
GEYT Alibeck 26.85 80 P **P** **20 29 55.5 +1.0**
comp=Z,1.7nm,0.6s,baz=279,slow=12,SNR=5.6
comp=Z,1.7nm,0.6s
AKTO Aktyubinsk 27.07 52 P **P** **20 29 58.2 +1.9**
comp=Z,1.0nm,0.6s,baz=243,slow=4.5,SNR=3.5
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 28.05 55 P **P** **20 30 05.7 +0.6**
ARU Arti 29.32 40 P **P** **20 30 16.7 +0.4**
ARU 20 31 09.0
ARU S **S** **20 35 11.8 +2.7**
ARU SS **SnSn** **20 36 35.1 +0.2**
ARU Arti 29.32 40 P **P** **20 30 16.9 +0.6**
comp=Z,1.4nm,0.5s,baz=274,slow=13,SNR=2.6
comp=Z,1.4nm,0.5s
ARCES ARCESS Array B 31.45 1 P **P** **20 30 34.6 -0.5**
comp=Z,1.7nm,0.6s,baz=172,slow=9.8,SNR=3.8
comp=Z,1.7nm,0.6s
TORD Torodi Ar. Bea 31.79 224 P **P** **20 30 38.4 -0.1**
comp=Z,3.9nm,0.6s,baz=28,slow=9.1,SNR=27
comp=Z,3.9nm,0.6s
SIMJ Simiganj 35.06 75 P **P** **20 31 07.2 +0.2**
SIMJ IAmb IAmb 20 31 09.5
comp=Z,3.2nm,0.8s
BVAR Borovoye Array 35.09 50 P **P** **20 31 07.4 +0.5**
comp=Z,0.8nm,0.6s,baz=270,slow=4.4,SNR=5.3
comp=Z,0.8nm,0.6s
BTK Batken 36.12 72 P **P** **20 31 15.9 0.0**
BTK Batken 36.12 72 P **P** **20 31 16.0 0.0**
BTK pmax pmax
comp=Z,10.0nm,0.7s
LODK Lodwar 36.12 160 P **P** **20 31 16.8 +0.7**
AAK Ala-Archa 38.31 67⇓*e*P **P** **20 31 34.0 -0.7**
NIL Nilore 39.84 81 P **P** **20 31 49.2 +1.8**
NIL IAmb IAmb 20 31 49.9
comp=Z,14nm,0.9s
NIL Nilore 39.84 81 P **P** **20 31 49.2 +1.8**
NIL pmax pmax
comp=Z,14nm,1.0s
KURBB Kurchatov Arra 40.09 54 P **P** **20 31 49.7 +0.5**
comp=Z,0.9nm,0.3s,baz=281,slow=8.8,SNR=7.0
comp=Z,0.9nm,0.3s
KURK Kurchatov 40.14 54⇑*e*P **P** **20 31 50.1 +0.5**
KURK pmax pmax
comp=Z,6.0nm,1.4s
DBIC Dimbokro 40.77 227 P **P** **20 31 54.9 -0.3**
DBIC IAmb IAmb 20 31 55.9
comp=Z,6.9nm,0.8s
DBIC Dimbokro 40.77 227 P **P** **20 31 54.9 -0.3**
DBIC pmax pmax
comp=Z,7.0nm,0.9s
DBIC Dimbokro 40.77 227 P **P** **20 31 54.7 -0.5**
comp=Z,6.6nm,0.8s,baz=16,slow=8.9,SNR=7.3
comp=Z,6.6nm,0.8s
TIC Toumodi 40.88 227⇓*i*P **P** **20 31 55.8 -0.4**
comp=Z,5.9nm,0.6s
KIC Kosan Boka 40.95 227⇑*i*P **P** **20 31 56.8 +0.1**
comp=Z,9.5nm,0.8s
LIC Lamto 41.23 227⇑*e*P **P** **20 31 58.8 -0.2**
comp=Z,23nm,0.7s
MAKZ Makanchi 42.81 59 P **P** **20 32 11.8 +0.1**
MAKZ Makanchi 42.81 59 P **P** **20 32 11.8 +0.1**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 43.02 59 P **P** **20 32 13.7 +0.3**
MK31 IAmb IAmb 20 32 15.8
comp=Z,3.1nm,0.6s
MK31 Makanchi Array 43.02 59*d i*P **P** **20 32 13.9 +0.5**
MKAR Makanchi Array 43.02 59 P **P** **20 32 13.4 0.0**
MKAR Makanchi Array 43.02 59 P **P** **20 32 14.0 +0.6**
comp=Z,3.7nm,0.6s,baz=275,slow=6.6,SNR=42
comp=Z,3.7nm,0.6s
ZAA0 Zalesovo Array 43.71 48 P **P** **20 32 18.7 -0.1**
ZAA0 IAmb IAmb 20 32 25.3
comp=Z,3.2nm,0.9s
ZALV Zalesovo Beam 43.71 48 P **P** **20 32 19.1 +0.4**
comp=Z,1.5nm,0.5s,baz=274,slow=8.9,SNR=7.8
comp=Z,1.5nm,0.5s
NRIK Noril'sk 45.62 26⇑*e*P **P** **20 32 33.8 0.0**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
DGZ Jazzator, Alta 45.88 54⇓*e*P **P** **20 32 36.9 +0.6**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
WMQ Urumqi 47.42 62 *e*P **P** **20 32 51.3 +2.9**
GTA Gaotai 57.46 63 *e*P **P** **20 34 03.8 +0.8**
GTA pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 58.39 52 P **P** **20 34 09.3 -0.1**
comp=Z,0.6nm,0.6s,baz=283,slow=10,SNR=6.8
comp=Z,0.6nm,0.6s

TIXI Tiksi 58.73 21⇑*e*P **P** **20 34 10.5 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,2.0s
ULN Ulaanbaatar 58.78 51 P **P** **20 34 10.7 -1.5**
ULN IAmb IAmb 20 34 14.2
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 58.78 51⇑*e*P **P** **20 34 12.1 -0.1**
ULN pmax pmax
comp=Z,6.0nm,1.6s
SCHQ Schefferville 60.28 318 P **P** **20 34 21.8 -0.4**
comp=Z,5.6nm,0.5s,baz=77,slow=2.3,SNR=7.9
comp=Z,5.6nm,0.5s
LZH Lanzhou 61.80 65 *e*P **P** **20 34 34.1 +1.1**
LZH sP sP 20 34 49.3 +10
LZH pmax pmax
comp=Z,18nm,1.5s
YAK Yakutsk 63.79 30*de*P **P** **20 34 47.0 +1.4**
YAK pmax pmax
comp=Z,6.0nm,0.7s
HHC Hu-ho-hao-te 64.82 57 *e*P **P** **20 34 53.1 +0.2**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,410nm,6.4s
BOSA Boshof 66.43 179 P **P** **20 35 03.2 0.0**
comp=Z,3.8nm,0.7s,baz=350,slow=7.8,SNR=9.6
comp=Z,3.8nm,0.7s
KMI Kunming 66.53 76⇓P **P** **20 35 05.9 +1.6**
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI LR LR
comp=N,440nm,20.4s
KMI LR LR
comp=E,600nm,18.8s
KMI LR LR
comp=Z,620nm,17.3s
CMAR Chiang Mai Arr 67.23 84 P **P** **20 35 07.8 -0.8**
comp=Z,0.6nm,0.3s,baz=299,slow=7.4,SNR=6.1
comp=Z,0.6nm,0.3s
CN2 Changchun 71.92 48 P **P** **20 35 37.0 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YKA Yellowknife Ar 74.30 341 *i* P **P** **20 35 50.7 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 74.30 341 P **P** **20 35 50.8 0.0**
comp=Z,1.2nm,0.7s,baz=33,slow=5.3,SNR=15
comp=Z,1.2nm,0.7s
ILAR Eielson Array 77.16 356 P **P** **20 36 07.2 +0.1**
comp=Z,0.5nm,0.9s,baz=357,slow=3.4,SNR=5.2
comp=Z,0.5nm,0.9s
KSRS Korea Array 77.25 52 P **P** **20 36 07.5 -0.7**
comp=Z,1.1nm,0.6s,baz=311,slow=4.3,SNR=5.4
comp=Z,1.1nm,0.6s
BDFB Brasilia 85.95 247 P **P** **20 36 55.3 +0.8**
comp=Z,1.9nm,0.6s,baz=98,slow=7.1,SNR=3.8
comp=Z,1.9nm,0.6s
PDAR Pinedale Array 89.04 328 P **P** **20 37 08.7 -0.6**
comp=Z,0.4nm,0.6s,baz=35,slow=5.4,SNR=3.5
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 96.89 316 P **P** **20 37 46.1 +0.6**
comp=Z,0.3nm,0.7s,baz=73,slow=4.3,SNR=3.4
comp=Z,0.3nm,0.7s
ASAR Alice Springs 119.51 98 PKP **PKPdf** **20 43 02.0 -1.9**
comp=Z,0.3nm,0.6s,baz=304,slow=1.7,SNR=4.1

BJI ***15*** *20:41:34.4±0.0,30.°32N×132.°23E,h20km,mb4.3/52, mB4.8/36,Ms4.5/50,Ms7 4.3/49*
IDC ***15*** *20:41:35.7±0.6,30.°59N×131.°95E,h0km,mb4.2/23, mbtmp4.2/29,ML3.9/6,MS4.2/25,Error ellipse: s-maj=16.7km s-min=13.0km az=111.0*
MOS ***15*** *20:41:36.2±1.0,30.°60N×132.°03E,h14km,mb4.7/21, MS4.1/4,Error ellipse: s-maj=10.1km s-min=5.4km az=93.0*
NIED ***15*** *20:41:38.0,30.°60N×132.°14E,h59km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-1.11; Mθθ0.31; Mφφ0.80; Mrθ0.08; Mθφ-0.21; Mrφ0.64; Fault plane solution: M₀1.18000×10¹⁶ NP1: ϕs173.00000°,δ61.00000°,λ-80.00000°. NP2: ϕs333.00000°,δ30.00000°,λ-108.00000°.*
JMA ***15*** *20:41:38.0±0.2,30.°6N±0.°5×13.°2E±.°,h59km±3km, MD4.2/33,MW4.5/33,E OFF TANEGASHIMA ISLAND*
NEIC ***15*** *20:41:39.7,30.°66N×132.°01E,h26km,Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10¹⁵Nm; Mrr-3.39; Mθθ-5.23; Mφφ8.62; Mrθ0.44; Mθφ-3.16; Mrφ0.99; Fault plane solution: M₀7.72000×10¹⁵ NP1: ϕs211.70000°,δ83.20000°,λ-12.50000°. NP2: ϕs303.20000°,δ77.58000°,λ-173.04000°. Principal axes: T 9.3639, Plg4.0000°, Azm258.0000°; N -3.2946, Plg76.0000°, Azm4.0000°; P -6.0692, Plg14.0000°, Azm167.0000°;*
NEIC ***15*** *20:41:39.7,30.°56N×132.°01E,h26km*
NEIC ***15*** *20:41:39.3±1.6,30.°55N±0.°05×132.°06E±0.°09,h20km±4km, mb4.9/78,Mww4.5/7,Error ellipse: s-maj=11.1km s-min=7.3km az=85.0*
ISC 15 20:41:41.3±0.6,30.°56N±0.°04×132.°12E±0.°04,h43km±4km, h43km:pP-P,n511,σ1§56/517,mb4.7/86,MS4.3/37, 12C-17D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.99**	**276**	P	P	**Pn**	**20 41 56.1**	**-2.6**
JTN				S	S	**Sn**	**20 42 10.1**	**-1.4**
JTN	**Tanegashima 3**	**0.99**	**276**	A	A		20 41 56.1	
comp=E,18nm,1.9s,comp=N,11nm,1.4s								
JMTN	**Minamitane**	**1.07**	**261**	P	P	**Pn**	**20 41 57.6**	**-2.2**
JMTN				S	S	**Sn**	**20 42 12.6**	**-0.8**
JTSR	**Tashiro 2**	**1.19**	**301**	P	P	**Pn**	**20 41 58.4**	**-3.2**
JTSR				S	S	**Sn**	**20 42 14.7**	**-1.9**
JTSR	**Tashiro 2**	**1.19**	**301**	A	A		20 41 58.4	
comp=E,8.0nm,7.2s,comp=N,8.0nm,2.6s								
JNAR	**Kushima--Naru**	**1.21**	**323**	*i* P	P	**Pn**	**20 41 59.0**	**-2.7**
JNAR				⇓S	S	**Sn**	**20 42 14.2**	**-2.6**
JNAR	**Kushima--Naru**	**1.21**	**323**	A	A		20 41 59.0	
comp=E,19nm,2.8s,comp=N,13nm,2.0s								
JNKG	**Nichinankitago**	**1.27**	**330**	⇓*i* P	P	**Pn**	**20 41 59.7**	**-2.8**
JNKG				⇓S	S	**Sn**	**20 42 15.7**	**-2.7**
JNKG	**Nichinankitago**	**1.27**	**330**	A	A		20 41 59.7	
comp=E,11nm,2.2s,comp=N,6.0nm,5.3s								
JYAK	**Yakushimahirau**	**1.43**	**257**	*i* P	P	**Pn**	**20 42 02.5**	**-2.3**
JYAK				S	S	**Sn**	**20 42 21.2**	**-1.1**
JTZ	**Takazaki**	**1.60**	**327**	⇓*i* P	P	**Pn**	**20 42 04.4**	**-2.7**
JTZ				⇓S	S	**Sn**	**20 42 23.9**	**-2.7**
JKC	**Kuchinoerabu**	**1.66**	**267**	*i* P	P	**Pn**	**20 42 05.8**	**-2.1**
JKC				S	S	**Sn**	**20 42 27.0**	**-1.1**
JKC	**Kuchinoerabu**	**1.66**	**267**	A	A		20 42 05.8	
comp=E,4.0nm,5.0s,comp=N,5.0nm,6.0s								
JSU	**Suzuyama**	**1.71**	**304**	*e*P	P	**Pn**	**20 42 05.9**	**-2.7**
JSU				S	S	**Sn**	**20 42 27.1**	**-2.2**
JSU	**Suzuyama**	**1.71**	**304**	A	A		20 42 05.9	
comp=E,4.0nm,1.3s,comp=N,5.0nm,1.3s								
JZO	**Okuchi**	**2.04**	**321**	A	A		20 42 10.5	
comp=E,3.0nm,6.6s,comp=N,3.0nm,4.9s								
JNN	**Nakanoshima**	**2.07**	**250**	P	P	**Pn**	**20 42 11.9**	**-1.7**
JNN				S	S	**Sn**	**20 42 37.0**	**-1.2**
JIU3	**Izumi3**	**2.27**	**331**	⇓*i* P	P	**Pn**	**20 42 14.1**	**-2.2**
JIU3	**Izumi3**	**2.27**	**331**	A	A		20 42 14.1	
comp=E,3.0nm,2.4s								
JSJ	**Shimokoshiki**	**2.34**	**299**	P	P	**Pn**	**20 42 13.9**	**-3.4**
JTO	**Tosashimizu**	**2.36**	**14**	⇓*i* P	P	**Pn**	**20 42 13.7**	**-3.9**
JHD	**Hondo**	**2.54**	**319**	A	A		20 42 17.6	
comp=E,3.0nm,2.4s,comp=N,3.0nm,5.2s								
JNU	**Nakatsue**	**2.76**	**338**	P	P	**Pn**	**20 42 21.0**	**-2.1**
JNU	**Nakatsue**	**2.76**	**338**	P	P	**Pn**	**20 42 21.4**	**-1.7**
JNU	**Nakatsue**	**2.76**	**338**	Pn	P	**Pn**	**20 42 21.0**	**-2.1**
comp=N,48nm,0.3s,baz=161,slow=1.9,SNR=254								
JNU					Sn	**Sn**	**20 42 54.1**	**-1.2**
comp=N,57nm,0.3s,baz=328,slow=16,SNR=11								
comp=N,142nm,0.4s								
JMN	**Monobe**	**3.49**	**25**	Pn	P	**Pn**	**20 42 30.7**	**-2.4**
JMN	**Monobe**	**3.49**	**25**	P	P	**Pn**	**20 42 31.1**	**-2.0**
JTU	**Tsushima**	**4.57**	**331**	Pn	P	**Pn**	**20 42 45.8**	**-2.1**
JMZ	**Minamidaito 2**	**4.79**	**190**	Pn	P	**Pn**	**20 42 48.5**	**-2.5**
JMZ	**Minamidaito 2**	**4.79**	**190**	P	P	**Pn**	**20 42 51.1**	**+0.2**
JOW	**Kunigami**	**5.02**	**223**	Pn	P	**Pn**	**20 42 51.3**	**-2.8**
JOW	**Kunigami**	**5.02**	**223**	P	P	**Pn**	**20 42 53.7**	**-0.4**
JOW	**Kunigami**	**5.02**	**223**	Pn	P	**Pn**	**20 42 52.3**	**-1.8**
comp=N,12nm,0.3s,baz=106,slow=22,SNR=14								
JOW					Sn	**Sn**	**20 43 47.4**	**-3.5**
comp=N,18nm,0.3s,baz=164,slow=28,SNR=13								
comp=N,20nm,0.3s								

INU Inuyama 6.30 39 Pn **Pn** **20 43 10.8 -0.8**
INU Inuyama 6.30 39 P **Pn** **20 43 11.9 +0.3**
JHJ Hachijo jima 2 7.00 67 LR LR 20 45 37.7
comp=N,587nm,21.5s,baz=280,slow=34
JHJ2 Mitsune 7.03 67 P **Pn** **20 43 24.3 +2.8**
TJN Taejon 7.03 327*de*P **Pn** **20 43 21.0 -0.6**
KSRS Korea Array 7.71 334 Pn **Pn** **20 43 29.5 -1.4**
comp=N,0.3nm,0.3s,baz=151,slow=14,SNR=13
comp=N,3.9nm,0.9s
MAJO Matsushiro 7.83 39 Pn **Pn** **20 43 32.1 -0.5**
MAJO Matsushiro 7.83 39 P **Pn** **20 43 32.4 -0.3**
MAJO Matsushiro 7.83 39*d i*P **Pn** **20 43 32.0 -0.7**
MJAR Matsushiro Arr 7.83 39 Pn **Pn** **20 43 32.4 -0.3**
comp=N,1.1nm,0.3s,baz=240,slow=14,SNR=68
comp=N,8.2nm,0.5s
MJB9 Matsu-Tunnel 7.83 39 **Pn** **20 43 33.2 +0.6**
SSE Sheshan 9.42 276 P **Pn** **20 43 51.0 -3.3**
SSE S **Sn** **20 45 35.4 -3.5**
SSE pmax pmax
comp=N,8.0nm,0.8s
SSE pmax pmax
comp=N,59nm,4.2s
SSE LR LR
comp=N,1μm,17.7s
SSE LR LR
comp=N,600nm,17.8s
JCJ Chichijima 9.48 109 LR LR 20 47 15.0
comp=N,306nm,20.5s,baz=110,slow=35
NJ2 Nanjing 11.44 281 *e*P **Pn** **20 44 21.1 -1.0**
NJ2 PP **PnPn** **20 44 26.6 -3.3**
NJ2 pmax pmax
comp=N,5.0nm,0.7s
NJ2 pmax pmax
comp=N,110nm,3.5s
NJ2 LR LR
comp=N,2μm,16.1s
NJ2 LR LR
comp=N,980nm,17.5s
NJ2 LR LR
comp=N,1μm,18.5s
USA0B Ussuriysk Arra 13.62 360 Pn **Pn** **20 44 50.8 -0.9**
USA0B Ussuriysk Arra 13.62 360 P **Pn** **20 44 50.8 -0.9**
USRK Ussuriysk Ar. 13.62 360 **Pn** **20 44 50.0 -1.7**
USRK Ussuriysk Ar. 13.62 360 Pn **Pn** **20 44 51.5 -0.1**
comp=N,0.2nm,0.3s,baz=174,slow=15,SNR=6.5
comp=N,3.5nm,0.8s
MDJ Mudanjiang 14.17 353 P **Pn** **20 45 00.0 +0.8**
MDJ pP P 20 45 04.8 -1.0
MDJ sP 20 45 07.6
MDJ PP **PnPn** **20 45 09.0 +1.6**
MDJ S **Sn** **20 47 38.0 +3.0**
MDJ SS **S** **20 47 51.8 -2.5**
MDJ PcP **PcP** **20 50 16.9 +1.2**
MDJ ScP **ScP** **20 53 49.0 +3.1**
MDJ pmax pmax
comp=N,15nm,1.1s
MDJ pmax pmax
comp=N,190nm,3.7s
MDJ LR LR
comp=N,500nm,18.2s
MDJ LR LR
comp=N,710nm,15.4s
MDJ LR LR
comp=N,780nm,19.6s
CN2 Changchun 14.24 340 P **Pn** **20 45 00.8 +0.7**
CN2 pmax pmax
comp=N,10.0nm,0.6s
CN2 LR LR
comp=N,900nm,11.0s
CN2 LR LR
comp=N,1μm,11.0s
CN2 LR LR
comp=N,900nm,12.0s
BNX BinXian 15.60 348⇑P **P** **20 45 21.8 +0.2**
BNX pmax pmax
comp=N,16nm,0.9s
BNX pmax pmax
comp=N,210nm,4.9s
HNS HongShan 15.96 300⇑P **P** **20 45 25.4 -0.3**
HNS *e*S **Sn** **20 48 22.3 +3.7**
HNS pmax pmax
comp=N,22nm,1.3s
HNS LR LR
comp=N,530nm,11.9s
HNS LR LR
comp=N,840nm,13.5s
HNS LR LR
comp=N,710nm,12.0s
BJT Baijiatuau 16.06 310 **Pn** **20 45 23.2 -0.8**
BJT Baijiatuau 16.06 310 P **Pn** **20 45 23.2 -0.8**
BJT pmax pmax
comp=Z,21nm,1.1s
BJI Beijing 16.07 310 P **P** **20 45 26.8 -0.1**
BJI pmax pmax
comp=Z,9.0nm,1.3s
BJI LR LR
comp=Z,400nm,12.9s
BJI LR LR
comp=Z,570nm,12.6s
BJI LR LR
comp=Z,810nm,12.5s
LYN LuoYang 17.04 289⇓P **P** **20 45 37.8 +0.1**
LYN pP Pn 20 45 40.4 +4.1
LYN PP **pwP** **20 45 50.1 +0.4**
LYN SS **sS** **20 49 10.8 +2.7**
LYN pmax pmax
comp=Z,8.0nm,0.9s
LYN pmax pmax
comp=Z,360nm,9.1s
LYN LR LR
comp=Z,2μm,17.4s
LYN LR LR
comp=Z,1μm,16.7s
LYN LR LR
comp=Z,2μm,18.4s
YSS Yuzh-Sakhalins 18.32 24⇓*e*P **P** **20 45 50.1 -1.6**
YSS pmax pmax
comp=Z,73nm,2.2s
XLT XiLinHaoTe 18.41 321 *e*P **Pn** **20 45 53.8 +0.6**
XLT PP **sP** **20 46 10.1 +2.2**
XLT S **Sn** **20 49 12.8 -5.0**
XLT SS **SnSn** **20 49 37.5 +5.5**
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,98nm,5.7s
XLT LR LR
comp=Z,89nm,11.5s
XLT LR LR
comp=Z,810nm,12.0s
XLT LR LR
comp=Z,1μm,11.6s
KLR Kul'dur 18.65 359 *i* P **P** **20 45 55.2 -0.1**
KLR pmax pmax
comp=Z,60nm,1.3s
KLR Kul'dur 18.65 359 P **P** **20 45 55.3 -0.1**
comp=Z,1.4nm,0.3s,baz=180,slow=7.0,SNR=48
comp=Z,21nm,0.8s
ENH Enshi 19.52 275 P **P** **20 46 04.0 -1.1**
HHC Hu-ho-hao-te 19.55 307 *e*P Pn 20 46 15.3 +8.3
HHC pP sP 20 46 22.0 +1.4
HHC *e*S **Sn** **20 49 51.9 +6.3**
HHC SS **SnSn** **20 50 13.3 +13**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,290nm,4.7s
HHC LR LR
comp=N,1μm,11.8s
HHC LR LR
comp=E,2μm,11.6s
HHC LR LR
comp=Z,2μm,11.8s
XAN Xi'an 19.91 286⇓P **P** **20 46 08.5 -0.8**
XAN pP Pn 20 46 14.3 +3.1
XAN S **S** **20 49 46.9 -4.1**
XAN pmax pmax
comp=Z,23nm,1.3s
XAN pmax pmax
comp=Z,280nm,4.1s
XAN LR LR
comp=Z,3μm,15.8s
XAN LR LR
comp=Z,1μm,17.1s
XAN LR LR
comp=Z,920nm,11.2s

HEH HeiHe 19.99 351 *e*P **P** **20 46 09.5 -0.4**
HEH sP **pP** **20 46 18.1 -1.6**
HEH S **Sn** **20 49 56.8 +1.1**
HEH pmax pmax
comp=Z,31nm,1.2s
HEH pmax pmax
comp=Z,230nm,3.7s
HEH LR LR
comp=Z,300nm,12.2s
HEH LR LR
comp=Z,620nm,12.2s
HEH LR LR
comp=Z,540nm,13.3s
BTO Baotou 20.53 305 *e*P Pn 20 46 18.5 0.0
BTO pP pP 20 46 22.6 -3.4
BTO sP pwP 20 46 25.5 -2.8
BTO PP **PnPn** **20 46 40.0 +5.4**
BTO S Sn 20 50 08.8 -0.3
BTO sS sS 20 50 14.5 -4.5
BTO SS **SnSn** **20 50 33.8 +10**
BTO pmax pmax
comp=Z,10.0nm,1.3s
BTO pmax pmax
comp=Z,280nm,5.3s
BTO LR LR
comp=Z,2μm,14.5s
BTO LR LR
comp=Z,1μm,11.6s
BTO LR LR
comp=Z,2μm,13.7s
HIA Hailar 20.91 337 *ce*P **P** **20 46 20.9 +1.0**
HIA pmax pmax
comp=Z,9.0nm,0.9s
TYV Tymovskoe 21.75 18 *e*P **P** **20 46 29.2 +0.3**
TYV pmax pmax
comp=Z,11nm,1.6s
TYV pmax pmax
comp=Z,100nm,4.6s
GYA Guiyang 22.72 266⇓ *i*P **P** **20 46 38.4 -1.3**
GYA pmax pmax
comp=Z,11nm,1.2s
GYA pmax pmax
comp=Z,160nm,4.5s
GYA LR LR
comp=Z,1μm,17.2s
GYA LR LR
comp=Z,390nm,17.8s
GYA LR LR
comp=Z,860nm,16.2s
QIZ Qiongzhong 23.21 246 P **P** **20 46 44.8 +0.2**
QIZ S **S** **20 50 56.1 +2.7**
QIZ LR LR
comp=Z,590nm,18.4s
QIZ LR LR
comp=Z,750nm,18.4s
QIZ LR LR
comp=Z,510nm,20.1s
ZEA Zeya 23.43 353 *e*P **P** **20 46 44.8 -1.6**
ZEA pmax pmax
comp=Z,10.0nm,0.3s
ZEA MLR MLR
comp=N,200nm,12.0s
ZEA MLR MLR
comp=Z,200nm,12.0s
LZH Lanzhou 24.22 291⇑ *i*P **P** **20 46 54.6 +0.5**
LZH sP pP 20 47 02.4 -2.6
LZH SS **SnSn** **20 51 57.3 +2.8**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH LR LR
comp=Z,630nm,15.3s
LZH LR LR
comp=Z,800nm,17.2s
LZH LR LR
comp=Z,1μm,18.0s
CD2 Chengdu 24.36 278 P **P** **20 46 54.0 -1.3**
CD2 S **S** **20 51 14.0 +2.1**
CD2 sS sS 20 51 22.5 -7.1
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,200nm,6.7s
CD2 LR LR
comp=Z,990nm,11.9s
CD2 LR LR
comp=Z,1μm,12.2s
CD2 LR LR
comp=Z,1μm,12.4s
ULN Ulaanbaatar 25.82 319 P **P** **20 47 07.3 -1.3**
ULN Ulaanbaatar 25.82 319 *ce*P **P** **20 47 07.6 -1.0**
ULN pmax pmax
comp=Z,10.0nm,1.3s
SONM Songino Array 26.18 318 P **P** **20 47 10.1 -1.7**
SONM Songino Array 26.18 318 P **P** **20 47 10.1 -1.7**
SONM pmax pmax
comp=Z,6.0nm,1.4s
SONM Songino Array 26.18 318 P **P** **20 47 09.8 -2.0**
comp=Z,0.7nm,0.7s,baz=135,slow=10,SNR=7.3
comp=Z,0.7nm,0.7s
PZH PanZhiHua 26.95 269 P **P** **20 47 17.3 -1.6**
PZH S **S** **20 51 55.8 +2.5**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,120nm,4.2s
PZH LR LR
comp=Z,650nm,20.0s
PZH LR LR
comp=Z,460nm,18.0s
PZH LR LR
comp=Z,340nm,22.5s
GTA Gaotai 27.78 297 P **P** **20 47 26.8 +0.5**
GTA sP pP 20 47 36.8 -0.5
GTA LR LR
comp=Z,290nm,16.4s
GTA LR LR
comp=Z,500nm,15.6s
GTA LR LR
comp=Z,580nm,15.3s
PEA0B Petropavlovsk- 29.23 32⇑ *e*P **P** **20 47 37.8 -1.0**
PETK Petropavlovsk- 29.23 32 P **P** **20 47 37.4 -1.4**
PETK Petropavlovsk- 29.23 32 P **P** **20 47 38.6 -0.2**
comp=Z,7.7nm,0.8s,baz=212,slow=8.2,SNR=6.4
PETK LR LR 21 01 05.4
comp=Z,171nm,18.9s,baz=228,slow=40
comp=Z,7.7nm,0.8s
TNCH TengChong 30.16 268 P **P** **20 47 47.5 -0.1**
TNCH pP pP 20 47 50.6 -8.0
TNCH PP **PnPn** **20 48 45.1 -1.0**
TNCH S **S** **20 52 43.8 -0.1**
TNCH SS **SnSn** **20 54 19.9 +0.1**
TNCH pmax pmax
comp=Z,5.0nm,1.5s
TNCH pmax pmax
comp=Z,66nm,3.8s
TNCH LR LR
comp=Z,590nm,13.4s
TNCH LR LR
comp=Z,340nm,14.2s
TNCH LR LR
comp=Z,710nm,18.5s
YAK Yakutsk 31.52 358 P **P** **20 47 57.8 -1.1**
YAK lAmb lAmb 20 48 00.7
comp=Z,12nm,0.8s
YAK Yakutsk 31.52 358 *e*P **P** **20 47 58.5 -0.4**
YAK *e**PP **pP** **20 48 04.1 -5.7**
YAK *e* 20 48 57.6
YAK *e* 20 50 55.2
YAK *e*S **S** **20 53 00.1 -3.9**
YAK pmax pmax
comp=Z,5.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.6s
YAK pmax pmax
comp=Z,162nm,6.9s
YAK pmax pmax
comp=N,79nm,4.0s
YAK pmax pmax
comp=E,181nm,4.3s
YAK smax smax
comp=E,84nm,3.5s
YAK smax smax
comp=N,63nm,3.3s
YAK Yakutsk 31.52 358 P **P** **20 47 58.2 -0.7**
comp=N,0.5nm,0.5s,baz=33,slow=1.3,SNR=6.5
YAK LR LR 21 02 07.6
comp=N,15nm,18.8s,baz=136,slow=39
MA2 Magadan 31.63 18 P **P** **20 47 59.8 -0.1**
MA2 Magadan 31.63 18⇑ *e*P **P** **20 48 00.8 +0.9**
MA2 pmax pmax
comp=Z,7.0nm,0.9s
MA2 Magadan 31.63 18 P **P** **20 48 00.5 +0.5**
comp=Z,5.2nm,0.7s,baz=198,slow=11,SNR=7.9
comp=Z,5.2nm,0.7s
CHTO Chiang Mai 32.22 256 P **P** **20 48 04.0 -1.5**
CHTO Chiang Mai 32.22 256 P **P** **20 48 04.0 -1.5**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 32.38 256 P **P** **20 48 02.9 -4.1**
CMAR Chiang Mai Arr 32.38 256 P **P** **20 48 05.9 -1.1**
comp=Z,1.7nm,0.8s,baz=51,slow=7.4,SNR=15
CMAR LR LR 21 04 02.9
comp=Z,240nm,19.1s,baz=75,slow=42
comp=Z,1.7nm,0.8s
SEY Seymchan 34.91 16⇑ *i*P **P** **20 48 30.0 +1.6**
SEY pmax pmax
comp=Z,5.0nm,0.9s
SEY Seymchan 34.91 16 P **P** **20 48 29.2 +0.8**
comp=Z,2.5nm,0.7s,baz=217,slow=5.6,SNR=8.2
comp=Z,2.5nm,0.7s
WMQ Urumqi 37.35 303 *e*P **P** **20 48 52.5 +2.9**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,1μm,8.1s
WMQ LR LR
comp=Z,230nm,16.3s
DGZ Jazzator, Alta 38.47 313⇑ *e*P **P** **20 48 59.0 -0.1**
DGZ pmax pmax
comp=Z,3.0nm,1.5s
ZALV Zalesovo Beam 41.08 319 LR LR 21 07 53.7
comp=Z,288nm,20.2s,baz=117,slow=38
TIXI Tiksi 41.18 358 P **P** **20 49 21.4 +0.3**
TIXI Tiksi 41.18 358⇑ *e*P **P** **20 49 21.3 +0.2**
TIXI pmax pmax
comp=Z,15nm,1.5s
TIXI Tiksi 41.18 358 P **P** **20 49 21.2 +0.2**
comp=Z,0.1nm,0.4s,baz=161,slow=4.6,SNR=7.7
TIXI LR LR 21 07 44.5
comp=Z,18nm,20.0s,baz=198,slow=38
MKAR Makanchi Array 41.42 307 P **P** **20 49 22.8 -0.7**
comp=Z,0.6nm,0.8s,baz=92,slow=9.5,SNR=6.2
MKAR LR LR 21 08 21.0
comp=Z,275nm,21.0s,baz=104,slow=39
comp=Z,0.6nm,0.8s
BILL Bilibino 42.50 18 P **P** **20 49 33.4 +1.4**
BILL Bilibino 42.50 18 *i*P **P** **20 49 33.4 +1.4**
MTN Manton Dam 43.16 181 P **P** **20 49 36.8 -1.1**
MTN lAmb lAmb 20 49 39.6
comp=Z,22nm,1.2s
GSI Gunungsitoli 43.80 235 P **P** **20 49 44.7 +1.6**
GSI lAmb lAmb 20 49 45.7
comp=Z,47nm,1.5s
KURK Kurchatov 44.22 313 P **P** **20 49 45.0 -1.0**
KURK Kurchatov 44.22 313 P **P** **20 49 45.0 -1.0**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 44.26 313 P **P** **20 49 44.9 -1.5**
comp=Z,0.7nm,0.7s,baz=98,slow=9.0,SNR=6.6
comp=Z,0.7nm,0.7s
NRIK Noril'sk 46.28 340⇓ *i*P **P** **20 50 01.8 -0.4**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
NRIK Noril'sk 46.28 340 P **P** **20 50 01.6 -0.6**
comp=Z,1.8nm,0.7s,baz=112,slow=15,SNR=3.7
NRIK LR LR 21 10 44.9
comp=Z,235nm,20.8s,baz=135,slow=38
comp=Z,1.8nm,0.7s
AAK Ala-Archa 46.98 302 LR LR 21 13 13.6
comp=Z,307nm,18.2s,baz=81,slow=40
NIKH Nikolski High 47.83 44 P **P** **20 50 14.1 -0.3**
baz=266
GAMB Gambell 48.20 30 P **P** **20 50 17.0 -0.1**
baz=254
UNV Unalaska Valle 49.28 43 P **P** **20 50 25.7 +0.2**
baz=268
BVAR Borovoye Array 49.46 316 P **P** **20 50 26.4 -0.7**
comp=Z,1.1nm,0.5s,baz=98,slow=10,SNR=8.6
BVAR LR LR 21 14 15.7
comp=Z,226nm,21.7s,baz=84,slow=40
comp=Z,1.1nm,0.5s
BRVK Borovoye 49.53 316⇓ *e*P **P** **20 50 29.5 +2.0**
M11K Mekoryuk 50.03 35 P **P** **20 50 31.8 +0.6**
baz=262
TNA Tin City 50.23 28 P **P** **20 50 33.0 +0.4**
baz=256
WRA Warramunga Arr 50.26 177 P **P** **20 50 34.3 +1.0**
comp=Z,1.0nm,0.8s,baz=355,slow=8.4,SNR=4.6
comp=Z,1.0nm,0.8s
F14K Arctic Creek 50.86 28 P **P** **20 50 38.0 +0.6**
baz=258
K13K Kusilvak Mount 50.98 33 P **P** **20 50 38.2 -0.1**
baz=262
ANM Nome 51.08 29 P **P** **20 50 40.5 +1.5**
ANM lAmb lAmb 20 50 42.4
comp=Z,10nm,1.0s
ANM Nome 51.08 29 P **P** **20 50 40.5 +1.5**
ANM pmax pmax
comp=Z,10.0nm,1.0s
ANM Nome 51.08 29 P **P** **20 50 39.1 0.0**
baz=260
FALS False Pass 51.11 42 P **P** **20 50 39.5 +0.1**
baz=269
M13K Dall Lake 51.44 35 P **P** **20 50 41.7 -0.1**
baz=265
F15K North Star Dit 51.59 28 P **P** **20 50 42.9 0.0**
baz=259
J14K Nanvaranak Lak 51.60 32 P **P** **20 50 43.4 +0.4**
baz=263
G15K Niukluk 51.71 29 P **P** **20 50 43.9 +0.2**
baz=261
L14K Kuka Creek 51.85 34 P **P** **20 50 46.0 +1.1**
baz=265
C16K Lisburne Hills 51.85 25 P **P** **20 50 45.1 +0.4**
baz=257
M14K Bethel 52.15 35 P **P** **20 50 49.1 +2.0**
M14K lAmb lAmb 20 50 50.6
comp=Z,10nm,0.9s
M14K Bethel 52.15 35 P **P** **20 50 48.2 +1.1**
baz=266
N14K Kuskokwak Cree 52.23 36 P **P** **20 50 47.9 +0.2**
baz=267
O14K Tigyukauivet M 52.41 37 P **P** **20 50 48.2 -0.8**
baz=268
H16K Elim 52.42 30 P **P** **20 50 50.0 +1.0**
baz=263
L15K Ungalak Mounta 52.45 33 P **P** **20 50 49.5 +0.2**
baz=266
G16K Koyuk River 52.48 29 P **P** **20 50 49.7 +0.3**
baz=262
K15K Wolf Creek Mou 52.48 33 P **P** **20 50 49.5 -0.1**
baz=265
C17K DeLong Mountai 52.68 25 P **P** **20 50 50.9 0.0**
baz=259
RDOG Red Dog Mine 52.70 25 P **P** **20 50 52.2 +1.1**
RDOG lAmb lAmb 20 50 53.9
comp=Z,13nm,0.6s
RDOG Red Dog Mine 52.70 25 P **P** **20 50 51.6 +0.6**
baz=259
M15K Kasigluk River 52.77 35 P **P** **20 50 51.6 -0.1**
baz=267
SDPT Sand Point 52.80 41 P **P** **20 50 52.3 +0.3**
baz=271
E17K Hotham Inlet 52.94 27 P **P** **20 50 53.2 +0.4**
baz=261,SNR=8.4
J16K Anvik River 52.99 31 P **P** **20 50 54.3 +0.9**
baz=265
I17K Unalakleet 53.01 31 P **P** **20 50 53.4 +0.1**
baz=265
N15K Kwethluk River 53.05 35 P **P** **20 50 54.1 +0.4**
baz=268
F17K Baldwin Pennin 53.07 27 P **P** **20 50 54.4 +0.6**
baz=262
O15K Ungalikthiuk R 53.15 37 P **P** **20 50 54.9 +0.4**
baz=269
G17K Kiwalik Mounta 53.20 29 P **P** **20 50 54.9 +0.1**
baz=263
S14K Fog Glacier 53.30 40 P **P** **20 50 56.2 +0.4**
baz=271
PALK Pallekele 53.32 255 LR LR 21 17 34.1
comp=Z,135nm,18.0s,baz=146,slow=41
B18K Kokolik River 53.34 24 P **P** **20 50 56.3 +0.6**
baz=259,SNR=14
L16K Owhat River 53.41 33 P **P** **20 50 56.9 +0.5**
baz=267
C18K Utukok River 53.43 25 P **P** **20 50 57.2 +0.7**
baz=261
H17K Granite Mounta 53.45 29 P **P** **20 50 57.3 +0.7**
baz=264
E18K Tukpahlearik C 53.46 26 P **P** **20 50 57.7 +1.0**
baz=262
M16K Timber Creek 53.63 34 P **P** **20 50 59.9 +1.8**
baz=268
N16K Nishlik Lake 53.71 35 P **P** **20 50 59.9 +1.2**
baz=269
A19K Wainwright 53.74 23 P **P** **20 51 00.2 +1.5**
baz=260
CHGN Chignik 53.94 40 P **P** **20 51 01.8 +1.6**
baz=272
ASAR Alice Springs 53.95 178 P **P** **20 51 01.7 +1.0**
comp=Z,2.1nm,0.8s,baz=352,slow=7.4,SNR=11
comp=Z,2.1nm,0.8s
L17K Donlin 53.98 33 P **P** **20 51 02.2 +1.6**
baz=268
K17K Iditarod 54.01 32 P **P** **20 51 02.1 +1.4**
baz=268
O16K Kokwok River B 54.04 36 P **P** **20 51 01.6 +0.6**
baz=270
G18K Tagagawik 54.06 28 P **P** **20 51 02.1 +1.0**
baz=265
C19K Lookout Ridge 54.08 24 P **P** **20 51 01.9 +0.7**
baz=262
P16K Nushagak River 54.10 37 P **P** **20 51 02.2 +0.7**
baz=271
H18K Honhosa River 54.12 29 lAmb lAmb 20 51 04.4
comp=Z,8.4nm,0.9s
H18K Honhosa River 54.12 29 P **P** **20 51 02.3 +0.8**
baz=266
R16K Pilot Point 54.35 39 P **P** **20 51 03.6 +0.3**
baz=272
M17K Holitna River 54.38 34 P **P** **20 51 04.3 +0.8**
baz=269
N17K Nushagak Hills 54.49 35 P **P** **20 51 05.0 +0.7**
baz=270
D19K Kuna River 54.53 25 P **P** **20 51 05.9 +1.4**
baz=264
O17K Koliganek Bris 54.55 36 P **P** **20 51 05.8 +1.1**
baz=271
G19K Purcell Mounta 54.72 28 P **P** **20 51 07.0 +1.1**
baz=266
L18K Granite Mounta 54.74 33 P **P** **20 51 07.1 +1.0**
baz=269
J18K Innoko River 54.75 31 P **P** **20 51 06.4 +0.2**
baz=268
E19K Redstone River 54.76 26 P **P** **20 51 06.9 +0.7**
baz=265
Q16K King Salmon 54.80 37 P **P** **20 51 07.4 +0.9**
baz=272
P17K Kvichak River 54.90 37 P **P** **20 51 07.4 +0.2**
baz=272
H19K Roundabout Mou 54.94 29 P **P** **20 51 08.1 +0.6**
baz=267
B20K Meade River 55.04 23 P **P** **20 51 08.9 +0.8**
baz=264
TTA Tatalina 55.06 32 P **P** **20 51 09.5 +1.0**
baz=270
D20K Etivluk River 55.10 25 P **P** **20 51 09.6 +0.9**
baz=265
N18K Kilae Creek 55.13 35 P **P** **20 51 09.5 +0.5**
baz=271
M18K Stony River 55.15 34 P **P** **20 51 10.7 +1.6**
baz=271
E20K Nigu River 55.22 26 P **P** **20 51 10.1 +0.6**
baz=266
Q17K Contact Creek 55.22 38 P **P** **20 51 10.5 +0.8**
baz=273
J19K Poorman 55.25 31 P **P** **20 51 10.2 +0.4**
baz=269
F20K Avaraart Lake 55.31 27 P **P** **20 51 10.8 +0.7**
baz=267
A21K Barrow 55.37 22 P **P** **20 51 10.9 +0.4**
baz=263
O18K Koktuh Hills 55.50 36 P **P** **20 51 14.3 +2.7**
O18K lAmb lAmb 20 51 14.9
comp=Z,18nm,1.1s
O18K Koktuh Hills 55.50 36 P **P** **20 51 12.0 +0.4**
baz=272
P18K Big Mountain, 55.51 36 P **P** **20 51 12.4 +0.6**
baz=273
H20K Anotleneega Mo 55.60 29 P **P** **20 51 13.1 +0.9**
baz=269
L19K White Mountain 55.60 33 P **P** **20 51 12.3 -0.1**
baz=271
I20K Naaghedeneel 55.76 30 P **P** **20 51 13.8 +0.5**
baz=270,SNR=6.2
C21K Knifeblade Rid 55.79 24 P **P** **20 51 14.0 +0.4**
baz=266
N19K Bonanza Creek 55.82 35 P **P** **20 51 15.0 +1.0**
baz=272
M19K Big River Lodg 55.83 33 P **P** **20 51 14.8 +0.9**
baz=272
A22K Sinclair Lake 55.87 22 P **P** **20 51 14.0 0.0**
baz=265
B21K Ikpikpuk River 55.88 24 P **P** **20 51 14.6 +0.4**
baz=266
J20K Nowinta River 55.90 31 lAmb lAmb 20 51 17.8
comp=Z,17nm,0.8s
J20K Nowinta River 55.90 31 P **P** **20 51 15.1 +0.7**
baz=270,SNR=10
O19K Port Alsworth 55.93 35 P **P** **20 51 15.2 +0.6**
baz=273
K20K Telida 55.94 32 P **P** **20 51 15.5 +0.7**
baz=271
E21K Killik River 56.05 25 P **P** **20 51 15.8 +0.3**
baz=268
L20K Farewell, AK 56.05 33 P **P** **20 51 15.6 0.0**
baz=272
F21K Alatna River 56.20 27 P **P** **20 51 16.8 +0.2**
baz=269
ARU Arti 56.20 320 *ci*P **P** **20 51 16.0 -0.6**
ARU 20 53 21.7
ARU S **S** **20 59 05.3 +2.4**
ARU SS **SS** **21 02 44.5 -4.9**
ARU pmax pmax
comp=Z,12nm,2.0s
ARU Arti 56.20 320 LR LR 21 18 34.9
comp=Z,369nm,19.7s,baz=90,slow=40
SII Sitkinak Islan 56.26 40 P **P** **20 51 17.5 +0.3**
baz=276
B22K Teshekpuk Lake 56.34 23 P **P** **20 51 17.8 +0.4**
baz=267
Q19K Cape Douglas, 56.35 37 P **P** **20 51 17.5 -0.3**
baz=274
M20K Styx River 56.42 33 P **P** **20 51 18.3 0.0**
baz=273
H21K Melozitna Rive 56.46 29 P **P** **20 51 18.4 0.0**
baz=271
P19K Oil Pt 56.51 36 P **P** **20 51 19.5 +0.6**
baz=274
D22K Ayikyak River 56.54 25 P **P** **20 51 19.5 +0.6**
baz=268
OHAK Old Harbor 56.69 39 P **P** **20 51 21.5 +1.4**
baz=276
RSO Redoubt South 56.69 35 P **P** **20 51 22.0 +1.7**
F22K John River 56.70 26 P **P** **20 51 20.6 +0.5**
baz=270
CHUM Lake Minchumin 56.71 31 P **P** **20 51 21.2 +1.0**
baz=272,SNR=8.2
O20K Slope Mountain 56.78 35 P **P** **20 51 21.0 +0.1**
baz=274
PPLA Purkeypile 56.81 32 P **P** **20 51 21.7 +0.6**
baz=273
CAST Castle Rocks 56.83 31 P **P** **20 51 22.7 +1.6**
CAST lAmb lAmb 20 51 24.3
comp=Z,9.5nm,0.8s
CAST Castle Rocks 56.83 31 P **P** **20 51 21.6 +0.5**
baz=273,SNR=6.6
N20K Mount Spurr 56.91 34 P **P** **20 51 22.3 +0.6**
baz=274,SNR=5.2
G22K Bettles 56.97 27 P **P** **20 51 22.8 +0.9**
baz=271,SNR=18
KDAK Kodiak Island 57.01 38 P **P** **20 51 23.4 +1.0**
KDAK lAmb lAmb 20 51 26.6
comp=Z,16nm,1.1s
KDAK Kodiak Island 57.01 38 P **P** **20 51 23.4 +1.0**
KDAK pmax pmax
comp=Z,16nm,1.2s
KDAK Kodiak Island 57.01 38 P **P** **20 51 22.8 +0.5**
baz=276
H22K Ishtalitna Cre 57.05 28 P **P** **20 51 23.1 +0.6**

baz=272
SKT **Skwentna** 57.17 33 P P 20 51 24.6 +1.1
baz=274
C23K **Itkillik River** 57.28 24 P P 20 51 25.1 +1.0
baz=270
BPAW **Bear Paw Mtn.** 57.29 31 P P
BPAW IAmb IAmb 20 51 27.3
comp=Z,8.5nm,0.9s
BPAW **Bear Paw Mtn.** 57.29 31 P P 20 51 25.2 +0.9
baz=273
HOM **Homer** 57.31 36 P P 20 51 25.2 +0.8
baz=276
AKTO **Aktyubinsk** 57.31 313 LR LR 21 18 23.6
comp=Z,467nm,19.0s,baz=76,slow=39
MLY **Manley** 57.34 29 P P 20 51 26.8 +2.0
MLY IAmb IAmb 20 51 27.9
comp=Z,10nm,0.8s
MLY **Manley** 57.34 29 P P 20 51 25.7 +1.0
baz=273,SNR=12
KTH **Kantishna Hill** 57.35 31 P P 20 51 26.7 +1.9
KTH IAmb IAmb 20 51 29.2
comp=Z,21nm,1.3s
CAPN **Captain Cook N** 57.45 35 P P 20 51 26.7 +1.3
baz=275
COLD **Coldfoot** 57.47 27 P P 20 51 26.6 +1.1
baz=272
G23K **Bananza Creek** 57.56 27 P P 20 51 27.0 +0.8
baz=272
SUA **Susitna One** 57.59 34 P P 20 51 27.6 +1.0
SUA **Susitna One** 57.59 34 P P 20 51 26.7 +0.2
baz=275
TRF **Thorofare Moun** 57.64 31 P P 20 51 28.3 +1.3
TRF **Thorofare Moun** 57.64 31 P P 20 51 27.3 +0.3
baz=274
E23K **Chandalar** 57.67 26 P P 20 51 27.5 +0.5
baz=272
CUT **Chulitna** 57.73 33 P P 20 51 27.7 +0.3
baz=275
BRSE **Bradley Lake S** 57.76 36 P P 20 51 28.4 +0.7
baz=276
I23K **Minto, Yukon-K** 57.92 29 P P 20 51 30.1 +1.4
I23K IAmb IAmb 20 51 33.6
comp=Z,13nm,1.4s
I23K **Minto, Yukon-K** 57.92 29 P P 20 51 29.8 +1.1
baz=274
D24K **Happy Valley** 57.93 25 P P 20 51 29.3 +0.6
baz=272
C24K **Franklin Bluff** 57.95 24 P P 20 51 30.0 +1.2
baz=272,SNR=12
NEA2 **Nenana** 58.09 30 P P 20 51 31.8 +1.9
NEA2 **Nenana** 58.09 30 P P 20 51 30.3 +0.4
baz=275,SNR=12
E24K **Your Creek** 58.09 26 P P 20 51 31.1 +1.2
baz=273
RC01 **Rabbit Creek A** 58.11 34 P P 20 51 30.6 +0.5
baz=276
MCK **McKinley** 58.22 31 P P 20 51 31.6 +0.8
baz=275,SNR=5.0
RND **Reindeer** 58.28 31 P P 20 51 32.3 +0.9
RND **Reindeer** 58.28 31 P P 20 51 32.3 +0.9
RND pmax pmax
comp=Z,20nm,0.8s
PMR **Palmer** 58.34 33 P P 20 51 32.4 +0.7
baz=276
F24K **Squaw Lake** 58.35 26 P P 20 51 32.9 +1.1
baz=274
SEW **Seward** 58.36 35 P P 20 51 32.5 +0.7
baz=277
MDM **Murphy Dome** 58.41 29 P P 20 51 33.6 +1.5
GHO **Glory Hole Cre** 58.42 33 P P 20 51 34.0 +1.6
GHO IAmb IAmb 20 51 36.1
comp=Z,16nm,1.0s
WAT1 **Susitna Watana** 58.48 32 P P 20 51 32.7 0.0
baz=276
H24K **Noodor Dome** 58.48 28 IAmb IAmb 20 51 35.6
comp=Z,11nm,1.1s
H24K **Noodor Dome** 58.48 28 P P 20 51 33.3 +0.6
baz=275,SNR=9.1
G24K **Hadweenzic Riv** 58.58 27 IAmb IAmb 20 51 36.7
comp=Z,7.9nm,0.7s
G24K **Hadweenzic Riv** 58.58 27 P P 20 51 33.8 +0.6
baz=275
COLA **College** 58.58 30 P P 20 51 33.7 +0.4
baz=276
CCB **Clear Creek Bu** 58.62 30 P P 20 51 34.8 +1.2
KNK **Knik Glacier** 58.69 34 P P 20 51 35.1 +0.9
KNK **Knik Glacier** 58.69 34 P P 20 51 34.2 0.0
baz=277
SML **Sawmill** 58.70 33 P P 20 51 35.2 +1.0
SML **Sawmill** 58.70 33 P P 20 51 35.2 +1.0
SML pmax pmax
comp=Z,22nm,1.1s
SML **Sawmill** 58.70 33 P P 20 51 34.9 +0.7
baz=277
POKR **Poker Plat Res** 58.74 29 P P 20 51 36.1 +1.7
POKR **Poker Plat Res** 58.74 29 P P 20 51 35.3 +0.9
baz=276,SNR=12
D25K **Kavik River** 58.79 24 P P 20 51 35.5 +0.7
baz=274
WAT6 **Susitna Watana** 58.88 32 P P 20 51 36.5 +0.9
baz=277
M23K **Glacier View** 58.98 33 P P 20 51 37.0 +0.8
baz=278
DHY **Denali Highway** 58.99 32 P P 20 51 37.5 +1.1
DHY IAmb IAmb 20 51 38.6
comp=Z,12nm,1.2s
DHY **Denali Highway** 58.99 32 P P 20 51 37.1 +0.8
baz=277
IL31 59.00 30 P P 20 51 37.3 +1.1
IL31 IAmb IAmb 20 51 38.7
comp=Z,6.4nm,0.9s
ILAR **Eielson Array** 59.00 30 P P 20 51 37.3 +1.1
ILAR **Eielson Array** 59.00 30 P P 20 51 37.3 +1.1
ILAR **Eielson Array** 59.00 30 P P 20 51 37.0 +0.8
comp=Z,4.1nm,0.7s,baz=266,slow=5.9,SNR=57
comp=Z,4.1nm,0.7s
HDA **Harding Lake** 59.02 30 P P 20 51 36.9 +0.5
HDA **Harding Lake** 59.02 30 P P 20 51 37.3 +0.9
baz=277,SNR=9.2
G25K **Bearman Lake** 59.11 27 P P 20 51 37.5 +0.5
baz=276
SCM **Sheep Creek Mo** 59.17 33 P P 20 51 37.6 +0.1
baz=278
E25K **Arctic Village** 59.18 26 P P 20 51 40.0 +2.5
E25K IAmb IAmb 20 51 40.8
comp=Z,6.9nm,1.1s
E25K **Arctic Village** 59.18 26 P P 20 51 37.3 -0.1
baz=276,SNR=8.4
F25K **Christian Rive** 59.21 26 P P 20 51 38.1 +0.4
baz=276
C26K **Camden Bay** 59.25 24 P P 20 51 38.6 +0.7
baz=275
P23K **Montague Islan** 59.40 35 P P 20 51 39.7 +0.6
baz=279
FYU **Fort Yukon** 59.48 27 P P 20 51 42.0 +2.5
PRP **Porcupine Dome** 59.49 29 P P 20 51 40.9 +1.2
PRP IAmb IAmb 20 51 44.0
comp=Z,6.8nm,0.8s
PRP **Porcupine Dome** 59.49 29 P P 20 51 39.8 +0.1
baz=277,SNR=7.0
K24K **Donnelly Dome** 59.60 31 P P 20 51 40.1 -0.4
baz=278
BMAR **Burnt Mountain** 59.63 26 P P 20 51 43.2 +2.6
M24K **Tolsona, Glenn** 59.67 33 P P 20 51 43.1 +2.2
M24K **Tolsona, Glenn** 59.67 33 P P 20 51 41.0 +0.1
baz=279
J25K **Salcha River,** 59.67 30 P P 20 51 41.1 +0.2
baz=278
F26K **Sheenjek River** 59.77 26 P P 20 51 41.1 -0.4
baz=277,SNR=23
PAX **Paxson** 59.86 32 P P 20 51 41.7 -0.7
baz=279
KLU **Klutina** 59.88 33 P P 20 51 43.9 +1.4
KLU IAmb IAmb 20 52 24.9
comp=Z,16nm,1.2s
KLU **Klutina** 59.88 33 P P 20 51 42.2 -0.3
baz=279
G26K **Porcupine Rive** 60.00 27 P P 20 51 42.9 -0.2
baz=278
RIDG **Independent Ri** 60.02 31 P P 20 51 43.5 +0.2
baz=279
HARP **HAARP** 60.09 32 P P 20 51 44.7 +0.9
baz=279
SCRK **Sand Creek** 60.36 30 P P 20 51 46.8 +1.0
SCRK IAmb IAmb 20 51 47.8
comp=Z,9.9nm,0.8s
SCRK **Sand Creek** 60.36 30 P P 20 51 46.4 +0.6
baz=279,SNR=7.8
J26L **Joseph Creek** 60.46 30 IAmb IAmb 20 51 48.4
comp=Z,6.8nm,0.8s
J26L **Joseph Creek** 60.46 30 P P 20 51 47.4 +1.0
baz=279,SNR=8.9
N25K **Chitina, Valde** 60.49 33 P P 20 51 47.6 +0.9
baz=280
I26K **Coal Creek Min** 60.50 29 P P 20 51 47.1 +0.6
baz=279
BMRM **Bremner River** 60.60 34 P P 20 51 47.5 +0.2
baz=281
E27K **Coleen River** 60.65 25 P P 20 51 47.7 +0.2
baz=279
D27M **Malcolm River** 60.71 24 P P 20 51 48.7 +0.7
baz=279
L26K **Log Cabin Wild** 60.81 31 P P 20 51 50.3 +1.6
L26K IAmb IAmb 20 51 51.6
comp=Z,6.7nm,0.9s
L26K **Log Cabin Wild** 60.81 31 P P 20 51 49.0 +0.3
baz=280
G27K **Doyon Strip** 60.85 27 P P 20 51 49.8 +0.9
baz=280
KAIM **Kayak Island** 60.89 35 P P 20 51 50.2 +1.0
baz=281
H27K **Steamboat Moun** 61.00 28 P P 20 51 50.4 +0.4
baz=280
I27K **Kandik River** 61.08 28 P P 20 51 50.6 0.0
baz=280
M26K **Nabesna, AK** 61.08 32 P P 20 51 50.9 +0.3
baz=281
K27K **Chicken** 61.18 30 P P 20 51 51.9 +0.7
baz=281
E28M **Babbage River** 61.33 25 P P 20 51 52.5 +0.4
baz=281
F28M **Old Crow** 61.39 26 P P 20 51 54.5 +1.9
F28M IAmb IAmb 20 51 56.0
comp=Z,16nm,1.2s
F28M **Old Crow** 61.39 26 P P 20 51 53.3 +0.8
baz=281,SNR=9.8
EGAK **Eagle** 61.43 29 P P 20 51 53.4 +0.6
EGAK IAmb IAmb 20 51 55.6
comp=Z,7.5nm,1.2s
EGAK **Eagle** 61.43 29 P P 20 51 53.4 +0.6
baz=281
D28M **Stokes Point** 61.48 24 P P 20 51 53.5 +0.5
baz=281
L27K **Beaver Creek,** 61.48 31 P P 20 51 53.5 +0.2
baz=282
BCAR **Beaver Creek A** 61.50 31 P P 20 51 55.4 +2.0
M27K **Edge Creek, AK** 61.60 32 P P 20 51 54.6 +0.4
baz=282
I28M **Miner Creek** 61.80 28 P P 20 51 55.7 +0.2
baz=282
DZM **Mont Dzumac** 61.85 144 *e*LR LR 21 10 06.2
comp=Z,62nm,23.0s
E29M **Blow River** 61.96 25 P P 20 51 57.3 +0.9
baz=282
BVCY **Beaver Creek** 62.05 32 P P 20 51 58.8 +1.7
baz=283
CTG **Chitna Glacier** 62.16 33 P P 20 51 58.3 +0.3
baz=283
G29M **Pine Creek** 62.24 26 P P 20 51 59.7 +1.4
baz=283,SNR=5.3
H29M **Whitestone** 62.26 27 P P 20 51 59.6 +1.2
baz=283
DAWY **Dawson** 62.33 30 P P 20 52 00.5 +1.5
DAWY IAmb IAmb 20 52 01.0
comp=Z,14nm,1.4s
DAWY **Dawson** 62.33 30 P P 20 51 59.5 +0.5
baz=283
YUK3 **Moose Creek** 62.38 32 P P 20 52 00.2 +0.7
baz=284
I29M **Ogilvie Camp,** 62.48 28 P P 20 52 01.3 +1.4
I29M IAmb IAmb 20 52 02.8
comp=Z,6.5nm,0.8s
I29M **Ogilvie Camp,** 62.48 28 P P 20 52 01.0 +1.1
baz=284
J29N **Klondike Camp** 62.74 29 IAmb IAmb 20 52 25.5
comp=Z,35nm,0.2s
J29N **Klondike Camp** 62.74 29 P P 20 52 02.5 +0.8
baz=284
YUK8 **Steele Glacier** 62.83 33 P P 20 52 03.2 +0.6
baz=284
EPYK **Eagle Plains** 62.87 27 P P 20 52 04.5 +1.9
EPYK **Eagle Plains** 62.87 27 P P 20 52 03.7 +1.2
baz=284,SNR=14
G30M **tAoh Zraii Nji** 62.91 26 P P 20 52 03.6 +0.8
baz=284
F30M **Barrier River** 62.92 25 P P 20 52 03.0 +0.2
baz=285
L29M **L29M** 63.11 31 P P 20 52 04.4 +0.3
baz=285
M29M **Somme Creek** 63.13 31 P P 20 52 03.9 -0.5
baz=285
K29M **Barlow Dome** 63.18 30 P P 20 52 04.5 -0.3
baz=285
BELG **Belogornoye** 63.22 317 LR LR 21 23 30.4
comp=Z,208nm,18.8s,baz=49,slow=40
I30M **Mount Dempster** 63.30 28 P P 20 52 05.3 -0.2
baz=285
YUK4 **Talbot Arm** 63.33 33 P P 20 52 05.8 -0.1
baz=285
PNL **Peninsula** 63.42 35 P P 20 52 05.4 -0.8
baz=285
J30M **Hart River** 63.49 29 P P 20 52 06.0 -0.8
baz=286
INK **Inuvik** 63.56 24 P P 20 52 08.0 +1.1
INK IAmb IAmb 20 52 09.2
comp=Z,7.8nm,0.7s
INK **Inuvik** 63.56 24 P P 20 52 08.0 +1.1
INK pmax pmax
comp=Z,8.0nm,0.7s
INK **Inuvik** 63.56 24 P P 20 52 06.7 -0.2
baz=286,SNR=8.4
INK **Inuvik** 63.56 24 LR LR 21 23 49.9
comp=Z,136nm,18.5s,baz=14,slow=40
YUK6 **Outpost Mounta** 63.57 33 P P 20 52 06.1 -1.4
baz=286
O29M **Mount Kennedy** 63.64 34 P P 20 52 06.5 -1.3
baz=286
G31M **Satah River** 63.67 26 P P 20 52 08.6 +0.9
G31M IAmb IAmb 20 52 10.7
comp=Z,9.2nm,0.8s
G31M **Satah River** 63.67 26 P P 20 52 07.0 -0.7
baz=286,SNR=8.2
F31M **Tsiigehtchic** 63.72 25 IAmb IAmb 20 52 13.7
comp=Z,20nm,1.5s
F31M **Tsiigehtchic** 63.72 25 P P 20 52 07.8 -0.2
baz=286,SNR=5.4
M30M **Minto, Yukon** 63.84 31 P P 20 52 08.9 -0.1
baz=286
H31M **Peel River** 63.96 27 P P 20 52 09.5 -0.2
baz=287,SNR=12
HYT **Haines Junctio** 64.01 33 P P 20 52 10.3 +0.1
baz=286
N30M **Aishikik Lake** 64.02 32 P P 20 52 09.8 -0.4
baz=286
P29M **Windy Craggy** 64.24 34 P P 20 52 12.1 +0.4
baz=287
P30M **Million Dollar** 64.47 34 P P 20 52 13.0 -0.2
baz=287
N31M **Braeburn, Yuko** 64.61 32 P P 20 52 14.4 +0.3
baz=288
O30N **Mendenhall** 64.69 33 P P 20 52 14.6 0.0
baz=288
M31M **Drury Creek, Y** 65.02 31 P P 20 52 17.7 +1.0
baz=288
A36M **Sachs Harbour** 65.03 20 P P 20 52 17.3 +0.8
A36M **Sachs Harbour** 65.03 20 P P 20 52 17.2 +0.6
baz=292,SNR=14
WHY **Whitehorse** 65.29 33 P P 20 52 18.7 +0.2
baz=289
SKAG **Skagway** 65.46 34 P P 20 52 20.2 +0.7
baz=289
FARO **Faro, Yukon** 65.48 31 P P 20 52 21.3 +1.7
FARO **Faro, Yukon** 65.48 31 P P 20 52 19.7 0.0
baz=289,SNR=6.1
N32M **Quiet Lake** 65.95 32 P P 20 52 21.7 -1.1
baz=290
P32M **Atlin** 66.19 34 P P 20 52 23.1 -1.2
baz=290
MAK **Makhachkala** 66.24 307 *e*P P 20 52 21.8 -3.0
MAK *e* 20 54 49.9
MAK *e*PPP PPP 20 56 26.8
MAK *e*S **S** **21 01 08.2 -2.6**
MAK *e*SS **SS** **21 05 23.2 -3.7**
MAK MLR MLR
comp=Z,233nm,14.0s
R32K **Eaglecrest** 66.25 35 P P 20 52 23.9 -0.7
baz=290
SIT **Sitka** 66.25 37 P P 20 52 24.8 +0.2
baz=290
P33M **Teslin, Yukon** 66.40 33 P P 20 52 25.3 -0.4
baz=290
C36M **Paulatuk** 66.42 22 P P 20 52 26.5 +1.0
C36M **Paulatuk** 66.42 22 P P 20 52 25.8 +0.3
baz=294,SNR=15
S32K **Killisnoo** 66.49 36 P P 20 52 26.0 -0.2
baz=290
Q32M **Nakina River** 67.11 34 P P 20 52 30.3 0.0
baz=291
R33M **Jennings River** 67.57 33 P P 20 52 33.3 +0.1
baz=292
U33K **Whale Pass** 67.73 37 P P 20 52 33.8 -0.2
baz=292
TGTN **Hyland Airport** 67.97 31 P P 20 52 35.6 0.0
baz=294,SNR=6.6
WRAK **Wrangell Islan** 68.01 37 P P 20 52 36.3 +0.5
baz=292
S34M **Telegraph Cree** 68.06 35 P P 20 52 35.7 -0.4
baz=293
WTLY **Watson Lake, Y** 68.30 32 P P 20 52 37.2 -0.4
baz=294
DLBC **Dease Lake** 68.39 34 P P 20 52 37.5 -0.8
baz=293
ZEI **Tsey** 68.77 308 *e*P P 20 52 43.4 +2.3
ZEI pmax pmax
comp=Z,4.0nm,1.3s
T35M **Bob Quinn** 68.86 36 P P 20 52 40.8 -0.4
baz=294
KBZ **Khabaz** 69.08 309¶ *e*P P 20 52 43.2 +0.5
KBZ pmax pmax
comp=Z,5.0nm,1.2s
KBZ **Khabaz** 69.08 309 P P 20 52 42.9 +0.2
comp=Z,0.6nm,0.5s,baz=90,slow=9.1,SNR=1.9
KBZ LR LR 21 26 40.4
comp=Z,266nm,18.6s,baz=65,slow=39
comp=Z,0.6nm,0.5s
KIV **Kislovodsk** 69.14 309 *e*P P 20 52 41.5 -1.7
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,194nm,17.0s
WRGLY **Wrigley** 69.28 28 P P 20 52 43.0 -0.6
baz=297
KOTAN **Kotaneelee Air** 70.44 31 P P 20 52 52.1 +1.3
baz=297
RES **Resolute Bay** 70.64 12 P P 20 52 53.0 +1.2
RES IAmb IAmb 20 52 54.1
comp=Z,7.2nm,0.8s
RES **Resolute Bay** 70.64 12 P P 20 52 53.0 +1.2
RES pmax pmax
comp=Z,7.0nm,0.8s
FINES **FINESS Array B** 70.78 331 P P 20 52 53.1 +0.2
FINES **FINESS Array B** 70.78 331 *i* P P 20 52 53.2 +0.4
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES **FINESS Array B** 70.78 331 P P 20 52 52.5 -0.4
comp=Z,4.5nm,0.7s,baz=53,slow=5.6,SNR=12
FINES LR LR 21 25 52.3
comp=Z,369nm,18.5s,baz=32,slow=38
comp=Z,4.5nm,0.7s
YKA **Yellowknife Ar** 73.15 26 P P 20 53 08.0 +0.9
YKA **Yellowknife Ar** 73.15 26 P P 20 53 08.0 +0.9
comp=Z,2.2nm,0.7s,baz=300,slow=5.8,SNR=35
comp=Z,2.2nm,0.7s
AKASG **Malin Array Be** 74.45 320 P P 20 53 15.2 +0.4
comp=Z,0.8nm,0.6s,baz=54,slow=6.0,SNR=5.1
AKASG LR LR 21 28 49.2
comp=Z,292nm,18.4s,baz=6.0,slow=38
comp=Z,0.8nm,0.6s
HFS **Hagfors** 76.56 333 P P 20 53 26.9 +0.1
comp=Z,9.4nm,1.1s,baz=65,slow=8.6,SNR=4.8
comp=Z,9.4nm,1.1s
NOA **NORSAR Array B** 76.92 335 P P 20 53 29.2 +0.3
comp=Z,1.9nm,1.0s,baz=51,slow=5.5,SNR=2.6
comp=Z,1.9nm,1.0s
BR131 **Keskin Array S** 77.06 308‖ *e*P P 20 53 32.0 +1.8
BRTR **Keskin Array B** 77.06 308 P P 20 53 31.5 +1.3
comp=Z,1.5nm,0.8s,baz=90,slow=3.7,SNR=7.5
BRTR LR LR 21 29 59.4
comp=Z,133nm,18.9s,baz=350,slow=38
comp=Z,1.5nm,0.8s
MLR **Muntele Rosu** 79.01 317 LR LR 21 31 52.0
comp=Z,338nm,21.6s,baz=12,slow=38
MMAI **Mount Meron Ar** 79.07 302 LR LR 21 35 19.8
comp=Z,97nm,18.6s,baz=66,slow=41
EDM **Edmonton** 79.11 34 P P 20 53 41.7 +0.5
EDM IAmb IAmb 20 53 46.4
comp=Z,26nm,1.4s
EDM **Edmonton** 79.11 34 P P 20 53 41.7 +0.5
EDM pmax pmax
comp=Z,26nm,1.4s
NEW **Newport** 80.09 39 P P 20 53 47.4 +0.9
baz=305
CLL **Collm** 82.51 326 *e*P P 20 54 00.0 +0.7
CLL **Collm** 82.51 326 *e*P P 20 54 00.0 +0.7
MSO **Missoula** 82.67 39 P P 20 54 01.4 +1.0
baz=308
FCC **Fort Churchill** 83.07 22 IAmb IAmb 20 54 04.0
comp=Z,5.0nm,0.8s
RONA **Rosalia, Austr** 83.15 322 *e*PcP PcP 20 54 05.6 -1.7
comp=Z,9.7nm,1.6s
RAR **Rarotonga** 83.22 119 LR LR 21 30 24.6
comp=Z,62nm,18.2s,baz=185,slow=35
CONA **Conrad Observa** 83.24 323 *e*PcP P 20 54 04.8 +1.5
comp=Z,9.4nm,1.4s
GERES **GERESS Array B** 83.76 324 P P 20 54 06.4 +0.5
comp=Z,1.7nm,0.8s,baz=53,slow=5.2,SNR=2.7
comp=Z,1.7nm,0.8s
ARSA **Arzberg** 83.84 322 *e*PcP PcP 20 54 09.0 -1.2
comp=Z,6.3nm,1.4s
EGMT **Eagleton** 84.14 37 P P 20 54 08.5 +0.6
baz=310
HLID **Hailey** 84.39 42 P P 20 54 10.4 +1.0
baz=308
SOKA **Soboth** 84.46 322 *i* PcP P 20 54 10.8 +1.3
comp=Z,12nm,1.0s
BIOA **Bad Ischl, Aus** 84.54 323 *e*PcP P 20 54 11.4 +1.6
comp=Z,8.8nm,1.2s
FRB **Frobisher Bay** 84.59 9 LR LR 21 34 55.1
comp=Z,174nm,18.2s,baz=22,slow=38
BOZ **Bozeman (W)** 84.70 39 P P 20 54 11.8 +1.0
baz=309
RYN **Ryan** 84.80 48 IAmb IAmb 20 54 14.1
comp=Z,4.2nm,0.8s
KVN **Kaiserville** 84.83 47 P P 20 54 13.2 +1.5
KVN IAmb IAmb 20 54 14.3
comp=Z,5.4nm,0.6s
KVN **Kaiserville** 84.83 47 P P 20 54 13.2 +1.5
KVN pmax pmax
comp=Z,5.0nm,0.6s
NVAR **Mina Array Bea** 85.06 48 P P 20 54 13.8 +1.0
NVAR **Mina Array Bea** 85.06 48 P P 20 54 14.1 +1.3
comp=Z,2.7nm,0.6s,baz=297,slow=5.3,SNR=26
comp=Z,2.7nm,0.6s
KBA **Koelnbreinsper** 85.09 323 *e*PcP P 20 54 14.4 +1.6
comp=Z,6.8nm,1.7s
LESA **Schwarzleotal** 85.21 324 *e*PcP PcP 20 54 15.5 -0.9
comp=Z,13nm,1.6s
MYKA **Terra Mystica** 85.23 323 *i* PcP P 20 54 14.5 +1.1
comp=Z,8.8nm,1.6s
IDI **Anoyia** 85.30 308 LR LR 21 36 18.2
comp=Z,60nm,18.5s,baz=56,slow=38
H17A **Grant Village** 86.04 40 P P 20 54 18.6 +1.0
baz=310
PKM **Mcpherson Peak** 86.09 52 P P 20 54 18.8 +0.8
baz=305
FLWY **Flagg Ranch** 86.17 40 IAmb IAmb 20 54 23.8
comp=Z,19nm,1.5s
RLMT **Red Lodge** 86.28 39 P P 20 54 19.2 +0.4
baz=311
CWC **Cottonwood Cre** 86.35 49 P P 20 54 19.9 +0.6
baz=306
GRAC **Grapevine Rang** 86.50 49 P P 20 54 20.1 +0.3
baz=306
SCZ2 **Santa Cruz Isl** 86.72 52 P P 20 54 21.3 +0.4
baz=305
LAO **LASA Array** 86.83 36 P P 20 54 21.1 -0.2
baz=313
R11B **Troy Canyon, C** 86.83 47 P P 20 54 21.9 +0.3
baz=307
DAVOX **Davos/Dischmat** 87.06 324 LR LR 21 37 23.5
comp=Z,296nm,20.0s,baz=10.0,slow=38
LRMC **Laurel Mtn Rad** 87.18 50 P P 20 54 24.2 +0.9
baz=306

TPNV	**Topopah Spring**	**87.24**	**48**	P		**P**	**20 54 25.4**	**+1.8**
TPNV	**Topopah Spring**	**87.24**	**48**	P		**P**	**20 54 25.4**	**+1.8**
TPNV				pmax		pmax		
	comp=Z,3.0nm,0.9s							
TPNV	**Topopah Spring**	**87.24**	**48**	P		**P**	**20 54 24.7**	**+1.1**
	baz=307							
EDW2	**Edwards Air Fo**	**87.32**	**51**	P		**P**	**20 54 24.5**	**+0.7**
	baz=306							
DUG	**Dugway, Tooele**	**87.40**	**44**	P		**P**	**20 54 25.5**	**+1.3**
	baz=309							
BW06	**Boulder Array**	**87.65**	**40**	P		**P**	**20 54 25.7**	**+0.2**
	baz=311							
PD31	**Pinedale Array**	**87.65**	**40**	P		**P**	**20 54 26.1**	**+0.6**
PDAR	**Pinedale Array**	**87.65**	**40**	P		**P**	**20 54 26.1**	**+0.6**
PDAR	**Pinedale Array**	**87.65**	**40**	P		**P**	**20 54 26.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=329,slow=1.7,SNR=7.6							
	comp=Z,0.7nm,0.7s							
SHOC	**Shoshone, Teco**	**87.85**	**49**	P		**P**	**20 54 27.0**	**+0.7**
	baz=307							
GSC	**Goldstone, Bar**	**87.86**	**50**	P		**P**	**20 54 27.2**	**+0.7**
	baz=306							
CIS	**Catalina Islan**	**87.89**	**52**	P		**P**	**20 54 27.9**	**+1.3**
	baz=306							
ULM	**Lac du Bonnet**	**89.01**	**28**	P		**P**	**20 54 32.8**	**+1.3**
ULM				IAmb		IAmb	20 54 33.5	
	comp=Z,4.4nm,0.8s							
ULM	**Lac du Bonnet**	**89.01**	**28**	P		**P**	**20 54 32.5**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=306,slow=5.5,SNR=6.4							
	comp=Z,2.7nm,0.7s							
PFO	**Pinyon Flats O**	**89.09**	**51**	P		**P**	**20 54 32.9**	**+0.6**
	baz=307							
PPT2	**Papeete2**	**89.15**	**111**	*e*LR		LR	21 23 05.4	
	comp=Z,78nm,22.8s							
NEE2	**Needles Airpor**	**89.61**	**49**	P		**P**	**20 54 35.8**	**+1.1**
	baz=308							
RSSD	**Black Hills**	**89.71**	**37**	P		**P**	**20 54 36.1**	**+0.9**
	baz=314							
BC3	**Big Chuckawall**	**89.74**	**50**	P		**P**	**20 54 36.1**	**+0.7**
	baz=307							
IKP	**In-Ko-Pah, Jac**	**89.90**	**52**	P		**P**	**20 54 37.0**	**+0.8**
	baz=307							
O20A	**White River Ci**	**90.13**	**42**	P		**P**	**20 54 38.0**	**+0.8**
	baz=312							
N23A	**Red Feather La**	**90.91**	**40**	P		**P**	**20 54 41.2**	**+0.3**
	baz=313							
WUAZ	**Wupatki**	**91.23**	**47**	P		**P**	**20 54 42.8**	**+0.4**
	baz=310							
ISCO	**Idaho Springs**	**91.84**	**41**	P		**P**	**20 54 45.6**	**+0.2**
	baz=313							
MVCO	**Mesa Verde**	**91.90**	**44**	P		**P**	**20 54 45.4**	**-0.1**
	baz=311							
SUSD	**Miller**	**92.02**	**34**	P		**P**	**20 54 46.1**	**+0.4**
	baz=318							
TUC	**Tucson**	**93.64**	**49**	P		**P**	**20 54 54.0**	**+0.5**
	baz=310							
SPMN	**Marine on St.**	**94.22**	**30**	P		**P**	**20 54 56.0**	**+0.2**
	baz=322							
ANMO	**Albuquerque**	**94.64**	**45**	P		**P**	**20 54 58.4**	**+0.3**
	baz=313							
KMBO	**Kilima Mbogo**	**94.77**	**271**	LR		LR	21 40 24.6	
	comp=Z,54nm,18.7s,baz=84,slow=37							
Y22D	**IRIS PASSCAL I**	**94.94**	**46**	P		**P**	**20 54 59.5**	**0.0**
	baz=312							
Y22F	**Passcal Instru**	**94.94**	**46**	P		**P**	**20 54 59.1**	**-0.4**
	baz=312							
121A	**Cookes Peak, D**	**95.43**	**47**	P		**P**	**20 55 00.8**	**-1.0**
	baz=312							
JFWS	**Jewell Farm**	**97.18**	**30**	P		**P**	**20 55 07.1**	**-2.2**
	baz=324							
MNTX	**Cornudas Mount**	**97.50**	**46**	P		**P**	**20 55 09.4**	**-1.5**
	baz=313							
BINY	**Binghamton**	**103.11**	**21**	P		**Pdif**	**20 55 32.9**	**-2.9**
	baz=336							
L61B	**Northampton**	**103.85**	**19**	P		**Pdif**	**20 55 36.4**	**-2.6**
	baz=338							

*IDC **15** 20:43:42.2±1.2,11°.19N×125°.33E,h0km,mb4.0/9, mbtmp4.0/9,MS3.7/8,Error ellipse: s-maj=33.2km s-min=23.9km az=63.0*
*NEIC **15** 20:43:44.9±2.2,11°.11N±0°.07×125°.39E±0°.06,h19km±6km, mb4.6/21,Error ellipse: s-maj=11.5km s-min=5.9km az=139.0*

ISC 15 20:43:43.0±0.6,**11°.13N**±0°.07×**125°.37E**±0°.10,**h10**km,**n50,** σ1s**10**/39,**mb4.4**/20,**MS3.4**/5,**1D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.04**	**177**	Pn	**Pn**	**20 44 44.4**	**-0.7**
TGY	**Tagaytay City**	**5.24**	**305**	Pn	**Pn**	**20 45 02.2**	**+0.7**
	baz=320,slow=6.7						
KKM	**Kota Kinabalu**	**10.37**	**242**	Pn	**Pn**	**20 46 12.9**	**+0.9**
TPUB	**Ta-pu**	**12.92**	**340**	Pn	**Pn**	**20 46 45.4**	**-1.4**
JMZ	**Minamidaito 2**	**15.62**	**20**	Pn	**Pn**	**20 47 23.5**	**+0.1**
JOW	**Kunigami**	**15.85**	**10**	LR	LR	20 52 07.6	
	comp=Z,334nm,19.9s,baz=154,slow=32						
KAPI	**Kappang**	**16.99**	**200**	LR	LR	20 56 08.2	
	comp=Z,183nm,18.6s,baz=13,slow=44						
GUMO	**Guam**	**19.20**	**81**	LR	LR	20 55 56.6	
	comp=Z,119nm,18.7s,baz=233,slow=38						
JNU	**Nakatsue**	**22.46**	**12**	LR	LR	20 56 07.4	
	comp=Z,156nm,21.6s,baz=178,slow=33						
KULM	**Kulim**	**25.14**	**259**	P	**P**	**20 49 05.8**	**-2.8**
KULM				IAmb	IAmb	20 49 38.3	
	comp=Z,13nm,1.2s						
KSRS	**Korea Array**	**26.31**	**5**	P	**P**	**20 49 20.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=184,slow=9.9,SNR=4.8						
KSRS				LR	LR	20 59 30.0	
	comp=Z,106nm,20.6s,baz=195,slow=36						
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.55**	**289**	P	**P**	**20 49 21.6**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=89,slow=8.3,SNR=6.4						
	comp=Z,1.2nm,0.9s						
MJAR	**Matsushiro Arr**	**27.83**	**23**	LR	LR	21 00 11.4	
	comp=Z,82nm,18.6s,baz=217,slow=36						
AS31	**Alice Springs**	**35.58**	**166**	P	P	20 50 34.7	-6.1
ASAR	**Alice Springs**	**35.58**	**166**	P	**P**	**20 50 41.6**	**+0.8**
KLR	**Kul'dur**	**38.35**	**7**	LR	LR	21 06 50.3	
	comp=Z,88nm,21.8s,baz=228,slow=36						
ULN	**Ulaanbaatar**	**39.72**	**341**	P	**P**	**20 51 16.7**	**+0.9**
SONM	**Songino Array**	**39.91**	**340**	P	**P**	**20 51 17.9**	**+0.5**
SONM	**Songino Array**	**39.91**	**340**	P	**P**	**20 51 17.0**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=142,slow=7.3,SNR=7.2						
	comp=Z,1.4nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**40.83**	**73**	T	T	21 36 22.6	
	baz=266,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.84**	**73**	T	T	21 36 18.9	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**40.85**	**73**	T	T	21 36 24.0	
	baz=266,slow=74						
STKA	**Stephens Creek**	**45.50**	**161**	*e*P	**P**	**20 52 04.5**	**+1.7**
STKA	**Stephens Creek**	**45.50**	**161**	P	**P**	**20 52 04.0**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=356,slow=13,SNR=5.9						
	comp=Z,2.4nm,0.7s						
PETK	**Petropavlovsk-**	**49.23**	**25**	P	**P**	**20 52 31.9**	**+0.4**
	comp=Z,6.6nm,1.1s,baz=234,slow=12,SNR=2.5						
	comp=Z,6.6nm,1.1s						
MK31	**Makanchi Array**	**50.81**	**323**	P	**P**	**20 52 44.1**	**+0.3**
MKAR	**Makanchi Array**	**50.81**	**323**	P	**P**	**20 52 42.7**	**-1.0**
MKAR	**Makanchi Array**	**50.81**	**323**	P	**P**	**20 52 43.5**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=116,slow=8.2,SNR=15						
	comp=Z,2.5nm,0.9s						
YAK	**Yakutsk**	**50.91**	**3**	P	**P**	**20 52 44.0**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=200,slow=2.2,SNR=1.2						
MAKZ	**Makanchi**	**51.00**	**323**	P	**P**	**20 52 45.1**	**0.0**
MAKZ				IAmb	IAmb	20 52 46.5	
	comp=Z,6.4nm,1.2s						
NIL	**Nilore**	**52.52**	**304**	P	**P**	**20 52 54.9**	**-1.9**
NIL				IAmb	IAmb	20 53 03.8	
	comp=Z,13nm,1.0s						
ZAA0	**Zalesovo Array**	**53.45**	**331**	P	**P**	**20 53 01.5**	**-1.7**
ZALV	**Zalesovo Beam**	**53.45**	**331**	P	**P**	**20 53 02.6**	**-0.6**
ZALV	**Zalesovo Beam**	**53.45**	**331**	P	**P**	**20 53 03.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=133,slow=10,SNR=3.9						
	comp=Z,0.9nm,0.7s						
KURK	**Kurchatov**	**54.86**	**326**	P	**P**	**20 53 13.4**	**-0.2**
KURBB	**Kurchatov Arra**	**54.87**	**325**	P	**P**	**20 53 13.9**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=123,slow=7.4,SNR=19						
	comp=Z,2.9nm,0.7s						
MIDW	**Midway**	**56.04**	**64**	P	**P**	**20 53 20.1**	**-2.2**
KBL	**Kabul**	**56.12**	**304**	P	**P**	**20 53 21.0**	**-2.2**
KBL				IAmb	IAmb	20 53 39.8	
	comp=Z,3.7nm,0.9s						
KKAR	**Karatay Array**	**57.02**	**314**	P	**P**	**20 53 29.4**	**+0.2**
KKAR	**Karatay Array**	**57.02**	**314**	P	**P**	**20 53 29.8**	**+0.6**
KKAR				IAmb	IAmb	20 53 39.2	
	comp=Z,6.8nm,1.2s						
BVAR	**Borovoye Array**	**60.46**	**325**	P	**P**	**20 53 53.0**	**0.0**
	comp=Z,1.6nm,0.9s,baz=116,slow=10,SNR=5.9						
	comp=Z,1.6nm,0.9s						
TIXI	**Tiksi**	**60.51**	**1**	P	**P**	**20 53 54.5**	**+1.6**
BRVK	**Borovoye**	**60.53**	**325**	P	**P**	**20 53 53.7**	**+0.3**
NRIK	**Noril'sk**	**62.97**	**346**	P	**P**	**20 54 10.2**	**+0.7**
NRIK				IAmb	IAmb	20 54 31.9	
	comp=Z,5.6nm,1.1s						
GEYT	**Alibeck**	**65.32**	**307**	P	**P**	**20 54 25.2**	**-0.5**
GEYT				IAmb	IAmb	20 54 31.6	
	comp=Z,8.3nm,1.4s						
GEYT	**Alibeck**	**65.32**	**307**	LR	LR	21 24 09.6	
	comp=Z,216nm,18.2s,baz=64,slow=37						
GYA0B	**ALIBECK ARRAY**	**65.32**	**307**	P	**P**	**20 54 27.0**	**+1.3**
GYA0B				IAmb	IAmb	20 54 31.5	
	comp=Z,4.2nm,1.0s						
ABKAR	**Akbulak array**	**65.65**	**319**	P	**P**	**20 54 27.4**	**-0.1**
ABKAR	**Akbulak array**	**65.65**	**319**		**P**	**20 54 27.8**	**+0.3**
ABKAR				IAmb	IAmb	20 54 34.7	
	comp=Z,7.2nm,1.2s						
ARU	**Arti**	**68.02**	**327**	P	**P**	**20 54 42.4**	**-0.1**
ARU				IAmb	IAmb	20 55 20.6	
	comp=Z,13nm,1.5s						

*IDC **15** 20:48:47.8±1.6,11°.86N×124°.48E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=176.5km s-min=19.6km az=67.0*

ISC 15 20:48:49.3±1.4,**11°.8N**±0°.5×**12°4E**±°,**h10**km,**n6,**σ0s**77**/6, **mb3.6**/6,**Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.05**	**163**	P	**P**	**20 55 24.2**	**-1.0**
	1.0nm,0.9s,baz=345,slow=9.1,SNR=3.4						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**36.48**	**165**	P	**P**	**20 55 55.1**	**+0.3**
	0.6nm,0.5s,baz=350,slow=7.1,SNR=9.6						
	0.6nm,0.5s						
SONM	**Songino Array**	**38.95**	**341**	P	**P**	**20 56 15.8**	**+0.2**
	0.3nm,0.7s,baz=164,slow=7.2,SNR=2.1						
	0.3nm,0.7s						
STKA	**Stephens Creek**	**46.47**	**160**	P	**P**	**20 57 17.2**	**+0.5**
	3.1nm,0.8s,baz=336,slow=10.0,SNR=3.6						
	3.1nm,0.8s						
MKAR	**Makanchi Array**	**49.70**	**323**	P	**P**	**20 57 41.9**	**+0.2**
	0.4nm,0.9s,baz=134,slow=8.2,SNR=3.0						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**53.78**	**325**	P	**P**	**20 58 11.4**	**-0.6**
	0.4nm,0.7s,baz=129,slow=7.3,SNR=3.0						
	0.4nm,0.7s						

WEL 15 20:51:27.0±0.9,**36°S**±14°×**17°8E**±1°,**h222**km±13km, **M3.4**/18,**ML3.7**/22,**MLv3.4**/18,**Error ellipse: s-maj=0.0km s-min=0.0km az=127.9,confirmed,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.49**	**167**	P	Pn	20 52 02.4	0.0
MXZ				S	S	20 52 30.2	-0.1
HAZ	**Te Kaha**	**1.65**	**183**	P	Pn	20 52 03.4	-0.4
HAZ				S	S	20 52 32.3	-0.3
WMGZ	**Waiomatatini S**	**1.76**	**166**	P	Pn	20 52 04.9	+0.1
WMGZ				S	S	20 52 34.8	+0.4
PKGZ	**Pakihiroa**	**1.79**	**175**	P	Pn	20 52 05.3	+0.2
PKGZ				S	S	20 52 34.7	-0.2
RUGZ	**Raukumara Rang**	**1.86**	**185**	P	Pn	20 52 05.3	-0.6
PUZ	**Puketiti**	**1.98**	**171**	P	Pn	20 52 06.7	-0.2
PUZ				S	S	20 52 38.2	+0.1
TWGZ	**Tauwhareparae**	**2.07**	**178**	P	Pn	20 52 08.5	+0.8
URZ	**Urewera**	**2.24**	**196**	P	Pn	20 52 09.5	+0.1
URZ				S	S	20 52 43.3	+0.7
MWZ	**Matawai**	**2.24**	**187**	P	Pn	20 52 09.6	+0.1
MWZ				S	S	20 52 44.0	+1.2
TKGZ	**Te Karaka**	**2.33**	**181**	P	Pn	20 52 10.5	+0.2
TKGZ				S	S	20 52 44.8	+0.5
CNGZ	**Carnagh Statio**	**2.39**	**174**	P	Pn	20 52 11.3	+0.4
RAGZ	**Rawiri**	**2.41**	**189**	P	Pn	20 52 12.0	+0.7
RAGZ				S	S	20 52 47.7	+1.6
MUGZ	**Murupara**	**2.53**	**200**	P	Pn	20 52 13.0	+0.5
RIGZ	**Rimuhau**	**2.60**	**182**	P	Pn	20 52 13.3	0.0
SNGZ	**Shannon Statio**	**2.71**	**189**	P	Pn	20 52 15.0	+0.6
PRGZ	**Paritu Road**	**2.81**	**180**	P	Pn	20 52 16.0	+0.4
MTHZ	**Maungatanawha**	**2.86**	**197**	P	Pn	20 52 16.4	+0.2
MTHZ				S	S	20 52 55.8	+1.1
WCZ	**Waipu Caves**	**2.87**	**272**	P	Pn	20 52 14.9	-1.4
RAHZ	**Arahi**	**2.88**	**192**	P	Pn	20 52 16.7	+0.3
RAHZ				S	S	20 52 56.5	+1.5
KNZ	**Kokohu**	**2.92**	**183**	P	Pn	20 52 16.3	-0.4
KNZ				S	S	20 52 55.6	-0.1
MHGZ	**Mahia Peninsul**	**3.04**	**180**	P	Pn	20 52 18.3	+0.2
NMHZ	**Naumai**	**3.11**	**196**	P	Pn	20 52 19.7	+0.7
NMHZ				S	S	20 53 02.4	+2.6
ARHZ	**Aropaoanui**	**3.23**	**192**	P	Pn	20 52 20.5	+0.2
ARHZ				S	S	20 53 02.7	+0.5
KWHZ	**Kaweka Forest**	**3.51**	**199**	P	Pn	20 52 23.1	-0.5
OTVZ	**Oturere**	**3.52**	**209**	P	Pn	20 52 24.5	+0.6
BHHZ	**Black Hill Sta**	**3.67**	**203**	P	Pn	20 52 24.9	-0.7
BHHZ				S	S	20 53 10.7	-1.0
WNVZ	**Wahianoa**	**3.69**	**209**	P	Pn	20 52 25.5	-0.5
KAHZ	**Kahuranaki**	**3.77**	**192**	P	Pn	20 52 26.5	-0.2
PNHZ	**Pukenui**	**4.03**	**199**	P	Pn	20 52 28.7	-1.2
PNHZ				S	S	20 53 18.3	-1.1

*SCB **15** 21:16:33.8±1.4,21°.11S×67°.56W,h164km±13km,ML3.5/4, MW3.0,Error ellipse: s-maj=5.0km s-min=3.4km az=0.0*
*GUC **15** 21:16:34.3±0.7,21°.13S×67°.68W,h189km±5km,ML3.6*

ISC 15 21:16:32.9±1.9,**21°.13S**±0°.04×**67°.58W**±0°.05, **h181**km±17km,**n34,**σ0s**991**/54,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.68**	**246**	*e*P	**Pn**	**21 17 08.1**	**+1.1**
PB09				*e*S	**Sn**	**21 17 34.2**	**+0.9**
PB09	**IPOC Station P**	**1.68**	**246**	Pg	**Pn**	**21 17 08.4**	**+1.5**
PB08	**IPOC Station P**	**1.77**	**303**	*e*P	**Pn**	**21 17 09.0**	**+1.0**
PB08				*e*S	**Sn**	**21 17 35.3**	**+0.1**
PB08				IAML		21 17 36.9	
	comp=N,151nm,0.4s						
PB08	**IPOC Station P**	**1.77**	**303**	Pg	**Pn**	**21 17 09.1**	**+1.0**
PB01	**IPOC Station P**	**1.78**	**272**	*e*P	**Pn**	**21 17 08.0**	**+0.1**
PB01				*e*S	**Sn**	**21 17 34.5**	**-0.4**
PB01				IAML		21 17 37.4	
	comp=E,208nm,0.2s						
MOCB	**Mochara**	**1.82**	**94**	Pg	**Pn**	**21 17 09.0**	**+0.4**
MOCB				Sg	**Sn**	**21 17 34.5**	**-1.7**
MOCB				IAML		21 17 36.7	
	comp=E,77nm,0.7s						
LVC	**Limon Verde**	**1.92**	**220**	*e*P	**Pn**	**21 17 10.4**	**+0.8**
LVC				*e*S	**Sn**	**21 17 38.2**	**0.0**
LVC				IAML		21 17 40.9	
	comp=E,215nm,0.2s						
LVC	**Limon Verde**	**1.92**	**220**	Pg	**Pn**	**21 17 11.1**	**+1.5**
GO01	**Chusmiza**	**2.10**	**314**	*e*P	**Pn**	**21 17 12.0**	**+0.4**
GO01				*e*S	**Sn**	**21 17 41.4**	**-0.2**
GO01				IAML		21 17 48.4	
	comp=N,416nm,0.2s						
GO01	**Chusmiza**	**2.10**	**314**	Pg	**Pn**	**21 17 12.2**	**+0.6**
PB02	**IPOC Station P**	**2.17**	**264**	*e*P	**Pn**	**21 17 12.6**	**+0.5**
PB02				*e*S	**Sn**	**21 17 41.2**	**-1.1**
PB02				IAML		21 17 43.9	
	comp=E,221nm,0.2s						
PB02	**IPOC Station P**	**2.17**	**264**	Pg	**Pn**	**21 17 12.5**	**+0.5**
PB02				Sg	**Sn**	**21 17 42.5**	**+0.2**
PB02				IAML		21 17 45.0	
	comp=E,186nm,0.3s						
PB07	**IPOC Station P**	**2.23**	**254**	*e*P	**Pn**	**21 17 13.0**	**+0.3**
PB07				*e*S	**Sn**	**21 17 42.6**	**-1.1**
PB07				IAML		21 17 43.4	
	comp=N,214nm,0.3s						
PB07	**IPOC Station P**	**2.23**	**254**	Pg	**Pn**	**21 17 13.3**	**+0.6**
HMBC	**Humberstone**	**2.32**	**291**	*e*P	**Pn**	**21 17 13.6**	**-0.1**
HMBC				*e*S	**Sn**	**21 17 44.2**	**-1.2**
HMBC				IAML		21 17 45.9	
	comp=N,355nm,0.2s						
HMBC	**Humberstone**	**2.32**	**291**	Pg	**Pn**	**21 17 13.8**	**+0.1**
HMBC				Sg	**Sn**	**21 17 44.2**	**-1.2**
HMBC				IAML		21 17 48.0	
	comp=N,254nm,0.3s						
PB11	**IPOC Station P**	**2.37**	**305**	*e*P	**Pn**	**21 17 14.4**	**+0.1**
PB11				*e*		21 17 15.7	
PB11				*e*S	**Sn**	**21 17 45.3**	**-1.2**
PB11	**IPOC Station P**	**2.37**	**305**	Pg	**Pn**	**21 17 14.5**	**+0.1**
PB11				Sg	**Sn**	**21 17 46.3**	**-0.3**
PB11				IAML		21 17 47.2	
	comp=N,641nm,0.2s						
PATCX	**Punta Patache**	**2.42**	**277**	*e*P	**Pn**	**21 17 14.9**	**+0.1**
PATCX				*e*S	**Sn**	**21 17 46.0**	**-1.4**
PATCX				IAML		21 17 48.0	
	comp=N,214nm,0.2s						
PB06	**IPOC Station P**	**2.43**	**229**	*e*P	**Pn**	**21 17 15.5**	**+0.6**
PB06				*e*S	**Sn**	**21 17 47.6**	**-0.1**
PB06				IAML		21 17 48.9	
	comp=E,314nm,0.2s						
TA01	**Diego Aracena**	**2.49**	**282**	*e*P	**Pn**	**21 17 15.3**	**-0.2**
TA01				*e*S	**Sn**	**21 17 46.6**	**-2.1**
TA01				IAML		21 17 49.8	
	comp=N,184nm,0.2s						
TA02	**Huaiquique**	**2.53**	**289**	Pg	**Pn**	**21 17 17.0**	**+0.9**
SOEO	**Opoqueri**	**2.57**	**354**	Pg	**Pn**	**21 17 17.6**	**+0.6**
PB04	**IPOC Station P**	**2.67**	**243**	*e*P	**Pn**	**21 17 18.1**	**+0.2**
PB04				*e*S	**Sn**	**21 17 51.4**	**-1.4**
PB04				IAML		21 17 55.2	
	comp=N,90nm,0.1s						
PB04	**IPOC Station P**	**2.67**	**243**	Pg	**Pn**	**21 17 18.2**	**+0.4**
PB15	**IPOC Station P**	**2.71**	**220**	*e*P	**Pn**	**21 17 19.2**	**+0.8**
PB15				*e*S	**Sn**	**21 17 53.6**	**-0.2**
PB15	**IPOC Station P**	**2.71**	**220**	Pg	**Pn**	**21 17 19.4**	**+1.0**
PB05	**IPOC Station P**	**2.98**	**234**	*e*P	**Pn**	**21 17 21.7**	**+0.3**
PB05				*e*S	**Sn**	**21 17 57.6**	**-1.7**
PB05				IAML		21 17 59.7	
	comp=E,86nm,0.3s						
PB16	**IPOC Station P**	**3.32**	**327**	*e*P	**Pn**	**21 17 27.0**	**+0.9**
PB16				*e*S	**Sn**	**21 18 08.1**	**+0.6**
PB16	**IPOC Station P**	**3.32**	**327**	Pg	**Pn**	**21 17 27.0**	**+0.9**
SOET	**ToroToro**	**3.43**	**29**	Pg	**Pn**	**21 17 27.0**	**-0.3**
BBOE	**La Paz, Chanca**	**4.31**	**355**	Pg	**Pn**	**21 17 39.8**	**+1.2**
BBOD	**La Paz, Gloria**	**4.57**	**348**	Pg	**Pn**	**21 17 43.0**	**+1.1**
LPAZ	**La Paz**	**4.84**	**354**	Pg	**Pn**	**21 17 46.2**	**+0.7**

WEL 15 21:30:31.2±1.0,**37°S**±5°×**17°9E**±°,**h12**km,**M3.2**/14, **ML3.6**/17,**MLv3.2**/14,**Error ellipse: s-maj=0.0km s-min=0.0km az=105.6,confirmed,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.79**	**230**	P	Pg	21 30 46.4	-0.2
MXZ				S	Sg	21 30 56.8	0.0
WMGZ	**Waiomatatini S**	**0.93**	**214**	P	Pn	21 30 49.8	-0.2
WMGZ				S	Sn	21 31 03.9	+0.6
PKGZ	**Pakihiroa**	**1.15**	**223**	P	Pb	21 30 52.7	-0.3
PKGZ				S	Sn	21 31 08.6	-0.2
PUZ	**Puketiti**	**1.20**	**212**	P	Pn	21 30 53.5	-0.4
PUZ				S	Sn	21 31 10.2	0.0
HAZ	**Te Kaha**	**1.24**	**235**	P	Pn	21 30 53.2	-1.2
HAZ				S	Sg	21 31 12.7	+1.5
TWGZ	**Tauwhareparae**	**1.42**	**217**	P	Pn	21 30 57.0	+0.1
TWGZ				S	Sb	21 31 16.1	+0.5
RUGZ	**Raukumara Rang**	**1.43**	**230**	P	Pb	21 30 57.5	-0.4
RUGZ				S	Sb	21 31 16.1	-0.1
CNGZ	**Carnagh Statio**	**1.58**	**205**	P	Pn	21 30 59.2	+0.1
TKGZ	**Te Karaka**	**1.69**	**214**	P	Pn	21 31 00.4	-0.1
MWZ	**Matawai**	**1.77**	**223**	P	Pn	21 31 01.5	-0.2
MWZ				S	Sn	21 31 23.0	-1.1
RAGZ	**Rawiri**	**1.95**	**222**	P	Pn	21 31 03.6	-0.5
RAGZ				S	Sn	21 31 27.3	-1.3
RIGZ	**Rimuhau**	**1.95**	**212**	P	Pn	21 31 02.1	-1.7
URZ	**Urewera**	**1.96**	**232**	P	Pn	21 31 04.4	+0.1
URZ				S	Sn	21 31 28.0	-0.9
PRGZ	**Paritu Road**	**2.09**	**206**	P	Pn	21 31 05.0	-1.0
OPRZ	**Ohinepanea**	**2.15**	**248**	P	Pn	21 31 06.8	0.0
SNGZ	**Shannon Statio**	**2.20**	**218**	P	Pn	21 31 07.1	-0.5
KNZ	**Kokohu**	**2.25**	**209**	P	Pn	21 31 06.5	-1.8
RTZ	**Ruatahuna**	**2.27**	**226**	P	Pn	21 31 09.0	+0.4
MHGZ	**Mahia Peninsul**	**2.29**	**203**	P	Pn	21 31 08.1	-0.7
MUGZ	**Murupara**	**2.31**	**231**	P	Pn	21 31 08.7	-0.4
TARZ	**Mount Tarawera**	**2.35**	**239**	P	Pn	21 31 10.7	+0.9
RRRZ	**Republican Roa**	**2.40**	**237**	P	Pn	21 31 10.7	+0.4
RAHZ	**Arahi**	**2.43**	**219**	P	Pn	21 31 10.9	+0.1
MTHZ	**Maungatanawha**	**2.52**	**224**	P	Pn	21 31 11.7	-0.3
KUZ	**Kuaotunu**	**2.70**	**276**	P	Pn	21 31 13.7	-0.6
NMHZ	**Naumai**	**2.71**	**220**	P	Pn	21 31 14.3	-0.4
ARHZ	**Aropaoanui**	**2.75**	**216**	P	Pn	21 31 14.4	-0.7
TOZ	**Tahuna Road**	**2.92**	**255**	P	Pn

DZM	**Mont Dzumac**	**4.14**	**193**	Pn	**Pn**	**22 21 19.9**	**+0.3**
	2.1nm,0.3s,baz=86,slow=13,SNR=26						
DZM				Sn	**Sn**	**22 22 06.2**	**-1.2**
	4.5nm,0.3s,baz=325,slow=22,SNR=10						
	4.2nm,0.3s						
HNR	**Honiara**	**11.23**	**318**	LR	LR	22 26 23.4	
	comp=Z,1µm,19.0s,baz=105,slow=33						
CTA	**Charters Tower**	**20.16**	**261**	LR	LR	22 31 49.6	
	comp=Z,64nm,18.1s,baz=78,slow=34						
STKA	**Stephens Creek**	**27.12**	**235**	P	**P**	**22 25 58.6**	**-0.5**
	1.4nm,0.6s,baz=303,slow=20,SNR=2.1						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**31.36**	**261**	P	**P**	**22 26 36.3**	**-0.6**
	0.7nm,0.8s,baz=90,slow=8.2,SNR=5.9						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**31.82**	**254**	P	**P**	**22 26 40.5**	**-0.5**
	0.7nm,0.5s,baz=80,slow=8.7,SNR=11						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**22 31 41.4**	**+1.8**
	1.1nm,0.3s,baz=33,slow=1.3,SNR=4.9						
	1.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**76.47**	**295**	P	**P**	**22 32 07.6**	**+1.4**
	0.6nm,0.5s,baz=126,slow=4.6,SNR=5.8						
	0.6nm,0.5s						
SONM	**Songino Array**	**85.25**	**324**	P	**P**	**22 32 52.8**	**+0.2**
	0.3nm,0.7s,baz=124,slow=7.5,SNR=2.5						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**89.27**	**49**	P	**P**	**22 33 12.1**	**-0.3**
	0.1nm,0.4s,baz=249,slow=6.7,SNR=1.4						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**89.58**	**18**	P	**P**	**22 33 11.2**	**-1.7**
	0.3nm,0.8s,baz=252,slow=4.8,SNR=4.4						
	0.3nm,0.8s						

TEH ***15*** *22:20:57.2,31°.82N×48°.80E,h15km±36km,ML3.5*
DSN ***15*** *22:21:03.5±1.4,31°.87N×49°.90E,h15km,ML3.4/6,Error ellipse: s-maj=55.8km s-min=11.6km az=44.0*
ISC 15 22:20:56.4±1.4,**31°.62N**±0°.07×**48°.78E**±0°.07,**h10km**,**n38**,
σ1§**26**/39,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.31**	**202**	Pg	**Pn**	**22 21 07.5**	**+0.5**
ABEH	**Behbahan**	**1.62**	**128**	Pg	**Pg**	**22 21 28.7**	**+1.2**
JHBN	**Jahan bin**	**1.72**	**69**	Pg	**Pn**	**22 21 27.0**	**+0.3**
ZNGN	**Zangian**	**1.83**	**74**	Pg	**Pn**	**22 21 29.6**	**+1.3**
IKFM	**Kafar-mosalman**	**2.06**	**338**	Pn	**Pn**	**22 21 30.8**	**-0.3**
IBRJ	**Brojen**	**2.13**	**81**	Pn	**Pn**	**22 21 33.8**	**+1.4**
KLNJ	**Kolanjah**	**2.48**	**103**	Pn	**Pn**	**22 21 39.7**	**+2.4**
HSAM	**Samen**	**2.59**	**357**	Pn	**Pn**	**22 21 37.8**	**-0.9**
IKOM	**Komasi**	**2.77**	**338**	Pn	**Pn**	**22 21 40.5**	**-0.4**
IGAR	**Gharneh**	**2.88**	**73**	Pn	**Pn**	**22 21 43.8**	**+1.2**
IKLH	**Kolahrood**	**2.91**	**54**	Pn	**Pn**	**22 21 43.3**	**+0.2**
IBZA	**Bozab**	**2.95**	**345**	Pn	**Pn**	**22 21 43.1**	**-0.5**
KCHF	**Cheshme Sefid,**	**3.03**	**332**	Pn	**Pn**	**22 21 43.7**	**-0.9**
QAMS	**Qamsar**	**3.06**	**46**	Pn	**Pn**	**22 21 44.5**	**-0.5**
IRAM	**Ramesheh**	**3.08**	**85**	Pn	**Pn**	**22 21 47.1**	**+1.8**
HAGD	**Aghdareh**	**3.21**	**5**	Pn	**Pn**	**22 21 46.5**	**-0.7**
IZEF	**Zefreh**	**3.27**	**66**	Pn	**Pn**	**22 21 48.5**	**+0.5**
IALM	**Almabolaq**	**3.28**	**351**	Pn	**Pn**	**22 21 47.4**	**-0.7**
KRSH	**Karshahi**	**3.67**	**49**	Pn	**Pn**	**22 21 53.5**	**+0.1**
IQOM	**Qom**	**3.75**	**30**	Pn	**Pn**	**22 21 53.7**	**-0.9**
IRAZ	**Razeghan**	**3.90**	**14**	Pn	**Pn**	**22 21 56.5**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**3.94**	**318**	Pn	**Pn**	**22 21 56.6**	**-0.4**
ISFB	**Sefidab**	**3.99**	**46**	Pn	**Pn**	**22 21 57.3**	**-0.4**
IVRN	**Varamin**	**4.18**	**35**	Pn	**Pn**	**22 21 59.7**	**-0.6**
ISAD	**Sadrabad**	**4.19**	**85**	Pn	**Pn**	**22 22 01.9**	**+1.3**
ANAR	**Anarak**	**4.47**	**68**	Pn	**Pn**	**22 22 04.7**	**+0.4**
ICHK	**Chekchek**	**4.83**	**81**	Pn	**Pn**	**22 22 09.8**	**+0.4**
IMEH	**Mehriz**	**4.99**	**91**	Pn	**Pn**	**22 22 13.0**	**+1.4**
TPRV	**Parvadeh(Tabas**	**6.84**	**76**	Pn	**Pn**	**22 22 37.9**	**+1.0**
TNSJ	**Nastanj**	**7.00**	**68**	Pn	**Pn**	**22 22 39.5**	**+0.5**
TKDS	**Koohdasht(Taba**	**7.31**	**72**	Pn	**Pn**	**22 22 43.8**	**+0.4**
SHME	**Shamm**	**8.51**	**129**	P	**Pn**	**22 22 58.3**	**-1.4**
NAZ	**Nazwa, Dubai**	**8.96**	**136**	P	**Pn**	**22 23 07.0**	**+1.1**
MSFE	**Esma-Masafi**	**9.00**	**132**	P	**Pn**	**22 23 06.9**	**+0.4**
MSFE				S	**Sn**	**22 24 43.2**	**-4.7**
ASUD	**Al Ashush, Dub**	**9.05**	**139**	P	**Pn**	**22 23 08.8**	**+1.7**
FAQ	**Al Faqa, Dubai**	**9.11**	**137**	P	**Pn**	**22 23 08.0**	**0.0**
HATD	**Hatta, Dubai**	**9.37**	**134**	P	**Pn**	**22 23 12.4**	**+0.9**
ALNE	**Al Ain**	**9.73**	**139**	P	**Pn**	**22 23 17.6**	**+1.0**

ATH ***15*** *22:44:06.6,35°.05N×27°.13E,h23km±5km,ML2.8/6, Manual Solution by A.Fokaefs This location: 2020/05/06 11:00:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
AFAD ***15*** *22:44:07.5±0.0,35°.21N×27°.33E,h10km±3km,ML2.0*
THE ***15*** *22:44:08.4,35°.17N×26°.94E,h0km±1km,ML2.2/4,Error ellipse: s-maj=5.7km s-min=0.9km az=148.0*
ISC 15 22:44:08.1±1.5,**35°.15N**±0°.09×**26°.95E**±0°.05,**h24km**±11km,
n23,σ1§**43**/39,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.42**	**30**	P	**Pb**	**22 44 16.2**	**-0.7**
KRPA				S	**Sb**	**22 44 22.9**	**0.0**
KARP	**Karpathos**	**0.43**	**23**	P	**Pb**	**22 44 16.7**	**-0.5**
KARP				S	**Sb**	**22 44 23.5**	**+0.1**
KARP	**Karpathos**	**0.43**	**23**	P	**Pb**	**22 44 17.0**	**-0.2**
KARP				S	**Sb**	**22 44 23.6**	**+0.2**
ZKR	**Zakros**	**0.60**	**267**	P	**Pn**	**22 44 20.4**	**-0.8**
ZKR				S	**Sn**	**22 44 30.2**	**0.0**
	622nm,0.5s						
ZKR	**Zakros**	**0.60**	**267**	P	**Pn**	**22 44 20.7**	**-0.5**
ZKR				S	**Sn**	**22 44 30.9**	**+0.7**
SIT2	**Siteia**	**0.70**	**275**	P	**Pn**	**22 44 22.3**	**-0.1**
SIT2				S	**Sn**	**22 44 33.7**	**+1.3**
FRMA	**Ierapetra Chan**	**1.01**	**263**	P	**Pb**	**22 44 25.8**	**-1.1**
FRMA				S	**Sn**	**22 44 39.6**	**-0.6**
	100nm,0.5s						
FRMA	**Ierapetra Chan**	**1.01**	**263**	P	**Pb**	**22 44 26.0**	**-0.9**
FRMA				S	**Sn**	**22 44 39.5**	**-0.6**
ARG	**Arkhangelos**	**1.43**	**41**	P	**Pb**	**22 44 34.0**	**-0.1**
ARG				S	**Sb**	**22 44 54.7**	**+2.8**
	85nm,0.6s						
YAZI	**Mula-Dat§a-**	**1.58**	**15**	P	**Pn**	**22 44 35.2**	**+0.6**
YAZI				S	**Sn**	**22 44 51.2**	**-3.1**
DAT	**Datca**	**1.66**	**18**	P	**Pn**	**22 44 35.9**	**+0.1**
DAT				S	**Sn**	**22 44 53.5**	**-2.9**
DAT				*i* AML	AML	22 45 06.0	
	comp=N,16nm,0.3s						
IDI	**Anoyia**	**1.70**	**275**	P	**Pb**	**22 44 38.0**	**-0.6**
IDI				S	**Sb**	**22 45 01.5**	**+1.9**
	42nm,0.4s						
IDI	**Anoyia**	**1.70**	**275**	P	**Pb**	**22 44 38.0**	**-0.6**
SNT5	**Nea Kammeni, S**	**1.78**	**315**	P	**Pn**	**22 44 38.2**	**+0.8**
TURN	**Turunc**	**1.93**	**32**	P	**Pn**	**22 44 40.0**	**+0.5**
TURN				S	**Sn**	**22 45 03.4**	**+0.4**
TURN				*i* AML	AML	22 45 12.0	
	comp=N,16nm,0.9s						
BDRM	**Kayabasi**	**1.96**	**12**	P	**Pb**	**22 44 43.8**	**+0.8**
APE	**Apeiranthos**	**2.24**	**329**	P	**Pn**	**22 44 44.3**	**+0.6**
IZZE	**Mula-Seydike**	**2.25**	**54**	P	**Pn**	**22 44 43.8**	**-0.1**
IZZE				*i* AML	AML	22 45 25.0	
	comp=N,14nm,0.5s						
CAEL	**Denizli, Camel**	**2.75**	**43**	P	**Pn**	**22 44 51.1**	**+0.3**
CAEL				S	**Sb**	**22 45 30.9**	**+0.9**
TAVA	**DENIZLI_Tavas**	**2.80**	**34**	P	**Pn**	**22 44 52.0**	**+0.5**
TAVA				S	**Sn**	**22 45 27.0**	**+2.4**
TAVA				*i* AML	AML	22 45 37.0	
	comp=N,8.6nm,0.6s						
ESEN	**Aydn-Nazilli**	**2.87**	**23**	P	**Pn**	**22 44 52.8**	**+0.4**
ESEN				S	**Sn**	**22 45 21.2**	**-5.0**
DNIZ	**Denizli-Tavas-**	**2.99**	**34**	P	**Pn**	**22 44 54.0**	**-0.1**
DNIZ				*i* AML	AML	22 45 49.0	
	comp=E,14nm,0.5s						
DNIZ				*i* AML	AML	22 45 50.0	
	comp=N,13nm,0.8s						
KIRA	**zmir-Kiraz**	**3.26**	**20**	P	**Pn**	**22 44 58.1**	**+0.4**
KIRA				S	Sn	22 45 28.1	-7.7
KIRA				*i* AML	AML	22 46 33.0	
	comp=E,5.6nm,3.5s						

NEIC ***15*** *22:44:35.9±1.2,36°.20N±0°.01×98°.70W±0°.02,h5km±1km, Error ellipse: s-maj=3.1km s-min=2.4km az=290.0*
TUL 15 22:44:36.3±1.2,**36°.20N**±0°.01×**98°.68W**±0°.02,**h5km**±5km,
ML2.6,**mb_Lg2.4**/15(NEIC),**ML2.6**/14(NEIC),**Error ellipse: s-maj=2.1km s-min=1.8km az=115.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.28**	**350**		Pg	22 44 42.3	+0.6
OK038				Sg	Sg	22 44 46.6	+1.1
OK038				IAML		22 44 49.6	
	987nm,0.3s						
OK038				IAML		22 44 50.8	
	1µm,0.3s						
U32A	**Winter Ranch,**	**0.31**	**304**	Pg	Pg	22 44 42.6	+0.2
U32A				Sg	Sg	22 44 47.2	+0.8
U32A				IAML		22 44 47.6	
	comp=E,707nm,0.3s						
U32A				IAML		22 44 47.6	
	comp=N,709nm,0.4s						
CSTR	**Hydro, Custer**	**0.56**	**181**	Pg	Pg	22 44 47.3	+0.3
CSTR				Sg	Sg	22 44 55.3	+1.1
ELIS	**Ellis County**	**0.61**	**257**	Pg	Pg	22 44 48.0	0.0
ELIS				Sg	Sb	22 44 57.5	-1.0
ELIS				IAML		22 45 06.0	
	comp=N,312nm,0.3s						
ELIS				IAML		22 45 08.5	
	comp=E,354nm,0.3s						
CROK	**Carrier**	**0.64**	**62**	Pg	Pg	22 44 48.7	+0.1
CROK				Sg	Sg	22 44 57.9	+1.0
CROK				IAML		22 45 03.5	
	comp=E,434nm,0.3s						
OK032	**Salt Plains WL**	**0.71**	**32**	Pg	Pg	22 44 50.0	+0.1
OK032				Sg	Sg	22 44 59.9	+0.8
GC02	**Grant County #**	**0.93**	**45**	Pg	Pg	22 44 53.6	-0.5
GC02				Sg	Sg	22 45 06.3	+0.2
KAN14	**Manchester OK**	**0.95**	**37**	Pg	Pg	22 44 53.6	-0.9
KAN17	**Caldwell West**	**1.12**	**41**	Pg	Pg	22 44 57.1	-0.7
KAN17				Sg	Sg	22 45 12.3	+0.1
KAN01	**Argonia South**	**1.20**	**38**	Pg	Pg	22 44 59.0	-0.4
KAN01				Sg	Sg	22 45 15.0	0.0
KAN12	**Harper NE Stat**	**1.22**	**27**	Pg	Pg	22 44 59.6	-0.2
KAN12				Sg	Sg	22 45 15.1	-0.5
KAN13	**South Haven SW**	**1.26**	**50**	Pg	Pg	22 44 59.6	-0.9
KAN13				Sg	Sg	22 45 16.9	0.0
KAN09	**Caldwell North**	**1.26**	**42**	Pg	Pg	22 44 59.8	-0.8
KAN09				Sg	Sg	22 45 16.9	0.0
BLOK	**Blackwell**	**1.31**	**64**	Pg	Pn	22 45 00.1	-1.2
KS21	**Milan North St**	**1.36**	**37**	Pg	Pn	22 45 01.7	-0.3
FNO	**Franklin**	**1.41**	**132**		Pn	22 45 02.2	-0.4
OK048	**Pawnee Station**	**1.42**	**81**		Pn	22 45 02.5	-0.4
OK033	**Mehan**	**1.42**	**96**		Pn	22 45 02.4	-0.4
WMOK	**Wichita Mounta**	**1.47**	**183**		Pn	22 45 02.2	-1.2
OK051	**E0350 and S346**	**1.52**	**78**		Pn	22 45 04.3	+0.1
OK052	**Battle Ridge R**	**1.54**	**97**		Pn	22 45 04.6	+0.1
QUOK	**Quay**	**1.60**	**91**		Pn	22 45 05.2	-0.1
SMWD	**Samnorwood**	**1.68**	**230**		Pn	22 45 06.1	-0.3
X34A	**Smith Ranch, M**	**1.74**	**156**	Pn	Pn	22 45 07.9	+0.6
DEOK	**Depew**	**1.81**	**101**	Pn	Pn	22 45 08.7	+0.5
T35A	**Sooner Cattle**	**1.89**	**67**	Pn	Pn	22 45 10.2	+1.0
T35A				IAmb_Lg		22 45 36.2	
	comp=Z,11nm,0.7s						
R32A	**Long Quarter,**	**2.21**	**359**	Pn	Pn	22 45 14.8	+1.0
R32A				IAmb_Lg		22 45 46.0	
	comp=Z,12nm,0.9s						
WTFS	**Witchita Falls**	**2.44**	**176**	Pn	Pn	22 45 17.7	+0.9
AMTX	**Amarillo**	**2.78**	**243**	Pn	Pn	22 45 22.1	+0.5
APMT	**Aspermont**	**3.11**	**203**	IAmb_Lg		22 46 18.8	
	comp=Z,8.4nm,0.9s						
RTBA	**Rita Blanca**	**3.28**	**275**	Pn	Pn	22 45 29.2	+0.7
PLPT	**Palo Pinto**	**3.40**	**175**	Pn	Pn	22 45 29.8	-0.3
HHAR	**Hobbs**	**3.83**	**87**	Pn	Pn	22 45 36.9	+0.8
HHAR				IAmb_Lg		22 46 36.8	
	comp=Z,8.3nm,0.7s						
POST	**Post**	**3.90**	**217**	Pn	Pn	22 45 36.3	-0.7
POST				IAmb_Lg		22 46 43.7	
	comp=Z,15nm,0.8s						
S39A	**Bolivar**	**4.54**	**69**	Pn	Pn	22 45 45.1	-0.7
S39A				IAmb_Lg		22 47 05.5	
	comp=Z,7.9nm,0.8s						
T25A	**Trinidad**	**4.70**	**283**	Pn	Pn	22 45 47.5	-0.7
T25A				IAmb_Lg		22 47 05.7	
	comp=Z,8.4nm,0.7s						
SGCY	**Sterling City**	**4.74**	**206**	IAmb_Lg		22 47 06.7	
	comp=Z,10nm,0.8s						
MGMO	**Mountain Grove**	**5.24**	**78**	Pn	Pn	22 45 55.6	+0.2
OGNE	**Ogallala**	**5.41**	**332**	Pn	Pn	22 45 57.9	+0.1
R40A	**Maddies Statio**	**5.52**	**66**	Pn	Pn	22 45 58.6	-0.6
SDCO	**Great Sand Dun**	**5.67**	**288**	Pn	Pn	22 46 01.9	+0.4
SDCO				IAmb_Lg		22 47 39.7	
	comp=Z,3.5nm,1.0s						
SAND	**Sanderson**	**6.87**	**206**	Pn	Pn	22 46 17.7	-0.1
ALPN	**Alpine**	**7.14**	**217**	Pn	Pn	22 46 21.2	-0.4
TX31	**Lajitas Ar. Si**	**8.03**	**213**	Pn	Pn	22 46 32.3	-1.5

ISN ***15*** *22:53:49.5±0.7,33°.78N×45°.54E,h6km±10km,ML3.0*
TEH ***15*** *22:53:50.1,33°.70N×45°.67E,h8km±65km,ML3.3*
ISC 15 22:53:50.5±0.9,**33°.70N**±0°.05×**45°.60E**±0°.05,**h13km**,**n19**,
σ1§**14**/22,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.65**	**155**	*e*Sg	**Sn**	**22 54 15.8**	**+0.2**
IBDR				*e*Pg	**Pn**	**22 54 05.2**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.80**	**359**	Pg	**Pb**	**22 54 05.9**	**-0.5**
IGHG	**Ghaleghazi**	**1.02**	**52**	Pg	**Pb**	**22 54 09.2**	**-1.0**
BHD	**Baghdad**	**1.11**	**247**	*e*Pg	**Pg**	**22 54 12.0**	**+0.2**
BHD				*e*Sg	**Sn**	**22 54 28.0**	**+1.2**
BHD				AML	AML	22 54 34.8	
	comp=E,1µm,0.6s						
IDHR	**Dehrash**	**1.19**	**33**	Pg	**Pb**	**22 54 12.1**	**-1.0**
KCHF	**Cheshme Sefid,**	**1.33**	**64**	Pg	**Pn**	**22 54 14.5**	**-0.4**
IKOM	**Komasi**	**1.66**	**73**	Pg	**Pb**	**22 54 20.6**	**-0.4**
ILIN	**Lien**	**1.66**	**43**	Pg	**Pb**	**22 54 20.7**	**-0.3**
IKFM	**Kafar-mosalman**	**1.88**	**95**	Pn	**Pb**	**22 54 23.9**	**-0.8**
IKRK	**Kirkuk**	**1.99**	**329**	*e*Pn	**Pn**	**22 54 24.0**	**+0.1**
IKRK				*e*Sn	**Sb**	**22 54 50.0**	**-1.2**
IKRK				AML	AML	22 55 01.0	
	comp=E,102nm,0.4s						
IKRK				AML	AML	22 55 07.2	
	comp=N,127nm,0.6s						
IBZA	**Bozab**	**2.03**	**67**	Pn	**Pb**	**22 54 25.7**	**-1.7**
IALM	**Almabolaq**	**2.42**	**61**	Pn	**Pn**	**22 54 31.2**	**+1.1**
SDS1	**Sardasht. Az.**	**2.44**	**358**	Pn	**Pb**	**22 54 32.7**	**-1.7**
HSAM	**Samen**	**2.55**	**78**	Pn	**Pn**	**22 54 32.4**	**+0.6**
MAHB	**Mahabad**	**3.06**	**2**	Pn	**Pn**	**22 54 40.9**	**+2.2**
HAGD	**Aghdareh**	**3.14**	**68**	Pn	**Pn**	**22 54 41.1**	**+1.2**
IPIR	**Pirpir**	**4.55**	**101**	Pn	**Pn**	**22 55 00.6**	**+1.2**
QAMS	**Qamsar**	**4.83**	**88**	Pn	**Pn**	**22 55 03.9**	**+0.7**
IKLH	**Kolahrood**	**5.01**	**93**	Pn	**Pn**	**22 55 07.3**	**+1.6**

SJA ***15*** *23:03:53.3±0.6,24°.07S×66°.86W,h232km±6km,ML3.4, MW3.5*
GUC ***15*** *23:03:56.9±0.6,24°.06S×67°.23W,h233km±10km,ML3.7*
ISC 15 23:03:52.5±1.9,**24°.08S**±0°.04×**66°.95W**±0°.06,
h240km±17km,**n35**,σ1§**69**/60,**3C**,**Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.46**	**116**	*e*P	Pn	23 04 23.9	-5.9
YJA	**Yavi**	**2.31**	**35**	*e*P	**Pn**	**23 04 38.0**	**+0.4**
LVC	**Limon Verde**	**2.32**	**309**	*e*P	**Pn**	**23 04 39.1**	**+1.4**
LVC				*e*S	**S**	**23 05 12.8**	**-0.3**
LVC	**Limon Verde**	**2.32**	**309**	*e*P	**Pn**	**23 04 39.1**	**+1.4**
LVC				*i* S	**S**	**23 05 11.0**	**-2.1**
LVC				IAML		23 05 13.6	
	265nm,0.3s						
PB15	**IPOC Station P**	**2.47**	**290**	*e*P	**Pn**	**23 04 40.6**	**+1.6**
PB15				*e*S	**S**	**23 05 15.2**	**-0.3**
PB15				IAML		23 05 17.7	
	comp=Z,305nm,0.2s						
PB15	**IPOC Station P**	**2.47**	**290**	↑*i*P	**Pn**	**23 04 40.7**	**+1.6**
PB15				*i* S	**S**	**23 05 13.5**	**-2.0**
GO02	**Mina Guanaco**	**2.63**	**245**	*e*P	**Pn**	**23 04 42.4**	**+1.6**
GO02				*e*S	**S**	**23 05 18.4**	**-0.4**
GO02	**Mina Guanaco**	**2.63**	**245**	↑*i*P	**Pn**	**23 04 42.3**	**+1.6**
GO02				*i* S	**S**	**23 05 17.5**	**-1.2**
GO02				IAML		23 05 20.1	
	comp=N,204nm,0.2s						
PB06	**IPOC Station P**	**2.77**	**299**	*e*P	**Pn**	**23 04 43.6**	**+1.6**
PB06				*e*S	**S**	**23 05 20.5**	**-0.6**
PB06				IAML		23 05 24.0	
	comp=Z,80nm,0.2s						
PB06	**IPOC Station P**	**2.77**	**299**	↑*i*P	**Pn**	**23 04 43.8**	**+1.8**
PB06				*i* S	**S**	**23 05 19.2**	**-1.9**
PB06				IAML		23 05 22.0	

	comp=E,222nm,0.1s						
AHML	**Horco Molle**	**3.06**	**152**	*e*P	**Pn**	**23 04 45.3**	**+0.2**
AHML				*e*S	**S**	**23 05 26.1**	**-0.5**
PB09	**IPOC Station P**	**3.10**	**317**	*e*P	**Pn**	**23 04 48.0**	**+2.2**
PB09				*e*S	**S**	**23 05 27.9**	**+0.2**
PB09				IAML		23 05 30.3	
	comp=Z,52nm,0.2s						
PB09	**IPOC Station P**	**3.10**	**317**	*e*P	**Pn**	**23 04 48.0**	**+2.2**
PB09				*i* S	**S**	**23 05 26.9**	**-0.8**
PB09				IAML		23 05 30.1	
	comp=N,46nm,0.5s						
PB14	**IPOC Station P**	**3.20**	**260**	*e*P	**Pn**	**23 04 48.4**	**+1.5**
PB14				*e*S	**S**	**23 05 28.4**	**-1.4**
PB14				IAML		23 05 31.9	
	comp=Z,30nm,0.4s						
PB14	**IPOC Station P**	**3.20**	**260**	*e*P	**Pn**	**23 04 48.6**	**+1.7**
PB14				*e*S	**S**	**23 05 27.7**	**-2.0**
PB04	**IPOC Station P**	**3.42**	**300**	*e*P	**Pn**	**23 04 51.1**	**+1.8**
PB04				*e*S	**S**	**23 05 32.6**	**-1.5**
PB04				IAML		23 05 38.7	
	comp=Z,72nm,0.1s						
PB04	**IPOC Station P**	**3.42**	**300**	*e*P	**Pn**	**23 04 51.1**	**+1.8**
PB04				*i* S	**S**	**23 05 31.6**	**-2.4**
PB07	**IPOC Station P**	**3.58**	**310**	*e*P	**Pn**	**23 04 52.6**	**+1.4**
PB07				*e*S	**S**	**23 05 35.6**	**-1.8**
PB07				IAML		23 05 39.8	
	comp=Z,83nm,0.3s						
PB07	**IPOC Station P**	**3.58**	**310**	*e*P	**Pn**	**23 04 52.9**	**+1.7**
PB07				*i* S	**S**	**23 05 35.0**	**-2.5**
PB01	**IPOC Station P**	**3.83**	**322**	*e*P	**Pn**	**23 04 55.5**	**+1.5**
PB01				*e*S	**S**	**23 05 40.8**	**-1.7**
PB01				IAML		23 05 43.6	
	comp=Z,55nm,0.2s						
PB01	**IPOC Station P**	**3.83**	**322**	*e*P	**Pn**	**23 04 55.5**	**+1.5**
PB02	**IPOC Station P**	**3.87**	**315**	*e*P	**Pn**	**23 04 56.0**	**+1.5**
PB02				*e*S	**S**	**23 05 41.7**	**-1.8**
PB02				IAML		23 05 47.4	
	comp=Z,112nm,0.3s						
PB02	**IPOC Station P**	**3.87**	**315**	*e*P	**Pn**	**23 04 56.0**	**+1.5**
PB02				*i* S	**S**	**23 05 40.8**	**-2.6**
AC01	**Pan de Azucar**	**3.90**	**237**	*e*P	**Pn**	**23 04 55.1**	**+0.5**
AC01				IAML		23 05 46.2	
	comp=Z,26nm,0.6s						
AC01	**Pan de Azucar**	**3.90**	**237**	*i* P	**Pn**	**23 04 55.7**	**+1.1**
AC01				*e*S	**S**	**23 05 41.6**	**-2.2**
PATCX	**Punta Patache**	**4.39**	**317**	*e*P	**Pn**	**23 05 02.4**	**+1.7**
PATCX	**Punta Patache**	**4.39**	**317**	*e*P	**Pn**	**23 05 01.4**	**+0.7**
PATCX				*i* S	**S**	**23 05 52.3**	**-2.5**
PB08	**IPOC Station P**	**4.42**	**332**	*e*P	**Pn**	**23 05 04.1**	**+2.8**
PB08				*e*S	**S**	**23 05 55.9**	**0.0**
PB08				IAML		23 05 59.3	
	comp=Z,16nm,0.2s						
PB08	**IPOC Station P**	**4.42**	**332**	*e*P	**Pn**	**23 05 04.2**	**+2.8**
PB08				*i* S	**S**	**23 05 55.2**	**-0.7**
GO03	**Copiap**	**4.58**	**220**	*e*P	**Pn**	**23 05 04.3**	**+1.4**
TA01	**Diego Aracena**	**4.60**	**319**	*e*P	**Pn**	**23 05 04.3**	**+1.2**
TA01				IAML		23 06 11.4	
	comp=Z,12nm,0.5s						
HMBC	**Humberstone**	**4.66**	**324**	*e*P	**Pn**	**23 05 04.6**	**+0.6**
HMBC				*e*S	**S**	**23 05 57.9**	**-2.9**
HMBC	**Humberstone**	**4.66**	**324**	*e*P	**Pn**	**23 05 04.4**	**+0.4**
PB11	**IPOC Station P**	**4.98**	**329**	*e*P	**Pn**	**23 05 09.1**	**+1.1**
PB11				*e*S	**S**	**23 06 05.8**	**-2.1**
PB11				IAML		23 06 08.8	
	comp=Z,35nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.32**	**180**	*e*P	**Pn**	**23 05 13.9**	**+1.8**
ACLC				*e*S	S	23 06 01.8	-14
ACLC				IAML		23 06 17.6	
	comp=Z,6.9nm,3.8s						

IDC ***15*** *23:23:54.1±0.9,35°.23N×26°.91E,h0km,mb3.9/11, mbtmp3.8/19,ML3.1/7,MS3.5/2,Error ellipse: s-maj=20.6km s-min=14.2km az=1.0*
NEIC ***15*** *23:23:56.2±1.9,34°.99N±0°.03×26°.97E±0°.01,h8km±7km, mb4.2/5,Error ellipse: s-maj=4.7km s-min=0.8km az=193.0*
ISK ***15*** *23:23:57.9,35°.11N×27°.04E,h18km,ML3.5/23*
AFAD ***15*** *23:23:57.7±0.0,35°.16N×27°.00E,h8km±2km,MW3.8*
ATH ***15*** *23:23:58

TURN	**Turunc**	**1.95**	**30**	P	**Pn**	**23 24 29.7**	**+0.7**
TURN				S	**Sb**	**23 24 55.2**	**-1.7**
BODT	**Bodrum**	**1.98**	**7**	Pn	**Pb**	**23 24 31.6**	**-1.8**
BODT	**Bodrum**	**1.98**	**7**	P	**Pn**	**23 24 31.3**	**+1.9**
BDRM	**Kayabasi**	**2.00**	**10**	P	**Pn**	**23 24 30.6**	**+0.9**
DALY	**Dalyan (Mula)**	**2.17**	**37**	Pn	**Pb**	**23 24 34.5**	**-2.2**
IZZE	**Mula-Seydike**	**2.24**	**53**	P	**Pn**	**23 24 33.6**	**+0.6**
FETY	**Fethiye**	**2.28**	**47**	Pn	**Pn**	**23 24 34.9**	**+1.4**
FETY	**Fethiye**	**2.28**	**47**	P	**Pn**	**23 24 34.6**	**+1.1**
YER	**Yerkesik**	**2.28**	**26**	Pn	**Pn**	**23 24 35.4**	**+1.8**
MLSB	**Milas**	**2.28**	**15**	Pn	**Pn**	**23 24 35.2**	**+1.6**
APE	**Apeiranthos**	**2.31**	**329**	P	**Pn**	**23 24 35.0**	**+1.1**
APE	**Apeiranthos**	**2.31**	**329**	P	**Pn**	**23 24 34.9**	**+0.9**
APE				AML	AML	23 25 04.1	
	comp=E,487µm,0.3s						
APE				AML	AML	23 25 05.0	
	comp=N,878µm,0.7s						
KSL	**Kastellorizon**	**2.34**	**63**	P	**Pn**	**23 24 35.7**	**+1.4**
DDIM	**Aydin, Didim**	**2.37**	**4**	P	**Pn**	**23 24 37.5**	**+2.8**
DDIM				S	**Sn**	**23 25 00.2**	**-2.4**
MULA	**Mugla, Merkez-**	**2.40**	**26**	P	**Pn**	**23 24 32.1**	**-3.2**
MULA				S	**Sn**	**23 24 58.7**	**-5.0**
GVDS	**Gavdos**	**2.41**	**265**	Pn	**Pn**	**23 24 38.6**	**+3.3**
GVD	**Gavdhos**	**2.42**	**265**	Pn	**Pn**	**23 24 38.2**	**+2.8**
GVD	**Gavdhos**	**2.42**	**265**	P	**Pn**	**23 24 38.3**	**+3.0**
IMMV	**Iera Moni Meta**	**2.51**	**279**	Pn	**Pn**	**23 24 39.2**	**+2.6**
GCAM	**G?zelcaml?**	**2.61**	**4**	Pn	**Pn**	**23 24 39.8**	**+1.8**
GCAM	**G?zelcaml?**	**2.61**	**4**	P	**Pn**	**23 24 39.3**	**+1.3**
GCAM				S	**Sn**	**23 25 04.3**	**-4.3**
RODP	**Rodopos**	**2.70**	**281**	Pn	**Pn**	**23 24 41.9**	**+2.6**
KNIK	**Mula-Seydike**	**2.71**	**49**	P	**Pn**	**23 24 41.6**	**+2.0**
KNIK				S	**Sn**	**23 25 05.8**	**-5.6**
CAEL	**Denizli, Camel**	**2.75**	**42**	P	**Pn**	**23 24 41.7**	**+1.5**
CAEL				S	**Sn**	**23 25 14.5**	**+2.1**
TAVA	**DENIZLI_Tavas**	**2.82**	**32**	P	**Pn**	**23 24 42.3**	**+1.2**
ELL	**Elmali**	**2.87**	**54**	Pn	**Pn**	**23 24 43.5**	**+1.7**
ELL	**Elmali**	**2.87**	**54**		**Pn**	**23 24 44.0**	**+2.2**
ELL				Sn	**Sn**	**23 25 17.9**	**+2.5**
ESEN	**Aydn-Nazilli**	**2.91**	**21**	P	**Pn**	**23 24 43.3**	**+1.2**
DGB	**zmir**	**2.95**	**358**	P	**Pn**	**23 24 43.6**	**+0.9**
GOLH	**Golhisar**	**2.97**	**43**	P	**Pn**	**23 24 45.4**	**+2.3**
APMY	**Acipayam-Deniz**	**3.01**	**37**	Pn	**Pn**	**23 24 45.0**	**+1.4**
DNIZ	**Denizli-Tavas-**	**3.01**	**32**	P	**Pn**	**23 24 44.4**	**+0.8**
DNIZ				S	**Sn**	**23 25 19.9**	**+1.2**
IZMR	**zmir-demi**	**3.13**	**14**	P	**Pn**	**23 24 46.3**	**+1.2**
ZEYE	**Izmir, Urla-Ze**	**3.17**	**353**	P	**Pn**	**23 24 46.3**	**+0.6**
ZEYE				S	**Sn**	**23 25 14.6**	**-7.8**
BLCB	**Balcova**	**3.29**	**0**	Pn	**Pn**	**23 24 49.2**	**+1.9**
KIRA	**zmir-Kiraz**	**3.29**	**19**	P	**Pn**	**23 24 48.7**	**+1.2**
KORT	**Korkueli**	**3.31**	**54**	Pn	**Pn**	**23 24 50.2**	**+2.4**
INCE	**Denizli-Bozkur**	**3.33**	**38**	P	**Pn**	**23 24 49.1**	**+1.1**
KULA	**Kula-Manisa**	**3.66**	**21**	Pn	**Pn**	**23 24 54.8**	**+2.2**
BASM	**Basmaki-Afyon**	**3.73**	**40**	Pn	**Pn**	**23 24 56.4**	**+2.8**
RFT7	**Candarli**	**3.86**	**359**	Pn	**Pn**	**23 24 57.6**	**+2.4**
BALB	**Balikesir**	**4.59**	**8**	Pn	**Pn**	**23 25 08.9**	**+3.7**
CSS	**Mathiatis**	**5.19**	**90**	Pn	**Pn**	**23 25 14.0**	**+0.6**
CSS	**Mathiatis**	**5.19**	**90**	P	**Pn**	**23 25 14.0**	**+0.6**
CSS	**Mathiatis**	**5.19**	**90**	S	**Sn**	**23 26 12.0**	**-0.2**
AGG	**Agios Georgios**	**5.42**	**318**		**Pn**	**23 25 19.6**	**+2.9**
ALN	**Alexandroupoli**	**5.84**	**353**	Pn	**Pn**	**23 25 24.8**	**+2.4**
RDO	**Rodhopi**	**6.15**	**350**	Pn	**Pn**	**23 25 28.9**	**+2.2**
BRTR	**Keskin Array B**	**7.01**	**47**	Pn	**Pn**	**23 25 41.4**	**+2.8**
BRTR	**Keskin Array B**	**7.01**	**47**	Pn	**Pn**	**23 25 38.8**	**+0.1**
	comp=N,0.1nm,0.3s,baz=241,slow=15,SNR=5.3						
BRTR				Sn	**Sn**	**23 26 57.5**	**+0.1**
	comp=N,0.1nm,0.3s,baz=212,slow=26,SNR=5.1						
BRTR				LR	LR	23 29 23.0	
	comp=N,76nm,21.7s,baz=285,slow=47						
	comp=N,0.5nm,0.5s						
BR131	**Keskin Array S**	**7.01**	**47**	Pn	**Pn**	**23 25 39.7**	**+1.0**
OFRI	**`Ofer**	**7.08**	**108**	P	**Pn**	**23 25 39.5**	**0.0**
OFRI	**`Ofer**	**7.08**	**108**	S	**Sn**	**23 26 57.2**	**-1.6**
FNA	**Florina**	**7.22**	**324**	Pn	**Pn**	**23 25 45.8**	**+4.4**
MMC7	**Mount Meron ar**	**7.25**	**104**	P	**Pn**	**23 25 42.3**	**+0.4**
MMAI	**Mount Meron Ar**	**7.27**	**104**	Pn	**Pn**	**23 25 42.5**	**+0.4**
	comp=N,2.6nm,0.3s,baz=298,slow=13,SNR=17						
MMAI				Sn	**Sn**	**23 26 59.1**	**-4.5**
	comp=N,4.0nm,0.3s,baz=300,slow=24,SNR=7.8						
	comp=N,1.1nm,0.3s						
SLTI	**Sal'it**	**7.27**	**111**	P	**Pn**	**23 25 45.3**	**+3.2**
SLTI	**Sal'it**	**7.27**	**111**	P	**Pn**	**23 25 42.2**	**0.0**
SLTI	**Sal'it**	**7.27**	**111**	S	**Sn**	**23 27 01.7**	**-1.9**
KEK	**Kerkira**	**7.36**	**311**	Pn	**Pn**	**23 25 47.5**	**+4.1**
GEM	**Giv'at Ha'Em**	**7.41**	**102**	P	**Pn**	**23 25 44.6**	**+0.6**
GEM	**Giv'at Ha'Em**	**7.41**	**102**	S	**Sn**	**23 27 06.1**	**-1.0**
NATI	**Neve Ativ**	**7.46**	**102**	S	**Sn**	**23 27 05.9**	**-2.2**
NATI	**Neve Ativ**	**7.46**	**102**	P	**Pn**	**23 25 44.7**	**+0.1**
SALP	**Salfit**	**7.46**	**112**	P	**Pn**	**23 25 44.9**	**+0.2**
SALP	**Salfit**	**7.46**	**112**	S	**Sn**	**23 27 06.6**	**-1.7**
KZIT	**Kziot**	**7.48**	**122**	P	**Pn**	**23 25 44.3**	**-0.6**
KZIT	**Kziot**	**7.48**	**122**	S	**Sn**	**23 27 05.8**	**-2.8**
MMLI	**Mount Malkishu**	**7.49**	**108**	P	**Pn**	**23 25 45.2**	**+0.1**
MMLI	**Mount Malkishu**	**7.49**	**108**	S	**Sn**	**23 27 07.2**	**-1.7**
AMAZ	**Amatzia**	**7.51**	**116**	P	**Pn**	**23 25 45.2**	**-0.2**
AMAZ	**Amatzia**	**7.51**	**116**	S	**Sn**	**23 27 07.2**	**-2.3**
KSHT	**Keshet**	**7.60**	**104**	S	**Sn**	**23 27 10.8**	**-0.9**
KSHT	**Keshet**	**7.60**	**104**	P	**Pn**	**23 25 47.3**	**+0.6**
HMDT	**Nahal Hemdat**	**7.64**	**109**	S	**Sn**	**23 27 11.1**	**-1.6**
HMDT	**Nahal Hemdat**	**7.64**	**109**	P	**Pn**	**23 25 47.4**	**+0.2**
QRNJ	**Al-Qirein**	**7.65**	**109**	P	**Pn**	**23 25 51.0**	**+3.8**
SHMJ	**Saham**	**7.65**	**106**	P	**Pn**	**23 25 49.7**	**+2.4**
UJAP	**Al Uja**	**7.72**	**112**	P	**Pn**	**23 25 47.9**	**-0.3**
UJAP	**Al Uja**	**7.72**	**112**	S	**Sn**	**23 27 12.7**	**-1.9**
YTIR	**Yattir**	**7.74**	**116**	S	**Sn**	**23 27 13.5**	**-1.7**
YTIR	**Yattir**	**7.74**	**116**	P	**Pn**	**23 25 48.3**	**-0.4**
DSI	**Dead Sea**	**7.83**	**114**	P	**Pn**	**23 25 52.1**	**+2.3**
DSI	**Dead Sea**	**7.83**	**114**	P	**Pn**	**23 25 49.8**	**-0.1**
DSI	**Dead Sea**	**7.83**	**114**	S	**Sn**	**23 27 15.4**	**-2.0**
MDBI	**Mazsada**	**7.95**	**116**	P	**Pn**	**23 25 50.9**	**-0.4**
MDBI	**Mazsada**	**7.95**	**116**	S	**Sn**	**23 27 17.4**	**-2.7**
MSBI	**Mazada**	**7.95**	**116**	P	**Pn**	**23 25 51.2**	**-0.1**
MSBI	**Mazada**	**7.95**	**116**	S	**Sn**	**23 27 18.0**	**-2.1**
BNN	**Bunyan**	**8.00**	**59**	Pn	**Pn**	**23 25 54.6**	**+2.3**
GHAJ	**Ghor Haditha**	**8.10**	**115**	Pn	**Pn**	**23 25 54.8**	**+1.3**
GHAJ	**Ghor Haditha**	**8.10**	**115**	P	**Pn**	**23 25 55.7**	**+2.2**
GHAJ	**Ghor Haditha**	**8.10**	**115**	P	**Pn**	**23 25 53.4**	**-0.1**
GHAJ	**Ghor Haditha**	**8.10**	**115**	S	**Sn**	**23 27 21.8**	**-2.2**
KRMI	**Paran Flat**	**8.18**	**125**	S	**Sn**	**23 27 22.6**	**-3.4**
KRMI	**Paran Flat**	**8.18**	**125**	P	**Pn**	**23 25 54.1**	**-0.6**
PRNI	**Paran**	**8.23**	**123**	P	**Pn**	**23 25 56.0**	**+0.8**
PRNI	**Paran**	**8.23**	**123**	S	**Sn**	**23 27 23.1**	**-4.0**
PRNI	**Paran**	**8.23**	**123**	P	**Pn**	**23 25 54.9**	**-0.4**
KARJ	**KARJ**	**8.26**	**116**	P	**Pn**	**23 25 51.9**	**-3.8**
KARJ				S	Sn	23 27 15.5	-12
HRFI	**Mount Harif**	**8.44**	**124**	P	**Pn**	**23 25 59.7**	**+1.5**
HRFI	**Mount Harif**	**8.44**	**124**	S	**Sn**	**23 27 29.1**	**-3.3**
HRFI	**Mount Harif**	**8.44**	**124**	P	**Pn**	**23 25 57.9**	**-0.3**
EIL2	**Elat**	**8.62**	**127**	P	**Pn**	**23 25 59.9**	**-0.6**
EIL2	**Elat**	**8.62**	**127**	S	**Sn**	**23 27 32.5**	**-4.2**
EIL	**Elat**	**8.62**	**127**	Pn	**Pn**	**23 26 01.2**	**+0.6**
	comp=N,0.8nm,0.3s,baz=341,slow=4.8,SNR=9.2						
EIL				Sn	**Sn**	**23 27 31.6**	**-5.1**
	comp=N,1.6nm,0.3s,baz=36,slow=5.4,SNR=8.3						
	comp=N,2.2nm,0.3s						
EIL	**Elat**	**8.62**	**127**	S	**Sn**	**23 27 32.5**	**-4.2**
EIL	**Elat**	**8.62**	**127**	P	**Pn**	**23 26 00.1**	**-0.6**
ASF	**Jabal al Asfar**	**8.74**	**107**	Pn	**Pn**	**23 26 02.7**	**+0.3**
	comp=N,0.3nm,0.3s,baz=66,slow=23,SNR=2.3						
ASF				Sn	**Sn**	**23 27 45.4**	**+5.5**
	comp=N,0.5nm,0.3s,baz=241,slow=22,SNR=1.9						
	comp=N,2.0nm,0.8s						
TIP	**Timpagrande**	**9.14**	**299**	Pn	**Pn**	**23 26 07.0**	**-0.9**
CEL	**Celeste**	**9.47**	**293**	Pn	**Pn**	**23 26 12.3**	**0.0**
CUC	**Castrocucco**	**10.14**	**302**	Pn	**Pn**	**23 26 21.5**	**0.0**
MLR	**Muntele Rosu**	**10.42**	**356**	Pn	**Pn**	**23 26 24.2**	**-1.1**
	baz=105,slow=16,SNR=2.7						
	comp=N,2.0nm,1.0s						
VAE	**Valguarnera**	**10.45**	**287**	Pn	**Pn**	**23 26 25.1**	**-0.6**
	comp=N,0.4nm,0.3s,baz=114,slow=7.7,SNR=1.8						
VAE				Sn	**Sn**	**23 28 15.9**	**-5.7**
	comp=N,0.4nm,0.3s,baz=62,slow=20,SNR=2.2						
	comp=N,3.8nm,0.8s						
RAFF	**Raffo Rosso**	**10.45**	**285**	Pn	**Pn**	**23 26 25.7**	**+0.1**
KOLS	**Kolonicke sedl**	**14.27**	**347**	*e*Pn	**Pn**	**23 27 17.2**	**-0.6**
KEST	**Kesra**	**14.43**	**278**	Pn	**Pn**	**23 27 17.7**	**-2.3**
	baz=99,slow=13,SNR=1.6						
	comp=N,1.2nm,0.7s						
VYHS	**Vyhne**	**14.70**	**338**	*e*PN	**Pn**	**23 27 24.1**	**+0.5**
KBZ	**Khabaz**	**14.98**	**50**	Pn	**P**	**23 27 34.9**	**+2.3**
	comp=N,0.1nm,0.3s,baz=236,slow=14,SNR=5.6						
AKASG	**Malin Array Be**	**15.68**	**5**	Pn	**P**	**23 27 39.4**	**-0.9**
	comp=N,0.4nm,0.3s,baz=195,slow=11,SNR=4.4						
GERES	**GERESS Array B**	**16.90**	**328**	Pn	**Pn**	**23 27 52.1**	**0.0**
	comp=N,1.7nm,0.8s,baz=134,slow=13,SNR=1.9						
ESDC	**Sonseca Array**	**24.97**	**290**	P	**P**	**23 29 18.2**	**-0.6**
	comp=N,0.5nm,0.8s,baz=89,slow=9.8,SNR=2.3						
	comp=N,0.5nm,0.8s						
GEYT	**Alibeck**	**25.10**	**74**	P	**P**	**23 29 21.6**	**+1.6**
	comp=N,2.4nm,0.5s,baz=262,slow=9.5,SNR=8.9						
	comp=N,2.4nm,0.5s						
FINES	**FINESS Array B**	**26.38**	**359**	P	**P**	**23 29 29.3**	**-1.9**
	comp=N,2.0nm,0.9s,baz=156,slow=10,SNR=1.2						
	comp=N,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.63**	**233**	P	**P**	**23 30 19.5**	**+1.2**
	comp=N,0.5nm,0.4s,baz=32,slow=9.2,SNR=7.7						
	comp=N,0.5nm,0.4s						
KBL	**Kabul**	**34.33**	**79**	P	**P**	**23 30 43.3**	**+1.3**
KK31	**Karatay Array**	**34.38**	**63**	P	**P**	**23 30 43.4**	**+1.3**
KK31				IAmb	IAmb	23 30 45.0	
	comp=Z,2.6nm,1.0s						
KKAR	**Karatay Array**	**34.38**	**63**	P	**P**	**23 30 42.6**	**+0.4**
BVAR	**Borovoye Array**	**35.30**	**46**	P	**P**	**23 30 50.7**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=253,slow=4.5,SNR=4.4						
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**39.98**	**51**	P	**P**	**23 31 30.6**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=276,slow=8.9,SNR=22						
	comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**42.33**	**57**	P	**P**	**23 31 49.8**	**+0.9**
MAKZ				IAmb	IAmb	23 31 50.7	
	comp=Z,2.5nm,0.5s						
MK31	**Makanchi Array**	**42.54**	**57**	P	**P**	**23 31 52.0**	**+1.3**
MK31				IAmb	IAmb	23 31 52.8	
	comp=Z,3.5nm,0.6s						
MKAR	**Makanchi Array**	**42.54**	**57**	P	**P**	**23 31 52.0**	**+1.4**
	comp=Z,3.8nm,0.5s,baz=272,slow=8.1,SNR=92						
	comp=Z,3.8nm,0.5s						
ZALV	**Zalesovo Beam**	**43.95**	**46**	P	**P**	**23 32 02.6**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=265,slow=8.5,SNR=9.7						
	comp=Z,2.1nm,0.5s						
SONM	**Songino Array**	**58.35**	**51**	P	**P**	**23 33 51.7**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=286,slow=7.5,SNR=16						
	comp=Z,1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**65.07**	**84**	P	**P**	**23 34 36.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=301,slow=8.5,SNR=4.6						
	comp=Z,0.4nm,0.3s						
YKA	**Yellowknife Ar**	**77.97**	**343**	P	**P**	**23 35 51.6**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=34,slow=6.0,SNR=4.3						
	comp=Z,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**81.20**	**327**	LR	LR	00 12 50.3	
	comp=Z,143nm,18.2s,baz=54,slow=36						

TEH ***15*** *23:30:48.1,33.˚79N×45.˚69E,h10km±41km,ML2.5*
ISN ***15*** *23:30:50.6±0.6,33.˚80N×45.˚68E,h10km,ML2.5*
ISC 15 23:30:47.3±1.4, 33.˚82N±0.˚05×45.˚63E±0.˚10, h10km, n10, σ0^{s}43/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**111**	Pg		**Pg**	**23 30 57.7**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.69**	**357**	Pg		**Pb**	**23 31 01.8**	**+0.4**
KGS1				Sg		**Sn**	**23 31 13.3**	**-0.6**
IBDR	**Badra**	**0.75**	**160**	*e*Pg		**Pn**	**23 31 04.0**	**+0.1**
	baz=343							
IBDR				*e*Sg		**Sn**	**23 31 14.8**	**-0.5**
IBDR				AML	AML		23 31 17.4	
	comp=E,72nm,0.6s							
IBDR				AML	AML		23 31 19.1	
	comp=N,61nm,0.6s							
IGHG	**Ghaleghazi**	**0.93**	**56**	Pg		**Pb**	**23 31 05.9**	**+0.1**
IDHR	**Dehrash**	**1.08**	**35**	Pg		**Pg**	**23 31 08.1**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.26**	**68**	Pg		**Pg**	**23 31 12.2**	**+0.7**
ILIN	**Lien**	**1.56**	**45**	Pg		**Pg**	**23 31 17.1**	**-0.1**
IKOM	**Komasi**	**1.60**	**77**	Pg		**Pg**	**23 31 18.1**	**0.0**
IKFM	**Kafar-mosalman**	**1.87**	**98**	Pn		**Pg**	**23 31 22.7**	**-0.5**
IBZA	**Bozab**	**1.96**	**70**	Pn		**Pb**	**23 31 23.4**	**+0.1**

IDC ***15*** *23:30:43.9±3.0,32.˚02N×141.˚51E,h0km,mb3.5/5,*
mbtmp3.5/5,MS2.9/1,Error ellipse: s-maj=108.6km
s-min=26.2km az=59.0
ISC 15 23:30:48.3±2.2, 32.˚0N±0.˚3×141.˚3E±0.˚5, h26km, n7, σ1^{s}16/7, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.75**	**312**	Pn		**Pn**	**23 31 16.9**	**-0.1**
	10nm,0.3s,baz=58,slow=22,SNR=2.5							
JHJ				Sn		**Sb**	**23 31 41.6**	**+0.4**
	13nm,0.3s,baz=258,slow=24,SNR=1.9							
SONM	**Songino Array**	**30.83**	**311**	P		**P**	**23 37 02.1**	**-0.1**
	0.5nm,0.8s,baz=113,slow=8.2,SNR=4.2							
	0.5nm,0.8s							
SHEM	**Shemya Is, Ala**	**31.47**	**39**	LR		LR	23 53 25.0	
	comp=Z,20nm,18.0s,baz=293,slow=43							
ZALV	**Zalesovo Beam**	**45.41**	**316**	P		**P**	**23 39 04.2**	**-0.4**
	0.4nm,0.4s,baz=120,slow=8.8,SNR=1.5							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**46.91**	**306**	P		**P**	**23 39 14.8**	**-1.7**
	0.4nm,0.9s,baz=87,slow=7.4,SNR=3.6							
	0.4nm,0.9s							
KURBB	**Kurchatov Arra**	**49.19**	**312**	P		**P**	**23 39 35.5**	**+1.4**
	0.1nm,0.4s,baz=92,slow=7.4,SNR=1.9							
	0.1nm,0.4s							
WRA	**Warramunga Arr**	**52.05**	**188**	P		**P**	**23 39 56.2**	**+0.3**
	0.7nm,0.8s,baz=4.6,slow=7.6,SNR=3.2							
	0.7nm,0.8s							

TEH ***15*** *23:35:12.4,33.˚71N×45.˚72E,h8km±51km,ML2.9*
ISN ***15*** *23:35:14.2±1.0,33.˚72N×45.˚74E,h30km±5km,ML2.8*
ISC 15 23:35:12.7±0.9, 33.˚70N±0.˚04×45.˚74E±0.˚04, h13km, n13, σ0^{s}81/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**101**	Pg		**Pg**	**23 35 20.5**	**-0.2**
IBDR	**Badra**	**0.61**	**165**	*e*Pg		**Pn**	**23 35 27.0**	**0.0**
IBDR				AML	AML		23 35 38.2	
	comp=N,213nm,0.4s							
KGS1	**Ghasr-e-Shirin**	**0.81**	**351**	Pg		**Pg**	**23 35 27.9**	**-0.5**
IGHG	**Ghaleghazi**	**0.93**	**47**	Pg		**Pb**	**23 35 31.0**	**+0.1**
IDHR	**Dehrash**	**1.13**	**28**	Pg		**Pb**	**23 35 34.1**	**-0.1**
BHD	**Baghdad**	**1.21**	**250**	*e*Pg		**Pg**	**23 35 36.0**	**0.0**
BHD				*e*Sg		**Sg**	**23 35 53.0**	**+1.2**
KCHF	**Cheshme Sefid,**	**1.22**	**62**	Pg		**Pg**	**23 35 36.6**	**+0.3**
IKOM	**Komasi**	**1.55**	**72**	Pg		**Pb**	**23 35 41.7**	**+0.5**
ILIN	**Lien**	**1.58**	**39**	Pg		**Pg**	**23 35 42.5**	**-0.6**
IKFM	**Kafar-mosalman**	**1.77**	**95**	Pg		**Pb**	**23 35 45.8**	**+0.9**
RAFI	**Al-Rafai**	**2.00**	**171**	*e*Pn		**Pb**	**23 35 48.0**	**-0.8**
RAFI				*e*Sn		**Sb**	**23 36 13.0**	**-0.6**
RAFI				AML	AML		23 36 37.6	
	comp=E,110nm,0.2s							
RAFI				AML	AML		23 36 38.2	
	comp=N,142nm,0.5s							
IKRK	**Kirkuk**	**2.05**	**326**	*e*Pn		**Pn**	**23 35 48.0**	**+1.1**
IKRK				*e*Sn		**Sb**	**23 36 14.0**	**-1.2**
IALM	**Almabolaq**	**2.32**	**59**	Pn		**Pb**	**23 35 53.3**	**-1.3**

IDC ***15*** *23:51:30.8±1.4,30.˚40S×178.˚00W,h78km±10km,mb3.7/4,*
mbtmp4.1/7,MS3.3/1,Error ellipse: s-maj=28.0km
s-min=12.8km az=115.0
NEIC ***15*** *23:51:30.3±1.0,30.˚47S±0.˚09×178.˚1W±0.˚2,h68km±11km,*
mb4.2/5,Error ellipse: s-maj=28.1km s-min=12.6km
az=94.0
ISC 15 23:51:30.1±0.8, 30.˚34S±0.˚08×178.˚2W±0.˚2, h100km, n35, σ2^{s}65/23, mb4.0/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**11**	Pn		**Pn**	**23 51 52.1**	**+0.4**
RAO				Sn		**Sn**	**23 52 07.4**	**-0.5**
RAO	**Raoul Island**	**1.10**	**11**	P		Pn	23 51 52.8	+1.1
	2µm,0.4s,baz=333,slow=2.6,SNR=15							
RAO				S		**Sn**	**23 52 07.1**	**-0.8**
	6µm,0.3s,baz=87,slow=22,SNR=34							
URZ	**Urewera**	**8.82**	**205**	P		**Pn**	**23 53 33.6**	**-1.0**
	3.0nm,0.3s,baz=31,slow=23,SNR=14							
URZ				S		**Sn**	**23 55 13.1**	**+0.9**
	11nm,0.3s,baz=5.9,slow=21,SNR=8.9							
BFZ	**Birch Farm**	**11.28**	**202**	Pn		**Pn**	**23 54 06.7**	**-1.4**
BHW	**Baring Head**	**12.40**	**205**	Pn		**Pn**	**23 54 21.3**	**-1.8**
TCW	**Tory Channel**	**12.46**	**207**	Pn		**Pn**	**23 54 20.5**	**-3.3**
CTZ	**Chatham Island**	**13.43**	**175**			**Pn**	**23 54 36.1**	**-0.5**
THZ	**Tophouse**	**13.49**	**210**	Pn		**Pn**	**23 54 37.1**	**-0.2**
KHZ	**Kahutara**	**13.78**	**207**	Pn		**Pn**	**23 54 40.0**	**-1.0**
GVZ	**Greta Valley S**	**14.44**	**207**	Pn		**Pn**	**23 54 49.1**	**-0.5**
RPZ	**Rata Peaks**	**15.87**	**210**	P		**P**	**23 55 08.2**	**-1.2**
	12nm,0.9s,baz=324,slow=12,SNR=1.7							
DZM	**Mont Dzumac**	**16.07**	**297**	P		**P**	**23 55 15.0**	**+3.2**
	16nm,1.2s,baz=128,slow=19,SNR=3.2							
DZM				LR		LR	00 00 09.8	
	comp=Z,104nm,19.5s,baz=213,slow=32							
STKA	**Stephens Creek**	**34.35**	**257**	P		P	23 58 11.8	+4.4
	1.4nm,0.6s,baz=111,slow=10,SNR=3.4							
	1.4nm,0.6s							
ASAR	**Alice Springs**	**42.97**	**267**	P		P	23 59 23.7	+4.1
	1.1nm,1.0s,baz=103,slow=7.6,SNR=7.4							
ASAR				ScP		**ScP**	**00 04 55.4**	**+5.0**
	0.3nm,0.7s,baz=114,slow=4.1,SNR=2.3							
	1.1nm,1.0s							
WR0	**Warramunga Arr**	**43.77**	**272**	P		P	23 59 29.1	+3.1
WR0				IAmb		IAmb	23 59 38.4	
	comp=Z,3.1nm,1.1s							
WB2	**Warramunga Arr**	**43.94**	**272**	P		P	23 59 30.5	+3.1
WB2				IAmb		IAmb	23 59 34.0	
	comp=Z,2.2nm,0.6s							
WRA	**Warramunga Arr**	**43.95**	**272**	P		P	23 59 30.7	+3.2
WRA	**Warramunga Arr**	**43.95**	**272**	P		P	23 59 31.4	+3.9
	comp=Z,1.0nm,0.4s,baz=110,slow=8.2,SNR=16							
	comp=Z,1.0nm,0.4s							
WB0	**Warramunga Arr**	**43.98**	**272**	P		P	23 59 30.6	+3.0
WB0				IAmb		IAmb	23 59 44.8	
	comp=Z,6.0nm,1.1s							
VNDA	**Vanda**	**48.15**	**186**	P		P	00 00 01.6	+2.0
H03S2	**Juan Fernandez**	**80.62**	**124**	T		T	01 32 51.7	
	baz=238,slow=74,SNR=17							
H03S1	**Juan Fernandez**	**80.63**	**124**	T		T	01 32 52.8	
	baz=238,slow=74,SNR=14							
H03S3	**Juan Fernandez**	**80.64**	**124**	T		T	01 32 51.7	
	baz=238,slow=74,SNR=17							
H03N3	**Juan Fernandez**	**80.81**	**123**	T		T	01 33 09.1	
	baz=241,slow=72,SNR=7.4							
H03N2	**Juan Fernandez**	**80.81**	**123**	T		T	01 33 03.5	
	baz=241,slow=72,SNR=5.2							
H03N1	**Juan Fernandez**	**80.83**	**123**	T		T	01 33 03.2	
	baz=241,slow=72,SNR=14							
NVAR	**

CATAC ***16*** *00:11:05.4±0.9, 11°.68N×88°.24W, h18km±13km, ML3.8*
SNET ***16*** *00:11:09.4±0.9, 11°.94N×88°.10W, h13km±10km, ML3.0*
ISC 16 00:11:07.0±2.6,**11°.75N**±0°.10×**88°.14W**±0°.08,**h24**km±16km, **n28**,σ1§**00**/36,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNN	**El Viejo**	**1.32**	**48**	*i* P	**Pn**	**00 11 29.4**	**-0.5**
CHNN				IAML		00 11 30.9	
	comp=Z,6μm,1.0s						
CSGN	**Cosiguina Volc**	**1.35**	**25**	*i* P	**Pn**	**00 11 28.5**	**-1.9**
CSGN				IAML		00 11 54.7	
	comp=Z,3μm,1.0s						
CRIN	**San Cristobal**	**1.42**	**48**	*e*P	**Pb**	**00 11 32.1**	**-0.8**
CRIN	**San Cristobal**	**1.42**	**48**	*i* P	**Pn**	**00 11 31.9**	**+0.4**
CRIN				*i* S	**Sb**	**00 11 53.1**	**+2.4**
CRIN				IAML		00 11 54.0	
	comp=Z,2μm,1.0s						
JUCU	**Jucuarɲ**	**1.50**	**356**	*e*P	**Pn**	**00 11 32.5**	**-0.1**
JUCU				*e*S	**Sn**	**00 11 50.5**	**-0.9**
TELN	**Telica**	**1.54**	**56**	*i* P	**Pn**	**00 11 33.0**	**0.0**
TELN				IAML		00 11 58.4	
	comp=Z,75nm,1.0s						
HERN	**Volcan Telica**	**1.54**	**56**	*i* P	**Pn**	**00 11 32.3**	**-0.7**
HERN				IAML		00 11 58.3	
	comp=Z,680nm,1.0s						
CNCH	**Conchagua**	**1.55**	**11**	*e*P	**Pn**	**00 11 33.3**	**+0.1**
CNCH				*e*S	**Sn**	**00 11 52.5**	**-0.1**
CNCH	**Conchagua**	**1.55**	**11**	*i* P	**Pn**	**00 11 33.3**	**+0.1**
CNCH				*i* S	**Sb**	**00 11 55.5**	**+1.2**
CNCH				IAML		00 11 58.7	
	comp=Z,1μm,1.0s						
ROCN	**Rota Cerro Neg**	**1.56**	**60**	*i* P	**Pn**	**00 11 33.7**	**+0.4**
ROCN				IAML		00 12 01.8	
	comp=Z,290nm,1.0s						
MSHP	**Masachapa**	**1.57**	**87**	*i* P	**Pb**	**00 11 34.5**	**-0.8**
MSHP				IAML		00 11 36.6	
	comp=Z,340nm,1.0s						
LCND	**La Caada**	**1.57**	**9**	*e*P	**Pn**	**00 11 33.8**	**+0.4**
LCND				IAML		00 11 58.6	
	comp=Z,325nm,0.2s						
LCND	**La Caada**	**1.57**	**9**	*i* P	**Pn**	**00 11 33.0**	**-0.4**
LCND				*i* S	**Sb**	**00 11 54.7**	**-0.1**
LCND				IAML		00 11 56.2	
	comp=Z,370nm,1.0s						
COPN	**Copaltepe**	**1.57**	**74**	*i* P	**Pn**	**00 11 33.8**	**+0.4**
COPN				IAML		00 11 42.8	
	comp=Z,1μm,1.0s						
CNGA	**Al SSO del Vol**	**1.59**	**62**	*i* P	**Pn**	**00 11 34.1**	**+0.4**
CNGA				IAML		00 12 05.7	
	comp=Z,580nm,1.0s						
CNGN	**Cerro Negro**	**1.59**	**62**	*e*P	**Pb**	**00 11 34.9**	**-0.9**
CNGN	**Cerro Negro**	**1.59**	**62**	*i* P	**Pn**	**00 11 34.4**	**+0.6**
CNGN				*i* S	**Sb**	**00 11 58.3**	**+2.8**
CNGN				IAML		00 12 11.7	
	comp=Z,720nm,1.0s						
AMPH	**Amapala**	**1.60**	**17**	*i* P	**Pn**	**00 11 34.0**	**+0.2**
AMPH				*i* S	**Sb**	**00 11 54.6**	**-1.0**
MACN	**El Madrono**	**1.60**	**63**	*i* P	**Pn**	**00 11 34.1**	**+0.3**
MACN				IAML		00 12 05.1	
	comp=Z,320nm,1.0s						
RANC	**El Ranchito**	**1.68**	**355**	*e*P	**Pn**	**00 11 35.8**	**+0.7**
PACA	**Pacayal**	**1.72**	**354**	*e*P	**Pb**	**00 11 37.3**	**-0.7**
PACA				*e*S	**Sn**	**00 11 57.3**	**+0.4**
PACA	**Pacayal**	**1.72**	**354**	*i* P	**Pn**	**00 11 36.7**	**+1.1**
PACA				IAML		00 12 01.6	
	comp=Z,3μm,1.0s						
TECA	**Tecapa**	**1.77**	**348**	*e*P	**Pn**	**00 11 37.1**	**+0.7**
COEB	**Comit de Eme**	**1.78**	**348**	*e*P	**Pn**	**00 11 37.4**	**+1.0**
COEB				IAML		00 12 08.4	
	comp=Z,150nm,0.7s						
COEG	**Centro de Oper**	**2.00**	**339**	IAML		00 12 11.7	
	comp=Z,136nm,0.6s						
CAHU	**Cacacuatique**	**2.01**	**358**	*e*P	**Pn**	**00 11 40.9**	**+1.2**
CONN	**Concepcion**	**2.47**	**94**	*i* P	**Pn**	**00 11 45.9**	**+0.1**
CONN				*i* S	**Sn**	**00 12 15.1**	**-0.1**
CONN				IAML		00 12 19.8	
	comp=Z,2μm,1.0s						
ACON	**Acoyapa**	**2.91**	**85**	*i* P	**Pb**	**00 11 56.8**	**-1.4**
ACON				IAML		00 12 21.0	
	comp=Z,100nm,1.0s						

IDC ***16*** *00:21:04.0±3.2,5°.96S×154°.82E, h207km±30km, mb3.6/14, mbtmp4.1/17, Error ellipse: s-maj=19.2km s-min=14.0km az=47.0*
NEIC ***16*** *00:21:05.5±1.0, 6°.0S±0°.1×154°.8E±0°.1, h213km±7km, mb4.4/23, Error ellipse: s-maj=17.9km s-min=13.5km az=136.0*
ISC 16 00:21:03.2±0.5,**5°.97S**±0°.08×**154°.83E**±0°.08,**h200**km,**n47**, σ0§**79**/47,**mb4.0**/23,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.33**	**245**	P	**Pn**	**00 23 02.8**	**+1.9**
	10.0nm,0.5s,baz=46,slow=17,SNR=2.7						
PMG				S	**Sn**	**00 24 34.9**	**+0.2**
	4.5nm,0.3s,baz=210,slow=11,SNR=1.5						
COEN	**Coen**	**13.95**	**234**		**P**	**00 24 13.9**	**-0.7**
CTA	**Charters Tower**	**16.32**	**210**	P	**Pn**	**00 24 41.6**	**+0.1**
	6.6nm,0.8s,baz=37,slow=14,SNR=4.4						
CTAO	**Charters Tower**	**16.32**	**210**		**Pn**	**00 24 42.0**	**+0.5**
CTAO				IAmb	IAmb	00 24 43.4	
	comp=Z,11nm,1.0s						
DZM	**Mont Dzumac**	**19.55**	**146**	P	**P**	**00 25 16.2**	**+0.3**
DZM	**Mont Dzumac**	**19.55**	**146**	P	**P**	**00 25 16.3**	**+0.3**
	comp=Z,7.0nm,0.5s,baz=283,slow=9.1,SNR=9.5						
OUENC	**Ouen Island, N**	**20.05**	**146**	P	**P**	**00 25 20.5**	**-0.7**
OUENC				IAmb	IAmb	00 25 57.6	
	comp=Z,21nm,1.0s						
FAKI	**Fak Fak**	**22.71**	**277**	P	**P**	**00 25 47.9**	**-0.2**
WR0	**Warramunga Arr**	**24.13**	**233**	P	**P**	**00 26 00.9**	**-0.1**
WR0				IAmb	IAmb	00 26 05.5	
	comp=Z,9.6nm,1.4s						
WB0	**Warramunga Arr**	**24.14**	**234**	P	**P**	**00 26 01.0**	**-0.2**
WB2	**Warramunga Arr**	**24.27**	**233**	P	**P**	**00 26 02.5**	**+0.2**
WB2				IAmb	IAmb	00 26 26.3	
	comp=Z,7.4nm,1.3s						
WRA	**Warramunga Arr**	**24.28**	**233**	P	**P**	**00 26 01.8**	**-0.6**
WRA	**Warramunga Arr**	**24.28**	**233**	P	**P**	**00 26 02.5**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=58,slow=9.9,SNR=24						
WRA				PcP	**PcP**	**00 29 37.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=60,slow=2.8,SNR=1.8 comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**26.74**	**227**	P	**P**	**00 26 23.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=58,slow=9.0,SNR=7.5						
ASAR				PcP	**PcP**	**00 29 43.3**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=69,slow=2.6,SNR=6.1 comp=Z,0.4nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.97**	**25**	T	T	00 55 17.0	
	baz=202						
H11S2	**WAKE ISLAND Hy**	**26.98**	**25**	T	T	00 55 19.1	
	baz=202						
H11S1	**WAKE ISLAND Hy**	**26.99**	**25**	T	T	00 55 18.1	
	baz=202						
KNRA	**Kununurra**	**27.33**	**247**	P	**P**	**00 26 29.1**	**-0.6**
KNRA				IAmb	IAmb	00 27 06.2	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**30.93**	**244**	P	**P**	**00 27 00.2**	**-1.4**
BBOO	**Buckleboo**	**31.92**	**211**	P	**P**	**00 27 09.8**	**-0.3**
BBOO				IAmb	IAmb	00 27 52.9	
	comp=Z,21nm,1.3s						
TOLI2	**Tolitoli**	**34.72**	**281**	P	**P**	**00 27 33.4**	**-1.1**
TOLI2				IAmb	IAmb	00 27 55.6	
	comp=Z,11nm,1.0s						
THZ	**Tophouse**	**39.11**	**158**	P	**P**	**00 28 11.5**	**+0.3**
THZ				IAmb	IAmb	00 28 13.0	
	comp=Z,17nm,0.9s						
TCW	**Tory Channel**	**39.16**	**157**	P	**P**	**00 28 12.5**	**+1.0**
TUWZ	**Tuamarina**	**39.21**	**157**	P	**P**	**00 28 12.9**	**+1.0**
MRZ	**Mangatainoka R**	**39.23**	**155**	P	**P**	**00 28 12.1**	**0.0**
MRZ				IAmb	IAmb	00 28 22.5	
	comp=Z,26nm,1.2s						
SNZO	**South Karori**	**39.41**	**156**	P	**P**	**00 28 11.4**	**-2.1**
LTZ	**Lake Taylor**	**39.78**	**160**	P	**P**	**00 28 16.6**	**-0.1**
LTZ				IAmb	IAmb	00 28 28.0	
	comp=Z,29nm,1.2s						
PLWZ	**Palliser**	**39.85**	**156**	P	**P**	**00 28 16.6**	**-0.7**
GVZ	**Greta Valley S**	**40.21**	**159**	P	**P**	**00 28 19.8**	**-0.4**
RPZ	**Rata Peaks**	**40.22**	**162**	P	**P**	**00 28 21.2**	**+1.0**
	comp=Z,9.0nm,0.8s,baz=64,slow=20,SNR=1.7 comp=Z,9.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**60.20**	**295**	P	**P**	**00 30 50.8**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=128,slow=6.1,SNR=7.0 comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**68.39**	**327**	P	**P**	**00 31 44.0**	**+0.7**
SONM	**Songino Array**	**68.39**	**327**	P	**P**	**00 31 44.3**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=145,slow=5.4,SNR=9.9 comp=Z,1.1nm,0.5s						
VNDA	**Vanda**	**71.61**	**178**	P	**P**	**00 32 02.2**	**-0.1**
VNDA				IAmb	IAmb	00 32 03.0	
	comp=Z,4.8nm,1.4s						
VNDA	**Vanda**	**71.61**	**178**	P	**P**	**00 32 02.2**	**-0.1**
	comp=Z,2.0nm,1.1s,baz=186,slow=14,SNR=3.1 comp=Z,2.0nm,1.1s						
CHGN	**Chignik**	**72.90**	**25**	P	**P**	**00 32 11.3**	**+1.2**
B20K	**Meade River**	**82.42**	**15**	P	**P**	**00 33 04.0**	**+1.5**
ILAR	**Eielson Array**	**82.48**	**22**	P	**P**	**00 33 02.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=243,slow=5.5,SNR=9.1 comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**82.53**	**319**	P	**P**	**00 33 03.9**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=101,slow=5.8,SNR=36 comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**83.24**	**326**	P	**P**	**00 33 06.8**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=100,slow=5.4,SNR=7.6 comp=Z,2.1nm,0.7s						
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**00 33 11.4**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=345,slow=3.3,SNR=4.0 comp=Z,1.0nm,0.3s						
C23K	**Itkillik River**	**84.08**	**16**	P	**P**	**00 33 11.1**	**+0.1**
C23K				IAmb	IAmb	00 33 18.4	
	comp=Z,6.8nm,1.4s						
KURBB	**Kurchatov Arra**	**85.96**	**322**	P	**P**	**00 33 19.9**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=101,slow=4.4,SNR=7.8 comp=Z,0.4nm,0.4s						
NVAR	**Mina Array Bea**	**91.22**	**52**	P	**P**	**00 33 46.3**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=252,slow=4.6,SNR=4.3 comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**91.38**	**323**	P	**P**	**00 33 45.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=114,slow=6.6,SNR=6.0 comp=Z,0.8nm,0.6s						
YKA	**Yellowknife Ar**	**95.51**	**28**	P	**P**	**00 34 04.0**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=251,slow=4.4,SNR=4.0 comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**152.58**	**287**	PKPbc	**PKPbc**	**00 40 36.1**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=44,slow=2.3,SNR=6.7						

IDC ***16*** *00:22:47.3±1.1, 43°.29S×172°.98E, h0km, mb3.7/3, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=31.0km s-min=23.5km az=141.0*
NOU ***16*** *00:22:48.0, 43°.54S×173°.07E, h4km, MLv4.2/8, Off E. Coast of S. Island, NZ.*
WEL ***16*** *00:22:50.2±0.7, 43°.3S×17°.3E±°, h5km, M4.0/23, ML4.3/7, MLv4.0/23, Error ellipse: s-maj=0.0km s-min=0.0km az=98.9, confirmed*
WEL ***16*** *00:22:50.2, 43°.48S×172°.81E, h4km, ML4.0, Mw3.7, Moment Tensor Solution. s3 Moment tensor: Mrr43.45; Mθθ4.13; Mϕϕ-47.58; Mrθ-11.77; Mθϕ6.38; Mϕ2.48; Fault plane solution: NP1:ϕs352.00000°, δ45.00000°, λ68.00000°. NP2:ϕs202.00000°, δ49.00000°, λ110.00000°. Principal axes: T 46.7000, Plg74.0000°, Azm181.0000°; N 1.8200, Plg16.0000°, Azm8.0000°; P -48.5200, Plg2.0000°, Azm277.0000°; SOUTH ISLAND*
ISC 16 00:22:49.1±1.2,**43°.50S**±0°.03×**172°.93E**±0°.04,**h14**km±8km, **n112**,σ1§**20**/118,**mb3.4**/3,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.29**	**223**	P	**Pb**	**00 22 55.5**	**-0.6**
MQZ				S	**Sg**	**00 22 59.5**	**+0.4**
AKCZ	**Akaroa Harbour**	**0.38**	**182**	P	**Pb**	**00 22 58.4**	**+0.8**
AMCZ	**Amberley**	**0.38**	**328**	P	**Pb**	**00 22 56.8**	**-0.8**
AMCZ				S	**Sg**	**00 23 01.7**	**-0.1**
GVZ	**Greta Valley S**	**0.53**	**8**	P	**Pb**	**00 23 00.8**	**+0.5**
GVZ				S	**Sb**	**00 23 08.7**	**+0.9**
RACZ	**Rakaia**	**0.62**	**248**	P	**Pg**	**00 23 01.4**	**+0.2**
OXZ	**Oxford**	**0.67**	**284**	P	**Pg**	**00 23 01.6**	**-0.5**
LTZ	**Lake Taylor**	**0.86**	**326**	P	**Pb**	**00 23 05.7**	**-0.1**
LTZ				S	**Sb**	**00 23 16.8**	**-0.5**
WACZ	**Wakanui South**	**0.91**	**240**	P	**Pb**	**00 23 07.0**	**+0.4**
MHCZ	**Mount Hutt**	**0.99**	**267**	P	**Pg**	**00 23 07.5**	**-0.7**
INZ	**Inchbonnie**	**1.33**	**305**	P	**Pn**	**00 23 12.5**	**-0.8**
ARCZ	**Arundel**	**1.35**	**250**	P	**Pn**	**00 23 12.8**	**-0.8**
RPZ	**Rata Peaks**	**1.38**	**260**	P	**Pn**	**00 23 14.6**	**+0.6**
RPZ	**Rata Peaks**	**1.38**	**260**	Pn	**Pb**	**00 23 14.9**	**+0.2**
	109nm,0.3s,baz=141,slow=0.8,SNR=333						
RPZ				Sn	**Sb**	**00 23 29.8**	**-2.3**
	114nm,0.3s,baz=329,slow=20,SNR=13						
RPZ				LR	LR	00 24 02.8	
	comp=Z,181nm,20.7s,baz=116,slow=52						
RPZ	**Rata Peaks**	**1.38**	**260**	P	**Pn**	**00 23 13.4**	**-0.6**
TMZ	**Timaru**	**1.65**	**237**	P	**Pn**	**00 23 17.4**	**-0.2**
WVZ	**Waitaha Valley**	**1.66**	**284**	P	**Pn**	**00 23 17.4**	**-0.3**
THZ	**Tophouse**	**1.73**	**359**	P	**Pn**	**00 23 18.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.91**	**22**	P	**Pn**	**00 23 21.8**	**+0.5**
DSZ	**Denniston Nort**	**1.94**	**334**	P	**Pn**	**00 23 21.8**	**+0.2**
CMWZ	**Cape Campbell**	**1.99**	**29**	P	**Pb**	**00 23 23.9**	**-1.1**
MRNZ	**Matariki Terra**	**2.10**	**356**	P	**Pn**	**00 23 24.6**	**+0.7**
LBZ	**Lake Benmore**	**2.17**	**245**	P	**Pn**	**00 23 24.9**	**0.0**
TUWZ	**Tuamarina**	**2.20**	**20**	P	**Pn**	**00 23 25.4**	**+0.2**
ODZ	**Otahua Downs**	**2.25**	**226**	P	**Pn**	**00 23 26.2**	**+0.2**
ODZ	**Otahua Downs**	**2.25**	**226**	P	**Pn**	**00 23 25.7**	**-0.2**
FOZ	**Fox Glacier**	**2.27**	**268**	P	**Pn**	**00 23 27.2**	**+1.1**
NNZ	**Nelson**	**2.30**	**8**	P	**Pn**	**00 23 27.4**	**+0.8**
TKNZ	**Takaka Hill**	**2.46**	**1**	P	**Pn**	**00 23 29.9**	**+1.1**
TCW	**Tory Channel**	**2.49**	**24**	P	**Pn**	**00 23 29.2**	**0.0**
BHW	**Baring Head**	**2.53**	**35**	P	**Pn**	**00 23 29.1**	**-0.7**
SNZO	**South Karori**	**2.55**	**32**	P	**Pn**	**00 23 30.0**	**0.0**
PLWZ	**Palliser**	**2.58**	**43**	P	**Pn**	**00 23 30.2**	**-0.3**
QRZ	**Quartz Range**	**2.69**	**354**	P	**Pn**	**00 23 32.7**	**+0.8**
QRZ	**Quartz Range**	**2.69**	**354**	P	**Pn**	**00 23 32.4**	**+0.5**
DUWZ	**D'Urville Isla**	**2.79**	**16**	P	**Pn**	**00 23 34.2**	**+0.8**
PAWZ	**Paruwai Farm**	**2.81**	**42**	P	**Pn**	**00 23 33.2**	**-0.5**
CAW	**Cannon Point**	**2.87**	**34**	P	**Pn**	**00 23 34.2**	**-0.2**
HHSZ	**Highcliff Hill**	**2.91**	**214**	P	**Pn**	**00 23 34.9**	**-0.1**
TRWZ	**Traveller**	**2.93**	**45**	P	**Pn**	**00 23 34.9**	**-0.3**
MTW	**Mount Morrison**	**3.02**	**40**	P	**Pn**	**00 23 35.9**	**-0.6**
KIW	**Kapiti Island**	**3.02**	**30**	P	**Pn**	**00 23 36.4**	**-0.1**
JCZ	**Jackson Bay**	**3.06**	**258**	P	**Pn**	**00 23 37.9**	**+0.8**
JCZ	**Jackson Bay**	**3.06**	**258**	P	**Pn**	**00 23 37.6**	**+0.5**
WKZ	**Wanaka**	**3.11**	**243**	P	**Pn**	**00 23 37.6**	**-0.2**
EAZ	**Earnscleugh**	**3.12**	**235**	P	**Pn**	**00 23 37.6**	**-0.3**
OGWZ	**Otaki Gorge**	**3.15**	**33**	P	**Pn**	**00 23 38.0**	**-0.4**
HOWZ	**Holdsworth Sta**	**3.23**	**37**	P	**Pn**	**00 23 39.1**	**-0.3**
TMWZ	**Te Maipa**	**3.25**	**44**	P	**Pn**	**00 23 40.3**	**+0.7**
TUZ	**Tuapeka**	**3.40**	**223**	P	**Pn**	**00 23 40.8**	**-0.9**
PRWZ	**Pori Road**	**3.71**	**39**	P	**Pn**	**00 23 45.4**	**-0.6**
BFZ	**Birch Farm**	**3.74**	**42**	P	**Pn**	**00 23 45.8**	**-0.6**
BFZ	**Birch Farm**	**3.74**	**42**	P	**Pn**	**00 23 45.6**	**-0.8**
MLZ	**Mavora Lakes**	**3.92**	**240**	P	**Pn**	**00 23 48.3**	**-0.6**
DVHZ	**Dannevirke**	**4.01**	**38**	P	**Pn**	**00 23 48.8**	**-1.2**
ANWZ	**Angora Road**	**4.02**	**42**	P	**Pn**	**00 23 50.8**	**+0.5**
SYZ	**Scrubby Hill**	**4.06**	**220**	P	**Pn**	**00 23 51.3**	**+0.6**
SYZ	**Scrubby Hill**	**4.06**	**220**	P	**Pn**	**00 23 50.9**	**+0.2**
TSZ	**Takapari Road**	**4.12**	**34**	P	**Pn**	**00 23 51.0**	**-0.5**
NMEZ	**Namu Road**	**4.14**	**10**	P	**Pn**	**00 23 55.1**	**+3.2**
PRHZ	**Porangahau**	**4.25**	**42**	P	**Pn**	**00 23 54.3**	**+0.8**
PREZ	**Palmer Road**	**4.25**	**13**	P	**Pn**	**00 23 57.2**	**+3.7**
KHEZ	**Kahui Hut**	**4.28**	**11**	P	**Pn**	**00 23 56.9**	**+3.0**
NBEZ	**Newall Road No**	**4.28**	**10**	P	**Pn**	**00 23 56.2**	**+2.3**
WHZ	**Wether Hill Ro**	**4.28**	**234**	P	**Pn**	**00 23 53.4**	**-0.4**
NEZ	**North Egmont**	**4.31**	**12**	P	**Pn**	**00 23 57.4**	**+3.0**
WPHZ	**Waipukurau**	**4.32**	**39**	P	**Pn**	**00 23 57.3**	**+2.9**
PNHZ	**Pukenui**	**4.34**	**35**	P	**Pn**	**00 23 53.7**	**-0.9**
PKE	**Pukeiti**	**4.37**	**11**	P	**Pn**	**00 23 57.8**	**+2.7**
PXZ	**Pawanui**	**4.54**	**42**	P	**Pn**	**00 23 56.0**	**-1.5**
DCZ	**Deep Cove**	**4.58**	**243**	P	**Pn**	**00 23 57.8**	**0.0**
VRZ	**Vera Road**	**4.58**	**18**	P	**Pn**	**00 24 00.1**	**+2.2**
MOVZ	**Moawhango**	**4.60**	**28**	P	**Pn**	**00 23 58.5**	**+0.2**
WNVZ	**Wahianoa**	**4.62**	**27**	P	**Pn**	**00 24 00.4**	**+1.7**
TRVZ	**Turoa**	**4.63**	**26**	P	**Pn**	**00 24 00.2**	**+1.4**
KRHZ	**Kereru**	**4.63**	**35**	P	**Pn**	**00 23 58.5**	**-0.3**
BHHZ	**Black Hill Sta**	**4.64**	**32**	P	**Pn**	**00 23 59.2**	**+0.3**
WHVZ	**Whangaehu Hut**	**4.66**	**26**	P	**Pn**	**00 24 00.9**	**+1.6**
MAVZ	**Matarangi**	**4.67**	**26**	P	**Pn**	**00 24 01.2**	**+1.8**
FWVZ	**Far West T-bar**	**4.67**	**26**	P	**Pn**	**00 24 01.0**	**+1.6**
TUVZ	**Tukino**	**4.70**	**27**	P	**Pn**	**00 24 01.2**	**+1.5**
COVZ	**Chateau Observ**	**4.72**	**25**	P	**Pn**	**00 24 01.8**	**+1.8**
NGZ	**Ngauruhoe**	**4.76**	**26**	P	**Pn**	**00 24 01.6**	**+1.0**
OTVZ	**Oturere**	**4.79**	**26**	P	**Pn**	**00 24 01.4**	**+0.3**
NNVZ	**North Ngauruho**	**4.81**	**26**	P	**Pn**	**00 24 02.3**	**+1.1**
WTVZ	**West Tongariro**	**4.81**	**25**	P	**Pn**	**00 24 02.3**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**4.83**	**225**	P	**Pn**	**00 24 00.9**	**-0.5**
ETVZ	**East Tongariro**	**4.83**	**27**	P	**Pn**	**00 24 02.4**	**+0.8**
KWHZ	**Kaweka Forest**	**4.84**	**34**	P	**Pn**	**00 24 01.0**	**-0.6**
KRVZ	**Karewarewa**	**4.85**	**26**	P	**Pn**	**00 24 00.0**	**-1.7**
TMVZ	**Te Maari**	**4.85**	**26**	P	**Pn**	**00 24 02.7**	**+0.9**
NTVZ	**North Tongarir**	**4.86**	**26**	P	**Pn**	**00 24 03.0**	**+1.2**
MCHZ	**McNeill Hill**	**4.94**	**36**	P	**Pn**	**00 24 01.4**	**-1.5**
PYZ	**Puysegur Point**	**5.18**	**237**	P	**Pn**	**00 24 07.8**	**+1.6**
PYZ	**Puysegur Point**	**5.18**	**237**	P	**Pn**	**00 24 06.8**	**+0.6**
MTHZ	**Maungataniwha**	**5.50**	**34**	P	**Pn**	**00 24 10.6**	**0.0**
KNZ	**Kokohu**	**5.72**	**40**	P	**Pn**	**00 24 12.4**	**-1.2**
TOZ	**Tahuroa Road**	**6.08**	**20**	P	**Pn**	**00 24 19.1**	**+0.6**
URZ	**Urewera**	**6.12**	**33**	Pn	**Pn**	**00 24 17.0**	**-2.0**
	3.7nm,0.3s,baz=312,slow=5.5,SNR=18						
URZ				Sn	**Sn**	**00 25 25.6**	**-3.2**
	3.0nm,0.3s,baz=169,slow=21,SNR=8.9 6.2nm,0.3s						
URZ	**Urewera**	**6.12**	**33**	P	**Pn**	**00 24 17.7**	**-1.3**
MWZ	**Matawai**	**6.22**	**36**	P	**Pn**	**00 24 18.6**	**-2.0**
TWGZ	**Tauwhareparae**	**6.55**	**37**	P	**Pn**	**00 24 25.3**	**+0.3**
AWAZ	**Awhitu Peninsu**	**6.56**	**12**	P	**Pn**	**00 24 26.2**	**+1.1**
RUGZ	**Raukumara Rang**	**6.60**	**35**	P	**Pn**	**00 24 24.8**	**-1.0**
MKAZ	**Moumakai**	**6.61**	**16**	P	**Pn**	**00 24 25.9**	**+0.2**
WMGZ	**Waiomatatini S**	**7.04**	**38**	P	**Pn**	**00 24 31.0**	**-0.7**
ASAR	**Alice Springs**	**37.62**	**289**	P	**P**	**00 30 04.0**	**+0.5**
	0.3nm,0.5s,baz=126,slow=7.1,SNR=5.1 0.3nm,0.5s						
WRA	**Warramunga Arr**	**39.85**	**294**	P	**P**	**00 30 22.4**	**+0.1**
	0.4nm,0.5s,baz=134,slow=8.0,SNR=7.4 0.4nm,0.5s						
QSPA	**South Pole Qui**	**46.63**	**180**	P	**P**	**00 31 18.9**	**+2.2**
	1.4nm,0.6s,baz=8.8,slow=1.5,SNR=4.0 1.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.83**	**197**	PKPbc	**PKPbc**	**00 42 37.5**	**+1.0**
	0.5nm,0.8s,baz=154,slow=3.0,SNR=2.4						
ARCES	**ARCESS Array B**	**149.06**	**338**	PKPbc	**PKPbc**	**00 42 34.5**	**-1.0**
	7.9nm,1.1s,baz=29,slow=2.1,SNR=2.1						
BRTR	**Keskin Array B**	**149.54**	**277**	PKPbc	**PKPbc**	**00 42 37.0**	**-0.8**
	0.2nm,0.5s,baz=101,slow=3.8,SNR=2.0						
FINES	**FINESS Array B**	**153.41**	**324**	PKPbc	**PKPbc**	**00 42 46.1**	**+0.3**
	9.0nm,1.1s,baz=195,slow=21,SNR=2.6						

IDC ***16*** *01:01:50.8±0.5, 6°.79N×72°.94W, h155km±5km, mb3.4/10, mbtmp4.1/15, Error ellipse: s-maj=13.7km s-min=6.8km az=132.0*
NEIC ***16*** *01:01:51.7±1.6, 6°.89N±0°.07×73°.07W±0°.05, h153km±15km, mb4.1/5, Error ellipse: s-maj=10.9km s-min=6.5km az=167.0*
RSNC ***16*** *01:01:52.6±1.1, 6°.84N×73°.16W, h146km±4km, ML3.7, Mw3.9*
ISC 16 01:01:51.1±0.5,**6°.87N**±0°.03×**73°.08W**±0°.04,**h156**km±4km, **n72**,σ1§**34**/119,**mb3.9**/12,**5C-4D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**200**	*i* P	**Pn**	**01 02 12.3**	**-0.4**
BARC				*e*S	**Sn**

LCBC				*i*			01 03 37.4	
	comp=Z,173nm,0.5s							
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	*eP*		**Pn**	**01 02 52.9**	**-0.5**
CRJC				*eS*		**Sn**	**01 03 42.1**	**+0.3**
CRJC				*i*			01 04 01.9	
	comp=Z,70nm,0.3s							
YOTC	**Yotoco, Valle**	**4.33**	**229**	*eP*		**Pn**	**01 02 55.4**	**-0.6**
YOTC				*eS*		**Sn**	**01 03 45.2**	**-1.3**
YOTC				*i*			01 03 52.8	
	comp=Z,51nm,0.8s							
SMRC	**Santa Marta, M**	**4.42**	**345**	*eP*		**Pn**	**01 02 58.0**	**+1.0**
SMRC				*eS*		**Sn**	**01 03 45.8**	**-2.6**
SMRC				*i*			01 03 53.5	
	comp=Z,45nm,0.3s							
CAPC	**Capurgana**	**4.58**	**293**	*eP*		**Pn**	**01 02 58.2**	**-1.0**
CAPC				*eS*		**Sn**	**01 03 50.3**	**-1.9**
CAPC				*i*			01 03 52.5	
	comp=Z,117nm,0.6s							
CAP2	**Capurgana**	**4.59**	**293**	Pn		**Pn**	**01 02 57.1**	**-2.2**
PIZC	**Pizarro, Choco**	**4.66**	**246**	*eP*		**Pn**	**01 03 00.9**	**+0.8**
PIZC				*eS*		**Sn**	**01 03 53.9**	**-0.1**
PIZC				*i*			01 04 15.4	
	comp=Z,58nm,0.6s							
PTAC	**Punta Ardita,**	**4.70**	**274**	*eP*		**Pn**	**01 02 59.8**	**-0.9**
PTAC				*eS*		**Sn**	**01 03 52.9**	**-2.1**
PTAC				*i*			01 03 54.8	
	comp=Z,35nm,0.3s							
BETC	**Betania**	**4.78**	**210**	*eP*		**Pn**	**01 03 01.6**	**-0.2**
BETC				*eS*		**Sn**	**01 03 52.2**	**-4.7**
BETC				*i*			01 04 03.3	
	comp=Z,46nm,0.5s							
JAMC	**Jamundi, Valle**	**5.09**	**225**	*eP*		**Pn**	**01 03 08.3**	**+2.2**
JAMC				*eS*		**Sn**	**01 04 03.9**	**-0.8**
JAMC				*i*			01 04 11.9	
	comp=Z,24nm,0.4s							
MALC	**Bahia Malaga**	**5.09**	**236**	*eP*		**Pn**	**01 03 07.3**	**+1.4**
MALC				*eS*		**Sn**	**01 04 01.0**	**-3.4**
MALC				*i*			01 04 12.9	
	comp=Z,31nm,0.6s							
UPD2	**Meteti**	**5.17**	**289**	*eP*		**Pn**	**01 03 05.3**	**-1.5**
UPD2				*eS*		**Sn**	**01 04 02.4**	**-3.6**
UPD2				*i*			01 04 07.8	
	comp=Z,90nm,0.4s							
GARC	**Garzon, Huila**	**5.23**	**207**	*eP*		**Pn**	**01 03 07.0**	**-1.0**
GARC				*eS*		**Sn**	**01 04 06.8**	**-1.2**
GARC				*i*			01 04 11.9	
	comp=Z,95nm,0.2s							
BAUV	**El Baul**	**5.40**	**67**			**Pn**	**01 03 08.6**	**-1.4**
BBAC	**Balboa, Cauca**	**6.36**	**221**	*eP*		**Pn**	**01 03 23.6**	**+0.8**
BBAC				*eS*		**Sn**	**01 04 33.1**	**-1.7**
BBAC				*i*			01 04 38.6	
	comp=Z,15nm,0.4s							
GCUF	**Volcan Galeras**	**7.03**	**217**	*eP*		**Pn**	**01 03 33.1**	**+1.0**
GCUF				*eS*		**Sn**	**01 04 51.3**	**-0.1**
GCUF				*i*			01 04 52.9	
	comp=Z,10nm,0.4s							
BCIP	**Isla Barro Col**	**7.07**	**289**	Pn		**Pn**	**01 03 30.7**	**-1.4**
OTAV	**Otavalo**	**8.49**	**219**	Pn		**Pn**	**01 03 51.8**	**+0.3**
OTAV						**Sn**	**01 05 27.2**	**+0.9**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P		**Pn**	**01 03 57.6**	**0.0**
	comp=Z,4.1nm,0.4s,baz=256,slow=1.5,SNR=15							
PCRV				S		**Sn**	**01 05 35.9**	**-1.6**
	comp=Z,9.3nm,0.6s,baz=201,slow=14,SNR=1.9							
MTDJ	**Mount Denham**	**12.10**	**339**	Pn		**Pn**	**01 04 42.0**	**+3.4**
CELP	**Cerrillos**	**12.82**	**29**	Pn		**Pn**	**01 04 47.0**	**-0.8**
SJG	**San Juan**	**13.06**	**31**	P		**Pn**	**01 04 49.4**	**-1.5**
	comp=Z,4.5nm,0.4s,baz=41,slow=22,SNR=2.2							
MCRA	**Macar, Loja**	**13.10**	**212**	P		**P**	**01 04 55.4**	**-0.6**
BOAV	**Boa Vista**	**13.28**	**109**	Pn		**Pn**	**01 04 51.5**	**-2.3**
ETMB	**Extrema**	**17.93**	**157**			**P**	**01 05 49.8**	**+0.5**
ETMB				IAmb		IAmb	01 06 32.5	
	comp=Z,6.1nm,1.5s							
SAML	**Samuel**	**18.55**	**148**			**P**	**01 05 55.9**	**-0.2**
TEIG	**Tepich**	**19.84**	**314**	P		**P**	**01 06 10.6**	**+0.7**
TEIG	**Tepich**	**19.84**	**314**	P		**P**	**01 06 11.3**	**+1.4**
	comp=Z,71nm,0.8s,baz=209,slow=15,SNR=1.7							
WVT	**Waverly**	**32.10**	**337**	P		**P**	**01 08 04.6**	**+1.0**
WVT				IAmb		IAmb	01 08 08.9	
	comp=Z,5.2nm,1.1s							
BDFB	**Brasilia**	**33.42**	**132**	P		**P**	**01 08 13.7**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=101,slow=9.3,SNR=2.0							
	comp=Z,0.8nm,0.3s							
S44A	**Carbondale**	**34.02**	**337**	P		**P**	**01 08 20.3**	**+0.1**
S44A				IAmb		IAmb	01 08 28.5	
	comp=Z,6.3nm,1.0s							
TXAR	**Lajitas Array**	**36.46**	**312**	P		**P**	**01 08 42.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=127,slow=10,SNR=6.3							
TXAR				pP		**pP**	**01 09 16.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=104,slow=10,SNR=1.6							
	comp=Z,0.4nm,0.6s							
ULM	**Lac du Bonnet**	**47.26**	**340**	P		**P**	**01 10 08.3**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=131,slow=7.2,SNR=6.0							
	comp=Z,1.2nm,0.3s							
PDAR	**Pinedale Array**	**48.06**	**324**	P		**P**	**01 10 16.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=124,slow=11,SNR=2.0							
	comp=Z,0.1nm,0.3s							
SCHQ	**Schefferville**	**48.09**	**5**	P		**P**	**01 10 15.5**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=192,slow=6.0,SNR=13							
	comp=Z,4.2nm,0.6s							
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**	**01 12 03.5**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=130,slow=6.6,SNR=23							
YKA				pP		**pP**	**01 12 40.3**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=127,slow=7.1,SNR=2.8							
	comp=Z,0.7nm,0.5s							
DBIC	**Dimbokro**	**67.69**	**86**	P		**P**	**01 12 31.1**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=265,slow=4.8,SNR=3.9							
	comp=Z,1.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**73.69**	**78**	P		**P**	**01 13 07.2**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=290,slow=6.2,SNR=5.0							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**76.94**	**335**	P		**P**	**01 13 26.1**	**0.0**
	comp=Z,0.2nm,0.6s,baz=127,slow=4.1,SNR=4.2							
	comp=Z,0.2nm,0.6s							
ARCES	**ARCESS Array B**	**86.62**	**20**	P		**P**	**01 14 16.5**	**0.0**
	comp=Z,3.1nm,0.8s,baz=260,slow=4.5,SNR=1.8							
	comp=Z,3.1nm,0.8s							
ZALV	**Zalesovo Beam**	**116.62**	**14**	PKP		**PKiKP**	**01 20 17.3**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=345,slow=4.9,SNR=2.0							
MKAR	**Makanchi Array**	**122.27**	**20**	PKP		**PKPdf**	**01 20 27.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=297,slow=2.9,SNR=10							
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc		**PKPbc**	**01 21 21.0**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=114,slow=3.7,SNR=11							
ASAR				pPKPbc		**pPKPdf**	**01 22 01.4**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=104,slow=3.9,SNR=1.6							
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc		**PKPbc**	**01 21 24.7**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=109,slow=2.7,SNR=18							
WRA				pPKPbc		**pPKPbc**	**01 22 05.0**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=110,slow=2.2,SNR=2.7							

*IDC **16** 01:26:19.8±1.8, 6.°43S×130.°09E, h0km, mb3.9/3, mbtmp3.8/5, ML3.9/2, MS3.2/1, Error ellipse: s-maj=137.8km s-min=28.6km az=70.0*
*NEIC **16** 01:26:37.2±1.9, 7.°13S±0.°08×129.°66E±0.°10, h162km±9km, mb4.1/7, Error ellipse: s-maj=14.0km s-min=11.6km az=71.0*

ISC 16 01:26:35.6±0.7, 7.°24S±0.°07×129.°66E±0.°08, h150km, n35, σ2§45/37, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.79**	**115**	Pn	**Pn**	**01 27 11.3**	**+3.0**
SAUI				Sn	**Sn**	**01 27 36.2**	**+2.8**
FAKI	**Fak Fak**	**5.00**	**31**		**Pn**	**01 27 47.9**	**-1.2**
MTN	**Manton Dam**	**5.76**	**166**		**Pn**	**01 28 01.5**	**+2.3**
MTN	**Manton Dam**	**5.76**	**166**	P	**Pn**	**01 28 02.1**	**+3.0**
SOEI	**Soe**	**5.89**	**244**	Pn	**Pn**	**01 28 03.1**	**+2.1**
SOEI	**Soe**	**5.89**	**244**	P	**Pn**	**01 28 04.5**	**+3.5**
	22nm,1.0s						
KDU	**Kakadu**	**6.08**	**153**	P	**Pn**	**01 28 06.5**	**+3.0**
KNRA	**Kununurra**	**8.44**	**186**	Pn	**Pn**	**01 28 36.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.48**	**200**	Pn	**Pn**	**01 29 14.3**	**-0.9**
PLAI	**Plampang**	**11.87**	**262**	P	**Pn**	**01 29 21.2**	**+0.9**
	24nm,1.2s						
WB0	**Warramunga Arr**	**13.28**	**160**		**Pn**	**01 29 38.6**	**+0.2**
WRA	**Warramunga Arr**	**13.42**	**161**	Pn	**Pn**	**01 29 41.4**	**+1.1**
WRA	**Warramunga Arr**	**13.42**	**161**	Pn	**Pn**	**01 29 40.0**	**-0.3**
	0.7nm,0.3s,baz=347,slow=13,SNR=21						
WRA				Sn	**Sn**	**01 32 02.9**	**-6.0**
	0.8nm,0.3s,baz=331,slow=24,SNR=6.7						
	1.1nm,0.5s						
WB2	**Warramunga Arr**	**13.43**	**161**		**Pn**	**01 29 40.9**	**+0.5**
WR0	**Warramunga Arr**	**13.51**	**160**	P	**Pn**	**01 29 42.1**	**+0.8**
COEN	**Coen**	**14.87**	**118**	P	**P**	**01 30 01.2**	**+0.7**
ASAR	**Alice Springs**	**16.84**	**166**		**Pn**	**01 30 23.9**	**+1.3**
ASAR	**Alice Springs**	**16.84**	**166**	P	**Pn**	**01 30 26.1**	**+3.5**
	0.4nm,0.3s,baz=332,slow=9.7,SNR=18						
ASAR				S	**S**	**01 33 26.8**	**-3.2**
	0.6nm,0.8s,baz=354,slow=25,SNR=1.9						
	0.6nm,0.4s						
AS01	**Alice Springs**	**16.85**	**166**	P	**Pn**	**01 30 26.2**	**+3.4**
	3.1nm,0.8s						
PMG	**Port Moresby**	**17.45**	**98**	LR	LR	01 37 20.0	
	comp=Z,74nm,18.6s,baz=122,slow=38						
MULG	**Mulgathing**	**23.30**	**170**	P	**P**	**01 31 32.4**	**+2.3**
RK1H	**Rockhampton Ha**	**25.66**	**131**	P	**P**	**01 31 45.6**	**-6.1**
	14nm,0.7s						
EIDS	**Eidsvold**	**27.27**	**134**	P	**P**	**01 32 08.2**	**+2.1**
EIDS				IAmb	IAmb	01 32 46.2	
	comp=Z,13nm,1.1s						
EIDS	**Eidsvold**	**27.27**	**134**	P	**P**	**01 32 01.7**	**-4.4**
TOO	**Toolangi**	**33.45**	**157**	P	**P**	**01 33 01.3**	**+1.0**
MLZ	**Mavora Lakes**	**50.48**	**145**	P	**P**	**01 35 18.4**	**+0.2**
MLZ				IAmb	IAmb	01 35 25.8	
	comp=Z,5.7nm,1.0s						
MK31	**Makanchi Array**	**68.24**	**327**	P	**P**	**01 37 20.2**	**+0.1**
MK31				IAmb	IAmb	01 37 26.1	
	comp=Z,2.5nm,1.4s						
MKAR	**Makanchi Array**	**68.24**	**327**	P	**P**	**01 37 20.0**	**-0.1**
MKAR	**Makanchi Array**	**68.24**	**327**	P	**P**	**01 37 20.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=124,slow=7.0,SNR=24						
	comp=Z,0.8nm,0.4s						
MAKZ	**Makanchi**	**68.42**	**327**	P	**P**	**01 37 21.0**	**-0.2**
ZALV	**Zalesovo Beam**	**71.64**	**334**	P	**P**	**01 37 39.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=129,slow=6.5,SNR=2.2						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**72.53**	**329**	P	**P**	**01 37 45.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=124,slow=4.7,SNR=6.6						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**72.54**	**329**	P	**P**	**01 37 45.5**	**-0.6**
KURK				IAmb	IAmb	01 38 17.2	
	comp=Z,7.0nm,1.5s						
ABKAR	**Akbulak array**	**82.48**	**322**	P	**P**	**01 38 40.8**	**-0.6**
ABKAR	**Akbulak array**	**82.48**	**322**	P	**P**	**01 38 41.2**	**-0.1**
ABKAR				IAmb	IAmb	01 38 45.2	
	comp=Z,2.5nm,1.3s						

IDC 16 01:37:41.0±2.5, 3.°68S×152.°13E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=199.7km s-min=32.4km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.71**	**226**	P	P	01 42 54.7	-0.1
	1.5nm,1.1s,baz=51,slow=9.7,SNR=4.7						
ASAR	**Alice Springs**	**26.54**	**220**	P	P	01 43 21.1	+0.4
	0.4nm,0.7s,baz=56,slow=8.6,SNR=2.4						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**81.39**	**22**	P	P	01 49 59.1	-0.2
	0.2nm,0.8s,baz=250,slow=5.5,SNR=1.5						
	0.2nm,0.8s						

IDC 16 01:38:33.9±2.2, 3.°86S×152.°35E, h0km, mb3.5/3, mbtmp3.5/3, MS3.4/2, Error ellipse: s-maj=92.3km s-min=30.7km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**9.36**	**127**	LR	LR	01 44 53.2	
	comp=Z,4μm,18.3s,baz=339,slow=40						
CTA	**Charters Tower**	**17.19**	**200**	LR	LR	01 48 01.5	
	comp=Z,90nm,19.5s,baz=72,slow=33						
DZM	**Mont Dzumac**	**22.69**	**144**	LR	LR	01 51 23.3	
	comp=Z,147nm,18.6s,baz=294,slow=34						
WRA	**Warramunga Arr**	**23.75**	**226**	P	P	01 43 48.2	0.0
	1.9nm,0.9s,baz=51,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**26.56**	**220**	P	P	01 44 14.0	+0.2
	0.8nm,0.8s,baz=54,slow=9.0,SNR=2.3						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**79.33**	**319**	P	P	01 50 41.9	+0.3
	0.3nm,0.8s,baz=102,slow=6.1,SNR=1.6						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**81.46**	**22**	P	P	01 50 52.2	-0.5
	0.3nm,0.7s,baz=249,slow=5.3,SNR=2.2						
	0.3nm,0.7s						

*IDC **16** 01:49:31.9±1.7, 24.°34S×179.°86E, h521km±17km, mb3.3/10, mbtmp4.2/12, Error ellipse: s-maj=17.7km s-min=11.9km az=164.0*
*NEIC **16** 01:49:34.9±1.7, 24.°3S±0.°2×179.°79E±0.°08, h542km±8km, mb4.2/26, Error ellipse: s-maj=24.2km s-min=10.8km az=180.0*

ISC 16 01:49:34.5±0.5, 24.°45S±0.°09×179.°84E±0.°08, h550km, n58, σ1§11/63, mb4.0/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**11.52**	**277**	P	**P**	**01 52 07.7**	**-0.3**
OUENC	**Ouen Island, N**	**12.10**	**277**	P	**P**	**01 52 13.3**	**-0.8**
LIFNC	**LIFOU**	**12.19**	**285**	P	**P**	**01 52 13.4**	**-1.7**
DZM	**Mont Dzumac**	**12.54**	**278**	P	**P**	**01 52 18.0**	**-0.7**
DZM	**Mont Dzumac**	**12.54**	**278**	P	**P**	**01 52 16.9**	**-1.9**
	19nm,0.7s,baz=89,slow=16,SNR=18						
URZ	**Urewera**	**13.97**	**189**	P	**P**	**01 52 30.7**	**-2.4**
	7.7nm,0.6s,baz=182,slow=22,SNR=1.8						
URZ				S	**S**	**01 54 59.6**	**-0.6**
	6.4nm,0.7s,baz=256,slow=22,SNR=1.4						
EIDS	**Eidsvold**	**26.08**	**262**	P	**P**	**01 54 25.6**	**+0.8**
CTAO	**Charters Tower**	**31.34**	**271**	P	**P**	**01 55 11.0**	**+0.5**
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**01 55 37.1**	**+0.9**
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**01 55 35.6**	**-0.5**
	1.6nm,0.6s,baz=96,slow=9.4,SNR=5.3						
	1.6nm,0.6s						
COEN	**Coen**	**36.06**	**280**	P	**P**	**01 55 51.3**	**+1.0**
COEN				IAmb	IAmb	01 55 54.0	
	comp=Z,12nm,1.2s						
BBOO	**Buckleboo**	**39.10**	**248**	P	**P**	**01 56 14.7**	**-0.1**
AS31	**Alice Springs**	**41.80**	**261**	P	**P**	**01 56 37.0**	**+0.4**
ASAR	**Alice Springs**	**41.80**	**261**	P	**P**	**01 56 35.9**	**-0.7**
ASAR	**Alice Springs**	**41.80**	**261**	P	**P**	**01 56 36.7**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=98,slow=7.9,SNR=17						
ASAR				PcP	**PcP**	**01 58 19.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=92,slow=6.4,SNR=1.6						
ASAR				ScP	**ScP**	**02 01 22.1**	**+4.2**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.4,SNR=5.1						
ASAR				S	**S**	**02 02 15.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=102,slow=14,SNR=5.9						
	comp=Z,2.0nm,0.7s						
WR0	**Warramunga Arr**	**42.04**	**267**	P	**P**	**01 56 37.7**	**-0.7**
WR0				IAmb	IAmb	01 56 39.5	
	comp=Z,4.1nm,1.1s						
WB2	**Warramunga Arr**	**42.22**	**267**	P	**P**	**01 56 39.5**	**-0.4**
WB2				IAmb	IAmb	01 56 41.4	
	comp=Z,5.3nm,0.6s						
WB0	**Warramunga Arr**	**42.22**	**267**	P	**P**	**01 56 39.4**	**-0.5**
WB0				IAmb	IAmb	01 56 42.0	
	comp=Z,5.2nm,0.6s						
WRA	**Warramunga Arr**	**42.23**	**267**	P	**P**	**01 56 39.5**	**-0.5**
	comp=Z,4.8nm,0.6s,baz=104,slow=8.1,SNR=20						
WRA				ScP	**ScP**	**02 01 22.2**	**+2.6**
	comp=Z,1.8nm,0.8s,baz=100,slow=3.8,SNR=8.3						
WRA				S	**S**	**02 02 23.1**	**+2.1**
	comp=Z,1.2nm,1.1s,baz=109,slow=14,SNR=3.6						
FORT	**Forrest**	**45.98**	**250**	P	**P**	**01 57 08.4**	**-0.4**
MTN	**Manton Dam**	**47.35**	**275**	P	**P**	**01 57 18.9**	**-0.4**
MTN				IAmb	IAmb	01 57 23.2	
	comp=Z,7.5nm,0.9s						
KNRA	**Kununurra**	**48.54**	**270**	P	**P**	**01 57 28.1**	**0.0**
FITZ	**Fitzroy Crossi**	**50.64**	**266**	P	**P**	**01 57 44.0**	**+0.4**
QSPA	**South Pole Qui**	**65.64**	**180**	P	**P**	**01 59 26.7**	**+2.4**
QSPA				IAmb	IAmb	01 59 27.1	
	comp=Z,4.8nm,0.8s						
QSPA	**South Pole Qui**	**65.64**	**180**	P	**P**	**01 59 25.0**	**+0.7**
	comp=Z,3.3nm,0.6s,baz=52,slow=1.0,SNR=9.9						
	comp=Z,3.3nm,0.6s						
PETK	**Petropavlovsk-**	**79.59**	**347**	P	**P**	**02 00 43.9**	**-0.5**
PETK	**Petropavlovsk-**	**79.59**	**347**	P	**P**	**02 00 43.5**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=114,slow=8.0,SNR=4.6						
	comp=Z,1.4nm,0.6s						
SLBS	**Sierra La Lagu**	**83.20**	**60**	P	**P**	**02 01 04.7**	**+1.1**
SLBS				IAmb	IAmb	02 01 22.3	
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**84.13**	**179**	P	**P**	**02 01 07.5**	**0.0**
SNAA				IAmb	IAmb	02 01 21.2	
	comp=Z,7.1nm,1.2s						
SNAA	**Sanae**	**84.13**	**179**	P	**P**	**02 01 07.2**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=187,slow=18,SNR=6.0						
	comp=Z,1.6nm,0.9s						
PIX	**Pinacate**	**84.64**	**52**	P	**P**	**02 01 11.3**	**+0.8**
PIX				IAmb	IAmb	02 01 12.2	
	comp=Z,3.3nm,1.1s						
NVAR	**Mina Array Bea**	**85.25**	**44**	P	**P**	**02 01 13.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=220,slow=7.5,SNR=6.7						
	comp=Z,0.7nm,0.8s						
NV11	**Mina Array Sit**	**85.34**	**44**	P	**P**	**02 01 14.8**	**+0.9**
TPNV	**Topopah Spring**	**85.71**	**46**	P	**P**	**02 01 16.5**	**+0.7**
KVN	**Kaiserville**	**85.74**	**44**	P	**P**	**02 01 16.2**	**+0.3**
O18K	**Koktuh Hills**	**86.46**	**12**	P	**P**	**02 01 18.2**	**-0.3**
PLCA	**Paso Flores**	**87.99**	**134**	P	**P**	**02 01 27.2**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=69,slow=19,SNR=1.4						
	comp=Z,0.6nm,0.7s						
L19K	**White Mountain**	**88.68**	**12**	P	**P**	**02 01 28.9**	**0.0**
L19K				IAmb	IAmb	02 01 29.5	
	comp=Z,5.2nm,1.1s						
121A	**Cookes Peak, D**	**89.26**	**54**	P	**P**	**02 01 33.0**	**+0.5**
121A				IAmb	IAmb	02 01 46.2	
	comp=Z,6.6nm,1.4s						
J18K	**Innoko River**	**89.55**	**10**	P	**P**	**02 01 32.9**	**0.0**
J18K				IAmb	IAmb	02 01 39.0	
	comp=Z,2.1nm,1.1s						
TX31	**Lajitas Ar. Si**	**90.84**	**58**	P	**P**	**02 01 40.9**	**+1.0**
TX31				IAmb	IAmb	02 01 41.7	
	comp=Z,1.8nm,0.8s						
TXAR	**Lajitas Array**	**90.84**	**58**	P	**P**	**02 01 40.2**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=216,slow=6.9,SNR=9.9						
	comp=Z,1.5nm,0.8s						
BSUT	**Blindstream Ca**	**91.26**	**46**	P	**P**	**02 01 43.1**	**+1.2**
BSUT				IAmb	IAmb	02 01 43.4	
	comp=Z,3.8nm,0.9s						
ILAR	**Eielson Array**	**92.59**	**14**	P	**P**	**02 01 45.5**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=221,slow=5.9,SNR=5.8						
	comp=Z,0.4nm,0.9s						
PDAR	**Pinedale Array**	**93.18**	**44**	P	**P**	**02 01 50.0**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=101,slow=1.5,SNR=4.1						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**112.28**	**320**	PKiKP	**PKiKP**	**02 07 07.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=82,slow=3.1,SNR=2.0						
MKAR	**Makanchi Array**	**112.41**	**313**	PKiKP	**PKiKP**	**02 07 07.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=85,slow=1.2,SNR=4.9						
KURBB	**Kurchatov Arra**	**115.54**	**316**	PKP	**PKPdf**	**02 07 12.9**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=94,slow=2.0,SNR=5.7						
BVAR	**Borovoye Array**	**120.75**	**318**	PKP	**PKPdf**	**02 07 23.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=124,slow=2.0,SNR=8.1						
ARCES	**ARCESS Array B**	**132.39**	**348**	PKP	**PKPdf**	**02 07 45.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=29,slow=2.1,SNR=5.3						
FINES	**FINESS Array B**	**138.91**	**341**	PKhKP	PKPpre	02 07 48.5	
	comp=Z,2.3nm,0.8s,baz=64,slow=4.4,SNR=5.4						
HFS	**Hagfors**	**143.05**	**348**	PKP	**PKPdf**	**02 08 02.8**	**-2.6**
	comp=Z,5.3nm,0.4s,baz=64,slow=3.4,SNR=43						
PABE	**Paberze**	**144.26**	**337**		**PKPdf**	**02 08 07.9**	**+0.3**
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	**PKPbc**	**02 08 10.5**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=44,slow=3.7,SNR=13						
BRTR	**Keskin Array B**	**147.78**	**306**	PKPbc	**PKPbc**	**02 08 17.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=132,slow=3.5,SNR=5.9						
MMAI	**Mount Meron Ar**	**147.79**	**294**	PKPbc	**PKiKP**	**02 08 18.8**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=44,slow=8.7,SNR=7.3						
EKA	**Eskdalemuir Ar**	**149.07**	**3**	PKPbc	**PKPbc**	**02 08 20.0**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=349,slow=2.7,SNR=7.5						
TORD	**Torodi Ar. Bea**	**168.63**	**189**	PKPab	**PKPab**	**02 09 53.7**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=148,slow=1.3,SNR=4.2						

*NOU **16** 02:36:22.0, 43.°56S×173.°09E, h15km, MLv4.0/7, Off E. Coast of S. Island, N.Z.*
*WEL **16** 02:36:23.1±0.8, 43.°5S±3.°×17.°3E±.°, h5km±3km, M3.8/8, ML4.1/8, MLv3.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=99.4, confirmed

NNVZ	North Ngauruho	4.82	26	P		Pn	02 37 35.3	+0.6
WTVZ	West Tongariro	4.82	26	P		Pn	02 37 35.1	+0.3
ETVZ	East Tongariro	4.84	27	P		Pn	02 37 35.3	+0.3
KWHZ	Kaweka Forest	4.86	34	P		Pn	02 37 34.8	-0.4
TMVZ	Te Maari	4.86	27	P		Pn	02 37 35.8	+0.5
NTVZ	North Tongarir	4.87	27	P		Pn	02 37 36.1	+0.7
NMHZ	Naumai	5.29	35	P		Pn	02 37 41.3	+0.2
MTHZ	Maungataniwha	5.51	34	P		Pn	02 37 43.2	-0.9
PRRZ	Plateau Road	5.65	29	P		Pn	02 37 46.2	+0.2
TOZ	Tahuroa Road	6.09	20	P		Pn	02 37 51.7	-0.3
URZ	Urewera	6.13	33	P		Pn	02 37 50.7	-1.8
MWZ	Matawai	6.24	36	P		Pn	02 37 52.0	-2.1
TWGZ	Tauwhareparae	6.57	38	P		Pn	02 37 58.5	-0.1
RUGZ	Raukumara Rang	6.61	35	P		Pn	02 37 57.8	-1.5
HAZ	Te Kaha	6.83	35	P		Pn	02 38 00.3	-1.9

RSNC 16 02:43:50.6±1.1, 6°80N×73°19W, h148km±7km, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**178**	*eP*	Pn	02 44 10.2	-0.8
BARC				*eS*	Sn	02 44 26.2	-0.4
BARC				*i*		02 44 26.9	
	comp=Z,16nm,0.5s						
PAMC	**Pamplona, Colo**	**0.73**	**42**	*eP*	Pn	02 44 13.2	-0.6
PAMC				*eS*	Sn	02 44 30.7	-0.5
PAMC				*i*		02 44 32.5	
	comp=Z,12nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.28**	**259**	*eP*	Pn	02 44 17.0	-0.9
PTBC				*eS*	Sn	02 44 38.3	-0.3
PTBC				*i*		02 44 45.7	
	comp=Z,9.7nm,0.4s						
SPBC	**San Pablo de B**	**1.44**	**218**	*eP*	Pn	02 44 19.2	-0.3
SPBC				*eS*	Sn	02 44 41.7	+0.2
SPBC				*i*		02 44 48.3	
	comp=Z,19nm,0.3s						
OCAC	**Ocana**	**1.44**	**355**	*eP*	Pn	02 44 18.9	-0.7
OCAC				*eS*	Sn	02 44 41.6	-0.2
OCAC				*i*		02 44 45.2	
	comp=Z,23nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.79**	**293**	*eP*	Pn	02 44 22.9	-0.4
ZARC				*eS*	Sn	02 44 48.0	-0.3
ZARC				*i*		02 44 54.7	
	comp=Z,10nm,0.2s						
UREC	**San Jos de Ur**	**2.51**	**292**	*eP*	Pn	02 44 30.4	-1.3
UREC				*eS*	Sn	02 45 03.1	-0.4
LL6C	**La Loma 6 Bece**	**2.92**	**358**	*eP*	Pn	02 44 37.6	+0.7
LL6C				*eS*	Sn	02 45 13.2	+0.3
LL6C				*i*		02 45 33.4	
	comp=Z,7.2nm,0.7s						
SJCC	**San Jacinto, C**	**3.66**	**328**	*eP*	Pn	02 44 45.2	-1.2
SJCC				*eS*	Sn	02 45 28.0	-1.7
SJCC				*i*		02 45 33.6	
	comp=Z,1.6nm,0.5s						

*MOS **16** 02:49:21.6, 42°13N×47°91E, h21km, MPVA3.6*
*DRS **16** 02:49:22.9, 42°13N×48°09E, h18km*
ISC 16 02:49:23.6±1.7, 42°17N±0°03×47°99E±0°04, h19km±3km, n27, σ1§06/51, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.26**	**270**	*i* Pg	**Pb**	**02 49 28.7**	**-1.0**
URKR				*e*Sg	**Sb**	**02 49 33.1**	**-0.6**
DRN	**Derbent**	**0.29**	**118**	*i* Pg	**Pb**	**02 49 30.9**	**+0.7**
DRN				*e*Sg	**Sn**	**02 49 36.2**	**-2.5**
SGKR	**Sergokala**	**0.38**	**321**	*i* Pg	**Pb**	**02 49 31.3**	**-0.6**
SGKR				*e*Sg	**Sb**	**02 49 37.3**	**-0.2**
KSMR	**Kasumkent**	**0.57**	**169**	*e*Pg	**Pb**	**02 49 34.5**	**-0.5**
KSMR				*e*Sg	**Sb**	**02 49 43.1**	**+0.4**
KMKR	**Kumukh**	**0.66**	**267**	*e*Pg	**Pb**	**02 49 35.6**	**-1.0**
KMKR				*e*Sg	**Sb**	**02 49 44.6**	**-0.8**
AKT	**Akhty**	**0.71**	**196**	*i* Pg	**Pb**	**02 49 36.2**	**-1.2**
AKT				*e*Sg	**Sb**	**02 49 45.8**	**-1.1**
GNBR	**Gunib**	**0.79**	**287**	*e*Pg	**Pb**	**02 49 37.8**	**-1.0**
GNBR				*e*Sg	**Sb**	**02 49 49.1**	**-0.1**
ARKR	**Arakani**	**0.85**	**301**	*i* Pg	**Pb**	**02 49 38.9**	**-0.9**
ARKR				*e*Sg	**Sb**	**02 49 51.2**	**+0.2**
BUJR	**Buynaksk**	**0.92**	**316**	*e*Pg	**Pb**	**02 49 40.4**	**-0.6**
BUJR				*e*Sg	**Sb**	**02 49 52.9**	**-0.1**
XNZR	**Khunzakh**	**1.02**	**292**	*e*Pg	**Pb**	**02 49 42.2**	**-0.6**
XNZR				*e*Sg	**Sb**	**02 49 56.2**	**+0.3**
KRNR	**Karanay**	**1.03**	**310**	*e*Pg	**Pb**	**02 49 42.0**	**-1.0**
KRNR				*e*Sg	**Sb**	**02 49 56.6**	**+0.3**
UNCR	**Uncukul**	**1.04**	**302**	*e*Pg	**Pb**	**02 49 42.2**	**-0.8**
UNCR				*e*Sg	**Sn**	**02 49 57.1**	**-0.2**
DBC	**Dubki**	**1.21**	**315**	*e*Pg	**Pn**	**02 49 44.9**	**-0.7**
DBC				*e*Sg	**Sn**	**02 50 02.1**	**+0.6**
DLMR	**Dylym**	**1.35**	**313**	*e*Pg	**Pn**	**02 49 47.4**	**-0.1**
DLMR				*e*Sg	**Sb**	**02 50 05.9**	**+0.7**
BTLR	**Botlikh**	**1.40**	**291**	*e*Pg	**Pn**	**02 49 48.2**	**0.0**
BTLR				*e*Sg	**Sb**	**02 50 06.6**	**0.0**
VSHL	**Vashlovani**	**1.51**	**232**	P	**Pb**	**02 49 52.0**	**+1.0**
DVE	**Vedeno**	**1.58**	**301**	*e*Pg	**Pn**	**02 49 51.1**	**+0.3**
DVE				*e*Sg	**Sb**	**02 50 13.6**	**+1.5**
SHTL	**Shatili**	**2.15**	**284**	P	**Pn**	**02 49 60.0**	**+1.3**
SHTL				S	**Sb**	**02 50 28.1**	**-0.3**
SHTL	**Shatili**	**2.15**	**284**	*e*Pg	**Pn**	**02 49 60.0**	**+1.3**
SHTL				*e*Sg	**Sb**	**02 50 28.1**	**-0.3**
CHRG	**Chargali**	**2.28**	**275**	P	**Pb**	**02 50 03.5**	**-0.7**
CHRG				S	**Sb**	**02 50 35.4**	**+3.4**
LACR	**Lac**	**2.81**	**285**	*e*Pn	**Pn**	**02 50 07.8**	**+0.2**
LACR				*i* Sn	**Sn**	**02 50 42.7**	**+1.7**
DMNI	**Dmanisi**	**2.96**	**255**	P	**Pn**	**02 50 10.2**	**+0.5**
TRLG	**Trialeti**	**2.97**	**259**	P	**Pn**	**02 50 10.4**	**+0.8**
KORR	**Kora**	**3.03**	**289**	*e*Pn	**Pn**	**02 50 11.4**	**+0.8**
KORR				*e*Sn	**Sn**	**02 50 46.4**	**-0.1**
LSNR	**Lesken**	**3.26**	**291**	*e*Pn	**Pn**	**02 50 14.3**	**+0.5**
LSNR				*e*Sn	**Sn**	**02 50 52.4**	**+0.4**
KBZ	**Khabaz**	**4.05**	**294**	*e*Pn	**Pn**	**02 50 25.2**	**+0.7**
KBZ				*e*Sn	**Sn**	**02 51 11.3**	**-0.1**
SHA1	**Shidzhatmaz**	**4.21**	**294**	*e*Pn	**Pn**	**02 50 28.5**	**+1.4**
SHA1				*e*Sn	**Sn**	**02 51 13.1**	**-2.8**

*IDC **16** 03:00:49.2±2.6, 6°11S×146°75E, h91km±23km, mb3.7/8, mbtmp4.1/10, MS3.2/1, Error ellipse: s-maj=36.6km s-min=17.4km az=85.0*
*NEIC **16** 03:00:52.1±1.6, 6°16S±0°05×146°6E±0°1, h102km±8km, mb4.3/28, Error ellipse: s-maj=19.1km s-min=5.1km az=108.0*
ISC 16 03:00:51.5±0.6, 6°22S±0°05×146°51E±0°10, h108km, n63, σ1§44/66, mb4.2/16, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**168**		**Pn**	**03 01 40.3**	**-0.1**
PMG	**Port Moresby**	**3.23**	**168**	P	**Pn**	**03 01 40.1**	**-0.3**
	200nm,0.6s,baz=356,slow=6.7,SNR=100						
PMG				S	**Sn**	**03 02 17.2**	**-0.9**
	167nm,0.5s,baz=212,slow=18,SNR=12						
MANU	**Manus Island**	**4.24**	**12**		**Pn**	**03 01 54.5**	**+0.5**
COEN	**Coen**	**8.36**	**203**		**Pn**	**03 02 51.5**	**+1.5**
CTA	**Charters Tower**	**13.79**	**181**	P	**P**	**03 04 07.1**	**-0.8**
CTA	**Charters Tower**	**13.79**	**181**	P	**P**	**03 04 06.8**	**-1.1**
	15nm,0.5s,baz=359,slow=13,SNR=31						
CTAO	**Charters Tower**	**13.79**	**181**		**P**	**03 04 06.7**	**-1.2**
CTAO	**Charters Tower**	**13.79**	**181**	P	**P**	**03 04 07.1**	**-0.8**
KDU	**Kakadu**	**15.26**	**244**	P	**Pn**	**03 04 22.4**	**+0.8**
QIS	**Mount Isa**	**15.75**	**205**	P	**P**	**03 04 31.2**	**+1.5**
MTN	**Manton Dam**	**16.52**	**245**		**Pn**	**03 04 38.2**	**+0.9**
MTN				IAmb	IAmb	03 04 39.8	
	comp=Z,20nm,0.7s						
MTN	**Manton Dam**	**16.52**	**245**	P	**P**	**03 04 38.7**	**+0.5**
WB0	**Warramunga Arr**	**17.89**	**220**		**P**	**03 04 53.6**	**+0.3**
WB0				IAmb	IAmb	03 04 57.2	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**17.94**	**219**	P	**P**	**03 04 53.9**	**+0.1**
WR0				IAmb	IAmb	03 05 02.8	
	comp=Z,13nm,1.1s						
WB2	**Warramunga Arr**	**18.04**	**220**	P	**P**	**03 04 55.7**	**+0.7**
WB2				IAmb	IAmb	03 04 59.0	
	comp=Z,9.2nm,0.7s						
WRA	**Warramunga Arr**	**18.05**	**220**	P	**P**	**03 04 54.4**	**-0.7**
WRA	**Warramunga Arr**	**18.05**	**220**	P	**P**	**03 04 55.5**	**+0.4**
	comp=Z,5.6nm,0.5s,baz=44,slow=12,SNR=37						
WRA				S	**S**	**03 08 09.4**	**-7.6**
	comp=Z,0.4nm,0.6s,baz=41,slow=20,SNR=1.7						
EIDS	**Eidsvold**	**19.54**	**168**	P	**P**	**03 05 12.2**	**+0.9**
EIDS				IAmb	IAmb	03 05 13.4	
	comp=Z,11nm,1.0s						
KNRA	**Kununurra**	**19.78**	**240**	P	**P**	**03 05 13.8**	**-0.1**
KNRA				IAmb	IAmb	03 05 16.7	
	comp=Z,12nm,0.8s						
KNRA	**Kununurra**	**19.78**	**240**	P	**P**	**03 05 14.0**	**+0.1**
QLP	**Quilpie**	**20.37**	**186**	P	**P**	**03 05 21.2**	**+1.0**
AS01	**Alice Springs**	**21.14**	**214**	P	**P**	**03 05 29.6**	**+1.0**
AS31	**Alice Springs**	**21.16**	**214**	P	**P**	**03 05 29.8**	**+0.9**
ASAR	**Alice Springs**	**21.16**	**214**	P	**P**	**03 05 29.8**	**+0.9**
	comp=Z,4.4nm,0.4s,baz=54,slow=9.3,SNR=99						
ASAR				S	**S**	**03 09 18.7**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=33,slow=19,SNR=3.6						
ASAR				LR	LR	03 14 01.5	
	comp=Z,69nm,19.9s,baz=146,slow=37						
	comp=Z,4.4nm,0.4s						
INKA	**Innaminka**	**22.09**	**194**	P	**P**	**03 05 39.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.53**	**238**	P	**P**	**03 05 52.9**	**0.0**
FITZ				IAmb	IAmb	03 05 55.0	
	comp=Z,9.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.53**	**238**	P	**P**	**03 05 53.0**	**0.0**
ARMA	**Armidale**	**24.55**	**169**	P	**P**	**03 06 02.6**	**+0.4**
ARMA				IAmb	IAmb	03 06 05.4	
	comp=Z,23nm,1.5s						
LCRK	**Leigh Creek**	**25.33**	**197**	P	**P**	**03 06 09.7**	**+0.6**
WRKA	**Warakurna**	**25.58**	**221**	P	**P**	**03 06 11.9**	**+0.4**
STKA	**Stephens Creek**	**25.94**	**190**	P	**P**	**03 06 14.8**	**+0.3**
STKA	**Stephens Creek**	**25.94**	**190**	P	**P**	**03 06 14.6**	**0.0**
	comp=Z,2.8nm,0.7s,baz=15,slow=10,SNR=5.9						
	comp=Z,2.8nm,0.7s						
BBOO	**Buckleboo**	**28.19**	**199**	P	**P**	**03 06 34.9**	**+0.1**
PSA00	**Pilbara Seismi**	**29.96**	**237**	P	**P**	**03 06 51.1**	**+0.5**
PSA00				IAmb	IAmb	03 06 52.6	
	comp=Z,7.7nm,0.8s						
PSA00	**Pilbara Seismi**	**29.96**	**237**	P	**P**	**03 06 51.2**	**+0.6**
PSA00				IAmb	IAmb	03 06 52.0	
	comp=Z,3.8nm,0.8s						
TOO	**Toolangi**	**31.22**	**182**	P	**P**	**03 07 01.9**	**+0.4**
GIRL	**Giralia**	**35.14**	**239**	P	**P**	**03 07 37.8**	**+2.0**
TAU	**Tasmania Unive**	**36.55**	**179**	P	**P**	**03 07 51.3**	**+3.8**
TAU				IAmb	IAmb	03 07 54.9	
	comp=Z,8.0nm,1.1s						
MORW	**Morawa**	**36.66**	**228**	P	**P**	**03 07 49.4**	**+0.7**
NWAO	**Narrogin (SRO)**	**38.04**	**222**	P	**P**	**03 08 02.0**	**+1.8**
BSWZ	**Blackbirch Sta**	**42.92**	**150**	P	**P**	**03 08 40.8**	**+0.5**
KSRS	**Korea Array**	**46.78**	**340**	P	**P**	**03 09 10.1**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=159,slow=9.0,SNR=7.1						
	comp=Z,2.2nm,0.8s						
PZH	**PanZhiHua**	**54.21**	**309**	P	**P**	**03 10 04.5**	**-2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.5s						
HHC	**Hu-ho-hao-te**	**56.76**	**329**	*eP*	**P**	**03 10 26.8**	**+1.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,540nm,6.8s						
SONM	**Songino Array**	**64.36**	**331**	P	**P**	**03 11 16.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=97,slow=4.8,SNR=1.9						
	comp=Z,0.1nm,0.3s						
VNDA	**Vanda**	**71.72**	**177**	P	**P**	**03 12 02.9**	**+0.6**
VNDA				IAmb	IAmb	03 12 10.6	
	comp=Z,4.1nm,1.3s						
VNDA	**Vanda**	**71.72**	**177**	P	**P**	**03 12 02.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=314,slow=6.5,SNR=7.9						
	comp=Z,1.5nm,0.8s						
WMQ	**Urumqi**	**72.64**	**320**	*eP*	**P**	**03 12 09.1**	**+0.7**
MKAR	**Makanchi Array**	**77.35**	**321**	P	**P**	**03 12 34.1**	**-1.3**
MKAR	**Makanchi Array**	**77.35**	**321**	P	**P**	**03 12 33.5**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=101,slow=7.2,SNR=5.9						
	comp=Z,0.3nm,0.5s						
O16K	**Kovok River B**	**78.78**	**25**	P	**P**	**03 12 43.2**	**+0.2**
K15K	**Wolf Creek Mou**	**78.98**	**22**	P	**P**	**03 12 43.5**	**-0.5**
K15K				IAmb	IAmb	03 12 48.1	
	comp=Z,5.7nm,1.1s						
KDAK	**Kodiak Island**	**80.33**	**28**	P	**P**	**03 12 50.1**	**-1.3**
M20K	**Styx River**	**82.06**	**25**	P	**P**	**03 13 00.3**	**-0.3**
G18K	**Tagagawik**	**82.12**	**20**	P	**P**	**03 12 59.8**	**-0.9**
J20K	**Nowinta River**	**82.80**	**22**	P	**P**	**03 13 04.2**	**-0.1**
J20K				IAmb	IAmb	03 13 13.2	
	comp=Z,4.0nm,1.4s						
E19K	**Redstone River**	**83.48**	**19**	P	**P**	**03 13 07.1**	**-0.7**
QSPA	**South Pole Qui**	**83.75**	**180**	P	**P**	**03 13 08.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=293,slow=23,SNR=10.0						
	comp=Z,0.8nm,0.3s						
D19K	**Kuna River**	**83.78**	**18**	P	**P**	**03 13 08.0**	**-1.3**
IMAR	**Indian Mountai**	**83.87**	**21**	P	**P**	**03 13 08.6**	**-1.1**
ILAR	**Eielson Array**	**85.87**	**23**	P	**P**	**03 13 17.2**	**-2.6**
	comp=Z,1.6nm,0.6s,baz=255,slow=4.8,SNR=16						
	comp=Z,1.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**144.67**	**284**	PKP	**PKPab**	**03 20 16.7**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=66,slow=3.4,SNR=12						
DBIC	**Dimbokro**	**151.54**	**273**	PKPbc	**PKPbc**	**03 20 34.8**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=126,slow=3.7,SNR=7.1						

*MOS **16** 03:14:05.6±1.0, 82°75N×9°81W, h10km, mb4.6/32, Error ellipse: s-maj=47.7km s-min=6.3km az=93.9*
*IDC **16** 03:14:05.6±0.4, 82°82N×9°67W, h0km, mb4.1/30, mbtmp4.1/32, ML3.7/2, MS3.8/26, Error ellipse: s-maj=13.6km s-min=8.7km az=32.0*
*NEIC **16** 03:14:07.7±0.9, 82°8N±0°1×9°7W±0°7, h10km±1km, mb4.7/143, Error ellipse: s-maj=19.5km s-min=14.2km az=24.0*
*DNK **16** 03:14:07.3±1.9, 82°77N×9°31W, h11km±31km, ML2.3*
*BER **16** 03:14:09.2±2.9, 82°51N×10°40W, h10km, mb(Pn)4.4, ML2.3(DNK), Confirmed Earthquake*
*FCIAR **16** 03:14:11.0, 83°02N×7°93W, h10km, station ZFI2 has station magnitude of 3.90 station OMEGA has station magnitude of 3.80*
ISC 16 03:14:06.8±0.3, 82°72N±0°05×10°11W±0°04, h10km, n493, σ1§87/450, mb4.6/130, MS3.7/29, 10C-15D, Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.14**	**126**		**Pn**	**03 15 22.7**	**-1.0**
KBS	**Kingsbay**	**5.14**	**126**	*ie*P	**Pn**	**03 15 24.4**	**+0.7**
KBS	**Kingsbay**	**5.14**	**126**	*e*P	**Pn**	**03 15 22.7**	**-1.0**
KBS				*e*S	**Sn**	**03 16 14.9**	**-8.1**
KBS				IAML		03 16 15.4	
	comp=Z,7.9nm,0.5s						
KBS	**Kingsbay**	**5.14**	**126**	*e*P	**Pn**	**03 15 22.6**	**-1.1**
KBS				*e*S	**Sn**	**03 16 16.0**	**-7.0**
KBS	**Kingsbay**	**5.14**	**126**	*i* P	**Pn**	**03 15 22.9**	**-0.8**
BRBB	**Barentsburg B**	**6.09**	**126**	*e*P	**Pn**	**03 15 36.6**	**-0.1**
BRBB				*e*S	**Sn**	**03 16 38.7**	**-7.6**
BRBA	**Barentsburg A**	**6.13**	**127**	*e*P	**Pn**	**03 15 37.0**	**-0.1**
BRBA				IAML		03 16 56.8	
	comp=Z,8.8nm,0.8s						
SPA0	**Spitsbergen Ar**	**6.25**	**122**	*e*P	**Pn**	**03 15 37.9**	**-0.9**
SPA0				IAML		03 16 43.3	
	comp=Z,7.0nm,0.5s						
SPA0				*e*S	**Sn**	**03 16 43.8**	**-6.4**
SPA0	**Spitsbergen Ar**	**6.25**	**122**	*e*P	**Pn**	**03 15 37.6**	**-1.3**
SPA0				*e*S	**Sn**	**03 16 43.5**	**-6.7**
SPITS	**Spitsbergen Ar**	**6.25**	**122**	P	**Pn**	**03 15 38.0**	**-0.9**
SPITS	**Spitsbergen Ar**	**6.25**	**122**	Pn	**Pn**	**03 15 38.0**	**-0.9**
	baz=350,slow=8.8						
SPITS				Sn	**Sn**	**03 16 42.7**	**-7.5**
	baz=248,slow=8.9						
	comp=Z,3.0nm,0.3s						
SPB2	**Spitsbergen Ar**	**6.25**	**122**	Pn	**Pn**	**03 15 38.0**	**-0.9**
HSPB	**Hornsund (broa**	**7.20**	**129**	*e*P	**Pn**	**03 15 52.8**	**+0.9**
ZFI2	**Zemlya Franca-**	**8.16**	**73**	*e*P	**Pn**	**03 16 01.9**	**-3.1**
ZFI2				*e*S	Sn	03 17 23.2	-14
	comp=Z,32nm,1.0s						
OMEGA	**Omega**	**8.19**	**73**	*e*P	**Pn**	**03 16 02.3**	**-3.0**
OMEGA				*e*S	Sn	03 17 23.9	-14
	comp=Z,29nm,1.7s						
NEEM	**North Greenlan**	**8.55**	**255**	*e*	**Pn**	**03 16 08.2**	**-2.5**
	baz=33,slow=10						
NEEM				*i* P	**Pn**	**03 16 09.1**	**-1.5**
NEEM				*i* S	**Sn**	**03 17 41.0**	**-6.2**
NEEM				IAML		03 17 48.9	
	comp=Z,21nm,0.4s						
NEEM	**North Greenlan**	**8.55**	**255**	*e*	**Pn**	**03 16 08.2**	**-2.5**
	baz=33,slow=10						
NEEM				*i* P	**Pn**	**03 16 09.1**	**-1.5**
NEEM				*i* S	**Sn**	**03 17 41.0**	**-6.2**
NEEM				IAML		03 17 48.9	
	comp=Z,21nm,0.4s						

EUNU	**Eureka**	**10.89**	**297**	Pn	**Pn**	**03 16 40.4**	**-2.0**
TULEG	**Thule**	**11.55**	**271**		**Pn**	**03 16 50.2**	**-1.2**
TULEG	**Thule**	**11.55**	**271**	*e*P	**Pn**	**03 16 49.9**	**-1.4**
TULEG	**Thule**	**11.55**	**271**	*e*P	**Pn**	**03 16 49.9**	**-1.4**
SUMG	**Summit**	**11.60**	**225**	Pn	**Pn**	**03 16 50.6**	**-1.9**
SUMG	**Summit**	**11.60**	**225**	P	**Pn**	**03 16 50.6**	**-1.9**
SUMG	**Summit**	**11.60**	**225**	*i* P	**Pn**	**03 16 50.5**	**-1.9**
SUMG				*e*S	Sn	03 18 50.2	-12
SUMG				IAML		03 19 08.7	
	comp=Z,6.1nm,0.4s						
SUMG	**Summit**	**11.60**	**225**	*i* P	**Pn**	**03 16 50.5**	**-1.9**
SUMG				*e*S	Sn	03 18 50.2	-12
SUMG				IAML		03 19 08.7	
	comp=Z,6.1nm,0.4s						
JMIC	**Jan Mayen**	**11.81**	**177**	LR	LR	03 21 18.6	
	comp=Z,318nm,18.8s,baz=68,slow=36						
SCO	**Scoresbysund**	**12.56**	**198**	Pn	**Pn**	**03 17 07.1**	**+2.0**
SCO	**Scoresbysund**	**12.56**	**198**	P	**Pn**	**03 17 07.1**	**+2.0**
SCO	**Scoresbysund**	**12.56**	**198**	*e*P	**Pn**	**03 17 05.4**	**+0.3**
SCO				IAML		03 19 28.6	
	comp=Z,1.0nm,0.4s						
SCO	**Scoresbysund**	**12.56**	**198**	*e*P	**Pn**	**03 17 05.4**	**+0.3**
SCO				IAML		03 19 28.6	
	comp=Z,1.0nm,0.4s						
UPNV	**Upernavik**	**13.29**	**249**	*i* P	**Pn**	**03 17 11.4**	**-3.7**
UPNV				*e*S	Sn	03 19 29.6	-13
UPNV				IAML		03 19 37.2	
	comp=Z,8.3nm,0.4s						
UPNV	**Upernavik**	**13.29**	**249**	*i* P	**Pn**	**03 17 11.4**	**-3.7**
UPNV				*e*S	Sn	03 19 29.6	-13
UPNV				IAML		03 19 37.2	
	comp=Z,8.3nm,0.4s						
KEV	**Kevo**	**15.16**	**127**	Pn	**Pn**	**03 17 40.3**	**-0.2**
KEV				IAmb	IAmb	03 18 10.6	
	comp=Z,46nm,1.3s						
KEV	**Kevo**	**15.16**	**127**	P	**Pn**	**03 17 40.3**	**-0.2**
KEV				pmax	pmax		
	comp=Z,46nm,1.3s						
ARCES	**ARCESS Array B**	**15.22**	**129**	Pn	**Pn**	**03 17 41.0**	**-0.3**
ARCES				IAmb	IAmb	03 18 19.4	
	comp=Z,39nm,1.5s						
ARCES	**ARCESS Array B**	**15.22**	**129**	P	**Pn**	**03 17 41.0**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,39nm,1.5s						
ARCES	**ARCESS Array B**	**15.22**	**129**	Pn	**Pn**	**03 17 40.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=8.5,slow=13,SNR=1.8						
	comp=Z,8.1nm,1.1s						
RES	**Resolute Bay**	**16.41**	**291**	Pn	**Pn**	**03 17 52.2**	**-4.4**
RES	**Resolute Bay**	**16.41**	**291**	P	**Pn**	**03 17 52.2**	**-4.4**
RES				pmax	pmax		
	comp=Z,9.0nm,0.7s						
RES	**Resolute Bay**	**16.41**	**291**	Pn	**Pn**	**03 17 52.3**	**-4.4**
	comp=Z,0.6nm,0.3s,baz=16,slow=13,SNR=19						
RES				Sn	Sn	03 20 44.8	-14
	comp=Z,0.1nm,0.3s,baz=306,slow=23,SNR=1.7						
SGF	**Sodankyl**	**17.35**	**129**	P	**P**	**03 18 10.9**	**+1.0**
SGF				pmax	pmax		
	comp=Z,25nm,0.9s						
SFJD	**Kangerlussuaq**	**18.17**	**235**	Pn	**Pn**	**03 18 14.6**	**-4.1**
SFJD	**Kangerlussuaq**	**18.17**	**235**	P	**Pn**	**03 18 14.6**	**-4.1**
SFJD				pmax	pmax		
	comp=Z,16nm,0.8s						
SFJD	**Kangerlussuaq**	**18.17**	**235**	P	**Pn**	**03 18 14.2**	**-4.4**
	comp=Z,14nm,0.8s,baz=18,slow=13,SNR=10						
SFJD				S	Sn	03 21 23.3	-18
	comp=Z,7.8nm,0.8s,baz=67,slow=6.8,SNR=2.1						
SFJD				LR	LR	03 25 29.2	
	comp=Z,431nm,18.5s,baz=34,slow=37						
OUL	**Oulu**	**19.59**	**132**	P	**P**	**03 18 35.1**	**+0.7**
A36M	**Sachs Harbour**	**22.22**	**312**	P	**P**	**03 19 03.9**	**+1.1**
A36M	**Sachs Harbour**	**22.22**	**312**	P	**P**	**03 19 03.9**	**+1.1**
	baz=18,SNR=14						
NB2	**NORSAR Subarra**	**22.45**	**152**	P	**P**	**03 19 09.3**	**+3.9**
	comp=Z,2.8nm,0.8s,baz=354,slow=11						
NOA	**NORSAR Array B**	**22.45**	**152**	P	**P**	**03 19 06.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=354,slow=9.8,SNR=2.7						
	comp=Z,0.9nm,0.7s						
NRIK	**Noril'sk**	**22.89**	**65**	P	**P**	**03 19 11.9**	**+1.9**
NRIK				IAmb	IAmb	03 19 22.6	
	comp=Z,33nm,1.1s						
NRIK	**Noril'sk**	**22.89**	**65**	*ie*P	**P**	**03 19 12.5**	**+2.5**
NRIK				pmax	pmax		
	comp=Z,

EKA **Eskdalemuir Ar** 27.59 171 P **P** 03 19 54.2 +0.7
comp=Z,2.2nm,0.8s,baz=9.0,slow=9.6,SNR=2.2
comp=Z,2.2nm,0.8s
E25K **Arctic Village** 27.69 326 P **P** 03 19 55.5 +1.1
E25K **Arctic Village** 27.69 326 P **P** 03 19 54.7 +0.3
baz=11,SNR=7.7
F28M **Old Crow** 27.75 321 P **P** 03 19 55.8 +0.9
F28M **Old Crow** 27.75 321 P **P** 03 19 55.3 +0.3
baz=12,SNR=7.3
D20K **Etivluk River** 27.81 334 P **P** 03 19 55.8 +0.4
baz=8.7
E21K **Killik River** 27.93 332 P **P** 03 19 56.3 -0.2
baz=9.2
E24K **Your Creek** 27.94 328 P **P** 03 19 56.8 +0.1
baz=10
G31M **Satah River** 27.96 316 P **P** 03 19 57.6 +0.9
G31M IAmb IAmb 03 19 58.2
comp=Z,12nm,0.9s
G31M **Satah River** 27.96 316 P **P** 03 19 57.0 +0.3
baz=13,SNR=8.0
F26K **Sheenjek River** 28.01 324 P **P** 03 19 57.7 +0.5
baz=11
E23K **Chandalar** 28.03 329 P **P** 03 19 58.2 +0.7
baz=10
G30M **tAoh Zraii Nji** 28.07 318 P **P** 03 19 57.4 -0.4
baz=13
D19K **Kuna River** 28.11 336 P **P** 03 19 57.9 -0.2
baz=8.2
C18K **Utukok River** 28.11 338 P **P** 03 19 58.4 +0.2
baz=7.5
F25K **Christian Rive** 28.22 325 P **P** 03 19 59.3 +0.1
baz=11
E20K **Nigu River** 28.24 334 P **P** 03 19 59.4 +0.1
baz=8.7
G29M **Pine Creek** 28.29 319 P **P** 03 20 00.2 +0.4
baz=12
BMAR **Burnt Mountain** 28.30 324 P **P** 03 20 00.8 +1.0
C17K **DeLong Mountai** 28.37 339 P **P** 03 20 00.4 0.0
baz=7.0
F24K **Squaw Lake** 28.45 327 P **P** 03 20 01.9 +0.7
baz=10
KIRV **Kirov** 28.51 109 ||*e* P **P** 03 20 00.8 -0.9
C16K **Lisburne Hills** 28.67 341 P **P** 03 20 03.0 0.0
baz=6.4
G27K **Doyon Strip** 28.69 322 P **P** 03 20 03.8 +0.5
baz=11
EPYK **Eagle Plains** 28.71 318 P **P** 03 20 04.5 +0.9
EPYK IAmb IAmb 03 20 05.0
comp=Z,17nm,1.4s
EPYK **Eagle Plains** 28.71 318 P **P** 03 20 04.2 +0.6
baz=12
G26K **Porcupine Rive** 28.71 324 P **P** 03 20 04.3 +0.8
baz=11
F22K **John River** 28.74 331 P **P** 03 20 04.3 +0.5
baz=9.4
COLD **Coldfoot** 28.89 329 P **P** 03 20 05.5 +0.4
baz=9.7,SNR=6.0
H29M **Whitestone** 29.00 319 P **P** 03 20 06.5 +0.4
baz=12
H31M **Peel River** 29.06 315 P **P** 03 20 07.0 +0.4
baz=12
G25K **Bearman Lake** 29.07 325 P **P** 03 20 07.5 +0.9
baz=10
E19K **Redstone River** 29.09 334 P **P** 03 20 06.9 +0.1
baz=8.2
F21K **Alatna River** 29.11 331 P **P** 03 20 07.6 +0.6
baz=9.0
D17K **Noatak River** 29.14 339 P **P** 03 20 07.7 +0.4
baz=6.8
FYU **Fort Yukon** 29.20 325 P **P** 03 20 08.8 +1.1
FYU IAmb IAmb 03 20 10.9
comp=Z,13nm,0.8s
G24K **Hadweenzic Riv** 29.23 327 P **P** 03 20 08.9 +0.8
baz=10
H27K **Steamboat Moun** 29.25 322 P **P** 03 20 09.2 +0.9
baz=11
E18K **Tukpahlearik C** 29.30 337 P **P** 03 20 08.5 -0.2
baz=7.4
G23K **Bananza Creek** 29.39 329 P **P** 03 20 09.6 0.0
baz=9.6
BILL **Bilibino** 29.41 3 *i* P **P** 03 20 09.0 -0.6
F20K **Avaraart Lake** 29.41 333 P **P** 03 20 10.1 +0.4
baz=8.4
KLNR **Kaliningrad** 29.46 143 ||*e* P **P** 03 20 13.2 +3.1
E17K **Hotham Inlet** 29.70 338 P **P** 03 20 12.4 +0.2
baz=7.0
NACGM **Naroch** 29.70 136 *e* P **P** 03 20 12.8 +0.5
comp=N,2μm,0.9s
G21K **Allakaket** 29.81 331 P **P** 03 20 13.2 0.0
baz=8.8
I30M **Mount Dempster** 29.81 317 P **P** 03 20 14.2 +0.8
I30M IAmb IAmb 03 20 14.8
comp=Z,9.7nm,0.9s
I30M **Mount Dempster** 29.81 317 P **P** 03 20 13.3 -0.1
baz=12
I29M **Ogilvie Camp,** 29.84 319 P **P** 03 20 14.3 +0.8
I29M IAmb IAmb 03 20 14.7
comp=Z,8.5nm,0.8s
I29M **Ogilvie Camp,** 29.84 319 P **P** 03 20 14.2 +0.6
baz=12,SNR=8.9
I27K **Kandik River** 29.87 321 P **P** 03 20 14.4 +0.6
baz=11
I28M **Miner Creek** 29.89 320 P **P** 03 20 14.0 -0.1
baz=11
H24K **Noodor Dome** 30.11 327 P **P** 03 20 17.3 +1.3
baz=9.8
MNK **Minsk** 30.20 134 *i* P **P** 03 20 16.1 -0.7
comp=E,6.0nm,1.0s
MNK *i* P **P** 03 20 16.1 -0.7
comp=N,22nm,1.1s
MNK *i* P **P** 03 20 16.1 -0.7
comp=Z,9.0nm,1.0s,baz=351
MNK *i* PPP PPP 03 21 22.2
MNK *i* S **S** **03 25 16.8 +1.2**
MNK *i* SS **SnSn** **03 26 52.1 +3.5**
MNK *i* SSS SSS 03 27 06.8
MNK *i* LQ LQ 03 30 06.5
MNK *i* LR LR 03 32 24.7
MNK *i* LRM MLR 03 33 36.8
comp=N,167nm,11.6s
MNK *i* LRM MLR 03 33 39.4
comp=Z,115nm,10.9s
MNK *i* LRM MLR 03 34 01.3
comp=E,94nm,16.1s
MNK **Minsk** 30.20 134 *i* P **P** **03 20 16.0 -0.7**
MNK *i* PPP PPP 03 21 22.1
MNK *i* 03 23 16.2
MNK *i* S **S** **03 25 16.7 +1.2**
MNK *i* SS **SnSn** **03 26 52.0 +3.5**
MNK *i* 03 30 54.4
MNK pmax pmax
comp=Z,9.0nm,1.0s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=N,22nm,1.0s
MNK MLR MLR
comp=N,167nm,12.0s
MNK MLR MLR
comp=Z,115nm,11.0s
MNK MLR MLR
comp=E,94nm,16.0s
PRP **Porcupine Dome** 30.26 325 P **P** 03 20 18.7 +1.4
PRP IAmb IAmb 03 20 27.2
comp=Z,8.1nm,0.8s
PRP **Porcupine Dome** 30.26 325 P **P** 03 20 19.0 +1.7
baz=10,SNR=9.0
YKA **Yellowknife Ar** 30.27 297 *ce* P **P** 03 20 18.2 +0.9
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA **Yellowknife Ar** 30.27 297 P **P** 03 20 16.8 -0.5
comp=Z,1.8nm,1.1s,baz=32,slow=11,SNR=18
YKA PcP **PcP** **03 23 17.4 +0.2**
comp=Z,0.8nm,0.8s,baz=6.1,slow=2.4,SNR=9.8
comp=Z,1.8nm,1.1s
I26K **Coal Creek Min** 30.29 322 P **P** 03 20 19.3 +1.9
baz=11
H22K **Ishtalitna Cre** 30.29 329 P **P** 03 20 17.5 0.0
baz=9.1
F17K **Baldwin Pennin** 30.31 337 P **P** 03 20 17.8 +0.2
baz=7.0
G19K **Purcell Mounta** 30.39 334 P **P** 03 20 19.1 +0.8
baz=7.9
J30M **Hart River** 30.44 317 P **P** 03 20 20.0 +1.0
J30M IAmb IAmb 03 20 20.4
comp=Z,8.0nm,0.8s
J30M **Hart River** 30.44 317 P **P** 03 20 19.3 +0.3
baz=12,SNR=7.6
OBN **Obninsk** 30.45 124 ||*e* P **P** 03 20 19.6 +0.7
OBN pmax pmax
comp=Z,71nm,3.0s
OBN MLR MLR
comp=Z,197nm,11.0s
WRGLY **Wrigley** 30.52 305 P **P** 03 20 20.5 +1.0
WRGLY IAmb IAmb 03 20 21.7
comp=Z,13nm,1.1s
WRGLY **Wrigley** 30.52 305 P **P** 03 20 20.4 +1.0
baz=13
H21K **Melozitna Rive** 30.62 330 P **P** 03 20 21.6 +1.3
baz=8.7
EGAK **Eagle** 30.65 321 P **P** 03 20 21.7 +1.1
EGAK IAmb IAmb 03 20 29.4
comp=Z,12nm,0.9s
EGAK **Eagle** 30.65 321 P **P** 03 20 21.6 +1.0
baz=11,SNR=6.9
G18K **Tagagawik** 30.72 335 P **P** 03 20 22.0 +0.7
baz=7.5
J29N **Klondike Camp** 30.73 318 P **P** 03 20 22.6 +1.3
J29N IAmb IAmb 03 20 23.3
comp=Z,7.7nm,0.8s
J29N **Klondike Camp** 30.73 318 P **P** 03 20 22.4 +1.0
baz=11
POKR **Poker Plat Res** 30.79 326 P **P** 03 20 23.4 +1.5
POKR IAmb IAmb 03 20 25.1
comp=Z,13nm,0.9s
POKR **Poker Plat Res** 30.79 326 P **P** 03 20 23.4 +1.5
baz=9.7,SNR=5.5
I23K **Minto, Yukon-K** 30.90 328 P **P** 03 20 23.5 +0.7
I23K IAmb IAmb 03 20 25.8
comp=Z,12nm,0.9s
I23K **Minto, Yukon-K** 30.90 328 P **P** 03 20 24.1 +1.3
baz=9.3,SNR=8.3
H20K **Anotleneega Mo** 30.91 332 P **P** 03 20 24.2 +1.2
baz=8.2
H19K **Roundabout Mou** 30.96 333 P **P** 03 20 24.2 +0.8
baz=7.9
MDM **Murphy Dome** 31.00 327 P **P** 03 20 24.9 +1.0
MDM IAmb IAmb 03 20 26.7
comp=Z,15nm,1.1s
IL31 **31.09 325** P **P** 03 20 25.6 +1.1
ILAR **Eielson Array** 31.09 325 P **P** 03 20 25.9 +1.4
ILAR **Eielson Array** 31.09 325 P **P** 03 20 25.9 +1.4
ILAR **Eielson Array** 31.09 325 P **P** 03 20 24.8 +0.2
comp=Z,3.6nm,0.9s,baz=6.6,slow=7.8,SNR=41
ILAR PcP **PcP** **03 23 18.5 -0.8**
comp=Z,1.0nm,0.9s,baz=354,slow=3.7,SNR=5.2
comp=Z,3.6nm,0.9s
MLY **Manley** 31.11 329 P **P** 03 20 25.8 +1.1
baz=9.0
J26L **Joseph Creek** 31.11 323 P **P** 03 20 25.5 +0.7
baz=10
J25K **Salcha River,** 31.14 324 P **P** 03 20 26.2 +1.2
baz=10.0
F15K **North Star Dit** 31.20 340 P **P** 03 20 26.4 +0.9
baz=6.1
DAWY **Dawson** 31.21 319 P **P** 03 20 26.6 +1.0
DAWY **Dawson** 31.21 319 P **P** 03 20 26.8 +1.2
baz=11,SNR=5.7
G17K **Kiwalik Mounta** 31.22 337 P **P** 03 20 26.6 +1.0
baz=7.0
K29M **Barlow Dome** 31.27 317 P **P** 03 20 27.3 +1.1
baz=11
CCB **Clear Creek Bu** 31.28 326 IAmb IAmb 03 20 28.8
comp=Z,7.2nm,1.0s
G16K **Koyuk River** 31.41 338 P **P** 03 20 28.4 +1.2
baz=6.5
NEA2 **Nenana** 31.43 327 IAmb IAmb 03 20 30.1
comp=Z,8.4nm,1.0s
NEA2 **Nenana** 31.43 327 P **P** 03 20 28.7 +1.2
baz=9.2
H18K **Honhosa River** 31.45 335 P **P** 03 20 28.9 +1.2
baz=7.4
HDA **Harding Lake** 31.46 325 IAmb IAmb 03 20 36.9
comp=Z,14nm,1.1s
HDA **Harding Lake** 31.46 325 P **P** 03 20 28.8 +1.0
baz=9.6
K27K **Chicken** 31.46 321 P **P** 03 20 28.8 +1.0
baz=10
TNA **Tin City** 31.48 342 P **P** 03 20 27.8 -0.1
baz=5.3
F14K **Arctic Creek** 31.50 341 P **P** 03 20 28.9 +0.8
baz=5.7
I20K **Chatanika** 31.58 332 P **P** 03 20 30.1 +1.4
baz=8.2
SCRK **Sand Creek** 31.66 323 P **P** 03 20 30.8 +1.1
baz=10
ARU **Arti** 31.74 100 *d* P **P** 03 20 31.5 +1.2
ARU 03 21 33.2
ARU S **S** **03 25 44.9 +5.4**
ARU SS **SnSn** **03 27 32.6 +6.8**
ARU pmax pmax
comp=Z,8.0nm,1.1s
ARU **Arti** 31.74 100 LR LR 03 35 38.4
comp=Z,134nm,18.4s,baz=310,slow=41
H17K **Granite Mounta** 31.74 336 P **P** 03 20 31.0 +0.8
baz=7.0
SCHQ **Schefferville** 31.85 246 P **P** 03 20 32.3 +1.0
comp=Z,1.9nm,0.9s,baz=265,slow=11,SNR=1.4
SCHQ LR LR 03 32 40.2
comp=Z,166nm,18.8s,baz=36,slow=35
comp=Z,1.9nm,0.9s
G15K **Niuluk** 31.89 339 P **P** 03 20 32.3 +0.8
baz=6.1
RIDG **Independent Ri** 31.96 323 P **P** 03 20 33.5 +1.3
baz=9.8
K24K **Donnelly Dome** 31.97 324 P **P** 03 20 33.6 +1.3
baz=9.7
L29M **L29M** 32.04 318 IAmb IAmb 03 20 35.5
comp=Z,12nm,1.1s
L29M **L29M** 32.04 318 P **P** 03 20 33.9 +0.9
baz=11
BPAW **Bear Paw Mtn.** 32.05 329 IAmb IAmb 03 20 35.5
comp=Z,10nm,1.2s
BPAW **Bear Paw Mtn.** 32.05 329 P **P** 03 20 34.0 +1.1
baz=8.7
H16K **Elim** 32.16 338 P **P** 03 20 35.1 +1.2
baz=6.4
J20K **Nowinta River** 32.17 331 P **P** 03 20 34.9 +0.9
baz=8.1
MCK **McKinley** 32.27 327 P **P** 03 20 35.9 +1.0
baz=9.0
CHUM **Lake Minchumin** 32.35 330 P **P** 03 20 36.4 +0.9
baz=8.4
ANM **Nome** 32.37 340 P **P** 03 20 36.6 +0.9
baz=5.7
L27K **Beaver Creek,** 32.40 321 P **P** 03 20 36.3 +0.3
baz=10
J19K **Poorman** 32.44 332 P **P** 03 20 37.1 +0.7
baz=7.7
M30M **Minto, Yukon** 32.45 316 IAmb IAmb 03 20 39.6
comp=Z,12nm,1.1s
M30M **Minto, Yukon** 32.45 316 P **P** 03 20 38.5 +2.0
baz=11,SNR=5.8
FARO **Faro, Yukon** 32.48 313 IAmb IAmb 03 20 47.1
comp=Z,8.8nm,0.9s
FARO **Faro, Yukon** 32.48 313 P **P** 03 20 38.7 +1.9
baz=11,SNR=6.0
L26K **Log Cabin Wild** 32.55 322 IAmb IAmb 03 20 40.1
comp=Z,14nm,1.4s
L26K **Log Cabin Wild** 32.55 322 P **P** 03 20 39.2 +1.7
baz=9.9
M31M **Drury Creek, Y** 32.60 314 IAmb IAmb 03 20 41.1
comp=Z,12nm,1.2s
M31M **Drury Creek, Y** 32.60 314 P **P** 03 20 39.7 +1.9
baz=11,SNR=5.1
M29M **Somme Creek** 32.73 318 P **P** 03 20 40.9 +1.9
baz=11
PAX **Paxson** 32.77 324 P **P** 03 20 40.8 +1.4
baz=9.5
CAST **Castle Rocks** 32.79 329 IAmb IAmb 03 20 42.0
comp=Z,9.6nm,1.2s
CAST **Castle Rocks** 32.79 329 P **P** 03 20 40.7 +1.2
baz=8.3,SNR=5.3
DHY **Denali Highway** 32.81 325 P **P** 03 20 41.2 +1.3
baz=9.2,SNR=6.3
BVCY **Beaver Creek** 32.96 320 P **P** 03 20 43.0 +2.1
baz=10
K20K **Telida** 32.98 331 P **P** 03 20 43.1 +1.9
baz=7.9
J18K **Innoko River** 33.03 333 P **P** 03 20 43.2 +1.6
baz=7.4
M27K **Edge Creek, AK** 33.10 320 P **P** 03 20 44.3 +2.0
baz=10.0
WAT1 **Susitna Watana** 33.14 326 P **P** 03 20 43.3 +0.8
baz=8.9
M26K **Nabesna, AK** 33.14 321 P **P** 03 20 44.4 +1.8
baz=9.8
HARP **HAARP** 33.31 323 P **P** 03 20 45.9 +1.8
baz=9.4
PPLA **Purkeypile** 33.32 329 P **P** 03 20 44.7 +0.4
baz=8.2
WAT6 **Susitna Watana** 33.33 325 P **P** 03 20 44.7 +0.4
baz=9.0
GAMB **Gambell** 33.40 345 P **P** 03 20 45.3 +0.5
baz=4.2
J16K **Anvik River** 33.43 336 P **P** 03 20 46.0 +1.1
baz=6.5
N31M **Braeburn, Yuko** 33.44 315 P **P** 03 20 46.0 +0.9
baz=11
N32M **Quiet Lake** 33.52 313 P **P** 03 20 47.6 +1.7
baz=11
TTA **Tatalina** 33.52 332 P **P** 03 20 47.6 +1.6
baz=7.4
YUK3 **Moose Creek** 33.56 319 P **P** 03 20 47.9 +1.5
baz=10
N30M **Aishikik Lake** 33.58 316 P **P** 03 20 48.1 +1.7
baz=11
KOTAN **Kotaneelee Air** 33.62 304 P **P** 03 20 48.6 +1.9
baz=12
M24K **Tolsona, Glenn** 33.68 324 P **P** 03 20 48.8 +1.5
baz=9.2
YUK4 **Talbot Arm** 33.83 317 P **P** 03 20 49.3 +0.5
baz=10
L20K **Farewell, AK** 33.84 330 P **P** 03 20 49.9 +1.2
baz=7.8
K17K **Iditarod** 33.87 334 P **P** 03 20 50.2 +1.4
baz=6.9
YUK8 **Steele Glacier** 33.98 318 P **P** 03 20 51.0 +0.8
baz=10
YAK **Yakutsk** 34.03 33 *e* P **P** 03 20 48.2 -2.0
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK **Yakutsk** 34.03 33 LR LR 03 33 21.7
comp=E,6.2nm,21.6s,baz=5.5,slow=34
SCM **Sheep Creek Mo** 34.04 325 P **P** 03 20 51.8 +1.4
baz=8.9
N25K **Chitina, Valde** 34.06 322 P **P** 03 20 51.9 +1.3
baz=9.3
MORC **Moravsky Berou** 34.07 148 *e* P **P** 03 20 52.1 +1.4
AKASG **Malin Array Be** 34.09 134 P **P** 03 20 50.4 -0.4
comp=E,2.4nm,0.6s,baz=351,slow=9.3,SNR=12
comp=E,2.4nm,0.6s
AKBB **Malin Array Si** 34.09 134 ||*e* P **P** 03 20 51.2 +0.4
J14K **Nanvaranak Lak** 34.10 338 P **P** 03 20 51.1 +0.3
baz=5.8
M23K **Glacier View** 34.11 325 P **P** 03 20 51.6 +0.7
baz=8.8
WTLY **Watson Lake, Y** 34.12 308 P **P** 03 20 52.4 +1.3
baz=12
SML **Sawmill** 34.14 326 P **P** 03 20 52.4 +1.2
baz=8.7
WHY **Whitehorse** 34.17 314 P **P** 03 20 53.0 +1.4
baz=11
O30N **Mendenhall** 34.17 315 IAmb IAmb 03 21 00.8
comp=Z,9.9nm,0.8s
O30N **Mendenhall** 34.17 315 P **P** 03 20 53.4 +1.9
baz=11
SKT **Skwentna** 34.19 328 P **P** 03 20 52.3 +0.6
baz=8.1,SNR=5.6
YUK6 **Outpost Mounta** 34.20 317 P **P** 03 20 54.0 +2.0
baz=10
L19K **White Mountain** 34.20 331 IAmb IAmb 03 20 54.2
comp=Z,8.3nm,1.1s
L19K **White Mountain** 34.20 331 P **P** 03 20 52.7 +1.0
baz=7.5
HYT **Haines Junctio** 34.24 316 P **P** 03 20 54.8 +2.5
baz=10,SNR=6.9
L18K **Granite Mounta** 34.27 333 P **P** 03 20 53.9 +1.6
baz=7.2
SEY **Seymchan** 34.27 14 ||*e* P **P** 03 20 51.8 -0.5
SEY pmax pmax
comp=Z,10.0nm,1.8s
BELG **Belogornoye** 34.36 113 *ce* P **P** 03 20 54.8 +1.6
BELG pmax pmax
comp=Z,3.0nm,0.9s
M20K **Styx River** 34.39 330 P **P** 03 20 54.1 +0.7
baz=7.8
P33M **Teslin, Yukon** 34.42 312 P **P** 03 20 55.2 +1.5
baz=11
CTG **Chitna Glacier** 34.43 320 P **P** 03 20 55.0 +1.1
baz=9.7
M19K **Big River Lodg** 34.45 331 P **P** 03 20 54.8 +0.9
baz=7.5
L17K **Donlin** 34.45 334 P **P** 03 20 55.1 +1.2
baz=6.8
VRAC **Vranov** 34.47 149 *e* P **P** 03 20 55.1 +0.9
VRAC **Vranov** 34.47 149 P **P** 03 20 55.7 +1.5
VRAC pmax pmax
comp=Z,11nm,2.9s
VRAC **Vranov** 34.47 149 P **P** 03 20 54.8 +0.6
comp=Z,2.6nm,0.9s,baz=15,slow=9.6,SNR=3.6
comp=Z,2.6nm,0.9s
SUA **Susitna One** 34.65 328 P **P** 03 20 57.5 +1.8
baz=8.2,SNR=7.3
BMRM **Bremner River** 34.69 322 P **P** 03 20 56.8 +0.7
baz=9.2
KRUC **Moravsky** 34.70 149 *e* P **P** 03 20 57.7 +1.5
GERES **GERESS Array B** 34.75 152 P **P** 03 20 57.6 +0.9
comp=Z,2.7nm,0.7s,baz=23,slow=7.2,SNR=6.5
comp=Z,2.7nm,0.7s
LANS **Liptovska Anna** 34.83 145 *e* P **P** 03 21 00.0 +2.7
LANS **Liptovska Anna** 34.83 145 *e* P **P** 03 21 00.0 +2.7
O29M **Mount Kennedy** 34.85 317 P **P** 03 20 58.0 +0.5
baz=10.0
RC01 **Rabbit Creek A** 34.95 327 P **P** 03 20 59.6 +1.4
baz=8.3
K13K **Kusilvak Mount** 34.97 339 P **P** 03 20 59.6 +1.2
baz=5.5
N20K **Mount Spurr** 35.01 329 P **P** 03 20 59.4 +0.6
baz=7.8
P32M **Atlin** 35.11 313 P **P** 03 21 00.9 +1.2
baz=11
M17K **Holitna River** 35.13 333 P **P** 03 21 01.3 +1.6
baz=6.9
EYAK **Cordova Ski Ar** 35.19 323 P **P** 03 21 01.7 +1.4
baz=8.9
VYHS **Vyhne** 35.43 146 *e* P **P** 03 21 04.2 +1.7
VYHS **Vyhne** 35.43 146 *e* P **P** 03 21 04.2 +1.7
P29M **Windy Craggy** 35.44 316 P **P** 03 21 03.7 +1.2
baz=10.0
MODS **Modra-Piesok** 35.45 148 *e* P **P** 03 21 04.8 +2.2
MODS **Modra-Piesok** 35.45 148 *e* P **P** 03 21 04.8 +2.2
O22K **Cooper Landing** 35.55 327 P **P** 03 21 04.5 +1.1
baz=8.2
M16K **Timber Creek** 35.59 334 P **P** 03 21 05.9 +2.2
baz=6.5
Q32M **Nakina River** 35.60 311 P **P** 03 21 06.0 +2.0
baz=11
N18K **Kilae Creek** 35.76 332 P **P** 03 21 06.0 +0.8
baz=7.0
MOA **Molln** 35.77 152 *e* P **P** 03 21 07.5 +2.1
comp=Z,3.1nm,0.7s
CONA **Conrad Observa** 35.80 150 *i* P **P** 03 21 08.2 +2.5
comp=Z,3.5nm,0.8s
P23K **Montague Islan** 35.87 324 P **P** 03 21 07.4 +1.3
baz=8.5
DLBC **Dease Lake** 35.89 309 P **P** 03 21 08.1 +1.7
baz=11
N17K **Nushagak Hills** 35.99 333 P **P** 03 21 08.6 +1.5
baz=6.8
N16K **Nishlik Lake** 36.13 334 P **P** 03 21 10.7 +2.4
baz=6.5
R32K **Eaglecrest** 36.49 313 P **P** 03 21 13.4 +2.0
baz=10
KBA **Koelnbreinsper** 36.49 153 *e* pP pP 03 21 15.7 +1.9
comp=Z,0.5nm,0.4s
S34M **Telegraph Cree** 36.52 310 P **P** 03 21 13.5 +1.8
baz=10
BRVK **Borovoye** 36.52 90 ||*e* P **P** 03 21 13.4 +1.7
BRVK pmax pmax
comp=Z,15nm,3.2s
BVAR **Borovoye Array** 36.57 90 P **P** 03 21 13.0 +0.8
comp=Z,1.1nm,0.6s,baz=352,slow=9.0,SNR=7.4
BVAR PcP **PcP** **03 23 35.6 +0.6**
comp=Z,1.2nm,0.8s,baz=0.0,slow=0.7,SNR=4.3
BVAR LR LR 03 38 00.1
comp=Z,152nm,19.6s,baz=318,slow=39
comp=Z,1.1nm,0.6s
ABTA **Abfaltersbach** 36.77 154 *e* P **P** 03 21 16.5 +2.5

comp=Z,13nm,2.1s
MYKA Terra Mystica 36.95 153 *i* P P 03 21 15.9 +0.3
comp=Z,6.9nm,1.0s
SOKA Soboth 36.99 151 *i* P P 03 21 18.2 +2.3
comp=Z,5.4nm,1.3s
OBKA Obir 37.13 151 *i* P P 03 21 19.5 +2.4
comp=Z,5.2nm,0.7s
CIMO Cimolais 37.20 154 P P 03 21 19.6 +1.9
CIMO IAmb IAmb 03 21 26.8
comp=Z,5.5nm,1.0s
S32K Killisnoo 37.29 313 P P 03 21 18.2 0.0
baz=9.9
ZAA0 Zalesovo Array 37.48 75 P P 03 21 20.5 +0.6
ZALV Zalesovo Beam 37.48 75 P P 03 21 20.2 +0.2
ZALV Zalesovo Beam 37.48 75 *i* P P 03 21 20.1 +0.2
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 37.48 75 P P 03 21 18.6 -1.3
comp=Z,2.4nm,0.6s,baz=353,slow=7.3,SNR=12
ZALV LR LR 03 37 26.1
comp=Z,101nm,18.7s,baz=29,slow=37
comp=Z,2.4nm,0.6s
AKTO Aktyubinsk 37.54 103 LR LR 03 38 31.2
comp=Z,131nm,19.4s,baz=88,slow=39
MA2 Magadan 37.58 16 *de*P P 03 21 20.7 0.0
MA2 pmax pmax
comp=Z,11nm,1.1s
TEOL Teolo 38.11 155 P P 03 21 27.4 +2.2
TEOL IAmb IAmb 03 21 30.3
comp=Z,13nm,0.8s
KDAK Kodiak Island 38.43 328⇓ *e*P P 03 21 28.0 +0.2
KDAK pmax pmax
comp=Z,56nm,1.1s
BRLDA Berland Lookou 38.82 296 IAmb IAmb 03 21 41.2
comp=Z,14nm,0.9s
OHAK Old Harbor 39.04 329 P P 03 21 34.0 +1.1
baz=7.0
EDM Edmonton 39.20 292 IAmb IAmb 03 21 43.9
comp=Z,17nm,1.2s
KURK Kurchatov 39.88 82 P P 03 21 41.2 +1.2
KURK Kurchatov 39.88 82⇑ *e*P P 03 21 40.6 +0.6
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 39.96 83 P P 03 21 40.5 -0.2
comp=Z,6.4nm,1.0s,baz=351,slow=7.5,SNR=38
comp=Z,6.4nm,1.0s
ULM Lac du Bonnet 39.96 275 P P 03 21 41.5 +0.8
comp=Z,4.2nm,1.0s,baz=19,slow=9.2,SNR=5.2
ULM LR LR 03 36 57.7
comp=Z,120nm,20.2s,baz=35,slow=34
comp=Z,4.2nm,1.0s
CHIR Chirikof Islan 40.58 331 P P 03 21 47.5 +1.7
baz=6.4
NRCA Norcia 40.70 154 IAmb IAmb 03 21 57.1
comp=Z,12nm,0.9s
BBB Bella Bella 41.87 305 LR LR 03 41 55.5
comp=Z,163nm,19.1s,baz=19,slow=40
DGZ Jazzator, Alta 41.97 74⇓ *i*P P 03 21 58.8 +1.3
DGZ pmax pmax
comp=Z,5.0nm,1.4s
ZEA Zeya 42.09 37 *e*P P 03 22 04.8 +6.6
ZEA pmax pmax
comp=Z,10.0nm,0.7s
KIV Kislovodsk 42.12 121 *e*P P 03 22 01.3 +2.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 42.37 121⇑ *e*P P 03 22 02.1 +1.6
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 42.37 121 P P 03 22 01.3 +0.8
comp=Z,8.1nm,0.8s,baz=336,slow=5.6,SNR=20
comp=Z,8.1nm,0.8s
NCK Nalchik 42.68 120⇓ *e*P P 03 22 04.0 +0.9
NCK pmax pmax
comp=Z,44nm,3.2s
ESDC Sonseca Array 43.24 173 P P 03 22 09.3 +1.6
comp=Z,1.2nm,0.7s,baz=360,slow=8.5,SNR=14
comp=Z,1.2nm,0.7s
FNA Florina 43.29 145 P P 03 22 09.1 +1.0
FNA Florina 43.29 145 P P 03 22 09.1 +1.0
FNA pmax pmax
comp=Z,7.0nm,0.9s
ZEI Tsey 43.41 120 *e*P P 03 22 09.8 +0.5
ZEI pmax pmax
comp=Z,5.0nm,0.8s
MAK Makhachkala 43.64 116 *e*P P 03 22 07.5 -3.4
MAK *e*S S 03 28 34.6 -5.4
MAK pmax pmax
comp=Z,450nm,1.3s
MAKZ Makanchi 44.14 80 P P 03 22 14.8 -0.1
MAKZ Makanchi 44.14 80 P P 03 22 14.8 -0.1
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 44.19 80 P P 03 22 15.8 +0.4
MK31 Makanchi Array 44.19 80 *ce*P P 03 22 15.5 +0.2
MKAR Makanchi Array 44.19 80 P P 03 22 15.8 +0.5
comp=Z,2.1nm,0.8s,baz=355,slow=8.0,SNR=23
MKAR LR LR 03 43 39.4
comp=Z,108nm,19.1s,baz=342,slow=40
comp=Z,2.1nm,0.8s
NEW Newport 44.52 294 IAmb IAmb 03 22 21.8
comp=Z,11nm,1.1s
NEW Newport 44.52 294 P P 03 22 19.5 +1.5
baz=9.9,SNR=6.0
NEW Newport 44.52 294 P P 03 22 18.9 +1.0
comp=Z,6.6nm,1.0s,baz=22,slow=7.6,SNR=6.9
comp=Z,6.6nm,1.0s
LAO LASA Array 44.76 284 IAmb IAmb 03 22 24.4
comp=Z,9.3nm,0.8s
LAO LASA Array 44.76 284 P P 03 22 22.0 +2.1
baz=10,SNR=7.7
BR131 Keskin Array S 45.38 131 P P 03 22 26.7 +1.7
BR131 Keskin Array S 45.38 131 *de*P P 03 22 26.6 +1.7
BRTR Keskin Array B 45.38 131 P P 03 22 26.7 +1.7
BRTR Keskin Array B 45.38 131 P P 03 22 26.7 +1.7
BRTR Keskin Array B 45.38 131 P P 03 22 26.5 +1.5
comp=Z,2.1nm,0.8s,baz=346,slow=4.7,SNR=11
comp=Z,2.1nm,0.8s
MSO Missoula 45.56 291 P P 03 22 28.1 +1.8
baz=9.9,SNR=11
HEH HeiHe 45.56 37 *e*P P 03 22 26.4 +0.3
GNW Green Mountain 45.86 299 P P 03 22 30.1 +1.7
D08A Wollman Farm, 45.92 296 IAmb IAmb 03 22 30.8
comp=Z,11nm,1.2s
SONM Songino Array 46.01 57 P P 03 22 30.5 +0.6
comp=Z,1.2nm,0.8s,baz=342,slow=6.0,SNR=8.9
SONM LR LR 03 43 18.4
comp=Z,130nm,18.4s,baz=324,slow=38
comp=Z,1.2nm,0.8s
ULN Ulaanbaatar 46.05 56⇓ *i*P P 03 22 30.8 +0.6
ULN pmax pmax
comp=Z,6.0nm,1.6s
GNI Garni 46.11 120⇑ *e*P P 03 22 32.1 +1.3
GNI pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 46.33 93 P P 03 22 33.2 +1.0
KK31 Karatay Array 46.33 93 P P 03 22 33.3 +1.0
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 46.33 93 P P 03 22 33.3 +1.0
KKAR Karatay Array 46.33 93 P P 03 22 33.3 +1.0
KKAR pmax pmax
comp=Z,5.0nm,1.1s
ECSD EROS Data Cent 46.46 273 P P 03 22 33.8 +0.5
ECSD EROS Data Cent 46.46 273 P P 03 22 35.3 +2.0
baz=10.0
BOZ Bozeman (W) 46.50 288 IAmb IAmb 03 22 37.4
comp=Z,8.4nm,1.1s
BOZ Bozeman (W) 46.50 288 P P 03 22 35.9 +2.1
baz=9.8,SNR=8.1
RLMT Red Lodge 46.68 286 P P 03 22 36.4 +1.2
baz=9.9
L44A Lake County Fo 46.88 264 P P 03 22 39.6 +3.1
baz=9.8
KLR Kul'dur 46.90 34⇓ *e*P P 03 22 35.9 -0.8
KLR pmax pmax
comp=Z,17nm,3.3s
KLR Kul'dur 46.90 34 P P 03 22 35.2 -1.4
comp=Z,1.8nm,0.7s,baz=335,slow=7.2,SNR=6.3
KLR LR LR 03 42 59.3
comp=Z,71nm,18.1s,baz=345,slow=37
comp=Z,1.8nm,0.7s
RSSD Black Hills 47.01 281 P P 03 22 38.7 +0.8
RSSD IAmb IAmb 03 22 41.3
comp=Z,9.0nm,1.1s
RSSD Black Hills 47.01 281 P P 03 22 38.7 +0.8
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 47.01 281 P P 03 22 40.5 +2.6
baz=9.9
YMP Mirror Lake Pl 47.16 287 IAmb IAmb 03 22 48.9
comp=Z,10nm,1.2s
AAK Ala-Archa 47.29 89 LR LR 03 44 33.3
comp=Z,228nm,18.6s,baz=331,slow=39
H17A Grant Village 47.55 287 IAmb IAmb 03 22 47.1
comp=Z,5.8nm,0.9s
H17A Grant Village 47.55 287 P P 03 22 45.5 +3.4
baz=9.7
G08A Pilot Rock 47.67 295 IAmb IAmb 03 23 02.9
comp=Z,7.2nm,1.1s
WMQ Urumqi 47.79 76 *e*P P 03 22 47.3 +3.5
WMQ pmax pmax
comp=Z,9.0nm,1.3s
IMW Indian Meadow 48.09 287 IAmb IAmb 03 22 50.1
comp=Z,7.0nm,0.9s
MOOW Moose Ponds 48.21 287 IAmb IAmb 03 22 50.7
comp=Z,5.2nm,0.9s
FXWY Fox Creek 48.35 287 IAmb IAmb 03 22 52.0
comp=Z,10nm,1.1s
O48B Farmland 48.42 261 P P 03 22 49.7 +1.1
baz=9.4
TPAW Teton Pass 48.49 287 IAmb IAmb 03 22 53.1
comp=Z,7.2nm,1.1s
SFIN Lafayette 48.55 263 P P 03 22 51.3 +1.8
baz=9.5
K22A Casper 48.77 283 P P 03 22 52.9 +1.4
baz=9.6,SNR=6.6
HLID Hailey 48.84 291 IAmb IAmb 03 23 08.0
comp=Z,9.6nm,1.4s
HLID Hailey 48.84 291 P P 03 22 53.2 +1.2
baz=9.4
PDAR Pinedale Array 49.03 286 P P 03 22 54.4 +0.8
comp=Z,3.4nm,1.0s,baz=15,slow=6.2,SNR=16
comp=Z,3.4nm,1.0s
BW06 Boulder Array 49.03 286 P P 03 22 55.5 +2.0
baz=9.5,SNR=6.3
P49A Miami Univ. Ec 49.08 261 P P 03 22 54.5 +0.9
baz=9.3
AHID Auburn Hatcher 49.22 287 IAmb IAmb 03 22 58.2
comp=Z,6.8nm,1.0s
OGNE Ogallala 49.89 278 P P 03 23 01.9 +1.9
baz=9.5
J05D Fort Rock, OR 49.91 297 P P 03 23 01.8 +1.7
N23A Red Feather La 50.43 282 P P 03 23 06.4 +2.1
baz=9.4
SPUT South Promonto 50.82 288 IAmb IAmb 03 23 09.9
comp=Z,12nm,1.3s
RDMU Red Mountain 51.20 285 IAmb IAmb 03 23 12.8
comp=Z,11nm,1.2s
BGU Big Grassy Mou 51.27 289 IAmb IAmb 03 23 13.3
comp=Z,8.2nm,1.1s
O20A White River Ci 51.47 284 pP 03 23 13.8 -0.3
O20A White River Ci 51.47 284 P P 03 23 14.5 +2.6
baz=9.2,SNR=11
ISCO Idaho Springs 51.47 281 P P 03 23 14.2 +2.1
baz=9.3
YBH Yreka Blue Hor 51.61 298 LR LR 03 45 10.7
comp=Z,75nm,18.4s,baz=48,slow=36
ELK Elko 51.71 291 LR LR 03 44 39.0
comp=Z,101nm,20.4s,baz=18,slow=35
DUG Dugway, Tooele 51.97 288 P P 03 23 16.3 +0.7
baz=9.0
MMAI Mount Meron Ar 52.20 131 P P 03 23 18.1 +0.7
comp=Z,2.7nm,0.7s,baz=350,slow=7.6,SNR=3.3
comp=Z,2.7nm,0.7s
Q24A Divide 52.23 281 IAmb IAmb 03 23 20.3
comp=Z,8.6nm,1.0s
Q24A Divide 52.23 281 P P 03 23 19.1 +1.2
baz=9.2
PAHR Pah Rah Range 53.23 295 IAmb IAmb 03 23 28.4
comp=Z,9.2nm,1.4s
SPR3 Spring Creek 3 53.33 290 IAmb IAmb 03 23 29.8
comp=Z,9.4nm,1.3s
Q12A Willow Creek R 53.35 290 IAmb IAmb 03 23 29.1
comp=Z,11nm,1.1s
HHC Hu-ho-hao-te 53.45 53 *e*P P 03 23 26.3 -0.3
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.7s
SDCO Great Sand Dun 53.48 281 P P 03 23 28.6 +1.6
SDCO Great Sand Dun 53.48 281 P P 03 23 28.9 +2.0
baz=9.0,SNR=5.6
BTO Baotou 53.54 55 *e*P P 03 23 25.5 -1.7
BTO pP sP 03 23 30.0 -0.2
BTO sP pwP 03 23 33.4 -0.1
BTO PP PP 03 25 24.3 -3.0
BTO S S 03 30 56.6 -3.1
BTO Baotou 53.54 55 SS SKiKP 03 34 31.3 -10
BTO pmax pmax
comp=Z,5.0nm,0.5s
BTO pmax pmax
comp=Z,180nm,4.5s
BTO LR LR
comp=N,320nm,7.2s
BTO LR LR
comp=E,500nm,7.5s
BTO LR LR
comp=Z,560nm,8.9s
S22A 4UR Ranch, Cre 53.65 282 IAmb IAmb 03 23 32.3
comp=Z,8.9nm,1.2s
S22A 4UR Ranch, Cre 53.65 282 P P 03 23 30.4 +2.2
baz=9.0,SNR=6.1
KVN Kaiserville 53.72 293 IAmb IAmb 03 23 38.4
comp=Z,6.1nm,0.9s
PNTR Pine Nut 53.86 295 IAmb IAmb 03 23 40.9
comp=Z,5.6nm,0.8s
HMU Henry Mountain 53.94 286 IAmb IAmb 03 24 13.5
comp=Z,14nm,1.4s
R11B Troy Canyon, C 54.12 291 P P 03 23 33.6 +2.1
baz=8.7,SNR=7.4
AFDM Forest Hills D 54.16 296 IAmb IAmb 03 23 33.8
comp=Z,7.6nm,1.3s
NVAR Mina Array Bea 54.36 293 P P 03 23 34.8 +1.4
comp=Z,1.4nm,0.8s,baz=19,slow=5.1,SNR=10
comp=Z,1.4nm,0.8s
MVCO Mesa Verde 54.38 284 IAmb IAmb 03 23 37.6
comp=Z,12nm,1.1s
MVCO Mesa Verde 54.38 284 P P 03 23 36.4 +2.9
baz=8.8,SNR=6.1
SZCU Shurtz Canyon 54.56 288 IAmb IAmb 03 23 38.6
comp=Z,6.5nm,1.2s
PRN Pahroc Range 54.99 290 IAmb IAmb 03 23 47.7
comp=Z,5.4nm,1.0s
KNB Kanab 55.10 288 IAmb IAmb 03 23 42.0
comp=Z,6.8nm,1.0s
LCMT Little Creek M 55.16 288 IAmb IAmb 03 23 42.5
comp=Z,6.5nm,1.1s
TPNV Topopah Spring 55.58 291 P P 03 23 43.5 +1.4
baz=8.5
U15A North Rim 55.62 287 IAmb IAmb 03 23 51.7
comp=Z,6.6nm,1.0s
CWC Cottonwood Cre 56.30 293 P P 03 23 49.6 +2.3
baz=8.3
ANMO Albuquerque 56.36 281 P P 03 23 49.3 +1.6
ANMO IAmb IAmb 03 23 56.9
comp=Z,6.9nm,1.3s
ANMO Albuquerque 56.36 281 P P 03 23 49.3 +1.6
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 56.36 281 P P 03 23 49.5 +1.7
baz=8.7
ANMO Albuquerque 56.36 281 LR LR 03 48 38.0
comp=Z,167nm,18.2s,baz=119,slow=37
WUAZ Wupatki 56.41 286 IAmb IAmb 03 24 02.2
comp=Z,7.2nm,1.0s
WUAZ Wupatki 56.41 286 P P 03 23 50.6 +2.5
baz=8.6,SNR=6.4
W18A Petrified Fore 56.60 284 P P 03 23 52.0 +2.6
baz=8.6
MPMC Manual Prospec 56.61 292 P P 03 23 51.3 +1.8
baz=8.3
V12A Nelson 56.62 290 IAmb IAmb 03 23 59.3
comp=Z,7.0nm,0.9s
ISA Isabella, Lake 57.11 293 P P 03 23 54.3 +1.3
baz=8.2
LRMC Laurel Mtn Rad 57.20 292 P P 03 23 55.1 +1.5
baz=8.2
GSC Goldstone, Bar 57.27 291 IAmb IAmb 03 24 04.7
comp=Z,7.5nm,1.0s
GSC Goldstone, Bar 57.27 291 P P 03 23 56.1 +2.0
baz=8.3
GMRC Granite Mounta 57.65 290 P P 03 23 58.3 +1.5
baz=8.3
EDW2 Edwards Air Fo 57.83 292 P P 03 23 59.8 +1.8
baz=8.2
PDMCI Parker Dam,Lak 57.94 289 P P 03 24 01.1 +2.4
baz=8.3
NATX Nacogdoches 58.01 269 P P 03 24 00.2 +1.0
baz=8.5
IRM Iron Mountain 58.20 290 P P 03 24 02.2 +1.7
baz=8.3
KSRS Korea Array 58.32 39 LR LR 03 47 12.0
comp=Z,40nm,20.9s,baz=35,slow=34
BFSC Mount Baldy Ra 58.42 292 P P 03 24 04.4 +2.2
baz=8.1
BELC Belle Mtn. Jos 58.46 290 P P 03 24 04.7 +2.2
baz=8.2
BC3 Big Chuckawall 58.74 290 P P 03 24 06.7 +2.3
baz=8.2
PFO Pinyon Flats O 58.90 291 P P 03 24 06.7 +1.1
baz=8.2
PFO Pinyon Flats O 58.90 291 LR LR 03 49 12.0
comp=Z,138nm,21.9s,baz=336,slow=36
TPFO Pinon Flats 58.91 291 P P 03 24 07.8 +2.2
baz=8.2
MNTX Cornudas Mount 59.43 280 P P 03 24 09.3 +0.3
baz=8.4
MNHN Monahans 59.45 277 P P 03 24 09.7 +0.4
MNHN IAmb IAmb 03 24 11.4
comp=Z,9.3nm,1.4s
TUC Tucson 59.50 285 P P 03 24 11.1 +1.4
TUC IAmb IAmb 03 24 12.7
comp=Z,6.0nm,0.9s
TUC Tucson 59.50 285 P P 03 24 11.1 +1.4
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC Tucson 59.50 285 P P 03 24 11.8 +2.2
baz=8.3
JCT Junction City 59.92 274 P P 03 24 14.7 +2.1
baz=8.4
DWPF Disney Wildern 59.94 255 P P 03 24 14.5 +2.0
baz=7.9
MJAR Matsushiro Arr 59.96 29 P P 03 24 12.3 -0.4
comp=Z,0.4nm,0.3s,baz=0.0,slow=6.1,SNR=4.8
MJAR LR LR 03 51 36.9
comp=Z,46nm,18.2s,baz=5.0,slow=38
comp=Z,0.4nm,0.3s
214A Organ Pipe Nat 60.09 287 P P 03 24 15.0 +1.3
baz=8.2
319A Douglas 60.23 283 P P 03 24 16.2 +1.4
VHRN Van Horn 60.28 279 P P 03 24 16.6 +1.5
ALPN Alpine 60.51 278 P P 03 24 18.1 +1.4
ALPN IAmb IAmb 03 24 18.7
comp=Z,11nm,1.5s
TX31 Lajitas Ar. Si 61.54 278 P P 03 24 24.8 +1.2
TXAR Lajitas Array 61.54 278 P P 03 24 24.0 +0.4
comp=Z,1.4nm,0.7s,baz=2.5,slow=2.9,SNR=4.9
comp=Z,1.4nm,0.7s
NJ2 Nanjing 62.89 48 *e*P P 03 24 33.1 +0.6
NJ2 pP sP 03 24 37.1 +1.6
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,99nm,5.2s
PZH PanZhiHua 66.56 65 P P 03 24 57.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,170nm,6.0s
SJG San Juan 68.03 238 LR LR 03 54 55.2
comp=Z,30nm,18.9s,baz=16,slow=36
TEIG Tepich 68.57 261 LR LR 03 57 29.1
comp=Z,633nm,18.9s,baz=186,slow=38
TORD Torodi Ar. Bea 69.77 168 P P 03 25 17.6 +0.9
TORD Torodi Ar. Bea 69.77 168 P P 03 25 17.1 +0.3
comp=Z,1.5nm,0.7s,baz=6.3,slow=5.9,SNR=12
comp=Z,1.5nm,0.7s
CMIG Matias Romero 72.49 267 LR LR 04 01 42.5
comp=Z,57nm,18.3s,baz=354,slow=39
CMAR Chiang Mai Arr 74.18 69 *ce*P P 03 25 42.7 -0.5
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 74.18 69 P P 03 25 42.3 -0.8
comp=Z,1.9nm,0.3s,baz=345,slow=7.3,SNR=14
comp=Z,1.9nm,0.3s
ROSC El Rosal 82.04 245 LR LR 04 05 06.1
comp=Z,23nm,18.2s,baz=52,slow=37
NNA Nana 98.94 245 LR LR 04 18 22.2
comp=Z,22nm,18.1s,baz=354,slow=39
WRA Warramunga Arr 115.71 37 PKP PKPdf 03 32 47.5 -1.1
comp=Z,2.7nm,1.1s,baz=331,slow=2.3,SNR=3.0
ASAR Alice Springs 119.37 38 PKP PKPdf 03 32 53.8 -1.8
comp=Z,0.3nm,0.8s,baz=2.5,slow=2.1,SNR=2.0

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*ISK **16** 03:46:37.9, 38.°93N×26.°03E, h12km, ML3.5/41*
*IDC **16** 03:46:38.1±1.6, 39.°01N×26.°10E, h0km, mb3.4/2, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=24.8km s-min=20.0km az=179.0*
*ATH **16** 03:46:39.0, 38.°94N×26.°11E, h13km±2km, ML3.8/4, Error ellipse: s-maj=2.2km s-min=1.0km az=85.0*
*AFAD **16** 03:46:38.0±0.0, 38.°97N×26.°11E, h7km±3km, MW3.7*
*THE **16** 03:46:38.9, 38.°96N×26.°11E, h8km±1km, ML3.5/7, Error ellipse: s-maj=1.2km s-min=0.5km az=63.0*
ISC 16 03:46:38.4±0.9, **38.°96N**±0.°02×**26.°09E**±0.°02, **h13**km±8km, **n110**, σ**0.°91**/132, **13C-4D, Aegean Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SIGR SIGRI 0.31 324 Pg Pg 03 46 45.1 +0.3
SIGR Sg Sb 03 46 50.1 -0.8
SIGR SIGRI 0.31 324 P Pb 03 46 45.4 -0.4
SIGR S Sg 03 46 49.9 +0.7
18μm,0.2s
SIGR SIGRI 0.31 324 P Pb 03 46 45.4 -0.4
SIGR S Sb 03 46 50.0 -0.8
SIGR AML AML 03 46 50.4
comp=N,45829μm,0.4s
SIGR AML AML 03 46 50.7
comp=E,27585μm,0.2s
PRK Paraskevi 0.32 26 P Pb 03 46 45.3 -0.7
PRK S Sb 03 46 50.0 -1.0
comp=E,11μm,0.4s
PRK Paraskevi 0.32 26 P Pb 03 46 45.2 -0.7
PRK S Sb 03 46 50.8 -0.2
PRK AML AML 03 46 51.0
comp=N,21159μm,0.3s
PRK AML AML 03 46 53.6
comp=E,22762μm,0.5s
KARB zmir-Karabur 0.39 140 P Pb 03 46 46.6 -0.4
EAG3 Mitilini, Lesv 0.39 71 P Pb 03 46 46.5 -0.6
EAG3 S Sb 03 46 52.1 -1.0
EAG3 AML AML 03 46 52.4
comp=E,53562μm,0.4s
EAG3 AML AML 03 46 53.4
comp=N,33658μm,0.6s
LESV Lesvos island, 0.39 68 P Pb 03 46 46.5 -0.7
LESV S Sg 03 46 52.0 +0.4
comp=N,33μm,0.3s
EAG2 Marmaro, Chios 0.41 179 P Pg 03 46 46.6 0.0
EAG2 S Sb 03 46 53.0 -0.7
EAG2 AML AML 03 46 57.0
EAG2 AML AML 03 46 58.3
comp=E,59003μm,0.4s
GPNR Gulpinar-Canak 0.50 3 Pg Pb 03 46 48.5 -0.5
GPNR Sg Sb 03 46 56.7 +0.5
KOCA Canakkale, Ayv 0.55 4 P Pg 03 46 48.9 -0.2
CAND Candarli 0.55 90 Pg Pb 03 46 50.3 +0.4
FOCM Foa 0.55 116 Pg Pb 03 46 49.7 -0.2
FOCM Sg Sb 03 46 58.8 +1.1
CHOS Chios island 0.57 183 P Pg 03 46 49.5 -0.1
CHOS S Sb 03 46 59.5 +1.2
comp=E,6μm,0.5s
CHOS Chios island 0.57 183 P Pg 03 46 49.4 -0.1
PSRA Psara 0.59 225 P Pg 03 46 50.1 +0.2
DKL Dikili 0.64 80 Pg Pb 03 46 51.4 0.0
RFT7 Candarli 0.64 90 Pg Pb 03 46 51.8 +0.3
CESE eme 0.65 166 Pg Pg 03 46 50.6 -0.4
ZEDA zmir-Bergama 0.77 89 P Pb 03 46 53.6 +0.1
ZEDA S Sg 03 47 03.0 -0.3
ZEYE Izmir, Urla-Ze 0.79 156 P Pg 03 46 52.8 -0.8
ZEYE S Sb 03 47 04.9 +0.5
ZEYE *i* AML AML 03 47 08.0
comp=E,2μm,0.6s
BAYC CANAKKALE_Bayr 0.86 24 P Pg 03 46 54.4 -0.6
BAYC S Sg 03 47 05.9 -0.4
BAYC *i* AML AML 03 47 08.0
comp=E,1μm,0.5s
BUHA Balikesir, Bur 0.94 54 P Pg 03 46 56.1 -0.4

BUHA S **Sb** 03 47 08.8 0.0
BUHA *i* AML AML 03 47 10.0
comp=E,3µm,0.3s
BLCB Balcova 0.94 127 Pg **Pb** 03 46 56.6 +0.2
BLCB Balcova 0.94 127 P **Pb** 03 46 56.3 -0.1
BLCB S **Sb** 03 47 09.7 +0.9
EFSA Agios Efstrati 1.04 304 P **Pn** 03 46 58.7 +0.2
ECEA Canakkale, Ece 1.09 3 P **Pg** 03 46 58.3 -1.0
ECEA S **Sg** 03 47 12.8 -0.7
ECEA *i* AML AML 03 47 17.0
comp=E,2µm,0.4s
GMLD Gumuldur 1.09 144 Pg **Pn** 03 46 59.4 +0.1
DGB zmir 1.10 145 P **Pg** 03 46 58.5 -1.0
DGB S **Sg** 03 47 11.8 -1.9
DGB *i* AML AML 03 47 16.0
comp=E,626nm,0.4s
CNKL anakkale-Mer 1.13 11 P **Pg** 03 46 58.9 -1.2
LIA Limnos Island 1.18 323 P **Pb** 03 47 00.6 +0.1
LIA Limnos Island 1.18 323 P **Pb** 03 47 00.6 +0.1
COMU Canakkale 1.18 14 Pn **Pn** 03 47 01.3 +0.7
GOAD anakkale-G¶ 1.21 353 P **Pb** 03 47 00.6 -0.6
GOAD S **Sg** 03 47 17.1 -0.3
GOAD *i* AML AML 03 47 19.0
comp=E,1µm,0.5s
GADA Gvkgeada 1.24 353 Pn **Pn** 03 47 01.7 +0.3
CANM Can-anakkale 1.29 35 Pn **Pb** 03 47 02.4 0.0
STEP BALIKESIR_Sava 1.33 71 P **Pn** 03 47 02.2 -0.5
AKS Akhisar 1.34 93 Pn **Pb** 03 47 03.4 0.0
SMG Samos 1.38 155 P **Pn** 03 47 02.4 -0.9
SMG S **Sg** 03 47 22.7 -0.1
comp=E,1µm,0.6s
SMG Samos 1.38 155 P **Pn** 03 47 02.6 -0.7
GOMA Golmarmara-Man 1.45 99 Pn **Pb** 03 47 05.2 +0.1
GELI Tayfur-Gelibol 1.47 11 Pn **Pb** 03 47 05.7 +0.2
LPK Lapseki 1.50 20 Pn **Pb** 03 47 05.8 -0.3
GCAM G?zelcaml? 1.54 144 Pn **Pb** 03 47 06.4 -0.4
BALB Balikesir 1.54 63 Pn **Pn** 03 47 06.0 +0.4
SMTH Samothraki Isl 1.57 344 P **Pn** 03 47 05.7 -0.3
SMTH Samothraki Isl 1.57 344 P **Pn** 03 47 06.1 +0.1
KYMI Kymi, Euboea I 1.59 259 P **Pn** 03 47 06.2 0.0
KYMI Kymi, Euboea I 1.59 259 P **Pn** 03 47 06.5 +0.3
BKES Balkesir-Mer 1.62 61 P **Pn** 03 47 06.1 -0.5
GONE Gonen-Balikesi 1.64 48 Pn **Pb** 03 47 08.4 -0.1
KRBG Karabiga-Canak 1.71 33 Pn **Pn** 03 47 08.6 +0.8
KNL Balıkesir 1.71 40 P **Pb** 03 47 09.8 0.0
ERIK Erikli-Kesan 1.74 11 Pn **Pb** 03 47 09.6 -0.6
DDIM Aydin, Didim 1.75 149 P **Pg** 03 47 12.2 +0.3
ENEZ Enez 1.78 1 Pn **Pb** 03 47 10.1 -0.7
ENEZ Enez 1.78 1 P **Pn** 03 47 09.3 +0.5
ENEZ S **Sb** 03 47 33.2 +0.2
comp=E,930nm,0.6s
DION Dionisos Attik 1.91 243 P **Pn** 03 47 11.1 +0.5
RKY Sarkoy-Tekirda 1.92 25 Pn **Pn** 03 47 11.9 +1.1
ALN Alexandroupoli 1.94 359 Pn **Pn** 03 47 11.6 +0.6
ALN Alexandroupoli 1.94 359 P **Pn** 03 47 11.2 +0.2
APE Apeiranthos 1.94 193 ⇑P **Pn** 03 47 09.9 -1.1
APE Apeiranthos 1.94 193 Pn **Pn** 03 47 10.2 -0.8
APE Apeiranthos 1.94 193 P **Pn** 03 47 10.1 -0.9
EDC Edincik 1.95 44 Pn **Pb** 03 47 12.7 -1.0
THAS Thassos island 1.96 328 P **Pn** 03 47 11.3 +0.1
KULA Kula-Manisa 2.06 102 Pn **Pn** 03 47 13.0 +0.3
KULA Kula-Manisa 2.06 102 P **Pn** 03 47 12.9 +0.3
DST Dursunbey 2.06 71 Pn **Pn** 03 47 13.6 +0.8
PAIG Paliouri 2.10 298 Pn **Pn** 03 47 13.5 +0.2
PAIG Paliouri 2.10 298 P **Pn** 03 47 13.5 +0.2
BODT Bodrum 2.12 153 Pn **Pn** 03 47 13.4 -0.1
BODT Bodrum 2.12 153 P **Pn** 03 47 13.3 -0.2
MLSB Milas 2.12 141 Pn **Pn** 03 47 14.6 +1.0
OUR Ouranopolis 2.13 311 Pn **Pn** 03 47 14.3 +0.6
OUR Ouranopolis 2.13 311 P **Pn** 03 47 14.4 +0.7
KCTX Karacabey (Bur 2.18 53 Pn **Pn** 03 47 15.5 +1.1
UKOP Uzunkopru-Edir 2.21 11 Pn **Pn** 03 47 16.0 +1.3
RDO Rodhopi 2.23 349 Pn **Pn** 03 47 15.9 +0.9
SIMA Simav-Kutahya 2.25 86 Pn **Pn** 03 47 16.9 +1.5
USAK Uak-Merkez 2.30 95 P **Pn** 03 47 16.5 +0.6
KAVA Kavala 2.37 330 P **Pn** 03 47 17.2 +0.3
ORLT Orhaneli 2.42 62 Pn **Pn** 03 47 19.5 +1.8
KOKK Kokkinochori, 2.46 320 P **Pn** 03 47 18.4 +0.2
CRLT Corlu 2.51 30 Pn **Pn** 03 47 20.6 +1.8
YER Yerkesik 2.51 136 P **Pn** 03 47 19.0 +0.1
MDNY Mudanya-Bursa 2.57 56 Pn **Pn** 03 47 21.6 +1.9
ARMT Armutlu 2.67 52 Pn **Pn** 03 47 23.0 +1.9
KDZ Kurdzhali 2.73 348 Pn **Pn** 03 47 22.4 +0.5
ELND Elena 3.97 358 ⇓P **Pn** 03 47 39.8 +0.9
RAZG Razgrad 4.62 4 ⇑P **Pn** 03 47 49.0 +1.2
BLKB Belogradchik 5.32 332 ⇑P **Pn** 03 47 57.2 -0.4
BOVS Bovan 5.72 326 ⇑P **Pn** 03 48 02.0 -1.0
BRTR Keskin Array B 5.90 80 Pn **Pn** 03 48 07.0 +1.4
comp=E,0.4nm,0.3s,baz=256,slow=13,SNR=19
BRTR Pg Pb 03 48 26.0 +4.9
comp=E,0.2nm,0.3s,baz=261,slow=13,SNR=4.6
BRTR Sn **Sn** **03 49 10.0 -3.1**
baz=262,slow=20,SNR=1.2
BRTR Lg Lg 03 49 46.6
baz=271,slow=30,SNR=2.2
comp=E,1.6nm,0.6s
VOIR 6.52 354 ⇓P **Pn** **03 48 15.3 +1.2**
HERR Herculane 6.52 336 ⇑P **Pn** **03 48 14.3 +0.4**
MLR Muntele Rosu 6.53 359 ⇑P **Pn** **03 48 16.2 +2.0**
MLR Muntele Rosu 6.53 359 Pn **Pn** **03 48 16.0 +1.8**
comp=E,0.8nm,0.3s,baz=202,slow=4.4,SNR=16
MLR Sn Sn 03 49 12.6 -16
comp=E,0.2nm,0.3s,baz=47,slow=23,SNR=1.3
comp=E,3.4nm,0.5s
COVR Voineasa-Covas 6.88 1 ⇑P **Pn** **03 48 20.5 +1.5**
GZR Gura Zlata 6.89 340 ⇓P **Pn** **03 48 19.2 +0.2**
PLOR Plostina 6.90 3 ⇑P **Pn** **03 48 21.7 +2.5**
VRI Vrincioaia 6.92 4 ⇓P **Pn** **03 48 21.3 +1.8**
DOPR Dopca 7.03 356 ⇑P **Pn** **03 48 22.7 +1.8**
TURR Turia 7.09 360 ⇑P **Pn** **03 48 23.9 +2.1**
SURR Surduc 7.40 338 ⇑P **Pn** **03 48 26.2 +0.2**
BZS Buzias 7.43 335 ⇑P **Pn** **03 48 26.4 0.0**
TESR Tescani 7.56 3 ⇑P **Pn** **03 48 29.3 +1.0**
GNI Garni 14.44 79 Pn **P** **03 50 08.4 -0.9**
comp=E,0.4nm,0.3s,baz=196,slow=19,SNR=4.7
GNI Lg Lg 03 54 09.3
comp=E,0.5nm,0.3s,baz=174,slow=13,SNR=1.3
comp=E,3.8nm,0.6s
TORD Torodi Ar. Bea 33.57 227 P **P** **03 53 20.6 +2.4**
comp=E,0.3nm,0.7s,baz=26,slow=8.9,SNR=2.3
comp=E,0.3nm,0.7s
MKAR Makanchi Array 41.15 60 P **P** **03 54 22.4 +0.2**
comp=E,0.8nm,0.8s,baz=279,slow=6.6,SNR=6.6
comp=E,0.8nm,0.8s

*IDC **16** 03:50:45.1±0.8,6˚.62S×151˚.20E,h0km,mb3.9/9, mbtmp3.9/10,ML1.9/1,MS3.1/1,Error ellipse: s-maj=28.9km s-min=20.3km az=102.0*

ISC 16 03:50:50.8±0.8,6˚.7S±0˚.1×151˚.1E±0˚.1,h36km,n13, σ0^{s}71/13,mb3.9/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75**	**235**	Pn	**Pn**	**03 52 00.6**	**+0.8**
	3.3nm,0.3s,baz=6.3,slow=11,SNR=3.9						
PMG				Sn	**Sn**	**03 52 52.5**	**-1.2**
	2.8nm,0.3s,baz=264,slow=7.2,SNR=1.6						
	6.1nm,0.3s						
CTA	**Charters Tower**	**14.14**	**199**	LR	LR	03 58 29.4	
	comp=Z,76nm,19.5s,baz=86,slow=33						
WRA	**Warramunga Arr**	**20.94**	**229**	P	**P**	**03 55 30.5**	**-0.2**
	4.0nm,0.7s,baz=54,slow=10,SNR=18						
	4.0nm,0.7s						
DZM	**Mont Dzumac**	**21.30**	**137**	P	**P**	**03 55 34.9**	**+0.3**
	3.9nm,0.9s,baz=112,slow=8.7,SNR=2.4						
	3.9nm,0.9s						
ASAR	**Alice Springs**	**23.63**	**223**	P	**P**	**03 55 58.9**	**0.0**
	4.8nm,0.9s,baz=55,slow=9.6,SNR=32						
	4.8nm,0.9s						
STKA	**Stephens Creek**	**26.60**	**198**	P	**P**	**03 56 26.1**	**+0.3**
	3.3nm,0.6s,baz=3.2,slow=12,SNR=6.8						
	3.3nm,0.6s						
SONM	**Songino Array**	**67.02**	**329**	P	**P**	**04 01 40.3**	**+0.1**
	0.4nm,0.6s,baz=125,slow=7.2,SNR=2.1						
	0.4nm,0.6s						
VNDA	**Vanda**	**71.04**	**178**	P	**P**	**04 02 04.6**	**+0.1**
	0.9nm,0.6s,baz=342,slow=7.4,SNR=9.7						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**80.63**	**320**	P	**P**	**04 03 00.7**	**+0.8**
	0.2nm,0.6s,baz=109,slow=6.7,SNR=2.1						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.30**	**180**	P	**P**	**04 03 13.7**	**0.0**
	2.0nm,0.7s,baz=126,slow=0.7,SNR=6.4						
	2.0nm,0.7s						
ILAR	**Eielson Array**	**84.52**	**22**	P	**P**	**04 03 18.8**	**-0.9**
	0.3nm,0.6s,baz=252,slow=5.4,SNR=10						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.20**	**284**	PKPbc	**PKPbc**	**04 10 36.8**	**+0.3**
	0.6nm,0.7s,baz=56,slow=2.7,SNR=8.1						
BDFB	**Brasilia**	**150.85**	**140**	PKPbc	**PKPbc**	**04 10 39.6**	**-1.1**
	0.7nm,0.3s,baz=213,slow=23,SNR=2.3						

*IDC **16** 03:51:46.9±1.3,4˚.44N×86˚.88E,h0km,mb3.8/8, mbtmp3.9/10,ML4.4/2,MS3.6/7,Error ellipse: s-maj=38.2km s-min=20.5km az=47.0*
*NEIC **16** 03:51:47.6±0.4,4˚.24N±0˚.08×86˚.6E±0˚.1,h10km±1km, mb4.3/6,Error ellipse: s-maj=18.6km s-min=13.1km az=269.0*

ISC 16 03:51:47.7±0.9,4˚.4N±0˚.1×86˚.66E±0˚.09,h10km,n33, σ2^{s}07/31,mb4.0/11,MS3.6/6,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**6.58**	**296**		**Pn**	**03 53 23.8**	**-0.8**
PALK				Sn	**Sn**	**03 54 38.6**	**-1.3**
PALK	**Pallekele**	**6.58**	**296**	Pn	**Pn**	**03 53 28.0**	**+3.3**
	5.6nm,0.3s,baz=222,slow=13,SNR=18						
PALK				Sn	**Sn**	**03 54 37.0**	**-2.8**
	8.7nm,0.3s,baz=162,slow=18,SNR=4.0						
PALK				LR	LR	03 56 03.0	
	comp=Z,401nm,18.9s,baz=211,slow=38						
	10nm,0.3s						
TRD	**Trivandrum**	**10.47**	**294**	*eP*	**Pn**	**03 54 20.9**	**+2.9**
MDRS	**Chennai**	**10.70**	**324**	*eP*	**Pn**	**03 54 25.5**	**+4.3**
MDRS				*eS*	**Sn**	**03 56 20.2**	**-0.9**
KOD	**Kodaikanal**	**10.81**	**303**	*eP*	**Pn**	**03 54 24.9**	**+2.0**
SALM	**Salem**	**11.05**	**311**	*eP*	**Pn**	**03 54 29.2**	**+3.2**
SALM				*eS*	**Sn**	**03 56 24.1**	**-5.6**
VIS	**Vishakhapatnam**	**13.65**	**346**	*eP*	**Pn**	**03 54 59.3**	**-2.1**
VIS				*eS*	Sn	03 57 19.7	-14
KAD	**Karad**	**17.73**	**317**	*eP*	**P**	**03 55 56.6**	**+0.8**
KAD				IAmb	IAmb	03 55 58.6	
	comp=Z,9.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**18.44**	**40**	P	**P**	**03 56 02.1**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=226,slow=14,SNR=5.0						
	comp=Z,1.1nm,0.3s						
AZL	**Aizawl**	**20.10**	**16**	*eP*	**P**	**03 56 22.7**	**+0.9**
WSAR	**Wadi Sarin**	**32.92**	**307**	LR	LR	04 10 24.6	
	comp=Z,123nm,18.3s,baz=232,slow=34						
KAPI	**Kappang**	**34.35**	**105**	LR	LR	04 13 15.6	
	comp=Z,64nm,18.2s,baz=295,slow=38						
MK31	**Makanchi Array**	**42.42**	**356**	P	**P**	**03 59 42.8**	**+0.3**
MKAR	**Makanchi Array**	**42.42**	**356**	P	**P**	**03 59 43.0**	**+0.5**
MKAR	**Makanchi Array**	**42.42**	**356**	P	**P**	**03 59 43.1**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=184,slow=8.9,SNR=6.3						
	comp=Z,0.4nm,0.7s						
SONM	**Songino Array**	**46.49**	**18**	P	**P**	**04 00 15.9**	**+0.7**
SONM				IAmb	IAmb	04 00 21.8	
	comp=Z,0.9nm,1.4s						
SONM	**Songino Array**	**46.49**	**18**	P	**P**	**04 00 15.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=200,slow=8.8,SNR=8.9						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.58**	**353**	P	**P**	**04 00 16.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=175,slow=7.6,SNR=6.3						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**49.43**	**359**	P	**P**	**04 00 36.8**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=108,slow=0.5,SNR=4.5						
	comp=Z,0.9nm,0.6s						
KMBO	**Kilima Mbogo**	**49.66**	**265**	LR	LR	04 19 07.9	
	comp=Z,58nm,19.4s,baz=48,slow=33						
KSRS	**Korea Array**	**50.03**	**43**	LR	LR	04 24 45.4	
	comp=Z,21nm,18.1s,baz=330,slow=40						
WB0	**Warramunga Arr**	**52.70**	**119**	P	**P**	**04 01 02.4**	**-0.5**
WB0				IAmb	IAmb	04 01 07.6	
	comp=Z,6.1nm,1.2s						
WRA	**Warramunga Arr**	**52.72**	**119**	P	**P**	**04 01 02.5**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=296,slow=8.4,SNR=4.5						
	comp=Z,1.6nm,0.9s						
WRAB	**Tennant Creek**	**52.72**	**119**	P	**P**	**04 01 00.6**	**-2.4**
WRAB				IAmb	IAmb	04 01 04.2	
	comp=Z,12nm,1.2s						
ASAR	**Alice Springs**	**53.82**	**123**	P	**P**	**04 01 10.8**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=300,slow=7.1,SNR=7.7						
	comp=Z,1.4nm,0.9s						
EIL	**Elat**	**54.89**	**303**	LR	LR	04 25 00.6	
	comp=Z,88nm,18.8s,baz=65,slow=36						
KLR	**Kul'dur**	**58.75**	**33**	LR	LR	04 28 32.6	
	comp=Z,105nm,18.1s,baz=324,slow=38						
BRTR	**Keskin Array B**	**59.27**	**314**	P	**P**	**04 01 51.6**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=133,slow=5.8,SNR=1.7						
	comp=Z,0.2nm,0.4s						
MLR	**Muntele Rosu**	**66.60**	**318**	P	**P**	**04 02 37.8**	**-0.8**
TIP	**Timpagrande**	**71.69**	**310**	P	**P**	**04 03 10.3**	**+0.1**
FINES	**FINESS Array B**	**72.42**	**334**	P	**P**	**04 03 13.9**	**-0.1**
FINES	**FINESS Array B**	**72.42**	**334**	P	**P**	**04 03 15.2**	**+1.2**
	comp=Z,7.8nm,1.1s,baz=103,slow=3.0,SNR=3.4						
	comp=Z,7.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**84.12**	**283**	P	**P**	**04 04 18.0**	**-1.7**
TORD				IAmb	IAmb	04 04 19.8	
	comp=Z,3.7nm,1.5s						

*IDC **16** 04:05:17.0±1.6,2˚.97S×127˚.48E,h0km,mb4.1/3, mbtmp4.2/4,ML4.1/1,Error ellipse: s-maj=139.9km s-min=23.0km az=67.0*
*DJA **16** 04:05:25.9±0.3,3˚.5S×127˚.7E±˚,h38km±6km,M4.3/16, mb4.3/8,mB5.1/1,MLv4.2/16,Mw(mB)4.5/1*

ISC 16 04:05:24.6±0.9,3˚.56S±0˚.07×126˚.65E±0˚.05,h35km,n17, σ1^{s}65/21,mb4.0/3,Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.55**	**55**	P	**Pn**	**04 05 36.7**	**+0.8**
NLAI				S	**Sn**	**04 05 46.1**	**+2.3**
SANI	**Sanana**	**1.64**	**336**	P	**Pn**	**04 05 51.4**	**+0.5**
SANI				S	**Sn**	**04 06 10.2**	**-0.5**
KRAI	**Karang Ratu**	**1.75**	**82**	P	**Pn**	**04 05 52.0**	**-0.5**
LBMI	**Labuha**	**3.02**	**16**	P	**Pn**	**04 06 10.9**	**+1.0**
LBMI				S	**Sn**	**04 06 45.6**	**+0.7**
BNDI	**Bandanaira**	**3.38**	**107**	P	**Pn**	**04 06 15.8**	**+0.9**
LUWI	**Luwuk**	**4.61**	**303**	P	**Pn**	**04 06 33.0**	**+1.2**
LUWI				S	**Sn**	**04 07 24.8**	**+0.6**
KMSI	**Cibinong**	**4.90**	**327**	P	**Pn**	**04 06 37.3**	**+1.6**
SWI	**Sorong**	**5.32**	**60**	P	**Pn**	**04 06 42.9**	**+1.3**
	66nm,0.6s,0.3nm						
SIJI	**Sorong**	**5.33**	**60**	P	**Pn**	**04 06 42.0**	**+0.3**
	41nm,0.6s,2µm0.3nm						
FAKI	**Fak Fak**	**5.62**	**84**	P	**Pn**	**04 06 46.5**	**+0.8**
	34nm,1.2s,0.2nm						
SOEI	**Soe**	**6.60**	**201**	P	**Pn**	**04 07 02.1**	**+2.8**
	20nm,1.3s,0.2nm						
BKSI	**Bulukumba**	**6.74**	**255**	P	**Pn**	**04 07 03.9**	**+2.8**
	27nm,0.8s,0.1nm						
EDFI	**Ende, Flores**	**7.14**	**223**	P	**Pn**	**04 07 09.1**	**+2.4**
WRA	**Warramunga Arr**	**17.93**	**156**	P	**Pn**	**04 09 31.1**	**-0.1**
	0.6nm,0.3s,baz=337,slow=11,SNR=26						
	6.8nm,0.7s						
ASAR	**Alice Springs**	**21.18**	**161**	P	**P**	**04 10 06.5**	**-0.6**
	2.5nm,0.4s,baz=344,slow=12,SNR=24						
	2.5nm,0.4s						
MKAR	**Makanchi Array**	**63.54**	**328**	P	**P**	**04 15 49.5**	**-2.1**
	0.7nm,0.6s,baz=131,slow=8.4,SNR=8.7						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**67.86**	**329**	P	**P**	**04 16 16.7**	**-2.6**
	1.4nm,0.3s,baz=139,slow=5.7,SNR=5.1						
	1.4nm,0.3s						

IDC 16 04:06:46.9±9.8,4˚.96S×153˚.64E,h70km±73km,mb3.2/3, mbtmp3.7/4,ML2.2/1,Error ellipse: s-maj=73.9km s-min=64.0km az=134.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.80**	**235**	P	Pn	04 08 37.6	-0.1
	2.1nm,0.3s,baz=300,slow=16,SNR=1.8						
PMG				S	Sn	04 10 06.0	+1.4
	7.2nm,0.4s,baz=219,slow=17,SNR=1.8						
	5.7nm,0.3s						
WRA	**Warramunga Arr**	**23.97**	**230**	P	P	04 11 55.2	+0.1
	0.8nm,0.8s,baz=55,slow=9.0,SNR=3.3						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**26.60**	**224**	P	P	04 12 18.3	-0.7
	0.3nm,0.7s,baz=54,slow=9.1,SNR=2.1						
	0.3nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**26.62**	**29**	T	T	04 41 07.8	
	baz=208						
H11S2	**WAKE ISLAND Hy**	**26.63**	**29**	T	T	04 40 56.3	
	baz=208						
H11S1	**WAKE ISLAND Hy**	**26.64**	**29**	T	T	04 41 03.4	
	baz=208						
QSPA	**South Pole Qui**	**85.00**	**180**	P	P	04 19 14.8	+0.2
	0.6nm,0.6s,baz=237,slow=0.4,SNR=5.8						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**151.15**	**288**	PKPbc	PKPbc	04 26 33.2	-0.2
	0.2nm,0.3s,baz=92,slow=3.0,SNR=2.9						

*WEL **16** 04:15:51.9±1.8,46˚.S±6˚×16˚.6E±1˚.0,h18km±5km,M3.6/5, ML3.9/5,MLv3.6/5,Error ellipse: s-maj=0.0km s-min=0.0km az=88.2,confirmed*
*NOU **16** 04:15:56.0,46˚.00S×166˚.85E,h0km,MLv3.9/6,Off W. Coast of S. Island, N.Z.*

ISC 16 04:15:54.8±2.1,46˚.12S±0˚.05×166˚.5E±0˚.1,h29km±8km, n35,σ1^{s}16/42,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.16**	**108**	P	**Pb**	**04 15 59.9**	**-0.6**
PYZ	**Puysegur Point**	**0.16**	**108**	P	**Pb**	**04 15 59.8**	**-0.6**
PYZ				S	**Sb**	**04 16 05.2**	**+0.9**
RRKS	**Rarakau**	**0.70**	**93**	P	**Pb**	**04 16 08.1**	**-0.4**
DCZ	**Deep Cove**	**0.81**	**37**	P	**Pb**	**04 16 08.0**	**-2.3**
DCZ				S	**Sb**	**04 16 19.2**	**-1.7**
ORPS	**Orepuki**	**0.92**	**101**	P	**Pb**	**04 16 11.3**	**-0.8**
WHZ	**Wether Hill Ro**	**1.06**	**78**	P	**Pn**	**04 16 13.7**	**-0.1**
WHZ				S	**Sn**	**04 16 29.4**	**+1.9**
APZ	**The Paps**	**1.27**	**125**	P	**Pn**	**04 16 16.1**	**-0.7**
APZ				S	**Sn**	**04 16 33.1**	**+0.2**
MLZ	**Mavora Lakes**	**1.38**	**58**	P	**Pn**	**04 16 18.9**	**+0.7**
MLZ				S	**Sb**	**04 16 38.7**	**+1.5**
MSZ	**Milford Sound**	**1.77**	**36**	P	**Pb**	**04 16 25.8**	**-0.8**
SYZ	**Scrubby Hill**	**1.90**	**104**	P	**Pn**	**04 16 26.2**	**+0.9**
SYZ	**Scrubby Hill**	**1.90**	**104**	P	**Pn**	**04 16 26.0**	**+0.7**
SYZ				S	**Sb**	**04 16 50.3**	**-1.8**
EAZ	**Earnscleugh**	**2.18**	**67**	P	**Pn**	**04 16 31.2**	**+2.0**
EAZ				S	**Sb**	**04 16 59.4**	**-0.8**
TUZ	**Tuapeka**	**2.21**	**87**	P	**Pn**	**04 16 31.0**	**+1.5**
WKZ	**Wanaka**	**2.21**	**55**	P	**Pn**	**04 16 31.7**	**+2.1**
JCZ	**Jackson Bay**	**2.62**	**40**	P	**Pn**	**04 16 36.4**	**+1.1**
JCZ	**Jackson Bay**	**2.62**	**40**	P	**Pn**	**04 16 36.8**	**+1.5**
HHSZ	**Highcliff Hill**	**2.89**	**87**	P	**Pn**	**04 16 40.4**	**+1.5**
ODZ	**Otahua Downs**	**3.13**	**71**	P	**Pn**	**04 16 42.1**	**0.0**
ODZ	**Otahua Downs**	**3.13**	**71**	P	**Pn**	**04 16 42.3**	**+0.2**
LBZ	**Lake Benmore**	**3.15**	**58**	P	**Pn**	**04 16 43.0**	**+0.6**
FOZ	**Fox Glacier**	**3.52**	**44**	P	**Pn**	**04 16 47.8**	**+0.3**
TMZ	**Timaru**	**3.65**	**63**	P	**Pn**	**04 16 49.6**	**+0.3**
ARCZ	**Arundel**	**3.98**	**59**	P	**Pn**	**04 16 53.6**	**-0.4**
RPZ	**Rata Peaks**	**4.05**	**55**	P	**Pn**	**04 16 54.6**	**-0.3**
RPZ	**Rata Peaks**	**4.05**	**55**	P	**Pn**	**04 16 54.6**	**-0.3**
WVZ	**Waitaha Valley**	**4.31**	**47**	P	**Pn**	**04 16 59.9**	**+1.5**
MHCZ	**Mount Hutt**	**4.46**	**56**	P	**Pn**	**04 17 00.6**	**+0.1**
OXZ	**Oxford**	**4.86**	**57**	P	**Pn**	**04 17 04.8**	**-1.2**
INZ	**Inchbonnie**	**4.92**	**48**	P	**Pn**	**04 17 08.7**	**+1.9**
MQZ	**McQueen's Vall**	**5.02**	**63**	P	**Pn**	**04 17 08.0**	**0.0**
LTZ	**Lake Taylor**	**5.33**	**53**	P	**Pn**	**04 17 14.1**	**+0.3**
DSZ	**Dennison Nort**	**5.83**	**43**	P	**Pn**	**04 17 19.6**	**+0.3**
MRNZ	**Matariki Terra**	**6.56**	**46**	P	**Pn**	**04 17 31.0**	**+1.7**
QRZ	**Quartz Range**	**6.89**	**42**	P	**Pn**	**04 17 34.3**	**+0.5**
QRZ	**Quartz Range**	**6.89**	**42**	P	**Pn**	**04 17 34.2**	**+0.4**

*IDC **16** 04:22:45.6±1.0,17˚.29N×83˚.31W,h0km,mb3.6/8, mbtmp3.6/9,ML2.9/1,MS3.5/5,Error ellipse: s-maj=45.2km s-min=17.4km az=49.0*
*SSNC **16** 04:22:52.6±1.7,17˚.76N×82˚.90W,h0km±26km,MD4.1, ML3.1*

ISC 16 04:22:47.5±0.6,17˚.49N±0˚.06×83˚.05W±0˚.06,h10km,n34, σ1^{s}87/30,mb3.7/8,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	**Frank Sound, G**	**2.53**	**44**	*eP*	**Pn**	**04 23 27.7**	**-1.0**
FSCY				*eS*	**Sn**	**04 23 54.8**	**-4.9**
FSCY				IAML		04 23 59.5	
	comp=N,81nm,0.1s						
FSCY				IAML		04 23 59.6	
	comp=E,126nm,0.2s						
SOR	**Soroa**	**5.27**	**0**	*eP*	**Pn**	**04 24 06.9**	**+0.5**
MTDJ	**Mount Denham**	**5.30**	**81**	*eP*	**Pn**	**04 24 08.4**	**+1.5**
MTDJ				*eS*	**Sn**	**04 25 06.3**	**-1.8**
MTDJ				IAML		04 25 12.6	
	comp=E,28nm,0.3s						
MTDJ				IAML		04 25 14.0	
	comp=E,41nm,0.2s						
TGUH	**Tegucigalpa,Un**	**5.31**	**231**	*eP*	**Pn**	**04 24 11.3**	**+4.3**
TEIG	**Tepich**	**5.65**	**300**	Pn	Pn	04 24 07.8	-3.8
	comp=E,61nm,0.3s,baz=353,slow=0.5,SNR=47						
TEIG				Sn	Sn	04 25 05.8	-11
	comp=E,36nm,0.3s,baz=314,slow=23,SNR=1.9						
TEIG				LR	LR	04 26 21.5	
	comp=E,963nm,18.1s,baz=188,slow=39						
TEIG	**Tepich**	**5.65**	**300**	*eP*	Pn	04 24 07.5	-4.0
CAMR	**Camarioca**	**5.76**	**16**	*eP*	**Pn**	**04 24 14.9**	**+1.8**
ACON	**Acoyapa**	**5.86**	**201**	*eP*	**Pn**	**04 24 13.7**	**-0.8**
PILO	**Pilon**

σ0ˢ85/22, **mb3.9**/13, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.34**	**152**	Pn	**Pn**	**04 25 10.2**	**-0.6**
WB0	**Warramunga Arr**	**23.86**	**161**	P	**P**	**04 29 44.6**	**-0.5**
WB0				IAmb	IAmb	04 29 47.7	
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**24.00**	**161**	P	**P**	**04 29 45.8**	**-0.6**
WRA	**Warramunga Arr**	**24.00**	**161**	P	**P**	**04 29 48.0**	**+1.5**
	comp=Z,1.9nm,0.6s,baz=338,slow=11,SNR=13						
	comp=Z,1.9nm,0.6s						
WB2	**Warramunga Arr**	**24.01**	**161**	P	**P**	**04 29 45.7**	**-0.7**
WB2				IAmb	IAmb	04 29 49.7	
	comp=Z,3.4nm,0.8s						
WR0	**Warramunga Arr**	**24.09**	**161**	P	**P**	**04 29 48.4**	**+1.2**
ASAR	**Alice Springs**	**27.39**	**165**	P	**P**	**04 30 18.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=351,slow=7.2,SNR=6.8						
	comp=Z,0.4nm,0.6s						
BBOO	**Buckleboo**	**36.67**	**166**	P	**P**	**04 31 40.3**	**+2.0**
BBOO				IAmb	IAmb	04 31 42.7	
	comp=Z,11nm,1.1s						
EIDS	**Eidsvold**	**36.96**	**141**	P	**P**	**04 31 40.1**	**-0.7**
EIDS				IAmb	IAmb	04 31 41.9	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**37.49**	**158**	P	**P**	**04 31 45.3**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=336,slow=12,SNR=4.4						
STKA				LR	LR	04 50 16.2	
	comp=Z,86nm,18.4s,baz=207,slow=41						
	comp=Z,2.4nm,0.7s						
SONM	**Songino Array**	**47.98**	**342**	P	**P**	**04 33 10.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=157,slow=7.8,SNR=1.6						
	comp=Z,0.1nm,0.3s						
KAAM	**Kaadhehdhoo**	**53.30**	**268**	P	**P**	**04 33 50.4**	**-0.5**
MK31	**Makanchi Array**	**58.01**	**326**	P	**P**	**04 34 23.5**	**-0.6**
MK31				IAmb	IAmb	04 34 28.2	
	comp=Z,1.3nm,1.1s						
MKAR	**Makanchi Array**	**58.01**	**326**	P	**P**	**04 34 23.6**	**-0.6**
MKAR	**Makanchi Array**	**58.01**	**326**	P	**P**	**04 34 24.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=118,slow=7.4,SNR=12						
	comp=Z,0.5nm,0.5s						
LBZ	**Lake Benmore**	**61.23**	**145**	P	**P**	**04 34 45.9**	**-0.4**
KURBB	**Kurchatov Arra**	**62.23**	**328**	P	**P**	**04 34 52.8**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=125,slow=6.6,SNR=5.4						
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**62.23**	**328**	P	**P**	**04 34 52.8**	**-0.2**
KURK				IAmb	IAmb	04 34 54.1	
	comp=Z,1.6nm,0.6s						
BVAR	**Borovoye Array**	**67.80**	**327**	P	**P**	**04 35 29.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=108,slow=7.2,SNR=2.6						
	comp=Z,0.5nm,0.6s						
ATKA	**Atka Island**	**69.47**	**35**	P	**P**	**04 35 39.9**	**+0.4**
ABKAR	**Akbulak array**	**72.53**	**321**	P	**P**	**04 35 58.1**	**-0.1**
ABKAR	**Akbulak array**	**72.53**	**321**	P	**P**	**04 35 57.6**	**-0.6**
ABKAR				IAmb	IAmb	04 35 59.0	
	comp=Z,0.6nm,0.6s						

IDC ***16*** *04:25:31.9±0.8,33°.81N×45°.64E, h0ᵏᵐ, mb4.0/18, mbtmp3.9/25, ML3.7/7, Error ellipse: s-maj=16.6km s-min=12.5km az=169.0*

TEH ***16*** *04:25:33.4, 33°.78N×45°.72E, h8ᵏᵐ±78ᵏᵐ, ML3.7*

ISN ***16*** *04:25:33.8±1.1, 33°.81N×45°.77E, h12ᵏᵐ±5ᵏᵐ, ML3.9*

AFAD ***16*** *04:25:42.0±0.0, 33°.97N×45°.04E, h35ᵏᵐ, MW3.9*

ISC 16 04:25:33.4±0.5, 33°.82N±0°.03×45°.72E±0°.03, h10ᵏᵐ, n74, σ1ˢ80/81, mb4.1/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.45**	**116**	Pg	**Pg**	**04 25 42.1**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.69**	**351**	Pg	**Pg**	**04 25 47.8**	**+1.0**
IBDR	**Badra**	**0.73**	**166**	*e*Pg	**Pb**	**04 25 48.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**04 25 57.3**	**-1.0**
IGHG	**Ghaleghazi**	**0.87**	**54**	Pg	**Pb**	**04 25 51.3**	**+0.6**
IDHR	**Dehrash**	**1.04**	**32**	Pg	**Pg**	**04 25 53.9**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.19**	**67**	Pg	**Pg**	**04 25 56.7**	**+0.4**
BHD	**Baghdad**	**1.25**	**244**	*e*Pg	**Pg**	**04 25 58.5**	**+1.2**
BHD				*e*Sg	**Sn**	**04 26 16.0**	**+2.4**
BHD				AML	AML	04 26 21.8	
	comp=E,2μm,0.5s						
ILIN	**Lien**	**1.50**	**43**	Pg	**Pg**	**04 26 03.0**	**+0.7**
IKOM	**Komasi**	**1.53**	**76**	Pg	**Pg**	**04 26 02.7**	**-0.1**
IKFM	**Kafar-mosalman**	**1.80**	**99**	Pg	**Pb**	**04 26 06.9**	**+0.4**
IBZA	**Bozab**	**1.89**	**69**	Pn	**Pb**	**04 26 08.3**	**+0.1**
RAFI	**Al-Rafai**	**2.12**	**171**	*e*Pn	**Pb**	**04 26 10.0**	**-1.9**
RAFI				*e*Sn	**Sb**	**04 26 38.0**	**-0.2**
IALM	**Almabolaq**	**2.28**	**62**	Pn	**Pb**	**04 26 14.1**	**-0.6**
HSAM	**Samen**	**2.43**	**80**	Pn	**Pn**	**04 26 15.2**	**+1.8**
MAHB	**Mahabad**	**2.94**	**360**	Pn	**Pn**	**04 26 23.5**	**+3.3**
HAGD	**Aghdareh**	**3.00**	**70**	Pn	**Pn**	**04 26 23.7**	**+2.4**
IHSH	**Hashtrud**	**3.70**	**20**	Pn	**Pn**	**04 26 33.3**	**+2.4**
IRAZ	**Razeghan**	**3.82**	**64**	Pn	**Pn**	**04 26 35.0**	**+2.6**
CUKT	**Cukurca**	**3.83**	**334**	P	**Pn**	**04 26 34.3**	**+1.9**
IAZR	**Azarshahr**	**3.85**	**3**	Pn	**Pn**	**04 26 35.9**	**+2.9**
YOVA	**Hakkari_Yksek**	**3.93**	**343**	P	**Pn**	**04 26 32.7**	**-1.3**
HAKT	**HAKKARI**	**4.07**	**337**	P	**Pb**	**04 26 42.5**	**-2.8**
HAKT				S	**Sn**	**04 27 21.0**	**-2.7**
ISRB	**Sarab**	**4.30**	**21**	Pn	**Pn**	**04 26 41.4**	**+2.4**
JHBN	**Jahan bin**	**4.45**	**110**	Pn	**Pn**	**04 26 42.2**	**+1.0**
ISHB	**Shabestar**	**4.45**	**359**	Pn	**Pn**	**04 26 42.5**	**+1.4**
IQOM	**Qom**	**4.54**	**76**	Pn	**Pn**	**04 26 43.9**	**+1.5**
IHRS	**Heris**	**4.61**	**13**	Pn	**Pn**	**04 26 45.4**	**+2.0**
ZNGN	**Zangian**	**4.64**	**110**	Pn	**Pn**	**04 26 44.7**	**+0.8**
QAMS	**Qamsar**	**4.73**	**89**	Pn	**Pn**	**04 26 47.1**	**+2.1**
PERV	**Siirt/Pervari-**	**4.86**	**329**	P	**Pn**	**04 26 47.4**	**+0.8**
IMRD	**Marand**	**4.88**	**360**	Pn	**Pn**	**04 26 49.6**	**+2.6**
IKLH	**Kolahrood**	**4.92**	**94**	Pn	**Pn**	**04 26 49.3**	**+1.7**
GEVA	**Gevas**	**4.97**	**335**	P	**Pn**	**04 26 46.6**	**-1.6**
MIDY	**Mardin/Midyat-**	**5.01**	**317**	P	**Pn**	**04 26 49.1**	**+0.3**
IVRN	**Varamin**	**5.11**	**75**	Pn	**Pn**	**04 26 51.2**	**+1.2**
KLST	**Kelardasht - M**	**5.14**	**57**	Pn	**Pn**	**04 26 53.0**	**+2.3**
GRMI	**Germi**	**5.28**	**19**	Pn	**Pn**	**04 26 55.1**	**+2.7**
MARD	**Mardin**	**5.32**	**312**	P	**Pn**	**04 26 53.2**	**+0.2**
MARD				S	**Sn**	**04 27 47.3**	**-7.2**
MARD				*i* AML	AML	04 28 31.0	
	comp=E,140nm,0.6s						
KRSH	**Karshahi**	**5.34**	**87**	Pn	**Pn**	**04 26 54.9**	**+1.6**
ISFB	**Sefidab**	**5.44**	**83**	Pn	**Pn**	**04 26 55.2**	**+0.6**
IDMV	**Damavand**	**5.49**	**70**	Pn	**Pn**	**04 26 56.8**	**+1.4**
IGAR	**Gharneh**	**5.49**	**103**	Pn	**Pn**	**04 26 57.7**	**+2.2**
MAKU	**Maku**	**5.58**	**352**	Pn	**Pn**	**04 26 59.3**	**+2.6**
IZEF	**Zefreh**	**5.61**	**98**	Pn	**Pn**	**04 26 58.7**	**+1.6**
KLNJ	**Kolanjah**	**5.71**	**118**	Pn	**Pn**	**04 26 59.3**	**+0.8**
MUSM	**Mu-Merkez**	**5.95**	**326**	P	**Pn**	**04 26 58.9**	**-2.8**
MUSM				S	**Sn**	**04 28 07.8**	**-2.3**
IRAM	**Ramesheh**	**5.96**	**108**	Pn	**Pn**	**04 27 02.6**	**+0.8**
IFIR	**Firoozkooh**	**6.07**	**71**	Pn	**Pn**	**04 27 05.5**	**+2.0**
GNI	**Garni**	**6.36**	**353**	Pg	**Pb**	**04 27 28.1**	**+3.8**
	comp=E,0.6nm,0.3s,baz=151,slow=21,SNR=2.1						
GNI				Lg	Lg	04 28 55.6	
	comp=E,0.3nm,0.3s,baz=107,slow=19,SNR=1.7						
ASF	**Jabal al Asfar**	**7.59**	**260**	Pn	**Pn**	**04 27 23.4**	**-0.7**
	comp=E,0.5nm,0.3s,baz=59,slow=23,SNR=3.6						
ASF				Pg	**Pg**	**04 27 48.8**	**+3.6**
	comp=E,0.9nm,0.3s,baz=59,slow=19,SNR=2.7						
ASF				Lg	Lg	04 29 36.6	
	comp=E,1.2nm,0.3s,baz=348,slow=14,SNR=4.8						
	comp=E,2.0nm,0.5s						
MMAI	**Mount Meron Ar**	**8.66**	**268**	Pn	**Pn**	**04 27 37.9**	**-0.9**
	comp=E,0.7nm,0.3s,baz=79,slow=18,SNR=1.3						
MMAI				Lg	Lg	04 30 12.4	
	comp=E,2.3nm,0.3s,baz=103,slow=38,SNR=1.9						
	comp=E,0.4nm,0.3s						
EIL	**Elat**	**10.05**	**249**	Pn	**Pn**	**04 27 57.0**	**-0.9**
	comp=E,0.4nm,0.3s,baz=250,slow=11,SNR=1.8						
EIL				Lg	Lg	04 30 49.8	
	comp=E,0.3nm,0.3s,baz=5.7,slow=23,SNR=1.6						
	comp=E,2.3nm,0.6s						
WSAR	**Wadi Sarin**	**15.48**	**130**	Pn	**Pn**	**04 29 10.3**	**-1.5**
	comp=E,0.3nm,0.3s,baz=36,slow=12,SNR=2.1						
WSAR				Sn	Sn	04 31 50.8	-13
	comp=E,0.1nm,0.3s,baz=142,slow=11,SNR=1.1						
	comp=E,2.6nm,0.5s						
BELG	**Belogornoye**	**18.61**	**4**	P	**P**	**04 29 50.0**	**-0.7**
	comp=E,1.6nm,0.3s,baz=48,slow=2.7,SNR=7.6						
	comp=E,2.2nm,0.5s						
AKTO	**Aktyubinsk**	**18.90**	**25**	P	**P**	**04 29 54.5**	**+0.5**
	comp=E,0.3nm,0.3s,baz=208,slow=6.4,SNR=5.5						
	comp=E,1.5nm,0.6s						
MLR	**Muntele Rosu**	**19.11**	**313**	P	**P**	**04 29 56.9**	**+0.4**
	baz=285,slow=19,SNR=1.1						
	comp=E,0.8nm,0.7s						
AKASG	**Malin Array Be**	**20.74**	**329**	P	**P**	**04 30 13.8**	**-0.2**
	comp=E,0.6nm,0.3s,baz=139,slow=10,SNR=7.7						
	comp=E,0.6nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**26.04**	**35**	P	**P**	**04 31 07.4**	**+0.8**
	comp=E,1.7nm,0.6s,baz=231,slow=8.6,SNR=12						
	comp=E,1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**29.22**	**45**	P	**P**	**04 31 36.4**	**+1.3**
	comp=E,0.8nm,0.7s,baz=250,slow=9.0,SNR=6.2						
	comp=E,0.8nm,0.7s						
FINES	**FINESS Array B**	**30.39**	**341**	P	**P**	**04 31 44.7**	**-0.6**
	comp=E,3.0nm,0.9s,baz=150,slow=9.6,SNR=7.2						
	comp=E,3.0nm,0.9s						
MKAR	**Makanchi Array**	**30.47**	**54**	P	**P**	**04 31 47.0**	**+0.7**
	comp=E,2.9nm,0.4s,baz=252,slow=11,SNR=64						
	comp=E,2.9nm,0.4s						
HFS	**Hagfors**	**33.60**	**331**	P	**P**	**04 32 13.3**	**-0.2**
	comp=E,2.1nm,0.4s,baz=132,slow=10,SNR=25						
	comp=E,2.1nm,0.4s						
ZALV	**Zalesovo Beam**	**34.03**	**42**	P	**P**	**04 32 16.4**	**-0.9**
	comp=E,0.9nm,0.3s,baz=265,slow=9.3,SNR=4.4						
	comp=E,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**37.49**	**348**	P	**P**	**04 32 47.0**	**+0.1**
	comp=E,3.4nm,1.0s,baz=160,slow=8.2,SNR=1.6						
	comp=E,3.4nm,1.0s						
ESDC	**Sonseca Array**	**39.82**	**293**	P	**P**	**04 33 06.3**	**-0.6**
	comp=E,0.2nm,0.4s,baz=79,slow=8.6,SNR=1.6						
	comp=E,0.2nm,0.4s						
EKA	**Eskdalemuir Ar**	**39.87**	**318**	P	**P**	**04 33 06.9**	**-0.1**
	comp=E,1.0nm,0.7s,baz=104,slow=8.8,SNR=1.9						
	comp=E,1.0nm,0.7s						
PALK	**Pallekele**	**41.73**	**121**	P	**P**	**04 33 23.8**	**+1.0**
	comp=E,1.9nm,0.3s,baz=265,slow=14,SNR=1.5						
	comp=E,1.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**44.90**	**254**	P	**P**	**04 33 47.8**	**-0.6**
	comp=E,0.5nm,0.5s,baz=58,slow=6.2,SNR=14						
	comp=E,0.5nm,0.5s						
SPITS	**Spitsbergen Ar**	**46.23**	**352**	P	**P**	**04 33 57.8**	**-0.4**
	comp=E,18nm,1.1s,baz=135,slow=9.5,SNR=5.1						
	comp=E,18nm,1.1s						
SONM	**Songino Array**	**46.84**	**54**	P	**P**	**04 34 04.0**	**+0.5**
	comp=E,0.4nm,0.4s,baz=281,slow=9.3,SNR=5.1						
	comp=E,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.65**	**94**	P	**P**	**04 34 26.2**	**+0.8**
	comp=E,1.4nm,0.3s,baz=291,slow=8.4,SNR=1.8						
	comp=E,1.4nm,0.3s						
KSRS	**Korea Array**	**64.83**	**61**	P	**P**	**04 36 13.6**	**+1.1**
	comp=E,0.8nm,0.4s,baz=289,slow=7.3,SNR=2.5						
	comp=E,0.8nm,0.4s						
ILAR	**Eielson Array**	**81.23**	**5**	P	**P**	**04 37 49.2**	**0.0**
	comp=E,0.1nm,0.6s,baz=325,slow=4.4,SNR=2.3						
	comp=E,0.1nm,0.6s						
YKA	**Yellowknife Ar**	**82.72**	**351**	P	**P**	**04 37 56.0**	**-1.0**
	comp=E,0.1nm,0.4s,baz=19,slow=5.9,SNR=2.0						
	comp=E,0.1nm,0.4s						

IDC 16 04:32:16.6±1.1, 18°.79S×65°.63E, h0ᵏᵐ, mb3.8/9, mbtmp3.8/9, MS3.6/8, Error ellipse: s-maj=37.0km s-min=24.3km az=58.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**12.92**	**32**	T	T	04 48 45.0	
	baz=210,slow=75,SNR=57						
H08S2	**Diego Garcia H**	**12.93**	**32**	T	T	04 49 10.6	
	baz=210,slow=75,SNR=33						
H08S3	**Diego Garcia H**	**12.94**	**32**	T	T	04 48 43.0	
	baz=210,slow=75,SNR=115						
H04N2	**CROZET ISLANDS**	**29.59**	**200**	T	T	05 09 19.3	
	baz=28,slow=75,SNR=115						
H04N1	**CROZET ISLANDS**	**29.60**	**200**	T	T	05 09 20.4	
	baz=28,slow=75,SNR=114						
H04N3	**CROZET ISLANDS**	**29.61**	**200**	T	T	05 09 18.2	
	baz=28,slow=75,SNR=108						
PALK	**Pallekele**	**29.86**	**31**	LR	LR	04 47 55.9	
	comp=Z,88nm,18.9s,baz=94,slow=32						
KMBO	**Kilima Mbogo**	**32.90**	**299**	LR	LR	04 49 28.9	
	comp=Z,82nm,19.7s,baz=84,slow=31						
LSZ	**Lusaka**	**35.93**	**270**	LR	LR	04 50 59.6	
	comp=Z,103nm,18.4s,baz=20,slow=31						
LBTB	**Lobatse**	**37.55**	**253**	LR	LR	04 52 38.0	
	comp=Z,125nm,18.7s,baz=72,slow=32						
BOSA	**Boshof**	**38.08**	**247**	LR	LR	04 53 16.2	
	comp=Z,82nm,18.2s,baz=26,slow=33						
SUR	**Sutherland**	**42.33**	**242**	LR	LR	04 55 55.3	
	comp=Z,95nm,19.8s,baz=22,slow=34						
CMAR	**Chiang Mai Arr**	**49.41**	**43**	LR	LR	05 00 24.5	
	comp=Z,34nm,18.9s,baz=30,slow=34						
ASAR	**Alice Springs**	**63.30**	**108**	P	P	04 42 48.4	+0.6
	1.8nm,0.7s,baz=276,slow=5.8,SNR=16						
ASAR				LR	LR	05 06 34.4	
	comp=Z,85nm,19.8s,baz=230,slow=32						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**64.39**	**104**	P	P	04 42 54.1	-0.9
	2.5nm,0.8s,baz=261,slow=5.5,SNR=10						
	2.5nm,0.8s						
MKAR	**Makanchi Array**	**66.99**	**12**	P	P	04 43 10.3	-0.9
	0.4nm,1.0s,baz=205,slow=6.4,SNR=1.9						
	0.4nm,1.0s						
KURBB	**Kurchatov Arra**	**70.04**	**9**	P	P	04 43 30.8	+0.7
	0.1nm,0.4s,baz=200,slow=6.4,SNR=1.5						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**70.54**	**292**	P	P	04 43 33.5	-0.5
	0.7nm,0.9s,baz=104,slow=5.0,SNR=1.6						
	0.7nm,0.9s						
QSPA	**South Pole Qui**	**71.31**	**180**	P	P	04 43 38.4	+0.5
	1.9nm,0.9s,baz=266,slow=5.8,SNR=2.7						
	1.9nm,0.9s						
BVAR	**Borovoye Array**	**71.63**	**3**	P	P	04 43 40.4	+0.6
	0.6nm,0.8s,baz=173,slow=3.6,SNR=2.5						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**74.30**	**12**	P	P	04 43 55.3	-0.3
	0.8nm,0.6s,baz=202,slow=3.1,SNR=1.8						
	0.8nm,0.6s						
SONM	**Songino Array**	**75.71**	**27**	P	P	04 44 04.5	+0.5
	0.6nm,0.6s,baz=204,slow=3.3,SNR=4.0						
	0.6nm,0.6s						

IDC ***16*** *04:32:45.4±1.0, 30°.85S×58°.72E, h0ᵏᵐ, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=39.2km s-min=29.1km az=42.0*

NEIC ***16*** *04:32:46.5±1.8, 30°.7S±0°.1×58°.8E±0°.2, h10ᵏᵐ±1ᵏᵐ, mb4.5/14, Error ellipse: s-maj=24.7km s-min=22.4km az=49.0*

ISC 16 04:32:46.4±0.6, 30°.8S±0°.1×58°.7E±0°.1, h10ᵏᵐ, n31, σ1ˢ00/22, mb4.3/13, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**16.31**	**197**	T	T	04 52 37.1	
	baz=22,slow=75,SNR=305						
H04N1	**CROZET ISLANDS**	**16.31**	**197**	T	T	04 52 38.2	
	baz=22,slow=75,SNR=221						
H04N3	**CROZET ISLANDS**	**16.33**	**197**	T	T	04 52 37.1	
	baz=22,slow=75,SNR=314						
H08S1	**Diego Carcia H**	**26.34**	**32**	T	T	05 06 02.4	
	baz=214,slow=76,SNR=3.2						
H08S2	**Diego Garcia H**	**26.35**	**32**	T	T	05 06 03.4	
	baz=214,slow=76,SNR=5.5						
H08S3	**Diego Garcia H**	**26.36**	**32**	T	T	05 06 01.8	
	baz=214,slow=76,SNR=4.3						
BOSA	**Boshof**	**29.11**	**266**	P	**P**	**04 38 47.3**	**-0.2**
BOSA				IAmb	IAmb	04 38 55.4	
	comp=Z,5.5nm,1.1s						
LBTB	**Lobatse**	**29.77**	**273**	P	**P**	**04 38 53.0**	**-0.4**
H01W2	**Cape Leeuwin H**	**46.24**	**110**	T	T	05 30 37.0	
	baz=262						
H01W3	**Cape Leeuwin H**	**46.25**	**110**	T	T	05 30 35.2	
	baz=262						
H01W1	**Cape Leeuwin H**	**46.26**	**110**	T	T	05 30 35.0	
	baz=262						
NWAO	**Narrogin (SRO)**	**49.19**	**109**	P	**P**	**04 41 33.9**	**-0.9**
SNAA	**Sanae**	**52.25**	**201**	P	**P**	**04 41 57.3**	**-0.1**
SNAA				IAmb	IAmb	04 42 04.1	
	comp=Z,3.6nm,1.2s						
QSPA	**South Pole Qui**	**59.42**	**180**	P	**P**	**04 42 49.2**	**+0.3**
QSPA				IAmb	IAmb	04 42 51.8	
	comp=Z,6.7nm,1.3s						
QSPA	**South Pole Qui**	**59.42**	**180**	P	**P**	**04 42 49.0**	**0.0**
	comp=Z,1.3nm,0.9s,baz=265,slow=5.6,SNR=3.7						
	comp=Z,1.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**62.35**	**44**	P	**P**	**04 43 10.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=235,slow=7.6,SNR=1.3						
	comp=Z,0.7nm,0.3s						
ASAR	**Alice Springs**	**66.10**	**104**	P	**P**	**04 43 34.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=238,slow=6.3,SNR=5.5						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**68.05**	**101**	P	**P**	**04 43 47.2**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=243,slow=6.1,SNR=2.3						
	comp=Z,1.3nm,0.8s						
WB2	**Warramunga Arr**	**68.06**	**101**	P	**P**	**04 43 46.2**	**-0.3**
WB2				IAmb	IAmb	04 43 48.8	
	comp=Z,8.2nm,1.4s						
WB0	**Warramunga Arr**	**68.17**	**101**	P	**P**	**04 43 46.7**	**-0.6**
WB0				IAmb	IAmb	04 43 52.3	
	comp=Z,5.3nm,1.4s						
TOA0	**Torodi Ar. Sit**	**70.04**	**300**	P	**P**	**04 43 58.6**	**-0.2**
TOA0				IAmb	IAmb	04 43 59.3	
	comp=Z,3.6nm,1.3s						
TORD	**Torodi Ar. Bea**	**70.04**	**300**	P	**P**	**04 43 59.6**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=111,slow=4.9,SNR=1.4						
	comp=Z,0.2nm,0.4s						
GAZ	**Gaziantep**	**70.51**	**342**	P	**P**	**04 44 02.0**	**+0.7**
BRTR	**Keskin Array B**	**73.89**	**340**	P	**P**	**04 44 22.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=154,slow=5.2,SNR=1.7						
	comp=Z,0.1nm,0.3s						
TARG	**Taragay, Kyrgy**	**74.23**	**15**	P	**P**	**04 44 24.4**	**+0.6**
TARG				IAmb	IAmb	04 44 27.7	
	comp=Z,13nm,1.2s						
KK31	**Karatay Array**	**74.28**	**9**	P	**P**	**04 44 21.7**	**-1.9**
KKAR	**Karatay Array**	**74.28**	**9**	P	**P**	**04 44 21.4**	**-2.1**
KKAR	**Karatay Array**	**74.28**	**9**	P	**P**	**04 44 21.7**	**-1.9**
KKAR				IAmb	IAmb	04 44 24.5	
	comp=Z,2.1nm,0.9s						
PMSA	**Palmer Station**	**74.94**	**202**	P	**P**	**04 44 27.9**	**+0.7**
AGG	**Agios Georgios**	**77.25**	**332**	P	**P**	**04 44 40.4**	**-0.2**
AGG				IAmb	IAmb	04 44 48.9	
	comp=Z,3.9nm,1.2s						
YKA	**Yellowknife Ar**	**147.95**	**354**	PKPbc	**PKiKP**	**04 52 32.4**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=2.1,slow=3.1,SNR=5.1						

NERS ***16*** *04:40:57.1, 63°.53N×171°.58W, h0ᵏᵐ, MPV4.7*

GCMT ***16*** *04:41:01.8±0.2, 63°.16N±0°.01×172°.55W±0°.03, h23ᵏᵐ±1ᵏᵐ, MW5.0/111, Moment Tensor Solution. s36,c42; s111,c155; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.03±.15; Mθθ4.60±.17; Mϕϕ-3.56±.12; Mrθ-0.23±.20; Mθϕ-0.07±.10; Mϕr-0.30±.18; Best double couple: M₀4.10300×10¹⁶ NP1:ϕˢ46.00000°, δ87.00000°, λ-174.00000°. NP2:ϕˢ315.00000°, δ84.00000°, λ-3.00000°. Principal axes: T 4.6100, Plg2.0000°, Azm180.0000°; N -1.0040, Plg83.0000°, Azm71.0000°; P -3.5960, Plg7.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AEIC ***16*** *04:41:01.7±1.7, 63°.14N±0°.04×172°.3W±0°.1, h25ᵏᵐ±4ᵏᵐ Error ellipse: s-maj=8.0km s-min=4.3km az=113.0*

IDC ***16*** *04:41:01.6±0.5, 63°.26N×172°.51W, h0ᵏᵐ, mb4.3/33, mbtmp4.3/38, ML4.5/4, MS4.2/59, Error ellipse: s-maj=15.6km s-min=8.8km az=9.0*

NEIC ***16*** *04:41:02.9±1.5, 63°.13N±0°.04×172°.3W±0°.1, h12ᵏᵐ±4ᵏᵐ, mb4.5/61, mb_Lg4.7/9, ML4.9(AEIC), Error ellipse: s-maj=8.2km s-min=5.7km az=101.0*

MOS ***16*** *04:41:02.0±1.7, 63°.07N×172°.23W, h12ᵏᵐ, mb4.7/35, MS4.2/5, Error ellipse: s-maj=10.7km s-min=6.8km az=93.8*

ISC 16 04:41:03.6±0.6, 63°.15N±0°.04×172°.29W±0°.03, h14ᵏᵐ±3ᵏᵐ, n602, σ1ˢ58/577, mb4.6/106, MS4.3/71, 16C-11D, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**0.68**	**23**		**Pg**	**04 41 15.4**	**-1.3**
GAMB					**Sg**	**04 41 25.3**	**-0.4**
GAMB	**Gambell**	**0.68**	**23**	P	**Pg**	**04 41 15.5**	**-1.3**
	baz=209,SNR=427						
TNA	**Tin City**	**3.07**	**36**		**Pn**	**04 41 49.7**	**-1.9**
TNA					**Sn**	**04 42 29.6**	**+1.6**
TNA	**Tin City**	**3.07**	**36**	P	**Pn**	**04 41 49.8**	**-1.7**

D17K Noatak River 5.96 36 P Pn 04 42 29.9 -1.3
baz=225
M15K Kasigluk River 6.01 109 P Pn 04 42 31.6 -0.2
baz=299,SNR=42
N14K Kuskokwak Cree 6.02 118 Pn 04 42 31.7 -0.3
N14K Kuskokwak Cree 6.02 118 P Pn 04 42 31.2 -0.8
baz=307
SPIA Saint Paul Isl 6.08 169 Pn 04 42 31.6 -1.3
SPIA Saint Paul Isl 6.08 169 P Pn 04 42 31.4 -1.5
baz=351
L16K Owhat River 6.13 98 Pn 04 42 33.0 -0.4
L16K Owhat River 6.13 98 P Pn 04 42 33.1 -0.4
baz=289,SNR=65
K17K Iditarod 6.40 88 Pn 04 42 36.4 -0.9
K17K Iditarod 6.40 88 P Pn 04 42 36.9 -0.4
baz=280
H18K Honhosa River 6.41 66 Pn 04 42 36.9 -0.6
H18K Honhosa River 6.41 66 P Pn 04 42 37.0 -0.4
baz=258,SNR=7.3
G18K Tagagawik 6.49 59 Pn 04 42 37.2 -1.3
G18K Tagagawik 6.49 59 P Pn 04 42 37.8 -0.7
baz=252
E18K Tukpahlearik C 6.50 44 Pn 04 42 37.6 -1.0
E18K Tukpahlearik C 6.50 44 P Pn 04 42 37.7 -1.0
baz=235
C17K DeLong Mountai 6.52 31 Pn 04 42 37.8 -1.1
C17K DeLong Mountai 6.52 31 P Pn 04 42 38.0 -0.9
baz=220
L17K Donlin 6.53 93 Pn 04 42 39.2 +0.1
L17K Donlin 6.53 93 P Pn 04 42 38.9 -0.2
baz=285
N15K Kwethluk River 6.53 112 Pn 04 42 38.6 -0.5
N15K Kwethluk River 6.53 112 P Pn 04 42 38.8 -0.3
baz=302
O14K Tigyukauivet M 6.61 121 Pn 04 42 39.3 -0.8
O14K Tigyukauivet M 6.61 121 P Pn 04 42 39.9 -0.2
baz=311
M16K Timber Creek 6.62 103 Pn 04 42 40.5 +0.3
M16K Timber Creek 6.62 103 P Pn 04 42 40.7 +0.5
baz=295,SNR=26
P08K Saint George I 6.72 167 P Pn 04 42 40.4 -1.2
baz=349
N16K Nishlik Lake 6.95 107 Pn 04 42 44.9 +0.1
N16K Nishlik Lake 6.95 107 P Pn 04 42 45.0 +0.3
baz=298
GCSA Galena City Sc 6.97 70 Pn 04 42 44.5 -0.6
GCSA Galena City Sc 6.97 70 P Pn 04 42 45.0 0.0
baz=264
J18K Innoko River 7.02 81 Pn 04 42 45.4 -0.4
J18K Innoko River 7.02 81 P Pn 04 42 45.7 -0.1
baz=275
C18K Utukok River 7.14 35 Pn 04 42 46.6 -0.8
C18K Utukok River 7.14 35 P Pn 04 42 47.0 -0.4
baz=225
M17K Holitna River 7.15 98 Pn 04 42 47.6 0.0
M17K Holitna River 7.15 98 P Pn 04 42 47.8 +0.3
baz=291
G19K Purcell Mounta 7.18 59 P Pn 04 42 47.3 -0.6
baz=253
O15K Ungalikthiuk R 7.22 118 Pn 04 42 47.6 -0.9
O15K Ungalikthiuk R 7.22 118 P Pn 04 42 48.2 -0.4
baz=309
L18K Granite Mounta 7.24 90 Pn 04 42 48.3 -0.5
L18K Granite Mounta 7.24 90 P Pn 04 42 48.8 +0.1
baz=284
H19K Roundabout Mou 7.28 64 Pn 04 42 48.2 -1.0
H19K Roundabout Mou 7.28 64 P Pn 04 42 48.8 -0.4
baz=258
TTA Tatalina 7.40 84 Pn 04 42 51.1 0.0
TTA Tatalina 7.40 84 P Pn 04 42 51.1 0.0
TTA Tatalina 7.40 84 P Pn 04 42 51.1 0.0
baz=279,SNR=14
J19K Poorman 7.49 76 Pn 04 42 51.8 -0.3
J19K Poorman 7.49 76 P Pn 04 42 52.2 0.0
baz=271
B18K Kokolik River 7.53 30 Pn 04 42 51.7 -1.0
B18K Kokolik River 7.53 30 P Pn 04 42 52.2 -0.4
baz=220
N17K Nushagak Hills 7.61 103 Pn 04 42 54.0 0.0
N17K Nushagak Hills 7.61 103 P Pn 04 42 53.9 0.0
baz=297
E19K Redstone River 7.63 49 P Pn 04 42 54.0 -0.2
baz=243
O16K Kokwok River B 7.69 111 Pn 04 42 54.1 -0.9
O16K Kokwok River B 7.69 111 P Pn 04 42 54.9 -0.1
baz=304
M18K Stony River 7.85 95 Pn 04 42 57.4 +0.4
M18K Stony River 7.85 95 P Pn 04 42 57.1 +0.1
baz=290
C19K Lookout Ridge 7.87 35 Pn 04 42 57.2 -0.2
C19K Lookout Ridge 7.87 35 P Pn 04 42 57.7 +0.2
baz=227
D19K Kuna River 7.90 41 P Pn 04 42 57.7 -0.1
baz=234
H20K Anotleneega Mo 7.91 65 Pn 04 42 55.7 -2.3
H20K Anotleneega Mo 7.91 65 P Pn 04 42 58.3 +0.3
baz=261
F20K Avaraart Lake 8.00 54 P Pn 04 42 59.4 +0.3
baz=249
I20K Naaghedeneel 8.00 70 Pn 04 42 59.0 -0.2
I20K Naaghedeneel 8.00 70 P Pn 04 42 59.1 -0.1
baz=266
O17K Koliganek Bris 8.02 108 Pn 04 42 59.4 -0.1
O17K Koliganek Bris 8.02 108 P Pn 04 42 60.0 +0.5
baz=301,SNR=16
P16K Nushagak River 8.06 114 Pn 04 42 57.3 -2.8
P16K Nushagak River 8.06 114 P Pn 04 43 00.7 +0.6
baz=307
L19K White Mountain 8.08 89 Pn 04 43 00.1 -0.3
L19K White Mountain 8.08 89 P Pn 04 43 00.6 +0.3
baz=285
SVW2 Sparrevohn 8.10 97 Pn 04 42 58.3 -2.3
N18K Kilae Creek 8.12 100 Pn 04 43 01.3 +0.3
N18K Kilae Creek 8.12 100 P Pn 04 43 01.2 +0.3
baz=295
J20K Nowinta River 8.13 75 Pn 04 43 00.3 -0.7
J20K Nowinta River 8.13 75 P Pn 04 43 01.4 +0.5
baz=271,SNR=15
K20K Telida 8.22 80 Pn 04 43 01.7 -0.5
K20K Telida 8.22 80 P Pn 04 43 01.8 -0.5
baz=277
A19K Wainwright 8.35 27 Pn 04 43 02.7 -1.2
A19K Wainwright 8.35 27 P Pn 04 43 03.0 -0.9
baz=218
E20K Nigu River 8.37 45 Pn 04 43 03.7 -0.5
E20K Nigu River 8.37 45 P Pn 04 43 03.9 -0.3
baz=240
M19K Big River Lodg 8.37 91 Pn 04 43 04.6 +0.3
M19K Big River Lodg 8.37 91 P Pn 04 43 04.4 +0.1
baz=286
L20K Farewell, AK 8.46 86 Pn 04 43 04.5 -0.9
L20K Farewell, AK 8.46 86 P Pn 04 43 05.5 0.0
baz=283,SNR=10
IMAR Indian Mountai 8.46 62 Pn 04 43 05.2 -0.3
D20K Etivluk River 8.47 42 Pn 04 43 05.9 +0.2
D20K Etivluk River 8.47 42 P Pn 04 43 05.9 +0.2
baz=237
P17K Kvichak River 8.62 110 Pn 04 43 08.0 +0.4
P17K Kvichak River 8.62 110 P Pn 04 43 07.9 +0.2
baz=304
G21K Allakaket 8.67 59 P Pn 04 43 08.9 +0.5
baz=256
N19K Bonanza Creek 8.70 98 Pn 04 43 08.3 -0.5
N19K Bonanza Creek 8.70 98 P Pn 04 43 09.2 +0.3
baz=293,SNR=5.6
H21K Melozitna River 8.79 65 Pn 04 43 10.5 +0.5
H21K Melozitna Rive 8.79 65 P Pn 04 43 10.3 +0.3
baz=263
O18K Koktuh Hills 8.80 104 Pn 04 43 10.3 +0.1
O18K Koktuh Hills 8.80 104 P Pn 04 43 10.4 +0.1
baz=299,SNR=13
Q16K King Salmon 8.83 113 P Pn 04 43 10.8 +0.3
baz=307
F21K Alatna River 8.88 54 Pn 04 43 10.2 -1.1
F21K Alatna River 8.88 54 P Pn 04 43 11.0 -0.2
baz=252
M20K Styx River 8.95 90 Pn 04 43 13.2 +1.0
M20K Styx River 8.95 90 P Pn 04 43 12.9 +0.7
baz=287
CHUM Lake Minchumin 8.95 76 P Pn 04 43 12.8 +0.7
baz=274
P18K Big Mountain, 9.03 107 Pn 04 43 12.8 -0.6
P18K Big Mountain, 9.03 107 P Pn 04 43 13.4 0.0
baz=302
O19K Port Alsworth 9.04 101 Pn 04 43 13.3 -0.1
baz=297
CAST Castle Rocks 9.10 79 Pn 04 43 14.1 -0.2
CAST Castle Rocks 9.10 79 P Pn 04 43 14.5 +0.2
baz=278,SNR=14
B20K Meade River 9.12 35 Pn 04 43 13.9 -0.5
B20K Meade River 9.12 35 P Pn 04 43 14.2 -0.2
baz=229
PPLA Purkeypile 9.13 83 Pn 04 43 15.1 +0.3
PPLA Purkeypile 9.13 83 P Pn 04 43 15.3 +0.4
baz=281
E21K Killik River 9.18 47 P Pn 04 43 15.5 +0.1
baz=244,SNR=21
C21K Knifeblade Rid 9.27 42 Pn 04 43 17.0 +0.4
C21K Knifeblade Rid 9.27 42 P Pn 04 43 16.7 +0.2
baz=238
SPNN North Nagishla 9.30 92 Pn 04 43 15.7 -1.6
Q17K Contact Creek 9.40 114 P Pn 04 43 18.7 +0.1
baz=308
CNTC Contact Creek 9.40 114 Pn 04 43 18.6 0.0
H22K Ishtalitna Cre 9.40 64 Pn 04 43 15.9 -2.5
H22K Ishtalitna Cre 9.40 64 P Pn 04 43 19.0 +0.6
baz=263
FALS False Pass 9.49 147 P Pn 04 43 19.0 -0.6
baz=334
NCT North Crescent 9.50 97 Pn 04 43 19.8 -0.1
BPAW Bear Paw Mtn. 9.52 75 Pn 04 43 20.1 +0.1
BPAW Bear Paw Mtn. 9.52 75 P Pn 04 43 20.5 +0.5
baz=274,SNR=10
G22K Bettles 9.54 58 P Pn 04 43 21.1 +0.8
baz=257
B21K Ikpikpuk River 9.58 40 Pn 04 43 19.0 -1.8
B21K Ikpikpuk River 9.58 40 P Pn 04 43 21.4 +0.7
baz=236,SNR=14
N20K Mount Spurr 9.58 93 P Pn 04 43 21.8 +0.9
baz=291
SPCP Crater Peak Br 9.59 92 Pn 04 43 18.4 -2.7
KTH Kantishna Hill 9.60 78 Pn 04 43 20.5 -0.7
MLY Manley 9.61 69 Pn 04 43 20.3 -0.9
MLY Manley 9.61 69 P Pn 04 43 20.9 -0.3
baz=269
ANCK Angle Creek 9.61 113 Pn 04 43 20.6 -0.7
SKT Skwentna 9.64 88 Pn 04 43 19.5 -2.3
SKT Skwentna 9.64 88 P Pn 04 43 22.6 +0.9
baz=286,SNR=9.1
STLK Strandline Lak 9.65 91 Pn 04 43 19.9 -2.0
ILSW Iliamna Southw 9.66 101 Pn 04 43 21.6 -0.4
IVE Iliamna Volcan 9.70 100 Pn 04 43 20.4 -2.1
RDT Redoubt 9.73 96 Pn 04 43 22.1 -0.9
P19K Oil Pt 9.78 102 Pn 04 43 23.3 -0.3
P19K Oil Pt 9.78 102 P Pn 04 43 23.8 +0.3
baz=299
D22K Ayikyak River 9.80 46 P Pn 04 43 24.9 +1.1
baz=244
UNV Unalaska Valle 9.81 159 P Pn 04 43 23.5 -0.5
baz=344
O20K Slope Mountain 9.85 99 P Pn 04 43 25.0 +0.5
baz=297
SDPT Sand Point 9.88 137 P Pn 04 43 25.1 +0.2
baz=327
TRF Thorofare Moun 9.89 78 Pn 04 43 22.7 -2.6
TRF Thorofare Moun 9.89 78 P Pn 04 43 25.5 +0.2
baz=278
Q19K Cape Douglas, 9.97 107 P Pn 04 43 26.6 +0.4
baz=303
G23K Bananza Creek 10.07 60 P Pn 04 43 28.4 +0.9
baz=260
BILL Bilibino 10.09 308 Pn 04 43 26.0 -1.8
BILL Bilibino 10.09 308 eP Pn 04 43 26.0 -1.8
BILL Pmax 04 43 31.5
comp=Z,110nm,1.2s
BILL eS Sn 04 45 17.3 -3.4
BILL eSg 04 46 16.8
BILL Sgmax 04 46 31.0
comp=Z,910nm,1.6s
BILL Sgmax 04 46 31.0
comp=Z,340nm,1.2s
CUT Chulitna 10.11 84 P Pn 04 43 27.3 -0.7
baz=284
COLD Coldfoot 10.11 57 P Pn 04 43 28.6 +0.5
baz=257,SNR=15
SUA Susitna One 10.16 90 P Pn 04 43 28.7 -0.1
baz=289
A21K Barrow 10.16 30 P Pn 04 43 27.4 -1.3
baz=224,SNR=12
I23K Minto, Yukon-K 10.19 69 P Pn 04 43 29.1 -0.1
baz=269
B22K Teshekpuk Lake 10.32 38 Pn 04 43 30.7 -0.3
B22K Teshekpuk Lake 10.32 38 P Pn 04 43 30.5 -0.4
baz=235
NEA2 Nenana 10.32 72 P Pn 04 43 30.7 -0.3
baz=273
A22K Sinclair Lake 10.33 33 P Pn 04 43 29.6 -1.4
baz=229
NIKH Nikolski High 10.37 168 P Pn 04 43 29.6 -2.0
baz=351
R18K Karluk 10.44 114 P Pn 04 43 31.3 -1.2
baz=310
MCK McKinley 10.46 76 P Pn 04 43 33.6 +0.7
baz=278,SNR=6.4
RND Reindeer 10.54 78 Pn 04 43 34.4 +0.3
RND Reindeer 10.54 78 P Pn 04 43 34.4 +0.3
E23K Chandalar 10.54 52 P Pn 04 43 34.7 +0.6
baz=253
MDM Murphy Dome 10.67 70 Pn 04 43 36.0 +0.3
WAT1 Susitna Watana 10.78 81 P Pn 04 43 37.7 +0.4
baz=282
H24K Noodor Dome 10.83 65 P Pn 04 43 37.7 -0.3
baz=267
COLA College 10.84 70 Pn 04 43 38.0 0.0
COLA College 10.84 70⇑ eP Pn 04 43 42.8 +4.9
COLA College 10.84 70 P Pn 04 43 37.9 -0.1
baz=272
BRSE Bradley Lake S 10.85 99 P Pn 04 43 40.3 +2.1
baz=298
PMR Palmer 10.85 88 Pn 04 43 40.0 +1.9
PMR Palmer 10.85 88 P Pn 04 43 40.0 +1.9
PMR Palmer 10.85 88 P Pn 04 43 36.9 -1.3
baz=288
C23K Itkillik River 10.88 43 P Pn 04 43 39.0 +0.3
baz=243
E24K Your Creek 10.96 53 P Pn 04 43 41.7 +2.0
baz=255
POKR Poker Plat Res 11.01 69 P Pn 04 43 40.6 +0.3
baz=271
F24K Squaw Lake 11.05 56 P Pn 04 43 42.0 +1.1
baz=258
G24K Hadweenzic Riv 11.07 60 P Pn 04 43 42.5 +1.3
baz=263
KDAK Kodiak Island 11.09 110 Pn Pn 04 43 42.4 +1.0
KDAK Kodiak Island 11.09 110 deP Pn 04 43 44.4 +2.9
KDAK Kodiak Island 11.09 110 P Pn 04 43 43.3 +1.8
baz=307
KDAK Kodiak Island 11.09 110 Pn Pn 04 43 44.0 +2.5
comp=Z,2.5nm,0.3s,baz=2.4,slow=6.4,SNR=48
KDAK Sn Sn 04 45 47.1 +2.0
comp=Z,0.4nm,0.3s,baz=141,slow=22,SNR=1.7
KDAK Lg Lg 04 46 52.9
baz=277,slow=22
comp=Z,9.6nm,0.4s
SML Sawmill 11.14 86 Pn Pn 04 43 44.7 +2.4
SML Sawmill 11.14 86 P Pn 04 43 43.8 +1.5
baz=288
WAT6 Susitna Watana 11.20 82 P Pn 04 43 45.0 +1.8
baz=284,SNR=5.9
HDA Harding Lake 11.25 72 P Pn 04 43 45.7 +2.0
baz=275,SNR=8.9
ILAR Eielson Array 11.25 70 Pn Pn 04 43 42.9 -0.8
comp=Z,0.2nm,0.3s,baz=271,slow=13,SNR=27
ILAR Sn Sn 04 45 45.2 -3.8
comp=Z,0.3nm,0.3s,baz=274,slow=18,SNR=4.2
ILAR Lg Lg 04 46 56.7
baz=279,slow=24
ILAR LR LR 04 47 51.6
comp=Z,328nm,18.9s,baz=276,slow=36
DHY Denali Highway 11.26 79 P Pn 04 43 45.6 +1.7
baz=282,SNR=13
M23K Glacier View 11.42 86 P Pn 04 43 46.9 +0.8
baz=288,SNR=7.0
C24K Franklin Bluff 11.44 45 P Pn 04 43 45.5 -0.6
baz=247
SCM Sheep Creek Mo 11.59 85 P Pn 04 43 49.9 +1.4
baz=288
G25K Bearman Lake 11.62 60 P Pn 04 43 50.7 +2.0
baz=264
PRP Porcupine Dome 11.80 67 P Pn 04 43 52.6 +1.3
baz=271
K24K Donnelly Dome 11.84 75 P Pn 04 43 55.2 +3.5
baz=279,SNR=15
F25K Christian Rive 11.91 56 P Pn 04 43 54.8 +2.1
baz=261
J25K Salcha River, 11.91 71 P Pn 04 43 54.1 +1.3
baz=275,SNR=9.9
E25K Arctic Village 12.03 54 P Pn 04 43 56.7 +2.3
baz=259,SNR=8.3
M24K Tolsona, Glenn 12.03 83 P Pn 04 43 56.7 +2.3
baz=287
D25K Kavik River 12.06 48 P Pn 04 43 55.6 +0.9
baz=252
PAX Paxson 12.13 79 P Pn 04 43 56.1 +0.4
baz=283
P23K Montague Islan 12.24 94 P Pn 04 43 58.2 +1.1
baz=296
RIDG Independent Ri 12.26 75 P Pn 04 44 00.0 +2.6
baz=280,SNR=16
KLU Klutina 12.34 86 P Pn 04 44 00.2 +1.6
baz=289
HARP HAARP 12.41 81 P Pn 04 44 01.9 +2.4
baz=286
F26K Sheenjek River 12.49 56 P Pn 04 44 03.2 +2.6
baz=262
G26K Porcupine Rive 12.55 60 P Pn 04 44 02.8 +1.4
baz=266
SCRK Sand Creek 12.59 74 P Pn 04 44 02.5 +0.4
baz=279,SNR=22
SHEM Shemya Is, Ala 12.67 221 LR LR 04 48 55.8
comp=Z,772nm,18.6s,baz=355,slow=37
J26L Joseph Creek 12.70 71 P Pn 04 44 04.5 +0.9
baz=277,SNR=17
C26K Camden Bay 12.73 46 P Pn 04 44 04.8 +0.9
baz=252
I26K Coal Creek Min 12.80 67 P Pn 04 44 04.3 -0.5
baz=274
N25K Chitina, Valde 12.90 84 P Pn 04 44 06.9 +0.6
baz=289
EVEN Evensk 13.15 277 eP Pn 04 44 07.1 -2.5
EVEN Pmax 04 44 08.3
comp=Z,50nm,1.5s
EVEN eS SgSg 04 48 11.6 +6.2
M26K Nabesna, AK 13.38 80 P Pn 04 44 13.7 +0.9
baz=286
G27K Doyon Strip 13.38 61 P Pn 04 44 13.7 +0.9
baz=269
K27K Chicken 13.41 73 P Pn 04 44 15.0 +1.8
baz=280
I27K Kandik River 13.42 66 P Pn 04 44 16.1 +2.8
baz=274
H27K Steamboat Moun 13.43 63 P Pn 04 44 16.0 +2.5
baz=271
E27K Coleen River 13.51 55 P Pn 04 44 16.5 +2.0
baz=283
EGAK Eagle 13.70 69 P Pn 04 44 19.1 +2.1
baz=278,SNR=20
L27K Beaver Creek, 13.72 77 P Pn 04 44 18.7 +1.2
baz=284
M27K Edge Creek, AK 13.89 80 P Pn 04 44 21.4 +1.6
baz=287
F28M Old Crow 14.11 57 P Pn 04 44 24.6 +2.0
baz=267,SNR=20
I28M Miner Creek 14.13 66 P Pn 04 44 25.0 +2.0
baz=276
E28M Babbage River 14.32 53 P Pn 04 44 25.8 +0.3
baz=264,SNR=12
BVCY Beaver Creek 14.33 79 P Pn 04 44 26.4 +0.7
baz=287
OMS Omsukchan 14.52 282 eP Pn 04 44 29.4 +1.1
OMS Pmax 04 44 35.8
comp=Z,10.0nm,1.0s
OMS e 04 48 08.0
OMS e 04 48 27.3
DAWY Dawson 14.57 72 P Pn 04 44 29.8 +0.8
baz=281,SNR=7.3
CTG Chitna Glacier 14.60 85 P Pn 04 44 29.9 +0.4
baz=292
D28M Stokes Point 14.70 51 P Pn 04 44 31.4 +0.8
baz=262
YUK3 Moose Creek 14.71 81 P Pn 04 44 31.9 +0.8
baz=290
H29M Whitestone 14.71 63 P Pn 04 44 31.7 +0.8
baz=274
G29M Pine Creek 14.82 60 P Pn 04 44 33.3 +0.9
baz=272
E29M Blow River 14.90 54 P Pn 04 44 34.2 +0.8
baz=266
J29N Klondike Camp 15.00 70 IAmb IAmb 04 44 51.8
comp=Z,23nm,0.9s
YUK8 Steele Glacier 15.19 82 P Pn 04 44 38.6 +1.0
baz=291
L29M L29M 15.34 75 IAmb IAmb 04 44 49.4
comp=Z,42nm,1.2s
L29M L29M 15.34 75 P Pn 04 44 39.5 +0.1
baz=286
EPYK Eagle Plains 15.37 62 P Pn 04 44 39.4 -0.3
baz=275,SNR=31
M29M Somme Creek 15.38 77 IAmb IAmb 04 44 48.6
comp=Z,21nm,0.9s
M29M Somme Creek 15.38 77 P Pn 04 44 40.1 +0.1
baz=288,SNR=7.9
K29M Barlow Dome 15.42 72 P Pn 04 44 41.9 +1.4
baz=283,SNR=12
PINM Pinnacle 15.44 87 P Pn 04 44 41.3 +0.6
baz=295
G30M tAoh Zraii Nji 15.52 60 IAmb IAmb 04 44 52.7
comp=Z,28nm,0.9s
G30M tAoh Zraii Nji 15.52 60 P Pn 04 44 41.2 -0.5
baz=273
I30M Mount Dempster 15.64 66 P Pn 04 44 44.0 +0.6
baz=279
F30M Barrier River 15.67 58 P Pn 04 44 43.7 +0.1
baz=271
J30M Hart River 15.78 69 P Pn 04 44 45.0 -0.1
baz=281
SEY Seymchan 15.90 285⇑ iP P 04 44 48.9 -1.2
SEY pmax pmax
comp=Z,44nm,1.7s
SEY Seymchan 15.90 285 eP Pn 04 44 47.3 +0.8
SEY e 04 44 49.2
SEY Pmax 04 44 52.7
comp=Z,30nm,0.9s
SEY e 04 48 53.5
SEY e 04 49 38.7
SEY Seymchan 15.90 285 Pn Pn 04 44 46.2 -0.3
comp=Z,0.6nm,0.3s,baz=113,slow=9.0,SNR=12
SEY Lg Lg 04 49 31.9
comp=Z,0.1nm,0.3s,baz=356,slow=23,SNR=1.9
SEY LR LR 04 50 52.0
comp=Z,1µm,19.3s,baz=76,slow=37
comp=Z,3.5nm,0.6s
YUK6 Outpost Mounta 15.95 83 P Pn 04 44 46.7 -0.7
baz=293
M30M Minto, Yukon 16.08 76 P Pn 04 44 49.5 +0.6
baz=288
G31M Satah River 16.29 60 IAmb IAmb 04 45 02.2
comp=Z,57nm,1.1s
G31M Satah River 16.29 60 P Pn 04 44 52.3 +0.8
baz=275,SNR=15
N30M Aishikik Lake 16.33 80 P Pn 04 44 51.7 -0.4
baz=292
HYT Haines Junctio 16.38 82 IAmb IAmb 04 45 08.6
comp=Z,42nm,1.2s
HYT Haines Junctio 16.38 82 P Pn 04 44 52.2 -0.7
baz=293
H31M Peel River 16.39 64 P Pn 04 44 53.4 +0.6
baz=278
F31M Tsiigehtchic 16.46 58 P Pn 04 44 54.9 +1.2
baz=273,SNR=29
TLAR Talaya 16.50 279 eP Pn 04 44 54.3 +0.1
TLAR Pmax 04 44 57.4
comp=Z,30nm,1.2s
TLAR e 04 50 07.1
INK Inuvik 16.52 55 P Pn 04 44 55.7 +1.3
baz=271,SNR=34
INK Inuvik 16.52 55 Pn Pn 04 44 54.6 +0.3
comp=Z,0.2nm,0.3s,baz=270,slow=14,SNR=24
INK Sn Sn 04 47 53.0 -4.1
baz=51,slow=6.1,SNR=0.7
INK Lg Lg 04 49 55.6
baz=318,slow=6.6,SNR=2.6
INK LR LR 04 50 32.5
comp=Z,632nm,20.9s,baz=176,slow=34
comp=Z,8.9nm,1.0s
N31M Braeburn, Yuko 16.90 79 IAmb IAmb 04 45 06.9
comp=Z,67nm,1.1s
N31M Braeburn, Yuko 16.90 79 P P 04 45 01.0 -0.4

baz=292,SNR=5.7
P30M Million Dollar 16.92 84 P Pn 04 45 00.3 +0.7
baz=296
O30N Mendenhall 17.04 82 P Pn 04 45 01.8 +0.7
baz=294,SNR=7.0
M31M Drury Creek, Y 17.26 76 P P 04 45 04.8 -0.5
baz=290
WHY Whitehorse 17.63 81 P Pn 04 45 08.6 +0.1
baz=294
MGD Magadan 1 17.69 277 eP Pn 04 45 09.5 +0.3
MGD Pmax 04 45 11.1
comp=Z,20nm,1.2s
MGD e 04 49 51.9
SUUS Susuman 17.79 287 eP Pn 04 45 09.5 -0.8
SUUS Pmax 04 45 10.3
comp=Z,20nm,1.3s
SUUS e 04 50 38.4
MA2 Magadan 17.89 275⇑ eP P 04 45 13.2 +1.0
MA2 pmax pmax
comp=Z,18nm,1.3s
MA2 Magadan 17.89 275 eP P 04 45 13.2 +1.0
MA2 Pmax 04 45 14.1
comp=Z,20nm,1.3s
MA2 e 04 51 00.1
MA2 Magadan 17.89 275 P Pn 04 45 09.7 -1.9
comp=Z,0.7nm,0.3s,baz=176,slow=20,SNR=1.3
comp=Z,2.0nm,0.4s
SKAG Skagway 17.95 85 P Pn 04 45 10.8 -1.6
baz=298
PET Petropavlovsk 18.23 250 eP Pn 04 45 14.4 -1.4
PET pmax pmax
comp=Z,45nm,1.3s
PET MLR MLR
comp=Z,500nm,15.0s
N32M Quiet Lake 18.23 79 P Pn 04 45 14.8 -1.0
baz=294
PEA0B Petropavlovsk- 18.58 251⇑ eP Pn 04 45 21.2 +1.1
PETK Petropavlovsk- 18.58 251 P P 04 45 17.4 -2.4
comp=Z,2.0nm,0.7s,baz=72,slow=14,SNR=1.7
PETK LR LR 04 53 16.2
comp=Z,226nm,19.3s,baz=33,slow=40
P32M Atlin 18.62 83 IAmb IAmb 04 45 51.3
comp=Z,39nm,1.4s
P32M Atlin 18.62 83 P P 04 45 19.7 -0.6
baz=298
P33M Teslin, Yukon 18.75 81 P P 04 45 20.9 -0.8
baz=296,SNR=8.2
A36M Sachs Harbour 19.43 43 IAmb IAmb 04 45 36.1
comp=Z,39nm,0.9s
A36M Sachs Harbour 19.43 43 P Pn 04 45 29.9 -0.4
baz=267,SNR=38
Q32M Nakina River 19.58 84 P P 04 45 31.4 +0.5
baz=299
C36M Paulatuk 19.89 51 P P 04 45 34.8 +0.7
C36M IAmb IAmb 04 45 41.0
comp=Z,31nm,1.2s
C36M Paulatuk 19.89 51 P P 04 45 34.6 +0.6
baz=276,SNR=15
R33M Jennings River 19.95 82 IAmb IAmb 04 45 40.8
comp=Z,38nm,1.0s
R33M Jennings River 19.95 82 P P 04 45 35.2 +0.2
baz=299
WTLY Watson Lake, Y 20.59 79 P P 04 45 41.5 -0.2
WTLY IAmb IAmb 04 45 54.2
comp=Z,20nm,0.9s
WTLY Watson Lake, Y 20.59 79 P P 04 45 41.9 +0.1
baz=297,SNR=8.3
S34M Telegraph Cree 20.63 86 P 04 45 42.2 +0.1
S34M IAmb IAmb 04 45 49.4
comp=Z,26nm,1.1s
DLBC Dease Lake 20.85 84 P P 04 45 44.5 -0.1
baz=301
DLBC Dease Lake 20.85 84 P P 04 45 45.9 +1.3
comp=Z,4.4nm,1.1s,baz=309,slow=2.8,SNR=2.7
DLBC S Sn 04 49 39.8 -2.3
comp=Z,1.6nm,0.5s,baz=224,slow=20,SNR=1.6
DLBC LR LR 04 53 57.0
comp=Z,670nm,19.4s,baz=307,slow=37
comp=Z,4.4nm,1.1s
WRGLY Wrigley 21.61 68 P P 04 45 53.1 +0.5
WRGLY IAmb IAmb 04 46 17.5
comp=Z,28nm,1.2s
WRGLY Wrigley 21.61 68 P P 04 45 52.4 -0.2
baz=292
KOTAN Kotaneelee Air 22.68 76 P P 04 46 05.1 +1.0
baz=299,SNR=16
TIXI Tiksi 23.14 316 P P 04 46 07.8 -1.0
TIXI Tiksi 23.14 316⇑ eP P 04 46 09.6 +0.8
TIXI pmax pmax
comp=Z,25nm,1.6s
TIXI Tiksi 23.14 316 P P 04 46 07.8 -1.0
comp=Z,0.2nm,0.6s,baz=95,slow=8.5,SNR=10
TIXI LR LR 04 55 01.8
comp=Z,54nm,18.7s,baz=136,slow=36
BBB Bella Bella 25.50 95 LR LR 04 56 33.2
comp=Z,416nm,18.8s,baz=320,slow=36
YKA Yellowknife Ar 25.60 65 eP P 04 46 35.0 +3.2
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 25.60 65 P P 04 46 32.7 +0.9
comp=Z,3.1nm,0.9s,baz=300,slow=8.4,SNR=28
YKA PcP PcP 04 50 02.8 +0.7
comp=Z,1.0nm,0.8s,baz=302,slow=2.4,SNR=5.9
comp=Z,3.1nm,0.9s
YAK Yakutsk 25.96 294 P P 04 46 36.4 +1.4
YAK Yakutsk 25.96 294 eP P 04 46 37.7 +2.6
YAK e*PP sP 04 46 40.7 -0.4
YAK e 04 47 15.1
YAK e 04 50 06.9
YAK eS S 04 51 08.8 +4.2
YAK e 04 57 34.4
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,79nm,2.3s
YAK pmax pmax
comp=N,38nm,1.8s
YAK pmax pmax
comp=E,41nm,1.6s
YAK smax smax
comp=E,182nm,5.3s
YAK smax smax
comp=N,107nm,4.3s
YAK MLR MLR
comp=Z,581nm,17.0s
YAK MLR MLR
comp=N,291nm,15.0s
YAK MLR MLR
comp=E,213nm,14.0s
TYV Tymovskoe 26.81 264 eP P 04 46 45.3 +2.4
TYV eS S 04 51 23.8 +5.5
TYV pmax pmax
comp=Z,10.0nm,1.6s
TYV pmax pmax
comp=Z,200nm,3.8s
TYV smax smax
comp=N,500nm,4.7s
TYV smax smax
comp=E,200nm,4.7s
RES Resolute Bay 27.71 34 LR LR 04 59 00.7
comp=E,331nm,21.3s,baz=348,slow=39
YSS Yuzh-Sakhalins 29.63 258 eP P 04 47 08.3 +0.2
YSS eS S 04 52 00.5 -2.2
YSS eSSS SSS 04 53 55.8
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,400nm,13.0s
YSS MLR MLR
comp=N,400nm,12.0s
YSS MLR MLR
comp=E,500nm,14.0s
EDM Edmonton 31.49 80 P P 04 47 24.3 -0.2
EDM Edmonton 31.49 80 P P 04 47 24.3 -0.2
EDM pmax pmax
comp=Z,13nm,1.1s
ZEA Zeya 31.82 281 eP P 04 47 27.8 +0.5
ZEA MLR MLR
comp=E,600nm,11.0s
ZEA MLR MLR
comp=N,400nm,10.0s
ZEA MLR MLR
comp=Z,800nm,10.0s

ASAJ Asahikawa 31.91 255 LR LR 05 02 24.6
comp=Z,250nm,18.4s,baz=5.0,slow=40
KLR Kul'dur 32.92 272 ⇓ iP P 04 47 36.2 -0.8
KLR pmax pmax
comp=Z,25nm,3.0s
KLR Kul'dur 32.92 272 LR LR 05 02 05.5
comp=Z,268nm,18.6s,baz=53,slow=38
NEW Newport 33.26 90 P P 04 47 39.7 -0.4
baz=317
NEW Newport 33.26 90 LR LR 05 01 25.2
comp=Z,456nm,19.0s,baz=317,slow=37
HEH HeiHe 34.15 277 eP P 04 47 46.3 -1.3
HEH pmax pmax
comp=Z,14nm,1.3s
HEH LR LR
comp=N,710nm,13.7s
HEH LR LR
comp=E,670nm,12.0s
HEH LR LR
comp=Z,520nm,12.0s
BOD Bodaibo 34.83 296 eP P 04 47 53.0 -0.5
BOD pmax pmax
comp=Z,10.0nm,1.7s
NEEM North Greenlan 35.12 19 i P P 04 47 55.7 -0.4
NEEM IAmb IAmb 04 48 01.9
comp=Z,47nm,0.9s
BMO Blue Mountains 35.75 94 P P 04 48 00.3 -1.4
BMO IAmb IAmb 04 48 13.8
comp=Z,10nm,1.5s
BMO Blue Mountains 35.75 94 P P 04 48 00.3 -1.4
BMO pmax pmax
comp=Z,10.0nm,1.5s
MSO Missoula 35.77 89 P P 04 48 00.2 -1.6
MSO IAmb IAmb 04 48 13.9
comp=Z,6.5nm,1.0s
MSO Missoula 35.77 89 P P 04 48 01.0 -0.8
baz=319
YBH Yreka Blue Hor 35.79 103 LR LR 05 02 35.2
comp=Z,307nm,18.0s,baz=334,slow=36
FCC Fort Churchill 36.02 60 P P 04 48 03.4 -0.3
FCC IAmb IAmb 04 48 09.2
comp=Z,6.4nm,0.8s
FCC Fort Churchill 36.02 60 P P 04 48 03.4 -0.3
FCC pmax pmax
comp=Z,6.0nm,0.8s
PLID Pearl Lake 36.16 93 P P 04 48 05.9 +0.5
PLID IAmb IAmb 04 48 14.1
comp=Z,5.4nm,0.8s
LYMT Lyon Mountain 36.42 88 P P 04 48 07.3 -0.2
NRIK Noril'sk 36.43 324 P P 04 48 06.2 -0.9
NRIK IAmb IAmb 04 48 16.2
comp=Z,17nm,1.4s
NRIK Noril'sk 36.43 324 ⇓ eP P 04 48 10.3 +3.2
NRIK pmax pmax
comp=Z,13nm,1.4s
NRIK Noril'sk 36.43 324 P P 04 48 05.3 -1.8
comp=Z,0.9nm,0.3s,baz=149,slow=6.2,SNR=1.6
NRIK LR LR 05 04 31.6
comp=Z,653nm,18.3s,baz=62,slow=39
comp=Z,0.9nm,0.3s
USRK Ussuriysk Ar. 36.59 266 LR LR 05 04 58.6
comp=Z,488nm,18.2s,baz=35,slow=39
MDJ Mudanjiang 37.35 268 P P 04 48 08.6 -6.6
MDJ pP pP 04 48 17.3 -2.2
MDJ PP PP 04 49 33.3 -6.9
MDJ PcP PcP 04 50 29.6 -4.3
MDJ S S 04 53 52.8 -9.4
MDJ PcS PcS 04 54 17.9 -4.3
MDJ SS SnSn 04 56 27.8 -11
MDJ pmax pmax
comp=Z,13nm,1.8s
MDJ pmax pmax
comp=Z,350nm,4.3s
MDJ LR LR
comp=N,620nm,12.4s
MDJ LR LR
comp=E,720nm,12.4s
MDJ LR LR
comp=Z,670nm,12.4s
BNX BinXian 37.48 271 ⇓ P P 04 48 17.4 +1.1
BNX pmax pmax
comp=Z,11nm,1.2s
BNX pmax pmax
comp=Z,190nm,4.8s
MFID Camas Ranch 37.54 94 P P 04 48 16.5 -0.5
UPNV Upernavik 37.73 26 i P P 04 48 21.3 +3.3
BOZ Bozeman (W) 37.76 88 P P 04 48 19.3 +0.5
baz=320
HLID Hailey 38.06 93 P P 04 48 22.4 +0.9
baz=322
MSHR Mys Shultsa 38.23 265⇑ eP P 04 48 23.2 +0.6
MSHR pmax pmax
comp=Z,12nm,1.1s
SPITS Spitsbergen Ar 38.80 357 LR LR 05 04 14.9
comp=Z,468nm,19.7s,baz=354,slow=36
RLMT Red Lodge 39.19 87 P P 04 48 29.9 -1.1
baz=320
LAO LASA Array 39.37 83 P P 04 48 31.3 -0.9
baz=319
ELK Elko 39.92 97 P P 04 48 36.1 -1.0
ELK Elko 39.92 97 P P 04 48 36.1 -1.0
ELK pmax pmax
comp=Z,8.0nm,1.4s
ELK Elko 39.92 97 LR LR 05 05 24.2
comp=Z,356nm,19.0s,baz=352,slow=36
MAJO Matsushiro 40.03 252 ⇓ eP P 04 48 41.0 +3.2
MAJO pmax pmax
comp=Z,29nm,2.3s
MJAR Matsushiro Arr 40.03 252 P P 04 48 37.4 -0.3
comp=Z,0.5nm,0.3s,baz=5.5,slow=8.2,SNR=5.0
MJAR LR LR 05 07 38.5
comp=Z,252nm,18.1s,baz=40,slow=40
comp=Z,0.5nm,0.3s
NVAR Mina Array Bea 40.43 102 P P 04 48 42.0 +0.6
comp=Z,2.0nm,0.8s,baz=308,slow=7.4,SNR=2.8
NVAR PcP PcP 04 50 44.6 +0.7
comp=Z,1.1nm,0.9s,baz=299,slow=3.9,SNR=2.6
NVAR LR LR 05 05 22.4
comp=Z,166nm,19.3s,baz=350,slow=36
comp=Z,2.0nm,0.8s
BW06 Boulder Array 40.89 89 P P 04 48 44.2 -0.9
baz=322
PDAR Pinedale Array 40.89 89 P P 04 48 44.9 -0.2
comp=Z,0.9nm,0.9s,baz=316,slow=5.0,SNR=2.8
PDAR PcP PcP 04 50 46.8 +1.4
comp=Z,0.8nm,0.8s,baz=318,slow=1.2,SNR=2.1
PDAR LR LR 05 06 29.5
comp=Z,423nm,20.5s,baz=354,slow=37
comp=Z,0.9nm,0.9s
SUMG Summit 40.99 19 P P 04 48 45.7 0.0
SUMG Summit 40.99 19 P P 04 48 45.7 0.0
SUMG pmax pmax
comp=Z,53nm,1.2s
SUMG Summit 40.99 19 i P P 04 48 45.8 +0.1
SUMG IAmb IAmb 04 48 51.6
comp=Z,12nm,0.9s
ULM Lac du Bonnet 41.27 71 P P 04 48 48.9 +1.1
comp=Z,2.5nm,0.6s,baz=317,slow=7.4,SNR=7.5
ULM LR LR 05 05 57.5
comp=Z,311nm,20.6s,baz=340,slow=36
comp=Z,2.5nm,0.6s
FRB Frobisher Bay 41.41 41 LR LR 05 07 50.3
comp=Z,360nm,18.9s,baz=339,slow=39
DUG Dugway, Tooele 41.46 95 P P 04 48 49.6 -0.1
baz=324
R11B Troy Canyon, C 41.71 99 P P 04 48 50.8 -1.0
baz=325
SPR3 Spring Creek 3 41.75 97 P P 04 48 51.5 -0.7
SPR3 IAmb IAmb 04 49 11.1
comp=Z,11nm,1.3s
GRAC Grapevine Rang 42.03 102 P P 04 48 53.5 -0.8
baz=326
BSUT Blindstream Ca 42.12 93 P P 04 48 54.8 -0.6
BSUT IAmb IAmb 04 49 04.5
comp=Z,8.4nm,1.0s
CWC Cottonwood Cre 42.18 103 P P 04 48 55.9 +0.3
baz=327
VES Vestal, Richgr 42.24 105 P P 04 48 56.2 +0.3
baz=327
RSSD Black Hills 42.33 83 P P 04 48 57.3 +0.5
baz=321
K22A Casper 42.36 87 P P 04 48 58.1 +1.0
baz=322
TPNV Topopah Spring 42.57 101 P P 04 49 00.3 +1.4
baz=326
ISA Isabella, Lake 42.66 104 P P 04 49 00.4 +1.0
baz=327

PKM Mcpherson Peak 42.72 106 P P 04 49 00.5 +0.4
baz=328
MPMC Manual Prospec 42.76 103 P P 04 49 00.8 +0.3
baz=327
QSM Queen of Sheba 43.12 102 IAmb IAmb 04 49 43.3
comp=Z,14nm,1.3s
LRMC Laurel Mtn Rad 43.16 103 P P 04 49 03.3 -0.3
baz=327
Q16A Castle Valley 43.24 94 IAmb IAmb 04 49 22.4
comp=Z,11nm,1.1s
SFJD Kangerlussuaq 43.48 29 LR LR 05 11 12.3
comp=Z,140nm,18.0s,baz=336,slow=42
O20A White River Ci 43.58 91 P P 04 49 07.0 0.0
baz=324
GSC Goldstone, Bar 43.70 103 IAmb IAmb 04 49 16.7
comp=Z,6.4nm,0.9s
GSC Goldstone, Bar 43.70 103 P P 04 49 08.0 +0.1
baz=327
KSRS Korea Array 43.83 263 P P 04 49 07.9 -0.9
comp=Z,3.7nm,1.1s,baz=37,slow=8.0,SNR=7.6
KSRS LR LR 05 07 08.0
comp=Z,216nm,21.3s,baz=45,slow=36
comp=Z,3.7nm,1.1s
ICESG Greenland Ices 43.85 22 i P P 04 49 08.1 -0.9
ICESG IAmb IAmb 04 49 10.4
comp=Z,7.6nm,0.7s
KSAR Wonju Array Be 43.86 263 P P 04 49 08.9 -0.1
KSAR Wonju Array Be 43.86 263 P P 04 49 08.9 -0.1
N23A Red Feather La 44.02 88 P P 04 49 08.9 -1.7
baz=323
XLT XiLinHaoTe 44.02 279 eP P 04 49 08.8 -1.5
XLT pP pP 04 49 12.1 -2.6
XLT pmax pmax
comp=Z,15nm,1.4s
XLT pmax pmax
comp=Z,85nm,3.5s
XLT LR LR
comp=N,64nm,11.2s
XLT LR LR
comp=E,970nm,12.0s
XLT LR LR
comp=Z,650nm,13.2s
V12A Nelson 44.21 100 P P 04 49 11.5 -0.5
V12A IAmb IAmb 04 49 30.1
comp=Z,16nm,1.4s
BFSC Mount Baldy Ra 44.22 104 P P 04 49 11.2 -0.8
baz=328
HMU Henry Mountain 44.23 95 IAmb IAmb 04 49 29.2
comp=Z,11nm,1.1s
HEC Hector,Ludlow 44.30 103 P P 04 49 11.6 -1.1
baz=328
GMRC Granite Mounta 44.64 102 P P 04 49 13.7 -1.8
baz=327
DY2G Dye2 44.86 27 i P P 04 49 18.2 +1.2
ULN Ulaanbaatar 44.90 290 ⇓ eP P 04 49 20.9 +3.5
ULN pmax pmax
comp=Z,7.0nm,1.8s
SCO Scoresbysund 45.04 14 i P P 04 49 18.2 +0.1
SCO IAmb IAmb 04 49 23.1
comp=Z,23nm,1.1s
ISCO Idaho Springs 45.05 89 P P 04 49 16.7 -2.2
baz=324
BELC Belle Mtn. Jos 45.15 103 P P 04 49 17.8 -1.8
baz=328
SONM Songino Array 45.20 290 P P 04 49 18.2 -1.6
SONM IAmb IAmb 04 49 39.5
comp=Z,8.2nm,1.4s
SONM Songino Array 45.20 290 P P 04 49 18.2 -1.6
SONM pmax pmax
comp=Z,8.0nm,1.4s
SONM Songino Array 45.20 290 P P 04 49 19.5 -0.3
comp=Z,1.8nm,0.7s,baz=45,slow=7.5,SNR=9.2
SONM PcP PcP 04 51 01.0 +1.4
comp=Z,2.6nm,0.7s,baz=40,slow=1.8,SNR=2.5
SONM LR LR 05 07 57.3
comp=Z,414nm,19.2s,baz=22,slow=36
comp=Z,1.8nm,0.7s
PFO Pinyon Flats O 45.27 104 P P 04 49 19.2 -1.3
baz=328
PFO Pinyon Flats O 45.27 104 LR LR 05 06 16.6
comp=Z,355nm,18.9s,baz=346,slow=33
TPFO Pinon Flats 45.28 104 P P 04 49 20.0 -0.6
baz=328
IRM Iron Mountain 45.40 102 P P 04 49 21.3 0.0
baz=328
JMIC Jan Mayen 45.66 7 LR LR 05 09 05.0
comp=Z,220nm,18.4s,baz=358,slow=37
PDMCI Parker Dam,Lak 45.72 101 P P 04 49 24.2 +0.3
baz=328
WUAZ Wupatki 45.95 97 pP 04 49 29.6 -0.7
WUAZ Wupatki 45.95 97 P P 04 49 25.9 0.0
baz=327
BLYC Blythe 46.02 102 P P 04 49 24.6 -1.6
BLYC IAmb IAmb 04 49 35.5
comp=Z,5.9nm,0.8s
JNU Nakatsue 46.13 257 LR LR 05 09 27.6
comp=Z,151nm,20.3s,baz=31,slow=37
S22A 4UR Ranch, Cre 46.16 91 P P 04 49 27.5 -0.2
baz=325
SDCO Great Sand Dun 46.77 90 P P 04 49 32.4 0.0
baz=325
ARCES ARCESS Array B 47.00 352 P P 04 49 31.9 -1.6
comp=Z,4.8nm,0.8s,baz=27,slow=6.1,SNR=2.0
comp=Z,4.8nm,0.8s
ANGG Ammassalik, Gr 47.30 24 i P P 04 49 35.5 -0.3
ANGG IAmb IAmb 04 49 39.2
comp=Z,28nm,0.8s
HHC Hu-ho-hao-te 48.47 280 eP P 04 49 39.4 -6.0
HHC sP sP 04 49 57.0 +5.4
HHC S S 04 56 32.6 -13
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,250nm,3.6s
HHC LR LR
comp=N,1μm,11.4s
HHC LR LR
comp=E,1μm,12.4s
HHC LR LR
comp=Z,1μm,11.1s
ANMO Albuquerque 48.64 93 ⇓ eP P 04 49 48.1 +1.2
ANMO pmax pmax
comp=Z,17nm,3.5s
ANMO Albuquerque 48.64 93 LR LR 05 11 12.4
comp=Z,225nm,18.1s,baz=68,slow=37
ZALV Zalesovo Beam 48.79 310 i P P 04 49 49.5 +2.0
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 48.79 310 P P 04 49 46.6 -0.9
comp=Z,1.1nm,0.5s,baz=51,slow=7.8,SNR=6.2
ZALV LR LR 05 10 58.8
comp=Z,489nm,19.7s,baz=6.0,slow=37
comp=Z,1.1nm,0.5s
SCHQ Schefferville 48.95 48 P P 04 49 48.6 -0.2
comp=Z,2.8nm,1.0s,baz=56,slow=13,SNR=1.9
SCHQ LR LR 05 14 36.8
comp=Z,355nm,18.4s,baz=345,slow=41
comp=Z,2.8nm,1.0s
BTO Baotou 49.35 281 eP P 04 49 53.3 +1.1
BTO pP sP 04 49 58.5 +0.2
BTO sP pP 04 50 01.3 +4.7
BTO PP PP 04 51 48.3 +2.4
BTO S S 04 56 59.3 +1.2
BTO Baotou 49.35 281 SS SS 05 00 25.9 -3.3
BTO pmax pmax
comp=Z,11nm,0.6s
BTO pmax pmax
comp=Z,280nm,4.1s
BTO LR LR
comp=N,2μm,13.2s
BTO LR LR
comp=E,4μm,14.1s
BTO LR LR
comp=Z,990nm,8.2s
HNS HongShan 49.87 275 ⇑ P P 04 49 55.5 -0.4
HNS eS S 04 57 01.5 -3.6
HNS pmax pmax
comp=Z,11nm,1.2s
HNS LR LR
comp=N,360nm,15.9s
HNS LR LR
comp=E,650nm,13.5s
HNS LR LR
comp=Z,500nm,13.3s
DGZ Jazzator, Alta 51.31 305⇑ eP P 04 50 10.0 +3.0
DGZ pmax pmax
comp=Z,8.0nm,2.2s

WMOK Wichita Mounta 52.30 86 P **P** **04 50 14.6 +0.3**
WMOK IAmb IAmb 04 50 21.1
comp=Z,12nm,1.4s
WMOK Wichita Mounta 52.30 86 P **P** **04 50 14.6 +0.3**
WMOK pmax pmax
comp=Z,12nm,1.4s
NJ2 Nanjing 52.44 268 *e*P P 04 50 07.9 -7.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SADO Sadowa 52.59 64 LR LR 05 14 04.1
comp=Z,234nm,18.2s,baz=272,slow=38
LYN LuoYang 53.24 275 ⇑P **P** **04 50 25.9 +4.7**
LYN pmax pmax
comp=Z,15nm,0.9s
LYN LR LR
comp=N,450nm,10.9s
LYN LR LR
comp=E,700nm,15.0s
LYN LR LR
comp=Z,650nm,11.3s
KURK Kurchatov 53.60 312 P **P** **04 50 24.6 +0.9**
KURK IAmb IAmb 04 50 27.5
comp=Z,2.9nm,0.6s
KURK Kurchatov 53.60 312⇑ *e*P **P** **04 50 25.6 +1.9**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURBB Kurchatov Arra 53.71 312 P **P** **04 50 24.1 -0.4**
comp=Z,1.9nm,0.6s,baz=31,slow=7.6,SNR=14
KURBB PcP **PcP** **04 51 31.0 +0.6**
comp=Z,1.1nm,1.0s,baz=41,slow=3.8,SNR=5.1
KURBB LR LR 05 14 44.0
comp=Z,237nm,18.9s,baz=157,slow=38
comp=Z,1.9nm,0.6s
KLMR Klimovskoe 53.98 341 *e*P **P** **04 50 24.0 -2.3**
KLMR pmax pmax
comp=Z,42nm,1.8s
BVAR Borovoye Array 54.25 319 P **P** **04 50 27.6 -0.8**
comp=Z,2.0nm,0.6s,baz=32,slow=10,SNR=9.4
comp=Z,2.0nm,0.6s
BRVK Borovoye 54.26 319⇑ *e*P **P** **04 50 30.4 +2.0**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 54.44 328 *c i*P **P** **04 50 31.4 +1.7**
ARU S **S** **04 58 12.3 +5.0**
ARU SS **SS** **05 01 51.6 +2.9**
ARU pmax pmax
comp=Z,15nm,1.9s
KIRV Kirov 54.45 335⇓ *e*P **P** **04 50 33.4 +3.7**
TXAR Lajitas Array 54.64 94 P **P** **04 50 31.9 +0.3**
comp=Z,0.8nm,0.7s,baz=341,slow=5.2,SNR=2.4
TXAR LR LR 05 12 59.6
comp=Z,224nm,21.2s,baz=339,slow=35
comp=Z,0.8nm,0.7s
GTA Gaotai 54.81 289 *e*P **P** **04 50 33.3 +0.5**
GTA sP sP 04 50 44.4 +5.4
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA LR LR
comp=N,540nm,13.5s
GTA LR LR
comp=E,1μm,14.2s
GTA LR LR
comp=Z,660nm,14.5s
FINES FINESS Array B 54.95 349 *i* P **P** **04 50 35.7 +2.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 54.95 349 P **P** **04 50 32.1 -1.2**
comp=Z,2.1nm,0.3s,baz=12,slow=7.6,SNR=14
FINES LR LR 05 18 09.5
comp=Z,258nm,18.1s,baz=30,slow=41
comp=Z,2.1nm,0.3s
JCT Junction City 55.42 90 P **P** **04 50 38.2 +1.0**
baz=328
MKAR Makanchi Array 55.63 307 *i* P **P** **04 50 41.7 +3.2**
MKAR Makanchi Array 55.63 307 P **P** **04 50 38.5 -0.1**
comp=Z,0.2nm,0.4s,baz=40,slow=6.7,SNR=6.7
MKAR LR LR 05 15 51.1
comp=Z,611nm,18.3s,baz=23,slow=38
LZH Lanzhou 55.82 283 *e*P **P** **04 50 36.0 -4.2**
LZH pP pP 04 50 44.8 +0.1
LZH sP sP 04 50 52.5 +6.1
LZH pmax pmax
comp=Z,14nm,1.0s
LZH LR LR
comp=N,1μm,16.7s
LZH LR LR
comp=E,2μm,16.0s
LZH LR LR
comp=Z,1μm,16.1s
NB2 NORSAR Subarra 56.10 358 P **P** **04 50 42.6 +1.0**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 56.10 358 P **P** **04 50 41.8 +0.2**
comp=Z,17nm,0.9s,baz=359,slow=6.9
NOA NORSAR Array B 56.10 358 P **P** **04 50 40.5 -1.2**
comp=Z,4.6nm,0.7s,baz=359,slow=7.1,SNR=12
comp=Z,4.6nm,0.7s
WMQ Urumqi 56.11 301 *e*P **P** **04 50 39.0 -3.0**
WMQ LR LR
comp=Z,150nm,17.9s
LPIG La Paz 56.17 104 LR LR 05 11 58.6
comp=Z,107nm,21.2s,baz=340,slow=33
N58A Sunbury 56.84 64 P **P** **04 50 47.8 +0.6**
HFS Hagfors 56.95 356 P **P** **04 50 47.2 -0.5**
comp=Z,8.1nm,0.7s,baz=14,slow=3.1,SNR=14
comp=Z,8.1nm,0.7s
TKL Tuckaleechee C 58.22 73 LR LR 05 17 57.2
comp=Z,256nm,19.3s,baz=334,slow=38
AKTO Aktyubinsk 60.03 325 P **P** **04 51 08.9 -0.4**
comp=Z,4.4nm,0.9s,baz=19,slow=5.5,SNR=5.3
comp=Z,4.4nm,0.9s
ABKAR Akbulak array 60.60 324 P **P** **04 51 13.0 -0.2**
ABKAR Akbulak array 60.60 324 P **P** **04 51 12.6 -0.6**
BELG Belogornoye 60.61 333⇓ *e*P **P** **04 51 14.0 +0.8**
BELG pmax pmax
comp=Z,4.0nm,0.9s
BELG Belogornoye 60.61 333 P **P** **04 51 14.3 +1.1**
comp=Z,18nm,0.8s,baz=248,slow=2.5,SNR=14
comp=Z,18nm,0.8s
PABE Paberze 61.00 350 P **P** **04 51 15.3 -0.4**
EKA Eskdalemuir Ar 61.55 7 P **P** **04 51 19.5 0.0**
comp=Z,4.7nm,0.9s,baz=357,slow=5.5,SNR=9.1
comp=Z,4.7nm,0.9s
MNK Minsk 61.63 347 *i* P **P** **04 51 19.8 -0.3**
MNK *i* 04 52 01.1
MNK *i* 04 53 35.5
MNK *i* S **S** **04 59 42.9 +1.6**
MNK *i* 05 01 11.4
MNK *i* SS **SS** **05 03 45.6 +4.1**
MNK pmax pmax
comp=N,20nm,0.6s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=Z,25nm,0.7s
MNK MLR MLR
comp=Z,178nm,15.0s
AAK Ala-Archa 62.01 310 P **P** **04 51 21.7 -1.4**
AAK Ala-Archa 62.01 310 P **P** **04 51 21.7 -1.4**
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 62.01 310 LR LR 05 20 13.9
comp=Z,468nm,21.1s,baz=22,slow=38
GYA Guiyang 62.73 275 P **P** **04 51 32.4 +4.4**
GYA pmax pmax
comp=Z,11nm,1.1s
GYA LR LR
comp=Z,420nm,19.9s
PZH PanZhiHua 64.91 279 P **P** **04 51 44.3 +2.0**
PZH S **S** **05 00 21.8 -1.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,170nm,5.3s
PZH LR LR
comp=N,260nm,14.9s
PZH LR LR
comp=E,360nm,14.9s
PZH LR LR
comp=Z,350nm,16.7s
AKASG Malin Array Be 65.23 345 P **P** **04 51 42.7 -1.2**
comp=Z,6.0nm,0.7s,baz=14,slow=6.4,SNR=12
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 65.23 345⇑ *i*P **P** **04 51 45.2 +1.3**
CLL Collm 65.81 356 *e*P **P** **04 51 47.0 -0.6**
CLL pmax pmax
comp=Z,95nm,2.6s
CLL Collm 65.81 356 *e*P **P** **04 51 47.0 -0.6**
comp=Z,95nm,2.6s
OSTC Ostas 66.44 354 *e*P **P** **04 51 54.2 +2.4**
OSTC Ostas 66.44 354 *e*P **P** **04 51 54.2 +2.4**
HSKC Hora Svate Kat 66.49 356 *e*P **P** **04 51 55.0 +2.9**
DPC Dobruska-Polom 66.64 354 *e*P **P** **04 51 55.7 +2.6**
DPC Dobruska-Polom 66.64 354 *e*P **P** **04 51 55.7 +2.6**
LANS Liptovska Anna 67.66 352 *e*P **P** **04 52 03.0 +3.4**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 67.66 352 *e*P **P** **04 52 03.0 +3.4**
VRAC Vranov 67.66 354 P **P** **04 51 59.7 +0.1**
comp=Z,1.4nm,0.4s,baz=12,slow=8.4,SNR=2.5
comp=Z,1.4nm,0.4s
KOLS Kolonicke sedl 67.66 350 *e*P **P** **04 52 02.3 +2.7**
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 67.66 350 *e*P **P** **04 52 02.3 +2.7**
CRVS Cervenica-Dubn 67.76 350 *e*P **P** **04 52 03.5 +3.3**
CRVS Cervenica-Dubn 67.76 350 *e*P **P** **04 52 03.5 +3.3**
KHC Kasperske Hory 67.97 356 P **P** **04 52 01.1 -0.4**
KHC IAmb IAmb 04 52 08.3
comp=Z,5.2nm,1.0s
KHC Kasperske Hory 67.97 356⇑ *e*P **P** **04 52 05.1 +3.6**
KHC pmax pmax
comp=Z,35nm,1.9s
KHC Kasperske Hory 67.97 356 *e*P **P** **04 52 04.5 +3.0**
GERES GERESS Array B 68.25 356 P **P** **04 52 03.2 -0.2**
comp=Z,1.6nm,0.7s,baz=64,slow=4.5,SNR=4.1
comp=Z,1.6nm,0.7s
VYHS Vyhne 68.35 352 *e*P **P** **04 52 05.3 +1.4**
VYHS pmax pmax
comp=Z,12nm,1.5s
VYHS Vyhne 68.35 352 *e*P **P** **04 52 05.3 +1.4**
MODS Modra-Piesok 68.56 353 *e*P **P** **04 52 08.3 +3.1**
MODS Modra-Piesok 68.56 353 *e*P **P** **04 52 08.3 +3.1**
CONA Conrad Observa 69.08 354 *i* pP **P** **04 52 06.9 -1.6**
comp=Z,10nm,1.3s
CMIG Matias Romero 69.21 93 LR LR 05 23 19.3
comp=Z,117nm,18.6s,baz=335,slow=37
MOA Molln 69.22 355 *e*P **P** **04 52 06.9 -2.4**
comp=Z,6.9nm,1.6s
RONA Rosalia, Austr 69.28 354 *e*P **P** **04 52 06.7 -3.0**
comp=Z,7.0nm,1.1s
BIOA Bad Ischl, Aus 69.40 356 *e*P **P** **04 52 07.9 -2.6**
comp=Z,6.2nm,1.1s
TEIG Tepich 69.47 86 LR LR 05 25 02.2
comp=Z,774nm,21.9s,baz=152,slow=38
KIV Kislovodsk 69.66 334 *e*P **P** **04 52 13.5 +1.3**
KIV pmax pmax
comp=Z,6.0nm,1.0s
RETA Reutte 69.68 358 *e*P **P** **04 52 08.7 -3.6**
comp=Z,8.1nm,1.2s
LESA Schwarzleotal 69.70 356 *e*pP **P** **04 52 11.4 -1.0**
comp=Z,4.6nm,1.1s
ARSA Arzberg 69.77 354 *e*P **P** **04 52 09.1 -3.7**
comp=Z,8.6nm,1.2s
WATA Walderalm 69.81 357 *e*P **P** **04 52 09.8 -3.4**
comp=Z,4.9nm,0.7s
MOTA Moosalm 69.82 358 *e*P **P** **04 52 10.6 -2.6**
comp=Z,10nm,1.4s
KBZ Khabaz 69.83 334⇓ *i*P **P** **04 52 17.6 +4.5**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 69.83 334 P **P** **04 52 12.8 -0.4**
comp=Z,4.7nm,0.8s,baz=1.7,slow=9.1,SNR=3.8
KBZ LR LR 05 26 20.3
comp=Z,212nm,18.4s,baz=0.5,slow=39
comp=Z,4.7nm,0.8s
WTTA Wattenberg 69.89 357 *e*P **P** **04 52 11.6 -2.1**
comp=Z,4.7nm,0.7s
DAVA Damuels 69.89 358 *e*P **P** **04 52 10.8 -2.9**
comp=Z,17nm,1.9s
NCK Nalchik 69.92 333⇑ *e*P **P** **04 52 17.3 +3.6**
NCK pmax pmax
comp=Z,5.0nm,0.7s
SQTA Sankt Quirin 69.94 357 *e*pP **P** **04 52 12.4 -1.5**
comp=Z,17nm,1.5s
KBA Koelnbreinsper 70.02 356 *i* pP **P** **04 52 13.9 -0.6**
comp=Z,6.3nm,1.0s
FETA Feichten 70.15 358 *e*pP **P** **04 52 16.6 +1.4**
comp=Z,6.0nm,0.9s
SOKA Soboth 70.36 355 *e*pP **P** **04 52 16.7 +0.2**
comp=Z,13nm,2.1s
DAVOX Davos/Dischmat 70.40 358 P **P** **04 52 16.0 -0.8**
DAVOX Davos/Dischmat 70.40 358 P **P** **04 52 16.0 -0.8**
comp=Z,1.7nm,0.7s,baz=337,slow=8.6,SNR=3.3
comp=Z,1.7nm,0.7s
ZEI Tsey 70.53 333 *e*P **P** **04 52 18.0 +0.3**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
OBKA Obir 70.55 355 *i* pP **P** **04 52 16.3 -1.3**
comp=Z,12nm,0.8s
GEYT Alibeck 71.54 320 P **P** **04 52 23.1 -0.6**
GEYT Alibeck 71.54 320 P **P** **04 52 23.1 -0.6**
GEYT pmax pmax
comp=Z,10.0nm,1.0s
GEYT Alibeck 71.54 320 P **P** **04 52 23.4 -0.3**
comp=Z,1.8nm,0.3s,baz=38,slow=7.3,SNR=2.1
GEYT LR LR 05 26 28.6
comp=Z,296nm,18.9s,baz=38,slow=38
comp=Z,1.8nm,0.3s
GNI Garni 72.88 331 LR LR 05 29 17.2
comp=Z,209nm,19.6s,baz=10.0,slow=40
CMAR Chiang Mai Arr 73.16 277 *i* P **P** **04 52 36.5 +2.9**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 73.16 277 P **P** **04 52 32.9 -0.6**
comp=Z,2.6nm,0.7s,baz=6.0,slow=6.7,SNR=16
CMAR LR LR 05 26 49.0
comp=Z,197nm,18.4s,baz=40,slow=38
comp=Z,2.6nm,0.7s
BR131 Keskin Array S 75.39 340 pP 04 52 49.4 -1.6
BR131 Keskin Array S 75.39 340⇓ *i*P **P** **04 52 49.1 +2.7**
BRTR Keskin Array B 75.39 340 *i* P **P** **04 52 46.2 -0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 75.39 340 P **P** **04 52 45.0 -1.4**
comp=Z,2.1nm,0.7s,baz=26,slow=3.5,SNR=13
BRTR LR LR 05 29 42.4
comp=Z,152nm,18.2s,baz=342,slow=39
comp=Z,2.1nm,0.7s
HNR Honiara 75.44 208 LR LR 05 21 28.9
comp=Z,1μm,19.2s,baz=21,slow=32
TAOE Nuku Hiva Isla 75.90 147 *e*LR LR 05 16 18.9
comp=Z,185nm,27.1s
ESDC Sonseca Array 77.09 9 P **P** **04 52 55.7 -0.3**
comp=Z,1.4nm,0.9s,baz=353,slow=5.2,SNR=2.3
comp=Z,1.4nm,0.9s
HDC Heredia 80.33 87 P **P** **04 53 13.9 -0.3**
IDI Anoyia 80.94 346 LR LR 05 36 22.1
comp=Z,58nm,18.2s,baz=360,slow=41
SJG San Juan 81.07 68 LR LR 05 30 03.0
comp=Z,134nm,20.8s,baz=319,slow=36
MMAI Mount Meron Ar 81.64 337 LR LR 05 36 01.0
comp=Z,86nm,18.0s,baz=346,slow=40
ASF Jabal al Asfar 82.18 335 P **P** **04 53 24.2 +0.4**
comp=Z,6.5nm,0.8s,baz=62,slow=22,SNR=6.3
comp=Z,4.5nm,0.8s
PPT Papeete 82.40 158 LR LR 05 24 32.9
comp=Z,136nm,21.2s,baz=32,slow=32
PPT2 Papeete2 82.42 158 *e*LR LR 05 18 57.7
comp=Z,178nm,25.0s
PPT2 *e*LR LR 05 19 13.7
comp=Z,194nm,24.0s
MDT Midelt 83.86 10 LR LR 05 32 06.9
comp=Z,98nm,18.5s,baz=15,slow=37
RAR Rarotonga 84.66 168 LR LR 05 25 40.4
comp=Z,98nm,20.0s,baz=214,slow=32
EIL Elat 84.98 336 LR LR 05 36 47.6
comp=Z,104nm,19.0s,baz=57,slow=39
WSAR Wadi Sarin 85.05 314 LR LR 05 37 48.3
comp=Z,150nm,18.7s,baz=58,slow=40
DZM Mont Dzumac 86.58 200 *e*LR LR 05 21 11.6
comp=Z,248nm,25.8s
DZM Mont Dzumac 86.58 200 LR LR 05 31 06.3
comp=Z,47nm,18.2s,baz=27,slow=35
TBI Tubuai 88.08 159 *e*LR LR 05 21 53.6
comp=Z,1μm,33.5s
CTA Charters Tower 89.11 218 LR LR 05 31 07.8
comp=Z,87nm,19.9s,baz=78,slow=34
PALK Pallekele 91.13 288 LR LR 05 40 09.1
comp=Z,76nm,18.2s,baz=104,slow=39
WRA Warramunga Arr 92.71 229 *i* P **P** **04 54 17.2 +2.4**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 92.71 229 P **P** **04 54 14.8 +0.1**
comp=Z,1.9nm,0.9s,baz=33,slow=5.5,SNR=6.3
comp=Z,1.9nm,0.9s
ASAR Alice Springs 96.30 228 P **P** **04 54 31.2 0.0**
comp=Z,0.3nm,0.6s,baz=23,slow=5.0,SNR=1.8
ASAR LR LR 05 35 12.8
comp=Z,58nm,19.8s,baz=101,slow=34
comp=Z,0.3nm,0.6s
ATAH Atahualpa 98.08 90 LR LR 05 43 13.4
comp=Z,56nm,18.1s,baz=6.1,slow=38
QSPA South Pole Qui 152.94 180 PKPbc **PKPbc** **05 00 58.0 -0.5**
comp=Z,2.3nm,0.7s,baz=258,slow=0.5,SNR=6.1

AFAD ***16*** *04:43:08.8±0.0,35°.65N×36°.43E,h10km±2km, ML2.4*
GRAL ***16*** *04:43:10.5±0.3,35°.45N×36°.69E,h3km±2km,MD3.0*
ISC 16 04:43:07.4±1.5,35°.57N±0°.03×36°.66E±0°.09,h18km±14km, n15,σ0s89/22,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RHAN	**Hatay/Reyhanl**	**0.69**	**356**	P	**Pb**	**04 43 20.7**	**-0.2**
RHAN				S	**Sb**	**04 43 30.0**	**-0.1**
RHAN				*i* AML	AML	04 43 34.0	
	comp=E,128nm,0.3s						
BEIL	**Beino**	**1.10**	**201**	*e*P	**Pn**	**04 43 28.3**	**+0.3**
BEIL				*e*S	**Sb**	**04 43 41.5**	**-0.5**
HASA	**Hatay-Hassa-Ha**	**1.18**	**353**	P	**Pn**	**04 43 29.3**	**+0.1**
HWQ	**Hawqa**	**1.42**	**205**	*e*P	**Pb**	**04 43 33.6**	**+0.2**
HWQ				*e*S	**Sn**	**04 43 51.0**	**+0.2**
YURE	**YUREGIR**	**1.50**	**327**	P	**Pb**	**04 43 34.8**	**0.0**
KAMA	**Osmaniye**	**1.61**	**0**	P	**Pn**	**04 43 32.8**	**-2.3**
HCB	**Kahramanmara**	**1.78**	**6**	P	**Pn**	**04 43 37.7**	**+0.3**
KHMR	**Kahramanmara**	**1.78**	**6**	P	**Pb**	**04 43 39.8**	**+0.2**
ZAHL	**Zahle**	**1.83**	**201**	*e*P	**Pb**	**04 43 40.3**	**-0.1**
BHL	**Bhannes**	**1.86**	**207**	*e*P	**Pb**	**04 43 40.7**	**-0.3**
GZT	**Gaziantep**	**1.92**	**22**	P	**Pg**	**04 43 44.8**	**+0.4**
GZT				S	**Sb**	**04 44 05.8**	**0.0**
GZT				*i* AML	AML	04 44 10.0	
	comp=E,40nm,0.4s						
SURC	**SANLIURFA_SURC**	**2.05**	**50**	P	**Pg**	**04 43 47.6**	**+0.8**
SURC				S	**Sg**	**04 44 14.2**	**+0.8**
SURC				*i* AML	AML	04 44 15.0	
	comp=N,33nm,0.4s						
SURC				*i* AML	AML	04 44 16.0	
	comp=E,27nm,0.2s						
RCY	**Rachaya**	**2.18**	**198**	*e*P	**Pb**	**04 43 44.8**	**-1.6**
RCY				*e*S	**Sn**	**04 44 10.5**	**+0.8**
AKCA	**Adyaman/G¶l**	**2.37**	**20**	P	**Pg**	**04 43 52.7**	**-0.1**
AKCA				S	**Sg**	**04 44 22.1**	**-1.5**
AKCA				*i* AML	AML	04 44 25.0	
	comp=N,31nm,0.4s						
AKCA				*i* AML	AML	04 44 29.0	
	comp=E,20nm,0.7s						
KERG	**Konya-Eregli**	**2.75**	**313**	P	**Pn**	**04 43 51.7**	**+1.0**

IDC ***16*** *04:46:10.0±1.5,63°.12N×172°.69W,h0km,mb3.7/11, mbtmp3.8/13,ML3.8/1,Error ellipse: s-maj=42.5km s-min=14.4km az=24.0*
AEIC ***16*** *04:46:10.5±2.4,63°.14N±0°.03×172°.3W±0°.2,h28km±6km, Error ellipse: s-maj=12.5km s-min=3.9km az=91.0*
NEIC ***16*** *04:46:10.3±1.7,63°.15N±0°.04×172°.3W±0°.2,h13km±2km, mb4.1/10,mb_Lg4.0/6,ML4.1(AEIC),Error ellipse: s-maj=11.8km s-min=6.1km az=99.0*
ISC 16 04:46:10.5±0.7,63°.14N±0°.05×172°.20W±0°.06,h10km,n80, σ1s45/87,mb4.0/13,Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**0.68**	**19**		**Pg**	**04 46 23.4**	**-0.2**
GAMB					**Sg**	**04 46 33.3**	**+0.9**
GAMB	**Gambell**	**0.68**	**19**	P	**Pg**	**04 46 23.4**	**-0.2**
	baz=203						
GAMB				S	**Sg**	**04 46 33.3**	**+0.9**
	baz=203						
TNA	**Tin City**	**3.06**	**35**		**Pn**	**04 46 57.4**	**-1.4**
TNA					**Sn**	**04 47 35.7**	**+0.3**
TNA	**Tin City**	**3.06**	**35**	P	**Pn**	**04 46 57.4**	**-1.4**
	baz=220						
ANM	**Nome**	**3.34**	**62**		**Pn**	**04 47 01.8**	**-0.9**
ANM	**Nome**	**3.34**	**62**	P	**Pn**	**04 47 01.8**	**-0.9**
	baz=248						
F14K	**Arctic Creek**	**3.47**	**45**		**Pn**	**04 47 03.2**	**-1.2**
F14K	**Arctic Creek**	**3.47**	**45**	P	**Pn**	**04 47 03.2**	**-1.2**
	baz=231						
K13K	**Kusilvak Mount**	**3.70**	**106**		**Pn**	**04 47 07.1**	**-0.5**
K13K					**Sn**	**04 47 49.8**	**-1.4**
K13K	**Kusilvak Mount**	**3.70**	**106**	IAmb_Lg		04 48 15.0	
	comp=Z,362nm,1.0s						
K13K	**Kusilvak Mount**	**3.70**	**106**	P	**Pn**	**04 47 07.1**	**-0.5**
	baz=292						
K13K				S	**Sn**	**04 47 49.8**	**-1.4**
	baz=292						
J14K	**Nanvaranak Lak**	**3.97**	**92**		**Pn**	**04 47 10.7**	**-0.6**
J14K	**Nanvaranak Lak**	**3.97**	**92**	IAmb_Lg		04 48 26.8	
	comp=Z,263nm,0.7s						
J14K	**Nanvaranak Lak**	**3.97**	**92**	P	**Pn**	**04 47 10.7**	**-0.6**
	baz=280						
M11K	**Mekoryuk**	**3.97**	**131**		**Pn**	**04 47 10.6**	**-0.7**
M11K	**Mekoryuk**	**3.97**	**131**	P	**Pn**	**04 47 10.5**	**-0.7**
	baz=316						
G15K	**Niukluk**	**4.04**	**59**		**Pn**	**04 47 13.7**	**+1.4**
F15K	**North Star Dit**	**4.17**	**48**		**Pn**	**04 47 14.8**	**+0.8**
F15K	**North Star Dit**	**4.17**	**48**	IAmb_Lg		04 48 29.4	
	comp=Z,313nm,0.8s						
H16K	**Elim**	**4.65**	**67**		**Pn**	**04 47 21.9**	**+1.2**
L14K	**Kuka Creek**	**4.80**	**108**		**Pn**	**04 47 23.1**	**+0.4**
L14K					**Sn**	**04 48 19.1**	**+0.8**
L14K	**Kuka Creek**	**4.80**	**108**	P	**Pn**	**04 47 23.1**	**+0.4**
	baz=296						
L14K				S	**Sn**	**04 48 19.1**	**+0.8**
	baz=296						
G16K	**Koyuk River**	**4.85**	**58**		**Pn**	**04 47 24.4**	**+1.1**
G16K	**Koyuk River**	**4.85**	**58**	IAmb_Lg		04 48 48.5	
	comp=Z,319nm,0.8s						
G16K	**Koyuk River**	**4.85**	**58**	P	**Pn**	**04 47 24.0**	**+0.7**
	baz=247						
K15K	**Wolf Creek Mou**	**4.98**	**95**		**Pn**	**04 47 25.6**	**+0.4**
K15K	**Wolf Creek Mou**	**4.98**	**95**	P	**Pn**	**04 47 25.2**	**-0.1**
	baz=284						
M13K	**Dall Lake**	**5.01**	**119**		**Pn**	**04 47 26.4**	**+0.8**
M13K	**Dall Lake**	**5.01**	**119**	P	**Pn**	**04 47 25.8**	**+0.2**
	baz=307						
L15K	**Ungalak Mounta**	**5.19**	**102**		**Pn**	**04 47 28.4**	**+0.3**
L15K	**Ungalak Mounta**	**5.19**	**102**	P	**Pn**	**04 47 28.4**	**+0.3**
	baz=291						
I17K	**Unalakleet**	**5.20**	**77**		**Pn**	**04 47 28.6**	**+0.4**
I17K	**Unalakleet**	**5.20**	**77**	P	**Pn**	**04 47 28.6**	**+0.4**
	baz=267						
J16K	**Anvik River**	**5.25**	**83**		**Pn**	**04 47 29.2**	**+0.4**
J16K	**Anvik River**	**5.25**	**83**	P	**Pn**	**04 47 29.3**	**+0.4**
	baz=274						
M14K	**Bethel**	**5.39**	**112**		**Pn**	**04 47 30.7**	**-0.2**
M14K					**Sn**	**04 48 32.1**	**-0.8**
M14K	**Bethel**	**5.39**	**112**	P	**Pn**	**04 47 30.7**	**-0.2**
	baz=301						
M14K				S	**Sn**	**04 48 32.1**	**-0.8**
	baz=301						
H17K	**Granite Mounta**	**5.69**	**66**		**Pn**	**04 47 35.1**	**+0.2**
H17K	**Granite Mounta**	**5.69**	**66**	P	**Pn**	**04 47 35.1**	**+0.2**
	baz=257						
C16K	**Lisburne Hills**	**5.88**	**26**		**Pn**	**04 47 37.1**	**-0.3**
C16K	**Lisburne Hills**	**5.88**	**26**	P	**Pn**	**04 47 37.1**	**-0.3**
	baz=212						
M15K	**Kasigluk River**	**5.96**	**109**		**Pn**	**04 47 38.8**	**+0.1**
M15K	**Kasigluk River**	**5.96**	**109**	P	**Pn**	**04 47 38.8**	**+0.1**
	baz=299						
N14K	**Kuskokwak Cree**	**5.97**	**118**		**Pn**	**04 47 38.5**	**-0.3**
N14K	**Kuskokwak Cree**	**5.97**	**118**	P	**Pn**	**04 47 38.1**	**-0.6**
	baz=307						
SPIA	**Saint Paul Isl**	**6.06**	**170**		**Pn**	**04 47 39.0**	**-1.0**
SPIA	**Saint Paul Isl**	**6.06**	**170**	P	**Pn**	**04 47 39.0**	**-1.0**
	baz=351						
L16K	**Owhat River**	**6.08**	**98**		**Pn**	**04 47 40.2**	**-0.1**
L16K	**Owhat River**	**6.08**	**98**	P	**Pn**	**04 47 40.2**	**-0.1**
	baz=289						
N15K	**Kwethluk River**	**6.49**	**112**		**Pn**	**04 47 45.4**	**-0.5**
N15K	**Kwethluk River**	**6.49**	**112**	P	**Pn**	**04 47 45.4**	**-0.5**
	baz=302						
M16K	**Timber Creek**	**6.57**	**103**		**Pn**	**04 47 47.0**	**0.0**
M16K	**Timber Creek**	**6.57**	**103**	P	**Pn**	**04 47 46.6**	**-0.4**
	baz=295						
N16K	**Nishlik Lake**	**6.90**	**107**		**Pn**	**04 47 51.5**	**-0.1**
N16K	**Nishlik Lake**	**6.90**	**107**	P	**Pn**	**04 47 51.5**	**-0.1**

baz=298
KDAK Kodiak Island 11.04 110 Pn Pn 04 48 51.2 +2.9
comp=Z,0.6nm,0.3s,baz=345,slow=4.6,SNR=14
KDAK Sn Sn 04 50 55.8 +4.2
comp=Z,0.2nm,0.3s,baz=21,slow=14,SNR=1.3
comp=Z,13nm,1.1s
ILAR Eielson Array 11.21 70 Pn Pn 04 48 50.6 0.0
comp=Z,1.6nm,1.0s,baz=268,slow=13,SNR=1.2
ILAR Sn Sn 04 50 54.4 -1.4
baz=285,slow=14,SNR=1.6
M29M Somme Creek 15.34 77 Pn Pn 04 49 44.9 -2.0
N30M Aishikik Lake 16.29 80 Pn Pn 04 49 56.8 -2.2
N30M IAmb IAmb 04 50 40.9
comp=Z,18nm,1.4s
H31M Peel River 16.36 64 Pn Pn 04 49 54.0 -5.9
H31M IAmb IAmb 04 50 11.6
comp=Z,26nm,1.3s
F31M Tsiigehtchic 16.43 58 Pn Pn 04 49 54.7 -6.1
F31M IAmb IAmb 04 50 26.1
comp=Z,22nm,1.4s
INK Inuvik 16.49 55 Pn Pn 04 50 01.8 +0.3
INK IAmb IAmb 04 50 04.1
comp=Z,25nm,1.5s
WHY Whitehorse 17.59 81 Pn Pn 04 50 14.7 -0.8
YKA Yellowknife Ar 25.57 65 P P 04 51 41.6 +2.5
comp=Z,0.4nm,0.8s,baz=294,slow=8.5,SNR=3.5
comp=Z,0.4nm,0.8s
RES Resolute Bay 27.70 34 P P 04 51 56.1 -2.1
AHID Auburn Hatcher 40.15 91 P P 04 53 44.7 -1.8
AHID IAmb IAmb 04 53 51.0
comp=Z,2.4nm,0.6s
NVAR Mina Array Bea 40.39 102 P P 04 53 51.3 +2.8
comp=Z,0.2nm,0.5s,baz=305,slow=8.4,SNR=2.0
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 40.85 89 P P 04 53 53.2 +0.9
comp=Z,0.3nm,0.7s,baz=337,slow=4.4,SNR=1.6
comp=Z,0.3nm,0.7s
SONM Songino Array 45.25 290 P P 04 54 27.1 -0.6
comp=Z,0.5nm,0.7s,baz=51,slow=7.6,SNR=2.8
comp=Z,0.5nm,0.7s
ARCES ARCESS Array B 47.02 352 P P 04 54 40.7 -0.5
ARCES ARCESS Array B 47.02 352 P P 04 54 41.9 +0.7
comp=Z,2.6nm,0.9s,baz=359,slow=9.9,SNR=0.9
comp=Z,2.6nm,0.9s
KURBB Kurchatov Arra 53.75 312 P P 04 55 34.1 +1.7
comp=Z,0.2nm,0.5s,baz=34,slow=6.8,SNR=2.3
comp=Z,0.2nm,0.5s
BRVK Borovoye 54.30 319 P P 04 55 35.2 -1.1
BRVK IAmb IAmb 04 56 17.5
comp=Z,1.7nm,0.6s
FINES FINESS Array B 54.97 349 P P 04 55 40.5 -0.5
comp=Z,2.6nm,0.8s,baz=346,slow=3.9,SNR=4.5
comp=Z,2.6nm,0.8s
NOA NORSAR Array B 56.11 358 P P 04 55 50.9 +1.6
comp=Z,1.3nm,0.8s,baz=24,slow=6.4,SNR=3.3
comp=Z,1.3nm,0.8s
HFS Hagfors 56.97 356 P P 04 55 56.4 +1.0
comp=Z,5.9nm,1.1s,baz=90,slow=1.5,SNR=4.7
comp=Z,5.9nm,1.1s
AKTO Aktyubinsk 60.07 325 P P 04 56 16.9 -0.2
comp=Z,1.0nm,0.6s,baz=34,slow=15,SNR=1.6
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 60.64 324 P P 04 56 20.5 -0.5
ABKAR Akbulak array 60.64 324 P P 04 56 20.3 -0.7
ABKAR IAmb IAmb 04 56 55.3
comp=Z,2.2nm,1.0s
KBZ Khabaz 69.87 334 P P 04 57 22.5 +1.6
comp=Z,0.9nm,0.8s,baz=337,slow=22,SNR=2.4
comp=Z,0.9nm,0.8s

WEL 16 04:50:25.7,39°S±19″×17°6E±1°7,h160km±22km,M2.7/33,mB4.3/1,ML2.1/6,MLv2.7/33,Mw(mB)3.4/1,Error ellipse: s-maj=0.0km s-min=0.0km az=142.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTVZ	**North Tongarir**	**0.42**	**185**	P	Pn	04 50 48.5	+0.5
TMVZ	**Te Maari**	**0.43**	**182**	P	Pn	04 50 48.8	+0.8
WTVZ	**West Tongariro**	**0.45**	**193**	P	Pn	04 50 48.6	+0.6
ETVZ	**East Tongariro**	**0.45**	**181**	P	Pn	04 50 48.8	+0.7
NNVZ	**North Ngauruho**	**0.46**	**190**	P	Pn	04 50 46.7	-1.5
OTVZ	**Oturere**	**0.48**	**185**	P	Pn	04 50 49.0	+0.7
NGZ	**Ngauruhoe**	**0.50**	**190**	P	Pn	04 50 49.1	+0.7
COVZ	**Chateau Observ**	**0.54**	**195**	P	Pn	04 50 49.0	+0.6
MRHZ	**Matea Rd**	**0.57**	**106**	P	Pn	04 50 47.9	-0.7
FWVZ	**Far West T-bar**	**0.59**	**193**	P	Pn	04 50 49.6	+0.7
TUVZ	**Tukino**	**0.59**	**185**	P	Pn	04 50 49.6	+0.8
TRVZ	**Turoa**	**0.63**	**192**	P	Pn	04 50 49.8	+0.7
WNVZ	**Wahianoa**	**0.65**	**188**	P	Pn	04 50 49.9	+0.7
MOVZ	**Moawhango**	**0.72**	**178**	P	Pn	04 50 49.9	+0.4
MKRZ	**Makatiti**	**0.80**	**48**	P	Pn	04 50 40.3	-10
BHHZ	**Black Hill Sta**	**0.85**	**162**	P	Pn	04 50 50.7	+0.4
MTHZ	**Maungataniwha**	**0.89**	**101**	P	Pn	04 50 49.9	-0.8
KWHZ	**Kaweka Forest**	**0.92**	**144**	P	Pn	04 50 51.4	+0.6
NMHZ	**Naumai**	**0.94**	**116**	P	Pn	04 50 51.7	+0.6
TOZ	**Tahuroa Road**	**0.96**	**350**	P	Pn	04 50 48.6	-2.5
MCHZ	**McNeill Hill**	**1.08**	**135**	P	Pn	04 50 53.0	+0.9
KRHZ	**Kereru**	**1.09**	**152**	P	Pn	04 50 52.8	+0.6
ARHZ	**Aropaoanui**	**1.15**	**121**	P	Pn	04 50 52.9	+0.2
URZ	**Urewera**	**1.17**	**69**	P	Pn	04 50 50.0	-2.9
WAZ	**Wanganui**	**1.21**	**208**	P	Pn	04 50 54.0	+0.7
PNHZ	**Pukenui**	**1.29**	**163**	P	Pn	04 50 54.5	+0.5
TSZ	**Takapari Road**	**1.39**	**172**	P	Pn	04 50 55.5	+0.6
NEZ	**North Egmont**	**1.40**	**245**	P	Pn	04 50 55.4	+0.4
KAHZ	**Kahuranaki**	**1.43**	**141**	P	Pn	04 50 56.0	+0.7
WPHZ	**Waipukurau**	**1.49**	**158**	P	Pn	04 50 56.4	+0.5
OHWZ	**Ohakea**	**1.55**	**191**	P	Pn	04 50 57.6	+1.1
RIGZ	**Rimuhau**	**1.60**	**92**	P	Pn	04 50 55.7	-1.4
PXZ	**Pawanui**	**1.61**	**147**	P	Pn	04 50 57.5	+0.3
MKAZ	**Moumakai**	**1.64**	**344**	P	Pn	04 50 53.5	-3.9
DVHZ	**Dannevirke**	**1.65**	**168**	P	Pn	04 50 57.7	+0.1
RUGZ	**Raukumara Rang**	**1.70**	**66**	P	Pn	04 50 53.7	-4.5
POWZ	**Post Office Ro**	**1.71**	**179**	P	Pn	04 50 58.3	+0.1
PRHZ	**Porangahau**	**1.73**	**156**	P	Pn	04 50 58.7	+0.3
HAZ	**Te Kaha**	**1.87**	**61**	P	Pn	04 50 55.4	-4.5
ANWZ	**Angora Road**	**1.87**	**162**	P	Pn	04 51 00.2	+0.3
PRWZ	**Pori Road**	**1.88**	**174**	P	Pn	04 51 00.3	+0.2
MRZ	**Mangatainoka R**	**1.98**	**183**	P	Pn	04 51 00.9	-0.3
BFZ	**Birch Farm**	**2.04**	**169**	P	Pn	04 51 01.6	-0.2
TIWZ	**Tintock**	**2.10**	**177**	P	Pn	04 51 02.4	-0.1
OGWZ	**Otaki Gorge**	**2.17**	**191**	P	Pn	04 51 03.2	-0.2
HOWZ	**Holdsworth Sta**	**2.22**	**184**	P	Pn	04 51 03.4	-0.6
KIW	**Kapiti Island**	**2.27**	**196**	P	Pn	04 51 03.8	-0.7
WMGZ	**Waiomatatini S**	**2.29**	**69**	P	Pn	04 51 00.7	-4.1
TMWZ	**Te Maipa**	**2.43**	**177**	P	Pn	04 51 05.7	-0.7
CAW	**Cannon Point**	**2.48**	**191**	P	Pn	04 51 06.2	-0.7
MTW	**Mount Morrison**	**2.48**	**184**	P	Pn	04 51 06.0	-1.0
DUWZ	**D'Urville Isla**	**2.53**	**213**	P	Pn	04 51 06.4	-1.2
PAWZ	**Paruwai Farm**	**2.71**	**185**	P	Pn	04 51 08.5	-1.3
TRWZ	**Traveller**	**2.71**	**180**	P	Pn	04 51 08.7	-1.2
TCW	**Tory Channel**	**2.76**	**203**	P	Pn	04 51 09.3	-1.1
BHW	**Baring Head**	**2.80**	**193**	P	Pn	04 51 09.5	-1.4
PLWZ	**Palliser**	**2.91**	**187**	P	Pn	04 51 10.6	-1.6
TUWZ	**Tuamarina**	**3.06**	**206**	P	Pn	04 51 12.5	-1.6
QRZ	**Quartz Range**	**3.26**	**228**	P	Pn	04 51 13.6	-3.1
BSWZ	**Blackbirch Sta**	**3.34**	**204**	P	Pn	04 51 16.2	-1.6
MRNZ	**Matariki Terra**	**3.54**	**219**	P	Pn	04 51 17.6	-2.7
THZ	**Tophouse**	**3.76**	**214**	P	Pn	04 51 21.2	-1.8
KHZ	**Kahutara**	**4.08**	**203**	P	Pn	04 51 25.3	-1.9
GVZ	**Greta Valley S**	**4.74**	**205**	P	Pn	04 51 33.1	-2.7
LTZ	**Lake Taylor**	**4.86**	**211**	P	Pn	04 51 34.4	-3.0
INZ	**Inchbonnie**	**5.18**	**217**	P	Pn	04 51 38.6	-3.0
OKCZ	**Okains Bay**	**5.42**	**201**	P	Pn	04 51 41.7	-3.1
MHCZ	**Mount Hutt**	**5.77**	**212**	P	Pn	04 51 45.4	-4.0
ARCZ	**Arundel**	**6.27**	**212**	P	Pn	04 51 52.4	-3.7
TMZ	**Timaru**	**6.70**	**210**	P	Pn	04 51 57.8	-4.0
ODZ	**Otahua Downs**	**7.40**	**209**	P	Pn	04 52 07.2	-3.7

*NEIC **16** 05:03:11.6±0.3,36°.119N±0°.010×97°.813W±0°.007,h3km±4km,Error ellipse: s-maj=1.5km s-min=0.7km az=164.0*
*ANF **16** 05:03:11.3±0.3,36°.12N×97°.80W,h2km±2km,ML3.4/6,Error ellipse: s-maj=2.4km s-min=1.5km az=162.0*
TUL 16 05:03:11.9±0.3,36°.123N±0°.010×97°.81W±0°.01,h5km±4km,ML3.1,mb_Lg3.0/85(NEIC),ML3.2/60(NEIC),Error ellipse: s-maj=1.4km s-min=1.3km az=130.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.41**	**340**	Pg	Pg	05 03 20.2	+0.4
CROK				Sg	Sg	05 03 25.9	+0.8
CROK				IAML		05 03 28.5	
	comp=N,3μm,0.2s						
OK029	**Liberty Lake**	**0.43**	**139**	Pg	Pg	05 03 20.6	+0.3
OK029				Sg	Sg	05 03 26.6	+0.7
OK029				IAML		05 03 27.1	
	comp=N,3μm,0.4s						
ADOK	**Arcadia Dam**	**0.59**	**143**	Pg	Pg	05 03 23.4	+0.2
ADOK				Sg	Sg	05 03 31.6	+0.7
OK033	**Mehan**	**0.71**	**96**	Pg	Pg	05 03 25.5	0.0
GC02	**Grant County #**	**0.73**	**357**	Pg	Pg	05 03 25.8	-0.2
GC02				Sg	Sg	05 03 35.9	+0.5
OK048	**Pawnee Station**	**0.76**	**67**	Pg	Pg	05 03 26.4	0.0
OK048				Sg	Sg	05 03 36.4	+0.1
OKCSW	**OKLAHOMA CITY**	**0.78**	**157**	Pg	Pg	05 03 26.8	0.0
OKCSW				IAML		05 03 38.7	
	comp=N,932nm,0.1s						
OKCSW				IAML		05 03 42.0	
	comp=E,783nm,0.1s						
BLOK	**Blackwell**	**0.80**	**37**	Pg	Pg	05 03 27.1	-0.1
BLOK				Sg	Sg	05 03 38.1	+0.6
BLOK				IAML		05 03 47.3	
	comp=N,1μm,0.3s						
OK052	**Battle Ridge R**	**0.82**	**99**	Pg	Pg	05 03 27.6	-0.1
OK052				Sg	Sg	05 03 39.2	+0.7
KAN14	**Manchester OK**	**0.84**	**352**	Pg	Pg	05 03 27.8	-0.3
KAN14				IAML		05 03 42.7	
	comp=E,634nm,0.1s						
KAN14				IAML		05 03 44.9	
	comp=N,738nm,0.1s						
CSTR	**Hydro, Custer**	**0.86**	**237**	Pg	Pg	05 03 28.3	-0.1
CSTR				Sg	Sg	05 03 40.0	+0.5
OK051	**E0350 and S346**	**0.87**	**64**	Pg	Pg	05 03 28.6	-0.1
OK051				IAML		05 03 48.4	
	comp=N,809nm,0.2s						
OK051				IAML		05 03 51.9	
	comp=N,840nm,0.3s						
QUOK	**Quay**	**0.89**	**87**	Pg	Pg	05 03 28.9	-0.1
QUOK				IAML		05 03 52.9	
	comp=N,634nm,0.2s						
KAN17	**Caldwell West**	**0.92**	**2**	Pg	Pg	05 03 29.3	-0.3
KAN17				IAML		05 03 48.4	
	comp=E,650nm,0.3s						
KAN17				IAML		05 03 50.8	
	comp=N,1μm,0.3s						
FNO	**Franklin**	**0.93**	**159**	Pg	Pg	05 03 29.3	-0.3
FNO				IAML		05 03 45.1	
	comp=E,712nm,0.3s						
KAN13	**South Haven SW**	**0.93**	**17**	Pg	Pg	05 03 29.5	-0.2
KAN13				IAML		05 03 48.9	
	comp=N,938nm,0.3s						
KAN05	**Bluff City Nor**	**0.98**	**357**	Pg	Pg	05 03 30.5	-0.3
KAN05				IAML		05 03 51.4	
	comp=E,805nm,0.2s						
U32A	**Winter Ranch,**	**1.00**	**285**	Pg	Pg	05 03 30.6	-0.5
U32A				IAML		05 03 47.2	
	comp=E,577nm,0.1s						
U32A				IAML		05 03 51.1	
	comp=N,598nm,0.1s						
U32A	**Winter Ranch,**	**1.00**	**285**	P	Pg	05 03 30.6	-0.4
	baz=105						
U32A				S	Sb	05 03 44.6	-0.5
	baz=105						
KAN09	**Caldwell North**	**1.02**	**9**	Pg	Pg	05 03 31.1	-0.4
KAN10	**Anthony SW Sta**	**1.02**	**347**	Pg	Pg	05 03 30.9	-0.6
KAN10				IAML		05 03 49.7	
	comp=N,573nm,0.3s						
KAN10				IAML		05 03 50.2	
	comp=E,726nm,0.2s						
KAN01	**Argonia South**	**1.03**	**2**	Pg	Pg	05 03 31.3	-0.4
DEOK	**Depew**	**1.10**	**104**	Pg	Pg	05 03 32.1	-0.9
DEOK				IAML		05 03 47.8	
	comp=E,419nm,0.2s						
DEOK				IAML		05 03 50.1	
	comp=N,417nm,0.3s						
KAN08	**Anthony NE Sta**	**1.11**	**353**	Pg	Pg	05 03 32.7	-0.5
KAN06	**Argonia West S**	**1.12**	**358**	Pg	Pg	05 03 32.9	-0.6
KAN06				IAML		05 03 49.2	
	comp=N,393nm,0.2s						
KAN06				IAML		05 03 54.1	
	comp=E,446nm,0.2s						
KS21	**Milan North St**	**1.17**	**6**	Pg	Pg	05 03 33.8	-0.5
KS21	**Milan North St**	**1.17**	**6**	IAML		05 03 55.3	
	comp=E,603nm,0.1s						
KS21				IAML		05 03 55.5	
	comp=E,572nm,0.2s						
KAN12	**Harper NE Stat**	**1.18**	**353**	Pg	Pg	05 03 34.0	-0.6
W35A	**Tecumseh**	**1.23**	**142**	Pg	Pg	05 03 34.6	-0.9
ELIS	**Ellis County**	**1.30**	**268**	Pg	Pn	05 03 36.3	-0.6
T35A	**Sooner Cattle**	**1.31**	**52**		Pn	05 03 36.3	-0.6
T35A				IAML		05 04 00.0	
	comp=N,530nm,0.6s						
T35B	**Sooner Cattle**	**1.31**	**52**	P	Pn	05 03 36.6	-0.3
	baz=233						
T35B				S	Sb	05 03 54.1	0.0
	baz=233						
X34A	**Smith Ranch, M**	**1.52**	**181**		Pn	05 03 39.9	+0.1
X34A				IAmb_Lg		05 03 58.6	
	comp=E,65nm,1.1s						
WMOK	**Wichita Mounta**	**1.59**	**210**		Pn	05 03 40.3	-0.5
WMOK	**Wichita Mounta**	**1.59**	**210**	P	Pn	05 03 40.5	-0.2
	baz=30						
WMOK				S	Sb	05 04 02.2	-0.1
	baz=30						
TUL3	**Leonard**	**1.65**	**97**		Pn	05 03 41.4	-0.1
TUL3				IAmb_Lg		05 04 05.3	
	comp=Z,114nm,0.7s						
TUL3	**Leonard**	**1.65**	**97**	P	Pn	05 03 41.5	0.0
	baz=278						
TUL3				S	Sb	05 04 04.0	+0.2
	baz=278						
LOOK	**Love County**	**2.19**	**166**	Pn	Pn	05 03 49.3	+0.3
SMWD	**Samnorwood**	**2.23**	**244**	IAmb_Lg		05 04 24.2	
	comp=Z,67nm,0.7s						
RLO	**Rose Lookout**	**2.25**	**88**	Pn	Pn	05 03 50.3	+0.4
R32A	**Long Quarter,**	**2.41**	**343**	IAmb_Lg		05 04 30.4	
	comp=Z,50nm,0.8s						
R32A	**Long Quarter,**	**2.41**	**343**	P	Pn	05 03 52.2	+0.2
	baz=162						
R32A				S	Sn	05 04 22.9	+1.0
	baz=162						
WTFS	**Witchita Falls**	**2.41**	**193**	Pn	Pn	05 03 51.1	-0.9
Z35A	**Perchaven, San**	**2.82**	**171**	S	Sn	05 04 33.7	+1.6
	baz=351						
AMTX	**Amarillo**	**3.39**	**250**	Pn	Pn	05 04 05.4	-0.2
AMTX				IAmb_Lg		05 05 06.9	
	comp=Z,33nm,0.8s						
DKNS	**Dickens**	**3.54**	**227**	IAmb_Lg		05 05 08.6	
	comp=Z,60nm,0.8s						
Z38A	**Mt. Pleasant**	**3.68**	**140**	Pn	Pn	05 04 08.5	-1.0
Z38A				IAmb_Lg		05 05 18.3	
	comp=Z,56nm,0.9s						
S39A	**Bolivar**	**3.92**	**65**	Pn	Pn	05 04 12.1	-0.7
S39A				IAmb_Lg		05 05 18.4	
	comp=Z,41nm,0.8s						
RTBA	**Rita Blanca**	**4.00**	**276**	Pn	Pn	05 04 14.3	+0.4
SN05	**Snyder 5**	**4.11**	**219**	IAmb_Lg		05 05 29.1	
	comp=Z,25nm,0.7s						
SN01	**Snyder 1**	**4.13**	**219**	IAmb_Lg		05 05 26.5	
	comp=Z,35nm,0.7s						
POST	**Post**	**4.31**	**226**	Pn	Pn	05 04 17.1	-1.0
POST				IAmb_Lg		05 05 33.7	
	comp=Z,32nm,0.9s						
X40A	**Basin Creek Fa**	**4.38**	**110**	Pn	Pn	05 04 19.6	+0.5
X40A				IAmb_Lg		05 05 32.2	
	comp=Z,36nm,0.8s						
WLAR	**White Oak Lake**	**4.56**	**121**	IAmb_Lg		05 05 42.8	
	comp=Z,24nm,0.9s						
WHAR	**Wooly Hollow**	**4.57**	**99**	Pn	Pn	05 04 22.2	+0.5
WHAR				IAmb_Lg		05 05 47.5	
	comp=Z,32nm,1.1s						
MGMO	**Mountain Grove**	**4.57**	**75**	Pn	Pn	05 04 22.1	+0.4
MGMO				IAmb_Lg		05 05 36.7	
	comp=Z,35nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.61**	**91**	IAmb_Lg		05 05 39.7	
	comp=Z,24nm,1.1s						
KSCO	**Kaye Shedlock'**	**4.79**	**308**	IAmb_Lg		05 05 44.2	
	comp=Z,33nm,0.7s						
P38A	**Dawn**	**4.86**	**43**	IAmb_Lg		05 05 48.5	
	comp=Z,35nm,0.7s						
R40A	**Maddies Statio**	**4.92**	**62**	Pn	Pn	05 04 26.4	-0.1
R40A				IAmb_Lg		05 05 46.9	
	comp=Z,41nm,0.9s						
BRDY	**Brady**	**4.92**	**192**	IAmb_Lg		05 05 54.0	
	comp=Z,21nm,1.0s						
SGCY	**Sterling City**	**5.02**	**214**	IAmb_Lg		05 05 54.4	
	comp=Z,31nm,0.8s						
435B	**Jarrell**	**5.33**	**178**	IAmb_Lg		05 06 07.9	
	comp=Z,19nm,0.7s						
T25A	**Trinidad**	**5.41**	**283**	IAmb_Lg		05 06 15.6	
	comp=Z,34nm,1.1s						
JCT	**Junction City**	**5.87**	**197**	IAmb_Lg		05 06 34.0	
	comp=Z,26nm,0.8s						
OZNA	**Ozona**	**5.88**	**209**	IAmb_Lg		05 06 28.6	
	comp=Z,28nm,1.0s						
PBMO	**Poplar Bluff**	**5.98**	**82**	IAmb_Lg		05 06 31.5	
	comp=Z,18nm,0.8s						
FVM	**French Village**	**6.19**	**70**	IAmb_Lg		05 06 28.4	
	comp=Z,26nm,1.1s						
143A	**Socs Landing,**	**6.30**	**121**	IAmb_Lg		05 06 41.6	
	comp=Z,23nm,1.0s						
CGM3	**Cape Girardeau**	**6.65**	**77**	IAmb_Lg		05 06 39.4	
	comp=Z,18nm,0.7s						
K30B	**Basset**	**6.69**	**348**	IAmb_Lg		05 06 56.2	
	comp=Z,23nm,0.8s						
BRIGG	**Briggsdale**	**6.78**	**313**	IAmb_Lg		05 06 53.6	
	comp=Z,25nm,0.9s						
PECS	**Pecos**	**6.92**	**229**	IAmb_Lg		05 07 06.1	
	comp=Z,14nm,0.7s						
EF01	**Eagle Ford 01**	**6.99**	**184**	IAmb_Lg		05 07 07.0	
	comp=Z,14nm,0.8s						
OXF	**Oxford**	**7.05**	**101**	IAmb_Lg		05 07 06.4	
	comp=Z,14nm,0.8s						
DRIO	**Del Rio**	**7.09**	**200**	IAmb_Lg		05 07 11.5	
	comp=Z,18nm,0.9s						
SAND	**Sanderson**	**7.14**	**212**	IAmb_Lg		05 07 04.7	
	comp=Z,16nm,0.8s						
N23A	**Red Feather La**	**7.96**	**309**	IAmb_Lg		05 07 34.0	
	comp=Z,19nm,0.9s						
146A	**Union**	**8.03**	**113**	IAmb_Lg		05 07 40.5	
	comp=Z,14nm,0.8s						
L42A	**Oliver, Polo**	**8.63**	**45**	IAmb_Lg		05 07 48.4	
	comp=Z,17nm,0.8s						
RSSD	**Black Hills**	**9.30**	**331**	IAmb_Lg		05 08 16.8	
	comp=Z,12nm,1.0s						

*SSNC **16** 05:21:58.4±0.8,18°.21N×73°.58W,h17km±5km,MD3.6,ML3.3*
*OSPL **16** 05:21:59.4±1.5,18°.59N×73°.49W,h0km±7km,ML2.9*
*SDD **16** 05:22:02.3±2.1,18°.40N×73°.60W,h40km±155km,MD3.5,ML3.4*
ISC 16 05:21:56.1±1.8,18°.54N±0°.07×73°.54W±0°.03,h4km±13km,n27,σ1§61/48,2C-3D,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.17**	**91**	*e*Pg	**Pn**	**05 22 21.6**	**+2.3**
PAPH				IAML		05 22 36.9	
	comp=N,3μm,0.3s						
PAPH				IAML		05 22 38.8	
	comp=E,2μm,0.2s						
PAPH	**Port-au-Prince**	**1.17**	**91**	*e*P	**Pg**	**05 22 18.6**	**+0.1**
PAPH				*e*S	**Sb**	**05 22 33.6**	**-0.9**
PAPH				IAML		05 22 35.8	
	comp=E,649nm,0.2s						
PAPH				IAML		05 22 37.0	
	comp=N,1μm,0.3s						
PAPH	**Port-au-Prince**	**1.17**	**91**	*i* P	**Pg**	**05 22 18.8**	**+0.2**
PAPH				*e*S	**Sb**	**05 22 34.1**	**-0.3**
MASC	**Masc**	**1.75**	**338**	*e*P	**Pb**	**05 22 28.5**	**-0.2**
MASC				IAML		05 22 51.3	
	comp=E,345nm,0.4s						
MASC				IAML		05 22 51.9	
	comp=N,212nm,0.4s						
MASC	**Masc**	**1.75**	**338**	*i* P	**Pb**	**05 22 28.6**	**-0.2**
MASC				*e*S	**Sb**	**05 22 49.9**	**-1.3**
MASC				IAML		05 22 51.7	
	comp=Z,168nm,0.3s						
LOPE2	**Hotel El Peder**	**1.77**	**106**	*e*Pg	**Pn**	**05 22 29.2**	**+1.6**
LOPE2				*e*Sg	**Sn**	**05 22 50.6**	**+0.1**
LOPE2	**Hotel El Peder**	**1.77**	**106**	*i* P	**Pn**	**05 22 28.9**	**+1.4**
LOPE2				*e*S	**Sn**	**05 22 50.9**	**+0.4**
LOPE2				IAML		05 22 57.0	
	comp=Z,116nm,0.3s						
NEDR	**Neiba UASD**	**2.01**	**91**	*e*Pg	**Pb**	**05 22 32.7**	**-0.5**
NEDR				*e*Sg	**Sn**	**05 22 56.4**	**+0.1**
NEDR				IAML		05 23 01.4	
	comp=N,325nm,0.6s						
NEDR				IAML		05 23 11.4	
	comp=E,228nm,0.5s						
GTBY	**Guantanamo Bay**	**2.03**	**313⇓**	*e*Pg	**Pn**	**05 22 33.0**	**+2.0**
GTBY				*e*Sg	**Sn**	**05 22 57.8**	**+1.0**
GTBY				IAML		05 23 10.1	
	comp=N,212nm,0.5s						
GTBY				IAML		05 23 11.8	
	comp=E,130nm,1.1s						
GTBY	**Guantanamo Bay**	**2.03**	**313**	*e*P	**Pn**	**05 22 32.7**	**+1.7**
GTBY				*e*S	**Sn**	**05 22 58.3**	**+1.4**
GTBY				IAML		05 23 03.7	
	comp=E,140nm,0.3s						
GTBY				IAML		05 23 04.1	
	comp=E,126nm,0.3s						
GTBY	**Guantanamo Bay**	**2.03**	**313**	*i* P	**Pn**	**05 22 32.8**	**+1.7**
GTBY				*e*S	**Sn**	**05 22 57.8**	**+1.0**
GTBY				IAML		05 23 06.0	
	comp=Z,28nm,0.5s						
SDDR	**Presa de Saban**	**2.17**	**78⇓**	*e*Pg	**Pb**	**05 22 35.0**	**-1.1**
SDDR				⇓*e*Sg	**Sb**	**05 23 01.3**	**-2.1**
SDDR				IAML		05 23 07.3	
	comp=N,134nm,0.5s						
SDDR				IAML		05 23 07.3	
	comp=E,157nm,0.5s						
SDDR	**Presa de Saban**	**2.17**	**78**	*e*P	**Pb**	**05 22 34.9**	**-1.1**
SDDR	**Presa de Saban**	**2.17**	**78**	*i* P	**Pb**	**05 22 35.2**	**-0.9**
SDDR				*e*S	**Sb**	**05 23 00.9**	**-2.5**
SDDR				IAML		05 23 08.2	
	comp=Z,105nm,0.4s						
LOBA2	**Hotel Casa Bon**	**2.36**	**101**	*e*Pg	**Pb**	**05 22 38.2**	**-1.0**
LOBA2				*e*Sg	**Sn**	**05 23 06.5**	**+1.4**
NMDO	**Nuevo Mundo**	**2.43**	**326**	*e*P	**Pb**	**05 22 39.8**	**-0.5**
NMDO				*e*S	**Sb**	**05 23 08.6**	**-2.0**
NMDO				IAML		05 23 12.1	
	comp=E,97nm,0.2s						
NMDO				IAML		05 23 12.5	
	comp=N,79nm,0.3s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.49**	**111**	Pg	**Pg**	**05 42 09.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.70**	**355**	Pg	**Pg**	**05 42 14.1**	**+0.5**
IBDR	**Badra**	**0.73**	**162**	*e*Pg	**Pg**	**05 42 13.3**	**-0.7**
IBDR				*e*Sg	**Sg**	**05 42 23.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.92**	**55**	Pg	**Pb**	**05 42 17.5**	**-0.7**
IDHR	**Dehrash**	**1.08**	**34**	Pg	**Pg**	**05 42 19.9**	**-0.8**
BHD	**Baghdad**	**1.19**	**244**	*e*Pg	**Pn**	**05 42 23.0**	**+0.3**
BHD				*e*Sg	**Sb**	**05 42 38.5**	**+0.3**
BHD	comp=E,491nm,0.5s			AML	AML	05 42 44.8	
KCHF	**Cheshme Sefid,**	**1.24**	**67**	Pg	**Pn**	**05 42 23.5**	**0.0**
ILIN	**Lien**	**1.55**	**44**	Pg	**Pg**	**05 42 29.6**	**-0.1**
IKOM	**Komasi**	**1.58**	**76**	Pg	**Pg**	**05 42 29.6**	**-0.7**
IKFM	**Kafar-mosalman**	**1.85**	**98**	Pg	**Pb**	**05 42 33.4**	**-0.4**
IBZA	**Bozab**	**1.94**	**69**	Pn	**Pb**	**05 42 34.9**	**-0.7**
RAFI	**Al-Rafai**	**2.11**	**169**	*e*Pn	**Pn**	**05 42 36.0**	**+0.7**
RAFI				*e*Sn	**Sn**	**05 43 03.0**	**+1.4**
RAFI	comp=N,204nm,0.1s			AML	AML	05 43 13.5	
RAFI	comp=E,156nm,0.3s			AML	AML	05 43 17.4	
IALM	**Almabolaq**	**2.33**	**62**	Pn	**Pb**	**05 42 40.5**	**-1.7**
SDS1	**Sardasht. Az.**	**2.34**	**357**	Pn	**Pb**	**05 42 41.0**	**-1.4**
HSAM	**Samen**	**2.48**	**80**	Pn	**Pn**	**05 42 41.6**	**+0.9**
HAGD	**Aghdareh**	**3.06**	**70**	Pn	**Pn**	**05 42 50.1**	**+1.6**
QAMS	**Qamsar**	**4.78**	**89**	Pn	**Pn**	**05 43 13.9**	**+1.6**
IKLH	**Kolahrood**	**4.97**	**94**	Pn	**Pn**	**05 43 16.3**	**+1.4**

IDC ***16*** *05:46:20.9±0.9, 17°.16N×83°.85W, h0km, mb3.9/11, mbtmp4.0/14, ML3.4/3, MS3.4/6, Error ellipse: s-maj=27.2km s-min=17.4km az=38.0*
NEIC ***16*** *05:46:26.5±1.9, 17°.51N±0°.06×84°.06W±0°.03, h10km±2km, mb4.3/66, Error ellipse: s-maj=11.4km s-min=3.0km az=200.0*

ISC 16 05:46:24.9±0.5, 17°.47N±0°.06×84°.07W±0°.07, h10km, n93, σ1§42/70, mb4.2/33, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**4.58**	**223**	Pn	**Pn**	**05 47 35.4**	**+1.0**
TEIG	**Tepich**	**4.84**	**305**	Pn	**Pn**	**05 47 38.1**	**+0.3**
TEIG	**Tepich**	**4.84**	**305**	Pn	**Pn**	**05 47 38.2**	**+0.5**
TEIG	105nm,0.3s,baz=62,slow=1.4,SNR=45			Sn	**Sn**	**05 48 32.2**	**-1.6**
TEIG	154nm,0.3s,baz=174,slow=22,SNR=11			LR	LR	05 48 58.3	
MATN	**Matagalpa**	**4.86**	**202**		**Pn**	**05 47 40.0**	**+1.8**
ESPN	**Las Esperanzas**	**5.25**	**182**	Pn	**Pn**	**05 47 41.9**	**-1.6**
SOR	**Soroa**	**5.39**	**10**	Pn	**Pn**	**05 47 46.3**	**+0.9**
PETF	**Flores**	**5.57**	**265**		**Pn**	**05 47 47.5**	**-0.4**
ACON	**Acoyapa**	**5.57**	**191**	Pn	**Pn**	**05 47 46.7**	**-1.2**
CAMR	**Camarioca**	**6.11**	**24**	Pn	**Pn**	**05 47 55.4**	**+0.1**
MTDJ	**Mount Denham**	**6.27**	**82**	Pn	**Pn**	**05 47 56.3**	**-1.3**
COVE	**Coope Vega, Sa**	**6.72**	**183**	Pn	**Pn**	**05 48 05.9**	**+2.2**
JTS	**Las Juntas de**	**7.19**	**187**	Pn	**Pn**	**05 48 08.9**	**-1.3**
JTS	0.6nm,0.3s,baz=172,slow=23,SNR=1.9			Sn	Sn	05 49 24.3	-7.7
JTS	0.8nm,0.3s,baz=8.7,slow=19,SNR=1.5			Lg	Lg	05 50 00.1	
ORTG	1.5nm,0.3s,baz=358,slow=22,SNR=3.8 **Ortega, Santa**	**7.19**	**191**	Pn	**Pn**	**05 48 09.8**	**-0.5**
LCR2	**La Lucha 2**	**7.68**	**180**	Pn	**Pn**	**05 48 19.6**	**+2.4**
CCIG	**Comitan**	**7.81**	**262**	Pn	**Pn**	**05 48 19.3**	**+0.5**
CMIG	**Matias Romero**	**10.34**	**270**	Pn	**Pn**	**05 48 53.5**	**+0.1**
CMIG	0.9nm,0.3s,baz=71,slow=6.1,SNR=6.4			Sn	**Sn**	**05 50 44.6**	**-4.8**
CMIG	0.2nm,0.3s,baz=333,slow=13,SNR=1.2			LR	LR	05 53 58.2	
451A	comp=Z,99nm,18.4s,baz=66,slow=43 2.1nm,0.3s **Vernon**	**13.18**	**354**	Pn	**Pn**	**05 49 32.0**	**-0.1**
TLIG	**Tlapa**	**13.83**	**273**	Pn	**Pn**	**05 49 41.8**	**+0.6**
255A	**Hazlehurst**	**14.47**	**5**	Pn	**Pn**	**05 49 50.0**	**+0.2**
250A	**Grady**	**14.58**	**353**	Pn	**Pn**	**05 49 50.3**	**-1.1**
SDV	**Santo Domingo**	**15.61**	**121**	Pn	Pn	05 49 58.0	-7.3
ROSC	0.4nm,0.3s,baz=334,slow=16,SNR=3.5 2.4nm,0.3s **El Rosal**	**15.77**	**142**	LR	LR	05 56 25.9	
Y49A	comp=Z,93nm,19.4s,baz=248,slow=39 **Blount Mountai**	**16.45**	**353**	P	**Pn**	**05 50 17.7**	**+1.7**
833A	**Chaparral WMA,**	**17.76**	**310**		**P**	**05 50 34.2**	**+1.1**
833A	comp=Z,15nm,0.8s			IAmb	IAmb	05 50 39.4	
IMBA	**Imbabura, San**	**18.04**	**161**	P	**P**	**05 50 39.4**	**+2.6**
TKL	**Tuckaleechee C**	**18.12**	**1**	P	**P**	**05 50 39.4**	**+2.3**
TKL	comp=Z,0.2nm,0.3s,baz=204,slow=13,SNR=1.5			LR	LR	05 57 57.3	
PULU	comp=Z,99nm,20.1s,baz=142,slow=38 comp=Z,0.8nm,0.4s **Pululahua**	**18.18**	**162**	P	**P**	**05 50 40.4**	**+2.1**
V48A	**Smith Brothers**	**18.36**	**353**	P	**Pn**	**05 50 40.5**	**+0.8**
BRDY	**Brady**	**19.31**	**318**		**Pn**	**05 50 52.5**	**+1.2**
JCT	**Junction City**	**19.32**	**315**	P	**P**	**05 50 51.4**	**+1.1**
LCAR	**Lake Charles**	**19.56**	**343**		**Pn**	**05 50 55.4**	**+1.1**
T47A	**Sharon Grove**	**19.63**	**353**	IAmb	IAmb	05 51 01.8	
PLPT	comp=Z,11nm,0.8s **Palo Pinto**	**19.96**	**323**	P	**P**	**05 50 59.0**	**+1.7**
PLPT	comp=Z,8.4nm,0.8s			IAmb	IAmb	05 51 01.3	
S51A	**Beattyville**	**20.10**	**1**	P	Pn	05 51 01.4	+0.9
S51A	comp=Z,13nm,0.8s			IAmb	IAmb	05 51 05.8	
ABTX	**Abilene, Hawle**	**20.62**	**320**	IAmb	IAmb	05 51 12.2	
SAND	comp=Z,21nm,0.9s **Sanderson**	**20.64**	**310**	P	**P**	**05 51 06.1**	**+1.3**
R50A	**Paris**	**20.74**	**359**	IAmb	IAmb	05 51 08.9	
R49A	comp=Z,17nm,0.9s **Shelbyville**	**20.77**	**358**	IAmb	IAmb	05 51 12.3	
WCI	comp=Z,13nm,0.8s **Wyandotte Cave**	**20.77**	**355**		**P**	**05 51 06.4**	**+0.3**
WCI	comp=Z,16nm,0.9s			IAmb	IAmb	05 51 13.2	
MGMO	**Mountain Grove**	**20.90**	**341**	IAmb	IAmb	05 51 14.6	
SGCY	comp=Z,22nm,1.4s **Sterling City**	**21.10**	**316**	P	**P**	**05 51 10.9**	**+1.2**
SGCY	comp=Z,15nm,1.0s			IAmb	IAmb	05 51 12.9	
TUL3	**Leonard**	**21.11**	**333**	IAmb	IAmb	05 51 12.9	
BOSC	comp=Z,7.7nm,0.8s **San Juan Bosco**	**21.21**	**164**	P	**P**	**05 51 12.8**	**+1.7**
ARNL	**Arenillas**	**21.25**	**169**	P	**P**	**05 51 13.1**	**+1.7**
ARNL	comp=Z,11nm,0.7s			IAmb	IAmb	05 51 18.6	
CCM	**Cathedral Cave**	**21.45**	**344**	P	**P**	**05 51 15.0**	**+1.6**
CCM	comp=Z,12nm,0.7s			IAmb	IAmb	05 51 18.3	
TXAR	**Lajitas Array**	**21.48**	**307**	P	**P**	**05 51 15.1**	**+1.2**
TXAR	**Lajitas Array** comp=Z,3.2nm,0.9s,baz=123,slow=9.1,SNR=8.5	**21.48**	**307**	P	**P**	**05 51 14.9**	**+1.1**
TX31	comp=Z,3.2nm,0.9s **Lajitas Ar. Si**	**21.48**	**307**	P	**P**	**05 51 15.6**	**+1.7**
Q51A	**Peebles**	**21.49**	**2**	P	**P**	**05 51 14.4**	**+0.6**
WMOK	**Wichita Mounta**	**21.64**	**325**	P	**P**	**05 51 16.6**	**+1.2**
BLO	**Bloomington**	**21.73**	**355**	P	**P**	**05 51 15.3**	**-1.0**
MNHN	**Monahans**	**21.87**	**313**	P	**P**	**05 51 19.0**	**+0.9**
ALPN	**Alpine**	**21.98**	**309**	P	**P**	**05 51 17.7**	**-1.6**
HPIG		**22.07**	**299**	P	**P**	**05 51 20.6**	**+0.2**
MCRA	**Macar, Loja**	**22.08**	**169**	P	**P**	**05 51 19.9**	**-0.4**
POST	**Post**	**22.08**	**318**	P	**P**	**05 51 20.8**	**+0.6**
POST	comp=Z,9.8nm,0.9s			IAmb	IAmb	05 51 27.9	
PECS	**Pecos**	**22.67**	**311**	IAmb	IAmb	05 51 28.9	
VHRN	comp=Z,11nm,1.2s **Van Horn**	**23.19**	**309**	IAmb	IAmb	05 51 34.8	
MSTX	comp=Z,9.1nm,1.3s **Muleshoe**	**23.47**	**318**	IAmb	IAmb	05 51 38.5	
M50A	comp=Z,21nm,1.4s **Fremont**	**23.87**	**2**	P	**P**	**05 51 39.3**	**+0.7**
ATAH	**Atahualpa**	**25.08**	**167**	LR	LR	06 00 56.3	
ANMO	comp=Z,72nm,19.3s,baz=4.1,slow=35 **Albuquerque**	**26.48**	**315**	P	**P**	**05 52 03.5**	**+0.9**
ANMO	comp=Z,4.4nm,0.9s			IAmb	IAmb	05 52 06.2	
ANMO	**Albuquerque** comp=Z,84nm,18.1s,baz=156,slow=44	**26.48**	**315**	LR	LR	06 05 57.3	
SRU	**San Rafael Swe** comp=Z,5.3nm,0.9s	**31.54**	**319**	IAmb	IAmb	05 52 50.3	
P17A	**Butcher Ranch,** comp=Z,3.2nm,0.9s	**31.89**	**319**	IAmb	IAmb	05 52 53.5	
BSUT	**Blindstream Ca**	**32.53**	**320**	IAmb	IAmb	05 52 59.4	
	comp=Z,5.0nm,1.0s						
PDAR	**Pinedale Array** comp=Z,0.8nm,0.8s,baz=134,slow=8.6,SNR=6.5	**33.25**	**325**	P	**P**	**05 53 02.3**	**-0.3**
PDAR	comp=Z,0.1nm,0.6s,baz=149,slow=4.2,SNR=3.0 comp=Z,0.8nm,0.8s			PcP	**PcP**	**05 55 43.1**	**-1.9**
HWUT	**Hardware Ranch**	**33.66**	**321**	P	**P**	**05 53 06.5**	**+0.3**
SPUT	**South Promonto** comp=Z,4.7nm,1.0s	**34.02**	**320**	IAmb	IAmb	05 53 13.0	
ULM	**Lac du Bonnet** comp=Z,2.9nm,0.9s,baz=129,slow=9.2,SNR=4.3 comp=Z,2.9nm,0.9s	**34.05**	**346**	P	**P**	**05 53 08.7**	**-0.5**
BGU	**Big Grassy Mou** comp=Z,3.4nm,0.9s	**34.16**	**319**	IAmb	IAmb	05 53 13.7	
MOOW	**Moose Ponds** comp=Z,3.4nm,1.1s	**34.55**	**325**	IAmb	IAmb	05 53 16.5	
ELK	**Elko** comp=Z,3.0nm,0.9s	**35.46**	**317**	IAmb	IAmb	05 53 24.9	
BOZ	**Bozeman (W)** comp=Z,3.1nm,0.9s	**36.24**	**327**	IAmb	IAmb	05 53 31.2	
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.7s,baz=118,slow=8.6,SNR=8.3	**36.44**	**312**	P	**P**	**05 53 32.0**	**+1.7**
NVAR	comp=Z,0.6nm,0.7s,baz=160,slow=3.7,SNR=5.1			PcP	**PcP**	**05 55 55.0**	**+0.7**
KVN	comp=Z,1.1nm,0.7s **Kaiserville** comp=Z,2.9nm,0.8s	**36.57**	**313**	IAmb	IAmb	05 53 34.1	
BMN	**Battle Mountai** comp=Z,4.7nm,1.0s	**36.61**	**316**	IAmb	IAmb	05 53 34.6	
J08A	**Circle Bar Ran** comp=Z,6.0nm,1.2s	**38.88**	**319**	IAmb	IAmb	05 53 54.6	
F10A	**Beach Ranch, E**	**39.55**	**323**	P	**P**	**05 53 57.2**	**+0.9**
F10A	comp=Z,6.0nm,1.0s			IAmb	IAmb	05 54 00.6	
SCHQ	**Schefferville**	**39.58**	**16**	P	**P**	**05 53 56.7**	**+0.4**
SCHQ	comp=Z,13nm,1.4s			IAmb	IAmb	05 54 21.8	
SCHQ	**Schefferville** comp=Z,1.8nm,0.6s,baz=224,slow=8.3,SNR=6.7 comp=Z,1.8nm,0.6s	**39.58**	**16**	P	**P**	**05 53 55.6**	**-0.6**
HOOD	**Mount Hood Mea**	**41.83**	**320**	P	**P**	**05 54 17.8**	**+2.6**
H04A	**Detroit Lake**	**41.86**	**319**	P	**P**	**05 54 16.0**	**+0.7**
FCC	**Fort Churchill**	**41.89**	**352**	P	**P**	**05 54 14.6**	**-0.5**
FCC	comp=Z,3.9nm,0.8s			IAmb	IAmb	05 54 15.7	
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.6s,baz=135,slow=7.9,SNR=24	**49.76**	**342**	P	**P**	**05 55 16.8**	**-0.5**
YKA	comp=Z,1.0nm,0.8s,baz=145,slow=3.6,SNR=13 comp=Z,1.0nm,0.8s			PcP	**PcP**	**05 56 36.7**	**-1.4**
PLCA	**Paso Flores** comp=Z,1.6nm,0.9s,baz=24,slow=5.7,SNR=2.9 comp=Z,1.6nm,0.9s	**59.25**	**168**	P	P	05 56 21.3	-5.3
ILAR	**Eielson Array** comp=Z,3.5nm,0.8s,baz=116,slow=5.0,SNR=45 comp=Z,3.5nm,0.8s	**62.84**	**335**	P	**P**	**05 56 51.3**	**+0.6**
ESDC	**Sonseca Array** comp=Z,0.6nm,0.6s,baz=278,slow=5.9,SNR=3.5 comp=Z,0.6nm,0.6s	**71.56**	**53**	P	**P**	**05 57 44.1**	**-2.5**
DBIC	**Dimbokro** comp=Z,2.7nm,1.0s,baz=270,slow=5.1,SNR=2.2 comp=Z,2.7nm,1.0s	**77.77**	**87**	P	P	05 58 19.3	-3.6
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.9s,baz=299,slow=5.3,SNR=3.3 comp=Z,0.6nm,0.9s	**82.18**	**79**	P	**P**	**05 58 44.3**	**-2.5**
WRA	**Warramunga Arr** comp=Z,2.5nm,0.8s,baz=87,slow=3.4,SNR=12	**143.59**	**260**	PKP	PKPab	06 05 57.2	-0.1
ASAR	**Alice Springs** comp=Z,2.0nm,0.5s,baz=102,slow=3.7,SNR=38	**143.99**	**254**	PKP	**PKPab**	**06 05 58.5**	**-0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.3s,baz=329,slow=4.2,SNR=6.1	**144.18**	**355**	PKP	**PKPab**	**06 05 59.4**	**-0.2**

IDC ***16*** *05:52:12.0±1.0, 21°.09N×100°.06E, h0km, mb3.7/7, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=29.4km s-min=13.7km az=91.0*

ISC 16 05:52:13.5±1.1, 21°.06N±0°.10×100°.1E±0°.2, h10km, n8, σ1§12/9, mb3.7/7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**2.81**	**203**	Pn	**Pn**	**05 52 58.0**	**-0.4**
CMAR	6.1nm,0.3s,baz=13,slow=13,SNR=53			Pg	**Pb**	**05 53 03.5**	**-0.3**
CMAR	49nm,0.3s,baz=17,slow=17,SNR=99			Lg	Lg	05 53 40.7	
MKAR	62nm,0.3s,baz=15,slow=28,SNR=15 9.3nm,0.5s **Makanchi Array**	**29.47**	**335**	P	**P**	**05 58 17.2**	**-0.4**
KURBB	0.3nm,0.4s,baz=134,slow=8.2,SNR=6.1 0.3nm,0.4s **Kurchatov Arra**	**34.03**	**335**	P	**P**	**05 58 57.2**	**-0.3**
ZALV	0.3nm,0.4s,baz=155,slow=7.3,SNR=2.8 0.3nm,0.4s **Zalesovo Beam**	**34.83**	**344**	P	**P**	**05 59 03.7**	**-0.7**
BVAR	0.7nm,0.4s,baz=140,slow=7.8,SNR=3.7 0.7nm,0.4s **Borovoye Array**	**39.21**	**332**	P	**P**	**05 59 40.6**	**-1.1**
WRA	0.4nm,0.5s,baz=126,slow=7.4,SNR=1.8 0.4nm,0.5s **Warramunga Arr**	**52.77**	**138**	P	**P**	**06 01 28.2**	**-0.8**
ASAR	0.6nm,0.7s,baz=325,slow=7.5,SNR=1.9 0.6nm,0.7s **Alice Springs**	**55.33**	**142**	P	**P**	**06 01 48.7**	**+0.9**
TORD	0.6nm,0.6s,baz=317,slow=7.3,SNR=8.9 0.6nm,0.6s **Torodi Ar. Bea**	**92.98**	**285**	P	**P**	**06 05 29.7**	**+2.0**
	0.4nm,0.7s,baz=33,slow=8.2,SNR=7.3 0.4nm,0.7s						

IDC 16 05:52:18.9±2.2, 23°.81S×115°.07W, h0km, mb3.6/3, mbtmp3.6/3, MS3.4/4, Error ellipse: s-maj=115.4km s-min=36.2km az=57.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.15**	**124**	LR	LR	05 55 39.2	
PPT	comp=Z,220nm,19.8s,baz=328,slow=33 **Papeete**	**32.81**	**274**	LR	LR	06 07 41.9	
PLCA	comp=Z,125nm,18.8s,baz=51,slow=28 **Paso Flores**	**40.78**	**125**	P	P	06 00 01.9	-0.1
PLCA	0.7nm,0.6s,baz=307,slow=10,SNR=3.7			LR	LR	06 11 39.9	
LVC	comp=Z,22nm,18.5s,baz=334,slow=28 0.7nm,0.6s **Limon Verde**	**42.30**	**98**	LR	LR	06 13 17.9	
PDAR	comp=Z,64nm,20.5s,baz=300,slow=30 **Pinedale Array**	**66.44**	**4**	P	P	06 03 10.6	+0.4
YKA	0.3nm,0.5s,baz=180,slow=7.8,SNR=4.9 0.3nm,0.5s **Yellowknife Ar**	**86.00**	**0**	P	P	06 05 00.0	-0.6
H11S2	0.4nm,0.9s,baz=182,slow=4.8,SNR=8.4 0.4nm,0.9s **WAKE ISLAND Hy**	**87.08**	**292**	T	T	07 41 03.5	
H11S1	baz=118,slow=75,SNR=67 **WAKE ISLAND Hy**	**87.09**	**292**	T	T	07 41 01.1	
H11S3	baz=118,slow=75,SNR=38 **WAKE ISLAND Hy**	**87.10**	**292**	T	T	07 41 00.6	
KURBB	baz=118,slow=75,SNR=40 **Kurchatov Arra**	**151.22**	**342**	PKPbc	PKPbc	06 12 14.2	+0.1
MKAR	0.1nm,0.4s,baz=24,slow=3.1,SNR=1.2 **Makanchi Array**	**153.16**	**333**	PKPbc	PKPbc	06 12 18.5	-0.1
	0.3nm,0.8s,baz=40,slow=2.5,SNR=2.8						

IDC 16 06:04:08.5±3.7, 55°.69N×85°.92E, h0km, mbtmp2.6/2, ML1.9/1, Error ellipse: s-maj=28.9km s-min=26.4km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**200**	I	I	06 15 10.0	
ZALV	baz=22,slow=353,SNR=2.9 **Zalesovo Beam**	**1.86**	**200**	Pg	Pn	06 04 42.0	+0.4
ZALV	1.2nm,0.3s,baz=19,slow=16,SNR=5.6 0.7nm,0.3s,baz=15,slow=25,SNR=1.7			Lg	Lg	06 05 07.0	
KURBB	**Kurchatov Arra**	**6.75**	**224**	Pn	Pn	06 05 48.2	-0.5
KURBB	baz=41,slow=14,SNR=3.0 baz=260,slow=14,SNR=1.6 0.3nm,0.4s			Lg	Lg	06 07 44.0	
MKAR	**Makanchi Array**	**9.20**	**196**	Pn	Pn	06 06 22.5	+0.2
MKAR	0.1nm,0.4s,baz=13,slow=7.5,SNR=1.2 baz=99,slow=15,SNR=1.0			Lg	Lg	06 09 03.4	

IDC ***16*** *06:19:35.9±1.3, 11°.97N×86°.99W, h0km, mb3.6/6, mbtmp3.6/8, ML3.1/2, MS3.5/1, Error ellipse: s-maj=57.3km s-min=16.9km az=45.0*
CATAC ***16*** *06:19:35.9±0.7, 11°.44N×87°.56W, h21km±8km, ML3.7*
SNET ***16*** *06:19:40.1±1.1, 11°.70N×87°.62W, h15km±16km, ML3.5*

ISC 16 06:19:37.7±1.9, 11°.51N±0°.07×87°.45W±0°.05, h24km±13km, n57, σ1§37/74, mb3.5/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	**Masachapa**	**0.95**	**70**	*i* P	**Pn**	**06 19 55.2**	**-0.4**
MSHP	comp=Z,580nm,1.0s			IAML		06 20 03.5	
MSHP				*i* S	**Sn**	**06 20 13.3**	**+4.9**
CHNN	**El Viejo**	**1.16**	**16**	*i* P	**Pn**	**06 19 58.2**	**-0.2**
CHNN				*i* S	**Sb**	**06 20 13.9**	**+0.3**
CHNN	comp=Z,8μm,1.0s			IAML		06 20 21.3	
LEVN	**Ruinas Leon Vi**	**1.20**	**42**	*i* P	**Pn**	**06 19 58.9**	**-0.2**
LEVN	comp=Z,2μm,1.0s			IAML		06 20 19.1	
SAPS	**Ciudad Sandino**	**1.21**	**57**	*i* P	**Pb**	**06 19 59.4**	**-0.6**
SAPS	comp=Z,2μm,1.0s			IAML		06 20 28.9	
CRUN	**El Crucero**	**1.22**	**67**	*i* P	Pb	06 20 06.1	+5.9
CRUN	comp=Z,7.2nm,1.0s			IAML		06 20 32.1	
ROCN	**Rota Cerro Neg**	**1.22**	**34**	*i* P	**Pn**	**06 19 59.4**	**+0.1**
ROCN	comp=Z,2μm,1.0s			IAML		06 20 15.8	
CNGA	**Al SSO del Vol**	**1.22**	**36**	*i* P	**Pb**	**06 19 59.7**	**-0.5**
CNGA	comp=Z,3μm,1.0s			IAML		06 20 19.2	
CNGN	**Cerro Negro**	**1.23**	**36**	*i* P	**Pn**	**06 19 59.4**	**-0.1**
CNGN	comp=Z,3μm,1.0s			IAML		06 20 22.7	
CRIN	**San Cristobal**	**1.25**	**18**	*e*P	**Pb**	**06 20 00.1**	**-0.6**
CRIN				*e*S	**Sb**	**06 20 16.6**	**+0.2**
CRIN	**San Cristobal**	**1.25**	**18**	*i* P	**Pn**	**06 19 59.2**	**-0.6**
CRIN	comp=Z,4μm,1.0s			IAML		06 20 34.2	
HERN	**Volcan Telica**	**1.25**	**29**	*i* P	**Pn**	**06 19 59.8**	**0.0**
HERN	comp=Z,2μm,1.0s			IAML		06 20 20.3	
ABCN	**Banco Central**	**1.27**	**61**	*i* P	**Pn**	**06 19 58.3**	**-1.7**
ABCN	comp=Z,5μm,1.0s			IAML		06 21 09.3	
APQ2	**Apoyeque**	**1.29**	**58**	*i* P	**Pn**	**06 19 59.9**	**-0.4**
APQ2	comp=Z,2μm,1.0s			IAML		06 20 26.4	
APYN	**Apoyeque**	**1.29**	**56**	*i* P	**Pn**	**06 20 00.2**	**-0.2**
APYN	comp=Z,1μm,1.0s			IAML		06 20 08.2	
UNAN	**Cigeo UNAN**	**1.30**	**62**	*i* P	**Pn**	**06 19 59.1**	**-1.3**
UNAN				*i* S	**Sb**	**06 20 20.6**	**+2.9**
UNAN	comp=Z,6μm,1.0s			IAML		06 20 40.7	
ENAN	**Enatrel Managu**	**1.31**	**62**	*i* S	**Sb**	**06 20 21.4**	**+3.4**
ENAN	comp=Z,7μm,1.0s			IAML		06 20 24.8	
TISN	**Laguna Tiscapa**	**1.31**	**61**	*i* P	**Pn**	**06 19 59.5**	**-1.1**
TISN	comp=Z,130nm,1.0s			IAML		06 20 10.4	
MOM2	**El Cardon**	**1.32**	**45**	*i* P	**Pn**	**06 20 00.4**	**-0.3**
MOM2	comp=Z,1μm,1.0s			IAML		06 20 09.7	
MAS3	**Al N del Volca**	**1.35**	**67**	*i* P	**Pn**	**06 20 00.7**	**-0.4**
MAS3				*i* S	**Sb**	**06 20 21.5**	**+2.4**
MAS3	comp=Z,1μm,1.0s			IAML		06 20 31.3	
MASN	**Masaya**	**1.35**	**69**	*i* P	**Sb**	**06 20 14.4**	**-5.0**
MASN	comp=Z,250nm,1.0s			IAML		06 20 35.8	
WILN	**Americas 2**	**1.39**	**62**	*i* P	**Pn**	**06 20 01.6**	**-0.1**
WILN	comp=Z,700nm,1.0s			IAML		06 20 09.7	
WILN				*i* S	**Sb**	**06 20 22.0**	**+1.6**
CSGN	**Cosiguina Volc**	**1.47**	**356**	*i* P	**Pn**	**06 20 02.4**	**-0.4**
CSGN	comp=Z,7μm,1.0s			IAML		06 20 22.1	
MORN	**Al O del Volca**	**1.76**	**88**	*i* P	**Pn**	**06 20 06.1**	**-0.7**
MORN	comp=Z,1μm,1.0s			IAML		06 20 17.7	
AMPH	**Amapala**	**1.78**	**353**	*e*P	**Pn**	**06 20 07.2**	**+0.1**
AMPH				*e*S	**Sn**	**06 20 28.0**	**-0.9**
AMPH	**Amapala**	**1.78**	**353**	*i* P	**Pn**	**06 20 06.6**	**-0.5**
AMPH				*i* S	**Sn**	**06 20 28.9**	**-0.1**
CONN	**Concepcion**	**1.78**	**88**	*i* P	**Pn**	**06 20 07.1**	**0.0**
CONN	comp=Z,4μm,1.0s			IAML		06 20 55.1	
CNCH	**Conchagua**	**1.80**	**348**	*e*P	**Pn**	**06 20 07.4**	**0.0**
CNCH				*e*S	**Sn**	**06 20 29.5**	**-0.1**
CNCH	**Conchagua**	**1.80**	**348**	*i* P	**Pn**	**06 20 07.1**	**-0.3**
CNCH				*i* S	**Sn**	**06 20 29.6**	**-0.1**
CNCH	comp=Z,2μm,1.0s			IAML		06 20 46.0	
LCND	**La Caada**	**1.84**	**346**	*e*P	**Pn**	**06 20 07.7**	**-0.2**
LCND	comp=Z,530nm,0.3s			IAML		06 20 39.1	
LCND	**La Caada**	**1.84**	**346**	*i* P	**Pn**	**06 20 07.3**	**-0.6**
LCND				*i* S	**Sn**	**06 20 30.6**	**+0.1**
LCND	comp=Z,670nm,1.0s			IAML		06 20 39.1	
LIMN	**Finca el Limon**	**1.87**	**34**	*i* P	**Pn**	**06 20 08.0**	**-0.4**
LIMN	comp=Z,860nm,1.0s			IAML		06 20 26.0	
JUCU	**Jucuarın**	**1.91**	**336**	*e*P	**Pn**	**06 20 08.2**	**-0.7**
MATN	**Matagalpa**	**2.05**	**46**	*i* P	**Pn**	**06 20 09.7**	**-1.2**
MATN	comp=Z,420nm,1.0s			IAML		06 20 18.7	
PACA	**Pacayal**	**2.13**	**336**	*e*P	**Pn**	**06 20 12.7**	**+0.7**
PACA	**Pacayal**	**2.13**	**336**	*i* P	**Pn**	**06 20 11.7**	**-0.3**
PACA				*i* S	**Sn**	**06 20 38.1**	**+0.3**
PACA	comp=Z,3μm,1.0s			IAML		06 20 50.8	
TECA	**Tecapa**	**2.23**	**333**	*e*P	**Pn**	**06 20 13.1**	**-0.3**
COEB	**Comit de Eme**	**2.25**	**332**	*e*P	**Pn**	**06 20 12.9**	**-0.6**
PQSS	**Presa 15 de Se**	**2.37**	**333**	*e*P	**Pn**	**06 20 15.4**	**+0.2**
PQSS	**Presa 15 de Se**	**2.37**	**333**	*i* P	**Pn**	**06 20 14.9**	**-0.3**
PQSS				*i* S	**Sn**	**06 20 42.7**	**-0.8**
PQSS	comp=Z,180nm,1.0s			IAML		06 20 49.7	
UESV	**Universidad de**	**2.49**	**328**	*i* P	**Pn**	**06 20 16.2**	**-0.7**
UESV				*i* S	**Sn**	**06 20 45.8**	**-0

comp=Z,2.3nm,0.4s
YKA Yellowknife Ar 54.52 345 P **P** **06 29 03.9 +0.5**
comp=Z,0.2nm,0.5s,baz=161,slow=3.0,SNR=5.1
comp=Z,0.2nm,0.5s
WRA Warramunga Arr 139.00 253 PKP **PKiKP** **06 39 07.6 +2.1**
comp=Z,0.6nm,0.8s,baz=90,slow=1.7,SNR=2.4
CMAR Chiang Mai Arr 149.57 348 PKPbc **PKPbc** **06 39 26.6 +0.4**
comp=Z,1.2nm,0.3s,baz=352,slow=3.1,SNR=6.5

ISN ***16*** *06:22:21.1±1.2, 33.77N×45.70E, h10km±6km, ML3.4*
TEH ***16*** *06:22:22.0, 33.81N×45.75E, h12km±24km, ML3.3*
ISC 16 06:22:21.7±0.9, 33.78N±0.03×45.70E±0.04, h10km, n19, σ1°08/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.45**	**109**	Pg		**Pg**	**06 22 30.6**	**0.0**
IBDR	**Badra**	**0.69**	**164**	*e*Pg		**Pg**	**06 22 35.0**	**-0.1**
IBDR				*e*Sg		**Sg**	**06 22 44.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.73**	**353**	Pg		**Pb**	**06 22 36.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.91**	**52**	Pg		**Pb**	**06 22 39.1**	**-0.6**
IDHR	**Dehrash**	**1.08**	**32**	Pg		**Pg**	**06 22 41.7**	**-0.8**
BHD	**Baghdad**	**1.21**	**246**	*e*Pg		**Pg**	**06 22 44.5**	**-0.5**
BHD				*e*Sg		**Sn**	**06 23 01.0**	**-0.1**
BHD				AML		AML	06 23 05.8	
	comp=E,2μm,0.4s							
KCHF	**Cheshme Sefid,**	**1.22**	**66**	Pg		**Pb**	**06 22 44.6**	**-0.4**
ILIN	**Lien**	**1.55**	**42**	Pg		**Pg**	**06 22 50.9**	**-0.6**
IKOM	**Komasi**	**1.56**	**75**	Pg		**Pg**	**06 22 50.9**	**-0.7**
IKFM	**Kafar-mosalman**	**1.81**	**97**	Pg		**Pb**	**06 22 54.3**	**-0.6**
IBZA	**Bozab**	**1.92**	**68**	Pn		**Pb**	**06 22 56.0**	**-1.0**
RAFI	**Al-Rafai**	**2.08**	**170**	*e*Pn		**Pn**	**06 22 57.0**	**+0.4**
RAFI				*e*Sn		**Sb**	**06 23 05.0**	**-0.3**
RAFI				AML		AML	06 23 41.6	
	comp=E,169nm,0.3s							
RAFI				AML		AML	06 23 46.7	
	comp=N,362nm,0.4s							
IALM	**Almabolaq**	**2.31**	**61**	Pn		**Pb**	**06 23 01.7**	**-1.9**
HSAM	**Samen**	**2.45**	**79**	Pn		**Pn**	**06 23 03.1**	**+1.1**
MAHB	**Mahabad**	**2.98**	**0**	Pn		**Pn**	**06 23 11.0**	**+1.7**
HAGD	**Aghdareh**	**3.03**	**69**	Pn		**Pn**	**06 23 11.3**	**+1.3**
IHRS	**Heris**	**4.66**	**13**	Pn		**Pn**	**06 23 34.1**	**+1.7**
QAMS	**Qamsar**	**4.75**	**89**	Pn		**Pn**	**06 23 34.9**	**+1.4**
IKLH	**Kolahrood**	**4.93**	**94**	Pn		**Pn**	**06 23 38.0**	**+1.9**

IDC ***16*** *06:39:59.5±0.8, 37.24N×141.26E, h0km, mb3.9/15, mbtmp3.9/20, ML3.5/4, MS2.7/2, Error ellipse: s-maj=18.3km s-min=16.4km az=122.0*
NIED ***16*** *06:40:01.5, 37.21N×141.33E, h21km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=-5.15; Mθθ5.43; Mϕϕ=-0.29; Mrθ1.19; Mθϕ 1.33; Mϕr=-1.12; Fault plane solution: M₀5.70000×10¹⁴ NP1: ϕs=272.00000°, δ52.00000°, λ=-71.00000°. NP2:ϕs=63.00000°, δ42.00000°, λ=-113.00000°.*
JMA ***16*** *06:40:01.5±0.1, 37.2N±0.3×141.3E±0.7, h21km±1km, MV3.9/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 16 06:40:00.5±1.9, 37.22N±0.04×141.29E±0.06, h8km±12km, n39, σ0°74/42, mb3.8/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**0.36**	**293**	P		**Pb**	**06 40 09.3**	**+0.1**
JFK				*e*S		**Sb**	**06 40 15.2**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.41**	**253**	*i* P		**Pb**	**06 40 10.1**	**0.0**
ONAJ				S		**Sb**	**06 40 16.5**	**-0.1**
JMST	**Minamisoumatoc**	**0.59**	**327**	*i* P		**Pb**	**06 40 13.4**	**+0.3**
JMST				S		**Sb**	**06 40 22.3**	**+0.5**
JFFD	**Fukushimafurud**	**0.60**	**257**	*i* P		**Pb**	**06 40 13.4**	**+0.2**
JFFD				S		**Sb**	**06 40 22.1**	**+0.2**
JMM	**Marumori**	**0.75**	**328**	*i* P		**Pb**	**06 40 16.1**	**+0.2**
JMM				S		**Sb**	**06 40 26.9**	**+0.5**
JOTO	**OTAMA OYAMA**	**0.83**	**294**	*i* P		**Pn**	**06 40 18.1**	**-0.5**
JOTO				S		**Sn**	**06 40 29.9**	**-1.2**
JHO	**Hitachi**	**0.84**	**224**	P		**Pg**	**06 40 16.7**	**0.0**
JHO				*e*S		**Sb**	**06 40 28.2**	**-0.7**
JSB	**Shiboa**	**1.13**	**257**	P		**Pn**	**06 40 23.3**	**+0.6**
JSB				S		**Sn**	**06 40 39.0**	**+0.6**
JIO	**Ouri**	**1.23**	**2**	P		**Pn**	**06 40 23.1**	**-0.9**
JIO				*e*S		**Sb**	**06 40 39.1**	**-0.9**
MJAR	**Matsushiro Arr**	**2.56**	**256**	Pn		**Pn**	**06 40 43.6**	**+1.2**
	1.8nm,0.3s,baz=78,slow=16,SNR=26							
MJAR				Sn		**Sb**	**06 41 18.0**	**-0.5**
	1.5nm,0.3s,baz=74,slow=33,SNR=4.4							
MJAR				LR		LR	06 42 04.9	
	comp=Z,84nm,21.9s,baz=29,slow=49							
	15nm,0.6s							
JHJ	**Hachijo jima 2**	**4.28**	**197**	Pn		**Pn**	**06 41 06.4**	**+0.5**
	21nm,0.3s,baz=319,slow=22,SNR=9.0							
JHJ				Sn		**Sn**	**06 41 54.8**	**-1.3**
	14nm,0.3s,baz=106,slow=24,SNR=1.6							
	46nm,0.5s							
ASAJ	**Asahikawa**	**6.96**	**8**	Pn		**Pn**	**06 41 41.2**	**-1.5**
	1.4nm,0.3s,baz=188,slow=21,SNR=2.1							
ASAJ				Sn		**Sn**	**06 43 03.6**	**+1.6**
	0.4nm,0.3s,baz=112,slow=15,SNR=2.0							
	5.4nm,0.5s							
USRK	**Ussuriysk Ar.**	**9.92**	**318**	Pn		**Pn**	**06 42 23.3**	**0.0**
	1.8nm,0.7s,baz=134,slow=14,SNR=2.5							
JCJ	**Chichijima**	**10.13**	**175**	LR		LR	06 47 16.5	
	comp=Z,77nm,18.2s,baz=79,slow=43							
KSRS	**Korea Array**	**10.65**	**275**	Pn		**Pn**	**06 42 32.5**	**-0.9**
	0.2nm,0.3s,baz=84,slow=14,SNR=2.3							
	0.4nm,0.3s							
SONM	**Songino Array**	**27.60**	**304**	P		**P**	**06 45 48.9**	**+0.5**
	0.9nm,0.5s,baz=102,slow=9.7,SNR=5.4							
	0.9nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.33**	**121**	T		T	07 15 29.5	
	baz=314,slow=75,SNR=217							
H11N1	**WAKE ISLAND Hy**	**28.34**	**121**	T		T	07 15 31.6	
	baz=314,slow=75,SNR=199							
H11N3	**WAKE ISLAND Hy**	**28.35**	**121**	T		T	07 15 31.0	
	baz=314,slow=75,SNR=192							
H11S1	**WAKE ISLAND Hy**	**29.04**	**123**	T		T	07 16 25.9	
	baz=315,slow=75,SNR=61							
H11S3	**WAKE ISLAND Hy**	**29.05**	**123**	T		T	07 16 22.8	
	baz=315,slow=75,SNR=60							
H11S2	**WAKE ISLAND Hy**	**29.06**	**123**	T		T	07 16 27.5	
	baz=315,slow=75,SNR=50							
ZALV	**Zalesovo Beam**	**41.72**	**312**	P		**P**	**06 47 49.0**	**-0.7**
	1.0nm,0.5s,baz=96,slow=7.6,SNR=4.5							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**43.94**	**302**	P		**P**	**06 48 08.0**	**+0.2**
	1.2nm,0.8s,baz=93,slow=9.1,SNR=13							
	1.2nm,0.8s							
KURBB	**Kurchatov Arra**	**45.81**	**308**	P		**P**	**06 48 22.4**	**-0.2**
	2.1nm,0.6s,baz=83,slow=8.1,SNR=21							
	2.1nm,0.6s							
ILAR	**Eielson Array**	**49.39**	**32**	P		**P**	**06 48 50.7**	**+0.4**
	1.3nm,0.8s,baz=271,slow=6.4,SNR=20							
	1.3nm,0.8s							
BVAR	**Borovoye Array**	**50.37**	**312**	P		**P**	**06 48 57.9**	**0.0**
	0.5nm,0.5s,baz=74,slow=11,SNR=2.0							
BVAR				PcP		**PcP**	**06 50 17.1**	**+0.7**
	0.4nm,0.5s,baz=68,slow=3.9,SNR=2.7							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**57.23**	**188**	P		**P**	**06 49 47.7**	**-0.7**
	1.1nm,0.6s,baz=4.9,slow=7.4,SNR=4.4							
	1.1nm,0.6s							
ASAR	**Alice Springs**	**60.96**	**188**	P		**P**	**06 50 14.1**	**-0.1**
	0.4nm,0.6s,baz=3.3,slow=6.5,SNR=3.6							
	0.4nm,0.6s							
YKA	**Yellowknife Ar**	**63.69**	**30**	P		**P**	**06 50 32.5**	**+0.4**
	0.4nm,0.7s,baz=304,slow=6.9,SNR=6.8							
	0.4nm,0.7s							
ARCES	**ARCESS Array B**	**63.78**	**339**	P		**P**	**06 50 32.6**	**0.0**
	5.6nm,1.1s,baz=56,slow=9.0,SNR=5.6							
	5.6nm,1.1s							
FINES	**FINESS Array B**	**68.60**	**332**	P		**P**	**06 51 03.4**	**-0.2**
	3.7nm,0.8s,baz=15,slow=7.9,SNR=4.0							
	3.7nm,0.8s							
NOA	**NORSAR Array B**	**73.97**	**337**	P		**P**	**06 51 35.0**	**-1.2**
	0.9nm,0.7s,baz=39,slow=6.2,SNR=1.7							
	0.9nm,0.7s							
AKASG	**Malin Array Be**	**74.09**	**322**	P		**P**	**06 51 36.2**	**-0.8**
	0.6nm,0.4s,baz=45,slow=6.1,SNR=7.7							
	0.6nm,0.4s							
NVAR	**Mina Array Bea**	**74.95**	**53**	P		**P**	**06 51 43.8**	**+1.2**
	0.6nm,0.8s,baz=296,slow=6.5,SNR=4.3							
	0.6nm,0.8s							
PDAR	**Pinedale Array**	**77.60**	**45**	P		**P**	**06 51 58.3**	**+0.7**
	0.5nm,0.6s,baz=280,slow=1.9,SNR=6.2							
	0.5nm,0.6s							
H03N2	**Juan Fernandez**	**147.14**	**96**	T		T	09 44 04.4	
	baz=291,slow=76,SNR=4.4							
H03N3	**Juan Fernandez**	**147.15**	**96**	T		T	09 44 06.9	
	baz=291,slow=76,SNR=5.4							
H03N1	**Juan Fernandez**	**147.16**	**96**	T		T	09 44 05.7	
	baz=291,slow=76,SNR=5.5							

IDC ***16*** *06:44:35.3±0.9, 58.96S×25.46W, h0km, mb4.1/5, mbtmp4.0/5, Error ellipse: s-maj=42.4km s-min=25.4km az=89.0*
ISC 16 06:44:40.5±0.9, 59.0S±0.1×25.3W±0.2, h35km, n22, σ0°91/13, mb3.9/5, 5C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**13.69**	**156**	⇑P		**Pn**	**06 47 52.0**	**+0.3**
	comp=Z,5.9nm,0.3s							
VNA3	**Neumayer Olymp**	**13.88**	**159**	⇑P		**Pn**	**06 47 53.7**	**-0.6**
	comp=Z,4.3nm,0.2s							
VNA3				⇓S		Sn	06 50 10.4	-16
VNA2	**Neumayer--Watz**	**14.09**	**155**	⇑P		**Pn**	**06 47 57.0**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=321,slow=15							
VNA2				⇓S		Sn	06 50 18.3	-14
	baz=12,slow=8.0							
SNAA	**Sanae**	**15.65**	**153**	⇑P		**Pn**	**06 48 18.3**	**+0.3**
	comp=Z,69nm,0.3s							
TROLL	**Troll, Antarti**	**17.17**	**151**	⇑P		**P**	**06 48 38.1**	**-0.6**
	comp=Z,110nm,0.5s							
H09W1	**TRISTAN DA CUN**	**23.49**	**27**	T		T	07 17 21.0	
	SNR=16							
QSPA	**South Pole Qui**	**31.25**	**180**	P		**P**	**06 50 57.4**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=249,slow=3.4,SNR=2.4							
	comp=Z,2.0nm,0.6s							
PLCA	**Paso Flores**	**33.56**	**283**	P		**P**	**06 51 17.0**	**+0.2**
	comp=Z,2.0nm,1.1s,baz=183,slow=16,SNR=2.4							
	comp=Z,2.0nm,1.1s							
VNDA	**Vanda**	**43.66**	**182**	P		**P**	**06 52 41.9**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=192,slow=8.4,SNR=9.1							
	comp=Z,1.2nm,0.6s							
H04S2	**CROZET ISLANDS**	**45.51**	**110**	T		T	07 43 17.9	
	baz=226,slow=75,SNR=16							
H04S3	**CROZET ISLANDS**	**45.52**	**110**	T		T	07 43 16.6	
	baz=226,slow=75,SNR=17							
H04S1	**CROZET ISLANDS**	**45.53**	**110**	T		T	07 43 19.0	
	baz=226,slow=75,SNR=16							
H10S2	**ASCENSION HYDR**	**50.59**	**14**	T		T	07 47 38.7	
	baz=176							
H10S3	**ASCENSION HYDR**	**50.59**	**14**	T		T	07 47 46.9	
	baz=44							
H10N1	**ASCENSION HYDR**	**51.71**	**14**	T		T	07 49 01.1	
	baz=189							
H10N3	**ASCENSION HYDR**	**51.71**	**14**	T		T	07 49 03.1	
	baz=189							
H10N2	**ASCENSION HYDR**	**51.72**	**14**	T		T	07 49 11.1	
	baz=189							
TORD	**Torodi Ar. Bea**	**75.18**	**27**	P		**P**	**06 56 20.2**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=203,slow=6.1,SNR=13							
	comp=Z,1.3nm,0.5s							
ASAR	**Alice Springs**	**95.87**	**161**	P		**P**	**06 58 02.1**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=180,slow=2.3,SNR=5.7							
	comp=Z,0.3nm,0.6s							
YKA	**Yellowknife Ar**	**139.00**	**315**	PKP		**PKPdf**	**07 04 00.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=122,slow=2.4,SNR=19							
INK	**Inuvik**	**148.68**	**317**	PKPbc		**PKPbc**	**07 04 21.2**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=66,slow=2.5,SNR=6.7							
ILAR	**Eielson Array**	**152.76**	**307**	PKPbc		**PKPbc**	**07 04 30.7**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=140,slow=2.8,SNR=4.5							

IDC ***16*** *06:58:43.4±1.6, 11.81N×124.72E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=192.3km s-min=17.0km az=67.0*
ISC 16 06:58:54.9±1.4, 11.9N±0.5×12.5E±., h100km, n11, σ1°06/8, mb3.9/8, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**32.95**	**163**	P		**P**	**07 05 18.6**	**-1.6**
	0.4nm,0.5s,baz=346,slow=9.1,SNR=3.0							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**36.40**	**166**	P		**P**	**07 05 49.7**	**-0.2**
	0.6nm,0.5s,baz=345,slow=7.2,SNR=12							
	0.6nm,0.5s							
SONM	**Songino Array**	**39.06**	**340**	P		**P**	**07 06 11.5**	**-0.7**
	0.4nm,0.6s,baz=160,slow=9.8,SNR=1.7							
	0.4nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**41.10**	**74**	T		T	07 50 51.1	
	baz=267,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**41.10**	**74**	T		T	07 50 42.8	
	baz=267,slow=75,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	**41.12**	**74**	T		T	07 50 50.7	
	baz=267,slow=75,SNR=8.7							
STKA	**Stephens Creek**	**46.34**	**160**	P		**P**	**07 07 12.3**	**+1.2**
	2.2nm,0.8s,baz=325,slow=12,SNR=4.1							
	2.2nm,0.8s							
MKAR	**Makanchi Array**	**49.94**	**323**	P		**P**	**07 07 38.9**	**+0.2**
	1.3nm,0.9s,baz=123,slow=8.8,SNR=6.3							
	1.3nm,0.9s							
ZALV	**Zalesovo Beam**	**52.58**	**331**	P		**P**	**07 07 59.3**	**+1.1**
	0.5nm,0.3s,baz=147,slow=8.2,SNR=2.4							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**53.99**	**325**	P		**P**	**07 08 08.6**	**0.0**
	1.1nm,0.6s,baz=125,slow=7.2,SNR=6.7							
	1.1nm,0.6s							
BVAR	**Borovoye Array**	**59.59**	**325**	P		**P**	**07 08 48.2**	**+0.1**
	0.7nm,0.7s,baz=179,slow=8.9,SNR=3.5							
	0.7nm,0.7s							

IDC ***16*** *07:04:03.1±0.7, 11.66N×124.55E, h0km, mb4.1/18, mbtmp4.2/19, ML4.8/1, MS3.9/26, Error ellipse: s-maj=30.0km s-min=14.1km az=65.0*
NEIC ***16*** *07:04:09.6±1.8, 11.59N±0.10×124.4E±0.1, h34km±6km, mb4.7/30, Error ellipse: s-maj=21.6km s-min=12.3km az=65.0*
ISC 16 07:04:06.1±0.5, 11.58N±0.08×124.5E±0.1, h15km, n85, σ1°38/60, mb4.5/36, MS3.6/23, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TGY	**Tagaytay City**	**4.28**	**306**	Pn		**Pn**	**07 05 11.6**	**+0.8**
	47nm,0.3s,baz=88,slow=5.0,SNR=3.1							
	106nm,0.3s							
DAV	**Davao City (W)**	**4.61**	**167**	Pn		**Pn**	**07 05 15.4**	**+0.1**
DAV	**Davao City (W)**	**4.61**	**167**	LR		LR	07 07 35.5	
	comp=Z,2μm,19.8s,baz=342,slow=45							
JOW	**Kunigami**	**15.58**	**13**	LR		LR	07 13 06.4	
	comp=Z,295nm,21.4s,baz=115,slow=35							
KAPI	**Kappang**	**17.15**	**196**	LR		LR	07 16 40.2	
	comp=Z,333nm,18.1s,baz=28,slow=44							
GUMO	**Guam**	**19.98**	**82**	LR		LR	07 14 56.4	
	comp=Z,72nm,20.3s,baz=220,slow=33							
SLVN	**Seoul La**	**21.98**	**299**	P		**P**	**07 09 00.1**	**+0.3**
JNU	**Nakatsue**	**22.23**	**14**	LR		LR	07 17 06.5	
	comp=Z,112nm,21.7s,baz=202,slow=35							
JAGI	**Jajag, Banyuwa**	**22.42**	**208**	P		**P**	**07 09 06.2**	**+1.7**
JCJ	**Chichijima**	**22.68**	**45**	LR		LR	07 16 21.7	
	comp=Z,167nm,21.7s,baz=107,slow=33							
ENH	**Enshi**	**23.24**	**325**	P		**P**	**07 09 12.7**	**-0.2**
ENH				IAmb		IAmb	07 09 44.2	
	comp=Z,21nm,1.2s							
CRAI	**Chiangrai**	**24.72**	**293**	P		**P**	**07 09 28.4**	**+1.4**
TIA	**Tai'an**	**25.41**	**346**	P		**P**	**07 09 38.4**	**+5.3**
TIA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**25.59**	**289**	P		**P**	**07 09 36.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**25.59**	**289**	P		**P**	**07 09 35.1**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=103,slow=8.2,SNR=11							
CMAR				LR		LR	07 19 58.9	
	comp=Z,118nm,18.4s,baz=120,slow=37							
	comp=Z,1.1nm,0.3s							
JHJ	**Hachijo jima 2**	**25.61**	**31**	LR		LR	07 17 39.8	
	comp=Z,160nm,21.2s,baz=208,slow=32							
KSRS	**Korea Array**	**25.95**	**6**	P		**P**	**07 09 38.3**	**+0.4**
	comp=Z,3.2nm,0.9s,baz=183,slow=9.7,SNR=8.9							
KSRS				LR		LR	07 19 21.6	
	comp=Z,247nm,20.6s,baz=185,slow=36							
	comp=Z,3.2nm,0.9s							
RPSI	**Rantau Prapat**	**26.84**	**253**	P		**P**	**07 09 44.6**	**-1.6**
HNS	**HongShan**	**27.17**	**343**	⇑P		**P**	**07 09 49.8**	**+0.8**
HNS				pmax		pmax		
	comp=Z,9.0nm,1.3s							
MJAR	**Matsushiro Arr**	**27.76**	**24**	LR		LR	07 19 00.9	
	comp=Z,168nm,22.0s,baz=204,slow=32							
WB0	**Warramunga Arr**	**32.64**	**163**	P		**P**	**07 10 37.4**	**-0.3**
WB0				lAmb		lAmb	07 10 43.0	
	comp=Z,16nm,1.4s							
WRA	**Warramunga Arr**	**32.79**	**163**	P		**P**	**07 10 37.7**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=348,slow=8.8,SNR=6.9							
	comp=Z,0.9nm,0.6s							
WB2	**Warramunga Arr**	**32.79**	**163**	P		**P**	**07 10 38.9**	**0.0**
WB2				lAmb		lAmb	07 10 46.0	
	comp=Z,13nm,1.4s							
WR0	**Warramunga Arr**	**32.87**	**162**	P		**P**	**07 10 39.8**	**+0.2**
WR0				lAmb		lAmb	07 10 45.9	
	comp=Z,15nm,1.4s							
USRK	**Ussuriysk Ar.**	**33.14**	**10**	LR		LR	07 23 53.8	
	comp=Z,103nm,21.1s,baz=170,slow=36							
GTA	**Gaotai**	**35.32**	**326**	*e*P		**P**	**07 11 05.3**	**+4.4**
GTA				pP		sP	07 11 10.4	+2.8
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ASAJ	**Asahikawa**	**35.98**	**22**	LR		LR	07 26 03.8	
	comp=Z,96nm,20.2s,baz=149,slow=37							
AS31	**Alice Springs**	**36.22**	**165**	P		**P**	**07 11 09.6**	**+1.0**
ASAR	**Alice Springs**	**36.22**	**165**	P		**P**	**07 11 09.4**	**+0.8**
ASAR	**Alice Springs**	**36.22**	**165**	P		**P**	**07 11 08.9**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=342,slow=7.4,SNR=46							
	comp=Z,1.8nm,0.6s							
GOMU	**GeErMu**	**36.30**	**317**	P		**P**	**07 11 09.9**	**+0.2**
GOMU				sP		sP	07 11 20.5	+4.2
GOMU				pmax		pmax		
	comp=Z,10.0nm,1.3s							
KLR	**Kul'dur**	**38.02**	**8**	LR		LR	07 29 42.6	
	comp=Z,152nm,18.1s,baz=219,slow=41							
ULN	**Ulaanbaatar**	**39.02**	**341**	P		**P**	**07 11 34.9**	**+2.6**
SONM	**Songino Array**	**39.20**	**341**	P		**P**	**07 11 36.2**	**+2.4**
SONM	**Songino Array**	**39.20**	**341**	P		**P**	**07 11 32.8**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=154,slow=8.2,SNR=3.9							
SONM				LR		LR	07 27 59.8	
	comp=Z,239nm,19.5s,baz=144,slow=37							
	comp=Z,1.2nm,0.9s							
HNR	**Honiara**	**40.96**	**119**	LR		LR	07 28 13.1	
	comp=Z,818nm,19.2s,baz=308,slow=35							
H11S3	**WAKE ISLAND Hy**	**41.24**	**75**	T		T	07 55 54.8	
	baz=270							
H11S1	**WAKE ISLAND Hy**	**41.26**	**75**	T		T	07 55 42.1	
	baz=270							
H11S2	**WAKE ISLAND Hy**	**41.26**	**75**	T		T	07 56 13.3	
	baz=270							
FORT	**Forrest**	**42.26**	**175**	P		**P**	**07 11 59.2**	**+0.3**
FORT				lAmb		lAmb	07 12 01.9	
	comp=Z,32nm,1.2s							
PALK	**Pallekele**	**43.38**	**268**	LR		LR	07 29 44.4	
	comp=Z,76nm,20.6s,baz=157,slow=36							
NWAO	**Narrogin (SRO)**	**44.80**	**189**	P		**P**	**07 12 19.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**44.80**	**189**	LR		LR	07 31 35.9	
	comp=Z,79nm,21.6s,baz=212,slow=37							
BBOO	**Buckleboo**	**45.50**	**166**	P		**P**	**07 12 26.0**	**+1.0**
BBOO				lAmb		lAmb	07 12 32.4	
	comp=Z,9.9nm,0.8s							
STKA	**Stephens Creek**	**46.21**	**160**	P		**P**	**07 12 31.5**	**+0.9**
STKA	**Stephens Creek**	**46.21**	**160**	P		**P**	**07 12 31.4**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=342,slow=7.8,SNR=5.5							
	comp=Z,2.1nm,0.3s							
PETK	**Petropavlovsk-**	**49.20**	**26**	LR		LR	07 34 28.1	
	comp=Z,62nm,19.1s,baz=281,slow=37							
MK31	**Makanchi Array**	**49.94**	**323**	P		**P**	**07 12 59.1**	**-0.2**
MK31				lAmb		lAmb	07 13 04.5	
	comp=Z,11nm,1.1s							
MKAR	**Makanchi Array**	**49.94**	**323**	P		**P**	**07 12 59.4**	**0.0**
MKAR	**Makanchi Array**	**49.94**	**323**	P		**P**	**07 12 58.4**	**-0.9**
	comp=Z,3.7nm,1.1s,baz=116,slow=8.2,SNR=21							
	comp=Z,3.7nm,1.1s							
MAKZ	**Makanchi**	**50.13**	**323**	P		**P**	**07 13 01.2**	**+0.4**
MAKZ				lAmb		lAmb	07 13 06.0	
	comp=Z,16nm,1.2s							
YAK	**Yakutsk**	**50.51**	**3**	LR		LR	07 37 09.7	
	comp=Z,5.8nm,18.0s,baz=163,slow=39							
NIL	**Nilore**	**51.56**	**304**	P		**P**	**07 13 10.5**	**-1.3**
MA2	**Magadan**	**51.76**	**17**	LR		LR	07 37 58.9	
	comp=Z,81nm,18.1s,baz=207,slow=39							
ZALV	**Zalesovo Beam**	**52.65**	**332**	P		**P**	**07 13 19.4**	**-0.2**
ZALV	**Zalesovo Beam**	**52.65**	**332**	LR		LR	07 36 50.7	
	comp=Z,209nm,18.2s,baz=26,slow=37							
DZM	**Mont Dzumac**	**53.02**	**129**	P		**P**	**07 13 24.3**	**+1.4**
AAK	**Ala-Archa**	**53.17**	**315**	P	

0.2nm,0.5s
MKAR Makanchi Array 57.31 325 P P 07 22 03.8 +0.6
0.4nm,0.6s,baz=139,slow=7.7,SNR=4.0
0.4nm,0.6s
KURBB Kurchatov Arra 61.49 327 P P 07 22 31.4 -0.7
0.4nm,0.5s,baz=128,slow=7.2,SNR=2.3
0.4nm,0.5s

IDC 16 07:34:46.8±1.1,9°.54S×159°.24E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=46.1km s-min=14.2km az=169.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.71**	**81**	Pn	Pn	07 35 04.6	+0.6
	8μm,0.3s,baz=221,slow=13,SNR=106						
HNR				Sn	Sn	07 35 15.0	-0.7
	22μm,0.3s,baz=288,slow=19,SNR=23						
WRA	**Warramunga Arr**	**26.17**	**244**	P	P	07 40 23.8	+0.6
	0.9nm,0.7s,baz=71,slow=9.6,SNR=5.1						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**27.98**	**237**	P	P	07 40 38.6	-0.9
	0.2nm,0.6s,baz=59,slow=9.7,SNR=5.2						
	0.2nm,0.6s						
SONM	**Songino Array**	**73.76**	**326**	P	P	07 46 24.3	+1.3
	0.1nm,0.4s,baz=123,slow=5.3,SNR=1.2						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**88.08**	**318**	P	P	07 47 37.9	-1.4
	0.2nm,0.6s,baz=102,slow=6.5,SNR=2.3						
	0.2nm,0.6s						

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*AEIC **16** 07:45:34.7±1.6,63°.16N×0°.04×172°.2W×0°.2, h16km±7km, ML3.7, mb_Lg3.5/9(NEIC), Md3.7/1(NEIC), Error ellipse: s-maj=14.6km s-min=5.0km az=105.0*
*NEIC **16** 07:45:34.1±1.4,63°.18N×0°.01×172°.5W×0°.1, h15km±6km, Error ellipse: s-maj=9.7km s-min=1.9km az=92.0*

ISC 16 07:45:32.8±2.7,63°.14N×0°.05×172°.5W×0°.2, h10km, n86, σ0°.90/88, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**0.73**	**29**		**Pg**	**07 45 47.2**	**+0.3**
GAMB					**Sg**	**07 45 57.3**	**+0.8**
GAMB	**Gambell**	**0.73**	**29**	DMd			
GAMB	**Gambell**	**0.73**	**29**	P	**Pg**	**07 45 47.2**	**+0.3**
	baz=199						
GAMB				S	**Sg**	**07 45 57.3**	**+0.8**
	baz=199						
TNA	**Tin City**	**3.14**	**37**		**Pn**	**07 46 21.7**	**-0.6**
TNA					**Sn**	**07 46 58.4**	**-1.4**
TNA	**Tin City**	**3.14**	**37**	P	**Pn**	**07 46 21.7**	**-0.6**
	baz=219						
TNA				S	**Sn**	**07 46 58.4**	**-1.4**
	baz=219						
ANM	**Nome**	**3.47**	**63**		**Pn**	**07 46 25.9**	**-0.9**
ANM	**Nome**	**3.47**	**63**	IAmb_Lg		07 47 28.5	
	comp=Z,175nm,0.7s						
ANM	**Nome**	**3.47**	**63**	P	**Pn**	**07 46 25.9**	**-0.9**
	baz=248						
F14K	**Arctic Creek**	**3.57**	**46**		**Pn**	**07 46 28.4**	**+0.2**
F14K	**Arctic Creek**	**3.57**	**46**	P	**Pn**	**07 46 28.4**	**+0.2**
	baz=230						
K13K	**Kusilvak Mount**	**3.84**	**105**		**Pn**	**07 46 31.8**	**-0.1**
K13K					**Sn**	**07 47 16.2**	**-0.7**
K13K	**Kusilvak Mount**	**3.84**	**105**	IAmb_Lg		07 47 40.9	
	comp=Z,77nm,0.7s						
K13K	**Kusilvak Mount**	**3.84**	**105**	P	**Pn**	**07 46 31.8**	**-0.1**
	baz=293						
K13K				S	**Sn**	**07 47 16.2**	**-0.7**
	baz=293						
M11K	**Mekoryuk**	**4.08**	**130**		**Pn**	**07 46 35.0**	**-0.1**
M11K					**Sn**	**07 47 22.2**	**-0.6**
M11K	**Mekoryuk**	**4.08**	**130**	P	**Pn**	**07 46 35.0**	**-0.1**
	baz=317						
M11K				S	**Sn**	**07 47 22.2**	**-0.6**
	baz=317						
J14K	**Nanvaranak Lak**	**4.11**	**92**		**Pn**	**07 46 34.9**	**-0.7**
J14K	**Nanvaranak Lak**	**4.11**	**92**	IAmb_Lg		07 47 50.3	
	comp=Z,82nm,1.1s						
J14K	**Nanvaranak Lak**	**4.11**	**92**	P	**Pn**	**07 46 34.9**	**-0.7**
	baz=280						
G15K	**Niukluk**	**4.16**	**60**		**Pn**	**07 46 36.0**	**-0.3**
G15K	**Niukluk**	**4.16**	**60**	P	**Pn**	**07 46 36.0**	**-0.3**
	baz=246						
F15K	**North Star Dit**	**4.27**	**49**		**Pn**	**07 46 37.8**	**0.0**
F15K	**North Star Dit**	**4.27**	**49**	IAmb_Lg		07 47 51.2	
	comp=Z,115nm,0.8s						
F15K	**North Star Dit**	**4.27**	**49**	P	**Pn**	**07 46 37.8**	**0.0**
	baz=235						
L14K	**Kuka Creek**	**4.94**	**107**		**Pn**	**07 46 46.8**	**-0.2**
L14K	**Kuka Creek**	**4.94**	**107**		**Pn**	**07 46 47.5**	**+0.6**
L14K				IAmb_Lg		07 48 18.4	
	comp=Z,108nm,1.3s						
L14K	**Kuka Creek**	**4.94**	**107**	P	**Pn**	**07 46 46.8**	**-0.2**
	baz=296						
G16K	**Koyuk River**	**4.97**	**58**		**Pn**	**07 46 47.5**	**+0.1**
K15K	**Wolf Creek Mou**	**5.12**	**95**		**Pn**	**07 46 49.3**	**-0.2**
K15K	**Wolf Creek Mou**	**5.12**	**95**	P	**Pn**	**07 46 48.9**	**-0.6**
	baz=285						
M13K	**Dall Lake**	**5.14**	**118**		**Pn**	**07 46 50.7**	**+1.0**
M13K	**Dall Lake**	**5.14**	**118**	P	**Pn**	**07 46 50.2**	**+0.6**
	baz=307						
L15K	**Ungalak Mounta**	**5.33**	**101**		**Pn**	**07 46 52.3**	**-0.1**
L15K	**Ungalak Mounta**	**5.33**	**101**	P	**Pn**	**07 46 52.3**	**-0.1**
	baz=291						
I17K	**Unalakleet**	**5.34**	**77**		**Pn**	**07 46 53.3**	**+0.8**
J16K	**Anvik River**	**5.39**	**83**		**Pn**	**07 46 53.4**	**+0.2**
J16K	**Anvik River**	**5.39**	**83**	P	**Pn**	**07 46 53.4**	**+0.2**
	baz=274						
M14K	**Bethel**	**5.53**	**111**		**Pn**	**07 46 55.7**	**+0.6**
M14K	**Bethel**	**5.53**	**111**	P	**Pn**	**07 46 55.7**	**+0.6**
	baz=301						
G17K	**Kiwalik Mounta**	**5.67**	**60**		**Pn**	**07 46 57.9**	**+0.8**
H17K	**Granite Mounta**	**5.82**	**66**		**Pn**	**07 46 59.5**	**+0.4**
F17K	**Baldwin Pennin**	**5.84**	**51**		**Pn**	**07 46 59.2**	**0.0**
C16K	**Lisburne Hills**	**5.94**	**27**		**Pn**	**07 47 00.4**	**-0.2**
M15K	**Kasigluk River**	**6.10**	**108**		**Pn**	**07 47 03.4**	**+0.5**
N14K	**Kuskokwak Cree**	**6.10**	**117**		**Pn**	**07 47 03.8**	**+1.0**
L16K	**Owhat River**	**6.22**	**98**		**Pn**	**07 47 05.2**	**+0.6**
K17K	**Iditarod**	**6.50**	**87**		**Pn**	**07 47 07.1**	**-1.3**
H18K	**Honhosa River**	**6.51**	**66**		**Pn**	**07 47 09.2**	**+0.7**
C17K	**DeLong Mountai**	**6.58**	**31**		**Pn**	**07 47 10.4**	**+0.9**
E18K	**Tukpahlearik C**	**6.58**	**44**		**Pn**	**07 47 09.8**	**+0.3**
G18K	**Tagagawik**	**6.58**	**59**		**Pn**	**07 47 11.2**	**+1.7**
N15K	**Kwethluk River**	**6.62**	**111**		**Pn**	**07 47 10.6**	**+0.6**
L17K	**Donlin**	**6.63**	**92**		**Pn**	**07 47 11.1**	**+0.9**
O14K	**Tigyukauivet M**	**6.69**	**121**	Pn	**Pn**	**07 47 09.4**	**-1.5**
M16K	**Timber Creek**	**6.71**	**102**		**Pn**	**07 47 12.7**	**+1.4**
N16K	**Nishlik Lake**	**7.04**	**106**		**Pn**	**07 47 17.1**	**+1.3**
GCSA	**Galena City Sc**	**7.07**	**70**		**Pn**	**07 47 16.9**	**+0.8**
J18K	**Innoko River**	**7.12**	**80**		**Pn**	**07 47 17.6**	**+0.7**
C18K	**Utukok River**	**7.20**	**35**		**Pn**	**07 47 19.7**	**+1.7**
M17K	**Holitna River**	**7.25**	**97**		**Pn**	**07 47 19.7**	**+1.1**
G19K	**Purcell Mounta**	**7.27**	**59**	Pn	**Pn**	**07 47 18.9**	**0.0**
L18K	**Granite Mounta**	**7.34**	**90**		**Pn**	**07 47 21.1**	**+1.2**
H19K	**Roundabout Mou**	**7.37**	**64**		**Pn**	**07 47 20.5**	**+0.2**
TTA	**Tatalina**	**7.50**	**84**		**Pn**	**07 47 23.3**	**+1.0**
J19K	**Poorman**	**7.58**	**76**		**Pn**	**07 47 22.6**	**-0.7**
N17K	**Nushagak Hills**	**7.71**	**103**		**Pn**	**07 47 25.9**	**+0.9**
E19K	**Redstone River**	**7.71**	**49**	Pn	**Pn**	**07 47 25.6**	**+0.6**
O16K	**Kokwok River B**	**7.78**	**111**	Pn	**Pn**	**07 47 26.6**	**+0.7**
M18K	**Stony River**	**7.94**	**95**		**Pn**	**07 47 29.1**	**+0.9**
D19K	**Kuna River**	**7.97**	**41**		**Pn**	**07 47 30.2**	**+1.6**
O17K	**Koliganek Bris**	**8.11**	**108**		**Pn**	**07 47 31.4**	**+0.9**
L19K	**White Mountain**	**8.18**	**89**		**Pn**	**07 47 32.1**	**+0.6**
SVW2	**Sparrevohn**	**8.19**	**97**	Pn	**Pn**	**07 47 31.4**	**-0.3**
N18K	**Kilae Creek**	**8.22**	**100**	Pn	**Pn**	**07 47 33.5**	**+1.6**
J20K	**Nowinta River**	**8.23**	**75**		**Pn**	**07 47 32.8**	**+0.7**
K20K	**Telida**	**8.32**	**80**	Pn	**Pn**	**07 47 34.9**	**+1.5**
M19K	**Big River Lodg**	**8.47**	**90**	Pn	**Pn**	**07 47 37.3**	**+1.9**
IMAR	**Indian Mountai**	**8.55**	**62**	Pn	**Pn**	**07 47 36.7**	**+0.2**
H21K	**Melozitna Rive**	**8.88**	**65**	Pn	**Pn**	**07 47 41.4**	**+0.3**
O18K	**Koktuh Hills**	**8.90**	**104**	Pn	**Pn**	**07 47 41.8**	**+0.5**
M20K	**Styx River**	**9.04**	**89**	Pn	**Pn**	**07 47 43.7**	**+0.4**
CAST	**Castle Rocks**	**9.20**	**79**	Pn	**Pn**	**07 47 43.1**	**-2.3**
BPAW	**Bear Paw Mtn.**	**9.62**	**75**	Pn	**Pn**	**07 47 51.6**	**+0.5**
MLY	**Manley**	**9.70**	**69**	Pn	**Pn**	**07 47 51.0**	**-1.3**
D22K	**Ayikyak River**	**9.87**	**46**	Pn	**Pn**	**07 47 55.5**	**+0.9**
B22K	**Teshekpuk Lake**	**10.39**	**38**	Pn	**Pn**	**07 47 59.0**	**-2.7**
BRLK	**Bradley Lake**	**10.87**	**98**	Pn	Pn	07 48 05.8	-2.4

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*IDC **16** 07:46:02.4±0.5, 71°.97N×127°.79E, h0km, mb3.9/24, mbtmp4.0/26, ML4.7/3, MS3.9/2, Error ellipse: s-maj=12.4km s-min=6.7km az=40.0*
*YARS **16** 07:46:02.8, 72°.06N×128°.07E, h20km*
*NEIC **16** 07:46:04.9±1.2, 72°.0N±0°.1×127°.7E±0°.3, h15km±5km, mb4.4/34, Error ellipse: s-maj=15.5km s-min=14.9km az=142.0*

ISC 16 07:46:03.5±0.4,71°.97N±0°.05×127°.79E±0°.04, h10km, n80, σ1°.69/90, mb4.2/42, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**0.47**	**133**		**Pg**	**07 46 12.0**	**-0.6**
TIXI	**Tiksi**	**0.47**	**133**	*i* Pg	**Pg**	**07 46 12.2**	**-0.4**
	448nm,0.0s						
TIXI				*e*Sg	**Sg**	**07 46 18.6**	**-0.1**
	4μm,0.0s						
TIXI				*e*Sg	**Sg**	**07 46 18.6**	**-0.1**
	52μm,0.2s						
TIXI	**Tiksi**	**0.47**	**133**	Pg	**Pg**	**07 46 12.2**	**-0.4**
	13nm,0.3s,baz=353,slow=10,SNR=520						
TIXI				Lg	Lg	07 46 18.4	
	85nm,0.3s,baz=252,slow=20,SNR=37						
BTGS	**Batagay**	**4.94**	**148**	*e*Pn	**Pn**	**07 47 17.3**	**-0.3**
BTGS				*e*Pg	**Pb**	**07 47 32.7**	**+2.7**
	0.6nm,0.1s						
BTGS				*e*Sn	**Sn**	**07 48 13.7**	**-1.1**
BTGS				*e*Sn	**Sn**	**07 48 13.7**	**-1.1**
BTGS				*e*Sg	**Sg**	**07 48 38.7**	**-3.2**
	118nm,0.6s						
YBGR	**Belaya Gora**	**7.11**	**110**	*e*Pn	**Pn**	**07 47 46.2**	**-1.1**
YBGR				*e*Pg	**Pb**	**07 48 10.1**	**+3.4**
	5.4nm,0.3s						
YBGR				*e*Sn	**Sn**	**07 49 05.1**	**-2.9**
YBGR				*e*Sn	**Sn**	**07 49 05.1**	**-2.9**
YBGR				*e*Sg	**Sg**	**07 49 43.5**	**-7.7**
	58nm,0.7s						
SVZ	**Severnaya Zeml**	**9.66**	**331**	*e*P	**Pn**	**07 48 23.8**	**+1.6**
SVZ				S	**Sn**	**07 50 06.5**	**-4.1**
YAK	**Yakutsk**	**10.01**	**175**	Pn	**Pn**	**07 48 27.3**	**+0.2**
YAK	**Yakutsk**	**10.01**	**175**	Pn	**Pn**	**07 48 25.9**	**-1.2**
	0.2nm,0.3s,baz=73,slow=2.5,SNR=2.1						
YAK				Lg	Lg	07 51 22.5	
	0.1nm,0.3s,baz=82,slow=11,SNR=1.3						
SEY	**Seymchan**	**12.95**	**122**	Pn		07 49 13.3	
	0.1nm,0.3s,baz=40,slow=23,SNR=1.4						
SEY				Lg	Lg	07 52 52.9	
	0.1nm,0.3s,baz=117,slow=23,SNR=2.5						
NRIK	**Noril'sk**	**13.40**	**278**	Pn	**Pn**	**07 49 12.8**	**-0.5**
NRIK	**Noril'sk**	**13.40**	**278**	Pn	**Pn**	**07 49 12.6**	**-0.7**
	1.6nm,0.3s,baz=61,slow=9.5,SNR=10						
NRIK				Sn	**Sn**	**07 51 33.9**	**-8.1**
	1.0nm,0.3s,baz=4.0,slow=18,SNR=4.4						
NRIK				Lg	Lg	07 53 07.8	
	0.9nm,0.3s,baz=197,slow=21,SNR=4.0						
	3.8nm,0.3s						
MA2	**Magadan**	**15.44**	**132**	Pn	**Pn**	**07 49 42.3**	**+1.2**
	0.4nm,0.3s,baz=323,slow=20,SNR=1.2						
	1.9nm,0.4s						
HEH	**HeiHe**	**21.79**	**181**	*e*P	**P**	**07 50 55.5**	**+0.3**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PEA0B	**Petropavlovsk-**	**22.94**	**130**	P	**P**	**07 51 09.1**	**+1.7**
PETK	**Petropavlovsk-**	**22.94**	**130**	P	**P**	**07 51 08.3**	**+0.8**
PETK	**Petropavlovsk-**	**22.94**	**130**	P	**P**	**07 51 09.6**	**+2.1**
	comp=Z,3.7nm,0.7s,baz=32,slow=8.5,SNR=7.8						
	comp=Z,3.7nm,0.7s						
B22K	**Teshekpuk Lake**	**23.84**	**55**	P	**P**	**07 51 17.5**	**+1.3**
ZAA0	**Zalesovo Array**	**25.69**	**248**	P	**P**	**07 51 34.1**	**+0.9**
ZAA0				IAmb	IAmb	07 51 40.7	
	comp=Z,10nm,1.0s						
ZALV	**Zalesovo Beam**	**25.69**	**248**	P	**P**	**07 51 34.2**	**+1.0**
ZALV	**Zalesovo Beam**	**25.69**	**248**	P	**P**	**07 51 34.0**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=30,slow=12,SNR=13						
	comp=Z,2.6nm,0.5s						
D24K	**Happy Valley**	**25.82**	**55**	P	**P**	**07 51 35.6**	**+1.2**
D24K				IAmb	IAmb	07 51 42.5	
	comp=Z,6.4nm,0.8s						
SONM	**Songino Array**	**26.16**	**214**	P	**P**	**07 51 38.1**	**+0.4**
SONM	**Songino Array**	**26.16**	**214**	P	**P**	**07 51 38.5**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=9.7,slow=10,SNR=5.3						
	comp=Z,1.3nm,1.0s						
E25K	**Arctic Village**	**27.40**	**54**	P	**P**	**07 51 49.1**	**+0.5**
E25K				IAmb	IAmb	07 51 54.4	
	comp=Z,7.1nm,1.1s						
BMAR	**Burnt Mountain**	**28.17**	**55**	P	**P**	**07 51 56.0**	**+0.5**
E27K	**Coleen River**	**28.34**	**52**	P	**P**	**07 51 57.5**	**+0.5**
E28M	**Babbage River**	**28.52**	**50**	P	**P**	**07 51 58.3**	**-0.3**
A36M	**Sachs Harbour**	**28.97**	**38**	P	**P**	**07 52 02.4**	**-0.1**
F28M	**Old Crow**	**29.20**	**52**	P	**P**	**07 52 02.8**	**-1.8**
F28M				IAmb	IAmb	07 52 30.3	
	comp=Z,5.1nm,1.1s						
ILAR	**Eielson Array**	**29.61**	**60**	P	**P**	**07 52 09.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=320,slow=8.5,SNR=8.2						
	comp=Z,0.6nm,0.6s						
INK	**Inuvik**	**30.16**	**47**	P	**P**	**07 52 14.1**	**+1.1**
INK				IAmb	IAmb	07 52 56.9	
	comp=Z,5.1nm,1.1s						
I26K	**Coal Creek Min**	**30.17**	**57**	P	**P**	**07 52 13.8**	**+0.6**
I26K				IAmb	IAmb	07 52 32.0	
	comp=Z,9.5nm,1.5s						
G29M	**Pine Creek**	**30.20**	**51**	P	**P**	**07 52 14.3**	**+0.8**
G29M				IAmb	IAmb	07 52 19.7	
	comp=Z,6.5nm,1.2s						
KURK	**Kurchatov**	**30.35**	**252**	P	**P**	**07 52 15.1**	**+0.3**
KURK				IAmb	IAmb	07 52 22.2	
	comp=Z,3.4nm,0.9s						
KURBB	**Kurchatov Arra**	**30.46**	**252**	P	**P**	**07 52 16.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=34,slow=8.5,SNR=9.9						
	comp=Z,1.3nm,0.7s						
H29M	**Whitestone**	**30.66**	**52**	P	**P**	**07 52 19.2**	**+1.6**
BVAR	**Borovoye Array**	**30.83**	**263**	P	**P**	**07 52 20.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=26,slow=8.0,SNR=2.6						
	comp=Z,0.3nm,0.4s						
I28M	**Miner Creek**	**30.89**	**54**	P	**P**	**07 52 20.3**	**+0.7**
G31M	**Satah River**	**31.09**	**49**	P	**P**	**07 52 21.5**	**+0.2**
C36M	**Paulatuk**	**31.34**	**40**	P	**P**	**07 52 23.6**	**+0.1**
C36M				IAmb	IAmb	07 52 50.0	
	comp=Z,6.4nm,1.5s						
I30M	**Mount Dempster**	**31.96**	**52**	P	**P**	**07 52 30.1**	**+1.0**
I30M				IAmb	IAmb	07 52 34.8	
	comp=Z,6.8nm,1.2s						
DAWY	**Dawson**	**32.14**	**56**	P	**P**	**07 52 31.8**	**+1.1**
BCAR	**Beaver Creek A**	**32.33**	**58**	P	**P**	**07 52 33.6**	**+1.3**
MK31	**Makanchi Array**	**32.81**	**245**	P	**P**	**07 52 37.0**	**+0.4**
MKAR	**Makanchi Array**	**32.81**	**245**	P	**P**	**07 52 36.8**	**+0.2**
MKAR	**Makanchi Array**	**32.81**	**245**	P	**P**	**07 52 36.1**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=32,slow=7.1,SNR=8.8						
MKAR				LR	LR	08 08 20.5	
	comp=Z,133nm,20.4s,baz=10.0,slow=41						
	comp=Z,0.6nm,0.5s						
L29M	**L29M**	**33.25**	**56**	P	**P**	**07 52 40.8**	**+0.5**
KSRS	**Korea Array**	**34.59**	**180**	P	**P**	**07 52 51.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=9.9,slow=7.8,SNR=2.1						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**36.58**	**308**	P	**P**	**07 53 10.8**	**+1.8**
	comp=Z,8.6nm,1.0s,baz=35,slow=5.1,SNR=4.4						
	comp=Z,8.6nm,1.0s						
ABKAR	**Akbulak array**	**37.36**	**270**	P	**P**	**07 53 15.4**	**-0.3**
AAK	**Ala-Archa**	**38.86**	**251**	P	**P**	**07 53 29.3**	**+0.6**
AAK				IAmb	IAmb	07 53 31.3	
	comp=Z,4.5nm,0.8s						
YKA	**Yellowknife Ar**	**39.23**	**41**	P	**P**	**07 53 31.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=335,slow=8.3,SNR=25						
	comp=Z,0.7nm,0.6s						
DLBC	**Dease Lake**	**39.32**	**54**	LR	LR	08 13 42.4	
	comp=Z,29nm,18.7s,baz=356,slow=42						
NOA	**NORSAR Array B**	**40.33**	**318**	P	**P**	**07 53 40.8**	**+0.3**
	comp=Z,2.1nm,1.1s,baz=27,slow=8.1,SNR=2.1						
	comp=Z,2.1nm,1.1s						
AKASG	**Malin Array Be**	**45.26**	**298**	P	**P**	**07 54 21.4**	**+0.9**
AKASG				IAmb	IAmb	07 54 39.6	
	comp=Z,3.2nm,1.2s						
AKASG	**Malin Array Be**	**45.26**	**298**	P	**P**	**07 54 21.2**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=28,slow=9.1,SNR=9.2						
	comp=Z,1.6nm,0.3s						
AKBB	**Malin Array Si**	**45.26**	**298**	P	**P**	**07 54 20.8**	**+0.3**
AKBB				IAmb	IAmb	07 54 22.0	
	comp=Z,4.9nm,0.7s						
KIEV	**Kiev**	**45.27**	**298**	P	**P**	**07 54 21.0**	**+0.4**
KIEV				IAmb	IAmb	07 54 22.0	
	comp=Z,4.5nm,0.6s						
FCC	**Fort Churchill**	**46.36**	**29**	P	**P**	**07 54 29.3**	**+0.2**
FCC				IAmb	IAmb	07 54 29.8	
	comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**47.57**	**282**	P	**P**	**07 54 40.2**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=60,slow=2.1,SNR=6.4						
	comp=Z,1.5nm,0.6s						
GEYT	**Alibeck**	**48.15**	**265**	P	**P**	**07 54 45.2**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=74,slow=6.5,SNR=3.7						
	comp=Z,1.2nm,0.3s						
BUR08	**Bucovina Ar. S**	**49.14**	**299**	P	**P**	**07 54 51.7**	**+0.7**
BUR08				IAmb	IAmb	07 55 00.5	
	comp=Z,6.5nm,1.3s						
BRTR	**Keskin Array B**	**54.02**	**288**	P	**P**	**07 55 27.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=25,slow=12,SNR=1.4						
	comp=Z,0.4nm,0.5s						
ULM	**Lac du Bonnet**	**54.27**	**33**	P	**P**	**07 55 28.9**	**-0.1**
ULM	**Lac du Bonnet**	**54.27**	**33**	P	**P**	**07 55 28.8**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=336,slow=7.5,SNR=9.5						
	comp=Z,4.5nm,0.7s						
BPMT	**Black Pine Rid**	**54.36**	**48**	P	**P**	**07 55 30.3**	**+0.3**
BOZ	**Bozeman (W)**	**55.57**	**47**	P	**P**	**07 55 39.5**	**+0.8**
BOZ				IAmb	IAmb	07 55 47.0	
	comp=Z,3.5nm,1.3s						
CMAR	**Chiang Mai Arr**	**56.08**	**213**	P	**P**	**07 55 41.7**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=0.7,slow=7.4,SNR=1.4						
	comp=Z,0.8nm,0.3s						
B35A	**Bob, Littlefor**	**56.46**	**32**	P	**P**	**07 55 44.7**	**-0.2**
EYMN	**Ely**	**57.22**	**30**	P	**P**	**07 55 50.1**	**-0.2**
PDAR	**Pinedale Array**	**58.72**	**47**	P	**P**	**07 56 01.6**	**+0.5**
PDAR	**Pinedale Array**	**58.72**	**47**	P	**P**	**07 56 01.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=12,slow=4.6,SNR=2.8						
	comp=Z,0.3nm,0.6s						
ECSD	**EROS Data Cent**	**60.44**	**36**	P	**P**	**07 56 12.9**	**+0.2**
ECSD				IAmb	IAmb	07 56 13.3	
	comp=Z,2.5nm,0.8s						
NVAR	**Mina Array Bea**	**60.72**	**55**	P	**P**	**07 56 15.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=312,slow=9.5,SNR=1.2						
	comp=Z,0.1nm,0.3s						
ESDC	**Sonseca Array**	**63.63**	**320**	P	**P**	**07 56 35.4**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=360,slow=5.8,SNR=3.0						
	comp=Z,0.9nm,0.9s						
TXAR	**Lajitas Array**	**72.92**	**46**	P	**P**	**07 57 32.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=17,slow=3.1,SNR=2.7						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**87.93**	**308**	P	**P**	**07 58 52.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=19,slow=4.6,SNR=6.2						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**91.78**	**174**	P	**P**	**07 59 09.9**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=356,slow=5.1,SNR=6.0						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**95.47**	**174**	P	**P**	**07 59 27.6**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=354,slow=5.1,SNR=2.8						
	comp=Z,0.6nm,1.0s						
PLCA	**Paso Flores**	**147.39**	**26**	PKPbc	**PKPbc**	**08 05 45.5**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=327,slow=5.9,SNR=6.1						

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*NEIC **16** 07:48:53.3±2.0, 63°.17N±0°.06×172°.5W±0°.2, h14km±8km, Error ellipse: s-maj=15.6km s-min=5.5km az=115.0*
*AEIC **16** 07:48:54.4±2.5, 63°.14N±0°.05×172°.2W±0°.2, h15km±8km, ML3.8, mb_Lg3.5/7(NEIC), Error ellipse: s-maj=15.2km s-min=5.3km az=107.0*

ISC 16 07:48:53.3±2.4, 63°.17N±0°.06×172°.4W±0°.1, h10km, n80, σ0°.83/81, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**0.68**	**26**		**Pg**	**07 49 07.2**	**+0.7**
GAMB					**Sb**	**07 49 17.1**	**+0.5**
GAMB	**Gambell**	**0.68**	**26**	P	**Pg**	**07 49 07.2**	**+0.7**
	baz=196						
GAMB				S	**Sb**	**07 49 17.1**	**+0.5**
	baz=196						
TNA	**Tin City**	**3.08**	**37**		**Pn**	**07 49 42.3**	**+0.3**
TNA	**Tin City**	**3.08**	**37**	P	**Pn**	**07 49 42.3**	**+0.3**
	baz=219						
ANM	**Nome**	**3.40**	**63**		**Pn**	**07 49 46.3**	**-0.1**
ANM	**Nome**	**3.40**	**63**	IAmb_Lg		07 50 47.4	
	comp=Z,199nm,0.7s						
ANM	**Nome**	**3.40**	**63**	P	**Pn**	**07 49 46.3**	**-0.1**
	baz=247						
F14K	**Arctic Creek**	**3.50**	**46**		**Pn**	**07 49 48.3**	**+0.5**
F14K	**Arctic Creek

M20K	**Styx River**	**8.99**	**90**	Pn	**Pn**	**07 51 03.2**	**+0.2**
P18K	**Big Mountain,**	**9.07**	**107**	Pn	**Pn**	**07 51 04.6**	**+0.4**
CAST	**Castle Rocks**	**9.14**	**79**	Pn	**Pn**	**07 51 03.9**	**-1.2**
BPAW	**Bear Paw Mtn.**	**9.55**	**75**	Pn	**Pn**	**07 51 10.9**	**+0.2**
MLY	**Manley**	**9.64**	**69**	Pn	**Pn**	**07 51 10.2**	**-1.7**
SKT	**Skwentna**	**9.68**	**88**	Pn	**Pn**	**07 51 12.6**	**+0.1**
D22K	**Ayikyak River**	**9.81**	**46**	Pn	**Pn**	**07 51 13.9**	**-0.3**
Q19K	**Cape Douglas,**	**10.01**	**107**	Pn	**Pn**	**07 51 17.9**	**+0.8**
C23K	**Itkillik River**	**10.90**	**43**		**Pn**	**07 51 27.2**	**-1.9**
E24K	**Your Creek**	**10.98**	**53**	Pn	**Pn**	**07 51 29.3**	**-0.9**

IDC 16 08:06:39.3±3.4, 55°.58N×86°.31E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=29.0km s-min=25.4km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**208**	I	I	08 17 20.0	
	0.1nm,1.0s,baz=26,slow=354,SNR=13						
ZALV	**Zalesovo Beam**	**1.85**	**208**	Pn	Pn	08 07 11.1	-1.1
	2.7nm,0.3s,baz=28,slow=16,SNR=18						
ZALV				Lg	Lg	08 07 38.6	
	3.0nm,0.3s,baz=30,slow=25,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.82**	**227**	Pn	Pn	08 08 20.2	-0.3
	0.1nm,0.3s,baz=44,slow=14,SNR=5.3						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**9.15**	**198**	Pn	Pn	08 08 53.2	+0.7
	0.1nm,0.3s,baz=23,slow=16,SNR=4.4						
MKAR				Lg	Lg	08 11 26.4	
	baz=29,slow=30,SNR=2.9						
	0.2nm,0.4s						

MOS ***16*** *08:22:37.3,41°.65N×49°.32E, h49km, MPVA3.2*
AZER ***16*** *08:22:40.3,41°.94N×48°.94E, h40km, ml1.7*
DRS ***16*** *08:22:40.0,41°.79N×49°.64E, h25km*
ISC 16 08:22:38.7±1.9, 41°.95N±0°.04×49°.29E±0°.09, h17km±10km, n20, σ1§14/40, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.72**	**277**	*e*Pg	**Pn**	**08 22 55.1**	**+1.0**
DRN				*e*Sg	**Sn**	**08 23 07.0**	**+2.3**
QUBA	**Quba, Azerbaij**	**0.84**	**226**	P	**Pb**	**08 22 54.7**	**-0.1**
QUBA				S	**Sg**	**08 23 06.4**	**+0.4**
QSAR	**Qusar**	**0.88**	**241**	P	**Pb**	**08 22 55.4**	**-0.1**
QSAR				S	**Sn**	**08 23 08.5**	**-0.3**
KSMR	**Kasumkent**	**0.93**	**249**	*e*Pg	**Pb**	**08 22 56.2**	**-0.2**
KSMR				*e*Sg	**Sg**	**08 23 09.5**	**+0.5**
ATGJ	**Altiaghaj**	**1.11**	**194**	P	**Pb**	**08 22 58.7**	**-0.9**
ATGJ				S	**Sg**	**08 23 17.2**	**+2.4**
XNQ	**Khinaliq**	**1.16**	**228**	P	**Pn**	**08 22 60.0**	**-0.4**
XNQ				S	**Sb**	**08 23 14.7**	**-0.5**
URKR	**Urkarakh**	**1.25**	**281**	*e*Pg	**Pb**	**08 23 01.9**	**0.0**
URKR				*e*Sg	**Sg**	**08 23 19.3**	**+0.1**
AKT	**Akhty**	**1.25**	**249**	*e*Pg	**Pn**	**08 23 00.1**	**-1.5**
AKT				*e*Sg	**Sb**	**08 23 16.4**	**-1.5**
PQL	**Pirkuli**	**1.27**	**205**	P	**Pg**	**08 23 02.7**	**-0.4**
PQL				S	**Sg**	**08 23 19.9**	**+0.3**
SGKR	**Sergokala**	**1.31**	**294**	*e*Pg	**Pb**	**08 23 02.6**	**-0.3**
SGKR				*e*Sg	**Sg**	**08 23 20.6**	**-0.5**
KMKR	**Kumukh**	**1.64**	**277**	*e*Pg	**Pn**	**08 23 07.1**	**+0.2**
KMKR				*e*Sg	**Sb**	**08 23 28.8**	**-0.3**
MAK	**Makhachkala**	**1.66**	**308**	*e*Pg	**Pg**	**08 23 11.3**	**+0.6**
MAK				*e*Sg	**Sg**	**08 23 34.5**	**+2.2**
GNBR	**Gunib**	**1.78**	**285**	*e*Pg	**Pb**	**08 23 09.8**	**-1.1**
GNBR				*e*Sg	**Sb**	**08 23 33.2**	**+0.1**
ARKR	**Arakani**	**1.82**	**292**	*e*Pg	**Pb**	**08 23 10.6**	**-1.0**
ARKR				*e*Sg	**Sb**	**08 23 35.1**	**+0.9**
BUJR	**Buynaksk**	**1.84**	**299**	*e*Pg	**Pb**	**08 23 10.6**	**-1.3**
BUJR				*e*Sg	**Sg**	**08 23 36.0**	**-1.9**
KRNR	**Karanay**	**1.97**	**297**	*e*Pg	**Pb**	**08 23 13.0**	**-1.2**
KRNR				*e*Sg	**Sb**	**08 23 39.1**	**+0.6**
XNZR	**Khunzakh**	**2.01**	**288**	*e*Pg	**Pb**	**08 23 13.0**	**-1.9**
XNZR				*e*Sg	**Sb**	**08 23 39.5**	**-0.1**
DBC	**Dubki**	**2.11**	**301**	*e*Pn	**Pb**	**08 23 15.0**	**-1.6**
DBC				*e*Sn	**Sb**	**08 23 42.5**	**0.0**
BTLR	**Botlikh**	**2.38**	**289**	*e*Pn	**Pb**	**08 23 20.7**	**-0.5**
BTLR				*e*Sn	**Sn**	**08 23 47.5**	**+1.5**
DVE	**Vedeno**	**2.55**	**294**	*e*Pn	**Pb**	**08 23 21.9**	**-2.1**
DVE				*e*Sn	**Sn**	**08 23 50.1**	**+0.2**

IDC ***16*** *08:24:01.3±0.6, 12°.17N×89°.59W, h0km, mb4.4/13, mbtmp4.4/15, ML3.5/2, MS3.9/39, Error ellipse: s-maj=25.4km s-min=14.0km az=62.0*
CATAC ***16*** *08:24:03.1±0.2, 12°.19N×89°.66W, h11km, ML4.7*
NEIC ***16*** *08:24:05.0±2.8, 12°.34N±0°.04×89°.58W±0°.07, h10km±1km, mb4.9/95, Error ellipse: s-maj=11.7km s-min=5.6km az=250.0*
SNET ***16*** *08:24:06.2±2.0, 12°.32N×89°.60W, h18km, ML4.6*
GCMT ***16*** *08:24:06.0±0.3, 12°.17N±0°.01×89°.82W±0°.03, h12km±1km, MW4.9/106, Moment Tensor Solution. s29,c29; s106,c144; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.35±.14; Mθθ2.01±.09; Mφφ0.33±.08; Mrθ0.10±.20; Mθφ-0.80±.05; Mφr-0.78±.29; Best double couple: Mo2.46100×10¹⁶ NP1:φs306.00000°, δ52.00000°, λ-71.00000°. NP2:φs98.00000°, δ42.00000°, λ-112.00000°. Principal axes: T 2.3620, Plg5.0000°, Azm23.0000°; N 0.1950, Plg15.0000°, Azm115.0000°; P -2.5600, Plg75.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
GCG ***16*** *08:24:13.5±0.3, 13°.02N×89°.92W, h133km±161km, MD4.4*
ISC 16 08:24:05.5±1.4, 12°.27N±0°.04×89°.64W±0°.04, h23km±9km, n588, σ1§14/623, mb4.9/59, MS3.9/37, 28C-22D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**1.39**	**8**	*e*P	**Pn**	**08 24 29.2**	**-0.5**
JAYA	**Jayaque - finc**	**1.39**	**8**	⇑*i*P	**Pn**	**08 24 29.4**	**-0.3**
JAYA				*i* S	**Sb**	**08 24 48.9**	**+0.5**
JAYA				IAML		08 24 52.4	
	comp=Z,17μm,1.0s						
PANCS	**Alcalda de**	**1.41**	**19**	*i* P	**Pn**	**08 24 29.6**	**-0.3**
PANCS				IAML		08 24 49.5	
	comp=Z,9μm,1.0s						
ITCA	**Escuela Especi**	**1.44**	**14**	*e*P	**Pn**	**08 24 30.5**	**+0.1**
LOMA	**Loma Larga**	**1.45**	**19**	⇑*i*P	**Pn**	**08 24 30.2**	**-0.2**
LOMA				*i* S	**Sb**	**08 24 49.9**	**0.0**
LOMA				IAML		08 24 52.3	
	comp=Z,6μm,1.0s						
SNET	**Serv Nac Est T**	**1.47**	**16**		**Pn**	**08 24 30.3**	**-0.4**
SNET	**Serv Nac Est T**	**1.47**	**16**	*e*P	**Pn**	**08 24 29.8**	**-0.8**
SNET	**Serv Nac Est T**	**1.47**	**16**	⇑*i*P	**Pn**	**08 24 30.4**	**-0.3**
SNET				*i* S	**Sb**	**08 24 50.2**	**-0.3**
SNET				IAML		08 24 57.7	
	comp=Z,10μm,1.0s						
PMON	**Piamonte**	**1.47**	**13**	*e*P	**Pn**	**08 24 30.7**	**-0.1**
PMON	**Piamonte**	**1.47**	**13**	⇑*i*P	**Pn**	**08 24 30.5**	**-0.3**
PMON				IAML		08 24 56.6	
	comp=Z,8μm,1.0s						
SJTE	**Alcalda de S**	**1.48**	**25**	*e*P	**Pn**	**08 24 30.5**	**-0.3**
SJTE	**Alcalda de S**	**1.48**	**25**	⇑*i*P	**Pn**	**08 24 30.3**	**-0.5**
SJTE				*i* S	**Sb**	**08 24 49.9**	**-0.9**
SJTE				IAML		08 24 52.3	
	comp=Z,3μm,1.0s						
SEMO	**Seminario San**	**1.49**	**16**	*i* P	**Pn**	**08 24 31.0**	**+0.1**
SEMO				*i* S	**Sb**	**08 24 51.8**	**+0.8**
SEMO				IAML		08 25 14.1	
	comp=Z,9μm,1.0s						
UTEC	**Universidad Te**	**1.49**	**17**	*e*P	**Pn**	**08 24 30.1**	**-0.9**
UTEC	**Universidad Te**	**1.49**	**17**	*i* P	**Pn**	**08 24 31.1**	**+0.1**
UTEC				*i* S	**Sb**	**08 24 52.4**	**+1.3**
UTEC				IAML		08 25 00.4	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**1.50**	**15**	⇑*i*P	**Pn**	**08 24 31.0**	**-0.1**
UEES				IAML		08 25 02.4	
	comp=Z,3μm,1.0s						
BOQS	**Boqueron**	**1.50**	**14**	*e*P	**Pn**	**08 24 31.3**	**+0.1**
UESS	**Universidad de**	**1.51**	**17**	*e*P	**Pn**	**08 24 31.1**	**-0.1**
IGN	**Direccin Gen**	**1.51**	**18**	⇑*i*P	**Pn**	**08 24 31.4**	**+0.1**
IGN				*i* S	**Sb**	**08 24 52.4**	**+0.7**
IGN				IAML		08 24 58.6	
	comp=Z,15μm,1.0s						
AEIL	**Aeropuerto Ilo**	**1.51**	**20**	*e*P	**Pn**	**08 24 31.5**	**+0.3**
PIC2	**El Picacho**	**1.52**	**14**	*e*P	**Pn**	**08 24 31.7**	**+0.2**
UDBS	**Universidad Do**	**1.52**	**18**	*e*P	**Pn**	**08 24 31.6**	**+0.3**
UDBS	**Universidad Do**	**1.52**	**18**	*i* P	**Pn**	**08 24 31.3**	**0.0**
UDBS				*i* S	**Sb**	**08 24 52.4**	**+0.5**
UDBS				IAML		08 24 57.8	
	comp=Z,4μm,1.0s						
TECO	**Alcalda de Te**	**1.52**	**34**	*e*S	**Sb**	**08 24 52.0**	**+0.1**
TECO	**Alcalda de Te**	**1.52**	**34**	⇑*i*P	**Pn**	**08 24 30.7**	**-0.6**
TECO				*i* S	**Sb**	**08 24 52.1**	**+0.2**
TECO				IAML		08 24 57.7	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**1.54**	**29**	*e*P	**Pn**	**08 24 31.4**	**-0.2**
COEG				*e*S	**Sb**	**08 24 52.4**	**-0.1**
COEG	**Centro de Oper**	**1.54**	**29**	⇑*i*P	**Pn**	**08 24 31.3**	**-0.3**
COEG				*i* S	**Sb**	**08 24 52.2**	**-0.3**
COEG				IAML		08 25 01.5	
	comp=Z,4μm,1.0s						
CEDA	**San Andres**	**1.55**	**9**	*e*P	**Pn**	**08 24 31.6**	**-0.2**
CEDA				*e*S	**Sb**	**08 24 52.2**	**-0.5**
CEVE	**Cerro Verde**	**1.55**	**1**	*e*P	**Pn**	**08 24 32.1**	**+0.1**
CEVE				*e*S	**Sb**	**08 24 54.6**	**+1.5**
CEVE	**Cerro Verde**	**1.55**	**1**	⇑*i*P	**Pn**	**08 24 32.2**	**+0.2**
CEVE				*i* S	**Sb**	**08 24 53.5**	**+0.4**
CEVE				IAML		08 24 56.0	
	comp=Z,20μm,1.0s						
LFU	**La Fuente**	**1.56**	**19**	*e*P	**Pn**	**08 24 32.3**	**+0.4**
SBLS	**San Blas**	**1.56**	**1**	*e*P	**Pn**	**08 24 32.4**	**+0.2**
SNJE	**San Jose**	**1.59**	**1**	*e*P	**Pn**	**08 24 32.2**	**-0.3**
SNJE				*e*P	**Pb**	**08 24 32.6**	**-1.8**
PAVA	**Las Pavas**	**1.59**	**26**	*e*P	**Pn**	**08 24 32.5**	**+0.1**
PAVA				*e*S	**Sb**	**08 24 54.6**	**+0.4**
PAVA	**Las Pavas**	**1.59**	**26**	⇑*i*P	**Pn**	**08 24 32.6**	**+0.1**
PAVA				*i* S	**Sb**	**08 24 53.7**	**-0.5**
PAVA				IAML		08 24 58.4	
	comp=Z,11μm,1.0s						
UESV	**Universidad de**	**1.60**	**31**	*e*P	**Pn**	**08 24 31.6**	**-0.9**
UESV	**Universidad de**	**1.60**	**31**	⇑*i*P	**Pn**	**08 24 32.3**	**-0.1**
UESV				*i* S	**Sb**	**08 24 53.0**	**-1.2**
UESV				IAML		08 25 00.2	
	comp=Z,3μm,1.0s						
QUEZ	**Alcalda de Qu**	**1.60**	**13**	*i* P	**Pn**	**08 24 32.5**	**0.0**
QUEZ				IAML		08 25 04.3	
	comp=Z,16μm,1.0s						
RTR	**El Retiro**	**1.62**	**360**	*e*P	**Pn**	**08 24 33.1**	**+0.3**
NUBE	**Las Nubes**	**1.63**	**355**	*e*P	**Pn**	**08 24 32.9**	**-0.1**
NUBE				*e*S	**Sb**	**08 24 54.4**	**-0.9**
NUBE	**Las Nubes**	**1.63**	**355**	⇑*i*P	**Pn**	**08 24 32.9**	**-0.1**
NUBE				*i* S	**Sb**	**08 24 53.4**	**-1.9**
NUBE				IAML		08 24 55.6	
	comp=Z,13μm,1.0s						
COEB	**Comit de Eme**	**1.64**	**41**	*e*P	**Pn**	**08 24 32.8**	**-0.2**
TECA	**Tecapa**	**1.65**	**42**	*e*P	**Pn**	**08 24 33.3**	**0.0**
JUCU	**Jucuarn**	**1.68**	**54**	*e*P	**Pn**	**08 24 33.1**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.68**	**32**	*e*P	**Pn**	**08 24 33.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.68**	**32**	⇑*i*P	**Pn**	**08 24 33.7**	**+0.1**
SCLA				IAML		08 25 02.5	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**1.71**	**3**	⇑*i*P	**Pn**	**08 24 34.1**	**+0.1**
UNIC				*i* S	**Sb**	**08 24 57.7**	**+0.3**
UNIC				IAML		08 25 02.0	
	comp=Z,3μm,1.0s						
PQSS	**Presa 15 de Se**	**1.71**	**38**	*e*P	**Pn**	**08 24 34.1**	**+0.1**
PQSS	**Presa 15 de Se**	**1.71**	**38**	*i* P	**Pn**	**08 24 34.1**	**+0.1**
PQSS				IAML		08 24 35.7	
	comp=Z,4μm,1.0s						
PQSS				*i* S	**Sb**	**08 24 57.2**	**-0.3**
LOAL	**Lomas de Alarc**	**1.73**	**356**	*e*P	**Pn**	**08 24 35.0**	**+0.8**
LOAL				*e*S	**Sb**	**08 24 57.8**	**-0.2**
LOAL	**Lomas de Alarc**	**1.73**	**356**	⇑*i*P	**Pn**	**08 24 34.6**	**+0.4**
LOAL				*i* S	**Sb**	**08 24 57.0**	**-0.9**
LOAL				IAML		08 25 03.2	
	comp=Z,24μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.75**	**356**	*e*P	**Pn**	**08 24 34.4**	**-0.2**
SLOZ				*e*S	**Sb**	**08 24 58.5**	**-0.3**
PACA	**Pacayal**	**1.76**	**47**	*e*P	**Pb**	**08 24 36.1**	**-1.1**
PACA	**Pacayal**	**1.76**	**47**	*i* P	**Pn**	**08 24 35.2**	**+0.5**
PACA				IAML		08 25 04.4	
	comp=Z,25μm,1.0s						
RANC	**El Ranchito**	**1.76**	**49**	*e*P	**Pn**	**08 24 35.2**	**+0.5**
CNRM	**Centro Naciona**	**1.87**	**50**	*e*S	**Sb**	**08 25 02.1**	**+0.1**
CNRM	**Centro Naciona**	**1.87**	**50**	*i* P	**Pn**	**08 24 36.3**	**+0.1**
CNRM				*i* S	**Sb**	**08 25 03.3**	**+1.2**
CNRM				IAML		08 25 06.6	
	comp=Z,22μm,1.0s						
LCND	**La Caada**	**2.00**	**59**	*e*P	**Pn**	**08 24 37.7**	**-0.2**
LCND				*e*S	**Sb**	**08 25 04.8**	**-1.0**
LCND	**La Caada**	**2.00**	**59**	⇑*i*P	**Pn**	**08 24 37.4**	**-0.5**
LCND				*i* S	**Sb**	**08 25 04.3**	**-1.5**
LCND				IAML		08 25 06.8	
	comp=Z,5μm,1.0s						
LLGN	**La Laguna**	**2.00**	**20**	*e*P	**Pn**	**08 24 38.7**	**+0.6**
LLGN				*e*S	**Sb**	**08 25 06.0**	**0.0**
LLGN	**La Laguna**	**2.00**	**20**	⇑*i*P	**Pn**	**08 24 38.7**	**+0.6**
LLGN				*i* S	**Sb**	**08 25 06.2**	**+0.2**
LLGN				IAML		08 25 09.4	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**2.03**	**60**	*e*P	**Pn**	**08 24 38.2**	**-0.2**
CNCH	**Conchagua**	**2.03**	**60**	⇑*i*P	**Pn**	**08 24 37.7**	**-0.8**
CNCH				*i* S	**Sb**	**08 25 06.5**	**-0.3**
CNCH				IAML		08 25 09.9	
	comp=Z,12μm,1.0s						
CAHU	**Cacacuatique**	**2.05**	**43**	*e*P	**Pn**	**08 24 39.6**	**+0.9**
JUAM	**Asuncion Mita**	**2.06**	**358**	⇓*i*P	**Pn**	**08 24 39.5**	**+0.7**
JUAM				*i* S	**Sb**	**08 25 05.6**	**-1.9**
JUAM				IAML		08 25 07.9	
	comp=Z,7μm,1.0s						
MTO3	**Montecristo**	**2.14**	**7**		**Pn**	**08 24 40.9**	**+0.9**
MTO3	**Montecristo**	**2.14**	**7**	*e*P	**Pn**	**08 24 40.6**	**+0.6**
MTO3	**Montecristo**	**2.14**	**7**	⇑*i*P	**Pn**	**08 24 40.7**	**+0.7**
MTO3				*i* S	**Sb**	**08 25 08.5**	**-1.4**
MTO3				IAML		08 25 11.0	
	comp=Z,4μm,1.0s						
CSGN	**Cosiguina Volc**	**2.15**	**71**	*i* P	**Pn**	**08 24 38.5**	**-1.6**
CSGN				IAML		08 25 18.8	
	comp=Z,7μm,1.0s						
AMPH	**Amapala**	**2.19**	**62**	*e*P	**Pn**	**08 24 40.6**	**+0.1**
AMPH				*e*S	**Sb**	**08 25 08.8**	**-2.3**
AMPH	**Amapala**	**2.19**	**62**	⇑*i*P	**Pn**	**08 24 39.8**	**-0.7**
AMPH				*i* S	**Sb**	**08 25 08.7**	**-2.3**
JAMO	**Monjas**	**2.23**	**354**	⇓*i*P	**Pn**	**08 24 41.7**	**+0.6**
JAMO				*i* S	**Sb**	**08 25 10.1**	**-2.3**
JAMO				IAML		08 25 30.5	
	comp=Z,12μm,1.0s						
ESQI	**Esquipulas**	**2.30**	**7**		**Pn**	**08 24 43.4**	**+1.3**
ESQI	**Esquipulas**	**2.30**	**7**	⇑*i*P	**Pn**	**08 24 43.2**	**+1.1**
ESQI				*i* S	**Sb**	**08 25 12.5**	**-2.0**
ESQI				IAML		08 25 19.0	
	comp=Z,6μm,1.0s						
PCG	**Pacaya**	**2.31**	**336**	*e*P	**Pn**	**08 24 43.2**	**+0.8**
NBG	**Las Nubes**	**2.41**	**344**	*e*P	**Pb**	**08 24 46.4**	**-2.0**
GUNB	**GUNB**	**2.41**	**344**	⇑*i*P	**Pn**	**08 24 43.6**	**-0.3**
GUNB				*i* S	**Sn**	**08 25 11.6**	**-1.3**
GUNB				IAML		08 25 15.8	
	comp=Z,5μm,1.0s						
FUG	**Fuego 3**	**2.46**	**332**	*e*P	**Pn**	**08 24 44.8**	**+0.3**
GCG4	**OSOP**	**2.46**	**340**	*i* P	**Pn**	**08 24 44.2**	**-0.3**
GCG4				*i* S	**Sn**	**08 25 14.6**	**+0.6**
GCG4				IAML		08 25 19.2	
	comp=Z,9μm,1.0s						
GUMI	**Mixco**	**2.53**	**338**	*i* P	**Pn**	**08 24 45.7**	**+0.2**
GUMI				*i* S	**Sn**	**08 25 16.7**	**+1.0**
GUMI				IAML		08 25 20.1	
	comp=Z,6μm,1.0s						
CRIN	**San Cristobal**	**2.57**	**80**		**Pn**	**08 24 46.1**	**+0.3**
CRIN	**San Cristobal**	**2.57**	**80**	*e*P	**Pn**	**08 24 45.5**	**-0.3**
CRIN	**San Cristobal**	**2.57**	**80**	*i* P	**Pn**	**08 24 44.9**	**-0.9**
CRIN				*i* S	**Sb**	**08 25 20.3**	**-1.9**
CRIN				IAML		08 25 35.2	
	comp=Z,4μm,1.0s						
SARH	**Santa Rosa de**	**2.64**	**19**	⇑*i*P	**Pn**	**08 24 48.0**	**+1.2**
SARH				*i* S	**Sb**	**08 25 21.4**	**-2.8**
SULM	**Suchitepequez,**	**2.76**	**318**	*e*P	**Pn**	**08 24 48.6**	**+0.2**
HERN	**Volcan Telica**	**2.77**	**83**	⇓*i*P	**Pn**	**08 24 47.2**	**-1.4**
HERN				IAML		08 25 28.5	
	comp=Z,1μm,1.0s						
ROCN	**Rota Cerro Neg**	**2.84**	**85**	⇓*i*P	**Pn**	**08 24 48.7**	**-0.8**
ROCN				IAML		08 25 29.1	
	comp=Z,480nm,1.0s						
CNGA	**AI SSO del Vol**	**2.88**	**85**	⇓*i*P	**Pn**	**08 24 48.9**	**-1.2**
CNGA				IAML		08 25 29.5	
	comp=Z,690nm,1.0s						
CNGN	**Cerro Negro**	**2.89**	**85**	Pn	**Pn**	**08 24 50.0**	**-0.2**
CNGN	**Cerro Negro**	**2.89**	**85**	*e*P	**Pn**	**08 24 48.5**	**-1.7**
CNGN	**Cerro Negro**	**2.89**	**85**	⇓*i*P	**Pn**	**08 24 48.8**	**-1.4**
CNGN				IAML		08 25 40.7	
	comp=Z,1μm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.92**	**52**	Pn	**Pn**	**08 24 51.1**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.92**	**52**	⇑*i*P	**Pn**	**08 24 51.1**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.92**	**52**	⇑*i*P	**Pn**	**08 24 51.1**	**+0.5**
TGUH				IAML		08 25 44.1	
	comp=Z,2μm,1.0s						
COMHN	**El Horno**	**2.97**	**43**	*i* P	**Pb**	**08 24 59.4**	**+1.5**
RTAL	**Retalhuleu**	**3.00**	**319**		**Pn**	**08 24 51.6**	**-0.2**
RTAL	**Retalhuleu**	**3.00**	**319**	*i* P	**Pn**	**08 24 50.6**	**-1.1**
RTAL				*i* S	**Sn**	**08 25 25.4**	**-1.7**
RTAL				IAML		08 25 30.5	
	comp=Z,2μm,1.0s						
SOKI	**Kika Raxquin**	**3.06**	**326**	⇓*i*P	**Pn**	**08 24 53.2**	**+0.3**
SOKI				*i* S	**Sn**	**08 25 27.1**	**-1.9**
SOKI				IAML		08 25 35.2	
	comp=Z,4μm,1.0s						
STG3	**Santiaguito 3,**	**3.07**	**323**	*e*P	**Pn**	**08 24 52.7**	**-0.1**
MOM2	**El Cardon**	**3.09**	**87**	⇓*i*P	**Pn**	**08 24 52.2**	**-0.7**
MOM2				*i* S	**Sn**	**08 25 28.2**	**-1.0**
MOM2				IAML		08 25 37.0	
	comp=Z,870nm,1.0s						
SAPS	**Ciudad Sandino**	**3.17**	**91**	⇓*i*P	**Pn**	**08 24 53.3**	**-0.7**
SAPS				*i* S	**Sn**	**08 25 29.9**	**-1.2**
SAPS				IAML		08 25 37.0	
	comp=Z,1μm,1.0s						
APYN	**Apoyeque**	**3.22**	**90**	⇓*i*P	**Pn**	**08 24 54.3**	**-0.4**
APYN				IAML		08 25 42.0	
	comp=Z,710nm,1.0s						
APQ2	**Apoyeque**	**3.25**	**91**	*i* P	**Pn**	**08 24 54.7**	**-0.3**
APQ2				*i* S	**Sn**	**08 25 31.6**	**-1.4**
APQ2				IAML		08 25 42.5	
	comp=Z,940nm,1.0s						
LIMN	**Finca el Limon**	**3.29**	**76**	⇑*i*P	**Pn**	**08 24 54.7**	**-1.1**
LIMN				*i* S	**Sn**	**08 25 34.8**	**+0.4**
LIMN				IAML		08 26 05.7	
	comp=Z,430nm,1.0s						
TISN	**Laguna Tiscapa**	**3.30**	**92**	⇓*i*P	**Pn**	**08 24 54.4**	**-1.4**
TISN				IAML		08 25 39.4	
	comp=Z,50nm,1.0s						
UNAN	**Cigeo UNAN**	**3.30**	**92**	*i* P	**Pn**	**08 24 55.5**	**-0.3**
UNAN				*i* S	**Sn**	**08 25 31.6**	**-2.8**
UNAN				IAML		08 25 45.2	
	comp=Z,5μm,1.0s						
QUIS	**Sacapulas**	**3.32**	**335**	⇓*i*P	**Pn**	**08 24 57.9**	**+1.7**
QUIS				*i* S	**Sn**	**08 25 37.5**	**+2.5**
QUIS				IAML		08 25 40.1	
	comp=Z,2μm,1.0s						
WILN	**Americas 2**	**3.38**	**91**	*i* P	**Pn**	**08 24 57.3**	**+0.4**
WILN				*i* S	**Sn**	**08 25 34.6**	**-1.7**
WILN				IAML		08 25 46.2	
	comp=Z,440nm,1.0s						
MAS3	**AI N del Volca**	**3.40**	**94**	*i* P	**Pn**	**08 24 56.8**	**-0.4**
MAS3				*i* S	**Sn**	**08 25 35.0**	**-1.9**
MAS3				IAML		08 25 55.4	
	comp=Z,730nm,1.0s						
SMSP	**San Marcos**	**3.40**	**323**	*i* P	**Pn**	**08 24 56.9**	**-0.6**
SMSP				*i* S	**Sn**	**08 25 33.7**	**-3.5**
SMSP				IAML		08 25 43.9	
	comp=Z,7μm,1.0s						
SMCA	**Catarina**	**3.50**	**318**	*i* P	**Pn**	**08 24 57.4**	**-1.1**
SMCA				*i* S	**Sn**	**08 25 36.9**	**-2.3**
SMCA				IAML		08 25 38.3	
	comp=Z,2μm,1.0s						
HUEH	**Huehuetenango**	**3.53**	**329**		**Pn**	**08 25 00.7**	**+1.6**
HUEH	**Huehuetenango**	**3.53**	**329**	⇓*i*P	**Pn**	**08 25 00.8**	**+1.6**
HUEH				*i* S	**Sn**	**08 25 42.6**	**+2.2**
HUEH				IAML		08 25 50.3	
	comp=Z,3μm,1.0s						
RCPN	**Sur Rio San Ju**	**3.68**	**70**	*i* P	**Pn**	**08 25 00.5**	**-0.7**
RCPN				IAML		08 25 10.7	
	comp=Z,0.9nm,1.0s						
MATN	**Matagalpa**	**3.69**	**79**	Pn	**Pn**	**08 25 00.7**	**-0.6**
MATN	**Matagalpa**	**3.69**	**79**	*i* P	**Pn**	**08 25 00.8**	**-0.4**
MATN				IAML		08 25 49.9	
	comp=Z,180nm,1.0s						
NISHN	**

833A Chaparral WMA, 18.39 332 P **Pn** **08 28 19.9 +0.8**
baz=148,SNR=10
TAMC Tame, Arauca 18.54 107 *e*P **Pn** **08 28 23.8 +2.8**
BOSC San Juan Bosco 18.90 143 P **Pn** **08 28 26.5 +0.9**
SDV Santo Domingo 18.98 98 P **Pn** **08 28 26.4 -0.2**
SDV Santo Domingo 18.98 98 P **P** **08 28 25.9 +0.1**
comp=Z,0.4nm,0.3s,baz=274,slow=7.6,SNR=4.7
SDV LR LR 08 37 00.1
comp=Z,178nm,21.0s,baz=284,slow=41
comp=Z,5.0nm,0.6s
MCRA Macar, Loja 19.13 149 *e*P **Pn** **08 28 31.1 +2.9**
HNDO Hondo 19.37 334 P **Pn** **08 28 30.8 -0.2**
352A Blakely 19.61 12 P **Pn** **08 28 33.3 -0.4**
435B Jarrell 19.84 339 P **Pn** **08 28 35.7 -0.8**
baz=156
250A Grady 19.86 8 P **Pn** **08 28 35.6 -1.2**
250A IAmb IAmb 08 28 39.7
comp=Z,111nm,1.3s
VBMS Vicksburg 19.88 358 P **Pn** **08 28 36.5 -0.3**
baz=177,SNR=8.3
TIGA Tifton 19.88 15 P **Pn** **08 28 36.6 -0.3**
TIGA Tifton 19.88 15 P **Pn** **08 28 36.0 -1.0**
baz=197,SNR=6.8
NATX Nacogdoches 19.95 347 P **Pn** **08 28 36.6 -1.1**
NATX Nacogdoches 19.95 347 P **Pn** **08 28 36.5 -1.2**
baz=165
146A Union 20.28 1 P Pn 08 28 40.6 -1.0
146A IAmb IAmb 08 28 56.0
comp=Z,99nm,1.1s
JCT Junction City 20.42 334 P **P** **08 28 41.8 +0.5**
JCT IAmb IAmb 08 28 47.4
comp=Z,89nm,1.6s
JCT Junction City 20.42 334 P **P** **08 28 42.0 +0.8**
baz=150,SNR=11
BRDY Brady 20.81 337 P **P** **08 28 45.3 -0.1**
BRDY IAmb IAmb 08 28 55.9
comp=Z,41nm,0.8s
LRAL Lakeview Retre 20.82 6 P **P** **08 28 45.9 +0.6**
baz=187,SNR=9.7
WHTX Lake Whitney, 20.91 341 P **P** **08 28 47.2 +0.8**
baz=158
SAND Sanderson 21.07 329 P **P** **08 28 48.8 +0.5**
TXAR Lajitas Array 21.42 325 P **P** **08 28 53.6 +1.5**
comp=Z,15nm,0.8s,baz=143,slow=10,SNR=36
comp=Z,15nm,0.8s
TX31 Lajitas Ar. Si 21.42 325 P **P** **08 28 54.0 +2.0**
TX31 IAmb IAmb 08 28 57.1
comp=Z,61nm,1.0s
BAUV El Baul 21.49 97 P **P** **08 28 51.6 -1.2**
BAUV IAmb IAmb 08 28 56.9
comp=Z,44nm,1.2s
Y45A Yeager Farm, C 21.50 0 P **P** **08 28 55.1 +2.3**
WLAR White Oak Lake 21.56 352 P **P** **08 28 53.4 +0.1**
GOGA Godfrey 21.79 14 P **P** **08 28 55.9 0.0**
baz=196
PLPT Palo Pinto 21.94 340 P **P** **08 28 57.5 0.0**
PLPT IAmb IAmb 08 29 00.8
comp=Z,101nm,1.2s
OXF Oxford 22.15 1 P **P** **08 29 00.2 +0.5**
baz=180,SNR=21
ABTX Abilene, Hawle 22.24 337 P **P** **08 29 01.5 +0.7**
baz=153
ATAH Atahualpa 22.28 149 LR LR 08 34 56.9
comp=Z,221nm,19.6s,baz=326,slow=30
SLBS Sierra La Lagu 22.37 303 P **P** **08 29 03.8 +1.5**
SLBS IAmb IAmb 08 29 06.7
comp=Z,39nm,1.1s
NHSC New Hope 22.48 21 P **P** **08 29 03.3 0.0**
baz=205
MNHN Monahans 22.51 330 P **P** **08 29 03.7 -0.1**
LPIG La Paz 22.85 304 LR LR 08 37 53.3
comp=Z,167nm,18.5s,baz=85,slow=36
HODGE Hodges 22.88 16 P **P** **08 29 07.9 +0.4**
HODGE IAmb IAmb 08 29 18.1
comp=Z,23nm,0.8s
ODSA Odessa 23.05 331 P **P** **08 29 08.6 -0.8**
ODSA IAmb IAmb 08 29 19.8
comp=Z,36nm,1.2s
SWET Sewanee 23.09 8 P **P** **08 29 10.2 +0.4**
SWET IAmb IAmb 08 29 12.2
comp=Z,43nm,1.3s
POST Post 23.38 334 P **P** **08 29 11.9 -0.8**
POST IAmb IAmb 08 29 22.3
comp=Z,21nm,0.9s
SJG San Juan 23.39 73 LR LR 08 39 28.4
comp=Z,323nm,18.4s,baz=277,slow=40
BG3 Lake Jocassee 23.43 14 P **P** **08 29 13.4 +0.3**
BG3 IAmb IAmb 08 29 24.7
comp=Z,70nm,1.7s
V48A Smith Brothers 23.51 6 P **P** **08 29 13.9 +0.1**
GNAR Gosnell 23.60 359 P **P** **08 29 15.1 +0.4**
FCAR Ozark Folk Cen 23.63 355 P **P** **08 29 15.7 +0.7**
FCAR IAmb IAmb 08 29 25.8
comp=Z,42nm,0.8s
LCAR Lake Charles 23.74 357 P **P** **08 29 15.9 -0.1**
LCAR IAmb IAmb 08 29 27.4
comp=Z,81nm,1.3s
WVT Waverly 23.82 4 P **P** **08 29 15.9 -0.9**
WVT Waverly 23.82 4 P **P** **08 29 17.2 +0.5**
baz=184
WMOK Wichita Mounta 23.86 341 P **P** **08 29 17.5 +0.2**
baz=157,SNR=8.1
TKL Tuckaleechee C 23.89 12 LR LR 08 38 52.7
comp=Z,367nm,20.9s,baz=206,slow=37
KMSC Kings Mountain 23.99 17 P **P** **08 29 18.3 -0.1**
baz=200,SNR=6.1
OKCSW OKLAHOMA CITY 24.09 344 **P** **08 29 19.0 -0.4**
MNTX Cornudas Mount 24.17 326 P **P** **08 29 20.1 -0.1**
baz=140,SNR=11
TUL3 Leonard 24.19 348 P **P** **08 29 20.3 0.0**
TUL3 Leonard 24.19 348 P **P** **08 29 20.2 -0.1**
baz=165
T45A Paducah 24.66 2 P **P** **08 29 23.7 -0.9**
MSTX Muleshoe 24.70 333 P **P** **08 29 25.2 +0.1**
baz=148
T47A Sharon Grove 24.72 5 P **P** **08 29 24.8 -0.3**
TZTN Tazewell 24.79 12 P **P** **08 29 26.0 +0.2**
baz=194
OK048 Pawnee Station 24.93 346 **P** **08 29 26.2 -0.8**
AMTX Amarillo 25.03 336 P **P** **08 29 28.1 +0.1**
AMTX IAmb IAmb 08 29 39.9
comp=Z,50nm,1.1s
AMTX Amarillo 25.03 336 P **P** **08 29 28.3 +0.2**
baz=151
T35A Sooner Cattle 25.31 347 P **P** **08 29 30.6 +0.2**
T35A IAmb IAmb 08 29 40.9
comp=Z,26nm,1.1s
S39A Bolivar 25.53 353 P **P** **08 29 31.6 -0.8**
S39A IAmb IAmb 08 29 42.0
comp=Z,19nm,0.6s
CCM Cathedral Cave 25.72 357 P **P** **08 29 33.2 -1.0**
CCM IAmb IAmb 08 29 43.8
comp=Z,42nm,0.8s
CCM Cathedral Cave 25.72 357 P **P** **08 29 33.9 -0.2**
baz=176
WCI Wyandotte Cave 26.03 6 P **P** **08 29 36.7 -0.3**
baz=187
121A Cookes Peak, D 26.15 323 P **P** **08 29 41.4 +3.0**
baz=136,SNR=11
BLA Blacksburg 26.18 17 P **P** **08 29 39.0 +0.6**
baz=201
Y22D IRIS PASSCAL I 26.82 327 P **P** **08 29 45.9 +1.6**
baz=140
Y22F Passcal Instru 26.82 327 P **P** **08 29 45.7 +1.4**
baz=140
NNA Nana 27.24 152 LR LR 08 38 41.8
comp=Z,155nm,21.2s,baz=321,slow=32
ANMO Albuquerque 27.25 329 P **P** **08 29 49.4 +1.2**
baz=142
KSU1 Kansas State U 27.43 348 P **P** **08 29 49.3 -0.3**
baz=165
TUC Tucson 27.84 319 P **P** **08 29 54.2 +0.8**
baz=131
CBKS Cedar Bluff 27.92 343 P **P** **08 29 54.3 +0.3**
baz=158
CBN Corbin Frederi 28.06 21 P **P** **08 29 54.7 -0.5**
baz=206
P52A Corning 28.06 12 P **P** **08 29 54.2 -1.0**
baz=196
T25A Trinidad 28.09 334 P **P** **08 29 55.3 -0.5**
baz=148
SFIN Lafayette 28.09 4 P **P** **08 29 54.8 -0.7**
baz=185
O48B Farmland 28.16 7 P **P** **08 29 55.6 -0.5**
baz=189
ACSO Alum Creek Sta 28.47 11 P **P** **08 29 59.3 +0.4**
baz=194
O53A New Philadelph 28.85 13 P **P** **08 30 02.4 +0.1**
baz=197
214A Organ Pipe Nat 28.95 316 P **P** **08 30 04.2 +1.0**
baz=127,SNR=8.1
N35A Tabor 28.97 351 P **P** **08 30 03.2 -0.1**
KSCO Kaye Shedlock' 29.03 339 P **P** **08 30 03.8 -0.2**
KSCO IAmb IAmb 08 30 14.6
comp=Z,30nm,1.1s
KSCO Kaye Shedlock' 29.03 339 P **P** **08 30 04.4 +0.4**
baz=153
SDCO Great Sand Dun 29.07 334 P **P** **08 30 05.5 +0.9**
baz=147
W18A Petrified Fore 29.14 325 P **P** **08 30 05.8 +0.7**
baz=136
M50A Fremont 29.60 10 P **P** **08 30 08.1 -0.8**
M50A IAmb IAmb 08 30 18.4
comp=Z,29nm,0.9s
S22A 4UR Ranch, Cre 29.66 332 P **P** **08 30 10.8 +0.9**
baz=144
L44A Lake County Fo 29.84 3 P **P** **08 30 12.4 +1.4**
baz=183
Q24A Divide 29.95 335 P **P** **08 30 12.6 +0.2**
baz=148
MVCO Mesa Verde 30.05 329 P **P** **08 30 14.1 +0.9**
baz=141
M53A WI Miller and 30.11 14 P **P** **08 30 14.0 +0.6**
baz=198
WUAZ Wupatki 30.36 323 P **P** **08 30 16.6 +0.7**
baz=134
BOAV Boa Vista 30.47 106 P **P** **08 30 17.7 +0.9**
BOAV IAmb IAmb 08 30 22.4
comp=Z,45nm,1.9s
JFWS Jewell Farm 30.54 359 P **P** **08 30 17.3 +0.1**
baz=179
OGNE Ogallala 30.57 341 P **P** **08 30 17.7 +0.1**
baz=156
ISCO Idaho Springs 30.84 336 P **P** **08 30 21.1 +0.8**
baz=148
ERPA Erie 30.91 14 P **P** **08 30 19.9 -0.5**
baz=198
GLA Glamis 30.96 316 P **P** **08 30 21.5 +0.4**
baz=126
BLYC Blythe 31.18 317 P **P** **08 30 23.8 +0.9**
PDMCI Parker Dam,Lak 31.27 319 P **P** **08 30 25.1 +1.3**
baz=129,SNR=16
K30B Basset 31.51 346 P **P** **08 30 25.7 -0.1**
SWSC Sam W. Stewart 31.57 315 P **P** **08 30 27.4 +1.0**
baz=125
IKP In-Ko-Pah, Jac 31.62 314 P **P** **08 30 27.9 +1.0**
baz=124
BC3 Big Chuckawall 31.74 316 P **P** **08 30 29.3 +1.3**
baz=126,SNR=16
IRM Iron Mountain 31.84 317 P **P** **08 30 30.3 +1.5**
baz=127,SNR=11
NEE2 Needles Airpor 31.86 319 P **P** **08 30 30.1 +1.1**
baz=128
N23A Red Feather La 31.91 336 P **P** **08 30 30.8 +1.1**
baz=149
ECSD EROS Data Cent 31.93 350 P **P** **08 30 28.7 -0.7**
baz=167,SNR=6.7
MONP2 Monument Peak 31.97 314 P **P** **08 30 30.0 -0.2**
baz=124
ETMB Extrema 31.99 132 P **P** **08 30 28.5 -1.7**
ETMB IAmb IAmb 08 30 40.3
comp=Z,18nm,1.4s
O20A White River Ci 32.24 333 P **P** **08 30 32.7 +0.2**
baz=144
BELC Belle Mtn. Jos 32.31 316 P **P** **08 30 33.9 +0.8**
baz=126
TPFO Pinon Flats 32.40 315 P **P** **08 30 34.5 +0.7**
baz=125
PFO Pinyon Flats O 32.40 315 P **P** **08 30 34.8 +0.9**
baz=125
GMRC Granite Mounta 32.55 318 P **P** **08 30 36.5 +1.4**
baz=127,SNR=8.0
MURC Murrieta 32.91 315 P **P** **08 30 39.6 +1.4**
baz=124
SPMN Marine on St. 32.96 356 P **P** **08 30 38.4 0.0**
baz=174
HEC Hector,Ludlow 33.02 317 P **P** **08 30 40.6 +1.4**
baz=126
TUQ Turquoise Moun 33.12 319 P **P** **08 30 41.7 +1.6**
baz=128,SNR=11
SCI2 San Clemente I 33.53 313 P **P** **08 30 45.1 +1.6**
baz=121
BFSC Mount Baldy Ra 33.58 315 P **P** **08 30 45.2 +1.1**
baz=124
GSC Goldstone, Bar 33.61 318 P **P** **08 30 45.8 +1.4**
baz=126
SADO Sadowa 33.62 14 LR LR 08 45 45.3
comp=Z,192nm,18.6s,baz=5.0,slow=39
SHOC Shoshone, Teco 33.63 319 P **P** **08 30 45.3 +0.9**
baz=128
K22A Casper 33.64 337 P **P** **08 30 45.2 +0.7**
baz=149
SAML Samuel 33.70 127 P **P** **08 30 43.4 -1.9**
SAML IAmb IAmb 08 30 45.4
comp=Z,11nm,0.8s
QSM Queen of Sheba 34.05 318 P **P** **08 30 49.7 +1.6**
QSM IAmb IAmb 08 30 51.4
comp=Z,17nm,1.1s
GWY Greenwater Val 34.05 319 P **P** **08 30 49.5 +1.2**
GWY IAmb IAmb 08 30 51.6
comp=Z,16nm,1.3s
RSSD Black Hills 34.07 341 P **P** **08 30 49.7 +1.3**
RSSD Black Hills 34.07 341 P **P** **08 30 48.8 +0.4**
baz=154
EDW2 Edwards Air Fo 34.17 316 P **P** **08 30 50.2 +1.0**
baz=124
TPNV Topopah Spring 34.26 320 P **P** **08 30 52.8 +2.7**
baz=129,SNR=8.8
LRMC Laurel Mtn Rad 34.30 317 P **P** **08 30 53.1 +2.7**
baz=125,SNR=6.8
FURC Furnace Creek, 34.35 319 P **P** **08 30 53.2 +2.5**
baz=128
DUG Dugway, Tooele 34.51 328 P **P** **08 30 53.9 +1.8**
baz=137
MPMC Manual Prospec 34.51 318 P **P** **08 30 54.3 +2.0**
baz=126
R11B Troy Canyon, C 34.76 323 P **P** **08 30 56.6 +2.2**
baz=131,SNR=7.4
ARVC Arvin 34.87 316 P **P** **08 30 57.1 +1.9**
baz=124
ISA Isabella, Lake 34.93 317 P **P** **08 30 57.5 +1.7**
baz=124
BW06 Boulder Array 34.96 334 P **P** **08 30 57.3 +1.2**
baz=144
PDAR Pinedale Array 34.96 334 P **P** **08 30 56.6 +0.4**
comp=Z,1.4nm,0.9s,baz=134,slow=8.5,SNR=7.2
PDAR PcP **PcP** **08 33 28.8 +0.4**
comp=Z,1.8nm,0.9s,baz=150,slow=3.3,SNR=5.4
PDAR LR LR 08 46 08.3
comp=Z,216nm,20.5s,baz=116,slow=38
comp=Z,1.4nm,0.9s
GRAC Grapevine Rang 34.99 320 P **P** **08 30 58.7 +2.4**
baz=128,SNR=10
SBC Santa Barbara 35.12 314 P **P** **08 30 59.4 +2.1**
baz=122
CWC Cottonwood Cre 35.12 318 P **P** **08 30 59.3 +1.8**
baz=126
PKM Mcpherson Peak 35.42 315 P **P** **08 31 01.7 +1.5**
baz=122
VES Vestal, Richgr 35.44 316 P **P** **08 31 02.5 +2.5**
baz=124,SNR=8.3
REDW Red Top Meadow 36.00 333 P **P** **08 31 04.5 -0.6**
SNOW Snow King Moun 36.04 334 P **P** **08 31 06.2 +0.8**
SNOW IAmb IAmb 08 31 09.7
comp=Z,15nm,0.9s
ELK Elko 36.19 326 LR LR 08 45 41.1
comp=Z,116nm,21.5s,baz=100,slow=36
MDND Maddock 36.44 349 P **P** **08 31 09.8 +1.3**
baz=163,SNR=6.7
NVAR Mina Array Bea 36.46 321 P **P** **08 31 10.7 +1.6**
comp=Z,15nm,0.9s,baz=138,slow=8.4,SNR=94
NVAR PcP **PcP** **08 33 34.0 +1.2**
comp=Z,2.2nm,0.8s,baz=140,slow=4.6,SNR=5.0
comp=Z,15nm,0.9s
H17A Grant Village 36.71 335 P **P** **08 31 12.0 +0.8**
baz=144
RLMT Red Lodge 36.78 337 P **P** **08 31 12.1 +0.4**
baz=147
LAO LASA Array 37.06 341 P **P** **08 31 14.4 +0.6**
baz=152
PKME Peaks-Kenny Pk 37.19 24 P **P** **08 31 15.4 +0.6**
baz=214
HLID Hailey 37.80 330 P **P** **08 31 21.2 +0.9**
baz=138
BOZ Bozeman (W) 38.12 335 P **P** **08 31 24.7 +1.7**
BOZ IAmb IAmb 08 31 27.4
comp=Z,28nm,1.8s
BOZ Bozeman (W) 38.12 335 P **P** **08 31 23.9 +0.9**
baz=144
ULM Lac du Bonnet 38.22 354 P **P** **08 31 21.5 -1.9**
ULM Lac du Bonnet 38.22 354 P **P** **08 31 21.6 -1.9**
comp=Z,5.1nm,0.9s,baz=163,slow=7.3,SNR=9.1
ULM LR LR 08 48 25.6
comp=Z,284nm,21.4s,baz=171,slow=38
comp=Z,5.1nm,0.9s
VILB Vilhena 38.48 130 P **P** **08 31 25.8 -0.4**
VILB IAmb IAmb 08 31 26.9
comp=Z,19nm,0.8s
EGMT Eagleton 39.41 339 P **P** **08 31 33.8 +0.2**
baz=148
SIV San Ignacio 39.84 134 LR LR 08 47 49.6
comp=Z,90nm,18.4s,baz=314,slow=36
MSO Missoula 40.08 334 P **P** **08 31 40.6 +1.4**
MSO Missoula 40.08 334 P **P** **08 31 39.0 -0.2**
baz=141
BMO Blue Mountains 40.17 329 P **P** **08 31 39.0 -1.0**
LVC Limon Verde 40.18 150 LR LR 08 45 28.6
comp=Z,82nm,21.3s,baz=322,slow=32
YBH Yreka Blue Hor 41.14 322 LR LR 08 49 12.8
comp=Z,101nm,20.3s,baz=120,slow=37
L04D Klamath Falls 41.18 322 P **P** **08 31 49.9 +1.3**
L04D IAmb IAmb 08 31 50.7
comp=Z,45nm,1.2s
NEW Newport 42.57 333 P **P** **08 31 60.0 +0.4**
baz=138
NEW Newport 42.57 333 LR LR 08 53 15.9
comp=Z,197nm,18.4s,baz=128,slow=41
FFC Flin Flon 43.46 350 P **P** **08 32 05.7 -0.9**
RPN Rapa Nui 43.57 206 LR LR 08 46 26.2
comp=Z,72nm,18.0s,baz=9.0,slow=31
EDM Edmonton 45.02 340 P **P** **08 32 18.4 -0.9**
SCHQ Schefferville 46.09 18 P **P** **08 32 25.8 -1.9**
comp=Z,6.5nm,0.7s,baz=255,slow=3.1,SNR=11
SCHQ PcP **PcP** **08 34 03.7 0.0**
comp=Z,3.1nm,0.7s,baz=174,slow=2.2,SNR=3.9
SCHQ LR LR 08 50 48.3
comp=Z,280nm,19.2s,baz=211,slow=35
comp=Z,6.5nm,0.7s
FCC Fort Churchill 46.53 357 P **P** **08 32 29.5 -1.4**
FCC IAmb IAmb 08 32 39.8
comp=Z,8.4nm,1.0s
AQDB Aquidauana 46.62 134 P **P** **08 32 31.1 -1.1**
AQDB IAmb IAmb 08 32 32.8
comp=Z,18nm,1.3s
CFA Coronel Fontan 48.21 155 LR LR 08 48 53.4
comp=Z,61nm,21.5s,baz=48,slow=31
CPUP Villa Florida 49.59 141 P **P** **08 32 53.0 -2.1**
comp=Z,2.7nm,0.8s,baz=337,slow=7.2,SNR=3.8
CPUP LR LR 08 52 47.7
comp=Z,91nm,19.9s,baz=342,slow=35
comp=Z,2.7nm,0.8s
BBB Bella Bella 50.39 330 LR LR 08 56 28.6
comp=Z,92nm,19.2s,baz=86,slow=39
YKA Yellowknife Ar 53.24 346 P **P** **08 33 20.9 -1.1**
comp=Z,4.0nm,0.9s,baz=145,slow=7.4,SNR=46
YKA PcP **PcP** **08 34 29.8 +0.2**
comp=Z,1.9nm,1.0s,baz=137,slow=4.0,SNR=6.4
YKA ScP **ScP** **08 38 30.4 +4.4**
comp=Z,0.2nm,0.8s,baz=145,slow=4.5,SNR=3.4
YKA LR LR 08 57 51.1
comp=Z,146nm,20.1s,baz=186,slow=38
comp=Z,4.0nm,0.9s
FRB Frobisher Bay 53.51 11 LR LR 08 55 51.0
comp=Z,290nm,21.5s,baz=193,slow=36
T35M Bob Quinn 54.34 334 P **P** **08 33 30.6 +0.4**
baz=128
TAOE Nuku Hiva Isla 54.40 250 *e*LR LR 08 48 59.7
comp=Z,190nm,24.7s
DLBC Dease Lake 55.17 335 P **P** **08 33 37.2 +1.0**
baz=129
S34M Telegraph Cree 55.30 335 P **P** **08 33 38.0 +1.0**
baz=128
PLCA Paso Flores 55.62 162 P **P** **08 33 37.6 -2.0**
comp=Z,2.4nm,0.8s,baz=343,slow=8.1,SNR=6.4
PLCA PcP **PcP** **08 34 38.1 -1.0**
comp=Z,1.4nm,0.9s,baz=328,slow=7.5,SNR=2.9
PLCA LR LR 08 52 08.6
comp=Z,96nm,21.0s,baz=330,slow=30
comp=Z,2.4nm,0.8s
R33M Jennings River 56.15 336 P **P** **08 33 43.8 +0.4**
baz=129
WRGLY Wrigley 56.22 342 P **P** **08 33 43.8 +0.2**
baz=139
RCBR Riachuelo 56.37 106 LR LR 09 01 34.8
comp=Z,85nm,18.8s,baz=331,slow=40
Q32M Nakina River 56.41 335 P **P** **08 33 45.4 +0.1**
baz=127
S32K Killisnoo 56.53 333 P **P** **08 33 46.0 +0.2**
baz=124
P32M Atlin 57.38 335 P **P** **08 33 52.7 +0.7**
baz=126
P33M Teslin, Yukon 57.40 336 P **P** **08 33 53.2 +1.2**
baz=127
LL02 Futaleuf 57.54 165 P **P** **08 33 53.6 +0.5**
LL02 IAmb IAmb 08 33 54.2
comp=Z,28nm,1.4s
P29M Windy Craggy 59.10 334 P **P** **08 34 04.8 +0.8**
baz=122
SFJD Kangerlussuaq 60.49 17 LR LR 08 59 33.9
comp=Z,104nm,19.6s,baz=200,slow=35
MAYO Mayo, Yukon 60.59 338 P **P** **08 34 15.4 +1.3**
baz=126
YUK8 Steele Glacier 60.82 335 P **P** **08 34 17.0 +1.0**
baz=121
M29M Somme Creek 60.91 336 P **P** **08 34 16.5 +0.1**
M29M IAmb IAmb 08 34 28.4
comp=Z,9.2nm,1.1s
M29M Somme Creek 60.91 336 P **P** **08 34 17.6 +1.2**
baz=123
C36M Paulatuk 61.09 347 P **P** **08 34 16.6 -0.8**
baz=141
L29M L29M 61.14 337 P **P** **08 34 16.4 -1.5**
baz=123
J30M Hart River 61.32 339 P **P** **08 34 19.8 +0.6**
baz=126
CTG Chitna Glacier 61.33 334 P **P** **08 34 20.8 +1.6**
baz=119
K29M Barlow Dome 61.33 338 P **P** **08 34 19.7 +0.5**
baz=124
YUK3 Moose Creek 61.36 335 P **P** **08 34 20.3 +0.7**
baz=120
H31M Peel River 61.40 341 P **P** **08 34 21.2 +1.6**
baz=128
I30M Mount Dempster 61.72 340 P **P** **08 34 22.8 +0.9**
baz=126
BVCY Beaver Creek 61.85 336 P **P** **08 34 24.2 +1.6**
baz=120
J29N Klondike Camp 61.92 338 P **P** **08 34 24.4 +1.2**
baz=124
G31M Satah River 62.08 342 P **P** **08 34 24.6 +0.5**
baz=129
M27K Edge Creek, AK 62.23 335 P **P** **08 34 25.6 +0.3**
baz=119
F31M Tsiigehtchic 62.25 342 P **P** **08 34 25.5 +0.3**
baz=130
RES Resolute Bay 62.47 358 P **P** **08 34 25.4 -1.1**
RES IAmb IAmb 08 34 37.2
comp=Z,5.6nm,0.9s
RES Resolute Bay 62.47 358 LR LR 09 04 49.8
comp=Z,168nm,18.1s,baz=194,slow=39
EPYK Eagle Plains 62.52 341 P **P** **08 34 26.9 -0.1**
baz=126
BCAR Beaver Creek A 62.54 336 P **P** **08 34 27.8 +0.5**
L27K Beaver Creek, 62.56 336 P **P** **08 34 27.8 +0.4**
baz=120
M26K Nabesna, AK 62.71 335 P **P** **08 34 29.6 +1.2**
baz=118
BMRM Bremner River 62.74 333 P **P** **08 34 28.7 0.0**
baz=116
INK Inuvik 62.75 343 P **P** **08 34 27.9 -0.6**
INK IAmb IAmb 08 34 31.4
comp=Z,8.7nm,1.1s
INK Inuvik 62.75 343 P **P** **08 34 29.9 +1.4**
baz=130,SNR=5.3
INK Inuvik 62.75 343 LR LR 09 04 54.9
comp=Z,130nm,18.0s,baz=14,slow=39
F30M Barrier River 62.97 342 P **P** **08 34 30.6 +0.6**
baz=128
N25K Chitina, Valde 63.02 334 P **P** **08 34 31.6 +1.0**
baz=116
EYAK Cordova Ski Ar 63.07 333 P **P** **08 34 32.2 +1.4**
baz=114

K27K	**Chicken**	**63.13**	**337**	P	**P**	**08 34 31.1**	**-0.1**
	baz=120						
EGAK	**Eagle**	**63.17**	**338**	P	**P**	**08 34 31.0**	**-0.4**
	baz=121						
G29M	**Pine Creek**	**63.25**	**341**	P	**P**	**08 34 30.9**	**-1.0**
	baz=125						
A36M	**Sachs Harbour**	**63.39**	**348**	P	**P**	**08 34 32.7**	**0.0**
	baz=140						
KLU	**Klutina**	**63.54**	**334**	P	**P**	**08 34 33.7**	**-0.4**
	baz=115						
I27K	**Kandik River**	**63.76**	**339**	P	**P**	**08 34 35.2**	**-0.2**
	baz=121						
J26L	**Joseph Creek**	**63.93**	**337**	P	**P**	**08 34 36.2**	**-0.4**
	baz=118						
H27K	**Steamboat Moun**	**64.05**	**339**	P	**P**	**08 34 37.1**	**-0.2**
	baz=121						
RIDG	**Independent Ri**	**64.08**	**336**	P	**P**	**08 34 37.3**	**-0.2**
	baz=117						
E29M	**Blow River**	**64.08**	**342**	P	**P**	**08 34 38.0**	**+0.7**
	baz=126						
I26K	**Coal Creek Min**	**64.17**	**338**	P	**P**	**08 34 38.0**	**0.0**
	baz=119						
F28M	**Old Crow**	**64.25**	**341**	P	**P**	**08 34 38.5**	**0.0**
F28M	**Old Crow**	**64.25**	**341**	P	**P**	**08 34 38.8**	**+0.3**
	baz=123,SNR=11						
G27K	**Doyon Strip**	**64.40**	**340**	P	**P**	**08 34 38.7**	**-0.9**
	baz=121						
M23K	**Glacier View**	**64.45**	**333**	P	**P**	**08 34 39.2**	**-0.8**
	baz=113						
K24K	**Donnelly Dome**	**64.47**	**336**	P	**P**	**08 34 39.0**	**-1.1**
	baz=116						
J25K	**Salcha River,**	**64.67**	**337**	P	**P**	**08 34 42.1**	**+0.7**
	baz=117						
E28M	**Babbage River**	**64.69**	**342**	P	**P**	**08 34 41.2**	**-0.1**
	baz=124						
SML	**Sawmill**	**64.72**	**333**	P	**P**	**08 34 41.5**	**-0.2**
	baz=112						
WAT6	**Susitna Watana**	**64.77**	**334**	P	**P**	**08 34 42.7**	**+0.5**
	baz=113						
D28M	**Stokes Point**	**64.87**	**343**	P	**P**	**08 34 42.9**	**+0.4**
	baz=125						
PMR	**Palmer**	**64.99**	**333**	P	**P**	**08 34 43.2**	**-0.2**
	baz=112						
RC01	**Rabbit Creek A**	**65.08**	**332**	P	**P**	**08 34 44.0**	**-0.1**
	baz=111						
BRSE	**Bradley Lake S**	**65.08**	**331**	P	**P**	**08 34 44.2**	**+0.1**
	baz=109						
E27K	**Coleen River**	**65.11**	**341**	P	**P**	**08 34 44.3**	**+0.2**
	baz=122						
PRP	**Porcupine Dome**	**65.14**	**338**	P	**P**	**08 34 45.3**	**+0.7**
PRP				IAmb	IAmb	08 35 29.4	
	comp=Z,16nm,1.7s						
PRP	**Porcupine Dome**	**65.14**	**338**	P	**P**	**08 34 45.1**	**+0.6**
	baz=117						
G26K	**Porcupine Rive**	**65.20**	**339**	P	**P**	**08 34 44.9**	**+0.2**
	baz=119						
HDA	**Harding Lake**	**65.20**	**336**	P	**P**	**08 34 44.9**	**+0.2**
	baz=115						
IL31		**65.33**	**337**	P	**P**	**08 34 46.0**	**+0.5**
IL31				IAmb	IAmb	08 34 55.7	
	comp=Z,16nm,1.4s						
ILAR	**Eielson Array**	**65.33**	**337**	P	**P**	**08 34 45.9**	**+0.3**
ILAR	**Eielson Array**	**65.33**	**337**	P	**P**	**08 34 44.8**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=125,slow=4.3,SNR=27						
	comp=Z,3.9nm,0.9s						
KDAK	**Kodiak Island**	**65.39**	**328**	LR	LR	09 06 39.9	
	comp=Z,90nm,19.1s,baz=94,slow=39						
RND	**Reindeer**	**65.56**	**335**	P	**P**	**08 34 47.2**	**0.0**
SUA	**Susitna One**	**65.67**	**333**	P	**P**	**08 34 46.7**	**-1.3**
	baz=110						
F26K	**Sheenjek River**	**65.68**	**340**	P	**P**	**08 34 47.4**	**-0.5**
	baz=119						
BMAR	**Burnt Mountain**	**65.70**	**340**	P	**P**	**08 34 47.6**	**-0.3**
MCK	**McKinley**	**65.72**	**335**	P	**P**	**08 34 47.7**	**-0.4**
	baz=113						
CUT	**Chulitna**	**65.79**	**334**	P	**P**	**08 34 49.2**	**+0.6**
	baz=111						
G25K	**Bearman Lake**	**65.92**	**339**	P	**P**	**08 34 49.5**	**+0.2**
	baz=117						
BWN	**Browne**	**66.11**	**336**	P	**P**	**08 34 50.6**	**0.0**
NEA2	**Nenana**	**66.11**	**336**	P	**P**	**08 34 50.8**	**+0.1**
	baz=113						
F25K	**Christian Rive**	**66.14**	**340**	P	**P**	**08 34 51.5**	**+0.7**
	baz=118						
H24K	**Noodor Dome**	**66.16**	**338**	P	**P**	**08 34 51.7**	**+0.7**
	baz=115						
TRF	**Thorofare Moun**	**66.18**	**335**	P	**P**	**08 34 52.1**	**+0.9**
	baz=111						
PPT	**Papeete**	**66.18**	**244**	LR	LR	08 55 43.8	
	comp=Z,98nm,20.0s,baz=257,slow=29						
PPT2	**Papeete2**	**66.19**	**244**	*e*LR	LR	08 54 27.8	
	comp=Z,205nm,26.2s						
PPT2				*e*LR	LR	08 54 37.6	
	comp=Z,128nm,23.8s						
SKT	**Skwentna**	**66.20**	**333**	P	**P**	**08 34 51.9**	**+0.7**
	baz=110,SNR=6.6						
N20K	**Mount Spurr**	**66.25**	**332**	P	**P**	**08 34 51.8**	**+0.1**
	baz=108						
Q19K	**Cape Douglas,**	**66.25**	**329**	P	**P**	**08 34 52.7**	**+1.0**
	baz=106						
P19K	**Oil Pt**	**66.26**	**330**	P	**P**	**08 34 52.6**	**+0.9**
	baz=107						
R18K	**Karluk**	**66.30**	**328**	P	**P**	**08 34 52.6**	**+0.7**
	baz=105						
E25K	**Arctic Village**	**66.36**	**340**	P	**P**	**08 34 52.6**	**+0.4**
	baz=118						
G24K	**Hadweenzic Riv**	**66.38**	**338**	P	**P**	**08 34 52.1**	**-0.2**
	baz=115						
I23K	**Minto, Yukon-K**	**66.44**	**337**	P	**P**	**08 34 53.0**	**+0.2**
I23K				IAmb	IAmb	08 35 05.8	
	comp=Z,22nm,1.5s						
I23K	**Minto, Yukon-K**	**66.44**	**337**	P	**P**	**08 34 53.1**	**+0.4**
	baz=113,SNR=8.8						
BPAW	**Bear Paw Mtn.**	**66.70**	**335**	P	**P**	**08 34 54.5**	**+0.1**
	baz=111						
PPLA	**Purkeypile**	**66.79**	**334**	P	**P**	**08 34 54.8**	**-0.4**
	baz=109						
F24K	**Squaw Lake**	**66.88**	**339**	P	**P**	**08 34 55.7**	**+0.2**
	baz=115						
M20K	**Styx River**	**66.88**	**333**	P	**P**	**08 34 56.0**	**+0.3**
	baz=108						
CAST	**Castle Rocks**	**66.92**	**334**	P	**P**	**08 34 55.6**	**-0.2**
CAST	**Castle Rocks**	**66.92**	**334**	P	**P**	**08 34 55.9**	**+0.1**
	baz=110						
O19K	**Port Alsworth**	**66.94**	**331**	P	**P**	**08 34 56.3**	**+0.4**
	baz=106						
MLY	**Manley**	**66.94**	**336**	P	**P**	**08 34 56.2**	**+0.2**
	baz=112,SNR=7.7						
C26K	**Camden Bay**	**67.02**	**342**	P	**P**	**08 34 56.7**	**+0.4**
	baz=119						
N19K	**Bonanza Creek**	**67.19**	**331**	P	**P**	**08 34 57.8**	**+0.1**
N19K	**Bonanza Creek**	**67.19**	**331**	P	**P**	**08 34 58.3**	**+0.6**
	baz=106						
Q17K	**Contact Creek**	**67.21**	**328**	P	**P**	**08 34 58.1**	**+0.3**
	baz=104						
O18K	**Koktuh Hills**	**67.28**	**330**	P	**P**	**08 34 58.2**	**+0.1**
	baz=105						
G23K	**Bananza Creek**	**67.31**	**338**	P	**P**	**08 34 58.3**	**+0.1**
	baz=113						
E24K	**Your Creek**	**67.32**	**340**	P	**P**	**08 34 58.4**	**+0.1**
	baz=115						
L20K	**Farewell, AK**	**67.40**	**333**	P	**P**	**08 34 59.0**	**+0.1**
	baz=108						
M19K	**Big River Lodg**	**67.46**	**332**	P	**P**	**08 34 59.4**	**+0.1**
	baz=107						
H22K	**Ishtalitna Cre**	**67.51**	**337**	P	**P**	**08 34 59.6**	**+0.1**
	baz=111						
COLD	**Coldfoot**	**67.58**	**338**	P	**P**	**08 35 01.2**	**+1.3**
	baz=113,SNR=7.5						
E23K	**Chandalar**	**67.70**	**339**	P	**P**	**08 35 01.7**	**+0.9**
	baz=114						
P17K	**Kvichak River**	**67.72**	**329**	P	**P**	**08 35 02.2**	**+1.4**
	baz=104						
L19K	**White Mountain**	**67.75**	**333**	P	**P**	**08 35 01.5**	**+0.4**
	baz=106						
K20K	**Telida**	**67.75**	**334**	P	**P**	**08 35 01.2**	**+0.1**
	baz=108						
N18K	**Kilae Creek**	**67.82**	**331**	P	**P**	**08 35 01.9**	**+0.4**
	baz=105						
D24K	**Happy Valley**	**67.89**	**341**	P	**P**	**08 35 03.2**	**+1.4**
	baz=115						
G22K	**Bettles**	**67.93**	**338**	P	**P**	**08 35 02.4**	**+0.3**
	baz=112						
H21K	**Melozitna Rive**	**67.97**	**336**	P	**P**	**08 35 02.9**	**+0.4**
	baz=110						
M18K	**Stony River**	**68.00**	**332**	P	**P**	**08 35 02.5**	**-0.1**
	baz=105						
J20K	**Nowinta River**	**68.03**	**335**	P	**P**	**08 35 03.3**	**+0.5**
	baz=108						
C24K	**Franklin Bluff**	**68.09**	**341**	P	**P**	**08 35 03.6**	**+0.5**
	baz=115						
CHGN	**Chignik**	**68.13**	**326**	P	**P**	**08 35 03.4**	**-0.1**
	baz=101						
O17K	**Koliganek Bris**	**68.18**	**330**	P	**P**	**08 35 04.2**	**+0.4**
	baz=103						
I20K	**Naaghedeneel**	**68.36**	**335**	P	**P**	**08 35 04.4**	**-0.5**
I20K	**Naaghedeneel**	**68.36**	**335**	P	**P**	**08 35 04.7**	**-0.2**
	baz=108						
TBI	**Tubuai**	**68.38**	**239**	*e*LR	LR	08 55 44.0	
	comp=Z,711nm,28.0s						
N17K	**Nushagak Hills**	**68.40**	**331**	P	**P**	**08 35 05.6**	**+0.4**
	baz=104						
P16K	**Nushagak River**	**68.46**	**329**	P	**P**	**08 35 05.3**	**-0.2**
	baz=102						
TTA	**Tatalina**	**68.47**	**333**	P	**P**	**08 35 05.6**	**-0.1**
	baz=106						
E22K	**Anaktuvuk Pass**	**68.49**	**339**	P	**P**	**08 35 06.1**	**+0.4**
	baz=112						
G21K	**Allakaket**	**68.53**	**337**	P	**P**	**08 35 07.0**	**+1.0**
	baz=109						
L18K	**Granite Mounta**	**68.59**	**332**	P	**P**	**08 35 07.0**	**+0.7**
	baz=105						
J19K	**Poorman**	**68.60**	**334**	P	**P**	**08 35 06.4**	**0.0**
J19K				IAmb	IAmb	08 35 07.6	
	comp=Z,9.0nm,1.0s						
J19K	**Poorman**	**68.60**	**334**	P	**P**	**08 35 06.8**	**+0.4**
	baz=106						
O16K	**Kokwok River B**	**68.63**	**329**	P	**P**	**08 35 06.7**	**+0.1**
	baz=102						
M17K	**Holitna River**	**68.73**	**331**	P	**P**	**08 35 07.3**	**+0.1**
	baz=104						
H20K	**Anotleneega Mo**	**68.74**	**336**	P	**P**	**08 35 07.3**	**+0.1**
	baz=108						
C23K	**Ikkilik River**	**68.75**	**341**	P	**P**	**08 35 08.2**	**+1.0**
	baz=113						
F21K	**Alatna River**	**68.76**	**338**	P	**P**	**08 35 08.5**	**+1.1**
	baz=110						
J18K	**Innoko River**	**68.92**	**334**	P	**P**	**08 35 08.6**	**+0.2**
	baz=105						
D22K	**Ayikyak River**	**69.06**	**340**	P	**P**	**08 35 08.6**	**-0.6**
D22K				IAmb	IAmb	08 35 33.2	
	comp=Z,28nm,2.0s						
D22K	**Ayikyak River**	**69.06**	**340**	P	**P**	**08 35 09.9**	**+0.7**
	baz=111						
N16K	**Nishlik Lake**	**69.15**	**330**	P	**P**	**08 35 10.8**	**+0.9**
	baz=102						
L17K	**Donlin**	**69.30**	**332**	P	**P**	**08 35 11.1**	**+0.4**
	baz=103						
H19K	**Roundabout Mou**	**69.37**	**336**	P	**P**	**08 35 11.5**	**+0.4**
	baz=106						
K17K	**Iditarod**	**69.44**	**333**	P	**P**	**08 35 11.6**	**+0.1**
	baz=103						
F20K	**Ayaraart Lake**	**69.54**	**338**	P	**P**	**08 35 12.9**	**+0.8**
	baz=107,SNR=8.4						
L16K	**Owhat River**	**69.75**	**332**	P	**P**	**08 35 14.0**	**+0.5**
	baz=102						
G19K	**Purcell Mounta**	**69.80**	**336**	P	**P**	**08 35 14.6**	**+0.9**
	baz=106						
B22K	**Teshekpuk Lake**	**69.83**	**341**	P	**P**	**08 35 14.3**	**+0.4**
	baz=111						
C21K	**Knifeblade Rid**	**69.87**	**340**	P	**P**	**08 35 15.0**	**+0.9**
	baz=109						
H18K	**Honhosa River**	**70.05**	**335**	P	**P**	**08 35 16.2**	**+0.9**
H18K				IAmb	IAmb	08 35 17.7	
	comp=Z,7.1nm,1.0s						
H18K	**Honhosa River**	**70.05**	**335**	P	**P**	**08 35 16.6**	**+1.3**
	baz=104						
E20K	**Nigu River**	**70.07**	**339**	P	**P**	**08 35 16.7**	**+1.2**
	baz=107						
M15K	**Kasigluk River**	**70.12**	**330**	P	**P**	**08 35 16.8**	**+1.0**
	baz=100						
E19K	**Redstone River**	**70.22**	**338**	P	**P**	**08 35 17.4**	**+1.1**
E19K	**Redstone River**	**70.22**	**338**	P	**P**	**08 35 16.7**	**+0.4**
	baz=106						
F19K	**Shaleruckik Mo**	**70.25**	**337**	P	**P**	**08 35 17.2**	**+0.7**
	baz=105						
G18K	**Tagagawik**	**70.35**	**336**	P	**P**	**08 35 17.8**	**+0.7**
	baz=104						
D20K	**Etivluk River**	**70.36**	**339**	P	**P**	**08 35 18.1**	**+1.0**
	baz=107						
A22K	**Sinclair Lake**	**70.55**	**342**	P	**P**	**08 35 19.6**	**+1.4**
	baz=110						
J16K	**Anvik River**	**70.58**	**333**	P	**P**	**08 35 19.7**	**+1.1**
J16K				IAmb	IAmb	08 35 21.3	
	comp=Z,17nm,1.1s						
J16K	**Anvik River**	**70.58**	**333**	P	**P**	**08 35 19.9**	**+1.3**
	baz=102						
H17K	**Granite Mounta**	**70.64**	**335**	P	**P**	**08 35 20.1**	**+1.2**
	baz=103						
L15K	**Ungalak Mounta**	**70.68**	**331**	P	**P**	**08 35 20.0**	**+0.7**
	baz=100						
FALS	**False Pass**	**70.72**	**324**	P	**P**	**08 35 19.4**	**-0.2**
	baz=96						
I17K	**Unalakleet**	**70.75**	**334**	P	**P**	**08 35 21.1**	**+1.5**
	baz=102						
M14K	**Bethel**	**70.75**	**330**	P	**P**	**08 35 21.2**	**+1.5**
	baz=99,SNR=7.6						
K15K	**Wolf Creek Mou**	**70.81**	**332**	P	**P**	**08 35 21.1**	**+1.0**
K15K	**Wolf Creek Mou**	**70.81**	**332**	P	**P**	**08 35 21.9**	**+1.9**
	baz=100						
D19K	**Kuna River**	**70.82**	**339**	P	**P**	**08 35 20.4**	**+0.3**
D19K				IAmb	IAmb	08 35 33.0	
	comp=Z,6.2nm,1.0s						
D19K	**Kuna River**	**70.82**	**339**	P	**P**	**08 35 20.7**	**+0.6**
	baz=106						
G17K	**Kiwalik Mounta**	**71.06**	**335**	P	**P**	**08 35 22.8**	**+1.3**
	baz=102						
L14K	**Kuka Creek**	**71.19**	**331**	P	**P**	**08 35 23.0**	**+0.7**
	baz=99						
M13K	**Dall Lake**	**71.38**	**330**	P	**P**	**08 35 25.0**	**+1.6**
	baz=98						
E18K	**Tukpahlearik C**	**71.47**	**337**	P	**P**	**08 35 24.6**	**+0.7**
	baz=103						
C19K	**Lookout Ridge**	**71.50**	**339**	P	**P**	**08 35 25.3**	**+1.1**
	baz=104						
F17K	**Baldwin Pennin**	**71.50**	**336**	P	**P**	**08 35 25.2**	**+1.1**
	baz=102						
H16K	**Elim**	**71.55**	**334**	P	**P**	**08 35 25.9**	**+1.4**
	baz=100,SNR=5.2						
G16K	**Koyuk River**	**71.74**	**335**	P	**P**	**08 35 26.9**	**+1.3**
	baz=101						
J14K	**Nanvaranak Lak**	**71.81**	**332**	P	**P**	**08 35 27.3**	**+1.3**
	baz=99						
E17K	**Hotham Inlet**	**71.86**	**337**	P	**P**	**08 35 27.2**	**+1.0**
	baz=102,SNR=9.2						
C18K	**Utukok River**	**71.96**	**339**	P	**P**	**08 35 28.0**	**+1.1**
C18K				IAmb	IAmb	08 35 37.1	
	comp=Z,10nm,1.2s						
C18K	**Utukok River**	**71.96**	**339**	P	**P**	**08 35 27.5**	**+0.6**
	baz=103						
K13K	**Kusilvak Mount**	**72.21**	**331**	P	**P**	**08 35 28.8**	**+0.3**
	baz=97						
A19K	**Wainwright**	**72.27**	**340**	P	**P**	**08 35 29.9**	**+1.3**
	baz=103						
B18K	**Kokolik River**	**72.33**	**339**	P	**P**	**08 35 30.0**	**+0.9**
	baz=102,SNR=9.7						
G15K	**Niukluk**	**72.37**	**335**	P	**P**	**08 35 29.7**	**+0.3**
	baz=99						
C17K	**DeLong Mountai**	**72.64**	**338**	P	**P**	**08 35 31.2**	**+0.3**
	baz=101						
F15K	**North Star Dit**	**72.73**	**335**	P	**P**	**08 35 31.8**	**+0.2**
F15K				IAmb	IAmb	08 35 34.4	
	comp=Z,13nm,0.9s						
F15K	**North Star Dit**	**72.73**	**335**	P	**P**	**08 35 32.8**	**+1.2**
	baz=98						
ANM	**Nome**	**72.88**	**334**	P	**P**	**08 35 33.0**	**+0.7**
	baz=98						
C16K	**Lisburne Hills**	**73.39**	**338**	P	**P**	**08 35 36.0**	**+0.6**
C16K				IAmb	IAmb	08 35 37.7	
	comp=Z,11nm,1.1s						
C16K	**Lisburne Hills**	**73.39**	**338**	P	**P**	**08 35 36.3**	**+0.9**
	baz=99						
F14K	**Arctic Creek**	**73.39**	**335**	P	**P**	**08 35 37.3**	**+1.8**
	baz=97						
NIKH	**Nikolski High**	**73.81**	**322**	P	**P**	**08 35 38.1**	**0.0**
	baz=91						
TNA	**Tin City**	**74.06**	**335**	P	**P**	**08 35 40.6**	**+1.2**
	baz=96						
RAR	**Rarotonga**	**76.46**	**244**	LR	LR	09 00 59.8	
	comp=Z,62nm,21.7s,baz=171,slow=29						
ESDC	**Sonseca Array**	**78.99**	**52**	LR	LR	09 02 50.4	
	comp=Z,91nm,20.7s,baz=335,slow=30						
PMSA	**Palmer Station**	**79.22**	**169**	LR	LR	09 04 02.0	
	comp=Z,44nm,20.0s,baz=158,slow=30						
MDT	**Midelt**	**79.33**	**59**	LR	LR	09 04 54.2	
	comp=Z,117nm,20.4s,baz=350,slow=31						
TIC	**Toumodi**	**83.38**	**85**	⇓*i*P	**P**	**08 36 32.3**	**+0.7**
	comp=Z,34nm,1.0s						
DOU	**Dourbes**	**83.40**	**40**	*d*P	**P**	**08 36 28.6**	**-2.4**
LIC	**Lamto**	**83.46**	**85**	⇓*i*P	**P**	**08 36 32.8**	**+0.8**
	comp=Z,70nm,1.1s						
BMRD	**Maredsous**	**83.47**	**40**	*d*P	**P**	**08 36 28.9**	**-2.5**
DBIC	**Dimbokro**	**83.54**	**85**	P	**P**	**08 36 32.7**	**+0.3**
DBIC	**Dimbokro**	**83.54**	**85**	P	**P**	**08 36 32.9**	**+0.4**
	comp=Z,12nm,1.0s,baz=299,slow=3.7,SNR=10						
DBIC				LR	LR	09 11 52.4	
	comp=Z,46nm,18.1s,baz=357,slow=34						
	comp=Z,12nm,1.0s						
KIC	**Kosan Boka**	**83.71**	**85**	⇓*i*P	**P**	**08 36 34.1**	**+0.8**
	comp=Z,48nm,1.1s						
NOA	**NORSAR Array B**	**84.56**	**29**	P	**P**	**08 36 37.3**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=290,slow=5.2,SNR=2.1						
	comp=Z,1.9nm,0.9s						
ARCES	**ARCESS Array B**	**87.05**	**19**	P	**P**	**08 36 49.3**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=311,slow=4.7,SNR=1.5						
	comp=Z,3.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**88.54**	**77**	P	**P**	**08 36 56.5**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=299,slow=6.7,SNR=5.5						
TORD				LR	LR	09 14 00.6	
	comp=Z,107nm,18.3s,baz=324,slow=34						
	comp=Z,1.0nm,0.8s						
SEY	**Seymchan**	**91.26**	**336**	LR	LR	09 23 12.4	
	comp=Z,66nm,18.6s,baz=326,slow=39						
VAE	**Valguarnera**	**93.50**	**51**	LR	LR	09 16 21.3	
	comp=Z,275nm,21.2s,baz=332,slow=34						
MA2	**Magadan**	**93.67**	**334**	LR	LR	09 23 03.7	
	comp=Z,85nm,18.1s,baz=44,slow=38						
NRIK	**Noril'sk**	**98.58**	**1**	LR	LR	09 24 37.6	
	comp=Z,211nm,19.5s,baz=325,slow=37						
MDJ	**Mudanjiang**	**113.14**	**331**	Pdif	**Pdif**	**08 38 47.3**	**-0.2**
MDJ				pP	sPdif	08 39 00.5	+4.8
MDJ				sP	pPdif	08 39 02.9	+10
MDJ				PP	**PP**	**08 43 29.8**	**-0.3**
MDJ	**Mudanjiang**	**113.14**	**331**	SS	SS	08 59 09.5	-3.4
MDJ				AMB	AMB		
	comp=Z,150nm,4.3s						
KURBB	**Kurchatov Arra**	**116.53**	**8**	PKP	**PKiKP**	**08 42 47.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=352,slow=1.7,SNR=8.3						
SONM	**Songino Array**	**118.49**	**348**	PKP	**PKPdf**	**08 42 51.3**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=333,slow=1.7,SNR=4.2						
KSRS	**Korea Array**	**119.26**	**326**	PKP	**PKPdf**	**08 42 51.8**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=25,slow=1.7,SNR=4.6						
MKAR	**Makanchi Array**	**120.77**	**6**	PKP	**PKPdf**	**08 42 54.3**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=12,slow=1.7,SNR=3.8						
STKA	**Stephens Creek**	**129.17**	**239**	PKP	**PKPdf**	**08 43 11.0**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=19,slow=3.7,SNR=3.8						
WRA	**Warramunga Arr**	**137.16**	**254**	PKP	**PKPdf**	**08 43 27.3**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=96,slow=1.0,SNR=10						
ASAR	**Alice Springs**	**137.21**	**248**	PKhKP	PKPpre	08 43 22.6	
	comp=Z,0.5nm,0.8s,baz=104,slow=3.9,SNR=3.4						
ASAR				PKP	**PKPdf**	**08 43 27.8**	**0.0**
	comp=Z,2.4nm,1.0s,baz=105,slow=2.6,SNR=8.7						
CMAR	**Chiang Mai Arr**	**148.32**	**344**	PKPbc	**PKPbc**	**08 43 51.5**	**+0.6**
	comp=Z,15nm,1.1s,baz=335,slow=3.0,SNR=35						

*NNC **16** 08:49:53.6±2.9, 54.°08N×90.°98E, h25km±15km, mb3.3, mpv2.9, Error ellipse: s-maj=24.6km s-min=19.0km az=12.0, Suspected Mining explosion.*
*IDC **16** 08:49:57.0±3.9, 53.°73N×90.°70E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=34.0km s-min=25.6km az=57.0*

ISC 16 08:49:56.0±4.2, 53.°9N±0.°1×90.°8E±0.°2, h10km, n10, σ2.°03/13, 9C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.53**	**273**	⇓Pg	**Pb**	**08 51 00.5**	**+2.1**
	0.6nm,0.4s						
ZAA0				⇑Lg	Lg	08 51 49.1	
	4.1nm,0.8s						
ZALV	**Zalesovo Beam**	**3.53**	**273**	Pg	**Pb**	**08 50 59.2**	**+0.8**
	1.1nm,0.3s,baz=100,slow=17,SNR=3.8						
ZALV				Lg	Lg	08 51 49.3	
	2.7nm,0.3s,baz=92,slow=25,SNR=3.0						
KURK	**Kurchatov**	**8.11**	**252**	⇓Pn	**Pn**	**08 51 51.4**	**-2.3**
	0.1nm,0.4s						
KURK				⇑Sn	**Sn**	**08 53 25.4**	**+0.1**
	1.9nm,0.5s						
KURK				⇑Lg	Lg	08 54 18.6	
	6.8nm,0.7s						
KURBB	**Kurchatov Arra**	**8.21**	**251**	⇓Pn	**Pn**	**08 51 51.9**	**-3.1**
	1.2nm,0.4s						
KURBB				⇓Sn	**Sn**	**08 53 27.2**	**-0.5**
	6.8nm,0.5s						
KURBB				⇑Lg	Lg	08 54 19.9	
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**8.21**	**251**	Pn	**Pn**	**08 51 55.6**	**+0.7**
	0.2nm,0.3s,baz=66,slow=14,SNR=4.5						
KURBB				Lg	Lg	08 54 12.4	
	baz=66,slow=28						
	1.0nm,0.5s						
MK31	**Makanchi Array**	**8.95**	**221**	⇑Pn	**Pn**	**08 52 06.4**	**+1.2**
	0.3nm,0.5s,baz=44,slow=13,SNR=8.4						
MK31				⇑Sn	**Sn**	**08 53 47.8**	**+1.7**
	0.7nm,0.5s						
MK31				⇑Lg	Lg	08 54 40.7	
	6.1nm,0.9s,baz=41,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**8.95**	**221**	Pn	**Pn**	**08 52 06.0**	**+0.7**
	0.2nm,0.3s,baz=41,slow=12,SNR=6.4						
MKAR				Sn	**Sn**	**08 53 43.7**	**-2.4**
	0.1nm,0.3s,baz=28,slow=22,SNR=2.1						
MKAR				Lg	Lg	08 54 35.4	
	0.1nm,0.3s,baz=45,slow=29,SNR=5.5						
	0.6nm,0.5s						
MAKZ	**Makanchi**	**9.06**	**222**	⇑Pn	**Pn**	**08 52 03.6**	**-3.1**
	0.6nm,0.4s						
MAKZ				⇑Sn	**Sn**	**08 53 49.6**	**+0.9**
	0.9nm,0.6s						
MAKZ				⇓Lg	Lg	08 54 44.5	
	4.7nm,1.1s						
SONM	**Songino Array**	**11.57**	**115**	Lg	Lg	08 55 49.9	
	baz=302,slow=30						
I34MN	**SONGINO INFRAS**	**11.60**	**115**	I	I	09 55 30.0	
	baz=309,slow=333,SNR=0.8						

IDC 16 09:01:08.5±2.6, 3.°94S×128.°77E, h0km, mb3.2/2, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=191.4km s-min=31.0km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.81**	**162**	Pn	Pn	09 05 04.5	-1.0
	baz=343,slow=12,SNR=1.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**20.23**	**166**	P	P	09 05 45.8	+0.4
	0.8nm,0.6s,ba

comp=N,161nm,0.5s
SC01 Santiago de lo 0.72 64 *i* P **Pn** **09 07 52.8 -0.7**
SC01 *e*S **Sn** **09 08 04.0 -0.4**
SC01 IAML 09 08 07.7
comp=Z,67nm,0.6s
MCDR Montecristi 0.82 344⇑*e*Pg **Pn** **09 07 53.8 -0.7**
MCDR ⇑*e*Sg **Sn** **09 08 07.0 +0.7**
MCDR ⇑*e*Sg 09 08 07.2
MCDR IAML 09 08 07.7
comp=E,384nm,0.2s
MCDR IAML 09 08 11.6
comp=N,404nm,0.2s
PAPH Port-au-Prince 1.02 236 *e*S **Sn** **09 08 12.4 +1.5**
LOPE2 Hotel El Peder 1.11 196 *i* P **Pn** **09 07 57.7 -0.7**
LOPE2 *e*S **Sn** **09 08 12.2 -0.8**
LOPE2 IAML 09 08 21.2
comp=Z,29nm,1.4s
HATOM Hato Mayor del 1.95 99⇓*e*Pg **Pn** **09 08 09.4 -0.1**
HATOM ⇑*e*Sg **Sn** **09 08 33.1 +0.1**
HATOM IAML 09 08 36.0
comp=E,19nm,1.2s
HATOM IAML 09 08 55.7
comp=N,16nm,4.3s

IDC ***16*** *09:11:19.4±1.0,9.°66S×150.°79E, h0km, mb3.7/7, mbtmp3.7/10, ML3.3/2, MS3.1/3, Error ellipse: s-maj=21.8km s-min=19.9km az=8.0*
ISC 16 09:11:21.4±1.0,9.7S±0.°1×150.8E±0.°1, h13km, n12, σ0.89/12, mb3.9/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.58**	**274**	Pn	**Pn**	**09 12 16.7**	**0.0**
	10nm,0.3s,baz=45,slow=19,SNR=5.1						
PMG				Pg	**Pg**	**09 12 24.4**	**-0.3**
	5.0nm,0.3s,baz=115,slow=5.1,SNR=9.1						
PMG				Lg	Lg	09 13 12.3	
	baz=156,slow=13						
PMG				LR	LR	09 13 43.9	
	comp=Z,170nm,18.4s,baz=342,slow=40						
CTA	**Charters Tower**	**11.23**	**202**	Pn	**Pn**	**09 14 01.4**	**-0.3**
	0.2nm,0.3s,baz=26,slow=16,SNR=1.4						
CTA				LR	LR	09 17 23.9	
	comp=Z,112nm,19.2s,baz=84,slow=32						
	3.4nm,0.9s						
WRA	**Warramunga Arr**	**18.87**	**235**	P	**Pn**	**09 15 41.5**	**-0.6**
	0.1nm,0.3s,baz=62,slow=12,SNR=3.8						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**21.29**	**227**	P	**P**	**09 16 09.4**	**+1.5**
	1.3nm,0.8s,baz=62,slow=8.8,SNR=13						
	1.3nm,0.8s						
STKA	**Stephens Creek**	**23.67**	**200**	P	**P**	**09 16 33.3**	**+0.5**
	1.8nm,0.7s,baz=13,slow=14,SNR=3.8						
	1.8nm,0.7s						
GUMO	**Guam**	**23.86**	**346**	LR	LR	09 25 52.4	
	comp=Z,46nm,19.1s,baz=88,slow=37						
VNDA	**Vanda**	**68.06**	**177**	P	**P**	**09 22 21.1**	**+0.8**
	1.1nm,0.9s,baz=354,slow=9.3,SNR=3.8						
	1.1nm,0.9s						
SONM	**Songino Array**	**69.44**	**330**	P	**P**	**09 22 29.6**	**+0.1**
	0.8nm,0.8s,baz=148,slow=6.6,SNR=4.3						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**80.31**	**180**	P	**P**	**09 23 30.8**	**-1.2**
	0.8nm,0.4s,baz=95,slow=1.8,SNR=5.8						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**82.71**	**320**	P	**P**	**09 23 45.7**	**+0.7**
	0.3nm,0.7s,baz=123,slow=4.5,SNR=3.7						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**87.41**	**22**	P	**P**	**09 24 08.0**	**-0.1**
	0.6nm,0.8s,baz=238,slow=5.0,SNR=3.9						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.52**	**279**	PKPbc	**PKiKP**	**09 31 11.6**	**-1.1**
	0.4nm,0.5s,baz=86,slow=2.8,SNR=3.0						

NEIC ***16*** *09:19:28.5±0.9, 18.°0N±0.°4×68.°01W±0.°09, h131km±13km, ML2.3/8, Md3.0/3(RSPR), Error ellipse: s-maj=56.1km s-min=11.4km az=184.0*
RSPR ***16*** *09:19:31.0, 17.°84N×67.°93W, h127km±4km, MD3.0/3*
ISC 16 09:19:31.1±1.7, 18.°1N±0.°3×68.°14W±0.°08, h94km, n11, σ1.51/13, 2C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**0.99**	**96**⇑	*e*P	**Pn**	**09 19 52.3**	**+1.3**
CRPR	**Cabo Rojo, PR**	**0.99**	**96**	*e*S	**Sn**	**09 20 07.8**	**+2.0**
CRPR	**Cabo Rojo, PR**	**0.99**	**96**		**Pn**	**09 19 50.1**	**-0.8**
CRPR					**Sn**	**09 20 06.8**	**+0.9**
CRPR				IAML		09 20 14.5	
	comp=E,24nm,1.8s						
LSP	**Las Mesas**	**1.01**	**86**	*e*S	**Sn**	**09 20 08.6**	**+2.3**
AGPR	**Aguadilla, PR**	**1.04**	**70**	Pn	**Pn**	**09 19 51.4**	**-0.1**
AGPR				IAML		09 20 06.6	
	comp=E,51nm,3.0s						
AGPR				IAML		09 20 33.4	
	comp=N,73nm,3.1s						
MLPR	**Magueyes Islan**	**1.05**	**98**⇓	*e*P	**Pn**	**09 19 51.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.05**	**98**	*e*S	**Sn**	**09 20 07.7**	**+0.5**
CELP	**Cerrillos**	**1.49**	**91**⇑	*e*P	**Pn**	**09 19 56.3**	**-0.6**
CELP	**Cerrillos**	**1.49**	**91**	*e*S	**Sn**	**09 20 16.3**	**-0.1**
CELP	**Cerrillos**	**1.49**	**91**		**Pn**	**09 19 54.0**	**-2.9**
CELP					**Sn**	**09 20 15.3**	**-1.1**
CELP				IAML		09 20 41.8	
	comp=N,19nm,2.6s						
SDDR	**Presa de Saban**	**3.11**	**287**	Pn	**Pn**	**09 20 17.7**	**-0.5**

IDC 16 09:19:34.6±7.4, 5.°99S×150.°65E, h184km±45km, mb2.8/2, mbtmp3.4/3, Error ellipse: s-maj=114.6km s-min=55.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.85**	**225**	P	Pn	09 20 45.5	-1.1
	6.3nm,0.3s,baz=15,slow=7.6,SNR=6.6						
PMG				S	Sn	09 21 45.5	+2.2
	23nm,0.7s,baz=185,slow=16,SNR=4.9						
WRA	**Warramunga Arr**	**21.07**	**227**	P	P	09 24 02.7	-1.9
	0.3nm,0.3s,baz=53,slow=10,SNR=9.9						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**23.85**	**221**	P	P	09 24 31.6	+0.4
	0.3nm,0.4s,baz=53,slow=9.0,SNR=11						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.60**	**285**	PKPbc	PKPbc	09 39 01.3	+0.5
	0.3nm,0.7s,baz=66,slow=3.5,SNR=2.1						

IDC ***16*** *09:25:15.3±1.2, 52.°87S×21.°13E, h0km, mb3.9/6, mbtmp3.9/6, MS3.6/9, Error ellipse: s-maj=42.3km s-min=31.7km az=70.0*
NEIC ***16*** *09:25:19.6±0.4, 53.°2S±0.°1×20.°2E±0.°4, h10km±2km, mb4.5/6, Error ellipse: s-maj=39.6km s-min=18.3km az=276.0*
ISC 16 09:25:19.0±0.8, 53.°2S±0.°1×20.°0E±0.°3, h10km, n30, σ0.73/14, mb4.0/6, MS3.5/9, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRHM	**Grahamstown, E**	**20.43**	**15**	P	**P**	**09 29 56.5**	**+0.1**
GRHM				IAmb	IAmb	09 29 57.1	
	comp=Z,62nm,1.4s						
SUR	**Sutherland**	**20.81**	**2**	P	**P**	**09 30 00.5**	**-0.1**
SUR				IAmb	IAmb	09 30 26.1	
	comp=Z,28nm,1.5s						
SUR	**Sutherland**	**20.81**	**2**	LR	LR	09 35 55.0	
	comp=Z,101nm,19.5s,baz=102,slow=31						
SNAA	**Sanae**	**21.07**	**200**	P	**P**	**09 30 03.2**	**+0.2**
SNAA				IAmb	IAmb	09 30 12.5	
	comp=Z,17nm,1.0s						
SNAA	**Sanae**	**21.07**	**200**	P		09 30 06.8	
	comp=Z,14nm,1.0s,baz=6.4,slow=11,SNR=3.7						
	comp=Z,14nm,1.0s						
H04S2	**CROZET ISLANDS**	**21.32**	**86**	T	T	09 51 25.1	
	baz=242,slow=75,SNR=17						
H04S3	**CROZET ISLANDS**	**21.32**	**86**	T	T	09 51 27.1	
	baz=242,slow=75,SNR=20						
H04S1	**CROZET ISLANDS**	**21.34**	**86**	T	T	09 51 26.7	
	baz=242,slow=75,SNR=19						
BOSA	**Boshof**	**24.86**	**11**	LR	LR	09 38 40.4	
	comp=Z,50nm,18.9s,baz=201,slow=33						
LBTB	**Lobatse**	**28.46**	**11**	LR	LR	09 40 15.6	
	comp=Z,77nm,19.0s,baz=248,slow=32						
TSUM	**Tsumeb**	**33.98**	**356**	LR	LR	09 42 49.0	
	comp=Z,62nm,20.5s,baz=331,slow=31						
QSPA	**South Pole Qui**	**37.03**	**180**	P	**P**	**09 32 29.4**	**+0.7**
QSPA	**South Pole Qui**	**37.03**	**180**	P	**P**	**09 32 29.1**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=246,slow=1.5,SNR=7.6						
	comp=Z,2.4nm,0.6s						
LSZ	**Lusaka**	**38.38**	**13**	LR	LR	09 46 27.3	
	comp=Z,112nm,18.9s,baz=330,slow=34						
PMSA	**Palmer Station**	**41.55**	**220**	LR	LR	09 48 40.0	
	comp=Z,93nm,18.1s,baz=132,slow=33						
VNDA	**Vanda**	**47.41**	**169**	P	**P**	**09 33 53.0**	**+0.2**
VNDA				IAmb	IAmb	09 34 25.0	
	comp=Z,6.9nm,1.4s						
VNDA	**Vanda**	**47.41**	**169**	P	**P**	**09 33 52.6**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=220,slow=5.1,SNR=5.8						
	comp=Z,0.8nm,0.6s						
KMBO	**Kilima Mbogo**	**53.84**	**22**	LR	LR	09 56 29.0	
	comp=Z,71nm,18.2s,baz=94,slow=35						
PLCA	**Paso Flores**	**59.02**	**242**	LR	LR	09 57 46.9	
	comp=Z,37nm,18.1s,baz=48,slow=33						
DBIC	**Dimbokro**	**63.25**	**332**	P	**P**	**09 35 48.7**	**+1.1**
STKA	**Stephens Creek**	**81.28**	**133**	P	P	09 37 31.3	-4.0
	comp=Z,0.7nm,0.5s,baz=229,slow=18,SNR=1.7						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**84.53**	**123**	P	**P**	**09 37 52.1**	**-0.2**
ASAR	**Alice Springs**	**84.53**	**123**	P	P	09 37 48.8	-3.6
	comp=Z,0.4nm,0.9s,baz=211,slow=4.1,SNR=4.7						
	comp=Z,0.4nm,0.9s						
WRA	**Warramunga Arr**	**87.84**	**121**	P	P	09 38 04.5	-4.2
	comp=Z,0.3nm,0.7s,baz=215,slow=4.1,SNR=1.7						
	comp=Z,0.3nm,0.7s						
IDI	**Anoyia**	**88.22**	**4**	LR	LR	10 19 03.4	
	comp=Z,124nm,18.8s,baz=295,slow=37						
MVU	**Marysvale**	**144.34**	**265**		**PKPdf**	**09 44 54.7**	**-0.3**
PDAR	**Pinedale Array**	**145.35**	**273**		**PKPbc**	**09 44 56.2**	**-0.3**
PDAR	**Pinedale Array**	**145.35**	**273**	PKPbc	**PKPbc**	**09 44 54.9**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=115,slow=3.7,SNR=3.1						
NVAR	**Mina Array Bea**	**147.92**	**260**	PKPbc	**PKPbc**	**09 45 03.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=114,slow=2.2,SNR=1.7						
YKA	**Yellowknife Ar**	**154.64**	**309**	PKPab	**PKPab**	**09 45 33.3**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=92,slow=5.0,SNR=4.9						

OSPL ***16*** *09:29:31.6±2.0, 18.°82N×73.°96W, h4km±19km, ML2.5*
SSNC ***16*** *09:29:32.2±1.2, 18.°79N×73.°97W, h5km, MD3.5, ML2.8*
ISC 16 09:29:28.2±2.0, 18.°81N±0.°08×73.°95W±0.°05, h6km±16km, n16, σ0.79/23, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.38**	**349**	*e*P	**Pg**	**09 29 54.9**	**+0.2**
MASC				*e*S	**Sg**	**09 30 12.7**	**0.0**
MASC				IAML		09 30 15.6	
	comp=E,66nm,0.5s						
MASC				IAML		09 30 15.7	
	comp=N,67nm,0.5s						
MASC	**Masc**	**1.38**	**349**	*i* P	**Pg**	**09 29 55.0**	**+0.2**
MASC				*e*S	**Sg**	**09 30 13.1**	**+0.4**
MASC				IAML		09 30 15.5	
	comp=Z,67nm,0.4s						
GTBY	**Guantanamo Bay**	**1.56**	**316**	*e*P	**Pb**	**09 29 57.3**	**-0.1**
GTBY				*e*S	**Sb**	**09 30 17.6**	**+0.1**
GTBY				IAML		09 30 27.6	
	comp=Z,239nm,0.6s						
GTBY				IAML		09 30 28.1	
	comp=Z,117nm,0.3s						
GTBY	**Guantanamo Bay**	**1.56**	**316**	*i* P	**Pb**	**09 29 57.6**	**+0.1**
GTBY				*e*S	**Sg**	**09 30 18.3**	**-0.1**
GTBY				IAML		09 30 22.4	
	comp=Z,44nm,0.7s						
PAPH	**Port-au-Prince**	**1.59**	**100**	*e*P	**Pb**	**09 29 57.7**	**-0.4**
PAPH				*e*S	**Sb**	**09 30 18.8**	**+0.3**
PAPH				IAML		09 30 21.1	
	comp=E,184nm,0.2s						
PAPH				IAML		09 30 22.0	
	comp=N,298nm,0.3s						
PAPH	**Port-au-Prince**	**1.59**	**100**	*i* P	**Pb**	**09 29 57.7**	**-0.4**
PAPH				*e*S	**Sb**	**09 30 19.0**	**+0.5**
PAPH				IAML		09 30 21.4	
	comp=Z,97nm,0.3s						
NMDO	**Nuevo Mundo**	**1.99**	**331**	*e*P	**Pb**	**09 30 03.7**	**-1.1**
NMDO				IAML		09 30 34.6	
	comp=E,100nm,0.5s						
NMDO				IAML		09 30 35.4	
	comp=N,43nm,0.3s						
RCC	**Rio Carpintero**	**2.02**	**306**	*e*P	**Pb**	**09 30 04.6**	**-0.8**
MOAC	**Moa**	**2.07**	**333**	*e*P	**Pb**	**09 30 06.7**	**+0.5**
MOAC				IAML		09 30 35.4	
	comp=E,89nm,0.4s						
MOAC				IAML		09 30 36.2	
	comp=N,61nm,0.5s						
MARVS	**Santiago de Cu**	**2.19**	**303**	*e*P	**Pn**	**09 30 06.2**	**+1.1**
LOPE2	**Hotel El Peder**	**2.23**	**110**	*i* P	**Pb**	**09 30 08.0**	**-1.0**
LOPE2				*e*S	**Sn**	**09 30 33.6**	**0.0**
LOPE2				IAML		09 30 46.8	
	comp=Z,70nm,4.0s						
PINC	**Pinares de May**	**2.40**	**314**	*e*P	**Pn**	**09 30 08.3**	**+0.3**
SDDR	**Presa de Saban**	**2.53**	**86**	*i* P	**Pb**	**09 30 13.3**	**-0.7**
SDDR				IAML		09 30 51.0	
	comp=Z,23nm,0.8s						
CHIV	**Chivirico**	**2.60**	**297**	*e*P	**Pb**	**09 30 13.7**	**-1.5**
STH	**Stony Hill**	**2.81**	**255**	*e*P	**Pn**	**09 30 15.0**	**+1.3**
CCCC	**Cccc**	**4.30**	**304**	*e*P	**Pn**	**09 30 32.7**	**-1.5**

MOS ***16*** *09:49:46.0±0.9, 42.°79N×145.°55E, h68km, mb4.4/19, Error ellipse: s-maj=9.1km s-min=5.4km az=88.7*
NIED ***16*** *09:49:47.8, 42.°87N×145.°46E, h64km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 1.01; Mϑϑ-0.81; Mφφ-0.20; Mrϑ 0.76; Mϑφ 0.32; Mφr-0.25; Fault plane solution: M0 1.27000×10^15 NP1: φs 110.00000°, δ65.00000°, λ87.00000°. NP2: φs 296.00000°, δ25.00000°, λ95.00000°.*
SKHL ***16*** *09:49:47.7±0.2, 42.°80N×145.°50E, h78km±3km, mb5.5/4*
IDC ***16*** *09:49:47.9±2.4, 42.°87N×145.°46E, h62km±20km, mb3.8/19, mbtmp4.1/23, MS3.0/2, Error ellipse: s-maj=20.6km s-min=13.9km az=172.0*
JMA ***16*** *09:49:47.8±0.1, 42.°9N±0.°4×145.°5E±0.°6, h64km, MD4.1/40, MV4.4/40, OFF NEMURO PENINSULA*
JMA Felt II J1 at OFF NEMURO PENINSULA .
NEIC ***16*** *09:49:48.5±1.5, 42.°81N±0.°08×145.°5E±0.°1, h66km±9km, mb4.4/113, Error ellipse: s-maj=14.3km s-min=10.6km az=129.0*
ISC 16 09:49:47.8±0.5, 42.°84N±0.°05×145.°54E±0.°04, h63km±4km, n416, σ1.9/00/427, mb4.4/96, 6C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.37**	**311**	⇓*i* P	**Pn**	**09 49 58.6**	**-0.1**
JKHN				⇓*e*S	**Sn**	**09 50 06.4**	**-0.3**
JKHN	**Kushirohamanak**	**0.37**	**311**	A	A	09 49 58.6	
	comp=E,34nm,0.5s,comp=N,59nm,0.5s						
AKK	**Akkeshi**	**0.54**	**289**	*e*P	**Pn**	**09 49 59.9**	**-0.5**
NEM2	**Nemuro 2**	**0.54**	**16**	⇓*i* P	**Pn**	**09 50 00.4**	**-0.1**
NEM2				⇓*e*S	**Sn**	**09 50 09.5**	**-0.2**
NEM2	**Nemuro 2**	**0.54**	**16**	A	A	09 50 00.4	
	comp=E,6.0nm,1.2s,comp=N,12nm,1.3s						
NMR	**Nemuro--Hokkai**	**0.55**	**15**	⇓*i* PN	**Pn**	**09 50 00.4**	**0.0**
NMR				*e*S	**Sn**	**09 50 09.1**	**-0.6**
NMR	**Nemuro--Hokkai**	**0.55**	**15**	*i* P	**Pn**	**09 50 00.5**	**0.0**
NMR				*e*S	**Sn**	**09 50 09.6**	**-0.1**
JAK	**Akkeshi**	**0.64**	**284**	*i* P	**Pn**	**09 50 01.0**	**-0.5**
JAK				*e*S	**Sn**	**09 50 10.5**	**-1.0**
JAK	**Akkeshi**	**0.64**	**284**	A	A	09 50 01.0	
	comp=E,64nm,0.2s,comp=N,65nm,0.3s						
JNK	**Nakash**	**0.95**	**321**	⇓*i* P	**Pn**	**09 50 04.5**	**-0.8**
JNK				⇓*e*S	**Sn**	**09 50 16.5**	**-1.9**
JNK	**Nakash**	**0.95**	**321**	A	A	09 50 04.5	
	comp=E,20nm,0.4s,comp=N,47nm,0.3s						
JNSB	**Nemuroshibetsu**	**1.01**	**338**	A	A	09 50 05.7	
	comp=E,9.0nm,1.0s,comp=N,6.0nm,0.7s						
JRA	**Rausu**	**1.14**	**345**	⇓*i* P	**Pn**	**09 50 07.3**	**-0.4**
JRA				⇓*e*S	**Sn**	**09 50 22.0**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.22**	**11**	*d i* PN	**Pn**	**09 50 08.4**	**-0.3**
YUK				*e*S	**Sn**	**09 50 23.4**	**-1.0**
YUK				pmax	pmax		
	comp=Z,6μm,0.2s						
YUK				pmax	pmax		
	comp=N,1μm,0.1s						
YUK				pmax	pmax		
	comp=E,2μm,0.1s						
YUK				smax	smax		
	comp=E,5μm,0.2s						
YUK				smax	smax		
	comp=N,8μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.22**	**11**	*i* P	**Pn**	**09 50 08.4**	**-0.3**
YUK				AMB	AMB	09 50 09.4	
	comp=N,4μm,0.2s						
YUK				*e*S	**Sn**	**09 50 24.1**	**-0.3**
YUK				A	A	09 50 26.0	
	comp=N,6μm,0.3s						
YUK				A	A	09 50 26.0	
	comp=N,5μm,0.3s						
JOB	**Onbets**	**1.25**	**273**	*i* P	**Pn**	**09 50 08.7**	**-0.6**
JOB				*e*S	**Sn**	**09 50 23.9**	**-1.4**
JOB	**Onbets**	**1.25**	**273**	A	A	09 50 08.7	
	comp=E,5.0nm,0.6s,comp=N,2.0nm,0.6s						
RUSJ	**Misakicho**	**1.28**	**351**	⇓*i* PN	**Pn**	**09 50 09.8**	**+0.2**
RUSJ				*e*S	**Sn**	**09 50 26.6**	**+0.7**
JAR	**Ashorobuto**	**1.37**	**290**	P	**Pn**	**09 50 10.4**	**-0.5**
JAR				*e*S	**Sn**	**09 50 27.0**	**-1.1**
JAR	**Ashorobuto**	**1.37**	**290**	A	A	09 50 10.4	
	comp=E,4.0nm,1.1s,comp=N,5.0nm,0.8s						
SHO	**Shikotan**	**1.40**	**42**	⇓*i* PN	**Pn**	**09 50 10.9**	**-0.2**
SHO				*e*S	**Sn**	**09 50 27.4**	**-1.2**
SHO				pmax	pmax		
	comp=Z,1μm,0.1s						
SHO				pmax	pmax		
	comp=N,361nm,0.2s						
SHO				pmax	pmax		
	comp=E,464nm,0.2s						
SHO				smax	smax		
	comp=N,4μm,0.2s						
SHO				smax	smax		
	comp=E,3μm,0.2s						
SHO	**Shikotan**	**1.40**	**42**	*i* P	**Pn**	**09 50 10.9**	**-0.2**
SHO				AMB	AMB	09 50 11.0	
	comp=E,1μm,0.1s						
SHO				*e*S	**Sn**	**09 50 27.6**	**-1.0**
SHO				A	A	09 50 29.0	
	comp=E,4μm,0.2s						
SHO				A	A	09 50 29.0	
	comp=E,3μm,0.2s						
JCH	**Churui**	**1.62**	**263**	*e*P	**Pn**	**09 50 13.4**	**-0.7**
JCH				*e*S	**Sn**	**09 50 32.7**	**-1.3**
JCH	**Churui**	**1.62**	**263**	A	A	09 50 13.4	
	comp=E,2.0nm,1.1s,comp=N,4.0nm,1.0s						
JTKR	**Abashiri--Toko**	**1.64**	**314**	⇓P	**Pn**	**09 50 14.4**	**0.0**
JTKR				⇓*e*S	**Sn**	**09 50 34.2**	**-0.2**
ERM	**Erimo**	**1.95**	**246**	Pn	**Pn**	**09 50 19.0**	**+0.5**
ERM				Sn	**Sn**	**09 50 42.2**	**+0.3**
ERM	**Erimo**	**1.95**	**246**	P	**Pn**	**09 50 19.9**	**+1.4**
ERM	**Erimo**	**1.95**	**246**	*de*PN	**Pn**	**09 50 19.5**	**+1.0**
ERM				pmax	pmax		
	comp=Z,185nm,1.3s						
JEM	**Erimo**	**1.95**	**246**	P	**Pn**	**09 50 20.0**	**+1.5**
JKA	**Kamikawa-asahi**	**2.49**	**302**	Pn	**Pn**	**09 50 26.8**	**+0.9**
JKA	**Kamikawa-asahi**	**2.49**	**302**	*e*P	**Pn**	**09 50 26.8**	**+0.9**
ASAJ	**Asahikawa**	**2.49**	**302**	PN	**Pn**	**09 50 26.8**	**+0.9**
ASAJ	**Asahikawa**	**2.49**	**302**	P	**Pn**	**09 50 26.4**	**+0.4**
	comp=Z,50nm,0.4s,baz=126,slow=9.3,SNR=44						
KUR	**Kuril'sk**	**2.92**	**34**	*e*PN	**Pn**	**09 50 33.2**	**+1.4**
KUR				*e*S	**Sn**	**09 51 07.4**	**+1.7**
KUR				pmax	pmax		
	comp=Z,430nm,0.4s						
KUR				pmax	pmax		
	comp=E,214nm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
KUR				smax	smax		
	comp=E,673nm,0.2s						
KUR	**Kuril'sk**	**2.92**	**34**	*e*P	**Pn**	**09 50 33.2**	**+1.4**
KUR				AMB	AMB	09 50 34.3	
	comp=E,430nm,0.4s						
KUR				*e*S	**Sn**	**09 51 07.4**	**+1.7**
KUR				A	A	09 51 08.8	
	comp=E,1μm,0.2s						
KUR				A	A	09 51 08.8	
	comp=E,670nm,0.2s						
JAHD	**Aomorihigashid**	**3.50**	**245**	A	A	09 50 40.5	
	comp=E,4.0nm,0.4s,comp=N,4.0nm,1.2s						
JTM	**Tenmabayashi**	**3.92**	**240**	Pn	**Pn**	**09 50 45.1**	**-0.4**
JTM	**Tenmabayashi**	**3.92**	**240**	P	**Pn**	**09 50 45.3**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.56**	**335**		**Pn**	**09 50 54.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.56**	**335**	*e*PN	**Pn**	**09 50 54.7**	**+0.5**
YSS				*e*S	**Sn**	**09 51 46.8**	**+0.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.56**	**335**	*e*P	**Pn**	**09 50 54.7**	**+0.5**
YSS				*e*S	**Sn**	**09 51 45.6**	**-0.3**
JMM	**Marumori**	**6.15**	**218**		**Pn**	**09 51 13.1**	**-2.9**
JMM	**Marumori**	**6.15**	**218**	P	**Pn**	**09 51 13.9**	**-2.1**
TYV	**Tymovskoe**	**8.26**	**347**	*e*PN	**Pn**	**09 51 46.2**	**+1.4**
TYV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,300nm,4.6s						
TYV	**Tymovskoe**	**8.26**	**347**	*e*P	**Pn**	**09 51 46.2**	**+1.4**
TYV				AMB	AMB	09 51 49.6	
	comp=Z,300nm,4.6s						
TYV				*e*S	**Sn**	**09 53 14.9**	**-1.6**
TYV				A	A	09 53 15.5	
	comp=Z,200nm,5.3s						
TYV				A	A	09 53 15.5	
	comp=Z,300nm,5.3s						
MJB9	**Matsu-Tunnel**	**8.45**	**224**		**Pn**	**09 51 47.7**	**+0.1**
MAJO	**Matsushiro**	**8.45**	**224**	Pn	**Pn**	**09 51 46.5**	**-1.0**
MAJO	**Matsushiro**	**8.45**	**224**	P	**Pn**	**09 51 46.3**	**-1.2**
MAJO	**Matsushiro**	**8.45**	**224**	*i* PN	**Pn**	**09 51 46.6**	**-1.0**
MJAR	**Matsushiro Arr**	**8.45**	**224**	P	**Pn**	**09 51 46.5**	**-1.0**
	comp=Z,4.3nm,0.4s,baz=27,slow=14,SNR=27						
USRK	**Ussuriysk Ar.**	**9.94**	**282**	LR	LR	09 55 13.2	
	comp=Z,59nm,20.5s,baz=360,slow=33						
INU	**Inuyama**	**9.99**	**224**	Pn	**Pn**	**09 52 08.4**	**-0.1**
JHJ2	**Mitsune**	**10.71**	**207**	Pn	**Pn**	**09 52 16.4**	**-2.0**
JHJ2	**Mitsune**	**10.71**	**207**	P	**Pn**	**09 52 15.9**	**-2.4**
JHJ	**Hachijo jima 2**	**10.71**	**207**	P	Pn	09 52 13.5	-4.9
	comp=Z,23nm,0.3s,baz=41,slow=20,SNR=17						
NKL	**Nikolayevsk**	**10.81**	**344**	*e*P	**Pn**	**09 52 20.6**	**+1.0**
OKH	**Okha**	**10.85**	**352**	*e*P	**

comp=Z,490nm,7.1s
BTO LR LR
comp=N,310nm,7.3s
BTO LR LR
comp=E,580nm,8.4s
BTO LR LR
comp=Z,700nm,7.3s
ULN Ulaanbaatar 27.30 294 *i* P **P** **09 55 25.4 -1.1**
ULN pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 27.30 294 *e*P **P** **09 55 25.4 -1.1**
BILL Bilibino 27.56 17 *i* P **P** **09 55 30.2 +1.8**
BILL pmax pmax
comp=Z,7.0nm,2.0s
BILL Bilibino 27.56 17 *e*P **P** **09 55 30.1 +1.7**
SONM Songino Array 27.75 294 P **P** **09 55 31.1 +0.7**
SONM Songino Array 27.75 294 P **P** **09 55 31.1 +0.7**
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 27.75 294 P **P** **09 55 30.5 +0.1**
comp=Z,5.3nm,0.6s,baz=81,slow=8.6,SNR=36
comp=Z,5.3nm,0.6s
H11N2 WAKE ISLAND Hy 29.23 135 T T 10 26 43.1
baz=328,slow=76,SNR=1039
H11N1 WAKE ISLAND Hy 29.25 135 T T 10 26 45.4
baz=328,slow=76,SNR=796
H11N3 WAKE ISLAND Hy 29.25 135 T T 10 26 45.4
baz=328,slow=76,SNR=1119
TIXI Tiksi 30.02 350 *i* P **P** **09 55 50.6 +0.5**
TIXI pmax pmax
comp=Z,10.0nm,2.7s
TIXI Tiksi 30.02 350 *e*P **P** **09 55 50.6 +0.5**
H11S1 WAKE ISLAND Hy 30.16 137 T T 10 27 54.9
baz=329,slow=76,SNR=1659
H11S3 WAKE ISLAND Hy 30.16 137 T T 10 27 58.2
baz=329,slow=76,SNR=1281
H11S2 WAKE ISLAND Hy 30.18 137 T T 10 27 55.9
baz=329,slow=76,SNR=1189
K13K Kusilvak Mount 34.77 39 P **P** **09 56 32.7 +1.0**
K13K IAmb IAmb 09 57 01.6
comp=Z,4.7nm,1.1s
ANM Nome 35.01 35 P **P** **09 56 33.9 +0.2**
ANM IAmb IAmb 09 56 57.6
comp=Z,6.0nm,1.3s
ANM Nome 35.01 35 P **P** **09 56 33.9 +0.2**
ANM pmax pmax
comp=Z,6.0nm,1.3s
M13K Dall Lake 35.18 42 P **P** **09 56 35.9 +0.7**
J14K Nanvaranak Lak 35.42 38 P **P** **09 56 38.2 +1.0**
J14K IAmb IAmb 09 57 03.7
comp=Z,11nm,1.4s
J14K Nanvaranak Lak 35.42 38 P **P** **09 56 35.5 -1.8**
baz=260
G15K Niukluk 35.66 34 P **P** **09 56 37.9 -1.5**
baz=256
C16K Lisburne Hills 36.09 29 P **P** **09 56 42.9 -0.2**
C16K IAmb IAmb 09 56 43.7
comp=Z,8.7nm,1.2s
C16K Lisburne Hills 36.09 29 P **P** **09 56 41.5 -1.6**
baz=251
K15K Wolf Creek Mou 36.28 39 P **P** **09 56 44.9 +0.2**
K15K IAmb IAmb 09 56 59.0
comp=Z,9.8nm,1.2s
H16K Elim 36.34 35 P **P** **09 56 43.7 -1.5**
baz=259
G16K Koyuk River 36.45 34 P **P** **09 56 47.0 +0.9**
G16K Koyuk River 36.45 34 P **P** **09 56 45.1 -0.9**
baz=258
M15K Kasigluk River 36.52 42 P **P** **09 56 45.5 -1.2**
baz=266
N15K Kwethluk River 36.78 43 P **P** **09 56 50.6 +1.6**
J16K Anvik River 36.83 38 P **P** **09 56 48.4 -0.9**
J16K IAmb IAmb 09 56 51.4
comp=Z,11nm,1.4s
J16K Anvik River 36.83 38 P **P** **09 56 48.7 -0.6**
baz=262
I17K Unalakleet 36.88 37 P **P** **09 56 49.4 -0.3**
E17K Hotham Inlet 37.04 31 P **P** **09 56 50.9 -0.2**
baz=256
F17K Baldwin Pennin 37.12 32 P **P** **09 56 52.0 +0.3**
F17K IAmb IAmb 09 57 00.4
comp=Z,7.6nm,1.4s
F17K Baldwin Pennin 37.12 32 P **P** **09 56 51.0 -0.8**
baz=257
G17K Kiwalik Mounta 37.16 34 P **P** **09 56 51.7 -0.5**
baz=259
L16K Owhat River 37.18 40 P **P** **09 56 52.0 -0.3**
L16K IAmb IAmb 09 57 16.4
comp=Z,6.2nm,1.1s
L16K Owhat River 37.18 40 P **P** **09 56 51.9 -0.5**
baz=265
H17K Granite Mounta 37.37 35 P **P** **09 56 54.9 +1.0**
H17K IAmb IAmb 09 56 56.9
comp=Z,6.4nm,1.3s
H17K Granite Mounta 37.37 35 P **P** **09 56 54.0 +0.1**
baz=261
M16K Timber Creek 37.38 41 P **P** **09 56 54.2 +0.1**
baz=267
N16K Nishlik Lake 37.45 42 P **P** **09 56 54.7 +0.1**
baz=268
E18K Tukpahlearik C 37.58 31 P **P** **09 56 55.5 -0.2**
B18K Kokolik River 37.66 27 P **P** **09 56 56.4 +0.1**
baz=253
C18K Utukok River 37.67 29 P **P** **09 56 56.2 -0.3**
C18K IAmb IAmb 09 57 24.0
comp=Z,7.4nm,1.4s
C18K Utukok River 37.67 29 P **P** **09 56 55.8 -0.7**
baz=255
O16K Kokwok River B 37.77 44 P **P** **09 56 58.2 +0.9**
K17K Iditarod 37.81 39 P **P** **09 56 59.1 +1.5**
K17K IAmb IAmb 09 57 22.0
comp=Z,11nm,1.4s
K17K Iditarod 37.81 39 P **P** **09 56 57.5 -0.1**
baz=265
G18K Tagagawik 38.05 33 P **P** **09 56 59.7 0.0**
G18K Tagagawik 38.05 33 P **P** **09 56 59.0 -0.7**
baz=261
H18K Honhosa River 38.06 35 P **P** **09 57 00.6 +0.8**
H18K IAmb IAmb 09 57 01.6
comp=Z,5.0nm,0.8s
H18K Honhosa River 38.06 35 P **P** **09 56 59.5 -0.2**
baz=262
M17K Holitna River 38.14 41 P **P** **09 57 00.8 +0.4**
baz=268
A19K Wainwright 38.15 26 P **P** **09 57 00.2 -0.1**
baz=253
N17K Nushagak Hills 38.23 42 P **P** **09 57 01.3 0.0**
baz=269
O17K Koliganek Bris 38.27 43 P **P** **09 57 01.7 +0.1**
baz=270
C19K Lookout Ridge 38.35 28 P **P** **09 57 02.2 0.0**
C19K Lookout Ridge 38.35 28 P **P** **09 57 01.8 -0.4**
baz=256
L18K Granite Mounta 38.53 40 P **P** **09 57 03.2 -0.5**
baz=267
F19K Shaleruckik Mo 38.55 32 P **P** **09 57 03.6 -0.3**
baz=260
J18K Innoko River 38.59 38 P **P** **09 57 05.3 +1.1**
J18K IAmb IAmb 09 57 05.6
comp=Z,4.2nm,1.1s
J18K Innoko River 38.59 38 P **P** **09 57 04.0 -0.2**
baz=266
P17K Kvichak River 38.61 44 P **P** **09 57 04.5 +0.1**
baz=271
GCSA Galena City Sc 38.63 35 P **P** **09 57 04.7 +0.2**
baz=264
G19K Purcell Mounta 38.72 33 P **P** **09 57 05.8 +0.6**
G19K Purcell Mounta 38.72 33 P **P** **09 57 04.6 -0.7**
baz=262
D19K Kuna River 38.73 29 P **P** **09 57 05.5 +0.1**
D19K IAmb IAmb 09 57 07.1
comp=Z,7.1nm,1.3s
D19K Kuna River 38.73 29 P **P** **09 57 05.6 +0.2**
baz=258
E19K Redstone River 38.87 31 P **P** **09 57 07.1 +0.7**
E19K IAmb IAmb 09 57 09.0
comp=Z,6.5nm,1.4s
E19K Redstone River 38.87 31 P **P** **09 57 06.7 +0.2**
baz=260
N18K Kilae Creek 38.87 42 P **P** **09 57 05.8 -0.8**
N18K Kilae Creek 38.87 42 P **P** **09 57 06.3 -0.4**
baz=270
TTA Tatalina 38.88 38 P **P** **09 57 06.8 +0.1**
TTA IAmb IAmb 09 57 09.4
comp=Z,5.6nm,1.4s
TTA Tatalina 38.88 38 P **P** **09 57 06.8 +0.1**
TTA pmax pmax
comp=Z,6.0nm,1.4s
TTA Tatalina 38.88 38 P **P** **09 57 06.1 -0.6**
baz=267
H19K Roundabout Mou 38.90 34 P **P** **09 57 08.2 +1.4**
H19K Roundabout Mou 38.90 34 P **P** **09 57 06.5 -0.2**
baz=263,SNR=8.8
PZH PanZhiHua 39.06 260 P **P** **09 57 10.3 +1.6**
PZH pmax pmax
comp=Z,90nm,0.5s
PZH pmax pmax
comp=Z,120nm,4.8s
J19K Poorman 39.11 37 P **P** **09 57 09.6 +1.0**
J19K IAmb IAmb 09 57 10.3
comp=Z,4.1nm,0.7s
J19K Poorman 39.11 37 P **P** **09 57 07.8 -0.7**
baz=266
O18K Koktuh Hills 39.23 43 P **P** **09 57 07.5 -2.1**
baz=272
P18K Big Mountain, 39.23 44 P **P** **09 57 08.7 -1.0**
baz=272
D20K Etivluk River 39.32 29 P **P** **09 57 09.7 -0.5**
baz=259
F20K Avaraart Lake 39.38 32 P **P** **09 57 11.4 +0.7**
F20K Avaraart Lake 39.38 32 P **P** **09 57 10.9 +0.2**
baz=262
L19K White Mountain 39.38 40 P **P** **09 57 11.9 +1.0**
L19K IAmb IAmb 09 57 37.6
comp=Z,5.0nm,1.2s
E20K Nigu River 39.39 30 P **P** **09 57 11.3 +0.4**
baz=260
NRIK Noril'sk 39.48 332 *i* P **P** **09 57 11.5 -0.1**
NRIK pmax pmax
comp=Z,3.0nm,1.4s
H20K Anotleneega Mo 39.55 34 P **P** **09 57 13.2 +1.0**
baz=265
J20K Nowinta River 39.77 36 P **P** **09 57 15.4 +1.4**
J20K IAmb IAmb 09 57 16.9
comp=Z,4.9nm,1.0s
J20K Nowinta River 39.77 36 P **P** **09 57 15.4 +1.4**
baz=267
K20K Telida 39.77 38 P **P** **09 57 15.8 +1.7**
K20K IAmb IAmb 09 57 18.7
comp=Z,2.8nm,0.7s
K20K Telida 39.77 38 P **P** **09 57 13.1 -1.0**
baz=268
DGZ Jazzator, Alta 39.86 301 *i* P **P** **09 57 14.3 -0.9**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
A21K Barrow 39.87 25 P **P** **09 57 14.6 -0.1**
baz=256,SNR=9.2
C21K Knifeblade Rid 40.05 29 P **P** **09 57 16.5 +0.2**
baz=261
IMAR Indian Mountai 40.05 34 P **P** **09 57 17.2 +0.8**
Q19K Cape Douglas, 40.07 45 P **P** **09 57 17.0 +0.4**
G21K Allakaket 40.20 33 P **P** **09 57 18.6 +1.0**
G21K IAmb IAmb 09 57 19.5
comp=Z,5.3nm,0.8s
G21K Allakaket 40.20 33 P **P** **09 57 18.6 +1.0**
baz=265
F21K Alatna River 40.27 32 P **P** **09 57 20.0 +1.8**
F21K Alatna River 40.27 32 P **P** **09 57 18.9 +0.7**
baz=264
A22K Sinclair Lake 40.32 26 P **P** **09 57 18.2 -0.2**
baz=258
H21K Melozitna Rive 40.42 34 P **P** **09 57 20.2 +0.8**
H21K IAmb IAmb 09 57 21.3
comp=Z,8.4nm,1.1s
H21K Melozitna Rive 40.42 34 P **P** **09 57 20.1 +0.7**
baz=267
ZAA0 Zalesovo Array 40.61 308 P **P** **09 57 20.4 -0.7**
ZALV Zalesovo Beam 40.61 308 P **P** **09 57 20.5 -0.6**
ZALV Zalesovo Beam 40.61 308 *i* P **P** **09 57 21.2 +0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 40.61 308 P **P** **09 57 20.7 -0.4**
comp=Z,1.0nm,0.3s,baz=93,slow=8.6,SNR=8.5
ZALV PcP **PcP** **09 59 21.8 -0.1**
comp=Z,1.3nm,0.4s,baz=104,slow=4.9,SNR=4.9
comp=Z,1.0nm,0.3s
PPLA Purkeypile 40.62 39 P **P** **09 57 21.4 +0.1**
baz=270
CAST Castle Rocks 40.67 38 P **P** **09 57 22.9 +1.4**
CAST IAmb IAmb 09 57 23.7
comp=Z,5.4nm,0.8s
CAST Castle Rocks 40.67 38 P **P** **09 57 21.6 +0.1**
baz=270
B22K Teshekpuk Lake 40.71 27 P **P** **09 57 21.4 -0.2**
B22K IAmb IAmb 09 57 22.5
comp=Z,3.2nm,0.6s
B22K Teshekpuk Lake 40.71 27 P **P** **09 57 21.0 -0.7**
baz=261
KDAK Kodiak Island 40.73 46 P **P** **09 57 20.1 -1.9**
KDAK Kodiak Island 40.73 46 P **P** **09 57 20.1 -1.9**
KDAK pmax pmax
comp=Z,27nm,1.2s
I21K Tanana 40.74 35 P **P** **09 57 21.8 -0.2**
I21K IAmb IAmb 09 57 29.1
comp=Z,10nm,1.4s
I21K Tanana 40.74 35 P **P** **09 57 23.4 +1.3**
baz=268
Q20K Shuyak Island 40.74 45 P **P** **09 57 23.3 +1.2**
baz=275
D22K Ayikyak River 40.76 29 P **P** **09 57 22.6 +0.5**
D22K IAmb IAmb 09 57 23.8
comp=Z,3.6nm,0.5s
D22K Ayikyak River 40.76 29 P **P** **09 57 22.6 +0.5**
baz=263
E22K Anaktuvuk Pass 40.99 30 P **P** **09 57 24.9 +0.7**
E22K IAmb IAmb 09 57 25.4
comp=Z,4.4nm,0.5s
E22K Anaktuvuk Pass 40.99 30 P **P** **09 57 24.3 +0.1**
baz=265
G22K Bettles 41.02 32 P **P** **09 57 24.7 +0.4**
baz=266
H22K Ishtalitna Cre 41.02 34 P **P** **09 57 25.3 +1.0**
baz=268
BPAW Bear Paw Mtn. 41.15 37 P **P** **09 57 26.0 +0.5**
baz=270
KTH Kantishna Hill 41.19 37 P **P** **09 57 26.8 +1.0**
KTH IAmb IAmb 09 57 28.1
comp=Z,7.3nm,0.9s
CNPM China Poot 41.26 44 P **P** **09 57 26.5 +0.1**
MLY Manley 41.27 35 P **P** **09 57 27.7 +1.3**
MLY Manley 41.27 35 P **P** **09 57 27.3 +0.9**
baz=269
SUA Susitna One 41.35 41 P **P** **09 57 26.6 -0.6**
SUA IAmb IAmb 09 57 43.3
comp=Z,11nm,1.3s
SUA Susitna One 41.35 41 P **P** **09 57 26.7 -0.5**
baz=273
BRLK Bradley Lake 41.41 43 P **P** **09 57 27.6 -0.1**
TRF Thorofare Moun 41.48 38 P **P** **09 57 28.7 +0.4**
TRF IAmb IAmb 09 57 44.4
comp=Z,9.1nm,1.4s
TRF Thorofare Moun 41.48 38 P **P** **09 57 28.4 +0.1**
baz=272
COLD Coldfoot 41.55 32 P **P** **09 57 29.0 +0.4**
baz=267
C23K Itkillik River 41.59 28 P **P** **09 57 29.2 +0.3**
C23K IAmb IAmb 09 57 31.1
comp=Z,9.8nm,1.2s
C23K Itkillik River 41.59 28 P **P** **09 57 28.8 -0.1**
baz=264
G23K Bananza Creek 41.60 33 P **P** **09 57 29.6 +0.5**
G23K Bananza Creek 41.60 33 P **P** **09 57 29.1 0.0**
baz=268
E23K Chandalar 41.81 31 P **P** **09 57 31.3 +0.4**
baz=267
I23K Minto, Yukon-K 41.85 35 P **P** **09 57 31.8 +0.7**
I23K Minto, Yukon-K 41.85 35 P **P** **09 57 31.2 +0.1**
baz=270
RC01 Rabbit Creek A 41.86 41 P **P** **09 57 32.1 +0.8**
NEA2 Nenana 41.98 36 P **P** **09 57 32.9 +0.7**
NEA2 IAmb IAmb 09 57 34.0
comp=Z,5.2nm,0.6s
NEA2 Nenana 41.98 36 P **P** **09 57 32.7 +0.5**
baz=271,SNR=5.9
MCK McKinley 42.07 37 P **P** **09 57 33.5 +0.6**
baz=272
RND Reindeer 42.12 38 P **P** **09 57 34.0 +0.5**
RND IAmb IAmb 09 57 34.5
comp=Z,3.9nm,0.7s
RND Reindeer 42.12 38 P **P** **09 57 34.0 +0.5**
RND pmax pmax
comp=Z,4.0nm,0.7s
D24K Happy Valley 42.16 29 P **P** **09 57 34.2 +0.6**
D24K IAmb IAmb 09 57 35.5
comp=Z,7.5nm,0.9s
D24K Happy Valley 42.16 29 P **P** **09 57 34.1 +0.4**
baz=266
GHO Glory Hole Cre 42.20 40 P **P** **09 57 34.4 +0.3**
E24K Your Creek 42.24 31 P **P** **09 57 34.9 +0.6**
E24K Your Creek 42.24 31 P **P** **09 57 34.9 +0.6**
baz=268
C24K Franklin Bluff 42.24 28 P **P** **09 57 34.1 -0.1**
baz=266
WAT1 Susitna Watana 42.29 39 P **P** **09 57 34.7 -0.1**
baz=274
MDM Murphy Dome 42.33 35 P **P** **09 57 35.8 +0.7**
F24K Squaw Lake 42.45 32 P **P** **09 57 36.5 +0.4**
F24K Squaw Lake 42.45 32 P **P** **09 57 36.4 +0.3**
baz=269
KNK Knik Glacier 42.45 41 P **P** **09 57 35.9 -0.2**
KNK Knik Glacier 42.45 41 P **P** **09 57 33.8 -2.3**
baz=275
H24K Noodor Dome 42.46 34 P **P** **09 57 36.0 -0.2**
H24K IAmb IAmb 09 57 38.5
comp=Z,4.7nm,0.8s
H24K Noodor Dome 42.46 34 P **P** **09 57 36.6 +0.5**
baz=271
SML Sawmill 42.47 40 P **P** **09 57 35.4 -0.9**
SML Sawmill 42.47 40 P **P** **09 57 34.6 -1.7**
SML pmax pmax
comp=Z,28nm,1.4s
SML Sawmill 42.47 40 P **P** **09 57 36.9 +0.6**
baz=275
CCB Clear Creek Bu 42.52 36 P **P** **09 57 37.5 +0.9**
G24K Hadweenzic Riv 42.61 33 P **P** **09 57 38.7 +1.4**
G24K IAmb IAmb 09 57 39.7
comp=Z,4.3nm,0.8s
G24K Hadweenzic Riv 42.61 33 P **P** **09 57 37.8 +0.5**
baz=270
POKR Poker Plat Res 42.66 35 P **P** **09 57 39.5 +1.7**
POKR IAmb IAmb 09 57 40.0
comp=Z,7.6nm,0.8s
POKR Poker Plat Res 42.66 35 P **P** **09 57 39.0 +1.2**
baz=272
WAT6 Susitna Watana 42.68 39 P **P** **09 57 37.8 -0.3**
baz=275
DHY Denali Highway 42.81 38 P **P** **09 57 40.0 +0.9**
DHY IAmb IAmb 09 57 41.0
comp=Z,10nm,1.5s
DHY Denali Highway 42.81 38 P **P** **09 57 39.2 +0.1**
baz=274
HDA Harding Lake 42.91 36 P **P** **09 57 40.0 +0.3**
HDA IAmb IAmb 09 57 40.6
comp=Z,5.3nm,0.5s
HDA Harding Lake 42.91 36 P **P** **09 57 40.2 +0.5**
baz=273,SNR=5.2
IL31 42.91 36 P **P** **09 57 40.5 +0.8**
ILAR Eielson Array 42.91 36 P **P** **09 57 40.1 +0.4**
comp=Z,2.0nm,0.8s,baz=257,slow=4.9,SNR=31
ILAR PcP **PcP** **09 59 28.6 -0.8**
comp=Z,0.2nm,0.6s,baz=225,slow=2.4,SNR=2.0
comp=Z,2.0nm,0.8s
SCM Sheep Creek Mo 42.95 40 P **P** **09 57 40.9 +0.7**
baz=276
G25K Bearman Lake 43.15 33 P **P** **09 57 43.2 +1.6**
baz=272
F25K Christian River 43.31 31 P **P** **09 57 43.9 +0.9**
baz=271
E25K Arctic Village 43.33 31 P **P** **09 57 44.4 +1.3**
E25K Arctic Village 43.33 31 P **P** **09 57 43.8 +0.6**
baz=271
PRP Porcupine Dome 43.45 34 P **P** **09 57 44.7 +0.5**
PRP IAmb IAmb 09 57 46.8
comp=Z,5.7nm,0.9s
PRP Porcupine Dome 43.45 34 P **P** **09 57 44.9 +0.7**
baz=273,SNR=5.4
M24K Tolsona, Glenn 43.46 39 P **P** **09 57 43.5 -0.8**
baz=276
K24K Donnelly Dome 43.47 37 P **P** **09 57 43.9 -0.4**
baz=275
FYU Fort Yukon 43.51 33 P **P** **09 57 46.0 +1.5**
C26K Camden Bay 43.57 28 P **P** **09 57 44.4 -0.5**
baz=269
J25K Salcha River, 43.57 36 P **P** **09 57 46.8 +1.6**
J25K IAmb IAmb 09 58 08.5
comp=Z,11nm,1.4s
J25K Salcha River, 43.57 36 P **P** **09 57 44.6 -0.5**
baz=274
PAX Paxson 43.69 38 P **P** **09 57 46.8 +0.7**
baz=276
BMAR Burnt Mountain 43.73 32 P **P** **09 57 47.9 +1.5**
F26K Sheenjek River 43.88 31 P **P** **09 57 49.1 +1.5**
baz=272
RIDG Independent Ri 43.88 37 P **P** **09 57 48.0 +0.3**
RIDG Independent Ri 43.88 37 P **P** **09 57 47.7 0.0**
baz=276
MK31 Makanchi Array 43.97 298 P **P** **09 57 48.3 -0.2**
MK31 Makanchi Array 43.97 298 *ce*P **P** **09 57 48.3 -0.2**
MKAR Makanchi Array 43.97 298 P **P** **09 57 48.2 -0.3**
comp=Z,1.7nm,0.4s,baz=82,slow=10,SNR=35
MKAR PcP **PcP** **09 59 32.9 -0.4**
comp=Z,0.3nm,0.5s,baz=53,slow=4.5,SNR=3.0
comp=Z,1.7nm,0.4s
G26K Porcupine Rive 44.06 32 P **P** **09 57 50.2 +1.2**
baz=274
MAKZ Makanchi 44.16 298 P **P** **09 57 50.1 0.0**
MAKZ Makanchi 44.16 298 P **P** **09 57 50.1 0.0**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
SCRK Sand Creek 44.24 37 P **P** **09 57 50.7 +0.2**
SCRK Sand Creek 44.24 37 P **P** **09 57 50.8 +0.2**
baz=276
N25K Chitina, Valde 44.26 40 P **P** **09 57 50.1 -0.7**
BMRM Bremner River 44.36 41 P **P** **09 57 52.5 +1.0**
baz=279
J26L Joseph Creek 44.36 36 P **P** **09 57 51.7 +0.1**
J26L Joseph Creek 44.36 36 P **P** **09 57 51.6 +0.1**
baz=276
L26K Log Cabin Wild 44.64 38 P **P** **09 57 55.2 +1.5**
L26K IAmb IAmb 09 57 55.9
comp=Z,6.1nm,0.6s
L26K Log Cabin Wild 44.64 38 P **P** **09 57 54.7 +1.0**
baz=278,SNR=6.7
E27K Coleen River 44.81 30 P **P** **09 57 56.2 +1.2**
baz=274
VRDI Verde Repeater 44.87 40 P **P** **09 57 56.5 +0.8**
VRDI IAmb IAmb 09 58 23.5
comp=Z,13nm,1.3s
M26K Nabesna, AK 44.89 39 P **P** **09 57 56.7 +1.0**
baz=279
G27K Doyon Strip 44.91 32 P **P** **09 57 56.2 +0.4**
G27K Doyon Strip 44.91 32 P **P** **09 57 56.3 +0.5**
baz=276
H27K Steamboat Moun 45.02 33 P **P** **09 57 58.1 +1.4**
baz=276
KURK Kurchatov 45.06 304 P **P** **09 57 56.8 -0.4**
KURK IAmb IAmb 09 57 57.6
comp=Z,5.5nm,1.1s
KURK Kurchatov 45.06 304 *ce*P **P** **09 57 56.7 -0.4**
KURK pmax pmax
comp=Z,20nm,3.6s
KURK Kurchatov 45.06 304 *e*P **P** **09 57 56.7 -0.4**
K27K Chicken 45.06 36 P **P** **09 57 58.2 +1.2**
K27K IAmb IAmb 09 57 58.6
comp=Z,5.8nm,0.7s
K27K Chicken 45.06 36 P **P** **09 57 58.1 +1.1**
baz=278
KURBB Kurchatov Arra 45.15 304 P **P** **09 57 57.5 -0.3**
comp=Z,2.9nm,0.5s,baz=70,slow=8.7,SNR=9.5
KURBB PcP **PcP** **09 59 37.0 -0.2**
comp=Z,0.4nm,0.3s,baz=85,slow=2.9,SNR=2.1
comp=Z,2.9nm,0.5s
L27K Beaver Creek, 45.32 38 P **P** **09 58 00.5 +1.4**
L27K IAmb IAmb 09 58 01.4
comp=Z,6.6nm,0.8s
L27K Beaver Creek, 45.32 38 P **P** **09 57 59.8 +0.7**
baz=279
BCAR Beaver Creek A 45.34 38 P **P** **09 58 00.5 +1.2**
EGAK Eagle 45.35 35 P **P** **09 57 59.7 +0.4**
EGAK Eagle 45.35 35 P **P** **09 57 59.8 +0.5**
baz=278
M27K Edge Creek, AK 45.41 39 P **P** **09 58 01.2 +1.3**
M27K IAmb IAmb 09 58 02.2
comp=Z,7.8nm,1.0s
M27K Edge Creek, AK 45.41 39 P **P** **09 58 00.9 +0.9**
baz=280
F28M Old Crow 45.52 31 P **P** **09 58 02.2 +1.7**
F28M Old Crow 45.52 31 P **P** **09 58 01.8 +1.2**

	baz=276						
E28M	**Babbage River**	**45.54**	**30**	P	**P**	**09 58 01.7**	**+1.0**
E28M	**Babbage River**	**45.54**	**30**	P	**P**	**09 58 01.6**	**+0.9**
	baz=276						
D28M	**Stokes Point**	**45.75**	**29**	P	**P**	**09 58 02.6**	**+0.3**
	baz=276						
I28M	**Miner Creek**	**45.77**	**34**	P	**P**	**09 58 04.1**	**+1.4**
I28M	**Miner Creek**	**45.77**	**34**	P	**P**	**09 58 03.4**	**+0.7**
	baz=278						
E29M	**Blow River**	**46.16**	**30**	P	**P**	**09 58 07.1**	**+1.5**
E29M				IAmb	IAmb	09 58 08.6	
	comp=Z,4.3nm,0.8s						
E29M	**Blow River**	**46.16**	**30**	P	**P**	**09 58 07.5**	**+1.9**
	baz=277						
DAWY	**Dawson**	**46.23**	**36**	P	**P**	**09 58 07.2**	**+1.0**
	baz=280						
H29M	**Whitestone**	**46.29**	**33**	P	**P**	**09 58 08.1**	**+1.4**
H29M				IAmb	IAmb	09 58 31.8	
	comp=Z,4.5nm,1.1s						
H29M	**Whitestone**	**46.29**	**33**	P	**P**	**09 58 08.1**	**+1.4**
	baz=279						
G29M	**Pine Creek**	**46.32**	**32**	P	**P**	**09 58 08.4**	**+1.5**
G29M				IAmb	IAmb	09 58 09.2	
	comp=Z,3.8nm,0.8s						
G29M	**Pine Creek**	**46.32**	**32**	P	**P**	**09 58 08.3**	**+1.4**
	baz=279						
I29M	**Ogilvie Camp,**	**46.46**	**34**	P	**P**	**09 58 09.2**	**+1.2**
I29M				IAmb	IAmb	09 58 32.3	
	comp=Z,4.8nm,0.8s						
I29M	**Ogilvie Camp,**	**46.46**	**34**	P	**P**	**09 58 09.5**	**+1.5**
	baz=280,SNR=6.7						
YUK8	**Steele Glacier**	**46.61**	**40**	P	**P**	**09 58 11.1**	**+1.6**
	baz=282						
EPYK	**Eagle Plains**	**46.92**	**33**	P	**P**	**09 58 13.1**	**+1.4**
EPYK	**Eagle Plains**	**46.92**	**33**	P	**P**	**09 58 12.4**	**+0.8**
	baz=280						
M29M	**Somme Creek**	**46.96**	**38**	P	**P**	**09 58 13.2**	**+1.2**
M29M				IAmb	IAmb	09 58 37.9	
	comp=Z,6.0nm,1.4s						
M29M	**Somme Creek**	**46.96**	**38**	P	**P**	**09 58 13.2**	**+1.2**
	baz=282						
L29M	**L29M**	**46.97**	**37**	P	**P**	**09 58 13.7**	**+1.7**
L29M				IAmb	IAmb	09 58 14.7	
	comp=Z,8.6nm,1.1s						
L29M	**L29M**	**46.97**	**37**	P	**P**	**09 58 13.9**	**+1.9**
	baz=282						
BCPM	**Bancas Point**	**46.97**	**42**	P	**P**	**09 58 13.5**	**+1.5**
G30M	**tAoh Zraii Nji**	**47.01**	**32**	P	**P**	**09 58 13.0**	**+0.7**
G30M	**tAoh Zraii Nji**	**47.01**	**32**	P	**P**	**09 58 13.7**	**+1.4**
	baz=280						
F30M	**Barrier River**	**47.07**	**31**	P	**P**	**09 58 14.7**	**+2.0**
	baz=280						
K29M	**Barlow Dome**	**47.08**	**36**	P	**P**	**09 58 13.9**	**+0.9**
	baz=282						
I30M	**Mount Dempster**	**47.28**	**34**	P	**P**	**09 58 15.6**	**+1.1**
I30M	**Mount Dempster**	**47.28**	**34**	P	**P**	**09 58 15.6**	**+1.1**
	baz=282						
J30M	**Hart River**	**47.43**	**35**	P	**P**	**09 58 16.9**	**+1.2**
	baz=282						
M30M	**Minto, Yukon**	**47.68**	**38**	P	**P**	**09 58 18.8**	**+1.3**
	baz=284						
G31M	**Satah River**	**47.77**	**32**	P	**P**	**09 58 18.8**	**+0.7**
G31M	**Satah River**	**47.77**	**32**	P	**P**	**09 58 19.6**	**+1.5**
	baz=282						
INK	**Inuvik**	**47.78**	**30**	P	**P**	**09 58 18.9**	**+0.8**
INK				IAmb	IAmb	09 58 19.3	
	comp=Z,3.3nm,0.7s						
INK	**Inuvik**	**47.78**	**30**	P	**P**	**09 58 18.9**	**+0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**47.78**	**30**	P	**P**	**09 58 19.1**	**+1.0**
	baz=281,SNR=5.8						
HYT	**Haines Junctio**	**47.78**	**40**	P	**P**	**09 58 20.4**	**+1.9**
HYT	**Haines Junctio**	**47.78**	**40**	P	**P**	**09 58 19.9**	**+1.5**
	baz=285						
MAYO	**Mayo, Yukon**	**47.84**	**36**	P	**P**	**09 58 19.1**	**+0.4**
	baz=283						
F31M	**Tsiigehtchic**	**47.87**	**31**	P	**P**	**09 58 19.8**	**+1.0**
F31M				IAmb	IAmb	09 58 20.4	
	comp=Z,5.5nm,0.8s						
F31M	**Tsiigehtchic**	**47.87**	**31**	P	**P**	**09 58 19.4**	**+0.5**
	baz=282						
P29M	**Windy Craggy**	**47.98**	**42**	P	**P**	**09 58 21.8**	**+1.8**
	baz=286						
H31M	**Peel River**	**47.99**	**33**	P	**P**	**09 58 20.8**	**+1.0**
H31M				IAmb	IAmb	09 58 21.9	
	comp=Z,4.9nm,0.8s						
H31M	**Peel River**	**47.99**	**33**	P	**P**	**09 58 20.9**	**+1.0**
	baz=283						
P30M	**Million Dollar**	**48.23**	**41**	P	**P**	**09 58 22.7**	**+0.9**
	baz=286						
N31M	**Braeburn, Yuko**	**48.42**	**39**	P	**P**	**09 58 23.3**	**0.0**
	baz=285						
M31M	**Drury Creek, Y**	**48.86**	**38**	P	**P**	**09 58 27.6**	**+1.0**
	baz=286						
WHY	**Whitehorse**	**49.07**	**40**	P	**P**	**09 58 29.0**	**+0.6**
	baz=287						
BVAR	**Borovoye Array**	**49.17**	**309**	P	**P**	**09 58 29.1**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=82,slow=7.9,SNR=10						
BVAR				PcP	**PcP**	**09 59 51.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=69,slow=4.8,SNR=2.1						
	comp=Z,2.1nm,0.4s						
FARO	**Faro, Yukon**	**49.32**	**38**	P	**P**	**09 58 29.9**	**-0.3**
	baz=287						
A36M	**Sachs Harbour**	**49.68**	**24**	P	**P**	**09 58 32.8**	**+0.1**
A36M				IAmb	IAmb	09 58 34.6	
	comp=Z,3.9nm,0.9s						
A36M	**Sachs Harbour**	**49.68**	**24**	P	**P**	**09 58 32.9**	**+0.2**
	baz=285						
BOOM	**Boomskoye usch**	**49.79**	**295**	P	**P**	**09 58 34.6**	**+0.4**
BOOM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
P33M	**Teslin, Yukon**	**50.18**	**40**	P	**P**	**09 58 37.2**	**+0.4**
	baz=289						
C36M	**Paulatuk**	**50.83**	**27**	P	**P**	**09 58 41.7**	**+0.3**
C36M	**Paulatuk**	**50.83**	**27**	P	**P**	**09 58 41.9**	**+0.5**
	baz=288,SNR=8.8						
R33M	**Jennings River**	**51.34**	**41**	P	**P**	**09 58 45.5**	**0.0**
	baz=291						
ARK	**Arkit**	**52.74**	**296**	P	**P**	**09 58 56.7**	**+0.5**
ARK				pmax	pmax		
	comp=Z,4.0nm,2.4s						
KK31	**Karatay Array**	**53.09**	**298**	P	**P**	**09 58 57.7**	**-1.0**
KK31	**Karatay Array**	**53.09**	**298**	P	**P**	**09 58 57.7**	**-1.0**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKAR	**Karatay Array**	**53.09**	**298**	P	**P**	**09 58 58.5**	**-0.2**
KKAR	**Karatay Array**	**53.09**	**298**	P	**P**	**09 58 58.5**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARU	**Arti**	**54.20**	**317**	*i* P	**P**	**09 59 05.6**	**-0.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ARU	**Arti**	**54.20**	**317**	*e*P	**P**	**09 59 05.6**	**-0.9**
RES	**Resolute Bay**	**56.17**	**16**	P	**P**	**09 59 20.2**	**-0.2**
RES	**Resolute Bay**	**56.17**	**16**	P	**P**	**09 59 20.2**	**-0.2**
RES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SIMJ	**Simiganj**	**56.24**	**294**	P	**P**	**09 59 21.8**	**+0.2**
ABKAR	**Akbulak array**	**56.71**	**309**	P	**P**	**09 59 24.2**	**-0.4**
YKA	**Yellowknife Ar**	**57.21**	**33**	P	**P**	**09 59 27.0**	**-0.9**
YKA	**Yellowknife Ar**	**57.21**	**33**	*ce*P	**P**	**09 59 30.2**	**+2.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**57.21**	**33**	P	**P**	**09 59 28.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=302,slow=7.4,SNR=13						
	comp=Z,0.6nm,0.6s						
ARCES	**ARCESS Array B**	**59.68**	**339**	P	**P**	**09 59 45.2**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=39,slow=8.6,SNR=4.7						
	comp=Z,2.3nm,0.7s						
FINES	**FINESS Array B**	**65.14**	**333**	*ce*P	**P**	**10 00 21.5**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**65.14**	**333**	P	**P**	**10 00 20.9**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=40,slow=7.4,SNR=26						
	comp=Z,4.4nm,0.6s						
OBN	**Obninsk**	**65.34**	**323**	*i*P	**P**	**10 00 22.8**	**-0.1**
OBN				*e*		10 02 47.8	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
OBN	**Obninsk**	**65.34**	**323**	*e*P	**P**	**10 00 22.8**	**-0.1**
ASAR	**Alice Springs**	**67.04**	**192**	P	**P**	**10 00 34.0**	**-0.2**
ASAR	**Alice Springs**	**67.04**	**192**	P	**P**	**10 00 34.0**	**-0.2**
	comp=Z,0.5nm,1.1s,baz=1.2,slow=6.0,SNR=2.1						
	comp=Z,0.5nm,1.1s						
HLID	**Hailey**	**68.16**	**50**	P	**P**	**10 00 41.8**	**+0.4**
	baz=309						
BOZ	**Bozeman (W)**	**68.42**	**47**	P	**P**	**10 00 43.0**	**+0.1**
	baz=310						
NVAR	**Mina Array Bea**	**69.06**	**57**	P	**P**	**10 00 48.5**	**+1.3**
NVAR	**Mina Array Bea**	**69.06**	**57**	P	**P**	**10 00 48.6**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=293,slow=6.4,SNR=13						
	comp=Z,1.6nm,0.7s						
RLMT	**Red Lodge**	**70.00**	**47**	P	**P**	**10 00 51.0**	**-1.8**
	baz=311						
NB2	**NORSAR Subarra**	**70.02**	**338**	P	**P**	**10 00 52.3**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**70.02**	**338**	P	**P**	**10 00 51.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=16,slow=5.8,SNR=8.0						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**70.06**	**337**	P	**P**	**10 00 51.6**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=54,slow=7.5,SNR=14						
	comp=Z,1.9nm,0.4s						
CWC	**Cottonwood Cre**	**70.44**	**58**	P	**P**	**10 00 53.8**	**-1.7**
	baz=309						
R11B	**Troy Canyon, C**	**70.77**	**55**	P	**P**	**10 00 56.6**	**-0.9**
	baz=310						
MPMC	**Manual Prospec**	**71.05**	**58**	P	**P**	**10 00 58.3**	**-1.0**
	baz=310						
FURC	**Furnace Creek,**	**71.18**	**58**	P	**P**	**10 00 59.4**	**-0.4**
	baz=310						
DUG	**Dugway, Tooele**	**71.23**	**52**	P	**P**	**10 00 59.8**	**-0.4**
	baz=310						
TPNV	**Topopah Spring**	**71.26**	**57**	P	**P**	**10 01 01.2**	**+0.7**
	baz=310						
PDAR	**Pinedale Array**	**71.39**	**49**	P	**P**	**10 01 01.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=241,slow=25,SNR=12						
	comp=Z,0.8nm,0.6s						
AKASG	**Malin Array Be**	**71.61**	**323**	P	**P**	**10 01 01.6**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=40,slow=6.3,SNR=13						
	comp=Z,1.6nm,0.4s						
TUQ	**Turquoise Moun**	**72.43**	**58**	P	**P**	**10 01 07.0**	**-0.5**
	baz=310						
ULM	**Lac du Bonnet**	**72.93**	**36**	P	**P**	**10 01 09.3**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=242,slow=16,SNR=3.1						
	comp=Z,1.4nm,0.7s						
TPFO	**Pinon Flats**	**73.28**	**60**	P	**P**	**10 01 11.6**	**-0.9**
	baz=311						
X16A	**Lo Mia Camp, P**	**75.87**	**56**	P	**P**	**10 01 27.7**	**0.0**
EYMN	**Ely**	**76.56**	**35**	P	**P**	**10 01 30.3**	**-0.7**
	baz=321						
BRTR	**Keskin Array B**	**77.31**	**313**	P	**P**	**10 01 35.3**	**-0.3**
BRTR	**Keskin Array B**	**77.31**	**313**	*ce*P	**P**	**10 01 35.9**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.31**	**313**	P	**P**	**10 01 35.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=90,slow=3.7,SNR=3.8						
	comp=Z,0.6nm,0.6s						
EKA	**Eskdalemuir Ar**	**78.64**	**342**	P	**P**	**10 01 42.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=32,slow=5.4,SNR=4.7						
	comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**84.13**	**55**	P	**P**	**10 02 12.9**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=290,slow=3.7,SNR=4.5						
	comp=Z,1.1nm,0.7s						
H03N2	**Juan Fernandez**	**144.14**	**90**	T	T	12 50 23.7	
	baz=302,slow=77,SNR=7.2						
H03N3	**Juan Fernandez**	**144.16**	**90**	T	T	12 50 23.1	
	baz=302,slow=77,SNR=7.5						
H03N1	**Juan Fernandez**	**144.16**	**90**	T	T	12 50 23.1	
	baz=302,slow=77,SNR=7.6						
PLCA	**Paso Flores**	**153.13**	**98**	PKPbc	**PKiKP**	**10 09 38.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=241,slow=4.0,SNR=5.1						

***IDC* 16 09:52:14.0±2.9, 8°20S×118°94E, *h*0km, mb3.0/2, mbtmp3.0/3, ML3.3/1, Error ellipse: s-maj=257.4km s-min=29.2km az=52.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.94**	**130**	P	P	09 56 36.3	-0.5
	0.1nm,0.3s,baz=302,slow=12,SNR=5.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**21.03**	**139**	P	P	09 56 60.0	+0.4
	0.3nm,0.4s,baz=314,slow=9.1,SNR=10						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**63.72**	**333**	P	P	10 02 47.5	0.0
	0.1nm,0.5s,baz=137,slow=6.7,SNR=1.5						
	0.1nm,0.5s						

IDC **16** *09:59:55.2±3.0, 64°.62N×31°.07E, h0km, mbtmp3.5/3, ML1.8/3, Error ellipse: s-maj=44.0km s-min=10.5km az=104.0*

HEL **16** *09:59:55.0±0.2, 64°.67N×30°.65E, h0km, ML1.9, Suspected explosion*

KOLA **16** *09:59:57.2, 64°.73N×30°.14E, h0km, ML2.3, Error ellipse: s-maj=21.8km s-min=16.2km az=170.0, Karelia,Finland, Oulu area*

ISC 16 09:59:54.9±0.9, 64°.70N±0°.02×30°.35E±0°.04, *h*0km, n32, σ1s44/44, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.52**	**201**	PG	**Pg**	**10 00 05.4**	**+0.5**
RMF				SG	**Sg**	**10 00 10.7**	**-0.9**
RMF				MSG		10 00 12.7	
	comp=Z,30nm,0.2s						
KU6	**Riekki**	**1.34**	**352**	PG	**Pg**	**10 00 20.2**	**-0.4**
	baz=165						
KU6				MSG		10 00 37.2	
	comp=Z,12nm,0.2s						
KU6				SG	**Sg**	**10 00 38.7**	**+0.7**
OLKF	**Oulanka, Finla**	**1.67**	**347**	PG	**Pn**	**10 00 26.3**	**+0.8**
OLKF				MSG		10 00 46.8	
	comp=Z,8.4nm,0.2s						
OLKF				SN	**Sg**	**10 00 51.2**	**+2.6**
NIF	**Nilsia**	**1.73**	**221**	PG	**Pb**	**10 00 27.4**	**-0.1**
	baz=41						
JOF	**Joensuu**	**1.84**	**166**	PG	**Pn**	**10 00 26.7**	**-1.1**
OUL	**Oulu**	**1.94**	**283**	PG	**Pg**	**10 00 32.1**	**+0.1**
	baz=103						
OUL				SG	**Sg**	**10 00 58.7**	**+1.6**
OBF4	**Vikkela, Lumij**	**2.25**	**275**	PG	**Pb**	**10 00 37.1**	**+0.7**
OBF4				MSG		10 01 05.5	
	comp=Z,6.6nm,0.2s						
OUF	**Merijarvi**	**2.45**	**265**	PB	**Pb**	**10 00 38.8**	**-1.0**
	baz=78						
OUF				MSG		10 01 10.9	
	comp=Z,7.6nm,0.2s						
OUF				SG	**Sg**	**10 01 13.6**	**0.0**
RNF	**Rovaniemi**	**2.63**	**319**	PB	**Pb**	**10 00 43.0**	**+0.2**
RNF				SG	**Sg**	**10 01 19.6**	**+0.4**
OBF0	**Syolatti, Pyha**	**2.65**	**268**	PG	**Pg**	**10 00 45.7**	**+0.1**
OBF0				MSG		10 01 16.6	
	comp=Z,5.8nm,0.2s						
TOF	**Tornio**	**2.88**	**301**	PB	**Pb**	**10 00 46.7**	**-0.3**
TOF				MSG		10 01 23.1	
	comp=Z,2.7nm,0.2s						
TOF				SG	**Sg**	**10 01 26.0**	**-1.2**
VRF	**Varrio**	**3.07**	**355**	PB	**Pb**	**10 00 48.4**	**-2.0**
	baz=167						
VRF				MSG		10 01 26.7	
	comp=Z,3.3nm,0.2s						
VRF				SG	**Sg**	**10 01 33.2**	**-0.4**
APA0	**Apatity Array**	**3.11**	**19**	P	**Pn**	**10 00 48.1**	**+3.0**
APA0				S	**Sn**	**10 01 24.6**	**+1.7**
APA	**Apatity**	**3.13**	**22**	P	**Pn**	**10 00 45.7**	**+0.2**
APA				S	**Sn**	**10 01 24.6**	**+1.1**
KALU	**Kalix**	**3.16**	**295**	SG	**Sg**	**10 01 36.5**	**+0.2**
SGF	**Sodankyl**	**3.16**	**332**	SB	**Sb**	**10 01 31.6**	**+0.6**
RUF	**Ruokolahti**	**3.35**	**192**	PG	**Pb**	**10 00 55.2**	**0.0**
KEF	**Keuruu**	**3.54**	**227**	PG	**Pb**	**10 00 57.9**	**-0.5**
	baz=46						
KEF				SB	**Sb**	**10 01 40.2**	**-1.7**
KLF	**Kolari**	**3.65**	**317**	PB	**Pb**	**10 00 56.8**	**-3.4**
	baz=130						
VAF	**Ylistaro**	**3.79**	**247**	PB	**Pb**	**10 01 00.7**	**-1.8**
	baz=59						
FIA0	**FINESS Array S**	**3.81**	**213**	PG	**Pb**	**10 01 02.7**	**-0.2**
FINES	**FINESS Array B**	**3.81**	**213**	Pn	**Pn**	**10 00 56.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=1.7						
FINES				Lg	Lg	10 01 56.7	
	comp=Z,0.8nm,0.3s,baz=36,slow=26,SNR=4.6						
	comp=Z,4.0nm,0.9s						
ERTU	**Ertsjaerv**	**3.86**	**302**	PN	**Pn**	**10 00 58.6**	**+3.1**
UMAU	**Umeaa**	**4.29**	**263**	SG	**Sg**	**10 02 12.7**	**-0.1**
HEF	**Hetta**	**4.58**	**327**	SG	**Sg**	**10 02 18.6**	**-3.2**
PVF	**Pernaja**	**4.66**	**208**	PG	**Pb**	**10 01 17.4**	**0.0**
ARA0	**ARCESS Array S**	**5.21**	**341**	*e*P	**Pn**	**10 01 14.7**	**+0.7**
ARCES	**ARCESS Array B**	**5.21**	**341**	P	**Pn**	**10 01 14.7**	**+0.8**
ARCES				S	**Sn**	**10 02 11.8**	**-2.9**
ARCES	**ARCESS Array B**	**5.21**	**341**	Pn	**Pn**	**10 01 14.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=16						
ARCES				Sn	**Sn**	**10 02 13.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=159,slow=23,SNR=1.1						
ARCES				Lg	Lg	10 02 36.3	
	comp=Z,0.4nm,0.3s,baz=150,slow=32,SNR=7.3						
	comp=Z,2.2nm,0.8s						
KEV	**Kevo**	**5.24**	**347**	*e*P	**Pn**	**10 01 13.8**	**-0.5**
I43RU	**DUBNA INFRASON**	**8.68**	**154**	I	I	10 54 10.0	
	baz=344,slow=340,SNR=1.7						
HFS	**Hagfors**	**8.97**	**247**	Pn	**Pn**	**10 02 06.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=61,slow=15,SNR=2.0						
	comp=Z,13nm,1.2s						

HEL **16** *10:28:50.9±0.1, 67°.59N×33°.84E, h0km, ML2.1, Suspected explosion*

IDC **16** *10:28:51.4±1.0, 67°.70N×33°.91E, h0km, mb3.3/3, mbtmp3.6/9, ML2.9/6, Error ellipse: s-maj=13.6km s-min=8.5km az=53.0*

KOLA **16** *10:28:51.7, 67°.65N×33°.77E, h0km, ML2.4, Error ellipse: s-maj=5.8km s-min=2.4km az=150.0, Khibiny, mines Kirovsk, Yukspor*

ISC 16 10:28:49.6±0.7, 67°.56N±0°.04×33°.85E±0°.03, *h*0km, n35, σ1s79/59, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**275**	P	**Pg**	**10 28 54.5**	**+1.6**
APA				S	**Sg**	**10 28 57.2**	**+2.1**
APA0	**Apatity Array**	**0.33**	**279**	P	**Pg**	**10 28 56.8**	**+0.8**
APA0				S	**Sg**	**10 29 01.2**	**+0.9**
LVZ	**Lovozero**	**0.46**	**41**	P	**Pg**	**10 28 59.3**	**+0.9**
LVZ				S	**Sg**	**10 29 05.2**	**+0.8**
LVZ	**Lovozero**	**0.46**	**41**	PG	**Pg**	**10 28 58.7**	**+0.3**
	baz=225						
LVZ				SG	**Sg**	**10 29 04.3**	**0.0**
VRF	**Varrio**	**1.63**	**279**	PG	**Pn**	**10 29 19.8**	**+0.2**
VRF				MSG		10 29 39.4	
	comp=Z,25nm,0.2s						
VRF				SG	**Sn**	**10 29 40.5**	**-0.8**
TERR	**Teriberka**	**1.72**	**15**	P	**Pn**	**10 29 20.8**	**+0.1**
TERR				S	**Sn**	**10 29 42.0**	**-1.3**
OLKF	**Oulanka, Finla**	**2.15**	**237**	PG	**Pb**	**10 29 29.8**	**+0.5**
	baz=55						
OLKF				MSG		10 29 54.9	
	comp=Z,12nm,0.2s						
OLKF				SG	**Sg**	**10 29 59.7**	**+1.2**
KU6	**Riekki**	**2.20**	**227**	PG	**Pb**	**10 29 30.2**	**+0.1**
	baz=43						
KU6				MSG		10 29 56.7	
	comp=Z,7.3nm,0.2s						
KU6				SG	**Sg**	**10 30 01.0**	**+1.0**
SGF	**Sodankyl**	**2.82**	**271**	PN	**Pn**	**10 29 37.1**	**+1.3**
SGF				SB	**Sb**	**10 30 14.9**	**-0.9**
VADS	**Vadso**	**3.05**	**330**	P	**Pn**	**10 29 39.4**	**+0.4**
VADS				S	**Sn**	**10 30 15.2**	**-0.9**
RNF	**Rovaniemi**	**3.21**	**256**	PN	**Pn**	**10 29 42.9**	**+1.7**
	baz=70						
RNF				SN	**Sn**	**10 30 21.8**	**+1.7**
KEV	**Kevo**	**3.34**	**315**	*e*P	**Pn**	**10 29 44.1**	**+1.1**
KEV	**Kevo**	**3.34**	**315**	PN	**Pn**	**10 29 43.9**	**+1.0**
	baz=127						
KEV				SN	**Sn**	**10 30 22.5**	**-0.7**
ARA0	**ARCESS Array S**	**3.65**	**307**	*e*P	**Pn**	**10 29 47.8**	**+0.5**
ARA0	**ARCESS Array S**	**3.65**	**307**	PN	**Pn**	**10 29 47.8**	**+0.5**
	baz=118						
ARA0				SN	**Sn**	**10 30 29.3**	**-1.8**
ARCES	**ARCESS Array B**	**3.65**	**307**	P	**Pn**	**10 29 47.5**	**+0.2**
ARCES				S	**Sn**	**10 30 28.8**	**-2.3**
ARCES	**ARCESS Array B**	**3.65**	**307**	Pn	**Pn**	**10 29 48.0**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=120,slow=15,SNR=220						
ARCES				Pg	**Pb**	**10 29 56.5**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=115,slow=15,SNR=6.9						
ARCES				Sn	**Sn**	**10 30 28.8**	**-2.3**
	comp=Z,2.5nm,0.3s,baz=115,slow=26,SNR=20						
ARCES				Lg	Lg	10 30 41.1	
	comp=Z,2.9nm,0.3s,baz=116,slow=26,SNR=10						
	comp=Z,5.6nm,0.3s						
RMF	**Romuvaara**	**3.72**	**207**	PN	**Pn**	**10 29 50.6**	**+2.4**
	baz=23						
KLF	**Kolari**	**3.83**	**270**	PN	**Pn**	**10 29 50.7**	**+0.9**
KLF				SN	**Sn**	**10 30 35.8**	**+0.4**
HEF	**Hetta**	**3.93**	**287**	PN	**Pn**	**10 29 52.2**	**+1.0**
HEF				SN	**Sn**	**10 30 37.0**	**-0.9**
TOF	**Tornio**	**4.05**	**253**	PN	**Pn**	**10 29 54.3**	**+1.6**
	baz=66						
OUL	**Oulu**	**4.05**	**236**	PB	**Pb**	**10 30 00.7**	**-1.1**
	baz=45						
KTK1	**Kautokeino**	**4.21**	**295**	PG	**Pb**	**10 30 05.1**	**+0.7**
KTK1				SN	**Sn**	**10 30 45.0**	**+0.3**
KALU	**Kalix**	**4.50**	**253**	PG	**Pb**	**10 30 12.6**	**+3.2**
	baz=67						
KALU				SG	**Sg**	**10 31 10.9**	**-3.2**
LANU	**Lannavaara**	**4.53**	**282**	PN	**Pn**	**10 29 59.7**	**+0.4**
LANU				SN	**Sn**	**10 30 52.3**	**-0.3**
ERTU	**Ertsjaerv**	**4.67**	**263**	PN	**Pn**	**10 30 02.1**	**+0.7**
ERTU				SN	**Sn**	**10 30 56.0**	**-0.2**
FINES	**FINESS Array B**	**6.99**	**212**	Pn	**Pn**	**10 30 34.9**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=24,slow=13,SNR=1.9						
FINES				Sn	**Sn**	**10 31 52.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=29,slow=24,SNR=1.8						
FINES				Lg	Lg	10 32 27.8	
	comp=Z,1.0nm,0.3s,baz=26,slow=24,SNR=6.7						
	comp=Z,2.0nm,0.7s						
FAUS	**Fauske**	**7.13**	**277**	S	**Sn**	**10 31 52.2**	**-4.3**
HFS	**Hagfors**	**11.54**	**240**

SC01				*e*S	**Sn**	**10 37 50.7**	**-0.1**
SC01				IAML		10 37 55.6	
	comp=Z,76nm,0.3s						
LOPP1	**Punta Rusia, P**	**0.69**	**16**	*e*S	**Sn**	**10 37 51.8**	**+0.8**
LOPP1				IAML		10 37 54.8	
	comp=Z,1μm,4.4s						
NEDR	**Neiba UASD**	**0.70**	**181**	⇓*e*Pg	**Pn**	**10 37 39.9**	**-0.1**
NEDR				⇑*e*Sg	**Sn**	**10 37 50.9**	**-0.1**
NEDR				IAML		10 37 56.9	
	comp=E,106nm,0.1s						
NEDR				IAML		10 37 57.2	
	comp=N,92nm,0.1s						
MCDR	**Montecristi**	**0.74**	**341**	⇑*e*Pg	**Pn**	**10 37 40.1**	**-0.4**
MCDR				⇑*e*Sg	**Sn**	**10 37 54.6**	**+2.6**
MCDR				IAML		10 37 57.4	
	comp=E,436nm,0.1s						
MCDR				IAML		10 37 57.9	
	comp=N,402nm,0.1s						
ABDR	**Alto Bandera**	**0.82**	**117**	⇑*e*Pg	**Pn**	**10 37 41.4**	**-0.3**
ABDR				⇑*e*Sg	**Sn**	**10 37 54.6**	**+0.5**
ABDR				IAML		10 37 56.1	
	comp=E,124nm,0.3s						
ABDR				IAML		10 37 57.4	
	comp=N,180nm,0.2s						
PAPH	**Port-au-Prince**	**1.07**	**232**	*e*P	**Pn**	**10 37 45.3**	**+0.8**
PAPH				IAML		10 38 02.6	
	comp=E,27nm,0.2s						
PAPH				IAML		10 38 02.9	
	comp=N,29nm,0.3s						
LOPE2	**Hotel El Peder**	**1.19**	**196**	*i* P	**Pn**	**10 37 47.5**	**+1.6**
LOPE2				*e*S	**Sn**	**10 38 02.1**	**+0.4**
LOPE2				IAML		10 38 06.6	
	comp=Z,63nm,2.0s						
HATOM	**Hato Mayor del**	**1.95**	**101**	⇓*e*Pg	**Pn**	**10 37 56.3**	**+0.3**
HATOM				IAML		10 38 18.4	
	comp=N,18nm,3.4s						
HATOM				⇑*e*Sg	**Sn**	**10 38 18.6**	**-1.1**
HATOM				IAML		10 38 21.9	
	comp=E,19nm,0.8s						
MASC	**Masc**	**2.84**	**291**	*e*P	**Pn**	**10 38 07.0**	**-1.0**
MASC				*e*S	**Sn**	**10 38 42.9**	**+1.7**
MASC				IAML		10 38 44.0	
	comp=E,5.2nm,0.1s						
MASC				IAML		10 38 44.3	
	comp=N,7.5nm,0.1s						
MASC	**Masc**	**2.84**	**291**	*i* P	**Pn**	**10 38 08.2**	**+0.2**
MASC				IAML		10 38 51.3	
	comp=Z,34nm,3.9s						
GTBY	**Guantanamo Bay**	**3.58**	**283**	*e*P	**Pn**	**10 38 18.3**	**+0.3**
GTBY				*e*S	**Sn**	**10 39 00.4**	**+1.3**
NMDO	**Nuevo Mundo**	**3.64**	**293**	*e*P	**Pn**	**10 38 17.7**	**-1.2**
MOAC	**Moa**	**3.66**	**294**	*e*P	**Pn**	**10 38 18.3**	**-0.8**
RCC	**Rio Carpintero**	**4.13**	**282**	*e*P	**Pn**	**10 38 25.8**	**+0.2**
RCC				*e*S	**Sn**	**10 39 09.0**	**-3.6**
RCC				*e*Sg	**Sn**	**10 39 12.5**	**-0.1**
PINC	**Pinares de May**	**4.33**	**288**	*e*P	**Pn**	**10 38 27.6**	**-0.7**

IDC 16 10:44:17.3±390.0, 66°02N×41°09E, h0km, Error ellipse: s-maj=231.2km s-min=130.1km az=42.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**17.91**	**143**	I	I	12 31 20.0	
	baz=338,slow=337,SNR=1.9						
I46RU	**ZALESOVO INFRA**	**24.39**	**98**	I	I	13 13 38.5	
	baz=318,slow=327						
I18DK	**QAANAAQ INFRAS**	**30.73**	**336**	I	I	13 51 50.0	
	baz=48,slow=342,SNR=0.9						
I34MN	**SONGINO INFRAS**	**37.90**	**86**	I	I	14 36 10.0	
	baz=319,slow=334,SNR=0.5						

*LDG **16** 10:49:35.0±0.2, 38°49N×11°82E, h7km, Ml3.3/7, Error ellipse: s-maj=7.4km s-min=2.9km az=37.0*
*ROM **16** 10:49:36.4±0.2, 38°59N±0°01×11°97E±0°01, h19km±1km, ML3.6/29, Error ellipse: s-maj=1.4km s-min=0.7km az=208.0*
*IDC **16** 10:49:37.4±1.0, 38°52N×11°53E, h0km, mb3.7/5, mbtmp3.7/8, ML2.9/3, Error ellipse: s-maj=23.9km s-min=19.8km az=92.0*

ISC 16 10:49:36.0±1.5, 38°60N±0°04×11°93E±0°04, h3km±10km, n59, σ2s36/79, mb3.6/5, 1C-1D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	**0.98**	**84**	⇑P	**Pg**	**10 49 54.6**	**-0.2**
USI				S	**Sg**	**10 50 07.0**	**-0.5**
USI				AML	AML		
	comp=E,3595μm,0.7s						
USI				AML	AML		
	comp=N,6870μm,0.6s						
USI				AML	AML		
	comp=E,12700μm,0.4s						
USI				AML	AML		
	comp=N,36700μm,0.5s						
USI				AML	AML		
	comp=N,36670μm,0.5s						
USI				AML	AML		
	comp=E,12706μm,0.4s						
MARS	**Marsala (TP) I**	**0.98**	**149**	⇓P	**Pg**	**10 49 54.5**	**-0.3**
MARS				S	**Sg**	**10 50 08.2**	**+0.7**
MARS				AML	AML		
	comp=E,5645μm,1.6s						
MARS				AML	AML		
	comp=N,4635μm,1.6s						
MARS				AML	AML		
	comp=N,4453μm,0.9s						
MARS				AML	AML		
	comp=E,5312μm,0.5s						
MARS				AML	AML		
	comp=N,4453μm,1.1s						
MFNL	**Monte Finestre**	**1.12**	**136**	P	**Pg**	**10 49 57.2**	**-0.3**
MFNL				S	**Sg**	**10 50 12.2**	**+0.1**
CAVT	**Castelvetrano**	**1.13**	**145**	P	**Pg**	**10 49 56.8**	**-0.7**
CAVT				S	**Sg**	**10 50 11.0**	**-1.2**
CRJA	**Costa Raja**	**1.16**	**133**	P	**Pg**	**10 49 57.4**	**-0.9**
CRJA				S	**Sg**	**10 50 12.8**	**-0.5**
CRJA				AML	AML		
	comp=E,5600μm,0.6s						
CRJA				AML	AML		
	comp=N,2410μm,1.0s						
CRJA				AML	AML		
	comp=E,5602μm,0.6s						
CRJA				AML	AML		
	comp=E,5602μm,1.4s						
CRJA				AML	AML		
	comp=N,2406μm,1.0s						
MPG	**Monte Pellegri**	**1.20**	**111**	P	**Pg**	**10 49 57.5**	**-1.5**
MPG				S	**Sg**	**10 50 12.8**	**-1.8**
MPG				AML	AML		
	comp=E,958μm,0.8s						
MPG				AML	AML		
	comp=N,682μm,0.9s						
MPG				AML	AML		
	comp=E,1465μm,0.7s						
MPG				AML	AML		
	comp=N,1405μm,0.6s						
MPG				AML	AML		
	comp=E,1463μm,0.7s						
MPG				AML	AML		
	comp=N,1406μm,0.6s						
MMGO	**Monte Magaggia**	**1.25**	**138**	P	**Pg**	**10 49 58.2**	**-1.7**
MMGO				S	**Sg**	**10 50 14.1**	**-2.0**
MMGO				AML	AML		
	comp=E,1190μm,1.2s						
MMGO				AML	AML		
	comp=N,1630μm,1.6s						
MMGO				AML	AML		
	comp=N,1517μm,0.7s						
MMGO				AML	AML		
	comp=E,1138μm,0.5s						
MMGO				AML	AML		
	comp=N,1517μm,1.3s						
CORL	**Corleone**	**1.29**	**123**	P	**Pg**	**10 49 59.5**	**-1.2**
CLTB	**Caltabellotta**	**1.44**	**135**	P	**Pn**	**10 50 01.2**	**-1.7**
ALJA	**Alia**	**1.67**	**120**	P	**Pn**	**10 50 05.8**	**-0.3**
ALJA				AML	AML		
	comp=E,1440μm,0.6s						
ALJA				AML	AML		
	comp=N,1950μm,0.5s						
ALJA				AML	AML		
	comp=E,1444μm,0.6s						
ALJA				AML	AML		
	comp=N,1951μm,0.5s						
ALJA				AML	AML		
	comp=E,1444μm,1.4s						
ALJA				AML	AML		
	comp=N,1951μm,1.5s						
GIB	**Gibilmanna**	**1.76**	**110**	P	**Pn**	**10 50 05.3**	**-2.0**
CSLB	**Castelbuono**	**1.80**	**111**	P	**Pn**	**10 50 05.7**	**-2.2**
CSLB				AML	AML		
	comp=E,400μm,0.9s						
CSLB				AML	AML		
	comp=N,376μm,0.7s						
CSLB				AML	AML		
	comp=N,375μm,0.7s						
CSLB				AML	AML		
	comp=E,400μm,0.9s						
PLLN	**Pollina**	**1.84**	**109**	P	**Pn**	**10 50 06.6**	**-1.9**
PLLN				AML	AML		
	comp=E,1371μm,1.6s						
PLLN				AML	AML		
	comp=N,1540μm,0.7s						
PLLN				AML	AML		
	comp=N,1542μm,0.7s						
PETRA	**Petralia Sopra**	**1.88**	**113**	P	**Pn**	**10 50 07.8**	**-1.4**
PETRA				AML	AML		
	comp=E,934μm,0.6s						
PETRA				AML	AML		
	comp=N,1019μm,0.7s						
PETRA				AML	AML		
	comp=E,933μm,0.6s						
PETRA				AML	AML		
	comp=N,1018μm,0.7s						
IACL	**Alicudi**	**1.90**	**91**	P	**Pn**	**10 50 07.6**	**-1.6**
RESU	**Resuttano**	**1.93**	**119**	P	**Pn**	**10 50 09.7**	**0.0**
MSFR	**San Fratello**	**2.17**	**104**	P	**Pn**	**10 50 11.1**	**-1.9**
VSL	**Villasalto**	**2.18**	**295**	P	**Pn**	**10 50 13.4**	**+0.3**
VSL				S	**Sn**	**10 50 38.5**	**-2.1**
VSL				AML	AML		
	comp=E,466μm,0.6s						
VSL				AML	AML		
	comp=N,368μm,0.7s						
VSL				AML	AML		
	comp=N,354μm,0.3s						
VSL				AML	AML		
	comp=E,396μm,0.2s						
VAE	**Valguarnera**	**2.26**	**119**	Pn	**Pg**	**10 50 20.1**	**+1.0**
	comp=E,8.2nm,0.3s,baz=78,slow=4.9,SNR=8.9						
VAE				Sn	**Sg**	**10 50 48.8**	**+0.3**
	comp=E,11nm,0.3s,baz=323,slow=22,SNR=2.6						
	comp=E,42nm,0.5s						
GALF	**Gagliano Caste**	**2.26**	**112**	P	**Pn**	**10 50 11.7**	**-2.5**
RAFF	**Raffo Rosso**	**2.36**	**125**	P	**Pn**	**10 50 14.8**	**-0.9**
RAFF				AML	AML		
	comp=E,424μm,0.4s						
RAFF				AML	AML		
	comp=N,658μm,0.4s						
RAFF				AML	AML		
	comp=N,657μm,0.4s						
RAFF				AML	AML		
	comp=E,424μm,0.4s						
RAFF				AML	AML		
	comp=N,657μm,1.6s						
MUCR	**Ucria**	**2.38**	**103**	P	**Pn**	**10 50 14.1**	**-1.8**
MUCR				AML	AML		
	comp=E,378μm,0.4s						
MUCR				AML	AML		
	comp=N,390μm,0.4s						
MUCR				AML	AML		
	comp=E,378μm,0.4s						
MUCR				AML	AML		
	comp=N,389μm,0.4s						
EPZF	**Pizzo Felice**	**2.43**	**108**	P	**Pn**	**10 50 15.9**	**-0.7**
NOV	**Novara**	**2.58**	**102**	P	**Pn**	**10 50 18.1**	**-0.6**
HVZN	**Vizzini**	**2.62**	**122**	P	**Pn**	**10 50 19.0**	**-0.2**
HVZN				S	**Sn**	**10 50 49.6**	**-2.0**
HLNI	**Lentini**	**2.64**	**117**	P	**Pn**	**10 50 18.8**	**-0.6**
HLNI				S	**Sn**	**10 50 49.7**	**-2.2**
HLNI				AML	AML		
	comp=E,269μm,0.9s						
HLNI				AML	AML		
	comp=N,398μm,1.6s						
HLNI				AML	AML		
	comp=E,266μm,0.4s						
HLNI				AML	AML		
	comp=N,353μm,0.3s						
AIO	**Antillo**	**2.67**	**103**	P	**Pn**	**10 50 18.8**	**-1.1**
TAMR	**Tamra**	**2.72**	**236**	P	**Pn**	**10 50 18.6**	**-1.9**
TAMR				AML	AML		
	comp=E,576μm,0.8s						
TAMR				AML	AML		
	comp=N,420μm,0.8s						
TAMR				AML	AML		
	comp=E,576μm,0.8s						
TAMR				AML	AML		
	comp=N,421μm,0.8s						
TAMR				AML	AML		
	comp=N,421μm,1.2s						
TAMR				AML	AML		
	comp=E,576μm,1.2s						
SU26	**Carbonia-Igles**	**2.74**	**282**	P	**Pn**	**10 50 20.8**	**+0.1**
SU26				S	**Sn**	**10 50 53.0**	**-1.4**
SU26				AML	AML		
	comp=E,910μm,0.5s						
SU26				AML	AML		
	comp=N,832μm,0.6s						
SU26				AML	AML		
	comp=N,832μm,0.6s						
SU26				AML	AML		
	comp=E,909μm,0.5s						
SU26				AML	AML		
	comp=N,832μm,1.4s						
LINA	**Linosa Island**	**2.83**	**164**	P	**Pn**	**10 50 20.4**	**-1.5**
MSRU	**Castanea**	**2.83**	**96**	P	**Pn**	**10 50 20.5**	**-1.5**
HAGA	**Augusta**	**2.87**	**116**	P	**Pn**	**10 50 21.8**	**-0.7**
HAGA				S	**Sn**	**10 50 54.2**	**-3.3**
SSY	**Sortino**	**2.87**	**119**	P	**Pn**	**10 50 21.9**	**-0.7**
SSY				S	**Sn**	**10 50 55.3**	**-2.4**
SSY				AML	AML		
	comp=E,402μm,1.5s						
SSY				AML	AML		
	comp=N,893μm,0.5s						
SSY				AML	AML		
	comp=N,893μm,0.5s						
SSY				AML	AML		
	comp=E,384μm,0.5s						
SSY				AML	AML		
	comp=N,893μm,1.6s						
AGST	**Augusta-Monte**	**2.93**	**116**	P	**Pn**	**10 50 22.9**	**-0.5**
AGST				S	**Sn**	**10 50 56.6**	**-2.4**
CMPR	**Campora**	**3.12**	**56**	P	**Pn**	**10 50 26.0**	**-0.1**
HPAC	**Pachino**	**3.16**	**126**	P	**Pn**	**10 50 24.7**	**-1.8**
CET2	**Cetraro**	**3.26**	**72**	P	**Pn**	**10 50 27.0**	**-1.0**
SOI	**Samo**	**3.28**	**98**	P	**Pn**	**10 50 27.6**	**-0.7**
MTSN	**Montesano sull**	**3.39**	**59**	P	**Pn**	**10 50 30.3**	**+0.5**
CAR1	**CAROLEI**	**3.40**	**78**	P	**Pn**	**10 50 28.4**	**-1.5**
CAR1				S	**Sn**	**10 51 07.7**	**-3.0**
MCEL	**Monticello**	**3.45**	**59**	P	**Pn**	**10 50 31.2**	**+0.5**
KEST	**Kesra**	**3.53**	**217**	Pn	**Pn**	**10 50 31.0**	**-0.8**
	comp=N,3.0nm,0.3s,baz=122,slow=22,SNR=15						
KEST				Sn	**Sn**	**10 51 09.6**	**-4.5**
	comp=N,4.7nm,0.3s,baz=54,slow=20,SNR=9.7						
	comp=N,8.9nm,0.5s						
PLAC	**Placanica**	**3.54**	**91**	P	**Pn**	**10 50 30.9**	**-0.9**
PZUN	**Potenza**	**3.62**	**54**	AML	AML		
	comp=E,160μm,0.2s						
PZUN				AML	AML		
	comp=N,178μm,0.6s						
PZUN				AML	AML		
	comp=N,141μm,0.1s						
PZUN				AML	AML		
	comp=E,170μm,0.2s						
PGF	**Pioggiola**	**4.53**	**331**	*e*P	**Pn**	**10 50 46.4**	**+0.9**
PGF				*e*Sn	**Sn**	**10 51 32.7**	**-6.0**
	comp=E,12nm,0.2s						
SBF	**Sospel**	**6.25**	**329**	*e*P	**Pn**	**10 51 10.8**	**+1.7**
SBF				*e*Sn	**Sn**	**10 52 13.8**	**-7.3**
	comp=E,6.3nm,0.3s						
SMRF	**Simiane la Rot**	**7.19**	**320**	*e*P	**Pn**	**10 51 23.6**	**+1.6**
SMRF				*e*Sn	**Sn**	**10 52 35.8**	**-8.4**
	comp=E,1.1nm,0.3s						
MBDF	**Montbardon**	**7.24**	**329**	*e*P	**Pn**	**10 51 24.6**	**+1.9**
MBDF				*e*Sn	**Sn**	**10 52 37.4**	**-8.0**
	comp=E,26nm,1.0s						
ORIF	**Oris-en-Rattie**	**7.76**	**326**	*e*P	**Pn**	**10 51 32.2**	**+2.3**
LASF	**Ste Croix**	**8.17**	**315**	*e*P	**Pn**	**10 51 36.9**	**+1.5**
VIVF	**Saint-Julien-l**	**8.27**	**321**	*e*P	**Pn**	**10 51 38.8**	**+2.0**
MTLF	**Montolieu**	**8.74**	**306**	*e*P	**Pn**	**10 51 44.8**	**+1.6**
EPF	**Esparros**	**9.84**	**300**	*e*P	**Pn**	**10 52 00.1**	**+1.8**
BRTR	**Keskin Array B**	**16.87**	**79**	P	**P**	**10 53 38.0**	**+2.7**
	baz=270,slow=7.4,SNR=5.5						
	comp=E,1.5nm,1.0s						
HFS	**Hagfors**	**21.58**	**2**	P	**P**	**10 54 29.5**	**+3.1**
	comp=E,14nm,1.2s,baz=170,slow=12,SNR=2.2						
	comp=E,14nm,1.2s						
TORD	**Torodi Ar. Bea**	**26.93**	**202**	P	**P**	**10 55 18.4**	**-0.1**
	comp=E,0.9nm,0.8s,baz=5.3,slow=9.9,SNR=5.0						
	comp=E,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**70.50**	**337**	P	**P**	**11 00 53.1**	**+1.6**
	comp=E,0.5nm,0.8s,baz=43,slow=5.9,SNR=7.4						
	comp=E,0.5nm,0.8s						
ILAR	**Eielson Array**	**75.62**	**351**	P	**P**	**11 01 24.4**	**+2.6**
	comp=E,0.3nm,0.8s,baz=355,slow=6.5,SNR=5.2						
	comp=E,0.3nm,0.8s						
PDAR	**Pinedale Array**	**83.17**	**321**	P	**P**	**11 02 04.8**	**+1.2**
	comp=E,0.2nm,0.6s,baz=57,slow=5.5,SNR=2.9						
	comp=E,0.2nm,0.6s						

*IDC **16** 10:50:53.9±1.0, 63°16N×173°18W, h0km, mb3.8/10, mbtmp3.8/13, ML3.5/3, MS3.7/10, Error ellipse: s-maj=28.4km s-min=15.0km az=14.0*
*NEIC **16** 10:50:55.1±1.8, 63°15N±0°05×172°5W±0°1, h12km±6km, mb4.1/6, mb_Lg4.1/8, ML4.4(AEIC), Error ellipse: s-maj=8.2km s-min=6.7km az=104.0*
*AEIC **16** 10:50:56.1±1.9, 63°15N±0°06×172°4W±0°2, h31km±7km, Error ellipse: s-maj=11.6km s-min=7.9km az=76.0*

ISC 16 10:50:55.6±0.6, 63°20N±0°04×172°41W±0°04, h10km, n296, σ1s30/308, mb4.1/12, MS3.8/7, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**0.66**	**28**		**Pb**	**10 51 09.2**	**0.0**
GAMB	**Gambell**	**0.66**	**28**		**Sb**	**10 51 19.7**	**+1.4**
GAMB	**Gambell**	**0.66**	**28**	P	**Pb**	**10 51 09.1**	**0.0**
	baz=210						
GAMB				S	**Sb**	**10 51 19.3**	**+1.0**
	baz=210						
TNA	**Tin City**	**3.07**	**37**		**Pn**	**10 51 43.6**	**-0.4**
TNA	**Tin City**	**3.07**	**37**	P	**Pn**	**10 51 43.4**	**-0.6**
	baz=221						
TNA				Sb	**Sg**	**10 52 33.3**	**-0.6**
	baz=221						
ANM	**Nome**	**3.40**	**63**	Pn	**Pn**	**10 51 47.9**	**-0.7**
ANM					**Sn**	**10 52 32.2**	**+3.3**
ANM	**Nome**	**3.40**	**63**	P	**Pn**	**10 51 47.6**	**-0.9**
	baz=248,SNR=20						
ANM				Sb	**Sg**	**10 52 42.7**	**-1.9**
	baz=248						
F14K	**Arctic Creek**	**3.49**	**47**		**Pn**	**10 51 49.1**	**-0.7**
F14K	**Arctic Creek**	**3.49**	**47**	P	**Pn**	**10 51 49.5**	**-0.4**
	baz=232						
F14K				Sb	**Sg**	**10 52 45.7**	**-1.9**
	baz=232						
K13K	**Kusilvak Mount**	**3.81**	**106**		**Pn**	**10 51 53.2**	**-0.9**
K13K					**Sn**	**10 52 38.1**	**-0.8**
K13K				IAmb_Lg		10 53 00.8	
	comp=Z,655nm,0.8s						
K13K	**Kusilvak Mount**	**3.81**	**106**	P	**Pn**	**10 51 53.1**	**-1.1**
	baz=291						
K13K				Sb	**Sg**	**10 52 52.8**	**-4.8**
	baz=291						
J14K	**Nanvaranak Lak**	**4.07**	**92**		**Pn**	**10 51 56.8**	**-0.9**
J14K				IAmb_Lg		10 53 09.8	
	comp=Z,450nm,0.8s						
J14K	**Nanvaranak Lak**	**4.07**	**92**	P	**Pn**	**10 51 56.6**	**-1.1**
	baz=279						
M11K	**Mekoryuk**	**4.08**	**131**		**Pn**	**10 51 56.6**	**-1.3**
M11K	**Mekoryuk**	**4.08**	**131**	P	**Pn**	**10 51 57.0**	**-0.9**
	baz=315						
M11K				Sb	**Sb**	**10 52 58.6**	**+1.9**
	baz=315						
G15K	**Niukluk**	**4.09**	**60**		**Pn**	**10 51 57.0**	**-1.1**
G15K	**Niukluk**	**4.09**	**60**	P	**Pn**	**10 51 57.2**	**-0.8**
	baz=247						
G15K				Sb	**Sg**	**10 53 03.1**	**-3.6**
	baz=247						
F15K	**North Star Dit**	**4.20**	**50**		**Pn**	**10 51 59.5**	**-0.1**
F15K	**North Star Dit**	**4.20**	**50**	P	**Pn**	**10 51 59.1**	**-0.5**
	baz=236,SNR=22						
F15K				Sb	**Sg**	**10 53 06.9**	**-3.3**
	baz=236						
H16K	**Elim**	**4.71**	**68**		**Pn**	**10 52 06.0**	**-0.6**
H16K	**Elim**	**4.71**	**68**	P	**Pn**	**10 52 06.4**	**-0.2**
	baz=256,SNR=12						
G16K	**Koyuk River**	**4.90**	**59**		**Pn**	**10 52 08.7**	**-0.4**
G16K	**Koyuk River**	**4.90**	**59**	P	**Pn**	**10 52 08.3**	**-0.8**
	baz=247						
G16K				Sb	**Sg**	**10 53 28.5**	**-4.2**
	baz=247						
L14K	**Kuka Creek**	**4.91**	**108**		**Pn**	**10 52 09.0**	**-0.4**
L14K	**Kuka Creek**	**4.91**	**108**		**Sn**	**10 53 05.3**	**-0.8**
L14K				IAmb_Lg		10 53 34.3	
	comp=Z,246nm,0.7s						
L14K	**Kuka Creek**	**4.91**	**108**	P	**Pn**	**10 52 08.9**	**-0.4**
	baz=295						
K15K	**Wolf Creek Mou**	**5.08**	**95**		**Pn**	**10 52 11.8**	**+0.1**
K15K	**Wolf Creek Mou**	**5.08**	**95**	P	**Pn**	**10 52 11.1**	**-0.6**
	baz=284,SNR=9.0						
K15K				S	**Sn**	**10 53 10.0**	**-0.4**
	baz=284						
M13K	**Dall Lake**	**5.12**	**119**		**Pn**	**10 52 12.6**	**+0.3**
M13K	**Dall Lake**	**5.12**	**119**	P	**Pn**	**10 52 11.6**	**-0.6**
	baz=306						
I17K	**Unalakleet**	**5.28**	**77**		**Pn**	**10 52 14.8**	**+0.3**
I17K					**Sn**	**10 53 14.5**	**-0.7**
I17K	**Unalakleet**	**5.28**	**77**	P	**Pn**	**10 52 14.5**	**0.0**
	baz=267						
L15K	**Ungalak Mounta**	**5.30**	**102**		**Pn**	**10 52 13.8**	**-0.9**
L15K	**Ungalak Mounta**	**5.30**	**102**	P	**Pn**	**10 52 14.0**	**-0.6**
	baz=290						
J16K	**Anvik River**	**5.34**	**84**		**Pn**	**10 52 15.4**	**+0.3**
J16K	**Anvik River**	**5.34**	**84**	P	**Pn**	**10 52 14.8**	**-0.4**
	baz=273						
M14K	**Bethel**	**5.50**	**112**	Pn	**Pn**	**10 52 17.4**	**-0.1**
M14K	**Bethel**	**5.50**	**112**	P	**Pn**	**10 52 17.0**	**-0.5**
	baz=300,SNR=11						
M14K				S	**Sn**	**10 53 22.3**	**+1.6**
	baz=300						
G17K	**Kiwalik Mounta**	**5.60**	**60**		**Pn**	**10 52 17.8**	**-1.0**
G17K	**Kiwalik Mounta**	**5.60**	**60**	P	**Pn**	**10 52 18.1**	**-0.7**
	baz=250						
H17K	**Granite Mounta**	**5.75**	**67**		**Pn**	**10 52 20.9**	**0.0**
H17K	**Granite Mounta**	**5.75**	**67**	P	**Pn**	**10 52 20.8**	**0.0**
	baz=257						
F17K	**Baldwin Pennin**	**5.76**	**51**		**Pn**	**10 52 21.7**	**+0.7**
F17K					**Sn**	**10 53 26.6**	**-0.5**
F17K	**Baldwin Pennin**	**5.76**	**51**	P	**Pn**	**10 52 20.3**	**-0.7**
	baz=240						
C16K	**Lisburne Hills**	**5.87**	**27**		**Pn**	**10 52 22.0**	**-0.4**
C16K					**Sn**	**10 53 29.8**	**+0.2**
C16K	**Lisburne Hills**	**5.87**	**27**	P	**Pn**	**10 52 22.3**	**-0.1**
	baz=213						
E17K	**Hotham Inlet**	**5.92**	**44**		**Pn**	**10 52 22.9**	**-0.2**
E17K	**Hotham Inlet**	**5.92**	**44**	Pb	**Pb**	**10 52 40.5**	**+1.8**
	baz=234,SNR=19						
M15K	**Kasigluk River**	**6.07**	**109**		**Pn**	**10 52 24.9**	**-0.4**
M15K	**Kasigluk River**	**6.07**	**109**	P	**Pn**	**10 52 24.9**	**-0.4**
	baz=288						
N14K	**Kuskokwak Cree**	**6.08**	**118**		**Pn**	**10 52 24.0**	**-1.4**
N14K	**Kuskokwak Cree**	**6.08**	**118**	P	**Pn**	**10 52 25.0**	**-0.4**
	baz=306						
L16K	**Owhat River**	**6.18**	**98**		**Pn**	**10 52 26.7**	**-0.1**
L16K	**Owhat River**	**6.18**	**98**	P	**Pn**	**10 52 26.2**	**-0.6**
	baz=289,SNR=14						
F18K	**Selawik**	**6.41**	**52**		**Pn**	**10 52 29.4**	**-0.4**
F18K	**Selawik**	**6.41**	**52**	P	**Pn**	**10 52 29.6**	**-0.2**
	baz=243						
H18K	**Honhosa River**	**6.44**	**66**		**Pn**	**10 52 30.8**	**+0.5**
H18K	**Honhosa River**	**6.44**	**66**	P	**Pn**	**10 52 30.6**	**+0.3**
	baz=258						
K17K	**Iditarod**	**6.45**	**88**		**Pn**	**10 52 29.7**	**-0.8**
K17K	**Iditarod**	**6.45**	**88**	P	**Pn**	**10 52 29.9**	**-0.6**
	baz=280						
C17K	**DeLong Mountai**	**6.50**	**31**		**Pn**	**10 52 31.3**	**+0.1**
C17K	**DeLong Mountai**	**6.50**	**31**	P	**Pn**	**10 52 32.0**	**+0.8**
	baz=220						
E18K	**Tukpahlearik C**	**6.50**	**44**	Pn	**Pn**	**10 52 31.8**	**+0.6**
E18K	**Tukpahlearik C**	**6.50**	**44**	P	**Pn**	**10 52 32.0**	**+0.8**
	baz=235						
G18K	**Tagagawik**	**6.51**	**59**		**

L17K Donlin 6.59 93 Pn 10 52 31.8 -0.5
L17K Donlin 6.59 93 P Pn 10 52 32.3 -0.1
baz=285
N15K Kwethluk River 6.60 112 Pn 10 52 31.9 -0.6
N15K Kwethluk River 6.60 112 P Pn 10 52 31.7 -0.8
baz=302
M16K Timber Creek 6.68 103 Pn Pn 10 52 33.2 -0.3
M16K Timber Creek 6.68 103 P Pn 10 52 34.1 +0.6
baz=294,SNR=7.7
O14K Tigyukauivet M 6.68 121 Pn 10 52 29.5 -4.1
O14K Tigyukauivet M 6.68 121 P Pn 10 52 33.1 -0.4
baz=310
GCSA Galena City Sc 7.00 70 Pn 10 52 38.4 +0.4
GCSA Galena City Sc 7.00 70 P Pn 10 52 38.7 +0.7
baz=264
N16K Nishlik Lake 7.01 107 Pn 10 52 37.6 -0.5
N16K Nishlik Lake 7.01 107 P Pn 10 52 38.0 -0.1
baz=298
J18K Innoko River 7.07 81 Pn 10 52 39.5 +0.6
J18K Innoko River 7.07 81 P Pn 10 52 39.9 +1.0
baz=274,SNR=8.4
C18K Utukok River 7.13 35 Pn 10 52 39.7 0.0
C18K Utukok River 7.13 35 P Pn 10 52 40.6 +0.8
baz=225
G19K Purcell Mounta 7.20 59 Pn Pn 10 52 40.4 -0.3
G19K Purcell Mounta 7.20 59 Pb Pb 10 53 02.0 +1.5
baz=252
M17K Holitna River 7.21 98 Pn 10 52 40.6 -0.2
M17K Holitna River 7.21 98 P Pn 10 52 41.2 +0.4
baz=290
O15K Ungalikthiuk R 7.29 118 Pn 10 52 41.9 -0.1
O15K Ungalikthiuk R 7.29 118 P Pn 10 52 41.4 -0.6
baz=308
L18K Granite Mounta 7.29 91 Pn 10 52 41.2 -0.8
L18K Granite Mounta 7.29 91 P Pn 10 52 42.5 +0.5
baz=284
H19K Roundabout Mou 7.30 64 Pn 10 52 41.0 -1.1
H19K Roundabout Mou 7.30 64 P Pn 10 52 42.5 +0.4
baz=258
TTA Tatalina 7.45 85 Pn Pn 10 52 45.0 +0.7
TTA Tatalina 7.45 85 P Pn 10 52 44.6 +0.4
baz=279
B18K Kokolik River 7.51 30 P Pn 10 52 46.1 +1.2
baz=220
J19K Poorman 7.53 76 Pn 10 52 45.1 -0.1
J19K Poorman 7.53 76 P Pn 10 52 45.3 +0.2
baz=271
E19K Redstone River 7.64 49 Pn 10 52 48.5 +1.7
E19K Redstone River 7.64 49 P Pn 10 52 47.5 +0.7
baz=243
N17K Nushagak Hills 7.67 104 Pn 10 52 46.1 -1.1
N17K Nushagak Hills 7.67 104 P Pn 10 52 46.5 -0.8
baz=296
O16K Kokwok River B 7.76 111 Pn 10 52 48.0 -0.4
O16K Kokwok River B 7.76 111 P Pn 10 52 47.3 -1.1
baz=303
C19K Lookout Ridge 7.87 36 Pn Pn 10 52 48.9 -1.0
C19K Lookout Ridge 7.87 36 P Pn 10 52 51.0 +1.1
baz=227
D19K Kuna River 7.89 42 Pn 10 52 51.1 +0.8
D19K Kuna River 7.89 42 P Pn 10 52 51.6 +1.3
baz=234
M18K Stony River 7.90 95 Pn 10 52 50.4 +0.1
M18K Stony River 7.90 95 P Pn 10 52 51.2 +0.8
baz=289
H20K Anotleneega Mo 7.94 65 Pn 10 52 50.5 -0.3
H20K Anotleneega Mo 7.94 65 P Pn 10 52 52.2 +1.3
baz=261
I20K Naaghedeneel 8.04 71 Pn 10 52 50.4 -1.7
I20K Naaghedeneel 8.04 71 P Pn 10 52 52.6 +0.5
baz=266
O17K Koliganek Bris 8.09 108 Pn 10 52 53.0 +0.1
O17K Koliganek Bris 8.09 108 P Pn 10 52 52.8 0.0
baz=301
L19K White Mountain 8.13 89 Pn 10 52 54.7 +1.1
L19K White Mountain 8.13 89 P Pn 10 52 54.1 +0.5
baz=284
SVW2 Sparrevohn 8.15 97 Pn Pn 10 52 52.0 -1.8
J20K Nowinta River 8.17 75 Pn Pn 10 52 53.7 -0.3
J20K Nowinta River 8.17 75 P Pn 10 52 53.9 -0.1
baz=271
N18K Kilae Creek 8.18 101 Pn 10 52 54.4 +0.1
N18K Kilae Creek 8.18 101 P Pn 10 52 54.2 0.0
baz=294
K20K Telida 8.26 81 Pn 10 52 55.4 0.0
K20K Telida 8.26 81 P Pn 10 52 55.3 0.0
baz=276
A19K Wainwright 8.33 28 Pn 10 52 56.4 +0.3
A19K Wainwright 8.33 28 P Pn 10 52 56.6 +0.5
baz=218
E20K Nigu River 8.37 46 Pn 10 52 57.9 +1.1
E20K Nigu River 8.37 46 P Pn 10 52 57.3 +0.5
baz=240
M19K Big River Lodg 8.42 91 Pn 10 52 57.7 +0.3
M19K Big River Lodg 8.42 91 P Pn 10 52 57.9 +0.4
baz=286
D20K Etivluk River 8.47 42 Pn 10 52 58.8 +0.6
D20K Etivluk River 8.47 42 P Pn 10 53 00.2 +2.0
baz=237
IMAR Indian Mountai 8.48 63 Pn Pn 10 52 57.4 -0.9
L20K Farewell, AK 8.50 87 Pn 10 52 57.8 -0.8
L20K Farewell, AK 8.50 87 P Pn 10 52 58.8 +0.2
baz=282
P17K Kvichak River 8.68 110 Pn 10 52 59.7 -1.3
P17K Kvichak River 8.68 110 P Pn 10 53 00.7 -0.3
baz=304
G21K Allakaket 8.69 59 Pn 10 52 59.1 -2.1
N19K Bonanza Creek 8.76 98 Pn Pn 10 53 00.8 -1.4
N19K Bonanza Creek 8.76 98 P Pn 10 53 02.9 +0.7
baz=293
H21K Melozitna Rive 8.82 65 Pn 10 53 02.9 0.0
H21K Melozitna Rive 8.82 65 P Pn 10 53 03.3 +0.4
baz=262
O18K Koktuh Hills 8.87 104 Pn Pn 10 53 02.6 -1.0
O18K Koktuh Hills 8.87 104 P Pn 10 53 02.8 -0.8
baz=299
F21K Alatna River 8.89 55 Pn Pn 10 53 04.6 +0.7
F21K Alatna River 8.89 55 P Pn 10 53 05.4 +1.4
baz=252
CHUM Lake Minchumin 8.99 77 P Pn 10 53 05.2 0.0
baz=274
M20K Styx River 9.00 90 Pn 10 53 08.0 +2.5
M20K Styx River 9.00 90 P Pn 10 53 07.0 +1.6
baz=286
P18K Big Mountain, 9.09 107 Pn Pn 10 53 06.7 0.0
P18K Big Mountain, 9.09 107 P Pn 10 53 07.0 +0.2
baz=301
O19K Port Alsworth 9.10 101 Pn Pn 10 53 07.4 +0.7
O19K Port Alsworth 9.10 101 P Pn 10 53 06.9 +0.2
baz=296
I21K Tanana 9.12 68 Pn Pn 10 53 06.7 -0.3
CAST Castle Rocks 9.14 80 Pn 10 53 07.5 +0.1
CAST Castle Rocks 9.14 80 P Pn 10 53 08.1 +0.8
baz=277
PPLA Purkeypile 9.18 83 P Pn 10 53 09.3 +1.4
baz=280
C21K Knifeblade Rid 9.27 42 P Pn 10 53 11.5 +2.5
baz=238
H22K Ishtalitna Cre 9.43 64 P Pn 10 53 12.8 +1.5
baz=263
Q17K Contact Creek 9.47 114 P Pn 10 53 13.2 +1.3
baz=308
BPAW Bear Paw Mtn. 9.55 75 Pn Pn 10 53 12.3 -0.7
BPAW Bear Paw Mtn. 9.55 75 P Pn 10 53 13.8 +0.8
baz=274
MLY Manley 9.64 69 Pn Pn 10 53 14.1 -0.1
KTH Kantishna Hill 9.64 78 Pn Pn 10 53 14.2 -0.1
SKT Skwentna 9.69 88 Pn Pn 10 53 15.3 +0.3
ILSW Iliamna Southw 9.72 101 Pn Pn 10 53 14.2 -1.2
E22K Anaktuvuk Pass 9.80 51 Pn Pn 10 53 17.4 +1.0
E22K Anaktuvuk Pass 9.80 51 P Pn 10 53 19.5 +3.1
baz=249
D22K Ayikyak River 9.80 46 Pn Pn 10 53 17.5 +1.2
D22K Ayikyak River 9.80 46 P Pn 10 53 20.3 +3.9
baz=244
TRF Thorofare Moun 9.94 79 Pn Pn 10 53 18.6 +0.3
BILL Bilibino 10.02 308 Pn 10 53 18.0 -1.4
Q19K Cape Douglas, 10.03 107 Pn Pn 10 53 20.5 +0.9
G23K Bananza Creek 10.09 60 Pn Pn 10 53 21.2 +0.9
A21K Barrow 10.14 30 P Pn 10 53 20.4 -0.6
baz=224
SUA Susitna One 10.21 90 Pn Pn 10 53 19.7 -2.4
I23K Minto, Yukon-K 10.22 69 Pn Pn 10 53 20.6 -1.5
A22K Sinclair Lake 10.32 33 P Pn 10 53 24.1 +0.8
baz=229
B22K Teshekpuk Lake 10.32 38 Pn 10 53 22.5 -0.9
B22K Teshekpuk Lake 10.32 38 P Pn 10 53 25.4 +2.0
baz=235
NEA2 Nenana 10.36 72 Pn 10 53 22.5 -1.5
NEA2 Nenana 10.36 72 P Pn 10 53 25.2 +1.2
baz=272
MCK McKinley 10.50 77 P Pn 10 53 26.8 +0.9
baz=277
E23K Chandalar 10.56 53 P Pn 10 53 29.9 +3.2
baz=253
WAT1 Susitna Watana 10.83 81 P Pn 10 53 31.7 +1.3
baz=282
H24K Noodor Dome 10.86 65 P Pn 10 53 32.1 +1.2
baz=267
COLA College 10.87 70 P Pn 10 53 32.2 +1.3
baz=272
C23K Itkillik River 10.89 43 Pn 10 53 31.8 +0.6
C23K Itkillik River 10.89 43 P Pn 10 53 33.6 +2.5
baz=243
CCB Clear Creek Bu 10.90 71 Pn 10 53 31.0 -0.4
PMR Palmer 10.90 88 Pn Pn 10 53 31.0 -0.4
E24K Your Creek 10.97 53 P Pn 10 53 35.4 +3.0
baz=255
F24K Squaw Lake 11.06 56 Pn Pn 10 53 35.2 +1.6
F24K Squaw Lake 11.06 56 P Pn 10 53 35.2 +1.6
baz=258
G24K Hadweenzic Riv 11.09 61 Pn Pn 10 53 33.9 -0.1
KDAK Kodiak Island 11.15 110 Pn Pn 10 53 37.5 +2.6
comp=Z,1.2nm,0.3s,baz=326,slow=5.0,SNR=22
KDAK LR LR 10 58 12.4
comp=Z,223nm,19.1s,baz=331,slow=38
comp=Z,2.7nm,0.3s
D24K Happy Valley 11.19 48 Pn 10 53 34.6 -0.7
D24K Happy Valley 11.19 48 P Pn 10 53 35.5 +0.3
baz=249
OHAK Old Harbor 11.21 114 Pn Pn 10 53 33.2 -2.4
IL31 11.29 71 Pn Pn 10 53 36.9 +0.3
ILAR Eielson Array 11.29 71 Pn Pn 10 53 35.5 -1.2
ILAR Eielson Array 11.29 71 Pn Pn 10 53 37.0 +0.3
comp=Z,0.1nm,0.3s,baz=268,slow=13,SNR=9.9
ILAR Sn Sn 10 55 38.6 -4.0
comp=Z,0.1nm,0.3s,baz=257,slow=19,SNR=1.8
comp=Z,0.6nm,0.7s
HDA Harding Lake 11.29 73 Pn Pn 10 53 37.6 +1.0
HDA Harding Lake 11.29 73 P Pn 10 53 38.3 +1.7
baz=275
C24K Franklin Bluff 11.44 45 P Pn 10 53 39.9 +1.2
baz=247
M23K Glacier View 11.47 86 P Pn 10 53 39.3 +0.1
baz=287
SCM Sheep Creek Mo 11.64 85 Pn Pn 10 53 41.9 +0.3
PRP Porcupine Dome 11.83 67 Pn Pn 10 53 44.0 -0.2
PRP Porcupine Dome 11.83 67 P Pn 10 53 43.1 -1.1
baz=271
K24K Donnelly Dome 11.87 75 P Pn 10 53 44.3 -0.4
baz=279
F25K Christian Rive 11.93 57 P Pn 10 53 44.1 -1.4
baz=261
J25K Salcha River, 11.95 71 Pn Pn 10 53 45.0 -0.7
J25K Salcha River, 11.95 71 P Pn 10 53 45.2 -0.6
baz=275
E25K Arctic Village 12.05 54 Pn 10 53 50.0 +2.9
E25K Arctic Village 12.05 54 P Pn 10 53 48.4 +1.4
baz=258
PAX Paxson 12.17 79 P Pn 10 53 49.3 +0.5
baz=283
RIDG Independent Ri 12.29 75 Pn 10 53 53.0 +2.5
RIDG Independent Ri 12.29 75 P Pn 10 53 52.1 +1.7
baz=280
BMAR Burnt Mountain 12.31 58 Pn Pn 10 53 51.1 +0.4
F26K Sheenjek River 12.51 57 P Pn 10 53 54.5 +1.1
baz=262
G26K Porcupine Rive 12.57 60 P Pn 10 53 54.9 +0.8
baz=266
SCRK Sand Creek 12.63 74 Pn Pn 10 53 52.2 -2.9
SCRK Sand Creek 12.63 74 P Pn 10 53 54.4 -0.7
baz=279,SNR=7.4
SHEM Shemya Is, Ala 12.67 220 LR LR 10 58 48.7
comp=Z,107nm,19.7s,baz=140,slow=38
J26L Joseph Creek 12.73 71 Pn 10 53 54.2 -2.3
J26L Joseph Creek 12.73 71 P Pn 10 53 56.3 -0.3
baz=277
C26K Camden Bay 12.74 46 P Pn 10 53 57.2 +0.8
baz=252
I26K Coal Creek Min 12.83 68 Pn Pn 10 53 55.6 -2.1
MENT Mentasta 12.96 78 Pn Pn 10 54 00.8 +1.2
G27K Doyon Strip 13.40 61 P Pn 10 54 04.5 -1.1
baz=269
K27K Chicken 13.45 73 Pn 10 54 06.3 +0.1
K27K Chicken 13.45 73 P Pn 10 54 08.1 +1.9
baz=280
H27K Stanboat Moun 13.46 63 P Pn 10 54 07.5 +1.1
baz=271
E27K Coleen River 13.52 55 Pn 10 54 08.1 +0.9
E27K Coleen River 13.52 55 P Pn 10 54 08.1 +0.9
baz=263
EGAK Eagle 13.73 70 Pn 10 54 09.9 0.0
EGAK Eagle 13.73 70 P Pn 10 54 10.7 +0.7
baz=277
L27K Beaver Creek, 13.76 77 Pn 10 54 11.4 +0.9
L27K Beaver Creek, 13.76 77 P Pn 10 54 10.1 -0.4
baz=245
BCAR Beaver Creek A 13.78 77 Pn Pn 10 54 10.8 0.0
D27M Malcolm River 13.91 51 Pn 10 54 12.7 +0.2
D27M Malcolm River 13.91 51 P Pn 10 54 13.8 +1.3
baz=259
M27K Edge Creek, AK 13.93 80 P Pn 10 54 12.5 -0.4
baz=287
F28M Old Crow 14.13 58 Pn 10 54 16.0 +0.6
F28M Old Crow 14.13 58 P Pn 10 54 16.1 +0.6
baz=267
E28M Babbage River 14.33 54 Pn 10 54 15.1 -3.1
E28M Babbage River 14.33 54 P Pn 10 54 20.1 +1.9
baz=264
BVCY Beaver Creek 14.37 79 P Pn 10 54 20.1 +1.3
baz=287
BARN Barnard Glacie 14.46 85 Pn Pn 10 54 16.8 -3.4
DAWY Dawson 14.60 72 Pn Pn 10 54 20.7 -1.3
DAWY Dawson 14.60 72 P Pn 10 54 23.4 +1.4
baz=281
CTG Chitna Glacier 14.64 85 P Pn 10 54 23.2 +0.5
baz=292
H29M Whitestone 14.74 63 Pn Pn 10 54 23.0 -0.8
H29M Whitestone 14.74 63 P Pn 10 54 23.6 -0.2
baz=274
YUK3 Moose Creek 14.75 81 P Pn 10 54 25.8 +1.6
baz=289
G29M Pine Creek 14.84 60 P Pn 10 54 26.6 +1.4
baz=272
E29M Blow River 14.91 55 Pn 10 54 27.1 +1.0
E29M Blow River 14.91 55 P Pn 10 54 26.2 +0.1
baz=266
EPYK Eagle Plains 15.39 62 P Pn 10 54 33.2 +0.7
baz=275
G30M tAoh Zraii Nji 15.54 60 P Pn 10 54 35.8 +1.3
baz=273
F30M Barrier River 15.69 58 P Pn 10 54 37.9 +1.5
baz=271
SEY Seymchan 15.84 285 Pn Pn 10 54 37.4 -0.9
comp=Z,0.1nm,0.3s,baz=158,slow=23,SNR=2.2
SEY LR LR 11 00 35.6
comp=Z,125nm,19.5s,baz=110,slow=38
G31M Satah River 16.32 60 P P 10 54 46.8 -0.6
baz=275
F31M Tsiigehtchic 16.48 58 P 10 54 48.9 -0.2
F31M IAmb IAmb 10 54 57.2
comp=Z,14nm,1.2s
F31M Tsiigehtchic 16.48 58 P Pn 10 54 45.9 -0.6
baz=273
INK Inuvik 16.53 55 P 10 54 50.1 +0.4
INK IAmb IAmb 10 54 58.4
comp=Z,17nm,1.1s
INK Inuvik 16.53 55 P P 10 54 48.4 -1.3
baz=271,SNR=17
INK Inuvik 16.53 55 Pn P 10 54 49.2 -0.5
comp=Z,0.1nm,0.3s,baz=264,slow=12,SNR=26
comp=Z,7.6nm,0.9s
N31M Braeburn, Yuko 16.94 79 P 10 54 53.9 -0.5
N31M IAmb IAmb 10 55 15.2
comp=Z,18nm,1.1s
A36M Sachs Harbour 19.43 43 P Pn 10 55 24.0 +1.2
A36M IAmb IAmb 10 55 27.8
comp=Z,11nm,0.8s
A36M Sachs Harbour 19.43 43 P Pn 10 55 23.4 +0.6
baz=267
C36M Paulatuk 19.90 51 Pn 10 53 28.7 +0.3
C36M Paulatuk 19.90 51 P P 10 55 26.3 -0.4
baz=276
R33M Jennings River 20.00 82 P P 10 55 26.6 -1.4
baz=298
KOTAN Kotaneelee Air 22.71 76 P P 10 55 56.2 -0.9
baz=298
YKA Yellowknife Ar 25.63 65 P P 10 56 25.8 +1.1
YKA Yellowknife Ar 25.63 65 P P 10 56 27.0 +2.2
comp=Z,0.7nm,0.9s,baz=297,slow=8.9,SNR=8.2
comp=Z,0.7nm,0.9s
KLR Kul'dur 32.86 272 LR LR 11 10 36.4
comp=Z,77nm,18.3s,baz=355,slow=36
NEW Newport 33.31 90 LR LR 11 12 16.7
comp=Z,164nm,19.2s,baz=5.0,slow=38
ELK Elko 39.98 96 LR LR 11 16 41.7
comp=Z,107nm,19.0s,baz=33,slow=38
NVAR Mina Array Bea 40.49 102 P P 10 58 37.7 +3.2
comp=Z,0.4nm,0.6s,baz=300,slow=5.3,SNR=4.9
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 40.94 89 P P 10 58 39.7 +1.6
comp=Z,0.2nm,0.5s,baz=325,slow=4.6,SNR=2.2
comp=Z,0.2nm,0.5s
SRU San Rafael Swe 43.43 94 P P 10 58 59.4 +1.0
KSRS Korea Array 43.79 263 LR LR 11 17 01.8
comp=Z,47nm,18.0s,baz=5.0,slow=36
SONM Songino Array 45.14 290 P P 10 59 08.3 -3.6
comp=Z,0.4nm,0.4s,baz=64,slow=9.8,SNR=1.4
SONM LR LR 11 17 59.0
comp=Z,139nm,19.8s,baz=2.0,slow=36
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 46.94 351 P P 10 59 24.4 -1.3
comp=Z,3.2nm,0.8s,baz=358,slow=14,SNR=1.8
comp=Z,3.2nm,0.8s
HHC Hu-ho-hao-te 48.41 280 eP P 10 59 37.8 +0.2
HHC eS S 11 06 34.0 -3.9
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,250nm,6.4s
KIRV Kirov 54.38 335 LR LR 11 26 52.7
comp=Z,178nm,19.0s,baz=307,slow=40
TXAR Lajitas Array 54.69 94 P P 11 00 27.3 +2.6
comp=Z,0.4nm,0.5s,baz=347,slow=7.5,SNR=2.0
comp=Z,0.4nm,0.5s
FINES FINESS Array B 54.89 349 P P 11 00 26.0 +0.5
comp=Z,1.1nm,0.4s,baz=19,slow=6.5,SNR=11
FINES LR LR 11 25 15.8
comp=Z,149nm,18.1s,baz=256,slow=38
comp=Z,1.1nm,0.4s
WMQ Urumqi 56.04 301 eP P 11 00 36.5 +2.3
HFS Hagfors 56.90 356 P P 11 00 39.6 -0.4
comp=Z,1.7nm,0.6s,baz=354,slow=2.9,SNR=1.4
comp=Z,1.7nm,0.6s
PZH PanZhiHua 64.85 279 P P 11 01 35.8 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
AKASG Malin Array Be 65.17 345 P P 11 01 36.0 -0.2
comp=Z,1.9nm,0.8s,baz=14,slow=6.0,SNR=2.0
comp=Z,1.9nm,0.8s
CMAR Chiang Mai Arr 73.10 277 P P 11 02 24.7 -1.2
comp=Z,0.4nm,0.4s,baz=349,slow=7.6,SNR=3.1
comp=Z,0.4nm,0.4s
QSPA South Pole Qui 152.99 180 PKPbc PKiKP 11 10 51.2 -0.3
comp=Z,1.6nm,0.9s,baz=66,slow=1.1,SNR=3.9

IDC 16 10:52:29.3±11.0, 19.84S×177.80W, h557km±134km, mb2.9/4, mbtmp3.8/4, Error ellipse: s-maj=42.7km s-min=36.3km az=88.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ASAR	Alice Springs	44.85	256	P	P	10 59 54.9	+0.2
	1.3nm,0.6s,baz=93,slow=7.5,SNR=23						
ASAR				PcP	PcP	11 01 23.8	-0.6
	0.2nm,0.5s,baz=102,slow=3.9,SNR=1.9						
	1.3nm,0.6s						
WRA	Warramunga Arr	44.88	261	P	P	10 59 54.4	-0.5
	0.4nm,0.3s,baz=97,slow=7.6,SNR=25						
	0.4nm,0.3s						
QSPA	South Pole Qui	70.22	180	P	P	11 02 46.4	0.0
	1.4nm,0.8s,baz=48,slow=0.7,SNR=8.5						
	1.4nm,0.8s						
NVAR	Mina Array Bea	80.42	43	P	P	11 03 43.8	+0.1
	0.2nm,0.5s,baz=224,slow=5.0,SNR=1.9						
	0.2nm,0.5s						

*IDC **16** 11:05:27.9±2.4, 33.59N×141.22E, h47km±21km, mb3.6/9, mbtmp3.9/13, ML3.6/4, Error ellipse: s-maj=22.4km s-min=10.2km az=100.0*
*NIED **16** 11:05:28.7, 33.63N×141.11E, h67km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_rr0.77; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-0.96; $M_{r\theta}$-0.15; $M_{\theta\phi}$-0.12; $M_{r\phi}$0.66; Fault plane solution: $M_0$1.11000×10^{15} NP1: ϕ_s353.00000°, δ64.00000°, λ76.00000°. NP2: ϕ_s202.00000°, δ29.00000°, λ116.00000°.*
*JMA **16** 11:05:28.7±0.2, 33.6N±0.4×141.1E±1.0, h67km±3km, MV4.0/38, E OFF HACHIJOJIMA ISLAND*
ISC 16 11:05:28.3±1.3, 33.59N±0.04×141.20E±0.08, h54km±12km, n52, σ0.99/57, mb4.0/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BSO1	Boso 1	1.08	350	P	Pn	11 05 47.5	+0.9
BSO1				S	Sn	11 06 01.8	+1.4
JHJ2	Mitsune	1.25	248	P	Pn	11 05 50.1	+0.6
JHJ2	Mitsune	1.25	248	P	Pn	11 05 50.0	+0.6
JHJ2				S	Sn	11 06 05.7	+0.4
JHJ2	Mitsune	1.25	248	A	A	11 05 50.0	
	comp=E,15nm,0.5s,comp=N,13nm,0.2s						
JHJ	Hachijo jima 2	1.27	249	P	Pn	11 05 50.0	+0.2
	comp=N,3μm,0.3s,baz=327,slow=15,SNR=2474						
JHJ				S	Sn	11 06 04.9	-0.9
	comp=N,6μm,0.3s,baz=71,slow=23,SNR=33						
JHCJ	Hachijojimakas	1.28	247	*i* P	Pn	11 05 50.3	+0.4
JHCJ				*e*S	Sn	11 06 05.5	-0.5
BSO3	Boso 3	1.34	335	*i* P	Pn	11 05 51.2	+0.8
JMKN	Mikurajimanish	1.38	283	*i* P	Pn	11 05 51.4	+0.2
JMKN				*e*S	Sn	11 06 08.3	+0.1
JMYK	Miyake Tsubota	1.45	289	*i* P	Pn	11 05 52.4	+0.2
BSO4	Boso 4	1.57	333	P	Pn	11 05 54.5	+0.8
JAOM	Aogashimamukai	1.65	228	P	Pn	11 05 55.2	+0.3
JAOM				*e*S	Sn	11 06 15.2	+0.3
JIM2	Oshima 3	1.85	308	P	Pn	11 05 57.5	-0.2
JIM2				S	Sn	11 06 18.6	-1.3
JIZS	Izushimoda	2.23	301	P	Pn	11 06 03.3	+0.5
JIZS				*e*S	Sn	11 06 28.7	-0.5
JOD2	Odawara 2	2.42	314	*i* P	Pn	11 06 05.5	+0.1
JOD2				S	Sn	11 06 32.1	-1.7
JFNN	Fujinakano	2.62	308	P	Pn	11 06 09.2	+1.0
JFNN				S	Sn	11 06 38.6	-0.2
JSG	Sagara	2.73	294	P	Pn	11 06 11.2	+1.6
TK04	Tokai 4	2.88	287	P	Pn	11 06 13.0	+1.5
TK02	Tokai 2	2.89	278	P	Pn	11 06 12.8	+1.2
JYN	Shimob	2.90	312	P	Pn	11 06 12.9	+0.8
JRY	Ryogami san	3.07	323	*i* P	Pn	11 06 14.7	+0.3
JRY				*e*S	Sn	11 06 49.7	-0.2
JAG	Ashikaga	3.17	334	*i* P	Pn	11 06 16.1	+0.4
MJAR	Matsushiro Arr	3.83	321	P	Pn	11 06 25.9	+1.1
	comp=N,5.2nm,0.3s,baz=194,slow=22,SNR=196						
MJAR				S	Sn	11 07 06.9	-1.7
	comp=N,18nm,0.5s,baz=137,slow=14,SNR=1.4						
	comp=N,45nm,0.5s						
MAJO	Matsushiro	3.84	321	P	Pn	11 06 26.4	+1.6
INU	Inuyama	3.88	298	P	Pn	11 06 27.1	+1.8
JMM	Marumori	4.28	356	P	Pn	11 06 30.9	0.0
JMN	Monobe	6.11	273	P	Pn	11 06 57.8	+1.8
JCJ	Chichijima	6.53	172	P	Pn	11 07 00.8	-0.9
JCJ	Chichijima	6.53	172	P	Pn	11 06 56.5	-5.2
	comp=N,52nm,0.4s,baz=11,slow=18,SNR=17						
JCJ				S	Sn	11 08 04.8	-10
	comp=N,88nm,0.4s,baz=292,slow=23,SNR=8.0						
JTM	Tenmabayashi	7.19	359	P	Pn	11 07 11.2	+0.5
ERM	Erimo	8.55	10	P	Pn	11 07 30.5	+1.1
JNU	Nakatsue	8.65	270	P	Pn	11 07 33.1	+2.3
JNU	Nakatsue	8.65	270	P	Pn	11 07 30.9	+0.1
	comp=N,0.7nm,0.3s,baz=90,slow=4.0,SNR=6.0						
	comp=N,7.3nm,0.8s						
ASAJ	Asahikawa	10.57	5	P	Pn	11 07 55.8	-1.2
	comp=N,0.8nm,0.3s,baz=209,slow=14,SNR=4.8						
	comp=N,2.2nm,0.3s						
KSRS	Korea Array	11.48	293	P	Pn	11 08 10.2	+0.7

comp=N,0.2nm,0.3s,baz=104,slow=14,SNR=6.1
comp=N,1.8nm,0.7s

KLR	Kul'dur	17.14 339	P		Pn	11 09 21.7	-2.2
	comp=N,1.0nm,0.4s,baz=176,slow=14,SNR=5.4						
H11N2	WAKE ISLAND Hy 26.70 115		T		T	11 39 57.8	
	baz=306,slow=75,SNR=17						
H11N1	WAKE ISLAND Hy 26.71 115		T		T	11 40 02.2	
	baz=306,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy 26.72 115		T		T	11 39 59.5	
	baz=306,slow=75,SNR=20						
H11S3	WAKE ISLAND Hy 27.29 117		T		T	11 40 45.9	
	baz=308,slow=74,SNR=3.5						
H11S1	WAKE ISLAND Hy 27.29 117		T		T	11 40 50.1	
	baz=308,slow=74,SNR=2.8						
H11S2	WAKE ISLAND Hy 27.31 117		T		T	11 40 47.5	
	baz=308						
SONM	Songino Array	29.69 309	P		P	11 11 30.5	+1.4
	comp=N,1.0nm,0.7s,baz=115,slow=9.1,SNR=5.0						
	comp=N,1.0nm,0.7s						
ZALV	Zalesovo Beam	44.17 315	PcP		PcP	11 15 15.2	-0.3
	comp=N,0.7nm,0.8s,baz=90,slow=1.4,SNR=3.5						
MKAR	Makanchi Array	45.87 305	P		P	11 13 45.8	+0.5
	comp=N,0.5nm,0.6s,baz=85,slow=10,SNR=5.2						
	comp=N,0.5nm,0.6s						
KURBB	Kurchatov Arra	48.04 310	P		P	11 14 01.5	-0.5
	comp=N,0.7nm,0.4s,baz=87,slow=7.6,SNR=6.8						
	comp=N,0.7nm,0.4s						
ILAR	Eielson Array	52.51 31	P		P	11 14 35.1	-0.6
	comp=N,0.4nm,0.8s,baz=279,slow=6.3,SNR=2.3						
	comp=N,0.4nm,0.8s						
BVAR	Borovoye Array	52.80 314	P		P	11 14 38.5	+0.6
	comp=N,0.4nm,0.4s,baz=81,slow=8.9,SNR=2.4						
	comp=N,0.4nm,0.4s						
WRA	Warramunga Arr	53.63 188	P		P	11 14 44.2	-0.1
	comp=N,7.1nm,0.5s,baz=4.2,slow=7.5,SNR=136						
ASAR	Alice Springs	57.36 188	P		P	11 15 11.1	0.0
	comp=N,1.4nm,0.4s,baz=5.1,slow=6.8,SNR=46						
ASAR			PcP		PcP	11 16 05.8	+1.3
	comp=N,0.7nm,0.5s,baz=5.1,slow=3.8,SNR=4.5						
	comp=N,1.4nm,0.4s						
STKA	Stephens Creek	65.12 180	P		P	11 16 03.0	-0.4
	comp=N,1.1nm,0.4s,baz=338,slow=10,SNR=3.2						
	comp=N,1.1nm,0.4s						
HFS	Hagfors	77.15 336	P		P	11 17 16.2	+0.3
	comp=N,2.4nm,0.7s,baz=98,slow=7.4,SNR=3.6						
	comp=N,2.4nm,0.7s						
NOA	NORSAR Array B	77.29 338	P		P	11 17 17.1	+0.3
	comp=N,1.1nm,0.8s,baz=341,slow=20,SNR=3.2						
	comp=N,1.1nm,0.8s						

IDC 16 11:07:56.7±765.0, 52.97N×33.69E, h0km, Error ellipse: s-maj=310.6km s-min=98.1km az=34.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.28	27	I	I	11 31 00.0	
	0.3nm,0.6s,baz=209,slow=326,SNR=3.8						
I31KZ	AKTYUBINSK INF	15.29	90	I	I	12 42 20.0	
	baz=286,slow=311,SNR=1.6						
I46RU	ZALESOVO INFRA	29.92	67	I	I	14 14 10.0	
	baz=284,slow=322,SNR=5.5						

NOU 16 11:09:38.0, 21.83S×170.21E, h0km, MLv3.7/10, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.06	279	P	Pn	11 10 12.9	-0.9
PINNC	Pines Island,	2.68	253	P	Pn	11 10 22.6	+0.2
LIFNC	LIFOU	2.96	290	P	Pn	11 10 26.4	+0.1
YATNC	Mamie plateau,	3.09	265	P	Pn	11 10 27.7	-0.4
OUENC	Ouen Island, N	3.18	259	P	Pn	11 10 29.2	-0.1
DZM	Mont Dzumac	3.50	265	P	Pn	11 10 33.7	-0.2
ONTNC	Ouen Toro	3.52	262	P	Pn	11 10 33.8	-0.1
NOUC	Port Laguerre	3.64	265	P	Pn	11 10 35.4	-0.2
KOUNC	Koumac, New Ca	5.67	282	P	Pn	11 11 04.4	+0.8

*NEIC **16** 11:12:31.4±1.3,5.50N×0.07×123.7E±0.2, h517km±10km, mb4.1/20, Error ellipse: s-maj=26.7km s-min=9.4km az=80.0*
*IDC **16** 11:12:37.1±6.2,5.31N×123.52E, h612km±92km, mb3.2/7, mbtmp4.3/7, Error ellipse: s-maj=97.7km s-min=14.0km az=55.0*

ISC 16 11:12:32.6±0.7, 5.4N±0.1×123.5E±0.2, h551km, n32, σ1§18/36, mb4.0/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	Tolitoli	5.03	213	P	P	11 14 00.0	-2.8
LUWI	Luwuk	6.40	187	P	P	11 14 12.8	-2.3
KKM	Kota Kinabalu	7.30	276	P	P	11 14 24.5	+0.8
TPUB	Ta-pu	18.05	351	P	P	11 16 10.1	-0.9
MTN	Manton Dam	19.60	157	P	P	11 16 26.1	+0.9
MTN				IAmb	IAmb	11 16 43.1	
	comp=Z,9.1nm,1.1s						
FITZ	Fitzroy Crossi	23.40	175	P	P	11 16 59.8	+0.5
FITZ				IAmb	IAmb	11 17 11.3	
	comp=Z,2.8nm,1.5s						
WB0	Warramunga Arr	27.16	157	P	P	11 17 33.0	+0.5
WB0				IAmb	IAmb	11 17 33.4	
	comp=Z,3.8nm,0.6s						
CMAR	Chiang Mai Arr	27.29	301	P	P	11 17 34.9	+1.2
	comp=Z,0.8nm,0.3s,baz=105,slow=6.2,SNR=5.2						
	comp=Z,0.8nm,0.3s						
WRA	Warramunga Arr	27.30	157	P	P	11 17 33.0	-0.7
WRA	Warramunga Arr	27.30	157	P	P	11 17 33.9	+0.2
	comp=Z,3.5nm,0.5s,baz=337,slow=9.3,SNR=37						
	comp=Z,3.5nm,0.5s						
WB2	Warramunga Arr	27.31	157	P	P	11 17 34.2	+0.5
COEN	Coen	27.36	135	P	P	11 17 34.1	-0.2
COEN				IAmb	IAmb	11 18 02.1	
	comp=Z,11nm,1.1s						
WR0	Warramunga Arr	27.39	157	P	P	11 17 34.9	+0.4
WR0				IAmb	IAmb	11 17 43.4	
	comp=Z,7.6nm,1.5s						
AS31	Alice Springs	30.58	161	P	P	11 18 03.2	+1.1
AS31				IAmb	IAmb	11 18 03.6	
	comp=Z,1.2nm,0.5s						
ASAR	Alice Springs	30.58	161	P	P	11 18 03.0	+0.9
ASAR	Alice Springs	30.58	161	P	P	11 18 03.1	+1.0
	comp=Z,2.0nm,0.3s,baz=340,slow=7.2,SNR=51						
	comp=Z,2.0nm,0.3s						
MORW	Morawa	34.98	191	P	P	11 18 39.1	0.0
MORW				IAmb	IAmb	11 19 22.0	
	comp=Z,12nm,1.1s						
FORT	Forrest	36.20	173	P	P	11 18 50.3	+1.1
BBOO	Buckleboo	39.78	163	P	P	11 19 19.6	+1.2
STKA	Stephens Creek	40.84	156	P	P	11 19 28.1	+1.3
STKA	Stephens Creek	40.84	156	P	P	11 19 27.7	+0.9
	comp=Z,1.4nm,0.3s,baz=332,slow=7.8,SNR=9.1						
	comp=Z,1.4nm,0.3s						
CAN	Canberra	47.03	151	P	P	11 20 15.4	+0.7
MK31	Makanchi Array	54.41	326	P	P	11 21 09.4	+1.1
MK31				PcP	PcP	11 22 03.2	-0.1
MKAR	Makanchi Array	54.41	326	P	P	11 21 09.2	+0.9
MKAR				PcP	PcP	11 22 02.9	-0.4
MKAR	Makanchi Array	54.41	326	P	P	11 21 09.2	+0.9
	comp=Z,1.8nm,0.4s,baz=121,slow=7.9,SNR=38						
MKAR				PcP	PcP	11 22 01.4	-2.0
	comp=Z,0.6nm,0.7s,baz=115,slow=5.7,SNR=4.6						
	comp=Z,1.8nm,0.4s						
MAKZ	Makanchi	54.60	326	P	P	11 21 10.3	+0.8
MAKZ				PcP	PcP	11 22 01.4	-2.6
BOOM	Boomskoye usch	56.00	319	P	P	11 21 21.2	+1.7
BOOM				IAmb	IAmb	11 21 33.7	
	comp=Z,16nm,1.4s						
KURBB	Kurchatov Arra	58.66	328	P	P	11 21 37.4	+0.1
	comp=Z,2.1nm,0.6s,baz=130,slow=6.3,SNR=22						
	comp=Z,2.1nm,0.6s						
KURK	Kurchatov	58.67	328	P	P	11 21 38.1	+0.8
KURK				IAmb	IAmb	11 21 38.5	
	comp=Z,4.0nm,0.6s						
KKAR	Karatay Array	59.87	317	P	P	11 21 46.1	+0.5
NRIK	Noril'sk	68.11	347	P	P	11 22 36.8	-0.6
	comp=Z,1.5nm,0.5s,baz=190,slow=12,SNR=3.6						
	comp=Z,1.5nm,0.5s						
ABKAR	Akbulak array	68.88	321	P	P	11 22 41.9	-0.5

*NDI **16** 11:23:02.2±1.3,24.70N×94.85E, h120km±9km, ML4.1, mb4.0(NEIC)*

*NEIC **16** 11:23:02.3±2.2,24.58N±0.04×94.9E±0.1, h101km±8km, mb4.0/15, Error ellipse: s-maj=13.3km s-min=6.2km az=83.0*
*IDC **16** 11:23:04.5±3.1,24.53N×95.27E, h144km±30km, mb3.7/10, mbtmp4.1/11, MS3.7/1, Error ellipse: s-maj=51.7km s-min=11.8km az=60.0*

ISC 16 11:23:01.2±0.9, 24.64N±0.05×95.00E±0.07, h101km±9km, n45, σ1§55/51, mb4.0/19, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.98	281	*i* Pg	Pn	11 23 22.4	+0.8
IMP				*i* Sg	Sn	11 23 37.3	+0.4
KOHI	KOHIMA	1.34	323	eP	Pn	11 23 26.4	+0.6
KOHI				eS	Sn	11 23 44.4	-0.1
KOHI				IAML		11 23 49.7	
	comp=N,1μm,0.3s						
KOHI				IAML		11 23 49.8	
	comp=E,1μm,0.1s						
SILR	SILCHAR	2.00	274	eP	Pn	11 23 34.6	+0.7
SILR				ex	x	11 24 00.5	
JORH	JORHAT	2.20	342	ex	Pn	11 23 30.5	-5.9
JORH				eS	Sn	11 24 02.9	-0.4
ITAN	ITANAGAR	2.75	335	eP	Pn	11 23 43.5	-0.1
ITAN				eS	Sn	11 24 14.4	-1.8
TEZP	TEZPUR	2.80	315	eP	Pn	11 23 43.6	-0.7
TEZP				eS	Sn	11 24 14.1	-3.3
TEZP				IAML		11 24 15.3	
	comp=N,3μm,0.2s						
TEZP				IAML		11 24 15.7	
	comp=E,4μm,0.1s						
MND	Mandalay	2.81	158	Pn	Pn	11 23 43.8	-0.7
SAIH	SAIHA	2.83	221	eP	Pn	11 23 45.1	+0.3
SAIH				eS	Sn	11 24 18.4	-0.1
SHL	Shillong	2.97	289	eP	Pn	11 23 46.0	-0.8
SHL				eS	Sn	11 24 18.9	-3.0
ZIRO	ZIRO	3.05	340	eP	Pn	11 23 47.7	-0.2
ZIRO				eS	Sn	11 24 20.8	-3.0
LSA	Lhasa	6.09	327	Pn	Pn	11 24 29.9	+0.6
CRAI	Chiangrai	6.63	130	Pn	Pn	11 24 37.6	+1.4
CHTO	Chiang Mai	6.86	147	Pn	Pn	11 24 40.5	+1.2
CMAR	Chiang Mai Arr	7.16	148	P	Pn	11 24 44.2	+0.8
	comp=E,4.9nm,0.8s,baz=323,slow=14,SNR=37						
GOMU	GeErMu	11.52	359	P	Pn	11 25 40.3	-2.5
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTA	Gaotai	15.28	14	eP	P	11 26 34.3	+0.3
GTA				sP	Pn	11 26 40.3	+8.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TARG	Taragay, Kyrgy	22.23	324	P	P	11 27 51.4	+1.3
TARG				IAmb	IAmb	11 28 14.7	
	comp=Z,3.9nm,0.9s						
BOOM	Boomskoye usch	23.76	323	P	P	11 28 05.6	+1.1
BOOM				IAmb	IAmb	11 28 30.3	
	comp=Z,17nm,1.2s						
YULB	Yu-li	24.04	88	P	P	11 28 08.9	+1.9
MK31	Makanchi Array	24.33	338	P	P	11 28 11.1	+1.6
MK31				IAmb	IAmb	11 28 11.5	
	comp=Z,6.5nm,0.7s						
MKAR	Makanchi Array	24.33	338	P	P	11 28 11.1	+1.6
MKAR	Makanchi Array	24.33	338	P	P	11 28 10.8	+1.4
	comp=Z,9.0nm,0.5s,baz=152,slow=9.3,SNR=117						
	comp=Z,9.0nm,0.5s						
MAKZ	Makanchi	24.45	338	P	P	11 28 12.1	+1.6
MAKZ				IAmb	IAmb	11 28 14.0	
	comp=Z,5.5nm,0.8s						
SONM	Songino Array	24.85	18	P	P	11 28 15.6	+1.4
SONM	Songino Array	24.85	18	P	P	11 28 13.7	-0.5
	comp=Z,1.1nm,0.7s,baz=205,slow=8.9,SNR=4.8						
	comp=Z,1.1nm,0.7s						
KURBB	Kurchatov Arra	28.90	338	P	P	11 28 50.9	+0.6
	comp=Z,1.3nm,0.6s,baz=147,slow=9.2,SNR=13						
KURBB				PcP	PcP	11 31 54.2	-2.9
	comp=Z,0.2nm,0.6s,baz=130,slow=3.7,SNR=1.7						
	comp=Z,1.3nm,0.6s						
KURK	Kurchatov	28.95	338	P	P	11 28 51.9	+1.2
KURK				IAmb	IAmb	11 28 52.6	
	comp=Z,2.1nm,0.8s						
ZALV	Zalesovo Beam	30.25	348	P	P	11 29 03.6	+1.4
	comp=Z,0.5nm,0.4s,baz=163,slow=5.4,SNR=2.4						
	comp=Z,0.5nm,0.4s						
BVAR	Borovoye Array	33.88	333	P	P	11 29 34.7	+0.6
	comp=Z,1.3nm,0.5s,baz=130,slow=10,SNR=7.1						
	comp=Z,1.3nm,0.5s						
ABKAR	Akbulak array	36.75	321	P	P	11 30 00.3	+1.6
ABKAR				IAmb	IAmb	11 30 00.6	
	comp=Z,3.5nm,0.9s						
JHJ	Hachijo jima 2	39.87	67	LR	LR	11 46 17.0	
	comp=Z,90nm,19.4s,baz=54,slow=35						
KNRA	Kununurra	51.88	137	P	P	11 31 58.4	-1.1
WB0	Warramunga Arr	58.47	135	P	P	11 32 45.0	-2.0
WB0				IAmb	IAmb	11 33 12.8	
	comp=Z,3.7nm,1.2s						
WRA	Warramunga Arr	58.57	136	P	P	11 32 42.9	-4.7
	comp=Z,0.6nm,0.4s,baz=322,slow=7.5,SNR=32						
	comp=Z,0.6nm,0.4s						
WB2	Warramunga Arr	58.57	136	P	P	11 32 43.3	-4.3
FINES	FINESS Array B	58.61	328	P	P	11 32 46.8	-0.5
FINES	FINESS Array B	58.61	328	P	P	11 32 47.2	-0.1
	comp=Z,4.6nm,1.0s,baz=83,slow=12,SNR=1.7						
	comp=Z,4.6nm,1.0s						
ARCES	ARCESS Array B	59.98	338	P	P	11 32 58.5	+1.8
ARCES	ARCESS Array B	59.98	338	P	P	11 32 58.1	+1.5
	comp=Z,3.7nm,1.0s,baz=112,slow=6.9,SNR=1.2						
	comp=Z,3.7nm,1.0s						
AS31	Alice Springs	61.07	139	P	P	11 33 03.6	-1.0
AS31				IAmb	IAmb	11 33 04.4	
	comp=Z,0.6nm,0.8s						
ASAR	Alice Springs	61.07	139	P	P	11 33 03.3	-1.4
	comp=Z,0.9nm,0.5s,baz=315,slow=6.7,SNR=22						
	comp=Z,0.9nm,0.5s						
HFS	Hagfors	64.67	327	P	P	11 33 27.8	-0.2
	comp=Z,3.0nm,0.7s,baz=153,slow=4.6,SNR=4.1						
	comp=Z,3.0nm,0.7s						
B22K	Teshekpuk Lake	73.93	19	P	P	11 34 24.7	-0.2
MLY	Manley	77.48	23	P	P	11 34 46.0	+0.6
I23K	Minto, Yukon-K	77.92	23	P	P	11 34 48.4	+0.8
I23K				IAmb	IAmb	11 35 14.8	
	comp=Z,1.3nm,1.1s						

*NOU **16** 12:13:00.3,22.64S×179.31E, h591km, mb4.5/53, South of Fiji Islands*
*NEIC **16** 12:13:00.1±1.8,22.75S±0.1×179.3E±0.1, h579km±10km, mb4.4/31, Error ellipse: s-maj=18.0km s-min=15.4km az=116.0*
*IDC **16** 12:13:01.3±1.5,22.72S×179.00E, h582km±17km, mb3.4/13, mbtmp4.3/14, Error ellipse: s-maj=17.2km s-min=11.8km az=159.0*

ISC 16 12:13:01.2±0.4, 22.80S±0.06×179.23E±0.07, h600km, n129, σ1§67/140, mb4.3/30, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	Taveuni	6.11	8	P	P	12 14 42.2	-1.3
YSA	Yasawairara	6.26	345	P	P	12 14 42.8	-2.0
DGTI	Dogotuki	6.48	4	P	P	12 14 45.0	-1.7
RAO	Raoul Island	6.92	159	P	P	12 14 47.5	-2.9
GLKZ	Green Lake	6.93	159	P	P	12 14 51.2	+0.8
GLKZ				S	S	12 16 16.4	-3.5
MARNC	Mare, Loyalty	10.46	275	P	P	12 15 23.7	-0.9
MARNC	Mare, Loyalty	10.46	275	P	P	12 15 23.6	-1.0
NIUE	Niue	10.78	72	P	P	12 15 27.0	-0.9
PINNC	Pines Island,	10.88	269	P	P	12 15 28.3	-0.5
LIFNC	LIFOU	11.32	278	P	P	12 15 31.2	-2.0
LIFNC	LIFOU	11.32	278	P	P	12 15 31.2	-2.0
YATNC	Mamie plateau,	11.44	271	P	P	12 15 33.7	-0.7
OUENC	Ouen Island, N	11.45	269	P	P	12 15 33.5	-1.1
ONTNC	Ouen Toro	11.82	270	P	P	12 15 37.1	-1.1
DZM	Mont Dzumac	11.85	271	P	P	12 15 37.4	-1.2
DZM	Mont Dzumac	11.85	271	P	P	12 15 37.2	-1.4
DZM	Mont Dzumac	11.85	271	P	P	12 15 35.8	-2.9
	9.2nm,0.7s,baz=86,slow=15,SNR=7.8						
AFI	Afiamalu	12.28	46	P	P	12 15 38.7	-4.3
OUZ	Omahuta	13.32	200	P	P	12 15 54.4	+1.3
KOUNC	Koumac, New Ca	14.07	276	P	P	12 15 60.0	-0.9
KOUNC	Koumac, New Ca	14.07	276	P	P	12 15 59.8	-1.1
FUNA	Funafuti	14.19	360	P	P	12 15 59.8	-2.3
KUZ	Kuaotunu	14.23	192	P	P	12 16 02.4	+0.3
KUZ	Kuaotunu	14.23	192	P	P	12 16 02.1	0.0
WIAZ	Waiheke Island	14.39	193	P	P	12 16 04.5	+0.9
ETAZ	East Tamaki Re	14.59	194	P	P	12 16 06.6	+1.1
MKAZ	Moumakai	14.69	193	P	P	12 16 07.1	+0.8
MXZ	Matakaoa Point	14.74	183	P	P	12 16 07.7	+0.9
MXZ	Matakaoa Point	14.74	183	P	P	12 16 03.0	-3.8
MXZ				S	S	12 18 35.7	-2.6
RUGZ	Raukumara Rang	15.18	185	P	P	12 16 08.1	-2.9
RUGZ				S	S	12 18 41.7	-4.1
TOZ	Tahuroa Road	15.23	191	P	P	12 16 11.9	+0.7
TOZ				IAmb	IAmb	12 16 16.2	
	comp=Z,29nm,0.8s						
TOZ	Tahuroa Road	15.23	191	P	P	12 16 12.3	+1.0
PUZ	Puketiti	15.25	183	S	S	12 18 42.2	-4.6
TWGZ	Tauwhareparae	15.37	184	P	P	12 16 09.9	-2.7
TWGZ				S	S	12 18 47.3	-1.5
URZ	Urewera	15.52	186	P	P	12 16 10.6	-3.3
	comp=Z,17nm,0.4s,baz=350,slow=2.9,SNR=26						
URZ				S	S	12 18 46.2	-4.9
	comp=Z,14nm,1.0s,baz=70,slow=14,SNR=2.1						
URZ	Urewera	15.52	186	P	P	12 16 10.7	-3.3
URZ				S	S	12 18 46.2	-4.9
TKGZ	Te Karaka	15.64	184	P	P	12 16 13.8	-1.3
TKGZ				S	S	12 18 49.6	-3.4
CNGZ	Carnagh Statio	15.66	183	P	P	12 16 14.0	-1.3
CNGZ				S	S	12 18 55.4	+1.9
HIZ	Hauiti	16.11	192	P	P	12 16 20.9	+1.5
QRZ	Quartz Range	18.84	196	P	P	12 16 45.3	+1.0
SNZO	South Karori	18.85	191	P	P	12 16 44.5	+0.2
INZ	Inchbonnie	20.91	196	P	P	12 17 02.5	-0.3
RPZ	Rata Peaks	21.93	196	P	P	12 17 12.3	+0.2
RPZ	Rata Peaks	21.93	196	P	P	12 17 12.1	0.0
	comp=Z,7.9nm,0.5s,baz=4.8,slow=4.0,SNR=6.6						
	comp=Z,7.9nm,0.5s						
HNR	Honiara	22.76	303	P	P	12 17 18.4	-1.4
	comp=Z,360nm,0.5s,baz=191,slow=6.7,SNR=1.8						
ODZ	Otahua Downs	23.28	196	P	P	12 17 23.9	-0.1
ARMA	Armidale	25.78	247	P	P	12 17 48.2	+1.7
ARMA	Armidale	25.78	247	P	P	12 17 48.1	+1.7
EIDS	Eidsvold	25.81	259	P	P	12 17 47.4	+0.7
EIDS				IAmb	IAmb	12 18 06.6	
	comp=Z,16nm,1.2s						
EIDS	Eidsvold	25.81	259	P	P	12 17 47.0	+0.3
MGCD	Mangrove Creek	26.84	241	P	P	12 17 57.4	+1.9
SYDH	Sydney Hard Ro	27.28	240	P	P	12 18 01.2	+1.8
CNB	Canberra Magne	28.82	238	P	P	12 18 14.2	+1.3
CAN	Canberra	29.11	238	P	P	12 18 16.5	+1.3
CAN				IAmb	IAmb	12 18 17.2	
	comp=Z,25nm,0.9s						
CAN	Canberra	29.11	238	P	P	12 18 16.6	+1.3
CTA	Charters Tower	30.78	269	P	P	12 18 30.6	+0.8
	comp=Z,3.9nm,0.4s,baz=104,slow=9.7,SNR=3.3						
	comp=Z,3.9nm,0.4s						
CTAO	Charters Tower	30.78	269	P	P	12 18 30.9	+1.0
CTAO				IAmb	IAmb	12 18 47.3	
	comp=Z,18nm,1.1s						
CMSA	Cobar Meteorol	30.99	246	P	P	12 18 32.1	+0.7
GLAD	Gladstone	31.88	228	P	P	12 18 39.8	+0.9
QLP	Quilpie	31.96	256	P	P	12 18 40.4	+0.6
TOO	Toolangi	32.47	235	P	P	12 18 45.3	+1.3
TOO	Toolangi	32.47	235	P	P	12 18 44.8	+0.8
TAU	Tasmania Unive	33.19	225	P	P	12 18 50.8	+1.0
TAU				IAmb	IAmb	12 19 03.9	
	comp=Z,34nm,1.5s						
TAU	Tasmania Unive	33.19	225	P	P	12 18 50.7	+0.9
PMG	Port Moresby	33.47	288	P	P	12 18 52.8	+0.2
BRAT	Ballarat	33.66	236	P	P	12 18 55.8	+2.0
STKA	Stephens Creek	34.49	247	P	P	12 19 02.0	+1.1
STKA	Stephens Creek	34.49	247	P	P	12 19 01.9	+0.9
STKA	Stephens Creek	34.49	247	P	P	12 19 01.3	+0.3
	comp=Z,10nm,0.5s,baz=94,slow=10,SNR=47						
	comp=Z,10nm,0.5s						
INKA	Innaminka	35.05	254	P	P	12 19 07.0	+1.4
ARPS	Mount Arapiles	35.08	238	P	P	12 19 06.4	+0.7
QIS	Mount Isa	36.82	266	P	P	12 19 20.4	+0.1
HTT	Hallett	36.90	244	P	P	12 19 21.2	+0.4
LCRK	Leigh Creek	37.29	249	P	P	12 19 24.6	+0.6
BBOO	Buckleboo	39.24	246	P	P	12 19 39.9	+0.2
BBOO				IAmb	IAmb	12 19 40.1	
	comp=Z,16nm,0.7s						
BBOO	Buckleboo	39.24	246	P	P	12 19 39.7	0.0
OOD	Oodnadatta	39.53	254	P	P	12 19 43.3	+1.3
MULG	Mulgathing	40.88	250	P	P	12 19 53.0	+0.2
AS01	Alice Springs	41.49	260	P	P	12 19 57.8	+0.1
AS31	Alice Springs	41.53	260	P	P	12 19 58.2	+0.2
ASAR	Alice Springs	41.53	260	P	P	12 19 57.9	-0.2
	comp=Z,8.0nm,0.7s,baz=98,slow=8.3,SNR=105						
ASAR				ScP	ScP	12 24 38.1	+3.5
	comp=Z,1.9nm,1.1s,baz=117,slow=3.7,SNR=5.3						
ASAR				S	S	12 25 30.0	-1.9
	comp=Z,0.9nm,0.6s,baz=96,slow=16,SNR=7.6						
	comp=Z,8.0nm,0.7s						
WR0	Warramunga Arr	41.60	265	P	P	12 19 58.1	-0.5
WB0	Warramunga Arr	41.77	265	P	P	12 19 59.5	-0.4
WB2	Warramunga Arr	41.77	265	P	P	12 19 59.5	-0.4
WB2				IAmb	IAmb	12 20 00.2	
	comp=Z,6.8nm,0.9s						
WRA	Warramunga Arr	41.79	265	P	P	12 19 59.3	-0.8
WRA	Warramunga Arr	41.79	265	P	P	12 19 59.1	-0.9
	comp=Z,1.6nm,0.4s,baz=96,slow=8.1,SNR=156						
WRA				ScP	ScP	12 24 39.4	+3.7
	comp=Z,1.1nm,0.8s,baz=98,slow=4.0,SNR=6.2						
WRA				S	S	12 25 33.1	-2.5
	comp=Z,1.0nm,0.8s,baz=98,slow=14,SNR=6.8						
	comp=Z,1.6nm,0.4s						
FORT	Forrest	46.04	249	P	P	12 20 32.5	-0.2
FORT	Forrest	46.04	249	P	P	12 20 32.6	0.0
WRKA	Warakurna	46.40	257	P	P	12 20 35.5	+0.1
KNRA	Kununurra	47.99	269	P	P	12 20 46.7	-0.7
KNRA				IAmb	IAmb	12 20 51.2

comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.3s
PLCA Paso Flores 89.54 135 P **P** **12 24 58.3 +2.3**
comp=Z,0.9nm,0.7s,baz=258,slow=8.2,SNR=3.5
comp=Z,0.9nm,0.7s
CCB Clear Creek Bu 90.82 14 P **P** **12 25 01.6 +0.6**
CCB IAmb IAmb 12 25 03.3
comp=Z,3.1nm,1.2s
ILAR Eielson Array 91.13 14 P **P** **12 25 03.1 +0.7**
ILAR Eielson Array 91.13 14 P **P** **12 25 02.7 +0.2**
comp=Z,0.4nm,0.6s,baz=216,slow=5.3,SNR=10
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 92.39 44 P **P** **12 25 10.7 +1.5**
comp=Z,0.3nm,0.7s,baz=236,slow=6.1,SNR=2.6
comp=Z,0.3nm,0.7s
BMAR Burnt Mountain 93.89 13 P **P** **12 25 16.3 +1.1**
HFS Hagfors 141.33 348 PKhKP PKPpre 12 31 19.7
comp=Z,6.1nm,1.0s,baz=46,slow=4.2,SNR=6.5
AKASG Malin Array Be 143.66 328 PKP **PKPdf** **12 31 27.5 -1.1**
comp=Z,1.2nm,0.4s,baz=45,slow=4.0,SNR=8.4
BRTR Keskin Array B 146.35 308 PKPbc **PKPab** **12 31 38.0 -0.8**
comp=Z,0.6nm,0.6s,baz=11,slow=2.8,SNR=2.4
MMAI Mount Meron Ar 146.60 296 PKPbc **PKPab** **12 31 38.9 -1.0**
comp=Z,1.5nm,0.5s,baz=109,slow=7.8,SNR=1.5

IDC 16 12:19:15.3±5.0, 19°24'S×66°17'W, h0km, mb4.1/2, mbtmp4.1/3, ML4.5/1, MS3.1/1, Error ellipse: s-maj=131.0km s-min=58.1km az=61.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**10.78**	**132**	Pn	Pn	12 21 51.0	0.0
	0.8nm,0.3s,baz=275,slow=11,SNR=7.5						
	2.7nm,0.4s						
BDFB	**Brasilia**	**17.69**	**81**	LR	LR	12 31 09.2	
	comp=Z,62nm,18.5s,baz=143,slow=40						
DBIC	**Dimbokro**	**65.62**	**73**	P	P	12 30 01.4	-0.3
	1.2nm,0.3s,baz=217,slow=9.1,SNR=2.3						
	1.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**74.17**	**70**	P	P	12 30 54.6	+0.3
	0.6nm,0.5s,baz=243,slow=7.2,SNR=7.3						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**138.05**	**33**	PKP	PKPdf	12 38 40.2	-1.8
	0.6nm,0.5s,baz=315,slow=2.9,SNR=4.9						
MKAR	**Makanchi Array**	**142.30**	**36**	PKP	PKPdf	12 38 51.1	+1.2
	0.4nm,0.8s,baz=298,slow=3.1,SNR=3.9						

*IDC **16** 12:25:37.2±1.1, 60.°61N×29.°08W, h0km, mb3.4/6, mbtmp3.5/8, ML3.5/2, MS4.2/1, Error ellipse: s-maj=31.9km s-min=19.9km az=34.0*
ISC 16 12:25:38.6±0.9, 60.°6N±0.°1×29.°09W±0.°10, h10km, n9, σ1°81°/9, mb3.5/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**5.50**	**37**	Pn	**Pn**	**12 26 57.8**	**-2.6**
	0.5nm,0.3s,baz=291,slow=7.9,SNR=2.6						
BORG				Sn	**Sn**	**12 28 05.8**	**+2.3**
	baz=336,slow=9.4						
	34nm,1.1s						
EKA	**Eskdalemuir Ar**	**14.68**	**99**	Pn	**Pn**	**12 29 06.2**	**+0.2**
	baz=298,slow=10						
	2.3nm,0.9s						
ESDC	**Sonseca Array**	**26.11**	**132**	P	**P**	**12 31 13.6**	**+1.2**
	1.0nm,0.7s,baz=334,slow=8.6,SNR=4.4						
	1.0nm,0.7s						
YKA	**Yellowknife Ar**	**37.98**	**311**	P	**P**	**12 32 57.2**	**+1.2**
	0.4nm,0.9s,baz=49,slow=9.2,SNR=5.6						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**46.60**	**329**	P	**P**	**12 34 06.2**	**+0.1**
	0.4nm,0.9s,baz=36,slow=7.9,SNR=4.8						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**49.56**	**287**	P	**P**	**12 34 27.8**	**-1.9**
	0.5nm,0.7s,baz=51,slow=7.2,SNR=6.0						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**52.44**	**141**	P	**P**	**12 34 50.6**	**-0.5**
	0.5nm,0.9s,baz=350,slow=7.3,SNR=2.3						
	0.5nm,0.9s						
YBH	**Yreka Blue Hor**	**56.40**	**296**	LR	LR	12 59 21.0	
	comp=Z,193nm,19.6s,baz=357,slow=36						
NVAR	**Mina Array Bea**	**57.07**	**291**	P	**P**	**12 35 25.9**	**+1.1**
	0.1nm,0.3s,baz=40,slow=7.1,SNR=1.6						
	0.1nm,0.3s						

*JMA **16** 12:32:01.3±0.2, 38.°2N±0.°8×14.°5E±.°, h45km, MV3.9/33, FAR E OFF NORTH HONSHU*
*IDC **16** 12:32:02.7±2.5, 37.°18N×144.°46E, h0km, mb3.4/3, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=51.8km s-min=35.6km az=56.0*
ISC 16 12:31:59.7±1.5, 38.°18N±0.°06×144.°79E±0.°09, h35km, n22, σ1°68°/36, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.60**	**291**	P	**Pn**	**12 32 39.8**	**+0.6**
OFUJ				*e*S	**Sn**	**12 33 08.5**	**-1.1**
JIKH	**Ishinomakikobu**	**2.62**	**274**	P	**Pn**	**12 32 39.8**	**+0.4**
JIKH				S	**Sn**	**12 33 08.2**	**-1.9**
JKMT	**Kesennumamotoy**	**2.68**	**285**	P	**Pn**	**12 32 40.9**	**+0.7**
JKMT				*e*S	**Sn**	**12 33 10.3**	**-1.1**
MIYJ	**Miyakonagasawa**	**2.70**	**302**	P	**Pn**	**12 32 41.2**	**+0.6**
MIYJ				S	**Sn**	**12 33 10.9**	**-1.3**
JMK	**Ichinoseki**	**2.90**	**287**	P	**Pn**	**12 32 44.2**	**+0.9**
JMK				*e*S	**Sn**	**12 33 16.2**	**-0.8**
JOM	**Ohasama**	**3.02**	**296**	P	**Pn**	**12 32 46.3**	**+1.3**
JOM				S	**Sn**	**12 33 19.7**	**-0.3**
JANG	**Nango**	**3.35**	**312**	P	**Pn**	**12 32 50.4**	**+0.9**
JYK	**Kaneyama**	**3.55**	**283**	P	**Pn**	**12 32 54.0**	**+1.8**
JYK				S	**Sn**	**12 33 33.3**	**+0.3**
JOTO	**OTAMA OYAMA**	**3.58**	**261**	P	**Pn**	**12 32 54.0**	**+1.3**
JOTO				S	**Sn**	**12 33 33.4**	**-0.3**
JOT	**Ohata**	**4.30**	**319**	*e*P	**Pn**	**12 33 03.4**	**+0.8**
JOT				S	**Sn**	**12 33 49.6**	**-2.0**
JCH	**Churui**	**4.56**	**347**	P	**Pn**	**12 33 06.7**	**+0.5**
JCH				*e*S	**Sn**	**12 33 55.7**	**-2.2**
BSO1	**Boso 1**	**4.67**	**222**	P	**Pn**	**12 33 07.2**	**0.0**
BSO1				*e*S	**Sn**	**12 33 58.9**	**-1.0**
JRY	**Ryogami san**	**5.18**	**247**	P	**Pn**	**12 33 15.3**	**+0.7**
JRY				*e*S	**Sn**	**12 34 09.6**	**-3.6**
NEM2	**Nemuro 2**	**5.23**	**8**	*e*P	**Pn**	**12 33 14.1**	**-1.2**
NEM2				*e*S	**Sn**	**12 34 11.0**	**-3.4**
JOD2	**Odawara 2**	**5.42**	**239**	*e*S	**Sn**	**12 34 15.9**	**-3.4**
MJAR	**Matsushiro Arr**	**5.49**	**255**	Pn	**Pn**	**12 33 19.6**	**+0.6**
	0.1nm,0.3s,baz=85,slow=16,SNR=6.5						
MJAR				Sn	**Sn**	**12 34 19.0**	**-1.8**
	baz=78,slow=19,SNR=1.9						
	0.8nm,0.3s						
JOSM	**Okushiri--Mats**	**5.64**	**315**	P	**Pn**	**12 33 22.9**	**+2.0**
JTKR	**Abashiri--Toko**	**5.82**	**354**	P	**Pn**	**12 33 24.2**	**+0.7**
JTKR				S	**Sn**	**12 34 26.2**	**-2.8**
JHR	**Hokuryu**	**6.02**	**338**	*e*P	**Pn**	**12 33 29.1**	**+2.9**
JHR				*e*S	**Sn**	**12 34 35.2**	**+1.4**
MKAR	**Makanchi Array**	**45.79**	**302**	P	P	12 40 28.1	+10
	0.3nm,0.7s,baz=81,slow=8.8,SNR=3.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**47.42**	**308**	P	P	12 40 42.0	+12
	0.4nm,0.4s,baz=83,slow=8.3,SNR=1.7						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**58.64**	**192**	P	**P**	**12 41 54.4**	**+1.0**
	0.6nm,1.0s,baz=16,slow=7.4,SNR=2.9						
	0.6nm,1.0s						

*IDC **16** 13:01:37.9±1.9, 4.°62S×145.°30E, h0km, mb3.7/5, mbtmp3.8/7, ML3.5/2, MS4.0/3, Error ellipse: s-maj=74.7km s-min=24.4km az=91.0*
ISC 16 13:01:50.6±1.2, 4.9S±0.°1×145.°1E±0.°2, h100km, n11, σ0.°88°/9, mb3.6/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**155**	Pn	**Pn**	**13 03 01.7**	**-0.6**
	10nm,0.3s,baz=350,slow=6.1,SNR=42						
PMG				LR	LR	13 05 26.4	
	comp=Z,1μm,21.6s,baz=326,slow=45						
CTA	**Charters Tower**	**15.12**	**176**	Pn	**Pn**	**13 05 18.4**	**-0.6**
	0.1nm,0.3s,baz=358,slow=16,SNR=1.7						
	5.1nm,1.0s						
MTN	**Manton Dam**	**15.84**	**239**	P	**Pn**	**13 05 27.2**	**-0.8**
	baz=15,SNR=5.5						
WRA	**Warramunga Arr**	**18.21**	**214**	P	**Pn**	**13 05 56.7**	**-0.3**
	0.3nm,0.3s,baz=38,slow=11,SNR=22						
	2.3nm,0.6s						
ASAR	**Alice Springs**	**21.51**	**209**	P	**P**	**13 06 32.6**	**+1.0**
	1.8nm,0.7s,baz=36,slow=10,SNR=30						
	1.8nm,0.7s						
SEY	**Seymchan**	**67.90**	**4**	LR	LR	13 41 41.8	
	comp=Z,85nm,20.0s,baz=180,slow=36						
MKAR	**Makanchi Array**	**75.44**	**321**	P	**P**	**13 13 23.7**	**0.0**
	0.1nm,0.3s,baz=115,slow=5.8,SNR=1.6						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**77.08**	**328**	P	**P**	**13 13 32.5**	**-0.2**
	0.4nm,0.4s,baz=120,slow=6.8,SNR=2.0						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**84.76**	**324**	P	**P**	**13 14 13.2**	**-0.4**
	0.5nm,0.5s,baz=102,slow=5.0,SNR=5.1						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**85.04**	**180**	P	**P**	**13 14 16.4**	**+1.5**
	1.5nm,1.0s,baz=307,slow=1.2,SNR=5.1						
	1.5nm,1.0s						
PFO	**Pinyon Flats O**	**99.77**	**57**	LR	LR	13 51 28.2	
	comp=Z,79nm,20.3s,baz=280,slow=30						

*BJI **16** 13:02:02.1±0.0, 4.°87S×144.°71E, h89km, mb5.5/82, mB5.4/48, Ms4.8/29, Ms7 4.5/26*
*MOS **16** 13:02:05.2±0.9, 4.°57S×144.°00E, h74km, mb5.6/33, Error ellipse: s-maj=9.0km s-min=4.8km az=111.8*
*IDC **16** 13:02:08.0±1.1, 4.°63S×144.°16E, h91km±8km, mb5.0/22, mbtmp5.3/25, MS4.2/8, Error ellipse: s-maj=17.7km s-min=9.0km az=75.0*
*NEIC **16** 13:02:07.3, 4.°66S×144.°06E, h80km*
*NEIC **16** 13:02:07.3, 4.°86S×144.°06E, h80km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17^Nm; Mrr-1.36; Mθθ 0.45; Mϕϕ 0.91; Mrθ 0.14; Mθϕ-0.81; Mϕr-0.86; Fault plane solution: M0 1.69000×10^17^ NP1: ϕs337.50000°, δ60.83000°, λ-74.43000°. NP2: ϕs127.73000°, δ32.74000°, λ-115.69000°. Principal axes: T 1.7178, Plg14.0000°, Azm56.0000°; N -0.0626, Plg14.0000°, Azm150.0000°; P -1.6551, Plg70.0000°, Azm281.0000°;*
*NEIC **16** 13:02:08.1±1.6, 4.°67S±0.°03×144.°06E±0.°07, h85km±4km, mb5.6/129, Mww5.4/27 Error ellipse: s-maj=10.4km s-min=2.8km az=110.0*
*DJA **16** 13:02:09.6±0.3, 5.°5S±2.°×14.°4E±.°, h104km±3km, M5.6/113, mb5.9/113, mB6.1/80, MLv6.3/4, Mw5.4/128, Mw(mB)5.7/80, MwMwp5.2/26, Mwp5.5/26*
*GCMT **16** 13:02:12.1±0.1, 4.°67S±0.°01×144.°06E±0.°01, h106km, MW5.4/152, Moment Tensor Solution. s130,c207; s152,c272; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr-0.81±.02; Mθθ 0.20±.02; Mϕϕ 0.60±.03; Mrθ 0.18±.01; Mθϕ-0.93±.02; Mϕr-1.23±.02; Best double couple: M0 1.70000×10^17^ NP1:ϕs347.00000°, δ73.00000°, λ-64.00000°. NP2:ϕs109.00000°, δ31.00000°, λ-145.00000°. Principal axes: T 1.8200, Plg23.0000°, Azm58.0000°; N -0.2380, Plg25.0000°, Azm159.0000°; P -1.5810, Plg55.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 13:02:08.8±0.2, 4.°69S±0.°03×144.°11E±0.°03, h99km±1km, h99km:pP-P, n1155, σ1°43°/1254, mb5.6/191, 47C-56D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**4.18**	**51**	Pn	**Pn**	**13 03 10.9**	**+0.6**
MANU	**Manus Island**	**4.18**	**51**	P	**Pn**	**13 03 13.0**	**+2.6**
GENI	**Genyem**	**4.45**	**298**	P	**Pn**	**13 03 15.2**	**+1.2**
GENI	**Genyem**	**4.45**	**298**	P	**Pn**	**13 03 14.4**	**+0.4**
MMPI	**Merauke**	**5.27**	**224**	P	**Pn**	**13 03 25.9**	**+0.7**
	4μm,0.6s,90μm32nm						
PMG	**Port Moresby**	**5.58**	**147**	Pn	**Pn**	**13 03 28.5**	**-0.9**
PMG	**Port Moresby**	**5.58**	**147**	*i* P	**Pn**	**13 03 29.0**	**-0.4**
PMG	**Port Moresby**	**5.58**	**147**	P	**Pn**	**13 03 29.1**	**-0.2**
	275nm,0.8s,baz=335,slow=6.1,SNR=19						
PMG				S	**Sn**	**13 04 29.9**	**-2.3**
	580nm,0.9s,baz=10,slow=6.2,SNR=4.3						
KAVG	**Kavieng**	**7.00**	**73**	P	**Pn**	**13 03 52.0**	**+3.3**
RABL	**Rabaul**	**8.04**	**87**	Pn	**Pn**	**13 04 02.2**	**-0.7**
RABL	**Rabaul**	**8.04**	**87**	P	**Pn**	**13 04 06.7**	**+3.8**
COEN	**Coen**	**9.26**	**186**	P	**Pn**	**13 04 22.0**	**+2.5**
FAKI	**Fak Fak**	**11.96**	**278**	Pn	**Pn**	**13 04 54.6**	**-1.5**
FAKI	**Fak Fak**	**11.96**	**278**	P	**Pn**	**13 04 56.7**	**+0.6**
FAKI	**Fak Fak**	**11.96**	**278**	P	**Pn**	**13 04 54.8**	**-1.3**
	189nm,0.8s,2μm6μm						
SAUI	**Saumlaki**	**13.15**	**255**	Pn	**Pn**	**13 05 10.3**	**-1.4**
SAUI	**Saumlaki**	**13.15**	**255**	P	**Pn**	**13 05 12.7**	**+1.0**
SAUI	**Saumlaki**	**13.15**	**255**	P	**Pn**	**13 05 11.5**	**-0.2**
	1μm,1.1s,12μm						
MTSU	**Mount Surprise**	**13.37**	**179**	P	**Pn**	**13 05 16.6**	**+1.9**
	baz=14,SNR=7.6						
MTSU	**Mount Surprise**	**13.37**	**179**	P	**Pn**	**13 05 16.5**	**+1.9**
SIJI	**Sorong**	**13.38**	**286**	P	**Pn**	**13 05 13.4**	**-1.4**
	381nm,0.9s,4μm3μm						
SWI	**Sorong**	**13.38**	**286**	P	**Pn**	**13 05 13.5**	**-1.3**
	622nm,0.9s,5μm4μm						
KDU	**Kakadu**	**13.98**	**235**	P	**Pn**	**13 05 21.3**	**-1.2**
	baz=14,SNR=172						
KDU	**Kakadu**	**13.98**	**235**	P	**Pn**	**13 05 22.2**	**-0.3**
BNDI	**Bandanaira**	**14.16**	**270**	P	**Pn**	**13 05 25.3**	**+0.4**
BNDI	**Bandanaira**	**14.16**	**270**	P	**Pn**	**13 05 24.5**	**-0.4**
	1μm,1.0s,18μm						
TV1H	**Townsville Har**	**14.72**	**170**	P	**P**	**13 05 34.4**	**-1.2**
MTN	**Manton Dam**	**15.16**	**237**	Pn	**Pn**	**13 05 36.1**	**-1.6**
MTN	**Manton Dam**	**15.16**	**237**	P	**Pn**	**13 05 37.7**	**-0.1**
CTA	**Charters Tower**	**15.45**	**172**	P	**P**	**13 05 43.0**	**-0.7**
CTA	**Charters Tower**	**15.45**	**172**	P	**P**	**13 05 42.5**	**-1.2**
	14nm,0.8s,baz=344,slow=12,SNR=8.9						
CTAO	**Charters Tower**	**15.45**	**172**	Pn	**Pn**	**13 05 41.1**	**-0.2**
CTAO	**Charters Tower**	**15.45**	**172**	P	**P**	**13 05 43.0**	**-0.7**
CTAO	**Charters Tower**	**15.45**	**172**	P	**Pn**	**13 05 41.2**	**-0.2**
KRAI	**Karang Ratu**	**15.74**	**274**	P	**P**	**13 05 46.2**	**-0.7**
	903nm,0.9s,7μm						
QIS	**Mount Isa**	**16.37**	**195**	P	**Pn**	**13 05 51.8**	**-1.1**
	baz=16,SNR=127						
QIS	**Mount Isa**	**16.37**	**195**	P	**Pn**	**13 05 53.3**	**+0.4**
HNR	**Honiara**	**16.41**	**108**	P	**P**	**13 05 56.1**	**+1.8**
HNR	**Honiara**	**16.41**	**108**	P	**Pn**	**13 05 52.9**	**-0.3**
	9μm,0.8s,baz=210,slow=3.0,SNR=32						
HNR				S	**Sn**	**13 08 46.2**	**-9.1**
	860nm,0.8s,baz=223,slow=21,SNR=1.0						
NLAI	**Namlea**	**17.03**	**274**	P	**P**	**13 06 01.7**	**+0.5**
	348nm,0.8s,7μm						
LBMI	**Labuha**	**17.07**	**283**	P	**P**	**13 06 02.5**	**+0.8**
	1μm,1.1s,14μm						
TNTI	**Ternate**	**17.58**	**288**	P	**P**	**13 06 07.1**	**-0.2**
TNTI	**Ternate**	**17.58**	**288**	P	**Pn**	**13 06 07.6**	**-0.1**
TNTI	**Ternate**	**17.58**	**288**	P	**Pn**	**13 06 07.6**	**-0.1**
	182nm,1.0s,3μm2μm						
WR0	**Warramunga Arr**	**17.82**	**211**	P	**P**	**13 06 09.0**	**-0.8**
WRAB	**Tennant Creek**	**17.89**	**211**	P	**P**	**13 06 09.9**	**-0.8**
WRAB	**Tennant Creek**	**17.89**	**211**	P	**P**	**13 06 09.9**	**-0.8**
WB2	**Warramunga Arr**	**17.90**	**211**	P	**P**	**13 06 10.0**	**-0.8**
WRA	**Warramunga Arr**	**17.90**	**211**	P	**P**	**13 06 10.1**	**-0.7**
WRA	**Warramunga Arr**	**17.90**	**211**	P	**P**	**13 06 10.1**	**-0.7**
WRA	**Warramunga Arr**	**17.90**	**211**	P	**P**	**13 06 09.4**	**-1.4**
	152nm,0.8s,baz=31,slow=11,SNR=212						
WRA				S	**Sn**	**13 09 25.4**	**-6.0**
	74nm,0.9s,baz=24,slow=22,SNR=5.2						
WRA				PcP	**PcP**	**13 10 43.9**	**+1.3**
	7.6nm,0.5s,baz=28,slow=2.8,SNR=1.3						
WRA				ScP	**ScP**	**13 14 10.9**	**+1.8**
	16nm,1.0s,baz=24,slow=2.0,SNR=2.9						
WRA				LR	LR	13 14 15.5	
	comp=Z,4μm,18.7s,baz=32,slow=40						
PATS	**Pohnpei**	**18.22**	**51**	P	**Pn**	**13 06 15.8**	**+0.5**
	baz=18,SNR=24						
PATS	**Pohnpei**	**18.22**	**51**	P	**Pn**	**13 06 14.9**	**-0.5**
PATS	**Pohnpei**	**18.22**	**51**	P	**Pn**	**13 06 17.4**	**+2.1**
SANI	**Sanana**	**18.28**	**278**	P	**P**	**13 06 15.2**	**+0.2**
SANI	**Sanana**	**18.28**	**278**	P	**P**	**13 06 14.5**	**-0.5**
	601nm,1.0s,7μm5μm						
KNRA	**Kununurra**	**18.62**	**233**	P	**P**	**13 06 18.1**	**-0.6**
	baz=19,SNR=164						
KNRA	**Kununurra**	**18.62**	**233**	P	**P**	**13 06 17.9**	**-0.8**
KNRA	**Kununurra**	**18.62**	**233**	P	**P**	**13 06 18.7**	**0.0**
SOEI	**Soe**	**20.31**	**255**	P	**P**	**13 06 37.4**	**+0.1**
SOEI	**Soe**	**20.31**	**255**	P	**P**	**13 06 38.0**	**+0.7**
SOEI	**Soe**	**20.31**	**255**	P	**P**	**13 06 37.6**	**+0.3**
	3μm,0.8s,25μm7μm						
SGSI	**Sangihe**	**20.34**	**294**	P	**P**	**13 06 36.7**	**-0.7**
	649nm,0.4s						
KMSI	**Cibinong**	**20.78**	**284**	P	**P**	**13 06 41.6**	**-0.5**
	2μm,1.1s,17μm4μm						
AS31	**Alice Springs**	**21.28**	**207**	P	**P**	**13 06 46.5**	**-1.0**
ASAR	**Alice Springs**	**21.28**	**207**	P	**P**	**13 06 46.8**	**-0.8**
	48nm,0.7s,baz=33,slow=7.7,SNR=36						
ASAR				S	**S**	**13 10 35.1**	**-3.5**
	31nm,1.0s,baz=27,slow=18,SNR=4.5						
ASAR				ScP	**ScP**	**13 14 19.5**	**+2.6**
	7.4nm,0.7s,baz=31,slow=1.5,SNR=4.3						
ASAR				LR	LR	13 16 02.5	
	comp=Z,2μm,20.2s,baz=34,slow=39						
ASAR				P3KP		13 41 21.4	
	0.9nm,0.8s,baz=287,slow=2.8,SNR=6.3						
	48nm,0.7s						
BBSI	**Bau Bau**	**21.47**	**267**	P	**P**	**13 06 49.9**	**+0.4**
	590nm,0.8s,5μm3μm						
LUWI	**Luwuk**	**21.61**	**279**	P	**P**	**13 06 50.9**	**-0.2**
LUWI	**Luwuk**	**21.61**	**279**	P	**P**	**13 06 51.1**	**0.0**
LUWI	**Luwuk**	**21.61**	**279**	P	**P**	**13 06 51.2**	**+0.1**
	3μm,1.1s,23μm5μm						
EIDS	**Eidsvold**	**21.63**	**163**	P	**P**	**13 06 52.4**	**+1.3**
	baz=22,SNR=9.8						
EIDS	**Eidsvold**	**21.63**	**163**	P	**P**	**13 06 51.3**	**+0.2**
EIDS	**Eidsvold**	**21.63**	**163**	P	**P**	**13 06 52.2**	**+1.1**
GTOI	**Gorontalo**	**21.73**	**284**	P	**P**	**13 06 53.8**	**+1.5**
	561nm,0.9s,5μm						
QLP	**Quilpie**	**21.77**	**180**	P	**P**	**13 06 52.8**	**+0.2**
	baz=22,SNR=12						
QLP	**Quilpie**	**21.77**	**180**	P	**P**	**13 06 53.5**	**+0.9**
DAV	**Davao City (W)**	**21.87**	**302**	P	**P**	**13 06 55.0**	**+1.2**
DAV				S	**S**	**13 10 54.6**	**+4.7**
MMRI	**Maumere**	**22.07**	**259**	P	**P**	**13 06 54.1**	**-1.9**
MMRI	**Maumere**	**22.07**	**259**	P	**P**	**13 06 54.6**	**-1.3**
MMRI	**Maumere**	**22.07**	**259**	P	**P**	**13 06 54.4**	**-1.5**
	908nm,0.7s,6μm4μm						
FITZ	**Fitzroy Crossi**	**22.45**	**232**	P	**P**	**13 06 57.4**	**-2.4**
	baz=22,SNR=13						
FITZ	**Fitzroy Crossi**	**22.45**	**232**	P	**P**	**13 06 57.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**22.45**	**232**	P	**P**	**13 06 59.4**	**-0.4**
EDFI	**Ende, Flores**	**22.62**	**259**	P	**P**	**13 06 59.1**	**-2.7**
	751nm,0.9s,5μm4μm						
MRSI	**Marisa**	**22.73**	**282**	P	**P**	**13 07 01.6**	**-1.2**
	456nm,0.9s,4μm3μm						
INKA	**Innaminka**	**23.15**	**188**	P	**P**	**13 07 07.3**	**+0.6**
BKSI	**Bulukumba**	**23.90**	**267**	P	**P**	**13 07 13.3**	**-0.4**
	258nm,0.9s,3μm5μm						
BASI	**Baing, Sumba**	**23.96**	**255**	P	**P**	**13 07 13.8**	**-0.4**
	5μm,1.2s,48μm7μm						
TOLI2	**Tolitoli**	**24.01**	**283**	P	**P**	**13 07 13.6**	**-1.0**
TOLI2	**Tolitoli**	**24.01**	**283**	P	**P**	**13 07 14.7**	**+0.1**
KAPI	**Kappang**	**24.27**	**268**	P	**P**	**13 07 16.2**	**-0.8**
KAPI	**Kappang**	**24.27**	**268**	P	**P**	**13 07 16.3**	**-0.8**
TTSI	**Tana Toraja**	**24.29**	**273**	P	**P**	**13 07 17.3**	**+0.1**
	882nm,1.1s,8μm4μm						
OOD	**Oodnadatta**	**24.34**	**198**	P	**P**	**13 07 17.9**	**+0.4**
MKS	**Makassar**	**24.55**	**268**	P	**P**	**13 07 17.1**	**-2.5**
	251nm,1.1s,4μm						
MPSI	**Mapaga**	**24.70**	**281**	P	**P**	**13 07 19.9**	**-1.0**
	356nm,1.0s,3μm3μm						
AULRC	**Lightning Ridg**	**24.88**	**172**	P	**P**	**13 07 23.5**	**+1.1**
PMSI	**Majene**	**25.16**	**272**	P	**P**	**13 07 24.0**	**-1.1**
	424nm,0.9s,4μm						
KOUNC	**Koumac, New Ca**	**25.17**	**131**	P	**P**	**13 07 25.0**	**-0.1**
KOUNC	**Koumac, New Ca**	**25.17**	**131**	P	**P**	**13 07 27.0**	**+1.9**
MMSI	**Mamuju**	**25.23**	**274**	P	**P**	**13 07 26.1**	**+0.4**
	660nm,0.9s,5μm						
WRKA	**Warakurna**	**25.30**	**215**	P	**P**	**13 07 25.8**	**-0.5**
	baz=25,SNR=70						
WRKA	**Warakurna**	**25.30**	**215**	P	**P**	**13 07 25.9**	**-0.5**
DBNI	**Kabupaten Domp**	**25.90**	**260**	P	**P**	**13 07 29.4**	**-2.4**
	175nm,1.2s						
LCRK	**Leigh Creek**	**26.22**	**192**	P	**P**	**13 07 35.8**	**+1.3**
PLAI	**Plampang**	**26.47**	**260**	P	**P**	**13 07 34.1**	**-2.8**
	405nm,1.0s,3μm						
ARMA	**Armidale**	**26.56**	**165**	P	**P**	**13 07 39.8**	**+2.1**
	baz=27,SNR=4.7						
ARMA	**Armidale**	**26.56**	**165**	P	**P**	**13 07 38.3**	**+0.6**
CMSA	**Cobar Meteorol**	**26.75**	**177**	P	**P**	**13 07 41.6**	**+2.3**
	baz=27,SNR=13						
CMSA	**Cobar Meteorol**	**26.75**	**177**	P	**P**	**13 07 40.7**	**+1.4**
AUPHS	**Peel High Scho**	**27.04**	**167**	P	**P**	**13 07 43.3**	**+1.4**
STKA	**Stephens Creek**	**27.15**	**185**	P	**P**	**13 07 44.1**	**+1.2**
	baz=27,SNR=9.4						
STKA	**Stephens Creek**	**27.15**	**185**	P	**P**	**13 07 42.6**	**-0.2**
STKA	**Stephens Creek**	**27.15**	**185**	P	**P**	**13 07 44.3**	**+1.4**
STKA	**Stephens Creek**	**27.15**	**185**	*i* P	**P**	**13 07 43.1**	**+0.2**
STKA	**Stephens Creek**	**27.15**	**185**	P	**P**	**13 07 43.6**	**+0.7**
	20nm,0.7s,baz=353,slow=8.6,SN

ARPS	Mount Arapiles	32.00 183	P	P	13 08 27.4	+1.7		
SJI	Sawahan	32.29 263	P	P	13 08 27.9	-0.8		
	comp=Z,57nm,1.8s							
SBUM	Sibu	32.64 282	P	P	13 08 31.2	-0.4		
SBUM			IAmb	IAmb	13 08 33.2			
	comp=Z,60nm,1.0s							
SBUM			ScP	ScP	13 14 52.2	+1.3		
SBUM	Sibu	32.64 282	P	P	13 08 31.5	-0.1		
	comp=Z,67nm,1.4s,comp=Z,804nm							
BRAT	Ballarat	32.71 180	P	P	13 08 33.2	+1.3		
MEEK	Meekatharra	32.71 225	P	P	13 08 32.0	-0.1		
	baz=33,SNR=67							
MEEK	Meekatharra	32.71 225	P	P	13 08 32.5	+0.4		
TOO	Toolangi	32.76 178	P	P	13 08 34.9	+2.5		
	baz=33,SNR=6.6							
TOO	Toolangi	32.76 178	P	P	13 08 34.0	+1.6		
STKI	Sintang	32.94 277	P	P	13 08 34.1	-0.1		
	comp=Z,156nm,1.2s							
KMBL	Kambalda	33.77 216	P	P	13 08 41.0	-0.2		
	baz=34,SNR=45							
KMBL	Kambalda	33.77 216	P	P	13 08 41.6	+0.3		
GIRL	Giralia	33.95 235	P	P	13 08 44.2	+1.2		
	baz=34,SNR=27							
GIRL	Giralia	33.95 235	P	P	13 08 43.8	+0.9		
KSM	Kuching	34.32 279	P	P	13 08 45.5	-0.8		
KSM	Kuching	34.32 279	P	P	13 08 46.4	+0.2		
KSM	Kuching	34.32 279	P	P	13 08 46.0	-0.2		
	comp=Z,190nm,1.4s,comp=Z,2µm							
JOW	Kunigami	34.88 335	P	P	13 08 51.1	+0.3		
JOW	Kunigami	34.88 335	P	P	13 08 51.4	+0.6		
KPJI	Karang Pucung	35.08 264	P	P	13 08 51.4	-1.3		
	comp=Z,83nm,0.7s							
TWGBT	Beinan	35.41 321	P	P	13 08 54.0	-1.4		
TWG	Pinlang	35.42 321	P	P	13 08 53.5	-2.0		
TWG			IAmb	IAmb	13 08 55.8			
	comp=Z,61nm,0.6s							
YOJ	Yonaguni jima	35.51 326	P	P	13 08 56.8	+0.5		
YOJ	Yonaguni jima	35.51 326	P	P	13 08 57.7	+1.4		
YOJ	Yonaguni jima	35.51 326	P	P	13 08 56.8	+0.5		
YOJ			pmax	pmax				
	comp=Z,781nm,1.5s							
CMJI	Cimerak	35.58 263	P	P	13 08 54.6	-2.4		
	comp=Z,174nm,0.8s							
YULB	Yu-li	35.70 322	P	P	13 08 57.0	-0.9		
YULB			IAmb	IAmb	13 08 59.8			
	comp=Z,61nm,0.7s							
YULB	Yu-li	35.70 322	P	P	13 08 57.9	0.0		
MORW	Morawa	35.99 225	P	P	13 09 00.6	+0.2		
	baz=36,SNR=57							
MORW	Morawa	35.99 225	P	P	13 09 00.4	0.0		
MORW	Morawa	35.99 225	P	P	13 09 00.8	+0.4		
TPUB	Ta-pu	36.04 321	P	P	13 08 59.2	-1.7		
TPUB	Ta-pu	36.04 321	P	P	13 09 00.5	-0.4		
NACB	Ninganchiao	36.11 324	P	P	13 09 00.9	-0.5		
NACB	Ninganchiao	36.11 324	P	P	13 09 01.9	+0.5		
SSLB	Suanglung	36.20 322	P	P	13 09 01.2	-1.1		
SSLB			IAmb	IAmb	13 09 06.4			
	comp=Z,104nm,0.9s							
SSLB	Suanglung	36.20 322	P	P	13 09 02.1	-0.2		
GLAD	Gladstone	36.31 175	P	P	13 09 04.5	+1.6		
BBJI	Bungbulang	36.35 264	P	P	13 09 02.3	-1.4		
BBJI	Bungbulang	36.35 264	P	P	13 09 01.6	-2.1		
	comp=Z,197nm,0.9s,comp=Z,2µm							
LEM	Lembang	36.37 265	P	P	13 09 02.7	-1.3		
	comp=Z,93nm,0.9s							
KLBR	Kellerberrin	36.44 220	P	P	13 09 04.1	-0.1		
	baz=36,SNR=56							
KLBR	Kellerberrin	36.44 220	P	P	13 09 04.3	+0.1		
BLDU	Ballidu	36.49 222	P	P	13 09 04.7	+0.2		
	baz=36,SNR=84							
BLDU	Ballidu	36.49 222	P	P	13 09 04.8	+0.2		
AULHS	Lilydale High	36.51 176	P	P	13 09 06.2	+1.6		
YHNB	Yeheng	36.62 324	P	P	13 09 05.5	-0.3		
YHNB	Yeheng	36.62 324	P	P	13 09 06.9	+1.1		
CORO	Coronation Par	36.71 176	P	P	13 09 08.6	+2.4		
TATO	Taipei	36.78 324	P	P	13 09 07.1	0.0		
TATO	Taipei	36.78 324	P	P	13 09 07.8	+0.7		
TATO	Taipei	36.78 324	P	P	13 09 07.3	+0.2		
TATO			S	S	13 14 51.2	+7.1		
TATO	Taipei	36.78 324	P	P	13 09 07.5	+0.4		
DGTI	Dogotuki	36.81 111	P	P	13 09 09.3	+1.8		
CNJI	Cibinong	36.86 264	P	P	13 09 06.0	-2.0		
	comp=Z,106nm,1.0s,comp=Z,1µm							
TAVE	Taveuni	37.24 112	P	P	13 09 13.9	+2.7		
NWAO	Narrogin (SRO)	37.66 218	P	P	13 09 14.8	+0.3		
NWAO			P	P	13 09 14.8	+0.3		
	baz=38,SNR=28							
NWAO	Narrogin (SRO)	37.66 218	P	P	13 09 14.3	-0.2		
NWAO	Narrogin (SRO)	37.66 218	P	P	13 09 15.0	+0.5		
NWAO	Narrogin (SRO)	37.66 218	P	P	13 09 14.3	-0.2		
NWAO			pmax	pmax				
	comp=Z,193nm,1.0s							
NWAO	Narrogin (SRO)	37.66 218	P	P	13 09 14.9	+0.3		
NWAO			S	S	13 15 04.7	+7.4		
NWAO	Narrogin (SRO)	37.66 218	P	P	13 09 14.8	+0.3		
NWAO			sP	sP	13 09 47.4	-1.8		
NWAO			PcP	PcP	13 11 30.2	+0.2		
MUN	Mundaring	37.69 221	P	P	13 09 15.0	+0.2		
	baz=38,SNR=60							
MUN	Mundaring	37.69 221	P	P	13 09 15.1	+0.4		
MOO	Moorlands	37.70 176	P	P	13 09 16.8	+2.2		
	baz=38,SNR=14							
MOO	Moorlands	37.70 176	P	P	13 09 16.2	+1.6		
MTKN	Mount Kenneth	37.94 221	P	P	13 09 18.5	+1.6		
PPBI	Pangkal Pinang	37.98 272	P	P	13 09 17.8	+0.3		
	comp=Z,186nm,1.2s,comp=Z,2µm							
TAU	Tasmania Unive	38.17 176	P	P	13 09 20.3	+1.7		
TAU	Tasmania Unive	38.17 176	P	P	13 09 20.1	+1.5		
TAU	Tasmania Unive	38.17 176	P	P	13 09 20.3	+1.7		
TAU			pmax	pmax				
	comp=Z,28nm,0.9s							
TAU	Tasmania Unive	38.17 176	P	P	13 09 20.3	+1.7		
KNMB	Chin-men Tao	38.29 320	P	P	13 09 20.5	+0.6		
QZH	Quanzhou	38.51 321 ⇓	*i*P	P	13 09 21.8	+0.1		
QZH			S	S	13 15 14.3	+4.1		
QZH			pmax	pmax				
	comp=Z,150nm,1.1s							
XMIS	Christmas Isla	38.53 259	P	P	13 09 21.2	-0.9		
XMIS	Christmas Isla	38.53 259	P	P	13 09 22.7	+0.6		
AUALB	St Joseph's Co	38.70 215	P	P	13 09 24.2	+1.1		
RKGY	Rocky Gully	38.97 217	P	P	13 09 26.5	+1.1		
	baz=39,SNR=46							
RKGY	Rocky Gully	38.97 217	P	P	13 09 26.9	+1.5		
DLV	T Lat	39.09 295	P	P	13 09 25.4	-1.5		
PMBI	Palembang	39.29 271	P	P	13 09 29.8	+1.4		
JMN	Monobe	39.41 347	IAmb	IAmb	13 09 30.0			
	comp=Z,102nm,0.8s							
JMN	Monobe	39.41 347	P	P	13 09 29.6	+0.5		
KASI	Kota Agung	39.46 267	P	P	13 09 27.8	-2.0		
	comp=Z,249nm,1.0s,comp=Z,3µm							
JNU	Nakatsue	39.64 342	IAmb	IAmb	13 09 31.7			
	comp=Z,52nm,0.8s							
JNU	Nakatsue	39.64 342	P	P	13 09 31.2	+0.2		
DSRI	Dabo	39.70 275	P	P	13 09 31.5	-0.3		
	comp=Z,127nm,1.4s,comp=Z,2µmcomp=Z,1µm							
HKC	Hong Kong Obse	39.71 314 ⇑	P	P	13 09 33.0	+1.3		
HKPS	Hong Kong Po S	39.72 314	P	P	13 09 32.8	+1.0		
LWLI	Liwa	39.91 268	P	P	13 09 32.0	-1.6		
	comp=Z,684nm,1.2s,comp=Z,11µm							
INU	Inuyama	40.38 351	P	P	13 09 37.5	+0.5		
INU	Inuyama	40.38 351	P	P	13 09 36.0	-1.0		
LHSI	Lahat	40.48 270	P	P	13 09 38.1	-0.2		
	comp=Z,312nm,1.0s,comp=Z,4µm							
MYKOM	Kota Tinggi	40.74 278	P	P	13 09 40.1	-0.3		
MYKOM			IAmb	IAmb	13 09 41.6			
	comp=Z,151nm,1.0s							
MYKOM	Kota Tinggi	40.74 278	P	P	13 09 40.0	-0.3		
	comp=Z,175nm,1.2s,comp=Z,2µm							
H01W1	Cape Leeuwin H	40.88 219	P	P	13 09 43.2	+2.2		
	baz=61,slow=6.9,SNR=18							
H01W3	Cape Leeuwin H	40.89 219	P	P	13 09 43.2	+2.2		
	baz=61,slow=6.9,SNR=21							
H01W2	Cape Leeuwin H	40.90 219	P	P	13 09 43.2	+2.1		
	baz=61,slow=6.9,SNR=17							
QIZ	Qiongzhong	41.16 306	P	P	13 09 44.5	+0.8		
QIZ			S	S	13 15 53.5	+3.5		
QIZ			LR	LR				
	comp=Z,220nm,9.4s							
QIZ			LR	LR				
	comp=Z,200nm,9.0s							
QIZ			LR	LR				
	comp=Z,260nm,17.7s							
QIZ	Qiongzhong	41.16 306	P	P	13 09 43.8	+0.1		
QIZ	Qiongzhong	41.16 306	P	P	13 09 43.3	-0.4		
QIZ			pP	pP	13 10 06.1	-0.6		
MJAR	Matsushiro Arr	41.38 353	P	P	13 09 44.0	-1.3		
MJAR	Matsushiro Arr	41.38 353	P	P	13 09 44.0	-1.3		
	comp=Z,15nm,0.8s,baz=180,slow=6.7,SNR=33							
MJAR			ScP	ScP	13 15 22.1	-0.9		
	comp=Z,8.3nm,1.2s,baz=188,slow=5.0,SNR=5.4							
	comp=Z,15nm,0.8s							
MAJO	Matsushiro	41.38 353	P	P	13 09 44.2	-1.2		
MAJO			IAmb	IAmb	13 09 45.1			
	comp=Z,76nm,1.2s							
MAJO	Matsushiro	41.38 353	P	P	13 09 44.8	-0.5		
MAJO	Matsushiro	41.38 353	*d*iP	P	13 09 43.1	-2.2		
MAJO			pmax	pmax				
	comp=Z,62nm,1.2s							
MAJO	Matsushiro	41.38 353	P	P	13 09 43.9	-1.4		
MAJO			ScP	ScP	13 15 22.0	-1.0		
MJB9	Matsu-Tunnel	41.39 353	P	P	13 09 44.9	-0.5		
MJB9			IAmb	IAmb	13 09 46.1			
	comp=Z,70nm,1.2s							
EGSI	Enggano, Bengk	41.67 267	P	P	13 09 46.8	-1.2		
	comp=Z,300nm,1.3s							
SSE	Sheshan	41.77 330	P	P	13 09 49.0	+0.5		
SSE			sP	pP	13 10 16.3	+4.7		
SSE			S	S	13 15 58.8	+0.1		
SSE			pmax	pmax				
	comp=Z,120nm,1.0s							
SSE			pmax	pmax				
	comp=Z,240nm,5.2s							
SSE	Sheshan	41.77 330	P	P	13 09 48.6	+0.1		
SSE			pP	pP	13 10 12.7	+1.2		
JMM	Marumori	42.45 356	P	P	13 09 53.6	-0.3		
KRJI	Kerinci	42.65 272	P	P	13 09 55.7	-0.4		
	comp=Z,1µm,1.0s,comp=Z,12µm							
BKNI	Bangkinang	43.31 275	P	P	13 10 01.4	+0.1		
BKNI	Bangkinang	43.31 275	P	P	13 10 01.4	+0.1		
	comp=Z,1µm,1.0s,comp=Z,11µmcomp=Z,2µm							
RAO	Raoul Island	43.44 129	LR	LR	13 27 01.8			
	comp=Z,126nm,18.0s,baz=114,slow=34							
NJ2	Nanjing	43.73 328 ⇓	*i*P	P	13 10 05.1	+0.7		
NJ2			S	S	13 16 28.9	+1.5		
NJ2			pmax	pmax				
	comp=Z,57nm,0.7s							
NJ2			pmax	pmax				
	comp=Z,340nm,4.4s							
PDSI	Padang	43.75 274	P	P	13 10 03.3	-1.6		
	comp=Z,191nm,0.7s,comp=Z,2µm							
TJN	Taejon	43.75 340	P	P	13 10 04.7	+0.2		
TJN	Taejon	43.75 340	*ce*P	P	13 10 04.7	+0.2		
HIZ	Hauiti	43.75 145	IAmb	IAmb	13 10 11.9			
	comp=Z,164nm,1.1s							
HIZ	Hauiti	43.75 145	P	P	13 10 10.5	+6.0		
HIZ			S	pP	13 10 31.9	+3.8		
CNSH	ChangSha	44.39 319 ⇓	P	P	13 10 10.8	+1.1		
CNSH			S	S	13 16 38.4	+1.3		
CNSH			pmax	pmax				
	comp=Z,53nm,1.1s							
CNSH			LR	LR				
	comp=Z,350nm,12.8s							
CNSH			LR	LR				
	comp=Z,350nm,11.2s							
KULM	Kulim	44.52 282	IAmb	IAmb	13 10 11.8			
	comp=Z,170nm,1.0s							
KULM	Kulim	44.52 282	P	P	13 10 10.3	-0.7		
	comp=Z,183nm,1.1s,comp=Z,2µm							
KSRS	Kores Array	44.55 342	P	P	13 10 10.7	-0.1		
	comp=Z,60nm,0.9s,baz=159,slow=9.5,SNR=127							
KSRS			PcP	PcP	13 11 53.4	+1.0		
	comp=Z,7.1nm,0.7s,baz=172,slow=3.6,SNR=7.1							
	comp=Z,60nm,0.9s							
KSAR	Wonju Array Be	44.55 342	P	P	13 10 10.4	-0.4		
KSAR	Wonju Array Be	44.55 342	P	P	13 10 10.4	-0.4		
COVZ	Chateau Observ	44.61 145	P	P	13 10 15.0	+3.5		
KS19	Wonju Array Si	44.62 342	P	P	13 10 11.1	-0.2		
KS19			IAmb	IAmb	13 10 12.2			
	comp=Z,112nm,1.1s							
NGZ	Ngauruhoe	44.63 145	P	P	13 10 15.3	+3.6		
TMVZ	Te Maari	44.65 145	P	P	13 10 15.5	+3.7		
OTVZ	Oturere	44.66 145	P	P	13 10 14.9	+3.0		
ETVZ	East Tongariro	44.66 145	P	P	13 10 16.0	+4.1		
JCZ	Jackson Bay	44.84 155	P	P	13 10 14.7	+1.5		
URZ	Urewera	44.92 143	LR	LR	13 28 18.1			
	comp=Z,260nm,18.6s,baz=106,slow=35							
URZ	Urewera	44.92 143	P	P	13 10 16.3	+2.5		
SKLT	Songkhla	44.97 285	P	P	13 10 14.6	0.0		
SKLT	Songkhla	44.97 285	P	P	13 10 14.2	-0.4		
	comp=Z,464nm,1.2s,comp=Z,5µm							
INCN	Inchon	45.00 340	P	P	13 10 14.7	+0.3		
INCN			IAmb	IAmb	13 10 15.8			
	comp=Z,123nm,0.8s							
INCN	Inchon	45.00 340	P	P	13 10 14.7	+0.3		
INCN	Inchon	45.00 340	P	P	13 10 14.7	+0.3		
INCN			pmax	pmax				
	comp=Z,123nm,0.8s							
INCN	Inchon	45.00 340	P	P	13 10 14.8	+0.3		
INCN			pP	pP	13 10 39.1	+1.4		
INCN			sP	sP	13 10 50.7	+1.9		
INCN			PcP	PcP	13 11 54.4	+0.5		
RTZ	Ruatahuna	45.07 143	IAmb	IAmb	13 10 42.4			
	comp=Z,84nm,0.9s							
SISI	Saibi	45.07 273	P	P	13 10 15.4	0.0		
	comp=Z,338nm,0.9s,comp=Z,3µm							
BHHZ	Black Hill Sta	45.10 145	P	P	13 10 17.7	+2.4		
BHHZ			S	pP	13 10 43.9	+4.8		
WHN	Wuhan	45.13 323 ⇓	*i*P	P	13 10 16.8	+1.2		
WHN			pP	pP	13 10 41.0	+2.2		
WHN			sP	sP	13 10 53.3	+3.3		
WHN			ScP	ScP	13 15 39.9	+1.6		
WHN			S	S	13 16 50.1	+2.3		
WHN			pmax	pmax				
	comp=Z,300nm,1.0s							
WHN			pmax	pmax				
	comp=Z,1µm,3.6s							
DCZ	Deep Cove	45.32 157	P	P	13 10 17.7	+0.9		
DCZ			IAmb	IAmb	13 10 25.1			
	comp=Z,102nm,1.0s							
JTM	Tenmabayashi	45.34 357	IAmb	IAmb	13 10 17.7			
	comp=Z,92nm,0.8s							
JTM	Tenmabayashi	45.34 357	P	P	13 10 17.2	+0.2		
KRHZ	Kereru	45.38 145	P	P	13 10 19.4	+1.9		
KRHZ			S	pP	13 10 45.5	+4.2		
LTZ	Lake Taylor	45.42 151	IAmb	IAmb	13 10 25.1			
	comp=Z,155nm,1.5s							
PNHZ	Pukenui	45.47 145	P	P	13 10 19.9	+1.7		
PNHZ			S	pP	13 10 47.2	+5.3		
RPZ	Rata Peaks	45.56 153	IAmb	IAmb	13 10 26.6			
	comp=Z,156nm,1.0s							
RPZ	Rata Peaks	45.56 153	LR	LR	13 29 25.9			
	comp=Z,262nm,18.5s,baz=324,slow=36							
SNZO	South Karori	45.60 148	P	P	13 10 19.6	+0.6		
SNZO			IAmb	IAmb	13 10 24.7			
	comp=Z,94nm,0.9s							
SNZO	South Karori	45.60 148	P	P	13 10 20.6	+1.5		
SNZO	South Karori	45.60 148	P	P	13 10 19.8	+0.7		
SNZO			pP	pP	13 10 44.9	+2.3		
SNZO			sP	sP	13 10 55.0	+0.6		
SNZO			ScP	ScP	13 15 40.0	-0.1		
LBZ	Lake Benmore	45.70 154	P	P	13 10 20.0	+0.1		
LBZ			IAmb	IAmb	13 10 26.5			
	comp=Z,83nm,0.9s							
OXZ	Oxford	45.72 151	IAmb	IAmb	13 10 27.1			
	comp=Z,104nm,1.3s							
BHW	Baring Head	45.76 148	IAmb	IAmb	13 10 25.7			
	comp=Z,55nm,0.6s							
PSI	Prapat	45.76 278	P	P	13 10 21.0	+0.1		
GVZ	Greta Valley S	45.94 150	IAmb	IAmb	13 10 28.1			
	comp=Z,90nm,0.6s							
WHZ	Wether Hill Ro	45.99 157	IAmb	IAmb	13 10 29.0			
	comp=Z,70nm,1.0s							
PBSI	Pulau Batu	46.01 274	P	P	13 10 20.6	-2.2		
	comp=Z,230nm,1.1s,comp=Z,2µm							
BFZ	Birch Farm	46.01 146	IAmb	IAmb	13 10 59.9			
	comp=Z,69nm,0.8s							
NONG	Nongkai	46.29 300	P	P	13 10 24.6	-0.3		
SRIT	Nakonsritamara	46.30 286	IAmb	IAmb	13 10 26.2			
	comp=Z,134nm,1.0s							
SRIT	Nakonsritamara	46.30 286	P	P	13 10 25.0	0.0		
SURA	Surathani	46.42 287	P	P	13 10 26.2	+0.2		
NAYO	Nakonayok	46.44 295	P	P	13 10 26.2	+0.1		
GSI	Gunungsitoli	46.87 276	P	P	13 10 27.8	-1.8		
GSI	Gunungsitoli	46.87 276	P	P	13 10 28.7	-0.8		
GSI	Gunungsitoli	46.87 276	P	P	13 10 28.0	-1.5		
	comp=Z,465nm,0.7s,comp=Z,4µm							
KCSI	Kotacane, Aceh	47.01 279	P	P	13 10 29.1	-1.5		
	comp=Z,542nm,1.0s,comp=Z,5µm							
COCO	West Island	47.30 258	P	P	13 10 33.9	+1.1		
COCO	West Island	47.30 258	P	P	13 10 33.9	+1.1		
COCO			pmax	pmax				
	comp=Z,520nm,1.0s							
GYA	Guiyang	47.67 312 ⇑	*i*P	P	13 10 37.1	+1.4		
GYA			pP	pP	13 11 00.9	+1.8		
GYA			PcP	PcP	13 12 04.4	+0.7		
GYA			PP	PP	13 12 27.8	-0.4		
GYA			S	S	13 17 25.8	+1.3		
GYA			sS	sS	13 18 03.4	-1.4		
GYA			ScS	ScS	13 20 17.3	-2.7		
GYA			pmax	pmax				
	comp=Z,47nm,0.8s							
TIA	Tai'an	47.89 330 ⇓	P	P	13 10 36.3	-0.7		
TIA			pmax	pmax				
	comp=Z,24nm,0.9s							
ENH	Enshi	48.02 319	P	P	13 10 38.3	+0.1		
ENH	Enshi	48.02 319	P	P	13 10 38.3	+0.1		
ENH			pP	pP	13 11 03.1	+1.4		
ENH			sP	sP	13 11 12.8	0.0		
ENH			PcP	PcP	13 12 05.0	+0.2		
DL2	Dalian	48.10 336	P	P	13 10 39.0	+0.4		
DL2			S	S	13 17 31.1	+1.2		
DL2			sS	sS	13 18 12.6	+2.3		
DL2			pmax	pmax				
	comp=Z,40nm,0.8s							
DL2			pmax	pmax				
	comp=Z,280nm,5.8s							
LHMI	Lhok Sumawe	48.12 281	P	P	13 10 38.8	-0.4		
LHMI	Lhok Sumawe	48.12 281	P	P	13 10 40.0	+0.8		
LHMI	Lhok Sumawe	48.12 281	P	P	13 10 39.1	-0.1		
	comp=Z,1µm,1.0s,comp=Z,8µm							
SNSI	Sinabang, Aceh	48.26 277	P	P	13 10 39.8	-0.5		
	comp=Z,1µm,1.1s,comp=Z,10µm							
SRDT	SRDT	48.45 294	P	P	13 10 42.0	+0.3		
SRDT	SRDT	48.45 294	P	P	13 10 42.1	+0.3		
	comp=Z,261nm,1.5s,comp=Z,18µm							
MLSI	Meulaboh, Aceh	48.48 280	P	P	13 10 40.9	-1.1		
	comp=Z,891nm,0.9s,comp=Z,7µm							
MSHR	Mys Shultsa	48.49 347	*i*P	P	13 10 40.8	-0.7		
MSHR			pmax	pmax				
	comp=Z,6.0nm,0.7s							
JKA	Kamikawa-asahi	48.60 359	IAmb	IAmb	13 11 09.9			
	comp=Z,66nm,1.2s							
LYN	LuoYang	49.11 325 ⇓	*i*P	P	13 10 46.3	-0.1		
LYN			pP	pP	13 11 10.8	+0.8		
LYN			ScP	ScP	13 15 56.9	+1.9		
LYN			S	S	13 17 42.6	-1.7		
LYN			SS	SS	13 21 13.3	-3.6		
LYN			pmax	pmax				
	comp=Z,120nm,0.9s							
LYN			pmax	pmax				
	comp=Z,310nm,3.8s							
USRK	Ussuriysk Ar.	49.87 349	P	P	13 10 51.8	-0.3		
	comp=Z,29nm,0.8s,baz=171,slow=8.2,SNR=36							
USRK			ScP	ScP	13 15 56.9	-1.0		
	comp=Z,7.1nm,1.0s,baz=205,slow=6.4,SNR=5.5							
	comp=Z,29nm,0.8s							
USA0B	Ussuriysk Arra	49.87 349	IAmb	IAmb	13 10 53.0			
	comp=Z,45nm,1.0s							
USA0B	Ussuriysk Arra	49.87 349	*i*P	P	13 10 51.8	-0.2		
KMI	Kunming	49.93 308 ⇓	P	P	13 10 54.3	+1.2		
KMI			PcP	PcP	13 12 13.3	+1.2		
KMI			ScS	ScS	13 20 35.0	-0.4		
KMI			pmax	pmax				
	comp=Z,300nm,5.3s							
KMI			LR	LR				
	comp=Z,200nm,10.4s							
KMI			LR	LR				
	comp=Z,170nm,16.6s							
KMI			LR	LR				
	comp=Z,410nm,35.2s							
SNY	Shenyang	49.93 340 ⇓	P	P	13 10 52.0	-0.5		
SNY			S	S	13 17 54.9	-0.5		
SNY			pmax	pmax				
	comp=Z,120nm,0.7s							
SNY			pmax	pmax				
	comp=Z,300nm,4.5s							
SNY			LR	LR				
	comp=Z,140nm,4.3s							
SNY			LR	LR				
	comp=Z,190nm,4.0s							
SNY			LR	LR				
	comp=Z,260nm,8.6s							
HNS	HongShan	50.03 329 ⇓	P	P	13 10 53.1	-0.2		
HNS			*e*S	S	13 17 55.8	-1.1		
HNS			pmax	pmax				
	comp=Z,120nm,0.9s							
HNS			LR	LR				
	comp=Z,420nm,11.1s							
HNS			LR	LR				
	comp=Z,350nm,11.9s							
HNS			LR	LR				
	comp=Z,360nm,10.4s							
CM31	Chiang Mai Arr	50.10 299	P	P	13 10 54.8	+0.6		
	SNR=48							
CMAR	Chiang Mai Arr	50.10 299	*i*P	P	13 10 55.0	+0.8		
CMAR			pmax	pmax				
	comp=Z,71nm,0.7s							
CMAR	Chiang Mai Arr	50.10 299	P	P	13 10 55.0	+0.8		
	comp=Z,66nm,0.7s,baz=120,slow=6.0,SNR=288							
CMAR			PcP	PcP	13 12 14.2	+1.6		
	comp=Z,22nm,1.0s,baz=127,slow=2.2,SNR=4.6							
CMAR			ScP	ScP	13 16 00.8	+1.2		
	comp=Z,7.1nm,1.2s,baz=116,slow=2.5,SNR=5.0							
	comp=Z,66nm,0.7s							
CMMT	Chiang Mai	50.23 299	P	P	13 10 55.2	0.0		
	comp=Z,290nm,1.0s,comp=Z,4µm							
CHTO	Chiang Mai	50.24 299	P	P	13 10 55.3	0.0		
CHTO			IAmb	IAmb	13 10 57.5			
	comp=Z,79nm,0.8s							
CHTO			ScP	ScP	13 16 01.2	+1.1		
CHTO	Chiang Mai	50.24 299	P	P	13 10 56.0	+0.7		
CHTO	Chiang Mai	50.24 299	P	P	13 10 55.7	+0.4		
CHTO			S	S	13 17 58.5	-1.9		
CHTO	Chiang Mai	50.24 299	P	P	13 10 55.6	+0.3		
CHTO			PcP	PcP	13 12 14.0	+1.0		
CHTO			ScP	ScP	13 16 01.4	+1.3		
CHTO	Chiang Mai	50.24

CD2 PP **PP** **13 13 08.1 -2.2**
CD2 S **S** **13 18 28.8 0.0**
CD2 pmax pmax
comp=Z,100nm,0.6s
CD2 pmax pmax
comp=Z,230nm,11.7s
CD2 LR LR
comp=Z,430nm,17.2s
CD2 LR LR
comp=Z,360nm,10.3s
CD2 LR LR
comp=Z,200nm,9.3s
BNX BinXian 52.37 345 ⇓P **P** **13 11 09.8 -0.9**
BNX pP **pP** **13 11 34.8 +0.3**
BNX sP **sP** **13 11 43.5 -2.0**
BNX PP **PP** **13 13 12.1 +1.7**
BNX S **S** **13 18 28.9 +0.1**
BNX sS **sS** **13 19 08.0 -2.2**
BNX pmax pmax
comp=Z,62nm,1.0s
TNCH TengChong 53.23 306 P **P** **13 11 17.8 +0.1**
TNCH pP pP 13 11 40.0 -1.6
TNCH sP sP 13 11 49.9 -2.7
TNCH S **S** **13 18 41.8 +0.1**
TNCH sS sS 13 19 18.5 -4.2
TNCH pmax pmax
comp=Z,120nm,0.4s
TNCH pmax pmax
comp=Z,380nm,4.0s
TNCH LR LR
comp=Z,190nm,16.3s
TNCH LR LR
comp=Z,190nm,15.6s
TNCH LR LR
comp=Z,170nm,15.1s
MND Mandalay 53.94 301 P **P** **13 11 23.9 +1.3**
HHC Hu-ho-hao-te 54.23 330 ⇓P **P** **13 11 24.9 +0.3**
HHC sP sP 13 11 55.8 -3.8
HHC PP **PP** **13 13 31.9 +4.4**
HHC S **S** **13 18 56.8 +2.2**
HHC sS sS 13 19 32.9 -1.1
HHC pmax pmax
comp=Z,82nm,0.8s
HHC pmax pmax
comp=Z,450nm,6.1s
HHC LR LR
comp=Z,590nm,17.6s
HHC LR LR
comp=Z,780nm,19.0s
XLT XiLinHaoTe 54.56 335 *e*P **P** **13 11 26.3 -0.5**
XLT S **S** **13 18 59.3 +0.5**
XLT pmax pmax
comp=Z,25nm,0.8s
XLT pmax pmax
comp=Z,180nm,7.8s
KLR Kul'dur 54.76 350 *de*P **P** **13 11 27.7 -0.4**
KLR pmax pmax
comp=Z,49nm,1.7s
BTO Baotou 54.84 329 *e*P **P** **13 11 30.1 +1.1**
BTO pP **pP** **13 11 48.3 -4.7**
BTO PP **PP** **13 13 35.0 +2.1**
BTO S **S** **13 19 05.8 +3.0**
BTO pmax pmax
comp=Z,110nm,0.9s
BTO pmax pmax
comp=Z,640nm,7.2s
BTO LR LR
comp=Z,690nm,9.4s
BTO LR LR
comp=Z,440nm,7.8s
BTO LR LR
comp=Z,740nm,10.2s
TYV Tymovskoe 55.34 359 *e*P **P** **13 11 32.6 +0.4**
TYV *e*S **S** **13 19 12.1 +3.3**
TYV pmax pmax
comp=Z,26nm,0.9s
TYV pmax pmax
comp=Z,100nm,3.7s
TYV smax smax
comp=N,200nm,7.5s
TYV smax smax
comp=E,300nm,7.5s
LZH Lanzhou 55.36 320 ⇓*i*P **P** **13 11 33.8 +0.9**
LZH pP pP 13 11 52.3 -4.6
LZH sP sP 13 12 06.6 -1.3
LZH ScP **ScP** **13 16 24.6 +2.3**
LZH S **S** **13 19 06.5 -3.5**
LZH pmax pmax
comp=E,110nm,1.0s
HEH HeiHe 56.59 347 *e*P **P** **13 11 40.6 -0.6**
HEH pP **pP** **13 12 04.6 -0.7**
HEH ScP **ScP** **13 16 25.0 -2.1**
HEH pmax pmax
comp=E,23nm,1.1s
HEH pmax pmax
comp=E,230nm,7.3s
RAR Rarotonga 56.79 112 LR LR 13 34 57.4
comp=E,77nm,20.0s,baz=254,slow=35
HIA Hailar 57.76 341 P **P** **13 11 50.3 +0.8**
HIA Hailar 57.76 341 P **P** **13 11 49.5 0.0**
HIA pP **pP** **13 12 15.5 +1.8**
HIA sP **sP** **13 12 26.6 +1.9**
PEA0B Petropavlovsk- 58.71 10 P **P** **13 11 56.4 +0.4**
PEA0B Petropavlovsk- 58.71 10 *ce*P **P** **13 11 56.5 +0.5**
PETK Petropavlovsk- 58.71 10 P **P** **13 11 55.9 -0.1**
comp=E,17nm,0.6s,baz=164,slow=7.0,SNR=50
PETK SKKP 13 36 31.6
comp=E,4.9nm,0.9s,baz=272,slow=8.5,SNR=3.9
PETK PKP2bc 13 41 41.1
comp=E,5.2nm,0.9s,baz=180,slow=1.5,SNR=3.9
comp=E,17nm,0.6s
PET Petropavlovsk 58.79 10 P **P** **13 11 56.4 -0.2**
PET lAmb lAmb 13 12 38.4
comp=Z,168nm,1.9s
PET Petropavlovsk 58.79 10 *e*P **P** **13 11 56.3 -0.2**
PET *e*S **S** **13 19 53.7 -0.4**
PET pmax pmax
comp=Z,48nm,1.0s
PET MLR MLR
comp=Z,300nm,22.0s
ZEA Zeya 59.91 349 *e*P **P** **13 12 04.2 0.0**
ZEA *e* 13 12 29.3
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=Z,40nm,1.6s
GTA Gaotai 59.91 321 P **P** **13 12 05.3 +0.6**
GTA pP pP 13 12 27.1 -2.0
GTA sP sP 13 12 37.5 -2.5
GTA ScP **ScP** **13 16 44.5 +2.2**
GTA S **S** **13 20 10.1 +0.8**
GTA ScS **ScS** **13 21 45.8 -0.3**
GTA pmax pmax
comp=Z,27nm,1.0s
LSA Lhasa 61.16 308 P **P** **13 12 14.6 +0.8**
LSA Lhasa 61.16 308 P **P** **13 12 14.6 +0.8**
GOMU GeErMu 61.44 316 P **P** **13 12 16.4 +0.9**
GOMU pP pP 13 12 41.9 +1.9
GOMU sP sP 13 12 52.3 +1.5
GOMU PcP **PcP** **13 12 57.3 +0.6**
GOMU pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 61.60 333 P **P** **13 12 16.2 +0.2**
ULN lAmb lAmb 13 12 17.7
comp=Z,31nm,0.8s
ULN Ulaanbaatar 61.60 333 *i* P **P** **13 12 16.5 +0.5**
ULN pmax pmax
comp=Z,33nm,0.8s
ULN Ulaanbaatar 61.60 333 P **P** **13 12 16.5 +0.5**
ULN S **S** **13 20 30.9 +0.3**
ULN Ulaanbaatar 61.60 333 P **P** **13 12 16.7 +0.7**
ULN Ulaanbaatar 61.60 333 P **P** **13 12 16.5 +0.5**
comp=Z,217nm,0.9s,comp=Z,3μm
SONM Songino Array 61.88 332 P **P** **13 12 17.9 0.0**
SONM Songino Array 61.88 332 P **P** **13 12 18.2 +0.3**
comp=Z,16nm,0.8s,baz=158,slow=7.1,SNR=92
SONM PcP **PcP** **13 12 58.1 +0.3**
comp=Z,14nm,1.0s,baz=155,slow=5.4,SNR=7.2
SONM PKP2bc 13 41 35.5
comp=Z,6.6nm,0.9s,baz=298,slow=2.0,SNR=26
comp=Z,16nm,0.8s
DRV Dumont d'Urvil 61.94 182 P **P** **13 12 18.5 +0.8**
CIT Chita 62.19 339 *e*P **P** **13 12 20.5 +0.8**
CIT *e* 13 12 36.5
CIT *e* 13 12 43.9
CIT *e* 13 12 54.5
CIT pmax pmax
comp=Z,124nm,1.2s
KIP Kipapa 62.33 63 P **P** **13 12 21.8 +0.6**
KIP Kipapa 62.33 63 P **P** **13 12 23.0 +1.7**
KIP Kipapa 62.33 63 P **P** **13 12 22.9 +1.7**
KIP Kipapa 62.33 63 P **P** **13 12 21.8 +0.6**
KIP pmax pmax
comp=Z,209nm,1.3s
MA2 Magadan 64.28 4 P **P** **13 12 33.2 -0.1**
MA2 lAmb lAmb 13 13 00.1
comp=Z,58nm,1.2s
MA2 Magadan 64.28 4 P **P** **13 12 34.1 +0.8**
MA2 Magadan 64.28 4 *ce*P **P** **13 12 33.6 +0.3**
MA2 pmax pmax
comp=Z,33nm,1.0s
MA2 Magadan 64.28 4 P **P** **13 12 33.4 +0.1**
MA2 pP **pP** **13 12 58.7 +0.7**
MA2 sP **sP** **13 13 09.3 +0.5**
PALK Pallekele 64.38 280 P **P** **13 12 34.8 -0.2**
PALK Pallekele 64.38 280 P **P** **13 12 34.8 -0.2**
PALK pmax pmax
comp=Z,124nm,0.8s
PALK Pallekele 64.38 280 P **P** **13 12 33.3 -1.7**
PALK P **P** **13 12 33.5 -1.4**
PALK Pallekele 64.38 280 P **P** **13 12 35.6 +0.7**
PALK pP **pP** **13 13 01.2 +1.6**
PALK Pallekele 64.38 280 P **P** **13 12 35.4 +0.5**
comp=Z,170nm,0.9s,comp=Z,2μm
ZAK Zakamensk 65.14 333 *e*P **P** **13 12 38.9 -0.3**
ZAK pmax pmax
comp=Z,98nm,1.0s
CASY Casey 65.78 194 P **P** **13 12 42.9 -0.1**
CASY Casey 65.78 194 P **P** **13 12 43.2 +0.2**
IRK Irkutsk 66.01 334 *e*P **P** **13 12 44.4 -0.3**
IRK pmax pmax
comp=Z,43nm,2.8s
PPT2 Papeete2 66.03 107 *e*PKP1 P 13 12 35.0 -11
comp=Z,117nm,25.8s
PPT2 *e*S **S** **13 21 20.9 -5.4**
comp=Z,120nm,24.5s
PPT2 Papeete2 66.03 107 *e*LR LR 13 32 34.9
comp=Z,318nm,23.0s
PPT2 *e*LR LR 13 32 42.1
comp=Z,229nm,23.5s
TBI Tubuai 66.53 113 *e*LR LR 13 32 57.3
comp=Z,4μm,40.2s
TBI *e*LR LR 13 32 58.5
comp=Z,1μm,31.2s
BOD Bodaibo 66.86 343 *e*P **P** **13 12 49.1 -0.9**
BOD pmax pmax
comp=Z,40nm,1.2s
MOY Mondy 67.07 332 *e*P **P** **13 12 52.0 +0.4**
MOY pmax pmax
comp=Z,68nm,2.3s
YAK Yakutsk 67.45 353 P **P** **13 12 53.2 -0.4**
YAK lAmb lAmb 13 13 20.2
comp=Z,64nm,1.2s
YAK Yakutsk 67.45 353 *d*iP **P** **13 12 52.9 -0.7**
YAK *e**PP **pP** **13 13 11.3 -7.1**
YAK *e* 13 13 18.6
YAK *e* 13 15 24.2
YAK *e*S **S** **13 21 41.2 -0.4**
YAK *e**SS **sS** **13 22 17.7 -5.6**
YAK *e* 13 22 36.5
YAK *e*SS **SS** **13 25 59.6 -4.3**
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,116nm,4.5s
YAK pmax pmax
comp=N,68nm,2.3s
YAK pmax pmax
comp=E,48nm,3.2s
YAK smax smax
comp=E,272nm,3.0s
YAK smax smax
comp=N,35nm,2.3s
SEY Seymchan 67.72 4 *ce*P **P** **13 12 55.7 +0.4**
SEY pmax pmax
comp=Z,20nm,1.3s
HYB Hyderabad 68.31 291 *e*P **P** **13 12 59.8 -0.2**
HYB IVmB_BB 13 12 60.0
comp=Z,1μm,1.2s
AIS Amsterdam Isla 68.66 231 P **P** **13 13 03.5 +1.7**
AIS Amsterdam Isla 68.66 231 P **P** **13 13 04.0 +2.2**
NIKH Nikolski High 69.74 28 P **P** **13 13 08.4 +0.3**
baz=231
WMQ Urumqi 69.94 320 *e*P **P** **13 13 09.9 +0.3**
WMQ sP sP 13 13 40.3 -5.0
WMQ S **S** **13 22 12.3 +0.3**
WMQ pmax pmax
comp=Z,55nm,1.3s
H08S2 Diego Garcia H 71.20 264 P **P** **13 13 19.3 +1.9**
DGAR Diego Garcia 71.25 264 P **P** **13 13 18.2 +0.2**
DGAR Diego Garcia 71.25 264 P **P** **13 13 18.2 +0.2**
DGAR pmax pmax
comp=Z,148nm,0.9s
DGAR Diego Garcia 71.25 264 P **P** **13 13 19.4 +1.4**
CCD Concordia, Ant 71.38 186 P **P** **13 13 18.6 +0.5**
UNV Unalaska Valle 71.39 28 P **P** **13 13 19.0 +1.0**
baz=233
P08K Saint George I 71.76 25 P **P** **13 13 21.1 +0.9**
baz=229
SPIA Saint Paul Isl 71.85 24 P **P** **13 13 20.9 +0.2**
SPIA Saint Paul Isl 71.85 24 P **P** **13 13 20.9 +0.2**
baz=229
DGZ Jazzator, Alta 72.91 325 *i* P **P** **13 13 27.5 0.0**
DGZ pmax pmax
comp=Z,40nm,0.6s
VNDA Vanda 73.40 176 P **P** **13 13 30.1 +0.5**
VNDA Vanda 73.40 176 P **P** **13 13 30.1 +0.5**
comp=Z,11nm,0.7s,baz=324,slow=6.5,SNR=26
comp=Z,11nm,0.7s
FALS False Pass 73.45 29 P **P** **13 13 31.0 +0.7**
baz=236
SBA Scott Base 74.09 175 P **P** **13 13 34.5 +0.9**
SBA Scott Base 74.09 175 P **P** **13 13 34.5 +0.9**
SBA pmax pmax
comp=Z,46nm,1.4s
BILL Bilibino 74.22 8 P **P** **13 13 34.5 0.0**
MK31 Makanchi Array 74.67 321 P **P** **13 13 37.4 -0.2**
MK31 lAmb lAmb 13 13 39.1
comp=Z,182nm,2.0s
MK31 Makanchi Array 74.67 321 *ce*P **P** **13 13 37.6 0.0**
MKAR Makanchi Array 74.67 321 P **P** **13 13 37.1 -0.5**
MKAR Makanchi Array 74.67 321 P **P** **13 13 37.7 +0.1**
comp=Z,22nm,0.6s,baz=95,slow=8.6,SNR=271
MKAR S **S** **13 23 04.0 -1.8**
comp=Z,0.7nm,0.8s,baz=113,slow=11,SNR=4.6
MKAR PKPPKP 13 41 05.4
comp=Z,0.5nm,0.8s,baz=297,slow=4.0,SNR=3.8
comp=Z,22nm,0.6s
MAKZ Makanchi 74.87 321 P **P** **13 13 38.5 -0.3**
MAKZ lAmb lAmb 13 13 39.5
comp=Z,36nm,0.6s
MAKZ Makanchi 74.87 321 P **P** **13 13 38.5 -0.3**
MAKZ pmax pmax
comp=Z,36nm,0.6s
SHLS Shalkode 75.11 317 *d*iP **P** **13 13 38.6 -1.8**
SHLS pmax pmax
comp=Z,39nm,1.3s
SHLS Shalkode 75.11 317 ⇓*i*P **P** **13 13 38.6 -1.8**
comp=Z,39nm,1.3s,baz=317
SDPT Sand Point 75.14 29 P **P** **13 13 39.8 -0.2**
SDPT lAmb lAmb 13 14 18.4
comp=Z,100nm,1.0s
SDPT Sand Point 75.14 29 P **P** **13 13 40.9 +0.9**
baz=238
PDGK Podgornoye 75.15 317 P **P** **13 13 39.9 -0.7**
CHNA Chernabura Isl 75.30 30 P **P** **13 13 41.5 +0.6**
baz=239
UZB Uzunbulak 75.41 317 ⇓*i*P **P** **13 13 41.9 -0.2**
UZB pmax pmax
comp=Z,53nm,1.6s
UZB Uzunbulak 75.41 317 ⇓*i*P **P** **13 13 42.0 -0.2**
comp=Z,53nm,1.6s,baz=317
M11K Mekoryuk 75.53 23 P **P** **13 13 42.5 +0.4**
baz=232
PRZ Przheval'sk 75.60 316 P **P** **13 13 43.3 0.0**
PRZ Przheval'sk 75.60 316 P **P** **13 13 43.3 0.0**
PRZ pmax pmax
comp=Z,371nm,1.6s
KPKS Kokpek 75.75 317 *d*iP **P** **13 13 43.8 -0.2**
KPKS pmax pmax
comp=Z,33nm,1.6s
KPKS Kokpek 75.75 317 ⇓*i*P **P** **13 13 43.9 -0.2**
comp=Z,33nm,1.6s,baz=317
TARG Taragay, Kyrgy 75.76 315 P **P** **13 13 44.4 -0.1**
TARG lAmb lAmb 13 13 57.3
comp=Z,95nm,1.5s
TARG Taragay, Kyrgy 75.76 315 P **P** **13 13 44.4 -0.1**
TARG pmax pmax
comp=Z,95nm,1.5s
SATY Saty 75.80 316 ⇓*i*P **P** **13 13 44.2 -0.1**
SATY *e*S **S** **13 23 20.0 +1.4**
SATY pmax pmax
comp=Z,32nm,1.5s
SATY Saty 75.80 316 ⇓*i*P **P** **13 13 44.2 -0.1**
comp=Z,32nm,1.5s,baz=316
SATY *e*S **S** **13 23 20.1 +1.4**
baz=316
ZHN Zhinishke 75.81 317 *e*P **P** **13 13 44.2 -0.2**
ZHN pmax pmax
comp=Z,35nm,1.6s
ZHN Zhinishke 75.81 317 *e*P **P** **13 13 44.3 -0.2**
comp=Z,35nm,1.6s,baz=317
GAMB Gambell 75.83 19 P **P** **13 13 43.5 -0.2**
baz=226
S14K Fog Glacier 76.07 29 P **P** **13 13 46.4 +0.9**
baz=239
KSH Kashi 76.37 312 P **P** **13 13 49.1 +1.5**
KSH pP pP 13 14 08.8 -4.2
KSH pmax pmax
comp=Z,53nm,1.2s
ZAA0 Zalesovo Array 76.38 328 P **P** **13 13 46.2 -1.0**
ZAA0 lAmb lAmb 13 13 48.0
comp=Z,82nm,0.6s
ZALV Zalesovo Beam 76.38 328 P **P** **13 13 46.1 -1.1**
ZALV Zalesovo Beam 76.38 328 *i* P **P** **13 13 46.2 -1.0**
ZALV pmax pmax
comp=Z,89nm,0.6s
ZALV Zalesovo Beam 76.38 328 P **P** **13 13 46.7 -0.5**
comp=Z,89nm,0.6s,baz=113,slow=5.7,SNR=329
comp=Z,89nm,0.6s
TDK Taldyqorghan 76.48 318 *e*P **P** **13 13 48.0 0.0**
TDK Taldyqorghan 76.48 318 *e*P **P** **13 13 48.0 0.0**
baz=318
ARXS Arharly 76.59 317 *i* P **P** **13 13 48.0 -0.7**
CHGN Chignik 76.62 29 P **P** **13 13 48.9 +0.5**
baz=240
M13K Dall Lake 76.68 24 P **P** **13 13 50.0 +1.4**
baz=234
MDOK Medeo 76.77 316 *i* P **P** **13 13 49.6 -0.2**
MDOK *e*S **S** **13 23 30.5 +1.2**
MDOK Medeo 76.77 316 *i* P **P** **13 13 49.6 -0.2**
baz=316
MDOK *e*S **S** **13 23 30.5 +1.2**
baz=316
NIL Nilore 76.83 306 P **P** **13 13 50.2 0.0**
NIL Nilore 76.83 306 P **P** **13 13 50.2 0.0**
NIL pmax pmax
comp=Z,260nm,1.0s
NIL Nilore 76.83 306 P **P** **13 13 50.4 +0.1**
TIXI Tiksi 76.84 355 *ce*P **P** **13 13 48.4 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,0.5s
AAA Alma-Ata 76.87 316 *e*P **P** **13 13 50.2 -0.1**
AAA pmax pmax
comp=Z,34nm,1.1s
AAA Alma-Ata 76.87 316 *e*P **P** **13 13 50.2 -0.1**
comp=Z,34nm,1.1s,baz=316
O14K Tigyukauivet M 76.89 25 P **P** **13 13 51.1 +1.2**
baz=237
CHKK Chushkaly 77.04 317 *e*P **P** **13 13 50.8 -0.3**
CHKK Chushkaly 77.04 317 *e*P **P** **13 13 50.9 -0.3**
baz=317
N14K Kuskokwak Cree 77.08 25 P **P** **13 13 51.5 +0.5**
baz=236
M14K Bethel 77.44 24 P **P** **13 13 53.5 +0.5**
baz=236,SNR=8.5
O15K Ungalikthiuk R 77.47 26 P **P** **13 13 54.2 +1.0**
baz=238
L14K Kuka Creek 77.49 23 P **P** **13 13 54.0 +0.8**
baz=235,SNR=12
KUU Kurty 77.49 317 *d*iP **P** **13 13 53.5 -0.2**
KUU Kurty 77.49 317 ⇓*i*P **P** **13 13 53.6 -0.2**
baz=317
R16K Pilot Point 77.66 28 P **P** **13 13 54.0 -0.2**
baz=240
KZA Kyzart 77.68 315 P **P** **13 13 56.4 +1.2**
SNR=57
TKM2 Tokmak 2 77.69 316 P **P** **13 13 55.4 +0.3**
SNR=33
TKM2 Tokmak 2 77.69 316 P **P** **13 13 54.4 -0.7**
N15K Kwethluk River 77.89 25 P **P** **13 13 56.1 +0.6**
baz=238,SNR=6.5
M15K Kasigluk River 77.92 24 P **P** **13 13 55.9 +0.3**
baz=237
J14K Nanvaranak Lak 77.98 22 P **P** **13 13 56.4 +0.6**
baz=234
KBK Karagaybulak 78.07 315 P **P** **13 13 57.4 +0.2**
SNR=19
L15K Ungalak Mounta 78.15 23 P **P** **13 13 57.7 +0.8**
baz=236
P16K Nushagak River 78.20 27 P **P** **13 13 57.1 -0.1**
baz=240
TNA Tin City 78.24 18 P **P** **13 13 57.5 +0.3**
baz=229
UCH Uchtor 78.24 315 P **P** **13 13 59.2 +0.8**
SNR=52
CHMS Chumnysh 78.31 315 P **P** **13 13 58.4 +0.1**
SNR=34
AAK Ala-Archa 78.38 315 P **P** **13 13 59.2 +0.4**
SNR=29
AAK Ala-Archa 78.38 315 P **P** **13 13 59.0 +0.2**
ANM Nome 78.43 20 P **P** **13 13 59.4 +1.0**
baz=232,SNR=7.0
O16K Kokwok River B 78.44 26 P **P** **13 13 58.8 +0.2**
baz=239
KURK Kurchatov 78.45 324 P **P** **13 13 58.3 -0.5**
KURK lAmb lAmb 13 14 00.0
comp=Z,165nm,1.6s
KURK Kurchatov 78.45 324 *ce*P **P** **13 13 58.4 -0.4**
KURK pmax pmax
comp=Z,78nm,1.3s
KURK Kurchatov 78.45 324 P **P** **13 13 58.2 -0.5**
KURK S **S** **13 23 44.4 -2.4**
KURBB Kurchatov Arra 78.47 324 P **P** **13 13 57.8 -1.1**
KURBB Kurchatov Arra 78.47 324 P **P** **13 13 58.5 -0.4**
comp=Z,13nm,0.8s,baz=117,slow=4.4,SNR=97
KURBB PKPPKP **P'P'df** **13 40 56.8 -1.4**
comp=Z,0.2nm,0.2s,baz=287,slow=2.5,SNR=4.5
comp=Z,13nm,0.8s
K15K Wolf Creek Mou 78.48 23 P **P** **13 13 58.9 +0.1**
baz=236
SGDS Sogindy 78.53 316 *d*iP **P** **13 13 59.3 -0.2**
SGDS pmax pmax
comp=Z,36nm,1.6s
SGDS Sogindy 78.53 316 ⇓*i*P **P** **13 13 59.3 -0.2**
comp=Z,36nm,1.6s,baz=316
USP Uspenovka 78.57 316 P **P** **13 13 59.9 +0.2**
SNR=84
N16K Nishlik Lake 78.61 25 P **P** **13 14 00.0 +0.5**
baz=239
Q16K King Salmon 78.63 27 P **P** **13 13 59.7 +0.1**
baz=241
F14K Arctic Creek 78.69 19 P **P** **13 14 00.6 +0.8**
baz=231
Q17K Contact Creek 78.78 28 P **P** **13 14 00.5 -0.1**
baz=242
AML Almayashu 78.80 314 P **P** **13 14 02.1 +0.6**
SNR=106
M16K Timber Creek 78.82 25 P **P** **13 14 01.0 +0.4**
baz=238
EKS2 Erkin-Say 78.89 315 P **P** **13 14 02.2 +0.6**
SNR=45
L16K Owhat River 78.97 24 P **P** **13 14 02.0 +0.6**
baz=238
O17K Koliganek Bris 78.97 26 P **P** **13 14 01.2 -0.2**
baz=240
R18K Karluk 79.14 29 P **P** **13 14 01.2 -1.2**
baz=243
G15K Niukluk 79.15 20 P **P** **13 14 01.7 -0.6**
baz=233
N17K Nushagak Hills 79.31 25 P **P** **13 14 04.0 +0.8**
baz=240,SNR=8.6
F15K North Star Dit 79.38 19 P **P** **13 14 04.2 +0.6**

baz=232
J16K **Anvik River** 79.39 22 P P 13 14 04.9 +1.3
baz=236
BTLS **Baital** 79.41 317 *d i* P P 13 14 04.0 -0.2
BTLS pmax pmax
comp=Z,39nm,1.4s
BTLS **Baital** 79.41 317 ⇓ *i* P P 13 14 04.1 -0.2
comp=Z,40nm,1.4s,baz=317
OHAK **Old Harbor** 79.55 29 P P 13 14 05.1 +0.5
baz=244
H16K **Elim** 79.56 21 P P 13 14 05.5 +1.0
baz=235,SNR=10
P18K **Big Mountain,** 79.62 27 P P 13 14 05.9 +0.9
baz=242
M17K **Holitna River** 79.64 25 P P 13 14 06.0 +0.9
baz=240
L17K **Donlin** 79.67 24 P P 13 14 06.3 +1.1
baz=239
I17K **Unalakleet** 79.69 22 P P 13 14 06.4 +1.2
baz=236,SNR=5.9
O18K **Koktuh Hills** 79.85 27 P P 13 14 06.8 +0.6
baz=242
N18K **Kilae Creek** 79.94 26 P P 13 14 07.8 +1.0
baz=241,SNR=5.5
G16K **Koyuk River** 79.96 20 P P 13 14 06.9 +0.2
baz=234
K17K **Iditarod** 79.97 23 P P 13 14 07.4 +0.6
baz=239
Q19K **Cape Douglas,** 80.13 28 P P 13 14 09.0 +1.2
baz=244
KDAK **Kodiak Island** 80.14 29 P P 13 14 08.7 +0.9
baz=245
BTK **Batken** 80.33 312 IAmb IAmb 13 14 10.7
comp=Z,87nm,1.4s
L18K **Granite Mounta** 80.36 24 P P 13 14 10.4 +1.4
baz=240
M18K **Stony River** 80.36 25 P P 13 14 10.4 +1.4
baz=241
O19K **Port Alsworth** 80.40 26 P P 13 14 10.3 +1.2
baz=243
KBL **Kabul** 80.43 306 P P 13 14 09.0 -1.2
KBL IAmb IAmb 13 14 10.4
comp=Z,52nm,0.8s
KBL **Kabul** 80.43 306 P P 13 14 09.0 -1.2
KBL pmax pmax
comp=Z,52nm,0.8s
KBL **Kabul** 80.43 306 P P 13 14 09.3 -0.9
SNR=24
KBL S S 13 24 10.8 +1.9
H17K **Granite Mounta** 80.55 21 P P 13 14 11.2 +1.3
baz=237
G17K **Kiwalik Mounta** 80.61 20 P P 13 14 11.0 +0.8
baz=236
N19K **Bonanza Creek** 80.61 26 P P 13 14 11.0 +0.6
baz=242
P19K **Oil Pt** 80.64 27 P P 13 14 11.0 +0.4
baz=244
DZA **Taraz** 80.69 315 *e* P P 13 14 11.0 -0.1
DZA **Taraz** 80.69 315 *e* P P 13 14 11.1 -0.1
baz=315
C16K **Lisburne Hills** 80.76 17 P P 13 14 11.6 +0.7
baz=231
F17K **Baldwin Pennin** 80.94 19 P P 13 14 13.0 +1.1
baz=235
J18K **Innoko River** 80.97 23 P P 13 14 12.8 +0.6
baz=240
TTA **Tatalina** 80.99 24 P P 13 14 13.3 +1.0
baz=241
L19K **White Mountain** 81.10 25 P P 13 14 13.5 +0.6
baz=242
O20K **Slope Mountain** 81.11 27 P P 13 14 14.1 +1.0
baz=244
E17K **Hotham Inlet** 81.12 19 P P 13 14 14.3 +1.4
baz=235
M19K **Big River Lodg** 81.16 25 P P 13 14 13.9 +0.7
baz=242
H18K **Honhosa River** 81.22 21 P P 13 14 13.7 +0.2
baz=238
KK31 **Karatay Array** 81.32 315 IAmb IAmb 13 14 15.8
comp=Z,92nm,1.2s
KK31 **Karatay Array** 81.32 315 *i* P P 13 14 14.2 -0.3
SIMJ **Simiganj** 81.36 310 P P 13 14 14.5 -0.5
SIMJ IAmb IAmb 13 14 16.0
comp=Z,89nm,1.1s
HOM **Homer** 81.38 28 P P 13 14 14.8 +0.4
baz=245
G18K **Tagagawik** 81.52 20 P P 13 14 15.6 +0.6
baz=238,SNR=23
C17K **DeLong Mountai** 81.52 17 P P 13 14 15.9 +0.9
baz=233
GCSA **Galena City Sc** 81.56 22 P P 13 14 15.9 +0.8
baz=240,SNR=17
L20K **Farewell, AK** 81.64 24 P P 13 14 15.8 +0.1
baz=243
J19K **Poorman** 81.66 23 P P 13 14 16.7 +0.9
baz=241,SNR=15
M20K **Styx River** 81.68 25 P P 13 14 17.0 +0.9
baz=244
E18K **Tukpahlearik C** 81.70 19 P P 13 14 16.6 +0.7
baz=236
N20K **Mount Spurr** 81.78 26 P P 13 14 16.9 +0.3
baz=244
BRZS **Berezniki** 81.78 322 *d i* P P 13 14 16.6 -0.2
BRZS pmax pmax
comp=Z,48nm,1.6s
BRZS **Berezniki** 81.78 322 ⇓ *i* P P 13 14 16.6 -0.2
comp=Z,48nm,1.6s,baz=322
BRSE **Bradley Lake S** 81.83 28 P P 13 14 17.7 +1.0
baz=246
K20K **Telida** 81.97 24 P P 13 14 18.6 +1.1
baz=243
H19K **Roundabout Mou** 82.11 21 P P 13 14 19.1 +1.0
baz=240
G19K **Purcell Mounta** 82.19 21 P P 13 14 19.1 +0.5
baz=239
C18K **Utukok River** 82.22 18 P P 13 14 19.5 +0.8
baz=235
F19K **Shaleruckik Mo** 82.31 20 P P 13 14 19.9 +0.8
baz=239
J20K **Nowinta River** 82.32 23 P P 13 14 19.9 +0.7
baz=242
MAW **Mawson** 82.35 202 P P 13 14 19.9 +0.5
comp=Z,57nm,0.7s,baz=95,slow=6.7,SNR=30
comp=Z,57nm,0.7s
SKT **Skwentna** 82.41 25 P P 13 14 20.2 +0.4
baz=245
B18K **Kokolik River** 82.45 17 P P 13 14 20.4 +0.6
baz=235
I20K **Naaghedeneel** 82.48 22 P P 13 14 20.9 +0.9
baz=242
PPLA **Purkeypile** 82.52 24 P P 13 14 20.9 +0.4
baz=244
SUA **Susitna One** 82.53 26 P P 13 14 20.4 -0.2
baz=246
H20K **Anotleneega Mo** 82.66 22 P P 13 14 21.7 +0.7
baz=242
CAST **Castle Rocks** 82.79 24 P P 13 14 21.9 +0.1
baz=244,SNR=9.8
E19K **Redstone River** 82.82 19 P P 13 14 21.8 +0.1
baz=239
RC01 **Rabbit Creek A** 82.83 27 P P 13 14 22.0 0.0
baz=247,SNR=11
CHUM **Lake Minchumin** 82.90 24 P P 13 14 22.7 +0.5
baz=244,SNR=8.7
C19K **Lookout Ridge** 82.96 18 P P 13 14 23.5 +0.9
baz=237
D19K **Kuna River** 83.08 18 P P 13 14 24.1 +0.9
baz=238
F20K **Avaraart Lake** 83.12 20 P P 13 14 24.4 +1.1
baz=241
CUT **Chulitna** 83.12 25 P P 13 14 23.9 +0.5
baz=246
A19K **Wainwright** 83.14 16 P P 13 14 23.7 +0.4
baz=235
NRIK **Noril'sk** 83.16 343 IAmb IAmb 13 14 24.4
comp=Z,131nm,1.5s
NRIK **Noril'sk** 83.16 343 *ce* P P 13 14 23.1 -0.4
NRIK pmax pmax
comp=Z,33nm,0.9s
NRIK **Noril'sk** 83.16 343 P P 13 14 23.4 -0.1
comp=Z,28nm,0.7s,baz=119,slow=5.9,SNR=64
NRIK S S 13 24 31.9 -3.2
comp=Z,1.3nm,0.3s,baz=23,slow=24,SNR=11
comp=Z,28nm,0.7s
PMR **Palmer** 83.29 26 P P 13 14 24.6 +0.3
baz=247,SNR=5.3
H21K **Melozitna Rive** 83.50 22 P P 13 14 26.1 +0.8
baz=244
KNK **Knik Glacier** 83.52 27 P P 13 14 26.0 +0.4
baz=248,SNR=5.6
BPAW **Bear Paw Mtn.** 83.53 24 P P 13 14 25.9 +0.4
baz=245
TRF **Thorofare Moun** 83.54 24 P P 13 14 25.6 -0.1
baz=246
E20K **Nigu River** 83.57 19 P P 13 14 26.1 +0.4
baz=240
G21K **Allakaket** 83.64 21 P P 13 14 26.8 +0.8
baz=243
D20K **Etivluk River** 83.66 18 P P 13 14 27.5 +1.4
baz=240
SML **Sawmill** 83.73 26 IAmb IAmb 13 14 57.5
comp=Z,55nm,1.0s
SML **Sawmill** 83.73 26 P P 13 14 26.9 +0.3
baz=248,SNR=7.9
F21K **Alatna River** 83.97 20 P P 13 14 27.8 +0.1
baz=243
M23K **Glacier View** 83.99 26 P P 13 14 27.7 -0.2
baz=248
MLY **Manley** 84.01 23 P P 13 14 27.7 -0.3
baz=245,SNR=11
WAT1 **Susitna Watana** 84.02 25 P P 13 14 27.6 -0.5
baz=248
BVA0 **Borovoye Array** 84.03 324 *i* P P 13 14 27.8 -0.5
BVAR **Borovoye Array** 84.03 324 P P 13 14 28.2 -0.1
comp=Z,89nm,0.5s,baz=109,slow=6.9,SNR=644
BVAR PKiKP **PKiKP** 13 19 42.6 -0.5
comp=Z,2.3nm,0.8s,baz=107,slow=3.6,SNR=3.8
BVAR S **SKSac** 13 24 36.8 -5.7
comp=Z,3.7nm,1.0s,baz=114,slow=7.2,SNR=7.8
comp=Z,89nm,0.5s
BRVK **Borovoye** 84.10 324 P P 13 14 28.4 -0.2
BRVK **Borovoye** 84.10 324 *ce* P P 13 14 28.5 -0.1
BRVK pmax pmax
comp=Z,178nm,1.4s
BRVK **Borovoye** 84.10 324 P P 13 14 28.9 +0.3
BRVK S **SKSac** 13 24 37.3 -5.6
H22K **Ishtalitna Cre** 84.14 22 P P 13 14 29.5 +0.9
baz=245
B20K **Meade River** 84.16 17 P P 13 14 28.7 +0.1
baz=239
SCM **Sheep Creek Mo** 84.18 26 P P 13 14 28.5 -0.4
baz=249
MCK **McKinley** 84.21 24 P P 13 14 28.7 -0.3
baz=247,SNR=11
WAT6 **Susitna Watana** 84.27 26 P P 13 14 29.1 -0.4
baz=248
E21K **Killik River** 84.38 19 P P 13 14 29.7 0.0
baz=242
EYAK **Cordova Ski Ar** 84.45 28 P P 13 14 30.4 +0.3
baz=250
C21K **Knifeblade Rid** 84.46 18 P P 13 14 31.2 +1.1
baz=241
NEA2 **Nenana** 84.49 23 P P 13 14 30.5 +0.2
baz=247,SNR=10
G22K **Bettles** 84.53 21 P P 13 14 31.1 +0.6
baz=245
F22K **John River** 84.55 20 P P 13 14 31.8 +1.1
baz=244
I23K **Minto, Yukon-K** 84.59 23 P P 13 14 31.3 +0.5
baz=247
DHY **Denali Highway** 84.61 25 P P 13 14 31.5 +0.3
baz=249,SNR=16
KLU **Klutina** 84.69 27 P P 13 14 32.0 +0.5
baz=250
B21K **Ikpikpuk River** 84.73 18 P P 13 14 32.0 +0.5
baz=241
M24K **Tolsona, Glenn** 84.78 26 IAmb IAmb 13 15 13.1
comp=Z,40nm,0.8s
M24K **Tolsona, Glenn** 84.78 26 P P 13 14 32.4 +0.4
baz=250,SNR=7.1
E22K **Anaktuvuk Pass** 84.95 20 P P 13 14 33.2 +0.5
baz=244
G23K **Bananza Creek** 84.97 21 P P 13 14 33.1 +0.3
baz=246
A21K **Barrow** 84.99 16 P P 13 14 33.1 +0.3
baz=239
D22K **Ayikyak River** 85.00 19 P P 13 14 33.3 +0.4
baz=243
COLA **College** 85.08 23 P P 13 14 33.2 0.0
baz=248
BMRM **Bremner River** 85.11 28 P P 13 14 33.9 +0.2
baz=251
COLD **Coldfoot** 85.12 21 P P 13 14 34.2 +0.7
baz=246
HDA **Harding Lake** 85.27 24 P P 13 14 35.2 +0.9
baz=249,SNR=10
QSPA **South Pole Qui** 85.27 180 P P 13 14 34.2 -0.3
QSPA **South Pole Qui** 85.27 180 P P 13 14 34.4 -0.1
comp=Z,108nm,0.7s,baz=333,slow=1.4,SNR=496
QSPA S **SKSac** 13 24 48.1 -2.1
comp=Z,2.1nm,1.1s,baz=166,slow=22,SNR=7.5
QSPA PKKPbc **PKKPdf** 13 32 38.4 +4.1
comp=Z,1.8nm,0.8s,baz=195,slow=1.2,SNR=8.3
comp=Z,108nm,0.7s
N25K **Chitina, Valde** 85.32 27 P P 13 14 35.3 +0.5
baz=251
HARP **HAARP** 85.33 26 P P 13 14 35.3 +0.6
baz=251
POKR **Poker Plat Res** 85.33 23 P P 13 14 35.3 +0.7
baz=248
PAX **Paxson** 85.39 26 P P 13 14 35.2 +0.2
baz=250,SNR=14
ILAR **Eielson Array** 85.43 24 P P 13 14 33.7 -1.3
comp=Z,7.1nm,0.6s,baz=257,slow=4.8,SNR=154
ILAR S **SKSac** 13 24 53.4 +2.4
comp=Z,1.1nm,1.1s,baz=264,slow=10,SNR=5.3
ILAR PKKPbc **PKKPbc** 13 32 39.0 -3.1
comp=Z,1.4nm,0.8s,baz=5.1,slow=0.7,SNR=13
ILAR PKPPKP **P'P'df** 13 40 44.1 -0.6
comp=Z,0.1nm,0.6s,baz=323,slow=31,SNR=3.4
comp=Z,7.1nm,0.6s
H24K **Noodor Dome** 85.43 23 P P 13 14 35.9 +0.8
baz=248
B22K **Teshekpuk Lake** 85.44 18 IAmb IAmb 13 14 37.7
comp=Z,29nm,0.7s
B22K **Teshekpuk Lake** 85.44 18 P P 13 14 35.8 +0.9
baz=242
K24K **Donnelly Dome** 85.54 25 P P 13 14 36.4 +0.8
baz=250
NGCH **Negor - Chabah** 85.66 296 P P 13 14 38.1 +1.1
SNR=6.1
NGCH S **SKSac** 13 24 50.7 -3.3
E23K **Chandalar** 85.67 20 P P 13 14 36.6 +0.3
baz=246
G24K **Hadweenzic Riv** 85.91 22 P P 13 14 38.0 +0.6
baz=248
RIDG **Independent Ri** 85.91 25 P P 13 14 38.0 +0.5
baz=251
J25K **Salcha River,** 85.98 24 P P 13 14 38.3 +0.4
baz=250
F24K **Squaw Lake** 86.06 21 P P 13 14 39.2 +1.0
baz=248
E24K **Your Creek** 86.06 20 P P 13 14 38.4 +0.2
baz=247
C23K **Itkillik River** 86.08 18 P P 13 14 39.4 +1.3
baz=245
PRP **Porcupine Dome** 86.23 23 P P 13 14 40.1 +1.0
baz=250
M26K **Nabesna, AK** 86.29 26 P P 13 14 40.3 +0.9
baz=253
L26K **Log Cabin Wild** 86.32 26 P P 13 14 40.2 +0.7
baz=252,SNR=15
SCRK **Sand Creek** 86.34 25 P P 13 14 40.8 +1.0
baz=252,SNR=6.6
D24K **Happy Valley** 86.37 19 P P 13 14 41.1 +1.5
baz=247
G25K **Bearman Lake** 86.44 22 P P 13 14 41.4 +1.4
baz=250
CTG **Chitna Glacier** 86.64 28 P P 13 14 41.2 0.0
baz=254
C24K **Franklin Bluff** 86.64 19 P P 13 14 42.1 +1.3
baz=247
J26L **Joseph Creek** 86.69 24 P P 13 14 42.0 +0.7
baz=252
FYU **Fort Yukon** 86.69 22 IAmb IAmb 13 15 22.6
comp=Z,110nm,1.6s
M27K **Edge Creek, AK** 86.78 27 P P 13 14 41.9 0.0
baz=254
JLN **Jalan Bani Buh** 86.85 292 P P 13 14 43.0 0.0
SNR=6.3
F25K **Christian Rive** 86.89 21 P P 13 14 43.4 +1.1
baz=250
PINM **Pinnacle** 86.92 29 P P 13 14 43.5 +0.9
baz=255
L27K **Beaver Creek,** 87.00 26 P P 13 14 43.6 +0.8
baz=254
I26K **Coal Creek Min** 87.10 24 P P 13 14 44.2 +1.0
baz=252
E25K **Arctic Village** 87.10 21 P P 13 14 44.5 +1.2
baz=250
K27K **Chicken** 87.16 25 P P 13 14 44.0 +0.4
baz=253
PNL **Peninsula** 87.23 30 P P 13 14 45.0 +1.0
baz=256
BVCY **Beaver Creek** 87.25 27 P P 13 14 44.7 +0.7
baz=255,SNR=7.7
YUK3 **Moose Creek** 87.26 27 P P 13 14 45.2 +0.9
baz=255,SNR=5.8
WBK **Wadi Bani Khal** 87.31 293 P P 13 14 45.1 -0.1
SNR=9.4
WBK S **SKSac** 13 25 08.8 +4.4
G26K **Porcupine Rive** 87.36 22 P P 13 14 45.6 +1.2
baz=252
YUK8 **Steele Glacier** 87.46 28 P P 13 14 46.1 +0.7
baz=256
F26K **Sheenjek River** 87.47 21 P P 13 14 46.2 +1.2
baz=251
WSAR **Wadi Sarin** 87.68 293 P P 13 14 46.7 -0.2
WSAR S **SKSac** 13 25 04.7 -2.0
EGAK **Eagle** 87.76 24 P P 13 14 47.0 +0.6
baz=254,SNR=9.9
O29M **Mount Kennedy** 87.79 29 P P 13 14 47.3 +0.5
baz=257
I27K **Kandik River** 87.80 24 P P 13 14 47.5 +0.8
baz=254
C26K **Camden Bay** 87.93 19 P P 13 14 47.9 +0.7
baz=251
YUK4 **Talbot Arm** 88.00 28 P P 13 14 49.3 +1.4
baz=257,SNR=9.1
H27K **Steamboat Moun** 88.01 23 P P 13 14 48.6 +0.9
baz=254
YUK6 **Outpost Mounta** 88.04 28 P P 13 14 48.7 +0.6
baz=257
P29M **Windy Craggy** 88.05 30 P P 13 14 49.0 +1.0
baz=258
MHTO **MHTO** 88.06 291 P P 13 14 48.0 -0.8
SNR=20
JMDO **Jabal Madar** 88.08 292 P P 13 14 48.1 -0.8
JMDO S **SKSac** 13 25 07.1 -1.9
G27K **Doyon Strip** 88.12 22 P P 13 14 49.2 +1.1
baz=254
SMDO **Samad** 88.20 293 P P 13 14 48.8 -0.7
SNR=7.1
MSEY **Mahe Island** 88.26 265 P P 13 14 49.6 -0.4
MSEY **Mahe Island** 88.26 265 P P 13 14 50.6 +0.6
DAWY **Dawson** 88.31 25 IAmb IAmb 13 15 30.5
comp=Z,51nm,1.3s
DAWY **Dawson** 88.31 25 P P 13 14 50.0 +0.9
baz=256,SNR=15
M29M **Somme Creek** 88.33 27 P P 13 14 50.0 +0.6
baz=257
DQM **DQM** 88.36 290 P P 13 14 49.8 -0.4
SNR=11
DQM S **SKSac** 13 25 12.4 +1.7
HYT **Haines Junctio** 88.42 29 P P 13 14 50.4 +0.6
baz=258,SNR=5.6
I28M **Miner Creek** 88.43 24 P P 13 14 50.4 +0.7
baz=255
S31K **Pelican** 88.47 32 P P 13 14 50.6 +0.8
baz=259
E27K **Coleen River** 88.53 21 P P 13 14 51.2 +1.2
baz=254
P30M **Million Dollar** 88.53 29 P P 13 14 50.9 +0.7
baz=258
L29M **L29M** 88.64 26 P P 13 14 51.5 +0.8
baz=257,SNR=16
JASK **Jask - Hormozg** 88.65 296 P P 13 14 51.6 +0.1
JASK S **SKSac** 13 25 12.6 +0.4
N30M **Aishikik Lake** 88.75 28 P P 13 14 51.8 +0.6
baz=258
J29N **Klondike Camp** 88.90 25 P P 13 14 52.6 +0.7
baz=257
BSY **Bisya** 88.95 293 P P 13 14 52.7 -0.2
SNR=6.8
F28M **Old Crow** 89.01 22 P P 13 14 52.9 +0.6
baz=255
D27M **Malcolm River** 89.05 20 P P 13 14 53.3 +0.8
baz=254
K29M **Barlow Dome** 89.06 26 P P 13 14 53.3 +0.5
baz=258
I29M **Ogilvie Camp,** 89.07 24 P P 13 14 53.5 +0.9
baz=257
O30N **Mendenhall** 89.09 29 P P 13 14 53.4 +0.5
baz=259,SNR=5.1
M30M **Minto, Yukon** 89.12 27 P P 13 14 53.8 +0.9
baz=258,SNR=6.8
SKAG **Skagway** 89.22 30 P P 13 14 54.4 +1.1
baz=260
H29M **Whitestone** 89.25 23 P P 13 14 54.6 +1.2
baz=257
S32K **Killisnoo** 89.25 32 P P 13 14 54.6 +1.1
baz=260
N31M **Braeburn, Yuko** 89.37 28 P P 13 14 55.2 +1.0
baz=259
E28M **Babbage River** 89.38 21 P P 13 14 55.4 +1.4
baz=256
R32K **Eaglecrest** 89.42 31 P P 13 14 55.3 +0.9
baz=260
G29M **Pine Creek** 89.54 23 P P 13 14 55.8 +1.0
baz=257
ARQ **Araqi** 89.62 293 P P 13 14 55.3 -0.8
SNR=9.2
WHY **Whitehorse** 89.65 29 P P 13 14 56.3 +0.8
baz=260
SOHO **SOHO** 89.68 294 *i* P P 13 14 55.2 -1.1
SNR=24
SOHO **SOHO** 89.68 294 P P 13 14 55.4 -0.9
GEYT **Alibeck** 89.69 308 IAmb IAmb 13 14 56.9
comp=Z,50nm,0.9s
GEYT **Alibeck** 89.69 308 P P 13 14 55.7 -0.4
comp=Z,36nm,0.8s,baz=116,slow=3.4,SNR=63
comp=Z,36nm,0.8s
AB31 **Akbulak array** 89.71 319 *i* P P 13 14 54.3 -1.6
MAYO **Mayo, Yukon** 89.72 26 P P 13 14 57.0 +1.3
baz=259
J30M **Hart River** 89.73 25 P P 13 14 56.7 +0.8
baz=259
U33K **Whale Pass** 89.83 34 P P 13 14 57.2 +0.9
baz=261
I30M **Mount Dempster** 89.84 24 P P 13 14 57.1 +0.7
baz=259
D28M **Stokes Point** 89.84 20 P P 13 14 57.2 +1.1
baz=256
E29M **Blow River** 89.92 21 P P 13 14 57.1 +0.6
baz=257
EPYK **Eagle Plains** 89.93 23 IAmb IAmb 13 15 36.9
comp=Z,24nm,0.9s
EPYK **Eagle Plains** 89.93 23 P P 13 14 57.2 +0.6
baz=258,SNR=9.4
SHAO **Shalim** 89.99 288 *i* P P 13 14 57.3 -0.7
SNR=7.5
SHAO **Shalim** 89.99 288 P P 13 14 57.4 -0.5
SNR=9.5
SHAO S **SKSac** 13 25 20.1 -0.4
MDH **Madha** 90.00 295 P P 13 14 56.6 -1.3
T33K **Petersburg** 90.02 33 P P 13 14 58.1 +0.9
baz=262
P32M **Atlin** 90.05 30 P P 13 14 57.6 +0.3
baz=261
HATD **Hatta, Dubai** 90.11 295 P P 13 14 57.6 -0.8
MSFE **Esma-Masafi** 90.13 295 *i* P P 13 14 58.0 -0.5
SNR=9.9
M31M **Drury Creek, Y** 90.15 28 P P 13 14 58.2 +0.5
baz=260
ASHO **Ashiyiah** 90.17 295 *i* P P 13 14 57.7 -0.9
SNR=8.7
ASHO **Ashiyiah** 90.17 295 P P 13 14 58.4 -0.3
ASHO S **SKSac** 13 25 14.4 -7.0
SHME **Shamm** 90.21 296 P P 13 14 58.0 -0.8
G30M **tAoh Zraii Nji** 90.25 23 P P 13 14 58.4 +0.3
baz=259
WRAK **Wrangell Islan** 90.30 34 P P 13 14 58.7 +0.2
baz=262
SVE **Sverdlovsk** 90.31 327 *e* P P 13 14 57.1 -1.5
SVE pmax pmax
comp=Z,29nm,1.4s
ALNE **Al Ain** 90.39 294 *i* P P 13 14 59.3 -0.4
SNR=13
ALNE **Al Ain** 90.39 294 P P 13 14 59.5 -0.2
SNR=6.0
F30M **Barrier River** 90.53 22 P P 13 14 59.9 +0.7
baz=259
V35K **Ketchikan** 90.56 35 P P 13 14 59.9 +0.2

baz=263
P33M **Teslin, Yukon** 90.59 30 P P 13 15 00.1 +0.2
baz=262
FAQ **Al Faqa, Dubai** 90.59 295 *i* P P 13 14 59.7 -0.9
SNR=8.8
N32M **Quiet Lake** 90.60 29 P P 13 15 00.4 +0.5
baz=262
DMTO **DMTO** 90.61 288 P P 13 15 00.3 -0.5
SNR=6.6
FARO **Faro, Yukon** 90.64 28 P P 13 15 00.2 +0.2
baz=261,SNR=7.9
H31M **Peel River** 90.78 24 P P 13 15 01.0 +0.4
baz=260,SNR=9.2
ASUD **Al Ashush, Dub** 90.82 294 *i* P P 13 15 01.3 -0.3
SNR=6.7
G31M **Satah River** 90.99 23 P P 13 15 01.8 +0.3
baz=260,SNR=10
AKTO **Aktyubinsk** 91.09 320 P P 13 15 01.1 -1.2
comp=Z,25nm,0.8s,baz=94,slow=4.4,SNR=45
AKTO PKiKP **PKiKP** 13 19 54.5 -0.3
comp=Z,3.0nm,0.6s,baz=120,slow=3.5,SNR=4.1
comp=Z,25nm,0.8s
AJN **Ajban** 91.13 294 P P 13 15 02.1 -0.9
AJN **Ajban** 91.13 294 P P 13 15 02.3 -0.7
S34M **Telegraph Cree** 91.15 32 P P 13 15 03.4 +1.0
baz=263
F31M **Tsiigehtchic** 91.28 22 IAmb IAmb 13 15 41.0
comp=Z,54nm,1.9s
F31M **Tsiigehtchic** 91.28 22 P P 13 15 03.2 +0.4
baz=261,SNR=6.7
RBK **Rabkut** 91.30 287 P P 13 15 03.9 -0.1
SNR=11
ARU **Arti** 91.40 326 P P 13 15 01.8 -1.8
ARU IAmb IAmb 13 15 03.0
comp=Z,53nm,1.4s
ARU **Arti** 91.40 326 *c i* P P 13 15 02.2 -1.4
ARU *PP **pP** 13 15 23.4 -6.3
ARU 13 18 40.1
ARU S **SKSac** 13 25 26.7 -0.3
ARU pmax pmax
comp=Z,35nm,1.2s
R33M **Jennings River** 91.41 31 P P 13 15 03.7 -0.1
baz=263
DOK **Doka** 91.46 288 P P 13 15 03.9 -0.8
SNR=18
INK **Inuvik** 91.50 22 P P 13 15 04.4 +0.6
baz=261,SNR=9.7
INK **Inuvik** 91.50 22 PKKP 13 32 22.4
comp=Z,4.6nm,0.9s,baz=70,slow=3.2,SNR=16
INK LR LR 13 50 45.9
comp=Z,64nm,20.1s,baz=52,slow=32
T35M **Bob Quinn** 91.51 33 P P 13 15 04.7 +0.5
baz=264
WHFO **Wadi Hawf** 91.74 288 P P 13 15 06.0 -0.2
SNR=5.8
DLBC **Dease Lake** 91.79 32 P P 13 15 06.1 +0.6
baz=264
ABTO **Aybut** 92.15 287 P P 13 15 08.1 0.0
SNR=6.2
WTLY **Watson Lake, Y** 92.58 30 P P 13 15 09.4 +0.3
baz=265
A36M **Sachs Harbour** 94.62 18 P P 13 15 18.0 -0.2
baz=269
ELIB **Princess Elisa** 94.69 196 *d* P P 13 15 19.4 +0.6
comp=Z,49nm,0.9s
ELIB *db* P **pP** 13 15 43.6 -1.5
ELIB *ds* P **sP** 13 15 56.2 +0.5
KOTAN **Kotaneelee Air** 94.95 30 P P 13 15 19.9 0.0
baz=269
C36M **Paulatuk** 95.00 21 P P 13 15 19.8 -0.1
baz=270
VOI **Vohitsoka** 95.04 248 IAmb IAmb 13 15 21.6
comp=Z,32nm,1.0s
VOI **Vohitsoka** 95.04 248 P P 13 15 21.9 +0.6
FLDN **Fort Liard** 95.24 30 P P 13 15 20.9 -0.3
baz=270
WRGLY **Wrigley** 95.25 27 P P 13 15 22.2 +1.0
baz=270
KIRV **Kirov** 96.42 328 *ce* P P 13 15 25.1 -1.5
KIRV **Kirov** 96.42 328 S **SKSac** 13 25 52.2 -1.9
comp=Z,5.0nm,0.5s,baz=73,slow=22,SNR=12
J05D **Fort Rock, OR** 96.58 47 P P 13 15 29.2 +1.3
J05D IAmb IAmb 13 16 09.1
comp=Z,17nm,1.1s
PINE **Pine Mountain** 96.79 47 IAmb IAmb 13 16 09.6
comp=Z,22nm,1.0s
PKM **Mcpherson Peak** 97.64 56 P Pdif 13 15 33.4 +0.4
baz=270
BELG **Belogornoye** 97.65 322 *i* P P 13 15 31.2 -1.1
BELG pmax pmax
comp=Z,19nm,1.0s
BELG **Belogornoye** 97.65 322 P P 13 15 31.0 -1.3
comp=Z,84nm,0.9s,baz=140,slow=1.8,SNR=25
SBC **Santa Barbara** 97.72 56 P Pdif 13 15 33.7 +0.6
baz=270
SCZ2 **Santa Cruz Isl** 97.78 56 P Pdif 13 15 34.1 +0.7
baz=270
SNCC **San Nicolas Is** 97.87 57 P P 13 15 33.7 -0.1
baz=270
G08A **Pilot Rock** 98.19 45 IAmb IAmb 13 16 16.1
comp=Z,12nm,1.0s
VES **Vestal, Richgr** 98.24 55 P Pdif 13 15 35.7 +0.3
baz=270
ARVC **Arvin** 98.45 55 P Pdif 13 15 36.6 +0.3
baz=270
J08A **Circle Bar Ran** 98.59 47 IAmb IAmb 13 16 17.3
comp=Z,15nm,1.0s
ISA **Isabella, Lake** 98.73 55 P Pdif 13 15 37.9 +0.2
baz=271
CIS **Catalina Islan** 98.80 57 P Pdif 13 15 38.5 +0.5
baz=270
NVAR **Mina Array Bea** 98.83 52 P Pdif 13 15 38.4 +0.2
comp=Z,1.6nm,0.9s,baz=274,slow=6.6,SNR=8.8
NVAR PP **PP** 13 19 37.3 -3.7
comp=Z,2.3nm,1.0s,baz=233,slow=5.3,SNR=3.1
NVAR PKKPbc **PKKPbc** 13 32 07.2 +0.5
comp=Z,1.1nm,0.7s,baz=122,slow=1.9,SNR=8.3
NVAR PKKPab PKKPdf 13 32 34.0 +24
comp=Z,2.4nm,0.8s,baz=108,slow=5.6,SNR=12
comp=Z,1.6nm,0.9s
FMP **Fort Macarthur** 98.90 57 P Pdif 13 15 39.2 +0.8
baz=270
CWC **Cottonwood Cre** 99.04 54 P **Pdif** 13 15 39.2 0.0
baz=271
EDW2 **Edwards Air Fo** 99.14 56 P **Pdif** 13 15 39.9 +0.4
baz=271
NEW **Newport** 99.32 42 P **Pdif** 13 15 40.6 +0.6
baz=274
YKA **Yellowknife Ar** 99.35 27 *i* P **Pdif** 13 15 40.0 +0.3
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA **Yellowknife Ar** 99.35 27 P **Pdif** 13 15 39.6 -0.1
comp=Z,1.2nm,0.8s,baz=278,slow=4.6,SNR=21
YKA PP **PP** 13 19 42.7 -1.1
comp=Z,1.1nm,1.0s,baz=278,slow=7.0,SNR=5.5
YKA PKiKP **PKiKP** 13 20 08.6 -0.2
comp=Z,0.5nm,0.6s,baz=292,slow=1.6,SNR=8.9
YKA PKKPbc **PKKPbc** 13 32 01.5 -4.3
comp=Z,3.0nm,0.9s,baz=93,slow=2.8,SNR=28
YKA PKKPab PKKPab 13 32 28.8
comp=Z,3.2nm,0.9s,baz=97,slow=4.5,SNR=16
comp=Z,1.2nm,0.8s
BMO **Blue Mountains** 99.37 45 IAmb IAmb 13 16 20.7
comp=Z,14nm,1.1s
LRMC **Laurel Mtn Rad** 99.38 55 P **Pdif** 13 15 41.1 +0.4
baz=271
BFSC **Mount Baldy Ra** 99.42 56 P **Pdif** 13 15 41.2 +0.4
baz=271
TROLL **Troll, Antarti** 99.53 191 ⇓Pdiff **Pdif** 13 15 37.6 -2.9
comp=Z,962nm,1.0s
GRAC **Grapevine Rang** 99.61 53 P **Pdif** 13 15 42.4 +0.9
baz=271
FURC **Furnace Creek,** 100.03 54 P **Pdif** 13 15 44.3 +1.0
baz=272
BBRC **Big Bear Solar** 100.03 56 P **Pdif** 13 15 43.8 +0.1
baz=271
GSC **Goldstone, Bar** 100.10 55 P **Pdif** 13 15 44.3 +0.4
baz=272
GNI **Garni** 100.17 310 P **Pdif** 13 15 43.4 -0.6
comp=Z,3.0nm,0.3s,baz=186,slow=9.4,SNR=3.3
PFO **Pinyon Flats O** 100.43 57 P **Pdif** 13 15 45.7 +0.4
baz=271
TPFO **Pinon Flats** 100.43 57 P **Pdif** 13 15 45.6 +0.2
baz=271
TPNV **Topopah Spring** 100.50 53 P **Pdif** 13 15 45.5 -0.2
baz=272
ZEI **Tsey** 100.66 313 *e* P **Pdif** 13 15 43.8 -2.5
ZEI pmax pmax
comp=Z,8.0nm,0.9s
IKP **In-Ko-Pah, Jac** 100.74 58 P **Pdif** 13 15 46.5 -0.2
baz=271
SNAA **Sanae** 100.80 190 P **Pdif** 13 15 44.8 -1.3
comp=Z,4.6nm,0.9s,baz=180,slow=3.6,SNR=6.6
SNAA PP **PP** 13 19 52.1 -2.2
comp=Z,23nm,1.0s,baz=137,slow=7.5,SNR=16
BELC **Belle Mtn. Jos** 100.80 56 P **Pdif** 13 15 46.9 -0.1
baz=272
TUQ **Turquoise Moun** 100.82 55 P **Pdif** 13 15 47.1 0.0
baz=272
R11B **Troy Canyon, C** 100.97 52 P **Pdif** 13 15 47.8 0.0
baz=273
AKH **Akhalkalaki** 101.05 311 Pdif **Pdif** 13 15 47.2 -0.8
AKH **Akhalkalaki** 101.05 311 P **Pdif** 13 15 47.2 -0.8
GMRC **Granite Mounta** 101.06 56 P **Pdif** 13 15 47.8 -0.3
baz=272
KLMR **Klimovskoe** 101.17 331 *e* P **Pdif** 13 15 45.1 -2.7
KLMR *eS* **SKSac** 13 26 16.5 -1.3
KLMR pmax pmax
comp=Z,29nm,1.2s
BC3 **Big Chuckawall** 101.27 57 P **Pdif** 13 15 49.3 +0.3
baz=272
KBZ **Khabaz** 101.33 314 *i* P **Pdif** 13 15 47.6 -1.3
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ **Khabaz** 101.33 314 P **Pdif** 13 15 47.1 -1.8
comp=Z,1.7nm,0.8s,baz=147,slow=6.4,SNR=4.3
VRH **Novokhopyorsk** 101.40 321 *e* P **Pdif** 13 15 45.1 -3.9
VRH pmax pmax
comp=Z,40nm,0.9s
KIV **Kislovodsk** 101.46 314 *e* P **Pdif** 13 15 50.8 +1.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,214nm,20.0s
IRM **Iron Mountain** 101.50 56 P **Pdif** 13 15 50.4 +0.4
baz=272
HLID **Hailey** 101.53 47 P **Pdif** 13 15 50.4 +0.3
baz=275
SPR3 **Spring Creek 3** 101.92 51 Pdif **Pdif** 13 15 52.8 +0.7
APA **Apatity** 102.13 338 ⇓ *i* P **Pdif** 13 16 01.5 +10
APA pmax pmax
comp=Z,8.0nm,1.6s
VNA3 **Neumayer Olymp** 102.27 188 ⇓Pdiff **Pdif** 13 15 53.4 +0.8
comp=Z,5.3nm,0.7s
PDMCI **Parker Dam,Lak** 102.33 56 P **Pdif** 13 15 53.8 +0.2
baz=273
VORR **Voronezh** 102.89 322 *e* P **Pdif** 13 15 51.9 -3.8
VORR pmax pmax
comp=Z,80nm,0.4s
LPSR **Galich'ya Gora** 102.92 323 *e* P **Pdif** 13 15 52.0 -3.7
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORD **Divnogorie** 102.95 321 *e* P **Pdif** 13 15 53.2 -2.7
VORD pmax pmax
comp=Z,20nm,1.2s
VSR **Storozhevoye** 102.99 321 *e* P **Pdif** 13 15 52.8 -3.3
VSR pmax pmax
comp=Z,10.0nm,1.0s
DUG **Dugway, Tooele** 103.00 50 P **Pdif** 13 15 57.1 +0.4
baz=275
BOZ **Bozeman (W)** 103.31 44 P **Pdif** 13 15 57.7 -0.2
baz=277
ARCES **ARCESS Array B** 104.11 341 Pdiff **Pdif** 13 15 58.9 -1.8
comp=Z,5.3nm,0.6s,baz=69,slow=4.4,SNR=22
ARCES PKiKP **PKiKP** 13 20 17.0 -0.3
comp=Z,0.5nm,0.3s,baz=89,slow=2.5,SNR=20
EGMT **Eagleton** 104.25 42 P **Pdif** 13 16 02.4 +0.5
baz=279
WUAZ **Wupatki** 104.52 55 P **Pdif** 13 16 04.2 +0.6
baz=275
RLMT **Red Lodge** 105.02 45 P **PKiKP** 13 20 19.8 -0.2
baz=279
BW06 **Boulder Array** 105.15 47 P **PKiKP** 13 20 20.7 +0.4
baz=278
PDAR **Pinedale Array** 105.15 47 Pdiff **Pdif** 13 16 05.8 -0.4
comp=Z,1.2nm,1.1s,baz=253,slow=2.5,SNR=4.7
PDAR PKiKP **PKiKP** 13 20 20.6 +0.3
comp=Z,0.6nm,0.7s,baz=219,slow=0.9,SNR=3.4
PDAR PKKPab **PKKPab** 13 32 04.3 -0.7
comp=Z,0.7nm,0.8s,baz=107,slow=5.0,SNR=3.7
TUC **Tucson** 105.25 58 P **PKiKP** 13 20 20.6 0.0
baz=274
MVCO **Mesa Verde** 106.66 53 P **PKiKP** 13 20 23.3 0.0
baz=277
KMBO **Kilima Mbogo** 106.70 267 Pdiff **Pdif** 13 16 12.5 -1.3
comp=Z,1.7nm,0.6s,baz=72,slow=5.0,SNR=4.0
FINES **FINESS Array B** 107.23 334 Pdiff **Pdif** 13 16 13.3 -1.4
comp=Z,2.8nm,0.6s,baz=60,slow=7.7,SNR=9.7
FINES PKiKP **PKiKP** 13 20 22.9 -0.4
comp=Z,3.0nm,0.6s,baz=59,slow=2.0,SNR=11
S22A **4UR Ranch, Cre** 107.91 52 P **PKiKP** 13 20 25.6 0.0
baz=278
MMAI **Mount Meron Ar** 108.22 303 PKiKP **PKiKP** 13 20 27.1 +1.0
comp=Z,3.9nm,0.6s,baz=84,slow=8.5,SNR=4.8
ANMO **Albuquerque** 108.58 55 P **PKiKP** 13 20 26.9 0.0
baz=278
BRTR **Keskin Array B** 108.69 310 Pdiff **Pdif** 13 16 20.4 -1.6
comp=Z,1.5nm,0.7s,baz=115,slow=3.7,SNR=8.2
BRTR PKiKP **PKiKP** 13 20 26.8 -0.1
comp=Z,2.2nm,0.9s,baz=124,slow=2.4,SNR=5.8
MNK **Minsk** 108.83 326 *i* P **Pdif** 13 16 15.7 -6.3
MNK *i* 13 27 25.2
MNK *i* PS **PS** 13 30 15.7 -6.4
MNK *i* SS SS 13 36 01.2 -3.5
MNK *i* SSS SSS 13 40 06.3
MNK pmax pmax
comp=Z,14nm,0.6s
MNK pmax pmax
comp=N,23nm,0.8s
MNK MLR MLR
comp=Z,202nm,10.0s
RSSD **Black Hills** 108.88 45 P **PKiKP** 13 20 27.0 -0.1
baz=282
EIL **Elat** 108.94 300 PKiKP **PKiKP** 13 20 27.8 +0.4
comp=Z,6.9nm,0.7s,baz=328,slow=3.8,SNR=5.7
SDCO **Great Sand Dun** 108.95 52 P **PKiKP** 13 20 27.2 -0.4
baz=279
AKASG **Malin Array Be** 109.23 322 Pdiff **Pdif** 13 16 22.7 -1.1
comp=Z,0.2nm,0.3s,baz=66,slow=3.6,SNR=4.0
AKASG PKiKP **PKiKP** 13 20 26.7 -0.6
comp=Z,4.0nm,0.7s,baz=65,slow=2.2,SNR=12
MNTX **Cornudas Mount** 109.88 58 P **PKiKP** 13 20 29.8 +0.6
baz=277
SORM **Soroca** 110.51 320 ⇓P **PKiKP** 13 20 29.8 0.0
SORM **Soroca** 110.51 320 ⇓PKiKP **PKiKP** 13 20 29.8 0.0
MILM **Milestii Mici** 110.55 319 ⇑P **PKiKP** 13 20 29.6 -0.3
MILM **Milestii Mici** 110.55 319 ⇑PKiKP **PKiKP** 13 20 29.6 -0.3
OGNE **Ogallala** 111.00 48 P **PKiKP** 13 20 31.2 +0.1
baz=283
TLCR 111.01 317 ⇑P **PKiKP** 13 20 31.6 +0.8
TLCR 111.01 317 ⇑PKiKP **PKiKP** 13 20 31.6 +0.8
TXAR **Lajitas Array** 111.64 60 PKKPab PKKPab 13 31 37.0 +0.9
comp=Z,8.2nm,0.8s,baz=118,slow=7.2,SNR=21
HARR **Harsova** 111.75 316 ⇑P **PKiKP** 13 20 32.4 +0.2
HARR **Harsova** 111.75 316 ⇑PKiKP **PKiKP** 13 20 32.4 +0.2
VRI **Vrincioaia** 112.23 318 ⇑P **PKiKP** 13 20 33.1 -0.1
VRI **Vrincioaia** 112.23 318 ⇑PKiKP **PKiKP** 13 20 33.1 -0.1
BIZ **Bicaz** 112.32 319 ⇑P **PKiKP** 13 20 33.9 +0.6
BISRR **Bisoca** 112.34 318 ⇓P **PKiKP** 13 20 34.9 +1.4
ULM **Lac du Bonnet** 112.48 37 PKiKP **PKiKP** 13 20 32.1 -1.4
comp=Z,1.7nm,0.5s,baz=266,slow=3.3,SNR=6.7
NEHR **Nehoiu** 112.65 318 ⇑P **PKiKP** 13 20 34.3 +0.3
BURAR **Bucovina Array** 112.68 320 ⇑P **PKiKP** 13 20 35.8 +1.7
BURAR **Bucovina Array** 112.68 320 ⇑PKiKP **PKiKP** 13 20 35.8 +1.7
MLR **Muntele Rosu** 112.87 318 ⇑P **PKiKP** 13 20 35.4 +0.9
MLR **Muntele Rosu** 112.87 318 PKiKP **PKiKP** 13 20 34.6 0.0
comp=Z,12nm,0.7s,baz=225,slow=2.6,SNR=10
KLNR **Kaliningrad** 112.92 328 *i* PKiKP **PKiKP** 13 20 34.9 +0.8
KLNR pmax pmax
comp=Z,61nm,1.1s
DOPR **Dopca** 113.09 318 ⇓P **PKiKP** 13 20 35.8 +1.0
HFS **Hagfors** 113.18 336 PKiKP **PKiKP** 13 20 34.2 -0.3
comp=Z,3.6nm,0.8s,baz=42,slow=2.3,SNR=2.3
VOIR 113.48 318 ⇑P **PKiKP** 13 20 35.7 0.0
VOIR 113.48 318 ⇑PKiKP **PKiKP** 13 20 35.7 0.0
NB2 **NORSAR Subarra** 113.64 337 PKPdf **PKiKP** 13 20 35.3 -0.1
comp=Z,0.9nm,0.7s,baz=44,slow=1.9
NOA **NORSAR Array B** 113.64 337 PKiKP **PKiKP** 13 20 35.1 -0.3
comp=Z,1.9nm,0.8s,baz=58,slow=1.8,SNR=5.5
ELND **Elena** 113.67 315 ⇑P **PKiKP** 13 20 36.5 +0.5
ARR **Arges** 113.78 318 ⇑P **PKiKP** 13 20 36.9 +0.7
KOLS **Kolonicke sedl** 114.06 322 *e* PKiKP **PKiKP** 13 20 38.3 +1.7
KOLS **Kolonicke sedl** 114.06 322 *e* PKP **PKiKP** 13 20 38.2 +1.7
ECSD **EROS Data Cent** 114.16 44 P PKPdf 13 20 36.8 -0.1
baz=288
LOT **Lotru** 114.33 318 ⇑P PKPdf 13 20 37.2 -0.1
MARR **Marisel-Cluj** 114.34 320 ⇑P **PKiKP** 13 20 37.5 +0.2
PLVB **Pleven** 114.41 316 ⇑P **PKiKP** 13 20 38.0 +0.6
ABTX **Abilene, Hawle** 114.55 56 P **PKiKP** 13 20 38.1 0.0
baz=281
CRVS **Cervenica-Dubn** 114.57 322 *e* PKiKP PKPdf 13 20 38.1 +0.6
CRVS **Cervenica-Dubn** 114.57 322 *e* PKP PKPdf 13 20 38.1 +0.6
DEV **Deva** 114.76 319 ⇓P PKPdf 13 20 39.0 +1.0
DEV **Deva** 114.76 319 ⇓PKiKP PKPdf 13 20 39.0 +1.0
JCT **Junction City** 114.79 59 P **PKiKP** 13 20 38.7 +0.1
baz=280
OJC **Ojcow** 115.03 324 *e* PKiKP **PKPdf** 13 20 38.9 +0.5
NIE **Niedzica** 115.06 323 *e* PKiKP **PKPdf** 13 20 40.0 +1.4
SURR **Surduc** 115.31 319 ⇑P **PKPdf** 13 20 39.2 +0.2
HERR **Herculane** 115.43 318 ⇑P **PKPdf** 13 20 39.3 0.0
LANS **Liptovska Anna** 115.67 323 *e* PKiKP **PKPdf** 13 20 40.9 +1.2
LANS **Liptovska Anna** 115.67 323 *e* PKP **PKPdf** 13 20 40.9 +1.2
BLKB **Belogradchik** 115.68 317 ⇑P **PKPdf** 13 20 40.2 +0.3
BZS **Buzias** 115.70 319 ⇑P **PKPdf** 13 20 40.1 +0.3
BZS **Buzias** 115.70 319 ⇑PKiKP **PKPdf** 13 20 40.1 +0.3
MDVR **Moldovita** 115.93 318 ⇑P **PKPdf** 13 20 40.3 -0.1
EYMN **Ely** 116.01 38 P **PKPdf** 13 20 40.2 -0.2
baz=294
OKC **Ostrava-Krasne** 116.16 324 *e* PKiKP **PKPdf** 13 20 40.1 -0.4
OKC **Ostrava-Krasne** 116.16 324 *e* PKPDF **PKPdf** 13 20 40.1 -0.4
VYHS **Vyhne** 116.33 323 *e* PKiKP **PKiKP** 13 20 41.2 +0.3
VYHS **Vyhne** 116.33 323 *e* PKP **PKiKP** 13 20 41.2 +0.3
BOVS **Bovan** 116.33 317 ⇑P **PKPdf** 13 20 40.8 -0.3
MORC **Moravsky Berou** 116.53 324 ⇓P **PKiKP** 13 20 42.0 +0.6
MORC **Moravsky Berou** 116.53 324 *e* PKP **PKiKP** 13 20 42.0 +0.6
MORC **Moravsky Berou** 116.53 324 ⇓PKiKP **PKiKP** 13 20 42.0 +0.6
435B **Jarrell** 116.62 58 P **PKiKP** 13 20 42.0 0.0
baz=281
KRLC **Kraliky** 116.84 325 *e* PKiKP **PKiKP** 13 20 42.4 +0.5
KRLC **Kraliky** 116.84 325 *e* PKPDF **PKiKP** 13 20 42.4 +0.5
JAVC **Velka Javorina** 116.87 323 *e* PKP **PKiKP** 13 20 43.6 +1.6
SRO **Srobarova** 116.93 322 *e* PKiKP **PKiKP** 13 20 43.0 +0.9
SRO **Srobarova** 116.93 322 *e* PKP **PKiKP** 13 20 43.0 +0.9
OSTC **Ostas** 116.94 326 *e* PKiKP **PKiKP** 13 20 42.4 +0.3
OSTC **Ostas** 116.94 326 *e* PKPDF **PKiKP** 13 20 42.4 +0.3
TUL3 **Leonard** 116.95 52 P **PKPdf** 13 20 42.2 -0.3
baz=285
DPC **Dobruska-Polom** 116.97 325 *e* PKiKP **PKiKP** 13 20 42.7 +0.5
DPC **Dobruska-Polom** 116.97 325 *e* PKPDF **PKiKP** 13 20 42.7 +0.5
CHVC **Chvalec** 117.01 326 *e* PKiKP **PKPdf** 13 20 42.2 0.0
CHVC **Chvalec** 117.01 326 *e* PKPDF **PKPdf** 13 20 42.2 0.0
FRGS **Fruska Gora** 117.05 319 ⇑P **PKiKP** 13 20 42.8 +0.3
UPC **Upice** 117.07 326 *e* PKiKP **PKPdf** 13 20 41.5 -0.8
UPC **Upice** 117.07 326 *e* PKPDF **PKPdf** 13 20 41.5 -0.8
VRAC **Vranov** 117.30 324 ⇑P **PKPdf** 13 20 42.6 -0.2
VRAC **Vranov** 117.30 324 *e* PKP **PKiKP** 13 20 43.2 +0.4
VRAC **Vranov** 117.30 324 PKiKP **PKiKP** 13 20 43.0 +0.2
VRAC **Vranov** 117.30 324 PKP **PKiKP** 13 20 43.0 +0.2
comp=Z,8.6nm,0.8s,baz=65,slow=4.2,SNR=7.8
MODS **Modra-Piesok** 117.31 323 *e* PKiKP **PKiKP** 13 20 43.8 +0.9
MODS **Modra-Piesok** 117.31 323 *e* PKP **PKiKP** 13 20 43.8 +0.9
MORH **Mrgy, Hungar** 117.39 320 ⇑P **PKiKP** 13 20 43.3 +0.3
ZST **Bratislava** 117.50 323 *e* PKiKP **PKiKP** 13 20 44.2 +1.0
ZST **Bratislava** 117.50 323 *e* PKP **PKiKP** 13 20 44.2 +1.0
KRUC **Moravsky** 117.53 324 *e* PKP **PKiKP** 13 20 43.6 +0.4
PVCC **Panska Ves** 117.87 326 *e* PKiKP **PKiKP** 13 20 44.3 +0.5
PVCC **Panska Ves** 117.87 326 *e* PKPDF **PKiKP** 13 20 44.3 +0.5
TREC **Trest** 117.95 325 *e* PKiKP **PKPdf** 13 20 41.9 -2.2
TREC **Trest** 117.95 325 *e* PKPDF **PKPdf** 13 20 41.9 -2.2
BRG **Berggiesshubel** 118.04 327 *i* PKP **PKiKP** 13 20 44.7 +0.5
BRG Amp 13 20 45.4
comp=Z,20nm,0.8s
BRG **Berggiesshubel** 118.04 327 P **PKiKP** 13 20 47.7 +3.5
BRG Amp 13 20 48.8
comp=Z,5.4nm,0.8s
BRG **Berggiesshubel** 118.04 327 *i* PKiKP **PKiKP** 13 20 44.6 +0.5
BRG pmax pmax
comp=Z,20nm,0.8s
GOPC **GO Pecny, Ondr** 118.05 325 *e* PKiKP **PKiKP** 13 20 44.4 +0.1
GOPC **GO Pecny, Ondr** 118.05 325 *e* PKPDF **PKiKP** 13 20 44.4 +0.1
PRU **Pruhonice** 118.15 326 *e* PKiKP **PKPdf** 13 20 44.3 -0.1
PRU **Pruhonice** 118.15 326 *e* PKPDF **PKPdf** 13 20 44.3 -0.1
PRA **Prague** 118.17 326 *e* PKiKP **PKiKP** 13 20 44.7 +0.3
PRA **Prague** 118.17 326 *e* PKPDF **PKiKP** 13 20 44.7 +0.3
RONA **Rosalia, Austr** 118.20 323 *i* PKP **PKPdf** 13 20 44.6 0.0
comp=Z,9.0nm,0.7s
CLL **Collm** 118.33 328 ⇑ *i* PKiKP **PKiKP** 13 20 44.9 +0.2
CLL pmax pmax
comp=Z,28nm,0.8s
CLL **Collm** 118.33 328 ⇑ *i* PKPdf **PKiKP** 13 20 44.9 +0.2
comp=Z,28nm,0.8s
CONA **Conrad Observa** 118.36 323 *i* PKP **PKiKP** 13 20 45.1 0.0
comp=Z,13nm,0.7s,SNR=5.9
HSKC **Hora Svate Kat** 118.46 327 *e* PKPDF **PKPdf** 13 20 44.9 -0.1
ZVC **Zvikov** 118.62 325 *e* PKPDF **PKPdf** 13 20 45.1 -0.2
JFWS **Jewell Farm** 118.80 43 P **PKPdf** 13 20 45.2 -0.7
baz=293
CKRC **Cesky Krumlov** 118.85 325 *e* PKiKP **PKiKP** 13 20 46.2 +0.3
CKRC **Cesky Krumlov** 118.85 325 *e* PKPDF **PKiKP** 13 20 46.2 +0.3
ARSA **Arzberg** 118.88 323 *i* PKP **PKPdf** 13 20 45.4 -0.5
comp=Z,12nm,1.1s
KHC **Kasperske Hory** 119.12 325 *e* PKiKP **PKPdf** 13 20 46.0 -0.3
KHC **Kasperske Hory** 119.12 325 *e* PKPDF **PKPdf** 13 20 46.0 -0.3
NKC **Novy Kostel** 119.19 327 *e* PKiKP **PKPdf** 13 20 46.4 0.0
NKC **Novy Kostel** 119.19 327 *e* PKPDF **PKPdf** 13 20 46.4 0.0
GERES **GERESS Array B** 119.19 325 PKP **PKPdf** 13 20 46.5 0.0
comp=Z,21nm,0.8s,baz=52,slow=2.2,SNR=50
GROS **Grobnik** 119.25 322 *i* PKPdf **PKPdf** 13 20 46.2 -0.5
MOA **Molln** 119.35 324 *i* PKP **PKPdf** 13 20 46.5 -0.3
comp=Z,10nm,0.7s
SOKA **Soboth** 119.44 322 *i* PKP **PKPdf** 13 20 46.9 -0.2
comp=Z,22nm,1.0s,SNR=5.4
BIOA **Bad Ischl, Aus** 119.80 324 *i* PKP **PKPdf** 13 20 47.2 -0.5
comp=Z,20nm,1.2s
CCM **Cathedral Cave** 119.81 48 P **PKPdf** 13 20 47.6 -0.3
baz=289
OBKA **Obir** 119.81 322 *i* PKP **PKPdf** 13 20 47.4 -0.4
comp=Z,11nm,0.7s
KBA **Koelnbreinsper** 120.27 323 *i* PKP **PKPdf** 13 20 48.0 -0.8
comp=Z,15nm,0.7s,SNR=6.5
MYKA **Terra Mystica** 120.31 323 *i* PKP **PKPdf** 13 20 48.1 -0.6
comp=Z,14nm,0.7s
LESA **Schwarzleotal** 120.49 324 *i* PKP **PKPdf** 13 20 48.6 -0.5
comp=Z,27nm,0.6s
L44A **Lake County Fo** 120.67 43 P **PKPdf** 13 20 48.7 -0.8
baz=294
ABTA **Abfaltersbach** 120.93 323 *i* PKP **PKPdf** 13 20 49.5 -0.5
comp=Z,35nm,0.8s,SNR=7.7
WATA **Walderalm** 121.18 324 *e* PKP **PKPdf** 13 20 50.3 -0.2
comp=Z,24nm,0.7s,SNR=8.2
WTTA **Wattenberg** 121.19 324 *e* PKP **PKiKP** 13 20 50.6 0.0
comp=Z,50nm,0.7s,SNR=17
TIP **Timpagrande** 121.40 314 ⇑P **PKiKP** 13 20 51.4 +0.2
MOTA **Moosalm** 121.45 324 *i* PKP **PKPdf** 13 20 50.8 -0.2
comp=Z,38nm,0.6s,SNR=15
SQTA **Sankt Quirin** 121.46 324 *i* PKP **PKPdf** 13 20 50.9 -0.1
comp=Z,38nm,0.7s,SNR=10
RETA **Reutte** 121.58 325 *i* PKP **PKPdf** 13 20 50.9 -0.2
comp=Z,12nm,0.8s
GLMI **Grayling** 121.66 39 P **PKPdf** 13 20 50.9 -0.4
baz=298
FETA **Feichten** 121.84 324 *i* PKP **PKiKP** 13 20 52.0 0.0
comp=Z,23nm,0.7s,SNR=9.9
SFIN **Lafayette** 121.96 45 P **PKPdf** 13 20 51.8 -0.2
baz=294
DAVA **Damuels** 122.19 325 *i* PKP **PKiKP** 13 20 52.6 -0.1
comp=Z,54nm,0.6s,SNR=9.0
TSUM **Tsumeb** 122.28 244 PKPdf **PKPdf** 13 20 53.4 0.0
BTNL **Ternell** 122.31 330 *d* PKPdf **PKiKP** 13 20 52.7 +0.1
OXF **Oxford** 122.35 52 P **PKPdf** 13 20 52.6 -0.3
baz=289
MEM **Membach** 122.36 330 *d* PKPdf **PKPdf** 13 20 52.5 0.0
DAVOX **Davos/Dischmat** 122.46 324 PKP **PKPdf** 13 20 52.8 -0.2
comp=Z,35nm,0.6s,baz=151,slow=2.0,SNR=44
BHOU **Houvegnez** 122.52 330 *d* PKPdf **PKiKP** 13 20 53.6 +0.6
BSTI **Sart Tilman** 122.60 330 *d* PKPdf **PKiKP** 13 20 53.9 +0.8
BCLA **Clavier** 122.83 330 *d* PKPdf **PKiKP** 13 20 53.8 +0.2
WLF **Walferdange** 122.86 329 *d* PKPdf **PKiKP** 13 20 54.3 +0.6
BGES **Gesves** 122.96 330 *d* PKPdf **PKiKP** 13 20 54.0 +0.1
WVT **Waverly** 123.03 49 P **PKPdf** 13 20 53.8 -0.4
baz=291
RCHB **Rochefort** 123.03 330 *d* PKPdf **PKPdf** 13 20 53.8 0.0
EKA **Eskdalemuir Ar** 123.07 338 PKP **PKPdf** 13 20 53.6 -0.1
comp=Z,5.3nm,0.5s,baz=13,slow=3.0,SNR=25
BMRD **Maredsous** 123.17 330 *d* PKPdf **PKiKP** 13 20 54.5 +0.3
O48B **Farmland** 123.36 44 P **PKPdf** 13 20 54.4 -0.3
baz=295
DOU **Dourbes** 123.39 330 *d* PKPdf **PKiKP** 13 20 54.9 +0.2

WCI	**Wyandotte Cave**	**123.39**	**47**	P		**PKPdf**	**13 20 54.4**	**-0.4**
	baz=293							
P49A	**Miami Univ. Ec**	**123.98**	**45**	P		**PKPdf**	**13 20 55.9**	**0.0**
	baz=295							
VLDQ	**Val d'Or**	**124.06**	**32**	PKPdf		**PKPdf**	**13 20 54.7**	**-1.0**
SCHQ	**Schefferville**	**124.11**	**21**	PKP		**PKPdf**	**13 20 55.8**	**0.0**
	comp=Z,8.4nm,0.6s,baz=30,slow=3.3,SNR=14							
LRAL	**Lakeview Retre**	**124.73**	**53**	P		**PKPdf**	**13 20 57.4**	**-0.2**
	baz=289							
PLCA	**Paso Flores**	**124.77**	**148**	PKP		**PKiKP**	**13 20 58.0**	**+0.2**
	comp=Z,11nm,0.7s,baz=240,slow=1.9,SNR=28							
PLCA				SKP			13 24 24.1	
	comp=Z,3.9nm,1.0s,baz=253,slow=4.0,SNR=3.4							
ACSO	**Alum Creek Sta**	**124.87**	**43**	P		**PKPdf**	**13 20 57.6**	**0.0**
	baz=297							
BRAL	**Brewton**	**125.28**	**55**	P		**PKPdf**	**13 20 58.5**	**-0.1**
	baz=288							
P52A	**Corning**	**125.72**	**43**	P		**PKPdf**	**13 20 59.3**	**0.0**
	baz=296							
M53A	**WI Miller and**	**125.83**	**41**	P		**PKPdf**	**13 20 59.0**	**-0.4**
	baz=300							
ERPA	**Erie**	**125.93**	**40**	P		**PKPdf**	**13 20 59.4**	**-0.1**
	baz=301							
O53A	**New Philadelph**	**126.06**	**42**	P		**PKPdf**	**13 20 59.6**	**-0.3**
	baz=299							
TZTN	**Tazewell**	**126.07**	**47**	P		**PKPdf**	**13 21 00.1**	**+0.1**
	baz=294							
GOGA	**Godfrey**	**127.36**	**51**	P		**PKPdf**	**13 21 02.3**	**-0.2**
	baz=292							
LONY	**Lake Ozonia**	**127.76**	**34**	P		**PKiKP**	**13 21 03.8**	**+0.2**
	baz=308							
TIGA	**Tifton**	**127.99**	**53**	P		**PKPdf**	**13 21 03.7**	**-0.1**
	baz=291							
BLA	**Blacksburg**	**128.03**	**45**	P		**PKPdf**	**13 21 03.8**	**0.0**
	baz=298							
SSPA	**Standing Stone**	**128.05**	**40**	P		**PKiKP**	**13 21 04.0**	**-0.2**
	baz=302							
KEST	**Kesra**	**128.19**	**313**	PKP		**PKiKP**	**13 21 05.6**	**+0.8**
	comp=Z,34nm,0.9s,baz=203,slow=1.5,SNR=17							
KMSC	**Kings Mountain**	**128.29**	**48**	P		**PKiKP**	**13 21 04.9**	**0.0**
	baz=295							
LBNH	**Lisbon**	**129.47**	**33**	P		**PKPdf**	**13 21 06.4**	**+0.2**
	baz=311							
PKME	**Peaks-Kenny Pk**	**130.17**	**31**	P		**PKiKP**	**13 21 08.1**	**-0.3**
	baz=314							
L61B	**Northampton**	**130.19**	**35**	P		**PKiKP**	**13 21 08.4**	**-0.1**
	baz=309							
PAL	**Palisades**	**130.34**	**38**	P		**PKiKP**	**13 21 08.7**	**-0.2**
	baz=306							
HRV	**Adam Dziewonsk**	**130.80**	**35**	P		**PKPdf**	**13 21 08.9**	**+0.1**
	baz=310							
DWPF	**Disney Wildern**	**130.90**	**57**	P		**PKPdf**	**13 21 09.6**	**+0.2**
	baz=290							
LCO	**Las Campanas**	**132.66**	**137**	PKPdf		**PKPdf**	**13 21 12.9**	**-0.2**
LCO	**Las Campanas**	**132.66**	**137**	PKiKP		**PKPdf**	**13 21 12.9**	**-0.2**
ESDC	**Sonseca Array**	**134.79**	**325**	PKP		**PKPdf**	**13 21 16.6**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=25,slow=2.4,SNR=16							
ESDC				PP		**PP**	**13 23 52.2**	**+1.5**
	comp=Z,2.6nm,0.9s,baz=32,slow=7.8,SNR=6.5							
ESDC				SKPbc		**SKPbc**	**13 24 37.1**	**-0.9**
	comp=Z,2.7nm,1.0s,baz=19,slow=2.8,SNR=4.6							
PBRG	**Braganca**	**134.81**	**329**	*e*PKPdf		**PKiKP**	**13 21 17.4**	**-0.5**
MCRA	**Macar, Loja**	**135.07**	**101**	PKPdf		**PKPdf**	**13 21 17.1**	**-0.7**
MCRA	**Macar, Loja**	**135.07**	**101**	*e*P		**PKPdf**	**13 21 13.8**	**-4.0**
PAB	**San Pablo**	**135.09**	**325**	PKPdf		**PKPdf**	**13 21 17.5**	**+0.4**
PAB	**San Pablo**	**135.09**	**325**	⇑PKiKP		**PKPdf**	**13 21 17.0**	**-0.1**
MVO	**Moncorvo**	**135.42**	**329**	*e*PKPdf		**PKiKP**	**13 21 18.6**	**-0.6**
PGAV	**Gavieira, Arco**	**135.45**	**330**	*e*PKPdf		**PKPdf**	**13 21 17.3**	**-0.5**
POLO	**Lamas de Olo**	**135.66**	**330**	*e*PKPdf		**PKiKP**	**13 21 19.1**	**-0.6**
PVRL	**Vila Real**	**135.69**	**329**	*e*PKPdf		**PKPdf**	**13 21 18.0**	**-0.1**
PVIS	**Viseu**	**136.19**	**329**	*e*PKPdf		**PKiKP**	**13 21 20.1**	**-0.7**
MTE	**Manteigas**	**136.24**	**328**	*e*PKPdf		**PKiKP**	**13 21 20.1**	**-0.8**
PCBR	**Castelo Branco**	**136.61**	**328**	*e*PKPdf		**PKiKP**	**13 21 20.8**	**-0.8**
PMRV	**Marv??o**	**136.87**	**327**	*e*PKPdf		**PKPdf**	**13 21 20.2**	**-0.1**
PMRV				*i* LQ		LQ	13 21 57.3	
PCAS	**Casmilo, Conde**	**136.99**	**329**	*e*PKPdf		**PKiKP**	**13 21 21.5**	**-0.9**
OTAV	**Otavalo**	**137.26**	**95**	*e*P		**PKPdf**	**13 21 20.4**	**-2.0**
PIAT	**Ana Tenorio**	**137.29**	**97**	*e*P		**PKPdf**	**13 21 19.2**	**-3.2**
PESTR	**Estremoz**	**137.38**	**327**	*e*PKPdf		**PKiKP**	**13 21 22.5**	**-0.7**
PBAR	**Barrancos**	**137.56**	**326**	*e*PKPdf		**PKPdf**	**13 21 22.5**	**+0.9**
PMTG	**Montargil**	**137.57**	**328**	*e*PKPdf		**PKPdf**	**13 21 22.1**	**+0.5**
EVO	**Evora**	**137.84**	**327**	*e*PKPdf		**PKPdf**	**13 21 22.9**	**+0.7**
TULM	**Tulcn-Chalpat**	**137.97**	**94**	*e*P		**PKPdf**	**13 21 23.2**	**-0.5**
PBEJ	**Beja**	**138.13**	**326**	*e*PKPdf		**PKiKP**	**13 21 24.0**	**-0.7**
PNCL	**Nicolau / Gran**	**138.43**	**327**	*e*PKPdf		**PKPdf**	**13 21 24.2**	**+1.0**
MESJ	**Messejana**	**138.46**	**326**	*e*PKPdf		**PKPdf**	**13 21 24.1**	**+0.8**
MESJ	**Messejana**	**138.46**	**326**	*e*PKPdf		**PKPdf**	**13 21 24.2**	**+0.8**
PVAQ	**Vaqueiros**	**138.48**	**325**	*e*PKPdf		**PKPdf**	**13 21 24.3**	**+0.9**
PCVE	**Castro Verde**	**138.50**	**326**	*e*PKPdf		**PKiKP**	**13 21 24.6**	**-0.9**
BBAC	**Balboa, Cauca**	**138.63**	**92**	*e*P		**PKPdf**	**13 21 23.4**	**-1.2**
MORF	**Marmelete**	**139.08**	**326**	*e*PKPdf		**PKPdf**	**13 21 25.3**	**+0.8**
MORF	**Marmelete**	**139.08**	**326**	*e*PKPdf		**PKPdf**	**13 21 25.4**	**+0.9**
JAMC	**Jamundi, Valle**	**139.29**	**91**	*e*P		**PKPdf**	**13 21 26.9**	**+1.1**
YOTC	**Yotoco, Valle**	**139.66**	**89**	*e*P		PKPdf	13 21 18.1	-8.2
PLMC	**San Jos del P**	**139.75**	**88**	*e*P		**PKPdf**	**13 21 21.2**	**-5.2**
DBBC	**Dabeiba**	**139.83**	**85**	*e*P		**PKiKP**	**13 21 30.6**	**+1.6**
CBOC	**Ciudad Bolivar**	**140.04**	**86**	*e*P		**PKPdf**	**13 21 20.6**	**-6.5**
GUY2C	**Guyana, Caldas**	**140.67**	**87**	*e*P		**PKPdf**	**13 21 27.8**	**-0.8**
ORTC	**Ortega, Tolima**	**140.75**	**90**	*e*P		**PKPdf**	**13 21 22.9**	**-5.3**
PTLC	**Puerto Leguiza**	**140.88**	**95**	*e*P		PKPdf	13 21 15.5	-13
PRAC	**Prado**	**141.10**	**90**	*e*P		**PKPdf**	**13 21 23.8**	**-5.0**
ZARC	**Zaragoza, Cauc**	**141.16**	**84**	*e*P		**PKPdf**	**13 21 22.2**	**-6.7**
CZSB	**Cruzeiro do Su**	**141.25**	**108**	*e*P		**PKPdf**	**13 21 23.5**	**-5.6**
PTBC	**PUERTO BERRIO**	**141.58**	**85**	*e*P		**PKPdf**	**13 21 25.0**	**-4.7**
ROSC	**El Rosal**	**141.71**	**88**	PKP		**PKPdf**	**13 21 28.6**	**-1.7**
	comp=Z,12nm,0.6s,baz=284,slow=11,SNR=2.0							
ROSC				SKPbc		**SKPbc**	**13 24 58.1**	**-0.8**
	comp=Z,28nm,0.7s,baz=235,slow=22,SNR=6.0							
TOA0	**Torodi Ar. Sit**	**141.97**	**285**			PKPpre	13 21 23.5	
TORD	**Torodi Ar. Bea**	**141.97**	**285**	PKhKP		PKPpre	13 21 24.0	
	comp=Z,17nm,0.7s,baz=62,slow=4.3,SNR=42							
TORD				PKP		**PKPdf**	**13 21 31.0**	**+0.7**
	comp=Z,24nm,0.7s,baz=56,slow=2.8,SNR=20							
TORD				PP		**PP**	**13 24 37.1**	**+0.5**
	comp=Z,5.4nm,0.9s,baz=35,slow=5.4,SNR=4.0							
TORD				SKPbc		**SKiKP**	**13 25 00.1**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=47,slow=4.0,SNR=4.8							
SDDR	**Presa de Saban**	**142.66**	**65**	*e*P		**Pdif**	**13 18 52.5**	**-0.8**
CPUP	**Villa Florida**	**142.82**	**147**	PKPdf		**PKPdf**	**13 21 32.3**	**+0.8**
CPUP	**Villa Florida**	**142.82**	**147**	PKiKP		**PKPdf**	**13 21 32.3**	**+0.8**
CPUP	**Villa Florida**	**142.82**	**147**	PKP		**PKPdf**	**13 21 31.9**	**+0.4**
	comp=Z,14nm,0.7s,baz=236,slow=3.2,SNR=7.1							
CPUP				SKPbc		**SKPbc**	**13 25 01.2**	**+0.3**
	comp=Z,27nm,1.2s,baz=218,slow=4.0,SNR=6.2							
CRJC	**Cerrejon, Guaj**	**142.84**	**78**	*e*P		**PKPdf**	**13 21 27.8**	**-4.2**
BARC	**Barichara**	**142.85**	**85**	*e*P		**PKPdf**	**13 21 28.4**	**-3.8**
PAMC	**Pamplona, Colo**	**143.31**	**84**	*e*P		PKPbc	13 21 30.8	+0.1
URIC	**Uribia, Colomb**	**143.62**	**77**	*e*P		PKPab	13 21 26.9	-3.1
PTGC	**Puerto Gaitan,**	**143.86**	**89**	*e*P		PKPab	13 21 27.1	-3.9
TAMC	**Tame, Arauca**	**144.23**	**86**	*e*P		**PKPab**	**13 21 32.2**	**-0.2**
SDV	**Santo Domingo**	**145.26**	**81**			**PKPbc**	**13 21 35.6**	**-0.6**
SDV	**Santo Domingo**	**145.26**	**81**	*e*P		**PKPbc**	**13 21 35.8**	**-0.4**
PMPST	**Porto Santo, M**	**146.37**	**330**	*e*PKPab		**PKPab**	**13 21 39.9**	**+0.1**
PMAR	**Madeira**	**146.94**	**330**	*e*PKPab		**PKPab**	**13 21 42.1**	**-0.2**
FUL	**Funchal**	**147.00**	**330**	*e*PKPab		**PKPab**	**13 21 41.9**	**-0.3**
PMOZ	**Porto Moniz, M**	**147.01**	**330**	*e*PKPab		**PKPab**	**13 21 42.1**	**-0.3**
SJG	**San Juan**	**147.55**	**63**	PKPdf		**PKPdf**	**13 21 39.9**	**+0.1**
SJG	**San Juan**	**147.55**	**63**	PKiKP		**PKPdf**	**13 21 39.9**	**+0.1**
SJG	**San Juan**	**147.55**	**63**	*e*P		**PKPdf**	**13 21 40.7**	**+0.9**
KIC	**Kosan Boka**	**148.95**	**275**	*e*PKIKP		**PKPdf**	**13 21 42.5**	**+0.2**
	comp=Z,257nm,0.8s							
DBIC	**Dimbokro**	**149.06**	**275**	PKPdf		**PKPdf**	**13 21 42.3**	**-0.1**
DBIC				PKPbc		**PKPbc**	**13 21 46.5**	**-0.1**
DBIC	**Dimbokro**	**149.06**	**275**	PKP		**PKPdf**	**13 21 42.8**	**+0.4**
	comp=Z,159nm,0.8s,baz=84,slow=2.7,SNR=134							
DBIC				PKPbc		**PKPbc**	**13 21 47.2**	**+0.6**
	comp=Z,159nm,0.8s,baz=87,slow=2.7,SNR=96							
TIC	**Toumodi**	**149.22**	**275**	*e*PKIKP		**PKPdf**	**13 21 43.0**	**+0.3**
	comp=Z,276nm,0.8s							
LIC	**Lamto**	**149.24**	**274**	*e*P		**PKPdf**	**13 21 42.9**	**+0.2**
	comp=Z,774nm,0.8s							
SAML	**Samuel**	**149.60**	**116**	PKPdf		**PKPdf**	**13 21 43.1**	**-0.2**
SAML	**Samuel**	**149.60**	**116**	PKiKP		**PKPdf**	**13 21 43.1**	**-0.2**
SAML	**Samuel**	**149.60**	**116**	*e*P		**PKPdf**	**13 21 43.8**	**+0.5**
MACI	**Morro de la Ar**	**150.19**	**324**			**PKPbc**	**13 21 49.5**	**+0.2**
BOAV	**Boa Vista**	**155.31**	**94**	*e*P		**PKPdf**	**13 21 51.8**	**+0.1**
BDFB	**Brasilia**	**156.50**	**149**	PKP		**PKPdf**	**13 21 54.1**	**+0.7**
	comp=Z,14nm,0.9s,baz=160,slow=3.8,SNR=12							
BDFB				PKPab		**PKPab**	**13 22 21.4**	**-0.9**
	comp=Z,16nm,0.9s,baz=162,slow=3.1,SNR=7.4							
RCBR	**Riachuelo**	**169.56**	**180**	PKPab		**PKPab**	**13 23 19.6**	**+0.3**
	comp=Z,20nm,0.9s,baz=172,slow=9.3,SNR=7.6							

*IDC **16** 13:34:15.3±1.1,9.45N×84.54W, h0km, mb3.8/8, mbtmp3.9/10, ML2.5/1, MS3.8/7, Error ellipse: s-maj=38.4km s-min=17.5km az=53.0*
*UPA **16** 13:34:18.7±1.8,9.63N×84.49W, h0km±10km, MD4.9, MW5.1*
*CATAC **16** 13:34:18.0±0.3,9.39N×84.53W, h4km±2km, ML4.4*
*UCR **16** 13:34:18.3±0.7,9.43N×84.52W, h15km±5km, MW5.0, MB4.3(NEIC)*
*NEIC **16** 13:34:18.5±2.1,9.47N±0.04×84.49W±0.01, h15km±4km, mb4.3/4, Error ellipse: s-maj=5.8km s-min=1.2km az=186.0*

ISC 16 13:34:18.2±0.9,**9.43N**±0.03×**84.53W**±0.02,**h17**km±6km, **n128**,σ1§**01**/155,**mb3.9**/10,**MS4.1**/3,**2C-28D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
BITO	**Garabito Jaco**	**0.21**	**334**	*e*P		**Pg**		**13 34 22.6**	**-0.5**
RITA	**Parrita**	**0.21**	**65**	⇓*e*P		**Pg**		**13 34 22.9**	**-0.3**
RITA				*e*S		**Sb**		**13 34 27.9**	**+0.6**
JACO	**JACO, Garabito**	**0.26**	**331**			**Pg**		**13 34 23.6**	**-0.3**
JACO				Sg		**Sb**		**13 34 28.6**	**-0.2**
JACO	**JACO, Garabito**	**0.26**	**331**	⇓*e*P		**Pg**		**13 34 23.7**	**-0.3**
JACO				*e*S		**Sb**		**13 34 28.8**	**0.0**
JACO	**JACO, Garabito**	**0.26**	**331**	*i* P		**Pb**		**13 34 23.9**	**-0.6**
JACO				*i* S		**Sb**		**13 34 28.8**	**0.0**
JACO				IAML				13 34 29.9	
	comp=Z,99µm,1.0s								
SVQ2	**Quepos**	**0.36**	**90**	*e*P		**Pg**		**13 34 25.2**	**-0.4**
LLNJ	**Naranjito**	**0.42**	**84**	⇑*e*P		**Pb**		**13 34 26.7**	**-0.6**
ACOS	**Acosta**	**0.51**	**45**	⇓*e*P		**Pg**		**13 34 27.9**	**-0.5**
RAZU	**San Marcos de**	**0.55**	**65**	*e*P		**Pg**		**13 34 28.5**	**-0.6**
ARZA	**Esparza**	**0.57**	**346**	*e*P		**Pb**		**13 34 30.0**	**+0.2**
CBL1	**Cabuya**	**0.58**	**286**	⇓*e*P		**Pb**		**13 34 29.4**	**-0.4**
LCR2	**La Lucha 2**	**0.60**	**59**	Pg		**Pg**		**13 34 29.2**	**-1.0**
LCR2				Sg		**Sb**		**13 34 38.1**	**-0.6**
LCR2	**La Lucha 2**	**0.60**	**59**	⇓*i* P		**Pg**		**13 34 29.4**	**-0.8**
LCR2	**La Lucha 2**	**0.60**	**59**	*i* P		**Pg**		**13 34 29.5**	**-0.7**
LCR2				*i* S		**Sb**		**13 34 38.7**	**0.0**
LCR2				IAML				13 34 46.4	
	comp=Z,12µm,1.0s								
SRA1	**San Ramn**	**0.65**	**4**	⇓*e*P		**Pg**		**13 34 30.4**	**-0.7**
RAMO	**San Ramon**	**0.66**	**5**	*e*P		**Pb**		**13 34 31.4**	**+0.1**
LUJA	**Lujan**	**0.67**	**42**	*e*P		**Pb**		**13 34 31.5**	**0.0**
HDC	**Heredia**	**0.70**	**36**			**Pg**		**13 34 31.2**	**-0.8**
HDC	**Heredia**	**0.70**	**36**	⇓*e*P		**Pb**		**13 34 31.6**	**-0.4**
HDC3	**Heredia 3**	**0.70**	**36**	⇓*e*P		**Pg**		**13 34 31.3**	**-0.6**
HDC3	**Heredia 3**	**0.70**	**36**	*i* P		**Pb**		**13 34 32.0**	**0.0**
HDC3				*i* S		**Sb**		**13 34 42.3**	**+0.8**
HDC3				IAML				13 35 01.1	
	comp=Z,15µm,1.0s								
TRIO	**Tres Rios**	**0.71**	**48**	*e*P		**Pg**		**13 34 31.0**	**-1.1**
RIMA	**Rio Macho**	**0.74**	**63**			**Pg**		**13 34 31.4**	**-1.2**
RIMA				Sg		**Sg**		**13 34 41.0**	**-1.4**
RIMA	**Rio Macho**	**0.74**	**63**	⇓*e*P		**Pg**		**13 34 31.6**	**-1.0**
RIMA	**Rio Macho**	**0.74**	**63**	*i* P		**Pg**		**13 34 31.7**	**-0.9**
RIMA				*i* S		**Sb**		**13 34 42.9**	**+0.4**
RIMA				IAML				13 34 51.5	
	comp=Z,8µm,1.0s								
ZARE	**Zarcero**	**0.76**	**10**	*e*P		**Pb**		**13 34 33.1**	**0.0**
CDM	**Cerro de Muert**	**0.77**	**81**	*e*P		**Pg**		**13 34 32.2**	**-1.0**
CDM	**Cerro de Muert**	**0.77**	**81**	*i* P		**Pg**		**13 34 32.5**	**-0.7**
CDM				*i* S		**Sb**		**13 34 43.8**	**+0.2**
CDM				IAML				13 34 58.6	
	comp=Z,10µm,1.0s								
BUS1	**Rivas**	**0.78**	**81**	⇓*e*P		**Pg**		**13 34 32.3**	**-1.2**
POA5	**Crater Von Fra**	**0.82**	**21**	⇓*e*P		**Pg**		**13 34 33.5**	**-0.8**
CVIMO	**Finca Echandi**	**0.83**	**44**	⇓*e*P		**Pg**		**13 34 33.6**	**-0.7**
PCAYA	**Pacayas**	**0.86**	**56**	*e*P		**Pg**		**13 34 34.1**	**-0.8**
CPMI	**Catarata Coope**	**0.86**	**10**	⇓*e*P		**Pb**		**13 34 34.4**	**-0.4**
CPMI	**Catarata Coope**	**0.86**	**10**	*i* P		**Pb**		**13 34 34.6**	**-0.2**
CPMI				*i* S		**Sn**		**13 34 47.5**	**-0.5**
CPMI				IAML				13 34 55.6	
	comp=Z,8µm,1.0s								
HAYA	**Volcan Irazu**	**0.87**	**51**	*i* P		**Pb**		**13 34 34.7**	**-0.4**
HAYA				IAML				13 35 00.2	
	comp=Z,9µm,1.0s								
VICA	**Volcano Irazu**	**0.87**	**51**	*e*P		**Pg**		**13 34 34.1**	**-1.1**
ICR3	**Volcano Irazu**	**0.88**	**52**	*e*P		**Pg**		**13 34 34.2**	**-1.1**
NYURE	**Nandayure**	**0.91**	**308**	*e*P		**Pb**		**13 34 35.1**	**-0.4**
VTRT	**Volcan Turrial**	**0.92**	**52**	*e*P		**Pb**		**13 34 35.1**	**-1.1**
OCHAL	**Ojochal**	**0.93**	**111**	*i* P		**Pb**		**13 34 35.6**	**-0.3**
VTLA	**Turrialba Volc**	**0.94**	**52**	*e*P		**Pb**		**13 34 35.7**	**-0.5**
SOCE	**Pocosol**	**0.95**	**355**			**Pg**		**13 34 36.0**	**-0.7**
SOCE	**Pocosol**	**0.95**	**355**	⇓*e*P		**Pg**		**13 34 36.0**	**-0.7**
SOCE	**Pocosol**	**0.95**	**355**	*i* P		**Pn**		**13 34 36.4**	**-0.4**
SOCE				IAML				13 35 02.2	
	comp=Z,8µm,1.0s								
JTS	**Las Juntas de**	**0.95**	**334**			**Pb**		**13 34 35.2**	**-1.0**
JTS	**Las Juntas de**	**0.95**	**334**	*e*P		**Pb**		**13 34 35.3**	**-1.0**
JTS	**Las Juntas de**	**0.95**	**334**	Pn		**Pb**		**13 34 35.0**	**-1.2**
	comp=Z,190nm,0.3s,baz=120,slow=14,SNR=204								
JTS				Sn		**Sn**		**13 34 49.6**	**-0.4**
	comp=Z,298nm,0.3s,baz=171,slow=23,SNR=6.7								
JTS	**Las Juntas de**	**0.95**	**334**	⇓*e*P		**Pb**		**13 34 35.4**	**-0.9**
CVTV	**Tajo**	**0.96**	**53**	*e*P		**Pb**		**13 34 35.8**	**-0.7**
VTCV	**VTCV, Calle Va**	**0.96**	**55**	⇓*e*P		**Pb**		**13 34 35.9**	**-0.7**
VTLO	**VTLO**	**1.00**	**52**	⇓*e*P		**Pb**		**13 34 36.5**	**-0.7**
ARE1	**Arenal 1**	**1.04**	**350**			**Pb**		**13 34 37.5**	**-0.3**
ARE1	**Arenal 1**	**1.04**	**350**	⇓*e*P		**Pg**		**13 34 37.7**	**-0.7**
VACR	**Volcan Arenal**	**1.05**	**352**	⇓*e*P		**Pb**		**13 34 37.7**	**-0.2**
VACR	**Volcan Arenal**	**1.05**	**352**	*i* P		**Pn**		**13 34 37.9**	**-0.2**
VACR				*i* S		**Sn**		**13 34 53.5**	**+1.1**
VACR				IAML				13 35 07.2	
	comp=Z,5µm,1.0s								
INDI	**Punta indio, G**	**1.05**	**294**	⇓*e*P		**Pb**		**13 34 37.2**	**-0.7**
INDI	**Punta indio, G**	**1.05**	**294**	*i* P		**Pb**		**13 34 37.7**	**-0.3**
INDI				*i* S		**Sn**		**13 34 53.2**	**+0.7**
INDI				IAML				13 35 02.3	
	comp=Z,6µm,1.0s								
RIFO	**Rio Frio, Sara**	**1.06**	**34**	⇓*e*P		**Pb**		**13 34 37.5**	**-0.6**
RIFO	**Rio Frio, Sara**	**1.06**	**34**	*i* P		**Pg**		**13 34 38.9**	**+0.1**
RIFO				*i* S		**Sn**		**13 34 54.0**	**+1.2**
RIFO				IAML				13 35 14.2	
	comp=Z,9µm,1.0s								
LCOCO	**El Coco**	**1.16**	**56**	*e*P		**Pn**		**13 34 39.2**	**-0.4**
SRBA	**San Rafael, Bu**	**1.17**	**100**			**Pn**		**13 34 38.7**	**-1.2**
SRBA	**San Rafael, Bu**	**1.17**	**100**	*e*P		**Pn**		**13 34 38.5**	**-1.4**
SRBA	**San Rafael, Bu**	**1.17**	**100**	*i* P		**Pn**		**13 34 39.1**	**-0.8**
SRBA				*i* S		**Sg**		**13 34 56.8**	**+0.6**
SRBA				IAML				13 35 25.8	
	comp=Z,2µm,1.0s								
CARI	**Cariari**	**1.21**	**40**	*e*P		**Pg**		**13 34 40.7**	**-0.9**
PLVR	**Palo Verde**	**1.22**	**318**	⇓*e*P		**Pn**		**13 34 40.1**	**-0.5**
DRK0	**Durika**	**1.28**	**97**			**Pn**		**13 34 40.7**	**-0.7**
DRK0	**Durika**	**1.28**	**97**	*e*P		**Pn**		**13 34 40.8**	**-0.6**
COVE	**Coope Vega, Sa**	**1.29**	**6**			**Pn**		**13 34 41.0**	**-0.4**
COVE	**Coope Vega, Sa**	**1.29**	**6**	⇓*e*P		**Pn**		**13 34 41.0**	**-0.4**
COVE	**Coope Vega, Sa**	**1.29**	**6**	*i* P		**Pg**		**13 34 42.8**	**-0.2**
COVE				*i* S		**Sg**		**13 35 01.6**	**+1.7**
COVE				IAML				13 35 16.1	
	comp=Z,8µm,1.0s								
ORTG	**Ortega, Santa**	**1.30**	**315**			**Pn**		**13 34 40.9**	**-0.8**
ORTG	**Ortega, Santa**	**1.30**	**315**	⇓*e*P		**Pn**		**13 34 41.4**	**-0.3**
ORTG	**Ortega, Santa**	**1.30**	**315**	*i* P		**Pn**		**13 34 41.6**	**-0.1**
ORTG				*i* S		**Sg**		**13 35 01.7**	**+1.3**
ORTG				IAML				13 35 14.9	
	comp=Z,6µm,1.0s								
TRT2	**Tortugero**	**1.37**	**35**	*i* P		**Pb**		**13 34 42.7**	**-0.6**
TRT2				*i* S		**Sg**		**13 35 03.8**	**+1.4**
TRT2				IAML				13 35 23.0	
	comp=Z,7µm,1.0s								
CUI	**Cuipilapa**	**1.37**	**333**	⇓*e*P		**Pn**		**13 34 42.7**	**+0.1**
COLC	**Colonia**	**1.40**	**332**	⇓*e*P		**Pn**		**13 34 43.1**	**+0.1**
POTG	**Potrero Grande**	**1.44**	**105**	⇑*e*P		**Pn**		**13 34 43.3**	**-0.3**
POTG	**Potrero Grande**	**1.44**	**105**	*i* P		**Pn**		**13 34 43.9**	**+0.3**
POTG				*i* S		**Sg**		**13 35 04.6**	**-0.2**
POTG				IAML				13 35 13.3	
	comp=Z,5µm,1.0s								
VMAR	**Armenia, Volca**	**1.49**	**337**	⇓*e*P		**Pb**		**13 34 44.9**	**-0.6**
VMAR	**Armenia, Volca**	**1.49**	**337**	*i* P		**Pb**		**13 34 45.1**	**-0.3**
VMAR				*i* S		**Sg**		**13 35 06.8**	**+0.5**
VMAR				IAML				13 35 15.7	
	comp=Z,10µm,1.0s								
VRLE	**La Escondida,**	**1.58**	**329**	⇓*e*P		**Pn**		**13 34 45.8**	**+0.3**
VRLE	**La Escondida,**	**1.58**	**329**	*i* P		**Pb**		**13 34 46.1**	**-0.9**
VRLE				*i* S		**Sg**		**13 35 09.0**	**-0.2**
VRLE				IAML				13 35 23.2	
	comp=Z,3µm,1.0s								
HZTE	**Horizontes, Gu**	**1.65**	**321**			**Pb**		**13 34 47.1**	**-1.1**
HZTE	**Horizontes, Gu**	**1.65**	**321**	*e*P		**Pb**		**13 34 47.1**	**-1.1**
HZTE	**Horizontes, Gu**	**1.65**	**321**	*i* P		**Pb**		**13 34 47.5**	**-0.7**
HZTE				IAML				13 35 23.9	
	comp=Z,5µm,1.0s								
CCOL	**Caracol de Cor**	**1.84**	**123**	*i* P		**Pb**		**13 34 50.5**	**-0.9**
CCOL				*i* S		**Sb**		**13 35 14.7**	**+0.5**
CCOL				IAML				13 35 34.8	
	comp=Z,5µm,1.0s								
CDITO	**Canoas**	**1.84**	**117**			**Pn**		**13 34 49.2**	**+0.2**
CDITO	**Canoas**	**1.84**	**117**	*e*P		**Pb**		**13 34 51.7**	**+0.2**
CDITO	**Canoas**	**1.84**	**117**	*i* P		**Pn**		**13 34 50.1**	**+1.0**
CDITO				*i* S		**Sb**		**13 35 14.7**	**+0.4**
CDITO				IAML				13 35 43.5	
	comp=Z,5µm,1.0

AML	**Almayashu**	**2.83**	**102**⇑	*eP*		**Pg**		**13 42 42.8**	**0.0**
	baz=1.0								
AML				⇑*eS*		**Sg**		**13 43 17.8**	**-1.7**
	baz=1.0								
AAK	**Ala-Archa**	**3.34**	**91**⇑	*eP*		**Pg**		**13 42 49.8**	**-2.8**
	baz=90								
AAK				⇑*eS*		**Sb**		**13 43 29.8**	**+0.4**
	baz=90								
ARLS	**Aral**	**3.35**	**104**⇑	*eP*		**Pg**		**13 42 50.1**	**-2.8**
	baz=4.0								
ARLS				⇑*eS*		**Sb**		**13 43 29.9**	**+0.1**
	baz=4.0								
UCH	**Uchtor**	**3.40**	**97**⇓	*eP*		**Pb**		**13 42 50.8**	**+1.1**
	baz=97								
UCH				⇓*eS*		**Sb**		**13 43 31.9**	**+0.4**
	baz=97								
SGDS	**Sogindy**	**3.48**	**77**	Pg		**Pg**		**13 42 55.0**	**-0.3**
	2.3nm,0.8s								
SGDS				Lg		Lg		13 43 37.9	
	9.0nm,0.6s								
CHMS	**Chumysh**	**3.52**	**84**	⇓Pg		**Pg**		**13 42 56.6**	**+0.5**
	3.3nm,0.5s								
CHMS				⇓Lg		Lg		13 43 43.1	
	2.7nm,0.6s								
BTLS	**Baital**	**3.73**	**51**	Pg		**Pg**		**13 43 00.8**	**+0.8**
	2.4nm,0.3s								
BTLS				Lg		Lg		13 43 47.9	
	2.1nm,0.6s								
BTLS	**Baital**	**3.73**	**51**	*eP*		**Pg**		**13 43 00.8**	**+0.8**
	2.4nm,0.3s								
BTLS				*eS*		**Sg**		**13 43 47.9**	**-0.4**
	2.1nm,0.6s								
TKM2	**Tokmak 2**	**4.14**	**86**	⇓Pg		**Pg**		**13 43 06.9**	**-1.1**
	0.5nm,0.4s								
TKM2				⇓Lg		Lg		13 43 59.4	
	3.9nm,0.8s								
KRBS	**Karabastau**	**4.27**	**75**	Pg		**Pg**		**13 43 10.8**	**+0.3**
	2.4nm,0.6s								
KRBS				Lg		Lg		13 44 04.8	
	0.4nm,0.5s								
KRBS	**Karabastau**	**4.27**	**75**	*eP*		**Pg**		**13 43 10.8**	**+0.3**
	2.4nm,0.6s								
KRBS				*eS*		**Sg**		**13 44 04.8**	**-1.1**
	0.4nm,0.5s								
DGS	**Degeres**	**4.28**	**82**	Pg		**Pg**		**13 43 09.5**	**-1.2**
	2.2nm,0.4s								
DGS				Lg		Lg		13 44 02.7	
	4.1nm,0.5s								
DGS	**Degeres**	**4.28**	**82**	*eP*		**Pg**		**13 43 09.5**	**-1.2**
	2.2nm,0.4s								
DGS				*eS*		**Sg**		**13 44 02.7**	**-3.5**
	4.1nm,0.5s								
KST	**Kastek**	**4.41**	**84**	Pg		**Pg**		**13 43 13.0**	**-0.2**
	2.1nm,0.6s								
KST				Lg		Lg		13 44 08.5	
	5.5nm,1.0s								
KST	**Kastek**	**4.41**	**84**	*eP*		**Pg**		**13 43 13.0**	**-0.2**
	2.1nm,0.6s								
KST				*eS*		**Sg**		**13 44 08.5**	**-1.8**
	5.5nm,1.0s								
KUU	**Kurty**	**4.78**	**74**	Pg		**Pg**		**13 43 20.2**	**-0.1**
	2.4nm,0.4s								
KUU				Lg		Lg		13 44 20.6	
	5.3nm,0.6s								
KUU	**Kurty**	**4.78**	**74**	*eP*		**Pg**		**13 43 20.2**	**-0.1**
	2.4nm,0.4s								
KUU				*eS*		**Sg**		**13 44 20.6**	**-1.6**
	5.3nm,0.6s								
KTBS	**Karatobe**	**5.00**	**77**	Pg		**Pg**		**13 43 22.5**	**-1.8**
	1.2nm,0.7s								
KTBS				Lg		Lg		13 44 25.2	
	8.3nm,1.0s								
KTBS	**Karatobe**	**5.00**	**77**	*eP*		**Pg**		**13 43 22.5**	**-1.8**
	1.2nm,0.7s								
KTBS				*eS*		**Sg**		**13 44 25.2**	**-3.8**
	8.3nm,1.0s								
TNSS	**Tian-Shan**	**5.13**	**85**	Pg		**Pg**		**13 43 26.5**	**-0.5**
	1.2nm,0.3s								
TNSS				Lg		Lg		13 44 31.6	
	1.3nm,0.7s								
TNSS	**Tian-Shan**	**5.13**	**85**	*eP*		**Pg**		**13 43 26.5**	**-0.5**
	1.2nm,0.3s								
TNSS				*eS*		**Sg**		**13 44 31.6**	**-1.9**
	1.3nm,0.7s								

GII ***16*** *13:48:32.3±0.6,33°.88N±0°.03×37°.03E±0°.04,h0km, confirmed*
GRAL ***16*** *13:48:37.6±0.5,33°.58N×36°.97E,h15km±58km,MD3.0*
ISC 16 13:48:34.7±2.5,33°66N±0°.06×37°.1E±0°.1,h10km,n17,
σ1ᵖ**13**/19**,Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCY	**Rachaya**	**1.03**	**261**	*eP*		**Pg**	**13 48 54.0**	**-0.5**
RCY				*eS*		**Sg**	**13 49 06.5**	**-1.4**
HWQ	**Hawqa**	**1.11**	**304**	*eP*		**Pn**	**13 48 56.5**	**+0.1**
BEIL	**Beino**	**1.14**	**321**	*eP*		**Pn**	**13 48 57.7**	**+1.0**
BEIL				*eS*		**Sn**	**13 49 12.4**	**-0.1**
NATI	**Neve Ativ**	**1.17**	**251**	P		**Pb**	**13 48 56.4**	**-0.6**
NATI	**Neve Ativ**	**1.17**	**251**	S		**Sn**	**13 49 14.6**	**+1.5**
DQRL	**Deir Qamar**	**1.24**	**273**	*eP*		**Pn**	**13 48 58.1**	**-0.1**
KSHT	**Keshet**	**1.24**	**237**	P		**Pb**	**13 48 57.6**	**-0.6**
KSHT	**Keshet**	**1.24**	**237**	S		**Sn**	**13 49 17.1**	**+2.1**
GEM	**Giv'at Ha'Em**	**1.24**	**249**	P		**Pb**	**13 48 57.8**	**-0.5**
GEM	**Giv'at Ha'Em**	**1.24**	**249**	S		**Sn**	**13 49 17.1**	**+2.1**
MMA0B	**Mount Meron ar**	**1.52**	**246**	P		**Pn**	**13 49 02.4**	**+0.3**
MMA0B	**Mount Meron ar**	**1.52**	**246**	S		**Sg**	**13 49 24.9**	**+1.2**
MMC7	**Mount Meron ar**	**1.53**	**246**	P		**Pn**	**13 49 01.3**	**-0.8**
MMLI	**Mount Malkishu**	**1.83**	**229**	P		**Pb**	**13 49 07.9**	**-0.5**
MMLI	**Mount Malkishu**	**1.83**	**229**	S		**Sg**	**13 49 33.9**	**+0.2**
SLTI	**Sal'it**	**2.20**	**231**	P		**Pn**	**13 49 11.4**	**0.0**
SLTI	**Sal'it**	**2.20**	**231**	S		**Sg**	**13 49 43.9**	**-1.7**

DJA 16 14:28:52.9±0.5,9°S±5°×107°E±°,h10km,M3.8/7,mb4.4/1,
MLv3.5/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBJI	**Bungbulang**	**1.96**	**10**	P		**Pn**	14 29 26.3	0.0
CMJI	**Cimerak**	**1.96**	**35**	P		Pn	14 29 25.2	-1.1
CNJI	**Cibinong**	**2.10**	**355**	P		Pn	14 29 28.5	+0.4
LEM	**Lembang**	**2.58**	**7**	P		Pn	14 29 35.3	+0.3
KPJI	**Karang Pucung**	**2.61**	**38**	P		Pn	14 29 35.5	+0.4
KASI	**Kota Agung**	**4.77**	**324**	P		Pn	14 30 04.4	-0.5
JAGI	**Jajag, Banyuwa**	**6.81**	**83**	P		Pn	14 30 33.2	+0.2

NEIC ***16*** *15:02:27.1±1.8,15°.78S±0°.07×74°.60W±0°.10,h47km±6km, mb4.8/50,Error ellipse: s-maj=14.1km s-min=9.2km az=64.0*
IDC ***16*** *15:02:28.8±0.4,15°.68S×74°.36W,h47km±3km,mb4.5/11, mbtmp4.7/17,MS4.0/3,Error ellipse: s-maj=18.1km s-min=10.0km az=60.0*
VAO ***16*** *15:02:30.7±0.6,15°.74S×74°.13W,h37km,mb5.0*
ISC 16 15:02:28.0±0.4,15°82S±0°.04×74°41W±0°.06,h49km,n211,
σ1ᵖ**91**/210**,mb5.1**/29**,5C-2D,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.48**	**328**	Pn		**Pn**	**15 03 29.7**	**-3.8**
NNA				Sn		**Sn**	**15 04 22.7**	**-1.7**
NNA	**Nana**	**4.48**	**328**	P		**Pn**	**15 03 33.5**	**0.0**
	193nm,0.3s,baz=168,slow=11,SNR=32							
NNA				S		**Sn**	**15 04 21.7**	**-2.8**
	309nm,0.3s,baz=216,slow=9.0,SNR=5.4							
NNA				LR		LR	15 05 16.5	
	comp=Z,2μm,21.9s,baz=164,slow=38							
NNA	**Nana**	**4.48**	**328**	*eP*		**Pn**	**15 03 32.6**	**-0.9**
AP01	**Chacalluta**	**4.64**	**124**	Pn		**Pn**	**15 03 34.8**	**-0.8**
PB12	**IPOC Station P**	**4.79**	**126**	Pn		**Pn**	**15 03 38.8**	**+1.0**
PB12	**IPOC Station P**	**4.79**	**126**	*eP*		**Pn**	**15 03 38.7**	**+1.0**
PB18	**Visviri**	**5.04**	**111**			**Pn**	**15 03 45.3**	**+3.7**
PB18	**Visviri**	**5.04**	**111**	*eP*		Pn	15 03 46.6	+5.0
PB16	**IPOC Station P**	**5.32**	**119**			**Pn**	**15 03 47.6**	**+2.2**
PB16	**IPOC Station P**	**5.32**	**119**	*eP*		**Pn**	**15 03 47.4**	**+2.0**
PB16				*i* S		**Sn**	**15 04 44.8**	**-0.9**
PB11	**IPOC Station P**	**5.99**	**132**	Pn		**Pn**	**15 03 55.2**	**+0.9**
PB11	**IPOC Station P**	**5.99**	**132**	*eP*		**Pn**	**15 03 55.3**	**+1.0**
TA02	**Huaiquique**	**6.01**	**138**			**Pn**	**15 03 53.7**	**-0.7**
TA02	**Huaiquique**	**6.01**	**138**⇑	*eP*		**Pn**	**15 03 53.8**	**-0.6**
LPAZ	**La Paz**	**6.06**	**95**	Pn		Pn	15 04 00.0	+4.4
TA01	**Diego Aracena**	**6.20**	**140**	Pn		**Pn**	**15 03 57.4**	**+0.4**
TA01	**Diego Aracena**	**6.20**	**140**	*eP*		**Pn**	**15 03 58.1**	**+1.1**
TA01				*i* S		**Sn**	**15 05 01.1**	**-5.5**
TA01				IAML			15 05 08.7	
	comp=N,498nm,0.6s							
GO01	**Chusmiza**	**6.27**	**128**			**Pn**	**15 04 00.3**	**+1.8**
GO01	**Chusmiza**	**6.27**	**128**	*eP*		**Pn**	**15 04 00.4**	**+2.0**
GO01				*i* S		**Sn**	**15 05 08.7**	**-0.4**
PATCX	**Punta Patache**	**6.41**	**141**			**Pn**	**15 04 00.6**	**+0.7**
PATCX	**Punta Patache**	**6.41**	**141**	*eP*		**Pn**	**15 04 00.6**	**+0.7**
PATCX				*i* S		**Sn**	**15 05 07.5**	**-4.4**
PATCX				IAML			15 05 10.6	
	comp=N,336nm,0.4s							
PB08	**IPOC Station P**	**6.59**	**131**			**Pn**	**15 04 04.0**	**+1.3**
PB08	**IPOC Station P**	**6.59**	**131**	*eP*		**Pn**	**15 04 04.5**	**+1.7**
PB08				*i* S		**Sn**	**15 05 14.7**	**-2.2**
PB08				IAML			15 05 21.1	
	comp=N,204nm,0.6s							
PB02	**IPOC Station P**	**6.95**	**143**			**Pn**	**15 04 08.3**	**+1.0**
PB02	**IPOC Station P**	**6.95**	**143**⇑	*eP*		**Pn**	**15 04 08.1**	**+0.7**
PB02				*i* S		**Sn**	**15 05 19.9**	**-5.2**
PB01	**IPOC Station P**	**6.99**	**139**			**Pn**	**15 04 08.7**	**+0.9**
PB01	**IPOC Station P**	**6.99**	**139**	*eP*		**Pn**	**15 04 08.9**	**+1.0**
PB01				*i* S		**Sn**	**15 05 22.7**	**-3.4**
PB01				IAML			15 05 28.7	
	comp=E,503nm,0.8s							
PB07	**IPOC Station P**	**7.27**	**145**			**Pn**	**15 04 12.6**	**+0.6**
PB07	**IPOC Station P**	**7.27**	**145**	*eP*		**Pn**	**15 04 12.4**	**+0.6**
PB07				*i* S		**Sn**	**15 05 26.4**	**-6.8**
PB04	**IPOC Station P**	**7.63**	**149**			**Pn**	**15 04 17.0**	**+0.3**
PB09	**IPOC Station P**	**7.70**	**141**			**Pn**	**15 04 19.6**	**+1.9**
PB09	**IPOC Station P**	**7.70**	**141**	*eP*		**Pn**	**15 04 19.8**	**+2.1**
PB09				*i* S		**Sn**	**15 05 40.0**	**-3.7**
PB05	**IPOC Station P**	**8.04**	**151**	Pn		**Pn**	**15 04 22.4**	**0.0**
CZSB	**Cruzeiro do Su**	**8.21**	**12**	Pn		**Pn**	**15 04 24.0**	**-0.7**
CZSB	**Cruzeiro do Su**	**8.21**	**12**	*eP*		**Pn**	**15 04 25.5**	**+0.8**
CZSB	**Cruzeiro do Su**	**8.21**	**12**	*eP*		**Pn**	**15 04 24.6**	**-0.1**
CZSB				*eS*		**Sn**	**15 05 54.4**	**-1.8**
PB06	**IPOC Station P**	**8.23**	**147**			**Pn**	**15 04 24.9**	**-0.1**
LVC	**Limon Verde**	**8.52**	**143**	Pn		**Pn**	**15 04 31.0**	**+1.9**
LVC	**Limon Verde**	**8.52**	**143**	P		**Pn**	**15 04 30.6**	**+1.5**
	comp=E,21nm,0.5s,baz=8.1,slow=8.8,SNR=34							
LVC				S		**Sn**	**15 06 01.9**	**-2.2**
	comp=E,71nm,0.4s,baz=74,slow=19,SNR=12							
LVC				LR		LR	15 07 52.7	
	comp=E,685nm,19.4s,baz=317,slow=38							
LVC	**Limon Verde**	**8.52**	**143**	*eP*		**Pn**	**15 04 31.2**	**+2.1**
LVC				*eS*		**Sn**	**15 06 01.6**	**-2.5**
PB15	**IPOC Station P**	**8.70**	**148**			**Pn**	**15 04 31.6**	**+0.1**
ATAH	**Atahualpa**	**9.47**	**335**	P		**Pn**	**15 04 43.1**	**+0.8**
	comp=E,5.9nm,0.5s,baz=22,slow=5.4,SNR=4.7							
PB14	**IPOC Station P**	**9.53**	**157**			**Pn**	**15 04 41.7**	**-1.3**
ETMB	**Extrema**	**9.98**	**54**	Pn		**Pn**	**15 04 48.9**	**+0.1**
ETMB	**Extrema**	**9.98**	**54**	*eP*		**Pn**	**15 04 49.4**	**+0.6**
ETMB				*eS*		**Sn**	**15 06 38.4**	**-1.0**
GO02	**Mina Guanaco**	**10.33**	**155**	Pn		**Pn**	**15 04 54.2**	**+0.3**
AC01	**Pan de Azucar**	**10.87**	**162**			**Pn**	**15 05 01.1**	**0.0**
AC06	**Mina Casimiro**	**12.08**	**162**			**Pn**	**15 05 17.3**	**-0.3**
GO03	**Copiap**	**12.34**	**162**			**Pn**	**15 05 20.9**	**-0.2**
MCRA	**Macar, Loja**	**12.62**	**334**			**Pn**	**15 05 21.3**	**-3.7**
MCRA	**Macar, Loja**	**12.62**	**334**	*eP*		**Pn**	**15 05 22.7**	**-2.2**
SIV	**San Ignacio**	**12.84**	**93**	P		**Pn**	**15 05 26.7**	**-1.2**
	comp=E,4.9nm,0.7s,baz=277,slow=10,SNR=23							
SIV				LR		LR	15 11 31.7	
	comp=E,929nm,21.4s,baz=166,slow=42							
SAML	**Samuel**	**12.92**	**59**			**Pn**	**15 05 27.1**	**-1.9**
SAML	**Samuel**	**12.92**	**59**	*eP*		**Pn**	**15 05 27.7**	**-1.3**
LCO	**Las Campanas**	**13.56**	**166**			**Pn**	**15 05 38.6**	**+0.5**
VILB	**Vilhena**	**14.06**	**80**			**Pn**	**15 05 43.8**	**-0.8**
VILB	**Vilhena**	**14.06**	**80**	*eP*		**Pn**	**15 05 44.6**	**0.0**
COHC	**Cochancay**	**14.10**	**340**			**Pn**	**15 05 42.6**	**-2.6**
COHC	**Cochancay**	**14.10**	**340**	*eP*		**P**	**15 05 50.1**	**-1.5**
CO01	**Juntas del Tor**	**14.64**	**165**	P		**Pn**	**15 05 54.8**	**+2.4**
GO04	**Tololo Observa**	**14.66**	**168**			**Pn**	**15 05 49.8**	**-3.0**
PTLB	**Pontes e Lacer**	**14.72**	**91**			**Pn**	**15 05 50.6**	**-2.7**
PTLB	**Pontes e Lacer**	**14.72**	**91**	*eP*		**Pn**	**15 05 54.9**	**+1.6**
CHSH	**Refugio Sur-Vo**	**14.90**	**342**	P		**Pn**	**15 05 55.2**	**-1.0**
CO06	**Fray Jorge**	**15.00**	**171**			**Pn**	**15 05 57.2**	**+0.3**
CO06				IAmb		IAmb	15 06 00.2	
	comp=Z,72nm,1.1s							
PIAT	**Ana Tenorio**	**15.21**	**345**	*eP*		**Pn**	**15 05 59.7**	**-0.4**
CO03	**El Pedregal**	**15.33**	**168**	IAmb		IAmb	15 06 09.3	
	comp=Z,65nm,0.9s							
CO02	**Combarbal**	**15.62**	**169**	P		**Pn**	**15 06 06.7**	**+1.6**
CO02				IAmb		IAmb	15 06 08.3	
	comp=Z,72nm,0.9s							
PTLC	**Puerto Leguiza**	**15.90**	**359**	*eP*		**Pn**	**15 06 03.5**	**-5.1**
OTAV	**Otavalo**	**16.45**	**346**			**Pn**	**15 06 10.3**	**-5.7**
OTAV	**Otavalo**	**16.45**	**346**	*eP*		**P**	**15 06 22.1**	**+3.9**
OTAV	**Otavalo**	**16.45**	**346**	*eP*		**P**	**15 06 20.7**	**+2.6**
BONI	**La Bonita**	**16.46**	**349**	*eP*		**P**	**15 06 22.7**	**+4.7**
CFA	**Coronel Fontan**	**16.69**	**161**	P		**P**	**15 06 21.1**	**+0.9**
	comp=Z,30nm,0.9s,baz=336,slow=12,SNR=25							
TULM	**Tulcn-Chalpat**	**16.77**	**348**			**Pn**	**15 06 14.0**	**-6.0**
TULM	**Tulcn-Chalpat**	**16.77**	**348**	*eP*		**P**	**15 06 21.9**	**+0.2**
VA06	**Catapilco**	**16.90**	**171**			**Pn**	**15 06 17.0**	**-4.1**
VA06				IAmb		IAmb	15 06 25.4	
	comp=Z,72nm,1.2s							
GCUF	**Volcan Galeras**	**17.19**	**350**	*eP*		**P**	**15 06 27.5**	**+1.2**
VA03	**San Esteban**	**17.23**	**169**	IAmb		IAmb	15 06 31.8	
	comp=Z,55nm,1.1s							
VA01	**Torpederas**	**17.31**	**172**			**Pn**	**15 06 23.2**	**-3.0**
VA01				IAmb		IAmb	15 06 29.4	
	comp=Z,60nm,1.1s							
ROC1	**El Roble**	**17.35**	**170**	P		**Pn**	**15 06 25.1**	**-1.9**
BDQN	**Bodoquena, MS**	**17.40**	**108**	*eP*		**Pn**	**15 06 26.7**	**-0.7**
PEL	**Peldehue**	**17.57**	**170**			**Pn**	**15 06 27.6**	**-1.9**
PDRB	**Porto dos Gac**	**17.68**	**79**	*eP*		**Pn**	**15 06 27.0**	**-3.9**
GARC	**Garzon, Huila**	**17.93**	**356**	*eP*		**Pn**	**15 06 38.8**	**-0.3**
VA05	**Santo Domingo**	**17.94**	**172**	IAmb		IAmb	15 06 37.5	
	comp=Z,132nm,1.4s							
MT03	**Universidad Ad**	**17.95**	**169**	IAmb		IAmb	15 06 43.8	
	comp=Z,51nm,1.2s							
BBAC	**Balboa, Cauca**	**17.95**	**351**	*eP*		**P**	**15 06 37.8**	**+3.3**
H03N1	**Juan Fernandez**	**18.01**	**192**	T		T	15 25 15.8	
	baz=14,slow=74,SNR=460							
H03N2	**Juan Fernandez**	**18.01**	**192**	T		T	15 25 14.6	
	baz=14,slow=74,SNR=772							
H03N3	**Juan Fernandez**	**18.02**	**192**	T		T	15 25 17.7	
	baz=14,slow=74,SNR=513							
MT09	**Talagante**	**18.14**	**171**	IAmb		IAmb	15 06 40.1	
	comp=Z,44nm,0.9s							
MT13	**San Alfonso**	**18.23**	**169**	IAmb		IAmb	15 06 41.8	
	comp=Z,49nm,0.9s							
LMEL	**Las Melosas**	**18.34**	**169**	IAmb		IAmb	15 06 43.4	
	comp=Z,64nm,1.1s							
AQDB	**Aquidauana**	**18.37**	**107**	P		**Pn**	**15 06 38.8**	**-0.5**
H03S3	**Juan Fernandez**	**18.38**	**192**	T		T	15 25 35.0	
	baz=276,slow=73,SNR=54							
H03S2	**Juan Fernandez**	**18.39**	**192**	T		T	15 25 37.8	
	baz=276,slow=73,SNR=44							
H03S1	**Juan Fernandez**	**18.40**	**192**	T		T	15 25 41.7	
	baz=276,slow=73,SNR=58							
BETC	**Betania**	**18.41**	**357**	*eP*		**Pn**	**15 06 44.0**	**+4.1**
ANTJ	**Antonio Joao (**	**18.46**	**112**	*eP*		**Pn**	**15 06 42.2**	**+1.8**
MACA	**Manacapuru-AM**	**18.46**	**48**	P		**P**	**15 06 38.3**	**-1.6**
MACA				IAmb		IAmb	15 06 42.8	
	comp=Z,95nm,0.9s							
BO01	**Tunca**	**18.73**	**171**	P		**P**	**15 06 42.5**	**-0.2**
CPUP	**Villa Florida**	**19.04**	**126**	P		**Pn**	**15 06 47.0**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=301,slow=11,SNR=2.9							
JAMC	**Jamundi, Valle**	**19.05**	**353**	*eP*		**P**	**15 06 45.7**	**-0.8**
BO02	**Sierra Bellavi**	**19.17**	**171**	P		**P**	**15 06 47.3**	**-0.2**
GO05	**Huala**	**19.24**	**174**	P		**P**	**15 06 48.2**	**-0.1**
GO05				IAmb		IAmb	15 06 54.5	
	comp=Z,38nm,1.1s							
PRAC	**Prado**	**19.42**	**359**	*eP*		**Pn**	**15 06 53.7**	**+1.8**
ORTC	**Ortega, Tolima**	**19.62**	**358**	*eP*		**Pn**	**15 06 54.7**	**+0.4**
VILC	**Villavicencio,**	**19.82**	**2**	*eP*		**Pn**	**15 06 58.9**	**+2.1**
ML02	**Panimavida**	**20.04**	**173**	P		**P**	**15 06 56.7**	**-0.3**
ML02				IAmb		IAmb	15 07 01.3	
	comp=Z,104nm,1.2s							
NPGB	**Novo Progresso**	**20.60**	**67**	*eP*		**P**	**15 07 03.8**	**+0.6**
SPBC	**San Pablo de B**	**21.34**	**1**	*eP*		**P**	**15 07 12.2**	**+0.9**
ITQB	**Itaqui**	**21.39**	**133**	P		**P**	**15 07 11.6**	**+0.1**
ITQB				IAmb		IAmb	15 07 28.4	
	comp=Z,59nm,1.1s							
ITTB	**Itaituba**	**21.60**	**60**	*eP*		**P**	**15 07 14.4**	**+0.4**
FRBT	**Francisco Belt**	**22.33**	**120**	*eP*		**P**	**15 07 24.8**	**+3.0**
BOAV	**Boa Vista**	**22.72**	**38**	P		**P**	**15 07 25.1**	**-0.9**
BOAV				IAmb		IAmb	15 07 27.6	
	comp=Z,28nm,0.7s							
BOAV	**Boa Vista**	**22.72**	**38**	*eP*		**P**	**15 07 25.1**	**-0.9**
BOAV	**Boa Vista**	**22.72**	**38**	*eP*		**P**	**15 07 26.2**	**+0.2**
LDASE	**Londrina, Braz**	**23.18**	**113**	*eP*		**P**	**15 07 33.0**	**+2.4**
ITRB	**Iturama**	**23.22**	**103**	*eP*		**P**	**15 07 33.2**	**+2.1**
ITAB	**Concordia**	**23.59**	**122**	P		**P**	**15 07 35.2**	**+0.7**
GO06	**Curarrehue**	**23.81**	**174**	P		**P**	**15 07 37.3**	**+0.8**
GO06				IAmb		IAmb	15 07 40.0	
	comp=Z,22nm,0.8s							
MALB	**Monte Alegre**	**24.23**	**57**	*eP*		**P**	**15 07 41.5**	**+1.1**
LR05	**Currie**	**24.41**	**176**	P		**P**	**15 07 42.4**	**+0.5**
TRQA	**Tornquist**	**24.72**	**156**	P		**P**	**15 07 45.8**	**+1.1**
TRQA				IAmb		IAmb	15 07 47.9	
	comp=Z,21nm,1.2s							
PLCA	**Paso Flores**	**25.05**	**173**	P		**P**	**15 07 49.1**	**+1.3**
PLCA				IAmb		IAmb	15 07 50.6	
	comp=Z,37nm,1.1s							
PLCA	**Paso Flores**	**25.05**	**173**	P		**P**	**15 07 49.9**	**+2.2**
	comp=Z,18nm,0.9s,baz=347,slow=11,SNR=38							
	comp=Z,18nm,0.9s							
IPMB	**Ipameri, GO**	**25.16**	**99**	*eP*		**P**	**15 07 50.0**	**+1.1**
BAUV	**El Baul**	**25.40**	**15**	P		**P**	**15 07 50.5**	**-0.6**
BAUV	**El Baul**	**25.40**	**15**	*eP*		**P**	**15 07 52.1**	**+1.0**
BDFB	**Brasilia**	**25.41**	**93**	P		**P**	**15 07 52.1**	**+0.8**
BDFB				IAmb		IAmb	15 07 53.3	
	comp=Z,45nm,1.1s							
BDFB	**Brasilia**	**25.41**	**93**	P		**P**	**15 07 52.5**	**+1.2**
	comp=Z,29nm,0.7s,baz=262,slow=11,SNR=33							
	comp=Z,29nm,0.7s							
CBE	**Ff, Capester**	**34.12**	**22**	*eP*		**P**	**15 09 08.1**	**-0.2**
GDHS	**Morne Mazeau,**	**34.25**	**22**	P		**P**	**15 09 08.9**	**-0.6**
ABD	**La Joyeuse, An**	**34.53**	**22**	*eP*		**P**	**15 09 09.4**	**-2.5**
TXAR	**Lajitas Array**	**53.04**	**328**	P		**P**	**15 11 40.4**	**0.0**
	comp=Z,5.2nm,0.8s,baz=154,slow=13,SNR=1.4							
	comp=Z,5.2nm,0.8s							
PDAR	**Pinedale Array**	**66.65**	**333**	P		**P**	**15 13 14.9**	**+1.1**
	comp=Z,4.6nm,0.8s,baz=146,slow=9.8,SNR=1.7							
	comp=Z,4.6nm,0.8s							
NVAR	**Mina Array Bea**	**67.84**	**324**	P		**P**	**15 13 22.4**	**+1.0**
	comp=Z,10nm,1.1s,baz=163,slow=6.6,SNR=2.0							
	comp=Z,10nm,1.1s							
SNAA	**Sanae**	**69.31**	**161**	⇓P		**P**	**15 13 32.3**	**+2.3**
	comp=Z,97nm,0.9s							
SNAA	**Sanae**	**69.31**	**161**	P		**P**	**15 13 31.6**	**+1.6**
	comp=Z,3.2nm,0.8s,baz=270,slow=10,SNR=7.5							
SNAA				pP		**pP**	**15 13 44.5**	**+0.8**
	comp=Z,4.4nm,0.5s,baz=240,slow=7.4,SNR=4.8							
	comp=Z,3.2nm,0.8s							
TROLL	**Troll, Antarti**	**71.03**	**161**	⇓P		**P**	**15 13 43.8**	**+3.3**
	comp=Z,187nm,1.1s							
KCPM	**Cahto Peak**	**71.74**	**322**	P		**P**	**15 13 42.9**	**-2.4**
LIC	**Lamto**	**72.08**	**78**⇑	*iP*		**P**	**15 13 47.5**	**-0.2**
	comp=Z,42nm,0.8s							
TIC	**Toumodi**	**72.22**	**78**⇑	*iP*		**P**	**15 13 48.4**	**-0.2**
	comp=Z,22nm,0.9s							
DBIC	**Dimbokro**	**72.38**	**78**	P		**P**	**15 13 48.8**	**-0.7**
DBIC				IAmb		IAmb	15 16 03.9	
	comp=Z,34nm,1.0s							

MK31	**Makanchi Array**	**143.55**	**27**	PKPdf	PKPab	15 21 53.7	-0.1
MKAR	**Makanchi Array**	**143.55**	**27**	PKPdf	PKPab	15 21 54.0	+0.1
MKAR	**Makanchi Array**	**143.55**	**27**	PKhKP	PKPpre	15 21 54.7	
	comp=Z,1.7nm,0.6s,baz=331,slow=3.7,SNR=14						
MKAR				pPKP	pPKPdf	15 22 10.2	-2.2
	comp=Z,1.7nm,0.8s,baz=347,slow=3.8,SNR=5.9						
NRN	**Naryn**	**143.91**	**39**	PKPdf	PKPbc	15 21 57.0	+0.6
MJAR	**Matsushiro Arr**	**144.44**	**312**	PKhKP	PKPpre	15 21 57.0	
	comp=Z,6.0nm,1.1s,baz=60,slow=1.1,SNR=5.7						
TARG	**Taragay, Kyrgy**	**144.80**	**37**		**PKPdf**	**15 22 00.5**	**+0.2**
ULN	**Ulaanbaatar**	**148.03**	**358**		**PKPdf**	**15 22 02.8**	**-2.5**
SONM	**Songino Array**	**148.07**	**359**	PKP	**PKPdf**	**15 22 06.6**	**+1.3**
	comp=Z,6.9nm,0.6s,baz=354,slow=0.1,SNR=40						
SONM				PKPbc	**PKPbc**	**15 22 08.7**	**+0.2**
	comp=Z,6.9nm,0.6s,baz=338,slow=1.6,SNR=45						
SONM				pPKPbc	**pPKPbc**	**15 22 23.2**	**-0.1**
	comp=Z,6.9nm,0.6s,baz=338,slow=2.2,SNR=16						
WMQ	**Urumqi**	**148.21**	**25**	*eP*	**PKPbc**	**15 22 07.6**	**-1.3**
WMQ				LR	LR		
	comp=N,5μm,17.7s						
WMQ				LR	LR		
	comp=E,2μm,20.9s						
WMQ				LR	LR		
	comp=Z,4μm,19.3s						
KSRS	**Korea Array**	**150.77**	**322**	PKP	**PKPdf**	**15 22 10.8**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=21,slow=1.1,SNR=7.5						
KSRS				PKPbc	**PKiKP**	**15 22 15.9**	**+0.1**
	comp=Z,9.8nm,0.9s,baz=338,slow=1.6,SNR=28						
KSRS				pPKPbc	**pPKPbc**	**15 22 30.6**	**+0.6**
	comp=Z,8.1nm,0.9s,baz=5.9,slow=1.1,SNR=10						
HHC	**Hu-ho-hao-te**	**154.53**	**349**	*eP*	**PKPdf**	**15 22 13.5**	**-1.8**
GTA	**Gaotai**	**155.96**	**11**	*eP*	**PKPdf**	**15 22 18.5**	**+1.2**
GTA				pP	pPKPdf	15 22 27.4	-5.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NJ2	**Nanjing**	**159.83**	**326**	*eP*	**PKPdf**	**15 22 19.5**	**-2.6**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PZH	**PanZhiHua**	**168.78**	**18**	PKP	**PKPdf**	**15 22 28.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**173.13**	**67**	PKP	**PKPdf**	**15 22 33.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=291,slow=1.0,SNR=5.1						

IDC **16** *15:03:48.8±0.4, 11°.24N×86°.28W, h0km, mb5.2/24, mbtmp5.2/26, ML3.2/2, MS5.7/54, Error ellipse: s-maj=15.1km s-min=9.0km az=46.0*

UPA **16** *15:03:49.7±1.8, 10°.67N×86°.95W, h4km±70km, MW6.3*

UCR **16** *15:03:50.8±0.6, 10°.82N×86°.56W, h14km±5km, MW5.9, MB5.8(NEIC)*

CATAC **16** *15:03:50.9±0.5, 10°.83N×86°.55W, h8km±4km, ML6.0*

BJI **16** *15:03:51.0±0.0, 11°.10N×86°.30W, h30km, mB5.8/35, Ms6.2/70, Ms7 6.0/68*

MOS **16** *15:03:52.8±1.1, 11°.25N×86°.18W, h33km, mb5.8/32, MS5.6/26, Error ellipse: s-maj=9.1km s-min=4.9km az=113.5*

NEIC **16** *15:03:53.3, 10°.93N×86°.35W, h24km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10^17Nm; Mrr5.61; Mθθ-3.20; Mϕϕ-2.41; Mrθ3.30; Mθϕ3.68; Mϕr-2.35; Fault plane solution: M0 7.29000×10^17 NP1: ϕs127.87000°, δ61.91000°, λ85.73000°. NP2: ϕs316.89000°, δ28.39000°, λ97.95000°. Principal axes: T 6.8578, Plg73.0000°, Azm28.0000°; N 0.8685, Plg4.0000°, Azm130.0000°; P -7.7264, Plg17.0000°, Azm221.0000°;*

NEIC **16** *15:03:53.3±2.0, 10°.93N±0°.05×86°.35W±0°.03, h22km±1km, mb6.0/792, Ms_20 5.7/931, Mwb5.9/66, Mww5.8/41 Error ellipse: s-maj=8.1km s-min=4.8km az=16.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr5.27; Mθθ-4.20; Mϕϕ-1.07; Mrθ1.98; Mθϕ5.45; Mϕr-1.64; Fault plane solution: M0 7.72000×10^17 NP1: ϕs129.18000°, δ55.41000°, λ92.89000°. NP2: ϕs304.10000°, δ34.70000°, λ85.82000°. Principal axes: T 5.7490, Plg79.0000°, Azm50.0000°; N 3.0298, Plg2.0000°, Azm308.0000°; P -8.7787, Plg10.0000°, Azm217.0000°;*

NEIC **16** *15:03:53.3, 10°.93N×86°.35W, h24km*

IPGP **16** *15:03:54.0, 10°.94N×86°.34W, h27km, Mw5.9, Fault plane solution: NP1:ϕs124.00000°, δ75.00000°, λ95.00000°. NP2:ϕs286.00000°, δ16.00000°, λ73.00000°.*

NEIC **16** *15:03:54.8, 10°.94N×86°.34W, h36km*

SNET **16** *15:03:55.0±0.8, 10°.94N×86°.67W, h81km±102km, ML5.7*

GCMT **16** *15:03:57.3±0.1, 10°.71N±0°.01×86°.63W±0°.01, h33km, MW5.9/162, Moment Tensor Solution. s150,c322; s162,c473; Duration: 2s3 Moment tensor: Scale 10^18 Nm; Mrr0.77±.01; Mθθ-0.48±.01; Mϕϕ-0.28±.01; Mrθ0.49±.01; Mθϕ0.46±.01; Mϕr-0.38±.01; Best double couple: M0 1.01600×10^18 NP1:ϕs128.00000°, δ64.00000°, λ89.00000°. NP2:ϕs310.00000°, δ26.00000°, λ92.00000°. Principal axes: T 0.9750, Plg71.0000°, Azm36.0000°; N 0.0820, Plg1.0000°, Azm128.0000°; P -1.0570, Plg19.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

GCG **16** *15:04:10.7±0.3, 13°.11N×87°.04W, h292km±38km, MD5.1*

ISC 16 15:03:50.3±0.5, 10°.83N±0°.02×86°.60W±0°.02, h13km±2km, n2076, σ2s04/1472, mb5.9/438, MS5.7/550, 166C-40D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.99**	**97**			**Pg**	**15 04 08.8**	**-0.7**
HZTE	**Horizontes, Gu**	**0.99**	**97**	*eP*		**Pg**	**15 04 08.7**	**-0.7**
HZTE				*eS*		**Sb**	**15 04 22.0**	**-0.5**
HZTE	**Horizontes, Gu**	**0.99**	**97**	*i*P	⇓	**Pg**	**15 04 08.8**	**-0.7**
HZTE				IAML			15 04 29.4	
	comp=Z,1100μm,1.0s							
MSHP	**Masachapa**	**0.99**	**4**	*i*P	⇓	**Pg**	**15 04 10.4**	**+0.9**
MSHP				IAML			15 04 28.7	
	comp=Z,48μm,1.0s							
ELI1	**Hacienda Flor**	**1.05**	**100**	*eP*		**Pg**	**15 04 10.4**	**0.0**
ELI1				*eS*		**Sn**	**15 04 24.8**	**-0.5**
NADN	**Granada**	**1.07**	**31**	*i*P	⇓	**Pg**	**15 04 10.8**	**-0.1**
NADN				IAML			15 04 29.2	
	comp=Z,480μm,1.0s							
ADRN	**Diriamba**	**1.08**	**19**	*i*P	⇑	**Pg**	**15 04 11.8**	**+0.7**
ADRN				IAML			15 04 32.7	
	comp=Z,1800μm,1.0s							
DELF	**Filadelfia**	**1.10**	**110**	*eP*		**Pg**	**15 04 10.8**	**-0.7**
DELF				*eS*		**Sg**	**15 04 24.7**	**-1.1**
JAPN	**AI SSO del Vol**	**1.14**	**53**	*i*P	⇓	**Pg**	**15 04 11.6**	**-0.7**
JAPN				IAML			15 04 33.5	
	comp=Z,160μm,1.0s							
ERIA	**Liberia**	**1.16**	**100**	*eP*		**Pg**	**15 04 12.3**	**-0.3**
ERIA				*eS*		**Sb**	**15 04 27.2**	**+0.1**
OMEN	**AI SSO del Vol**	**1.17**	**55**	*i*P	⇓	**Pg**	**15 04 11.3**	**-1.6**
OMEN				IAML			15 04 32.3	
	comp=Z,160μm,1.0s							
MORN	**AI O del Volca**	**1.18**	**53**	*i*P	⇓	**Pg**	**15 04 11.7**	**-1.2**
MORN				IAML			15 04 14.1	
	comp=Z,1000μm,1.0s							
GB1A	**Borinquen Arri**	**1.18**	**90**	*eP*		**Pg**	**15 04 11.7**	**-1.4**
GB1A				*eS*		**Sb**	**15 04 27.5**	**-0.5**
CRUN	**El Crucero**	**1.18**	**14**	*i* PA			15 04 13.9	
CRUN				IAML			15 04 33.4	
	comp=Z,55μm,1.0s							
NANN	**Nandasmo**	**1.20**	**23**	*i*P	⇑	**Pb**	**15 04 13.9**	**+1.0**
NANN				IAML			15 04 51.2	
	comp=Z,2300μm,1.0s							
CONN	**Concepcion**	**1.20**	**53**	*i*P	⇓	**Pb**	**15 04 11.5**	**-1.5**
CONN				IAML			15 04 21.8	
	comp=Z,1500μm,1.0s							
VRLE	**La Escondida,**	**1.21**	**92**	*i*P	⇓	**Pg**	**15 04 12.0**	**-1.7**
VRLE				IAML			15 04 33.1	
	comp=Z,210μm,1.0s							
ORTG	**Ortega, Santa**	**1.22**	**112**			**Pb**	**15 04 12.1**	**-1.2**
ORTG	**Ortega, Santa**	**1.22**	**112**	*eP*		**Pb**	**15 04 12.0**	**-1.2**
ORTG	**Ortega, Santa**	**1.22**	**112**	*i*P	⇑	**Pb**	**15 04 12.0**	**-1.2**
ORTG				*i* S		**Sb**	**15 04 29.1**	**+0.2**
ORTG				IAML			15 04 36.0	
	comp=Z,310μm,1.0s							
GPS3	**Bodega del ICE**	**1.22**	**93**	*eP*		**Pb**	**15 04 12.9**	**-0.3**
GPS3				*eS*		**Sn**	**15 04 29.3**	**-0.3**
MASN	**Masaya**	**1.23**	**21**	*i*P	⇓	**Pb**	**15 04 13.5**	**0.0**
MASN				IAML			15 04 49.0	
	comp=Z,26μm,1.0s							
VORI	**VORI**	**1.23**	**90**	*eP*		**Pg**	**15 04 12.1**	**-2.0**
JUD3	**Juan Diaz 3**	**1.23**	**122**	*eP*		**Pb**	**15 04 12.1**	**-1.5**
AMYN	**Masaya**	**1.25**	**23**	*i* P		**Pb**	**15 04 13.4**	**-0.4**
AMYN				*i* S		**Sg**	**15 04 30.2**	**-0.4**
AMYN				IAML			15 04 50.0	
	comp=Z,550μm,1.0s							
MAS3	**AI N del Volca**	**1.26**	**19**	*i*P	⇑	**Pb**	**15 04 13.5**	**-0.4**
MAS3				*i* S		**Sn**	**15 04 31.5**	**+1.0**
MAS3				IAML			15 04 38.5	
	comp=Z,210μm,1.0s							
GRNN	**Granada**	**1.26**	**30**	*i* P		**Pb**	**15 04 13.8**	**-0.2**
GRNN				IAML			15 04 54.2	
	comp=Z,470μm,1.0s							
MAFN	**Magfor**	**1.30**	**16**	*i* P		**Pn**	**15 04 15.1**	**+0.8**
MAFN				IAML			15 05 04.9	
	comp=Z,560μm,1.0s							
UNAN	**Cigeo UNAN**	**1.31**	**14**	*i*P	⇑	**Pn**	**15 04 14.7**	**+0.3**
UNAN				*i* S		**Sn**	**15 04 33.9**	**+2.0**
ABCN	**Banco Central**	**1.31**	**12**	*i* P		**Pn**	**15 04 15.5**	**+1.1**
ABCN				IAML			15 05 04.5	
	comp=Z,450μm,1.0s							
USIM	**UNAN**	**1.32**	**14**	*i* P		**Pn**	**15 04 15.4**	**+0.9**
USIM				*i* S		**Sn**	**15 04 33.0**	**+1.0**
USIM				IAML			15 04 42.3	
	comp=Z,350μm,1.0s							
ENAN	**Enatrel Managu**	**1.32**	**15**	*i* P		**Pn**	**15 04 15.3**	**+0.8**
ENAN				IAML			15 04 52.4	
	comp=Z,560μm,1.0s							
PLVR	**Palo Verde**	**1.32**	**111**	*eP*		**Pn**	**15 04 13.5**	**-1.1**
DUNO	**Dulce Nombre,**	**1.32**	**124**	Pn		**Pn**	**15 04 13.4**	**-1.1**
DUNO	**Dulce Nombre,**	**1.32**	**124**	*eP*		**Pn**	**15 04 13.3**	**-1.1**
DUNO	**Dulce Nombre,**	**1.32**	**124**	*i*P	⇓	**Pn**	**15 04 13.8**	**-0.7**
NICO	**Nicoya**	**1.33**	**121**	*eP*		**Pn**	**15 04 13.9**	**-0.7**
COPN	**Copaltepe**	**1.34**	**0**	*i*P	⇑	**Pn**	**15 04 15.6**	**+0.8**
COPN				IAML			15 04 36.3	
	comp=Z,320μm,1.0s							
SAPS	**Ciudad Sandino**	**1.34**	**8**	*i*P	⇑	**Pn**	**15 04 15.1**	**+0.2**
SAPS				IAML			15 05 00.1	
	comp=Z,190μm,1.0s							
TISN	**Laguna Tiscapa**	**1.34**	**14**	*i*P	⇑	**Pn**	**15 04 14.2**	**-0.6**
TISN				IAML			15 04 42.2	
	comp=Z,15μm,1.0s							
BAGA	**Bagaces**	**1.35**	**103**	*eP*		**Pn**	**15 04 14.2**	**-0.7**
ALLN	**Telcor Managua**	**1.35**	**14**	*i* P		**Pn**	**15 04 15.9**	**+0.9**
ALLN				IAML			15 04 54.8	
	comp=Z,300μm,1.0s							
MGA1	**Managua**	**1.35**	**15**	*i* P		**Pn**	**15 04 15.7**	**+0.7**
MGA1				IAML			15 04 53.3	
	comp=Z,470μm,1.0s							
AERN	**Aeropuerto Man**	**1.37**	**18**	*i* P		**Pn**	**15 04 15.7**	**+0.5**
AERN				*i* S		**Sn**	**15 04 34.1**	**+0.8**
AERN				IAML			15 04 56.0	
	comp=Z,250μm,1.0s							
COLC	**Colonia**	**1.38**	**97**	*eP*		**Pn**	**15 04 14.5**	**-0.9**
COLC				*eS*		**Sg**	**15 04 33.4**	**-1.5**
WILN	**Americas 2**	**1.38**	**17**	*i* P		**Pn**	**15 04 15.8**	**+0.4**
WILN				IAML			15 05 04.7	
	comp=Z,240μm,1.0s							
APQ2	**Apoyeque**	**1.39**	**11**	*i*P	⇑	**Pn**	**15 04 15.9**	**+0.5**
APQ2				*i* S		**Sg**	**15 04 35.2**	**+0.2**
APQ2				IAML			15 04 56.2	
	comp=Z,210μm,1.0s							
CAMAV	**Centro de Prod**	**1.39**	**95**	*eP*		**Pn**	**15 04 14.5**	**-1.0**
CAMAV				*eS*		**Sb**	**15 04 33.4**	**-0.5**
AMTN	**Mateare**	**1.41**	**7**	*i* P		**Pn**	**15 04 16.8**	**+1.1**
AMTN				IAML			15 04 54.9	
	comp=Z,760μm,1.0s							
APYN	**Apoyeque**	**1.42**	**10**	*i* P		**Pn**	**15 04 16.5**	**+0.6**
APYN				IAML			15 04 41.9	
	comp=Z,100μm,1.0s							
CUI	**Cuipilapa**	**1.42**	**97**	*eP*		**Pn**	**15 04 15.3**	**-0.7**
CUI				*eS*		**Sb**	**15 04 34.0**	**-0.8**
BC86	**Nagarote**	**1.43**	**1**	*i* P		**Pn**	**15 04 17.3**	**+1.3**
BC86				IAML			15 04 51.4	
	comp=Z,300μm,1.0s							
INDI	**Punta indio, G**	**1.44**	**131**	*eP*		**Pn**	**15 04 15.0**	**-1.3**
INDI	**Punta indio, G**	**1.44**	**131**	*i*P	⇓	**Pn**	**15 04 14.9**	**-1.3**
TIPN	**Tipitapa**	**1.44**	**20**	*i* P		**Pn**	**15 04 16.5**	**+0.3**
TIPN				*i* S		**Sb**	**15 04 35.4**	**0.0**
TIPN				IAML			15 05 25.7	
	comp=Z,330μm,1.0s							
VMAR	**Armenia, Volca**	**1.46**	**91**	*eP*		**Pn**	**15 04 16.1**	**-0.4**
VMAR				*eS*		**Sb**	**15 04 34.5**	**-1.4**
VMAR	**Armenia, Volca**	**1.46**	**91**	*i*P	⇑	**Pn**	**15 04 16.1**	**-0.4**
VMAR				*i* S		**Sg**	**15 04 35.8**	**-1.6**
VMAR				IAML			15 04 52.8	
	comp=Z,320μm,1.0s							
CNAS	**Canas**	**1.54**	**105**	*eP*		**Pn**	**15 04 18.5**	**+1.0**
BC84	**Volcan Momotom**	**1.56**	**2**	*i* P		**Pn**	**15 04 18.5**	**+0.8**
BC84				IAML			15 04 44.2	
	comp=Z,110μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.56**	**359**	*i*P	⇑	**Pn**	**15 04 18.4**	**+0.6**
LEVN				IAML			15 04 42.3	
	comp=Z,110μm,1.0s							
NYURE	**Nandayure**	**1.56**	**122**	*eP*		**Pn**	**15 04 17.6**	**-0.3**
MOMN	**Momotombo**	**1.57**	**2**	*i*P	⇑	**Pn**	**15 04 18.2**	**+0.2**
MOMN				IAML			15 04 41.5	
	comp=Z,5μm,1.0s							
MOM2	**El Cardon**	**1.60**	**4**	*i*P	⇑	**Pn**	**15 04 18.9**	**+0.5**
MOM2				IAML			15 05 01.7	
	comp=Z,110μm,1.0s							
MACN	**El Madrono**	**1.63**	**357**	*i*P	⇑	**Pn**	**15 04 19.6**	**+0.8**
MACN				IAML			15 04 48.6	
	comp=Z,46μm,1.0s							
CNGA	**AI SSO del Vol**	**1.66**	**357**	*i*P	⇑	**Pn**	**15 04 19.8**	**+0.6**
CNGA				IAML			15 04 45.7	
	comp=Z,69μm,1.0s							
CNGN	**Cerro Negro**	**1.66**	**357**			**Pn**	**15 04 20.1**	**+0.8**
CNGN	**Cerro Negro**	**1.66**	**357**	*eP*	⇑	**Pn**	**15 04 20.1**	**+0.8**
CNGN	**Cerro Negro**	**1.66**	**357**	*i*P	⇑	**Pn**	**15 04 19.7**	**+0.4**
CNGN				IAML			15 04 45.3	
	comp=Z,150μm,1.0s							
ROCN	**Rota Cerro Neg**	**1.69**	**355**	*i*P	⇑	**Pn**	**15 04 20.2**	**+0.7**
ROCN				IAML			15 04 47.8	
	comp=Z,32μm,1.0s							
BC87	**San Francisco**	**1.69**	**10**	*i* P		**Pn**	**15 04 19.8**	**+0.1**
BC87				IAML			15 05 09.4	
	comp=Z,96μm,1.0s							
VERA	**Finca Concepci**	**1.70**	**89**	*eP*		**Pn**	**15 04 19.7**	**0.0**
JUNT	**Juntas**	**1.70**	**109**	*eP*		**Pn**	**15 04 19.3**	**-0.5**
JTS	**Las Juntas de**	**1.71**	**108**			**Pn**	**15 04 19.5**	**-0.3**
JTS	**Las Juntas de**	**1.71**	**108**	*i* P		**Pg**	**15 04 24.5**	**+1.4**
JTS				*eS*		**Sg**	**15 04 49.3**	**+4.0**
JTS	**Las Juntas de**	**1.71**	**108**	*c* P		**Pn**	**15 04 18.3**	**-1.6**
JTS	**Las Juntas de**	**1.71**	**108**	⇑P		**Pn**	**15 04 19.0**	**-0.9**
JTS	**Las Juntas de**	**1.71**	**108**	Pn		**Pn**	**15 04 19.7**	**-0.1**
	comp=Z,376nm,0.3s,baz=151,slow=17,SNR=349							
JTS						Sn	**Sg**	**15 04 45.3**	**0.0**
	comp=Z,5μm,0.3s,baz=20,slow=16,SNR=15							
JTS	**Las Juntas de**	**1.71**	**108**	*eP*		**Pn**	**15 04 21.4**	**+1.5**
JTS	**Las Juntas de**	**1.71**	**108**	⇑*eP*		**Pn**	**15 04 19.1**	**-0.7**
TELN	**Telica**	**1.78**	**353**	*i*P	⇑	**Pn**	**15 04 21.4**	**+0.5**
TELN				IAML			15 04 49.2	
	comp=Z,4μm,1.0s							
HERN	**Volcan Telica**	**1.78**	**353**	*i*P	⇑	**Pn**	**15 04 21.7**	**+0.8**
HERN				IAML			15 05 25.0	
	comp=Z,97μm,1.0s							
ACON	**Acoyapa**	**1.80**	**51**			**Pn**	**15 04 20.2**	**-0.9**
ACON	**Acoyapa**	**1.80**	**51**	⇑*eP*		**Pn**	**15 04 20.3**	**-0.9**
ACON	**Acoyapa**	**1.80**	**51**	*i*P	⇑	**Pn**	**15 04 20.1**	**-0.9**
ACON				IAML			15 04 59.5	
	comp=Z,55μm,1.0s							
POLN	**Al Sur del Vol**	**1.82**	**353**	*i* P		**Pn**	**15 04 23.0**	**+1.6**
POLN				IAML			15 04 54.8	
	comp=Z,61nm,1.0s							
LCHIL	**Los Chiles**	**1.86**	**84**	*eP*		**Pn**	**15 04 22.2**	**+0.2**
LCHIL				*eS*		**Sb**	**15 04 46.4**	**-1.1**
ARE1	**Arenal 1**	**1.89**	**101**			**Pn**	**15 04 21.6**	**-0.7**
ARE1	**Arenal 1**	**1.89**	**101**	⇑*eP*		**Pn**	**15 04 22.1**	**-0.3**
BRAN	**Las Pilas**	**1.89**	**7**	⇑*i*P		Pn	15 04 15.1	-7.3
BRAN				IAML			15 04 40.3	
	comp=Z,60μm,1.0s							
CEDE	**Laguna Cedeo**	**1.90**	**100**	⇑*eP*		**Pn**	**15 04 22.4**	**-0.1**
CRIN	**San Cristobal**	**1.91**	**347**			**Pn**	**15 04 23.9**	**+1.2**
CRIN	**San Cristobal**	**1.91**	**347**	⇑*eP*		**Pn**	**15 04 23.9**	**+1.2**
CRIN	**San Cristobal**	**1.91**	**347**	*i*P	⇑	**Pn**	**15 04 23.8**	**+1.1**
CRIN				IAML			15 05 09.1	
	comp=Z,180μm,1.0s							
VACR	**Volcan Arenal**	**1.92**	**100**	⇑*eP*		**Pn**	**15 04 22.6**	**-0.2**
VACR	**Volcan Arenal**	**1.92**	**100**	*i*P	⇑	**Pn**	**15 04 22.8**	**0.0**
VACR				IAML			15 05 11.9	
	comp=Z,100μm,1.0s							
CBL1	**Cabuya**	**1.93**	**130**	*eP*		**Pn**	**15 04 22.3**	**-0.6**
TUNA	**La Fortuna**	**1.96**	**100**	*eP*		**Pn**	**15 04 24.5**	**+1.2**
SOCE	**Pocosol**	**2.00**	**103**			**Pn**	**15 04 23.2**	**-0.7**
SOCE	**Pocosol**	**2.00**	**103**	*eP*		**Pn**	**15 04 23.4**	**-0.5**
SOCE	**Pocosol**	**2.00**	**103**	*i* P		**Pn**	**15 04 24.6**	**+0.7**
SOCE				IAML			15 04 04.3	
	comp=Z,74μm,1.0s							
ARZA	**Esparza**	**2.08**	**114**	*eP*		**Pn**	**15 04 26.3**	**+1.4**
COVE	**Coope Vega, Sa**	**2.16**	**93**			**Pn**	**15 04 25.1**	**-1.0**
COVE	**Coope Vega, Sa**	**2.16**	**93**	*eP*		**Pn**	**15 04 25.0**	**-1.1**
COVE	**Coope Vega, Sa**	**2.16**	**93**	*i*P	⇑	**Pn**	**15 04 25.1**	**-1.0**
COVE				IAML			15 05 33.4	
	comp=Z,95μm,1.0s							
SRA1	**San Ramn**	**2.21**	**109**	*eP*		**Pn**	**15 04 26.6**	**-0.3**
LIMN	**Finca el Limon**	**2.23**	**6**	*i* P		**Pn**	**15 04 27.6**	**+0.5**
LIMN				IAML			15 05 09.8	
	comp=Z,69μm,1.0s							
CPMI	**Catarata Coope**	**2.25**	**104**	*eP*	⇑	**Pn**	**15 04 27.0**	**-0.4**
CPMI	**Catarata Coope**	**2.25**	**104**	*i*P	⇑	**Pn**	**15 04 27.8**	**+0.3**
CPMI				IAML			15 05 12.4	
	comp=Z,90μm,1.0s							
BITO	**Garabito Jaco**	**2.29**	**122**	*eP*		**Pn**	**15 04 29.9**	**+2.1**
ITAL	**Pital**	**2.32**	**99**	*eP*		**Pn**	**15 04 28.1**	**-0.2**
CSGN	**Cosiguina Volc**	**2.33**	**336**	*i*P	⇑	**Pn**	**15 04 29.9**	**+1.4**
CSGN				IAML			15 05 09.2	
	comp=Z,92μm,1.0s							
GREC	**Grecia**	**2.38**	**108**	*eP*		**Pb**	**15 04 33.6**	**+0.5**
BELE	**Belen**	**2.52**	**109**	*eP*		**Pn**	**15 04 31.8**	**+0.7**
HDC	**Heredia**	**2.58**	**108**			**Pn**	**15 04 31.3**	**-0.7**
HDC	**Heredia**	**2.58**	**108**	⇑P		**Pn**	**15 04 31.9**	**-0.1**
HDC	**Heredia**	**2.58**	**108**	*eP*		**Pn**	**15 04 31.7**	**-0.3**
HDC	**Heredia**	**2.58**	**108**	*eP*		**Pn**	**15 04 32.1**	**+0.2**
HDC				*eS*		**Sn**	**15 05 00.6**	**-2.8**
HDC3	**Heredia 3**	**2.58**	**108**	*eP*		**Pn**	**15 04 31.8**	**-0.3**
HDC3	**Heredia 3**	**2.58**	**108**	*i*P	⇑	**Pn**	**15 04 32.7**	**+0.7**
HDC3				IAML			15 05 30.4	
	comp=Z,94μm,1.0s							
ACOS	**Acosta**	**2.61**	**113**	⇑*eP*		**Pn**	**15 04 34.7**	**+2.4**
ESPN	**Las Esperanzas**	**2.63**	**59**			**Pn**	**15 04 31.8**	**-0.7**
ESPN	**Las Esperanzas**	**2.63**	**59**	*eP*		**Pn**	**15 04 32.1**	**-0.4**
ESPN	**Las Esperanzas**	**2.63**	**59**	*i*P	⇑	**Pn**	**15 04 32.5**	**0.0**
ESPN				IAML			15 05 38.3	
	comp=Z,24μm,1.0s							
CENT	**San Jose**	**2.64**	**110**	*eP*		**Pn**	**15 04 33.8**	**+1.0**
AMPH	**Amapala**	**2.65**	**337**	*eP*		**Pn**	**15 04 34.6**	**+1.7**
AMPH				*eS*		**Sn**	**15 05 04.1**	**-0.8**
AMPH	**Amapala**	**2.65**	**337**	*i*P	⇑	**Pn**	**15 04 34.4**	**+1.6**
SJS	**Escuela Geolog**	**2.66**	**109**	*eP*		**Pn**	**15 04 35.3**	**+2.2**
AMPA	**Desamparados**	**2.67**	**110**	*eP*		**Pn**	**15 04 36.4**	**+3.2**
RIFO	**Rio Frio, Sara**	**2.68**	**101**	*eP*		**Pn**	**15 04 32.4**	**-0.8**
RIFO	**Rio Frio, Sara**	**2.68**	**101**	*i* P		**Pn**	**15 04 34.6**	**+1.4**
RIFO				IAML			15 05 26.3	
	comp=Z,72μm,1.0s							
CNCH	**Conchagua**	**2.71**	**334**	*eP*		**Pn**	**15 04 35.6**	**+1.8**
CNCH				*eS*		**Sn**	**15 05 07.4**	**+0.8**
CNCH				IAML			15 05 18.6	
	comp=Z,30μm,0.4s							
CNCH	**Conchagua**	**2.71**	**334**	*i*P	⇑	**Pn**	**15 04 35.4**	**+1.6**
CNCH				IAML			15 05 18.3	
	comp=Z,33μm,1.0s							
RCPN	**Sur Rio San Ju**	**2.72**	**10**	*i* P		**Pn**	**15 04 34.4**	**+0.4**
RCPN				IAML			15 04 47.4	
	comp=Z,23nm,1.0s							
CVIMO	**Finca Echandi**	**2.73**	**107**	*eP*		**Pn**	**15 04 34.1**	**-0.1**
ABE2	**San Pablo**	**2.75**	**114**	*eP*		**Pn**	**15 04 36.1**	**+1.8**
TBLN	**Tablon, Guarco**	**2.75**	**111**	*i*P	⇑	**Pn**	**15 04 35.4**	**+1.1**
TBLN				IAML			15 05 26.2	
	comp=Z,37μm,1.0s							
OCM	**Ochomogo**	**2.76**	**109**	⇑*eP*		**Pn**	**15 04 34.1**	**-0.4**
**OC

BCIP *i* S **Sb** **15 07 08.1 -3.4**
BCIP Isla Barro Col 6.86 103 P **Pn** **15 05 31.4 +0.6**
BCIP Isla Barro Col 6.86 103 ⇑P **Pn** **15 05 32.2 +1.4**
BCIP Isla Barro Col 6.86 103 *e*P **Pn** **15 05 31.5 +0.8**
TOSI3 Tonosi 6.97 119 *e*P Pn 15 05 40.4 +8.2
ARRA3 Arraijan, Pana 7.09 105 ⇓*e*P Pn 15 05 39.1 +5.3
PCRI3 Pocri, Los San 7.13 116 *e*P **Pn** **15 05 37.8 +3.3**
ACHO3 Achotines, Los 7.20 118 *e*P **Pn** **15 05 39.3 +3.9**
UPA Univ. de Panam 7.20 104 *e*P Pn 15 05 39.6 +4.2
UPA *e*S **Sn** **15 07 04.9 +7.8**
UPA Univ. de Panam 7.20 104 *e*P Pn 15 05 39.6 +4.2
PEDA3 Pedasi 7.27 116 *e*P **Pn** **15 05 38.9 +2.5**
CHPO Chepo, Panama 7.55 102 *e*P **Pn** **15 05 41.9 +1.7**
CCIG Comitan 7.64 316 Pn **Pn** **15 05 45.0 +3.4**
CCIG Comitan 7.64 316 ⇑P Pn 15 05 46.8 +5.2
CNTA3 Canitas, Panam 7.76 101 *e*P **Pn** **15 05 46.0 +2.9**
TOTI Torti 8.38 102 *e*P **Pn** **15 05 54.8 +3.2**
TOTI *e*S Sn 15 07 39.6 +13
UPD2 Meteti 8.76 104 *e*P **Pn** **15 05 59.9 +3.1**
UPD2 *e*S Sn 15 07 46.8 +11
UPD2 Meteti 8.76 104 *e*P **Pn** **15 06 00.3 +3.4**
CAPC Capurgana 9.37 103 *e*P Pn 15 06 10.1 +4.8
PTAC Punta Ardita, 9.42 112 *e*P **Pn** **15 06 04.5 -1.5**
TEIG Tepich 9.48 350 Pn **Pn** **15 06 09.2 +2.5**
TEIG Tepich 9.48 350 ⇑P **Pn** **15 06 10.8 +4.1**
FSCY Frank Sound, G 9.92 31 **Pn** **15 06 12.0 -0.7**
CMIG Matias Romero 10.16 309 Pn **Pn** **15 06 18.8 +2.7**
comp=Z,13nm,0.3s,baz=141,slow=10,SNR=89
CMIG Sn Sn 15 08 29.8 +20
comp=Z,2.8nm,0.3s,baz=180,slow=17,SNR=2.3
LCBC Los crdobas, 10.27 100 ⇑*e*P **Pn** **15 06 20.4 +2.9**
LCBC Los crdobas, 10.27 100 *e*P **Pn** **15 06 20.5 +2.9**
DBBC Dabeiba 10.94 109 *e*P **Pn** **15 06 30.8 +4.0**
SJCC San Jacinto, C 11.27 94 **Pn** **15 06 30.3 -1.1**
SJCC San Jacinto, C 11.27 94 *e*P **Pn** **15 06 32.5 +1.1**
UREC San Jos de Ur 11.34 105 *e*P **Pn** **15 06 34.9 +2.6**
UREC San Jos de Ur 11.34 105 *e*P **Pn** **15 06 33.8 +1.5**
GR1C Gorgona, Isla 11.42 132 *e*P Pn 15 06 39.2 +5.9
MTDJ Mount Denham 11.45 49 *i* P **Pn** **15 06 36.8 +3.1**
MTDJ Mount Denham 11.45 49 ⇑P **Pn** **15 06 36.9 +3.1**
CBOC Ciudad Bolivar 11.58 114 *e*P **Pn** **15 06 39.8 +4.2**
PLMC San Jos del P 11.79 119 *e*P **Pn** **15 06 41.4 +2.9**
STH Stony Hill 11.90 52 *i* P **Pn** **15 06 42.4 +2.4**
STH *i* S 15 10 15.2
HOJ Hope 11.91 52 *i* P **Pn** **15 06 43.8 +3.8**
GWJ Greenwich 11.96 52 *i* P **Pn** **15 06 42.9 +2.0**
PAYG Puerto Ayora 12.00 198 Pn 15 06 46.3 +5.0
ZARC Zaragoza, Cauc 12.06 105 *e*P **Pn** **15 06 43.7 +1.6**
ARGC Ariguani, Magd 12.19 93 *e*P **Pn** **15 06 44.6 +0.7**
YOTC Yotoco, Valle 12.23 123 *e*P **Pn** **15 06 46.1 +1.6**
SOR Soroa 12.38 16 **Pn** **15 06 46.8 +0.4**
GUY2C Guyana, Caldas 12.44 116 *e*P **Pn** **15 06 51.6 +4.0**
PTBC PUERTO BERRIO, 12.74 109 *e*P Pn 15 06 55.8 +4.5
LL6C La Loma 6 Bece 13.16 94 *e*P **Pn** **15 06 59.8 +2.6**
OTAV Otavalo 13.28 142 *e*P Pn 15 07 05.4 +6.2
OTAV *e*S **Sn** **15 09 25.9 -1.2**
TLIG Tlapa 13.39 301 Pn 15 07 05.3 +5.0
TLIG Tlapa 13.39 301 ⇑P Pn 15 07 06.1 +5.8
CRJC Cerrejon, Guaj 13.47 88 *e*P **P** **15 07 10.3 -0.5**
ROSC El Rosal 13.54 115 Pn **Pn** **15 07 02.0 -0.6**
comp=Z,1.3nm,0.3s,baz=53,slow=20,SNR=1.3
ROSC LR LR 15 11 54.6
comp=Z,35µm,20.2s,baz=320,slow=36
comp=Z,9.8nm,0.7s
ROSC El Rosal 13.54 115 *e*P **P** **15 07 08.6 -3.2**
CVER Cruz Verde, Cu 13.90 116 *e*P **Pn** **15 07 05.0 -2.7**
BARC Barichara 13.91 107 *e*P **Pn** **15 07 11.0 +3.4**
PAMC Pamplona, Colo 14.16 103 *e*P **Pn** **15 07 14.1 +2.9**
GTBY Guantanamo Bay 14.29 49 ⇑P **Pn** **15 07 14.2 +1.7**
URIC Uribia, Colomb 14.36 85 *e*P Pn 15 06 58.9 -14
TAMC Tame, Arauca 15.28 105 *e*P **P** **15 07 31.1 +0.3**
ARNL Arenillas 15.69 155 Pn **Pn** **15 07 32.6 +1.3**
PTGC Puerto Gaitan, 15.78 114 *e*P **P** **15 07 37.5 +1.1**
PAPH Port-au-Prince 15.80 59 Pn **Pn** **15 07 30.4 -2.4**
SDV Santo Domingo 15.85 96 **Pn** **15 07 31.9 -1.7**
SDV Santo Domingo 15.85 96 Pn **Pn** **15 07 30.7 -2.8**
comp=Z,2.7nm,0.3s,baz=295,slow=7.0,SNR=41
SDV PcP **PcP** **15 12 33.5 +0.9**
comp=Z,32nm,0.8s,baz=310,slow=7.9,SNR=5.1
SDV LR LR 15 14 51.6
comp=Z,16µm,19.4s,baz=293,slow=42
SDV ScP **ScP** **15 16 08.2 +1.3**
comp=Z,11nm,1.0s,baz=51,slow=16,SNR=3.1
comp=Z,23nm,0.6s
SDV Santo Domingo 15.85 96 *e*P **Pn** **15 07 34.7 +1.1**
SDV Santo Domingo 15.85 96 *e*P **Pn** **15 07 34.7 +1.1**
BOSC San Juan Bosco 16.06 149 P **P** **15 07 40.1 +0.5**
MOIG Morelia 16.59 304 ⇑P **P** **15 07 48.5 +3.0**
SDDR Presa de Saban 16.86 59 P **Pn** **15 07 46.8 +0.5**
SDDR Presa de Saban 16.86 59 ⇑P **Pn** **15 07 46.8 +0.5**
060A Indiantown 17.16 19 IAmb IAmb 15 07 56.8
comp=Z,840nm,0.9s
060A Indiantown 17.16 19 S S 15 11 29.4 +19
baz=200
DWPF Disney Wildern 17.86 15 P **Pn** **15 07 58.6 -0.1**
baz=196
DWPF Disney Wildern 17.86 15 P **Pn** **15 07 59.9 +1.3**
baz=196,SNR=6.0
DWPF S S 15 11 45.7 +21
baz=196
DWPF Disney Wildern 17.86 15 ⇑P **Pn** **15 08 00.1 +1.4**
ZAIG Zacatecas 19.33 310 P **P** **15 08 18.5 +2.7**
ZAIG Zacatecas 19.33 310 ⇑P **Pn** **15 08 20.5 +3.6**
ATAH Atahualpa 19.63 155 S **Sn** **15 12 06.2 +5.0**
comp=Z,3.4nm,0.7s,baz=340,slow=12,SNR=2.2
ATAH PcP **PcP** **15 12 41.0 +1.9**
comp=Z,13nm,0.8s,baz=32,slow=6.5,SNR=4.4
ATAH LR LR 15 15 06.4
comp=Z,43µm,18.8s,baz=333,slow=34
451A Vernon 19.70 2 **P** **15 08 21.5 +2.0**
451A Vernon 19.70 2 P **P** **15 08 21.1 +1.6**
baz=182,SNR=22
451A S **Sn** **15 12 04.3 +2.0**
baz=182
KVTX Kingsville 19.73 329 P **P** **15 08 20.8 +0.9**
KVTX IAmb IAmb 15 08 25.9
comp=Z,453nm,0.8s
KVTX Kingsville 19.73 329 P **P** **15 08 22.4 +2.6**
baz=145,SNR=7.5
KVTX Kingsville 19.73 329 ⇑P **P** **15 08 22.8 +3.0**
HBVL Hebbronville 19.75 327 P **P** **15 08 21.4 +1.3**
HBVL IAmb IAmb 15 08 24.8
comp=Z,1µm,1.2s
BRAL Brewton 20.24 359 IAmb IAmb 15 08 33.3
comp=Z,1µm,1.1s
BRAL Brewton 20.24 359 P **P** **15 08 26.0 +0.6**
baz=178,SNR=32
BRAL Brewton 20.24 359 P **P** **15 08 26.7 +1.3**
baz=178,SNR=32
BRAL S Sn 15 12 19.7 +4.5
baz=178
BRAL Brewton 20.24 359 ⇑P **P** **15 08 26.9 +1.6**
456A Hilliard 20.25 11 IAMs_20 IAMs_20 15 16 08.2
comp=Z,26µm,20.0s
456A Hilliard 20.25 11 P **P** **15 08 26.3 +0.8**
baz=192,SNR=11
456A S Sn 15 12 16.4 +1.1
baz=192
AOPR Arecibo Observ 20.59 66 *e*P **P** **15 08 25.4 -4.0**
352A Blakely 20.61 4 P **P** **15 08 30.6 +1.2**
baz=184,SNR=16
346A Big Creek Wild 20.63 353 IAmb IAmb 15 08 36.6
comp=Z,459nm,0.8s
346A Big Creek Wild 20.63 353 P **P** **15 08 30.9 +1.3**
baz=171,SNR=15
346A S Sn 15 12 25.6 +1.1
baz=171
TIGA Tifton 20.70 7 IAMs_20 IAMs_20 15 16 20.5
comp=Z,22µm,19.0s
TIGA Tifton 20.70 7 P **P** **15 08 30.9 +0.5**
baz=188,SNR=40
TIGA S **S** **15 12 23.0 +1.6**
baz=188
TIGA Tifton 20.70 7 P **P** **15 08 30.8 +0.5**
baz=188,SNR=40
TIGA S Sn 15 12 26.6 +0.4
baz=188
441A DeRidder 20.75 344 P **P** **15 08 32.5 +1.6**
baz=161,SNR=30
735A Kenedy 20.77 331 IAmb IAmb 15 08 38.7
comp=Z,663nm,0.9s
735A Kenedy 20.77 331 P **P** **15 08 32.0 +0.8**
baz=147,SNR=40
735A S **S** **15 12 27.6 +4.7**
baz=147
HKT Hockley 20.88 337 *c i*P **P** **15 08 31.5 -0.7**
HKT pmax pmax
comp=Z,1µm,1.2s
HKT MLR MLR
comp=Z,12µm,21.0s
HKT Hockley 20.88 337 P **P** **15 08 33.4 +1.2**
baz=153
HKT Hockley 20.88 337 ⇑P **P** **15 08 33.3 +1.1**
250A Grady 21.05 1 P **P** **15 08 34.6 +0.4**
baz=180,SNR=96
SJG San Juan 21.07 68 P **P** **15 08 32.2 -2.3**
SJG IAmb IAmb 15 08 47.1
comp=Z,422nm,1.0s
SJG San Juan 21.07 68 P **P** **15 08 32.2 -2.3**
SJG pmax pmax
comp=Z,422nm,1.0s
SJG MLR MLR
comp=Z,14µm,18.0s
SJG San Juan 21.07 68 P **P** **15 08 31.4 -3.1**
comp=Z,46nm,0.5s,baz=253,slow=8.5,SNR=20
SJG S **S** **15 12 27.3 -1.7**
comp=Z,5.1nm,0.3s,baz=322,slow=20,SNR=1.8
SJG PcP **PcP** **15 12 41.5 +0.3**
comp=Z,12nm,0.3s,baz=32,slow=19,SNR=3.9
SJG LR LR 15 15 38.3
comp=Z,12µm,21.6s,baz=246,slow=34
comp=Z,46nm,0.5s
SJG San Juan 21.07 68 *e*P **P** **15 08 31.8 -2.7**
833A Chaparral WMA, 21.14 327 IAmb IAmb 15 08 39.4
comp=Z,740nm,1.1s
833A Chaparral WMA, 21.14 327 P **P** **15 08 35.7 +0.6**
baz=142,SNR=153
833A S **S** **15 12 28.1 -2.1**
baz=142
833A Chaparral WMA, 21.14 327 P **P** **15 08 35.8 +0.6**
baz=142,SNR=153
833A S **S** **15 12 30.6 +0.5**
baz=142
EF01 Eagle Ford 01 21.28 331 IAmb IAmb 15 08 44.2
comp=Z,335nm,0.8s
255A Hazlehurst 21.34 10 IAmb IAmb 15 08 50.0
comp=Z,817nm,1.1s
255A Hazlehurst 21.34 10 P **P** **15 08 37.2 0.0**
baz=190,SNR=18
VBMS Vicksburg 21.59 351 P **P** **15 08 40.3 +0.3**
baz=169,SNR=18
VBMS Vicksburg 21.59 351 P **P** **15 08 40.7 +0.7**
baz=169,SNR=18
PCRV Puerto La Cruz 21.61 90 P **P** **15 08 38.5 -1.9**
comp=Z,120nm,0.7s,baz=253,slow=3.5,SNR=38
PCRV S **S** **15 12 39.4 -0.3**
comp=Z,7.5nm,0.7s,baz=192,slow=13,SNR=2.4
PCRV LR LR 15 20 11.2
comp=Z,15µm,18.0s,slow=46
comp=Z,120nm,0.7s
257A Skidaway Islan 21.66 13 IAMs_20 IAMs_20 15 17 01.5
comp=Z,31µm,19.0s
257A Skidaway Islan 21.66 13 P **P** **15 08 43.3 +2.6**
baz=194
152A Waverly Hall 21.80 4 IAmb IAmb 15 08 47.8
comp=Z,893nm,1.1s
152A Waverly Hall 21.80 4 P **P** **15 08 42.2 -0.1**
baz=184,SNR=258
152A S **S** **15 12 44.5 +1.3**
baz=184
146A Union 21.82 354 P **P** **15 08 42.8 +0.4**
baz=173,SNR=104
154A Montrose 21.92 8 IAMs_20 IAMs_20 15 16 57.7
comp=Z,21µm,20.0s
154A Montrose 21.92 8 P **P** **15 08 43.3 -0.1**
baz=189,SNR=56
HNDO Hondo 22.05 329 IAmb IAmb 15 09 00.4
comp=Z,1µm,1.5s
LRAL Lakeview Retre 22.10 359 IAmb IAmb 15 08 50.5
comp=Z,647nm,1.1s
LRAL Lakeview Retre 22.10 359 P **P** **15 08 45.9 +0.5**
baz=178,SNR=201
LRAL S **S** **15 12 46.0 -3.0**
baz=178
LRAL Lakeview Retre 22.10 359 P **P** **15 08 45.1 -0.4**
baz=178,SNR=201
LRAL S **S** **15 12 48.0 -0.9**
baz=178
LRAL Lakeview Retre 22.10 359 ⇑P **P** **15 08 45.6 +0.2**
NATX Nacogdoches 22.12 342 P **P** **15 08 46.0 +0.3**
baz=158,SNR=159
NATX S **S** **15 12 47.6 -1.8**
baz=158
NATX Nacogdoches 22.12 342 P **P** **15 08 46.2 +0.5**
baz=158,SNR=159
NATX S **S** **15 12 49.1 -0.3**
baz=158
NATX Nacogdoches 22.12 342 ⇑P **P** **15 08 46.1 +0.5**
143A Socs Landing, 22.21 349 IAmb IAmb 15 08 51.0
comp=Z,753nm,1.1s
143A IAMs_20 IAMs_20 15 18 33.8
comp=Z,23µm,22.0s
143A Socs Landing, 22.21 349 P **P** **15 08 47.0 +0.3**
baz=167,SNR=44
Z47A Carrollton 22.30 357 P **P** **15 08 47.7 +0.1**
baz=176,SNR=128
Z47A S **S** **15 12 51.4 -1.3**
baz=176
435B Jarrell 22.32 334 P **P** **15 08 47.8 0.0**
baz=150
435B Jarrell 22.32 334 P **P** **15 08 47.9 0.0**
baz=150,SNR=166
Z51A Franklin 22.42 3 IAmb IAmb 15 08 52.9
comp=Z,417nm,0.9s
Z51A Franklin 22.42 3 P **P** **15 08 48.5 -0.4**
baz=183,SNR=67
Z51A S **S** **15 12 55.5 +0.6**
baz=183
GOGA Godfrey 22.66 7 IAmb IAmb 15 08 54.6
comp=Z,622nm,1.3s
GOGA Godfrey 22.66 7 IAMs_20 IAMs_20 15 17 31.5
comp=Z,18µm,19.0s
GOGA Godfrey 22.66 7 P **P** **15 08 51.1 -0.3**
baz=187,SNR=90
GOGA Godfrey 22.66 7 P **P** **15 08 50.8 -0.6**
baz=187,SNR=90
GOGA S **S** **15 12 59.8 +0.5**
baz=187
GOGA Godfrey 22.66 7 ⇑P **P** **15 08 50.8 -0.6**
DRIO Del Rio 22.66 327 IAmb IAmb 15 09 06.9
comp=Z,801nm,1.2s
237A Washetta, Mont 22.72 339 P **P** **15 08 52.5 +0.5**
baz=155,SNR=34
237A S **S** **15 13 05.4 +4.9**
baz=155
HAW Hawthorne Fire 22.89 11 P **P** **15 08 53.2 -0.7**
baz=192,SNR=48
Y49A Blount Mountai 22.92 0 IAmb IAmb 15 08 57.8
comp=Z,522nm,0.9s
Y49A Blount Mountai 22.92 0 P **P** **15 08 53.7 -0.4**
baz=180,SNR=172
Y49A S **S** **15 13 06.2 +2.2**
baz=180
NHSC New Hope 22.94 14 IAMs_20 IAMs_20 15 17 51.2
comp=Z,26µm,20.0s
NHSC New Hope 22.94 14 P **P** **15 08 53.8 -0.6**
baz=196,SNR=9.5
NHSC New Hope 22.94 14 P **P** **15 08 54.0 -0.4**
baz=196,SNR=9.5
NHSC New Hope 22.94 14 ⇑P **P** **15 08 54.1 -0.3**
Y52A Lilburn 23.04 5 IAmb IAmb 15 08 58.3
comp=Z,436nm,1.0s
Y52A Lilburn 23.04 5 P **P** **15 08 55.0 -0.4**
baz=186,SNR=86
Y52A P **P** **15 08 55.0 -0.4**
baz=186,SNR=86
CZSB Cruzeiro do Su 23.05 143 *e*S **S** **15 13 09.8 +3.4**
JCT Junction City 23.09 330 IAmb IAmb 15 09 09.6
comp=Z,730nm,1.2s
JCT Junction City 23.09 330 P **P** **15 08 55.6 -0.4**
baz=145,SNR=76
JCT Junction City 23.09 330 P **P** **15 08 55.0 -0.9**
baz=145,SNR=76
JCT Junction City 23.09 330 ⇑P **P** **15 08 55.1 -0.9**
Y45A Yeager Farm, C 23.09 354 P **P** **15 08 55.7 -0.1**
baz=172,SNR=128
Y45A S **S** **15 13 07.8 +1.1**
baz=172
WHTX Lake Whitney, 23.32 336 P **P** **15 08 58.3 0.0**
baz=152,SNR=78
WHTX Lake Whitney, 23.32 336 P **P** **15 08 57.8 -0.5**
baz=152,SNR=78
BRDY Brady 23.37 332 IAmb IAmb 15 09 01.2
comp=Z,376nm,0.8s
CCAR Cane Creek 23.46 349 P **P** **15 08 59.1 -0.5**
baz=167,SNR=6.9
X48A Hartselle 23.52 359 IAmb IAmb 15 09 02.5
comp=Z,337nm,1.1s
X48A Hartselle 23.52 359 P **P** **15 08 58.9 -1.3**
baz=178,SNR=83
WLAR White Oak Lake 23.52 346 IAMs_20 IAMs_20 15 19 43.8
comp=Z,22µm,22.0s
SABA Saba 23.61 71 P **P** **15 09 00.1 -1.2**
Z38A Mt. Pleasant 23.62 342 P **P** **15 09 00.9 -0.2**
baz=158,SNR=68
Z38A S **S** **15 13 19.5 +4.1**
baz=158
FPAL Fort Paine 23.62 2 IAmb IAmb 15 09 04.5
comp=Z,451nm,1.0s
HODGE Hodges 23.63 9 IAmb IAmb 15 09 03.5
comp=Z,756nm,1.5s
HODGE Hodges 23.63 9 P **P** **15 09 00.1 -1.2**
baz=190,SNR=99
X51A Calhoun 23.68 4 IAmb IAmb 15 09 03.9
comp=Z,511nm,1.2s
X51A Calhoun 23.68 4 P **P** **15 09 00.8 -1.0**
baz=184,SNR=52
X51A P **P** **15 09 00.8 -1.0**
baz=184,SNR=52
OXF Oxford 23.71 354 ⇑P **P** **15 09 00.4 -1.7**
OXF Oxford 23.71 354 P **P** **15 09 00.8 -1.3**
baz=172,SNR=264
OXF Oxford 23.71 354 P **P** **15 09 00.2 -1.9**
baz=172,SNR=264
OXF Oxford 23.71 354 ⇑P **P** **15 09 00.4 -1.7**
Y57A Sumter 23.77 13 IAmb IAmb 15 09 13.9
comp=Z,652nm,1.3s
Y57A IAMs_20 IAMs_20 15 18 16.2
comp=Z,28µm,20.0s
Y58A Scranton 23.83 14 IAmb IAmb 15 09 14.4
comp=Z,346nm,0.8s
Y58A IAMs_20 IAMs_20 15 18 18.6
comp=Z,24µm,20.0s
Y58A Scranton 23.83 14 P **P** **15 09 02.2 -1.0**
baz=196,SNR=24
Y58A P **P** **15 09 02.2 -1.0**
baz=196,SNR=24
Y58A S Sn 15 13 37.8 -3.4
baz=196
Y58A S Sn 15 13 37.8 -3.4
baz=196
JSC Jenkinsville 23.85 11 IAmb IAmb 15 09 16.6
comp=Z,530nm,1.2s
JSC IAMs_20 IAMs_20 15 18 17.5
comp=Z,24µm,20.0s
JSC Jenkinsville 23.85 11 P **P** **15 09 02.9 -0.5**
baz=192,SNR=83
SMRT St. Maarten 23.87 70 P **P** **15 08 60.0 -3.9**
SMRT IAmb IAmb 15 09 12.2
comp=Z,475nm,1.1s
HPIG 24.07 314 IAmb IAmb 15 09 22.6
comp=Z,491nm,1.2s
HPIG IAMs_20 IAMs_20 15 20 19.2
comp=Z,23µm,22.0s
HPIG 24.07 314 ⇑P **P** **15 09 07.8 +1.9**
OZNA Ozona 24.11 328 IAmb IAmb 15 09 20.0
comp=Z,778nm,1.4s
X40A Basin Creek Fa 24.23 347 IAmb IAmb 15 09 09.5
comp=Z,234nm,0.9s
X40A Basin Creek Fa 24.23 347 P **P** **15 09 05.2 -1.8**
baz=164,SNR=197
X40A P **P** **15 09 05.2 -1.8**
baz=164,SNR=197
W52A Murphy 24.27 5 IAmb IAmb 15 09 09.6
comp=Z,384nm,1.3s
W52A Murphy 24.27 5 P **P** **15 09 06.6 -0.8**
baz=186,SNR=52
W52A S **S** **15 13 29.5 +3.5**
baz=186
PAULI Pauline 24.28 10 IAmb IAmb 15 09 18.8
comp=Z,303nm,1.0s
PAULI Pauline 24.28 10 P **P** **15 09 06.5 -0.9**
baz=191,SNR=58
PAULI S **S** **15 13 32.3 +6.3**
baz=191
SWET Sewanee 24.28 1 IAmb IAmb 15 09 09.0
comp=Z,276nm,0.8s
BG3 Lake Jocassee 24.28 7 IAmb IAmb 15 09 09.7
comp=Z,596nm,1.4s
CASEE Lake Jocassee 24.28 7 P **P** **15 09 07.3 -0.2**
baz=188,SNR=100
CASEE S **S** **15 13 33.5 +7.3**
baz=188
W50A Signal Mountai 24.29 3 IAmb IAmb 15 09 09.2
comp=Z,620nm,1.2s
W50A Signal Mountai 24.29 3 P **P** **15 09 06.7 -0.9**
baz=182,SNR=126
W50A S **S** **15 13 27.5 +1.2**
baz=182
Y60A Bolivia 24.31 17 IAmb IAmb 15 09 08.7
comp=Z,276nm,0.8s
Y60A IAMs_20 IAMs_20 15 18 23.1
comp=Z,26µm,21.0s
Y60A Bolivia 24.31 17 P **P** **15 09 06.3 -1.4**
baz=200,SNR=16
Y60A P **P** **15 09 06.3 -1.4**
baz=200,SNR=16
Y60A S S 15 13 45.2 +19
baz=200
Y60A S S 15 13 45.2 +19
baz=200
TXAR Lajitas Array 24.35 322 P **P** **15 09 09.4 +1.1**
comp=Z,264nm,0.9s,baz=141,slow=8.1,SNR=233
TXAR PcP **PcP** **15 12 50.0 +2.2**
comp=Z,23nm,0.9s,baz=134,slow=5.4,SNR=4.8
TXAR ScP **ScP** **15 16 27.8 +1.4**
comp=Z,4.6nm,0.9s,baz=134,slow=3.6,SNR=3.6
TXAR P3KPbc 15 42 23.8
comp=Z,2.0nm,1.0s,baz=311,slow=4.2,SNR=5.2
TX31 Lajitas Ar. Si 24.35 322 P **P** **15 09 08.5 +0.2**
baz=135,SNR=514
BIRD Birdtown, Kers 24.36 12 IAmb IAmb 15 09 24.3
comp=Z,385nm,1.3s
BIRD IAMs_20 IAMs_20 15 18 34.8
comp=Z,26µm,20.0s
BIRD Birdtown, Kers 24.36 12 P **P** **15 09 06.9 -1.2**
baz=194,SNR=32
MET Memphis--Engin 24.37 353 IAmb IAmb 15 09 09.7
comp=Z,633nm,1.0s
MBFL Flemmings, Mon 24.39 73 *e*P **P** **15 09 05.8 -2.9**
PLPT Palo Pinto 24.39 336 IAmb IAmb 15 09 10.6
comp=Z,625nm,0.9s
MLYT Lee's Yard 24.41 73 *e*P **P** **15 09 06.7 -2.1**
Z35A Perchaven, San 24.44 338 P **P** **15 09 08.5 -0.4**
baz=153,SNR=62
Z35A S **S** **15 13 32.0 +3.3**
baz=153
GRGR Grenville 24.48 85 P **P** **15 09 07.8 -1.7**
GRGR Grenville 24.48 85 ⇑P **P** **15 09 07.2 -2.3**
GRGR Grenville 24.48 85 *e*P P 15 09 00.1 -9.4
GRHS Sauteurs 24.49 84 *e*P **P** **15 09 05.5 -4.0**
X58A Rowland 24.53 15 IAmb IAmb 15 09 20.8
comp=Z,374nm,1.1s
X58A IAMs_20 IAMs_20 15 18 50.2
comp=Z,27µm,20.0s
X58A Rowland 24.53 15 P **P** **15 09 09.1 -0.6**
baz=197
X58A P **P** **15 09 09.1 -0.6**
baz=197
CPCT Cooper Cave 24.58 4 IAmb IAmb 15 09 12.3
comp=Z,438nm,1.0s
NNA Nana 24.66 157 P **P** **15 09 12.0 +0.9**
NNA Nana 24.66 157 *c e*P **P** **15 09 15.2 +4.1**
NNA pmax pmax
comp=Z,415nm,1.6s
NNA Nana 24.66 157 P **P** **15 09 15.3 +4.3**
comp=Z,7.0nm,0.3s,baz=318,slow=12,SNR=2.2
NNA LR LR 15 17 56.2
comp=Z,12µm,19.3s,baz=346,slow=34
comp=Z,7.0nm,0.3s
KMSC Kings Mountain 24.67 10 IAmb IAmb 15 09 22.9
comp=Z,370nm,1.1s
KMSC IAMs_20 IAMs_20 15 18 32.4
comp=Z,24µm,21.0s
KMSC Kings Mountain 24.67 10 P **P** **15 09 09.6 -1.4**
baz=192,SNR=74
KMSC Kings Mountain 24.67 10 P **P** **15 09 10.0 -1.0**
baz=192,SNR=74
KMSC S **S** **15 13 41.5 +9.1**
baz=192

GCMP	Grenada, Carri	24.71	84	eP	P	15 09 07.3	-4.2		
TRN	Trinidad (W)	24.75	88	eP	P	15 09 03.5	-8.5		
ABTX	Abilene, Hawle	24.80	333	IAmb	IAmb	15 09 15.6			
	comp=Z,668nm,1.1s								
ABTX	Abilene, Hawle	24.80	333	P	P	15 09 11.5	-0.7		
	baz=148,SNR=150								
ABTX				S	S	15 13 35.5	+0.9		
	baz=148								
ABTX	Abilene, Hawle	24.80	333	P	P	15 09 11.5	-0.7		
	baz=148,SNR=150								
ABTX				S	S	15 13 37.5	+3.0		
	baz=148								
V48A	Smith Brothers	24.80	360	IAmb	IAmb	15 09 13.7			
	comp=Z,583nm,1.1s								
V48A	Smith Brothers	24.80	360	P	P	15 09 10.6	-1.5		
	baz=179,SNR=152								
V48A				S	S	15 13 41.2	+6.8		
	baz=179								
CBE	Ff, Capester	24.85	75	IAmb	IAmb	15 09 14.4			
	comp=Z,651nm,1.1s								
TKL	Tuckaleechee C	24.85	5	IAmb	IAmb	15 09 25.9			
	comp=Z,528nm,1.2s								
TKL	Tuckaleechee C	24.85	5	P	P	15 09 11.6	-1.1		
	baz=186,SNR=128								
TKL				S	S	15 13 39.4	+4.1		
	baz=186								
TKL	Tuckaleechee C	24.85	5	LR	LR	15 19 10.4			
	comp=Z,17µm,19.8s,baz=220,slow=38								
ANBD	Bethesda, Anti	24.87	73	eP	P	15 09 04.0	-8.9		
HBAR	Harrisburg	24.89	352	P	P	15 09 11.7	-1.2		
	baz=170,SNR=46								
SVB	Belmont	24.90	82	eP	P	15 09 10.2	-3.1		
V51A	Loudon	24.95	4	IAmb	IAmb	15 09 15.6			
	comp=Z,578nm,1.2s								
V51A	Loudon	24.95	4	P	P	15 09 12.7	-0.8		
	baz=185,SNR=114								
V51A				S	S	15 13 44.3	+7.5		
	baz=185								
W57A	Gilead	24.95	13	IAMs_20	IAMs_20	15 19 02.4			
	comp=Z,24µm,19.0s								
W57A	Gilead	24.95	13	P	P	15 09 12.0	-1.5		
	baz=195,SNR=33								
W57A				P	P	15 09 12.0	-1.5		
	baz=195,SNR=33								
W57A				S	S	15 13 43.1	+6.3		
	baz=195								
W57A				S	S	15 13 43.1	+6.3		
	baz=195								
V53A	Saluda	24.97	7	IAmb	IAmb	15 09 26.0			
	comp=Z,431nm,1.0s								
V53A	Saluda	24.97	7	P	P	15 09 11.5	-2.2		
	baz=188,SNR=100								
V53A				P	P	15 09 11.5	-2.2		
	baz=188,SNR=100								
V53A				S	S	15 13 38.1	+0.8		
	baz=188								
V53A				S	S	15 13 38.1	+0.8		
	baz=188								
V52A	Sevierville	25.05	6	P	P	15 09 12.9	-1.5		
	baz=186,SNR=61								
V52A				S	S	15 13 47.2	+8.8		
	baz=186								
ALPN	Alpine	25.08	323	IAmb	IAmb	15 09 28.7			
	comp=Z,461nm,1.4s								
SVN	Savane Anatole	25.11	78	eP	P	15 09 10.5	-4.7		
FDF	Fort de France	25.11	78	P	P	15 09 11.9	-3.4		
FDF	Fort de France	25.11	78	⇑P	P	15 09 13.0	-2.3		
FDF	Fort de France	25.11	78	eP	P	15 09 12.0	-3.2		
CLTN	Cedars of Leba	25.15	1	IAmb	IAmb	15 09 16.4			
	comp=Z,268nm,1.0s								
BIM	Bigot	25.17	79	eP	P	15 09 12.6	-3.2		
WVT	Waverly	25.21	358	P	P	15 09 13.7	-2.2		
WVT	Waverly	25.21	358	P	P	15 09 13.7	-2.2		
WVT				pmax	pmax				
	comp=Z,175nm,1.0s								
WVT	Waverly	25.21	358	P	P	15 09 13.5	-2.4		
	baz=177								
WVT	Waverly	25.21	358	P	P	15 09 13.8	-2.0		
	baz=177,SNR=105								
WVT				S	S	15 13 43.2	+2.2		
	baz=177								
WVT	Waverly	25.21	358	⇑P	P	15 09 13.0	-2.9		
SLBI	Saint Lucia, B	25.22	80	eP	P	15 09 13.6	-2.6		
LNXT	Lenox	25.30	355	P	P	15 09 15.1	-1.5		
	baz=173,SNR=31								
MNHN	Monahans	25.31	326	IAmb	IAmb	15 09 21.7			
	comp=Z,475nm,0.8s								
W59A	Clinton	25.34	16	IAMs_20	IAMs_20	15 19 03.5			
	comp=Z,30µm,20.0s								
W59A	Clinton	25.34	16	P	P	15 09 16.7	-0.3		
	baz=198								
MPOM	Morne Pois Mar	25.37	79	IAmb	IAmb	15 09 30.2			
	comp=Z,330nm,0.8s								
MPOM	Morne Pois Mar	25.37	79	eP	P	15 09 13.8	-3.7		
V55A	Taylorsville	25.39	10	IAmb	IAmb	15 09 31.2			
	comp=Z,450nm,1.1s								
V55A				IAMs_20	IAMs_20	15 19 15.3			
	comp=Z,21µm,20.0s								
V55A	Taylorsville	25.39	10	P	P	15 09 16.5	-0.9		
	baz=192,SNR=71								
V55A				P	P	15 09 16.5	-0.9		
	baz=192,SNR=71								
V55A				S	S	15 13 52.2	+8.4		
	baz=192								
V55A				S	S	15 13 52.2	+8.4		
	baz=192								
GDSD	La Dsirade Is	25.40	75	IAmb	IAmb	15 09 25.8			
	comp=Z,300nm,1.1s								
FCAR	Ozark Folk Cen	25.45	350	IAmb	IAmb	15 09 18.8			
	comp=Z,648nm,1.2s								
LCAR	Lake Charles	25.46	351	IAmb	IAmb	15 09 18.9			
	comp=Z,582nm,1.1s								
LCAR	Lake Charles	25.46	351	P	P	15 09 16.1	-2.1		
	baz=169,SNR=263								
CNNC	Cliffs of the	25.56	17	IAmb	IAmb	15 09 34.0			
	comp=Z,298nm,1.0s								
CNNC				IAMs_20	IAMs_20	15 19 41.2			
	comp=Z,26µm,19.0s								
CNNC	Cliffs of the	25.56	17	P	P	15 09 17.8	-1.2		
	baz=200								
SN01	Snyder 1	25.57	331	IAmb	IAmb	15 09 32.5			
	comp=Z,408nm,1.1s								
U49A	Red Boiling Sp	25.58	2	IAmb	IAmb	15 09 20.7			
	comp=Z,483nm,1.1s								
U49A	Red Boiling Sp	25.58	2	P	P	15 09 17.7	-1.5		
	baz=181,SNR=177								
U49A				S	S	15 13 56.0	+9.1		
	baz=181								
SLBS	Sierra La Lagu	25.65	303	P	P	15 09 22.9	+2.9		
SLBS				IAmb	IAmb	15 09 28.1			
	comp=Z,328nm,1.1s								
SLBS	Sierra La Lagu	25.65	303	⇑P	P	15 09 24.0	+3.9		
TZTN	Tazewell	25.75	6	IAmb	IAmb	15 09 35.0			
	comp=Z,303nm,1.1s								
TZTN	Tazewell	25.75	6	P	P	15 09 19.7	-1.0		
	baz=186,SNR=76								
TZTN	Tazewell	25.75	6	P	P	15 09 20.0	-0.8		
	baz=186,SNR=76								
TZTN	Tazewell	25.75	6	⇑P	P	15 09 19.6	-1.2		
V58A	Windy Hill, Pi	25.76	14	IAmb	IAmb	15 09 31.9			
	comp=Z,655nm,1.1s								
V58A				IAMs_20	IAMs_20	15 19 27.9			
	comp=Z,27µm,21.0s								
V58A	Windy Hill, Pi	25.76	14	P	P	15 09 19.5	-1.4		
	baz=197,SNR=76								
V58A				P	P	15 09 19.5	-1.4		
	baz=197,SNR=76								
U54A	Nelsons Funny	25.94	9	IAMs_20	IAMs_20	15 18 49.2			
	comp=Z,17µm,22.0s								
U54A	Nelsons Funny	25.94	9	P	P	15 09 21.6	-0.9		
	baz=190,SNR=113								
U54A				P	P	15 09 21.6	-0.9		
	baz=190,SNR=113								
U54A				S	S	15 14 02.1	+9.4		
	baz=190								
U54A				S	S	15 14 02.1	+9.4		
	baz=190								
W35A	Tecumseh	25.96	340	IAmb	IAmb	15 09 32.3			
	comp=Z,536nm,1.2s								
U56A	King	26.02	11	IAmb	IAmb	15 09 38.4			
	comp=Z,436nm,1.2s								
U56A				IAMs_20	IAMs_20	15 19 45.0			
	comp=Z,24µm,19.0s								
U56A	King	26.02	11	P	P	15 09 22.6	-0.7		
	baz=194,SNR=30								
U56A				P	P	15 09 22.6	-0.7		
	baz=194,SNR=30								
U56A				S	S	15 14 04.0	+10		
	baz=194								
U56A				S	S	15 14 04.0	+10		
	baz=194								
U40A	Yellville	26.04	348	P	P	15 09 21.8	-1.6		
	baz=165,SNR=315								
U40A				P	P	15 09 21.8	-1.6		
	baz=165,SNR=315								
T47A	Sharon Grove	26.05	359	P	P	15 09 22.0	-1.5		
	baz=178,SNR=278								
T47A				S	S	15 14 04.3	+10		
	baz=178								
PBMO	Poplar Bluff	26.07	353	IAmb	IAmb	15 09 24.4			
	comp=Z,448nm,0.9s								
PBMO	Poplar Bluff	26.07	353	P	P	15 09 21.5	-2.1		
	baz=171,SNR=176								
T50A	Nancy	26.12	3	IAmb	IAmb	15 09 25.6			
	comp=Z,280nm,1.2s								
T50A	Nancy	26.12	3	P	P	15 09 23.1	-1.0		
	baz=183								
T50A				P	P	15 09 23.1	-1.0		
	baz=183								
T50A				S	S	15 14 07.3	+12		
	baz=183								
T50A				S	S	15 14 07.3	+12		
	baz=183								
LPIG	La Paz	26.13	303	LR	LR	15 20 43.2			
	comp=Z,10µm,18.9s,baz=117,slow=39								
T45B	Paducah	26.14	356	P	P	15 09 22.7	-1.5		
	baz=175,SNR=35								
VHRN	Van Horn	26.18	322	IAmb	IAmb	15 09 39.4			
	comp=Z,530nm,1.2s								
HHAR	Hobbs	26.20	346	IAmb	IAmb	15 09 25.1			
	comp=Z,232nm,0.9s								
HHAR				IAMs_20	IAMs_20	15 21 13.6			
	comp=Z,22µm,22.0s								
HHAR	Hobbs	26.20	346	S	S	15 14 07.4	+11		
	baz=163								
WMOK	Wichita Mounta	26.27	337	P	P	15 09 24.9	-0.6		
WMOK				pmax	pmax				
	comp=Z,2µm,1.1s								
WMOK	Wichita Mounta	26.27	337	P	P	15 09 24.1	-1.4		
	baz=152,SNR=236								
WMOK	Wichita Mounta	26.27	337	P	P	15 09 26.1	+0.6		
	baz=152,SNR=236								
WMOK				S	S	15 14 02.0	+4.2		
	baz=152								
WMOK	Wichita Mounta	26.27	337	⇑P	P	15 09 24.1	-1.4		
TUL3	Leonard	26.32	343	P	P	15 09 24.4	-1.5		
	baz=159,SNR=124								
TUL3	Leonard	26.32	343	P	P	15 09 24.0	-2.0		
	baz=159,SNR=124								
TUL3				S	S	15 14 09.9	+11		
	baz=159								
RLO	Rose Lookout	26.35	345	IAmb	IAmb	15 09 27.1			
	comp=Z,239nm,0.9s								
T42A	Van Buren	26.40	352	P	P	15 09 24.9	-1.7		
	baz=170								
U38A	Gravette	26.45	346	IAmb	IAmb	15 09 28.0			
	comp=Z,586nm,1.1s								
U38A				IAMs_20	IAMs_20	15 21 22.5			
	comp=Z,22µm,22.0s								
U38A	Gravette	26.45	346	P	P	15 09 25.4	-1.8		
	baz=162,SNR=281								
U38A				S	S	15 14 11.4	+11		
	baz=162								
V61A	Roper	26.46	19	IAmb	IAmb	15 09 39.1			
	comp=Z,727nm,1.4s								
V61A				IAMs_20	IAMs_20	15 19 50.9			
	comp=Z,28µm,20.0s								
DEOK	Depew	26.47	342	IAmb	IAmb	15 09 46.1			
	comp=Z,494nm,1.0s								
CGM3	Cape Girardeau	26.50	355	IAmb	IAmb	15 09 28.6			
	comp=Z,332nm,1.0s								
U59A	Littleton	26.63	16	IAmb	IAmb	15 09 40.4			
	comp=Z,421nm,1.6s								
U59A				IAMs_20	IAMs_20	15 20 13.7			
	comp=Z,24µm,20.0s								
U59A	Littleton	26.63	16	P	P	15 09 27.3	-1.4		
	baz=199,SNR=8.9								
U59A				P	P	15 09 27.3	-1.4		
	baz=199,SNR=8.9								
U59A				S	S	15 14 16.0	+13		
	baz=199								
U59A				S	S	15 14 16.0	+13		
	baz=199								
MGMO	Mountain Grove	26.70	350	IAmb	IAmb	15 09 30.5			
	comp=Z,515nm,1.4s								
OK029	Liberty Lake	26.74	340	IAmb	IAmb	15 09 52.4			
	comp=Z,610nm,1.2s								
S51A	Beattyville	26.83	5	IAmb	IAmb	15 09 31.9			
	comp=Z,335nm,1.1s								
S51A	Beattyville	26.83	5	P	P	15 09 29.0	-1.5		
	baz=186,SNR=66								
S51A				P	P	15 09 29.0	-1.5		
	baz=186,SNR=66								
S51A				S	S	15 14 19.3	+13		
	baz=186								
S51A				S	S	15 14 19.3	+13		
	baz=186								
BLA	Blacksburg	26.85	11	IAmb	IAmb	15 09 32.8			
	comp=Z,408nm,1.3s								
BLA				IAMs_20	IAMs_20	15 20 09.6			
	comp=Z,22µm,20.0s								
BLA	Blacksburg	26.85	11	⇑P	P	15 09 29.9	-0.9		
BLA	Blacksburg	26.85	11	P	P	15 09 29.1	-1.6		
	baz=193,SNR=36								
BLA	Blacksburg	26.85	11	P	P	15 09 29.7	-1.0		
	baz=193,SNR=36								
BLA				S	S	15 14 21.1	+14		
	baz=193								
BLA	Blacksburg	26.85	11	⇑P	P	15 09 29.9	-0.9		
S44A	Carbondale	26.85	355	P	P	15 09 29.4	-1.3		
	baz=174,SNR=160								
S44A				S	S	15 14 20.7	+14		
	baz=174								
T57A	Hurt	26.88	13	IAmb	IAmb	15 09 42.1			
	comp=Z,480nm,1.4s								
T57A				IAMs_20	IAMs_20	15 20 11.6			
	comp=Z,23µm,20.0s								
T57A	Hurt	26.88	13	P	P	15 09 29.4	-1.6		
	baz=196,SNR=48								
T57A				P	P	15 09 29.4	-1.6		
	baz=196,SNR=48								
T57A				S	S	15 14 19.9	+12		
	baz=196								
T57A				S	S	15 14 19.9	+12		
	baz=196								
MNTX	Cornudas Mount	27.07	323	P	P	15 09 32.7	-0.1		
	baz=136,SNR=14								
MNTX	Cornudas Mount	27.07	323	P	P	15 09 32.8	0.0		
	baz=136,SNR=14								
MNTX	Cornudas Mount	27.07	323	⇑P	P	15 09 32.7	-0.1		
OK048	Pawnee Station	27.14	341	IAmb	IAmb	15 09 38.3			
	comp=Z,364nm,1.0s								
OK051	E0350 and S346	27.19	342	IAmb	IAmb	15 09 38.8			
	comp=Z,451nm,1.0s								
BOAV	Boa Vista	27.20	106	P	P	15 09 32.4	-1.7		
FVM	French Village	27.25	353	P	P	15 09 32.1	-2.3		
	baz=171,SNR=25								
S54A	Dingess, Beckl	27.27	9	IAmb	IAmb	15 09 36.1			
	comp=Z,280nm,1.2s								
S54A				IAMs_20	IAMs_20	15 20 14.4			
	comp=Z,15µm,20.0s								
S54A	Dingess, Beckl	27.27	9	P	P	15 09 33.3	-1.2		
	baz=191,SNR=22								
S54A				P	P	15 09 33.3	-1.2		
	baz=191,SNR=22								
S54A				S	S	15 14 10.1	-3.5		
	baz=191								
S54A				S	S	15 14 10.1	-3.5		
	baz=191								
T59A	Double "B" Far	27.28	16	IAmb	IAmb	15 09 45.6			
	comp=Z,321nm,1.2s								
T59A				IAMs_20	IAMs_20	15 20 42.8			
	comp=Z,25µm,19.0s								
T59A	Double "B" Far	27.28	16	P	P	15 09 33.5	-1.1		
	baz=199,SNR=17								
T59A				P	P	15 09 33.5	-1.1		
	baz=199,SNR=17								
WCI	Wyandotte Cave	27.28	1	P	P	15 09 32.6	-2.0		
WCI	Wyandotte Cave	27.28	1	P	P	15 09 32.6	-2.0		
WCI				pmax	pmax				
	comp=Z,891nm,1.0s								
WCI	Wyandotte Cave	27.28	1	P	P	15 09 33.4	-1.2		
	baz=180								
WCI	Wyandotte Cave	27.28	1	P	P	15 09 32.9	-1.7		
	baz=180,SNR=169								
WCI				S	S	15 14 13.9	+0.2		
	baz=180								
WCI	Wyandotte Cave	27.28	1	⇑P	P	15 09 32.7	-1.9		
R49A	Shelbyville	27.38	2	IAmb	IAmb	15 09 35.9			
	comp=Z,333nm,0.9s								
R49A	Shelbyville	27.38	2	P	P	15 09 33.6	-1.8		
	baz=182,SNR=79								
R49A				P	P	15 09 33.6	-1.8		
	baz=182,SNR=79								
MSTX	Muleshoe	27.38	330	P	P	15 09 34.9	-0.7		
	baz=143,SNR=69								
MSTX	Muleshoe	27.38	330	P	P	15 09 34.7	-0.9		
	baz=143,SNR=69								
R50A	Paris	27.41	4	IAmb	IAmb	15 09 37.1			
	comp=Z,419nm,1.1s								
R50A	Paris	27.41	4	P	P	15 09 34.5	-1.2		
	baz=184,SNR=88								
R50A				P	P	15 09 34.5	-1.2		
	baz=184,SNR=88								
S39A	Bolivar	27.42	348	IAmb	IAmb	15 09 36.5			
	comp=Z,543nm,1.1s								
S39A	Bolivar	27.42	348	P	P	15 09 34.1	-1.8		
	baz=165,SNR=280								
S39A				S	S	15 14 33.6	+18		
	baz=165								
CCM	Cathedral Cave	27.43	352	P	P	15 09 33.5	-2.4		
CCM				IAmb	IAmb	15 09 36.5			
	comp=Z,643nm,1.2s								
CCM	Cathedral Cave	27.43	352	P	P	15 09 33.5	-2.4		
CCM				pmax	pmax				
	comp=Z,643nm,1.3s								
CCM				MLR	MLR				
	comp=Z,8µm,22.0s								
CCM	Cathedral Cave	27.43	352	P	P	15 09 33.9	-2.0		
	baz=170								
CCM	Cathedral Cave	27.43	352	P	P	15 09 33.5	-2.4		
	baz=170,SNR=206								
CCM				S	S	15 14 30.4	+14		
	baz=170								
CCM	Cathedral Cave	27.43	352	⇑P	P	15 09 33.7	-2.2		
T35A	Sooner Cattle	27.47	343	IAmb	IAmb	15 09 37.3			
	comp=Z,382nm,1.1s								
T35B	Sooner Cattle	27.47	343	P	P	15 09 34.6	-1.7		
	baz=158,SNR=100								
T35B				S	S	15 14 37.1	+20		
	baz=158								
BLOK	Blackwell	27.54	341	IAmb	IAmb	15 10 12.5			
	comp=Z,286nm,1.1s								
CROK	Carrier	27.56	340	IAmb	IAmb	15 10 01.3			
	comp=Z,368nm,1.0s								
AMTX	Amarillo	27.61	333	P	P	15 09 37.0	-0.7		
	baz=146								
AMTX	Amarillo	27.61	333	P	P	15 09 36.8	-0.9		
	baz=146,SNR=82								
AMTX	Amarillo	27.61	333	⇑P	P	15 09 36.6	-1.0		
T60A	Surry	27.66	17	IAmb	IAmb	15 09 50.5			
	comp=Z,276nm,1.0s								
T60A				IAMs_20	IAMs_20	15 20 15.9			
	comp=Z,22µm,20.0s								
T60A	Surry	27.66	17	P	P	15 09 36.4	-1.6		
	baz=201,SNR=7.8								
T60A				P	P	15 09 36.4	-1.6		
	baz=201,SNR=7.8								
S57A	Dark Hollow, R	27.68	13	IAMs_20	IAMs_20	15 20 36.8			
	comp=Z,23µm,20.0s								
S57A	Dark Hollow, R	27.68	13	P	P	15 09 36.5	-1.6		
	baz=196,SNR=27								
S57A				P	P	15 09 36.5	-1.6		
	baz=196,SNR=27								
R53A	Hurricane	27.70	8	IAmb	IAmb	15 09 39.6			
	comp=Z,370nm,1.2s								
R53A				IAMs_20	IAMs_20	15 20 27.8			
	comp=Z,15µm,20.0s								
R53A	Hurricane	27.70	8	P	P	15 09 36.5	-1.8		
	baz=189,SNR=49								
R53A				P	P	15 09 36.5	-1.8		
	baz=189,SNR=49								
R53A				S	S	15 14 30.7	+10		
	baz=189								
R53A				S	S	15 14 30.7	+10		
	baz=189								
OK038	West end E0370	27.80	339	IAmb	IAmb	15 10 00.1			
	comp=Z,277nm,1.1s								
U32A	Winter Ranch,	27.80	338	P	P	15 09 37.6	-1.7		
	baz=153,SNR=64								
R40A	Maddies Statio	27.81	350	IAmb	IAmb	15 09 38.6			
	comp=Z,137nm,0.8s								
R40A	Maddies Statio	27.81	350	P	P	15 09 36.8	-2.5		
	baz=168,SNR=94								
R40A				S	S	15 14 38.3	+16		
	baz=168								
OLIL	Olney	27.82	357	P	P	15 09 38.1	-1.3		
	baz=176,SNR=71								
SLM	Saint Louis	27.88	354	IAmb	IAmb	15 09 40.6			
	comp=Z,280nm,1.0s								
SLM	Saint Louis	27.88	354	P	P	15 09 38.3	-1.7		
	baz=172,SNR=12								
OK032	Salt Plains WL	27.90	340	IAmb	IAmb	15 09 40.8			
	comp=Z,552nm,1.4s								
R55A	Marlinton	27.95	11	IAmb	IAmb	15 09 52.0			
	comp=Z,416nm,1.3s								
R55A				IAMs_20	IAMs_20	15 20 45.0			
	comp=Z,21µm,20.0s								
R55A	Marlinton	27.95	11	P	P	15 09 39.6	-1.1		
	baz=193,SNR=46								
R55A				P	P	15 09 39.6	-1.1		
	baz=193,SNR=46								
R55A				S	S	15 14 45.4	+21		
	baz=193								
R55A				S	S	15 14 45.4	+21		
	baz=193								
KAN14	Manchester OK	27.96	340	IAmb	IAmb	15 10 18.0			
	comp=Z,206nm,0.9s								
KAN17	Caldwell West	27.98	341	IAmb	IAmb	15 09 41.3			
	comp=Z,477nm,1.4s								
OK035	E0210 Rd and N	27.99	339	IAmb	IAmb	15 09 42.0			
	comp=Z,382nm,1.2s								
KAN09	Caldwell North	28.01	341	IAmb	IAmb	15 09 46.9			
	comp=Z,245nm,1.1s								
Q44A	Meyer Farm, Va	28.04	356	P	P	15 09 39.7	-1.6		
	baz=174,SNR=141								
KAN05	Bluff City Nor	28.07	341	IAmb	IAmb	15 10 18.5			
	comp=Z,333nm,1.0s								
KAN01	Argonia South	28.07	341	IAmb	IAmb	15 10 15.2			
	comp=Z,224nm,1.0s								
R58B	Mineral	28.13	15	IAMs_20	IAMs_20	15 20 48.5			
	comp=Z,24µm,20.0s								
R58B	Mineral	28.13	15	P	P	15 09 41.1	-1.1		
	baz=198,SNR=22								
R58B				P	P	15 09 41.1	-1.1		
	baz=198,SNR=22								
R58B				S	S	15 14 42.0	+15		
	baz=198								
R58B				S	S	15 14 42.0	+15		
	baz=198								
KAN08	Anthony NE Sta	28.21	341	IAmb	IAmb	15 10 21.0			
	comp=Z,441nm,1.2s								
Q51A	Peebles	28.23	5	IAMs_20	IAMs_20	15 20 45.1			
	comp=Z,17µm,21.0s								
Q51A	Peebles	28.23	5	P	P	15 09 41.7	-1.4		
	baz=186,SNR=174								
Q51A				P	P	15 09 41.7	-1.4		
	baz=186,SNR=174								
Q52A	Bidwell	28.28	7	P	P	15 09 42.3	-1.2		
	baz=188,SNR=105								
Q52A				P	P	15 09 42.3	-1.2		
	baz=188,SNR=105								
KAN12	Harper NE Stat	28.28	341	IAmb	IAmb	15 10 22.1			
	comp=Z,389nm,1.1s								
CBN	Corbin Frederi	28.49	15	IAMs_20	IAMs_20	15 21 28.8			
	comp=Z,26µm,19.0s								
CBN	Corbin Frederi	28.49	15	P	P	15 09 44.0	-1.3		

baz=182,SNR=125
P49A Miami Univ. Ec **28.64 3** IAmb IAmb 15 09 47.1
comp=Z,547nm,1.2s
P49A IAMs_20 IAMs_20 15 21 09.2
comp=Z,14µm,20.0s
P49A Miami Univ. Ec **28.64 3** P **P** **15 09 44.3 -2.3**
baz=183,SNR=73
P49A Miami Univ. Ec **28.64 3** P P 15 09 43.6 -3.1
baz=183,SNR=73
P46A Rosedale **28.67 359** P **P** **15 09 45.2 -1.8**
baz=178,SNR=107
P46A S S 15 14 44.8 +9.2
baz=178
P51A Williamsport **28.71 6** IAmb IAmb 15 09 48.3
comp=Z,376nm,1.1s
P51A IAMs_20 IAMs_20 15 21 09.8
comp=Z,16µm,19.0s
P51A Williamsport **28.71 6** P **P** **15 09 45.9 -1.4**
baz=187,SNR=68
P51A P **P** **15 09 45.9 -1.4**
baz=187,SNR=68
P43A Skaggs, Pawnee **28.81 355** IAmb IAmb 15 09 49.1
comp=Z,345nm,1.1s
P43A Skaggs, Pawnee **28.81 355** P **P** **15 09 46.5 -1.7**
baz=174,SNR=37
ETMB Extrema **28.84 135** *e*S **S** **15 14 38.0 -0.7**
Q56A Snyder Ridge, **28.86 12** IAmb IAmb 15 10 00.5
comp=Z,487nm,1.1s
Q56A IAMs_20 IAMs_20 15 21 13.1
comp=Z,20µm,20.0s
Q56A Snyder Ridge, **28.86 12** P **P** **15 09 47.9 -0.8**
baz=195,SNR=24
Q56A P **P** **15 09 47.9 -0.8**
baz=195,SNR=24
P53A Whipple **28.91 8** IAMs_20 IAMs_20 15 21 05.9
comp=Z,15µm,21.0s
P53A Whipple **28.91 8** P **P** **15 09 47.9 -1.3**
baz=190,SNR=134
P53A P **P** **15 09 47.9 -1.3**
baz=190,SNR=134
P52A Corning **28.96 7** IAMs_20 IAMs_20 15 21 07.3
comp=Z,13µm,21.0s
P52A Corning **28.96 7** P **P** **15 09 48.2 -1.3**
baz=189,SNR=115
P40A Paris **28.99 351** IAmb IAmb 15 09 50.5
comp=Z,453nm,1.7s
P40A Paris **28.99 351** P P 15 09 47.2 -2.6
baz=168,SNR=47
HSIG **29.07 312** IAMs_20 IAMs_20 15 21 12.4
comp=Z,14µm,21.0s
121A Cookes Peak, D **29.11 321** IAmb IAmb 15 10 09.9
comp=Z,471nm,1.2s
121A Cookes Peak, D **29.11 321** P **P** **15 09 52.2 +1.0**
baz=133,SNR=93
121A Cookes Peak, D **29.11 321** P **P** **15 09 53.0 +1.9**
baz=133,SNR=93
SRIG Santa Rosalia **29.16 308** IAmb IAmb 15 09 58.9
comp=Z,488nm,1.7s
SRIG IAMs_20 IAMs_20 15 22 43.3
comp=Z,15µm,22.0s
O44A Mansfield **29.25 357** P **P** **15 09 50.0 -2.1**
baz=176,SNR=61
MACA Manacapuru-AM **29.30 117** P **P** **15 09 51.0 -1.9**
MACA IAmb IAmb 15 09 54.1
comp=Z,271nm,0.8s
MACA IAMs_20 IAMs_20 15 22 26.3
comp=Z,23µm,18.0s
319A Douglas **29.30 318** IAmb IAmb 15 10 08.4
comp=Z,270nm,1.3s
319A IAMs_20 IAMs_20 15 23 24.6
comp=Z,16µm,21.0s
O49A Covington **29.31 4** IAmb IAmb 15 09 53.4
comp=Z,503nm,1.1s
O49A IAMs_20 IAMs_20 15 21 38.9
comp=Z,15µm,19.0s
O49A Covington **29.31 4** P **P** **15 09 50.6 -2.1**
baz=184,SNR=75
O49A P **P** **15 09 50.6 -2.1**
baz=184,SNR=75
P38A Dawn **29.33 349** P **P** **15 09 50.9 -1.9**
baz=166,SNR=213
O48B Farmland **29.34 2** P **P** **15 09 51.2 -1.7**
baz=182,SNR=89
O48B Farmland **29.34 2** P **P** **15 09 50.7 -2.2**
baz=182,SNR=89
RTBA Rita Blanca **29.38 333** IAmb IAmb 15 10 09.5
comp=Z,260nm,1.1s
SFIN Lafayette **29.43 359** P **P** **15 09 51.5 -2.3**
baz=178,SNR=84
SFIN Lafayette **29.43 359** P **P** **15 09 51.3 -2.4**
baz=178,SNR=84
BBSR BB Station **29.45 40** P **P** **15 09 53.7 -0.2**
BBSR IAmb IAmb 15 10 05.8
comp=Z,342nm,1.3s
BBSR BB Station **29.45 40** IAMs_20 IAMs_20 15 21 03.3
comp=Z,18µm,19.0s
BBSR BB Station **29.45 40** P **P** **15 09 53.7 -0.2**
baz=228
BBSR BB Station **29.45 40** ⇑P **P** **15 09 54.2 +0.3**
ACSO Alum Creek Sta **29.46 6** IAMs_20 IAMs_20 15 21 33.3
comp=Z,17µm,20.0s
ACSO Alum Creek Sta **29.46 6** P **P** **15 09 52.3 -1.6**
baz=187,SNR=119
ACSO Alum Creek Sta **29.46 6** P **P** **15 09 52.2 -1.8**
baz=187,SNR=119
ACSO Alum Creek Sta **29.46 6** ⇑P **P** **15 09 52.1 -1.8**
O52A Adamsville **29.47 7** IAMs_20 IAMs_20 15 21 23.8
comp=Z,15µm,21.0s
O52A Adamsville **29.47 7** P **P** **15 09 52.2 -1.9**
baz=189,SNR=97
O52A P **P** **15 09 52.2 -1.9**
baz=189,SNR=97
KSU1 Kansas State U **29.54 344** P **P** **15 09 53.0 -1.6**
baz=159,SNR=82
KSU1 Kansas State U **29.54 344** P **P** **15 09 52.9 -1.8**
baz=159,SNR=82
KSU1 Kansas State U **29.54 344** ⇑P **P** **15 09 52.9 -1.8**
R32A Long Quarter, **29.54 340** IAmb IAmb 15 09 55.7
comp=Z,339nm,1.4s
R32A Long Quarter, **29.54 340** P **P** **15 09 53.1 -1.6**
baz=155,SNR=33
R32A S **S** **15 14 56.9 +7.5**
baz=155
P57A Homestead Farm **29.54 14** IAmb IAmb 15 10 06.4
comp=Z,366nm,1.2s
P57A IAMs_20 IAMs_20 15 21 43.0
comp=Z,23µm,20.0s
P57A Homestead Farm **29.54 14** P **P** **15 09 54.0 -0.7**
baz=197,SNR=52
P57A P **P** **15 09 54.0 -0.7**
baz=197,SNR=52
Y22A Socorro **29.60 324** P **P** **15 09 56.9 +1.4**
baz=136,SNR=99
Y22D IRIS PASSCAL I **29.68 324** IAmb IAmb 15 10 11.0
comp=Z,433nm,1.2s
Y22D IRIS PASSCAL I **29.68 324** P **P** **15 09 57.7 +1.5**
baz=136
Y22F Passcal Instru **29.68 324** P **P** **15 09 57.7 +1.5**
baz=136
O53A New Philadelph **29.69 8** IAMs_20 IAMs_20 15 21 40.4
comp=Z,14µm,20.0s
O53A New Philadelph **29.69 8** P **P** **15 09 54.8 -1.2**
baz=190,SNR=104
O54A Avella **29.75 10** IAmb IAmb 15 10 07.0
comp=Z,212nm,1.1s
O54A IAMs_20 IAMs_20 15 22 29.9
comp=Z,20µm,18.0s
O54A Avella **29.75 10** P **P** **15 09 54.5 -2.1**
baz=192,SNR=32
O54A P **P** **15 09 54.5 -2.1**
baz=192,SNR=32
O54A S **S** **15 15 00.2 +7.7**
baz=192
O54A S **S** **15 15 00.2 +7.7**
baz=192
SDMD Soldier's Deli **29.76 15** IAmb IAmb 15 10 07.7
comp=Z,194nm,1.2s
SDMD Soldier's Deli **29.76 15** P **P** **15 09 55.2 -1.4**
baz=199,SNR=17
N47A Urbana **29.94 1** IAmb IAmb 15 09 58.2
comp=Z,252nm,1.1s
N47A Urbana **29.94 1** P **P** **15 09 55.8 -2.4**
baz=181,SNR=23
N47A P **P** **15 09 55.8 -2.4**
baz=181,SNR=23
N41A Harden Midland **30.00 354** P **P** **15 09 56.8 -1.9**
baz=171,SNR=68
N41A S S 15 15 11.8 +15
baz=171
N49A Columbus Grove **30.05 4** IAMs_20 IAMs_20 15 22 02.1
comp=Z,14µm,20.0s
N49A Columbus Grove **30.05 4** P **P** **15 09 57.7 -1.4**
baz=184,SNR=165
N49A P **P** **15 09 57.7 -1.4**
baz=184,SNR=165
N49A S S 15 15 13.8 +17
baz=184
N49A S S 15 15 13.8 +17
baz=184
ANMO Albuquerque **30.06 326** P **P** **15 09 59.5 -0.1**
ANMO Albuquerque **30.06 326** *i* P **P** **15 09 59.8 +0.2**
ANMO pmax pmax
comp=Z,116nm,1.0s
ANMO MLR MLR
comp=Z,5µm,21.0s
ANMO Albuquerque **30.06 326** P **P** **15 10 00.2 +0.6**
baz=138
ANMO Albuquerque **30.06 326** P **P** **15 10 00.8 +1.2**
baz=138,SNR=138
ANMO Albuquerque **30.06 326** ⇑P **P** **15 10 00.4 +0.8**
N51A Ashland **30.20 6** IAMs_20 IAMs_20 15 21 57.2
comp=Z,15µm,20.0s
N51A Ashland **30.20 6** P **P** **15 09 59.0 -1.6**
baz=188,SNR=44
N51A P **P** **15 09 59.0 -1.6**
baz=188,SNR=44
CBKS Cedar Bluff **30.24 339** IAmb IAmb 15 10 52.6
comp=Z,246nm,1.1s
CBKS Cedar Bluff **30.24 339** P **P** **15 09 59.7 -1.2**
baz=153,SNR=25
CBKS Cedar Bluff **30.24 339** P **P** **15 09 59.9 -1.0**
baz=153,SNR=25
N53A Lisbon **30.29 9** IAMs_20 IAMs_20 15 21 58.9
comp=Z,15µm,20.0s
N53A Lisbon **30.29 9** P **P** **15 09 59.5 -1.9**
baz=191,SNR=87
N53A P **P** **15 09 59.5 -1.9**
baz=191,SNR=87
N38A Joes South For **30.41 350** IAmb IAmb 15 10 01.8
comp=Z,172nm,0.7s
N38A Joes South For **30.41 350** P **P** **15 10 00.1 -2.3**
baz=167,SNR=29
MVL Millersville **30.44 16** IAmb IAmb 15 10 14.1
comp=Z,425nm,1.2s
MVL IAMs_20 IAMs_20 15 22 37.6
comp=Z,19µm,19.0s
GEDE Greenville **30.46 17** P **P** **15 10 01.8 -1.1**
baz=201,SNR=8.7
M44A Midewin, Midew **30.46 358** P **P** **15 10 00.5 -2.3**
baz=177,SNR=45
SAML Samuel **30.48 129** ⇓P **P** **15 10 03.4 +0.2**
SAML Samuel **30.48 129** *e*P **P** **15 10 03.4 +0.2**
PAMR Moraine State **30.53 10** P **P** **15 10 02.6 -0.9**
baz=192
M50A Fremont **30.61 5** IAMs_20 IAMs_20 15 22 09.9
comp=Z,17µm,21.0s
M50A Fremont **30.61 5** P **P** **15 10 02.9 -1.2**
baz=186,SNR=67
M50A P **P** **15 10 02.9 -1.2**
baz=186,SNR=67
SSPA Standing Stone **30.67 13** P **P** **15 10 02.6 -2.0**
SSPA IAmb IAmb 15 10 16.3
comp=Z,400nm,1.1s
SSPA Standing Stone **30.67 13** IAMs_20 IAMs_20 15 22 27.9
comp=Z,23µm,20.0s
SSPA Standing Stone **30.67 13** P **P** **15 10 03.4 -1.3**
baz=196
SSPA Standing Stone **30.67 13** P **P** **15 10 03.6 -1.1**
baz=196,SNR=50
SSPA Standing Stone **30.67 13** ⇑P **P** **15 10 03.5 -1.1**
T25A Trinidad **30.72 331** P **P** **15 10 05.5 +0.1**
baz=144,SNR=22
TUC Tucson **30.89 317** IAMs_20 IAMs_20 15 24 11.7
comp=Z,15µm,20.0s
TUC Tucson **30.89 317** P **P** **15 10 08.5 +1.6**
TUC pmax pmax
comp=Z,110nm,1.2s
TUC Tucson **30.89 317** P **P** **15 10 08.1 +1.3**
baz=128
TUC Tucson **30.89 317** ⇑P **P** **15 10 08.4 +1.6**
TUPA Temple Univers **30.92 17** P **P** **15 10 05.9 -0.9**
baz=202,SNR=21
M53A WI Miller and **30.93 9** IAMs_20 IAMs_20 15 22 48.9
comp=Z,12µm,20.0s
M53A WI Miller and **30.93 9** P **P** **15 10 05.5 -1.5**
baz=191,SNR=130
M52A Chesterland **30.94 8** IAmb IAmb 15 10 17.8
comp=Z,300nm,1.2s
M52A IAMs_20 IAMs_20 15 22 19.1
comp=Z,14µm,21.0s
M52A Chesterland **30.94 8** P **P** **15 10 05.3 -1.7**
baz=190,SNR=23
M52A P **P** **15 10 05.3 -1.7**
baz=190,SNR=23
N35A Tabor **30.96 347** IAMs_20 IAMs_20 15 24 44.4
comp=Z,17µm,22.0s
N35A Tabor **30.96 347** P **P** **15 10 06.4 -0.9**
baz=162,SNR=17
PSDB Penn State Uni **30.96 12** P **P** **15 10 07.4 +0.2**
baz=195
L48A N Adams **31.05 3** P **P** **15 10 06.0 -2.1**
baz=184,SNR=62
L48A P **P** **15 10 06.0 -2.1**
baz=184,SNR=62
L46A Eue Claire **31.06 0** P P 15 10 05.3 -2.8
baz=180,SNR=22
L46A P P 15 10 05.3 -2.8
baz=180,SNR=22
N58A Sunbury **31.14 15** IAmb IAmb 15 10 19.8
comp=Z,436nm,1.2s
N58A IAMs_20 IAMs_20 15 22 41.7
comp=Z,17µm,20.0s
N58A Sunbury **31.14 15** P **P** **15 10 07.5 -1.3**
baz=199,SNR=36
N58A P **P** **15 10 07.5 -1.3**
baz=199,SNR=36
PAOC Oil Creek Stat **31.16 10** P **P** **15 10 08.0 -1.0**
baz=193
L42A Oliver, Polo **31.17 356** P **P** **15 10 07.1 -1.9**
baz=174,SNR=248
ALLY Alegheny Colle **31.22 9** P **P** **15 10 08.3 -1.3**
baz=192,SNR=23
L44A Lake County Fo **31.25 358** P **P** **15 10 07.2 -2.6**
baz=177,SNR=27
L44A Lake County Fo **31.25 358** P **P** **15 10 07.7 -2.0**
baz=177,SNR=27
PANJ Princeton **31.26 18** P **P** **15 10 09.3 -0.5**
baz=202,SNR=13
LUPA Lehigh Univers **31.27 17** IAMs_20 IAMs_20 15 23 32.0
comp=Z,17µm,18.0s
M55A Ridgway **31.29 11** IAmb IAmb 15 10 20.8
comp=Z,259nm,1.1s
M55A IAMs_20 IAMs_20 15 22 39.0
comp=Z,21µm,21.0s
M55A Ridgway **31.29 11** P **P** **15 10 09.0 -1.1**
baz=194,SNR=33
M55A P **P** **15 10 09.0 -1.1**
baz=194,SNR=33
N33B J Bar K, Exete **31.29 344** P **P** **15 10 08.8 -1.4**
baz=159,SNR=36
N33A J Bar K, Exete **31.29 344** IAMs_20 IAMs_20 15 24 15.6
comp=Z,15µm,22.0s
L40A Anamosa **31.38 353** P **P** **15 10 09.3 -1.6**
baz=171,SNR=132
AAM Ann Arbor **31.46 4** IAmb IAmb 15 10 22.5
comp=Z,389nm,1.4s
AAM IAMs_20 IAMs_20 15 22 56.3
comp=Z,16µm,20.0s
AAM Ann Arbor **31.46 4** P **P** **15 10 09.2 -2.4**
baz=185,SNR=7.4
AAM Ann Arbor **31.46 4** P **P** **15 10 10.1 -1.5**
baz=185,SNR=7.4
KSCO Kaye Shedlock' **31.50 336** IAmb IAmb 15 10 14.1
comp=Z,262nm,1.1s
KSCO Kaye Shedlock' **31.50 336** P **P** **15 10 11.5 -0.7**
baz=148,SNR=23
KSCO Kaye Shedlock' **31.50 336** P **P** **15 10 12.2 +0.1**
baz=148,SNR=23
SCIA State Center **31.50 351** IAmb IAmb 15 10 12.6
comp=Z,240nm,0.8s
SCIA State Center **31.50 351** P **P** **15 10 09.9 -2.1**
baz=167,SNR=15
SCIA State Center **31.50 351** P **P** **15 10 10.7 -1.3**
baz=167,SNR=15
M57A Sunshine Farm, **31.51 14** IAMs_20 IAMs_20 15 22 53.7
comp=Z,20µm,20.0s
M57A Sunshine Farm, **31.51 14** P **P** **15 10 10.9 -1.2**
baz=198,SNR=64
M57A P **P** **15 10 10.9 -1.2**
baz=198,SNR=64
BRNJ Basking Ridge **31.58 18** IAmb IAmb 15 10 24.0
comp=Z,275nm,1.1s
BRNJ Basking Ridge **31.58 18** P **P** **15 10 12.1 -0.6**
baz=203,SNR=5.4
ERPA Erie **31.70 9** IAMs_20 IAMs_20 15 23 41.2
comp=Z,17µm,18.0s
ERPA Erie **31.70 9** P **P** **15 10 12.2 -1.6**
baz=192,SNR=47
ERPA Erie **31.70 9** P **P** **15 10 12.0 -1.7**
baz=192,SNR=47
ERPA Erie **31.70 9** ⇑P **P** **15 10 12.1 -1.7**
SDCO Great Sand Dun **31.72 331** IAmb IAmb 15 10 18.9
comp=Z,99nm,0.8s
SDCO Great Sand Dun **31.72 331** P **P** **15 10 14.8 +0.4**
baz=142,SNR=259
SDCO Great Sand Dun **31.72 331** P **P** **15 10 14.8 +0.4**
baz=142,SNR=259
SDCO Great Sand Dun **31.72 331** ⇑P **P** **15 10 14.7 +0.3**
X18A Snowflake **31.79 322** IAMs_20 IAMs_20 15 24 46.8
comp=Z,12µm,19.0s
K43A Burlington **31.79 358** P **P** **15 10 13.0 -1.5**
baz=176,SNR=27
ODNJ Ogdensburg **31.93 17** IAmb IAmb 15 10 26.6
comp=Z,162nm,1.2s
ODNJ IAMs_20 IAMs_20 15 22 57.5
comp=Z,25µm,21.0s
ODNJ Ogdensburg **31.93 17** P **P** **15 10 14.6 -1.2**
baz=202,SNR=8.8
K50A Casco **32.01 6** IAmb IAmb 15 10 16.5
comp=Z,269nm,1.1s
K50A IAMs_20 IAMs_20 15 23 02.9
comp=Z,15µm,20.0s
K50A Casco **32.01 6** P **P** **15 10 14.4 -2.1**
baz=187,SNR=12
K50A P **P** **15 10 14.4 -2.1**
baz=187,SNR=12
214A Organ Pipe Nat **32.05 315** IAMs_20 IAMs_20 15 24 33.7
comp=Z,19µm,22.0s
214A Organ Pipe Nat **32.05 315** P **P** **15 10 19.1 +2.0**
baz=125,SNR=47
KSPA Keystone Colle **32.05 15** IAmb IAmb 15 10 31.7
comp=Z,237nm,1.0s
KSPA IAMs_20 IAMs_20 15 23 47.9
comp=Z,19µm,18.0s
KSPA Keystone Colle **32.05 15** P **P** **15 10 15.7 -1.1**
baz=200,SNR=24
W18A Petrified Fore **32.06 323** IAmb IAmb 15 10 32.9
comp=Z,298nm,1.1s
W18A IAMs_20 IAMs_20 15 25 44.8
comp=Z,11µm,19.0s
W18A Petrified Fore **32.06 323** P **P** **15 10 18.8 +1.5**
baz=133,SNR=53
PAL Palisades **32.07 18** IAmb IAmb 15 10 27.9
comp=Z,199nm,1.1s
PAL Palisades **32.07 18** P **P** **15 10 15.7 -1.3**
baz=204,SNR=11
PAL Palisades **32.07 18** P **P** **15 10 15.8 -1.2**
baz=204,SNR=11
BGNE Belgrade **32.11 344** IAMs_20 IAMs_20 15 25 04.3
comp=Z,14µm,22.0s
BGNE Belgrade **32.11 344** P **P** **15 10 16.1 -1.2**
baz=158,SNR=21
BGNE Belgrade **32.11 344** P **P** **15 10 15.9 -1.5**
baz=158,SNR=21
JFWS Jewell Farm **32.12 355** P **P** **15 10 15.6 -1.9**
baz=173,SNR=107
JFWS Jewell Farm **32.12 355** P **P** **15 10 15.7 -1.8**
baz=173,SNR=107
JFWS Jewell Farm **32.12 355** ⇑P **P** **15 10 15.2 -2.3**
K38A Parkersburg **32.15 351** P **P** **15 10 15.6 -2.1**
baz=168,SNR=33
L56A Greenwood **32.18 13** IAMs_20 IAMs_20 15 23 15.4
comp=Z,23µm,20.0s
L56A Greenwood **32.18 13** P **P** **15 10 16.7 -1.3**
baz=196,SNR=40
L56A P **P** **15 10 16.7 -1.3**
baz=196,SNR=40
L34A Svendsen Farm, **32.18 346** IAMs_20 IAMs_20 15 25 32.7
comp=Z,17µm,21.0s
L34A Svendsen Farm, **32.18 346** P **P** **15 10 15.9 -2.1**
baz=161,SNR=23
WVNY West Valley, N **32.22 11** IAmb IAmb 15 10 28.9
comp=Z,353nm,1.2s
WVNY IAMs_20 IAMs_20 15 23 18.8
comp=Z,19µm,20.0s
WVNY West Valley, N **32.22 11** P **P** **15 10 16.4 -2.0**
baz=194,SNR=20
J47A Sunmer **32.32 2** IAmb IAmb 15 10 18.4
comp=Z,215nm,0.9s
J47A Sunmer **32.32 2** P P 15 10 16.1 -3.1
baz=183,SNR=13
J47A P P 15 10 16.1 -3.1
baz=183,SNR=13
S22A 4UR Ranch, Cre **32.38 329** IAmb IAmb 15 10 34.7
comp=Z,272nm,1.4s
S22A 4UR Ranch, Cre **32.38 329** P **P** **15 10 20.8 +0.7**
baz=140,SNR=109
WSPT Westport, CT **32.40 19** IAmb IAmb 15 10 30.6
comp=Z,257nm,1.2s
WSPT IAMs_20 IAMs_20 15 23 30.8
comp=Z,21µm,20.0s
BRNY Black Rk. Fore **32.41 18** P **P** **15 10 18.0 -2.1**
baz=203,SNR=6.5
Q24A Divide **32.54 333** P **P** **15 10 21.6 0.0**
baz=144,SNR=25
X16A Lo Mia Camp, P **32.64 320** IAmb IAmb 15 10 37.4
comp=Z,156nm,1.2s
X16A IAMs_20 IAMs_20 15 24 53.6
comp=Z,12µm,18.0s
YLE Yale **32.66 19** IAmb IAmb 15 10 33.1
comp=Z,265nm,1.1s
YLE IAMs_20 IAMs_20 15 23 39.8
comp=Z,17µm,21.0s
NPNY Mohonk Preserv **32.69 17** P **P** **15 10 20.9 -1.5**
baz=203,SNR=18
L59A Walton **32.84 16** IAMs_20 IAMs_20 15 24 20.6
comp=Z,12µm,18.0s
L59A Walton **32.84 16** P **P** **15 10 22.9 -0.9**
baz=201,SNR=30
L59A P **P** **15 10 22.9 -0.9**
baz=201,SNR=30
MVCO Mesa Verde **32.84 327** IAmb IAmb 15 10 38.1
comp=Z,307nm,1.3s
MVCO Mesa Verde **32.84 327** P **P** **15 10 24.4 +0.2**
baz=137,SNR=79
MVCO Mesa Verde **32.84 327** ⇑P **P** **15 10 24.8 +0.6**
KSCT Kent School, K **32.86 18** IAmb IAmb 15 10 34.8
comp=Z,134nm,1.1s
PB18 Visviri **32.92 149** IAMs_20 IAMs_20 15 24 52.8
comp=Z,13µm,18.0s
OGNE Ogallala **32.94 338** P **P** **15 10 24.3 -0.5**
baz=151,SNR=40
OGNE Ogallala **32.94 338** P **P** **15 10 24.7 -0.1**
baz=151,SNR=40
OGNE Ogallala **32.94 338** ⇑P **P** **15 10 24.6 -0.2**
K57A Scipio Center **32.98 14** IAmb IAmb 15 10 35.2
comp=Z,328nm,1.2s
K57A IAMs_20 IAMs_20 15 23 50.5
comp=Z,19µm,20.0s
K57A Scipio Center **32.98 14** P **P** **15 10 23.1 -1.8**
baz=198,SNR=15
MEDO Medina **32.98 11** IAmb IAmb 15 10 35.8
comp=Z,356nm,1.4s
I42A Draeger Farm, **33.00 357** P **P** **15 10 23.3 -1.8**
baz=175,SNR=70
M63A Gales Ferry **33.04 20** IAmb IAmb 15 10 37.4
comp=Z,309nm,1.3s
M63A Gales Ferry **33.04 20** P **P** **15 10 24.8 -0.7**
baz=206,SNR=10
M63A P **P** **15 10 24.8 -0.7**
baz=206,SNR=10
J54A Appleton **33.05 11** IAmb IAmb 15 10 35.7
comp=Z,348nm,1.2s
J54A IAMs_20 IAMs_20 15 23 33.9
comp=Z,21µm,20.0s
J54A Appleton **33.05 11** P **P** **15 10 23.9 -1.7**
baz=194,SNR=7.5
J54A P **P** **15 10 23.9 -1.7**
baz=194,SNR=7.5
I45A Fountain **33.09 0** P P 15 10 23.0 -2.9
baz=180,SNR=7.4
I45A P P 15 10 23.0 -2.9
baz=180,SNR=7.4
I40A Norwalk **33.12 355** P P 15 10 23.4 -2.8

baz=172,SNR=63
I49A Point Hope 33.15 5 IAmb IAmb 15 10 25.8
comp=Z,220nm,0.9s
I49A IAMs_20 IAMs_20 15 23 48.0
comp=Z,14µm,20.0s
I49A Point Hope 33.15 5 P **P 15 10 24.2 -2.2**
baz=186,SNR=12
I49A P **P 15 10 24.2 -2.2**
baz=186,SNR=12
113A Mohawk Valley, 33.18 315 IAMs_20 IAMs_20 15 26 08.5
comp=Z,12µm,20.0s
J55A Hilton 33.20 12 IAmb IAmb 15 10 37.6
comp=Z,193nm,1.4s
J55A Hilton 33.20 12 P **P 15 10 25.3 -1.6**
baz=195
J55A P **P 15 10 25.3 -1.6**
baz=195
WUAZ Wupatki 33.32 322 IAmb IAmb 15 10 43.9
comp=Z,292nm,1.1s
WUAZ Wupatki 33.32 322 P **P 15 10 30.1 +1.9**
baz=131,SNR=121
WUAZ Wupatki 33.32 322 ⇑P **P 15 10 29.9 +1.7**
PB12 IPOC Station P 33.37 151 IAMs_20 IAMs_20 15 23 56.2
comp=Z,11µm,20.0s
J56A Wolcott 33.42 13 IAMs_20 IAMs_20 15 23 54.2
comp=Z,23µm,21.0s
J56A Wolcott 33.42 13 P **P 15 10 26.2 -2.5**
baz=197,SNR=28
J56A P **P 15 10 26.2 -2.5**
baz=197,SNR=28
ISCO Idaho Springs 33.43 333 P **P 15 10 29.3 -0.1**
ISCO pmax pmax
comp=Z,81nm,1.0s
ISCO Idaho Springs 33.43 333 P **P 15 10 29.2 -0.1**
baz=144,SNR=96
ISCO Idaho Springs 33.43 333 P **P 15 10 29.5 +0.2**
baz=144,SNR=96
HCNY Howe Caverns 33.48 16 P **P 15 10 27.7 -1.6**
baz=202,SNR=9.4
BRIGG Briggsdale 33.52 335 IAmb IAmb 15 10 32.4
comp=Z,268nm,1.1s
H43A Windswept, Lux 33.53 358 IAMs_20 IAMs_20 15 24 46.0
comp=Z,9µm,18.0s
H43A Windswept, Lux 33.53 358 P **P 15 10 27.7 -2.1**
baz=178,SNR=22
PB16 IPOC Station P 33.53 150 IAMs_20 IAMs_20 15 25 01.3
comp=Z,18µm,20.0s
SMCO Snowmass 33.56 331 IAmb IAmb 15 10 33.8
comp=Z,120nm,1.1s
SMCO Snowmass 33.56 331 ⇑P **P 15 10 31.1 +0.5**
I37B Waseca 33.58 351 P **P 15 10 28.4 -1.8**
baz=167,SNR=105
M65A Busby, Falmout 33.67 22 IAMs_20 IAMs_20 15 25 57.0
comp=Z,14µm,18.0s
M65A Busby, Falmout 33.67 22 P **P 15 10 29.5 -1.5**
baz=209
K30B Basset 33.70 343 P **P 15 10 30.1 -1.2**
baz=156,SNR=127
QUA2 Belchertown 33.72 19 IAMs_20 IAMs_20 15 24 51.6
comp=Z,20µm,19.0s
QUA2 Belchertown 33.72 19 P **P 15 10 30.2 -1.2**
baz=205,SNR=6.3
TRY Troy 33.73 17 P **P 15 10 30.5 -0.9**
baz=203,SNR=19
J57A Williamstown 33.74 14 IAMs_20 IAMs_20 15 24 22.7
comp=Z,19µm,19.0s
J57A Williamstown 33.74 14 P **P 15 10 30.1 -1.5**
baz=198,SNR=20
J57A P **P 15 10 30.1 -1.5**
baz=198,SNR=20
L61B Northampton 33.77 19 IAmb IAmb 15 10 42.3
comp=Z,174nm,1.1s
L61B IAMs_20 IAMs_20 15 24 22.9
comp=Z,19µm,20.0s
L61B Northampton 33.77 19 P **P 15 10 29.8 -2.0**
baz=205,SNR=8.6
L61B Northampton 33.77 19 P **P 15 10 30.4 -1.4**
baz=205,SNR=8.6
J58A Remsen 33.87 15 IAmb IAmb 15 10 43.1
comp=Z,272nm,1.1s
J58A Remsen 33.87 15 P **P 15 10 30.6 -2.1**
baz=200,SNR=31
J58A P **P 15 10 30.6 -2.1**
baz=200,SNR=31
ECSD EROS Data Cent 33.91 347 IAMs_20 IAMs_20 15 26 24.5
comp=Z,14µm,21.0s
ECSD EROS Data Cent 33.91 347 P P 15 10 30.5 -2.6
baz=162,SNR=207
ECSD EROS Data Cent 33.91 347 P P 15 10 30.3 -2.8
baz=162,SNR=207
ECSD EROS Data Cent 33.91 347 ⇑P P 15 10 30.4 -2.7
GLMI Grayling 33.91 3 P P 15 10 30.3 -2.8
baz=183,SNR=6.0
GLMI Grayling 33.91 3 P **P 15 10 31.1 -2.0**
baz=183,SNR=6.0
L64A Middleborough 33.93 21 IAMs_20 IAMs_20 15 25 30.9
comp=Z,13µm,20.0s
CPBX Cerro Prieto 34.06 314 IAmb IAmb 15 10 40.4
comp=Z,146nm,1.0s
G45A Suttons Bay 34.10 1 P **P 15 10 32.0 -2.6**
baz=181,SNR=18
G45A P **P 15 10 32.0 -2.6**
baz=181,SNR=18
K62A Royalston 34.10 19 IAmb IAmb 15 10 46.3
comp=Z,334nm,1.4s
K62A IAMs_20 IAMs_20 15 24 53.8
comp=Z,21µm,20.0s
K62A Royalston 34.10 19 P **P 15 10 34.0 -0.8**
baz=205,SNR=9.5
K62A P **P 15 10 34.0 -0.8**
baz=205,SNR=9.5
HRV Adam Dziewonsk 34.18 20 P **P 15 10 34.2 -1.3**
HRV Adam Dziewonsk 34.18 20 IAMs_20 IAMs_20 15 24 44.8
comp=Z,19µm,20.0s
HRV Adam Dziewonsk 34.18 20 P **P 15 10 34.2 -1.3**
HRV pmax pmax
comp=Z,103nm,1.2s
HRV MLR MLR
comp=Z,18µm,20.0s
HRV Adam Dziewonsk 34.18 20 P **P 15 10 33.8 -1.6**
baz=207
BLYC Blythe 34.26 316 IAmb IAmb 15 10 51.9
comp=Z,128nm,1.1s
ACCN Adirondack Com 34.33 17 IAmb IAmb 15 10 48.1
comp=Z,215nm,1.4s
ACCN IAMs_20 IAMs_20 15 24 41.8
comp=Z,20µm,20.0s
ACCN Adirondack Com 34.33 17 P **P 15 10 35.6 -1.1**
baz=202,SNR=14
PDMCI Parker Dam,Lak 34.33 317 P **P 15 10 38.1 +1.3**
baz=126,SNR=84
WCNY West Carthage 34.36 14 P **P 15 10 35.1 -1.9**
baz=199,SNR=11
SADO Sadowa 34.42 9 IAmb IAmb 15 10 47.8
comp=Z,274nm,1.1s
SADO IAMs_20 IAMs_20 15 24 27.2
comp=Z,14µm,20.0s
SADO Sadowa 34.42 9 ⇑P **P 15 10 35.0 -2.5**
SADO Sadowa 34.42 9 LR LR 15 24 38.4
comp=Z,15µm,20.7s,baz=251,slow=37
DELO Deloro Mine 34.45 11 IAmb IAmb 15 10 48.1
comp=Z,197nm,1.4s
DELO IAMs_20 IAMs_20 15 24 36.7
comp=Z,19µm,20.0s
G40A Rib Lake 34.45 356 P **P 15 10 35.6 -2.2**
baz=173,SNR=93
N23A Red Feather La 34.47 334 IAMs_20 IAMs_20 15 27 05.0
comp=Z,12µm,22.0s
N23A Red Feather La 34.47 334 P **P 15 10 38.4 +0.1**
baz=144,SNR=75
U15A North Rim 34.48 322 IAmb IAmb 15 10 53.7
comp=Z,201nm,1.2s
PHWY Pilot Hill 34.59 335 IAMs_20 IAMs_20 15 26 53.2
comp=Z,11µm,22.0s
J61A Chester 34.62 18 IAmb IAmb 15 10 50.9
comp=Z,262nm,1.1s
J61A Chester 34.62 18 P **P 15 10 38.2 -1.0**
baz=204,SNR=17
J61A P **P 15 10 38.2 -1.0**
baz=204,SNR=17
W13A Hualapai Mount 34.63 319 IAmb IAmb 15 10 55.2
comp=Z,166nm,1.3s
PB11 IPOC Station P 34.68 151 IAmb IAmb 15 10 51.7
comp=Z,204nm,1.1s
PB11 IAMs_20 IAMs_20 15 23 50.8
comp=Z,12µm,22.0s
SPMN Marine on St. 34.68 352 P P 15 10 37.0 -2.7
baz=169,SNR=158

SPMN Marine on St. 34.68 352 P P 15 10 36.9 -2.9
baz=169,SNR=158
SWSC Sam W. Stewart 34.70 314 P **P 15 10 42.8 +2.7**
baz=122,SNR=38
NCB Newcomb 34.71 16 IAMs_20 IAMs_20 15 24 23.3
comp=Z,10µm,21.0s
NCB Newcomb 34.71 16 P **P 15 10 38.3 -1.8**
baz=201,SNR=7.4
RMX La Rumorosa 34.72 313 IAmb IAmb 15 10 45.9
comp=Z,164nm,1.1s
IKP In-Ko-Pah, Jac 34.76 313 P **P 15 10 43.3 +2.6**
baz=122,SNR=37
GO01 Chusmiza 34.82 150 IAMs_20 IAMs_20 15 24 23.5
comp=Z,12µm,19.0s
F42A Maple Grove Fa 34.83 358 IAmb IAmb 15 10 40.0
comp=Z,131nm,1.1s
F42A Maple Grove Fa 34.83 358 P P 15 10 38.1 -3.0
baz=177,SNR=6.3
BC3 Big Chuckawall 34.85 315 P **P 15 10 43.8 +2.3**
baz=124,SNR=88
TA02 Huaiquique 34.90 152 IAMs_20 IAMs_20 15 24 48.8
comp=Z,10µm,20.0s
IRM Iron Mountain 34.92 316 P **P 15 10 44.1 +2.1**
baz=125,SNR=83
NEE2 Needles Airpor 34.92 317 P **P 15 10 43.4 +1.5**
baz=126,SNR=18
O20A White River Ci 34.92 330 P **P 15 10 42.8 +0.7**
baz=140,SNR=86
CBX Cerro Bola 34.99 312 IAmb IAmb 15 10 48.9
comp=Z,225nm,1.0s
HNH Hanover 35.03 18 IAmb IAmb 15 10 54.7
comp=Z,225nm,1.7s
HNH IAMs_20 IAMs_20 15 25 22.3
comp=Z,20µm,20.0s
MCVT Middlebury Col 35.04 17 P **P 15 10 41.0 -1.9**
baz=203,SNR=7.9
TKX Tecate 35.08 313 IAmb IAmb 15 10 49.2
comp=Z,154nm,1.2s
TKX IAMs_20 IAMs_20 15 25 44.1
comp=Z,10µm,20.0s
MONP2 Monument Peak 35.11 313 P **P 15 10 45.1 +1.2**
baz=122,SNR=33
SUSD Miller 35.15 345 IAMs_20 IAMs_20 15 27 46.5
comp=Z,13µm,20.0s
SUSD Miller 35.15 345 P **P 15 10 41.7 -2.1**
baz=158,SNR=52
SUSD Miller 35.15 345 P **P 15 10 41.5 -2.3**
baz=158,SNR=52
PKCU Pink Cliffs 35.16 323 IAMs_20 IAMs_20 15 26 44.9
comp=Z,10µm,19.0s
KNB Kanab 35.18 322 IAmb IAmb 15 11 00.3
comp=Z,265nm,1.1s
BAR Barrett 35.18 313 IAMs_20 IAMs_20 15 25 45.8
comp=Z,10µm,19.0s
LONY Lake Ozonia 35.23 15 IAMs_20 IAMs_20 15 25 51.9
comp=Z,18µm,18.0s
LONY Lake Ozonia 35.23 15 P **P 15 10 42.6 -1.9**
baz=200,SNR=30
LONY Lake Ozonia 35.23 15 ⇑P **P 15 10 42.4 -2.1**
PB08 IPOC Station P 35.24 151 IAMs_20 IAMs_20 15 24 20.7
comp=Z,11µm,22.0s
VILB Vilhena 35.29 131 IAmb IAmb 15 10 57.2
comp=Z,225nm,1.0s
VILB IAMs_20 IAMs_20 15 25 30.4
comp=Z,12µm,18.0s
SRU San Rafael Swe 35.32 327 IAmb IAmb 15 10 49.5
comp=Z,226nm,1.0s
F36A Milaca 35.41 352 IAmb IAmb 15 10 45.0
comp=Z,248nm,0.8s
F36A Milaca 35.41 352 P P 15 10 43.1 -2.9
baz=168,SNR=174
BELC Belle Mtn. Jos 35.41 315 P **P 15 10 48.3 +1.9**
baz=123,SNR=93
E43A Lone Tree Farm 35.43 360 P **P 15 10 44.5 -1.6**
baz=179,SNR=45
LCMT Little Creek M 35.44 322 IAMs_20 IAMs_20 15 27 29.3
comp=Z,9µm,20.0s
VT1 Waterbury 35.46 17 P **P 15 10 45.2 -1.3**
baz=204,SNR=7.7
E46A Sault Ste Mari 35.47 3 IAMs_20 IAMs_20 15 25 29.7
comp=Z,9µm,19.0s
E46A Sault Ste Mari 35.47 3 P P 15 10 43.2 -3.3
baz=183,SNR=14
I62A Tamworth 35.48 19 IAmb IAmb 15 10 58.5
comp=Z,337nm,1.4s
I62A Tamworth 35.48 19 P **P 15 10 45.7 -0.9**
baz=206,SNR=8.1
I62A P **P 15 10 45.7 -0.9**
baz=206,SNR=8.1
TPFO Pinon Flats 35.52 314 P **P 15 10 49.8 +2.5**
baz=122,SNR=76
PFO Pinyon Flats O 35.52 314 P **P 15 10 49.3 +2.0**
PFO IAmb IAmb 15 10 53.0
comp=Z,129nm,1.0s
PFO Pinyon Flats O 35.52 314 *i* P **P 15 10 48.8 +1.5**
PFO pmax pmax
comp=Z,197nm,1.0s
PFO MLR MLR
comp=Z,9µm,18.0s
PFO Pinyon Flats O 35.52 314 P **P 15 10 50.6 +3.3**
baz=122,SNR=69
Q16A Castle Valley 35.53 326 IAmb IAmb 15 11 02.4
comp=Z,273nm,1.4s
P18A Preston Nutter 35.55 328 IAmb IAmb 15 10 51.0
comp=Z,220nm,1.1s
109C Camp Elliot, M 35.60 313 IAmb IAmb 15 10 53.5
comp=Z,161nm,1.1s
109C Camp Elliot, M 35.60 313 P **P 15 10 50.8 +2.9**
baz=121,SNR=11
LBNH Lisbon 35.62 18 IAmb IAmb 15 10 58.8
comp=Z,237nm,1.4s
LBNH Lisbon 35.62 18 P **P 15 10 46.4 -1.5**
baz=205,SNR=7.9
LBNH Lisbon 35.62 18 P **P 15 10 46.6 -1.3**
baz=205,SNR=7.9
LBNH Lisbon 35.62 18 ⇑P **P 15 10 46.5 -1.4**
GMRC Granite Mounta 35.62 317 P **P 15 10 50.0 +1.8**
baz=125,SNR=57
V12A Nelson 35.64 319 P **P 15 10 49.5 +1.2**
V12A IAMs_20 IAMs_20 15 27 16.2
comp=Z,11µm,20.0s
RWWY Rawlins 35.67 333 IAmb IAmb 15 10 51.4
comp=Z,289nm,1.1s
RWWY IAMs_20 IAMs_20 15 28 07.9
comp=Z,12µm,22.0s
OTT Ottawa 35.68 13 P **P 15 10 46.4 -1.9**
FRNY Flat Rock 35.69 16 P **P 15 10 46.6 -1.8**
baz=202
P17A Butcher Ranch, 35.70 327 IAmb IAmb 15 10 53.3
comp=Z,198nm,0.8s
SZCU Shurtz Canyon 35.72 323 IAmb IAmb 15 11 04.0
comp=Z,177nm,1.2s
F33A 5 Mile Ranch, 35.86 348 IAMs_20 IAMs_20 15 26 49.8
comp=Z,10µm,22.0s
F33A 5 Mile Ranch, 35.86 348 P P 15 10 47.3 -2.5
baz=163,SNR=171
I63A Otisfield 35.88 20 IAmb IAmb 15 11 01.2
comp=Z,154nm,1.1s
I63A Otisfield 35.88 20 P **P 15 10 49.6 -0.5**
baz=207
I63A P **P 15 10 49.6 -0.5**
baz=207
E38A The Farm, Brul 35.90 354 P **P 15 10 47.7 -2.5**
baz=171,SNR=52
RDMU Red Mountain 35.91 330 IAmb IAmb 15 11 04.7
comp=Z,314nm,1.6s
GAC Glen Almond 36.03 13 ⇑P **P 15 10 49.2 -2.1**
TCRU Three Creeks R 36.03 325 IAmb IAmb 15 11 06.2
comp=Z,240nm,1.2s
TCRU IAMs_20 IAMs_20 15 27 33.7
comp=Z,12µm,18.0s
MURC Murrieta 36.04 314 P **P 15 10 54.1 +2.5**
baz=122,SNR=45
HEC Hector,Ludlow 36.11 316 P **P 15 10 54.5 +2.2**
baz=124,SNR=126
D41A Chassel 36.15 358 IAmb IAmb 15 10 52.2
comp=Z,242nm,1.0s
D41A Chassel 36.15 358 P **P 15 10 49.7 -2.6**
baz=176,SNR=16
K22A Casper 36.15 335 IAmb IAmb 15 10 55.0
comp=Z,166nm,1.1s
K22A Casper 36.15 335 P **P 15 10 53.0 +0.4**
baz=145,SNR=61
K22A Casper 36.15 335 P **P 15 10 52.9 +0.2**
baz=145,SNR=61
H62A Milan 36.16 19 P **P 15 10 51.4 -1.1**
baz=206
H62A P **P 15 10 51.4 -1.1**

baz=206
TUQ Turquoise Moun 36.18 317 P **P 15 10 54.8 +1.9**
baz=125,SNR=50
BBRC Big Bear Solar 36.20 315 P **P 15 10 55.9 +2.7**
baz=123,SNR=29
ELS Elsinore Mount 36.23 314 IAmb IAmb 15 10 58.8
comp=Z,120nm,0.9s
ELS IAMs_20 IAMs_20 15 26 27.4
comp=Z,9µm,21.0s
MNTQ Montreal, Queb 36.29 15 IAmb IAmb 15 11 03.8
comp=Z,288nm,1.1s
MNTQ IAMs_20 IAMs_20 15 25 10.1
comp=Z,12µm,21.0s
RSSD Black Hills 36.43 339 P **P 15 10 54.0 -1.1**
RSSD Black Hills 36.43 339 P **P 15 10 54.0 -1.1**
RSSD pmax pmax
comp=Z,119nm,1.0s
RSSD MLR MLR
comp=Z,5µm,21.0s
RSSD Black Hills 36.43 339 P **P 15 10 55.1 0.0**
baz=150
RSSD Black Hills 36.43 339 P **P 15 10 55.0 -0.1**
baz=150,SNR=101
RSSD Black Hills 36.43 339 ⇑P **P 15 10 54.4 -0.7**
BSUT Blindstream Ca 36.48 328 IAmb IAmb 15 10 59.0
comp=Z,209nm,1.2s
MPU Maple Canyon 36.56 327 IAmb IAmb 15 11 00.3
comp=Z,191nm,1.0s
RRX Edison Barstow 36.59 316 P **P 15 10 58.6 +2.3**
baz=123,SNR=7.0
SHOC Shoshone, Teco 36.68 318 P **P 15 10 59.1 +2.1**
baz=125
GSC Goldstone, Bar 36.69 316 IAMs_20 IAMs_20 15 28 28.3
comp=Z,12µm,19.0s
GSC Goldstone, Bar 36.69 316 P **P 15 11 00.0 +2.7**
baz=124,SNR=29
SCI2 San Clemente I 36.70 312 P **P 15 10 59.9 +2.6**
baz=119
BFSC Mount Baldy Ra 36.70 314 P **P 15 10 59.9 +2.4**
baz=122,SNR=54
SIV San Ignacio 36.72 136 P **P 15 10 58.3 +0.7**
comp=Z,103nm,0.9s,baz=317,slow=8.4,SNR=28
SIV PcP **PcP 15 13 21.5 +1.2**
comp=Z,54nm,0.9s,baz=286,slow=3.2,SNR=6.3
SIV LR LR 15 26 43.7
comp=Z,16µm,18.5s,baz=326,slow=37
comp=Z,103nm,0.9s
TRQ Mont Tremblant 36.73 14 IAmb IAmb 15 11 07.9
comp=Z,196nm,1.1s
TRQ IAMs_20 IAMs_20 15 26 39.8
comp=Z,15µm,18.0s
NLU North Lily Min 36.76 326 IAMs_20 IAMs_20 15 28 27.7
comp=Z,8µm,18.0s
PRN Pahroc Range 36.80 321 IAMs_20 IAMs_20 15 27 25.5
comp=Z,11µm,18.0s
PRN Pahroc Range 36.80 321 ⇑P **P 15 11 00.3 +2.1**
CIS Catalina Islan 36.81 313 P **P 15 11 00.9 +2.7**
baz=120,SNR=27
FMP Fort Macarthur 36.88 313 P **P 15 11 01.5 +2.8**
baz=120,SNR=5.2
G62A West of Eustis 36.94 19 IAmb IAmb 15 11 10.1
comp=Z,172nm,0.9s
G62A West of Eustis 36.94 19 P **P 15 10 57.5 -1.6**
baz=206,SNR=19
G62A P **P 15 10 57.5 -1.6**
baz=206,SNR=19
PASC Pasadena Art C 37.04 314 IAmb IAmb 15 11 05.8
comp=Z,171nm,1.1s
QSM Queen of Sheba 37.11 317 IAMs_20 IAMs_20 15 27 42.2
comp=Z,13µm,21.0s
CTU Camp Tracy 37.11 328 IAmb IAmb 15 11 04.2
comp=Z,213nm,1.2s
DECC Green Verdugo 37.19 314 P **P 15 11 04.0 +2.6**
baz=121,SNR=13
EYMN Ely 37.22 355 P P 15 10 58.8 -2.8
baz=172,SNR=15
EYMN Ely 37.22 355 P P 15 10 58.2 -3.3
baz=172,SNR=15
EYMN Ely 37.22 355 ⇑P P 15 10 57.0 -4.5
D32A Dogwood Acres, 37.24 348 IAMs_20 IAMs_20 15 27 42.5
comp=Z,11µm,21.0s
D32B Dogwood Acres, 37.24 348 P P 15 10 58.9 -2.7
baz=163,SNR=17
TCUT Toone Canyon 37.24 328 IAmb IAmb 15 11 16.7
comp=Z,234nm,1.3s
EDW2 Edwards Air Fo 37.28 315 P **P 15 11 04.5 +2.3**
baz=122,SNR=81
TPNV Topopah Spring 37.28 319 IAMs_20 IAMs_20 15 29 09.4
comp=Z,9µm,19.0s
TPNV Topopah Spring 37.28 319 P **P 15 11 04.7 +2.4**
baz=126,SNR=72
DUG Dugway, Tooele 37.33 326 IAMs_20 IAMs_20 15 28 33.9
comp=Z,13µm,18.0s
DUG Dugway, Tooele 37.33 326 P **P 15 11 03.7 +1.0**
DUG pmax pmax
comp=Z,116nm,1.1s
DUG Dugway, Tooele 37.33 326 P **P 15 11 03.8 +1.1**
baz=134,SNR=70
DUG Dugway, Tooele 37.33 326 ⇓P **P 15 11 04.2 +1.5**
S11A Rachel 37.38 320 IAmb IAmb 15 11 21.7
comp=Z,582nm,1.7s
S11A IAMs_20 IAMs_20 15 27 40.0
comp=Z,8µm,19.0s
SPR3 Spring Creek 3 37.38 323 IAmb IAmb 15 11 17.5
comp=Z,186nm,1.3s
SPR3 IAMs_20 IAMs_20 15 28 27.6
comp=Z,9µm,19.0s
LRMC Laurel Mtn Rad 37.38 316 P **P 15 11 05.1 +1.9**
baz=123,SNR=94
PKME Peaks-Kenny Pk 37.39 20 IAMs_20 IAMs_20 15 26 41.5
comp=Z,13µm,20.0s
PKME Peaks-Kenny Pk 37.39 20 P **P 15 11 01.3 -1.5**
baz=208,SNR=12
PKME Peaks-Kenny Pk 37.39 20 P **P 15 11 01.0 -1.9**
baz=208,SNR=12
PKME Peaks-Kenny Pk 37.39 20 ⇑P **P 15 11 01.4 -1.5**
FURC Furnace Creek, 37.39 318 P **P 15 11 04.9 +1.8**
baz=125,SNR=64
WCT Wildcat Mounta 37.43 319 IAMs_20 IAMs_20 15 28 12.5
comp=Z,16µm,21.0s
CCAC Calif City Air 37.44 315 IAmb IAmb 15 11 19.3
comp=Z,244nm,1.2s
CCAC IAMs_20 IAMs_20 15 28 05.2
comp=Z,13µm,22.0s
LVC Limon Verde 37.48 153 P **P 15 11 04.8 +0.4**
LVC IAmb IAmb 15 11 17.6
comp=Z,388nm,1.6s
LVC Limon Verde 37.48 153 IAMs_20 IAMs_20 15 28 38.4
comp=Z,9µm,18.0s
LVC Limon Verde 37.48 153 P **P 15 11 04.8 +0.4**
LVC pmax pmax
comp=Z,388nm,1.6s
LVC MLR MLR
comp=Z,8µm,18.0s
LVC Limon Verde 37.48 153 P **P 15 11 08.0 +3.6**
comp=Z,19nm,1.0s,baz=318,slow=10,SNR=6.8
LVC LR LR 15 26 38.8
comp=Z,8µm,19.0s,baz=320,slow=36
comp=Z,19nm,1.0s
LVC Limon Verde 37.48 153 *e*P **P 15 11 09.1 +4.7**
SNCC San Nicolas Is 37.54 312 P **P 15 11 05.9 +1.5**
baz=118
EMMW East Machias 37.56 23 IAMs_20 IAMs_20 15 26 59.0
comp=Z,15µm,19.0s
MPMC Manual Prospec 37.58 317 P **P 15 11 07.0 +2.1**
baz=124
E28A Huff 37.58 344 IAmb IAmb 15 11 04.7
comp=Z,338nm,1.2s
E28A IAMs_20 IAMs_20 15 29 23.0
comp=Z,10µm,20.0s
E28A Huff 37.58 344 P **P 15 11 03.2 -1.4**
baz=156,SNR=21
BW06 Boulder Array 37.59 332 IAMs_20 IAMs_20 15 29 33.8
comp=Z,12µm,22.0s
BW06 Boulder Array 37.59 332 P **P 15 11 04.5 -0.4**
baz=141,SNR=119
BW06 Boulder Array 37.59 332 ⇑P **P 15 11 04.1 -0.8**
PDAR Pinedale Array 37.59 332 P **P 15 11 04.0 -0.9**
comp=Z,60nm,0.9s,baz=132,slow=8.9,SNR=220
PDAR PcP **PcP 15 13 23.9 +1.2**
comp=Z,67nm,1.1s,baz=134,slow=3.8,SNR=11
PDAR ScP **ScP 15 17 11.2 +1.2**
comp=Z,9.2nm,1.1s,baz=224,slow=4.1,SNR=5.9
PDAR PKiKP **PKiKP 15 20 38.7 -0.5**
comp=Z,1.6nm,0.9s,baz=123,slow=5.5,SNR=4.3
PDAR LR LR 15 31 44.7
comp=Z,6µm,18.0s,baz=129,slow=45
comp=Z,60nm,0.9s

OSI **Osito Audit: C** 37.65 314 P **P** 15 11 07.9 +2.5
baz=121,SNR=12
HWUT **Hardware Ranch** 37.68 329 IAmb IAmb 15 11 08.6
comp=Z,292nm,1.1s
PTLB **Pontes e Lacer** 37.70 133 P **P** 15 11 05.7 -0.2
PTLB IAmb IAmb 15 11 17.7
comp=Z,153nm,1.0s
PTLB **Pontes e Lacer** 37.70 133 eP **P** 15 11 07.0 +1.2
Q12A **Willow Creek R** 37.70 323 IAMs_20 IAMs_20 15 29 06.2
comp=Z,9µm,20.0s
R11B **Troy Canyon, C** 37.72 321 IAMs_20 IAMs_20 15 28 06.7
comp=Z,9µm,19.0s
R11B **Troy Canyon, C** 37.72 321 P **P** 15 11 08.4 +2.4
baz=129,SNR=37
F63A **Nahmakanta, Br** 37.84 20 IAMs_20 IAMs_20 15 27 54.4
comp=Z,13µm,18.0s
F63A **Nahmakanta, Br** 37.84 20 P **P** 15 11 04.7 -2.1
baz=208,SNR=10
F63A P **P** 15 11 04.7 -2.1
baz=208,SNR=10
B35A **Bob, Littlefor** 37.88 352 P P 15 11 04.1 -2.9
baz=168,SNR=26
SPUT **South Promonto** 37.92 328 IAmb IAmb 15 11 21.5
comp=Z,192nm,1.2s
G65A **Princeton** 37.94 22 P **P** 15 11 06.4 -1.2
baz=211,SNR=7.4
G65A P **P** 15 11 06.4 -1.2
baz=211,SNR=7.4
VLDQ **Val d'Or** 37.95 10 IAMs_20 IAMs_20 15 26 54.1
comp=Z,16µm,20.0s
BGU **Big Grassy Mou** 37.96 327 IAmb IAmb 15 11 22.7
comp=Z,366nm,1.5s
BGU IAMs_20 IAMs_20 15 29 06.4
comp=Z,12µm,19.0s
SCZ2 **Santa Cruz Isl** 37.99 313 P **P** 15 11 10.5 +2.3
baz=119,SNR=9.7
ARVC **Arvin** 37.99 315 P **P** 15 11 10.7 +2.6
baz=121,SNR=29
ISA **Isabella, Lake** 38.03 316 IAMs_20 IAMs_20 15 28 23.7
comp=Z,12µm,22.0s
ISA **Isabella, Lake** 38.03 316 P **P** 15 11 11.0 +2.5
baz=122,SNR=38
GRAC **Grapevine Rang** 38.03 318 IAmb IAmb 15 11 14.5
comp=Z,228nm,1.0s
GRAC IAMs_20 IAMs_20 15 28 26.4
comp=Z,13µm,21.0s
GRAC **Grapevine Rang** 38.03 318 P **P** 15 11 10.9 +2.3
baz=125,SNR=128
AF01 **San Pedro de A** 38.12 152 IAMs_20 IAMs_20 15 27 34.9
comp=Z,8µm,19.0s
GMN **Gold Mountain** 38.14 319 IAMs_20 IAMs_20 15 28 33.2
comp=Z,9µm,21.0s
GGN **Saint George** 38.14 23 IAMs_20 IAMs_20 15 27 26.3
comp=Z,14µm,19.0s
CWC **Cottonwood Cre** 38.19 317 P **P** 15 11 12.0 +2.0
baz=124
F64A **Sherman** 38.23 21 IAMs_20 IAMs_20 15 29 29.9
comp=Z,11µm,18.0s
F64A **Sherman** 38.23 21 P **P** 15 11 08.2 -1.9
baz=209,SNR=9.2
F64A P **P** 15 11 08.2 -1.9
baz=209,SNR=9.2
SBC **Santa Barbara** 38.26 313 P **P** 15 11 10.8 +0.3
baz=120
BCW **Bitter Crk WRg** 38.30 314 IAMs_20 IAMs_20 15 28 45.2
comp=Z,9µm,21.0s
AHID **Auburn Hatcher** 38.31 330 IAmb IAmb 15 11 24.8
comp=Z,311nm,1.3s
MZP **Montezuma Peak** 38.45 319 IAMs_20 IAMs_20 15 28 54.5
comp=Z,8µm,19.0s
MDND **Maddock** 38.49 346 IAMs_20 IAMs_20 15 29 24.7
comp=Z,11µm,22.0s
MDND **Maddock** 38.49 346 P **P** 15 11 10.6 -1.6
baz=159,SNR=76
MDND **Maddock** 38.49 346 P **P** 15 11 10.8 -1.4
baz=159,SNR=76
E62A **Clayton Lake** 38.51 19 P **P** 15 11 10.5 -1.8
baz=207,SNR=14
E62A P **P** 15 11 10.5 -1.8
baz=207,SNR=14
VES **Vestal, Richgr** 38.54 316 P **P** 15 11 15.1 +2.3
baz=122,SNR=40
PKM **Mcpherson Peak** 38.56 314 P **P** 15 11 15.5 +2.3
baz=120,SNR=66
TPH **Tonopah** 38.57 320 IAmb IAmb 15 11 19.4
comp=Z,259nm,1.1s
TIN **Tinemaha, Big** 38.63 318 P **P** 15 11 15.6 +1.9
baz=124,SNR=20
SNOW **Snow King Moun** 38.68 332 IAmb IAmb 15 11 16.9
comp=Z,423nm,1.1s
SNOW IAMs_20 IAMs_20 15 29 37.7
comp=Z,9µm,21.0s
E63A **Oxbow** 38.69 20 P **P** 15 11 12.2 -1.7
baz=209,SNR=12
E63A P **P** 15 11 12.2 -1.7
baz=209,SNR=12
LOHW **Long Hollow** 38.72 332 IAMs_20 IAMs_20 15 30 09.9
comp=Z,11µm,22.0s
TPAW **Teton Pass** 38.79 331 IAmb IAmb 15 11 29.7
comp=Z,198nm,1.0s
MOOW **Moose Ponds** 38.89 332 IAMs_20 IAMs_20 15 30 03.4
comp=Z,10µm,21.0s
SMMC **Simmler** 38.90 314 P **P** 15 11 18.2 +2.3
baz=120,SNR=28
Q09A **Carvers** 39.00 321 IAMs_20 IAMs_20 15 30 11.8
comp=Z,9µm,20.0s
VOG **Valley Oaks Go** 39.00 316 P **P** 15 11 18.4 +1.8
baz=122
PQI **Presque Isle** 39.05 20 IAMs_20 IAMs_20 15 28 33.5
comp=Z,12µm,18.0s
ELK **Elko** 39.06 325 ⇑P **P** 15 11 18.4 +1.0
ELK PCP **PcP** 15 13 30.3 +2.9
D62A **Allapoint, All** 39.06 19 P **P** 15 11 15.1 -1.9
baz=208,SNR=21
D62A P **P** 15 11 15.1 -1.9
baz=208,SNR=21
IMW **Indian Meadow** 39.10 332 IAMs_20 IAMs_20 15 30 21.8
comp=Z,10µm,22.0s
FLWY **Flagg Ranch** 39.13 332 IAmb IAmb 15 11 20.6
comp=Z,237nm,1.2s
FLWY IAMs_20 IAMs_20 15 30 31.6
comp=Z,14µm,21.0s
H17A **Grant Village** 39.32 333 IAMs_20 IAMs_20 15 29 30.5
comp=Z,13µm,21.0s
H17A **Grant Village** 39.32 333 P **P** 15 11 19.5 0.0
baz=141,SNR=27
RLMT **Red Lodge** 39.32 334 P **P** 15 11 18.4 -1.1
baz=143,SNR=141
RLMT **Red Lodge** 39.32 334 ⇑P **P** 15 11 18.4 -1.1
MLAC **Mammoth, Mammo** 39.35 318 P **P** 15 11 21.7 +1.9
baz=124
NV11 **Mina Array Sit** 39.37 320 IAMs_20 IAMs_20 15 29 24.8
comp=Z,10µm,21.0s
LAO **LASA Array** 39.43 339 IAmb IAmb 15 11 21.7
comp=Z,311nm,1.2s
LAO **LASA Array** 39.43 339 P **P** 15 11 17.9 -2.2
baz=148,SNR=100
LAO **LASA Array** 39.43 339 P **P** 15 11 19.4 -0.8
baz=148,SNR=100
LAO **LASA Array** 39.43 339 ⇑P **P** 15 11 18.8 -1.3
OMMB **Old Mammoth Mi** 39.45 318 IAMs_20 IAMs_20 15 29 11.1
comp=Z,15µm,21.0s
NVAR **Mina Array Bea** 39.47 320 P **P** 15 11 22.2 +1.4
comp=Z,106nm,1.0s,baz=133,slow=7.7,SNR=130
NVAR PcP **PcP** 15 13 31.2 +2.6
comp=Z,73nm,0.8s,baz=136,slow=4.0,SNR=23
NVAR LR LR 15 29 46.2
comp=Z,10µm,20.1s,baz=134,slow=40
comp=Z,106nm,1.0s
YFT **Old Faithful** 39.48 332 IAmb IAmb 15 11 24.6
comp=Z,223nm,1.2s
YFT IAMs_20 IAMs_20 15 30 09.8
comp=Z,13µm,22.0s
LHV **Little Huntoon** 39.49 319 IAMs_20 IAMs_20 15 30 29.0
comp=Z,12µm,19.0s
MDPB **Devils Postpil** 39.51 318 IAmb IAmb 15 11 26.8
comp=Z,196nm,1.0s
MDPB IAMs_20 IAMs_20 15 29 13.8
comp=Z,12µm,21.0s
LMN **Caledonia Moun** 39.55 24 IAMs_20 IAMs_20 15 27 18.5
comp=Z,14µm,20.0s
YNR **Norris Junctio** 39.61 333 IAMs_20 IAMs_20 15 30 22.3
comp=Z,9µm,22.0s
YNM **Yellowstone No** 39.63 333 IAMs_20 IAMs_20 15 30 33.8
comp=Z,9µm,22.0s
KVN **Kaiserville** 39.70 320 IAMs_20 IAMs_20 15 29 51.4
comp=Z,12µm,20.0s
RYN **Ryan** 39.72 320 IAMs_20 IAMs_20 15 30 38.0
comp=Z,7µm,18.0s
PMPB **Monarch Peak** 39.92 315 P **P** 15 11 26.8 +2.3
PMPB IAmb IAmb 15 11 29.4
comp=Z,204nm,1.1s
PMPB IAMs_20 IAMs_20 15 29 09.1
comp=Z,9µm,22.0s
BMN **Battle Mountai** 40.01 323 P **P** 15 11 25.9 +0.7
BMN IAmb IAmb 15 11 30.1
comp=Z,285nm,1.0s
BMN **Battle Mountai** 40.01 323 P **P** 15 11 25.9 +0.7
BMN pmax pmax
comp=Z,285nm,1.0s
BMN MLR MLR
comp=Z,6µm,18.0s
ULM **Lac du Bonnet** 40.04 351 IAmb IAmb 15 11 23.8
comp=Z,332nm,1.1s
ULM **Lac du Bonnet** 40.04 351 ⇑P P 15 11 21.5 -3.6
ULM **Lac du Bonnet** 40.04 351 P P 15 11 21.8 -3.4
comp=Z,198nm,0.8s,baz=166,slow=8.8,SNR=245
ULM PcP **PcP** 15 13 30.1 +0.2
comp=Z,35nm,0.8s,baz=185,slow=4.1,SNR=3.0
ULM PKiKP **PKiKP** 15 20 39.3 -1.3
comp=Z,5.1nm,1.0s,baz=157,slow=4.0,SNR=3.2
ULM LR LR 15 28 43.3
comp=Z,5µm,21.0s,baz=162,slow=38
comp=Z,198nm,0.8s
WAKR **Walker** 40.24 319 IAMs_20 IAMs_20 15 31 01.8
comp=Z,15µm,19.0s
BATG **Bathurst New B** 40.26 22 P **P** 15 11 24.8 -2.1
BBGB **Big Mountain B** 40.27 315 P **P** 15 11 29.0 +1.6
DGMT **Dagmar** 40.31 342 IAMs_20 IAMs_20 15 30 48.8
comp=Z,9µm,21.0s
DGMT **Dagmar** 40.31 342 P **P** 15 11 26.3 -1.1
baz=152
DGMT **Dagmar** 40.31 342 P **P** 15 11 26.6 -0.8
baz=152
YERR **Yerington** 40.38 320 IAmb IAmb 15 11 44.3
comp=Z,426nm,1.7s
YERR IAMs_20 IAMs_20 15 30 59.6
comp=Z,10µm,19.0s
SALV **Santo Antonio** 40.52 130 eP **P** 15 11 30.2 +0.8
HLID **Hailey** 40.55 329 P **P** 15 11 29.4 -0.4
HLID IAMs_20 IAMs_20 15 31 18.7
comp=Z,10µm,19.0s
HLID **Hailey** 40.55 329 P **P** 15 11 29.3 -0.4
baz=135,SNR=135
CMB **Columbia Colle** 40.60 318 P **P** 15 11 31.2 +1.2
SAO **San Andreas Ge** 40.65 315 IAMs_20 IAMs_20 15 29 30.3
comp=Z,9µm,22.0s
SAO **San Andreas Ge** 40.65 315 ⇓P **P** 15 11 33.3 +2.9
PNTR **Pine Nut** 40.67 319 IAMs_20 IAMs_20 15 31 19.3
comp=Z,10µm,19.0s
BOZ **Bozeman (W)** 40.72 333 P **P** 15 11 30.0 -1.0
BOZ **Bozeman (W)** 40.72 333 P **P** 15 11 30.0 -1.0
BOZ pmax pmax
comp=Z,220nm,1.3s
BOZ MLR MLR
comp=Z,4µm,21.0s
BOZ **Bozeman (W)** 40.72 333 P **P** 15 11 30.3 -0.7
baz=140,SNR=196
BOZ **Bozeman (W)** 40.72 333 ⇑P **P** 15 11 31.0 0.0
PAHR **Pah Rah Range** 40.89 320 IAMs_20 IAMs_20 15 31 12.0
comp=Z,8µm,20.0s
MPK **Martis Peak** 41.06 319 IAMs_20 IAMs_20 15 31 41.7
comp=Z,14µm,18.0s
AC06 **Mina Casimiro** 41.10 158 P **P** 15 11 35.3 +1.2
MFID **Camas Ranch** 41.18 327 IAMs_20 IAMs_20 15 31 57.7
comp=Z,8µm,20.0s
PLTX **Planet X, Gerl** 41.53 322 IAMs_20 IAMs_20 15 31 03.7
comp=Z,9µm,20.0s
EGMT **Eagleton** 41.86 337 IAmb IAmb 15 11 41.6
comp=Z,226nm,1.1s
EGMT **Eagleton** 41.86 337 P **P** 15 11 38.5 -1.8
baz=144,SNR=98
EGMT **Eagleton** 41.86 337 ⇑P **P** 15 11 39.5 -0.7
WVOR **Wild Horse Val** 42.09 324 IAmb IAmb 15 11 45.8
comp=Z,346nm,1.3s
WVOR IAMs_20 IAMs_20 15 31 48.2
comp=Z,9µm,19.0s
WVOR **Wild Horse Val** 42.09 324 ⇑P **P** 15 11 42.6 +0.3
ORV **Oroville** 42.16 319 P **P** 15 11 44.2 +1.5
ORV IAMs_20 IAMs_20 15 30 49.6
comp=Z,8µm,22.0s
ORV **Oroville** 42.16 319 P **P** 15 11 44.2 +1.5
ORV pmax pmax
comp=Z,166nm,1.1s
ORV MLR MLR
comp=Z,8µm,22.0s
MCCM **Marconi Confer** 42.33 316 IAmb IAmb 15 11 49.2
comp=Z,456nm,1.0s
MCCM **Marconi Confer** 42.33 316 ⇓P **P** 15 11 47.5 +3.4
PLID **Pearl Lake** 42.43 329 IAmb IAmb 15 11 47.2
comp=Z,219nm,1.2s
PLID IAMs_20 IAMs_20 15 32 36.5
comp=Z,10µm,20.0s
LCO **Las Campanas** 42.48 159 P **P** 15 11 46.7 +1.0
LCO **Las Campanas** 42.48 159 P **P** 15 11 46.7 +1.0
LCO pmax pmax
comp=Z,135nm,1.2s
MSO **Missoula** 42.70 332 P **P** 15 11 45.7 -1.5
baz=138,SNR=83
MSO **Missoula** 42.70 332 ⇑P **P** 15 11 46.4 -0.7
BMO **Blue Mountains** 42.94 328 IAMs_20 IAMs_20 15 33 10.1
comp=Z,11µm,20.0s
BMO **Blue Mountains** 42.94 328 ⇑P **P** 15 11 47.8 -1.3
BMO **Blue Mountains** 42.94 328 ⇑P **P** 15 11 47.9 -1.3
AQDB **Aquidauana** 43.49 136 P **P** 15 11 53.0 -0.8
AQDB IAmb IAmb 15 12 05.0
comp=Z,182nm,1.0s
CO01 **Juntas del Tor** 43.58 159 IAMs_20 IAMs_20 15 33 05.5
comp=Z,7µm,20.0s
KCPM **Cahto Peak** 43.59 318 IAmb IAmb 15 11 59.8
comp=Z,278nm,1.0s
KCPM IAMs_20 IAMs_20 15 33 14.7
comp=Z,7µm,18.0s
K05A **Summer Lake** 43.59 323 IAMs_20 IAMs_20 15 32 27.0
comp=Z,9µm,21.0s
I07A **Izee** 43.63 325 IAMs_20 IAMs_20 15 33 01.6
comp=Z,7µm,20.0s
F10A **Beach Ranch, E** 43.67 329 IAMs_20 IAMs_20 15 33 34.1
comp=Z,14µm,21.0s
F10A **Beach Ranch, E** 43.67 329 ⇑P **P** 15 11 54.0 -1.0
RPN **Rapa Nui** 43.71 210 LR LR 15 25 30.2
comp=Z,11µm,20.5s,baz=2.0,slow=29
KMRM **Mail Ridge** 43.95 318 IAmb IAmb 15 12 02.8
comp=Z,249nm,1.0s
YBH **Yreka Blue Hor** 44.12 321 IAMs_20 IAMs_20 15 32 11.4
comp=Z,11µm,22.0s
YBH **Yreka Blue Hor** 44.12 321 LR LR 15 32 34.2
comp=Z,10µm,21.8s,baz=142,slow=39
J05D **Fort Rock, OR** 44.12 323 IAMs_20 IAMs_20 15 32 57.1
comp=Z,7µm,20.0s
L04D **Klamath Falls** 44.14 322 IAmb IAmb 15 12 02.4
comp=Z,174nm,1.0s
L04D IAMs_20 IAMs_20 15 33 41.9
comp=Z,12µm,18.0s
CO03 **El Pedregal** 44.16 160 P **P** 15 11 59.6 +0.6
CO03 IAmb IAmb 15 12 10.6
comp=Z,186nm,1.2s
PINE **Pine Mountain** 44.26 324 IAmb IAmb 15 12 03.7
comp=Z,168nm,0.9s
KHMM **Horse Mountain** 44.30 319 IAMs_20 IAMs_20 15 32 18.5
comp=Z,12µm,19.0s
KMPM **Mount Pierce** 44.32 318 IAmb IAmb 15 12 05.1
comp=Z,176nm,1.0s
KMPM IAMs_20 IAMs_20 15 33 57.9
comp=Z,10µm,19.0s
CO02 **Combarbal** 44.39 161 IAmb IAmb 15 12 13.0
comp=Z,144nm,0.9s
CO02 **Combarbal** 44.39 161 ⇑P **P** 15 12 03.2 +2.2
JCC **Jacoby Creek,** 44.47 319 IAmb IAmb 15 12 06.1
comp=Z,220nm,1.1s
JCC IAMs_20 IAMs_20 15 31 20.8
comp=Z,8µm,22.0s
E09A **Wood Farm, Sta** 44.50 329 IAmb IAmb 15 12 03.7
comp=Z,241nm,1.3s
E09A IAMs_20 IAMs_20 15 34 18.2
comp=Z,12µm,20.0s
H03N2 **Juan Fernandez** 44.62 171 T T 15 59 39.8
baz=349,slow=76,SNR=59
H03N1 **Juan Fernandez** 44.63 171 T T 15 59 40.8
baz=349,slow=76,SNR=40
H03N3 **Juan Fernandez** 44.64 171 T T 15 59 39.7
baz=349,slow=76,SNR=38
KRMB **Red Mountain** 44.76 320 IAmb IAmb 15 12 19.5
comp=Z,285nm,1.7s
KRMB IAMs_20 IAMs_20 15 32 49.4
comp=Z,10µm,20.0s
HUMO **Hull Mountain** 44.76 322 IAMs_20 IAMs_20 15 34 09.2
comp=Z,11µm,19.0s
I05D **Terrebonne, OR** 44.82 325 IAmb IAmb 15 12 08.6
comp=Z,192nm,1.1s
I05D IAMs_20 IAMs_20 15 32 47.3
comp=Z,7µm,20.0s
VA04 **Juan Fernndez** 44.84 171 IAMs_20 IAMs_20 15 26 27.5
comp=Z,7µm,18.0s
KSXB **Camp Six Broad** 44.91 320 IAMs_20 IAMs_20 15 32 58.2
comp=Z,13µm,22.0s
E08A **Dider Farm, El** 44.95 328 IAmb IAmb 15 12 06.9
comp=Z,182nm,1.0s
E08A IAMs_20 IAMs_20 15 34 38.3
comp=Z,8µm,22.0s
G06A **Carlson Farm,** 44.98 326 IAMs_20 IAMs_20 15 33 56.3
comp=Z,8µm,21.0s
F07A **Phinny Hill Vi** 45.02 327 IAmb IAmb 15 12 08.3
comp=Z,134nm,1.1s
F07A IAMs_20 IAMs_20 15 34 36.1
comp=Z,7µm,21.0s
I04A **Tendick Farm,** 45.12 323 IAmb IAmb 15 12 09.0
comp=Z,216nm,1.0s
HAWA **Hanford** 45.13 328 IAmb IAmb 15 12 08.1
comp=Z,121nm,0.8s
HAWA IAMs_20 IAMs_20 15 34 36.1
comp=Z,9µm,21.0s
HAWA **Hanford** 45.13 328 ⇑P **P** 15 12 06.0 -0.6
NEW **Newport** 45.22 331 IAMs_20 IAMs_20 15 34 11.9
comp=Z,7µm,19.0s
NEW **Newport** 45.22 331 P **P** 15 12 06.3 -1.0
NEW pmax pmax
comp=Z,49nm,1.1s
NEW **Newport** 45.22 331 P **P** 15 12 06.4 -1.0
baz=135,SNR=34
NEW **Newport** 45.22 331 ⇑P **P** 15 12 06.2 -1.0
NEW **Newport** 45.22 331 LR LR 15 34 23.2
comp=Z,6µm,18.7s,baz=141,slow=41
DBO **Dodson Butte** 45.22 322 IAmb IAmb 15 13 51.6
comp=Z,117nm,1.0s
DBO IAMs_20 IAMs_20 15 33 08.4
comp=Z,9µm,21.0s
K02D **Willamette Mer** 45.25 321 IAMs_20 IAMs_20 15 34 05.0
comp=Z,10µm,20.0s
D08A **Wollman Farm,** 45.26 329 IAmb IAmb 15 12 11.1
comp=Z,132nm,1.1s
D08A IAMs_20 IAMs_20 15 34 40.3
comp=Z,9µm,20.0s
DRLN **Deer Lake** 45.29 27 P P 15 12 04.6 -3.2
DRLN IAmb IAmb 15 12 19.6
comp=Z,123nm,1.1s
DRLN **Deer Lake** 45.29 27 ⇑P **P** 15 12 05.1 -2.7
KBO **Bosley Butte** 45.33 320 IAmb IAmb 15 12 21.3
comp=Z,255nm,1.1s
KBO IAMs_20 IAMs_20 15 33 21.4
comp=Z,9µm,21.0s
E07A **Sunnyside** 45.41 328 IAMs_20 IAMs_20 15 34 44.4
comp=Z,9µm,21.0s
C09A **Chrisman Ranch** 45.45 330 IAmb IAmb 15 13 50.4
comp=Z,105nm,0.9s
C09A IAMs_20 IAMs_20 15 34 25.1
comp=Z,9µm,21.0s
FFC **Flin Flon** 45.45 348 P **P** 15 12 06.5 -2.4
FFC IAmb IAmb 15 12 09.0
comp=Z,142nm,1.2s
FFC **Flin Flon** 45.45 348 IAMs_20 IAMs_20 15 32 48.6
comp=Z,10µm,21.0s
FFC **Flin Flon** 45.45 348 P **P** 15 12 06.6 -2.4
FFC pmax pmax
comp=Z,142nm,1.3s
FFC MLR MLR
comp=Z,10µm,21.0s
FFC **Flin Flon** 45.45 348 ⇑P **P** 15 12 07.0 -1.9
H04A **Detroit Lake** 45.51 324 IAmb IAmb 15 12 12.4
comp=Z,300nm,1.2s
H04A IAMs_20 IAMs_20 15 32 42.6
comp=Z,7µm,21.0s
VA06 **Catapilco** 45.56 162 IAmb IAmb 15 12 21.8
comp=Z,124nm,0.9s
HOOD **Mount Hood Mea** 45.60 325 IAMs_20 IAMs_20 15 34 14.7
comp=Z,11µm,20.0s
I03D **Drain, OR** 45.62 323 IAmb IAmb 15 12 13.9
comp=Z,245nm,1.2s
I03D IAMs_20 IAMs_20 15 33 25.6
comp=Z,8µm,20.0s
J01E **Myrtle Point** 45.67 322 IAMs_20 IAMs_20 15 34 31.1
comp=Z,8µm,18.0s
BUCK **Buck Mountain** 45.69 323 IAmb IAmb 15 12 14.1
comp=Z,284nm,1.1s
CFA **Coronel Fontan** 45.72 158 P **P** 15 12 14.0 +2.6
comp=Z,4.4nm,0.6s,baz=329,slow=7.3,SNR=5.5
CFA PcP **PcP** 15 13 50.8 +1.6
comp=Z,25nm,1.1s,baz=16,slow=1.4,SNR=2.9
comp=Z,4.4nm,0.6s
H04D **Lebanon** 45.73 324 IAmb IAmb 15 12 32.8
comp=Z,296nm,1.4s
H04D IAMs_20 IAMs_20 15 33 58.6
comp=Z,8µm,20.0s
KEBM **Edson Butte** 45.75 321 IAMs_20 IAMs_20 15 34 29.5
comp=Z,10µm,21.0s
VA01 **Torpederas** 45.88 162 IAmb IAmb 15 12 24.3
comp=Z,143nm,1.1s
VA03 **San Esteban** 45.98 161 IAmb IAmb 15 12 25.6
comp=Z,205nm,1.0s
ROC1 **El Roble** 46.03 162 IAmb IAmb 15 12 29.5
comp=Z,103nm,0.9s
COR **Corvallis** 46.10 324 P **P** 15 12 15.0 +0.8
COR IAmb IAmb 15 13 55.1
comp=Z,309nm,1.2s
COR **Corvallis** 46.10 324 IAMs_20 IAMs_20 15 34 27.3
comp=Z,7µm,22.0s
COR **Corvallis** 46.10 324 P **P** 15 12 15.0 +0.8
COR pmax pmax
comp=Z,309nm,1.2s
COR MLR MLR
comp=Z,7µm,22.0s
PEL **Peldehue** 46.29 161 P **P** 15 12 16.9 +1.0
PEL pmax pmax
comp=Z,74nm,2.0s
LTY **Liberty** 46.29 328 IAmb IAmb 15 12 18.2
comp=Z,190nm,1.3s
BDFB **Brasilia** 46.38 124 IAmb IAmb 15 12 26.6
comp=Z,237nm,1.2s
BDFB **Brasilia** 46.38 124 P **P** 15 12 16.0 -1.0
BDFB **Brasilia** 46.38 124 P **P** 15 12 15.9 -1.0
comp=Z,33nm,0.7s,baz=296,slow=9.0,SNR=21
BDFB LR LR 15 32 30.0
comp=Z,12µm,18.9s,baz=306,slow=37
comp=Z,33nm,0.7s
F04A **Amboy** 46.40 326 IAmb IAmb 15 13 54.4
comp=Z,168nm,1.0s
F04A IAMs_20 IAMs_20 15 34 39.8
comp=Z,9µm,20.0s
G03D **McMinnville, O** 46.44 324 IAMs_20 IAMs_20 15 34 25.2
comp=Z,10µm,21.0s
LON **Longmire** 46.57 327 IAMs_20 IAMs_20 15 35 35.2
comp=Z,8µm,20.0s
SCHQ **Schefferville** 46.59 16 P P 15 12 14.1 -3.9
SCHQ IAmb IAmb 15 12 27.3
comp=Z,172nm,1.0s
SCHQ **Schefferville** 46.59 16 P P 15 12 14.3 -3.7
comp=Z,123nm,1.1s,baz=213,slow=5.7,SNR=80
SCHQ LR LR 15 32 09.6
comp=Z,15µm,20.3s,baz=209,slow=37
comp=Z,123nm,1.1s
CPUP **Villa Florida** 46.63 143 IAmb IAmb 15 12 28.4
comp=Z,145nm,1.4s
CPUP **Villa Florida** 46.63 143 ⇑P **P** 15 12 18.3 -0.3
CPUP **Villa Florida** 46.63 143 P **P** 15 12 18.3 -0.3
comp=Z,18nm,0.9s,baz=335,slow=8.7,SNR=22
CPUP LR LR 15 33 12.1
comp=Z,2µm,19.6s,baz=323,slow=38
CPUP PKP2ab 15 44 44.3
comp=Z,2.2nm,0.7s,baz=162,slow=3.8,SNR=3.0
comp=Z,18nm,0.9s
MT09 **Talagante** 46.78 162 IAmb IAmb 15 12 31.1
comp=Z,162nm,1.2s
F04D **Rainier, OR** 46.81 325 IAMs_20 IAMs_20 15 35 02.0
comp=Z,9µm,19.0s
D05A **Enumclaw** 46.94 327 IAMs_20 IAMs_20 15 35 09.9
comp=Z,11µm,22.0s
MT13 **San Alfonso** 46.97 161 IAmb IAmb 15 12 40.9
comp=Z,163nm,1.1s
LMEL **Las Melosas** 47.09 161 IAmb IAmb 15 12 34.1
comp=Z,146nm,1.1s
BO04 **La Punta** 47.09 162 P **P** 15 12 23.5 +1.3
BO04 IAmb IAmb 15 12 33.4
comp=Z,148nm,1.2s

BO01	**Tunca**	**47.33**	**162**	IAmb	IAmb	15 12 35.2		
	comp=Z,222nm,1.3s							
E03A	**Lebam**	**47.40**	**326**	IAmb	IAmb	15 13 58.5		
	comp=Z,226nm,1.0s							
E03A				IAMs_20	IAMs_20	15 35 18.4		
	comp=Z,7µm,20.0s							
EDM	**Edmonton**	**47.41**	**338**	IAMs_20	IAMs_20	15 34 24.9		
	comp=Z,13µm,22.0s							
RADR	**Rader Ridge**	**47.46**	**325**	IAMs_20	IAMs_20	15 34 34.9		
	comp=Z,8µm,19.0s							
B06A	**Marblemount**	**47.52**	**329**	IAMs_20	IAMs_20	15 35 00.2		
	comp=Z,6µm,21.0s							
GNW	**Green Mountain**	**47.62**	**327**	IAmb	IAmb	15 12 27.7		
	comp=Z,183nm,1.1s							
GNW				IAMs_20	IAMs_20	15 35 30.9		
	comp=Z,7µm,22.0s							
GO05	**Huala**	**47.66**	**164**	P	**P**	**15 12 26.4**	**-0.2**	
GO05				IAmb	IAmb	15 12 37.5		
	comp=Z,134nm,1.1s							
GO05	**Huala**	**47.66**	**164**	⇑P	**P**	**15 12 28.8**	**+2.2**	
BO02	**Sierra Bellavi**	**47.79**	**162**	IAmb	IAmb	15 12 39.0		
	comp=Z,96nm,1.1s							
WISH	**Wishkah**	**47.85**	**326**	IAmb	IAmb	15 14 00.7		
	comp=Z,199nm,1.1s							
NLWA	**Neilton Lookou**	**48.07**	**326**	IAmb	IAmb	15 12 32.8		
	comp=Z,253nm,1.1s							
FCC	**Fort Churchill**	**48.17**	**355**	IAmb	IAmb	15 12 29.2		
	comp=Z,90nm,1.0s							
B04A	**Port Angeles**	**48.28**	**327**	IAmb	IAmb	15 12 33.5		
	comp=Z,166nm,0.9s							
PGC	**Sidney**	**48.62**	**328**	IAmb	IAmb	15 14 02.8		
	comp=Z,115nm,1.2s							
BI05	**Punta Hualpn**	**48.98**	**166**	IAMs_20	IAMs_20	15 28 16.7		
	comp=Z,6µm,20.0s							
ITQB	**Itaqui**	**49.56**	**145**	IAMs_20	IAMs_20	15 34 44.1		
	comp=Z,9µm,20.0s							
BRLDA	**Berland Lookou**	**49.61**	**337**	IAMs_20	IAMs_20	15 37 30.4		
	comp=Z,9µm,19.0s							
OZB	**Mount Ozzard**	**49.88**	**327**	IAmb	IAmb	15 12 46.4		
	comp=Z,168nm,0.9s							
CBB	**Campbell River**	**50.46**	**328**	IAmb	IAmb	15 12 50.9		
	comp=Z,170nm,1.1s							
CBB				IAMs_20	IAMs_20	15 37 24.9		
	comp=Z,6µm,21.0s							
ITAB	**Concordia**	**50.49**	**139**	IAmb	IAmb	15 12 58.7		
	comp=Z,200nm,1.1s							
GO06	**Curarrehue**	**52.09**	**165**	⇓P	P	15 13 07.0	+6.7	
LR05	**Currie**	**52.57**	**166**	IAmb	IAmb	15 13 15.4		
	comp=Z,153nm,1.1s							
PLTB	**Pedras Altas**	**52.84**	**144**	IAmb	IAmb	15 13 17.9		
	comp=Z,175nm,1.1s							
RCBR	**Riachuelo**	**53.11**	**106**	LR	LR	15 37 27.5		
	comp=Z,12µm,18.8s,baz=302,slow=38							
BBB	**Bella Bella**	**53.13**	**329**	⇑P	**P**	**15 13 09.3**	**+1.7**	
BBB	**Bella Bella**	**53.13**	**329**	LR	LR	15 39 27.1		
	comp=Z,6µm,21.1s,baz=136,slow=40							
PLCA	**Paso Flores**	**53.41**	**165**	IAmb	IAmb	15 13 21.7		
	comp=Z,160nm,1.1s							
PLCA	**Paso Flores**	**53.41**	**165**	⇑P	**P**	**15 13 12.2**	**+2.2**	
PLCA	**Paso Flores**	**53.41**	**165**	P	**P**	**15 13 12.1**	**+2.2**	
	comp=Z,13nm,0.9s,baz=336,slow=8.2,SNR=29							
PLCA				LR	LR	15 31 36.9		
	comp=Z,4µm,19.1s,baz=1.0,slow=31							
	comp=Z,13nm,0.9s							
FRB	**Frobisher Bay**	**54.37**	**10**	P	P	15 13 13.0	-3.5	
FRB				pmax	pmax			
	comp=Z,86nm,1.3s							
FRB	**Frobisher Bay**	**54.37**	**10**	⇓P	P	15 13 12.8	-3.8	
FRB	**Frobisher Bay**	**54.37**	**10**	LR	LR	15 36 30.4		
	comp=Z,20µm,20.7s,baz=197,slow=36							
LL01	**San Ignacio de**	**54.52**	**167**	IAmb	IAmb	15 13 31.5		
	comp=Z,113nm,1.1s							
LL01	**San Ignacio de**	**54.52**	**167**	⇓P	P	15 13 24.2	+6.2	
GRNB	**Grenville Isla**	**55.00**	**330**	IAmb	IAmb	15 13 24.5		
	comp=Z,154nm,1.1s							
YKAW1	**Yellowknife Wh**	**55.34**	**345**	IAMs_20	IAMs_20	15 40 52.9		
	comp=Z,6µm,20.0s							
YKA	**Yellowknife Ar**	**55.38**	**345**	P	P	15 13 21.5	-2.4	
	comp=Z,88nm,0.9s,baz=138,slow=7.1,SNR=557							
YKA				PcP	**PcP**	**15 14 24.7**	**+0.4**	
	comp=Z,12nm,0.8s,baz=145,slow=4.2,SNR=6.6							
YKA				LR	LR	15 39 12.5		
	comp=Z,6µm,20.5s,baz=154,slow=39							
YKA				PKPPKP	P'P'df	15 43 11.8	-20	
	comp=Z,0.8nm,0.9s,baz=352,slow=2.8,SNR=5.4							
	comp=Z,88nm,0.9s							
LL02	**Futaleuf**	**55.42**	**167**	⇓P	P	15 13 31.4	+7.0	
YKAW3	**Yellowknife Wh**	**55.44**	**345**	IAMs_20	IAMs_20	15 39 58.5		
	comp=Z,6µm,21.0s							
U35K	**Hyder**	**56.22**	**332**	IAmb	IAmb	15 13 48.3		
	comp=Z,236nm,1.4s							
U35K				IAMs_20	IAMs_20	15 41 25.0		
	comp=Z,6µm,20.0s							
U35K	**Hyder**	**56.22**	**332**	P	**P**	**15 13 29.5**	**-0.6**	
	baz=125							
FLDN	**Fort Liard**	**56.37**	**339**	IAmb	IAmb	15 13 32.1		
	comp=Z,132nm,1.0s							
FLDN				IAMs_20	IAMs_20	15 40 09.8		
	comp=Z,7µm,22.0s							
FLDN	**Fort Liard**	**56.37**	**339**	P	**P**	**15 13 29.3**	**-1.7**	
	baz=135,SNR=12							
KOTAN	**Kotaneelee Air**	**56.50**	**339**	P	**P**	**15 13 30.0**	**-2.0**	
	baz=134,SNR=27							
V35K	**Ketchikan**	**56.63**	**331**	IAMs_20	IAMs_20	15 40 46.9		
	comp=Z,5µm,21.0s							
V35K	**Ketchikan**	**56.63**	**331**	P	**P**	**15 13 31.6**	**-1.4**	
	baz=123,SNR=6.8							
TAOE	**Nuku Hiva Isla**	**56.75**	**252**	*e*P	P	15 13 41.0	+6.3	
	comp=Z,404nm,22.5s							
TAOE				*e*S	S	15 21 23.0	-4.8	
	comp=Z,5µm,24.7s							
T35M	**Bob Quinn**	**56.95**	**333**	IAMs_20	IAMs_20	15 40 43.0		
	comp=Z,8µm,22.0s							
T35M	**Bob Quinn**	**56.95**	**333**	P	P	15 13 32.8	-2.5	
	baz=126,SNR=17							
CRAG	**Craig**	**57.43**	**331**	IAmb	IAmb	15 13 41.3		
	comp=Z,122nm,1.0s							
CRAG	**Craig**	**57.43**	**331**	P	**P**	**15 13 39.6**	**+1.0**	
CRAG	**Craig**	**57.43**	**331**	P	**P**	**15 13 36.5**	**-2.1**	
	baz=122,SNR=8.0							
CRAG	**Craig**	**57.43**	**331**	⇑P	**P**	**15 13 39.8**	**+1.2**	
WRAK	**Wrangell Islan**	**57.58**	**332**	P	**P**	**15 13 39.0**	**-0.7**	
	baz=123							
IVI	**Ivigtut**	**57.59**	**21**	*i* P	**P**	**15 13 38.3**	**-1.4**	
IVI				IAmb	IAmb	15 13 48.9		
	comp=Z,16nm,0.7s							
COYC	**Coyhaique**	**57.65**	**168**	IAmb	IAmb	15 13 52.4		
	comp=Z,153nm,1.2s							
DLBC	**Dease Lake**	**57.72**	**335**	IAmb	IAmb	15 13 43.2		
	comp=Z,225nm,1.1s							
DLBC	**Dease Lake**	**57.72**	**335**	P	**P**	**15 13 40.8**	**0.0**	
	baz=127,SNR=85							
DLBC	**Dease Lake**	**57.72**	**335**	LR	LR	15 41 23.8		
	comp=Z,9µm,21.0s,baz=120,slow=39							
U33K	**Whale Pass**	**57.77**	**331**	IAmb	IAmb	15 13 43.5		
	comp=Z,96nm,1.1s							
U33K				IAMs_20	IAMs_20	15 41 31.1		
	comp=Z,6µm,21.0s							
U33K	**Whale Pass**	**57.77**	**331**	P	**P**	**15 13 39.4**	**-1.6**	
	baz=122,SNR=7.4							
S34M	**Telegraph Cree**	**57.88**	**334**	IAMs_20	IAMs_20	15 42 42.6		
	comp=Z,8µm,20.0s							
S34M	**Telegraph Cree**	**57.88**	**334**	P	**P**	**15 13 41.9**	**+0.1**	
	baz=125,SNR=32							
T33K	**Petersburg**	**58.07**	**332**	P	**P**	**15 13 43.1**	**0.0**	
	baz=123,SNR=6.8							
WTLY	**Watson Lake, Y**	**58.26**	**337**	IAmb	IAmb	15 13 45.4		
	comp=Z,147nm,1.2s							
WTLY	**Watson Lake, Y**	**58.26**	**337**	P	**P**	**15 13 43.5**	**-1.0**	
	baz=129,SNR=60							
WRGLY	**Wrigley**	**58.51**	**341**	IAMs_20	IAMs_20	15 43 28.0		
	comp=Z,7µm,19.0s							
WRGLY	**Wrigley**	**58.51**	**341**	P	**P**	**15 13 44.9**	**-1.2**	
	baz=136,SNR=22							
NRS	**Narsarsuaq**	**58.55**	**22**	*i* P	P	15 13 42.4	-4.0	
NUUK	**Nuuk**	**58.61**	**17**	⇓P	**P**	**15 13 44.2**	**-2.5**	
NUUK	**Nuuk**	**58.61**	**17**	*i* P	P	15 13 43.3	-3.5	
R33M	**Jennings River**	**58.69**	**335**	P	**P**	**15 13 45.7**	**-1.9**	
	baz=126							
ROSA	**Rosais**	**58.70**	**51**	IAMs_20	IAMs_20	15 36 24.4		
	comp=Z,6µm,19.0s							
Q32M	**Nakina River**	**58.98**	**334**	IAmb	IAmb	15 13 52.0		
	comp=Z,147nm,1.0s							
Q32M	**Nakina River**	**58.98**	**334**	P	**P**	**15 13 48.7**	**-1.0**	
	baz=125							
S32K	**Killisnoo**	**59.17**	**332**	P	**P**	**15 13 50.9**	**+0.1**	
	baz=122,SNR=5.5							
SIT	**Sitka**	**59.30**	**331**	IAMs_20	IAMs_20	15 41 54.7		
	comp=Z,6µm,21.0s							
SIT	**Sitka**	**59.30**	**331**	P	**P**	**15 13 51.6**	**-0.1**	
SIT	**Sitka**	**59.30**	**331**	P	**P**	**15 13 50.3**	**-1.4**	
SIT	**Sitka**	**59.30**	**331**	P	**P**	**15 13 50.5**	**-1.2**	
	baz=121							
JIS	**Juneau Island**	**59.52**	**333**	IAMs_20	IAMs_20	15 42 21.0		
	comp=Z,9µm,22.0s							
JIS	**Juneau Island**	**59.52**	**333**	P	**P**	**15 13 53.0**	**-0.2**	
R32K	**Eaglecrest**	**59.58**	**333**	IAMs_20	IAMs_20	15 42 33.6		
	comp=Z,8µm,21.0s							
R32K	**Eaglecrest**	**59.58**	**333**	P	**P**	**15 13 51.8**	**-1.8**	
	baz=122							
P33M	**Teslin, Yukon**	**59.92**	**335**	P	**P**	**15 13 54.8**	**-1.3**	
	baz=125,SNR=29							
P32M	**Atlin**	**59.94**	**334**	P	**P**	**15 13 55.0**	**-1.3**	
	baz=124,SNR=15							
S31K	**Pelican**	**60.19**	**332**	IAmb	IAmb	15 14 00.1		
	comp=Z,93nm,1.1s							
S31K				IAMs_20	IAMs_20	15 42 34.9		
	comp=Z,7µm,21.0s							
S31K	**Pelican**	**60.19**	**332**	P	**P**	**15 13 56.3**	**-1.5**	
	baz=120,SNR=9.7							
R31K	**City Hall, Gus**	**60.20**	**333**	P	**P**	**15 13 56.8**	**-1.0**	
	baz=121							
SKAG	**Skagway**	**60.56**	**334**	IAMs_20	IAMs_20	15 42 11.6		
	comp=Z,5µm,22.0s							
SKAG	**Skagway**	**60.56**	**334**	P	**P**	**15 14 00.3**	**-0.1**	
SKAG	**Skagway**	**60.56**	**334**	P	**P**	**15 13 58.6**	**-1.8**	
	baz=122,SNR=5.5							
N32M	**Quiet Lake**	**60.57**	**336**	IAmb	IAmb	15 14 01.9		
	comp=Z,175nm,0.9s							
N32M				IAMs_20	IAMs_20	15 44 04.5		
	comp=Z,6µm,21.0s							
N32M	**Quiet Lake**	**60.57**	**336**	P	**P**	**15 13 59.6**	**-0.8**	
	baz=125,SNR=59							
CMLA	**Cha da Macela**	**60.63**	**53**	IAMs_20	IAMs_20	15 39 00.5		
	comp=Z,5µm,19.0s							
WHY	**Whitehorse**	**61.02**	**335**	IAMs_20	IAMs_20	15 45 28.5		
	comp=Z,6µm,19.0s							
WHY	**Whitehorse**	**61.02**	**335**	P	**P**	**15 14 02.2**	**-1.5**	
	baz=123,SNR=18							
SFJD	**Kangerlussuaq**	**61.05**	**15**	P	P	15 13 59.5	-4.0	
SFJD	**Kangerlussuaq**	**61.05**	**15**	P	P	15 13 59.5	-4.0	
SFJD				pmax	pmax			
	comp=Z,100nm,1.6s							
SFJD	**Kangerlussuaq**	**61.05**	**15**	LR	LR	15 40 41.0		
	comp=Z,17µm,19.6s,baz=220,slow=36							
SFJD	**Kangerlussuaq**	**61.05**	**15**	*i* P	P	15 13 59.5	-4.0	
SFJD				IAmb	IAmb	15 14 14.5		
	comp=Z,13nm,0.8s							
FARO	**Faro, Yukon**	**61.30**	**337**	P	**P**	**15 14 03.6**	**-1.8**	
	baz=125,SNR=24							
O30N	**Mendenhall**	**61.58**	**335**	P	**P**	**15 14 06.8**	**-0.6**	
	baz=122,SNR=76							
P30M	**Million Dollar**	**61.61**	**334**	P	**P**	**15 14 06.9**	**-0.7**	
	baz=120							
M31M	**Dry Creek, Y**	**61.68**	**337**	P	**P**	**15 14 07.0**	**-1.0**	
	baz=124,SNR=30							
P29M	**Windy Craggy**	**61.71**	**333**	P	**P**	**15 14 07.0**	**-1.2**	
	baz=119							
N31M	**Braeburn, Yuko**	**61.84**	**336**	IAmb	IAmb	15 14 09.9		
	comp=Z,94nm,0.9s							
N31M				IAMs_20	IAMs_20	15 43 18.0		
	comp=Z,6µm,22.0s							
N31M	**Braeburn, Yuko**	**61.84**	**336**	P	**P**	**15 14 07.6**	**-1.4**	
	baz=122,SNR=23							
DY2G	**Dye2**	**61.86**	**17**	*i* P	P	15 14 04.6	-4.7	
DY2G				IAmb	IAmb	15 14 19.9		
	comp=Z,15nm,0.8s							
HYT	**Haines Junctio**	**62.20**	**335**	P	**P**	**15 14 09.9**	**-1.8**	
	baz=120,SNR=23							
N30M	**Aishikik Lake**	**62.36**	**335**	IAmb	IAmb	15 14 13.9		
	comp=Z,81nm,1.0s							
N30M				IAMs_20	IAMs_20	15 46 19.5		
	comp=Z,6µm,19.0s							
N30M	**Aishikik Lake**	**62.36**	**335**	P	**P**	**15 14 11.4**	**-1.2**	
	baz=121,SNR=39							
O29M	**Mount Kennedy**	**62.40**	**334**	IAmb	IAmb	15 14 14.8		
	comp=Z,98nm,1.0s							
O29M				IAMs_20	IAMs_20	15 45 33.2		
	comp=Z,6µm,20.0s							
O29M	**Mount Kennedy**	**62.40**	**334**	P	P	15 14 10.5	-2.5	
	baz=119							
PNL	**Peninsula**	**62.46**	**333**	P	**P**	**15 14 13.9**	**+0.7**	
PNL	**Peninsula**	**62.46**	**333**	P	P	15 14 10.6	-2.6	
	baz=118,SNR=7.1							
YUK6	**Outpost Mounta**	**62.63**	**334**	P	P	15 14 11.9	-2.7	
	baz=119,SNR=18							
BCPM	**Bancas Point**	**62.70**	**333**	IAmb	IAmb	15 14 16.4		
	comp=Z,100nm,1.0s							
BCPM				IAMs_20	IAMs_20	15 45 55.2		
	comp=Z,7µm,19.0s							
M30M	**Minto, Yukon**	**62.83**	**336**	IAmb	IAmb	15 14 16.9		
	comp=Z,109nm,1.2s							
M30M				IAMs_20	IAMs_20	15 43 34.0		
	comp=Z,8µm,22.0s							
M30M	**Minto, Yukon**	**62.83**	**336**	P	P	15 14 12.9	-2.7	
	baz=122,SNR=53							
YUK4	**Talbot Arm**	**62.95**	**335**	P	**P**	**15 14 15.9**	**-0.8**	
	baz=119,SNR=16							
MAYO	**Mayo, Yukon**	**63.03**	**338**	IAMs_20	IAMs_20	15 44 45.3		
	comp=Z,8µm,22.0s							
MAYO	**Mayo, Yukon**	**63.03**	**338**	P	**P**	**15 14 16.1**	**-0.9**	
	baz=123,SNR=33							
PINM	**Pinnacle**	**63.04**	**333**	P	**P**	**15 14 15.7**	**-1.4**	
	baz=117,SNR=8.5							
C36M	**Paulatuk**	**63.18**	**346**	IAMs_20	IAMs_20	15 43 24.9		
	comp=Z,7µm,21.0s							
C36M	**Paulatuk**	**63.18**	**346**	P	P	15 14 15.1	-2.7	
	baz=138,SNR=12							
YUK8	**Steele Glacier**	**63.39**	**334**	P	**P**	**15 14 18.2**	**-1.4**	
	baz=118,SNR=28							
M29M	**Some Creek**	**63.42**	**336**	P	**P**	**15 14 18.2**	**-1.5**	
	baz=120							
ISOG	**Isortoq, Green**	**63.55**	**20**	*i* P	P	15 14 15.7	-4.6	
ISOG				IAmb	IAmb	15 14 31.8		
	comp=Z,36nm,0.8s							
L29M	**L29M**	**63.63**	**337**	IAmb	IAmb	15 14 22.3		
	comp=Z,134nm,1.1s							
L29M	**L29M**	**63.63**	**337**	P	**P**	**15 14 19.9**	**-1.1**	
	baz=121,SNR=65							
J30M	**Hart River**	**63.73**	**338**	IAMs_20	IAMs_20	15 47 29.1		
	comp=Z,8µm,20.0s							
J30M	**Hart River**	**63.73**	**338**	P	**P**	**15 14 20.7**	**-1.0**	
	baz=123							
H31M	**Peel River**	**63.74**	**340**	IAMs_20	IAMs_20	15 47 15.4		
	comp=Z,7µm,20.0s							
H31M	**Peel River**	**63.74**	**340**	P	**P**	**15 14 19.8**	**-1.8**	
	baz=126,SNR=37							
K29M	**Barlow Dome**	**63.78**	**337**	P	**P**	**15 14 20.4**	**-1.6**	
	baz=122							
YUK3	**Moose Creek**	**63.92**	**335**	P	**P**	**15 14 21.4**	**-1.7**	
	baz=118,SNR=36							
CTG	**Chitna Glacier**	**63.92**	**334**	P	**P**	**15 14 21.7**	**-1.3**	
	baz=116							
RES	**Resolute Bay**	**64.00**	**358**	P	P	15 14 18.7	-4.4	
RES	**Resolute Bay**	**64.00**	**358**	⇓P	P	15 14 19.2	-3.9	
RES	**Resolute Bay**	**64.00**	**358**	LR	LR	15 43 37.4		
	comp=Z,4µm,18.8s,baz=168,slow=38							
ANGG	**Ammassalik, Gr**	**64.05**	**20**	*i* P	P	15 14 19.1	-4.5	
ANGG				IAmb	IAmb	15 14 35.1		
	comp=Z,23nm,0.8s							
I30M	**Mount Dempster**	**64.11**	**339**	IAmb	IAmb	15 14 24.9		
	comp=Z,136nm,1.1s							
I30M				IAMs_20	IAMs_20	15 46 48.9		
	comp=Z,7µm,20.0s							
I30M	**Mount Dempster**	**64.11**	**339**	P	**P**	**15 14 22.9**	**-1.2**	
	baz=123,SNR=107							
J29N	**Klondike Camp**	**64.36**	**338**	IAmb	IAmb	15 14 26.4		
	comp=Z,82nm,1.0s							
J29N				IAMs_20	IAMs_20	15 45 26.2		
	comp=Z,12µm,22.0s							
J29N	**Klondike Camp**	**64.36**	**338**	P	**P**	**15 14 24.3**	**-1.4**	
	baz=121,SNR=36							
BVCY	**Beaver Creek**	**64.38**	**335**	P	**P**	**15 14 24.8**	**-1.1**	
	baz=118,SNR=37							
G31M	**Satah River**	**64.38**	**341**	IAmb	IAmb	15 14 26.0		
	comp=Z,96nm,0.9s							
G31M	**Satah River**	**64.38**	**341**	P	**P**	**15 14 24.2**	**-1.5**	
	baz=126,SNR=71							
UPNV	**Upernavik**	**64.51**	**10**	*i* P	**P**	**15 14 25.1**	**-1.4**	
UPNV				IAmb	IAmb	15 14 28.3		
	comp=Z,11nm,0.9s							
F31M	**Tsiigehtchic**	**64.53**	**342**	IAmb	IAmb	15 14 27.6		
	comp=Z,90nm,1.1s							
F31M				IAMs_20	IAMs_20	15 47 21.1		
	comp=Z,5µm,18.0s							
F31M	**Tsiigehtchic**	**64.53**	**342**	P	**P**	**15 14 25.1**	**-1.6**	
	baz=127,SNR=74							
DAWY	**Dawson**	**64.60**	**337**	P	**P**	**15 14 25.6**	**-1.8**	
	baz=120,SNR=38							
BERG	**Berg Lake**	**64.72**	**333**	IAmb	IAmb	15 14 30.0		
	comp=Z,140nm,1.1s							
M27K	**Edge Creek, AK**	**64.78**	**335**	IAmb	IAmb	15 14 29.9		
	comp=Z,77nm,0.9s							
M27K				IAMs_20	IAMs_20	15 45 41.3		
	comp=Z,6µm,21.0s							
M27K	**Edge Creek, AK**	**64.78**	**335**	P	**P**	**15 14 26.8**	**-1.8**	
	baz=116							
KAIM	**Kayak Island**	**64.86**	**332**	P	**P**	**15 14 27.2**	**-1.8**	
	baz=113							
EPYK	**Eagle Plains**	**64.86**	**340**	IAmb	IAmb	15 14 29.6		
	comp=Z,124nm,0.9s							
EPYK				IAMs_20	IAMs_20	15 47 47.3		
	comp=Z,5µm,19.0s							
EPYK	**Eagle Plains**	**64.86**	**340**	P	**P**	**15 14 27.5**	**-1.5**	
	baz=123,SNR=106							
I29M	**Ogilvie Camp,**	**64.87**	**339**	IAmb	IAmb	15 14 29.4		
	comp=Z,76nm,0.9s							
I29M	**Ogilvie Camp,**	**64.87**	**339**	P	**P**	**15 14 27.6**	**-1.4**	
	baz=121,SNR=35							
VRDI	**Verde Repeater**	**64.96**	**333**	IAMs_20	IAMs_20	15 48 03.8		
	comp=Z,6µm,20.0s							
INK	**Inuvik**	**64.99**	**343**	IAmb	IAmb	15 14 30.6		
	comp=Z,143nm,0.9s							
INK				IAMs_20	IAMs_20	15 46 12.2		
	comp=Z,6µm,20.0s							
INK	**Inuvik**	**64.99**	**343**	P	**P**	**15 14 28.2**	**-1.5**	
INK	**Inuvik**	**64.99**	**343**	P	**P**	**15 14 28.2**	**-1.5**	
	baz=127,SNR=189							
INK	**Inuvik**	**64.99**	**343**	⇑P	**P**	**15 14 27.9**	**-1.7**	
INK	**Inuvik**	**64.99**	**343**	LR	LR	15 46 33.9		
	comp=Z,5µm,19.8s,baz=134,slow=40							
G30M	**tAoh Zraii Nji**	**65.04**	**341**	IAMs_20	IAMs_20	15 48 15.4		
	comp=Z,5µm,20.0s							
G30M	**tAoh Zraii Nji**	**65.04**	**341**	P	**P**	**15 14 29.2**	**-1.0**	
	baz=124,SNR=19							
L27K	**Beaver Creek,**	**65.08**	**336**	P	**P**	**15 14 29.1**	**-1.4**	
	baz=117							
GLB	**Gilahina Butte**	**65.20**	**334**	IAmb	IAmb	15 14 32.8		
	comp=Z,100nm,1.0s							
GLB				IAMs_20	IAMs_20	15 45 39.3		
	comp=Z,7µm,21.0s							
F30M	**Barrier River**	**65.26**	**341**	P	**P**	**15 14 30.1**	**-1.4**	
	baz=125							
M26K	**Nabesna, AK**	**65.26**	**335**	P	**P**	**15 14 30.5**	**-1.2**	
	baz=116							
H29M	**Whitestone**	**65.34**	**339**	IAMs_20	IAMs_20	15 47 01.1		
	comp=Z,6µm,20.0s							
H29M	**Whitestone**	**65.34**	**339**	P	**P**	**15 14 30.7**	**-1.4**	
	baz=122							
BMRM	**Bremner River**	**65.36**	**333**	P	**P**	**15 14 31.3**	**-1.0**	
	baz=113,SNR=16							
A36M	**Sachs Harbour**	**65.41**	**348**	IAMs_20	IAMs_20	15 47 19.5		
	comp=Z,5µm,21.0s							
A36M	**Sachs Harbour**	**65.41**	**348**	P	P	15 14 29.6	-2.8	
	baz=137,SNR=71							
ICESG	**Greenland Ices**	**65.48**	**17**	⇑P	P	15 14 28.6	-4.7	
ICESG	**Greenland Ices**	**65.48**	**17**	*i* P	P	15 14 28.9	-4.4	
ICESG				IAmb	IAmb	15 14 43.8		
	comp=Z,41nm,0.9s							
I28M	**Miner Creek**	**65.50**	**338**	P	**P**	**15 14 31.5**	**-1.7**	
	baz=120							
Q23K	**Middleton Isla**	**65.58**	**331**	P	**P**	**15 14 33.8**	**+0.1**	
	baz=111							
G29M	**Pine Creek**	**65.60**	**340**	P	**P**	**15 14 32.4**	**-1.3**	
	baz=122							
N25K	**Chitina, Valde**	**65.62**	**334**	IAmb	IAmb	15 14 36.2		
	comp=Z,98nm,1.0s							
N25K				IAMs_20	IAMs_20	15 45 52.2		
	comp=Z,7µm,21.0s							
N25K	**Chitina, Valde**	**65.62**	**334**	P	**P**	**15 14 33.6**	**-0.4**	
	baz=114,SNR=37							
EGAK	**Eagle**	**65.62**	**337**	IAmb	IAmb	15 14 34.7		
	comp=Z,81nm,1.0s							
EGAK				IAMs_20	IAMs_20	15 46 14.6		
	comp=Z,7µm,22.0s							
EGAK	**Eagle**	**65.62**	**337**	P	**P**	**15 14 32.9**	**-1.0**	
	baz=118,SNR=72							
EGAK	**Eagle**	**65.62**	**337**	⇓P	**P**	**15 14 32.4**	**-1.5**	
K27K	**Chicken**	**65.62**	**337**	IAMs_20	IAMs_20	15 45 30.3		
	comp=Z,7µm,22.0s							
K27K	**Chicken**	**65.62**	**337**	P	**P**	**15 14 33.0**	**-0.9**	
	baz=117							
L26K	**Log Cabin Wild**	**65.68**	**335**	IAmb	IAmb	15 14 35.6		
	comp=Z,106nm,1.3s							
L26K				IAMs_20	IAMs_20	15 48 29.6		
	comp=Z,6µm,18

M23K	**Glacier View** baz=111,SNR=32	67.07	333	P		**P**		15 14 41.8		**-1.4**
D28M	**Stokes Point** baz=122	67.13	342	P		**P**		15 14 42.1		**-1.3**
J25K	**Salcha River,** comp=Z,103nm,0.9s	67.17	336	IAmb		IAmb		15 14 45.0		
J25K	**Salcha River,** baz=114	67.17	336	P		**P**		**15 14 43.3**		**-0.6**
KNK	**Knik Glacier** baz=110,SNR=46	67.26	333	P		**P**		**15 14 43.8**		**-0.7**
SEW	**Seward** baz=108,SNR=15	67.29	331	P		**P**		**15 14 44.5**		**-0.1**
SML	**Sawmill** comp=Z,146nm,1.0s	67.34	333	IAmb		IAmb		15 14 46.5		
SML	comp=Z,6µm,22.0s			IAMs_20		IAMs_20		15 46 29.8		
SML	**Sawmill** baz=110,SNR=21	67.34	333	P		**P**		**15 14 44.3**		**-0.8**
WAT6	**Susitna Watana** baz=111,SNR=92	67.36	334	P		**P**		**15 14 44.0**		**-1.2**
DHY	**Denali Highway** comp=Z,3µm,19.0s	67.38	335	IAMs_20		IAMs_20		15 49 36.7		
DHY	**Denali Highway** baz=112,SNR=20	67.38	335	P		**P**		**15 14 44.2**		**-1.2**
E27K	**Coleen River** comp=Z,4µm,20.0s	67.43	341	IAMs_20		IAMs_20		15 48 04.5		
E27K	**Coleen River** baz=119	67.43	341	P		**P**		**15 14 44.0**		**-1.5**
MACI	**Morro de la Ar** comp=Z,4µm,21.0s	67.48	64	IAMs_20		IAMs_20		15 40 02.0		
SOEG	**Soedalen**	67.51	19 *i*	P		P		15 14 42.4		-3.5
SOEG	comp=Z,9.5nm,0.9s			IAmb		IAmb		15 14 48.8		
O22K	**Cooper Landing** comp=Z,7µm,22.0s	67.53	331	IAMs_20		IAMs_20		15 46 55.2		
O22K	**Cooper Landing** baz=108,SNR=8.7	67.53	331	P		**P**		**15 14 45.2**		**-1.0**
G26K	**Porcupine Rive** baz=116	67.59	339	P		**P**		**15 14 45.0**		**-1.4**
GHO	**Glory Hole Cre** comp=Z,7µm,21.0s	67.59	333	IAMs_20		IAMs_20		15 48 19.5		
PRP	**Porcupine Dome** comp=Z,111nm,1.2s	67.60	337	IAmb		IAmb		15 14 47.4		
PRP	**Porcupine Dome** baz=114,SNR=57	67.60	337	P		**P**		**15 14 45.5**		**-1.2**
PMR	**Palmer**	67.62	333	P		**P**		**15 14 46.2**		**-0.5**
PMR	**Palmer**	67.62	333	P		**P**		**15 14 46.4**		**-0.3**
PMR	**Palmer** baz=109,SNR=16	67.62	333	P		**P**		**15 14 45.7**		**-1.0**
HDA	**Harding Lake** baz=112,SNR=147	67.71	336	P		**P**		**15 14 46.2**		**-1.1**
RC01	**Rabbit Creek A** comp=Z,6µm,20.0s	67.73	332	IAMs_20		IAMs_20		15 49 31.5		
RC01	**Rabbit Creek A** baz=108,SNR=42	67.73	332	P		**P**		**15 14 47.1**		**-0.4**
D27M	**Malcolm River** comp=Z,4µm,20.0s	67.76	342	IAMs_20		IAMs_20		15 48 56.7		
D27M	**Malcolm River** baz=120	67.76	342	P		**P**		**15 14 46.4**		**-1.1**
BRSE	**Bradley Lake S** baz=107,SNR=22	67.79	331	P		**P**		**15 14 46.8**		**-1.0**
WAT1	**Susitna Watana** baz=110	67.79	334	P		**P**		**15 14 46.4**		**-1.4**
IL31	comp=Z,144nm,0.9s	67.83	336	IAmb		IAmb		15 14 49.2		
ILAR	**Eielson Array** comp=Z,97nm,1.0s,baz=124,slow=4.4,SNR=508	67.83	336	P		**P**		**15 14 46.4**		**-1.6**
ILAR	comp=Z,5.8nm,1.0s,baz=139,slow=5.1,SNR=3.9			PP		PP		15 17 10.3		-7.1
ILAR	comp=Z,0.4nm,1.0s,baz=192,slow=25,SNR=4.2			PKPPKP		P'P'df		15 42 55.2		-17
ILAR	comp=Z,5µm,20.9s,baz=108,slow=40 comp=Z,97nm,1.0s			LR		LR		15 48 52.0		
MBO	**M'Bour** comp=Z,4µm,20.0s	67.84	79	IAMs_20		IAMs_20		15 44 27.1		
BRLK	**Bradley Lake** comp=Z,4µm,20.0s	67.87	331	IAMs_20		IAMs_20		15 49 15.4		
FYU	**Fort Yukon** comp=Z,6µm,20.0s	67.94	338	IAMs_20		IAMs_20		15 49 06.7		
SUMG	**Summit**	67.94	14	P		P		15 14 45.0		-4.1
SUMG	comp=Z,84nm,1.2s			IAmb		IAmb		15 15 14.2		
SUMG	**Summit**	67.94	14	P		P		15 14 45.0		-4.1
SUMG	comp=Z,84nm,1.2s			pmax		pmax				
SUMG	comp=Z,12µm,20.0s			MLR		MLR				
SUMG	**Summit**	67.94	14 ⇓	P		P		15 14 45.5		-3.6
SUMG	**Summit**	67.94	14 *i*	P		P		15 14 45.0		-4.1
SUMG	comp=Z,35nm,1.0s			IAmb		IAmb		15 15 00.7		
CNPM	**China Poot** comp=Z,102nm,1.0s	67.97	330	IAmb		IAmb		15 14 50.8		
CNPM	comp=Z,3µm,19.0s			IAMs_20		IAMs_20		15 46 27.9		
FIS	**Fire Island** comp=Z,6µm,20.0s	67.97	332	IAMs_20		IAMs_20		15 49 27.6		
F26K	**Sheenjek River** baz=116	68.05	340	P		**P**		**15 14 48.5**		**-0.8**
RND	**Reindeer** comp=Z,7µm,22.0s	68.13	335	IAMs_20		IAMs_20		15 47 09.4		
CCB	**Clear Creek Bu** comp=Z,7µm,21.0s	68.15	336	IAMs_20		IAMs_20		15 48 04.6		
KDAK	**Kodiak Island**	68.17	328	P		**P**		**15 14 49.7**		**-0.5**
KDAK	comp=Z,154nm,1.1s			IAmb		IAmb		15 14 52.2		
KDAK	**Kodiak Island** comp=Z,5µm,21.0s	68.17	328	IAMs_20		IAMs_20		15 45 52.6		
KDAK	**Kodiak Island**	68.17	328 *i*	P		**P**		**15 14 50.5**		**+0.3**
KDAK	comp=Z,174nm,0.9s			pmax		pmax				
KDAK	**Kodiak Island** baz=105	68.17	328	P		**P**		**15 14 49.1**		**-1.1**
KDAK	**Kodiak Island** comp=Z,5µm,22.0s,baz=110,slow=38	68.17	328	LR		LR		15 46 26.7		
POKR	**Poker Plat Res** comp=Z,61nm,0.8s	68.18	337	IAmb		IAmb		15 14 50.3		
POKR	comp=Z,7µm,22.0s			IAMs_20		IAMs_20		15 47 34.4		
POKR	**Poker Plat Res** baz=112,SNR=30	68.18	337	P		**P**		**15 14 48.7**		**-1.4**
HOM	**Homer** baz=106	68.20	330	P		**P**		**15 14 48.3**		**-2.1**
COLA	**College**	68.25	336	P		**P**		**15 14 48.8**		**-1.9**
COLA	comp=Z,68nm,0.8s			IAmb		IAmb		15 14 50.5		
COLA	**College** comp=Z,7µm,22.0s	68.25	336	IAMs_20		IAMs_20		15 47 23.5		
COLA	**College**	68.25	336	P		**P**		**15 14 50.0**		**-0.5**
COLA	**College**	68.25	336 *c i*	P		**P**		**15 14 50.1**		**-0.5**
COLA	comp=Z,25nm,0.8s			pmax		pmax				
COLA	**College** baz=112	68.25	336	P		**P**		**15 14 48.7**		**-1.9**
COLA	**College**	68.25	336 ⇑	P		**P**		**15 14 49.1**		**-1.4**
MCK	**McKinley** baz=110,SNR=140	68.28	335	P		**P**		**15 14 49.7**		**-1.2**
SYI	**Shuyak Island** comp=Z,153nm,1.0s	68.29	329	IAmb		IAmb		15 14 53.3		
SYI	comp=Z,3µm,20.0s			IAMs_20		IAMs_20		15 46 51.6		
Q20K	**Shuyak Island** baz=105,SNR=6.0	68.29	329	P		**P**		**15 14 50.3**		**-0.6**
CAPN	**Captain Cook N** comp=Z,6µm,21.0s	68.29	332	IAMs_20		IAMs_20		15 49 23.3		
CAPN	**Captain Cook N** baz=107	68.29	332	P		**P**		**15 14 50.0**		**-0.9**
PPT2	**Papeete2** comp=Z,570nm,24.5s	68.30	246	*e*P		P		15 14 59.6		+7.8
PPT2	**Papeete2** comp=Z,256nm,27.2s	68.30	246	*e*PP		PP		15 17 15.7		-7.1
PPT2	comp=Z,3µm,23.8s			*e*S		S		15 23 47.7		-5.3
PPT2	comp=Z,1µm,26.2s			*e*SS		**SS**		**15 28 11.3**		**-5.3**
PPT2	comp=Z,5µm,26.5s			*e*LR		LR		15 35 34.3		
PPT2	comp=Z,7µm,24.2s			*e*LR		LR		15 35 46.1		
SUA	**Susitna One** comp=Z,132nm,1.0s	68.32	332	IAmb		IAmb		15 14 53.0		
SUA	**Susitna One** baz=108,SNR=42	68.32	332	P		**P**		**15 14 50.7**		**-0.5**
PAE	**Paea** comp=Z,27nm,1.2s	68.33	246	*e*P		**P**		**15 14 52.3**		**+0.4**
G25K	**Bearman Lake** baz=114	68.33	338	P		**P**		**15 14 50.2**		**-0.8**
CUT	**Chulitna** comp=Z,6µm,21.0s	68.40	333	IAMs_20		IAMs_20		15 47 38.7		
CUT	**Chulitna** baz=108,SNR=46	68.40	333	P		**P**		**15 14 51.1**		**-0.5**
OHAK	**Old Harbor** comp=Z,141nm,1.0s	68.40	328	IAmb		IAmb		15 14 54.0		
OHAK	comp=Z,3µm,20.0s			IAMs_20		IAMs_20		15 46 36.8		
OHAK	**Old Harbor**	68.40	328	P		**P**		**15 14 52.5**		**+0.8**
OHAK	**Old Harbor** baz=104,SNR=12	68.40	328	P		**P**		**15 14 51.6**		**0.0**
MDM	**Murphy Dome** comp=Z,121nm,1.2s	68.43	336	IAmb		IAmb		15 14 52.9		
MDM	comp=Z,7µm,21.0s			IAMs_20		IAMs_20		15 48 36.2		
F25K	**Christian River** baz=115	68.52	339	P		**P**		**15 14 51.9**		**-0.4**
H24K	**Noodor Dome** comp=Z,155nm,1.3s	68.62	337	IAmb		IAmb		15 14 53.9		
H24K	comp=Z,7µm,22.0s			IAMs_20		IAMs_20		15 47 59.1		
H24K	**Noodor Dome** baz=112	68.62	337	P		**P**		**15 14 52.0**		**-1.1**
NEA2	**Nenana** comp=Z,116nm,1.0s	68.63	336	IAmb		IAmb		15 14 53.5		
NEA2	comp=Z,4µm,21.0s			IAMs_20		IAMs_20		15 47 56.6		
NEA2	**Nenana** baz=110,SNR=94	68.63	336	P		**P**		**15 14 51.5**		**-1.5**
BWN	**Browne** comp=Z,5µm,20.0s	68.65	335	IAMs_20		IAMs_20		15 48 46.2		
E25K	**Arctic Village** comp=Z,5µm,21.0s	68.72	340	IAMs_20		IAMs_20		15 48 26.2		
E25K	**Arctic Village** baz=115,SNR=56	68.72	340	P		**P**		**15 14 52.5**		**-1.1**
SII	**Sitkinak Islan**	68.72	327	P		**P**		**15 14 54.9**		**+1.1**
SII	**Sitkinak Islan** baz=103,SNR=8.9	68.72	327	P		**P**		**15 14 53.5**		**-0.2**
TRF	**Thorofare Moun** comp=Z,173nm,1.0s	68.75	334	IAmb		IAmb		15 14 54.8		
TRF	**Thorofare Moun** baz=109,SNR=62	68.75	334	P		**P**		**15 14 53.0**		**-0.9**
O20K	**Slope Mountain** baz=105,SNR=16	68.80	331	P		**P**		**15 14 53.7**		**-0.6**
G24K	**Hadweenzic Riv** comp=Z,136nm,1.1s	68.81	338	IAmb		IAmb		15 14 56.0		
G24K	**Hadweenzic Riv** baz=113	68.81	338	P		**P**		**15 14 53.3**		**-0.8**
SKT	**Skwentna** comp=Z,136nm,0.9s	68.83	333	IAmb		IAmb		15 14 55.8		
SKT	**Skwentna** baz=107,SNR=71	68.83	333	P		**P**		**15 14 53.5**		**-0.9**
N20K	**Mount Spurr** baz=106,SNR=41	68.91	332	P		**P**		**15 14 54.5**		**-0.4**
I23K	**Minto, Yukon-K** comp=Z,180nm,1.0s	68.95	336	IAmb		IAmb		15 14 56.6		
I23K	**Minto, Yukon-K** baz=110,SNR=151	68.95	336	P		**P**		**15 14 54.1**		**-0.9**
P19K	**Oil Pt** comp=Z,112nm,0.8s	68.98	330	IAmb		IAmb		15 14 57.0		
P19K	comp=Z,3µm,20.0s			IAMs_20		IAMs_20		15 48 18.7		
P19K	**Oil Pt** baz=105,SNR=5.4	68.98	330	P		**P**		**15 14 55.1**		**-0.3**
Q19K	**Cape Douglas,** comp=Z,3µm,21.0s	69.00	329	IAMs_20		IAMs_20		15 47 37.4		
Q19K	**Cape Douglas,** baz=104,SNR=12	69.00	329	P		**P**		**15 14 55.0**		**-0.5**
ILSW	**Iliamna Southw** comp=Z,114nm,1.0s	69.02	330	IAmb		IAmb		15 14 57.0		
NEEM	**North Greenlan**	69.08	8 *i*	P		P		15 14 52.6		-3.4
NEEM	comp=Z,48nm,1.0s			IAmb		IAmb		15 14 57.4		
R18K	**Karluk** baz=103	69.09	328	P		**P**		**15 14 55.3**		**-0.6**
EUNU	**Eureka**	69.23	0 ⇓	P		**P**		**15 14 54.2**		**-2.4**
BPAW	**Bear Paw Mtn.** comp=Z,6µm,19.0s	69.25	335	IAMs_20		IAMs_20		15 49 08.1		
BPAW	**Bear Paw Mtn.** baz=108,SNR=85	69.25	335	P		**P**		**15 14 55.6**		**-1.3**
F24K	**Squaw Lake** comp=Z,4µm,21.0s	69.28	339	IAMs_20		IAMs_20		15 49 47.3		
F24K	**Squaw Lake** baz=113	69.28	339	P		**P**		**15 14 56.6**		**-0.4**
C26K	**Camden Bay** baz=116	69.30	342	P		**P**		**15 14 56.6**		**-0.5**
CHIR	**Chirikof Islan** baz=101,SNR=6.6	69.35	326	P		**P**		**15 14 57.7**		**+0.1**
PPLA	**Purkeypile** baz=107,SNR=42	69.39	334	P		**P**		**15 14 56.4**		**-1.6**
MLY	**Manley** comp=Z,4µm,21.0s	69.46	336	IAMs_20		IAMs_20		15 47 46.3		
MLY	**Manley** baz=109,SNR=228	69.46	336	P		**P**		**15 14 56.5**		**-1.7**
D25K	**Kavik River** comp=Z,4µm,19.0s	69.50	341	IAMs_20		IAMs_20		15 51 08.8		
D25K	**Kavik River** baz=115	69.50	341	P		**P**		**15 14 56.8**		**-1.6**
CAST	**Castle Rocks** comp=Z,185nm,1.2s	69.50	334	IAmb		IAmb		15 14 58.7		
CAST	**Castle Rocks** baz=107,SNR=79	69.50	334	P		P		15 14 55.9		-2.6
M20K	**Styx River** baz=106	69.53	332	P		**P**		**15 14 56.6**		**-2.1**
O19K	**Port Alsworth** comp=Z,161nm,1.1s	69.65	330	IAmb		IAmb		15 15 00.5		
O19K	comp=Z,3µm,22.0s			IAMs_20		IAMs_20		15 46 25.3		
O19K	**Port Alsworth** baz=104,SNR=36	69.65	330	P		**P**		**15 14 57.3**		**-2.0**
E24K	**Your Creek** baz=112	69.70	339	P		**P**		**15 14 58.2**		**-1.5**
CHUM	**Lake Minchumin** baz=107,SNR=61	69.74	335	P		**P**		**15 14 58.1**		**-1.8**
G23K	**Bananza Creek** comp=Z,111nm,1.1s	69.75	338	IAmb		IAmb		15 15 01.9		
G23K	comp=Z,7µm,21.0s			IAMs_20		IAMs_20		15 51 36.3		
G23K	**Bananza Creek** baz=110,SNR=123	69.75	338	P		**P**		**15 14 58.7**		**-1.3**
BORG	**Borgarnes** comp=Z,8µm,19.5s,baz=240,slow=35	69.82	25	LR		LR		15 43 52.7		
N19K	**Bonanza Creek** comp=Z,195nm,1.1s	69.88	331	IAmb		IAmb		15 15 02.1		
N19K	comp=Z,4µm,22.0s			IAMs_20		IAMs_20		15 48 44.3		
N19K	**Bonanza Creek** baz=104	69.88	331	P		**P**		**15 14 59.1**		**-1.8**
P18K	**Big Mountain,** comp=Z,92nm,1.1s	69.91	330	IAmb		IAmb		15 15 01.7		
P18K	comp=Z,3µm,22.0s			IAMs_20		IAMs_20		15 47 45.2		
P18K	**Big Mountain,** baz=103,SNR=13	69.91	330	P		**P**		**15 14 59.5**		**-1.6**
H22K	**Ishtalitna Cre** baz=109	69.99	337	P		**P**		**15 14 59.9**		**-1.5**
Q17K	**Contact Creek** baz=107,SNR=70	69.99	328	P		**P**		**15 15 00.8**		**-0.8**
O18K	**Koktuh Hills** comp=Z,4µm,19.0s	70.00	330	IAMs_20		IAMs_20		15 50 40.7		
O18K	**Koktuh Hills** baz=103,SNR=23	70.00	330	P		**P**		**15 15 00.7**		**-0.9**
COLD	**Coldfoot** baz=110,SNR=99	70.00	338	P		**P**		**15 15 00.5**		**-1.0**
L20K	**Farewell, AK** baz=105	70.03	333	P		**P**		**15 15 00.2**		**-1.5**
E23K	**Chandalar** baz=111	70.09	339	P		**P**		**15 15 01.5**		**-0.6**
M19K	**Big River Lodg** baz=104	70.11	332	P		**P**		**15 15 01.1**		**-1.1**
TBI	**Tubuai** comp=Z,2µm,25.5s	70.23	240	*e*P		P		15 14 56.8		-6.8
TBI	comp=Z,12µm,25.5s			*e*S		**S**		**15 24 13.9**		**-1.5**
TBI	comp=Z,6µm,23.8s			*e*SS		**SS**		**15 28 44.4**		**-1.6**
TBI	comp=Z,24µm,25.0s			*e*LR		LR		15 36 35.1		
TBI	comp=Z,6µm,24.2s			*e*LR		LR		15 36 38.8		
D24K	**Happy Valley** comp=Z,4µm,21.0s	70.23	340	IAMs_20		IAMs_20		15 49 25.5		
D24K	**Happy Valley** baz=112	70.23	340	P		**P**		**15 15 01.6**		**-1.2**
K20K	**Telida** comp=Z,184nm,1.0s	70.34	334	IAmb		IAmb		15 15 04.6		
K20K	comp=Z,6µm,20.0s			IAMs_20		IAMs_20		15 50 13.1		
K20K	**Telida** baz=105,SNR=112	70.34	334	P		**P**		**15 15 02.3**		**-1.4**
G22K	**Bettles** baz=109,SNR=86	70.38	338	P		**P**		**15 15 03.0**		**-0.8**
L19K	**White Mountain** comp=Z,65nm,0.9s	70.39	332	IAmb		IAmb		15 15 04.3		
L19K	**White Mountain** baz=104	70.39	332	P		**P**		**15 15 02.5**		**-1.5**
C24K	**Franklin Bluff** baz=113	70.41	341	P		**P**		**15 15 02.8**		**-1.1**
SVW2	**Sparrevohn** comp=Z,147nm,1.2s	70.47	331	IAmb		IAmb		15 15 04.8		
SVW2	**Sparrevohn**	70.47	331	P		**P**		**15 15 03.3**		**-1.1**
P17K	**Kvichak River** baz=102,SNR=28	70.47	329	P		**P**		**15 15 03.4**		**-1.0**
Q16K	**King Salmon** baz=101,SNR=38	70.47	329	P		**P**		**15 15 03.8**		**-0.7**
H21K	**Melozitna Rive** comp=Z,83nm,1.1s	70.48	336	IAmb		IAmb		15 15 05.2		
H21K	comp=Z,6µm,21.0s			IAMs_20		IAMs_20		15 49 38.0		
H21K	**Melozitna Rive** baz=107,SNR=67	70.48	336	P		**P**		**15 15 02.7**		**-1.7**
N18K	**Kilae Creek** comp=Z,131nm,0.9s	70.52	331	IAmb		IAmb		15 15 05.5		
N18K	comp=Z,3µm,21.0s			IAMs_20		IAMs_20		15 48 45.9		
N18K	**Kilae Creek** baz=103,SNR=51	70.52	331	P		**P**		**15 15 03.5**		**-1.2**
J20K	**Nowinta River** comp=Z,194nm,1.3s	70.60	335	IAmb		IAmb		15 15 06.2		
J20K	comp=Z,5µm,21.0s			IAMs_20		IAMs_20		15 50 11.7		
J20K	**Nowinta River** baz=106,SNR=59	70.60	335	P		**P**		**15 15 03.8**		**-1.4**
M18K	**Stony River** baz=103,SNR=85	70.67	332	P		**P**		**15 15 04.1**		**-1.5**
R16K	**Pilot Point** baz=100	70.74	327	P		**P**		**15 15 05.5**		**-0.6**
F22K	**John River** baz=108	70.82	338	P		**P**		**15 15 05.8**		**-0.6**
E22K	**Anaktuvuk Pass** comp=Z,6µm,22.0s	70.89	339	IAMs_20		IAMs_20		15 49 23.8		
E22K	**Anaktuvuk Pass** baz=109,SNR=62	70.89	339	P		**P**		**15 15 05.8**		**-1.1**
I20K	**Naaghedeneel** baz=105	70.91	335	P		**P**		**15 15 05.6**		**-1.3**
O17K	**Koliganek Bris** baz=101,SNR=61	70.91	330	P		**P**		**15 15 06.2**		**-0.9**
CHGN	**Chignik** baz=99,SNR=38	70.98	326	P		**P**		**15 15 06.8**		**-0.8**
G21K	**Allakaket** baz=107	71.01	337	P		**P**		**15 15 06.5**		**-1.1**
C23K	**Itkillik River** comp=Z,5µm,20.0s	71.07	341	IAMs_20		IAMs_20		15 51 30.6		
C23K	**Itkillik River** baz=111	71.07	341	P		**P**		**15 15 06.4**		**-1.5**
TTA	**Tatalina** comp=Z,130nm,1.0s	71.09	333	IAmb		IAmb		15 15 08.9		
TTA	comp=Z,4µm,20.0s			IAMs_20		IAMs_20		15 49 35.0		
TTA	**Tatalina**	71.09	333	P		**P**		**15 15 07.2**		**-1.1**
TTA	**Tatalina**	71.09	333 ⇓	P		**P**		**15 15 06.7**		**-1.6**
TTA	**Tatalina** baz=103,SNR=73	71.09	333	P		**P**		**15 15 06.3**		**-2.0**
N17K	**Nushagak Hills** comp=Z,178nm,1.0s	71.11	330	IAmb		IAmb		15 15 09.9		
N17K	comp=Z,5µm,20.0s			IAMs_20		IAMs_20		15 49 51.6		
N17K	**Nushagak Hills** baz=101,SNR=100	71.11	330	P		**P**		**15 15 07.0**		**-1.3**
J19K	**Poorman** comp=Z,180nm,1.1s	71.18	334	IAmb		IAmb		15 15 09.4		
J19K	**Poorman** baz=104,SNR=118	71.18	334	P		**P**		**15 15 07.0**		**-1.7**
F21K	**Alatna River** comp=Z,192nm,1.1s	71.21	338	IAmb		IAmb		15 15 10.8		
F21K	comp=Z,5µm,20.0s			IAMs_20		IAMs_20		15 50 55.7		
F21K	**Alatna River** baz=107	71.21	338	P		**P**		**15 15 08.0**		**-0.9**
P16K	**Nushagak River** baz=100,SNR=6.9	71.22	329	P		**P**		**15 15 07.7**		**-1.3**
L18K	**Granite Mounta** comp=Z,158nm,1.3s	71.23	332	IAmb		IAmb		15 15 10.3		
L18K	comp=Z,6µm,22.0s			IAMs_20		IAMs_20		15 49 29.4		
L18K	**Granite Mounta** baz=102	71.23	332	P		**P**		**15 15 07.6**		**-1.5**
H20K	**Anotleneega Mo** baz=105,SNR=71	71.26	336	P		**P**		**15 15 07.5**		**-1.6**
O16K	**Kokwok River B** comp=Z,4µm,22.0s	71.38	329	IAMs_20		IAMs_20		15 49 00.6		
O16K	**Kokwok River B** baz=100,SNR=19	71.38	329	P		**P**		**15 15 08.3**		**-1.7**
M17K	**Holitna River** comp=Z,146nm,0.9s	71.41	331	IAmb		IAmb		15 15 11.8		
M17K	**Holitna River** baz=102,SNR=54	71.41	331	P		**P**		**15 15 08.9**		**-1.2**
CNBA	**Chernabura Isl** comp=Z,185nm,1.5s	71.42	324	IAmb		IAmb		15 15 11.9		
CHNA	**Chernabura Isl** baz=97	71.42	324	P		**P**		**15 15 09.2**		**-1.1**
D22K	**Ayikyak River** comp=Z,7µm,22.0s	71.44	340	IAMs_20		IAMs_20		15 49 20.2		
D22K	**Ayikyak River** baz=108	71.44	340	P		**P**		**15 15 09.1**		**-1.1**
J18K	**Innoko River** comp=Z,6µm,20.0s	71.53	334	IAMs_20		IAMs_20		15 50 38.4		
J18K	**Innoko River** baz=103	71.53	334	P		**P**		**15 15 09.3**		**-1.5**
S14K	**Fog Glacier** baz=98,SNR=40	71.61	326	P		**P**		**15 15 10.4**		**-1.1**
E21K	**Killik River** comp=Z,3µm,20.0s	71.75	339	IAMs_20		IAMs_20		15 51 03.5		
E21K	**Killik River** baz=107	71.75	339	P		**P**		**15 15 11.1**		**-1.0**
N16K	**Nishlik Lake** baz=100	71.87	330	P		**P**		**15 15 12.2**		**-0.7**
GCSA	**Galena City Sc** baz=103,SNR=7.3	71.89	335	P		**P**		**15 15 11.8**		**-1.1**
H19K	**Roundabout Mou** baz=104	71.90	336	P		**P**		**15 15 11.8**		**-1.1**
L17K	**Donlin** baz=101	71.95	332	P		**P**		**15 15 12.3**		**-1.1**
SDPT	**Sand Point**	72.00	325	P		**P**		**15 15 14.6**		**+0.9**
SDPT	**Sand Point** baz=97,SNR=25	72.00	325	P		**P**		**15 15 12.8**		**-0.9**
F20K	**Avaraart Lake** baz=105	72.00	337	P		**P**		**15 15 13.1**		**-0.5**
M16K	**Timber Creek** comp=Z,5µm,22.0s	72.06	331	IAMs_20		IAMs_20		15 50 49.4		
M16K	**Timber Creek** baz=100	72.06	331	P		**P**		**15 15 13.6**		**-0.5**
K17K	**Iditarod** comp=Z,122nm,1.1s	72.07	333	IAmb		IAmb		15 15 15.1		
K17K	comp=Z,4µm,21.0s			IAMs_20		IAMs_20		15 49 45.0		
K17K	**Iditarod** baz=101	72.07	333	P		**P**		**15 15 12.8**		**-1.3**
B22K	**Teshekpuk Lake** comp=Z,3µm,19.0s	72.15	341	IAMs_20		IAMs_20		15 52 30.7		
B22K	**Teshekpuk Lake** baz=108	72.15	341	P		**P**		**15 15 12.8**		**-1.6**
O15K	**Ungalikthiuk R** baz=99	72.18	329	P		**P**		**15 15 13.2**		**-1.6**
C21K	**Knifeblade Rid** baz=106	72.24	340	P		**P**		**15 15 14.1**		**-0.9**
G19K	**Purcell Mounta** comp=Z,157nm,1.1s	72.30	336	IAmb		IAmb		15 15 16.9		
G19K	**Purcell Mounta** baz=103	72.30	336	P		**P**		**15 15 14.8**		**-0.6**
B21K	**Ikpikpuk River** comp=Z,5µm,22.0s	72.32	340	IAMs_20		IAMs_20		15 49 49.4		
B21K	**Ikpikpuk River** baz=107	72.32	340	P		**P**		**15 15 13.9**		**-1.6**
L16K	**Owhat River** comp=Z,203nm,1.1s	72.42	331	IAmb		IAmb		15 15 18.1		
L16K	**Owhat River** baz=100,SNR=72	72.42	331	P		**P**		**15 15 15.2**		**-1.0**
N15K	**Kwethluk River** comp=Z,4µm,20.0s	72.47	330	IAMs_20		IAMs_20		15 52 06.6		
N15K	**Kwethluk River** baz=99,SNR=9.6	72.47	330	P		**P**		**15 15 15.8**		**-0.7**
E20K	**Nigu River** baz=105	72.49	339	P		**P**		**15 15 15.8**		**-0.8**
H18K	**Honhosa River** comp=Z,215nm,1.1s	72.60	335	IAmb		IAmb		15 15 19.2		

H18K IAMs_20 IAMs_20 15 49 19.9
comp=Z,4µm,21.0s
H18K Honhosa River 72.60 335 P **P** **15 15 16.8 -0.4**
baz=102
E19K Redstone River 72.67 338 P **P** **15 15 16.0 -1.6**
baz=104
F19K Shaleruckik Mo 72.73 337 P **P** **15 15 16.8 -1.1**
baz=103
D20K Etivluk River 72.76 339 P **P** **15 15 17.2 -0.9**
baz=105
M15K Kasigluk River 72.84 330 P **P** **15 15 17.9 -0.8**
baz=98,SNR=42
A22K Sinclair Lake 72.84 341 P **P** **15 15 17.3 -1.2**
baz=107
G18K Tagagawik 72.87 336 IAmb IAmb 15 15 20.6
comp=Z,177nm,1.1s
G18K Tagagawik 72.87 336 P **P** **15 15 18.0 -0.8**
baz=102
O14K Tigyukauivet M 72.92 329 IAMs_20 IAMs_20 15 51 52.8
comp=Z,4µm,20.0s
O14K Tigyukauivet M 72.92 329 P **P** **15 15 18.5 -0.7**
baz=97,SNR=7.9
H17K Granite Mounta 73.20 335 IAmb IAmb 15 15 22.6
comp=Z,110nm,1.1s
H17K IAMs_20 IAMs_20 15 50 53.3
comp=Z,5µm,21.0s
H17K Granite Mounta 73.20 335 P **P** **15 15 20.0 -0.8**
baz=100
J16K Anvik River 73.21 333 IAmb IAmb 15 15 23.2
comp=Z,211nm,1.0s
J16K IAMs_20 IAMs_20 15 50 01.4
comp=Z,5µm,22.0s
J16K Anvik River 73.21 333 P **P** **15 15 19.8 -1.0**
baz=99,SNR=84
N14K Kuskokwak Cree 73.22 329 P **P** **15 15 20.2 -0.8**
baz=97
D19K Kuna River 73.24 339 IAmb IAmb 15 15 22.3
comp=Z,94nm,1.0s
D19K Kuna River 73.24 339 P **P** **15 15 19.9 -1.1**
baz=103
B20K Meade River 73.28 340 IAMs_20 IAMs_20 15 51 44.6
comp=Z,5µm,21.0s
B20K Meade River 73.28 340 P **P** **15 15 19.9 -1.2**
baz=104
I17K Unalakleet 73.35 334 IAmb IAmb 15 15 23.5
comp=Z,134nm,1.0s
I17K IAMs_20 IAMs_20 15 51 52.5
comp=Z,4µm,20.0s
I17K Unalakleet 73.35 334 P **P** **15 15 21.5 -0.1**
baz=99,SNR=33
L15K Ungalak Mounta 73.37 331 P **P** **15 15 21.6 -0.2**
baz=98,SNR=84
A21K Barrow 73.45 342 P **P** **15 15 20.6 -1.5**
baz=105,SNR=35
M14K Bethel 73.47 330 IAMs_20 IAMs_20 15 51 24.2
comp=Z,5µm,21.0s
M14K Bethel 73.47 330 P **P** **15 15 22.5 +0.1**
baz=97,SNR=155
K15K Wolf Creek Mou 73.48 332 IAMs_20 IAMs_20 15 50 37.1
comp=Z,4µm,21.0s
K15K Wolf Creek Mou 73.48 332 P **P** **15 15 22.0 -0.4**
baz=98
G17K Kiwalik Mounta 73.61 335 P **P** **15 15 22.3 -0.9**
baz=100
FALS False Pass 73.63 324 P **P** **15 15 23.9 +0.5**
FALS False Pass 73.63 324 P **P** **15 15 22.8 -0.6**
baz=94,SNR=55
L14K Kuka Creek 73.89 331 IAmb IAmb 15 15 27.4
comp=Z,80nm,0.9s
L14K Kuka Creek 73.89 331 P **P** **15 15 23.5 -1.3**
baz=97,SNR=37
C19K Lookout Ridge 73.90 339 IAmb IAmb 15 15 26.9
comp=Z,177nm,1.2s
C19K Lookout Ridge 73.90 339 P **P** **15 15 24.0 -0.9**
baz=102
E18K Tukpahlearik C 73.93 337 P **P** **15 15 23.8 -1.3**
baz=100
MORF Marmelete 73.97 54 *e*P **P** **15 15 25.7 -0.2**
MORF Marmelete 73.97 54 *e*LR LR 15 38 58.2
comp=Z,7µm,22.0s
MORF Marmelete 73.97 54 *e*P **P** **15 15 25.2 -0.6**
MORF pmax pmax
comp=Z,18nm,0.7s
MORF Marmelete 73.97 54 *e*P **P** **15 15 25.3 -0.6**
MORF IAmb IAmb 15 15 26.4
comp=Z,18nm,0.7s
F17K Baldwin Pennin 74.01 336 IAMs_20 IAMs_20 15 51 36.8
comp=Z,6µm,20.0s
F17K Baldwin Pennin 74.01 336 P **P** **15 15 24.4 -1.1**
baz=100
PCAS Casmilo, Conde 74.03 51 *e*P **P** **15 15 25.7 -0.5**
PCAS Casmilo, Conde 74.03 51 *e*LR LR 15 39 00.8
comp=Z,9µm,18.0s
PNCL Nicolau / Gran 74.04 53 *e*LR LR 15 38 29.4
comp=Z,6µm,22.0s
M13K Dall Lake 74.11 330 IAMs_20 IAMs_20 15 51 57.8
comp=Z,5µm,22.0s
M13K Dall Lake 74.11 330 P **P** **15 15 25.4 -0.7**
baz=96
H16K Elim 74.13 334 P **P** **15 15 25.8 -0.4**
baz=98,SNR=114
PGAV Gavieira, Arco 74.18 49 *e*LR LR 15 40 57.3
comp=Z,5µm,20.0s
PMTG Montargil 74.26 52 *e*P **P** **15 15 25.2 -2.3**
ASCN Ascension 74.26 101 IAMs_20 IAMs_20 15 45 40.9
comp=Z,3µm,21.0s
G16K Koyuk River 74.29 335 IAMs_20 IAMs_20 15 52 44.7
comp=Z,5µm,19.0s
G16K Koyuk River 74.29 335 P **P** **15 15 26.4 -0.8**
baz=98
MESJ Messejana 74.29 54 *e*P **P** **15 15 27.4 -0.3**
E17K Hotham Inlet 74.34 337 P **P** **15 15 26.3 -1.1**
baz=99,SNR=164
C18K Utukok River 74.38 338 IAMs_20 IAMs_20 15 51 49.3
comp=Z,5µm,21.0s
C18K Utukok River 74.38 338 P **P** **15 15 26.5 -1.1**
baz=100
EVO Evora 74.44 53 *e*P **P** **15 15 27.3 -1.3**
PCVE Castro Verde 74.44 54 *e*LR LR 15 39 12.4
comp=Z,7µm,18.0s
J14K Nanvaranak Lak 74.47 332 IAMs_20 IAMs_20 15 54 46.0
comp=Z,4µm,19.0s
J14K Nanvaranak Lak 74.47 332 P **P** **15 15 27.8 -0.4**
baz=96,SNR=113
PVIS Viseu 74.48 51 *e*P **P** **15 15 25.9 -2.9**
PBDV Barranco-do-Ve 74.54 54 *e*LR LR 15 39 12.2
comp=Z,7µm,24.0s
PVAQ Vaqueiros 74.71 54 *e*P **P** **15 15 30.6 +0.5**
B18K Kokolik River 74.72 339 P **P** **15 15 28.6 -1.0**
baz=100
MTE Manteigas 74.75 51 *e*P **P** **15 15 28.2 -2.2**
comp=Z,44nm,1.5s
MTE Manteigas 74.75 51 *e*LR LR 15 39 23.1
comp=Z,8µm,18.0s
PESTR Estremoz 74.76 53 *e*P **P** **15 15 30.0 -0.4**
comp=Z,28nm,1.3s
PCBR Castelo Branco 74.82 52 *e*P **P** **15 15 28.5 -2.2**
PMRV Marv??o 74.90 52 *e*P **P** **15 15 30.3 -0.9**
PMRV Marv??o 74.90 52 *e*LR LR 15 39 19.7
comp=Z,5µm,20.0s
G15K Niukluk 74.94 335 P **P** **15 15 30.7 -0.2**
baz=96
C17K DeLong Mountai 75.07 338 P **P** **15 15 30.4 -1.2**
baz=98
MVO Moncorvo 75.13 50 *e*P **P** **15 15 31.8 -0.8**
MVO Moncorvo 75.13 50 *e*LR LR 15 39 38.7
comp=Z,4µm,22.0s
PBAR Barrancos 75.22 53 *e*P **P** **15 15 32.4 -0.7**
PBAR Barrancos 75.22 53 *e*LR LR 15 39 09.1
comp=Z,5µm,20.0s
F15K North Star Dit 75.28 335 IAmb IAmb 15 15 34.6
comp=Z,159nm,0.9s
F15K IAMs_20 IAMs_20 15 52 53.3
comp=Z,5µm,20.0s
F15K North Star Dit 75.28 335 P **P** **15 15 32.6 -0.3**
baz=96
UNV Unalaska Valle 75.38 323 P **P** **15 15 35.3 +1.7**
UNV Unalaska Valle 75.38 323 P **P** **15 15 34.1 +0.5**
baz=91,SNR=27
ANM Nome 75.46 334 IAMs_20 IAMs_20 15 53 18.3
comp=Z,4µm,19.0s
ANM Nome 75.46 334 P **P** **15 15 33.5 -0.5**
baz=95,SNR=52
M11K Mekoryuk 75.52 330 P **P** **15 15 34.5 +0.2**
baz=93,SNR=5.9
C16K Lisburne Hills 75.84 338 IAmb IAmb 15 15 37.5
comp=Z,203nm,1.0s
C16K Lisburne Hills 75.84 338 P **P** **15 15 35.0 -0.9**
baz=96
JMIC Jan Mayen 75.95 19 LR LR 15 48 43.0
comp=Z,3µm,20.4s,baz=263,slow=36
F14K Arctic Creek 75.95 335 P **P** **15 15 36.6 -0.2**
baz=94
TNA Tin City 76.62 335 P **P** **15 15 39.9 -0.6**
baz=93,SNR=31
NIKH Nikolski High 76.78 322 P **P** **15 15 42.9 +1.3**
NIKH Nikolski High 76.78 322 P **P** **15 15 41.8 +0.2**
baz=89,SNR=6.0
P08K Saint George I 77.16 326 P **P** **15 15 43.3 -0.4**
baz=90
PMSA Palmer Station 77.28 170 ⇑P **P** **15 15 43.2 -0.8**
PMSA Palmer Station 77.28 170 LR LR 15 44 17.7
comp=Z,2µm,18.1s,baz=348,slow=31
GUD Guadarrama 77.33 51 P P 15 15 41.9 -3.3
HOPE Hope Point 77.40 153 IAMs_20 IAMs_20 15 51 06.2
comp=Z,4µm,20.0s
CLES Cleveland East 77.41 322 IAMs_20 IAMs_20 15 45 52.9
comp=Z,3µm,20.0s
EKA Eskdalemuir Ar 77.45 36 P P 15 15 40.8 -4.6
comp=Z,3.1nm,0.6s,baz=259,slow=6.1,SNR=12
MDT Midelt 77.53 59 LR LR 15 46 06.4
comp=Z,11µm,19.7s,baz=314,slow=33
ESDC Sonseca Array 77.53 52 P P 15 15 43.0 -3.3
comp=Z,14nm,0.9s,baz=282,slow=5.7,SNR=14
ESDC LR LR 15 48 25.9
comp=Z,7µm,18.1s,baz=254,slow=35
comp=Z,14nm,0.9s
ESBB Sonseca Array 77.53 52 P P 15 15 41.8 -4.4
SPIA Saint Paul Isl 77.54 326 P **P** **15 15 47.5 +1.7**
SPIA Saint Paul Isl 77.54 326 P **P** **15 15 44.9 -0.9**
baz=89
GAMB Gambell 78.20 333 P **P** **15 15 48.8 -0.6**
baz=89,SNR=8.8
SMAI San Martin Ant 79.99 173 P **P** **15 15 59.7 +0.8**
ATKA Atka Island 80.07 321 IAmb IAmb 15 16 02.1
comp=Z,199nm,0.9s
ATKA IAMs_20 IAMs_20 15 47 52.3
comp=Z,3µm,22.0s
ATKA Atka Island 80.07 321 P **P** **15 16 01.1 +1.3**
TIC Toumodi 80.54 85⇑*e*P P 15 15 59.4 -3.8
comp=Z,71nm,1.0s
LIC Lamto 80.60 85⇑*i*P **P** **15 16 00.6 -2.9**
comp=Z,96nm,0.8s
DBIC Dimbokro 80.70 85 P P 15 16 00.8 -3.2
DBIC Dimbokro 80.70 85 P **P** **15 16 01.2 -2.8**
comp=Z,31nm,1.0s,baz=278,slow=5.6,SNR=14
DBIC LR LR 15 50 49.8
comp=Z,2µm,19.9s,baz=268,slow=35
comp=Z,31nm,1.0s
KIC Kosan Boka 80.86 85⇓*e*P P 15 16 01.4 -3.5
comp=Z,42nm,0.8s
ADK Adak 81.63 321 P **P** **15 16 08.0 -0.2**
ADK Adak 81.63 321 IAMs_20 IAMs_20 15 48 43.6
comp=Z,3µm,22.0s
ADK Adak 81.63 321 P **P** **15 16 09.3 +1.1**
ADK Adak 81.63 321 P **P** **15 16 08.0 -0.2**
SPITS Spitsbergen Ar 82.11 12 P **P** **15 16 08.9 -1.4**
comp=Z,22nm,1.0s,baz=245,slow=15,SNR=3.1
SPITS LR LR 15 54 30.1
comp=Z,7µm,18.7s,baz=220,slow=37
comp=Z,22nm,1.0s
SHEL Horse Pasture 84.31 107 IAMs_20 IAMs_20 15 51 33.5
comp=Z,3µm,21.0s
NB2 NORSAR Subarra 84.37 29 P P 15 16 18.7 -3.6
comp=Z,19nm,1.2s,baz=282,slow=4.8
NB2 NORSAR Subarra 84.37 29 P P 15 16 18.7 -3.6
baz=282,slow=4.8
NOA NORSAR Array B 84.37 29 P P 15 16 19.0 -3.3
comp=Z,3.9nm,1.0s,baz=284,slow=4.9,SNR=3.7
NOA LR LR 15 52 21.9
comp=Z,4µm,19.4s,baz=280,slow=35
comp=Z,3.9nm,1.0s
HFS Hagfors 85.77 30 P P 15 16 25.9 -3.3
comp=Z,3.3nm,0.8s,baz=311,slow=7.7,SNR=4.7
HFS LR LR 15 50 36.6
comp=Z,5µm,21.8s,baz=285,slow=33
comp=Z,3.3nm,0.8s
TORD Torodi Ar. Bea 85.95 77 IAMs_20 IAMs_20 15 55 20.0
comp=Z,3µm,19.0s
TORD Torodi Ar. Bea 85.95 77 P P 15 16 26.9 -4.2
comp=Z,3.3nm,0.7s,baz=305,slow=6.2,SNR=3.8
TORD PKKPbc **PKKPbc** **15 34 33.3 +2.1**
comp=Z,1.4nm,0.7s,baz=46,slow=3.9,SNR=7.6
TORD PKPPKP **P'P'df** **15 42 41.6 +1.1**
comp=Z,2.1nm,1.1s,baz=49,slow=2.7,SNR=5.6
TUE Stuetta 86.30 44 P P 15 16 29.0 -3.5
BILL Bilibino 86.32 339 P **P** **15 16 30.4 -1.4**
BILL IAmb IAmb 15 16 32.8
comp=Z,59nm,0.9s
BILL Bilibino 86.32 339 *i* P **P** **15 16 31.2 -0.6**
BILL pmax pmax
comp=Z,67nm,1.0s
BILL MLR MLR
comp=Z,6µm,23.0s
DAVA Damuels 86.49 43 *e*P **P** **15 16 30.8 -2.5**
comp=Z,6.9nm,0.6s
DAVOX Davos/Dischmat 86.59 43 LR LR 15 50 27.5
comp=Z,6µm,20.6s,baz=260,slow=32
RETA Reutte 87.03 42 *i* P **P** **15 16 33.2 -2.6**
comp=Z,1.2nm,0.3s
SHEM Shemya Is, Ala 87.04 323 LR LR 15 52 43.4
comp=Z,1µm,21.7s,baz=101,slow=34
FETA Feichten 87.11 43 *e*P **P** **15 16 33.7 -2.7**
comp=Z,2.9nm,0.7s
ARCES ARCESS Array B 87.44 19 P **P** **15 16 35.5 -1.7**
comp=Z,4.5nm,0.9s,baz=289,slow=3.7,SNR=8.0
ARCES LR LR 15 55 28.1
comp=Z,3µm,18.5s,baz=284,slow=36
comp=Z,4.5nm,0.9s
NKC Novy Kostel 87.48 39 P P 15 16 35.0 -2.9
NKC Novy Kostel 87.48 39 AMS AMS 15 51 30.0
comp=Z,8µm,23.8s
CLL Collm 87.57 38 *e*P **P** **15 16 37.0 -1.2**
CLL *i* *PP **sP** **15 16 45.6 +1.8**
CLL MLR MLR
comp=Z,4µm,20.4s
VSL Villasalto 87.76 50 IAMs_20 IAMs_20 15 55 25.6
comp=Z,4µm,18.0s
TAM Tamanrasset 87.80 67 IAMs_20 IAMs_20 15 51 23.9
comp=Z,3µm,20.0s
KEV Kevo 87.82 19 IAMs_20 IAMs_20 15 54 12.2
comp=Z,4µm,21.0s
HSKC Hora Svate Kat 88.00 39 AMS AMS 15 55 00.0
comp=Z,6µm,21.4s
BRG Berggiesshubel 88.25 39 *e*P P 15 16 49.5 +8.0
BRG Amp 15 16 50.5
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 88.25 39 *e*P P 15 16 49.5 +8.0
BRG 15 16 55.9
BRG 15 17 01.7
BRG pmax pmax
comp=Z,8.0nm,1.1s
CIMO Cimolais 88.42 43 P **P** **15 16 40.8 -1.7**
CIMO IAmb IAmb 15 17 11.2
comp=Z,24nm,1.2s
RICC Richard 88.43 39 AMS AMS 15 52 20.0
comp=Z,5µm,11.4s
KHC Kasperske Hory 88.47 40*ce*P **P** **15 16 40.2 -2.5**
KHC pmax pmax
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 88.47 40 *e*P P 15 16 38.7 -4.0
KHC AMS AMS 15 57 30.0
comp=Z,6µm,13.8s
KEST Kesra 88.53 54 P **P** **15 16 41.5 -1.8**
comp=Z,4.2nm,0.9s,baz=49,slow=11,SNR=1.8
KEST LR LR 15 51 29.6
comp=Z,5µm,21.8s,baz=232,slow=32
comp=Z,4.2nm,0.9s
GERES GERESS Array B 88.62 41 LR LR 15 52 54.7
comp=Z,4µm,19.5s,baz=268,slow=33
PVCC Panska Ves 88.72 39 AMS AMS 15 52 00.0
comp=Z,5µm,21.7s
PRA Prague 88.76 39 AMS AMS 15 55 30.0
comp=Z,9µm,19.6s
ZVC Zvikov 88.78 40 AMS AMS 15 54 50.0
comp=Z,7µm,19.8s
PRU Pruhonice 88.85 39 AMS AMS 15 55 30.0
comp=Z,9µm,16.8s
GOPC GO Pecny, Ondr 89.02 39 AMS AMS 15 55 30.0
comp=Z,10µm,21.4s
CESX Cesi 89.41 47 IAMs_20 IAMs_20 15 57 38.4
comp=Z,3µm,19.0s
UPC Upice 89.62 39 AMS AMS 15 53 00.0
comp=Z,6µm,23.4s
CHVC Chvalec 89.62 38 AMS AMS 15 52 30.0
comp=Z,4µm,22.7s
TREC Trest 89.63 40 AMS AMS 15 55 30.0
comp=Z,7µm,21.0s
OSTC Ostas 89.73 38 AMS AMS 15 52 40.0
comp=Z,5µm,22.9s
GUMA Gualdo di Mace 89.84 46 IAMs_20 IAMs_20 15 55 01.5
comp=Z,7µm,19.0s
DPC Dobruska-Polom 89.85 39 *e*P **P** **15 16 46.8 -2.3**
DPC MLR MLR
comp=Z,6µm,11.5s
DPC Dobruska-Polom 89.85 39 *e*P **P** **15 16 46.8 -2.3**
DPC AMS AMS 15 56 30.0
comp=Z,6µm,11.5s
KRLC Kraliky 90.21 39 AMS AMS 15 53 30.0
comp=Z,7µm,23.0s
VRAC Vranov 90.32 40 LR LR 15 56 31.9
comp=Z,6µm,18.9s,baz=274,slow=35
INTR Introdacqua 90.52 47 IAMs_20 IAMs_20 15 53 32.4
comp=Z,4µm,21.0s
KLNR Kaliningrad 90.77 34 *i* P P 15 16 48.9 -4.3
KLNR pmax pmax
comp=Z,314nm,1.8s
KLNR MLR MLR
comp=Z,5µm,19.0s
APA Apatity 90.92 19⇓*i*P P 15 16 50.0 -3.7
APA pmax pmax
comp=Z,8.0nm,1.3s
FINES FINESS Array B 91.05 26 LR LR 15 53 45.8
comp=Z,7µm,21.9s,baz=280,slow=33
OKC Ostrava-Krasne 91.13 39 AMS AMS 15 55 00.0
comp=Z,7µm,18.7s
SGRT San Giovanni R 91.91 47 IAMs_20 IAMs_20 15 58 47.2
comp=Z,4µm,20.0s
VAE Valguarnera 92.07 51 LR LR 15 56 45.2
comp=Z,7µm,18.5s,baz=166,slow=35
WDD Wied Dalam 92.59 53 IAMs_20 IAMs_20 15 52 12.5
comp=Z,2µm,22.0s
CEL Celeste 92.99 50 IAMs_20 IAMs_20 15 56 32.0
comp=Z,4µm,19.0s
BELA Belgrano 2 93.13 170 P **P** **15 17 04.6 +1.0**
BELA IAmb IAmb 15 17 14.4
comp=Z,58nm,1.4s
BELA IAMs_20 IAMs_20 15 57 21.5
comp=Z,2µm,18.0s
SEY Seymchan 93.76 337*ce*P **P** **15 17 06.8 -0.1**
SEY pmax pmax
comp=Z,20nm,0.9s
SEY MLR MLR
comp=Z,4µm,24.0s
SEY Seymchan 93.76 337 LR LR 16 06 25.4
comp=Z,3µm,18.9s,baz=54,slow=40
SCTE Santa Cesarea 94.37 48 IAMs_20 IAMs_20 16 00 55.5
comp=Z,3µm,18.0s
TIXI Tiksi 94.38 349*ce*P **P** **15 17 07.7 -1.8**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI MLR MLR
comp=Z,2µm,22.0s
TIXI Tiksi 94.38 349 LR LR 16 02 03.6
comp=Z,168nm,21.3s,baz=106,slow=37
PUK Puka 94.77 46 IAMs_20 IAMs_20 15 56 44.0
comp=Z,3µm,19.0s
MNK Minsk 94.92 32 *i* P P 15 17 08.2 -4.2
MNK *i* 15 20 56.1
MNK *i* PPP PPP 15 22 57.7
MNK *i* S **SKSac** **15 27 40.5 -7.3**
MNK *i* PS **PS** **15 29 39.1 -4.9**
MNK *i* SS **SS** **15 34 43.1 -7.3**
MNK *i* SSS SSS 15 38 25.5
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,21nm,1.0s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=N,2µm,17.0s
MNK MLR MLR
comp=E,1µm,19.0s
MNK MLR MLR
comp=Z,2µm,16.0s
TIR Tirane 94.98 46 IAMs_20 IAMs_20 15 55 56.4
comp=Z,3µm,21.0s
KEK Kerkira 95.46 48 IAMs_20 IAMs_20 15 56 38.2
comp=Z,3µm,20.0s
PET Petropavlovsk 95.72 327 P **P** **15 17 15.8 -0.3**
PET IAMs_20 IAMs_20 16 06 54.4
comp=Z,2µm,20.0s
PET Petropavlovsk 95.72 327 *e*P **P** **15 17 17.0 +1.0**
PET *e* 15 21 10.3
PET *e*S **S** **15 28 30.9 -2.4**
PET *e*SS **SS** **15 35 11.7 +10**
PET pmax pmax
comp=Z,50nm,1.0s
PET pmax pmax
comp=Z,500nm,17.3s
PET pmax pmax
comp=Z,600nm,14.4s
PET pmax pmax
comp=Z,700nm,9.7s
PET MLR MLR
comp=Z,2µm,20.0s
KBN Korca 95.88 47 IAMs_20 IAMs_20 15 55 56.3
comp=Z,3µm,21.0s
VNA3 Neumayer Olymp 96.02 162 ⇑P **P** **15 17 18.0 +1.0**
comp=Z,16nm,0.8s
VNA3 ⇑PKKPdf **PKKPbc** **15 34 04.2 -3.7**
comp=Z,5.7nm,0.8s
PEA0B Petropavlovsk- 96.19 327 IAmb IAmb 15 17 30.2
comp=Z,71nm,1.2s
PEA0B IAMs_20 IAMs_20 16 07 38.8
comp=Z,2µm,21.0s
PEA0B Petropavlovsk- 96.19 327*ce*P **P** **15 17 18.6 +0.3**
PETK Petropavlovsk- 96.19 327 P **P** **15 17 18.1 -0.2**
comp=Z,30nm,0.9s,baz=87,slow=6.4,SNR=21
comp=Z,30nm,0.9s
MA2 Magadan 96.25 334 IAMs_20 IAMs_20 16 04 37.8
comp=Z,2µm,21.0s
MA2 Magadan 96.25 334*ce*P **P** **15 17 18.7 +0.3**
MA2 pmax pmax
comp=Z,17nm,1.0s
MA2 Magadan 96.25 334 LR LR 16 05 00.8
comp=Z,2µm,21.8s,baz=55,slow=38
VNA1 Neumayer--Stat 96.31 161 ⇑PKKPdf PKKPdf 15 34 01.5 -6.7
comp=Z,22nm,0.9s
VNA2 Neumayer--Watz 96.65 161 ⇑P **P** **15 17 19.9 +0.1**
comp=Z,7.4nm,0.6s,baz=310,slow=5.0
VNA2 ⇑PKKPdf **PKKPbc** **15 34 02.8 -3.4**
comp=Z,11nm,0.7s,baz=90,slow=3.0
KLMR Klimovskoe 96.93 23 *e*P P 15 17 17.9 -3.5
KLMR *e* 15 21 13.0
KLMR pmax pmax
comp=Z,13nm,1.6s
AKASG Malin Array Be 97.36 35 LR LR 16 02 10.6
comp=Z,3µm,18.3s,baz=269,slow=36
CTZ Chatham Island 97.40 227 IAMs_20 IAMs_20 15 59 22.9
comp=Z,3µm,18.0s
MLR Muntele Rosu 97.60 41 LR LR 15 58 14.1
comp=Z,4µm,20.6s,baz=286,slow=34
SNAA Sanae 98.24 161 IAMs_20 IAMs_20 15 58 39.2
comp=Z,2µm,20.0s
SNAA Sanae 98.24 161 ⇑PKKPdf **PKKPbc** **15 33 58.7 -3.1**
comp=Z,102nm,0.9s
SNAA ⇑Pdiff **P** **15 17 27.8 +0.8**
comp=Z,104nm,0.9s
SNAA Sanae 98.24 161 P **P** **15 17 27.7 +0.6**
comp=Z,4.4nm,0.9s,baz=246,slow=7.4,SNR=6.0
comp=Z,4.4nm,0.9s
OBN Obninsk 98.97 29 *e*P **P** **15 17 28.4 -2.3**
OBN *e* 15 21 28.6
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 98.97 29 LR LR 16 03 44.1
comp=Z,3µm,18.1s,baz=293,slow=36
RDO Rodhopi 99.05 45 IAMs_20 IAMs_20 16 00 06.0
comp=Z,3µm,21.0s
ALN Alexandroupoli 99.50 45 IAMs_20 IAMs_20 15 55 53.1
comp=Z,2µm,20.0s
NRIK Noril'sk 99.92 2*ce*P **Pdif** **15 17 34.6 0.0**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
NRIK MLR MLR
comp=Z,4µm,22.0s
NRIK Noril'sk 99.92 2 LR LR 16 03 35.2
comp=Z,4µm,21.2s,baz=2.0,slow=36
TROLL Troll, Antarti 99.95 162 ⇑PKKPdf **PKKPbc** **15 33 54.1 -2.9**

comp=Z,295nm,0.8s
TROLL ⇑Pdiff **Pdif** **15 17 36.4 +1.6**
comp=Z,417nm,0.8s
QSPA South Pole Qui 100.81 180 P **Pdif** **15 17 41.4 +2.8**
comp=Z,1.9nm,0.8s,baz=123,slow=3.2,SNR=5.2
YAK Yakutsk 102.05 343 IAMs_20 IAMs_20 16 09 46.4
comp=Z,3μm,21.0s
YAK Yakutsk 102.05 343 *e*P **Pdif** **15 17 44.1 -0.1**
YAK *e* 15 21 50.5
YAK *e*PPP PPP 15 24 01.5
YAK *e*S **SKSac** **15 28 22.9 -0.6**
YAK *e*SS **SS** **15 36 30.9 +1.4**
YAK *e*SSS SSS 15 40 13.4
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=N,1.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.5s
YAK pmax pmax
comp=Z,362nm,6.6s
YAK pmax pmax
comp=N,95nm,3.2s
YAK pmax pmax
comp=E,77nm,3.0s
YAK smax smax
comp=E,119nm,4.7s
YAK smax smax
comp=N,114nm,3.0s
KARP Karpathos 102.40 50 IAMs_20 IAMs_20 16 03 19.2
comp=Z,3μm,20.0s
TOZ Tahuroa Road 102.76 234 IAMs_20 IAMs_20 15 54 35.7
comp=Z,3μm,20.0s
BHW Baring Head 103.45 230 IAMs_20 IAMs_20 15 56 35.7
comp=Z,2μm,20.0s
ISP Isparta 103.93 47 IAMs_20 IAMs_20 16 04 03.9
comp=Z,2μm,20.0s
SBA Scott Base 104.01 192 IAMs_20 IAMs_20 15 55 49.3
comp=Z,2μm,20.0s
KHZ Kahutara 104.48 229 IAMs_20 IAMs_20 15 56 57.4
comp=Z,2μm,20.0s
ANTO Ankara 104.59 44 IAMs_20 IAMs_20 16 06 00.9
comp=Z,3μm,18.0s
VNDA Vanda 105.11 192 IAMs_20 IAMs_20 15 58 47.4
comp=Z,1.6nm,0.8s,baz=131,slow=4.8,SNR=7.1
BRTR Keskin Array B 105.23 44 PKKPbc PKKPbc 15 33 40.8 +0.4
ELIB Princess Elisa 106.37 162 *d*PP PP 15 22 36.3 +8.6
YSS Yuzh-Sakhalins 107.60 327 IAMs_20 IAMs_20 16 17 06.0
comp=Z,2μm,20.0s
GAZ Gaziantep 108.93 45 IAMs_20 IAMs_20 16 09 03.6
comp=Z,2μm,18.0s
JKA Kamikawa-asahi 109.44 325 IAMs_20 IAMs_20 16 15 10.5
comp=Z,2μm,20.0s
DZM Mont Dzumac 109.60 250 *e*P **Pdif** **15 18 15.0 -3.8**
comp=Z,73nm,25.1s
MMAI Mount Meron Ar 109.65 49 PKKPbc PKKPbc 15 33 29.2 +2.9
comp=Z,1.1nm,0.4s,baz=105,slow=13,SNR=4.3
ERM Erimo 110.39 323 IAMs_20 IAMs_20 16 11 30.1
comp=Z,2μm,22.0s
JEM Erimo 110.39 323 IAMs_20 IAMs_20 16 17 29.5
comp=Z,2μm,20.0s
KLR Kul'dur 111.35 334*c* *i*PKIKP **PKiKP** **15 22 24.3 0.0**
KLR pmax pmax
comp=Z,9.0nm,1.7s
KLR MLR MLR
comp=Z,1μm,20.0s
GURO Guroymak-BITLI 111.41 41 IAMs_20 IAMs_20 16 11 57.3
comp=Z,1μm,19.0s
AKTO Aktyubinsk 111.64 23 PKiKP **PKiKP** **15 22 24.2 -0.6**
comp=Z,2.7nm,0.8s,baz=291,slow=3.1,SNR=3.3
MAK Makhachkala 112.03 35 *i* P **Pdif** **15 18 24.4 -4.7**
MAK *i* 15 22 24.0
MAK *e* 15 23 04.8
MAK *e* 15 28 59.7
MAK *e*PS **PS** **15 32 40.3 -2.1**
MAK *e*SS SS 15 38 37.4 -8.6
MAK pmax pmax
comp=Z,354nm,1.6s
GNI Garni 112.18 38 IAMs_20 IAMs_20 16 11 48.5
comp=Z,2μm,20.0s
HEH HeiHe 112.31 337 Pdif **Pdif** **15 18 28.8 -1.4**
HEH PP **PP** **15 23 15.0 +4.6**
HEH AMB AMB
comp=Z,350nm,6.6s
HEH LR LR
comp=Z,1μm,23.1s
HEH LR LR
comp=Z,2μm,22.4s
HEH LR LR
comp=Z,3μm,20.5s
JTM Tenmabayashi 112.39 323 IAMs_20 IAMs_20 16 13 18.8
comp=Z,2μm,22.0s
BRVK Borovoye 113.36 15*c* *i*PKIKP **PKiKP** **15 22 27.5 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BVAR Borovoye Array 113.42 15 PKiKP **PKiKP** **15 22 27.2 -1.0**
comp=Z,2.4nm,0.7s,baz=342,slow=2.3,SNR=7.2
BVAR PKKPbc **PKKPbc** **15 33 12.3 -2.2**
comp=Z,1.6nm,0.8s,baz=126,slow=2.6,SNR=7.0
BOSA Boshof 114.24 117 PKP PKPdf 15 22 30.4 -0.1
comp=Z,21nm,0.8s,baz=280,slow=2.1,SNR=29
BOSA PKKPbc **PKKPbc** **15 33 12.8 +1.8**
comp=Z,4.1nm,0.8s,baz=118,slow=4.3,SNR=4.9
JMM Marumori 114.35 320 IAMs_20 IAMs_20 16 04 38.8
comp=Z,2μm,22.0s
SOE Somerset East 114.38 121 IAMs_20 IAMs_20 15 54 34.5
comp=Z,1μm,19.0s
HNR Honiara 114.59 265 IAMs_20 IAMs_20 16 02 21.3
comp=Z,2μm,20.0s
USA0B Ussuriysk Arra 115.00 330 IAMs_20 IAMs_20 16 22 25.0
comp=Z,2μm,19.0s
USRK Ussuriysk Ar. 115.00 330 PKIKP **PKiKP** **15 22 32.0 +0.6**
USRK Ussuriysk Ar. 115.00 330 PKP **PKiKP** **15 22 32.0 +0.6**
comp=Z,11nm,0.9s,baz=310,slow=0.9,SNR=7.7
ZAA0 Zalesovo Array 115.06 6 IAMs_20 IAMs_20 16 16 53.6
comp=Z,2μm,21.0s
ZALV Zalesovo Beam 115.06 6 PKP **PKiKP** **15 22 30.3 -1.0**
comp=Z,4.1nm,0.7s,baz=250,slow=2.4,SNR=6.5
ZALV PKKPbc **PKKPbc** **15 33 12.3 +3.4**
comp=Z,0.6nm,0.5s,baz=149,slow=3.5,SNR=4.0
MDJ Mudanjiang 115.82 332 Pdif **Pdif** **15 18 46.8 +0.9**
MDJ PP **PP** **15 23 35.6 +0.1**
MDJ AMB AMB
comp=Z,490nm,12.0s
MDJ LR LR
comp=Z,610nm,24.2s
MDJ LR LR
comp=Z,1μm,23.9s
MDJ LR LR
comp=Z,2μm,23.4s
MDJ Mudanjiang 115.82 332 IAMs_20 IAMs_20 16 20 33.3
comp=Z,2μm,21.0s
BNX BinXian 115.92 334 ⇑PKP **PKiKP** **15 22 32.9 -0.3**
LSZ Lusaka 116.51 102 IAMs_20 IAMs_20 16 10 03.8
comp=Z,3μm,21.0s
MSHR Mys Shultsa 116.60 330 *i* PKIKP **PKPdf** **15 22 35.3 +0.7**
MSHR pmax pmax
comp=Z,15nm,1.1s
MSHR MLR MLR
comp=Z,837nm,24.0s
MJAR Matsushiro Arr 116.78 321 PKP **PKPdf** **15 22 35.1 0.0**
comp=Z,6.7nm,1.0s,baz=19,slow=1.4,SNR=5.4
MJAR PKKPbc **PKKPbc** **15 33 02.4 0.0**
comp=Z,2.1nm,0.8s,baz=205,slow=4.0,SNR=2.6
MAJO Matsushiro 116.78 321 IAMs_20 IAMs_20 16 05 09.6
comp=Z,2μm,22.0s
KURK Kurchatov 117.37 11 PKPdf **PKPdf** **15 22 34.6 -1.2**
KURK Kurchatov 117.37 11*c* *i*PKIKP **PKPdf** **15 22 35.6 -0.2**
KURK pmax pmax
comp=Z,25nm,2.5s
KURBB Kurchatov Arra 117.44 11 PKP **PKPdf** **15 22 35.0 -1.0**
comp=Z,6.3nm,0.8s,baz=345,slow=2.1,SNR=27
KURBB PKKPbc **PKKPbc** **15 32 59.1 -1.4**
comp=Z,1.8nm,0.8s,baz=173,slow=3.1,SNR=17
JSG Sagara 117.97 319 IAMs_20 IAMs_20 16 09 47.2
comp=Z,1μm,21.0s
CN2 Changchun 118.31 334 *e*PKP PKPdf 15 22 31.1 -6.7
CN2 *e*PP **PP** **15 23 51.8 -0.9**
CN2 AMB AMB
comp=Z,400nm,8.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,2μm,21.0s
DGZ Jazzator, Alta 119.50 4 *i* PKIKP **PKPdf** **15 22 40.2 0.0**
ULN Ulaanbaatar 120.32 349 **PKPdf** **15 22 41.1 -0.7**
ULN Ulaanbaatar 120.32 349 *i* PKIKP **PKPdf** **15 22 40.0 -1.8**
SONM Songino Array 120.46 350 PKP **PKPdf** **15 22 41.5 -0.5**
comp=Z,11nm,0.8s,baz=298,slow=0.4,SNR=12
SONM PKKPbc **PKKPbc** **15 32 47.9 -1.7**
comp=Z,2.2nm,0.9s,baz=176,slow=3.7,SNR=7.6
LODK Lodwar 120.53 80 IAMs_20 IAMs_20 16 17 14.9
comp=Z,2μm,20.0s
SNY Shenyang 120.71 334 ⇑PKP **PKPdf** **15 22 43.1 +0.6**
SNY PP **PP** **15 24 11.1 +1.8**
SNY SKS **SKSdf** **15 29 50.3 -4.2**
SNY SS **SKKSdf** **15 40 33.6 +0.5**
SNY AMB AMB
comp=Z,250nm,6.9s
SNY LR LR
comp=Z,1μm,19.4s
SNY LR LR
comp=Z,1μm,22.0s
SNY LR LR
comp=Z,2μm,24.7s
JMN Monobe 121.31 321 IAMs_20 IAMs_20 16 22 06.2
comp=Z,2μm,22.0s
GEYT Alibeck 121.33 32 PKP **PKPdf** **15 22 42.7 -1.2**
comp=Z,11nm,0.7s,baz=270,slow=5.6,SNR=22
ZSN Zaisan 121.48 7 *e*PKIKP **PKPdf** **15 22 42.5 -1.4**
ZSN Zaisan 121.48 7 *e*PKP **PKPdf** **15 22 42.5 -1.4**
baz=7.4
BTLS Baital 121.70 16 *e*PKIKP **PKPdf** **15 22 43.5 -0.8**
BTLS Baital 121.70 16 *e*PKP **PKPdf** **15 22 43.6 -0.8**
baz=16
MAKZ Makanchi 121.72 9 PKPdf **PKPdf** **15 22 42.4 -2.0**
MAKZ Makanchi 121.72 9 PKIKP **PKPdf** **15 22 42.4 -2.0**
XLT XiLinHaoTe 121.75 341 *e*PKP **PKPdf** **15 22 44.8 +0.2**
XLT PP **PP** **15 24 22.0 +5.7**
XLT LR LR
comp=Z,2μm,21.7s
XLT LR LR
comp=Z,3μm,24.1s
MK31 Makanchi Array 121.78 9 **PKPdf** **15 22 42.5 -2.0**
MK31 Makanchi Array 121.78 9*c* *i*PKIKP **PKPdf** **15 22 43.6 -0.9**
MKAR Makanchi Array 121.78 9 PKPdf **PKPdf** **15 22 42.3 -2.2**
MKAR Makanchi Array 121.78 9 PKP **PKPdf** **15 22 42.5 -2.0**
comp=Z,4.1nm,0.7s,baz=339,slow=2.9,SNR=16
MKAR PKKPbc **PKKPbc** **15 32 43.4 -1.1**
comp=Z,0.5nm,0.8s,baz=142,slow=6.0,SNR=4.6
KSRS Korea Array 122.08 328 PKP **PKPdf** **15 22 45.9 +0.6**
comp=Z,51nm,0.9s,baz=17,slow=1.1,SNR=42
KSRS PKKPbc **PKKPbc** **15 32 41.7 -1.3**
comp=Z,0.8nm,0.9s,baz=246,slow=3.0,SNR=4.3
INCN Inchon 122.72 329 **PKPdf** **15 22 46.4 -0.2**
INCN Inchon 122.72 329 IAMs_20 IAMs_20 16 23 14.0
comp=Z,2μm,20.0s
INCN Inchon 122.72 329 PKIKP **PKPdf** **15 22 46.4 -0.2**
CHM Chimkent 122.78 21 *e*PKIKP **PKPdf** **15 22 45.8 -0.7**
CHM Chimkent 122.78 21 *e*PKP **PKPdf** **15 22 45.8 -0.7**
baz=21
CHM LR LR 16 13 28.0
baz=21
TDK Taldyqorghan 122.80 13 *e*PKIKP **PKPdf** **15 22 45.5 -0.9**
TDK MLR MLR
comp=Z,2μm,22.0s
TDK Taldyqorghan 122.80 13 *e*PKP **PKPdf** **15 22 45.6 -0.9**
baz=13
TDK LR LR 16 15 15.6
comp=Z,2μm,22.0s,baz=13
DZA Taraz 122.85 19 *e*PKIKP **PKPdf** **15 22 45.3 -1.3**
DZA Taraz 122.85 19 *e*PKP **PKPdf** **15 22 45.4 -1.3**
baz=19
TJN Taejon 123.18 327*c* *i*PKIKP **PKPdf** **15 22 47.3 -0.1**
SGDS Sogindy 123.33 16*c* *i*PKIKP **PKPdf** **15 22 46.2 -1.4**
SGDS Sogindy 123.33 16⇑ *i*PKP **PKPdf** **15 22 46.3 -1.4**
baz=16
KUU Kurty 123.37 15*d* *i*PKIKP **PKPdf** **15 22 46.4 -1.2**
KUU Kurty 123.37 15⇓ *i*PKP **PKPdf** **15 22 46.5 -1.2**
baz=15
KUU LR LR 16 16 32.5
baz=15
CHKK Chushkaly 123.56 14 *e*PKIKP **PKPdf** **15 22 46.9 -1.1**
CHKK Chushkaly 123.56 14 *e*PKP **PKPdf** **15 22 46.9 -1.1**
baz=14
DL2 Dalian 123.96 334 SS SS 15 41 27.0 +6.8
DL2 AMB AMB
comp=Z,350nm,10.5s
DL2 LR LR
comp=N,1μm,21.2s
DL2 LR LR
comp=E,760nm,20.3s
DL2 LR LR
comp=Z,2μm,21.6s
AAK Ala-Archa 124.05 17 PKP **PKPdf** **15 22 49.0 -0.1**
comp=Z,7.9nm,0.8s,baz=172,slow=1.2,SNR=19
AAA Alma-Ata 124.15 15 *e*PKIKP **PKPdf** **15 22 48.7 -0.5**
AAA Alma-Ata 124.15 15 *e*PKP **PKPdf** **15 22 48.8 -0.5**
baz=15
AAA LR LR 16 17 17.1
baz=15
MDOK Medeo 124.23 14 *i* PKIKP **PKPdf** **15 22 48.6 -0.9**
MDOK MLR MLR
comp=Z,2μm,21.0s
MDOK Medeo 124.23 14 *i* PKP **PKPdf** **15 22 48.6 -0.9**
baz=15
MDOK LR LR 16 17 33.0
comp=Z,2μm,21.5s,baz=15
KPKS Kokpek 124.32 13 *e*PKIKP **PKPdf** **15 22 48.7 -0.8**
KPKS Kokpek 124.32 13 *e*PKP **PKPdf** **15 22 48.8 -0.8**
baz=13
KIBK Kibwezi 124.45 85 IAMs_20 IAMs_20 16 27 12.1
comp=Z,2μm,19.0s
ZHN Zhinishke 124.55 13 *e*PKIKP **PKPdf** **15 22 49.4 -0.6**
ZHN Zhinishke 124.55 13 *e*PKP **PKPdf** **15 22 49.4 -0.6**
baz=14
SATY Saty 124.65 13 *e*PKIKP **PKPdf** **15 22 49.3 -0.9**
SATY Saty 124.65 13 *e*PKP **PKPdf** **15 22 49.3 -0.9**
baz=14
UZB Uzynbulak 124.70 13*d* *i*PKIKP **PKPdf** **15 22 49.7 -0.6**
UZB Uzynbulak 124.70 13⇓ *i*PKP **PKPdf** **15 22 49.8 -0.6**
baz=13
SHLS Shalkode 124.78 12*d* *i*PKIKP **PKPdf** **15 22 50.0 -0.4**
SHLS Shalkode 124.78 12⇓ *i*PKP **PKPdf** **15 22 50.1 -0.4**
baz=12
ATD Arta Tunnel 125.08 68 IAMs_20 IAMs_20 16 22 48.3
comp=Z,2μm,18.0s
BJI Beijing 125.15 339 PKP **PKPdf** **15 22 51.5 +0.4**
BJI PP **PP** **15 24 42.4 +3.2**
BJI AMB AMB
comp=Z,240nm,12.6s
BJI LR LR
comp=Z,830nm,22.6s
BJI LR LR
comp=Z,750nm,18.7s
BJI LR LR
comp=Z,1μm,21.4s
BJT Baijiatuau 125.18 339 IAMs_20 IAMs_20 16 22 03.4
comp=Z,2μm,22.0s
WMQ Urumqi 125.36 5 PKP **PKPdf** **15 22 50.3 -1.2**
WMQ PP **PP** **15 24 41.3 +0.9**
WMQ AMB AMB
comp=Z,530nm,6.3s
WMQ LR LR
comp=Z,5μm,22.9s
WMQ LR LR
comp=Z,2μm,22.9s
WMQ LR LR
comp=Z,4μm,20.7s
HHC Hu-ho-hao-te 125.91 343 *e*PKP **PKPdf** **15 22 52.5 -0.2**
HHC AMB AMB
comp=Z,680nm,11.2s
HHC LR LR
comp=Z,4μm,22.6s
HHC LR LR
comp=Z,2μm,18.0s
HHC LR LR
comp=Z,6μm,22.4s
TOO Toolangi 126.37 231 PKIKP **PKPdf** **15 22 53.5 0.0**
BTO Baotou 126.56 344 *e*PKP **PKPdf** **15 22 54.4 +0.5**
BTO sPKP 15 23 08.6
BTO SKS **SKSdf** **15 30 03.5 -2.4**
BTO LR LR
comp=Z,1μm,20.8s
BTO LR LR
comp=Z,2μm,20.0s
BTO LR LR
comp=Z,2μm,19.4s
PMG Port Moresby 127.11 266 IAMs_20 IAMs_20 16 08 42.6
comp=Z,2μm,20.0s
PMG Port Moresby 127.11 266 PKIKP **PKPdf** **15 22 56.7 +1.2**
HNS HongShan 128.02 338 ⇓PKP **PKPdf** **15 22 57.4 +0.8**
HNS AMB AMB
comp=Z,600nm,10.9s
HNS LR LR
comp=Z,2μm,21.5s
HNS LR LR
comp=Z,2μm,21.2s
HNS LR LR
comp=Z,3μm,25.0s
TIA Tai'an 128.14 336 PKP **PKPdf** **15 22 57.3 +0.4**
TIA PP **PP** **15 24 58.9 -0.2**
TIA AMB AMB
comp=Z,280nm,10.8s
TIA LR LR
comp=Z,400nm,24.4s
TIA LR LR
comp=Z,620nm,22.3s
TIA LR LR
comp=Z,570nm,20.1s
CTAO Charters Tower 128.41 253 IAMs_20 IAMs_20 16 08 52.3
comp=Z,2μm,20.0s
CTAO Charters Tower 128.41 253 PKIKP **PKPdf** **15 22 55.3 -2.5**
TIY Taiyuan 128.52 341 *e*PKP **PKPdf** **15 22 58.8 +1.1**
UOSS Minazif 129.21 45 IAMs_20 IAMs_20 16 23 21.8
comp=Z,2μm,20.0s
KBL Kabul 129.30 26 IAMs_20 IAMs_20 16 21 07.5
comp=Z,2μm,20.0s
JOW Kunigami 129.52 319 IAMs_20 IAMs_20 16 29 57.3
comp=Z,2μm,21.0s
GTA Gaotai 129.66 354 PKP **PKPdf** **15 22 59.8 -0.1**
GTA sPKP 15 23 12.0
GTA LR LR
comp=Z,2μm,23.3s
GTA LR LR
comp=Z,2μm,19.3s
GTA LR LR
comp=Z,4μm,23.3s
SSE Sheshan 130.51 328 PKP **PKPdf** **15 22 59.8 -1.8**
SSE PP **PP** **15 25 14.3 -0.5**
SSE SS SS 15 42 42.1 -0.2
SSE AMB AMB
comp=Z,190nm,11.4s
SSE LR LR
comp=Z,630nm,20.9s
SSE LR LR
comp=Z,460nm,22.0s
NJ2 Nanjing 130.89 331 *e*PKP **PKPdf** **15 23 02.4 +0.1**
NJ2 LR LR
comp=Z,1μm,21.3s
NJ2 LR LR
comp=Z,770nm,21.8s
NJ2 LR LR
comp=Z,2μm,21.5s
STKA Stephens Creek 130.94 237 PKPdf **PKPdf** **15 23 02.9 +0.6**
STKA Stephens Creek 130.94 237 PKIKP **PKPdf** **15 23 02.9 +0.6**
STKA Stephens Creek 130.94 237 PKP **PKPdf** **15 23 03.9 +1.5**
comp=Z,12nm,0.9s,baz=28,slow=3.0,SNR=15
LYN LuoYang 131.38 339 *e*PKP **PKPdf** **15 23 02.6 -0.5**
LYN PP **PP** **15 25 20.9 +0.8**
LYN SKS **SKSac** **15 30 08.9 -4.7**
LYN AMB AMB
comp=Z,570nm,8.8s
LYN LR LR
comp=Z,3μm,19.8s
LYN LR LR
comp=Z,2μm,19.9s
LYN LR LR
comp=Z,4μm,21.4s
WSAR Wadi Sarin 132.00 45 PKP **PKPdf** **15 23 02.2 -2.4**
comp=Z,14nm,1.0s,baz=270,slow=1.4,SNR=4.6
LZH Lanzhou 132.31 349⇓ *i*PKP **PKPdf** **15 23 05.9 +0.8**
LZH sPKP 15 23 19.3
LZH PP **PP** **15 25 23.6 -2.5**
LZH PKS PKSdf 15 26 32.0 -10
LZH AMB AMB
comp=Z,280nm,5.5s
LZH LR LR
comp=Z,3μm,19.1s
LZH LR LR
comp=Z,2μm,18.9s
LZH LR LR
comp=Z,4μm,21.5s
HTT Hallett 132.69 234 PKIKP **PKPdf** **15 23 05.5 -0.1**
XAN Xi'an 133.00 342 ⇑PKP **PKPdf** **15 23 05.6 -0.7**
XAN AMB AMB
comp=Z,340nm,5.1s
GOMU GeErMu 133.21 358 PKP **PKPdf** **15 23 06.8 -0.2**
GOMU PP **PP** **15 25 31.4 -0.6**
GOMU SS SS 15 43 08.1 -6.6
GOMU LR LR
comp=Z,4μm,19.8s
GOMU LR LR
comp=Z,710nm,20.8s
GOMU LR LR
comp=Z,4μm,20.0s
WHN Wuhan 134.20 335 ⇓PKP **PKPdf** **15 23 09.0 +0.5**
WHN PP **PP** **15 25 39.1 +0.8**
WHN PKS PKSdf 15 26 37.8 -7.2
WHN LR LR
comp=Z,6μm,21.1s
WHN LR LR
comp=Z,4μm,17.1s
WHN LR LR
comp=Z,6μm,18.1s
OPO Ambohidratompo 134.75 105 PKP **PKPdf** **15 23 10.5 +0.5**
comp=Z,16nm,1.0s,baz=237,slow=1.5,SNR=4.3
BBOO Buckleboo 135.16 234 PKPdf **PKPdf** **15 23 10.2 -0.1**
YHNB Yeheng 135.39 323 IAMs_20 IAMs_20 16 25 20.6
comp=Z,1μm,22.0s
NACB Ninganchiao 135.62 322 IAMs_20 IAMs_20 16 36 27.1
comp=Z,2μm,21.0s
SSLB Suanglung 136.30 322 IAMs_20 IAMs_20 16 29 48.0
comp=Z,1μm,21.0s
YULB Yu-li 136.39 321 IAMs_20 IAMs_20 16 33 29.4
comp=Z,2μm,22.0s
QZH Quanzhou 136.78 326 PKP **PKPdf** **15 23 16.0 +2.5**
QZH PP **PP** **15 25 54.6 -0.3**
QZH LR LR
comp=Z,2μm,20.6s
QZH LR LR
comp=Z,1μm,17.5s
QZH LR LR
comp=Z,2μm,20.6s
CNSH ChangSha 136.86 334 ⇑PKP PKPdf 15 23 05.0 -8.6
CNSH PP **PP** **15 25 55.3 +0.2**
CNSH SS SS 15 43 51.3 -7.3
CNSH AMB AMB
comp=Z,610nm,7.8s
CNSH LR LR
comp=Z,1μm,22.2s
CNSH LR LR
comp=Z,1μm,21.5s
CNSH LR LR
comp=Z,1μm,24.1s
TPUB Ta-pu 136.86 322 IAMs_20 IAMs_20 16 34 12.9
comp=Z,1μm,20.0s
KNMB Chin-men Tao 137.27 325 IAMs_20 IAMs_20 16 36 55.8
comp=Z,1μm,20.0s
CD2 Chengdu 137.32 347 PKP **PKPdf** **15 23 15.3 +0.9**
CD2 PP **PP** **15 26 04.5 +6.8**
CD2 SKS **SKSdf** **15 30 21.6 -3.8**
CD2 LR LR
comp=Z,2μm,20.2s
CD2 LR LR
comp=Z,2μm,20.2s
CD2 LR LR
comp=Z,3μm,18.4s
NDI New Delhi 137.72 21 *e*P **PKPdf** **15 23 14.8 -0.4**
PTH Pithoragarh 137.89 17 *e*P **PKPdf** **15 23 15.8 +0.1**
ASAR Alice Springs 139.41 246 PKhKP PKPpre 15 23 11.4
comp=Z,7.4nm,0.8s,baz=114,slow=3.6,SNR=16
ASAR PKP **PKPdf** **15 23 18.9 +0.4**
comp=Z,21nm,0.9s,baz=102,slow=2.1,SNR=29
WRAB Tennant Creek 139.58 252 PKPpre 15 23 09.9
WRAB Tennant Creek 139.58 252 PKHKP PKPpre 15 23 10.0
WRA Warramunga Arr 139.59 252 PKhKP PKPpre 15 23 11.5
comp=Z,6.6nm,0.8s,baz=106,slow=2.5,SNR=19
WRA PKP **PKPdf** **15 23 20.4 +1.6**
comp=Z,26nm,0.9s,baz=92,slow=2.0,SNR=27
GYA Guiyang 140.76 341 PKP PKPdf 15 23 13.6 -7.3
GYA PKS **PKSdf** **15 26 54.1 -3.1**
GYA LR LR
comp=Z,1μm,25.3s
GYA LR LR
comp=Z,1μm,23.3s

GYA				LR	LR				
	comp=Z,2μm,28.9s								
HKPS	**Hong Kong Po S**	**141.32**	**328**	IAMs_20	IAMs_20	16 39 30.2			
	comp=Z,2μm,19.0s								
GTK	**Tadong**	**141.79**	**7**	*i* x	x	15 23 21.3			
PZH	**PanZhiHua**	**142.01**	**348**	PKP	PKPdf	15 23 16.8	-6.4		
PZH				AMB	AMB				
	comp=Z,360nm,12.0s								
PZH				LR	LR				
	comp=Z,2μm,23.9s								
PZH				LR	LR				
	comp=Z,2μm,23.3s								
PZH				LR	LR				
	comp=Z,2μm,25.3s								
FORT	**Forrest**	**142.24**	**233**	IAMs_20	IAMs_20	16 16 14.8			
	comp=Z,2μm,22.0s								
MOKO	**MOKOCHONG**	**143.06**	**358**	*eP*	PKPbc	15 23 23.6	+1.9		
KMI	**Kunming**	**143.12**	**346**	⇓PKP	PKPab	15 23 21.8	+1.1		
KMI				PP	**PP**	**15 26 33.6**	**0.0**		
KMI				PKS	**PKSdf**	**15 26 56.5**	**-4.9**		
KMI				AMB	AMB				
	comp=Z,400nm,12.3s								
KMI				LR	LR				
	comp=Z,910nm,19.9s								
KMI				LR	LR				
	comp=Z,1μm,20.0s								
KMI				LR	LR				
	comp=Z,2μm,27.7s								
KOHI	**KOHIMA**	**143.66**	**359**	*eP*	PKPab	15 23 24.7	+2.0		
SHL	**Shillong**	**143.79**	**2**	*eP*	PKPab	15 23 20.0	-3.2		
TNCH	**TengChong**	**144.01**	**352**	PKP	PKPab	15 23 22.8	-1.3		
TNCH				pPKP	pPKPdf	15 23 32.5	+1.4		
TNCH				PP	**PP**	**15 26 39.1**	**+0.3**		
TNCH				PKS	PKSdf	15 26 56.9	-5.9		
TNCH				SS	SS	15 45 15.9	-6.2		
TNCH				AMB	AMB				
	comp=Z,230nm,6.8s								
TNCH				LR	LR				
	comp=Z,800nm,19.1s								
TNCH				LR	LR				
	comp=Z,470nm,16.8s								
TNCH				LR	LR				
	comp=Z,2μm,21.8s								
IMP	**Imphal**	**144.55**	**359**	*eP*	**PKPab**	**15 23 25.8**	**-0.2**		
AKL	**Akola**	**144.76**	**27**	*eP*	**PKPab**	**15 23 26.5**	**-0.2**		
BOK	**Bokaro**	**144.81**	**12**	*i* P	**PKPab**	**15 23 26.3**	**-0.6**		
POO	**Poona**	**145.03**	**34**	*eP*	**PKPab**	**15 23 22.7**	**-5.1**		
BELO	**BELONIA**	**146.08**	**3**	*i* x	x	15 23 29.6			
QIZ	**Qiongzhong**	**146.19**	**331**	PKPbc	**PKPdf**	**15 23 32.5**	**+2.0**		
QIZ				sPKP		15 23 43.1			
QIZ				PP	**PP**	**15 26 53.0**	**+0.9**		
QIZ				PKS	**PKSdf**	**15 27 05.4**	**-0.7**		
QIZ				SS	SS	15 45 47.0	-0.6		
QIZ				AMB	AMB				
	comp=Z,620nm,6.5s								
QIZ				LR	LR				
	comp=Z,2μm,19.1s								
QIZ				LR	LR				
	comp=Z,1μm,16.7s								
QIZ				LR	LR				
	comp=Z,2μm,17.5s								
QIZ	**Qiongzhong**	**146.19**	**331**	PKPab	**PKPdf**	**15 23 32.3**	**+1.8**		
KAD	**Karad**	**146.20**	**34**	*eP*	**PKPdf**	**15 23 29.1**	**-1.5**		
JHSG	**JHARSUGUGA**	**146.26**	**16**	*i* x	x	15 23 28.2			
SLVN	**Son La**	**146.41**	**342**		**PKPdf**	**15 23 31.8**	**+0.9**		
SAIH	**SAIHA**	**146.88**	**1**	*eP*	**PKPdf**	**15 23 32.0**	**+0.3**		
FITZ	**Fitzroy Crossi**	**147.99**	**253**	PKPdf	**PKPdf**	**15 23 33.6**	**+0.1**		
HYB	**Hyderabad**	**148.33**	**28**	*eP*	**PKPdf**	**15 23 33.7**	**-0.5**		
HYB	**Hyderabad**	**148.33**	**28**	*eP*	**PKPdf**	**15 23 31.9**	**-2.2**		
NWAO	**Narrogin (SRO)**	**148.96**	**221**		**PKPdf**	**15 23 39.1**	**+4.4**		
NWAO	**Narrogin (SRO)**	**148.96**	**221**	IAMs_20	IAMs_20	16 17 59.6			
	comp=Z,2μm,20.0s								
NWAO	**Narrogin (SRO)**	**148.96**	**221**	PKHKP	PKPpre	15 23 36.6			
LUWI	**Luwuk**	**149.25**	**286**	IAMs_20	IAMs_20	16 33 14.8			
	comp=Z,891nm,19.0s								
SOEI	**Soe**	**149.62**	**269**	IAMs_20	IAMs_20	16 30 41.5			
	comp=Z,2μm,20.0s								
CHTO	**Chiang Mai**	**150.04**	**349**	PKPdf	**PKPdf**	**15 23 35.0**	**-1.8**		
CHTO	**Chiang Mai**	**150.04**	**349**	IAMs_20	IAMs_20	16 37 44.9			
	comp=Z,2μm,22.0s								
CHTO	**Chiang Mai**	**150.04**	**349**	PKIKP	**PKPdf**	**15 23 35.0**	**-1.8**		
CHTO				MLR	MLR				
	comp=Z,2μm,22.0s								
VJD	**Vijayawada**	**150.04**	**25**	*eP*	**PKPdf**	**15 23 37.2**	**+0.4**		
MUN	**Mundaring**	**150.23**	**222**	PKIKP	**PKPdf**	**15 23 37.0**	**+0.3**		
TOLI2	**Tolitoli**	**150.29**	**292**		**PKPdf**	**15 23 42.5**	**+5.1**		
TOLI2				IAMs_20	IAMs_20	16 20 51.7			
	comp=Z,969nm,21.0s								
CMAR	**Chiang Mai Arr**	**150.39**	**349**	PKP	**PKPdf**	**15 23 36.8**	**-0.6**		
	comp=Z,27nm,0.9s,baz=314,slow=2.3,SNR=110								
CMAR				PKPbc	**pPKPdf**	**15 23 42.4**	**+0.8**		
	comp=Z,83nm,0.9s,baz=342,slow=2.7,SNR=76								
MMRI	**Maumere**	**151.50**	**272**	IAMs_20	IAMs_20	16 27 46.2			
	comp=Z,885nm,21.0s								
KKM	**Kota Kinabalu**	**151.77**	**305**	IAMs_20	IAMs_20	16 44 37.9			
	comp=Z,2μm,22.0s								
MDRS	**Chennai**	**152.90**	**29**	*eP*	**PKPdf**	**15 23 40.0**	**-1.2**		
SALM	**Salem**	**153.04**	**35**	*eP*	**PKPdf**	**15 23 39.9**	**-1.5**		
KAPI	**Kappang**	**153.28**	**280**	IAMs_20	IAMs_20	16 45 46.6			
	comp=Z,1μm,20.0s								
KOD	**Kodaikanal**	**153.75**	**38**	*eP*	**PKPdf**	**15 23 41.0**	**-1.9**		
DGPR	**DIGLIPUR**	**156.14**	**1**	*i* x	**PKPdf**	**15 23 42.6**	**-3.1**		
SBUM	**Sibu**	**157.09**	**304**	IAMs_20	IAMs_20	16 51 40.3			
	comp=Z,938nm,22.0s								
JAGI	**Jajag, Banyuwa**	**159.41**	**275**	IAMs_20	IAMs_20	16 50 14.6			
	comp=Z,1μm,22.0s								

*CATAC **16** 15:21:16.5±0.3, 11°.97N×86°.99W, h32km±3km, ML4.4*
*NEIC **16** 15:21:16.9±1.5, 12°.03N±0°.07×86°.92W±0°.08, h65km±7km, mb4.1/6, Error ellipse: s-maj=13.5km s-min=7.1km az=49.0*
*IDC **16** 15:21:17.1±2.5, 11°.46N×87°.21W, h95km±29km, mb3.1/2, mbtmp3.8/5, Error ellipse: s-maj=92.4km s-min=24.1km az=32.0*
*SNET **16** 15:21:19.3±1.0, 12°.17N×87°.17W, h24km±6km, ML4.3*
ISC 16 15:21:16.0±0.8, 12°.02N±0°.05×86°.97W±0°.04, h66km±7km, n118, σ1§26/143, mb4.0/5, 14C-29D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.41**	**66**	⇓*i*P	**Pn**	**15 21 26.9**	**-0.7**
COPN				IAML		15 21 27.2	
	comp=Z,18μm,1.0s						
MSHP	**Masachapa**	**0.47**	**113**	⇑*i*P	**Pn**	**15 21 27.0**	**-1.2**
MSHP				*i* S	**Sn**	**15 21 36.0**	**-1.1**
MSHP				IAML		15 21 39.2	
	comp=Z,4μm,1.0s						
BC86	**Nagarote**	**0.47**	**58**	⇓*i*P	**Pn**	**15 21 28.6**	**+0.4**
BC86				IAML		15 21 39.1	
	comp=Z,31μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.52**	**42**	⇓*i*P	**Pn**	**15 21 28.9**	**+0.2**
LEVN				IAML		15 21 29.1	
	comp=Z,17μm,1.0s						
MACN	**El Madrono**	**0.54**	**33**	⇓*i*P	**Pn**	**15 21 29.1**	**+0.2**
MACN				IAML		15 21 29.5	
	comp=Z,9μm,1.0s						
MACN				*i* S	**Sn**	**15 21 38.8**	**+0.5**
CNGA	**Al SSO del Vol**	**0.55**	**29**	⇓*i*P	**Pn**	**15 21 29.4**	**+0.4**
CNGA				IAML		15 21 29.7	
	comp=Z,25μm,1.0s						
ROCN	**Rota Cerro Neg**	**0.55**	**24**	⇓*i*P	**Pn**	**15 21 29.0**	**0.0**
ROCN				IAML		15 21 29.3	
	comp=Z,8μm,1.0s						
CNGN	**Cerro Negro**	**0.55**	**29**		**Pn**	**15 21 29.2**	**+0.1**
CNGN	**Cerro Negro**	**0.55**	**29**	⇓*i*P	**Pn**	**15 21 29.3**	**+0.2**
CNGN				IAML		15 21 41.8	
	comp=Z,12μm,1.0s						
BC84	**Volcan Momotom**	**0.57**	**48**	*i* P	**Pn**	**15 21 29.4**	**+0.2**
BC84				*i* S	**Sn**	**15 21 39.4**	**+0.6**
BC84				IAML		15 21 41.5	
	comp=Z,11μm,1.0s						
AMTN	**Mateare**	**0.57**	**68**	⇑*i*P	**Pn**	**15 21 29.7**	**+0.5**
AMTN				*i* S	**Sn**	**15 21 39.8**	**+0.8**
AMTN				IAML		15 21 45.7	
	comp=Z,42μm,1.0s						
MOMN	**Momotombo**	**0.58**	**47**	⇓*i*P	**Pn**	**15 21 29.5**	**+0.2**
MOMN				*i* S	**Sn**	**15 21 39.3**	**+0.2**
SAPS	**Ciudad Sandino**	**0.58**	**75**	⇓*i*P	**Pn**	**15 21 29.4**	**+0.1**
SAPS				*i* S	**Sn**	**15 21 39.1**	**0.0**
SAPS				IAML		15 21 41.9	
	comp=Z,26μm,1.0s						
TELN	**Telica**	**0.60**	**13**	⇓*i*P	**Pn**	**15 21 29.6**	**-0.1**
TELN				*i* S	**Sn**	**15 21 40.1**	**+0.4**
TELN				IAML		15 21 44.8	
	comp=Z,900nm,1.0s						
HERN	**Volcan Telica**	**0.61**	**13**	⇓*i*P	**Pn**	**15 21 30.0**	**+0.3**
HERN				IAML		15 21 30.6	
	comp=Z,11μm,1.0s						
HERN				*i* S	**Sn**	**15 21 40.0**	**+0.3**
CHNN	**El Viejo**	**0.62**	**346**	⇓*i*P	**Pn**	**15 21 29.8**	**0.0**
CHNN				*i* S	**Sn**	**15 21 39.5**	**-0.4**
CHNN				IAML		15 21 44.2	
	comp=Z,16μm,1.0s						
MOM2	**El Cardon**	**0.64**	**49**	⇓*i*P	**Pn**	**15 21 30.5**	**+0.6**
MOM2				IAML		15 21 31.4	
	comp=Z,10μm,1.0s						
MOM2				*i* S	**Sn**	**15 21 41.2**	**+1.0**
APYN	**Apoyeque**	**0.65**	**70**	⇓*i*P	**Pn**	**15 21 30.3**	**+0.2**
POLN	**Al Sur del Vol**	**0.65**	**14**	*i* P	**Pn**	**15 21 30.2**	**+0.1**
POLN				IAML		15 21 31.1	
	comp=Z,35nm,1.0s						
ABCN	**Banco Central**	**0.66**	**81**	*i* P	**Pn**	**15 21 30.5**	**+0.3**
ABCN				*i* S	**Sn**	**15 21 41.2**	**+0.6**
ABCN				IAML		15 21 42.3	
	comp=Z,63μm,1.0s						
APQ2	**Apoyeque**	**0.66**	**74**	⇓*i*P	**Pn**	**15 21 30.6**	**+0.4**
APQ2				*i* S	**Sn**	**15 21 41.3**	**+0.7**
APQ2				IAML		15 21 42.2	
	comp=Z,34μm,1.0s						
CRUN	**El Crucero**	**0.66**	**93**	*i* P	**Pn**	**15 21 30.2**	**-0.1**
CRUN				IAML		15 21 43.3	
	comp=Z,40nm,1.0s						
CRIN	**San Cristobal**	**0.68**	**354**	Pn	**Pn**	**15 21 31.0**	**+0.5**
CRIN				Sn	**Sn**	**15 21 41.4**	**+0.1**
CRIN	**San Cristobal**	**0.68**	**354**	⇓*i*P	**Pn**	**15 21 31.1**	**+0.5**
CRIN				*i* S	**Sn**	**15 21 41.9**	**+0.6**
CRIN				IAML		15 21 43.6	
	comp=Z,23μm,1.0s						
UNAN	**Cigeo UNAN**	**0.69**	**82**	⇓*i*P	**Pn**	**15 21 30.9**	**+0.3**
UNAN				*i* S	**Sn**	**15 21 41.4**	**+0.1**
UNAN				IAML		15 21 49.9	
	comp=Z,73μm,1.0s						
ALLN	**Telcor Managua**	**0.70**	**79**	⇑*i*P	**Pn**	**15 21 31.1**	**+0.5**
ALLN				*i* S	**Sn**	**15 21 42.1**	**+0.7**
ALLN				IAML		15 21 42.8	
	comp=Z,54μm,1.0s						
TISN	**Laguna Tiscapa**	**0.70**	**80**	⇓*i*P	**Pn**	**15 21 30.0**	**-0.7**
TISN				*i* S	**Sn**	**15 21 40.9**	**-0.6**
TISN				IAML		15 21 41.7	
	comp=Z,2μm,1.0s						
ENAN	**Enatrel Managu**	**0.70**	**82**	*i* P	**Pn**	**15 21 31.1**	**+0.4**
ENAN				*i* S	**Sn**	**15 21 42.2**	**+0.7**
ENAN				IAML		15 21 43.7	
	comp=Z,47μm,1.0s						
MGA1	**Managua**	**0.72**	**79**	*i* P	**Pn**	**15 21 31.1**	**+0.2**
MGA1				*i* S	**Sn**	**15 21 42.4**	**+0.5**
MGA1				IAML		15 21 45.1	
	comp=Z,23μm,1.0s						
MAFN	**Magfor**	**0.72**	**84**	*i* PA		15 21 31.8	
MAFN				IAML		15 21 44.5	
	comp=Z,35μm,1.0s						
ADRN	**Diriamba**	**0.73**	**102**	*i* P	**Pn**	**15 21 31.1**	**0.0**
ADRN				IAML		15 21 46.8	
	comp=Z,30μm,1.0s						
MAS3	**Al N del Volca**	**0.78**	**89**	*i* P	**Pn**	**15 21 31.7**	**+0.1**
MAS3				*i* S	**Sn**	**15 21 42.5**	**-0.7**
MAS3				IAML		15 21 44.1	
	comp=Z,33μm,1.0s						
WILN	**Americas 2**	**0.78**	**79**	⇑*i*P	**Pn**	**15 21 32.1**	**+0.5**
WILN				*i* S	**Sn**	**15 21 43.4**	**+0.3**
WILN				IAML		15 21 48.9	
	comp=Z,10μm,1.0s						
AERN	**Aeropuerto Man**	**0.80**	**81**	*i* PA		15 21 33.1	
AERN				IAML		15 21 50.4	
	comp=Z,12μm,1.0s						
MASN	**Masaya**	**0.81**	**92**	*i* P	**Pn**	**15 21 32.9**	**+1.0**
MASN				*i* S	**Sn**	**15 21 43.1**	**-0.6**
MASN				IAML		15 21 44.8	
	comp=Z,5μm,1.0s						
NANN	**Nandasmo**	**0.84**	**95**	⇑*i*P	**Pn**	**15 21 33.5**	**+1.2**
NANN				IAML		15 21 47.2	
	comp=Z,250μm,1.0s						
AMYN	**Masaya**	**0.86**	**92**	*i* P	**Pn**	**15 21 35.0**	**+2.5**
TIPN	**Tipitapa**	**0.88**	**78**	*i* PA		15 21 34.1	
TIPN				IAML		15 21 46.6	
	comp=Z,9μm,1.0s						
BRAN	**Las Pilas**	**0.93**	**41**	⇓*i*P	**Pn**	**15 21 29.8**	**-3.6**
BRAN				*i* S	**Sn**	**15 21 40.6**	**-5.7**
BRAN				IAML		15 21 41.0	
	comp=Z,53μm,1.0s						
NADN	**Granada**	**0.96**	**106**	⇑*i*P	**Pn**	**15 21 33.6**	**-0.2**
NADN				IAML		15 21 48.7	
	comp=Z,34μm,1.0s						
AESN	**El Sauce Leon**	**0.96**	**26**	*i* PA		15 21 35.0	
AESN				IAML		15 21 40.5	
	comp=Z,7μm,1.0s						
GRNN	**Granada**	**1.00**	**95**	*i* PA		15 21 35.6	
GRNN				IAML		15 22 02.8	
	comp=Z,7μm,1.0s						
CSGN	**Cosiguina Volc**	**1.11**	**329**	*i* P	**Pn**	**15 21 35.7**	**-0.1**
CSGN				IAML		15 21 52.4	
	comp=Z,58μm,1.0s						
LIMN	**Finca el Limon**	**1.20**	**30**	⇓*i*P	**Pn**	**15 21 37.9**	**+0.9**
LIMN				IAML		15 21 38.0	
	comp=Z,2μm,1.0s						
JAPN	**Al SSO del Vol**	**1.36**	**111**	⇑*i*P	**Pn**	**15 21 39.2**	**+0.2**
JAPN				IAML		15 21 57.2	
	comp=Z,7μm,1.0s						
MORN	**Al O del Volca**	**1.38**	**110**	⇑*i*P	**Pn**	**15 21 39.7**	**+0.4**
MORN				IAML		15 22 03.5	
	comp=Z,14μm,1.0s						
CONN	**Concepcion**	**1.40**	**109**	⇑*i*P	**Pn**	**15 21 38.9**	**-0.6**
CONN				*i* S	**Sn**	**15 21 56.4**	**-0.7**
CONN				IAML		15 22 00.6	
	comp=Z,27μm,1.0s						
OMEN	**Al SSO del Vol**	**1.41**	**111**	⇓*i*P	**Pn**	**15 21 39.1**	**-0.6**
OMEN				IAML		15 22 03.9	
	comp=Z,10μm,1.0s						
AMPH	**Amapala**	**1.43**	**332**	*eP*	**Pn**	**15 21 40.5**	**+0.7**
AMPH				*eS*	**Sn**	**15 21 57.7**	**-0.1**
AMPH	**Amapala**	**1.43**	**332**	⇓*i*P	**Pn**	**15 21 40.6**	**+0.7**
AMPH				*i* S	**Sn**	**15 21 58.7**	**+0.8**
CNCH	**Conchagua**	**1.51**	**326**	⇓*i*P	**Pn**	**15 21 41.7**	**+0.6**
CNCH				*i* S	**Sn**	**15 22 00.2**	**+0.2**
CNCH				IAML		15 22 08.5	
	comp=Z,7μm,1.0s						
LCND	**La Caada**	**1.57**	**325**	*eP*	**Pn**	**15 21 42.2**	**+0.5**
LCND				*i* Sg	**Sn**	**15 22 00.9**	**-0.2**
LCND				IAML		15 22 04.8	
	comp=Z,6μm,0.3s						
LCND	**La Caada**	**1.57**	**325**	⇓*i*P	**Pn**	**15 21 42.3**	**+0.5**
LCND				IAML		15 22 04.5	
	comp=Z,6μm,1.0s						
RCPN	**Sur Rio San Ju**	**1.73**	**30**	⇑*i*P	**Pn**	**15 21 44.9**	**+0.8**
RCPN				IAML		15 21 53.7	
	comp=Z,8.2nm,1.0s						
JUCU	**Jucuar¡n**	**1.75**	**315**	*eP*	**Pn**	**15 21 44.7**	**+0.4**
JUCU				*eS*	**Sn**	**15 22 04.5**	**-1.2**
ACON	**Acoyapa**	**1.76**	**91**		**Pn**	**15 21 44.4**	**0.0**
ACON	**Acoyapa**	**1.76**	**91**	*i* PA		15 21 45.4	
ACON				IAML		15 22 15.3	
	comp=Z,820nm,1.0s						
HZTE	**Horizontes, Gu**	**1.87**	**134**		**Pn**	**15 21 45.4**	**-0.4**
YUSH	**Yuscaran**	**1.93**	**4**	*eP*	**Pn**	**15 21 48.7**	**+1.9**
YUSH	**Yuscaran**	**1.93**	**4**	⇓*i*P	**Pn**	**15 21 48.7**	**+1.9**
PACA	**Pacayal**	**1.95**	**318**	⇑*i*P	**Pn**	**15 21 48.4**	**+1.3**
PACA				IAML		15 22 22.3	
	comp=Z,16μm,1.0s						
VRLE	**La Escondida,**	**1.99**	**128**	*i* P	**Pn**	**15 21 47.0**	**-0.6**
VRLE				IAML		15 22 18.0	
	comp=Z,850nm,1.0s						
ALJI	**Alcalda de J**	**2.03**	**310**	*eS*	**Sn**	**15 22 11.0**	**-1.4**
TGUH	**Tegucigalpa,Un**	**2.05**	**352**		**Pn**	**15 21 49.3**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.05**	**352**	⇓*i*P	**Pn**	**15 21 50.1**	**+1.7**
TGUH				IAML		15 21 51.0	
	comp=Z,900nm,1.0s						
VMAR	**Armenia, Volca**	**2.18**	**123**	⇓*i*P	**Pn**	**15 21 50.0**	**-0.1**
VMAR				IAML		15 22 23.6	
	comp=Z,2μm,1.0s						
ORTG	**Ortega, Santa**	**2.22**	**138**		**Pn**	**15 21 50.5**	**-0.1**
PQSS	**Presa 15 de Se**	**2.23**	**316**	*eP*	**Pn**	**15 21 51.9**	**+1.3**
PQSS	**Presa 15 de Se**	**2.23**	**316**	⇑*i*P	**Pn**	**15 21 52.0**	**+1.4**
PQSS				IAML		15 22 19.6	
	comp=Z,410nm,1.0s						
TECO	**Alcaldia de Te**	**2.32**	**311**	*eP**	**Pn**	**15 21 52.7**	**+0.7**
TECO	**Alcaldia de Te**	**2.32**	**311**	⇑*i*P	**Pn**	**15 21 52.7**	**+0.7**
TECO				IAML		15 22 37.8	
	comp=Z,750nm,1.0s						
UESV	**Universidad de**	**2.39**	**313**	*i* P	**Pn**	**15 21 56.9**	**+4.0**
SCLA	**Alcaldia de Sa**	**2.40**	**315**	*eP*	**Pn**	**15 21 54.3**	**+1.3**
SCLA	**Alcaldia de Sa**	**2.40**	**315**	⇓*i*P	**Pn**	**15 21 54.4**	**+1.4**
SCLA				IAML		15 22 30.8	
	comp=Z,670nm,1.0s						
COEG	**Centro de Oper**	**2.45**	**311**	*eP*	**Pn**	**15 21 55.1**	**+1.4**
COEG	**Centro de Oper**	**2.45**	**311**	⇑*i*P	**Pn**	**15 21 55.4**	**+1.7**
COEG				IAML		15 22 35.5	
	comp=Z,980nm,1.0s						
COMHN	**El Horno**	**2.48**	**347**	⇓*i*P	**Pn**	**15 21 55.5**	**+1.2**
SJTE	**Alcalda de S**	**2.54**	**309**	*eP*	**Pn**	**15 21 55.6**	**+0.6**
PAVA	**Las Pavas**	**2.55**	**312**	*eP*	**Pn**	**15 21 56.2**	**+1.0**
PAVA	**Las Pavas**	**2.55**	**312**	*i* P	**Pn**	**15 21 56.9**	**+1.7**
PAVA				IAML		15 22 36.3	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**2.62**	**86**	Pn	**Pn**	**15 21 56.1**	**+0.1**
JTS	**Las Juntas de**	**2.62**	**131**		**Pn**	**15 21 55.5**	**-0.5**
JTS	**Las Juntas de**	**2.62**	**131**	P	**Pn**	**15 21 56.0**	**-0.1**
	comp=Z,89nm,0.4s,baz=138,slow=15,SNR=40						
JTS				S	**Sn**	**15 22 30.8**	**+4.0**
	comp=Z,108nm,0.3s,baz=158,slow=19,SNR=3.7						
LOMA	**Loma Larga**	**2.69**	**307**	*eP*	**Pn**	**15 21 58.7**	**+1.7**
LOMA				IAML		15 22 31.0	
	comp=Z,1μm,0.3s						
ARE1	**Arenal 1**	**2.70**	**125**		**Pn**	**15 21 57.2**	**+0.1**
SNET	**Serv Nac Est T**	**2.76**	**307**	Pn	**Pn**	**15 21 57.7**	**-0.2**
PIC2	**El Picacho**	**2.81**	**308**	*eP*	**Pn**	**15 21 59.8**	**+1.0**
SOCE	**Pocosol**	**2.83**	**125**	Pn	**Pn**	**15 21 59.1**	**+0.3**
COVE	**Coope Vega, Sa**	**2.83**	**117**		**Pn**	**15 21 58.3**	**-0.6**
JAYA	**Jayaque - finc**	**2.91**	**304**	*eP*	**Pn**	**15 22 00.5**	**+0.4**
SNJE	**San Jose**	**3.16**	**306**	*eP*	**Pn**	**15 22 05.3**	**+1.8**
NUBE	**Las Nubes**	**3.32**	**305**	*eP*	**Pn**	**15 22 06.5**	**+0.9**
MTO3	**Montecristo**	**3.32**	**316**	Pn	**Pn**	**15 22 07.3**	**+1.5**
SLOZ	**Alcaldia de Sa**	**3.39**	**306**	*eP*	**Pn**	**15 22 07.9**	**+1.4**
ESQI	**Esquipulas**	**3.42**	**318**		**Pn**	**15 22 08.7**	**+1.6**
HDC	**Heredia**	**3.45**	**125**		**Pn**	**15 22 08.6**	**+1.2**
LCR2	**La Lucha 2**	**3.69**	**127**		**Pn**	**15 22 11.5**	**+0.7**
RIMA	**Rio Macho**	**3.79**	**126**		**Pn**	**15 22 12.7**	**+0.6**
SRBA	**San Rafael, Bu**	**4.50**	**128**		**Pn**	**15 22 22.8**	**+1.0**
DRK0	**Durika**	**4.57**	**126**		**Pn**	**15 22 23.7**	**+0.8**
RTAL	**Retalhuleu**	**5.23**	**299**	Pn	**Pn**	**15 22 32.6**	**+0.9**
CDITO	**Canoas**	**5.29**	**130**	Pn	**Pn**	**15 22 34.3**	**+1.8**
BRU2	**Volcan**	**5.29**	**127**	Pn	**Pn**	**15 22 33.7**	**+1.1**
BCIP	**Isla Barro Col**	**7.57**	**111**	Pn	**Pn**	**15 23 04.3**	**+0.6**
CMIG	**Matias Romero**	**9.17**	**304**	P	**Pn**	**15 23 28.3**	**+2.7**
	comp=Z,4.4nm,0.3s,baz=154,slow=10,SNR=24						
CMIG				S	**Sn**	**15 25 06.5**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=289,slow=18,SNR=1.8						
SJCC	**San Jacinto, C**	**11.77**	**99**	Pn	**Pn**	**15 24 02.1**	**+0.9**
SDV	**Santo Domingo**	**16.37**	**99**	Pn	**Pn**	**15 25 01.1**	**-0.7**
SDV				IAmb	IAmb	15 25 04.7	
	comp=Z,6.6nm,0.9s						
SDV	**Santo Domingo**	**16.37**	**99**	P	**P**	**15 25 04.6**	**+0.9**
	comp=Z,4.2nm,0.7s,baz=287,slow=8.8,SNR=5.3						
250A	**Grady**	**19.88**	**2**	P	**P**	**15 25 40.7**	**-1.2**
TXAR	**Lajitas Array**	**23.20**	**320**	P	**P**	**15 26 19.1**	**+1.7**
TXAR	**Lajitas Array**	**23.20**	**320**	P	**P**	**15 26 19.4**	**+2.0**
	comp=Z,1.6nm,0.7s,baz=138,slow=10,SNR=7.1						
	comp=Z,1.6nm,0.7s						
TX31	**Lajitas Ar. Si**	**23.20**	**320**	P	**P**	**15 26 19.0**	**+1.6**
ETMB	**Extrema**	**29.93**	**136**	P	**P**	**15 27 18.7**	**+0.7**
ETMB				IAmb	IAmb	15 27 18.7	
	comp=Z,5.0nm,1.3s						
SAML	**Samuel**	**31.51**	**130**	P	**P**	**15 27 31.3**	**-0.7**
SAML				IAmb	IAmb	15 27 36.9	
	comp=Z,4.0nm,1.3s						
PNTR	**Pine Nut**	**39.54**	**319**	P	**P**	**15 28 40.1**	**-0.7**
PNTR				IAmb	IAmb	15 28 47.3	
	comp=Z,6.8nm,0.9s						
YKA	**Yellowknife Ar**	**54.15**	**345**	P	**P**	**15 30 35.0**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=131,slow=8.4,SNR=4.1						
	comp=Z,0.2nm,0.7s						
ASAR	**Alice Springs**	**139.54**	**248**	PKP	**PKPdf**	**15 40 32.6**	**-4.2**
	comp=Z,0.3nm,0.8s,baz=117,slow=3.2,SNR=2.0						
WRA	**Warramunga Arr**	**139.59**	**253

MK31	**Makanchi Array**	**13.07**	**36**	Pn		**Pn**		**15 24 21.9**	**-0.2**
MKAR	**Makanchi Array**	**13.07**	**36**	Pn		**Pn**		**15 24 21.9**	**-0.3**
MKAR	**Makanchi Array**	**13.07**	**36**	P		**Pn**		**15 24 22.8**	**+0.6**
	comp=E,1.4nm,0.4s,baz=215,slow=14,SNR=2.5								
KURBB	**Kurchatov Arra**	**14.91**	**18**	P		**Pn**		**15 24 44.6**	**-0.3**
	comp=E,0.7nm,0.4s,baz=204,slow=11,SNR=7.8								
AB31	**Akbulak array**	**15.00**	**330**	⇑P		**P**		**15 24 48.3**	**+1.7**
	comp=E,0.4nm,0.3s,baz=134,slow=12,SNR=28								
AB31				⇑S		**S**		**15 27 30.9**	**-1.4**
	comp=E,0.6nm,0.6s								
ABKAR	**Akbulak array**	**15.00**	**330**	P		**Pn**		**15 24 47.9**	**+2.0**
KURK	**Kurchatov**	**15.02**	**19**			**Pn**		**15 24 46.8**	**+0.6**
BVAR	**Borovoye Array**	**16.36**	**358**	P		**P**		**15 25 03.7**	**+2.1**
	comp=E,0.6nm,0.5s,baz=143,slow=9.5,SNR=5.0								
AKTO	**Aktyubinsk**	**16.70**	**330**	⇓P		**P**		**15 25 06.0**	**+0.8**
	comp=E,0.9nm,0.5s								
AKTO				⇑S		**S**		**15 28 05.1**	**-4.3**
	comp=E,0.5nm,0.7s								
AKTO	**Aktyubinsk**	**16.70**	**330**	P		**P**		**15 25 07.0**	**+1.7**
	comp=E,2.7nm,0.4s,baz=138,slow=7.2,SNR=8.6								
ZAA0	**Zalesovo Array**	**19.70**	**24**	P		**P**		**15 25 38.3**	**+0.5**
ZAA0				IAmb		IAmb		15 26 03.4	
	comp=Z,9.3nm,1.5s								
ZALV	**Zalesovo Beam**	**19.70**	**24**	P		**P**		**15 25 38.2**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=210,slow=11,SNR=11								
ZALV				LR		LR		15 33 55.2	
	comp=Z,596nm,18.7s,baz=140,slow=38								
AKASG	**Malin Array Be**	**32.94**	**309**	P		**P**		**15 27 40.0**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=81,slow=7.1,SNR=8.4								
	comp=Z,0.9nm,0.5s								
FIA1	**FINESS Array S**	**37.41**	**326**	P		**P**		**15 28 17.6**	**+0.3**
FINES	**FINESS Array B**	**37.41**	**326**	P		**P**		**15 28 17.8**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=108,slow=12,SNR=12								
	comp=Z,1.5nm,0.4s								
ARCES	**ARCESS Array B**	**41.03**	**337**	P		**P**		**15 28 48.2**	**+1.0**
ARCES	**ARCESS Array B**	**41.03**	**337**	P		**P**		**15 28 48.1**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=115,slow=8.2,SNR=12								
	comp=Z,0.9nm,0.4s								
HFS	**Hagfors**	**43.01**	**322**	P		**P**		**15 29 03.7**	**+0.5**
	comp=Z,6.0nm,0.5s,baz=98,slow=11,SNR=29								
	comp=Z,6.0nm,0.5s								
NC405	**NORSAR Array S**	**44.09**	**323**	P		**P**		**15 29 12.0**	**+0.2**
NC405				IAmb		IAmb		15 29 35.0	
	comp=Z,23nm,1.2s								
NC602	**NORSAR Array S**	**44.13**	**322**	P		**P**		**15 29 12.2**	**0.0**
NC602				IAmb		IAmb		15 29 22.0	
	comp=Z,28nm,1.4s								
NB201	**NORSAR Array S**	**44.28**	**323**	P		**P**		**15 29 13.5**	**0.0**
NB2	**NORSAR Subarra**	**44.32**	**323**	P		**P**		**15 29 13.8**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.32**	**323**	P		**P**		**15 29 13.8**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=104,slow=7.1,SNR=10								
	comp=Z,2.5nm,0.6s								
NBO00	**NORSAR Array S**	**44.53**	**323**	P		**P**		**15 29 15.5**	**+0.1**
NC204	**NORSAR Array S**	**44.56**	**323**	P		**P**		**15 29 15.8**	**+0.1**
TIXI	**Tiksi**	**45.56**	**22**	P		**P**		**15 29 23.2**	**-0.1**
TOA0	**Torodi Ar. Sit**	**65.86**	**269**	P		**P**		**15 31 46.1**	**-2.2**
TOA0				IAmb		IAmb		15 31 47.5	
	comp=Z,6.3nm,1.4s								
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P		**P**		**15 31 46.2**	**-2.1**
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P		**P**		**15 31 46.6**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=40,slow=6.4,SNR=9.9								
	comp=Z,1.4nm,0.5s								
D19K	**Kuna River**	**68.94**	**17**	P		**P**		**15 32 07.1**	**+0.2**
F15K	**North Star Dit**	**69.23**	**21**	P		**P**		**15 32 09.2**	**+0.5**
F15K				IAmb		IAmb		15 32 53.1	
	comp=Z,4.1nm,1.2s								
C23K	**Itkillik River**	**69.52**	**14**	P		**P**		**15 32 11.0**	**+0.7**
A36M	**Sachs Harbour**	**71.02**	**5**	P		**P**		**15 32 19.5**	**+0.2**
A36M				IAmb		IAmb		15 32 34.8	
	comp=Z,7.3nm,1.4s								
IMAR	**Indian Mountai**	**71.96**	**18**	P		**P**		**15 32 24.9**	**-0.3**
E28M	**Babbage River**	**72.57**	**11**	P		**P**		**15 32 29.1**	**+0.5**
E29M	**Blow River**	**73.02**	**11**	P		**P**		**15 32 31.5**	**+0.2**
E29M				IAmb		IAmb		15 33 09.1	
	comp=Z,4.6nm,1.4s								
C36M	**Paulatuk**	**73.69**	**6**	P		**P**		**15 32 35.2**	**+0.1**
C36M				IAmb		IAmb		15 32 35.5	
	comp=Z,7.6nm,1.2s								
INK	**Inuvik**	**73.71**	**9**	P		**P**		**15 32 36.0**	**+0.7**
G31M	**Satah River**	**74.91**	**10**	P		**P**		**15 32 42.4**	**+0.2**
G31M				IAmb		IAmb		15 33 07.3	
	comp=Z,6.1nm,1.4s								
H29M	**Whitestone**	**74.93**	**12**	P		**P**		**15 32 42.8**	**+0.4**
H29M				IAmb		IAmb		15 33 12.0	
	comp=Z,6.8nm,1.4s								
J26L	**Joseph Creek**	**75.52**	**15**	P		**P**		**15 32 45.8**	**-0.1**
J26L				IAmb		IAmb		15 33 21.0	
	comp=Z,6.2nm,1.5s								
SCRK	**Sand Creek**	**75.89**	**15**	P		**P**		**15 32 48.2**	**+0.1**
SCRK				IAmb		IAmb		15 33 00.8	
	comp=Z,5.7nm,1.4s								
H31M	**Peel River**	**75.95**	**11**	P		**P**		**15 32 48.4**	**+0.1**
H31M				IAmb		IAmb		15 32 58.7	
	comp=Z,5.3nm,1.3s								
I30M	**Mount Dempster**	**76.18**	**12**	P		**P**		**15 32 49.9**	**+0.2**
I30M				IAmb		IAmb		15 32 54.2	
	comp=Z,6.8nm,1.5s								
BCAR	**Beaver Creek A**	**77.16**	**15**	P		**P**		**15 32 55.8**	**+0.6**
YKA	**Yellowknife Ar**	**81.06**	**3**	P		**P**		**15 33 16.2**	**+0.1**
YKA	**Yellowknife Ar**	**81.06**	**3**	P		**P**		**15 33 16.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=349,slow=5.5,SNR=12								
	comp=Z,0.5nm,0.6s								
WRA	**Warramunga Arr**	**81.97**	**122**	P		**P**		**15 33 19.2**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=327,slow=4.9,SNR=4.5								
	comp=Z,0.4nm,0.8s								
ASAR	**Alice Springs**	**84.24**	**125**	P		**P**		**15 33 31.1**	**-2.1**
	comp=Z,0.9nm,1.1s,baz=308,slow=4.0,SNR=4.0								
	comp=Z,0.9nm,1.1s								

*IDC **16** 15:29:56.2±2.6,33°.51N×45°.60E,h0km,mb3.8/6,*
mbtmp3.9/8,ML3.7/2,MS3.9/1,Error ellipse: s-maj=53.6km
s-min=25.5km az=34.0
*NEIC **16** 15:29:58.5±0.8,33°.46N±0°.10×45°.7E±0°.2,h10km±2km,*
mb4.2/11,Error ellipse: s-maj=26.8km s-min=15.7km
az=256.0
*TEH **16** 15:29:59.8,33°.70N×45°.70E,h15km±30km,ML3.7*
*ISN **16** 15:30:00.8±0.8,33°.67N×45°.78E,h15km±4km,ML3.7*
ISC 16 15:29:59.8±0.6,33°.69N±0°.03×45°.72E±0°.04,h13km,n48,
σ1s29/50,mb4.2/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.41**	**99**	Pg	**Pg**	**15 30 08.3**	**+0.2**
IBDR	**Badra**	**0.60**	**163**	*e*Pg	**Pb**	**15 30 12.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**15 30 20.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.82**	**352**	Pg	**Pg**	**15 30 15.8**	**0.0**
IGHG	**Ghaleghazi**	**0.95**	**48**	Pg	**Pb**	**15 30 18.5**	**+0.2**
IDHR	**Dehrash**	**1.15**	**29**	Pg	**Pb**	**15 30 21.4**	**-0.3**
BHD	**Baghdad**	**1.20**	**250**	*e*Pg	**Pg**	**15 30 24.0**	**+1.2**
BHD				*e*Sg	**Sn**	**15 30 40.0**	**+1.7**
KCHF	**Cheshme Sefid,**	**1.24**	**62**	Pg	**Pg**	**15 30 24.0**	**+0.2**
IKOM	**Komasi**	**1.56**	**72**	Pg	**Pb**	**15 30 29.4**	**+0.6**
ILIN	**Lien**	**1.60**	**40**	Pg	**Pb**	**15 30 30.0**	**+0.5**
IKFM	**Kafar-mosalman**	**1.78**	**95**	Pg	**Pb**	**15 30 32.5**	**+0.1**
IBZA	**Bozab**	**1.94**	**66**	Pn	**Pb**	**15 30 34.9**	**-0.3**
RAFI	**Al-Rafai**	**1.99**	**170**	*e*Pn	**Pb**	**15 30 35.0**	**-0.9**
RAFI				*e*Sn	**Sb**	**15 31 01.0**	**+0.4**
IALM	**Almabolaq**	**2.34**	**59**	Pn	**Pb**	**15 30 41.1**	**-1.0**
HSAM	**Samen**	**2.45**	**77**	Pn	**Pn**	**15 30 41.7**	**+1.9**
HAGD	**Aghdareh**	**3.05**	**67**	Pn	**Pn**	**15 30 50.2**	**+2.2**
MAHB	**Mahabad**	**3.07**	**360**	Pn	**Pn**	**15 30 49.2**	**+1.0**
IRAZ	**Razeghan**	**3.87**	**63**	Pn	**Pn**	**15 31 01.5**	**+2.2**
IPIR	**Pirpir**	**4.45**	**102**	Pn	**Pn**	**15 31 09.4**	**+2.0**
QAMS	**Qamsar**	**4.73**	**88**	Pn	**Pn**	**15 31 12.9**	**+1.8**
IHRS	**Heris**	**4.74**	**13**	Pn	**Pn**	**15 31 13.6**	**+2.4**
IKLH	**Kolahrood**	**4.91**	**93**	Pn	**Pn**	**15 31 16.5**	**+2.9**
KRSH	**Karshahi**	**5.35**	**85**	Pn	**Pn**	**15 31 21.4**	**+1.9**
IZEF	**Zefreh**	**5.59**	**96**	Pn	**Pn**	**15 31 24.9**	**+1.9**
IRAM	**Ramesheh**	**5.92**	**107**	Pn	**Pn**	**15 31 30.2**	**+2.8**
GNI	**Garni**	**6.50**	**353**	LR	LR	15 34 18.1	
	comp=Z,1μm,20.5s,baz=224,slow=39						
WSAR	**Wadi Sarin**	**15.39**	**129**	Pn	**Pn**	**15 33 33.9**	**-2.9**
	0.4nm,0.3s,baz=8.7,slow=13,SNR=4.5						
	3.9nm,0.7s						
ABKAR	**Akbulak array**	**18.80**	**30**	P	**P**	**15 34 17.5**	**-1.4**
AKTO	**Aktyubinsk**	**19.02**	**25**	P	**Pn**	**15 34 21.8**	**-0.2**
	0.2nm,0.3s,baz=214,slow=14,SNR=1.8						
	1.3nm,0.5s						
FNA	**Florina**	**20.60**	**297**	P	**P**	**15 34 38.0**	**-0.6**
BURAR	**Bucovina Array**	**20.78**	**318**	P	**P**	**15 34 40.8**	**+0.2**
BUR08	**Bucovina Ar. S**	**20.81**	**318**	P	**P**	**15 34 41.2**	**+0.2**
BUR08				IAmb	IAmb	15 35 02.4	
	comp=Z,7.3nm,1.2s						
AKASG	**Malin Array Be**	**20.86**	**330**	P	**P**	**15 34 40.0**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=138,slow=9.9,SNR=5.4						
	comp=Z,0.6nm,0.4s						
BVAR	**Borovoye Array**	**26.14**	**35**	P	**P**	**15 35 33.7**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=250,slow=9.1,SNR=3.0						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**30.54**	**54**	P	**P**	**15 36 13.3**	**+0.4**
MK31				IAmb	IAmb	15 36 21.7	
	comp=Z,2.5nm,1.2s						
MKAR	**Makanchi Array**	**30.54**	**54**	P	**P**	**15 36 13.2**	**+0.2**
MKAR	**Makanchi Array**	**30.54**	**54**	P	**P**	**15 36 13.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=253,slow=8.6,SNR=14						
	comp=Z,0.8nm,0.5s						
BNI	**Bardonecchia**	**31.95**	**302**	P	**P**	**15 36 24.4**	**-1.1**
HFS	**Hagfors**	**33.72**	**331**	P	**P**	**15 36 40.3**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=134,slow=8.3,SNR=8.0						
	comp=Z,2.3nm,0.5s						
ZALV	**Zalesovo Beam**	**34.13**	**42**	P	**P**	**15 36 43.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=258,slow=12,SNR=4.0						
	comp=Z,0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**49.64**	**94**	P	**P**	**15 38 50.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=288,slow=8.1,SNR=4.8						
	comp=Z,0.5nm,0.3s						
C18K	**Utukok River**	**76.03**	**10**	P	**P**	**15 41 47.6**	**+1.2**
C18K				IAmb	IAmb	15 42 06.6	
	comp=Z,2.7nm,1.2s						
D19K	**Kuna River**	**76.58**	**9**	P	**P**	**15 41 50.7**	**+1.1**
D19K				IAmb	IAmb	15 41 57.3	
	comp=Z,5.3nm,1.5s						
D22K	**Ayikyak River**	**76.83**	**7**	P	**P**	**15 41 51.6**	**+0.7**
D22K				IAmb	IAmb	15 42 33.1	
	comp=Z,3.3nm,1.4s						
E19K	**Redstone River**	**77.68**	**9**	P	**P**	**15 41 56.6**	**+0.9**
G19K	**Purcell Mounta**	**78.94**	**9**	P	**P**	**15 42 02.8**	**+0.1**
G19K				IAmb	IAmb	15 42 33.5	
	comp=Z,6.1nm,1.4s						
IMAR	**Indian Mountai**	**79.51**	**8**	P	**P**	**15 42 06.2**	**+0.4**
G31M	**Satah River**	**79.70**	**360**	P	**P**	**15 42 06.2**	**-0.6**
G31M				IAmb	IAmb	15 42 13.0	
	comp=Z,6.2nm,1.4s						
H29M	**Whitestone**	**80.36**	**2**	P	**P**	**15 42 10.8**	**+0.4**

IDC 16 15:37:21.4±1.8,37°.54S×77°.76E,h0km,mb4.0/4,
mbtmp4.0/4,Error ellipse: s-maj=73.1km s-min=32.7km
az=170.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**21.09**	**238**	T	T	16 04 26.8	
	baz=75,slow=75,SNR=957						
H04N1	**CROZET ISLANDS**	**21.11**	**238**	T	T	16 04 25.9	
	baz=75,slow=75,SNR=966						
H04N3	**CROZET ISLANDS**	**21.11**	**238**	T	T	16 04 29.8	
	baz=75,slow=75,SNR=1127						
H04S1	**CROZET ISLANDS**	**21.20**	**236**	T	T	16 04 51.4	
	baz=66,slow=77,SNR=5.8						
H04S3	**CROZET ISLANDS**	**21.22**	**236**	T	T	16 04 33.4	
	baz=66,slow=77,SNR=7.7						
H04S2	**CROZET ISLANDS**	**21.22**	**236**	T	T	16 04 41.1	
	baz=66,slow=77,SNR=5.6						
H08S2	**Diego Garcia H**	**30.14**	**350**	T	T	16 14 57.0	
	baz=171,slow=76,SNR=463						
H08S1	**Diego Garcia H**	**30.15**	**350**	T	T	16 14 57.3	
	baz=171,slow=76,SNR=150						
H08S3	**Diego Garcia H**	**30.16**	**350**	T	T	16 14 58.5	
	baz=171,slow=76,SNR=582						
BOSA	**Boshof**	**44.40**	**266**	P	P	15 45 33.9	-0.1
	6.9nm,0.7s,baz=110,slow=12,SNR=7.8						
	6.9nm,0.7s						
WRA	**Warramunga Arr**	**51.86**	**87**	P	P	15 46 31.6	-0.2
	0.9nm,0.7s,baz=239,slow=7.5,SNR=3.2						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**84.06**	**3**	P	P	15 49 53.9	+0.4
	0.8nm,0.9s,baz=174,slow=6.1,SNR=4.7						
	0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**87.80**	**0**	P	P	15 50 11.5	-0.3
	0.6nm,0.8s,baz=196,slow=5.0,SNR=4.4						
	0.6nm,0.8s						

*IDC **16** 15:40:25.3±1.9,0°.01N×128°.97E,h0km,mb3.6/4,*
mbtmp3.6/4,MS3.8/1,Error ellipse: s-maj=145.1km
s-min=22.6km az=69.0
*DJA **16** 15:40:25.9±0.6,0°N±8°×13°0E±°,h10km,M4.0/9,mb4.4/1,*
MLv3.8/9
*NEIC **16** 15:40:33.0±1.7,0°.35S±0°.07×129°.05E±0°.08,h25km±6km,*
mb4.1/13,Error ellipse: s-maj=12.4km s-min=9.8km
az=64.0
ISC 16 15:40:25.5±1.0,0°.20N±0°.09×129°.49E±0°.06,h10km,n31,
σ1s56/28,mb3.9/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.06**	**121**	P	**Pn**	**15 41 00.7**	**+0.5**
SIJI	**Sorong**	**2.07**	**121**	P	**Pn**	**15 41 00.7**	**+0.4**
LBMI	**Labuha**	**2.15**	**247**	P	**Pn**	**15 41 02.5**	**+1.1**
TNTI	**Ternate**	**2.20**	**285**		**Pn**	**15 41 03.0**	**+1.0**
TNTI	**Ternate**	**2.20**	**285**	P	**Pn**	**15 41 03.5**	**+1.5**
KRAI	**Karang Ratu**	**3.66**	**197**	P	**Pn**	**15 41 24.0**	**+1.8**
FAKI	**Fak Fak**	**4.15**	**138**	Pn	**Pn**	**15 41 29.6**	**+0.7**
FAKI	**Fak Fak**	**4.15**	**138**	P	**Pn**	**15 41 29.6**	**+0.7**
SANI	**Sanana**	**4.15**	**237**	P	**Pn**	**15 41 30.1**	**+1.2**
NLAI	**Namlea**	**4.16**	**215**	P	**Pn**	**15 41 31.1**	**+2.0**
LUWI	**Luwuk**	**6.83**	**260**	Pn	**Pn**	**15 42 02.6**	**-3.2**
LUWI	**Luwuk**	**6.83**	**260**	P	**Pn**	**15 42 06.9**	**+1.2**
MTN	**Manton Dam**	**13.06**	**173**		**Pn**	**15 43 28.7**	**-2.5**
KNRA	**Kununurra**	**15.79**	**183**	Pn	**Pn**	**15 44 05.5**	**-2.6**
KNRA				IAmb	IAmb	15 44 07.8	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**20.41**	**167**	P	**P**	**15 45 03.2**	**+0.3**
UGM	**Wanagama**	**20.55**	**247**	P	**P**	**15 45 01.1**	**-3.4**
WRAB	**Tennant Creek**	**20.56**	**167**	P	**P**	**15 45 05.1**	**+0.6**
WRAB				IAmb	IAmb	15 45 17.6	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**20.57**	**167**	P	**P**	**15 45 05.2**	**+0.6**
WRA	**Warramunga Arr**	**20.57**	**167**	P	**P**	**15 45 05.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=345,slow=11,SNR=13						
	comp=Z,1.5nm,0.6s						
WB2	**Warramunga Arr**	**20.57**	**167**	P	**P**	**15 45 05.1**	**+0.4**
WB2				IAmb	IAmb	15 45 21.7	
	comp=Z,8.9nm,1.4s						
WR0	**Warramunga Arr**	**20.63**	**166**	P	**P**	**15 45 05.7**	**+0.4**
WR0				IAmb	IAmb	15 45 37.5	
	comp=Z,5.8nm,1.2s						
AS31	**Alice Springs**	**24.10**	**170**	P	**P**	**15 45 42.2**	**+0.7**
ASAR	**Alice Springs**	**24.10**	**170**	P	**P**	**15 45 42.5**	**+1.0**
ASAR	**Alice Springs**	**24.10**	**170**	P	**P**	**15 45 42.2**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=352,slow=9.1,SNR=58						
ASAR				LR	LR	15 56 36.4	
	comp=Z,226nm,21.4s,baz=80,slow=40						
	comp=Z,2.9nm,0.6s						
JOW	**Kunigami**	**26.51**	**358**	P	P	15 46 11.5	+8.2
BBOO	**Buckleboo**	**33.41**	**170**	P	**P**	**15 47 06.7**	**+2.3**
STKA	**Stephens Creek**	**33.90**	**161**	P	**P**	**15 47 09.8**	**+1.2**
STKA				IAmb	IAmb	15 47 24.9	
	comp=Z,1.7nm,1.4s						
MKAR	**Makanchi Array**	**62.01**	**325**	P	**P**	**15 50 46.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=131,slow=7.4,SNR=4.2						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**66.18**	**327**	P	**P**	**15 51 13.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=126,slow=5.6,SNR=5.0						
	comp=Z,0.3nm,0.6s						
L19K	**White Mountain**	**83.16**	**27**	P	P	15 53 00.8	+9.1
L19K				IAmb	IAmb	15 53 22.4	
	comp=Z,6.8nm,1.1s						
G19K	**Purcell Mounta**	**83.16**	**23**	P	P	15 53 00.3	+8.8
G19K				IAmb	IAmb	15 53 43.6	
	comp=Z,5.3nm,1.5s						

*CATAC **16** 15:41:31.2±0.7,10°.80N×86°.57W,h3km±4km,ML4.0*
*IDC **16** 15:41:31.1±1.6,11°.83N×85°.28W,h0km,mb3.4/5,*
mbtmp3.4/5,Error ellipse: s-maj=100.8km s-min=17.7km
az=72.0
*UCR **16** 15:41:32.7±0.7,10°.88N×86°.46W,h6km±12km,MW4.1*
ISC 16 15:41:31.4±1.4,10°.82N±0°.03×86°.55W±0°.05,h10km±9km,
n77,σ1s16/104,mb3.4/5,5C-2D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.94**	**74**	*e*P	**Pg**	**15 41 49.8**	**+0.2**
LCRUZ				*e*S	**Sg**	**15 42 02.8**	**+1.0**
HZTE	**Horizontes, Gu**	**0.94**	**96**	⇓*e*P	**Pg**	**15 41 49.7**	**+0.1**
HZTE				*e*S	**Sg**	**15 42 02.5**	**+0.6**
HZTE	**Horizontes, Gu**	**0.94**	**96**	*i* P	**Pg**	**15 41 49.4**	**-0.2**
HZTE				*i* S	**Sg**	**15 42 03.0**	**+1.1**
HZTE				IAML		15 42 08.9	
	comp=Z,5μm,1.0s						
ELI1	**Hacienda Flor**	**0.99**	**100**	*e*P	**Pb**	**15 41 51.1**	**+0.4**
ELI1				*e*S	**Sb**	**15 42 05.2**	**+1.4**
MSHP	**Masachapa**	**1.01**	**1**	*i* P	**Pb**	**15 41 51.8**	**+0.8**
MSHP				IAML		15 42 09.0	
	comp=Z,690nm,1.0s						
DELF	**Filadelfia**	**1.04**	**110**	*e*P	**Pb**	**15 41 52.4**	**+0.8**
NADN	**Granada**	**1.06**	**29**	*i* P	**Pg**	**15 41 51.5**	**-0.3**
NADN				*i* S	**Sg**	**15 42 06.3**	**+0.7**
NADN				IAML		15 42 12.0	
	comp=Z,10μm,1.0s						
ADRN	**Diramba**	**1.08**	**16**	*i* P	**Pb**	**15 41 52.9**	**+0.7**
ADRN				*i* S	**Sg**	**15 42 07.1**	**+0.8**
ADRN				IAML		15 42 09.2	
	comp=Z,15μm,1.0s						
JAPN	**Al SSO del Vol**	**1.11**	**50**	*i* P	**Pg**	**15 41 52.5**	**-0.3**
JAPN				IAML		15 41 53.1	
	comp=Z,4μm,1.0s						
GB1A	**Borinquen Arri**	**1.13**	**90**⇑	*e*P	**Pg**	**15 41 52.6**	**-0.6**
GB1A				*e*S	**Sg**	**15 42 07.8**	**-0.1**
OMEN	**Al SSO del Vol**	**1.14**	**53**	*i* P	**Pg**	**15 41 52.5**	**-0.8**
OMEN				*i* S	**Sb**	**15 42 09.3**	**+1.3**
OMEN				IAML		15 42 10.6	
	comp=Z,4μm,1.0s						
MORN	**Al O del Volca**	**1.14**	**50**	*i* P	**Pg**	**15 41 51.6**	**-1.9**
MORN				IAML		15 41 53.3	
	comp=Z,8μm,1.0s						
ORTG	**Ortega, Santa**	**1.16**	**113**	*e*P	**Pg**	**15 41 53.0**	**-0.7**
ORTG	**Ortega, Santa**	**1.16**	**113**	*i* P	**Pg**	**15 41 52.9**	**-0.9**
ORTG				*i* S	**Sb**	**15 42 09.7**	**+0.9**
ORTG				IAML		15 42 12.4	
	comp=Z,1μm,1.0s						
VRLE	**La Escondida,**	**1.16**	**91**⇑	*e*P	**Pg**	**15 41 52.9**	**-0.9**
VRLE	**La Escondida,**	**1.16**	**91**	*i* P	**Pg**	**15 41 53.1**	**-0.7**
VRLE				*i* S	**Sg**	**15 42 09.6**	**+0.6**
VRLE				IAML		15 42 10.0	
	comp=Z,2μm,1.0s						
GPS3	**Bodega del ICE**	**1.16**	**93**	*e*P	**Pn**	**15 41 55.6**	**+1.8**
GPS3				*e*S	**Sb**	**15 42 09.9**	**+1.0**
CONN	**Concepcion**	**1.17**	**50**	*i* P	**Pg**	**15 41 52.3**	**-1.7**
CONN				IAML		15 41 53.1	
	comp=Z,19μm,1.0s						
CONN				*i* S	**Sg**	**15 42 09.0**	**-0.2**
VORI	**VORI**	**1.18**	**90**⇑	*i* P	**Pg**	**15 41 53.4**	**-0.7**
VORI				*e*S	**Sg**	**15 42 08.9**	**-0.7**
JUD3	**Juan Diaz 3**	**1.18**	**123**	*e*P	**Pg**	**15 41 53.6**	**-0.6**
CRUN	**El Crucero**	**1.19**	**12**	*i* P	**Pb**	**15 41 54.9**	**+0.8**
CRUN				IAML		15 42 23.4	
	comp=Z,12nm,1.0s						
NANN	**Nandasmo**	**1.19**	**21**	*i* P	**Pn**	**15 41 55.3**	**+1.1**
NANN				*i* S	**Sn**	**15 42 12.2**	**+1.7**
NANN				IAML		15 42 29.8	
	comp=Z,50μm,1.0s						
MASN	**Masaya**	**1.23**	**18**	*i* P	**Pg**	**15 41 54.9**	**-0.2**
MASN				*i* S	**Sn**	**15 42 13.1**	**+1.7**
MASN				IAML		15 42 13.8	
	comp=Z,740nm,1.0s						
AMYN	**Masaya**	**1.24**	**21**	*i* S	**Sg**	**15 42 10.8**	**-0.7**
GRNN	**Granada**	**1.25**	**28**	*i* S	**Sg**	**15 42 11.1**	**-0.7**
MAS3	**Al N del Volca**	**1.26**	**17**	*i* P	**Pg**	**15 41 54.2**	**-1.4**
MAS3				IAML		15 42 14.0	
	comp=Z,2μm,1.0s						
PLVR	**Palo Verde**	**1.27**	**111**	*e*P	**Pg**	**15 41 55

comp=Z,1.2nm,0.7s,baz=134,slow=9.1,SNR=5.3
comp=Z,1.2nm,0.7s

PDAR Pinedale Array 37.62 332 P **P** **15 48 45.2 -1.5**
comp=Z,0.5nm,0.7s,baz=139,slow=8.4,SNR=4.9
comp=Z,0.5nm,0.7s

NVAR Mina Array Bea 39.51 319 P **P** **15 49 05.7 +3.0**
comp=Z,0.4nm,0.5s,baz=128,slow=7.3,SNR=4.6
comp=Z,0.4nm,0.5s

YKA Yellowknife Ar 55.41 345 P **P** **15 51 03.0 -2.7**
comp=Z,0.3nm,0.8s,baz=149,slow=6.3,SNR=5.2
comp=Z,0.3nm,0.8s

ILAR Eielson Array 67.86 336 P **P** **15 52 27.6 -2.1**
comp=Z,0.3nm,0.6s,baz=127,slow=4.4,SNR=8.4
comp=Z,0.3nm,0.6s

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*MOS **16** 15:42:35.7, 42°.36N×48°.21E, h63km±2km, MPVA3.8*
*DRS **16** 15:42:36.7, 42°.57N×48°.61E, h24km*
ISC 16 15:42:38.4±1.4, 42°.32N±0°.03×47°.98E±0°.04, h15km±10km, n31, σ2s75/57, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SGKR	**Sergokala**	**0.28**	**300**	*e*Pg		**Pn**	**15 42 48.6**	**+0.7**
SGKR				*e*Sg		**Sb**	**15 42 57.8**	**+8.2**
URKR	**Urkarakh**	**0.30**	**239**	*e*Pg		**Pn**	**15 42 49.1**	**+0.7**
URKR				*e*Sg		**Sb**	**15 42 58.4**	**+8.0**
DRN	**Derbent**	**0.39**	**138**	*e*Pg		**Pn**	**15 42 48.4**	**-1.1**
DRN				*e*Sg		**Sb**	**15 42 56.4**	**+3.6**
KMKR	**Kumukh**	**0.68**	**254**	*e*Pg		**Pn**	**15 42 53.7**	**0.0**
KMKR				*e*Sg		**Sn**	**15 43 06.7**	**+2.5**
KSMR	**Kasumkent**	**0.73**	**171**	*i* Pg		**Pb**	**15 42 52.5**	**-0.3**
KSMR				*e*Sg		**Sn**	**15 43 05.5**	**+0.4**
MAK	**Makhachkala**	**0.73**	**331**	*e*Pg		**Pb**	**15 42 52.3**	**-0.5**
MAK				*i* Sg		**Sn**	**15 43 05.4**	**+0.4**
GNBR	**Gunib**	**0.76**	**275**	*e*Pg		**Pn**	**15 42 54.5**	**-0.1**
GNBR				*e*Sg		**Sn**	**15 43 08.2**	**+2.4**
ARKR	**Arakani**	**0.78**	**291**	*e*Pg		**Pb**	**15 42 54.3**	**+0.6**
ARKR				*e*Sg		**Sn**	**15 43 08.6**	**+2.1**
BUJR	**Buynaksk**	**0.82**	**308**	*e*Pg		**Pn**	**15 42 55.0**	**-0.4**
BUJR				*i* Sg		**Sn**	**15 43 08.3**	**+1.0**
AKT	**Akhty**	**0.86**	**193**	*i* Pg		**Pg**	**15 42 54.5**	**-0.6**
AKT				*e*Sg		**Sn**	**15 43 08.4**	**-0.1**
KRNR	**Karanay**	**0.94**	**303**	*e*Pg		**Pb**	**15 42 56.4**	**-0.1**
KRNR				*e*Sg		**Sn**	**15 43 11.4**	**+1.0**
KANR	**Karaman**	**0.94**	**338**	*e*Pg		**Pn**	**15 42 58.4**	**+1.3**
KANR				*e*Sg		**Sn**	**15 43 11.6**	**+1.3**
XNZR	**Khunzakh**	**0.97**	**283**	*i* Pg		**Pb**	**15 42 57.1**	**+0.1**
XNZR				*e*Sg		**Sn**	**15 43 13.3**	**+2.0**
DBC	**Dubki**	**1.10**	**310**	*i* Pg		**Pg**	**15 42 58.3**	**-1.3**
DBC				*e*Sg		**Sn**	**15 43 14.3**	**0.0**
DLMR	**Dylym**	**1.24**	**307**	*e*Pg		**Pn**	**15 42 60.0**	**-1.3**
DLMR				*e*Sg		**Sn**	**15 43 18.9**	**+1.1**
BTLR	**Botlikh**	**1.34**	**285**	*e*Pg		**Pn**	**15 43 02.0**	**-0.7**
BTLR				*e*Sg		**Sg**	**15 43 22.9**	**+1.1**
DVE	**Vedeno**	**1.51**	**295**	*e*Pg		**Pn**	**15 43 04.2**	**-0.7**
DVE				*e*Sg		**Sb**	**15 43 25.3**	**+0.2**
VSHL	**Vashlovani**	**1.61**	**228**	P		**Pn**	**15 43 05.2**	**-1.2**
SHTL	**Shatili**	**2.12**	**280**	P		**Pn**	**15 43 11.6**	**-1.8**
CHRG	**Chargali**	**2.27**	**271**	P		**Pn**	**15 43 13.6**	**-1.8**
LACR	**Lac**	**2.77**	**282**	*e*Pn		**Pn**	**15 43 19.0**	**-3.3**
LACR				*e*Sn		**Sn**	**15 43 53.0**	**-2.5**
KORR	**Kora**	**2.98**	**286**	*e*Pn		**Pn**	**15 43 22.6**	**-2.6**
KORR				*e*Sn		**Sn**	**15 43 58.8**	**-2.0**
TRLG	**Trialeti**	**3.00**	**256**	P		**Pn**	**15 43 22.7**	**-2.8**
TRLG				S		**Sn**	**15 43 57.6**	**-3.6**
DMNI	**Dmanisi**	**3.00**	**252**	P		**Pn**	**15 43 22.4**	**-3.1**
DMNI				S		**Sn**	**15 43 57.4**	**-3.9**
ZEI	**Tsey**	**3.05**	**280**	*e*Pn		**Pn**	**15 43 23.0**	**-3.2**
ZEI				*e*Sn		**Sn**	**15 44 00.5**	**-2.1**
ALIG	**Mtskhetisjvari**	**3.23**	**268**	P		**Pn**	**15 43 26.1**	**-2.4**
ABS	**Abastumani**	**3.89**	**263**	P		**Pn**	**15 43 35.0**	**-2.8**
PYA1	**Pyatigorsk**	**3.97**	**298**	*e*Pn		**Pn**	**15 43 36.5**	**-2.3**
PYA1				*e*Sn		**Sn**	**15 44 19.3**	**-5.9**
SHA1	**Shidzhatmaz**	**4.15**	**292**	*i* Pn		**Pn**	**15 43 38.1**	**-3.3**
SHA1				*i* Sn		**Sn**	**15 44 25.3**	**-4.5**
KIV	**Kislovodsk**	**4.20**	**295**	*e*Pn		**Pn**	**15 43 41.2**	**-0.8**
KIV				*e*Sn		**Sn**	**15 44 26.4**	**-4.5**
ALER	**Alexandrovskoy**	**4.42**	**305**	*e*Pn		**Pn**	**15 43 41.8**	**-3.1**
ALER				*e*Sn		**Sn**	**15 44 32.9**	**-3.2**

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*IDC **16** 15:52:43.9±4.4, 1°.98N×98°.43E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=241.2km s-min=20.5km az=54.0*
*DJA **16** 15:53:04.3±0.5, 2°.N±3°×9°.9E±°, h141km±5km, M3.7/11, MLv3.7/11*
ISC 16 15:53:02.9±0.9, 2°.35N±0°.06×98°.99E±0°.07, h150km, n17, σ1s16/18, mb3.4/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PSI	**Prapat**	**0.46**	**352**	P		**Pn**	**15 53 24.5**	**+0.3**
PSI				S		**Sn**	**15 53 39.6**	**-0.9**
KCSI	**Kotacane, Aceh**	**1.69**	**314**	P		**Pn**	**15 53 34.9**	**+0.4**
GSI	**Gunungsitoli**	**1.75**	**234**	P		**Pn**	**15 53 36.4**	**+1.4**
PBSI	**Pulau Batu**	**2.49**	**197**	P		**Pn**	**15 53 45.3**	**+1.4**
SNSI	**Sinabang, Aceh**	**2.66**	**271**	P		**Pn**	**15 53 47.4**	**+1.4**
IPM	**Ipoh**	**2.94**	**44**	P		**Pn**	**15 53 52.2**	**+2.7**
MLSI	**Meulaboh, Aceh**	**3.21**	**307**	P		**Pn**	**15 53 53.4**	**+0.5**
KULM	**Kulim**	**3.36**	**30**	P		**Pn**	**15 53 54.8**	**-0.1**
LHMI	**Lhok Sumawe**	**3.51**	**325**	P		**Pn**	**15 53 57.6**	**+0.7**
PDSI	**Padang**	**3.56**	**155**	P		**Pn**	**15 53 58.9**	**+1.5**
SISI	**Saibi**	**3.65**	**178**	P		**Pn**	**15 53 57.6**	**-1.0**
WRA	**Warramunga Arr**	**41.16**	**124**	P		**P**	**16 00 32.5**	**-0.3**
	0.7nm,0.5s,baz=301,slow=9.2,SNR=6.8 0.7nm,0.5s							
ASAR	**Alice Springs**	**42.69**	**129**	P		**P**	**16 00 44.4**	**-0.9**
	0.4nm,0.5s,baz=302,slow=7.8,SNR=7.9 0.4nm,0.5s							
MKAR	**Makanchi Array**	**46.60**	**344**	P		**P**	**16 01 15.7**	**-0.1**
	0.2nm,0.5s,baz=160,slow=9.3,SNR=5.2 0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**51.12**	**343**	P		**P**	**16 01 49.4**	**-0.8**
	0.3nm,0.6s,baz=165,slow=5.7,SNR=4.1 0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**52.74**	**350**	P		**P**	**16 02 01.5**	**-0.6**
	0.4nm,0.4s,baz=156,slow=8.9,SNR=2.9 0.4nm,0.4s							
BVAR	**Borovoye Array**	**55.78**	**340**	P		**P**	**16 02 24.1**	**0.0**
	0.6nm,0.5s,baz=143,slow=10,SNR=5.1 0.6nm,0.5s							

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*NEIC **16** 16:11:18.9±0.7, 6°.4S±0°.1×151°.3E±0°.2, h13km±7km, mb4.3/13, Error ellipse: s-maj=29.9km s-min=10.2km az=124.0*
*IDC **16** 16:11:27.3±5.4, 6°.68S×150°.90E, h50km±46km, mb3.8/12, mbtmp4.0/13, ML2.0/1, Error ellipse: s-maj=35.6km s-min=18.8km az=86.0*
ISC 16 16:11:19.8±0.7, 6°.5S±0°.1×151°.2E±0°.1, h10km, n33, σ1s58/33, mb4.2/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RABL	**Rabaul**	**2.46**	**24**	Pn		**Pn**	**16 11 57.2**	**-2.9**
PMG	**Port Moresby**	**4.93**	**233**			**Pn**	**16 12 34.6**	**+0.5**
PMG	**Port Moresby**	**4.93**	**233**	P		**Pn**	**16 12 35.3**	**+1.3**
	5.4nm,0.3s,baz=45,slow=5.7,SNR=18							
PMG				S		**Sn**	**16 13 26.8**	**-4.5**
	12nm,0.3s,baz=273,slow=9.6,SNR=3.3 11nm,0.3s							
COEN	**Coen**	**10.83**	**226**	Pn		**Pn**	**16 13 54.8**	**-0.3**
CTAO	**Charters Tower**	**14.36**	**199**	P		**P**	**16 14 50.1**	**-0.4**
MTN	**Manton Dam**	**20.74**	**251**	P		**P**	**16 16 00.6**	**-0.3**
MTN				IAmb	IAmb	IAmb	16 16 30.3	
	comp=Z,14nm,1.0s							
WB0	**Warramunga Arr**	**20.99**	**229**	P		**P**	**16 16 02.8**	**-0.8**
WB0				IAmb	IAmb	IAmb	16 16 03.6	
	comp=Z,10.0nm,0.8s							
WR0	**Warramunga Arr**	**21.00**	**229**	P		**P**	**16 16 03.0**	**-0.6**
WRAB	**Tennant Creek**	**21.12**	**229**	P		**P**	**16 16 03.9**	**-1.1**
WRAB				IAmb	IAmb	IAmb	16 16 04.9	
	comp=Z,11nm,0.9s							
WB2	**Warramunga Arr**	**21.13**	**229**	P		**P**	**16 16 04.2**	**-0.8**
WB2				IAmb	IAmb	IAmb	16 16 05.1	
	comp=Z,9.7nm,0.8s							
WRA	**Warramunga Arr**	**21.14**	**229**	P		**P**	**16 16 04.5**	**-0.6**
	comp=Z,6.2nm,0.7s,baz=54,slow=11,SNR=33							
WRA				PcP		**PcP**	**16 20 13.5**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=59,slow=2.0,SNR=4.6 comp=Z,6.2nm,0.7s							
KNRA	**Kununurra**	**23.80**	**246**	P		**P**	**16 16 32.0**	**-1.0**
AS31	**Alice Springs**	**23.84**	**222**	P		**P**	**16 16 32.3**	**-1.1**
ASAR	**Alice Springs**	**23.84**	**222**	P		**P**	**16 16 32.5**	**-0.9**
ASAR	**Alice Springs**	**23.84**	**222**	P		**P**	**16 16 32.8**	**-0.6**
	comp=Z,8.9nm,0.7s,baz=55,slow=8.7,SNR=60 comp=Z,8.9nm,0.7s							
STKA	**Stephens Creek**	**26.82**	**198**	P		**P**	**16 16 59.1**	**-1.3**
STKA	**Stephens Creek**	**26.82**	**198**	P		**P**	**16 16 59.4**	**-1.0**
	comp=Z,5.3nm,0.7s,baz=8.8,slow=10,SNR=12 comp=Z,5.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**27.45**	**243**	P		**P**	**16 17 05.8**	**-0.5**
FITZ				IAmb		IAmb	16 17 07.0	
	comp=Z,3.0nm,0.6s							
FORT	**Forrest**	**32.48**	**219**	P		**P**	**16 17 49.9**	**-0.9**
JAGI	**Jajag, Banyuwa**	**36.75**	**265**	P		**P**	**16 18 26.5**	**-1.4**
MORW	**Morawa**	**40.05**	**232**	P		**P**	**16 18 54.9**	**-0.6**
MORW				IAmb		IAmb	16 18 55.8	
	comp=Z,7.5nm,0.8s							
SONM	**Songino Array**	**66.88**	**329**	P		**P**	**16 22 15.1**	**+2.8**
	comp=Z,0.6nm,0.8s,baz=171,slow=5.7,SNR=4.7 comp=Z,0.6nm,0.8s							
VNDA	**Vanda**	**71.24**	**178**	P		**P**	**16 22 38.8**	**0.0**
VNDA				IAmb		IAmb	16 22 40.3	
	comp=Z,2.7nm,0.8s							
VNDA	**Vanda**	**71.24**	**178**	P		**P**	**16 22 40.1**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=334,slow=6.9,SNR=15 comp=Z,1.5nm,0.6s							
MKAR	**Makanchi Array**	**80.52**	**319**	P		**P**	**16 23 34.4**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=103,slow=7.7,SNR=2.2 comp=Z,0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**81.64**	**327**	P		**P**	**16 23 39.5**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=110,slow=8.9,SNR=4.2 comp=Z,0.7nm,0.6s							
QSPA	**South Pole Qui**	**83.51**	**180**	P		**P**	**16 23 49.1**	**+1.3**
	comp=Z,3.3nm,0.6s,baz=308,slow=0.8,SNR=26 comp=Z,3.3nm,0.6s							
KURBB	**Kurchatov Arra**	**84.11**	**322**	P		**P**	**16 23 52.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=112,slow=3.8,SNR=4.4 comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**84.30**	**22**	P		**P**	**16 23 54.2**	**+2.6**
	comp=Z,0.8nm,0.6s,baz=250,slow=5.0,SNR=22 comp=Z,0.8nm,0.6s							
NVAR	**Mina Array Bea**	**94.38**	**52**	P		P	16 24 44.9	+4.3
	comp=Z,0.4nm,0.5s,baz=247,slow=5.8,SNR=5.0 comp=Z,0.4nm,0.5s							
YKA	**Yellowknife Ar**	**97.64**	**28**	P		Pdif	16 24 58.1	+3.5
	comp=Z,0.2nm,0.6s,baz=270,slow=5.1,SNR=4.7 comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.22**	**285**	PKPbc		**PKiKP**	**16 31 10.7**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=52,slow=3.1,SNR=7.4							
BDFB	**Brasilia**	**150.96**	**139**	PKPbc		**PKPbc**	**16 31 13.4**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=42,slow=4.9,SNR=5.0							

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*JMA **16** 16:32:52.7±0.1, 24°.N±1°×122°.9E±0°.4, h55km±4km, MV1.9/14, NEAR ISHIGAKIJIMA ISLAND*
*TAP **16** 16:32:53.7, 23°.80N×122°.86E, h49km, ML2.6, D*
ISC 16 16:32:52.8±1.1, 23°.70N±0°.04×122°.91E±0°.02, h32km±11km, n74, σ1s26/128, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EOS4	**EOS4**	**0.68**	**308**	*e*P		**Pb**	**16 33 06.2**	**+0.2**
	baz=300							
EOS4				S		**Sb**	**16 33 15.0**	**0.0**
	baz=300							
JYNG	**Yonagunijimaku**	**0.74**	**3**	P		**Pb**	**16 33 07.2**	**-0.2**
JYNG				S		**Sb**	**16 33 16.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.76**	**7**	P		**Pb**	**16 33 07.2**	**-0.3**
YOJ				S		**Sb**	**16 33 17.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.76**	**7**	P		**Pb**	**16 33 07.4**	**-0.2**
	baz=10.0							
YOJ				*e*S		**Sb**	**16 33 17.3**	**-0.4**
	baz=10.0							
EOS3	**EOS3**	**0.79**	**317**	P		**Pb**	**16 33 08.3**	**+0.3**
	baz=319							
EOS3				*i* S		**Sb**	**16 33 18.5**	**+0.1**
	baz=319							
HATJ	**Hateruma jima**	**0.90**	**67**	P		**Pb**	**16 33 09.3**	**-0.5**
HATJ				S		**Sb**	**16 33 21.2**	**-0.2**
IRIF	**Iriomote-Funau**	**0.98**	**50**	P		**Pn**	**16 33 10.5**	**+0.2**
IRIF				S		**Sb**	**16 33 23.6**	**-0.3**
JKRS	**Kuro-shima**	**1.14**	**62**	P		**Pn**	**16 33 13.2**	**+0.7**
JKRS				S		**Sn**	**16 33 27.9**	**+0.8**
SHUL	**Shoufeng**	**1.23**	**274**	*e*P		**Pn**	**16 33 13.1**	**-0.7**
	baz=269							
SHUL				*e*S		**Sn**	**16 33 28.8**	**-0.6**
	baz=269							
TEGC	**Jichi Village**	**1.25**	**270**	*e*P		**Pn**	**16 33 13.9**	**-0.1**
	baz=266							
TWD	**Chiawan**	**1.26**	**288**	*e*P		**Pn**	**16 33 13.0**	**-1.1**
	baz=283							
TWD				*e*S		**Sn**	**16 33 28.2**	**-1.7**
	baz=283							
ETL	**Fush Village**	**1.26**	**291**	*e*P		**Pn**	**16 33 13.9**	**-0.3**
	baz=276							
ETL				*e*S		**Sn**	**16 33 29.1**	**-1.0**
	baz=276							
ENA	**Nanau**	**1.29**	**304**	*e*P		**Pn**	**16 33 14.6**	**+0.1**
	baz=301							
ENA				*e*S		**Sn**	**16 33 29.9**	**-0.8**
	baz=301							
NACB	**Ninganchiao**	**1.29**	**292**	*e*P		**Pn**	**16 33 14.0**	**-0.6**
	baz=277							
NACB				*e*S		**Sn**	**16 33 29.2**	**-1.5**
	baz=277							
JIJ	**Ishigaki jima**	**1.31**	**60**	P		**Pn**	**16 33 15.1**	**+0.2**
JIJ				S		**Sn**	**16 33 30.9**	**-0.3**
ETM	**Tongmen**	**1.32**	**282**	*e*P		**Pn**	**16 33 14.4**	**-0.6**
	baz=271							
ETM				*e*S		**Sn**	**16 33 30.2**	**-1.4**
	baz=271							
ESL	**Shilin**	**1.35**	**275**	*e*P		**Pn**	**16 33 14.7**	**-0.8**
	baz=262							
ESL				*e*S		**Sn**	**16 33 30.2**	**-2.2**
	baz=262							
EGFH	**Guangfu**	**1.36**	**269**	*e*P		**Pn**	**16 33 15.6**	**+0.1**
	baz=264							
EGFH				*e*S		**Sn**	**16 33 31.1**	**-1.3**
	baz=264							
HGSD	**Ruisui**	**1.38**	**261**	P		**Pn**	**16 33 15.2**	**-0.6**
	baz=257							
HGSD				*i* S		**Sn**	**16 33 31.2**	**-1.8**
	baz=257							
WARBT	**Fenglin Townsh**	**1.39**	**271**	P		**Pn**	**16 33 15.2**	**-0.8**
	baz=259							
WARBT				*e*S		**Sn**	**16 33 31.6**	**-1.8**
	baz=259							
ETLH	**Xiulin Townshi**	**1.40**	**291**	*e*P		**Pn**	**16 33 15.9**	**-0.2**
	baz=279							
ETLH				*e*S		**Sn**	**16 33 32.2**	**-1.3**
	baz=279							
LXIB	**Xiulin Townshi**	**1.40**	**283**	*e*P		**Pn**	**16 33 15.5**	**-0.8**
	baz=273							
LXIB				*e*S		**Sn**	**16 33 32.7**	**-1.1**
	baz=273							
EHY	**Hungye**	**1.47**	**263**	P		**Pn**	**16 33 17.1**	**0.0**
	baz=258							
EHY				*e*S		**Sn**	**16 33 33.9**	**-1.3**
	baz=258							
EYUL	**Yuli**	**1.50**	**257**	P		**Pn**	**16 33 17.6**	**+0.1**
	baz=245							
EYUL				*e*S		**Sn**	**16 33 35.5**	**-0.5**
	baz=245							
LATG	**Datong**	**1.51**	**304**	*e*P		**Pn**	**16 33 18.1**	**+0.4**
	baz=289							
LATG				*e*S		**Sn**	**16 33 36.9**	**+0.5**
	baz=289							
YULB	**Yu-li**	**1.51**	**258**	P		**Pn**	**16 33 17.2**	**-0.4**
	baz=247							
YULB				*e*S		**Sn**	**16 33 35.4**	**-0.9**
	baz=247							
TWF1	**Yuli**	**1.52**	**257**	P		**Pn**	**16 33 17.5**	**-0.2**
	baz=246							
TWF1				*e*S		**Sn**	**16 33 35.4**	**-1.0**
	baz=246							
ENTT	**Nioudou**	**1.54**	**308**	*e*P		**Pn**	**16 33 18.4**	**+0.4**
	baz=293							
JISG	**Ishigakijimahi**	**1.56**	**55**	P		**Pn**	**16 33 18.0**	**-0.3**
JISG				S		**Sn**	**16 33 36.8**	**-0.5**
NDT	**Datong Townshi**	**1.56**	**305**	*e*P		**Pn**	**16 33 19.2**	**+0.9**
	baz=292							
FULB	**Fuli**	**1.56**	**252**	*e*P		**Pn**	**16 33 18.1**	**-0.3**
	baz=238							
FULB				S		**Sn**	**16 33 35.4**	**-2.2**
	baz=238							
WHF	**Hehuan Shan**	**1.56**	**287**	*e*P		**Pn**	**16 33 18.6**	**-0.2**
	baz=282							
WHF				*e*S		**Sn**	**16 33 36.8**	**-1.4**
	baz=282							
NNSB	**Datong**	**1.57**	**298**	P		**Pn**	**16 33 18.4**	**-0.1**
	baz=285							
NNSB				*i* S		**Sn**	**16 33 37.2**	**-0.7**
	baz=285							
NNS	**Nan Shan**	**1.58**	**298**	*e*P		**Pn**	**16 33 19.3**	**+0.5**
	baz=286							
NNS				*e*S		**Sn**	**16 33 37.4**	**-0.8**
	baz=286							
FUSB	**Fushanzhiwuyua**	**1.60**	**311**	P		**Pn**	**16 33 20.1**	**+1.1**
	baz=297							
FUSB				*e*S		**Sn**	**16 33 38.5**	**-0.1**
	baz=297							
TIPB	**Shuangxi**	**1.60**	**322**	*e*P		**Pn**	**16 33 18.7**	**-0.2**
	baz=331							
TIPB				*e*S		**Sn**	**16 33 37.3**	**-1.3**
	baz=331							
OWD	**Renai**	**1.60**	**279**	*e*P		**Pn**	**16 33 19.5**	**+0.5**
	baz=275							
OWD				*e*S		**Sn**	**16 33 37.6**	**-1.2**
	baz=275							
VWDT	**VWDT**	**1.62**	**272**	*e*P		**Pn**	**16 33 19.3**	**+0.2**
	baz=268							
VWDT				*e*S		**Sn**	**16 33 38.4**	**-0.5**
	baz=268							
CHGB	**Renai**	**1.62**	**283**	*e*P		**Pn**	**16 33 19.3**	**-0.1**
	baz=272							
CHGB				*e*S		**Sn**	**16 33 38.4**	**-1.0**
	baz=272							
EHD	**Haiduan**	**1.66**	**251**	*e*P		**Pn**	**16 33 19.7**	**0.0**
	baz=240							
EHD				*i* S		**Sn**	**16 33 38.5**	**-1.4**
	baz=240							
WUSB	**Renai**	**1.66**	**280**	*e*P		**Pn**	**16 33 20.0**	**+0.1**
	baz=276							
WUSB				*e*S		**Sn**	**16 33 38.7**	**-1.5**
	baz=276							
NWLT	**Wulai**	**1.67**	**310**	*e*P		**Pn**	**16 33 20.9**	**+1.1**
	baz=296							
NWLT				*e*S		**Sn**	**16 33 39.5**	**-0.7**
	baz=296							
LDUT	**Ludao**	**1.67**	**232**	*e*P		**Pn**	**16 33 18.8**	**-1.1**
	baz=229							
LDUT				*e*S		**Sn**	**16 33 37.7**	**-2.6**
	baz=229							
SXI1	**Grass Mountain**	**1.67**	**326**	*e*P		**Pn**	**16 33 19.8**	**-0.2**
	baz=334							
SXI1				*e*S		**Sn**	**16 33 39.0**	**-1.3**
	baz=334							
YHNB	**Yeheng**	**1.70**	**305**	*e*P		**Pn**	**16 33 20.9**	**+0.6**
	baz=290							
YHNB				*e*S		**Sn**	**16 33 39.9**	**-1.1**
	baz=290							
NSK	**Sanguang**	**1.71**	**305**	*e*P		**Pn**	**16 33 20.7**	**+0.2**
	baz=290							
NSK				*e*S		**Sn**	**16 33 39.9**	**-1.5**
	baz=290							
SSLB	**Suanglung**	**1.79**	**273**	*e*P		**Pn**	**16 33 21.4**	**-0.2**
	baz=269							
ELDTW	**Lidau**	**1.81**	**254**	*e*P		**Pn**	**16 33 21.6**	**-0.2**
	baz=250							
ELDTW				*e*S		**Sn**	**16 33 41.8**	**-2.0**
	baz=250							
SMLT	**Sun Moon Lake**	**1.85**	**276**	*e*P		**Pn**	**16 33 23.1**	**+0.8**
	baz=272							
SMLT				*e*S		**Sn**	**16 33 44.7**	**0.0**
	baz=272							
NFF	**Wufeng Townshi**	**1.88**	**300**	*e*P		**Pn**	**16 33 24.5**	**+1.7**
	baz=296							
NFF				*e*S		**Sn**	**16 33 45.1**	**-0.3**
	baz=296							
WHP	**Taichung City**	**1.88**	**288**	*e*P		**Pn**	**16 33 25.0**	**+2.2**
	baz=284							
WHP				*e*S		**Sn**	**16 33 46.3**	**+0.8**
	baz=284							
WHYT	**Xinyi Township**	**1.88**	**270**	*e*P		**Pn**	**16 33 23.0**	**+0.2**
	baz=261							
JTJ	**Tarama**	**1.89**	**60**	*e*S		**Sn**	**16 33 46.0**	**+0.5**
TWGBT	**Beinan**	**1.90**	**243**	*e*P		**Pn**	**16 33 21.6**	**-1.4**
	baz=233							
TWG	**Pinlang**	**1.90**	**243**	*e*P		**Pn**	**16 33 22.7**	**-0.3**
	baz=232							
TWG				*e*S		**Sn**	**16 33 44.6**	**-1.3**
	baz=232							
ALS	**Alishan**	**1.94**	**265**	*e*P		**Pn**	**16 33 24.5**	**+0.7**
	baz=261							
LIOB	**Emei**	**1.96**	**299**	*e*P		**Pn**	**16 33 25.6**	**+1.7**
	baz=296							
NSTT	**Nanjuang**	**1.97**	**298**	*e*P		**Pn**	**16 33 25.7**	**+1.8**
	baz=295							
STYH	**Taoyuan**	**2.03**	**255**	*e*P		**Pn**	**16 33 25.6**	**+0.9**
	baz=246							
STYH				*e*S		**Sn**	**16 33 48.5**	**-0.4**
	baz=246							
CHN5	**Tsauling**	**2.05**	**267**	*e*P		**Pn**	**16 33 27.3**	**+2.2**
	baz=263							
CHN5				*e*S		**Sn**	**16 33 51.6**	**+2.0**
	baz=263							
TPUB	**Ta-pu**	**2.13**	**260**	*e*P		**Pn**	**16 33 28.1**	**+1.9**
	baz=249							
WCKO	**Fanlu**	**2.13**	**263**	*e*P		**Pn**	**16 33 28.6**	**+2.5**
	baz=259							
WCKO				*e*S		**Sn**	**16 33 54.5**	**+3.0**
	baz=259							
CHN4	**Tsaushan**	**2.15**	**261**	*e*P		**Pn**	**16 33 28.7**	**+2.2**
	baz=250							
WTP	**Ta-pu**	**2.15**	**258**	*e*P		**Pn**	**16 33 28.7**	**+2.2**
	baz=255							
WTP

34nm,0.3s,baz=80,slow=19,SNR=2155
MKAR Lg Lg 16 35 23.8
53nm,0.3s,baz=81,slow=30,SNR=15
MKAR Makanchi Array 1.89 260 Pg **Pn** **16 34 59.3 +0.4**
MKAR Sg **Sn** **16 35 23.0 +0.3**
MKAZ Makanchi 2.10 262 ⇓Pn **Pn** **16 35 02.4 +0.6**
7.3nm,0.3s
MAKZ ⇓Sn **Sb** **16 35 29.7 -1.0**
48nm,0.5s
MAKZ Makanchi 2.10 262 **Pn** **16 35 01.2 -0.5**
MAKZ Makanchi 2.10 262 Pg **Pn** **16 35 02.7 +0.9**
MAKZ Sg **Sb** **16 35 30.4 -0.3**
DGZ Jazzator, Alta 3.02 31 Pg **Pn** **16 35 18.2 +3.6**
DGZ Sg **Sb** **16 35 58.9 +1.3**
CHBI Chibit, Altay 3.58 27 Pn **Pn** **16 35 25.2 +3.1**
CHBI Pg **Pb** **16 35 29.5 -0.4**
CHBI Sg **Sb** **16 36 15.0 +1.7**
AKAR Aktash 3.62 28 Pg **Pb** **16 35 29.5 -1.2**
AKAR Sg **Sb** **16 36 16.7 +2.1**
CUR Chagan-Uzun 3.70 36 Pn **Pn** **16 35 26.0 +2.2**
CUR Pg **Pb** **16 35 30.8 -1.2**
CUR Sg **Sb** **16 36 21.4 +4.5**
UKR Ust'-Kan 3.80 358 Pn **Pn** **16 35 26.6 +1.5**
UKR Pg **Pb** **16 35 34.6 +0.9**
UKR Sg **Sb** **16 36 22.5 +2.8**
ULGR Ulagan, Altay 3.99 28 Pg **Pb** **16 35 37.6 +0.6**
ULGR Sg **Sb** **16 36 31.4 +6.2**
ELDR Elanda 4.13 10 Pn **Pn** **16 35 31.8 +2.0**
ELDR Pg **Pb** **16 35 40.3 +0.9**
ELDR Sg **Sg** **16 36 36.7 -2.7**
KAPS Kapalarasan 4.34 247 *eP* **Pb** **16 35 41.1 -1.8**
2.5nm,0.4s
KAPS *eS* **Sb** **16 36 35.9 +0.7**
26nm,0.5s
SEM Semipalatinsk 4.53 318 *eP* **Pb** **16 35 45.2 -1.0**
2.9nm,0.1s
SEM *eS* **Sb** **16 36 43.4 +2.5**
18nm,0.2s
DJR Jarkent 4.61 234 *eP* **Pb** **16 35 47.0 -0.5**
1.6nm,0.3s
DJR *eS* **Sb** **16 36 46.2 +3.2**
25nm,0.6s
ARTR Artybash 4.89 17 Pn **Pn** **16 35 43.6 +3.5**
ARTR Pg Pb 16 35 57.6 +5.3
ARTR Sg **Sg** **16 37 01.1 -2.4**
YALR Yailyu, Altay 4.93 19 Pn **Pn** **16 35 41.9 +1.2**
YALR Pg **Pb** **16 35 57.5 +4.5**
YALR Sg **Sb** **16 36 59.4 +7.2**
KTMS Ketmen 4.95 223 *eP* **Pb** **16 35 53.0 -0.3**
0.9nm,0.3s
KTMS *eS* **Sb** **16 36 56.4 +3.6**
13nm,0.3s
TDK Taldyqorghan 5.07 247 *eP* **Pb** **16 35 52.0 -3.3**
5.2nm,0.1s
TDK *eS* **Sb** **16 36 53.9 -2.2**
34nm,0.3s
PDGK Podgornoye 5.45 228 ⇓Pn **Pn** **16 35 46.5 -1.5**
1.6nm,0.4s
PDGK ⇑Sn **Sn** **16 36 47.5 -3.2**
8.7nm,0.5s
PDGK ⇑Lg Lg 16 37 17.3
24nm,0.9s
KURBB Kurchatov Arra 5.50 312 ⇑Pn **Pn** **16 35 47.4 -1.1**
0.5nm,0.2s
KURBB ⇑Sn **Sn** **16 36 52.6 +0.9**
6.8nm,0.5s
KURBB ⇑Lg Lg 16 37 20.0
79nm,0.7s
KURBB Kurchatov Arra 5.50 312 Pn **Pn** **16 35 47.8 -0.7**
0.2nm,0.3s,baz=123,slow=9.7,SNR=16
KURBB Lg Lg 16 37 16.1
0.7nm,0.3s,baz=124,slow=34,SNR=8.5
0.5nm,0.3s
KURK Kurchatov 5.51 313 ⇓Pn **Pn** **16 35 47.2 -1.5**
0.5nm,0.3s
KURK ⇑Sn **Sn** **16 36 49.8 -2.2**
2.8nm,0.4s
KURK ⇑Lg Lg 16 37 22.6
26nm,0.8s
KURK Kurchatov 5.51 313 **Pn** **16 35 47.3 -1.4**
KURK Kurchatov 5.51 313 Pn **Pn** **16 35 47.1 -1.5**
KURK S **Sn** **16 36 50.1 -1.9**
KURK Sg **Sg** **16 37 17.9 -5.8**
SHLS Shalkode 5.59 226 *eP* **Pb** **16 36 00.9 -3.4**
3.2nm,0.4s
SHLS *eS* **Sb** **16 37 09.4 -2.0**
20nm,0.5s
KPKS Kokpek 5.78 233 *eP* **Pb** **16 36 08.2 +0.7**
3.7nm,0.1s
KPKS *eS* **Sb** **16 37 21.6 +4.9**
38nm,0.5s
ARXS Arharly 5.82 242 *eP* **Pb** **16 36 08.8 +0.6**
1.6nm,0.3s
ARXS *eS* **Sb** **16 37 23.4 +5.5**
12nm,0.7s
UZB Uzynbulak 5.82 229 *eP* **Pb** **16 36 09.4 +1.2**
4.6nm,0.3s
UZB *eS* **Sb** **16 37 24.0 +6.0**
11nm,0.5s
KURS Kuram 6.05 235 *eP* **Pb** **16 36 12.8 +0.7**
1.8nm,0.2s
KURS *eS* **Sb** **16 37 29.5 +5.0**
4.9nm,0.3s
SATY Saty 6.20 231 *eP* **Pb** **16 36 16.7 +1.9**
2.8nm,0.1s
SATY *eS* **Sb** **16 37 36.6 +7.6**
27nm,0.4s
ZAA0 Zalesovo Array 6.81 359 ⇓Pn **Pn** **16 36 05.7 -0.7**
0.1nm,0.3s
ZAA0 ⇑Sn **Sn** **16 37 21.6 -2.2**
0.6nm,0.4s
ZAA0 ⇑Lg Lg 16 38 04.4
1.6nm,0.8s
ZAA0 Zalesovo Array 6.81 359 Pn **Pn** **16 36 05.5 -0.9**
ZALV Zalesovo Beam 6.81 359 Pn **Pn** **16 36 07.0 +0.6**
0.6nm,0.3s,baz=178,slow=12,SNR=7.8
ZALV Pg Pb 16 36 30.9 +5.9
0.6nm,0.3s,baz=179,slow=18,SNR=5.6
ZALV Sn **Sn** **16 37 23.1 -0.7**
1.3nm,0.3s,baz=169,slow=23,SNR=2.9
ZALV Lg Lg 16 38 01.4
1.1nm,0.3s,baz=182,slow=26,SNR=3.3
1.5nm,0.4s
MDOK Medeo 6.89 238 Pn **Pn** **16 36 05.8 -1.9**
1.1nm,0.5s
MDOK Sn **Sn** **16 37 24.3 -1.8**
5.7nm,0.6s
MDOK Lg Lg 16 38 09.3
7.9nm,0.8s
MDOK Medeo 6.89 238 *eP* **Pb** **16 36 28.3 +1.9**
1.8nm,1.0s
MDOK *eS* **Sb** **16 37 56.6 +7.9**
4.0nm,0.8s
KUU Kurty 6.90 245 *eP* **Pb** **16 36 28.6 +2.1**
1.3nm,0.1s
KUU *eS* **Sb** **16 37 56.9 +8.1**
6.2nm,0.5s
KRBS Karabastau 7.41 246 *eP* **Pb** **16 36 38.6 +3.3**
0.8nm,0.4s
KRBS *eS* Sg 16 38 14.3 -10
2.2nm,0.8s
TARG Taragay, Kyrgy 7.47 226 Pn **Pn** **16 36 16.1 +0.2**
TKM2 Tokmak 2 7.89 241 ⇓Pn **Pn** **16 36 19.2 -2.2**
1.3nm,0.4s
TKM2 ⇑Lg Lg 16 38 40.0
5.8nm,0.9s
OTUK Ortayu 8.61 282 ⇓Pn **Pn** **16 36 28.2 -3.0**
1.8nm,0.6s
OTUK ⇓Lg Lg 16 39 02.7
7.3nm,0.8s
AAK Ala-Archa 8.71 243 Pn **Pn** **16 36 31.8 -0.9**
AAK Ala-Archa 8.71 243 Pn **Pn** **16 36 31.0 -1.7**
0.2nm,0.3s,baz=100,slow=12,SNR=6.2
AAK Lg Lg 16 38 55.1
0.2nm,0.3s,baz=13,slow=22,SNR=3.5
1.1nm,0.5s
BVAR Borovoye Array 11.07 307 Pn **Pn** **16 37 02.9 -1.8**
0.1nm,0.3s,baz=118,slow=12,SNR=7.0
BVAR Sn Sn 16 38 58.9 -9.5
0.1nm,0.3s,baz=106,slow=15,SNR=4.1
0.5nm,0.3s
BRVK Borovoye 11.14 307 Pn **Pn** **16 37 04.3 -1.4**
WSAR Wadi Sarin 31.87 231 LR LR 16 56 23.1
comp=Z,640nm,18.9s,baz=140,slow=42
B20K Meade River 54.79 22 P **P** **16 43 55.2 -0.6**
B22K Teshekpuk Lake 55.48 20 P **P** **16 43 60.0 -0.8**
B22K IAmb IAmb 16 44 34.1
comp=Z,9.1nm,1.5s
H18K Honhosa River 57.79 27 P **P** **16 44 16.4 -0.9**
H18K IAmb IAmb 16 44 22.4
comp=Z,4.6nm,1.4s
E24K Your Creek 58.34 21 P **P** **16 44 20.4 -0.9**
K17K Iditarod 59.52 29 P **P** **16 44 29.2 -0.1**
BMAR Burnt Mountain 59.78 20 P **P** **16 44 31.3 +0.1**
E29M Blow River 60.42 17 P **P** **16 44 35.4 -0.1**
E29M IAmb IAmb 16 45 12.4
comp=Z,4.2nm,1.5s
ILAR Eielson Array 61.33 23 P **P** **16 44 40.6 -1.2**
comp=Z,0.4nm,0.7s,baz=312,slow=4.4,SNR=4.9
comp=Z,0.4nm,0.7s
G31M Satah River 62.40 16 P **P** **16 44 47.4 -1.4**
G31M IAmb IAmb 16 45 16.9
comp=Z,7.6nm,1.5s
J26L Joseph Creek 62.40 21 P **P** **16 44 47.8 -1.2**
J26L IAmb IAmb 16 45 31.5
comp=Z,6.5nm,1.4s
I30M Mount Dempster 63.45 18 P **P** **16 44 54.5 -1.6**
SCM Sheep Creek Mo 63.55 25 P **P** **16 44 55.5 -1.3**
BCAR Beaver Creek A 64.04 22 P **P** **16 44 59.4 -0.5**
KLU Klutina 64.23 24 P **P** **16 45 00.5 -0.7**
KLU IAmb IAmb 16 45 29.8
comp=Z,13nm,1.3s
P33M Teslin, Yukon 68.66 19 P **P** **16 45 28.0 -1.6**
P33M IAmb IAmb 16 46 01.6
comp=Z,8.8nm,1.4s
TORD Torodi Ar. Bea 75.95 274 LR LR 17 24 39.3
comp=Z,197nm,19.9s,baz=106,slow=40

NEIC ***16*** *16:35:51.5±1.1, 57.9S±0.1×26.1W±0.2, h65km±6km, mb4.6/25, Error ellipse: s-maj=19.4km s-min=11.8km az=54.0*
IDC ***16*** *16:35:57.5±6.5, 58.03S×24.33W, h99km±58km, mb4.1/6, mbtmp4.4/7, Error ellipse: s-maj=29.4km s-min=20.7km az=81.0*
ISC 16 16:35:50.1±0.4, 57.93S±0.09×26.2W±0.1, h50km, n105, σ1§69/98, mb4.4/15, 8C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.80**	**298**	Pn	**Pn**	**16 37 29.3**	**+2.1**
HOPE				Sn	**Sn**	**16 38 36.9**	**-6.3**
VNA1	**Neumayer--Stat**	**14.86**	**156**	⇑P	**Pn**	**16 39 14.2**	**-2.4**
	comp=Z,19nm,0.6s						
VNA3	**Neumayer Olymp**	**15.04**	**159**	⇑P	**Pn**	**16 39 15.8**	**-3.3**
	comp=Z,15nm,0.4s						
VNA3				⇑S	Sn	16 41 50.8	-13
	comp=Z,1.0nm,0.3s						
VNA2	**Neumayer--Watz**	**15.25**	**156**	⇑P	**Pn**	**16 39 19.4**	**-2.4**
	comp=Z,11nm,0.5s,baz=322,slow=14						
VNA2				⇑S	Sn	16 41 52.1	-17
	comp=Z,0.6nm,0.3s,baz=342,slow=20						
SNAA	**Sanae**	**16.81**	**154**	Pn	**Pn**	**16 39 40.2**	**-1.5**
SNAA	**Sanae**	**16.81**	**154**	⇑P	**Pn**	**16 39 40.1**	**-1.5**
	comp=Z,114nm,0.3s						
SNAA				⇓S	Sn	16 42 32.6	-15
	comp=Z,40nm,0.4s						
SNAA	**Sanae**	**16.81**	**154**	P	**Pn**	**16 39 40.1**	**-1.5**
	comp=Z,5.4nm,0.4s,baz=323,slow=14,SNR=44						
SNAA				S	Sn	16 42 31.6	-16
	comp=Z,2.1nm,0.7s,baz=304,slow=16,SNR=2.7						
TROLL	**Troll, Antarti**	**18.33**	**152**	⇑P	**P**	**16 39 58.9**	**-1.1**
	comp=Z,497nm,0.6s						
TROLL				⇑S	Sn	16 43 08.3	-16
	comp=Z,232nm,1.1s						
BELA	**Belgrano 2**	**20.24**	**185**	P	**P**	**16 40 20.4**	**-0.3**
PLTB	**Pedras Altas**	**32.15**	**313**	P	P	16 42 18.8	+6.0
PLTB				IAmb	IAmb	16 43 00.2	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**32.32**	**180**	P	**P**	**16 42 15.3**	**+1.2**
QSPA				IAmb	IAmb	16 42 26.2	
	comp=Z,7.2nm,1.0s						
QSPA	**South Pole Qui**	**32.32**	**180**	P	**P**	**16 42 15.3**	**+1.2**
	comp=Z,2.3nm,0.5s,baz=205,slow=3.9,SNR=49						
	comp=Z,2.3nm,0.5s						
PLCA	**Paso Flores**	**32.88**	**282**	P	**P**	**16 42 20.2**	**+1.1**
PLCA				IAmb	IAmb	16 42 32.7	
	comp=Z,7.1nm,1.0s						
PLCA	**Paso Flores**	**32.88**	**282**	P	P	16 42 31.5	+12
	comp=Z,4.6nm,0.9s,baz=144,slow=7.0,SNR=9.5						
	comp=Z,4.6nm,0.9s						
MAW	**Mawson**	**38.33**	**142**	P	**P**	**16 43 05.3**	**-0.1**
MAW				IAmb	IAmb	16 43 05.8	
	comp=Z,6.6nm,1.3s						
SBA	**Scott Base**	**44.24**	**184**	P	**P**	**16 43 55.9**	**+2.2**
VNDA	**Vanda**	**44.72**	**182**	P	**P**	**16 43 59.2**	**+1.7**
VNDA	**Vanda**	**44.72**	**182**	P	**P**	**16 43 59.6**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=186,slow=6.5,SNR=29						
	comp=Z,2.6nm,0.6s						
BDFB	**Brasilia**	**45.26**	**330**	P	**P**	**16 44 02.8**	**+0.2**
BDFB				IAmb	IAmb	16 44 04.5	
	comp=Z,12nm,1.5s						
H04S2	**CROZET ISLANDS**	**46.33**	**112**	T	T	17 34 37.0	
	baz=226,slow=75,SNR=13						
H04S3	**CROZET ISLANDS**	**46.34**	**112**	T	T	17 34 38.5	
	baz=226,slow=75,SNR=8.0						
H04S1	**CROZET ISLANDS**	**46.34**	**112**	T	T	17 34 39.9	
	baz=226,slow=75,SNR=11						
H10S2	**ASCENSION HYDR**	**49.66**	**15**	T	T	17 38 13.0	
	baz=32,slow=74,SNR=8.2						
H10S3	**ASCENSION HYDR**	**49.67**	**15**	T	T	17 38 10.6	
	baz=188,slow=74,SNR=21						
H10N1	**ASCENSION HYDR**	**50.78**	**15**	T	T	17 39 37.0	
	baz=195,slow=74,SNR=6.2						
H10N3	**ASCENSION HYDR**	**50.78**	**15**	T	T	17 39 37.0	
	baz=195,slow=74,SNR=20						
H10N2	**ASCENSION HYDR**	**50.80**	**15**	T	T	17 39 36.2	
	baz=195,slow=74,SNR=9.7						
LPAZ	**La Paz**	**51.90**	**305**	P	**P**	**16 44 52.2**	**-2.0**
CASY	**Casey**	**51.96**	**159**	P	**P**	**16 44 51.8**	**-1.5**
CASY				IAmb	IAmb	16 44 54.7	
	comp=Z,12nm,0.7s						
SAML	**Samuel**	**56.50**	**315**	P	**P**	**16 45 26.0**	**-1.0**
ETMB	**Extrema**	**56.90**	**311**	P	**P**	**16 45 29.7**	**-0.1**
ETMB				IAmb	IAmb	16 45 30.8	
	comp=Z,4.8nm,1.4s						
BOAV	**Boa Vista**	**66.09**	**322**	P	**P**	**16 46 31.2**	**-0.5**
BOAV				IAmb	IAmb	16 46 36.0	
	comp=Z,8.9nm,1.2s						
DBIC	**Dimbokro**	**66.67**	**23**	P	**P**	**16 46 33.4**	**-2.0**
DBIC				IAmb	IAmb	16 47 04.3	
	comp=Z,11nm,1.2s						
DBIC	**Dimbokro**	**66.67**	**23**	P	**P**	**16 46 35.1**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=184,slow=5.2,SNR=3.4						
	comp=Z,3.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**74.45**	**28**	P	**P**	**16 47 22.4**	**-0.4**
TOA0				IAmb	IAmb	16 47 25.9	
	comp=Z,3.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.45**	**28**	P	**P**	**16 47 22.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**74.45**	**28**	P	**P**	**16 47 22.5**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=191,slow=4.7,SNR=13						
	comp=Z,3.1nm,0.7s						
CTZ	**Chatham Island**	**75.74**	**202**	P	**P**	**16 47 31.2**	**+1.2**
RPZ	**Rata Peaks**	**77.70**	**193**	P	**P**	**16 47 39.6**	**-1.4**
TAU	**Tasmania Unive**	**79.38**	**175**	P	**P**	**16 47 50.7**	**+0.4**
TAU				IAmb	IAmb	16 48 29.9	
	comp=Z,22nm,1.3s						
DSZ	**Denniston Nort**	**79.55**	**194**	P	**P**	**16 47 51.4**	**0.0**
MRNZ	**Matariki Terra**	**79.77**	**194**	P	**P**	**16 47 53.1**	**+0.7**
QRZ	**Quartz Range**	**80.36**	**194**	P	**P**	**16 47 54.9**	**-0.7**
DGAR	**Diego Garcia**	**88.36**	**101**	P	**P**	**16 48 34.2**	**-2.3**
BBOO	**Buckleboo**	**88.39**	**165**	P	**P**	**16 48 35.6**	**-0.8**
BBOO				IAmb	IAmb	16 49 09.4	
	comp=Z,25nm,1.5s						
FORT	**Forrest**	**89.03**	**158**	P	**P**	**16 48 37.9**	**-1.5**
ASAR	**Alice Springs**	**97.04**	**162**	P	**P**	**16 49 15.5**	**-0.9**
ASAR	**Alice Springs**	**97.04**	**162**	P	**P**	**16 49 15.8**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=184,slow=3.9,SNR=16						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	**125.80**	**28**	PKP	**PKiKP**	**16 54 47.1**	**+2.2**
	comp=Z,3.1nm,0.9s,baz=93,slow=3.8,SNR=5.4						
YKA	**Yellowknife Ar**	**137.91**	**316**	PKP	**PKPdf**	**16 55 08.3**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=128,slow=2.4,SNR=15						
N32M	**Quiet Lake**	**144.56**	**307**	PKPdf	**PKPab**	**16 55 18.4**	**+0.3**
M31M	**Drury Creek, Y**	**145.59**	**308**	PKPdf	**PKPdf**	**16 55 19.7**	**-1.5**
A36M	**Sachs Harbour**	**146.08**	**327**	PKPdf	**PKPdf**	**16 55 21.3**	**-0.3**
M30M	**Minto, Yukon**	**146.77**	**308**	PKPdf	**PKPdf**	**16 55 23.3**	**+0.1**
H31M	**Peel River**	**147.03**	**314**	PKPdf	**PKPdf**	**16 55 22.1**	**-1.4**
J30M	**Hart River**	**147.36**	**311**	PKPbc	**PKPbc**	**16 55 28.3**	**+1.5**
G31M	**Satah River**	**147.40**	**316**	PKPdf	**PKPdf**	**16 55 24.8**	**+0.9**
M29M	**Somme Creek**	**147.42**	**307**	PKPdf	**PKPdf**	**16 55 23.2**	**-1.1**
L29M	**L29M**	**147.54**	**308**	PKPbc	**PKPbc**	**16 55 27.4**	**+0.2**
INK	**Inuvik**	**147.58**	**319**	PKPdf	**PKPdf**	**16 55 23.9**	**-0.4**
I30M	**Mount Dempster**	**147.62**	**312**	PKPbc	**PKPdf**	**16 55 27.2**	**+2.6**
EPYK	**Eagle Plains**	**148.14**	**314**	PKPdf	**PKPdf**	**16 55 26.8**	**+1.4**
DAWY	**Dawson**	**148.42**	**309**	PKPdf	**PKPdf**	**16 55 27.0**	**+1.1**
H29M	**Whitestone**	**148.72**	**314**	PKPdf	**PKPdf**	**16 55 27.0**	**+0.8**
H29M					**PKiKP**	**16 55 33.4**	**+1.8**
M27K	**Edge Creek, AK**	**148.86**	**306**	PKPdf	**PKPdf**	**16 55 25.9**	**-0.8**
BCAR	**Beaver Creek A**	**149.07**	**307**	PKPdf	**PKPdf**	**16 55 26.2**	**-0.8**
BCAR				PKPbc	**PKPbc**	**16 55 30.9**	**-0.2**
L27K	**Beaver Creek,**	**149.09**	**307**	PKPdf	**PKPdf**	**16 55 27.0**	**0.0**
I28M	**Miner Creek**	**149.10**	**312**	PKPbc	**PKPbc**	**16 55 31.6**	**+0.3**
VRDI	**Verde Repeater**	**149.13**	**303**	PKPdf	**PKPdf**	**16 55 28.0**	**+0.7**
E29M	**Blow River**	**149.16**	**318**		**PKPdf**	**16 55 27.5**	**+0.6**
K27K	**Chicken**	**149.52**	**309**	PKPbc	**PKPbc**	**16 55 32.9**	**+0.8**
F28M	**Old Crow**	**149.68**	**316**	PKPdf	**PKPdf**	**16 55 28.2**	**+0.5**
L26K	**Log Cabin Wild**	**149.73**	**306**	PKPbc	**PKPbc**	**16 55 34.0**	**+1.2**
N25K	**Chitina, Valde**	**149.78**	**303**	PKPdf	**PKPdf**	**16 55 29.3**	**+1.2**
E28M	**Babbage River**	**149.80**	**318**	PKPdf	**PKPdf**	**16 55 28.4**	**+0.5**
SONM	**Songino Array**	**150.27**	**89**	PKPbc	**PKPdf**	**16 55 33.2**	**+3.8**
SONM	**Songino Array**	**150.27**	**89**	PKPbc	**PKPbc**	**16 55 34.1**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=220,slow=3.2,SNR=12						
J26L	**Joseph Creek**	**150.28**	**309**	PKPbc	**PKPbc**	**16 55 35.3**	**+1.2**
SCRK	**Sand Creek**	**150.30**	**308**	PKPbc	**PKPbc**	**16 55 33.9**	**-0.3**
I26K	**Coal Creek Min**	**150.35**	**311**	PKPbc	**PKPbc**	**16 55 33.2**	**-0.9**
D27M	**Malcolm River**	**150.44**	**319**	PKPbc	**PKPbc**	**16 55 33.2**	**-1.2**
E27K	**Coleen River**	**150.45**	**317**	PKPdf	**PKPdf**	**16 55 30.8**	**+1.8**
RIDQ	**Independent Ri**	**150.60**	**307**	PKPbc	**PKiKP**	**16 55 39.0**	**+3.5**
M24K	**Tolsona, Glenn**	**150.66**	**304**	PKPbc	**PKiKP**	**16 55 38.2**	**+2.5**
J25K	**Salcha River,**	**151.06**	**309**	PKPbc	**PKPbc**	**16 55 35.3**	**-0.6**
SCM	**Sheep Creek Mo**	**151.08**	**303**	PKPbc	**PKPbc**	**16 55 35.6**	**-0.4**
BMAR	**Burnt Mountain**	**151.41**	**315**	PKPbc	**PKPbc**	**16 55 37.2**	**+0.6**
SML	**Sawmill**	**151.52**	**302**	PKPbc	**PKPbc**	**16 55 37.2**	**+0.1**
ILAR	**Eielson Array**	**151.74**	**309**	PKPbc	**PKPbc**	**16 55 36.2**	**-1.2**
ILAR	**Eielson Array**	**151.74**	**309**	PKPbc	**PKPbc**	**16 55 38.6**	**+1.2**
	comp=Z,7.1nm,1.0s,baz=146,slow=1.5,SNR=30						
E25K	**Arctic Village**	**151.90**	**316**	PKPbc	**PKPbc**	**16 55 37.6**	**-0.1**
CCB	**Clear Creek Bu**	**152.09**	**308**	PKPbc	**PKPbc**	**16 55 37.0**	**-1.2**
RND	**Reindeer**	**152.22**	**306**	PKPbc	**PKPbc**	**16 55 37.1**	**-1.5**
D25K	**Kavik River**	**152.35**	**319**	PKPbc	**PKPbc**	**16 55 38.1**	**-0.6**
H24K	**Noodor Dome**	**152.38**	**311**	PKPbc	**PKPbc**	**16 55 37.7**	**-1.1**
G24K	**Hadweenzic Riv**	**152.38**	**313**	PKPbc	**PKPdf**	**16 55 36.2**	**+4.3**
F24K	**Squaw Lake**	**152.68**	**315**	PKPbc	**PKPdf**	**16 55 37.4**	**+5.0**
E24K	**Your Creek**	**152.98**	**316**	PKPbc	**PKPbc**	**16 55 40.9**	**+0.7**
SKT	**Skwentna**	**153.02**	**302**	PKPbc	**PKPdf**	**16 55 31.7**	**-1.3**
KTH	**Kantishna Hill**	**153.16**	**305**	PKPbc	**PKiKP**	**16 55 42.8**	**+2.0**
G23K	**Bananza Creek**	**153.39**	**312**	PKPbc	**PKiKP**	**16 55 44.6**	**+3.4**
CAST	**Castle Rocks**	**153.63**	**305**	PKPbc	**PKPbc**	**16 55 39.4**	**-2.3**
C23K	**Itkillik River**	**153.87**	**319**	PKPbc	**PKPbc**	**16 55 41.7**	**-0.3**
D22K	**Ayikyak River**	**154.58**	**317**	PKPbc	**PKPbc**	**16 55 44.2**	**+0.7**
L18K	**Granite Mounta**	**155.43**	**301**	PKPdf	**PKPdf**	**16 55 35.1**	**-1.2**

IDC 16 16:36:57.6±1.6, 13.46N×124.19E, h0km, mb3.4/4, mbtmp3.5/5, Error ellipse: s-maj=54.0km s-min=21.8km az=52.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**3.22**	**282**	Pn	Pn	16 37 49.5	+0.1
	128nm,0.4s,baz=130,slow=20,SNR=1.0						
TGY				Sn	Sn	16 38 28.6	-0.1
	baz=292,slow=23						
WRA	**Warramunga Arr**	**34.66**	**163**	P	P	16 43 48.3	-0.7
	0.5nm,0.8s,baz=344,slow=9.0,SNR=3.3						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**38.10**	**165**	P	P	16 44 18.8	+0.4
	0.4nm,0.8s,baz=350,slow=7.4,SNR=4.7						
	0.4nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**41.32**	**75**	T	T	17 28 41.1	
	baz=266,slow=74,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**41.32**	**75**	T	T	17 28 36.4	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**41.33**	**75**	T	T	17 28 35.7	
	baz=266,slow=74,SNR=4.1						
MKAR	**Makanchi Array**	**48.27**	**322**	P	P	16 45 41.3	+0.8
	0.2nm,0.7s,baz=126,slow=9.4,SNR=2.4						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**52.31**	**325**	P	P	16 46 10.2	-0.8
	0.5nm,0.8s,baz=126,slow=7.3,SNR=4.2						
	0.5nm,0.8s						

IDC ***16*** *16:51:50.0±0.9, 11.29N×123.88E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=47.8km s-min=15.6km az=67.0*
NEIC ***16*** *16:51:54.2±0.7, 11.50N±0.10×124.2E±0.2, h35km±2km, mb4.4/15, Error ellipse: s-maj=32.0km s-min=4.6km az=239.0*
ISC 16 16:51:54.6±0.6, 11.37N±0.09×124.1E±0.1, h35km, n29, σ1§30/29, mb4.2/17, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**12.40**	**186**	Pn	**Pn**	**16 54 49.0**	**+0.2**
UBPT	**Khong Chiam**	**18.52**	**284**		**Pn**	**16 56 09.2**	**+0.6**
MTN	**Manton Dam**	**25.06**	**164**	P	**P**	**16 57 15.4**	**-0.5**
MTN				IAmb	IAmb	16 57 47.3	
	comp=Z,22nm,1.2s						
CMAR	**Chiang Mai Arr**	**25.27**	**289**	P	**P**	**16 57 18.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=95,slow=8.1,SNR=4.2						
	comp=Z,0.1nm,0.3s						
KSRS	**Korea Array**	**26.20**	**7**	P	**P**	**16 57 28.0**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=182,slow=10.0,SNR=4.4						
	comp=Z,1.1nm,0.8s						
WB0	**Warramunga Arr**	**32.57**	**162**	P	**P**	**16 58 22.1**	**-0.7**
WB0				IAmb	IAmb	16 58 48.3	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**32.72**	**162**	P	**P**	**16 58 23.3**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=340,slow=9.9,SNR=4.6						
	comp=Z,0.8nm,0.8s						
WB2	**Warramunga Arr**	**32.72**	**162**	P	**P**	**16 58 23.3**	**-0.8**
WB2				IAmb	IAmb	16 58 25.3	
	comp=Z,6.9nm,1.2s						
WR0	**Warramunga Arr**	**32.80**	**162**	P	**P**	**16 58 23.9**	**-0.9**
WR0				IAmb	IAmb	16 58 28.6	
	comp=Z,7.8nm,1.4s						
ASAR	**Alice Springs**	**36.13**	**165**	P	**P**	**16 58 52.6**	**-1.0**
ASAR	**Alice Springs**	**36.13**	**165**	P	**P**	**16 58 54.3**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=346,slow=7.0,SNR=14						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**39.26**	**341**	P	**P**	**16 59 22.2**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=148,slow=8.5,SNR=2.4						
	comp=Z,0.3nm,0.6s						
HNR	**Honiara**	**41.22**	**119**	P	**P**	**16 59 37.3**	**+0.9**
STKA	**Stephens Creek**	**46.16**	**159**	P	**P**	**17 00 16.4**	**+0.5**
STKA	**Stephens Creek**	**46.16**	**159**	P	**P**	**17 00 16

*ANF **16** 16:57:54.4±0.2,36.17N×89.70W,h6km±2km,ML4.6/29, Error ellipse: s-maj=1.7km s-min=1.4km az=9.0*
*NEIC **16** 16:57:54,36.16N×89.68W,h11km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.03; $M_{\theta\theta}$=2.36; $M_{\phi\phi}$=-2.16; $M_{r\theta}$=0.20; $M_{r\phi}$=2.54; $M_{\theta\phi}$=1.25; Fault plane solution: M_o=3.63000×10^{14} NP1:ϕ_s=110.00000°, δ=70.00000°,λ=-5.00000°. NP2:ϕ_s=202.00000°,δ=85.00000°, λ=-160.00000°. Principal axes: T 4.1971, Plg7.0000°, Azm335.0000°; N -0.8901, Plg59.0000°, Azm233.0000°; P -3.3070, Plg30.0000°, Azm69.0000°;*
*NEIC **16** 16:57:55.3±0.5,36.163N±0.008×89.68W±0.01, h10km±3km Error ellipse: s-maj=1.2km s-min=1.1km az=150.0*

ISC 16 16:57:54.6±0.7,36.17N±0.02×89.69W±0.02,h17km±4km, n244,σ0σ73/241,New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRGM	**Braggadocio**	**0.14**	**285**			**Pg**	**16 57 58.4**	**-0.2**
BRGM						**Sg**	**16 58 01.2**	**-0.1**
MIST	**Miston**	**0.15**	**89**			**Pg**	**16 57 58.3**	**-0.3**
MIST						**Sg**	**16 58 01.2**	**-0.1**
PEBM	**Pemiscott Bayo**	**0.15**	**249**			**Pg**	**16 57 58.5**	**-0.2**
PEBM					Sg	**Sg**	**16 58 01.6**	**+0.2**
PEBM					IAML		16 58 02.6	
	comp=E,27μm,0.7s							
CWPT	**Cottonwood Poi**	**0.17**	**163**			**Pg**	**16 57 58.5**	**-0.3**
LNXT	**Lenox**	**0.17**	**113**	Pg		**Pg**	**16 57 58.6**	**-0.2**
LNXT				Sg		**Sg**	**16 58 01.9**	**0.0**
LNXT				IAML			16 58 02.8	
	comp=E,41μm,0.3s							
LNXT	**Lenox**	**0.17**	**113**	P		**Pg**	**16 57 58.7**	**-0.2**
	baz=292,SNR=1000							
LNXT				S		**Sg**	**16 58 01.2**	**-0.6**
	baz=292							
WADM	**Wardell**	**0.22**	**336**			**Pg**	**16 57 59.8**	**+0.1**
CHNM	**Channel**	**0.23**	**238**			**Pg**	**16 57 59.9**	**0.0**
CHNM						**Sg**	**16 58 03.7**	**+0.3**
WYBT	**Wynnburg**	**0.24**	**40**			**Pg**	**16 58 00.0**	**+0.1**
WYBT						**Sg**	**16 58 04.1**	**+0.5**
POBM	**Portage Bay**	**0.24**	**5**			**Pg**	**16 58 00.2**	**+0.2**
POBM						**Sg**	**16 58 04.0**	**+0.3**
PVMO	**Portageville**	**0.25**	**357**			**Pg**	**16 58 00.1**	**0.0**
PVMO				Sg		**Sg**	**16 58 04.3**	**+0.4**
PVMO				IAML			16 58 04.4	
	comp=E,10μm,0.5s							
PPLM	**Point Pleasant**	**0.25**	**19**			**Pg**	**16 58 00.3**	**+0.2**
PPLM						**Sg**	**16 58 04.4**	**+0.4**
FPST	**Four Points**	**0.27**	**135**			**Pg**	**16 58 00.4**	**0.0**
FPST						**Sg**	**16 58 04.6**	**+0.2**
PENMO	**Penman**	**0.29**	**9**			**Pg**	**16 58 00.9**	**+0.1**
PGVM	**Portageville**	**0.29**	**353**			**Pg**	**16 58 01.1**	**+0.2**
GSAR	**Gosnell High S**	**0.31**	**228**			**Pg**	**16 58 01.2**	**+0.1**
GSAR						**Sg**	**16 58 06.0**	**+0.4**
EDIT	**Edith**	**0.32**	**161**			**Pg**	**16 58 01.3**	**-0.1**
GNAR	**Gosnell**	**0.34**	**233**			**Pg**	**16 58 01.7**	**+0.1**
GNAR				Sg		**Sg**	**16 58 06.0**	**-0.4**
GNAR				IAML			16 58 11.2	
	comp=N,8μm,0.5s							
GLAT	**Glass**	**0.34**	**72**			**Pg**	**16 58 01.7**	**0.0**
GLAT				IAML			16 58 08.9	
	comp=E,8μm,0.5s							
GLAT				IAML			16 58 12.2	
	comp=N,7μm,0.3s							
RELT	**Roellen**	**0.34**	**113**			**Pg**	**16 58 01.8**	**+0.1**
MARMO	**Marston**	**0.36**	**2**			**Pg**	**16 58 02.3**	**+0.2**
HALT	**Halls**	**0.38**	**132**	Sg		**Sg**	**16 58 07.5**	**-0.2**
FLPT	**Flippin**	**0.38**	**51**			**Pg**	**16 58 02.5**	**+0.1**
FLPT						**Sb**	**16 58 08.6**	**+0.1**
WALK	**Watson Lake**	**0.39**	**17**			**Pg**	**16 58 02.7**	**+0.1**
WALK						**Sb**	**16 58 08.8**	**0.0**
TOPM	**Tallapoosa**	**0.39**	**336**			**Pg**	**16 58 02.8**	**+0.1**
ARPT	**Arp**	**0.41**	**179**			**Pg**	**16 58 02.9**	**0.0**
ARPT						**Sg**	**16 58 09.5**	**+0.9**
NMEM	**New Madrid Sch**	**0.41**	**11**			**Pg**	**16 58 03.2**	**+0.2**
NMMO	**New Madrid**	**0.43**	**14**			**Pg**	**16 58 03.5**	**+0.2**
DLAR	**Dell**	**0.44**	**216**			**Pg**	**16 58 03.6**	**+0.1**
CATM	**Catron**	**0.45**	**4**			**Pg**	**16 58 03.8**	**+0.2**
SJMO	**Saint John's B**	**0.49**	**20**			**Pg**	**16 58 04.5**	**+0.1**
SJMO						**Sb**	**16 58 12.0**	**+0.3**
MLDM	**Malden**	**0.49**	**338**			**Pg**	**16 58 04.5**	**0.0**
PARMO	**Parma**	**0.50**	**354**			**Pg**	**16 58 04.6**	**0.0**
PARMO				IAML			16 58 12.3	
	comp=E,5μm,0.3s							
PARMO				IAML			16 58 12.3	
	comp=N,4μm,0.5s							
LVAR	**Leachville**	**0.50**	**240**			**Pg**	**16 58 04.7**	**+0.1**
HICK	**Hickman**	**0.53**	**45**	Sg		**Sg**	**16 58 12.2**	**+0.1**
KEWM	**Kewanee**	**0.54**	**8**			**Pg**	**16 58 05.2**	**0.0**
MSAR	**Manila South**	**0.54**	**224**			**Pg**	**16 58 05.2**	**0.0**
BETM	**Bethany**	**0.54**	**326**			**Pg**	**16 58 05.4**	**+0.1**
COKM	**Charter Oak**	**0.54**	**357**			**Pg**	**16 58 05.5**	**+0.1**
HENM	**Henderson Moun**	**0.57**	**17**			**Pg**	**16 58 05.9**	**-0.1**
BRNM	**Bernie**	**0.61**	**336**			**Pg**	**16 58 06.6**	**0.0**
EPRM	**East Prairie**	**0.61**	**26**			**Pg**	**16 58 06.7**	**-0.1**
MATM	**Matthews**	**0.61**	**6**			**Pg**	**16 58 06.6**	**0.0**
DWDM	**Dogwood**	**0.65**	**14**			**Pg**	**16 58 07.2**	**-0.1**
UTMT	**University of**	**0.69**	**75**			**Pg**	**16 58 07.9**	**-0.2**
CHRM	**Charleston**	**0.73**	**21**			**Pg**	**16 58 08.7**	**-0.2**
GUAMO	**Guam**	**0.73**	**350**			**Pg**	**16 58 08.7**	**-0.2**
LPAR	**Lepanto**	**0.75**	**222**			**Pg**	**16 58 08.9**	**-0.4**
V43A	**Jonesboro**	**0.79**	**242**			**Pg**	**16 58 10.1**	**+0.1**
FMKY	**Fulgham**	**0.80**	**51**			**Pg**	**16 58 09.8**	**-0.4**
SFTN	**Shelby Forest**	**0.85**	**199**			**Pg**	**16 58 10.9**	**-0.2**
PBMO	**Poplar Bluff**	**0.85**	**316**			**Pg**	**16 58 10.6**	**-0.7**
PBMO				Sg		**Sg**	**16 58 21.8**	**-0.7**
PBMO				IAML			16 58 25.5	
	comp=N,7μm,0.3s							
PBMO				IAML			16 58 28.3	
	comp=E,4μm,0.2s							
PBMO	**Poplar Bluff**	**0.85**	**316**	P		**Pg**	**16 58 10.5**	**-0.7**
	baz=136,SNR=95							
PBMO				S		**Sg**	**16 58 22.2**	**-0.3**
	baz=136							
HBAR	**Harrisburg**	**1.00**	**233**	P		**Pg**	**16 58 13.5**	**-0.4**
	baz=52,SNR=56							
HBAR				S		**Sg**	**16 58 27.4**	**+0.4**
	baz=52							
HDBT	**Hernando Brdge**	**1.06**	**197**	Pg		**Pb**	**16 58 14.7**	**+0.3**
EBZ	**Ebenezer Churc**	**1.06**	**165**			**Pb**	**16 58 14.1**	**-0.5**
MET	**Memphis--Engin**	**1.06**	**191**			**Pb**	**16 58 14.2**	**-0.4**
MET				IAML			16 58 29.3	
	comp=N,3μm,0.4s							
MET				IAML			16 58 31.5	
	comp=E,5μm,0.4s							
CGM3	**Cape Girardeau**	**1.13**	**1**			**Pb**	**16 58 15.4**	**-0.3**
CGM3				IAML			16 58 34.8	
	comp=E,6μm,0.2s							
T45B	**Paducah**	**1.19**	**44**	P		**Pb**	**16 58 16.6**	**-0.2**
	baz=225							
T45B				S		**Sb**	**16 58 32.2**	**+0.3**
	baz=225							
LCAR	**Lake Charles**	**1.19**	**266**			**Pn**	**16 58 16.4**	**-0.1**
LCAR				IAML			16 58 33.6	
	comp=N,1μm,0.4s							
LCAR	**Lake Charles**	**1.19**	**266**	P		**Pn**	**16 58 16.4**	**-0.1**
	baz=85,SNR=201							
LCAR				S		**Sb**	**16 58 32.5**	**+0.5**
	baz=85							
T45A	**Paducah**	**1.19**	**44**			**Pb**	**16 58 16.5**	**-0.3**
WVT	**Waverly**	**1.50**	**91**			**Pn**	**16 58 21.1**	**+0.3**
WVT	**Waverly**	**1.50**	**91**	P		**Pn**	**16 58 21.0**	**+0.3**
	baz=272							
WVT				S		**Sn**	**16 58 41.2**	**+1.1**
	baz=272							
S44A	**Carbondale**	**1.56**	**13**			**Pn**	**16 58 22.7**	**+1.1**
S44A				IAmb_Lg			16 58 47.3	
	comp=Z,710nm,0.7s							
S44A	**Carbondale**	**1.56**	**13**	P		**Pn**	**16 58 22.8**	**+1.2**
	baz=193,SNR=386							
S44A				S		**Sb**	**16 58 43.8**	**+1.3**
	baz=193							
SIUC	**Southern Illin**	**1.59**	**14**			**Pn**	**16 58 23.1**	**+1.1**
OXF	**Oxford**	**1.67**	**172**			**Pn**	**16 58 23.7**	**+0.6**
OXF	**Oxford**	**1.67**	**172**	P		**Pn**	**16 58 24.2**	**+1.1**
	baz=352,SNR=116							
OXF				S		**Sb**	**16 58 46.4**	**+0.8**
	baz=352							
PLAL	**Pickwick Lake**	**1.77**	**132**			**Pn**	**16 58 24.5**	**+0.1**
PWLA	**Pickwick Lake**	**1.77**	**131**			**Pn**	**16 58 24.7**	**+0.1**
FVM	**French Village**	**1.91**	**342**	Pn		**Pn**	**16 58 27.4**	**+1.1**
FVM	**French Village**	**1.91**	**342**	P		**Pn**	**16 58 27.5**	**+1.1**
	baz=162,SNR=910							
FVM						S	**Sb**	**16 58 53.7**	**+1.1**
	baz=162							
FCAR	**Ozark Folk Cen**	**2.00**	**263**			**Pn**	**16 58 28.4**	**+0.8**
T47A	**Sharon Grove**	**2.23**	**68**			**Pn**	**16 58 31.9**	**+1.1**
T47A	**Sharon Grove**	**2.23**	**68**	P		**Pn**	**16 58 32.0**	**+1.2**
	baz=249,SNR=165							
CCM	**Cathedral Cave**	**2.26**	**327**	Pn		**Pn**	**16 58 32.6**	**+1.4**
CCM	**Cathedral Cave**	**2.26**	**327**	P		**Pn**	**16 58 32.6**	**+1.4**
	baz=146,SNR=369							
WHAR	**Wooly Hollow**	**2.29**	**248**			**Pn**	**16 58 32.5**	**+0.8**
WHAR				IAmb_Lg			16 59 12.5	
	comp=Z,274nm,0.8s							
MGMO	**Mountain Grove**	**2.30**	**296**			**Pn**	**16 58 32.8**	**+1.0**
Y45A	**Yeager Farm, C**	**2.30**	**177**			**Pn**	**16 58 32.5**	**+0.8**
Y45A	**Yeager Farm, C**	**2.30**	**177**	P		**Pn**	**16 58 33.1**	**+1.3**
	baz=357,SNR=52							
V48A	**Smith Brothers**	**2.36**	**100**			**Pn**	**16 58 33.2**	**+0.5**
V48A	**Smith Brothers**	**2.36**	**100**	P		**Pn**	**16 58 33.4**	**+0.8**
	baz=281,SNR=143							
USIN	**University of**	**2.41**	**41**			**Pn**	**16 58 34.4**	**+1.1**
SLM	**Saint Louis**	**2.50**	**350**			**Pn**	**16 58 35.5**	**+1.0**
SLM	**Saint Louis**	**2.50**	**350**	P		**Pn**	**16 58 36.6**	**+2.1**
	baz=170							
U40A	**Yellville**	**2.57**	**275**			**Pb**	**16 58 39.9**	**-0.3**
U40A	**Yellville**	**2.57**	**275**	P		**Pn**	**16 58 36.7**	**+1.2**
	baz=93,SNR=36							
U40A				P		**Pn**	**16 58 36.7**	**+1.2**
	baz=93,SNR=36							
CLTN	**Cedars of Leba**	**2.72**	**91**			**Pn**	**16 58 38.0**	**+0.5**
X48A	**Hartselle**	**2.76**	**128**			**Pn**	**16 58 38.2**	**+0.2**
X48A	**Hartselle**	**2.76**	**128**	P		**Pn**	**16 58 39.2**	**+1.2**
	baz=309,SNR=75							
Q44A	**Meyer Farm, Va**	**2.78**	**11**			**Pn**	**16 58 39.1**	**+0.7**
Q44A				IAmb_Lg			16 59 26.0	
	comp=Z,205nm,0.7s							
Q44A	**Meyer Farm, Va**	**2.78**	**11**	P		**Pn**	**16 58 40.8**	**+2.4**
	baz=191,SNR=24							
CCAR	**Cane Creek**	**2.82**	**218**	Pn		**Pn**	**16 58 39.6**	**+0.6**
CCAR	**Cane Creek**	**2.82**	**218**	Sb		**Sb**	**16 59 22.0**	**+3.2**
	baz=37							
OLIL	**Olney**	**2.86**	**26**	Pn		**Pn**	**16 58 40.5**	**+1.0**
R40A	**Maddies Statio**	**2.96**	**317**			**Pn**	**16 58 42.2**	**+1.4**
R40A				IAmb_Lg			16 59 32.7	
	comp=Z,222nm,0.8s							
R40A	**Maddies Statio**	**2.96**	**317**	P		**Pn**	**16 58 42.2**	**+1.4**
	baz=135,SNR=80							
X40A	**Basin Creek Fa**	**3.07**	**238**			**Pn**	**16 58 43.2**	**+0.9**
X40A	**Basin Creek Fa**	**3.07**	**238**	P		**Pn**	**16 58 43.1**	**+0.7**
	baz=56,SNR=21							
X40A				P		**Pn**	**16 58 43.1**	**+0.7**
	baz=56,SNR=21							
U49A	**Red Boiling Sp**	**3.17**	**83**			**Pn**	**16 58 44.5**	**+0.7**
U49A	**Red Boiling Sp**	**3.17**	**83**	P		**Pn**	**16 58 45.0**	**+1.2**
	baz=265,SNR=35							
SWET	**Sewanee**	**3.20**	**106**			**Pn**	**16 58 44.7**	**+0.5**
Z47A	**Carrollton**	**3.25**	**155**			**Pn**	**16 58 45.3**	**+0.5**
Z47A				IAmb_Lg			16 59 42.0	
	comp=Z,240nm,0.8s							
S39A	**Bolivar**	**3.29**	**299**			**Pn**	**16 58 45.9**	**+0.6**
S39A				IAmb_Lg			16 59 39.6	
	comp=Z,232nm,0.7s							
S39A	**Bolivar**	**3.29**	**299**	P		**Pn**	**16 58 46.8**	**+1.4**
	baz=117,SNR=44							
WCI	**Wyandotte Cave**	**3.40**	**52**	Pn		**Pn**	**16 58 47.6**	**+0.7**
WCI				IAmb_Lg			16 59 49.4	
	comp=Z,198nm,0.8s							
WCI	**Wyandotte Cave**	**3.40**	**52**	P		**Pn**	**16 58 48.2**	**+1.2**
	baz=234,SNR=21							
HHAR	**Hobbs**	**3.44**	**273**			**Pn**	**16 58 48.0**	**+0.5**
Y49A	**Blount Mountai**	**3.54**	**130**			**Pn**	**16 58 49.5**	**+0.7**
Y49A	**Blount Mountai**	**3.54**	**130**	P		**Pn**	**16 58 49.9**	**+1.0**
	baz=312,SNR=55							
146A	**Union**	**3.56**	**171**	Pn		**Pn**	**16 58 49.0**	**-0.1**
W50A	**Signal Mountai**	**3.69**	**104**			**Pn**	**16 58 50.6**	**-0.3**
W50A	**Signal Mountai**	**3.69**	**104**	P		**Pn**	**16 58 51.6**	**+0.7**
	baz=286,SNR=47							
FPAL	**Fort Paine**	**3.71**	**115**			**Pn**	**16 58 51.0**	**-0.2**
FPAL				IAmb_Lg			16 59 58.8	
	comp=Z,260nm,0.8s							
WLAR	**White Oak Lake**	**3.75**	**230**	Pn		**Pn**	**16 58 51.7**	**+0.1**
WLAR				IAmb_Lg			16 59 59.8	
	comp=Z,173nm,0.7s							
U38A	**Gravette**	**3.81**	**275**			**Pn**	**16 58 52.2**	**-0.3**
U38A				IAmb_Lg			16 59 54.5	
	comp=Z,255nm,0.9s							
U38A	**Gravette**	**3.81**	**275**	P		**Pn**	**16 58 53.5**	**+1.0**
	baz=93,SNR=19							
LRAL	**Lakeview Retre**	**3.83**	**144**	Pn		**Pn**	**16 58 52.6**	**-0.2**
P40A	**Paris**	**3.84**	**332**			**Pn**	**16 58 53.2**	**+0.3**
P40A				IAmb_Lg			16 59 54.6	
	comp=Z,247nm,0.8s							
BLO	**Bloomington**	**3.91**	**39**	Pn		**Pn**	**16 58 53.4**	**-0.5**
P46A	**Rosedale**	**3.96**	**29**			**Pn**	**16 58 54.3**	**-0.3**
T50A	**Nancy**	**3.99**	**76**	P		**Pn**	**16 58 56.6**	**+1.6**
	baz=259							
T50A				P		**Pn**	**16 58 56.6**	**+1.6**
	baz=259							
O44A	**Mansfield**	**4.09**	**13**	Pn		**Pn**	**16 58 55.8**	**-0.6**
O44A				IAmb_Lg			17 00 06.9	
	comp=Z,168nm,0.7s							
R49A	**Shelbyville**	**4.18**	**58**			**Pn**	**16 58 57.2**	**-0.4**
R49A	**Shelbyville**	**4.18**	**58**	P		**Pn**	**16 58 58.9**	**+1.2**
	baz=241							
R49A				P		**Pn**	**16 58 58.9**	**+1.2**
	baz=241							
X51A	**Calhoun**	**4.26**	**111**			**Pn**	**16 58 58.7**	**0.0**
X51A	**Calhoun**	**4.26**	**111**	P		**Pn**	**16 58 59.8**	**+1.2**
	baz=294,SNR=8.1							
X51A				P		**Pn**	**16 58 59.8**	**+1.2**
	baz=294,SNR=8.1							
CPCT	**Cooper Cave**	**4.26**	**98**	IAmb_Lg			17 00 11.2	
	comp=Z,163nm,0.7s							
RLO	**Rose Lookout**	**4.32**	**272**			**Pn**	**16 58 59.7**	**+0.1**
RLO				IAmb_Lg			17 00 14.4	
	comp=Z,157nm,0.8s							
V51A	**Loudon**	**4.34**	**93**	IAmb_Lg			17 00 15.4	
	comp=Z,172nm,0.8s							
V51A	**Loudon**	**4.34**	**93**	P		**Pn**	**16 59 01.1**	**+1.3**
	baz=276,SNR=21							
P38A	**Dawn**	**4.60**	**320**			**Pn**	**16 59 03.9**	**+0.5**
P38A	**Dawn**	**4.60**	**320**	P		**Pn**	**16 59 04.3**	**+0.9**
	baz=138,SNR=93							
N41A	**Harden Midland**	**4.62**	**349**			**Pn**	**16 59 04.2**	**+0.5**
N41A				IAmb_Lg			17 00 31.5	
	comp=Z,147nm,0.8s							
N41A	**Harden Midland**	**4.62**	**349**	P		**Pn**	**16 59 04.8**	**+1.1**
	baz=168							
SFIN	**Lafayette**	**4.67**	**25**			**Pn**	**16 59 04.4**	**0.0**
SFIN				IAmb_Lg			17 00 24.3	
	comp=Z,166nm,0.8s							
SFIN	**Lafayette**	**4.67**	**25**	P		**Pn**	**16 59 05.8**	**+1.4**
	baz=207,SNR=7.5							
Z51A	**Franklin**	**4.68**	**126**			**Pn**	**16 59 04.2**	**-0.2**
P48A	**Milroy**	**4.71**	**44**	Pn		**Pn**	**16 59 04.9**	**0.0**
P48A				IAmb_Lg			17 00 25.5	
	comp=Z,127nm,0.8s							
R50A	**Paris**	**4.77**	**62**			**Pn**	**16 59 06.0**	**+0.2**
W52A	**Murphy**	**4.81**	**101**			**Pn**	**16 59 06.5**	**+0.2**
W52A				IAmb_Lg			17 00 40.4	
	comp=Z,127nm,0.7s							
TKL	**Tuckaleechee C**	**4.83**	**94**			**Pn**	**16 59 07.4**	**+0.9**
TKL	**Tuckaleechee C**	**4.83**	**94**	P		**Pn**	**16 59 07.5**	**+1.0**
	baz=278,SNR=9.2							
V52A	**Sevierville**	**4.95**	**92**			**Pn**	**16 59 09.2**	**+1.1**
V52A				IAmb_Lg			17 00 28.0	
	comp=Z,186nm,0.8s							
V52A	**Sevierville**	**4.95**	**92**	P		**Pn**	**16 59 09.5**	**+1.3**
	baz=276,SNR=11							
TUL3	**Leonard**	**4.95**	**269**			**Pn**	**16 59 08.4**	**+0.1**
TUL3				IAmb_Lg			17 00 29.1	
	comp=Z,180nm,0.8s							
TZTN	**Tazewell**	**4.97**	**84**	Pn		**Pn**	**16 59 08.0**	**-0.5**
TZTN				IAmb_Lg			17 00 31.7	
	comp=Z,110nm,0.7s							
TZTN	**Tazewell**	**4.97**	**84**	P		**Pn**	**16 59 09.9**	**+1.5**
	baz=267,SNR=14							
250A	**Grady**	**5.05**	**145**	Pn		**Pn**	**16 59 09.4**	**-0.2**
S51A	**Beattyville**	**5.10**	**71**			**Pn**	**16 59 09.8**	**-0.5**
S51A				IAmb_Lg			17 00 42.9	
	comp=Z,136nm,0.8s							
Y52A	**Lilburn**	**5.16**	**115**	IAmb_Lg			17 00 48.5	
	comp=Z,163nm,0.8s							
P49A	**Miami Univ. Ec**	**5.17**	**48**	Pn		**Pn**	**16 59 11.3**	**+0.1**
P49A				IAmb_Lg			17 00 40.5	
	comp=Z,125nm,0.8s							
M44A	**Midewin, Midew**	**5.37**	**13**	IAmb_Lg			17 00 44.6	
	comp=Z,146nm,0.8s							
152A	**Waverly Hall**	**5.39**	**129**			**Pn**	**16 59 14.8**	**+0.6**
152A				IAmb_Lg			17 00 48.1	
	comp=Z,180nm,0.8s							
N38A	**Joes South For**	**5.39**	**330**			**Pn**	**16 59 14.8**	**+0.5**
N38A	**Joes South For**	**5.39**	**330**	P		**Pn**	**16 59 15.0**	**+0.7**
	baz=148,SNR=6.5							
O48B	**Farmland**	**5.42**	**40**	Pn		**Pn**	**16 59 14.5**	**-0.2**
O48B				IAmb_Lg			17 00 44.9	
	comp=Z,140nm,0.7s							
BRAL	**Brewton**	**5.45**	**155**	IAmb_Lg			17 01 00.2	
	comp=Z,118nm,0.8s							
DEOK	**Depew**	**5.53**	**269**	Pn		**Pn**	**16 59 14.5**	**-1.7**
DEOK				IAmb_Lg			17 00 58.1	
	comp=Z,130nm,0.8s							
T35A	**Sooner Cattle**	**5.55**	**280**	Pn		**Pn**	**16 59 14.8**	**-1.6**
V53A	**Saluda**	**5.60**	**93**			**Pn**	**16 59 17.3**	**+0.1**
V53A				IAmb_Lg			17 00 55.1	
	comp=Z,150nm,0.8s							
V53A	**Saluda**	**5.60**	**93**	P		**Pn**	**16 59 18.2**	**+1.0**
	baz=277,SNR=7.3							
V53A				P		**Pn**	**16 59 18.2**	**+1.0**
	baz=277,SNR=7.3							
BG3	**Lake Jocassee**	**5.63**	**100**			**Pn**	**16 59 17.7**	**+0.1**
BG3				IAmb_Lg			17 00 50.3	
	comp=Z,128nm,0.7s							
N47A	**Urbana**	**5.65**	**32**	Pn		**Pn**	**16 59 17.8**	**0.0**
N47A				IAmb_Lg			17 00 54.7	
	comp=Z,143nm,0.8s							
QUOK	**Quay**	**5.68**	**272**	IAmb_Lg			17 01 01.6	
	comp=Z,164nm,0.7s							
SSFO	**Shawnee State**	**5.75**	**62**	Pn		**Pn**	**16 59 19.2**	**0.0**
Q51A	**Peebles**	**5.79**	**59**	IAmb_Lg			17 01 06.7	
	comp=Z,134nm,0.7s							
HQIL	**Hanson Quary C**	**5.80**	**14**	IAmb_Lg			17 01 02.9	
	comp=Z,130nm,1.0s							
GOGA	**Godfrey**	**5.81**	**116**	Pn		**Pn**	**16 59 20.1**	**+0.1**
GOGA				IAmb_Lg			17 00 54.2	
	comp=Z,140nm,0.7s							
O49A	**Covington**	**5.82**	**45**	Pn		**Pn**	**16 59 20.6**	**+0.5**
O49A				IAmb_Lg			17 01 00.3	
	comp=Z,100nm,0.7s							
L42A	**Oliver, Polo**	**5.83**	**0**	Pn		**Pn**	**16 59 20.3**	**+0.1**
OK033	**Mehan**	**5.87**	**271**	IAmb_Lg			17 01 14.0	
	comp=Z,136nm,0.9s							
W35A	**Tecumseh**	**5.94**	**262**	Pn		**Pn**	**16 59 21.7**	**-0.2**
L40A	**Anamosa**	**6.01**	**349**	Pn		**Pn**	**16 59 23.5**	**+0.8**
L40A				IAmb_Lg			17 01 16.4	
	comp=Z,90nm,0.8s							
BLOK	**Blackwell**	**6.10**	**278**	IAmb_Lg			17 01 08.9	
	comp=Z,151nm,0.8s							
L44A	**Lake County Fo**	**6.16**	**12**	IAmb_Lg			17 01 16.3	
	comp=Z,165nm,1.0s							
P51A	**Williamsport**	**6.20**	**56**			**Pb**	**16 59 42.6**	**+0.5**
P51A				IAmb_Lg			17 01 15.3	
	comp=Z,158nm,0.7s							
KSU1	**Kansas State U**	**6.22**	**300**			**Pn**	**16 59 26.0**	**+0.3**
KAN13	**South Haven SW**	**6.33**	**280**	Pn		**Pn**	**16 59 26.9**	**-0.2**
SCIA	**State Center**	**6.36**	**335**	IAmb_Lg			17 01 22.3	
	comp=Z,109nm,0.7s							
U54A	**Nelsons Funny**	**6.36**	**85**			**Pn**	**16 59 27.3**	**-0.3**
U54A				IAmb_Lg			17 01 19.6	
	comp=Z,130nm,0.7s							
U54A	**Nelsons Funny**	**6.36**	**85**	P		**Pn**	**16 59 28.5**	**+0.8**
	baz=269,SNR=5.3							
U54A				P		**Pn**	**16 59 28.5**	**+0.8**
	baz=269,SNR=5.3							
HODGE	**Hodges**	**6.38**	**105**	Pn		**Pn**	**16 59 27.9**	**0.0**
HODGE				IAmb_Lg			17 01 17.0	
	comp=Z,97nm,0.9s							
L46A	**Eue Claire**	**6.40**	**23**	Pn		**Pn**	**16 59 28.6**	**+0.4**
451A	**Vernon**	**6.44**	**148**	IAmb_Lg			17 01 32.8	
	comp=Z,158nm,1.2s							
Q52A	**Bidwell**	**6.52**	**62**	IAmb_Lg			17 01 30.5	
	comp=Z,86nm,0.8s							
R53A	**Hurricane**	**6.54**	**68**	Pn		**Pn**	**16 59 30.4**	**+0.4**
R53A				IAmb_Lg			17 01 22.9	
	comp=Z,134nm,0.9s							
PAULI	**Pauline**	**6.56**	**100**			**Pn**	**16 59 30.7**	**+0.3**
237A	**Washetta, Mont**	**6.56**	**232**	Pn		**Pn**	**16 59 30.3**

E46A	**Sault Ste Mari**	**10.96**	**20**	Pn	**Pn**	**17 00 30.1**	**-0.5**
M57A	**Sunshine Farm,**	**11.08**	**58**	Pn	**Pn**	**17 00 32.4**	**+0.1**
L56A	**Greenwood**	**11.14**	**54**	Pn	**Pn**	**17 00 33.1**	**0.0**
DRIO	**Del Rio**	**11.39**	**237**		**Pn**	**17 00 35.5**	**-1.1**
EYMN	**Ely**	**11.85**	**354**	Pn	**Pn**	**17 00 41.8**	**-0.9**
MNHN	**Monahans**	**11.90**	**250**		**Pn**	**17 00 42.7**	**-0.8**
SAND	**Sanderson**	**12.13**	**243**	Pn	**Pn**	**17 00 47.0**	**+0.3**
ISCO	**Idaho Springs**	**13.08**	**291**	Pn	**Pn**	**17 00 59.7**	**-0.2**
TX31	**Lajitas Ar. Si**	**13.59**	**244**	Pn	**Pn**	**17 01 05.6**	**-1.1**

*IDC **16** 17:00:22.9±4.2,21˚.49N×144˚.01E, h90km±34km, mb3.8/5, mbtmp4.2/6, Error ellipse: s-maj=141.8km s-min=18.6km az=81.0*
*NEIC **16** 17:00:27.1±0.6,21˚.5N±0˚.1×144˚.3E±0˚.4, h125km±11km, mb4.3/12, Error ellipse: s-maj=52.6km s-min=17.7km az=94.0*
ISC 16 17:00:23.9±0.9,**21˚.48N**±0˚.08×**144˚.1E**±0˚.3,**h100**km,**n20,** σ1§**07**/21,**mb4.3**/11,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.87**	**343**	Pn	**Pn**	**17 01 51.9**	**+3.5**
JCJ	**Chichijima**	**5.87**	**343**	P	**Pn**	**17 01 47.5**	**-0.9**
	74nm,0.9s,baz=287,slow=19,SNR=3.7						
JCJ				S	**Sn**	**17 02 52.3**	**-1.9**
	63nm,0.6s,baz=87,slow=23,SNR=7.5						
COEN	**Coen**	**35.23**	**182**	P	**P**	**17 07 09.2**	**+0.4**
MTN	**Manton Dam**	**36.42**	**202**	P	**P**	**17 07 19.7**	**+0.7**
KNRA	**Kununurra**	**39.88**	**203**	P	**P**	**17 07 48.5**	**+0.4**
WB0	**Warramunga Arr**	**42.09**	**194**	P	**P**	**17 08 06.1**	**0.0**
WB0				IAmb	IAmb	17 08 22.1	
	comp=Z,7.4nm,1.4s						
WRAB	**Tennant Creek**	**42.26**	**194**	P	**P**	**17 08 07.9**	**+0.4**
WRAB				IAmb	IAmb	17 08 08.3	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**42.26**	**194**	P	**P**	**17 08 07.8**	**+0.2**
WB2				IAmb	IAmb	17 08 25.9	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**42.27**	**194**	P	**P**	**17 08 07.5**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=12,slow=8.6,SNR=32						
	comp=Z,1.2nm,0.3s						
AS31	**Alice Springs**	**45.96**	**193**	P	**P**	**17 08 36.8**	**-0.3**
ASAR	**Alice Springs**	**45.97**	**193**	P	**P**	**17 08 36.7**	**-0.4**
ASAR	**Alice Springs**	**45.97**	**193**	P	**P**	**17 08 36.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=12,slow=6.9,SNR=40						
	comp=Z,0.8nm,0.4s						
STKA	**Stephens Creek**	**53.11**	**183**	P	**P**	**17 09 30.1**	**-1.0**
STKA	**Stephens Creek**	**53.11**	**183**	P	**P**	**17 09 30.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=2.7,slow=13,SNR=4.1						
	comp=Z,0.7nm,0.4s						
B20K	**Meade River**	**59.46**	**20**	P	**P**	**17 10 15.9**	**+0.1**
B20K				IAmb	IAmb	17 10 59.1	
	comp=Z,2.6nm,1.3s						
D22K	**Ayikyak River**	**60.56**	**22**	P	**P**	**17 10 23.6**	**+0.2**
D22K				IAmb	IAmb	17 10 28.2	
	comp=Z,5.1nm,1.5s						
B22K	**Teshekpuk Lake**	**60.77**	**20**	P	**P**	**17 10 24.7**	**-0.1**
B22K				IAmb	IAmb	17 10 46.2	
	comp=Z,7.8nm,1.5s						
C23K	**Itkillik River**	**61.53**	**21**	P	**P**	**17 10 30.1**	**+0.2**
BVAR	**Borovoye Array**	**63.41**	**320**	P	**P**	**17 10 43.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=94,slow=5.9,SNR=4.4						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**83.75**	**335**	P	**P**	**17 12 40.9**	**-0.7**
	comp=Z,6.0nm,1.1s,baz=45,slow=6.1,SNR=3.4						
	comp=Z,6.0nm,1.1s						

*IDC **16** 17:03:31.0±2.8, 15˚.43N×94˚.16W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=102.6km s-min=39.2km az=55.0*
*MEX **16** 17:03:34.4±0.9, 15˚.11N×94˚.51W, h16km±14km, MD4.2*
*CATAC **16** 17:03:38.5±1.1, 15˚.84N×94˚.32W, h7km±10km, MB5.1, mb4.1, ML4.5*
ISC 16 17:03:35.5±1.9,**15˚.60N**±0˚.07×**94˚.38W**±0˚.06,**h10**km±11km, **n30,** σ3§**09**/39,**mb3.8**/5,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**0.78**	**35**	*e*P	**Pn**	**17 03 52.9**	**+0.3**
CARR				*e*S	**Sn**	**17 04 06.4**	**+2.1**
NILT	**Santiago Nilte**	**0.98**	**347**	*i* P	**Pn**	**17 03 55.4**	**+0.1**
NILT				*e*S	**Sn**	**17 04 10.5**	**+1.2**
PCIG		**1.12**	**85**	*e*P	**Pg**	**17 03 55.2**	**-1.9**
PCIG				*e*S	**Sg**	**17 04 10.0**	**-1.7**
CMIG	**Matias Romero**	**1.56**	**342**	Pn	**Pb**	**17 04 04.3**	**0.0**
	122nm,0.3s,baz=175,slow=14,SNR=1326						
CMIG				Sn	**Sn**	**17 04 26.9**	**+3.4**
	109nm,0.3s,baz=62,slow=20,SNR=21						
CMIG				LR	LR	17 04 58.8	
	comp=Z,308nm,21.7s,baz=174,slow=49						
CMIG	**Matias Romero**	**1.56**	**342**	*i* P	**Pn**	**17 04 03.9**	**+0.6**
CMIG				*e*S	**Sn**	**17 04 26.6**	**+3.1**
HUIG	**Huatulco**	**1.67**	**276**	*e*P	Pn	17 03 59.5	-5.4
HUIG				*i* S	Sn	17 04 17.2	-9.1
TGBT	**Tuxtla Gutierr**	**1.70**	**47**	*i* P	**Pg**	**17 04 07.2**	**-1.0**
TGBT				*e*S	**Sg**	**17 04 31.8**	**+1.6**
UXUV	**UXUV**	**1.72**	**7**	*i* P	**Pg**	**17 04 08.3**	**-0.1**
UXUV				*i* S	**Sg**	**17 04 33.4**	**+2.6**
PATR	**El Naranjo**	**2.12**	**103**	*i* P	Pn	17 04 07.2	-4.0
PATR				*e*S	**Sn**	**17 04 32.9**	**-5.0**
PAVE	**Pavencul**	**2.16**	**101**	*i* P	Pn	17 04 08.4	-3.4
PAVE				*e*S	**Sn**	**17 04 33.9**	**-4.9**
CHUJ	**Union Juarez**	**2.25**	**103**	*i* P	Pn	17 04 09.1	-3.9
CHUJ				*e*S	**Sn**	**17 04 35.9**	**-5.0**
CCIG	**Comitan**	**2.26**	**72**	*i* P	**Pn**	**17 04 14.7**	**+1.6**
CCIG				*i* S	**Sn**	**17 04 42.6**	**+1.5**
CCIG				IAML		17 04 51.5	
	comp=Z,2μm,1.0s						
SMCA	**Catarina**	**2.34**	**108**	*i* P	**Pn**	**17 04 17.2**	**+3.1**
SMCA				IAML		17 04 43.4	
	comp=Z,810nm,1.0s						
SMSP	**San Marcos**	**2.58**	**104**	*i* P	**Pn**	**17 04 20.7**	**+3.1**
SMSP				*i* S	**Sn**	**17 04 53.9**	**+4.6**
SMSP				IAML		17 05 19.6	
	comp=Z,3μm,1.0s						
HUEH	**Huehuetenango**	**2.79**	**95**	*i* P	**Pn**	**17 04 22.7**	**+2.3**
HUEH				IAML		17 04 56.8	
	comp=Z,2μm,1.0s						
RTAL	**Retalhuleu**	**2.81**	**112**	*i* P	**Pn**	**17 04 24.5**	**+4.1**
RTAL				IAML		17 04 46.3	
	comp=Z,890nm,1.0s						
RTAL				*i* S	**Sn**	**17 04 59.2**	**+4.8**
SOKI	**Kika Raxquin**	**2.98**	**105**	*i* P	**Pn**	**17 04 26.3**	**+3.2**
SOKI				*i* S	**Sn**	**17 05 04.0**	**+4.9**
SOKI				IAML		17 05 19.1	
	comp=Z,300nm,1.0s						
QUIS	**Sacapulas**	**3.19**	**95**	*i* P	**Pn**	**17 04 28.6**	**+2.8**
QUIS				IAML		17 05 22.5	
	comp=Z,700nm,1.0s						
GUNB	**GUNB**	**4.02**	**104**	*i* P	**Pn**	**17 04 40.8**	**+3.4**
GUNB				IAML		17 06 17.0	
	comp=Z,450nm,1.0s						
TLIG	**Tlapa**	**4.46**	**296**	*i* P	**Pn**	**17 04 46.0**	**+2.7**
TLIG				IAML		17 06 24.6	
	comp=Z,110nm,1.0s						
PETF	**Flores**	**4.53**	**73**	*i* P	**Pn**	**17 04 45.4**	**+1.3**
PETF				IAML		17 04 50.3	
	comp=Z,230nm,1.0s						
LOAL	**Lomas de Alarc**	**4.72**	**109**	*i* P	**Pn**	**17 04 51.6**	**+4.7**
LOAL				IAML		17 06 56.1	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**4.76**	**110**	*i* PA		17 04 52.1	
NUBE				IAML		17 05 09.8	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**4.93**	**110**	*i* P	**Pn**	**17 04 52.8**	**+2.9**
CEVE				IAML		17 06 13.6	
	comp=Z,210nm,1.0s						
MTO3	**Montecristo**	**5.00**	**103**	*i* P	**Pn**	**17 04 55.0**	**+4.2**
MTO3				IAML		17 05 15.6	
	comp=Z,65nm,1.0s						
MTO3				IVmB_BB		17 05 15.9	
	comp=Z,2μm,1.0s						
MTO3				IAmb	IAmb	17 05 16.3	
	comp=Z,29nm,1.2s						
NVAR	**Mina Array Bea**	**30.99**	**322**	P	**P**	**17 09 53.9**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=141,slow=9.6,SNR=4.6						
	comp=Z,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**48.96**	**348**	P	**P**	**17 12 19.9**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=153,slow=7.0,SNR=3.5						
	comp=Z,0.6nm,0.6s						
INK	**Inuvik**	**58.27**	**344**	P	**P**	**17 13 27.6**	**-2.3**
	comp=Z,1.8nm,0.6s,baz=180,slow=4.0,SNR=4.7						
	comp=Z,1.8nm,0.6s						
ILAR	**Eielson Array**	**60.47**	**337**	P	**P**	**17 13 43.2**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=142,slow=5.8,SNR=6.3						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**85.33**	**18**	P	**P**	**17 16 11.4**	**-1.1**
	comp=Z,12nm,1.2s,baz=311,slow=5.8,SNR=4.1						
	comp=Z,12nm,1.2s						

*NEIC **16** 17:05:13.8±0.9,36˚.21N±0˚.01×98˚.68W±0˚.01, h4km±1km, **ML2.8, mb_Lg2.4**/14(NEIC), **ML2.7**/16(NEIC), **Error ellipse: s-maj=1.7km s-min=1.4km az=73.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.28**	**349**	Pg	Pg	17 05 19.7	+0.5
OK038				Sg	Sg	17 05 24.0	+1.2
OK038				IAML		17 05 24.5	
	1μm,0.3s						
OK038				IAML		17 05 28.0	
	1μm,0.3s						
U32A	**Winter Ranch,**	**0.31**	**304**	Pg	Pg	17 05 20.0	+0.2
U32A				Sg	Sg	17 05 24.9	+0.9
U32A				IAML		17 05 25.1	
	comp=E,600nm,0.2s						
OK035	**E0210 Rd and N**	**0.50**	**357**	Pg	Pg	17 05 23.9	+0.4
OK035				IAmb_Lg		17 05 30.5	
	comp=Z,58nm,0.9s						
OK035				Sg	Sg	17 05 31.1	+1.1
OK035				IAML		17 05 31.4	
	comp=Z,673nm,0.2s						
CSTR	**Hydro, Custer**	**0.56**	**181**	Pg	Pg	17 05 24.7	+0.1
CSTR				Sg	Sg	17 05 32.4	+0.6
ELIS	**Ellis County**	**0.62**	**257**		Pg	17 05 25.5	-0.1
ELIS				Sg	Sg	17 05 34.2	+0.6
ELIS				IAML		17 05 41.8	
	comp=N,327nm,0.3s						
ELIS				IAML		17 05 46.0	
	comp=E,431nm,0.3s						
CROK	**Carrier**	**0.64**	**62**		Pg	17 05 26.2	+0.2
CROK				Sg	Sg	17 05 35.1	+0.9
CROK				IAML		17 05 35.5	
	comp=E,436nm,0.2s						
OK032	**Salt Plains WL**	**0.71**	**32**		Pg	17 05 27.4	+0.1
OK032				Sg	Sg	17 05 37.2	+0.7
GC02	**Grant County #**	**0.92**	**45**	Pg	Pg	17 05 31.2	-0.3
GC02				Sg	Sg	17 05 43.9	+0.5
KAN14	**Manchester OK**	**0.94**	**37**		Pg	17 05 31.8	-0.2
KAN14				Sg	Sg	17 05 44.8	+0.6
KAN10	**Anthony SW Sta**	**1.03**	**27**	Pg	Pg	17 05 33.2	-0.4
KAN10				Sg	Sg	17 05 47.4	+0.5
OK029	**Liberty Lake**	**1.07**	**112**		Pg	17 05 33.9	-0.4
OK029				Sg	Sg	17 05 48.5	+0.2
KAN05	**Bluff City Nor**	**1.11**	**35**	Pg	Pg	17 05 34.9	-0.2
KAN05				Sg	Sg	17 05 49.5	0.0
KAN17	**Caldwell West**	**1.11**	**41**		Pg	17 05 33.9	-1.2
KAN17				Sg	Sg	17 05 49.7	+0.1
KAN08	**Anthony NE Sta**	**1.17**	**29**	Pg	Pg	17 05 35.2	-1.0
KAN08				Sg	Sg	17 05 51.4	+0.1
ADOK	**Arcadia Dam**	**1.20**	**117**	Pg	Pg	17 05 36.3	-0.4
KAN01	**Argonia South**	**1.20**	**38**	Pg	Pg	17 05 35.9	-1.0
KAN01				Sg	Sg	17 05 52.5	+0.1
KAN06	**Argonia West S**	**1.23**	**32**	Pg	Pg	17 05 36.9	-0.5
KAN13	**South Haven SW**	**1.26**	**50**	Pg	Pg	17 05 37.2	-0.7
KAN09	**Caldwell North**	**1.26**	**42**		Pg	17 05 37.2	-0.7
OKCSW	**OKLAHOMA CITY**	**1.29**	**128**		Pg	17 05 37.5	-1.0
BLOK	**Blackwell**	**1.30**	**64**	Pg	Pg	17 05 38.2	-0.6
KS21	**Milan North St**	**1.35**	**37**		Pn	17 05 39.0	-0.6
FNO	**Franklin**	**1.41**	**132**		Pn	17 05 39.8	-0.5
OK048	**Pawnee Station**	**1.42**	**81**		Pn	17 05 40.0	-0.4
OK033	**Mehan**	**1.42**	**96**		Pn	17 05 39.8	-0.6
WMOK	**Wichita Mounta**	**1.47**	**183**		Pn	17 05 39.4	-1.7
OK051	**E0350 and S346**	**1.52**	**78**		Pn	17 05 41.3	-0.5
OK052	**Battle Ridge R**	**1.53**	**97**	Pg	Pn	17 05 42.0	0.0
QUOK	**Quay**	**1.59**	**91**		Pn	17 05 42.8	0.0
SMWD	**Samnorwood**	**1.68**	**230**		Pn	17 05 44.0	-0.1
X34A	**Smith Ranch, M**	**1.74**	**156**		Pn	17 05 45.1	+0.2
X34A				IAmb_Lg		17 06 09.7	
	comp=Z,22nm,1.0s						
DEOK	**Depew**	**1.80**	**101**		Pn	17 05 45.8	+0.1
W35A	**Tecumseh**	**1.81**	**125**	Pn	Pn	17 05 46.1	+0.4
T35A	**Sooner Cattle**	**1.88**	**67**		Pn	17 05 47.0	+0.2
T35A				IAmb_Lg		17 06 14.5	
	comp=Z,22nm,0.8s						
R32A	**Long Quarter,**	**2.21**	**359**	Pn	Pn	17 05 52.0	+0.6
R32A				IAmb_Lg		17 06 23.5	
	comp=Z,18nm,0.9s						
TUL3	**Leonard**	**2.36**	**96**	Pn	Pn	17 05 53.5	+0.2
WTFS	**Witchita Falls**	**2.44**	**176**		Pn	17 05 54.1	-0.4
LOOK	**Love County**	**2.53**	**150**		Pn	17 05 56.0	+0.3
CBKS	**Cedar Bluff**	**2.74**	**342**	Pn	Pn	17 05 58.9	+0.3
AMTX	**Amarillo**	**2.78**	**243**	Pn	Pn	17 05 59.4	+0.1
RLO	**Rose Lookout**	**2.96**	**90**	Pn	Pn	17 06 01.9	+0.3
Z35A	**Perchaven, San**	**3.10**	**157**	Pn	Pn	17 06 02.0	-1.5
APMT	**Aspermont**	**3.11**	**203**	IAmb_Lg		17 06 56.5	
	comp=Z,7.9nm,0.9s						
DKNS	**Dickens**	**3.13**	**217**	Pn	Pn	17 06 04.0	-0.1
X37A	**Clayton**	**3.15**	**120**	Pn	Pn	17 06 04.6	+0.4
RTBA	**Rita Blanca**	**3.29**	**275**	Pn	Pn	17 06 04.1	-2.2
KSU1	**Kansas State U**	**3.32**	**29**	Pn	Pn	17 06 04.6	-2.0
PLPT	**Palo Pinto**	**3.40**	**175**	Pn	Pn	17 06 06.5	-1.2
PLPT				IAmb_Lg		17 07 02.7	
	comp=Z,6.1nm,0.7s						
U38A	**Gravette**	**3.47**	**85**	Pn	Pn	17 06 08.7	0.0
ABTX	**Abilene, Hawle**	**3.66**	**193**	Pn	Pn	17 06 10.3	-1.0
HHAR	**Hobbs**	**3.83**	**87**	Pn	Pn	17 06 15.0	+1.4
HHAR				IAmb_Lg		17 07 13.9	
	comp=Z,9.2nm,0.7s						
POST	**Post**	**3.90**	**217**	Pn	Pn	17 06 15.0	+0.4
POST				IAmb_Lg		17 07 25.0	
	comp=Z,13nm,0.7s						
TREL	**Terrell**	**4.07**	**148**	Pn	Pn	17 06 15.8	-1.2
KSCO	**Kaye Shedlock'**	**4.20**	**313**	Pn	Pn	17 06 18.0	-0.1
WHTX	**Lake Whitney,**	**4.32**	**166**	Pn	Pn	17 06 18.6	-1.8
S39A	**Bolivar**	**4.54**	**69**	Pn	Pn	17 06 23.7	+0.4
T25A	**Trinidad**	**4.70**	**283**	Pn	Pn	17 06 23.5	-2.2
SGCY	**Sterling City**	**4.74**	**206**	Pn	Pn	17 06 24.7	-1.5
237A	**Washetta, Mont**	**4.82**	**150**	Pn	Pn	17 06 25.8	-1.4
BRDY	**Brady**	**4.92**	**183**	Pn	Pn	17 06 26.8	-1.7
X40A	**Basin Creek Fa**	**5.07**	**108**	Pn	Pn	17 06 29.8	-0.9
ODSA	**Odessa**	**5.19**	**219**	Pn	Pn	17 06 30.7	-1.6
MGMO	**Mountain Grove**	**5.24**	**78**	Pn	Pn	17 06 31.3	-1.7
WHAR	**Wooly Hollow**	**5.28**	**98**	Pn	Pn	17 06 31.1	-2.4
P38A	**Dawn**	**5.31**	**48**	Pn	Pn	17 06 33.0	-0.9
FCAR	**Ozark Folk Cen**	**5.32**	**91**	Pn	Pn	17 06 32.4	-1.6
OGNE	**Ogallala**	**5.41**	**332**	Pn	Pn	17 06 33.2	-2.2
R40A	**Maddies Statio**	**5.52**	**66**	Pn	Pn	17 06 35.2	-1.6

*NEIC **16** 17:06:50.2±1.6,36˚.203N±0˚.009×98˚.69W±0˚.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.4km az=271.0*
TUL 16 17:06:50.6±1.6,**36˚.20N**±0˚.01×**98˚.69W**±0˚.01,**h6**km±5km, **ML2.6, mb_Lg2.0**/3(NEIC), **ML2.4**/16(NEIC), **Error ellipse: s-maj=1.5km s-min=1.3km az=176.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.28**	**351**		Pg	17 06 56.4	+0.3
OK038				Sg	Sg	17 07 00.8	+1.0
OK038				IAML		17 07 02.4	
	490nm,0.2s						
OK038				IAML		17 07 04.8	
	616nm,0.2s						
U32A	**Winter Ranch,**	**0.31**	**305**	Pg	Pg	17 06 56.9	+0.3
U32A				Sg	Sg	17 07 01.7	+0.9
U32A				IAML		17 07 02.1	
	comp=E,321nm,0.1s						
OK035	**E0210 Rd and N**	**0.51**	**358**	Pg	Pg	17 07 00.5	+0.1
OK035				Sg	Sg	17 07 07.8	+0.9
OK035				IAML		17 07 08.1	
	comp=E,365nm,0.3s						
OK035				IAML		17 07 08.2	
	comp=E,292nm,0.2s						
CSTR	**Hydro, Custer**	**0.56**	**180**		Pg	17 07 01.6	+0.3
CSTR				Sg	Sg	17 07 09.4	+0.9
ELIS	**Ellis County**	**0.61**	**257**	Pg	Pg	17 07 02.1	-0.2
ELIS				IAML		17 07 22.8	
	comp=E,228nm,0.3s						
ELIS				IAML		17 07 23.1	
	comp=N,178nm,0.3s						
CROK	**Carrier**	**0.65**	**62**	Pg	Pg	17 07 03.0	-0.1
CROK				Sg	Sg	17 07 11.9	+0.5
OK032	**Salt Plains WL**	**0.71**	**33**	Pg	Pg	17 07 03.2	-1.1
OK032				Sg	Sg	17 07 13.9	+0.3
GC02	**Grant County #**	**0.93**	**46**		Pg	17 07 07.9	-0.6
GC02				Sg	Sg	17 07 20.2	-0.4
KAN14	**Manchester OK**	**0.95**	**38**	Pg	Pg	17 07 08.5	-0.4
KAN14				Sg	Sg	17 07 21.4	+0.1
KAN10	**Anthony SW Sta**	**1.04**	**27**	Pg	Pg	17 07 09.9	-0.6
KAN10				Sg	Sg	17 07 24.0	+0.1
OK029	**Liberty Lake**	**1.08**	**112**	Pg	Pg	17 07 10.5	-0.8
OK029				Sg	Sg	17 07 25.1	-0.2
KAN05	**Bluff City Nor**	**1.12**	**36**	Pg	Pg	17 07 10.7	-1.4
KAN05				Sg	Sg	17 07 26.3	-0.2
KAN17	**Caldwell West**	**1.12**	**41**		Pg	17 07 10.6	-1.5
KAN17				Sg	Sg	17 07 26.6	-0.1
KAN08	**Anthony NE Sta**	**1.17**	**29**	Pg	Pg	17 07 12.1	-1.1
KAN08				Sg	Sg	17 07 28.3	-0.1
ADOK	**Arcadia Dam**	**1.20**	**117**	Pg	Pg	17 07 12.3	-1.4
ADOK				Sg	Sg	17 07 28.2	-1.1
KAN01	**Argonia South**	**1.21**	**38**	Pg	Pg	17 07 12.1	-1.7
KAN01				Sg	Sg	17 07 28.8	-0.7
KAN06	**Argonia West S**	**1.24**	**32**	Pg	Pg	17 07 12.6	-1.8
KAN13	**South Haven SW**	**1.27**	**50**		Pn	17 07 12.9	-2.0
KAN09	**Caldwell North**	**1.27**	**42**		Pn	17 07 14.0	-0.9
KAN09				IAmb_Lg		17 07 31.5	
	comp=Z,13nm,1.0s						
KS21	**Milan North St**	**1.36**	**37**		Pn	17 07 15.5	-0.7
FNO	**Franklin**	**1.41**	**132**		Pn	17 07 15.9	-0.9
OK048	**Pawnee Station**	**1.43**	**81**		Pn	17 07 16.3	-0.8
WMOK	**Wichita Mounta**	**1.46**	**183**		Pn	17 07 16.8	-0.8
WMOK				IAmb_Lg		17 07 38.6	
	comp=Z,5.5nm,0.7s						
OK051	**E0350 and S346**	**1.53**	**78**		Pn	17 07 17.9	-0.6
OK052	**Battle Ridge R**	**1.54**	**97**		Pn	17 07 18.0	-0.6
QUOK	**Quay**	**1.60**	**91**		Pn	17 07 18.7	-0.8
SMWD	**Samnorwood**	**1.67**	**230**		Pn	17 07 19.5	-1.0
X34A	**Smith Ranch, M**	**1.74**	**156**	Pn	Pn	17 07 20.5	-0.9
W35A	**Tecumseh**	**1.81**	**125**	Pn	Pn	17 07 21.3	-1.0
DEOK	**Depew**	**1.81**	**101**	Pn	Pn	17 07 21.6	-0.8
T35A	**Sooner Cattle**	**1.89**	**67**	Pn	Pn	17 07 22.5	-1.0
T35A				IAmb_Lg		17 07 50.7	
	comp=Z,9.5nm,0.8s						
R32A	**Long Quarter,**	**2.22**	**360**	Pn	Pn	17 07 26.4	-1.5
TUL3	**Leonard**	**2.37**	**96**	Pn	Pn	17 07 29.2	-0.8
WTFS	**Witchita Falls**	**2.44**	**176**	Pn	Pn	17 07 29.7	-1.3
LOOK	**Love County**	**2.53**	**150**	Pn	Pn	17 07 30.9	-1.3
AMTX	**Amarillo**	**2.77**	**243**	Pn	Pn	17 07 33.8	-1.9
KSU1	**Kansas State U**	**3.33**	**29**	Pn	Pn	17 07 43.8	+0.5
PLPT	**Palo Pinto**	**3.40**	**175**	Pn	Pn	17 07 42.7	-1.4
POST	**Post**	**3.89**	**217**	Pn	Pn	17 07 50.4	-0.6

*IDC **16** 17:10:45.8±4.6, 42˚.58N×127˚.66W, h0km, mb3.3/3, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=86.9km s-min=20.3km az=34.0*
*NEIC **16** 17:10:50.1±1.5, 43˚.24N±0˚.07×126˚.9W±0˚.1, h10km±2km, ML3.2/70, Error ellipse: s-maj=15.3km s-min=11.5km az=247.0*
ISC 16 17:10:51.0±1.8,**43˚.27N**±0˚.07×**126˚.9W**±0˚.1,**h10**km,**n57,** σ1§**43**/52,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.95**	**101**	Pn	**Pn**	**17 11 22.2**	**-2.1**
KEBM				IAML		17 11 36.6	
	comp=N,137nm,3.7s						
KEBM				Sn	**Sn**	**17 11 46.3**	**-2.6**
KEBM				IAML		17 12 28.4	
	comp=E,162nm,3.3s						
J01E	**Myrtle Point**	**2.21**	**92**	Pn	**Pn**	**17 11 25.5**	**-2.2**
KBO	**Bosley Butte**	**2.26**	**117**	Pn	Pn	17 11 25.5	-3.1
KBO				IAML		17 12 28.5	
	comp=E,187nm,4.5s						
KBO				IAML		17 12 36.6	
	comp=N,132nm,4.1s						
K02D	**Willamette Mer**	**2.47**	**102**	Pn	**Pn**	**17 11 29.9**	**-1.6**
K02D				Sn	**Sn**	**17 11 60.0**	**-1.8**
I03D	**Drain, OR**	**2.65**	**79**		**Pn**	**17 11 32.2**	**-1.6**
KSXB	**Camp Six Broad**	**2.68**	**121**	Pn	**Pn**	**17 11 32.5**	**-1.9**
KSXB				Sn	**Sn**	**17 12 05.5**	**-1.5**
DBO	**Dodson Butte**	**2.71**	**92**	Pn	**Pn**	**17 11 33.2**	**-1.5**
DBO				Sn	**Sn**	**17 12 06.7**	**-1.0**
DBO				IAML		17 12 39.1	
	comp=E,60nm,4.5s						
KRMB	**Red Mountain**	**2.85**	**127**	Pn	**Pn**	**17 11 35.2**	**-1.4**
COR	**Corvallis**	**2.94**	**62**	Pn	**Pn**	**17 11 36.9**	**-0.9**
COR				IAML		17

comp=E,11nm,4.4s
LON IAML 17 15 26.1

comp=N,14nm,4.6s
GNW Green Mountain 5.18 33 Pn 17 12 07.2 -1.4
GNW IAML 17 13 52.4

comp=N,20nm,5.0s
D05A Enumclaw 5.25 40 Pn 17 12 08.7 -0.9
B04A Port Angeles 5.36 26 Pn **Pn 17 12 09.5 -1.5**
I07A Izee 5.46 79 Pn 17 12 12.1 -0.4
F07A Phinny Hill Vi 5.66 60 Pn **Pn 17 12 14.5 -0.7**
MXC Moxie City 5.76 53 Pn **Pn 17 12 16.6 -0.1**
CLRS Cowichan Lake 5.89 18 Pn **Pn 17 12 16.5 -1.8**
PGC Sidney 5.91 23 Pn **Pn 17 12 17.4 -1.1**
LTY Liberty 5.96 46 Pn 17 12 18.4 -1.0
E07A Sunnyside 6.01 54 Pn 17 12 19.4 -0.6
G08A Pilot Rock 6.08 68 Pn 17 12 20.5 -0.5
HAWA Hanford 6.12 57 Pn **Pn 17 12 21.7 +0.2**
WVOR Wild Horse Val 6.16 95 Pn **Pn 17 12 21.2 -1.0**
E08A Dider Farm, El 6.46 57 Pn 17 12 25.8 -0.3
BMO Blue Mountains 7.12 74 Pn 17 12 34.8 -0.6
C09A Chrisman Ranch 7.59 50 Pn 17 12 41.3 -0.3
PLID Pearl Lake 8.07 73 Pn **Pn 17 12 48.1 -0.4**
YKA Yellowknife Ar 20.58 16 P Pn 17 15 35.7 +3.7
comp=N,0.7nm,1.0s,baz=204,slow=10,SNR=4.5
comp=N,0.7nm,1.0s
ULM Lac du Bonnet 22.28 61 P P 17 15 52.8 +4.6
comp=N,1.0nm,0.4s,baz=245,slow=17,SNR=3.7
comp=N,1.0nm,0.4s
ILAR Eielson Array 24.31 339 P P 17 16 08.2 -0.3
comp=N,0.5nm,0.8s,baz=157,slow=9.5,SNR=6.4
comp=N,0.5nm,0.8s
H11N3 WAKE ISLAND Hy 59.51 269 T T 18 25 08.1
baz=51,slow=75,SNR=28
H11N2 WAKE ISLAND Hy 59.51 269 T T 18 25 06.9
baz=51,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 59.53 269 T T 18 25 07.2
baz=51,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 60.43 268 T T 18 26 20.7
baz=50,slow=75,SNR=236
H11S2 WAKE ISLAND Hy 60.44 268 T T 18 26 19.3
baz=50,slow=75,SNR=138
H11S3 WAKE ISLAND Hy 60.45 268 T T 18 26 22.4
baz=50,slow=75,SNR=121

*NEIC **16** 17:14:45.3±3.2,46°47N±0°.03×87°.68W±0°.04,h0km±2km, ML2.2/6,mb_Lg2.5(OTT),Error ellipse: s-maj=4.9km s-min=4.1km az=175.0*
*OTT **16** 17:14:47.7±0.3,46°.53N×87°.68W,h0km,MN2.5/5,Blast, Michigan, U.S. 242km southeast from Thunder Bay, On Mining explosion.*
ISC 16 17:14:44.3±0.9,46°37N±0°.04×87°.66W±0°.03,h0km,n21, σ1s10/33,Michigan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
E43A	**Lone Tree Farm**	**0.46**	**90**			**Pg**	**17 14 53.7**	**+0.7**
E43A				Sg		**Sg**	**17 14 59.6**	**+0.7**
E43A				IAML			17 15 05.1	
	comp=N,138nm,0.1s							
F42A	**Maple Grove Fa**	**0.70**	**209**	Pg		**Pb**	**17 14 59.6**	**+0.3**
F42A				IAML			17 15 12.1	
	comp=E,152nm,0.2s							
D41A	**Chassel**	**0.93**	**318**	Pg		**Pg**	**17 15 01.8**	**-0.3**
D41A				IAML			17 15 21.4	
	comp=E,80nm,0.1s							
D41A				IAML			17 15 23.0	
	comp=N,94nm,1.5s							
H43A	**Windswept, Lux**	**1.91**	**182**	Pn		**Pb**	**17 15 19.8**	**-0.2**
G45A	**Suttons Bay**	**1.93**	**133**	Pn		**Pn**	**17 15 18.4**	**0.0**
G40A	**Rib Lake**	**2.10**	**239**			**Pn**	**17 15 20.9**	**+0.2**
E46A	**Sault Ste Mari**	**2.32**	**89**	Pn		**Pn**	**17 15 24.7**	**+1.0**
E46A	**Sault Ste Mari**	**2.32**	**89**	PN		**Pb**	**17 15 26.9**	**0.0**
E46A				SN		**Sb**	**17 15 56.2**	**+0.1**
E46A				Trac			17 16 00.6	
	comp=N,3.5nm,0.1s							
PNPO	**Pukaskwa Natio**	**2.41**	**22**	Pn		**Pn**	**17 15 25.5**	**+0.5**
PNPO						**Sn**	**17 15 54.5**	**-0.7**
PNPO	**Pukaskwa Natio**	**2.41**	**22**	PN		**Pn**	**17 15 25.5**	**+0.5**
PNPO				SN		**Sn**	**17 15 54.5**	**-0.7**
PNPO				Trac			17 16 01.4	
	comp=N,3.2nm,0.1s							
I45A	**Fountain**	**2.54**	**156**	Pn		**Pn**	**17 15 26.1**	**-0.7**
TBO	**Thunder Bay**	**2.57**	**333**	Pn		**Pn**	**17 15 27.7**	**+0.6**
TBO						**Sn**	**17 15 58.2**	**-0.8**
TBO	**Thunder Bay**	**2.57**	**333**	PN		**Pn**	**17 15 27.7**	**+0.6**
TBO				SN		**Sn**	**17 15 58.2**	**-0.8**
TBO				Trac			17 16 04.9	
	comp=N,7.4nm,0.1s							
EYMN	**Ely**	**3.06**	**302**	Pn		**Pn**	**17 15 33.9**	**+0.1**
EYMN	**Ely**	**3.06**	**302**	PN		**Pn**	**17 15 35.8**	**+2.0**
EYMN				SN		**Sn**	**17 16 12.2**	**+1.1**
GTO	**Geraldton**	**3.41**	**8**	Pn		**Pn**	**17 15 39.5**	**+0.8**
GTO						**Sn**	**17 16 17.8**	**-1.9**
GTO	**Geraldton**	**3.41**	**8**	PN		**Pn**	**17 15 39.5**	**+0.8**
GTO				SN		**Sn**	**17 16 17.8**	**-1.9**
GTO				Trac			17 16 30.6	
	comp=N,3.9nm,0.1s							
GTOO	**Geraldton**	**3.41**	**8**	Pn		**Pn**	**17 15 39.6**	**+1.0**
GTOO						**Sn**	**17 16 17.2**	**-2.5**
GTOO	**Geraldton**	**3.41**	**8**	PN		**Pn**	**17 15 39.6**	**+1.0**
GTOO				SN		**Sn**	**17 16 17.2**	**-2.5**
GTOO				Trac			17 16 30.6	
	comp=N,3.6nm,0.1s							
ATKO	**Atikokan Iron**	**3.62**	**314**			**Sn**	**17 16 24.1**	**-0.9**
ATKO	**Atikokan Iron**	**3.62**	**314**	SN		**Sn**	**17 16 24.1**	**-0.9**
ATKO				SN		**Sn**	**17 16 24.2**	**-0.9**
ATKO				Trac			17 16 30.6	
	comp=N,1.3nm,0.1s							

*UCR **16** 17:19:17.2±0.3, 10°.83N×86°.60W,h14km±8km, MW4.1*
*CATAC **16** 17:19:19.1±0.6, 10°.87N×86°.49W,h5km±5km,ML3.5*
ISC 16 17:19:17.8±1.8,10°82N±0°.05×86°55W±0°.07,h10km±11km, n30,σ0s63/39,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LCRUZ	**La Cruz**	**0.93**	**74**	*e*P		**Pg**	**17 19 36.1**	**+0.3**
HZTE	**Horizontes, Gu**	**0.94**	**97**	*e*P		**Pg**	**17 19 35.7**	**-0.2**
HZTE				*e*S		**Sb**	**17 19 49.6**	**+0.9**
HZTE	**Horizontes, Gu**	**0.94**	**97**	*i* P		**Pg**	**17 19 35.9**	**0.0**
HZTE				*i* S		**Sb**	**17 19 49.1**	**+0.3**
HZTE				IAML			17 19 56.0	
	comp=Z,3μm,1.0s							
MSHP	**Masachapa**	**1.00**	**1**	*i* P		**Pb**	**17 19 37.4**	**+0.1**
MSHP				IAML			17 19 37.7	
	comp=Z,400nm,1.0s							
JAPN	**AI SSO del Vol**	**1.10**	**51**	*i* P		**Pg**	**17 19 38.7**	**-0.3**
JAPN				IAML			17 19 39.1	
	comp=Z,1μm,1.0s							
OMEN	**AI SSO del Vol**	**1.13**	**53**	*i* P		**Pb**	**17 19 38.5**	**-1.0**
OMEN				IAML			17 19 38.7	
	comp=Z,1μm,1.0s							
OMEN				*i* S		**Sb**	**17 19 54.2**	**-0.1**
MORN	**AI O del Volca**	**1.14**	**51**	*i* P		**Pb**	**17 19 39.0**	**-0.6**
MORN				IAML			17 19 39.1	
	comp=Z,3μm,1.0s							
VRLE	**La Escondida,**	**1.16**	**92**	*i* P		**Pb**	**17 19 39.5**	**-0.5**
VRLE				*i* S		**Sg**	**17 19 54.8**	**-0.4**
VRLE				IAML			17 19 56.7	
	comp=Z,1μm,1.0s							
ORTG	**Ortega, Santa**	**1.16**	**113**	*e*P		**Pb**	**17 19 39.0**	**-1.1**
ORTG	**Ortega, Santa**	**1.16**	**113**	*i* P		**Pb**	**17 19 40.1**	**+0.1**
ORTG				*i* S		**Sg**	**17 19 56.3**	**+1.1**
ORTG				IAML			17 20 02.0	
	comp=Z,790nm,1.0s							
CONN	**Concepcion**	**1.16**	**51**	*i* P		**Pb**	**17 19 40.0**	**-0.1**
CONN				*i* S		**Sg**	**17 19 55.4**	**+0.1**
CONN				IAML			17 19 57.6	
	comp=Z,7μm,1.0s							
MAS3	**AI N del Volca**	**1.25**	**17**	*i* P		**Pn**	**17 19 40.8**	**-0.6**
MAS3				IAML			17 19 40.8	
	comp=Z,800nm,1.0s							
SAPS	**Ciudad Sandino**	**1.34**	**6**	*i* P		**Pn**	**17 19 42.8**	**+0.1**
SAPS				*i* S		**Sg**	**17 20 01.5**	**+0.4**
SAPS				IAML			17 20 08.2	
	comp=Z,850nm,1.0s							
APQ2	**Apoyeque**	**1.38**	**9**	*i* P		**Pg**	**17 19 44.3**	**-0.1**
APQ2				*i* S		**Sg**	**17 20 01.7**	**-0.6**
APQ2				IAML			17 20 02.3	
	comp=Z,1μm,1.0s							
INDI	**Punta indio, G**	**1.40**	**133**	*e*P		**Pn**	**17 19 42.0**	**-1.4**
INDI	**Punta indio, G**	**1.40**	**133**	*i* P		**Pn**	**17 19 44.3**	**+0.9**
INDI				IAML			17 20 23.4	
	comp=Z,330nm,1.0s							
VMAR	**Armenia, Volca**	**1.41**	**90**	*e*P		**Pn**	**17 19 43.3**	**-0.3**
VMAR				*e*S		**Sb**	**17 20 02.6**	**+0.3**
VMAR	**Armenia, Volca**	**1.41**	**90**	*i* P		**Pn**	**17 19 43.4**	**-0.2**
VMAR				*i* S		**Sb**	**17 20 02.6**	**+0.3**
VMAR				IAML			17 20 08.0	
	comp=Z,1μm,1.0s							
MOMN	**Momotombo**	**1.58**	**0**	*i* P		**Pn**	**17 19 46.3**	**+0.4**
MOMN				*i* S		**Sb**	**17 20 07.1**	**0.0**
MOMN				IAML			17 20 07.5	
	comp=Z,18nm,1.0s							
MOM2	**El Cardon**	**1.60**	**2**	*i* P		**Pb**	**17 19 47.6**	**0.0**
MOM2				*i* S		**Sn**	**17 20 06.7**	**-0.4**
MOM2				IAML			17 20 24.5	
	comp=Z,300nm,1.0s							
JTS	**Las Juntas de**	**1.65**	**109**	*e*P		**Pn**	**17 19 46.1**	**-0.9**
ROCN	**Rota Cerro Neg**	**1.70**	**353**	*i* P		Pg	17 19 55.2	+4.8
ACON	**Acoyapa**	**1.76**	**50**	*i* P		**Pn**	**17 19 48.8**	**+0.4**
ACON				IAML			17 19 57.1	
	comp=Z,260nm,1.0s							
VACR	**Volcan Arenal**	**1.87**	**101**	*i* P		**Pn**	**17 19 50.3**	**+0.4**
VACR				IAML			17 20 33.6	
	comp=Z,450nm,1.0s							
SOCE	**Pocosol**	**1.94**	**103**	*e*P		**Pb**	**17 19 53.2**	**-0.2**
SOCE	**Pocosol**	**1.94**	**103**	*i* P		**Pn**	**17 19 51.9**	**+0.9**
SOCE				IAML			17 20 29.1	
	comp=Z,250nm,1.0s							
COVE	**Coope Vega, Sa**	**2.11**	**93**	*e*P		**Pn**	**17 19 54.6**	**+1.4**
LIMN	**Finca el Limon**	**2.23**	**4**	*i* P		**Pn**	**17 19 55.7**	**+0.7**
LIMN				IAML			17 20 33.6	
	comp=Z,130nm,1.0s							
CSGN	**Cosiguina Volc**	**2.36**	**335**	*i* PA			17 19 59.8	
CSGN				IAML			17 20 39.5	
	comp=Z,300nm,1.0s							
RCPN	**Sur Rio San Ju**	**2.72**	**9**	*i* PA			17 20 02.5	
RCPN				IAML			17 20 09.6	
	comp=Z,0.3nm,1.0s							

*IDC **16** 17:35:25.0±2.8,22°.66N×11°.93W,h0km,mb3.8/3, mbtmp3.8/5,ML3.9/2,MS4.1/1,Error ellipse: s-maj=93.4km s-min=31.2km az=83.0*
ISC 16 17:35:28.2±1.7,22°7N±0°.2×11°6W±0°.3,h10km,n10, σ0s97/8,mb3.8/3,Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
I11CV	**MAIO ISLAND IN**	**13.24**	**238**	I		I	18 54 20.0	
	0.1nm,0.6s,baz=52,slow=317,SNR=1.7							
TORD	**Torodi Ar. Bea**	**15.77**	**125**	Pn		**Pn**	**17 39 11.1**	**+0.6**
	0.2nm,0.3s,baz=317,slow=12,SNR=4.2							
TORD				Sn		**Sn**	**17 42 05.0**	**-0.4**
	0.1nm,0.3s,baz=311,slow=20,SNR=2.6							
	0.5nm,0.5s							
DBIC	**Dimbokro**	**17.18**	**157**	P		**Pn**	**17 39 28.1**	**-0.4**
	0.9nm,0.3s,baz=328,slow=10.0,SNR=8.8							
	3.3nm,0.5s							
I17CI	**DIMBOKRO INFRA**	**17.18**	**157**	I		I	19 27 40.0	
	baz=338,slow=318,SNR=2.7							
GERES	**GERESS Array B**	**32.90**	**31**	P		**P**	**17 42 03.1**	**+0.5**
	0.6nm,0.5s,baz=215,slow=8.4,SNR=3.3							
	0.6nm,0.5s							
HFS	**Hagfors**	**41.41**	**19**	P		**P**	**17 43 13.7**	**-0.8**
	2.6nm,0.8s,baz=186,slow=12,SNR=1.8							
	2.6nm,0.8s							
OBN	**Obninsk**	**48.08**	**35**	LR		LR	18 07 33.8	
	comp=Z,184nm,19.3s,baz=222,slow=40							
MKAR	**Makanchi Array**	**76.35**	**45**	P		**P**	**17 47 17.7**	**+0.1**
	0.2nm,0.6s,baz=298,slow=5.7,SNR=2.1							
	0.2nm,0.6s							
WRA	**Warrunga Arr**	**148.15**	**92**	PKPbc		**PKPdf**	**17 55 13.3**	**+1.4**
	0.4nm,0.7s,baz=299,slow=1.7,SNR=1.1							
ASAR	**Alice Springs**	**148.28**	**99**	PKPbc		**PKPbc**	**17 55 14.4**	**-1.0**
	0.5nm,0.6s,baz=289,slow=2.0,SNR=8.1							

NOU 16 17:35:59.4,16°04S×168°32E,h90km,MLv4.3/10, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LIFNC	**LIFOU**	**4.82**	**192**	P		Pn	17 37 08.2	-1.4
MARNC	**Mare, Loyalty**	**5.42**	**183**	P		Pn	17 37 17.4	-0.3
KOUNC	**Koumac, New Ca**	**5.90**	**220**	P		Pn	17 37 24.8	+0.5
YATNC	**Mamie plateau,**	**6.14**	**192**	P		Pn	17 37 26.8	-0.7
DZM	**Mont Dzumac**	**6.26**	**196**	P		Pn	17 37 29.3	+0.1
ONTNC	**Ouen Toro**	**6.48**	**196**	P		Pn	17 37 33.1	+0.9
OUENC	**Ouen Island, N**	**6.50**	**192**	P		Pn	17 37 32.7	+0.3

*IDC **16** 17:49:17.3±1.5,49°.93N×28°.99W,h0km,mb3.9/7, mbtmp3.9/7,MS4.1/1,Error ellipse: s-maj=37.0km s-min=32.6km az=5.0*
*NEIC **16** 17:49:19.7±0.7,50°.1N±0°.2×29°.0W±0°.1,h10km±2km, mb4.2/12,Error ellipse: s-maj=36.5km s-min=10.6km az=173.0*
ISC 16 17:49:18.9±1.0,49°9N±0°.2×29°0W±0°.1,h10km,n24, σ0s54/23,mb4.2/14,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FINES	**FINESS Array B**	**32.10**	**48**	P		**P**	**17 55 44.3**	**-1.6**
FINES	**FINESS Array B**	**32.10**	**48**	P		**P**	**17 55 45.3**	**-0.5**
	7.8nm,1.0s,baz=256,slow=7.7,SNR=9.4							
	7.8nm,1.0s							
FIA1	**FINESS Array S**	**32.11**	**48**	P		**P**	**17 55 45.4**	**-0.4**
BURAR	**Bucovina Array**	**35.15**	**72**	P		**P**	**17 56 13.5**	**+0.9**
EYMN	**Ely**	**40.05**	**292**	P		**P**	**17 56 53.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**44.45**	**135**	P		**P**	**17 57 29.9**	**-0.2**
	0.6nm,0.5s,baz=344,slow=8.8,SNR=4.5							
	0.6nm,0.5s							
F31M	**Tsiigehtchic**	**50.17**	**331**	P		**P**	**17 58 14.1**	**+0.1**
F31M				IAmb		IAmb	17 58 15.6	
	comp=Z,2.5nm,0.8s							
G31M	**Satah River**	**50.64**	**331**	P		**P**	**17 58 17.8**	**+0.2**
G31M				IAmb		IAmb	17 58 18.9	
	comp=Z,3.4nm,1.0s							
G29M	**Pine Creek**	**51.82**	**332**	P		**P**	**17 58 26.4**	**-0.1**
G29M				IAmb		IAmb	17 58 28.2	
	comp=Z,5.6nm,1.4s							
I30M	**Mount Dempster**	**52.37**	**329**	P		**P**	**17 58 30.8**	**0.0**
N23A	**Red Feather La**	**52.54**	**292**	P		**P**	**17 58 32.6**	**+0.1**
I28M	**Miner Creek**	**53.36**	**331**	P		**P**	**17 58 37.9**	**-0.2**
I28M				IAmb		IAmb	17 58 42.1	
	comp=Z,5.3nm,1.4s							
B22K	**Teshekpuk Lake**	**53.53**	**340**	P		**P**	**17 58 39.8**	**+0.8**
B22K				IAmb		IAmb	17 58 43.1	
	comp=Z,1.6nm,0.9s							
BPMT	**Black Pine Rid**	**53.53**	**301**	P		**P**	**17 58 40.4**	**+0.6**
PDAR	**Pinedale Array**	**53.54**	**295**	P		**P**	**17 58 39.5**	**-0.3**
PDAR	**Pinedale Array**	**53.54**	**295**	P		**P**	**17 58 39.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=70,slow=11,SNR=4.3							
	comp=Z,0.4nm,0.7s							
BVAR	**Borovoye Array**	**57.00**	**45**	P		**P**	**17 59 04.9**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=320,slow=6.4,SNR=7.3							
	comp=Z,1.2nm,0.6s							
SAND	**Sanderson**	**57.19**	**279**	P		**P**	**17 59 06.4**	**+0.3**
SAND				IAmb		IAmb	17 59 06.9	
	comp=Z,2.1nm,0.7s							
ROSC	**El Rosal**	**58.89**	**236**	LR		LR	18 23 32.9	
	comp=Z,146nm,20.1s,baz=152,slow=35							
KURBB	**Kurchatov Arra**	**62.33**	**43**	P		**P**	**17 59 40.7**	**-0.4**
	comp=Z,0.7nm,0.2s,baz=317,slow=7.3,SNR=6.8							
	comp=Z,0.7nm,0.2s							
MK31	**Makanchi Array**	**66.84**	**44**	P		**P**	**18 00 10.6**	**0.0**
MK31				IAmb		IAmb	18 00 18.0	
	comp=Z,1.0nm,1.0s							
MKAR	**Makanchi Array**	**66.84**	**44**	P		**P**	**18 00 11.0**	**+0.3**
MKAR	**Makanchi Array**	**66.84**	**44**	P		**P**	**18 00 10.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=329,slow=5.9,SNR=10							
	comp=Z,0.9nm,0.8s							
SONM	**Songino Array**	**75.29**	**29**	P		**P**	**18 01 01.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=331,slow=5.6,SNR=4.1							
	comp=Z,0.5nm,0.8s							

*UPP **16** 18:07:15.6±0.1,67°.08N×20°.93E,h0km,ML2.2,Suspected explosion*
*IDC **16** 18:07:16.6±1.0,67°.14N×21°.78E,h0km,mbtmp3.1/4, ML2.0/4,Error ellipse: s-maj=21.1km s-min=8.2km az=109.0*
*HEL **16** 18:07:17.0±0.4,67°.09N×21°.10E,h0km,ML1.9,Explosion*

ISC 16 18:07:16.0±0.8,67°10N±0°.02×20°93E±0°.03,h0km,n38, σ1s13/50,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.14**	**281**	P		**Pg**	**18 07 18.7**	**0.0**
DUNU				S		**Sg**	**18 07 20.0**	**-0.7**
MASU	**Masugnsbyn**	**0.55**	**48**	P		**Pg**	**18 07 26.3**	**-0.2**
ERTU	**Ertsjaerv**	**0.74**	**137**	PG		**Pg**	**18 07 29.1**	**-1.0**
ERTU	**Ertsjaerv**	**0.74**	**137**	P		**Pg**	**18 07 29.1**	**-1.0**
ERTU				S		**Sg**	**18 07 39.3**	**-0.3**
KUA	**Kurravaara**	**0.89**	**345**	P		**Pg**	**18 07 32.5**	**-0.6**
RATU	**Laukkuluspa**	**0.90**	**325**	P		**Pg**	**18 07 32.4**	**-0.8**
HARU	**Harads**	**0.94**	**179**	P		**Pg**	**18 07 32.6**	**-1.3**
SALU	**Saltoluokta**	**0.99**	**288**	P		**Pg**	**18 07 34.1**	**-0.8**
LANU	**Lannavaara**	**1.04**	**23**	PG		**Pg**	**18 07 34.8**	**-1.1**
LANU				SN		**Sn**	**18 07 53.9**	**+0.8**
LANU	**Lannavaara**	**1.04**	**23**	P		**Pg**	**18 07 34.9**	**-1.0**
KOVU	**Salmi**	**1.17**	**346**	P		**Pg**	**18 07 37.5**	**-0.9**
KLF	**Kolari**	**1.19**	**82**	PG		**Pg**	**18 07 37.6**	**-1.2**
KLF				MSG			18 07 51.2	
	comp=Z,15nm,0.2s							
KALU	**Kalix**	**1.58**	**141**	PG		**Pn**	**18 07 44.2**	**-0.9**
KALU				SN		**Sg**	**18 08 07.3**	**+0.7**
KALU	**Kalix**	**1.58**	**141**	P		**Pn**	**18 07 44.3**	**-0.9**
SJUU	**Sjulsmark**	**1.62**	**170**	P		**Pn**	**18 07 44.8**	**-0.9**
HEF	**Hetta**	**1.68**	**37**	*e*P		**Pn**	**18 07 46.1**	**-0.5**
HEF	**Hetta**	**1.68**	**37**	PG		**Pn**	**18 07 46.1**	**-0.5**
	baz=221							
HEF				MSG			18 08 06.2	
	comp=Z,13nm,0.2s							
HEF				SN		**Sg**	**18 08 10.2**	**+0.3**
TOF	**Tornio**	**1.69**	**125**	PG		**Pn**	**18 07 46.2**	**-0.5**
TOF				MSG			18 08 06.0	
	comp=Z,15nm,0.2s							
TOF				SN		**Sn**	**18 08 09.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.92**	**359**	MSG			18 08 15.6	
	comp=Z,1.8nm,0.2s							
KIF				SG		**Sg**	**18 08 19.5**	**+1.9**
RNF	**Rovaniemi**	**2.07**	**101**	PG		**Pn**	**18 07 52.3**	**+0.4**
KTK1	**Kautokeino**	**2.11**	**23**	*e*P		**Pn**	**18 07 53.3**	**+0.8**
KTK1	**Kautokeino**	**2.11**	**23**	PB		**Pb**	**18 07 53.6**	**-1.5**
KTK1				SG		**Sb**	**18 08 22.2**	**+0.4**
SGF	**Sodankyl**	**2.20**	**78**	PG		**Pn**	**18 07 54.6**	**+0.9**
	baz=260							
SGF				SG		**Sb**	**18 08 25.1**	**+0.8**
OUL	**Oulu**	**2.86**	**133**	PB		**Pn**	**18 08 04.6**	**+1.9**
OUL				SG		**Sb**	**18 08 44.6**	**+1.4**
OBF4	**Vikkela, Lumij**	**2.86**	**141**	PN		**Pn**	**18 08 03.2**	**+0.4**
OBF4				MSG			18 08 39.7	
	comp=Z,4.2nm,0.2s							
ARCES	**ARCESS Array B**	**2.98**	**33**	Pn		**Pn**	**18 08 04.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=209,slow=14,SNR=34							
ARCES				Lg		Lg	18 08 41.6	
	comp=Z,0.4nm,0.3s,baz=209,slow=25,SNR=8.0							
	comp=Z,1.5nm,0.2s							
OUF	**Merijarvi**	**3.16**	**148**	PB		**Pn**	**18 08 08.1**	**+1.2**
	baz=331							
OUF				MSG			18 08 48.5	
	comp=Z,3.6nm,0.2s							
UMAU	**Umeaa**	**3.23**	**182**	PN		**Pn**	**18 08 07.8**	**0.0**
UMAU				SB		**Sn**	**18 08 49.8**	**+2.9**
VRF	**Varrio**	**3.41**	**75**	PN		**Pn**	**18 08 11.0**	**+0.6**
	baz=261							
VRF				SG		**Sb**	**18 09 00.1**	**+0.9**
OLKF	**Oulanka, Finla**	**3.45**	**99**	PN		**Pn**	**18 08 11.9**	**+0.9**
KEV	**Kevo**	**3.49**	**37**	PN		**Pn**	**18 08 11.8**	**+0.3**
KU6	**Riekki**	**3.74**	**103**	PN		**Pn**	**18 08 15.5**	**+0.7**
	baz=291							
VAF	**Ylistaro**	**4.14**	**169**	PN		**Pn**	**18 08 21.3**	**+1.0**
	baz=354							
NIF	**Nilsia**	**4.71**	**139**	PN		**Pn**	**18 08 29.2**	**+1.0**
RMF	**Romuvaara**	**4.71**	**124**	PN		**Pn**	**18 08 29.4**	**+1.2**
FINES	**FINESS Array B**	**6.10**	**156**	Pn		**Pn**	**18 08 47.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=6.3							
FINES				Sn		**Sn**	**18 09 55.2**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=347,slow=23,SNR=2.2							
	comp=Z,1.6nm,0.8s							
NOA	**NORSAR Array B**	**7.41**	**220**	Pn		**Pn**	**18 09 08.3**	**+2.9**
	baz=27,slow=21,SNR=1.2							
	comp=Z,0.4nm,0.7s							
HFS	**Hagfors**	**7.69**	**208**	Pn		**Pn**	**18 09 08.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=1.7							
	comp=Z,3.9nm,1.0s							

*LDG **16** 18:13:21.2±0.0,48°.34N×6°.65E,h10km,Md2.7/1,Ml2.7/22, Error ellipse: s-maj=0.6km s-min=0.5km az=5.0*
*STR **16** 18:13:21.4±0.3,48°N±2°×±°,h19km±3km,MLv2.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5, preliminary*
*BGR **16** 18:13:21.6±0.6,48°.34N×6°.67E,h10km,ML2.2/8,Error ellipse: s-maj=4.4km s-min=2.2km az=70.0*
ISC 16 18:13:19.6±1.0,48°36N±0°.02×6°61E±0°.01,h17km±8km, n100,σ0s99/150,France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ECH	**Echery**	**0.39**	**111**	Pg		**Pb**	**18 13 28.2**	**+0.1**
ECH				Sg		**Sb**	**18 13 32.7**	**-1.1**
ECH	**Echery**	**0.39**	**111**	*e*Pg		**Pb**	**18 13 28.1**	**+0.1**
ECH				*e*Sg		**Sb**	**18 13 32.8**	**-1.0**
HAU	**Haudompre**	**0.39**	**207**	*e*Pg		**Pb**	**18 13 28.8**	**+0.7**
HAU				*e*Sg		**Sb**	**18 13 34.0**	**+0.1**
	104nm,0.2s							
**

BFO	**Black Forest**	**1.15**	**91**	*e*Pg	**Pn**	**18 13 42.6**	**+1.8**
BFO				*e*Sg	**Sn**	**18 13 56.6**	**+0.4**
BERGE	**Lenzkirch (DE)**	**1.16**	**114**	*e*Sg	**Sn**	**18 13 56.8**	**+0.4**
NEEW	**Neewiller pres**	**1.16**	**58**	Pg	**Pn**	**18 13 41.8**	**+0.8**
NEEW				Sg	**Sn**	**18 13 58.6**	**+2.3**
STFL	**Fournets-Luisa**	**1.25**	**182**	Pg	**Pg**	**18 13 44.0**	**+0.4**
STFL				Sg	**Sn**	**18 14 00.5**	**+1.8**
BALST	**Balsthal**	**1.25**	**144**	Sg	**Sn**	**18 14 00.2**	**+1.3**
BALST	**Balsthal**	**1.25**	**144**	Pg	**Pg**	**18 13 44.0**	**+0.2**
BALST	**Balsthal**	**1.25**	**144**	*e*Sg	**Sn**	**18 14 00.1**	**+1.3**
METMA	**Mettma DE**	**1.27**	**120**	*e*Sg	**Sn**	**18 14 00.2**	**+0.8**
SULZ	**Cheisacher**	**1.30**	**129**	Pg	**Pg**	**18 13 44.6**	**-0.2**
SULZ	**Cheisacher**	**1.30**	**129**	*e*Pg	**Pg**	**18 13 44.8**	**0.0**
SULZ				*e*Sg	**Sn**	**18 14 01.6**	**+1.5**
SLE	**Schleitheim**	**1.39**	**114**	*e*Pg	**Pg**	**18 13 47.2**	**+0.7**
SLE				*e*Sg	**Sg**	**18 14 04.1**	**-0.5**
EMING	**Emmingen-Lipti**	**1.56**	**106**	*e*Pg	**Pg**	**18 13 50.4**	**+0.7**
EMING				*e*Sg	**Sg**	**18 14 10.0**	**0.0**
ABH	**Alteburg**	**1.64**	**22**	Sn	**Sg**	**18 14 10.1**	**-2.5**
ABH	**Alteburg**	**1.64**	**22**	Pn	**Pg**	**18 13 49.0**	**-2.2**
GUT	**Gutenstein**	**1.70**	**99**	Pn	**Pb**	**18 13 49.3**	**-1.1**
GUT	**Gutenstein**	**1.70**	**99**	Sn	**Sn**	**18 14 09.6**	**-0.2**
STU	**Stuttgart**	**1.76**	**75**	*e*Sg	**Sg**	**18 14 16.7**	**+0.2**
CABF	**La Chapelle**	**1.78**	**192**	*e*Pn	**Pn**	**18 13 50.4**	**+0.8**
CABF	**La Chapelle**	**1.78**	**192**	*e*Pn	**Pn**	**18 13 50.5**	**+0.8**
CABF	**La Chapelle**	**1.78**	**192**	*e*Pg	**Pg**	**18 13 54.4**	**+0.5**
CABF				*e*Sg	**Sg**	**18 14 17.0**	**0.0**
	8.1nm,0.3s						
WALHA	**Wallhausen, DE**	**1.79**	**109**	*e*Sg	**Sg**	**18 14 17.4**	**+0.2**
WILA	**Wila**	**1.81**	**121**	*e*Sg	**Sg**	**18 14 17.8**	**-0.1**
GIMEL	**St. Georges /**	**1.84**	**188**	Pn	**Pn**	**18 13 51.1**	**+0.7**
GIMEL	**St. Georges /**	**1.84**	**188**	Sn	**Sn**	**18 14 13.9**	**+0.5**
GIVF	**Givet**	**2.10**	**327**	*e*Pg	**Pg**	**18 14 00.8**	**+0.8**
GIVF				*e*Sg	**Sg**	**18 14 27.8**	**+0.5**
	4.9nm,0.2s						
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**18 13 55.4**	**+0.7**
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**18 14 01.2**	**+0.3**
LOR				*e*Sg	**Sg**	**18 14 29.1**	**+0.3**
	17nm,0.2s						
LOR	**Lormes**	**2.15**	**241**	Sn	**Sn**	**18 14 21.0**	**0.0**
LOR	**Lormes**	**2.15**	**241**	Pn	**Pn**	**18 13 55.5**	**+0.7**
TNS	**Taunus Mts**	**2.22**	**32**	*e*Sg	**Sg**	**18 14 31.2**	**+0.2**
MILB	**Miltenberg**	**2.30**	**49**	*e*Pg	**Pg**	**18 14 04.5**	**+0.8**
MILB				*e*Sg	**Sg**	**18 14 34.1**	**+0.7**
BAIF	**Baives**	**2.32**	**318**	*e*Sg	**Sg**	**18 14 34.9**	**+0.6**
	2.9nm,0.3s						
UBR	**Ueberruh**	**2.44**	**105**	*e*Pg	**Pg**	**18 14 07.2**	**+0.8**
UBR				*e*Sg	**Sg**	**18 14 38.1**	**0.0**
SSF	**Saint Saulge**	**2.47**	**239**	*e*Pn	**Pn**	**18 13 59.7**	**+0.7**
SSF	**Saint Saulge**	**2.47**	**239**	*e*Pg	**Pg**	**18 14 07.7**	**+0.8**
SSF				*e*Sg	**Sg**	**18 14 38.8**	**-0.1**
	9.1nm,0.2s						
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pn	**Pn**	**18 14 00.4**	**+0.3**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**18 14 08.9**	**+0.5**
SMF				*e*Sg	**Sg**	**18 14 41.7**	**+0.4**
	13nm,0.2s						
NORI	**Noerdlinger Ri**	**2.69**	**81**	*e*Sg	**Sg**	**18 14 46.4**	**+0.4**
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pn	**Pn**	**18 14 03.0**	**+0.7**
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**18 14 12.4**	**+0.9**
AVF				*e*Sg	**Sg**	**18 14 46.4**	**-0.2**
	4.3nm,0.2s						
LPL	**La Plagne**	**2.84**	**178**	*e*Pg	**Pg**	**18 14 13.9**	**-0.2**
LPL				*e*Sg	**Sg**	**18 14 49.7**	**-1.3**
	2.3nm,0.3s						
LPG	**La Plagne**	**2.86**	**178**	*e*Pn	**Pn**	**18 14 05.0**	**+0.3**
LPG	**La Plagne**	**2.86**	**178**	*e*Pg	**Pg**	**18 14 14.3**	**-0.2**
LPG				*e*Sg	**Sg**	**18 14 50.6**	**-1.0**
	1.9nm,0.3s						
HYF	**Humbligny**	**2.89**	**249**	*e*Pg	**Pg**	**18 14 14.9**	**-0.1**
HYF				*e*Sg	**Sg**	**18 14 52.7**	**+0.2**
BGF	**Bois d'Agland**	**3.13**	**236**	*e*Pn	**Pn**	**18 14 08.5**	**+0.4**
BGF	**Bois d'Agland**	**3.13**	**236**	*e*Pg	**Pg**	**18 14 19.4**	**-0.1**
BGF				*e*Sg	**Sg**	**18 14 59.4**	**-0.6**
	11nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.48**	**189**	*e*Pn	**Pn**	**18 14 13.5**	**+0.5**
ORIF	**Oris-en-Rattie**	**3.48**	**189**	*e*Pg	**Pg**	**18 14 25.1**	**-1.1**
ORIF				*e*Sg	**Sg**	**18 15 09.7**	**-1.5**
	1.2nm,0.3s						
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Pn	**Pn**	**18 14 15.3**	**+0.1**
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Pg	**Pg**	**18 14 28.7**	**-0.6**
TCF				*e*Sn	**Sn**	**18 14 56.4**	**-1.3**
TCF				*e*Sg	**Sg**	**18 15 15.5**	**-1.0**
	6.8nm,0.4s						
VIVF	**Saint-Julien-l**	**3.75**	**202**	*e*Pn	**Pn**	**18 14 17.1**	**+0.4**
VIVF	**Saint-Julien-l**	**3.75**	**202**	*e*Pg	**Pg**	**18 14 30.4**	**-1.0**
VIVF				*e*Sg	**Sg**	**18 15 18.4**	**-1.5**
	2.6nm,0.3s						
LDF	**La Druitiere**	**4.49**	**276**	*e*Pn	**Pn**	**18 14 27.5**	**+0.7**
LDF	**La Druitiere**	**4.49**	**276**	*e*Pg	**Pg**	**18 14 44.6**	**-0.9**
LDF				*e*Sn	**Sn**	**18 15 16.9**	**-1.6**
LDF				*e*Sg	**Sg**	**18 15 42.5**	**-1.1**
	2.9nm,0.3s						
LASF	**Ste Croix**	**4.69**	**205**	*e*Pn	**Pn**	**18 14 29.8**	**+0.2**
LASF				*e*Sn	**Sn**	**18 15 20.8**	**-2.8**
	4.5nm,0.2s						
FLN	**La Foliniere**	**4.73**	**278**	*e*Pg	**Pg**	**18 14 49.2**	**-0.9**
FLN				*e*Sg	**Sg**	**18 15 50.1**	**-1.3**
	1.8nm,0.2s						
GRR	**Gorron**	**4.98**	**273**	*e*Pg	**Pg**	**18 14 54.2**	**-0.7**
GRR				*e*Sn	**Sn**	**18 15 28.4**	**-2.3**
GRR				*e*Sg	**Sg**	**18 15 58.0**	**-1.4**
	1.7nm,0.2s						
QUIF	**Quistinic**	**6.56**	**270**	*e*Pn	**Pn**	**18 14 55.5**	**+0.3**
QUIF	**Quistinic**	**6.56**	**270**	*e*Pg	**Pg**	**18 15 22.7**	**-2.4**

WEL 16 18:18:23.5±0.4, 42°S×2°×17°4E±°, h5km, M3.7/11, ML4.0/11, MLv3.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=117.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.18**	**170**	P	Pg	18 18 27.9	+0.7
KIKS				S	Sg	18 18 31.8	+2.2
KHZ	**Kahutara**	**0.19**	**203**	P	Pg	18 18 27.5	+0.3
KHZ				S	Sg	18 18 30.5	+0.8
MOLW	**Molesworth Sta**	**0.32**	**299**	P	Pg	18 18 30.0	+0.2
MOLW				S	Sg	18 18 35.1	+1.0
KEKS	**Kekerengu Vall**	**0.39**	**42**	P	Pb	18 18 32.3	-0.5
BSWZ	**Blackbirch Sta**	**0.56**	**19**	P	Pg	18 18 35.0	+0.7
CMWZ	**Cape Campbell**	**0.66**	**41**	P	Pb	18 18 37.8	+0.4
THZ	**Tophouse**	**0.73**	**311**	P	Pg	18 18 37.8	+0.3
THZ				S	Sb	18 18 48.1	-0.9
TUWZ	**Tuamarina**	**0.85**	**16**	P	Pb	18 18 40.4	-0.3
TUWZ				S	Sn	18 18 53.8	-1.1
GVZ	**Greta Valley S**	**0.85**	**211**	P	Pg	18 18 40.1	+0.3
GVZ				S	Sb	18 18 53.0	+0.6
NNZ	**Nelson**	**1.04**	**349**	P	Pg	18 18 43.5	-0.1
MRNZ	**Matariki Terra**	**1.07**	**322**	P	Pg	18 18 44.3	+0.2
TCW	**Tory Channel**	**1.14**	**25**	P	Pg	18 18 44.9	-0.5
TCW				S	Sb	18 19 00.7	-0.1
LTZ	**Lake Taylor**	**1.14**	**242**	P	Pg	18 18 44.7	-0.8
LTZ				S	Sg	18 19 00.6	+0.3
AMCZ	**Amberley**	**1.18**	**218**	P	Pg	18 18 44.8	-1.4
BHW	**Baring Head**	**1.24**	**48**	P	Pg	18 18 45.9	-1.4
BHW				S	Sg	18 19 02.4	-1.1
WEL	**Wellington**	**1.28**	**42**	P	Pn	18 18 46.8	-1.2
WEL				S	Sg	18 19 03.9	-0.8
TKNZ	**Takaka Hill**	**1.31**	**337**	P	Pn	18 18 48.4	-0.1
TKNZ				S	Sb	18 19 06.0	+0.2
PLWZ	**Palliser**	**1.38**	**61**	P	Pn	18 18 47.3	-2.2
DSZ	**Denniston Nort**	**1.46**	**289**	P	Pn	18 18 50.2	-0.3
DUWZ	**D'Urville Isla**	**1.46**	**8**	P	Pn	18 18 49.9	-0.6
DUWZ				S	Sg	18 19 10.2	-0.1
OKCZ	**Okains Bay**	**1.54**	**196**	P	Pn	18 18 48.9	-2.8
PAWZ	**Paruwai Farm**	**1.59**	**58**	P	Pn	18 18 49.9	-2.4
OXZ	**Oxford**	**1.60**	**227**	P	Pn	18 18 49.7	-2.7
MQZ	**McQueen's Vall**	**1.63**	**206**	P	Pn	18 18 49.5	-3.4
QRZ	**Quartz Range**	**1.65**	**329**	P	Pn	18 18 53.5	+0.4
KIW	**Kapiti Island**	**1.68**	**35**	P	Pn	18 18 52.4	-1.2
INZ	**Inchbonnie**	**1.69**	**253**	P	Pn	18 18 52.7	-1.1
AKCZ	**Akaroa Harbour**	**1.71**	**198**	P	Pn	18 18 51.0	-3.0
TRWZ	**Traveller**	**1.75**	**62**	P	Pn	18 18 51.9	-2.7
MTW	**Mount Morrison**	**1.77**	**53**	P	Pn	18 18 52.4	-2.4
OGWZ	**Otaki Gorge**	**1.83**	**39**	P	Pn	18 18 54.1	-1.6
RACZ	**Rakaia**	**1.84**	**216**	P	Pn	18 18 53.0	-2.8
HOWZ	**Holdsworth Sta**	**1.95**	**47**	P	Pn	18 18 55.1	-2.1
MHCZ	**Mount Hutt**	**1.99**	**229**	P	Pn	18 18 55.0	-2.9
TMWZ	**Te Maipa**	**2.04**	**57**	P	Pn	18 18 55.8	-2.6
WACZ	**Wakanui South**	**2.15**	**217**	P	Pn	18 18 57.2	-2.8
MRZ	**Mangatainoka R**	**2.15**	**43**	P	Pn	18 18 58.0	-2.1
TIWZ	**Tintock**	**2.24**	**50**	P	Pn	18 18 59.0	-2.2
WVZ	**Waitaha Valley**	**2.29**	**248**	P	Pn	18 19 00.7	-1.3
RPZ	**Rata Peaks**	**2.40**	**231**	P	Pn	18 19 00.9	-2.5
POWZ	**Post Office Ro**	**2.45**	**42**	P	Pn	18 19 02.0	-2.1
ARCZ	**Arundel**	**2.48**	**226**	P	Pn	18 19 01.8	-2.8
BFZ	**Birch Farm**	**2.51**	**52**	P	Pn	18 19 01.9	-3.0
DVHZ	**Dannevirke**	**2.72**	**45**	P	Pn	18 19 04.9	-3.1
TSZ	**Takapari Road**	**2.80**	**40**	P	Pn	18 19 06.7	-2.4
NMEZ	**Namu Road**	**2.83**	**4**	P	Pn	18 19 12.0	+2.6
TMZ	**Timaru**	**2.87**	**221**	P	Pn	18 19 07.3	-2.7
NBEZ	**Newall Road No**	**2.98**	**3**	P	Pn	18 19 14.2	+2.8
NEZ	**North Egmont**	**2.99**	**7**	P	Pb	18 19 14.7	-2.7
PNHZ	**Pukenui**	**3.03**	**41**	P	Pn	18 19 09.5	-2.7
FOZ	**Fox Glacier**	**3.09**	**244**	P	Pn	18 19 12.1	-0.8
VRZ	**Vera Road**	**3.23**	**16**	P	Pn	18 19 15.8	+0.9
MOVZ	**Moawhango**	**3.26**	**30**	P	Pn	18 19 15.2	-0.1
WNVZ	**Wahianoa**	**3.27**	**28**	P	Pn	18 19 15.6	0.0
LBZ	**Lake Benmore**	**3.31**	**229**	P	Pn	18 19 13.8	-2.1
WHVZ	**Whangaehu Hut**	**3.31**	**27**	P	Pn	18 19 16.3	+0.1
BHHZ	**Black Hill Sta**	**3.31**	**35**	P	Pn	18 19 14.2	-1.9
MAVZ	**Matarangi**	**3.31**	**27**	P	Pb	18 19 20.7	-2.3
FWVZ	**Far West T-bar**	**3.32**	**27**	P	Pn	18 19 16.2	-0.1
KRHZ	**Kereru**	**3.32**	**39**	P	Pn	18 19 13.3	-2.9
TUVZ	**Tukino**	**3.34**	**28**	P	Pn	18 19 16.3	-0.3
NGZ	**Ngauruhoe**	**3.41**	**27**	P	Pn	18 19 17.2	-0.3
OTVZ	**Oturere**	**3.44**	**27**	P	Pn	18 19 17.5	-0.5
ETVZ	**East Tongariro**	**3.48**	**28**	P	Pn	18 19 18.3	-0.2
TMVZ	**Te Maari**	**3.50**	**27**	P	Pn	18 19 18.1	-0.6
NTVZ	**North Tongariro**	**3.50**	**27**	P	Pn	18 19 18.7	0.0
KWHZ	**Kaweka Forest**	**3.52**	**38**	P	Pn	18 19 16.4	-2.6
ODZ	**Otahua Downs**	**3.54**	**217**	P	Pn	18 19 16.0	-3.2
HIZ	**Hauiti**	**3.84**	**14**	P	Pn	18 19 23.3	+0.1
THQ2	**Tauhara North**	**4.06**	**29**	P	Pn	18 19 28.6	+2.2
TLZ	**Tolley Road**	**4.17**	**21**	P	Pn	18 19 27.3	-0.5
EAZ	**Earnscleugh**	**4.33**	**225**	P	Pn	18 19 27.6	-2.4
TUZ	**Tuapeka**	**4.70**	**217**	P	Pn	18 19 32.2	-2.8
AWAZ	**Awhitu Peninsu**	**5.23**	**9**	P	Pn	18 19 43.0	+0.6
MKAZ	**Moumakai**	**5.27**	**13**	P	Pn	18 19 42.9	0.0
RUGZ	**Raukumara Rang**	**5.28**	**37**	P	Pn	18 19 39.9	-3.2
CTZ	**Chatham Island**	**7.30**	**105**	P	Pn	18 20 06.8	-4.0

IDC 16 18:27:49.8±7.3, 10°72S×161°94E, h0km, mb3.6/4, mbtmp3.6/4, MS3.0/1, Error ellipse: s-maj=212.6km s-min=39.9km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.34**	**303**	LR	LR	18 28 49.6	
	comp=Z,364nm,21.3s,baz=280,slow=26						
WRA	**Warramunga Arr**	**28.12**	**248**	P	P	18 33 43.6	-0.2
	0.5nm,0.6s,baz=78,slow=9.3,SNR=2.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**29.65**	**241**	P	P	18 33 57.5	+0.1
	0.3nm,0.4s,baz=64,slow=10,SNR=8.6						
	0.3nm,0.4s						
SONM	**Songino Array**	**76.23**	**325**	P	P	18 39 40.5	+0.2
	0.3nm,0.7s,baz=136,slow=5.2,SNR=2.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**90.74**	**317**	P	P	18 40 54.7	-0.2
	0.2nm,0.6s,baz=97,slow=5.9,SNR=4.8						
	0.2nm,0.6s						

NOU 16 18:40:53.3, 18°63S×169°93E, h0km, MLv4.1/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.31**	**229**	P	Pn	18 41 45.5	-0.9
MARNC	**Mare, Loyalty**	**3.35**	**212**	P	Pn	18 41 47.1	+0.1
YATNC	**Mamie plateau,**	**4.45**	**219**	P	Pn	18 42 00.9	-1.1
DZM	**Mont Dzumac**	**4.73**	**223**	P	Pn	18 42 06.0	-0.1
OUENC	**Ouen Island, N**	**4.75**	**217**	P	Pn	18 42 06.7	+0.5
NOUC	**Port Laguerre**	**4.85**	**224**	P	Pn	18 42 08.0	+0.4
KOUNC	**Koumac, New Ca**	**5.65**	**249**	P	Pn	18 42 18.9	+0.3

ROM 16 18:42:01.6±0.1, 43°068N±0°004×13°030E±0°006, h8km, ML1.2/15, 1C, Error ellipse: s-maj=0.5km s-min=0.3km az=29.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.05**	**127**	P	Pg	18 42 02.4	-1.0
FDMO				AML	AML		
	comp=E,465μm,0.1s						
FDMO				AML	AML		
	comp=N,385μm,0.1s						
FDMO				AML	AML		
	comp=E,466μm,0.1s						
FDMO				AML	AML		
	comp=N,385μm,1.9s						
CESI	**CESI - Serrava**	**0.11**	**236**	P	Pg	18 42 05.0	+0.7
CESI				S	Sg	18 42 07.1	+1.0
CESI				AML	AML		
	comp=E,192μm,0.2s						
CESI				AML	AML		
	comp=N,232μm,0.2s						
CSP1	**Cessapalombo**	**0.13**	**80**	P	Pg	18 42 05.4	+0.9
SNTG	**Esanatoglia**	**0.20**	**341**	P	Pg	18 42 06.3	+0.6
SNTG				S	Sg	18 42 09.8	+1.3
GUMA	**Gualdo di Mace**	**0.22**	**91**	P	Pg	18 42 07.0	+0.9
NRCA	**Norcia**	**0.24**	**165**	P	Pg	18 42 07.1	+0.6
NRCA				S	Sg	18 42 11.4	+1.6
NRCA				AML	AML		
	comp=E,212μm,0.9s						
NRCA				AML	AML		
	comp=N,193μm,0.6s						
NRCA				AML	AML		
	comp=E,212μm,1.1s						
NRCA				AML	AML		
	comp=N,193μm,1.4s						
NRCA				AML	AML		
	comp=E,188μm,0.1s						
NRCA				AML	AML		
	comp=N,185μm,0.6s						
T1221	**Campello sul C**	**0.25**	**213**	⇑P	Pg	18 42 07.4	+0.8
T1221				S	Sg	18 42 11.7	+1.8
T1221				AML	AML		
	comp=N,56μm,1.1s						
T1221				AML	AML		
	comp=N,40μm,0.3s						
T1221				AML	AML		
	comp=E,29μm,0.7s						
T1221				AML	AML		
	comp=E,53μm,0.8s						
ASSB	**Assisi San Ben**	**0.27**	**265**	P	Pg	18 42 07.7	+0.6
ASSB				S	Sb	18 42 12.3	-1.2
MMO1	**Montemonaco**	**0.28**	**128**	P	Pg	18 42 07.7	+0.6
ATCC	**AVT- Casa Cast**	**0.31**	**292**	P	Pg	18 42 08.5	+0.8
ATCC				S	Sb	18 42 13.8	-0.7
ATCC				AML	AML		
	comp=E,83μm,0.1s						
ATCC				AML	AML		
	comp=N,88μm,0.3s						
MF5	**Montefalcone A**	**0.33**	**104**	P	Pb	18 42 09.1	-0.6
T1214	**Arquata del Tr**	**0.34**	**157**	P	Pg	18 42 09.0	+0.7
T1214				S	Sb	18 42 14.6	-0.9
T1214				AML	AML		
	comp=E,33μm,0.5s						
T1214				AML	AML		
	comp=E,99μm,2.0s						
T1214				AML	AML		
	comp=N,59μm,0.8s						
T1214				AML	AML		
	comp=N,46μm,0.8s						

ROM 16 18:42:36.2±0.0, 43°069N±0°002×13°040E±0°004, h9km, ML2.0/32, 1C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.05**	**133**	P	Pg	18 42 38.4	+0.3
FDMO				S	Sg	18 42 39.5	+0.1
FDMO				AML	AML		
	comp=N,2675μm,0.1s						
FDMO				AML	AML		
	comp=E,2985μm,0.1s						
CESI	**CESI - Serrava**	**0.12**	**237**	P	Pg	18 42 39.6	+0.6
CESI				S	Sg	18 42 41.9	+0.9
CESI				AML	AML		
	comp=E,1170μm,0.4s						
CESI				AML	AML		
	comp=N,1440μm,0.2s						
CESI				AML	AML		
	comp=E,1170μm,1.6s						
MC2	**Monte Cornacci**	**0.19**	**145**	P	Pg	18 42 41.2	+0.9
MC2				S	Sg	18 42 44.5	+1.4
SNTG	**Esanatoglia**	**0.20**	**339**	P	Pg	18 42 41.0	+0.6
SNTG				S	Sg	18 42 44.6	+1.4
SNTG				AML	AML		
	comp=N,254μm,0.2s						
SNTG				AML	AML		
	comp=E,234μm,0.8s						
NRCA	**Norcia**	**0.24**	**167**	⇓P	Pg	18 42 41.8	+0.7
NRCA				S	Sg	18 42 45.9	+1.5
NRCA				AML	AML		
	comp=E,994μm,0.9s						
NRCA				AML	AML		
	comp=E,1074μm,1.0s						
NRCA				AML	AML		
	comp=N,1190μm,0.6s						
NRCA				AML	AML		
	comp=N,1160μm,0.6s						
NRCA				AML	AML		
	comp=E,1074μm,1.0s						
NRCA				AML	AML		
	comp=E,994μm,1.1s						
T1221	**Campello sul C**	**0.25**	**214**	P	Pg	18 42 42.1	+0.7
T1221				S	Sb	18 42 46.3	-1.2
T1221				AML	AML		
	comp=E,220μm,0.5s						
T1221				AML	AML		
	comp=N,236μm,0.5s						
EL6	**Elcito**	**0.26**	**10**	P	Pg	18 42 42.3	+0.7
EL6				S	Sb	18 42 47.0	-0.9
EL6				AML	AML		
	comp=E,789μm,1.4s						
EL6				AML	AML		
	comp=N,638μm,0.2s						
EL6				AML	AML		
	comp=E,789μm,0.6s						
ASSB	**Assisi San Ben**	**0.28**	**265**	⇑P	Pg	18 42 42.4	+0.6
ASSB				S	Sb	18 42 47.1	-1.2
ASSB				AML	AML		
	comp=E,523μm,0.4s						
ASSB				AML	AML		
	comp=N,604μm,1.2s						
FOSV	**Fossato di Vic**	**0.30**	**318**	P	Pg	18 42 42.9	+0.6
FOSV				S	Sb	18 42 48.2	-0.8
FOSV				AML	AML		
	comp=E,104μm,1.3s						
FOSV				AML	AML		
	comp=N,161μm,0.3s						
FOSV				AML	AML		
	comp=E,103μm,1.3s						
FOSV				AML	AML		
	comp=N,160μm,0.3s						
FOSV				AML	AML		
	comp=E,103μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.32**	**292**	P	Pg	18 42 43.2	+0.7
ATCC				S	Sb	18 42 48.6	-0.7
ATCC				AML	AML		
	comp=E,450μm,0.1s						
ATCC				AML	AML		
	comp=N,608μm,0.3s						
ATCC				AML	AML		
	comp=E,450μm,0.1s						
ATCC				AML	AML		
	comp=E,450μm,1.9s						
T1214	**Arquata del Tr**	**0.33**	**158**	P	Pg	18 42 43.4	+0.5
T1214				S	Sb	18 42 48.9	-1.0
T1214				AML	AML		
	comp=E,230μm,1.6s						
T1214				AML	AML		
	comp=N,238μm,0.5s						
T1214				AML	AML		
	comp=E,230μm,0.4s						
GAVE	**Gavelli**	**0.39**	**196**	P	Pg	18 42 44.6	+0.7
GAVE				S	Sb	18 42 50.9	-0.6
GAVE				AML	AML		
	comp=E,302μm,0.4s						
GAVE				AML	AML		
	comp=N,298μm,0.4s						
MURB	**Monte Urbino**	**0.42**	**297**	P	Pg	18 42 45.1	+0.6
MURB				S	Sb	18 42 51.9	-0.6
MURB				AML	AML		
	comp=N,387μm,0.2s						
MURB				AML	AML		
	comp=E,464μm,0.2s						
MURB				AML	AML		
	comp=N,387μm,1.8s						
LNSS	**Leonessa**	**0.47**	**180**	P	Pg	18 42 45.8	+0.5
LNSS				S	Sb	18 42 53.1	-0.6
LNSS				AML	AML		
	comp=E,190μm,0.2s						
LNSS				AML	AML		
	comp=E,190μm,1.8s						
LNSS				AML	AML		
	comp=N,176μm,0.2s						

*IDC **16** 18:42:48.8±1.7, 30°89N×131°90E, h0km, mb3.5/6, mbtmp3.5/10, ML3.2/4, MS3.9/1, Error ellipse: s-maj=32.7km s-min=22.9km az=118.0*
*JMA **16** 18:42:52.4±0.1, 30°8N±0°3×132°1E±0°8, h54km±2km, MV3.2/31, E OFF TANEGASHIMA ISLAND*
ISC 16 18:42:52.6±2.2, 30°82N±0°06×132°1E±0°1, h34km±7km, n21, σ0°88/30, mb3.4/6, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.98**	**261**	P	**Pn**	**18 43 09.8**	**-0.3**
JTN				S	**Sn**	**18 43 23.1**	**+0.3**
JNAR	**Kushima--Naru**	**1.01**	**315**	P	**Pn**	**18 43 10.1**	**-0.3**
JNAR				S	**Sn**	**18 43 23.3**	**-0.1**
JNKG	**Nichinankitago**	**1.05**	**324**	P	**Pn**	**18 43 10.6**	**-0.3**
JNKG				S	**Sn**	**18 43 23.8**	**-0.6**
JTSR	**Tashiro 2**	**1.07**	**289**	P	**Pn**	**18 43 10.8**	**-0.6**
JMTN	**

0.6nm,0.6s
WRA **Warramunga Arr** **50.51** **177** LR LR 19 12 29.8
comp=Z,127nm,21.6s,baz=190,slow=35
NVAR **Mina Array Bea** **84.90** **48** P **P** **18 55 26.3** **+1.7**
0.3nm,0.5s,baz=289,slow=3.3,SNR=2.5
0.3nm,0.5s

IDC ***16*** *18:52:43.4±2.5,10˚62S×123˚16E,h0km,mb3.3/1, mbtmp3.3/3,ML3.1/2,MS3.7/1,Error ellipse: s-maj=215.2km s-min=34.1km az=52.0*
DJA ***16*** *18:52:54.3±0.3,10˚S±4˚×12˚4E±˚,h43km±9km,M3.7/9, mb3.8/5,MLv3.7/9*
ISC 16 18:52:46.0±1.1,**9.6S**±0.1×**125.2E**±0.1,**h33**km,**n16,** σ1s**94/15,Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.93**	**257**	P		**Pn**	**18 53 03.5**	**+0.6**
SOEI	**Soe**	**0.93**	**257**	P		**Pn**	**18 53 03.0**	**+0.1**
MMRI	**Maumere**	**3.05**	**287**	P		**Pn**	**18 53 32.5**	**+0.5**
MMRI	**Maumere**	**3.05**	**287**	P		**Pn**	**18 53 32.0**	**0.0**
EDFI	**Ende, Flores**	**3.54**	**283**	P		**Pn**	**18 53 38.1**	**-0.8**
BASI	**Baing, Sumba**	**4.59**	**261**	P		**Pn**	**18 53 50.9**	**-2.3**
MTN	**Manton Dam**	**6.69**	**120**	P		**Pb**	**18 54 39.2**	**-2.4**
KNRA	**Kununurra**	**7.02**	**151**	P		Pb	18 54 38.9	-8.3
PLAI	**Plampang**	**7.35**	**275**	P		**Pn**	**18 54 30.1**	**-1.1**
PLAI	**Plampang**	**7.35**	**275**	P		**Pn**	**18 54 29.3**	**-1.9**
21nm,1.1s,0.1nm								
TWSI	**Taliwang, Sumb**	**8.24**	**275**	P		**Pn**	**18 54 41.0**	**-2.3**
24nm,1.4s,0.1nm								
FITZ	**Fitzroy Crossi**	**8.51**	**177**	P		Pn	18 54 53.5	+6.5
WRA	**Warramunga Arr**	**13.60**	**140**	Pn		**P**	**18 56 04.1**	**-1.2**
0.1nm,0.3s,baz=308,slow=14,SNR=6.9								
WRA				Sn		**Sn**	**18 58 28.8**	**+2.1**
0.2nm,0.3s,baz=323,slow=22,SNR=2.6								
0.7nm,0.8s								
ASAR	**Alice Springs**	**16.32**	**150**	Pn		**P**	**18 56 38.7**	**+3.1**
baz=318,slow=11,SNR=2.0								
ASAR				Sn		**Sn**	**18 59 34.9**	**+1.7**
0.1nm,0.3s,baz=314,slow=18,SNR=3.4								
0.3nm,0.5s								
JNU	**Nakatsue**	**42.78**	**7**	LR		LR	19 20 53.4	
comp=Z,97nm,20.2s,baz=336,slow=38								
MKAR	**Makanchi Array**	**67.87**	**330**	P		**P**	**19 03 43.3**	**+2.1**
0.1nm,0.4s,baz=122,slow=8.0,SNR=4.9								
0.1nm,0.4s								

ISN ***16*** *19:34:30.3±0.7,33˚78N×45˚76E,h9km±3km,ML2.7*
TEH ***16*** *19:34:31.3,33˚77N×45˚66E,h8km±179km,ML2.7*
ISC 16 19:34:31.5±1.0,**33.76N**±0.04×**45.67E**±0.04,**h10**km,**n11,** σ0s**81/15,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.47**	**107**	Pg		**Pg**	**19 34 40.9**	**+0.3**
ILBA				Sg		**Sb**	**19 34 48.1**	**-0.9**
IBDR	**Badra**	**0.69**	**161**	*e*Pg		**Pg**	**19 34 44.0**	**-0.8**
IBDR				*e*Sg		**Sg**	**19 34 53.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.74**	**355**	Pg		**Pb**	**19 34 46.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.94**	**53**	Pg		**Pg**	**19 34 49.6**	**+0.1**
IDHR	**Dehrash**	**1.11**	**32**	Pg		**Pg**	**19 34 51.9**	**-1.0**
BHD	**Baghdad**	**1.18**	**246**	*e*Pg		**Pg**	**19 34 54.0**	**-0.2**
BHD				*e*Sg		**Sn**	**19 35 12.0**	**+1.7**
KCHF	**Cheshme Sefid,**	**1.25**	**65**	Pg		**Pg**	**19 34 56.0**	**+0.5**
ILIN	**Lien**	**1.57**	**42**	Pg		**Pb**	**19 35 01.0**	**+0.1**
IKOM	**Komasi**	**1.58**	**74**	Pg		**Pg**	**19 35 01.7**	**-0.2**
IKFM	**Kafar-mosalman**	**1.83**	**97**	Pn		**Pb**	**19 35 05.2**	**+0.1**
RAFI	**Al-Rafai**	**2.07**	**169**	*e*Pn		**Pn**	**19 35 07.0**	**+0.7**
RAFI				*e*Sn		**Sb**	**19 35 34.0**	**-0.9**

CATAC 16 19:44:26.2±0.5,**9.48N**×**84.51W,h5**km,**ML2.9,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.56**	**62**	*i* P		Pg	19 44 37.0	-0.1
LCR2				IAML			19 45 20.5	
comp=Z,280nm,1.0s								
TBLN	**Tablon, Guarco**	**0.61**	**56**	*i* P		Pg	19 44 37.8	-0.1
HDC3	**Heredia 3**	**0.65**	**37**	*i* P		Pn	19 44 51.6	+9.4
OCM	**Ochomogo**	**0.68**	**53**	*i* P		Pg	19 44 38.9	-0.4
RIMA	**Rio Macho**	**0.70**	**66**	*i* P		Pg	19 44 39.9	+0.2
RIMA				IAML			19 45 19.5	
comp=Z,180nm,1.0s								
CDM	**Cerro de Muert**	**0.74**	**84**	*i* P		Pg	19 44 40.1	-0.4
CDM				IAML			19 45 36.9	
comp=Z,270nm,1.0s								
CPMI	**Catarata Coope**	**0.81**	**9**	*i* P		Pg	19 44 42.0	+0.3
HAYA	**Volcan Irazu**	**0.82**	**53**	*i* P		Pb	19 44 42.8	-0.5
SOCE	**Pocosol**	**0.90**	**353**	*i* P		Pb	19 44 44.0	-0.4
OCHAL	**Ojochal**	**0.93**	**114**	*i* P		Pb	19 44 44.7	-0.2
OCHAL				IAML			19 45 07.8	
comp=Z,3.3nm,1.0s								
RIFO	**Rio Frio, Sara**	**1.01**	**35**	*i* P		Pg	19 44 45.7	0.0
INDI	**Punta indio, G**	**1.05**	**292**	*i* P		Pg	19 44 46.3	-0.1
COVE	**Coope Vega, Sa**	**1.24**	**5**	*i* P		Pg	19 44 43.8	-6.1
ORTG	**Ortega, Santa**	**1.28**	**313**	*i* P		Pg	19 44 49.7	-1.1
VRLE	**La Escondida,**	**1.55**	**327**	*i* P		Pn	19 44 53.7	-0.9
HZTE	**Horizontes, Gu**	**1.63**	**319**	*i* P		Pn	19 44 55.5	-0.1
CTCR	**Cotoan**	**1.82**	**108**	*i* P		Pg	19 45 04.9	+3.7

IDC ***16*** *19:54:06.3±3.5,39˚28N×73˚12E,h0km,mb3.8/7, mbtmp3.6/9,ML2.6/2,Error ellipse: s-maj=70.9km s-min=20.9km az=165.0*
KRNET ***16*** *19:54:07.0±0.1,39˚53N×73˚31E,h12km,mb3.7*
NNC ***16*** *19:54:10.6±1.5,39˚61N×73˚49E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=11.1km s-min=6.3km az=179.0*
SOME ***16*** *19:54:10.4,39˚68N×73˚40E,h0km*
ISC 16 19:54:07.1±0.9,**39.54N**±0.05×**73.35E**±0.03,**h10**km,**n80,** σ2s**44**/119,**mb3.6/7,35C-28D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.49**	**14**	⇑*i* P		**Pb**	**19 54 16.7**	**-1.3**
baz=17								
SFK				⇑*i* S		**Sb**	**19 54 24.4**	**-0.9**
baz=17								
OHH	**Osh**	**1.08**	**336**	⇓*i* P		**Pn**	**19 54 27.6**	**-0.8**
baz=38								
OHH				⇓*i* S		**Sn**	**19 54 42.2**	**-1.2**
baz=38								
DRK	**Karamyk**	**1.20**	**268**	⇑*e*P		**Pn**	**19 54 29.6**	**-0.6**
baz=68								
DRK				⇑*e*S		**Sn**	**19 54 46.1**	**-0.6**
baz=68								
ARSB	**Arslanbob**	**1.81**	**351**	⇑*i* P		**Pg**	**19 54 40.9**	**-0.9**
baz=52								
ARSB				⇑*i* S		**Sg**	**19 55 05.4**	**+0.2**
baz=52								
BTK	**Batken**	**2.02**	**286**	⇑*i* P		**Pb**	**19 54 43.7**	**-0.3**
baz=86								
BTK				⇑*i* S		**Sg**	**19 55 10.9**	**-1.1**
baz=86								
ARLS	**Aral**	**2.44**	**17**	⇑*i* P		**Pb**	**19 54 50.1**	**-1.0**
baz=18								
ARLS				⇑*i* S		**Sb**	**19 55 21.9**	**+0.6**
baz=18								
ARK	**Arkit**	**2.49**	**335**	⇓*e*P		**Pb**	**19 54 50.7**	**-1.4**
baz=36								
ARK				⇓*i* S		**Sb**	**19 55 22.9**	**+0.1**
baz=36								
AML	**Almayashu**	**2.60**	**6**	P		**Pb**	**19 54 53.5**	**-0.6**
SNR=74								
AML	**Almayashu**	**2.60**	**6**	⇑Pg		**Pb**	**19 54 53.7**	**-0.4**
1.5nm,0.4s								
AML				⇑Lg		Lg	19 55 31.3	
18nm,0.8s								
AML	**Almayashu**	**2.60**	**6**	⇑*i* P		**Pb**	**19 54 52.7**	**-1.4**
baz=6.0								
AML				⇑*i* S		**Sb**	**19 55 26.1**	**-0.2**
baz=6.0								
TRKS	**Terek-Say**	**2.61**	**320**	⇑*i* P		**Pb**	**19 54 51.3**	**-2.7**
baz=20								
TRKS				⇑*i* S		**Sb**	**19 55 23.8**	**-2.4**
baz=20								
NRN	**Naryn**	**2.77**	**46**	⇑*i* P		**Pb**	**19 54 54.7**	**-2.2**
baz=46								
NRN				⇑*i* S		**Sb**	**19 55 29.6**	**-1.4**
baz=46								
UCH	**Uchtor**	**2.83**	**18**	P		**Pb**	**19 54 57.7**	**-0.3**
SNR=40								
UCH	**Uchtor**	**2.83**	**18**	⇓*i* P		**Pb**	**19 54 55.8**	**-2.2**
baz=18								
UCH				⇓*i* S		**Sb**	**19 55 31.6**	**-1.3**
baz=18								
KZA	**Kyzart**	**2.92**	**29**	P		**Pb**	**19 54 59.0**	**-0.5**
SNR=11								
KZA	**Kyzart**	**2.92**	**29**	⇓*i* P		**Pb**	**19 54 57.1**	**-2.4**
baz=29								
KZA				⇓*i* S		**Sb**	**19 55 33.9**	**-1.5**
baz=29								
EKS2	**Erkin-Say**	**3.14**	**6**	P		**Pb**	**19 55 01.6**	**-1.5**
SNR=16								
EKS2	**Erkin-Say**	**3.14**	**6**	⇓*i* P		**Pb**	**19 55 00.0**	**-3.1**
baz=6.0								
EKS2				⇓*i* S		**Sb**	**19 55 38.7**	**-2.7**
baz=6.0								
MRKS	**Merke**	**3.21**	**358**	Pg		**Pg**	**19 55 08.7**	**+0.2**
26nm,1.2s								
MRKS				Lg		Lg	19 55 51.2	
53nm,0.5s								
MRKS	**Merke**	**3.21**	**358**	*e*P		**Pg**	**19 55 08.7**	**+0.2**
25nm,0.3s								
MRKS				*e*S		**Sg**	**19 55 51.2**	**+1.1**
117nm,0.2s								
AAK	**Ala-Archa**	**3.22**	**15**	P		**Pg**	**19 55 06.5**	**-2.3**
SNR=17								
AAK	**Ala-Archa**	**3.22**	**15**	⇓*i* P		**Pb**	**19 55 01.3**	**-3.1**
baz=16								
AAK				⇓*i* S		**Sb**	**19 55 40.9**	**-2.8**
baz=16								
KBK	**Karagaybulak**	**3.34**	**21**	P		**Pb**	**19 55 05.2**	**-1.4**
SNR=8.7								
KBK	**Karagaybulak**	**3.34**	**21**	⇓*i* P		**Pb**	**19 55 03.0**	**-3.6**
baz=21								
KBK				⇓*i* S		**Sb**	**19 55 43.7**	**-3.7**
baz=21								
FRU1	**Bishkek**	**3.41**	**16**	⇑*i* P		**Pb**	**19 55 04.0**	**-3.7**
baz=16								
FRU1				⇑*i* S		**Sb**	**19 55 45.7**	**-3.5**
baz=16								
ULHL	**Ulahol**	**3.48**	**38**	P		**Pb**	**19 55 07.4**	**-1.6**
SNR=5.6								
ULHL	**Ulahol**	**3.48**	**38**	⇑*i* P		**Pb**	**19 55 05.0**	**-4.0**
baz=38								
ULHL				⇑*i* S		**Sb**	**19 55 47.3**	**-4.1**
baz=38								
CHMS	**Chumysh**	**3.62**	**17**	P		**Pb**	**19 55 08.0**	**-3.2**
SNR=8.2								
CHMS	**Chumysh**	**3.62**	**17**	⇓Pg		**Pb**	**19 55 13.1**	**+1.9**
3.2nm,0.3s								
CHMS				⇑Lg		Lg	19 56 03.4	
40nm,0.9s								
CHMS	**Chumysh**	**3.62**	**17**	⇓*i* P		**Pb**	**19 55 06.5**	**-4.7**
baz=17								
CHMS				⇓*i* S		**Sb**	**19 55 50.1**	**-5.0**
baz=17								
DZA	**Taraz**	**3.68**	**336**	Pg		**Pg**	**19 55 16.0**	**-1.7**
48nm,0.6s								
DZA				Lg		Lg	19 56 03.2	
79nm,0.5s								
DZA	**Taraz**	**3.68**	**336**	*e*P		**Pg**	**19 55 16.0**	**-1.7**
45nm,0.2s								
DZA				*e*S		**Sg**	**19 56 03.2**	**-2.2**
79nm,0.5s								
TKM2	**Tokmak 2**	**3.78**	**26**	⇓Pg		**Pb**	**19 55 15.3**	**+1.2**
4.8nm,0.5s								
TKM2				⇓Lg		Lg	19 56 06.5	
39nm,0.8s								
TKM2	**Tokmak 2**	**3.78**	**26**	⇓*i* P		**Pn**	**19 55 09.0**	**+3.3**
baz=26								
TKM2				⇓*i* S		**Sb**	**19 55 54.5**	**-5.5**
baz=26								
USP	**Ospenovka**	**3.83**	**13**	P		**Pb**	**19 55 10.4**	**-4.3**
SNR=9.5								
USP	**Ospenovka**	**3.83**	**13**	⇑*i* P		**Pn**	**19 55 09.5**	**+3.4**
baz=13								
USP				⇑*i* S		**Sn**	**19 55 55.2**	**+4.0**
baz=13								
KDJ	**Kajisay**	**3.89**	**47**	⇑*e*P		**Pn**	**19 55 10.8**	**+3.6**
baz=47								
KDJ				⇑*i* S		**Sn**	**19 55 57.4**	**+4.4**
baz=47								
KST	**Kastek**	**4.02**	**29**	Pg		**Pg**	**19 55 23.8**	**-0.3**
6.9nm,0.5s								
KST				Lg		Lg	19 56 16.5	
82nm,1.2s								
KST	**Kastek**	**4.02**	**29**	*e*P		**Pg**	**19 55 23.6**	**-0.5**
4.5nm,0.3s								
KST				*e*S		**Sg**	**19 56 16.5**	**+0.3**
93nm,0.7s								
SGDS	**Sogindy**	**4.03**	**13**	Pg		**Pg**	**19 55 22.9**	**-1.4**
5.4nm,0.7s								
SGDS				Lg		Lg	19 56 15.0	
21nm,1.0s								
DGS	**Degeres**	**4.13**	**25**	Pg		**Pg**	**19 55 25.5**	**-0.6**
13nm,0.5s								
DGS				Lg		Lg	19 56 19.7	
51nm,0.6s								
DGS	**Degeres**	**4.13**	**25**	*e*P		**Pg**	**19 55 25.6**	**-0.6**
14nm,0.2s								
DGS				*e*S		**Sg**	**19 56 19.7**	**+0.1**
88nm,0.4s								
KK31	**Karatay Array**	**4.15**	**330**	⇓Pn		Pb	19 55 14.8	-5.5
1.4nm,0.3s,baz=130,slow=12,SNR=94								
KK31				⇑Pg		**Pg**	**19 55 24.2**	**-2.5**
4.1nm,0.3s,baz=154,slow=16,SNR=43								
KK31				⇑Sn		**Sb**	**19 56 08.0**	**-2.6**
12nm,0.5s,baz=154,slow=16,SNR=4.4								
KK31				⇑Lg		Lg	19 56 21.2	
20nm,0.6s,baz=157,slow=26,SNR=4.3								
KKAR	**Karatay Array**	**4.15**	**330**	⇓*i* P		**Pn**	**19 55 13.5**	**+2.9**
baz=30								
KKAR				⇓*i* S		**Sn**	**19 56 02.4**	**+3.2**
baz=30								
MTBS	**Maitube**	**4.27**	**32**	Pg		**Pg**	**19 55 27.7**	**-1.3**
11nm,0.7s								
MTBS				Lg		Lg	19 56 23.3	
19nm,0.8s								
MTBS	**Maitube**	**4.27**	**32**	*e*P		**Pg**	**19 55 27.7**	**-1.3**
10nm,0.3s								
MTBS				*e*S		**Sg**	**19 56 23.3**	**-1.0**
31nm,0.3s								
TNSS	**Tian-Shan**	**4.42**	**37**	Pg		**Pg**	**19 55 30.1**	**-1.7**
10nm,0.8s								
TNSS				Lg		Lg	19 56 27.6	
20nm,0.9s								
TNSS	**Tian-Shan**	**4.42**	**37**	*e*P		**Pg**	**19 55 30.2**	**-1.6**
10nm,0.4s								
TNSS				*e*S		**Sg**	**19 56 27.6**	**-1.5**
19nm,0.4s								
KASK	**Kaskelen**	**4.43**	**33**	⇓Pg		**Pg**	**19 55 29.1**	**-3.0**
KASK				⇑Lg		Lg	19 56 26.9	
MDOK	**Medeo**	**4.57**	**36**	Pg		**Pg**	**19 55 31.2**	**-3.5**
2.2nm,0.4s								
MDOK				Pg		Pb	19 55 32.9	+5.4
6.6nm,1.4s								
MDOK				Lg		Lg	19 56 31.9	
38nm,0.7s								
MDOK				Lg		Lg	19 56 32.3	
23nm,1.6s								
MDOK	**Medeo**	**4.57**	**36**	*e*P		**Pg**	**19 55 32.9**	**-1.8**
6.6nm,0.4s								
MDOK				*e*S		**Sg**	**19 56 32.3**	**-1.5**
36nm,0.6s								
KNDC	**Almaty**	**4.57**	**35**	⇑Pg		**Pg**	**19 55 32.9**	**-1.8**
6.5nm,0.5s								
KNDC				⇑Lg		Lg	19 56 31.9	
129nm,0.9s								
ANVS	**Anan'yevo**	**4.60**	**44**	⇓*i* P		**Pn**	**19 55 20.4**	**+3.5**
baz=44								
ANVS				⇓*i* S		**Sn**	**19 56 14.2**	**+3.8**
baz=44								
KOTS	**Kotyrbulak**	**4.65**	**36**	Pg		**Pg**	**19 55 34.0**	**-2.3**
12nm,1.3s								
KOTS				Lg		Lg	19 56 34.6	
93nm,0.9s								
KOTS	**Kotyrbulak**	**4.65**	**36**	*e*P		**Pg**	**19 55 34.2**	**-2.0**
12nm,0.4s								
KOTS				*e*S		**Sg**	**19 56 34.6**	**-1.9**
93nm,0.9s								
KTBS	**Karatobe**	**4.86**	**30**	Pg		**Pg**	**19 55 38.4**	**-1.8**
8.7nm,0.6s								
KTBS				Lg		Lg	19 56 41.6	
48nm,0.8s								
KTBS	**Karatobe**	**4.86**	**30**	*e*P		**Pg**	**19 55 38.3**	**-1.9**
8.7nm,0.6s								
KTBS				*e*S		**Sg**	**19 56 41.6**	**-1.5**
48nm,0.8s								
KUU	**Kurty**	**4.89**	**26**	Pg		**Pg**	**19 55 38.8**	**-2.0**
7.3nm,0.6s								
KUU				Lg		Lg	19 56 42.6	
31nm,0.9s								
KUU	**Kurty**	**4.89**	**26**	*e*P		**Pg**	**19 55 38.8**	**-2.0**
7.3nm,0.2s								
KUU				*e*S		**Sg**	**19 56 42.6**	**-1.6**
40nm,0.6s								
CHKK	**Chushkaly**	**5.10**	**31**	Pg		**Pg**	**19 55 42.8**	**-2.0**
4.4nm,0.7s								
CHKK				Lg		Lg	19 56 49.1	
12nm,0.5s								
CHKK	**Chushkaly**	**5.10**	**31**	*e*P		**Pg**	**19 55 42.8**	**-2.0**
3.6nm,0.3s								
CHKK				*e*S		**Sg**	**19 56 49.1**	**-1.7**
12nm,0.2s								
SATY	**Saty**	**5.18**	**46**	Pg		**Pg**	**19 55 42.5**	**-3.9**
9.8nm,0.8s								
SATY				Lg		Lg	19 56 48.7	
25nm,1.8s								
SATY	**Saty**	**5.18**	**46**	*e*P		**Pg**	**19 55 45.1**	**-1.3**
13nm,0.4s								
SATY				*e*S		**Sg**	**19 56 53.3**	**-0.3**
31nm,0.6s								
KURS	**Kuram**	**5.35**	**41**	Pg		**Pg**	**19 55 46.9**	**-2.8**
6.6nm,1.1s								
KURS				Lg		Lg	19 56 55.8	
7.9nm,1.3s								
KURS	**Kuram**	**5.35**	**41**	*e*P		**Pg**	**19 55 48.5**	**-1.2**
5.9nm,0.4s								
KURS				*e*S		**Sg**	**19 56 59.1**	**+0.1**
12nm,0.5s								
KPKS	**Kokpek**	**5.61**	**44**	Pg		**Pg**	**19 55 50.8**	**-3.6**
5.6nm,0.7s								
KPKS				Lg		Lg	19 57 03.2	
15nm,1.1s								
KPKS	**Kokpek**	**5.61**	**44**	*e*P		**Pg**	**19 55 50.9**	**-3.6**
7.1nm,0.2s								
KPKS				*e*S		**Sg**	**19 57 03.0**	**-4.0**
15nm,0.3s								
ARXS	**Arharly**	**5.74**	**34**	*e*P		**Pg**	**19 55 53.9**	**-3.2**
8.1nm,0.3s								
ARXS				*e*S		**Sg**	**19 57 08.5**	**-3.0**
24nm,0.4s								
PDGK	**Podgornoye**	**5.97**	**49**	Pg		**Pg**	**19 55 56.7**	**-4.7**
2.4nm,1.3s								
PDGK				Lg		Lg	19 57 14.0	
3.9nm,1.0s								
PDGK	**Podgornoye**	**5.97**	**49**	⇑Pn		**Pn**	**19 55 39.3**	**+3.7**
0.5nm,0.5s								
PDGK				⇓Pg		**Pg**	**19 55 58.0**	**-3.4**
1.2nm,0.4s								
PDGK				⇑Lg		Lg	19 57 14.3	
17nm,1.1s								
KNOS	**Konyrlen**	**6.49**	**40**	Pg		**Pg**	**19 56 06.6**	**-4.7**
7.6nm,1.0s								
KNOS				Lg		Lg	19 57 30.1	
13nm,1.2s								
MKAR	**Makanchi Array**	**9.76**	**39**	Pn		Pn	19 56 34.5	+7.0
baz=219,slow=15,SNR=3.8								
MKAR				Lg		Lg	19 59 18.3	
baz=177,slow=30,SNR=2.7								
0.3nm,0.8s								
ZALV	**Zalesovo Beam**	**16.39**	**25**	Pn		**P**	**19 57 59.8**	**-0.1**
0.1nm,0.3s,baz=214,slow=12,SNR=1.8								
0.3nm,0.4s								
SONM	**Songino Array**	**25.14**	**60**	P		**P**	**19 59 34.7**	**+2.3**
0.3nm,0.7s,baz=267,slow=5.8,SNR=2.3								
0.3nm,0.7s								
BRTR	**Keskin Array B**	**30.41**	**283**	P		**P**	**20 00 20.8**	**+1.1**
0.7nm,0.8s,baz=89,slow=6.1,SNR=2.4								
0.7nm,0.8s								
AKASG	**Malin Array Be**	**32.61**	**305**	P		**P**	**20 00 39.2**	**+0.5**
0.1nm,0.3s,baz=80,slow=7.4,SNR=7.7								
0.1nm,0.3s								
FINES	**FINESS Array B**	**36.08**	**323**	P		**P**	**20 01 10.3**	**+1.6**
7.7nm,1.1s,baz=108,slow=8.9,SNR=4.4								
7.7nm,1.1s								
ARCES	**ARCESS Array B**	**39.10**	**336**	P		**P**	**20 01 35.0**	**+0.9**
3.6nm,0.9s,baz=113,slow=8.9,SNR=1.8								
3.6nm,0.9s								
HFS	**Hagfors**	**41.89**	**320**	P		**P**	**20 01 58.6**	**+1.4**
3.7nm,0.8s,baz=97,slow=12,SNR=1.7								
3.7nm,0.8s								
NOA	**NORSAR Array B**	**43.13**	**321**	P		**P**	**20 02 08.6**	**+1.2**
0.4nm,0.6s,baz=111,slow=7.4,SNR=1.3								
0.4nm,0.6s								

IDC ***16*** *19:56:22.8±1.5,33˚66N×45˚71E,h0km,mb3.7/9, mbtmp3.7/12,ML3.5/2,MS3.5/1,Error ellipse: s-maj=33.2km s-min=16.9km az=5.0*
TEH ***16*** *19:56:25.5,33˚81N×45˚73E,h8km±24km,ML3.6*
ISN ***16*** *19:56:25.6±0.4,33˚77N×45˚72E,h11km±2km,ML3.5*
ISC 16 19:56:25.1±0.6,**33.79N**±0.03×**45.71E**±0.04,**h10**km,**n46,** σ1s**59/47,mb3.7/8,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.44**	**111**	Pg		**Pg**	**19 56 34.3**	**+0.6**
ILBA				Sg		**Sb**	**19 56 41.1**	**-0.6**
IBDR	**Badra**	**0.70**	**165**	*e*Pg		**Pg**	**19 56 39.0**	**+0.4**
IBDR				*e*Sg		**Sg**	**19 56 48.5**	**+0.8**
IBDR				AML		AML	19 56 53.6	
comp=N,1μm,0.5s								
IBDR				AML		AML	19 56 54.2	
comp=E,906nm,0.8s								
KGS1	**Ghasr-e-Shirin**	**0.72**	**352**	Pg		**Pg**	**19 56 39.2**	**+0.1**
IGHG	**Ghaleghazi**	**0.89**	**52**	Pg		**Pb**	**19 56 42.7**	**-0.1**
IDHR	**Dehrash**	**1.07**	**31**	Pg		**Pg**	**19 56 45.6**	**0.0**
KCHF	**Cheshme Sefid,**	**1.20**	**66**	Pg		**Pn**	**19 56 48.6**	**+0.5**
BHD	**Baghdad**	**1.23**	**245**	*e*Pg		**Pg**	**19 56 49.0**	**+0.7**
BHD				*e*Sg		**Sn**	**19 57 06.0**	**+1.1**
BHD				AML		AML	19 57 09.9	
comp=E,3μm,0.4s								
ILIN	**Lien**	**1.53**	**42**	Pg		**Pg**	**19 56 54.5**	**0.0**
IKOM	**Komasi**	**1.54**	**75**	Pg		**Pg**	**19 56 54.6**	**-0.1**
IKFM	**Kafar-mosalman**	**1.80**	**98**	Pg		**Pb**	**19 56 58.6**	**+0.5**
IBZA	**Bozab**	**1.91**	**69**	Pn		**Pb**	**19 57 00.6**	**+0.5**
**RA

comp=N,0.7nm,0.5s,baz=226,slow=10.0,SNR=2.2
comp=N,0.7nm,0.5s
GERES GERESS Array B 28.11 312 P **P** **20 02 18.5 +1.4**
comp=N,0.2nm,0.3s,baz=192,slow=14,SNR=2.2
comp=N,0.2nm,0.3s
KURBB Kurchatov Arra 29.25 45 P **P** **20 02 27.7 +0.7**
comp=N,0.2nm,0.5s,baz=249,slow=9.1,SNR=1.6
comp=N,0.2nm,0.5s
FINES FINESS Array B 30.42 341 P **P** **20 02 37.3 0.0**
comp=N,4.1nm,0.9s,baz=146,slow=9.1,SNR=1.4
comp=N,4.1nm,0.9s
MKAR Makanchi Array 30.49 54 P **P** **20 02 38.6 +0.4**
comp=N,0.9nm,0.4s,baz=255,slow=9.5,SNR=19
comp=N,0.9nm,0.4s
HFS Hagfors 33.63 331 P **P** **20 03 04.6 -0.9**
comp=N,2.7nm,0.5s,baz=123,slow=10,SNR=10.0
comp=N,2.7nm,0.5s
SONM Songino Array 46.86 54 P **P** **20 04 55.2 -0.2**
comp=N,0.1nm,0.6s,baz=278,slow=11,SNR=1.5
comp=N,0.1nm,0.6s
CMAR Chiang Mai Arr 49.65 94 P **P** **20 05 15.9 -1.3**
comp=N,0.6nm,0.5s,baz=289,slow=8.5,SNR=5.4
comp=N,0.6nm,0.5s

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*MOS **16** 19:57:15.3±0.7, 19.°38S×179.°30W, h653km, mb5.6/30, Error ellipse: s-maj=8.1km s-min=7.6km az=116.9*
*BGR **16** 19:57:15.5, 20.°62S×179.°44W, h664km±8km*
*BJI **16** 19:57:16.8±0.0, 19.°15S×179.°17W, h666km, mb5.5/79, mB5.4/51*
*NOU **16** 19:57:16.7, 19.°49S×179.°21W, h661km, ML5.6/174, Fiji Islands Region*
*NEIC **16** 19:57:17.8, 19.°26S×179.°28W, h680km, Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-7.61; $M_{\theta\theta}$3.84; $M_{\phi\phi}$3.77; $M_{r\theta}$1.36; $M_{\theta\phi}$-4.46; $M_{\phi r}$-3.80; Fault plane solution: $M_0$8.91000×10^{17} NP1: ϕ_s326.46000°, δ58.44000°, λ-76.97000°. NP2: ϕ_s122.60000°, δ33.88000°, λ-110.16000°. Principal axes: T 9.0685, Plg13.0000°, Azm47.0000°; N -0.3108, Plg11.0000°, Azm140.0000°; P -8.7577, Plg73.0000°, Azm270.0000°;*
*IDC **16** 19:57:17.2±0.4, 19.°50S×179.°35W, h665km±3km, mb4.8/25, mbtmp5.8/27 Error ellipse: s-maj=7.8km s-min=6.6km az=97.0*
*NEIC **16** 19:57:17.8, 19.°46S×179.°28W, h680km*
*NEIC **16** 19:57:17.8, 19.°46S×179.°28W, h659km*
*NEIC **16** 19:57:18.1±2.0, 19.°45S±0.°07×179.°30W±0.°08, h667km±3km, mb5.3/448, Mwb5.9/14, Mww5.9/37, Error ellipse: s-maj=11.5km s-min=10.0km az=87.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-6.13; $M_{\theta\theta}$3.89; $M_{\phi\phi}$2.24; $M_{r\theta}$1.48; $M_{\theta\phi}$-4.05; $M_{\phi r}$-3.12; Fault plane solution: $M_0$7.56000×10^{17} NP1: ϕ_s321.94000°, δ58.90000°, λ-75.34000°. NP2: ϕ_s115.08000°, δ34.06000°, λ-112.76000°. Principal axes: T 7.9068, Plg13.0000°, Azm41.0000°; N -0.7387, Plg13.0000°, Azm134.0000°; P -7.1681, Plg72.0000°, Azm267.0000°;*
*GCMT **16** 19:57:21.1±0.1, 19.°46S±0.°01×179.°23W±0.°01, h667km±1km, MW5.9/152, Moment Tensor Solution. s152,c310; s69,c70; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.85±.01; $M_{\theta\theta}$0.55±.01; $M_{\phi\phi}$0.29±.01; $M_{r\theta}$0.17±.01; $M_{\theta\phi}$-0.54±.01; $M_{\phi r}$-0.31±.01; Best double couple: $M_0$0.98200×10^{18} NP1:ϕ_s318.00000°, δ56.00000°, λ-78.00000°. NP2:ϕ_s118.00000°, δ36.00000°, λ-106.00000°. Principal axes: T 1.0320, Plg10.0000°, Azm40.0000°; N -0.1000, Plg9.0000°, Azm131.0000°; P -0.9320, Plg76.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
ISC 16 19:57:16.9±0.2, 19.°51S±0.°03×179.°17W±0.°03, h667km±1km, h668km:pP-P, n1957, σ1s42/2149, mb5.4/389, 77C-165D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.31**	**15**	P	**P**	**P**	**19 59 35.6**	**+0.2**
TAVE	**Taveuni**	**2.87**	**346**	P	**P**	**P**	**19 58 41.4**	**+0.3**
DGTI	**Dogotuki**	**3.35**	**342**	P	**P**	**P**	**19 58 43.4**	**-0.2**
YSA	**Yasawairara**	**4.17**	**312**	P	**P**	**P**	**19 58 48.1**	**-0.3**
NIUE	**Niue**	**8.74**	**89**	P	**P**	**P**	**19 59 25.4**	**+0.2**
	baz=8.8							
NIUE	**Niue**	**8.74**	**89**	P		**P**	**19 59 25.0**	**-0.2**
NIUE	**Niue**	**8.74**	**89**	P		**P**	**19 59 26.0**	**+0.8**
AFI	**Afiamalu**	**9.01**	**53**	P		**P**	**19 59 25.9**	**-2.0**
AFI				S		**S**	**20 01 08.9**	**-6.0**
AFI	**Afiamalu**	**9.01**	**53**	P		**P**	**19 59 26.3**	**-1.6**
AFI	**Afiamalu**	**9.01**	**53**	P		**P**	**19 59 26.2**	**-1.6**
AFI				pmax		pmax		
	comp=Z,4μm,1.1s							
RIZ	**Raoul Island**	**9.76**	**174**	P		**P**	**19 59 30.8**	**-3.6**
RIZ				S		**S**	**20 01 22.4**	**-4.8**
RAO	**Raoul Island**	**9.77**	**174**	P		**P**	**19 59 33.3**	**-1.3**
RAO				S		**S**	**20 01 23.9**	**-3.5**
RAO	**Raoul Island**	**9.77**	**174**	P		**P**	**19 59 33.8**	**-0.7**
RAO	**Raoul Island**	**9.77**	**174**	P		**P**	**19 59 33.8**	**-0.7**
	comp=Z,2μm,0.3s,baz=87,slow=14,SNR=22							
RAO				S		**S**	**20 01 23.6**	**-3.7**
	comp=Z,1μm,0.5s,baz=90,slow=20,SNR=7.8							
GLKZ	**Green Lake**	**9.78**	**174**	P		**P**	**19 59 34.1**	**-0.6**
GLKZ				S		**S**	**20 01 25.6**	**-1.9**
FUNA	**Funafuti**	**11.03**	**352**	P		**P**	**19 59 44.7**	**-2.0**
FUNA				S		**S**	**20 01 46.9**	**-2.1**
FUNA	**Funafuti**	**11.03**	**352**	P		**P**	**19 59 45.3**	**-1.4**
MARNC	**Mare, Loyalty**	**12.15**	**259**	P		**P**	**19 59 55.3**	**-1.5**
MARNC				S		**S**	**20 02 04.2**	**-3.2**
MARNC	**Mare, Loyalty**	**12.15**	**259**	P		**P**	**19 59 55.7**	**-1.2**
LIFNC	**LIFOU**	**12.83**	**262**	P		**P**	**20 00 01.3**	**-1.7**
LIFNC				S		**S**	**20 02 15.5**	**-3.0**
LIFNC	**LIFOU**	**12.83**	**262**	P		**P**	**20 00 01.5**	**-1.5**
PINNC	**Pines Island,**	**12.87**	**254**	P		**P**	**20 00 02.9**	**-0.4**
PINNC				S		**S**	**20 02 18.2**	**-0.9**
PINNC	**Pines Island,**	**12.87**	**254**	P		**P**	**20 00 03.5**	**+0.1**
YATNC	**Mamie plateau,**	**13.28**	**257**	P		**P**	**20 00 06.6**	**-0.6**
OUENC	**Ouen Island, N**	**13.38**	**255**	P		**P**	**20 00 07.5**	**-0.5**
OUENC				S		**S**	**20 02 28.8**	**+1.2**
OUENC	**Ouen Island, N**	**13.38**	**255**	P		**P**	**20 00 08.3**	**+0.2**
DZM	**Mont Dzumac**	**13.69**	**257**	P		**P**	**20 00 10.8**	**-0.2**
DZM	**Mont Dzumac**	**13.69**	**257**	P		**P**	**20 00 11.3**	**+0.3**
DZM	**Mont Dzumac**	**13.69**	**257**	*e*Pn		**P**	**20 00 09.2**	**-1.8**
	comp=Z,2μm,1.4s							
DZM				*e*Sn		**S**	**20 02 29.9**	**-3.0**
DZM	**Mont Dzumac**	**13.69**	**257**	P		**P**	**20 00 08.7**	**-2.3**
	comp=Z,394nm,0.9s,baz=91,slow=13,SNR=138							
DZM				S		**S**	**20 02 33.2**	**+0.3**
	comp=Z,207nm,1.0s,baz=342,slow=19,SNR=4.3							
ONTNC	**Ouen Toro**	**13.72**	**256**	P		**P**	**20 00 10.8**	**-0.3**
ONTNC	**Ouen Toro**	**13.72**	**256**	P		**P**	**20 00 11.8**	**+0.7**
NOUC	**Port Laguerre**	**13.83**	**257**	P		**P**	**20 00 12.6**	**+0.5**
NFK	**Norfolk Island**	**15.10**	**229**	P		**P**	**20 00 26.1**	**+2.4**
	baz=15							
NFK	**Norfolk Island**	**15.10**	**229**	P		**P**	**20 00 26.1**	**+2.4**
KOUNC	**Koumac, New Ca**	**15.58**	**263**	P		**P**	**20 00 29.0**	**+0.9**
KOUNC	**Koumac, New Ca**	**15.58**	**263**	P		**P**	**20 00 30.1**	**+1.9**
OUZ	**Omahuta**	**16.91**	**201**	P		**P**	**20 00 42.5**	**+2.5**
GRZ	**Great Barrier**	**17.34**	**195**	P		**P**	**20 00 46.5**	**+2.6**
KUZ	**Kuaotunu**	**17.75**	**194**	P		**P**	**20 00 49.7**	**+2.1**
KUZ	**Kuaotunu**	**17.75**	**194**	P		**P**	**20 00 49.8**	**+2.1**
WIAZ	**Waiheke Island**	**17.93**	**195**	P		**P**	**20 00 52.2**	**+3.0**
MXZ	**Matakaoa Point**	**18.12**	**186**	P		**P**	**20 00 50.7**	**-0.2**
MXZ	**Matakaoa Point**	**18.12**	**186**	P		**P**	**20 00 50.0**	**-1.0**
MXZ	**Matakaoa Point**	**18.12**	**186**	P		**P**	**20 00 50.1**	**-0.8**
MXZ				S		**S**	**20 03 39.9**	**-4.1**
ETAZ	**East Tamaki Re**	**18.14**	**195**	P		**P**	**20 00 53.6**	**+2.5**
WTAZ	**Waiatarua**	**18.21**	**196**	P		**P**	**20 00 54.4**	**+2.7**
MKAZ	**Moumakai**	**18.22**	**195**	P		**P**	**20 00 54.2**	**+2.4**
WIZ	**White Island**	**18.23**	**189**	P		**P**	**20 00 52.5**	**+0.5**
RAR	**Rarotonga**	**18.27**	**99**	P		**P**	**20 00 54.3**	**+1.8**
RAR	**Rarotonga**	**18.27**	**99**	P		**P**	**20 00 54.7**	**+2.2**
RAR	**Rarotonga**	**18.27**	**99**	P		**P**	**20 00 54.7**	**+2.2**
	comp=Z,50nm,0.6s,baz=245,slow=7.4,SNR=14							
AWAZ	**Awhitu Peninsu**	**18.31**	**196**	P		**P**	**20 00 55.2**	**+2.5**
WMGZ	**Waiomatatini S**	**18.37**	**186**	P		**P**	**20 00 52.8**	**-0.4**
WMGZ				S		**S**	**20 03 44.7**	**-3.1**
HAZ	**Te Kaha**	**18.38**	**188**	P		**P**	**20 00 52.2**	**-1.0**
HAZ				S		**S**	**20 03 43.6**	**-4.3**
PKGZ	**Pakihiroa**	**18.47**	**187**	P		**P**	**20 00 53.2**	**-1.0**
PKGZ				S		**S**	**20 03 48.4**	**-1.2**
RUGZ	**Raukumara Rang**	**18.60**	**188**	P		**P**	**20 00 54.4**	**-1.0**
RUGZ				S		**S**	**20 03 49.0**	**-2.7**
TOZ	**Tahuroa Road**	**18.74**	**193**	P		**P**	**20 00 57.8**	**+1.2**
TOZ	**Tahuroa Road**	**18.74**	**193**	P		**P**	**20 00 58.3**	**+1.7**
MARZ	**Manawahe**	**18.77**	**190**	P		**P**	**20 00 59.4**	**+2.6**
TWGZ	**Tauwhareparae**	**18.77**	**187**	P		**P**	**20 00 57.1**	**+0.2**
TWGZ				S		**S**	**20 03 53.3**	**-1.0**
KARZ	**Kaharoa**	**18.88**	**191**	P		**P**	**20 00 59.8**	**+2.1**
URZ	**Urewera**	**18.96**	**189**	P		**P**	**20 00 57.1**	**-1.4**
URZ	**Urewera**	**18.96**	**189**	P		**P**	**20 00 56.4**	**-2.1**
	comp=Z,111nm,0.4s,baz=45,slow=2.0,SNR=72							
URZ				S		**S**	**20 03 52.0**	**-5.3**
	comp=Z,17nm,0.6s,baz=0.0,slow=3.0,SNR=1.1							
HIZ	**Hauiti**	**19.64**	**194**	P		**P**	**20 01 04.4**	**-0.2**
COVZ	**Chateau Observ**	**20.15**	**192**	P		**P**	**20 01 08.9**	**-0.4**
BFZ	**Birch Farm**	**21.47**	**190**	P		**P**	**20 01 19.9**	**-1.0**
TARA	**Tarawa**	**22.14**	**339**	P		**P**	**20 01 26.4**	**-0.7**
TARA	**Tarawa**	**22.14**	**339**	P		**P**	**20 01 27.0**	**-0.2**
SNZO	**South Karori**	**22.35**	**192**	P		**P**	**20 01 28.1**	**-0.6**
SNZO	**South Karori**	**22.35**	**192**	P		**P**	**20 01 28.3**	**-0.4**
QRZ	**Quartz Range**	**22.41**	**197**	P		**P**	**20 01 29.9**	**+0.7**
HNR	**Honiara**	**22.54**	**293**	P		**P**	**20 01 29.4**	**-1.3**
HNR	**Honiara**	**22.54**	**293**	P		**P**	**20 01 31.5**	**+0.8**
HNR	**Honiara**	**22.54**	**293**	P		**P**	**20 01 29.4**	**-1.3**
BSWZ	**Blackbirch Sta**	**22.91**	**193**			**S**	**20 04 57.9**	**-1.6**
LHI	**Lord Howe Isla**	**22.95**	**234**	P		**P**	**20 01 34.4**	**+0.2**
THZ	**Tophouse**	**23.19**	**195**			**S**	**20 05 01.5**	**-2.3**
KHTZ	**Kahutara**	**23.66**	**194**	P		**P**	**20 01 39.0**	**-1.2**
KHZ	**Kahutara**	**23.66**	**194**	P		**P**	**20 01 39.4**	**-0.8**
CTZ	**Chatham Island**	**24.25**	**175**	P		**P**	**20 01 47.4**	**+2.0**
GVZ	**Greta Valley S**	**24.30**	**194**	P		**P**	**20 01 44.6**	**-1.3**
GVZ						**S**	**20 05 18.1**	**-3.0**
LTZ	**Lake Taylor**	**24.30**	**195**	P		**P**	**20 01 44.7**	**-1.2**
INZ	**Inchbonnie**	**24.47**	**197**	P		**P**	**20 01 46.4**	**-0.9**
RPZ	**Rata Peaks**	**25.49**	**197**	P		**P**	**20 01 55.9**	**-0.5**
RPZ	**Rata Peaks**	**25.49**	**197**	P		**P**	**20 01 55.0**	**-1.3**
RPZ	**Rata Peaks**	**25.49**	**197**	P		**P**	**20 01 55.1**	**-1.2**
	comp=Z,80nm,0.4s,baz=15,slow=2.4,SNR=18							
RPZ				S		**S**	**20 05 39.2**	**-0.5**
	comp=Z,54nm,1.1s,baz=321,slow=23,SNR=2.7							
	comp=Z,80nm,0.4s							
LBZ	**Lake Benmore**	**26.35**	**197**	P		**P**	**20 02 02.0**	**-1.8**
JCZ	**Jackson Bay**	**26.49**	**200**	P		**P**	**20 02 05.3**	**+0.2**
ODZ	**Otahua Downs**	**26.84**	**196**	P		**P**	**20 02 07.4**	**-0.6**
TBI	**Tubuai**	**27.89**	**103**	*e*P		**P**	**20 02 19.6**	**+2.1**
	comp=Z,167nm,0.9s							
TBI				*e*S		**S**	**20 06 24.4**	**+6.9**
	comp=Z,3μm,42.2s							
TBI				*e*SS		**SS**	**20 09 28.5**	**+4.2**
	comp=Z,3μm,29.0s							
EIDS	**Eidsvold**	**28.07**	**253**	P		**P**	**20 02 17.0**	**-2.1**
	baz=28,SNR=60							
EIDS	**Eidsvold**	**28.07**	**253**	P		**P**	**20 02 18.4**	**-0.6**
EIDS	**Eidsvold**	**28.07**	**253**	P		**P**	**20 02 18.9**	**-0.1**
PAE	**Paea**	**28.09**	**91**	*e*P		**P**	**20 02 19.5**	**+0.3**
PAE	comp=Z,106nm,1.3s			*e*pP		**pP**	**20 03 56.7**	**-1.2**
PAE	comp=Z,322nm,28.3s			*e*SS		SS	20 09 24.2	-3.6
	comp=Z,557nm,23.6s							
PPT2	**Papeete2**	**28.11**	**91**	*e*P		**P**	**20 02 20.0**	**+0.5**
	comp=Z,330nm,1.3s							
PPT2				*e*S		**S**	**20 06 20.9**	**-0.2**
	comp=Z,428nm,23.8s							
PPT2				*e*SS		**SS**	**20 09 26.9**	**-1.3**
	comp=Z,2μm,24.0s							
PPT	**Papeete**	**28.11**	**91**	P		**P**	**20 02 21.5**	**+2.0**
	comp=Z,158nm,0.5s,baz=68,slow=5.0,SNR=22							
	comp=Z,158nm,0.5s							
PPTF	**Pamatai, Papee**	**28.12**	**91**	P		**P**	**20 02 21.1**	**+1.5**
PPTF	**Pamatai, Papee**	**28.12**	**91**	P		**P**	**20 02 21.7**	**+2.1**
TIAR	**Tiarei**	**28.33**	**91**	*e*SS		SS	20 09 23.5	-8.3
	comp=Z,8μm,29.2s							
TVO	**Taravao**	**28.39**	**91**	*e*P		**P**	**20 02 23.2**	**+1.3**
	comp=Z,54nm,0.7s							
RK1H	**Rockhampton Ha**	**28.47**	**257**	P		**P**	**20 02 22.7**	**+0.3**
ARMA	**Armidale**	**28.54**	**242**	P		**P**	**20 02 23.2**	**+0.2**
	baz=29,SNR=55							
ARMA	**Armidale**	**28.54**	**242**	P		**P**	**20 02 24.1**	**+1.1**
ARMA	**Armidale**	**28.54**	**242**	P		**P**	**20 02 24.2**	**+1.1**
SYZ	**Scrubby Hill**	**28.62**	**197**	P		**P**	**20 02 24.1**	**+0.8**
PYZ	**Puysegur Point**	**29.03**	**200**	P		**P**	**20 02 28.4**	**+1.5**
MEH	**Mehetia**	**29.49**	**92**	*e*P		**P**	**20 02 32.8**	**+1.5**
	comp=Z,70nm,1.1s							
MGCD	**Mangrove Creek**	**29.80**	**237**	P		**P**	**20 02 34.1**	**+0.3**
	baz=30,SNR=18							
MGCD	**Mangrove Creek**	**29.80**	**237**	P		**P**	**20 02 35.2**	**+1.5**
RIV	**Riverview**	**29.98**	**236**	P		**P**	**20 02 34.3**	**-0.9**
	baz=30,SNR=3.6							
RIV	**Riverview**	**29.98**	**236**	P		**P**	**20 02 36.5**	**+1.3**
RIV	**Riverview**	**29.98**	**236**	P		**P**	**20 02 37.0**	**+1.8**
RIV				pmax		pmax		
	comp=Z,377nm,1.4s							
PMOR	**Pomariorio Ree**	**30.18**	**86**	*e*P		**P**	**20 02 37.7**	**+0.6**
	comp=Z,630nm,1.0s							
XMAS	**Kiritimati**	**30.23**	**47**	P		**P**	**20 02 38.4**	**+0.8**
XMAS	**Kiritimati**	**30.23**	**47**	P		**P**	**20 02 38.7**	**+1.1**
XMAS	**Kiritimati**	**30.23**	**47**	P		**P**	**20 02 38.4**	**+0.8**
XMAS				PcP		**PcP**	**20 05 17.2**	**+1.3**
RMQ	**Roma**	**30.27**	**251**	P		**P**	**20 02 36.1**	**-1.8**
	baz=30,SNR=7.1							
RMQ	**Roma**	**30.27**	**251**	P		**P**	**20 02 39.7**	**+1.9**
VAH	**Vaihoa**	**30.38**	**87**	*e*P		**P**	**20 02 39.7**	**+0.9**
	comp=Z,359nm,0.9s							
RABL	**Rabaul**	**31.83**	**295**	P		**P**	**20 02 48.3**	**-2.8**
RABL				P		**PcP**	**20 05 21.5**	**+1.1**
RABL	**Rabaul**	**31.83**	**295**	P		**P**	**20 02 51.0**	**-0.2**
CNB	**Canberra Magne**	**31.89**	**234**	P		**P**	**20 02 52.8**	**+1.3**
	baz=32,SNR=55							
CNB	**Canberra Magne**	**31.89**	**234**	P		**P**	**20 02 52.6**	**+1.1**
TV1H	**Townsville Har**	**32.08**	**265**	P		**P**	**20 02 53.1**	**0.0**
CAN	**Canberra**	**32.17**	**234**	P		**P**	**20 02 54.0**	**+0.2**
CAN	**Canberra**	**32.17**	**234**	P		**P**	**20 02 54.8**	**+1.0**
CAN	**Canberra**	**32.17**	**234**	P		**P**	**20 02 54.0**	**+0.2**
CAN				pmax		pmax		
	comp=Z,570nm,1.1s							
CAN	**Canberra**	**32.17**	**234**	P		**P**	**20 02 55.0**	**+1.1**
CAN				pP		**PP**	**20 04 37.0**	**+0.7**
YNG	**Young**	**32.30**	**236**	P		**P**	**20 02 55.6**	**+0.8**
CTA	**Charters Tower**	**32.50**	**263**	P		**P**	**20 02 56.9**	**+0.2**
CTA	**Charters Tower**	**32.50**	**263**	P		**P**	**20 02 56.3**	**-0.4**
	comp=Z,558nm,0.4s,baz=87,slow=9.4,SNR=20							
CTA				PcP		**PcP**	**20 05 21.6**	**-0.6**
	comp=Z,54nm,0.8s,baz=81,slow=1.9,SNR=4.7							
	comp=Z,558nm,0.4s							
CTAO	**Charters Tower**	**32.50**	**263**	P		**P**	**20 02 57.1**	**+0.3**
CTAO	**Charters Tower**	**32.50**	**263**	P		**P**	**20 02 56.8**	**+0.1**
CTAO	**Charters Tower**	**32.50**	**263**	P		**P**	**20 02 57.1**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,648nm,0.8s							
CTAO	**Charters Tower**	**32.50**	**263**	P		**P**	**20 02 57.2**	**+0.5**
CTAO				PcP		**PcP**	**20 05 23.1**	**+0.9**
MILA	**Mila**	**32.71**	**231**	P		**P**	**20 02 59.3**	**+0.9**
	baz=33,SNR=10							
MILA	**Mila**	**32.71**	**231**	P		**P**	**20 02 59.2**	**+0.9**
CMSA	**Cobar Meteorol**	**33.75**	**242**	P		**P**	**20 03 07.7**	**+0.7**
	baz=34,SNR=494							
CMSA	**Cobar Meteorol**	**33.75**	**242**	P		**P**	**20 03 07.4**	**+0.4**
KAVG	**Kavieng**	**33.82**	**296**	P		**P**	**20 03 07.3**	**-0.5**
PMG	**Port Moresby**	**34.05**	**282**	P		**P**	**20 03 09.8**	**+0.1**
PMG	**Port Moresby**	**34.05**	**282**	P		**P**	**20 03 09.8**	**+0.1**
PMG	**Port Moresby**	**34.05**	**282**	P		**P**	**20 03 10.1**	**+0.4**
PMG	**Port Moresby**	**34.05**	**282**	*d*iP		**P**	**20 03 10.0**	**+0.4**
PMG				pmax		pmax		
	comp=Z,545nm,0.8s							
PMG	**Port Moresby**	**34.05**	**282**	PcP		**PcP**	**20 05 27.2**	**+0.5**
	comp=Z,54nm,0.9s,baz=26,slow=6.9,SNR=4.8							
PMG				S		**S**	**20 07 50.6**	**-0.6**
	comp=Z,27nm,1.0s,baz=163,slow=20,SNR=10							
PMG	**Port Moresby**	**34.05**	**282**	P		**P**	**20 03 10.1**	**+0.4**
PMG				PcP		**PcP**	**20 05 27.4**	**+0.6**
PATS	**Pohnpei**	**34.31**	**318**	P		**P**	**20 03 12.5**	**+0.7**
	baz=34,SNR=8.8							
PATS	**Pohnpei**	**34.31**	**318**			**PcP**	**20 05 28.0**	**+0.5**
PATS	**Pohnpei**	**34.31**	**318**	P		**P**	**20 03 11.9**	**+0.2**
QLP	**Quilpie**	**34.32**	**251**	P		**P**	**20 03 11.9**	**+0.2**
	baz=34,SNR=166							
QLP	**Quilpie**	**34.32**	**251**	P		**P**	**20 03 11.5**	**-0.2**
MTSU	**Mount Surprise**	**34.55**	**266**	P		**P**	**20 03 13.7**	**0.0**
	baz=34,SNR=508							
MTSU	**Mount Surprise**	**34.55**	**266**	P		**P**	**20 03 14.0**	**+0.2**
GLAD	**Gladstone**	**35.21**	**225**	P		**P**	**20 03 19.7**	**+0.9**
TOO	**Toolangi**	**35.61**	**232**	P		**P**	**20 03 23.4**	**+1.2**
	baz=36,SNR=177							
TOO	**Toolangi**	**35.61**	**232**	P		**P**	**20 03 23.1**	**+0.8**
TOO				**pP**		**pP**	**20 05 06.7**	**+0.1**
TOO	**Toolangi**	**35.61**	**232**	P		**P**	**20 03 23.5**	**+1.2**
TOO	**Toolangi**	**35.61**	**232**	P		**P**	**20 03 23.1**	**+0.8**
TOO				pmax		pmax		
	comp=Z,827nm,1.1s							
COEN	**Coen**	**36.43**	**273**	P		**P**	**20 03 29.5**	**+0.3**
COEN	**Coen**	**36.43**	**273**	P		**P**	**20 03 29.4**	**+0.3**
MOO	**Moorlands**	**36.44**	**224**	P		**P**	**20 03 30.0**	**+1.2**
	baz=36,SNR=11							
MOO	**Moorlands**	**36.44**	**224**	P		**P**	**20 03 30.1**	**+1.2**
TAU	**Tasmania Unive**	**36.58**	**223**	P		**P**	**20 03 30.4**	**+0.5**
TAU						**pP**	**20 05 14.1**	**-0.6**
TAU	**Tasmania Unive**	**36.58**	**223**	P		**P**	**20 03 30.9**	**+1.0**
TAU	**Tasmania Unive**	**36.58**	**223**	P		**P**	**20 03 30.9**	**+1.0**
TAU				pP		**pP**	**20 05 15.4**	**+0.7**
TAU				PcP		**PcP**	**20 05 35.6**	**+1.8**
BRAT	**Ballarat**	**36.77**	**233**	P		**P**	**20 03 33.5**	**+1.9**
MANU	**Manus Island**	**37.04**	**294**	P		**P**	**20 03 34.2**	**+0.1**
MANU	**Manus Island**	**37.04**	**294**	P		**P**	**20 03 34.9**	**+0.8**
JOHN	**Johnston Islan**	**37.24**	**15**	P		**P**	**20 03 35.7**	**+0.1**
JOHN	**Johnston Islan**	**37.24**	**15**	P		**P**	**20 03 36.5**	**+0.9**
STKA	**Stephens Creek**	**37.24**	**243**	P		**P**	**20 03 36.5**	**+1.0**
	baz=37,SNR=451							
STKA	**Stephens Creek**	**37.24**	**243**	P		**P**	**20 03 36.3**	**+0.8**
STKA				IAmb		IAmb	20 03 38.6	
	comp=Z,151nm,1.1s							
STKA	**Stephens Creek**	**37.24**	**243**	P		**P**	**20 03 36.6**	**+1.0**
STKA	**Stephens Creek**	**37.24**	**243**	P		**P**	**20 03 34.8**	**-0.8**
	comp=Z,118nm,0.3s,baz=87,slow=9.5,SNR=432							
STKA				PcP		**PcP**	**20 05 37.6**	**+1.4**
	comp=Z,60nm,0.8s,baz=74,slow=4.8,SNR=3.9							
STKA				ScP		**ScP**	**20 08 23.8**	**+2.1**
	comp=Z,6.9nm,0.7s,baz=70,slow=2.2,SNR=3.4							
STKA				S		**S**	**20 08 37.2**	**-1.0**
	comp=Z,16nm,0.9s,baz=176,slow=22,SNR=2.6							
	comp=Z,118nm,0.3s							
INKA	**Innaminka**	**37.50**	**250**	P		**P**	**20 03 38.9**	**+1.3**
ARPS	**Mount Arapiles**	**38.14**	**235**	P		**P**	**20 03 43.4**	**+0.7**
	baz=38,SNR=68							
ARPS	**Mount Arapiles**	**38.14**	**235**	P		**P**	**20 03 43.3**	**+0.7**
QIS	**Mount Isa**	**38.67**	**261**	P		**P**	**20 03 46.8**	**-0.4**
	baz=39,SNR=236							
QIS	**Mount Isa**	**38.67**	**261**	P		**P**	**20 03 46.9**	**-0.3**
TAOE	**Nuku Hiva Isla**	**39.20**	**80**	P		**P**	**20 03 53.0**	**+1.4**
TAOE	**Nuku Hiva Isla**	**39.20**	**80**	P		**P**	**20 03 53.1**	**+1.6**
TAOE	**Nuku Hiva Isla**	**39.20**	**80**	*e*P		**P**	**20 03 52.8**	**+1.3**
	comp=Z,752nm,0.9s							
TAOE				*e*pP		**PP**	**20 05 41.5**	**0.0**
	comp=Z,388nm,29.7s							
TAOE				*e*S		**S**	**20 09 06.6**	**-0.6**
	comp=Z,602nm,24.5s							
TAOE				*e*SS		**SS**	**20 12 20.9**	**-11**
	comp=Z,534nm,24.4s							
TAOE	**Nuku Hiva Isla**	**39.20**	**80**	P		**P**	**20 03 53.2**	**+1.6**
HTT	**Hallett**	**39.73**	**241**	P		**P**	**20 03 56.2**	**+0.7**
	baz=40,SNR=308							
HTT	**Hallett**	**39.73**	**241**	P		**P**	**20 03 56.1**	**+0.7**
LCRK	**Leigh Creek**	**39.93**	**246**	P		**P**	**20 03 57.7**	**+0.7**
PTPS	**Port Pirie**	**40.45**	**242**	P		**P**	**20 04 02.8**	**+1.7**
MMPI	**Merauke**	**40.65**	**280**	P		**P**	**20 04 03.2**	**+0.3**
	comp

MTN	Manton Dam	48.06 270	P	P	20 04 58.6	-0.6		
MTN	Manton Dam	48.06 270	P	P	20 04 58.7	-0.6		
GUMO	Guam	48.32 310	P	P	20 05 00.6	-0.5		
GUMO	Guam	48.32 310	P	P	20 05 01.3	+0.1		
GUMO	Guam	48.32 310	P	P	20 05 00.6	-0.5		
GUMO			pmax	pmax				
	comp=Z,1μm,1.1s							
GUMO	Guam	48.32 310	P	P	20 05 01.3	+0.1		
KMPI	Kaimana, Papua	48.58 283	P	P	20 05 03.3	+0.2		
	comp=Z,558nm,0.7s,comp=Z,6μm							
WRKA	Warakurna	48.68 253	P	P	20 05 03.4	-0.4		
	baz=49,SNR=1000							
WRKA	Warakurna	48.68 253	P	P	20 05 03.6	-0.2		
FORT	Forrest	48.69 246	P	P	20 05 03.4	-0.3		
	baz=49,SNR=240							
FORT	Forrest	48.69 246	P	P	20 05 03.4	-0.3		
FORT	Forrest	48.69 246	P	P	20 05 03.5	-0.2		
SAUI	Saumlaki	49.29 276	P	P	20 05 09.4	+1.0		
SAUI	Saumlaki	49.29 276	P	P	20 05 08.5	+0.1		
	comp=Z,880nm,0.9s,comp=Z,8μm							
KNRA	Kununurra	49.63 266	P	P	20 05 10.4	-0.3		
	baz=50,SNR=416							
KNRA	Kununurra	49.63 266	P	P	20 05 10.8	0.0		
FAKI	Fak Fak	50.20 283	P	P	20 05 14.8	-0.2		
FAKI			IAmb	IAmb	20 05 16.9			
	comp=Z,158nm,0.8s							
FAKI	Fak Fak	50.20 283	P	P	20 05 14.8	-0.2		
FAKI	Fak Fak	50.20 283	P	P	20 05 14.5	-0.5		
	comp=Z,215nm,0.7s,comp=Z,3μm							
BNDI	Bandanaira	51.77 280	P	P	20 05 27.2	+1.0		
BNDI	Bandanaira	51.77 280	P	P	20 05 26.2	0.0		
	comp=Z,863nm,0.9s,comp=Z,10μm							
SIJI	Sorong	51.92 285	P	P	20 05 27.3	0.0		
	comp=Z,1μm,0.9s,comp=Z,8μm							
SWI	Sorong	51.93 285	P	P	20 05 27.3	0.0		
	comp=Z,2μm,0.8s,comp=Z,11μmcomp=Z,2μm							
FITZ	Fitzroy Crossi	52.07 262	P	P	20 05 28.2	0.0		
	baz=52,SNR=494							
FITZ	Fitzroy Crossi	52.07 262	P	P	20 05 28.4	+0.1		
FITZ			IAmb	IAmb	20 05 30.3			
	comp=Z,54nm,0.5s							
FITZ			PcP	PcP	20 06 27.3	-1.2		
FITZ	Fitzroy Crossi	52.07 262	P	P	20 05 28.6	+0.3		
KRAI	Karang Ratu	53.61 281	P	P	20 05 39.1	-0.1		
	comp=Z,288nm,0.9s,comp=Z,4μm							
DRV	Dumont d'Urvil	53.93 199	P	P	20 05 41.4	+0.9		
DRV			PcP	PcP	20 06 35.8	+1.1		
KMBL	Kambalda	53.97 245	P	P	20 05 41.4	-0.1		
	baz=54,SNR=94							
KMBL	Kambalda	53.97 245	P	P	20 05 41.6	+0.1		
NLAI	Namlea	54.84 280	P	P	20 05 47.5	-0.3		
	comp=Z,151nm,0.6s							
SOEI	Soe	55.37 271	P	P	20 05 53.3	+1.7		
SOEI	Soe	55.37 271	P	P	20 05 52.7	+1.1		
	comp=Z,2μm,0.8s,comp=Z,14μmcomp=Z,3μm							
LBMI	Labuha	55.46 283	P	P	20 05 52.3	+0.3		
	comp=Z,583nm,0.9s,comp=Z,5μm							
TNTI	Ternate	56.14 285	P	P	20 05 56.6	-0.1		
TNTI	Ternate	56.14 285	P	P	20 05 57.2	+0.5		
TNTI	Ternate	56.14 285	P	P	20 05 56.8	+0.1		
	comp=Z,650nm,0.9s,comp=Z,4μm							
SANI	Sanana	56.31 281	P	P	20 05 57.5	-0.4		
SANI	Sanana	56.31 281	P	P	20 05 57.2	-0.7		
	comp=Z,435nm,0.9s,comp=Z,3μmcomp=Z,2μm							
PSA00	Pilbara Seismi	56.82 257	P	P	20 06 01.0	-0.2		
PSA00			PcP	PcP	20 06 47.6	+0.6		
PSA00	Pilbara Seismi	56.82 257	P	P	20 06 00.8	-0.4		
PSA00			IAmb	IAmb	20 06 02.9			
	comp=Z,506nm,0.8s							
PSA00			PcP	PcP	20 06 48.0	+1.0		
PSA00	Pilbara Seismi	56.82 257	P	P	20 06 00.8	-0.4		
MEEK	Meekatharra	57.21 250	P	P	20 06 03.1	-0.7		
	baz=57,SNR=444							
MEEK	Meekatharra	57.21 250	P	P	20 06 03.3	-0.5		
KLBR	Kellerberrin	57.48 244	P	P	20 06 05.4	-0.1		
	baz=58,SNR=433							
KLBR	Kellerberrin	57.48 244	P	P	20 06 05.7	+0.2		
MMRI	Maumere	57.62 272	P	P	20 06 06.0	-0.7		
MMRI	Maumere	57.62 272	P	P	20 06 06.4	-0.3		
MMRI	Maumere	57.62 272	P	P	20 06 06.2	-0.5		
	comp=Z,895nm,0.8s,comp=Z,8μm							
NWAO	Narrogin (SRO)	57.83 243	P	P	20 06 08.2	+0.3		
	baz=58,SNR=66							
NWAO			P	P	20 06 08.2	+0.3		
	baz=58,SNR=66							
NWAO	Narrogin (SRO)	57.83 243	P	P	20 06 08.1	+0.2		
NWAO			IAmb	IAmb	20 06 09.9			
	comp=Z,104nm,0.8s							
NWAO	Narrogin (SRO)	57.83 243	P	P	20 06 08.3	+0.5		
NWAO	Narrogin (SRO)	57.83 243	P	P	20 06 08.1	+0.2		
NWAO			pmax	pmax				
	comp=Z,104nm,0.8s							
NWAO	Narrogin (SRO)	57.83 243	P	P	20 06 08.6	+0.7		
NWAO	Narrogin (SRO)	57.83 243	P	P	20 06 08.3	+0.5		
NWAO			pP	pP	20 08 09.4	-1.0		
RKGY	Rocky Gully	57.96 241	P	P	20 06 10.1	+1.5		
	baz=58,SNR=43							
RKGY	Rocky Gully	57.96 241	P	P	20 06 10.0	+1.3		
EDFI	Ende, Flores	58.10 272	P	P	20 06 09.4	-0.6		
	comp=Z,625nm,0.8s,comp=Z,7μm							
BLDU	Ballidu	58.46 246	P	P	20 06 12.1	0.0		
	baz=58,SNR=41							
BLDU	Ballidu	58.46 246	P	P	20 06 11.8	-0.3		
BASI	Baing, Sumba	58.72 270	P	P	20 06 14.6	+0.6		
	comp=Z,643nm,0.8s,comp=Z,8μm							
MUN	Mundaring	58.77 244	P	P	20 06 14.4	+0.3		
	baz=59,SNR=100							
MUN	Mundaring	58.77 244	P	P	20 06 14.4	+0.3		
SBA	Scott Base	58.79 183	P	P	20 06 16.2	+2.8		
SBA			PcP	PcP	20 06 58.6	+4.8		
SBA	Scott Base	58.79 183	P	P	20 06 16.2	+2.8		
SBA					20 06 58.6			
SBA			pmax	pmax				
	comp=Z,68nm,1.1s							
SBA	Scott Base	58.79 183	P	P	20 06 16.9	+3.6		
VNDA	Vanda	58.80 185	P	P	20 06 15.7	+2.2		
VNDA			IAmb	IAmb	20 06 17.6			
	comp=Z,195nm,1.9s							
VNDA	Vanda	58.80 185	P	P	20 06 15.7	+2.2		
VNDA			pmax	pmax				
	comp=Z,195nm,1.9s							
VNDA	Vanda	58.80 185	P	P	20 06 15.0	+1.5		
	comp=Z,18nm,0.6s,baz=0.8,slow=7.2,SNR=110							
VNDA			PcP	PcP	20 06 55.4	+1.6		
	comp=Z,8.1nm,0.6s,baz=334,slow=6.8,SNR=5.7							
VNDA			S	S	20 13 34.5	+4.7		
	comp=Z,0.5nm,0.6s,baz=71,slow=21,SNR=5.9							
	comp=Z,18nm,0.6s							
VNDA	Vanda	58.80 185	P	P	20 06 16.1	+2.6		
VNDA			PcP	PcP	20 06 55.4	+1.6		
SGSI	Sangihe	59.02 287	P	P	20 06 15.8	-0.3		
	comp=Z,921nm,0.5s,comp=Z,11μm							
MTKN	Mount Kenneth	59.14 244	P	P	20 06 18.9	+2.4		
KMSI	Cibinong	59.17 283	P	P	20 06 16.7	-0.3		
	comp=Z,922nm,0.9s,comp=Z,7μm							
MORW	Morawa	59.19 247	P	P	20 06 16.6	-0.3		
	baz=59,SNR=132							
MORW	Morawa	59.19 247	P	P	20 06 17.0	0.0		
MORW			IAmb	IAmb	20 06 18.3			
	comp=Z,108nm,0.6s							
MORW	Morawa	59.19 247	P	P	20 06 16.8	-0.2		
JCJ	Chichijima	59.57 320	P	P	20 06 19.1	-0.3		
JCJ			IAmb	IAmb	20 06 21.5			
	comp=Z,151nm,0.7s							
JCJ	Chichijima	59.57 320	P	P	20 06 19.1	-0.3		
LUWI	Luwuk	59.67 281	P	P	20 06 20.4	+0.1		
LUWI	Luwuk	59.67 281	P	P	20 06 20.7	+0.4		
LUWI	Luwuk	59.67 281	P	P	20 06 20.5	+0.1		
	comp=Z,637nm,0.9s,comp=Z,6μmcomp=Z,3μm							
GTOI	Gorontalo	60.09 282	P	P	20 06 23.7	+0.6		
	comp=Z,156nm,0.7s,comp=Z,2μm							
H01W1	Cape Leeuwin H	60.26 240	P	P	20 06 26.1	+2.5		
	baz=116,slow=5.9,SNR=12							
H01W3	Cape Leeuwin H	60.28 240	P	P	20 06 26.2	+2.5		
	baz=116,slow=5.9,SNR=11							
H01W2	Cape Leeuwin H	60.28 240	P	P	20 06 26.2	+2.5		
	baz=116,slow=5.9,SNR=10							
DAV	Davao City (W)	60.46 290	P	P	20 06 25.3	-0.2		
DAV	Davao City (W)	60.46 290	P	P	20 06 26.4	+0.9		
DAV	Davao City (W)	60.46 290	P	P	20 06 25.7	+0.2		
	comp=Z,764nm,0.8s							
BKSI	Bulukumba	60.65 275	P	P	20 06 26.0	-0.8		
	comp=Z,135nm,0.9s,comp=Z,1μm							
MRSI	Marisa	61.01 282	P	P	20 06 28.4	-0.7		
	comp=Z,235nm,0.9s,comp=Z,2μmcomp=Z,2μm							
KAPI	Kappang	61.10 275	P	P	20 06 29.3	-0.4		
KAPI			IAmb	IAmb	20 06 32.3			
	comp=Z,101nm,0.8s							
KAPI	Kappang	61.10 275	P	P	20 06 29.3	-0.4		
KAPI			pmax	pmax				
	comp=Z,101nm,0.8s							
DBNI	Kabupaten Domp	61.36 271	P	P	20 06 30.5	-0.9		
	comp=Z,2μm,0.6s,comp=Z,16μm							
TTSI	Tana Toraja	61.70 277	P	P	20 06 33.4	-0.2		
	comp=Z,114nm,1.0s,comp=Z,1μm							
GIRL	Giralia	61.76 254	P	P	20 06 34.9	+1.1		
	baz=62,SNR=129							
GIRL	Giralia	61.76 254	P	P	20 06 35.0	+1.2		
PLAI	Plampang	61.77 270	P	P	20 06 33.6	-0.4		
PLAI	Plampang	61.77 270	P	P	20 06 33.6	-0.4		
	comp=Z,867nm,0.9s,comp=Z,9μmcomp=Z,2μm							
TOLI2	Tolitoli	62.32 282	P	P	20 06 37.1	-0.5		
TOLI2			IAmb	IAmb	20 06 38.6			
	comp=Z,181nm,1.0s							
TOLI2	Tolitoli	62.32 282	P	P	20 06 37.6	0.0		
PMSI	Majene	62.39 276	P	P	20 06 38.0	-0.1		
	comp=Z,747nm,0.7s,comp=Z,7μm							
TWSI	Taliwang, Sumb	62.64 270	P	P	20 06 38.9	-0.7		
	comp=Z,739nm,0.9s,comp=Z,6μm							
MPSI	Mapaga	62.85 281	P	P	20 06 40.7	-0.2		
	comp=Z,483nm,0.8s,comp=Z,4μm							
CCD	Concordia, Ant	63.15 194	P	P	20 06 43.6	+1.4		
CCD			PcP	PcP	20 07 13.4	+1.2		
DNP	Denpasar	64.23 270	P	P	20 06 49.8	+0.1		
	comp=Z,971nm,0.4s,comp=Z,16μm							
CASY	Casey	64.39 205	P	P	20 06 50.5	+0.8		
CASY			IAmb	IAmb	20 06 52.7			
	comp=Z,112nm,1.1s							
CASY			PcP	PcP	20 07 18.2	+1.2		
CASY	Casey	64.39 205	P	P	20 06 51.0	+1.3		
CASY			PcP	PcP	20 07 18.1	+1.2		
CASY			pP	pP	20 08 57.4	+1.0		
SRBI	Singaraja	64.41 270	P	P	20 06 50.5	-0.3		
	comp=Z,476nm,0.8s,comp=Z,5μm							
BKB	Balikpapan	65.06 278	P	P	20 06 57.0	+2.1		
JAGI	Jajag, Banyuwa	65.29 269	P	P	20 06 55.0	-1.4		
JAGI	Jajag, Banyuwa	65.29 269	P	P	20 06 55.3	-1.0		
JAGI	Jajag, Banyuwa	65.29 269	P	P	20 06 54.9	-1.4		
	comp=Z,646nm,0.8s,comp=Z,7μm							
JHJ2	Mitsune	65.36 323	P	P	20 06 56.5	+0.2		
JHJ	Hachijo jima 2	65.38 323	P	P	20 06 56.5	+0.1		
	comp=Z,796nm,0.6s,baz=189,slow=9.0,SNR=42							
ABJI	Asem Bagus	65.42 270	P	P	20 06 56.9	-0.2		
	comp=Z,395nm,0.9s,comp=Z,3μm							
KMMI	Kalianget	65.90 271	P	P	20 07 00.6	+0.6		
	comp=Z,405nm,0.8s,comp=Z,4μm							
JMZ	Minamidaito 2	65.97 311	P	P	20 07 01.2	+1.0		
BLJI	Banyuglugur	66.03 270	P	P	20 07 00.5	-0.4		
	comp=Z,743nm,0.9s,comp=Z,7μm							
KRKI	Karangkates	66.99 269	P	P	20 07 07.3	+0.6		
	comp=Z,467nm,0.6s							
MTKI	Muara Teweh, K	67.04 277	P	P	20 07 07.0	-0.1		
	comp=Z,300nm,0.9s,comp=Z,3μmcomp=Z,3μm							
GRJI	Gresik	67.34 271	P	P	20 07 09.1	+0.2		
	comp=Z,468nm,0.7s,comp=Z,7μm							
PKKI	Palangkaraya	67.46 276	P	P	20 07 10.0	+0.4		
	comp=Z,540nm,0.9s,comp=Z,6μmcomp=Z,2μm							
SJI	Sanahan	67.76 269	P	P	20 07 11.6	+0.1		
	comp=Z,273nm,0.8s,comp=Z,4μm							
NGJI	Ngawi	68.16 270	P	P	20 07 14.7	+0.9		
	comp=Z,347nm,0.9s,comp=Z,4μm							
JMM	Marumori	68.36 327	IAmb	IAmb	20 07 15.8			
	comp=Z,258nm,1.0s							
JMM	Marumori	68.36 327	P	P	20 07 14.5	0.0		
KKM	Kota Kinabalu	68.44 285	P	P	20 07 15.3	-0.3		
KKM	Kota Kinabalu	68.44 285	P	P	20 07 15.8	+0.2		
KKM	Kota Kinabalu	68.44 285	P	P	20 07 15.6	0.0		
	comp=Z,392nm,0.7s,comp=Z,5μmcomp=Z,2μm							
JOW	Kunigami	68.69 310	P	P	20 07 17.2	+0.5		
JOW	Kunigami	68.69 310	P	P	20 07 17.1	+0.4		
	comp=Z,84nm,0.3s,baz=129,slow=11,SNR=64							
	comp=Z,84nm,0.3s							
MJAR	Matsushiro Arr	68.76 324	P	P	20 07 16.7	-0.3		
	comp=Z,91nm,0.7s,baz=158,slow=5.9,SNR=182							
MJAR			pP	pP	20 09 27.3	+0.8		
	comp=Z,28nm,1.0s,baz=159,slow=6.4,SNR=11							
	comp=Z,91nm,0.7s							
MAJO	Matsushiro	68.76 324	P	P	20 07 16.8	-0.1		
MAJO			IAmb	IAmb	20 07 17.5			
	comp=Z,123nm,0.7s							
MAJO	Matsushiro	68.76 324	P	P	20 07 17.0	0.0		
MAJO	Matsushiro	68.76 324	*i* P	P	20 07 16.3	-0.6		
MAJO			pmax	pmax				
	comp=Z,143nm,0.8s							
MAJO	Matsushiro	68.76 324	⇓P	P	20 07 17.0	0.0		
MAJO			pP	pP	20 09 26.7	+0.2		
MJB9	Matsu-Tunnel	68.77 324	P	P	20 07 17.6	+0.6		
MJB9			IAmb	IAmb	20 07 18.5			
	comp=Z,120nm,0.7s							
UGM	Wanagama	68.88 269	P	P	20 07 18.0	-0.1		
UGM			PcP	PcP	20 07 38.4	+1.5		
UGM	Wanagama	68.88 269	P	P	20 07 18.1	-0.1		
UGM	Wanagama	68.88 269	P	P	20 07 18.4	+0.2		
	comp=Z,606nm,0.6s							
SMRI	Semarang	69.22 270	P	P	20 07 21.5	+1.3		
	comp=Z,567nm,0.7s							
SMRI	Semarang	69.22 270	P	P	20 07 20.6	+0.4		
	comp=Z,557nm,0.7s							
JMN	Monobe	69.32 319	P	P	20 07 20.9	+0.5		
JMN			IAmb	IAmb	20 07 22.5			
	comp=Z,257nm,1.2s							
JMN	Monobe	69.32 319	P	P	20 07 21.2	+0.9		
ERM	Erimo	70.42 331	P	P	20 07 27.4	+0.8		
ERM			IAmb	IAmb	20 07 31.1			
	comp=Z,140nm,1.4s							
ERM	Erimo	70.42 331	P	P	20 07 27.7	+1.1		
ERM	Erimo	70.42 331	*d* iP	P	20 07 26.8	+0.2		
ERM			pmax	pmax				
	comp=Z,10.0nm,0.8s							
ERM	Erimo	70.42 331	P	P	20 07 27.6	+1.1		
ERM			PcP	PcP	20 07 44.1	+1.4		
JEM	Erimo	70.42 331	P	P	20 07 27.7	+1.1		
JTM	Tenmabayashi	70.45 329	IAmb	IAmb	20 07 27.9			
	comp=Z,135nm,0.7s							
JTM	Tenmabayashi	70.45 329	P	P	20 07 26.6	-0.2		
QSPA	South Pole Qui	70.56 180	P	P	20 07 27.9	+0.7		
	comp=Z,82nm,0.6s,baz=31,slow=1.9,SNR=207							
QSPA			S	S	20 15 51.4	+1.7		
	comp=Z,3.0nm,0.8s,baz=12,slow=6.3,SNR=20							
	comp=Z,82nm,0.6s							
QSPA	South Pole Qui	70.56 180	P	P	20 07 28.8	+1.6		
QSPA			PcP	PcP	20 07 45.2	+2.0		
QSPA			pP	pP	20 09 39.6	+1.2		
KPJI	Karang Pucung	70.56 269	P	P	20 07 28.0	0.0		
	comp=Z,335nm,0.6s,comp=Z,4μm							
STKI	Sintang	70.59 277	P	P	20 07 29.0	+0.7		
	comp=Z,337nm,0.8s,comp=Z,14μm							
SBUM	Sibu	70.75 280	IAmb	IAmb	20 07 31.4			
	comp=Z,59nm,0.9s							
SBUM	Sibu	70.75 280	P	P	20 07 29.8	+0.6		
	comp=Z,74nm,0.9s,comp=Z,1μm							
JNU	Nakatsue	70.80 317	IAmb	IAmb	20 07 30.3			
	comp=Z,223nm,1.0s							
JNU	Nakatsue	70.80 317	P	P	20 07 28.9	-0.2		
JNU	Nakatsue	70.80 317	P	P	20 07 28.4	-0.7		
	comp=Z,141nm,0.9s,baz=209,slow=0.6,SNR=41							
	comp=Z,141nm,0.9s							
CMJI	Cimerak	70.88 268	P	P	20 07 29.2	-0.7		
	comp=Z,292nm,0.8s,comp=Z,3μm							
ADK	Adak	71.11 2	P	P	20 07 30.2	-0.1		
ADK	Adak	71.11 2	P	P	20 07 29.9	-0.5		
ADK	Adak	71.11 2	P	P	20 07 30.2	-0.1		
ADK			pmax	pmax				
	comp=Z,213nm,0.7s							
ADK	Adak	71.11 2	P	P	20 07 30.2	-0.1		
YOJ	Yonaguni jima	71.27 305	P	P	20 07 31.6	-0.3		
YOJ	Yonaguni jima	71.27 305	P	P	20 07 31.7	-0.2		
YOJ	Yonaguni jima	71.27 305	P	P	20 07 31.6	-0.3		
YOJ			pmax	pmax				
	comp=Z,435nm,0.9s							
JCJI	Jatiwangi	71.45 270	P	P	20 07 33.2	0.0		
	comp=Z,771nm,0.8s							
ATKA	Atka Island	71.53 3	P	P	20 07 32.3	-0.5		
BBJI	Bungbulang	71.73 268	P	P	20 07 34.1	-0.8		
BBJI	Bungbulang	71.73 268	P	P	20 07 34.1	-0.8		
	comp=Z,768nm,0.8s,comp=Z,6μm							
TWGBT	Beinan	71.91 303	P	P	20 07 35.2	-0.4		
TWG	Pinlang	71.92 303	IAmb	IAmb	20 07 34.9			
	comp=Z,106nm,0.8s							
LEM	Lembang	71.96 269	P	P	20 07 36.8	+0.5		
	comp=Z,985nm,0.8s,comp=Z,9μmcomp=Z,2μm							
YULB	Yu-li	72.04 304	P	P	20 07 34.5	-1.8		
YULB			IAmb	IAmb	20 07 41.0			
	comp=Z,85nm,1.0s							
YULB	Yu-li	72.04 304	P	P	20 07 35.3	-1.1		
KSM	Kuching	72.18 278	P	P	20 07 38.6	+1.2		
KSM	Kuching	72.18 278	P	P	20 07 38.1	+0.7		
	comp=Z,418nm,0.9s,comp=Z,4μm							
NACB	Ninganchiao	72.21 304	P	P	20 07 36.2	-1.1		
NACB	Ninganchiao	72.21 304	P	P	20 07 36.9	-0.4		
CNJI	Cibinong	72.27 268	P	P	20 07 37.1	-0.8		
	comp=Z,553nm,0.9s,comp=Z,2μm							
ASAJ	Asahikawa	72.34 332	P	P	20 07 38.1	+0.6		
	comp=Z,317nm,0.9s,baz=213,slow=6.7,SNR=140							
	comp=Z,317nm,0.9s							
SSLB	Suanglung	72.51 304	P	P	20 07 37.3	-1.8		
SSLB	Suanglung	72.51 304	P	P	20 07 38.2	-0.9		
TPUB	Ta-pu	72.51 303	P	P	20 07 38.2	-0.9		
YHNB	Yeheng	72.64 305	IAmb	IAmb	20 07 40.7			
	comp=Z,177nm,0.8s							
YHNB	Yeheng	72.64 305	P	P	20 07 39.5	-0.4		
XMI	Christmas Isla	72.68 265	P	P	20 07 41.2	+0.9		
XMIS	Christmas Isla	72.70 265	P	P	20 07 41.0	+0.6		
TATO	Taipei	72.71 305	P	P	20 07 39.3	-0.9		
TATO	Taipei	72.71 305	P	P	20 07 40.2	0.0		
TATO	Taipei	72.71 305	P	P	20 07 40.1	0.0		
NIKH	Nikolski High	72.73 7	P	P	20 07 39.6	0.0		
	baz=190,SNR=6.7							
DBJI	Dramaga	72.86 269	P	P	20 07 41.3	0.0		
	comp=Z,736nm,0.8s,comp=Z,7μm							
SKJI	Sukabumi	72.90 269	P	P	20 07 41.1	-0.4		
	comp=Z,1μm,0.8s,comp=Z,9μm							
TNG	Tangerang	73.08 269	P	P	20 07 42.9	+0.4		
	comp=Z,554nm,0.4s,comp=Z,9μm							
SKR	Severo-Kuril's	73.20 344	*ce* P	P	20 07 42.7	+0.4		
SBJI	Serang	73.58 269	P	P	20 07 45.1	-0.3		
	comp=Z,589nm,0.9s,comp=Z,5μm							
UNV	Unalaska Valle	73.86 8	P	P	20 07 45.4	-0.6		
UNV	Unalaska Valle	73.86 8	P	P	20 07 45.5	-0.5		
	baz=192,SNR=10							
AKUT	Akutan	74.24 8	IAmb	IAmb	20 07 49.3			
	comp=Z,114nm,0.7s							
YSS	Yuzh-Sakhalins	74.52 334	P	P	20 07 50.7	+0.9		
YSS	Yuzh-Sakhalins	74.52 334	P	P	20 07 51.0	+1.2		
YSS	Yuzh-Sakhalins	74.52 334	*de* P	P	20 07 51.1	+1.2		
YSS			pmax	pmax				
	comp=Z,364nm,1.2s							
BLSI	Bandar Lampung	74.65 270	P	P	20 07 50.9	-0.5		
PET	Petropavlovsk	74.74 346	P	P	20 07 50.5	-0.4		
PET			IAmb	IAmb	20 07 51.3			
	comp=Z,77nm,0.8s							
PET	Petropavlovsk	74.74 346	P	P	20 07 51.2	+0.3		
PET	Petropavlovsk	74.74 346	*k iP*	P	20 07 50.8	-0.1		
PET			*e** PP	pP	20 10 03.1	-1.4		
PET			*eS*	S	20 16 35.5	0.0		
PET			*e*		20 16 56.7			
PET			*eSP*	SPn	20 17 15.0	-1.5		
PET			*eSS*	SS	20 21 52.9	+8.7		
PET			pmax	pmax				
	comp=Z,151nm,0.7s							
PET			pmax	pmax				
	comp=Z,800nm,5.4s							
PET			pmax	pmax				
	comp=Z,300nm,6.6s							
PPBI	Pangkal Pinang	74.85 273	P	P	20 07 53.2	+0.7		
	comp=Z,370nm,0.8s,comp=Z,15μm							
KNMB	Chin-men Tao	74.87 303	IAmb	IAmb	20 07 54.0			
	comp=Z,214nm,1.1s							
QZH	Quanzhou	74.95 304	⇑*i* P	P	20 07 53.0	+0.3		
QZH			S	S	20 16 40.4	+1.5		
QZH			pmax	pmax				
	comp=Z,190nm,1.0s							
QZH			pmax	pmax				
	comp=Z,1μm,3.0s							
PEA0B	Petropavlovsk-	75.04 346	*de* P	P	20 07 52.8	+0.2		
PETK	Petropavlovsk-	75.04 346	P	P	20 07 52.2	-0.4		
	comp=Z,151nm,0.8s,baz=132,slow=7.1,SNR=113							
PETK			pP	pP	20 10 05.5	-1.0		
	comp=Z,9.4nm,1.1s,baz=141,slow=9.3,SNR=3.5							
	comp=Z,151nm,0.8s							
TJN	Taejon	75.10 318	*de* P	P	20 07 53.2	-0.1		
FALS	False Pass	75.28 9	P	P	20 07 54.3	+0.4		
	baz=195							
KASI	Kota Agung	75.31 269	P	P	20 07 54.2	-0.8		
	comp=Z,1μm,0.9s,comp=Z,7μm							
KSRS	Korea Array	75.42 319	P	P	20 07 55.5	+0.5		
	comp=Z,50nm,0.9s,baz=135,slow=5.9,SNR=134							
	comp=Z,50nm,0.9s							
KS19	Wonju Array Si	75.48 319	P	P	20 07 55.4	0.0		
KS19			IAmb	IAmb	20 07 56.7			
	comp=Z,67nm,0.9s							
TEY	Ternei	75.81 329	*eP*	P	20 07 53.8	-3.2		
LWLI	Liwa	75.88 270	P	P	20 07 57.6	-0.7		
	comp=Z,1μm,0.7s,comp=Z,16μm							
PMBI	Palemb

baz=236
DLV T Lat 77.77 287 IAmb IAmb 20 08 10.9
comp=Z,176nm,1.0s
DLV T Lat 77.77 287 P **P** **20 08 10.0 +1.4**
UBSI University, Be 77.97 270 P **P** **20 08 09.1 -0.4**
comp=Z,743nm,1.0s,comp=Z,7μm
SAO San Andreas Ge 78.07 44 IAmb IAmb 20 08 13.7
comp=Z,47nm,0.8s
PKM Mcpherson Peak 78.10 46 P **P** **20 08 12.5 +2.6**
baz=236,SNR=7.6
PMPB Monarch Peak 78.18 45 P **P** **20 08 11.8 +1.7**
PMPB IAmb IAmb 20 08 14.1
comp=Z,42nm,0.7s
SMMC Simmler 78.21 46 P **P** **20 08 13.1 +2.8**
baz=236
CIS Catalina Islan 78.25 48 P **P** **20 08 12.4 +1.9**
baz=237
MYKOM **Kota Tinggi 78.34 276** P **P** **20 08 11.7 +0.4**
MYKOM **Kota Tinggi 78.34 276** P **P** **20 08 11.9 +0.5**
comp=Z,273nm,0.9s,comp=Z,3μm
BCW Bitter Crk WRg 78.40 46 IAmb IAmb 20 08 15.9
comp=Z,47nm,0.8s
NJ2 Nanjing 78.40 310 ⇓*i*P **P** **20 08 12.3 +1.0**
NJ2 PcP **PcP** **20 08 18.0 +0.5**
NJ2 pP **pP** **20 10 25.8 -1.4**
NJ2 S **S** **20 17 17.5 +2.6**
NJ2 sS **sS** **20 21 16.4 +0.2**
NJ2 SS **SS** **20 22 42.4 +3.1**
NJ2 pmax pmax
comp=Z,120nm,1.0s
NJ2 pmax pmax
comp=Z,610nm,3.6s
KMPM Mount Pierce 78.57 40 P **P** **20 08 14.2 +2.1**
KMPM IAmb IAmb 20 08 17.3
comp=Z,62nm,0.9s
SII Sitkinak Islan 78.64 14 P **P** **20 08 12.9 +0.9**
SII Sitkinak Islan 78.64 14 P **P** **20 08 13.3 +1.3**
baz=204
KMRM Mail Ridge 78.70 40 P **P** **20 08 14.2 +1.5**
KMRM IAmb IAmb 20 08 17.4
comp=Z,89nm,0.8s
ARVC Arvin 78.90 47 P **P** **20 08 15.7 +1.8**
baz=237
MDJ Mudanjiang 79.08 325 P **P** **20 08 15.5 +0.9**
MDJ pP pP 20 10 32.3 +1.4
MDJ S **SKSac** **20 17 24.8 -3.4**
MDJ ScS **ScS** **20 17 39.9 +2.3**
MDJ SS **SS** **20 22 53.1 +4.2**
MDJ pmax pmax
comp=Z,210nm,0.9s
MDJ pmax pmax
comp=Z,1μm,6.3s
MDJ Mudanjiang 79.08 325 IAmb IAmb 20 08 17.0
comp=Z,185nm,1.0s
MDJ Mudanjiang 79.08 325 P **P** **20 08 15.8 +1.2**
KHMM Horse Mountain 79.08 39 P **P** **20 08 17.3 +2.4**
VES Vestal, Richgr 79.12 46 P **P** **20 08 17.2 +2.2**
baz=236,SNR=10
VOG Valley Oaks Go 79.19 45 P **P** **20 08 17.4 +2.1**
baz=236
MURC Murrieta 79.22 49 P **P** **20 08 18.0 +2.4**
baz=238
BFSC Mount Baldy Ra 79.23 48 P **P** **20 08 18.1 +2.3**
baz=238
ESJX Sierra Juarez 79.28 51 P **P** **20 08 17.7 +1.5**
KRJI Kerinci 79.28 272 P **P** **20 08 15.1 -1.4**
comp=Z,374nm,0.8s,comp=Z,3μm
EDW2 Edwards Air Fo 79.34 47 P **P** **20 08 18.4 +2.2**
baz=237,SNR=20
MONP2 **Monument Peak 79.40 50** P **P** **20 08 19.1 +2.3**
baz=239,SNR=13
ISA Isabella, Lake 79.44 46 IAmb IAmb 20 08 21.2
comp=Z,50nm,1.1s
ISA Isabella, Lake 79.44 46 P **P** **20 08 19.4 +2.7**
baz=237,SNR=28
QIZ Qiongzhong 79.45 295 P **P** **20 08 17.8 +0.7**
QIZ sP **PP** **20 11 34.5 +3.7**
QIZ S **S** **20 17 27.8 +1.6**
QIZ sS **sS** **20 21 28.4 +0.1**
QIZ SS **SS** **20 22 56.4 +1.3**
QIZ pmax pmax
comp=Z,45nm,1.0s
QIZ pmax pmax
comp=Z,680nm,3.6s
OHAK Old Harbor 79.45 14 P **P** **20 08 16.8 +0.7**
OHAK Old Harbor 79.45 14 P **P** **20 08 17.1 +1.0**
baz=205
IKP In-Ko-Pah, Jac 79.50 50 P **P** **20 08 19.9 +2.7**
baz=239,SNR=8.1
R18K Karluk 79.50 13 P **P** **20 08 16.8 +0.4**
baz=204
KSXB Camp Six Broad 79.58 39 IAmb IAmb 20 09 45.6
comp=Z,171nm,1.9s
AFDM Forest Hills D 79.64 42 P **P** **20 08 18.8 +1.1**
AFDM **pP** **20 10 34.3 +0.8**
PFO Pinyon Flats O 79.75 49 P **P** **20 08 19.7 +1.2**
PFO **pwP** **20 10 36.2 -1.2**
PFO Pinyon Flats O 79.75 49 *i*P **P** **20 08 19.1 +0.6**
PFO pmax pmax
comp=Z,19nm,1.1s
PFO Pinyon Flats O 79.75 49 P **P** **20 08 19.9 +1.4**
baz=238
TPFO Pinon Flats 79.75 49 P **P** **20 08 20.4 +1.9**
baz=238
O14K Tigyukauivet M 79.84 9 P **P** **20 08 18.2 0.0**
baz=197
Q17K Contact Creek 79.85 12 P **P** **20 08 18.5 +0.1**
baz=202,SNR=27
SWSC Sam W. Stewart 79.87 50 P **P** **20 08 21.9 +3.0**
baz=239,SNR=6.6
LRMC Laurel Mtn Rad 79.88 47 P **P** **20 08 22.2 +3.1**
baz=237,SNR=15
SMAI San Martin Ant 79.92 159 IAmb IAmb 20 08 21.6
comp=Z,79nm,0.9s
SLBS Sierra La Lagu 79.97 61 P **P** **20 08 22.0 +2.2**
O15K Ungalikthiuk R 79.99 10 P **P** **20 08 18.2 -0.8**
baz=199
Q16K King Salmon 80.08 12 P **P** **20 08 20.1 +0.7**
baz=202,SNR=8.5
KDAK Kodiak Island 80.12 14 P **P** **20 08 19.9 +0.2**
KDAK IAmb IAmb 20 08 22.3
comp=Z,65nm,0.8s
KDAK Kodiak Island 80.12 14 *i*P **P** **20 08 20.7 +1.1**
KDAK pmax pmax
comp=Z,68nm,0.9s
KDAK Kodiak Island 80.12 14 P **P** **20 08 20.6 +1.0**
baz=206
GRNR Gornyy 80.12 333 *d*iP **P** **20 08 21.2 +1.3**
GRNR pmax pmax
comp=N,30nm,1.1s
GRNR pmax pmax
comp=E,20nm,1.1s
GRNR pmax pmax
comp=Z,100nm,1.1s
CWC Cottonwood Cre 80.13 46 P **P** **20 08 23.0 +2.5**
baz=237
OMMB Old Mammoth Mi 80.16 44 P **P** **20 08 22.1 +1.3**
OMMB **pP** **20 10 38.2 +1.3**
P16K Nushagak River 80.17 11 P **P** **20 08 20.5 +0.7**
baz=200
YBH Yreka Blue Hor 80.21 39 P **P** **20 08 22.1 +1.4**
YBH Yreka Blue Hor 80.21 39 P **P** **20 08 22.1 +1.4**
YBH pmax pmax
comp=Z,38nm,1.1s
DL2 Dalian 80.26 317 P **P** **20 08 20.8 0.0**
DL2 pP **pP** **20 10 38.3 +0.7**
DL2 sP **PP** **20 11 40.1 +3.1**
DL2 SKS **S** **20 17 28.5 -5.1**
DL2 S **SKSac** **20 17 34.5 -1.9**
DL2 pmax pmax
comp=Z,97nm,1.1s
DL2 pmax pmax
comp=Z,390nm,5.8s
BELC Belle Mtn. Jos 80.28 49 P **P** **20 08 23.5 +2.3**
baz=239,SNR=14
MLAC Mammoth, Mammo 80.28 44 P **P** **20 08 22.8 +1.5**
baz=236
M11K Mekoryuk 80.30 6 P **P** **20 08 21.8 +1.3**
baz=192,SNR=6.5
MPMC Manual Prospec 80.32 46 P **P** **20 08 23.6 +2.1**
baz=237
TIN Tinemaha, Big 80.36 45 P **P** **20 08 24.7 +3.1**
baz=237,SNR=5.7
WAKR Walker 80.37 43 IAmb IAmb 20 08 26.1
comp=Z,55nm,1.0s
GSC Goldstone, Bar 80.39 47 P **P** **20 08 23.7 +2.0**
baz=238,SNR=11
N14K Kuskokwak Cree 80.42 9 P **P** **20 08 21.9 +0.8**
baz=197
PPSI Pulau Pagai 80.43 270 P **P** **20 08 23.2 +0.9**
comp=Z,299nm,0.9s,comp=Z,5μm
COCO West Island 80.44 260 P **P** **20 08 22.6 +0.3**
COCO West Island 80.44 260 P **P** **20 08 22.6 +0.3**
COCO pmax pmax
comp=Z,216nm,0.4s
MPK Martis Peak 80.44 42 IAmb IAmb 20 08 26.3
comp=Z,183nm,1.6s
HEC Hector,Ludlow 80.47 48 P **P** **20 08 24.1 +2.0**
baz=238
BC3 Big Chuckawall 80.48 49 P **P** **20 08 24.4 +2.1**
baz=239,SNR=11
BKNI Bangkinang 80.48 274 P **P** **20 08 22.6 0.0**
BKNI Bangkinang 80.48 274 P **P** **20 08 22.8 +0.2**
comp=Z,278nm,1.0s,comp=Z,3μmcomp=Z,2μm
HUMO Hull Mountain 80.60 38 P **P** **20 08 24.4 +1.9**
HUMO **pwP** **20 10 41.0 -0.2**
PNTR Pine Nut 80.60 43 P **P** **20 08 24.7 +1.8**
PNTR IAmb IAmb 20 08 27.1
comp=Z,94nm,0.7s
PNTR **pP** **20 10 39.9 +0.6**
P17K Kvichak River 80.61 12 P **P** **20 08 22.1 0.0**
baz=202,SNR=30
PDSI Padang 80.61 272 P **P** **20 08 21.9 -1.4**
comp=Z,135nm,0.7s,comp=Z,1μm
BELA Belgrano 2 80.68 173 P **P** **20 08 23.1 +0.6**
BELA IAmb IAmb 20 08 24.5
comp=Z,172nm,1.0s
BELA **pP** **20 10 41.6 +2.4**
O16K Kokwok River B 80.68 11 P **P** **20 08 22.1 -0.4**
baz=200
SNY Shenyang 80.74 320 ⇓*i*P **P** **20 08 23.8 +0.6**
SNY pP **pP** **20 10 42.6 +2.2**
SNY S **S** **20 17 42.0 +3.7**
SNY pmax pmax
comp=Z,88nm,0.8s
SNY pmax pmax
comp=Z,610nm,2.7s
L04D Klamath Falls 80.75 39 IAmb IAmb 20 08 26.5
comp=Z,38nm,0.7s
YERR Yerington 80.77 43 IAmb IAmb 20 08 27.7
comp=Z,82nm,1.2s
CN2 Changchun 80.85 323 ⇓*i*P **P** **20 08 24.3 +0.6**
CN2 *ep*P pP 20 10 42.3 +1.3
CN2 *eS* **SKSac** **20 17 39.6 -0.5**
CN2 pmax pmax
comp=Z,100nm,1.0s
CN2 pmax pmax
comp=Z,900nm,4.0s
N15K Kwethluk River 80.89 10 P **P** **20 08 24.5 +0.9**
baz=198
Q20K Shuyak Island 80.91 14 P **P** **20 08 23.3 -0.4**
baz=206
GRAC Grapevine Rang 80.91 46 IAmb IAmb 20 08 28.8
comp=Z,150nm,1.6s
GRAC Grapevine Rang 80.91 46 P **P** **20 08 26.6 +2.3**
baz=237,SNR=18
GMRC Granite Mounta 80.92 48 P **P** **20 08 25.7 +1.2**
baz=239,SNR=14
Q19K Cape Douglas, 80.93 13 P **P** **20 08 23.8 -0.1**
baz=204
CNSH ChangSha 80.94 304 ⇓*i*P **P** **20 08 25.0 +0.4**
CNSH S **S** **20 17 33.5 -7.5**
CNSH pmax pmax
comp=Z,72nm,1.1s
GWY Greenwater Val 80.95 47 P **P** **20 08 25.8 +1.1**
GWY **pwP** **20 10 43.3 -0.6**
IRM Iron Mountain 80.96 49 P **P** **20 08 26.7 +2.1**
baz=239,SNR=19
FURC Furnace Creek, 80.97 46 P **P** **20 08 27.0 +2.5**
baz=238
WHN Wuhan 80.97 307 ⇓*i*P **P** **20 08 25.3 +0.6**
WHN S **SKSac** **20 17 42.4 +0.8**
WHN pmax pmax
comp=Z,350nm,1.0s
WHN pmax pmax
comp=Z,2μm,4.2s
BNX BinXian 80.98 325 ⇓P **P** **20 08 24.6 +0.2**
BNX PcP **PcP** **20 08 28.8 +0.3**
BNX pP **pP** **20 10 42.4 +0.7**
BNX PP **PP** **20 11 43.5 +0.7**
BNX S **S** **20 17 36.5 -4.1**
BNX ScS **SKKSac** **20 17 48.0 +2.8**
BNX pmax pmax
comp=Z,170nm,0.9s
BNX pmax pmax
comp=Z,770nm,7.2s
P18K Big Mountain, 81.03 12 IAmb IAmb 20 08 25.5
comp=Z,130nm,0.8s
P18K pP 20 10 42.3 +1.5
P18K Big Mountain, 81.03 12 P **P** **20 08 24.2 -0.1**
baz=203,SNR=31
O17K Koliganek Bris 81.03 11 P **P** **20 08 23.9 -0.4**
baz=201,SNR=22
I03D Drain, OR 81.03 37 IAmb IAmb 20 10 47.2
comp=Z,77nm,1.4s
NVAR Mina Arroy Bea 81.07 44 P **P** **20 08 27.7 +2.4**
comp=Z,18nm,0.6s,baz=222,slow=8.0,SNR=4.3
NVAR PKKPbc **PKKPbc** **20 26 58.1 +0.9**
comp=Z,2.4nm,0.7s,baz=92,slow=3.8,SNR=12
NVAR PKPPKP **P'P'df** **20 34 59.0 -0.4**
comp=Z,2.1nm,0.9s,baz=82,slow=4.0,SNR=7.5
comp=Z,18nm,0.6s
SHOC Shoshone, Teco 81.07 47 P **P** **20 08 27.0 +1.9**
baz=238
TUQ Turquoise Moun 81.07 48 P **P** **20 08 27.2 +1.9**
baz=238,SNR=30
KLR Kul'dur 81.12 330 *de*P **P** **20 08 25.9 +0.9**
KLR pmax pmax
comp=Z,103nm,1.3s
KLR Kul'dur 81.12 330 P **P** **20 08 25.7 +0.7**
comp=Z,51nm,0.9s,baz=110,slow=4.2,SNR=128
KLR PKiKP **PKiKP** **20 13 44.0 -0.1**
comp=Z,1.7nm,0.6s,baz=201,slow=10.0,SNR=2.8
comp=Z,51nm,0.9s
GMN Gold Mountain 81.15 45 P **P** **20 08 27.1 +1.4**
GMN **pP** **20 10 43.6 +1.2**
M14K Bethel 81.18 8 IAmb IAmb 20 08 27.2
comp=Z,134nm,0.9s
M14K pwP 20 10 44.0 -1.1
M14K Bethel 81.18 8 P **P** **20 08 25.7 +0.7**
baz=196,SNR=32
WCT Wildcat Mounta 81.31 46 IAmb IAmb 20 08 29.9
comp=Z,86nm,1.9s
M15K Kasigluk River 81.31 9 P **P** **20 08 26.6 +1.0**
baz=198
N16K Nishlik Lake 81.40 10 P **P** **20 08 27.3 +1.2**
baz=200
O18K Koktub Hills 81.46 12 P **P** **20 08 27.0 +0.5**
baz=203,SNR=54
BUCK Buck Mountain 81.55 37 IAmb IAmb 20 08 30.7
comp=Z,291nm,1.9s
214A Organ Pipe Nat 81.56 52 P **P** **20 08 30.2 +2.4**
baz=241,SNR=8.6
COR Corvallis 81.60 37 P **P** **20 08 30.0 +2.5**
COR IAmb IAmb 20 08 31.8
comp=Z,91nm,1.1s
COR Corvallis 81.60 37 P **P** **20 08 30.0 +2.5**
COR pmax pmax
comp=Z,91nm,1.1s
TPNV Topopah Spring 81.64 46 P **P** **20 08 29.9 +1.8**
baz=238,SNR=21
NEE2 Needles Airpor 81.65 49 P **P** **20 08 30.4 +2.4**
baz=239
L14K Kuka Creek 81.65 8 P **P** **20 08 28.7 +1.3**
baz=196
P19K Oil Pt 81.67 13 IAmb IAmb 20 08 28.5
comp=Z,95nm,0.8s
P19K Oil Pt 81.67 13 P **P** **20 08 27.7 +0.1**
baz=205
GULI GuiLin 81.69 300 ⇓P **P** **20 08 24.5 -4.0**
GULI S **SKSac** **20 17 44.5 -2.0**
GULI pmax pmax
comp=Z,160nm,1.1s
N17K Nushagak Hills 81.72 11 P **P** **20 08 28.3 +0.5**
baz=201
PDMCI Parker Dam,Lak 81.75 49 P **P** **20 08 30.8 +2.3**
baz=240,SNR=13
UBPT Khong Chiam 81.77 289 P **P** **20 08 29.6 +0.6**
UBPT IAmb IAmb 20 08 31.1
comp=Z,136nm,1.0s
UBPT Khong Chiam 81.77 289 P **P** **20 08 30.0 +1.0**
SISI Saibi 81.77 272 P **P** **20 08 29.7 +0.6**
comp=Z,149nm,0.6s,comp=Z,2μm
TIA Tai'an 81.80 313 ⇓P **P** **20 08 29.4 +0.6**
TIA pP **pP** **20 10 47.8 +1.4**
TIA S **S** **20 17 49.5 +0.3**
TIA pmax pmax
comp=Z,55nm,0.7s
TIA pmax pmax
comp=Z,390nm,3.1s
M16K Timber Creek 81.89 10 P **P** **20 08 30.0 +1.4**
baz=199
K05A Summer Lake 81.89 39 IAmb IAmb 20 08 32.6
comp=Z,47nm,0.8s
O19K Port Alsworth 81.95 12 P **P** **20 08 28.8 -0.1**
O19K **pP** **20 10 46.5 +0.7**
O19K Port Alsworth 81.95 12 P **P** **20 08 29.2 +0.3**
baz=204,SNR=68
CNPM China Poot 82.00 14 IAmb IAmb 20 08 30.8
comp=Z,106nm,0.7s
J05D Fort Rock, OR 82.01 39 IAmb IAmb 20 08 33.1
comp=Z,74nm,0.7s
J05D pwP 20 10 50.6 +0.9
HOM Homer 82.03 14 P **P** **20 08 30.0 +0.7**
baz=206,SNR=6.4
Q09A Carvers 82.03 44 IAmb IAmb 20 08 34.0
comp=Z,71nm,0.8s
N18K Kilae Creek 82.09 11 P **P** **20 08 29.8 +0.1**
baz=202
MAW Mawson 82.12 200 P **P** **20 08 31.6 +1.8**
baz=82,SNR=9.7
MAW Mawson 82.12 200 P **P** **20 08 31.2 +1.4**
comp=Z,46nm,0.6s,baz=128,slow=5.8,SNR=29
comp=Z,46nm,0.6s
L15K Ungalak Mounta 82.13 8 P **P** **20 08 30.6 +0.7**
baz=197
O20K Slope Mountain 82.19 13 P **P** **20 08 30.5 +0.3**
baz=205,SNR=6.3
BRLK Bradley Lake 82.29 14 IAmb IAmb 20 08 32.1
comp=Z,138nm,0.8s
H04A Detroit Lake 82.30 37 IAmb IAmb 20 08 33.1
comp=Z,35nm,0.7s
BRSE Bradley Lake S 82.31 14 P **P** **20 08 31.5 +0.8**
baz=207,SNR=22
L16K Owhat River 82.46 9 P **P** **20 08 32.1 +0.7**
L16K IAmb IAmb 20 08 33.8
comp=Z,79nm,1.0s
L16K Owhat River 82.46 9 P **P** **20 08 32.3 +0.9**
baz=199,SNR=24
N19K Bonanza Creek 82.48 12 P **P** **20 08 31.4 -0.4**
baz=204
PINE Pine Mountain 82.49 38 IAmb IAmb 20 08 35.6
comp=Z,50nm,0.8s
PINE pwP 20 10 51.8 -0.8
M17K Holitna River 82.49 10 P **P** **20 08 33.1 +1.5**
baz=201
SVW2 Sparrevohn 82.54 11 IAmb IAmb 20 08 32.7
comp=Z,31nm,0.7s
SVW2 Sparrevohn 82.54 11 P **P** **20 08 32.1 +0.2**
KULM Kulim 82.54 278 P **P** **20 08 33.3 +0.3**
KULM IAmb IAmb 20 08 35.2
comp=Z,177nm,1.0s
KULM Kulim 82.54 278 P **P** **20 08 33.6 +0.6**
comp=Z,180nm,0.8s,comp=Z,2μm
MA2 Magadan 82.54 345 P **P** **20 08 31.3 -0.6**
MA2 IAmb IAmb 20 08 32.9
comp=Z,143nm,1.1s
MA2 **pP** **20 10 50.2 +0.5**
MA2 Magadan 82.54 345 P **P** **20 08 31.7 -0.2**
MA2 Magadan 82.54 345 *ce*P **P** **20 08 31.2 -0.7**
MA2 pmax pmax
comp=Z,156nm,1.2s
I05D Terrebonne, OR 82.58 38 P **P** **20 08 33.8 +1.2**
E03A Lebam 82.67 35 IAmb IAmb 20 08 35.9
comp=Z,87nm,0.8s
F04D Rainier, OR 82.69 36 IAmb IAmb 20 08 37.2
comp=Z,65nm,0.6s
PRN Pahroc Range 82.70 46 IAmb IAmb 20 08 36.9
comp=Z,156nm,2.0s
K15K Wolf Creek Mou 82.72 8 P **P** **20 08 34.1 +1.4**
baz=197
R11B Troy Canyon, C 82.83 45 P **P** **20 08 35.0 +0.9**
R11B **pwP** **20 10 53.8 -0.7**
R11B **sP** **20 11 55.0 -2.7**
R11B Troy Canyon, C 82.83 45 P **P** **20 08 35.6 +1.5**
baz=238,SNR=13
M18K Stony River 82.86 11 P **P** **20 08 34.0 +0.6**
baz=202
BMN Battle Mountai 82.87 43 IAmb IAmb 20 08 37.2
comp=Z,28nm,0.7s
J14K Nanvaranak Lak 82.90 7 P **P** **20 08 34.2 +0.6**
baz=195
F04A Amboy 82.92 36 IAmb IAmb 20 08 36.8
comp=Z,42nm,0.7s
SEW Seward 82.93 14 P **P** **20 08 34.1 +0.3**
baz=208,SNR=6.2
PBSI Pulau Batu 82.96 272 P **P** **20 08 35.9 +0.8**
comp=Z,152nm,1.9s,comp=Z,4μm
HOOD Mount Hood Mea 82.98 37 IAmb IAmb 20 08 43.5
comp=Z,35nm,0.7s
NLWA Neitlon Lookou 83.03 34 IAmb IAmb 20 08 40.6
comp=Z,71nm,1.0s
L17K Donlin 83.04 10 P **P** **20 08 35.6 +1.3**
baz=200
Q23K Middleton Isla 83.11 16 P **P** **20 08 35.4 +0.7**
baz=211
CAPN Captain Cook N 83.13 13 P **P** **20 08 35.9 +1.1**
baz=207
O22K Cooper Landing 83.20 14 P **P** **20 08 35.4 +0.3**
baz=208,SNR=9.0
GAMB Gambell 83.21 3 P **P** **20 08 36.0 +0.9**
baz=187,SNR=16
SKLT Songkhla 83.22 280 P **P** **20 08 38.2 +1.8**
SKLT Songkhla 83.22 280 P **P** **20 08 37.7 +1.3**
comp=Z,698nm,0.9s,comp=Z,8μm
TUC Tucson 83.24 52 P **P** **20 08 38.6 +2.5**
baz=242
RPSI Rantau Prapat 83.27 275 P **P** **20 08 36.1 -0.5**
RPSI IAmb IAmb 20 08 38.2
comp=Z,117nm,0.8s
N20K Mount Spurr 83.30 13 P **P** **20 08 34.9 -0.8**
baz=206,SNR=18
PSI Prapat 83.31 275 P **P** **20 08 36.1 -0.9**
PSI pmax pmax
comp=Z,117nm,0.8s
P23K Montague Islan 83.33 15 P **P** **20 08 36.9 +1.0**
baz=210
L18K Granite Mounta 83.39 10 P **P** **20 08 36.7 +0.7**
baz=201
M19K Big River Lodg 83.51 12 P **P** **20 08 36.8 +0.1**
baz=204
K17K Iditarod 83.59 10 P **P** **20 08 37.6 +0.6**
baz=200
L19K White Mountain 83.68 11 P **P** **20 08 38.0 +0.4**
baz=203
M20K Styx River 83.73 12 P **P** **20 08 37.2 -0.7**
baz=205
RC01 Rabbit Creek A 83.73 14 P **P** **20 08 37.9 +0.1**
RC01 IAmb IAmb 20 08 39.2
comp=Z,73nm,0.9s
RC01 Rabbit Creek A 83.73 14 P **P** **20 08 38.2 +0.4**
baz=208,SNR=6.7
J16K Anvik River 83.80 8 P **P** **20 08 38.9 +0.9**
baz=198
SUA Susitna One 83.84 13 IAmb IAmb 20 08 39.5
comp=Z,110nm,0.7s
SUA Susitna One 83.84 13 P **P** **20 08 38.3 -0.2**
baz=207,SNR=51
HEH HeiHe 83.89 329 ⇓P **P** **20 08 39.3 +0.5**
HEH pP **pP** **20 10 58.8 +1.2**
HEH SKS **SKSac** **20 17 58.5 -1.0**
HEH S **S** **20 18 12.8 +3.8**
HEH pmax pmax
comp=Z,130nm,1.1s
HEH pmax pmax
comp=Z,860nm,7.0s
D05A Enumclaw 83.92 35 IAmb IAmb 20 08 47.2
comp=Z,116nm,1.2s
CBB Campbell River 83.94 32 IAmb IAmb 20 11 10.2
comp=Z,84nm,1.4s
319A Douglas 83.95 54 IAmb IAmb 20 08 46.4
comp=Z,38nm,0.8s
SPR3 Spring Creek 3 84.00 45 pwP 20 11 02.4 +1.4
KAIM Kayak Island 84.05 17 P **P** **20 08 40.2 +0.9**
baz=213
HNS HongShan 84.07 313 ⇓P **P** **20 08 40.9 +0.9**
HNS pP **pP** **20 11 00.3 +1.6**
HNS S **S** **20 18 14.4 +3.1**
HNS pmax pmax

comp=Z,180nm,1.0s
HNS pmax pmax
comp=Z,990nm,5.8s
GSI Gunungsitoli 84.07 273 P P 20 08 41.6 +1.0
GSI Gunungsitoli 84.07 273 P P 20 08 42.0 +1.4
GSI Gunungsitoli 84.07 273 P P 20 08 41.5 +1.0
comp=Z,382nm,0.7s,comp=Z,5µm
L20K Farewell, AK 84.13 12 P P 20 08 39.9 +0.2
baz=204
SKT Skwentna 84.14 13 P P 20 08 38.7 -1.1
baz=206,SNR=9.9
TTA Tatalina 84.17 10 IAmb IAmb 20 08 41.9
comp=Z,77nm,1.4s
TTA pwP 20 11 00.4 -0.9
TTA Tatalina 84.17 10 P P 20 08 40.4 +0.4
TTA Tatalina 84.17 10 P P 20 08 40.3 +0.3
baz=202,SNR=18
EYAK Cordova Ski Ar 84.23 16 P P 20 08 41.5 +1.3
baz=212,SNR=5.2
CRAG Craig 84.26 24 P P 20 08 41.4 +0.9
baz=223
LYN LuoYang 84.28 310 ⇓*i*P P **20 08 42.4 +1.3**
LYN pP pP 20 11 01.4 +1.4
LYN PP **PP 20 12 14.1 +4.7**
LYN S **S 20 18 17.3 +3.9**
LYN pmax pmax
comp=Z,400nm,0.9s
LYN pmax pmax
comp=Z,2µm,6.9s
F07A Phinny Hill Vi 84.30 37 IAmb IAmb 20 08 43.8
comp=Z,64nm,1.7s
ELK Elko 84.31 43 pP 20 11 01.5 +1.9
KNK Knik Glacier 84.31 14 P P 20 08 40.5 -0.1
KNK IAmb IAmb 20 08 42.0
comp=Z,56nm,0.8s
KNK Knik Glacier 84.31 14 P P 20 08 41.2 +0.5
baz=209,SNR=12
PMR Palmer 84.32 14 P P 20 08 40.6 0.0
PMR Palmer 84.32 14 P P 20 08 40.9 +0.3
baz=208,SNR=11
WUAZ Wupatki 84.33 49 P P 20 08 43.8 +2.2
baz=241,SNR=9.7
I17K Unalakleet 84.36 8 P P 20 08 41.1 +0.4
I17K **pwP 20 11 01.5 +0.2**
I17K Unalakleet 84.36 8 P P 20 08 41.0 +0.3
baz=198
BJT Baijiatuau 84.41 316 IAmb IAmb 20 08 43.0
comp=Z,92nm,0.8s
BJT Baijiatuau 84.41 316 P P 20 08 42.3 +0.7
BJI Beijing 84.42 316 P P 20 08 42.4 +0.8
BJI PcP **PcP 20 08 47.8 +4.1**
BJI pP **pP 20 11 01.6 +1.1**
BJI sP **sP 20 12 06.9 +0.4**
BJI S **S 20 18 18.3 +3.8**
BJI pmax pmax
comp=Z,64nm,1.1s
BJI pmax pmax
comp=Z,420nm,4.5s
ANM Nome 84.48 6 pP 20 11 02.3 +2.5
ANM Nome 84.48 6 P P 20 08 42.1 +0.8
baz=193,SNR=9.4
GHO Glory Hole Cre 84.52 14 IAmb IAmb 20 08 43.1
comp=Z,119nm,0.7s
J18K Innoko River 84.55 10 P P 20 08 42.4 +0.6
baz=201,SNR=30
ENH Enshi 84.57 305 P P 20 08 42.9 +0.3
ENH Enshi 84.57 305 P P 20 08 44.0 +1.3
PKCU Pink Cliffs 84.60 47 IAmb IAmb 20 08 49.7
comp=Z,37nm,0.9s
SIT Sitka 84.62 22 P P 20 08 43.6 +1.5
baz=221
DUN6 Lazy B Ranch 84.63 53 P P 20 08 44.4 +1.4
DUN6 IAmb IAmb 20 11 09.3
comp=Z,121nm,1.0s
KCSI Kotacane, Aceh 84.63 276 P P 20 08 42.8 -0.5
comp=Z,71nm,0.7s
SRIT Nakonsritamara 84.66 281 P P 20 08 44.7 +1.3
SML Sawmill 84.69 14 IAmb IAmb 20 08 56.7
comp=Z,37nm,1.0s
SML Sawmill 84.69 14 P P 20 08 43.0 +0.6
baz=209
SNH Sunshine Point 84.70 17 IAmb IAmb 20 08 46.7
comp=Z,179nm,1.0s
E07A Sunnyside 84.72 37 IAmb IAmb 20 08 46.0
comp=Z,40nm,0.8s
E07A pP 20 11 03.2 +2.0
U33K Whale Pass 84.74 24 P P 20 08 44.6 +1.9
baz=223
V35K Ketchikan 84.75 25 P P 20 08 44.0 +1.2
baz=224
LASI Langsa, Aceh 84.76 277 P P 20 08 45.4 +1.5
comp=Z,762nm,1.0s,comp=Z,8µmcomp=Z,3µm
CUT Chulitna 84.79 13 P P 20 08 42.4 -0.5
baz=207,SNR=18
HAWA Hanford 84.81 37 IAmb IAmb 20 08 46.4
comp=Z,39nm,0.9s
M23K Glacier View 84.82 14 P P 20 08 43.2 +0.1
baz=210,SNR=9.4
PPLA Purkeypile 84.84 12 P P 20 08 42.0 -1.3
baz=206
SURA Surathani 84.84 282 P P 20 08 46.3 +2.1
BMRM Bremner River 84.88 16 P P 20 08 43.7 +0.3
baz=213,SNR=12
NONG Nongkai 84.89 291 P P 20 08 45.3 +0.9
H16K Elim 84.89 7 P P 20 08 43.9 +0.6
baz=196,SNR=47
K20K Telida 84.90 11 P P 20 08 43.6 +0.1
baz=204
SCM Sheep Creek Mo 84.95 15 IAmb IAmb 20 08 45.2
comp=Z,119nm,0.8s
SCM Sheep Creek Mo 84.95 15 P P 20 08 43.8 0.0
baz=210,SNR=18
S31K Pelican 84.99 21 P P 20 08 44.6 +0.7
baz=220
KLU Klutina 85.00 15 IAmb IAmb 20 08 45.5
comp=Z,46nm,0.8s
KLU Klutina 85.00 15 P P 20 08 43.9 -0.1
baz=211,SNR=13
G15K Niukluk 85.03 6 P P 20 08 43.9 0.0
baz=194
SEY Seymchan 85.17 347*ce*P P **20 08 44.8 +0.2**
SEY pmax pmax
comp=Z,280nm,1.3s
MVU Marysvale 85.19 46 IAmb IAmb 20 11 12.2
comp=Z,103nm,1.2s
S32K Killisnoo 85.20 22 P P 20 08 45.8 +0.9
baz=222
GYA Guiyang 85.20 300 ⇓*i*P P **20 08 46.6 +0.7**
GYA pP pP 20 11 05.5 +0.1
GYA PP **PP 20 12 16.8 -0.3**
GYA SKS **SKSac 20 18 12.0 +3.0**
GYA S **S 20 18 24.8 +1.9**
GYA sS sS 20 22 31.9 +2.2
GYA pmax pmax
comp=Z,98nm,1.0s
GYA pmax pmax
comp=Z,570nm,3.6s
J19K Poorman 85.22 10 P P 20 08 45.7 +0.8
baz=202
BMO Blue Mountains 85.23 39 IAmb IAmb 20 08 49.5
comp=Z,95nm,1.9s
BMO pP 20 11 05.4 +1.4
TNA Tin City 85.23 5 P P 20 08 45.4 +0.5
baz=197,SNR=13
WRAK Wrangell Islan 85.25 24 P P 20 08 46.3 +1.1
baz=224
F14K Arctic Creek 85.28 5 P P 20 08 45.8 +0.6
baz=192
PNL Peninsula 85.30 19 P P 20 08 46.3 +0.9
baz=217
T33K Petersburg 85.31 23 P P 20 08 48.1 +2.6
baz=223
W18A Petrified Fore 85.32 50 P P 20 08 48.4 +2.0
baz=242
CAST Castle Rocks 85.33 12 P P 20 08 44.3 -1.2
CAST IAmb IAmb 20 08 45.6
comp=Z,183nm,1.5s
CAST Castle Rocks 85.33 12 P P 20 08 44.5 -0.9
baz=206,SNR=40
MFID Camas Ranch 85.35 41 IAmb IAmb 20 08 49.1
comp=Z,135nm,1.9s
PINM Pinnacle 85.38 18 P P 20 08 46.1 +0.2
baz=217
VRDI Verde Repeater 85.41 16 IAmb IAmb 20 08 47.8
comp=Z,81nm,1.2s
N25K Chitina, Valde 85.43 16 IAmb IAmb 20 08 47.8
comp=Z,65nm,0.8s
N25K Chitina, Valde 85.43 16 P P 20 08 46.6 +0.6
baz=213,SNR=20
M24K Tolsona, Glenn 85.46 15 IAmb IAmb 20 08 48.3
comp=Z,106nm,0.9s
M24K Tolsona, Glenn 85.46 15 P P 20 08 46.9 +0.7
baz=211,SNR=10
H17K Granite Mounta 85.47 8 P P 20 08 46.3 +0.3
baz=198
GLB Gilahina Butte 85.49 16 P P 20 08 46.7 +0.4
GLB IAmb IAmb 20 08 47.9
comp=Z,62nm,1.0s
GLB **pwP 20 11 07.7 -0.2**
WAT6 Susitna Watana 85.50 14 P P 20 08 46.8 +0.3
baz=210,SNR=28
D08A Wollman Farm, 85.54 37 IAmb IAmb 20 08 49.2
comp=Z,34nm,0.8s
D08A pP 20 11 07.3 +1.9
WAT1 Susitna Watana 85.54 14 P P 20 08 46.5 0.0
baz=209
121A Cookes Peak, D 85.60 53 P P 20 08 50.4 +2.6
baz=244,SNR=8.8
121A Cookes Peak, D 85.60 53 P P 20 08 50.3 +2.6
baz=244
G16K Koyuk River 85.60 7 P P 20 08 47.3 +0.6
baz=196
SNSI Snabang, Aceh 85.62 274 P P 20 08 48.3 +0.3
comp=Z,111nm,0.9s,comp=Z,3µm
DUG Dugway, Tooele 85.62 45 P P 20 08 48.5 +0.9
baz=240
J20K Nowinta River 85.64 11 P P 20 08 47.4 +0.5
baz=204
F15K North Star Dit 85.67 6 P P 20 08 47.1 +0.2
baz=194,SNR=14
E09A Wood Farm, Sta 85.67 37 IAmb IAmb 20 08 50.2
comp=Z,59nm,1.4s
KTH Kanishna Hill 85.68 12 IAmb IAmb 20 08 47.6
comp=Z,98nm,1.4s
CHUM Lake Minchumin 85.71 12 P P 20 08 47.3 +0.1
baz=205,SNR=20
TRF Thorofare Moun 85.72 13 IAmb IAmb 20 08 49.5
comp=Z,74nm,0.8s
TRF pP 20 11 08.2 +1.7
TRF Thorofare Moun 85.72 13 P P 20 08 46.7 -0.8
baz=207,SNR=32
GCSA Galena City Sc 85.72 9 P P 20 08 47.7 +0.4
baz=201,SNR=12
ZAIG Zacatecas 85.76 64 P P 20 08 50.5 +1.7
ZAIG IAmb IAmb 20 08 53.1
comp=Z,91nm,2.0s
BARN Barnard Glacie 85.76 17 IAmb IAmb 20 08 49.7
comp=Z,62nm,0.8s
CTG Chitna Glacier 85.77 17 P P 20 08 48.4 +0.6
baz=216
P29M Windy Craggy 85.79 20 P P 20 08 49.0 +1.3
baz=219
TIY Taiyuan 85.80 312 *e*P P **20 08 49.4 +1.0**
TIY pP **pP 20 11 06.6 -1.4**
TIY S **S 20 18 33.8 +5.8**
TIY sS **sS 20 22 34.0 -1.4**
TIY pmax pmax
comp=Z,100nm,1.1s
TIY pmax pmax
comp=Z,890nm,3.6s
R32K Eaglecrest 85.83 22 P P 20 08 49.2 +1.3
baz=222
BGU Big Grassy Mou 85.84 44 pwP 20 11 10.6 +0.1
H18K Honhosa River 85.89 9 P P 20 08 47.5 -0.5
baz=200
F10A Beach Ranch, E 85.90 38 IAmb IAmb 20 08 52.0
comp=Z,58nm,0.8s
G17K Kiwalik Mounta 85.91 8 P P 20 08 48.4 +0.2
baz=198
HMU Henry Mountain 85.93 47 IAmb IAmb 20 11 23.9
comp=Z,68nm,1.8s
HARP HAARP 85.96 15 P P 20 08 48.8 +0.3
baz=212,SNR=10
RND Reindeer 85.98 13 pP 20 11 08.9 +1.1
LHMI Lhok Sumawe 85.98 277 P P 20 08 51.2 +1.5
LHMI Lhok Sumawe 85.98 277 P P 20 08 50.7 +1.0
comp=Z,545nm,0.8s,comp=Z,4µmcomp=Z,2µm
DHY Denali Highway 86.02 14 IAmb IAmb 20 08 50.3
comp=Z,88nm,1.4s
DHY Denali Highway 86.02 14 P P 20 08 48.5 -0.4
baz=210,SNR=12
B08A Colville Reser 86.05 35 P P 20 08 49.9 +0.6
O29M Mount Kennedy 86.05 19 P P 20 08 49.9 +0.8
baz=218
GO08 Villa O'Higgin 86.09 140 IAmb IAmb 20 08 53.1
comp=Z,60nm,1.4s
PLBC Pleasant Camp 86.10 20 P P 20 08 50.8 +1.7
baz=220
PLID Pearl Lake 86.14 39 IAmb IAmb 20 08 52.9
comp=Z,162nm,1.9s
I20K Naaghedeneel 86.16 10 P P 20 08 49.9 +0.7
baz=203
BPAW Bear Paw Mtn. 86.16 12 P P 20 08 48.2 -1.1
baz=207
MLSI Meulaboh, Aceh 86.17 276 P P 20 08 51.0 +0.4
comp=Z,300nm,0.7s
ZEA Zeya 86.23 331 *e*P P **20 08 50.9 +1.0**
ZEA *e**PP **pP 20 11 10.8 +1.2**
ZEA *e* 20 18 14.8
ZEA *e*S S **20 18 34.5 +3.4**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,60nm,1.0s
ZEA pmax pmax
comp=E,100nm,9.2s
ZEA pmax pmax
comp=Z,100nm,4.1s
ZEA smax smax
comp=N,500nm,4.9s
ZEA smax smax
comp=E,800nm,8.4s
MCK McKinley 86.25 13 P P 20 08 49.7 -0.1
baz=208,SNR=29
TMUT Trail Mountain 86.26 46 IAmb IAmb 20 11 18.9
comp=Z,41nm,1.0s
HLID Hailey 86.30 41 IAmb IAmb 20 08 54.0
comp=Z,33nm,0.8s
HLID Hailey 86.30 41 P P 20 08 52.8 +2.0
baz=239,SNR=54
C09A Chrisman Ranch 86.32 36 IAmb IAmb 20 08 53.0
comp=Z,32nm,0.8s
PAX Paxson 86.37 15 P P 20 08 50.5 0.0
baz=212,SNR=16
SPUT South Promonto 86.41 44 IAmb IAmb 20 08 54.5
comp=Z,55nm,1.5s
P30M Million Dollar 86.42 20 P P 20 08 52.3 +1.6
baz=220
SKAG Skagway 86.44 21 IAmb IAmb 20 08 54.0
comp=Z,201nm,1.8s
SKAG Skagway 86.44 21 P P 20 08 52.4 +1.7
baz=221
T35M Bob Quinn 86.47 24 P P 20 08 52.0 +1.0
T35M IAmb IAmb 20 08 54.2
comp=Z,111nm,2.0s
T35M Bob Quinn 86.47 24 P P 20 08 52.9 +1.9
baz=226
XLT XiLinHaoTe 86.47 319 *e*P P **20 08 51.9 +0.5**
XLT pP pP 20 11 12.4 +1.1
XLT SKS **SKSac 20 18 10.6 -5.3**
XLT S **SKKSac 20 18 28.9 +2.1**
XLT SS **SS 20 24 39.8 +3.1**
XLT pmax pmax
comp=Z,80nm,1.2s
XLT pmax pmax
comp=Z,250nm,9.2s
YUK8 Steele Glacier 86.48 18 P P 20 08 51.8 +0.5
baz=217
M26K Nabesna, AK 86.51 16 P P 20 08 51.6 +0.5
baz=214
H19K Roundabout Mou 86.52 9 P P 20 08 51.6 +0.6
baz=202
BWN Browne 86.53 13 IAmb IAmb 20 08 54.4
comp=Z,128nm,1.0s
G18K Tagagawik 86.55 8 P P 20 08 51.2 +0.1
baz=199,SNR=22
CTU Camp Tracy 86.57 45 pP 20 11 13.4 +2.1
YUK6 Outpost Mounta 86.62 19 P P 20 08 52.9 +1.0
baz=218
SRU San Rafael Swe 86.64 47 IAmb IAmb 20 08 56.4
comp=Z,43nm,1.2s
XAN Xi'an 86.66 308 ⇓P P **20 08 53.6 +1.1**
XAN pP pP 20 11 12.5 0.0
XAN S **S 20 18 38.9 +2.8**
XAN pmax pmax
comp=Z,350nm,1.0s
XAN pmax pmax
comp=Z,2µm,6.6s
P17A Butcher Ranch, 86.66 46 IAmb IAmb 20 08 56.1
comp=Z,85nm,1.8s
YUK3 Moose Creek 86.68 17 P P 20 08 53.1 +1.0
baz=216,SNR=28
H20K Anotleneega Mo 86.73 10 P P 20 08 53.0 +0.9
baz=203
F17K Baldwin Pennin 86.74 7 IAmb IAmb 20 08 53.5
comp=Z,34nm,0.8s
F17K Baldwin Pennin 86.74 7 P P 20 08 52.5 +0.5
baz=197
M27K Edge Creek, AK 86.77 16 P P 20 08 53.5 +1.0
baz=215
MENT Mentasta 86.77 15 IAmb IAmb 20 08 53.6
comp=Z,31nm,0.7s
S34M Telegraph Cree 86.79 23 IAmb IAmb 20 08 55.4
comp=Z,57nm,0.8s
S34M Telegraph Cree 86.79 23 P P 20 08 53.9 +1.5
baz=225
HYT Haines Junctio 86.79 19 P P 20 08 53.4 +0.9
HYT IAmb IAmb 20 08 54.8
comp=Z,45nm,0.9s
HYT **pP 20 11 12.0 0.0**
HYT Haines Junctio 86.79 19 P P 20 08 53.9 +1.3
baz=219,SNR=15
Y22A Socorro 86.83 52 P P 20 08 55.3 +1.8
baz=244
YUK4 Talbot Arm 86.86 18 P P 20 08 53.9 +1.0
baz=218,SNR=16
L26K Log Cabin Wild 86.94 16 IAmb IAmb 20 08 54.4
comp=Z,24nm,0.8s
L26K Log Cabin Wild 86.94 16 P P 20 08 53.6 +0.5
baz=214,SNR=14
NEA2 Nenana 86.98 13 IAmb IAmb 20 08 53.6
comp=Z,26nm,0.8s
NEA2 Nenana 86.98 13 P P 20 08 52.4 -0.8
baz=208,SNR=15
G19K Purcell Mounta 87.00 9 IAmb IAmb 20 08 54.8
comp=Z,43nm,0.9s
G19K Purcell Mounta 87.00 9 P P 20 08 53.8 +0.5
baz=201,SNR=30
VHRN Van Horn 87.01 56 P P 20 08 55.8 +1.5
VHRN IAmb IAmb 20 08 58.1
comp=Z,114nm,1.6s
K24K Donnelly Dome 87.01 14 P P 20 08 54.1 +0.7
baz=211,SNR=64
MLY Manley 87.04 12 IAmb IAmb 20 08 54.1
comp=Z,47nm,0.9s
MLY pP 20 11 13.7 +0.4
MLY Manley 87.04 12 P P 20 08 53.1 -0.4
baz=207,SNR=28
P18A Preston Nutter 87.07 46 IAmb IAmb 20 08 57.8
comp=Z,64nm,1.8s
WRH Wood River Hil 87.08 13 IAmb IAmb 20 08 54.7
comp=Z,32nm,1.0s
MNTX Cornudas Mount 87.08 55 P P 20 08 56.2 +1.7
baz=245
MNTX Cornudas Mount 87.08 55 P P 20 08 56.4 +2.0
baz=245
P32M Atlin 87.08 21 IAmb IAmb 20 08 56.4
comp=Z,31nm,0.8s
P32M Atlin 87.08 21 P P 20 08 55.4 +1.6
baz=222,SNR=10.0
BVCY Beaver Creek 87.09 17 P P 20 08 54.7 +0.9
baz=216,SNR=18
SRDT SRDT 87.13 286 P P 20 08 56.9 +1.9
SRDT SRDT 87.13 286 P P 20 08 56.8 +1.8
comp=Z,416nm,0.8s,comp=Z,6µm
Q32M Nakina River 87.13 22 P P 20 08 55.6 +1.4
baz=224
BSUT Blindstream Ca 87.15 45 IAmb IAmb 20 08 58.3
comp=Z,98nm,1.6s
MVCO Mesa Verde 87.17 49 P P 20 08 56.1 +1.0
baz=243
RIDG Independent Ri 87.17 15 P P 20 08 54.5 +0.3
baz=212,SNR=15
O30N Mendenhall 87.19 20 P P 20 08 54.8 +0.5
O30N IAmb IAmb 20 08 56.6
comp=Z,63nm,0.7s
O30N **pP 20 11 14.0 +0.1**
O30N Mendenhall 87.19 20 P P 20 08 54.9 +0.5
baz=220,SNR=27
NEW Newport 87.22 36 P P 20 08 55.5 +0.7
baz=237
H21K Melozitna Rive 87.23 11 P P 20 08 54.5 +0.1
baz=205
HIA Hailar 87.25 325 IAmb IAmb 20 08 56.4
comp=Z,60nm,1.1s
HDA Harding Lake 87.27 13 P P 20 08 54.6 +0.1
baz=210,SNR=84
E17K Hotham Inlet 87.29 7 P P 20 08 55.1 +0.5
baz=196,SNR=51
CCB Clear Creek Bu 87.29 13 P P 20 08 54.0 -0.6
L27K Beaver Creek, 87.36 16 P P 20 08 55.4 +0.4
baz=215
IMAR Indian Mountai 87.37 10 pP 20 11 15.8 +0.8
BCAR Beaver Creek A 87.37 16 pP 20 11 15.6 +0.8
N30M Aishikik Lake 87.42 19 P P 20 08 55.9 +0.5
baz=219
I23K Minto, Yukon-K 87.42 12 IAmb IAmb 20 08 56.0
comp=Z,31nm,0.7s
I23K Minto, Yukon-K 87.42 12 P P 20 08 54.3 -0.9
baz=208,SNR=27
TX31 Lajitas Ar. Si 87.45 58 IAmb IAmb 20 08 59.7
comp=Z,76nm,1.1s
TX31 Lajitas Ar. Si 87.45 58 P P 20 08 58.6 +2.2
baz=246
TXAR Lajitas Array 87.45 58 P P 20 08 58.4 +2.0
TXAR **pP 20 11 16.8 +0.9**
TXAR Lajitas Array 87.45 58 P P 20 08 58.9 +2.5
comp=Z,17nm,0.8s,baz=224,slow=5.2,SNR=91
TXAR pP **pwP 20 11 19.0 -0.1**
comp=Z,12nm,0.9s,baz=224,slow=5.2,SNR=10
TXAR PKKPbc **PKKPbc 20 26 40.9 -0.8**
comp=Z,1.2nm,0.5s,baz=162,slow=2.9,SNR=12
TXAR PKPPKP **P'P'df 20 34 45.9 -2.7**
comp=Z,1.4nm,1.0s,baz=104,slow=5.3,SNR=3.5
comp=Z,17nm,0.8s
MDM Murphy Dome 87.48 13 IAmb IAmb 20 08 56.2
comp=Z,120nm,0.9s
COLA College 87.48 13 P P 20 08 55.2 -0.3
COLA **pP 20 11 15.0 -0.3**
COLA College 87.48 13 P P 20 08 55.6 +0.1
COLA College 87.48 13*d*iP P **20 08 59.1 +3.6**
COLA pmax pmax
comp=Z,74nm,1.4s
COLA College 87.48 13 P P 20 08 55.3 -0.2
baz=210
ELIB Princess Elisa 87.50 187 *d*P P **20 08 56.4 +0.6**
comp=Z,125nm,0.7s
ELIB *d*pP **pwP 20 11 18.1 0.0**
ELIB *d*SKS **SKSac 20 18 21.9 +0.5**
ELIB *d*S **S 20 18 41.2 -1.6**
ELIB *d*SP **SP 20 19 46.6 -2.6**
ELIB *d*sS **sS 20 22 47.8 -4.2**
WHY Whitehorse 87.50 20 IAmb IAmb 20 08 58.1
comp=Z,52nm,0.8s
WHY Whitehorse 87.50 20 P P 20 08 56.8 +0.9
baz=221,SNR=18
F19K Shaleruckik Mo 87.56 8 P P 20 08 56.0 +0.2
baz=200
DLBC Dease Lake 87.58 23 P P 20 08 57.9 +1.6
baz=226,SNR=10
SCRK Sand Creek 87.58 15 IAmb IAmb 20 08 59.0
comp=Z,43nm,0.9s
SCRK pP 20 11 17.1 +1.1
SCRK Sand Creek 87.58 15 P P 20 08 56.3 +0.2
baz=213,SNR=34
IL31 87.60 13 IAmb IAmb 20 08 56.9
comp=Z,74nm,0.9s
IL31 pP 20 11 16.4 +0.5
ILAR Eielson Array 87.60 13 pP 20 11 16.0 0.0
ILAR Eielson Array 87.60 13 P P 20 08 55.7 -0.4
comp=Z,49nm,0.8s,baz=229,slow=5.5,SNR=321
ILAR pP **pP 20 11 15.2 -0.8**
comp=Z,12nm,0.9s,baz=228,slow=5.7,SNR=8.3
ILAR PKiKP **PKiKP 20 13 54.0 -0.1**
comp=Z,1.0nm,0.4s,baz=271,slow=3.0,SNR=7.8
ILAR S **SKSac 20 18 23.3 +1.9**
comp=Z,1.6nm,1.0s,baz=232,slow=7.6,SNR=6.5
ILAR PKKP **PKKPdf 20 26 32.5 -4.2**

comp=Z,0.5nm,0.6s,baz=338,slow=2.2,SNR=4.2
ILAR PKKPbc **PKKPbc** **20 26 40.2 -2.5**
comp=Z,2.4nm,0.5s,baz=339,slow=2.3,SNR=22
ILAR PKPPKP **P'P'df** **20 34 41.0 -4.4**
comp=Z,1.1nm,0.8s,baz=340,slow=3.9,SNR=5.6
comp=Z,49nm,0.8s
COYC Coyhaique 87.62 138 P **P** **20 08 58.5 +1.7**
COYC IAmb IAmb 20 09 00.4
comp=Z,73nm,0.9s
COYC **pwP** **20 11 18.7 -0.6**
ANMO Albuquerque 87.65 52 P **P** **20 08 58.3 +1.1**
ANMO **pP** **20 11 16.5 -0.4**
ANMO Albuquerque 87.65 52 *i* P **P** **20 08 57.8 +0.5**
ANMO pmax pmax
comp=Z,15nm,1.2s
ANMO Albuquerque 87.65 52 P **P** **20 08 58.4 +1.1**
baz=244
ANMO Albuquerque 87.65 52 P **P** **20 08 58.9 +1.6**
baz=244
H22K Ishtalitna Cre 87.70 11 P **P** **20 08 56.9 +0.3**
baz=206
AY01 Puyuhuapi 87.75 137 P **P** **20 08 59.1 +1.7**
AY01 IAmb IAmb 20 09 00.4
comp=Z,54nm,1.1s
E18K Tukpahlearik C 87.76 7 IAmb IAmb 20 08 58.4
comp=Z,48nm,1.2s
E18K Tukpahlearik C 87.76 7 P **P** **20 08 57.2 +0.5**
baz=198
M29M Somme Creek 87.78 18 P **P** **20 08 58.1 +0.9**
baz=218
POKR Poker Plat Res 87.78 13 P **P** **20 08 55.2 -1.8**
POKR IAmb IAmb 20 08 57.5
comp=Z,61nm,0.8s
POKR **pP** **20 11 16.1 -0.8**
POKR Poker Plat Res 87.78 13 P **P** **20 08 56.4 -0.6**
baz=210,SNR=28
J25K Salcha River, 87.80 14 P **P** **20 08 57.5 +0.3**
baz=212
N31M Braeburn, Yuko 87.84 19 IAmb IAmb 20 08 59.5
comp=Z,86nm,0.8s
N31M Braeburn, Yuko 87.84 19 P **P** **20 08 58.3 +1.0**
baz=220,SNR=22
P33M Teslin, Yukon 87.85 21 P **P** **20 08 58.2 +0.7**
baz=223,SNR=14
HHC Hu-ho-hao-te 87.88 315 ⇓ *i* P **P** **20 08 59.0 +0.9**
HHC pP pP 20 11 20.4 +1.9
HHC S **S** **20 18 53.3 +6.1**
HHC pmax pmax
comp=Z,140nm,1.0s
HHC pmax pmax
comp=Z,300nm,4.1s
R33M Jennings River 87.91 22 P **P** **20 08 59.0 +1.2**
baz=225
KMI Kunming 87.92 297 ⇓ P **P** **20 09 00.3 +1.5**
KMI S **S** **20 18 52.0 +3.5**
KMI sS sS 20 22 57.3 0.0
KMI pmax pmax
comp=Z,140nm,1.0s
KMI pmax pmax
comp=Z,1.0nm,2.8s
BILL Bilibino 87.94 355 P **P** **20 08 57.7 +0.1**
BILL IAmb IAmb 20 08 59.7
comp=Z,61nm,0.8s
BILL **pP** **20 11 18.9 +0.8**
BILL Bilibino 87.94 355 *i* P **P** **20 08 57.5 -0.1**
BILL pmax pmax
comp=Z,69nm,0.8s
RDMU Red Mountain 87.97 46 IAmb IAmb 20 09 01.6
comp=Z,116nm,1.9s
F20K Avaraart Lake 88.05 9 IAmb IAmb 20 08 59.7
comp=Z,46nm,0.9s
F20K Avaraart Lake 88.05 9 P **P** **20 08 58.6 +0.5**
baz=202
K27K Chicken 88.09 15 P **P** **20 08 59.4 +1.0**
baz=215
C16K Lisburne Hills 88.11 5 P **P** **20 08 58.2 -0.2**
baz=193
CRAI Chiangrai 88.12 292 P **P** **20 08 59.1 -0.5**
CRAI IAmb IAmb 20 09 02.1
comp=Z,68nm,1.1s
J26L Joseph Creek 88.12 15 P **P** **20 08 59.1 +0.4**
baz=213
E19K Redstone River 88.22 8 P **P** **20 08 59.1 +0.2**
baz=201
MSO Missoula 88.28 39 P **P** **20 09 01.0 +1.2**
baz=239,SNR=5.8
H24K Noodor Dome 88.32 12 P **P** **20 08 58.4 -1.1**
baz=209,SNR=11
BPMT Black Pine Rid 88.37 39 P **P** **20 09 00.9 +0.5**
BPMT **pP** **20 11 20.3 -0.1**
M30M Minto, Yukon 88.37 18 P **P** **20 09 00.8 +1.0**
baz=220,SNR=100
L29M L29M 88.40 17 P **P** **20 09 00.9 +1.0**
baz=218
N32M Quiet Lake 88.45 20 P **P** **20 09 01.2 +1.0**
baz=223,SNR=18
FXWY Fox Creek 88.47 42 IAmb IAmb 20 09 04.2
comp=Z,113nm,1.9s
C17K DeLong Mountai 88.50 6 P **P** **20 09 00.8 +0.5**
baz=195
PRP Porcupine Dome 88.54 13 IAmb IAmb 20 09 02.4
comp=Z,70nm,1.2s
PRP Porcupine Dome 88.54 13 P **P** **20 09 00.5 -0.1**
baz=212,SNR=13
F21K Alatna River 88.55 10 IAmb IAmb 20 09 01.8
comp=Z,29nm,0.8s
F21K Alatna River 88.55 10 P **P** **20 08 59.9 -0.6**
baz=204
SNOW Snow King Moun 88.56 43 IAmb IAmb 20 09 07.3
comp=Z,72nm,1.2s
S22A 4UR Ranch, Cre 88.60 49 P **P** **20 09 03.1 +1.4**
baz=244,SNR=18
G22K Bettles 88.61 11 P **P** **20 09 01.2 +0.5**
baz=206
IMW Indian Meadow 88.65 42 IAmb IAmb 20 09 05.0
comp=Z,38nm,0.9s
O20A White River Ci 88.67 46 IAmb IAmb 20 09 04.3
comp=Z,39nm,0.9s
O20A White River Ci 88.67 46 P **P** **20 09 03.0 +1.1**
baz=243,SNR=8.0
G23K Bananza Creek 88.68 11 P **P** **20 09 01.3 +0.2**
baz=208
MOOW Moose Ponds 88.70 42 IAmb IAmb 20 09 05.1
comp=Z,66nm,1.9s
TROLL Troll, Antarti 88.71 181 ⇓ P **P** **20 09 02.2 +0.7**
comp=Z,4µm,0.3s
TROLL ⇑ pP **pwP** **20 11 23.9 +0.1**
comp=Z,876nm,0.8s
TROLL ⇑ PKKPbc **PKKPbc** **20 26 37.7 -2.6**
comp=Z,294nm,0.9s
CM31 Chiang Mai Arr 88.74 290 P **P** **20 09 03.9 +1.4**
CM31 Chiang Mai Arr 88.74 290 P **P** **20 09 04.5 +2.0**
CMAR Chiang Mai Arr 88.74 290 P **P** **20 09 03.8 +1.3**
CMAR **pP** **20 11 22.8 -0.1**
CMAR Chiang Mai Arr 88.74 290 *ce* P **P** **20 09 04.1 +1.6**
CMAR pmax pmax
comp=Z,115nm,0.9s
CMAR Chiang Mai Arr 88.74 290 P **P** **20 09 04.2 +1.6**
comp=Z,104nm,0.9s,baz=117,slow=2.8,SNR=380
CMAR PP **PP** **20 12 42.2 -2.7**
comp=Z,0.6nm,0.5s,baz=88,slow=5.6,SNR=2.0
CMAR PKKPbc **PKKPbc** **20 26 38.5 +0.4**
comp=Z,3.6nm,0.8s,baz=290,slow=4.6,SNR=16
CMAR PKPPKP **P'P'df** **20 34 41.3 -5.6**
comp=Z,0.7nm,0.6s,baz=264,slow=4.6,SNR=5.4
comp=Z,104nm,0.9s
LL02 Futaleuf 88.80 136 P **P** **20 09 03.7 +1.4**
LL02 IAmb IAmb 20 09 06.1
comp=Z,88nm,1.1s
LL02 **pwP** **20 11 24.4 -0.8**
BTO Baotou 88.80 314 *e* P **P** **20 09 04.3 +1.9**
BTO pP **pP** **20 11 25.3 +2.2**
BTO sP **sP** **20 12 31.3 +2.7**
BTO PP **PP** **20 12 50.4 +5.3**
BTO S S 20 18 46.5 -9.1
BTO SS **SS** **20 25 12.3 +2.0**
BTO pmax pmax
comp=Z,140nm,1.0s
BTO pmax pmax
comp=Z,1µm,4.3s
M31M Drury Creek, Y 88.81 19 IAmb IAmb 20 09 03.3
comp=Z,37nm,0.9s
M31M Drury Creek, Y 88.81 19 P **P** **20 09 02.1 +0.3**
baz=222,SNR=16
DAWY Dawson 88.82 16 IAmb IAmb 20 09 03.7
comp=Z,66nm,0.9s
DAWY pP 20 11 23.4 +1.4
DAWY Dawson 88.82 16 P **P** **20 09 02.3 +0.4**
baz=217,SNR=42
CMMT Chiang Mai 88.87 290 P **P** **20 09 04.0 +0.9**
comp=Z,389nm,0.8s,comp=Z,5µm
C18K Utukok River 88.87 6 P **P** **20 09 01.6 -0.4**
C18K IAmb IAmb 20 09 03.4
comp=Z,36nm,1.1s
C18K Utukok River 88.87 6 P **P** **20 09 01.9 -0.1**
baz=197
CHTO Chiang Mai 88.87 290 P **P** **20 09 04.2 +1.2**
CHTO Chiang Mai 88.87 290 P **P** **20 09 04.5 +1.4**
CHTO Chiang Mai 88.87 290 P **P** **20 09 04.2 +1.2**
CHTO pmax pmax
comp=Z,176nm,1.1s
CHTO Chiang Mai 88.87 290 P **P** **20 09 04.6 +1.5**
CHTO Chiang Mai 88.87 290 P **P** **20 09 04.1 +1.0**
comp=Z,142nm,0.8s,comp=Z,2µm
FLWY Flagg Ranch 88.89 42 IAmb IAmb 20 09 06.3
comp=Z,34nm,1.0s
I26K Coal Creek Min 88.89 14 P **P** **20 09 02.5 +0.4**
baz=214
SAND Sanderson 88.93 58 IAmb IAmb 20 11 27.8
comp=Z,31nm,1.0s
EGAK Eagle 88.94 15 IAmb IAmb 20 09 03.9
comp=Z,78nm,0.9s
EGAK Eagle 88.94 15 P **P** **20 09 02.9 +0.6**
baz=216,SNR=48
MNHN Monahans 88.98 56 IAmb IAmb 20 12 11.2
comp=Z,90nm,1.2s
YFT Old Faithful 88.98 42 IAmb IAmb 20 09 07.6
comp=Z,25nm,1.0s
BW06 Boulder Array 89.00 44 IAmb IAmb 20 09 05.8
comp=Z,22nm,0.8s
BW06 Boulder Array 89.00 44 P **P** **20 09 04.5 +1.0**
baz=242,SNR=12
PD31 Pinedale Array 89.00 44 IAmb IAmb 20 12 46.3
comp=Z,44nm,1.3s
PDAR Pinedale Array 89.00 44 P **P** **20 09 04.6 +1.2**
comp=Z,16nm,0.7s,baz=211,slow=3.1,SNR=42
PDAR pP **pP** **20 11 24.4 +0.9**
comp=Z,4.2nm,0.9s,baz=217,slow=3.7,SNR=5.9
PDAR PP **PP** **20 12 44.8 -2.0**
comp=Z,13nm,1.0s,baz=239,slow=4.7,SNR=9.5
PDAR PKKPbc **PKKPdf** **20 26 36.1 +2.4**
comp=Z,2.2nm,0.3s,baz=94,slow=5.9,SNR=14
PDAR PKPPKP **P'P'df** **20 34 41.8 -3.1**
comp=Z,0.4nm,0.8s,baz=81,slow=5.9,SNR=2.9
comp=Z,16nm,0.7s
F22K John River 89.02 10 P **P** **20 09 02.9 +0.2**
baz=206
SNAA Sanae 89.02 179 P **P** **20 09 02.1 -0.8**
SNAA IAmb IAmb 20 09 05.0
comp=Z,34nm,0.7s
SNAA pP **pP** **20 11 22.7 -0.6**
SNAA Sanae 89.02 179 ⇓ P **P** **20 09 03.1 +0.3**
comp=Z,769nm,0.6s
SNAA ⇑ pP **pP** **20 11 28.0 +4.8**
comp=Z,197nm,0.9s
SNAA ⇑ PKKPbc **PKKPbc** **20 26 36.3 -3.1**
comp=Z,61nm,0.7s
SNAA Sanae 89.02 179 P **P** **20 09 03.3 +0.4**
comp=Z,23nm,0.5s,baz=198,slow=7.7,SNR=91
SNAA pP **pP** **20 11 23.4 +0.2**
comp=Z,9.3nm,0.9s,baz=215,slow=12,SNR=2.1
SNAA PKKPbc **PKKPbc** **20 26 36.0 -3.4**
comp=Z,2.2nm,0.7s,baz=8.1,slow=4.8,SNR=5.4
comp=Z,23nm,0.5s
BOZ Bozeman (W) 89.05 40 IAmb IAmb 20 11 29.5
comp=Z,58nm,1.3s
BOZ Bozeman (W) 89.05 40 P **P** **20 09 05.3 +1.9**
baz=241,SNR=11
D19K Kuna River 89.08 8 P **P** **20 09 03.1 +0.2**
baz=200
E20K Nigu River 89.11 8 P **P** **20 09 03.5 +0.4**
baz=202
COLD Coldfoot 89.11 11 P **P** **20 09 04.0 +1.0**
baz=207,SNR=74
H17A Grant Village 89.12 42 IAmb IAmb 20 09 08.1
comp=Z,24nm,0.9s
H17A Grant Village 89.12 42 P **P** **20 09 06.8 +2.9**
baz=242,SNR=16
SMCO Snowmass 89.12 48 IAmb IAmb 20 09 07.2
comp=Z,45nm,1.5s
YHH Holmes Hill 89.14 41 P **P** **20 09 05.5 +1.4**
YHH **pP** **20 11 23.7 -0.5**
K29M Barlow Dome 89.15 17 P **P** **20 09 04.4 +0.9**
baz=219
G24K Hadweenzic Riv 89.16 12 P **P** **20 09 02.7 -0.6**
baz=210,SNR=13
FARO Faro, Yukon 89.16 20 P **P** **20 09 04.1 +0.7**
baz=223,SNR=8.9
VNA3 Neumayer Olymp 89.20 177 ⇓ P **P** **20 09 04.0 +0.4**
comp=Z,255nm,0.7s
VNA3 ⇑ PKKPbc **PKKPbc** **20 26 35.5 -3.4**
comp=Z,8.7nm,1.1s
WTLY Watson Lake, Y 89.20 23 P **P** **20 09 04.1 +0.4**
WTLY Watson Lake, Y 89.20 23 P **P** **20 09 05.1 +1.4**
baz=227,SNR=6.8
YNR Norris Junctio 89.21 42 IAmb IAmb 20 11 32.3
comp=Z,40nm,1.3s
PZH PanZhiHua 89.27 298 P **P** **20 09 05.8 +0.9**
PZH sP **sP** **20 12 32.8 +1.2**
PZH PP **PP** **20 12 54.1 +5.1**
PZH S **S** **20 19 01.5 +1.0**
PZH pmax pmax
comp=Z,120nm,1.0s
PZH pmax pmax
comp=Z,570nm,4.8s
CD2 Chengdu 89.33 303 P **P** **20 09 05.9 +0.9**
CD2 pP pP 20 11 24.9 -1.1
CD2 sP sP 20 12 28.8 -2.8
CD2 SKS **SKSac** **20 18 32.0 -1.1**
CD2 S **S** **20 19 01.6 +0.9**
CD2 sS sS 20 23 12.0 +1.5
CD2 SS **SS** **20 25 16.8 -1.2**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,520nm,5.4s
MAYO Mayo, Yukon 89.42 18 P **P** **20 09 05.6 +1.0**
baz=220,SNR=18
J29N Klondike Camp 89.44 17 IAmb IAmb 20 09 07.0
comp=Z,59nm,0.8s
J29N Klondike Camp 89.44 17 P **P** **20 09 06.2 +1.5**
baz=218,SNR=12
ODSA Odessa 89.45 56 IAmb IAmb 20 09 08.4
comp=Z,39nm,1.1s
D20K Etivluk River 89.48 8 P **P** **20 09 05.4 +0.6**
baz=201
C19K Lookout Ridge 89.48 7 P **P** **20 09 05.5 +0.7**
baz=198
G25K Bearman Lake 89.49 13 P **P** **20 09 05.3 +0.6**
baz=211
B18K Kokolik River 89.50 6 P **P** **20 09 05.3 +0.6**
baz=196
FYU Fort Yukon 89.50 13 IAmb IAmb 20 10 00.7
comp=Z,16nm,0.6s
I27K Kandik River 89.50 15 P **P** **20 09 05.2 +0.2**
baz=215
SDCO Great Sand Dun 89.55 50 P **P** **20 09 07.7 +1.5**
baz=245,SNR=11
SDCO Great Sand Dun 89.55 50 P **P** **20 09 07.5 +1.4**
baz=245
E21K Killik River 89.60 9 P **P** **20 09 05.1 -0.2**
baz=204
VNA2 Neumayer--Watz 89.63 177 ⇓ P **P** **20 09 06.3 +0.7**
comp=Z,108nm,0.6s,baz=188,slow=4.0
VNA2 ⇑ pP **pP** **20 11 30.1 +4.0**
comp=Z,9.4nm,0.7s,baz=164,slow=2.0
VNA2 ⇑ PKKPbc **PKKPbc** **20 26 34.5 -3.3**
comp=Z,3.4nm,0.6s,baz=353,slow=6.0
NVL N'lazarevskaya 89.64 184 *eP* **P** **20 09 04.3 -1.3**
NVL *eS* **SKSac** **20 18 31.6 -1.9**
NVL pmax pmax
comp=Z,142nm,1.8s
NVL smax smax
comp=N,394nm,13.8s
I28M Miner Creek 89.79 15 P **P** **20 09 06.8 +0.5**
baz=217
F24K Squaw Lake 89.79 12 P **P** **20 09 06.7 +0.5**
baz=209
VNA1 Neumayer--Stat 89.86 177 ⇓ P **P** **20 09 07.2 +0.6**
comp=Z,142nm,0.9s
VNA1 ⇑ pP **pP** **20 11 26.1 -1.0**
comp=Z,27nm,1.1s
VNA1 ⇑ PKKPbc **PKKPdf** **20 26 33.4 +3.5**
comp=Z,7.6nm,0.8s
DRIO Del Rio 89.94 59 P **P** **20 09 09.3 +1.5**
DRIO **pP** **20 11 28.3 +0.2**
DRIO IAmb IAmb 20 11 32.7
comp=Z,60nm,1.0s
E23K Chandalar 89.95 11 P **P** **20 09 07.9 +0.9**
baz=208
LR05 Currie 89.98 133 P **P** **20 09 09.2 +1.3**
LR05 **pP** **20 11 29.1 +0.7**
MSTX Muleshoe 90.01 54 IAmb IAmb 20 09 10.6
comp=Z,167nm,2.0s
MSTX Muleshoe 90.01 54 P **P** **20 09 09.4 +1.2**
baz=246
MSTX Muleshoe 90.01 54 P **P** **20 09 09.7 +1.5**
baz=246
H27K Steamboat Moun 90.04 14 P **P** **20 09 08.1 +0.7**
baz=215
J30M Hart River 90.05 17 P **P** **20 09 08.3 +0.7**
baz=220
RWWY Rawlins 90.06 45 IAmb IAmb 20 09 10.9
comp=Z,48nm,1.3s
T25A Trinidad 90.08 50 P **P** **20 09 09.6 +1.1**
baz=246,SNR=5.8
OZNA Ozona 90.10 57 IAmb IAmb 20 11 32.5
comp=Z,27nm,1.1s
G26K Porcupine Rive 90.13 13 P **P** **20 09 08.6 +0.9**
baz=213
I29M Ogilvie Camp, 90.13 16 IAmb IAmb 20 09 09.2
comp=Z,96nm,1.4s
I29M Ogilvie Camp, 90.13 16 P **P** **20 09 07.6 -0.2**
baz=218,SNR=28
C21K Knifeblade Rid 90.14 8 P **P** **20 09 08.3 +0.5**
baz=203
E24K Your Creek 90.17 11 P **P** **20 09 08.1 +0.1**
baz=209
D22K Ayikyak River 90.19 9 P **P** **20 09 08.9 +0.8**
baz=205
RLMT Red Lodge 90.28 42 IAmb IAmb 20 11 35.8
comp=Z,32nm,1.2s
RLMT Red Lodge 90.28 42 P **P** **20 09 11.0 +1.8**
baz=242,SNR=7.1
F25K Christian Rive 90.29 12 P **P** **20 09 09.7 +1.1**
baz=212,SNR=19
BRLDA Berland Lookou 90.31 31 P **P** **20 09 09.7 +0.6**
BRLDA IAmb IAmb 20 09 13.9
comp=Z,36nm,0.7s
BRLDA **pP** **20 11 27.7 -1.9**
Q24A Divide 90.31 49 P **P** **20 09 11.0 +1.3**
baz=245
ISCO Idaho Springs 90.34 48 P **P** **20 09 11.1 +1.3**
baz=245
BMAR Burnt Mountain 90.37 13 P **P** **20 09 09.3 +0.4**
BMAR **pP** **20 11 29.4 -0.3**
G27K Doyon Strip 90.48 14 P **P** **20 09 10.2 +0.7**
baz=215,SNR=11
833A Chaparral WMA, 90.52 60 P **P** **20 09 11.9 +1.4**
833A **pP** **20 11 31.4 +0.4**
833A IAmb IAmb 20 11 35.7
comp=Z,28nm,1.0s
833A Chaparral WMA, 90.52 60 P **P** **20 09 11.9 +1.4**
baz=248
833A Chaparral WMA, 90.52 60 P **P** **20 09 12.5 +2.0**
baz=248
I30M Mount Dempster 90.53 17 P **P** **20 09 09.9 +0.1**
baz=220
N23A Red Feather La 90.58 47 P **P** **20 09 12.7 +1.9**
baz=245,SNR=6.0
B21K Ikpikpuk River 90.59 8 IAmb IAmb 20 09 11.5
comp=Z,80nm,1.2s
B21K Ikpikpuk River 90.59 8 P **P** **20 09 10.1 +0.3**
baz=203
B20K Meade River 90.62 7 IAmb IAmb 20 09 11.7
comp=Z,61nm,0.8s
B20K Meade River 90.62 7 P **P** **20 09 10.6 +0.7**
baz=201
GO06 Curarrehue 90.63 133 P **P** **20 09 12.5 +1.5**
GO06 IAmb IAmb 20 09 14.6
comp=Z,47nm,1.4s
GO06 **pP** **20 11 33.5 +1.8**
F26K Sheenjek River 90.68 13 P **P** **20 09 11.1 +0.8**
baz=213
PLCA Paso Flores 90.75 134 IAmb IAmb 20 09 14.5
comp=Z,24nm,1.1s
PLCA Paso Flores 90.75 134 P **P** **20 09 13.9 +2.4**
comp=Z,8.0nm,0.8s,baz=228,slow=5.2,SNR=15
PLCA pP **pwP** **20 11 36.9 +1.9**
comp=Z,9.3nm,1.1s,baz=315,slow=3.9,SNR=7.5
PLCA PKKPbc **PKKPbc** **20 26 31.6 -2.4**
comp=Z,3.6nm,0.6s,baz=42,slow=2.7,SNR=7.7
comp=Z,8.0nm,0.8s
E25K Arctic Village 90.76 12 IAmb IAmb 20 09 12.8
comp=Z,29nm,1.1s
E25K Arctic Village 90.76 12 P **P** **20 09 11.0 +0.3**
baz=212,SNR=22
YAK Yakutsk 90.79 338 P **P** **20 09 10.3 -0.6**
YAK Yakutsk 90.79 338 *d* *i* P **P** **20 09 10.2 -0.6**
YAK *e* *PP **pP** **20 11 31.4 -0.6**
YAK *e* 20 12 55.0
YAK *e* PPP PPP 20 15 01.1
YAK *e* SS **SS** **SKSac** **20 18 38.6 -1.1**
YAK *e* 20 19 08.9
YAK *e* SS **SS** **20 25 33.6 -3.7**
YAK *e* SSS SSS 20 29 24.1
YAK pmax pmax
comp=Z,245nm,1.0s
YAK pmax pmax
comp=N,20nm,0.9s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=Z,86nm,2.7s
YAK pmax pmax
comp=N,37nm,2.2s
YAK pmax pmax
comp=E,40nm,3.3s
YAK smax smax
comp=E,120nm,2.9s
YAK smax smax
comp=N,82nm,2.6s
YAK Yakutsk 90.79 338 P **P** **20 09 10.5 -0.4**
comp=N,9.4nm,0.8s,baz=100,slow=0.9,SNR=130
YAK S **SKSac** **20 18 38.3 -1.4**
comp=N,0.1nm,0.4s,baz=56,slow=4.1,SNR=8.9
H29M Whitestone 90.79 15 P **P** **20 09 11.5 +0.7**
baz=218
K22A Casper 90.94 45 P **P** **20 09 13.3 +1.0**
baz=244
K22A Casper 90.94 45 P **P** **20 09 13.9 +1.6**
baz=244
JCT Junction City 90.99 58 P **P** **20 09 13.3 +0.7**
JCT **pP** **20 11 34.4 +1.2**
JCT IAmb IAmb 20 11 36.5
comp=Z,28nm,1.2s
JCT Junction City 90.99 58 P **P** **20 09 13.3 +0.7**
JCT *PP **pP** **20 11 34.4 +1.2**
JCT pmax pmax
comp=Z,28nm,1.2s
JCT Junction City 90.99 58 P **P** **20 09 13.4 +0.8**
baz=248
JCT Junction City 90.99 58 P **P** **20 09 13.4 +0.7**
baz=248
KOTAN Kotaneelee Air 90.99 24 P **P** **20 09 12.6 +0.7**
baz=231
D24K Happy Valley 91.06 10 P **P** **20 09 12.6 +0.6**
baz=209
AMTX Amarillo 91.20 53 P **P** **20 09 14.5 +0.8**
baz=247
LZH Lanzhou 91.29 308 ⇓ *i* P **P** **20 09 15.6 +1.5**
LZH pP pP 20 11 36.1 +0.6
LZH sP sP 20 12 42.6 +1.7
LZH S **S** **20 19 23.8 +5.7**
LZH pmax pmax
comp=Z,170nm,1.0s
DKNS Dickens 91.31 55 IAmb IAmb 20 13 04.6
comp=Z,63nm,1.9s
EPYK Eagle Plains 91.33 16 IAmb IAmb 20 09 14.3
comp=Z,36nm,0.8s
EPYK Eagle Plains 91.33 16 P **P** **20 09 13.5 +0.2**
baz=220,SNR=18
EGMT Eagleton 91.34 39 P **P** **20 09 14.7 +0.8**
baz=242
C23K Itkillik River 91.38 10 P **P** **20 09 13.4 -0.1**
C23K pP **pP** **20 11 34.0 -0.7**
C23K Itkillik River 91.38 10 P **P** **20 09 14.5 +1.1**
baz=207,SNR=44
B22K Teshekpuk Lake 91.42 8 IAmb IAmb 20 09 15.3
comp=Z,73nm,0.9s
B22K Teshekpuk Lake 91.42 8 P **P** **20 09 14.1 +0.5**

baz=204
G29M Pine Creek 91.42 15 P P 20 09 13.7 0.0
baz=218
TNCH TengChong 91.44 296 ⇓P P 20 09 16.1 +1.1
TNCH pP pP 20 11 34.1 -2.1
TNCH sP sP 20 12 36.5 -5.2
TNCH PP **PP** **20 13 07.5 +1.6**
TNCH SKS **SKSac** **20 18 46.3 +0.8**
TNCH S **ScS** **20 19 23.8 +2.6**
TNCH sS sS 20 23 27.8 -3.5
TNCH SS **SS** **20 25 50.9 +2.5**
TNCH pmax pmax
comp=Z,47nm,1.4s
TNCH pmax pmax
comp=Z,400nm,4.8s
H31M Peel River 91.53 17 P P 20 09 14.1 -0.2
baz=222,SNR=13
F28M Old Crow 91.55 14 P P 20 09 14.5 +0.2
baz=217,SNR=13
C24K Franklin Bluff 91.58 10 P P 20 09 14.9 +0.5
baz=209
E27K Coleen River 91.63 13 IAmb IAmb 20 09 16.9
comp=Z,78nm,1.8s
E27K Coleen River 91.63 13 P P 20 09 15.3 +0.6
baz=215
D25K Kavik River 91.64 11 P P 20 09 14.6 -0.2
baz=211
A22K Sinclair Lake 91.83 8 P P 20 09 16.0 +0.5
baz=203
EDM Edmonton 91.88 33 P P 20 09 16.6 +0.4
EDM **pP** **20 11 37.4 +0.5**
EDM IAmb IAmb 20 11 42.5
comp=Z,54nm,1.3s
EDM **PP** **20 13 04.5 -4.0**
ABTX Abilene, Hawle 91.91 56 IAmb IAmb 20 11 44.8
comp=Z,52nm,1.1s
ABTX Abilene, Hawle 91.91 56 P P 20 09 18.1 +1.2
baz=248
ABTX Abilene, Hawle 91.91 56 P P 20 09 18.5 +1.7
baz=248
A21K Barrow 91.92 7 P P 20 09 16.0 +0.1
baz=201
G30M tAoh Zraii Nji 91.93 16 P P 20 09 15.9 -0.2
baz=220
BRDY Brady 91.93 58 P P 20 09 16.5 -0.4
BRDY **pP** **20 11 39.0 +1.4**
BRDY IAmb IAmb 20 11 41.8
comp=Z,32nm,1.3s
CIT Chita 92.05 325 *e*P P 20 09 17.0 0.0
CIT *e* 20 11 39.4
CIT *e* 20 13 06.0
CIT pmax pmax
comp=Z,119nm,2.2s
KSCO Kaye Shedlock' 92.12 49 IAmb IAmb 20 09 20.7
comp=Z,88nm,1.6s
KSCO Kaye Shedlock' 92.12 49 P P 20 09 18.5 +0.7
baz=247
KSCO Kaye Shedlock' 92.12 49 P P 20 09 19.6 +1.8
baz=247
G31M Satah River 92.39 16 pP 20 11 39.1 +0.1
G31M Satah River 92.39 16 P P 20 09 18.5 +0.4
baz=222,SNR=36
C26K Camden Bay 92.42 11 P P 20 09 19.2 +1.0
baz=212
E28M Babbage River 92.42 14 IAmb IAmb 20 09 20.0
comp=Z,35nm,0.9s
E28M Babbage River 92.42 14 P P 20 09 19.1 +0.8
baz=217
F30M Barrier River 92.52 15 P P 20 09 19.2 +0.4
baz=220
E29M Blow River 92.62 14 P P 20 09 19.6 +0.4
baz=219
D27M Malcolm River 92.63 13 P P 20 09 19.5 +0.2
D27M IAmb IAmb 20 09 21.4
comp=Z,31nm,1.2s
D27M Malcolm River 92.63 13 P P 20 09 20.1 +0.8
baz=216
435B Jarrell 92.88 58 P P 20 09 22.6 +1.3
baz=249
LAO LASA Array 92.89 41 IAmb IAmb 20 11 48.1
comp=Z,86nm,1.4s
LAO LASA Array 92.89 41 P P 20 09 22.5 +1.6
baz=245,SNR=6.1
LAO LASA Array 92.89 41 P P 20 09 21.6 +0.6
baz=245
F31M Tsiigehtchic 92.91 16 pP 20 11 43.6 +2.1
F31M Tsiigehtchic 92.91 16 P P 20 09 20.9 +0.5
baz=222,SNR=27
PLPT Palo Pinto 93.02 56 P P 20 09 22.6 +0.7
PLPT **pwP** **20 11 44.9 -0.9**
PLPT IAmb IAmb 20 11 50.1
comp=Z,37nm,1.0s
WRGLY Wrigley 93.17 22 P P 20 09 22.5 +0.7
baz=231
D28M Stokes Point 93.17 13 P P 20 09 21.7 +0.1
baz=218
RSSD Black Hills 93.21 44 P P 20 09 22.7 0.0
RSSD **pP** **20 11 43.9 +0.3**
RSSD IAmb IAmb 20 13 10.8
comp=Z,22nm,0.7s
RSSD Black Hills 93.21 44 P P 20 09 22.7 0.0
RSSD *PP **pP** **20 11 43.9 +0.3**
RSSD pmax pmax
comp=Z,22nm,0.7s
RSSD Black Hills 93.21 44 P P 20 09 24.2 +1.4
baz=246
RSSD Black Hills 93.21 44 P P 20 09 23.3 +0.5
baz=246
BO02 Sierra Bellavi 93.23 129 P P 20 09 23.3 +0.3
BO02 IAmb IAmb 20 09 27.1
comp=Z,61nm,1.9s
MT01 Popeta 93.29 128 P P 20 09 24.2 +1.0
MT01 IAmb IAmb 20 09 27.1
comp=Z,28nm,0.8s
WHTX Lake Whitney, 93.41 57 P P 20 09 22.7 -1.0
baz=249
INK Inuvik 93.61 15 IAmb IAmb 20 09 24.7
comp=Z,28nm,1.1s
INK pP 20 11 48.1 +3.4
INK Inuvik 93.61 15 P P 20 09 23.6 0.0
baz=223,SNR=27
ULN Ulaanbaatar 93.89 320 P P 20 09 25.1 -0.6
ULN IAmb IAmb 20 09 26.8
comp=Z,74nm,1.4s
ULN **pP** **20 11 46.7 -0.5**
ULN PP **PP** **20 13 19.5 -4.8**
ULN Ulaanbaatar 93.89 320 *d* iP P 20 09 25.3 -0.4
ULN pmax pmax
comp=Z,50nm,1.4s
ULN Ulaanbaatar 93.89 320 P P 20 09 25.8 +0.1
ULN Ulaanbaatar 93.89 320 P P 20 09 25.3 -0.4
comp=Z,137nm,1.0s
HKT Hockley 94.01 60 *i* P P 20 09 26.9 +0.6
CBKS Cedar Bluff 94.13 50 IAmb IAmb 20 13 25.8
comp=Z,39nm,1.1s
CBKS Cedar Bluff 94.13 50 P P 20 09 27.6 +0.7
baz=248
CBKS Cedar Bluff 94.13 50 P P 20 09 28.4 +1.6
baz=248
SONM Songino Array 94.29 319 IAmb IAmb 20 09 28.4
comp=Z,26nm,1.2s
SONM Songino Array 94.29 319 P P 20 09 27.0 -0.4
comp=Z,6.3nm,0.5s,baz=129,slow=5.1,SNR=48
SONM pP **pP** **20 11 48.8 -0.2**
comp=Z,5.3nm,1.0s,baz=126,slow=3.8,SNR=5.4
SONM PP **PP** **20 13 22.5 -4.7**
comp=Z,10nm,1.1s,baz=123,slow=8.1,SNR=7.2
SONM PKiKP **PKiKP** **20 14 06.9 +0.7**
comp=Z,3.0nm,0.8s,baz=82,slow=1.5,SNR=19
SONM S **SKSac** **20 18 58.3 -1.4**
comp=Z,1.1nm,1.0s,baz=139,slow=3.4,SNR=2.4
SONM PKKPbc **PKKPdf** **20 26 23.1 -1.3**
comp=Z,2.8nm,0.9s,baz=276,slow=3.6,SNR=11
SONM PKPPKP **P'P'df** **20 34 31.4 -3.2**
comp=Z,0.7nm,0.9s,baz=267,slow=2.4,SNR=5.1
comp=Z,6.3nm,0.5s
BOD Bodaibo 94.69 330 *e*P P 20 09 27.8 -1.0
BOD pmax pmax
comp=Z,18nm,1.7s
R32A Long Quarter, 94.74 51 P P 20 09 31.5 +1.9
baz=249
DGMT Dagmar 94.88 40 P P 20 09 31.1 +1.2
baz=246,SNR=5.0
DGMT Dagmar 94.88 40 P P 20 09 31.7 +1.8
baz=246
MOKO MOKOCHONG 95.28 296 *e*P P 20 09 32.9 +0.5
MOKO IAmb IAmb 20 09 33.6
comp=Z,36nm,0.9s
IMP Imphal 95.28 294 *e*P P 20 09 31.7 -0.7
IMP IAmb IAmb 20 09 32.7
comp=Z,43nm,0.9s
SAIH SAIHA 95.36 292 *ex* x 20 09 32.7
SAIH IAmb IAmb 20 09 33.7
comp=Z,16nm,0.7s
SAIH *e*P P 20 09 34.1 +1.2
SAIH *i* x x 20 13 35.9
KOHI KOHIMA 95.43 295 *e*P P 20 09 32.1 -1.1
GTA Gaotai 95.49 310 P P 20 09 33.3 +0.2
GTA pP pP 20 11 55.3 +0.4
GTA PP **PP** **20 13 35.8 -0.8**
GTA SKS **SKSac** **20 19 05.3 -1.2**
GTA pmax pmax
comp=Z,29nm,1.3s
YKA Yellowknife Ar 96.08 25 P P 20 09 34.2 -0.7
YKA **pP** **20 11 55.5 -0.6**
YKA Yellowknife Ar 96.08 25 P P 20 09 35.3 +0.3
comp=Z,2.9nm,0.7s,baz=245,slow=4.6,SNR=40
YKA pP **pP** **20 11 57.1 +1.0**
comp=Z,4.8nm,0.9s,baz=249,slow=4.5,SNR=14
YKA PP **PP** **20 13 38.7 -1.5**
comp=Z,2.9nm,0.9s,baz=233,slow=7.1,SNR=5.3
YKA PKKPbc **PKKPbc** **20 26 17.8 -3.1**
comp=Z,0.9nm,0.5s,baz=27,slow=2.2,SNR=8.9
YKA SS SS 20 26 53.5 +2.1
comp=Z,0.7nm,0.7s,baz=57,slow=4.5,SNR=6.4
YKA PKPPKP **P'P'df** **20 34 26.9 -3.0**
comp=Z,0.2nm,0.7s,baz=58,slow=2.7,SNR=3.8
comp=Z,2.9nm,0.7s
ZIRO ZIRO 96.23 297 *e*P P 20 09 36.7 0.0
ZIRO *e*P PcP 20 09 38.5 +1.7
ZIRO IAmb IAmb 20 09 39.2
comp=Z,17nm,0.5s
ZIRO *i* x x 20 13 42.0
SILR SILCHAR 96.25 294 *i* PCP PP 20 13 40.0 -2.4
KSU1 Kansas State U 96.52 51 IAmb IAmb 20 12 05.9
comp=Z,25nm,1.0s
KSU1 Kansas State U 96.52 51 P P 20 09 38.6 +1.1
baz=250
C36M Paulatuk 96.83 17 P P 20 09 37.0 -1.1
C36M **pP** **20 11 59.2 -0.3**
C36M IAmb IAmb 20 12 05.1
comp=Z,20nm,1.2s
C36M Paulatuk 96.83 17 P P 20 09 39.5 +1.4
baz=231
TEZP TEZPUR 96.83 296 *e*P P 20 09 38.9 -0.2
TEZP IAmb IAmb 20 09 41.2
comp=Z,26nm,0.3s
ZAK Zakamensk 97.17 321 *e*P Pdif 20 09 39.5 -0.8
ZAK pmax pmax
comp=Z,8.0nm,1.1s
SHL Shillong 97.28 294 *e*P Pdif 20 09 41.4 -0.1
SHL Shillong 97.28 294 P P 20 09 41.7 +0.2
SNR=9.6
NNA Nana 97.39 105 *i* P P 20 09 42.2 +0.2
NNA pmax pmax
comp=Z,39nm,1.3s
TIXI Tiksi 97.51 345 Pdif 20 09 39.5 -1.6
TIXI IAmb IAmb 20 09 41.6
comp=Z,14nm,0.9s
TIXI pP 20 12 02.1 -1.2
TIXI Tiksi 97.51 345 *ce*P Pdif 20 09 40.1 -1.0
TIXI pmax pmax
comp=Z,20nm,1.0s
ECSD EROS Data Cent 98.05 47 pP 20 12 06.5 +0.9
ECSD EROS Data Cent 98.05 47 P P 20 09 45.4 +1.1
baz=251
GOMU GeErMu 98.17 305 P P 20 09 46.6 +1.1
GOMU pmax pmax
comp=Z,8.0nm,1.0s
A36M Sachs Harbour 98.20 15 Pdif 20 09 43.8 -0.3
A36M IAmb IAmb 20 09 46.5
comp=Z,18nm,0.8s
A36M pP 20 12 06.0 +0.1
A36M Sachs Harbour 98.20 15 P P 20 09 46.1 +1.8
baz=230
DHUB DHUBRI 99.04 294 *i* x x 20 14 00.3
LSA Lhasa 99.15 298 Pdif **Pdif** **20 09 49.2 -0.8**
LSA Lhasa 99.15 298 *i* P **Pdif** **20 09 49.2 -0.8**
SCIA State Center 99.86 49 P **Pdif** **20 09 54.1 +1.8**
baz=253
LVC Limon Verde 100.08 118 PKKPbc PKKPbc 20 26 06.9 -2.5
comp=Z,4.9nm,0.5s,baz=105,slow=2.9,SNR=6.0
CCM Cathedral Cave 100.18 53 P **Pdif** **20 09 56.0 +2.2**
baz=253
ULM Lac du Bonnet 100.59 40 P **Pdif** **20 09 57.2 +1.8**
comp=Z,1.7nm,0.6s,baz=252,slow=7.5,SNR=3.8
ULM PP **PP** **20 14 12.0 -2.2**
comp=Z,8.0nm,1.0s,baz=281,slow=6.6,SNR=4.8
ULM PKKPbc **PKKPbc** **20 26 06.6 -1.5**
comp=Z,2.8nm,0.5s,baz=52,slow=3.6,SNR=5.9
OXF Oxford 100.60 57 P **Pdif** **20 09 56.7 +0.9**
baz=254
GTK Tadong 100.61 295 *ex* **Pdif** **20 09 57.0 +0.8**
GTK *i* x x 20 14 14.6
SPMN Marine on St. 101.10 46 P **Pdif** **20 09 60.0 +2.2**
baz=254
BRAL Brewton 101.59 61 P **Pdif** **20 10 01.4 +1.2**
baz=254
BOK Bokaro 101.98 291 *ex* **Pdif** **20 10 02.6 +0.4**
JFWS Jewell Farm 102.25 49 P **Pdif** **20 10 04.9 +2.0**
baz=255
L44A Lake County Fo 103.74 50 P **Pdif** **20 10 11.4 +1.9**
baz=256
SFIN Lafayette 103.90 52 P **Pdif** **20 10 11.6 +1.3**
baz=256
WCI Wyandotte Cave 103.99 54 P **Pdif** **20 10 12.2 +1.4**
baz=256
GOGA Godfrey 105.09 60 P **PKiKP** **20 14 25.9 0.0**
baz=256
O48B Farmland 105.32 52 P **PKiKP** **20 14 25.8 -0.3**
baz=257
P49A Miami Univ. Ec 105.49 53 P **PKiKP** **20 14 26.8 +0.4**
baz=258
DWPF Disney Wildern 105.53 65 P **PKiKP** **20 14 26.9 +0.1**
baz=256
HYB Hyderabad 106.87 283 *e*PKiKP **PKiKP** **20 14 29.9 +0.2**
KMSC Kings Mountain 107.19 58 P **PKiKP** **20 14 30.3 +0.5**
baz=258
P52A Corning 107.47 53 P **PKiKP** **20 14 30.9 +0.8**
baz=259
CPUP Villa Florida 107.47 127 PKiKP **PKiKP** **20 14 31.4 +0.8**
comp=Z,1.4nm,0.3s,baz=173,slow=1.2,SNR=3.9
ZSN Zaisan 108.08 315 *e*PKiKP **PKiKP** **20 14 30.8 -0.3**
comp=Z,3.7nm,0.6s,baz=315
O53A New Philadelph 108.28 53 P **PKiKP** **20 14 31.8 +0.2**
baz=260
BLA Blacksburg 108.33 56 P **PKiKP** **20 14 31.9 +0.1**
baz=259
ZALV Zalesovo Beam 109.03 322 Pdiff **Pdif** **20 10 31.0 -1.8**
comp=Z,1.1nm,0.7s,baz=129,slow=4.0,SNR=4.9
ZALV PKiKP **PKiKP** **20 14 31.8 -0.8**
comp=Z,10nm,0.5s,baz=70,slow=0.8,SNR=30
ZALV PKKPbc **PKKPbc** **20 25 42.3 -0.7**
comp=Z,0.8nm,0.3s,baz=259,slow=3.4,SNR=5.7
NRIK Noril'sk 109.23 338 PKiKP **PKiKP** **20 14 32.0 -0.5**
comp=Z,4.8nm,0.6s,baz=112,slow=2.7,SNR=6.3
NRIK PP **PP** **20 15 12.2 -4.0**
comp=Z,21nm,1.2s,baz=108,slow=5.3,SNR=11
SIV San Ignacio 109.66 116 PKiKP **PKiKP** **20 14 35.2 +0.2**
comp=Z,0.6nm,0.3s,baz=269,slow=4.4,SNR=5.6
SIV PP **PP** **20 15 18.1 -2.0**
comp=Z,0.6nm,0.3s,baz=228,slow=6.0,SNR=6.4
SIV PKKPbc **PKKPbc** **20 25 39.7 -0.9**
comp=Z,6.6nm,0.8s,baz=77,slow=2.9,SNR=14
SIV PKKP **PKKPdf** **20 25 54.2 -0.2**
comp=Z,5.7nm,0.9s,baz=94,slow=7.0,SNR=7.7
MKAR Makanchi Array 109.72 314 Pdiff **Pdif** **20 10 36.5 +0.4**
comp=Z,3.0nm,0.7s,baz=92,slow=4.6,SNR=16
MKAR PKiKP **PKiKP** **20 14 33.6 -0.6**
comp=Z,9.8nm,0.4s,baz=72,slow=2.0,SNR=68
MKAR PP **PP** **20 15 13.9 -6.4**
comp=Z,2.3nm,0.7s,baz=106,slow=7.7,SNR=3.9
MKAR PKKPbc **PKKPbc** **20 25 41.0 +0.3**
comp=Z,1.8nm,0.3s,baz=305,slow=1.9,SNR=29
MKAR PKKP **PKKPdf** **20 25 54.9 -0.7**
comp=Z,1.4nm,0.5s,baz=260,slow=3.8,SNR=6.6
SDV Santo Domingo 110.32 88 PKiKP **PKiKP** **20 14 35.9 -0.5**
comp=Z,6.0nm,0.8s,baz=267,slow=2.1,SNR=5.9
SDV PKKP **PKKPab** **20 25 52.3 +0.3**
comp=Z,1.9nm,0.6s,baz=16,slow=12,SNR=4.1
SSPA Standing Stone 110.84 53 P **PKiKP** **20 14 36.1 -0.3**
baz=262
SHLS Shalkode 111.24 310 *i* PKiKP **PKiKP** **20 14 36.3 -1.0**
SHLS Shalkode 111.24 310 *e*PKiKP **PKiKP** **20 14 36.3 -1.0**
baz=310
UZB Uzynbulak 111.56 310 *i* PKiKP **PKiKP** **20 14 37.5 -0.4**
UZB Uzynbulak 111.56 310 *e*PKiKP **PKiKP** **20 14 37.5 -0.4**
baz=310
KPKS Kokpek 111.84 310 *i* PKiKP **PKiKP** **20 14 37.9 -0.5**
KPKS Kokpek 111.84 310 *i* PKiKP **PKiKP** **20 14 37.9 -0.5**
baz=310
BHK Bhakra 111.89 297 *ex* **PKiKP** **20 14 39.2 +0.5**
BHK IAmb IAmb 20 14 41.1
comp=Z,91nm,1.0s
ZHN Zhinishke 111.99 310 *i* PKiKP **PKiKP** **20 14 38.1 -0.6**
ZHN Zhinishke 111.99 310 *i* PKiKP **PKiKP** **20 14 38.2 -0.6**
baz=310
SATY Saty 112.00 309 *i* PKiKP **PKiKP** **20 14 38.4 -0.3**
SATY Saty 112.00 309 *i* PKiKP **PKiKP** **20 14 38.5 -0.3**
baz=310
TDK Taldyqorghan 112.20 312 *i* PKiKP **PKiKP** **20 14 38.3 -0.6**
TDK Taldyqorghan 112.20 312 *e*PKiKP **PKiKP** **20 14 38.3 -0.6**
baz=312
KURK Kurchatov 112.52 318 *e* iPKiKP **PKiKP** **20 14 38.8 -0.5**
KURK pmax pmax
comp=Z,29nm,0.8s
KURK Kurchatov 112.52 318 P **PKiKP** **20 14 38.7 -0.5**
ARXS Arharly 112.54 311 *e*PKiKP **PKiKP** **20 14 38.2 -1.5**
KURBB Kurchatov Arra 112.57 318 Pdiff **Pdif** **20 10 49.2 +0.7**
comp=Z,0.4nm,0.2s,baz=90,slow=2.8,SNR=1.2
KURBB PKiKP **PKiKP** **20 14 38.7 -0.7**
comp=Z,14nm,0.5s,baz=101,slow=1.9,SNR=79
KURBB PP **PP** **20 15 34.7 -5.4**
comp=Z,13nm,1.0s,baz=97,slow=5.6,SNR=10
KURBB SKP **SKPdf** **20 17 12.4 -0.8**
comp=Z,2.1nm,0.6s,baz=96,slow=2.0,SNR=4.5
KURBB PKKPbc **PKKPbc** **20 25 31.2 -0.3**
comp=Z,3.3nm,0.5s,baz=279,slow=4.0,SNR=10.0
MDOK Medeo 113.00 309 *i* PKiKP **PKiKP** **20 14 40.1 -0.6**
MDOK Medeo 113.00 309 *e*PKiKP **PKiKP** **20 14 40.1 -0.6**
baz=310
TNSS Tian-Shan 113.06 309 *i* PKiKP **PKiKP** **20 14 40.9 -0.2**
TNSS Tian-Shan 113.06 309 *e*PKiKP **PKiKP** **20 14 41.0 -0.2**
baz=309
AAA Alma-Ata 113.10 310 *i* PKiKP **PKiKP** **20 14 40.5 -0.2**
AAA Alma-Ata 113.10 310 *e*PKiKP **PKiKP** **20 14 40.5 -0.2**
baz=310
CHKK Chushkaly 113.11 310 *i* PKiKP **PKiKP** **20 14 39.8 -0.9**
CHKK Chushkaly 113.11 310 *e*PKiKP **PKiKP** **20 14 39.8 -0.9**
baz=310
KSH Kashi 113.42 305 PKP **PKiKP** **20 14 42.6 +1.0**
ULHL Ulahol 113.50 308 P **PKiKP** **20 14 42.9 +1.2**
SNR=6.8
KUU Kurty 113.58 310 *i* PKiKP **PKiKP** **20 14 40.5 -1.1**
KUU Kurty 113.58 310 *i* PKiKP **PKiKP** **20 14 40.5 -1.1**
baz=310
LONY Lake Ozonia 113.70 49 P **PKiKP** **20 14 41.6 -0.2**
baz=266
PAL Palisades 113.88 53 P **PKiKP** **20 14 42.0 -0.2**
baz=264
TKM2 Tokmak 2 114.03 309 P PKPdf 20 14 42.4 -0.4
SNR=15
KZA Kyzart 114.22 308 P **PKiKP** **20 14 43.7 +0.3**
SNR=6.2
KBK Karagaybulak 114.49 309 P PKPdf 20 14 43.5 -0.1
SNR=13
CHMS Chumysh 114.66 309 P PKPdf 20 14 43.5 -0.3
SNR=14
UCH Uchtor 114.78 308 P **PKiKP** **20 14 44.9 +0.4**
SNR=16
SGDS Sogindy 114.78 310 *i* PKiKP PKPdf 20 14 43.3 -0.7
SGDS Sogindy 114.78 310 *i* PKiKP PKPdf 20 14 43.4 -0.6
baz=310
AAK Ala-Archa 114.82 309 P PKPdf 20 14 44.0 -0.2
SNR=8.7
AAK Ala-Archa 114.82 309 PKPdf PKPdf 20 14 44.0 -0.2
AAK Ala-Archa 114.82 309 Pdiff **Pdif** **20 11 01.2 +2.2**
comp=Z,0.7nm,0.4s,baz=123,slow=5.7,SNR=5.9
AAK PKKPbc **PKKPbc** **20 25 23.0 -1.1**
comp=Z,2.0nm,0.4s,baz=198,slow=2.2,SNR=14
USP Ospenovka 114.86 309 P PKPdf 20 14 43.9 -0.2
SNR=16
NIL Nilore 114.88 299 P **PKiKP** **20 14 46.9 +2.5**
L61B Northampton 114.92 51 P PKPdf 20 14 44.0 -0.2
baz=266
BTLS Baital 115.29 311 *i* PKiKP **PKPdf** **20 14 44.3 -0.5**
BTLS Baital 115.29 311 *i* PKiKP **PKPdf** **20 14 44.3 -0.5**
baz=311
EKS2 Erkin-Say 115.35 309 P **PKPdf** **20 14 45.1 0.0**
SNR=6.9
AML Almayashu 115.38 308 P **PKPdf** **20 14 45.4 -0.2**
SNR=18
LBNH Lisbon 115.58 50 P **PKiKP** **20 14 45.9 +0.5**
baz=267
HRV Adam Dziewonsk 115.75 51 P **PKiKP** **20 14 46.0 +0.3**
baz=267
JASL Jaisalmer 115.88 291 *ex* **PKiKP** **20 14 46.9 +0.4**
BRZS Berezniki 116.31 317 *i* PKiKP **PKPdf** **20 14 45.7 -0.9**
BRZS Berezniki 116.31 317 *i* PKiKP **PKPdf** **20 14 45.7 -0.9**
baz=317
M65A Busby, Falmout 116.38 53 P **PKiKP** **20 14 47.7 +0.7**
baz=267
LMQ La Malbaie 116.78 46 **PKPdf** **20 14 46.6 -1.0**
NEEM North Greenlan 116.82 11 *i* P **PKPdf** **20 14 46.8 -0.5**
NEEM IAmb IAmb 20 14 49.4
comp=Z,24nm,0.6s
SJG San Juan 116.96 79 **PKPdf** **20 14 48.1 -0.6**
SJG San Juan 116.96 79 PKiKP **PKPdf** **20 14 48.2 -0.6**
DZA Taraz 117.16 309 *i* PKiKP **PKPdf** **20 14 48.1 -0.4**
DZA Taraz 117.16 309 *e*PKiKP **PKPdf** **20 14 48.1 -0.4**
baz=309
PKME Peaks-Kenny Pk 117.48 48 P **PKiKP** **20 14 49.5 +0.5**
baz=270
BVAR Borovoye Array 117.61 320 PKP **PKPdf** **20 14 48.6 -0.5**
comp=Z,70nm,0.4s,baz=115,slow=2.0,SNR=227
BVAR PKKPbc **PKKPbc** **20 25 13.4 -1.2**
comp=Z,0.9nm,0.5s,baz=251,slow=2.9,SNR=7.3
BRVK Borovoye 117.68 320 **PKPdf** **20 14 48.2 -0.9**
BRVK PP PP 20 16 04.6 -11
BRVK Borovoye 117.68 320 *c* iPKiKP **PKPdf** **20 14 48.7 -0.5**
BRVK pmax pmax
comp=Z,57nm,1.0s
BRVK Borovoye 117.68 320 P **PKPdf** **20 14 48.8 -0.3**
BOAV Boa Vista 117.75 98 **PKPdf** **20 14 49.8 -0.7**
KK31 Karatay Array 117.77 309 **PKPdf** **20 14 48.5 -1.2**
KK31 PP PP 20 16 06.7 -9.5
KK31 Karatay Array 117.77 309 PKiKP **PKPdf** **20 14 48.5 -1.2**
KKAR Karatay Array 117.77 309 **PKPdf** **20 14 48.9 -0.8**
KKAR Karatay Array 117.77 309 PKiKP **PKPdf** **20 14 48.9 -0.8**
UPNV Upernavik 118.03 16 *i* P **PKPdf** **20 14 48.5 -0.7**
KBL Kabul 118.45 299 **PKPdf** **20 14 50.7 -0.8**
KBL Kabul 118.45 299 PKiKP **PKPdf** **20 14 50.7 -0.8**
KBL Kabul 118.45 299 P **PKiKP** **20 14 52.0 +0.4**
SCHQ Schefferville 118.56 38 PKP **PKPdf** **20 14 50.2 -0.7**
comp=Z,8.4nm,0.8s,baz=303,slow=2.2,SNR=10
SCHQ PKKPbc **PKKPab** **20 25 13.1 -0.9**
comp=Z,3.2nm,0.6s,baz=89,slow=1.6,SNR=7.4
SIMJ Simiganj 118.75 304 **PKPdf** **20 14 51.1 -0.7**
SIMJ PP **PP** **20 16 16.1 -7.1**
VOI Vohitsoka 119.06 230 **PKPdf** **20 14 52.8 -0.2**
VOI Vohitsoka 119.06 230 PKP **PKiKP** **20 14 55.4 +2.3**
VOI Vohitsoka 119.06 230 P **PKiKP** **20 14 53.7 +0.6**
KBS Kingsbay 120.31 358 *e*PKPdf **PKiKP** **20 14 54.0 +0.4**
KBS IAmb IAmb 20 14 56.4
comp=Z,853nm,2.4s
KBS Kingsbay 120.31 358 *i* P **PKiKP** **20 14 53.7 0.0**
SAM Samarkand 120.38 305 PKiKP **PKiKP** **20 14 55.9 +0.9**
ABPO Ambohimpanom 120.53 233 **PKPdf** **20 14 55.5 -0.4**
ABPO Ambohimpanom 120.53 233 PKiKP **PKPdf** **20 14 55.5 -0.4**
BDFB Brasilia 120.61 123 **PKPdf** **20 14 55.1 -1.0**
BDFB Brasilia 120.61 123 PKP **PKPdf** **20 14 55.6 -0.5**
comp=Z,12nm,0.3s,baz=215,slow=3.0,SNR=17
BDFB PKKPbc **PKKPbc** **20 25 02.9 -1.0**
comp=Z,8.6nm,0.5s,baz=120,slow=3.2,SNR=10
SPA0 Spitsbergen Ar 120.81 356 *e*PKPdf **PKiKP** **20 14 54.7 0.0**
SPA0 IAmb IAmb 20 14 55.1
comp=Z,97nm,1.0s
SPA0 *e*SP SP 20 25 20.1 -1.4
SPITS Spitsbergen Ar 120.81 356 PKP **PKPdf** **20 14 54.5 -0.1**
comp=Z,26nm,0.4s,baz=76,slow=4.5,SNR=80
SPITS PKKPbc **PKKPbc** **20 25 03.6 0.0**
comp=Z,2.6nm,0.4s,baz=169,slow=4.8,SNR=10
SPB2 Spitsbergen Ar 120.81 356 **PKPdf** **20 14 54.0 -0.5**
OPO Ambohidratompo 120.83 233 PKP **PKPdf** **20 14 54.9 -1.6**
comp=Z,33nm,0.8s,baz=120,slow=2.2,SNR=24
FDF Fort de France 120.84 84 **PKPdf** **20 14 56.0 -0.4**
FDF Fort de France 120.84 84 PKiKP **PKPdf** **20 14 56.0 -0.4**

SVN Savane Anatole 120.85 84 PKPdf 20 14 55.9 -0.5
MSEY Mahe Island 121.14 252 P PKiK 20 14 58.4 +1.1
ILULI Ilulissat 121.18 19 *i* P PKPdf 20 14 54.7 -0.7
HOPEN Hopen 121.65 354 *e*PKPdf PKiK 20 14 56.7 +0.3
GRHM Grahamstown, E 122.12 205 PKiK 20 14 58.7 0.0
SFJD Kangerlussuaq 122.43 21 PKPdf 20 14 57.2 -0.6
SFJD Kangerlussuaq 122.43 21 PKIKP PKPdf 20 14 57.2 -0.6
SFJD Kangerlussuaq 122.43 21 *i* P PKPdf 20 14 57.2 -0.6
SUMG Summit 122.44 13 *i* P PKPdf 20 14 58.0 -0.3
SVE Sverdlovsk 122.55 326 *e*PKIKP PKPdf 20 14 58.4 0.0
SVE pmax pmax
comp=Z,82nm,0.9s
NUUK Nuuk 123.33 25 *i* P PKPdf 20 14 59.7 0.0
ARU Arti 123.76 326 PKPdf 20 14 60.0 -0.8
ARU PP PP 20 16 45.3 -10
ARU Arti 123.76 326 *i* PKIKP PKPdf 20 15 00.7 0.0
ARU 20 16 53.1
ARU 20 21 10.8
ARU Arti 123.76 326 PKP PKPdf 20 15 00.3 -0.5
comp=Z,89nm,0.4s,baz=88,slow=1.8,SNR=145
ARU PP PP 20 16 50.8 -4.8
comp=Z,26nm,1.0s,baz=87,slow=5.0,SNR=8.0
ARU PKKPbc PKKPab 20 24 51.7 +0.5
comp=Z,5.3nm,0.5s,baz=243,slow=3.3,SNR=15
HRA Herat 124.05 299 PKPpre 20 14 46.1
HRA PKPdf 20 15 01.2 -1.1
HRA PP PP 20 16 51.5 -7.1
BJO1 Bjornoya 124.10 354 *e*PKPdf PKiK 20 15 01.4 +0.2
BJO1 *e*SP SP 20 25 52.8 +2.4
DY2G Dye2 124.18 21 *i* P PKPdf 20 15 01.3 -0.3
NGCH Negor - Chabah 124.34 288 P PKiK 20 15 04.8 +1.7
ICESG Greenland Ices 124.57 16 *i* P PKPdf 20 15 01.6 -0.8
SUR Sutherland 124.97 201 PKP PKPdf 20 15 04.3 +0.1
comp=Z,45nm,0.7s,baz=209,slow=1.8,SNR=44
SUR SKP SKPdf 20 17 38.6 +0.5
comp=Z,13nm,1.0s,baz=194,slow=4.8,SNR=3.7
SUR PKKPbc PKKPbc 20 24 45.8 -2.6
comp=Z,6.0nm,0.7s,baz=352,slow=5.3,SNR=5.2
SUR Sutherland 124.97 201 P PKiK 20 15 05.7 +1.1
JLN Jalan Bani Buh 125.47 284 P PKiK 20 15 05.6 +0.1
SNR=7.3
AKTO Aktyubinsk 125.60 319 PKP PKPdf 20 15 04.3 -0.2
comp=Z,51nm,0.7s,baz=76,slow=1.6,SNR=104
AKTO PKKPbc PKKPbc 20 24 45.2 +0.2
comp=Z,2.3nm,0.6s,baz=286,slow=2.8,SNR=6.4
WBK Wadi Bani Khal 125.94 284 P PKiK 20 15 07.1 +0.6
IVI Ivigtut 126.16 27 *i* P PKPdf 20 15 04.4 -0.7
WSAR Wadi Sarin 126.34 285 SKP SKPdf 20 17 38.9 -1.6
comp=Z,8.3nm,0.8s,baz=81,slow=5.6,SNR=2.7
WSAR Wadi Sarin 126.34 285 P PKiK 20 15 07.9 +0.7
VADS Vadso 126.54 348 *e*PKPdf PKiK 20 15 06.2 0.0
MHTO MHTO 126.62 282 P PKiK 20 15 07.9 +0.1
SNR=12
BOSA Boshof 126.66 207 PKP PKPdf 20 15 07.6 +0.2
comp=Z,20nm,0.6s,baz=154,slow=1.9,SNR=34
JMDO Jabal Madar 126.70 284 P PKiK 20 15 08.0 0.0
SNR=6.6
BIDO Bidbid 126.83 285 P PKiK 20 15 08.8 +0.6
DQM DQM 126.84 281 P PKiK 20 15 08.3 0.0
SMDO Samad 126.85 285 P PKiK 20 15 08.7 +0.3
SNR=6.5
HAMF Hammerfest 127.07 351 *e*PKPdf PKPdf 20 15 05.7 -0.9
ISOG Isortoq, Green 127.12 20 *i* P PKPdf 20 15 06.7 -0.1
SCO Scoresbysund 127.22 9 *i* P PKPdf 20 15 07.1 +0.1
GEYT Alibeck 127.32 303 PKPpre 20 14 52.1
GEYT PKPdf 20 15 07.8 -0.4
GEYT PP 20 17 12.7 -6.9
GEYT Alibeck 127.32 303 PKHKP PKPpre 20 14 52.1
GEYT 20 15 07.8
GEYT Alibeck 127.32 303 PKHKP PKPpre 20 14 55.4
comp=Z,4.0nm,0.7s,baz=100,slow=3.3,SNR=6.8
GEYT PKP PKPdf 20 15 08.4 +0.2
comp=Z,39nm,0.8s,baz=87,slow=0.9,SNR=49
GEYT PP PP 20 17 15.9 -3.7
comp=Z,15nm,1.1s,baz=90,slow=2.9,SNR=9.0
JASK Jask - Hormozg 127.33 288 P PKiK 20 15 10.2 +1.1
NRS Narsarsuaq 127.34 26 *i* P PKPdf 20 15 06.7 -0.7
KIRV Kirov 127.56 330 *i* PKIKP PKPdf 20 15 07.3 -0.6
KIRV Kirov 127.56 330 PKP PKPdf 20 15 08.0 +0.1
comp=Z,63nm,0.5s,baz=85,slow=1.9,SNR=36
KIRV PP PP 20 17 16.8 -3.3
comp=Z,6.4nm,0.7s,baz=108,slow=7.9,SNR=4.1
BSY Bisya 127.58 284 P PKPdf 20 15 09.4 +0.3
SNR=6.7
APA Apatity 127.70 345 ⇓ *i* PKIKP PKPdf 20 15 03.3 -4.6
APA pmax pmax
comp=Z,16nm,0.7s
ARA0 ARCESS Array S 127.75 349 *e*PKPdf PKPdf 20 15 08.0 0.0
ARCES ARCESS Array B 127.75 349 PKHKP PKPpre 20 14 49.6
comp=Z,2.2nm,0.7s,baz=354,slow=1.0,SNR=9.4
ARCES PKP PKPdf 20 15 07.7 -0.3
comp=Z,28nm,0.4s,baz=57,slow=1.4,SNR=30
ARCES PKKPbc PKKPdf 20 24 36.4 -45
comp=Z,2.3nm,0.7s,baz=230,slow=3.8,SNR=6.6
ARCES PKKP 20 25 20.2
comp=Z,0.9nm,0.3s,baz=211,slow=2.5,SNR=13
ARQ Araqi 128.28 285 P PKiK 20 15 10.9 -0.3
SNR=5.5
SHAO Shalim 128.28 278 *i* PKPdf PKPdf 20 15 10.3 -0.2
SNR=11
SHAO Shalim 128.28 278 P PKiK 20 15 11.4 +0.2
SOHO SOHO 128.36 286 *i* PKPdf PKPdf 20 15 10.3 -0.2
SNR=27
SOHO SOHO 128.36 286 P PKPdf 20 15 10.7 +0.2
JETT Jettan, Norway 128.54 351 *e*PKPdf PKiK 20 15 10.0 -0.3
KTK1 Kautokeino 128.60 350 *e*PKPdf PKPdf 20 15 09.7 0.0
TRO Tromso 128.67 352 *e*PKPdf PKPdf 20 15 09.6 -0.1
TRO IAmb IAmb 20 15 10.1
comp=Z,57nm,0.9s
MDH Madha 128.69 287 P PKPdf 20 15 11.1 0.0
HATD Hatta, Dubai 128.79 287 *i* PKPdf PKPdf 20 15 11.4 +0.1
SNR=24
HATD Hatta, Dubai 128.79 287 P PKiK 20 15 12.1 0.0
SNR=6.6
MSFE Esma-Masafi 128.82 287 *i* PKiKP PKPdf 20 15 11.6 +0.2
SNR=13
MASF Masafi 128.82 287 P PKPdf 20 15 11.7 +0.3
ASHO Ashiyiah 128.85 286 *i* PKPdf PKPdf 20 15 11.3 -0.2
SNR=26
ASHO Ashiyiah 128.85 286 P PKiK 20 15 12.2 -0.1
DMTO DMTO 128.86 277 P PKiK 20 15 12.3 -0.1
SNR=7.9
SHME Shamm 128.90 288 PKiKP PKiK 20 15 12.1 -0.2
SHME Shamm 128.90 288 P PKiK 20 15 12.6 +0.3
ALNE Al Ain 129.06 286 *i* PKiKP PKPdf 20 15 12.1 +0.3
SNR=20
ALNE Al Ain 129.06 286 P PKiK 20 15 12.5 -0.2
SNR=6.1
NAZ Nazwa, Dubai 129.23 287 *i* PKPdf PKPdf 20 15 12.3 +0.1
SNR=7.9
NAZ Nazwa, Dubai 129.23 287 P PKiK 20 15 12.8 -0.2
FAQ Al Faqa, Dubai 129.27 286 PKPdf PKPdf 20 15 11.8 -0.5
FAQ Al Faqa, Dubai 129.27 286 P PKiK 20 15 13.0 0.0
UMQ Umm Al-Quwin 129.28 287 P PKiK 20 15 13.7 +0.7
UMZA Um Al Zommool 129.44 284 P PKiK 20 15 13.7 +0.3
ASUD Al Ashush, Dub 129.50 286 *i* PKiKP PKiK 20 15 13.5 0.0
SNR=12
ASUD Al Ashush, Dub 129.50 286 P PKiK 20 15 13.9 +0.4
RBK Rabkut 129.51 277 P PKiK 20 15 14.0 +0.2
SNR=11
LBTB Lobatse 129.61 210 PKPdf 20 15 12.2 -0.9
LBTB PP 20 17 33.0 0.0
LBTB Lobatse 129.61 210 PKP PKPdf 20 15 12.3 -0.7
comp=Z,7.9nm,0.4s,baz=155,slow=3.4,SNR=23
LBTB PP PP 20 17 30.3 -2.7
comp=Z,3.3nm,0.8s,baz=180,slow=13,SNR=1.7
DOK Doka 129.79 278 P PKiK 20 15 14.6 +0.4
SNR=8.3
AJN Ajban 129.81 286 P PKPdf 20 15 13.6 +0.4
WHFO Wadi Hawf 130.00 277 P PKPdf 20 15 14.1 +0.3
SNR=11
ABTO Aybut 130.33 277 P PKiK 20 15 15.5 +0.1
SNR=7.5
KLMR Klimovskoe 130.53 336 *e*PKIKP PKPdf 20 15 11.9 -1.6
KLMR pmax pmax
comp=Z,67nm,1.0s
LOF Lofoten 130.73 354 *e*PKPdf PKiK 20 15 14.2 -0.5
MZWR Madinat Zayed 130.73 285 P PKiK 20 15 16.2 +0.2
STEI Steigen 130.74 353 *e*PKPdf PKPdf 20 15 13.8 +0.1
MZR Muzera 131.02 284 PKiKP PKiK 20 15 16.7 0.0
MZR Muzera 131.02 284 P PKiK 20 15 17.5 +0.8
BELG Belogornoye 131.15 324 *i* PKIKP PKPdf 20 15 15.4 +0.5
BELG Belogornoye 131.15 324 PKP PKPdf 20 15 14.6 -0.3
comp=Z,142nm,0.6s,baz=80,slow=0.6,SNR=26
BELG SKPbc SKPab 20 17 40.0 -0.4
comp=Z,144nm,0.9s,baz=55,slow=0.6,SNR=19
FAUS Fauske 131.25 353 *e*PKPdf PKPdf 20 15 14.3 -0.4
GHWR Ruwais 131.67 285 P PKiK 20 15 19.0 +1.1
JRN Qarnain Island 131.77 286 P PKiK 20 15 19.0 +0.9
MATP Matopo 131.94 216 PKhKP PKPpre 20 14 59.8
comp=Z,0.5nm,0.3s,baz=130,slow=1.9,SNR=4.9
MATP PKP PKPdf 20 15 17.8 +0.1
comp=Z,16nm,0.6s,baz=163,slow=2.2,SNR=33
MATP SKPbc SKPab 20 17 44.3 -0.7
comp=Z,9.8nm,0.8s,baz=155,slow=5.1,SNR=11
KONS Konsvik 132.35 353 *e*PKPdf PKiK 20 15 17.7 -0.2
SLWR Sila 132.75 285 P PKiK 20 15 20.4 +0.3
TRNA Turayna 133.24 286 P PKiK 20 15 21.5 +0.5
SHMA Al-Shehemyia 133.53 287 P PKiK 20 15 22.1 +0.5
SMRA Abu-Samra 133.59 286 P PKiK 20 15 21.9 +0.1
NSS Namsos 134.39 353 *e*PKPdf PKiK 20 15 21.7 -0.5
NSS *ep*PKPdf *p*PKPdf 20 17 52.1 +0.4
MAK Makhachkala 134.47 312 *i* P Pdif 20 12 24.5 -1.6
MAK *e* 20 18 03.7
MAK *e* 20 21 36.5
MAK *e*SS SS 20 35 04.2 -1.3
MOS Moscow 134.50 332 *i* PKIKP PKPdf 20 15 19.8 -1.3
MOS *e* 20 17 39.9
MOS pmax pmax
comp=Z,72nm,0.9s
FINES FINESS Array B 134.51 343 PKhKP PKPpre 20 15 05.8
comp=Z,2.4nm,0.4s,baz=58,slow=4.1,SNR=29
FINES PKP PKPdf 20 15 21.6 +0.7
comp=Z,17nm,0.5s,baz=88,slow=2.9,SNR=7.8
FINES SKPbc SKPbc 20 17 49.5 -0.6
comp=Z,25nm,0.7s,baz=45,slow=3.0,SNR=15
FINES PKKPbc PKKPdf 20 24 15.4 -53
comp=Z,1.0nm,0.4s,baz=218,slow=4.5,SNR=5.8
FINES PKKP 20 25 06.3
comp=Z,4.5nm,1.0s,baz=169,slow=1.9,SNR=5.0
PUL Pulkovo 134.57 340 *c* *i* PKIKP PKPdf 20 15 21.7 +0.6
PUL pmax pmax
comp=Z,52nm,0.4s
VRH Novokhopyorsk 134.96 324 *e*PKIKP PKPdf 20 15 21.9 -0.2
VRH pmax pmax
comp=Z,81nm,0.5s
OBN Obninsk 135.36 331 ⇓ *i* PKIKP PKPdf 20 15 22.6 -0.1
OBN *e* 20 18 11.1
OBN pmax pmax
comp=Z,116nm,1.3s
OBN Obninsk 135.36 331 PKP PKPdf 20 15 22.1 -0.6
comp=Z,37nm,0.4s,baz=349,slow=2.5,SNR=8.9
OBN SKPbc SKPbc 20 17 52.0 -1.0
comp=Z,42nm,0.6s,baz=123,slow=17,SNR=4.1
LPSR Galich'ya Gora 135.71 327 *e*PKIKP PKPdf 20 15 21.6 -1.8
LPSR pmax pmax
comp=Z,40nm,0.6s
RCBR Riachuelo 135.95 121 PKhKP PKPpre 20 15 15.2
comp=Z,5.4nm,0.6s,baz=228,slow=5.2,SNR=5.1
RCBR PKP PKPdf 20 15 25.3 +0.2
comp=Z,16nm,0.9s,baz=32,slow=2.3,SNR=6.4
RCBR SKPbc SKPbc 20 17 57.1 +0.9
comp=Z,37nm,0.8s,baz=208,slow=5.3,SNR=16
VORR Voronezh 136.07 326 *e*PKIKP PKPdf 20 15 24.3 +0.1
VORR pmax pmax
comp=Z,144nm,0.9s
LSZ Lusaka 136.19 220 PKPpre 20 15 13.1
LSZ PKPdf PKPdf 20 15 24.9 -0.7
LSZ SKPbc SKPbc 20 17 55.6 -1.3
LSZ Lusaka 136.19 220 PKhKP PKPpre 20 15 14.3
comp=Z,5.4nm,0.4s,baz=147,slow=4.0,SNR=7.7
LSZ PKP PKPdf 20 15 25.4 -0.2
comp=Z,27nm,0.5s,baz=80,slow=2.0,SNR=18
LSZ SKPbc SKPbc 20 17 56.8 -0.1
comp=Z,2.0nm,0.3s,baz=157,slow=13,SNR=5.8
VSR Storozhevoye 136.34 326 *e*PKIKP PKPdf 20 15 24.1 -0.6
VSR pmax pmax
comp=Z,100nm,1.0s
VORD Divnogorie 136.40 325 *e*PKIKP PKPdf 20 15 22.9 -1.9
VORD pmax pmax
comp=Z,40nm,0.6s
VSU Vasula 136.75 340 *i* PKIKP PKPdf 20 15 25.8 +0.6
ZEI Tsey 137.05 312 *e*PKHKP PKPpre 20 15 18.9
ZEI pmax pmax
comp=Z,30nm,1.0s
DOMB Dombas 137.12 354 *e* PKPdf 20 15 18.0 -7.9
AKN Aaknes 137.15 356 *e*PKPdf PKPdf 20 15 19.0 -6.9
GNI Garni 137.23 308 PKhKP PKPpre 20 15 18.5
comp=Z,7.0nm,0.9s,baz=4.9,slow=23,SNR=3.8
GNI PKP PKPdf 20 15 26.6 -0.3
comp=Z,36nm,0.9s,baz=351,slow=8.1,SNR=12
GNI SKPbc SKPbc 20 17 57.9 -1.3
comp=Z,19nm,1.0s,baz=306,slow=18,SNR=2.9
GNI Garni 137.23 308 P PKPdf 20 15 27.6 +0.7
KBZ Khabaz 137.41 314 *c* *i* PKIKP PKiKP 20 15 29.4 +0.4
KBZ Khabaz 137.41 314 PKhKP PKPpre 20 15 17.5
comp=Z,5.5nm,0.9s,baz=43,slow=1.8,SNR=12
KBZ PKP PKPdf 20 15 27.2 +0.3
comp=Z,14nm,0.9s,baz=69,slow=2.9,SNR=6.1
KBZ SKPbc SKPbc 20 17 59.5 +0.1
comp=Z,8.7nm,1.0s,baz=83,slow=6.7,SNR=4.1
KIV Kislovodsk 137.48 315 *i* PKIKP PKPdf 20 15 26.9 -0.3
KIV *e* 20 18 17.9
KIV pmax pmax
comp=Z,21nm,1.1s
KIBK Kibwezi 137.49 243 PKPpre 20 15 17.3
KIBK SKiKP 20 18 03.9 -0.8
FOO Floro 137.84 357 *e* PKiKP 20 15 28.4 -0.9
NB2 NORSAR Subarra 137.86 352 PKP PKPdf 20 15 17.6 -10
comp=Z,9.6nm,0.9s,baz=16,slow=3.2
NB2 pPKP pPKPdf 20 18 01.8 +3.4
comp=Z,28nm,1.1s,baz=15,slow=4.6
NOA NORSAR Array B 137.86 352 PKhKP PKPpre 20 15 16.6
comp=Z,2.2nm,0.4s,baz=36,slow=1.2,SNR=36
NOA PKP PKPdf 20 15 26.8 -0.5
comp=Z,3.2nm,0.4s,baz=59,slow=1.5,SNR=5.8
NOA SKPbc SKPbc 20 17 59.8 -0.4
comp=Z,6.2nm,0.8s,baz=16,slow=4.4,SNR=6.5
NOA PKKPbc 20 23 54.7
comp=Z,2.0nm,0.9s,baz=18,slow=2.9,SNR=3.3
NC602 NORSAR Array S 138.12 352 *ed* 20 15 20.8
TSUM Tsumeb 138.17 204 PKPpre 20 15 20.9
TSUM Tsumeb 138.17 204 SKPbc SKPbc 20 18 01.7 -0.9
comp=Z,7.8nm,0.8s,baz=138,slow=3.1,SNR=2.9
HYA Hoyanger 138.21 356 *e* PKPdf 20 15 28.7 +1.0
ERBR Yeremizino-Bor 138.22 318 *i* PKIKP PKiKP 20 15 29.5 -1.1
ERBR *e* 20 21 40.2
ERBR pmax pmax
comp=Z,79nm,0.8s
HFS Hagfors 138.38 350 PKhKP PKPpre 20 15 18.7
comp=Z,24nm,0.4s,baz=70,slow=4.9,SNR=93
HFS SKPab SKPab 20 18 11.8 0.0
comp=Z,5.8nm,0.7s,baz=67,slow=5.3,SNR=3.6
LABN Labinsk 138.51 316 *i* PKIKP PKiKP 20 15 33.2 +2.0
LABN *e* 20 21 45.4
LABN pmax pmax
comp=Z,39nm,0.6s
SKAR Skarslia 138.53 354 *e*PKPdf PKPdf 20 15 29.4 +0.9
KMBO Kilima Mbogo 138.80 244 PKPpre 20 15 22.7
KMBO Kilima Mbogo 138.80 244 PKhKP PKPpre 20 15 18.8
comp=Z,5.6nm,0.5s,baz=95,slow=4.6,SNR=18
KMBO PKP PKPdf 20 15 29.4 -1.3
comp=Z,18nm,0.8s,baz=41,slow=4.6,SNR=13
KMBO SKPbc SKPbc 20 18 05.0 +0.3
comp=Z,9.4nm,1.0s,baz=64,slow=5.2,SNR=8.9
ATD Arta Tunnel 138.83 265 SKPbc SKPbc 20 18 03.9 -0.4
comp=Z,0.1nm,0.3s,baz=56,slow=12,SNR=1.7
ASK Askoy 138.95 357 *e*PKPdf PKPdf 20 15 24.5 -4.6
OSL Oslo 139.00 352 *e*PKPdf PKPdf 20 15 22.4 -6.8
BCA Borcka 139.09 311 ⇓ P PKPdf 20 15 24.0 -6.1
KONO Kongsberg 139.41 353 PKPpre 20 15 23.1
KONO Kongsberg 139.41 353 PKHKP PKPpre 20 15 23.1
KONO Kongsberg 139.41 353 *e*PKPdf PKPdf 20 15 25.5 -4.6
MNK Minsk 139.43 336 *i* PKHKP PKPpre 20 15 25.3
MNK *i* PPP PPP 20 21 40.4
MNK *i* 20 31 03.3
MNK *i* SS SS 20 35 59.3 -2.6
MNK *i* SSS SSS 20 41 23.7
MNK pmax pmax
comp=Z,51nm,0.9s
BLS5 Blasjo 139.92 356 *e*PKPdf PKPdf 20 15 26.6 -4.5
PABE Paberze 140.04 340 PKPpre 20 15 25.2
PABE Paberze 140.04 340 *e*P PKPdf 20 15 25.6 -5.7
KMY Karmoy 140.21 356 *e* PKPdf 20 15 23.4 -8.1
ANN Anapa 140.55 318 *i* PKIKP PKPdf 20 15 33.2 +0.7
ANN *e* 20 17 58.2
ANN pmax pmax
comp=Z,166nm,1.4s
HOMB Homborsund 140.88 354 *e*PKPdf PKPdf 20 15 28.9 -3.8
SNART Snartemo 140.94 355 *e*PKPdf PKPdf 20 15 27.9 -4.9
SUW Suwalki 141.52 339 *e*PKP PKPdf 20 15 27.6 -6.4
SUW Suwalki 141.52 339 *e*P PKPdf 20 15 27.7 -6.3
AKASG Malin Array Be 141.62 331 PKhKP PKPpre 20 15 29.6
comp=Z,60nm,0.4s,baz=43,slow=4.1,SNR=253
AKASG SKP SKPdf 20 18 06.2 -1.1
comp=Z,0.5nm,0.4s,baz=47,slow=2.1,SNR=2.2
AKASG SKPbc SKPbc 20 18 10.8 +0.4
comp=Z,7.3nm,0.7s,baz=39,slow=2.0,SNR=8.5
AKBB Malin Array Si 141.62 331 *i* PKiKP PKiKP 20 15 36.0 -1.4
KIEV Kiev 141.63 331 ⇑ P PKPdf 20 15 29.9 -4.4
KIEV Kiev 141.63 331 PKPpre 20 15 28.0
KIEV Kiev 141.63 331 PKHKP PKPpre 20 15 28.0
KIEV Kiev 141.63 331 *i* PKPdf PKPdf 20 15 30.1 -4.2
SNR=14
MCD Coleburn Disti 141.86 4 *e*P PKPdf 20 15 30.0 -4.5
KPL Plockton 141.92 6 *e*P PKPdf 20 15 31.1 -3.5
KLNR Kaliningrad 141.97 342 *i* PKIKP PKPdf 20 15 32.5 -2.2
SIM Simferopol' 142.53 320 *d* *i* PKIKP PKPdf 20 15 34.4 -1.7
SIM pmax pmax
comp=Z,713nm,1.0s
DRUM Mains of Drumt 142.57 3 *e*P PKPdf 20 15 32.7 -3.1
MUD Monsted U'grnd 142.58 352 *i* P PKPdf 20 15 33.0 -2.7
BSD Bornholm Skovb 142.88 347 *i* P PKPdf 20 15 33.4 -2.9
INVG Invergeldie, C 142.96 4 *e*P PKPdf 20 15 34.1 -2.3
LAWE Loch Awe, Argy 143.01 6 *e*P PKPab 20 15 34.7 0.0
DIKM Dikmen 143.41 315 ⇓ P PKPdf 20 15 37.6 -0.2
SSRD Sdr. Stenderup 143.47 352 *i* P PKPbc 20 15 36.4 0.0
EDI Edinburgh 143.51 4 *e*P PKPbc 20 15 35.5 -1.1
PGBU Glenifferbraes 143.53 5 *e*P PKPbc 20 15 35.7 -0.9
RGN Rugen 143.74 348 *e*P PKPbc 20 15 37.1 -0.1
SORM Soroca 143.79 328 ⇑ P PKPbc 20 15 37.2 -0.5
SORM Soroca 143.79 328 ⇑ PKIKP PKPbc 20 15 37.2 -0.5
GKP Gorka Klasztor 143.99 343 *e*PKP PKPab 20 15 38.8 +0.2
GKP Gorka Klasztor 143.99 343 *e*P PKPdf 20 15 38.4 +0.1
PURM Purcari 144.05 325 ⇑ P PKPab 20 15 39.6 +0.6
EKA Eskdalemuir Ar 144.10 4 PKP PKPbc 20 15 38.3 -0.1
comp=Z,82nm,0.8s,baz=345,slow=3.1,SNR=60
EKA SKP SKPdf 20 18 13.2 +1.9
comp=Z,4.5nm,1.1s,baz=291,slow=3.7,SNR=2.3
ESK Eskdalemuir 144.12 4 *e*P PKPbc 20 15 38.0 -0.5
BEL Belsk 144.14 339 *e*PKP PKPab 20 15 39.4 +0.2
NEWG New Galloway 144.24 5 *e*P PKPdf 20 15 38.4 -0.3
KIS Kishinev 144.31 327 ⇑ *i* PKP PKPdf 20 15 39.2 +0.1
comp=Z,1μm,1.5s
KIS Kishinev 144.31 327 ⇑ P PKPbc 20 15 39.3 0.0
KIS Kishinev 144.31 327 *c* *i* PKIKP PKPdf 20 15 39.0 -0.1
KIS pmax pmax
comp=Z,1μm,1.5s
MILM Milestii Mici 144.36 326 ⇓ *e*PKP PKPdf 20 15 39.0 -0.2
comp=Z,1μm,1.4s
MILM Milestii Mici 144.36 326 ⇓ P PKPab 20 15 40.3 +0.1
MILM Milestii Mici 144.36 326 *d* *i* PKIKP PKPdf 20 15 39.0 -0.2
MILM pmax pmax
comp=Z,1μm,1.4s
GAL1 Galloway 144.45 6 *e*P PKPdf 20 15 39.2 +0.1
MBAR Mbarara 144.50 239 *c* *i* PKIKP PKPab 20 15 41.7 -0.3
MBAR pmax pmax
comp=Z,326nm,1.0s
MBAR Mbarara 144.50 239 P PKPab 20 15 42.9 +0.9
LVV L'vov 144.53 334 *e*PKIKP PKPdf 20 15 38.3 -1.1
EDMD Edmundbyers 144.67 3 *e*P PKPbc 20 15 40.0 -0.1
KESW Keswick, Cumbr 144.85 4 *e*P PKPbc 20 15 40.1 +0.4
LEOM Leova 144.94 326 ⇓ P PKPbc 20 15 41.6 +0.4
LEOM Leova 144.94 326 ⇓ PKIKP PKPbc 20 15 41.6 +0.4
IOMK Kirk Michael 145.06 6 *e*P PKPbc 20 15 41.1 -0.2
VASR Vaslui 145.07 327 ⇑ P PKPab 20 15 43.4 +0.4
GDLE Glaisdale, N Y 145.12 2 *e*P PKPbc 20 15 41.7 +0.2
WIM Isle of Man 145.16 6 *e*P PKPbc 20 15 41.7 0.0
KWP Kalwaria Pacla 145.22 335 *e*PKP PKPdf 20 15 41.1 +0.5
BEIL Beino 145.33 303 *e*P PKPbc 20 15 43.5 +0.7
ASF Jabal al Asfar 145.34 299 PKPbc PKPdf 20 15 41.9 +0.4
comp=Z,190nm,0.9s,baz=158,slow=0.9,SNR=124
ASF SKP SKPdf 20 18 13.5 -0.7
comp=Z,20nm,0.9s,baz=0.0,slow=4.0,SNR=3.7
BR131 Keskin Array S 145.36 313 P PKPbc 20 15 43.2 +0.3
SNR=77
PRAR RASCA 145.36 329 ⇓ P PKPbc 20 15 42.7 +0.2
BRTR Keskin Array B 145.36 313 PKPbc PKPdf 20 15 41.1 -0.2
comp=Z,145nm,0.9s,baz=146,slow=2.5,SNR=210
BRTR SKP SKPdf 20 18 12.8 -1.2
comp=Z,7.0nm,1.0s,baz=121,slow=0.8,SNR=3.2
BIR Birlad 145.41 327 ⇑ P PKPbc 20 15 43.4 +0.8
BIR Birlad 145.41 327 ⇑ PKP2 PKPbc 20 15 43.4 +0.8
VLDR Vladesti 145.44 326 ⇑ P PKPbc 20 15 43.4 +0.7
TLCR 145.46 324 ⇓ P PKPbc 20 15 42.4 -0.4
TLCR 145.46 324 ⇓ PKIKP PKPbc 20 15 42.4 -0.4
HPK Haverah Park 145.56 3 *e*P PKPbc 20 15 42.8 0.0
RUE Ruedersdorf 145.57 346 *e*P PKPbc 20 15 43.1 +0.3
HWQ Hawqa 145.59 303 *e*P PKPbc 20 15 44.0 +0.3
SCTR Scanteiesti 145.60 325 ⇑ P PKPbc 20 15 43.6 +0.4
GIUM Giurgiulesti 145.61 325 ⇑ P PKPbc 20 15 43.7 +0.5
TATR Tatarca 145.62 325 ⇓ P PKPbc 20 15 43.9 +0.7
GHRR 145.66 326 ⇑ P PKPbc 20 15 44.3 +1.0
BURAR Bucovina Array 145.66 330 ⇑ P PKPbc 20 15 43.2 -0.2
BURAR Bucovina Array 145.66 330 ⇑ PKIKP PKPbc 20 15 43.2 -0.2
JURR Jurilovca 145.69 324 ⇑ P PKPbc 20 15 43.9 +0.5
TESR Tescani 145.74 328 ⇑ P PKPab 20 15 45.2 -0.5
NEGRR Negrea 145.75 325 ⇓ P PKPbc 20 15 44.1 +0.6
SLCR Slobozia Conac 145.77 326 ⇓ P PKPbc 20 15 44.7 +1.1
IZVR Izvoarele 145.81 325 ⇓ P PKPab 20 15 45.5 -0.4
SCHLR Schela 145.82 325 ⇓ P PKPbc 20 15 44.5 +0.7
TUDR 145.82 326 ⇓ P PKPab 20 15 45.5 -0.5
OJC Ojcow 145.84 338 *e*PKP PKPdf 20 15 41.6 0.0
CFR Carcaliu 145.84 325 ⇑ P PKPdf 20 15 42.3 +0.6
CFR Carcaliu 145.84 325 ⇑ PKIKP PKPdf 20 15 42.3 +0.6
ANTO Ankara 145.88 313 P PKPbc 20 15 44.6 +0.4
TPGR Topolog 145.89 324 ⇓ P PKPbc 20 15 44.7 +0.7
RCY Rachaya 145.89 301 *e*P PKPbc 20 15 45.0 +0.5
PANC Panciu 145.92 326 ⇓ P PKPbc 20 15 44.9 +0.8
WPS Cemaes, Angles 145.92 6 *e*P PKPbc 20 15 43.1 -0.7
BHL Bhannes 145.93 302 *e*P PKPbc 20 15 45.0 +0.4
KOLS Kolonicke sedl 145.95 334 *e*PKIKP PKPdf 20 15 42.9 +1.0
KOLS *e* 20 15 45.1
KOLS Kolonicke sedl 145.95 334 *e*PKP PKPdf 20 15 42.9 +1.0
KOLS *e* 20 15 45.1
KOLS *e* 20 18 13.0
STHS Stebnicka Huta 145.97 336 *e*PKP2 PKPbc 20 15 44.3 +0.2
STHS Stebnicka Huta 145.97 336 *e*PKP PKPbc 20 15 44.2 +0.2
STHS *e* 20 18 15.5
H07N1 FLORES T-PHASE 145.97 47 *e*PKP PKPbc 20 15 43.7 -0.7
ODBI Odobesti 146.04 326 ⇓ P PKiKP 20 15 45.9 -0.7
WLF1 Llynfaes 146.04 6 *e*P PKPbc 20 15 44.0 -0.1
DQRL Deir Qamar 146.05 302 *e*P PKPbc 20 15 45.7 +0.8
H07S1 FLORES T-PHASE 146.05 47 *e*PKP PKiKP 20 15 46.9 0.0
LMK Market Rasen 146.10 1 *e*P PKPbc 20 15 44.7 +0.5
LBWR Ladybower, Pea 146.11 3 *e*P PKPbc 20 15 44.4 +0.1
VRI Vrincioaia 146.14 327 ⇑ P PKPbc 20 15 45.0 +0.3
VRI Vrincioaia 146.14 327 ⇑ PKP2 PKPbc 20 15 45.0 +0.3
TIRR Tirgusor 146.14 323 ⇓ P PKPbc 20 15 45.0 +0.3
TIRR Tirgusor 146.14 323 ⇓ PKP2 PKPbc 20 15 45.0 +0.3
PLOR Plostina 146.19 327 ⇑ P PKPbc 20 15 45.5 +0.7
YLL Llanberis 146.21 5 *e*P PKPbc 20 15 43.6 -1.0
FLTG Flechtingen 146.25 348 *e*PKPbc PKPbc 20 15 45.5 +0.9
baz=19,slow=2.4
EFOR EFORIE 146.25 323 ⇓ P PKPbc 20 15 45.5 +0.6
HARR Harsova 146.26 324 ⇑ P PKPbc 20 15 45.4 +0.4
HARR Harsova 146.26 324 ⇑ PKP2 PKPbc 20 15 45.4 +0.4
TLBR Topalu 146.29 324 ⇓ P PKPbc 20 15 45.9 +0.8
CRVS Cervenica-Dubn 146.30 335 *e*PKIKP PKPdf 20 15 43.2 +0.7
CRVS *e* 20 15 46.0
CRVS Cervenica-Dubn 146.30 335 *e*PKP PKPdf 20 15 43.2 +0.7
CRVS *e* 20 15 46.0
CRVS *e* 20 18 17.4
NIE Niedzica 146.32 337 *e*PKP PKPdf 20 15 43.6 +1.1
BISRR Bisoca 146.36 326 ⇑ P PKiKP 20 15 46.5 -1.0
MMAI Mount Meron Ar 146.37 301 PKPbc PKPdf 20 15 44.0 +0.9
comp=Z,124nm,0.5s,baz=60,slow=4.9,SNR=156
MMAI SKP SKPdf 20 18 15.1 -0.7
comp=Z,17nm,0.8s,baz=76,slow=3.5,SNR=4.3
TURR Turia 146.37 328 ⇓ P PKPbc 20 15 46.1 +0.8
STNC Stoke 146.40 3 *e*P PKPbc 20 15 45.3 +0.3
BMR Baia Mare 146.40 332 ⇓ P PKPbc 20 15 45.1 -0.2
BMR Baia Mare 146.40 332 ⇓ PKIKP PKPbc 20 15 45.1 -0.2
KSP Ksiaz 146.42 342 *e*PKP PKPdf 20 15 43.3 +0.7
COVR Voineasa-Covas 146.42 327 ⇓ P PKPbc 20 15 45.4 -0.1
MANR Mangalia 146.44 322 ⇓ P PKPbc 20 15 45.8 +0.3
TSMN Mangalia Port- 146.44 322 ⇓ P PKPbc 20 15 45.6 +0.1
ARCR ARCALIA 146.45 330 ⇓ P PKPbc 20 15 45.8 +0.3
OZUR 146.46 328 ⇓ P PKPbc 20 15 46.2 +0.7
FOEL Foel Wylfa 146.53 4 *e*P PKPdf 20 15 43.9 +1.2

BOSR Bodos 146.54 328 ⇑P **PKPbc 20 15 45.6 -0.2**
LLW Llanuwychllyn 146.54 5 *e*P **PKPbc 20 15 44.8 -0.7**
ASSE Asse, Remlinge 146.54 349 *e*PKPbc **PKiKP 20 15 46.5 -0.8**
baz=19,slow=2.4
AMRR Amara 146.64 325 ⇓P **PKPbc 20 15 46.7 +0.7**
AMRR Amara 146.64 325 ⇓PKP2 **PKPbc 20 15 46.7 +0.7**
NEHR Nehoiu 146.66 327 ⇑P **PKPbc 20 15 46.6 +0.5**
OSTC Ostas 146.69 342 *e*PKIKP **PKPdf 20 15 44.1 +1.0**
OSTC *e* 20 15 46.9
OSTC Ostas 146.69 342 *e*PKP **PKPdf 20 15 44.1 +1.0**
OSTC *ex* x 20 15 46.9
OSTC *e*PPKP **pPKPdf 20 18 15.1 +0.6**
CHVC Chvalec 146.71 342 *e*PKIKP **PKPbc 20 15 44.7 -1.4**
CHVC *e* 20 15 47.0
CHVC Chvalec 146.71 342 *e*PKP **PKPbc 20 15 44.7 -1.4**
CHVC *ex* x 20 15 47.0
CHVC *e*pPKP pPKPbc 20 18 14.4 +0.1
OKC Ostrava-Krasne 146.72 339 *e*PKIKP **PKPbc 20 15 46.0 -0.1**
OKC *e* 20 18 14.8
OKC Ostrava-Krasne 146.72 339 *e*PKP **PKPbc 20 15 46.0 -0.1**
OKC *e*pPKP **pPKPdf 20 18 14.8 0.0**
ISR Istrita 146.74 326 ⇓P **PKPbc 20 15 46.3 0.0**
ISR Istrita 146.74 326 ⇓PKP2 **PKPbc 20 15 46.3 0.0**
DOPR Dopca 146.75 328 ⇓P **PKPbc 20 15 46.9 +0.6**
TGMR Targu Mures 146.77 330 ⇓P **PKPbc 20 15 46.6 +0.3**
CWF Charnwood Fore 146.79 2 *e*P **PKPbc 20 15 45.8 -0.4**
MLR Muntele Rosu 146.80 327 ⇑P **PKPbc 20 15 46.6 0.0**
MLR Muntele Rosu 146.80 327 PKP **PKPdf 20 15 43.0 -0.6**
comp=Z,232nm,1.1s,baz=94,slow=1.1,SNR=56
MLR PKPbc **PKPbc 20 15 46.6 0.0**
comp=Z,216nm,1.0s,baz=346,slow=4.8,SNR=103
MLR SKP **SKPdf 20 18 15.7 -0.4**
comp=Z,85nm,1.2s,baz=1.8,slow=4.2,SNR=13
UPC Upice 146.80 342 *e*PKIKP **PKPdf 20 15 44.0 +0.8**
UPC *e* 20 15 46.9
UPC Upice 146.80 342 *e*PKP **PKPdf 20 15 44.0 +0.8**
UPC *ex* x 20 15 46.9
UPC *e*pPKP **pPKPdf 20 18 14.9 +0.2**
PSN Preselentsi 146.80 323 P **PKPbc 20 15 47.0 +0.5**
CLL Collm 146.84 346 *e*PKIKP **PKPdf 20 15 44.0 +0.8**
CLL *e* 20 15 50.0
CLL pmax pmax
comp=Z,458nm,1.1s
CLL pmax pmax
comp=Z,254nm,0.9s
CLL Collm 146.84 346 *e*PKPdf **PKPdf 20 15 44.0 +0.8**
CLL ⇓*i*PKPbc **PKPbc 20 15 47.0 +0.7**
comp=Z,458nm,1.1s
CLL ⇓*e*PKiKP **PKPab 20 15 50.0 +0.1**
comp=Z,254nm,0.9s
CLL *e*pPKPdf pPKPbc 20 18 15.0 +0.3
CLL *e*(SKPbc) 20 18 26.0
WACR West Acre 146.85 0 *e*P **PKPbc 20 15 45.2 -0.5**
DPC Dobruska-Polom 146.85 342 *e*PKIKP **PKPdf 20 15 44.1 +0.7**
DPC *e* 20 15 47.1
DPC *e* 20 18 12.4
DPC Dobruska-Polom 146.85 342 *e*PKP **PKPdf 20 15 44.1 +0.7**
DPC *ex* x 20 15 47.1
DPC *e*pPKP pPKPab 20 18 12.4 -2.2
LANS Liptovska Anna 146.85 337 *e*PKIKP **PKPdf 20 15 44.7 +1.3**
LANS *e* 20 15 48.2
LANS Liptovska Anna 146.85 337 *e*PKP **PKPdf 20 15 44.7 +1.3**
LANS *e* 20 15 48.2
LANS *e* 20 18 19.9
CLZ Clausthal 146.87 349 *e*PKPbc **PKiKP 20 15 47.8 -0.5**
baz=19,slow=2.4
CLZ *e*pPKPbc pPKPbc 20 18 15.5 +0.6
KRLC Kraliky 146.95 341 *e*PKP2 **PKPbc 20 15 47.2 +0.4**
KRLC Kraliky 146.95 341 *e*PKP **PKPbc 20 15 47.2 +0.4**
MORC Moravsky Berou 146.97 340 *e*PKP **PKPdf 20 15 43.7 +0.1**
MORC *e* 20 15 47.3
MORC *e*pPKP **pPKPdf 20 18 15.4 +0.1**
KECS Kecovo 147.02 336 *e*PKP2 **PKPbc 20 15 47.7 +0.8**
KECS Kecovo 147.02 336 *e*PKP **PKPbc 20 15 47.7 +0.8**
KECS *e* 20 18 18.0
BRG Berggiesshubel 147.02 345 *i* PKIKP **PKPdf 20 15 44.4 +0.8**
BRG pmax pmax
comp=Z,26nm,1.1s
BRG Berggiesshubel 147.02 345 *e*pPKPbc pPKPbc 20 18 15.8 +0.6
BRG Berggiesshubel 147.02 345 ⇓*i*PKPf 20 15 44.5
BRG Berggiesshubel 147.02 345 Amp 20 15 45.4
comp=Z,26nm,1.1s
BRG Berggiesshubel 147.02 345 ⇑PKP **PKiKP 20 15 47.7 -0.8**
BRG Berggiesshubel 147.02 345 Amp 20 15 49.4
comp=Z,137nm,0.8s
BRG Berggiesshubel 147.02 345 PKPab **PKPab 20 15 51.4 +0.7**
BRG Berggiesshubel 147.02 345 Amp 20 15 53.1
comp=Z,106nm,0.9s
BRG Berggiesshubel 147.02 345 pPKP pPKPdf 20 18 15.1 -0.1
BRG Berggiesshubel 147.02 345 Amp 20 18 19.3
comp=Z,48nm,0.9s
MESR Meseseni 147.04 332 ⇑P **PKPbc 20 15 47.8 +0.8**
CJR Cluj-Napoca 147.07 331 ⇑P **PKPbc 20 15 47.9 +0.7**
CJR Cluj-Napoca 147.07 331 ⇑PKP2 **PKPbc 20 15 47.9 +0.7**
MDB Medias 147.12 329 ⇓P **PKPbc 20 15 47.8 +0.5**
MDB Medias 147.12 329 ⇓PKP2 **PKPbc 20 15 47.8 +0.5**
PVCC Panska Ves 147.18 344 *e*PKIKP **PKPdf 20 15 44.4 +0.6**
PVCC *e* 20 15 48.1
PVCC Panska Ves 147.18 344 *e*PKP **PKPdf 20 15 44.4 +0.6**
PVCC *ex* x 20 15 48.1
PVCC *e*pPKP **pPKPbc 20 18 15.9 +0.2**
SULR 147.18 326 ⇑P **PKPbc 20 15 47.6 +0.2**
NEUB Neuenburg 147.21 347 *e*pPKPbc pPKPbc 20 18 16.3 +0.4
GTTG Gottingen 147.23 349 *e*pPKPbc pPKPbc 20 18 16.2 +0.3
MAUC Maruska 147.24 339 *e*PKP **PKPdf 20 15 44.9 +0.9**
MAUC *ex* x 20 15 48.4
MAUC *ex* x 20 18 18.3
RICC Richard 147.28 344 *e*PKP **PKiKP 20 15 48.3 -0.8**
RICC *e*pPKP **pPKPab 20 18 19.4 +3.4**
VOIR 147.29 328 ⇓P **PKPbc 20 15 46.9 -0.9**
VOIR 147.29 328 ⇓PKIKP **PKPbc 20 15 46.9 -0.9**
LTVH Ltavrtes, Hu 147.31 333 ⇑P **PKPbc 20 15 47.7 0.0**
MARR Marisel-Cluj 147.32 331 ⇑P **PKPbc 20 15 48.5 +0.6**
RSBS Rosebush, Pemb 147.32 6 *e*P **PKPbc 20 15 47.0 -0.6**
HSKC Hora Svate Kat 147.39 345 *e*PKP **PKPdf 20 15 44.4 +0.2**
HSKC *ex* x 20 15 48.1
HSKC *ex* x 20 18 17.2
MCH1 Michaelchurch 147.44 4 *e*P **PKPbc 20 15 47.6 -0.2**
EIL Elat 147.47 295 PKP **PKPdf 20 15 44.8 -0.2**
comp=Z,56nm,0.8s,baz=38,slow=1.6,SNR=12
EIL PKPbc **PKPbc 20 15 49.0 +0.4**
comp=Z,141nm,0.9s,baz=18,slow=1.6,SNR=49
PRD Provadia 147.51 322 P **PKPbc 20 15 49.0 +0.7**
MONM Monmouth 147.61 4 *e*P **PKPbc 20 15 48.3 0.0**
VYHS Vyhne 147.63 337 *e*PKIKP **PKPdf 20 15 45.1 +0.4**
VYHS *e* 20 15 49.2
VYHS Vyhne 147.63 337 *e*PKP **PKPdf 20 15 45.1 +0.4**
VYHS *e* 20 15 49.2
VYHS *e* 20 18 20.7
PRA Prague 147.63 344 *e*PKP2 **PKPbc 20 15 48.7 +0.3**
PRA Prague 147.63 344 *e*PKP **PKPbc 20 15 48.7 +0.3**
SGRR Singureni 147.63 325 ⇓P **PKPbc 20 15 48.8 +0.2**
PRU Pruhonice 147.68 343 *e*PKIKP **PKPdf 20 15 44.9 +0.2**
PRU Pruhonice 147.68 343 *e*PKP **PKPdf 20 15 44.9 +0.2**
PRU *ex* x 20 15 48.7
PRU *e*pPKP **pPKPab 20 18 20.6 +3.0**
GOPC GO Pecny, Ondr 147.68 343 *e*PKIKP **PKPdf 20 15 44.9 +0.2**
GOPC *e* 20 15 48.3
GOPC GO Pecny, Ondr 147.68 343 *e*PKP **PKPdf 20 15 44.9 +0.2**
GOPC *ex* x 20 15 48.3
GOPC *e*pPKP **pPKPab 20 18 20.8 +3.1**
VRAC Vranov 147.69 341 ⇓P **PKPbc 20 15 48.4 -0.3**
VRAC Vranov 147.69 341 *e*PKP **PKPdf 20 15 44.8 +0.1**
VRAC *e* 20 15 49.2
VRAC *e*pPKP **pPKPbc 20 18 17.2 -0.2**
VRAC Vranov 147.69 341 PKP **PKPdf 20 15 43.9 -0.8**
comp=Z,73nm,1.1s,baz=309,slow=1.8,SNR=5.4
VRAC PKPbc **PKPbc 20 15 48.8 +0.2**
comp=Z,64nm,0.9s,baz=47,slow=1.2,SNR=48
VRAC SKP **SKPdf 20 18 16.2 -1.0**
comp=Z,15nm,1.0s,baz=352,slow=7.2,SNR=3.4
PSZ Piszkesteto 147.71 336 ⇑P **PKPbc 20 15 48.6 -0.2**
PSZ Piszkesteto 147.71 336 ⇑PKIKP **PKPbc 20 15 48.6 -0.2**
STRD Stroud 147.71 3 *e*P **PKPbc 20 15 48.4 -0.1**
JAVC Velka Javorina 147.72 339 *e*PKP **PKPdf 20 15 46.1 +1.2**
JAVC *e* 20 15 50.6
BUG Bochum--Univer 147.73 352 *e*pPKPbc pPKPbc 20 18 20.2 +2.3
ISK Istanbul-Kandi 147.74 318 P **PKPbc 20 15 48.6 -0.4**
RAZG Razgrad 147.77 324 ⇓P **PKPbc 20 15 48.7 -0.3**
TANN Tannenbergstha 147.80 346 *e*PKPbc **PKiKP 20 15 49.9 -0.3**
baz=19,slow=2.4

LOZB Loznitsa 147.85 323 ⇓P **PKPbc 20 15 48.7 -0.5**
LOT Lotru 147.92 329 ⇑P **PKPbc 20 15 49.4 0.0**
HUMR Humele 147.95 327 ⇓P **PKPbc 20 15 49.2 -0.2**
KRUC Moravsky 147.96 341 *e*PKP **PKPdf 20 15 44.7 -0.5**
KRUC *e* 20 15 49.8
NKC Novy Kostel 147.97 346 *e*PKHKP PKPpre 20 15 45.8
NKC *e* 20 15 49.9
NKC Novy Kostel 147.97 346 *e*PKP **PKPdf 20 15 45.8 +0.6**
NKC *ex* x 20 15 49.9
NKC *e*pPKP **pPKPab 20 18 22.7 +3.5**
SWN1 Swindon 147.99 3 *e*P **PKPbc 20 15 49.5 +0.2**
DEV Deva 148.01 330 ⇑P **PKPbc 20 15 47.7 -1.8**
DEV Deva 148.01 330 ⇑PKHKP PKPpre 20 15 47.7
TREC Trest 148.03 342 *e*PKHKP PKPpre 20 15 46.0
TREC Trest 148.03 342 *e*PKP **PKPdf 20 15 46.0 +0.7**
TREC *ex* x 20 15 49.5
TREC *e*pPKP **pPKPab 20 18 20.5 +1.6**
BSZH Besenyszg 148.06 335 ⇓P **PKPbc 20 15 48.8 -0.7**
SMOL Smolenice 148.10 339 *e*PKP2 **PKiKP 20 15 52.3 +1.5**
PCED Cedros 148.13 47 *e*PKP **PKPbc 20 15 49.7 -0.3**
CALA Caldeira 148.15 47 *e*PKP **PKPbc 20 15 50.4 +0.2**
WOL Wolverton 148.22 2 *e*P **PKPbc 20 15 49.6 -0.2**
SZH Strazhitsa 148.26 324 P **PKPbc 20 15 50.0 -0.2**
ZVC Zvikov 148.27 343 *e*PKP **PKPdf 20 15 46.2 +0.5**
ZVC *ex* x 20 15 50.3
ZVC *e*pPKP **pPKPab 20 18 20.7 +0.6**
MODS Modra-Piesok 148.28 339 *e*PKHKP PKPpre 20 15 46.6
MODS *e* 20 15 51.3
MODS Modra-Piesok 148.28 339 *e*PKP **PKPdf 20 15 46.6 +0.9**
MODS *e* 20 15 51.3
MODS *e* 20 18 21.5
SIRR Siria 148.28 332 ⇓P **PKPbc 20 15 49.6 -0.6**
PCAN Candelaria 148.35 47 *e*PKP **PKiKP 20 15 51.6 -0.1**
PICO Pico 148.38 47 *e*PKP **PKPbc 20 15 51.2 +0.5**
SRO Srobarova 148.39 337 *e*PKP2 **PKiKP 20 15 51.8 +0.4**
SRO Srobarova 148.39 337 *e*PKP **PKiKP 20 15 51.8 +0.4**
SRO *e* 20 18 23.5
ROSA Rosais 148.40 46 *e*PKP **PKiKP 20 15 51.4 -0.4**
ELSH Elham, Standar 148.42 360 *e*P **PKPbc 20 15 50.7 +0.4**
PGRA Graciosa 148.42 46 *e*PKP **PKPab 20 15 57.5 +0.6**
GZR Gura Zlata 148.43 330 ⇓P **PKPbc 20 15 49.7 -1.0**
GZR Gura Zlata 148.43 330 ⇓PKHKP PKPpre 20 15 49.7
JMB Yambol 148.44 322 P **PKPbc 20 15 51.0 +0.3**
ROTZ Rotzenmuhle 148.47 346 *e*PKPbc **PKiKP 20 15 51.6 +0.1**
baz=19,slow=2.4
ROTZ *e*pPKPbc **pPKPab 20 18 20.6 -0.3**
ZST Bratislava 148.49 339 *e*PKP2 **PKiKP 20 15 51.8 +0.2**
ZST Bratislava 148.49 339 *e*PKP **PKiKP 20 15 51.8 +0.2**
ZST *e* 20 18 20.2
PPNO Prainha do Nor 148.50 47 *e*PKP **PKiKP 20 15 51.9 -0.2**
ELND Elena 148.53 323 ⇓P **PKPdf 20 15 47.6 +1.3**
BEBN Eben Emael 148.54 354 *d*PKPbc **PKPbc 20 15 51.0 +0.4**
BEBN *d*PKPab **PKPab 20 15 57.2 +0.3**
PMAN Manadas 148.55 47 *e*PKP **PKiKP 20 15 51.7 -0.3**
PID Ribeirinha 148.62 47 *e*PKP **PKPbc 20 15 50.6 -0.7**
VLAD Vladila 148.62 326 ⇑P **PKPbc 20 15 50.5 -0.5**
AMBH Ambrzfalva 148.63 333 ⇑P **PKPbc 20 15 50.7 -0.3**
MEM Membach 148.69 354 *d*PKPdf **PKPdf 20 15 46.7 +0.4**
MEM *d*PKPbc **PKiKP 20 15 51.5 -0.4**
MEM *d*PKPab **PKPab 20 15 57.5 0.0**
BTNL Ternell 148.70 353 *d*PKPdf **PKPdf 20 15 46.6 +0.3**
BTNL *d*PKPbc **PKPbc 20 15 51.1 0.0**
BTNL *d*PKPab **PKPab 20 15 57.6 0.0**
HMNX Herstmonceux 148.70 1 *e*P **PKiKP 20 15 51.6 -0.3**
EDRB Edirne 148.71 321 P **PKPbc 20 15 50.1 -1.2**
KHC Kasperske Hory 148.72 344 *e*PKHKP PKPpre 20 15 47.0
KHC *e* 20 15 58.5
KHC Kasperske Hory 148.72 344 *e*PKP **PKPdf 20 15 47.0 +0.6**
KHC *ex* x 20 15 51.9
KHC *ex* x 20 15 58.5
KHC *e*pPKP **pPKPab 20 18 22.0 +0.2**
GRF Grafenberg Arr 148.75 347 *e*PKPbc **PKiKP 20 15 52.5 +0.4**
baz=19,slow=2.4
SRE Strehaia 148.76 328 ⇓P **PKiKP 20 15 52.0 -0.3**
SRE Strehaia 148.76 328 ⇓PKHKP PKPpre 20 15 52.0
BSTI Sart Tilman 148.76 354 *d*PKPdf **PKPdf 20 15 47.1 +0.7**
BSTI *d*PKPbc **PKiKP 20 15 51.7 -0.4**
PVL Pavlikeni 148.80 324 P **PKiKP 20 15 52.0 -0.4**
CKRC Cesky Krumlov 148.80 343 *e*PKHKP PKPpre 20 15 47.0
CKRC Cesky Krumlov 148.80 343 *e*PKP **PKPdf 20 15 47.0 +0.4**
CKRC *ex* x 20 15 52.1
CKRC *e*pPKP **pPKPbc 20 18 20.6 0.0**
WET Wettzell 148.88 345 *e*PKPbc **PKiKP 20 15 52.5 +0.1**
baz=19,slow=2.4
TIM Timisoara 148.89 332 ⇑P **PKiKP 20 15 52.9 +0.4**
TIM Timisoara 148.89 332 ⇑PKP2 **PKiKP 20 15 52.9 +0.4**
PLVB Pleven 148.92 325 ⇓P **PKPbc 20 15 51.6 -0.2**
GEC2 GERESS Array S 148.94 343 *e*PKPbc **PKiKP 20 15 52.7 0.0**
baz=19,slow=2.4
GEC2 *e*pPKPbc **pPKPbc 20 18 21.4 +0.3**
GERES GERESS Array B 148.94 343 PKP **PKPdf 20 15 49.3 +2.4**
comp=Z,101nm,0.8s,baz=15,slow=3.5,SNR=31
GERES PKPbc **PKPbc 20 15 52.2 +0.3**
comp=Z,101nm,0.8s,baz=20,slow=2.0,SNR=135
GERES SKP **SKPdf 20 18 17.9 -1.3**
comp=Z,2.2nm,0.9s,baz=96,slow=5.3,SNR=2.0
BHOU Houvegnez 148.95 354 *d*PKPdf **PKPdf 20 15 47.8 +1.1**
BHOU *d*PKPbc **PKiKP 20 15 52.6 0.0**
BHOU *d*PKPab **PKPab 20 15 58.5 -0.2**
BCLA Clavier 148.95 354 *d*PKPdf **PKPdf 20 15 46.9 +0.2**
BCLA *d*PKPbc **PKPbc 20 15 52.0 +0.4**
BCLA *d*PKPab **PKPab 20 15 58.7 +0.1**
HERR Herculane 148.98 329 ⇑P **PKPbc 20 15 51.6 -0.3**
PSBA Serra de Santa 149.00 46 *e*PKP **PKiKP 20 15 52.9 -0.1**
BGES Gesves 149.00 355 *d*PKPdf **PKPdf 20 15 46.8 0.0**
BGES *d*PKPbc **PKPbc 20 15 52.0 +0.2**
BGES *d*PKPab **PKPab 20 15 58.7 -0.2**
CCA1 Carnmenellis 149.01 8 *e*P **PKPbc 20 15 51.2 -0.6**
RMGR Halanga-Turnu 149.01 329 ⇓P **PKPbc 20 15 51.9 -0.1**
DJES Djerdap 149.09 329 ⇑P **PKPbc 20 15 52.3 +0.1**
PAGU Agualva, Azore 149.09 46 *e*PKP **PKPbc 20 15 52.4 0.0**
BMRD Maredsous 149.11 355 *d*PKPdf **PKPdf 20 15 47.3 +0.4**
BMRD *d*PKPbc **PKPbc 20 15 52.4 +0.4**
BMRD *d*PKPab **PKPab 20 15 58.9 -0.4**
ADH Angra Heroismo 149.12 46 *e*PKP **PKPbc 20 15 52.7 +0.3**
CONA Conrad Observa 149.13 340 *i* PKP **PKPdf 20 15 47.2 0.0**
comp=Z,16nm,1.1s
CONA *e*PKP **PKiKP 20 15 53.0 -0.1**
comp=Z,229nm,1.1s,SNR=32
CONA *e*pPKP **pPKPab 20 18 22.9 -0.4**
comp=Z,25nm,0.8s,SNR=7.4
BAIL Bailesti 149.15 327 ⇑P **PKiKP 20 15 53.3 +0.2**
PUNG Punghina 149.17 328 ⇓P **PKPbc 20 15 50.5 -1.9**
PSCM Serra do Cume 149.17 46 *e*PKP **PKiKP 20 15 53.4 0.0**
RONA Rosalia, Austr 149.19 339 *i* PKP **PKPdf 20 15 47.2 -0.1**
comp=Z,20nm,1.3s
RONA *e*PKP **PKiKP 20 15 53.0 -0.1**
comp=Z,104nm,0.7s,SNR=35
RONA *e*pPKP **pPKPab 20 18 22.7 -0.8**
comp=Z,29nm,0.9s
BANR Banloc 149.20 331 ⇑P **PKiKP 20 15 53.1 0.0**
RCHB Rochefort 149.22 354 *d*PKPdf **PKPdf 20 15 47.9 +0.7**
RCHB *d*PKPbc **PKiKP 20 15 52.7 -0.3**
DIM Dimitrovgrad 149.27 322 P **PKPbc 20 15 53.0 +0.3**
GIVF Givet 149.31 355 *e*PKHKP PKPpre 20 15 47.8
GIVF pmax pmax
comp=Z,337nm,1.0s
DOU Dourbes 149.33 355 *d*PKPbc **PKiKP 20 15 53.2 -0.1**
VALD Valchedram 149.34 327 P **PKPbc 20 15 53.0 +0.2**
KULA Kula-Manisa 149.34 314 P **PKPdf 20 15 47.6 -0.2**
MDVR Moldovita 149.39 330 ⇓P **PKPbc 20 15 52.2 -0.8**
MPEP Malo Peshtene 149.41 326 P **PKPbc 20 15 53.0 0.0**
MORH Mrgy, Hungar 149.59 335 ⇑P **PKiKP 20 15 54.0 0.0**
WLF Walferdange 149.61 353 *d*PKPdf **PKPdf 20 15 49.2 +1.4**
WLF *d*PKPbc **PKiKP 20 15 54.4 +0.5**
WLF *d*PKPab **PKPab 20 16 01.7 +0.3**
WLF Walferdange 149.61 353 *e*pPKPbc pPKPbc 20 18 24.6 +1.3
KDZ Kurdzhali 149.67 322 P **PKPbc 20 15 53.6 -0.1**
PLD Plovdiv 149.67 323 P **PKPbc 20 15 53.0 -0.6**
MOA Molln 149.69 342 *e*PKP **PKPbc 20 15 53.7 +0.2**
comp=Z,42nm,0.7s,SNR=11
MOA *e*pPKiKP **pPKiKP 20 18 24.0 -0.6**
comp=Z,5.0nm,0.6s
ALN Alexandroupoli 149.70 320 P **PKPbc 20 15 51.2 -2.5**
ENEZ Enez 149.73 320 P **PKPbc 20 15 53.4 -0.4**
PGB Panagyurishte 149.75 324 P **PKPbc 20 15 54.0 +0.1**
BLKB Belogradchik 149.77 328 ⇑P **PKPbc 20 15 52.7 -1.1**
KSL Kastellorizon 149.80 309 P **PKPbc 20 15 53.4 -0.7**
ARSA Arzberg 149.84 340 *i* PKP **PKPdf 20 15 47.9 -0.4**
comp=Z,10.0nm,1.1s
ARSA *e*PKP **PKPbc 20 15 53.9 0.0**
comp=Z,68nm,1.4s,SNR=8.5
ARSA *e*pPKP **pPKPbc 20 18 23.6 +0.2**
comp=Z,4.9nm,0.8s
FRGS Fruska Gora 149.96 333 ⇑P **PKPbc 20 15 53.4 -0.9**
FRGS Fruska Gora 149.96 333 ⇓*i*P **PKPbc 20 15 54.5 +0.2**
RZN Rozhen 149.97 323 P **PKiKP 20 15 55.0 -0.2**
BIOA Bad Ischl, Aus 150.01 343 *i* PKP **PKPdf 20 15 48.1 -0.4**
comp=Z,8.0nm,0.9s
BIOA *e*PKP **PKPbc 20 15 54.3 0.0**
comp=Z,76nm,0.9s,SNR=18
BIOA *e*pPKiKP **pPKiKP 20 18 24.7 -0.5**
comp=Z,19nm,1.1s
STU Stuttgart 150.03 349 *e*PKPbc **PKiKP 20 15 55.4 +0.6**
baz=19,slow=2.4
FUR Furstenfeldbru 150.18 346 *e*PKPbc **PKiKP 20 15 55.6 +0.4**
baz=19,slow=2.4
VTS Vitosha 150.19 326 P **PKPbc 20 15 55.0 0.0**
RJOB Jochberg 150.20 344 *e*PKPbc **PKiKP 20 15 55.3 0.0**
baz=19,slow=2.4
RJOB *e*pPKPbc **pPKPbc 20 18 25.5 +1.0**
BOVS Bovan 150.25 329 ⇑P **PKPbc 20 15 53.4 -1.5**
SMTH Samothraki Isl 150.27 320 P **PKPbc 20 15 54.0 -1.1**
JSA Saint Aubin 150.29 4 *e*P **PKPbc 20 15 54.9 +0.2**
KOGS Kog 150.29 338 *i* PKPbc **PKPbc 20 15 54.8 -0.1**
KOGS *e*PKPab **PKPab 20 16 04.8 +0.4**
BLCB Balcova 150.50 315 P **PKPbc 20 15 55.3 -0.4**
SOKA Soboth 150.50 340 *i* PKP **PKPdf 20 15 48.9 -0.5**
comp=Z,14nm,1.2s
SOKA *i* PKP **PKPbc 20 15 55.3 -0.2**
comp=Z,119nm,1.0s
SOKA *e*pPKP **pPKPbc 20 18 25.5 +0.5**
comp=Z,9.6nm,0.9s
LESA Schwarzleotal 150.52 344 *i* PKP **PKPdf 20 15 49.0 -0.4**
comp=Z,19nm,1.1s
LESA *i* PKP **PKPbc 20 15 55.6 0.0**
comp=Z,64nm,0.7s
LESA *e*pPKiKP **pPKiKP 20 18 26.8 +0.4**
comp=Z,7.0nm,0.7s
KAVA Kavala 150.55 322 P **PKPbc 20 15 55.5 -0.2**
TEKS Tekeris 150.56 332 ⇓*i*P **PKPbc 20 15 55.6 -0.1**
BFO Black Forest 150.61 350 **PKPdf 20 15 49.0 -0.4**
BFO PKPbc **PKPbc 20 15 55.7 +0.1**
BFO PKPab **PKPab 20 16 05.1 -0.6**
BFO **SKPdf 20 18 18.8 -2.7**
BFO Black Forest 150.61 350 *e*PKPbc **PKiKP 20 15 56.5 +0.4**
baz=19,slow=2.4
BFO *e*pPKPbc **pPKPbc 20 18 26.8 +1.3**
MMB Musomishta 150.63 323 P **PKPbc 20 15 56.0 +0.1**
KBA Koelnbreinsper 150.66 342 *i* PKP **PKPdf 20 15 48.9 -0.8**
comp=Z,12nm,1.0s
KBA *i* PKP **PKPbc 20 15 55.5 -0.5**
comp=Z,140nm,1.0s,SNR=16
KBA *i* pPKP **pPKPbc 20 18 26.1 +0.5**
comp=Z,12nm,0.9s
THAS Thassos island 150.68 321 P **PKPbc 20 15 53.8 -2.2**
NVR Nevrokopi 150.70 323 P **PKPdf 20 15 49.8 0.0**
CMLA Cha da Macela 150.73 46 *e*PKP **PKPdf 20 15 50.6 +0.7**
PCALD Caldeiras da R 150.74 46 *e*PKP **PKPdf 20 15 52.1 +2.2**
KKB Krupnik 150.78 324 P **PKPbc 20 15 56.0 -0.2**
FLN La Foliniere 150.79 2 *e*PKIKP **PKPdf 20 15 49.9 +0.3**
FLN pmax pmax
comp=Z,242nm,0.9s
OBKA Obir 150.80 340 *i* PKP **PKPdf 20 15 49.3 -0.5**
comp=Z,10nm,1.3s
OBKA *i* PKP **PKPbc 20 15 55.9 -0.4**
comp=Z,41nm,0.9s,SNR=10
OBKA *e*pPKiKP **pPKiKP 20 18 27.5 +0.5**
comp=Z,9.6nm,0.9s
OBKA Obir 150.80 340 ⇓*i*P **PKPbc 20 15 55.7 -0.5**
SIGR SIGRI 150.81 318 P **PKiKP 20 15 57.9 +1.2**
ARG Arkhangelos 150.82 310 P **PKiKP 20 15 56.7 -0.1**
PGRON Lagoa das Cont 150.83 46 *e*PKP **PKPdf 20 15 51.7 +1.6**
LIA Limnos Island 150.83 319 P **PKPdf 20 15 49.2 -0.7**
WATA Walderalm 150.89 345 *i* PKP **PKPdf 20 15 49.8 -0.2**
comp=Z,21nm,1.1s,SNR=12
WATA *i* PKP **PKPbc 20 15 56.4 0.0**
comp=Z,176nm,0.9s
WATA *e*pPKiKP **pPKiKP 20 18 27.2 -0.1**
comp=Z,12nm,0.8s
UBR Ueberruh 150.90 347 *e*PKPbc **PKiKP 20 15 57.1 +0.3**
baz=19,slow=2.4
RETA Reutte 150.94 346 *e*PKP **PKPbc 20 15 56.6 +0.1**
comp=Z,78nm,1.1s,SNR=8.6
RETA *e*pPKP **pPKPbc 20 18 25.5 -0.7**
comp=Z,6.1nm,0.6s
WTTA Wattenberg 150.94 345 *i* PKP **PKPdf 20 15 50.2 0.0**
comp=Z,33nm,1.2s,SNR=12
WTTA *e*PKP **PKPbc 20 15 56.6 0.0**
comp=Z,126nm,0.5s
WTTA *e*pPKP **pPKPbc 20 18 25.8 -0.6**
comp=Z,11nm,0.8s
PEHC Pehcevo 150.94 325 *i* P **PKiKP 20 15 57.3 +0.3**
BART Pico Bartolome 150.96 46 *e*PKP **PKPbc 20 15 53.7 -3.2**
KOKK Kokkinochori, 150.96 322 P **PKPbc 20 15 55.8 -0.9**
LDF La Druitiere 150.97 1 *e*PKIKP **PKPdf 20 15 49.2 -0.7**
LDF pmax pmax
comp=Z,190nm,1.0s
MYKA Terra Mystica 150.97 342 *i* PKP **PKPdf 20 15 49.5 -0.6**
comp=Z,15nm,1.2s
MYKA *i* PKP **PKPbc 20 15 56.0 -0.5**
comp=Z,48nm,0.7s,SNR=13
MYKA *e*pPKP **pPKPbc 20 18 26.7 +0.3**
comp=Z,18nm,0.8s
SMG Samos 150.99 314 P **PKPbc 20 15 56.5 -0.3**
MOTA Moosalm 150.99 346 *i* PKP **PKPdf 20 15 49.9 -0.3**
comp=Z,31nm,1.1s,SNR=8.3
MOTA *i* PKP **PKPbc 20 15 56.6 -0.1**
comp=Z,186nm,1.0s
MOTA *e*pPKiKP **pPKiKP 20 18 27.3 -0.3**
comp=Z,11nm,0.9s
BODT Bodrum 151.00 313 P **PKPbc 20 15 56.5 -0.4**
SRS Serrai 151.00 323 P **PKPbc 20 15 54.1 -2.7**
ROSF Rostrenen 151.05 6 *e*PKIKP **PKPdf 20 15 49.9 -0.1**
ROSF pmax pmax
comp=Z,136nm,1.0s
SQTA Sankt Quirin 151.08 345 *i* PKP **PKPdf 20 15 50.3 0.0**
comp=Z,27nm,1.0s,SNR=8.2
SQTA *e*PKP **PKPbc 20 15 57.0 +0.1**
comp=Z,123nm,1.0s
SQTA *e*pPKiKP **pPKiKP 20 18 27.7 0.0**
comp=Z,10nm,0.8s
CRES Cresnjev 151.10 339 ⇓*i*P **PKPbc 20 15 56.7 -0.1**
CHOS Chios island 151.15 316 P **PKPbc 20 15 56.8 -0.4**
GRR Gorron 151.16 2 *e*PKIKP **PKPdf 20 15 51.4 +1.2**
GRR pmax pmax
comp=Z,94nm,0.5s
BBLS Lazići 151.16 331 ⇓*i*P **PKPbc 20 15 56.8 -0.3**
HAPS Han Pijesak,Bl 151.19 332 ⇓*i*P **PKiKP 20 15 57.6 +0.1**
ABTA Abfaltersbach 151.19 343 *i* PKP **PKPdf 20 15 49.9 -0.5**
comp=Z,37nm,0.9s,SNR=9.3
ABTA *i* PKP **PKPbc 20 15 56.7 -0.4**
comp=Z,154nm,0.6s
ABTA *e*pPKiKP **pPKiKP 20 18 27.5 -0.3**
comp=Z,26nm,0.8s
HAU Haudompre 151.22 352 *e*PKIKP **PKPdf 20 15 50.7 +0.4**
HAU pmax pmax
comp=Z,58nm,0.5s
LJU Ljubljana 151.22 340 *i* PKPdf **PKPdf 20 15 50.5 +0.1**
LJU *i* PKPbc **PKiKP 20 15 57.3 0.0**
LJU *e*pPKPbc **pPKPbc 20 18 28.2 +1.2**
LJU *e* 20 18 29.9
LJU *i* pPKPab **pPKPab 20 18 32.0 +0.5**
A051A Mrakovica 151.27 336 ⇓*i*P **PKPbc 20 15 57.4 +0.1**
DAVA Damuels 151.32 347 *e*pPKiKP pPKiKP 20 18 27.8 -0.2
comp=Z,6.0nm,0.6s
CLUD Cludinico 151.35 342 **PKPdf 20 15 49.7 -0.9**
CLUD PKPbc **PKPbc 20 15 56.6 -0.8**
CLUD **SKPdf 20 18 22.8 +0.3**
SJES Sjenica 151.36 330 ⇓*i*P **PKiKP 20 15 58.0 +0.1**
KNT Kendrikon 151.36 324 P **PKPbc 20 15 55.7 -1.9**
RUDO Rudo 151.37 331 *e*P **PKPbc 20 15 57.2 -0.3**
BLY Banja Luka 151.38 335 ⇓*i*P **PKPbc 20 15 57.5 0.0**
FETA Feichten 151.38 346 *i* PKP **PKPdf 20 15 51.0 +0.2**
comp=Z,63nm,1.0s,SNR=17
FETA *e*PKP **PKiKP 20 15 57.9 +0.1**
comp=Z,97nm,1.0s
FETA

SABO				PKPbc	**PKPbc**	20 15 57.2	-0.7	
SABO				PKPab	**PKPab**	20 16 09.0	-0.9	
PLE	**Pljevlja**	151.58 331	ǁ	*i*PKP	**PKPbc**	20 15 58.2	+0.1	
SKO	**Skopje**	151.59 327		*i* P	**PKiKP**	20 15 58.3	0.0	
HORT	**Hortiatis**	151.63 323		P	**PKPbc**	20 15 56.7	-1.6	
IVA	**Berane**	151.70 330	ǁ	*i*PKP	**PKPbc**	20 15 58.4	+0.1	
MGRS	**Mrkonjic Grad**	151.70 335		*e*P	**PKPbc**	20 15 57.8	-0.4	
PAIG	**Paliouri**	151.72 321		P	**PKPbc**	20 15 56.7	-1.6	
GRG	**Griva**	151.78 324		P	**PKPbc**	20 15 57.4	-1.1	
DAVOX	**Davos/Dischmat**	151.80 347		SKP	**SKPdf**	20 18 23.4	+0.1	
	comp=Z,2.8nm,0.6s,baz=315,slow=2.9,SNR=1.1							
SKDS	**Skadanscina**	151.83 340	ǁ	*i*P	**PKPbc**	20 15 58.2	-0.3	
SKY	**Skiros Island**	151.83 318		P	**PKPbc**	20 15 58.0	-0.7	
A050A	**Klekovaca**	151.86 336	ǁ	*i*P	**PKPbc**	20 15 57.6	-1.0	
PVY	**Plav**	151.88 329	ǁ	*i*PKP	**PKPbc**	20 15 58.3	-0.5	
KOME	**Kolasin**	151.89 330	ǁ	*i*PKP	**PKiKP**	20 15 58.9	-0.1	
UPM	**Unac-Piva**	151.90 331	ǁ	*i*PKP	**PKPbc**	20 15 58.6	-0.4	
UPM	**Unac-Piva**	151.90 331		*e*P	**PKPbc**	20 15 58.5	-0.4	
CTI	**Castel Tesino**	152.06 344			**PKPdf**	20 15 50.6	-1.1	
CTI				PKPbc	**PKPbc**	20 15 58.0	-1.1	
CTI				PKPab	**PKPab**	20 16 11.3	-0.7	
CTI					**SKPdf**	20 18 21.4	-2.1	
NEVS	**Nevesinje**	152.18 332		*e*P	**PKPbc**	20 15 58.8	-0.6	
LOR	**Lormes**	152.20 356		*e*PKIKP	**PKPdf**	20 15 51.5	-0.3	
LOR				pmax	pmax			
	comp=Z,109nm,0.9s							
TUE	**Stuetta**	152.21 347			**PKPdf**	20 15 51.0	-1.1	
TUE				PKPbc	**PKiKP**	20 16 00.1	+0.5	
TUE				PKPab	**PKPab**	20 16 12.8	0.0	
TUE					**pPKPbc**	20 18 28.8	-0.8	
NKME	**Niksic**	152.22 331	ǁ	*i*PKP	**PKPbc**	20 15 59.1	-0.3	
KYMI	**Kymi, Euboea I**	152.26 318		P	**PKPbc**	20 15 57.5	-2.1	
BRY	**Bratogost**	152.30 331	ǁ	*i*PKP	**PKPbc**	20 15 59.4	-0.3	
BRY	**Bratogost**	152.30 331	ǁ	*i*P	**PKPbc**	20 15 59.3	-0.4	
CEME	**Cevo**	152.41 330	ǁ	*i*PKP	**PKPbc**	20 15 59.6	-0.3	
SSF	**Saint Saulge**	152.43 356		*e*PKIKP	**PKPdf**	20 15 50.0	-2.1	
SSF				pmax	pmax			
	comp=Z,73nm,1.6s							
FNA	**Florina**	152.46 325			**PKPdf**	20 15 51.7	-0.8	
FNA				PKPbc	**PKPbc**	20 15 58.9	-1.2	
FNA					**pPKPbc**	20 18 29.0	-1.2	
FNA	**Florina**	152.46 325		P	**PKPbc**	20 15 58.5	-1.5	
FNA	**Florina**	152.46 325		PKIKP	**PKPbc**	20 15 58.9	-1.2	
TREB	**Trebinje**	152.53 331	ǁ	*i*P	**PKPbc**	20 15 59.2	-0.9	
OHR	**Ohrid**	152.54 326		*i* P	**PKiKP**	20 16 00.7	+0.4	
DRME	**Dracevica, Mon**	152.56 329	ǁ	*i*PKP	**PKPbc**	20 15 59.6	-0.5	
DRME	**Dracevica, Mon**	152.56 329		*e*P	**PKPbc**	20 16 00.0	-0.1	
THR8	**Santorini-Mono**	152.60 313		P	**PKPbc**	20 15 59.1	-1.3	
BUM	**Brajici-Budva**	152.61 330	ǁ	*i*PKP	**PKPbc**	20 15 59.4	-0.9	
HCY	**Herceg Novi**	152.68 331	ǁ	*i*PKP	**PKPbc**	20 15 59.4	-1.0	
HCY	**Herceg Novi**	152.68 331		*e*P	**PKPdf**	20 15 54.6	+2.0	
ULC	**Ulcinj**	152.70 329	ǁ	*i*PKP	**PKPbc**	20 15 59.7	-0.8	
STON	**Ston**	152.70 332	ǁ	*i*P	**PKPbc**	20 16 00.0	-0.4	
ZKR	**Zakros**	152.71 310		P	**PKiKP**	20 16 00.8	0.0	
SALO	**Salr**	152.75 345			**PKPdf**	20 15 51.6	-1.0	
SALO					**PKPbc**	20 15 59.2	-1.3	
SALO				PKPab	**PKPab**	20 16 14.5	-0.3	
SALO					**pPKPbc**	20 18 30.5	+0.1	
ATHU	**Athens Univers**	152.86 317		P	**PKPbc**	20 15 59.7	-1.2	
NEST	**Nestorio**	152.90 325		P	**PKiKP**	20 16 02.5	+1.4	
VLY	**Voula,Athens**	152.92 317		P	**PKPbc**	20 15 58.0	-3.0	
THL	**Klokotos Trika**	152.93 322		P	**PKPbc**	20 15 57.8	-3.2	
VILL	**Villia**	153.04 318		P	**PKPbc**	20 15 59.6	-1.8	
KPRO	**Kipourio**	153.04 324		P	**PKPdf**	20 15 56.5	+3.2	
AXAR	**Agios Charalam**	153.07 320		P	**PKPbc**	20 16 00.7	-0.7	
AGG	**Agios Georgios**	153.10 321		P	**PKPbc**	20 16 00.5	-0.9	
MAKR	**Makrakomi, Fth**	153.22 321		P	**PKPbc**	20 16 01.4	-0.3	
TCF	**Toulx Ste Croi**	153.26 358		*e*PKIKP	**PKPdf**	20 15 53.8	+0.4	
TCF				pmax	pmax			
	comp=Z,77nm,1.0s							
LOUT	**Loutraki**	153.35 318		P	**PKPbc**	20 16 00.9	-1.1	
THAL	**Thalero**	153.52 319		P	**PKPbc**	20 16 00.8	-1.5	
IDI	**Anoyia**	153.58 311		P	**PKiKP**	20 16 03.7	+1.1	
LPL	**La Plagne**	153.60 351		*e*PKIKP	**PKPdf**	20 15 53.9	-0.2	
LPL				pmax	pmax			
	comp=Z,18nm,1.2s							
LPG	**La Plagne**	153.62 351		*e*PKIKP	**PKPdf**	20 15 56.3	+2.1	
LPG				pmax	pmax			
	comp=Z,47nm,1.3s							
ANX	**Ano Chora**	153.62 321		P	**PKiKP**	20 16 03.2	+0.5	
ALIK	**Aliki, Aigiali**	153.72 320		P	**PKiKP**	20 16 03.5	+0.8	
EFP	**Efpalio**	153.74 320		P	**PKiKP**	20 16 02.9	+0.1	
GUR	**Goura**	153.78 319		P	**PKPbc**	20 16 02.7	-0.3	
KLV	**Kalavryta, Ach**	153.83 319		P	**PKPbc**	20 16 02.7	-0.4	
PVO	**Paravola**	153.84 321		P	**PKiKP**	20 16 03.9	+0.9	
IGT	**Igoumenitsa**	153.91 324		P	**PKiKP**	20 16 03.2	+0.1	
BNI	**Bardonecchia**	154.07 350		PKPdf	**PKPdf**	20 15 53.0	-1.7	
BNI				PKPbc	**PKiKP**	20 16 03.8	+0.4	
BNI				PKPab	**PKPab**	20 16 21.3	+0.6	
BNI					**SKPdf**	20 18 25.8	-0.4	
BNI	**Bardonecchia**	154.07 350		PKIKP	**PKiKP**	20 16 03.8	+0.4	
BNI						20 16 21.3		
BNI						20 18 25.8		
IMMV	**Iera Moni Meta**	154.13 313		P	**PKPbc**	20 16 04.9	+1.2	
NYDR	**Nydri-Lefkada**	154.26 322		P	**PKPbc**	20 16 04.0	+0.2	
RJF	**Les Rejaudoux**	154.27 359		*e*PKIKP	**PKPdf**	20 15 55.3	+0.5	
RJF				pmax	pmax			
	comp=Z,33nm,0.9s							
EVGI	**Lefkada island**	154.35 322		P	**PKPbc**	20 16 04.5	+0.5	
MBDF	**Montbardon**	154.37 350		*e*PKIKP	**PKPdf**	20 15 58.0	+2.9	
MBDF				pmax	pmax			
	comp=Z,41nm,1.0s							
VIVF	**Saint-Julien-l**	154.52 354		*e*PKIKP	**PKPdf**	20 15 56.0	+0.8	
VIVF				pmax	pmax			
	comp=Z,30nm,1.1s							
MTLF	**Montolieu**	156.21 357		*e*PKIKP	**PKPdf**	20 15 58.0	+0.6	
MTLF				pmax	pmax			
	comp=Z,36nm,1.2s							
EPF	**Esparros**	156.54	1	*e*PKIKP	**PKPdf**	20 15 58.7	+0.8	
EPF				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ETSF	**Etsaut**	156.65	3	*e*PKIKP	**PKPdf**	20 15 59.8	+1.7	
ETSF				pmax	pmax			
	comp=Z,16nm,0.8s							
PBRG	**Braganca**	156.86	15	*e*PKPdf	**PKPdf**	20 15 58.8	+0.5	
PBRG	**Braganca**	156.86	15	*e*PKPab	**PKPab**	20 16 33.3	+0.6	
POLO	**Lamas de Olo**	157.00	17	*e*PKPdf	**PKPdf**	20 15 59.5	+0.9	
POLO	**Lamas de Olo**	157.00	17	*e*PKPab	**PKPab**	20 16 34.2	+0.9	
PVRL	**Vila Real**	157.11	17	*e*PKPdf	**PKPdf**	20 15 59.6	+0.9	
PVRL	**Vila Real**	157.11	17	*e*PKPab	**PKPab**	20 16 34.8	+1.0	
MVO	**Moncorvo**	157.39	16	*e*PKPdf	**PKPdf**	20 15 59.9	+0.9	
MVO	**Moncorvo**	157.39	16	*e*PKPab	**PKPab**	20 16 36.3	+1.3	
PVIS	**Viseu**	157.58	18	*e*PKPdf	**PKPdf**	20 16 00.0	+0.7	
PVIS	**Viseu**	157.58	18	*e*PKPab	**PKPab**	20 16 36.9	+1.1	
MTE	**Manteigas**	157.97	17	*e*PKPdf	**PKPdf**	20 16 01.0	+1.2	
MTE	**Manteigas**	157.97	17	*e*PKPab	**PKPab**	20 16 38.5	+0.9	
PCAS	**Casmilo, Conde**	158.01	19	*e*PKPdf	**PKPdf**	20 16 00.7	+1.0	
PCAS	**Casmilo, Conde**	158.01	19	*e*PKPab	**PKPab**	20 16 38.4	+0.7	
PCBR	**Castelo Branco**	158.51	18	*e*PKPdf	**PKPdf**	20 16 01.4	+1.1	
PCBR	**Castelo Branco**	158.51	18	*e*PKPab	**PKPab**	20 16 40.9	+1.1	
PMRV	**Marv??o**	158.92	18	*e*PKPdf	**PKPdf**	20 16 01.7	+0.9	
PMRV	**Marv??o**	158.92	18	*e*PKPab	**PKPab**	20 16 42.3	+0.6	
PMTG	**Montargil**	158.99	20	*e*PKPdf	**PKPdf**	20 16 01.4	+0.5	
PMTG	**Montargil**	158.99	20	*e*PKPab	**PKPab**	20 16 42.4	+0.4	
PACT	**Alcochete**	159.06	22	*e*PKPdf	**PKPdf**	20 16 02.8	+1.8	
PESTR	**Estremoz**	159.37	19	*e*PKPdf	**PKPdf**	20 16 02.6	+1.2	
PESTR	**Estremoz**	159.37	19	*e*PKPab	**PKPab**	20 16 44.3	+0.6	
ESDC	**Sonseca Array**	159.48	11	PKP	**PKPdf**	20 16 00.6	-0.9	
	comp=Z,7.1nm,0.9s,baz=350,slow=2.5,SNR=28							
ESDC				PKPab	**PKPab**	20 16 44.6	+0.5	
	comp=Z,22nm,0.9s,baz=342,slow=3.8,SNR=24							
ESDC				PP	**PP**	20 20 29.8	+2.4	
	comp=Z,1.7nm,1.0s,baz=18,slow=5.4,SNR=4.2							
EVO	**Evora**	159.55	20	*e*PKPdf	**PKPdf**	20 16 02.7	+1.2	
EVO	**Evora**	159.55	20	*e*PKPab	**PKPab**	20 16 45.1	+0.7	
PNCL	**Nicolau / Gran**	159.75	22	*e*PKPdf	**PKPdf**	20 16 03.0	+1.2	
PNCL	**Nicolau / Gran**	159.75	22	*e*PKPab	**PKPab**	20 16 46.2	+0.9	
PBEJ	**Beja**	160.05	20	*e*PKPdf	**PKPdf**	20 16 03.4	+1.3	
PBEJ	**Beja**	160.05	20	*e*PKPab	**PKPab**	20 16 47.5	+0.8	
MESJ	**Messejana**	160.10	21	*e*PKPdf	**PKPdf**	20 16 03.2	+1.0	
MESJ	**Messejana**	160.10	21	*e*PKPdf	**PKPdf**	20 16 03.1	+0.9	
PBAR	**Barrancos**	160.18	19	*e*PKPdf	**PKPdf**	20 16 03.4	+1.2	
PBAR	**Barrancos**	160.18	19	*e*PKPab	**PKPab**	20 16 48.2	+1.0	
PTEO	**Sao Teotonio**	160.19	23	*e*PKPdf	**PKPdf**	20 16 03.6	+1.3	
PTEO	**Sao Teotonio**	160.19	23	*e*PKPab	**PKPab**	20 16 48.1	+0.9	
PCVE	**Castro Verde**	160.35	21	*e*PKPdf	**PKPdf**	20 16 03.7	+1.2	
PCVE	**Castro Verde**	160.35	21	*e*PKPab	**PKPab**	20 16 49.0	+1.0	
MORF	**Marmelete**	160.43	23	*e*PKPdf	**PKPdf**	20 16 04.5	+1.9	
MORF	**Marmelete**	160.43	23	*e*PKPdf	**PKPdf**	20 16 03.4	+0.8	
PVAQ	**Vaqueiros**	160.67	21	*e*PKPab	**PKPab**	20 16 50.5	+1.1	
PBDV	**Barranco-do-Ve**	160.74	22	*e*PKPdf	**PKPdf**	20 16 04.5	+1.6	
KEST	**Kesra**	162.18 337		PKP	**PKPdf**	20 16 03.0	-1.5	
	comp=Z,12nm,0.9s,baz=288,slow=3.2,SNR=9.4							
KEST				PKPab	**PKPab**	20 16 56.4	+0.2	
	comp=Z,48nm,0.9s,baz=322,slow=4.1,SNR=17							
LIC	**Lamto**	165.62 156	ǁ	*e*PKIKP	**PKPdf**	20 16 07.5	-0.6	
	comp=Z,135nm,1.0s							
LIC	**Lamto**	165.62 156	ǁ	*e*P	**PKPab**	20 17 13.2	+1.5	
	comp=Z,89nm,0.9s							
KIC	**Kosan Boka**	165.85 157	⇑	*e*PKIKP	**PKPdf**	20 16 07.5	-0.8	
	comp=Z,101nm,0.9s							
KIC	**Kosan Boka**	165.85 157	ǁ	*e*P	**PKPab**	20 17 14.2	+1.5	
	comp=Z,72nm,0.9s							
TIC	**Toumodi**	166.01 155	⇑	*e*PKIKP	**PKPdf**	20 16 07.9	-0.5	
	comp=Z,71nm,0.9s							
TIC	**Toumodi**	166.01 155	⇑	*i*P	**PKPab**	20 17 15.2	+1.8	
	comp=Z,65nm,0.9s							
DBIC	**Dimbokro**	166.09 156	ǁ	PKIKP	**PKPdf**	20 16 08.1	-0.4	
DBIC	**Dimbokro**	166.09 156		PKP	**PKPdf**	20 16 07.9	-0.6	
	comp=Z,18nm,0.7s,baz=188,slow=1.1,SNR=21							
DBIC				PKPab	**PKPab**	20 17 14.8	+1.0	
	comp=Z,23nm,0.9s,baz=151,slow=4.2,SNR=8.8							
TOA0	**Torodi Ar. Sit**	173.62 188			**PKPdf**	20 16 11.4	-1.2	
TOA0				PKPab	**PKPab**	20 17 46.8	-0.3	
TOA0					**PP**	20 21 35.9	-2.4	
TOA0	**Torodi Ar. Sit**	173.62 188		P	**PKPdf**	20 16 12.1	-0.6	
TORD	**Torodi Ar. Bea**	173.62 188			**PKPdf**	20 16 11.3	-1.4	
TORD					**PKPab**	20 17 46.9	-0.2	
TORD					**PP**	20 21 36.2	-2.1	
TORD	**Torodi Ar. Bea**	173.62 188		PKP	**PKPdf**	20 16 12.1	-0.5	
	comp=Z,16nm,0.8s,baz=90,slow=0.8,SNR=56							
TORD				PKPab	**PKPab**	20 17 47.6	+0.6	
	comp=Z,5.3nm,0.6s,baz=131,slow=4.3,SNR=7.4							
TORD				PP	**PP**	20 21 38.5	+0.2	
	comp=Z,4.0nm,0.8s,baz=128,slow=3.8,SNR=5.9							

*DNK **16** 19:58:04.8±2.3,51°.29N×16°.38E,h31km±7.7km,ML3.0*
*IPEC **16** 19:58:06.6±0.2,51°.48N×16°.28E,h1km,ML1.9/4,Error ellipse: s-maj=1.8km s-min=1.1km az=46.0*
*PRU **16** 19:58:08.5,51°.40N×16°.17E,h0km*
ISC 16 19:58:04.9±0.8,**51°.55N**±0°.03×**16°.31E**±0°.03,**h0km**,**n31**, σ0**97**/67,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**181**	*e*Pg	**Pg**	**19 58 18.9**	**+0.5**
KSP				*e*Sg	**Sg**	**19 58 26.9**	**-0.7**
CHVC	**Chvalec**	**0.98**	**190**	*e*PG	**Pg**	**19 58 24.1**	**+0.5**
CHVC				*e*SG	**Sg**	**19 58 34.4**	**-1.8**
	comp=Z,22nm,0.5s						
OSTC	**Ostas**	**1.00**	**184**	*e*PG	**Pg**	**19 58 24.4**	**+0.4**
OSTC				*e*SG	**Sg**	**19 58 35.3**	**-1.6**
	comp=Z,29nm,0.6s						
UPC	**Upice**	**1.06**	**190**	*e*PG	**Pg**	**19 58 25.1**	**-0.1**
UPC				*e*SG	**Sg**	**19 58 37.0**	**-1.9**
	comp=Z,38nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**180**	*e*PG	**Pg**	**19 58 27.8**	**-0.1**
DPC				*e*SG	**Sg**	**19 58 42.3**	**-1.1**
	comp=Z,20nm,0.8s						
PVCC	**Panska Ves**	**1.50**	**228**	*e*PG	**Pn**	**19 58 33.2**	**+0.1**
PVCC				*e*SG	**Sg**	**19 58 51.8**	**-1.3**
	comp=Z,64nm,0.3s						
BRG	**Berggiesshubel**	**1.64**	**246**	Pg	**Pg**	**19 58 36.5**	**+0.3**
BRG				Sg	**Sn**	**19 58 56.5**	**-0.1**
BRG				Amp		19 58 58.0	
	comp=Z,17nm,0.4s						
RICC	**Richard**	**1.72**	**235**	*e*PG	**Pn**	**19 58 36.3**	**+0.2**
RICC				*e*SG	**Sn**	**19 58 58.8**	**0.0**
	comp=Z,31nm,0.5s						
PRA	**Prague**	**1.90**	**220**	*e*PG	**Pn**	**19 58 39.0**	**+0.5**
PRA				*e*SG	**Sn**	**19 59 03.7**	**+0.5**
	comp=Z,12nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.90**	**211**	*e*PG	**Pb**	**19 58 40.1**	**-0.4**
GOPC				*e*SG	**Sn**	**19 59 02.5**	**-0.8**
	comp=Z,14nm,0.8s						
PRU	**Pruhonice**	**1.93**	**216**	*e*PG	**Pb**	**19 58 40.3**	**-0.5**
PRU				*e*SG	**Sn**	**19 59 03.9**	**+0.1**
	comp=Z,18nm,0.2s						
MORC	**Moravsky Berou**	**1.94**	**156**	*e*Pn	**Pn**	**19 58 39.7**	**+0.6**
	baz=335						
MORC				*e*Sg	**Sb**	**19 59 05.3**	**-0.6**
	comp=Z,8.5nm,0.4s,baz=335						
MORC	**Moravsky Berou**	**1.94**	**156**	*e*PN	**Pn**	**19 58 39.8**	**+0.6**
MORC				*e*SG	**Sb**	**19 59 05.4**	**-0.5**
HSKC	**Hora Svate Kat**	**2.05**	**244**	*e*PN	**Pn**	**19 58 41.4**	**+0.8**
HSKC				*e*PG	**Pb**	**19 58 43.2**	**+0.3**
HSKC				*e*SG	**Sb**	**19 59 08.3**	**-0.6**
	comp=Z,12nm,0.3s						
OKC	**Ostrava-Krasne**	**2.08**	**145**	*e*SG	**Sg**	**19 59 11.8**	**+0.3**
	comp=Z,13nm,0.6s						
CLL	**Collm**	**2.09**	**265**	*e*Pg	**Pb**	**19 58 44.0**	**+0.5**
CLL				*e*Sg	**Sg**	**19 59 12.0**	**+0.2**
	comp=Z,11nm,0.8s						
VRAC	**Vranov**	**2.25**	**175**	*e*Pn	**Pn**	**19 58 43.9**	**+0.6**
	baz=355						
VRAC				*e*Sg	**Sb**	**19 59 14.7**	**-0.1**
	comp=Z,6.3nm,0.4s,baz=355						
VRAC	**Vranov**	**2.25**	**175**	*e*PN	**Pn**	**19 58 44.0**	**+0.6**
VRAC				*e*SG	**Sb**	**19 59 14.8**	**-0.1**
TREC	**Trest**	**2.32**	**193**	*e*PN	**Pn**	**19 58 45.7**	**+1.4**
TREC				*e*PG	**Pb**	**19 58 47.5**	**-0.1**
TREC				*e*SG	**Sb**	**19 59 16.8**	**0.0**
	comp=Z,6.4nm,0.3s						
KRUC	**Moravsky**	**2.49**	**179**	*e*Pn	**Pn**	**19 58 47.2**	**+0.5**
	baz=358						
KRUC				*e*Sg	**Sb**	**19 59 22.4**	**+0.7**
	comp=Z,5.4nm,0.5s,baz=358						
ZVC	**Zvikov**	**2.51**	**213**	*e*PN	**Pn**	**19 58 47.2**	**+0.3**
ZVC				*e*PG	**Pb**	**19 58 51.4**	**+0.6**
ZVC				*e*SG	**Sb**	**19 59 22.0**	**-0.2**
	comp=Z,14nm,0.8s						
NKC	**Novy Kostel**	**2.78**	**243**	*e*PN	**Pn**	**19 58 51.0**	**+0.4**
NKC				*e*PG	**Pb**	**19 58 55.9**	**+0.5**
NKC				*e*SG	**Sg**	**19 59 32.2**	**-1.9**
	comp=Z,16nm,0.4s						
KHC	**Kasperske Hory**	**2.99**	**217**	*e*PN	**Pn**	**19 58 54.8**	**+1.3**
KHC				*e*PG	**Pb**	**19 58 59.1**	**+0.1**
KHC				*e*SN	**Sn**	**19 59 29.2**	**-0.9**
KHC				*e*SG	**Sb**	**19 59 37.7**	**+1.7**
	comp=Z,5.5nm,0.8s						
CKRC	**Cesky Krumlov**	**3.02**	**206**	*e*PN	**Pn**	**19 58 54.7**	**+0.7**
CKRC				*e*PG	**Pb**	**19 58 59.7**	**+0.2**
CKRC				*e*SG	**Sb**	**19 59 38.4**	**+1.4**
LANS	**Liptovska Anna**	**3.14**	**139**	*e*SG	**Sg**	**19 59 44.6**	**-1.1**
MODS	**Modra-Piesok**	**3.24**	**169**	*e*PG	**Pg**	**19 59 06.9**	**-0.1**
MODS				*e*SG	**Sb**	**19 59 45.9**	**+2.6**
BSD	**Bornholm Skovb**	**3.67**	**347**	*e*P	**Pn**	**19 59 05.0**	**+2.2**
BSD				*e*S	**Sn**	**19 59 44.5**	**-2.2**
BSD				IAML		19 59 48.6	
	comp=Z,16nm,1.0s						
LUNU	**Lund**	**4.43**	**338**	*e*P	**Pn**	**19 59 14.0**	**+0.7**
LUNU				*e*S	**Sn**	**20 00 06.0**	**+0.5**
BLEU	**Blekinge**	**4.77**	**357**	*e*P	**Pn**	**19 59 18.1**	**+0.2**
BLEU				*i* S	**Sn**	**20 00 13.8**	**-0.1**
BJUU	**Bjuv**	**4.93**	**338**	*i* P	**Pn**	**19 59 20.5**	**+0.4**
BJUU				*i* S	**Sn**	**20 00 16.1**	**-1.7**
DEL	**Delary**	**5.13**	**345**	*i* P	**Pn**	**19 59 23.5**	**+0.6**
DEL				*i* S	**Sn**	**20 00 20.9**	**-1.9**

*CATAC **16** 19:59:25.4±0.4,9°.44N×84°.51W,h4km±3km,ML3.0*
*UCR **16** 19:59:26.2±1.0,9°.47N×84°.48W,h27km±8km,MW3.7*
ISC 16 19:59:25.3±1.2,**9°.43N**±0°.05×**84°.50W**±0°.03,**h15**km±10km, **n30**,σ0**54**/33,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.28**	**326**	*i* P	**Pg**	**19 59 31.0**	**-0.3**
JACO				IAML		20 00 09.9	
	comp=Z,6μm,1.0s						
ACOS	**Acosta**	**0.49**	**42**	*e*P	**Pg**	**19 59 35.2**	**+0.1**
LCR2	**La Lucha 2**	**0.58**	**57**	*e*P	**Pg**	**19 59 36.7**	**-0.1**
LCR2	**La Lucha 2**	**0.58**	**57**	*i* P	**Pg**	**19 59 36.7**	**-0.1**
LCR2				IAML		19 59 50.6	
	comp=Z,320nm,1.0s						
CBL1	**Cabuya**	**0.61**	**285**	*e*P	**Pb**	**19 59 37.9**	**+0.3**
CBL1				*e*S	**Sn**	**19 59 49.2**	**+0.2**
TBLN	**Tablon, Guarco**	**0.63**	**51**	*i* P	**Pg**	**19 59 37.4**	**-0.3**
TBLN				*i* S	**Sg**	**19 59 46.4**	**+0.3**
TBLN				IAML		19 59 51.3	
	comp=Z,620nm,1.0s						
OCM	**Ochomogo**	**0.70**	**49**	*i* P	**Pg**	**19 59 38.7**	**-0.4**
OCM				IAML		19 59 54.0	
	comp=Z,150nm,1.0s						
CDM	**Cerro de Muert**	**0.73**	**80**	*e*P	**Pg**	**19 59 39.6**	**-0.2**
CDM	**Cerro de Muert**	**0.73**	**80**	*i* P	**Pg**	**19 59 39.5**	**-0.2**
CDM				IAML		20 00 01.0	
	comp=Z,350nm,1.0s						
BUS1	**Rivas**	**0.75**	**80**	*e*P	**Pg**	**19 59 39.7**	**-0.4**
HAYA	**Volcan Irazu**	**0.85**	**50**	*i* PA		19 59 42.3	
HAYA				IAML		20 00 06.7	
	comp=Z,330nm,1.0s						
CPMI	**Catarata Coope**	**0.86**	**8**	*e*P	**Pg**	**19 59 41.7**	**-0.3**
CPMI	**Catarata Coope**	**0.86**	**8**	*i* P	**Pg**	**19 59 41.9**	**-0.1**
CPMI				*i* S	**Sb**	**19 59 53.6**	**+0.2**
CPMI				IAML		19 59 58.4	
	comp=Z,470nm,1.0s						
OCHAL	**Ojochal**	**0.90**	**111**	*i* P	**Pn**	**19 59 44.0**	**+0.5**
OCHAL				*i* S	**Sg**	**19 59 55.7**	**+1.0**
OCHAL				IAML		20 00 06.8	
	comp=Z,2.0nm,1.0s						
SOCE	**Pocosol**	**0.96**	**353**	*i* P	**Pb**	**19 59 43.6**	**0.0**
SOCE				IAML		19 59 47.2	
	comp=Z,530nm,1.0s						
JTS	**Las Juntas de**	**0.97**	**332**	*e*P	**Pb**	**19 59 42.7**	**-1.1**
ARE1	**Arenal 1**	**1.05**	**348**	*e*P	**Pb**	**19 59 45.3**	**+0.1**
RIFO	**Rio Frio, Sara**	**1.05**	**33**	*e*P	**Pb**	**19 59 45.4**	**+0.2**
RIFO	**Rio Frio, Sara**	**1.05**	**33**	*i* P	**Pb**	**19 59 45.4**	**+0.2**
RIFO				IAML		20 00 13.3	
	comp=Z,450nm,1.0s						
VACR	**Volcan Arenal**	**1.05**	**350**	*i* P	**Pb**	**19 59 45.4**	**+0.1**
VACR				IAML		20 00 09.5	
	comp=Z,370nm,1.0s						
INDI	**Punta indio, G**	**1.08**	**294**	*i* P	**Pb**	**19 59 45.9**	**+0.2**
INDI				IAML		20 00 08.2	
	comp=Z,240nm,1.0s						
SRBA	**San Rafael, Bu**	**1.14**	**100**	*e*P	**Pb**	**19 59 45.3**	**-1.5**
SRBA	**San Rafael, Bu**	**

CASR	Casa Diablo Mo	0.26	73			Pg	20 17 16.0	0.0
MTUM	Tungsten Hills	0.28	121			Pg	20 17 16.4	+0.1
BENR	Benton	0.32	47			Pg	20 17 16.8	-0.2
MRCM	Red Rock Canyo	0.34	58			Pg	20 17 17.2	-0.1
MCDM	Chidago Canyon	0.34	82			Pg	20 17 17.5	+0.2
MGNR	McGee Canyon	0.34	23			Pg	20 17 17.5	+0.1
MFBM	Five Bridges	0.35	101			Pg	20 17 18.0	+0.4
BHPR	Bishop	0.36	123			Pg	20 17 17.9	+0.1
KCC	Kaiser Creek	0.40	244			Pg	20 17 18.5	+0.1
KCC						Sg	20 17 23.9	+0.1
MLNR	Milner Canyon	0.43	77			Pg	20 17 18.9	0.0
BCKR	Birch Creek	0.44	63			Pg	20 17 19.2	+0.1
ANTCA	Antelope Range	0.48	30			Pg	20 17 19.8	-0.2
POCCA	Poleta Canyon	0.49	106			Pg	20 17 20.0	0.0
HCK	Huntoon Valley	0.62	21			Pg	20 17 22.5	+0.1
TIN	Tinemaha, Big	0.67	131			Pg	20 17 23.6	+0.1
TIN	Tinemaha, Big baz=313	0.67	131	P		Pg	20 17 23.6	+0.1
TIN				S		Sg	20 17 32.7	+0.3
LHV	Little Huntoon baz=313	0.80	21	Pg		Pg	20 17 25.8	-0.2
LHV	comp=N,394nm,0.5s			IAML			20 17 39.3	
LHV	comp=E,310nm,0.5s			IAML			20 17 43.5	
FRI	Friant	0.84	233			Pg	20 17 26.4	-0.3
NV08	Mina Array Sit	1.00	25			Pg	20 17 29.3	-0.4
NV09	Mina Array Sit	1.02	24			Pg	20 17 29.8	-0.4
NVAR	Mina Array Bea	1.03	25			Pg	20 17 29.7	-0.6
NV11	Mina Array Sit	1.09	31			Pg	20 17 30.8	-0.6
WAKR	Walker	1.10	336			Pg	20 17 31.5	-0.1
RYN	Ryan	1.16	13			Pg	20 17 32.3	-0.5
RYN	comp=N,197nm,0.2s			IAML			20 17 48.7	
RYN	comp=E,166nm,0.3s			IAML			20 17 48.8	
MZP	Montezuma Peak	1.20	80			Pg	20 17 32.9	-0.6
MRHM	Rocky Hill	1.22	188			Pb	20 17 32.8	-0.7
CWC	Cottonwood Cre	1.23	149			Pb	20 17 33.3	-0.4
CWC	Cottonwood Cre baz=330	1.23	149	P		Pb	20 17 33.3	-0.4
CWC				S		Sg	20 17 49.2	-0.9
MYLM	Yosemite Lake	1.24	265			Pn	20 17 33.6	0.0
VOG	Valley Oaks Go	1.25	200			Pn	20 17 33.7	+0.1
VOG	Valley Oaks Go baz=19	1.25	200	P		Pn	20 17 33.7	+0.1
VOG				S		Sg	20 17 50.8	+0.2
CGO	Cerro Gordo	1.27	138			Pn	20 17 33.9	-0.4
GMN	Gold Mountain	1.29	98			Pn	20 17 34.8	+0.2
GRAC	Grapevine Rang	1.30	112	Pn		Pb	20 17 35.2	+0.4
GRAC	comp=E,207nm,0.3s			IAML			20 17 59.2	
GRAC	Grapevine Rang baz=294	1.30	112	P		Pg	20 17 35.6	+0.2
SPG2	Springville 2	1.30	176			Pn	20 17 34.4	-0.1
CMB	Columbia Colle	1.32	294			Pn	20 17 34.4	-0.4
CMB	comp=E,223nm,0.1s			IAML			20 17 52.8	
TPH	Tonopah	1.42	66			Pn	20 17 36.9	+0.6
MCUB	Copperopolis B	1.47	289			Pn	20 17 37.0	+0.2
YERR	Yerington	1.51	349			Pb	20 17 38.6	+0.1
SGV	South Grapevin	1.55	109			Pn	20 17 38.7	+0.7
KVN	Kaiserville	1.66	21			Pn	20 17 40.0	+0.4
KVN	Kaiserville comp=N,57nm,0.2s	1.66	21	IAML			20 18 06.3	
KVN	comp=E,59nm,0.3s			IAML			20 18 06.4	
VES	Vestal, Richgr	1.66	186			Pb	20 17 40.8	-0.1
VES	Vestal, Richgr baz=6.2	1.66	186	P		Pb	20 17 40.9	-0.1
VES				S		Sb	20 18 03.1	+1.2
PDRM	Domengine Ranc	1.67	227			Pb	20 17 41.4	+0.2
PNTR	Pine Nut	1.69	340			Pb	20 17 41.3	-0.3
PNTR	Pine Nut comp=E,48nm,2.2s	1.69	340	IAML			20 17 50.8	
PNTR	comp=N,38nm,1.4s			IAML			20 18 17.9	
PKEM	Kettleman Hill	1.75	215			Pb	20 17 42.8	+0.3
EMB	Emerald Bay	1.77	327			Pb	20 17 42.7	-0.2
EMB	Emerald Bay comp=E,77nm,0.7s	1.77	327	IAML			20 18 10.7	
EMB	comp=N,64nm,0.5s			IAML			20 18 14.2	
WASM	Alta Sierra Ca	1.77	172			Pb	20 17 43.0	0.0
SCKWR	San Luis Creek	1.78	261			Pb	20 17 43.0	0.0
MPMC	Manual Prospec baz=323	1.81	142	S		Sg	20 18 08.2	-0.5
WNMM	Nine Mile Cany	1.82	155			Pb	20 17 43.9	+0.2
RUBR	Rubicon Trail	1.85	327			Pb	20 17 44.9	+0.5
ISA	Isabella, Lake	1.86	170	Pn		Pb	20 17 44.3	0.0
ISA	comp=N,123nm,0.3s			IAML			20 18 09.8	
ISA	Isabella, Lake baz=351	1.86	170	Pb		Pb	20 17 44.4	0.0
ISA	baz=351			S		Sb	20 18 08.7	+1.0
WORM	Onyx Ranch	1.87	164			Pb	20 17 44.5	0.0
PJUM	Juniper Ridge	1.88	228			Pb	20 17 44.7	-0.1
Q09A	Carvers	1.88	44			Pn	20 17 43.9	+1.3
WCT	Wildcat Mounta	1.92	111			Pn	20 17 43.8	+0.7
WCT	comp=E,75nm,0.4s			IAML			20 18 14.6	
SLD	San Luis Dam	1.93	258			Pb	20 17 44.6	-0.9
BAVM	Antelope Valle	1.93	244			Pb	20 17 44.9	-0.6
CMPM	Mikes Peak	1.96	267			Pb	20 17 45.1	-0.9
MTOS	Mt Oso, Westle	1.96	271			Pb	20 17 45.3	-0.8
CTM	Castle Mountai	1.96	218			Pb	20 17 45.9	-0.2
BBGB	Big Mountain B	1.97	243			Pb	20 17 45.8	-0.4
HPCM	Pacheco Lake	1.97	258			Pb	20 17 45.3	-0.9
PACP	Pacheco Peak	1.99	257			Pb	20 17 46.0	-0.6
PSRM	Scobie Ranch	1.99	215			Pb	20 17 46.1	-0.6
PMPB	Monarch Peak	2.01	231	Pn		Pn	20 17 44.4	+0.1
MPK	Martis Peak	2.01	333			Pn	20 17 45.5	+1.0
MPK	comp=N,46nm,1.8s			IAML			20 18 17.9	
MPK	comp=E,48nm,1.0s			IAML			20 18 19.0	
BBNM	San Benito	2.03	241			Pb	20 17 47.6	+0.4
PHFM	Heflinger Ranc	2.03	218			Pb	20 17 46.3	-1.0
BVL	Bear Valley	2.08	244			Pb	20 17 47.2	-0.8
HFEM	San Felipe	2.09	256			Pn	20 17 46.0	+0.7
CMMM	Mount Mocho	2.09	270			Pn	20 17 47.0	+1.6
CSTL	Corral Hollow	2.10	275			Pn	20 17 46.9	+1.6
GHS	Gilroy Hot Spr	2.10	260			Pb	20 17 47.5	-1.0
ARN	Arnold Ranch	2.13	267			Pb	20 17 47.8	-1.2
TRAM	Private Proper	2.14	212			Pn	20 17 47.7	+1.7
CDC	Canada Road	2.14	258			Pb	20 17 48.3	-0.9
PBPM	Bitterwater Pu	2.15	207			Pb	20 17 48.2	-1.1
TPNV	Topopah Spring	2.16	104			Pn	20 17 46.8	+0.4
TPNV	comp=E,37nm,1.1s			IAML			20 18 28.0	
TPNV	Topopah Spring baz=286	2.16	104	Pb		Pb	20 17 50.4	+0.8
SAO	San Andreas Ge	2.19	251	Pn		Pn	20 17 48.5	+1.8
GWY	Greenwater Val	2.20	126	Pn		Pn	20 17 47.1	+0.1
GWY	comp=N,34nm,0.4s			IAML			20 18 24.0	
GWY	comp=E,37nm,1.0s			IAML			20 18 25.1	
AFDM	Forest Hills D	2.20	312			Pb	20 17 49.6	-0.6
CMLM	Mount Lewis	2.21	270			Pb	20 17 49.5	-1.0
MHC	Mount Hamilton	2.22	267			Pb	20 17 49.4	-1.1
QSM	Queen of Sheba	2.22	133			Pn	20 17 47.4	+0.3
QSM	comp=E,38nm,0.4s			IAML			20 18 22.8	
QSM	comp=N,43nm,0.7s			IAML			20 18 23.2	
SCZ	Santa Cruz	2.22	247			Pn	20 17 48.8	+1.7
CBSNC	Byron Hot Spri	2.23	279			Pb	20 17 49.8	-0.8
LRMC	Laurel Mtn Rad baz=335	2.23	154	Pb		Pb	20 17 51.5	+0.7
LRMC	baz=335			Sb		Sg	20 18 20.7	-1.4
BJCM	Johnson Can.	2.23	246			Pn	20 17 49.1	+1.8
PAHR	Pah Rah Range	2.24	350			Pn	20 17 47.7	+0.2
HLPM	Lions Peak	2.25	259			Pn	20 17 49.1	+1.6
NSP	Numbskull Pass	2.26	109			Pn	20 17 48.4	+0.7
WENL	Wente Vineyard	2.30	274			Pb	20 17 50.8	-1.1
CPY	CP-1	2.31	103			Pn	20 17 49.0	+0.5
AMDNV	Amargosa	2.32	116			Pn	20 17 50.1	+1.7
PCCM	Crazy Canyon	2.32	233			Pn	20 17 50.5	+2.0
CARC	Carrizo Plain	2.32	200			Pb	20 17 50.8	-1.5
CALM	Calaveras Res.	2.33	270			Pn	20 17 50.0	+1.3
BSMM	Soledad Missio	2.33	242			Pn	20 17 50.8	+2.0
CRGC	Crocker Grade	2.36	197			Pb	20 17 51.4	-1.5
SMMC	Simmler baz=22	2.36	203	S		Sb	20 18 20.9	-1.2
BPCNC	Pine Canyon	2.39	248			Pn	20 17 48.5	-1.0
HAST	Hastings Reser	2.42	244			Pn	20 17 51.6	+1.7
CCAC	Calif City Air	2.44	163			Pn	20 17 52.5	+2.4
CCAC	comp=N,69nm,0.6s			IAML			20 18 37.0	
CCAC	comp=E,62nm,0.6s			IAML			20 18 37.9	
BCW	Bitter Crk WRg	2.59	190			Pn	20 17 53.6	+1.3
EDW2	Edwards Air Fo baz=346	2.71	165	Pb		Pb	20 18 00.0	+1.2
R11B	Troy Canyon, C	2.73	71			Pn	20 17 54.3	0.0
R11B	Troy Canyon, C baz=253	2.73	71	Pb		Pb	20 18 00.1	+0.8
GSC	Goldstone, Bar	2.75	142			Pn	20 17 55.5	+1.0
GSC	comp=N,21nm,1.1s			IAML			20 18 41.9	
GSC	comp=E,31nm,3.1s			IAML			20 18 44.0	
ORV	Oroville	2.91	316	Pn		Pn	20 17 58.4	+1.7
ORV	comp=E,36nm,0.6s			IAML			20 18 45.3	
ORV	comp=N,29nm,0.4s			IAML			20 18 45.7	
PRN	Pahroc Range	3.04	91			Pn	20 17 59.2	+0.7
PRN	comp=N,20nm,0.5s			IAML			20 18 55.3	
PRN	comp=E,18nm,1.0s			IAML			20 19 05.8	
SHPR	Sheep Range	3.13	107	Pn		Pn	20 18 00.8	+1.0
BMN	Battle Mountai	3.20	23	Pn		Pn	20 18 00.7	0.0
Q12A	Willow Creek R	3.53	63			Pn	20 18 05.4	+0.1
HOPS	Hopland Field	3.63	296	Pn		Pn	20 18 07.8	+1.3
SPR3	Spring Creek 3	3.87	66			Pn	20 18 11.0	+0.9
ELS	Elsinore Mount	4.02	163	Pn		Pn	20 18 11.8	0.0
ELS	comp=E,11nm,3.5s			IAML			20 18 51.3	
ELS	comp=N,9.6nm,3.6s			IAML			20 19 19.6	
ELK	Elko	4.30	40	Pn		Pn	20 18 15.4	-0.5
ELK	comp=N,5.6nm,0.5s			IAML			20 19 28.8	
ELK	comp=N,5.1nm,2.7s			IAML			20 19 35.3	
PFO	Pinyon Flats O	4.35	152	Pn		Pn	20 18 17.5	+1.1
PFO	comp=N,6.9nm,4.6s			IAML			20 18 51.2	
PFO	comp=N,8.1nm,5.0s			IAML			20 19 33.2	
KNB	Kanab	4.85	94			Pn	20 18 21.7	-1.7
BAR	Barrett	5.13	159	Pn		Pn	20 18 26.1	-1.0
TKX	Tecate	5.26	159	Pn		Pn	20 18 27.4	-1.5
MTPU	Mount Pierson	5.32	82	Pn		Pn	20 18 29.5	-0.6
MVU	Marysvale	5.35	77			Pn	20 18 29.8	-0.6
U15A	North Rim	5.37	99			Pn	20 18 28.9	-1.8
BGU	Big Grassy Mou	5.68	51			Pn	20 18 34.1	-0.7

SSNC **16** *20:20:01.2±2.9, 18°.96N×72°.95W, h120km±27km, MD3.4*
SDD **16** *20:20:03.7±1.4, 19°.29N×73°.05W, h31km±56km, MD3.8, ML3.3, MW3.7*
OSPL **16** *20:20:03.2±1.3, 19°.29N×73°.02W, h0km±7km, ML2.8*
ISC 16 20:20:01.3±1.3, 19°.31N±0°.05×73°.03W±0°.03, h6km±11km, n31, σ1°83/52, 3C-11D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
PAPH	Port-au-Prince	1.05	138	⇓ *e*Pg		Pg		20 20 21.2	-0.2
PAPH				⇓ *e*Sg		Sg		20 20 34.7	-0.3
PAPH	comp=N,1μm,0.3s			IAML				20 20 39.4	
PAPH	comp=E,918nm,0.4s			IAML				20 20 40.5	
PAPH	Port-au-Prince	1.05	138	*e*P		Pg		20 20 21.4	-0.1
PAPH				*e*S		Sg		20 20 35.1	+0.1
PAPH	comp=N,9μm,0.1s			IVmB_BB				20 20 37.4	
PAPH	comp=E,5μm,0.3s			IVmB_BB				20 20 37.7	
PAPH	Port-au-Prince	1.05	138	*i* P		Pg		20 20 21.3	-0.1
PAPH				*e*S		Sg		20 20 34.8	-0.2
PAPH	comp=Z,257nm,0.3s			IAML				20 20 44.3	
MASC	Masc	1.42	307	⇑ *e*P		Pb		20 20 28.6	+0.4
MASC				*e*S		Sn		20 20 47.2	+0.6
MASC	Masc	1.42	307	*i* P		Pb		20 20 28.5	+0.4
MASC				*e*S		Sb		20 20 46.9	+0.4
MASC	comp=Z,60nm,0.4s			IAML				20 20 55.6	
MCDR	Montecristi	1.42	66	⇓ *e*Pg		Pn		20 20 27.8	+0.2
MCDR				⇓ *e*Sg		Sg		20 20 45.9	-1.1
MCDR	comp=N,1μm,0.6s			IAML				20 20 46.6	
MCDR	comp=E,597nm,0.5s			IAML				20 20 49.3	
SDDR	Presa de Saban	1.68	101	*e*Pg		Pn		20 20 31.2	-0.1
SDDR				⇓ *e*Sg		Sn		20 20 52.8	-0.5
SDDR	comp=E,215nm,0.7s			IAML				20 20 52.9	
SDDR	comp=N,276nm,0.8s			IAML				20 20 54.6	
SDDR	Presa de Saban	1.68	101	*e*P		Pn		20 20 31.2	-0.1
SDDR				*e*S		Sn		20 20 51.5	-1.7
SDDR	Presa de Saban	1.68	101	*i* P		Pn		20 20 31.4	0.0
SDDR				*e*S		Sn		20 20 52.8	-0.5
SDDR	comp=Z,192nm,0.8s			IAML				20 20 57.6	
NEDR	Neiba UASD	1.74	118	*e*Pg		Pn		20 20 32.9	+0.9
NEDR	comp=N,229nm,0.5s			IAML				20 21 03.1	
NEDR	comp=E,203nm,0.8s			IAML				20 21 03.6	
LOPE2	Hotel El Peder	1.76	136	⇓ *e*Pg		Pn		20 20 32.8	+0.4
LOPE2				⇓ *e*Pg		Pg		20 20 56.7	+22
LOPE2	Hotel El Peder	1.76	136	*i* P		Pn		20 20 33.3	+0.9
LOPE2				*e*S		Sn		20 20 54.4	-0.7
LOPE2	comp=Z,193nm,0.6s			IAML				20 20 57.9	
GTBY	Guantanamo Bay	2.05	288	⇓ *e*Pg		Pn		20 20 37.6	+1.3
GTBY	comp=N,72nm,0.1s			IAML				20 21 09.1	
GTBY	Guantanamo Bay	2.05	288	*e*P		Pn		20 20 37.3	+0.9
GTBY				*e*S		Sn		20 21 04.3	+2.0
GTBY	Guantanamo Bay	2.05	288	⇓ *i* P		Pn		20 20 37.7	+1.3
GTBY				*e*S		Sn		20 21 02.3	0.0
GTBY	comp=Z,24nm,1.3s			IAML				20 21 08.5	
GTMO	Guantanamo	2.13	291	*e*P		Pn		20 20 36.6	-0.8
LOBA2	Hotel Casa Bon	2.21	123	⇓ *e*Pg		Pn		20 20 40.1	+1.6
NMDO	Nuevo Mundo	2.21	304	*e*P		Pb		20 20 41.2	-0.6
NMDO				*e*S		Sb		20 21 10.7	+1.2
MOAC	Moa	2.25	307	*e*P		Pn		20 20 41.1	+2.0
MOAC				*e*S		Sb		20 21 10.4	-0.2
MOAC	comp=N,928nm,0.5s			IVmB_BB				20 21 12.2	
MOAC	comp=E,1μm,0.2s			IVmB_BB				20 21 13.7	
ABDR	Alto Bandera	2.33	102	⇓ *e*Pg		Pn		20 20 41.6	+1.1
ABDR				⇑ *e*Sg		Sn		20 21 10.9	+1.3
ABDR	comp=N,153nm,0.9s			IAML				20 21 18.2	
ABDR	comp=E,228nm,0.5s			IAML				20 21 19.3	
SABCS	La Quijada	2.39	296	*e*P		Pn		20 20 41.2	+0.2
SABCS				*e*S		Sn		20 21 10.9	+0.2
SABCS	comp=E,850nm,0.2s			IVmB_BB				20 21 14.9	
SABCS	comp=N,1μm,0.5s			IVmB_BB				20 21 16.4	
RCC	Rio Carpintero	2.60	286	*e*P		Pn		20 20 44.7	+0.8
RCC				*e*S		Sn		20 21 15.9	+0.1
RCC	comp=N,488nm,0.2s			IVmB_BB				20 21 17.7	
RCC	comp=E,719nm,0.2s			IVmB_BB				20 21 22.9	
MARVS	Santiago de Cu	2.79	285	*e*P		Pn		20 20 47.4	+0.9
MARVS				*e*S		Sn		20 21 20.1	-0.3
MARVS	comp=E,1μm,0.2s			IVmB_BB				20 21 28.7	
MARVS	comp=N,607nm,0.2s			IVmB_BB				20 21 28.8	
PINC	Pinares de May	2.85	295	*e*P		Pn		20 20 49.3	+2.0
PINC				*e*S		Sn		20 21 23.5	+1.6
YAR	Yar	3.30	289	*e*P		Pn		20 20 54.0	+0.4
YAR				*e*S		Sn		20 21 32.3	-0.9
YAR	comp=N,748nm,2.0s			IVmB_BB				20 21 39.3	
YAR	comp=E,777nm,2.3s			IVmB_BB				20 21 41.3	
HATOM	Hato Mayor del	3.49	98	⇓ *e*Pg		Pn		20 20 59.0	+2.8
HATOM	comp=N,32nm,0.5s			IAML				20 21 56.5	
STH	Stony Hill	3.78	252	*e*P		Pn		20 20 49.9	-10
STH				*e*S		Sb		20 21 52.2	-2.5
STH	comp=E,55μm,0.2s			IVmB_BB				20 21 55.5	
STH	comp=N,65μm,0.2s			IVmB_BB				20 21 55.6	
LMGC	Las Mercedes	3.82	282	*e*S		Sn		20 21 44.4	-1.4
PILO	Pilon	4.16	279	*e*P		Pn		20 21 08.6	+3.1
PILO				*e*S		Sn		20 21 48.1	-6.4
MTDJ	Mount Denham	4.40	257	*e*P		Pn		20 21 03.5	-5.2
MTDJ				*e*S		Sn		20 22 03.3	+2.9
MTDJ	comp=N,4μm,2.9s			IVmB_BB				20 22 18.0	
MTDJ	comp=N,2μm,2.6s			IAML				20 22 18.1	
CCCC	Cccc	4.82	294	*e*P		Pn		20 21 09.2	-5.3
CCCC				*e*S		Sn		20 22 03.7	-7.0

IDC **16** *20:34:03.7±1.5, 0°.17S×125°.26E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=186.3km s-min=21.7km az=64.0*
DJA **16** *20:34:07.4±0.5, 0°.N±6°×12°.6E±°, h10km, M3.7/7, mb3.9/2, mB4.8/2, MLv3.6/7, Mw(mB)4.0/2*
ISC 16 20:34:05.8±1.2, 0°.1N±0°.1×125°.87E±0°.08, h10km, n9, σ1°99/9, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
LBMI	Labuha	1.79	114	P		Pn		20 34 39.2	+2.4
KMSI	Cibinong	1.95	284	P		Pn		20 34 39.6	+0.6
SANI	Sanana	2.13	177	P		Pn		20 34 41.0	-0.5
LUWI	Luwuk	3.29	250	P		Pn		20 35 00.1	+2.6
TTSI	Tana Toraja	6.80	243	P		Pn		20 35 47.7	+1.9
WRA	Warramunga Arr 0.6nm,0.5s,baz=335,slow=10,SNR=6.1 0.6nm,0.5s	21.57	158	P		P		20 38 56.2	+0.5
ASAR	Alice Springs 0.8nm,0.5s,baz=345,slow=8.8,SNR=19 0.8nm,0.5s	24.87	162	P		P		20 39 27.0	-1.9
MKAR	Makanchi Array 0.2nm,0.5s,baz=116,slow=8.4,SNR=6.5 0.2nm,0.5s	60.08	327	P		P		20 44 12.1	-1.2
KURBB	Kurchatov Arra 0.5nm,0.7s,baz=132,slow=6.1,SNR=5.9 0.5nm,0.7s	64.35	329	P		P		20 44 40.5	-1.3

NEIC **16** *20:38:08.0±1.9, 41°.79N±0°.06×143°.2E±0°.2, h47km±3km, mb4.1/14, Error ellipse: s-maj=17.5km s-min=7.0km az=106.0*
JMA **16** *20:38:09.6±0.2, 41°.9N±0°.9×143°.1E±0°.8, h43km±1km, MD3.4/40, MV3.4/40, S OFF URAKAWA*
IDC **16** *20:38:10.9±2.1, 41°.87N×142°.98E, h72km±18km, mb3.5/8, mbtmp3.7/11, MS4.1/1, Error ellipse: s-maj=34.0km s-min=15.1km az=88.0*
ISC 16 20:38:08.0±0.9, 41°.78N±0°.05×143°.16E±0°.07, h47km±7km, n56, σ1°07/47, mb4.0/14, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
ERM	Erimo	0.23	359			Pn		20 38 16.4	+0.2
ERM						Sn		20 38 22.2	+0.1
JEM	Erimo	0.23	359	⇓ *i* P		Pn		20 38 16.6	+0.4
JEM				⇓ *e*S		Sn		20 38 22.1	0.0
JEM	Erimo comp=E,3.0nm,0.5s,comp=N,3.0nm,1.1s	0.23	359	A		A		20 38 16.6	
JTHR	Tokachihiroo	0.52	11	P		Pn		20 38 19.5	+0.2
JTHR	Tokachihiroo comp=E,4.0nm,1.4s,comp=N,5.0nm,1.5s	0.52	11	A		A		20 38 19.5	
JNBK	Urakawa-nobuka	0.58	329	P		Pn		20 38 19.4	-0.7
JNBK	Urakawa-nobuka comp=E,5.0nm,0.6s,comp=N,4.0nm,0.9s	0.58	329	A		A		20 38 19.4	
JSHD	Hidakashinhida	0.81	321	*e*P		Pn		20 38 22.8	-0.3
JCH	Churui	0.84	10	*e*P		Pn		20 38 23.8	+0.2
JCH	Churui comp=E,2.0nm,2.9s,comp=N,1.0nm,1.3s	0.84	10	A		A		20 38 23.8	
JBT2	Biratori 2	1.16	329	*e*P		Pn		20 38 27.7	-0.1
JOB	Onbets	1.23	24	P		Pn		20 38 29.8	+1.1
JIAM	Iburiatsuma	1.25	313	*e*P		Pn		20 38 30.0	+1.0
JFR	Furan	1.44	343	*e*P		Pn		20 38 31.1	-0.6
JAHD	Aomorihigashid comp=E,7.0nm,0.6s,comp=N,4.0nm,0.8s	1.47	250	A		A		20 38 33.8	
JTM	Tenmabayashi	1.87	238			Sn		20 38 38.7	+1.3
JTM						Sn		20 38 60.0	+0.2
JSI2	Shiura 2 comp=E,2.0nm,1.3s,comp=N,1.0nm,1.0s	2.19	252	A		A		20 38 44.2	
JKA	Kamikawa-asahi	2.37	350			Pn		20 38 45.5	+1.1
JKA						Sn		20 39 13.0	+0.9
ASAJ	Asahikawa comp=N,15nm,0.5s,baz=202,slow=9.6,SNR=23	2.37	350	P		Pn		20 38 45.1	+0.7
ASAJ	comp=N,78nm,0.9s,baz=156,slow=20,SNR=11			S		Sn		20 39 14.2	+2.0
JMM	Marumori	4.32	206	Pn		Pn		20 39 11.2	+0.1
JMM				Sn		Sn		20 39 57.5	-2.6
MJB9	Matsu-Tunnel	6.49	218	Pn		Pn		20 39 43.4	+2.5
MAJO	Matsushiro	6.50	218	Pn		Pn		20 39 41.4	+0.4
MJAR	Matsushiro Arr comp=N,1.3nm,0.7s,baz=26,slow=15,SNR=2.5	6.50	218	P		Pn		20 39 43.2	+2.2
USRK	Usuriysk Ar. comp=N,3.7nm,0.8s,baz=85,slow=15,SNR=6.5	8.54	290	P		Pn		20 40 09.7	+0.7
SONM	Songino Array comp=N,0.4nm,0.6s,baz=87,slow=7.6,SNR=4.2 comp=N,0.4nm,0.6s	26.60	296	P		P		20 43 41.4	-0.4
H11N2	WAKE ISLAND Hy baz=323,slow=75,SNR=45	29.81	130	T		T		21 15 41.1	
H11N1	WAKE ISLAND Hy baz=323,slow=75,SNR=35	29.82	130	T		T		21 15 42.7	
H11N3	WAKE ISLAND Hy baz=323,slow=75,SNR=33	29.82	130	T		T		21 15 43.1	
H11S1	WAKE ISLAND Hy baz=324,slow=76,SNR=36	30.67	132	T		T		21 16 41.5	
H11S3	WAKE ISLAND Hy baz=324,slow=76,SNR=28	30.69	132	T		T		21 16 45.2	
H11S2	WAKE ISLAND Hy baz=324,slow=76,SNR=31	30.69	132	T		T		21 16 43.6	
ZALV	Zalesovo Beam comp=N,0.8nm,0.3s,baz=84,slow=8.3,SNR=4.5 comp=N,0.8nm,0.3s	39.88	308	P		P		20 45 35.5	-1.3
E19K	Redstone River	40.68	31	P		P		20 45 44.1	+0.8
E19K	comp=Z,5.3nm,1.4s			IAmb		IAmb		20 46 06.5	
B20K	Meade River	41.13	27	P		P		20 45 47.1	+0.2
B21K	Ikpik

	comp=Z,2.1nm,1.3s							
WB0	**Warramunga Arr**	**61.77**	**189**	P	**P**	**20 48 21.4**	**-0.3**
WB0				IAmb	IAmb	20 48 58.9	
	comp=Z,7.7nm,1.4s							
WRAB	**Tennant Creek**	**61.94**	**189**	P	**P**	**20 48 22.3**	**-0.6**
WRA	**Warramunga Arr**	**61.95**	**189**	P	**P**	**20 48 23.7**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=7.8,slow=7.7,SNR=7.1							
	comp=Z,0.4nm,0.4s							
FIA1	**FINESS Array S**	**65.26**	**332**	P	**P**	**20 48 43.6**	**-0.6**
FINES	**FINESS Array B**	**65.26**	**332**	P	**P**	**20 48 43.0**	**-1.3**
FINES	**FINESS Array B**	**65.26**	**332**	P	**P**	**20 48 43.0**	**-1.3**
	comp=Z,5.6nm,1.1s,baz=31,slow=8.9,SNR=6.9							
	comp=Z,5.6nm,1.1s							
ASAR	**Alice Springs**	**65.68**	**189**	P	**P**	**20 48 48.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=19,slow=6.0,SNR=3.1							
	comp=Z,0.3nm,0.7s							
H03N2	**Juan Fernandez**	**145.91**	**90**	T	T	23 40 43.6		
	baz=300,slow=76,SNR=6.4							
H03N3	**Juan Fernandez**	**145.92**	**90**	T	T	23 40 42.9		
	baz=300,slow=76,SNR=5.8							
H03N1	**Juan Fernandez**	**145.92**	**90**	T	T	23 40 49.8		
	baz=300,slow=76,SNR=7.7							

SNET ***16*** *20:47:38.3±1.4, 13°.17N×89°.76W, h17km, ML3.6*
CATAC ***16*** *20:47:39.4±0.8, 13°.25N×89°.68W, h12km±4km, ML3.5*

ISC 16 20:47:38.5±2.6, 13°.2N±0°.1×89°.72W±0°.07, h16km±10km, n27, σ0.9 47/35, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.53**	**30**	*eP*	**Pb**	**20 47 49.9**	**+0.4**
JAYA				*eS*	**Sn**	**20 47 58.9**	**-1.3**
JAYA	**Jayaque - finc**	**0.53**	**30**	*i P*	**Pb**	**20 47 50.0**	**+0.5**
JAYA				*i S*	**Sg**	**20 47 55.9**	**-0.3**
JAYA				IAML		20 48 00.1	
	comp=Z,11μm,1.0s						
CEVE	**Cerro Verde**	**0.64**	**8**	*eP*	**Pb**	**20 47 51.5**	**0.0**
CEVE				*eS*	**Sn**	**20 48 02.0**	**-1.1**
CEVE	**Cerro Verde**	**0.64**	**8**	*i P*	**Pb**	**20 47 51.5**	**+0.1**
CEVE				*i S*	**Sb**	**20 47 51.5**	**+0.5**
CEVE				IAML		20 48 03.7	
	comp=Z,4μm,1.0s						
SBLS	**San Blas**	**0.65**	**8**	*eP*	**Pg**	**20 47 51.5**	**+0.1**
PMON	**Piamonte**	**0.65**	**37**	*i P*	**Pb**	**20 47 51.6**	**+0.1**
PMON				IAML		20 48 04.8	
	comp=Z,4μm,1.0s						
SNJE	**San Jose**	**0.68**	**9**	*eP*	**Pg**	**20 47 51.9**	**-0.1**
LOMA	**Loma Larga**	**0.70**	**50**	*eP*	**Pg**	**20 47 52.3**	**+0.1**
LOMA				*eS*	**Sb**	**20 48 03.0**	**+1.3**
LOMA	**Loma Larga**	**0.70**	**50**	*i P*	**Pg**	**20 47 52.2**	**0.0**
LOMA				IAML		20 48 06.1	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**0.70**	**42**	*i P*	**Pg**	**20 47 52.2**	**0.0**
UEES				IAML		20 48 06.1	
	comp=Z,1μm,1.0s						
RTR	**El Retiro**	**0.70**	**6**	*eP*	**Pg**	**20 47 52.3**	**0.0**
NUBE	**Las Nubes**	**0.71**	**355**	*eP*	**Pg**	**20 47 52.0**	**-0.4**
NUBE				*eS*	**Sb**	**20 48 02.3**	**+0.2**
NUBE	**Las Nubes**	**0.71**	**355**	*i P*	**Pg**	**20 47 52.2**	**-0.2**
NUBE				IAML		20 48 04.5	
	comp=Z,2μm,1.0s						
LOAL	**Lomas de Alarc**	**0.80**	**356**	*i P*	**Pg**	**20 47 54.1**	**-0.1**
LOAL				*i S*	**Sb**	**20 48 04.9**	**+0.2**
LOAL				IAML		20 48 15.5	
	comp=Z,3μm,1.0s						
SJTE	**Alcalda de S**	**0.81**	**59**	*eP*	**Pg**	**20 47 53.9**	**-0.4**
SJTE	**Alcalda de S**	**0.81**	**59**	*i P*	**Pg**	**20 47 54.1**	**-0.2**
SJTE				IAML		20 48 06.4	
	comp=Z,860nm,1.0s						
PAVA	**Las Pavas**	**0.92**	**56**	*i P*	**Pb**	**20 47 56.2**	**0.0**
PAVA				IAML		20 48 11.7	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**0.92**	**62**	*i P*	**Pb**	**20 47 56.0**	**-0.1**
COEG				IAML		20 48 09.4	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**0.98**	**69**	*i S*	**Sb**	**20 48 09.4**	**-0.3**
UESV	**Universidad de**	**1.01**	**64**	*i P*	**Pg**	**20 47 58.2**	**+0.1**
UESV				IAML		20 48 17.2	
	comp=Z,680nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.09**	**62**	*eS*	**Sg**	**20 48 13.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.09**	**62**	*i P*	**Pb**	**20 47 58.8**	**-0.2**
SCLA				*i S*	**Sn**	**20 48 14.1**	**+0.2**
SCLA				IAML		20 48 16.0	
	comp=Z,350nm,1.0s						
JUAM	**Asuncion Mita**	**1.14**	**1**	*i S*	**Sb**	**20 48 14.4**	**+0.1**
PQSS	**Presa 15 de Se**	**1.21**	**69**	*i S*	**Sb**	**20 48 16.0**	**-0.3**
PACA	**Pacayal**	**1.39**	**78**	*eP*	**Pn**	**20 48 03.8**	**+0.5**
PACA	**Pacayal**	**1.39**	**78**	*i P*	**Pn**	**20 48 03.5**	**+0.2**
PACA				IAML		20 48 26.9	
	comp=Z,5μm,1.0s						
ESQI	**Esquipulas**	**1.41**	**15**	*i P*	**Pn**	**20 48 04.2**	**+0.6**
ESQI				IAML		20 48 24.9	
	comp=Z,540nm,1.0s						

KRNET ***16*** *20:57:01.6±0.1, 43°.14N×78°.46E, h13km, mb2.5*
SOME ***16*** *20:57:01.5, 43°.12N×78°.42E, h0km*
NNC ***16*** *20:57:01.7±0.5, 43°.13N×78°.45E, h0km, mb2.5, mpv2.6, Error ellipse: s-maj=3.6km s-min=2.7km az=161.0*

ISC 16 20:57:01.3±0.9, 43°.13N±0°.02×78°.45E±0°.02, h3km±5km, n45, σ0.9 92/89, 10C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHN	**Zhinishke**	**0.04**	**346**	P	**Pg**	**20 57 02.6**	**+0.3**
	371nm,0.0s						
ZHN				S	**Sg**	**20 57 03.2**	**+0.2**
	3μm,0.2s						
ZHN	**Zhinishke**	**0.04**	**346**	*eP*	**Pg**	**20 57 02.6**	**+0.3**
	371nm,0.0s						
ZHN				*eS*	**Sg**	**20 57 03.2**	**+0.2**
	3μm,0.2s						
ZHN	**Zhinishke**	**0.04**	**346**	*eP*	**Pg**	**20 57 02.6**	**+0.3**
	baz=30						
ZHN				*eS*	**Sg**	**20 57 03.2**	**+0.2**
	baz=30						
SATY	**Saty**	**0.08**	**202**	P	**Pg**	**20 57 03.6**	**+0.6**
	151nm,0.1s						
SATY				S	**Sg**	**20 57 05.2**	**+1.1**
	445nm,0.2s						
SATY	**Saty**	**0.08**	**202**	*eP*	**Pg**	**20 57 03.6**	**+0.6**
	151nm,0.1s						
SATY				*eS*	**Sg**	**20 57 05.2**	**+1.1**
	445nm,0.2s						
SATY	**Saty**	**0.08**	**202**	*eP*	**Pg**	**20 57 03.6**	**+0.6**
	baz=3.0						
SATY				*eS*	**Sg**	**20 57 05.2**	**+1.1**
	baz=3.0						
KPKS	**Kokpek**	**0.38**	**27**	P	**Pg**	**20 57 08.9**	**+0.4**
	9.8nm,0.1s						
KPKS				S	**Sg**	**20 57 14.1**	**+0.7**
	28nm,0.5s						
KPKS	**Kokpek**	**0.38**	**27**	*eP*	**Pg**	**20 57 08.9**	**+0.4**
	9.8nm,0.1s						
KPKS				*eS*	**Sg**	**20 57 14.1**	**+0.7**
	28nm,0.5s						
KPKS	**Kokpek**	**0.38**	**27**	*eP*	**Pg**	**20 57 08.9**	**+0.4**
	baz=27						
KPKS				*eS*	**Sg**	**20 57 14.1**	**+0.7**
	baz=27						
KURS	**Kuram**	**0.41**	**330**	P	**Pg**	**20 57 09.6**	**+0.4**
	2.0nm,0.3s						
KURS				S	**Sg**	**20 57 15.3**	**+0.8**
	7.7nm,0.3s						
KURS	**Kuram**	**0.41**	**330**	*eP*	**Pg**	**20 57 09.6**	**+0.4**
	2.0nm,0.3s						
KURS				*eS*	**Sg**	**20 57 15.3**	**+0.8**
	7.7nm,0.3s						
KURS	**Kuram**	**0.41**	**330**	*eP*	**Pg**	**20 57 09.6**	**+0.4**
	baz=29						
KURS				*eS*	**Sg**	**20 57 15.3**	**+0.8**
	baz=29						
UZB	**Uzynbulak**	**0.42**	**88**	P	**Pg**	**20 57 09.7**	**+0.3**
	3.6nm,0.2s						
UZB				S	**Sg**	**20 57 15.5**	**+0.6**
	19nm,0.1s						
UZB	**Uzynbulak**	**0.42**	**88**	*eP*	**Pg**	**20 57 09.7**	**+0.3**
	3.6nm,0.2s						
UZB				*eS*	**Sg**	**20 57 15.5**	**+0.6**
	19nm,0.1s						
UZB	**Uzynbulak**	**0.42**	**88**	*eP*	**Pg**	**20 57 09.7**	**+0.3**
	baz=89						
UZB				*eS*	**Sg**	**20 57 15.5**	**+0.6**
	baz=89						
PRZ	**Przheval'sk**	**0.65**	**183**	⇓*eP*	**Pg**	**20 57 14.4**	**+0.6**
	baz=84						
PRZ				⇓*eS*	**Sg**	**20 57 22.9**	**+0.7**
	baz=84						
ANVS	**Anan'yevo**	**0.67**	**239**	⇑*iP*	**Pg**	**20 57 14.7**	**+0.5**
	baz=39						
ANVS				⇑*iS*	**Sg**	**20 57 24.1**	**+1.2**
	baz=39						
PDGK	**Podgornoye**	**0.79**	**75**	P	**Pg**	**20 57 16.5**	**+0.1**
	1.2nm,0.4s						
PDGK				S	**Sg**	**20 57 27.1**	**+0.5**
	2.6nm,0.5s						
KOTS	**Kotyrbulak**	**0.98**	**276**	P	**Pb**	**20 57 20.4**	**-0.6**
	4.3nm,0.1s						
KOTS				S	**Sb**	**20 57 34.0**	**-0.4**
	7.1nm,0.2s						
KOTS	**Kotyrbulak**	**0.98**	**276**	*eP*	**Pb**	**20 57 20.4**	**-0.6**
	4.3nm,0.1s						
KOTS				*eS*	**Sb**	**20 57 34.0**	**-0.4**
	7.1nm,0.2s						
KOTS	**Kotyrbulak**	**0.98**	**276**	*eP*	**Pb**	**20 57 20.4**	**-0.6**
	baz=76						
KOTS				*eS*	**Sb**	**20 57 34.1**	**-0.4**
	baz=76						
MDOK	**Medeo**	**1.02**	**272**	Pg	**Pb**	**20 57 20.6**	**-1.2**
	2.8nm,0.4s						
MDOK				Lg	Lg	20 57 34.1	
	5.9nm,0.4s						
MDOK	**Medeo**	**1.02**	**272**	*eP*	**Pb**	**20 57 20.6**	**-1.2**
	2.8nm,0.4s						
MDOK				*eS*	**Sb**	**20 57 34.1**	**-1.6**
	5.9nm,0.4s						
TNSS	**Tian-Shan**	**1.10**	**265**	P	**Pb**	**20 57 22.4**	**-0.8**
	2.4nm,0.2s						
TNSS				S	**Sb**	**20 57 37.5**	**-0.7**
	2.9nm,0.2s						
TNSS	**Tian-Shan**	**1.10**	**265**	*eP*	**Pb**	**20 57 22.4**	**-0.8**
	2.4nm,0.2s						
TNSS				*eS*	**Sb**	**20 57 37.5**	**-0.7**
	2.9nm,0.2s						
ARXS	**Arharly**	**1.17**	**338**	P	**Pb**	**20 57 23.3**	**-0.9**
	1.5nm,0.1s						
ARXS				S	**Sb**	**20 57 38.8**	**-1.0**
	4.0nm,0.2s						
ARXS	**Arharly**	**1.17**	**338**	*eP*	**Pb**	**20 57 23.3**	**-0.9**
	1.5nm,0.1s						
ARXS				*eS*	**Sb**	**20 57 38.8**	**-1.0**
	4.0nm,0.2s						
CHKK	**Chushkaly**	**1.28**	**305**	P	**Pg**	**20 57 26.7**	**+0.8**
	2.2nm,0.3s						
CHKK				S	**Sg**	**20 57 45.0**	**+2.5**
	6.6nm,0.4s						
CHKK	**Chushkaly**	**1.28**	**305**	*eP*	**Pg**	**20 57 26.7**	**+0.8**
	2.2nm,0.3s						
CHKK				*eS*	**Sg**	**20 57 45.0**	**+2.5**
	6.6nm,0.4s						
KNOS	**Konyrlen**	**1.33**	**23**	P	**Pg**	**20 57 28.3**	**+1.4**
	1.3nm,0.1s						
KNOS				S	**Sg**	**20 57 47.6**	**+3.4**
	1.5nm,0.1s						
KDJ	**Kajisay**	**1.37**	**223**	⇑*eP*	**Pb**	**20 57 27.4**	**-0.3**
	baz=23						
KDJ				⇑*eS*	**Sg**	**20 57 46.3**	**+1.0**
	baz=23						
KTBS	**Karatobe**	**1.41**	**295**	P	**Pb**	**20 57 27.8**	**-0.4**
	1.2nm,0.2s						
KTBS				S	**Sg**	**20 57 46.5**	**-0.1**
	4.3nm,0.3s						
KTBS	**Karatobe**	**1.41**	**295**	*eP*	**Pb**	**20 57 27.8**	**-0.4**
	1.2nm,0.2s						
KTBS				*eS*	**Sg**	**20 57 46.5**	**-0.1**
	4.3nm,0.3s						
MTBS	**Maitube**	**1.48**	**271**	P	**Pb**	**20 57 29.1**	**-0.3**
	2.1nm,0.3s						
MTBS				S	**Sg**	**20 57 48.8**	**0.0**
	2.2nm,0.2s						
MTBS	**Maitube**	**1.48**	**271**	*eP*	**Pb**	**20 57 29.1**	**-0.3**
	2.1nm,0.3s						
MTBS				*eS*	**Sg**	**20 57 48.8**	**0.0**
	2.2nm,0.2s						
DJR	**Jarkent**	**1.54**	**39**	P	**Pb**	**20 57 30.3**	**-0.3**
	1.1nm,0.1s						
DJR				S	**Sg**	**20 57 50.8**	**-0.1**
	3.0nm,0.5s						
DJR	**Jarkent**	**1.54**	**39**	*eP*	**Pb**	**20 57 30.3**	**-0.3**
	1.1nm,0.1s						
DJR				*eS*	**Sg**	**20 57 50.8**	**-0.1**
	3.0nm,0.5s						
KUU	**Kurty**	**1.71**	**297**	P	**Pb**	**20 57 32.9**	**-0.5**
	3.2nm,0.3s						
KUU				S	**Sb**	**20 57 55.3**	**0.0**
	5.1nm,0.2s						
KUU	**Kurty**	**1.71**	**297**	*eP*	**Pb**	**20 57 32.9**	**-0.5**
	3.2nm,0.3s						
KUU				*eS*	**Sb**	**20 57 55.3**	**0.0**
	5.1nm,0.2s						
KST	**Kastek**	**1.82**	**268**	P	**Pg**	**20 57 36.2**	**0.0**
	2.0nm,0.5s						
KST				S	**Sg**	**20 58 01.1**	**+1.3**
	3.0nm,0.5s						
KST	**Kastek**	**1.82**	**268**	*eP*	**Pg**	**20 57 36.2**	**0.0**
	2.0nm,0.5s						
KST				*eS*	**Sg**	**20 58 01.1**	**+1.3**
	3.0nm,0.5s						
ULHL	**Ulahol**	**1.85**	**242**	⇑*iP*	**Pb**	**20 57 36.0**	**+0.1**
	baz=42						
ULHL				⇑*iS*	**Sg**	**20 58 01.2**	**+0.4**
	baz=42						
TKM2	**Tokmak 2**	**2.10**	**265**	⇑*eP*	**Pb**	**20 57 39.7**	**-0.4**
	baz=65						
TKM2				⇑*eS*	**Sb**	**20 58 07.7**	**+1.0**
	baz=65						
KZA	**Kyzart**	**2.58**	**247**	⇓*eP*	**Pb**	**20 57 46.6**	**-1.9**
	baz=47						
KZA				⇓*eS*	**Sb**	**20 58 19.6**	**-1.2**
	baz=47						
KBK	**Karagaybulak**	**2.62**	**261**	⇑*eP*	**Pb**	**20 57 46.8**	**-2.1**
	baz=61						
KBK				⇑*eS*	**Sb**	**20 58 20.0**	**-1.5**
	baz=61						

IDC ***16*** *21:05:26.5±1.6, 35°.66N×3°.42W, h0km, mb3.2/3, mbtmp3.1/5, ML2.8/2, Error ellipse: s-maj=57.1km s-min=16.5km az=108.0*
INMG ***16*** *21:05:28.6±1.4, 35°.66N×3°.70W, h3km±4km, ML2.6, Error ellipse: s-maj=2.4km s-min=2.2km az=104.0*
CNRM ***16*** *21:05:28.4, 35°.70N×3°.66W, h19km, ML3.0*
MDD ***16*** *21:05:28.0±0.2, 35°.62N×3°.70W, h0km, mb_Lg3.1/34, Error ellipse: s-maj=2.2km s-min=1.9km az=143.0*
SFS ***16*** *21:05:29.2, 35°.61N×3°.68W, h18km, ML3.3/32, ML3.5/25, MLv3.0/32*

ISC 16 21:05:27.6±1.1, 35°.67N±0°.02×3°.69W±0°.02, h12km±8km, n113, σ1$30/183, mb3.5/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.50**	**205**	P	**Pb**	**21 05 39.0**	**+0.7**
PALE	**Palemas**	**0.50**	**205**	S	**Sb**	**21 05 46.8**	**+1.2**
EALB	**Alboran**	**0.59**	**63**	Pg	**Pb**	**21 05 40.2**	**+0.3**
EALB				Sg	**Sb**	**21 05 49.1**	**+0.9**
EALB	**Alboran**	**0.59**	**63**	Pg	**Pb**	**21 05 40.0**	**+0.1**
EALB				Sg	**Sb**	**21 05 47.7**	**-0.5**
EALB				*i* Vmb_Lg		21 05 55.6	
EMEL	**Melilla**	**0.70**	**122**	Pg	**Pg**	**21 05 41.3**	**0.0**
EMEL				Sg	**Sg**	**21 05 50.2**	**-0.3**
EMEL				*i* Vmb_Lg		21 05 53.0	
EMLI	**Melilla**	**0.70**	**122**	Pg	**Pg**	**21 05 41.3**	**0.0**
EMLI				Sg	**Sb**	**21 05 51.2**	**-0.3**
PVLZ	**Peæn de**	**0.71**	**225**	Pg	**Pg**	**21 05 41.5**	**+0.1**
PVLZ				Sg	**Sb**	**21 05 51.6**	**0.0**
GOG	**Mont Gurugu**	**0.72**	**128**	P	**Pg**	**21 05 41.6**	**0.0**
GOG	**Mont Gurugu**	**0.72**	**128**	S	**Sb**	**21 05 52.6**	**+0.6**
CHAS	**Isla Isabel Il**	**1.13**	**115**	Sn	**Sb**	**21 06 01.9**	**-1.9**
CHAS				Pn	**Pb**	**21 05 47.3**	**-1.9**
AKLM	**AKL**	**1.17**	**187**	P	**Pb**	**21 05 50.0**	**+0.2**
AKLM	**AKL**	**1.17**	**187**	S	**Sb**	**21 06 04.1**	**-0.8**
ELGU	**Los Guajares,**	**1.19**	**2**	Pn	**Pb**	**21 05 49.3**	**-1.0**
ELGU				Sn	**Sb**	**21 06 05.7**	**0.0**
ELGU	**Los Guajares,**	**1.19**	**2**	Pg	**Pg**	**21 05 50.7**	**0.0**
ELGU				Sg	**Sn**	**21 06 06.7**	**+0.3**
ELGU				*i* Vmb_Lg		21 06 08.4	
EMAL	**Malaga-Limoner**	**1.24**	**331**	Pn	**Pn**	**21 05 49.7**	**-1.1**
EMAL				Sn	**Sb**	**21 06 07.1**	**+0.1**
EMIJ	**Mijas**	**1.25**	**316**	Pn	**Pn**	**21 05 49.8**	**-1.2**
EMIJ				Sn	**Sb**	**21 06 06.1**	**-1.2**
EMIJ	**Mijas**	**1.25**	**316**	Pg	**Pb**	**21 05 51.3**	**+0.1**
EMIJ				Sg	**Sb**	**21 06 06.4**	**-1.0**
EMIJ				*i* Vmb_Lg		21 06 08.4	
TAF	**Taforalt**	**1.35**	**129**	P	**Pn**	**21 05 51.7**	**-0.6**
TAF	**Taforalt**	**1.35**	**129**	S	**Sn**	**21 06 10.4**	**+0.3**
SMIR	**Smir Dam**	**1.38**	**271**	P	**Pn**	**21 05 52.2**	**-0.5**
SMIR	**Smir Dam**	**1.38**	**271**	S	**Sb**	**21 06 11.8**	**+0.8**
EBER	**Berja**	**1.38**	**27**	Pn	**Pn**	**21 05 51.9**	**-1.0**
EBER	**Berja**	**1.38**	**27**	Pn	**Pn**	**21 05 52.5**	**-0.4**
EBER				Sn	**Sg**	**21 06 12.0**	**-0.2**
EBER				*i* Vmb_Lg		21 06 21.8	
CEU	**Ceuta**	**1.39**	**280**	Pn	**Pn**	**21 05 50.3**	**-2.5**
CEU				Sn	**Sn**	**21 06 07.8**	**-3.3**
ECEU	**Ceuta**	**1.39**	**280**	Pn	**Pn**	**21 05 51.6**	**-1.3**
ECEU	**Ceuta**	**1.39**	**280**	Pn	**Pn**	**21 05 51.7**	**-1.2**
ECEU				Sn	**Sn**	**21 06 09.6**	**-1.6**
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pn**	**21 05 54.1**	**+0.1**
CHEFC	**Chefchaouen**	**1.47**	**248**	S	**Sb**	**21 06 14.2**	**+0.8**
EGOR	**Sierra Gorda,**	**1.48**	**347**	Pn	**Pn**	**21 05 54.0**	**-0.2**
EGOR				Sn	**Sb**	**21 06 13.8**	**0.0**
EGOR	**Sierra Gorda,**	**1.48**	**347**	Pn	**Pn**	**21 05 54.4**	**+0.3**
EGOR				Sn	**Sg**	**21 06 14.7**	**-0.5**
EGOR				*i* Vmb_Lg		21 06 20.4	
EQUE	**Quentar**	**1.54**	**7**	Pn	**Pb**	**21 05 56.7**	**+0.5**
EQUE				Sn	**Sb**	**21 06 16.2**	**+0.5**
EQUE				*i* Vmb_Lg		21 06 21.2	
EQTA	**Presa de Quent**	**1.54**	**7**	Pn	**Pg**	**21 05 57.2**	**-0.1**
EQTA				Sn	**Sb**	**21 06 16.5**	**+0.7**
JBK	**JBK**	**1.62**	**145**	P	**Pn**	**21 05 55.6**	**-0.6**
JBK	**JBK**	**1.62**	**145**	S	**Sn**	**21 06 17.3**	**+0.3**
EJIF	**Jimena Fronter**	**1.64**	**299**	Pn	**Pn**	**21 05 57.2**	**+0.9**
EJIF				Sn	**Sn**	**21 06 17.7**	**+0.3**
ENIJ	**Nijar**	**1.76**	**42**	Pn	**Pn**	**21 05 59.0**	**+1.0**
ENIJ				Sn	**Sn**	**21 06 19.0**	**-1.3**
ENIJ	**Nijar**	**1.76**	**42**	Pn	**Pn**	**21 05 59.0**	**+1.0**
ENIJ				Sn	**Sn**	**21 06 18.4**	**-2.0**
ENIJ				*i* Vmb_Lg		21 06 31.6	
RSA	**Sarsar**	**1.92**	**246**	P	**Pb**	**21 06 02.7**	**+0.2**
RSA	**Sarsar**	**1.92**	**246**	S	**Sn**	**21 06 24.9**	**+0.7**
SICH	**Sidi Chahed**	**2.06**	**221**	P	**Pn**	**21 06 02.8**	**+0.8**
SICH	**Sidi Chahed**	**2.06**	**221**	S	**Sn**	**21 06 29.3**	**+1.6**
ESPR	**Espera**	**2.12**	**305**	Pn	**Pn**	**21 06 03.5**	**+0.6**
ESPR				Sn	**Sn**	**21 06 29.5**	**+0.3**
ESPR	**Espera**	**2.12**	**305**	Pn	**Pn**	**21 06 03.3**	**+0.4**
ESPR				Sn	**Sn**	**21 06 30.1**	**+0.9**
ESPR				*i* Vmb_Lg		21 06 42.0	
EQES	**Quesada**	**2.18**	**13**	Pn	**Pb**	**21 06 06.0**	**-1.1**
EQES				Sn	**Sn**	**21 06 31.7**	**+0.8**
EQES				*i* Vmb_Lg		21 06 40.3	
LCRM	**LCR**	**2.20**	**206**	P	**Pb**	**21 06 06.4**	**-1.1**
LCRM	**LCR**	**2.20**	**206**	S	**Sb**	**21 06 36.0**	**+1.1**
IFR	**Ifrane**	**2.46**	**209**	Pn	**Pn**	**21 06 07.8**	**+0.1**
IFR				Sn	**Sn**	**21 06 35.6**	**-2.1**
EADA	**Adamuz**	**2.59**	**344**	Pn	**Pn**	**21 06 11.4**	**+2.0**
EADA				Sn	**Sn**	**21 06 40.9**	**+0.1**
EADA	**Adamuz**	**2.59**	**344**	Pn	**Pn**	**21 06 11.4**	**+2.0**
EADA				Sn	**Sn**	**21 06 41.8**	**+1.0**
EADA				*i* Vmb_Lg		21 06 50.5	
EZAR	**Zarzadilla de**	**2.72**	**35**	Pn	**Pn**	**21 06 12.8**	**+1.6**
EZAR				Sn	**Sn**	**21 06 44.0**	**-0.1**
EZAR				*i* Vmb_Lg		21 06 56.9	
ECAB	**El Cabril**	**2.77**	**330**	Pn	**Pn**	**21 06 13.4**	**+1.5**
ECAB				Sn	**Sn**	**21 06 43.6**	**-1.7**
ECAB	**El Cabril**	**2.77**	**330**	Pn	**Pn**	**21 06 14.5**	**+2.6**
ECAB				Sn	**Sn**	**21 06 45.3**	**0.0**
ECAB				*i* Vmb_Lg		21 06 56.6	
EMUR	**La Murta**	**2.92**	**41**	Pn	**Pn**	**21 06 15.7**	**+1.7**
EMUR				Sn	**Sn**	**21 06 48.4**	**-0.7**
EMUR	**La Murta**	**2.92**	**41**	Pn	**Pn**	**21 06 15.0**	**+1.1**
EMUR				Sn	**Sn**	**21 06 48.9**	**-0.1**
EMUR				*i* Vmb_Lg		21 06 51.1	
MD31	**MD31**	**2.94**	**198**	P	**Pn**	**21 06 15.4**	**+1.2**
MD31	**MD31**	**2.94**	**198**	S	**Sn**	**21 06 50.6**	**+1.2**
MDT	**Midelt**	**2.95**	**195**	Pn	**Pn**	**21 06 15.3**	**+0.9**
	0.6nm,0.3s,baz=30,slow=8.1,SNR=29						
MDT				Sn	**Sn**	**21 06 49.7**	**-0.1**
	1.4nm,0.3s,baz=129,slow=23,SNR=4.1						
MDT				Lg	Lg	21 07 01.9	
	3.1nm,0.3s,baz=135,slow=4.3,SNR=4.9						
	1.1nm,0.3s						
MDT	**Midelt**	**2.95**	**195**	P	**Pn**	**21 06 16.9**	**+2.5**
MDT	**Midelt**	**2.95**	**195**	S	**Sn**	**21 06 52.4**	**+2.6**
EMIN	**Mina Concepcio**	**3.18**	**312**	Sn	**Sn**	**21 06 54.5**	**-0.8**
EMIN				Pn	**Pn**	**21 06 17.7**	**+0.2**
EMIN	**Mina Concepcio**	**3.18**	**312**	Pn	**Pn**	**21 06 17.9**	**+0.4**
EMIN				Sn	**Sn**	**21 06 55.2**	**-0.2**
EMIN				*i* Vmb_Lg		21 07 01.8	
ZHG	**ZHG**	**3.30**	**229**	P	**Pn**	**21 06 20.8**	**+1.6**
ETOB	**Tobarra**	**3.42**	**29**	Pn	**Pn**	**21 06 22.7**	**+1.9**
ETOB	**Tobarra**	**3.42**	**29**	Pn	**Pn**	**21 06 23.1**	**+2.3**
ETOB				Sn	**Sn**	**21 07 03.2**	**+1.8**
ETOB				*i* Vmb_Lg		21 07 19.0	
EGRO	**El Granado**	**3.58**	**302**	Sn	**Sn**	**21 07 02.3**	**-2.7**
EGRO				Pn	**Pn**	**21 06 22.9**	**0.0**
EGRO	**El Granado**	**3.58**	**302**	Pn	**Pn**	**21 06 24.0**	**+1.1**
EGRO				Sn	**Sn**	**21 07 04.8**

EVO				Sn		Sn	21 07 26.1	-1.4
PNCL	**Nicolau / Gran**	**4.58**	**304**	*e*P		**Pn**	**21 06 37.6**	**+0.9**
PNCL				*e*S		**Sn**	**21 07 29.4**	**-0.5**
PNCL				A		A	21 07 31.9	
	4.0nm,0.6s							
PNCL	**Nicolau / Gran**	**4.58**	**304**	Pn		**Pn**	**21 06 36.7**	**0.0**
UCM	**Universidad Co**	**4.64**	**4**	Sn		**Sn**	**21 07 30.0**	**-1.4**
PMRV	**Marv??o**	**4.77**	**323**	*e*P		**Pn**	**21 06 41.7**	**+2.4**
PMRV				*e*S		**Sn**	**21 07 35.0**	**+0.5**
PMRV				A		A	21 07 47.0	
	5.8nm,0.7s							
EPLA	**Plasencia**	**4.78**	**337**	Pn		**Pn**	**21 06 41.1**	**+1.7**
EPLA				Sn		**Sn**	**21 07 35.1**	**+0.4**
EPLA				*i* Vmb_Lg			21 08 01.7	
PMTG	**Montargil**	**4.96**	**315**	*e*P		**Pn**	**21 06 43.7**	**+1.8**
PMTG				*e*S		**Sn**	**21 07 38.6**	**-0.5**
PMTG				A		A	21 07 40.7	
	5.8nm,0.5s							
GUD	**Guadarrama**	**4.98**	**356**	Pn		**Pn**	**21 06 44.3**	**+2.0**
GUD				Sn		**Sn**	**21 07 39.8**	**0.0**
GUD				*i* Vmb_Lg			21 08 14.4	
PCBR	**Castelo Branco**	**5.13**	**325**	*e*P		**Pn**	**21 06 46.1**	**+1.8**
PCBR				*e*S		**Sn**	**21 07 42.6**	**-0.8**
PCBR				A		A	21 07 45.5	
	6.4nm,0.3s							
PACT	**Alcochete**	**5.14**	**308**	*e*P		**Pn**	**21 06 46.9**	**+2.5**
PACT				*e*S		**Sn**	**21 07 44.5**	**+0.9**
EIBI	**Ibiza**	**5.22**	**49**	Pn		**Pn**	**21 06 45.6**	**+0.1**
EIBI				Sn		**Sn**	**21 07 42.8**	**-2.8**
OUZM	**OUZ**	**5.40**	**209**	P		**Pn**	**21 06 50.9**	**+2.8**
PMAFR	**Mafra**	**5.54**	**308**	*e*S		**Sn**	**21 07 52.7**	**-0.7**
TIO	**Tiouine**	**5.60**	**213**	Pn		**Pn**	**21 06 48.9**	**-2.0**
OUK	**Oukaimeden**	**5.66**	**219**	P		**Pn**	**21 06 53.2**	**+1.3**
PVIS	**Viseu**	**6.03**	**328**	*e*P		**Pn**	**21 06 59.4**	**+2.8**
PVIS				*e*S		**Sn**	**21 08 04.9**	**-0.7**
PVIS				A		A	21 08 07.2	
	5.6nm,0.4s							
MVO	**Moncorvo**	**6.08**	**335**	*e*P		**Pn**	**21 07 00.1**	**+2.7**
MVO				*e*S		**Sn**	**21 08 06.3**	**-0.6**
POLO	**Lamas de Olo**	**6.54**	**332**	*e*P		**Pn**	**21 07 05.9**	**+2.2**
POLO				*e*S		**Sn**	**21 08 17.0**	**-1.3**
PBRG	**Braganca**	**6.57**	**340**	*e*P		**Pn**	**21 07 07.0**	**+2.9**
PBRG				*e*S		**Sn**	**21 08 19.5**	**+0.5**
PCAB	**Cabril**	**6.92**	**332**	*e*S		**Sn**	**21 08 26.6**	**-0.9**
ELOB	**Lobios**	**7.07**	**332**	Pn		**Pn**	**21 07 11.0**	**0.0**
ELOB				Sn		**Sn**	**21 08 28.2**	**-3.0**
ELOB				*i* Vmb_Lg			21 09 12.6	
TORD	**Torodi Ar. Bea**	**22.95**	**166**	P		**P**	**21 10 32.2**	**+0.4**
	0.3nm,0.6s,baz=359,slow=8.6,SNR=3.8							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**58.82**	**48**	P		**P**	**21 15 24.5**	**-1.2**
	0.2nm,0.4s,baz=293,slow=7.3,SNR=2.7							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**62.54**	**51**	P		**P**	**21 15 51.4**	**+0.2**
	0.1nm,0.3s,baz=290,slow=4.8,SNR=2.1							
	0.1nm,0.3s							

*IDC **16** 21:18:09.2±3.5,3°.62N×95°.24E, h0km, mb3.4/3, mbtmp3.4/4, Error ellipse: s-maj=130.8km s-min=29.0km az=62.0*
*DJA **16** 21:18:15.9±0.6,4°.N±4°×9°.7E±°, h10km, M3.8/7, MLv3.8/7*
ISC 16 21:18:16.1±0.9,4°.43N±0°.07×96°.6E±0°.1, h10km, n12, σ1s07/12, mb3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.23**	**226**	P	**Pg**	**21 18 20.6**	**-0.3**
LHMI	**Lhok Sumawe**	**0.88**	**25**	P	**Pb**	**21 18 33.8**	**+0.4**
KCSI	**Kotacane, Aceh**	**1.50**	**127**	P	**Pn**	**21 18 42.9**	**-0.1**
SNSI	**Sinabang, Aceh**	**2.02**	**187**	P	**Pn**	**21 18 50.3**	**+0.1**
GSI	**Gunungsitoli**	**3.26**	**162**	P	**Pn**	**21 19 08.4**	**+1.1**
KULM	**Kulim**	**4.15**	**78**	P	**Pn**	**21 19 19.2**	**-0.4**
PBSI	**Pulau Batu**	**4.77**	**159**	P	**Pn**	**21 19 28.3**	**+0.3**
SKLT	**Songkhla**	**4.86**	**56**	P	**Pn**	**21 19 29.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.13**	**9**	Pn	**P**	**21 21 46.2**	**+2.0**
	0.5nm,0.7s,baz=203,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**43.98**	**346**	P	**P**	**21 26 21.7**	**-1.9**
	0.1nm,0.7s,baz=170,slow=8.0,SNR=1.7						
	0.1nm,0.7s						
WRA	**Warramunga Arr**	**44.32**	**124**	P	**P**	**21 26 25.6**	**-1.1**
	1.2nm,0.6s,baz=302,slow=9.2,SNR=9.0						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**45.87**	**129**	P	**P**	**21 26 39.2**	**+0.2**
	0.3nm,0.6s,baz=300,slow=8.1,SNR=4.3						
	0.3nm,0.6s						

*NEIC **16** 22:03:06.7±1.4, 19°.6S±0°.1×179°.2W±0°.1, h641km±8km, mb4.4/35, Error ellipse: s-maj=20.8km s-min=16.4km az=141.0*
*IDC **16** 22:03:07.1±2.2, 19°.48S×179°.24W, h654km±26km, mb3.5/13, mbtmp4.5/15, Error ellipse: s-maj=17.8km s-min=15.8km az=140.0*
*NOU **16** 22:03:07.4, 19°.26S×179°.18W, h680km, mb4.6/25, Fiji Islands Region*
ISC 16 22:03:06.7±0.4, 19°.50S±0°.09×179°.25W±0°.08, h650km, n136, σ1s08/135, mb4.4/34, 4C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.33**	**18**	P	**P**	**22 04 25.7**	**+2.1**
TAVE	**Taveuni**	**2.85**	**347**	P	**P**	**22 04 31.8**	**+2.4**
DGTI	**Dogotuki**	**3.33**	**343**	P	**P**	**22 04 34.0**	**+2.0**
YSA	**Yasawairara**	**4.11**	**312**	P	**P**	**22 04 38.6**	**+1.9**
NIUE	**Niue**	**8.81**	**89**	P	**P**	**22 05 15.2**	**-0.1**
AFI	**Afiamalu**	**9.06**	**53**	P	**P**	**22 05 16.5**	**-1.3**
AFI	**Afiamalu**	**9.06**	**53**	P	**P**	**22 05 17.3**	**-0.5**
LIFNC	**LIFOU**	**12.76**	**262**	P	**P**	**22 05 51.3**	**-1.1**
PINNC	**Pines Island,**	**12.80**	**254**	P	**P**	**22 05 53.3**	**+0.6**
OUENC	**Ouen Island, N**	**13.32**	**255**	P	**P**	**22 05 57.6**	**+0.1**
DZM	**Mont Dzumac**	**13.62**	**257**	P	**P**	**22 06 01.6**	**+1.2**
DZM	**Mont Dzumac**	**13.62**	**257**	P	**P**	**22 06 03.5**	**+3.0**
	22nm,0.8s						
DZM	**Mont Dzumac**	**13.62**	**257**	P	**P**	**22 06 03.0**	**+2.5**
	18nm,0.8s,baz=77,slow=16,SNR=11						
KOUNC	**Koumac, New Ca**	**15.51**	**263**	P	**P**	**22 06 19.4**	**+1.6**
KOUNC	**Koumac, New Ca**	**15.51**	**263**	P	**P**	**22 06 20.5**	**+2.8**
URZ	**Urewera**	**18.96**	**189**	P	**P**	**22 06 48.3**	**-0.5**
	3.1nm,0.3s,baz=38,slow=20,SNR=1.3						
TKNZ	**Takaka Hill**	**22.47**	**196**	P	**P**	**22 07 19.9**	**-0.2**
MRNZ	**Matariki Terra**	**22.87**	**196**	P	**P**	**22 07 23.7**	**+0.1**
MLZ	**Mavora Lakes**	**27.84**	**199**	P	**P**	**22 08 07.3**	**+0.1**
EIDS	**Eidsvold**	**28.00**	**253**	P	**P**	**22 08 09.2**	**+0.3**
EIDS				IAmb	IAmb	22 08 15.3	
	comp=Z,17nm,1.1s						
ARMA	**Armidale**	**28.47**	**242**	P	**P**	**22 08 13.6**	**+0.6**
AULRC	**Lightning Ridg**	**31.33**	**245**	P	**P**	**22 08 38.6**	**+1.3**
	comp=Z,49nm,2.0s						
CAN	**Canberra**	**32.12**	**234**	P	**P**	**22 08 44.7**	**+0.8**
CTA	**Charters Tower**	**32.43**	**263**	P	**P**	**22 08 47.3**	**+0.6**
	comp=Z,18nm,0.4s,baz=93,slow=11,SNR=10						
	comp=Z,18nm,0.4s						
CTAO	**Charters Tower**	**32.43**	**263**	P	**P**	**22 08 47.3**	**+0.6**
CMSA	**Cobar Meteorol**	**33.69**	**242**	P	**P**	**22 08 58.1**	**+1.1**
PMG	**Port Moresby**	**33.98**	**282**	P	**P**	**22 08 59.6**	**-0.1**
QLP	**Quilpie**	**34.25**	**251**	P	**P**	**22 09 02.4**	**+0.7**
MTSU	**Mount Surprise**	**34.48**	**266**	P	**P**	**22 09 04.3**	**+0.6**
TOO	**Toolangi**	**35.56**	**232**	P	**P**	**22 09 13.0**	**+0.6**
TOO	**Toolangi**	**35.56**	**232**	P	**P**	**22 09 13.6**	**+1.2**
BRAT	**Ballarat**	**36.72**	**233**	P	**P**	**22 09 23.8**	**+2.0**
STKA	**Stephens Creek**	**37.18**	**243**	P	**P**	**22 09 26.4**	**+0.8**
STKA	**Stephens Creek**	**37.18**	**243**	P	**P**	**22 09 26.9**	**+1.2**
STKA	**Stephens Creek**	**37.18**	**243**	P	**P**	**22 09 26.6**	**+1.0**
	comp=Z,6.8nm,0.3s,baz=95,slow=9.6,SNR=28						
	comp=Z,6.8nm,0.3s						
INKA	**Innaminka**	**37.43**	**250**	P	**P**	**22 09 29.4**	**+1.7**
ARPS	**Mount Arapiles**	**38.08**	**235**	P	**P**	**22 09 33.6**	**+0.8**
HTT	**Hallett**	**39.67**	**241**	P	**P**	**22 09 46.4**	**+0.8**
LCRK	**Leigh Creek**	**39.86**	**246**	P	**P**	**22 09 48.1**	**+0.9**
WHYH	**Whyalla**	**40.72**	**242**	P	**P**	**22 09 54.9**	**+1.0**
OOD	**Oodnadatta**	**41.91**	**250**	P	**P**	**22 10 04.6**	**+1.3**
BBOO	**Buckleboo**	**41.95**	**242**	P	**P**	**22 10 04.0**	**+0.5**
BBOO				IAmb	IAmb	22 10 04.4	
	comp=Z,19nm,0.7s						
BBOO	**Buckleboo**	**41.95**	**242**	P	**P**	**22 10 04.1**	**+0.5**
WR0	**Warramunga Arr**	**43.39**	**261**	P	**P**	**22 10 14.5**	**-0.4**
WR0				IAmb	IAmb	22 10 14.9	
	comp=Z,5.9nm,0.7s						
MULG	**Mulgathing**	**43.43**	**246**	P	**P**	**22 10 15.4**	**+0.4**
AS01	**Alice Springs**	**43.57**	**256**	P	**P**	**22 10 16.7**	**+0.4**
WRA	**Warramunga Arr**	**43.58**	**261**	P	**P**	**22 10 15.5**	**-0.9**
WRA	**Warramunga Arr**	**43.58**	**261**	P	**P**	**22 10 16.1**	**-0.3**
	comp=Z,6.7nm,0.3s,baz=96,slow=7.8,SNR=236						
WRA				S	**S**	**22 15 56.6**	**-4.4**
	comp=Z,1.1nm,0.9s,baz=96,slow=13,SNR=5.1						
	comp=Z,6.7nm,0.3s						
AS31	**Alice Springs**	**43.61**	**256**	P	**P**	**22 10 16.8**	**+0.2**
AS31				IAmb	IAmb	22 10 18.0	
	comp=Z,9.4nm,0.7s						
ASAR	**Alice Springs**	**43.61**	**256**	P	**P**	**22 10 16.7**	**+0.1**
ASAR	**Alice Springs**	**43.61**	**256**	P	**P**	**22 10 16.9**	**+0.3**
	comp=Z,24nm,0.7s,baz=87,slow=8.4,SNR=219						
ASAR				PcP	**PcP**	**22 11 48.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=107,slow=4.2,SNR=3.2						
ASAR				ScP	**ScP**	**22 14 40.7**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=97,slow=4.8,SNR=4.3						
ASAR				S	**S**	**22 15 58.0**	**-3.4**
	comp=Z,1.2nm,0.8s,baz=100,slow=13,SNR=9.1						
	comp=Z,24nm,0.7s						
MTN	**Manton Dam**	**47.98**	**270**	P	**P**	**22 10 49.1**	**-0.4**
MTN				IAmb	IAmb	22 10 50.6	
	comp=Z,12nm,0.7s						
WRKA	**Warakurna**	**48.62**	**253**	P	**P**	**22 10 54.2**	**+0.1**
FORT	**Forrest**	**48.62**	**246**	P	**P**	**22 10 53.2**	**-0.9**
FORT				IAmb	IAmb	22 10 54.5	
	comp=Z,22nm,0.9s						
KNRA	**Kununurra**	**49.56**	**266**	P	**P**	**22 11 00.5**	**-0.6**
KNRA				IAmb	IAmb	22 11 01.9	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.00**	**262**	P	**P**	**22 11 18.5**	**-0.1**
SOEI	**Soe**	**55.30**	**272**	P	**P**	**22 11 43.4**	**+1.5**
SOEI				IAmb	IAmb	22 11 49.2	
	comp=Z,25nm,0.9s						
PSA00	**Pilbara Seismi**	**56.75**	**257**	P	**P**	**22 11 51.2**	**-0.5**
VNDA	**Vanda**	**58.80**	**185**	P	**P**	**22 12 05.7**	**+1.3**
VNDA	**Vanda**	**58.80**	**185**	P	**P**	**22 12 05.9**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=3.5,slow=7.9,SNR=1.8						
	comp=Z,0.6nm,0.5s						
MORW	**Morawa**	**59.12**	**247**	P	**P**	**22 12 05.9**	**-1.5**
QSPA	**South Pole Qui**	**70.56**	**180**	P	**P**	**22 13 18.9**	**+0.6**
QSPA				IAmb	IAmb	22 13 19.7	
	comp=Z,4.7nm,0.8s						
QSPA	**South Pole Qui**	**70.56**	**180**	P	**P**	**22 13 18.6**	**+0.3**
	comp=Z,4.0nm,0.5s,baz=16,slow=1.2,SNR=13						
	comp=Z,4.0nm,0.5s						
PETK	**Petropavlovsk-**	**75.02**	**346**	P	**P**	**22 13 42.4**	**-1.2**
	comp=Z,3.5nm,0.8s,baz=144,slow=6.4,SNR=2.6						
	comp=Z,3.5nm,0.8s						
BELA	**Belgrano 2**	**80.69**	**173**	P	**P**	**22 14 13.0**	**-0.6**
BELA				IAmb	IAmb	22 14 13.9	
	comp=Z,6.5nm,0.6s						
N15K	**Kwethluk River**	**80.90**	**10**	P	**P**	**22 14 15.1**	**+0.3**
N15K				IAmb	IAmb	22 14 28.0	
	comp=Z,18nm,1.4s						
NVAR	**Mina Array Bea**	**81.12**	**44**	P	**P**	**22 14 17.7**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=227,slow=8.4,SNR=10.0						
	comp=Z,1.2nm,0.6s						
O18K	**Koktuh Hills**	**81.47**	**12**	P	**P**	**22 14 17.5**	**-0.2**
O18K				IAmb	IAmb	22 14 18.4	
	comp=Z,23nm,1.1s						
M16K	**Timber Creek**	**81.89**	**10**	P	**P**	**22 14 20.7**	**+0.9**
M16K				IAmb	IAmb	22 14 21.9	
	comp=Z,10nm,1.1s						
K05A	**Summer Lake**	**81.93**	**39**	P	**P**	**22 14 21.4**	**+0.7**
K05A				IAmb	IAmb	22 14 23.6	
	comp=Z,20nm,1.5s						
J05D	**Fort Rock, OR**	**82.06**	**39**	P	**P**	**22 14 21.8**	**+0.6**
J05D				IAmb	IAmb	22 14 23.5	
	comp=Z,5.2nm,0.8s						
K15K	**Wolf Creek Mou**	**82.73**	**8**	P	**P**	**22 14 24.5**	**+0.6**
K15K				IAmb	IAmb	22 14 25.5	
	comp=Z,8.6nm,1.0s						
U15A	**North Rim**	**84.17**	**48**	P	**P**	**22 14 32.1**	**0.0**
F10A	**Beach Ranch, E**	**85.94**	**38**	P	**P**	**22 14 39.9**	**-0.2**
F10A				IAmb	IAmb	22 14 41.1	
	comp=Z,3.2nm,0.8s						
HLID	**Hailey**	**86.35**	**41**	P	**P**	**22 14 42.3**	**+0.2**
Q32M	**Nakina River**	**87.15**	**22**	P	**P**	**22 14 46.3**	**+0.7**
HDA	**Harding Lake**	**87.28**	**13**	P	**P**	**22 14 45.0**	**-0.8**
HDA				IAmb	IAmb	22 14 47.5	
	comp=Z,8.2nm,1.2s						
CCB	**Clear Creek Bu**	**87.31**	**13**	P	**P**	**22 14 44.9**	**-1.0**
CCB				IAmb	IAmb	22 14 46.3	
	comp=Z,11nm,1.4s						
IMAR	**Indian Mountai**	**87.38**	**10**	P	**P**	**22 14 45.7**	**-0.6**
BCAR	**Beaver Creek A**	**87.39**	**16**	P	**P**	**22 14 46.5**	**+0.1**
TXAR	**Lajitas Array**	**87.51**	**58**	P	**P**	**22 14 48.3**	**+0.4**
TXAR	**Lajitas Array**	**87.51**	**58**	P	**P**	**22 14 49.0**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=229,slow=5.8,SNR=12						
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**87.61**	**13**	P	**P**	**22 14 46.5**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=218,slow=5.3,SNR=12						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**88.67**	**290**	P	**P**	**22 14 55.3**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=131,slow=2.7,SNR=2.5						
	comp=Z,0.3nm,0.3s						
TROLL	**Troll, Antarti**	**88.72**	**181**	⇓P	**P**	**22 14 52.4**	**-0.3**
	comp=Z,178nm,0.4s						
SNAA	**Sanae**	**89.03**	**179**	P	**P**	**22 14 53.0**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=196,slow=6.7,SNR=7.0						
	comp=Z,0.8nm,0.5s						
PDAR	**Pinedale Array**	**89.05**	**44**	P	**P**	**22 14 55.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=200,slow=3.5,SNR=8.4						
	comp=Z,1.1nm,0.7s						
VNA3	**Neumayer Olymp**	**89.20**	**177**	⇓P	**P**	**22 14 54.2**	**-0.6**
	comp=Z,9.1nm,0.7s						
VNA2	**Neumayer--Watz**	**89.63**	**177**	⇓P	**P**	**22 14 56.5**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=179,slow=4.0						
MKAR	**Makanchi Array**	**89.67**	**314**	PKiKP	**PKiKP**	**22 20 23.4**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=140,slow=0.3,SNR=5.3						
BVAR	**Borovoye Array**	**117.57**	**320**	PKP	**PKPdf**	**22 20 39.2**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=128,slow=1.5,SNR=13						
ARCES	**ARCESS Array B**	**127.73**	**349**	PKP	**PKPdf**	**22 20 58.5**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=24,slow=1.0,SNR=18						
FINES	**FINESS Array B**	**134.49**	**343**	PKhKP	PKPpre	22 21 08.3	
	comp=Z,5.8nm,1.0s,baz=62,slow=3.3,SNR=2.2						
NOA	**NORSAR Array B**	**137.85**	**352**	PKP	**PKiKP**	**22 21 19.8**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=13,slow=3.9,SNR=1.4						
HFS	**Hagfors**	**138.37**	**350**	PKhKP	PKPpre	22 21 12.0	
	comp=Z,2.5nm,1.0s,baz=56,slow=3.6,SNR=7.2						
AKASG	**Malin Array Be**	**141.58**	**331**	PKhKP	PKPpre	22 21 20.4	
	comp=Z,1.3nm,0.4s,baz=43,slow=4.1,SNR=14						
LODK	**Lodwar**	**142.63**	**249**	PKPdf	**PKPdf**	**22 21 26.9**	**-1.7**
GAZ	**Gaziantep**	**143.68**	**307**	PKPbc	PKPbc	22 21 29.2	0.0
EKA	**Eskdalemuir Ar**	**144.11**	**4**	PKP	PKPbc	22 21 28.8	-1.0
	comp=Z,1.4nm,0.6s,baz=352,slow=3.1,SNR=3.5						
BRTR	**Keskin Array B**	**145.30**	**313**	PKPbc	**PKPbc**	**22 21 33.5**	**-0.5**
BRTR	**Keskin Array B**	**145.30**	**313**	PKPbc	**PKPdf**	**22 21 33.3**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=137,slow=3.5,SNR=8.6						
BURAR	**Bucovina Array**	**145.62**	**330**	⇓P	**PKPab**	**22 21 36.0**	**-0.5**
BURAR	**Bucovina Array**	**145.62**	**330**	PKPbc	**PKPbc**	**22 21 34.1**	**-0.5**
MMAI	**Mount Meron Ar**	**146.30**	**301**	PKPbc	**PKPbc**	**22 21 37.1**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=61,slow=6.8,SNR=12						
OSTC	**Ostas**	**146.67**	**342**	*e*PKP	**PKPbc**	**22 21 37.5**	**+0.2**
DOPR	**Dopca**	**146.71**	**328**	⇓P	**PKPbc**	**22 21 38.1**	**+0.6**
MLR	**Muntele Rosu**	**146.75**	**327**	PKPbc	**PKPbc**	**22 21 37.1**	**-0.7**
UPC	**Upice**	**146.77**	**342**	*e*PKP	**PKPbc**	**22 21 37.8**	**+0.3**
DPC	**Dobruska-Polom**	**146.82**	**342**	*e*PKP	**PKPbc**	**22 21 37.8**	**+0.1**
CLL	**Collm**	**146.82**	**346**	PKPbc	**PKPbc**	**22 21 37.4**	**-0.3**
ARR	**Arges**	**147.50**	**328**	⇑P	**PKiKP**	**22 21 40.9**	**-0.2**
PRU	**Pruhonice**	**147.65**	**343**	*e*PKP	**PKPbc**	**22 21 39.8**	**0.0**
ZVC	**Zvikov**	**148.25**	**343**	*e*PKP	**PKPbc**	**22 21 41.2**	**-0.1**
KHC	**Kasperske Hory**	**148.69**	**344**	PKPbc	**PKPbc**	**22 21 42.2**	**-0.3**
KHC	**Kasperske Hory**	**148.69**	**344**	*e*PKP	**PKPbc**	**22 21 42.2**	**-0.3**
BZS	**Bucias**	**148.77**	**331**	⇑P	**PKPbc**	**22 21 42.3**	**-0.4**
CKRC	**Cesky Krumlov**	**148.78**	**343**	*e*PKP	**PKPbc**	**22 21 41.6**	**-1.1**
GERES	**GERESS Array B**	**148.92**	**343**	PKPbc	**PKPbc**	**22 21 42.4**	**-0.7**
GERES	**GERESS Array B**	**148.92**	**343**	PKPbc	**PKPbc**	**22 21 42.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=23,slow=5.8,SNR=4.4						
HERR	**Herculane**	**148.94**	**329**	⇑P	**PKPbc**	**22 21 42.8**	**-0.4**
CONA	**Conrad Observa**	**149.10**	**340**	*i* PKP	**PKPbc**	**22 21 43.6**	**0.0**
	comp=Z,1.5nm,0.4s						
RONA	**Rosalia, Austr**	**149.16**	**339**	*i* PKP	**PKPbc**	**22 21 43.5**	**-0.2**
	comp=Z,2.5nm,0.5s						
ELL	**Elmali**	**149.25**	**310**	PKPbc	**PKPbc**	**22 21 43.8**	**-0.5**
MORH	**Mrgy, Hungar**	**149.56**	**335**	⇓P	**PKPbc**	**22 21 44.2**	**-0.3**
MOA	**Molln**	**149.66**	**342**	*i* PKP	**PKPbc**	**22 21 44.4**	**-0.4**
	comp=Z,1.4nm,0.6s						
BLKB	**Belogradchik**	**149.73**	**327**	⇓P	**PKPbc**	**22 21 45.0**	**-0.2**
RDO	**Rodhopi**	**149.81**	**321**	PKPbc	**PKPbc**	**22 21 44.5**	**-0.9**
FRGS	**Fruska Gora**	**149.93**	**333**	⇑P	**PKPbc**	**22 21 45.4**	**-0.1**
LESA	**Schwarzleotal**	**150.50**	**343**	*i* PKP	**PKPbc**	**22 21 46.5**	**-0.4**
	comp=Z,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**150.63**	**342**	*i* PKP	**PKPbc**	**22 21 46.6**	**-0.7**
	comp=Z,0.6nm,0.3s						
WTTA	**Wattenberg**	**150.92**	**345**	*i* PKP	**PKPbc**	**22 21 47.4**	**-0.5**
	comp=Z,2.4nm,0.4s						
MYKA	**Terra Mystica**	**150.95**	**342**	*i* PKP	**PKPbc**	**22 21 46.5**	**-1.3**
	comp=Z,1.5nm,0.4s						
SQTA	**Sankt Quirin**	**151.06**	**345**	*e*PKP	**PKPbc**	**22 21 47.8**	**-0.4**
	comp=Z,2.0nm,0.5s						
ABTA	**Abfaltersbach**	**151.16**	**343**	*i* PKP	**PKPbc**	**22 21 47.1**	**-1.3**
	comp=Z,2.8nm,0.5s						
CIMO	**Cimolais**	**151.59**	**343**	PKPbc	**PKPbc**	**22 21 47.9**	**-1.4**
FUORN	**Ofenpass-Fuorn**	**151.85**	**346**	PKPbc	**PKPbc**	**22 21 49.0**	**-1.1**

*IDC **16** 22:11:23.2±2.4, 0°.98S×96°.83E, h0km, mb3.9/6, mbtmp3.8/7, Error ellipse: s-maj=75.5km s-min=29.2km az=55.0*
ISC 16 22:11:24.5±2.1, 1°.0S±0°.3×96°.8E±0°.4, h10km, n14, σ0s46/8, mb3.9/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.46**	**6**	P	**P**	**22 15 51.6**	**+0.1**
	0.5nm,0.6s,baz=194,slow=11,SNR=5.9						
H08S2	**Diego Garcia H**	**25.10**	**254**	T	T	22 42 48.6	
	baz=76						
H08S3	**Diego Garcia H**	**25.11**	**254**	T	T	22 42 49.5	
	baz=76						
H08S1	**Diego Carcia H**	**25.12**	**254**	T	T	22 42 52.0	
	baz=76						
H01W3	**Cape Leeuwin H**	**37.39**	**156**	T	T	22 59 03.0	
	baz=330						
H01W2	**Cape Leeuwin H**	**37.40**	**156**	T	T	22 59 02.4	
	baz=330						
H01W1	**Cape Leeuwin H**	**37.40**	**156**	T	T	22 59 02.9	
	baz=330						
WRA	**Warramunga Arr**	**41.26**	**120**	P	**P**	**22 19 10.4**	**+0.1**
	0.6nm,1.0s,baz=296,slow=9.6,SNR=1.1						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**49.28**	**347**	P	**P**	**22 20 14.1**	**+0.6**
	1.1nm,0.6s,baz=153,slow=8.1,SNR=18						
	1.1nm,0.6s						
SONM	**Songino Array**	**49.36**	**9**	P	**P**	**22 20 14.3**	**+0.1**
	0.7nm,0.8s,baz=191,slow=10,SNR=4.5						
	0.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.86**	**30**	P	**P**	**22 20 54.6**	**-0.4**
	2.7nm,0.8s,baz=244,slow=6.7,SNR=8.9						
	2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**55.66**	**351**	P	**P**	**22 21 00.6**	**-0.1**
	2.4nm,0.4s,baz=173,slow=7.1,SNR=9.5						
	2.4nm,0.4s						
BVAR	**Borovoye Array**	**58.20**	**342**	P	**P**	**22 21 18.0**	**-0.7**
	0.6nm,0.7s,baz=156,slow=7.4,SNR=2.8						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**145.74**	**33**	PKPbc	**PKPdf**	**22 31 04.2**	**-0.1**
	0.4nm,0.5s,baz=298,slow=1.9,SNR=5.6

PB15	**IPOC Station P**	**4.24**	**25**			**Pn**	**22 12 35.2**	**+1.0**
PB15	**IPOC Station P**	**4.24**	**25**	*i*	P	**Pn**	**22 12 36.0**	**+1.8**
PB15					IAML		22 13 48.8	
	comp=Z,1μm,0.5s							
PB15	**IPOC Station P**	**4.24**	**25**	*e*	P	**Pn**	**22 12 35.4**	**+1.2**
DOCA	**Reserva Natura**	**4.35**	**153**	*i*	P	**Pn**	**22 12 39.1**	**+3.2**
DOCA					IAML		22 13 50.2	
	comp=Z,204nm,1.1s							
PB05	**IPOC Station P**	**4.36**	**15**			**Pn**	**22 12 34.9**	**-0.8**
ACLC	**CERRO LA CRUZ**	**4.56**	**122**	*i*	P	**Pn**	**22 12 41.9**	**+3.2**
ACLC					IAML		22 14 00.4	
	comp=Z,97nm,1.4s							
PB06	**IPOC Station P**	**4.67**	**21**			**Pn**	**22 12 39.8**	**-0.3**
PB06	**IPOC Station P**	**4.67**	**21**	*i*	P	**Pn**	**22 12 39.5**	**-0.5**
PB06					IAML		22 13 58.9	
	comp=Z,278nm,1.0s							
PB06	**IPOC Station P**	**4.67**	**21**	⇑*i*	P	**Pn**	**22 12 39.7**	**-0.3**
PB04	**IPOC Station P**	**4.87**	**14**		Pn	**Pn**	**22 12 41.8**	**-1.1**
PB04	**IPOC Station P**	**4.87**	**14**	*i*	P	**Pn**	**22 12 42.1**	**-0.7**
PB04					IAML		22 14 14.0	
	comp=Z,172nm,0.6s							
PB04	**IPOC Station P**	**4.87**	**14**	*e*	P	**Pn**	**22 12 41.7**	**-1.1**
LVC	**Limon Verde**	**5.00**	**27**	*i*	P	**Pn**	**22 12 45.4**	**+0.6**
LVC					IAML		22 14 12.9	
	comp=Z,221nm,0.8s							
LVC	**Limon Verde**	**5.00**	**27**		Pn	**Pn**	**22 12 45.4**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=198,slow=9.2,SNR=24							
LVC					Sn	**Sn**	**22 13 41.9**	**-1.5**
	comp=Z,8.4nm,0.3s,baz=185,slow=16,SNR=3.8							
LVC					Lg	Lg	22 14 02.9	
	comp=Z,11nm,0.3s,baz=315,slow=15,SNR=7.9							
LVC					LR	LR	22 14 08.1	
	comp=Z,59nm,19.2s,baz=246,slow=33							
	comp=Z,3.7nm,0.3s							
RTLS	**Leoncito**	**5.04**	**159**	*i*	P	**Pn**	**22 12 48.8**	**+3.5**
RTLS					IAML		22 14 16.6	
	comp=Z,399nm,1.1s							
AF01	**San Pedro de A**	**5.05**	**36**			**Pn**	**22 12 46.5**	**+1.1**
CYA	**Choya**	**5.14**	**106**	*i*	P	**Pn**	**22 12 49.4**	**+3.0**
CYA					IAML		22 13 58.9	
	comp=Z,89nm,0.9s							
CFA	**Coronel Fontan**	**5.28**	**149**		Pn	**Pn**	**22 12 51.3**	**+3.0**
	comp=Z,4.5nm,0.3s,baz=334,slow=9.6,SNR=17							
CFA					Sn	**Sn**	**22 13 50.2**	**+0.3**
	comp=Z,5.8nm,0.3s,baz=240,slow=7.7,SNR=3.8							
CFA					LR	LR	22 15 06.7	
	comp=Z,363nm,18.4s,baz=294,slow=41							
	comp=Z,7.0nm,0.3s							
PB07	**IPOC Station P**	**5.51**	**15**			**Pn**	**22 12 50.9**	**-0.8**
PB09	**IPOC Station P**	**5.62**	**21**			**Pn**	**22 12 53.3**	**+0.1**
VA03	**San Esteban**	**5.70**	**173**			**Pn**	**22 12 55.8**	**+1.6**
ROC1	**El Roble**	**5.88**	**177**		Pn	**Pn**	**22 12 57.6**	**+0.9**
PB02	**IPOC Station P**	**5.91**	**14**			**Pn**	**22 12 56.1**	**-1.0**
PE1	**Peldehue**	**6.07**	**174**		Pn	**Pn**	**22 12 59.6**	**+0.5**
MT02	**Curacav**	**6.15**	**178**		Pn	**Pn**	**22 13 00.7**	**+0.4**
PB01	**IPOC Station P**	**6.27**	**17**			**Pn**	**22 13 01.0**	**-1.0**
PATCX	**Punta Patache**	**6.34**	**11**		Pn	**Pn**	**22 13 02.0**	**-1.0**
MT09	**Talagante**	**6.67**	**177**			**Pn**	**22 13 07.4**	**-0.2**
MT01	**Popeta**	**6.75**	**179**		Pn	**Pn**	**22 13 08.4**	**-0.2**
LMEL	**Las Melosas**	**6.82**	**172**		Pn	**Pn**	**22 13 09.8**	**+0.3**
TA02	**Huaiquique**	**6.89**	**10**		Pn	**Pn**	**22 13 10.5**	**+0.1**
PB08	**IPOC Station P**	**7.22**	**17**			**Pn**	**22 13 15.1**	**-0.2**
BO01	**Tunca**	**7.29**	**178**		Pn	**Pn**	**22 13 15.2**	**-0.6**
PB11	**IPOC Station P**	**7.47**	**13**		Pn	Pn	22 13 16.8	-1.7
GO01	**Chusmiza**	**7.66**	**16**		Pn	Pn	22 13 20.0	-1.4
PB12	**IPOC Station P**	**8.49**	**7**		Pn	**Pn**	**22 13 31.5**	**-1.1**
PB16	**IPOC Station P**	**8.89**	**12**		Pn	**Pn**	**22 13 37.5**	**-0.9**
H03N1	**Juan Fernandez**	**9.07**	**224**		T	T	22 23 27.3	
	baz=44,slow=71							
H03N2	**Juan Fernandez**	**9.08**	**224**		T	T	22 23 15.1	
	baz=44,slow=71							
H03N3	**Juan Fernandez**	**9.08**	**224**		T	T	22 23 14.1	
	baz=44,slow=71							
VA04	**Juan Fernndez**	**9.15**	**223**		Pn	**Pn**	**22 13 40.5**	**-1.0**
CPUP	**Villa Florida**	**12.60**	**90**		LR	LR	22 20 10.5	
	comp=Z,64nm,18.8s,baz=288,slow=42							
TRQA	**Tornquist**	**13.51**	**146**		Pn	Pn	22 14 39.2	-1.9
PLCA	**Paso Flores**	**13.63**	**177**		LR	LR	22 19 50.6	
	comp=Z,144nm,19.7s,baz=332,slow=36							
SIV	**San Ignacio**	**14.63**	**43**		Pn	Pn	22 14 54.1	-2.4
	baz=217,slow=10,SNR=2.1							
	comp=Z,0.5nm,0.4s							
ETMB	**Extrema**	**17.86**	**17**			**Pn**	**22 15 36.8**	**-1.5**
SAML	**Samuel**	**19.65**	**25**		P	**P**	**22 15 58.5**	**-0.1**
SAML					IAmb	IAmb	22 16 01.5	
	comp=Z,5.6nm,1.1s							
BDFB	**Brasilia**	**24.53**	**67**		P	**P**	**22 16 48.3**	**-1.5**
BDFB					IAmb	IAmb	22 17 11.5	
	comp=Z,5.2nm,1.1s							
BDFB	**Brasilia**	**24.53**	**67**		P	**P**	**22 16 48.2**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=258,slow=6.7,SNR=3.3							
BDFB					LR	LR	22 27 16.4	
	comp=Z,64nm,18.7s,baz=195,slow=39							
	comp=Z,2.0nm,0.5s							
RPN	**Rapa Nui**	**33.68**	**261**		LR	LR	22 28 10.4	
	comp=Z,72nm,18.2s,baz=126,slow=30							
SNAA	**Sanae**	**57.81**	**160**		P	**P**	**22 21 21.1**	**+0.2**
SNAA					IAmb	IAmb	22 21 41.2	
	comp=Z,7.3nm,1.3s							
SNAA	**Sanae**	**57.81**	**160**		P	**P**	**22 21 21.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=255,slow=12,SNR=2.2							
	comp=Z,1.0nm,0.7s							
QSPA	**South Pole Qui**	**63.13**	**180**		P	**P**	**22 21 59.1**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=172,slow=7.1,SNR=3.9							
	comp=Z,1.1nm,0.4s							
TOA0	**Torodi Ar. Sit**	**81.36**	**71**		P	**P**	**22 23 46.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**81.36**	**71**		P	**P**	**22 23 46.9**	**-0.2**
TORD					IAmb	IAmb	22 23 48.6	
	comp=Z,4.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**81.36**	**71**		P	**P**	**22 23 47.2**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=257,slow=5.3,SNR=27							
TORD					LR	LR	22 58 21.3	
	comp=Z,127nm,19.5s,baz=334,slow=35							
	comp=Z,4.4nm,0.7s							
ZALV	**Zalesovo Beam**	**147.95**	**27**		PKPbc	**PKPdf**	**22 31 14.0**	**+2.1**
	comp=Z,4.3nm,0.8s,baz=314,slow=2.3,SNR=13							
MKAR	**Makanchi Array**	**151.43**	**40**		PKPbc	**PKPbc**	**22 31 25.0**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=316,slow=2.7,SNR=5.9							

*DJA **16** 22:16:01.8±0.3,10°S±4°,×12°3E±°,h91km±6km,M4.1/9, mb4.4/9,mB4.9/2,MLv3.9/9,Mw(mB)4.2/2*
*NEIC **16** 22:16:01.1±1.2,9.75S±0.07°,×122.98E±0.05,h81km±8km, mb4.2/9,Error ellipse: s-maj=10.5km s-min=6.1km az=198.0*
*IDC **16** 22:16:03.0±3.6,9.58S×123.26E,h97km±31km,mb3.7/6, mbtmp4.1/8,MS2.8/2,Error ellipse: s-maj=63.3km s-min=28.5km az=61.0*

ISC 16 22:16:02.4±0.5,**9.72S**±0.06×**123.02E**±0.06,**h100**km,**n64,** σ1°**89**/62,**mb4.1**/10,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.23**	**92**		**Pn**	**22 16 24.0**	**-1.5**
SOEI					Sn	**22 16 40.7**	**-2.2**
SOEI	**Soe**	**1.23**	**92**	P	**Pn**	**22 16 24.1**	**-1.4**
SOEI	**Soe**	**1.23**	**92**	P	**Pn**	**22 16 24.6**	**-0.9**
MMRI	**Maumere**	**1.33**	**324**		**Pn**	**22 16 24.5**	**-2.1**
MMRI					Sn	**22 16 41.5**	**-3.3**
MMRI	**Maumere**	**1.33**	**324**	P	**Pn**	**22 16 24.8**	**-1.8**
MMRI	**Maumere**	**1.33**	**324**	P	**Pn**	**22 16 24.8**	**-1.8**
EDFI	**Ende, Flores**	**1.63**	**306**	P	**Pn**	**22 16 28.7**	**-1.7**
BASI	**Baing, Sumba**	**2.46**	**258**	P	**Pn**	**22 16 41.1**	**+0.1**
BKSI	**Bulukumba**	**5.23**	**326**	P	**Pn**	**22 17 18.4**	**+0.1**
	37nm,0.9s,0.1nm						
PLAI	**Plampang**	**5.25**	**279**	P	**Pn**	**22 17 18.9**	**+0.3**
PLAI	**Plampang**	**5.25**	**279**	P	**Pn**	**22 17 18.6**	**0.0**
	57nm,0.5s,1μm0.3nm						
KAPI	**Kappang**	**5.69**	**325**	Pn	**Pn**	**22 17 24.0**	**-0.5**
KAPI	**Kappang**	**5.69**	**325**	P	**Pn**	**22 17 25.9**	**+1.4**
	12nm,0.4s,baz=141,slow=3.1,SNR=7.9						
KAPI					LR	LR	22 20 14.4	
	comp=Z,47nm,20.4s,baz=150,slow=44						
TWSI	**Taliwang, Sumb**	**6.14**	**279**	P	**Pn**	**22 17 30.9**	**+0.3**
	41nm,0.7s,1μm0.2nm						
KNRA	**Kununurra**	**8.15**	**137**		**Pn**	**22 17 55.2**	**-2.8**
KNRA	**Kununurra**	**8.15**	**137**	P	**Pn**	**22 17 55.3**	**-2.7**
MTN	**Manton Dam**	**8.54**	**112**		**Pn**	**22 18 00.3**	**-3.0**
MTN	**Manton Dam**	**8.54**	**112**	P	**Pn**	**22 18 00.3**	**-3.0**
FITZ	**Fitzroy Crossi**	**8.71**	**163**	Pn	**Pn**	**22 18 03.2**	**-2.4**
FITZ	**Fitzroy Crossi**	**8.71**	**163**	P	**Pn**	**22 18 03.6**	**-2.0**
JAGI	**Jajag, Banyuwa**	**8.85**	**277**	Pn	**Pn**	**22 18 03.9**	**-3.6**
JAGI	**Jajag, Banyuwa**	**8.85**	**277**	P	**Pn**	**22 18 05.0**	**-2.5**
JAGI	**Jajag, Banyuwa**	**8.85**	**277**	P	**Pn**	**22 18 04.1**	**-3.4**
	32nm,1.9s						
KDU	**Kakadu**	**9.73**	**109**	P	**Pn**	**22 18 16.5**	**-2.9**
FAKI	**Fak Fak**	**11.38**	**54**	P	**Pn**	**22 18 43.6**	**+1.6**
UGM	**Wanagama**	**12.48**	**277**	P	**Pn**	**22 18 54.6**	**-2.0**
	139nm,1.8s						
WB0	**Warramunga Arr**	**14.85**	**134**	Pn	Pn	22 19 22.6	-4.7
WRA	**Warramunga Arr**	**14.92**	**134**	Pn	**Pn**	**22 19 23.9**	**-4.4**
WRA	**Warramunga Arr**	**14.92**	**134**	P	Pn	22 19 23.5	-4.7
	1.7nm,0.3s,baz=299,slow=14,SNR=37						
WRA					S	Sn	22 21 58.4	-15
	9.6nm,0.7s,baz=310,slow=24,SNR=16						
BBJI	**Bungbulang**	**15.37**	**277**	P	**P**	**22 19 36.6**	**+0.2**
BBJI	**Bungbulang**	**15.37**	**277**	P	**Pn**	**22 19 31.7**	**-2.2**
	40nm,1.1s						
WRKA	**Warakurna**	**16.04**	**162**	P	**Pn**	**22 19 42.2**	**-0.1**
KKM	**Kota Kinabalu**	**17.07**	**336**	P	**P**	**22 19 56.0**	**+0.7**
KKM					IAmb	IAmb	22 20 04.5	
	comp=Z,38nm,1.3s							
KKM	**Kota Kinabalu**	**17.07**	**336**	P	**P**	**22 19 58.0**	**+2.8**
AS31	**Alice Springs**	**17.33**	**144**	P	**P**	**22 19 57.6**	**-0.5**
ASAR	**Alice Springs**	**17.33**	**144**		**P**	**22 19 57.3**	**-0.7**
ASAR	**Alice Springs**	**17.33**	**144**	P	**P**	**22 19 57.9**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=317,slow=12,SNR=51							
ASAR					S	Sn	22 22 56.1	-15
	comp=Z,3.0nm,0.5s,baz=320,slow=24,SNR=12							
AS01	**Alice Springs**	**17.36**	**144**	P	**P**	**22 19 58.5**	**+0.1**
KASI	**Kota Agung**	**18.83**	**281**	P	**P**	**22 20 12.4**	**-2.1**
	comp=Z,31nm,0.5s							
QIS	**Mount Isa**	**19.27**	**126**	P	**Pn**	**22 20 22.3**	**+0.9**
MORW	**Morawa**	**20.33**	**198**	P	**P**	**22 20 31.4**	**+0.7**
MORW					IAmb	IAmb	22 20 35.5	
	comp=Z,11nm,1.2s							
MORW	**Morawa**	**20.33**	**198**	P	Pn	22 20 33.6	0.0
FORT	**Forrest**	**21.47**	**168**	P	**P**	**22 20 45.6**	**+2.7**
OOD	**Oodnadatta**	**21.58**	**148**	P	**P**	**22 20 46.0**	**+1.9**
BLDU	**Ballidu**	**21.61**	**195**	P	**P**	**22 20 46.8**	**+2.4**
KLBR	**Kellerberrin**	**22.31**	**192**	P	**P**	**22 20 53.8**	**+2.0**
MULG	**Mulgathing**	**22.91**	**155**	P	**P**	**22 21 00.4**	**+2.6**
BBOO	**Buckleboo**	**25.94**	**154**	P	**P**	**22 21 26.1**	**+0.6**
BBOO					IAmb	IAmb	22 21 30.2	
	comp=Z,14nm,1.2s							
BBOO	**Buckleboo**	**25.94**	**154**	P	**P**	**22 21 28.1**	**+2.6**
CMAR	**Chiang Mai Arr**	**36.72**	**320**	LR	LR	22 39 24.9	
	comp=Z,29nm,18.6s,baz=310,slow=38							
LSA	**Lhasa**	**49.78**	**323**	P	**P**	**22 24 45.8**	**+0.2**
GTA	**Gaotai**	**53.42**	**338**	*e*P	**P**	**22 25 12.8**	**+0.6**
GTA					pmax	pmax		
	comp=Z,3.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**54.28**	**8**	P	**P**	**22 25 18.2**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=191,slow=7.0,SNR=6.0							
	comp=Z,1.6nm,0.6s							
SONM	**Songino Array**	**59.17**	**347**	P	**P**	**22 25 52.9**	**+0.1**
SONM	**Songino Array**	**59.17**	**347**	P	**P**	**22 25 53.1**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=163,slow=8.1,SNR=10							
	comp=Z,0.7nm,0.5s							
MK31	**Makanchi Array**	**66.96**	**331**	P	**P**	**22 26 44.3**	**0.0**
MK31					IAmb	IAmb	22 26 45.9	
	comp=Z,1.8nm,1.1s							
MKAR	**Makanchi Array**	**66.96**	**331**	P	**P**	**22 26 44.6**	**+0.3**
MKAR	**Makanchi Array**	**66.96**	**331**	P	**P**	**22 26 45.0**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=140,slow=6.6,SNR=27							
	comp=Z,1.1nm,0.5s							
ZAA0	**Zalesovo Array**	**71.18**	**337**	P	**P**	**22 27 10.1**	**-0.1**
ZAA0					IAmb	IAmb	22 27 11.6	
	comp=Z,1.6nm,0.6s							
ZALV	**Zalesovo Beam**	**71.18**	**337**	P	**P**	**22 27 09.9**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=129,slow=5.1,SNR=6.9							
	comp=Z,1.5nm,0.4s							
KURBB	**Kurchatov Arra**	**71.42**	**332**	P	**P**	**22 27 12.4**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=150,slow=5.2,SNR=6.7							
	comp=Z,0.6nm,0.4s							
BVAR	**Borovoye Array**	**76.84**	**330**	P	**P**	**22 27 44.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=120,slow=7.3,SNR=2.2							
	comp=Z,0.2nm,0.3s							
ABKAR	**Akbulak array**	**80.46**	**324**	P	**P**	**22 28 04.7**	**+1.6**
TORD	**Torodi Ar. Bea**	**122.50**	**279**	PKP	**PKiKP**	**22 34 49.5**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=75,slow=2.8,SNR=2.6							

*SOME **16** 22:25:06.7,40°32N×75°08E,h0km*
*KRNET **16** 22:25:07.3±0.1,40°26N×75°00E,h27km,mb4.1*
*IDC **16** 22:25:08.8±1.9,40°22N×74°81E,h0km,mb4.1/3, mbtmp3.8/9,ML2.9/5,Error ellipse: s-maj=29.4km s-min=18.1km az=120.0*
*NNC **16** 22:25:08.8±0.9,40°30N×75°13E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=7.0km s-min=4.3km az=168.0*
*MOS **16** 22:25:09.5±2.7,40°34N×74°76E,h12km,mb4.0/2,Error ellipse: s-maj=7.7km s-min=3.9km az=82.9*

ISC 16 22:25:08.3±1.3,**40°32N**±0°03×**74°85E**±0°02,**h2**km±9km, **n164,** σ1°**60**/235,**mb3.9**/5,**48C-36D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.07**	**254**	*i* PG	**Pb**	**22 25 29.3**	**-0.5**
SFK				*i* S	Sn	**22 25 44.9**	**-1.4**
SFK	**Sufi-Kurgan**	**1.07**	**254**	⇑*i* P	**Pb**	**22 25 29.3**	**-0.5**
	baz=59						
SFK				⇑*i* S	**Sn**	**22 25 44.9**	**-1.4**
	baz=59						
NRN	**Naryn**	**1.42**	**38**	⇓*i* PG	**Pn**	**22 25 32.6**	**-2.9**
NRN	**Naryn**	**1.42**	**38**	⇓*i* P	**Pn**	**22 25 32.6**	**-2.9**
	baz=32						
NRN				⇓*i* S	**Sn**	**22 25 50.9**	**-4.1**
	baz=32						
OHH	**Osh**	**1.59**	**278**	*i* PG	**Pg**	**22 25 38.3**	**-0.5**
OHH				*i* S	**Sg**	**22 26 00.8**	**+1.5**
OHH	**Osh**	**1.59**	**278**	⇑*i* P	**Pg**	**22 25 38.3**	**-0.5**
	baz=80						
OHH				⇑*i* S	**Sg**	**22 26 00.8**	**+1.5**
	baz=80						
ARLS	**Aral**	**1.59**	**346**	*i* PN	**Pb**	**22 25 37.8**	**-0.9**
ARLS				*i* S	**Sg**	**22 26 00.0**	**+0.5**
ARLS	**Aral**	**1.59**	**346**	⇑*i* P	**Pb**	**22 25 37.8**	**-0.9**
	baz=42						
ARLS				⇑*i* S	**Sg**	**22 26 00.0**	**+0.5**
	baz=42						
ARSB	**Arslanbob**	**1.74**	**306**	*i* PN	**Pb**	**22 25 40.7**	**-0.4**
ARSB				*i* S	**Sg**	**22 26 04.7**	**+0.6**
ARSB	**Arslanbob**	**1.74**	**306**	⇑*i* P	**Pb**	**22 25 40.7**	**-0.4**
	baz=5.0						
ARSB				⇑*i* S	**Sg**	**22 26 04.7**	**+0.6**
	baz=5.0						
KZA	**Kyzart**	**1.79**	**10**	P	**Pb**	**22 25 41.7**	**-0.4**
	SNR=103						
KZA	**Kyzart**	**1.79**	**10**	⇓*e*PN	**Pn**	**22 25 39.9**	**-0.8**
KZA				*i* S	**Sn**	**22 26 03.9**	**-0.3**
KZA	**Kyzart**	**1.79**	**10**	⇓*e*P	**Pn**	**22 25 39.9**	**-0.8**
	baz=6.0						
KZA				⇓*i* S	**Sn**	**22 26 03.9**	**-0.3**
	baz=6.0						
UCH	**Uchtor**	**1.93**	**353**	P	**Pg**	**22 25 45.4**	**+0.1**
	SNR=288						
UCH	**Uchtor**	**1.93**	**353**	*i* PN	**Pn**	**22 25 42.6**	**0.0**
UCH				*i* S	**Sb**	**22 26 08.4**	**-0.8**
UCH	**Uchtor**	**1.93**	**353**	⇑*i* P	**Pn**	**22 25 42.6**	**0.0**
	baz=50						
UCH				⇑*i* S	**Sb**	**22 26 08.4**	**-0.8**
	baz=50						
AML	**Almayashu**	**2.01**	**335**	P	**Pg**	**22 25 47.5**	**+0.6**
	SNR=129						
AML	**Almayashu**	**2.01**	**335**	⇑Pn	**Pg**	**22 25 47.4**	**+0.5**
	4.7nm,0.4s						
AML				⇑Lg	Lg	22 26 17.6	
	28nm,0.7s						
AML	**Almayashu**	**2.01**	**335**	*e*PN	**Pb**	**22 25 44.3**	**-1.6**
AML	**Almayashu**	**2.01**	**335**	⇑*i* P	**Pb**	**22 25 44.3**	**-1.6**
	baz=33						
AML				⇑*i* S	**Sb**	**22 26 11.1**	**-0.5**
	baz=33						
ULHL	**Ulahol**	**2.20**	**28**	P	**Pn**	**22 25 47.7**	**+1.6**
	SNR=116						
ULHL	**Ulahol**	**2.20**	**28**	*i* PN	**Pn**	**22 25 45.0**	**-1.1**
ULHL				*i* S	**Sn**	**22 26 12.6**	**-1.4**
ULHL	**Ulahol**	**2.20**	**28**	⇑*i* P	**Pn**	**22 25 45.0**	**-1.1**
	baz=25						
ULHL				⇑*i* S	**Sn**	**22 26 12.6**	**-1.4**
	baz=25						
AAK	**Ala-Archa**	**2.33**	**354**	P	**Pb**	**22 25 52.4**	**+1.1**
	SNR=253						
AAK	**Ala-Archa**	**2.33**	**354**	*e*PN	**Pn**	**22 25 47.9**	**-0.1**
AAK	**Ala-Archa**	**2.33**	**354**	Pn	**Pg**	**22 25 52.5**	**-0.6**
	211nm,0.5s,baz=164,slow=14,SNR=597						
AAK				Lg	Lg	22 26 24.2	
	26nm,0.3s,baz=357,slow=19,SNR=7.5						
AAK	**Ala-Archa**	**2.33**	**354**	⇓*i* P	**Pn**	**22 25 47.9**	**-0.1**
	baz=51						
AAK				⇓*i* S	**Sb**	**22 26 17.8**	**-2.8**
	baz=51						
KBK	**Karagaybulak**	**2.34**	**2**	P	**Pb**	**22 25 51.7**	**+0.3**
	SNR=187						
KBK	**Karagaybulak**	**2.34**	**2**	*e*PN	**Pn**	**22 25 47.8**	**-0.3**
KBK				*i* S	**Sn**	**22 26 17.4**	**-0.1**
KBK	**Karagaybulak**	**2.34**	**2**	⇑*e*P	**Pn**	**22 25 47.8**	**-0.3**
	baz=59						
KBK				⇑*i* S	**Sn**	**22 26 17.4**	**-0.1**
	baz=59						
EKS2	**Erkin-Say**	**2.48**	**341**	P	**Pb**	**22 25 54.5**	**+0.8**
	SNR=35						
EKS2	**Erkin-Say**	**2.48**	**341**	*e*PN	**Pn**	**22 25 50.4**	**+0.5**
EKS2	**Erkin-Say**	**2.48**	**341**	⇑*i* P	**Pn**	**22 25 50.4**	**+0.5**
	baz=39						
EKS2				⇑*i* S	**Sb**	**22 26 21.6**	**-3.1**
	baz=39						
DRK	**Karamyk**	**2.49**	**251**	⇑*e*P	**Pn**	**22 25 50.2**	**0.0**
	baz=54						
DRK				⇑*e*S	**Sb**	**22 26 22.4**	**-2.8**
	baz=54						
FRU1	**Bishkek**	**2.50**	**356**	⇓*i* PN	**Pn**	**22 25 50.5**	**+0.4**
FRU1				*i* S	**Sn**	**22 26 22.0**	**+0.8**
FRU1	**Bishkek**	**2.50**	**356**	⇓*i* P	**Pn**	**22 25 50.5**	**+0.4**
	baz=54						
FRU1				⇓*i* S	**Sn**	**22 26 22.0**	**+0.8**
	baz=54						
KDJ	**Kajisay**	**2.53**	**43**	⇓*i* PN	**Pn**	**22 25 49.0**	**-1.6**
KDJ	**Kajisay**	**2.53**	**43**	⇓*i* P	**Pn**	**22 25 49.0**	**-1.6**
	baz=41						
KDJ				⇓*i* S	**Sn**	**22 26 19.6**	**-2.5**
	baz=41						
ARK	**Arkit**	**2.63**	**305**	⇓*i* PN	**Pn**	**22 25 52.8**	**+0.7**
ARK				*i* S	**Sb**	**22 26 26.5**	**-2.8**
ARK	**Arkit**	**2.63**	**305**	⇓*i* P	**Pn**	**22 25 52.8**	**+0.7**
	baz=5.0						
ARK				⇓*i* S	**Sb**	**22 26 26.5**	**-2.8**
	baz=5.0						
TKM2	**Tokmak 2**	**2.66**	**12**	P	**Pb**	**22 25 55.7**	**-1.2**
	SNR=291						
TKM2	**Tokmak 2**	**2.66**	**12**	⇓Pg	**Pb**	**22 25 56.1**	**-0.8**
	104nm,0.5s						
TKM2				⇓Lg	Lg	22 26 34.0	
	158nm,0.9s						
TKM2	**Tokmak 2**	**2.66**	**12**	*e*PN	**Pn**	**22 25 52.1**	**-0.4**
TKM2	**Tokmak 2**	**2.66**	**12**	⇑*i* P	**Pn**	**22 25 52.1**	**-0.4**
	baz=9.0						
TKM2				⇑*i* S	**Sn**	**22 26 24.6**	**-0.9**
	baz=9.0						
CHMS	**Chumysh**	**2.68**	**359**	P	**Pb**	**22 25 56.6**	**-0.5**
	SNR=167						
CHMS	**Chumysh**	**2.68**	**359**	⇓Pg	**Pb**	**22 25 56.9**	**-0.2**
	163nm,0.6s						
CHMS				⇑Lg	Lg	22 26 36.0	
	215nm,0.7s						
CHMS	**Chumysh**	**2.68**	**359**	⇓*i* PN	**Pn**	**22 25 52.6**	**0.0**
CHMS				*i* S	**Sn**	**22 26 25.7**	**0.0**
CHMS	**Chumysh**	**2.68**	**359**	⇓*i* P	**Pn**	**22 25 52.6**	**0.0**
	baz=56						
CHMS				⇓*i* S	**Sn**	**22 26 25.7**	**0.0**
	baz=56						
MRKS	**Merke**	**2.71**	**334**	Pg	**Pg**	**22 26 00.5**	**+0.1**
	43nm,0.7s						
MRKS				Lg	Lg	22 26 39.0	
	231nm,0.9s						
MRKS	**Merke**	**2.71**	**334**	*e*P	**Pg**	**22 26 00.5**	**+0.1**
	45nm,0.3s						
MRKS				*e*S	**Sg**	**22 26 39.0**	**+3.4**
	231nm,0.9s						
MRKS	**Merke**	**2.71**	**334**	*e*P	**Pg**	**22 26 00.5**	**+0.1**
	43nm,0.7s						
MRKS				*e*S	**Sg**	**22 26 39.

AAA *e* 22 26 07.7
AAA Alma-Ata 3.28 27 *e*Pb **Pn 22 26 03.6 +2.7**
baz=25
AAA *e*Pg **Pb 22 26 07.8 +0.4**
baz=25
MDOK Medeo 3.29 29 Pg **Pb 22 26 06.5 -1.0**
24nm,0.5s
MDOK Pg Pg 22 26 07.5 -3.9
67nm,0.8s
MDOK Lg Lg 22 26 51.0
144nm,0.7s
MDOK Lg Lg 22 26 51.4
103nm,0.7s
MDOK Medeo 3.29 29 *e*PN **Pn 22 26 03.2 +2.2**
MDOK Medeo 3.29 29 *e*Pb **Pn 22 26 03.2 +2.2**
baz=26
MDOK *i* Pg **Pb 22 26 07.4 -0.1**
baz=26
MDOK *e*Lg Lg 22 26 49.2
baz=26
MDOK Medeo 3.29 29 *e*P **Pb 22 26 07.5 -0.1**
66nm,0.5s
MDOK *e*S **Sb 22 26 50.8 +2.7**
126nm,0.5s
KNDC Almaty 3.30 28 ⇑Pg **Pb 22 26 07.8 +0.1**
40nm,0.5s
KNDC ⇑Lg Lg 22 26 52.6
362nm,0.7s
KNDC Almaty 3.30 28 PN **Pb 22 26 07.8 +0.1**
KOTS Kotyrbulak 3.37 29 Pg **Pb 22 26 09.3 +0.3**
56nm,0.6s
KOTS Lg Lg 22 26 54.3
350nm,0.8s
KOTS Kotyrbulak 3.37 29 *e*P **Pb 22 26 09.3 +0.3**
56nm,0.6s
KOTS *e*S **Sb 22 26 54.3 +3.8**
350nm,0.8s
PRZ Przheval'sk 3.44 50⇑*e*P **Pn 22 26 01.8 -1.4**
baz=48
PRZ ⇑*e*S **Sn 22 26 41.9 -2.8**
baz=48
KTBS Karatobe 3.66 21 Pg **Pb 22 26 14.6 +0.8**
126nm,0.6s
KTBS Lg Lg 22 27 03.5
118nm,0.6s
KTBS Karatobe 3.66 21 *e*P **Pb 22 26 14.6 +0.8**
126nm,0.6s
KTBS *e*S **Sg 22 27 03.5 -2.3**
144nm,0.3s
KTBS Karatobe 3.66 21 *e*P **Pb 22 26 14.6 +0.8**
126nm,0.6s
KTBS *e*S **Sg 22 27 03.5 -2.3**
118nm,0.6s
DZA Taraz 3.68 315 Pg **Pg 22 26 19.3 +0.4**
21nm,0.3s
DZA Lg Lg 22 27 11.1
67nm,0.6s
DZA Taraz 3.68 315 *e*Pg **Pg 22 26 17.5 -1.4**
baz=315
DZA Taraz 3.68 315 *e*P **Pg 22 26 18.5 -0.5**
21nm,0.6s
DZA *e*S **Sg 22 27 09.4 +2.8**
66nm,0.3s
DZA Taraz 3.68 315 *e*P **Pg 22 26 18.5 -0.5**
9.5nm,0.1s
DZA *e*S **Sg 22 27 09.4 +2.8**
66nm,0.3s
KUU Kurty 3.74 17 Pg **Pb 22 26 15.9 +0.7**
40nm,0.9s
KUU Lg Lg 22 27 05.8
73nm,0.9s
KUU Kurty 3.74 17 *i* PN **Pb 22 26 16.0 +0.8**
KUU Kurty 3.74 17 *e*P **Pb 22 26 15.9 +0.7**
58nm,0.2s
KUU *e*S **Sg 22 27 05.8 -2.8**
221nm,0.3s
KUU Kurty 3.74 17 *e*P **Pb 22 26 15.9 +0.7**
40nm,0.9s
KUU *e*S **Sg 22 27 05.8 -2.8**
73nm,0.9s
SATY Saty 3.82 43 Pg **Pb 22 26 16.0 -0.6**
28nm,0.6s
SATY Lg Lg 22 27 05.7
62nm,1.1s
SATY Saty 3.82 43 *e*PN **Pn 22 26 11.9 +3.5**
SATY Saty 3.82 43 *e*Pb **Pn 22 26 12.0 +3.5**
baz=41
SATY *e*Pg **Pb 22 26 16.2 -0.5**
baz=41
SATY *i* Lg Lg 22 27 06.0
baz=41
SATY Saty 3.82 43 *e*P **Pb 22 26 16.0 -0.6**
28nm,0.3s
SATY *e*S **Sb 22 27 05.7 +2.3**
82nm,0.3s
SATY Saty 3.82 43 *e*P **Pb 22 26 16.0 -0.6**
28nm,0.6s
SATY *e*S **Sb 22 27 05.7 +2.3**
62nm,1.1s
CHKK Chushkaly 3.88 24 Pg **Pb 22 26 18.5 +1.0**
13nm,0.4s
CHKK Lg Lg 22 27 09.7
48nm,0.4s
CHKK Chushkaly 3.88 24⇑*i*PN **Pb 22 26 18.2 +0.7**
CHKK Chushkaly 3.88 24⇑*i*Pg **Pb 22 26 18.2 +0.7**
baz=21
CHKK *e*Lg Lg 22 27 09.6
baz=21
CHKK Chushkaly 3.88 24 *e*P **Pb 22 26 18.5 +1.0**
13nm,0.4s
CHKK *e*S **Sg 22 27 09.7 -3.2**
73nm,0.2s
CHKK Chushkaly 3.88 24 *e*P **Pb 22 26 18.5 +1.0**
13nm,0.4s
CHKK *e*S **Sg 22 27 09.7 -3.2**
48nm,0.4s
ZHN Zhinishke 3.92 42 Pg **Pb 22 26 17.8 -0.4**
12nm,1.0s
ZHN Lg Lg 22 27 08.7
91nm,1.1s
ZHN Zhinishke 3.92 42 *e*Pg **Pb 22 26 19.0 +0.8**
baz=40
ZHN Zhinishke 3.92 42 *e*P **Pb 22 26 17.8 -0.4**
12nm,0.3s
ZHN *e*S **Sb 22 27 08.7 +2.6**
91nm,1.1s
ZHN Zhinishke 3.92 42 *e*P **Pb 22 26 17.8 -0.4**
12nm,1.0s
ZHN *e*S **Sb 22 27 08.7 +2.6**
91nm,1.1s
UZB Uzynbulak 4.21 46 Pg **Pb 22 26 22.6 -0.7**
8.6nm,0.8s
UZB Lg Lg 22 27 16.7
39nm,1.0s
UZB Uzynbulak 4.21 46 *e*Pg **Pb 22 26 23.8 +0.5**
baz=44
UZB *e*Lg Lg 22 27 18.1
baz=44
UZB Uzynbulak 4.21 46 *e*P **Pb 22 26 22.5 -0.8**
9.1nm,0.2s
UZB *e*S **Sb 22 27 16.7 +2.0**
39nm,0.3s
UZB Uzynbulak 4.21 46 *e*P **Pb 22 26 22.6 -0.7**
8.6nm,0.8s
UZB *e*S **Sb 22 27 16.7 +2.0**
39nm,1.0s
KPKS Kokpek 4.25 41 Pg **Pb 22 26 23.5 -0.5**
13nm,0.6s
KPKS Lg Lg 22 27 19.0
60nm,0.8s
KPKS Kokpek 4.25 41*c* *i*PN **Pb 22 26 23.3 -0.7**
KPKS Kokpek 4.25 41⇑*i*Pg **Pb 22 26 23.3 -0.7**
baz=39
KPKS Kokpek 4.25 41 *e*P **Pb 22 26 23.5 -0.5**
13nm,0.8s
KPKS *e*S **Sb 22 27 18.5 +2.6**
187nm,0.7s
KK31 Karatay Array 4.28 312 ⇓Pn Pb 22 26 18.6 -5.6
2.0nm,0.5s,baz=130,slow=12,SNR=87
KK31 ⇓Pg **Pg 22 26 31.3 +1.0**
7.3nm,0.6s,baz=131,slow=16,SNR=13
KK31 ⇑Lg Lg 22 27 33.1
25nm,0.7s,baz=128,slow=27,SNR=2.8
KKAR Karatay Array 4.28 312 *e*PN **Pn 22 26 15.6 +1.1**
KKAR Karatay Array 4.28 312⇑*i*P **Pn 22 26 15.6 +1.1**
baz=12
KKAR ⇑*i*S **Sn 22 27 05.4 +0.4**
baz=12

SHLS Shalkode 4.47 49 Pg **Pg 22 26 32.7 -1.3**
31nm,0.6s
SHLS Lg Lg 22 27 34.4
113nm,1.0s
SHLS Shalkode 4.47 49⇑*i*Pg **Pg 22 26 32.5 -1.5**
baz=50
SHLS *e*Lg Lg 22 27 34.5
baz=50
SHLS Shalkode 4.47 49 *e*P **Pg 22 26 32.7 -1.3**
31nm,0.6s
SHLS *e*S **Sg 22 27 34.4 +2.5**
113nm,1.0s
ARXS Arharly 4.48 29 Pg **Pb 22 26 27.9 +0.1**
17nm,0.6s
ARXS Lg Lg 22 27 26.2
59nm,0.7s
ARXS Arharly 4.48 29 *e*P **Pb 22 26 29.5 +1.8**
28nm,0.7s
ARXS *e*S **Sg 22 27 28.6 -3.5**
69nm,0.6s
PDGK Podgornoye 4.59 48 Pg **Pb 22 26 29.5 -0.3**
5.2nm,0.9s
PDGK Lg Lg 22 27 28.3
36nm,1.1s
PDGK Podgornoye 4.59 48⇑Pg **Pb 22 26 31.4 +1.6**
5.1nm,0.5s
PDGK ⇓Lg Lg 22 27 27.8
101nm,0.9s
BLB Baldybastay 4.64 34 Pg **Pb 22 26 32.2 +1.6**
13nm,0.5s
BLB Lg Lg 22 27 33.6
41nm,1.3s
BTLS Baital 4.76 353 Pg **Pb 22 26 35.5 +3.0**
29nm,0.9s
BTLS Lg Lg 22 27 38.9
16nm,1.2s
BTLS Baital 4.76 353 *e*P **Pb 22 26 35.5 +3.0**
29nm,0.9s
BTLS *e*S **Sg 22 27 38.9 -2.3**
16nm,1.2s
KNOS Konyrlen 5.16 37 Pg **Pb 22 26 40.8 +1.4**
9.9nm,0.7s
KNOS Lg Lg 22 27 47.9
30nm,0.7s
KTMS Ketmen 5.16 51 Pg **Pb 22 26 40.0 +0.5**
4.1nm,0.7s
KTMS Lg Lg 22 27 46.6
14nm,1.1s
KTMS Ketmen 5.16 51 *e*P **Pb 22 26 40.0 +0.5**
4.1nm,0.2s
KTMS *e*S **Sb 22 27 46.6 +4.5**
14nm,0.5s
KTMS Ketmen 5.16 51 *e*P **Pb 22 26 40.0 +0.5**
4.1nm,0.7s
KTMS *e*S **Sb 22 27 46.6 +4.5**
14nm,1.1s
TDK Taldyqorghan 5.37 28 *e*Pg **Pb 22 26 45.4 +2.5**
baz=26
OTUK Ortayu 8.13 348⇑Pn **Pn 22 27 08.6 +1.2**
0.9nm,0.5s
OTUK ⇓Lg Lg 22 29 23.8
99nm,1.4s
OTUK Ortayu 8.13 348 P **Pn 22 27 08.6 +1.2**
MAKZ Makanchi 8.30 36⇑Pn **Pn 22 27 08.9 -0.8**
0.5nm,0.4s
MAKZ ⇓Lg Lg 22 29 28.4
14nm,1.2s
MAKZ Makanchi 8.30 36 P **Pn 22 27 08.9 -0.8**
MK31 Makanchi Array 8.43 37⇑Pn **Pn 22 27 13.0 +1.5**
0.8nm,0.5s,baz=222,slow=14,SNR=8.4
MK31 ⇓Lg Lg 22 29 29.5
3.9nm,0.7s,baz=221,slow=26,SNR=3.6
MK31 Makanchi Array 8.43 37 *i* P **Pn 22 27 10.0 -1.6**
MKAR Makanchi Array 8.43 37 Pn **Pn 22 27 13.2 +1.6**
0.1nm,0.3s,baz=215,slow=13,SNR=5.4
MKAR Lg Lg 22 29 29.6
0.3nm,0.3s,baz=213,slow=27,SNR=3.3
0.3nm,0.4s
BRZS Berezniki 9.79 352 *e*Pg Pn 22 28 07.4 +37
baz=351
ZSN Zaisan 10.15 42 *e*Pg Pn 22 28 06.5 +31
baz=40
WMQ Urumqi 10.18 66 Pn **Pn 22 27 38.3 +2.8**
WMQ Sn **Sn 22 29 33.3 +3.1**
WMQ smax smax
comp=N,17nm,0.7s
WMQ smax smax
comp=E,25nm,1.1s
KURBB Kurchatov Arra 10.62 13 ⇓Lg Lg 22 30 46.1
comp=E,7.6nm,0.7s
KURBB Kurchatov Arra 10.62 13 Pn **Pn 22 27 44.3 +2.7**
comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=3.0
KURBB Lg Lg 22 30 41.7
comp=E,0.1nm,0.3s,baz=200,slow=30,SNR=8.5
comp=E,0.3nm,0.2s
KURK Kurchatov 10.73 13⇑Lg Lg 22 30 45.6
comp=E,11nm,0.7s
KURK Kurchatov 10.73 13 P **Pn 22 27 44.3 +1.3**
BVAR Borovoye Array 13.07 348 Pn **Pn 22 28 15.1 +0.1**
baz=161,slow=14,SNR=8.2
BVAR Lg Lg 22 31 58.0
comp=E,0.1nm,0.3s,baz=176,slow=27,SNR=15
comp=E,0.6nm,0.5s
BRVK Borovoye 13.12 348 *i* P **Pn 22 28 14.9 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
GEYT Alibeck 13.21 265 Pn **Pn 22 28 17.2 +0.2**
comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=3.5
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 15.21 23 Pn **P 22 28 47.0 -2.2**
comp=Z,2.0nm,0.3s,baz=217,slow=14,SNR=1.4
comp=Z,0.5nm,0.4s
ARU Arti 19.33 332 *i* P **Pn 22 29 35.9 +0.1**
ARU pmax pmax
comp=Z,3.0nm,1.6s
KBZ Khabaz 23.90 289 *i* P **P 22 30 23.1 -0.3**
KBZ pmax pmax
comp=Z,1.0nm,0.9s
NRIK Noril'sk 29.86 9 *i* P **P 22 31 16.6 -0.2**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 36.16 322 P **P 22 32 13.7 +1.9**
comp=Z,5.5nm,1.0s,baz=112,slow=11,SNR=1.9
comp=Z,5.5nm,1.0s
HFS Hagfors 42.05 319 P **P 22 33 01.1 0.0**
comp=Z,4.8nm,1.0s,baz=91,slow=12,SNR=2.3
comp=Z,4.8nm,1.0s
TORD Torodi Ar. Bea 68.81 269 P **P 22 36 14.5 +0.1**
comp=Z,0.6nm,0.9s,baz=51,slow=5.5,SNR=2.3
comp=Z,0.6nm,0.9s

*IDC **16** 22:39:27.0±5.0,5°.06S×146°.13E,h102km±44km,mb3.6/4, mbtmp4.0/6,Error ellipse: s-maj=54.8km s-min=29.2km az=122.0*
*NEIC **16** 22:39:31.0±1.4,5°.29S±0°.06×146°.3E±0°.1,h127km±9km, mb4.1/14,Error ellipse: s-maj=18.8km s-min=8.8km az=87.0*
ISC 16 22:39:28.2±0.7,**5°.30S**±0°.07×**146°.2E**±0°.1,**h100**km,**n25,**
σ1s26,mb3.9/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.42**	**19**	Pn	**Pn**	**22 40 22.7**	**+3.0**
PMG	**Port Moresby**	**4.18**	**167**	P	**Pn**	**22 40 31.7**	**+1.7**
	8.4nm,0.3s,baz=320,slow=9.4,SNR=6.3						
PMG				S	**Sn**	**22 41 16.7**	**-1.0**
	50nm,0.4s,baz=140,slow=21,SNR=14						
RABL	**Rabaul**	**6.01**	**80**	Pn	**Pn**	**22 40 56.9**	**+2.2**
COEN	**Coen**	**9.12**	**199**	Pn	**Pn**	**22 41 39.5**	**+2.4**
CTAO	**Charters Tower**	**14.70**	**180**		**P**	**22 42 54.6**	**-0.2**
WB0	**Warramunga Arr**	**18.43**	**218**	P	**Pn**	**22 43 37.0**	**-0.3**
WB0				IAmb	IAmb	22 43 40.5	
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**18.60**	**217**	P	**P**	**22 43 37.4**	**-0.4**
WRA	**Warramunga Arr**	**18.60**	**217**	P	**Pn**	**22 43 38.9**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=36,slow=12,SNR=110						
KNRA	**Kununurra**	**20.02**	**238**	P	**P**	**22 43 54.6**	**+1.3**
KNRA				IAmb	IAmb	22 43 59.5	
	comp=Z,6.2nm,0.8s						
EIDS	**Eidsvold**	**20.49**	**167**	P	**P**	**22 43 59.1**	**+0.8**
AS31	**Alice Springs**	**21.79**	**212**	P	**P**	**22 44 12.3**	**+0.1**
AS31				IAmb	IAmb	22 44 20.7	
	comp=Z,4.2nm,0.4s						
ASAR	**Alice Springs**	**21.79**	**212**	P	**P**	**22 44 12.4**	**+0.2**
ASAR	**Alice Springs**	**21.79**	**212**	P	**P**	**22 44 12.7**	**+0.4**
	comp=Z,5.4nm,0.9s,baz=42,slow=8.8,SNR=31						
	comp=Z,5.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.80**	**236**	P	**P**	**22 44 32.5**	**+0.4**
FITZ				IAmb	IAmb	22 44 34.6	
	comp=Z,3.2nm,0.6s						
STKA	**Stephens Creek**	**26.80**	**189**	P	**P**	**22 44 58.6**	**-0.4**
STKA	**Stephens Creek**	**26.80**	**189**	P	**P**	**22 44 59.1**	**0.0**
	comp=Z,2.1nm,0.6s,baz=1.6,slow=10,SNR=3.3						
	comp=Z,2.1nm,0.6s						
BBOO	**Buckleboo**	**28.97**	**198**	P	**P**	**22 45 18.4**	**0.0**
BBOO				IAmb	IAmb	22 45 20.8	
	comp=Z,9.8nm,1.3s						
MRZ	**Mangatainoka R**	**43.96**	**148**	P	**P**	**22 47 25.3**	**-0.2**
HIA	**Hailar**	**59.04**	**340**	P	**P**	**22 49 16.8**	**-0.9**
VNDA	**Vanda**	**72.65**	**176**	P	**P**	**22 50 44.3**	**-0.3**
VNDA				IAmb	IAmb	22 50 44.3	
	comp=Z,6.2nm,1.5s						
VNDA	**Vanda**	**72.65**	**176**	P	**P**	**22 50 44.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=331,slow=5.4,SNR=1.5						
	comp=Z,0.3nm,0.5s						
G18K	**Tagagawik**	**81.36**	**20**	P	**P**	**22 51 32.7**	**-0.8**
G18K				IAmb	IAmb	22 51 52.3	
	comp=Z,3.5nm,1.4s						
E19K	**Redstone River**	**82.70**	**19**	P	**P**	**22 51 40.5**	**0.0**
QSPA	**South Pole Qui**	**84.66**	**180**	P	**P**	**22 51 49.0**	**-1.7**
QSPA				IAmb	IAmb	22 51 59.8	
	comp=Z,2.8nm,1.2s						
ILAR	**Eielson Array**	**85.14**	**23**	P	**P**	**22 51 50.8**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=250,slow=5.4,SNR=8.6						
	comp=Z,0.4nm,0.6s						

*NEIC **16** 22:40:21.6±0.9,52°.2N±0°.1×171°.7W±0°.1,h118km±12km, Error ellipse: s-maj=22.1km s-min=5.5km az=158.0*
AEIC 16 22:40:24.1±0.8,**52°.5N**±0°.3×**171°.8W**±0°.1,**h103**km±8km,
ML3.2,mb3.8/3(NEIC),**ML3.3**/6(NEIC),**Error ellipse:**
s-maj=43.1km s-min=3.8km az=167.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**1.23**	**72**		Pn	22 40 46.6	-0.8
CLES					Sn	22 41 07.0	+2.1
CLES				IAML		22 41 09.4	
	comp=E,750nm,0.2s						
CLCO	**Concord Point,**	**1.33**	**74**		Pn	22 40 47.7	-0.7
CLCO					Sn	22 41 06.4	-0.4
KOSE	**Korovin Southe**	**1.37**	**267**		Pn	22 40 47.9	-1.1
KOFP	**Korovin Flat P**	**1.40**	**264**		Pn	22 40 48.9	-0.5
KOKL	**Mount Kliuchef**	**1.46**	**266**		Pn	22 40 49.4	-0.7
ATKA	**Atka Island**	**1.48**	**261**		Pn	22 40 49.2	-1.0
ATKA					Sn	22 41 09.0	-1.0
ATKA				IAML		22 41 09.8	
	comp=E,101nm,0.5s						
NIKH	**Nikolski High**	**1.88**	**73**		Pn	22 40 53.9	-1.4
NIKH	**Nikolski High**	**1.88**	**73**		Sn	22 41 17.9	-1.1
OKWR	**Okmok West Rim**	**2.40**	**64**		Pn	22 41 01.1	-1.0
OKER	**Okmok East Rim**	**2.50**	**65**		Pn	22 41 02.3	-1.0
OKFG	**Magazine Ridge**	**2.56**	**66**		Pn	22 41 03.1	-0.9
GSTR	**Great Sitkin T**	**2.62**	**264**	Pn	Pn	22 41 03.0	-1.9
GSMY	**Great Sitkin M**	**2.63**	**263**		Pn	22 41 03.9	-1.1
GSCK	**Great Sitkin C**	**2.70**	**262**		Pn	22 41 04.8	-1.2
ADK	**Adak**	**3.04**	**261**		Pn	22 41 09.4	-1.1
ADK					Sn	22 41 44.7	-1.5
ADK	**Adak**	**3.04**	**261**	IAML		22 41 49.1	
	comp=E,85nm,0.2s						
ADK				IAML		22 41 52.8	
	comp=E,76nm,1.1s						
MAPS	**Pakushin South**	**3.24**	**63**		Pn	22 41 12.0	-1.1
MGOD	**Makushin Gods**	**3.27**	**64**		Pn	22 41 12.3	-1.3
KIWE	**Kanaga Island**	**3.33**	**262**		Pn	22 41 13.3	-1.0
MREP	**Makushin Rep't**	**3.35**	**64**		Pn	22 41 13.5	-1.1
MSW	**Makushin Switc**	**3.37**	**62**		Pn	22 41 13.3	-1.5
MNAT	**Makushin Natee**	**3.41**	**63**		Pn	22 41 14.1	-1.3
UNV	**Unalaska Valle**	**3.50**	**64**		Pn	22 41 15.1	-1.4
ZRO	**Akutan Zero**	**3.88**	**63**		Pn	22 41 20.8	-0.8
AKBBA	**Akutan Broad B**	**3.91**	**63**		Pn	22 41 21.1	-0.9
ISLZ	**Isanotski Laza**	**5.34**	**62**		Pn	22 41 40.0	-1.5
ISNN	**Isanotski Nort**	**5.35**	**60**		Pn	22 41 40.7	-0.8
AMKA	**Amchitka**	**5.59**	**262**		Pn	22 41 43.0	-1.8
PS1A	**Pavlof South-1**	**6.66**	**59**		Pn	22 41 57.8	-1.4
CNBA	**Chernabura Isl**	**7.65**	**67**	Pn	Pn	22 42 09.2	-3.6
J25K	**Salcha River,**	**18.23**	**38**	P	P	22 44 25.2	-3.8
J25K				IAmb	IAmb	22 44 28.2	
	comp=Z,6.0nm,1.4s						
M26K	**Nabesna, AK**	**18.28**	**46**	P	P	22 44 26.2	-3.3
M26K				IAmb	IAmb	22 44 29.5	
	comp=Z,13nm,1.4s						
BCAR	**Beaver Creek A**	**19.03**	**44**	P	P	22 44 35.9	-1.8
I28M	**Miner Creek**	**20.67**	**39**		P	22 44 53.0	-2.5
I28M				IAmb	IAmb	22 44 56.3	
	comp=Z,5.9nm,1.4s						

*TEH **16** 23:13:04.7,27°.52N×54°.68E,h13km±102km,ML3.3*
*OMAN **16** 23:13:18.5±1.5,26°.38N×54°.40E,h14km±23km,mb3.8/2, ml2.5/7,Error ellipse: s-maj=21.9km s-min=7.3km az=153.0*
ISC 16 23:13:04.6±0.9,**27°.44N**±0°.05×**54°.63E**±0°.04,**h10**km,**n28,**
σ2s27/36,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.32**	**315**	Pg	**Pg**	**23 13 11.2**	**+0.3**
LMD1	**Lamerd**	**1.30**	**266**	Pg	**Pg**	**23 13 31.8**	**+2.2**
GENO	**Geno**	**1.38**	**91**	Pg	**Pg**	**23 13 31.2**	**+0.2**
JHRM	**Jahrom**	**1.41**	**319**	Pg	**Pg**	**23 13 32.9**	**+1.3**
IBND	**Bandar-abas**	**1.70**	**89**	Pg	**Pg**	**23 13 36.7**	**-0.5**
QIR1	**Qir**	**1.74**	**307**	Pg	**Pb**	**23 13 36.9**	**+0.3**
SHME	**Shamm**	**1.94**	**135**	P	**Pg**	**23 13 46.3**	**+4.5**
SHME				S	**Sb**	**23 14 04.6**	**+0.3**
BANOM	**Banah**	**2.13**	**135**	P	**Pg**	**23 13 48.7**	**+3.2**
MDH	**Madha**	**2.61**	**145**	P	**Pb**	**23 13 51.0**	**-0.5**
MDH				S	**Sn**	**23 14 20.3**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.83**	**162**	P	**Pn**	**23 13 51.9**	**+2.1**
UOSS	**Minazif**	**2.86**	**150**	P	**Pb**	**23 13 54.5**	**-1.3**
UOSS				S	**Sn**	**23 14 21.5**	**-3.4**
ASUD	**Al Ashush, Dub**	**2.88**	**167**	P	**Pn**	**23 13 52.8**	**+2.3**
	SNR=17						
AJN	**Ajban**	**2.89**	**173**	P	**Pn**	**23 13 50.5**	**-0.1**
HATD	**Hatta, Dubai**	**2.94**	**152**	P	**Pb**	**23 13 56.4**	**-0.7**
HATD				S	**Sn**	**23 14 23.7**	**-3.0**
ASHO	**Ashiyiah**	**3.04**	**155**	P	**Pn**	**23 13 54.4**	**+1.7**
ASHO				S	**Sn**	**23 14 23.4**	**-5.8**
MZWR	**Madinat Zayed**	**3.73**	**191**	P	**Pn**	**23 14 01.8**	**-0.4**
TRNA	**Turayna**	**4.08**	**229**	P	**Pn**	**23 14 08.3**	**+1.2**
TRNA				S	**Sn**	**23 14 52.9**	**-2.1**
ARQ	**Araqi**	**4.43**	**157**	P	**Pn**	**23 14 14.0**	**+2.0**
UMZA	**Um Al Zommool**	**4.74**	**174**	P	**Pn**	**23 14 16.8**	**+0.7**
IRAM	**Ramesheh**	**4.77**	**336**	Pn	**Pn**	**23 14 20.5**	**+3.8**
SMDO	**Samad**	**5.36**	**144**	P	**Pn**	**23 14 26.9**	**+2.2**
SMDO				S	**Sn**	**23 15 25.2**	**-1.3**
MHTO	**MHTO**	**7.12**	**154**	P	**Pn**	**23 14 50.1**	**+1.4**
MHTO				S	**Sn**	**23 16 05.5**	**-4.3**
DOK	**Doka**	**8.80**	**183**	P	**Pn**	**23 15 11.5**	**-0.4**
SHAO	**Shalim**	**9.42**	**174**	P	**Pn**	**23 15 19.4**	**-1.1**
	SNR=5.1						
WHFO	**Wadi Hawf**	**9.51**	**185**	P	**Pn**	**23 15 20.7**	**-1.0**
	SNR=10.0						
DMTO	**DMTO**	**9.69**	**178**	P	**Pn**	**23 15 22.7**	**-1.4**
RBK	**Rabkut**	**9.90**	**182**	P	**Pn**	**23 15 25.3**	**-1.7**
ABTO	**Aybut**	**10.12**	**187**	P	**Pn**	**23 15 28.6**	**-1.4**
	SNR=9.8						

*IDC **16** 23:29:32.3±1.6,50°.90N×174°.85E,h0km,mb3.9/10, mbtmp3.9/12,ML3.6/2,MS3.4/1,Error ellipse: s-maj=40.9km s-min=17.0km az=7.0*
*NEIC **16** 23:29:33.9±1.7,51°.0N±0°.1×174°.9E±0°.1,h10km±2km, mb4.2/35,ML3.7(AEIC),Error ellipse: s-maj=21.6km s-min=11.4km az=170.0*
*AEIC **16** 23:29:36.9±2.4,50°.7N±0°.2×175°.3E±0°.1,h26km±7km, Error ellipse: s-maj=22.5km s-min=10.3km az=171.0*
ISC 16 23:29:35.2±4.1,**50°.9N**±0°.1×**174°.87E**±0°.05,**h22**km±26km,
n75,σ1s23/85,mb4.1/26,**South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.90**	**346**	Pn	**Pn**	**23 30 05.4**	**-0.9**
	30nm,0.3s,baz=158,slow=5.0,SNR=27						
SHEM				Sn	**Sn**	**23 30 28.4**	**-1.2**
	31nm,0.3s,baz=120,slow=20,SNR=6.2						
LSNW	**Little Sitkin**	**2.53**	**63**		**Pn**	**23 30 15.0**	**+0.1**
LSNW					**Sn**	**23 30 43.5**	**-1.4**

LSSE	**Little Sitkin**	**2.54**	**64**			**Pn**	**23 30 15.3**	**+0.2**
LSSE						**Sn**	**23 30 43.9**	**-1.4**
LSPA	**Little Sitkin**	**2.55**	**64**			**Pn**	**23 30 14.4**	**-0.8**
LSPA						**Sn**	**23 30 44.8**	**-0.9**
AMKA	**Amchitka**	**2.84**	**78**			**Pn**	**23 30 17.5**	**-1.6**
AMKA						**Sn**	**23 30 48.3**	**-4.3**
CESW	**Semis' Southwe**	**3.11**	**69**			**Pn**	**23 30 23.2**	**+0.3**
CESW						**Sn**	**23 30 58.0**	**-1.3**
CERB	**Semis' Cerberu**	**3.16**	**69**			**Sn**	**23 31 00.1**	**-0.5**
CEPE	**Semis' Perret**	**3.18**	**68**			**Pn**	**23 30 24.2**	**+0.3**
CEPE						**Sn**	**23 30 60.0**	**-1.1**
GASW	**Gareloi Southw**	**4.04**	**75**			**Pn**	**23 30 36.1**	**+0.5**
GASW						**Sn**	**23 31 20.2**	**-1.9**
GANO	**Gareloi North**	**4.08**	**74**			**Pn**	**23 30 36.1**	**-0.1**
TASE	**Tanaga Southea**	**4.55**	**75**			**Pn**	**23 30 42.8**	**+0.2**
TAFP	**Tanaga Falls P**	**4.59**	**74**			**Pn**	**23 30 43.0**	**-0.2**
TAFP						**Sn**	**23 31 32.9**	**-2.9**
KIWB	**Kanaga Island**	**5.09**	**76**	Pn		**Pn**	**23 30 49.1**	**-1.0**
KIRH	**Kanaga Island**	**5.13**	**76**			**Pn**	**23 30 51.0**	**+0.3**
ADK	**Adak**	**5.38**	**76**			**Pn**	**23 30 53.8**	**-0.3**
ADK						**Sn**	**23 31 51.4**	**-3.9**
ADK	**Adak**	**5.38**	**76**	Pn		**Pn**	**23 30 53.3**	**-0.8**
GSMY	**Great Sitkin M**	**5.79**	**75**			**Pn**	**23 30 59.3**	**-0.4**
ATKA	**Atka Island**	**6.95**	**75**	Pn		**Pn**	**23 31 14.8**	**-0.7**
PEA0B	**Petropavlovsk-**	**10.82**	**289**	Pn		**Pn**	**23 32 07.7**	**-0.9**
PETK	**Petropavlovsk-**	**10.82**	**289**	Pn		**Pn**	**23 32 08.0**	**-0.6**
PETK	**Petropavlovsk-**	**10.82**	**289**	Pn		**Pn**	**23 32 08.4**	**-0.2**
	0.6nm,0.3s,baz=93,slow=19,SNR=6.6							
PETK				Sn		**Sn**	**23 34 04.3**	**-4.5**
	0.8nm,0.3s,baz=120,slow=18,SNR=7.8							
	1.8nm,0.5s							
O14K	**Tigyukauivet M**	**15.95**	**49**	P		**P**	**23 33 21.8**	**+0.4**
L14K	**Kuka Creek**	**16.22**	**41**			**P**	**23 33 25.7**	**+1.4**
M14K	**Bethel**	**16.25**	**44**			**P**	**23 33 23.9**	**-0.8**
SEY	**Seymchan**	**17.09**	**323**	Pn		**Pn**	**23 33 32.1**	**-0.2**
	0.7nm,0.3s,baz=195,slow=12,SNR=2.8							
	1.3nm,0.3s							
M16K	**Timber Creek**	**17.69**	**45**			**P**		
M16K					IAmb	IAmb	**23 33 41.7**	**+1.0**
	comp=Z,26nm,1.5s						23 34 14.2	
J16K	**Anvik River**	**18.06**	**37**			**Pn**	**23 33 41.8**	**-2.6**
N17K	**Nushagak Hills**	**18.32**	**47**	P		**Pn**	**23 33 48.7**	**+1.0**
O18K	**Koktuh Hills**	**19.07**	**50**	P		**P**	**23 33 55.7**	**-0.2**
O18K					IAmb	IAmb	23 34 10.7	
	comp=Z,34nm,1.4s							
H17K	**Granite Mounta**	**19.23**	**33**	P		**P**	**23 33 57.2**	**-0.3**
SVW2	**Sparrevohn**	**19.25**	**47**	P		**P**	**23 33 57.7**	**-0.2**
SVW2					IAmb	IAmb	23 34 28.2	
	comp=Z,15nm,1.2s							
F17K	**Baldwin Pennin**	**19.72**	**29**	P		**Pn**	**23 34 04.1**	**-0.2**
KDAK	**Kodiak Island**	**20.04**	**57**	P		**P**	**23 34 06.5**	**+0.2**
	comp=Z,12nm,1.1s,baz=262,slow=19,SNR=1.7							
	comp=Z,12nm,1.1s							
G18K	**Tagagawik**	**20.21**	**32**	P		**P**	**23 34 09.2**	**+0.9**
CNPM	**China Poot**	**20.97**	**53**	P		**P**	**23 34 13.8**	**-2.8**
IMAR	**Indian Mountai**	**21.97**	**35**	P		**P**	**23 34 28.3**	**+1.1**
H21K	**Melozitna Rive**	**22.17**	**36**	P		**P**	**23 34 31.1**	**+1.8**
H21K					IAmb	IAmb	23 34 35.3	
	comp=Z,8.3nm,1.5s							
SML	**Sawmill**	**22.80**	**47**	P		**P**	**23 34 36.7**	**+0.6**
SCM	**Sheep Creek Mo**	**23.27**	**47**	P		**P**	**23 34 40.8**	**-0.1**
MDM	**Murphy Dome**	**23.68**	**40**	P		**P**	**23 34 45.6**	**+0.7**
MDM					IAmb	IAmb	23 35 07.1	
	comp=Z,5.5nm,1.3s							
H24K	**Noodor Dome**	**24.11**	**38**	P		**P**	**23 34 49.6**	**+0.6**
H24K					IAmb	IAmb	23 34 52.6	
	comp=Z,4.4nm,1.0s							
ILAR	**Eielson Array**	**24.17**	**40**	P		**P**	**23 34 49.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=257,slow=6.5,SNR=8.9							
	comp=Z,0.5nm,0.6s							
B22K	**Teshekpuk Lake**	**24.42**	**25**	P		**P**	**23 34 50.9**	**-0.8**
B22K					IAmb	IAmb	23 35 32.8	
	comp=Z,8.3nm,1.5s							
N25K	**Chitina, Valde**	**24.52**	**48**	P		**P**	**23 34 53.1**	**+0.3**
N25K					IAmb	IAmb	23 35 05.6	
	comp=Z,15nm,1.2s							
GLB	**Gilahina Butte**	**24.88**	**49**	P		**P**	**23 34 56.7**	**+0.7**
J26L	**Joseph Creek**	**25.48**	**42**	P		**P**	**23 35 01.1**	**-0.4**
J26L					IAmb	IAmb	23 35 37.8	
	comp=Z,8.6nm,1.5s							
L27K	**Beaver Creek,**	**25.99**	**45**	P		**P**	**23 35 06.0**	**0.0**
L27K					IAmb	IAmb	23 35 18.1	
	comp=Z,6.8nm,1.4s							
EGAK	**Eagle**	**26.55**	**42**	P		**P**	**23 35 11.3**	**+0.3**
EGAK					IAmb	IAmb	23 35 11.7	
	comp=Z,8.2nm,1.2s							
DAWY	**Dawson**	**27.20**	**44**	P		**P**	**23 35 17.1**	**+0.1**
DAWY					IAmb	IAmb	23 35 18.8	
	comp=Z,4.3nm,0.8s							
K29M	**Barlow Dome**	**28.00**	**44**	P		**P**	**23 35 24.5**	**+0.3**
K29M					IAmb	IAmb	23 36 03.9	
	comp=Z,8.2nm,1.4s							
J30M	**Hart River**	**28.58**	**43**	P		**P**	**23 35 29.7**	**+0.4**
J30M					IAmb	IAmb	23 35 55.4	
	comp=Z,6.6nm,1.5s							
G31M	**Satah River**	**29.68**	**38**	P		**P**	**23 35 39.4**	**+0.5**
G31M					IAmb	IAmb	23 35 44.3	
	comp=Z,8.1nm,1.4s							
P33M	**Teslin, Yukon**	**30.25**	**52**	P		**P**	**23 35 43.7**	**-0.5**
JHJ	**Hachijo jima 2**	**31.15**	**249**	LR		LR	23 48 59.5	
	comp=Z,64nm,18.6s,baz=68,slow=38							
R33M	**Jennings River**	**31.28**	**53**	P		**P**	**23 35 55.3**	**+2.0**
YKA	**Yellowknife Ar**	**38.43**	**45**	P		**P**	**23 36 55.2**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=288,slow=8.8,SNR=8.5							
	comp=Z,0.6nm,0.7s							
NRIK	**Norilʹsk**	**42.78**	**329**	P		**P**	**23 37 30.9**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=135,slow=7.1,SNR=2.4							
	comp=Z,1.4nm,0.4s							
HHC	**Hu-ho-hao-te**	**43.94**	**282**	*e*P		**P**	**23 37 40.8**	**+0.4**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,320nm,7.0s							
BPMT	**Black Pine Rid**	**45.85**	**66**	P		**P**	**23 37 56.1**	**+0.4**
RLMT	**Red Lodge**	**49.00**	**65**	P		**P**	**23 38 21.1**	**+0.9**
RLMT					IAmb	IAmb	23 38 35.0	
	comp=Z,4.6nm,1.2s							
BW06	**Boulder Array**	**50.23**	**68**	P		**P**	**23 38 29.2**	**-0.3**
BW06					IAmb	IAmb	23 38 57.0	
	comp=Z,2.0nm,1.1s							
PDAR	**Pinedale Array**	**50.23**	**68**	P		**P**	**23 38 29.8**	**+0.2**
PDAR	**Pinedale Array**	**50.23**	**68**	P		**P**	**23 38 30.1**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=302,slow=3.3,SNR=14							
	comp=Z,1.1nm,0.6s							
KURK	**Kurchatov**	**56.39**	**311**	P		**P**	**23 39 15.1**	**+0.7**
KURBB	**Kurchatov Arra**	**56.49**	**311**	P		**P**	**23 39 15.6**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=47,slow=6.8,SNR=24							
	comp=Z,2.2nm,0.7s							
MK31	**Makanchi Array**	**57.13**	**305**	P		**P**	**23 39 19.6**	**-0.2**
MKAR	**Makanchi Array**	**57.13**	**305**	P		**P**	**23 39 19.3**	**-0.5**
MKAR	**Makanchi Array**	**57.13**	**305**	P		**P**	**23 39 19.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=51,slow=6.8,SNR=12							
	comp=Z,0.9nm,0.7s							
MAKZ	**Makanchi**	**57.28**	**305**	P		**P**	**23 39 20.7**	**-0.2**
MAKZ					IAmb	IAmb	23 39 21.6	
	comp=Z,1.5nm,0.8s							
BVAR	**Borovoye Array**	**58.60**	**317**	P		**P**	**23 39 30.8**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=52,slow=7.0,SNR=10							
BVAR				PcP		**PcP**	**23 40 20.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.4,SNR=3.6							
	comp=Z,1.7nm,0.7s							
BRVK	**Borovoye**	**58.62**	**317**	P		**P**	**23 39 30.6**	**+0.5**
BRVK					IAmb	IAmb	23 39 42.0	
	comp=Z,3.7nm,1.1s							
TXAR	**Lajitas Array**	**62.66**	**76**	P		**P**	**23 39 59.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=304,slow=5.3,SNR=3.8							
	comp=Z,0.4nm,0.6s							
KSH	**Kashi**	**65.50**	**303**	P		P	23 40 21.4	+4.7
KKAR	**Karatay Array**	**65.68**	**309**	P		**P**	**23 40 18.6**	**+0.9**
NOA	**NORSAR Array B**	**67.65**	**351**	P		**P**	**23 40 30.7**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=0.5,slow=5.6,SNR=1.9							
	comp=Z,0.8nm,0.8s							

*IDC **16** 23:51:05.9±2.2, 3°.28S×127°.53E, **h0**km, **mb3.2**/2, **mbtmp3.4**/3, **ML3.7**/1, **Error ellipse: s-maj=148.8km s-min=28.6km az=66.0, Seram***

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.85**	**159**	P		P	23 55 16.4	-0.3
	0.2nm,0.3s,baz=337,slow=11,SNR=10							
	0.6nm,0.4s							
ASAR	**Alice Springs**	**21.18**	**164**	P		P	23 55 51.9	-1.3
	0.6nm,0.3s,baz=342,slow=11,SNR=12							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**63.78**	**327**	P		P	00 01 40.6	+0.7
	0.1nm,0.4s,baz=115,slow=8.0,SNR=1.3							
	0.1nm,0.4s							

*IDC **17** 00:02:33.8±2.9, 6°.10S×146°.88E, h135km±34km, mb3.3/4, mbtmp3.7/6, MS2.7/2, Error ellipse: s-maj=54.1km s-min=15.2km az=117.0*

ISC 17 00:02:31.0±1.1, 5°.89S±0°.09×146°.6E±0°.2, h100km, n8, σ0°89/9, mb3.5/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**171**	P		**Pn**	**00 03 24.0**	**0.0**
	51nm,0.4s,baz=330,slow=8.1,SNR=15							
PMG				S		**Sn**	**00 04 04.2**	**-0.8**
	64nm,0.6s,baz=319,slow=20,SNR=2.8							
PMG				LR		LR	00 04 44.4	
	comp=Z,68nm,20.9s,baz=6.0,slow=40							
CTA	**Charters Tower**	**14.12**	**181**	P		**Pn**	**00 05 47.5**	**+0.9**
	4.9nm,0.7s,baz=0.0,slow=14,SNR=3.2							
CTA				LR		LR	00 10 55.1	
	comp=Z,57nm,18.1s,baz=76,slow=36							
WRA	**Warramunga Arr**	**18.36**	**219**	P		**P**	**00 06 37.6**	**-0.5**
	0.6nm,0.5s,baz=41,slow=12,SNR=13							
WRA				S		**S**	**00 10 02.4**	**-0.5**
	0.7nm,0.9s,baz=41,slow=26,SNR=2.1							
ASAR	**Alice Springs**	**21.49**	**213**	P		**P**	**00 07 12.8**	**+0.9**
	0.9nm,0.5s,baz=48,slow=8.2,SNR=20							
	0.9nm,0.5s							
SONM	**Songino Array**	**64.12**	**331**	P		**P**	**00 12 55.4**	**+0.6**
	0.6nm,0.8s,baz=145,slow=4.8,SNR=3.8							
	0.6nm,0.8s							
MKAR	**Makanchi Array**	**77.16**	**321**	P		P	00 14 13.2	-0.7
	0.3nm,0.7s,baz=111,slow=5.1,SNR=2.5							
	0.3nm,0.7s							
ILAR	**Eielson Array**	**85.54**	**23**	P		**P**	**00 14 57.4**	**-0.3**
	1.0nm,0.7s,baz=252,slow=5.1,SNR=15							
	1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**144.68**	**284**	PKPbc		**PKPbc**	**00 21 54.9**	**-1.3**
	0.7nm,0.7s,baz=45,slow=2.2,SNR=4.9							

KRSC 17 00:11:00.3±1.3, 54°.71N×162°.58E, h18km±54km, MI3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.35**	**292**	*e*P		Pn	00 11 24.1	-0.2
TUMR	**Tumrok**	**1.51**	**293**	*e*P		Pn	00 11 27.1	+0.5
TUMR				*e*S		Sb	00 11 47.5	+0.7
KBG	**Krutoberegovo**	**1.55**	**3**	*e*P		Pb	00 11 29.2	+0.8
BZGR	**Bezymyannyi-Gr**	**1.64**	**320**	*e*P		Pn	00 11 28.1	-0.1
BZGR				*e*S		Sn	00 11 48.6	0.0
ZLN	**Zelenaya**	**1.66**	**323**	*e*P		Pb	00 11 30.7	+0.4
ZLN				*e*S		Sg	00 11 52.6	-1.0
BZP	**Bezymyannyi-Pe**	**1.68**	**317**	*e*P		Pn	00 11 29.6	+0.7
KMNR	**Kamenistaya**	**1.70**	**309**	*e*P		Pn	00 11 30.0	+0.8
KMNR				*e*S		Sb	00 11 51.9	-0.3
BZMR	**Bezymyannaya**	**1.71**	**317**	*e*P		Pn	00 11 30.1	+0.8
BZWR	**Bezymyannyi-We**	**1.73**	**317**	*e*P		Pb	00 11 30.7	-0.9
LGNR	**Loginova**	**1.75**	**323**	*e*P		Pb	00 11 32.0	0.0
CIRR	**Tsirk**	**1.75**	**324**	*e*P		Pb	00 11 31.8	-0.1
KIRR	**Kirishev**	**1.78**	**315**	*e*P		Pn	00 11 31.3	+1.0
KIRR				*e*S		Sb	00 11 54.8	+0.2
KPT	**Kopyto**	**1.84**	**314**	*e*P		Pn	00 11 31.9	+0.8
KLY	**Klyuchi**	**1.94**	**327**	*e*P		Pn	00 11 33.4	+1.0
KLY				*e*S		Sn	00 11 56.0	-0.3
KII	**Karymskiy**	**1.95**	**251**	*e*P		Pb	00 11 35.6	+0.3
KII				*e*S		Sb	00 12 00.2	+0.9
SMKR	**Semkarok**	**1.98**	**342**	*e*P		Pb	00 11 34.4	-1.4
SMKR				*e*S		Sn	00 11 58.7	+1.4
BDR	**Baidarnaya**	**2.02**	**338**	*e*P		Pn	00 11 34.5	+1.0
BKI	**Bering**	**2.02**	**74**	*e*S		Sb	00 12 01.3	+0.1
KOZ	**Kozyrevsk**	**2.05**	**312**	*e*P		Pn	00 11 33.8	-0.1
SRKR	**Sorokina**	**2.11**	**338**	*e*S		Sb	00 12 03.5	-0.3
SPN	**Mys Shipunski**	**2.21**	**224**	*e*P		Pb	00 11 37.9	-1.8
SPN				*e*S		Sn	00 12 04.1	+1.2
SRDR	**Sredinnyy**	**2.29**	**316**	*e*P		Pn	00 11 38.0	+0.8
NLC	**Nalytchevo**	**2.45**	**232**	*e*P		Pn	00 11 41.5	+2.1
NLC				*e*S		Sn	00 12 10.5	+1.6
ESO	**Esso**	**2.53**	**300**	*e*P		Pb	00 11 43.8	-1.3
SMAR	**Somma**	**2.66**	**238**	*e*P		Pn	00 11 44.9	+2.5
SMAR				*e*S		Sb	00 12 17.6	-2.2
UGLR	**Uglovaya**	**2.68**	**237**	*e*P		Pn	00 11 45.1	+2.5
UGLR				*e*S		Sb	00 12 17.9	-2.4
KRX	**Arik**	**2.68**	**241**	*e*P		Pn	00 11 44.6	+1.9
KRX				*e*S		Sn	00 12 16.8	+2.1
AVH	**Avacha**	**2.69**	**239**	*e*P		Pb	00 11 45.6	-2.3
AVH				*e*S		Sb	00 12 18.9	-1.6
KOK	**Koryaka**	**2.72**	**240**	*e*P		Pb	00 11 45.9	-2.6
KOK				*e*S		Sb	00 12 18.7	-2.9
DALK	**Dalny**	**2.82**	**235**	*e*P		Pn	00 11 46.6	+2.2
DALK				*e*S		Sb	00 12 22.1	-2.1
PET	**Petropavlovsk**	**2.87**	**236**	*e*P		Pn	00 11 47.1	+2.0
PET				*e*S		Sn	00 12 22.1	+2.9
GNL	**Ganaly**	**2.91**	**251**	*e*P		Pn	00 11 48.5	+2.8
GNL				*e*S		Sb	00 12 25.2	-1.6
KRMR	**Karymshinskiy**	**3.24**	**236**	*e*P		Pb	00 11 54.1	-3.1
KRMR				*e*S		Sb	00 12 33.4	-3.0
RUS	**Russkaya**	**3.33**	**228**	*e*P		Pn	00 11 54.7	+3.3
RUS				*e*S		Sn	00 12 33.0	+2.6
GRL	**Gorelyy**	**3.44**	**233**	*e*P		Pb	00 11 57.8	-2.9
GRL				*e*S		Sb	00 12 38.6	-3.6
ASAK	**Asacha**	**3.63**	**232**	*e*P		Pn	00 11 59.4	+3.7
ASAK				*e*S		Sn	00 12 42.9	+4.8
KDTR	**Khodutka, Kamc**	**3.97**	**225**	*e*P		Pn	00 12 05.5	+2.3
KDTR				*e*S		Sn	00 12 48.7	+2.6

HEL 17 00:34:20.0±0.4, 67°.58N×33°.80E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.46**	**45**	PG		Pg	00 34 28.9	+0.2
	baz=225							
LVZ				SG		Sg	00 34 32.8	-1.9
VRF	**Varrio**	**1.61**	**278**	MSG			00 35 08.2	
	comp=Z,2.1nm,0.2s							
VRF				SG		Sn	00 35 08.3	-2.8
OLKF	**Oulanka, Finla**	**2.14**	**236**	PG		Pn	00 34 58.1	+1.2
OLKF				MSG			00 35 23.5	
	comp=Z,1.2nm,0.2s							
OLKF				SG		Sb	00 35 27.2	+0.6
KU6	**Riekki**	**2.19**	**227**	PG		Pn	00 34 59.1	+1.4
KU6				MSG			00 35 25.1	
	comp=Z,0.6nm,0.2s							
KU6				SG		Sb	00 35 28.5	+0.3
SGF	**Sodankyl**	**2.80**	**271**	PB		Pb	00 35 08.5	-2.2
SGF				SN		Sn	00 35 37.1	-3.3
RNF	**Rovaniemi**	**3.19**	**256**	PN		Pn	00 35 11.0	-0.4
KEV	**Kevo**	**3.31**	**315**	PN		Pn	00 35 12.8	-0.1
KEV				SN		Sn	00 35 50.5	-2.4
ARA0	**ARCESS Array S**	**3.62**	**307**	SB		Sb	00 36 08.2	-1.1
LANU	**Lannavaara**	**4.50**	**281**	SG		Sb	00 36 36.9	+2.5

*IDC **17** 00:40:52.6±1.6, 36°.62S×177°.17E, h0km, mb4.0/4, mbtmp4.0/5, ML3.4/1, MS3.5/8, Error ellipse: s-maj=43.0km s-min=20.2km az=71.0*

*WEL **17** 00:40:54.0±0.6, 37°.5S±5°.×17°.7E±°, h12km, M4.3/24, ML4.5/23, MLv4.3/24, Error ellipse: s-maj=0.0km s-min=0.0km az=27.2, confirmed*

*WEL **17** 00:40:53.9, 36°.63S×177°.06E, h6km, ML4.3, Mw4.3, Moment Tensor Solution. s4 Moment tensor: Mrr=286.92; Mθθ46.01; Mϕϕ240.91; Mrθ-16.87; Mrϕ-106.76; Mθϕ-150.91; Fault plane solution: NP1:ϕ=36.00000°, δ34.00000°, λ-69.00000°. NP2:ϕ=191.00000°, δ59.00000°, λ-104.00000°. Principal axes: T 317.4000, Plg13.0000°, Azm291.0000°; N 14.8900, Plg12.0000°, Azm198.0000°; P -332.2900, Plg73.0000°, Azm67.0000°; N. OF N. ISLAND*

ISC 17 00:40:53.2±1.7, 36°.59S±0°.05×177°.08E±0°.03, h6km±10km, n106, σ1°65/106, mb3.8/4, MS3.5/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.94**	**174**	P		**Pb**	**00 41 11.4**	**-0.5**
WIZ				S		**Sg**	**00 41 21.9**	**-1.4**
KUZ	**Kuaotunu**	**1.10**	**262**	P		**Pb**	**00 41 13.4**	**-1.2**
KUZ				S		**Sb**	**00 41 26.8**	**-2.4**
WHRZ	**Whale Island**	**1.26**	**184**	P		**Pn**	**00 41 15.5**	**-2.0**
HAZ	**Te Kaha**	**1.29**	**154**	P		**Pn**	**00 41 15.9**	**-1.9**
HAZ				S		**Sg**	**00 41 35.0**	**+0.3**
TGRZ	**Tauranga**	**1.31**	**210**	P		**Pn**	**00 41 17.3**	**-0.7**
OPRZ	**Ohinepanea**	**1.32**	**198**	P		**Pb**	**00 41 17.8**	**-0.5**
GRZ	**Great Barrier**	**1.35**	**284**	P		**Pn**	**00 41 17.5**	**-1.1**
GRZ				S		**Sb**	**00 41 35.2**	**-1.2**
MXZ	**Matakaoa Point**	**1.38**	**135**	P		**Pn**	**00 41 17.7**	**-1.2**
MXZ				S		**Sb**	**00 41 34.6**	**-2.7**
MARZ	**Manawahe**	**1.43**	**193**	P		**Pb**	**00 41 19.6**	**-0.6**
RUGZ	**Raukumara Rang**	**1.45**	**161**	P		**Pn**	**00 41 18.8**	**-1.3**
PKGZ	**Pakihiroa**	**1.52**	**149**	P		**Pn**	**00 41 19.1**	**-1.9**
KMRZ	**Kaimai**	**1.54**	**216**	P		**Pb**	**00 41 21.3**	**-1.0**
KARZ	**Kaharoa**	**1.57**	**205**	P		**Pn**	**00 41 21.6**	**-0.1**
WIAZ	**Waiheke Island**	**1.57**	**262**	P		**Pn**	**00 41 20.3**	**-1.4**
WIAZ				S		**Sn**	**00 41 41.5**	**-0.8**
OMRZ	**Omania**	**1.61**	**200**	P		**Pg**	**00 41 25.5**	**+1.4**
MKAZ	**Moumakai**	**1.62**	**251**	P		**Pn**	**00 41 20.7**	**-1.6**
MKAZ				S		**Sn**	**00 41 41.8**	**-1.6**
WMGZ	**Waiomatatini S**	**1.62**	**139**	P		**Pb**	**00 41 23.1**	**-0.5**
URZ	**Urewera**	**1.66**	**179**	Pn		**Pn**	**00 41 20.7**	**-2.2**
	11nm,0.3s,baz=353,slow=4.5,SNR=22							
URZ				Sn		**Sb**	**00 41 44.8**	**-0.6**
	72nm,0.3s,baz=266,slow=12,SNR=7.2							
URZ				LR		LR	00 42 02.3	
	comp=Z,298nm,20.6s,baz=117,slow=43							
URZ	**Urewera**	**1.66**	**179**	P		**Pn**	**00 41 23.0**	**+0.1**
NGRZ	**Ngongotaha**	**1.66**	**205**	P		**Pg**	**00 41 27.3**	**+2.2**
TOZ	**Tahuroa Road**	**1.69**	**227**	P		**Pn**	**00 41 21.6**	**-1.7**
TOZ				S		**Sn**	**00 41 43.1**	**-2.2**
TARZ	**Mount Tarawera**	**1.70**	**195**	P		**Pg**	**00 41 29.4**	**+3.6**
UTU	**Utuhina**	**1.73**	**204**	P		**Pg**	**00 41 30.4**	**+4.1**
TWGZ	**Tauwhareparae**	**1.74**	**156**	P		**Pb**	**00 41 25.4**	**-0.1**
PUZ	**Puketiti**	**1.75**	**148**	P		**Pb**	**00 41 25.8**	**+0.1**
HLRZ	**Highlands Stat**	**1.75**	**199**	P		**Pg**	**00 41 30.8**	**+3.9**
MBAZ	**Motutapu North**	**1.76**	**264**	P		**Pn**	**00 41 23.4**	**-0.8**
MBAZ				S		**Sb**	**00 41 47.2**	**-1.0**
ETAZ	**East Tamaki Re**	**1.76**	**258**	P		**Pn**	**00 41 23.2**	**-1.1**
MWZ	**Matawai**	**1.77**	**168**	P		**Pn**	**00 41 23.7**	**-0.8**
ABAZ	**Army Bay**	**1.81**	**269**	P		**Pn**	**00 41 24.9**	**+0.1**
ABAZ				S		**Sb**	**00 41 48.8**	**-0.7**
EPAZ	**Eden Park BICE**	**1.90**	**261**	P		**Pn**	**00 41 26.1**	**0.0**
EPAZ				S		**Sb**	**00 41 50.8**	**-1.3**
HBAZ	**Herne Bay Bore**	**1.90**	**262**	P		**Pn**	**00 41 26.2**	**0.0**
HBAZ				S		**Sb**	**00 41 51.0**	**-1.3**
GRRZ	**Galatos Road**	**1.91**	**203**	P		**Pg**	**00 41 30.8**	**+0.8**
TKGZ	**Te Karaka**	**1.94**	**162**	P		**Pg**	**00 41 30.9**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.01**	**256**	P		**Pn**	**00 41 26.8**	**-0.8**
AWAZ				S		**Sb**	**00 41 54.2**	**-1.1**
RVAZ	**Riverhead Bore**	**2.02**	**264**	P		**Pn**	**00 41 27.4**	**-0.3**
RVAZ				S		**Sb**	**00 41 54.5**	**-1.0**
WTAZ	**Waiatarua**	**2.04**	**260**	P		**Pn**	**00 41 27.6**	**-0.5**
CNGZ	**Carnagh Statio**	**2.09**	**155**	P		**Pb**	**00 41 31.4**	**-0.1**
TLZ	**Tolley Road**	**2.12**	**215**	P		**Pn**	**00 41 28.2**	**-1.1**
KUTZ	**Kaahu Road**	**2.14**	**207**	P		**Pg**	**00 41 33.0**	**-1.2**
RIGZ	**Rimuhau**	**2.18**	**166**	P		**Pb**	**00 41 32.8**	**-0.2**
SNGZ	**Shannon Statio**	**2.19**	**175**	P		**Pg**	**00 41 35.0**	**-0.2**
MTHZ	**Maungataniwha**	**2.26**	**185**	P		**Pg**	**00 41 35.8**	**-0.8**
MRHZ	**Matea Rd**	**2.30**	**193**	P		**Pg**	**00 41 37.9**	**+0.7**
WCZ	**Waipa Caves**	**2.30**	**286**	P		**Pn**

ellipse: s-maj=3.4km s-min=2.5km az=99.0
*IGIL **17** 00:57:20.0,35°.47N×3°.76W,h0km*
MDD 17 00:57:19.4±0.3,35°.47N×3°.76W,h0km,mb_Lg2.6/21,2C,
Error ellipse: s-maj=2.7km s-min=2.3km az=151.0,
Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**211**	P	Pg	00 57 25.8	+0.8
PALE	**Palemas**	**0.29**	**211**	S	Sb	00 57 30.9	-2.0
PVLZ	**Peæn de**	**0.54**	**237**	Pg	Pg	00 57 30.1	+0.5
PVLZ	**Peæn de**	**0.54**	**237**	Pg	Pg	00 57 29.9	+0.2
GOG	**Mont Gurugu**	**0.67**	**111**	P	Pg	00 57 31.5	-0.7
GOG	**Mont Gurugu**	**0.67**	**111**	S	Sg	00 57 40.9	0.0
EMEL	**Melilla**	**0.67**	**104**	⇑Pg	Pg	00 57 31.5	-0.8
EMEL				Sg	Sg	00 57 40.1	-1.0
EMLI	**Melilla**	**0.68**	**104**	Sg	Sg	00 57 39.8	-1.5
EMLI				Pg	Pg	00 57 31.4	-1.1
EMLI	**Melilla**	**0.68**	**104**	Pg	Pg	00 57 31.5	-1.0
EALB	**Alboran**	**0.75**	**51**	Pg	Pg	00 57 33.7	-0.1
EALB				Sg	Sg	00 57 43.9	+0.4
EALB	**Alboran**	**0.75**	**51**	Pg	Pg	00 57 33.5	-0.3
EALB	**Alboran**	**0.75**	**51**	⇑Pg	Pg	00 57 33.7	-0.1
EALB				Sg	Sg	00 57 44.1	+0.6
EALB				*i* Vmb_Lg		00 57 46.1	
AKLM	**AKL**	**0.96**	**185**	P	Pg	00 57 37.8	0.0
AKLM	**AKL**	**0.96**	**185**	S	Sg	00 57 50.0	-0.2
CHAS	**Isla Isabel II**	**1.12**	**104**	Pg	Pg	00 57 37.9	-3.0
CHAS				Sg	Sg	00 57 51.3	-4.1
CHAS	**Isla Isabel II**	**1.12**	**104**	Pg	Pg	00 57 37.9	-3.0
TAF	**Taforalt**	**1.28**	**120**	P	Pg	00 57 41.1	-2.8
TAF	**Taforalt**	**1.28**	**120**	S	Sg	00 58 00.2	-0.3
SMIR	**Smir Dam**	**1.34**	**280**	P	Pg	00 57 41.6	-3.5
SMIR	**Smir Dam**	**1.34**	**280**	S	Sg	00 58 01.2	-1.4
CHEFC	**Chefchaouen**	**1.35**	**255**	P	Pg	00 57 44.2	-1.0
CHEFC	**Chefchaouen**	**1.35**	**255**	S	Sg	00 58 01.9	-0.8
EMIJ	**Mijas**	**1.37**	**323**	Pn	Pg	00 57 43.2	-2.4
EMIJ				Sn	Sg	00 58 01.1	-2.3
EMIJ	**Mijas**	**1.37**	**323**	Pg	Pg	00 57 42.8	-2.8
EMIJ	**Mijas**	**1.37**	**323**	Pg	Pg	00 57 43.3	-2.4
EMIJ				Sg	Sg	00 58 01.8	-1.6
EMIJ				*i* Vmb_Lg		00 58 05.4	
CEU	**Ceuta**	**1.39**	**288**	Pn	Pg	00 57 42.8	-3.1
CEU	**Ceuta**	**1.39**	**288**	Pg	Pg	00 57 42.7	-3.2
ECEU	**Ceuta**	**1.39**	**288**	Pn	Pg	00 57 42.9	-3.1
ECEU	**Ceuta**	**1.39**	**288**	Pg	Pg	00 57 42.8	-3.2
ECEU	**Ceuta**	**1.39**	**288**	Pg	Pg	00 57 43.3	-2.7
ECEU				Sg	Sg	00 57 59.8	-4.2
ECEU				*i* Vmb_Lg		00 58 01.9	
ELGU	**Los Guajares,**	**1.40**	**4**	Pn	Pg	00 57 43.3	-2.9
ELGU				Sn	Sg	00 58 02.4	-1.9
ELGU	**Los Guajares,**	**1.40**	**4**	Pn	Pg	00 57 43.1	-3.1
ELGU	**Los Guajares,**	**1.40**	**4**	Pg	Pg	00 57 43.3	-2.9
ELGU				Sg	Sg	00 58 02.1	-2.3
ELGU				*i* Vmb_Lg		00 58 05.1	
EMAL	**Malaga-Limoner**	**1.40**	**337**	Pn	Pn	00 57 43.7	-2.5
EMAL				Sn	Sg	00 58 02.0	-2.4
EMAL	**Malaga-Limoner**	**1.40**	**337**	Pn	Pn	00 57 43.8	-2.4
JBK	**JBK**	**1.50**	**139**	P	Pn	00 57 44.1	-3.6
JBK	**JBK**	**1.50**	**139**	S	Sg	00 58 06.2	-1.2
EBER	**Berja**	**1.59**	**26**	Pn	Pn	00 57 45.9	-3.1
EBER				Sn	Sn	00 58 06.8	-3.5
EBER	**Berja**	**1.59**	**26**	Pn	Pn	00 57 45.6	-3.3
EBER	**Berja**	**1.59**	**26**	Pn	Pn	00 57 46.2	-2.8
EBER				Sn	Sn	00 58 07.2	-3.1
EBER				*i* Vmb_Lg		00 58 09.8	
EGOR	**Sierra Gorda,**	**1.66**	**350**	Pn	Pn	00 57 48.0	-2.0
EGOR				Sn	Sn	00 58 09.2	-2.9
EGOR	**Sierra Gorda,**	**1.66**	**350**	Pn	Pn	00 57 48.4	-1.6
EGOR	**Sierra Gorda,**	**1.66**	**350**	Pn	Pn	00 57 48.9	-1.1
EGOR				Sn	Sn	00 58 08.4	-3.7
EGOR				*i* Vmb_Lg		00 58 14.8	
EJIF	**Jimena Fronter**	**1.70**	**306**	Pn	Pn	00 57 49.2	-1.2
EJIF				Sn	Sn	00 58 11.1	-1.7
EQUE	**Quentar**	**1.75**	**8**	Pn	Pn	00 57 50.1	-1.1
EQUE				Sn	Sn	00 58 12.8	-1.4
EQUE				*i* Vmb_Lg		00 58 15.3	
EQTA	**Presa de Quent**	**1.75**	**8**	Pn	Pn	00 57 49.1	-2.0
EQTA				Sn	Sn	00 58 11.4	-2.9
EQTA	**Presa de Quent**	**1.75**	**8**	Pn	Pn	00 57 49.5	-1.6
RSA	**Sarsar**	**1.79**	**252**	P	Pn	00 57 48.7	-2.9
RSA	**Sarsar**	**1.79**	**252**	S	Sn	00 58 12.8	-2.3
SICH	**Sidi Chahed**	**1.87**	**224**	P	Pn	00 57 51.1	-1.6
SICH	**Sidi Chahed**	**1.87**	**224**	S	Sn	00 58 16.3	-0.7
ENIJ	**Nijar**	**1.95**	**39**	Pn	Pn	00 57 50.2	-3.6
ENIJ				Sn	Sn	00 58 13.7	-5.4
ENIJ	**Nijar**	**1.95**	**39**	Pn	Pn	00 57 50.5	-3.4
ENIJ	**Nijar**	**1.95**	**39**	Pn	Pn	00 57 50.5	-3.4
ENIJ				Sn	Sn	00 58 14.3	-4.8
ENIJ				*i* Vmb_Lg		00 58 17.1	
LCRM	**LCR**	**2.00**	**207**	P	Pn	00 57 55.4	+0.8
LCRM	**LCR**	**2.00**	**207**	S	Sb	00 58 22.8	+0.6
ESPR	**Espera**	**2.20**	**310**	Pn	Pn	00 57 55.8	-1.4
ESPR				Sn	Sn	00 58 23.2	-1.9
ESPR	**Espera**	**2.20**	**310**	Pn	Pn	00 57 56.2	-0.9
IFR	**Ifrane**	**2.25**	**211**	Pn	Pn	00 57 56.3	-1.8
IFR				Sn	Sn	00 58 22.6	-4.1
IFR	**Ifrane**	**2.25**	**211**	Pn	Pn	00 57 56.1	-2.0
IFR				Sn	Sn	00 58 23.0	-3.7
EQES	**Quesada**	**2.39**	**13**	Pn	Pn	00 58 00.1	+0.1
EQES				Sn	Sn	00 58 29.6	-0.4
EQES				*i* Vmb_Lg		00 58 31.9	
MD31	**MD31**	**2.73**	**198**	P	Pn	00 58 03.8	-0.7
MDT	**Midelt**	**2.74**	**195**	P	Pn	00 58 04.1	-0.6
MDT	**Midelt**	**2.74**	**195**	S	Sn	00 58 38.0	-0.6
EADA	**Adamuz**	**2.77**	**346**	Pn	Pn	00 58 04.3	-0.8
EADA				Sn	Sn	00 58 36.7	-2.6
EADA	**Adamuz**	**2.77**	**346**	Pn	Pn	00 58 04.3	-0.9
EADA				Sn	Sn	00 58 37.0	-2.3
EADA	**Adamuz**	**2.77**	**346**	Pn	Pn	00 58 04.6	-0.5
EADA				Sn	Sn	00 58 36.8	-2.5
EADA				*i* Vmb_Lg		00 58 44.7	
EZZA	**Zarzadilla de**	**2.92**	**34**	Sn	Sn	00 58 40.2	-2.7
EZAR				*i* Vmb_Lg		00 58 45.1	
ECAB	**El Cabril**	**2.92**	**333**	Pn	Pn	00 58 06.1	-1.1
ECAB				Sn	Sn	00 58 40.4	-2.6
ECAB	**El Cabril**	**2.92**	**333**	Pn	Pn	00 58 06.3	-0.9
ECAB	**El Cabril**	**2.92**	**333**	Pn	Pn	00 58 06.8	-0.4
ECAB				Sn	Sn	00 58 41.6	-1.4
ECAB				*i* Vmb_Lg		00 58 50.5	
CART	**Cartagena**	**3.06**	**46**	Pn	Pn	00 58 05.7	-3.4
EMUR	**La Murta**	**3.11**	**40**	Pn	Pn	00 58 06.1	-3.7
ZHG	**ZHG**	**3.12**	**231**	P	Pn	00 58 08.5	-1.5
EMIN	**Mina Concepcio**	**3.28**	**315**	Pn	Pn	00 58 10.0	-2.1
EMIN				Sn	Sn	00 58 47.8	-4.0
EMIN	**Mina Concepcio**	**3.28**	**315**	Pn	Pn	00 58 10.5	-1.6
EMIN				Sn	Sn	00 58 48.8	-3.0
EMIN				*i* Vmb_Lg		00 58 56.2	
ETOB	**Tobarra**	**3.63**	**28**	Pn	Pn	00 58 16.0	-0.9
ETOB	**Tobarra**	**3.63**	**28**	Pn	Pn	00 58 16.9	0.0
ETOB				Sn	Sn	00 58 58.8	-1.6
ETOB				*i* Vmb_Lg		00 59 04.7	
EGRO	**El Granado**	**3.64**	**306**	Pn	Pn	00 58 15.4	-1.6
EGRO	**El Granado**	**3.64**	**306**	Pn	Pn	00 58 15.5	-1.5
EGRO				Sn	Sn	00 58 56.5	-4.1
EGRO				*i* Vmb_Lg		00 59 00.0	
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*P	Pn	00 58 17.2	-1.1
PVAQ				*e*S	Sn	00 58 59.2	-3.7
PBAR	**Barrancos**	**3.77**	**317**	*e*P	Pn	00 58 17.7	-1.1
PBAR				*e*S	Sn	00 59 02.0	-1.9
PBAR				A	A	00 59 13.2	
	3.0nm,0.5s						
PBAR	**Barrancos**	**3.77**	**317**	Pn	Pn	00 58 17.2	-1.6
PBAR				Sn	Sn	00 59 00.2	-3.7
PBDV	**Barranco-do-Ve**	**3.81**	**299**	*e*P	Pn	00 58 17.9	-1.4
PBDV				*e*S	Sn	00 59 02.1	-2.7
PBDV				A	A	00 59 12.2	
	3.9nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.81**	**299**	Pn	Pn	00 58 17.3	-2.1
PBDV				Sn	Sn	00 59 00.7	-4.2
PCVE	**Castro Verde**	**4.07**	**303**	*e*P	Pn	00 58 22.6	-0.3
PCVE				*e*S	Sn	00 59 09.4	-1.8
PCVE				A	A	00 59 11.7	
	4.0nm,0.3s						
PAB	**San Pablo**	**4.10**	**354**	Pn	Pn	00 58 23.0	-0.4
PAB				Sn	Sn	00 59 08.4	-3.6
PAB				*i* Vmb_Lg		00 59 30.6	
PBEJ	**Beja**	**4.17**	**309**	*e*P	Pn	00 58 23.9	-0.4
PBEJ				*e*S	Sn	00 59 11.6	-2.2
EBAD	**Badajoz**	**4.19**	**323**	Pn	Pn	00 58 23.2	-1.3
EBAD				Sn	Sn	00 59 10.5	-3.6
EBAD	**Badajoz**	**4.19**	**323**	Pn	Pn	00 58 23.0	-1.5
EBAD				Sn	Sn	00 59 11.4	-2.7
EBAD				*i* Vmb_Lg		00 59 16.3	
MESJ	**Messejana**	**4.30**	**305**	*e*P	Pn	00 58 24.8	-1.3
MESJ				*e*S	Sn	00 59 14.7	-2.2
MESJ				A	A	00 59 17.8	
	4.9nm,0.6s						
MESJ	**Messejana**	**4.30**	**305**	*e*P	Pn	00 58 24.7	-1.3
MORF	**Marmelete**	**4.35**	**296**	*e*P	Pn	00 58 25.3	-1.5
PTEO	**Sao Teotonio**	**4.51**	**299**	*e*P	Pn	00 58 28.7	-0.2
PTEO				*e*S	Sn	00 59 19.5	-2.5
PESTR	**Estremoz**	**4.57**	**319**	*e*P	Pn	00 58 29.7	-0.1
EVO	**Evora**	**4.58**	**313**	*e*S	Sn	00 59 20.3	-3.5
PNCL	**Nicolau / Gran**	**4.65**	**306**	*e*P	Pn	00 58 29.3	-1.6
PNCL				*e*S	Sn	00 59 22.9	-2.7
PNCL	**Nicolau / Gran**	**4.65**	**306**	Pn	Pn	00 58 28.1	-2.8
PNCL				Sn	Sn	00 59 20.6	-4.9
PMRV	**Marv??o**	**4.90**	**325**	*e*P	Pn	00 58 33.6	-0.7
PMRV				*e*S	Sn	00 59 28.2	-3.5
PMRV				A	A	00 59 41.5	
	1.9nm,0.9s						
PMTG	**Montargil**	**5.06**	**317**	*e*P	Pn	00 58 36.0	-0.5
PMTG				*e*S	Sn	00 59 32.5	-3.2
PMTG				A	A	00 59 32.7	
	2.6nm,0.8s						
OUZM	**OUZ**	**5.20**	**210**	P	Pn	00 58 37.8	-0.7
TIO	**Tiouine**	**5.40**	**214**	Pn	Pn	00 58 40.1	-1.3
TIO				Sn	Sn	00 59 39.3	-5.0

*IDC **17** 01:25:16.4±0.5,34°.80N×86°.89E,h0km,mb4.6/28, mbtmp4.6/34,ML3.7/4,MS4.2/51,Error ellipse: s-maj=14.3km s-min=10.9km az=34.0*
*NEIC **17** 01:25:18.8±2.1,34°.99N±0°.03×86°.96E±0°.10,h10km±1km, mb5.1/173,Error ellipse: s-maj=13.9km s-min=4.0km az=251.0*
*MOS **17** 01:25:18.4±1.1,34°.97N×86°.88E,h19km,mb5.1/45, MS4.3/11,Error ellipse: s-maj=6.1km s-min=2.9km az=120.9*
*BJI **17** 01:25:19.9±0.0,35°.02N×86°.84E,h13km,mb4.7/71, mB5.2/42,ML5.1/6,Ms4.8/74,Ms7 4.6/70*
*GCMT **17** 01:25:22.8±0.2,35°.03N±0°.02×86°.94E±0°.01,h28km, MW5.0/87,Moment Tensor Solution. s35,c39; s87,c142; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=.3.37±.27; Mθθ-1.89±.17; Mφφ5.27±.15; Mrθ1.11±.34; Mθφ0.65±.10; Mφr0.70±.21; Best double couple: Mo4.68800×10^16 NP1:φ209.00000°,δ56.00000°,λ-57.00000°. NP2: φ339.00000°,δ46.00000°,λ-129.00000°. Principal axes: T 5.4020, Plg5.0000°, Azm276.0000°; N -1.4180, Plg27.0000°, Azm9.0000°; P -3.9750, Plg62.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NDI **17** 01:25:22.9±3.8,34°.56N×86°.74E,h10km±95km,mb5.2, mb5.1(NEIC)*
ISC 17 01:25:18.5±0.6,34°.91N±0°.03×86°.83E±0°.03,h10km±3km, h10km:pP-P,n756,σ1$43/711,mb5.0/188,MS4.3/70, 37C-19D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.35**	**144**	Pn	**Pn**	**01 26 52.4**	**-0.2**
LSA	**Lhasa**	**6.35**	**144**	P	**Pn**	**01 26 52.4**	**-0.2**
GOMU	**GeErMu**	**6.63**	**76**	Pn	**Pn**	**01 27 00.3**	**+3.9**
GOMU				Sn	**Sn**	**01 28 15.4**	**+3.2**
GOMU				LR	LR		
	comp=N,2μm,5.2s						
GOMU				LR	LR		
	comp=E,3μm,5.7s						
GOMU				LR	LR		
	comp=Z,3μm,6.3s						
PTH	**Pithoragarh**	**7.74**	**228**	*e*P	**Pn**	**01 27 12.9**	**+1.4**
LGTI	**Lohaghat**	**7.79**	**228**	*e*P	**Pn**	**01 27 16.1**	**+4.1**
WMQ	**Urumqi**	**8.93**	**4**	*e*P	**Pn**	**01 27 29.3**	**+1.7**
WMQ				S	**Sn**	**01 29 12.8**	**+4.6**
WMQ				smax	smax		
	comp=N,51nm,0.9s						
WMQ				smax	smax		
	comp=E,49nm,1.1s						
WMQ				LR	LR		
	comp=N,2μm,13.3s						
WMQ				LR	LR		
	comp=E,2μm,10.5s						
WMQ				LR	LR		
	comp=Z,2μm,9.1s						
SMLA	**Simla**	**8.95**	**248**	*e*P	**Pn**	**01 27 28.9**	**+1.1**
KSH	**Kashi**	**9.81**	**301**	P	**Pn**	**01 27 44.1**	**+4.4**
KSH				pP		01 27 47.0	
KSH				pmax	pmax		
	comp=Z,22nm,1.2s						
KSH				LR	LR		
	comp=N,5μm,16.1s						
KSH				LR	LR		
	comp=E,3μm,16.1s						
KSH				LR	LR		
	comp=Z,5μm,14.8s						
TARG	**Taragay, Kyrgy**	**9.83**	**317**	Pn	**Pn**	**01 27 42.3**	**+2.0**
TARG	**Taragay, Kyrgy**	**9.83**	**317**	P	**Pn**	**01 27 42.3**	**+2.0**
PRZ	**Przheval'sk**	**10.03**	**321**	Pn	**Pn**	**01 27 41.8**	**-1.0**
PRZ	**Przheval'sk**	**10.03**	**321**	P	**Pn**	**01 27 41.8**	**-1.0**
SHLS	**Shalkode**	**10.03**	**327**	*e*P	**Pn**	**01 27 40.4**	**-2.3**
SHLS	**Shalkode**	**10.03**	**327**	*e*P	**Pn**	**01 27 40.5**	**-2.3**
	baz=328						
PDGK	**Podgornoye**	**10.16**	**328**	P	**Pn**	**01 27 46.6**	**+2.1**
UZB	**Uzynbulak**	**10.22**	**326**	*e*P	**Pn**	**01 27 46.2**	**+0.8**
UZB				*e*S	**Sn**	**01 29 41.6**	**+1.4**
UZB				pmax	pmax		
	comp=Z,10.0nm,1.4s						
UZB	**Uzynbulak**	**10.22**	**326**	*e*P	**Pn**	**01 27 46.3**	**+0.8**
	comp=Z,9.9nm,1.4s,baz=325						
UZB				*e*S	**Sn**	**01 29 41.6**	**+1.4**
	baz=325						
SHL	**Shillong**	**10.28**	**154**	Pn	**Pn**	**01 27 45.3**	**-1.0**
SHL	**Shillong**	**10.28**	**154**	P	**Pn**	**01 27 46.5**	**+0.2**
SHL				pmax	pmax		
	comp=Z,43nm,0.8s						
SATY	**Saty**	**10.45**	**324**	*e*P	**Pn**	**01 27 48.8**	**+0.3**
SATY				*e*S	**Sn**	**01 29 47.0**	**+1.4**
SATY				pmax	pmax		
	comp=Z,11nm,0.9s						
SATY	**Saty**	**10.45**	**324**	*e*P	**Pn**	**01 27 48.8**	**+0.3**
	comp=Z,11nm,0.9s,baz=323						
SATY				*e*S	**Sn**	**01 29 47.0**	**+1.4**
	baz=323						
ZHN	**Zhinishke**	**10.52**	**324**	*e*P	**Pn**	**01 27 49.6**	**+0.2**
ZHN	**Zhinishke**	**10.52**	**324**	*e*P	**Pn**	**01 27 49.6**	**+0.2**
	baz=324						
KPKS	**Kokpek**	**10.63**	**326**	*e*P	**Pn**	**01 27 50.9**	**0.0**
KPKS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KPKS	**Kokpek**	**10.63**	**326**	*e*P	**Pn**	**01 27 51.0**	**0.0**
	comp=Z,8.6nm,0.9s,baz=325						
NRN	**Naryn**	**10.73**	**311**	Pn	**Pn**	**01 27 52.8**	**+0.3**
NRN	**Naryn**	**10.73**	**311**	P	**Pn**	**01 27 52.8**	**+0.3**
ULHL	**Ulahol**	**11.06**	**315**	P	**Pn**	**01 27 59.4**	**+2.5**
	SNR=11						
KOHI	**KOHIMA**	**11.10**	**144**	*e*P	**Pn**	**01 27 58.5**	**+1.0**
KOHI				IAmb	IAmb	01 28 01.6	
	comp=Z,58nm,1.5s						
BOK	**Bokaro**	**11.10**	**185**	*e*P	**Pn**	**01 27 57.3**	**-0.1**
BOK				IAmb	IAmb	01 28 01.9	
	comp=Z,53nm,0.9s						
TNSS	**Tian-Shan**	**11.18**	**320**	*e*P	**Pn**	**01 27 59.8**	**+1.1**
TNSS	**Tian-Shan**	**11.18**	**320**	*e*P	**Pn**	**01 27 59.9**	**+1.1**
	baz=319						
MDOK	**Medeo**	**11.21**	**320**	*e*P	**Pn**	**01 28 00.2**	**+1.3**
MDOK				MLR	MLR		
	comp=Z,1μm,10.0s						
MDOK	**Medeo**	**11.21**	**320**	*e*P	**Pn**	**01 28 00.3**	**+1.3**
	baz=320						
MDOK				LR	LR	01 32 20.4	
	comp=Z,1μm,10.5s,baz=320						
GTA	**Gaotai**	**11.29**	**63**	P	**Pn**	**01 27 59.9**	**-0.1**
GTA				pP		01 28 04.6	
GTA				SS	**SnSn**	**01 30 23.0**	**+4.9**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,290nm,4.2s						
GTA				LR	LR		
	comp=Z,2μm,9.1s						
GTA				LR	LR		
	comp=Z,2μm,8.7s						
GTA				LR	LR		
	comp=Z,2μm,9.5s						
NIL	**Nilore**	**11.31**	**267**	Pn	**Pn**	**01 28 01.5**	**+1.3**
NIL	**Nilore**	**11.31**	**267**	P	**Pn**	**01 28 01.5**	**+1.3**
BOOM	**Boomskoye usch**	**11.38**	**315**	Pn	**Pn**	**01 28 03.0**	**+1.7**
BOOM	**Boomskoye usch**	**11.38**	**315**	P	**Pn**	**01 28 03.0**	**+1.7**
KZA	**Kyzart**	**11.55**	**312**	P	Pn	01 28 09.2	+5.4
	SNR=5.2						
ARXS	**Arharly**	**11.60**	**326**	*i* P	**Pn**	**01 28 05.4**	**+1.2**
CHKK	**Chushkaly**	**11.73**	**323**	*e*P	**Pn**	**01 28 06.3**	**+0.4**
CHKK	**Chushkaly**	**11.73**	**323**	*e*P	**Pn**	**01 28 06.4**	**+0.4**
	baz=322						
IMP	**Imphal**	**11.78**	**147**	*e*P	**Pn**	**01 28 07.8**	**+1.1**
TKM2	**Tokmak 2**	**11.85**	**316**	P	**Pn**	**01 28 09.1**	**+1.3**
	SNR=22						
TKM2	**Tokmak 2**	**11.85**	**316**	*i* P	**Pn**	**01 28 09.1**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,36nm,1.0s						
TDK	**Taldyqorghan**	**11.97**	**330**	*e*P	**Pn**	**01 28 09.3**	**+0.1**
TDK				pmax	pmax		
	comp=Z,15nm,0.9s						
TDK				MLR	MLR		
	comp=Z,955nm,10.0s						
TDK	**Taldyqorghan**	**11.97**	**330**	*e*P	**Pn**	**01 28 09.3**	**+0.1**
	comp=Z,15nm,0.9s,baz=329						
TDK				LR	LR	01 32 46.6	
	comp=Z,955nm,10.1s,baz=329						
ARLS	**Aral**	**12.02**	**309**	P	**Pn**	**01 28 13.1**	**+3.1**
ARLS				pmax	pmax		
	comp=Z,33nm,1.1s						
KBK	**Karagaybulak**	**12.07**	**313**	P	**Pn**	**01 28 13.1**	**+2.4**
	SNR=23						
KUU	**Kurty**	**12.09**	**321**	*e*P	**Pn**	**01 28 11.1**	**+0.3**
KUU				*e*S	**Sn**	**01 30 26.9**	**+1.2**
KUU				pmax	pmax		
	comp=Z,12nm,1.2s						
KUU				MLR	MLR		
	comp=Z,1μm,10.0s						
KUU	**Kurty**	**12.09**	**321**	*e*P	**Pn**	**01 28 11.2**	**+0.3**
	comp=Z,12nm,1.2s,baz=320						
KUU				*e*S	**Sn**	**01 30 27.0**	**+1.2**
	baz=320						
KUU				LR	LR	01 32 53.1	
	comp=Z,1μm,9.9s,baz=320						
UCH	**Uchtor**	**12.09**	**311**	P	**Pn**	**01 28 14.8**	**+3.5**
	SNR=6.0						
AAK	**Ala-Archa**	**12.33**	**312**	P	**Pn**	**01 28 17.7**	**+3.4**
	SNR=8.6						
AAK	**Ala-Archa**	**12.33**	**312**	Pn	**Pn**	**01 28 16.0**	**+1.7**
AAK	**Ala-Archa**	**12.33**	**312**	*i* P	**Pn**	**01 28 15.4**	**+1.1**
AAK	**Ala-Archa**	**12.33**	**312**	Pn	**Pn**	**01 28 15.6**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=121,slow=16,SNR=1.7						
AAK				LR	LR	01 33 43.7	
	comp=Z,151nm,18.7s,baz=274,slow=41						
FRU1	**Bishkek**	**12.35**	**313**	Pn	**Pn**	**01 28 14.8**	**+0.3**
FRU1	**Bishkek**	**12.35**	**313**	P	**Pn**	**01 28 14.8**	**+0.3**
MK31	**Makanchi Array**	**12.36**	**345**	Pn	**Pn**	**01 28 14.3**	**-0.2**
MK31	**Makanchi Array**	**12.36**	**345**	*e*P	**Pn**	**01 28 14.6**	**+0.1**
MKAR	**Makanchi Array**	**12.36**	**345**	Pn	**Pn**	**01 28 14.0**	**-0.5**
MKAR	**Makanchi Array**	**12.36**	**345**	Pn	**Pn**	**01 28 14.6**	**0.0**
	comp=Z,1.8nm,0.3s,baz=150,slow=15,SNR=259						
MKAR				LR	LR	01 33 54.6	
	comp=Z,944nm,21.0s,baz=172,slow=42						
	comp=Z,48nm,0.9s						
MAKZ	**Makanchi**	**12.44**	**344**	Pn	**Pn**	**01 28 15.1**	**-0.5**
MAKZ	**Makanchi**	**12.44**	**344**	P	**Pn**	**01 28 15.1**	**-0.5**
AML	**Almayashu**	**12.56**	**309**	P	**Pn**	**01 28 18.3**	**+0.7**
	SNR=24						
ARSB	**Arslanbob**	**12.64**	**305**	Pn	**Pn**	**01 28 18.4**	**-0.1**
ARSB	**Arslanbob**	**12.64**	**305**	P	**Pn**	**01 28 18.4**	**-0.1**
SGDS	**Sogindy**	**12.73**	**316**	*e*P	**Pn**	**01 28 20.9**	**+1.2**
SGDS	**Sogindy**	**12.73**	**316**	*e*P	**Pn**	**01 28 20.9**	**+1.2**
	baz=315						
EKS2	**Erkin-Say**	**12.79**	**311**	P	**Pn**	**01 28 23.2**	**+2.7**
	SNR=11						
AJM	**Ajmer**	**13.43**	**235**	*e*P	**Pn**	**01 28 30.1**	**+0.9**
AJM				IAmb	IAmb	01 28 35.0	
	comp=Z,80nm,1.4s						
AJM				*i* x	x	01 33 27.6	
SAIH	**SAIHA**	**13.49**	**155**	*e*P	**Pn**	**01 28 29.2**	**-0.9**
BTK	**Batken**	**13.71**	**297**	Pn	**Pn**	**01 28 32.3**	**-0.8**
BTK	**Batken**	**13.71**	**297**	P	**Pn**	**01 28 32.3**	**-0.8**
LZH	**Lanzhou**	**13.91**	**80**	*e*P	**Pn**	**01 28 38.8**	**+2.9**
LZH				pP	P	01 28 45.5	+1.3
LZH				sP		01 28 48.8	
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=Z,2μm,9.6s						
LZH				LR	LR		
	comp=Z,1μm,8.4s						
LZH				LR	LR		
	comp=Z,1μm,8.8s						
BTLS	**Baital**	**14.07**	**320**	*e*P	**Pn**	**01 28 38.4**	**+0.5**
BTLS	**Baital**	**14.07**	**320**	*e*P	**Pn**	**01 28 38.4**	**+0.5**

KURK	**Kurchatov**	**16.89**	**342**		Pn		**Pn**	**01 29 11.3**	**-3.6**
KURK	**Kurchatov**	**16.89**	**342**	*ce*	P		**Pn**	**01 29 13.6**	**-1.3**
KURK					pmax	pmax			
	comp=Z,94nm,1.3s								
XAN	**Xi'an**	**18.23**	**86**	⇑	P		**Pn**	**01 29 29.9**	**-1.8**
XAN					S		**Sn**	**01 32 55.3**	**0.0**
XAN					sS		S	01 33 01.8	+1.2
XAN					pmax	pmax			
	comp=Z,34nm,1.0s								
XAN					pmax	pmax			
	comp=Z,960nm,6.9s								
XAN					LR	LR			
	comp=Z,1μm,8.2s								
XAN					LR	LR			
	comp=Z,1μm,8.8s								
XAN					LR	LR			
	comp=Z,2μm,9.4s								
CRAI	**Chiangrai**	**18.89**	**137**		P		**Pn**	**01 29 39.5**	**-0.2**
HYB	**Hyderabad**	**18.92**	**205**	*eP*			**Pn**	**01 29 41.0**	**+0.8**
HYB					IVmB_BB			01 29 46.2	
	comp=Z,910nm,0.7s								
HYB				*eS*	n		**S**	**01 33 16.2**	**+1.6**
HYB				*eS*			**Sn**	**01 33 17.3**	**+5.2**
HYB					IVMs_BB	IVMs_BB		01 37 05.2	
	comp=Z,1μm,11.3s								
GYA	**Guiyang**	**19.00**	**111**		P		**P**	**01 29 40.3**	**-0.2**
GYA					pP		sP	01 29 46.3	-0.5
GYA					S		**Sn**	**01 33 08.6**	**-5.4**
GYA					sS		sS	01 33 20.5	-2.7
GYA					ScS		**ScS**	**01 41 24.3**	**+1.0**
GYA					pmax	pmax			
	comp=Z,35nm,1.0s								
GYA					pmax	pmax			
	comp=Z,630nm,5.2s								
GYA					LR	LR			
	comp=Z,1μm,9.2s								
GYA					LR	LR			
	comp=Z,1μm,10.7s								
GYA					LR	LR			
	comp=Z,2μm,11.8s								
ZAA0	**Zalesovo Array**	**19.09**	**356**		P		**P**	**01 29 40.3**	**-0.9**
ZALV	**Zalesovo Beam**	**19.09**	**356**		P		**P**	**01 29 40.0**	**-1.1**
ZALV	**Zalesovo Beam**	**19.09**	**356**	*i*	P		**P**	**01 29 40.5**	**-0.6**
ZALV					pmax	pmax			
	comp=Z,13nm,0.7s								
ZALV	**Zalesovo Beam**	**19.09**	**356**		P		**P**	**01 29 40.9**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=178,slow=10,SNR=56								
	comp=Z,13nm,0.7s								
BTO	**Baotou**	**19.18**	**66**	*e*	P		**P**	**01 29 42.3**	**0.0**
BTO					pP		**pP**	**01 29 46.0**	**-0.6**
BTO					PP		**PnPn**	**01 29 58.8**	**+3.0**
BTO					S		**S**	**01 33 18.8**	**-0.8**
BTO					SS		**SnSn**	**01 33 36.0**	**+4.0**
BTO					pmax	pmax			
	comp=Z,26nm,0.9s								
BTO					pmax	pmax			
	comp=Z,1μm,6.7s								
BTO					LR	LR			
	comp=Z,12μm,15.9s								
BTO					LR	LR			
	comp=Z,2μm,12.6s								
BTO					LR	LR			
	comp=Z,2μm,15.3s								
CHTO	**Chiang Mai**	**19.30**	**143**		P		**P**	**01 29 42.7**	**-1.0**
CHTO	**Chiang Mai**	**19.30**	**143**		P		**Pn**	**01 29 44.8**	**+0.1**
CHTO	**Chiang Mai**	**19.30**	**143**		P		**P**	**01 29 42.7**	**-1.0**
CHTO					pmax	pmax			
	comp=Z,14nm,0.9s								
CHTO	**Chiang Mai**	**19.30**	**143**		P		**Pn**	**01 29 44.6**	**-0.1**
	comp=Z,16nm,0.8s								
CMMT	**Chiang Mai**	**19.30**	**143**		P		**Pn**	**01 29 44.4**	**-0.4**
	comp=Z,44nm,0.8s								
SONM	**Songino Array**	**19.48**	**43**		P		**Pn**	**01 29 46.3**	**-0.6**
SONM	**Songino Array**	**19.48**	**43**		P		**Pn**	**01 29 47.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=85								
SONM					PcP		**PcP**	**01 34 06.0**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=235,slow=2.9,SNR=6.3								
SONM					LR	LR		01 37 47.8	
	comp=Z,1μm,21.8s,baz=232,slow=38								
	comp=Z,20nm,1.0s								
ZAK	**Zakamensk**	**19.57**	**33**	*e*	P		**P**	**01 29 46.8**	**+0.3**
ZAK					pmax	pmax			
	comp=Z,25nm,1.5s								
CM31	**Chiang Mai Arr**	**19.60**	**144**		P		**Pn**	**01 29 48.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.60**	**144**		P		**P**	**01 29 47.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.60**	**144**		P		**P**	**01 29 47.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.60**	**144**		P		**P**	**01 29 45.0**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=322,slow=11,SNR=2.0								
CMAR					LR		LR	01 37 34.3	
	comp=Z,403nm,20.7s,baz=320,slow=38								
MOY	**Mondy**	**19.61**	**27**	*e*	P		**Pn**	**01 29 48.2**	**-0.1**
MOY					pmax	pmax			
	comp=Z,31nm,1.3s								
ENH	**Enshi**	**19.63**	**97**		P		**P**	**01 29 47.0**	**-0.2**
ULN	**Ulaanbaatar**	**19.87**	**43**		P		**P**	**01 29 49.2**	**-0.7**
ULN	**Ulaanbaatar**	**19.87**	**43**	*i*	P		**P**	**01 29 49.9**	**0.0**
ULN					pmax	pmax			
	comp=Z,35nm,1.3s								
ULN	**Ulaanbaatar**	**19.87**	**43**		P		**P**	**01 29 48.5**	**-1.4**
	comp=Z,101nm,1.3s,comp=Z,2μm								
ULN					pP		**Pn**	**01 29 51.1**	**-0.4**
	comp=Z,101nm,1.3s,comp=Z,2μm								
POO	**Poona**	**19.98**	**219**	*e*	P		**Pn**	**01 29 55.9**	**+3.1**
SLVN	**Son La**	**20.20**	**128**		P		**P**	**01 29 53.7**	**+0.2**
HRA	**Herat**	**20.23**	**276**		P		Pn	01 29 55.1	-0.8
HHC	**Hu-ho-hao-te**	**20.37**	**66**	⇓	*i* P		Pn	01 29 56.3	-1.1
HHC					pP		pP	01 30 00.3	+0.6
HHC					S		**S**	**01 33 34.6**	**-9.0**
HHC					SS		**SnSn**	**01 34 09.8**	**+8.4**
HHC					pmax	pmax			
	comp=Z,140nm,1.2s								
HHC					pmax	pmax			
	comp=Z,1μm,9.0s								
HHC					LR	LR			
	comp=Z,9μm,18.8s								
HHC					LR	LR			
	comp=Z,4μm,14.7s								
HHC					LR	LR			
	comp=Z,6μm,15.9s								
TIY	**Taiyuan**	**20.80**	**75**	*e*	P		**P**	**01 29 59.8**	**-0.2**
TIY					S		Sn	01 33 57.0	-0.3
TIY					pmax	pmax			
	comp=Z,30nm,0.6s								
TIY					LR	LR			
	comp=Z,1μm,10.3s								
TIY					LR	LR			
	comp=Z,930nm,10.3s								
TIY					LR	LR			
	comp=Z,1μm,12.4s								
KAD	**Karad**	**20.85**	**216**	*e*	P		**P**	**01 30 00.9**	**+0.3**
KAD					IAmb		IAmb	01 30 06.3	
KAD				*i*	x		x	01 37 49.1	
LYN	**LuoYang**	**21.06**	**84**	⇑	P		**P**	**01 30 03.8**	**+1.1**
LYN					pP		sP	01 30 07.9	-1.2
LYN					PP		**PnPn**	**01 30 26.8**	**+5.2**
LYN					S		**S**	**01 33 54.4**	**-2.8**
LYN					pmax	pmax			
	comp=Z,82nm,1.4s								
LYN					pmax	pmax			
	comp=Z,700nm,3.8s								
LYN					LR	LR			
	comp=Z,970nm,13.1s								
LYN					LR	LR			
	comp=Z,800nm,13.1s								
LYN					LR	LR			
	comp=Z,970nm,8.9s								
IRK	**Irkutsk**	**21.35**	**30**	*e*	P		**P**	**01 30 07.2**	**+1.5**
IRK					pmax	pmax			
	comp=Z,188nm,1.4s								
BVA0	**Borovoye Array**	**21.55**	**332**	*i*	P		**P**	**01 30 08.1**	**+0.3**
BVAR	**Borovoye Array**	**21.55**	**332**		P		**P**	**01 30 09.2**	**+1.4**
	comp=Z,8.9nm,0.7s,baz=133,slow=11,SNR=38								
	comp=Z,8.9nm,0.7s								
BRVK	**Borovoye**	**21.61**	**332**		P		**P**	**01 30 08.5**	**0.0**
BRVK	**Borovoye**	**21.61**	**332**	*ce*	P		**P**	**01 30 10.0**	**+1.5**
BRVK					pmax	pmax			
	comp=Z,70nm,2.5s								
DGPR	**DIGLIPUR**	**22.33**	**164**	*e*	P		**P**	**01 30 20.2**	**+3.8**
DGPR					IAmb		IAmb	01 30 25.1	
	comp=Z,234nm,1.0s								
MDRS	**Chennai**	**22.55**	**197**	*e*	P		**P**	**01 30 21.6**	**+2.9**
HNS	**HongShan**	**22.61**	**76**	⇓	P		**P**	**01 30 19.5**	**+0.1**
HNS					PP		**PnPn**	**01 30 45.0**	**+2.1**
HNS					*e*S		**S**	**01 34 24.3**	**-2.8**
HNS					pmax	pmax			
	comp=Z,32nm,0.9s								
HNS					pmax	pmax			
	comp=Z,320nm,4.7s								
HNS					LR	LR			
	comp=Z,1μm,13.9s								
HNS					LR	LR			
	comp=Z,560nm,12.4s								
HNS					LR	LR			
	comp=Z,1μm,12.8s								
CNSH	**ChangSha**	**23.19**	**100**	⇓	P		**P**	**01 30 24.5**	**-1.0**
CNSH					S		**S**	**01 34 33.3**	**-4.0**
CNSH					LR	LR			
	comp=Z,750nm,10.3s								
CNSH					LR	LR			
	comp=Z,1μm,10.7s								
CNSH					LR	LR			
	comp=Z,2μm,12.2s								
GEYT	**Alibeck**	**23.27**	**286**		P		**P**	**01 30 28.0**	**+1.8**
GEYT	**Alibeck**	**23.27**	**286**		P		**P**	**01 30 28.0**	**+1.8**
GEYT					pmax	pmax			
	comp=Z,28nm,1.2s								
GEYT	**Alibeck**	**23.27**	**286**		P		**P**	**01 30 26.6**	**+0.4**
	comp=Z,11nm,1.1s,baz=102,slow=6.8,SNR=24								
	comp=Z,11nm,1.1s								
SRDT	**SRDT**	**23.27**	**149**		P		**P**	**01 30 26.9**	**+0.5**
SRDT	**SRDT**	**23.27**	**149**		P		**P**	**01 30 26.5**	**+0.1**
	comp=Z,53nm,0.9s,comp=Z,1μm								
WHN	**Wuhan**	**23.52**	**93**	⇑	P		**P**	**01 30 29.6**	**+0.8**
WHN					S		**S**	**01 34 44.3**	**+1.6**
WHN					pmax	pmax			
	comp=Z,150nm,1.3s								
WHN					LR	LR			
	comp=Z,2μm,9.8s								
WHN					LR	LR			
	comp=Z,2μm,4.6s								
WHN					LR	LR			
	comp=Z,2μm,15.5s								
BJT	**Baijiatuau**	**23.78**	**69**		P		**P**	**01 30 30.7**	**-0.5**
BJT					IAmb		IAmb	01 30 39.6	
	comp=Z,76nm,1.7s								
BJT	**Baijiatuau**	**23.78**	**69**		P		**P**	**01 30 30.7**	**-0.5**
BJT					pmax	pmax			
	comp=Z,76nm,1.7s								
BJI	**Beijing**	**23.79**	**69**		P		**P**	**01 30 32.1**	**+0.8**
BJI					sP		**sP**	**01 30 37.3**	**-0.4**
BJI					S		**S**	**01 34 46.8**	**+0.1**
BJI					pmax	pmax			
	comp=Z,14nm,1.4s								
BJI					LR	LR			
	comp=Z,800nm,18.0s								
BJI					LR	LR			
	comp=Z,320nm,18.1s								
BJI					LR	LR			
	comp=Z,590nm,13.4s								
XLT	**XiLinHaoTe**	**24.22**	**59**	*e*	P		**P**	**01 30 36.3**	**+0.9**
XLT					pP		pP	01 30 40.6	+0.6
XLT					sP		sP	01 30 42.8	+0.9
XLT					PP		**PnPn**	**01 31 10.8**	**+6.0**
XLT					PcP		**PcP**	**01 34 17.9**	**+2.2**
XLT					S		**S**	**01 34 57.9**	**+4.1**
XLT					sS		sS	01 35 02.6	+1.3
XLT					pmax	pmax			
	comp=Z,39nm,1.7s								
XLT					pmax	pmax			
	comp=Z,370nm,3.8s								
XLT					LR	LR			
	comp=Z,160nm,15.7s								
XLT					LR	LR			
	comp=Z,870nm,12.3s								
XLT					LR	LR			
	comp=Z,1μm,12.8s								
NAYO	**Nakonayok**	**24.31**	**144**		P		**P**	**01 30 38.2**	**+1.9**
AB31	**Akbulak array**	**24.41**	**314**	*e*	P		**P**	**01 30 37.3**	**+0.3**
ABKAR	**Akbulak array**	**24.41**	**314**		P		**P**	**01 30 37.1**	**+0.1**
SALM	**Salem**	**24.45**	**201**	*e*	P		**P**	**01 30 42.0**	**+4.4**
SALM				*i*	x		x	01 39 46.1	
TIA	**Tai'an**	**24.63**	**78**	*e*	P		**P**	**01 30 39.3**	**+0.1**
TIA					pmax	pmax			
	comp=Z,22nm,1.0s								
TIA					LR	LR			
	comp=Z,390nm,10.3s								
TIA					LR	LR			
	comp=Z,420nm,11.3s								
TIA					LR	LR			
	comp=Z,490nm,13.7s								
UBPT	**Khong Chiam**	**25.74**	**135**		P		**P**	**01 30 48.7**	**-0.6**
UBPT					IAmb		IAmb	01 30 55.7	
	comp=Z,26nm,0.8s								
UBPT	**Khong Chiam**	**25.74**	**135**		P		**P**	**01 30 49.1**	**-0.2**
QIZ	**Qiongzhong**	**25.80**	**122**		P		**P**	**01 30 49.4**	**-0.5**
QIZ					S		**S**	**01 35 20.8**	**+1.5**
QIZ					pmax	pmax			
	comp=Z,220nm,3.5s								
QIZ					LR	LR			
	comp=Z,510nm,7.8s								
QIZ					LR	LR			
	comp=Z,820nm,10.0s								
QIZ					LR	LR			
	comp=Z,880nm,9.0s								
AKTO	**Aktyubinsk**	**26.05**	**315**		P		**P**	**01 30 51.4**	**-0.4**
AKTO	**Aktyubinsk**	**26.05**	**315**		LR		LR	01 43 30.5	
	comp=Z,358nm,20.0s,baz=208,slow=42								
NJ2	**Nanjing**	**26.80**	**87**	*e*	P		**P**	**01 30 59.4**	**+0.6**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.5s								
NJ2					pmax	pmax			
	comp=Z,370nm,3.8s								
NJ2					LR	LR			
	comp=Z,530nm,7.1s								
NJ2					LR	LR			
	comp=Z,600nm,9.5s								
NJ2					LR	LR			
	comp=Z,590nm,16.1s								
HIA	**Hailar**	**28.07**	**49**	*i*	P		**P**	**01 31 10.5**	**+0.4**
HIA					pmax	pmax			
	comp=Z,11nm,1.4s								
PALK	**Pallekele**	**28.07**	**193**		P		**P**	**01 31 11.1**	**+0.8**
PALK					IAmb		IAmb	01 31 15.7	
	comp=Z,52nm,1.1s								
PALK	**Pallekele**	**28.07**	**193**		P		**P**	**01 31 11.1**	**+0.8**
PALK					pmax	pmax			
	comp=Z,51nm,1.2s								
PALK	**Pallekele**	**28.07**	**193**		LR		LR	01 43 39.6	
	comp=Z,148nm,18.8s,baz=120,slow=39								
PALK	**Pallekele**	**28.07**	**193**		P		**P**	**01 31 11.6**	**+1.2**
	comp=Z,43nm,1.2s								
SVE	**Sverdlovsk**	**28.20**	**329**	⇓	*e*P		**P**	**01 31 12.8**	**+1.7**
SVE					pmax	pmax			
	comp=Z,24nm,1.0s								
SRIT	**Nakonsritamara**	**28.69**	**153**		P		**P**	**01 31 15.6**	**-0.1**
ARU	**Arti**	**28.86**	**327**		P		**P**	**01 31 17.1**	**+0.1**
ARU	**Arti**	**28.86**	**327**	*d*	*i* P		**P**	**01 31 17.7**	**+0.7**
ARU								01 32 05.5	
ARU					S		**S**	**01 36 10.7**	**+3.8**
ARU					SS		**SnSn**	**01 37 32.7**	**+4.1**
ARU					pmax	pmax			
	comp=Z,15nm,1.0s								
ARU					MLR	MLR			
	comp=Z,1μm,12.0s								
ARU	**Arti**	**28.86**	**327**		LR		LR	01 44 06.9	
	comp=Z,1μm,18.0s,baz=123,slow=39								
BOD	**Bodaibo**	**29.25**	**30**	*e*	P		**P**	**01 31 20.8**	**+0.4**
BOD					pmax	pmax			
	comp=Z,22nm,1.6s								
MNCI	**Minicoy**	**29.36**	**209**		P		**P**	**01 31 21.8**	**0.0**
SNY	**Shenyang**	**29.46**	**65**	⇓	P		**P**	**01 31 22.5**	**0.0**
SNY					pmax	pmax			
	comp=Z,10.0nm,1.1s								
SNY					pmax	pmax			
	comp=Z,250nm,6.8s								
SNY					LR	LR			
	comp=Z,1μm,12.9s								
SNY					LR	LR			
	comp=Z,360nm,17.5s								
SNY					LR	LR			
	comp=Z,490nm,16.9s								
CN2	**Changchun**	**30.92**	**62**	*e*	P		**P**	**01 31 35.5**	**+0.1**
CN2				*e*	S		**S**	**01 36 35.4**	**-4.1**
CN2					pmax	pmax			
	comp=Z,20nm,1.0s								
CN2					LR	LR			
	comp=Z,2μm,16.0s								
CN2					LR	LR			
	comp=Z,330nm,16.0s								
CN2					LR	LR			
	comp=Z,1μm,17.0s								
LHMI	**Lhok Sumawe**	**30.98**	**160**		P		**P**	**01 31 38.6**	**+2.6**
LHMI	**Lhok Sumawe**	**30.98**	**160**		P		**P**	**01 31 36.6**	**+0.6**
	comp=Z,359nm,1.0s								
MAK	**Makhachkala**	**31.40**	**297**	*e*	P		**P**	**01 31 35.6**	**-4.0**
MAK				*e*	S		**S**	**01 36 41.4**	**-5.6**
MAK					pmax	pmax			
	comp=Z,289nm,1.5s								
MAK					MLR	MLR			
	comp=Z,362nm,12.0s								
KULM	**Kulim**	**32.12**	**153**		P		**P**	**01 31 45.3**	**-0.8**
KULM					IAmb		IAmb	01 31 51.3	
	comp=Z,32nm,1.0s								
KULM	**Kulim**	**32.12**	**153**		P		**P**	**01 31 46.1**	**0.0**
	comp=Z,35nm,0.9s								
BNX	**BinXian**	**32.45**	**58**	⇑	P		**P**	**01 31 49.6**	**+0.8**
BNX					pmax	pmax			
	comp=Z,22nm,1.1s								
BNX					pmax	pmax			
	comp=Z,180nm,5.7s								
BELG	**Belogornoye**	**32.82**	**314**	*i*	P		**P**	**01 31 53.3**	**+1.4**
BELG					pmax	pmax			
	comp=Z,2.0nm,1.0s								
BELG	**Belogornoye**	**32.82**	**314**		LR		LR	01 45 48.2	
	comp=Z,151nm,19.0s,baz=296,slow=37								
KSRS	**Korea Array**	**33.08**	**73**		P		**P**	**01 31 53.5**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=274,slow=8.2,SNR=6.2								
KSRS					LR		LR	01 46 53.1	
	comp=Z,231nm,19.4s,baz=305,slow=39								
	comp=Z,2.1nm,0.7s								
HEH	**HeiHe**	**33.12**	**50**	*e*	P		**P**	**01 31 55.6**	**+1.0**
HEH					pmax	pmax			
	comp=Z,11nm,1.3s								
HEH					pmax	pmax			
	comp=Z,260nm,9.7s								
HEH					LR	LR			
	comp=Z,770nm,10.0s								
HEH					LR	LR			
	comp=Z,2μm,10.9s								
HEH					LR	LR			
	comp=Z,2μm,10.1s								
SNSI	**Sinabang, Aceh**	**33.52**	**163**		P		**P**	**01 31 58.3**	**0.0**
	comp=Z,221nm,1.0s,comp=Z,2μm								
ZEA	**Zeya**	**33.91**	**44**	*e*	P		**P**	**01 32 03.0**	**+1.6**
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.4s								
ZEA					MLR	MLR			
	comp=E,700nm,14.0s								
ZEA					MLR	MLR			
	comp=Z,700nm,15.0s								
MDJ	**Mudanjiang**	**33.93**	**60**		P		**P**	**01 32 02.3**	**+0.5**
MDJ					S		**S**	**01 37 30.8**	**+4.4**
MDJ					pmax	pmax			
	comp=Z,24nm,1.7s								
MDJ					pmax	pmax			
	comp=Z,210nm,5.5s								
MDJ					LR	LR			
	comp=Z,1μm,10.7s								
MDJ					LR	LR			
	comp=Z,1μm,11.3s								
MDJ					LR	LR			
	comp=Z,1μm,12.0s								
MDJ	**Mudanjiang**	**33.93**	**60**		P		**P**	**01 32 01.8**	**0.0**
RPSI	**Rantau Prapat**	**33.96**	**158**		IAmb		IAmb	01 32 06.0	
	comp=Z,29nm,1.0s								
ZEI	**Tsey**	**34.05**	**296**	*e*	P		P	01 32 08.0	+4.9
ZEI					pmax	pmax			
	comp=Z,4.0nm,0.8s								
KIRV	**Kirov**	**34.19**	**326**	*ce*	P		**P**	**01 32 04.2**	**+0.4**
KIRV	**Kirov**	**34.19**	**326**		LR		LR	01 47 33.2	
	comp=Z,906nm,19.2s,baz=148,slow=39								
NRIK	**Noril'sk**	**34.49**	**0**		P		**P**	**01 32 06.7**	**+0.4**
NRIK					IAmb		IAmb	01 32 08.1	
	comp=Z,30nm,1.0s								
NRIK	**Noril'sk**	**34.49**	**0**	*ce*	P		**P**	**01 32 06.2**	**-0.1**
NRIK					pmax	pmax			
	comp=Z,26nm,1.0s								
NRIK	**Noril'sk**	**34.49**	**0**		P		**P**	**01 32 06.7**	**+0.4**
	comp=Z,18nm,0.9s,baz=165,slow=7.0,SNR=42								
NRIK					LR		LR	01 47 33.0	
	comp=Z,807nm,20.1s,baz=194,slow=39								
	comp=Z,18nm,0.9s								
GSI	**Gunungsitoli**	**34.90**	**161**		P		**P**	**01 32 10.2**	**-0.2**
GSI	**Gunungsitoli**	**34.90**	**161**		P		**P**	**01 32 11.1**	**+0.8**
	comp=Z,91nm,1.2s								
KIV	**Kislovodsk**	**34.92**	**299**	*e*	P		**P**	**01 32 12.6**	**+2.1**
KIV					pmax	pmax			
	comp=Z,5.0nm,1.1s								
USA0B	**Ussuriysk Arra**	**35.65**	**61**		P		**P**	**01 32 16.2**	**-0.4**
USA0B					IAmb		IAmb	01 32 18.1	
	comp=Z,28nm,1.4s								
USA0B	**Ussuriysk Arra**	**35.65**	**61**	*i*	P		**P**	**01 32 17.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**35.65**	**61**		P		**P**	**01 32 15.8**	**-0.8**
USRK	**Ussuriysk Ar.**	**35.65**	**61**		P		**P**	**01 32 16.8**	**+0.2**
	comp=Z,11nm,1.1s,baz=267,slow=7.6,SNR=14								
USRK					LR		LR	01 48 30.4	
	comp=Z,372nm,18.3s,baz=280,slow=39								
	comp=Z,11nm,1.1s								
KLR	**Kul'dur**	**35.74**	**52**	*ce*	P		**P**	**01 32 17.2**	**-0.1**
KLR					pmax	pmax			
	comp=Z,22nm,1.3s								
KLR	**Kul'dur**	**35.74**	**52**		LR		LR	01 47 58.0	
	comp=Z,341nm,21.1s,baz=262,slow=38								
VRH	**Novokhopyorsk**	**36.13**	**311**	*e*	P		**P**	**01 32 21.2**	**+0.6**
VRH					pmax	pmax			
	comp=Z,31nm,1.5s								
JNU	**Nakatsue**	**36.34**	**80**		LR		LR	01 49 31.0	
	comp=Z,294nm,21.0s,baz=326,slow=40								
PBSI	**Pulau Batu**	**36.39**	**160**		P		**P**	**01 32 24.1**	**+1.0**
	comp=Z,117nm,1.2s								
VORD	**Divnogorie**	**37.61**	**310**	*e*	P		**P**	**01 32 32.1**	**-1.1**
VORD					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VSR	**Storozhevoye**	**37.72**	**311**	*e*	P		**P**	**01 32 31.2**	**-2.9**
VSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
VORR	**Voronezh**	**37.75**	**311**	*e*	P		**P**	**01 32 34.5**	**+0.1**
VORR					pmax	pmax			
	comp=Z,13nm,0.4s								
SISI	**Saibi**	**37.83**	**160**		P		**P**	**01 32 35.9**	**+0.6**
	comp=Z,41nm,1.2s								
PDSI	**Padang**	**37.85**	**157**		P		**P**	**01 32 34.2**	**-1.4**
	comp=Z,33nm,1.0s,comp=Z,6μm								
LPSR	**Galich'ya Gora**	**38.05**	**313**	*e*	P		**P**	**01 32 36.2**	**-0.7**
LPSR					pmax	pmax			
	comp=Z,20nm,0.8s								
YAK	**Yakutsk**	**38.15**	**31**		P		**P**	**01 32 35.9**	**-1.7**
YAK					IAmb		IAmb	01 32 46.1	
	comp=Z,30nm,0.8s								
YAK	**Yakutsk**	**38.15**	**31**	*e*	P		**P**	**01 32 37.6**	**0.0**
YAK					pmax	pmax			
	comp=Z,19nm,0.9s								
YAK					pmax	pmax			
	comp=N,3.0nm,0.9s								
YAK					pmax	pmax			
	comp=E,3.0nm,0.9s								
YAK					MLR	MLR			
	comp=Z,350nm,13.0s								
YAK					MLR	MLR			
	comp=E,130nm,11.0s								
YAK					MLR	MLR			
	comp=N,164nm,18.0s								
GRNR	**Gornyy**	**38.89**	**50**	*c*	*i* P		**P**	**01 32 44.1**	**+0.1**
GRNR					pmax	pmax			
	comp=Z,7.0nm,1.2s								
GRNR					MLR

OBN Obninsk 39.82 316 *i* P **P** **01 32 51.6 0.0**
OBN *i* 01 34 26.0
OBN pmax pmax
comp=Z,27nm,1.3s
MJAR Matsushiro Arr 41.34 72 P **P** **01 33 03.5 -1.0**
comp=Z,4.6nm,0.9s,baz=290,slow=11,SNR=5.2
MJAR LR LR 01 51 22.4
comp=Z,323nm,18.2s,baz=296,slow=38
comp=Z,4.6nm,0.9s
BR131 Keskin Array S 42.07 293 P **P** **01 33 11.8 +1.2**
BR131 Keskin Array S 42.07 293 P **P** **01 33 11.8 +1.2**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 42.07 293 P **P** **01 33 11.8 +1.2**
comp=Z,2.9nm,0.9s,baz=91,slow=7.5,SNR=12
BRTR PP **PP** **01 34 48.5 +0.7**
comp=Z,0.4nm,0.8s,baz=87,slow=8.8,SNR=2.3
comp=Z,2.9nm,0.8s
MMAI Mount Meron Ar 42.31 283 LR LR 01 55 45.3
comp=Z,134nm,19.4s,baz=79,slow=43
TIXI Tiksi 42.80 18 P **P** **01 33 14.0 -2.0**
TIXI Tiksi 42.80 18 *ce*P **P** **01 33 15.4 -0.6**
TIXI pmax pmax
comp=Z,15nm,1.0s
TIXI Tiksi 42.80 18 LR LR 01 51 37.1
comp=Z,13nm,21.8s,baz=230,slow=37
TYV Tymovskoe 42.84 50 *e*P **P** **01 33 17.3 +0.7**
TYV pmax pmax
comp=Z,14nm,1.2s
TYV pmax pmax
comp=Z,100nm,3.7s
YSS Yuzh-Sakhalins 43.08 56 *e*P **P** **01 33 19.0 +0.5**
YSS *e*S **S** **01 39 43.0 -1.3**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,500nm,16.0s
ASAJ Asahikawa 43.26 60 P **P** **01 33 20.5 +0.4**
ASAJ pmax pmax
comp=Z,63nm,1.2s
ASAJ Asahikawa 43.26 60 LR LR 01 51 15.5
comp=Z,221nm,20.7s,baz=300,slow=36
JKA Kamikawa-asahi 43.27 60 P **P** **01 33 20.5 +0.4**
JKA IAmb IAmb 01 33 22.4
comp=Z,63nm,1.2s
EIL Elat 43.77 278 LR LR 01 56 31.0
comp=Z,174nm,18.4s,baz=87,slow=43
PURM Purcari 43.82 303 ⇓P **P** **01 33 25.8 +1.2**
PUL Pulkovo 43.88 322 *ce*P **P** **01 33 26.8 +2.0**
PUL pmax pmax
comp=Z,59nm,0.5s
AKASG Malin Array Be 43.98 309 P **P** **01 33 25.8 +0.1**
comp=Z,6.1nm,0.8s,baz=79,slow=7.3,SNR=22
AKASG PP **PP** **01 35 09.9 +1.9**
comp=Z,4.3nm,0.9s,baz=73,slow=10,SNR=4.3
comp=Z,6.1nm,0.8s
AKBB Malin Array Si 43.98 309 IAmb IAmb 01 33 31.3
AKBB Malin Array Si 43.98 309 *ce*P **P** **01 33 26.3 +0.6**
AKBB pmax pmax
comp=Z,21nm,1.0s
KIEV Kiev 43.99 309 ⇑P **P** **01 33 26.1 +0.2**
KIEV Kiev 43.99 309 P **P** **01 33 24.9 -0.9**
KIEV IAmb IAmb 01 33 31.3
comp=Z,25nm,1.1s
KIEV Kiev 43.99 309 P **P** **01 33 26.0 +0.2**
SORM Soroca 44.70 306 ⇓P **P** **01 33 33.1 +1.5**
SORM Soroca 44.70 306 P **P** **01 33 33.0 +1.5**
MNK Minsk 44.77 315 *i* P **P** **01 33 32.2 +0.2**
comp=E,16nm,0.8s
MNK *i* P **P** **01 33 32.2 +0.2**
comp=N,9.0nm,0.8s
MNK *i* P **P** **01 33 32.2 +0.2**
comp=Z,37nm,0.8s,baz=90
MNK *i* PcP **PP** **01 35 17.4 +1.1**
MNK *i* PP **PP** **01 35 20.7 +4.4**
MNK *i* PPP PPP 01 35 53.8
MNK *i* S **S** **01 40 09.8 +1.0**
MNK *i* SS **ScS** **01 43 31.8 +2.4**
MNK *i* SSS SSS 01 44 38.3
MNK *i* LQ LQ 01 48 22.2
MNK *i* LR LR 01 51 05.0
MNK *i* LRM MLR 01 54 28.6
comp=N,340nm,15.6s
MNK *i* LRM MLR 01 54 30.2
comp=Z,259nm,15.6s
MNK *i* LRM MLR 01 54 32.1
comp=E,121nm,15.6s
MNK Minsk 44.77 315 *i* P **P** **01 33 32.1 +0.2**
MNK *i* 01 35 17.4
MNK *i* 01 35 20.7
MNK *i* PPP PPP 01 35 53.7
MNK *i* S **S** **01 40 09.7 +1.0**
MNK *i* SS **ScS** **01 43 31.8 +2.4**
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,37nm,0.8s
MNK pmax pmax
comp=E,16nm,0.8s
MNK MLR MLR
comp=N,340nm,16.0s
MNK MLR MLR
comp=Z,259nm,16.0s
MNK MLR MLR
comp=E,121nm,16.0s
DAV Davao City (W) 45.10 119 LR LR 01 53 30.8
comp=E,209nm,18.3s,baz=334,slow=38
NACGM Naroch 45.41 315 *e*P **P** **01 33 38.3 +1.2**
comp=Z,52nm,0.8s,baz=90
VSU Vasula 45.58 320 *ce*P **P** **01 33 39.8 +1.5**
VSU pmax pmax
comp=Z,68nm,1.0s
VSU Vasula 45.58 320 *e*P **P** **01 33 38.8 +0.4**
LEM Lembang 45.91 151 LR LR 01 55 06.5
comp=Z,348nm,20.8s,baz=204,slow=39
VRI Vrincioaia 46.07 303 ⇓P **P** **01 33 44.0 +1.5**
VRI Vrincioaia 46.07 303 P **P** **01 33 44.0 +1.5**
PLOR Plostina 46.13 303 ⇓P **P** **01 33 44.9 +1.8**
PLOR Plostina 46.13 303 P **P** **01 33 44.8 +1.8**
ATD Arta Tunnel 46.16 251 LR LR 01 53 54.5
comp=Z,5.3nm,20.2s,baz=22,slow=37
TOLI2 Tolitoli 46.16 129 P **P** **01 33 42.9 -0.6**
FINES FINESS Array B 46.17 324 P **P** **01 33 43.7 +0.7**
comp=Z,11nm,0.7s,baz=101,slow=8.3,SNR=31
comp=Z,11nm,0.7s
PRAR RASCA 46.21 305 ⇑P **P** **01 33 44.6 +1.1**
NEHR Nehoiu 46.44 302 ⇑P **P** **01 33 47.7 +2.3**
TURR Turia 46.54 303 ⇑P **P** **01 33 48.2 +2.0**
LOZB Loznitsa 46.58 299 ⇑P **P** **01 33 48.2 +1.6**
MLR Muntele Rosu 46.67 302 ⇑P **P** **01 33 49.6 +2.1**
MLR Muntele Rosu 46.67 302 P **P** **01 33 47.9 +0.5**
MLR Muntele Rosu 46.67 302 P **P** **01 33 49.5 +2.1**
OZUR 46.69 303 ⇓P **P** **01 33 49.6 +2.2**
BURAR Bucovina Array 46.86 305 IAmb IAmb 01 33 54.6
comp=Z,12nm,0.7s
BUR08 Bucovina Ar. S 46.87 305 P **P** **01 33 49.1 +0.3**
BUR08 IAmb IAmb 01 33 54.4
comp=Z,9.0nm,0.8s
MEF Metsahovi 46.89 323 *e*P **P** **01 33 49.0 +0.4**
DOPR Dopca 46.98 303 ⇓P **P** **01 33 52.0 +2.4**
PABE Paberze 47.02 316 *e*P **P** **01 33 50.6 +0.9**
VSVD Vaisvydziai 47.03 317 *e*P **P** **01 33 50.6 +0.8**
MTSE Matsula 47.12 321 *e*P **P** **01 33 51.3 +0.9**
VOIR 47.30 302 ⇓P **P** **01 33 54.5 +2.2**
VOIR 47.30 302 P **P** **01 33 54.4 +2.2**
LVV L'vov 47.37 308 *e*P **P** **01 33 53.3 +0.7**
SUW Suwalki 47.53 314 *e*P **P** **01 33 51.3 -2.5**
MA2 Magadan 47.61 38 LR LR 01 54 41.7
comp=Z,309nm,20.3s,baz=266,slow=37
ARCES ARCESS Array B 47.78 335 P **P** **01 33 56.0 +0.4**
ARCES ARCESS Array B 47.78 335 P **P** **01 33 56.0 +0.4**
comp=Z,12nm,0.8s,baz=82,slow=8.7,SNR=9.6
comp=Z,12nm,0.8s
BMR Baia Mare 48.00 306 P **P** **01 33 59.8 +2.3**
CJR Cluj-Napoca 48.09 304 ⇑P **P** **01 34 00.2 +1.9**
CJR Cluj-Napoca 48.09 304 P **P** **01 34 00.1 +1.9**
KWP Kalwaria Pacla 48.24 308 P **P** **01 34 00.7 +1.3**
MARR Marisel-Cluj 48.42 304 ⇓P **P** **01 34 02.9 +2.0**
SEY Seymchan 48.53 34 *ce*P **P** **01 34 02.8 +1.4**
SEY pmax pmax
comp=Z,24nm,2.5s
SEY Seymchan 48.53 34 LR LR 01 55 46.8
comp=Z,354nm,19.6s,baz=328,slow=38
KOLS Kolonicke sedl 48.62 307 *e*P **P** **01 34 03.0 +0.7**
KOLS *e* 01 34 07.3
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 48.62 307 *e*P **P** **01 34 03.0 +0.7**
KOLS *e* 01 34 07.3
DEV Deva 48.70 303 P **P** **01 34 05.4 +2.4**
GZR Gura Zlata 48.88 303 ⇑P **P** **01 34 05.7 +1.2**
LUWI Luwuk 49.08 129 P **P** **01 34 06.2 +0.1**
CRVS Cervenica-Dubn 49.15 308 *e*P **P** **01 34 08.6 +2.2**
CRVS Cervenica-Dubn 49.15 308 *e*P **P** **01 34 08.6 +2.2**
STHS Stebnicka Huta 49.22 308 *e*P **P** **01 34 06.6 -0.3**
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 49.22 308 *e*P **P** **01 34 06.6 -0.3**
HERR Herculane 49.24 302 ⇓P **P** **01 34 08.3 +1.2**
SURR Surduc 49.26 303 ⇓P **P** **01 34 09.6 +2.3**
BLKB Belogradchik 49.32 300 ⇓P **P** **01 34 10.3 +2.4**
BZS Buzias 49.64 303 ⇑P **P** **01 34 12.4 +2.2**
BZS Buzias 49.64 303 P **P** **01 34 12.3 +2.2**
MDVR Moldovita 49.75 302 ⇓P **P** **01 34 11.1 0.0**
NIE Niedzica 49.82 308 P **P** **01 34 12.3 +0.8**
KECS Kecovo 49.86 307 *e*P **P** **01 34 13.0 +1.2**
KECS *e* 01 34 17.3
IDI Anoyia 49.92 289 LR LR 01 59 50.2
comp=Z,96nm,18.3s,baz=30,slow=42
BOVS Bovan 50.01 301 ⇑P **P** **01 34 14.5 +1.5**
OJC Ojcow 50.02 309 IAmb IAmb 01 34 18.9
comp=Z,20nm,1.0s
OJC Ojcow 50.02 309 P **P** **01 34 14.3 +1.3**
PSZ Piszkesteto 50.35 307 P **P** **01 34 16.2 +0.6**
PSZ Piszkesteto 50.35 307 P **P** **01 34 16.2 +0.6**
PSZ pmax pmax
comp=Z,10.0nm,1.0s
KAPI Kappang 50.37 135 LR LR 02 00 06.4
comp=Z,107nm,18.4s,baz=306,slow=42
VYHS Vyhne 50.94 307 *e*P **P** **01 34 21.2 +1.2**
VYHS *e* 01 34 25.0
VYHS pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 50.94 307 *e*P **P** **01 34 21.2 +1.2**
VYHS *e* 01 34 25.0
FRGS Fruska Gora 50.98 303 ⇓P **P** **01 34 22.5 +2.2**
BUD Budapest 51.01 306 P **P** **01 34 22.2 +1.7**
OKC Ostrava-Krasne 51.13 309 *e*P **P** **01 34 22.0 +0.6**
OKC *e* 01 34 26.3
OKC Ostrava-Krasne 51.13 309 *e*P **P** **01 34 22.0 +0.6**
OKC *ep*P **pP** **01 34 26.3 +0.1**
SRO Srobarova 51.42 307 *e*P **P** **01 34 25.2 +1.7**
SRO *e* 01 34 29.4
SRO pmax pmax
comp=Z,14nm,0.8s
SRO Srobarova 51.42 307 *e*P **P** **01 34 25.2 +1.7**
SRO *e* 01 34 29.4
MAUC Maruska 51.42 309 *e*P **P** **01 34 25.5 +1.9**
MORC Moravsky Berou 51.53 309 IAmb IAmb 01 34 30.1
comp=Z,20nm,1.2s
MORC Moravsky Berou 51.53 309 *e*P **P** **01 34 25.4 +1.0**
MORH Mrgy, Hungar 51.54 305 ⇑P **P** **01 34 25.4 +0.9**
JAVC Velka Javorina 51.62 308 *e*P **P** **01 34 27.2 +2.0**
PETK Petropavlovsk- 51.91 46 P **P** **01 34 25.3 -1.9**
PETK Petropavlovsk- 51.91 46 P **P** **01 34 27.0 -0.2**
PETK Petropavlovsk- 51.91 46 P **P** **01 34 27.0 -0.2**
comp=Z,9.2nm,0.9s,baz=203,slow=9.7,SNR=4.7
PETK LR LR 01 57 33.4
comp=Z,440nm,18.6s,baz=284,slow=37
comp=Z,9.2nm,0.9s
KRLC Kraliky 51.95 310 *e*P **P** **01 34 28.4 +0.8**
KRLC *e* 01 34 32.0
KRLC Kraliky 51.95 310 *e*P **P** **01 34 28.4 +0.8**
KRLC *ep*P **pP** **01 34 32.0 -0.4**
MODS Modra-Piesok 51.98 308 *e*P **P** **01 34 28.8 +1.0**
MODS pmax pmax
comp=Z,32nm,1.3s
MODS Modra-Piesok 51.98 308 *e*P **P** **01 34 28.8 +1.0**
SPITS Spitsbergen Ar 52.12 346 P **P** **01 34 29.0 +0.7**
comp=Z,6.3nm,0.9s,baz=64,slow=3.4,SNR=1.7
SPITS LR LR 02 02 45.5
comp=Z,281nm,18.3s,baz=154,slow=43
comp=Z,6.3nm,0.9s
DPC Dobruska-Polom 52.19 310 *e*P **P** **01 34 30.0 +0.7**
DPC *e* 01 34 34.3
DPC Dobruska-Polom 52.19 310 *e*P **P** **01 34 30.0 +0.7**
DPC *ep*P **pP** **01 34 34.3 +0.2**
OSTC Ostas 52.22 310 *e*P **P** **01 34 30.4 +0.9**
OSTC *e* 01 34 34.2
OSTC Ostas 52.22 310 *e*P **P** **01 34 30.4 +0.9**
OSTC *ex* x **01 34 34.2**
VRAC Vranov 52.23 309 *e*P **P** **01 34 30.6 +1.0**
HFS Hagfors 52.23 323 P **P** **01 34 29.6 +0.2**
comp=Z,16nm,0.7s,baz=79,slow=7.7,SNR=22
HFS LR LR 01 56 52.2
comp=Z,490nm,20.5s,baz=275,slow=36
comp=Z,16nm,0.7s
CHVC Chvalec 52.31 310 *e*P **P** **01 34 31.2 +1.0**
CHVC *e* 01 34 34.8
CHVC Chvalec 52.31 310 *e*P **P** **01 34 31.2 +1.0**
CHVC *ep*P **pP** **01 34 34.8 -0.2**
UPC Upice 52.35 310 *e*P **P** **01 34 31.7 +1.2**
UPC *e* 01 34 35.3
UPC Upice 52.35 310 *e*P **P** **01 34 31.7 +1.2**
UPC *ep*P **pP** **01 34 35.3 0.0**
KRUC Moravsky 52.40 309 *e*P **P** **01 34 32.2 +1.3**
SOP Sopron 52.60 307 P **P** **01 34 33.9 +1.5**
RONA Rosalia, Austr 52.77 307 *ep*P **P** **01 34 35.0 +1.3**
comp=Z,17nm,1.3s
TREC Trest 52.94 309 *e*P **P** **01 34 36.2 +1.3**
TREC *e* 01 34 39.9
TREC Trest 52.94 309 *e*P **P** **01 34 36.2 +1.3**
TREC *ep*P **pP** **01 34 39.9 +0.2**
CONA Conrad Observa 53.00 307 *i* pP **P** **01 34 36.4 +1.0**
comp=Z,29nm,0.9s,SNR=14
NC405 NORSAR Array S 53.10 324 P **P** **01 34 34.7 -1.2**
NORES NORESS Array B 53.23 324 P **P** **01 34 40.9 +4.1**
NORES pmax pmax
comp=Z,3.0nm,0.7s
PVCC Panska Ves 53.25 311 *e*P **P** **01 34 38.3 +1.2**
PVCC *e* 01 34 42.4
PVCC Panska Ves 53.25 311 *e*P **P** **01 34 38.3 +1.2**
PVCC *ep*P **pP** **01 34 42.4 +0.5**
NB2 NORSAR Subarra 53.35 324 P **P** **01 34 41.7 +4.0**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 53.35 324 P **P** **01 34 37.5 -0.2**
comp=Z,9.1nm,0.6s,baz=83,slow=7.4
NOA NORSAR Array B 53.35 324 P **P** **01 34 37.5 -0.2**
comp=Z,18nm,0.8s,baz=79,slow=8.7,SNR=41
comp=Z,18nm,0.8s
PRU Pruhonice 53.38 310 *e*P **P** **01 34 38.9 +0.8**
PRU *e* 01 34 42.9
PRU Pruhonice 53.38 310 *e*P **P** **01 34 38.9 +0.8**
PRU *ep*P **pP** **01 34 42.9 0.0**
ARSA Arzberg 53.38 306 *ep*P **P** **01 34 39.2 +1.0**
comp=Z,17nm,1.1s
PRA Prague 53.43 310 *e*P P 01 34 43.3 +4.8
PRA Prague 53.43 310 *e*P P 01 34 43.3 +4.8
NAO01 NORSAR Array S 53.53 324 P **P** **01 34 38.1 -0.9**
NC204 NORSAR Array S 53.53 324 P **P** **01 34 38.3 -0.8**
RICC Richard 53.54 311 *e*P **P** **01 34 40.3 +1.1**
RICC *ep*P **pP** **01 34 44.4 +0.3**
BRG Berggiesshubel 53.56 311 *e*P **P** **01 34 36.7 -2.7**
BRG Amp 01 34 41.2
comp=Z,22nm,1.5s
BRG Berggiesshubel 53.56 311 P P 01 34 44.3 +4.9
BRG Amp 01 34 45.0
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 53.56 311 *e*P **P** **01 34 36.7 -2.7**
BRG 01 34 44.3
BRG pmax pmax
comp=Z,22nm,1.5s
ZVC Zvikov 53.73 309 *e*P **P** **01 34 41.2 +0.5**
ZVC *ep*P **pP** **01 34 45.5 0.0**
CKRC Cesky Krumlov 53.80 309 *e*P **P** **01 34 42.2 +1.0**
CKRC *e* 01 34 46.8
CKRC Cesky Krumlov 53.80 309 *e*P **P** **01 34 42.2 +1.0**
CKRC *ep*P **pP** **01 34 46.8 +0.8**
SOKA Soboth 53.85 306 pP **P** **01 34 42.5 +0.8**
comp=Z,28nm,0.7s,SNR=16
CLL Collm 54.05 312 *i* P **P** **01 34 42.9 0.0**
CLL pmax pmax
comp=Z,26nm,1.5s
CLL Collm 54.05 312 *i* P **P** **01 34 42.9 0.0**
comp=Z,26nm,1.5s
MOA Molln 54.06 307 *i* P **P** **01 34 43.8 +0.6**
comp=Z,16nm,0.9s,SNR=5.5
GEC2 GERESS Array S 54.18 309 IAmb IAmb 01 34 50.3
comp=Z,21nm,0.9s
GERES GERESS Array B 54.18 309 P **P** **01 34 44.8 +0.7**
comp=Z,15nm,0.8s,baz=88,slow=7.1,SNR=18
comp=Z,15nm,0.8s
KHC Kasperske Hory 54.19 309 *ce*P **P** **01 34 46.3 +2.2**
KHC pmax pmax
comp=Z,13nm,1.1s
KHC Kasperske Hory 54.19 309 *e*P **P** **01 34 44.0 -0.1**
KHC *ep*P **pP** **01 34 48.6 -0.3**
BILL Bilibino 54.23 27 P **P** **01 34 42.0 -2.0**
BILL Bilibino 54.23 27 *i* P **P** **01 34 44.7 +0.7**
BILL pmax pmax
comp=Z,14nm,1.3s
NKC Novy Kostel 54.64 311 *e*P P 01 34 53.2 +5.9
NKC *e* 01 34 57.5
NKC Novy Kostel 54.64 311 *e*P P 01 34 53.2 +5.9
NKC *ex* x 01 34 57.5
KBA Koelnbreinsper 54.87 307 *ep*P **P** **01 34 50.3 +1.1**
comp=Z,16nm,0.9s
LESA Schwarzleotal 55.21 307 *e*P **P** **01 34 52.2 +0.6**
comp=Z,31nm,1.4s
STAL STALIGIAL 55.51 306 IAmb IAmb 01 34 58.4
comp=Z,13nm,0.9s
GRF Grafenberg Arr 55.54 310 *e*P **P** **01 34 55.2 +1.4**
comp=Z,13nm,1.0s,baz=75,slow=6.3
CIMO Cimolais 55.68 306 IAmb IAmb 01 34 59.2
comp=Z,14nm,0.9s
WTTA Wattenberg 55.94 307 pP **P** **01 34 57.5 +0.6**
comp=Z,26nm,1.1s,SNR=4.1
WATA Walderalm 55.95 307 *ep*P **P** **01 34 57.7 +0.7**
comp=Z,20nm,1.7s
GUMO Guam 56.22 97 LR LR 02 00 38.5
comp=Z,52nm,18.2s,baz=105,slow=38
SQTA Sankt Quirin 56.23 307 P **P** **01 34 59.3 +0.4**
comp=Z,11nm,0.7s,SNR=5.3
MOTA Moosalm 56.26 308 *e*P **P** **01 34 59.6 +0.4**
comp=Z,24nm,1.1s
CTI Castel Tesino 56.28 306 IAmb IAmb 01 35 03.6
comp=Z,9.8nm,0.8s
FETA Feichten 56.60 307 *e*P **P** **01 35 02.1 +0.5**
comp=Z,12nm,0.9s
SOEI Soe 56.81 134 P **P** **01 35 01.8 -1.6**
comp=Z,57nm,1.4s
KMBO Kilima Mbogo 56.56 243 P **P** **01 35 15.3 -0.6**
comp=Z,2.6nm,0.6s,baz=20,slow=8.1,SNR=0.8
KMBO LR LR 02 01 23.6
comp=Z,113nm,18.2s,baz=52,slow=37
comp=Z,2.6nm,0.6s
KEST Kesra 61.57 295 P **P** **01 35 36.2 0.0**
comp=Z,6.9nm,1.2s,baz=58,slow=13,SNR=2.1
KEST LR LR 02 09 32.3
comp=Z,172nm,20.1s,baz=306,slow=43
comp=Z,6.9nm,1.2s
EKA Eskdalemuir Ar 62.12 320 P **P** **01 35 39.2 -0.3**
comp=Z,5.3nm,0.8s,baz=71,slow=8.4,SNR=3.6
comp=Z,5.3nm,0.8s
MBAR Mbarara 63.10 249 P **P** **01 35 45.9 -0.9**
MBAR IAmb IAmb 01 35 51.4
comp=Z,8.5nm,0.8s
MBAR Mbarara 63.10 249 *ce*P **P** **01 35 47.5 +0.8**
MBAR pmax pmax
comp=Z,20nm,1.7s
GAMB Gambell 64.04 29 P **P** **01 35 51.4 -0.6**
baz=296
C16K Lisburne Hills 64.21 23 IAmb IAmb 01 35 54.8
comp=Z,16nm,1.1s
C16K Lisburne Hills 64.21 23 P **P** **01 35 53.4 +0.3**
baz=300
A19K Wainwright 64.52 20 P **P** **01 35 55.5 +0.5**
baz=302
TNA Tin City 64.65 26 P **P** **01 35 54.8 -1.2**
baz=299
B18K Kokolik River 64.75 21 P **P** **01 35 56.8 +0.2**
baz=302
C17K DeLong Mountai 64.80 23 P **P** **01 35 57.1 +0.2**
baz=301
A21K Barrow 65.11 19 P **P** **01 35 57.2 -1.7**
baz=306
EUNU Eureka 65.22 359 P **P** **01 35 59.5 -0.2**
D17K Noatak River 65.24 23 P **P** **01 35 59.5 -0.3**
baz=302
F14K Arctic Creek 65.28 26 P **P** **01 35 59.5 -0.5**
baz=300
C18K Utukok River 65.33 22 IAmb IAmb 01 36 02.2
comp=Z,22nm,1.6s
C18K Utukok River 65.33 22 P **P** **01 36 00.3 -0.1**
baz=303
C19K Lookout Ridge 65.56 21 P **P** **01 36 01.9 0.0**
baz=304
A22K Sinclair Lake 65.73 18 P **P** **01 36 02.6 -0.3**
baz=307
B20K Meade River 65.74 20 IAmb IAmb 01 36 04.4
comp=Z,10nm,0.9s
B20K Meade River 65.74 20 P **P** **01 36 02.6 -0.3**
baz=306
F15K North Star Dit 65.76 25 P **P** **01 36 02.9 -0.3**
baz=301
E17K Hotham Inlet 65.98 24 P **P** **01 36 04.8 +0.2**
baz=303,SNR=12
ANM Nome 66.09 27 P **P** **01 36 05.0 -0.3**
baz=301
E18K Tukpahlearik C 66.19 23 P **P** **01 36 06.0 +0.1**
baz=304
D19K Kuna River 66.35 21 IAmb IAmb 01 36 08.0
comp=Z,9.1nm,1.0s
D19K Kuna River 66.35 21 P **P** **01 36 06.8 -0.2**
baz=306
G15K Niukluk 66.35 26 P **P** **01 36 07.0 0.0**
baz=302
SUMG Summit 66.41 344 P **P** **01 36 06.3 -1.5**
SUMG Summit 66.41 344 P **P** **01 36 06.3 -1.5**
SUMG pmax pmax
comp=Z,55nm,1.4s
F17K Baldwin Pennin 66.53 24 P **P** **01 36 08.4 +0.3**
baz=304
B22K Teshekpuk Lake 66.55 19 IAmb IAmb 01 36 09.4
comp=Z,14nm,1.0s
B22K Teshekpuk Lake 66.55 19 P **P** **01 36 07.9 -0.2**
baz=309
D20K Etivluk River 66.66 21 P **P** **01 36 09.6 +0.6**
baz=307
B21K Ikpikpuk River 66.68 20 IAmb IAmb 01 36 10.0
comp=Z,9.5nm,0.9s
B21K Ikpikpuk River 66.68 20 P **P** **01 36 09.4 +0.5**
baz=308
G16K Koyuk River 66.73 25 IAmb IAmb 01 36 11.6
comp=Z,12nm,1.4s
G16K Koyuk River 66.73 25 P **P** **01 36 09.6 +0.2**
baz=303
C21K Knifeblade Rid 66.92 20 P **P** **01 36 11.1 +0.5**
baz=308
E20K Nigu River 67.06 21 P **P** **01 36 11.6 0.0**
baz=307
H16K Elim 67.19 26 P **P** **01 36 12.5 +0.1**
baz=304
E19K Redstone River 67.23 22 IAmb IAmb 01 36 14.2
comp=Z,27nm,1.6s
E19K Redstone River 67.23 22 P **P** **01 36 12.9 +0.3**
baz=307
G17K Kiwalik Mounta 67.26 25 P **P** **01 36 12.6 -0.2**
baz=305
F19K Shaleruckik Mo 67.44 23 IAmb IAmb 01 36 15.1
comp=Z,13nm,1.2s
F19K Shaleruckik Mo 67.44 23 P **P** **01 36 13.4 -0.5**
baz=306
E21K Killik River 67.60 20 P **P** **01 36 15.2 +0.2**
baz=309
C23K Itkillik River 67.61 18 P **P** **01 36 15.0 +0.1**
baz=311
D22K Ayikyak River 67.68 20 IAmb IAmb 01 36 16.9
comp=Z,11nm,1.1s
D22K Ayikyak River 67.68 20 P **P** **01 36 15.4 -0.1**
baz=310
G18K Tagagawik 67.71 24 IAmb IAmb 01 36 17.1
comp=Z,24nm,1.8s
G18K Tagagawik 67.71 24 P **P** **01 36 15.8 +0.1**
baz=306
SPIA Saint Paul Isl 67.81 35 P **P** **01 36 16.4 0.0**
baz=300
H17K Granite Mounta 67.84 25 P **P** **01 36 16.6 +0.1**
baz=305
F20K Avaraart Lake 67.95 22 P **P** **01 36 16.9 -0.2**
baz=308
G19K Purcell Mounta 68.07 23 P **P** **01 36 18.0 0.0**
G19K IAmb IAmb 01 36 19.6
comp=Z,23nm,1.3s

G19K **Purcell Mounta** 68.07 23 P P 01 36 17.5 -0.4
baz=307
I17K **Unalakleet** 68.17 26 P P 01 36 18.8 +0.3
baz=305
C24K **Franklin Bluff** 68.18 18 P P 01 36 18.8 +0.3
baz=313
H18K **Honhosa River** 68.25 24 IAmb IAmb 01 36 20.9
comp=Z,21nm,1.4s
H18K **Honhosa River** 68.25 24 P P 01 36 18.8 -0.2
baz=306
F21K **Alatna River** 68.52 21 IAmb IAmb 01 36 23.1
comp=Z,21nm,1.2s
F21K **Alatna River** 68.52 21 P P 01 36 20.9 +0.1
baz=310
D24K **Happy Valley** 68.54 19 P P 01 36 20.7 0.0
baz=313
J16K **Anvik River** 68.56 27 IAmb IAmb 01 36 23.2
comp=Z,23nm,1.4s
J16K **Anvik River** 68.56 27 P P 01 36 20.7 -0.3
baz=305
H19K **Roundabout Mou** 68.66 24 IAmb IAmb 01 36 27.4
comp=Z,24nm,1.3s
H19K **Roundabout Mou** 68.66 24 P P 01 36 21.2 -0.4
baz=308
F22K **John River** 68.72 21 P P 01 36 21.5 -0.4
baz=311
K15K **Wolf Creek Mou** 68.78 28 P P 01 36 22.1 -0.3
baz=305
L14K **Kuka Creek** 68.87 29 P P 01 36 21.6 -1.3
baz=304
G21K **Allakaket** 68.97 22 IAmb IAmb 01 36 24.6
comp=Z,10nm,1.1s
G21K **Allakaket** 68.97 22 P P 01 36 22.9 -0.7
baz=310
C26K **Camden Bay** 68.97 17 P P 01 36 23.1 -0.3
baz=316
GCSA **Galena City Sc** 69.00 24 P P 01 36 23.5 -0.2
baz=308
D25K **Kavik River** 69.04 18 IAmb IAmb 01 36 25.2
comp=Z,11nm,1.2s
D25K **Kavik River** 69.04 18 P P 01 36 23.9 -0.1
baz=315
E23K **Chandalar** 69.07 20 P P 01 36 23.7 -0.5
baz=313
M13K **Dall Lake** 69.13 30 P P 01 36 24.1 -0.4
baz=304
L15K **Ungalak Mounta** 69.15 28 P P 01 36 23.8 -0.9
baz=305
H20K **Anotleneega Mo** 69.19 23 P P 01 36 24.6 -0.3
baz=309
IMAR **Indian Mountai** 69.24 22 P P 01 36 25.0 -0.2
G22K **Bettles** 69.30 21 P P 01 36 25.3 -0.3
baz=312
ESDC **Sonseca Array** 69.30 304 P P 01 36 25.8 -0.4
comp=Z,2.7nm,0.9s,baz=56,slow=5.5,SNR=4.5
comp=Z,2.7nm,0.9s
E24K **Your Creek** 69.37 19 IAmb IAmb 01 36 27.4
comp=Z,18nm,1.2s
E24K **Your Creek** 69.37 19 P P 01 36 25.4 -0.7
baz=314
COLD **Coldfoot** 69.48 20 P P 01 36 26.5 -0.2
baz=312,SNR=8.7
M14K **Bethel** 69.50 29 P P 01 36 26.2 -0.7
baz=305
K17K **Iditarod** 69.74 26 P P 01 36 28.0 -0.3
baz=307
H21K **Melozitna Rive** 69.75 22 IAmb IAmb 01 36 30.1
comp=Z,18nm,1.3s
H21K **Melozitna Rive** 69.75 22 P P 01 36 28.2 -0.1
baz=311,SNR=7.6
I20K **Naaghedeneel** 69.77 24 P P 01 36 28.7 +0.3
baz=310
J18K **Innoko River** 69.85 25 IAmb IAmb 01 36 31.0
comp=Z,16nm,1.2s
J18K **Innoko River** 69.85 25 P P 01 36 28.7 -0.4
baz=308
G23K **Bananza Creek** 69.88 21 P P 01 36 29.1 -0.1
baz=313
J19K **Poorman** 69.89 25 IAmb IAmb 01 36 31.6
comp=Z,20nm,1.2s
J19K **Poorman** 69.89 25 P P 01 36 28.9 -0.3
baz=309,SNR=6.4
L16K **Owhat River** 69.91 28 P P 01 36 29.4 0.0
baz=307
F24K **Squaw Lake** 69.92 20 P P 01 36 29.6 +0.1
baz=314
H22K **Ishtalitna Cre** 70.03 22 P P 01 36 30.1 0.0
baz=312
M15K **Kasigluk River** 70.04 29 P P 01 36 30.1 -0.1
baz=306
N14K **Kuskokwak Cree** 70.09 30 P P 01 36 30.5 0.0
baz=306
L17K **Donlin** 70.10 27 P P 01 36 30.3 -0.2
baz=308
E25K **Arctic Village** 70.11 18 P P 01 36 30.7 +0.1
baz=316,SNR=7.4
J20K **Nowinta River** 70.28 24 IAmb IAmb 01 36 37.5
comp=Z,15nm,1.1s
J20K **Nowinta River** 70.28 24 P P 01 36 31.4 -0.2
baz=310
D27M **Malcolm River** 70.40 16 P P 01 36 32.6 +0.2
baz=320
TTA **Tatalina** 70.43 26 P P 01 36 32.5 -0.2
TTA **Tatalina** 70.43 26 P P 01 36 32.6 -0.2
TTA pmax pmax
comp=Z,40nm,1.6s
TTA **Tatalina** 70.43 26 P P 01 36 32.5 -0.2
baz=309
F25K **Christian Rive** 70.48 19 P P 01 36 32.7 -0.1
baz=316
M16K **Timber Creek** 70.52 28 P P 01 36 32.9 -0.3
baz=307
N15K **Kwethluk River** 70.59 29 P P 01 36 32.5 -1.2
baz=307
G24K **Hadweenzic Riv** 70.62 20 IAmb IAmb 01 36 34.7
comp=Z,13nm,1.1s
G24K **Hadweenzic Riv** 70.62 20 P P 01 36 33.1 -0.6
baz=315
L18K **Granite Mounta** 70.64 26 P P 01 36 33.4 -0.5
baz=309
O14K **Tigyukauivet M** 70.66 30 P P 01 36 33.3 -0.7
baz=306
RES **Resolute Bay** 70.68 0 LR LR 02 11 01.3
comp=Z,132nm,19.3s,baz=20,slow=39
WB0 **Warramunga Arr** 70.68 133 P P 01 36 33.1 -1.5
NIKH **Nikolski High** 70.68 38 P P 01 36 33.7 -0.6
baz=302
WRA **Warramunga Arr** 70.78 133 P P 01 36 34.6 -0.6
WRA **Warramunga Arr** 70.78 133 *i* P P 01 36 34.7 -0.6
WRA pmax pmax
comp=Z,11nm,0.9s
WRA **Warramunga Arr** 70.78 133 P P 01 36 34.1 -1.2
comp=Z,10nm,0.9s,baz=330,slow=5.8,SNR=22
WRA LR LR 02 12 28.7
comp=Z,426nm,19.8s,baz=100,slow=40
comp=Z,10nm,0.9s
WB2 **Warramunga Arr** 70.79 133 IAmb IAmb 01 36 39.6
comp=Z,20nm,1.1s
F26K **Sheenjek River** 70.79 18 P P 01 36 34.4 -0.3
baz=317
MLY **Manley** 70.81 22 P P 01 36 34.6 -0.3
baz=313,SNR=5.3
K20K **Telida** 70.84 25 P P 01 36 34.8 -0.3
baz=310
D28M **Stokes Point** 70.84 16 P P 01 36 34.6 -0.3
baz=322
M17K **Holitna River** 70.87 27 P P 01 36 34.8 -0.5
baz=308
N16K **Nishlik Lake** 70.93 29 P P 01 36 35.0 -0.7
baz=308
G25K **Bearman Lake** 70.95 20 P P 01 36 34.8 -0.8
baz=316
A36M **Sachs Harbour** 71.05 10 P P 01 36 36.3 +0.1
baz=332,SNR=14
E27K **Coleen River** 71.06 17 IAmb IAmb 01 36 37.7
comp=Z,17nm,1.2s
E27K **Coleen River** 71.06 17 P P 01 36 36.2 -0.2
baz=319
CHUM **Lake Minchumin** 71.08 24 P P 01 36 36.1 -0.4
baz=312
H24K **Noodor Dome** 71.11 21 P P 01 36 36.3 -0.5
baz=315
I23K **Minto, Yukon-K** 71.16 22 P P 01 36 36.9 0.0
I23K IAmb IAmb 01 36 38.6
comp=Z,26nm,1.4s
I23K **Minto, Yukon-K** 71.16 22 P P 01 36 36.7 -0.2
baz=314,SNR=6.1
E28M **Babbage River** 71.23 16 P P 01 36 36.8 -0.5
baz=321,SNR=6.7
O15K **Ungalikthiuk R** 71.30 30 P P 01 36 37.8 -0.1
baz=307
L19K **White Mountain** 71.33 26 P P 01 36 38.1 +0.1
baz=310
BPAW **Bear Paw Mtn.** 71.37 23 P P 01 36 38.1 -0.1
baz=313
UNV **Unalaska Valle** 71.38 37 P P 01 36 38.4 -0.1
baz=304
M18K **Stony River** 71.42 27 P P 01 36 38.4 -0.2
baz=310
G26K **Porcupine Rive** 71.44 19 P P 01 36 38.7 +0.1
baz=318
CAST **Castle Rocks** 71.47 24 P P 01 36 38.6 -0.3
baz=312
L20K **Farewell, AK** 71.48 25 P P 01 36 38.3 -0.7
baz=311
N17K **Nushagak Hills** 71.52 28 P P 01 36 38.0 -1.2
baz=309
MDM **Murphy Dome** 71.63 22 IAmb IAmb 01 36 41.3
comp=Z,36nm,1.8s
NEA2 **Nenana** 71.63 22 IAmb IAmb 01 36 41.0
comp=Z,24nm,1.2s
NEA2 **Nenana** 71.63 22 P P 01 36 39.5 -0.3
baz=314
M19K **Big River Lodg** 71.67 26 P P 01 36 39.9 -0.3
baz=311
O16K **Kokwok River B** 71.74 29 P P 01 36 39.7 -0.9
baz=308
POKR **Poker Plat Res** 71.76 21 IAmb IAmb 01 36 42.3
comp=Z,18nm,1.2s
POKR **Poker Plat Res** 71.76 21 P P 01 36 40.1 -0.5
baz=315
E29M **Blow River** 71.77 16 IAmb IAmb 01 36 42.1
comp=Z,21nm,1.2s
E29M **Blow River** 71.77 16 P P 01 36 40.8 +0.2
baz=322
PPLA **Purkeypile** 71.78 24 P P 01 36 40.7 -0.3
baz=312
COLA **College** 71.81 22 P P 01 36 40.9 0.0
COLA **College** 71.81 22 P P 01 36 40.9 0.0
COLA pmax pmax
comp=Z,44nm,1.6s
COLA **College** 71.81 22 P P 01 36 40.8 0.0
baz=315
N18K **Kilae Creek** 71.91 27 P P 01 36 41.6 -0.1
baz=310
F28M **Old Crow** 71.92 17 IAmb IAmb 01 36 43.0
comp=Z,12nm,1.1s
F28M **Old Crow** 71.92 17 P P 01 36 41.6 0.0
baz=321,SNR=10
O17K **Koliganek Bris** 72.03 29 P P 01 36 41.8 -0.5
baz=309
TRF **Thorofare Moun** 72.04 23 P P 01 36 41.4 -1.1
baz=313
G27K **Doyon Strip** 72.10 18 P P 01 36 42.3 -0.4
baz=320
M20K **Styx River** 72.14 26 IAmb IAmb 01 36 45.4
comp=Z,25nm,1.1s
M20K **Styx River** 72.14 26 P P 01 36 42.7 -0.4
baz=312
ILAR **Eielson Array** 72.17 21 P P 01 36 41.7 -1.3
ILAR **Eielson Array** 72.17 21 P P 01 36 42.5 -0.6
comp=Z,5.0nm,1.0s,baz=306,slow=4.9,SNR=32
ILAR PP PP 01 39 19.6 -3.2
comp=Z,0.9nm,0.9s,baz=306,slow=6.8,SNR=5.0
ILAR LR LR 02 10 40.5
comp=Z,208nm,21.8s,baz=318,slow=38
comp=Z,5.0nm,1.0s
MCK **McKinley** 72.28 23 P P 01 36 43.6 -0.2
baz=314
N19K **Bonanza Creek** 72.35 27 P P 01 36 43.3 -1.1
baz=311
HDA **Harding Lake** 72.41 22 P P 01 36 44.4 -0.1
baz=316
H27K **Steamboat Moun** 72.58 19 P P 01 36 45.4 -0.1
baz=320
SKT **Skwentna** 72.63 25 P P 01 36 45.7 -0.2
baz=313
O18K **Koktuh Hills** 72.71 28 P P 01 36 45.4 -1.0
baz=310
J25K **Salcha River,** 72.73 21 P P 01 36 45.5 -1.0
baz=317
INK **Inuvik** 72.78 15 P P 01 36 46.0 -0.7
INK IAmb IAmb 01 36 47.8
comp=Z,22nm,1.5s
INK **Inuvik** 72.78 15 P P 01 36 46.0 -0.7
INK pmax pmax
comp=Z,22nm,1.5s
INK **Inuvik** 72.78 15 P P 01 36 46.2 -0.5
baz=326,SNR=7.1
INK **Inuvik** 72.78 15 LR LR 02 14 33.2
comp=Z,127nm,18.2s,baz=359,slow=41
O19K **Port Alsworth** 72.82 27 P P 01 36 46.1 -0.9
baz=311
I26K **Coal Creek Min** 72.85 20 IAmb IAmb 01 36 49.5
comp=Z,13nm,1.1s
I26K **Coal Creek Min** 72.85 20 P P 01 36 46.8 -0.3
baz=319
F30M **Barrier River** 72.87 16 P P 01 36 46.5 -0.8
baz=324
Q16K **King Salmon** 72.90 29 P P 01 36 47.1 -0.3
baz=310
G29M **Pine Creek** 72.92 17 IAmb IAmb 01 36 48.8
comp=Z,18nm,1.1s
G29M **Pine Creek** 72.92 17 P P 01 36 47.1 -0.4
baz=323
N20K **Mount Spurr** 72.92 26 P P 01 36 47.2 -0.5
baz=312
I27K **Kandik River** 73.04 19 P P 01 36 48.0 -0.3
baz=320
WAT1 **Susitna Watana** 73.04 23 P P 01 36 47.7 -0.6
baz=315
MDT **Midelt** 73.15 298 LR LR 02 13 35.2
comp=Z,192nm,19.7s,baz=24,slow=40
S14K **Fog Glacier** 73.19 32 P P 01 36 48.3 -1.1
baz=308
K24K **Donnelly Dome** 73.20 22 P P 01 36 48.9 -0.4
baz=317
R16K **Pilot Point** 73.23 31 P P 01 36 48.8 -0.7
baz=309
DHY **Denali Highway** 73.24 23 P P 01 36 49.0 -0.7
baz=316
SUA **Susitna One** 73.26 25 P P 01 36 48.8 -1.0
baz=314
NWAO **Narrogin (SRO)** 73.26 154 LR LR 02 11 20.5
comp=Z,65nm,19.1s,baz=200,slow=38
G30M **tAoh Zraii Nji** 73.29 16 IAmb IAmb 01 36 54.9
comp=Z,14nm,0.9s
G30M **tAoh Zraii Nji** 73.29 16 P P 01 36 49.4 -0.4
baz=324
J26L **Joseph Creek** 73.34 20 IAmb IAmb 01 36 51.0
comp=Z,12nm,0.9s
J26L **Joseph Creek** 73.34 20 P P 01 36 49.5 -0.7
baz=319
ASAR **Alice Springs** 73.39 136 P P 01 36 48.0 -2.9
ASAR **Alice Springs** 73.39 136 P P 01 36 50.6 -0.2
comp=Z,7.5nm,0.8s,baz=322,slow=5.6,SNR=50
comp=Z,7.5nm,0.8s
H29M **Whitestone** 73.39 17 IAmb IAmb 01 36 50.9
comp=Z,12nm,1.0s
H29M **Whitestone** 73.39 17 P P 01 36 49.9 -0.4
baz=322
F31M **Tsiigehtchic** 73.46 15 IAmb IAmb 01 36 51.5
comp=Z,22nm,1.2s
F31M **Tsiigehtchic** 73.46 15 P P 01 36 50.2 -0.5
baz=326,SNR=8.2
Q17K **Contact Creek** 73.47 29 P P 01 36 50.4 -0.6
baz=310
WAT6 **Susitna Watana** 73.48 23 P P 01 36 50.1 -1.0
baz=316
RIDG **Independent Ri** 73.53 21 P P 01 36 50.6 -0.6
baz=318
P19K **Oil Pt** 73.59 27 P P 01 36 50.2 -1.4
baz=312
CAPN **Captain Cook N** 73.59 26 P P 01 36 49.3 -2.2
baz=313
C36M **Paulatuk** 73.60 11 IAmb IAmb 01 36 51.3
comp=Z,18nm,0.9s
C36M **Paulatuk** 73.60 11 P P 01 36 50.1 -1.3
baz=334,SNR=20
I28M **Miner Creek** 73.60 19 P P 01 36 50.7 -1.0
baz=321
SCRK **Sand Creek** 73.61 21 IAmb IAmb 01 36 52.7
comp=Z,14nm,1.0s
SCRK **Sand Creek** 73.61 21 P P 01 36 50.9 -0.8
baz=318,SNR=7.1
EPYK **Eagle Plains** 73.67 17 IAmb IAmb 01 36 52.5
comp=Z,13nm,1.0s
EPYK **Eagle Plains** 73.67 17 P P 01 36 51.1 -0.9
baz=324,SNR=7.8
PMR **Palmer** 73.72 24 P P 01 36 51.6 -0.7
baz=315
G31M **Satah River** 73.78 16 P P 01 36 52.0 -0.6
baz=326,SNR=17
EGAK **Eagle** 73.80 19 IAmb IAmb 01 36 57.5
comp=Z,17nm,1.1s
EGAK **Eagle** 73.80 19 P P 01 36 51.8 -0.9
baz=320,SNR=8.8
SML **Sawmill** 73.84 24 P P 01 36 52.2 -0.9
baz=315
RC01 **Rabbit Creek A** 73.87 25 P P 01 36 51.9 -1.3
baz=314
Q19K **Cape Douglas,** 73.92 28 P P 01 36 53.3 -0.3
baz=312
M23K **Glacier View** 74.05 24 P P 01 36 53.7 -0.6
baz=316
KNK **Knik Glacier** 74.08 24 P P 01 36 53.1 -1.3
baz=315
K27K **Chicken** 74.12 20 IAmb IAmb 01 36 56.4
comp=Z,32nm,1.2s
K27K **Chicken** 74.12 20 P P 01 36 53.6 -1.0
baz=320
SCM **Sheep Creek Mo** 74.15 24 P P 01 36 54.0 -0.9
baz=316
M24K **Tolsona, Glenn** 74.33 23 P P 01 36 54.2 -1.7
baz=317
HARP **HAARP** 74.43 22 P P 01 36 56.3 -0.2
baz=318
BRSE **Bradley Lake S** 74.45 26 P P 01 36 56.5 -0.2
baz=314
R18K **Karluk** 74.51 29 P P 01 36 55.8 -1.1
baz=312
L26K **Log Cabin Wild** 74.52 21 P P 01 36 56.6 -0.4
baz=319
Q20K **Shuyak Island** 74.62 28 P P 01 36 57.0 -0.6
baz=313
SEW **Seward** 74.66 26 P P 01 36 56.9 -0.9
baz=315
I30M **Mount Dempster** 74.68 17 IAmb IAmb 01 36 58.6
comp=Z,14nm,0.8s
I30M **Mount Dempster** 74.68 17 P P 01 36 57.0 -1.1
baz=324
H31M **Peel River** 74.69 16 IAmb IAmb 01 36 58.1
comp=Z,20nm,1.1s
H31M **Peel River** 74.69 16 P P 01 36 58.0 +0.1
baz=326
DAWY **Dawson** 74.84 19 P P 01 36 57.9 -1.0
DAWY **Dawson** 74.84 19 P P 01 36 58.3 -0.5
baz=322
J29N **Klondike Camp** 74.84 19 IAmb IAmb 01 37 00.1
comp=Z,11nm,0.8s
J29N **Klondike Camp** 74.84 19 P P 01 36 58.7 -0.2
baz=323
KLU **Klutina** 74.86 23 P P 01 36 57.7 -1.4
baz=317
L27K **Beaver Creek,** 74.94 21 IAmb IAmb 01 37 01.3
comp=Z,29nm,1.3s
L27K **Beaver Creek,** 74.94 21 P P 01 36 58.8 -0.6
baz=320
M26K **Nabesna, AK** 75.10 22 P P 01 36 59.5 -0.9
baz=319
KDAK **Kodiak Island** 75.11 29 LR LR 02 12 58.7
comp=Z,250nm,20.3s,baz=321,slow=38
OHAK **Old Harbor** 75.21 29 P P 01 37 00.3 -0.7
baz=312
J30M **Hart River** 75.22 18 P P 01 37 00.6 -0.6
baz=324,SNR=5.6
SII **Sitkinak Islan** 75.29 30 P P 01 37 02.1 +0.5
baz=312
P23K **Montague Islan** 75.46 25 P P 01 37 02.1 -0.4
baz=318
M27K **Edge Creek, AK** 75.47 21 IAmb IAmb 01 37 08.3
comp=Z,19nm,1.1s
M27K **Edge Creek, AK** 75.47 21 P P 01 37 02.2 -0.4
baz=320
K29M **Barlow Dome** 75.51 19 IAmb IAmb 01 37 04.1
comp=Z,16nm,1.1s
K29M **Barlow Dome** 75.51 19 P P 01 37 02.7 -0.1
baz=324,SNR=6.8
BMRM **Bremner River** 75.68 23 P P 01 37 03.3 -0.4
baz=318
BVCY **Beaver Creek** 75.72 21 P P 01 37 02.6 -1.3
baz=321
L29M **L29M** 75.94 19 IAmb IAmb 01 37 06.7
comp=Z,20nm,1.1s
L29M **L29M** 75.94 19 P P 01 37 04.1 -1.1
baz=323
YUK3 **Moose Creek** 76.34 21 P P 01 37 06.1 -1.7
baz=322
M29M **Somme Creek** 76.39 20 IAmb IAmb 01 37 13.8
comp=Z,15nm,0.9s
M29M **Somme Creek** 76.39 20 P P 01 37 06.5 -1.3
baz=323
CTG **Chitna Glacier** 76.71 22 P P 01 37 09.0 -0.8
baz=321
M30M **Minto, Yukon** 76.74 19 P P 01 37 09.8 0.0
baz=324
YUK4 **Talbot Arm** 77.21 21 P P 01 37 11.9 -0.8
baz=323
N30M **Aishikik Lake** 77.56 20 IAmb IAmb 01 37 15.2
comp=Z,17nm,1.2s
N30M **Aishikik Lake** 77.56 20 P P 01 37 13.5 -0.9
baz=324
YUK6 **Outpost Mounta** 77.62 21 P P 01 37 13.4 -1.6
baz=323
M31M **Drury Creek, Y** 77.68 18 IAmb IAmb 01 37 16.4
comp=Z,13nm,1.0s
M31M **Drury Creek, Y** 77.68 18 P P 01 37 13.7 -1.3
baz=326
PINM **Pinnacle** 77.73 22 P P 01 37 15.1 -0.2
baz=322
N31M **Braeburn, Yuko** 77.91 19 P P 01 37 15.5 -0.7
baz=325
FARO **Faro, Yukon** 77.93 18 P P 01 37 16.1 -0.3
baz=327
HYT **Haines Junctio** 77.96 20 IAmb IAmb 01 37 22.6
comp=Z,18nm,0.9s
HYT **Haines Junctio** 77.96 20 P P 01 37 16.3 -0.4
baz=324
PNL **Peninsula** 78.33 22 P P 01 37 17.8 -0.9
baz=323
O30N **Mendenhall** 78.41 20 IAmb IAmb 01 37 20.8
comp=Z,18nm,1.2s
O30N **Mendenhall** 78.41 20 P P 01 37 18.6 -0.5
baz=325
CTA **Charters Tower** 78.55 124 LR LR 02 15 31.4
comp=Z,79nm,18.8s,baz=262,slow=38
TOA0 **Torodi Ar. Sit** 78.66 278 P P 01 37 19.9 -1.3
TORD **Torodi Ar. Bea** 78.66 278 P P 01 37 20.7 -0.5
comp=Z,3.3nm,0.5s,baz=41,slow=5.8,SNR=14
TORD LR LR 02 19 42.4
comp=Z,37nm,18.7s,baz=359,slow=42
comp=Z,3.3nm,0.5s
P30M **Million Dollar** 78.69 21 P P 01 37 20.6 -0.1
baz=324
WHY **Whitehorse** 78.84 20 P P 01 37 21.0 -0.5
baz=326
P29M **Windy Craggy** 78.86 21 P P 01 37 20.5 -1.1
baz=324
N32M **Quiet Lake** 78.91 18 IAmb IAmb 01 37 35.1
comp=Z,13nm,0.8s
N32M **Quiet Lake** 78.91 18 P P 01 37 21.0 -0.9
baz=328
WRGLY **Wrigley** 79.25 13 P P 01 37 23.0 -0.6
baz=335
SKAG **Skagway** 79.71 20 P P 01 37 25.2 -0.9
baz=326
FRB **Frobisher Bay** 79.75 349 LR LR 02 17 52.1
comp=Z,227nm,19.3s,baz=17,slow=40
P33M **Teslin, Yukon** 79.77 19 IAmb IAmb 01 37 31.7
comp=Z,16nm,1.0s
P33M **Teslin, Yukon** 79.77 19 P P 01 37 26.1 -0.5
baz=328
P32M **Atlin** 80.06 20 P P 01 37 27.6 -0.6
baz=327
R31K **City Hall, Gus** 80.46 21 P P 01 37 29.5 -0.7
baz=326
S31K **Pelican** 80.68 22 P P 01 37 31.0 -0.4
baz=325
R32K **Eaglecrest** 80.93 21 P P 01 37 32.2 -0.6
baz=327
R33M **Jennings River** 80.96 19 IAmb IAmb 01 37 38.6
comp=Z,13nm,0.9s
R33M **Jennings River** 80.96 19 P P 01 37 32.0 -1.1
baz=329

Q32M	Nakina River	80.98	19	P		P	01 37 32.3	-1.0
	baz=328							
YKA	Yellowknife Ar	81.41	10	P		P	01 37 34.5	-0.8
	comp=Z,5.4nm,0.8s,baz=338,slow=5.2,SNR=69							
YKA				LR		LR	02 18 12.5	
	comp=Z,128nm,18.2s,baz=14,slow=39							
	comp=Z,5.4nm,0.8s							
SIT	Sitka	81.71	22	P		P	01 37 36.6	-0.2
	baz=326							
HNR	Honiara	81.79	107	LR		LR	02 11 51.3	
	comp=Z,750nm,21.4s,baz=10,slow=34							
FLDN	Fort Liard	81.97	15	P		P	01 37 38.0	-0.2
	baz=335							
DLBC	Dease Lake	82.03	19	P		P	01 37 38.0	-0.7
	baz=330							
DLBC	Dease Lake	82.03	19	LR		LR	02 17 12.4	
	comp=Z,148nm,21.8s,baz=323,slow=38							
S34M	Telegraph Cree	82.19	19	IAmb		IAmb	01 37 46.0	
	comp=Z,21nm,1.0s							
S34M	Telegraph Cree	82.19	19	P		P	01 37 39.1	-0.4
	baz=329							
WRAK	Wrangell Islan	83.13	21	P		P	01 37 44.0	-0.4
	baz=328							
T35M	Bob Quinn	83.24	19	P		P	01 37 44.2	-0.8
	baz=330							
STKA	Stephens Creek	84.03	136	P		P	01 37 48.1	-1.1
	comp=Z,5.5nm,0.8s,baz=338,slow=4.1,SNR=9.8							
STKA				LR		LR	02 19 53.5	
	comp=Z,119nm,18.1s,baz=358,slow=39							
	comp=Z,5.5nm,0.8s							
U35K	Hyder	84.23	20	P		P	01 37 49.1	-0.8
	baz=330							
V35K	Ketchikan	84.28	21	P		P	01 37 48.6	-1.6
	baz=329							
TSUM	Tsumeb	84.90	243	LR		LR	02 19 17.1	
	comp=Z,114nm,18.4s,baz=354,slow=38							
BOSA	Boshof	85.84	231	P		P	01 37 58.6	+0.1
	comp=Z,5.4nm,0.7s,baz=30,slow=4.0,SNR=6.2							
BOSA				LR		LR	02 13 43.1	
	comp=Z,106nm,21.2s,baz=1.5,slow=34							
	comp=Z,5.4nm,0.7s							
DBIC	Dimbokro	87.61	276	P		P	01 38 06.5	-1.0
DBIC	Dimbokro	87.61	276	P		P	01 38 07.5	0.0
	comp=Z,9.1nm,0.5s,baz=17,slow=4.3,SNR=6.3							
DBIC				LR		LR	02 23 50.1	
	comp=Z,150nm,19.9s,baz=355,slow=40							
	comp=Z,9.1nm,0.5s							
KIC	Kosan Boka	87.69	276	⇑*e*PKIKP		P	01 38 07.8	-0.1
	comp=Z,8.3nm,0.7s							
TIC	Toumodi	87.76	276	⇑*i*PKIKP		P	01 38 08.1	-0.1
	comp=Z,23nm,1.4s							
SCHQ	Scheffer ville	87.80	345	LR		LR	02 23 06.3	
	comp=Z,143nm,18.9s,baz=54,slow=40							
LIC	Lamto	88.00	276	⇑*e*PKIKP		P	01 38 08.2	-1.1
	comp=Z,16nm,0.9s							
BBB	Bella Bella	88.05	21	LR		LR	02 23 10.6	
	comp=Z,120nm,18.8s,baz=333,slow=39							
FFC	Flin Flon	90.41	5	P		P	01 38 18.0	-1.9
FFC				IAmb		IAmb	01 38 24.0	
	comp=Z,11nm,1.1s							
FFC	Flin Flon	90.41	5	P		P	01 38 18.0	-1.9
FFC				pmax		pmax		
	comp=Z,11nm,1.1s							
DZM	Mont Dzumac	94.32	114	LR		LR	02 22 34.9	
	comp=Z,29nm,18.1s,baz=33,slow=36							
NEW	Newport	94.48	16	P		P	01 38 37.7	-1.2
	baz=340							
ULM	Lac du Bonnet	95.18	2	P		P	01 38 40.5	-1.6
	comp=Z,2.1nm,0.6s,baz=22,slow=5.4,SNR=3.7							
	comp=Z,2.1nm,0.6s							
MXC	Moxie City	95.29	18	P		P	01 38 41.2	-1.5
MXC				IAmb		IAmb	01 38 44.9	
	comp=Z,15nm,1.4s							
EGMT	Eagleton	96.12	11	P		P	01 38 45.7	-0.7
	baz=346							
EYMN	Ely	97.51	359	P		P	01 38 51.5	-1.2
	baz=1.3							
LAO	LASA Array	97.93	9	P		P	01 38 52.6	-2.0
	baz=349							
LBNH	Lisbon	98.89	345	P		P	01 38 57.3	-1.6
	baz=17							
RLMT	Red Lodge	99.02	11	P		Pdif	01 38 57.6	-2.2
	baz=347							
LONY	Lake Ozonia	99.07	347	P		Pdif	01 38 58.4	-1.3
	baz=15							
H17A	Grant Village	99.50	13	P		Pdif	01 38 59.7	-2.3
	baz=346							
HLID	Hailey	99.54	15	P		Pdif	01 38 59.7	-2.4
	baz=342							
L44A	Lake County Fo	103.14	356	P		Pdif	01 39 16.1	-1.8
	baz=4.3							
SSPA	Standing Stone	103.52	348	P		Pdif	01 39 18.0	-1.7
	baz=13							
GMRC	Granite Mounta	107.55	19	P		PKiKP	01 43 45.0	-1.0
	baz=341							
T25A	Trinidad	107.56	9	P		PKiKP	01 43 44.9	-1.2
	baz=350							
TXAR	Lajitas Array	115.34	10	PKP		PKiKP	01 44 00.8	-0.1
	comp=Z,0.3nm,0.6s,baz=291,slow=1.1,SNR=3.4							
VNDA	Vanda	120.65	166	PKP		PKPdf	01 44 08.1	-1.3
	comp=Z,1.8nm,1.1s,baz=27,slow=2.3,SNR=2.1							
TROLL	Troll, Antarti	121.07	201	⇑P		PKPdf	01 44 10.3	-0.2
	comp=Z,175nm,0.8s							
VNA2	Neumayer--Watz	123.91	203	⇑P		PKPdf	01 44 13.8	-1.9
	baz=348,slow=9.0							
VNA1	Neumayer--Stat	124.15	204	⇑P		PKiKP	01 44 16.9	+0.5
QSPA	South Pole Qui	124.69	180	PKP		PKPdf	01 44 15.6	-1.8
	comp=Z,4.0nm,0.7s,baz=334,slow=1.7,SNR=6.9							
VNA3	Neumayer Olymp	124.69	203	⇑P		PKPdf	01 44 16.4	-0.8
PTLB	Pontes e Lacer	143.87	294			PKPpre	01 44 48.7	
AQDB	Aquidauana	144.07	284			PKPbc	01 44 52.8	0.0
ETMB	Extrema	144.94	309			PKPab	01 44 54.4	-1.3
CPUP	Villa Florida	148.13	276	PKPbc		PKPdf	01 45 02.1	+0.6
	comp=Z,2.9nm,0.9s,baz=52,slow=2.9,SNR=3.4							
PLCA	Paso Flores	161.23	245	PKP		PKPdf	01 45 19.4	+0.1
	comp=Z,2.3nm,1.0s,baz=111,slow=6.0,SNR=2.8							
PLCA				PKPab		PKPab	01 46 02.1	-0.9
	comp=Z,2.2nm,1.1s,baz=157,slow=3.1,SNR=1.8							

IDC 17 01:40:39.9±10.0, 15°82S×173°29W, h0km, mb3.7/2, mbtmp3.7/2, MS3.8/1, Error ellipse: s-maj=465.0km s-min=64.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	49.85	257	P	P	01 49 35.4	+0.1
	0.3nm,0.6s,baz=92,slow=6.9,SNR=1.9						
	0.3nm,0.6s						
ASAR	Alice Springs	50.08	252	P	P	01 49 36.8	-0.2
	0.7nm,0.5s,baz=88,slow=8.2,SNR=9.2						
ASAR				LR	LR	02 09 57.5	
	comp=Z,86nm,19.3s,baz=332,slow=35						
	0.7nm,0.5s						
BRTR	Keskin Array B	146.55	321	PKPbc	PKPdf	02 00 22.9	+0.5
	1.1nm,0.8s,baz=80,slow=1.2,SNR=5.1						

NEIC 17 01:49:23.7±2.3, 10°.98N±0°.07×62°.36W±0°.08, h88km±7km, mb4.6/162, Error ellipse: s-maj=12.1km s-min=9.1km az=120.0

TRN 17 01:49:24.1, 10°.98N×62°.42W, h71km, MD4.9

FUNV 17 01:49:24.0, 10°.87N×62°.14W, h21km, MW4.8

IDC 17 01:49:27.6±1.3, 11°.16N×62°.61W, h124km±12km, mb4.0/19, mbtmp4.4/23, MS3.0/5, Error ellipse: s-maj=13.5km s-min=12.4km az=126.0

ISC 17 01:49:24.2±0.7, 11°.01N±0°.04×62°.40W±0°.04, h96km±6km, n451, σ1$25/448, mb4.6/102, 1C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	Carupano	0.88	248	*e*P	Pn	01 49 44.3	+1.3
CRUV				*e*S	Sn	01 49 57.6	+0.4
TRN	Trinidad (W)	1.04	110	⇑*i*P	Pn	01 49 43.9	-0.8
TPP	Pointe-a-Pierr	1.16	126	*e*P	Pn	01 49 45.7	-0.4
GRFF	Grenada Fort F	1.22	32	*e*P	Pn	01 49 46.2	-0.7
GRFF				*e*S	Sn	01 50 02.3	-1.7
GRGR	Grenville	1.34	33		Pn	01 49 47.7	-0.5
GRGR				Sn	Sn	01 50 05.0	-1.5
GRGR	Grenville	1.34	33	⇓*i*P	Pn	01 49 47.9	-0.4
GRGR				*e*S	Sn	01 50 04.9	-1.5
GRGR	Grenville	1.34	33	⇓*i*P	Pn	01 49 47.8	-0.5
GRW	Mount Saint Ca	1.36	32	*e*P	Pn	01 49 48.0	-0.5
GRW				*e*S	Sn	01 50 05.1	-1.9
GRHS	Sauteurs	1.42	32	*e*P	Pn	01 49 48.7	-0.6
GRHS				*e*S	Sn	01 50 07.0	-1.2
GCMP	Grenada, Carri	1.75	33	⇓*i*P	Pn	01 49 52.9	-0.6
GCMP				*e*S	Sn	01 50 14.2	-1.5
CUMV	Cumana_UDO	1.85	252	*e*P	Pn	01 49 57.3	+2.6
CUMV				*e*S	Sn	01 50 21.6	+3.7
PCRV	Puerto La Cruz	2.35	250	*e*P	Pn	01 50 03.8	+2.6
PCRV				*e*S	Sn	01 50 32.1	+2.6
PCRV	Puerto La Cruz	2.35	250	P	Pn	01 50 03.7	+2.5
	744nm,0.3s,baz=53,slow=5.3,SNR=1275						
PCRV				S	Sn	01 50 32.2	+2.6
	521nm,0.6s,baz=158,slow=19,SNR=16						
SVOC	Richmond Hill,	2.43	28	*e*P	Pn	01 50 01.4	-0.8
SVOC				*e*S	Sn	01 50 31.8	+0.5
SVB	Belmont	2.52	26	*e*P	Pn	01 50 02.7	-0.7
SVB				*e*S	Sn	01 50 33.1	-0.5
SSV	Crater Summit	2.59	27	*e*S	Sn	01 50 35.1	-0.3
SLCP	Castries, St.	3.29	25	*e*P	Pn	01 50 13.4	-0.3
SLCP				*e*S	Sn	01 50 50.8	-1.1
SLBI	Saint Lucia, B	3.31	25	*e*P	Pn	01 50 13.5	-0.5
SLBI				*e*S	Sn	01 50 51.0	-1.4
BCHC	Barbados, Cave	3.44	52	*e*P	Pn	01 50 16.7	+1.0
BCHC				*e*S	Sn	01 50 54.1	-1.4
BBGH	Gun Hill	3.50	52	Pn	Pn	01 50 17.1	+0.5
BBGH	Gun Hill	3.50	52	*e*P	Pn	01 50 17.6	+1.1
BBGH				*e*S	Sn	01 50 55.9	-1.2
BBGH	Gun Hill	3.50	52	*e*P	Pn	01 50 17.0	+0.5
BIM	Bigot	3.72	20	Pn	Pn	01 50 19.1	-0.5
BIM	Bigot	3.72	20	*e*P	Pn	01 50 19.3	-0.3
BIM				*e*S	Sn	01 51 01.8	-0.7
MPOM	Morne Pois Mar	3.73	24	Pn	Pn	01 50 18.4	-1.3
MPOM	Morne Pois Mar	3.73	24	*e*P	Pn	01 50 19.5	-0.2
MPOM				*e*S	Sn	01 51 01.2	-1.5
FDF	Fort de France	3.90	18	Pn	Pn	01 50 21.5	-0.5
FDF	Fort de France	3.90	18	*e*P	Pn	01 50 21.9	-0.2
FDF				*e*S	Sn	01 51 04.5	-2.3
ILAM	Ilet Lapin Mar	4.03	22	Pn	Pn	01 50 22.7	-1.1
ILAM	Ilet Lapin Mar	4.03	22	*e*P	Pn	01 50 23.9	+0.2
ILAM	Ilet Lapin Mar	4.03	22	*e*S	Sn	01 51 09.1	-0.8
FUNV	FUNVISIS	4.36	263	*e*P	Pn	01 50 31.1	+2.8
FUNV				*e*S	Sn	01 51 21.3	+3.1
TACV	Tcata	4.63	260	*e*P	Pn	01 50 34.1	+2.2
TACV				*e*S	Sn	01 51 26.8	+2.3
MAGL	Barre de l'ile	5.03	12	Pn	Pn	01 50 37.5	+0.2
CBE	Ff, Capester	5.09	9	Pn	Pn	01 50 38.5	+0.3
CBE	Ff, Capester	5.09	9	*e*P	Pn	01 50 38.7	+0.5
CBE	Ff, Capester	5.09	9	*e*S	Sn	01 51 34.3	-1.4
BENV	Beln	5.21	259	*e*P	Pn	01 50 42.2	+2.3
BENV				*e*S	Sn	01 51 40.7	+1.9
LUEV	Luepa	5.21	170	*e*P	Pn	01 50 37.7	-2.3
LUEV				*e*S	Sn	01 51 30.5	-8.4
GDHS	Morne Mazeau,	5.27	7	Pn	Pn	01 50 39.8	-0.8
CACV	CAICARA DEL OR	5.33	230	*e*P	Pn	01 50 36.3	-5.0
CACV				*e*S	Sn	01 51 31.1	-10
TURV	Turiamo	5.37	265	*e*P	Pn	01 50 43.9	+2.0
TURV				*e*S	Sn	01 51 44.4	+1.9
GDSD	La Dsirade Is	5.43	14	Pn	Pn	01 50 42.4	-0.3
ABD	La Joyeuse, An	5.51	9	Pn	Pn	01 50 44.3	+0.5
ABD	La Joyeuse, An	5.51	9	*e*P	Pn	01 50 44.9	+1.1
ABD	La Joyeuse, An	5.51	9	*e*S	Sn	01 51 42.8	-3.0
MBFL	Flemmings, Mon	5.71	2	*e*P	Pn	01 50 48.1	+1.5
MBFL	Flemmings, Mon	5.71	2	*e*S	Sn	01 51 48.8	-2.0
BAUV	El Baul	5.92	250	Pn	Pn	01 50 49.8	+0.4
BAUV	El Baul	5.92	250	*e*S	Sn	01 51 56.1	+0.2
BAUV	El Baul	5.92	250	*e*P	Pn	01 50 49.6	+0.2
BAUV	El Baul	5.92	250	*e*S	Sn	01 51 52.0	-4.0
ANBD	Bethesda, Anti	6.04	6	*e*P	Pn	01 50 51.8	+0.9
ANBD	Bethesda, Anti	6.04	6	*e*S	Sn	01 51 56.7	-2.0
SABA	Saba	6.62	353	Pn	Pn	01 51 00.7	+1.7
TEPV	Terepaima	6.76	262	*e*P	Pn	01 51 02.1	+1.3
TEPV				*e*S	Sn	01 52 16.4	+0.1
SMRT	St. Maarten	7.03	355	Pn	Pn	01 51 06.1	+1.5
SIQV	Siquisique	7.28	268	*e*P	Pn	01 51 10.4	+2.5
SIQV				*e*S	Sn	01 52 28.8	-0.4
CURV	Curarigua	7.50	263	*e*P	Pn	01 51 13.0	+2.0
CURV				*e*S	Sn	01 52 33.1	-1.3
SJG	San Juan	7.94	333	Pn	Pn	01 51 17.0	+0.1
SJG	San Juan	7.94	333	P	Pn	01 51 17.2	+0.3
	14nm,0.7s,baz=137,slow=19,SNR=2.4						
SJG				S	Sn	01 52 38.2	-6.9
	30nm,0.3s,baz=38,slow=16,SNR=9.5						
SJG				LR	LR	01 54 10.6	
	comp=Z,78nm,18.7s,baz=22,slow=37						
SJG	San Juan	7.94	333	*e*P	Pn	01 51 17.2	+0.3
SJG	San Juan	7.94	333	*e*P	Pn	01 51 17.1	+0.3
CELP	Cerrillos	8.11	331	Pn	Pn	01 51 19.0	-0.2
SDV	Santo Domingo	8.38	256	Pn	Pn	01 51 22.6	-0.4
SDV	Santo Domingo	8.38	256	P	Pn	01 51 22.8	-0.2
	6.9nm,0.3s,baz=87,slow=9.1,SNR=16						
SDV				S	Sn	01 52 52.9	-3.2
	30nm,0.4s,baz=12,slow=18,SNR=8.1						
SDV				LR	LR	01 55 44.6	
	comp=Z,34nm,20.1s,baz=156,slow=46						
SDV	Santo Domingo	8.38	256	*e*P	Pn	01 51 23.2	+0.2
AOPR	Arecibo Observ	8.42	331	Pn	Pn	01 51 23.4	-0.1
AOPR	Arecibo Observ	8.42	331	*e*P	Pn	01 51 24.5	+1.0
AOPR	Arecibo Observ	8.42	331	*e*S	Sn	01 52 52.0	-4.9
BOAV	Boa Vista	8.76	168	Pn	Pn	01 51 25.5	-2.5
SOCV	Socops	8.76	253	*e*S	Sn	01 53 01.7	-3.6
CAPV	Capacho	10.26	253	*e*P	Pn	01 51 49.8	+1.0
CAPV				*e*S	Sn	01 53 37.9	-4.2
CRJC	Cerrejon, Guaj	10.29	271	*e*P	Pn	01 51 48.4	-0.6
PAMC	Pamplona, Colo	10.80	251	*e*P	Pn	01 51 54.9	-1.4
BARC	Barichara	11.52	249	*e*P	Pn	01 52 06.0	+0.2
SDDR	Presa de Saban	11.68	314	Pn	Pn	01 52 10.8	+3.0
SDDR	Presa de Saban	11.68	314	*e*P	Pn	01 52 10.8	+3.0
SJCC	San Jacinto, C	12.62	266	Pn	Pn	01 52 19.1	-1.2
SPBC	San Pablo de B	12.71	246	*e*P	Pn	01 52 22.0	+0.4
PTBC	PUERTO BERRIO,	12.71	251	*e*P	Pn	01 52 19.2	-2.3
ZARC	Zaragoza, Cauc	12.78	255	*e*P	Pn	01 52 19.9	-2.5
VILC	Villavicencio,	13.12	239	*e*P	Pn	01 52 28.3	+1.3
CVER	Cruz Verde, Cu	13.23	242	*e*P	Pn	01 52 29.5	+0.7
ROSC	El Rosal	13.29	243	Pn	Pn	01 52 28.7	-0.8
ROSC	El Rosal	13.29	243	P	Pn	01 52 30.1	+0.6
	7.8nm,0.3s,baz=105,slow=12,SNR=3.4						
ROSC				S	Sn	01 54 57.6	+1.6
	6.9nm,0.6s,baz=3.2,slow=23,SNR=1.4						
ROSC				LR	LR	01 57 07.6	
	comp=Z,53nm,21.9s,baz=69,slow=35						
GUY2C	Guyana, Caldas	14.06	247	*e*P	Pn	01 52 39.0	-0.5
MACA	Manacapuru-AM	14.18	173	Pn	Pn	01 52 38.4	-2.3
PRAC	Prado	14.34	241	*e*P	Pn	01 52 44.0	+1.2
CBOC	Ciudad Bolivar	14.40	250	*e*P	Pn	01 52 45.8	+2.1
ORTC	Ortega, Tolima	14.55	242	*e*P	Pn	01 52 44.9	-0.6
PLMC	San Jos del P	15.02	247	*e*P	Pn	01 52 52.7	+1.2
JAMC	Jamundi, Valle	16.13	242	*e*P	Pn	01 53 04.0	-1.6
CRUC	La Cruz	17.22	238	*e*P	Pn	01 53 08.1	-11
BBAC	Balboa, Cauca	17.23	240	*e*P	Pn	01 53 19.1	0.0
OTAV	Otavalo	19.20	237	P	Pn	01 53 42.8	-0.3
PIAT	Ana Tenorio	19.77	234	*e*P	Pn	01 53 50.3	+0.7
SAML	Samuel	19.84	182	P	P	01 53 48.1	+0.6
SAML				IAmb	IAmb	01 53 51.9	
	comp=Z,24nm,0.8s						
SAML	Samuel	19.84	182	*e*P	P	01 53 48.3	+0.7
CHSH	Refugio Sur-Vo	20.55	234	P	P	01 53 56.3	+0.3
ETMB	Extrema	21.03	191	P	P	01 53 48.7	+0.3
ETMB				IAmb	IAmb	01 54 05.7	
	comp=Z,16nm,0.6s						
CZSB	Cruzeiro do Su	21.25	209	P	P	01 54 03.7	+1.0
CZSB				IAmb	IAmb	01 54 06.5	
	comp=Z,25nm,0.8s						
CZSB	Cruzeiro do Su	21.25	209	*e*P	P	01 53 54.9	-7.9
BOSC	San Juan Bosco	21.31	230	P	P	01 54 04.6	+1.0
SOR	Soroa	22.90	303	P	P	01 54 20.5	+0.5
SOR				IAmb	IAmb	01 54 33.1	
	comp=Z,37nm,1.4s						
MCRA	Macar, Loja	23.21	230	P	P	01 54 22.4	-0.7
MCRA	Macar, Loja	23.21	230	*e*P	P	01 54 22.6	-0.5
DWPF	Disney Wildern	24.66	316	P	P	01 54 37.3	+1.3
	baz=130						
Y60A	Bolivia	27.08	330	P	P	01 54 56.9	-0.9
Y60A				IAmb	IAmb	01 54 59.9	
	comp=Z,24nm,0.9s						
NHSC	New Hope	27.39	326	P	P	01 55 02.0	+1.4
	baz=139						
TIGA	Tifton	28.24	319	P	P	01 55 08.5	+0.3
	baz=132						
W57A	Gilead	28.88	329	P	P	01 55 14.4	+0.6
V58A	Windy Hill, Pi	28.96	331	P	P	01 55 14.9	+0.3
V58A				IAmb	IAmb	01 55 41.2	
	comp=Z,13nm,1.1s						
GOGA	Godfrey	29.50	322	P	P	01 55 20.1	+0.7
	baz=134						
KMSC	Kings Mountain	29.56	327	P	P	01 55 20.9	+1.0
	baz=140						
152A	Waverly Hall	29.77	320	P	P	01 55 22.5	+0.7
152A				IAmb	IAmb	01 55 24.5	
	comp=Z,8.5nm,0.9s						
T57A	Hurt	30.01	332	P	P	01 55 23.9	0.0
T57A				IAmb	IAmb	01 55 25.1	
	comp=Z,19nm,1.3s						
BDFB	Brasilia	30.07	151	LR	LR	02 07 52.1	
	comp=Z,71nm,18.6s,baz=315,slow=36						
250A	Grady	30.34	317	P	P	01 55 27.9	+1.1
250A				IAmb	IAmb	01 56 08.0	
	comp=Z,38nm,1.4s						
BLA	Blacksburg	30.72	331	P	P	01 55 31.4	+1.1
	baz=144						
M65A	Busby, Falmout	31.29	348	P	P	01 55 37.0	+1.9
	baz=164						
LRAL	Lakeview Retre	31.48	318	P	P	01 55 37.7	+0.9
LRAL				IAmb	IAmb	01 55 38.3	
	comp=Z,6.2nm,0.8s						
LRAL	Lakeview Retre	31.48	318	P	P	01 55 38.1	+1.3
	baz=129						
FPAL	Fort Paine	31.57	322	P	P	01 55 38.1	+0.4
FPAL				IAmb	IAmb	01 56 16.9	
	comp=Z,18nm,1.3s						
TZTN	Tazewell	31.80	327	P	P	01 55 40.3	+0.7
TZTN				IAmb	IAmb	01 55 41.8	
	comp=Z,20nm,1.5s						
TZTN	Tazewell	31.80	327	P	P	01 55 40.6	+1.0
	baz=138						
X48A	Hartselle	32.40	320	P	P	01 55 45.7	+0.7
X48A				IAmb	IAmb	01 55 46.8	
	comp=Z,13nm,1.2s						
MCWV	Mont Chateau	32.47	334	P	P	01 55 46.6	+1.1
	baz=147						
SSPA	Standing Stone	32.53	338	P	P	01 55 46.8	+0.8
SSPA				IAmb	IAmb	01 55 46.9	
	comp=Z,14nm,1.4s						
SSPA	Standing Stone	32.53	338	P	P	01 55 47.0	+1.1
	baz=151						
S51A	Beattyville	32.64	328	P	P	01 55 47.7	+0.7
S51A				IAmb	IAmb	01 55 48.7	
	comp=Z,11nm,0.8s						
T50A	Nancy	32.85	326	P	P	01 55 49.8	+1.0
U49A	Red Boiling Sp	33.02	324	P	P	01 55 51.1	+0.7
SSFO	Shawnee State	33.24	330	P	P	01 55 52.8	+0.6
PLAL	Pickwick Lake	33.40	320	P	P	01 55 54.2	+0.6
PLAL				IAmb	IAmb	01 55 54.9	
	comp=Z,7.5nm,0.5s						
P52A	Corning	33.47	332	P	P	01 55 54.9	+0.7
P52A				IAmb	IAmb	01 55 57.4	
	comp=Z,14nm,1.1s						
P52A	Corning	33.47	332	P	P	01 55 54.2	0.0
	baz=143						
O53A	New Philadelph	33.55	333	P	P	01 55 55.5	+0.6
	baz=145						
Q51A	Peebles	33.57	330	P	P	01 55 55.5	+0.4
Q51A				IAmb	IAmb	01 55 57.5	
	comp=Z,9.3nm,1.2s						
L56A	Greenwood	33.73	340	P	P	01 55 56.8	+0.4
L56A				IAmb	IAmb	01 56 41.1	
	comp=Z,16nm,1.4s						
OXF	Oxford	33.97	318	P	P	01 55 59.3	+0.7
	baz=127						
WVT	Waverly	33.98	322	P	P	01 55 58.6	-0.1
WVT				IAmb	IAmb	01 55 59.7	
	comp=Z,9.6nm,1.1s						
WVT	Waverly	33.98	322	P	P	01 55 59.1	+0.5
	baz=131						
LVC	Limon Verde	34.01	191	LR	LR	02 11 08.8	
	comp=Z,55nm,19.0s,baz=360,slow=38						
T47A	Sharon Grove	34.12	323	P	P	01 56 00.2	+0.3
T47A				IAmb	IAmb	01 56 01.5	
	comp=Z,8.1nm,0.8s						
M53A	WI Miller and	34.30	335	P	P	01 56 02.2	+0.8
	baz=147						
ACSO	Alum Creek Sta	34.34	332	P	P	01 56 02.5	+0.8
	baz=142						
NCB	Newcomb	34.40	345	P	P	01 56 02.3	+0.1
WCI	Wyandotte Cave	34.52	326	P	P	01 56 04.1	+0.8
	baz=136						
ERPA	Erie	34.60	337	P	P	01 56 04.6	+0.7
	baz=149						
P49A	Miami Univ. Ec	34.64	329	P	P	01 56 05.1	+0.8
P49A	Miami Univ. Ec	34.64	329	P	P	01 56 05.2	+0.8
	baz=139,SNR=13						
G62A	West of Eustis	34.80	350	P	P	01 56 06.1	+0.5
G62A				IAmb	IAmb	01 56 21.6	
	comp=Z,8.5nm,1.4s						
O49A	Covington	34.95	330	IAmb	IAmb	01 56 08.1	
	comp=Z,9.3nm,0.8s						
O48B	Farmland	35.41	329	P	P	01 56 10.3	-0.6
O48B				IAmb	IAmb	01 56 11.3	
	comp=Z,14nm,1.2s						
O48B	Farmland	35.41	329	P	P	01 56 11.2	+0.3
	baz=139						
CGM3	Cape Girardeau	35.85	321

ODSA **Odessa** 42.51 306 IAmb IAmb 01 57 10.5
comp=Z,9.8nm,0.7s
TXAR **Lajitas Array** 42.53 302 P **P** **01 57 10.8 +0.2**
comp=Z,2.4nm,0.6s,baz=122,slow=8.0,SNR=24
TXAR PcP **PcP** **01 59 01.3 -0.4**
comp=Z,1.4nm,0.5s,baz=119,slow=5.3,SNR=20
comp=Z,2.4nm,0.6s
TX31 **Lajitas Ar. Si** 42.53 302 IAmb IAmb 01 57 13.1
comp=Z,7.1nm,0.7s
AMTX **Amarillo** 42.88 310 IAmb IAmb 01 57 15.6
comp=Z,5.7nm,0.5s
AMTX **Amarillo** 42.88 310 P **P** **01 57 13.1 -0.2**
baz=114
PECS **Pecos** 43.31 304 IAmb IAmb 01 57 17.7
comp=Z,6.8nm,0.7s
MSTX **Muleshoe** 43.35 308 P **P** **01 57 16.9 -0.3**
baz=112,SNR=12
CLN7 **Carlsbad 7** 43.61 306 P **P** **01 57 18.2 -1.1**
SCHQ **Schefferville** 43.86 356 P **P** **01 57 20.4 -0.4**
comp=Z,2.1nm,0.5s,baz=189,slow=15,SNR=2.9
SCHQ PcP **PP** **01 59 04.0 -0.6**
comp=Z,1.3nm,0.5s,baz=169,slow=2.8,SNR=4.3
comp=Z,2.1nm,0.5s
ECSD **EROS Data Cent** 44.01 324 P **P** **01 57 22.4 +0.2**
baz=128
EYMN **Ely** 44.17 332 P **P** **01 57 24.0 +0.5**
baz=137
MNTX **Cornudas Mount** 44.65 304 P **P** **01 57 27.8 +0.4**
baz=108,SNR=6.6
T25A **Trinidad** 45.81 312 P **P** **01 57 36.6 -0.2**
T25A **Trinidad** 45.81 312 P **P** **01 57 36.9 +0.1**
baz=114
BNM **Barren Site** 46.41 307 P **P** **01 57 42.1 +0.5**
ANMO **Albuquerque** 46.54 308 P **P** **01 57 42.6 0.0**
ANMO IAmb IAmb 01 57 43.5
comp=Z,4.1nm,0.6s
ANMO **Albuquerque** 46.54 308 P **P** **01 57 43.4 +0.8**
baz=110
121A **Cookes Peak, D** 46.84 304 IAmb IAmb 01 57 46.7
comp=Z,5.8nm,0.8s
121A **Cookes Peak, D** 46.84 304 P **P** **01 57 45.7 +0.7**
baz=107,SNR=5.9
SDCO **Great Sand Dun** 46.85 312 IAmb IAmb 01 57 45.2
comp=Z,4.7nm,0.7s
SDCO **Great Sand Dun** 46.85 312 P **P** **01 57 44.7 -0.4**
baz=113,SNR=9.6
ISCO **Idaho Springs** 47.76 315 P **P** **01 57 51.7 -0.4**
baz=115
S22A **4UR Ranch, Cre** 47.82 312 P **P** **01 57 52.1 -0.5**
baz=112
ULM **Lac du Bonnet** 47.84 331 P **P** **01 57 50.4 -1.8**
comp=Z,3.4nm,0.3s,baz=127,slow=7.8,SNR=22
comp=Z,3.4nm,0.3s
MDND **Maddock** 48.16 327 P **P** **01 57 55.1 +0.4**
baz=127
MVCO **Mesa Verde** 48.87 310 P **P** **01 58 00.2 -0.4**
baz=110
X18A **Snowflake** 49.14 306 IAmb IAmb 01 58 04.4
comp=Z,6.7nm,1.2s
W18A **Petrified Fore** 49.15 307 P **P** **01 58 03.3 +0.6**
baz=107
TUC **Tucson** 49.23 303 P **P** **01 58 03.9 +0.7**
baz=104
PV01 **Paradox Valley** 49.24 311 P **P** **01 58 03.6 +0.1**
PV01 IAmb IAmb 01 58 04.6
comp=Z,9.1nm,0.8s
PV11 **David Mesa, Pa** 49.52 311 P **P** **01 58 05.3 -0.2**
K22A **Casper** 49.60 318 P **P** **01 58 05.5 -0.5**
baz=116
O20A **White River Ci** 49.74 314 P **P** **01 58 06.5 -0.7**
baz=113
WUAZ **Wupatki** 50.54 307 P **P** **01 58 14.4 +1.2**
WUAZ IAmb IAmb 01 58 14.6
comp=Z,4.5nm,0.7s
WUAZ **Wupatki** 50.54 307 P **P** **01 58 13.7 +0.4**
baz=106
HMU **Henry Mountain** 50.79 310 IAmb IAmb 01 58 17.1
comp=Z,3.6nm,0.8s
214A **Organ Pipe Nat** 50.82 302 P **P** **01 58 15.2 0.0**
baz=103
P18A **Preston Nutter** 50.99 313 IAmb IAmb 01 58 17.4
comp=Z,9.3nm,0.7s
SRU **San Rafael Swe** 51.02 312 IAmb IAmb 01 58 17.3
comp=Z,7.2nm,0.7s
DGMT **Dagmar** 51.04 325 P **P** **01 58 16.6 0.0**
DGMT **Dagmar** 51.04 325 P **P** **01 58 17.4 +0.7**
baz=123,SNR=6.8
P17A **Butcher Ranch,** 51.30 312 IAmb IAmb 01 58 19.1
comp=Z,5.1nm,0.7s
LAO **LASA Array** 51.30 322 P **P** **01 58 18.2 -0.4**
baz=120
TMUT **Trail Mountain** 51.58 312 IAmb IAmb 01 58 21.6
comp=Z,4.9nm,0.7s
BW06 **Boulder Array** 51.68 317 P **P** **01 58 20.2 -1.6**
BW06 IAmb IAmb 01 58 21.4
comp=Z,5.0nm,0.8s
BW06 **Boulder Array** 51.68 317 P **P** **01 58 20.7 -1.1**
baz=114,SNR=7.5
PD31 **Pinedale Array** 51.68 317 IAmb IAmb 01 58 21.4
comp=Z,4.4nm,0.8s
PDAR **Pinedale Array** 51.68 317 P **P** **01 58 20.4 -1.3**
comp=Z,3.7nm,0.6s,baz=117,slow=9.6,SNR=53
PDAR PcP **PcP** **01 59 32.5 -1.5**
comp=Z,0.6nm,0.4s,baz=119,slow=7.4,SNR=7.0
comp=Z,3.7nm,0.6s
KNB **Kanab** 52.09 309 IAmb IAmb 01 58 26.3
comp=Z,3.7nm,0.8s
TCUT **Toone Canyon** 52.35 314 IAmb IAmb 01 58 26.6
comp=Z,7.4nm,0.7s
PDMCI **Parker Dam,Lak** 52.43 305 P **P** **01 58 26.7 -0.4**
baz=104
CTU **Camp Tracy** 52.44 313 IAmb IAmb 01 58 28.0
comp=Z,6.3nm,1.0s
RLMT **Red Lodge** 52.47 319 P **P** **01 58 27.2 -0.3**
baz=115
HWUT **Hardware Ranch** 52.63 314 P **P** **01 58 27.3 -1.4**
HWUT IAmb IAmb 01 58 34.1
comp=Z,4.1nm,0.7s
AHID **Auburn Hatcher** 52.73 316 IAmb IAmb 01 58 29.5
comp=Z,5.9nm,0.7s
DUG **Dugway, Tooele** 53.04 312 IAmb IAmb 01 58 32.1
comp=Z,6.4nm,0.7s
DUG **Dugway, Tooele** 53.04 312 P **P** **01 58 31.4 -0.4**
baz=109,SNR=10
SPUT **South Promonto** 53.15 314 P **P** **01 58 31.1 -1.4**
IRM **Iron Mountain** 53.21 304 P **P** **01 58 33.4 +0.5**
baz=103
FCC **Fort Churchill** 53.32 340 IAmb IAmb 01 58 33.0
comp=Z,4.8nm,0.6s
BC3 **Big Chuckawall** 53.35 304 P **P** **01 58 34.2 +0.2**
baz=102
BGU **Big Grassy Mou** 53.44 313 IAmb IAmb 01 58 34.8
comp=Z,7.2nm,0.8s
SWSC **Sam W. Stewart** 53.49 303 P **P** **01 58 35.0 +0.1**
baz=101
SPR3 **Spring Creek 3** 53.80 311 IAmb IAmb 01 58 38.6
comp=Z,7.5nm,1.4s
BELC **Belle Mtn. Jos** 53.87 304 P **P** **01 58 37.6 -0.2**
baz=102
EGMT **Eagleton** 54.05 322 P **P** **01 58 38.8 0.0**
baz=117
TUQ **Turquoise Moun** 54.12 306 P **P** **01 58 39.5 -0.2**
baz=103
PFO **Pinyon Flats O** 54.16 304 P **P** **01 58 40.6 +0.6**
baz=101
BOZ **Bozeman (W)** 54.18 319 P **P** **01 58 39.2 -0.8**
baz=114
R11B **Troy Canyon, C** 54.56 309 P **P** **01 58 42.7 -0.2**
baz=105
BBRC **Big Bear Solar** 54.67 304 P **P** **01 58 44.1 +0.3**
baz=102
TPNV **Topopah Spring** 54.72 308 P **P** **01 58 44.5 +0.5**
baz=104
LRM **Limekiln Ridge** 54.80 319 P **P** **01 58 44.5 0.0**
HLID **Hailey** 55.28 316 IAmb IAmb 01 58 48.3
comp=Z,3.1nm,0.7s
HLID **Hailey** 55.28 316 P **P** **01 58 47.7 -0.2**
baz=110,SNR=6.4
MPMC **Manual Prospec** 55.49 306 P **P** **01 58 49.2 -0.5**
baz=102
LRMC **Laurel Mtn Rad** 55.53 306 P **P** **01 58 50.0 +0.1**
baz=102
GRAC **Grapevine Rang** 55.60 307 P **P** **01 58 50.3 +0.1**
baz=103
CWC **Cottonwood Cre** 56.04 307 P **P** **01 58 53.6 +0.1**
baz=102
ISA **Isabella, Lake** 56.20 306 P **P** **01 58 54.5 0.0**
baz=101

NVAR **Mina Array Bea** 56.65 309 P **P** **01 58 57.7 -0.2**
comp=Z,0.6nm,0.5s,baz=96,slow=6.3,SNR=5.5
comp=Z,0.6nm,0.5s
LHV **Little Huntoon** 56.76 309 P **P** **01 58 58.7 +0.4**
LHV IAmb IAmb 01 59 28.9
comp=Z,6.1nm,1.4s
F10A **Beach Ranch, E** 57.97 318 P **P** **01 59 04.7 -2.2**
EDM **Edmonton** 58.43 327 IAmb IAmb 01 59 09.1
comp=Z,6.0nm,0.5s
NEW **Newport** 58.66 320 IAmb IAmb 01 59 11.1
comp=Z,3.3nm,0.7s
NEW **Newport** 58.66 320 P **P** **01 59 10.5 -1.1**
baz=110
ESDC **Sonseca Array** 58.85 50 P **P** **01 59 14.5 +1.4**
comp=Z,1.5nm,0.8s,baz=252,slow=7.2,SNR=8.3
ESDC PcP **PcP** **02 00 02.2 +0.6**
comp=Z,0.9nm,0.7s,baz=274,slow=4.2,SNR=6.4
comp=Z,1.5nm,0.8s
I07A **Izee** 58.95 315 P **P** **01 59 12.9 -0.9**
I07A IAmb IAmb 01 59 14.1
comp=Z,4.4nm,0.8s
K05A **Summer Lake** 59.58 313 P **P** **01 59 18.0 -0.2**
K05A IAmb IAmb 01 59 18.8
comp=Z,6.3nm,0.9s
LTY **Liberty** 60.62 318 P **P** **01 59 23.7 -1.3**
LTY IAmb IAmb 01 59 24.7
comp=Z,4.9nm,0.9s
KSXB **Camp Six Broad** 61.55 312 P **P** **01 59 30.7 -0.8**
TOA0 **Torodi Ar. Sit** 62.57 81 P **P** **01 59 38.9 +0.2**
TORD **Torodi Ar. Bea** 62.57 81 P **P** **01 59 38.9 +0.2**
TORD **Torodi Ar. Bea** 62.57 81 P **P** **01 59 39.2 +0.6**
comp=Z,1.4nm,0.5s,baz=292,slow=6.6,SNR=23
comp=Z,1.4nm,0.5s
SUMG **Summit** 63.18 8 P **P** **01 59 41.2 -0.9**
SUMG IAmb IAmb 01 59 43.4
comp=Z,11nm,1.2s
YKA **Yellowknife Ar** 63.42 336 P **P** **01 59 41.0 -2.5**
comp=Z,0.6nm,0.5s,baz=97,slow=4.3,SNR=48
comp=Z,0.6nm,0.5s
ECH **Echery** 68.26 42 P **P** **02 00 14.8 0.0**
KEST **Kesra** 68.87 56 P **P** **02 00 20.1 +1.1**
comp=Z,3.8nm,0.7s,baz=211,slow=2.6,SNR=6.3
comp=Z,3.8nm,0.7s
DLBC **Dease Lake** 69.03 329 P **P** **02 00 18.8 -0.6**
DLBC **Dease Lake** 69.03 329 P **P** **02 00 19.6 +0.1**
baz=104
DAVA **Damuels** 69.98 44 *eP* **P** **02 00 26.4 +0.8**
comp=Z,2.4nm,0.5s
HYA **Hoyanger** 70.14 29 *eP* **P** **02 00 27.0 +0.9**
FETA **Feichten** 70.53 44 *eP* **P** **02 00 29.7 +0.6**
comp=Z,2.0nm,0.6s
AKN **Aaknes** 70.76 28 *eP* **P** **02 00 30.5 +0.6**
MOTA **Moosalm** 70.81 44 *i P* **P** **02 00 30.9 +0.2**
comp=Z,1.4nm,0.4s
SQTA **Sankt Quirin** 70.88 44 *i P* **P** **02 00 31.4 +0.4**
comp=Z,1.2nm,0.4s
SKAR **Skarslia** 71.05 29 *eP* **P** **02 00 32.7 +0.9**
WATA **Walderalm** 71.13 44 *i P* **P** **02 00 33.0 +0.3**
comp=Z,1.9nm,0.4s
R32K **Eaglecrest** 71.31 328 P **P** **02 00 34.8 +1.5**
baz=100
SIT **Sitka** 71.55 327 P **P** **02 00 35.8 +1.1**
baz=98
DOMB **Dombas** 71.68 28 *eP* **P** **02 00 35.9 +0.4**
LESA **Schwarzleotal** 71.89 44 *eP* **P** **02 00 37.1 0.0**
comp=Z,2.1nm,0.4s
SKAG **Skagway** 71.92 329 P **P** **02 00 37.9 +1.0**
baz=99
M31M **Drury Creek, Y** 71.95 332 P **P** **02 00 36.2 -0.9**
M31M **Drury Creek, Y** 71.95 332 P **P** **02 00 37.0 -0.1**
baz=101
NAO01 **NORSAR Array S** 72.32 29 P **P** **02 00 38.8 -0.5**
NB2 **NORSAR Subarra** 72.51 29 P **P** **02 00 41.8 +1.3**
comp=Z,2.1nm,0.6s,baz=263,slow=6.5
NB2 **NORSAR Subarra** 72.51 29 P **P** **02 00 41.8 +1.3**
baz=263,slow=6.5
NOA **NORSAR Array B** 72.51 29 P **P** **02 00 41.6 +1.1**
comp=Z,4.1nm,0.7s,baz=262,slow=6.0,SNR=16
comp=Z,4.1nm,0.7s
NC602 **NORSAR Array S** 72.62 30 *eP* **P** **02 00 42.6 +1.5**
H31M **Peel River** 72.65 336 P **P** **02 00 41.1 -0.1**
baz=102
GERES **GERESS Array B** 72.65 42 P **P** **02 00 42.0 +0.4**
comp=Z,1.0nm,0.7s,baz=262,slow=6.8,SNR=2.5
comp=Z,1.0nm,0.7s
G31M **Satah River** 72.86 337 P **P** **02 00 41.9 -0.4**
baz=102
INK **Inuvik** 72.89 338 P **P** **02 00 42.8 +0.4**
baz=104
N30M **Aishikik Lake** 73.09 331 P **P** **02 00 43.6 -0.3**
baz=98
M30M **Minto, Yukon** 73.11 332 P **P** **02 00 43.0 -1.1**
M30M IAmb IAmb 02 01 12.8
comp=Z,8.7nm,1.4s
OBKA **Obir** 73.12 45 *eP* **P** **02 00 44.9 +0.4**
comp=Z,2.0nm,0.7s
I30M **Mount Dempster** 73.37 335 P **P** **02 00 44.3 -1.3**
I30M **Mount Dempster** 73.37 335 P **P** **02 00 45.1 -0.5**
baz=100
F30M **Barrier River** 73.57 337 P **P** **02 00 46.3 -0.3**
baz=101
HFS **Hagfors** 73.60 30 P **P** **02 00 47.6 +0.8**
comp=Z,13nm,0.8s,baz=242,slow=3.2,SNR=34
comp=Z,13nm,0.8s
YUK6 **Outpost Mounta** 73.63 330 P **P** **02 00 46.0 -1.3**
baz=97
K29M **Barlow Dome** 73.63 333 P **P** **02 00 46.6 -0.5**
baz=98
O29M **Mount Kennedy** 73.66 330 P **P** **02 00 46.8 -0.6**
baz=96
EPYK **Eagle Plains** 73.70 336 P **P** **02 00 48.1 +0.6**
baz=100
L29M **L29M** 73.80 333 P **P** **02 00 48.5 +0.5**
baz=98
YUK4 **Talbot Arm** 73.81 331 P **P** **02 00 48.1 -0.2**
baz=97
J29N **Klondike Camp** 74.02 334 P **P** **02 00 49.9 +0.6**
baz=98
G29M **Pine Creek** 74.31 337 P **P** **02 00 50.4 -0.5**
baz=99
H29M **Whitestone** 74.34 336 P **P** **02 00 50.5 -0.6**
baz=98
DAWY **Dawson** 74.48 334 P **P** **02 00 51.0 -1.0**
baz=97
E29M **Blow River** 74.50 338 P **P** **02 00 51.0 -0.9**
baz=99
D28M **Stokes Point** 74.95 339 P **P** **02 00 53.4 -1.1**
baz=99
F28M **Old Crow** 75.12 337 P **P** **02 00 54.0 -1.5**
F28M **Old Crow** 75.12 337 P **P** **02 00 54.5 -1.1**
baz=97
E28M **Babbage River** 75.13 338 P **P** **02 00 53.9 -1.7**
baz=98
FAUS **Fauske** 75.17 23 *eP* **P** **02 00 56.8 +1.0**
STEI **Steigen** 75.23 22 *eP* **P** **02 00 56.6 +0.5**
EGAK **Eagle** 75.32 334 P **P** **02 00 56.2 -0.5**
baz=95
BCAR **Beaver Creek A** 75.45 332 P **P** **02 00 56.5 -1.1**
I27K **Kandik River** 75.59 335 P **P** **02 00 57.8 -0.6**
baz=95
H27K **Steamboat Moun** 75.61 336 P **P** **02 00 57.9 -0.6**
baz=96
K27K **Chicken** 75.65 333 P **P** **02 00 58.1 -0.5**
baz=94
G27K **Doyon Strip** 75.72 336 P **P** **02 00 58.3 -0.8**
baz=96
D27M **Malcolm River** 75.72 339 P **P** **02 00 57.7 -1.3**
baz=97
E27K **Coleen River** 75.83 338 P **P** **02 00 59.0 -0.6**
baz=96
L26K **Log Cabin Wild** 76.16 332 P **P** **02 01 01.1 -0.5**
baz=93
I26K **Coal Creek Min** 76.21 335 P **P** **02 01 00.8 -1.0**
baz=94
J26L **Joseph Creek** 76.33 334 P **P** **02 01 02.1 -0.6**
baz=93
SCRK **Sand Creek** 76.49 333 P **P** **02 01 02.6 -0.9**
baz=93
TRO **Tromso** 76.73 21 *eP* **P** **02 01 05.3 +0.7**
SPITS **Spitsbergen Ar** 77.00 12 P **P** **02 01 06.1 0.0**
comp=Z,8.4nm,0.9s,baz=270,slow=1.2,SNR=6.7
comp=Z,8.4nm,0.9s
J25K **Salcha River,** 77.12 334 P **P** **02 01 06.7 -0.3**
baz=92
PAX **Paxson** 77.12 332 P **P** **02 01 06.5 -0.6**
baz=91
JETT **Jettan, Norway** 77.25 21 *eP* **P** **02 01 08.2 +0.6**

K24K **Donnelly Dome** 77.28 333 P **P** **02 01 07.3 -0.5**
baz=91
E25K **Arctic Village** 77.31 338 P **P** **02 01 06.6 -1.4**
E25K **Arctic Village** 77.31 338 P **P** **02 01 06.9 -1.1**
baz=92
F25K **Christian Rive** 77.32 337 P **P** **02 01 07.1 -0.9**
baz=92
G25K **Bearman Lake** 77.47 336 P **P** **02 01 07.8 -1.1**
baz=91
Q23K **Middleton Isla** 77.53 329 P **P** **02 01 08.0 -1.2**
baz=90
D25K **Kavik River** 77.65 339 P **P** **02 01 08.6 -1.3**
baz=92
ILAR **Eielson Array** 77.77 334 P **P** **02 01 07.9 -2.6**
ILAR **Eielson Array** 77.77 334 P **P** **02 01 09.5 -1.1**
comp=Z,0.6nm,0.6s,baz=98,slow=4.4,SNR=15
comp=Z,0.6nm,0.6s
POKR **Poker Plat Res** 78.00 334 P **P** **02 01 11.6 -0.3**
baz=90
COLA **College** 78.18 334 P **P** **02 01 12.6 -0.2**
baz=89
KTK1 **Kautokeino** 78.24 22 *eP* **P** **02 01 13.5 +0.5**
C24K **Franklin Bluff** 78.47 339 P **P** **02 01 13.0 -1.3**
baz=90
MCK **McKinley** 78.68 333 P **P** **02 01 15.3 -0.3**
baz=88
I23K **Minto, Yukon-K** 78.82 335 P **P** **02 01 15.7 -0.6**
baz=88
ARA0 **ARCESS Array S** 79.04 21 *eP* **P** **02 01 16.3 -1.1**
ARCES **ARCESS Array B** 79.04 21 P **P** **02 01 16.7 -0.8**
ARCES IAmb IAmb 02 01 20.0
comp=Z,13nm,1.2s
ARCES **ARCESS Array B** 79.04 21 P **P** **02 01 16.7 -0.8**
comp=Z,3.6nm,0.6s,baz=262,slow=6.0,SNR=13
comp=Z,3.6nm,0.6s
C23K **Itkillik River** 79.13 339 P **P** **02 01 17.3 -0.6**
baz=88
TRF **Thorofare Moun** 79.30 333 P **P** **02 01 17.4 -1.8**
TRF IAmb IAmb 02 01 23.4
comp=Z,18nm,1.5s
TRF **Thorofare Moun** 79.30 333 P **P** **02 01 18.2 -1.0**
baz=87
G22K **Bettles** 79.61 336 P **P** **02 01 18.5 -2.1**
baz=86
SUA **Susitna One** 79.63 331 P **P** **02 01 20.1 -0.9**
baz=86
FINES **FINESS Array B** 79.70 29 P **P** **02 01 21.4 +0.2**
FINES **FINESS Array B** 79.70 29 P **P** **02 01 21.6 +0.5**
comp=Z,10nm,0.4s,baz=273,slow=3.8,SNR=28
comp=Z,10nm,0.4s
FIA1 **FINESS Array S** 79.70 29 P **P** **02 01 21.1 0.0**
D22K **Ayikyak River** 79.92 338 P **P** **02 01 21.3 -1.0**
baz=86
B22K **Teshekpuk Lake** 80.06 340 P **P** **02 01 21.6 -1.3**
baz=85
CAST **Castle Rocks** 80.10 333 P **P** **02 01 21.9 -1.5**
CAST **Castle Rocks** 80.10 333 P **P** **02 01 21.7 -1.6**
baz=85
CHUM **Lake Minchumin** 80.17 333 P **P** **02 01 22.5 -1.1**
baz=85
HOM **Homer** 80.21 329 P **P** **02 01 22.5 -1.5**
baz=85
H21K **Melozitna Rive** 80.23 335 P **P** **02 01 23.0 -1.0**
baz=85
N20K **Mount Spurr** 80.35 331 P **P** **02 01 24.0 -0.8**
baz=85
BURAR **Bucovina Array** 80.37 43 P **P** **02 01 26.5 +1.3**
IMAR **Indian Mountai** 80.58 335 P **P** **02 01 24.2 -1.6**
M20K **Styx River** 80.73 331 P **P** **02 01 26.0 -0.8**
baz=84
J20K **Nowinta River** 80.94 334 P **P** **02 01 26.5 -1.3**
J20K IAmb IAmb 02 01 58.8
comp=Z,11nm,1.5s
J20K **Nowinta River** 80.94 334 P **P** **02 01 27.1 -0.7**
baz=84
K20K **Telida** 81.00 333 P **P** **02 01 27.5 -0.6**
baz=84
M19K **Big River Lodg** 81.32 331 P **P** **02 01 28.9 -0.9**
M19K IAmb IAmb 02 01 49.6
comp=Z,7.9nm,1.2s
M19K **Big River Lodg** 81.32 331 P **P** **02 01 29.1 -0.8**
baz=83
B20K **Meade River** 81.37 340 P **P** **02 01 28.8 -1.1**
baz=82
L19K **White Mountain** 81.50 332 P **P** **02 01 29.9 -0.9**
L19K IAmb IAmb 02 01 59.2
comp=Z,11nm,1.4s
L19K **White Mountain** 81.50 332 P **P** **02 01 30.3 -0.6**
baz=83
H19K **Roundabout Mou** 81.75 335 P **P** **02 01 31.4 -0.5**
baz=82
E19K **Redstone River** 81.77 337 P **P** **02 01 31.4 -0.7**
baz=81
D19K **Kuna River** 81.94 338 P **P** **02 01 32.6 -0.4**
baz=81
O18K **Koktuh Hills** 81.98 329 P **P** **02 01 34.0 +0.6**
baz=82
SVW2 **Sparrevohn** 81.99 331 P **P** **02 01 32.3 -1.1**
SVW2 IAmb IAmb 02 01 34.7
comp=Z,10.0nm,1.1s
M18K **Stony River** 82.05 331 P **P** **02 01 32.7 -1.0**
baz=82
J18K **Innoko River** 82.17 333 P **P** **02 01 32.6 -1.7**
baz=81
N18K **Kilae Creek** 82.20 330 P **P** **02 01 34.0 -0.6**
baz=82
C19K **Lookout Ridge** 82.36 339 P **P** **02 01 35.1 -0.2**
baz=79
G18K **Tagagawik** 82.59 336 P **P** **02 01 36.2 -0.2**
baz=80
H18K **Honhosa River** 82.60 335 P **P** **02 01 36.3 -0.2**
baz=80
AKASG **Malin Array Be** 82.61 40 P **P** **02 01 37.3 +0.5**
comp=Z,0.4nm,0.4s,baz=292,slow=4.4,SNR=2.7
comp=Z,0.4nm,0.4s
A19K **Wainwright** 82.65 340 P **P** **02 01 35.7 -0.9**
baz=78
P17K **Kvichak River** 82.70 329 P **P** **02 01 36.3 -0.8**
baz=81
O17K **Koliganek Bris** 82.94 329 P **P** **02 01 36.0 -2.3**
baz=80
K17K **Iditarod** 83.00 332 P **P** **02 01 38.1 -0.5**
K17K IAmb IAmb 02 01 53.8
comp=Z,23nm,1.5s
K17K **Iditarod** 83.00 332 P **P** **02 01 38.7 +0.1**
baz=80
C18K **Utukok River** 83.02 339 P **P** **02 01 37.6 -1.1**
baz=78
E18K **Tukpahlearik C** 83.06 337 P **P** **02 01 38.4 -0.4**
baz=78
B18K **Kokolik River** 83.08 339 P **P** **02 01 38.5 -0.4**
baz=77
L17K **Donlin** 83.10 332 P **P** **02 01 38.6 -0.5**
baz=80
H17K **Granite Mounta** 83.28 335 P **P** **02 01 38.4 -1.7**
baz=78
G17K **Kiwalik Mounta** 83.47 335 P **P** **02 01 41.0 +0.1**
baz=78
F17K **Baldwin Pennin** 83.51 336 P **P** **02 01 40.2 -0.9**
baz=78
R16K **Pilot Point** 83.56 327 P **P** **02 01 41.0 -0.6**
baz=80
E17K **Hotham Inlet** 83.59 337 P **P** **02 01 40.2 -1.3**
baz=77
L16K **Owhat River** 83.73 332 P **P** **02 01 40.6 -1.7**
baz=78
I17K **Unalakleet** 83.83 334 P **P** **02 01 41.7 -1.1**
baz=78
J16K **Anvik River** 83.92 333 P **P** **02 01 43.5 +0.2**
baz=78
G16K **Koyuk River** 84.19 336 P **P** **02 01 44.1 -0.5**
baz=76
O15K **Ungalikthiuk R** 84.42 329 P **P** **02 01 44.6 -1.3**
baz=78
M15K **Kasigluk River** 84.52 331 P **P** **02 01 45.9 -0.5**
baz=77
K15K **Wolf Creek Mou** 84.56 332 P **P** **02 01 46.0 -0.5**
baz=77
C16K **Lisburne Hills** 84.59 339 P **P** **02 01 46.1 -0.4**
baz=74
L15K **Ungalak Mounta** 84.67 332 P **P** **02 01 46.6 -0.6**
baz=77
O14K **Tigyukauivet M** 85.12 329 P **P** **02 01 47.6 -1.8**
baz=77
F14K **Arctic Creek** 85.77 336 P **P** **02 01 52.0 -0.5**
baz=73
BR131 **Keskin Array S** 87.65 50 P **P** **02 02 03.2 +0.8**
BR131 IAmb IAmb 02 02 03.9

comp=Z,3.0nm,0.8s
BRTR Keskin Array B 87.65 50 P **P** **02 02 02.9 +0.5**
comp=Z,2.1nm,0.7s,baz=257,slow=4.3,SNR=12
comp=Z,2.1nm,0.7s
SPIA Saint Paul Isl 90.27 329 P **P** **02 02 13.6 -0.6**
baz=69
MKAR Makanchi Array 114.37 26 PKP **PKiKP** **02 07 53.0 0.0**
comp=Z,19nm,0.3s,baz=280,slow=2.5,SNR=1.5
SONM Songino Array 120.58 9 PKP **PKPdf** **02 08 03.8 -1.3**
comp=Z,0.5nm,0.5s,baz=295,slow=1.1,SNR=4.6
CMAR Chiang Mai Arr 145.42 32 PKPbc **PKPdf** **02 08 51.8 -0.1**
comp=Z,3.6nm,0.7s,baz=312,slow=5.0,SNR=3.4
STKA Stephens Creek 149.63 223 PKPbc **PKPdf** **02 09 01.7 +3.1**
comp=Z,2.4nm,0.6s,baz=116,slow=4.3,SNR=6.1
ASAR Alice Springs 160.01 229 PKP **PKPdf** **02 09 11.8 -1.2**
comp=Z,0.2nm,0.4s,baz=158,slow=2.7,SNR=2.2
ASAR PKPab **PKPab** **02 09 52.3 -0.7**
comp=Z,0.2nm,0.4s,baz=121,slow=4.4,SNR=1.2
WRA Warramunga Arr 161.59 239 PKP **PKPdf** **02 09 13.3 -1.5**
comp=Z,1.8nm,0.9s,baz=78,slow=1.2,SNR=7.7
WRA PKPab **PKPab** **02 09 57.9 -2.2**
comp=Z,0.9nm,1.0s,baz=108,slow=5.0,SNR=1.7

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*HEL **17** 01:59:02.8±0.2, 61°.10N×29°.90E, h3km, ML2.1, Confirmed Earthquake*
*IDC **17** 01:59:05.2±2.0, 61°.05N×29°.58E, h0km, mbtmp3.4/3, ML2.4/3, Error ellipse: s-maj=20.1km s-min=11.3km az=171.0*
ISC 17 01:59:03.0±2.0, 61°.14N±0°.05×29°.66E±0°.07, h10km±11km, n14, σ1§21/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.45**	**311**	*e*P		**Pb**	**01 59 12.6**	**-0.4**
RUF				*e*S		**Sb**	**01 59 19.9**	**+0.1**
VJF	**Virojoki**	**1.19**	**241**	*e*P		**Pb**	**01 59 25.1**	**-0.6**
VJF				*e*S		**Sn**	**01 59 42.2**	**+0.3**
KY12	**KOUVOLA**	**1.37**	**255**	*e*P		**Pb**	**01 59 28.4**	**-0.3**
KY12				*e*S		**Sg**	**01 59 47.9**	**+1.0**
KY14	**Pilkanmaa**	**1.54**	**263**	*e*S		**Sg**	**01 59 53.6**	**+1.2**
FIA1	**FINESS Array S**	**1.76**	**282**	*e*P		**Pb**	**01 59 35.8**	**+0.5**
FIA1				*e*S		**Sg**	**01 59 59.9**	**+0.5**
FIA1				MSG			02 00 02.7	
	comp=Z,10nm,0.1s							
FINES	**FINESS Array B**	**1.76**	**282**	Pg		**Pb**	**01 59 35.8**	**+0.4**
	comp=Z,3.6nm,0.3s,baz=105,slow=16,SNR=176							
FINES				Lg		Lg	01 59 59.8	
	comp=Z,5.4nm,0.3s,baz=97,slow=28,SNR=42							
FINES				Rg		Rg	02 00 10.4	
	comp=Z,32nm,1.0s,baz=90,slow=27,SNR=15							
KAF	**Kangasniemi**	**1.88**	**303**	*e*P		**Pg**	**01 59 38.3**	**-0.7**
KAF				*e*S		**Sg**	**02 00 03.2**	**-0.1**
KAF				MSG			02 00 06.1	
	comp=Z,12nm,0.1s							
JOF	**Joensuu**	**1.95**	**23**	*e*P		**Pn**	**01 59 37.0**	**+0.8**
JOF				*e*S		**Sn**	**02 00 01.4**	**+0.6**
PVF	**Pernaja**	**1.95**	**254**	*e*P		**Pb**	**01 59 38.1**	**-0.5**
PVF				*e*PB		**Pg**	**01 59 38.8**	**-1.6**
PVF				*e*SG		**Sg**	**02 00 07.4**	**+1.7**
PVF				MSG			02 00 08.3	
	comp=Z,18nm,0.1s							
SUF	**Sumiainen**	**2.30**	**315**	*e*PB		**Pb**	**01 59 45.0**	**+0.4**
SUF				*e*SG		**Sg**	**02 00 16.5**	**-0.3**
NIF	**Nilsia**	**2.42**	**340**	*e*PB		**Pb**	**01 59 45.6**	**-1.0**
NIF				*e*SB		**Sb**	**02 00 17.3**	**+0.8**
HFS	**Hagfors**	**7.91**	**270**	Pn		**Pn**	**02 00 59.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=83,slow=12,SNR=8.1							
HFS				Sn		**Sn**	**02 02 25.1**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=81,slow=29,SNR=6.1							
HFS				Lg		Lg	02 03 12.0	
	comp=Z,0.5nm,0.3s,baz=81,slow=30,SNR=5.0							
	comp=Z,3.5nm,0.9s							
ARCES	**ARCESS Array B**	**8.61**	**350**	Pn		**Pn**	**02 01 09.6**	**+2.1**
	baz=162,slow=14,SNR=6.0							
	comp=Z,4.4nm,1.0s							
NOA	**NORSAR Array B**	**8.93**	**277**	Pn		**Pn**	**02 01 11.7**	**-0.3**
	baz=87,slow=9.8,SNR=5.0							
NOA				Sn		**Sn**	**02 02 49.7**	**-2.9**
	baz=79,slow=18,SNR=1.6							
NOA				Lg		Lg	02 03 47.0	
	baz=58,slow=21,SNR=1.9							
	comp=Z,0.5nm,0.8s							

WEL 17 02:01:51.2±0.9, 37°S±4°×177°8E±°, h12km, M3.4/22, ML3.8/30, MLv3.4/22, Error ellipse: s-maj=0.0km s-min=0.0km az=73.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**177**	P		Pg	02 02 08.4	-0.1
MXZ				S		Sn	02 02 22.5	0.0
HAZ	**Te Kaha**	**1.15**	**199**	P		Pb	02 02 10.7	-2.3
HAZ				S		Sn	02 02 30.7	+2.0
WMGZ	**Waiomatatini S**	**1.16**	**174**	P		Pb	02 02 12.9	-0.2
PKGZ	**Pakihiroa**	**1.23**	**186**	P		Pb	02 02 14.4	0.0
PKGZ				S		Sn	02 02 32.9	+2.1
RUGZ	**Raukumara Rang**	**1.37**	**199**	P		Pn	02 02 14.9	-1.4
RUGZ				S		Sg	02 02 36.6	+1.1
PUZ	**Puketiti**	**1.40**	**180**	P		Pn	02 02 15.9	-0.7
PUZ				S		Sn	02 02 35.0	-0.1
TWGZ	**Tauwhareparae**	**1.52**	**188**	P		Pb	02 02 19.4	0.0
MWZ	**Matawai**	**1.76**	**199**	P		Pn	02 02 20.8	-0.7
CNGZ	**Carnagh Statio**	**1.81**	**181**	P		Pn	02 02 21.9	-0.3
URZ	**Urewera**	**1.83**	**209**	P		Pn	02 02 21.0	-1.5
URZ				S		Sn	02 02 42.6	-2.9
RAGZ	**Rawiri**	**1.94**	**200**	P		Pn	02 02 24.3	+0.2
RIGZ	**Rimuhau**	**2.07**	**191**	P		Pn	02 02 25.2	-0.7
RIGZ				S		Sn	02 02 51.3	-0.3
SNGZ	**Shannon Statio**	**2.23**	**199**	P		Pn	02 02 27.8	-0.2
SNGZ				S		Sn	02 02 55.9	+0.4
RAHZ	**Arahi**	**2.43**	**202**	P		Pn	02 02 30.8	0.0
RAHZ				S		Sn	02 03 00.7	+0.4
TOZ	**Tahuroa Road**	**2.44**	**243**	P		Pn	02 02 30.8	0.0
MTHZ	**Maungataniwha**	**2.45**	**207**	P		Pn	02 02 31.2	+0.1
MKAZ	**Moumakai**	**2.52**	**259**	P		Pn	02 02 31.8	-0.1
NMHZ	**Naumai**	**2.68**	**205**	P		Pn	02 02 33.9	-0.4
KWHZ	**Kaweka Forest**	**3.11**	**207**	P		Pn	02 02 38.2	-2.0
KWHZ				S		Sn	02 03 17.4	+0.2
TMVZ	**Te Maari**	**3.17**	**219**	P		Pn	02 02 41.0	0.0
NTVZ	**North Tongariro**	**3.17**	**219**	P		Pn	02 02 41.9	+0.9
ETVZ	**East Tongariro**	**3.18**	**218**	P		Pn	02 02 40.9	-0.2
OTVZ	**Oturere**	**3.22**	**219**	P		Pn	02 02 41.1	-0.7
NGZ	**Ngauruhoe**	**3.27**	**219**	P		Pn	02 02 44.4	+2.0
BHHZ	**Black Hill Sta**	**3.30**	**211**	P		Pn	02 02 42.3	-0.5
KAHZ	**Kahuranaki**	**3.30**	**199**	P		Pn	02 02 40.8	-2.0
KAHZ				S		Sn	02 03 19.6	-2.4
KRHZ	**Kereru**	**3.32**	**206**	P		Pn	02 02 41.8	-1.2
FWVZ	**Far West T-bar**	**3.35**	**219**	P		Pn	02 02 46.3	+2.7
MAVZ	**Matarangi**	**3.35**	**218**	P		Pn	02 02 45.9	+2.2
MOVZ	**Moawhango**	**3.37**	**215**	P		Pn	02 02 43.5	-0.3
WNVZ	**Wahianoa**	**3.38**	**217**	P		Pn	02 02 44.7	+0.8
VRZ	**Vera Road**	**3.69**	**227**	P		Pn	02 02 51.9	+3.8
TSZ	**Takapari Road**	**3.83**	**207**	P		Pn	02 02 48.6	-1.5
OUZ	**Omahuta**	**4.04**	**290**	P		Pn	02 02 53.5	+0.6
LREZ	**Lake Rotokare**	**4.12**	**226**	P		Pn	02 02 55.3	+1.3
MRZ	**Mangatainoka R**	**4.50**	**207**	P		Pn	02 02 57.9	-1.3
OGWZ	**Otaki Gorge**	**4.79**	**209**	P		Pn	02 03 00.9	-2.3
KIW	**Kapiti Island**	**4.93**	**211**	P		Pn	02 03 02.7	-2.4

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*MDD **17** 02:25:30.2±0.4, 38°.88N×2°.31W, h12km, mb_Lg2.1/24, Error ellipse: s-maj=3.0km s-min=1.6km az=74.0*
*SFS **17** 02:25:31.3, 38°.94N×2°.17W, h12km, ML2.0/5, ML2.6/5, MLv1.7/5*
ISC 17 02:25:28.4±1.1, 38°91N±0°.03×2°26W±0°.03, h18km±6km, n16, σ1§01/28, 1D, Spain

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ETOB	**Tobarra**	**0.62**	**115**	Pg		**Pn**	**02 25 41.7**	**-0.6**
ETOB				Sg		**Sn**	**02 25 49.9**	**-1.9**
ETOB	**Tobarra**	**0.62**	**115**	‖Pg		**Pn**	**02 25 41.7**	**-0.6**
ETOB				Sg		**Sn**	**02 25 50.3**	**-1.5**
ETOB				*i* Vmb_Lg			02 25 53.2	
EVIV	**Cofrentes, Val**	**0.96**	**68**	Sg		**Sn**	**02 26 01.3**	**+1.1**
EVIV				*i* Vmb_Lg			02 26 03.1	
E1002	**Yechar (Murcia**	**1.06**	**142**	Pg		**Pg**	**02 25 49.3**	**+0.4**
E1002				Sg		**Sg**	**02 26 03.1**	**+0.4**
E001A	**Albudeite (Mur**	**1.12**	**142**	Sg		**Sg**	**02 26 05.0**	**+0.2**
EZAR	**Zarzadilla de**	**1.12**	**157**	Pg		**Pg**	**02 25 50.5**	**+0.3**
EZAR				Sg		**Sg**	**02 26 05.2**	**+0.3**
EZAR				*i* Vmb_Lg			02 26 06.2	
ECHE	**Chera**	**1.21**	**55**	Pn		**Pb**	**02 25 50.5**	**-0.4**
ECHE	**Chera**	**1.21**	**55**	Pg		**Pg**	**02 25 53.1**	**+1.3**
ECHE				Sg		**Sg**	**02 26 09.2**	**+1.5**
ECHE				*i* Vmb_Lg			02 26 12.4	
EQES	**Quesada**	**1.28**	**210**	Pg		**Pb**	**02 25 52.5**	**+0.5**
EQES				Sg		**Sb**	**02 26 09.0**	**+0.9**
EQES				*i* Vmb_Lg			02 26 09.9	
EMUR	**La Murta**	**1.33**	**143**	Pn		**Pg**	**02 25 54.3**	**+0.2**
EMUR				Sn		**Sg**	**02 26 11.6**	**0.0**
EMUR	**La Murta**	**1.33**	**143**	Pg		**Pg**	**02 25 54.3**	**+0.2**
EMUR				Sg		**Sg**	**02 26 10.5**	**-1.1**
EMUR				*i* Vmb_Lg			02 26 12.1	
UCM	**Universidad Co**	**1.59**	**332**	Pg		**Pg**	**02 25 59.7**	**+0.7**
UCM				Sn		**Sg**	**02 26 19.3**	**-0.4**
EADA	**Adamuz**	**1.96**	**249**	Pn		**Pb**	**02 26 04.3**	**+0.7**
EADA				Sn		**Sb**	**02 26 28.5**	**+0.7**
EADA	**Adamuz**	**1.96**	**249**	Pg		**Pb**	**02 26 04.6**	**+0.9**
EADA				Sg		**Sb**	**02 26 28.5**	**+0.7**
EADA				*i* Vmb_Lg			02 26 32.7	
GUD	**Guadarrama**	**2.26**	**320**	Pg		**Pg**	**02 26 11.1**	**-0.7**
GUD				Sg		**Sg**	**02 26 39.8**	**-1.5**
GUD				*i* Vmb_Lg			02 26 42.4	
ECAB	**El Cabril**	**2.62**	**252**	Sg		**Sb**	**02 26 48.5**	**+2.0**
ECAB				*i* Vmb_Lg			02 26 50.5	

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*TEH **17** 02:37:29.6, 40°.00N×52°.42E, h10km, ML2.9*
*AZER **17** 02:37:32.3, 39°.84N×52°.43E, h71km, ml2.8*
ISC 17 02:37:30.5±1.7, 39°99N±0°.07×52°35E±0°.08, h10km, n31, σ1§89/47, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GOBA	**Gobu**	**2.05**	**282**	Pn		**Pb**	**02 38 07.9**	**+0.1**
ATGJ	**Altiaghaj**	**2.75**	**290**	Pn		**Pb**	**02 38 17.1**	**-2.8**
ATGJ				Sn		**Sb**	**02 38 52.7**	**-0.9**
SIZA	**Siyzn**	**2.85**	**294**	Pn		**Pb**	**02 38 19.2**	**-2.3**
SIZA				Sn		**Sb**	**02 38 57.4**	**+1.0**
PQL	**Pirkuli**	**2.98**	**287**	Pn		**Pn**	**02 38 20.5**	**+2.5**
PQL				Sn		**Sn**	**02 38 57.2**	**+3.3**
LKRN	**Lenkeran, Azer**	**3.05**	**246**	Pn		**Pn**	**02 38 20.7**	**+1.9**
LKRN				Sn		**Sn**	**02 38 55.9**	**+0.5**
ASTR	**Astara**	**3.11**	**244**	Pn		**Pn**	**02 38 21.3**	**+1.6**
ASTR				Sn		**Sn**	**02 38 57.4**	**+0.6**
GLBA	**Clilabad**	**3.15**	**258**	Pn		**Pn**	**02 38 21.8**	**+1.6**
GLBA				Sn		**Sn**	**02 38 59.3**	**+1.5**
GAS1	**Astara - Iran**	**3.17**	**241**	Pn		**Pn**	**02 38 21.4**	**+1.1**
QUBA	**Quba, Azerbaij**	**3.24**	**296**	Pn		**Pn**	**02 38 24.1**	**+2.6**
QUBA				Sn		**Sb**	**02 39 05.0**	**-2.5**
YRD	**Yardimli**	**3.36**	**253**	Pn		**Pn**	**02 38 24.4**	**+1.2**
YRD				Sn		**Sn**	**02 39 02.7**	**-0.6**
LRK	**Lerik**	**3.39**	**248**	Pn		**Pn**	**02 38 25.2**	**+1.6**
LRK				Sn		**Sn**	**02 39 03.8**	**-0.2**
XNQ	**Khinaliq**	**3.42**	**292**	Pn		**Pn**	**02 38 27.2**	**+3.2**
XNQ				Sn		**Sb**	**02 39 10.5**	**-2.5**
QSAR	**Qusar**	**3.46**	**297**	Pn		**Pn**	**02 38 26.8**	**+2.3**
QSAR				Sn		**Sb**	**02 39 10.0**	**-4.0**
QBL	**Gabala**	**3.58**	**287**	Sn		**Sn**	**02 39 09.6**	**+1.2**
GRMI	**Germi**	**3.65**	**253**	Pn		**Pn**	**02 38 28.8**	**+1.6**
IGLO	**Ghaloghah**	**3.67**	**161**	Pn		**Pn**	**02 38 28.1**	**+0.6**
BLQ	**Beylaqan**	**3.70**	**267**	Pn		**Pn**	**02 38 29.1**	**+1.3**
BLQ				Sn		**Sn**	**02 39 12.8**	**+1.4**
IALA	**Alasht**	**3.92**	**175**	Pn		**Pn**	**02 38 32.2**	**+1.2**
QRD	**Qoradiz**	**3.92**	**264**	Sn		**Sn**	**02 39 17.6**	**+0.8**
BRDA	**Brd**	**3.98**	**276**	Sn		**Sn**	**02 39 21.6**	**+3.5**
AGDM	**Agdam**	**4.03**	**273**	Pn		**Pn**	**02 38 33.0**	**+0.7**
AGDM				Sn		**Sn**	**02 39 20.2**	**+0.7**
SEKA	**Sheki**	**4.11**	**289**	Sn		**Sn**	**02 39 22.3**	**+0.7**
ISRB	**Sarab**	**4.25**	**241**	Pn		**Pn**	**02 38 37.4**	**+1.9**
IFIR	**Firoozkooh**	**4.35**	**176**	Pn		**Pn**	**02 38 38.9**	**+1.9**
IHRS	**Heris**	**4.45**	**250**	Pn		**Pn**	**02 38 40.5**	**+2.1**
GANJ	**Ganja**	**4.66**	**280**	Pn		**Pn**	**02 38 41.6**	**+0.6**
GANJ				Sn		**Sn**	**02 39 34.0**	**-1.1**
ORD	**Ordubad**	**5.04**	**260**	Pn		**Pn**	**02 38 47.9**	**+1.7**
ORD				Sn		**Sn**	**02 39 45.5**	**+1.1**
GDB	**GEDABAY**	**5.09**	**280**	Pn		**Pn**	**02 38 48.8**	**+1.7**
GDB				Sn		**Sn**	**02 39 44.1**	**-1.9**
SBZ	**Shahbuz**	**5.28**	**266**	Pn		**Pn**	**02 38 51.2**	**+1.6**
IMRD	**Marand**	**5.31**	**258**	Pn		**Pn**	**02 38 52.4**	**+2.4**
QZX	**Qazax, Azerbai**	**5.43**	**284**	Sn		**Sn**	**02 39 55.1**	**+1.1**

IDC 17 02:43:31.5±8.2, 19°81S×178°.74W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=406.0km s-min=120.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.01**	**256**	P	P	P	02 51 39.5	-1.6
	0.2nm,0.4s,baz=94,slow=7.5,SNR=6.9							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**44.01**	**261**	P	P	P	02 51 42.2	+1.1
	0.3nm,0.3s,baz=92,slow=8.2,SNR=15							
	0.3nm,0.3s							
AKASG	**Malin Array Be**	**142.07**	**331**	PKP		PKPdf	03 03 05.0	-0.4
	0.1nm,0.3s,baz=56,slow=1.4,SNR=4.1							

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*IDC **17** 02:47:41.3±0.8, 2°.38S×118°.94E, h0km, mb4.1/9, mbtmp4.1/10, ML3.8/1, MS3.7/11, Error ellipse: s-maj=48.9km s-min=12.0km az=69.0*
*DJA **17** 02:47:45.2±0.3, 2°S±2°×11°9E±°, h11km, M4.7/15, mb4.7/4, mB5.6/1, MLv4.7/15, Mw(mB)5.1/1*
*NEIC **17** 02:47:46.6±1.0, 2°.22S±0°.06×119°.09E±0°.07, h31km±7km, mb4.4/25, Error ellipse: s-maj=10.5km s-min=8.3km az=53.0*
ISC 17 02:47:46.6±0.5, 2°23S±0°.05×119°12E±0°.06, h35km, n81, σ2§26/78, mb4.4/27, MS3.6/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMSI	**Mamuju**	**0.50**	**205**	P		**Pn**	**02 47 55.6**	**-1.7**
TTSI	**Tana Toraja**	**1.07**	**139**	P		**Pn**	**02 48 06.2**	**+1.2**
PMSI	**Majene**	**1.28**	**189**	P		**Pn**	**02 48 09.7**	**+1.7**
PMSI				S		**Sn**	**02 48 28.2**	**+4.3**
BKB	**Balikpapan**	**2.42**	**293**			**Pn**	**02 48 24.3**	**+0.6**
BKB	**Balikpapan**	**2.42**	**293**	P		**Pn**	**02 48 24.5**	**+0.8**
KAPI	**Kappang**	**2.83**	**167**	Pn		**Pn**	**02 48 30.6**	**+1.3**
KAPI	**Kappang**	**2.83**	**167**	Pn		**Pn**	**02 48 28.6**	**-0.8**
	17nm,0.3s,baz=326,slow=9.5,SNR=38							
KAPI				Lg		Lg	02 49 05.8	
	205nm,0.3s,baz=288,slow=20,SNR=14							
KAPI				LR		LR	02 49 45.1	
	comp=Z,624nm,19.5s,baz=351,slow=45							
	85nm,0.5s							
MKS	**Makassar**	**2.98**	**173**	P		**Pn**	**02 48 33.5**	**+2.0**
BKSI	**Bulukumba**	**3.23**	**162**	P		**Pn**	**02 48 36.9**	**+2.1**
BKSI				S		**Sn**	**02 49 16.8**	**+4.8**
TOLI2	**Tolitoli**	**3.71**	**27**	Pn		**Pn**	**02 48 41.9**	**+0.4**
LUWI	**Luwuk**	**3.84**	**72**	Pn		**Pn**	**02 48 43.9**	**+0.7**
LUWI	**Luwuk**	**3.84**	**72**	P		**Pn**	**02 48 45.2**	**+2.0**
MRSI	**Marisa**	**3.90**	**46**	P		**Pn**	**02 48 44.7**	**+0.7**
MTKI	**Muara Teweh, K**	**4.41**	**287**	P		**Pn**	**02 48 51.1**	**0.0**
GTOI	**Gorontalo**	**4.82**	**54**	P		**Pn**	**02 48 58.7**	**+2.0**
KMSI	**Cibinong**	**5.60**	**60**	P		**Pn**	**02 49 10.2**	**+2.7**
	469nm,0.9s,5μm2.9nm							
DBNI	**Kabupaten Domp**	**6.28**	**187**	P		**Pn**	**02 49 19.2**	**+2.4**
	40nm,0.6s,0.4nm							
PLAI	**Plampang**	**6.69**	**191**	P		**Pn**	**02 49 23.0**	**+0.6**
	26nm,0.9s,0.2nm							
TWSI	**Taliwang, Sumb**	**6.83**	**199**	P		**Pn**	**02 49 24.0**	**-0.4**
LBMI	**Labuha**	**8.53**	**79**	P		**Pn**	**02 49 43.3**	**-4.3**
DAV	**Davao City (W)**	**11.27**	**35**	LR		LR	02 55 03.6	
	comp=Z,510nm,20.2s,baz=198,slow=38							
SWI	**Sorong**	**12.21**	**84**	P		**Pn**	**02 50 37.5**	**-0.6**
SIJI	**Sorong**	**12.22**	**84**	P		**Pn**	**02 50 38.0**	**-0.2**
KNRA	**Kununurra**	**16.39**	**145**	Pn		**Pn**	**02 51 31.9**	**-2.3**
PSA00	**Pilbara Seismi**	**19.24**	**178**	P		**Pn**	**02 52 07.3**	**-1.8**
KULM	**Kulim**	**19.91**	**292**			**P**	**02 52 14.5**	**-0.9**
KULM					IAmb	IAmb	02 52 28.5	
	comp=Z,14nm,0.9s							
SISI	**Saibi**	**20.04**	**272**	P		**P**	**02 52 17.5**	**+0.7**
GSI	**Gunungsitoli**	**21.83**	**279**	P		**P**	**02 52 34.2**	**-1.9**
GSI					IAmb	IAmb	02 52 54.3	
	comp=Z,21nm,1.0s							
GSI	**Gunungsitoli**	**21.83**	**279**	P		**P**	**02 52 39.9**	**+3.8**
WB0	**Warramunga Arr**	**22.95**	**140**	P		**P**	**02 52 43.2**	**-4.9**
WRA	**Warramunga Arr**	**23.04**	**141**	P		**P**	**02 52 42.7**	**-6.2**
WRA	**Warramunga Arr**	**23.04**	**141**	P		**P**	**02 52 44.8**	**-4.2**
	comp=Z,1.9nm,0.3s,baz=341,slow=12,SNR=57							
WB2	**Warramunga Arr**	**23.05**	**141**	P		**P**	**02 52 44.8**	**-4.3**
WB2				IAmb		IAmb	02 53 01.2	
	comp=Z,16nm,1.0s							
WR0	**Warramunga Arr**	**23.18**	**141**	P		**P**	**02 52 44.8**	**-5.6**
WR0				IAmb		IAmb	02 52 51.9	
	comp=Z,15nm,0.9s							
AS31	**Alice Springs**	**25.67**	**147**	P		**P**	**02 53 12.1**	**-1.3**
ASAR	**Alice Springs**	**25.67**	**147**	P		**P**	**02 53 12.4**	**-1.0**
ASAR	**Alice Springs**	**25.67**	**147**	P		**P**	**02 53 13.2**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=342,slow=14,SNR=17							
ASAR				PcP		PcP	**02 56 44.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=328,slow=3.3,SNR=2.2							
	comp=Z,3.7nm,1.0s							
AS01	**Alice Springs**	**25.69**	**147**	P		P	02 53 21.3	+7.7
QIS	**Mount Isa**	**27.04**	**134**	P		P	02 53 17.3	-8.5
CMAR	**Chiang Mai Arr**	**28.59**	**317**	P		P	**02 53 39.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**28.59**	**317**	P		P	**02 53 39.4**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=148,slow=7.5,SNR=1.2							
CMAR				LR		LR	03 08 43.7	
	comp=Z,156nm,19.2s,baz=140,slow=44							
	comp=Z,0.9nm,0.3s							
CHTO	**Chiang Mai**	**28.83**	**317**	P		P	**02 53 42.0**	**+0.2**
OOD	**Oodnadatta**	**29.95**	**150**	P		P	02 54 01.8	+10
GUMO	**Guam**	**29.99**	**58**	LR		LR	03 06 27.5	
	comp=Z,61nm,19.3s,baz=95,slow=37							
CTA	**Charters Tower**	**31.89**	**126**	LR		LR	03 10 00.7	
	comp=Z,133nm,19.4s,baz=266,slow=42							
PZH	**PanZhiHua**	**33.14**	**331**	P		**P**	**02 54 21.0**	**+1.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,160nm,7.8s							
BBOO	**Buckleboo**	**34.32**	**154**	P		**P**	**02 54 29.5**	**-0.5**
STKA	**Stephens Creek**	**36.30**	**147**	P		**P**	**02 54 47.2**	**+0.2**
STKA	**Stephens Creek**	**36.30**	**147**	P		**P**	**02 54 46.8**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=318,slow=8.3,SNR=6.4							
STKA				LR		LR	03 10 58.5	
	comp=Z,131nm,18.3s,baz=1.7,slow=38							
	comp=Z,2.9nm,0.7s							
SHL	**Shillong**	**38.20**	**318**	P		**P**	**02 55 04.0**	**+0.6**
SHL				IAmb		IAmb	02 55 22.9	
	comp=Z,13nm,1.4s							
PALK	**Pallekele**	**39.48**	**284**	LR		LR	03 11 14.0	
	comp=Z,83nm,19.6s,baz=130,slow=36							
KSAR	**Wonju Array Be**	**40.30**	**11**	P		**P**	**02 55 21.5**	**+0.9**
KSRS	**Korea Array**	**40.32**	**11**	P		**P**	**02 55 21.9**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=182,slow=9.7,SNR=8.6							
KSRS				LR		LR	03 13 11.2	
	comp=Z,63nm,19.8s,baz=330,slow=38							
	comp=Z,2.3nm,0.8s							
LSA	**Lhasa**	**41.52**	**322**	P		**P**	**02 55 30.9**	**-0.4**
LSA				IAmb		IAmb	02 55 49.0	
	comp=Z,5.4nm,0.7s							
HHC	**Hu-ho-hao-te**	**43.43**	**352**	*e*P		**P**	**02 55 47.9**	**+1.7**
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,310nm,6.7s							
GTA	**Gaotai**	**45.08**	**339**	*e*P		**P**	**02 56 01.6**	**+2.1**
GTA				pP		pP	02 56 09.0	-0.4
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
XLT	**XiLinHaoTe**	**46.01**	**357**	*e*P		**P**	**02 56 10.3**	**+3.6**
XLT				pP		pP	02 56 16.8	-0.1
XLT				sP		sP	02 56 25.1	+4.1
XLT				PcP		**PcP**	**02 57 45.3**	**+2.4**
XLT				PP		**PP**	**02 57 58.0**	**+3.0**
XLT				pmax		pmax		
	comp=Z,6.0nm,1.1s							
XLT				pmax		pmax		
	comp=Z,240nm,9.1s							
MDJ	**Mudanjiang**	**47.57**	**10**	P		**P**	**02 56 18.3**	**-0.5**
MDJ				pP		pP	02 56 26.9	-2.0
MDJ				sP		sP	02 56 30.8	-2.2
MDJ				ScP		**ScP**	**03 01 35

OCHAL					IAML		03 13 47.7	
	comp=Z,7.1nm,1.0s							
CDM	**Cerro de Muert**	**1.03**	**276**	*i* PA			03 13 32.9	
CDM					IAML		03 13 49.1	
	comp=Z,230nm,1.0s							
DVD	**David**	**1.04**	**165**	*e*P		**Pb**	**03 13 33.0**	**+0.6**
DVD				*e*S		**Sn**	**03 13 47.6**	**-0.1**
LCR2	**La Lucha 2**	**1.29**	**283**	*i* PA			03 13 37.1	
LCR2					IAML		03 13 55.5	
	comp=Z,98nm,1.0s							
TBLN	**Tablon, Guarco**	**1.31**	**287**	*i* P		**Pn**	**03 13 38.6**	**+1.6**
TBLN				*i* S		**Sn**	**03 13 54.6**	**-0.1**
TBLN					IAML		03 13 56.8	
	comp=Z,220nm,1.0s							

*UCR **17** 03:19:58.6±0.9,9.41N×84.51W, h16km±10km, MW3.7*
*CATAC **17** 03:20:00.5±0.4,9.49N×84.44W, h9km±4km, ML2.8*
ISC 17 03:19:59.6±1.1,**9.45N**±0.05×**84.48W**±0.03,**h17**km±7km,
n31,σ1.8**08**/31,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.16**	**65**	*e*P	**Pg**	**03 20 03.3**	**-0.6**
RITA				*e*S	**Sg**	**03 20 08.2**	**+1.5**
JACO	**JACO, Garabito**	**0.27**	**320**	*e*P	**Pg**	**03 20 04.3**	**-1.3**
JACO				*e*S	**Sg**	**03 20 09.7**	**0.0**
JACO	**JACO, Garabito**	**0.27**	**320**	*i* P	**Pb**	**03 20 07.1**	**+1.0**
JACO				IAML		03 20 10.3	
	comp=Z,2μm,1.0s						
LLNJ	**Naranjito**	**0.38**	**87**	*e*P	**Pg**	**03 20 06.8**	**-0.6**
LCR2	**La Lucha 2**	**0.55**	**58**	*e*P	**Pg**	**03 20 09.7**	**-1.0**
LCR2	**La Lucha 2**	**0.55**	**58**	*i* PA		03 20 10.2	
LCR2				IAML		03 20 31.2	
	comp=Z,250nm,1.0s						
TBLN	**Tablon, Guarco**	**0.60**	**52**	*i* PA		03 20 11.0	
TBLN				IAML		03 20 25.1	
	comp=Z,520nm,1.0s						
CBL1	**Cabuya**	**0.62**	**283**	*e*P	**Pg**	**03 20 09.8**	**-2.0**
OCM	**Ochomogo**	**0.68**	**49**	*i* P	**Pg**	**03 20 12.9**	**-0.1**
OCM				IAML		03 20 35.9	
	comp=Z,130nm,1.0s						
CDM	**Cerro de Muert**	**0.71**	**82**	*e*P	**Pg**	**03 20 12.6**	**-1.2**
CDM	**Cerro de Muert**	**0.71**	**82**	*i* P	**Pg**	**03 20 13.7**	**-0.1**
CDM				IAML		03 20 34.4	
	comp=Z,200nm,1.0s						
BUS1	**Rivas**	**0.73**	**82**	*e*P	**Pg**	**03 20 12.6**	**-1.4**
PEZE	**Perez Zeledon,**	**0.80**	**95**	*i* P	**Pb**	**03 20 15.6**	**+0.5**
PEZE				*i* S	**Sb**	**03 20 26.4**	**+0.7**
PEZE				IAML		03 20 37.1	
	comp=Z,140nm,1.0s						
HAYA	**Volcan Irazu**	**0.82**	**50**	*i* P	**Pb**	**03 20 15.8**	**+0.1**
HAYA				IAML		03 20 24.0	
	comp=Z,300nm,1.0s						
CPMI	**Catarata Coope**	**0.83**	**7**	*e*P	**Pg**	**03 20 14.8**	**-1.1**
CPMI	**Catarata Coope**	**0.83**	**7**	*i* P	**Pn**	**03 20 16.9**	**+0.1**
CPMI				IAML		03 20 29.9	
	comp=Z,250nm,1.0s						
NYURE	**Nandayure**	**0.93**	**305**	*e*P	**Pg**	**03 20 17.4**	**-0.3**
SOCE	**Pocosol**	**0.94**	**352**	*e*P	**Pg**	**03 20 16.7**	**-1.1**
SOCE	**Pocosol**	**0.94**	**352**	*i* PA		03 20 17.6	
SOCE				IAML		03 20 21.2	
	comp=Z,300nm,1.0s						
JTS	**Las Juntas de**	**0.95**	**331**	*e*P	**Pg**	**03 20 15.7**	**-2.4**
RIFO	**Rio Frio, Sara**	**1.02**	**33**	*e*P	**Pb**	**03 20 18.5**	**-0.4**
RIFO	**Rio Frio, Sara**	**1.02**	**33**	*i* PA		03 20 18.9	
RIFO				IAML		03 20 48.0	
	comp=Z,220nm,1.0s						
INDI	**Punta indio, G**	**1.09**	**292**	*i* P	**Pn**	**03 20 21.5**	**+1.4**
INDI				IAML		03 20 41.5	
	comp=Z,210nm,1.0s						
DRK0	**Durika**	**1.23**	**99**	*e*P	**Pn**	**03 20 21.0**	**-1.3**
ORTG	**Ortega, Santa**	**1.32**	**313**	*i* P	**Pb**	**03 20 24.8**	**+0.7**
ORTG				*i* S	**Sg**	**03 20 42.5**	**+0.1**
ORTG				IAML		03 20 43.0	
	comp=Z,110nm,1.0s						
CUI	**Cuipilapa**	**1.37**	**331**	*e*P	**Pn**	**03 20 23.0**	**-1.1**
POTG	**Potrero Grande**	**1.40**	**106**	*i* P	**Pb**	**03 20 25.4**	**0.0**
POTG				IAML		03 20 49.4	
	comp=Z,160nm,1.0s						
VMAR	**Armenia, Volca**	**1.49**	**335**	*e*P	**Pn**	**03 20 25.5**	**-0.2**
VMAR	**Armenia, Volca**	**1.49**	**335**	*i* P	**Pb**	**03 20 26.8**	**-0.1**
VMAR				*i* S	**Sb**	**03 20 46.8**	**+1.2**
VMAR				IAML		03 20 54.8	
	comp=Z,190nm,1.0s						
VRLE	**La Escondida,**	**1.59**	**327**	*i* PA		03 20 28.7	
VRLE				IAML		03 20 31.7	
	comp=Z,87nm,1.0s						
HZTE	**Horizontes, Gu**	**1.67**	**319**	*i* P	**Pn**	**03 20 29.4**	**+1.3**
HZTE				IAML		03 20 57.1	
	comp=Z,180nm,1.0s						

*NEIC **17** 03:24:53.9±1.0,39.39N±0.01×119.75W±0.01, h6km±3km,*
Error ellipse: s-maj=1.6km s-min=1.2km az=199.0
REN 17 03:24:53.8±1.0,**39.383N**±0.009×**119.75W**±0.01,
h7km±3km,**ML2.8**/13,**ML2.6**/44(NEIC),**Error ellipse:**
s-maj=1.5km s-min=1.3km az=114.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPK	**Martis Peak**	**0.23**	**248**		Pg	03 24 59.2	+0.7
MPK					Sg	03 25 03.0	+1.3
MPK	**Martis Peak**	**0.23**	**248**	IAML		03 25 03.3	
	comp=E,3μm,0.6s						
MPK				IAML		03 25 03.8	
	comp=N,2μm,0.4s						
PEAR	**Peavine Mounta**	**0.28**	**324**		Pg	03 24 59.9	+0.5
PEAR					Sg	03 25 04.3	+1.2
PNTR	**Pine Nut**	**0.32**	**158**		Pg	03 25 00.7	+0.6
PNTR					Sb	03 25 05.9	-1.5
PNTR	**Pine Nut**	**0.32**	**158**	IAML		03 25 06.4	
	comp=E,834nm,1.0s						
PNTR				IAML		03 25 06.5	
	comp=N,639nm,0.5s						
BABR	**Babbit Peak**	**0.35**	**309**		Pg	03 25 01.2	+0.4
PAHR	**Pah Rah Range**	**0.43**	**41**		Pg	03 25 02.5	+0.3
PAHR					Sg	03 25 08.6	+0.7
PAHR	**Pah Rah Range**	**0.43**	**41**	IAML		03 25 09.3	
	comp=N,552nm,0.3s						
PAHR				IAML		03 25 10.7	
	comp=E,422nm,0.4s						
DONR	**Donner Summit**	**0.44**	**266**		Pg	03 25 02.9	+0.4
DONR					Sg	03 25 09.2	+0.9
RUBR	**Rubicon Trail**	**0.46**	**223**		Pg	03 25 03.3	+0.6
RUBR					Sb	03 25 10.2	-1.1
LOY	**Loyalton**	**0.47**	**307**		Pg	03 25 03.1	+0.2
EMB	**Emerald Bay**	**0.49**	**214**		Pg	03 25 03.8	+0.5
EMB					Sg	03 25 11.0	+1.3
EMB	**Emerald Bay**	**0.49**	**214**	IAML		03 25 11.3	
	comp=E,382nm,0.5s						
EMB				IAML		03 25 16.0	
	comp=N,274nm,0.7s						
YERR	**Yerington**	**0.56**	**135**		Pg	03 25 05.0	+0.3
YERR					Sg	03 25 13.0	+0.9
YERR	**Yerington**	**0.56**	**135**	IAML		03 25 13.2	
	comp=N,467nm,0.4s						
YERR				IAML		03 25 14.2	
	comp=E,715nm,0.3s						
BEKR	**Beckworth**	**0.67**	**316**		Pg	03 25 06.8	0.0
BMRR	**Black Mountain**	**0.83**	**330**		Pg	03 25 09.8	-0.1
WAKR	**Walker**	**0.91**	**164**		Pg	03 25 11.5	+0.2
AFDM	**Forest Hills D**	**1.04**	**246**		Pg	03 25 13.6	-0.2
RYN	**Ryan**	**1.22**	**128**		Pg	03 25 16.9	-0.4
RYN					Sb	03 25 33.5	+0.2
KVN	**Kaiserville**	**1.33**	**104**		Pn	03 25 18.5	-0.5
KVN					Sn	03 25 37.2	+0.2
KVN	**Kaiserville**	**1.33**	**104**	IAML		03 25 37.6	
	comp=E,129nm,0.6s						
PLTX	**Planet X, Gerl**	**1.34**	**9**		Pb	03 25 19.4	0.0
ORV	**Oroville**	**1.36**	**278**		Pn	03 25 18.9	-0.4
ORV	**Oroville**	**1.36**	**278**	IAML		03 25 39.6	
	comp=N,61nm,0.8s						
CMB	**Columbia Colle**	**1.44**	**200**		Pn	03 25 20.2	-0.1
NV09	**Mina Array Sit**	**1.46**	**130**		Pb	03 25 21.3	-0.1
NVAR	**Mina Array Bea**	**1.48**	**130**		Pn	03 25 20.8	-0.2
NV08	**Mina Array Sit**	**1.49**	**131**		Pb	03 25 21.7	-0.2
LHV	**Little Huntoon**	**1.49**	**139**		Pb	03 25 22.1	+0.2
LHV	**Little Huntoon**	**1.49**	**139**	IAML		03 25 54.8	
	comp=E,102nm,0.9s						
NV11	**Mina Array Sit**	**1.57**	**127**		Pn	03 25 22.1	-0.1
MDPB	**Devils Postpil**	**1.83**	**163**		Pn	03 25 25.9	0.0
OMMB	**Old Mammoth Mi**	**1.86**	**161**	Pn	Pn	03 25 26.2	-0.2
Q09A	**Carvers**	**2.07**	**105**	Pn	Pn	03 25 29.0	-0.3
BMN	**Battle Mountai**	**2.21**	**61**	Pn	Pn	03 25 30.3	-0.8
TPH	**Tonopah**	**2.37**	**123**	Pn	Pn	03 25 32.7	-0.6
MZP	**Montezuma Peak**	**2.50**	**131**		Pn	03 25 33.5	-1.7
GMN	**Gold Mountain**	**2.86**	**136**	Pn	Pn	03 25 38.6	-1.5
BBGB	**Big Mountain B**	**2.98**	**200**		Pn	03 25 39.6	-2.0
GRAC	**Grapevine Rang**	**3.04**	**141**		Pn	03 25 42.0	-0.3
GRAC				IAML		03 26 44.1	
	comp=E,18nm,4.8s						
GRAC				IAML		03 27 12.1	
	comp=N,20nm,4.4s						
WVOR	**Wild Horse Val**	**3.16**	**15**	Pn	Pn	03 25 44.1	-0.1
WVOR				IAML		03 26 08.6	
	comp=N,12nm,4.9s						
WVOR				IAML		03 26 54.0	
	comp=N,12nm,5.0s						
R11B	**Troy Canyon, C**	**3.41**	**106**	Pn	Pn	03 25 47.5	-0.2
R11B				IAML		03 26 42.2	
	comp=N,14nm,0.7s						
R11B				IAML		03 26 50.6	
	comp=E,8.3nm,3.5s						
K05A	**Summer Lake**	**3.45**	**346**	Pn	Pn	03 25 47.5	-0.7
WCT	**Wildcat Mounta**	**3.57**	**135**	Pn	Pn	03 25 51.5	+1.7
S11A	**Rachel**	**3.59**	**118**	Pn	Pn	03 25 50.0	0.0
TPNV	**Topopah Spring**	**3.68**	**130**	Pn	Pn	03 25 50.8	-0.5
TPNV				IAML		03 27 04.7	
	comp=E,12nm,1.4s						
ELK	**Elko**	**3.72**	**67**	Pn	Pn	03 25 51.7	-0.2
ELK				IAML		03 26 54.1	
	comp=E,5.9nm,0.6s						
Q12A	**Willow Creek R**	**3.84**	**94**	Pn	Pn	03 25 53.4	-0.1
ISA	**Isabella, Lake**	**3.85**	**164**	Pn	Pn	03 25 52.7	-0.9
GWY	**Greenwater Val**	**4.02**	**142**	Pn	Pn	03 25 54.6	-1.3
J05D	**Fort Rock, OR**	**4.05**	**345**	Pn	Pn	03 25 55.5	-0.9
J08A	**Circle Bar Ran**	**4.09**	**13**	Pn	Pn	03 25 58.5	+1.7
QSM	**Queen of Sheba**	**4.11**	**145**	Pn	Pn	03 25 57.0	-0.1
PRN	**Pahroc Range**	**4.19**	**117**	Pn	Pn	03 25 58.0	-0.3
SPR3	**Spring Creek 3**	**4.23**	**93**	Pn	Pn	03 25 58.5	-0.5
DUG	**Dugway, Tooele**	**5.41**	**79**	Pn	Pn	03 26 11.9	-3.1
MVU	**Marysvale**	**5.94**	**96**		Pn	03 26 22.8	+0.3
MSU	**Marysvale**	**5.97**	**96**	Pn	Pn	03 26 22.1	-0.7

*NEIC **17** 03:35:26.9±0.7,16.2S±0.1×174.9W±0.2, h279km±9km,*
mb4.2/33,Error ellipse: s-maj=23.4km s-min=16.0km
az=126.0
*IDC **17** 03:35:38.8±12.0,16.19S×175.08W, h405km±131km,*
mb3.4/9,mbtmp4.2/9,Error ellipse: s-maj=34.5km
s-min=24.0km az=114.0
ISC 17 03:35:26.3±0.6,**16.1S**±0.1×**174.9W**±0.1,**h278**km,**n52,**
σ0.**90**/52,**mb4.1**/26,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.76**	**54**		**Pn**	**03 36 29.3**	**+0.5**
NIUE	**Niue**	**5.59**	**122**	Pn	**Pn**	**03 36 49.3**	**-0.8**
RTZ	**Ruatahuna**	**23.50**	**196**	P	**P**	**03 40 16.0**	**+4.3**
ARMA	**Armidale**	**33.71**	**239**	P	**P**	**03 41 42.2**	**+0.1**
STKA	**Stephens Creek**	**42.40**	**240**	P	**P**	**03 42 54.4**	**+0.2**
	1.1nm,0.4s,baz=89,slow=12,SNR=4.8						
	1.1nm,0.4s						
BBOO	**Buckleboo**	**47.18**	**240**	P	**P**	**03 43 31.3**	**-0.3**
BBOO				IAmb	IAmb	03 44 12.4	
	comp=Z,25nm,1.5s						
WR0	**Warramunga Arr**	**48.06**	**257**	P	**P**	**03 43 38.8**	**+0.2**
WB0	**Warramunga Arr**	**48.22**	**258**	P	**P**	**03 43 39.3**	**-0.4**
WB0				IAmb	IAmb	03 43 54.2	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**48.24**	**258**	P	**P**	**03 43 39.5**	**-0.4**
WB2				IAmb	IAmb	03 43 40.8	
	comp=Z,9.7nm,1.0s						
WRAB	**Tennant Creek**	**48.24**	**258**	P	**P**	**03 43 39.6**	**-0.3**
WRA	**Warramunga Arr**	**48.25**	**258**	P	**P**	**03 43 39.6**	**-0.5**
WRA	**Warramunga Arr**	**48.25**	**258**	P	**P**	**03 43 40.0**	**0.0**
	comp=Z,2.2nm,0.4s,baz=96,slow=6.6,SNR=50						
	comp=Z,2.2nm,0.4s						
AS31	**Alice Springs**	**48.49**	**253**	P	**P**	**03 43 41.8**	**0.0**
ASAR	**Alice Springs**	**48.49**	**253**	P	**P**	**03 43 41.4**	**-0.5**
ASAR	**Alice Springs**	**48.49**	**253**	P	**P**	**03 43 41.8**	**-0.1**
	comp=Z,4.9nm,0.3s,baz=88,slow=8.1,SNR=108						
	comp=Z,4.9nm,0.3s						
FORT	**Forrest**	**53.78**	**243**	P	**P**	**03 44 18.8**	**-2.0**
FORT				IAmb	IAmb	03 45 00.1	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**61.59**	**254**	P	**P**	**03 45 14.9**	**-0.2**
PSA00				IAmb	IAmb	03 45 34.2	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Dui**	**73.91**	**180**	P	**P**	**03 46 30.5**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=329,slow=1.2,SNR=5.5						
	comp=Z,1.5nm,0.5s						
NVAR	**Mina Array Bea**	**75.85**	**43**	P	**P**	**03 46 43.3**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=225,slow=9.5,SNR=20						
	comp=Z,2.1nm,0.8s						
BNM	**Barren Site**	**81.92**	**51**	P	**P**	**03 47 15.9**	**+0.3**
PV14	**Lion Creek, Pa**	**82.08**	**46**	P	**P**	**03 47 16.6**	**+0.3**
PV04	**Paradox Valley**	**82.17**	**46**	P	**P**	**03 47 17.0**	**+0.3**
TXAR	**Lajitas Array**	**82.23**	**57**	P	**P**	**03 47 18.0**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=219,slow=5.8,SNR=5.8						
	comp=Z,1.7nm,1.0s						
PV01	**Paradox Valley**	**82.29**	**47**	P	**P**	**03 47 17.6**	**+0.2**
PV01				IAmb	IAmb	03 47 18.4	
	comp=Z,3.9nm,0.7s						
ANMO	**Albuquerque**	**82.39**	**50**	P	**P**	**03 47 17.9**	**0.0**
ANMO				IAmb	IAmb	03 47 19.4	
	comp=Z,3.6nm,1.1s						
O30N	**Mendenhall**	**82.71**	**18**	P	**P**	**03 47 19.2**	**+0.5**
F17K	**Baldwin Pennin**	**82.97**	**5**	P	**P**	**03 47 20.6**	**+0.7**
CCB	**Clear Creek Bu**	**83.16**	**11**	P	**P**	**03 47 20.8**	**-0.2**
CCB				IAmb	IAmb	03 47 59.5	
	comp=Z,6.9nm,1.4s						
TPAW	**Teton Pass**	**83.25**	**41**	P	**P**	**03 47 22.2**	**0.0**
TPAW				IAmb	IAmb	03 47 23.1	
	comp=Z,3.3nm,0.8s						
S22A	**4UR Ranch, Cre**	**83.34**	**48**	P	**P**	**03 47 23.3**	**+0.4**
S22A				IAmb	IAmb	03 47 24.4	
	comp=Z,3.9nm,0.9s						
IMAR	**Indian Mountai**	**83.41**	**9**	P	**P**	**03 47 22.7**	**+0.5**
ILAR	**Eielson Array**	**83.45**	**12**	P	**P**	**03 47 21.8**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=233,slow=5.6,SNR=10						
	comp=Z,0.5nm,0.7s						
IL03	**Eielson Array**	**83.46**	**12**	P	**P**	**03 47 23.6**	**+1.2**
J25K	**Salcha River,**	**83.61**	**12**	P	**P**	**03 47 24.3**	**+0.9**
J25K				IAmb	IAmb	03 47 30.4	
	comp=Z,6.5nm,1.4s						
F19K	**Shaleruckik Mo**	**83.70**	**7**	P	**P**	**03 47 23.9**	**+0.3**
F19K				IAmb	IAmb	03 47 24.9	
	comp=Z,2.2nm,0.8s						
YHL	**Hebgen Lake**	**83.78**	**40**	P	**P**	**03 47 25.6**	**+0.7**
YHL				IAmb	IAmb	03 47 26.8	
	comp=Z,4.9nm,1.0s						
BW06	**Boulder Array**	**83.79**	**42**	P	**P**	**03 47 24.7**	**-0.2**
PD31	**Pinedale Array**	**83.79**	**42**	P	**P**	**03 47 24.7**	**-0.2**
PDAR	**Pinedale Array**	**83.79**	**42**	P	**P**	**03 47 24.6**	**-0.4**
PDAR	**Pinedale Array**	**83.79**	**42**	P	**P**	**03 47 24.7**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=218,slow=3.8,SNR=15						
	comp=Z,1.2nm,0.6s						
J26L	**Joseph Creek**	**83.90**	**13**	P	**P**	**03 47 25.7**	**+0.9**
J26L				IAmb	IAmb	03 47 26.6	
	comp=Z,3.0nm,0.9s						
G21K	**Allakaket**	**83.94**	**8**	P	**P**	**03 47 25.4**	**+0.5**
M30M	**Minto, Yukon**	**83.96**	**17**	P	**P**	**03 47 24.5**	**-0.6**
L29M	**L29M**	**84.03**	**16**	P	**P**	**03 47 26.2**	**+0.8**
SDCO	**Great Sand Dun**	**84.29**	**48**	P	**P**	**03 47 27.9**	**+0.2**
E19K	**Redstone River**	**84.36**	**7**	P	**P**	**03 47 27.6**	**+0.7**
E19K				IAmb	IAmb	03 47 33.2	
	comp=Z,3.7nm,1.4s						
DRIO	**Del Rio**	**84.73**	**58**	P	**P**	**03 47 29.7**	**+0.1**
DRIO				IAmb	IAmb	03 47 30.7	
	comp=Z,3.9nm,0.8s						
K29M	**Barlow Dome**	**84.79**	**16**	P	**P**	**03 47 30.2**	**+0.9**
K29M				IAmb	IAmb	03 48 04.8	
	comp=Z,7.7nm,1.4s						
YKA	**Yellowknife Ar**	**91.35**	**24**	P	**P**	**03 47 58.5**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=221,slow=5.3,SNR=4.0						
	comp=Z,0.2nm,0.8s						
GERES	**GERESS Array B**	**146.62**	**350**	PKPbc	**PKPdf**	**03 54 33.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=332,slow=1.0,SNR=2.1						
ESDC	**Sonseca Array**	**155.25**	**17**	PKPab	**PKPab**	**03 55 12.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=340,slow=6.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**175.58**	**132**	PKPab	**PKPab**	**03 56 41.9**	**-1.3**
	comp=Z,1.1nm,1.0s,baz=267,slow=5.7,SNR=4.1						

*THE **17** 03:38:04.5,37.60N×20.52E, h0km±2km, ML2.5/7, Error*
ellipse: s-maj=3.5km s-min=0.6km az=217.0
*ATH **17** 03:38:05.3,37.62N×20.55E, h7km±3km, ML2.3/1, Error*
ellipse: s-maj=4.5km s-min=1.2km az=34.0
ISC 17 03:38:06.1±1.6,**37.65N**±0.06×**20.58E**±0.05,**h10**km±8km,
n29,σ0.**89**/47,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.19**	**87**	P	**Pg**	**03 38 09.7**	**-0.4**
KRI1				S	**Sg**	**03 38 13.4**	**+0.6**
	2μm,0.5s						
LTHK	**Lithakia**	**0.21**	**74**	P	**Pg**	**03 38 10.1**	**-0.4**
LTHK				S	**Sg**	**03 38 13.9**	**+0.5**
	2μm,0.2s						
LTHK	**Lithakia**	**0.21**	**74**	P	**Pg**	**03 38 10.1**	**-0.4**
LTHK				S	**Sg**	**03 38 13.7**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.46**	**0**	P	**Pg**	**03 38 14.4**	**-0.7**
PSDA				S	**Sg**	**03 38 22.0**	**+0.8**
	650nm,0.3s						
VLS	**Valsamata**	**0.52**	**1**	P	**Pg**	**03 38 15.3**	**-1.0**
VLS				S	**Sg**	**03 38 24.1**	**+0.9**
	425nm,0.5s						
VLS	**Valsamata**	**0.52**	**1**	P	**Pg**	**03 38 15.4**	**-0.9**
VLS				S	**Sg**	**03 38 23.2**	**0.0**
VLS				AML	AML	03 38 26.6	
	comp=N,965μm,0.5s						
VLS				AML	AML	03 38 27.7	
	comp=E,729μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.56**	**348**	P	**Pg**	**03 38 16.5**	**-0.4**
LXR1				S	**Sg**	**03 38 25.2**	**+0.9**
LXRA	**Lixouri, Kepha**	**0.56**	**348**	P	**Pg**	**03 38 16.5**	**-0.4**
LXRA				S	**Sg**	**03 38 25.1**	**+0.8**
KEF3	**Kipouria, Keph**	**0.58**	**342**	P	**Pg**	**03 38 16.5**	**-0.8**
KEF3				S	**Sg**	**03 38 25.9**	**+0.9**
KEF3	**Kipouria, Keph**	**0.58**	**342**	P	**Pg**	**03 38 16.8**	**-0.6**
KEF3				S	**Sg**	**03 38 25.8**	**+0.9**
DMLN	**Damoulianata-K**	**0.61**	**344**	P	**Pg**	**03 38 17.1**	**-0.8**
DMLN				S	**Sb**	**03 38 27.0**	**-0.5**
	comp=E,1μm,0.5s						
DMLN	**Damoulianata-K**	**0.61**	**344**	P	**Pg**	**03 38 17.2**	**-0.6**
DMLN				S	**Sg**	**03 38 26.8**	**+1.0**
KEF4	**Livadi, Kephal**	**0.62**	**349**	P	**Pg**	**03 38 17.4**	**-0.6**
KEF4				S	**Sg**	**03 38 27.1**	**+1.0**
KEF4	**Livadi, Kephal**	**0.62**	**349**	P	**Pg**	**03 38 17.3**	**-0.8**
KEF4				S	**Sg**	**03 38 26.9**	**+0.7**
VSK1	**VASILIKIADES**	**0.76**	**359**	P	**Pg**	**03 38 19.4**	**-1.3**
VSK1				S	**Sg**	**03 38 31.5**	**+1.0**
	comp=E,358nm,0.5s						
FSK	**Fiskardo**	**0.81**	**359**	P	**Pg**	**03 38 20.6**	**-1.1**
FSK				S	**Sb**	**03 38 33.6**	**+0.4**
	comp=E,285nm,0.7s						
FSK	**Fiskardo**	**0.81**	**359**	P	**Pg**	**03 38 20.5**	**-1.1**
RLS	**Riolos of Patr**	**0.81**	**60**	P	**Pg**	**03 38 20.8**	**-0.9**
RLS				S	**Sg**	**03 38 32.5**	**+0.3**
EVGI	**Lefkada island**	**0.97**	**4**	P	**Pg**	**03 38 23.4**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.06**	**5**	P	**Pg**	**03 38 25.1**	**-1.4**
PYL	**PYLOS**	**1.20**	**129**	P	**Pn**	**03 38 28.4**	**-0.5**
PVO	**Paravola**	**1.22**	**37**	P	**Pg**	**03 38 28.3**	**-1.2**
PVO				S	**Sn**	**03 38 48.0**	**+2.2**
PVO	**Paravola**	**1.22**	**37**	P	**Pg**	**03 38 28.3**	**-1.2**
EFP	**Efpalio**	**1.30**	**53**	P	**Pn**	**03 38 30.2**	**-0.1**
EFP	**Efpalio**	**1.30**	**53**	P	**Pn**	**03 38 29.2**	**-1.1**
KLV	**Kalavryta, Ach**	**1.30**	**72**	P	**Pn**	**03 38 30.3**	**-0.1**
ANX	**Ano Chora**	**1.41**	**48**	P	**Pn**	**03 38 31.3**	**-0.7**
ANX	**Ano Chora**	**1.41**	**48**	P	**Pn**	**03 38 31.2**	**-0.8**
GUR	**Goura**	**1.42**	**78**	P	**Pn**	**03 38 32.1**	**0.0**

*IDC **17** 03:48:11.5±2.4,37.93N×74.17E, h148km±21km, mb3.6/23,*
mbtmp4.2/29,Error ellipse: s-maj=16.8km s-min=10.7km
az=179.0
*NNC **17** 03:48:11.0±2.6,38.27N×73.63E, h0km, mb4.8, mpv4.5,*
Error ellipse: s-maj=20.2km s-min=16.3km az=174.0
*MOS **17** 03:48:13.1±1.0,38.17N×74.10E, h177km, mb4.1/9, Error*
ellipse: s-maj=8.2km s-min=3.8km az=83.0
*NEIC **17** 03:48:14.6±1.6,38.17N±0.07×74.1E±0.1, h169km±8km,*
mb4.3/6, Error ellipse: s-maj=11.8km s-min=9.7km
az=109.0
*BJI **17** 03:48:15.1±0.0,38.20N×74.22E, h166km, mb4.3/21,*
mB4.9/10
*SOME **17** 03:48:19.6,39.60N×74.03E, h0km*
ISC 17 03:48:12.2±0.4,**38.08N**±0.04×**74.10E**±0.04,**h152**km,**n165,**
σ2.**30**/197,**mb4.0**/35,**25C-10D,Tajikistan-Xinjiang**
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.05**	**45**	P	**Pn**	**03 48 46.0**	**-2.1**
KSH				S	**Sn**	**03 49 08.0**	**-7.8**
KSH				smax	smax		
	comp=N,6μm,0.8s						
KSH				smax	smax		
	comp=E,3μm,0.7s						

DZA	**Taraz**	**5.25**	**337**	*e*P		**Pn**	**03 49 30.0**	**+1.0**
	baz=335								
DZA	**Taraz**	**5.25**	**337**	*e*P		**Pn**	**03 49 30.2**	**+1.3**
	comp=Z,320nm,0.2s								
DZA				*e*S		**Sn**	**03 50 26.7**	**-2.2**
	comp=Z,987nm,0.3s								
DGS	**Degeres**	**5.31**	**13**	*e*P		**Pn**	**03 49 31.6**	**+1.8**
	comp=Z,37nm,0.3s								
DGS				*e*S		**Sn**	**03 50 29.1**	**-1.3**
	comp=Z,105nm,0.5s								
MTBS	**Maitube**	**5.35**	**19**	*e*P		**Pn**	**03 49 32.2**	**+1.9**
	comp=Z,17nm,0.2s								
MTBS				*e*S		**Sn**	**03 50 30.0**	**-1.2**
	comp=Z,69nm,0.7s								
SGDS	**Sogindy**	**5.38**	**4**	*c i*PN		**Pn**	**03 49 32.0**	**+1.4**
SGDS				pmax	pmax				
	comp=Z,10.0nm,0.8s								
SGDS	**Sogindy**	**5.38**	**4**	⇑*i*P		**Pn**	**03 49 32.1**	**+1.4**
	comp=Z,9.6nm,0.8s,baz=4.3								
JMU	**Jammu**	**5.39**	**173**	*e*P		**Pn**	**03 49 34.0**	**+3.3**
JMU				*e*S		**Sn**	**03 50 31.8**	**-0.3**
KBL	**Kabul**	**5.40**	**231**	Pn		**Pn**	**03 49 34.0**	**+2.9**
KBL	**Kabul**	**5.40**	**231**	PN		**Pn**	**03 49 34.0**	**+2.9**
TNSS	**Tian-Shan**	**5.41**	**23**	*e*PN		**Pn**	**03 49 32.6**	**+1.3**
TNSS	**Tian-Shan**	**5.41**	**23**	*e*P		**Pn**	**03 49 32.6**	**+1.3**
	baz=24								
MDOK	**Medeo**	**5.55**	**23**	⇑P		**Pn**	**03 49 33.8**	**+0.8**
	comp=Z,24nm,0.8s								
MDOK				⇑S		**Sn**	**03 50 40.4**	**+4.2**
	comp=Z,164nm,1.0s								
MDOK	**Medeo**	**5.55**	**23**	*e*PN		**Pn**	**03 49 34.5**	**+1.5**
MDOK	**Medeo**	**5.55**	**23**	*e*P		**Pn**	**03 49 34.5**	**+1.5**
	baz=24								
MDOK	**Medeo**	**5.55**	**23**	*e*P		**Pn**	**03 49 36.6**	**+3.6**
	comp=Z,7.3nm,0.3s								
MDOK				*e*S		**Sn**	**03 50 38.5**	**+2.3**
	comp=Z,47nm,0.4s								
AAA	**Alma-Ata**	**5.55**	**22**	*e*PN		**Pn**	**03 49 35.4**	**+2.5**
AAA	**Alma-Ata**	**5.55**	**22**	*e*P		**Pn**	**03 49 35.4**	**+2.5**
	baz=23								
KOTS	**Kotyrbulak**	**5.64**	**23**	*e*P		Pn	03 49 38.9	+4.8
	comp=Z,13nm,0.3s								
KOTS				*e*S		**Sn**	**03 50 42.3**	**+4.1**
	comp=Z,110nm,2.9s								
KK31	**Karatay Array**	**5.72**	**333**	P		**Pn**	**03 49 32.7**	**-2.4**
	comp=Z,112nm,0.7s,baz=160,slow=16,SNR=611								
KK31				⇓S		**Sn**	**03 50 36.5**	**-3.4**
	comp=Z,191nm,0.5s,baz=164,slow=22,SNR=19								
KK31	**Karatay Array**	**5.72**	**333**	Pn		**Pn**	**03 49 36.3**	**+1.3**
KK31	**Karatay Array**	**5.72**	**333**	*e*PN		**Pn**	**03 49 36.2**	**+1.1**
KKAR	**Karatay Array**	**5.72**	**333**			**Pn**	**03 49 36.1**	**+1.0**
KKAR	**Karatay Array**	**5.72**	**333**	Pn		**Pn**	**03 49 36.3**	**+1.2**
KKAR	**Karatay Array**	**5.72**	**333**	PN		**Pn**	**03 49 36.3**	**+1.2**
THN	**Thein Dam**	**5.78**	**166**	*e*P		**Pn**	**03 49 39.1**	**+3.1**
THN				*e*S		**Sn**	**03 50 40.8**	**-0.8**
SATY	**Saty**	**5.96**	**32**	*e*PN		**Pn**	**03 49 40.4**	**+2.1**
SATY				pmax	pmax				
	comp=Z,3.0nm,0.7s								
SATY	**Saty**	**5.96**	**32**	*e*P		**Pn**	**03 49 40.4**	**+2.1**
	comp=Z,2.7nm,0.7s,baz=34								
KTBS	**Karatobe**	**5.96**	**18**	*e*P		Pn	03 49 46.2	+7.9
	comp=Z,5.4nm,0.3s								
KTBS				*e*S		Sn	03 50 55.5	+10
	comp=Z,34nm,0.5s								
ZHN	**Zhinishke**	**6.06**	**32**	*e*PN		**Pn**	**03 49 41.6**	**+1.9**
ZHN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ZHN	**Zhinishke**	**6.06**	**32**	*e*P		**Pn**	**03 49 41.6**	**+1.9**
	comp=Z,3.5nm,0.8s,baz=34								
DHRM	**DHARAMSHALA**	**6.08**	**162**	*e*P		**Pn**	**03 49 42.7**	**+2.5**
DHRM				*e*S		**Sn**	**03 50 47.7**	**-1.4**
DHRM				*e*S			03 50 47.8	
DHRM				IAML			03 50 52.6	
	comp=N,605nm,0.6s								
DHRM				IAML			03 50 53.2	
	comp=N,555nm,0.2s								
DHRM				IAML			03 50 55.0	
	comp=E,579nm,0.5s								
CHKK	**Chushkaly**	**6.17**	**20**	*e*PN		**Pn**	**03 49 41.7**	**+0.6**
CHKK	**Chushkaly**	**6.17**	**20**	*e*P		**Pn**	**03 49 41.8**	**+0.6**
	baz=21								
UZB	**Uzynbulak**	**6.30**	**35**	*e*PN		**Pn**	**03 49 45.1**	**+2.2**
UZB	**Uzynbulak**	**6.30**	**35**	*e*P		**Pn**	**03 49 45.2**	**+2.2**
	baz=37								
KPKS	**Kokpek**	**6.41**	**31**	*e*PN		**Pn**	**03 49 44.9**	**+0.6**
KPKS	**Kokpek**	**6.41**	**31**	*e*P		**Pn**	**03 49 45.0**	**+0.6**
	baz=33								
SHLS	**Shalkode**	**6.51**	**37**	*e*PN		**Pn**	**03 49 50.3**	**+4.6**
SHLS	**Shalkode**	**6.51**	**37**	*e*P		**Pn**	**03 49 50.4**	**+4.6**
	baz=41								
PDGK	**Podgornoye**	**6.65**	**36**	⇑P		**Pn**	**03 49 47.5**	**-0.1**
	comp=E,18nm,0.7s								
PDGK				⇓S		Sn	03 51 12.6	+10
	comp=E,263nm,1.3s								
PDGK	**Podgornoye**	**6.65**	**36**	PN		**Pn**	**03 49 47.5**	**-0.1**
PDGK				S		**Sn**	**03 51 01.9**	**-0.5**
BHK	**Bhakra**	**6.91**	**163**	*e*P		**Pn**	**03 49 53.7**	**+2.6**
BHK				*e*S		**Sn**	**03 51 06.3**	**-2.3**
BTLS	**Baital**	**6.96**	**360**	*c i*PN		**Pn**	**03 49 52.6**	**+1.1**
BTLS				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BTLS	**Baital**	**6.96**	**360**	⇑*i*P		**Pn**	**03 49 52.7**	**+1.1**
	comp=Z,4.8nm,0.6s,baz=360								
SMLA	**Simla**	**7.38**	**159**	*e*P		**Pn**	**03 49 58.9**	**+1.7**
SMLA				IAML			03 50 59.1	
	comp=Z,34nm,0.2s								
SMLA				IAML			03 51 00.2	
	comp=E,36nm,0.2s								
SMLA				*e*S		**Sn**	**03 51 15.4**	**-4.4**
SMLA				*e*S			03 51 16.3	
SMLA				IAML			03 51 20.7	
	comp=N,412nm,0.3s								
SMLA				IAML			03 51 21.4	
	comp=E,280nm,0.0s								
DDI	**Dehra Dun**	**8.40**	**156**	*e*P		**Pn**	**03 50 12.7**	**+1.8**
LGTI	**Lohaghat**	**10.01**	**148**	*e*P		**Pn**	**03 50 32.1**	**-0.1**
OTUK	**Ortayu**	**10.24**	**353**	⇑P		**Pn**	**03 50 34.5**	**-0.7**
	comp=E,7.6nm,0.8s								
OTUK	**Ortayu**	**10.24**	**353**	P		**Pn**	**03 50 34.5**	**-0.7**
HRA	**Herat**	**10.26**	**253**	Pn		**Pn**	**03 50 36.4**	**+0.6**
MAKZ	**Makanchi**	**10.48**	**31**	⇑P		**P**	**03 50 43.0**	**-4.6**
	comp=E,16nm,0.8s								
MAKZ	**Makanchi**	**10.48**	**31**			**Pn**	**03 50 38.6**	**+0.2**
MAKZ	**Makanchi**	**10.48**	**31**	P		**Pn**	**03 50 38.6**	**+0.2**
MK31	**Makanchi Array**	**10.60**	**32**	⇑P		**Pn**	**03 50 44.3**	**+4.4**
	comp=E,12nm,0.8s,baz=0.0,slow=0.1,SNR=97								
MK31	**Makanchi Array**	**10.60**	**32**			**Pn**	**03 50 40.1**	**+0.2**
MK31	**Makanchi Array**	**10.60**	**32**	*ce*P		**Pn**	**03 50 39.8**	**-0.1**
MKAR	**Makanchi Array**	**10.60**	**32**	P		**Pn**	**03 50 41.7**	**+1.8**
	comp=E,21nm,0.3s,baz=209,slow=15,SNR=1.5								
MKAR				S		**S**	**03 52 39.2**	**+0.9**
	comp=E,17nm,0.3s,baz=230,slow=9.4,SNR=1.5								
AJM	**Ajmer**	**11.57**	**178**	*e*P		**P**	**03 50 59.7**	**-0.6**
AJM				*e*S		**Sn**	**03 52 55.3**	**-5.6**
WMQ	**Urumqi**	**11.77**	**57**	*e*P		**P**	**03 51 01.3**	**-1.0**
WMQ				S		**Sn**	**03 53 01.3**	**-4.0**
ZSN	**Zaisan**	**12.25**	**37**	*e*P		**Pn**	**03 50 59.9**	**-1.5**
ZSN	**Zaisan**	**12.25**	**37**	*e*P		**Pn**	**03 50 59.9**	**-1.5**
	baz=37								
GEYT	**Alibeck**	**12.61**	**274**	P		**Pn**	**03 51 05.0**	**-1.2**
	comp=E,13nm,0.7s,baz=108,slow=9.5,SNR=22								
GEYT				S		Sn	03 53 16.4	-9.4
	comp=E,6.7nm,0.3s,baz=97,slow=12,SNR=3.5								
KURBB	**Kurchatov Arra**	**12.93**	**13**	⇓P		**P**	**03 51 14.7**	**-0.3**
	comp=E,21nm,0.8s								
KURBB	**Kurchatov Arra**	**12.93**	**13**	P		**Pn**	**03 51 08.6**	**-1.6**
	comp=E,2.7nm,0.8s,baz=201,slow=12,SNR=15								
KURBB				S		**Sn**	**03 53 39.5**	**+6.4**
	comp=E,3.0nm,0.9s,baz=202,slow=20,SNR=5.0								
KURK	**Kurchatov**	**13.04**	**13**	⇓P		**P**	**03 51 16.2**	**-0.1**
	comp=E,28nm,1.0s								
KURK	**Kurchatov**	**13.04**	**13**			**Pn**	**03 51 12.2**	**+0.7**
KURK	**Kurchatov**	**13.04**	**13**	*ce*P		**Pn**	**03 51 10.0**	**-1.6**
KURK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
DGZ	**Jazzator, Alta**	**15.05**	**35**	*i* P		**Pn**	**03 51 36.3**	**-0.8**
DGZ				pmax	pmax				
	comp=Z,63nm,0.9s								
AB31	**Akbulak array**	**15.13**	**322**	⇑P		**P**	**03 51 42.2**	**+2.7**
	comp=Z,3.6nm,0.5s								
AB31				S		**Sn**	**03 54 24.6**	**-1.4**
	comp=Z,6.6nm,0.5s,baz=169,slow=16,SNR=14								
AB31	**Akbulak array**	**15.13**	**322**	P		**Pn**	**03 51 35.7**	**-2.2**
ABKAR	**Akbulak array**	**15.13**	**322**	Pn		**Pn**	**03 51 37.5**	**-0.5**
ABKAR	**Akbulak array**	**15.13**	**322**	Pn		**Pn**	**03 51 37.4**	**-0.5**
ABKAR				IAmb		IAmb	03 51 40.0		
	comp=Z,7.1nm,0.5s								
BVA0	**Borovoye Array**	**15.17**	**351**	⇓P		**P**	**03 51 43.5**	**+3.6**
	comp=Z,6.1nm,0.6s								
BVA0	**Borovoye Array**	**15.17**	**351**	P		**Pn**	**03 51 36.8**	**-1.6**
BVAR	**Borovoye Array**	**15.17**	**351**	P		**Pn**	**03 51 38.0**	**-0.4**
	comp=Z,9.6nm,0.6s,baz=160,slow=12,SNR=23								
BVAR				S		**S**	**03 54 31.8**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=231,slow=42,SNR=2.1								
BRVK	**Borovoye**	**15.22**	**351**	⇑P		**P**	**03 51 44.2**	**+3.8**
	comp=E,12nm,0.8s								
BRVK	**Borovoye**	**15.22**	**351**	Pn		**Pn**	**03 51 37.9**	**-1.0**
BRVK				IAmb		IAmb	03 51 42.8		
	comp=E,11nm,0.7s								
BRVK	**Borovoye**	**15.22**	**351**	*ce*P		**Pn**	**03 51 37.7**	**-1.2**
BRVK				pmax	pmax				
	comp=E,13nm,0.8s								
GOMU	**GeErMu**	**16.62**	**90**	P		**Pn**	**03 51 57.4**	**+0.7**
GOMU				pmax	pmax				
	comp=E,10.0nm,0.8s								
AKTO	**Aktyubinsk**	**16.85**	**322**	⇓P		**Pn**	**03 52 03.2**	**+4.3**
	comp=Z,5.5nm,0.9s								
AKTO				⇑S		**S**	**03 55 05.3**	**-0.6**
	comp=Z,7.2nm,0.8s								
AKTO	**Aktyubinsk**	**16.85**	**322**	P		**Pn**	**03 51 59.0**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=123,slow=9.9,SNR=11								
AKTO				S		**S**	**03 54 59.4**	**-6.5**
	comp=Z,12nm,0.7s,baz=3.1,slow=24,SNR=8.5								
ZAA0	**Zalesovo Array**	**17.50**	**21**	P		**P**	**03 52 05.8**	**+0.3**
ZALV	**Zalesovo Beam**	**17.50**	**21**	P		**P**	**03 52 05.8**	**+0.3**
	comp=Z,21nm,0.4s,baz=215,slow=11,SNR=102								
ZALV				S		**S**	**03 55 13.8**	**-5.8**
	comp=Z,0.4nm,0.3s,baz=157,slow=27,SNR=1.5								
SHL	**Shillong**	**19.55**	**124**	P		**P**	**03 52 28.8**	**+0.5**
SHL	**Shillong**	**19.55**	**124**	P		**P**	**03 52 28.8**	**+0.5**
SHL				pmax	pmax				
	comp=E,12nm,1.2s								
GTA	**Gaotai**	**20.08**	**78**	P		**P**	**03 52 35.3**	**+1.4**
GTA				pP	pP		03 53 07.0	+5.5
GTA				pmax	pmax				
	comp=E,10.0nm,1.0s								
ARU	**Arti**	**21.08**	**336**	*c i*P		**P**	**03 52 50.4**	**+6.2**
ARU				*PP	pP		03 53 21.3	+9.3
ARU	**Arti**	**21.08**	**336**	P		**P**	**03 52 47.3**	**+3.0**
	comp=Z,4.2nm,0.2s,baz=138,slow=7.1,SNR=7.5								
	comp=Z,4.2nm,0.2s								
ZEI	**Tsey**	**23.40**	**291**	*e*P		**P**	**03 53 14.6**	**+7.1**
ZEI				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ZAK	**Zakamensk**	**24.09**	**50**	*e*P		**P**	**03 53 13.8**	**+0.3**
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.1s								
KBZ	**Khabaz**	**24.16**	**293**	*i* P		**P**	**03 53 12.6**	**-1.5**
KBZ				pmax	pmax				
	comp=Z,3.0nm,1.5s								
KBZ	**Khabaz**	**24.16**	**293**	P		**P**	**03 53 16.3**	**+2.2**
	comp=Z,1.2nm,1.0s,baz=45,slow=17,SNR=1.5								
	comp=Z,1.2nm,1.0s								
KIV	**Kislovodsk**	**24.33**	**294**	*e*P		**P**	**03 53 13.4**	**-2.4**
KIV				*e*S		**S**	**03 57 18.1**	**-5.8**
KIV				pmax	pmax				
	comp=Z,5.0nm,1.1s								
SONM	**Songino Array**	**25.40**	**57**	P		**P**	**03 53 26.5**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=254,slow=10,SNR=24								
	comp=Z,3.0nm,0.8s								
PZH	**PanZhiHua**	**25.96**	**108**	P		**P**	**03 53 32.4**	**+1.7**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
PZH				pmax	pmax				
	comp=Z,110nm,5.5s								
HHC	**Hu-ho-hao-te**	**28.91**	**73**	*e*P		**P**	**03 53 58.1**	**+1.2**
HHC				pmax	pmax				
	comp=Z,20nm,0.8s								
HHC				pmax	pmax				
	comp=Z,610nm,6.7s								
OBN	**Obninsk**	**30.43**	**316**	*i* P		**P**	**03 54 11.9**	**+2.0**
OBN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BRTR	**Keskin Array B**	**31.35**	**286**	*ce*P		**P**	**03 54 20.7**	**+2.3**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**31.35**	**286**	P		**P**	**03 54 19.8**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=79,slow=6.5,SNR=5.9								
	comp=Z,1.1nm,0.9s								
XLT	**XiLinHaoTe**	**31.95**	**66**	*e*P		**P**	**03 54 20.5**	**-3.1**
XLT				pP	pP		03 54 52.9	-4.4
XLT				sP	sP		03 55 14.4	-1.0
XLT				PP		**PnPn**	**03 55 33.6**	**-1.3**
XLT				pmax	pmax				
	comp=Z,5.0nm,0.7s								
XLT				pmax	pmax				
	comp=Z,250nm,9.1s								
NRIK	**Noril'sk**	**32.16**	**9**	*ce*P		**P**	**03 54 24.4**	**-0.5**
NRIK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
NRIK	**Noril'sk**	**32.16**	**9**	P		**P**	**03 54 26.1**	**+1.2**
	comp=Z,2.4nm,0.4s,baz=186,slow=5.9,SNR=7.5								
	comp=Z,2.4nm,0.4s								
AKASG	**Malin Array Be**	**33.94**	**307**	P		**P**	**03 54 41.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=78,slow=8.3,SNR=4.0								
	comp=Z,0.2nm,0.3s								
FINES	**FINESS Array B**	**37.61**	**324**	P		**P**	**03 55 13.0**	**+1.3**
FINES	**FINESS Array B**	**37.61**	**324**	P		**P**	**03 55 12.9**	**+1.3**
	comp=Z,5.7nm,1.0s,baz=116,slow=8.5,SNR=14								
	comp=Z,5.7nm,1.0s								
HEH	**HeiHe**	**39.32**	**54**	*e*P		**P**	**03 55 27.1**	**+0.9**
HEH				pmax	pmax				
	comp=Z,14nm,0.9s								
HEH				pmax	pmax				
	comp=Z,230nm,8.6s								
ARCES	**ARCESS Array B**	**40.67**	**336**	P		**P**	**03 55 37.7**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=76,slow=5.1,SNR=7.6								
	comp=Z,3.9nm,0.9s								
KSRS	**Korea Array**	**42.04**	**74**	P		**P**	**03 55 48.5**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=255,slow=28,SNR=2.2								
	comp=Z,0.9nm,0.8s								
KLR	**Kul'dur**	**42.22**	**56**	*ce*P		**P**	**03 55 50.0**	**+0.1**
KLR				pmax	pmax				
	comp=Z,7.0nm,2.5s								
USRK	**Ussuriysk Ar.**	**43.24**	**63**	P		**P**	**03 55 57.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=281,slow=3.8,SNR=2.5								
	comp=Z,1.2nm,0.6s								
TIXI	**Tiksi**	**43.39**	**22**	P		**P**	**03 55 58.7**	**-0.3**
TIXI				IAmb	IAmb		03 55 59.9		
	comp=Z,8.5nm,0.8s								
TIXI	**Tiksi**	**43.39**	**22**	*ce*P		**P**	**03 55 58.6**	**-0.3**
TIXI				pmax	pmax				
	comp=Z,6.0nm,0.6s								
HFS	**Hagfors**	**43.39**	**321**	P		**P**	**03 56 00.3**	**+1.2**
	comp=Z,3.5nm,0.9s,baz=108,slow=9.5,SNR=7.4								
	comp=Z,3.5nm,0.9s								
NOA	**NORSAR Array B**	**44.64**	**322**	P		**P**	**03 56 10.0**	**+0.8**
NOA	**NORSAR Array B**	**44.64**	**322**	P		**P**	**03 56 10.0**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=102,slow=7.2,SNR=1.8								
	comp=Z,0.2nm,0.4s								
SPITS	**Spitsbergen Ar**	**46.54**	**346**	P		**P**	**03 56 24.9**	**+1.0**
	comp=Z,14nm,1.0s,baz=104,slow=12,SNR=2.9								
	comp=Z,14nm,1.0s								
MJAR	**Matsushiro Arr**	**50.09**	**71**	P		**P**	**03 56 51.2**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=292,slow=6.6,SNR=4.2								
	comp=Z,2.0nm,0.8s								
EKA	**Eskdalemuir Ar**	**52.88**	**316**	P		**P**	**03 57 12.2**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=128,slow=5.4,SNR=1.7								
	comp=Z,1.1nm,0.6s								
BILL	**Bilibino**	**56.09**	**27**	*i* P		**P**	**03 57 32.8**	**-2.2**
BILL				pmax	pmax				
	comp=Z,20nm,1.1s								
ESDC	**Sonseca Array**	**58.90**	**298**	P		**P**	**03 57 55.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=58,slow=6.7,SNR=6.7								
	comp=Z,0.5nm,0.5s								
TORD	**Torodi Ar. Bea**	**68.21**	**270**	P		**P**	**03 58 56.5**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=46,slow=5.7,SNR=44								
TORD				PcP		**PcP**	**03 59 21.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=41,slow=6.0,SNR=1.1								
	comp=Z,4.4nm,0.6s								
A36M	**Sachs Harbour**	**69.39**	**6**	P		**P**	**03 59 03.6**	**+0.7**
A36M				IAmb	IAmb		03 59 04.2		
	comp=Z,4.2nm,0.8s								
ILAR	**Eielson Array**	**72.57**	**17**	P		**P**	**03 59 21.6**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=324,slow=4.9,SNR=9.3								
	comp=Z,1.0nm,0.9s								
DBIC	**Dimbokro**	**77.23**	**268**	P		**P**	**03 59 50.4**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=1.2,slow=4.7,SNR=4.9								
	comp=Z,2.3nm,0.6s								
YKA	**Yellowknife Ar**	**79.53**	**4**	*ce*P		**P**	**04 00 02.0**	**+0.4**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**79.53**	**4**	P		**P**	**04 00 02.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=345,slow=5.3,SNR=12								
	comp=Z,0.5nm,0.7s								
BOSA	**Boshof**	**80.56**	**222**	P		**P**	**04 00 07.0**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=355,slow=5.4,SNR=5.5								
	comp=Z,1.4nm,0.6s								
WRA	**Warramunga Arr**	**80.77**	**124**	P		**P**	**04 00 08.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=221,slow=4.6,SNR=6.2								
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**83.17**	**127**	P		**P**	**04 00 20.2**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=322,slow=4.6,SNR=7.4								
	comp=Z,1.0nm,0.8s								

*SNET **17** 03:55:33.3±0.7, 12°.73N×88°.22W, h59km±13km, ML2.9*
*CATAC **17** 03:55:37.4±0.8, 12°.96N×87°.95W, h27km±6km, ML2.9*
ISC 17 03:55:34.9±1.9, **12°.8N**±0°.2×**88°.19W**±0°.09, **h60**km±27km, **n20**, σ0°**99**/24, **2D**, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JUCU	**Jucuarɲ**	**0.44**	**352**	⇓*i*P		**Pn**	**03 55 45.7**	**-0.6**
JUCU				*e*S		**Sn**	**03 55 55.1**	**+0.5**
JUCU				IAML			03 55 57.3	
	comp=Z,849nm,0.3s							
LCND	**La Caada**	**0.57**	**30**	⇓*i*P		**Pn**	**03 55 47.2**	**-0.5**
LCND				*e*S		**Sn**	**03 55 57.8**	**+0.8**
LCND				IAML			03 56 00.7	
	comp=Z,250nm,0.2s							
LCND	**La Caada**	**0.57**	**30**	*i* P		**Pn**	**03 55 46.7**	**-1.0**
LCND				IAML			03 55 47.6	
	comp=Z,260nm,1.0s							
CNCH	**Conchagua**	**0.58**	**37**	*e*P		**Pn**	**03 55 47.4**	**-0.4**
CNCH				*e*S		**Sn**	**03 55 58.0**	**+0.8**
CNCH	**Conchagua**	**0.58**	**37**	*i* P		**Pn**	**03 55 46.5**	**-1.3**
CNCH				IAML			03 55 47.9	
	comp=Z,700nm,1.0s							
CSGN	**Cosiguina Volc**	**0.63**	**75**	*i* P		**Pn**	**03 55 47.4**	**-1.0**
CSGN				IAML			03 56 01.9	
	comp=Z,1ɯm,1.0s							
PACA	**Pacayal**	**0.67**	**349**	*e*P		**Pn**	**03 55 48.5**	**-0.4**
PACA				*e*S		**Sn**	**03 56 00.4**	**+1.3**
PACA	**Pacayal**	**0.67**	**349**	*i* P		**Pn**	**03 55 50.7**	**+1.8**
PACA				*i* S		**Sn**	**03 56 00.0**	**+0.9**
PACA				IAML			03 56 00.7	
	comp=Z,2ɯm,1.0s							
AMPH	**Amapala**	**0.70**	**47**	*e*P		**Pn**	**03 55 48.3**	**-0.8**
AMPH				*e*S		**Sn**	**03 56 00.0**	**+0.5**
AMPH	**Amapala**	**0.70**	**47**	*i* P		**Pn**	**03 55 47.8**	**-1.3**
COEB	**Comit de Eme**	**0.76**	**334**	*e*P		**Pn**	**03 55 48.8**	**-1.3**
SCLA	**Alcaldia de Sa**	**1.03**	**329**	*e*P		**Pn**	**03 55 52.7**	**-0.7**
COEG	**Centro de Oper**	**1.05**	**320**	*e*P		**Pn**	**03 55 52.8**	**-0.9**
CRIN	**San Cristobal**	**1.11**	**96**	*i* P		**Pn**	**03 55 54.7**	**+0.2**
CRIN				IAML			03 56 13.0	
	comp=Z,700nm,1.0s							
SJTE	**Alcalda de S**	**1.13**	**315**	*e*P		**Pn**	**03 55 54.1**	**-0.6**
ROCN	**Rota Cerro Neg**	**1.44**	**101**	*i* P		**Pn**	**03 55 59.3**	**+0.5**
ROCN				*i* S		**Sn**	**03 56 15.6**	**-1.1**
ROCN				IAML			03 56 21.4	
	comp=Z,99nm,1.0s							
CNGA	**Al SSO del Vol**	**1.48**	**102**	*i* PA			03 55 59.6	
CNGA				IAML			03 56 23.3	
	comp=Z,360nm,1.0s							
CNGN	**Cerro Negro**	**1.48**	**102**	*i* P		**Pn**	**03 56 00.0**	**+0.6**
CNGN				IAML			03 56 24.0	
	comp=Z,330nm,1.0s							
YUSH	**Yuscaran**	**1.73**	**49**	*i* PA			03 56 02.5	
LIMN	**Finca el Limon**	**1

comp=Z,0.3nm,0.6s
KURBB Kurchatov Arra 61.83 332 P **P** **04 36 09.8 +1.7**
comp=Z,0.4nm,0.8s,baz=139,slow=6.4,SNR=4.1
comp=Z,0.4nm,0.8s
ABKAR Akbulak array 71.20 323 P **P** **04 37 09.6 +1.6**
ABKAR Akbulak array 71.20 323 P **P** **04 37 09.2 +1.3**
ABKAR IAmb IAmb 04 37 17.4
comp=Z,1.1nm,1.0s
FOMA Nahampoana Res 74.28 244 P **P** **04 37 25.5 -1.3**
K17K Iditarod 86.68 27 P **P** **04 38 32.9 +0.5**

IDC 17 04:39:40.8±21.0, 6°91S×124°79E, h138km±158km, mb3.8/1, mbtmp3.8/3, ML3.6/2, Error ellipse: s-maj=144.5km s-min=135.8km az=35.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.93**	**145**	P	Pn	04 43 16.5	-0.9
	0.2nm,0.3s,baz=318,slow=13,SNR=8.0						
WRA				S	Sn	04 46 14.4	-0.3
	0.3nm,0.6s,baz=322,slow=27,SNR=2.4						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**18.82**	**153**	P	Pn	04 43 51.4	-0.7
	0.2nm,0.3s,baz=331,slow=13,SNR=11						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**29.38**	**150**	P	P	04 45 30.5	-0.5
	2.3nm,0.7s,baz=315,slow=7.1,SNR=6.2						
	2.3nm,0.7s						

IDC 17 04:40:08.9±0.9, 29°39S×177°97W, h87km±8km, mb3.8/4, mbtmp4.2/5, MS3.6/2, Error ellipse: s-maj=31.2km s-min=26.6km az=128.0
NEIC 17 04:40:08.1±1.3, 29°76S±0°09×178°4W±0°2, h39km±13km, mb4.5/11, Error ellipse: s-maj=20.2km s-min=11.6km az=106.0
ISC 17 04:40:07.5±0.7, 29°6S±0°1×178°4W±0°1, h50km, n26, σ1s72/25, mb4.4/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.55**	**47**		**Pn**	**04 40 20.4**	**+1.1**
RAO	**Raoul Island**	**0.55**	**47**	P	**Pn**	**04 40 22.1**	**+2.8**
	960nm,0.3s,baz=121,slow=14,SNR=9.0						
RAO				S	Sn	04 40 40.3	+13
	766nm,0.3s,baz=122,slow=22,SNR=3.5						
KHZ	**Kahutara**	**14.33**	**205**	Pn	**Pn**	**04 43 25.9**	**-1.6**
DZM	**Mont Dzumac**	**15.59**	**295**	LR	LR	04 49 11.3	
	comp=Z,163nm,18.1s,baz=263,slow=34						
LIFNC	**LIFOU**	**15.71**	**301**	Pn	**Pn**	**04 43 45.9**	**+0.4**
LIFNC				IAmb	IAmb	04 43 57.2	
	comp=Z,60nm,1.1s						
RPZ	**Rata Peaks**	**16.40**	**208**	Pn	**Pn**	**04 43 53.4**	**-0.8**
RPZ				IAmb	IAmb	04 43 58.8	
	comp=Z,37nm,1.3s						
RPZ	**Rata Peaks**	**16.40**	**208**	P	**P**	**04 43 58.7**	**+2.4**
	comp=Z,7.4nm,0.4s,baz=41,slow=20,SNR=2.1						
TAU	**Tasmania Unive**	**30.45**	**235**	P	**P**	**04 46 16.7**	**+1.4**
CTA	**Charters Tower**	**33.36**	**278**	LR	LR	04 59 17.2	
	comp=Z,136nm,18.6s,baz=82,slow=34						
STKA	**Stephens Creek**	**34.34**	**256**	P	**P**	**04 46 50.6**	**+1.0**
STKA	**Stephens Creek**	**34.34**	**256**	P	**P**	**04 46 50.1**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=87,slow=9.5,SNR=8.3						
	comp=Z,4.1nm,0.7s						
ASAR	**Alice Springs**	**42.83**	**266**	P	**P**	**04 48 00.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=106,slow=7.2,SNR=3.9						
	comp=Z,0.7nm,0.8s						
WR0	**Warramunga Arr**	**43.57**	**272**	P	**P**	**04 48 08.0**	**+1.1**
WR0				IAmb	IAmb	04 48 18.9	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**43.74**	**272**	P	**P**	**04 48 08.6**	**+0.4**
WB2				IAmb	IAmb	04 48 22.0	
	comp=Z,6.9nm,0.9s						
WRA	**Warramunga Arr**	**43.75**	**272**	P	**P**	**04 48 09.1**	**+0.8**
WRA	**Warramunga Arr**	**43.75**	**272**	P	**P**	**04 48 09.3**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=111,slow=7.9,SNR=9.4						
	comp=Z,3.1nm,0.8s						
WB0	**Warramunga Arr**	**43.77**	**272**	P	**P**	**04 48 09.3**	**+0.8**
WB0				IAmb	IAmb	04 48 22.7	
	comp=Z,6.9nm,0.8s						
SBA	**Scott Base**	**48.78**	**184**	P	**P**	**04 48 47.5**	**+0.5**
VNDA	**Vanda**	**48.83**	**186**	P	**P**	**04 48 48.3**	**+1.0**
VNDA				IAmb	IAmb	04 49 06.5	
	comp=Z,4.3nm,1.2s						
QSPA	**South Pole Qui**	**60.48**	**180**	P	**P**	**04 50 11.8**	**-0.3**
QSPA				IAmb	IAmb	04 50 19.3	
	comp=Z,8.5nm,1.1s						
QSPA	**South Pole Qui**	**60.48**	**180**	P	**P**	**04 50 11.3**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=32,slow=1.9,SNR=6.8						
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**120.32**	**314**	PKP	**PKPdf**	**04 58 48.9**	**-3.9**
	comp=Z,0.3nm,0.7s,baz=63,slow=4.7,SNR=1.9						
BVAR	**Borovoye Array**	**125.63**	**316**	PKP	**PKPdf**	**04 58 59.6**	**-3.2**
	comp=Z,0.3nm,0.5s,baz=72,slow=4.7,SNR=1.6						
FINES	**FINESS Array B**	**144.31**	**340**	PKP	**PKPab**	**04 59 33.0**	**-2.4**
	comp=Z,6.5nm,0.9s,baz=42,slow=4.5,SNR=3.1						
HFS	**Hagfors**	**148.43**	**348**	PKPbc	**PKPdf**	**04 59 42.1**	**-2.2**
	comp=Z,7.7nm,1.1s,baz=94,slow=5.8,SNR=2.3						
AKASG	**Malin Array Be**	**150.49**	**323**	PKPbc	**PKPdf**	**04 59 49.2**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=53,slow=0.9,SNR=2.3						
AKASG				PKPab	**PKPab**	**04 59 58.8**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=45,slow=3.0,SNR=6.0						

IDC 17 05:01:30.1±2.1, 0°87N×125°39E, h0km, mb3.4/3, mbtmp3.5/3, MS2.9/1, Error ellipse: s-maj=190.1km s-min=28.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.47**	**157**	P	P	05 06 31.2	+0.2
	0.8nm,0.3s,baz=336,slow=11,SNR=17						
	0.8nm,0.3s						
GUMO	**Guam**	**23.06**	**56**	LR	LR	05 13 08.1	
	comp=Z,34nm,21.5s,baz=246,slow=30						
ASAR	**Alice Springs**	**25.75**	**162**	P	P	05 07 02.5	-0.2
	0.2nm,0.4s,baz=351,slow=7.2,SNR=5.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.16**	**327**	P	P	05 11 32.8	0.0
	0.2nm,0.5s,baz=119,slow=8.8,SNR=2.3						
	0.2nm,0.5s						

FUNV 17 05:04:36.4, 9°81N×69°94W, h5km, MW3.3
ISC 17 05:04:35.1±1.2, 9°79N±0°03×69°93W±0°03, h1km±10km, n22, σ1s25/37, 1C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.23**	**353**	*eP*	**Pg**	**05 04 39.7**	**+0.3**
CURV				*eS*	**Sg**	**05 04 42.9**	**+0.5**
SANV	**Sanarito**	**0.48**	**126**	⇓*iP*	**Pg**	**05 04 45.5**	**+1.1**
SANV				*eS*	**Sg**	**05 04 52.0**	**+1.3**
SIQV	**Siquisique**	**0.86**	**8**	⇑*iP*	**Pg**	**05 04 51.8**	**+0.1**
SIQV				*eS*	**Sb**	**05 05 04.9**	**-0.2**
SDV	**Santo Domingo**	**1.13**	**218**	*eP*	**Pg**	**05 04 55.1**	**-1.6**
SDV				*eS*	**Sg**	**05 05 09.1**	**-2.4**
SOCV	**Socops**	**1.75**	**211**	*eP*	**Pn**	**05 05 06.8**	**+0.2**
SOCV				*eS*	**Sn**	**05 05 30.1**	**+0.5**
BAUV	**El Baul**	**2.05**	**114**	*eP*	**Pn**	**05 05 11.3**	**+0.6**
BAUV				*eS*	**Sn**	**05 05 37.4**	**+0.5**
TURV	**Turiamo**	**2.16**	**72**	*eP*	**Pn**	**05 05 12.8**	**+0.5**
TURV				*eS*	**Sn**	**05 05 39.7**	**-0.1**
BENV	**Beln**	**2.31**	**86**	*eP*	**Pn**	**05 05 15.0**	**+0.6**
BENV				*eS*	**Sn**	**05 05 43.8**	**+0.3**
MCQV	**Machiques**	**2.58**	**276**	*eP*	**Pn**	**05 05 18.2**	**+0.3**
MCQV				*eS*	**Sn**	**05 05 48.6**	**-1.3**
TACV	**Tcata**	**2.88**	**83**	*eP*	**Pn**	**05 05 22.3**	**0.0**
TACV				*eS*	**Sn**	**05 05 56.9**	**-0.8**
CAPV	**Capacho**	**3.03**	**231**	*eP*	**Pn**	**05 05 24.3**	**-0.1**
CAPV				*eS*	**Sn**	**05 06 00.3**	**-1.2**
CRJC	**Cerrejon, Guaj**	**3.15**	**293**	*eP*	**Pn**	**05 05 25.2**	**-0.7**
LL6C	**La Loma 6 Bece**	**3.29**	**269**	*eP*	**Pn**	**05 05 27.2**	**-0.6**
PAMC	**Pamplona, Colo**	**3.66**	**229**	*eP*	**Pb**	**05 05 43.0**	**+2.1**
PAMC				*eS*	**Sn**	**05 06 19.4**	**+2.0**
OCAC	**Ocana**	**3.68**	**246**	*eP*	**Pn**	**05 05 33.0**	**-0.4**
OCAC				*eS*	**Sb**	**05 06 26.9**	**+0.6**
TAMC	**Tame, Arauca**	**3.81**	**209**	*eP*	**Pb**	**05 05 45.6**	**+2.5**
TAMC				*eS*	**Sn**	**05 06 21.8**	**+1.4**
CACV	**CAICARA DEL OR**	**4.02**	**123**	*eP*	**Pb**	**05 05 43.8**	**-2.9**
CACV				*eS*	**Sb**	**05 06 34.8**	**-1.1**
ARGC	**Ariguani, Magd**	**4.25**	**271**	*eP*	**Pn**	**05 05 40.3**	**-0.7**
SJCC	**San Jacinto, C**	**5.17**	**272**	*eP*	**Pn**	**05 05 53.4**	**-0.4**
ZARC	**Zaragoza, Cauc**	**5.38**	**245**	*eP*	**Pn**	**05 05 55.1**	**-1.4**
PTBC	**PUERTO BERRIO,**	**5.52**	**235**	*eP*	**Pn**	**05 05 56.8**	**-1.6**
GUY2C	**Guyana, Caldas**	**7.04**	**230**	*eP*	**Pn**	**05 06 21.1**	**+1.3**

NNC 17 05:24:24.0±5.7, 37°79N×71°78E, h0km, mb3.5, mpv3.1, 4C-1D, Error ellipse: s-maj=43.7km s-min=39.9km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.58**	**18**	P	Pn	05 25 35.6	+0.7
	SNR=8.8						
AML	**Almayashu**	**4.58**	**18**	⇑Pn	Pn	05 25 35.3	+0.4
	0.1nm,0.2s						
AML				⇓Sn	Sn	05 26 30.4	+1.4
	2.8nm,0.5s						
UCH	**Uchtor**	**4.91**	**24**	P	Pn	05 25 39.5	+0.1
	SNR=5.5						
KZA	**Kyzart**	**5.04**	**31**	P	Pn	05 25 41.7	+0.4
	SNR=11						
EKS2	**Erkin-Say**	**5.10**	**17**	P	Pn	05 25 42.9	+1.1
	SNR=19						
KK31	**Karatay Array**	**5.40**	**350**	Pn	Pn	05 25 45.9	+0.1
	1.5nm,0.2s,baz=185,slow=15,SNR=44						
KK31				⇑Sn	Sn	05 26 49.8	+1.1
	1.4nm,0.3s,baz=184,slow=15,SNR=9.4						
USP	**Ospenovka**	**5.85**	**20**	P	Pn	05 25 51.7	-0.4
	SNR=5.4						
TKM2	**Tokmak 2**	**5.90**	**28**	⇑Pn	Pn	05 25 52.3	-0.5
	3.0nm,0.5s						
TKM2				⇑Sn	Sn	05 27 01.8	+0.6
	3.0nm,0.7s						

NEIC 17 05:39:44.9±1.2, 56°51N±0°05×158°6W±0°1, h100km±6km, Error ellipse: s-maj=10.4km s-min=5.4km az=128.0
IDC 17 05:39:45.4±6.0, 56°74N×158°38W, h81km±42km, mb3.2/4, mbtmp3.5/7, ML3.7/3, MS3.3/1, Error ellipse: s-maj=45.0km s-min=31.2km az=53.0
AEIC 17 05:39:46.2±1.7, 56°45N±0°05×158°47W±0°07, h91km±8km, ML3.3, ML3.7/54(NEIC), Error ellipse: s-maj=9.7km s-min=1.6km az=142.0
ISC 17 05:39:45.1±0.8, 56°55N±0°05×158°48W±0°05, h100km, n147, σ1s17/152, mb3.4/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.25**	**171**		**Pn**	**05 39 58.2**	**-1.2**
CHGN				IAML		05 40 10.3	
	comp=E,3μm,0.5s						
CHGN	**Chignik**	**0.25**	**171**		**Sn**	**05 40 08.9**	**-1.2**
CHGN	**Chignik**	**0.25**	**171**	P	**Pn**	**05 39 58.6**	**-0.9**
	baz=348						
CHGN				S	**Sn**	**05 40 08.9**	**-1.2**
	baz=348						
AZAC	**Aniakchak**	**0.38**	**22**		**Pn**	**05 39 59.7**	**-0.5**
S14K	**Fog Glacier**	**0.65**	**246**	P	**Pn**	**05 40 01.3**	**-0.9**
	baz=74						
S14K				S	**Sn**	**05 40 14.2**	**-0.8**
	baz=74						
VNFG	**Fog Glacier, M**	**0.65**	**246**		**Pn**	**05 40 01.3**	**-0.9**
VNFG					**Sn**	**05 40 14.2**	**-0.8**
VNFG	**Fog Glacier, M**	**0.65**	**246**	IAML		05 40 14.9	
	comp=N,2μm,0.7s						
R16K	**Pilot Point**	**1.14**	**26**		**Pn**	**05 40 07.3**	**+0.3**
R16K					**Sn**	**05 40 24.8**	**+1.3**
R16K	**Pilot Point**	**1.14**	**26**	IAML		05 40 25.5	
	comp=E,1μm,0.8s						
R16K				IAML		05 40 25.6	
	comp=N,1μm,1.1s						
R16K	**Pilot Point**	**1.14**	**26**	P	**Pn**	**05 40 07.3**	**+0.3**
	baz=204						
R16K				S	**Sn**	**05 40 24.8**	**+1.3**
	baz=204						
PLK1	**Peulik 1**	**1.62**	**38**		**Pn**	**05 40 13.3**	**+0.6**
SDPT	**Sand Point**	**1.64**	**224**		**Pn**	**05 40 11.9**	**-1.2**
SDPT				IAML		05 40 37.5	
	comp=E,605nm,0.6s						
SDPT	**Sand Point**	**1.64**	**224**		**Sn**	**05 40 32.7**	**-1.7**
SDPT	**Sand Point**	**1.64**	**224**	P	**Pn**	**05 40 11.9**	**-1.2**
SDPT	**Sand Point**	**1.64**	**224**	P	**Pn**	**05 40 11.8**	**-1.2**
	baz=45						
SDPT				S	**Sn**	**05 40 32.7**	**-1.7**
	baz=45						
PLK3	**Peulik 3**	**1.66**	**46**		**Pn**	**05 40 14.3**	**+1.0**
CHIR	**Chirikof Islan**	**1.76**	**113**	Pn	**Pn**	**05 40 17.2**	**+2.6**
CHIR				IAML		05 40 47.4	
	comp=E,434nm,0.8s						
CHNA	**Chernabura Isl**	**1.83**	**200**	P	**Pn**	**05 40 13.7**	**-1.8**
	baz=21						
CNBA	**Chernabura Isl**	**1.84**	**200**		**Pn**	**05 40 14.1**	**-1.5**
CNBA				IAML		05 40 41.7	
	comp=N,626nm,0.5s						
CNBA				IAML		05 40 43.7	
	comp=E,610nm,0.4s						
PS1A	**Pavlof South-1**	**2.15**	**240**		**Pn**	**05 40 19.0**	**-0.6**
PVV	**Pavlof Volcano**	**2.20**	**239**		**Pn**	**05 40 19.5**	**-0.7**
Q17K	**Contact Creek**	**2.22**	**38**	P	**Pn**	**05 40 21.1**	**+0.5**
	baz=219						
PN7A	**Pavlof North-7**	**2.27**	**242**		**Sn**	**05 40 48.9**	**0.0**
Q16K	**King Salmon**	**2.35**	**24**	P	**Pn**	**05 40 22.9**	**+0.7**
	baz=204						
SII	**Sitkinak Islan**	**2.38**	**88**		**Pn**	**05 40 22.9**	**+0.3**
SII	**Sitkinak Islan**	**2.38**	**88**	P	**Pn**	**05 40 22.6**	**0.0**
ACHA	**Angle Creek He**	**2.39**	**44**		**Sn**	**05 40 52.4**	**+0.8**
R18K	**Karluk**	**2.43**	**63**		**Pn**	**05 40 24.3**	**+1.1**
R18K	**Karluk**	**2.43**	**63**	P	**Pn**	**05 40 24.3**	**+1.1**
	baz=245						
P16K	**Nushagak River**	**2.50**	**6**	P	**Pn**	**05 40 24.9**	**+0.7**
	baz=186						
DT1	**Dutton Round H**	**2.58**	**238**		**Pn**	**05 40 24.9**	**-0.3**
O15K	**Ungalikthiuk R**	**2.73**	**345**		**Pn**	**05 40 27.4**	**+0.2**
O15K	**Ungalikthiuk R**	**2.73**	**345**	P	**Pn**	**05 40 27.4**	**+0.2**
	baz=165						
KAHC	**Katmai Hardscr**	**2.82**	**40**	P	**Pn**	**05 40 29.3**	**+0.8**
	baz=222						
P17K	**Kvichak River**	**2.87**	**22**	P	**Pn**	**05 40 29.9**	**+0.8**
	baz=202						
KAHG	**Katmai Hook Gl**	**2.88**	**46**		**Pn**	**05 40 30.5**	**+1.2**
OHAK	**Old Harbor**	**2.93**	**75**		**Pn**	**05 40 29.6**	**-0.3**
OHAK				IAML		05 41 17.3	
	comp=E,287nm,0.8s						
OHAK				IAML		05 41 18.0	
	comp=N,240nm,0.5s						
OHAK	**Old Harbor**	**2.93**	**75**	P	**Pn**	**05 40 29.4**	**-0.4**
O16K	**Kokwok River B**	**3.06**	**4**	Pn	**Pn**	**05 40 31.9**	**+0.4**
O16K	**Kokwok River B**	**3.06**	**4**	P	**Pn**	**05 40 31.8**	**+0.2**
	baz=184						
O14K	**Tigyukauivet M**	**3.09**	**332**	Pn	**Pn**	**05 40 32.0**	**0.0**
O14K				IAML		05 41 08.1	
	comp=E,122nm,0.9s						
O14K				IAML		05 41 09.0	
	comp=N,192nm,1.0s						
FALS	**False Pass**	**3.27**	**241**	P	**Pn**	**05 40 31.7**	**-2.6**
O17K	**Koliganek Bris**	**3.32**	**12**	P	**Pn**	**05 40 35.3**	**+0.3**
	baz=193						
P18K	**Big Mountain,**	**3.34**	**30**	Pn	**Pn**	**05 40 36.4**	**+1.1**
P18K	**Big Mountain,**	**3.34**	**30**	P	**Pn**	**05 40 36.2**	**+0.9**
	baz=212						
KDAK	**Kodiak Island**	**3.44**	**66**		**Pn**	**05 40 36.9**	**+0.2**
KDAK				IAML		05 41 16.0	
	comp=N,202nm,0.5s						
KDAK				IAML		05 41 32.1	
	comp=N,152nm,0.6s						
KDAK	**Kodiak Island**	**3.44**	**66**	P	**Pn**	**05 40 36.4**	**-0.3**
	comp=N,10nm,0.3s,baz=261,slow=9.3,SNR=141						
KDAK				S	**Sn**	**05 41 13.8**	**-2.8**
	comp=N,43nm,0.3s,baz=248,slow=23,SNR=19						
	comp=N,25nm,0.4s						
ISLZ	**Isanotski Laza**	**3.48**	**241**		**Pn**	**05 40 37.0**	**-0.2**
Q19K	**Cape Douglas,**	**3.52**	**45**		**Pn**	**05 40 38.7**	**+0.8**
Q19K	**Cape Douglas,**	**3.52**	**45**	P	**Pn**	**05 40 38.7**	**+0.8**
	baz=228						
N15K	**Kwethluk River**	**3.73**	**348**		**Pn**	**05 40 41.7**	**+1.2**
N15K				IAML		05 41 38.1	
	comp=E,85nm,1.1s						
O18K	**Koktuh Hills**	**3.74**	**26**		**Pn**	**05 40 41.4**	**+0.7**
O18K	**Koktuh Hills**	**3.74**	**26**	P	**Pn**	**05 40 41.4**	**+0.7**
	baz=208						
Q20K	**Shuyak Island**	**3.88**	**55**	P	**Pn**	**05 40 43.6**	**+1.1**
	baz=239						
SYI	**Shuyak Island**	**3.88**	**55**		**Pn**	**05 40 43.6**	**+1.1**
N17K	**Nushagak Hills**	**4.05**	**9**		**Pn**	**05 40 45.1**	**+0.3**
N17K	**Nushagak Hills**	**4.05**	**9**	P	**Pn**	**05 40 45.1**	**+0.3**
	baz=190						
O19K	**Port Alsworth**	**4.26**	**29**	Pn	**Pn**	**05 40 48.9**	**+1.2**
O19K				IAML		05 41 38.7	
	comp=E,76nm,0.5s						
O19K				IAML		05 42 08.1	
	comp=N,60nm,0.4s						
O19K	**Port Alsworth**	**4.26**	**29**	P	**Pn**	**05 40 48.9**	**+1.2**
	baz=212						
M15K	**Kasigluk River**	**4.32**	**345**		**Pn**	**05 40 48.5**	**0.0**
M15K	**Kasigluk River**	**4.32**	**345**	P	**Pn**	**05 40 48.5**	**0.0**
	baz=184						
IVE	**Iliamna Volcan**	**4.52**	**37**		**Pn**	**05 40 52.9**	**+1.6**
M14K	**Bethel**	**4.59**	**338**	Pn	**Pn**	**05 40 51.5**	**-0.6**
M14K				IAML		05 41 44.8	
	comp=E,62nm,2.5s						
N19K	**Bonanza Creek**	**4.76**	**24**		**Pn**	**05 40 55.4**	**+0.8**
N19K	**Bonanza Creek**	**4.76**	**24**	P	**Pn**	**05 40 55.4**	**+0.8**
	baz=207						
SVW2	**Sparrevohn**	**4.80**	**17**	Pn	**Pn**	**05 40 55.6**	**+0.5**
SVW2	**Sparrevohn**	**4.80**	**17**	P	**Pn**	**05 40 55.3**	**+0.2**
AKUT	**Akutan**	**4.81**	**243**	Pn	**Pn**	**05 40 55.1**	**-0.1**
CNPM	**China Poot**	**4.87**	**49**		**Pn**	**05 40 56.4**	**+0.4**
RDWB	**Redoubt West**	**4.93**	**34**		**Pn**	**05 40 57.9**	**+1.0**
RSO	**Redoubt South**	**4.94**	**35**		**Pn**	**05 40 58.8**	**+1.7**
NCT	**North Crescent**	**4.96**	**34**		**Pn**	**05 40 58.2**	**+0.9**
M18K	**Stony River**	**5.14**	**14**		**Pn**	**05 40 59.9**	**+0.3**
M18K	**Stony River**	**5.14**	**14**	P	**Pn**	**05 40 59.9**	**+0.3**
	baz=196						
BRLK	**Bradley Lake**	**5.16**	**48**		**Pn**	**05 40 59.0**	**-0.8**
L14K	**Kuka Creek**	**5.28**	**337**	Pn	**Pn**	**05 41 01.2**	**-0.1**
L14K				IAML		05 42 00.4	
	comp=N,32nm,1.1s						
UNV	**Unalaska Valle**	**5.33**	**243**		**Pn**	**05 41 01.4**	**-0.9**
UNV	**Unalaska Valle**	**5.33**	**243**	P	**Pn**	**05 40 59.2**	**-3.0**
UNV	**Unalaska Valle**	**5.33**	**243**	P	**Pn**	**05 41 01.4**	**-0.9**
	baz=57						
SPNN	**North Nagishla**	**5.68**	**29**		**Pn**	**05 41 08.3**	**+1.2**
N20K	**Mount Spurr**	**5.69**	**32**	P	**Pn**	**05 41 08.3**	**+1.3**
	baz=217						
SPCN	**Chakachatna No**	**5.71**	**32**		**Pn**	**05 41 08.4**	**+1.0**
M19K	**Big River Lodg**	**5.77**	**20**	P	**Pn**	**05 41 09.0**	**+0.9**
	baz=203						
SPCG	**Spurr Capps Gl**	**5.81**	**32**		**Pn**	**05 41 10.1**	**+1.3**
SLKM	**Skilak Lake**	**5.87**	**44**		**Pn**	**05 41 10.2**	**+0.6**
SEW	**Seward**	**5.94**	**49**		**Pn**	**05 41 11.3**	**+0.8**
SEW	**Seward**	**5.94**	**49**	P	**Pn**	**05 41 11.3**	**+0.8**
	baz=238						
STLK	**Strandline Lak**	**6.03**	**32**		**Pn**	**05 41 13.2**	**+1.4**
O22K	**Cooper Landing**	**6.05**	**46**	Pn	**Pn**	**05 41 12.9**	**+1.0**
SUA	**Susitna One**	**6.34**	**36**	Pn	**Pn**	**05 41 16.4**	**+0.4**
SUA	**Susitna One**	**6.34**	**36**	P	**Pn**	**05 41 16.2**	**+0.2**
	baz=222						
RC01	**Rabbit Creek A**	**6.43**	**41**	P	**Pn**	**05 41 17.3**	**+0.3**
	baz=228						
SKT	**Skwentna**	**6.51**	**30**		**Pn**	**05 41 18.7**	**+0.5**
SKT	**Skwentna**	**6.51**	**30**	P	**Pn**	**05 41 18.7**	**+0.5**
	baz=216						
TTA	**Tatalina**	**6.52**	**10**	Pn	**Pn**	**05 41 18.8**	**+0.3**
TTA	**Tatalina**	**6.52**	**10**	P	**Pn**	**05 41 18.6**	**+0.2**
J16K	**Anvik River**	**6.84**	**352**	Pn	**Pn**	**05 41 22.8**	**+0.1**
PMR	**Palmer**	**6.98**	**40**	Pn	**Pn**	**05 41 25.1**	**+0.5**
PMR	**Palmer**	**6.98**	**40**	P	**Pn**	**05 41 24.7**	**+0.1**
KNK	**Knik Glacier**	**7.11**	**43**		**Pn**	**05 41 25.4**	**-0.9**
KNK	**Knik Glacier**	**7.11**	**43**	P	**Pn**	**05 41 25.4**	**-0.9**
	baz=230						
GHO	**Glory Hole Cre**	**7.18**	**39**		**Pn**	**05 41 26.4**	**-1.0**
SML	**Sawmill**	**7.41**	**40**		**Pn**	**05 41 29.4**	**-1.0**
SML	**Sawmill**	**7.41**	**40**	P	**Pn**	**05 41 29.4**	**-1.0**
	baz=229						
CAST	**Castle Rocks**	**7.60**	**22**	Pn	**Pn**	**05 41 34.6**	**+1.6**
M23K	**Glacier View**	**7.62**	**42**		**Pn**	**05 41 32.1**	**-1.2**
M23K	**Glacier View**	**7.62**	**42**	P	**Pn**	**05 41 32.1**	**-1.2**
	baz=231						
EYAK	**Cordova Ski Ar**	**7.77**	**54**	P	**Pn**	**05 41 34.4**	**-0.9**
SCM	**Sheep Creek Mo**	**7.80**	**43**	P	**Pn**	**05 41 35.5**	**-0.2**
	baz=232						
TRF	**Thorofare Moun**	**8.04**	**27**		**Pn**	**05 41 38.9**	**-0.3**
TRF	**Thorofare Moun**	**8.04**	**27**	P	**Pn**	**05 41 38.9**	**-0.3**
	baz=214						
WAT1	**Susitna Watana**	**8.05**	**34**	P	**Pn**	**05 41 38.0**	**-1.1**
	baz=222						
WAT6	**Susitna Watana**	**8.14**	**38**		**Pn**	**05 41 39.2**	**-1.2**
WAT6	**Susitna Watana**	**8.14**	**38**	P	**Pn**	**05 41 39.2**	**-1.2**
	baz=226						
KLU	**Klutina**	**8.15**	**47**	P	**Pn**	**05 41 39.8**	**-0.7**
	baz=238						
GOAT	**Goat Mountain**	**8.24**	**55**		**Pn**	**05 41 41.7**	**-0.1**
RND	**Reindeer**	**8.39**	**31**		**Pn**	**05 41 42.7**	**-1.1**
M24K	**Tolsona, Glenn**	**8.40**	**43**		**Pn**	**05 41 43.4**	**-0.5**
M24K	**Tolsona, Glenn**	**8.40**	**43**	P	**Pn**	**05 41 43.4**	**-0.5**
	baz=233						
BMRM	**Bremner River**	**8.46**	**53**		**Pn**	**05 41 44.3**	**-0.4**
BMRM	**Bremner River**	**8.46**	**53**	P	**Pn**	**05 41 44.3**	**-0.4**
	baz=244						
DHY	**Denali Highway**	**8.60**	**36**	P	**Pn**	**05

	baz=307						
WDLH			*e*S	Sb	05 59 16.9	+0.2	
	baz=307						
CHN4	**Tsaushan**	**0.24 207**	*e*P	Pb	05 59 13.7	0.0	
	baz=197						
CHN4			*e*S	Sb	05 59 17.6	-0.3	
	baz=197						
TPUB	**Ta-pu**	**0.28 196**	*e*P	Pb	05 59 14.0	-0.4	
	baz=191						
TPUB			*e*S	Sb	05 59 18.1	-0.8	
	baz=191						

NIED ***17*** *05:59:11.6, 24.˙98N× 121.˙68E, h137km, MW4.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^15 Nm; Mrr1.43; Mθθ4.33; Mφφ-5.75; Mrθ-5.07; Mrφ-3.38; Mθφ-3.60; Fault plane solution: M0 8.72000×10^15 NP1: φs237.00000°, δ84.00000°, λ133.00000°. NP2: φs333.00000°, δ43.00000°, λ8.00000°.*

TAP ***17*** *05:59:11.0, 25.˙06N× 121.˙72E, h140km, ML5.5, B*

BJI ***17*** *05:59:11.7± 0.0, 25.˙12N× 121.˙55E, h125km, mb4.6/55, mB4.7/24*

JMA ***17*** *05:59:11.6± 0.1, 25.˙0N± 0.˙5× 121.˙7E± 0.˙3, h137km, MD4.3/17, MV4.6/17, TAIWAN REGION*

ASIES ***17*** *05:59:11.0, 25.˙06N× 121.˙72E, h140km, ML5.5, Mw4.7, Moment Tensor Solution. Moment tensor: Scale 10^23 Nm; Mrr0.67; Mθθ-0.18; Mφφ-0.49; Mrθ0.17; Mrφ0.23; Mθφ-1.08; Fault plane solution: M0 1.26637×10^23 NP1: φs168.02000°, δ75.17000°, λ97.20000°. NP2: φs321.75000°, δ16.45000°, λ64.67000°. Principal axes: T Plg59.2210°, Azm87.9910°; N Plg6.9590°, Azm346.1660°; P Plg29.8130°, Azm252.1560°;*

IDC ***17*** *05:59:11.4± 0.5, 25.˙06N× 121.˙69E, h146km± 3km, mb4.0/24, mbtmp4.4/28, MS4.2/2 Error ellipse: s-maj=12.2km s-min=9.0km az=64.0*

NEIC ***17*** *05:59:11.4± 1.8, 25.˙05N± 0.˙07× 121.˙73E± 0.˙07, h140km± 5km, mb4.5/69, Error ellipse: s-maj=10.0km s-min=9.1km az=158.0*

ISC 17 05:59:11.3± 0.3, 25.˙08N± 0.˙02× 121.˙67E± 0.˙02, h144km± 2km, h145km; pP-P, n387, σ1s16/578, mb4.5/67, 74C-41D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NHY	**Taipei**	**0.10**	**247**	⇑	P		**Pn**	**05 59 29.9**	**-0.8**
	baz=272								
NHY					*i*	S	**Sn**	**05 59 43.8**	**-1.6**
	baz=272								
NWF	**Wu-fen Shan**	**0.10**	**93**	⇑	*i*	P	**Pn**	**05 59 30.1**	**-0.7**
	baz=86								
NWF						S	**Sn**	**05 59 44.1**	**-1.5**
	baz=86								
WFSB	**Wu-fen Shan**	**0.10**	**93**	⇑	*i*	P	**Pn**	**05 59 30.1**	**-0.6**
	baz=84								
WFSB					*i*	S	**Sn**	**05 59 44.1**	**-1.3**
	baz=84								
YM01	**YM01**	**0.11**	**308**	⇑	*i*	P	**Pn**	**05 59 29.9**	**-1.0**
	baz=298								
YM01					*i*	S	**Sn**	**05 59 43.8**	**-1.9**
	baz=298								
TNOU	**National Taiwa**	**0.12**	**52**	⇑	*i*	P	**Pn**	**05 59 30.1**	**-0.7**
	baz=4.0								
TNOU					*i*	S	**Sn**	**05 59 43.9**	**-1.6**
	baz=4.0								
TWA	**Mucha**	**0.12**	**219**	⇑	*i*	P	**Pn**	**05 59 29.9**	**-0.9**
	baz=252								
TWA					*i*	S	**Sn**	**05 59 43.8**	**-1.7**
	baz=252								
NWRT	**Kuosheng**	**0.13**	**357**		P		**Pn**	**05 59 30.0**	**-0.8**
	baz=319								
NWRT						S	**Sn**	**05 59 43.7**	**-1.9**
	baz=319								
YM08	**YM08**	**0.13**	**327**	⇑	*i*	P	**Pn**	**05 59 29.7**	**-1.1**
	baz=300								
YM08						S	**Sn**	**05 59 43.2**	**-2.5**
	baz=300								
TAP	**Taipei**	**0.15**	**256**	⇑	*i*	P	**Pn**	**05 59 30.0**	**-0.8**
	baz=262								
TAP					*i*	S	**Sn**	**05 59 43.9**	**-1.6**
	baz=262								
NHDH	**Xindian Distri**	**0.17**	**229**	⇑	P		**Pn**	**05 59 29.9**	**-0.9**
	baz=248								
NHDH						S	**Sn**	**05 59 43.4**	**-2.2**
	baz=248								
ANP	**Anpu**	**0.17**	**309**	⇑	*i*	P	**Pn**	**05 59 29.8**	**-1.2**
	baz=294								
ANP						S	**Sn**	**05 59 43.9**	**-2.0**
	baz=294								
TIPB	**Shuangxi**	**0.18**	**126**	⇓	*i*	P	**Pn**	**05 59 30.2**	**-0.7**
	baz=154								
TIPB						S	**Sn**	**05 59 44.1**	**-1.7**
	baz=154								
TATO	**Taipei**	**0.19**	**238**				**Pn**	**05 59 30.0**	**-0.9**
TATO	**Taipei**	**0.19**	**238**		P		**Pn**	**05 59 30.1**	**-0.8**
TWY	**Chenhua**	**0.21**	**343**	⇑	*i*	P	**Pn**	**05 59 30.4**	**-0.5**
	baz=330								
TWY					*i*	S	**Sn**	**05 59 44.4**	**-1.4**
	baz=330								
NTST	**Danshui**	**0.22**	**294**	⇑	*i*	P	**Pn**	**05 59 30.3**	**-0.6**
	baz=280								
NTST					*i*	S	**Sn**	**05 59 44.9**	**-0.9**
	baz=280								
BACT	**New Taipei Cit**	**0.22**	**249**	⇑	P		**Pn**	**05 59 30.1**	**-0.8**
	baz=269								
BACT						S	**Sn**	**05 59 44.5**	**-1.3**
	baz=269								
NSM	**Shimen**	**0.22**	**341**	⇑	*i*	P	**Pn**	**05 59 30.4**	**-0.5**
	baz=327								
NSM					*i*	S	**Sn**	**05 59 44.7**	**-1.2**
	baz=327								
TWS1	**Kuangyinshan**	**0.23**	**276**	⇑	*i*	P	**Pn**	**05 59 30.4**	**-0.6**
	baz=277								
TWS1					*i*	S	**Sn**	**05 59 44.7**	**-1.1**
	baz=277								
NTC	**Toucheng**	**0.27**	**146**		P		**Pn**	**05 59 30.6**	**-0.5**
	baz=158								
NTC					*e*	S	**Sn**	**05 59 45.7**	**-0.4**
	baz=158								
TWB1	**Santiao Chiao**	**0.30**	**103**	⇓	*i*	P	**Pn**	**05 59 30.4**	**-0.7**
	baz=109								
TWB1						S	**Sn**	**05 59 44.4**	**-1.7**
	baz=109								
ILA	**Ilan**	**0.32**	**167**	⇑	P		**Pn**	**05 59 30.7**	**-0.5**
	baz=182								
ILA						S	**Sn**	**05 59 45.6**	**-0.8**
	baz=182								
FUSB	**Fushanzhiwuyua**	**0.32**	**193**	⇑	*i*	P	**Pn**	**05 59 30.4**	**-1.0**
	baz=216								
FUSB						S	**Sn**	**05 59 44.0**	**-2.6**
	baz=216								
NWLT	**Wulai**	**0.33**	**207**	⇑	*i*	P	**Pn**	**05 59 30.3**	**-1.1**
	baz=207								
NWLT					*i*	S	**Sn**	**05 59 44.2**	**-2.3**
	baz=207								
NTY	**Taoyuan**	**0.34**	**257**	⇑	*i*	P	**Pn**	**05 59 30.7**	**-0.6**
	baz=269								
NTY					*i*	S	**Sn**	**05 59 45.3**	**-1.2**
	baz=269								
TWE	**Neicheng**	**0.35**	**180**	⇑	*i*	P	**Pn**	**05 59 30.7**	**-0.7**
	baz=198								
TWE					*i*	S	**Sn**	**05 59 44.8**	**-1.7**
	baz=198								
NDS	**Dongshan**	**0.44**	**174**	⇑	P		**Pn**	**05 59 31.2**	**-0.6**
	baz=193								
NDS						S	**Sn**	**05 59 46.1**	**-1.2**
	baz=193								
ENTT	**Nioudou**	**0.45**	**192**	⇑	*i*	P	**Pn**	**05 59 31.1**	**-0.7**
	baz=206								
ENTT						*e*S	**Sn**	**05 59 45.7**	**-1.6**
	baz=206								
NCU	**National Centr**	**0.45**	**256**	⇑	*i*	P	**Pn**	**05 59 31.3**	**-0.5**
	baz=264								
NCU					*i*	S	**Sn**	**05 59 45.5**	**-1.7**
	baz=264								
NCUH	**Zhongli**	**0.45**	**256**	⇑	*i*	P	**Pn**	**05 59 31.3**	**-0.5**
	baz=262								
NCUH					*i*	S	**Sn**	**05 59 46.1**	**-1.2**
	baz=262								
YHNB	**Yeheng**	**0.48**	**213**		Pn		**Pn**	**05 59 31.1**	**-1.0**
YHNB	**Yeheng**	**0.48**	**213**		P		**Pn**	**05 59 30.9**	**-1.2**
YHNB	**Yeheng**	**0.48**	**213**	⇑	*i*	P	**Pn**	**05 59 31.1**	**-1.0**
	baz=212								
YHNB					*e*	S	**Sn**	**05 59 45.1**	**-2.7**
	baz=212								
NSK	**Sanguang**	**0.49**	**215**	⇑	*i*	P	**Pn**	**05 59 31.1**	**-0.9**
	baz=214								
NSK						S	**Sn**	**05 59 45.3**	**-2.4**
	baz=214								
NDT	**Datong Townshi**	**0.49**	**197**	⇑	*i*	P	**Pn**	**05 59 31.2**	**-0.8**
	baz=213								
NDT						S	**Sn**	**05 59 45.6**	**-2.1**
	baz=213								
TWC	**Suao**	**0.49**	**161**	⇑	*e*	P	**Pn**	**05 59 31.8**	**-0.2**
	baz=170								
TWC						S	**Sn**	**05 59 47.2**	**-0.5**
	baz=170								
ESAO	**Su ao**	**0.52**	**162**	⇑	*e*	P	**Pn**	**05 59 31.9**	**-0.3**
	baz=173								
ESAO					*e*	S	**Sn**	**05 59 48.0**	**0.0**
	baz=173								
LATG	**Datong**	**0.55**	**193**	⇑	*i*	P	**Pn**	**05 59 31.9**	**-0.5**
	baz=207								
LATG					*i*	S	**Sn**	**05 59 47.1**	**-1.5**
	baz=207								
NHW	**Xinwu Township**	**0.57**	**263**	⇑	*i*	P	**Pn**	**05 59 32.0**	**-0.4**
	baz=269								
NHW					*e*	S	**Sn**	**05 59 47.2**	**-1.2**
	baz=269								
NJD	**Zhudong**	**0.63**	**237**		P		**Pn**	**05 59 32.3**	**-0.4**
	baz=236								
NJD						S	**Sn**	**05 59 47.7**	**-1.3**
	baz=236								
EWUT	**Wuta**	**0.64**	**171**		*e*	P	**Pn**	**05 59 32.2**	**-0.6**
	baz=186								
EWUT					*e*	S	**Sn**	**05 59 48.7**	**-0.4**
	baz=186								
ENA	**Nanau**	**0.65**	**174**	⇑	*e*	P	**Pn**	**05 59 32.0**	**-0.9**
	baz=189								
ENA					*e*	S	**Sn**	**05 59 48.5**	**-0.8**
	baz=189								
PCYT	**Pengchaiyu**	**0.66**	**33**		P		**Pn**	**05 59 32.7**	**-0.3**
	baz=28								
PCYT						S	**Sn**	**05 59 48.1**	**-1.4**
	baz=28								
HSN1	**Hsinchu**	**0.66**	**243**	⇑	*i*	P	**Pn**	**05 59 32.6**	**-0.4**
	baz=255								
HSN1					*e*	S	**Sn**	**05 59 48.2**	**-1.1**
	baz=255								
NFF	**Wufeng Townshi**	**0.67**	**229**	⇑	*i*	P	**Pn**	**05 59 32.3**	**-0.8**
	baz=233								
NFF						S	**Sn**	**05 59 47.6**	**-2.0**
	baz=233								
SBCB	**Hsinchu**	**0.68**	**246**	⇑	*i*	P	**Pn**	**05 59 32.8**	**-0.3**
	baz=255								
SBCB					*i*	S	**Sn**	**05 59 48.5**	**-1.1**
	baz=255								
NNS	**Nan Shan**	**0.69**	**203**	⇑	*i*	P	**Pn**	**05 59 32.6**	**-0.7**
	baz=209								
NNS						S	**Sn**	**05 59 48.4**	**-1.6**
	baz=209								
HSN	**Hsinchu**	**0.69**	**247**	⇑	*i*	P	**Pn**	**05 59 32.5**	**-0.6**
	baz=259								
HSN						S	**Sn**	**05 59 47.8**	**-1.8**
	baz=259								
NNSB	**Datong**	**0.70**	**202**	⇑	*i*	P	**Pn**	**05 59 32.6**	**-0.7**
	baz=208								
NNSB						S	**Sn**	**05 59 48.0**	**-2.1**
	baz=208								
NNSH	**Datong**	**0.70**	**202**	⇑	P		**Pn**	**05 59 32.7**	**-0.7**
	baz=209								
NNSH					*e*	S	**Sn**	**05 59 48.2**	**-1.9**
	baz=209								
LIOB	**Emei**	**0.73**	**234**	⇑	*i*	P	**Pn**	**05 59 33.0**	**-0.5**
	baz=235								
LIOB						S	**Sn**	**05 59 49.0**	**-1.3**
	baz=235								
EAHA	**Aohua**	**0.75**	**175**		*e*	P	**Pn**	**05 59 32.6**	**-1.0**
	baz=189								
EAHA					*e*	S	**Sn**	**05 59 49.5**	**-0.9**
	baz=189								
NSTT	**Nanjuang**	**0.75**	**234**	⇑	*i*	P	**Pn**	**05 59 33.1**	**-0.5**
	baz=236								
NSTT						S	**Sn**	**05 59 49.2**	**-1.2**
	baz=236								
EHP	**Heping Village**	**0.77**	**175**		*e*	P	**Pn**	**05 59 33.3**	**-0.5**
	baz=188								
EHP					*e*	S	**Sn**	**05 59 50.0**	**-0.8**
	baz=188								
NJN	**Zhunan**	**0.82**	**242**		P		**Pn**	**05 59 33.6**	**-0.5**
	baz=239								
NJN						S	**Sn**	**05 59 50.5**	**-0.8**
	baz=239								
EOS2	**EOS2**	**0.83**	**142**	⇓	*e*	P	**Pn**	**05 59 34.1**	**+0.1**
	baz=142								
ETLH	**Xiulin Townshi**	**0.88**	**191**		*e*	P	**Pn**	**05 59 34.0**	**-0.7**
	baz=190								
ETLH					*e*	S	**Sn**	**05 59 50.6**	**-1.9**
	baz=190								
NACB	**Ninganchiao**	**0.90**	**184**		Pn		**Pn**	**05 59 33.5**	**-1.2**
NACB	**Ninganchiao**	**0.90**	**184**		P		**Pn**	**05 59 33.7**	**-1.1**
NACB	**Ninganchiao**	**0.90**	**184**		*e*P		**Pn**	**05 59 33.3**	**-1.5**
	baz=194								
NACB					*e*	S	**Sn**	**05 59 50.0**	**-2.5**
	baz=194								
FUSS	**Fushou**	**0.91**	**205**	⇑	*i*	P	**Pn**	**05 59 35.0**	**-0.1**
	baz=213								
FUSS						S	**Sn**	**05 59 52.5**	**-0.7**
	baz=213								
ETL	**Fush Village**	**0.92**	**183**		*e*	P	**Pn**	**05 59 33.3**	**-1.6**
	baz=194								
ETL					*e*	S	**Sn**	**05 59 50.4**	**-2.4**
	baz=194								
TWT	**Tachien**	**0.93**	**209**	⇑	*i*	P	**Pn**	**05 59 35.2**	**-0.1**
	baz=217								
TWT					*i*	S	**Sn**	**05 59 52.4**	**-0.9**
	baz=217								
TDCB	**Techi**	**0.94**	**210**	⇑	*i*	P	**Pn**	**05 59 35.1**	**-0.2**
	baz=216								
TDCB						S	**Sn**	**05 59 51.7**	**-1.7**
	baz=216								
NMLH	**Miaoli**	**0.96**	**236**	⇑	P		**Pn**	**05 59 35.0**	**-0.2**
	baz=233								
NMLH						S	**Sn**	**05 59 52.2**	**-1.2**
	baz=233								
EOS3	**EOS3**	**0.98**	**143**	⇓	*e*	P	**Pn**	**05 59 35.5**	**+0.2**
	baz=145								
TWD	**Chiawan**	**0.99**	**184**		*e*	P	**Pn**	**05 59 34.1**	**-1.5**
	baz=194								
TWD					*e*	S	**Sn**	**05 59 50.8**	**-3.2**
	baz=194								
WHF	**Hehuan Shan**	**1.00**	**202**		*e*	P	**Pn**	**05 59 36.2**	**+0.1**
	baz=200								
WHF						S	**Sn**	**05 59 53.6**	**-1.2**
	baz=200								
WHP	**Taichung City**	**1.03**	**220**	⇑	*e*	P	**Pn**	**05 59 35.8**	**-0.1**
	baz=231								
WHP					*e*	S	**Sn**	**05 59 53.3**	**-1.4**
	baz=231								
NSY	**Sanyi**	**1.05**	**232**	⇑	*i*	P	**Pn**	**05 59 36.1**	**0.0**
	baz=238								
NSY					*i*	S	**Sn**	**05 59 54.3**	**-0.6**
	baz=238								
LXIB	**Xiulin Townshi**	**1.08**	**193**	⇓	P		**Pn**	**05 59 35.4**	**-1.1**
	baz=192								
LXIB					*e*	S	**Sn**	**05 59 53.4**	**-2.1**
	baz=192								
TWQ1	**Liyutan**	**1.09**	**228**	⇑	*i*	P	**Pn**	**05 59 36.2**	**-0.2**
	baz=237								
TWQ1						S	**Sn**	**05 59 54.0**	**-1.4**
	baz=237								
HWA	**Hwalien**	**1.10**	**183**	⇑	P		**Pn**	**05 59 35.6**	**-0.8**
	baz=193								
HWA					*e*	S	**Sn**	**05 59 54.1**	**-1.5**
	baz=193								
CHGB	**Renai**	**1.11**	**204**	⇑	*i*	P	**Pn**	**05 59 36.9**	**0.0**
	baz=208								
CHGB					*e*	S	**Sn**	**05 59 54.5**	**-1.7**
	baz=208								
ETM	**Tongmen**	**1.12**	**188**		*e*	P	**Pn**	**05 59 35.2**	**-1.5**
	baz=192								
ETM					*e*	S	**Sn**	**05 59 53.5**	**-2.4**
	baz=192								
EOS4	**EOS4**	**1.12**	**148**	⇓	*e*	P	**Pn**	**05 59 35.7**	**-0.5**
	baz=157								
EOS4					*e*	S	**Sn**	**05 59 54.1**	**-1.2**
	baz=157								
WDJ	**Dajia District**	**1.18**	**232**	⇑	*i*	P	**Pn**	**05 59 37.2**	**0.0**
	baz=240								
WDJ						S	**Sn**	**05 59 56.4**	**-0.5**
	baz=240								
WUSB	**Renai**	**1.19**	**205**	⇑	P		**Pn**	**05 59 37.4**	**0.0**
	baz=204								
WUSB						S	**Sn**	**05 59 56.6**	**-0.8**
	baz=204								
OWD	**Renai**	**1.20**	**202**	⇑	P		**Pn**	**05 59 37.6**	**-0.1**
	baz=205								
OWD						S	**Sn**	**05 59 56.8**	**-0.8**
	baz=205								
WCS	**Beigang Elemen**	**1.23**	**214**	⇑	P		**Pn**	**05 59 37.7**	**+0.1**
	baz=217								
WCS						S	**Sn**	**05 59 56.7**	**-1.1**
	baz=217								
DPDB	**Guoxing**	**1.24**	**213**	⇑	P		**Pn**	**05 59 37.8**	**0.0**
	baz=216								
DPDB					*e*	S	**Sn**	**05 59 57.7**	**-0.4**
	baz=216								
WPL	**Puli Township**	**1.24**	**212**	⇑	*i*	P	**Pn**	**05 59 37.8**	**-0.1**
	baz=220								
WPL						S	**Sn**	**05 59 56.4**	**-1.7**
	baz=220								
ESL	**Shilin**	**1.27**	**190**		*e*	P	**Pn**	**05 59 36.5**	**-1.6**
	baz=195								
SHUL	**Shoufeng**	**1.29**	**184**		P		**Pn**	**05 59 37.4**	**-0.9**
	baz=192								
SHUL						S	**Sn**	**05 59 57.5**	**-1.3**
	baz=192								
TCU	**Taichung**	**1.29**	**225**	⇑	*i*	P	**Pn**	**05 59 38.4**	**+0.1**
	baz=233								
TCU						S	**Sn**	**05 59 58.5**	**-0.4**
	baz=233								
JYNG	**Yonagunijimaku**	**1.32**	**118**		P		**Pn**	**05 59 38.0**	**-0.5**
JYNG						S	**Sn**	**05 59 57.9**	**-1.3**
JYNG	**Yonagunijimaku**	**1.32**	**118**		A		A	05 59 38.0	
	comp=E,9.0nm,1.2s,comp=N,13nm,0.5s								
WWF	**Wufeng**	**1.36**	**221**	⇑	P		**Pn**	**05 59 39.2**	**+0.3**
	baz=230								
WWF						S	**Sn**	**05 59 59.4**	**-0.7**
	baz=230								
YOJ	**Yonaguni jima**	**1.37**	**116**		Pn		**Pn**	**05 59 38.4**	**-0.6**
YOJ	**Yonaguni jima**	**1.37**	**116**		P		**Pn**	**05 59 38.6**	**-0.4**
YOJ	**Yonaguni jima**	**1.37**	**116**		P		**Pn**	**05 59 38.5**	**-0.6**
YOJ					*e*	S	**Sn**	**05 59 58.6**	**-1.5**
YOJ	**Yonaguni jima**	**1.37**	**116**		A		A	05 59 38.5	
	comp=E,11nm,0.7s,comp=N,7.0nm,0.9s								
YOJ	**Yonaguni jima**	**1.37**	**116**	⇓	*i*	P	**Pn**	**05 59 38.4**	**-0.6**
	baz=126								
YOJ						S	**Sn**	**05 59 57.9**	**-2.2**
	baz=126								
TEGC	**Jichi Village**	**1.37**	**185**		*e*	P	**Pn**	**05 59 38.9**	**-0.2**
	baz=193								
TEGC					*e*	S	**Sn**	**06 00 00.7**	**+0.4**
	baz=193								
WARBT	**Fenglin Townsh**	**1.38**	**191**	⇓	*e*	P	**Pn**	**05 59 37.5**	**-1.7**
	baz=191								
WARBT					*e*	S	**Sn**	**05 59 57.5**	**-3.0**
	baz=191								
SMLT	**Sun Moon Lake**	**1.38**	**211**	⇑	*e*	P	**Pn**	**05 59 39.2**	**-0.1**
	baz=219								
SMLT					*i*	S	**Sn**	**06 00 00.1**	**-0.6**
	baz=219								
TYC	**Yuchr**	**1.38**	**212**	⇑	P		**Pn**	**05 59 39.1**	**-0.1**
	baz=215								
TYC						S	**Sn**	**05 59 59.8**	**-0.7**
	baz=215								
VWDT	**VWDT**	**1.40**	**200**		P		**Pn**	**05 59 39.8**	**+0.4**
	baz=205								
VWDT					*e*	S	**Sn**	**05 59 59.9**	**-1.0**
	baz=205								
WCHH	**Zhanghua**	**1.42**	**226**		*e*	P	**Pn**	**05 59 39.5**	**0.0**
	baz=223								
WCHH					*e*	S	**Sn**	**06 00 01.0**	**-0.1**
	baz=223								
SSLB	**Suanglung**	**1.44**	**207**		Pn		**Pn**	**05 59 39.9**	**+0.1**
SSLB	**Suanglung**	**1.44**	**207**		P		**Pn**	**05 59 40.0**	**+0.1**
SSLB	**Suanglung**	**1.44**	**207**	⇑	*i*	P	**Pn**	**05 59 39.7**	**-0.2**
	baz=216								
SSLB						S	**Sn**	**06 00 00.4**	**-1.3**
	baz=216								
WNT1	**Nantou City**	**1.47**	**218**	⇑	P		**Pn**	**05 59 40.5**	**+0.3**
	baz=215								
WNT1						S	**Sn**	**06 00 01.3**	**-0.9**
	baz=215								
WYL	**Yuanlin Townsh**	**1.49**	**222**		P		**Pn**	**05 59 40.2**	**-0.1**
	baz=230								
WYL						S	**Sn**	**06 00 02.1**	**-0.4**
	baz=230								
WNT	**Mingjian**	**1.49**	**217**	⇑	P		**Pn**	**05 59 40.5**	**+0.2**
	baz=213								
WNT						S	**Sn**	**06 00 02.0**	**-0.6**
	baz=213								
WJS	**Zhushan**	**1.52**	**215**		P		**Pn**	**05 59 40.9**	**+0.3**
	baz=217								
WJS						S	**Sn**	**06 00 02.5**	**-0.5**
	baz=217								
WHYT	**Xinyi Township**	**1.56**	**209**		P		**Pn**	**05 59 41.3**	**+0.1**
	baz=211								
WHYT						S	**Sn**	**06 00 03.4**	**-0.6**
	baz=211								
HGSD	**Ruisui**	**1.59**	**188**	⇓	*e*	P	**Pn**	**05 59 40.6**	**-0.8**
	baz=191								
HGSD					*e*	S	**Sn**	**06 00 03.7**	**-0.9**
	baz=191								
EHY	**Hungye**	**1.59**	**191**		*e*	P	**Pn**	**05 59 39.8**	**-1.7**
	baz=186								
EHY					*e*	S	**Sn**	**06 00 02.5**	**-2.1**
	baz=186								
WRL	**Guolierlin Hig**	**1.66**	**225**	⇑	*e*	P	**Pn**	**05 59 41.9**	**-0.3**
	baz=222								
WRL					*i*	S	**Sn**	**06 00 05.2**	**-0.6**
	baz=222								
RLNB	**Erlin**	**1.68**	**226**	⇑	P		**Pn**	**05 59 42.4**	**0.0**
	baz=222								
RLNB						S	**Sn**	**06 00 05.4**	**-0.8**
	baz=222								
YULB	**Yu-li**	**1.71**	**191**		Pn		**Pn**	**05 59 41.8**	**-1.0**
YULB	**Yu-li**	**1.71**	**191**		P		**Pn**	**05 59 42.1**	**-0.7**
YULB	**Yu-li**	**1.71**	**191**		*e*P		**Pn**	**05 59 41.2**	**-1.6**
	baz=187								
YULB					*e*	S	**Sn**	**06 00 03.9**	**-3.0**
	baz=187								
WGK	**Gukeng**	**1.71**	**216**		P		**Pn**	**05 59 43.0**	**+0.2**
	baz=212								
WGK						S	**Sn**	**06 00 06.9**	**0.0**
	baz=212								
WDLH	**Douliu**	**1.72**	**217**	⇑	P		**Pn**	**05 59 43.4**	**+0.4**
	baz=212								
WDLH					*e*	S	**Sn**	**06 00 07.4**	**+0.3**
	baz=212								
CHN5	**Tsauling**	**1.73**	**212**		P		**Pn**	**05 59 43.1**	**+0.1**
	baz=213								
CHN5					*e*	S	**Sn**	**06 00 07.4**	**0.0**
	baz=213								
ALS	**Alishan**	**1.75**	**207**		P		**Pn**	**05 59 43.4**	**-0.1**
	baz=208								
ALS						S	**Sn**	**06 00 07.2**	**-1.0**
	baz=208								
WTCT	**Ta-ch'eng**	**1.75**	**227**		*e*	P	**Pn**	**05 59 42.7**	**-0.5**
	baz=228								
WTCT					*e*	S	**Sn**	**06 00 07.0**	**-0.5**
	baz=228								
TWF1	**Yuli**	**1.75**	**191**		*e*	P	**Pn**	**05 59 41.8**	**-1.5**
	baz=196								
EYUL	**Yuli**	**1.75**	**191**		*e*	P	**Pn**	**05 59 42.3**	**-1.0**

FULB	**Fuli**		**1.90**	**190**	*e*P	**Pn**	**05 59 44.4**	**-0.6**
	baz=193							
FULB					*e*S	**Sn**	**06 00 10.8**	**0.0**
	baz=193							
MSUT	**Lienchiang**		**1.91**	**305**⇓	*e*P	**Pn**	**05 59 44.0**	**-1.0**
	baz=304							
CHY	**Chiayi**		**1.94**	**216**	*e*P	**Pn**	**05 59 45.5**	**+0.1**
	baz=213							
CHY					*e*S	**Sn**	**06 00 11.3**	**-0.2**
	baz=213							
WSF	**Szhu**		**1.95**	**223**	P	**Pn**	**05 59 45.2**	**-0.3**
	baz=224							
WSF					S	**Sn**	**06 00 10.9**	**-0.8**
	baz=224							
EHD	**Haiduan**		**1.96**	**192**	*e*P	**Pn**	**05 59 45.7**	**0.0**
	baz=189							
ELDTW	**Lidau**		**1.97**	**198**	*e*P	**Pn**	**05 59 45.9**	**-0.1**
	baz=193							
ELDTW					*e*S	**Sn**	**06 00 12.3**	**-0.1**
	baz=193							
CHN4	**Tsaushan**		**1.98**	**210**	P	**Pn**	**05 59 46.0**	**+0.1**
	baz=211							
CHN4					S	**Sn**	**06 00 11.9**	**-0.5**
	baz=211							
CHKT	**Chengkung**		**1.99**	**188**	*e*P	**Pn**	**05 59 45.3**	**-0.7**
	baz=184							
CHKT					*e*S	**Sn**	**06 00 11.9**	**-0.7**
	baz=184							
TPUB	**Ta-pu**		**2.01**	**208**		**Pn**	**05 59 46.0**	**-0.2**
TPUB	**Ta-pu**		**2.01**	**208**	P	**Pn**	**05 59 46.3**	**+0.1**
TPUB	**Ta-pu**		**2.01**	**208**⇓	*i*P	**Pn**	**05 59 46.1**	**-0.2**
	baz=210							
TPUB					S	**Sn**	**06 00 11.8**	**-1.2**
	baz=210							
ECS	**Chishang**		**2.02**	**192**	*e*P	**Pn**	**05 59 46.0**	**-0.3**
	baz=189							
VWUC	**VWUC**		**2.02**	**268**	⇑P	**Pn**	**05 59 45.5**	**-0.7**
	baz=269							
VWUC					*e*S	**Sn**	**06 00 10.1**	**-3.0**
	baz=269							
WSL	**Shuilin Townsh**		**2.03**	**221**	*e*P	**Pn**	**05 59 46.8**	**+0.3**
	baz=222							
WSL					*e*S	**Sn**	**06 00 13.7**	**+0.3**
	baz=222							
WTP	**Ta-pu**		**2.06**	**208**	⇓P	**Pn**	**05 59 46.7**	**-0.2**
	baz=210							
WTP					S	**Sn**	**06 00 13.5**	**-0.7**
	baz=210							
STYH	**Taoyuan**		**2.06**	**203**	⇓P	**Pn**	**05 59 46.9**	**+0.1**
	baz=210							
STYH					S	**Sn**	**06 00 13.0**	**-1.2**
	baz=210							
STYT	**Tauyuan**		**2.08**	**204**	⇓P	**Pn**	**05 59 47.2**	**0.0**
	baz=210							
STYT					S	**Sn**	**06 00 13.6**	**-1.0**
	baz=210							
TWK	**Hsinying**		**2.10**	**211**⇓	*i*P	**Pn**	**05 59 47.3**	**0.0**
	baz=212							
TWK					S	**Sn**	**06 00 14.3**	**-0.7**
	baz=212							
EDH	**Donghe**		**2.12**	**189**	*e*P	**Pn**	**05 59 46.6**	**-1.0**
	baz=185							
ICHU	**Yijhu**		**2.13**	**217**	*e*P	**Pn**	**05 59 47.7**	**+0.1**
	baz=218							
ICHU					S	**Sn**	**06 00 15.8**	**+0.3**
	baz=218							
SNST	**Tainan City**		**2.14**	**210**	⇓P	**Pn**	**05 59 47.7**	**-0.1**
	baz=211							
SNST					*e*S	**Sn**	**06 00 14.9**	**-0.8**
	baz=211							
CHN1	**Nanshi**		**2.15**	**209**⇓	*i*P	**Pn**	**05 59 47.9**	**-0.1**
	baz=210							
CHN1					*i* S	**Sn**	**06 00 15.7**	**-0.4**
	baz=210							
CHN8	**Yiju**		**2.18**	**218**	*e*P	**Pn**	**05 59 48.0**	**-0.2**
	baz=219							
CHN8					*e*S	**Sn**	**06 00 16.7**	**+0.2**
	baz=219							
HATJ	**Hateruma jima**		**2.19**	**117**	P	**Pn**	**05 59 48.0**	**-0.4**
HATJ					S	**Sn**	**06 00 15.6**	**-1.3**
HATJ	**Hateruma jima**		**2.19**	**117**	A	A	05 59 48.0	
	comp=E,8.0nm,4.2s,comp=N,6.0nm,2.9s							
LONT	**Longtian**		**2.22**	**193**	*e*P	**Pn**	**05 59 48.0**	**-0.7**
	baz=188							
LONT					*e*S	**Sn**	**06 00 16.2**	**-1.2**
	baz=188							
SGST	**Jiashian**		**2.22**	**207**⇓	*i*P	**Pn**	**05 59 48.0**	**-0.8**
	baz=208							
SGST					*i* S	**Sn**	**06 00 15.7**	**-1.8**
	baz=208							
LYJJ	**Jianjiangzhen**		**2.26**	**311**⇓	*e*P	**Pn**	**05 59 48.4**	**-0.8**
	baz=309							
LYJJ					*e*S	**Sn**	**06 00 15.5**	**-2.8**
	baz=309							
SLGT	**Liugui**		**2.27**	**204**	P	**Pn**	**05 59 49.7**	**+0.3**
	baz=206							
SLGT					S	**Sn**	**06 00 18.5**	**-0.2**
	baz=206							
XPSS	**Dashiqiu**		**2.27**	**325**⇓	*e*P	**Pn**	**05 59 48.5**	**-0.8**
	baz=321							
XPSS					*e*S	**Sn**	**06 00 15.5**	**-3.2**
	baz=321							
JKRS	**Kuro-shima**		**2.29**	**111**	P	**Pn**	**05 59 49.3**	**-0.3**
JKRS					S	**Sn**	**06 00 18.4**	**-0.5**
JKRS	**Kuro-shima**		**2.29**	**111**	A	A	05 59 49.3	
	comp=E,8.0nm,2.9s,comp=N,8.0nm,3.0s							
SSHA	**Shanhua**		**2.31**	**213**	*e*P	**Pn**	**05 59 50.2**	**+0.4**
	baz=208							
SSHA					*e*S	**Sn**	**06 00 19.8**	**+0.4**
	baz=208							
PTMZ	**Houxiangcun**		**2.31**	**270**	⇓P	**Pn**	**05 59 49.2**	**-0.6**
	baz=270							
PTMZ					*e*S	**Sn**	**06 00 16.4**	**-3.0**
	baz=270							
TWG	**Pinlang**		**2.31**	**194**		**Pn**	**05 59 48.8**	**-1.1**
TWG	**Pinlang**		**2.31**	**194**	*e*P	**Pn**	**05 59 48.8**	**-1.1**
	baz=189							
TWG					S	**Sn**	**06 00 18.3**	**-1.2**
	baz=189							
TWGBT	**Beinan**		**2.31**	**194**	P	**Pn**	**05 59 49.2**	**-0.7**
TWGBT	**Beinan**		**2.31**	**194**⇓	*e*P	**Pn**	**05 59 48.8**	**-1.1**
	baz=189							
TWGBT					S	**Sn**	**06 00 18.2**	**-1.3**
	baz=189							
CHN3	**Shinhua**		**2.32**	**211**	*e*P	**Pn**	**05 59 50.4**	**+0.4**
	baz=212							
CHN3					*e*S	**Sn**	**06 00 20.6**	**+0.9**
	baz=212							
SCLT	**Jiali**		**2.32**	**216**	*e*P	**Pn**	**05 59 50.0**	**0.0**
	baz=223							
SCLT					*e*S	**Sn**	**06 00 19.5**	**-0.2**
	baz=223							
JIJ	**Ishigaki jima**		**2.36**	**107**	P	**Pn**	**05 59 49.9**	**-0.5**
JIJ					S	**Sn**	**06 00 19.9**	**-0.6**
JIJ	**Ishigaki jima**		**2.36**	**107**	A	A	05 59 49.9	
	comp=E,4.0nm,2.1s,comp=N,2.0nm,1.6s							
TTN	**Taitung**		**2.36**	**192**	*e*P	**Pn**	**05 59 50.3**	**-0.1**
	baz=189							
TTN					*e*S	**Sn**	**06 00 19.9**	**-0.7**
	baz=189							
SHHT	**Tainan City**		**2.38**	**211**	*e*P	**Pn**	**05 59 51.4**	**+0.7**
	baz=212							
SHHT					*e*S	**Sn**	**06 00 20.2**	**-0.6**
	baz=212							
LDUT	**Ludao**		**2.40**	**184**	*e*P	**Pn**	**05 59 49.8**	**-1.1**
	baz=191							
LDUT					*e*S	**Sn**	**06 00 18.6**	**-2.8**
	baz=191							
TSCK	**Chigu Township**		**2.40**	**217**	*e*P	**Pn**	**05 59 51.2**	**+0.2**
	baz=218							
TSCK					*e*S	**Sn**	**06 00 21.8**	**+0.3**
	baz=218							
TAI1	**Yung-k'ang**		**2.42**	**213**	*e*P	**Pn**	**05 59 51.7**	**+0.6**
	baz=217							
SCST	**Cishan**		**2.43**	**206**⇓	*e*P	**Pn**	**05 59 51.9**	**+0.6**
	baz=207							
SCST					*e*S	**Sn**	**06 00 21.7**	**-0.4**
	baz=207							
PNG	**Penghu**		**2.44**	**232**	P	**Pn**	**05 59 51.0**	**-0.5**
	baz=228							
PNG					S	**Sn**	**06 00 20.3**	**-2.1**
	baz=228							
JISG	**Ishigakijimahi**		**2.45**	**101**	P	**Pn**	**05 59 51.1**	**-0.4**
JISG					S	**Sn**	**06 00 21.4**	**-1.1**
JISG	**Ishigakijimahi**		**2.45**	**101**	A	A	05 59 51.1	
	comp=E,7.0nm,0.5s,comp=N,7.0nm,0.5s							
PHUB	**P'eng-hu**		**2.47**	**231**⇑	*e*P	**Pn**	**05 59 51.3**	**-0.4**
	baz=227							
PHUB					S	**Sn**	**06 00 20.7**	**-2.2**
	baz=227							
TAI	**Tainan**		**2.47**	**213**	*e*P	**Pn**	**05 59 52.4**	**+0.6**
	baz=217							
SSD	**Sandimen**		**2.51**	**202**	⇓P	**Pn**	**05 59 51.5**	**-0.8**
	baz=211							
SSD					S	**Sn**	**06 00 21.9**	**-1.9**
	baz=211							
TWM1	**Shoushan**		**2.52**	**207**	⇓P	**Pn**	**05 59 53.5**	**+1.1**
	baz=208							
TWM1					*e*S	**Sn**	**06 00 24.4**	**+0.3**
	baz=208							
TSMG	**Majia**		**2.54**	**202**⇓	*e*P	**Pn**	**05 59 52.8**	**+0.1**
	baz=211							
TSMG					*e*S	**Sn**	**06 00 23.7**	**-0.9**
	baz=211							
ECL	**Taimali**		**2.55**	**195**	*e*P	**Pn**	**05 59 52.1**	**-0.8**
	baz=191							
ECL					*e*S	**Sn**	**06 00 24.4**	**-0.5**
	baz=191							
WDGT	**Dungji**		**2.58**	**226**⇑	*i*P	**Pn**	**05 59 53.0**	**-0.1**
	baz=220							
WDGT					S	**Sn**	**06 00 23.9**	**-1.4**
	baz=220							
SGLT	**Jiouru**		**2.58**	**205**	*e*P	**Pn**	**05 59 53.7**	**+0.5**
	baz=208							
MHZQ	**Yeshan**		**2.59**	**294**⇓	*e*P	**Pn**	**05 59 52.5**	**-0.7**
	baz=294							
SNJT	**Kaohsiung City**		**2.62**	**208**	*e*P	**Pn**	**05 59 54.3**	**+0.7**
	baz=209							
SNJT					*e*S	**Sn**	**06 00 27.2**	**+1.0**
	baz=209							
TSPT	**Pingtung City**		**2.62**	**204**	*e*P	**Pn**	**05 59 54.5**	**+0.9**
	baz=208							
MASBT	**Mashibuluo**		**2.63**	**201**⇓	*i*P	**Pn**	**05 59 54.0**	**+0.2**
	baz=210							
MASBT					S	**Sn**	**06 00 25.4**	**-1.1**
	baz=210							
WSSB	**Gushan**		**2.75**	**208**	*e*P	**Pn**	**05 59 55.8**	**+0.5**
	baz=209							
WSSB					*e*S	**Sn**	**06 00 29.9**	**+0.7**
	baz=209							
VCHM	**Qimei**		**2.76**	**228**	P	**Pn**	**05 59 55.5**	**0.0**
	baz=229							
VCHM					S	**Sn**	**06 00 27.8**	**-1.8**
	baz=229							
EAST	**Anshuo**		**2.79**	**196**	*e*P	**Pn**	**05 59 55.4**	**-0.4**
	baz=199							
JTJ	**Tarama**		**2.79**	**98**	P	**Pn**	**05 59 55.7**	**0.0**
JTJ					*e*S	**Sn**	**06 00 29.8**	**-0.2**
KAU	**Kaohsiung**		**2.79**	**207**	*e*P	**Pn**	**05 59 56.1**	**+0.3**
	baz=210							
QZH	**Quanzhou**		**2.79**	**268**	*i* P	**Pn**	**05 59 55.1**	**-0.7**
QZH					sP		06 00 24.8	
QZH					S	**Sn**	**06 00 27.3**	**-2.8**
QZH					smax	smax		
	comp=N,1μm,0.8s							
QZH					smax	smax		
	comp=N,570nm,0.6s							
TAW	**Tawu**		**2.80**	**195**	*e*P	**Pn**	**05 59 56.2**	**+0.3**
	baz=189							
TAW					*e*S	**Sn**	**06 00 28.7**	**-1.6**
	baz=189							
TAWH	**Dawu Township**		**2.82**	**195**	*e*P	**Pn**	**05 59 56.0**	**-0.1**
	baz=196							
TAWH					*e*S	**Sn**	**06 00 29.3**	**-1.5**
	baz=196							
SCZT	**Fangliau**		**2.86**	**200**⇓	*i*P	**Pn**	**05 59 56.7**	**0.0**
	baz=200							
SCZT					*e*S	**Sn**	**06 00 30.3**	**-1.4**
	baz=200							
SLIU	**Shizi**		**2.96**	**196**	*e*P	**Pn**	**05 59 57.8**	**-0.2**
	baz=200							
TWP	**Hsiaoliuchiu**		**2.97**	**204**	*e*P	**Pn**	**05 59 58.8**	**+0.7**
	baz=215							
KNM	**Kinmen**		**3.01**	**258**⇓	*e*P	**Pn**	**05 59 59.5**	**+0.9**
	baz=261							
LAY	**Lan-yu**		**3.03**	**182**	*e*P	**Pn**	**05 59 57.7**	**-1.1**
	baz=181							
KNMB	**Chin-men Tao**		**3.04**	**259**	Pn	**Pn**	**05 59 58.3**	**-0.7**
KNMB	**Chin-men Tao**		**3.04**	**259**⇓	*e*P	**Pn**	**05 59 58.2**	**-0.7**
	baz=260							
KNMB					*e*S	**Sn**	**06 00 32.7**	**-3.1**
	baz=260							
LYUB	**Lan-yu**		**3.06**	**181**	*e*P	**Pn**	**05 59 57.5**	**-1.8**
	baz=182							
LYUB					*e*S	**Sn**	**06 00 32.7**	**-3.7**
	baz=182							
SMST	**Manzhou Townsh**		**3.14**	**194**	*e*P	**Pn**	**06 00 00.1**	**-0.2**
	baz=198							
HEN	**Hengchun**		**3.17**	**196**	*e*P	**Pn**	**06 00 00.5**	**-0.2**
	baz=202							
HEN					*e*S	**Sn**	**06 00 36.3**	**-2.6**
	baz=202							
JIRB	**Irabujima**		**3.19**	**94**	S	**Sn**	**06 00 39.3**	**+0.1**
SNW	**Nanwan**		**3.21**	**195**	*e*P	**Pn**	**06 00 01.8**	**+0.6**
	baz=199							
TWK1	**Hengchun**		**3.22**	**194**	*e*P	**Pn**	**06 00 00.9**	**-0.4**
	baz=195							
TWK1					*e*S	**Sn**	**06 00 37.9**	**-2.0**
	baz=195							
TWKBT	**Hengchun**		**3.22**	**194**	*e*P	**Pn**	**06 00 00.8**	**-0.5**
	baz=195							
TWKBT					*e*S	**Sn**	**06 00 36.4**	**-3.5**
	baz=195							
TSEB	**Hengchuen, Pin**		**3.24**	**193**	*e*P	**Pn**	**06 00 01.1**	**-0.4**
	baz=190							
TSEB					*e*S	**Sn**	**06 00 38.6**	**-1.8**
	baz=190							
JIKM	**Ikemajima**		**3.25**	**92**	P	**Pn**	**06 00 02.2**	**+0.5**
JIKM					S	**Sn**	**06 00 40.8**	**+0.2**
JMJ	**Miyako jima 2**		**3.30**	**94**	P	**Pn**	**06 00 02.7**	**+0.4**
JMJ	**Miyako jima 2**		**3.30**	**94**	*e*P	**Pn**	**06 00 02.6**	**+0.3**
	baz=89							
JMJ					*e*S	**Sn**	**06 00 39.5**	**-2.2**
	baz=89							
JMJ2	**Miyako jima3**		**3.34**	**95**	P	**Pn**	**06 00 03.2**	**+0.4**
JMJ2					*e*S	**Sn**	**06 00 42.4**	**-0.2**
AXDP	**Jialang**		**3.36**	**268**	⇓P	**Pn**	**06 00 02.8**	**-0.3**
	baz=269							
AXDP					*e*S	**Sn**	**06 00 40.6**	**-2.5**
	baz=269							
JOGS	**Gusukube**		**3.41**	**95**	*e*P	**Pn**	**06 00 03.8**	**+0.1**
JOGS					*e*S	**Sn**	**06 00 44.5**	**+0.3**
ZPLA	**Ao Xicun**		**3.75**	**253**⇓	*e*P	**Pn**	**06 00 07.3**	**-0.8**
	baz=254							
ZPLA					*e*S	**Sn**	**06 00 49.2**	**-2.9**
	baz=254							
SXFK	**Yanhouchang**		**3.86**	**291**	⇓P	**Pn**	**06 00 09.3**	**-0.3**
	baz=291							
SXFK					*e*S	**Sn**	**06 00 52.6**	**-2.2**
	baz=291							
DSXP	**Dongshan**		**4.10**	**251**	⇓P	**Pn**	**06 00 12.3**	**-0.4**
	baz=254							
JOW	**Kunigami**		**6.20**	**72**	P	**Pn**	**06 00 39.1**	**-1.5**
JOW	**Kunigami**		**6.20**	**72**	P	**Pn**	**06 00 38.9**	**-1.8**
	comp=N,66nm,0.3s,baz=90,slow=25,SNR=46							
JOW					S	**Sn**	**06 01 45.0**	**-5.4**
	comp=N,29nm,0.3s,baz=117,slow=26,SNR=2.0							
VDOS	**Pratas Island**		**6.30**	**227**	*e*P	**Pn**	**06 00 43.2**	**+1.2**
	baz=229							
NJ2	**Nanjing**		**7.38**	**341**	⇓P	**Pn**	**06 00 55.5**	**-0.8**
NJ2					S	**Sn**	**06 02 22.9**	**+4.2**
NJ2					smax	smax		
	comp=N,140nm,1.1s							
NJ2					smax	smax		
	comp=N,100nm,0.6s							
WHN	**Wuhan**		**8.46**	**312**⇓	*i*P	**Pn**	**06 01 10.8**	**-0.1**
WHN					sP		06 01 41.3	
WHN					S	**Sn**	**06 02 46.5**	**+1.6**
JMZ	**Minamidaito 2**		**8.67**	**83**	P	**Pn**	**06 01 11.7**	**-2.0**
JNU	**Nakatsue**		**11.36**	**43**	P	**Pn**	**06 01 49.7**	**+0.4**
	comp=N,4.3nm,0.9s,baz=84,slow=6.8,SNR=1.3							
TIA	**Tai'an**		**11.77**	**342**	⇓P	**Pn**	**06 01 56.3**	**+1.7**
TIA					pmax	pmax		
	comp=N,20nm,0.8s							
ENH	**Enshi**		**11.97**	**298**	Pn	**Pn**	**06 01 58.4**	**+1.0**
LYN	**LuoYang**		**12.36**	**322**	⇓P	**Pn**	**06 02 03.3**	**+0.9**
LYN					sP	P	06 02 40.1	+32
LYN					pmax	pmax		
	comp=N,70nm,1.7s							
LYN					pmax	pmax		
	comp=N,210nm,7.2s							
KSRS	**Korea Array**		**13.44**	**22**	P	**Pn**	**06 02 17.5**	**+1.3**
	comp=N,11nm,1.1s,baz=199,slow=13,SNR=7.0							
GYA	**Guiyang**		**13.59**	**279**	P	**Pn**	**06 02 18.8**	**+0.4**
GYA					pmax	pmax		
	comp=N,17nm,1.3s							
HNS	**HongShan**		**13.64**	**336**	⇓P	**Pn**	**06 02 20.6**	**+1.8**
HNS					pmax	pmax		
	comp=N,82nm,1.4s							
XAN	**Xi'an**		**14.23**	**312**	⇑P	**Pn**	**06 02 25.4**	**-1.0**
XAN					sP	P	06 03 03.3	+34
XAN					S	**Sn**	**06 05 00.0**	**-4.0**
XAN					pmax	pmax		
	comp=N,19nm,1.1s							
XAN					pmax	pmax		
	comp=N,340nm,3.5s							
BJT	**Baijiatuan**		**15.60**	**344**	P	**P**	**06 02 44.8**	**+0.4**
BJT					IAmb	IAmb	06 02 48.0	
	comp=Z,33nm,1.5s							
BJI	**Beijing**		**15.62**	**344**	P	**P**	**06 02 44.5**	**-0.1**
BJI					pmax	pmax		
	comp=Z,8.0nm,1.6s							
SLVN	**Son La**		**16.75**	**261**	P	**Pn**	**06 02 59.5**	**+1.9**
CD2	**Chengdu**		**16.84**	**294**	P	**P**	**06 02 58.3**	**-0.1**
CD2					pmax	pmax		
	comp=Z,60nm,1.0s							
KMI	**Kunming**		**17.15**	**274**	⇑P	**Pn**	**06 03 05.3**	**+2.8**
KMI					pmax	pmax		
	comp=Z,28nm,0.9s							
HHC	**Hu-ho-hao-te**		**17.85**	**334**⇑	*i*P	**Pn**	**06 03 12.3**	**+1.7**
HHC					sP	sP	06 03 53.1	+0.4
HHC					pmax	pmax		
	comp=Z,93nm,1.4s							
HHC					pmax	pmax		
	comp=Z,340nm,5.9s							
PZH	**PanZhiHua**		**18.00**	**279**	P	**Pn**	**06 03 13.0**	**+0.4**
PZH					pmax	pmax		
	comp=Z,30nm,1.1s							
PZH					pmax	pmax		
	comp=Z,170nm,6.9s							
MJAR	**Matsushiro Arr**		**18.20**	**47**	P	**P**	**06 03 13.1**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=240,slow=9.3,SNR=8.7							
BTO	**Baotou**		**18.29**	**331**	*e*P	**Pn**	**06 03 17.8**	**+1.9**
BTO					sP	**sP**	**06 03 57.0**	**-0.6**
BTO					S	**S**	**06 06 36.5**	**+0.7**
BTO					pmax	pmax		
	comp=Z,34nm,1.0s							
BTO					pmax	pmax		
	comp=Z,480nm,4.1s							
BTO					LR	LR		
	comp=Z,650nm,7.7s							
BTO					LR	LR		
	comp=Z,490nm,5.6s							
BTO					LR	LR		
	comp=Z,610nm,9.6s							
LZH	**Lanzhou**		**18.83**	**310**	*e*P	**Pn**	**06 03 22.3**	**-0.1**
LZH					pmax	pmax		
	comp=Z,96nm,1.1s							
XLT	**XiLinHaoTe**		**19.32**	**348**	*e*P	**Pn**	**06 03 26.8**	**-1.1**
XLT					pP	pP	06 03 48.3	-2.4
XLT					sP	sP	06 04 07.8	-1.2
XLT					PcP	**PcP**	**06 07 41.9**	**+0.4**
XLT					pmax	pmax		
	comp=Z,23nm,1.0s							
XLT					pmax	pmax		
	comp=Z,260nm,8.9s							
CRAI	**Chiangrai**		**20.23**	**260**	P	Pn	06 03 38.0	-0.7
MDJ	**Mudanjiang**		**20.53**	**16**	P	**P**	**06 03 38.3**	**+0.1**
MDJ					S	**S**	**06 07 21.6**	**+1.7**
MDJ					PcP	PcP	06 07 53.6	+10
MDJ					pmax	pmax		
	comp=Z,5.0nm,0.8s							
MDJ					pmax	pmax		
	comp=Z,240nm,8.9s							
MDJ					LR	LR		
	comp=Z,190nm,10.3s							
MDJ					LR	LR		
	comp=Z,220nm,9.6s							
MDJ					LR	LR		
	comp=Z,420nm,9.6s							
USA0B	**Ussuriysk Arra**		**20.85**	**21**	P	**P**	**06 03 39.8**	**-1.8**
USRK	**Ussuriysk Ar.**		**20.85**	**21**		**P**	**06 03 39.9**	**-1.7**
USRK	**Ussuriysk Ar.**		**20.85**	**21**	P	**P**	**06 03 42.3**	**+0.8**
	comp=Z,6.7nm,0.7s,baz=207,slow=9.9,SNR=13							
USRK					pP	**pP**	**06 04 09.2**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=239,slow=7.0,SNR=1.6							
	comp=Z,6.7nm,0.7s							
CMMT	**Chiang Mai**		**21.96**	**258**	P	**P**	**06 03 55.6**	**+1.9**
	comp=Z,66nm,1.2s							
CHTO	**Chiang Mai**		**21.96**	**258**	P	**P**	**06 03 55.6**	**+1.9**
CMAR	**Chiang Mai Arr**		**22.09**	**257**	P	**P**	**06 03 56.5**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=57,slow=8.2,SNR=11							
CMAR					PcP	**PcP**	**06 07 47.8**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=11,slow=1.2,SNR=5.5							
	comp=Z,2.2nm,0.7s							
GTA	**Gaotai**		**23.28**	**313**	P	**P**	**06 04 07.3**	**+1.0**
GTA					pP	pP	06 04 33.4	-0.6
GTA					sP	sP	06 04 52.0	0.0
GTA					pmax	pmax		
	comp=Z,18nm,1.5s							
SBUM	**Sibu**		**24.27**	**204**	P	**P**	**06 04 13.9**	**-1.3**
SBUM					IAmb	IAmb	06 04 16.4	
	comp=Z,14nm,0.8s							
SBUM	**Sibu**		**24.27**	**204**	P	**P**	**06 04 15.6**	**+0.4**
	comp=Z,20nm,1.0s							
GTOI	**Gorontalo**		**24.33**	**177**	P	**P**	**06 04 14.4**	**-1.4**
	comp=Z,14nm,0.7s							
ULN	**Ulaanbaatar**		**25.51**	**337**	P	**P**	**06 04 26.6**	**+0.1**
ULN					IAmb	IAmb	06 04 27.9	
	comp=Z,14nm,0.7s							
ULN	**Ulaanbaatar**		**25.51**	**337**	P	**P**	**06 04 26.8**	**+0.4**
	comp=Z,92nm,0.8s							
HEH	**HeiHe**		**25.53**	**9**	*e*P	**P**	**06 04 29.6**	**+3.3**
HEH					pmax	pmax		
	comp=Z,5.0nm,0.8s							
GOMU	**GeErMu**		**25.55**	**302**	P	**P**	**06 04 28.5**	**+1.4**
GOMU					pmax	pmax		
	comp=Z,8.0nm,1.0s							
SONM	**Songino Array**		**25.73**	**336**	P	**P**	**06 04 27.7**	**-0.6**
SONM					IAmb	IAmb	06 04 30.4	
	comp=Z,17nm,1.0s							
SONM						**pP**	**06 04 59.1**	**+0.5**
SONM	**Songino Array**		**25.73**	**336**	P	**P**	**06 04 28.8**	**+0.5**
	comp=Z,15nm,0.9s,baz=154,slow=8.6,SNR=47							
SONM					pP	**pP**	**06 05 00.8**	**+2.2**
	comp=Z,8.3nm,1.1s,baz=154,slow=9.1,SNR=3.4							
	comp=Z,15nm,0.9s							
LUWI	**Luwuk**		**25.99**	**177**		**P**	**06 04 29.9**	**-0.9**
STKI	**Sintang**		**26.75**	**203**	P	**P**	**06 04 38.3**	**+0.7**
NLAI	**Namlea**		**28.64**	**169**	P	**P**	**06 04 54.3**	**-0.1**
	comp=Z,18nm,0.7s							
WMQ	**Urumqi**		**33.37**	**313**	*e*P	**P**	**06 05 34.1**	**-1.7**
WMQ					pP	pP	06 06 00.8	-6.0
WMQ					sP	sP	06 06 25.3	+1.9
WMQ					pmax	pmax		
	comp=Z,22nm,0.9s				

comp=Z,1.0nm,0.6s,baz=113,slow=7.8,SNR=2.0
comp=Z,2.5nm,0.6s
FITZ Fitzroy Crossi 43.09 174 P **P** **06 06 55.7 -1.4**
KK31 Karatay Array 45.29 307 **P** **06 07 15.2 +0.6**
KKAR Karatay Array 45.29 307 **P** **06 07 15.4 +0.8**
KKAR Karatay Array 45.29 307 IAmb IAmb 06 07 16.3
comp=Z,8.1nm,1.5s
KBL Kabul 46.19 295 **P** **06 07 22.8 +0.8**
KBL IAmb IAmb 06 07 24.7
comp=Z,9.9nm,0.9s
WB0 Warramunga Arr 46.26 163 P **P** **06 07 20.9 -1.4**
WB0 IAmb IAmb 06 07 23.1
comp=Z,22nm,1.2s
PSA00 Pilbara Seismi 46.40 182 P **P** **06 07 22.1 -1.4**
PSA00 IAmb IAmb 06 07 22.9
comp=Z,10nm,0.8s
WRA Warramunga Arr 46.42 163 P **P** **06 07 22.8 -0.7**
comp=Z,12nm,0.5s,baz=346,slow=8.7,SNR=112
comp=Z,12nm,0.5s
WR0 Warramunga Arr 46.48 163 P **P** **06 07 23.2 -0.9**
TIXI Tiksi 46.78 3 **P** **06 07 26.4 +0.6**
TIXI IAmb IAmb 06 07 27.0
comp=Z,6.9nm,0.8s
BVAR Borovoye Array 47.27 320 P **P** **06 07 30.1 +0.2**
comp=Z,3.1nm,0.5s,baz=110,slow=8.8,SNR=22
comp=Z,3.1nm,0.5s
BRVK Borovoye 47.34 320 **P** **06 07 30.1 -0.2**
NRIK Noril'sk 48.66 345 P **P** **06 07 40.0 -0.3**
NRIK IAmb IAmb 06 08 14.4
comp=Z,18nm,1.5s
NRIK Noril'sk 48.66 345 P **P** **06 07 40.5 +0.3**
comp=Z,3.0nm,0.9s,baz=131,slow=5.7,SNR=4.2
NRIK pP **pP** **06 08 11.6 -1.5**
comp=Z,2.3nm,0.6s,baz=112,slow=7.7,SNR=3.5
comp=Z,3.0nm,0.9s
AS31 Alice Springs 49.88 165 P **P** **06 07 49.5 -0.7**
ASAR Alice Springs 49.88 165 P **P** **06 07 49.5 -0.6**
ASAR Alice Springs 49.88 165 P **P** **06 07 49.7 -0.5**
comp=Z,4.7nm,0.5s,baz=346,slow=6.4,SNR=91
ASAR pP **pwP** **06 08 24.4 -0.9**
comp=Z,1.8nm,0.6s,baz=350,slow=7.4,SNR=2.5
ASAR PcP **PcP** **06 09 08.0 -0.6**
comp=Z,2.6nm,0.8s,baz=350,slow=3.0,SNR=6.7
comp=Z,4.7nm,0.5s
HNR Honiara 50.67 128 LR LR 06 26 54.6
comp=Z,581nm,21.2s,baz=84,slow=33
BILL Bilibino 50.70 20 P **P** **06 07 55.5 -0.2**
CTAO Charters Tower 50.87 150 P **P** **06 07 58.2 +0.7**
ABKAR Akbulak array 53.14 314 **P** **06 08 14.7 +0.6**
ABKAR Akbulak array 53.14 314 IAmb IAmb 06 08 16.9
comp=Z,7.3nm,0.6s
GEYT Alibeck 54.73 300 P **P** **06 08 27.2 +1.3**
GEYT IAmb IAmb 06 08 28.3
comp=Z,6.5nm,0.9s
GEYT pP **pP** **06 08 58.5 -0.9**
GEYT Alibeck 54.73 300 P **P** **06 08 25.9 0.0**
comp=Z,4.4nm,0.8s,baz=56,slow=2.7,SNR=8.8
GEYT pP **pP** **06 08 59.7 +0.3**
comp=Z,4.5nm,0.7s,baz=72,slow=6.4,SNR=3.9
comp=Z,4.4nm,0.8s
FORT Forrest 55.88 173 P **P** **06 08 33.1 -0.8**
EIDS Eidsvold 57.65 148 P **P** **06 08 46.8 +0.2**
NWAO Narrogin (SRO) 57.84 184 P **P** **06 08 47.8 +0.1**
BBOO Buckleboo 59.18 166 P **P** **06 08 56.7 -0.4**
STKA Stephens Creek 59.75 160 P **P** **06 09 00.6 -0.4**
comp=Z,5.0nm,0.6s,baz=341,slow=7.2,SNR=14
comp=Z,5.0nm,0.6s
C18K Utukok River 62.22 24 IAmb IAmb 06 09 17.9
comp=Z,4.6nm,0.9s
H17K Granite Mounta 62.68 28 P **P** **06 09 21.1 +0.8**
H17K IAmb IAmb 06 09 22.2
comp=Z,7.6nm,0.8s
G18K Tagagawik 63.19 27 IAmb IAmb 06 09 24.4
comp=Z,5.3nm,0.9s
B20K Meade River 63.66 22 IAmb IAmb 06 09 29.2
comp=Z,9.8nm,1.1s
CAST Castle Rocks 66.23 29 IAmb IAmb 06 09 45.0
comp=Z,5.8nm,0.8s
BPAW Bear Paw Mtn. 66.60 29 P **P** **06 09 46.6 +0.8**
BPAW IAmb IAmb 06 09 47.2
comp=Z,7.6nm,0.9s
NEA2 Nenana 67.34 28 P **P** **06 09 50.9 +0.4**
NEA2 IAmb IAmb 06 09 51.7
comp=Z,10nm,0.8s
NEA2 **pP** **06 10 26.9 +1.7**
H24K Noodor Dome 67.59 26 IAmb IAmb 06 10 30.4
MDM Murphy Dome 67.62 27 P **P** **06 09 52.8 +0.6**
MDM **pP** **06 10 28.9 +1.8**
POKR Poker Plat Res 67.92 27 IAmb IAmb 06 10 32.4
comp=Z,9.4nm,0.9s
ILAR Eielson Array 68.22 27 P **P** **06 09 55.2 -0.8**
comp=Z,1.3nm,0.6s,baz=289,slow=7.7,SNR=19
ILAR pP **pP** **06 10 31.8 +0.9**
comp=Z,1.0nm,0.6s,baz=278,slow=5.2,SNR=5.1
comp=Z,1.3nm,0.6s
BMAR Burnt Mountain 68.54 24 P **P** **06 09 59.2 +1.3**
BMAR **pP** **06 10 34.0 +1.1**
SCM Sheep Creek Mo 68.69 31 P **P** **06 09 59.6 +0.6**
SPITS Spitsbergen Ar 68.71 348 P **P** **06 09 58.8 0.0**
comp=Z,6.7nm,0.5s,baz=77,slow=6.5,SNR=4.1
comp=Z,6.7nm,0.5s
ARCES ARCESS Array B 68.88 338 **P** **06 10 00.0 +0.1**
comp=Z,1.4nm,0.5s,baz=63,slow=6.7,SNR=13
comp=Z,1.4nm,0.5s
E28M Babbage River 70.05 23 P **P** **06 10 07.7 +0.5**
E28M pP **pP** **06 10 42.9 +0.7**
E28M IAmb IAmb 06 10 45.0
comp=Z,5.8nm,0.8s
F28M Old Crow 70.23 24 P **P** **06 10 08.8 +0.5**
F28M pP **pP** **06 10 45.5 +2.1**
F28M IAmb IAmb 06 10 46.3
comp=Z,11nm,1.1s
EGAK Eagle 70.59 27 P **P** **06 10 10.5 +0.1**
EGAK **pP** **06 10 47.2 +1.6**
EGAK IAmb IAmb 06 10 49.1
comp=Z,9.3nm,1.1s
FINES FINESS Array B 70.90 330 P **P** **06 10 12.6 +0.2**
comp=Z,7.2nm,0.4s,baz=58,slow=5.8,SNR=84
comp=Z,7.2nm,0.4s
DAWY Dawson 71.54 27 P **P** **06 10 16.5 +0.2**
DAWY **pP** **06 10 52.9 +1.4**
DAWY IAmb IAmb 06 10 54.4
comp=Z,6.2nm,0.9s
EPYK Eagle Plains 71.81 25 P **P** **06 10 17.7 -0.2**
EPYK **pP** **06 10 53.0 -0.1**
EPYK IAmb IAmb 06 10 54.5
comp=Z,14nm,1.2s
INK Inuvik 72.23 22 P **P** **06 10 20.0 -0.2**
INK IAmb IAmb 06 10 58.0
comp=Z,14nm,1.4s
M29M Somme Creek 72.49 29 IAmb IAmb 06 10 24.0
comp=Z,6.2nm,0.8s
F31M Tsiigehtchic 72.50 23 IAmb IAmb 06 10 58.4
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 72.50 318 P **P** **06 10 21.5 -0.7**
comp=Z,1.2nm,0.5s,baz=58,slow=6.1,SNR=9.5
AKASG pP **pP** **06 10 57.6 +0.2**
comp=Z,0.8nm,0.5s,baz=72,slow=6.0,SNR=2.7
comp=Z,1.2nm,0.5s
H31M Peel River 72.92 25 IAmb IAmb 06 10 25.0
comp=Z,8.5nm,1.1s
BRTR Keskin Array B 73.00 306 P **P** **06 10 25.8 +0.3**
BRTR Keskin Array B 73.00 306 P **P** **06 10 26.4 +0.8**
comp=Z,3.6nm,0.9s,baz=106,slow=5.7,SNR=15
BRTR pP **pP** **06 11 01.4 +0.5**
comp=Z,1.4nm,0.7s,baz=70,slow=5.5,SNR=3.0
comp=Z,3.6nm,0.9s
A36M Sachs Harbour 73.14 17 P **P** **06 10 25.5 -0.1**
A36M pP **pP** **06 11 00.9 0.0**
EUNU Eureka 73.98 5 P **P** **06 10 30.0 -0.5**
EUNU **pP** **06 11 06.0 +0.1**
CSS Mathiatis 74.81 302 P **P** **06 10 36.7 +0.7**
C36M Paulatuk 74.82 20 P **P** **06 10 34.6 -0.7**
C36M **pP** **06 11 11.5 +0.7**
KWP Kalwaria Pacla 76.80 319 P **P** **06 10 47.7 +0.7**
HFS Hagfors 77.01 331 P **P** **06 10 47.4 -0.5**
comp=Z,6.2nm,1.0s,baz=70,slow=8.5,SNR=5.1
comp=Z,6.2nm,1.0s
NB2 NORSAR Subarra 77.64 332 P **P** **06 10 50.8 -0.7**
comp=Z,1.9nm,0.8s,baz=57,slow=5.6
NOA NORSAR Array B 77.64 332 P **P** **06 10 50.9 -0.7**
comp=Z,3.5nm,0.8s,baz=58,slow=5.5,SNR=9.1
NOA pP **pP** **06 11 26.9 -0.3**
comp=Z,3.5nm,0.9s,baz=60,slow=5.5,SNR=5.2
comp=Z,3.5nm,0.8s

VYHS Vyhne 79.59 319 *eP* **P** **06 11 03.2 +0.8**
VYHS *epP* **pP** **06 11 39.6 +1.3**
YKA Yellowknife Ar 81.98 23 P **P** **06 11 14.4 -0.4**
comp=Z,2.6nm,0.9s,baz=315,slow=4.9,SNR=23
YKA pP **pP** **06 11 51.2 +0.4**
comp=Z,3.1nm,0.8s,baz=314,slow=4.9,SNR=9.1
comp=Z,2.6nm,0.9s
GERES GERESS Array B 82.44 321 P **P** **06 11 17.4 -0.2**
comp=Z,0.9nm,0.6s,baz=2.9,slow=2.7,SNR=3.7
comp=Z,0.9nm,0.6s
MOA Molln 82.60 320 *eP* **P** **06 11 18.2 -0.1**
comp=Z,1.3nm,0.4s
OBKA Obir 83.08 318 *eP* **P** **06 11 20.9 0.0**
comp=Z,1.2nm,0.4s
KBA Koelnbreinsper 83.52 319 *eP* **P** **06 11 22.3 -1.0**
comp=Z,2.3nm,0.7s
LESA Schwarzleotal 83.74 320 *eP* **P** **06 11 24.1 -0.2**
comp=Z,0.7nm,0.3s
KMBO Kilima Mbogo 85.41 267 P **P** **06 11 31.9 -1.5**
comp=Z,3.0nm,0.7s,baz=52,slow=7.2,SNR=8.4
comp=Z,3.0nm,0.7s
MXC Moxie City 89.36 38 IAmb IAmb 06 12 32.0
comp=Z,5.4nm,0.8s
FCC Fort Churchill 91.36 18 P **P** **06 11 59.8 -0.8**
FCC IAmb IAmb 06 12 00.6
comp=Z,2.9nm,0.8s
PLID Pearl Lake 92.64 37 IAmb IAmb 06 12 14.7
comp=Z,4.2nm,1.2s
NVAR Mina Array Bea 95.48 43 P **P** **06 12 20.8 +0.6**
comp=Z,0.5nm,0.8s,baz=288,slow=4.9,SNR=5.7
NVAR pP **pP** **06 12 58.5 +1.5**
comp=Z,0.7nm,0.7s,baz=290,slow=5.9,SNR=4.4
comp=Z,0.5nm,0.8s
SDV Santo Domingo 144.18 21 PKPdf **PKPab** **06 18 28.5 -0.5**
SDV Santo Domingo 144.18 21 *eP* **PKPab** **06 18 28.7 -0.4**
CBOC Ciudad Bolivar 144.76 32 *eP* **PKPab** **06 18 26.8 -4.5**
PAMC Pamplona, Co 144.87 25 *eP* **PKPab** **06 18 31.1 -1.0**
PTBC PUERTO BERRIO 144.87 29 *eP* **PKPab** **06 18 30.4 -1.1**
BAUV El Baul 144.89 17 **PKPab** **06 18 30.1 -1.4**
BARC Barichara 145.36 27 *eP* **PKPdf** **06 18 32.8 -0.4**
PLMC San Jos del P 145.46 33 *eP* **PKPdf** **06 18 32.8 -0.4**
GUY2C Guyana, Caldas 145.63 31 *eP* **PKPdf** **06 18 33.0 -1.0**
SPBC San Pablo de B 145.83 29 *eP* **PKPdf** **06 18 34.0 +0.2**
YOTC Yotoco, Valle 146.23 34 *eP* **PKPdf** **06 18 34.8 +0.3**
ROSC El Rosal 146.44 30 PKPbc **PKPbc** **06 18 37.0 +0.2**
comp=Z,11nm,0.6s,baz=201,slow=18,SNR=6.6
ROSC El Rosal 146.44 30 *eP* **PKPab** **06 18 38.1 +0.2**
JAMC Jamundi, Valle 146.71 35 *eP* **PKPdf** **06 18 35.7 +0.2**
ORTC Ortega, Tolima 146.83 32 *eP* **PKPdf** **06 18 36.2 +0.7**
PRAC Prado 147.17 32 *eP* **PKPbc** **06 18 37.3 -1.1**
VILC Villavicencio, 147.37 29 *eP* **PKPbc** **06 18 38.7 -0.4**
BETC Betania 147.80 33 *eP* **PKPdf** **06 18 36.1 -1.0**
CMBC Cumbal 147.98 39 *eP* **PKPab** **06 18 45.4 +1.4**
GCUF Volcan Galeras 148.02 38 *eP* **PKPbc** **06 18 41.2 0.0**
OTAV Otavalo 148.19 41 *eP* **PKPbc** **06 18 40.6 -1.0**
TULM Tulcn-Chalpat 148.19 39 *eP* **PKiKP** **06 18 42.7 -0.6**
GARC Garzon, Huila 148.20 34 *eP* **PKPbc** **06 18 41.6 +0.2**
PTLC Puerto Leguiza 150.27 35 *eP* **PKPbc** **06 18 46.3 0.0**
MCRA Macar, Loja 150.75 49 PKPdf **PKPdf** **06 18 41.8 0.0**
MCRA Macar, Loja 150.75 49 *eP* **PKPbc** **06 18 46.9 -0.5**
PLCA Paso Flores 161.35 150 PKPab **PKPab** **06 19 39.4 -0.2**
comp=Z,1.7nm,0.6s,baz=229,slow=6.1,SNR=9.2
CPUP Villa Florida 178.46 216 PKPab 06 20 54.5
comp=Z,1.3nm,0.6s,baz=143,slow=1.8,SNR=3.4

*OSPL **17** 06:11:29.8±1.4, 18°.89N×73°.95W, h0km±12km, ML2.5*
*SSNC **17** 06:11:30.0±2.4, 18°.72N×74°.01W, h14km±26km, MD3.3, ML2.4, MW3.7*

ISC 17 06:11:25.7±1.3, 18°.77N±0°.05×73°.98W±0°.04, h15km±11km, n17, σ1°27/33, 1C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.42**	**350**	*eP*	**Pg**	**06 11 52.8**	**-0.2**
MASC				*eS*	**Sg**	**06 12 10.3**	**-1.2**
MASC				IAML		06 12 14.0	
	comp=N,62nm,1.1s						
MASC				IAML		06 12 22.1	
	comp=E,55nm,0.5s						
MASC	**Masc**	**1.42**	**350**	*i* P	**Pg**	**06 11 53.0**	**-0.1**
MASC				*eS*	**Sg**	**06 12 10.5**	**-1.0**
MASC				IAML		06 12 13.4	
	comp=Z,56nm,0.4s						
GTBY	**Guantanamo Bay**	**1.57**	**317**	*eP*	**Pb**	**06 11 55.5**	**+1.0**
GTBY				*eS*	**Sb**	**06 12 14.2**	**0.0**
GTBY				IVmB_BB		06 12 18.1	
	comp=Z,1μm,0.7s						
GTBY				IVmB_BB		06 12 25.2	
	comp=Z,3μm,0.5s						
GTBY	**Guantanamo Bay**	**1.57**	**317**	*iP*	**Pb**	**06 11 55.6**	**+1.1**
GTBY				*eS*	**Sg**	**06 12 16.3**	**0.0**
GTBY				IAML		06 12 17.3	
	comp=Z,34nm,0.6s						
PAPH	**Port-au-Prince**	**1.61**	**98**	*eP*	**Pb**	**06 11 55.5**	**+0.3**
PAPH				*eS*	**Sb**	**06 12 15.3**	**-0.1**
PAPH				IVmB_BB		06 12 19.1	
	comp=E,3μm,0.4s						
PAPH				IVmB_BB		06 12 20.1	
	comp=N,3μm,0.2s						
PAPH	**Port-au-Prince**	**1.61**	**98**	*i* P	**Pg**	**06 11 56.8**	**0.0**
PAPH				*eS*	**Sg**	**06 12 17.9**	**+0.3**
NMDO	**Nuevo Mundo**	**2.02**	**332**	*eP*	**Pb**	**06 12 02.9**	**+0.8**
NMDO				*eS*	**Sg**	**06 12 30.8**	**+0.2**
NMDO				IVmB_BB		06 12 31.9	
	comp=N,605nm,0.6s						
NMDO				IVmB_BB		06 12 32.6	
	comp=E,1μm,0.5s						
MOAC	**Moa**	**2.10**	**334**	*eP*	**Pb**	**06 12 04.7**	**+1.3**
MOAC				*eS*	**Sg**	**06 12 31.9**	**-1.3**
MOAC				IVmB_BB		06 12 33.2	
	comp=E,2μm,0.5s						
MOAC				IVmB_BB		06 12 35.0	
	comp=N,1μm,0.5s						
MARVS	**Santiago de Cu**	**2.19**	**304**	*eP*	**Pb**	**06 12 05.8**	**+0.8**
MARVS				*eS*	**Sb**	**06 12 30.7**	**-1.3**
MARVS				IVmB_BB		06 12 37.8	
	comp=N,768nm,0.1s						
MARVS				IVmB_BB		06 12 37.9	
	comp=E,743nm,0.3s						
LOPE2	**Hotel El Peder**	**2.25**	**109**	*i* P	**Pb**	**06 12 06.3**	**+0.3**
LOPE2				*eS*	**Sb**	**06 12 34.6**	**+1.1**
LOPE2				IAML		06 12 41.6	
	comp=Z,52nm,3.3s						
PINC	**Pinares de May**	**2.42**	**315**	*eP*	**Pn**	**06 12 06.3**	**+1.6**
PINC				*eS*	**Sn**	**06 12 34.7**	**+0.7**
PINC				IVmB_BB		06 12 40.7	
	comp=N,443nm,0.2s						
PINC				IVmB_BB		06 12 41.0	
	comp=E,456nm,0.1s						
SDDR	**Presa de Saban**	**2.56**	**85**	*i* P	**Pb**	**06 12 09.9**	**-1.5**
SDDR				IAML		06 12 52.3	
	comp=Z,30nm,3.5s						
CHIV	**Chivirico**	**2.59**	**298**	*eP*	**Pn**	**06 12 08.8**	**+1.7**
CHIV				*eS*	**Sn**	**06 12 38.8**	**+0.4**
CHIV				IAML		06 12 49.3	
	comp=E,10.0nm,0.1s						
CHIV				IAML		06 12 50.4	
	comp=N,13nm,0.4s						
STH	**Stony Hill**	**2.77**	**256**	*eP*	**Pb**	**06 12 14.0**	**-1.0**
STH				*eS*	**Sb**	**06 12 50.5**	**+1.6**
STH				IVmB_BB		06 12 58.1	
	comp=E,24μm,0.1s						
STH				IVmB_BB		06 12 59.5	
	comp=N,21μm,0.1s						
LMGC	**Las Mercedes**	**3.13**	**295**	*eP*	**Pn**	**06 12 15.5**	**+1.0**
LMGC				*eS*	**Sn**	**06 12 51.1**	**-0.6**
LMGC				IVmB_BB		06 12 52.5	
	comp=N,219nm,0.3s						
LMGC				IVmB_BB		06 12 53.6	
	comp=E,207nm,0.0s						
PILO	**Pilon**	**3.43**	**290**	*eP*	**Pn**	**06 12 19.1**	**+0.5**
PILO				*eS*	**Sn**	**06 12 56.1**	**-3.0**
PILO				IVmB_BB		06 12 58.2	
	comp=E,170nm,0.5s						
PILO				IAmb	IAmb	06 13 00.8	
	comp=N,262nm,0.2s						
CCCC	**Cccc**	**4.30**	**305**	*eP*	**Pn**	**06 12 30.8**	**+0.2**
CCCC				*eS*	**Sn**	**06 13 17.1**	**-3.5**

*SSNC **17** 06:46:53.9±2.0, 18°.72N×74°.00W, h5km, MD3.2, ML2.9, MW3.0*
*OSPL **17** 06:46:53.5±1.2, 18°.86N×73°.93W, h0km±11km, ML2.6*

ISC 17 06:46:49.3±1.2, 18°.79N±0°.05×73°.98W±0°.04, h18km±6km, n23, σ1°27/39, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.40**	**350**	*eP*	**Pg**	**06 47 16.7**	**+0.3**
MASC				*eS*	**Sg**	**06 47 35.7**	**+1.0**
MASC				IAML		06 47 37.7	
	comp=E,90nm,0.5s						
MASC				IAML		06 47 38.0	
	comp=N,134nm,0.7s						
MASC	**Masc**	**1.40**	**350**	*i* P	**Pg**	**06 47 17.1**	**+0.7**
MASC				*eS*	**Sg**	**06 47 34.7**	**0.0**
MASC				IAML		06 47 37.6	
	comp=Z,82nm,0.5s						
GTBY	**Guantanamo Bay**	**1.56**	**317**	*eP*	**Pg**	**06 47 19.1**	**-0.3**
GTBY				*eS*	**Sg**	**06 47 40.3**	**+0.5**
GTBY				IAML		06 47 41.4	
	comp=Z,175nm,0.5s						
GTBY				IAML		06 47 42.2	
	comp=Z,222nm,0.6s						
GTBY	**Guantanamo Bay**	**1.56**	**317**	*i* P	**Pg**	**06 47 19.7**	**+0.3**
GTBY				*eS*	**Sg**	**06 47 40.5**	**+0.8**
GTBY				IAML		06 47 44.6	
	comp=Z,61nm,0.6s						
PAPH	**Port-au-Prince**	**1.61**	**99**	*eP*	**Pg**	**06 47 19.7**	**-0.6**
PAPH				*eS*	**Sg**	**06 47 41.3**	**0.0**
PAPH	**Port-au-Prince**	**1.61**	**99**	*i* P	**Pg**	**06 47 19.9**	**-0.4**
PAPH				*eS*	**Sg**	**06 47 41.3**	**0.0**
PAPH				IAML		06 47 50.7	
	comp=Z,78nm,1.1s						
NMDO	**Nuevo Mundo**	**2.00**	**332**	*eP*	**Pg**	**06 47 26.5**	**-1.3**
NMDO				*eS*	**Sg**	**06 47 52.6**	**-1.3**
NMDO				IAML		06 47 56.4	
	comp=N,60nm,0.4s						
NMDO				IAML		06 47 56.7	
	comp=E,139nm,0.6s						
RCC	**Rio Carpintero**	**2.02**	**307**	*eP*	**Pb**	**06 47 25.4**	**-0.1**
RCC				*eS*	**Sb**	**06 47 50.2**	**-0.1**
RCC				IAML		06 48 01.5	
	comp=N,101nm,0.6s						
RCC				IAML		06 48 03.1	
	comp=E,81nm,0.7s						
MOAC	**Moa**	**2.08**	**334**	*eP*	**Pg**	**06 47 29.0**	**-0.4**
MOAC				*eS*	**Sg**	**06 47 56.1**	**-0.3**
MOAC				IAML		06 47 57.5	
	comp=E,117nm,0.5s						
MOAC				IAML		06 47 57.8	
	comp=N,93nm,0.6s						
MARVS	**Santiago de Cu**	**2.18**	**304**	*eP*	**Pb**	**06 47 29.3**	**+1.0**
MARVS				*eS*	**Sb**	**06 47 56.7**	**+1.7**
MARVS				IAML		06 48 01.8	
	comp=E,96nm,0.4s						
MARVS				IAML		06 48 01.9	
	comp=N,88nm,0.4s						
LOPE2	**Hotel El Peder**	**2.25**	**109**	*i* P	**Pb**	**06 47 30.4**	**+1.0**
LOPE2				IAML		06 48 11.0	
	comp=Z,65nm,0.7s						
PINC	**Pinares de May**	**2.41**	**315**	*eP*	**Pb**	**06 47 31.1**	**-1.0**
PINC				*eS*	**Sb**	**06 47 59.9**	**-1.6**
PINC				IAML		06 48 06.1	
	comp=N,50nm,0.1s						
PINC				IAML		06 48 06.3	
	comp=E,41nm,0.1s						
SDDR	**Presa de Saban**	**2.55**	**85**	*i* P	**Pb**	**06 47 33.9**	**-0.7**
SDDR				IAML		06 48 13.1	
	comp=Z,33nm,1.1s						
CHIV	**Chivirico**	**2.59**	**298**	*eP*	**Pn**	**06 47 31.6**	**+1.3**
CHIV				*eS*	**Sn**	**06 48 01.8**	**+0.5**
CHIV				IAML		06 48 13.4	
	comp=E,32nm,0.2s						
CHIV				IAML		06 48 14.5	
	comp=N,27nm,0.2s						
STH	**Stony Hill**	**2.78**	**256**	*eP*	**Pb**	**06 47 38.6**	**+0.1**
STH				*eS*	**Sb**	**06 48 13.7**	**+1.4**
HLGC	**Holguin**	**2.87**	**317**	*eP*	**Pb**	**06 47 40.0**	**0.0**
LMGC	**Las Mercedes**	**3.13**	**294**	*eP*	**Pn**	**06 47 39.4**	**+1.7**
LMGC				*eS*	**Sn**	**06 48 15.2**	**+0.6**
LMGC				IAML		06 48 16.6	
	comp=N,23nm,0.2s						
LMGC				IAML		06 48 17.1	
	comp=E,13nm,0.1s						
MTDJ	**Mount Denham**	**3.42**	**261**	*i* P	**Pb**	**06 47 47.0**	**-2.5**
PILO	**Pilon**	**3.43**	**290**	*eP*	**Pn**	**06 47 43.9**	**+2.1**
PILO				*eS*	**Sn**	**06 48 21.9**	**-0.2**
PILO				IAML		06 48 25.5	
	comp=E,23nm,0.4s						
PILO				IAML		06 48 28.9	
	comp=N,26nm,0.5s						
CCCC	**Cccc**	**4.30**	**305**	*eP*	**Pn**	**06 47 53.8**	**0.0**
CCCC				*eS*	**Sn**	**06 48 40.2**	**-3.3**
CCCC				IAML		06 48 43.8	
	comp=E,15nm,0.9s						
CCCC				IAML		06 48 44.1	
	comp=N,5.3nm,0.6s						
PTBC	**PUERTO BERRIO,**	**12.18**	**182**	*eP*	**Pn**	**06 49 43.0**	**+0.9**
GUY2C	**Guyana, Caldas**	**13.55**	**186**	*eP*	**P**	**06 50 06.9**	**-3.3**
ORTC	**Ortega, Tolima**	**14.84**	**185**	*eP*	**P**	**06 50 24.9**	**+0.8**

*PRE **17** 06:57:40.2±2.6, 8°.74S×32°.37E, h10km, mb4.5*
*IDC **17** 06:57:41.1±1.2, 8°.64S×32°.29E, h0km, mb3.8/7, mbtmp3.9/8, ML4.2/1, MS3.6/6, Error ellipse: s-maj=40.6km s-min=25.5km az=122.0*
*NEIC **17** 06:57:43.3±1.6, 8°.71S±0°.08×32°.49E±0°.08, h10km±1km, mb4.7/13, Error ellipse: s-maj=14.7km s-min=11.9km az=134.0*
*EAF **17** 06:58:14.6±2.6, 8°.36S×35°.03E, h10km±999km, ML4.3*

ISC 17 06:57:42.0±0.6, 8°.64S±0°.05×32°.33E±0°.07, h10km, n50, σ2°18/51, mb4.2/11, MS3.5/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**4.18**	**55**	*i* P	**Pn**	**06 58 48.2**	**+2.2**
DODT				*i* S	**Sn**	**06 59 33.2**	**-1.8**
LSZ	**Lusaka**	**7.74**	**211**		**Pn**	**06 59 37.3**	**+2.3**
MBAR	**Mbarara**	**8.14**	**349**		**Pn**	**06 59 42.5**	**+1.9**
MBAR	**Mbarara**	**8.14**	**349**	*eP*	**Pn**	**06 59 42.1**	**+1.5**
MBAR				*eS*	**Sn**	**07 01 10.2**	**-2.6**
MBAR	**Mbarara**	**8.14**	**349**	*eP*	Pn	06 59 51.2	+11
MBAR				*eS*	Sb	07 01 37.9	-2.7
MBAR	**Mbarara**	**8.14**	**349**	*eP*	**Pg**	**07 00 22.3**	**+4.2**
MBAR				*eS*	Sb	07 01 50.9	+10
MBAR				IAML		07 02 00.7	
	comp=Z,222nm,0.5s						
MBAR				IAML		07 02 05.7	
	314nm,0.6s						
MBAR	**Mbarara**	**8.14**	**349**	*eP*	**Pg**	**07 00 17.0**	**-1.1**
MBAR				*eS*	**Sn**	**07 01 07.0**	**-5.8**
KIBK	**Kibwezi**	**8.46**	**43**		**Pn**	**06 59 45.8**	**+0.9**
KRI	**Karoi**	**8.56**	**198**	*eP*	**Pn**	**06 59 48.5**	**+2.3**
KRI				*eS*	**Sn**	**07 01 19.5**	**-3.5**
KMBO	**Kilima Mbogo**	**8.93**	**34**		**Pn**	**06 59 52.0**	**+0.5**
KMBO	**Kilima Mbogo**	**8.93**	**34**	*eP*	**Pn**	**06 59 51.7**	**+0.2**
KMBO	**Kilima Mbogo**	**8.93**	**34**	*eP*	Pn	**06 59 49.9**	**-1.6**
	2.7nm,0.3s,baz=212,slow=16,SNR=26						
KMBO					Sn	Sn	07 01 22.6	-10
	6.6nm,0.3s,baz=306,slow=21,SNR=14						
KMBO					Lg	Lg	07 02 18.6
	10nm,0.3s,baz=270,slow=23,SNR=5.3						
KMBO					LR	LR	07 03 34.0
	comp=Z,252nm,18.6s,baz=274,slow=39						
	16nm,0.6s						
KMBO	**Kilima Mbogo**	**8.93**	**34**	*eP*	**Pn**	**06 59 47.3**	**-4.2**
KMBO				*eS*	**Sn**	**07 01 30.6**	**-1.8**
KMBO				IAML		07 02 27.8	
	112nm,0.6s						
KMBO	**Kilima Mbogo**	**8.93**	**34**	*eP*	Pn	07 00 01.4	+10
KMBO				*eS*	Sn	07 01 23.4	-8.9
KMBO				IAML		07 02 28.0	
	112nm,0.6s						
KMBO				IAML		07 02 37.4	
	comp=Z,84nm,0.5s						
LODK	**Lodwar**	**12.36**	**14**		**Pn**	**07 00 38.0**	**-0.4**
LODK	**Lodwar**	**12.36**	**14**	*eP*	Pn	07 00 31.0	-7.3
LODK				*eS*	**Sn**	**07 02 51.4**	**-4.9**
MPHEP	**Siloam, Limpop**	**14.33**	**188**	*eP*	**Pn**	**07 01 05.0**	**-0.3**
MOPA	**Mopani**	**14.82**	**183**	*eP*	**Pn**	**07 01 12.1**	**+0.3**
LEPH	**Lephalale, Lim**	**15.74**	**195**	*eP*	**Pn**	**07 01 22.0**	**-2.1**
WTBG	**Waterberg Wild**	**15.83**	**192**

LBTB					IAmb	IAmb	07 01 58.6	
	comp=Z,230nm,2.7s							
LBTB	**Lobatse**	**17.50**	**201**	LR	LR	LR	07 07 30.3	
	comp=Z,123nm,18.9s,baz=6.5,slow=34							
TSUM	**Tsumeb**	**17.73**	**232**	Pn	**Pn**	**Pn**	**07 01 49.6**	**+0.2**
TSUM					IAmb	IAmb	07 01 52.0	
	comp=Z,21nm,0.6s							
TSUM	**Tsumeb**	**17.73**	**232**	LR	LR	LR	07 09 03.0	
	comp=Z,260nm,18.8s,baz=332,slow=38							
POGA	**Pongola**	**18.61**	**182**	*eP*	**Pn**	**Pn**	**07 02 04.0**	**+4.0**
SNKL	**Senekal, Frees**	**20.00**	**192**	*eP*	**Pn**	**Pn**	**07 02 17.8**	**+1.0**
SNKL					IAmb	IAmb	07 02 23.4	
	comp=Z,28nm,0.7s							
BOSA	**Boshof**	**20.95**	**198**	P	**P**	**P**	**07 02 26.3**	**+0.9**
BOSA	**Boshof**	**20.95**	**198**	*eP*	**P**	**P**	**07 02 26.4**	**+0.9**
BOSA					IAmb	IAmb	07 02 34.7	
	comp=Z,26nm,1.2s							
BOSA	**Boshof**	**20.95**	**198**	P	**P**	**P**	**07 02 25.1**	**-0.3**
	comp=Z,7.1nm,0.6s,baz=20,slow=10,SNR=23							
BOSA				S		**S**	**07 06 13.7**	**-5.4**
	comp=Z,3.2nm,0.7s,baz=134,slow=16,SNR=1.8							
BOSA				Lg	Lg	Lg	07 08 37.6	
	comp=Z,0.7nm,0.3s,baz=116,slow=20,SNR=3.7							
BOSA				LR	LR	LR	07 10 32.7	
	comp=Z,152nm,21.5s,baz=20,slow=37							
	comp=Z,7.1nm,0.6s							
UPI	**Upington**	**22.22**	**207**	*eP*	**P**	**P**	**07 02 38.5**	**-0.5**
UPI					IAmb	IAmb	07 02 40.4	
	comp=Z,20nm,1.0s							
SOE	**Somerset East**	**24.76**	**194**	P	**P**	**P**	**07 03 05.3**	**+1.3**
SUR	**Sutherland**	**25.92**	**203**	P	**P**	**P**	**07 03 16.6**	**+1.9**
SUR	**Sutherland**	**25.92**	**203**	LR	LR	LR	07 13 42.5	
	comp=Z,168nm,21.1s,baz=6.5,slow=37							
TOA0	**Torodi Ar. Sit**	**37.34**	**305**	P	**P**	**P**	**07 04 56.4**	**+1.4**
TORD	**Torodi Ar. Bea**	**37.34**	**305**	P	**P**	**P**	**07 04 55.7**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=110,slow=7.6,SNR=5.2							
	comp=Z,0.6nm,0.6s							
UOSS	**Minazif**	**40.70**	**34**	P	**P**	**P**	**07 05 21.7**	**-1.3**
AKASG	**Malin Array Be**	**59.16**	**358**	P	**P**	**P**	**07 07 42.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=178,slow=6.6,SNR=3.7							
	comp=Z,0.3nm,0.4s							
KK31	**Karatay Array**	**62.12**	**31**	P	**P**	**P**	**07 08 04.2**	**+0.8**
KK31					IAmb	IAmb	07 08 18.0	
	comp=Z,8.5nm,1.3s							
KKAR	**Karatay Array**	**62.12**	**31**	P	**P**	**P**	**07 08 04.3**	**+1.0**
BVAR	**Borovoye Array**	**69.43**	**23**	P	**P**	**P**	**07 08 51.4**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=191,slow=4.4,SNR=2.5							
	comp=Z,0.4nm,0.6s							
MAKZ	**Makanchi**	**70.66**	**34**	P	**P**	**P**	**07 08 58.0**	**0.0**
MAKZ					IAmb	IAmb	07 09 12.3	
	comp=Z,4.7nm,0.8s							
MK31	**Makanchi Array**	**70.82**	**34**	P	**P**	**P**	**07 09 00.2**	**+1.2**
MK31					IAmb	IAmb	07 09 13.2	
	comp=Z,4.1nm,0.8s							
MKAR	**Makanchi Array**	**70.82**	**34**	P	**P**	**P**	**07 08 59.4**	**+0.5**
MKAR	**Makanchi Array**	**70.82**	**34**	P	**P**	**P**	**07 08 59.9**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=235,slow=4.3,SNR=13							
	comp=Z,1.4nm,0.7s							
KURBB	**Kurchatov Arra**	**71.29**	**29**	P	**P**	**P**	**07 09 03.0**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=236,slow=6.4,SNR=8.5							
	comp=Z,0.6nm,0.7s							
KURK	**Kurchatov**	**71.39**	**29**	P	**P**	**P**	**07 09 02.9**	**+0.7**
KURK					IAmb	IAmb	07 09 17.4	
	comp=Z,8.1nm,1.3s							
SONM	**Songino Array**	**85.84**	**41**	P	**P**	**P**	**07 10 24.0**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=222,slow=5.9,SNR=3.7							
	comp=Z,0.5nm,0.6s							
PLCA	**Paso Flores**	**94.04**	**228**	LR	LR	LR	07 50 55.8	
	comp=Z,27nm,20.8s,baz=78,slow=34							

*NEIC **17** 07:01:36.4±3.1,59.°98N×0.°06×139.°52W±0.°04,h10km±2km, ML2.3/36,ML2.5(OTT),ML2.1(AEIC),Error ellipse: s-maj=9.5km s-min=3.0km az=174.0*
*AEIC **17** 07:01:36.4±2.3,59.°91N±0.°03×139.°71W±0.°05,h0km±6km, Error ellipse: s-maj=5.3km s-min=2.8km az=203.0*
*PGC **17** 07:01:36.3±0.0,59.°97N×139.°49W,h2km,ML2.5/22,75km northeast of Yakutat, Ak Southeastern Alaska*
ISC 17 07:01:36.4±0.8, 60.°00N±0.°03×139.°52W±0.°02, h10km, n59, σ1s65/76, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BCPM	**Bancas Point**	**0.07**	**233**	Pg		**Pg**	**07 01 37.1**	**-1.5**
PNL	**Peninsula**	**0.34**	**170**			**Pg**	**07 01 42.0**	**-1.1**
PNL	**Peninsula**	**0.34**	**170**	P		**Pg**	**07 01 42.0**	**-1.1**
PCA	**Pinnacle**	**0.39**	**285**			**Pg**	**07 01 43.0**	**-1.0**
PCA						**Sg**	**07 01 48.4**	**-0.7**
PCA	**Pinnacle**	**0.39**	**285**	P		**Pg**	**07 01 42.8**	**-1.1**
O29M	**Mount Kennedy**	**0.56**	**57**			**Pg**	**07 01 45.2**	**-2.0**
O29M	**Mount Kennedy**	**0.56**	**57**			**Pg**	**07 01 44.9**	**-2.4**
O29M						**Sg**	**07 01 52.8**	**-1.8**
O29M	**Mount Kennedy**	**0.56**	**57**	P		**Pg**	**07 01 44.9**	**-2.4**
O29M				S		**Sg**	**07 01 52.8**	**-1.8**
SAMH	**Samovar Hills**	**0.65**	**282**			**Pg**	**07 01 48.6**	**-0.3**
SAMH	**Samovar Hills**	**0.65**	**282**	P		**Pg**	**07 01 48.6**	**-0.3**
YUK7	**Dusty Glacier**	**0.87**	**51**			**Pg**	**07 01 51.4**	**-1.8**
YUK7	**Dusty Glacier**	**0.87**	**51**	P		**Pg**	**07 01 51.4**	**-1.8**
P29M	**Windy Craggy**	**0.97**	**112**			**Pg**	**07 01 52.6**	**-2.4**
P29M					IAML		07 02 08.5	
	comp=N,73nm,1.1s							
P29M	**Windy Craggy**	**0.97**	**112**	P		**Pg**	**07 01 52.4**	**-2.6**
P29M				S		**Sg**	**07 02 06.2**	**-1.4**
YUK6	**Outpost Mounta**	**1.11**	**31**	P		**Pg**	**07 01 55.8**	**-1.8**
YUK6				S		**Sg**	**07 02 09.8**	**-2.2**
LOGN	**Logan Glacier**	**1.11**	**319**			**Pg**	**07 01 55.8**	**-1.9**
LOGN					IAML		07 02 25.4	
	comp=N,51nm,1.0s							
LOGN	**Logan Glacier**	**1.11**	**319**	P		**Pg**	**07 01 54.8**	**-2.9**
P30M	**Million Dollar**	**1.29**	**83**			**Pn**	**07 02 00.6**	**+0.1**
P30M						**Sg**	**07 02 20.8**	**+3.0**
P30M	**Million Dollar**	**1.29**	**83**		IAML		07 02 22.9	
	comp=E,42nm,1.1s							
P30M	**Million Dollar**	**1.29**	**83**	P		**Pn**	**07 01 59.5**	**-0.9**
P30M				S		**Sb**	**07 02 15.8**	**-1.5**
YUK8	**Steele Glacier**	**1.30**	**355**			**Pg**	**07 01 51.9**	**+0.6**
YUK8	**Steele Glacier**	**1.30**	**355**	P		**Pg**	**07 01 58.1**	**-2.6**
HYT	**Haines Junctio**	**1.30**	**49**			**Pg**	**07 02 01.9**	**+0.6**
HYT					IAML		07 02 21.5	
	comp=N,47nm,1.1s							
HYT	**Haines Junctio**	**1.30**	**49**	P		**Pn**	**07 01 59.0**	**-1.6**
HYT				S		**Sb**	**07 02 16.9**	**-0.7**
CTGM	**Chitina Glacie**	**1.32**	**318**			**Pn**	**07 02 00.0**	**-1.1**
CTGM					IAML		07 02 36.7	
	comp=N,36nm,2.1s							
CTGM	**Chitina Glacie**	**1.32**	**318**	Pn		**Pn**	**07 01 59.9**	**-1.1**
CTGM				Sg		**Sb**	**07 02 18.1**	**-0.4**
YUK5	**Granite Creek**	**1.40**	**35**	Pg		**Pn**	**07 02 01.8**	**-0.3**
YUK5				Sg		**Sn**	**07 02 20.3**	**-0.4**
YUK4	**Talbot Arm**	**1.42**	**17**	Pg		**Pg**	**07 02 03.8**	**+0.3**
YUK4				Sg		**Sg**	**07 02 24.3**	**+2.4**
BARN	**Barnard Glacie**	**1.50**	**316**			**Pn**	**07 02 02.7**	**-0.9**
BARN	**Barnard Glacie**	**1.50**	**316**		IAML		07 02 29.1	
	comp=N,30nm,1.1s							
BARN					IAML		07 02 29.8	
	comp=E,40nm,1.2s							
PLBC	**Pleasant Camp**	**1.69**	**107**	Sg		**Sn**	**07 02 27.3**	**-0.2**
KIAG	**Kiagna River**	**1.69**	**305**	Pg		**Pn**	**07 02 06.2**	**+0.2**
KIAG				Sg		**Sn**	**07 02 28.6**	**+0.8**
YUK3	**Moose Creek**	**1.84**	**346**			**Pn**	**07 02 08.8**	**+0.5**
YUK3	**Moose Creek**	**1.84**	**346**	Pg		**Pb**	**07 02 09.9**	**-0.3**
YUK3				Sg		**Sb**	**07 02 34.6**	**+1.2**
O30N	**Mendenhall**	**1.87**	**64**			**Pn**	**07 02 09.3**	**+0.9**
O30N					IAML		07 02 36.9	
	comp=E,20nm,0.8s							
PTPK	**Patty Peak**	**1.88**	**311**	Pn		**Pn**	**07 02 09.3**	**+0.5**
N30M	**Aishikik Lake**	**1.89**	**38**			**Pb**	**07 02 10.2**	**-0.7**
N30M					IAML		07 02 39.3	
	comp=N,31nm,1.1s							
N30M					IAML		07 02 39.5	
	comp=E,18nm,0.9s							
N30M	**Aishikik Lake**	**1.89**	**38**	Pg		**Pb**	**07 02 10.3**	**-0.7**
N30M				Sg		**Sb**	**07 02 34.8**	**+0.2**
YUK2	**White River**	**1.91**	**341**	Pg		**Pn**	**07 02 09.8**	**+0.8**
YUK2				Sg		**Sg**	**07 02 38.0**	**+0.4**
SKAG	**Skagway**	**2.19**	**102**	Pn		**Pn**	**07 02 13.5**	**+0.7**
SKAG					IAML		07 02 50.3	
	comp=N,28nm,1.2s							
SKAG					IAML		07 03 21.8	
	comp=E,24nm,4.3s							
VRDI	**Verde Repeater**	**2.30**	**304**	Pn		**Pn**	**07 02 14.5**	**0.0**
VRDI					IAML		07 03 14.5	
	comp=E,20nm,4.2s							
N31M	**Braeburn, Yuko**	**2.37**	**49**	Pn		**Pn**	**07 02 15.4**	**+0.2**
N31M	**Braeburn, Yuko**	**2.37**	**49**	Pn		**Pn**	**07 02 13.9**	**-1.3**
N31M				Sg		**Sb**	**07 02 50.3**	**+2.0**
WHY	**Whitehorse**	**2.40**	**72**	Pn		**Pn**	**07 02 16.0**	**+0.2**
WHY					IAML		07 02 51.1	
	comp=N,19nm,1.3s							
WHY					IAML		07 02 53.5	
	comp=E,21nm,2.4s							
WHY	**Whitehorse**	**2.40**	**72**	Pn		**Pn**	**07 02 16.0**	**+0.2**
WHY				Sg		**Sb**	**07 02 50.3**	**+1.0**
M29M	**Somme Creek**	**2.51**	**11**	Pn		**Pn**	**07 02 17.9**	**+0.7**
M29M					IAML		07 02 45.6	
	comp=N,16nm,4.7s							
M29M					IAML		07 03 18.1	
	comp=E,15nm,3.5s							
M29M	**Somme Creek**	**2.51**	**11**	Pn		**Pn**	**07 02 17.3**	**0.0**
M29M				Sg		**Sb**	**07 02 54.3**	**+1.9**
BVCY	**Beaver Creek**	**2.51**	**346**	Pg		**Pb**	**07 02 20.9**	**-0.6**
BVCY				Sg		**Sb**	**07 02 55.0**	**+2.5**
M30M	**Minto, Yukon**	**2.90**	**26**	Pn		**Pn**	**07 02 23.5**	**+0.9**
M30M					IAML		07 04 01.2	
	comp=E,12nm,5.0s							
M30M	**Minto, Yukon**	**2.90**	**26**	Pn		**Pn**	**07 02 23.7**	**+1.1**
P32M	**Atlin**	**2.96**	**95**	Sg		**Sb**	**07 03 08.0**	**+2.6**
L29M	**L29M**	**3.19**	**11**	Pn		**Pn**	**07 02 28.5**	**+1.9**
M31M	**Drury Creek, Y**	**3.33**	**46**	Pn		**Pn**	**07 02 30.1**	**+1.7**
P33M	**Teslin, Yukon**	**3.36**	**83**	Sg		**Sb**	**07 03 20.5**	**+3.6**
N32M	**Quiet Lake**	**3.38**	**67**	Sg		**Sb**	**07 03 19.9**	**+2.4**
Q32M	**Nakina River**	**3.84**	**103**	Sg		**Sb**	**07 03 34.1**	**+3.3**
K29M	**Barlow Dome**	**3.97**	**13**	Sn		**Sn**	**07 03 26.2**	**+2.1**
K27K	**Chicken**	**4.22**	**344**	Sg		**Sg**	**07 03 49.3**	**-2.5**
R33M	**Jennings River**	**4.37**	**94**	Sg		**Sb**	**07 03 50.3**	**+4.2**

*IDC **17** 07:12:38.5±1.2,0.°60N×81.°10W,h0km,mb3.6/4, mbtmp3.6/5,ML3.7/1,MS4.0/1,Error ellipse: s-maj=62.9km s-min=21.8km az=68.0*
*IGQ **17** 07:12:38±0.8, 1.°N±4.°×8.°0W±.°,h1km*
ISC 17 07:12:39.3±1.2, 1.°18N±0.°06×80.°28W±0.°06, h35km, n80, σ1s51/84, mb3.6/4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PTGL	**Punta Galera**	**0.47**	**148**	P		**Pn**	**07 12 47.0**	**-2.5**
PTGL				S		**Sn**	**07 12 54.0**	**-2.5**
MAG1	**Magdalena**	**1.34**	**158**	P		**Pn**	**07 13 01.0**	**-0.6**
PAC1	**Pacto, Paraso**	**1.74**	**121**	*eP*		**Pn**	**07 13 05.7**	**-1.4**
PAC1				*eS*		**Sn**	**07 13 27.5**	**-0.7**
PAC1				*i*			07 13 30.1	
	comp=Z,2μm,0.3s							
PAC1	**Pacto, Paraso**	**1.74**	**121**	P		**Pn**	**07 13 05.0**	**-2.2**
PAC1				S		**Sn**	**07 13 27.0**	**-1.2**
LITE1	**Lita**	**1.95**	**101**	P		**Pn**	**07 13 07.0**	**-3.1**
OTAV	**Otavalo**	**2.05**	**117**	*eP*		**Pn**	**07 13 10.2**	**-1.5**
OTAV				*eS*		**Sn**	**07 13 31.6**	**-4.7**
CUSE	**Cuicocha Este**	**2.07**	**115**	*eP*		**Pn**	**07 13 11.7**	**-0.2**
CUSE				*i*			07 13 40.0	
	comp=Z,954nm,0.2s							
CUSE	**Cuicocha Este**	**2.07**	**115**	P		**Pn**	**07 13 10.0**	**-1.9**
CUIC	**Cuicocha-Domo**	**2.10**	**114**	P		**Pn**	**07 13 12.0**	**-0.4**
PULU	**Pululahua**	**2.11**	**123**	S		**Sn**	**07 13 38.0**	**+0.2**
PULU				P		**Pn**	**07 13 12.0**	**-0.5**
PINO	**Pino**	**2.13**	**129**	P		**Pn**	**07 13 12.0**	**-1.0**
HPAL	**Hacienda Las P**	**2.14**	**131**	P		**Pn**	**07 13 12.0**	**-0.8**
YANA	**Yana**	**2.14**	**127**	P		**Pn**	**07 13 12.0**	**-0.9**
TERV	**Terraza Guagua**	**2.15**	**129**	P		**Pn**	**07 13 12.0**	**-1.1**
URCU	**Urcuqui**	**2.15**	**110**	P		**Pn**	**07 13 11.0**	**-2.0**
GGPC	**Guagua Pichinc**	**2.15**	**129**	P		**Pn**	**07 13 12.0**	**-1.2**
GGPT	**Toaza - Volcan**	**2.16**	**130**	P		**Pn**	**07 13 12.0**	**-1.2**
GGPT				S		**Sn**	**07 13 39.0**	**0.0**
LNGL	**El Angel-Carch**	**2.31**	**101**	P		**Pn**	**07 13 13.0**	**-2.4**
AQUE	**Quevedo**	**2.35**	**160**	P		**Pn**	**07 13 16.0**	**+0.6**
CHL1	**Volcn Chiles**	**2.36**	**99**	P		**Pn**	**07 13 14.0**	**-2.1**
ILLI	**Illinizas Sur**	**2.44**	**141**	P		**Pn**	**07 13 16.0**	**-1.1**
CMBC	**Cumbal**	**2.46**	**96**	*eP*		**Pn**	**07 13 16.8**	**-0.6**
PAST	**Pastocalle**	**2.48**	**139**	P		**Pn**	**07 13 17.0**	**-0.6**
PITA	**Cotopaxi Volc**	**2.52**	**133**	P		**Pn**	**07 13 19.0**	**+0.7**
ANGU	**Angureal**	**2.53**	**116**	P		**Pn**	**07 13 19.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.53**	**100**	*eP*		**Pn**	**07 13 18.5**	**+0.2**
CAYA	**Cayambe**	**2.54**	**116**	P		**Pn**	**07 13 20.0**	**+1.5**
SUCR	**Mariscal Sucre**	**2.54**	**135**	P		**Pn**	**07 13 19.0**	**+0.6**
ISPT	**Isla de la Pla**	**2.55**	**198**	P		**Pn**	**07 13 16.0**	**-2.2**
CAMI	**Rancho Maria**	**2.56**	**136**	P		**Pn**	**07 13 19.0**	**+0.3**
SRAM	**San Ramn-Vol**	**2.57**	**138**	P		**Pn**	**07 13 19.0**	**+0.2**
BNAS	**Cotopaxi Volca**	**2.57**	**136**	P		**Pn**	**07 13 21.0**	**+2.1**
BREF	**Cotopaxi Volca**	**2.60**	**135**	P		**Pn**	**07 13 20.0**	**+0.6**
BREF				P		**Pn**	**07 13 20.0**	**+0.6**
SLOR	**San Lorenzo -**	**2.60**	**137**	P		**Pn**	**07 13 20.0**	**+0.7**
VC1	**Cotopaxi 1**	**2.60**	**134**	P		**Pn**	**07 13 20.0**	**+0.6**
BVC2	**Cotopaxi Volca**	**2.61**	**134**	P		**Pn**	**07 13 20.0**	**+0.5**
ANTG	**Antisana-Guama**	**2.62**	**130**	P		**Pn**	**07 13 20.0**	**+0.3**
BMOR	**Cotopaxi Volca**	**2.63**	**136**	P		**Pn**	**07 13 20.0**	**+0.3**
BTAM	**Cotopaxi Volca**	**2.63**	**134**	P		**Pn**	**07 13 20.0**	**+0.2**
BRRN	**Barrancas-Volc**	**2.65**	**137**	P		**Pn**	**07 13 20.0**	**0.0**
ANTI	**Antisana**	**2.66**	**127**	P		**Pn**	**07 13 21.0**	**+0.7**
TAMB	**Tambo**	**2.67**	**134**	P		**Pn**	**07 13 21.0**	**+0.8**
ANTM	**Antisana-La Mi**	**2.67**	**130**	P		**Pn**	**07 13 21.0**	**+0.7**
ANTS	**Antisana-Sarah**	**2.68**	**128**	P		**Pn**	**07 13 21.0**	**+0.4**
VCES	**Cotopaxi**	**2.72**	**136**	P		**Pn**	**07 13 21.0**	**0.0**
PPLP	**Puerto Lpez**	**2.75**	**190**	*eP*		**Pn**	**07 13 18.5**	**-2.5**
PPLP	**Puerto Lpez**	**2.75**	**190**	P		**Pn**	**07 13 20.0**	**-1.0**
BONI	**La Bonita**	**2.84**	**105**	*eP*		**Pn**	**07 13 24.1**	**+1.7**
GCUF	**Volcan Galeras**	**2.93**	**89**	*eP*		**Pn**	**07 13 22.8**	**-1.0**
PORT	**Chimborazo Vol**	**3.02**	**150**	P		**Pn**	**07 13 26.0**	**+0.8**
TAMH	**Tambohuasha Ch**	**3.09**	**151**	P		**Pn**	**07 13 26.0**	**-0.1**
BBAC	**Balboa, Cauca**	**3.14**	**75**	*i*		Sb	07 14 10.1	
	comp=Z,28nm,0.3s							
BBAC	**Balboa, Cauca**	**3.14**	**75**	P		**Pn**	**07 13 25.0**	**-1.5**
BBAC	**Balboa, Cauca**	**3.14**	**75**	*eP*		**Pn**	**07 13 25.2**	**-1.3**
JUI6	**Juive**	**3.15**	**145**	P		**Pn**	**07 13 29.0**	**+2.2**
POND	**Pondoa**	**3.16**	**145**	P		**Pn**	**07 13 28.0**	**+1.1**
BBIL	**Ulba Tungurahu**	**3.17**	**146**	P		**Pn**	**07 13 29.0**	**+2.0**
BRUN	**Tungurahua Vol**	**3.17**	**144**	P		**Pn**	**07 13 29.0**	**+1.9**
RETU	**Refugio**	**3.19**	**145**	P		**Pn**	**07 13 29.0**	**+1.5**
TUYU	**Q. Yuibug Volc**	**3.20**	**146**	P		**Pn**	**07 13 29.0**	**+1.5**
BMAS	**Trigal station**	**3.21**	**146**	P		**Pn**	**07 13 29.0**	**+1.3**
CRUC	**La Cruz**	**3.34**	**83**	*eP*		Pn	07 13 37.1	+7.7
COHC	**Cochancay**	**3.76**	**164**	*eP*		**Pn**	**07 13 34.1**	**-0.7**
COHC				*eS*		**Sn**	**07 14 17.2**	**-0.8**
COHC	**Cochancay**	**3.76**	**164**	P		**Pn**	**07 13 33.0**	**-1.9**
JAMC	**Jamundi, Valle**	**4.13**	**61**	*eP*		**Pn**	**07 13 37.9**	**-2.2**
BOSC	**San Juan Bosco**	**4.66**	**158**	P		**Pn**	**07 13 49.0**	**+1.7**
ARNL	**Arenillas**	**4.70**	**177**	P		**Pn**	**07 13 48.0**	**+0.2**
YOTC	**Yotoco, Valle**	**4.81**	**55**	*eP*		Pn	07 13 44.0	-5.5
GARC	**Garzon, Huila**	**4.88**	**78**	*eP*		**Pn**	**07 13 52.5**	**+2.0**
MCRA	**Macar, Loja**	**5.52**	**177**	*eP*		**Pn**	**07 13 58.8**	**-0.3**
MCRA				*eS*		**Sn**	**07 14 60.0**	**-1.5**
MCRA	**Macar, Loja**	**5.52**	**177**	P		**Pn**	**07 13 58.0**	**-1.1**
ORTC	**Ortega, Tolima**	**5.71**	**62**	*eP*		**Pn**	**07 14 06.0**	**+4.3**
ZUMB	**Zumba**	**6.11**	**169**	P		**Pn**	**07 14 09.0**	**+1.7**
GUY2C	**Guyana, Caldas**	**6.34**	**51**	*eP*		**Pn**	**07 14 11.1**	**+0.4**
ATAH	**Atahualpa**	**8.47**	**167**	Pn		**Pn**	**07 14 40.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=12,slow=6.7,SNR=7.9							
ATAH					Sn	**Sn**	**07 16 14.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=297,slow=20,SNR=1.2							
	comp=Z,2.2nm,0.3s							
PLCA	**Paso Flores**	**42.65**	**169**	P		**P**	**07 20 32.7**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=355,slow=7.7,SNR=4.9							
	comp=Z,1.2nm,0.9s							
NVAR	**Mina Array Bea**	**50.86**	**321**	P		**P**	**07 21 39.6**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=128,slow=7.1,SNR=5.3							
	comp=Z,0.7nm,0.7s							
YBH	**Yreka Blue Hor**	**55.54**	**322**	LR		LR	07 47 16.5	
	comp=Z,135nm,19.1s,baz=22,slow=37							
YKA	**Yellowknife Ar**	**66.33**	**343**	P		P	07 23 32.4	+8.3
	comp=Z,0.2nm,0.8s,baz=131,slow=6.6,SNR=6.1							
	comp=Z,0.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**81.91**	**77**	P		P	07 25 04.9	+8.9
	comp=Z,0.3nm,0.5s,baz=282,slow=6.1,SNR=4.1							
	comp=Z,0.3nm,0.5s							

*NNC **17** 07:22:56.4±0.6,50.°01N×78.°80E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=11.4km s-min=3.0km az=75.0, Suspected Mining explosion.*
*IDC **17** 07:22:57.4±0.8,50.°07N×78.°76E,h0km,mbtmp2.9/3, ML2.3/3,Error ellipse: s-maj=12.2km s-min=5.9km az=59.0*
ISC 17 07:22:57.4±0.8, 50.°09N±0.°05×78.°76E±0.°06, h0km, n18, σ0s97/33, 14C-15D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.52**	**343**	⇑P		**Pg**	**07 23 08.1**	**+0.7**
KUR07				⇓S		**Sb**	**07 23 17.8**	**+0.3**
KUR06	**Kurchatov Arra**	**0.54**	**344**	⇓P		**Pg**	**07 23 08.2**	**+0.5**
KUR06				⇑S		**Sb**	**07 23 17.9**	**-0.1**
KUR14	**Kurchatov Arra**	**0.54**	**349**	⇑P		**Pg**	**07 23 08.2**	**+0.5**
KUR14				⇑S		**Sb**	**07 23 17.9**	**-0.2**
KUR15	**Kurchatov Arra**	**0.55**	**347**	⇑P		**Pg**	**07 23 08.4**	**+0.5**
KUR15				⇓S		**Sb**	**07 23 18.2**	**-0.1**
KURBB	**Kurchatov Arra**	**0.56**	**345**	⇑P		**Pg**	**07 23 08.5**	**+0.4**
	8.4nm,0.3s							
KURBB				⇓S		**Sb**	**07 23 18.3**	**-0.2**
	24nm,0.5s							
KURBB	**Kurchatov Arra**	**0.56**	**345**	Pg		**Pg**	**07 23 08.4**	**+0.4**
	1.3nm,0.3s,baz=164,slow=18,SNR=44							
KURBB				Lg		Lg	07 23 16.9	
	1.3nm,0.3s,baz=163,slow=33,SNR=7.3							
KUR16	**Kurchatov Arra**	**0.57**	**343**	⇓P		**Pg**	**07 23 08.8**	**+0.5**
KUR16				⇑S		**Sb**	**07 23 18.4**	**-0.4**
KUR05	**Kurchatov Arra**	**0.57**	**346**	⇓P		**Pg**	**07 23 08.8**	**+0.4**
KUR05				⇑S		**Sb**	**07 23 18.3**	**-0.8**
KUR17	**Kurchatov Arra**	**0.58**	**341**	⇓P		**Pg**	**07 23 08.9**	**+0.5**
KUR17				⇓S		**Sb**	**07 23 18.6**	**-0.5**
KUR04	**Kurchatov Arra**	**0.59**	**347**	⇑P		**Pg**	**07 23 09.1**	**+0.4**
KUR04				⇓S		**Sb**	**07 23 18.6**	**-0.9**
KURK	**Kurchatov**	**0.64**	**352**	⇓P		**Pg**	**07 23 09.9**	**+0.3**
	3.5nm,0.3s							
KURK				⇓S		**Sb**	**07 23 20.3**	**-0.5**
	12nm,0.8s							
MAKZ	**Makanchi**	**3.92**	**146**	⇑Pn		**Pn**	**07 23 59.8**	**+1.0**
	0.5nm,0.5s							
MAKZ				⇓Pg		**Pb**	**07 24 06.8**	**-0.5**
	1.3nm,0.7s							
MAKZ				⇓Lg		Lg	07 24 58.0	
	2.4nm,0.7s							
MK31	**Makanchi Array**	**4.05**	**143**	⇓Pn		**Pn**	**07 24 00.5**	**-0.1**
	0.1nm,0.2s,baz=322,slow=10,SNR=55							
MK31				⇑Pg		**Pb**	**07 24 10.0**	**+0.4**
	0.2nm,0.2s,baz=323,slow=14,SNR=6.4							
MK31				⇓Lg		Lg	07 25 03.0	
	3.9nm,0.7s,baz=326,slow=28,SNR=7.8							
MKAR	**Makanchi Array**	**4.05**	**143**	Pn		**Pn**	**07 24 00.8**	**+0.2**
	0.3nm,0.3s,baz=323,slow=10,SNR=31							
MKAR				Pg		**P

JOW				S		Sn	07 30 34.0	+1.0
	22nm,0.4s,baz=64,slow=29,SNR=6.0							
	6.4nm,0.3s							
JNU	**Nakatsue**	**3.89**	**4**	P		**Pn**	**07 30 08.4**	**+1.0**
	1.7nm,0.3s,baz=183,slow=13,SNR=12							
JNU				S		**Sn**	**07 30 51.8**	**-0.1**
	31nm,0.8s,baz=173,slow=16,SNR=4.0							
JNU				LR		LR	07 31 18.5	
	comp=Z,84nm,19.1s,baz=86,slow=33							
	20nm,0.8s							
KSRS	**Korea Array**	**8.50**	**346**	P		**Pn**	**07 31 11.9**	**+1.4**
	0.9nm,0.7s,baz=164,slow=13,SNR=2.6							
KSRS				LR		LR	07 34 44.0	
	comp=Z,77nm,19.5s,baz=355,slow=39							
SONM	**Songino Array**	**26.33**	**322**	P		**P**	**07 34 41.0**	**-1.3**
	0.4nm,0.5s,baz=137,slow=11,SNR=3.8							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**41.18**	**309**	P		**P**	**07 36 50.8**	**+0.1**
	0.3nm,0.5s,baz=93,slow=10,SNR=10							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**41.20**	**320**	P		**P**	**07 36 49.0**	**-1.7**
	0.5nm,0.3s,baz=102,slow=6.1,SNR=2.6							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**44.19**	**314**	P		**P**	**07 37 14.7**	**-0.3**
	2.5nm,0.6s,baz=99,slow=9.0,SNR=31							
	2.5nm,0.6s							
NRIK	**Noril'sk**	**47.08**	**341**	P		**P**	**07 37 36.6**	**-0.9**
	1.1nm,0.4s,baz=102,slow=12,SNR=5.3							
	1.1nm,0.4s							
BVAR	**Borovoye Array**	**49.48**	**316**	P		**P**	**07 37 56.4**	**+0.1**
	2.8nm,0.6s,baz=91,slow=9.5,SNR=21							
	2.8nm,0.6s							
RES	**Resolute Bay**	**72.22**	**11**	LR		LR	08 14 29.0	
	comp=Z,100nm,19.1s,baz=29,slow=38							
AKASG	**Malin Array Be**	**74.60**	**320**	P		**P**	**07 40 44.9**	**0.0**
	1.3nm,0.5s,baz=60,slow=5.9,SNR=6.9							
	1.3nm,0.5s							
YKA	**Yellowknife Ar**	**74.94**	**26**	P		**P**	**07 40 45.9**	**-0.8**
	0.1nm,0.7s,baz=304,slow=5.9,SNR=1.6							
	0.1nm,0.7s							
BRTR	**Keskin Array B**	**76.83**	**308**	P		**P**	**07 40 58.6**	**+0.5**
	1.1nm,0.6s,baz=103,slow=4.6,SNR=5.8							
	1.1nm,0.6s							

NEIC ***17*** *07:34:44.8±1.6,37.07N±0.07×72.01E±0.06, h166km±12km, mb4.0/4, Error ellipse: s-maj=11.0km s-min=5.5km az=157.0*

IDC ***17*** *07:34:49.4±4.9,37.72N×71.27E, h188km±37km, mb2.7/1, mbtmp3.6/7, Error ellipse: s-maj=68.5km s-min=17.7km az=153.0*

NNC ***17*** *07:34:49.4±2.0,37.69N×71.80E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=16.5km s-min=14.4km az=130.0*

ISC 17 07:34:43.1±0.7, 37.08N±0.05×71.31E±0.06, h150km, n44, σ2s16/54, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIMJ	**Simiganj**	**2.72**	**306**			**Pn**	**07 35 30.2**	**+3.1**
BTK	**Batken**	**3.07**	**346**	Pn		**Pn**	**07 35 35.4**	**+3.9**
KBL	**Kabul**	**3.39**	**222**	Pn		Pn	07 35 40.4	+4.8
NIL	**Nilore**	**3.62**	**161**	Pn		**Pn**	**07 35 40.1**	**+1.6**
NIL						**Sn**	**07 36 21.5**	**+0.1**
ARSB	**Arslanbob**	**4.33**	**12**			**Pn**	**07 35 49.6**	**+1.8**
JMU	**Jammu**	**5.04**	**149**	*eS*		**Sn**	**07 36 54.1**	**-0.5**
JMU				IAML			07 36 56.4	
	comp=E,1μm,0.3s							
JMU				IAML			07 36 56.9	
	comp=N,2μm,0.6s							
AML	**Almayashu**	**5.25**	**15**	P		**Pn**	**07 36 02.1**	**+2.0**
	SNR=88							
AML	**Almayashu**	**5.25**	**15**	⇓Pn		**Pn**	**07 36 02.1**	**+2.0**
	comp=N,3.3nm,0.5s							
AML				⇑Sn		**Sn**	**07 36 58.1**	**-2.1**
	comp=N,19nm,0.6s							
NRN	**Naryn**	**5.43**	**36**	Pn		**Pn**	**07 36 02.8**	**+0.4**
UCH	**Uchtor**	**5.55**	**21**	P		**Pn**	**07 36 06.2**	**+2.1**
	SNR=57							
THN	**Thein Dam**	**5.64**	**144**	*eP*		**Pn**	**07 36 07.9**	**+2.8**
THN				*eS*		**Sn**	**07 37 08.8**	**-0.3**
THN				IAML			07 37 12.1	
	comp=E,97nm,0.7s							
THN				IAML			07 37 14.0	
	comp=N,62nm,0.2s							
EKS2	**Erkin-Say**	**5.78**	**15**	P		**Pn**	**07 36 09.8**	**+2.9**
	SNR=18							
AAK	**Ala-Archa**	**5.92**	**20**	P		**Pn**	**07 36 11.0**	**+2.1**
	SNR=19							
AAK	**Ala-Archa**	**5.92**	**20**	Pn		**Pn**	**07 36 10.5**	**+1.6**
AAK	**Ala-Archa**	**5.92**	**20**	P		**Pn**	**07 36 11.0**	**+2.1**
	comp=N,15nm,0.4s,baz=193,slow=6.9,SNR=60							
AAK				S		**Sn**	**07 37 14.0**	**-1.9**
	comp=N,18nm,0.6s,baz=170,slow=6.1,SNR=19							
KBK	**Karagaybulak**	**6.07**	**22**	P		**Pn**	**07 36 14.1**	**+3.3**
	SNR=6.2							
DHRM	**DHARAMSHALA**	**6.07**	**141**	*eP*		**Pn**	**07 36 13.3**	**+2.3**
DHRM				*eS*		**Sn**	**07 37 18.9**	**-0.9**
DHRM				IAML			07 37 21.3	
	comp=E,110nm,0.3s							
DHRM				IAML			07 37 21.3	
	comp=N,200nm,0.4s							
KK31	**Karatay Array**	**6.10**	**351**	⇑Pn		**Pn**	**07 36 13.2**	**+2.2**
	comp=N,1.6nm,0.2s,baz=176,slow=14,SNR=71							
KK31				⇓Sn		**Sn**	**07 37 17.2**	**-2.7**
	comp=N,99nm,0.7s,baz=342,slow=46,SNR=5.2							
KK31	**Karatay Array**	**6.10**	**351**	Pn		**Pn**	**07 36 13.3**	**+2.3**
KKAR	**Karatay Array**	**6.10**	**351**			**Pn**	**07 36 13.3**	**+2.3**
KKAR	**Karatay Array**	**6.10**	**351**	Pn		**Pn**	**07 36 13.2**	**+2.1**
ULHL	**Ulahol**	**6.19**	**32**	P		**Pn**	**07 36 14.0**	**+1.6**
	SNR=8.8							
BOOM	**Boomskoye usch**	**6.27**	**29**	Pn		**Pn**	**07 36 13.8**	**+0.3**
CHMS	**Chumysh**	**6.33**	**20**	P		**Pn**	**07 36 16.2**	**+2.2**
	SNR=6.4							
CHMS	**Chumysh**	**6.33**	**20**	⇓Pn		**Pn**	**07 36 15.8**	**+1.7**
	comp=N,6.5nm,0.5s							
CHMS				⇑Sn		**Sn**	**07 37 24.1**	**-1.3**
	comp=N,13nm,0.7s							
TKM2	**Tokmak 2**	**6.52**	**25**	P		**Pn**	**07 36 18.2**	**+1.4**
	SNR=5.2							
TKM2	**Tokmak 2**	**6.52**	**25**	⇓Pn		**Pn**	**07 36 18.2**	**+1.4**
	comp=N,1.9nm,0.5s							
TKM2				⇓Sn		**Sn**	**07 37 29.8**	**-0.3**
	comp=N,13nm,1.4s							
TARG	**Taragay, Kyrgy**	**6.56**	**43**	Pn		**Pn**	**07 36 17.7**	**+0.1**
BHK	**Bhakra**	**6.81**	**145**	*eS*		**Sn**	**07 37 35.2**	**-2.0**
BHK				IAML			07 37 39.3	
	comp=E,60nm,0.8s							
BHK				IAML			07 37 40.4	
	comp=N,62nm,0.2s							
SMLA	**Simla**	**7.41**	**142**	*eP*		**Pn**	**07 36 30.1**	**+1.5**
SMLA				*eS*		**Sn**	**07 37 47.5**	**-4.1**
SMLA				IAML			07 37 51.4	
	comp=N,52nm,0.4s							
SMLA				IAML			07 37 52.3	
	comp=E,86nm,0.8s							
GEYT	**Alibeck**	**10.91**	**279**	P		**Pn**	**07 37 14.2**	**-0.9**
	comp=E,1.7nm,0.6s,baz=97,slow=12,SNR=4.3							
GEYT				S		**Sn**	**07 39 10.1**	**-5.7**
	comp=E,1.5nm,0.5s,baz=79,slow=15,SNR=1.9							
GYA0B	**ALIBECK ARRAY**	**10.91**	**279**	Pn		**Pn**	**07 37 15.5**	**+0.3**
GYA0B						**Sn**	**07 39 17.1**	**+1.2**
MK31	**Makanchi Array**	**12.44**	**35**			**Pn**	**07 37 35.0**	**+0.1**
MKAR	**Makanchi Array**	**12.44**	**35**	Pn		**Pn**	**07 37 34.2**	**-0.8**
MKAR	**Makanchi Array**	**12.44**	**35**	P		**Pn**	**07 37 35.1**	**+0.1**
	comp=E,1.7nm,0.8s,baz=222,slow=13,SNR=13							
KURBB	**Kurchatov Arra**	**14.37**	**17**	P		**Pn**	**07 37 57.9**	**-1.6**
	comp=E,0.3nm,0.4s,baz=203,slow=11,SNR=1.9							
ABKAR	**Akbulak array**	**14.91**	**328**			**P**	**07 38 09.0**	**+0.9**
ABKAR				IAmb		IAmb	07 38 46.7	
	comp=Z,3.8nm,0.7s							
ABKAR	**Akbulak array**	**14.91**	**328**			**P**	**07 38 08.8**	**+0.7**
AKTO	**Aktyubinsk**	**16.62**	**328**	P		**P**	**07 38 21.9**	**-5.0**
	comp=Z,0.7nm,0.5s,baz=129,slow=6.5,SNR=1.8							
ZAA0	**Zalesovo Array**	**19.12**	**24**	P		**P**	**07 38 55.1**	**+0.9**
ZALV	**Zalesovo Beam**	**19.12**	**24**	P		**P**	**07 38 54.8**	**+0.6**
ZALV	**Zalesovo Beam**	**19.12**	**24**	P		**P**	**07 38 54.6**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=218,slow=9.4,SNR=13							
ARPR	**Arapgir-MALATY**	**26.34**	**285**	P		**P**	**07 40 08.3**	**+3.1**
TORD	**Torodi Ar. Bea**	**66.38**	**269**	P		**P**	**07 45 15.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=69,slow=4.8,SNR=1.2							
	comp=Z,0.1nm,0.3s							

IDC 17 07:42:11.9±2.6, 54.28N×85.97E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=18.9km s-min=10.1km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.75**	**244**	I		I	07 47 07.3	
	0.1nm,0.7s,baz=63,slow=355,SNR=2.1							
ZALV	**Zalesovo Beam**	**0.75**	**244**	Pg		Pg	07 42 24.8	-1.4
	0.7nm,0.3s,baz=61,slow=17,SNR=4.7							
ZALV				Lg		Lg	07 42 37.3	
	4.1nm,0.3s,baz=65,slow=30,SNR=22							
ZALV				Rg		Rg	07 42 40.9	
	3.6nm,0.4s,baz=63,slow=31,SNR=11							
KURBB	**Kurchatov Arra**	**5.84**	**234**	Pn		Pn	07 43 40.9	+1.3
	0.1nm,0.3s,baz=50,slow=13,SNR=4.4							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.85**	**199**	Pn		Pn	07 44 08.0	+0.8
	0.1nm,0.3s,baz=22,slow=13,SNR=5.8							
	0.1nm,0.3s							

NDI ***17*** *07:43:21.8±4.2, 18.12N×96.91E, h10km±107km, mb4.2, mb4.0(NEIC)*

IDC ***17*** *07:43:25.2±0.7, 18.33N×96.10E, h0km, mb4.1/23, mbtmp4.1/24, ML3.4/1, MS3.0/1, Error ellipse: s-maj=19.5km s-min=11.6km az=26.0*

NEIC ***17*** *07:43:28.1±1.2, 18.44N±0.08×96.10E±0.07, h10km±1km, mb4.5/6, Error ellipse: s-maj=13.9km s-min=10.0km az=22.0*

ISC 17 07:43:26.8±0.5, 18.34N±0.07×96.11E±0.06, h10km, n46, σ1s52/50, mb4.2/27, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.69**	**87**			**Pn**	**07 44 10.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**2.69**	**87**	Pn		**Pn**	**07 44 10.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**2.69**	**87**	Pn		**Pn**	**07 44 09.2**	**-1.0**
	1.7nm,0.3s,baz=265,slow=14,SNR=54							
CMAR				Pg		**Pb**	**07 44 16.1**	**+0.9**
	21nm,0.3s,baz=264,slow=18,SNR=36							
CMAR				Lg		Lg	07 44 51.4	
	46nm,0.3s,baz=263,slow=30,SNR=19							
	8.4nm,0.6s							
CHTO	**Chiang Mai**	**2.73**	**80**	Pn		**Pn**	**07 44 11.1**	**+0.3**
MND	**Mandalay**	**3.66**	**0**			**Pn**	**07 44 23.6**	**0.0**
CRAI	**Chiangrai**	**4.44**	**64**			**Pn**	**07 44 34.9**	**+0.6**
SAIH	**SAIHA**	**5.06**	**325**	*eP*		**Pn**	**07 44 46.0**	**+3.0**
SAIH				*eS*		**Sb**	**07 45 51.8**	**-4.9**
DGPR	**DIGLIPUR**	**5.98**	**211**	*eP*		**Pn**	**07 44 56.8**	**+1.4**
DGPR				*eS*		**Sn**	**07 46 01.6**	**-2.4**
AZL	**Aizawl**	**6.25**	**330**	*eP*		**Pn**	**07 45 01.8**	**+2.5**
KOHI	**KOHIMA**	**7.58**	**346**	*eP*		**Pn**	**07 45 19.9**	**+2.4**
SHL	**Shillong**	**8.19**	**332**	Pn		**Pn**	**07 45 25.2**	**-0.8**
SHL	**Shillong**	**8.19**	**332**	*eP*		**Pn**	**07 45 29.7**	**+3.7**
SMLA	**Simla**	**21.37**	**310**	IAmb		IAmb	07 48 16.1	
	comp=Z,8.8nm,0.9s							
SMLA				*eP*		**P**	**07 48 18.7**	**+4.2**
AAK	**Ala-Archa**	**30.38**	**327**	P		**P**	**07 49 40.4**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=173,slow=14,SNR=3.9							
	comp=Z,0.6nm,0.4s							
MK31	**Makanchi Array**	**30.58**	**341**	P		**P**	**07 49 41.0**	**+0.2**
MKAR	**Makanchi Array**	**30.58**	**341**	P		**P**	**07 49 40.6**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=150,slow=8.5,SNR=20							
	comp=Z,2.4nm,0.6s							
SONM	**Songino Array**	**30.60**	**14**	P		**P**	**07 49 40.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=203,slow=7.0,SNR=2.3							
	comp=Z,0.2nm,0.3s							
JOW	**Kunigami**	**30.81**	**68**	P		**P**	**07 49 42.5**	**-0.5**
KSRS	**Korea Array**	**33.72**	**49**	LR		LR	08 03 46.9	
	comp=Z,23nm,19.6s,baz=185,slow=36							
KURBB	**Kurchatov Arra**	**35.13**	**340**	P		**P**	**07 50 20.0**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=151,slow=8.5,SNR=17							
KURBB				PcP		**PcP**	**07 52 50.8**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=160,slow=2.1,SNR=4.8							
	comp=Z,2.3nm,0.6s							
ZAA0	**Zalesovo Array**	**36.60**	**349**	P		**P**	**07 50 33.0**	**0.0**
ZAA0				IAmb		IAmb	07 50 36.3	
	comp=Z,6.8nm,0.9s							
ZALV	**Zalesovo Beam**	**36.60**	**349**	P		**P**	**07 50 33.2**	**+0.2**
ZALV	**Zalesovo Beam**	**36.60**	**349**	P		**P**	**07 50 32.9**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=171,slow=8.7,SNR=19							
	comp=Z,6.2nm,0.8s							
GEYT	**Alibeck**	**38.43**	**308**	P		**P**	**07 50 49.1**	**+0.2**
GEYT				IAmb		IAmb	07 50 53.1	
	comp=Z,5.0nm,0.8s							
GEYT	**Alibeck**	**38.43**	**308**	P		**P**	**07 50 49.6**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=95,slow=4.9,SNR=8.3							
	comp=Z,3.6nm,0.7s							
BVAR	**Borovoye Array**	**39.99**	**336**	P		**P**	**07 51 00.5**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=126,slow=7.5,SNR=4.5							
BVAR				PcP		**PcP**	**07 53 06.0**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=153,slow=0.3,SNR=2.9							
	comp=Z,0.8nm,0.7s							
ABKAR	**Akbulak array**	**42.38**	**325**	P		**P**	**07 51 21.0**	**-0.4**
ABKAR	**Akbulak array**	**42.38**	**325**	P		**P**	**07 51 20.9**	**-0.4**
ABKAR				IAmb		IAmb	07 51 24.6	
	comp=Z,5.2nm,0.7s							
AKTO	**Aktyubinsk**	**44.07**	**325**	P		**P**	**07 51 34.5**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=125,slow=5.8,SNR=12							
	comp=Z,4.1nm,0.6s							
BELG	**Belogornoye**	**50.73**	**324**	P		**P**	**07 52 27.2**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=154,slow=14,SNR=2.7							
	comp=Z,3.8nm,0.7s							
NRIK	**Noril'sk**	**51.27**	**356**	P		**P**	**07 52 32.3**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=160,slow=3.5,SNR=3.6							
	comp=Z,1.6nm,0.5s							
WRA	**Warramunga Arr**	**53.42**	**134**	P		**P**	**07 52 47.1**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=321,slow=7.5,SNR=7.4							
	comp=Z,3.7nm,0.8s							
ASAR	**Alice Springs**	**55.71**	**137**	P		**P**	**07 53 03.7**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=319,slow=7.2,SNR=21							
	comp=Z,1.7nm,0.7s							
BRTR	**Keskin Array B**	**57.48**	**306**	P		**P**	**07 53 15.4**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=122,slow=12,SNR=4.8							
	comp=Z,0.8nm,0.6s							
AKASG	**Malin Array Be**	**61.42**	**318**	P		**P**	**07 53 41.6**	**-1.7**
	comp=Z,2.0nm,0.4s,baz=82,slow=6.6,SNR=5.4							
	comp=Z,2.0nm,0.4s							
FINES	**FINESS Array B**	**64.53**	**330**	P		**P**	**07 54 05.2**	**+1.5**
	comp=Z,7.4nm,1.1s,baz=104,slow=5.9,SNR=3.6							
	comp=Z,7.4nm,1.1s							
HFS	**Hagfors**	**70.52**	**328**	P		**P**	**07 54 41.4**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=76,slow=6.3,SNR=5.2							
	comp=Z,2.0nm,0.6s							
GERES	**GERESS Array B**	**71.48**	**316**	P		**P**	**07 54 47.9**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=12,slow=10.0,SNR=3.3							
	comp=Z,1.1nm,0.6s							
NOA	**NORSAR Array B**	**71.68**	**329**	P		**P**	**07 54 49.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=82,slow=6.3,SNR=1.4							
	comp=Z,0.4nm,0.6s							
LSZ	**Lusaka**	**74.77**	**248**	P		**P**	**07 55 07.8**	**0.0**
LSZ				IAmb		IAmb	07 55 11.3	
	comp=Z,7.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**80.26**	**325**	P		**P**	**07 55 38.4**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=76,slow=5.2,SNR=4.4							
	comp=Z,1.9nm,0.7s							
BOSA	**Boshof**	**82.83**	**237**	P		**P**	**07 55 52.3**	**+0.4**
	comp=Z,6.0nm,1.0s,baz=52,slow=2.3,SNR=5.8							
	comp=Z,6.0nm,1.0s							
ILAR	**Eielson Array**	**84.39**	**23**	P		**P**	**07 55 58.4**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=320,slow=3.6,SNR=2.6							
	comp=Z,0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**90.03**	**284**	P		**P**	**07 56 27.0**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=87,slow=5.6,SNR=2.1							
	comp=Z,0.3nm,0.7s							
YKA	**Yellowknife Ar**	**95.86**	**14**	P		**P**	**07 56 52.0**	**-1.4**
	comp=Z,0.1nm,0.8s,baz=350,slow=3.4,SNR=2.4							
	comp=Z,0.1nm,0.8s							
BDFB	**Brasilia**	**145.62**	**269**	PKPbc		**PKPdf**	**08 03 06.9**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=49,slow=9.3,SNR=4.9							

SNET ***17*** *07:51:59.0±1.2, 13.92N×89.78W, h3km, ML3.0*

CATAC 17 07:52:01.3±0.4, 13.97N×89.76W, h2km±3km, ML2.8, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LOAL	**Lomas de Alarc**	**0.04**	**319**	*eP*		Pg	07 52 01.6	-0.5
LOAL				*eS*		Sg	07 52 03.5	+0.8
LOAL	**Lomas de Alarc**	**0.04**	**319**	*i*	P	Pg	07 52 02.2	+0.1
LOAL				IAML			07 52 08.1	
	comp=Z,35μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.06**	**334**	*eP*		Pg	07 52 01.9	-0.6
SLOZ				*eS*		Sg	07 52 04.4	+1.0
NUBE	**Las Nubes**	**0.07**	**198**	⇓*i*	P	Pg	07 51 59.6	-3.2
NUBE				*eS*		Sg	07 52 00.1	-3.8
RTR	**El Retiro**	**0.13**	**125**	⇑*i*	P	Pg	07 52 02.8	-1.1
SNJE	**San Jose**	**0.18**	**125**	*eP*		Pg	07 52 03.5	-1.3
SBLS	**San Blas**	**0.18**	**135**	*eP*		Pg	07 52 03.5	-1.5
CEVE	**Cerro Verde**	**0.19**	**138**	*eP*		Pg	07 52 03.5	-1.6
CEVE				*eS*		Sg	07 52 07.1	-0.6
UNIC	**Universidad Ca**	**0.20**	**87**	*i*	P	Pg	07 52 05.0	-0.2
UNIC				*i*	S	Sg	07 52 08.0	+0.1
UNIC				IAML			07 52 08.2	
	comp=Z,2μm,1.0s							
JUAM	**Asuncion Mita**	**0.36**	**8**	*i*	PA		07 52 08.8	
JUAM				IAML			07 52 14.8	
	comp=Z,920nm,1.0s							
JAYA	**Jayaque - finc**	**0.43**	**137**	*eP*		Pg	07 52 07.8	-1.9
JAYA				*eS*		Sg	07 52 13.6	-1.7
PMON	**Piamonte**	**0.50**	**121**	*i*	P	Pg	07 52 11.3	+0.4
PMON				*i*	S	Sg	07 52 17.9	+0.4
PMON				IAML			07 52 24.8	
	comp=Z,930nm,1.0s							
UEES	**Universidad Ev**	**0.56**	**117**	*eP*		Pg	07 52 10.8	-1.4
MTO3	**Montecristo**	**0.57**	**42**	*eP*		Pg	07 52 12.7	+0.4
MTO3	**Montecristo**	**0.57**	**42**	*i*	P	Pg	07 52 12.4	+0.1
MTO3				*i*	S	Sg	07 52 20.3	+0.5
MTO3				IAML			07 52 20.8	
	comp=Z,440nm,1.0s							
SNET	**Serv Nac Est T**	**0.58**	**119**	*i*	P	Pg	07 52 12.8	+0.3
SNET				IAML			07 52 25.7	
	comp=Z,500nm,1.0s							
ESQI	**Esquipulas**	**0.71**	**35**	*eP*		Pg	07 52 14.1	-0.8
LLGN	**La Laguna**	**0.81**	**76**	*i*	P	Pg	07 52 16.9	0.0
LLGN				IAML			07 52 27.8	
	comp=Z,510nm,1.0s							
PAVA	**Las Pavas**	**0.84**	**108**	*i*	P	Pg	07 52 17.6	+0.2
PAVA				IAML			07 52 42.6	
	comp=Z,500nm,1.0s							
GUNB	**GUNB**	**0.84**	**317**	*i*	P	Pg	07 52 17.7	+0.2
GUNB				IAML			07 52 29.1	
	comp=Z,240nm,1.0s							
COEG	**Centro de Oper**	**0.92**	**112**	*eP*		Pg	07 52 17.6	-1.4
COEG	**Centro de Oper**	**0.92**	**112**	*i*	PA		07 52 19.3	
COEG				IAML			07 52 25.1	
	comp=Z,91nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.03**	**105**	*eP*		Pg	07 52 20.1	-1.1
SCLA	**Alcaldia de Sa**	**1.03**	**105**	*i*	PA		07 52 20.9	
SCLA				IAML			07 52 21.8	
	comp=Z,130nm,1.0s							
PQSS	**Presa 15 de Se**	**1.21**	**106**	*eP*		Pg	07 52 22.3	-2.3
SARH	**Santa Rosa de**	**1.25**	**50**	*i*	PA		07 52 24.7	

IDC ***17*** *07:54:06.4±0.9, 52.39S×28.74E, h0km, mb3.8/8, mbtmp3.8/8, MS3.5/4, Error ellipse: s-maj=35.2km s-min=22.5km az=25.0*

ISC 17 07:54:08.1±0.9, 52.4S±0.1×28.8E±0.2, h10km, n20, σ1s18/10, mb3.8/7, MS3.3/4, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H04S2	**CROZET ISLANDS**	**15.94**	**79**	T		T	08 14 40.2	
	baz=243,slow=75,SNR=6.8							
H04S3	**CROZET ISLANDS**	**15.95**	**79**	T		T	08 14 40.4	
	baz=243,slow=75,SNR=6.4							
H04S1	**CROZET ISLANDS**	**15.96**	**79**	T		T	08 14 41.2	
	baz=243,slow=75,SNR=6.7							
H04N3	**CROZET ISLANDS**	**16.21**	**77**	T		T	08 15 01.3	
	baz=239,slow=75,SNR=12							
H04N1	**CROZET ISLANDS**	**16.22**	**77**	T		T	08 15 02.4	
	baz=239,slow=75,SNR=11							
H04N2	**CROZET ISLANDS**	**16.23**	**77**	T		T	08 14 57.8	
	baz=239,slow=75,SNR=8.1							
SUR	**Sutherland**	**20.82**	**341**	P		**P**	**07 58 49.9**	**+0.1**
	8.6nm,0.9s,baz=128,slow=8.1,SNR=18							
SUR				LR		LR	08 05 27.1	
	comp=Z,112nm,18.8s,baz=234,slow=33							
	8.6nm,0.9s							
MAW	**Mawson**	**22.42**	**146**	LR		LR	08 07 33.0	
	comp=Z,89nm,18.9s,baz=298,slow=36							
SNAA	**Sanae**	**23.83**	**204**	P		**P**	**07 59 21.1**	**+0.2**
	2.0nm,0.8s,baz=22,slow=16,SNR=3.0							
	2.0nm,0.8s							
BOSA	**Boshof**	**23

	comp=Z,8.0nm,0.4s,baz=98,slow=10,SNR=14							
CTA				LR	LR	08 27 09.2		
	comp=Z,93nm,18.1s,baz=262,slow=33							
	comp=Z,8.0nm,0.4s							
CTAO	**Charters Tower**	**33.47 279**		P	**P**	**08 14 57.1**	**+1.4**	
STKA	**Stephens Creek**	**34.27 257**		P	**P**	**08 15 05.0**	**+2.4**	
STKA	**Stephens Creek**	**34.27 257**		P	**P**	**08 15 04.5**	**+2.0**	
	comp=Z,3.5nm,0.5s,baz=98,slow=12,SNR=28							
	comp=Z,3.5nm,0.5s							
BBOO	**Buckleboo**	**38.77 254**		P	**P**	**08 15 41.8**	**+1.0**	
BBOO				IAmb	IAmb	08 15 42.6		
	comp=Z,12nm,1.3s							
AS31	**Alice Springs**	**42.84 267**		P	**P**	**08 16 14.5**	**+0.1**	
ASAR	**Alice Springs**	**42.84 267**		P	**P**	**08 16 14.5**	**+0.1**	
ASAR	**Alice Springs**	**42.84 267**		P	**P**	**08 16 14.3**	**-0.1**	
	comp=Z,2.2nm,0.4s,baz=104,slow=7.1,SNR=38							
	comp=Z,2.2nm,0.4s							
WR0	**Warramunga Arr**	**43.62 272**		P	**P**	**08 16 20.7**	**0.0**	
WR0				IAmb	IAmb	08 16 22.0		
	comp=Z,7.1nm,0.6s							
WB2	**Warramunga Arr**	**43.79 272**		P	**P**	**08 16 21.9**	**-0.1**	
WRAB	**Tennant Creek**	**43.80 272**		P	**P**	**08 16 21.6**	**-0.5**	
WRAB				IAmb	IAmb	08 16 23.4		
	comp=Z,7.0nm,0.6s							
WRA	**Warramunga Arr**	**43.80 272**		P	**P**	**08 16 21.8**	**-0.3**	
WRA	**Warramunga Arr**	**43.80 272**		P	**P**	**08 16 21.7**	**-0.4**	
	comp=Z,6.3nm,0.4s,baz=110,slow=7.9,SNR=54							
	comp=Z,6.3nm,0.4s							
WB0	**Warramunga Arr**	**43.83 272**		P	**P**	**08 16 22.3**	**0.0**	
WB0				IAmb	IAmb	08 16 23.6		
	comp=Z,8.6nm,0.5s							
FORT	**Forrest**	**45.84 255**		P	**P**	**08 16 38.1**	**-0.1**	
FORT				IAmb	IAmb	08 16 42.8		
	comp=Z,13nm,0.9s							
SBA	**Scott Base**	**48.30 184**		P	**P**	**08 16 58.9**	**+2.4**	
SBA				IAmb	IAmb	08 17 37.7		
	comp=Z,26nm,1.4s							
VNDA	**Vanda**	**48.35 186**		P	**P**	**08 16 59.8**	**+2.8**	
VNDA				IAmb	IAmb	08 17 11.7		
	comp=Z,6.3nm,1.4s							
VNDA	**Vanda**	**48.35 186**		P	**P**	**08 17 00.1**	**+3.2**	
	comp=Z,1.0nm,0.6s,baz=359,slow=7.7,SNR=7.8							
	comp=Z,1.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.08 270**		P	**P**	**08 17 25.4**	**-0.5**	
FITZ				IAmb	IAmb	08 17 55.4		
	comp=Z,4.7nm,1.5s							
KHU	**Kahuku**	**53.73 27**		P	P	08 17 30.5	-7.7	
QSPA	**South Pole Qui**	**59.99 180**		P	**P**	**08 18 23.7**	**+1.9**	
QSPA	**South Pole Qui**	**59.99 180**		P	**P**	**08 18 23.8**	**+2.0**	
	comp=Z,8.8nm,0.7s,baz=26,slow=1.9,SNR=5.7							
	comp=Z,8.8nm,0.7s							
BELA	**Belgrano 2**	**70.10 172**		P	**P**	**08 19 27.0**	**+0.2**	
BELA				IAmb	IAmb	08 19 30.7		
	comp=Z,5.9nm,1.3s							
MJAR	**Matsushiro Arr**	**77.85 325**		P	**P**	**08 20 08.9**	**-3.5**	
	comp=Z,0.8nm,0.6s,baz=156,slow=10,SNR=1.7							
	comp=Z,0.8nm,0.6s							
TROLL	**Troll, Antarti**	**78.15 180**	⇓	P	**P**	**08 20 13.3**	**-0.6**	
	comp=Z,125nm,0.6s							
SNAA	**Sanae**	**78.45 179**		P	**P**	**08 20 15.3**	**-0.1**	
SNAA	**Sanae**	**78.45 179**	⇓	P	**P**	**08 20 14.7**	**-0.8**	
	comp=Z,28nm,0.5s							
SNAA	**Sanae**	**78.45 179**		P	**P**	**08 20 15.2**	**-0.3**	
	comp=Z,1.4nm,0.7s,baz=214,slow=15,SNR=4.0							
	comp=Z,1.4nm,0.7s							
VNA3	**Neumayer Olymp**	**78.61 176**	⇑	P	**P**	**08 20 16.0**	**-0.2**	
	comp=Z,6.6nm,0.7s							
VNA2	**Neumayer--Watz**	**79.04 177**	⇓	P	**P**	**08 20 18.9**	**+0.3**	
	comp=Z,3.0nm,0.7s,baz=169,slow=3.0							
H03S2	**Juan Fernandez**	**80.86 124**		T	T	09 50 11.4		
	baz=239,slow=74,SNR=9.2							
H03S1	**Juan Fernandez**	**80.87 124**		T	T	09 50 13.7		
	baz=239,slow=74,SNR=9.5							
H03S3	**Juan Fernandez**	**80.88 124**		T	T	09 50 12.6		
	baz=239,slow=74,SNR=14							
H03N3	**Juan Fernandez**	**81.05 123**		T	T	09 50 18.4		
	baz=252,slow=71,SNR=3.9							
H03N2	**Juan Fernandez**	**81.05 123**		T	T	09 50 22.0		
	baz=252,slow=71,SNR=6.7							
H03N1	**Juan Fernandez**	**81.07 123**		T	T	09 50 16.2		
	baz=252,slow=71,SNR=3.8							
TXAR	**Lajitas Array**	**92.47 57**		P	P	08 21 20.5	-5.5	
	comp=Z,0.4nm,1.0s,baz=235,slow=4.3,SNR=2.7							
	comp=Z,0.4nm,1.0s							
KURBB	**Kurchatov Arra**	**120.69 314**		PKP	**PKPdf**	**08 27 01.9**	**-3.9**	
	comp=Z,0.6nm,0.6s,baz=106,slow=1.8,SNR=7.3							
BVAR	**Borovoye Array**	**126.00 316**		PKP	**PKPdf**	**08 27 13.1**	**-2.8**	
	comp=Z,0.9nm,0.6s,baz=48,slow=2.2,SNR=4.6							
FINES	**FINESS Array B**	**144.78 340**		PKP	**PKPab**	**08 27 46.1**	**-3.5**	
	comp=Z,3.4nm,0.4s,baz=57,slow=3.8,SNR=33							
NB2	**NORSAR Subarra**	**148.43 351**		PKP	**PKPdf**	**08 27 57.5**	**+0.9**	
	comp=Z,0.3nm,0.5s,baz=3.2,slow=2.5							
HFS	**Hagfors**	**148.91 348**		PKPbc	**PKPdf**	**08 27 58.2**	**+0.9**	
	comp=Z,3.0nm,0.8s,baz=37,slow=3.6,SNR=2.1							
AKASG	**Malin Array Be**	**150.98 323**		PKPbc	**PKPdf**	**08 28 03.5**	**+2.7**	
	comp=Z,1.2nm,0.4s,baz=44,slow=3.2,SNR=8.8							
MMAI	**Mount Meron Ar**	**151.18 285**		PKPbc	**PKPdf**	**08 28 03.8**	**+1.9**	
	comp=Z,0.5nm,0.3s,baz=55,slow=12,SNR=2.2							
TORD	**Torodi Ar. Bea**	**163.11 180**		PKPab	**PKPab**	**08 29 06.6**	**-0.9**	
	comp=Z,0.7nm,0.5s,baz=193,slow=2.7,SNR=5.1							

*DJA **17** 08:21:33.7±0.3,9°S±6°×11°9E±°, h137km, M4.0/8, mb4.1/2, mB5.0/1, MLv4.0/8, Mw(mB)4.2/1*
*IDC **17** 08:21:39.0±3.6, 8°.15S×119°.61E, h200km±29km, mb3.1/5, mbtmp3.6/7, Error ellipse: s-maj=82.0km s-min=12.3km az=59.0*
ISC 17 08:21:33.3±0.8, 8°.63S±0°.06×119°.18E±0°.05, h156km, n23, σ1s70/27, mb3.5/4, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBNI	**Kabupaten Domp**	**0.86**	**278**	P	**Pn**	**08 21 56.7**	**-0.9**
PLAI	**Plampang**	**1.40**	**262**	P	**Pn**	**08 22 02.5**	**+0.2**
PLAI	**Plampang**	**1.40**	**262**	P	**Pn**	**08 22 01.5**	**-0.8**
PLAI				S	**Sn**	**08 22 23.1**	**-1.4**
BASI	**Baing, Sumba**	**2.10**	**139**	P	**Pn**	**08 22 08.8**	**-1.2**
TWSI	**Taliwang, Sumb**	**2.27**	**267**	P	**Pn**	**08 22 11.9**	**-0.1**
TWSI				S	**Sn**	**08 22 41.6**	**-0.2**
EDFI	**Ende, Flores**	**2.49**	**93**	P	**Pn**	**08 22 13.6**	**-1.1**
MMRI	**Maumere**	**3.03**	**90**	P	**Pn**	**08 22 21.4**	**+0.1**
MMRI	**Maumere**	**3.03**	**90**	P	**Pn**	**08 22 20.6**	**-0.7**
BKSI	**Bulukumba**	**3.42**	**16**	P	**Pn**	**08 22 27.6**	**+1.3**
KAPI	**Kappang**	**3.64**	**9**	P	**Pn**	**08 22 30.4**	**+1.4**
	19nm,0.6s,baz=162,slow=16,SNR=7.1						
KAPI				S	**Sn**	**08 23 10.4**	**-2.0**
	6.3nm,0.3s,baz=169,slow=23,SNR=1.5						
JAGI	**Jajag, Banyuwa**	**4.97**	**271**	P	**Pn**	**08 22 47.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**4.97**	**271**	P	**Pn**	**08 22 46.4**	**-0.1**
	40nm,1.1s,2µm0.3nm						
SOEI	**Soe**	**5.15**	**103**	P	**Pn**	**08 22 49.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.31**	**147**	P	**Pn**	**08 24 10.9**	**+0.3**
KNRA	**Kununurra**	**11.70**	**128**	P	**Pn**	**08 24 15.2**	**-0.3**
PSA00	**Pilbara Seismi**	**12.88**	**177**	P	**Pn**	**08 24 32.9**	**+2.0**
KDU	**Kakadu**	**13.67**	**108**	P	**Pn**	**08 24 41.9**	**+0.9**
WRA	**Warramunga Arr**	**18.48**	**129**	P	**Pn**	**08 25 39.3**	**-0.3**
	0.8nm,0.7s,baz=306,slow=14,SNR=9.2						
WRA				S	**S**	**08 28 55.6**	**-4.8**
	0.3nm,0.3s,baz=312,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**20.55**	**138**	P	Pn	08 26 02.6	-1.4
	1.8nm,0.7s,baz=314,slow=8.6,SNR=27						
ASAR				S	**S**	**08 29 43.9**	**+2.5**
	0.3nm,0.5s,baz=312,slow=21,SNR=2.8						
	1.8nm,0.7s						
STKA	**Stephens Creek**	**31.13**	**141**	P	**P**	**08 27 40.9**	**+3.6**
	1.1nm,0.7s,baz=329,slow=10.0,SNR=5.5						
	1.1nm,0.7s						
SONM	**Songino Array**	**57.35**	**350**	P	**P**	**08 31 03.4**	**-1.8**
	0.1nm,0.3s,baz=142,slow=5.4,SNR=2.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**64.21**	**333**	P	**P**	**08 31 51.5**	**0.0**
	0.4nm,0.7s,baz=162,slow=7.1,SNR=3.7						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**68.76**	**339**	P	**P**	**08 32 18.3**	**-1.9**
	0.4nm,0.4s,baz=155,slow=7.9,SNR=1.5						
	0.4nm,0.4s						

IDC 17 08:24:08.4±4.0, 53°.52N×87°.91E, h0km, mbtmp2.4/2, Error ellipse: s-maj=39.0km s-min=19.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**284**	I	I	08 37 37.3	
	baz=101,slow=348,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.88**	**284**	Pg	Pn	08 24 42.6	+0.8
	0.4nm,0.3s,baz=106,slow=14,SNR=6.9						
ZALV				Lg	Lg	08 25 07.0	
	0.7nm,0.3s,baz=111,slow=29,SNR=2.2						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	08 25 46.5	+1.7
	0.1nm,0.3s,baz=60,slow=13,SNR=1.5						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	08 26 01.2	+0.3
	0.1nm,0.6s,baz=28,slow=14,SNR=1.4						

*NEIC **17** 08:46:33.5±0.9, 38°.58N±0°.01×112°.284W±0°.006, h1km±2km, Error ellipse: s-maj=1.7km s-min=0.6km az=188.0*
UUSS 17 08:46:33.7±1.0, 38°.59N±0°.01×112°.27W±0°.02, h-3km±1km, ML2.7/15, ML2.6/64(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=106.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVU	**Marysvale**	**0.10**	**150**		Pg	08 46 36.0	+0.5
MVU	**Marysvale**	**0.10**	**150**	IAML		08 46 38.4	
	comp=E,31µm,0.4s						
MVU				IAML		08 46 38.5	
	comp=N,37µm,0.3s						
MSU	**Marysvale**	**0.10**	**134**		Pg	08 46 36.2	+0.5
TCRU	**Three Creeks R**	**0.14**	**280**		Pg	08 46 37.6	+1.2
TCRU					Sg	08 46 40.4	+2.2
TCRU	**Three Creeks R**	**0.14**	**280**	IAML		08 46 40.6	
	comp=N,9µm,0.4s						
TCRU				IAML		08 46 40.9	
	comp=E,6µm,0.1s						
WCU	**Willow Creek**	**0.40**	**21**		Pg	08 46 42.2	+0.7
WCU					Sg	08 46 48.4	+1.6
BHUT	**Beaver**	**0.42**	**223**		Pg	08 46 42.7	+0.9
BHUT					Sg	08 46 49.1	+1.8
NMUT	**North Mineral**	**0.46**	**261**		Pg	08 46 43.1	+0.7
MTPU	**Mount Pierson**	**0.55**	**173**		Pg	08 46 44.8	+0.6
MTPU					Sg	08 46 52.7	+1.4
IMU	**Iron Mountain**	**0.69**	**274**		Pg	08 46 47.8	+0.7
DWU	**Dry Willow Pea**	**0.74**	**230**		Pg	08 46 48.6	+0.7
BTU	**Barney Top**	**0.89**	**159**		Pg	08 46 51.4	+0.7
Q16A	**Castle Valley**	**0.92**	**69**		Pg	08 46 51.2	-0.2
LEVU	**Levan**	**0.99**	**21**		Pb	08 46 53.3	-0.5
TMUT	**Trail Mountain**	**1.09**	**49**		Pg	08 46 54.5	-0.1
TMUT				IAML		08 47 18.2	
	comp=N,198nm,0.5s						
TMUT				IAML		08 47 18.6	
	comp=E,105nm,0.4s						
PKCU	**Pink Cliffs**	**1.14**	**181**		Pg	08 46 55.9	+0.3
SZCU	**Shurtz Canyon**	**1.18**	**213**		Pg	08 46 56.7	+0.4
ARUT	**Antelope Range**	**1.22**	**229**		Pb	08 46 57.5	-0.2
SUU	**Santaquin Cany**	**1.35**	**16**		Pn	08 47 00.3	+0.2
HMU	**Henry Mountain**	**1.37**	**118**		Pg	08 46 59.4	-0.5
NLU	**North Lily Min**	**1.38**	**6**		Pn	08 47 00.4	0.0
NLU	**North Lily Min**	**1.38**	**6**	IAML		08 47 21.2	
	comp=N,79nm,0.3s						
NLU				IAML		08 47 22.3	
	comp=E,90nm,0.5s						
FSU	**Fish Springs**	**1.43**	**323**		Pn	08 47 00.5	-0.6
SRU	**San Rafael Swe**	**1.46**	**68**		Pn	08 47 01.3	-0.3
SRU				IAML		08 47 24.2	
	comp=N,104nm,0.7s						
SRU				IAML		08 47 25.3	
	comp=E,86nm,0.4s						
P17A	**Butcher Ranch,**	**1.49**	**53**		Pn	08 47 01.5	-0.3
P17A	**Butcher Ranch,**	**1.49**	**53**	IAML		08 47 24.0	
	comp=N,50nm,0.5s						
P17A				IAML		08 47 24.0	
	comp=E,58nm,0.5s						
MPU	**Maple Canyon**	**1.51**	**19**		Pb	08 47 02.8	0.0
EKU	**East Kanab**	**1.52**	**187**		Pn	08 47 02.4	0.0
KNB	**Kanab**	**1.63**	**196**		Pn	08 47 04.2	+0.4
KNB	**Kanab**	**1.63**	**196**	IAML		08 47 33.1	
	comp=N,48nm,0.8s						
KNB				IAML		08 47 35.6	
	comp=E,50nm,0.5s						
SPR3	**Spring Creek 3**	**1.66**	**285**	Pg	Pn	08 47 04.3	-0.1
DUG	**Dugway, Tooele**	**1.66**	**346**		Pn	08 47 03.7	-0.5
DUG				IAML		08 47 29.7	
	comp=E,108nm,0.5s						
DUG				IAML		08 47 30.3	
	comp=E,110nm,0.8s						
LCMT	**Little Creek M**	**1.75**	**206**		Pn	08 47 06.0	+0.6
P18A	**Preston Nutter**	**1.89**	**56**		Pb	08 47 08.5	-0.8
P18A				IAML		08 47 38.0	
	comp=N,70nm,0.7s						
P18A				IAML		08 47 38.5	
	comp=E,64nm,0.6s						
Q12A	**Willow Creek R**	**2.05**	**284**	Pn	Pn	08 47 10.7	+1.1
Q12A				IAML		08 47 49.0	
	comp=E,36nm,1.1s						
Q12A				IAML		08 47 49.3	
	comp=N,40nm,0.7s						
CTU	**Camp Tracy**	**2.14**	**11**	Pn	Pb	08 47 12.2	-1.3
U15A	**North Rim**	**2.15**	**180**		Pb	08 47 13.2	-0.6
BSUT	**Blindstream Ca**	**2.27**	**30**	Pn	Pb	08 47 15.0	-0.9
BGU	**Big Grassy Mou**	**2.41**	**346**	Pn	Pn	08 47 13.9	-0.6
BGU				IAML		08 47 54.2	
	comp=E,21nm,0.5s						
BGU				IAML		08 47 56.8	
	comp=N,18nm,0.6s						
PRN	**Pahroc Range**	**2.49**	**243**	Pn	Pn	08 47 16.1	+0.5
PRN				IAML		08 47 58.1	
	comp=N,48nm,0.5s						
R11B	**Troy Canyon, C**	**2.61**	**266**	Pn	Pn	08 47 18.4	+1.1
R11B				IAML		08 48 04.7	
	comp=E,15nm,0.7s						
SPUT	**South Promonto**	**2.72**	**357**		Pn	08 47 18.6	-0.3
SPUT				IAML		08 48 04.7	
	comp=E,25nm,0.6s						
SPUT				IAML		08 48 04.8	
	comp=N,24nm,0.7s						
RDMU	**Red Mountain**	**2.88**	**46**	Pn	Pn	08 47 23.1	+2.0
S11A	**Rachel**	**2.90**	**252**	Pn	Pn	08 47 21.2	0.0
S11A				IAML		08 48 13.8	
	comp=E,28nm,1.1s						
S11A				IAML		08 48 16.7	
	comp=N,30nm,0.6s						
HWUT	**Hardware Ranch**	**3.07**	**10**	Pn	Pn	08 47 23.4	-0.2
HWUT				IAML		08 48 18.5	
	comp=N,9.8nm,1.4s						
HWUT				IAML		08 48 18.7	
	comp=N,13nm,1.2s						
TPNV	**Topopah Spring**	**3.55**	**244**	Pn	Pn	08 47 30.8	+0.5
TPNV				IAML		08 48 34.0	
	comp=N,15nm,3.1s						
TPNV				IAML		08 48 41.0	
	comp=N,14nm,2.7s						
SMCO	**Snowmass**	**4.18**	**80**		Pn	08 47 39.1	+0.1
SMCO				IAML		08 48 53.7	
	comp=N,10nm,0.7s						

IDC 17 09:01:40.8±2.7, 7°.00S×155°.03E, h0km, mb3.6/3, mbtmp3.5/3, Error ellipse: s-maj=212.6km s-min=33.6km az=134.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.84**	**235**	P	P	09 06 56.3	+0.3
	1.5nm,1.0s,baz=59,slow=8.9,SNR=4.0						
	1.5nm,1.0s						
ASAR	**Alice Springs**	**26.20**	**228**	P	P	09 07 17.0	-0.5
	0.3nm,0.7s,baz=61,slow=9.1,SNR=4.9						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**96.32**	**28**	P	P	09 15 11.5	+0.3
	0.2nm,0.8s,baz=272,slow=4.3,SNR=4.7						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**153.06**	**285**	PKPbc	PKPbc	09 21 41.3	-0.3
	0.4nm,0.7s,baz=51,slow=4.6,SNR=2.4						

*CATAC **17** 09:15:30.3±0.8, 10°.73N×86°.55W, h12km±6km, ML3.5*
*UCR **17** 09:15:31.1±0.9, 10°.76N×86°.50W, h15km±8km, MW3.8*
ISC 17 09:15:30.3±1.6, 10°.72N±0°.05×86°.54W±0°.06, h15km±10km, n64, σ0s60/62, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**0.93**	**90**	⇓eP	**Pb**	**09 15 47.9**	**-0.2**
HZTE				eS	**Sb**	**09 16 00.8**	**+0.5**
HZTE	**Horizontes, Gu**	**0.93**	**90**	i P	**Pb**	**09 15 48.2**	**+0.1**
HZTE				i S	**Sb**	**09 16 00.7**	**+0.4**
HZTE				IAML		09 16 06.7	
	comp=Z,2µm,1.0s						

ELI1	**Hacienda Flor**	**0.97**	**94**	eP	**Pg**	**09 15 49.5**	**+0.3**	
ELI1				eS	**Sn**	**09 16 02.9**	**-0.1**	
DELF	**Filadelfia**	**1.01**	**105**	eP	**Pg**	**09 15 50.2**	**+0.4**	
DELF				eS	**Sb**	**09 16 02.4**	**-0.2**	
MSHP	**Masachapa**	**1.10**	**0**	i P	**Pb**	**09 15 51.0**	**-0.1**	
MSHP				IAML		09 16 11.5		
	comp=Z,200nm,1.0s							
ORTG	**Ortega, Santa**	**1.12**	**108**	eP	**Pb**	**09 15 51.2**	**-0.2**	
ORTG	**Ortega, Santa**	**1.12**	**108**	i S	**Sn**	**09 16 07.4**	**+0.6**	
JUD3	**Juan Diaz 3**	**1.13**	**119**	eP	**Pb**	**09 15 51.1**	**-0.5**	
NADN	**Granada**	**1.14**	**26**	i P	**Pb**	**09 15 51.7**	**0.0**	
NADN				IAML		09 16 08.0		
	comp=Z,3µm,1.0s							
GPS3	**Bodega del ICE**	**1.16**	**88**	⇑iP	**Pb**	**09 15 51.9**	**-0.1**	
GPS3				eS	**Sg**	**09 16 07.6**	**0.0**	
VRLE	**La Escondida,**	**1.16**	**87**	eP	**Pb**	**09 15 51.4**	**-0.7**	
VRLE	**La Escondida,**	**1.16**	**87**	i PA		09 15 51.5		
VRLE				IAML		09 16 08.0		
	comp=Z,590nm,1.0s							
JAPN	**AI SSO del Vol**	**1.17**	**46**	i PA		09 15 51.3		
JAPN				IAML		09 15 51.9		
	comp=Z,2µm,1.0s							
VORI	**VORI**	**1.18**	**85**	eP	**Pb**	**09 15 51.8**	**-0.7**	
OMEN	**AI SSO del Vol**	**1.19**	**49**	i P	**Pn**	**09 15 52.4**	**-0.1**	
OMEN				IAML		09 16 13.9		
	comp=Z,1µm,1.0s							
MORN	**AI O del Volca**	**1.20**	**47**	IAML		09 15 52.1		
	comp=Z,3µm,1.0s							
MORN				i P	**Pn**	**09 15 52.5**	**-0.1**	
DUNO	**Dulce Nombre,**	**1.21**	**122**	eP	**Pn**	**09 15 52.3**	**-0.5**	
DUNO	**Dulce Nombre,**	**1.21**	**122**	i P	**Pn**	**09 15 53.1**	**+0.4**	
PLVR	**Palo Verde**	**1.23**	**107**	eP	**Pn**	**09 15 53.0**	**-0.1**	
CONN	**Concepcion**	**1.23**	**47**	IAML		09 15 52.2		
	comp=Z,5µm,1.0s							
CONN				i P	**Pn**	**09 15 52.8**	**-0.2**	
BAGA	**Bagaces**	**1.27**	**99**	eP	**Pn**	**09 15 53.5**	**0.0**	
BAGA				eS	**Sg**	**09 16 11.5**	**+0.1**	
CRUN	**El Crucero**	**1.28**	**11**	i P	**Pn**	**09 15 54.0**	**+0.3**	
CRUN				IAML		09 16 23.3		
	comp=Z,5.4nm,1.0s							
NANN	**Nandasmo**	**1.28**	**19**	i PA		09 15 53.9		
NANN				IAML		09 16 15.0		
	comp=Z,18µm,1.0s							
CMARA	**Lajas Hojancha**	**1.30**	**122**	eP	**Pn**	**09 15 53.6**	**-0.4**	
CMARA				eS	**Sb**	**09 16 09.1**	**-1.9**	
INDI	**Punta indio, G**	**1.33**	**130**	i PA		09 15 54.0		
INDI				IAML		09 16 34.7		
	comp=Z,210nm,1.0s							
MAS3	**AI N del Volca**	**1.34**	**15**	i PA		09 15 53.6		
MAS3				IAML		09 16 22.4		
	comp=Z,670nm,1.0s							
CUI	**Cuipilapa**	**1.35**	**92**	⇑eP	**Pn**	**09 15 54.4**	**-0.3**	
CUI				eS	**Sb**	**09 16 12.2**	**-0.3**	
VMAR	**Armenia, Volca**	**1.41**	**86**	eP	**Pn**	**09 15 55.2**	**-0.2**	
VMAR				eS	**Sn**	**09 16 14.1**	**+0.3**	
VMAR	**Armenia, Volca**	**1.41**	**86**	i S	**Sb**	**09 16 14.6**	**+0.6**	
UNAN	**Cigeo UNAN**	**1.41**	**11**	i P	**Pn**	**09 15 55.3**	**-0.1**	
UNAN				IAML		09 16 19.7		
	comp=Z,4µm,1.0s							
TISN	**Laguna Tiscapa**	**1.44**	**11**	i PA		09 15 55.7		
TISN				IAML		09 16 21.7		
	comp=Z,59nm,1.0s							
SAPS	**Ciudad Sandino**	**1.45**	**5**	i PA		09 15 56.1		
SAPS				IAML		09 16 34.0		
	comp=Z,830nm,1.0s							
COPN	**Copaltepe**	**1.45**	**358**	i P	**Pn**	**09 15 56.0**	**0.0**	
COPN				IAML		09 16 19.1		
	comp=Z,1µm,1.0s							
NYURE	**Nandayure**	**1.46**	**119**	eP	**Pg**	**09 15 58.2**	**-0.1**	
WILN	**Americas 2**	**1.47**	**14**	i PA		09 15 55.7		
WILN				IAML		09 16 35.1		
	comp=Z,310nm,1.0s							
APQ2	**Apoyeque**	**1.48**	**8**	i P	**Pn**	**09 15 56.4**	**-0.1**	
APQ2				IAML		09 16 15.8		
	comp=Z,1µm,1.0s							
JUNT	**Juntas**	**1.61**	**105**	eP	**Pn**	**09 15 58.9**	**+0.6**	
JTS	**Las Juntas de**	**1.62**	**105**	eP	**Pn**	**09 15 58.8**	**+0.5**	
VERA	**Finca Concepci**	**1.65**	**85**	eP	**Pb**	**09 15 59.9**	**-0.4**	
LEVN	**Ruinas Leon Vi**	**1.67**	**357**	i P	**Pn**	**09 15 59.1**	**0.0**	
LEVN				IAML		09 16 23.8		
	comp=Z,750nm,1.0s							
MOM2	**El Cardon**	**1.71**	**2**	i PA		09 15 59.1		
MOM2				IAML		09 16 27.4		
	comp=Z,330nm,1.0s							
MACN	**El Madrono**	**1.74**	**356**	i P	**Pn**	**09 16 00.2**	**+0.2**	
MACN				IAML		09 16 27.0		
	comp=Z,300nm,1.0s							
CNGA	**AI SSO del Vol**	**1.77**	**355**	i PA		09 16 00.2		
CNGA				IAML		09 16 23.5		
	comp=Z,370nm,1.0s							
CNGN	**Cerro Negro**	**1.78**	**355**	eP	**Pn**	**09 16 00.0**	**-0.5**	
CNGN		

CHEG	**Cheticamp, Nov**	**6.47**	**16**	PN	Pn	09 34 09.2	+1.0
CHEG				SN	Sn	09 35 16.8	-4.7
CHEG				Trac		09 35 21.5	
	comp=Z,14nm,0.6s						

MOS ***17*** *09:45:33.6, 41°.25N×45°.87E, h25km, MPVA2.9*
DRS ***17*** *09:45:34.2, 40°.91N×45°.36E, h26km*
TIF ***17*** *09:45:35.6, 41°.26N×45°.74E, h29km*

ISC 17 09:45:35.8±1.1, 41°30N±0°.04×45°77E±0°.03, h31km±14km, n19, σ1§09/37, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSHL	**Vashlovani**	**0.48**	**98**	P	**Pn**	**09 45 46.6**	**-0.1**
VSHL				S	**Sn**	**09 45 54.7**	**+0.6**
LGD	**Lagodekhi**	**0.64**	**34**	P	**Pb**	**09 45 48.0**	**-0.6**
KZRT	**Kazreti**	**1.03**	**275**	P	**Pb**	**09 45 54.5**	**-0.6**
KZRT				S	**Sn**	**09 46 08.6**	**+0.9**
DMNI	**Dmanisi**	**1.19**	**272**	P	**Pb**	**09 45 57.3**	**-0.5**
DMNI				S	**Sb**	**09 46 13.4**	**+0.5**
CHRG	**Chargali**	**1.20**	**329**	P	**Pb**	**09 45 57.9**	**-0.2**
CHRG				S	**Sb**	**09 46 14.1**	**+0.8**
TRLG	**Trialeti**	**1.27**	**281**	P	**Pb**	**09 45 58.4**	**-0.9**
TRLG				S	**Sb**	**09 46 15.4**	**0.0**
GNI	**Garni**	**1.39**	**214**	*e*Pg	**Pb**	**09 46 01.5**	**+0.3**
GNI				*e*Sg	**Sb**	**09 46 19.2**	**+0.5**
BTLR	**Botlikh**	**1.40**	**14**	*e*Pg	**Pb**	**09 46 01.0**	**-0.5**
BTLR				*e*Sg	**Sb**	**09 46 20.1**	**+1.1**
XNZR	**Khunzakh**	**1.42**	**29**	*e*Pg	**Pb**	**09 46 01.6**	**-0.3**
XNZR				*e*Sg	**Sb**	**09 46 22.0**	**+2.3**
SHTL	**Shatili**	**1.43**	**342**	P	**Pb**	**09 46 01.5**	**-0.5**
SHTL				S	**Sb**	**09 46 19.7**	**-0.2**
AKT	**Akhty**	**1.49**	**82**	*e*Pg	**Pb**	**09 46 01.5**	**-1.4**
AKT				*e*Sg	**Sb**	**09 46 20.9**	**-0.6**
ARKR	**Arakani**	**1.59**	**35**	*e*Pg	**Pb**	**09 46 03.6**	**-1.0**
ARKR				*e*Sg	**Sb**	**09 46 24.6**	**+0.3**
UNCR	**Uncukul**	**1.61**	**28**	*e*Pg	**Pb**	**09 46 05.1**	**+0.2**
UNCR				*i* Sg	**Sb**	**09 46 26.1**	**+1.3**
KRNR	**Karanay**	**1.75**	**29**	*e*Pg	**Pb**	**09 46 06.1**	**-1.1**
KRNR				*e*Sg	**Sb**	**09 46 28.9**	**+0.1**
ALIG	**Mtskhetisjvari**	**1.78**	**298**	P	**Pb**	**09 46 06.6**	**-1.2**
ALIG				S	**Sb**	**09 46 30.1**	**+0.4**
LACR	**Lac**	**1.88**	**325**	*e*Pg	**Pb**	**09 46 09.6**	**+0.1**
LACR				*e*Sg	**Sb**	**09 46 34.8**	**+2.2**
ONI	**Oni**	**2.15**	**307**	*e*Pn	**Pb**	**09 46 13.0**	**-1.2**
ONI				*e*Sn	**Sb**	**09 46 40.0**	**-0.5**
ARNR	**Ardon**	**2.18**	**330**	*e*Pn	**Pb**	**09 46 11.7**	**-2.8**
ARNR				*e*Sn	**Sb**	**09 46 42.7**	**+1.6**
LSNR	**Lesken**	**2.44**	**325**	*e*Pn	**Pb**	**09 46 17.4**	**-1.7**
LSNR				*e*Sn	**Sb**	**09 46 48.3**	**-0.5**

IDC 17 09:49:22.8±8.7, 6°45S×103°79W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=245.2km s-min=184.2km az=89.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**35.40**	**143**	T	T	10 34 29.6	
	baz=313,slow=77,SNR=15						
H03N1	**Juan Fernandez**	**35.41**	**143**	T	T	10 34 33.2	
	baz=313,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**35.41**	**143**	T	T	10 34 30.5	
	baz=313,slow=77,SNR=17						
NVAR	**Mina Array Bea**	**46.64**	**344**	P	P	09 57 53.2	-0.1
	0.3nm,0.5s,baz=174,slow=9.6,SNR=4.1						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**49.26**	**354**	P	P	09 58 13.0	-0.6
	0.5nm,0.6s,baz=161,slow=8.6,SNR=6.0						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**69.24**	**355**	P	P	10 00 31.5	+0.2
	0.3nm,0.7s,baz=165,slow=5.1,SNR=5.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**77.86**	**343**	P	P	10 01 22.2	+0.2
	0.2nm,0.4s,baz=150,slow=4.1,SNR=3.0						
	0.2nm,0.4s						
H11N3	**WAKE ISLAND Hy**	**91.49**	**290**	T	T	11 42 58.9	
	baz=97,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**91.50**	**290**	T	T	11 42 59.8	
	baz=97,slow=74,SNR=22						
H11N1	**WAKE ISLAND Hy**	**91.51**	**290**	T	T	11 42 59.4	
	baz=97,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**91.55**	**288**	T	T	11 43 08.2	
	baz=103,slow=75,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**91.56**	**288**	T	T	11 43 07.3	
	baz=103,slow=75,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**91.57**	**288**	T	T	11 43 08.7	
	baz=103,slow=75,SNR=4.8						

NNC ***17*** *09:55:11.1±2.4, 52°.01N×75°.68E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=110.5km s-min=7.0km az=27.0, Suspected Mining explosion.*
IDC ***17*** *09:55:14.8±1.0, 51°.62N×75°.37E, h0km, mbtmp2.3/4, ML1.7/4, Error ellipse: s-maj=25.6km s-min=7.9km az=30.0*

ISC 17 09:55:10.8±1.1, 52°30N±0°.09×76°.08E±0°.06, h0km, n10, σ1§95/10, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.24**	**134**	⇑Pg	**Pb**	**09 55 51.2**	**-1.0**
	3.5nm,0.9s						
KURK				⇑Lg	Lg	09 56 21.5	
	3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**2.27**	**137**	⇑Pg	**Pg**	**09 55 53.8**	**-0.6**
	3.8nm,0.7s						
KURBB				⇑Lg	Lg	09 56 23.2	
	15nm,0.7s						
KURBB	**Kurchatov Arra**	**2.27**	**137**	Pn	**Pb**	**09 55 52.4**	**-0.2**
	0.1nm,0.3s,baz=302,slow=18,SNR=10						
KURBB				Lg	Lg	09 56 24.3	
	0.1nm,0.3s,baz=296,slow=32,SNR=12						
	0.6nm,0.6s						
BVA0	**Borovoye Array**	**3.54**	**284**	⇑Pg	**Pb**	**09 56 12.4**	**-1.9**
	2.5nm,0.9s,baz=115,slow=19,SNR=5.0						
BVA0				⇓Lg	Lg	09 57 00.6	
	7.3nm,0.9s,baz=114,slow=26,SNR=8.9						
BVAR	**Borovoye Array**	**3.54**	**284**	Pn	**Pn**	**09 56 08.6**	**+1.6**
	baz=94,slow=17,SNR=2.3						
BVAR				Pg	**Pb**	**09 56 13.8**	**-0.5**
	baz=116,slow=17,SNR=5.1						
BVAR				Lg	Lg	09 56 59.7	
	baz=108,slow=27,SNR=16						
	0.2nm,0.3s						
BRVK	**Borovoye**	**3.61**	**284**	⇑Pg	**Pb**	**09 56 13.8**	**-1.7**
	4.8nm,1.3s						
BRVK				⇓Lg	Lg	09 57 00.9	
	3.6nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.51**	**69**	I	I	10 34 10.0	
	baz=247,slow=290,SNR=3.0						
ZALV	**Zalesovo Beam**	**5.51**	**69**	Pn	**Pb**	**09 56 46.9**	**-1.0**
	0.2nm,0.3s,baz=253,slow=12,SNR=2.7						
	0.6nm,0.3s						
MK31	**Makanchi Array**	**6.83**	**141**	⇓Lg	Lg	09 58 43.7	
	3.5nm,0.9s,baz=318,slow=28,SNR=4.4						
MKAR	**Makanchi Array**	**6.83**	**141**	Pn	**Pn**	**09 56 54.6**	**+2.4**
	baz=316,slow=10,SNR=2.3						
MKAR				Sn	**Sn**	**09 58 07.6**	**-3.0**
	baz=319,slow=28,SNR=2.1						
MKAR				Lg	Lg	09 58 41.4	
	0.1nm,0.3s,baz=317,slow=36,SNR=6.1						
	0.2nm,0.8s						

ROM ***17*** *10:22:19.7±0.1, 46°.316N×0°.004×13°.568E±0°.006, h8km, ML3.9/94, Error ellipse: s-maj=0.5km s-min=0.3km az=56.0*
LDG ***17*** *10:22:19.7±0.1, 46°.31N×13°.57E, h5km, Ml3.8/38, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
IDC ***17*** *10:22:19.6±1.0, 46°.25N×13°.49E, h0km, mb3.5/5, mbtmp3.6/13, ML3.6/8, MS3.7/1, Error ellipse: s-maj=14.1km s-min=11.2km az=114.0*
VIE ***17*** *10:22:19.8±0.1, 46°.31N×13°.59E, h13km±2km, mb3.4/22, ml4.1/21, Error ellipse: s-maj=1.1km s-min=0.8km az=46.0 4 km SE of Bovec*
PDG ***17*** *10:22:20.5±0.4, 46°.29N×13°.59E, h10km, ML3.8/9, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
LJU ***17*** *10:22:20.4, 46°.33N×13°.58E, h6km, ML3.5*
RHSSO ***17*** *10:22:20.0±0.5, 46°.33N×13°.49E, h3km±1km, ML4.0/11*
STR ***17*** *10:22:22.6±1.1, 46°N±6°×1°3E±°, h5km, MLv4.5/36, Error ellipse: s-maj=0.0km s-min=0.0km az=75.4, preliminary*
BEO ***17*** *10:22:22.1±0.5, 46°.32N×13°.75E, h2km±5km, ML3.8/11*
PRU ***17*** *10:22:23.1, 46°.37N×13°.74E, h9km*
BGR ***17*** *10:22:23.9±0.4, 46°.39N×13°.62E, h10km, ML4.1/25, Error ellipse: s-maj=8.9km s-min=4.4km az=4.0*

ISC 17 10:22:20.7±0.6, 46°31N±0°.01×13°56E±0°.01, h14km±3km, n369, σ2§00/567, mb3.5/4, 40C-63D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.07**	**211**	⇓*i*Pg	**Pg**	**10 22 22.6**	**-1.0**
ROBS				*i* Sg	**Sg**	**10 22 24.1**	**-1.4**
ROBS				IAML		10 22 24.5	
	comp=Z,8μm,0.1s						
PRED	**Cave del Predi**	**0.14**	**1**	⇓*e*Pg	**Pg**	**10 22 23.1**	**-1.4**
PRED				*e*Sg	**Sg**	**10 22 25.1**	**-1.9**
PRED	**Cave del Predi**	**0.14**	**1**	⇓P	**Pg**	**10 22 23.1**	**-1.4**
PRED				S	**Sg**	**10 22 25.2**	**-1.7**
CADS	**Cadrg**	**0.14**	**123**	⇓*i*Pg	**Pg**	**10 22 23.6**	**-0.9**
CADS				*i* Sg	**Sg**	**10 22 25.9**	**-1.1**
CADS				IAML		10 22 26.1	
	comp=Z,14μm,0.1s						
DRE	**Drenchia**	**0.14**	**157**	⇓*e*Pg	**Pg**	**10 22 23.7**	**-0.8**
DRE				*e*Sg	**Sg**	**10 22 25.8**	**-1.2**
DRE	**Drenchia**	**0.14**	**157**	⇓P	**Pg**	**10 22 23.7**	**-0.8**
DRE				S	**Sg**	**10 22 26.2**	**-0.9**
PTCC	**Patocco-Chiusa**	**0.17**	**304**	⇓P	**Pg**	**10 22 24.0**	**-1.0**
PTCC				S	**Sg**	**10 22 26.7**	**-1.1**
PTCC				AML	AML		
	comp=E,36400μm,1.4s						
PTCC				AML	AML		
	comp=N,47600μm,0.4s						
PTCC				AML	AML		
	comp=E,36400μm,0.6s						
PTCC				AML	AML		
	comp=E,32499μm,0.3s						
PTCC				AML	AML		
	comp=N,32403μm,0.4s						
VINO	**Villanova**	**0.20**	**256**	⇑*e*Pg	**Pg**	**10 22 24.9**	**-0.4**
VINO				*e*Sg	**Sg**	**10 22 28.4**	**0.0**
VINO	**Villanova**	**0.20**	**256**	⇑P	**Pg**	**10 22 24.9**	**-0.4**
VINO				S	**Sg**	**10 22 28.4**	**0.0**
VINO				AML	AML		
	comp=N,80400μm,0.6s						
VINO				AML	AML		
	comp=E,62200μm,1.6s						
VINO				AML	AML		
	comp=E,62200μm,0.4s						
VINO				AML	AML		
	comp=E,54209μm,0.5s						
VINO				AML	AML		
	comp=N,72207μm,0.4s						
COLI	**Coloredo**	**0.22**	**216**	⇑*e*Pg	**Pg**	**10 22 25.2**	**-0.3**
COLI				*e*Sg	**Sg**	**10 22 29.5**	**+0.8**
BAD	**Bernadia**	**0.23**	**253**	⇑*e*Pg	**Pg**	**10 22 25.3**	**-0.5**
BAD				*e*Sg	**Sg**	**10 22 29.2**	**-0.1**
BAD	**Bernadia**	**0.23**	**253**	⇑P	**Pg**	**10 22 25.4**	**-0.5**
BAD				S	**Sg**	**10 22 29.3**	**0.0**
ACOM	**Acomizza, Ital**	**0.24**	**352**	*e*Pg	**Pg**	**10 22 24.8**	**-1.3**
ACOM				*e*Sg	**Sg**	**10 22 29.2**	**-0.6**
ACOM	**Acomizza, Ital**	**0.24**	**352**	⇓P	**Pg**	**10 22 25.2**	**-0.9**
ACOM				S	**Sg**	**10 22 29.5**	**-0.3**
ACOM				AML	AML		
	comp=N,43450μm,1.6s						
ACOM				AML	AML		
	comp=N,40900μm,1.6s						
ACOM				AML	AML		
	comp=E,78700μm,0.1s						
ACOM				AML	AML		
	comp=E,78900μm,0.1s						
ACOM				AML	AML		
	comp=N,43450μm,0.4s						
ACOM				AML	AML		
	comp=N,40900μm,0.4s						
ACOM				AML	AML		
	comp=E,78873μm,0.1s						
ACOM				AML	AML		
	comp=N,37111μm,0.2s						
ACOM				AML	AML		
	comp=N,38493μm,0.2s						
ACOM				AML	AML		
	comp=E,78690μm,0.1s						
GEPF	**Gemona**	**0.30**	**264**	⇑P	**Pg**	**10 22 26.4**	**-0.5**
GEPF				S	**Sg**	**10 22 31.3**	**+0.2**
GORS	**Gorjuse**	**0.30**	**88**	*i* Pg	**Pg**	**10 22 26.1**	**-0.9**
GORS				*i* Sg	**Sg**	**10 22 30.8**	**-0.5**
GORS				IAML		10 22 31.9	
	comp=Z,10μm,0.2s						
BUA	**Buia**	**0.32**	**254**	⇑*e*Pg	**Pg**	**10 22 26.9**	**-0.4**
BUA				*e*Sg	**Sg**	**10 22 32.7**	**+1.0**
BOO	**Bordano**	**0.32**	**273**	⇓*e*Pg	**Pg**	**10 22 26.6**	**-0.8**
BOO				*e*Sg	**Sg**	**10 22 31.4**	**-0.4**
BOO	**Bordano**	**0.32**	**273**	⇓P	**Pg**	**10 22 26.6**	**-0.8**
BOO				S	**Sg**	**10 22 31.5**	**-0.4**
MYKA	**Terra Mystica**	**0.33**	**10**	*i* Pg	**Pg**	**10 22 26.7**	**-0.8**
	comp=Z,2μm,0.2s,SNR=1934						
MYKA				*e*Sg	**Sg**	**10 22 31.5**	**-0.6**
	comp=Z,1μm,0.1s						
SABO	**M.te Sabotino**	**0.33**	**175**	⇓*e*Pg	**Pg**	**10 22 27.0**	**-0.5**
SABO				*e*Sg	**Sb**	**10 22 33.2**	**-0.4**
SABO	**M.te Sabotino**	**0.33**	**175**	⇓P	**Pg**	**10 22 26.8**	**-0.7**
SABO				S	**Sb**	**10 22 33.1**	**-0.4**
SABO				AML	AML		
SABO				AML	AML		
	comp=N,59100μm,0.7s						
SABO				AML	AML		
SABO				AML	AML		
	comp=E,49000μm,0.5s						
SABO				AML	AML		
	comp=E,49000μm,1.5s						
SABO				AML	AML		
SABO				AML	AML		
SABO				AML	AML		
SABO				AML	AML		
	comp=N,59059μm,0.5s						
SABO				AML	AML		
SABO				AML	AML		
	comp=E,46068μm,0.3s						
VOJS	**Vojsko**	**0.35**	**141**	⇓*i*Pg	**Pg**	**10 22 27.4**	**-0.6**
VOJS				*i* Sg	**Sg**	**10 22 33.2**	**+0.3**
VOJS				IAML		10 22 33.6	
	comp=Z,11μm,0.4s						
PLRO	**Paularo**	**0.38**	**310**	⇓*e*Pg	**Pg**	**10 22 27.7**	**-0.7**
PLRO				*e*Sg	**Sg**	**10 22 33.4**	**-0.2**
PLRO	**Paularo**	**0.38**	**310**	⇓P	**Pg**	**10 22 27.7**	**-0.7**
FUSE	**Fusea**	**0.40**	**286**	⇑*e*Pg	**Pg**	**10 22 28.1**	**-0.8**
FUSE				*e*Sg	**Sg**	**10 22 34.5**	**+0.2**
FUSE	**Fusea**	**0.40**	**286**	⇑P	**Pg**	**10 22 28.1**	**-0.8**
FUSE				S	**Sb**	**10 22 35.6**	**-0.1**
MPRI	**Monte Prat**	**0.40**	**261**	⇑*e*Pg	**Pg**	**10 22 28.3**	**-0.5**
MPRI				*e*Sg	**Sg**	**10 22 35.0**	**+0.6**
MPRI	**Monte Prat**	**0.40**	**261**	⇑P	**Pg**	**10 22 28.3**	**-0.5**
MPRI				S	**Sg**	**10 22 34.7**	**+0.3**
MPRI				AML	AML		
	comp=E,13550μm,0.4s						
MPRI				AML	AML		
	comp=N,18900μm,0.4s						
MPRI				AML	AML		
	comp=E,17700μm,0.4s						
MPRI				AML	AML		
	comp=N,24350μm,0.5s						
MPRI				AML	AML		
	comp=N,18900μm,1.6s						
MPRI				AML	AML		
	comp=N,24350μm,1.5s						
MPRI				AML	AML		
	comp=N,18874μm,0.4s						
MPRI				AML	AML		
	comp=E,17678μm,0.4s						
MPRI				AML	AML		
	comp=E,13548μm,0.4s						
MPRI				AML	AML		
	comp=N,24385μm,0.5s						
ZOU	**Zoufplan**	**0.48**	**302**	⇓*e*Pg	**Pg**	**10 22 29.8**	**-0.5**
ZOU				*e*Sg	**Sg**	**10 22 37.3**	**+0.6**
ZOU	**Zoufplan**	**0.48**	**302**	⇓P	**Pg**	**10 22 29.7**	**-0.5**
ZOU				S	**Sg**	**10 22 37.3**	**+0.6**
ZOU				AML	AML		
	comp=E,12600μm,0.8s						
ZOU				AML	AML		
	comp=E,12350μm,0.8s						
ZOU				AML	AML		
	comp=N,23100μm,1.0s						
ZOU				AML	AML		
	comp=E,11329μm,0.5s						
ZOU				AML	AML		
	comp=E,11205μm,0.5s						
ZOU				AML	AML		
	comp=N,23450μm,1.0s						
CLUD	**Cludinico**	**0.49**	**288**	⇓*e*Pg	**Pg**	**10 22 30.0**	**-0.6**
CLUD				*e*Sg	**Sg**	**10 22 36.8**	**-0.3**
CLUD	**Cludinico**	**0.49**	**288**	P	**Pg**	**10 22 29.9**	**-0.6**
CLUD				S	**Sg**	**10 22 38.0**	**+0.8**
CLUD				AML	AML		
	comp=E,6230μm,1.2s						
CLUD				AML	AML		
	comp=N,8065μm,0.5s						
CLUD				AML	AML		
	comp=E,6180μm,1.2s						
CLUD				AML	AML		
	comp=N,8160μm,0.5s						
CLUD				AML	AML		
	comp=E,6180μm,0.8s						
CLUD				AML	AML		
	comp=E,6230μm,0.8s						
CLUD				AML	AML		
	comp=E,5765μm,0.5s						
CLUD				AML	AML		
	comp=N,8075μm,0.5s						
CLUD				AML	AML		
	comp=E,5741μm,0.5s						
CLUD				AML	AML		
	comp=N,8182μm,0.5s						
TLI	**Talmassons**	**0.50**	**220**	⇑*e*Pg	**Pg**	**10 22 30.3**	**-0.3**
CRNS	**Crni Vrh**	**0.54**	**115**	⇓*e*Pg	**Pg**	**10 22 30.3**	**-1.0**
CRNS				*i* Sg	**Sg**	**10 22 38.6**	**+0.2**
CRNS				IAML		10 22 43.1	
	comp=Z,2μm,0.2s						
JAVS	**Javornik**	**0.54**	**140**	⇓*e*Pg	**Pg**	**10 22 30.4**	**-1.1**
JAVS				*i* Sg	**Sg**	**10 22 38.8**	**+0.1**
JAVS				IAML		10 22 41.3	
	comp=Z,1μm,0.2s						
A300A	**Muzzana del Tu**	**0.57**	**212**	P	**Pg**	**10 22 31.2**	**-0.7**
STAL	**STALIGIAL**	**0.59**	**266**	P	**Pg**	**10 22 31.1**	**-1.3**
STAL				AML	AML		
	comp=N,7040μm,0.7s						
STAL				AML	AML		
	comp=E,5505μm,0.3s						
STAL				AML	AML		
	comp=N,7540μm,0.3s						
STAL				AML	AML		
	comp=E,7310μm,1.6s						
STAL				AML	AML		
	comp=E,5500μm,0.3s						
STAL				AML	AML		
	comp=N,7540μm,1.7s						
STAL				AML	AML		
	comp=E,5500μm,1.7s						
STAL				AML	AML		
	comp=E,7310μm,0.4s						
STAL				AML	AML		
	comp=N,6824μm,0.4s						
STAL				AML	AML		
	comp=N,7540μm,0.3s						
STAL				AML	AML		
	comp=E,6974μm,0.4s						
STAL				AML	AML		
	comp=E,5503μm,0.3s						
MOZS	**Mozjanca**	**0.61**	**91**	*e*Pg	**Pg**	**10 22 31.9**	**-0.7**
MOZS				*e*Sg	**Sg**	**10 22 40.7**	**-0.1**
MOZS				IAML		10 22 43.0	
	comp=Z,699nm,0.1s						
TRI	**Trieste**	**0.61**	**167**	⇓*e*Pg	**Pg**	**10 22 31.8**	**-1.0**
TRI				*e*Sg	**Sg**	**10 22 41.1**	**+0.2**
TRI	**Trieste**	**0.61**	**167**	⇓P	**Pg**	**10 22 31.8**	**-1.0**
TRI				S	**Sg**	**10 22 41.3**	**+0.4**
TRI				AML	AML		
	comp=E,12600μm,0.3s						
TRI				AML	AML		
	comp=N,8165μm,0.3s						
TRI				AML	AML		
	comp=N,8165μm,1.7s						
TRI				AML	AML		
	comp=N,8166μm,0.3s						
TRI				AML	AML		
	comp=E,12608μm,0.3s						
MLNI	**Malnisio**	**0.68**	**257**	⇑*e*Pg	**Pg**	**10 22 33.2**	**-0.8**
MLNI				*e*Sg	**Sb**	**10 22 44.7**	**+1.1**
OBKA	**Obir**	**0.71**	**73**	*e*Pg	**Pg**	**10 22 33.4**	**-1.1**
	comp=E,192nm,0.3s,SNR=222						
OBKA				*e*Sg	**Sg**	**10 22 43.7**	**-0.3**
	comp=E,3μm,0.4s						
OBKA	**Obir**	**0.71**	**73**	*e*Pg	**Pg**	**10 22 33.7**	**-0.9**
OBKA				*e*Sg	**Sb**	**10 22 43.9**	**-0.7**
OBKA	**Obir**	**0.71**	**73**	⇓*i*Pg	**Pg**	**10 22 33.5**	**-1.1**
OBKA				*i* Sg	**Sb**	**10 22 44.0**	**-0.7**
GBAS	**Gorenja Brezov**	**0.72**	**121**	⇓*e*Pg	**Pg**	**10 22 33.2**	**-1.5**
GBAS				*i* Sg	**Sb**	**10 22 45.0**	**+0.3**
GBAS				IAML		10 22 47.7	
	comp=Z,814nm,0.2s						
LJU	**Ljubljana**	**0.72**	**111**	⇓*e*Pg	**Pg**	**10 22 34.0**	**-0.7**
LJU				*e*Sg	**Sb**	**10 22 44.7**	**-0.1**
LJU				IAML		10 22 46.8	
	comp=Z,1μm,0.1s						
LJU	**Ljubljana**	**0.72**	**111**	*e*Pg	**Pg**	**10 22 34.0**	**-0.7**
LJU	**Ljubljana**	**0.72**	**111**	AML	AML		
	comp=E,66050μm,0.4s						
LJU				AML	AML		
LJU				AML	AML		
CIMO	**Cimolais**	**0.78**	**271**	*e*Pg	**Pg**	**10 22 34.3**	**-1.6**
CIMO	**Cimolais**	**0.78**	**271**	P	**Pg**	**10 22 34.2**	**-1.6**
CIMO				AML	AML		
	comp=E,911μm,0.4s						
CIMO				AML	AML		
	comp=N,1680μm,0.4s						
CIMO				AML	AML		
	comp=N,1675μm,0.4s						
CIMO				AML	AML		
	comp=E,911μm,1.6s						
CIMO				AML	AML		
	comp=E,897μm,1.3s						
CIMO				AML	AML		
	comp=E,895μm,0.4s						
CIMO				AML	AML		
	comp=N,1679μm,0.4s						
CIMO				AML	AML		
	comp=E,911μm,0.4s						
CIMO				AML	AML		
	comp=N,1672μm,0.4s						
KBA	**Koelnbreinsper**	**0.79**	**349**	*e*Pg	**Pg**	**10 22 35.2**	**-0.8**
	comp=N,183nm,0.3s,SNR=342						
KBA				*e*Sg	**Sg**	**10 22 45.9**	**-0.5**
	comp=N,1μm,0.2s						
KBA	**Koelnbreinsper**	**0.79**	**349**	*e*Pg	**Pg**	**10 22 35.4**	**-0.7**
KBA				*e*Sg	**Sg**	**10 22 46.1**	**-0.3**
POLC	**Polcenigo**	**0.79**	**250**	P	**Pg**	**10 22 35.3**	**-0.7**
VNDS	**Vrh nad Dolski**	**0.82**	**104**	⇓*e*Pg	**Pg**	**10 22 35.9**	**-0.7**
VNDS				*e*Sg	**Sb**	**10 22 47.3**	**-0.3**
VNDS				IAML		10 22 50.6	
	comp=Z,889nm,0.1s						
SKDS	**Skadanscina**	**0.82**	**157**	⇓*i*Pg	**Pg**	**10 22 35.1**	**-1.6**
SKDS				*e*Sg	**Sb**	**10 22 48.1**	**+0.3**
SKDS				IAML		10 22 49.3	
	comp=Z,610nm,0.2s						
SKDS	**Skadanscina**	**0.82**	**157**	*e*Pg	**Pg**	**10 22 35.1**	**-1.6**
SKDS	**Skadanscina**	**0.82**	**157**	⇓*i*Pg	**Pg**	**10 22 34.9**	**-1.8**
SKDS				*e*Sg	**Sb**	**10 22 48.2**	**+0.4**
CEY	**Cerknica**	**0.83**	**133**	⇓*i*Pg	**Pg**	**10 22 35.1**	**-1.7**
CEY				*i* Sg	**Sb**	**10 22 49.4**	**+1.5**
CEY				IAML		10 22 53.8	
	comp=Z,1μm,0.3s						
CEY	**Cerknica**	**0.83**	**133**	*e*Pg	**Pg**	**10 22 35.2**	**-1.6**
CEY	**Cerknica**	**0.83**	**133**	⇓*i*Pg	**Pg**	**10 22 35.0**	**-1.7**
CEY				*e*Sg	**Sb**	**10 22 48.0**	**+0.1**
CAE	**Caneva**	**0.84**	**249**	*e*Pg	**Pg**	**10 22 36.5**	**-0.5**
CAE	**Caneva**	**0.84**	**249**	P	**Pg**	**10 22 36.2**	**-0.7**
APGO	**Alpago**	**0.85**	**260**	*e*Pg	**Pg**	**10 22 36.1**	**-1.1**
ABTA	**Abfaltersbach**	**0.85**	**302**	*e*P

comp=Z,2µm,0.3s
VISS Visnje 1.02 119 *e*Pg **Pg** **10 22 39.1 -1.4**
VISS *e*Sg **Sb** **10 22 54.4 +0.9**
VISS IAML 10 22 59.3
comp=Z,1µm,0.3s
PDKS Podkum 1.03 103 ⇓*i*Pg **Pg** **10 22 39.8 -0.8**
PDKS *e*Sg **Sb** **10 22 54.4 +0.7**
PDKS IAML 10 22 57.5
comp=Z,867nm,0.2s
AGOR Agordo 1.05 269 P **Pg** **10 22 41.0 0.0**
AGOR AML AML
comp=E,5180µm,0.5s
AGOR AML AML
comp=N,4815µm,0.4s
AGOR AML AML
comp=E,5180µm,0.5s
AGOR AML AML
comp=E,4125µm,0.5s
AGOR AML AML
comp=E,4125µm,1.5s
AGOR AML AML
comp=N,6090µm,0.3s
AGOR AML AML
comp=E,5180µm,1.5s
VARN Col Varnada, M 1.06 253 P **Pg** **10 22 40.2 -1.0**
SOKA Soboth 1.08 69 *i*Pg **Pg** **10 22 40.1 -1.5**
comp=E,61nm,0.3s
SOKA Sg **Sg** **10 22 54.7 -1.0**
comp=E,183nm,0.2s
PERS Pernice 1.12 72 ⇓*i*Pg **Pg** **10 22 40.9 -1.5**
PERS *e*Sg **Sb** **10 22 56.5 0.0**
PERS IAML 10 22 58.3
comp=Z,922nm,0.2s
CRND Cornuda 1.14 246 P **Pn** **10 22 43.6 +1.4**
GBRS Gornja Briga 1.17 131 *e*Pg **Pg** **10 22 41.9 -1.3**
GBRS *i*Sg **Sn** **10 23 00.5 +2.1**
GBRS IAML 10 23 03.7
comp=Z,893nm,0.3s
RIY Rijeka 1.17 146 *e*Pg **Pg** **10 22 41.7 -1.6**
RIY Sg **Sn** **10 22 59.5 +1.0**
VENL Venezia Lido 1.22 223 P **Pn** **10 22 44.5 +1.3**
ASOL Asolo 1.26 247 P **Pg** **10 22 45.4 +0.4**
ASOL AML AML
comp=E,26500µm,0.4s
ASOL AML AML
comp=N,14850µm,0.3s
ASOL AML AML
comp=N,14861µm,0.3s
ASOL AML AML
comp=E,26523µm,0.4s
LEGS Legarje 1.27 106 *e*Pg **Pg** **10 22 44.0 -1.2**
LEGS *e*Sg **Sn** **10 23 02.0 +1.1**
LESA Schwarzleotal 1.27 332 *e*Pg **Pg** **10 22 44.2 -1.0**
comp=E,90nm,0.2s
LESA Sg **Sg** **10 23 01.2 -0.6**
comp=E,740nm,0.2s
A302A Resana (TV) 1.30 239 P **Pg** **10 22 46.1 +0.4**
CGRP Cima Grappa 1.30 251 P **Pg** **10 22 45.8 0.0**
BRES Bressanone 1.32 288 AML AML
comp=E,6290µm,0.4s
BRES AML AML
comp=E,6290µm,1.6s
BRES AML AML
comp=N,8100µm,0.7s
DOBS Dobrina 1.33 96 *e*Pg **Pn** **10 22 45.2 +0.2**
DOBS *i*Sg **Sn** **10 23 05.5 +3.0**
DOBS IAML 10 23 08.4
comp=Z,563nm,0.2s
GROS Grobnik 1.35 83 ⇓*i*Pg **Pn** **10 22 44.7 -0.5**
GROS *e*Sg **Sn** **10 23 04.3 +1.3**
GROS IAML 10 23 06.8
comp=Z,1µm,0.5s
CTI Castel Tesino 1.35 260 P **Pg** **10 22 46.6 -0.2**
CESS Cesta pri Krsk 1.36 103 *i*Pg **Pn** **10 22 45.8 +0.4**
CESS *e*Sg **Sn** **10 23 05.8 +2.6**
CESS IAML 10 23 09.3
comp=Z,810nm,0.2s
BIOA Bad Ischl, Aus 1.39 2 *e*Pg **Pn** **10 22 45.7 0.0**
comp=Z,196nm,0.3s,SNR=200
BIOA Sg **Sn** **10 23 05.8 +2.0**
comp=Z,1µm,0.4s
ZIAN Ziano 1.39 269 P **Pg** **10 22 47.2 -0.2**
CRES Cresnjev 1.40 109 *e*Pg **Pn** **10 22 46.5 +0.6**
CRES *e*Sg **Sg** **10 23 06.2 +0.2**
CRES IAML 10 23 11.7
comp=Z,2µm,0.6s
CRES Cresnjev 1.40 109 ⇓*i*Pg **Pn** **10 22 46.1 +0.2**
CRES *e*Sg **Sg** **10 23 06.5 +0.5**
BRJN Brijuni 1.41 175 *e*Pg **Pb** **10 22 47.1 +0.4**
BRJN Sg **Sg** **10 23 06.9 +0.8**
BRJN Brijuni 1.41 175 ⇓P **Pb** **10 22 47.2 +0.5**
BOJS Bojanci 1.43 124 *e*Pg **Pn** **10 22 46.8 +0.6**
BOJS *e*Sg **Sg** **10 23 06.6 -0.1**
BOJS IAML 10 23 12.3
comp=Z,832nm,0.3s
BOJS Bojanci 1.43 124 *e*Pn **Pn** **10 22 46.7 +0.6**
BOJS Bojanci 1.43 124 AML AML
comp=E,11845µm,0.4s
BOJS AML AML
comp=N,19500µm,0.5s
BOJS AML AML
comp=N,19500µm,1.5s
BOJS Bojanci 1.43 124 ⇓*i*Pg **Pn** **10 22 46.8 +0.6**
BOJS *e*Sg **Sg** **10 23 06.9 +0.2**
GOLS Golise 1.46 101 ⇓*e*Pg **Pb** **10 22 47.6 -0.1**
GOLS *e*Sg **Sg** **10 23 08.3 +0.5**
GOLS IAML 10 23 15.0
comp=Z,2µm,0.6s
OZLJ Ozalj 1.50 117 *e*Pn **Pn** **10 22 47.9 +0.8**
OZLJ Sg **Sg** **10 23 08.7 -0.2**
GCIS Gornji Cirnik 1.50 106 *i*Pg **Pb** **10 22 48.4 +0.1**
GCIS *e*Sg **Sg** **10 23 09.1 0.0**
GCIS IAML 10 23 12.1
comp=Z,2µm,0.6s
SANR Sandrigo 1.52 245 P **Pb** **10 22 49.0 +0.5**
A305A Porto Tolle (R 1.56 211 P **Pb** **10 22 50.0 +0.6**
PANI Panarotta 1.57 261 ⇑P **Pb** **10 22 49.9 +0.2**
ROSI Rosskopf 1.61 294 P **Pb** **10 22 50.4 +0.1**
ROSI AML AML
comp=N,5765µm,1.2s
ROSI AML AML
comp=E,5075µm,0.7s
ROSI AML AML
comp=E,5074µm,0.7s
ROSI AML AML
comp=N,5762µm,1.2s
MOA Molln 1.62 17 *e*Pg **Pb** **10 22 50.5 +0.2**
comp=N,270nm,0.4s,SNR=135
MOA Sg **Sg** **10 23 13.6 +0.8**
comp=N,657nm,0.5s
MOA Molln 1.62 17 *e*Pg **Pb** **10 22 50.5 +0.2**
MOA *e*Sg **Sg** **10 23 11.8 -1.0**
MOA Molln 1.62 17 *e*Pg **Pg** **10 22 51.6 -0.2**
MOA *e*Sg **Sg** **10 23 13.8 +1.1**
TEOL Teolo 1.63 235 ⇑P **Pn** **10 22 50.0 +1.1**
TEOL AML AML
comp=E,11165µm,0.5s
TEOL AML AML
comp=E,11165µm,1.5s
TEOL AML AML
comp=N,9020µm,0.5s
TEOL AML AML
comp=E,11181µm,0.5s
TEOL AML AML
comp=N,9020µm,0.5s
WTTA Wattenberg 1.63 307 *e*Pg **Pb** **10 22 51.0 +0.3**
comp=N,221nm,0.2s,SNR=167
WTTA Sg **Sg** **10 23 13.7 +0.4**
comp=N,2µm,0.6s
WTTA Wattenberg 1.63 307 P **Pb** **10 22 51.1 +0.3**
WTTA AML AML
comp=E,6195µm,0.6s
WTTA AML AML
comp=N,4565µm,1.6s
WTTA AML AML
comp=N,4565µm,0.4s
WTTA AML AML
comp=N,3949µm,0.7s
WTTA AML AML
comp=E,6196µm,0.6s
WTTA Wattenberg 1.63 307 *e*Pg **Pb** **10 22 51.2 +0.5**
WTTA *e*Sg **Sg** **10 23 13.7 +0.4**
ARSA Arzberg 1.65 54 *e*Pg **Pb** **10 22 50.5 -0.3**
comp=E,49nm,0.2s
ARSA Sg **Sg** **10 23 12.5 -1.2**
comp=E,233nm,0.3s
ARSA Arzberg 1.65 54 *e*Pn **Pb** **10 22 50.6 -0.3**
ARSA Arzberg 1.65 54 P **Pb** **10 22 50.6 -0.2**
ARSA AML AML
comp=E,991µm,0.4s
ARSA AML AML
comp=N,791µm,0.9s
ARSA AML AML
comp=N,791µm,1.1s
ARSA AML AML
comp=E,989µm,0.4s
ARSA AML AML
comp=N,703µm,0.7s
ARSA Arzberg 1.65 54 *e*Pg **Pb** **10 22 50.8 0.0**
ARSA *e*Sg **Sg** **10 23 12.5 -1.2**
ARSA Arzberg 1.65 54 ⇑*i*Pn **Pb** **10 22 50.7 -0.2**
ARSA *e*Sn **Sb** **10 23 11.9 +0.5**
WATA Walderalm 1.71 308 *e*Pg **Pb** **10 22 52.2 +0.2**
comp=N,252nm,0.2s,SNR=178
WATA Sg **Sg** **10 23 15.4 -0.3**
comp=N,733nm,0.5s
PTJ Puntijarka 1.72 103 *e*Pn **Pn** **10 22 51.1 +0.8**
PTJ Sn **Sg** **10 23 14.8 -1.3**
LOBO Lobor 1.75 94 *e*Pn **Pn** **10 22 51.3 +0.7**
LOBO Sn **Sg** **10 23 15.5 -1.4**
SQTA Sankt Quirin 1.86 300 *e*Pg **Pb** **10 22 55.1 +0.6**
comp=N,101nm,0.3s,SNR=108
SQTA Sg **Sg** **10 23 20.5 0.0**
comp=N,409nm,0.4s
KOGS Kog 1.87 85 *e*Pn **Pn** **10 22 52.9 +0.7**
KOGS *i*Sn **Sb** **10 23 17.2 -0.5**
KOGS IAML 10 23 29.1
comp=Z,539nm,0.4s
KOGS Kog 1.87 85 AML AML
comp=E,18350µm,0.4s
KOGS AML AML
comp=N,25850µm,0.8s
MOTA Moosalm 1.98 302 *e*Pg **Pb** **10 22 57.2 +0.6**
comp=N,382nm,0.4s,SNR=132
MOTA Sg **Sg** **10 23 26.8 +2.3**
comp=N,768nm,0.6s
FETA Feichten 2.08 291 *e*Pg **Pb** **10 22 58.6 +0.3**
comp=N,39nm,0.3s,SNR=75
FETA Sg **Sg** **10 23 27.8 +0.2**
comp=N,204nm,0.4s
BEHE Becsehely 2.23 85 ⇑*i*Pn **Pn** **10 22 58.8 +1.6**
BEHE *e*Sn **Sb** **10 23 27.3 -0.9**
RETA Reutte 2.25 303 *e*P **Pb** **10 23 01.0 -0.2**
comp=N,12nm,0.3s,SNR=62
RETA Sg **Sg** **10 23 32.9 -0.3**
comp=N,300nm,0.4s
CONA Conrad Observa 2.26 43 *e*P **Pn** **10 22 59.4 +1.7**
comp=N,18nm,0.5s,SNR=26
FUORN Ofenpass-Fuorn 2.30 279 AML AML
comp=E,812µm,0.7s
FUORN AML AML
comp=N,902µm,0.6s
FUORN AML AML
comp=E,812µm,1.3s
RONA Rosalia, Austr 2.33 52 *e*P **Pn** **10 23 00.1 +1.4**
comp=E,22nm,0.4s,SNR=36
FUR Furstenfeldbru 2.43 321 *e*Pg **Pg** **10 23 06.6 -0.6**
SOP Sopron 2.47 55 *e*Pn **Pn** **10 23 02.5 +2.0**
GERES GERESS Array B 2.54 2 Pn **Pn** **10 23 03.9 +2.3**
comp=E,49nm,0.3s,baz=172,slow=14,SNR=101
GERES Pg **Pg** **10 23 07.7 -1.8**
comp=E,106nm,0.3s,baz=180,slow=18,SNR=124
GERES Sn **Sn** **10 23 34.8 +2.4**
comp=E,44nm,0.3s,baz=190,slow=23,SNR=6.2
GERES Lg Lg 10 23 41.1
comp=E,151nm,0.3s,baz=180,slow=28,SNR=18
comp=E,137nm,0.4s
DUGI Dugi Otok 2.54 155 *e*Pn **Pn** **10 23 03.3 +1.7**
DUGI Sn **Sb** **10 23 36.0 -1.3**
CKRC Cesky Krumlov 2.56 11 *e*PN **Pn** **10 23 04.0 +2.1**
CKRC *e*PG **Pb** **10 23 07.3 +0.8**
CKRC *e*SG **Sg** **10 23 41.3 -1.8**
CKRC Cesky Krumlov 2.56 11 *e*Pn **Pn** **10 23 03.5 +1.7**
CKRC *e*Pg **Pb** **10 23 07.4 +0.8**
CKRC *e*SG **Sg** **10 23 41.2 -1.9**
PRIJ Prijedor 2.58 120 *e*Pn **Pn** **10 23 03.4 +1.4**
PRIJ *e*Sn **Sn** **10 23 35.9 +2.7**
DAVOX Davos/Dischmat 2.59 282 Pn **Pn** **10 23 04.2 +1.9**
comp=E,17nm,0.3s,baz=11,slow=4.8,SNR=60
DAVOX Lg Lg 10 23 39.4
comp=E,20nm,0.3s,baz=128,slow=16,SNR=3.7
comp=E,27nm,0.3s
A051A Mrakovica 2.68 118 *e*Pn **Pn** **10 23 04.2 +0.7**
A051A *e*Sn **Sn** **10 23 37.8 +2.1**
DAVA Damuels 2.71 293 *e*Pn **Pb** **10 23 07.2 -1.9**
comp=E,26nm,0.2s,SNR=16
DAVA Damuels 2.71 293 *e*Pn **Pb** **10 23 07.2 -1.9**
A050A Klekovaca 2.78 130 *e*Pn **Pn** **10 23 06.2 +1.4**
A050A *e*Sn **Sn** **10 23 40.3 +2.7**
KHC Kasperske Hory 2.83 0 *e*PN **Pn** **10 23 07.6 +2.1**
KHC *e*SN **Sn** **10 23 41.1 +1.8**
KHC *e*SG **Sg** **10 23 51.4 -0.1**
comp=E,308nm,0.5s
KHC Kasperske Hory 2.83 0 *e*Pn **Pn** **10 23 07.8 +2.3**
WET Wettzell 2.88 351 *e*Pn **Pn** **10 23 08.1 +2.0**
BLY Banja Luka 2.98 120 *e*Pn **Pn** **10 23 10.0 +2.4**
BLY *e*Sn **Sn** **10 23 42.7 -0.5**
BLY Banja Luka 2.98 120 *e*Pn **Pn** **10 23 08.1 +0.5**
BLY *e*Sn **Sn** **10 23 45.5 +2.3**
ZST Bratislava 3.06 51 *e*PN **Pn** **10 23 10.3 +1.6**
ZST *e*PG **Pg** **10 23 19.2 -0.2**
ZST *e*SN **Sn** **10 23 46.2 +1.1**
ZST *e*SG **Sg** **10 23 59.5 +0.4**
MGRS Mrkonjic Grad 3.12 126 *e*Pn **Pn** **10 23 11.0 +1.5**
MGRS *e*Sn **Sn** **10 23 48.9 +2.3**
ZVC Zvikov 3.16 7 *e*PN **Pn** **10 23 12.3 +2.2**
ZVC *e*SG **Sg** **10 24 01.0 -1.3**
comp=E,464nm,1.1s
CSP1 Cessapalombo 3.23 185 AML AML
comp=E,630µm,0.6s
CSP1 AML AML
comp=N,254µm,0.5s
TREC Trest 3.26 23 *e*PN **Pn** **10 23 13.0 +1.6**
TREC *e*SN **Sn** **10 23 50.6 +0.6**
TREC *e*SG **Sg** **10 24 02.9 -2.5**
comp=N,94nm,0.9s
TREC Trest 3.26 23 *e*Pn **Pn** **10 23 12.8 +1.4**
MODS Modra-Piesok 3.26 49 *e*PN **Pn** **10 23 13.2 +1.7**
KRUC Moravsky 3.35 34 *e*PN **Pn** **10 23 13.7 +1.0**
KRUC *e*SG **Sb** **10 24 04.2 +3.6**
KRUC Moravsky 3.35 34 *e*Pn **Pn** **10 23 13.6 +0.9**
GORR Gorreto 3.45 242 P **Pn** **10 23 16.1 +2.0**
GUT Gutenstein 3.51 302 P **Pn** **10 23 17.4 +2.5**
MORH Mrgy, Hungar 3.53 90 ⇑P **Pn** **10 23 15.8 +0.7**
MORH Mrgy, Hungar 3.53 90 *e*Pn **Pn** **10 23 15.6 +0.6**
MORH *e*Sn **Sn** **10 23 57.6 +1.1**
ROTZ Rotzenmuhle 3.58 346 *e*Pn **Pn** **10 23 17.3 +1.5**
ZUR Degenried 3.58 289 P **Pn** **10 23 18.2 +2.4**
VRAC Vranov 3.63 33 *e*PN **Pn** **10 23 17.5 +1.0**
VRAC Vranov 3.63 33 Pn **Pn** **10 23 18.2 +1.7**
comp=N,4.2nm,0.3s,baz=232,slow=14,SNR=8.8
VRAC Lg Lg 10 24 12.0
comp=N,8.1nm,0.3s,baz=242,slow=15,SNR=8.2
comp=N,4.8nm,0.3s
VRAC Vranov 3.63 33 *e*Pn **Pn** **10 23 17.8 +1.3**
GOPC GO Pecny, Ondr 3.70 12 *e*PN **Pn** **10 23 18.9 +1.4**
GOPC *e*PG **Pb** **10 23 28.4 +2.5**
GOPC *e*SG **Sg** **10 24 18.1 -1.4**
comp=N,207nm,0.6s
RNCA Ronca, Sant'Ol 3.73 242 P **Pn** **10 23 20.2 +2.3**
PRU Pruhonice 3.74 10 *e*PN **Pn** **10 23 19.9 +1.9**
PRU *e*PG **Pg** **10 23 29.4 -3.0**
PRU *e*SG **Sg** **10 24 18.3 -2.5**
comp=N,365nm,0.9s
PRU Pruhonice 3.74 10 *e*Pn **Pn** **10 23 19.5 +1.5**
SLE Schleitheim 3.76 295 P **Pn** **10 23 20.4 +2.0**
JAVC Velka Javorina 3.77 46 *e*PN **Pn** **10 23 21.1 +2.6**
JAVC Velka Javorina 3.77 46 *e*Pn **Pn** **10 23 21.1 +2.6**
MANZ Manzenberg 3.81 346 *e*Pn **Pn** **10 23 20.4 +1.4**
PRA Prague 3.81 8 *e*PN **Pn** **10 23 20.6 +1.7**
PRA *e*PG **Pb** **10 23 30.2 +2.5**
PRA *e*SG **Sg** **10 24 21.4 -1.6**
comp=N,583nm,1.0s
SULZ Cheisacher 3.93 290 P **Pn** **10 23 22.6 +1.9**
PCP Piancastagn 3.95 245 P **Pn** **10 23 22.8 +1.9**
EMBD Embd, Matterta 3.98 271 P **Pn** **10 23 23.9 +2.6**
NKC Novy Kostel 4.00 350 *e*PN **Pn** **10 23 23.5 +1.9**
NKC *e*PG **Pg** **10 23 34.8 -2.0**
NKC *e*SG **Sg** **10 24 28.8 -0.3**
comp=N,129nm,0.4s
NKC Novy Kostel 4.00 350 *e*Pn **Pn** **10 23 23.8 +2.2**
NKC *e*Pg **Pg** **10 23 36.3 -1.0**
BFO Black Forest 4.09 302 *e*Pn **Pn** **10 23 24.7 +1.8**
FELD Feldberg im Sc 4.11 294 P **Pn** **10 23 24.6 +1.4**
FELD Feldberg im Sc 4.11 294 Sg **Sn** **10 24 11.1 0.0**
TRAV Traversella 4.14 261 P **Pn** **10 23 27.4 +3.8**
BALST Balsthal 4.16 286 P **Pn** **10 23 25.9 +2.1**
TANN Tannenbergstha 4.18 350 *e*Pn **Pn** **10 23 25.7 +1.7**
KIZ Kirchzarten 4.19 295 P **Pn** **10 23 25.8 +1.6**
VYHS Vyhne 4.20 57 *e*Pn **Pn** **10 23 24.7 +0.4**
VYHS Vyhne 4.20 57 *e*PN **Pn** **10 23 24.9 +0.6**
VYHS *e*SN **Sn** **10 24 14.1 +1.0**
ENDD Endenburg 4.23 292 P **Pn** **10 23 26.3 +1.6**
CIRO Champorcher 4.24 263 P **Pn** **10 23 26.1 +1.0**
RICC Richard 4.25 5 *e*PN **Pn** **10 23 26.5 +1.4**
RICC *e*PG **Pb** **10 23 38.3 +3.0**
RICC *e*SG **Sg** **10 24 35.1 -2.2**
comp=N,304nm,0.7s
OPP Oppenau 4.26 303 P **Pn** **10 23 27.3 +2.2**
PVCC Panska Ves 4.28 9 *e*PN **Pn** **10 23 26.6 +1.2**
PVCC *e*SG **Sg** **10 24 36.2 -1.8**
comp=N,763nm,1.1s
PVCC Panska Ves 4.28 9 *e*Pn **Pn** **10 23 26.7 +1.4**
DIX Grande Dixence 4.28 269 P **Pn** **10 23 28.9 +3.2**
PLN Plauen 4.29 348 *e*Pn **Pn** **10 23 27.3 +1.8**
HSKC Hora Svate Kat 4.30 359 *e*PN **Pn** **10 23 27.4 +1.6**
HSKC *e*SN **Sn** **10 24 16.9 +1.1**
HSKC *e*SG **Sg** **10 24 38.2 -0.7**
comp=N,246nm,0.7s
CANO Canova, Maglio 4.31 243 P **Pn** **10 23 24.5 -1.3**
KRLC Kraliky 4.34 29 *e*PN **Pn** **10 23 27.5 +1.2**
KRLC *e*SN **Sn** **10 24 16.3 -0.4**
KRLC *e*SG **Sg** **10 24 37.7 -2.4**
comp=N,94nm,0.7s
BABA Baden-Baden-Ne 4.37 305 P **Pn** **10 23 28.7 +2.1**
MORC Moravsky Berou 4.38 36 ⇑P **Pn** **10 23 28.8 +2.0**
MORC Moravsky Berou 4.38 36 *e*PN **Pn** **10 23 27.8 +1.0**
MORC Moravsky Berou 4.38 36 *e*Pn **Pn** **10 23 28.0 +1.2**
VOGT Vogtsburg - To 4.39 296 P **Pn** **10 23 28.7 +1.7**
HAPS Han Pijesak,BI 4.41 118 *e*Pn **Pn** **10 23 28.9 +1.6**
HAPS Han Pijesak,BI 4.41 118 ⇓*i*Pn **Pn** **10 23 28.9 +1.6**
HAPS *e*Sn **Sn** **10 24 18.9 +0.4**
NEVS Nevesinje 4.41 131 *e*Pn **Pn** **10 23 28.3 +1.0**
NEVS *e*Sn **Sn** **10 24 19.2 +0.7**
DPC Dobruska-Polom 4.45 23 *e*PN **Pn** **10 23 27.9 +0.2**
DPC *e*PG **Pb** **10 23 40.7 +2.2**
DPC *e*SG **Sg** **10 24 41.8 -1.6**
comp=N,117nm,0.6s
DPC Dobruska-Polom 4.45 23 *e*Pn **Pn** **10 23 28.2 +0.5**
RORO Rocca Rossa 4.46 243 P **Pn** **10 23 28.2 +0.3**
BOURR Bourrignon 4.48 286 P **Pn** **10 23 29.8 +1.6**
BOURR Bourrignon 4.48 286 Sg **Sn** **10 24 22.6 +2.5**
UPC Upice 4.51 20 *e*PN **Pn** **10 23 29.0 +0.4**
UPC *e*SG **Sg** **10 24 41.9 -3.5**
comp=N,313nm,0.9s
FRGS Fruska Gora 4.52 102 ⇑P **Pn** **10 23 29.5 +0.7**
FRGS Fruska Gora 4.52 102 *e*Pn **Pn** **10 23 29.0 +0.2**
FRGS *e*Sn **Sn** **10 24 20.6 -0.5**
FRGS Fruska Gora 4.52 102 *e*Pn **Pn** **10 23 29.0 +0.2**
FRGS *e*Sn **Sn** **10 24 22.7 +1.6**
ILLF Illfurth 4.53 290 P **Pn** **10 23 29.5 +0.6**
ILLF Sg **Sn** **10 24 24.0 +2.7**
MOX Moxa 4.53 344 *e*Pn **Pn** **10 23 30.2 +1.3**
STON Ston 4.53 138 *e*Pn **Pn** **10 23 30.5 +1.7**
STON Ston 4.53 138 ⇑*i*Pn **Pn** **10 23 30.0 +1.2**
STON *e*Sn **Sn** **10 24 22.1 +0.9**
GBOS Grotte di Boss 4.54 245 P **Pn** **10 23 29.0 0.0**
NEEW Neewiller pres 4.54 308 P **Pn** **10 23 33.5 +4.5**
TEKS Tekeris 4.55 111 *e*Pn **Pn** **10 23 29.8 +0.6**
TEKS Tekeris 4.55 111 *e*Pn **Pn** **10 23 29.7 +0.6**
RSP Reno Superiore 4.56 258 P **Pn** **10 23 27.8 -1.8**
BRG Berggiesshubel 4.58 3 Pn **Pn** **10 23 30.8 +1.4**
BRG Amp 10 23 36.1
comp=Z,14nm,0.4s
BRG Berggiesshubel 4.58 3 Pg **Pg** **10 23 45.5 -2.9**
BRG Amp 10 23 47.3
comp=Z,37nm,0.5s
BRG Berggiesshubel 4.58 3 Sn **Sn** **10 24 25.7 +3.3**
BRG Amp 10 24 26.1
comp=Z,47nm,0.6s
BRG Berggiesshubel 4.58 3 Sg **Sg** **10 24 46.4 -1.2**
BRG Amp 10 24 54.4
comp=Z,153nm,0.9s
BRG Berggiesshubel 4.58 3 *e*Pn **Pn** **10 23 30.8 +1.4**
AIGLE Aigle 4.58 273 P **Pn** **10 23 30.9 +1.3**
CHVC Chvalec 4.59 20 *e*PN **Pn** **10 23 30.6 +0.9**
CHVC *e*SG **Sg** **10 24 44.8 -3.3**
comp=Z,164nm,0.7s
OSTC Ostas 4.60 22 *e*PN **Pn** **10 23 30.6 +0.7**
OSTC *e*SG **Sg** **10 24 46.3 -2.2**
comp=Z,192nm,0.8s
PSZ Piszkesteto 4.61 67 ⇑P **Pn** **10 23 30.7 +0.7**
MOF Molkenrain 4.66 292 P **Pn** **10 23 32.4 +1.7**
MOF Sg **Sn** **10 24 26.9 +2.4**
BHB Bricherasio 4.66 254 P **Pn** **10 23 30.5 -0.2**
OKC Ostrava-Krasne 4.68 39 *e*PN **Pn** **10 23 32.0 +1.1**
OKC *e*SG **Sg** **10 24 47.5 -3.4**
comp=Z,260nm,1.9s
OKC Ostrava-Krasne 4.68 39 *e*Pn **Pn** **10 23 32.3 +1.4**
BSZH Besenyszg 4.71 75 ⇑P **Pn** **10 23 32.8 +1.5**
WLS Welschbruch 4.72 299 P **Pn** **10 23 32.5 +1.0**
OGSI Sixt 4.74 270 P **Pn** **10 23 34.1 +2.4**
KLINJ Klinje 4.76 129 *e*Pn **Pn** **10 23 32.5 +0.4**
KLINJ *e*Sn **Sn** **10 24 27.4 +0.3**
ECH Echery 4.76 296 P **Pn** **10 23 33.6 +1.6**
CDF Champ du Feu 4.76 299 *e*P **Pn** **10 23 33.6 +1.5**
CDF *e*Sn **Sn** **10 24 22.8 -4.3**
comp=Z,66nm,0.8s
CDF *e*Sg **Sg** **10 24 49.3 -4.3**
comp=Z,208nm,1.0s
LEMB Lembach 4.78 307 P **Pn** **10 23 34.5 +2.3**
BBLS Lazići 4.80 118 *e*Pn **Pn** **10 23 33.9 +1.3**
BBLS *e*Sn **Sn** **10 24 27.8 -0.3**
BBLS Lazići 4.80 118 ⇑*i*Pn **Pn** **10 23 34.0 +1.3**
BBLS *e*Sn **Sn** **10 24 28.6 +0.5**
ENR Entracque 4.81 247 P **Pn** **10 23 33.5 +0.8**
LPG La Plagne 4.82 263 *e*P **Pn** **10 23 37.4 +4.3**
LPG *e*Sn **Sn** **10 24 24.7 -4.2**
comp=Z,60nm,0.6s
HINF Hinteralfeld 4.83 291 *e*P **Pn** **10 23 34.0 +1.0**
HINF *e*Sn **Sn** **10 24 24.3 -4.4**
comp=Z,49nm,0.3s
LPL La Plagne 4.83 263 *e*P **Pn** **10 23 36.1 +2.9**
LPL *e*Sn **Sn** **10 24 24.7 -4.4**
comp=Z,50nm,0.7s
CHMF Charmoille 4.84 284 P **Pn** **10 23 35.1 +1.9**
CHMF Sg **Sn** **10 24 31.0 +1.9**
SAOF Saorge 4.84 244 P **Pn** **10 23 34.0 +0.8**
RSL Roselend 4.87 265 P **Pn** **10 23 37.4 +3.6**
KSP Ksiaz 4.89 21 *e*Pn **Pn** **10 23 35.6 +1.9**
KSP *e*Pg **Pg** **10 23 52.9 -1.4**
KSP *e*Sg **Sg** **10 24 54.0 -3.5**
BRY Bratogost 4.92 132 ⇑*i*Pn **Pn** **10 23 35.8 +1.4**
BRY *i*Sn **Sn** **10 24 32.3 +1.2**
BRY Bratogost 4.92 132 *e*Pn **Pn** **10 23 34.4 +0.1**
RUDO Rudo 4.92 121 *e*Pn **Pn** **10 23 34.8 +0.6**
RUDO *e*Sn **Sn** **10 24 31.0 +0.1**
RRL Rocca Remolon 4.95 256 P **Pn** **10 23 36.0 +1.2**
TREB Trebinje 4.96 135 *e*Pn **Pn** **10 23 35.9 +1.1**
TREB Trebinje 4.96 135 *e*Pn **Pn** **10 23 35.9 +1.1**
TREB *e*Sn **Sn** **10 24 32.6 +0.7**
PGF Pioggiola 4.98 223 *e*Sn **Sn** **10 24 28.2 -4.3**
comp=Z,11nm,0.3s
SBF Sospel 4.98 243 *e*P **Pn** **10 23 37.0 +1.9**
SBF *e*Sn **Sn** **10 24 28.2 -4.3**
comp=Z,54nm,0.7s
SPIF crte de Spivo 5.01 246 P **Pn** **10 23 36.0 +0.5**
CLL Collm 5.02 356 *e*Pn **Pn** **10 23 37.0 +1.5**
CLL *e*Pg **Pg** **10 23 55.0 -1.8**
CLL *ex* 10 24 21.0 x
CLL *e*Sn **Sn** **10 24 32.0 -1.3**
CLL *e*Sg **Sg** **10 24 59.0 -2.7**
comp=Z,377nm,1.3s
CLL Collm 5.02 356 *e*Pn **Pn** **10 23 37.1 +1.6**
MBDF Montbardon 5.03 254 *e*Sn **Sn** **10 24 29.3 -4.5**
comp=Z,85nm,0.8s
NEUB Neuenburg 5.05 347 *e*Pn **Pn** **10 23 38.3 +2.4**
DIVS Divibare 5.05 114 *e*Pn **Pn** **10 23 36.2 +0.1**
GIMEL St. Georges / 5.05 275 P **Pn** **10 23 38.9 +2.8**
SURF Saint Ours 5.09 251 P **Pn** **10 23 36.4 -0.4**
UBBA Unterbreizbach 5.10 334 *e*Pn **Pn** **10 23 40.0 +3.4**

PLE	**Pljevlja**	**5.10 124**	⇓*i*Pn	**Pn**	**10 23 38.1 +1.3**
PLE			*i* Sn	**Sn**	**10 24 36.8 +1.2**
BOUC	**Bouclans**	**5.11 283**	P	**Pn**	**10 23 37.8 +1.0**
JAUF	**Jausiers**	**5.16 251**	P	**Pn**	**10 23 38.0 +0.4**
CABF	**La Chapelle**	**5.17 276**	*e*P	**Pn**	**10 23 39.2 +1.4**
CABF			*e*Sn	**Sn**	**10 24 32.8 -4.5**
	comp=Z,53nm,0.6s				
KECS	**Kecovo**	**5.18 63**	*e*PN	**Pn**	**10 23 39.9 +2.1**
TNS	**Taunus Mts**	**5.20 321**	*e*Pn	**Pn**	**10 23 40.2 +2.1**
HAU	**Haudompre**	**5.21 292**	*e*P	**Pn**	**10 23 39.6 +1.4**
HAU			*e*Sn	**Sn**	**10 24 33.3 -4.7**
	comp=Z,71nm,0.4s				
HAU			*e*Sg	**Sg**	**10 25 03.2 -4.6**
	comp=Z,36nm,0.4s				
NKME	**Niksic**	**5.23 131**	⇓*i*Pn	**Pn**	**10 23 40.0 +1.5**
NKME			*i* Sn	**Sn**	**10 24 39.9 +1.3**
HCY	**Herceg Novi**	**5.23 136**	⇓*i*Pn	**Pn**	**10 23 40.0 +1.5**
HCY			*i* Sn	**Sn**	**10 24 39.8 +1.2**
HCY	**Herceg Novi**	**5.23 136**	*e*Pn	**Pn**	**10 23 39.5 +1.0**
TRUS	**Trudelj**	**5.26 111**	*e*Pn	**Pn**	**10 23 39.2 +0.3**
TRUS			*e*Sn	**Sn**	**10 24 37.0 -2.3**
OGAG	**Argentiere**	**5.28 252**	P	**Pn**	**10 23 39.1 -0.2**
RIVEL	**MONT RIVEL**	**5.29 278**	P	**Pn**	**10 23 41.7 +2.3**
GDM	**Grand'Maison**	**5.33 261**	P	**Pn**	**10 23 42.5 +2.5**
CEME	**Cevo**	**5.37 133**	⇑*i*Pn	**Pn**	**10 23 41.9 +1.5**
CEME			*i* Sn	**Sn**	**10 24 43.2 +1.1**
ABH	**Alteburg**	**5.39 314**	P	**Pn**	**10 23 42.6 +1.9**
IVAS	**Ivanjica**	**5.42 118**	*e*Pn	**Pn**	**10 23 41.9 +0.8**
IVAS			*e*Sn	**Sn**	**10 24 42.1 -1.1**
KOME	**Kolasin**	**5.48 127**	⇓*i*Pn	**Pn**	**10 23 43.4 +1.4**
KOME			*i* Sn	**Sn**	**10 24 45.8 +1.0**
SJES	**Sjenica**	**5.49 121**	*e*Pn	**Pn**	**10 23 43.7 +1.6**
SJES	**Sjenica**	**5.49 121**	*e*Pn	**Pn**	**10 23 43.0 +0.9**
OGSM	**Saint Maurice**	**5.53 266**	P	**Pn**	**10 23 44.9 +2.3**
BUM	**Brajici-Budva**	**5.54 134**	⇑*i*Pn	**Pn**	**10 23 45.1 +2.3**
BUM			*i* Sn	**Sn**	**10 24 47.1 +0.9**
OG35	**Corcelles**	**5.56 270**	P	**Pn**	**10 23 44.8 +1.8**
ORIF	**Oris-en-Rattie**	**5.57 258**	*e*P	**Pn**	**10 23 45.8 +2.6**
ORIF			*e*Sn	**Sn**	**10 24 42.2 -4.8**
	comp=Z,41nm,0.5s				
ORIF	**Oris-en-Rattie**	**5.57 258**	P	**Pn**	**10 23 46.2 +3.0**
GRUS	**Gruza**	**5.61 113**	*e*Pn	**Pn**	**10 23 45.1 +1.4**
SIRR	**Siria**	**5.61 87**	⇑P	**Pn**	**10 23 45.3 +1.6**
BZS	**Buzias**	**5.66 94**	⇑P	**Pn**	**10 23 46.2 +1.9**
IVA	**Berane**	**5.68 125**	⇑*i*Pn	**Pn**	**10 23 46.2 +1.5**
IVA			*i* Sn	**Sn**	**10 24 50.4 +0.7**
DRME	**Dracevica, Mon**	**5.77 134**	⇓*i*Pn	**Pn**	**10 23 47.4 +1.6**
DRME			*i* Sn	**Sn**	**10 24 52.7 +0.9**
DRME	**Dracevica, Mon**	**5.77 134**	*e*Pn	**Pn**	**10 23 47.1 +1.3**
DRME			*e*Sn	**Sn**	**10 24 51.0 -0.8**
PAGF	**Fort de Pagny**	**5.77 296**	*e*P	**Pn**	**10 23 48.7 +2.8**
	baz=111				
PAGF			*e*Sn	**Sn**	**10 24 46.8 -5.1**
	comp=Z,46nm,0.6s				
LMR	**La Mourre**	**5.83 242**	*e*P	**Pn**	**10 23 47.2 +0.5**
LMR			*e*Sn	**Sn**	**10 24 48.4 -4.9**
	comp=Z,20nm,0.7s				
MDVR	**Moldovita**	**5.92 102**	⇑P	**Pn**	**10 23 49.3 +1.3**
KASTN	**Kahler Asten**	**5.96 327**	*e*Pn	**Pn**	**10 23 51.2 +2.6**
SURR	**Surduc**	**5.99 92**	⇑P	**Pn**	**10 23 49.9 +1.0**
WLF	**Walferdange**	**6.00 307**	*d*P	Pn	10 23 53.9 +4.8
WLF			*d*S	**Sg**	**10 25 33.9 +0.6**
WLF	**Walferdange**	**6.00 307**	P	**Pn**	**10 23 53.7 +4.7**
STHS	**Stebnicka Huta**	**6.03 56**	*e*PN	**Pn**	**10 23 52.0 +2.5**
MATE	**Matera**	**6.10 157**	⇑P	**Pn**	**10 23 52.4 +2.0**
SFTF	**Sexfontaines**	**6.11 291**	*e*P	**Pn**	**10 23 53.0 +2.5**
	baz=105				
SFTF			*e*Sn	**Sn**	**10 24 54.8 -5.3**
	comp=Z,21nm,0.4s				
SFTF			*e*Sg	**Sg**	**10 25 31.2 -5.4**
	comp=Z,114nm,1.0s				
SMRF	**Simiane la Rot**	**6.11 250**	*e*P	**Pn**	**10 23 52.6 +2.0**
SMRF			*e*Sn	**Sn**	**10 24 55.3 -5.0**
	comp=Z,16nm,0.5s				
SAVF	**Savonnieres en**	**6.17 295**	*e*P	**Pn**	**10 23 54.1 +2.7**
SAVF			*e*Sn	**Sn**	**10 24 56.5 -5.2**
SAVF			*e*Sg	**Sg**	**10 25 33.6 -5.0**
	comp=Z,66nm,0.8s				
MEZF	**Maizieres J'vi**	**6.18 294**	*e*P	**Pn**	**10 23 54.4 +2.9**
	baz=108				
MEZF			*e*Sn	**Sn**	**10 24 56.8 -5.1**
	comp=Z,21nm,0.5s				
SELS	**Selova**	**6.20 117**	*e*Pn	**Pn**	**10 23 52.5 +0.7**
BOVS	**Bovan**	**6.36 112**	⇑P	**Pn**	**10 23 55.2 +1.2**
BOVS	**Bovan**	**6.36 112**	*e*Pn	**Pn**	**10 23 54.6 +0.6**
HERR	**Herculane**	**6.37 100**	⇑P	**Pn**	**10 23 55.4 +1.3**
VIVF	**Saint-Julien-l**	**6.41 260**	*e*P	**Pn**	**10 23 55.9 +1.2**
VIVF			*e*Sn	**Sn**	**10 25 02.2 -5.4**
	comp=Z,22nm,0.7s				
BHOU	**Houvegnez**	**6.46 312**	*d*P	**Pn**	**10 23 58.4 +3.0**
BHOU			*d*S	**Sn**	**10 25 09.9 +1.0**
GZR	**Gura Zlata**	**6.50 95**	⇑P	**Pn**	**10 23 57.3 +1.3**
BTNL	**Ternell**	**6.54 314**	*d*P	**Pn**	**10 23 59.7 +3.3**
BTNL			*d*S	**Sn**	**10 25 12.9 +2.1**
MARR	**Marisel-Cluj**	**6.61 83**	⇑P	**Pn**	**10 23 58.6 +1.2**
MEM	**Membach**	**6.62 313**	*d*P	**Pn**	**10 23 59.3 +1.9**
ZAGS	**Zajecar**	**6.63 109**	*e*Pn	**Pn**	**10 23 57.4 -0.2**
SMF	**Signal de Mont**	**6.72 276**	*e*P	**Pn**	**10 24 00.4 +1.4**
SMF			*e*Sn	**Sn**	**10 25 09.7 -5.6**
	comp=Z,38nm,0.7s				
LOR	**Lormes**	**6.73 282**	*e*P	**Pn**	**10 24 00.4 +1.3**
	baz=95				
LOR			*e*Sn	**Sn**	**10 25 09.9 -5.7**
	comp=Z,24nm,0.3s				
RCHB	**Rochefort**	**6.77 308**	*d*P	**Pn**	**10 24 02.9 +3.3**
RCHB			*d*S	**Sn**	**10 25 17.8 +1.4**
BSTI	**Sart Tilman**	**6.83 312**	*d*P	**Pn**	**10 24 01.2 +0.8**
BSTI			*d*S	**Sn**	**10 25 19.8 +2.1**
BARS	**Barje**	**6.85 118**	*e*Pn	**Pn**	**10 24 01.1 +0.4**
BCLA	**Clavier**	**6.87 310**	*d*P	**Pn**	**10 24 03.9 +2.9**
BCLA			*d*S	**Sn**	**10 25 20.7 +1.9**
BEBN	**Eben Emael**	**6.90 314**	*d*S	**Sn**	**10 25 22.4 +2.9**
SSF	**Saint Saulge**	**6.96 280**	*e*P	**Pn**	**10 24 05.1 +2.9**
SSF			*e*Sn	**Sn**	**10 25 15.1 -6.0**
	comp=Z,10nm,0.3s				
GIVF	**Givet**	**6.96 306**	*e*P	**Pn**	**10 24 06.2 +3.9**
GIVF			*e*Sn	**Sn**	**10 25 15.4 -5.8**
	comp=Z,67nm,0.8s				
BGES	**Gesves**	**6.97 309**	*d*P	**Pn**	**10 24 06.8 +4.5**
BGES			*d*S	**Sn**	**10 25 22.0 +0.8**
BLKB	**Belogradchik**	**7.00 109**	⇑P	**Pn**	**10 24 04.5 +1.7**
AVF	**Avril sur Loir**	**7.06 278**	*e*P	**Pn**	**10 24 04.7 +1.2**
AVF			*e*Sn	**Sn**	**10 25 17.8 -5.7**
	comp=Z,5.1nm,0.4s				
DOU	**Dourbes**	**7.09 306**	*d*P	**Pn**	**10 24 07.4 +3.4**
DOU			*d*S	**Sn**	**10 25 26.3 +2.0**
BMRD	**Maredsous**	**7.10 307**	*d*P	**Pn**	**10 24 07.5 +3.4**
BMRD			*d*S	**Sn**	**10 25 27.0 +2.6**
ZAPS	**Zavoj**	**7.13 112**	*e*Pn	**Pn**	**10 24 04.2 -0.4**
PRVS	**Prvonek**	**7.18 119**	*e*Pn	**Pn**	**10 24 06.4 +1.1**
LASF	**Ste Croix**	**7.21 255**	*e*P	**Pn**	**10 24 06.9 +1.2**
BGF	**Bois d'Agland**	**7.41 276**	*e*P	**Pn**	**10 24 11.4 +3.0**
BGF			*e*Sn	**Sn**	**10 25 26.0 -6.2**
	comp=Z,14nm,0.2s				
HYF	**Humbligny**	**7.56 281**	*e*P	**Pn**	**10 24 12.4 +1.9**
HYF			*e*Sn	**Sn**	**10 25 29.7 -6.2**
TCF	**Toulx Ste Croi**	**7.87 274**	*e*P	**Pn**	**10 24 16.5 +1.8**
TCF			*e*Sn	**Sn**	**10 25 37.2 -6.2**
	comp=Z,13nm,0.5s				
VOIR		**8.06 92**	⇑P	**Pn**	**10 24 17.9 +0.4**
CAF	**Calviac**	**8.18 264**	*e*P	**Pn**	**10 24 21.8 +2.8**
CAF			*e*Sn	**Sn**	**10 25 44.4 -6.8**
	comp=Z,3.3nm,0.5s				
DOPR	**Dopca**	**8.22 88**	⇑P	**Pn**	**10 24 19.9 +0.3**
RJF	**Les Rejaudoux**	**8.48 268**	*e*P	**Pn**	**10 24 26.4 +3.4**
RJF			*e*Sn	**Sn**	**10 25 51.9 -6.6**
	comp=Z,4.9nm,0.5s				
MTLF	**Montolieu**	**8.59 254**	*e*P	**Pn**	**10 24 26.7 +2.1**
MTLF			*e*Sn	**Sn**	**10 25 54.2 -7.1**
	comp=Z,2.2nm,0.4s				
LFF	**La Frestale**	**9.09 266**	*e*P	**Pn**	**10 24 35.3 +3.9**
LFF			*e*Sn	**Sn**	**10 26 06.2 -7.3**
	comp=Z,4.3nm,0.4s				
MFF	**Saint Martin d**	**9.47 277**	*e*P	**Pn**	**10 24 40.0 +3.4**
MFF			*e*Sn	Sn	10 26 15.2 -7.6
	comp=Z,12nm,0.5s				
LDF	**La Druitiere**	**9.55 289**	*e*P	**Pn**	**10 24 40.4 +2.7**
LDF			*e*Sn	Sn	10 26 17.2 -7.6
	comp=Z,3.6nm,0.4s				
FLN	**La Foliniere**	**9.81 290**	*e*P	**Pn**	**10 24 45.0 +3.7**
	baz=100				
FLN			*e*Sn	Sn	10 26 23.3 -7.9
	comp=Z,3.7nm,0.4s				
GRR	**Gorron**	**10.01 287**	*e*P	**Pn**	**10 24 46.8 +2.8**
GRR			*e*Sn	Sn	10 26 28.2 -7.8
	comp=Z,6.4nm,0.5s				
AKASG	**Malin Array Be**	**11.28 61**	Pn	**Pn**	**10 25 03.4 +2.0**
	comp=Z,0.2nm,0.3s,baz=251,slow=12,SNR=2.5 comp=Z,0.3nm,0.4s				
EKA	**Eskdalemuir Ar**	**13.87 317**	Pn	**Pn**	**10 25 39.2 +2.5**
	baz=122,slow=12 comp=Z,2.3nm,0.5s				
ESDC	**Sonseca Array**	**14.42 249**	Pn	**Pn**	**10 25 43.9 -0.5**
	comp=Z,0.1nm,0.3s,baz=51,slow=12,SNR=1.8 comp=Z,0.5nm,0.8s				
NOA	**NORSAR Array B**	**14.82 356**	Pn	**Pn**	**10 25 49.9 +0.2**
	baz=171,slow=12,SNR=4.1 comp=Z,1.0nm,0.8s				
FINES	**FINESS Array B**	**16.81 21**	Pn	**Pn**	**10 26 15.7 +0.3**
	comp=Z,0.2nm,0.3s,baz=188,slow=12,SNR=5.2 comp=Z,3.5nm,0.9s				
KBZ	**Khabaz**	**20.84 86**	P	**P**	**10 27 03.5 +1.7**
	comp=Z,1.5nm,1.0s,baz=257,slow=18,SNR=1.4 comp=Z,1.5nm,1.0s				
ARCES	**ARCESS Array B**	**24.05 10**	P	**P**	**10 27 37.7 +2.7**
	comp=Z,2.4nm,0.8s,baz=201,slow=7.3,SNR=2.2 comp=Z,2.4nm,0.8s				
TORD	**Torodi Ar. Bea**	**34.54 201**	P	**P**	**10 29 08.6 -0.1**
	comp=Z,0.3nm,0.5s,baz=12,slow=10,SNR=2.9 comp=Z,0.3nm,0.5s				
FRB	**Frobisher Bay**	**46.54 323**	LR	LR	10 49 06.4
	comp=Z,84nm,18.6s,baz=48,slow=34				
YKA	**Yellowknife Ar**	**63.93 336**	P	**P**	**10 32 53.6 +0.9**
	comp=Z,0.3nm,0.9s,baz=45,slow=7.1,SNR=3.2 comp=Z,0.3nm,0.9s				
TXAR	**Lajitas Array**	**85.74 309**	P	**P**	**10 34 59.9 +0.4**
	comp=Z,0.2nm,0.6s,baz=67,slow=4.3,SNR=4.0 comp=Z,0.2nm,0.6s				
ASAR	**Alice Springs**	**127.50 86**	PKP	**PKPdf**	**10 41 25.4 +0.2**
	comp=Z,0.2nm,0.6s,baz=285,slow=1.9,SNR=2.0				

*TAP **17** 10:25:01.7,24.74N×122.85E,h133km±1km,ML3.0,D*
*JMA **17** 10:25:01.6±0.3,25.3N×122.9E±0.8,h131km±2km,*
MV2.2/13,NW OFF ISHIGAKIJIMA IS

ISC 17 10:25:01.0±1.9,**24.76N**±0.08×**122.89E**±0.03,
h133km±12km,**n50,**σ**0.73**/83,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.31**	**171**	P	**Pn**	**10 25 19.9**	**+0.2**
JYNG				S	**Sn**	**10 25 33.4**	**-0.3**
YOJ	**Yonaguni jima**	**0.32**	**160**	P	**Pn**	**10 25 19.9**	**+0.2**
EOS2	**EOS2**	**0.69**	**240**	*e*P	**Pn**	**10 25 21.9**	**+0.4**
	baz=240						
EOS2				*e*S	**Sn**	**10 25 37.3**	**+0.2**
	baz=240						
EOS3	**EOS3**	**0.71**	**228**	*e*P	**Pn**	**10 25 22.6**	**+0.9**
	baz=226						
EOS3				*e*S	**Sn**	**10 25 38.2**	**+1.0**
	baz=226						
EOS4	**EOS4**	**0.83**	**219**	*e*P	**Pn**	**10 25 22.6**	**+0.3**
	baz=218						
EOS4				*e*S	**Sn**	**10 25 38.8**	**+0.3**
	baz=218						
IRIF	**Iriomote-Funau**	**0.87**	**119**	P	**Pn**	**10 25 23.2**	**+0.1**
IRIF				S	**Sn**	**10 25 39.6**	**-0.2**
TIPB	**Shuangxi**	**0.99**	**282**	*e*S	**Sn**	**10 25 40.7**	**-1.0**
	baz=283						
EWUT	**Wuta**	**1.06**	**253**	*e*S	**Sn**	**10 25 42.0**	**-0.8**
	baz=253						
HATJ	**Hateruma jima**	**1.09**	**130**	*e*S	**Sn**	**10 25 43.5**	**+0.2**
ENA	**Nanau**	**1.10**	**253**	*e*P	**Pn**	**10 25 25.9**	**+0.7**
	baz=252						
ENA				*e*S	**Sn**	**10 25 43.0**	**-0.5**
	baz=252						
JKRS	**Kuro-shima**	**1.14**	**117**	P	**Pn**	**10 25 26.6**	**+1.0**
JKRS				S	**Sn**	**10 25 44.3**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.19**	**270**	*e*P	**Pn**	**10 25 26.7**	**+0.6**
	baz=270						
JIJ	**Ishigaki jima**	**1.21**	**109**	P	**Pn**	**10 25 26.6**	**+0.3**
JIJ				S	**Sn**	**10 25 44.2**	**-1.2**
ENTT	**Nioudou**	**1.21**	**264**	*e*P	**Pn**	**10 25 27.1**	**+0.7**
	baz=264						
LATG	**Datong**	**1.26**	**260**	P	**Pn**	**10 25 27.5**	**+0.6**
	baz=260						
LATG				S	**Sn**	**10 25 46.6**	**0.0**
	baz=260						
NWLT	**Wulai**	**1.26**	**271**	*e*P	**Pn**	**10 25 27.2**	**+0.4**
	baz=271						
NWLT				*e*S	**Sn**	**10 25 46.2**	**-0.2**
	baz=271						
NDT	**Datong Townshi**	**1.27**	**263**	*e*P	**Pn**	**10 25 27.8**	**+0.9**
	baz=263						
NDT				*e*S	**Sn**	**10 25 46.4**	**0.0**
	baz=263						
JISG	**Ishigakijimahi**	**1.30**	**97**	P	**Pn**	**10 25 27.4**	**+0.2**
JISG				*e*S	**Sn**	**10 25 46.1**	**-1.0**
NACB	**Ninganchiao**	**1.32**	**244**	*e*S	**Sn**	**10 25 46.3**	**-1.2**
	baz=243						
YHNB	**Yeheng**	**1.38**	**266**	*e*P	**Pn**	**10 25 28.6**	**+0.5**
	baz=266						
YHNB				S	**Sn**	**10 25 48.1**	**-0.7**
	baz=266						
NSK	**Sanguang**	**1.40**	**267**	*e*P	**Pn**	**10 25 28.6**	**+0.3**
	baz=267						
NSK				*e*S	**Sn**	**10 25 48.2**	**-0.8**
	baz=267						
ETLH	**Xiulin Townshi**	**1.40**	**247**	*e*P	**Pn**	**10 25 28.4**	**+0.1**
	baz=246						
ETLH				*e*S	**Sn**	**10 25 48.1**	**-1.0**
	baz=246						
NNSB	**Datong**	**1.41**	**257**	*e*P	**Pn**	**10 25 29.0**	**+0.4**
	baz=256						
NNSB				*e*S	**Sn**	**10 25 48.9**	**-0.5**
	baz=256						
NNS	**Nan Shan**	**1.42**	**257**	*e*P	**Pn**	**10 25 28.9**	**+0.3**
	baz=257						
NNS				*e*S	**Sn**	**10 25 48.9**	**-0.7**
	baz=257						
ETM	**Tongmen**	**1.50**	**238**	*e*P	**Pn**	**10 25 29.2**	**-0.2**
	baz=238						
LXIB	**Xiulin Townshi**	**1.54**	**242**	*e*P	**Pn**	**10 25 29.6**	**-0.3**
	baz=241						
LXIB				*e*S	**Sn**	**10 25 50.5**	**-1.4**
	baz=241						
SHUL	**Shoufeng**	**1.55**	**232**	*e*P	**Pn**	**10 25 30.3**	**+0.3**
	baz=231						
SHUL				*e*S	**Sn**	**10 25 51.8**	**-0.2**
	baz=231						
WHF	**Hehuan Shan**	**1.60**	**248**	*e*P	**Pn**	**10 25 31.6**	**+0.7**
	baz=247						
WHF				*e*S	**Sn**	**10 25 52.9**	**-0.9**
	baz=247						
NFF	**Wufeng Townshi**	**1.62**	**266**	*e*P	**Pn**	**10 25 31.2**	**+0.4**
	baz=266						
NFF				*e*S	**Sn**	**10 25 52.3**	**-1.2**
	baz=266						
TWT	**Tachien**	**1.64**	**252**	*e*P	**Pn**	**10 25 31.9**	**+0.7**
	baz=252						
TWT				*e*S	**Sn**	**10 25 53.9**	**-0.2**
	baz=252						
JTJ	**Tarama**	**1.65**	**94**	P	**Pn**	**10 25 31.6**	**+0.6**
JTJ				S	**Sn**	**10 25 53.1**	**-0.8**
LIOB	**Emei**	**1.71**	**266**	*e*P	**Pn**	**10 25 32.5**	**+0.7**
	baz=266						
LIOB				*e*S	**Sn**	**10 25 54.3**	**-1.0**
	baz=266						
CHGB	**Renai**	**1.71**	**246**	*e*P	**Pn**	**10 25 32.9**	**+0.8**
	baz=246						
CHGB				*e*S	**Sn**	**10 25 55.4**	**-0.3**
	baz=246						
EGFH	**Guangfu**	**1.72**	**231**	*e*P	**Pn**	**10 25 32.1**	**+0.1**
	baz=230						
EGFH				*e*S	**Sn**	**10 25 54.8**	**-0.7**
	baz=230						
WARBT	**Fenglin Townsh**	**1.72**	**233**	*e*P	**Pn**	**10 25 31.6**	**-0.4**
	baz=232						
WARBT				*e*S	**Sn**	**10 25 53.8**	**-1.7**
	baz=232						
NSTT	**Nanjuang**	**1.73**	**266**	*e*P	**Pn**	**10 25 32.3**	**+0.4**
	baz=266						
NSTT				*e*S	**Sn**	**10 25 54.4**	**-1.1**
	baz=266						
OWD	**Renai**	**1.76**	**243**	*e*P	**Pn**	**10 25 32.9**	**+0.4**
	baz=242						
OWD				*e*S	**Sn**	**10 25 55.7**	**-0.8**
	baz=242						
WUSB	**Renai**	**1.79**	**245**	*e*P	**Pn**	**10 25 33.6**	**+0.7**
	baz=244						
WUSB				*e*S	**Sn**	**10 25 56.9**	**-0.2**
	baz=244						
WHP	**Taichung City**	**1.84**	**255**	*e*P	**Pn**	**10 25 34.3**	**+1.0**
	baz=255						
WHP				*e*S	**Sn**	**10 25 58.1**	**+0.1**
	baz=255						
HGSD	**Ruisui**	**1.84**	**227**	*e*P	**Pn**	**10 25 33.6**	**+0.3**
	baz=226						
VWDT	**VWDT**	**1.89**	**238**	*e*P	**Pn**	**10 25 34.8**	**+1.0**
	baz=237						
VWDT				S	**Sn**	**10 25 58.5**	**-0.4**
	baz=237						
EHY	**Hungye**	**1.90**	**229**	*e*P	**Pn**	**10 25 33.6**	**-0.4**
	baz=228						
WCS	**Beigang Elemen**	**1.94**	**249**	*e*P	**Pn**	**10 25 36.0**	**+1.6**
	baz=248						
YULB	**Yu-li**	**2.00**	**227**	*e*P	**Pn**	**10 25 35.0**	**-0.2**
	baz=226						
SSLB	**Suanglung**	**2.02**	**242**	*e*P	**Pn**	**10 25 36.6**	**+1.2**
	baz=241						
TWF1	**Yuli**	**2.02**	**226**	*e*P	**Pn**	**10 25 36.2**	**+0.7**
	baz=225						
FULB	**Fuli**	**2.14**	**224**	*e*P	**Pn**	**10 25 37.7**	**+0.8**
	baz=222						
FULB				*e*S	**Sn**	**10 26 03.5**	**-0.8**
	baz=222						
WHYT	**Xinyi Township**	**2.14**	**241**	*e*P	**Pn**	**10 25 38.3**	**+1.3**
	baz=240						
ALS	**Alishan**	**2.28**	**237**	*e*P	**Pn**	**10 25 39.5**	**+0.6**
	baz=236						
CHN5	**Tsauling**	**2.33**	**241**	*e*P	**Pn**	**10 25 40.1**	**+0.8**
	baz=240						

*MIRAS **17** 10:28:43.0,56.78N×59.97E,h0km,ML2.7/8*

ISC 17 10:28:42.2±2.3,**56.78N**±0.05×**59.95E**±0.03,**h0**km±18km,
n10,σ**0.77**/17,**4C-1D,Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVE	**Sverdlovsk**	**0.38**	**83**	*i* P	**Pb**	**10 28 52.0**	**+0.2**
	114nm,0.3s,baz=82						
SVE				*i* S	**Sb**	**10 28 57.8**	**-0.5**
	182nm,0.3s,baz=82						
SVE				*i* AML	AML	10 29 00.6	
	351nm,0.8s						
ARU	**Arti**	**0.84**	**246**	*i* P	**Pb**	**10 28 59.7**	**+0.1**
	5.0nm,0.3s,baz=247						
ARU				*i* S	**Sg**	**10 29 09.8**	**+0.6**
	17nm,0.2s,baz=247						
ARU				*i* AML	AML	10 29 14.2	
	41nm,0.8s						
KAUR	**Kamensk Uralsk**	**0.93**	**111**	*i* P	**Pn**	**10 29 02.4**	**0.0**
	35nm,0.3s,baz=111						
KAUR				*i* S	**Sn**	**10 29 16.1**	**-0.3**
	40nm,0.2s,baz=111						
KAUR				*i* AML	AML	10 29 19.6	
	131nm,1.4s						
PR3R	**Kungur**	**1.74**	**294**	*i* P	**Pb**	**10 29 14.8**	**0.0**
	18nm,0.3s,baz=294						
PR3R				*i* S	**Sb**	**10 29 36.6**	**-0.6**
	75nm,0.4s,baz=294						
PR3R				*i* AML	AML	10 29 38.0	
	43nm,0.4s						
PR7R	**Sarany**	**1.89**	**341**	*i* P	**Pb**	**10 29 17.5**	**0.0**
	47nm,0.2s,baz=340						
PR7R				*i* S	**Sb**	**10 29 41.7**	**+0.1**
	85nm,0.2s,baz=340						
PR7R				*i* AML	AML	10 29 45.1	
	92nm,3.0s						
PR0R	**Verkhnechusovs**	**2.08**	**314**	*i* P	**Pb**	**10 29 20.9**	**+0.2**
	5.5nm,0.2s,baz=314						
PR0R				*i* S	**Sb**	**10 29 46.6**	**-0.4**
	21nm,0.2s,baz=314						
PR0R				*i* AML	AML	10 29 47.7	
	100nm,0.3s						
PR6R	**Ekimyata**	**2.50**	**305**	*i* P	**Pb**	**10 29 26.7**	**-1.2**
	37nm,0.3s,baz=305						
PR6R				*i* S	**Sb**	**10 29 57.8**	**-1.4**
	67nm,0.3s,baz=305						
PR6R				*i* AML	AML	10 29 59.3	
	57nm,3.0s						
PR4R	**Vlasy**	**2.58**	**298**	*i* S	**Sn**	**10 29 58.8**	**+1.7**
	59nm,0.1s,baz=298						
AKTO	**Aktyubinsk**	**6.46**	**191**	⇓Sn	**Sn**	**10 31 32.5**	**-0.2**
	2.1nm,1.1s						
AKTO				⇑Lg	Lg	10 32 00.6	
	2.6nm,1.4s						
AB31	**Akbulak array**	**7.54**	**180**	⇑Pn	Pn	10 30 37.9	+4.8
	0.1nm,0.2s,baz=350,slow=12,SNR=12						
AB31				⇑Sn	**Sn**	**10 31 59.3**	**+0.1**
	0.1nm,0.3s						
AB31				⇑Lg	Lg	10 32 39.6	
	0.6nm,0.4s,baz=352,slow=28						

*IDC **17** 10:45:57.5±1.1,29.82N×95.14E,h0km,mb3.8/5,*
mbtmp3.6/8,ML3.3/2,Error ellipse: s-maj=49.7km
s-min=20.5km az=66.0

ISC 17 10:46:02.4±0.9,**29.8N**±0.1×**95.2E**±0.3,**h35**km,**n8,**σ**0.69**/8,
mb3.6/5,**Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.84**	**162**	Pn	**Pn**	**10 48 48.4**	**-0.4**
	0.2nm,0.3s,baz=324,slow=12,SNR=1.0						
MKAR	**Makanchi Array**	**19.68**	**333**	P	**Pn**	**10 50 29.3**	**-0.7**
	0.1nm,0.3s,baz=145,slow=8.1,SNR=1.7 0.5nm,0.6s						
SONM	**Songino Array**	**19.95**	**23**	P	**P**	**10 50 31.7**	**+0.3**
	0.1nm,0.3s,baz=209,slow=12,SNR=6.4 1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**24.24**	**334**	P	**P**	**10

0.4nm,0.8s,baz=311,slow=1.9,SNR=1.6
ASAR Alice Springs 152.44 40 PKPbc **PKPbc 11 11 34.5 -0.8**
0.8nm,1.1s,baz=333,slow=3.5,SNR=2.4

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*IDC **17** 10:52:47.6±0.9, 6.°14S×154.°12E, h0km, mb4.1/14, mbtmp4.1/15, ML2.3/1, MS3.3/2, Error ellipse: s-maj=31.0km s-min=18.1km az=103.0*
ISC 17 10:52:54.7±0.8, 6.°2S±0.°1×154.°0E±0.°2, h48km, n20, σ0§61/18, mb4.2/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.48**	**244**	Pn	**Pn**	**10 54 40.5**	**-0.7**
	2.7nm,0.3s,baz=39,slow=8.6,SNR=7.9 9.6nm,0.5s						
CTA	**Charters Tower**	**15.75**	**208**	LR	LR	11 02 28.2	
	comp=Z,116nm,18.6s,baz=77,slow=37						
WRA	**Warramunga Arr**	**23.49**	**232**	P	**P**	**10 58 00.6**	**+0.2**
	0.8nm,0.6s,baz=56,slow=10,SNR=4.3						
WRA				PcP	**PcP**	**11 01 44.4**	**-0.9**
	0.9nm,0.9s,baz=60,slow=2.5,SNR=3.2 0.8nm,0.6s						
ASAR	**Alice Springs**	**25.99**	**226**	P	**P**	**10 58 23.1**	**-0.2**
	0.5nm,0.6s,baz=57,slow=9.4,SNR=8.1						
ASAR				PcP	**PcP**	**11 01 51.3**	**+0.5**
	0.4nm,0.5s,baz=68,slow=2.5,SNR=2.3 0.5nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.52**	**27**	T	T	11 27 02.8	
	baz=203						
H11S2	**WAKE ISLAND Hy**	**27.52**	**27**	T	T	11 27 01.5	
	baz=203						
H11S1	**WAKE ISLAND Hy**	**27.54**	**27**	T	T	11 26 58.8	
	baz=203						
KAPI	**Kappang**	**34.07**	**270**	P	**P**	**10 59 35.8**	**+0.9**
	5.8nm,0.4s,baz=36,slow=20,SNR=1.3						
KAPI				LR	LR	11 16 26.1	
	comp=Z,32nm,18.0s,baz=12,slow=42 5.8nm,0.4s						
KSRS	**Korea Array**	**49.73**	**333**	P	**P**	**11 01 41.2**	**-1.0**
	0.6nm,0.5s,baz=155,slow=6.3,SNR=2.6 0.6nm,0.5s						
PETK	**Petropavlovsk-**	**59.12**	**3**	P	**P**	**11 02 49.7**	**-0.5**
	3.8nm,0.9s,baz=193,slow=5.9,SNR=2.6 3.8nm,0.9s						
SONM	**Songino Array**	**68.09**	**328**	P	**P**	**11 03 50.3**	**+0.7**
	0.7nm,0.5s,baz=142,slow=5.9,SNR=8.2 0.7nm,0.5s						
VNDA	**Vanda**	**71.44**	**178**	P	**P**	**11 04 09.9**	**+0.4**
	0.6nm,0.5s,baz=343,slow=1.8,SNR=7.4 0.6nm,0.5s						
MKAR	**Makanchi Array**	**82.11**	**319**	P	**P**	**11 05 11.1**	**+0.8**
	1.1nm,0.6s,baz=98,slow=6.0,SNR=12 1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**82.92**	**326**	P	**P**	**11 05 14.7**	**+0.4**
	2.5nm,0.5s,baz=112,slow=5.6,SNR=11 2.5nm,0.5s						
ILAR	**Eielson Array**	**82.97**	**22**	P	**P**	**11 05 14.4**	**0.0**
	0.2nm,0.6s,baz=243,slow=5.5,SNR=8.0 0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**11 05 18.7**	**-0.2**
	0.8nm,0.2s,baz=64,slow=2.9,SNR=1.4 0.8nm,0.2s						
KURBB	**Kurchatov Arra**	**85.58**	**322**	P	**P**	**11 05 28.2**	**+0.3**
	1.0nm,0.6s,baz=108,slow=3.7,SNR=8.8 1.0nm,0.6s						
NRIK	**Noril'sk**	**87.62**	**341**	P	**P**	**11 05 37.5**	**+0.1**
	1.1nm,0.4s,baz=108,slow=3.1,SNR=2.1 1.1nm,0.4s						
BVAR	**Borovoye Array**	**91.02**	**323**	P	**P**	**11 05 53.5**	**-0.3**
	2.5nm,0.6s,baz=111,slow=5.4,SNR=12 2.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**151.82**	**286**	PKPbc	**PKPbc**	**11 12 45.0**	**-0.2**
	1.2nm,0.6s,baz=47,slow=3.8,SNR=8.8						

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*IDC **17** 11:10:22.7±2.9, 23.°25N×142.°91E, h97km±41km, mb3.4/6, mbtmp3.8/7, MS4.3/1, Error ellipse: s-maj=119.2km s-min=19.1km az=76.0*
ISC 17 11:10:23.2±2.4, 23.°2N±0.°1×142.°8E±0.°7, h100km, n8, σ0§70/8, mb3.8/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.90**	**352**	P	**Pn**	**11 11 21.8**	**+0.7**
	77nm,0.9s,baz=158,slow=18,SNR=2.0						
JCJ				S	**Sn**	**11 12 05.1**	**-0.8**
	76nm,0.3s,baz=180,slow=22,SNR=20						
WRA	**Warramunga Arr**	**43.69**	**192**	P	**P**	**11 18 18.8**	**+0.4**
	0.5nm,0.6s,baz=17,slow=9.4,SNR=7.4 0.5nm,0.6s						
ASAR	**Alice Springs**	**47.40**	**191**	P	**P**	**11 18 47.0**	**-0.7**
	0.3nm,0.9s,baz=16,slow=14,SNR=1.7 0.3nm,0.9s						
ZALV	**Zalesovo Beam**	**52.81**	**321**	P	**P**	**11 19 27.8**	**-0.3**
	0.6nm,0.4s,baz=95,slow=8.7,SNR=2.1 0.6nm,0.4s						
MKAR	**Makanchi Array**	**53.42**	**312**	P	**P**	**11 19 33.5**	**+0.7**
	0.3nm,0.4s,baz=96,slow=8.1,SNR=7.3 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**56.19**	**316**	P	**P**	**11 19 52.6**	**0.0**
	0.8nm,0.2s,baz=90,slow=8.0,SNR=3.2 0.8nm,0.2s						
NRIK	**Noril'sk**	**56.45**	**340**	LR	LR	11 44 14.9	
	comp=Z,219nm,18.2s,baz=308,slow=36						
BVAR	**Borovoye Array**	**61.30**	**319**	P	**P**	**11 20 27.7**	**-0.3**
	0.8nm,0.4s,baz=104,slow=6.1,SNR=4.1 0.8nm,0.4s						

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*IDC **17** 11:28:51.8±1.0, 56.°20S×144.°02W, h0km, mb4.1/6, mbtmp4.1/6, MS4.6/42, Error ellipse: s-maj=37.4km s-min=25.2km az=12.0*
*GCMT **17** 11:29:00.0±0.1, 56.°41S±0.°01×143.°10W±0.°01, h19km, MW5.4/134, Moment Tensor Solution. s110,c174; s134,c232; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.24±.02; Mθθ=1.50±.03; Mφφ=-1.26±.02; Mrθ=0.20±.05; Mrφ=1.01±.02; Mθφ=-0.10±.04; Best double couple: M0=1.72500×10^17 NP1:φs=297.00000°, δ=89.00000°, λ=-8.00000°. NP2:φs=27.00000°, δ=82.00000°, λ=-179.00000°. Principal axes: T 1.8420, Plg4.0000°, Azm342.0000°; N -0.2320, Plg82.0000°, Azm106.0000°; P -1.6070, Plg6.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 17 11:28:53.3±1.1, 56.°2S±0.°2×144.°0W±0.°2, h10km, n65, σ1§10/13, mb4.5/7, MS4.7/42, 4D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**28.25**	**202**	LR	LR	11 42 31.5	
	comp=Z,1μm,21.7s,baz=76,slow=29						
RPZ	**Rata Peaks**	**30.33**	**275**	LR	LR	11 44 52.4	
	comp=Z,2μm,20.7s,baz=126,slow=31						
URZ	**Urewera**	**31.39**	**288**	LR	LR	11 45 06.7	
	comp=Z,2μm,21.1s,baz=223,slow=31						
QSPA	**South Pole Qui**	**33.92**	**180**	P	**P**	**11 35 37.5**	**+1.3**
	6.5nm,1.0s,baz=86,slow=1.1,SNR=13						
QSPA				LR	LR	11 46 34.6	
	comp=Z,2μm,22.0s,baz=66,slow=31 6.5nm,1.0s						
RAO	**Raoul Island**	**36.08**	**304**	LR	LR	11 47 40.7	
	comp=Z,465nm,20.7s,baz=136,slow=31						
RAR	**Rarotonga**	**36.89**	**335**	LR	LR	11 45 51.6	
	comp=Z,1μm,21.0s,baz=137,slow=28						
PMSA	**Palmer Station**	**37.69**	**136**	LR	LR	11 47 04.1	
	comp=Z,872nm,21.4s,baz=250,slow=29						
PPT	**Papeete**	**38.83**	**351**	LR	LR	11 48 06.3	
	comp=Z,1μm,19.6s,baz=224,slow=30						
PLCA	**Paso Flores**	**48.68**	**104**	P	**P**	**11 37 37.9**	**+0.4**
	0.8nm,0.4s,baz=192,slow=8.4,SNR=3.9 0.8nm,0.4s						
VNA3	**Neumayer Olymp**	**48.79**	**162**	⇓P	**P**	**11 37 35.8**	**-2.1**
	comp=Z,8.2nm,0.7s						
H03S2	**Juan Fernandez**	**49.02**	**91**	T	T	12 29 46.8	
	baz=220,slow=74,SNR=118						
H03S1	**Juan Fernandez**	**49.03**	**91**	T	T	12 29 46.8	
	baz=220,slow=74,SNR=122						
H03S3	**Juan Fernandez**	**49.04**	**91**	T	T	12 29 51.2	
	baz=220,slow=74,SNR=128						
H03N3	**Juan Fernandez**	**49.31**	**91**	T	T	12 30 07.9	
	baz=224,slow=72,SNR=460						
H03N2	**Juan Fernandez**	**49.31**	**91**	T	T	12 30 06.2	
	baz=224,slow=72,SNR=563						
H03N1	**Juan Fernandez**	**49.32**	**91**	T	T	12 30 05.3	
	baz=224,slow=72,SNR=477						
VNA2	**Neumayer--Watz**	**49.45**	**163**	⇓P	**P**	**11 37 41.9**	**-1.0**
	comp=Z,0.0nm,0.1s,baz=206,slow=6.0						
SNAA	**Sanae**	**49.50**	**165**	⇓P	**P**	**11 37 42.2**	**-1.2**
	comp=Z,84nm,0.6s						
SNAA	**Sanae**	**49.50**	**165**	P	**P**	**11 37 42.2**	**-1.2**
	comp=Z,3.7nm,0.6s,baz=187,slow=7.5,SNR=5.3						
SNAA				LR	LR	11 57 39.8	
	comp=Z,576nm,19.9s,baz=300,slow=35 comp=Z,3.7nm,0.6s						
DZM	**Mont Dzumac**	**49.77**	**292**	LR	LR	11 55 48.5	
	comp=Z,641nm,18.3s,baz=142,slow=32						
TROLL	**Troll, Antarti**	**49.92**	**167**	⇓P	**P**	**11 37 46.5**	**-0.2**
	comp=Z,217nm,0.7s						
MAW	**Mawson**	**54.87**	**192**	LR	LR	11 58 50.0	
	comp=Z,949nm,21.9s,baz=156,slow=33						
STKA	**Stephens Creek**	**55.70**	**263**	LR	LR	11 57 51.8	
	comp=Z,736nm,21.6s,baz=137,slow=31						
CFA	**Coronel Fontan**	**56.64**	**98**	LR	LR	11 57 06.0	
	comp=Z,428nm,18.3s,baz=218,slow=30						
CTA	**Charters Tower**	**62.30**	**275**	LR	LR	12 02 48.7	
	comp=Z,402nm,19.0s,baz=128,slow=33						
LVC	**Limon Verde**	**63.26**	**91**	LR	LR	11 59 51.2	
	comp=Z,136nm,21.4s,baz=222,slow=29						
HNR	**Honiara**	**63.73**	**294**	LR	LR	12 03 07.5	
	comp=Z,4μm,18.4s,baz=136,slow=32						
ASAR	**Alice Springs**	**66.33**	**263**	P	**P**	**11 39 42.1**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=138,slow=6.5,SNR=8.2						
ASAR				LR	LR	12 04 45.3	
	comp=Z,744nm,21.4s,baz=148,slow=32 comp=Z,1.7nm,1.0s						
CPUP	**Villa Florida**	**66.72**	**103**	P	**P**	**11 39 44.9**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=195,slow=15,SNR=2.2						
CPUP				LR	LR	12 04 21.9	
	comp=Z,390nm,18.4s,baz=222,slow=32 comp=Z,3.2nm,1.0s						
NNA	**Nana**	**67.46**	**77**	LR	LR	12 02 07.4	
	comp=Z,885nm,19.9s,baz=216,slow=30						
H01W1	**Cape Leeuwin H**	**67.78**	**240**	T	T	12 54 54.6	
	baz=143,slow=76,SNR=246						
H01W2	**Cape Leeuwin H**	**67.79**	**240**	T	T	12 54 57.4	
	baz=143,slow=76,SNR=284						
H01W3	**Cape Leeuwin H**	**67.80**	**240**	T	T	12 54 56.3	
	baz=143,slow=76,SNR=198						
NWAO	**Narrogin (SRO)**	**67.84**	**244**	LR	LR	12 02 28.5	
	comp=Z,348nm,20.7s,baz=99,slow=30						
WRA	**Warramunga Arr**	**69.06**	**265**	P	**P**	**11 39 59.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=147,slow=5.4,SNR=3.3 comp=Z,0.6nm,0.8s						
PMG	**Port Moresby**	**70.52**	**283**	LR	LR	12 06 08.6	
	comp=Z,463nm,20.9s,baz=156,slow=32						
ATAH	**Atahualpa**	**70.65**	**73**	LR	LR	12 04 51.5	
	comp=Z,382nm,18.3s,baz=220,slow=31						
SIV	**San Ignacio**	**72.39**	**93**	LR	LR	12 08 31.5	
	comp=Z,158nm,18.1s,baz=262,slow=33						
BDFB	**Brasilia**	**80.43**	**104**	LR	LR	12 12 56.4	
	comp=Z,737nm,18.9s,baz=209,slow=33						
ROSC	**El Rosal**	**82.89**	**70**	LR	LR	12 10 54.3	
	comp=Z,461nm,21.8s,baz=184,slow=30						
LPIG	**La Paz**	**84.97**	**31**	LR	LR	12 10 38.7	
	comp=Z,164nm,19.7s,baz=205,slow=30						
SDV	**Santo Domingo**	**88.24**	**71**	LR	LR	12 15 51.8	
	comp=Z,219nm,19.4s,baz=220,slow=32						
KAPI	**Kappang**	**89.35**	**262**	LR	LR	12 19 50.8	
	comp=Z,548nm,19.9s,baz=148,slow=34						
SUR	**Sutherland**	**90.79**	**167**	LR	LR	12 16 38.8	
	comp=Z,252nm,20.5s,baz=182,slow=32						
GUMO	**Guam**	**91.04**	**293**	LR	LR	12 15 19.8	
	comp=Z,66nm,21.7s,baz=105,slow=31						
PFO	**Pinyon Flats O**	**92.52**	**23**	LR	LR	12 12 59.7	
	comp=Z,318nm,21.8s,baz=193,slow=29						
PCRV	**Puerto La Cruz**	**92.52**	**76**	LR	LR	12 18 27.4	
	comp=Z,626nm,18.1s,slow=32						
LEM	**Lembang**	**94.42**	**251**	LR	LR	12 17 30.5	
	comp=Z,204nm,22.0s,baz=152,slow=31						
BOSA	**Boshof**	**94.99**	**171**	LR	LR	12 20 59.5	
	comp=Z,335nm,19.2s,baz=191,slow=33						
RCBR	**Riachuelo**	**95.09**	**108**	LR	LR	12 19 30.8	
	comp=Z,293nm,21.7s,baz=216,slow=32						
DAV	**Davao City (W)**	**96.06**	**274**	LR	LR	12 24 16.3	
	comp=Z,161nm,19.6s,baz=138,slow=35						
ANMO	**Albuquerque**	**96.28**	**30**	LR	LR	12 16 53.0	
	comp=Z,277nm,20.2s,baz=290,slow=30						
NVAR	**Mina Array Bea**	**96.79**	**20**	LR	LR	12 18 01.4	
	comp=Z,239nm,18.3s,baz=184,slow=30						
SJG	**San Juan**	**98.31**	**70**	LR	LR	12 20 54.0	
	comp=Z,92nm,20.7s,baz=189,slow=32						
LBTB	**Lobatse**	**98.59**	**170**	LR	LR	12 23 09.4	
	comp=Z,310nm,20.0s,baz=180,slow=33						
YBH	**Yreka Blue Hor**	**99.25**	**1**	LR	LR	12 17 03.6	
	comp=Z,407nm,20.3s,baz=158,slow=29						
ELK	**Elko**	**99.64**	**22**	LR	LR	12 19 20.6	
	comp=Z,232nm,18.8s,baz=198,slow=30						
H10S3	**ASCENSION HYDR**	**102.79**	**128**	T	T	13 37 52.9	
	baz=13,slow=74,SNR=12						
H10S2	**ASCENSION HYDR**	**102.79**	**128**	T	T	13 37 52.8	
	baz=207,slow=74,SNR=8.1						
H10N3	**ASCENSION HYDR**	**103.85**	**128**	T	T	13 39 12.8	
	baz=206,slow=75,SNR=8.1						
H10N1	**ASCENSION HYDR**	**103.85**	**128**	T	T	13 39 11.7	
	baz=206,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**103.87**	**128**	T	T	13 39 13.6	
	baz=206,slow=75,SNR=10						
ILAR	**Eielson Array**	**120.70**	**359**	PKP	**PKPdf**	**11 47 43.8**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=210,slow=2.9,SNR=1.9						
TORD	**Torodi Ar. Bea**	**129.55**	**135**	PKP	**PKiKP**	**11 48 03.6**	**+0.6**
	comp=Z,1.7nm,1.3s,baz=223,slow=0.7,SNR=2.8						
ESDC	**Sonseca Array**	**149.07**	**105**	PKPbc	**PKPbc**	**11 48 39.8**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=261,slow=1.1,SNR=4.7						

IDC 17 11:39:26.1±6.5, 24.°31N×140.°40E, h80km±48km, mb3.1/3, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=233.3km s-min=23.9km az=109.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.21**	**30**	P	Pn	11 40 15.1	+0.9
	15nm,0.3s,baz=288,slow=20,SNR=56						
JCJ				S	Sn	11 40 51.5	+0.1
	81nm,0.7s,baz=277,slow=23,SNR=1.3 38nm,0.3s						
WRA	**Warramunga Arr**	**44.38**	**188**	P	P	11 47 28.8	-0.1
	0.4nm,0.4s,baz=7.7,slow=8.0,SNR=5.2 0.4nm,0.4s						
ASAR	**Alice Springs**	**48.11**	**188**	P	P	11 47 57.5	-0.6
	0.2nm,0.7s,baz=6.2,slow=10,SNR=2.1 0.2nm,0.7s						
YKA	**Yellowknife Ar**	**75.34**	**28**	P	P	11 51 00.8	+0.3
	0.2nm,0.7s,baz=292,slow=6.0,SNR=4.5 0.2nm,0.7s						

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*UCR **17** 11:40:04.7±1.1, 10.°67N×84.°98W, h4km±2km, MW4.7*
*CATAC **17** 11:40:06.1±0.2, 10.°66N×84.°97W, h1km±3km, ML3.8*
ISC 17 11:40:06.6±0.9, 10.°63N±0.°02×84.°97W±0.°02, h12km±6km, n106, σ1§15/129, 24C-14D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUI	**Cuipilapa**	**0.20**	**278**	*e*P	**Pg**	**11 40 09.6**	**-1.3**
CAMAV	**Centro de Prod**	**0.23**	**287**	*e*P	**Pg**	**11 40 10.2**	**-1.4**
CNAS	**Canas**	**0.23**	**212**	*e*P	**Pg**	**11 40 11.9**	**+0.4**
CNAS				*e*S	**Sg**	**11 40 16.6**	**+1.7**
COLC	**Colonia**	**0.23**	**279**	*e*P	**Pg**	**11 40 10.4**	**-1.2**
VERA	**Finca Concepci**	**0.24**	**24**	⇑*i*P	**Pg**	**11 40 10.5**	**-1.3**
CEDE	**Laguna Cedeo**	**0.30**	**119**	⇑*i*P	**Pg**	**11 40 12.6**	**-0.2**
CEDE				*e*S	**Sg**	**11 40 18.4**	**+1.5**
ARE1	**Arenal 1**	**0.30**	**124**	⇑*e*P	**Pg**	**11 40 12.6**	**-0.1**
ARE1				*e*S	**Sg**	**11 40 18.6**	**+1.8**
BAGA	**Bagaces**	**0.31**	**251**	⇓*i*P	**Pg**	**11 40 11.9**	**-1.0**
VACR	**Volcan Arenal**	**0.33**	**119**	⇑*i*P	**Pg**	**11 40 13.1**	**-0.2**
VACR				*e*S	**Sg**	**11 40 19.3**	**+1.6**
VACR	**Volcan Arenal**	**0.33**	**119**	*i* P	**Pg**	**11 40 12.5**	**-0.8**
VACR				IAML		11 40 20.4	
	comp=Z,25μm,1.0s						
JTS	**Las Juntas de**	**0.34**	**177**	⇓*i*P	**Pg**	**11 40 12.4**	**-1.0**
JTS				*e*S	**Sg**	**11 40 18.2**	**+0.1**
JUNT	**Juntas**	**0.35**	**179**	⇓*i*P	**Pg**	**11 40 12.6**	**-1.1**
JUNT				*e*S	**Sg**	**11 40 18.4**	**+0.1**
TUNA	**La Fortuna**	**0.36**	**117**	⇑*i*P	**Pg**	**11 40 14.5**	**+0.6**
TUNA				*e*S	**Sb**	**11 40 21.8**	**+1.3**
GPS3	**Bodega del ICE**	**0.41**	**288**	*e*P	**Pb**	**11 40 16.9**	**+1.0**
VORI	**VORI**	**0.42**	**297**	*e*P	**Pg**	**11 40 14.0**	**-1.0**
VRLE	**La Escondida,**	**0.42**	**292**	*e*P	**Pg**	**11 40 13.4**	**-1.6**
VRLE	**La Escondida,**	**0.42**	**292**	*i* P	**Pg**	**11 40 13.9**	**-1.1**
VRLE				IAML		11 40 50.6	
	comp=Z,3μm,1.0s						
SOCE	**Pocosol**	**0.42**	**125**	⇑*i*P	**Pg**	**11 40 14.3**	**-0.7**
SOCE				*e*S	**Sg**	**11 40 21.4**	**+0.7**
SOCE	**Pocosol**	**0.42**	**125**	*i* P	**Pg**	**11 40 14.0**	**-1.0**
SOCE				IAML		11 40 22.9	
	comp=Z,10μm,1.0s						
GB1A	**Borinquen Arri**	**0.46**	**294**	*e*P	**Pg**	**11 40 14.6**	**-1.2**
ERIA	**Liberia**	**0.46**	**271**	*e*P	**Pg**	**11 40 15.4**	**-0.4**
PLVR	**Palo Verde**	**0.47**	**233**	⇓*e*P	**Pg**	**11 40 14.9**	**-1.0**
PLVR				*e*S	**Sg**	**11 40 22.3**	**+0.1**
LCHIL	**Los Chiles**	**0.47**	**32**	⇑*i*P	**Pg**	**11 40 14.3**	**-1.7**
ORTG	**Ortega, Santa**	**0.55**	**241**	⇓*i*P	**Pg**	**11 40 16.2**	**-1.3**
ORTG				*e*S	**Sg**	**11 40 24.6**	**-0.2**
ORTG	**Ortega, Santa**	**0.55**	**241**	*i* P	**Pg**	**11 40 16.8**	**-0.7**
ORTG				*i* S	**Sg**	**11 40 24.6**	**-0.2**
ORTG				IAML		11 40 31.6	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**0.56**	**81**	⇑*i*P	**Pg**	**11 40 16.0**	**-1.7**
COVE	**Coope Vega, Sa**	**0.56**	**81**	*i* PA		11 40 16.0	
COVE				IAML		11 40 24.3	
	comp=Z,5μm,1.0s						
ELI1	**Hacienda Flor**	**0.57**	**272**	*e*P	**Pg**	**11 40 16.6**	**-1.3**
DELF	**Filadelfia**	**0.60**	**253**	*e*P	**Pg**	**11 40 17.2**	**-1.2**
HZTE	**Horizontes, Gu**	**0.62**	**278**	*e*P	**Pg**	**11 40 17.5**	**-1.3**
HZTE	**Horizontes, Gu**	**0.62**	**278**	*i* PA		11 40 17.6	
HZTE				IAML		11 41 21.8	
	comp=Z,4μm,1.0s						
CPMI	**Catarata Coope**	**0.67**	**121**	⇑*i*P	**Pg**	**11 40 18.8**	**-1.0**
CPMI				*e*S	**Sg**	**11 40 29.8**	**+1.2**
CPMI	**Catarata Coope**	**0.67**	**121**	*i* P	**Pg**	**11 40 18.9**	**-0.9**
CPMI				IAML		11 40 33.6	
	comp=Z,4μm,1.0s						
NICO	**Nicoya**	**0.68**	**224**	⇓*e*P	**Pg**	**11 40 18.6**	**-1.3**
NICO				*e*S	**Sg**	**11 40 29.0**	**+0.1**
NYURE	**Nandayure**	**0.69**	**204**	⇓*i*P	**Pg**	**11 40 19.6**	**-0.5**
NYURE				*e*S	**Sb**	**11 40 29.9**	**-0.1**
ARZA	**Esparza**	**0.70**	**155**	*e*P	**Pg**	**11 40 20.0**	**-0.2**
ARZA				*e*S	**Sg**	**11 40 30.4**	**+0.9**
ITAL	**Pital**	**0.71**	**105**	⇑*e*P	**Pg**	**11 40 18.6**	**-1.8**
ZARE	**Zarcero**	**0.72**	**128**	⇑*e*P	**Pg**	**11 40 19.9**	**-0.8**
ZARE				*e*S	**Sg**	**11 40 31.5**	**+1.3**
SRA1	**San Ramn**	**0.72**	**138**	⇑*e*P	**Pg**	**11 40 19.7**	**-1.0**
JUD3	**Juan Diaz 3**	**0.73**	**231**	⇓*e*P	**Pg**	**11 40 19.4**	**-1.3**
JUD3				*e*S	**Sb**	**11 40 30.6**	**-0.7**
RAMO	**San Ramon**	**0.73**	**138**	*e*P	**Pg**	**11 40 20.4**	**-0.5**
CMARA	**Lajas Hojancha**	**0.76**	**216**	*e*P	**Pg**	**11 40 19.7**	**-1.6**
CMARA				*e*S	**Sb**	**11 40 31.5**	**-0.5**
LCRUZ	**La Cruz**	**0.79**	**304**	*e*P	**Pg**	**11 40 23.4**	**+1.4**
SARCI	**Sarchi**	**0.81**	**131**	*e*P	**Pg**	**11 40 21.6**	**-0.9**
POA5	**Crater Von Fra**	**0.84**	**120**	*e*P	**Pg**	**11 40 20.9**	**-2.1**
TRB2	**Turrubares**	**0.88**	**144**	⇑*i*P	**Pg**	**11 40 22.5**	**-1.1**
TRB2				*e*S	**Sg**	**11 40 35.0**	**0.0**
INDI	**Punta indio, G**	**0.92**	**215**	⇓*i*P	**Pg**	**11 40 22.8**	**-1.7**
INDI				*e*S	**Sb**	**11 40 37.1**	**+0.3**
INDI	**Punta indio, G**	**0.92**	**215**	*i* P	**Pg**	**11 40 24.0**	**-0.5**
INDI				IAML		11 40 43.3	
	comp=Z,1μm,1.0s						
BELE	**Belen**	**1.01**	**130**	⇓*i*P	**Pg**	**11 40 25.4**	**-0.6**
BELE				*e*S	**Sg**	**11 40 39.9**	**+0.7**
CBL1	**Cabuya**	**1.04**	**187**	⇓*e*P	**Pg**	**11 40 25.0**	**-1.7**
HDC	**Heredia**	**1.05**	**127**	*e*P	**Pg**	**11 40 25.5**	**-1.4**
HDC3	**Heredia 3**	**1.05**	**126**	*e*P	**Pg**	**11 40 25.4**	**-1.4**
HDC3	**Heredia 3**	**1.05**	**126**	*i* P	**Pg**	**11 40 26.4**	**-0.5**
HDC3				IAML		11 40 54.1	
	comp=Z,2μm,1.0s						
BITO	**Garabito Jaco**	**1.06**	**161**	*e*P	**Pg**	**11 40 25.7**	**-1.4**
RIFO	**Rio Frio, Sara**	**1.07**	**107**	⇑*i*P	**Pb**	**11 40 24.7**	**-2.4**
RIFO	**Rio Frio, Sara**	**1.07**	**107**	*i* P	**Pb**	**11 40 26.5**	**-0.7**
RIFO				IAML		11 40 50.1	
	comp=Z,2μm,1.0s						
OMEN	**Al SSO del Vol**	**1.09**	**324**	*i* PA		11 40 26.1	
OMEN				IAML		11 40 48.5	
	comp=Z,2μm,1.0s						
LUJA	**Lujan**	**1.13**	**128**	*e*P	**Pb**	**11 40 27.7**	**-0.4**
MORN	**Al O del Volca**	**1.13**	**324**	*i* P	**Pb**	**11 40 27.4**	**-0.7**
MORN				IAML		11 40 47.4	
	comp=Z,2μm,1.0s						
CONN	**Concepcion**	**1.13**	**325**	*i* P	**Pb**	**11 40 27.4**	**-0.7**
CONN				IAML		11 40 29.5	
	comp=Z,17μm,1.0s						
JAPN	**Al SSO del Vol**	**1.13**	**322**	*i* PA		11 40 27.5	
JAPN				IAML		11 40 27.9	
	comp=Z,2μm,1.0s						
ACOS	**Acosta**	**1.15**	**136**	⇑*e*P	**Pb**	**11 40 26.6**	**-1.9**
ACOS				*e*S	**Sg**	**11 40 43.0**	**-0.6**
CVIMO	**Finca Echandi**	**1.17**	**121**	*e*P	**Pb**	**11 40 28.3**	**-0.7**
OCM	**Ochomogo**	**1.23**	**126**	*e*P	**Pn**	**11 40 28.1**	**-1.7**
OCM	**Ochomog

LIMN	**Finca el Limon**	**2.78**	**331**	*i* P		**Pn**	**11 40 51.3**		**+0.3**
LIMN				IAML			11 41 02.9		
	comp=Z,280nm,1.0s								

LJU 17 11:40:10.8,46.32N×13.58E,h7km,ML0.4,1C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.09**	**213**	*i* Pg	Pg	11 40 12.8	-0.1
ROBS				*i* Sg	Sg	11 40 14.4	-0.1
ROBS				IAML		11 40 14.5	
	comp=Z,5.7nm,0.0s						
PRED	**Cave del Predi**	**0.12**	**355**	*e*Pg	Pg	11 40 13.5	0.0
PRED				*e*Sg	Sg	11 40 15.6	+0.3
CADS	**Cadrg**	**0.14**	**131**	*i* Pg	Pg	11 40 13.8	0.0
CADS				*i* Sg	Sg	11 40 16.1	+0.3
CADS				IAML		11 40 16.2	
	comp=Z,4.7nm,0.1s						
DRE	**Drenchia**	**0.15**	**164**⇓	*e*Pg	Pg	11 40 13.9	-0.1
DRE				*e*Sg	Sg	11 40 16.1	-0.1
LSR	**Lussari**	**0.16**	**347**⇑	*e*Pg	Pg	11 40 14.3	+0.1
LSR				*e*Sg	Sg	11 40 16.9	+0.4
GORS	**Gorjuse**	**0.29**	**91**	*i* Pg	Pg	11 40 16.7	+0.2
GORS				*i* Sg	Sg	11 40 21.6	+1.2
GORS				IAML		11 40 22.2	
	comp=Z,2.3nm,0.1s						
VOJS	**Vojsko**	**0.36**	**144**	*i* Pg	Pg	11 40 17.7	-0.1
VOJS				*i* Sg	Sg	11 40 23.7	+1.1

VIE 17 11:40:49.6±0.2,47.36N×15.12E,h0km,mb0.8/1,ml1.7/8, Error ellipse: s-maj=1.8km s-min=1.5km az=42.0 3 km SSE of Leoben Suspected Mining explosion.,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.29**	**111**	*e*Pg	Pg	11 40 55.2	0.0
	2.4nm,0.2s						
ARSA				*e*Sg	Sg	11 40 59.6	+0.7
	32nm,0.4s						
SOKA	**Soboth**	**0.68**	**185**	*e*Pg	Pg	11 41 02.5	-0.1
	0.9nm,0.2s						
SOKA				*e*Sg	Sg	11 41 11.3	-0.1
	3.3nm,0.3s						
MOA	**Molln**	**0.76**	**311**	*e*Pg	Pg	11 41 04.4	+0.3
	1.0nm,0.1s						
CONA	**Conrad Observa**	**0.76**	**41**	Pg	Pg	11 41 03.9	-0.3
	0.3nm,0.2s						
RONA	**Rosalia, Austr**	**0.87**	**66**	Pg	Pg	11 41 05.8	-0.4
	1.0nm,0.2s						
RONA				Sg	Sg	11 41 17.9	+0.4
	4.6nm,0.5s						
OBKA	**Obir**	**0.93**	**205**	*e*Pg	Pg	11 41 07.6	+0.1
	0.7nm,0.2s						
OBKA				Sg	Sg	11 41 20.2	+0.7
	13nm,0.5s						
BIOA	**Bad Ischl, Aus**	**1.06**	**289**	Sg	Sb	11 41 25.6	+0.4
	12nm,0.4s						
MYKA	**Terra Mystica**	**1.25**	**235**	Sg	Sb	11 41 30.7	+0.1
	5.4nm,0.5s						

AFAD 17 11:43:15.0±0.0,39.73N×33.01E,h7km±5km,ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KESK	**Krkkale-Ke**	**0.45**	**102**	P	Pg	11 43 24.5	+0.7
KESK				S	Sb	11 43 31.2	-1.1
KKUL	**Konya-Kulu**	**0.57**	**187**	P	Pn	11 43 34.7	+5.1
KKUL				S	Sn	11 43 42.2	+3.0
DELI	**KIRIKKALE**	**0.75**	**69**	P	Pg	11 43 28.2	-1.3
DELI				S	Sg	11 43 39.3	+0.1
AKPI	**Kirsehir/Akpin**	**0.80**	**106**	P	Pg	11 43 30.6	+0.3
AKPI				S	Sb	11 43 41.6	-0.6
KIRS	**Kirsehir-Merke**	**0.92**	**130**	P	Pg	11 43 31.5	-1.2
KIRS				S	Sg	11 43 45.2	+0.4
KIRS				*i* AML	AML	11 44 11.0	
	comp=N,21nm,1.9s						
CDAG	**Cicekdag**	**1.06**	**96**	P	Pg	11 43 35.2	-0.1
CDAG				S	Sb	11 43 49.9	+0.2
YENC	**ankr-Yen**	**1.14**	**34**	P	Pg	11 43 36.2	-0.7
YENC				S	Sn	11 43 52.9	-0.6
YENC				*i* AML	AML	11 43 54.0	
	comp=N,12nm,1.7s						
YENC				*i* AML	AML	11 44 05.0	
	comp=E,12nm,2.1s						
AKSY	**AKSARAY - Alti**	**1.23**	**151**	P	Pg	11 43 37.0	-1.6
AKSY				S	Sg	11 43 50.5	-4.1
MCUR	**KIREHR**	**1.31**	**115**	P	Pg	11 43 40.4	+0.3
MCUR				S	Sn	11 43 58.0	+0.5
SIRC	**Yozgat**	**1.70**	**103**	P	Pn	11 43 45.7	+0.5
SIRC				S	Sg	11 44 09.3	-0.3
SIRC				*i* AML	AML	11 44 25.0	
	comp=E,6.0nm,1.1s						
SIRC				*i* AML	AML	11 44 28.0	
	comp=N,24nm,0.8s						

ISK 17 11:43:18.4,38.15N×32.77E,h0km,ML1.6/8,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADK	**Ladik-KONYA**	**0.32**	**280**	Pg	Pb	11 43 25.9	-1.2
LADK				Sg	Sg	11 43 30.8	+2.1
KONT	**Konya--Tatoy**	**0.38**	**238**	Pg	Pb	11 43 27.1	-0.9
KONT				Sg	Sb	11 43 32.7	-1.8
CHBY	**Cihanbeyli**	**0.45**	**13**	Pg	Pb	11 43 28.3	-0.9
CHBY				Sg	Sb	11 43 34.7	-1.8
SULT	**Sultanhani-AKS**	**0.59**	**85**	Pg	Pg	11 43 30.5	+0.7
KULU	**Kulu**	**0.91**	**12**	Pg	Pg	11 43 36.2	+0.3
YAYX	**Yaylak**	**1.14**	**46**	Pn	Pg	11 43 39.9	-0.3
GULA	**Gulagac**	**1.17**	**80**	Pn	Pg	11 43 39.8	-1.1
HDMB	**Hadim**	**1.20**	**191**	Pn	Pg	11 43 40.6	-0.8

NNC 17 11:44:34.5±1.1,50.87N×73.63E,h0km,mb3.6,mpv3.3, 7C-5D,Error ellipse: s-maj=10.3km s-min=8.4km az=55.0,Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.75**	**198**	Pg	Pb	11 45 22.6	-1.9
	2.8nm,0.6s						
OTUK				Lg	Lg	11 45 58.6	
	9.9nm,0.9s						
OTUK	**Ortayu**	**2.75**	**198**	⇑Pg	Pb	11 45 24.2	-0.3
	6.0nm,0.8s						
OTUK				⇓Lg	Lg	11 46 01.2	
	27nm,0.9s						
BVA0	**Borovoye Array**	**2.95**	**318**	⇑Pg	Pb	11 45 28.3	+0.4
	3.7nm,0.9s,baz=122,slow=14,SNR=14						
BVA0				⇑Lg	Lg	11 46 08.7	
	15nm,0.8s,baz=128,slow=27,SNR=8.6						
BRVK	**Borovoye**	**3.02**	**318**	⇑Pg	Pb	11 45 29.6	+0.6
	4.0nm,0.7s						
BRVK				⇓Lg	Lg	11 46 10.3	
	30nm,0.8s						
KURBB	**Kurchatov Arra**	**3.12**	**93**	⇓Pg	Pg	11 45 34.3	0.0
	5.5nm,0.6s						
KURBB				⇓Lg	Lg	11 46 16.2	
	154nm,0.8s						
KURK	**Kurchatov**	**3.17**	**91**	⇑Pg	Pb	11 45 31.0	-0.6
	5.1nm,0.7s						
KURK				⇓Lg	Lg	11 46 16.4	
	50nm,0.8s						
SEM	**Semipalatinsk**	**4.24**	**94**	Pg	Pn	11 45 44.5	+4.1
	5.7nm,0.2s						
SEM				Lg	Lg	11 46 36.2	
	22nm,0.8s						
KAPS	**Kapalarasan**	**6.77**	**143**	Pg	Pb	11 46 37.9	+4.9
	1.7nm,0.8s						
KAPS				Lg	Lg	11 48 07.4	
	6.9nm,1.0s						
MAKZ	**Makanchi**	**6.84**	**123**	⇑Lg	Lg	11 48 10.3	
	12nm,0.8s						
MK31	**Makanchi Array**	**7.02**	**122**	⇑Lg	Lg	11 48 14.9	
	10nm,0.8s,baz=310,slow=24,SNR=5.5						
ARXS	**Arharly**	**7.24**	**155**	Pg	Pg	11 46 47.4	-5.6
	0.6nm,0.1s						
ARXS				Lg	Lg	11 48 23.6	
	14nm,0.7s						
KTBS	**Karatobe**	**7.45**	**163**	Pg	Pb	11 46 50.6	+6.0
	1.1nm,0.7s						
KTBS				Lg	Lg	11 48 29.4	
	8.8nm,0.5s						
KNOS	**Konyrlen**	**7.51**	**148**	Pg	Pb	11 46 51.9	+6.3
	1.5nm,0.8s						
KNOS				Lg	Lg	11 48 32.6	
	7.4nm,0.8s						
BLB	**Baldybastay**	**7.52**	**152**	Pg	Pb	11 46 52.0	+6.1
	1.9nm,0.3s						
BLB				Lg	Lg	11 48 32.2	
	8.6nm,0.9s						
DGS	**Degeres**	**7.76**	**168**	Pg	Pg	11 46 58.3	-4.8
	1.2nm,0.7s						
DGS				Lg	Lg	11 48 43.4	
	23nm,0.7s						
KST	**Kastek**	**7.99**	**168**	Pg	Pb	11 47 00.2	+6.5
	2.9nm,0.6s						
KST				Lg	Lg	11 48 46.1	
	16nm,0.9s						
KK31	**Karatay Array**	**8.05**	**197**	Lg	Lg	11 48 52.8	
	4.5nm,0.8s,baz=13,slow=27,SNR=3.7						
ZSN	**Zaisan**	**8.12**	**111**	Pg	Pb	11 46 55.0	-0.9
	3.8nm,0.7s						
ZSN				Lg	Lg	11 48 37.3	
	12nm,1.0s						
TNSS	**Tian-Shan**	**8.15**	**163**	Pg	Pg	11 47 04.8	-5.8
	1.4nm,1.0s						
TNSS				Lg	Lg	11 48 54.5	
	6.3nm,0.9s						
KPKS	**Kokpek**	**8.16**	**153**	Pg	Pg	11 47 04.9	-5.9
	0.9nm,0.5s						
KPKS				Lg	Lg	11 48 54.5	
	9.0nm,0.7s						

*LVSN **17** 11:48:02.9±7.9,59.69N×21.28E,h0km±165km,ML1.3*
EST 17 11:47:50.2±0.1,59.24N×27.74E,h0km,ML1.2(HEL), **Explosion,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE03	**Tooma soojaam,**	**0.85**	**245**	*e*P	Pg	11 48 05.1	-1.2
EE03				*e*S	Sg	11 48 16.5	-0.8
ARBE	**Arbavere**	**0.92**	**283**	*e*S	Sg	11 48 18.9	-0.9
VSU	**Vasula**	**0.94**	**214**	*e*P	Pg	11 48 07.2	-1.0
VJF	**Virojoki**	**1.30**	**356**	*e*P	Pg	11 48 13.4	-1.7
VJF				*e*SB	Sg	11 48 30.6	-1.4
EE07	**Piusa Caves, O**	**1.41**	**186**	*e*P	Pn	11 48 15.7	-1.4
EE07				*e*S	Sg	11 48 33.9	-1.7
EE08	**Sarghaua, Vand**	**1.42**	**247**	*e*P	Pn	11 48 15.5	-1.7
EE08				*e*PN	Pg	11 48 16.8	-0.7
EE08				*e*S	Sg	11 48 33.8	-2.1
PVF	**Pernaja**	**1.61**	**325**	*e*SG	Sn	11 48 40.0	-1.4
PVF				MSG		11 48 40.9	
	comp=Z,1.2nm,0.1s						
HEL1	**Helsinki**	**1.73**	**304**	*e*SG	Sn	11 48 43.5	-0.6
HEL1				MSG		11 48 45.0	
	comp=Z,2.1nm,0.1s						
MEF	**Metsahovi**	**1.96**	**301**	*e*PG	Pn	11 48 25.4	+0.8
MEF				*e*SG	Sn	11 48 50.0	+0.2
MEF				MSG		11 48 51.9	
	comp=Z,1.0nm,0.1s						
MEF	**Metsahovi**	**1.96**	**301**	AML	AML	11 48 26.5	
	comp=E,7.1nm,0.5s						
MEF				AML	AML	11 48 43.9	
	comp=Z,5.7nm,0.7s						
MEF				*e*S	Sn	11 48 50.5	+0.7
MEF				AML	AML	11 48 52.7	
	comp=N,5.6nm,0.5s						
NUR	**Nurmijrvi**	**2.01**	**310**	*e*SG	Sb	11 48 52.2	-0.9
NUR				MSG		11 48 54.2	
	comp=Z,1.6nm,0.1s						
MTSE	**Matsula**	**2.10**	**257**	*e*SG	Sb	11 48 54.8	-0.9
MTSE	**Matsula**	**2.10**	**257**	*e*P	Pn	11 48 27.6	+1.1
MTSE				*e*S	Sb	11 48 54.8	-0.9
EE01	**Perakula, Nova**	**2.12**	**271**	*e*PB	Pn	11 48 27.3	+0.5
EE01				*e*SG	Sb	11 48 55.1	-1.1
RUF	**Ruokolahti**	**2.27**	**15**	*e*PB	Pn	11 48 29.9	+1.0
RUF				*e*SG	Sb	11 48 59.4	-1.2
RUF				MSG		11 49 01.7	
	comp=Z,0.6nm,0.1s						
FIA0	**FINESS Array S**	**2.36**	**340**	*e*S	Sn	11 48 59.5	-0.2
FIA0				MSG		11 49 04.1	
	comp=Z,0.7nm,0.1s						
FIA1	**FINESS Array S**	**2.36**	**340**	*e*SB	Sb	11 49 01.5	-1.6
FIA1				MSG		11 49 05.1	
	comp=Z,0.6nm,0.1s						
RAF	**Rauma**	**3.48**	**303**	*e*S	Pn	11 48 46.3	+0.8

*TAP **17** 11:48:18.1,24.71N×121.68E,h48km,ML3.5,B*
*JMA **17** 11:48:18.4±0.2,24.7N±0.4×12.2E±, h38km±4km, MV3.1/12,TAIWAN REGION*
ISC 17 11:48:18.3±1.2,24.75N±0.02×121.68E±0.02,h48km±4km, **n161,σ0.83/252,20C-27D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.03**	**197**⇑	*i*P	**Pn**	**11 48 26.0**	**+0.2**
TWE	baz=28			*i* S	**Sn**	**11 48 30.9**	**-0.1**
ILA	**Ilan**	**0.07**	**74**	*e*P	**Pn**	**11 48 26.0**	**+0.1**
ILA	baz=43			S	**Sn**	**11 48 32.1**	**+1.0**
FUSB	**Fushanzhiwuyua**	**0.08**	**279**⇑	*i*P	**Pn**	**11 48 26.0**	**0.0**
FUSB	baz=302			*i* S	**Sn**	**11 48 31.0**	**-0.4**
NDS	**Dongshan**	**0.12**	**162**⇑	*i*P	**Pn**	**11 48 26.1**	**+0.1**
NDS	baz=154			*i* S	**Sn**	**11 48 31.6**	**+0.1**
ENTT	**Nioudou**	**0.14**	**223**⇑	*i*P	**Pn**	**11 48 26.3**	**+0.1**
ENTT	baz=242			S	**Sn**	**11 48 31.7**	**0.0**
NWLT	**Wulai**	**0.16**	**281**⇓	*i*P	**Pn**	**11 48 26.3**	**0.0**
NWLT	baz=300			S	**Sn**	**11 48 31.4**	**-0.6**
NTC	**Toucheng**	**0.18**	**52**	*e*P	**Pn**	**11 48 26.7**	**+0.4**
NTC	baz=43			*e*S	**Sn**	**11 48 32.5**	**+0.5**
NDT	**Datong Townshi**	**0.21**	**226**⇑	*i*P	**Pn**	**11 48 26.7**	**+0.1**
NDT	baz=241			*i* S	**Sn**	**11 48 32.3**	**-0.1**
TWC	**Suao**	**0.21**	**131**⇑	*i*P	**Pn**	**11 48 26.6**	**+0.1**
TWC	baz=121			S	**Sn**	**11 48 32.4**	**+0.1**
ESAO	**Su ao**	**0.23**	**138**⇑	*i*P	**Pn**	**11 48 26.6**	**-0.1**
ESAO	baz=131			*i* S	**Sn**	**11 48 32.7**	**+0.1**
TWA	**Mucha**	**0.25**	**340**⇓	*i*P	**Pn**	**11 48 27.1**	**+0.2**
TWA	baz=335			S	**Sn**	**11 48 32.9**	**0.0**
LATG	**Datong**	**0.25**	**213**⇑	*i*P	**Pn**	**11 48 27.1**	**+0.1**
LATG	baz=224			*i* S	**Sn**	**11 48 33.2**	**0.0**
EGS	baz=224	**0.25**	**67**⇑	*i*P	**Pn**	**11 48 27.7**	**+0.8**
EGS	baz=56			S	**Sn**	**11 48 33.9**	**+1.0**
NHDH	**Xindian Distri**	**0.26**	**328**⇓	*i*P	**Pn**	**11 48 27.0**	**+0.1**
NHDH	baz=331			S	**Sn**	**11 48 33.0**	**+0.1**
TIPB	**Shuangxi**	**0.26**	**31**⇓	*i*P	**Pn**	**11 48 27.3**	**+0.3**
TIPB	baz=18			*i* S	**Sn**	**11 48 33.5**	**+0.3**
YHNB	**Yeheng**	**0.28**	**254**	P	**Pn**	**11 48 27.1**	**-0.1**
YHNB	**Yeheng**	**0.28**	**254**⇓	*i*P	**Pn**	**11 48 27.2**	**0.0**
YHNB	baz=262			*i* S	**Sn**	**11 48 33.0**	**-0.5**
TATO	**Taipei**	**0.28**	**323**	P	**Pn**	**11 48 27.2**	**0.0**
TATO	**Taipei**	**0.28**	**323**	P	**Pn**	**11 48 27.1**	**0.0**
TATO	baz=327			S	**Sn**	**11 48 33.2**	**-0.3**
NSK	**Sanguang**	**0.30**	**256**⇓	*i*P	**Pn**	**11 48 27.3**	**-0.1**
NSK	baz=263			*i* S	**Sn**	**11 48 33.2**	**-0.6**
NHY	**Taipei**	**0.31**	**342**	*e*P	**Pn**	**11 48 27.6**	**+0.2**
NHY	baz=342			S	**Sn**	**11 48 34.4**	**+0.6**
EWUT	**Wuta**	**0.31**	**163**⇑	*i*P	**Pn**	**11 48 27.0**	**-0.5**
EWUT	baz=165			*e*S	**Sn**	**11 48 33.7**	**-0.2**
ENA	**Nanau**	**0.32**	**169**⇑	*i*P	**Pn**	**11 48 27.0**	**-0.5**
ENA	baz=172			*e*S	**Sn**	**11 48 34.2**	**+0.2**
BACT	**New Taipei Cit**	**0.33**	**320**	P	**Pn**	**11 48 27.8**	**+0.2**
TAP	**Taipei**	**0.33**	**332**	P	**Pn**	**11 48 27.7**	**+0.1**
TAP	baz=335			S	**Sn**	**11 48 34.2**	**0.0**
NWF	**Wu-fen Shan**	**0.34**	**17**	*e*P	**Pn**	**11 48 28.0**	**+0.2**
NWF	baz=6.0			*e*S	**Sn**	**11 48 34.8**	**+0.3**
WFSB	**Wu-fen Shan**	**0.34**	**17**	⇓P	**Pn**	**11 48 28.1**	**+0.4**
WFSB	baz=7.0			*i* S	**Sn**	**11 48 34.8**	**+0.5**
TWB1	**Santiao Chiao**	**0.39**	**47**⇓	*i*P	**Pn**	**11 48 28.4**	**+0.3**
TWB1	baz=38			S	**Sn**	**11 48 35.2**	**0.0**
SXI1	**Grass Mountain**	**0.39**	**28**	⇓P	**Pn**	**11 48 28.4**	**+0.1**
SXI1	baz=16			*e*S	**Sn**	**11 48 35.7**	**+0.3**
YM01	**YM01**	**0.41**	**347**⇓	*i*P	**Pn**	**11 48 28.6**	**+0.1**
YM01	baz=339			*i* S	**Sn**	**11 48 35.9**	**+0.2**
NNS	**Nan Shan**	**0.41**	**222**⇑	*i*P	**Pn**	**11 48 28.6**	**0.0**
NNS	baz=229			*i* S	**Sn**	**11 48 35.4**	**-0.4**
TNOU	**National Taiwa**	**0.41**	**12**⇓	*i*P	**Pn**	**11 48 28.5**	**+0.1**
TNOU	baz=3.0			S	**Sn**	**11 48 35.8**	**+0.2**
NNSB	**Datong**	**0.41**	**220**⇑	*i*P	**Pn**	**11 48 28.7**	**+0.1**
NNSB	baz=228			*i* S	**Sn**	**11 48 35.5**	**-0.5**
NNSH	**Datong**	**0.41**	**220**⇑	*i*P	**Pn**	**11 48 28.7**	**0.0**
NNSH	baz=229			S	**Sn**	**11 48 35.5**	**-0.4**
EAHA	**Aohua**	**0.42**	**172**	*e*P	**Pn**	**11 48 27.8**	**-0.7**
TWS1	**Kuangyinshan**	**0.42**	**327**⇓	*i*P	**Pn**	**11 48 29.1**	**+0.5**
TWS1	baz=329			S	**Sn**	**11 48 36.9**	**+1.0**
NTY	**Taoyuan**	**0.43**	**306**⇓	*i*P	**Pn**	**11 48 29.1**	**+0.4**
NTY	baz=310			S	**Sn**	**11 48 36.9**	**+1.0**
YM08	**YM08**	**0.45**	**350**⇓	*i*P	**Pn**	**11 48 28.7**	**-0.2**
YM08	baz=342			S	**Sn**	**11 48 36.0**	**-0.4**
NWRT	**Kuosheng**	**0.46**	**358**	*e*P	**Pn**	**11 48 28.9**	**-0.1**
NWRT	baz=4.0			*e*S	**Sn**	**11 48 36.6**	**+0.1**
ANP	**Anpu**	**0.46**	**342**	⇓P	**Pn**	**11 48 29.0**	**-0.1**
ANP	baz=344			*e*S	**Sn**	**11 48 36.9**	**+0.1**
NTST	**Danshui**	**0.46**	**334**	⇓P	**Pn**	**11 48 29.5**	**+0.4**
NTST	baz=343			*e*S	**Sn**	**11 48 37.4**	**+0.7**
NCU	**National Centr**	**0.50**	**297**	⇓P	**Pn**	**11 48 29.8**	**+0.3**
NCU	baz=300			S	**Sn**	**11 48 37.9**	**+0.5**
NCUH	**Zhongli**	**0.50**	**296**⇓	*i*P	**Pn**	**11 48 29.8**	**+0.4**
NCUH	baz=300			S	**Sn**	**11 48 38.2**	**+0.8**
NFF	**Wufeng Townshi**	**0.52**	**257**⇓	*i*P	**Pn**	**11 48 29.9**	**+0.1**
NFF	baz=261			*i* S	**Sn**	**11 48 38.0**	**0.0**
TWY	**Chenhua**	**0.53**	**353**	⇓P	**Pn**	**11 48 30.3**	**+0.4**
TWY	baz=344			S	**Sn**	**11 48 38.9**	**+0.8**
NJD	**Zhudong**	**0.53**	**269**	*e*P	**Pn**	**11 48 30.2**	**+0.3**
NJD	baz=273			*e*S	**Sn**	**11 48 38.8**	**+0.6**
NSM	**Shimen**	**0.55**	**352**	*e*P	**Pn**	**11 48 30.3**	**+0.3**
ETLH	**Xiulin Townshi**	**0.56**	**198**	⇑P	**Pn**	**11 48 29.8**	**-0.6**
ETLH	baz=200			*e*S	**Sn**	**11 48 38.9**	**-0.2**
NACB	**Ninganchiao**	**0.57**	**187**	P	**Pn**	**11 48 29.2**	**-1.2**
NACB	**Ninganchiao**	**0.57**	**187**	⇑P	**Pn**	**11 48 29.0**	**-1.4**
NACB	baz=188			*e*S	**Sn**	**11 48 38.2**	**-0.8**
ETL	**Fush Village**	**0.59**	**185**	*e*P	**Pn**	**11 48 29.3**	**-1.3**
HSN1	**Hsinchu**	**0.60**	**273**	P	**Pn**	**11 48 30.8**	**+0.1**
HSN1	baz=277			S	**Sn**	**11 48 40.2**	**+0.6**
EOS2	**EOS2**	**0.60**	**123**	*e*P	**Pn**	**11 48 31.9**	**+1.2**
LIOB	**Emei**	**0.61**	**261**⇓	*i*P	**Pn**	**11 48 31.1**	**+0.2**
LIOB	baz=264			*i* S	**Sn**	**11 48 40.2**	**+0.3**
NSTT	**Nanjuang**	**0.62**	**260**⇓	*i*P	**Pn**	**11 48 31.1**	**+0.1**
NSTT	baz=263			*i* S	**Sn**	**11 48 40.1**	**-0.1**
NHW	**Xinwu Township**	**0.63**	**295**⇓	*i*P	**Pn**	**11 48 31.3**	**+0.2**
NHW	baz=304			S	**Sn**	**11 48 41.2**	**+1.0**
SBCB	**Hsinchu**	**0.63**	**274**⇓	*i*P	**Pn**	**11 48 31.4**	**+0.3**
SBCB	baz=287			*i* S	**Sn**	**11 48 41.0**	**+0.7**
FUSS	**Fushou**	**0.63**	**218**⇑	*i*P	**Pn**	**11 48 31.7**	**+0.3**
FUSS	baz=219			S	**Sn**	**11 48 41.1**	**+0.4**
HSN	**Hsinchu**	**0.64**	**275**⇓	*i*P	**Pn**	**11 48 31.1**	**-0.2**
HSN	baz=281			*i* S	**Sn**	**11 48 40.4**	**-0.3**
TWD	**Chiawan**	**0.67**	**186**	⇑P	**Pn**	**11 48 30.2**	**-1.4**
TWT	**Tachien**	**0.67**	**223**	*e*P	**Pn**	**11 48 32.3**	**+0.5**
TWT	baz=226			*e*S	**Sn**	**11 48 42.0**	**+0.5**
TDCB	**Techi**	**0.68**	**224**	P	**Pn**	**11 48 32.3**	**+0.4**
TDCB	baz=233			S	**Sn**	**11 48 41.6**	**-0.1**
WHF	**Hehuan Shan**	**0.71**	**212**	P	**Pn**	**11 48 32.6**	**+0.1**
WHF	baz=207			S	**Sn**	**11 48 42.5**	**-0.2**
NJN	**Zhunan**	**0.73**	**265**	*e*P	**Pn**	**11 48 32.4**	**0.0**
NJN	baz=268			*e*S	**Sn**	**11 48 43.3**	**+0.6**

EOS3	**EOS3** baz=130	0.74	128	*e*P		Pn	11 48 33.6	+1.2
LXIB	**Xiulin Townshi** baz=200	0.76	198	P		Pn	11 48 32.0	-1.0
LXIB	baz=200			*e*S		Sn	11 48 42.4	-1.1
HWA	**Hwalien** baz=185	0.77	185	*e*P		Pn	11 48 33.2	+0.3
ETM	**Tongmen** baz=193	0.80	192	*e*P		Pn	11 48 31.8	-1.5
WHP	**Taichung City** baz=247	0.81	235	P		Pn	11 48 34.4	+0.8
WHP	baz=247			*e*S		Sn	11 48 45.4	+0.7
CHGB	**Renai** baz=207	0.82	214	⇑ *i*P		Pn	11 48 34.3	+0.5
CHGB	baz=207			*i* S		Sn	11 48 45.3	+0.2
NMLH	**Miaoli** baz=258	0.83	256	*e*P		Pn	11 48 33.9	+0.2
NMLH	baz=258			S		Sn	11 48 45.7	+0.7
EOS4	**EOS4** baz=135	0.85	137	*e*P		Pn	11 48 34.5	+0.8
NSY	**Sanyi** baz=263	0.90	249	*e*P		Pn	11 48 34.9	+0.2
NSY	baz=263			*e*S		Sn	11 48 47.0	+0.4
WUSB	**Renai** baz=208	0.91	214	⇑ *i*P		Pn	11 48 35.5	+0.6
WUSB	baz=208			*i* S		Sn	11 48 47.3	+0.3
OWD	**Renai** baz=205	0.91	210	P		Pn	11 48 35.2	+0.2
OWD	baz=205			S		Sn	11 48 46.9	-0.2
TWQ1	**Liyutan** baz=259	0.91	244	*e*P		Pn	11 48 34.9	+0.1
TWQ1	baz=259			S		Sn	11 48 47.2	+0.3
PCYT	**Pengchaiyu** baz=20	0.95	22	*e*P		Pn	11 48 35.5	+0.2
PCYT	baz=20			*e*S		Sn	11 48 48.5	+0.6
ESL	**Shilin** baz=183	0.95	193	*e*P		Pn	11 48 33.6	-1.9
SHUL	**Shoufeng** baz=187	0.96	186	*e*P		Pn	11 48 34.5	-1.0
WCS	**Beigang Elemen** baz=238	0.98	226	*e*P		Pn	11 48 36.3	+0.6
WCS	baz=238			*e*S		Sn	11 48 50.0	+1.5
WPL	**Puli Township** baz=235	0.98	222	P		Pn	11 48 37.1	+1.3
WPL	baz=235			*e*S		Sn	11 48 49.1	+0.5
DPDB	**Guoxing** baz=237	0.98	224	*e*P		Pn	11 48 36.9	+1.0
DPDB	baz=237			*e*S		Sn	11 48 50.7	+1.9
WDJ	**Dajia District** baz=260	1.02	247	*e*P		Pn	11 48 36.5	+0.2
WDJ	baz=260			*e*S		Sn	11 48 50.3	+0.7
TEGC	**Jichi Village** baz=188	1.04	187	*e*P		Pn	11 48 36.1	-0.4
WARBT	**Fenglin Townsh** baz=186	1.06	195	*e*P		Pn	11 48 34.8	-2.0
TCU	**Taichung** baz=250	1.09	237	*e*P		Pn	11 48 37.5	+0.3
VWDT	**VWDT** baz=197	1.10	206	P		Pn	11 48 37.7	+0.3
VWDT	baz=197			S		Sn	11 48 52.4	+0.9
SMLT	**Sun Moon Lake** baz=230	1.11	220	*e*P		Pn	11 48 38.7	+1.0
SMLT	baz=230			*e*S		Sn	11 48 53.7	+1.7
TYC	**Yuchr** baz=232	1.12	222	*e*P		Pn	11 48 38.4	+0.7
TYC	baz=232			S		Sn	11 48 53.4	+1.4
WWF	**Wufeng** baz=245	1.13	232	*e*P		Pn	11 48 38.5	+0.7
SSLB	**Suanglung**	1.16	215	P		Pn	11 48 39.2	+1.0
SSLB	**Suanglung** baz=208	1.16	215	⇓ *e*P		Pn	11 48 39.0	+0.8
SSLB	baz=208			*e*S		Sn	11 48 54.3	+1.3
JYNG	**Yonaguni jima**	1.19	104	P		Pn	11 48 38.4	-0.2
JYNG				*e*S		Sn	11 48 53.5	-0.2
YOJ	**Yonaguni jima**	1.25	103	P		Pn	11 48 39.2	-0.2
YOJ	**Yonaguni jima**	1.25	103	P		Pn	11 48 39.2	-0.2
YOJ				*e*S		Sn	11 48 54.8	-0.3
YOJ	**Yonaguni jima** baz=93	1.25	103	⇓ *e*P		Pn	11 48 39.2	-0.2
WNT	**Mingjian** baz=239	1.25	226	*e*P		Pn	11 48 39.8	+0.4
WNT	baz=239			*e*S		Sn	11 48 56.1	+0.9
WJS	**Zhushan** baz=238	1.26	223	P		Pn	11 48 40.3	+0.7
WJS	baz=238			S		Sn	11 48 56.6	+1.2
HGSD	**Ruisui** baz=192	1.27	190	*e*P		Pn	11 48 39.2	-0.5
EHY	**Hungye** baz=184	1.28	195	*e*P		Pn	11 48 38.4	-1.4
WHYT	**Xinyi Township** baz=216	1.29	216	*e*P		Pn	11 48 41.7	+1.7
WHYT	baz=216			*e*S		Sn	11 48 58.2	+2.1
YULB	**Yu-li**	1.39	194	P		Pn	11 48 41.0	-0.4
YULB	**Yu-li** baz=186	1.39	194	*e*P		Pn	11 48 39.8	-1.5
EYUL	**Yuli** baz=195	1.43	193	*e*P		Pn	11 48 41.8	-0.1
TWF1	**Yuli** baz=186	1.43	194	*e*P		Pn	11 48 41.4	-0.5
WRL	**Guolierlin Hig** baz=245	1.45	235	*e*P		Pn	11 48 42.0	-0.2
CHN5	**Tsauling** baz=219	1.46	219	*e*P		Pn	11 48 43.3	+0.9
CHN5	baz=219			*e*S		Sn	11 49 01.6	+1.1
ALS	**Alishan** baz=213	1.47	213	*e*P		Pn	11 48 43.4	+0.8
ALS	baz=213			*e*S		Sn	11 49 02.0	+1.2
WGK	**Gukeng** baz=235	1.47	224	*e*P		Pn	11 48 42.8	+0.4
RLNB	**Erlin** baz=247	1.47	235	*e*P		Pn	11 48 42.2	-0.2
RLNB	baz=247			*e*S		Sn	11 49 00.8	+0.3
WDLH	**Douliu** baz=236	1.48	225	*e*P		Pn	11 48 43.3	+0.7
WTK	**Tuku** baz=228	1.58	228	*e*P		Pn	11 48 44.0	+0.1
FULB	**Fuli** baz=194	1.58	193	*e*P		Pn	11 48 45.1	+1.1
WCKO	**Fanlu** baz=217	1.63	217	*e*P		Pn	11 48 45.8	+1.2
EHD	**Haiduan** baz=188	1.65	195	*e*P		Pn	11 48 45.0	+0.1
CHY	**Chiayi** baz=233	1.69	223	*e*P		Pn	11 48 45.5	+0.1
WSF	**Szhu** baz=241	1.73	231	*e*P		Pn	11 48 46.9	+1.0
WSF	baz=241			*e*S		Sn	11 49 07.0	+0.3
TPUB	**Ta-pu**	1.73	214	P		Pn	11 48 48.1	+2.1
TPUB	**Ta-pu** baz=213	1.73	214	*e*P		Pn	11 48 46.9	+0.9
TPUB	baz=213			*e*S		Sn	11 49 08.4	+1.5
STYH	**Taoyuan** baz=197	1.77	208	*e*P		Pn	11 48 48.4	+1.8
WTP	**Ta-pu** baz=213	1.78	213	*e*P		Pn	11 48 48.2	+1.4
WTP	baz=213			*e*S		Sn	11 49 10.8	+2.6
STYT	**Tauyuan** baz=197	1.79	208	*e*P		Pn	11 48 48.0	+1.2
EDH	**Donghe** baz=193	1.80	191	*e*P		Pn	11 48 47.0	+0.1
TWK	**Hsinying** baz=215	1.83	217	*e*P		Pn	11 48 48.6	+1.2
SNST	**Tainan City** baz=214	1.86	216	*e*P		Pn	11 48 49.1	+1.3
CHN1	**Nanshi** baz=213	1.88	214	*e*P		Pn	11 48 49.3	+1.3
ICHU	**Yijhu** baz=233	1.88	223	*e*P		Pn	11 48 48.7	+0.7
LONT	**Longtian** baz=188	1.90	195	*e*P		Pn	11 48 49.3	+1.0
IRIF	**Iriomote-Funau**	1.92	102	P		Pn	11 48 48.0	-0.5
IRIF				S		Sn	11 49 10.9	-0.5
CHN8	**Yiju** baz=235	1.93	224	*e*P		Pn	11 48 49.2	+0.4
CHN8	baz=235			*e*S		Sn	11 49 13.2	+1.4
SGST	**Jiashian** baz=223	1.94	211	*e*P		Pn	11 48 49.5	+0.7
SLGT	**Liugui** baz=197	1.98	209	*e*P		Pn	11 48 51.1	+1.6
TWG	**Pinlang** baz=188	2.00	196	*e*P		Pn	11 48 49.4	-0.2
TWGBT	**Beinan**	2.00	196	P		Pn	11 48 51.0	+1.4
TWGBT	**Beinan** baz=188	2.00	196	*e*P		Pn	11 48 50.1	+0.5
VWUC	**VWUC** baz=278	2.04	277	*e*P		Pn	11 48 49.5	-0.7
MATB	**Ma-tsu** baz=311	2.10	312	*e*P		Pn	11 48 50.4	-0.6
MSUT	**Lienchiang** baz=311	2.12	312	*e*P		Pn	11 48 50.7	-0.7
JKRS	**Kuro-shima**	2.19	103	P		Pn	11 48 52.3	+0.1
JKRS				*e*S		Sn	11 49 18.3	+0.2
SSD	**Sandimen** baz=216	2.21	206	*e*P		Pn	11 48 53.5	+1.0
ECL	**Taimali** baz=190	2.24	197	*e*P		Pn	11 48 53.7	+0.8
TSMG	**Majia** baz=216	2.24	205	*e*P		Pn	11 48 54.0	+1.0
PNG	**Penghu** baz=239	2.27	239	*e*P		Pn	11 48 52.4	-0.8
PNG	baz=239			*e*S		Sn	11 49 17.2	-2.8
JIJ	**Ishigaki jima**	2.28	99	P		Pn	11 48 53.2	-0.3
JIJ				*e*S		Sn	11 49 19.7	-0.7
PHUB	**P'eng-hu** baz=238	2.28	238	P		Pn	11 48 52.6	-0.9
PHUB	baz=238			*e*S		Sn	11 49 17.5	-2.9
MASBT	**Mashibuluo** baz=216	2.33	204	*e*P		Pn	11 48 55.1	+0.9
PTMZ	**Houxiangcun** baz=278	2.34	278	*e*P		Pn	11 48 53.5	-0.8
WDGT	**Dungji** baz=231	2.36	232	*e*P		Pn	11 48 54.5	-0.1
WDGT	baz=231			*e*S		Sn	11 49 20.1	-2.4
JISG	**Ishigakijimahi**	2.40	93	*i* P		Pn	11 48 55.4	+0.2
EAST	**Anshuo** baz=191	2.47	198	*e*P		Pn	11 48 57.9	+1.7
LYJJ	**Jianjiangzhen** baz=315	2.49	317	*e*P		Pn	11 48 55.9	-0.5
XPSS	**Dashiqiu** baz=327	2.55	329	*e*P		Pn	11 48 56.6	-0.7
SCZT	**Fangliau** baz=200	2.55	202	*e*P		Pn	11 48 59.0	+1.7
VCHM	**Qimei** baz=246	2.56	234	*e*P		Pn	11 48 56.6	-0.8
VCHM	baz=246			*e*S		Sn	11 49 25.3	-2.0
MHZQ	**Yeshan** baz=299	2.75	300	*e*P		Pn	11 48 58.9	-1.0
KNM	**Kinmen** baz=265	2.97	264	*e*P		Pn	11 49 04.0	+1.1
KNMB	**Chin-men Tao** baz=265	3.00	265	*e*P		Pn	11 49 02.7	-0.8
AXDP	**Jialang** baz=273	3.37	273	*e*P		Pn	11 49 08.2	-0.2
ZPLA	**Ao Xicun** baz=258	3.67	258	*e*P		Pn	11 49 11.8	-0.8
SXFK	**Yanhouchang** baz=294	3.99	295	*e*P		Pn	11 49 16.2	-0.8
DSXP	**Dongshan** baz=256	4.01	256	*e*P		Pn	11 49 16.5	-0.8

NEIC ***17*** *11:52:13.9±1.1, 18°.13S±0°.10×173°.85W±0°.07, h10km±1km, mb4.3/16, Error ellipse: s-maj=18.8km s-min=5.3km az=149.0*

IDC ***17*** *11:52:13.5±3.4, 18°.07S×174°.08W, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=78.9km s-min=36.3km az=38.0*

ISC 17 11:52:13.7±0.9, 18°.1S±0°.1×173°.9W±0°.1, h10km, n25, σ1s01/26, mb4.3/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.90**	**105**			**Pn**	**11 53 12.9**	**-0.9**
AFI	**Afiamalu**	**4.65**	**27**	Pn		**Pn**	**11 53 24.1**	**-0.1**
URZ	**Urewera** 16nm,0.8s,baz=15,slow=8.2,SNR=2.1 16nm,0.8s	**21.55**	**200**	P		**P**	**11 57 04.4**	**+1.1**
RTZ	**Ruatahuna**	**21.92**	**199**	P		**P**	**11 57 05.8**	**-1.5**
MRZ	**Mangatainoka R**	**24.23**	**200**	P		**P**	**11 57 30.8**	**+0.1**
CAN	**Canberra**	**37.04**	**235**	P		**P**	**11 59 22.9**	**-1.1**
CAN	comp=Z,5.7nm,1.0s			IAmb		IAmb	11 59 41.0	
CTA	**Charters Tower** comp=Z,8.4nm,1.1s,baz=78,slow=9.3,SNR=2.4 comp=Z,8.4nm,1.1s	**37.63**	**260**	P		**P**	**11 59 30.9**	**+1.7**
CTAO	**Charters Tower**	**37.63**	**260**	P		**P**	**11 59 28.1**	**-1.1**
CTAO	comp=Z,7.2nm,1.1s			IAmb		IAmb	11 59 57.7	
TOO	**Toolangi**	**40.41**	**233**	P		**P**	**11 59 51.0**	**-1.2**
TOO	comp=Z,4.9nm,1.1s			IAmb		IAmb	12 00 19.7	
STKA	**Stephens Creek**	**42.30**	**242**	P		**P**	**12 00 07.0**	**-0.8**
STKA	**Stephens Creek** comp=Z,0.5nm,0.4s,baz=84,slow=9.2,SNR=1.7 comp=Z,0.5nm,0.4s	**42.30**	**242**	P		**P**	**12 00 07.8**	**0.0**
BBOO	**Buckleboo**	**47.07**	**242**	P		**P**	**12 00 45.6**	**-0.3**
BBOO	comp=Z,3.8nm,1.1s			IAmb		IAmb	12 01 07.5	
WR0	**Warramunga Arr**	**48.61**	**259**	P		**P**	**12 00 57.3**	**-0.7**
WR0	comp=Z,4.0nm,1.1s			IAmb		IAmb	12 01 06.5	
WB0	**Warramunga Arr**	**48.77**	**259**	P		**P**	**12 00 58.7**	**-0.6**
WB0	comp=Z,4.3nm,1.1s			IAmb		IAmb	12 01 07.8	
WB2	**Warramunga Arr**	**48.79**	**259**	P		**P**	**12 00 59.5**	**+0.1**
WB2	comp=Z,3.6nm,1.1s			IAmb		IAmb	12 01 16.8	
WRA	**Warramunga Arr**	**48.80**	**259**	P		**P**	**12 00 59.5**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.3s,baz=98,slow=7.4,SNR=18 comp=Z,0.6nm,0.3s	**48.80**	**259**	P		**P**	**12 00 59.4**	**-0.1**
AS31	**Alice Springs**	**48.85**	**254**	P		**P**	**12 01 00.3**	**+0.4**
AS31	comp=Z,1.7nm,0.7s			IAmb		IAmb	12 01 05.4	
ASAR	**Alice Springs**	**48.85**	**254**	P		**P**	**12 00 59.5**	**-0.4**
ASAR	**Alice Springs** comp=Z,3.6nm,0.6s,baz=90,slow=8.3,SNR=56	**48.85**	**254**	P		**P**	**12 00 59.7**	**-0.2**
ASAR	comp=Z,0.6nm,0.7s,baz=104,slow=4.1,SNR=2.5 comp=Z,3.6nm,0.6s			PcP		**PcP**	**12 02 24.3**	**-0.2**
MTN	**Manton Dam**	**53.07**	**267**	P		**P**	**12 01 30.6**	**-1.0**
KNRA	**Kununurra**	**54.72**	**263**	P		**P**	**12 01 42.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**57.21**	**260**	P		**P**	**12 02 01.1**	**-0.4**
QSPA	**South Pole Qui**	**71.95**	**180**	P		**P**	**12 03 39.3**	**+2.0**
QSPA	**South Pole Qui** comp=Z,1.1nm,0.7s,baz=104,slow=0.9,SNR=7.8 comp=Z,1.1nm,0.7s	**71.95**	**180**	P		**P**	**12 03 39.4**	**+2.1**

NEIC ***17*** *11:52:53.6±1.1, 52°.1N±0°.2×179°.28W±0°.07, h219km±8km, Error ellipse: s-maj=26.6km s-min=6.4km az=178.0*

IDC ***17*** *11:52:54.0±2.5, 52°.28N×179°.38W, h224km±23km, mb3.2/8, mbtmp3.9/10, Error ellipse: s-maj=28.9km s-min=16.4km az=17.0*

AEIC ***17*** *11:52:54.3±1.1, 52°.0N±0°.2×179°.24W±0°.08, h218km±6km, ML3.5, mb3.8/48(NEIC), Error ellipse: s-maj=23.0km s-min=7.4km az=177.0*

ISC 17 11:52:53.3±0.7, 52°.1N±0°.1×179°.33W±0°.04, h222km±6km, n93, σ0s88/103, mb3.8/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GANO	**Gareloi North**	**0.46**	**134**			**Pn**	**11 53 23.2**	**+0.3**
GAEA	**Gareloi East**	**0.51**	**134**			**Pn**	**11 53 22.4**	**-0.6**
GAEA						**S**	**11 53 46.4**	**+0.3**
CEPE	**Semis' Perret**	**0.65**	**255**			**Pn**	**11 53 23.3**	**-0.2**
CERB	**Semis' Cerberu**	**0.67**	**253**			**Pn**	**11 53 23.6**	**0.0**
CERB						**S**	**11 53 49.9**	**+2.7**
CEAP	**Semis' Anvil P**	**0.69**	**259**			**Pn**	**11 53 23.6**	**0.0**
CESW	**Semis' Southwe**	**0.72**	**251**			**Pn**	**11 53 23.8**	**0.0**
TANO	**Tanaga North**	**0.78**	**106**			**Pn**	**11 53 23.9**	**-0.2**
TASE	**Tanaga Southea**	**0.86**	**110**			**Pn**	**11 53 24.1**	**-0.5**
TAFP	**Tanaga Falls P**	**0.87**	**105**			**Pn**	**11 53 23.9**	**-0.6**
TAFP						**S**	**11 53 47.0**	**-1.9**
AMKA	**Amchitka**	**1.14**	**229**			**Pn**	**11 53 26.2**	**+0.1**
AMKA						**S**	**11 53 50.1**	**-1.6**
LSPA	**Little Sitkin**	**1.31**	**263**			**Pn**	**11 53 27.9**	**+0.5**
LSSE	**Little Sitkin**	**1.31**	**262**			**Pn**	**11 53 27.7**	**+0.3**
LSNW	**Little Sitkin**	**1.34**	**264**			**Pn**	**11 53 27.8**	**+0.2**
KIKV	**Kanaga Island**	**1.36**	**100**			**Pn**	**11 53 27.4**	**-0.4**
KIKV						**S**	**11 53 53.2**	**-1.4**
KIWB	**Kanaga Island**	**1.38**	**101**			**Pn**	**11 53 27.4**	**-0.5**
ADK	**Adak**	**1.66**	**98**			**Pn**	**11 53 29.5**	**-0.7**
ADK	**Adak**	**1.66**	**98**			**S**	**11 53 57.3**	**-1.6**
GSCK	**Great Sitkin C**	**1.96**	**92**			**Pn**	**11 53 32.4**	**-0.6**
GSCK						**S**	**11 54 03.8**	**-0.2**
GSTR	**Great Sitkin T**	**2.02**	**90**	Pn		**Pn**	**11 53 33.1**	**-0.5**
GSMY	**Great Sitkin M**	**2.02**	**91**			**Pn**	**11 53 32.8**	**-0.8**
ATKA	**Atka Island**	**3.16**	**87**			**Pn**	**11 53 45.2**	**-0.7**
KOFP	**Korovin Flat P**	**3.22**	**85**			**Pn**	**11 53 46.3**	**-0.3**
SHEM	**Shemya Is, Ala** 64nm,0.9s,baz=28,slow=15,SNR=1.4	**4.06**	**281**	P		**Pn**	**11 53 56.0**	**-0.5**
SHEM	33nm,0.4s,baz=91,slow=23,SNR=1.6			S		**S**	**11 54 42.7**	**-3.5**
M14K	**Bethel**	**12.88**	**41**	Pn		**Pn**	**11 55 47.8**	**-0.4**
L14K	**Kuka Creek**	**12.94**	**38**	Pn		**Pn**	**11 55 49.9**	**+1.0**
N15K	**Kwethluk River**	**13.36**	**45**	Pn		**Pn**	**11 55 54.3**	**+0.1**
K15K	**Wolf Creek Mou**	**13.96**	**36**			**P**	**11 56 03.9**	**+0.9**
M16K	**Timber Creek**	**14.27**	**43**			**P**	**11 56 06.6**	**+0.2**
N17K	**Nushagak Hills**	**14.81**	**47**			**P**	**11 56 13.0**	**+0.6**
K17K	**Iditarod**	**15.42**	**38**	P		**P**	**11 56 19.9**	**+0.8**
N18K	**Kilae Creek**	**15.46**	**47**			**Pn**	**11 56 20.9**	**+1.1**
N18K	comp=Z,3.7nm,1.1s				IAmb	IAmb	11 56 49.1	
O18K	**Koktuh Hills**	**15.48**	**51**	P		**Pn**	**11 56 21.2**	**+1.1**
O18K	comp=Z,2.3nm,0.8s				IAmb	IAmb	11 56 45.5	
F15K	**North Star Dit**	**15.51**	**23**	P		**Pn**	**11 56 21.8**	**+1.4**
F15K	comp=Z,2.5nm,0.8s				IAmb	IAmb	11 56 22.0	
L18K	**Granite Mounta**	**15.80**	**41**	P		**P**	**11 56 24.0**	**+0.7**
OHAK	**Old Harbor**	**15.85**	**61**	P		**P**	**11 56 23.5**	**-0.3**
G16K	**Koyuk River**	**15.86**	**27**	P		**P**	**11 56 24.6**	**+0.8**
G16K	comp=Z,3.1nm,1.1s				IAmb	IAmb	11 56 43.6	
J18K	**Innoko River**	**16.44**	**38**	P		**P**	**11 56 31.3**	**+1.1**
J18K	comp=Z,3.1nm,1.1s				IAmb	IAmb	11 56 49.2	
L19K	**White Mountain**	**16.54**	**43**	P		**P**	**11 56 31.5**	**+0.1**
H18K	**Honhosa River**	**16.88**	**31**	P		**P**	**11 56 36.2**	**+1.1**
F17K	**Baldwin Pennin**	**16.95**	**25**	P		**P**	**11 56 36.6**	**+0.8**
J19K	**Poorman**	**17.14**	**37**	P		**P**	**11 56 38.1**	**+0.3**
K20K	**Telida**	**17.41**	**40**	P		**P**	**11 56 40.9**	**+0.1**
C16K	**Lisburne Hills**	**17.54**	**17**	P		**P**	**11 56 42.3**	**+0.2**
C16K	comp=Z,2.7nm,0.7s				IAmb	IAmb	11 56 48.1	
J20K	**Nowinta River**	**17.78**	**38**	P		**P**	**11 56 45.5**	**+0.6**
J20K	comp=Z,3.7nm,1.1s				IAmb	IAmb	11 56 52.5	
E18K	**Tukpahlearik C**	**17.86**	**24**	P		**P**	**11 56 47.0**	**+1.3**
E18K	comp=Z,2.3nm,1.1s				IAmb	IAmb	11 56 51.5	
SKT	**Skwentna**	**17.90**	**46**	P		**P**	**11 56 47.8**	**+1.5**
SUA	**Susitna One**	**18.08**	**48**	P		**P**	**11 56 49.0**	**+0.7**
F19K	**Shaleruckik Mo**	**18.19**	**28**	P		**P**	**11 56 49.5**	**+0.2**
F19K	comp=Z,2.4nm,0.7s				IAmb	IAmb	11 56 53.5	
CAST	**Castle Rocks**	**18.23**	**41**	P		**P**	**11 56 50.5**	**+0.7**
CAST	comp=Z,1.6nm,0.8s				IAmb	IAmb	11 57 06.5	
SEY	**Seymchan** comp=Z,3.0nm,0.8s,baz=118,slow=11,SNR=9.5	**18.46**	**317**	P		**P**	**11 56 52.9**	**+0.7**
C18K	**Utukok River**	**18.69**	**21**	P		**P**	**11 56 54.8**	**0.0**
KTH	**Kantishna Hill**	**18.76**	**41**	P		**P**	**11 56 56.2**	**+0.6**
KTH	comp=Z,3.3nm,0.8s				IAmb	IAmb	11 57 04.3	
E19K	**Redstone River**	**18.78**	**27**	P		**P**	**11 56 56.0**	**+0.4**
E19K	comp=Z,3.7nm,1.1s				IAmb	IAmb	11 56 57.0	
IMAR	**Indian Mountai**	**18.91**	**33**	P		**P**	**11 56 57.3**	**+0.3**
F20K	**Avaraart Lake**	**18.94**	**29**	P		**P**	**11 56 57.3**	**0.0**
BPAW	**Bear Paw Mtn.**	**18.97**	**40**	P		**P**	**11 56 58.5**	**+0.7**
BPAW	comp=Z,3.9nm,1.0s				IAmb	IAmb	11 57 01.4	
TRF	**Thorofare Moun**	**18.98**	**42**	P		**P**	**11 56 57.8**	**-0.3**
H21K	**Melozitna Rive**	**19.05**	**35**	P		**P**	**11 56 59.1**	**+0.5**
H21K	comp=Z,2.8nm,0.8s				IAmb	IAmb	11 57 02.6	
I21K	**Tanana**	**19.10**	**36**	P		**P**	**11 56 59.7**	**+0.6**
D19K	**Kuna River**	**19.29**	**24**	P		**P**	**11 57 01.2**	**0.0**
D19K	comp=Z,2.0nm,0.7s				IAmb	IAmb	11 57 01.5	
KLU	**Klutina**	**20.32**	**50**	P		**P**	**11 57 13.1**	**+0.8**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=244,slow=7.8,SNR=12	**20.87**	**40**	P		**P**	**11 57 17.8**	**-0.2**
ILAR	comp=Z,0.1nm,0.5s,baz=264,slow=3.5,SNR=4.0 comp=Z,0.3nm,0.5s			PcP		**PcP**	**12 01 15.2**	**-0.9**
F24K	**Squaw Lake**	**21.70**	**33**	P		**P**	**11 57 26.9**	**+0.6**
F24K	comp=Z,3.0nm,0.8s				IAmb	IAmb	11 57 28.9	
B22K	**Teshekpuk Lake**	**21.78**	**23**	P		**P**	**11 57 25.6**	**-1.4**
E24K	**Your Creek**	**21.79**	**31**	P		**P**	**11 57 27.6**	**+0.4**
J26L	**Joseph Creek**	**22.13**	**42**	P		**P**	**11 57 29.7**	**-0.8**
C23K	**Itkillik River**	**22.17**	**26**	P		**P**	**11 57 30.3**	**-0.5**
BARN	**Barnard Glacie**	**22.28**	**52**	P		**P**	**11 57 32.7**	**+0.7**
CTGM	**Chitina Glacie**	**22.43**	**52**	P		**P**	**11 57 33.8**	**+0.4**
L27K	**Beaver Creek,**	**22.52**	**46**	P		**P**	**11 57 34.3**	**+0.3**
L27K	comp=Z,2.8nm,1.1s				IAmb	IAmb	11 57 56.7	
BCAR	**Beaver Creek A**	**22.54**	**46**	P		**P**	**11 57 35.3**	**+1.1**
LOGN	**Logan Glacier**	**22.57**	**52**	P		**P**	**11 57 35.1**	**+0.4**
K27K	**Chicken**	**22.63**	**44**	P		**P**	**11 57 34.9**	**0.0**
E25K	**Arctic Village**	**22.76**	**33**	P		**P**	**11 57 36.5**	**+0.3**
E25K	comp=Z,2.0nm,0.6s				IAmb	IAmb	11 57 37.7	
BMAR	**Burnt Mountain**	**22.79**	**35**	P		**P**	**11 57 36.9**	**+0.4**
D25K	**Kavik River**	**23.10**	**30**	P		**P**	**11 57 39.6**	**+0.4**
D25K	comp=Z,1.7nm,0.9s				IAmb	IAmb	11 57 40.5	
G27K	**Doyon Strip**	**23.61**	**37**	P		**P**	**11 57 44.3**	**+0.4**
DAWY	**Dawson**	**23.79**	**44**	P		**P**	**11 57 47.9**	**+2.4**
DAWY	comp=Z,2.4nm,0.9s				IAmb	IAmb	11 57 48.5	
E27K	**Coleen River**	**24.14**	**34**	P		**P**	**11 57 49.1**	**+0.5**
E27K	comp=Z,2.3nm,0.8s				IAmb	IAmb	11 57 49.9	
HYT	**Haines Junctio**	**24.29**	**53**	P		**P**	**11 57 50.8**	**+0.7**
F28M	**Old Crow**	**24.54**	**36**	P		**P**	**11 57 52.6**	**+0.3**
F28M	comp=Z,2.8nm,1.1s				IAmb	IAmb	11 58 02.9	
D27M	**Malcolm River**	**24.77**	**32**	P		**P**	**11 57 55.0**	**+0.6**
D27M	comp=Z,2.0nm,0.8s				IAmb	IAmb	11 57 55.9	
E28M	**Babbage River**	**25.00**	**34**	P		**P**	**11 57 57.2**	**+0.8**
E29M	**Blow River**	**25.49**	**35**	P		**P**	**11 58 01.6**	**+0.8**
A36M	**Sachs Harbour**	**30.59**	**30**	P		**P**	**11 58 46.7**	**+0.9**
C36M	**Paulatuk**	**30.59**	**35**	P		**P**	**11 58 46.2**	**+0.3**
C36M	comp=Z,2.8nm,1.1s				IAmb	IAmb	11 58 46.4	
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.8s,baz=283,slow=8.5,SNR=11	**34.95**	**47**	P		**P

TXAR				PcP		**PcP**		**12 03 16.9**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=336,slow=2.0,SNR=1.6								
	comp=Z,0.5nm,0.5s								
SCHQ	**Schefferville**	**59.61**	**38**	P		**P**		**12 02 32.5**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=353,slow=8.1,SNR=2.9								
	comp=Z,3.0nm,0.9s								
AKASG	**Malin Array Be**	**74.72**	**342**	P		**P**		**12 04 08.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=19,slow=6.0,SNR=3.7								
	comp=Z,0.6nm,0.4s								

*DNK **17** 11:57:31.8±0.9,59.10N×9.50E, h0km, ML2.6(UPP), Suspected explosion*
*UPP **17** 11:57:31.7±1.0,59.10N×9.53E, h1km, ML2.6*
*BER **17** 11:57:33.0±1.3,59.16N×9.56E, h0km, ML1.4, Suspected explosion*

ISC 17 11:57:30.5±0.8,59.12N±0.03×9.56E±0.03, h0km, n18, σ0.36/34, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KONO	**Kongsberg**	**0.53**	**2**	*e*P		**Pb**	**11 57 41.9**	**-0.8**
KONO				*e*S		**Sg**	**11 57 49.0**	**+1.4**
KONO				IAML			11 57 49.6	
	comp=Z,14nm,0.4s							
STRU	**Stroemstad**	**0.84**	**95**	*e*P		**Pb**	**11 57 47.8**	**-0.2**
STRU				*e*S		**Sb**	**11 57 59.8**	**0.0**
STRU	**Stroemstad**	**0.84**	**95**	P		**Pb**	**11 57 47.6**	**-0.4**
STRU				S		**Sb**	**11 57 59.8**	**0.0**
STRU	**Stroemstad**	**0.84**	**95**	P		**Pb**	**11 57 47.6**	**-0.4**
STRU				S		**Sb**	**11 57 59.8**	**0.0**
HOMB	**Homborsund**	**1.02**	**213**	*e*P		**Pb**	**11 57 51.0**	**+0.1**
HOMB				*e*S		**Sn**	**11 58 06.8**	**-0.2**
HOMB				IAML			11 58 08.7	
	comp=Z,8.7nm,0.2s							
VANU	**Vaenersborg**	**1.45**	**115**	P		**Pg**	**11 57 58.2**	**-0.1**
VANU				S		**Sn**	**11 58 17.6**	**-0.1**
VANU	**Vaenersborg**	**1.45**	**115**	P		**Pg**	**11 57 58.2**	**-0.1**
VANU				S		**Sn**	**11 58 17.6**	**-0.1**
SNART	**Snartemo**	**1.46**	**238**	*e*P		**Pb**	**11 57 58.7**	**+0.2**
SNART				*e*S		**Sb**	**11 58 17.5**	**0.0**
SNART				IAML			11 58 20.4	
	comp=Z,23nm,0.9s							
FINU	**Finntorp**	**1.52**	**78**	P		**Pg**	**11 57 59.8**	**0.0**
FINU				S		**Sn**	**11 58 19.7**	**+0.2**
FINU	**Finntorp**	**1.52**	**78**	P		**Pg**	**11 57 59.8**	**0.0**
FINU				S		**Sn**	**11 58 19.7**	**+0.2**
TJOU	**Tjoern**	**1.54**	**134**	P		**Pg**	**11 57 59.9**	**0.0**
TJOU				S		**Sn**	**11 58 19.7**	**-0.1**
TJOU	**Tjoern**	**1.54**	**134**	P		**Pg**	**11 57 59.9**	**0.0**
TJOU				S		**Sn**	**11 58 19.7**	**-0.1**
BLS5	**Blasjo**	**1.62**	**282**	*e*P		**Pn**	**11 57 59.7**	**-0.7**
BLS5				*e*S		**Sn**	**11 58 22.0**	**0.0**
BLS5				IAML			11 58 24.5	
	comp=Z,8.1nm,0.4s							
SKAR	**Skarslia**	**1.69**	**339**	*e*Pg		**Pb**	**11 58 02.4**	**-0.1**
SKAR				*e*Sg		**Sg**	**11 58 24.7**	**-0.1**
SKAR				IAML			11 58 27.8	
	comp=Z,4.1nm,0.3s							
ODD1	**Odda**	**1.69**	**299**	*e*P		**Pn**	**11 58 01.4**	**0.0**
NAO01	**NORSAR Array S**	**1.85**	**20**	*e*P		**Pn**	**11 58 03.7**	**+0.2**
NASU	**Vaermlandsnaes**	**1.88**	**94**	P		**Pb**	**11 58 05.8**	**0.0**
NASU				S		**Sg**	**11 58 31.3**	**+0.3**
NASU	**Vaermlandsnaes**	**1.88**	**94**	P		**Pb**	**11 58 05.8**	**0.0**
NASU				S		**Sg**	**11 58 31.3**	**+0.3**

HEL 17 11:59:21.0±0.1, 63.68N×25.58E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OUF	**Merijarvi**	**0.79**	**332**	PG		Pg	11 59 35.0	-1.1
OUF				MSG			11 59 45.6	
	comp=Z,1.8nm,0.2s							
OUF				SB		Sg	11 59 45.9	-0.4
OBF0	**Syolatti, Pyha**	**1.01**	**325**	PG		Pg	11 59 39.3	-1.1
OBF0				MSG			11 59 52.1	
	comp=Z,1.5nm,0.2s							
OBF0				SB		Sg	11 59 53.0	-0.6
NIF	**Nilsia**	**1.04**	**105**	PB		Pg	11 59 40.0	-0.9
	baz=282							
NIF				SB		Sg	11 59 54.4	+0.1
OBF4	**Vikkela, Lumij**	**1.16**	**350**	PG		Pg	11 59 42.3	-1.0
OBF4				MSG			11 59 56.3	
	comp=Z,1.0nm,0.2s							
OBF4				SG		Sb	11 59 59.0	-0.5
OUL	**Oulu**	**1.42**	**5**	PG		Pn	11 59 46.9	-1.2
	baz=182							
OUL				SN		Sg	12 00 06.6	-0.1
VAF	**Ylistaro**	**1.46**	**245**	PG		Pn	11 59 47.4	-1.1
VAF				MSG			12 00 04.8	
	comp=Z,1.0nm,0.2s							
VAF				SG		Sg	12 00 06.8	-1.0
KEF	**Keuruu**	**1.55**	**192**	PG		Pn	11 59 49.2	-0.6
KEF				MSG			12 00 07.4	
	comp=Z,1.0nm,0.2s							
KEF				SG		Sn	12 00 09.1	-1.4
KAF	**Kangasniemi**	**1.60**	**168**	PG		Pn	11 59 50.1	-0.5
KAF				MSG			12 00 08.9	
	comp=Z,2.2nm,0.2s							
KAF				SN		Sn	12 00 11.6	-0.3
RMF	**Romuvaara**	**2.00**	**72**	PG		Pb	11 59 57.1	-1.1
RMF				MSG			12 00 20.4	
	comp=Z,0.9nm,0.2s							
RMF				SG		Sb	12 00 23.4	-0.1
BURU	**Burvik**	**2.06**	**298**	PG		Pb	11 59 58.7	-0.5
BURU				SG		Sg	12 00 26.2	-0.8
UMAU	**Umeaa**	**2.19**	**278**	PB		Pn	11 59 58.7	+0.1
	baz=95							
UMAU				SG		Sb	12 00 28.6	-0.4
FIA0	**FINESS Array S**	**2.25**	**174**	PG		Pb	12 00 01.0	-1.5
	baz=357							
FIA0				MSG			12 00 27.6	
	comp=Z,1.3nm,0.2s							
FIA0				SG		Sb	12 00 31.3	+0.5
TOF	**Tornio**	**2.47**	**348**	PG		Pb	12 00 04.9	-1.3
	baz=171							
TOF				MSG			12 00 34.1	
	comp=Z,0.3nm,0.2s							
TOF				SG		Sg	12 00 38.8	-1.6
JOF	**Joensuu**	**2.70**	**104**	PG		Pb	12 00 09.2	-0.9
JOF				SG		Sb	12 00 43.1	-0.5
RUF	**Ruokolahti**	**2.75**	**144**	PG		Pb	12 00 09.4	-1.4
	baz=327							
RUF				MSG			12 00 41.9	
	comp=Z,0.7nm,0.2s							
RUF				SG		Sb	12 00 45.3	+0.3
KU6	**Riekki**	**2.99**	**36**	PB		Pn	12 00 11.7	+2.1
	baz=221							
KU6				MSG			12 00 49.1	
	comp=Z,0.4nm,0.2s							
KU6				SG		Sb	12 00 51.4	-0.8
RAF	**Rauma**	**3.20**	**215**	SG		Sb	12 00 56.4	-1.7
KLF	**Kolari**	**3.64**	**350**	PN		Pn	12 00 19.9	+1.4

*IDC **17** 12:17:13.9±1.6,6.73S×130.23E, h0km, mb4.0/3, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=70.1km s-min=28.4km az=66.0*

ISC 17 12:17:26.5±1.0, 7.69S±0.08×129.6E±0.1, h150km, n12, σ1.91/8, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.75**	**100**	P		Pn	12 18 03.9	+5.0
FAKI	**Fak Fak**	**5.44**	**30**	P		**Pn**	**12 18 45.5**	**-0.4**
SOEI	**Soe**	**5.62**	**248**	P		**Pn**	**12 18 47.9**	**-0.4**
KDU	**Kakadu**	**5.74**	**150**	P		Pn	12 18 54.5	+4.7
KNRA	**Kununurra**	**7.98**	**186**	P		**Pn**	**12 19 22.5**	**+2.8**
FITZ	**Fitzroy Crossi**	**11.03**	**200**	P		**Pn**	**12 20 01.1**	**+1.0**
PLAI	**Plampang**	**11.71**	**264**	P		**Pn**	**12 20 07.8**	**-1.4**
WRA	**Warramunga Arr**	**13.04**	**160**	Pn		**P**	**12 20 29.8**	**-1.2**
	0.6nm,0.3s,baz=344,slow=15,SNR=22							
WRA				Sn		**Sn**	**12 22 48.6**	**-1.9**
	1.3nm,0.3s,baz=335,slow=22,SNR=12							
	1.2nm,0.5s							
ASAR	**Alice Springs**	**16.43**	**166**	P		Pn	12 21 15.6	+7.0
	0.3nm,0.3s,baz=351,slow=12,SNR=12							
	0.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**39.84**	**311**	P		**P**	**12 24 47.0**	**+1.4**
	1.2nm,0.3s,baz=135,slow=7.4,SNR=5.3							
	1.2nm,0.3s							
MKAR	**Makanchi Array**	**68.56**	**327**	P		P	12 28 16.2	+3.2
	0.4nm,0.5s,baz=111,slow=7.8,SNR=8.1							
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**72.86**	**329**	P		P	12 28 42.7	+3.7
	0.9nm,0.6s,baz=132,slow=5.1,SNR=15							
	0.9nm,0.6s							

*SJA **17** 12:21:53.8±0.7, 24.38S×67.09W, h197km±6km, ML3.6, MW3.5*
*GUC **17** 12:21:56.2±0.6, 24.31S×67.41W, h213km±12km, ML3.8*

ISC 17 12:21:53.0±1.9, 24.36S±0.04×67.13W±0.05, h209km±17km, n30, σ1.27/50, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLA	**San Lorenzo**	**1.52**	**104**	*e*P		**Pn**	**12 22 27.8**	**0.0**
SLA				*e*S		**S**	**12 22 52.9**	**-1.7**
FSA	**Cafayete**	**2.03**	**149**	*e*P		**Pn**	**12 22 33.0**	**+0.4**
GO02	**Mina Guanaco**	**2.38**	**250**	*e*P		**Pn**	**12 22 37.5**	**+1.1**
GO02	**Mina Guanaco**	**2.38**	**250**	*i*P		**Pn**	**12 22 37.5**	**+1.1**
GO02				*e*S		**S**	**12 23 09.3**	**-0.5**
GO02				IAML			12 23 11.8	
	comp=E,280nm,0.1s							
LVC	**Limon Verde**	**2.39**	**316**	*e*P		**Pn**	**12 22 37.7**	**+1.1**
LVC				*e*S		**S**	**12 23 10.2**	**0.0**
LVC	**Limon Verde**	**2.39**	**316**	*e*P		**Pn**	**12 22 37.7**	**+1.1**
LVC				*e*S		**S**	**12 23 09.1**	**-1.1**
LVC				IAML			12 23 11.0	
	comp=E,349nm,0.7s							
PB15	**IPOC Station P**	**2.43**	**298**	*e*P		**Pn**	**12 22 38.1**	**+1.2**
PB15				*e*S		**S**	**12 23 10.4**	**-0.3**
PB15	**IPOC Station P**	**2.43**	**298**	*e*P		**Pn**	**12 22 38.2**	**+1.3**
PB15				*e*S		**S**	**12 23 09.5**	**-1.2**
YJA	**Yavi**	**2.63**	**35**	*e*P		**Pn**	**12 22 41.0**	**+1.6**
YJA				*e*S		**S**	**12 23 14.2**	**-0.8**
PB06	**IPOC Station P**	**2.78**	**306**	*e*P		**Pn**	**12 22 41.8**	**+1.1**
PB06				*e*S		**S**	**12 23 16.9**	**-0.7**
PB06				IAML			12 23 18.0	
	comp=Z,138nm,0.1s							
PB06	**IPOC Station P**	**2.78**	**306**	*e*P		**Pn**	**12 22 41.9**	**+1.2**
PB06				*e*S		**S**	**12 23 16.2**	**-1.4**
PB06				IAML			12 23 17.9	
	comp=N,304nm,0.2s							
PB09	**IPOC Station P**	**3.21**	**322**	*e*P		**Pn**	**12 22 47.4**	**+1.7**
PB09				*e*S		**S**	**12 23 26.5**	**0.0**
PB09				IAML			12 23 28.5	
	comp=Z,50nm,0.2s							
PB09	**IPOC Station P**	**3.21**	**322**	*e*P		**Pn**	**12 22 47.4**	**+1.7**
PB09				*e*S		**S**	**12 23 26.1**	**-0.4**
PB09				IAML			12 23 29.0	
	comp=N,55nm,0.4s							
PB04	**IPOC Station P**	**3.43**	**305**	*e*P		**Pn**	**12 22 49.6**	**+1.2**
PB04				*e*S		**S**	**12 23 29.7**	**-1.6**
PB04				IAML			12 23 33.8	
	comp=Z,103nm,0.1s							
PB04	**IPOC Station P**	**3.43**	**305**	*e*P		**Pn**	**12 22 49.4**	**+1.1**
PB04				*e*S		**S**	**12 23 28.9**	**-2.3**
AC01	**Pan de Azucar**	**3.61**	**240**	*e*P		**Pn**	**12 22 50.6**	**+0.3**
AC01				*e*S		**S**	**12 23 33.6**	**-1.3**
PB07	**IPOC Station P**	**3.65**	**315**	*e*P		**Pn**	**12 22 51.7**	**+0.7**
PB07				*e*S		**S**	**12 23 34.0**	**-2.1**
PB07				IAML			12 23 35.5	
	comp=Z,144nm,0.5s							
PB07	**IPOC Station P**	**3.65**	**315**	*i*P		**Pn**	**12 22 51.8**	**+0.7**
PB07				*e*S		**S**	**12 23 33.5**	**-2.6**
PB01	**IPOC Station P**	**3.95**	**326**	*e*P		**Pn**	**12 22 55.0**	**+0.3**
PB01				*e*S		**S**	**12 23 41.7**	**-1.0**
PB01				IAML			12 23 43.9	
	comp=Z,32nm,0.3s							
PB01	**IPOC Station P**	**3.95**	**326**	*e*P		**Pn**	**12 22 55.0**	**+0.3**
PB02	**IPOC Station P**	**3.96**	**319**	*e*P		**Pn**	**12 22 55.2**	**+0.5**
PB02				*e*S		**S**	**12 23 40.6**	**-2.2**
PB02				IAML			12 23 45.7	
	comp=Z,85nm,0.2s							
PB02	**IPOC Station P**	**3.96**	**319**	*e*P		**Pn**	**12 22 55.1**	**+0.4**
GO03	**Copiap**	**4.26**	**220**	*e*P		**Pn**	**12 22 59.0**	**+0.6**
GO03				*e*S		**S**	**12 23 48.8**	**-0.8**
GO03	**Copiap**	**4.26**	**220**	*e*P		**Pn**	**12 22 58.8**	**+0.4**
PB08	**IPOC Station P**	**4.60**	**336**	*e*P		**Pn**	**12 23 04.2**	**+1.3**
HMBC	**Humberstone**	**4.80**	**327**	*e*P		**Pn**	**12 23 04.8**	**-0.4**
GO01	**Chusmiza**	**5.05**	**337**	*e*P		**Pn**	**12 23 10.2**	**+1.5**
GO01				*e*S		**S**	**12 24 08.4**	**+0.3**
ACLC	**CERRO LA CRUZ**	**5.05**	**178**	*e*P		**Pn**	**12 23 09.1**	**+0.8**
ACLC				*e*S		**S**	**12 24 08.6**	**+1.0**
AC04	**Llanos de Chal**	**5.22**	**222**	*e*P		Pn	12 22 58.0	-12
AC04				IAML			12 24 16.2	
	comp=Z,19nm,1.6s							
AGUA	**GUANDACOL**	**5.25**	**193**	*e*P		**Pn**	**12 23 13.8**	**+2.9**

*IDC **17** 12:49:04.9±2.2, 15.25N×146.11E, h85km±19km, mb3.6/11, mbtmp3.9/12, Error ellipse: s-maj=25.7km s-min=14.7km az=95.0*
*NEIC **17** 12:49:04.8±1.5, 15.27N±0.07×146.2E±0.1, h78km±6km, mb4.2/17, Error ellipse: s-maj=15.1km s-min=9.7km az=112.0*

ISC 17 12:49:01.6±0.6, 15.38N±0.08×146.3E±0.1, h50km, n40, σ1.88/33, mb4.1/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**2.23**	**217**	Pn		**Pn**	**12 49 38.7**	**+2.6**
GUMO				Sn		**Sn**	**12 50 03.0**	**+0.6**
GUMO	**Guam**	**2.23**	**217**	P		**Pn**	**12 49 38.5**	**+2.4**
	107nm,0.3s,baz=348,slow=19,SNR=18							
GUMO				S		**Sn**	**12 50 02.7**	**+0.3**
	228nm,0.3s,baz=3.5,slow=19,SNR=18							
JCJ	**Chichijima**	**12.26**	**343**	P		Pn	12 51 50.5	-3.1
	36nm,0.7s,baz=242,slow=20,SNR=1.0							
PATS	**Pohnpei**	**14.56**	**124**	Pn		**Pn**	**12 52 25.6**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**19.80**	**78**	T		T	13 14 24.9	
	baz=264,slow=75,SNR=32							
H11S1	**WAKE ISLAND Hy**	**19.81**	**78**	T		T	13 14 27.1	
	baz=264,slow=75,SNR=25							
H11S2	**WAKE ISLAND Hy**	**19.81**	**78**	T		T	13 14 25.5	
	baz=264,slow=75,SNR=32							
H11N1	**WAKE ISLAND Hy**	**20.15**	**75**	T		T	13 14 48.7	
	baz=263,slow=75,SNR=34							
H11N2	**WAKE ISLAND Hy**	**20.16**	**75**	T		T	13 14 49.3	
	baz=263,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**20.16**	**75**	T		T	13 14 49.8	
	baz=263,slow=75,SNR=29							
MJB9	**Matsu-Tunnel**	**22.27**	**343**	P		**P**	**12 53 53.3**	**-1.2**
JNU	**Nakatsue**	**22.50**	**324**	P		**P**	**12 53 57.9**	**+0.8**
JNU				IAmb		IAmb	12 54 11.5	
	comp=Z,15nm,1.1s							
TNTI	**Ternate**	**23.62**	**234**	P		**P**	**12 54 08.7**	**+0.3**
KSRS	**Korea Array**	**27.33**	**327**	P		**P**	**12 54 41.0**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=146,slow=9.2,SNR=6.5							
	comp=Z,1.3nm,0.7s							
KKM	**Kota Kinabalu**	**30.89**	**256**	P		**P**	**12 55 12.5**	**-1.3**
MTN	**Manton Dam**	**31.78**	**209**	P		P	12 55 18.4	-3.0
MTN				IAmb		IAmb	12 55 29.4	
	comp=Z,8.6nm,1.1s							
SOEI	**Soe**	**33.13**	**222**	P		P	12 55 30.5	-3.0
WB0	**Warramunga Arr**	**36.82**	**199**	P		**P**	**12 56 04.1**	**-0.9**
WB0				IAmb		IAmb	12 56 30.3	
	comp=Z,3.3nm,1.1s							
WB2	**Warramunga Arr**	**37.00**	**199**	P		**P**	**12 56 05.2**	**-1.3**
WB2				IAmb		IAmb	12 56 06.8	
	comp=Z,2.3nm,0.8s							
WRA	**Warramunga Arr**	**37.00**	**199**	P		**P**	**12 56 06.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=23,slow=9.3,SNR=6.4							
WRA				ScP		**ScP**	**13 02 02.1**	**-7.7**
	comp=Z,0.4nm,0.7s,baz=20,slow=4.2,SNR=2.0							
	comp=Z,1.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**38.98**	**212**	P		**P**	**12 56 22.1**	**-1.1**
HIA	**Hailar**	**40.13**	**333**	P		**P**	**12 56 32.6**	**0.0**
HIA				IAmb		IAmb	12 56 53.1	
	comp=Z,4.3nm,0.7s							
ASAR	**Alice Springs**	**40.64**	**198**	P		**P**	**12 56 36.2**	**-0.9**
ASAR	**Alice Springs**	**40.64**	**198**	P		**P**	**12 56 35.3**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=20,slow=7.6,SNR=4.4							
ASAR				PcP		**PcP**	**12 58 37.2**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=28,slow=4.2,SNR=1.2							
	comp=Z,0.4nm,0.8s							
SONM	**Songino Array**	**46.07**	**323**	P		**P**	**12 57 22.0**	**+1.3**
SONM	**Songino Array**	**46.07**	**323**	P		**P**	**12 57 21.4**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=141,slow=7.8,SNR=6.9							
	comp=Z,0.8nm,0.6s							
CNBA	**Chernabura Isl**	**57.20**	**34**	P		P	12 58 42.2	-1.2
ZALV	**Zalesovo Beam**	**60.97**	**324**	P		P	12 59 08.4	-1.2
	comp=Z,0.5nm,0.4s,baz=115,slow=8.8,SNR=2.4							
	comp=Z,0.5nm,0.4s							
MK31	**Makanchi Array**	**61.15**	**315**	P		**P**	**12 59 11.2**	**+0.2**
MKAR	**Makanchi Array**	**61.15**	**315**	P		**P**	**12 59 10.9**	**-0.1**
MKAR	**Makanchi Array**	**61.15**	**315**	P		**P**	**12 59 11.3**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=90,slow=8.9,SNR=24							
	comp=Z,0.8nm,0.5s							
MAKZ	**Makanchi**	**61.37**	**315**	P		**P**	**12 59 13.1**	**+0.6**
MAKZ				IAmb		IAmb	12 59 14.2	
	comp=Z,3.2nm,1.1s							
F17K	**Baldwin Pennin**	**61.49**	**21**	P		**P**	**12 59 15.1**	**+2.2**
F17K				IAmb		IAmb	12 59 33.6	
	comp=Z,3.3nm,1.0s							
H18K	**Honhosa River**	**61.94**	**23**	P		**P**	**12 59 18.1**	**+2.1**
H18K				IAmb		IAmb	12 59 31.1	
	comp=Z,0.9nm,0.8s							
G18K	**Tagagawik**	**62.16**	**22**	P		**P**	**12 59 20.0**	**+2.6**
G18K				IAmb		IAmb	12 59 43.4	
	comp=Z,1.1nm,1.1s							
KURBB	**Kurchatov Arra**	**64.14**	**319**	P		**P**	**12 59 30.4**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=98,slow=6.9,SNR=68							
	comp=Z,4.9nm,0.6s							
ILAR	**Eielson Array**	**66.39**	**25**	P		**P**	**12 59 45.2**	**0.0**
	comp=Z,0.5nm,0.4s,baz=255,slow=5.7,SNR=14							
	comp=Z,0.5nm,0.4s							
BVAR	**Borovoye Array**	**69.36**	**321**	P		**P**	**13 00 03.4**	**-0.7**
	comp=Z,2.4nm,0.4s,baz=104,slow=7.6,SNR=25							
	comp=Z,2.4nm,0.4s							
YKA	**Yellowknife Ar**	**80.66**	**28**	P		**P**	**13 01 09.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=287,slow=5.2,SNR=8.9							
	comp=Z,0.4nm,0.7s							
NVAR	**Mina Array Bea**	**84.77**	**52**	P		**P**	**13 01 30.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=258,slow=7.3,SNR=3.7							
	comp=Z,0.3nm,0.6s							

*IDC **17** 12:56:25.1±10.0, 20.84N×122.20E, h144km±106km, mb3.4/7, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=38.6km s-min=14.0km az=66.0*
*NEIC **17** 12:56:26.6±0.9, 20.77N±0.09×122.0E±0.1, h146km±8km, mb4.0/17, Error ellipse: s-maj=16.8km s-min=12.7km az=71.0*
*TAP **17** 12:56:28.3, 21.07N×122.10E, h165km, ML4.2, D*

ISC 17 12:56:27.0±0.9, 20.90N±0.06×122.09E±0.08, h157km±8km, n117, σ1.12/153, mb3.8/15, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LYUB	**Lan-yu**	**1.19**	**337**	P		**Pn**	**12 56 55.3**	**+1.2**
	baz=333							
LAY	**Lan-yu**	**1.24**	**336**	P		**Pn**	**12 56 54.9**	**+0.3**
	baz=332							
LAY				S		**Sn**	**12 57 16.2**	**+0.5**
	baz=332							
TSEB	**Hengchuen, Pin**	**1.49**	**312**	*i*P		**Pn**	**12 56 58.7**	**+1.8**
	baz=301							
TSEB				*i*S		**Sn**	**12 57 21.4**	**+1.4**
	baz=301							
TWKBT	**Hengchun**	**1.57**	**311**	P		**Pn**	**12 56 59.4**	**+1.6**
	baz=302							
TWKBT				S		**Sn**	**12 57 21.5**	**-0.1**
	baz=302							
TWK1	**Hengchun**	**1.58**	**311**	*i*P		**Pn**	**12 56 59.2**	**+1.3**
	baz=302							
TWK1				*i*S		**Sn**	**12 57 21.7**	**0.0**
	baz=302							
SMST	**Manzhou Townsh**	**1.61**	**314**	*i*P		**Pn**	**12 56 59.2**	**+1.0**
	baz=313							
SMST				S		**Sn**	**12 57 21.8**	**-0.5**
	baz=313							
SNW	**Nanwan**	**1.63**	**311**	P		**Pn**	**12 57 00.0**	**+1.6**
	baz=303							
HEN	**Hengchun**	**1.67**	**311**	P		**Pn**	**12 56 59.9**	**+1.1**
	baz=307							
HEN				S		**Sn**	**12 57 23.9**	**+0.5**
	baz=307							
TAWH	**Dawu Township**	**1.81**	**322**	P		**Pn**	**12 57 00.8**	**+0.3**
	baz=322							
TAWH				S		**Sn**	**12 57 24.8**	**-1.4**
	baz=322							
TAW	**Tawu**	**1.82**	**323**	*i*P		**Pn**	**12 57 00.9**	**+0.4**
	baz=322							
TAW				S		**Sn**	**12 57 24.6**	**-1.8**
	baz=322							
LDUT	**Ludao**	**1.85**	**342**	P		**Pn**	**12 57 00.1**	**-0.7**
	baz=343							
LDUT				*e*S		**Sn**	**12 57 26.3**	**-0.8**
	baz=343							
EAST	**Anshuo**	**1.87**	**322**	*i*P		**Pn**	**12 57 01.4**	**+0.3**
	baz=319							
EAST				S		**Sn**	**12 57 26.1**	**-1.4**
	baz=319							
ECL	**Taimali**	**1.99**	**328**	*e*P		**Pn**	**12 57 01.9**	**-0.5**
	baz=321							
ECL				*e*S		**Sn**	**12 57 27.2**	**-2.5**
	baz=321							
SCZT	**Fangliau**	**2.00**	**317**	*i*P		**Pn**	**12 57 03.0**	**+0.5**
	baz=319							
SCZT				*i*S		**Sn**	**12 57 28.9**	**-1.1**
	baz=319							
TTN	**Taitung**	**2.04**	**335**	*e*P		**Pn**	**12 57 04.6**	**+1.6**
	baz=329							
TWGBT	**Beinan**	**2.12**	**334**	P		**Pn**	**12 57 03.5**	**-0.4**
	baz=326							
TWGBT				S		**Sn**	**12 57 30.1**	**-2.5**
	baz=326							
TWG	**Pinlang**	**2.13**	**334**			**Pn**	**12 57 03.9**	**-0.2**
TWG						Sn	**12 57 30.2**	**-2.6**
TWG	**Pinlang**	**2.13**	**334**	*i*P		**Pn**	**12 57 04.1**	**+0.1**
	baz=326							
TWG				S		**Sn**	**12

TWF1				*e*S		**Sn**	**12 57 40.5**	**-1.1**
	baz=346							
STYH	**Taoyuan**	**2.57 332**		P		**Pn**	**12 57 09.5**	**+0.3**
	baz=323							
STYH				*e*S		**Sn**	**12 57 40.8**	**-1.2**
	baz=323							
SGST	**Jiashian**	**2.58 328**		*i* P		**Pn**	**12 57 09.0**	**-0.4**
	baz=325							
SGST				S		**Sn**	**12 57 39.6**	**-2.8**
	baz=325							
YULB	**Yu-li**	**2.59 344**				**Pn**	**12 57 10.1**	**+0.6**
YULB	**Yu-li**	**2.59 344**		*e*P		**Pn**	**12 57 09.5**	**0.0**
	baz=334							
YULB				*e*S		**Sn**	**12 57 40.5**	**-2.0**
	baz=334							
HGSD	**Ruisui**	**2.65 347**		*e*P		**Pn**	**12 57 11.1**	**+0.8**
	baz=348							
HGSD				*e*S		**Sn**	**12 57 44.4**	**+0.5**
	baz=348							
SHHT	**Tainan City**	**2.66 323**		P		**Pn**	**12 57 11.8**	**+1.4**
	baz=327							
EHY	**Hungye**	**2.69 345**		*e*P		**Pn**	**12 57 10.6**	**-0.1**
	baz=337							
CHN3	**Shinhua**	**2.69 324**		P		**Pn**	**12 57 12.6**	**+1.9**
	baz=328							
CHN1	**Nanshi**	**2.69 328**		P		**Pn**	**12 57 11.1**	**+0.3**
	baz=325							
CHN1				S		**Sn**	**12 57 43.0**	**-1.8**
	baz=325							
WTP	**Ta-pu**	**2.70 330**		P		**Pn**	**12 57 11.3**	**+0.3**
	baz=328							
SNST	**Tainan City**	**2.74 328**		P		**Pn**	**12 57 11.5**	**+0.1**
	baz=325							
TPUB	**Ta-pu**	**2.74 331**				**Pn**	**12 57 11.7**	**+0.2**
TPUB				Sn		**Sn**	**12 57 43.6**	**-2.4**
TPUB	**Ta-pu**	**2.74 331**		P		**Pn**	**12 57 11.6**	**+0.2**
	baz=322							
SSHA	**Shanhua**	**2.78 323**		*e*P		**Pn**	**12 57 13.3**	**+1.5**
	baz=327							
SSHA				*e*S		**Sn**	**12 57 47.0**	**+0.3**
	baz=327							
TWK	**Hsinying**	**2.78 328**		P		**Pn**	**12 57 12.1**	**+0.2**
	baz=326							
CHN4	**Tsaushan**	**2.81 331**		P		**Pn**	**12 57 12.6**	**+0.4**
	baz=329							
EGFH	**Guangfu**	**2.82 348**		*e*P		**Pn**	**12 57 12.4**	**0.0**
	baz=348							
ALS	**Alishan**	**2.86 336**		P		**Pn**	**12 57 13.3**	**+0.2**
	baz=326							
ALS				S		**Sn**	**12 57 47.6**	**-1.2**
	baz=326							
SCLT	**Jiali**	**2.87 323**		*e*P		**Pn**	**12 57 12.8**	**-0.1**
	baz=326							
WCKO	**Fanlu**	**2.88 332**		*e*P		**Pn**	**12 57 13.3**	**+0.2**
	baz=324							
WARBT	**Fenglin Townsh**	**2.88 347**		*e*P		**Pn**	**12 57 13.5**	**+0.4**
	baz=340							
TSCK	**Chigu Township**	**2.91 321**		*e*P		**Pn**	**12 57 14.0**	**+0.6**
	baz=311							
SHUL	**Shoufeng**	**2.91 351**		*e*P		**Pn**	**12 57 14.7**	**+1.1**
	baz=355							
ESL	**Shilin**	**2.96 348**		*e*P		**Pn**	**12 57 15.3**	**+1.2**
	baz=353							
ICHU	**Yijhu**	**2.97 326**		*e*P		**Pn**	**12 57 14.3**	**+0.1**
	baz=330							
VWDT	**VWDT**	**2.97 343**		*e*P		**Pn**	**12 57 15.7**	**+1.4**
	baz=345							
CHN8	**Yiju**	**2.99 325**		*e*P		**Pn**	**12 57 14.8**	**+0.3**
	baz=329							
WHYT	**Xinyi Township**	**3.01 338**		*e*P		**Pn**	**12 57 14.8**	**0.0**
	baz=336							
CHY	**Chiayi**	**3.01 330**		*e*P		**Pn**	**12 57 14.9**	**+0.2**
	baz=328							
SSLB	**Suanglung**	**3.06 340**				**Pn**	**12 57 15.7**	**+0.3**
SSLB				Sn		**Sn**	**12 57 51.6**	**-1.4**
SSLB	**Suanglung**	**3.06 340**		*e*P		**Pn**	**12 57 15.4**	**0.0**
	baz=330							
WDLH	**Douliu**	**3.12 333**		*e*P		**Pn**	**12 57 16.2**	**+0.1**
	baz=331							
SMLT	**Sun Moon Lake**	**3.17 340**		*e*P		**Pn**	**12 57 16.9**	**+0.1**
	baz=330							
LXIB	**Xiulin Townshi**	**3.17 349**		*e*P		**Pn**	**12 57 16.9**	**0.0**
	baz=342							
WJS	**Zhushan**	**3.17 337**		*e*P		**Pn**	**12 57 16.9**	**+0.2**
	baz=335							
WTK	**Tuku**	**3.19 331**		*e*P		**Pn**	**12 57 16.2**	**-0.7**
	baz=329							
TYC	**Yuchr**	**3.20 339**		*e*P		**Pn**	**12 57 17.2**	**+0.1**
	baz=331							
WUSB	**Renai**	**3.21 344**		*e*P		**Pn**	**12 57 17.7**	**+0.4**
	baz=348							
WNT	**Mingjian**	**3.23 337**		*e*P		**Pn**	**12 57 18.1**	**+0.6**
	baz=335							
WDGT	**Dungji**	**3.25 317**		*e*P		**Pn**	**12 57 17.5**	**-0.3**
	baz=314							
CHGB	**Renai**	**3.26 345**		*e*P		**Pn**	**12 57 18.8**	**+0.7**
	baz=348							
WHF	**Hehuan Shan**	**3.32 347**		*e*P		**Pn**	**12 57 19.9**	**+0.8**
	baz=352							
WCS	**Beigang Elemen**	**3.32 341**		*e*P		**Pn**	**12 57 18.5**	**-0.2**
	baz=332							
VCHM	**Qimei**	**3.37 313**		*e*P		**Pn**	**12 57 18.9**	**-0.4**
	baz=311							
PHUB	**P'eng-hu**	**3.49 319**		*e*P		**Pn**	**12 57 19.8**	**-1.0**
	baz=316							
WHP	**Taichung City**	**3.52 343**		*e*P		**Pn**	**12 57 22.2**	**+0.9**
	baz=334							
PNG	**Penghu**	**3.54 319**		*e*P		**Pn**	**12 57 20.9**	**-0.6**
	baz=317							
NNSB	**Datong**	**3.57 350**		*e*P		**Pn**	**12 57 22.6**	**+0.6**
	baz=354							
YOJ	**Yonaguni jima**	**3.65 13**		Pn		**Pn**	**12 57 24.8**	**+1.9**
LATG	**Datong**	**3.66 352**		*e*P		**Pn**	**12 57 23.2**	**+0.1**
	baz=351							
YHNB	**Yeheng**	**3.81 350**		Pn		**Pn**	**12 57 25.9**	**+0.9**
YHNB	**Yeheng**	**3.81 350**		*e*P		**Pn**	**12 57 26.2**	**+1.2**
	baz=355							
KNMB	**Chin-men Tao**	**4.92 317**		Pn		**Pn**	**12 57 41.3**	**+1.8**
KKM	**Kota Kinabalu**	**15.83 202**				**Pn**	**13 00 01.1**	**-0.3**
UBPT	**Khong Chiam**	**16.75 253**		P		**P**	**13 00 11.2**	**-0.9**
UBPT				IAmb		IAmb	13 00 13.0	
	comp=Z,11nm,1.1s							
KSRS	**Korea Array**	**17.26 16**		P		**P**	**13 00 17.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=199,slow=11,SNR=4.8							
	comp=Z,0.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**21.92 268**		P		**P**	**13 01 08.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=84,slow=8.3,SNR=1.7							
	comp=Z,0.3nm,0.3s							
SONM	**Songino Array**	**29.71 338**		P		**P**	**13 02 18.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=149,slow=9.6,SNR=3.6							
	comp=Z,0.6nm,0.6s							
MTN	**Manton Dam**	**34.69 164**		P		**P**	**13 02 59.8**	**-2.1**
MK31	**Makanchi Array**	**41.30 318**		P		**P**	**13 03 58.0**	**+1.0**
MK31				IAmb		IAmb	13 03 58.9	
	comp=Z,2.2nm,0.9s							
MKAR	**Makanchi Array**	**41.30 318**		P		**P**	**13 03 58.0**	**+1.0**
MKAR	**Makanchi Array**	**41.30 318**		P		**P**	**13 03 57.8**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=110,slow=9.7,SNR=28							
	comp=Z,2.1nm,0.6s							
MAKZ	**Makanchi**	**41.50 318**		P		**P**	**13 03 59.9**	**+1.3**
WB0	**Warramunga Arr**	**42.17 163**		P		**P**	**13 04 02.7**	**-1.6**
WB0				IAmb		IAmb	13 04 14.9	
	comp=Z,4.3nm,1.1s							
WRA	**Warramunga Arr**	**42.33 163**		P		**P**	**13 04 04.1**	**-1.4**
WRA	**Warramunga Arr**	**42.33 163**		P		**P**	**13 04 03.8**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=347,slow=8.7,SNR=14							
	comp=Z,0.8nm,0.4s							
WB2	**Warramunga Arr**	**42.33 163**		P		**P**	**13 04 04.0**	**-1.5**
WB2				IAmb		IAmb	13 04 07.7	
	comp=Z,4.0nm,1.1s							
WR0	**Warramunga Arr**	**42.40 162**		P		**P**	**13 04 04.6**	**-1.5**
WR0				IAmb		IAmb	13 04 27.7	
	comp=Z,4.9nm,1.1s							
ZALV	**Zalesovo Beam**	**43.46 329**		P		**P**	**13 04 13.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=103,slow=6.4,SNR=4.8							
	comp=Z,0.7nm,0.5s							
KURK	**Kurchatov**	**45.16 322**		P		**P**	**13 04 28.3**	**+0.6**
KURBB	**Kurchatov Arra**	**45.17 322**		P		**P**	**13 04 28.1**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=114,slow=7.8,SNR=12							
	comp=Z,1.2nm,0.6s							
AS31	**Alice Springs**	**45.77 165**		P		**P**	**13 04 32.8**	**-0.2**
ASAR	**Alice Springs**	**45.77 165**		P		**P**	**13 04 32.2**	**-0.7**
ASAR	**Alice Springs**	**45.77 165**		P		**P**	**13 04 31.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=349,slow=9.5,SNR=20							
	comp=Z,0.5nm,0.4s							
TIXI	**Tiksi**	**50.91 3**		P		**P**	**13 05 12.3**	**+0.7**
EIDS	**Eidsvold**	**53.93 147**		P		**P**	**13 05 33.9**	**-0.6**
BBOO	**Buckleboo**	**55.05 166**		P		**P**	**13 05 41.9**	**-0.6**
BBOO				IAmb		IAmb	13 05 45.9	
	comp=Z,3.2nm,1.0s							
ABKAR	**Akbulak array**	**56.35 316**		P		**P**	**13 05 52.1**	**+0.5**
ABKAR				IAmb		IAmb	13 06 11.5	
	comp=Z,1.6nm,1.1s							
D19K	**Kuna River**	**67.00 23**		P		**P**	**13 07 03.9**	**+1.3**
D19K				IAmb		IAmb	13 07 24.6	
	comp=Z,1.5nm,1.1s							
H19K	**Roundabout Mou**	**67.65 26**		P		**P**	**13 07 08.4**	**+1.8**
L18K	**Granite Mounta**	**67.66 30**		P		**P**	**13 07 08.4**	**+1.7**
L18K				IAmb		IAmb	13 07 23.1	
	comp=Z,4.1nm,1.1s							
B21K	**Ikpikpuk River**	**68.26 22**		P		**P**	**13 07 12.3**	**+2.0**

*IDC **17** 13:00:37.8±3.0, 22°.71N×11°.81W, h0km, mb3.6/3, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=85.8km s-min=37.8km az=85.0*

ISC 17 13:00:40.0±1.9, 22°.6N±0°.2×11°.5W±0°.3, h10km, n8, σ0s50/7, mb3.7/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MDT	**Midelt**	**11.86**	**30**	Lg	Lg		13 06 55.3	
	0.1nm,0.3s,baz=322,slow=19,SNR=1.6							
I11CV	**MAIO ISLAND IN**	**13.22**	**238**	I	I		14 20 50.0	
	baz=52,slow=298,SNR=1.2							
TORD	**Torodi Ar. Bea**	**15.72**	**125**	Pn	**P**		**13 04 25.0**	**-0.7**
	0.1nm,0.3s,baz=310,slow=12,SNR=5.7							
TORD				Sn	**Sn**		**13 07 16.4**	**+0.3**
	baz=316,slow=16,SNR=2.2							
	0.7nm,0.5s							
DBIC	**Dimbokro**	**17.12**	**157**	P	**Pn**		**13 04 39.8**	**+0.3**
	0.3nm,0.3s,baz=327,slow=14,SNR=4.0							
	1.3nm,0.5s							
BRTR	**Keskin Array B**	**41.78**	**55**	P	**P**		**13 08 29.8**	**-0.1**
	0.6nm,0.8s,baz=269,slow=10,SNR=2.0							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**72.90**	**42**	P	**P**		**13 12 09.5**	**+0.3**
	0.4nm,0.6s,baz=288,slow=6.7,SNR=5.7							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**76.38**	**45**	P	**P**		**13 12 30.0**	**+0.3**
	0.3nm,0.5s,baz=274,slow=4.7,SNR=5.6							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**148.26**	**99**	PKPbc	**PKPbc**		**13 20 26.7**	**-0.4**
	0.5nm,0.7s,baz=310,slow=2.0,SNR=8.3							

*NEIC **17** 13:18:53.0±2.5, 58°.34N±0°.02×137°.51W±0°.05, h5km±2km, Error ellipse: s-maj=6.2km s-min=2.8km az=230.0*

*AEIC **17** 13:18:55.0±3.3, 58°.50N±0°.02×137°.10W±0°.05, h0km±2km, ML2.3, ML2.8(OTT), ML2.5/30(NEIC), Error ellipse: s-maj=5.2km s-min=2.8km az=233.0*

*PGC **17** 13:18:56.4±2.1, 58°.51N×137°.14W, h1km, ML2.8/22, 129km Wsw of Haines, Ak Southeastern Alaska*

ISC 17 13:18:53.2±1.1, 58°.42N±0°.04×137°.25W±0°.04, h10km, n58, σ2s17/92, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
S31K	**Pelican**	**0.71**	**130**		**Pn**		**13 19 08.5**	**-0.8**
PLBC	**Pleasant Camp**	**1.14**	**23**		**Pb**		**13 19 14.2**	**-0.7**
PLBC	**Pleasant Camp**	**1.14**	**23**	P	**Pb**		**13 19 14.2**	**-0.7**
PLBC				S	**Sb**		**13 19 29.3**	**-0.4**
P29M	**Windy Craggy**	**1.24**	**348**		**Pg**		**13 19 16.4**	**-0.6**
P29M					**Sg**		**13 19 32.9**	**-0.2**
P29M	**Windy Craggy**	**1.24**	**348**	P	**Pg**		**13 19 16.4**	**-0.6**
P29M				S	**Sg**		**13 19 32.9**	**-0.2**
BESE	**Bessie Mountai**	**1.27**	**82**		**Pg**		**13 19 17.6**	**0.0**
BESE	**Bessie Mountai**	**1.27**	**82**	P	**Pg**		**13 19 17.6**	**0.0**
BESE				S	**Sb**		**13 19 33.6**	**-0.1**
SKAG	**Skagway**	**1.44**	**43**		**Pg**		**13 19 21.3**	**+0.4**
SKAG				IAML			13 19 44.9	
	comp=E,67nm,0.8s							
R32K	**Eaglecrest**	**1.45**	**95**		**Pg**		**13 19 21.4**	**+0.4**
R32K				IAML			13 19 42.7	
	comp=N,67nm,0.6s							
R32K				IAML			13 19 43.3	
	comp=E,58nm,0.8s							
JIS	**Juneau Island**	**1.52**	**94**		**Pg**		**13 19 22.4**	**+0.1**
JIS				IAML			13 19 47.7	
	comp=E,53nm,1.0s							
JIS				IAML			13 19 49.8	
	comp=N,64nm,0.9s							
P30M	**Million Dollar**	**1.71**	**5**	Pn	**Pg**		**13 19 25.3**	**-0.8**
P30M				Sg	**Sb**		**13 19 47.2**	**+0.8**
P30M	**Million Dollar**	**1.71**	**5**	Pn	**Pg**		**13 19 25.3**	**-0.8**
P30M				Sg	**Sb**		**13 19 47.2**	**+0.8**
SIT	**Sitka**	**1.71**	**142**	Pn	**Pb**		**13 19 24.6**	**-0.1**
SIT				IAML			13 19 59.0	
	comp=E,48nm,1.1s							
S32K	**Killisnoo**	**1.72**	**123**	Pn	**Pg**		**13 19 25.6**	**-0.5**
S32K				IAML			13 19 57.2	
	comp=N,44nm,4.9s							
O29M	**Mount Kennedy**	**2.00**	**341**	Pn	**Pb**		**13 19 30.1**	**+0.3**
O29M				Sg	**Sg**		**13 19 56.4**	**-1.2**
O29M	**Mount Kennedy**	**2.00**	**341**	IAML			13 20 04.3	
	comp=N,48nm,0.8s							
O29M	**Mount Kennedy**	**2.00**	**341**	Pn	**Pb**		**13 19 30.1**	**+0.3**
O29M				Sg	**Sg**		**13 19 56.4**	**-1.2**
YUK7	**Dusty Glacier**	**2.16**	**348**	Pn	**Pg**		**13 19 33.1**	**-1.6**
P32M	**Atlin**	**2.17**	**56**		**Pb**		**13 19 31.6**	**-1.1**
P32M				IAML			13 20 03.8	
	comp=E,27nm,0.8s							
P32M				IAML			13 20 05.0	
	comp=N,38nm,0.8s							
P32M	**Atlin**	**2.17**	**56**	Pn	**Pb**		**13 19 32.0**	**-0.7**
P32M				Sg	**Sb**		**13 20 00.4**	**+0.8**
P32M	**Atlin**	**2.17**	**56**	Pn	**Pb**		**13 19 32.0**	**-0.7**
P32M				Sg	**Sb**		**13 20 00.4**	**+0.8**
HYT	**Haines Junctio**	**2.42**	**357**		**Pb**		**13 19 35.7**	**-1.1**
HYT				IAML			13 20 13.8	
	comp=E,22nm,0.8s							
HYT				IAML			13 20 13.9	
	comp=N,24nm,1.0s							
HYT	**Haines Junctio**	**2.42**	**357**	Pg	**Pg**		**13 19 37.9**	**-1.6**
HYT				Sg	**Sg**		**13 20 09.3**	**-1.5**
HYT	**Haines Junctio**	**2.42**	**357**	Pg	**Pg**		**13 19 37.9**	**-1.6**
HYT				Sg	**Sg**		**13 20 09.3**	**-1.5**
WHY	**Whitehorse**	**2.55**	**27**		**Pb**		**13 19 37.0**	**-2.1**
WHY				IAML			13 20 13.8	
	comp=E,37nm,2.3s							
WHY				IAML			13 20 15.2	
	comp=N,27nm,0.7s							
WHY	**Whitehorse**	**2.55**	**27**	Pg	**Pg**		**13 19 40.6**	**-1.5**
WHY				Sg	**Sb**		**13 20 12.7**	**+2.2**
WHY	**Whitehorse**	**2.55**	**27**	Pg	**Pg**		**13 19 40.6**	**-1.5**
WHY				Sg	**Sb**		**13 20 12.7**	**+2.2**
YUK6	**Outpost Mounta**	**2.59**	**348**	Pn	**Pb**		**13 19 38.1**	**-1.9**
YUK6				Sg	**Sb**		**13 20 13.2**	**+1.3**
YUK6	**Outpost Mounta**	**2.59**	**348**	Pn	**Pb**		**13 19 38.1**	**-1.9**
YUK6				Sg	**Sb**		**13 20 13.2**	**+1.3**
Q32M	**Nakina River**	**2.66**	**76**	Pg	**Pg**		**13 19 43.0**	**-1.1**
Q32M				IAML			13 20 47.9	
	comp=N,34nm,4.6s							
Q32M	**Nakina River**	**2.66**	**76**	Pg	**Pg**		**13 19 43.0**	**-1.1**
Q32M				Sg	**Sb**		**13 20 16.6**	**+2.9**
P33M	**Teslin, Yukon**	**2.90**	**50**	Pg	**Pg**		**13 19 47.1**	**-1.6**
P33M				Sg	**Sb**		**13 20 22.4**	**+1.9**
P33M	**Teslin, Yukon**	**2.90**	**50**	Pg	**Pg**		**13 19 47.1**	**-1.6**
P33M				Sg	**Sb**		**13 20 22.4**	**+1.9**
YUK4	**Talbot Arm**	**3.02**	**347**	Pg	**Pg**		**13 19 52.8**	**+1.8**
N30M	**Aishikik Lake**	**3.05**	**1**	Pg	**Pb**		**13 19 49.1**	**+1.5**
N30M				Sg	**Sg**		**13 20 28.8**	**-2.3**
N30M	**Aishikik Lake**	**3.05**	**1**	Pg	**Pb**		**13 19 49.1**	**+1.5**
N30M				Sg	**Sg**		**13 20 28.8**	**-2.3**
N31M	**Braeburn, Yuko**	**3.16**	**13**	Pg	**Pb**		**13 19 51.5**	**+1.9**
N31M				Sg	**Sg**		**13 20 31.8**	**-2.9**
N31M	**Braeburn, Yuko**	**3.16**	**13**	Pg	**Pb**		**13 19 51.5**	**+1.9**
N31M				Sg	**Sg**		**13 20 31.8**	**-2.9**
S34M	**Telegraph Cree**	**3.28**	**96**	Pg	**Pg**		**13 19 56.0**	**-0.1**
S34M				Sg	**Sg**		**13 20 35.7**	**-2.8**
S34M	**Telegraph Cree**	**3.28**	**96**	Pg	**Pg**		**13 19 56.0**	**-0.1**
S34M				Sg	**Sg**		**13 20 35.7**	**-2.8**
R33M	**Jennings River**	**3.40**	**71**		**Pn**		**13 19 49.1**	**+2.6**
R33M				IAML			13 21 33.3	
	comp=E,20nm,3.8s							
R33M	**Jennings River**	**3.40**	**71**	Pn	**Pn**		**13 19 49.1**	**+2.6**
R33M				Pg	**Pb**		**13 19 55.8**	**+2.2**
R33M				Sg	**Sb**		**13 20 38.4**	**+3.4**
R33M	**Jennings River**	**3.40**	**71**	Pn	**Pn**		**13 19 49.1**	**+2.6**
R33M				Pg	**Pb**		**13 19 55.8**	**+2.2**
R33M				Sg	**Sb**		**13 20 38.4**	**+3.4**
N32M	**Quiet Lake**	**3.46**	**36**	Pg	**Pg**		**13 19 58.6**	**-0.7**
N32M				Sg	**Sb**		**13 20 39.8**	**+3.3**
N32M	**Quiet Lake**	**3.46**	**36**	Pg	**Pg**		**13 19 58.6**	**-0.7**
N32M				Sg	**Sb**		**13 20 39.8**	**+3.3**
DLBC	**Dease Lake**	**3.80**	**87**	Pg	**Pg**		**13 20 03.7**	**-2.3**
DLBC	**Dease Lake**	**3.80**	**87**	Pn	**Pn**		**13 19 54.7**	**+2.9**
DLBC	**Dease Lake**	**3.80**	**87**	Pg	**Pg**		**13 20 03.7**	**-2.3**
DLBC				Sg	**Sg**		**13 20 52.1**	**-3.1**
T35M	**Bob Quinn**	**4.03**	**108**	Pg	**Pg**		**13 20 08.1**	**-2.1**
T35M	**Bob Quinn**	**4.03**	**108**	Pg	**Pg**		**13 20 08.1**	**-2.1**
T35M				Sg	**Sg**		**13 20 59.9**	**-2.5**
M31M	**Drury Creek, Y**	**4.05**	**19**	Pg	**Pg**		**13 20 08.7**	**-2.1**
M31M				Sg	**Sb**		**13 20 58.2**	**+4.6**
M30M	**Minto, Yukon**	**4.17**	**3**	Sg	**Sg**		**13 21 04.2**	**-3.0**
FARO	**Faro, Yukon**	**4.29**	**25**	Pg	**Pg**		**13 20 12.9**	**-2.3**
FARO				Sg	**Sb**		**13 21 05.4**	**+5.0**
WTLY	**Watson Lake, Y**	**4.66**	**65**	Sg	**Sg**		**13 21 18.8**	**-3.9**
L29M	**L29M**	**4.72**	**355**	Sg	**Sg**		**13 21 21.5**	**-3.3**
K29M	**Barlow Dome**	**5.44**	**359**	Sg	**Sg**		**13 21 43.3**	**-4.5**
DAWY	**Dawson**	**5.76**	**351**	Sg	**Sg**		**13 21 56.5**	**-1.3**
J30M	**Hart River**	**6.19**	**4**	Sg	**Sg**		**13 22 04.7**	**-7.1**

*AEIC **17** 13:20:29.9±1.5, 63°.22N±0°.06×172°.4W±0°.2, h34km±7km, Error ellipse: s-maj=14.0km s-min=8.9km az=103.0*

*NEIC **17** 13:20:30.5±1.3, 63°.19N±0°.06×172°.5W±0°.2, h15km±6km, mb3.7/6, mb_Lg3.7/7, ML3.9(AEIC), Error ellipse: s-maj=14.3km s-min=5.1km az=120.0*

ISC 17 13:20:32.5±1.3, 63°.23N±0°.05×172°.52W±0°.09, h35km, n78, σ0s78/84, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GAMB	**Gambell**	**0.66**	**33**		**Pn**		**13 20 43.5**	**-1.8**
GAMB					**Sn**		**13 20 53.7**	**-0.8**
GAMB	**Gambell**	**0.66**	**33**	P	**Pn**		**13 20 43.5**	**-1.8**
	baz=211							
GAMB				S	**Sn**		**13 20 53.7**	**-0.8**
	baz=211							
TNA	**Tin City**	**3.08**	**38**		**Pn**		**13 21 18.0**	**-0.5**
TNA					**Sn**		**13 21 54.0**	**0.0**
TNA	**Tin City**	**3.08**	**38**	P	**Pn**		**13 21 18.0**	**-0.5**
	baz=222							
TNA				S	**Sn**		**13 21 54.0**	**0.0**
	baz=222							
ANM	**Nome**	**3.43**	**64**		**Pn**		**13 21 22.4**	**-1.0**
ANM					**Sn**		**13 22 01.8**	**-1.0**
ANM	**Nome**	**3.43**	**64**	IAmb_Lg			13 22 21.2	
	comp=Z,247nm,0.7s							
ANM	**Nome**	**3.43**	**64**	P	**Pn**		**13 21 22.4**	**-1.0**
	baz=250							
ANM				S	**Sn**		**13 22 01.8**	**-1.0**
	baz=250							
F14K	**Arctic Creek**	**3.51**	**47**		**Pn**		**13 21 24.2**	**-0.3**
F14K					**Sn**		**13 22 05.5**	**+0.8**
F14K	**Arctic Creek**	**3.51**	**47**	P	**Pn**		**13 21 24.2**	**-0.3**
	baz=232							
F14K				S	**Sn**		**13 22 05.5**	**+0.8**
	baz=232							
J14K	**Nanvaranak Lak**	**4.12**	**93**		**Pn**		**13 21 31.9**	**-0.9**
J14K				IAmb_Lg			13 22 49.1	
	comp=Z,173nm,1.0s							
G15K	**Niukluk**	**4.12**	**61**		**Pn**		**13 21 32.0**	**-0.8**
G15K	**Niukluk**	**4.12**	**61**	P	**Pn**		**13 21 32.0**	**-0.8**
	baz=248							
M11K	**Mekoryuk**	**4.14**	**131**		**Pn**		**13 21 32.3**	**-0.7**
M11K	**Mekoryuk**	**4.14**	**131**	P	**Pn**		**13 21 32.3**	**-0.7**
	baz=317							
F15K	**North Star Dit**	**4.22**	**50**		**Pn**		**13 21 33.7**	**-0.5**
H16K	**Elim**	**4.75**	**68**		**Pn**		**13 21 41.3**	**-0.2**
G16K	**Koyuk River**	**4.93**	**59**		**Pn**		**13 21 43.9**	**-0.1**
L14K	**Kuka Creek**	**4.97**	**108**		**Pn**		**13 21 44.0**	**-0.4**
L14K	**Kuka Creek**	**4.97**	**108**	IAmb_Lg			13 23 18.3	
	comp=Z,139nm,1.1s							
L14K	**Kuka Creek**	**4.97**	**108**	P	**Pn**		**13 21 44.0**	**-0.4**
	baz=297							
K15K	**Wolf Creek Mou**	**5.14**	**96**		**Pn**		**13 21 46.1**	**-0.7**
K15K	**Wolf Creek Mou**	**5.14**	**96**	P	**Pn**		**13 21 46.1**	**-0.7**
	baz=285							
M13K	**Dall Lake**	**5.18**	**119**	Pn	**Pn**		**13 21 47.2**	**-0.2**
M13K				IAmb_Lg			13 23 27.9	
	comp=Z,110nm,1.2s							
I17K	**Unalakleet**	**5.33**	**78**		**Pn**		**13 21 49.3**	**-0.1**
I17K	**Unalakleet**	**5.33**	**78**	P	**Pn**		**13 21 49.3**	**-0.1**
	baz=268							
L15K	**Ungalak Mounta**	**5.35**	**102**		**Pn**		**13 21 49.0**	**-0.8**
L15K	**

mB5.4/9,mb4.9/15,MLv4.9/13,Mw(mB)4.8/9
ISC 17 13:25:25.2±1.9,**5°08N**±0.05,**94°18E**±0.06,**h31**km±13km,
n157,σ1**42**/147,**mb4.7**/55,**MS3.8**/13,**4C-4D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.36**	**110**	P	**Pn**	**13 26 02.9**	**+1.0**
LHMI	**Lhok Sumawe**	**2.77**	**87**		**Pn**	**13 26 09.1**	**+1.7**
LHMI	**Lhok Sumawe**	**2.77**	**87**	P	**Pn**	**13 26 09.6**	**+2.2**
LHMI	**Lhok Sumawe**	**2.77**	**87**	P	**Pn**	**13 26 09.0**	**+1.6**
SNSI	**Sinabang, Aceh**	**3.41**	**141**	P	**Pn**	**13 26 16.5**	**+0.1**
SNSI				S	**Sn**	**13 26 55.0**	**-0.8**
LASI	**Langsa, Aceh**	**3.83**	**99**	P	**Pn**	**13 26 23.5**	**+1.4**
KCSI	**Kotacane, Aceh**	**3.91**	**113**	P	**Pn**	**13 26 24.9**	**+1.7**
GSI	**Gunungsitoli**	**5.06**	**138**	Pn	**Pn**	**13 26 39.4**	**+0.3**
GSI	**Gunungsitoli**	**5.06**	**138**	P	**Pn**	**13 26 41.7**	**+2.7**
GSI	**Gunungsitoli**	**5.06**	**138**	P	**Pn**	**13 26 39.6**	**+0.6**
PSI	**Prapat**	**5.25**	**115**	P	**Pn**	**13 26 44.9**	**+3.1**
PSI	**Prapat** 59nm,0.8s,761nm0.2nm	**5.25**	**115**	P	**Pn**	**13 26 44.0**	**+2.2**
RPSI	**Rantau Prapat**	**5.30**	**116**	Pn	**Pn**	**13 26 44.4**	**+2.1**
SRIT	**Nakonsritamara**	**6.42**	**57**	Pn	**Pn**	**13 26 58.5**	**+0.8**
SRIT	**Nakonsritamara**	**6.42**	**57**	P	**Pn**	**13 26 59.4**	**+1.7**
KULM	**Kulim**	**6.45**	**88**	Pn	**Pn**	**13 26 59.2**	**+1.0**
KULM	**Kulim** 52nm,0.7s,602nm0.2nm	**6.45**	**88**	P	**Pn**	**13 26 59.5**	**+1.3**
PBSI	**Pulau Batu** 43nm,0.6s,0.6nm	**6.54**	**141**	P	**Pn**	**13 27 00.3**	**+0.9**
SKLT	**Songkhla**	**6.74**	**72**	P	**Pn**	**13 27 04.1**	**+2.0**
SKLT	**Songkhla** 190nm,0.6s,2μm0.6nm	**6.74**	**72**	P	**Pn**	**13 27 03.6**	**+1.5**
SKLT				S	**Sn**	**13 28 17.6**	**-0.2**
SURA	**Surathani**	**6.76**	**53**	P	**Pn**	**13 27 04.2**	**+1.8**
SISI	**Saibi** 23nm,0.5s,0.2nm	**8.04**	**142**	P	**Pn**	**13 27 20.7**	**+0.7**
BKNI	**Bangkinang**	**8.32**	**124**	P	**Pn**	**13 27 28.3**	**+4.4**
BKNI	**Bangkinang**	**8.32**	**124**	P	Pn	13 27 33.8	+10
PDSI	**Padang** 14nm,0.8s,2μm	**8.65**	**133**	P	**Pn**	**13 27 29.9**	**+1.5**
PPSI	**Pulau Pagai** 91nm,1.2s	**9.73**	**143**	P	**Pn**	**13 27 42.3**	**-0.9**
MYKOM	**Kota Tinggi**	**10.20**	**108**	Pn	**Pn**	**13 27 49.3**	**-0.2**
NAYO	**Nakonayok**	**11.56**	**37**	P	**Pn**	**13 28 11.3**	**+3.0**
PALK	**Pallekele**	**13.57**	**280**	Pn	**Pn**	**13 28 36.2**	**+0.5**
PALK	**Pallekele** 0.6nm,0.3s,baz=210,slow=21,SNR=1.5	**13.57**	**280**	Pn	**Pn**	**13 28 37.1**	**+1.3**
PALK				Sn	Sn	13 30 54.5	-11
PALK	2.8nm,0.3s,baz=109,slow=23,SNR=19			LR	LR	13 33 39.6	
	comp=Z,240nm,18.0s,baz=210,slow=36 2.3nm,0.3s						
LWLI	**Liwa**	**14.07**	**135**	P	Pn	13 28 29.2	-14
CM31	**Chiang Mai Arr**	**14.09**	**19**	Pn	**Pn**	**13 28 43.4**	**+0.6**
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=199,slow=13,SNR=26	**14.09**	**19**	Pn	**Pn**	**13 28 43.9**	**+1.1**
CMAR				LR	LR	13 34 02.0	
CMAR	comp=Z,133nm,19.5s,baz=210,slow=37			ScP	**ScP**	**13 37 34.2**	**+0.8**
	0.3nm,0.4s,baz=227,slow=3.0,SNR=6.2 6.5nm,0.6s						
CHTO	**Chiang Mai**	**14.42**	**18**	Pn	**Pn**	**13 28 48.1**	**+0.8**
CHTO	**Chiang Mai**	**14.42**	**18**	P	**P**	**13 28 50.7**	**-3.1**
CHTO	**Chiang Mai** 50nm,0.9s,507nm	**14.42**	**18**	P	**P**	**13 28 50.9**	**-2.9**
CMMT	**Chiang Mai** 139nm,0.7s,2μm	**14.42**	**18**	P	**P**	**13 28 50.9**	**-3.0**
UBPT	**Khong Chiam**	**15.03**	**47**	Pn	**Pn**	**13 28 55.5**	**-0.1**
CRAI	**Chiangrai**	**16.22**	**21**	Pn	**Pn**	**13 29 11.6**	**+0.6**
KSM	**Kuching**	**16.50**	**102**		**P**	**13 29 16.3**	**-0.6**
KSM	**Kuching** 25nm,0.7s	**16.50**	**102**	P	**P**	**13 29 16.5**	**-0.5**
MND	**Mandalay**	**16.94**	**6**	P	**P**	**13 29 21.3**	**-0.5**
LEM	**Lembang** comp=Z,197nm,18.5s,baz=325,slow=42	**17.89**	**131**	LR	LR	13 37 56.7	
SLVN	**Son La**	**18.71**	**29**	P	**P**	**13 29 40.5**	**-0.9**
QIZ	**Qiongzhong**	**20.63**	**46**	P	**P**	**13 30 02.8**	**+0.4**
QIZ				S	**S**	**13 33 51.6**	**+0.1**
QIZ	comp=N,180nm,11.8s			LR	LR		
QIZ	comp=E,190nm,14.7s			LR	LR		
QIZ	comp=Z,310nm,12.6s			LR	LR		
QIZ	**Qiongzhong**	**20.63**	**46**	P	**P**	**13 30 02.7**	**+0.4**
QIZ	comp=Z,35nm,1.3s			IAmb	IAmb	13 30 04.9	
KMI	**Kunming**	**21.56**	**22**	⇓P	**P**	**13 30 13.3**	**+0.8**
KMI	comp=Z,17nm,0.5s			pmax	pmax		
PZH	**PanZhiHua**	**22.50**	**18**	P	**P**	**13 30 24.3**	**+1.8**
PZH	comp=Z,10.0nm,0.9s			pmax	pmax		
PZH	comp=Z,100nm,6.4s			pmax	pmax		
GYA	**Guiyang**	**24.38**	**28**	⇓*i*P	**P**	**13 30 40.8**	**-0.2**
GYA	comp=Z,84nm,0.6s			pmax	pmax		
LSA	**Lhasa**	**24.65**	**354**	P	**P**	**13 30 44.0**	**+0.2**
LSA	comp=Z,12nm,0.7s			IAmb	IAmb	13 30 46.1	
H08S3	**Diego Garcia H** baz=60,slow=76,SNR=1225	**25.05**	**240**	T	T	13 56 40.1	
H08S2	**Diego Garcia H** baz=60,slow=76,SNR=1051	**25.06**	**240**	T	T	13 56 43.2	
H08S1	**Diego Garcia H** baz=60,slow=76,SNR=476	**25.07**	**240**	T	T	13 56 38.2	
CD2	**Chengdu**	**27.23**	**18**	P	**P**	**13 31 06.8**	**+0.2**
KAPI	**Kappang** comp=Z,67nm,19.4s,baz=284,slow=37	**27.44**	**111**	LR	LR	13 42 10.3	
ENH	**Enshi**	**28.92**	**28**	P	**P**	**13 31 19.9**	**-1.8**
DAV	**Davao City (W)** comp=Z,80nm,22.0s,baz=328,slow=38	**31.29**	**85**	LR	LR	13 44 59.3	
WHN	**Wuhan**	**31.66**	**35**	⇓P	**P**	**13 31 46.0**	**+0.1**
WHN	comp=Z,32nm,0.7s			pmax	pmax		
WHN	comp=Z,880nm,11.7s			LR	LR		
XAN	**Xi'an**	**31.90**	**24**	⇑P	**P**	**13 31 46.5**	**-1.6**
XAN				pP	pP	13 31 57.8	+1.2
XAN	comp=Z,69nm,0.6s			pmax	pmax		
XAN	comp=N,320nm,10.6s			LR	LR		
XAN	comp=E,630nm,11.0s			LR	LR		
XAN	comp=Z,570nm,10.4s			LR	LR		
LZH	**Lanzhou**	**32.11**	**15**	*e*P	**P**	**13 31 48.0**	**-2.0**
LZH				pP	pP	13 31 56.4	-2.1
LZH	comp=Z,19nm,1.1s			pmax	pmax		
LYN	**LuoYang**	**33.87**	**28**	⇑P	**P**	**13 32 05.1**	**-0.1**
LYN	comp=Z,44nm,0.6s			pmax	pmax		
LYN	comp=Z,330nm,7.2s			pmax	pmax		
NIL	**Nilore**	**34.45**	**328**	P	**P**	**13 32 08.8**	**-1.5**
GTA	**Gaotai**	**34.55**	**8**	P	**P**	**13 32 10.5**	**-0.7**
GTA				pP	sP	13 32 24.3	+1.1
GTA				sP	pwP	13 32 31.9	+10
GTA	comp=Z,12nm,0.7s			pmax	pmax		
NJ2	**Nanjing**	**35.41**	**38**	⇓P	**P**	**13 32 18.8**	**+0.3**
NJ2	comp=Z,19nm,0.6s			pmax	pmax		
HNS	**HongShan**	**37.24**	**27**	⇑P	**P**	**13 32 34.5**	**+0.4**
HNS	comp=Z,28nm,0.8s			pmax	pmax		
TIA	**Tai'an**	**37.48**	**31**	⇑P	**P**	**13 32 35.5**	**-0.7**
TIA	comp=Z,8.0nm,0.6s			pmax	pmax		
KSH	**Kashi**	**38.03**	**337**	P	**P**	**13 32 39.8**	**-1.1**
KSH				sP	sP	13 32 57.0	+3.8
KSH				PP	**PnPn**	**13 34 10.0**	**+0.3**
KSH				PcP	**PcP**	**13 34 57.3**	**+1.3**
KSH	comp=Z,4.0nm,0.7s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**38.88**	**21**	*e*P	**P**	**13 32 49.1**	**+1.1**
HHC	comp=Z,18nm,1.0s			pmax	pmax		
HHC	comp=Z,150nm,5.9s			pmax	pmax		
WMQ	**Urumqi**	**39.00**	**353**	*e*P	**P**	**13 32 49.8**	**+0.8**
WMQ				pP	sP	13 33 01.4	+0.1
WMQ	comp=Z,17nm,0.7s			pmax	pmax		
JOW	**Kunigami** comp=Z,110nm,19.6s,baz=343,slow=36	**39.05**	**53**	LR	LR	13 48 49.9	
TARG	**Taragay, Kyrgy**	**39.31**	**341**	P	**P**	**13 32 49.7**	**-2.2**
TARG	comp=Z,7.0nm,0.9s			IAmb	IAmb	13 33 15.4	
BJT	**Baijiatuan**	**40.03**	**27**	P	**P**	**13 32 56.5**	**-1.0**
BJT	comp=Z,14nm,1.2s			IAmb	IAmb	13 32 59.1	
BJI	**Beijing**	**40.05**	**27**	P	**P**	**13 32 58.1**	**+0.4**
BJI	comp=Z,5.0nm,0.9s			pmax	pmax		
BTK	**Batken**	**40.69**	**332**	P	**P**	**13 33 02.8**	**-0.3**
ARSB	**Arslanbob**	**40.77**	**335**	P	**P**	**13 33 02.3**	**-1.5**
AAK	**Ala-Archa**	**41.28**	**338**	P	**P**	**13 33 08.3**	**+0.4**
AAK	**Ala-Archa** comp=Z,1.7nm,0.6s,baz=180,slow=6.1,SNR=3.7	**41.28**	**338**	P	**P**	**13 33 08.4**	**+0.4**
AAK	comp=Z,2.7nm,0.6s,baz=201,slow=0.7,SNR=5.1			PcP	**PcP**	**13 35 07.7**	**+1.4**
MK31	**Makanchi Array** comp=Z,1.7nm,0.6s	**42.81**	**348**	P	**P**	**13 33 19.8**	**-0.4**
MK31	comp=Z,6.5nm,0.7s			IAmb	IAmb	13 33 21.4	
MKAR	**Makanchi Array**	**42.81**	**348**	P	**P**	**13 33 20.1**	**-0.1**
MKAR	**Makanchi Array** comp=Z,7.3nm,0.6s,baz=167,slow=8.2,SNR=106	**42.81**	**348**	P	**P**	**13 33 20.5**	**+0.3**
MKAR	comp=Z,1.2nm,0.6s,baz=175,slow=3.1,SNR=3.2			PcP	**PcP**	**13 35 12.2**	**+1.0**
MAKZ	**Makanchi** comp=Z,7.3nm,0.6s	**42.88**	**348**	P	**P**	**13 33 19.9**	**-0.9**
MAKZ	comp=Z,6.6nm,0.7s			IAmb	IAmb	13 33 21.9	
KK31	**Karatay Array**	**43.27**	**335**	P	**P**	**13 33 23.8**	**-0.2**
KKAR	**Karatay Array**	**43.27**	**335**	P	**P**	**13 33 23.8**	**-0.2**
SONM	**Songino Array** comp=Z,7.8nm,0.7s	**43.87**	**12**	P	**P**	**13 33 27.6**	**-1.3**
SONM				IAmb	IAmb	13 33 29.0	
SONM	**Songino Array** comp=Z,7.4nm,0.7s,baz=191,slow=8.4,SNR=52	**43.87**	**12**	P	**P**	**13 33 28.1**	**-0.8**
SONM	comp=Z,1.8nm,0.6s,baz=205,slow=3.3,SNR=5.1			PcP	**PcP**	**13 35 15.3**	**+0.5**
ULN	**Ulaanbaatar** comp=Z,7.4nm,0.7s	**44.03**	**12**	P	**P**	**13 33 28.9**	**-1.4**
ULN	comp=Z,4.9nm,0.7s			IAmb	IAmb	13 33 30.1	
JNU	**Nakatsue** comp=Z,73nm,20.4s,baz=318,slow=40	**44.11**	**46**	LR	LR	13 54 59.7	
KSRS	**Korea Array** comp=Z,0.7nm,0.5s,baz=233,slow=8.0,SNR=4.5	**44.57**	**39**	P	**P**	**13 33 34.0**	**-0.5**
KSRS	comp=Z,64nm,18.3s,baz=265,slow=40 comp=Z,0.7nm,0.5s			LR	LR	13 55 06.4	
GEYT	**Alibeck**	**46.32**	**320**	P	**P**	**13 33 48.3**	**-0.1**
GEYT	comp=Z,6.4nm,0.7s			IAmb	IAmb	13 33 50.7	
GEYT	**Alibeck** comp=Z,5.8nm,0.6s,baz=180,slow=8.5,SNR=11 comp=Z,5.8nm,0.6s	**46.32**	**320**	P	**P**	**13 33 49.6**	**+1.1**
GYA0B	**ALIBECK ARRAY**	**46.32**	**320**	P	**P**	**13 33 49.0**	**+0.6**
GYA0B	comp=Z,6.5nm,0.7s			IAmb	IAmb	13 33 50.7	
WRA	**Warramunga Arr**	**46.66**	**123**	P	**P**	**13 33 51.3**	**0.0**
WRA	**Warramunga Arr** comp=Z,5.4nm,0.6s,baz=301,slow=9.4,SNR=50 comp=Z,5.4nm,0.6s	**46.66**	**123**	P	**P**	**13 33 51.8**	**+0.4**
WB2	**Warramunga Arr**	**46.67**	**123**	P	**P**	**13 33 51.3**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,8.3nm,0.5s,baz=173,slow=7.1,SNR=117	**47.25**	**346**	P	**P**	**13 33 56.2**	**+0.8**
KURBB	comp=Z,2.0nm,0.6s,baz=152,slow=2.5,SNR=5.8 comp=Z,8.3nm,0.5s			PcP	**PcP**	**13 35 26.9**	**+0.6**
KURK	**Kurchatov**	**47.31**	**347**	P	**P**	**13 33 56.0**	**+0.1**
CN2	**Changchun**	**47.38**	**31**	*e*P	**P**	**13 33 56.3**	**-0.3**
CN2				*e*S	**S**	**13 40 42.5**	**-6.1**
CN2	comp=N,220nm,12.0s			LR	LR		
CN2	comp=E,240nm,12.0s			LR	LR		
CN2	comp=Z,250nm,13.0s			LR	LR		
AS31	**Alice Springs**	**48.14**	**128**	P	**P**	**13 34 02.9**	**0.0**
ASAR	**Alice Springs**	**48.14**	**128**	P	**P**	**13 34 02.9**	**+0.1**
ASAR	**Alice Springs** comp=Z,2.8nm,0.5s,baz=300,slow=7.8,SNR=82 comp=Z,2.8nm,0.5s	**48.14**	**128**	P	**P**	**13 34 03.2**	**+0.4**
ZAA0	**Zalesovo Array**	**49.31**	**353**	P	**P**	**13 34 11.2**	**-0.1**
ZALV	**Zalesovo Beam**	**49.31**	**353**	P	**P**	**13 34 11.0**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,7.9nm,0.5s,baz=187,slow=7.2,SNR=46 comp=Z,7.9nm,0.5s	**49.31**	**353**	P	**P**	**13 34 11.6**	**+0.3**
MDJ	**Mudanjiang**	**50.11**	**33**	P	P	13 34 09.6	-7.9
MDJ				pP	pP	13 34 21.4	-5.0
MDJ				sP	sP	13 34 27.0	-2.9
MDJ				ScP	ScP	13 39 13.0	-18
MDJ				PcS	PcS	13 39 17.3	-16
MDJ				S	**S**	**13 41 34.6**	**+7.6**
MDJ				sS	sS	13 41 55.3	+14
JHJ	**Hachijo jima 2** comp=Z,909nm,20.1s,baz=84,slow=37	**50.75**	**51**	LR	LR	13 56 23.4	
MJAR	**Matsushiro Arr** comp=Z,1.3nm,0.6s,baz=226,slow=2.7,SNR=2.8 comp=Z,1.3nm,0.6s	**51.03**	**46**	P	**P**	**13 34 25.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**51.16**	**34**	P	**P**	**13 34 24.4**	**-1.1**
USRK	**Ussuriysk Ar.** comp=Z,100nm,18.4s,baz=341,slow=38	**51.16**	**34**	LR	LR	13 58 06.3	
BVAR	**Borovoye Array** comp=Z,4.1nm,0.5s,baz=143,slow=10,SNR=33 comp=Z,4.1nm,0.5s	**51.63**	**342**	P	**P**	**13 34 28.8**	**0.0**
BRVK	**Borovoye**	**51.69**	**342**	P	**P**	**13 34 27.7**	**-1.6**
BRVK	comp=Z,4.7nm,0.6s			IAmb	IAmb	13 34 30.0	
ABKAR	**Akbulak array**	**52.69**	**332**	P	**P**	**13 34 36.2**	**-0.6**
AKTO	**Aktyubinsk** comp=Z,2.8nm,0.6s,baz=100,slow=6.1,SNR=2.7	**54.41**	**332**	PcP	**PcP**	**13 35 53.3**	**+0.4**
KMBO	**Kilima Mbogo** comp=Z,42nm,18.2s,baz=91,slow=35	**57.19**	**265**	LR	LR	13 58 49.9	
STKA	**Stephens Creek** comp=Z,1.3nm,0.7s,baz=311,slow=8.6,SNR=4.3 comp=Z,1.3nm,0.7s	**58.19**	**133**	P	**P**	**13 35 16.2**	**-0.4**
KBZ	**Khabaz** comp=Z,2.2nm,0.7s,baz=198,slow=5.2,SNR=5.4 comp=Z,2.2nm,0.7s	**59.18**	**319**	P	**P**	**13 35 24.6**	**+1.3**
H04N2	**CROZET ISLANDS** baz=49,slow=75,SNR=893	**63.37**	**212**	T	T	14 44 34.7	
H04N1	**CROZET ISLANDS** baz=49,slow=75,SNR=800	**63.38**	**212**	T	T	14 44 35.4	
H04N3	**CROZET ISLANDS** baz=49,slow=75,SNR=862	**63.39**	**212**	T	T	14 44 33.9	
H04S1	**CROZET ISLANDS** baz=48,slow=76,SNR=23	**63.76**	**211**	T	T	14 45 12.9	
H04S3	**CROZET ISLANDS** baz=48,slow=76,SNR=61	**63.77**	**211**	T	T	14 45 12.9	
H04S2	**CROZET ISLANDS** baz=48,slow=76,SNR=31	**63.78**	**211**	T	T	14 45 14.9	
BR131	**Keskin Array S**	**64.29**	**312**	P	**P**	**13 35 57.7**	**-0.3**
BR131	comp=Z,4.3nm,0.7s			IAmb	IAmb	13 35 59.0	
BRTR	**Keskin Array B**	**64.29**	**312**	P	**P**	**13 35 58.0**	**-0.1**
BRTR	**Keskin Array B** comp=Z,2.8nm,0.6s,baz=135,slow=7.5,SNR=18 comp=Z,2.8nm,0.6s	**64.29**	**312**	P	**P**	**13 35 58.4**	**+0.3**
NRIK	**Noril'sk** comp=Z,4.1nm,0.6s,baz=148,slow=4.9,SNR=5.9 comp=Z,4.1nm,0.6s	**64.31**	**357**	P	**P**	**13 35 57.3**	**-0.2**
AKASG	**Malin Array Be** comp=Z,2.0nm,0.5s,baz=89,slow=5.4,SNR=9.0 comp=Z,0.7nm,0.5s	**70.36**	**322**	P	**P**	**13 36 35.4**	**-0.7**
LBTB	**Lobatse** comp=Z,119nm,19.6s,baz=356,slow=33	**72.96**	**242**	LR	LR	14 05 16.3	
FINES	**FINESS Array B** comp=Z,6.6nm,0.7s,baz=96,slow=6.2,SNR=30 comp=Z,6.6nm,0.7s	**75.19**	**333**	P	**P**	**13 37 04.6**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,3.6nm,0.9s,baz=98,slow=5.0,SNR=6.0 comp=Z,3.6nm,0.9s	**77.89**	**340**	P	**P**	**13 37 19.9**	**+0.2**
BILL	**Bilibino**	**78.66**	**21**	P	**P**	**13 37 23.3**	**-0.7**
BILL	comp=Z,4.1nm,0.5s			IAmb	IAmb	13 37 23.9	
GERES	**GERESS Array B**	**79.92**	**319**	P	**P**	**13 37 31.3**	**-0.1**
GERES	**GERESS Array B** comp=Z,2.0nm,0.7s,baz=121,slow=5.0,SNR=3.0 comp=Z,2.0nm,0.7s	**79.92**	**319**	P	**P**	**13 37 32.4**	**+0.9**
KHC	**Kasperske Hory**	**80.02**	**319**	*e*P	**P**	**13 37 32.2**	**+0.3**
HFS	**Hagfors** comp=Z,2.4nm,0.5s,baz=101,slow=7.7,SNR=15	**80.87**	**330**	P	**P**	**13 37 36.3**	**+0.1**
	comp=Z,2.4nm,0.5s						
NB2	**NORSAR Subarra** comp=Z,2.0nm,0.7s,baz=94,slow=5.6	**82.17**	**331**	P	**P**	**13 37 42.8**	**-0.2**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=99,slow=5.5,SNR=4.2 comp=Z,0.8nm,0.7s	**82.17**	**331**	P	**P**	**13 37 43.1**	**+0.1**
SPITS	**Spitsbergen Ar** comp=Z,9.9nm,0.9s,baz=297,slow=6.3,SNR=2.5 comp=Z,9.9nm,0.9s	**82.56**	**348**	P	**P**	**13 37 46.5**	**+1.7**
EKA	**Eskdalemuir Ar** comp=Z,2.3nm,0.6s,baz=99,slow=5.6,SNR=7.3 comp=Z,2.3nm,0.6s	**90.03**	**325**	P	**P**	**13 38 22.6**	**+0.7**
C18K	**Utukok River**	**90.59**	**21**	P	**P**	**13 38 24.3**	**0.0**
C18K	comp=Z,5.3nm,0.9s			IAmb	IAmb	13 38 25.6	
C19K	**Lookout Ridge**	**91.02**	**20**	P	**P**	**13 38 26.9**	**+0.6**
E18K	**Tukpahlearik C**	**91.14**	**22**	P	**P**	**13 38 27.0**	**+0.3**
E18K	comp=Z,4.4nm,0.9s			IAmb	IAmb	13 38 28.4	
F17K	**Baldwin Pennin**	**91.16**	**23**	P	**P**	**13 38 27.4**	**+0.6**
D19K	**Kuna River**	**91.72**	**21**	P	**P**	**13 38 29.8**	**+0.3**
B21K	**Ikpikpuk River**	**92.51**	**19**	P	**P**	**13 38 33.2**	**+0.2**
B21K	comp=Z,3.3nm,0.8s			IAmb	IAmb	13 38 47.0	
H18K	**Honhosa River**	**92.67**	**24**	P	**P**	**13 38 33.7**	**-0.2**
H18K	comp=Z,2.9nm,0.8s			IAmb	IAmb	13 38 34.6	
G19K	**Purcell Mounta**	**92.85**	**23**	P	**P**	**13 38 34.5**	**-0.2**
G19K	comp=Z,2.9nm,0.8s			IAmb	IAmb	13 38 52.6	
F20K	**Avaraart Lake**	**93.06**	**22**	P	**P**	**13 38 35.8**	**+0.1**
D22K	**Ayikyak River**	**93.43**	**20**	P	**P**	**13 38 37.3**	**-0.1**
D22K	comp=Z,2.6nm,0.9s			IAmb	IAmb	13 38 55.6	
TTA	**Tatalina**	**94.37**	**26**		**P**	**13 38 42.1**	**+0.2**
TTA	comp=Z,6.0nm,1.3s			IAmb	IAmb	13 39 13.6	
H21K	**Melozitna River**	**94.67**	**23**	P	**P**	**13 38 43.3**	**+0.2**
J20K	**Nowinta River**	**94.71**	**24**	P	**P**	**13 38 43.5**	**+0.2**
K20K	**Telida**	**95.04**	**25**	P	**P**	**13 38 44.8**	**-0.1**
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=290,slow=2.7,SNR=3.0 comp=Z,0.3nm,0.7s	**97.30**	**22**	P	**P**	**13 38 54.4**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.5s,baz=334,slow=7.6,SNR=5.6	**109.11**	**14**	PP	**PP**	**13 44 16.1**	**-3.4**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,baz=278,slow=2.8,SNR=3.7	**127.27**	**32**	PKP	**PKiKP**	**13 44 27.9**	**-0.1**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.7s,baz=57,slow=1.2,SNR=4.2	**127.73**	**22**	PKP	**PKPdf**	**13 44 28.3**	**0.0**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=194,slow=1.0,SNR=9.3	**141.73**	**26**	PKhKP	PKPpre	13 44 48.9	

*NNC **17** 13:37:08.8±0.3,43.29N×75.03E,h0km,mb4.0,mpv4.0,*
Error ellipse: s-maj=2.2km s-min=1.0km az=154.0
*SOME **17** 13:37:09.3,43.32N×75.03E,h10km*
*KRNET **17** 13:37:09.1±0.1,43.32N×75.02E,h17km,mb3.7*
*KNET **17** 13:37:09.3±0.5,43.26N×75.01E,h18km±2km,ml2.9,Error ellipse: s-maj=3.7km s-min=1.7km az=4.0*
ISC 17 13:37:09.3±0.9,**43.29N**±0.02×**75.01E**±0.01,**h10**km±8km,
n105,σ0**98**/192,**62C-24D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGDS	**Sogindy** 679nm,0.1s	**0.32**	**300**	P	**Pg**	**13 37 15.8**	**+0.1**
SGDS	6μm,0.1s			S	**Sg**	**13 37 20.2**	**+0.2**
CHMS	**Chumysh** 94nm,0.1s,SNR=116	**0.35**	**213**	⇑P	**Pg**	**13 37 16.7**	**+0.4**
CHMS	988nm,0.1s			⇑S	**Sb**	**13 37 21.8**	**-1.5**
CHMS	**Chumysh** 11nm,0.2s	**0.35**	**213**	⇑P	**Pg**	**13 37 16.7**	**+0.4**
CHMS	891nm,0.6s			⇑S	**Sg**	**13 37 20.2**	**-0.7**
CHMS	**Chumysh** baz=12	**0.35**	**213**	⇑*i*P	**Pg**	**13 37 16.6**	**+0.4**
CHMS	baz=12			⇑*i*S	**Sb**	**13 37 21.8**	**-1.5**
USP	**Ospenovka** 1μm,0.1s,SNR=5483	**0.37**	**266**	⇑P	**Pg**	**13 37 16.8**	**+0.2**
USP	3μm,0.2s			⇑S	**Sg**	**13 37 22.1**	**+0.6**
USP	**Ospenovka** baz=63	**0.37**	**266**	⇑*i*P	**Pg**	**13 37 16.9**	**+0.2**
USP	baz=63			⇑*i*S	**Sg**	**13 37 22.2**	**+0.6**
FRU1	**Bishkek** baz=10.0	**0.56**	**210**	⇑*i*P	**Pg**	**13 37 20.2**	**+0.1**
FRU1	baz=10.0			⇑*i*S	**Sb**	**13 37 28.0**	**-1.3**
DGS	**Degeres** 255nm,0.2s	**0.56**	**95**	P	**Pg**	**13 37 20.1**	**-0.1**
DGS	776nm,0.2s			S	**Sg**	**13 37 27.5**	**-0.1**
DGS	**Degeres** 255nm,0.2s	**0.56**	**95**	*e*P	**Pg**	**13 37 20.1**	**-0.1**
DGS	776nm,0.2s			*e*S	**Sg**	**13 37 27.5**	**-0.1**
DGS	**Degeres** baz=98	**0.56**	**95**	*e*P	**Pg**	**13 37 20.1**	**-0.1**
DGS	baz=98			*e*S	**Sg**	**13 37 27.5**	**-0.1**
TKM2	**Tokmak 2** 70nm,0.1s,SNR=1087	**0.57**	**130**	P	**Pg**	**13 37 20.0**	**-0.4**
TKM2	527nm,0.1s			⇑S	**Sg**	**13 37 27.8**	**0.0**
TKM2	**Tokmak 2** 27nm,0.3s	**0.57**	**130**	⇓P	**Pg**	**13 37 19.9**	**-0.4**
TKM2	169nm,0.3s			⇑S	**Sg**	**13 37 27.7**	**-0.2**
TKM2	**Tokmak 2** baz=33	**0.57**	**130**	⇓*i*P	**Pg**	**13 37 20.0**	**-0.4**
TKM2	baz=33			⇓*i*S	**Sg**	**13 37 27.9**	**0.0**
KRBS	**Karabastau** 86nm,0.1s	**0.63**	**50**	P	**Pg**	**13 37 21.1**	**-0.4**
KRBS	309nm,0.2s			S	**Sg**	**13 37 29.2**	**-0.7**
KRBS	**Karabastau** 86nm,0.1s	**0.63**	**50**	*e*P	**Pg**	**13 37 21.1**	**-0.4**
KRBS	309nm,0.2s			*e*S	**Sg**	**13 37 29.2**	**-0.7**
KRBS	**Karabastau** baz=51	**0.63**	**50**	*e*P	**Pg**	**13 37 21.1**	**-0.4**
KRBS	baz=51			*e*S	**Sg**	**13 37 29.2**	**-0.7**
KBK	**Karagaybulak** 351nm,0.1s,SNR=958	**0.64**	**184**	⇓P	**Pb**	**13 37 21.9**	**-0.8**
KBK	1μm,0.2s			⇓S	**Sb**	**13 37 31.5**	**-0.2**
KBK	**Karagaybulak** baz=85	**0.64**	**184**	⇓*i*P	**Pb**	**13 37 21.9**	**-0.8**
KBK	baz=85			⇓*i*S	**Sb**	**13 37 31.1**	**-0.6**
KST	**Kastek** 81nm,0.3s	**0.74**	**109**	P	**Pg**	**13 37 23.4**	**-0.2**
KST	257nm,0.2s			S	**Sg**	**13 37 33.3**	**0.0**
KST	**Kastek** 81nm,0.3s	**0.74**	**109**	*e*P	**Pg**	**13 37 23.4**	**-0.2**
KST	257nm,0.2s			*e*S	**Sg**	**13 37 33.3**	**0.0**
KST	**K

baz=0.0
EKS2 Erkin-Say 1.10 236 ⇑P Pb 13 37 30.4 -0.1
72nm,0.1s,SNR=25
EKS2 ⇓S Sn 13 37 45.4 -0.9
240nm,0.3s
EKS2 Erkin-Say 1.10 236 ⇑*i*P Pb 13 37 30.1 -0.5
baz=35
EKS2 ⇑*i*S Sg 13 37 45.3 +0.5
baz=35
UCH Uchtor 1.12 199 ⇓P Pg 13 37 30.9 0.0
86nm,0.1s,SNR=181
UCH ⇓S Sn 13 37 45.8 -1.5
145nm,0.1s
UCH Uchtor 1.12 199⇑*e*P Pg 13 37 30.8 -0.1
baz=99
UCH ⇑*i*S Sn 13 37 46.3 -1.0
baz=99
KUU Kurty 1.14 58 P Pb 13 37 30.0 -1.1
129nm,0.2s
KUU S Sb 13 37 44.6 -1.4
422nm,0.2s
KUU Kurty 1.14 58 *e*P Pb 13 37 30.0 -1.1
129nm,0.2s
KUU *e*S Sb 13 37 44.6 -1.4
422nm,0.2s
KUU Kurty 1.14 58 *e*P Pb 13 37 30.0 -1.1
baz=58
KUU *e*S Sb 13 37 44.6 -1.4
baz=58
KASK Kaskelen 1.20 93 ⇑P Pn 13 37 31.4 -0.8
KASK ⇑S Sb 13 37 47.1 -0.6
KZA Kyzart 1.23 172 ⇑P Pg 13 37 32.7 -0.2
57nm,0.1s,SNR=310
KZA ⇓S Sn 13 37 49.5 -0.3
79nm,0.2s
KZA Kyzart 1.23 172⇑*i*P Pg 13 37 32.5 -0.4
baz=72
KZA ⇑*i*S Sn 13 37 49.2 -0.6
baz=72
KTBS Karatobe 1.29 70 P Pn 13 37 32.7 -0.8
61nm,0.2s
KTBS S Sb 13 37 49.2 -1.2
456nm,0.3s
KTBS Karatobe 1.29 70 *e*P Pn 13 37 32.7 -0.8
61nm,0.2s
KTBS *e*S Sb 13 37 49.2 -1.2
456nm,0.3s
KTBS Karatobe 1.29 70 *e*P Pn 13 37 32.7 -0.8
baz=71
KTBS *e*S Sb 13 37 49.2 -1.2
baz=71
ULHL Ulahol 1.39 139 P Pb 13 37 34.8 -0.7
25nm,0.1s,SNR=126
ULHL ⇑S Sg 13 37 53.6 -0.3
70nm,0.1s
ULHL Ulahol 1.39 139⇑*i*P Pb 13 37 34.7 -0.7
baz=40
ULHL ⇑*i*S Sg 13 37 53.4 -0.5
baz=40
AAA Alma-Ata 1.40 93 P Pb 13 37 35.3 -0.3
235nm,0.2s
AAA S Sg 13 37 53.5 -0.7
30nm,0.2s
AAA Alma-Ata 1.40 93 *e*P Pb 13 37 35.3 -0.3
235nm,0.2s
AAA *e*S Sg 13 37 53.5 -0.7
30nm,0.2s
AAA Alma-Ata 1.40 93 *e*P Pb 13 37 35.3 -0.3
baz=94
AAA *e*S Sg 13 37 53.5 -0.7
baz=94
MRKS Merke 1.42 248 P Pb 13 37 35.5 -0.4
39nm,0.2s
MRKS S Sb 13 37 54.2 +0.1
250nm,0.3s
MRKS Merke 1.42 248 *e*P Pb 13 37 35.5 -0.4
39nm,0.2s
MRKS *e*S Sb 13 37 54.2 +0.1
250nm,0.3s
MRKS Merke 1.42 248 *e*P Pb 13 37 35.5 -0.4
baz=47
MRKS *e*S Sb 13 37 54.2 +0.1
baz=47
KNDC Almaty 1.43 92 ⇑P Pb 13 37 36.1 0.0
43nm,0.3s
KNDC ⇑S Sg 13 37 54.7 -0.6
92nm,0.2s
TNSS Tian-Shan 1.44 100 P Pb 13 37 35.8 -0.7
178nm,0.3s
TNSS S Sb 13 37 54.7 -0.4
166nm,0.3s
TNSS Tian-Shan 1.44 100 *e*P Pb 13 37 35.8 -0.7
178nm,0.3s
TNSS *e*S Sb 13 37 54.6 -0.4
166nm,0.3s
TNSS Tian-Shan 1.44 100 *e*P Pb 13 37 35.8 -0.7
baz=0.0
TNSS *e*S Sb 13 37 54.7 -0.4
baz=0.0
MDOK Medeo 1.50 94 ⇑P Pb 13 37 36.3 -1.0
34nm,0.3s
MDOK Pg Pb 13 37 37.1 -0.2
93nm,0.2s
MDOK ⇑S Sb 13 37 56.1 -0.3
86nm,0.4s
MDOK Lg Lg 13 37 56.4
189nm,0.2s
MDOK Medeo 1.50 94 *e*P Pb 13 37 37.1 -0.2
93nm,0.2s
MDOK *e*S Sg 13 37 56.4 -1.0
189nm,0.2s
MDOK Medeo 1.50 94 *e*P Pb 13 37 37.1 -0.2
baz=95
MDOK *e*S Sg 13 37 56.4 -1.0
baz=95
AML Almayashu 1.51 220 P Pb 13 37 37.8 +0.1
56nm,0.2s,SNR=236
AML ⇓S Sg 13 37 58.1 +0.2
117nm,0.4s
AML Almayashu 1.51 220 ⇑P Pb 13 37 37.7 0.0
1.1nm,0.3s
AML ⇓S Sb 13 37 57.0 -0.1
14nm,0.6s
AML Almayashu 1.51 220⇓*i*P Pb 13 37 37.6 -0.1
baz=20
AML ⇓*i*S Sg 13 37 58.1 +0.2
baz=20
ARLS Aral 1.52 200⇑*i*P Pb 13 37 37.6 -0.1
baz=0.0
ARLS ⇑*i*S Sg 13 37 58.3 +0.2
baz=0.0
KOTS Kotyrbulak 1.54 91 P Pb 13 37 37.3 -0.7
109nm,0.2s
KOTS S Sb 13 37 57.5 -0.1
236nm,0.2s
KOTS Kotyrbulak 1.54 91 *e*P Pb 13 37 37.3 -0.7
109nm,0.2s
KOTS *e*S Sb 13 37 57.5 -0.1
236nm,0.2s
KOTS Kotyrbulak 1.54 91 *e*P Pb 13 37 37.3 -0.7
baz=92
KOTS *e*S Sb 13 37 57.5 -0.1
baz=92
CHKK Chushkaly 1.54 68 P Pn 13 37 37.1 +0.1
72nm,0.2s
CHKK S Sn 13 37 56.8 -0.4
596nm,0.2s
CHKK Chushkaly 1.54 68 *e*P Pn 13 37 37.1 +0.1
72nm,0.2s
CHKK *e*S Sn 13 37 56.8 -0.4
596nm,0.2s
CHKK Chushkaly 1.54 68 *e*P Pn 13 37 37.1 +0.1
baz=69
CHKK *e*S Sn 13 37 56.7 -0.4
baz=69
BTLS Baital 1.88 339 *e*P Pb 13 37 43.7 -0.1
64nm,0.2s
BTLS *e*S Sb 13 38 08.0 +0.6
134nm,0.2s
KDJ Kajisay 1.98 125⇑*i*P Pb 13 37 44.8 -0.7
baz=26
KDJ ⇑*i*S Sb 13 38 10.6 +0.3
baz=26
NRN Naryn 2.00 158⇑*i*P Pb 13 37 45.2 -0.7
baz=59
NRN ⇑*i*S Sb 13 38 11.2 +0.2
baz=59
ANVS Anan'yevo 2.01 104⇓*e*P Pb 13 37 45.2 -1.0
baz=4.0
ANVS ⇓*e*S Sb 13 38 11.8 +0.4
baz=4.0
ARXS Arharly 2.24 65 Pg Pb 13 37 49.9 -0.1
30nm,0.4s
ARXS Lg Lg 13 38 18.6
301nm,0.5s
ARXS Arharly 2.24 65 *e*P Pb 13 37 49.9 -0.1
30nm,0.4s
ARXS *e*S Sb 13 38 18.6 +0.8
301nm,0.5s
KURS Kuram 2.31 84 Pg Pb 13 37 51.4 +0.2
24nm,0.6s
KURS Lg Lg 13 38 20.7
84nm,0.4s
KURS Kuram 2.31 84 *e*P Pb 13 37 51.4 +0.2
24nm,0.6s
KURS *e*S Sb 13 38 20.7 +0.8
84nm,0.4s
ARSB Arslanbob 2.48 218⇓*i*P Pb 13 37 51.8 -2.2
baz=18
ARSB ⇓*i*S Sb 13 38 23.0 -1.6
baz=18
SATY Saty 2.50 94 Pg Pb 13 37 54.1 -0.2
17nm,0.1s
SATY Lg Lg 13 38 26.0
200nm,0.1s
SATY Saty 2.50 94 *e*P Pb 13 37 54.1 -0.2
17nm,0.1s
SATY *e*S Sb 13 38 26.0 +0.8
200nm,0.1s
ZHN Zhinishke 2.51 92 Pg Pb 13 37 54.3 -0.2
15nm,0.1s
ZHN Lg Lg 13 38 26.5
172nm,0.2s
ZHN Zhinishke 2.51 92 *e*P Pb 13 37 54.3 -0.2
15nm,0.1s
ZHN *e*S Sb 13 38 26.5 +1.0
172nm,0.2s
PRZ Przheval'sk 2.62 107⇑*i*P Pn 13 37 53.2 +1.3
baz=7.0
PRZ ⇑*i*S Sn 13 38 25.3 +1.4
baz=7.0
KPKS Kokpek 2.69 85 Pg Pb 13 37 56.3 -1.2
16nm,0.1s
KPKS Lg Lg 13 38 29.9
140nm,0.4s
KPKS Kokpek 2.69 85 *e*P Pb 13 37 56.3 -1.2
16nm,0.1s
KPKS *e*S Sb 13 38 29.9 -0.7
140nm,0.4s
ARK Arkit 2.70 237⇑*i*P Pn 13 37 54.8 +1.9
baz=37
ARK ⇑*i*S Sb 13 38 28.1 -2.9
baz=37
UZB Uzynbulak 2.94 91 Pg Pb 13 38 01.6 -0.2
8.4nm,0.3s
UZB Lg Lg 13 38 38.9
81nm,0.4s
UZB Uzynbulak 2.94 91 *e*P Pb 13 38 01.6 -0.2
8.4nm,0.3s
UZB *e*S Sb 13 38 38.9 +1.0
81nm,0.4s
TDK Taldyqorghan 2.98 54 Pg Pb 13 38 01.7 -0.9
16nm,0.1s
TDK Lg Lg 13 38 39.6
112nm,0.5s
TDK Taldyqorghan 2.98 54 *e*P Pb 13 38 01.7 -0.9
16nm,0.1s
TDK *e*S Sb 13 38 39.6 +0.5
112nm,0.5s
KNOS Konyrlen 3.20 69 Pg Pb 13 38 06.8 +0.4
69nm,0.4s
KNOS Lg Lg 13 38 47.3
39nm,0.4s
SHLS Shalkode 3.26 91 Pg Pg 13 38 13.4 +1.7
17nm,0.2s
SHLS Lg Lg 13 38 58.7
26nm,0.5s
SHLS Shalkode 3.26 91 *e*P Pg 13 38 13.4 +1.7
17nm,0.2s
SHLS *e*S Sg 13 38 58.7 +4.8
26nm,0.5s
PDGK Podgornoye 3.27 88 Pg Pb 13 38 07.5 -0.1
14nm,0.3s
PDGK Lg Lg 13 38 48.5
21nm,0.4s
PDGK Podgornoye 3.27 88 ⇑Pg Pb 13 38 08.7 +1.1
12nm,0.4s
PDGK ⇑Lg Lg 13 38 50.6
52nm,0.9s
KK31 Karatay Array 3.29 268 ⇑Pg Pg 13 38 10.4 -2.0
3.8nm,0.4s,baz=82,slow=17,SNR=40
KK31 ⇓Lg Lg 13 38 53.8
9.9nm,0.3s,baz=83,slow=30,SNR=6.0
KKAR Karatay Array 3.29 268⇑*i*P Pn 13 38 03.0 +2.0
baz=68
KKAR ⇑*i*S Sn 13 38 42.3 +2.0
baz=68
SFK Sufi-Kurgan 3.46 200⇑*i*P Pn 13 38 05.5 +1.9
baz=0.0
SFK ⇑*i*S Sn 13 38 46.8 +2.0
baz=0.0
DJR Jarkent 3.61 72 Pg Pb 13 38 13.7 +0.4
22nm,0.4s
DJR Lg Lg 13 38 59.4
40nm,0.6s
DJR Jarkent 3.61 72 *e*P Pb 13 38 13.7 +0.4
22nm,0.4s
DJR *e*S Sb 13 38 59.4 +2.1
40nm,0.6s
KAPS Kapalarasan 3.70 56 Pg Pb 13 38 14.9 0.0
24nm,0.4s
KAPS Lg Lg 13 39 01.3
50nm,0.5s
KAPS Kapalarasan 3.70 56 *e*P Pb 13 38 14.9 0.0
24nm,0.4s
KAPS *e*S Sb 13 39 01.3 +1.4
50nm,0.5s
KTMS Ketmen 3.90 86 Pg Pb 13 38 20.4 +2.1
12nm,0.5s
KTMS Lg Lg 13 39 10.1
11nm,0.3s
KTMS Ketmen 3.90 86 *e*P Pb 13 38 20.4 +2.1
12nm,0.5s
KTMS *e*S Sg 13 39 10.1 -4.4
11nm,0.3s
BTK Batken 4.50 226⇑*i*P Pn 13 38 19.8 +2.1
baz=25
BTK ⇑*i*S Sn 13 39 11.5 +1.3
baz=25
OTUK Ortayu 5.29 340 ⇑Pn Pn 13 38 28.7 +0.2
2.3nm,0.6s
OTUK ⇑Lg Lg 13 39 56.3
12nm,0.4s
MAKZ Makanchi 6.06 52 ⇑Pn Pn 13 38 39.2 +0.2
1.0nm,0.3s
MAKZ ⇑Lg Lg 13 40 18.5
5.3nm,0.5s
MK31 Makanchi Array 6.23 53 ⇓Pn Pn 13 38 41.9 +0.4
1.9nm,0.3s,baz=228,slow=12,SNR=153
MK31 ⇑Sn Sn 13 39 52.3 -0.5
1.1nm,0.4s
MK31 ⇑Lg Lg 13 40 25.8
4.5nm,0.5s,baz=227,slow=26,SNR=5.0
KURBB Kurchatov Arra 7.72 17 ⇓Pn Pn 13 39 01.5 -0.2
3.7nm,1.2s
KURBB ⇓Sn Sn 13 40 29.6 +0.4
4.2nm,0.5s
KURBB ⇑Lg Lg 13 41 15.4
27nm,0.6s
KURK Kurchatov 7.83 17 ⇑Lg Lg 13 41 15.8
16nm,0.7s

*SDD **17** 13:46:13.2±3.4, 19°.06N×74°.06W, h212km±34km, MD4.0, ML3.3, MW3.7*
*OSPL **17** 13:46:20.9±1.8, 18°.90N×73°.94W, h0km±14km, ML2.6*
*SSNC **17** 13:46:20.5±1.6, 18°.78N×73°.89W, h6km±12km, MD3.2, ML2.7, MW2.8*
ISC 17 13:46:19.9±1.4,**18°.91N**±0°.07×**73°.82W**±0°.05,**h25**km±15km,
n22,σ**1°28**/35,**1C-1D**,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.31**	**343**	*e*P	**Pb**	**13 46 43.8**	**-0.1**
MASC				*e*S	**Sb**	**13 47 01.7**	**+1.4**
MASC	**Masc**	**1.31**	**343**	*i* P	**Pb**	**13 46 44.0**	**+0.1**
MASC				*e*S	**Sb**	**13 47 01.1**	**+0.8**
MASC				IAML		13 47 04.6	
	comp=Z,72nm,0.9s						
PAPH	**Port-au-Prince**	**1.49**	**105**	⇓*e*Pg	**Pb**	**13 46 46.8**	**-0.2**
PAPH				IAML		13 47 10.1	
	comp=E,629nm,0.2s						
PAPH				IAML		13 47 13.8	
	comp=N,503nm,0.4s						
PAPH	**Port-au-Prince**	**1.49**	**105**	*e*P	**Pb**	**13 46 46.3**	**-0.7**
PAPH				*e*S	**Sn**	**13 47 03.8**	**0.0**
PAPH				IAML		13 47 09.9	
	comp=E,170nm,0.3s						
PAPH				IAML		13 47 10.2	
	comp=N,201nm,0.2s						
PAPH	**Port-au-Prince**	**1.49**	**105**	*i* P	**Pb**	**13 46 47.0**	**0.0**
PAPH				*e*S	**Sb**	**13 47 09.0**	**+3.5**
PAPH				IAML		13 47 10.2	
	comp=Z,127nm,0.3s						
GTBY	**Guantanamo Bay**	**1.58**	**310**	⇑*e*Pg	**Pn**	**13 46 46.6**	**+0.3**
GTBY				*e*Sg	**Sb**	**13 47 07.6**	**-0.4**
GTBY				IAML		13 47 10.1	
	comp=E,113nm,0.7s						
GTBY				IAML		13 47 16.1	
	comp=N,282nm,0.6s						
GTBY	**Guantanamo Bay**	**1.58**	**310**	*e*P	**Pn**	**13 46 46.5**	**+0.3**
GTBY				*e*S	**Sn**	**13 47 06.5**	**+0.5**
GTBY	**Guantanamo Bay**	**1.58**	**310**	*i* P	**Pn**	**13 46 46.6**	**+0.3**
GTBY				*e*S	**Sb**	**13 47 07.3**	**-0.7**
GTBY				IAML		13 47 11.7	
	comp=Z,44nm,0.9s						
SABCS	**La Quijada**	**2.01**	**316**	*e*P	**Pn**	**13 46 52.9**	**+0.5**
RCC	**Rio Carpintero**	**2.07**	**302**	*e*P	**Pn**	**13 46 52.7**	**-0.4**
RCC				*e*S	**Sn**	**13 47 17.0**	**-1.1**
RCC				IAML		13 47 22.3	
	comp=E,22nm,0.2s						
RCC				IAML		13 47 22.4	
	comp=N,35nm,0.2s						
LOPE2	**Hotel El Peder**	**2.16**	**114**	*e*Pg	**Pb**	**13 46 57.5**	**-0.8**
LOPE2				*e*Sg	**Sb**	**13 47 25.9**	**+1.3**
LOPE2	**Hotel El Peder**	**2.16**	**114**	*i* P	**Pb**	**13 46 57.5**	**-0.8**
LOPE2				*e*S	**Sb**	**13 47 25.9**	**+1.3**
LOPE2				IAML		13 47 35.2	
	comp=Z,58nm,0.5s						
MARVS	**Santiago de Cu**	**2.24**	**299**	*e*P	**Pn**	**13 46 56.2**	**+0.8**
MARVS				*e*S	**Sn**	**13 47 22.7**	**+0.4**
SDDR	**Presa de Saban**	**2.40**	**88**	*e*Pg	**Pn**	**13 46 56.2**	**-1.4**
SDDR				*e*Sg	**Sb**	**13 47 30.8**	**-0.9**
SDDR				IAML		13 47 37.3	
	comp=N,34nm,0.5s						
SDDR				IAML		13 47 37.6	
	comp=E,40nm,0.6s						
SDDR	**Presa de Saban**	**2.40**	**88**	*i* P	**Pb**	**13 47 00.8**	**-1.6**
SDDR				*e*S	**Sb**	**13 47 30.7**	**-0.9**
SDDR				IAML		13 47 44.8	
	comp=Z,28nm,0.5s						
PINC	**Pinares de May**	**2.43**	**310**	*e*P	**Pn**	**13 46 59.7**	**+1.7**
LOBA2	**Hotel Casa Bon**	**2.72**	**107**	*e*Pg	**Pn**	**13 47 02.0**	**0.0**
ABDR	**Alto Bandera**	**3.03**	**91**	*e*Pg	**Pn**	**13 47 05.1**	**-1.4**
ABDR				*e*Sg	**Sn**	**13 47 45.0**	**+2.7**
ABDR				IAML		13 47 54.6	
	comp=E,36nm,0.7s						
ABDR				IAML		13 47 58.3	
	comp=N,38nm,0.6s						
LMGC	**Las Mercedes**	**3.21**	**291**	*e*P	**Pn**	**13 47 08.0**	**-0.8**
PILO	**Pilon**	**3.52**	**287**	*e*P	**Pn**	**13 47 14.0**	**+0.8**
HATOM	**Hato Mayor del**	**4.21**	**91**	*e*Pg	Pn	13 47 17.4	-5.1
HATOM				IAML		13 48 26.1	
	comp=N,18nm,2.7s						
CCCC	**Cccc**	**4.35**	**302**	*e*P	**Pn**	**13 47 21.8**	**-2.7**

IDC 17 13:52:45.7±7.9,**15°.91S**×**178°.36E**,**h0**km,**mb3.9**/4,
mbtmp3.9/4,**Error ellipse: s-maj=200.6km**
s-min=43.8km az=23.0,**Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.97**	**238**	P	P	13 59 57.2	+0.3
	1.5nm,0.8s,baz=63,slow=9.0,SNR=4.5						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**41.99**	**258**	P	P	14 00 38.7	-0.3
	0.4nm,0.8s,baz=91,slow=9.3,SNR=2.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**42.40**	**252**	P	P	14 00 42.1	-0.3
	2.0nm,0.8s,baz=84,slow=8.7,SNR=17						
	2.0nm,0.8s						
QSPA	**South Pole Qui**	**74.13**	**180**	P	P	14 04 23.9	0.0
	2.4nm,1.0s,baz=50,slow=8.3,SNR=7.0						
	2.4nm,1.0s						

*IDC **17** 13:56:08.1±0.6, 17°.62S×167°.97E, h0km, mb4.8/18, mbtmp4.8/19, ML5.4/2, MS4.2/33, Error ellipse: s-maj=20.7km s-min=13.6km az=86.0*
*MOS **17** 13:56:08.5±1.1, 17°.62S×167°.87E, h12km, mb5.2/26, Error ellipse: s-maj=11.2km s-min=8.8km az=110.4*
*NEIC **17** 13:56:10.6±1.9, 17°.68S±0°.07×167°.9E±0°.1, h10km±1km, mb5.2/50, Error ellipse: s-maj=17.0km s-min=12.2km az=74.0*
*NOU **17** 13:56:12.0, 17°.65S×167°.89E, h17km, mb5.1/49, Vanuatu Islands*
*BJI **17** 13:56:12.1±0.0, 16°.91S×168°.36E, h27km, mb4.9/41, mB5.3/26, Ms5.2/5, Ms7 4.8/5*
*GCMT **17** 13:56:16.6±0.4, 17°.57S±0°.02×167°.64E±0°.03, h33km±2km, MW5.0/78, Moment Tensor Solution. s19,c22; s78,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.92±.22; $M_{\theta\theta}$-0.66±.15; $M_{\phi\phi}$-0.26±.16; $M_{r\theta}$-3.03±.31; $M_{\theta\phi}$1.97±.10; $M_{\phi r}$0.30±.17; Best double couple: $M_0$3.70800×10^{16} NP1:ϕ_s277.00000°, δ81.00000°, λ60.00000°. NP2: ϕ_s172.00000°, δ31.00000°, λ163.00000°. Principal axes: T 3.5440, Plg45.0000°, Azm157.0000°; N 0.3270, Plg30.0000°, Azm282.0000°; P -3.8710, Plg30.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 13:56:14.0±0.5,**17°.64S**±0°.05×**167°.89E**±0°.08,**h37**km±1km,
h37km:**pP-P**,**n271**,σ**1s20**/253,**mb5.1**/79,**MS4.4**/34,**16C-8D**,
Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**3.18**	**191**		**Pn**	**13 56 58.0**	**-3.5**
LIFNC	**LIFOU**	**3.18**	**191**	P	**Pn**	**13 57 01.1**	**-0.4**
MARNC	**Mare, Loyalty**	**3.83**	**178**		**Pn**	**13 57 07.9**	**-2.5**
MARNC	**Mare, Loyalty**	**3.83**	**178**	P	**Pn**	**13 57 08.7**	**-1.7**
KOUNC	**Koumac, New Ca**	**4.47**	**229**	Pn	**Pn**	**13 57 18.1**	**-1.2**
KOUNC	**Koumac, New Ca**	**4.47**	**229**	P	**Pn**	**13 57 18.9**	**-0.4**
YATNC	**Mamie plateau,**	**4.50**	**192**	P	**Pn**	**13 57 17.8**	**-1.8**
DZM	**Mont Dzumac**	**4.62**	**197**		**Pn**	**13 57 20.3**	**-1.0**
DZM	**Mont Dzumac**	**4.62**	**197**	P	**Pn**	**13 57 20.4**	**-1.0**
DZM	**Mont Dzumac**	**4.62**	**197**	*e*LR	LR	13 58 14.6	
	7μm,24.4s						
DZM	**Mont Dzumac**	**4.62**	**197**	Pn	**Pn**	**13 57 20.2**	**-1.1**
	39nm,0.3s,baz=337,slow=3.0,SNR=216						
DZM				Sn	**Sn**	**13 58 09.2**	**-4.6**
	125nm,0.3s,baz=341,slow=23,SNR=19						
DZM				LR	LR	13 58 09.7	
	comp=Z,819nm,21.7s,baz=346,slow=26						
	90nm,0.3s						
NOUC	**Port Laguerre**	**4.69**	**198**	P	**Pn**	**13 57 21.7**	**-0.5**
ONTNC	**Ouen Toro**	**4.84**	**196**		**Pn**	**13 57 24.0**	**-0.2**
ONTNC	**Ouen Toro**	**4.84**	**196**	P	**Pn**	**13 57 24.1**	**-0.2**
OUENC	**Ouen Island, N**	**4.86**	**192**		**Pn**	**13 57 23.8**	**-0.8**
OUENC	**Ouen Island, N**	**4.86**	**192**	P	**Pn**	**13 57 24.5**	**-0.1**
PINNC	**Pines Island,**	**4.97**	**185**		**Pn**	**13 57 25.4**	**-0.7**
PINNC	**Pines Island,**	**4.97**	**185**	P	**Pn**	**13 57 25.9**	**-0.2**
HNR	**Honiara**	**11.23**	**316**		**Pn**	**13 58 52.4**	**+0.4**
HNR	**Honiara**	**11.23**	**316**	P	**Pn**	**13 58 53.5**	**+1.5**
HNR	**Honiara**	**11.23**	**316**	P	**Pn**	**13 58 52.4**	**+0.4**
HNR	**Honiara**	**11.23**	**316**	Pn	**Pn**	**13 58 52.0**	**0.0**
	126nm,0.3s,baz=278,slow=2.5,SNR=13						
HNR				Sn	**Sn**	**14 00 51.6**	**-4.6**
	79nm,0.3s,baz=358,slow=23,SNR=1.9						
HNR				LR	LR	14 02 55.7	
	comp=Z,8μm,21.6s,baz=160,slow=36						
RK1H	**Rockhampton Ha**	**17.26**	**248**	P	**P**	**14 00 13.6**	**+0.2**
RAO	**Raoul Island**	**17.39**	**134**	LR	LR	14 04 55.4	
	comp=Z,494nm,21.5s,baz=342,slow=30						
EIDS	**Eidsvold**	**17.42**	**241**	P	**P**	**14 00 15.5**	**+0.4**
	baz=17,SNR=10.0						
EIDS	**Eidsvold**	**17.42**	**241**		**Pn**	**14 00 14.6**	**+0.4**

EIDS Eidsvold 17.42 241 P **P** **14 00 15.7 +0.5**
TARA Tarawa 19.51 15 P **Pn** **14 00 40.4 +0.7**
TARA IAmb IAmb 14 00 41.5
comp=Z,248nm,1.2s
ARMA Armidale 19.53 226 P **P** **14 00 38.1 -0.3**
baz=20,SNR=4.7
ARMA Armidale 19.53 226 P **P** **14 00 35.0 -3.4**
RABL Rabaul 20.39 309 P **P** **14 00 47.6 -0.2**
CTA Charters Tower 20.62 260 P **P** **14 00 51.4 +1.1**
comp=Z,10.0nm,0.7s,baz=85,slow=15,SNR=4.0
CTA LR LR 14 07 39.2
comp=Z,264nm,21.0s,baz=82,slow=33
comp=Z,10.0nm,0.7s
TOZ Tahuroa Road 21.11 163 **P** **14 00 56.0 +0.6**
TOZ IAmb IAmb 14 00 57.8
comp=Z,117nm,0.9s
TOZ Tahuroa Road 21.11 163 P **P** **14 00 56.4 +1.1**
OPRZ Ohinepanea 21.52 161 P **P** **14 01 01.4 +1.6**
MGCD Mangrove Creek 21.63 221 P **P** **14 01 00.7 -0.4**
baz=22,SNR=6.0
AULRC Lightning Ridg 21.66 234 P **P** **14 01 01.7 +0.3**
HIZ Hauiti 21.67 165 **P** **14 01 01.6 +0.2**
HIZ Hauiti 21.67 165 P **P** **14 01 03.7 +2.3**
TLZ Tolley Road 21.68 164 P **P** **14 01 03.3 +1.7**
HAZ Te Kaha 21.85 159 P **P** **14 01 04.9 +1.6**
RIV Riverview 22.02 220 P **P** **14 01 05.4 +0.3**
baz=22,SNR=6.2
PKGZ Pakihiroa 22.07 158 P **P** **14 01 08.9 +3.2**
URZ Urewera 22.08 160 P **P** **14 01 07.9 +2.1**
URZ Urewera 22.08 160 P **P** **14 01 05.7 -0.1**
comp=Z,89nm,1.0s,baz=53,slow=7.3,SNR=17
URZ LR LR 14 08 56.3
comp=Z,1µm,19.4s,baz=120,slow=35
comp=Z,89nm,1.0s
WMGZ Waiomatatini S 22.13 157 P **P** **14 01 07.3 +1.0**
TWGZ Tauwhareparae 22.29 159 P **P** **14 01 09.3 +1.1**
RTZ Ruatahuna 22.36 161 P **P** **14 01 08.9 0.0**
MTSU Mount Surprise 22.44 265 P **P** **14 01 12.3 +2.4**
baz=22,SNR=5.2
MTSU Mount Surprise 22.44 265 P **P** **14 01 09.6 -0.3**
OTVZ Oturere 22.49 164 P **P** **14 01 11.2 +0.8**
AUDCS Dubbo College 22.66 227 P **P** **14 01 13.2 +1.1**
QLP Quilpie 23.62 244 P **P** **14 01 21.8 0.0**
baz=24,SNR=12
QLP Quilpie 23.62 244 P **P** **14 01 22.5 +0.7**
MRZ Mangatainoka R 23.89 165 P **P** **14 01 24.4 +0.2**
MRZ IAmb IAmb 14 01 25.9
comp=Z,114nm,1.0s
MRNZ Matariki Terra 24.05 171 P **P** **14 01 25.5 -0.2**
YNG Young 24.06 223 P **P** **14 01 27.0 +1.1**
BFZ Birch Farm 24.07 164 P **P** **14 01 26.6 +0.7**
CNB Canberra Magne 24.11 219 P **P** **14 01 27.2 +0.8**
baz=24,SNR=23
CNB Canberra Magne 24.11 219 P **P** **14 01 27.5 +1.1**
CAN Canberra 24.34 220 P **P** **14 01 28.1 -0.3**
CAN IAmb IAmb 14 01 56.8
comp=Z,39nm,0.8s
CAN Canberra 24.34 220 P **P** **14 01 29.3 +0.8**
CAN Canberra 24.34 220 P **P** **14 01 28.1 -0.3**
CAN pmax pmax
comp=Z,39nm,0.8s
CMSA Cobar Meteorol 24.41 231 P **P** **14 01 29.3 +0.2**
baz=24,SNR=51
CMSA Cobar Meteorol 24.41 231 P **P** **14 01 29.6 +0.5**
MANU Manus Island 25.42 305 P **P** **14 01 37.8 -0.5**
MANU IAmb IAmb 14 01 40.2
comp=Z,33nm,1.1s
MANU Manus Island 25.42 305 P **P** **14 01 40.2 +1.8**
comp=Z,32nm,1.2s
RPZ Rata Peaks 26.14 175 LR LR 14 11 33.9
comp=Z,674nm,19.1s,baz=358,slow=35
INKA Innaminka 26.93 243 P **P** **14 01 51.8 -0.1**
STKA Stephens Creek 27.68 234 P **P** **14 01 59.1 +0.5**
baz=28,SNR=39
STKA Stephens Creek 27.68 234 P **P** **14 01 59.1 +0.5**
STKA Stephens Creek 27.68 234 P **P** **14 01 59.3 +0.7**
STKA Stephens Creek 27.68 234 *c iP* **P** **14 01 58.9 +0.3**
STKA Stephens Creek 27.68 234 P **P** **14 01 59.1 +0.5**
comp=Z,21nm,0.6s,baz=60,slow=7.7,SNR=58
STKA PcP **PcP** **14 05 15.1 0.0**
comp=Z,0.9nm,0.5s,baz=21,slow=5.7,SNR=3.3
comp=Z,21nm,0.6s
TOO Toolangi 27.95 220 P **P** **14 02 01.4 +0.4**
baz=28,SNR=3.6
TOO Toolangi 27.95 220 P **P** **14 02 00.1 -0.9**
TOO Toolangi 27.95 220 P **P** **14 02 01.9 +0.9**
comp=Z,20nm,0.5s
TOO Toolangi 27.95 220 P **P** **14 02 00.1 -0.9**
TOO pmax pmax
comp=Z,20nm,1.1s
BRAT Ballarat 28.91 222 P **P** **14 02 11.5 +2.0**
comp=Z,8.3nm,0.8s
ARPS Mount Arapiles 29.84 225 P **P** **14 02 18.5 +0.8**
baz=30,SNR=7.5
ARPS Mount Arapiles 29.84 225 P **P** **14 02 18.6 +0.8**
comp=Z,27nm,0.9s
LCRK Leigh Creek 29.85 239 P **P** **14 02 18.0 +0.1**
HTT Hallett 30.37 233 P **P** **14 02 22.7 +0.1**
baz=30,SNR=9.5
HTT Hallett 30.37 233 P **P** **14 02 23.1 +0.5**
WHYH Whyalla 31.25 235 P **P** **14 02 30.3 0.0**
comp=Z,44nm,0.8s
OOD Oodnadatta 31.29 245 P **P** **14 02 31.4 +0.7**
WB0 Warramunga Arr 31.77 261 P **P** **14 02 33.4 -1.7**
WB2 Warramunga Arr 31.80 260 P **P** **14 02 33.6 -1.7**
WRAB Tennant Creek 31.81 260 P **P** **14 02 34.2 -1.1**
WRAB Tennant Creek 31.81 260 P **P** **14 02 34.2 -1.1**
WRAB pmax pmax
comp=Z,14nm,1.3s
WRA Warramunga Arr 31.82 260 P **P** **14 02 33.6 -1.9**
WRA Warramunga Arr 31.82 260 P **P** **14 02 34.3 -1.1**
comp=Z,2.8nm,0.6s,baz=82,slow=6.4,SNR=20
WRA PcP **PcP** **14 05 25.5 -0.5**
comp=Z,2.2nm,1.0s,baz=88,slow=3.0,SNR=7.0
comp=Z,2.8nm,0.6s
AS01 Alice Springs 32.27 254 P **P** **14 02 38.4 -1.0**
comp=Z,24nm,0.7s
AS31 Alice Springs 32.31 254 P **P** **14 02 38.5 -1.3**
AS31 IAmb IAmb 14 02 39.8
comp=Z,7.7nm,0.5s
ASAR Alice Springs 32.31 254 P **P** **14 02 38.5 -1.3**
comp=Z,14nm,0.5s,baz=80,slow=8.8,SNR=203
ASAR PcP **PcP** **14 05 26.8 -0.6**
comp=Z,3.2nm,0.8s,baz=107,slow=2.5,SNR=8.0
ASAR ScP **ScP** **14 09 09.4 +1.1**
comp=Z,2.4nm,1.1s,baz=80,slow=2.8,SNR=8.4
ASAR LR LR 14 15 21.3
comp=Z,273nm,19.6s,baz=87,slow=36
comp=Z,14nm,0.5s
BBOO Buckleboo 32.36 236 P **P** **14 02 39.9 -0.2**
baz=32,SNR=28
BBOO Buckleboo 32.36 236 P **P** **14 02 39.5 -0.6**
BBOO IAmb IAmb 14 02 40.9
comp=Z,24nm,0.8s
BBOO Buckleboo 32.36 236 P **P** **14 02 40.2 +0.1**
MULG Mulgathing 33.25 241 P **P** **14 02 47.6 -0.2**
KDU Kakadu 34.50 273 P **P** **14 02 57.9 -0.9**
baz=34,SNR=3.2
MTN Manton Dam 35.74 272 P **P** **14 03 08.8 -0.8**
KNRA Kununurra 37.49 267 P **P** **14 03 23.6 -0.9**
baz=37,SNR=39
KNRA Kununurra 37.49 267 P **P** **14 03 23.4 -1.1**
KNRA IAmb IAmb 14 03 23.9
comp=Z,39nm,0.6s
KNRA Kununurra 37.49 267 P **P** **14 03 25.0 +0.5**
WRKA Warakurna 37.50 252 P **P** **14 03 23.2 -1.3**
baz=37,SNR=5.1
FORT Forrest 38.41 243 P **P** **14 03 31.6 -0.4**
baz=38,SNR=13
FORT Forrest 38.41 243 P **P** **14 03 31.2 -0.9**
FORT IAmb IAmb 14 04 11.3
comp=Z,21nm,0.8s
TBI Tubuai 40.25 105 *e*LR LR 14 14 40.5
comp=Z,766nm,27.0s
KMBL Kambalda 43.74 243 P **P** **14 04 15.0 -0.9**
baz=44,SNR=4.5
KMBL Kambalda 43.74 243 P **P** **14 04 16.4 +0.5**
comp=Z,28nm,0.6s
PSA00 Pilbara Seismi 45.29 257 P **P** **14 04 28.1 -0.3**
PSA00 IAmb IAmb 14 04 29.2
comp=Z,27nm,1.6s
MEEK Meekatharra 46.28 250 P **P** **14 04 35.9 -0.3**
baz=46,SNR=23
MEEK Meekatharra 46.28 250 P **P** **14 04 36.6 +0.4**
KLBR Kellerberrin 47.27 243 P **P** **14 04 43.0 -0.9**
baz=47,SNR=6.4

KLBR Kellerberrin 47.27 243 P **P** **14 04 43.5 -0.4**
comp=Z,48nm,0.7s
NWAO Narrogin (SRO) 47.83 241 P **P** **14 04 47.6 -0.6**
baz=48,SNR=11
NWAO P **P** **14 04 47.6 -0.6**
baz=48,SNR=11
NWAO Narrogin (SRO) 47.83 241 P **P** **14 04 47.6 -0.6**
NWAO Narrogin (SRO) 47.83 241 P **P** **14 04 47.6 -0.6**
NWAO Narrogin (SRO) 47.83 241 P **P** **14 04 47.9 -0.3**
NWAO Narrogin (SRO) 47.83 241 P **P** **14 04 47.6 -0.6**
NWAO pmax pmax
comp=Z,34nm,0.8s
MORW Morawa 48.60 247 P **P** **14 04 53.6 -0.7**
baz=48,SNR=7.5
MORW Morawa 48.60 247 P **P** **14 04 53.7 -0.6**
MORW IAmb IAmb 14 04 54.5
comp=Z,25nm,0.8s
MORW Morawa 48.60 247 P **P** **14 04 55.0 +0.7**
JCJ Chichijima 50.98 330 P **P** **14 05 11.5 -0.7**
JCJ Chichijima 50.98 330 LR LR 14 25 02.3
comp=Z,98nm,21.5s,baz=100,slow=34
LEM Lembang 59.66 272 LR LR 14 34 34.2
comp=Z,66nm,18.3s,baz=46,slow=39
KSM Kuching 59.78 282 P **P** **14 06 16.1 +0.3**
KSM IAmb IAmb 14 06 17.1
comp=Z,24nm,0.9s
VNDA Vanda 59.99 182 P **P** **14 06 16.7 +0.4**
VNDA IAmb IAmb 14 06 17.5
comp=Z,59nm,1.9s
VNDA Vanda 59.99 182 P **P** **14 06 16.7 +0.4**
VNDA pmax pmax
comp=Z,59nm,1.9s
VNDA Vanda 59.99 182 P **P** **14 06 16.2 -0.1**
comp=Z,6.4nm,0.9s,baz=26,slow=6.7,SNR=12
VNDA LR LR 14 28 51.0
comp=Z,100nm,21.1s,baz=4.5,slow=33
comp=Z,6.4nm,0.9s
SBA Scott Base 60.25 180 P **P** **14 06 19.7 +1.7**
SBA Scott Base 60.25 180 P **P** **14 06 19.7 +1.7**
SBA pmax pmax
comp=Z,52nm,1.1s
MJAR Matsushiro Arr 60.75 333 P **P** **14 06 20.9 -1.1**
comp=Z,23nm,1.0s,baz=164,slow=7.0,SNR=24
MJAR LR LR 14 30 31.3
comp=Z,69nm,21.9s,baz=104,slow=34
comp=Z,23nm,1.0s
MAJO Matsushiro 60.75 333 P **P** **14 06 21.1 -0.9**
MAJO IAmb IAmb 14 06 22.4
comp=Z,33nm,1.0s
MAJO Matsushiro 60.75 333 *ce*P **P** **14 06 21.1 -0.9**
MAJO pmax pmax
comp=Z,31nm,1.0s
MJB9 Matsu-Tunnel 60.75 333 P **P** **14 06 22.2 +0.1**
MJB9 IAmb IAmb 14 06 23.4
comp=Z,34nm,1.0s
JMM Marumori 60.80 336 P **P** **14 06 21.7 -0.6**
CASY Casey 61.09 203 P **P** **14 06 23.5 -0.4**
CASY IAmb IAmb 14 06 24.5
comp=Z,17nm,0.8s
SSLB Suanglung 61.59 310 P **P** **14 06 26.9 -1.1**
JKA Kamikawa-asahi 65.66 340 P **P** **14 06 54.4 0.0**
JKA IAmb IAmb 14 06 57.2
comp=Z,21nm,1.0s
ASAJ Asahikawa 65.66 340 P **P** **14 06 54.4 0.0**
ASAJ pmax pmax
comp=Z,21nm,1.0s
ASAJ Asahikawa 65.66 340 LR LR 14 31 51.9
comp=Z,340nm,20.8s,baz=170,slow=33
KSRS Korea Array 66.47 326 P **P** **14 07 00.7 +0.9**
comp=Z,1.3nm,0.8s,baz=134,slow=5.6,SNR=4.1
comp=Z,1.3nm,0.8s
YSS Yuzh-Sakhalins 68.16 342 P **P** **14 07 10.5 +0.4**
YSS Yuzh-Sakhalins 68.16 342 *eP* **P** **14 07 10.6 +0.4**
YSS pmax pmax
comp=Z,30nm,0.8s
NJ2 Nanjing 68.17 316 *eP* **P** **14 07 12.8 +2.2**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 pmax pmax
comp=Z,240nm,5.7s
USA0B Ussuriysk Arra 69.73 333 P **P** **14 07 20.1 0.0**
USA0B IAmb IAmb 14 09 18.1
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 69.73 333 ⇑*iP* **P** **14 07 20.4 +0.3**
USRK Ussuriysk Ar. 69.73 333 P **P** **14 07 20.1 0.0**
USRK Ussuriysk Ar. 69.73 333 P **P** **14 07 20.5 +0.4**
comp=Z,8.7nm,0.8s,baz=125,slow=3.0,SNR=8.3
comp=Z,8.7nm,0.8s
KULM Kulim 70.14 282 P **P** **14 07 23.1 -0.1**
KULM IAmb IAmb 14 07 24.3
comp=Z,11nm,1.0s
SHEM Shemya Is, Ala 70.28 4 LR LR 14 32 54.8
comp=Z,360nm,20.4s,baz=120,slow=31
WHN Wuhan 70.33 313 ⇑P **P** **14 07 23.8 -0.2**
RPSI Rantau Prapat 70.86 279 P **P** **14 07 26.6 -1.1**
RPSI IAmb IAmb 14 07 28.1
comp=Z,14nm,1.2s
PSI Prapat 70.90 279 P **P** **14 07 26.6 -1.5**
PSI pmax pmax
comp=Z,14nm,1.2s
PETK Petropavlovsk- 71.00 354 P **P** **14 07 27.2 -0.5**
comp=Z,19nm,1.1s,baz=102,slow=6.7,SNR=5.3
PETK LR LR 14 34 18.1
comp=Z,178nm,19.7s,baz=172,slow=32
comp=Z,19nm,1.1s
MDJ Mudanjiang 71.11 332 P **P** **14 07 27.9 -0.6**
MDJ pP pP 14 07 40.4 +1.5
MDJ ScS SKiKP 14 17 20.8 +14
MDJ pmax pmax
comp=Z,27nm,1.2s
MDJ pmax pmax
comp=Z,110nm,4.1s
MDJ LR LR
comp=Z,220nm,10.6s
MDJ LR LR
comp=Z,370nm,11.3s
MDJ LR LR
comp=Z,330nm,11.3s
MDJ Mudanjiang 71.11 332 P **P** **14 07 28.4 -0.1**
MDJ IAmb IAmb 14 07 29.7
comp=Z,31nm,1.2s
GSI Gunungsitoli 71.68 277 P **P** **14 07 32.7 +0.1**
GSI IAmb IAmb 14 07 34.0
comp=Z,18nm,0.8s
TYV Tymovskoe 71.72 343 *eP* **P** **14 07 31.9 -0.1**
TYV pmax pmax
comp=Z,9.0nm,1.5s
TYV pmax pmax
comp=Z,100nm,6.6s
QSPA South Pole Qui 72.41 180 P **P** **14 07 36.5 +0.2**
QSPA South Pole Qui 72.41 180 P **P** **14 07 36.3 +0.1**
comp=Z,52nm,0.8s,baz=2.1,slow=1.2,SNR=186
QSPA LR LR 14 37 55.9
comp=Z,177nm,18.0s,baz=32,slow=35
comp=Z,52nm,0.8s
BNX BinXian 72.96 332 ⇓P **P** **14 07 38.6 -1.0**
BNX pmax pmax
comp=Z,21nm,0.9s
BNX pmax pmax
comp=Z,220nm,4.3s
KLR Kul'dur 73.89 336 ⇓*eP* **P** **14 07 44.7 -0.3**
KLR pmax pmax
comp=Z,29nm,1.7s
LYN LuoYang 73.94 315 ⇓P **P** **14 07 46.4 +0.8**
LYN pmax pmax
comp=Z,28nm,0.5s
LYN pmax pmax
comp=Z,370nm,8.6s
HNS HongShan 74.16 318 ⇑P **P** **14 07 47.3 +0.5**
HNS pP **pP** **14 07 57.0 -0.2**
HNS pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 76.09 313 ⇓P **P** **14 07 57.6 -0.5**
XAN pP sP 14 08 12.0 -0.1
XAN sP pwP 14 08 14.8 +2.0
XAN pmax pmax
comp=Z,8.0nm,0.8s
HEH HeiHe 76.42 335 *eP* **P** **14 07 59.1 -0.4**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,280nm,7.1s
CMAR Chiang Mai Arr 76.68 294 P **P** **14 08 02.7 +1.1**
CMAR Chiang Mai Arr 76.68 294 P **P** **14 08 03.0 +1.3**
CMAR Chiang Mai Arr 76.68 294 P **P** **14 08 03.0 +1.3**
comp=Z,2.6nm,0.7s,baz=132,slow=4.5,SNR=20
comp=Z,2.6nm,0.7s

CMMT Chiang Mai 76.82 295 P **P** **14 08 02.8 +0.3**
comp=Z,19nm,0.9s
CHTO Chiang Mai 76.82 295 P **P** **14 08 03.4 +0.9**
CHTO Chiang Mai 76.82 295 P **P** **14 08 03.4 +0.9**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 76.82 295 P **P** **14 08 03.3 +0.8**
comp=Z,6.8nm,0.9s
XLT XiLinHaoTe 77.40 324 *eP* **P** **14 08 05.8 +0.5**
XLT pP PcP 14 08 15.3 -0.4
XLT PcP **pP** **14 08 16.8 +1.0**
XLT sP sP 14 08 20.3 +0.8
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,320nm,6.5s
PZH PanZhiHua 77.77 303 P P 14 08 13.6 +5.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.3s
HHC Hu-ho-hao-te 78.18 320 ⇑*iP* **P** **14 08 11.3 +1.6**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,250nm,5.9s
MA2 Magadan 78.19 351 ⇑*eP* **P** **14 08 08.0 -1.2**
MA2 pmax pmax
comp=Z,13nm,1.7s
MA2 Magadan 78.19 351 LR LR 14 37 49.9
comp=Z,221nm,21.9s,baz=164,slow=32
CD2 Chengdu 78.25 308 P **P** **14 08 11.3 +1.0**
BTO Baotou 78.99 319 *eP* **P** **14 08 17.8 +3.6**
BTO pP **pwP** **14 08 28.4 -0.6**
BTO sP **sP** **14 08 32.0 +4.1**
BTO pmax pmax
comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,250nm,4.9s
BTO LR LR
comp=Z,580nm,9.4s
BTO LR LR
comp=Z,730nm,10.0s
BTO LR LR
comp=Z,410nm,10.0s
HIA Hailar 79.09 330 P **P** **14 08 13.6 -0.8**
HIA IAmb IAmb 14 08 15.9
comp=Z,28nm,1.1s
HIA Hailar 79.09 330 P **P** **14 08 13.6 -0.8**
HIA pmax pmax
comp=Z,28nm,1.1s
ZEA Zeya 79.19 337 *eP* **P** **14 08 15.1 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
MAW Mawson 79.43 202 P **P** **14 08 17.0 +1.0**
comp=Z,6.7nm,0.8s,baz=90,slow=7.1,SNR=2.1
comp=Z,6.7nm,0.8s
LZH Lanzhou 80.71 312 *eP* **P** **14 08 24.8 +1.1**
LZH pP sP 14 08 36.5 -1.2
LZH pmax pmax
comp=Z,23nm,1.0s
SEY Seymchan 81.22 353 ⇓*eP* **P** **14 08 24.9 -0.7**
SEY pmax pmax
comp=Z,41nm,1.7s
SEY Seymchan 81.22 353 LR LR 14 39 27.5
comp=Z,199nm,21.5s,baz=172,slow=32
KDAK Kodiak Island 81.97 20 ⇑*eP* **P** **14 08 30.9 +1.3**
KDAK pmax pmax
comp=Z,33nm,1.1s
KDAK Kodiak Island 81.97 20 LR LR 14 39 07.4
comp=Z,177nm,18.7s,baz=230,slow=32
ULN Ulaanbaatar 84.82 324 P **P** **14 08 45.4 +0.6**
ULN Ulaanbaatar 84.82 324 *c iP* **P** **14 08 45.1 +0.3**
ULN pmax pmax
comp=Z,38nm,1.0s
ULN Ulaanbaatar 84.82 324 P **P** **14 08 45.1 +0.3**
YAK Yakutsk 84.97 343 P **P** **14 08 44.7 -0.3**
YAK Yakutsk 84.97 343 *d iP* **P** **14 08 44.3 -0.6**
YAK *e**PP **pP** **14 08 53.6 -2.0**
YAK *e* 14 12 02.9
YAK *eS* **SKSac** **14 19 03.9 -2.2**
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,223nm,6.6s
YAK pmax pmax
comp=N,214nm,5.6s
YAK pmax pmax
comp=E,59nm,3.5s
YAK smax smax
comp=N,143nm,5.4s
YAK smax smax
comp=E,44nm,3.2s
GTA Gaotai 85.10 314 *eP* **P** **14 08 47.0 +0.7**
GTA pP pP 14 08 57.3 +0.4
GTA pmax pmax
comp=E,5.0nm,1.2s
SONM Songino Array 85.17 324 P **P** **14 08 46.9 +0.3**
SONM IAmb IAmb 14 08 48.5
comp=Z,27nm,1.1s
SONM Songino Array 85.17 324 P **P** **14 08 46.9 +0.3**
SONM pmax pmax
comp=Z,27nm,1.1s
SONM Songino Array 85.17 324 P **P** **14 08 46.8 +0.3**
comp=Z,15nm,1.0s,baz=143,slow=4.9,SNR=69
comp=Z,15nm,1.0s
BILL Bilibino 85.44 359 P **P** **14 08 46.4 -0.8**
BILL Bilibino 85.44 359 ⇑*eP* **P** **14 08 48.0 +0.8**
BILL pmax pmax
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 87.05 45 LR LR 14 41 02.6
comp=Z,226nm,19.6s,baz=305,slow=31
BOD Bodaibo 87.34 334 *eP* **P** **14 08 56.0 -0.7**
BOD pmax pmax
comp=Z,25nm,1.8s
ELIB Princess Elisa 87.48 190 *dP* **P** **14 08 57.3 -0.3**
comp=Z,10nm,1.1s
MDPB Devils Postpil 87.83 49 P **P** **14 08 59.8 -0.2**
PFO Pinyon Flats O 88.21 54 LR LR 14 39 19.0
comp=Z,196nm,21.8s,baz=266,slow=29
ZAK Zakamensk 88.25 325 *eP* **P** **14 09 00.6 -0.8**
ZAK pmax pmax
comp=Z,12nm,1.5s
NVAR Mina Array Bea 88.71 49 P **P** **14 09 03.7 -0.4**
comp=Z,0.8nm,0.8s,baz=238,slow=7.4,SNR=6.2
NVAR LR LR 14 41 23.2
comp=Z,186nm,20.8s,baz=295,slow=31
comp=Z,0.8nm,0.8s
PMSA Palmer Station 88.85 160 LR LR 14 42 35.8
comp=Z,148nm,20.8s,baz=230,slow=31
BBB Bella Bella 88.85 34 LR LR 14 42 57.4
comp=Z,122nm,19.8s,baz=272,slow=32
ILAR Eielson Array 89.10 18 P **P** **14 09 02.0 -2.9**
comp=Z,1.0nm,0.8s,baz=237,slow=3.2,SNR=12
ILAR LR LR 14 45 37.0
comp=Z,218nm,19.0s,baz=238,slow=33
LPIG La Paz 89.89 65 LR LR 14 39 47.4
comp=Z,172nm,20.6s,baz=290,slow=29
TROLL Troll, Antarti 90.03 185 ⇑P **P** **14 09 09.4 -0.2**
comp=Z,2µm,1.0s
NVL N'lazarevskaya 90.27 188 *eP* **P** **14 09 09.0 -1.5**
NVL pmax pmax
comp=Z,29nm,0.9s
SNAA Sanae 90.69 183 P **P** **14 09 12.0 -0.6**
SNAA Sanae 90.69 183 ⇑P **P** **14 09 12.0 -0.6**
comp=Z,353nm,1.0s
SNAA Sanae 90.69 183 P **P** **14 09 12.0 -0.6**
comp=Z,18nm,1.0s,baz=177,slow=4.6,SNR=19
comp=Z,18nm,1.0s
DLBC Dease Lake 91.22 28 LR LR 14 43 54.8
comp=Z,180nm,19.1s,baz=284,slow=31
VNA3 Neumayer Olymp 91.33 181 ⇑P **P** **14 09 14.8 -0.7**
comp=Z,24nm,0.8s
VNA2 Neumayer--Watz 91.61 182 ⇑P **P** **14 09 16.4 -0.4**
comp=Z,18nm,0.7s,baz=163,slow=4.0
ELK Elko 91.79 48 LR LR 14 42 56.9
comp=Z,134nm,20.8s,baz=292,slow=31
TIXI Tiksi 92.92 348 P **P** **14 09 21.5 -1.1**
TIXI IAmb IAmb 14 10 15.9

	comp=Z,8.5nm,0.7s							
TIXI	**Tiksi**	**92.92**	**348**	⇑ *e*P		**P**	**14 09 21.3**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s							
TIXI	**Tiksi**	**92.92**	**348**	LR		LR	14 49 44.4	
	comp=Z,6.6nm,18.2s,baz=142,slow=35							
NEW	**Newport**	**93.38**	**40**	LR		LR	14 46 18.1	
	comp=Z,82nm,18.9s,baz=16,slow=32							
WMQ	**Urumqi**	**95.18**	**314**	*e*P		**P**	**14 09 35.3**	**+1.6**
WMQ				LR		LR		
	comp=Z,220nm,22.3s							
INK	**Inuvik**	**95.44**	**19**	LR		LR	14 47 50.3	
	comp=Z,139nm,19.5s,baz=182,slow=32							
ANMO	**Albuquerque**	**96.45**	**56**	LR		LR	14 48 09.6	
	comp=Z,99nm,18.8s,baz=82,slow=32							
PDAR	**Pinedale Array**	**96.47**	**47**	LR		LR	14 50 36.0	
	comp=Z,81nm,18.0s,baz=8.0,slow=34							
TXAR	**Lajitas Array**	**97.13**	**62**	LR		LR	14 46 29.3	
	comp=Z,68nm,19.9s,baz=22,slow=31							
DGZ	**Jazzator, Alta**	**97.26**	**320**	⇑ *e*P		**P**	**14 09 42.5**	**-0.6**
DGZ				pmax		pmax		
	comp=Z,6.0nm,2.6s							
MK31	**Makanchi Array**	**99.70**	**316**	⇓ *e*P		**Pdif**	**14 09 53.5**	**-0.5**
MKAR	**Makanchi Array**	**99.70**	**316**	Pdif		**Pdif**	**14 09 53.4**	**-0.6**
MKAR	**Makanchi Array**	**99.70**	**316**	*i* P		**Pdif**	**14 09 55.7**	**+1.7**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**99.70**	**316**	P		**Pdif**	**14 09 53.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=91,slow=6.5,SNR=8.4							
MKAR				LR		LR	14 53 44.5	
	comp=Z,128nm,20.6s,baz=340,slow=35							
	comp=Z,1.2nm,0.8s							
YKA	**Yellowknife Ar**	**99.84**	**27**	P		**Pdif**	**14 09 52.6**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=244,slow=4.6,SNR=5.9							
	comp=Z,0.2nm,0.7s							
ZALV	**Zalesovo Beam**	**100.07**	**323**	*i* P		**Pdif**	**14 09 57.0**	**+1.6**
ZALV	**Zalesovo Beam**	**100.07**	**323**	P		**Pdif**	**14 09 55.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=111,slow=6.5,SNR=3.6							
BVAR	**Borovoye Array**	**108.37**	**321**	PP		**PP**	**14 15 03.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=60,slow=8.8,SNR=4.9							
GEYT	**Alibeck**	**116.07**	**304**	PKP		**PKPdf**	**14 14 52.5**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=174,slow=5.4,SNR=5.6							
BELG	**Belogornoye**	**122.17**	**321**	PKP		**PKPdf**	**14 15 03.0**	**-1.5**
	comp=Z,8.7nm,1.0s,baz=104,slow=2.0,SNR=4.8							
ARCES	**ARCESS Array B**	**123.20**	**345**	PKP		**PKPdf**	**14 15 05.3**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=71,slow=1.8,SNR=11							
KLMR	**Klimovskoe**	**123.53**	**333**	*e*PKIKP		**PKPdf**	**14 15 03.6**	**-3.4**
KLMR				pmax		pmax		
	comp=Z,19nm,1.6s							
KIV	**Kislovodsk**	**127.25**	**312**	*e*PKIKP		**PKPdf**	**14 15 13.1**	**-1.7**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
FINES	**FINESS Array B**	**128.62**	**338**	PKIKP		**PKPdf**	**14 15 17.0**	**+0.3**
FINES	**FINESS Array B**	**128.62**	**338**	PKP		**PKPdf**	**14 15 17.0**	**+0.3**
	comp=Z,6.5nm,1.1s,baz=299,slow=2.0,SNR=4.8							
BRTR	**Keskin Array B**	**134.82**	**309**	PKP		**PKPdf**	**14 15 29.6**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=104,slow=0.6,SNR=2.5							
CONA	**Conrad Observ**	**142.12**	**329**	*e*PKIKP		**PKiKP**	**14 15 44.5**	**-0.8**
	comp=Z,6.7nm,1.3s							
CKRC	**Cesky Krumlov**	**142.22**	**331**	*e*PKIKP		**PKPdf**	**14 15 39.1**	**-3.3**
CKRC	**Cesky Krumlov**	**142.22**	**331**	*e*PKP		**PKPdf**	**14 15 39.1**	**-3.3**
KHC	**Kasperske Hory**	**142.33**	**332**	*e*PKIKP		**PKPdf**	**14 15 39.4**	**-3.2**
KHC	**Kasperske Hory**	**142.33**	**332**	*e*PKP		**PKPdf**	**14 15 39.4**	**-3.2**
ARSA	**Arzberg**	**142.75**	**329**	*e*PKP		**PKPdf**	**14 15 44.5**	**+1.1**
	comp=Z,5.9nm,1.1s							
SOKA	**Soboth**	**143.38**	**328**	*e*PKP		PKPbc	14 15 42.9	+1.1
	comp=Z,8.0nm,1.1s							
OBKA	**Obir**	**143.74**	**328**	*e*PKP		PKPbc	14 15 42.8	-0.1
	comp=Z,16nm,1.2s							
KBA	**Koelnbreinsper**	**143.93**	**330**	*e*PKP		PKPbc	14 15 43.4	-0.2
	comp=Z,16nm,1.1s							
LESA	**Schwarzleotal**	**143.99**	**331**	*e*PKP		PKPbc	14 15 43.6	0.0
	comp=Z,14nm,0.7s							
MYKA	**Terra Mystica**	**144.10**	**329**	*e*PKP		**PKPab**	**14 15 43.6**	**+0.1**
	comp=Z,9.4nm,0.7s							
WATA	**Walderalm**	**144.56**	**332**	*e*PKP		PKPbc	14 15 45.6	+0.1
	comp=Z,6.8nm,0.7s							
ABTA	**Abfaltersbach**	**144.56**	**330**	*i* PKP		**PKPab**	**14 15 44.6**	**-0.6**
	comp=Z,25nm,0.7s,SNR=6.1							
WTTA	**Wattenberg**	**144.58**	**332**	*e*PKP		PKPbc	14 15 45.8	+0.2
	comp=Z,14nm,1.0s							
MOTA	**Moosalm**	**144.76**	**332**	*i* PKP		PKPbc	14 15 46.1	0.0
	comp=Z,36nm,1.0s,SNR=6.6							
RETA	**Reutte**	**144.80**	**333**	*e*PKP		**PKPab**	**14 15 46.0**	**0.0**
	comp=Z,16nm,0.8s							
SQTA	**Sankt Quirin**	**144.81**	**332**	*i* PKP		**PKPab**	**14 15 46.2**	**+0.1**
	comp=Z,29nm,0.8s,SNR=8.1							
FETA	**Feichten**	**145.17**	**332**	*i* PKP		**PKPbc**	**14 15 47.5**	**+0.1**
	comp=Z,49nm,0.8s,SNR=13							
DAVA	**Damuels**	**145.34**	**333**	*i* PKP		**PKPbc**	**14 15 48.0**	**0.0**
	comp=Z,56nm,0.9s,SNR=11							
DAVOX	**Davos/Dischmat**	**145.73**	**333**	PKPbc		**PKPbc**	**14 15 49.4**	**+0.1**
	comp=Z,24nm,0.7s,baz=25,slow=2.2,SNR=27							
ESDC	**Sonseca Array**	**156.93**	**344**	PKPab		**PKPab**	**14 16 35.2**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=26,slow=4.0,SNR=6.9							
TORD	**Torodi Ar. Bea**	**165.96**	**253**	PKP		**PKPdf**	**14 16 15.0**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=43,slow=2.5,SNR=9.9							
TORD				PKPab		**PKPab**	**14 17 14.9**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=77,slow=4.3,SNR=7.6							
DBIC	**Dimbokro**	**167.00**	**214**	PKPab		**PKPab**	**14 17 20.3**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=118,slow=6.3,SNR=3.3							

*NEIC **17** 14:27:26.3±0.3, 35.97N±0.01×97.20W±0.02, h3km±1km, Error ellipse: s-maj=2.0km s-min=1.7km az=88.0*
*TUL **17** 14:27:27±0.7, 35.98N±0.02×97.20W±0.02, h9km±8km, ML2.7, mb_Lg2.6/41(NEIC), ML2.6/36(NEIC), Error ellipse: s-maj=2.6km s-min=1.8km az=135.0*

ISC 17 14:27:26.7±1.0, 35.98N±0.03×97.21W±0.02, h4km, n54, σ0s57/38, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	**Mehan**	**0.23**	**73**	Pg	**Pg**	**14 27 31.3**	**+0.2**
OK029	**Liberty Lake**	**0.27**	**228**	Pg	**Pg**	**14 27 32.1**	**+0.2**
OK029				IAML		14 27 42.3	
	706nm,0.4s						
OK052	**Battle Ridge R**	**0.33**	**87**	Pg	**Pg**	**14 27 33.3**	**+0.3**
OK052				IAML		14 27 38.4	
	618nm,0.2s						
OK052				IAML		14 27 38.7	
	2µm,0.3s						
QUOK	**Quay**	**0.45**	**65**		**Pg**	**14 27 35.6**	**+0.3**
QUOK				IAML		14 27 42.2	
	comp=E,401nm,0.3s						
QUOK				IAML		14 27 43.5	
	comp=N,416nm,0.2s						
OK048	**Pawnee Station**	**0.48**	**26**	Pg	**Pg**	**14 27 36.4**	**+0.4**
OK048				IAML		14 27 43.2	
	comp=N,668nm,0.3s						
DEOK	**Depew**	**0.59**	**103**	Pg	**Pg**	**14 27 38.3**	**+0.2**
DEOK				IAML		14 27 48.7	
	comp=E,401nm,0.3s						
DEOK				IAML		14 27 48.8	
	comp=N,639nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.60**	**198**	Pg	**Pg**	**14 27 38.1**	**-0.1**
OK051	**E0350 and S346**	**0.60**	**30**	Pg	**Pg**	**14 27 38.5**	**+0.2**
OK051				IAML		14 27 49.9	
	comp=N,652nm,0.2s						
FNO	**Franklin**	**0.74**	**192**	Pg	**Pg**	**14 27 40.5**	**-0.3**
FNO				IAML		14 27 56.2	
	comp=N,208nm,0.2s						
BLOK	**Blackwell**	**0.78**	**360**	Pg	**Pg**	**14 27 41.4**	**-0.2**
CROK	**Carrier**	**0.82**	**310**	Pg	**Pg**	**14 27 42.5**	**+0.2**
W35A	**Tecumseh**	**0.87**	**162**	Pg	**Pg**	**14 27 42.8**	**-0.6**
W35A				IAML		14 27 57.4	
	comp=N,158nm,0.5s						
GC02	**Grant County #**	**1.02**	**329**	Pg	**Pg**	**14 27 45.7**	**-0.4**
KAN13	**South Haven SW**	**1.05**	**348**		**Pg**	**14 27 46.6**	**-0.2**
T35A	**Sooner Cattle**	**1.09**	**31**	Pg	**Pg**	**14 27 47.2**	**-0.3**
T35A				IAML		14 28 03.0	
	comp=E,242nm,0.3s						
T35B	**Sooner Cattle**	**1.09**	**31**	P	**Pg**	**14 27 47.4**	**-0.2**
	baz=211						
T35B				S	**Sg**	**14 28 01.8**	**+0.1**
	baz=211						
KAN14	**Manchester OK**	**1.15**	**328**		**Pg**	**14 27 48.3**	**-0.4**
TUL3	**Leonard**	**1.15**	**93**		**Pg**	**14 27 47.5**	**-1.2**
TUL3				IAML		14 28 05.0	
	comp=N,132nm,0.3s						
TUL3				IAML		14 28 06.0	
	comp=E,89nm,0.4s						
TUL3	**Leonard**	**1.15**	**93**	P	**Pg**	**14 27 47.8**	**-0.9**
	baz=274						
TUL3				S	**Sb**	**14 28 03.7**	**-0.7**
	baz=274						

KAN17	**Caldwell West**	**1.15**	**337**	Pg	**Pg**		**14 27 48.3**	**-0.5**
KAN09	**Caldwell North**	**1.20**	**344**		**Pg**		**14 27 49.2**	**-0.5**
KAN05	**Bluff City Nor**	**1.25**	**335**		**Pg**		**14 27 50.2**	**-0.4**
CSTR	**Hydro, Custer**	**1.25**	**255**		**Pg**		**14 27 50.3**	**-0.3**
KAN01	**Argonia South**	**1.25**	**339**		**Pg**		**14 27 50.1**	**-0.6**
KAN10	**Anthony SW Sta**	**1.35**	**328**		**Pn**		**14 27 51.6**	**-0.7**
KAN06	**Argonia West S**	**1.37**	**338**		**Pn**		**14 27 51.9**	**-0.7**
KAN08	**Anthony NE Sta**	**1.39**	**334**		**Pn**		**14 27 52.0**	**-0.8**
U32A	**Winter Ranch,**	**1.51**	**286**		**Pn**		**14 27 54.0**	**-0.4**
U32A	**Winter Ranch,**	**1.51**	**286**	P	**Pn**		**14 27 54.6**	**+0.1**
	baz=105							
U32A				S	**Sg**		**14 28 15.1**	**+0.1**
	baz=105							
RLO	**Rose Lookout**	**1.78**	**83**		**Pn**		**14 27 58.1**	**-0.1**
WMOK	**Wichita Mounta**	**1.79**	**227**		**Pn**		**14 27 58.5**	**+0.2**
WMOK				IAmb_Lg			14 28 23.2	
	comp=Z,23nm,1.1s							
WMOK	**Wichita Mounta**	**1.79**	**227**	P	**Pn**		**14 27 58.9**	**+0.6**
	baz=46							
WMOK				S	**Sb**		**14 28 23.2**	**+0.4**
	baz=46							
LOOK	**Love County**	**1.98**	**179**	IAmb_Lg			14 28 31.9	
	comp=Z,29nm,0.9s							
U38A	**Gravette**	**2.33**	**78**	IAmb_Lg			14 28 41.9	
	comp=Z,29nm,0.7s							
KSU1	**Kansas State U**	**3.15**	**8**	IAmb_Lg			14 29 14.5	
	comp=Z,17nm,0.7s							
KSU1	**Kansas State U**	**3.15**	**8**	S	**Sb**		**14 29 03.8**	**+1.8**
	baz=189							
S39A	**Bolivar**	**3.55**	**60**	IAmb_Lg			14 29 24.1	
	comp=Z,14nm,0.9s							
S39A	**Bolivar**	**3.55**	**60**	P	**Pn**		**14 28 23.0**	**+0.4**
	baz=242							
AMTX	**Amarillo**	**3.81**	**255**	IAmb_Lg			14 29 29.9	
	comp=Z,15nm,0.9s							
DKNS	**Dickens**	**3.83**	**234**	IAmb_Lg			14 29 33.4	
	comp=Z,10nm,1.0s							
ABTX	**Abilene, Hawle**	**3.91**	**212**	IAmb_Lg			14 29 35.6	
	comp=Z,11nm,0.9s							
WLAR	**White Oak Lake**	**4.07**	**123**	IAmb_Lg			14 29 44.0	
	comp=Z,12nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.12**	**90**	IAmb_Lg			14 29 41.5	
	comp=Z,14nm,0.8s							
MGMO	**Mountain Grove**	**4.14**	**72**	IAmb_Lg			14 29 42.9	
	comp=Z,9.7nm,0.9s							
SN05	**Snyder 5**	**4.34**	**226**	IAmb_Lg			14 29 48.8	
	comp=Z,15nm,0.8s							
RTBA	**Rita Blanca**	**4.50**	**277**	IAmb_Lg			14 29 54.5	
	comp=Z,15nm,1.1s							
POST	**Post**	**4.58**	**232**	IAmb_Lg			14 29 54.5	
	comp=Z,9.1nm,0.7s							
P38A	**Dawn**	**4.66**	**38**	IAmb_Lg			14 29 56.5	
	comp=Z,14nm,0.8s							
SGCY	**Sterling City**	**5.20**	**220**	IAmb_Lg			14 30 24.1	
	comp=Z,8.3nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.26**	**307**	IAmb_Lg			14 30 25.3	
	comp=Z,9.6nm,0.7s							
JCT	**Junction City**	**5.90**	**202**	IAmb_Lg			14 30 49.1	
	comp=Z,10.0nm,0.9s							
T25A	**Trinidad**	**5.91**	**283**	IAmb_Lg			14 30 39.4	
	comp=Z,8.5nm,0.9s							
SDCO	**Great Sand Dun**	**6.88**	**287**	IAmb_Lg			14 31 06.1	
	comp=Z,8.1nm,1.1s							
N23A	**Red Feather La**	**8.43**	**308**	IAmb_Lg			14 32 07.8	
	comp=Z,6.8nm,1.1s							

*DJA **17** 14:35:24.7±0.3, 7.3×2.2×13.0E±*, h177km±7km, M4.9/23, mB5.4/13, mb4.9/23, MLv5.2/15, Mw(mB)4.8/13*
*IDC **17** 14:35:25.0±2.2, 6.95S×129.52E, h155km±21km, mb4.2-/21, mbtmp4.7/24, MS2.9/1, Error ellipse: s-maj=17.6km s-min=9.7km az=50.0*
*NEIC **17** 14:35:25.2±1.1, 6.95S±0.08×129.48E±0.06, h158km±4km, mb4.6/29, Error ellipse: s-maj=10.9km s-min=7.9km az=189.0*

ISC 17 14:35:24.6±0.3, 7.11S±0.04×129.47E±0.05, h150km, n223, σ1891/236, mb4.5/39, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**116**	Pn	**Pn**	**14 36 01.8**	**+2.0**
SAUI	**Saumlaki**	**2.01**	**116**	P	**Pn**	**14 36 02.3**	**+2.5**
SAUI	**Saumlaki**	**2.01**	**116**	P	**Pn**	**14 36 01.7**	**+1.9**
BNDI	**Bandanaira**	**2.61**	**10**	P	**Pn**	**14 36 08.8**	**+1.7**
BNDI	**Bandanaira**	**2.61**	**10**	P	**Pn**	**14 36 08.8**	**+1.7**
KRAI	**Karang Ratu**	**3.92**	**344**	P	**Pn**	**14 36 25.9**	**+2.1**
NLAI	**Namlea**	**4.51**	**328**	P	**Pn**	**14 36 33.5**	**+1.9**
FAKI	**Fak Fak**	**5.00**	**34**	Pn	**Pn**	**14 36 35.9**	**-2.2**
FAKI	**Fak Fak**	**5.00**	**34**	P	**Pn**	**14 36 38.4**	**+0.3**
	171nm,0.7s,14µm4.5nm						
KMPI	**Kaimana, Papua**	**5.43**	**51**	P	**Pn**	**14 36 44.2**	**+0.4**
	469nm,0.5s,31µm11nm						
SOEI	**Soe**	**5.78**	**243**	Pn	**Pn**	**14 36 49.2**	**+0.7**
SOEI	**Soe**	**5.78**	**243**	P	**Pn**	**14 36 49.4**	**+0.9**
SOEI	**Soe**	**5.78**	**243**	P	**Pn**	**14 36 49.6**	**+1.1**
	812nm,0.6s,11µm4.5nm						
MTN	**Manton Dam**	**5.93**	**164**	P	**Pn**	**14 36 51.2**	**+0.8**
	baz=6.0,SNR=385						
MTN				S	**Sn**	**14 37 55.5**	**-2.0**
	baz=6.0						
MTN	**Manton Dam**	**5.93**	**164**	Pn	**Pn**	**14 36 51.1**	**+0.8**
MTN	**Manton Dam**	**5.93**	**164**	P	**Pn**	**14 36 51.3**	**+0.9**
SANI	**Sanana**	**6.11**	**325**	P	**Pn**	**14 36 54.7**	**+1.9**
SANI	**Sanana**	**6.11**	**325**	P	**Pn**	**14 36 54.4**	**+1.6**
	44nm,0.9s,0.2nm						
KDU	**Kakadu**	**6.28**	**152**	P	**Pn**	**14 36 55.3**	**+0.2**
	baz=6.4,SNR=357						
KDU				S	**Sn**	**14 38 03.0**	**-2.9**
	baz=6.4						
KDU	**Kakadu**	**6.28**	**152**	P	**Pn**	**14 36 55.3**	**+0.2**
SIJI	**Sorong**	**6.45**	**16**	P	**Pn**	**14 36 58.9**	**+1.5**
	33nm,0.4s,5µm1.0nm						
SWI	**Sorong**	**6.46**	**16**	P	**Pn**	**14 36 56.1**	**-1.4**
	47nm,0.6s,2µm1.9nm						
LBMI	**Labuha**	**6.72**	**343**	P	**Pn**	**14 37 01.5**	**+0.5**
	141nm,1.0s,0.5nm						
MMRI	**Maumere**	**7.32**	**258**	Pn	**Pn**	**14 37 10.3**	**+1.2**
MMRI	**Maumere**	**7.32**	**258**	P	**Pn**	**14 37 10.0**	**+1.0**
MMRI	**Maumere**	**7.32**	**258**	P	**Pn**	**14 37 10.9**	**+1.9**
	158nm,0.9s,3µm0.9nm						
EDFI	**Ende, Flores**	**7.88**	**258**	P	**Pn**	**14 37 17.5**	**+1.0**
	92nm,0.7s,1µm0.3nm						
TNTI	**Ternate**	**8.11**	**345**	P	**Pn**	**14 37 20.3**	**+0.8**
	36nm,0.7s						
KNRA	**Kununurra**	**8.54**	**185**	P	**Pn**	**14 37 24.9**	**-0.3**
	baz=8.7,SNR=129						
KNRA				S	**Sn**	**14 38 55.0**	**-5.3**
	baz=8.7						
KNRA	**Kununurra**	**8.54**	**185**	Pn	**Pn**	**14 37 24.7**	**-0.5**
KNRA	**Kununurra**	**8.54**	**185**	P	**Pn**	**14 37 25.0**	**-0.3**
BASI	**Baing, Sumba**	**9.32**	**250**	P	**Pn**	**14 37 35.4**	**-0.2**
	309nm,0.5s,5µm						
BKSI	**Bukukumba**	**9.46**	**280**	P	**Pn**	**14 37 38.7**	**+1.2**
	27nm,0.7s						
KAPI	**Kappang**	**9.89**	**282**	Pn	**Pn**	**14 37 44.3**	**+1.1**
KAPI	**Kappang**	**9.89**	**282**	P	**Pn**	**14 37 44.6**	**+1.4**
	10nm,0.7s,baz=163,slow=9.7,SNR=3.4						
GTOI	**Gorontalo**	**10.04**	**320**	P	**Pn**	**14 37 49.8**	**+4.6**
	13nm,0.8s						
TTSI	**Tana Toraja**	**10.43**	**292**	P	Pn	14 38 01.9	+12
MRSI	**Marisa**	**10.64**	**315**	P	**Pn**	**14 37 55.8**	**+2.6**
	43nm,0.9s,721nm						
DBNI	**Kabupaten Domp**	**11.14**	**262**	P	**Pn**	**14 37 59.8**	**0.0**
	114nm,0.6s						
MMSI	**Mamuju**	**11.40**	**292**	P	**P**	**14 38 11.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.54**	**199**	P	**Pn**	**14 38 03.7**	**-1.3**
	baz=12,SNR=16						
FITZ	**Fitzroy Crossi**	**11.54**	**199**	Pn	**Pn**	**14 38 03.6**	**-1.3**
PLAI	**Plampang**	**11.71**	**261**	P	**Pn**	**14 38 04.8**	**-2.4**
PLAI	**Plampang**	**11.71**	**261**	P	**Pn**	**14 38 04.1**	**-3.1**
	191nm,0.5s,4µm						
MPSI	**Mapaga**	**12.08**	**307**	P	**Pn**	**14 38 14.6**	**+2.6**
	18nm,0.8s						
TWSI	**Taliwang, Sumb**	**12.57**	**262**	P	**Pn**	**14 38 16.1**	**-2.3**
	54nm,0.5s,1µm						
WB0	**Warramunga Arr**	**13.46**	**160**	Pn	**Pn**	**14 38 27.4**	**-2.3**
WRA	**Warramunga Arr**	**13.60**	**160**	Pn	**Pn**	**14 38 29.1**	**-2.5**
WRA	**Warramunga Arr**	**13.60**	**160**	P	**Pn**	**14 38 29.2**	**-2.3**
	32nm,0.5s,baz=338,slow=13,SNR=70						
WRA				S	Sn	14 40 51.3	-11
	45nm,0.4s,baz=330,slow=23,SNR=13						
COEN	**Coen**	**15.09**	**118**	Pn	**Pn**	**14 38 49.6**	**-0.6**
COEN	**Coen**	**15.09**	**118**	P	**Pn**	**14 38 50.7**	**+0.5**
JAGI	**Jajag, Banyuwa**	**15.24**	**264**	Pn	**Pn**	**14 38 50.2**	**-1.9**
JAGI	**Jajag, Banyuwa**	**15.24**	**264**	P	**Pn**	**14 38 50.3**	**-1.8**

JAGI	**Jajag, Banyuwa**	**15.24**	**264**	P		**Pn**	**14 38 48.9**	**-3.2**
	73nm,0.5s,2µm							
PKKI	**Palangkaraya**	**16.18**	**287**	P		**Pn**	**14 39 03.7**	**0.0**
	634nm,0.9s,4µm							
QIS	**Mount Isa**	**16.59**	**145**	P		**P**	**14 39 08.3**	**-0.2**
	baz=17,SNR=215							
QIS	**Mount Isa**	**16.59**	**145**	P		**Pn**	**14 39 09.0**	**+0.4**
KRKI	**Karangkates**	**16.90**	**265**	P		**P**	**14 39 11.2**	**-0.7**
AS31	**Alice Springs**	**17.00**	**166**	P		**Pn**	**14 39 13.8**	**+0.2**
ASAR	**Alice Springs**	**17.00**	**166**	P		**Pn**	**14 39 14.0**	**+0.4**
ASAR	**Alice Springs**	**17.00**	**166**	P		**Pn**	**14 39 14.8**	**+1.2**
	79nm,0.6s,baz=336,slow=9.4,SNR=1178							
ASAR				S		**S**	**14 42 16.8**	**-5.9**
	9.6nm,0.7s,baz=352,slow=29,SNR=5.7							
AS01	**Alice Springs**	**17.01**	**166**	P		**Pn**	**14 39 14.3**	**+0.6**
PSA00	**Pilbara Seismi**	**17.12**	**212**	P		**Pn**	**14 39 15.3**	**+0.3**
PSA00	**Pilbara Seismi**	**17.12**	**212**	P		**Pn**	**14 39 15.7**	**+0.7**
PSA00	**Pilbara Seismi**	**17.12**	**212**	P		**Pn**	**14 39 15.7**	**+0.7**
PMG	**Port Moresby**	**17.65**	**99**	P		**P**	**14 39 18.0**	**-2.2**
PMG	**Port Moresby**	**17.65**	**99**	P		**Pn**	**14 39 23.4**	**+2.0**
PMG	**Port Moresby**	**17.65**	**99**	P		**P**	**14 39 20.5**	**+0.3**
	43nm,0.7s,baz=135,slow=1.3,SNR=18							
PMG				S		**S**	**14 42 26.7**	**-9.4**
	16nm,0.6s,baz=70,slow=6.2,SNR=3.8							
WRKA	**Warakurna**	**17.86**	**183**	P		**Pn**	**14 39 24.3**	**+0.4**
	baz=18,SNR=201							
WRKA	**Warakurna**	**17.86**	**183**	P		**Pn**	**14 39 24.3**	**+0.4**
MTSU	**Mount Surprise**	**18.15**	**129**	P		**Pn**	**14 39 27.5**	**+0.2**
	baz=18,SNR=128							
MTSU	**Mount Surprise**	**18.15**	**129**	P		**Pn**	**14 39 27.6**	**+0.3**
MANU	**Manus Island**	**18.53**	**75**	P		**P**	**14 39 29.4**	**-0.4**
KKM	**Kota Kinabalu**	**18.59**	**314**	P		**P**	**14 39 28.4**	**-2.2**
KKM	**Kota Kinabalu**	**18.59**	**314**	P		**P**	**14 39 30.6**	**0.0**
UGM	**Wanagama**	**18.80**	**266**	P		**P**	**14 39 33.4**	**+0.6**
SBUM	**Sibu**	**19.66**	**298**	P		**P**	**14 39 40.8**	**-1.3**
TV1H	**Townsville Har**	**20.72**	**127**	P		**P**	**14 39 55.3**	**+2.0**
CTA	**Charters Tower**	**20.77**	**130**	P		**P**	**14 39 55.5**	**+1.6**
CTA	**Charters Tower**	**20.77**	**130**	P		**P**	**14 39 54.4**	**+0.5**
	14nm,0.6s,baz=301,slow=11,SNR=19							
	14nm,0.6s							
CTAO	**Charters Tower**	**20.77**	**130**	P		**P**	**14 39 55.5**	**+1.6**
KSM	**Kuching**	**20.94**	**293**	P		**P**	**14 39 53.6**	**-2.2**
GIRL	**Giralia**	**21.30**	**222**	P		**P**	**14 39 59.9**	**+0.3**
	baz=21,SNR=5.2							
GIRL	**Giralia**	**21.30**	**222**	P		**P**	**14 40 00.7**	**+1.1**
OOD	**Oodnadatta**	**21.40**	**165**	P		**P**	**14 40 01.1**	**+0.5**
BBJI	**Bungbulang**	**21.65**	**268**	P		**P**	**14 40 01.5**	**-1.9**
LEM	**Lembang**	**21.69**	**269**	P		**P**	**14 40 04.7**	**+0.6**
	82nm,0.6s,baz=30,slow=5.8,SNR=15							
	82nm,0.6s							
MEEK	**Meekatharra**	**22.00**	**207**	P		**P**	**14 40 07.0**	**+0.1**
	baz=22,SNR=18							
MEEK	**Meekatharra**	**22.00**	**207**	P		**P**	**14 40 07.2**	**+0.3**
INKA	**Innaminka**	**23.14**	**154**	P		**P**	**14 40 19.2**	**+1.6**
MULG	**Mulgathing**	**23.45**	**170**	P		**P**	**14 40 21.4**	**+0.9**
FORT	**Forrest**	**23.58**	**183**	P		**P**	**14 40 24.1**	**+2.4**
	baz=24,SNR=51							
FORT	**Forrest**	**23.58**	**183**	P		**P**	**14 40 22.7**	**+1.0

HHC pmax pmax
comp=Z,270nm,5.8s
BTO Baotou 50.75 341 *eP* **P 14 44 13.0 +3.6**
BTO pP **pwP 14 44 51.8 +4.4**
BTO sP PcP 14 45 11.6 -13
BTO PP **PP 14 46 04.8 -2.3**
BTO S **S 14 51 18.5 +5.1**
BTO Baotou 50.75 341 SS **SS 14 54 40.4 -10**
BTO pmax pmax
comp=Z,9.0nm,0.6s
BTO pmax pmax
comp=Z,180nm,3.7s
BTO LR LR
comp=N,460nm,7.2s
BTO LR LR
comp=E,370nm,11.0s
BTO LR LR
comp=Z,320nm,9.8s
CN2 Changchun 50.80 356 *eP* **P 14 44 07.0 -2.6**
RPZ Rata Peaks 51.47 142 P **P 14 44 16.4 +1.7**
MDJ Mudanjiang 51.49 0 P P 14 44 21.8 +7.2
MDJ pP pwP 14 44 57.8 +6.2
MDJ PcP **PcP 14 45 32.1 +5.3**
MDJ PP **PP 14 46 20.8 +7.2**
MDJ ScP ScP 14 49 24.9 +15
MDJ PcS **PcS 14 49 29.8 +5.1**
MDJ S S 14 51 45.0 +22
MDJ sS sS 14 52 03.9 -17
MDJ ScS ScS 14 54 05.8 +16
MDJ pmax pmax
comp=Z,14nm,1.7s
MDJ pmax pmax
comp=Z,150nm,6.0s
MDJ LR LR
comp=N,280nm,10.3s
MDJ LR LR
comp=E,310nm,10.3s
MDJ LR LR
comp=Z,390nm,12.0s
LSA Lhasa 51.92 317 P **P 14 44 16.8 -1.9**
TUWZ Tuamarina 52.15 138 P **P 14 44 20.0 +0.3**
XLT XiLinHaoTe 52.20 348 *eP* **P 14 44 22.4 +2.3**
XLT pP pwP 14 44 58.8 +1.0
XLT sP PcP 14 45 20.1 -10
XLT PcP **PcP 14 45 32.0 +2.4**
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT pmax pmax
comp=Z,150nm,6.6s
NTVZ North Tongarir 52.29 135 P **P 14 44 23.8 +2.9**
TMVZ Te Maari 52.32 135 P **P 14 44 23.7 +2.6**
ASAJ Asahikawa 52.35 12 P **P 14 44 20.1 -1.0**
comp=Z,2.0nm,0.5s,baz=246,slow=8.7,SNR=5.7
comp=Z,2.0nm,0.5s
SNZO South Karori 52.60 138 P **P 14 44 24.2 +1.2**
BHHZ Black Hill Sta 52.73 135 P **P 14 44 25.1 +1.0**
MRZ Mangatainoka R 52.90 137 P **P 14 44 25.8 +0.6**
TSZ Takapari Road 52.90 136 P **P 14 44 26.3 +1.0**
KWHZ Kaweka Forest 52.95 135 P **P 14 44 27.1 +1.3**
HOWZ Holdsworth Sta 52.96 137 P **P 14 44 26.7 +1.0**
URZ Urewera 52.97 133 P **P 14 44 26.4 +0.6**
URZ Urewera 52.97 133 P **P 14 44 26.4 +0.6**
comp=Z,7.3nm,0.5s,baz=353,slow=5.3,SNR=5.5
comp=Z,7.3nm,0.5s
URZ Urewera 52.97 133 P **P 14 44 26.4 +0.6**
PNHZ Pukenui 53.00 135 P **P 14 44 26.8 +0.8**
KRHZ Kereru 53.01 135 P **P 14 44 27.0 +0.9**
MTHZ Maungataniwha 53.01 134 P **P 14 44 27.5 +1.3**
NMHZ Naumai 53.09 134 P **P 14 44 28.6 +1.9**
PRWZ Pori Road 53.12 136 P **P 14 44 27.7 +0.8**
DVHZ Dannevirke 53.14 136 P **P 14 44 27.7 +0.6**
MCHZ McNeill Hill 53.15 135 P **P 14 44 28.9 +1.7**
RAHZ Arahi 53.21 134 P **P 14 44 29.1 +1.5**
WPHZ Waipukurau 53.23 136 P **P 14 44 28.8 +1.1**
HAZ Te Kaha 53.26 132 P **P 14 44 29.3 +1.3**
TRWZ Traveller 53.30 137 P **P 14 44 28.9 +0.8**
MWZ Matawai 53.30 133 P **P 14 44 29.3 +1.1**
TMWZ Te Maipa 53.31 137 P **P 14 44 29.2 +0.9**
SNGZ Shannon Statio 53.34 134 P **P 14 44 29.7 +1.2**
BFZ Birch Farm 53.36 136 P **P 14 44 29.9 +1.2**
BFZ Birch Farm 53.36 136 P **P 14 44 29.9 +1.2**
TKGZ Te Karaka 53.57 133 P **P 14 44 31.5 +1.3**
WMGZ Waiomatatini S 53.75 132 P **P 14 44 33.1 +1.6**
GTA Gaotai 53.82 332 *eP* **P 14 44 31.3 -0.8**
GTA pP pP 14 45 04.8 -0.5
GTA ScP **ScP 14 49 17.8 -2.1**
GTA pmax pmax
comp=Z,3.0nm,0.8s
CNGZ Carnagh Statio 53.85 133 P **P 14 44 34.2 +1.9**
SONM Songino Array 58.38 342 P **P 14 45 03.1 -1.2**
comp=Z,1.4nm,0.6s,baz=159,slow=6.2,SNR=6.6
comp=Z,1.4nm,0.6s
WMQ Urumqi 63.20 327 *eP* **P 14 45 36.8 -0.1**
WMQ pmax pmax
comp=Z,14nm,0.8s
PETK Petropavlovsk- 64.59 18 P **P 14 45 44.4 -1.3**
comp=Z,5.3nm,1.1s,baz=165,slow=6.0,SNR=2.0
comp=Z,5.3nm,1.1s
NIL Nilore 66.89 311 P **P 14 46 00.0 -0.9**
NIL IAmb IAmb 14 46 01.6
comp=Z,9.8nm,0.5s
MK31 Makanchi Array 68.03 327 P **P 14 46 06.7 -1.1**
MK31 IAmb IAmb 14 46 08.3
comp=Z,3.8nm,0.5s
MKAR Makanchi Array 68.03 327 P **P 14 46 06.6 -1.2**
MKAR Makanchi Array 68.03 327 P **P 14 46 07.0 -0.8**
comp=Z,7.1nm,0.4s,baz=115,slow=8.4,SNR=215
comp=Z,7.1nm,0.4s
YAK Yakutsk 68.94 0 P **P 14 46 11.5 -1.5**
YAK IAmb IAmb 14 46 12.7
comp=Z,13nm,0.7s
YAK Yakutsk 68.94 0 P **P 14 46 11.7 -1.3**
comp=Z,0.6nm,0.6s,baz=355,slow=0.2,SNR=6.6
AAK Ala-Archa 70.29 320 P **P 14 46 20.5 -1.4**
AAK Ala-Archa 70.29 320 P **P 14 46 22.1 +0.1**
comp=Z,2.4nm,0.4s,baz=132,slow=6.4,SNR=13
comp=Z,2.4nm,0.4s
ARSB Arslanbob 70.62 318 P **P 14 46 23.1 -1.0**
ZAA0 Zalesovo Array 71.45 334 P **P 14 46 26.8 -1.7**
ZAA0 IAmb IAmb 14 46 28.4
comp=Z,13nm,1.4s
ZALV Zalesovo Beam 71.45 334 P **P 14 46 26.8 -1.7**
ZALV Zalesovo Beam 71.45 334 P **P 14 46 27.1 -1.4**
comp=Z,3.2nm,0.6s,baz=124,slow=5.1,SNR=16
comp=Z,3.2nm,0.6s
SEY Seymchan 72.01 11 P **P 14 46 31.3 -0.4**
comp=Z,2.4nm,0.5s,baz=217,slow=6.0,SNR=22
comp=Z,2.4nm,0.5s
KURBB Kurchatov Arra 72.33 329 P **P 14 46 32.8 -1.0**
comp=Z,3.8nm,0.5s,baz=128,slow=5.0,SNR=52
comp=Z,3.8nm,0.5s
KURK Kurchatov 72.34 329 P **P 14 46 32.6 -1.3**
KURK IAmb IAmb 14 46 33.9
comp=Z,6.1nm,0.7s
VNDA Vanda 72.40 173 P **P 14 46 34.5 +0.6**
comp=Z,3.4nm,1.2s,baz=315,slow=8.6,SNR=1.7
comp=Z,3.4nm,1.2s
KKAR Karatay Array 73.08 319 P **P 14 46 37.1 -1.3**
BVAR Borovoye Array 77.88 328 P **P 14 47 04.3 -1.3**
comp=Z,5.7nm,0.9s,baz=124,slow=7.9,SNR=20
comp=Z,5.7nm,0.9s
BRVK Borovoye 77.95 328 P **P 14 47 04.2 -1.8**
TIXI Tiksi 78.60 360 P **P 14 47 07.8 -1.3**
TIXI IAmb IAmb 14 49 40.6
comp=Z,16nm,2.0s
GEYT Alibeck 79.89 310 P **P 14 47 16.6 -0.3**
comp=Z,0.8nm,0.4s,baz=208,slow=8.1,SNR=2.5
comp=Z,0.8nm,0.4s
NRIK Noril'sk 81.54 346 P **P 14 47 24.3 -0.7**
comp=Z,2.0nm,0.5s,baz=110,slow=6.5,SNR=3.6
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 82.27 322 P **P 14 47 27.9 -1.3**
ABKAR Akbulak array 82.27 322 P **P 14 47 27.8 -1.5**
ABKAR IAmb IAmb 14 47 30.8
comp=Z,7.4nm,1.1s
AKTO Aktyubinsk 83.84 322 P **P 14 47 36.6 -0.7**
comp=Z,4.9nm,0.5s,baz=102,slow=6.3,SNR=9.5
comp=Z,4.9nm,0.5s
ARU Arti 85.52 328 P **P 14 47 43.9 -1.6**
ARU IAmb IAmb 14 47 45.1
comp=Z,10.0nm,0.9s
ARU Arti 85.52 328 P **P 14 47 44.2 -1.3**
comp=Z,5.2nm,0.6s,baz=144,slow=2.0,SNR=13
comp=Z,5.2nm,0.6s
J20K Nowinta River 90.47 25 IAmb IAmb 14 48 05.9
comp=Z,9.7nm,1.1s
IMAR Indian Mountai 91.11 23 P **P 14 48 12.3 +0.5**
TORD Torodi Ar. Bea 128.32 281 PKP **PKPdf 14 54 13.9 -0.5**
comp=Z,1.2nm,0.6s,baz=56,slow=2.6,SNR=8.8
CPUP Villa Florida 146.11 169 PKPbc **PKPbc 14 54 47.5 -0.3**
comp=Z,3.7nm,0.9s,baz=135,slow=2.9,SNR=4.1

NEIC ***17*** *14:36:24.9±2.2,20.5°S±0.1°×178.8°W±0.1°,h595km±6km, mb4.6/58, Error ellipse: s-maj=17.9km s-min=14.5km az=104.0*
IDC ***17*** *14:36:25.9±2.0,20.50°S×178.77°W,h607km±22km, mb3.8/18, mbtmp4.7/19, Error ellipse: s-maj=18.3km s-min=11.5km az=79.0*
ISC 17 14:36:24.6±0.3, 20.59S±0.07°×178.80W±0.08, h600km, n432, σ0.89/432, mb4.6/52, 25C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.49**	**81**	P	**P**	**14 38 27.0**	**-1.5**
AFI	**Afiamalu**	**9.44**	**46**	P	**P**	**14 38 35.1**	**-2.9**
MARNC	**Mare, Loyalty**	**12.33**	**264**	P	**P**	**14 39 06.9**	**+0.3**
PINNC	**Pines Island,**	**12.95**	**259**	P	**P**	**14 39 12.9**	**+0.1**
LIFNC	**LIFOU**	**13.06**	**267**	P	**P**	**14 39 13.2**	**-0.9**
OUENC	**Ouen Island, N**	**13.49**	**260**	P	**P**	**14 39 18.7**	**+0.4**
DZM	**Mont Dzumac**	**13.83**	**261**	P	**P**	**14 39 23.0**	**+1.1**
	10nm,0.8s,baz=91,slow=17,SNR=3.6						
TOZ	**Tahuroa Road**	**17.78**	**195**	P	**P**	**14 39 59.1**	**+1.1**
TOZ				IAmb	IAmb	14 40 38.8	
	comp=Z,21nm,1.3s						
URZ	**Urewera**	**17.96**	**190**	P	**P**	**14 39 58.3**	**-1.3**
	comp=Z,9.2nm,0.3s,baz=6.6,slow=3.4,SNR=13						
URZ				S	**S**	**14 42 48.5**	**-5.7**
	comp=Z,8.9nm,0.8s,baz=150,slow=21,SNR=1.7						
MRZ	**Mangatainoka R**	**20.57**	**192**	P	**P**	**14 40 21.8**	**-1.4**
CTA	**Charters Tower**	**32.73**	**265**	P	**P**	**14 42 11.0**	**+1.3**
	comp=Z,9.3nm,0.5s,baz=107,slow=12,SNR=2.5						
	comp=Z,9.3nm,0.5s						
SOEI	**Soe**	**55.75**	**272**	P	**P**	**14 45 08.2**	**+1.7**
SOEI				IAmb	IAmb	14 45 18.3	
	comp=Z,36nm,0.7s						
SBA	**Scott Base**	**57.73**	**184**	P	**P**	**14 45 21.4**	**+2.7**
VNDA	**Vanda**	**57.76**	**185**	P	**P**	**14 45 20.5**	**+1.6**
VNDA	**Vanda**	**57.76**	**185**	P	**P**	**14 45 21.4**	**+2.4**
	comp=Z,1.8nm,0.5s,baz=1.3,slow=6.8,SNR=14						
	comp=Z,1.8nm,0.5s						
MORW	**Morawa**	**59.10**	**248**	P	**P**	**14 45 26.2**	**-2.6**
CASY	**Casey**	**63.56**	**205**	P	**P**	**14 45 57.3**	**+0.1**
KKM	**Kota Kinabalu**	**69.06**	**285**	P	**P**	**14 46 32.3**	**+0.2**
KKM				IAmb	IAmb	14 47 13.8	
	comp=Z,29nm,1.2s						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**14 46 34.6**	**+0.9**
QSPA				IAmb	IAmb	14 46 36.1	
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**14 46 35.2**	**+1.4**
	comp=Z,8.5nm,0.6s,baz=223,slow=1.1,SNR=98						
	comp=Z,8.5nm,0.6s						
JOW	**Kuttigami**	**69.65**	**311**	P	**P**	**14 46 35.5**	**+0.3**
MJAR	**Matsushiro Arr**	**69.84**	**324**	P	**P**	**14 46 36.2**	**0.0**
	comp=Z,5.3nm,0.6s,baz=159,slow=5.9,SNR=18						
	comp=Z,5.3nm,0.6s						
MAJO	**Matsushiro**	**69.84**	**324**	P	**P**	**14 46 36.1**	**-0.1**
MAJO				IAmb	IAmb	14 46 37.0	
	comp=Z,9.9nm,0.7s						
MJB9	**Matsu-Tunnel**	**69.84**	**324**	P	**P**	**14 46 37.0**	**+0.7**
MJB9				IAmb	IAmb	14 46 38.0	
	comp=Z,9.7nm,0.7s						
JTM	**Tenabayashi**	**71.55**	**329**	P	**P**	**14 46 46.6**	**+0.5**
JNU	**Nakatsue**	**71.83**	**317**	P	**P**	**14 46 47.2**	**-0.7**
KIWB	**Kanaga Island**	**72.14**	**1**	P	**P**	**14 46 48.3**	**-0.9**
ADK	**Adak**	**72.18**	**1**	P	**P**	**14 46 48.2**	**-1.2**
ATKA	**Atka Island**	**72.59**	**3**	P	**P**	**14 46 50.7**	**-1.1**
YULB	**Yu-li**	**72.92**	**304**	P	**P**	**14 46 52.9**	**-1.5**
YULB				IAmb	IAmb	14 47 07.1	
	comp=Z,20nm,1.1s						
TPUB	**Ta-pu**	**73.39**	**303**	P	**P**	**14 46 56.1**	**-1.0**
JKA	**Kamikawa-asahi**	**73.45**	**332**	P	**P**	**14 46 58.4**	**+1.5**
JKA				IAmb	IAmb	14 46 59.7	
	comp=Z,29nm,1.1s						
ASAJ	**Asahikawa**	**73.45**	**332**	P	**P**	**14 46 58.7**	**+1.8**
	comp=Z,9.2nm,0.5s,baz=229,slow=5.7,SNR=21						
	comp=Z,9.2nm,0.5s						
NIKH	**Nikolski High**	**73.76**	**6**	P	**P**	**14 46 57.5**	**-1.0**
	baz=190						
UNV	**Unalaska Valle**	**74.88**	**8**	P	**P**	**14 47 02.9**	**-1.7**
	baz=192						
PEA0B	**Petropavlovsk-**	**76.17**	**346**	P	**P**	**14 47 11.7**	**-0.2**
PEA0B				IAmb	IAmb	14 47 33.9	
	comp=Z,51nm,1.4s						
PETK	**Petropavlovsk-**	**76.17**	**346**	P	**P**	**14 47 11.7**	**-0.2**
PETK	**Petropavlovsk-**	**76.17**	**346**	P	**P**	**14 47 12.0**	**+0.1**
	comp=Z,10nm,0.6s,baz=107,slow=8.2,SNR=19						
	comp=Z,10nm,0.6s						
KSRS	**Korea Array**	**76.46**	**319**	P	**P**	**14 47 14.9**	**+1.1**
	comp=Z,3.5nm,0.7s,baz=125,slow=5.9,SNR=14						
	comp=Z,3.5nm,0.7s						
SDPT	**Sand Point**	**77.23**	**11**	P	**P**	**14 47 16.4**	**-1.1**
	baz=198						
S14K	**Fog Glacier**	**78.28**	**11**	P	**P**	**14 47 23.0**	**-0.4**
	baz=198						
SBC	**Santa Barbara**	**78.41**	**46**	P	**P**	**14 47 21.7**	**-2.7**
	baz=235						
CHGN	**Chignik**	**78.51**	**11**	P	**P**	**14 47 23.5**	**-0.8**
	baz=199						
PKM	**Mcpherson Peak**	**78.59**	**46**	P	**P**	**14 47 26.6**	**+1.0**
	baz=235						
USRK	**Ussuriysk Ar.**	**78.62**	**326**	P	**P**	**14 47 26.3**	**+1.0**
	comp=Z,9.5nm,0.7s,baz=81,slow=6.9,SNR=6.9						
	comp=Z,9.5nm,0.7s						
KMRM	**Mail Ridge**	**79.30**	**40**	P	**P**	**14 47 30.6**	**+1.5**
MURC	**Murrieta**	**79.67**	**48**	P	**P**	**14 47 32.3**	**+1.1**
	baz=237						
BFSC	**Mount Baldy Ra**	**79.70**	**48**	P	**P**	**14 47 32.1**	**+0.7**
	baz=236						
EDW2	**Edwards Air Fo**	**79.83**	**47**	P	**P**	**14 47 33.4**	**+1.4**
	baz=236						
MONP2	**Monument Peak**	**79.83**	**49**	P	**P**	**14 47 33.1**	**+0.9**
	baz=237						
IKP	**In-Ko-Pah, Jac**	**79.93**	**50**	P	**P**	**14 47 33.8**	**+1.2**
	baz=238						
ISA	**Isabella, Lake**	**79.94**	**46**	P	**P**	**14 47 34.3**	**+1.7**
	baz=236						
PFO	**Pinyon Flats O**	**80.19**	**49**	P	**P**	**14 47 34.8**	**+0.8**
	baz=237						
TPFO	**Pinon Flats**	**80.20**	**49**	P	**P**	**14 47 35.6**	**+1.5**
	baz=237						
SWSC	**Sam W. Stewart**	**80.31**	**49**	P	**P**	**14 47 35.6**	**+1.2**
	baz=238						
LRMC	**Laurel Mtn Rad**	**80.37**	**46**	P	**P**	**14 47 36.2**	**+1.4**
	baz=236						
OHAK	**Old Harbor**	**80.41**	**14**	P	**P**	**14 47 33.7**	**-0.6**
	baz=204						
R18K	**Karluk**	**80.47**	**13**	P	**P**	**14 47 34.2**	**-0.5**
	baz=203						
CWC	**Cottonwood Cre**	**80.64**	**45**	P	**P**	**14 47 37.9**	**+1.6**
	baz=236						
MDPB	**Devils Postpil**	**80.65**	**44**	P	**P**	**14 47 37.0**	**+0.6**
BELC	**Belle Mtn. Jos**	**80.73**	**48**	P	**P**	**14 47 38.0**	**+1.2**
	baz=238						
MPMC	**Manual Prospec**	**80.82**	**46**	P	**P**	**14 47 38.6**	**+1.3**
	baz=236						
Q17K	**Contact Creek**	**80.83**	**12**	P	**P**	**14 47 36.4**	**-0.3**
	baz=202						
YBH	**Yreka Blue Hor**	**80.83**	**39**	P	**P**	**14 47 38.4**	**+1.4**
YBH				IAmb	IAmb	14 47 39.5	
	comp=Z,13nm,0.9s						
GSC	**Goldstone, Bar**	**80.87**	**47**	P	**P**	**14 47 38.5**	**+1.1**
	baz=237						
WAKR	**Walker**	**80.92**	**43**	P	**P**	**14 47 38.4**	**+0.6**
BC3	**Big Chuckawall**	**80.93**	**49**	P	**P**	**14 47 39.0**	**+1.3**
	baz=238						
HEC	**Hector,Ludlow**	**80.94**	**48**	P	**P**	**14 47 38.6**	**+0.8**
	baz=237						
MPK	**Martis Peak**	**81.00**	**42**	P	**P**	**14 47 39.1**	**+0.8**
MPK				IAmb	IAmb	14 47 40.5	
	comp=Z,34nm,1.3s						
GLA	**Glamis**	**81.06**	**50**	P	**P**	**14 47 40.1**	**+1.8**
	baz=238						
Q16K	**King Salmon**	**81.07**	**11**	P	**P**	**14 47 36.9**	**-0.7**
	baz=201						
P16K	**Nushagak River**	**81.16**	**11**	P	**P**	**14 47 37.0**	**-1.1**
	baz=200						
YERR	**Yerington**	**81.32**	**43**	P	**P**	**14 47 40.3**	**+0.5**
YERR				IAmb	IAmb	14 47 41.7	
	comp=Z,31nm,1.5s						
L04D	**Klamath Falls**	**81.37**	**39**	P	**P**	**14 47 40.5**	**+0.6**
L04D				IAmb	IAmb	14 47 41.6	
	comp=Z,20nm,0.8s						
GMRC	**Granite Mounta**	**81.38**	**48**	P	**P**	**14 47 40.9**	**+0.8**
	baz=238						
IRM	**Iron Mountain**	**81.41**	**49**	P	**P**	**14 47 41.0**	**+0.8**
	baz=238						
GRAC	**Grapevine Rang**	**81.42**	**45**	P	**P**	**14 47 41.1**	**+0.9**
	baz=236,SNR=6.2						
N14K	**Kuskokwak Cree**	**81.43**	**9**	P	**P**	**14 47 39.5**	**0.0**
	baz=196						
FURC	**Furnace Creek,**	**81.47**	**46**	P	**P**	**14 47 41.1**	**+0.8**
	baz=237						
TUQ	**Turquoise Moun**	**81.55**	**47**	P	**P**	**14 47 42.1**	**+1.2**
	baz=237,SNR=6.3						
P17K	**Kvichak River**	**81.59**	**11**	P	**P**	**14 47 40.0**	**-0.4**
	baz=201						
NVAR	**Mina Array Bea**	**81.61**	**44**	P	**P**	**14 47 42.2**	**+0.9**
	comp=Z,4.9nm,0.7s,baz=224,slow=8.3,SNR=36						
	comp=Z,4.9nm,0.7s						
PAHR	**Pah Rah Range**	**81.65**	**42**	P	**P**	**14 47 42.5**	**+1.1**
O16K	**Kokwok River B**	**81.68**	**10**	P	**P**	**14 47 40.2**	**-0.6**
	baz=200						
M13K	**Dall Lake**	**81.69**	**8**	P	**P**	**14 47 40.3**	**-0.5**
	baz=195						
WCT	**Wildcat Mounta**	**81.81**	**46**	P	**P**	**14 47 42.4**	**+0.3**
Q20K	**Shuyak Island**	**81.88**	**14**	P	**P**	**14 47 45.9**	**+4.1**
	baz=205						
N15K	**Kwethluk River**	**81.90**	**9**	P	**P**	**14 47 43.4**	**+1.4**
	baz=198						
214A	**Organ Pipe Nat**	**81.96**	**52**	P	**P**	**14 47 44.4**	**+1.5**
	baz=240						
P18K	**Big Mountain,**	**82.01**	**12**	P	**P**	**14 47 42.0**	**-0.6**
	baz=202						
O17K	**Koliganek Bris**	**82.02**	**11**	P	**P**	**14 47 41.8**	**-0.7**
	baz=200						
BNX	**BinXian**	**82.07**	**325**	⇑P	**P**	**14 47 43.8**	**+0.7**
BNX				pmax	pmax		
	comp=Z,19nm,0.6s						
BNX				pmax	pmax		
	comp=Z,270nm,6.2s						
KVN	**Kaiserville**	**82.09**	**43**	P	**P**	**14 47 44.0**	**+0.3**
TPH	**Tonopah**	**82.11**	**44**	P	**P**	**14 47 44.4**	**+0.6**
TPNV	**Topopah Spring**	**82.14**	**46**	P	**P**	**14 47 45.2**	**+1.3**
	baz=237,SNR=11						
M14K	**Bethel**	**82.19**	**8**	P	**P**	**14 47 43.2**	**-0.1**
	baz=196						
PDMCI	**Parker Dam,Lak**	**82.19**	**49**	P	**P**	**14 47 45.2**	**+1.2**
	baz=239						
KLR	**Kul'dur**	**82.22**	**330**	P	**P**	**14 47 44.7**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=107,slow=1.5,SNR=9.8						
	comp=Z,3.1nm,0.9s						
M15K	**Kasigluk River**	**82.32**	**9**	P	**P**	**14 47 44.1**	**+0.1**
	baz=197						
N16K	**Nishlik Lake**	**82.40**	**10**	P	**P**	**14 47 45.5**	**+1.0**
	baz=199						
O18K	**Koktuh Hills**	**82.44**	**12**	P	**P**	**14 47 44.1**	**-0.6**
O18K	**Koktuh Hills**	**82.44**	**12**	P	**P**	**14 47 44.0**	**-0.6**
	baz=202						
K05A	**Summer Lake**	**82.51**	**39**	P	**P**	**14 47 47.0**	**+1.3**
K05A				IAmb	IAmb	14 47 48.1	
	comp=Z,25nm,1.0s						
J05D	**Fort Rock, OR**	**82.64**	**38**	P	**P**	**14 47 48.0**	**+1.7**
J05D				IAmb	IAmb	14 47 48.6	
	comp=Z,26nm,0.7s						
L14K	**Kuka Creek**	**82.67**	**8**	P	**P**	**14 47 45.7**	**0.0**
	baz=195						
M16K	**Timber Creek**	**82.89**	**10**	P	**P**	**14 47 47.9**	**+1.0**
M16K				IAmb	IAmb	14 47 49.9	
	comp=Z,23nm,1.0s						
M16K	**Timber Creek**	**82.89**	**10**	P	**P**	**14 47 47.3**	**+0.5**
	baz=199						
O19K	**Port Alsworth**	**82.93**	**12**	P	**P**	**14 47 46.4**	**-0.7**
	baz=203						
HOM	**Homer**	**82.99**	**14**	P	**P**	**14 47 47.2**	**-0.2**
	baz=206						
N18K	**Kilae Creek**	**83.08**	**11**	P	**P**	**14 47 47.0**	**-0.9**
	baz=202						
L15K	**Ungalak Mounta**	**83.15**	**8**	P	**P**	**14 47 48.7**	**+0.5**
	baz=196						
O20K	**Slope Mountain**	**83.17**	**13**	P	**P**	**14 47 47.9**	**-0.4**
	baz=205						
BRSE	**Bradley Lake S**	**83.27**	**14**	P	**P**	**14 47 49.2**	**+0.3**
	baz=206						
R11B	**Troy Canyon, C**	**83.34**	**45**	P	**P**	**14 47 51.4**	**+1.4**
	baz=237						
L16K	**Owhat River**	**83.47**	**9**	P	**P**	**14 47 50.1**	**+0.4**
	baz=198						
N19K	**Bonanza Creek**	**83.47**	**12**	P	**P**	**14 47 48.9**	**-1.0**
	baz=203						
M17K	**Holitna River**	**83.49**	**10**	P	**P**	**14 47 49.6**	**-0.3**
	baz=200						
TUC	**Tucson**	**83.63**	**52**	P	**P**	**14 47 53.1**	**+1.7**
	baz=241						
MA2	**Magadan**	**83.67**	**345**	P	**P**	**14 47 50.3**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=144,slow=5.9,SNR=5.9						
	comp=Z,3.8nm,0.5s						
K15K	**Wolf Creek Mou**	**83.74**	**8**	P	**P**	**14 47 51.1**	**+0.1**
	baz=196						
M18K	**Stony River**	**83.85**	**11**	P	**P**	**14 47 51.9**	**+0.3**
	baz=202						
J14K	**Nanvaranak Lak**	**83.93**	**7**	P	**P**	**14 47 52.4**	**+0.4**
	baz=194						
I07A	**Izee**	**84.12**	**39**	P	**P**	**14 47 54.0**	**+0.4**
O22K	**Cooper Landing**	**84.16**	**14**	P	**P**	**14 47 53.0**	**-0.1**
	baz=207						
N20K	**Mount Spurr**	**84.27**	**13**	P	**P**	**14 47 52.7**	**-1.1**
	baz=205						
L18K	**Granite Mounta**	**84.39**	**10**	P	**P**	**14 47 55.4**	**+1.2**
	baz=201						
U15A	**North Rim**	**84.58**	**48**	P	**P**	**14 47 57.2**	**+1.0**
U15A				IAmb	IAmb	14 47 58.5	
	comp=Z,10nm,0.7s						
L19K	**White Mountain**	**84.67**	**11**	P	**P**	**14 47 55.9**	**+0.2**
	baz=202						
RC01	**Rabbit Creek A**	**84.70**	**14**	P	**P**	**14 47 55.4**	**-0.4**
	baz=207						
WUAZ	**Wupatki**	**84.77**	**49**	P	**P**	**14 47 58.0**	**+1.0**
	baz=240						
J16K	**Anvik River**	**84.81**	**8**	P	**P**	**14 47 56.2**	**-0.1**
	baz=197						
SUA	**Susitna One**	**84.81**	**13**	P	**P**	**14 47 55.9**	**-0.6**
SUA				IAmb	IAmb	14 47 56.9	
	comp=Z,12nm,0.7s						
SUA	**Susitna One**	**84.81**	**13**	P	**P**	**14 47 55.7**	**-0.8**
	baz=206						
HEH	**HeiHe**	**84.99**	**329**	*eP*	**P**	**14 47 57.5**	**0.0**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HEH				pmax	pmax		
	comp=Z,280nm,5.1s						
SKT	**Skwentna**	**85.12**	**13**	P	**P**	**14 47 57.4**	**-0.4**
	baz=206						
L20K	**Farewell, AK**	**85.12**	**11**	P	**P**	**14 47 57.3**	**-0.6**
	baz=203						
TTA	**Tatalina**	**85.16**	**10**	P	**P**	**14 47 58.0**	**-0.1**
	baz=201						
KNK	**Knik Glacier**	**85.28**	**14**	P	**P**	**14 47 58.2**	**-0.4**
	baz=208						
PMR	**Palmer**	**85.28**	**14**	P	**P**	**14 47 58.0**	**-0.6**
	baz=208						
GHO	**Glory Hole Cre**	**85.49**	**14**	P	**P**	**14 47 59.2**	**-0.4**
ANM	**Nome**	**85.51**	**6**	P	**P**	**14 47 58.9**	**-0.8**
	baz=193						
J18K	**Innoko River**	**85.55**	**10**	P	**P**	**14 47 59.9**	**0.0**
J18K	**Innoko River**	**85.55**	**10**	P	**P**	**14 47 59.9**	**0.0**
	baz=201						
CUT	**Chulitna**	**85.76**	**13**	P	**P**	**14 48 00.5**	**-0.4**
	baz=207						
BMRM	**Bremner River**	**85.83**	**16**	P	**P**	**14 48 00.6**	**-0.6**
	baz=212						
BMO	**Blue Mountains**	**85.86**	**39**	P	**P**	**14 48 02.2**	**+0.3**
K20K	**Telida**	**85.89**	**11**	P	**P**	**14 48 01.3**	**-0.2**
	baz=203						
SCM	**Sheep Creek Mo**	**85.91**	**14**	P	**P**	**14 48 01.9**	**+0.3**
	baz=209					

J19K	**Poorman**	86.22	10	P		P	14 48 03.1	+0.1	
	baz=202								
TNA	**Tin City**	86.28	5	P		P	14 48 03.2	0.0	
	baz=190								
SEY	**Seymchan**	86.29	347	P		P	14 48 03.7	+0.3	
	comp=Z,6.9nm,0.5s,baz=144,slow=6.0,SNR=20								
	comp=Z,6.9nm,0.5s								
PINM	**Pinnacle**	86.30	18	P		P	14 48 03.2	-0.4	
	baz=216								
CAST	**Castle Rocks**	86.32	12	P		P	14 48 02.6	-0.9	
	baz=205,SNR=5.4								
F14K	**Arctic Creek**	86.32	5	P		P	14 48 02.7	-0.7	
	baz=192								
N25K	**Chitina, Valde**	86.37	16	P		P	14 48 03.9	+0.1	
	baz=212								
M24K	**Tolsona, Glenn**	86.41	15	P		P	14 48 04.1	+0.1	
	baz=210								
WAT6	**Susitna Watana**	86.47	14	P		P	14 48 04.1	-0.3	
	baz=209								
ELIB	**Princess Elisa**	86.47	187	*d*P		P	14 48 04.8	+0.4	
	comp=Z,8.1nm,0.7s								
H17K	**Granite Mounta**	86.49	8	P		P	14 48 04.2	-0.1	
	baz=198								
WAT1	**Susitna Watana**	86.51	13	P		P	14 48 04.3	-0.1	
	baz=208								
G16K	**Koyuk River**	86.63	7	P		P	14 48 04.7	-0.2	
	baz=195								
J20K	**Nowinta River**	86.64	11	P		P	14 48 05.0	+0.1	
	baz=203								
J20K	**Nowinta River**	86.64	11	P		P	14 48 04.8	-0.1	
KTH	**Kantishna Hill**	86.66	12	P		P	14 48 03.5	-1.7	
KTH				IAmb		IAmb	14 48 04.5		
	comp=Z,10nm,1.0s								
P29M	**Windy Craggy**	86.69	20	P		P	14 48 05.2	-0.1	
	baz=218								
CHUM	**Lake Minchumin**	86.69	11	P		P	14 48 04.4	-0.8	
	baz=205								
TRF	**Thorofare Moun**	86.70	12	P		P	14 48 05.0	-0.5	
	baz=207,SNR=7.2								
CTG	**Chitna Glacier**	86.70	17	P		P	14 48 05.2	-0.3	
	baz=215								
GCSA	**Galena City Sc**	86.73	9	P		P	14 48 04.9	-0.4	
	baz=200								
PLID	**Pearl Lake**	86.76	39	P		P	14 48 07.0	+0.7	
PLID				IAmb		IAmb	14 48 07.8		
	comp=Z,16nm,1.4s								
HLID	**Hailey**	86.89	41	P		P	14 48 07.6	+0.7	
HLID				IAmb		IAmb	14 48 09.1		
	comp=Z,7.5nm,0.9s								
HLID	**Hailey**	86.89	41	P		P	14 48 08.4	+1.5	
	baz=238,SNR=14								
H18K	**Honhosa River**	86.90	8	P		P	14 48 06.2	0.0	
	baz=199								
HARP	**HAARP**	86.91	15	P		P	14 48 06.1	-0.2	
	baz=211								
G17K	**Kiwalik Mounta**	86.94	7	P		P	14 48 06.4	+0.1	
	baz=197								
RND	**Reindeer**	86.95	13	P		P	14 48 06.3	-0.2	
O29M	**Mount Kennedy**	86.96	19	P		P	14 48 06.8	0.0	
	baz=217								
DHY	**Denali Highway**	86.98	14	P		P	14 48 06.0	-0.9	
	baz=209								
BPAW	**Bear Paw Mtn.**	87.14	12	P		P	14 48 06.3	-1.1	
	baz=206								
I20K	**Naaghedeneel**	87.16	10	P		P	14 48 07.0	-0.3	
	baz=203								
MCK	**McKinley**	87.22	13	P		P	14 48 07.6	-0.2	
	baz=208,SNR=6.2								
Y22D	**IRIS PASSCAL I**	87.31	52	P		P	14 48 10.7	+1.6	
	baz=243								
Y22F	**Passcal Instru**	87.31	52	P		P	14 48 10.7	+1.6	
	baz=243								
P30M	**Million Dollar**	87.32	20	P		P	14 48 09.3	+1.0	
	baz=219								
PAX	**Paxson**	87.33	15	P		P	14 48 07.7	-0.6	
	baz=211								
VHRN	**Van Horn**	87.33	56	P		P	14 48 09.5	+0.3	
SKAG	**Skagway**	87.33	21	P		P	14 48 10.6	+2.3	
	baz=220								
YUK8	**Steele Glacier**	87.40	18	P		P	14 48 09.4	+0.4	
	baz=216								
MNTX	**Cornudas Mount**	87.42	55	P		P	14 48 10.8	+1.3	
	baz=244								
M26K	**Nabesna, AK**	87.45	16	P		P	14 48 08.6	-0.3	
	baz=213								
H19K	**Roundabout Mou**	87.53	9	P		P	14 48 09.1	+0.1	
	baz=201								
YUK6	**Outpost Mounta**	87.54	18	P		P	14 48 09.0	-0.6	
	baz=217								
G18K	**Tagagawik**	87.57	8	P		P	14 48 08.6	-0.7	
	baz=199								
YUK3	**Moose Creek**	87.61	17	P		P	14 48 09.7	-0.2	
	baz=216								
TROLL	**Troll, Antarti**	87.64	180	⇑P		P	14 48 09.8	-0.2	
	comp=Z,125nm,0.5s								
S34M	**Telegraph Cree**	87.64	23	P		P	14 48 09.9	+0.1	
	baz=224								
HYT	**Haines Junctio**	87.70	19	P		P	14 48 10.7	+0.5	
	baz=218								
M27K	**Edge Creek, AK**	87.70	16	P		P	14 48 10.8	+0.6	
M27K				IAmb		IAmb	14 48 11.9		
	comp=Z,23nm,1.1s								
M27K	**Edge Creek, AK**	87.70	16	P		P	14 48 10.9	+0.6	
	baz=214								
H20K	**Anotleneega Mo**	87.74	10	P		P	14 48 10.6	+0.5	
	baz=202								
TXAR	**Lajitas Array**	87.74	58	P		P	14 48 12.4	+1.3	
TXAR	**Lajitas Array**	87.74	58	P		P	14 48 12.7	+1.6	
	comp=Z,3.7nm,0.8s,baz=224,slow=5.8,SNR=39								
	comp=Z,3.7nm,0.8s								
F17K	**Baldwin Pennin**	87.77	7	P		P	14 48 10.3	+0.1	
	baz=196								
YUK4	**Talbot Arm**	87.77	18	P		P	14 48 11.3	+0.7	
	baz=217								
L26K	**Log Cabin Wild**	87.89	15	P		P	14 48 11.0	+0.1	
	baz=213								
NEW	**Newport**	87.89	36	P		P	14 48 11.7	+0.4	
	baz=236								
I21K	**Tanana**	87.94	11	P		P	14 48 10.5	-0.5	
I21K				IAmb		IAmb	14 48 11.6		
	comp=Z,13nm,0.9s								
I21K	**Tanana**	87.94	11	P		P	14 48 10.9	-0.1	
	baz=205								
SNAA	**Sanae**	87.94	179	P		P	14 48 11.3	+0.1	
	comp=Z,1.2nm,0.6s,baz=148,slow=15,SNR=2.4								
	comp=Z,1.2nm,0.6s								
NEA2	**Nenana**	87.96	12	P		P	14 48 10.3	-0.8	
	baz=208								
P32M	**Atlin**	87.97	21	P		P	14 48 12.0	+0.6	
	baz=222								
K24K	**Donnelly Dome**	87.97	14	P		P	14 48 11.8	+0.5	
	baz=211								
Q32M	**Nakina River**	88.00	22	P		P	14 48 11.7	0.0	
	baz=223								
G19K	**Purcell Mounta**	88.02	9	P		P	14 48 11.2	-0.2	
	baz=200								
BVCY	**Beaver Creek**	88.02	17	P		P	14 48 11.6	0.0	
	baz=215								
MLY	**Manley**	88.03	12	P		P	14 48 10.2	-1.3	
MLY				IAmb		IAmb	14 48 11.9		
	comp=Z,12nm,1.2s								
MLY	**Manley**	88.03	12	P		P	14 48 10.5	-1.0	
	baz=206,SNR=7.4								
ANMO	**Albuquerque**	88.05	52	P		P	14 48 13.9	+1.4	
	baz=243								
O30N	**Mendenhall**	88.09	19	P		P	14 48 11.8	-0.2	
	baz=220								
VNA3	**Neumayer Olymp**	88.10	177	⇑P		P	14 48 11.0	-0.9	
	comp=Z,12nm,0.7s								
RIDG	**Independent Ri**	88.13	14	P		P	14 48 12.1	+0.1	
	baz=212								
H21K	**Melozitna Rive**	88.23	10	P		P	14 48 11.9	-0.5	
	baz=204								
HDA	**Harding Lake**	88.24	13	P		P	14 48 11.9	-0.5	
HDA	**Harding Lake**	88.24	13	P		P	14 48 11.9	-0.5	
	baz=210,SNR=12								
L27K	**Beaver Creek,**	88.30	16	P		P	14 48 13.0	+0.2	
	baz=214								
E17K	**Hotham Inlet**	88.32	7	P		P	14 48 12.6	-0.1	
	baz=196								
N30M	**Aishikik Lake**	88.33	19	P		P	14 48 12.8	-0.2	
	baz=219								
WHY	**Whitehorse**	88.39	20	P		P	14 48 13.7	+0.3	
	baz=220								
I23K	**Minto, Yukon-K**	88.40	12	P		P	14 48 12.3	-0.8	
	baz=207								
DLBC	**Dease Lake**	88.43	23	P		P	14 48 13.9	+0.3	
	baz=225								
COLA	**College**	88.46	13	P		P	14 48 13.2	-0.2	
	baz=209								
VNA2	**Neumayer--Watz**	88.53	177	⇑P		P	14 48 14.0	+0.1	
	comp=Z,8.1nm,0.8s,baz=180,slow=4.0								
SCRK	**Sand Creek**	88.54	15	P		P	14 48 13.6	-0.4	
SCRK				IAmb		IAmb	14 48 15.3		
	comp=Z,8.2nm,1.2s								
SCRK	**Sand Creek**	88.54	15	P		P	14 48 13.9	-0.1	
	baz=212								
ILAR	**Eielson Array**	88.57	13	P		P	14 48 13.2	-0.8	
	comp=Z,5.7nm,0.8s,baz=217,slow=5.4,SNR=107								
ILAR				PKiKP		PKiKP	14 53 09.1	-0.7	
	comp=Z,0.3nm,0.7s,baz=265,slow=2.8,SNR=5.3								
	comp=Z,5.7nm,0.8s								
F19K	**Shaleruckik Mo**	88.57	8	P		P	14 48 13.7	-0.2	
	baz=200								
H22K	**Ishtalitna Cre**	88.69	11	P		P	14 48 14.4	-0.2	
	baz=206								
M29M	**Somme Creek**	88.70	18	P		P	14 48 15.1	+0.2	
M29M				IAmb		IAmb	14 48 16.2		
	comp=Z,13nm,0.8s								
M29M	**Somme Creek**	88.70	18	P		P	14 48 15.3	+0.5	
	baz=217								
P33M	**Teslin, Yukon**	88.73	21	P		P	14 48 14.9	0.0	
	baz=222								
N31M	**Braeburn, Yuko**	88.74	19	P		P	14 48 15.1	+0.2	
	baz=220								
POKR	**Poker Plat Res**	88.76	13	P		P	14 48 14.2	-0.7	
	baz=209,SNR=6.6								
J25K	**Salcha River,**	88.76	14	P		P	14 48 14.8	-0.2	
J25K				IAmb		IAmb	14 48 15.6		
	comp=Z,7.0nm,0.7s								
J25K	**Salcha River,**	88.76	14	P		P	14 48 14.9	0.0	
	baz=211								
R33M	**Jennings River**	88.77	22	P		P	14 48 15.5	+0.2	
	baz=224								
E18K	**Tukpahlearik C**	88.78	7	P		P	14 48 14.8	-0.2	
	baz=197								
G21K	**Allakaket**	88.90	10	P		P	14 48 15.6	+0.1	
	baz=204								
MSO	**Missoula**	88.91	38	P		P	14 48 17.3	+1.2	
	baz=238								
K27K	**Chicken**	89.04	15	P		P	14 48 16.8	+0.6	
	baz=214								
S22A	**4UR Ranch, Cre**	89.04	49	P		P	14 48 18.7	+1.5	
	baz=243								
F20K	**Avaraart Lake**	89.06	9	P		P	14 48 16.1	0.0	
F20K				IAmb		IAmb	14 48 17.2		
	comp=Z,6.7nm,0.8s								
F20K	**Avaraart Lake**	89.06	9	P		P	14 48 16.1	0.0	
	baz=202								
J26L	**Joseph Creek**	89.08	14	P		P	14 48 16.6	+0.2	
J26L	**Joseph Creek**	89.08	14	P		P	14 48 17.0	+0.5	
	baz=213								
C16K	**Lisburne Hills**	89.15	5	P		P	14 48 16.4	-0.2	
	baz=193								
O20A	**White River Ci**	89.17	46	P		P	14 48 18.8	+1.2	
	baz=242								
M30M	**Minto, Yukon**	89.29	18	P		P	14 48 17.3	-0.1	
M30M				IAmb		IAmb	14 48 19.1		
	comp=Z,12nm,0.8s								
M30M	**Minto, Yukon**	89.29	18	P		P	14 48 18.1	+0.7	
	baz=219,SNR=6.4								
H24K	**Noodor Dome**	89.30	12	P		P	14 48 15.6	-1.8	
	baz=209								
L29M	**L29M**	89.33	17	P		P	14 48 18.1	+0.5	
	baz=218								
N32M	**Quiet Lake**	89.34	20	P		P	14 48 18.4	+0.7	
	baz=222								
PRP	**Porcupine Dome**	89.51	13	P		P	14 48 18.6	+0.1	
	baz=211								
C17K	**DeLong Mountai**	89.54	6	P		P	14 48 18.4	0.0	
	baz=195								
BW06	**Boulder Array**	89.54	44	P		P	14 48 20.2	+0.9	
	baz=241								
PDAR	**Pinedale Array**	89.54	44	P		P	14 48 19.9	+0.5	
	comp=Z,3.6nm,0.6s,baz=214,slow=3.5,SNR=41								
	comp=Z,3.6nm,0.6s								
F21K	**Alatna River**	89.56	10	P		P	14 48 18.9	+0.4	
	baz=204								
G22K	**Bettles**	89.60	10	P		P	14 48 19.0	+0.3	
	baz=205								
BOZ	**Bozeman (W)**	89.64	40	P		P	14 48 20.7	+1.1	
	baz=240								
G23K	**Bananza Creek**	89.67	11	P		P	14 48 18.8	-0.3	
	baz=207								
H17A	**Grant Village**	89.69	42	P		P	14 48 21.9	+1.9	
	baz=240								
M31M	**Drury Creek, Y**	89.72	19	P		P	14 48 19.6	+0.2	
	baz=221								
DAWY	**Dawson**	89.75	16	P		P	14 48 19.7	+0.1	
	baz=216,SNR=6.6								
PLCA	**Paso Flores**	89.76	134	P		P	14 48 20.8	+0.4	
	comp=Z,2.5nm,0.8s,baz=222,slow=3.1,SNR=7.6								
	comp=Z,2.5nm,0.8s								
I26K	**Coal Creek Min**	89.85	14	P		P	14 48 19.7	-0.2	
	baz=213								
EGAK	**Eagle**	89.89	15	P		P	14 48 20.1	0.0	
	baz=215,SNR=5.8								
C18K	**Utukok River**	89.90	6	P		P	14 48 19.2	-0.9	
	baz=196								
SDCO	**Great Sand Dun**	89.98	49	P		P	14 48 22.7	+1.2	
	baz=244								
F22K	**John River**	90.03	10	P		P	14 48 20.8	+0.1	
	baz=205								
WTLY	**Watson Lake, Y**	90.06	23	P		P	14 48 21.6	+0.6	
	baz=226								
K29M	**Barlow Dome**	90.08	17	P		P	14 48 21.6	+0.4	
	baz=218								
D19K	**Kuna River**	90.10	7	P		P	14 48 21.3	+0.2	
	baz=199								
COLD	**Coldfoot**	90.10	11	P		P	14 48 21.3	+0.2	
	baz=207								
E20K	**Nigu River**	90.13	8	P		P	14 48 21.1	-0.1	
	baz=201								
MAYO	**Mayo, Yukon**	90.34	18	P		P	14 48 23.1	+0.8	
	baz=220								
J29N	**Klondike Camp**	90.37	16	P		P	14 48 22.9	+0.5	
	baz=218								
I27K	**Kandik River**	90.46	15	P		P	14 48 22.8	0.0	
	baz=214								
G25K	**Bearman Lake**	90.47	12	P		P	14 48 23.0	+0.3	
	baz=210								
D20K	**Etivluk River**	90.50	8	P		P	14 48 22.9	0.0	
	baz=201								
T25A	**Trinidad**	90.50	50	P		P	14 48 24.8	+0.9	
	baz=244								
C19K	**Lookout Ridge**	90.51	7	P		P	14 48 23.2	+0.3	
	baz=198								
B18K	**Kokolik River**	90.53	6	P		P	14 48 22.7	-0.3	
	baz=196								
E22K	**Anaktuvuk Pass**	90.65	10	P		P	14 48 23.3	-0.4	
	baz=205								
I28M	**Miner Creek**	90.73	15	P		P	14 48 23.9	-0.3	
	baz=216								
Q24A	**Divide**	90.77	48	P		P	14 48 26.2	+1.0	
	baz=244								
F24K	**Squaw Lake**	90.78	11	P		P	14 48 23.7	-0.5	
	baz=209								
ISCO	**Idaho Springs**	90.81	48	P		P	14 48 25.4	0.0	
	baz=244								
RLMT	**Red Lodge**	90.86	42	P		P	14 48 26.1	+0.8	
	baz=241								
E23K	**Chandalar**	90.95	11	P		P	14 48 24.9	-0.2	
	baz=207								
H27K	**Steamboat Moun**	91.00	14	P		P	14 48 25.3	0.0	
	baz=215								
N23A	**Red Feather La**	91.07	46	P		P	14 48 26.9	+0.4	
	baz=244								
G26K	**Porcupine Rive**	91.10	13	P		P	14 48 26.6	+0.9	
	baz=212								
C21K	**Knifeblade Rid**	91.16	8	P		P	14 48 26.4	+0.5	
	baz=202								
D22K	**Ayikyak River**	91.20	9	P		P	14 48 26.2	+0.1	
	baz=204								
F25K	**Christian Rive**	91.27	12	P		P	14 48 26.6	+0.1	
	baz=211								
I30M	**Mount Dempster**	91.47	17	P		P	14 48 27.1	-0.5	
	baz=219								
K22A	**Casper**	91.47	45	P		P	14 48 29.1	+1.0	
	baz=243								
B21K	**Ikpikpuk River**	91.61	8	P		P	14 48 28.3	+0.4	
	baz=203								
B20K	**Meade River**	91.65	7	P		P	14 48 28.8	+0.7	
	baz=200								
F26K	**Sheenjek River**	91.66	13	P		P	14 48 28.3	+0.1	
	baz=212								
H29M	**Whitestone**	91.74	15	P		P	14 48 28.8	+0.2	
	baz=217								
E25K	**Arctic Village**	91.74	12	P		P	14 48 28.2	-0.4	
	baz=211								
YAK	**Yakutsk**	91.92	338	P		P	14 48 28.9	-0.5	
	comp=Z,0.5nm,0.6s,baz=79,slow=6.2,SNR=5.4								
D24K	**Happy Valley**	92.06	10	P		P	14 48 29.2	-0.8	
	baz=208								
EPYK	**Eagle Plains**	92.27	16	P		P	14 48 31.3	+0.2	
	baz=219								
G29M	**Pine Creek**	92.38	15	P		P	14 48 31.7	+0.2	
	baz=218								
C23K	**Itkillik River**	92.38	9	P		P	14 48 31.4	0.0	
	baz=206								
B22K	**Teshekpuk Lake**	92.44	8	P		P	14 48 31.6	0.0	
	baz=204								
F28M	**Old Crow**	92.51	14	P		P	14 48 32.1	-0.1	
	baz=216								
C24K	**Franklin Bluff**	92.58	10	P		P	14 48 32.3	0.0	
	baz=208								
E27K	**Coleen River**	92.60	13	P		P	14 48 32.7	+0.1	
	baz=214								
A22K	**Sinclair Lake**	92.85	8	P		P	14 48 33.6	+0.1	
	baz=202								
G30M	**tAoh Zraii Nji**	92.87	15	P		P	14 48 33.6	-0.3	
	baz=219								
A21K	**Barrow**	92.95	7	P		P	14 48 33.6	-0.4	
	baz=201								
G31M	**Satah River**	93.33	16	P		P	14 48 35.4	-0.4	
	baz=221								
E28M	**Babbage River**	93.39	13	P		P	14 48 36.3	+0.2	
	baz=216								
C26K	**Camden Bay**	93.41	11	P		P	14 48 36.9	+0.7	
	baz=212								
LAO	**LASA Array**	93.47	41	P		P	14 48 38.0	+0.9	
	baz=244								
F30M	**Barrier River**	93.47	15	P		P	14 48 37.6	+1.1	
	baz=220								
E29M	**Blow River**	93.58	14	P		P	14 48 36.9	-0.1	
	baz=218								
D27M	**Malcolm River**	93.60	13	P		P	14 48 37.3	+0.1	
	baz=215								
RSSD	**Black Hills**	93.74	44	P		P	14 48 39.9	+1.3	
	baz=245								
OGNE	**Ogallala**	93.77	48	P		P	14 48 38.4	-0.3	
	baz=246								
F31M	**Tsiigehtchic**	93.85	16	P		P	14 48 38.1	-0.1	
	baz=222								
D28M	**Stokes Point**	94.14	13	P		P	14 48 39.1	-0.4	
	baz=217								
INK	**Inuvik**	94.56	15	P		P	14 48 40.6	-0.8	
	baz=222								
YKA	**Yellowknife Ar**	96.91	25	P		P	14 48 51.9	-0.2	
	comp=Z,0.6nm,0.6s,baz=245,slow=4.6,SNR=15								
	comp=Z,0.6nm,0.6s								
C36M	**Paulatuk**	97.75	17	P		P	14 48 56.2	+0.5	
	baz=230								
A36M	**Sachs Harbour**	99.16	15	P		Pdif	14 49 02.2	+0.3	
	baz=230								
ZALV	**Zalesovo Beam**	110.09	321	PKiKP		PKiKP	14 53 47.5	-1.2	
	comp=Z,1.3nm,0.5s,baz=165,slow=1.1,SNR=7.3								
MKAR	**Makanchi Array**	110.71	313	PKiKP		PKiKP	14 53 49.0	-1.0	
	comp=Z,0.8nm,0.4s,baz=124,slow=1.0,SNR=15								
KURBB	**Kurchatov Arra**	113.60	317	PKiKP		PKiKP	14 53 54.5	-0.9	
	comp=Z,1.8nm,0.8s,baz=91,slow=1.7,SNR=19								
L61B	**Northampton**	115.32	52	P		PKiKP	14 54 01.0	+2.0	
	baz=265								
LBNH	**Lisbon**	116.01	50	P		PKiKP	14 54 02.1	+1.8	
	baz=266								
HRV	**Adam Dziewonsk**	116.15	52	P		PKiKP	14 54 02.6	+2.0	
	baz=266								
BVAR	**Borovoye Array**	118.66	320	PKP		PKPdf	14 54 04.5	-0.6	
	comp=Z,4.7nm,0.4s,baz=114,slow=1.8,SNR=43								
SPITS	**Spitsbergen Ar**	121.91	356	PKP		PKPdf	14 54 10.3	-0.4	
	comp=Z,3.7nm,0.7s,baz=111,slow=4.6,SNR=4.4								
ARU	**Arti**	124.85	325	PKP		PKPdf	14 54 16.8	0.0	
	comp=Z,7.3nm,0.5s,baz=354,slow=1.1,SNR=13								
AKTO	**Aktyubinsk**	126.63	318	PKP		PKPdf	14 54 20.7	+0.2	
	comp=Z,2.4nm,0.6s,baz=61,slow=2.7,SNR=9.1								
GEYT	**Alibeck**	128.20	303	PKP		PKPdf	14 54 24.5	+0.6	
	comp=Z,0.8nm,0.6s,baz=283,slow=13,SNR=4.2								
ARCES	**ARCESS Array B**	128.87	349	PKP		PKPdf	14 54 24.0	-0.2	
	comp=Z,2.6nm,0.5s,baz=58,slow=1.0,SNR=22								
ARCES				SKPbc		SKPbc	14 56 49.9		
	comp=Z,5.6nm,1.1s,baz=20,slow=3.9,SNR=4.4								
BELG	**Belogornoye**	132.22	323	PKP		PKPdf	14 54 31.1	+0.2	
	comp=Z,13nm,0.6s,baz=280,slow=3.5,SNR=4.4								
FINES	**FINESS Array B**	135.64	343	PKhKP		PKPpre	14 54 25.9		
	comp=Z,1.9nm,0.9s,baz=32,slow=3.4,SNR=1.4								
FINES				PKP		PKPdf	14 54 36.6	-0.6	
	comp=Z,4.3nm,1.0s,baz=174,slow=1.7,SNR=4.6								
FINES				SKPbc		SKPbc	14 57 13.5	+0.5	
	comp=Z,7.9nm,0.9s,baz=61,slow=3.8,SNR=11								
NB2	**NORSAR Subarra**	138.98	353	SKPa		SKPbc	14 57 23.5	+0.8	
	comp=Z,1.7nm,0.8s,baz=11,slow=2.9								
NB2	**NORSAR Subarra**	138.98	353	PKP		PKPpre	14 54 35.4		
	comp=Z,0.3nm,0.4s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	138.98	353	PKhKP		PKPpre	14 54 34.8		
	comp=Z,0.7nm,0.8s,baz=41,slow=1.6,SNR=5.8								
NOA				SKPbc		SKPbc	14 57 21.7	-1.0	
	comp=Z,3.0nm,0.9s,baz=16,slow=4.5,SNR=6.0								
HFS	**Hagfors**	139.51	350	PKhKP		PKPpre	14 54 35.7		
	comp=Z,2.6nm,0.3s,baz=62,slow=3.5,SNR=24								
HFS				SKPbc		SKPbc	14 57 23.1	-1.0	
	comp=Z,3.2nm,0.8s,baz=113,slow=1.9,SNR=4.4								
AKASG	**Malin Array Be**	142.72	330	PKhKP		PKPpre	14 54 47.0		
	comp=Z,9.9nm,0.4s,baz=42,slow=4.4,SNR=88								
AKASG				SKPbc		SKPbc	14 57 30.4	-2.0	
	comp=Z,0.8nm,0.5s,baz=43,slow=1.4,SNR=4.1								
KIEV	**Kiev**	142.74	330	⇓P		PKPdf	14 54 47.1	-3.2	
SORM	**Soroca**	144.88	328	⇑P		PKPdf	14 54 54.6	+0.5	
EKA	**Eskdalemuir Ar**	145.16	4	PKPbc		PKPdf	14 54 55.0	+0.6	
	comp=Z,6.7nm,0.7s,baz=343,slow=2.5,SNR=10								

HERR	**Herculane**	**150.09**	**329**	⇓P		**PKPbc**	**14 55 08.4**	**-0.1**
CONA	**Conrad Observa**	**150.26**	**340**	*e*PKP		**PKPbc**	**14 55 09.2**	**+0.3**
	comp=Z,4.7nm,0.6s							
RONA	**Rosalia, Austr**	**150.32**	**339**	*e*PKP		**PKPbc**	**14 55 09.3**	**+0.3**
	comp=Z,5.9nm,0.4s							
MDVR	**Moldovita**	**150.50**	**330**	⇑P		**PKPbc**	**14 55 09.6**	**0.0**
MORH	**Mrgy, Hungar**	**150.72**	**335**	⇑P		**PKPbc**	**14 55 09.8**	**-0.1**
MOA	**Molln**	**150.82**	**342**	*e*PKP		**PKPbc**	**14 55 10.0**	**-0.1**
	comp=Z,2.4nm,0.4s							
BLKB	**Belogradchik**	**150.87**	**327**	⇓P		**PKPbc**	**14 55 10.2**	**-0.2**
FRGS	**Fruska Gora**	**151.08**	**332**	⇑P		**PKPbc**	**14 55 10.9**	**+0.1**
BOVS	**Bovan**	**151.35**	**328**	⇑P		**PKPbc**	**14 55 10.9**	**-0.5**
SOKA	**Soboth**	**151.63**	**340**	*e*PKP		**PKPbc**	**14 55 11.5**	**-0.5**
	comp=Z,1.4nm,0.4s							
LESA	**Schwarzleotal**	**151.65**	**343**	*e*PKP		**PKPbc**	**14 55 11.7**	**-0.4**
	comp=Z,6.7nm,0.6s							
KBA	**Koelnbreinsper**	**151.79**	**342**	*e*PKP		**PKPbc**	**14 55 11.9**	**-0.6**
	comp=Z,6.2nm,0.7s							
WATA	**Walderalm**	**152.02**	**345**	*e*PKP		**PKPbc**	**14 55 12.6**	**-0.3**
	comp=Z,3.5nm,0.5s							
RETA	**Reute**	**152.07**	**346**	*e*PKP		**PKPbc**	**14 55 12.9**	**-0.1**
	comp=Z,1.5nm,0.4s							
WTTA	**Wattenberg**	**152.07**	**345**	*e*PKP		**PKPbc**	**14 55 12.9**	**-0.3**
	comp=Z,5.3nm,0.3s							
MYKA	**Terra Mystica**	**152.11**	**341**	*e*PKP		**PKPdf**	**14 55 02.5**	**-3.3**
	comp=Z,12nm,1.1s							
MOTA	**Moosalm**	**152.12**	**346**	*i* PKP		**PKPbc**	**14 55 13.1**	**-0.2**
	comp=Z,2.7nm,0.5s							
FETA	**Feichten**	**152.51**	**346**	*e*PKP		**PKPbc**	**14 55 14.0**	**-0.1**
	comp=Z,1.9nm,0.5s							
ESDC	**Sonseca Array**	**160.47**	**12**	PKPab		**PKPab**	**14 56 01.6**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=352,slow=4.7,SNR=6.3							
LIC	**Lamto**	**164.50**	**156**	⇑*i*PKIKP			14 57 39.8	
	comp=Z,4.9nm,0.3s							
KIC	**Kosan Boka**	**164.73**	**157**	⇓*i*PKIKP			14 57 39.4	
	comp=Z,20nm,0.9s							
TIC	**Toumodi**	**164.88**	**156**	⇑*i*PKIKP			14 57 40.0	
	comp=Z,5.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**172.58**	**184**	PKPab		**PKPab**	**14 56 56.0**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=176,slow=3.1,SNR=3.0							

*ISN **17** 14:41:52.8±0.5, 33.°70N×45.°56E, h7km±3km, ML3.4*
*TEH **17** 14:41:56.3, 33.°79N×45.°72E, h8km±38km, ML3.3*

ISC 17 14:41:55.2±0.9, 33.°68N±0.°03×45.°64E±0.°04, h13km, n22, σ1°85/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**97**	Pg		**Pb**	**14 42 05.2**	**-0.3**
IBDR	**Badra**	**0.62**	**157**	*e*Pg		**Pg**	**14 42 06.0**	**-1.3**
IBDR				*e*Sg		**Sg**	**14 42 15.0**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.82**	**357**	Pg		**Pg**	**14 42 10.2**	**-1.0**
IGHG	**Ghaleghazi**	**1.00**	**50**	Pg		**Pb**	**14 42 14.0**	**-0.7**
BHD	**Baghdad**	**1.13**	**249**	*e*Pn		**Pb**	**14 42 16.0**	**-0.6**
BHD				*e*Sn		**Sn**	**14 42 33.0**	**+0.9**
BHD				AML		AML	14 42 40.8	
	comp=E,3µm,0.4s							
IDHR	**Dehrash**	**1.19**	**31**	Pg		**Pb**	**14 42 16.6**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.30**	**63**	Pg		**Pg**	**14 42 19.6**	**-0.7**
IKOM	**Komasi**	**1.63**	**72**	Pg		**Pg**	**14 42 25.8**	**-0.7**
ILIN	**Lien**	**1.65**	**41**	Pg		**Pg**	**14 42 25.7**	**-1.2**
IKFM	**Kafar-mosalman**	**1.85**	**94**	Pg		**Pg**	**14 42 29.5**	**-1.2**
RAFI	**Al-Rafai**	**1.99**	**168**	*e*Pn		**Pn**	**14 42 29.0**	**+0.4**
RAFI				*e*Sn		**Sb**	**14 42 56.0**	**-0.1**
RAFI				AML		AML	14 43 05.8	
	comp=N,162nm,0.2s							
IBZA	**Bozab**	**2.00**	**66**	Pn		**Pb**	**14 42 31.1**	**-0.6**
IALM	**Almabolaq**	**2.40**	**60**	Pn		**Pb**	**14 42 37.1**	**-1.4**
SDS1	**Sardasht. Az.**	**2.46**	**357**	Pn		**Pb**	**14 42 37.7**	**-1.8**
HSAM	**Samen**	**2.52**	**77**	Pn		**Pb**	**14 42 38.4**	**-2.1**
MAHB	**Mahabad**	**3.08**	**1**	Pn		**Pn**	**14 42 46.1**	**+2.4**
HAGD	**Aghdareh**	**3.11**	**68**	Pn		**Pb**	**14 42 47.2**	**-3.4**
IHRS	**Heris**	**4.76**	**13**	Pn		**Pn**	**14 43 08.5**	**+1.6**
QAMS	**Qamsar**	**4.80**	**88**	Pn		**Pn**	**14 43 09.9**	**+2.5**
IKLH	**Kolahrood**	**4.97**	**93**	Pn		**Pn**	**14 43 13.1**	**+3.3**
KRSH	**Karshahi**	**5.41**	**85**	Pn		**Pn**	**14 43 18.3**	**+2.5**
IRAM	**Ramesheh**	**5.98**	**106**	Pn		**Pn**	**14 43 27.2**	**+3.6**

IDC 17 14:56:06.0±2.6, 5.°99S×130.°17E, h0km, mb3.2/1, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=159.0km s-min=33.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.45**	**164**	Pn		Pn	14 59 32.0	0.0
	0.3nm,0.3s,baz=347,slow=13,SNR=6.2							
WRA				Sn		Sn	15 02 00.3	-13
	0.3nm,0.3s,baz=340,slow=20,SNR=5.3							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**17.94**	**169**	P		Pn	15 00 17.0	0.0
	0.1nm,0.3s,baz=343,slow=9.1,SNR=15							
ASAR				S		Sn	15 03 25.3	-13
	0.2nm,0.5s,baz=356,slow=28,SNR=5.3							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**67.48**	**327**	P		P	15 07 03.9	0.0
	0.1nm,0.4s,baz=126,slow=7.8,SNR=1.6							
	0.1nm,0.4s							

*NEIC **17** 15:30:06.2±0.8, 4.°8S±0.°1×144.°1E±0.°1, h94km±10km, mb4.2/23, Error ellipse: s-maj=21.1km s-min=11.9km az=120.0*
*IDC **17** 15:30:07.2±3.2, 4.°74S×144.°36E, h112km±33km, mb3.7/7, mbtmp4.0/9, MS3.4/1, Error ellipse: s-maj=28.4km s-min=20.9km az=83.0*

ISC 17 15:30:06.2±0.6, 4.°77S±0.°07×144.°11E±0.°10, h98km, n37, σ0°83/37, mb4.2/16, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MANU	**Manus Island**	**4.23**	**50**	Pn		**Pn**	**15 31 08.7**	**+0.1**
PMG	**Port Moresby**	**5.51**	**147**	Pn		**Pn**	**15 31 25.5**	**-0.4**
PMG	**Port Moresby**	**5.51**	**147**	P		**Pn**	**15 31 26.9**	**+1.0**
	11nm,0.8s,baz=336,slow=10.0,SNR=8.7							
PMG				S		**Sn**	**15 32 26.7**	**-1.3**
	24nm,0.6s,baz=296,slow=23,SNR=2.0							
COEN	**Coen**	**9.18**	**186**	Pn		**Pn**	**15 32 15.2**	**-0.6**
MTN	**Manton Dam**	**15.12**	**237**	Pn		**Pn**	**15 33 33.4**	**-1.2**
MTN				IAmb		IAmb	15 33 46.9	
	comp=Z,26nm,1.4s							
WR0	**Warramunga Arr**	**17.74**	**211**	P		**P**	**15 34 07.5**	**+1.0**
WR0				IAmb		IAmb	15 34 15.5	
	comp=Z,10nm,0.8s							
WRAB	**Tennant Creek**	**17.82**	**211**	P		**P**	**15 34 07.7**	**+0.3**
WRAB				IAmb		IAmb	15 34 24.4	
	comp=Z,21nm,1.4s							
WB2	**Warramunga Arr**	**17.82**	**211**	P		**P**	**15 34 07.8**	**+0.4**
WRA	**Warramunga Arr**	**17.83**	**211**	P		**Pn**	**15 34 08.7**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=32,slow=11,SNR=9.0							
KNRA	**Kununurra**	**18.57**	**233**	P		**P**	**15 34 15.1**	**-0.5**
SOEI	**Soe**	**20.29**	**255**	P		**P**	**15 34 33.8**	**-0.6**
AS31	**Alice Springs**	**21.21**	**207**	P		**P**	**15 34 45.5**	**+1.4**
ASAR	**Alice Springs**	**21.21**	**207**	P		**P**	**15 34 45.9**	**+1.8**
ASAR	**Alice Springs**	**21.21**	**207**	P		**P**	**15 34 45.3**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=35,slow=9.1,SNR=16							
ASAR				LR		LR	15 43 56.5	
	comp=Z,90nm,18.2s,baz=81,slow=39							
	comp=Z,0.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**22.39**	**232**	P		**P**	**15 34 57.9**	**+1.2**
KSRS	**Korea Array**	**44.63**	**342**	P		**P**	**15 38 09.0**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=165,slow=10,SNR=5.6							
	comp=Z,1.8nm,0.9s							
KS19	**Wonju Array Si**	**44.69**	**342**	P		**P**	**15 38 09.0**	**-0.4**
RPSI	**Rantau Prapat**	**45.75**	**278**	P		**P**	**15 38 17.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**50.13**	**299**	P		**P**	**15 38 53.1**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=120,slow=6.0,SNR=12							
	comp=Z,1.0nm,0.7s							
ZAA0	**Zalesovo Array**	**76.45**	**328**	P		**P**	**15 41 44.4**	**-0.6**
ZAA0				IAmb		IAmb	15 41 45.4	
	comp=Z,2.5nm,0.7s							
ZALV	**Zalesovo Beam**	**76.45**	**328**	P		**P**	**15 41 44.5**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=106,slow=5.9,SNR=10							
	comp=Z,2.2nm,0.6s							
H17K	**Granite Mounta**	**80.63**	**21**	P		**P**	**15 42 08.3**	**+0.5**
F17K	**Baldwin Pennin**	**81.02**	**19**	P		**P**	**15 42 10.2**	**+0.4**
F17K				IAmb		IAmb	15 42 26.4	
	comp=Z,8.4nm,1.4s							
L19K	**White Mountain**	**81.17**	**25**	P		**P**	**15 42 11.4**	**+0.6**
L19K				IAmb		IAmb	15 42 35.7	
	comp=Z,8.1nm,1.4s							
J19K	**Poorman**	**81.74**	**23**	P		**P**	**15 42 14.3**	**+0.7**
E18K	**Tukpahlearik C**	**81.78**	**19**	P		**P**	**15 42 14.2**	**+0.4**
E18K				IAmb		IAmb	15 42 15.8	
	comp=Z,2.5nm,1.0s							
H19K	**Roundabout Mou**	**82.19**	**21**	P		**P**	**15 42 16.7**	**+0.7**
H19K				IAmb		IAmb	15 42 40.3	
	comp=Z,5.7nm,1.4s							
C18K	**Utukok River**	**82.30**	**18**	P		**P**	**15 42 16.3**	**-0.3**
C19K	**Lookout Ridge**	**83.03**	**18**	P		**P**	**15 42 21.1**	**+0.7**
C19K				IAmb		IAmb	15 42 22.1	
	comp=Z,3.4nm,0.9s							
D19K	**Kuna River**	**83.16**	**18**	P		**P**	**15 42 21.2**	**+0.2**
D19K				IAmb		IAmb	15 42 21.7	
	comp=Z,2.1nm,0.9s							
BVAR	**Borovoye Array**	**84.09**	**324**	P		**P**	**15 42 26.2**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=109,slow=6.9,SNR=31							
	comp=Z,3.3nm,0.6s							
BRVK	**Borovoye**	**84.16**	**324**	P		**P**	**15 42 26.3**	**-0.1**
BRVK				IAmb		IAmb	15 42 26.8	
	comp=Z,2.7nm,0.9s							
B21K	**Ikpikpuk River**	**84.81**	**18**	P		**P**	**15 42 29.8**	**+0.5**
B21K				IAmb		IAmb	15 42 47.3	
	comp=Z,5.7nm,1.5s							
QSPA	**South Pole Qui**	**85.19**	**180**	P		**P**	**15 42 31.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=304,slow=1.1,SNR=8.4							
	comp=Z,1.6nm,0.7s							
ILAR	**Eielson Array**	**85.50**	**24**	P		**P**	**15 42 31.4**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=261,slow=5.0,SNR=16							
	comp=Z,1.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**141.99**	**285**	PKhKP		PKPpre	15 49 21.6	
	comp=Z,0.4nm,0.8s,baz=149,slow=3.0,SNR=2.2							
DBIC	**Dimbokro**	**149.06**	**275**	PKPbc		**PKPbc**	**15 49 44.9**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=54,slow=3.7,SNR=8.0							

*IDC **17** 15:38:09.3±0.9, 19.°16N×121.°31E, h0km, mb3.6/8, mbtmp3.8/10, ML4.0/2, MS3.2/4, Error ellipse: s-maj=28.7km s-min=17.3km az=71.0*
*NEIC **17** 15:38:14.0±1.1, 19.°3N±0.°1×121.°1E±0.°2, h28km±4km, mb4.3/23, Error ellipse: s-maj=21.1km s-min=14.9km az=83.0*

ISC 17 15:38:14.7±0.7, 19.°26N±0.°09×121.°2E±0.°1, h35km, n53, σ0°79/45, mb4.1/21, MS3.0/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWG	**Pinlang**	**3.55**	**359**	Pn		**Pn**	**15 39 06.1**	**-1.2**
TPUB	**Ta-pu**	**4.06**	**353**	Pn		**Pn**	**15 39 12.8**	**-1.5**
YULB	**Yu-li**	**4.12**	**2**	Pn		**Pn**	**15 39 13.9**	**-1.2**
SSLB	**Suanglung**	**4.51**	**357**	Pn		**Pn**	**15 39 19.7**	**-0.9**
NACB	**Ninganchiao**	**4.91**	**5**	Pn		**Pn**	**15 39 24.7**	**-1.3**
YHNB	**Yeheng**	**5.39**	**2**	Pn		**Pn**	**15 39 32.1**	**-0.6**
YOJ	**Yonaguni jima**	**5.46**	**18**	Pn		**Pn**	**15 39 33.6**	**+0.1**
TATO	**Taipei**	**5.70**	**3**	Pn		**Pn**	**15 39 36.0**	**-0.8**
JOW	**Kunigami**	**9.98**	**40**	Pn		**Pn**	**15 40 36.5**	**+0.9**
JOW	**Kunigami**	**9.98**	**40**	Pn		**Pn**	**15 40 34.5**	**-1.1**
	2.7nm,0.3s,baz=187,slow=18,SNR=10							
	7.8nm,0.3s							
KSRS	**Korea Array**	**19.07**	**17**	P		**P**	**15 42 33.9**	**-0.2**
	0.5nm,0.3s,baz=197,slow=11,SNR=15							
KSRS				LR		LR	15 51 15.7	
	comp=Z,46nm,18.8s,baz=340,slow=41							
	1.4nm,0.4s							
KS19	**Wonju Array Si**	**19.10**	**16**	P		**P**	**15 42 33.9**	**-0.5**
KS19				IAmb		IAmb	15 42 40.2	
	comp=Z,25nm,1.5s							
CMAR	**Chiang Mai Arr**	**21.05**	**271**	P		**P**	**15 42 56.5**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=74,slow=9.8,SNR=11							
CMAR				LR		LR	15 51 41.5	
	comp=Z,49nm,18.0s,baz=95,slow=38							
	comp=Z,1.0nm,0.7s							
GUMO	**Guam**	**23.41**	**100**	LR		LR	15 52 18.5	
	comp=Z,58nm,19.3s,baz=119,slow=36							
ASAJ	**Asahikawa**	**30.59**	**31**	LR		LR	15 57 20.2	
	comp=Z,108nm,19.3s,baz=247,slow=38							
SONM	**Songino Array**	**30.94**	**340**	P		**P**	**15 44 29.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=161,slow=9.2,SNR=2.3							
	comp=Z,0.3nm,0.6s							
WRA	**Warramunga Arr**	**41.04**	**161**	P		**P**	**15 45 54.8**	**0.0**
WRA	**Warramunga Arr**	**41.04**	**161**	P		**P**	**15 45 53.5**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=344,slow=9.1,SNR=8.3							
	comp=Z,0.5nm,0.4s							
WB2	**Warramunga Arr**	**41.04**	**161**	P		**P**	**15 45 53.8**	**-1.1**
WB2				IAmb		IAmb	15 46 17.3	
	comp=Z,7.7nm,1.2s							
MK31	**Makanchi Array**	**41.97**	**320**	P		**P**	**15 46 02.7**	**+0.4**
MKAR	**Makanchi Array**	**41.97**	**320**	P		**P**	**15 46 03.5**	**+1.1**
	comp=Z,17nm,0.3s,baz=110,slow=10,SNR=1.3							
H11S3	**WAKE ISLAND Hy**	**42.98**	**83**	T		T	16 31 50.5	
	baz=277,slow=74,SNR=5.8							
H11S1	**WAKE ISLAND Hy**	**42.99**	**83**	T		T	16 31 51.3	
	baz=277,slow=74,SNR=3.7							
H11S2	**WAKE ISLAND Hy**	**43.00**	**83**	T		T	16 31 53.9	
	baz=277,slow=74,SNR=4.3							
H11N1	**WAKE ISLAND Hy**	**43.00**	**81**	T		T	16 31 48.6	
	baz=277,slow=75,SNR=17							
H11N2	**WAKE ISLAND Hy**	**43.01**	**81**	T		T	16 31 49.5	
	baz=277,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**43.02**	**81**	T		T	16 31 49.8	
	baz=277,slow=75,SNR=11							
ZALV	**Zalesovo Beam**	**44.42**	**330**	P		**P**	**15 46 22.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=116,slow=6.6,SNR=2.4							
	comp=Z,0.5nm,0.6s							
AS31	**Alice Springs**	**44.43**	**163**	P		**P**	**15 46 21.9**	**-0.5**
ASAR	**Alice Springs**	**44.43**	**163**	P		**P**	**15 46 21.9**	**-0.5**
ASAR	**Alice Springs**	**44.43**	**163**	P		**P**	**15 46 21.1**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=346,slow=6.7,SNR=29							
	comp=Z,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**45.94**	**323**	P		**P**	**15 46 34.9**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=120,slow=7.9,SNR=7.0							
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**51.53**	**323**	P		**P**	**15 47 18.4**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=127,slow=3.8,SNR=1.9							
	comp=Z,0.3nm,0.6s							
BBOO	**Buckleboo**	**53.69**	**164**	P		**P**	**15 47 33.2**	**+0.1**
ABKAR	**Akbulak array**	**56.94**	**317**	P		**P**	**15 47 56.3**	**-0.1**
ABKAR				IAmb		IAmb	15 48 05.7	
	comp=Z,1.9nm,1.3s							
F17K	**Baldwin Pennin**	**67.55**	**25**	P		**P**	**15 49 07.7**	**+0.6**
D19K	**Kuna River**	**68.84**	**23**	P		**P**	**15 49 15.5**	**+0.2**
D19K				IAmb		IAmb	15 49 43.4	
	comp=Z,3.3nm,1.1s							
B20K	**Meade River**	**69.21**	**21**	P		**P**	**15 49 17.8**	**+0.3**
B20K				IAmb		IAmb	15 49 33.9	
	comp=Z,5.1nm,1.4s							
TTA	**Tatalina**	**69.79**	**29**	P		**P**	**15 49 21.0**	**-0.3**
TTA				IAmb		IAmb	15 49 36.5	
	comp=Z,4.1nm,1.2s							
B22K	**Teshekpuk Lake**	**70.48**	**21**	P		**P**	**15 49 24.9**	**-0.3**
D22K	**Ayikyak River**	**70.82**	**23**	P		**P**	**15 49 27.8**	**+0.4**
D22K				IAmb		IAmb	15 49 51.8	
	comp=Z,5.0nm,1.4s							
E22K	**Anaktuvuk Pass**	**71.19**	**23**	P		**P**	**15 49 30.4**	**+0.6**
E22K				IAmb		IAmb	15 49 31.9	
	comp=Z,1.5nm,0.8s							
C23K	**Itkillik River**	**71.48**	**21**	P		**P**	**15 49 31.4**	**+0.1**
C23K				IAmb		IAmb	15 49 32.9	
	comp=Z,1.4nm,0.8s							
E24K	**Your Creek**	**72.44**	**23**	P		**P**	**15 49 37.0**	**-0.2**
D25K	**Kavik River**	**73.02**	**22**	P		**P**	**15 49 40.5**	**-0.2**
D25K				IAmb		IAmb	15 49 57.0	
	comp=Z,5.8nm,1.4s							
BMAR	**Burnt Mountain**	**74.02**	**24**	P		**P**	**15 49 46.9**	**+0.4**
D27M	**Malcolm River**	**74.92**	**21**	P		**P**	**15 49 52.7**	**+0.9**
D27M				IAmb		IAmb	15 50 04.8	
	comp=Z,5.7nm,1.4s							
E28M	**Babbage River**	**75.58**	**22**	P		**P**	**15 49 55.2**	**-0.4**
E28M				IAmb		IAmb	15 50 04.2	
	comp=Z,2.6nm,1.4s							
H29M	**Whitestone**	**76.70**	**24**	P		**P**	**15 50 00.8**	**-1.1**
G30M	**tAoh Zraii Nji**	**77.27**	**23**	P		**P**	**15 50 04.3**	**-0.8**
A36M	**Sachs Harbour**	**78.82**	**17**	P		**P**	**15 50 13.4**	**-0.1**
A36M				IAmb		IAmb	15 50 14.0	
	comp=Z,2.2nm,0.8s							
EUNU	**Eureka**	**79.79**	**5**	P		**P**	**15 50 18.9**	**0.0**
YKA	**Yellowknife Ar**	**87.50**	**23**	P		**P**	**15 50 58.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=311,slow=4.7,SNR=29							
	comp=Z,1.5nm,0.8s							

*NEIC **17** 15:41:13.3±1.8, 20.°21S±0.°04×177.°67W±0.°10, h494km±6km, mb4.5/162, Error ellipse: s-maj=14.4km s-min=3.0km az=67.0*
*NOU **17** 15:41:14.8, 19.°62S×177.°56W, h541km, mb4.6/14, Fiji Islands Region*
*IDC **17** 15:41:15.0±1.9, 20.°17S×177.°79W, h513km±20km, mb3.9/19, mbtmp4.7/20, Error ellipse: s-maj=15.8km s-min=9.5km az=158.0*

ISC 17 15:41:13.3±0.3, 20.°17S±0.°07×177.°68W±0.°06, h500km, n517, σ0°84/467, mb4.5/111, 42C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAVE	**Taveuni**	**4.04**	**328**	P		**P**	**15 42 34.1**	**+2.0**
DGTI	**Dogotuki**	**4.56**	**327**	P		**P**	**15 42 38.1**	**+1.6**
YSA	**Yasawairara**	**5.67**	**307**	P		**P**	**15 42 48.1**	**+1.6**
NIUE	**Niue**	**7.39**	**83**	P		**P**	**15 43 01.9**	**-1.5**
AFI	**Afiamalu**	**8.40**	**43**	P		**P**	**15 43 10.5**	**-3.5**
FUNA	**Funafuti**	**11.96**	**345**	P		**P**	**15 43 52.4**	**+0.8**
MARNC	**Mare, Loyalty**	**13.43**	**262**	P		**P**	**15 44 06.9**	**0.0**
PINNC	**Pines Island,**	**14.07**	**257**	P		**P**	**15 44 14.6**	**+0.9**
PINNC	**Pines Island,**	**14.07**	**257**	P		**P**	**15 44 16.3**	**+2.6**
LIFNC	**LIFOU**	**14.15**	**265**	P		**P**	**15 44 14.3**	**-0.3**
YATNC	**Mamie plateau,**	**14.52**	**260**	P		**P**	**15 44 20.8**	**+2.3**
OUENC	**Ouen Island, N**	**14.60**	**258**	P		**P**	**15 44 19.5**	**+0.2**
DZM	**Mont Dzumac**	**14.94**	**260**	P		**P**	**15 44 22.8**	**-0.2**
DZM	**Mont Dzumac**	**14.94**	**260**	P		**P**	**15 44 26.3**	**+3.3**
DZM	**Mont Dzumac**	**14.94**	**260**	P		**P**	**15 44 22.9**	**0.0**
	8.5nm,0.6s,baz=91,slow=21,SNR=6.1							
KOUNC	**Koumac, New Ca**	**16.92**	**266**	P		**P**	**15 44 43.3**	**-0.2**
KOUNC	**Koumac, New Ca**	**16.92**	**266**	P		**P**	**15 44 45.2**	**+1.7**
KUZ	**Kuaotunu**	**17.50**	**198**	P		**P**	**15 44 54.3**	**+5.5**
TOZ	**Tahuroa Road**	**18.48**	**197**	P		**P**	**15 44 57.9**	**+0.1**
RTZ	**Ruatahuna**	**18.95**	**193**	P		**P**	**15 44 59.9**	**-2.5**
BFZ	**Birch Farm**	**21.09**	**193**	P		**P**	**15 45 25.8**	**+4.1**
TCW	**Tory Channel**	**22.07**	**196**	P		**P**	**15 45 30.3**	**-0.1**
PPT	**Papeete**	**26.71**	**89**	P		**P**	**15 46 12.8**	**+0.7**
	22nm,0.5s,baz=285,slow=13,SNR=2.5							
	22nm,0.5s							
PPTF	**Pamatai, Papee**	**26.71**	**89**	P		**P**	**15 46 12.3**	**+0.2**
CTA	**Charters Towe**	**33.82**	**264**	P		**P**	**15 47 13.8**	**+0.3**
	5.6nm,0.3s,baz=88,slow=10.0,SNR=33							
	5.6nm,0.3s							
CTAO	**Charters Tower**	**33.82**	**264**	P		**P**	**15 47 13.8**	**+0.3**
CTAO				IAmb		IAmb	15 47 14.7	
	comp=Z,37nm,1.4s							
PMG	**Port Moresby**	**35.56**	**282**	P		**P**	**15 47 26.9**	**-1.2**
PMG				IAmb		IAmb	15 47 29.0	
	comp=Z,16nm,0.9s							
PMG	**Port Moresby**	**35.56**	**282**	P		**P**	**15 47 28.1**	**0.0**
	comp=Z,12nm,0.8s,baz=128,slow=8.2,SNR=4.9							
	comp=Z,12nm,0.8s							
TOO	**Toolangi**	**36.33**	**234**	P		**P**	**15 47 34.6**	**+0.3**
TOO				IAmb		IAmb	15 47 35.4	
	comp=Z,14nm,0.8s							
TAU	**Tasmania Unive**	**37.07**	**224**	P		**P**	**15 47 40.4**	**+0.2**
STKA	**Stephens Creek**	**38.20**	**244**	P		**P**	**15 47 50.0**	**+0.3**
STKA	**Stephens Creek**	**38.20**	**244**	P		**P**	**15 47 49.5**	**-0.1**
	comp=Z,10nm,1.0s,baz=87,slow=9.6,SNR=18							
	comp=Z,10nm,1.0s							
BBOO	**Buckleboo**	**42.96**	**243**	P		**P**	**15 48 27.2**	**-0.6**
BBOO				IAmb		IAmb	15 48 28.5	
	comp=Z,20nm,0.8s							
AS31	**Alice Springs**	**44.89**	**256**	P		**P**	**15 48 42.7**	**-0.2**
ASAR	**Alice Springs**	**44.89**	**256**	P		**P**	**15 48 42.7**	**-0.2**
	comp=Z,18nm,0.9s,baz=99,slow=7.9,SNR=134							
ASAR				PcP		**PcP**	**15 50 13.6**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=104,slow=3.5,SNR=15							
ASAR				S		**S**	**15 54 42.2**	**-1.8**
	comp=Z,1.2nm,1.0s,baz=93,slow=16,SNR=6.1							
	comp=Z,18nm,0.9s							
WB0	**Warramunga Arr**	**44.92**	**262**	P		**P**	**15 48 42.7**	**-0.5**
WB0				IAmb		IAmb	15 48 43.4	
	comp=Z,11nm,0.9s							
WB2	**Warramunga Arr**	**44.93**	**262**	P		**P**	**15 48 42.1**	**-1.2**
WB2				IAmb		IAmb	15 48 43.6	
	comp=Z,17nm,1.

OHAK	**Old Harbor**	79.76	13	P	P	15 52 28.1	-0.3	
	baz=203							
MPMC	**Manual Prospec**	79.77	46	P	P	15 52 30.1	+0.7	
	baz=236							
GSC	**Goldstone, Bar**	79.81	47	P	P	15 52 30.2	+0.8	
	baz=236							
R18K	**Karluk**	79.83	12	P	P	15 52 29.1	+0.2	
	baz=202							
BC3	**Big Chuckawall**	79.86	49	P	P	15 52 30.9	+1.1	
	baz=237							
HEC	**Hector,Ludlow**	79.88	47	P	P	15 52 31.0	+1.2	
	baz=237							
WAKR	**Walker**	79.90	43	P	P	15 52 31.0	+1.1	
NJ2	**Nanjing**	79.90	309	*eP*	P	15 52 30.9	+1.1	
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,220nm,3.5s							
MPK	**Martis Peak**	79.99	42	IAmb	IAmb	15 52 32.5		
	comp=Z,23nm,1.2s							
PNTR	**Pine Nut**	80.14	42	P	P	15 52 31.6	+0.4	
PNTR				IAmb	IAmb	15 52 33.3		
	comp=Z,16nm,0.9s							
Q17K	**Contact Creek**	80.21	11	P	P	15 52 30.5	-0.4	
	baz=201							
YERR	**Yerington**	80.30	42	IAmb	IAmb	15 52 34.0		
	comp=Z,19nm,1.2s							
GMRC	**Granite Mounta**	80.32	48	P	P	15 52 33.2	+1.0	
	baz=237							
IRM	**Iron Mountain**	80.34	48	P	P	15 52 33.2	+1.0	
	baz=238							
GRAC	**Grapevine Rang**	80.38	45	P	P	15 52 33.3	+1.0	
	baz=236							
O15K	**Ungalikthiuk R**	80.41	9	P	P	15 52 31.9	+0.1	
	baz=197							
MDJ	**Mudanjiang**	80.42	325	P	P	15 52 29.8	-2.5	
MDJ				pmax	pmax			
	comp=Z,12nm,1.9s							
MDJ				pmax	pmax			
	comp=Z,220nm,6.5s							
MDJ	**Mudanjiang**	80.42	325	IAmb	IAmb	15 52 34.5		
	comp=Z,9.4nm,0.8s							
Q16K	**King Salmon**	80.45	11	P	P	15 52 32.1	0.0	
	baz=200							
TUQ	**Turquoise Moun**	80.49	47	P	P	15 52 34.5	+1.5	
	baz=237,SNR=6.2							
NVAR	**Mina Array Bea**	80.58	43	P	P	15 52 34.0	+0.5	
NVAR	**Mina Array Bea**	80.58	43	P	P	15 52 34.6	+1.1	
	comp=Z,5.3nm,0.9s,baz=225,slow=8.5,SNR=24							
	comp=Z,5.3nm,0.9s							
N14K	**Kuskokwak Cree**	80.86	8	P	P	15 52 34.4	+0.3	
	baz=195							
214A	**Organ Pipe Nat**	80.87	51	P	P	15 52 36.3	+1.3	
	baz=239							
P17K	**Kvichak River**	80.98	11	P	P	15 52 34.8	0.0	
	baz=200							
O16K	**Kokwok River B**	81.08	10	P	P	15 52 34.8	-0.5	
	baz=198							
TPNV	**Topopah Spring**	81.10	45	P	P	15 52 37.6	+1.4	
	baz=236,SNR=5.0							
PDMCI	**Parker Dam,Lak**	81.13	49	P	P	15 52 37.2	+1.0	
	baz=238							
P18K	**Big Mountain,**	81.39	11	P	P	15 52 36.9	-0.1	
	baz=201							
O17K	**Koliganek Bris**	81.41	10	P	P	15 52 36.9	-0.1	
	baz=200							
K05A	**Summer Lake**	81.52	39	P	P	15 52 38.9	+0.6	
K05A				IAmb	IAmb	15 52 40.7		
	comp=Z,27nm,1.0s							
M14K	**Bethel**	81.63	8	P	P	15 52 38.6	+0.5	
	baz=195							
J05D	**Fort Rock, OR**	81.66	38	P	P	15 52 39.6	+0.7	
M15K	**Kasigluk River**	81.74	8	P	P	15 52 39.3	+0.6	
	baz=196							
N16K	**Nishlik Lake**	81.81	9	P	P	15 52 39.0	-0.1	
	baz=198							
O18K	**Koktuh Hills**	81.82	11	P	P	15 52 39.6	+0.5	
	baz=201							
P19K	**Oil Pt**	82.01	12	P	P	15 52 40.6	+0.5	
	baz=203							
N17K	**Nushagak Hills**	82.11	10	P	P	15 52 40.8	+0.2	
	baz=199							
L14K	**Kuka Creek**	82.12	7	IAmb	IAmb	15 52 42.4		
	comp=Z,11nm,0.8s							
L14K	**Kuka Creek**	82.12	7	P	P	15 52 41.5	+1.0	
	baz=194							
PINE	**Pine Mountain**	82.14	38	IAmb	IAmb	15 52 43.9		
	comp=Z,22nm,0.9s							
PRN	**Pahroc Range**	82.15	46	IAmb	IAmb	15 52 43.9		
	comp=Z,10nm,0.9s							
O19K	**Port Alsworth**	82.30	12	P	P	15 52 41.3	-0.2	
	baz=202							
R11B	**Troy Canyon, C**	82.30	45	P	P	15 52 43.4	+1.0	
	baz=237,SNR=5.3							
M16K	**Timber Creek**	82.31	9	P	P	15 52 42.1	+0.6	
	baz=198							
BNX	**BinXian**	82.33	325	⇑P	P	15 52 42.8	+0.8	
BNX				pmax	pmax			
	comp=Z,16nm,0.8s							
BNX				pmax	pmax			
	comp=Z,170nm,4.9s							
HOM	**Homer**	82.34	13	P	P	15 52 42.3	+0.5	
	baz=204							
BMN	**Battle Mountai**	82.41	42	IAmb	IAmb	15 52 44.7		
	comp=Z,12nm,0.9s							
WHN	**Wuhan**	82.49	306	P	P	15 52 33.8	-9.4	
TUC	**Tucson**	82.54	52	P	P	15 52 45.4	+1.8	
TUC	**Tucson**	82.54	52	P	P	15 52 45.6	+2.0	
	baz=240							
L15K	**Ungalak Mounta**	82.59	8	P	P	15 52 44.0	+1.0	
	baz=195							
BRSE	**Bradley Lake S**	82.61	13	P	P	15 52 43.1	0.0	
	baz=205							
WVOR	**Wild Horse Val**	82.68	40	IAmb	IAmb	15 52 46.2		
	comp=Z,11nm,1.0s							
N19K	**Bonanza Creek**	82.85	11	P	P	15 52 43.9	-0.6	
	baz=202							
L16K	**Owhat River**	82.89	9	P	P	15 52 44.5	0.0	
	baz=197							
M17K	**Holitna River**	82.90	10	P	P	15 52 45.6	+1.0	
	baz=199							
X16A	**Lo Mia Camp, P**	83.10	50	IAmb	IAmb	15 52 49.1		
	comp=Z,11nm,1.1s							
I07A	**Izee**	83.14	38	P	P	15 52 46.9	+0.5	
I07A				IAmb	IAmb	15 52 48.5		
	comp=Z,13nm,0.9s							
K15K	**Wolf Creek Mou**	83.18	8	P	P	15 52 46.6	+0.7	
	baz=195							
319A	**Douglas**	83.21	53	IAmb	IAmb	15 52 49.9		
	comp=Z,17nm,1.0s							
SEW	**Seward**	83.22	14	P	P	15 52 46.8	+0.6	
	baz=206							
M18K	**Stony River**	83.25	10	P	P	15 52 46.8	+0.5	
	baz=201							
J08A	**Circle Bar Ran**	83.32	39	IAmb	IAmb	15 52 49.3		
	comp=Z,16nm,1.2s							
J14K	**Nanvaranak Lak**	83.39	6	P	P	15 52 47.4	+0.5	
	baz=193							
KNB	**Kanab**	83.45	47	IAmb	IAmb	15 52 50.5		
	comp=Z,9.8nm,1.0s							
CAPN	**Captain Cook N**	83.46	13	P	P	15 52 47.3	0.0	
	baz=205							
L17K	**Donlin**	83.46	9	P	P	15 52 48.1	+0.7	
	baz=198							
U15A	**North Rim**	83.52	48	IAmb	IAmb	15 52 51.1		
	comp=Z,12nm,0.8s							
N20K	**Mount Spurr**	83.64	12	P	P	15 52 47.7	-0.7	
	baz=204							
WUAZ	**Wupatki**	83.70	49	P	P	15 52 49.6	+0.2	
WUAZ	**Wupatki**	83.70	49	P	P	15 52 50.9	+1.5	
	baz=240							
L18K	**Granite Mounta**	83.79	10	IAmb	IAmb	15 52 50.7		
	comp=Z,13nm,0.7s							
L18K	**Granite Mounta**	83.79	10	P	P	15 52 49.5	+0.5	
	baz=200							
GAMB	**Gambell**	83.80	3	P	P	15 52 49.9	+1.0	
	baz=186							
ELK	**Elko**	83.83	43	P	P	15 52 50.2	+0.1	
DUN6	**Lazy B Ranch**	83.91	52	IAmb	IAmb	15 52 53.3		
	comp=Z,18nm,0.9s							
K17K	**Iditarod**	84.02	9	P	P	15 52 50.5	+0.4	
	baz=198							
PKCU	**Pink Cliffs**	84.02	47	IAmb	IAmb	15 52 54.1		
	comp=Z,16nm,1.1s							
RC01	**Rabbit Creek A**	84.05	13	P	P	15 52 50.3	0.0	
	baz=206							
L19K	**White Mountain**	84.06	11	P	P	15 52 50.7	+0.3	
	baz=201							
G08A	**Pilot Rock**	84.17	37	IAmb	IAmb	15 52 53.4		
	comp=Z,7.6nm,0.8s							
SUA	**Susitna One**	84.17	13	P	P	15 52 51.1	+0.1	
	baz=205							
J16K	**Anvik River**	84.25	8	P	P	15 52 51.7	+0.5	
	baz=196							
KAIM	**Kayak Island**	84.29	16	P	P	15 52 52.3	+0.8	
	baz=211							
EYAK	**Cordova Ski Ar**	84.49	15	P	P	15 52 53.1	+0.6	
	baz=210							
HAWA	**Hanford**	84.50	36	IAmb	IAmb	15 52 54.9		
	comp=Z,16nm,1.1s							
L20K	**Farewell, AK**	84.50	11	P	P	15 52 52.1	-0.5	
	baz=202							
TTA	**Tatalina**	84.57	10	P	P	15 52 53.1	+0.2	
	baz=200							
KNK	**Knik Glacier**	84.61	14	P	P	15 52 52.8	-0.4	
	baz=207							
PMR	**Palmer**	84.63	13	P	P	15 52 52.9	-0.2	
	baz=207							
MVU	**Marysvale**	84.63	46	IAmb	IAmb	15 52 56.4		
	comp=Z,20nm,1.2s							
W18A	**Petrified Fore**	84.67	50	P	P	15 52 54.7	+0.5	
	baz=241							
RPSI	**Rantau Prapat**	84.73	275	P	P	15 52 53.7	-1.1	
RPSI				IAmb	IAmb	15 52 55.5		
	comp=Z,8.6nm,0.9s							
U33K	**Whale Pass**	84.78	23	P	P	15 52 54.8	+0.8	
	baz=221							
121A	**Cookes Peak, D**	84.87	53	IAmb	IAmb	15 52 57.9		
	comp=Z,8.4nm,0.9s							
121A	**Cookes Peak, D**	84.87	53	P	P	15 52 56.4	+1.1	
	baz=242							
J18K	**Innoko River**	84.96	9	IAmb	IAmb	15 52 56.0		
	comp=Z,12nm,0.9s							
J18K	**Innoko River**	84.96	9	P	P	15 52 55.5	+0.7	
	baz=200							
SML	**Sawmill**	84.99	14	P	P	15 52 54.7	-0.4	
	baz=208							
ANM	**Nome**	85.00	5	P	P	15 52 55.0	+0.2	
	baz=192							
CUT	**Chulitna**	85.12	12	P	P	15 52 55.6	+0.1	
	baz=206							
BMRM	**Bremner River**	85.14	15	P	P	15 52 55.6	-0.1	
	baz=211							
HEH	**HeiHe**	85.19	328	*eP*	P	15 52 56.4	+0.3	
HEH				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HEH				pmax	pmax			
	comp=Z,250nm,6.5s							
SCM	**Sheep Creek Mo**	85.24	14	P	P	15 52 56.1	-0.1	
	baz=208							
K20K	**Telida**	85.29	10	IAmb	IAmb	15 52 57.8		
	comp=Z,18nm,1.2s							
K20K	**Telida**	85.29	10	P	P	15 52 56.2	-0.1	
	baz=202,SNR=6.7							
WRAK	**Wrangell Islan**	85.30	23	P	P	15 52 57.2	+0.7	
	baz=222							
H16K	**Elim**	85.37	7	P	P	15 52 57.0	+0.3	
	baz=194							
GSI	**Gunungsitoli**	85.51	273	P	P	15 52 58.1	-0.5	
G15K	**Niukluk**	85.54	6	P	P	15 52 57.6	+0.1	
	baz=193							
HNS	**HongShan**	85.55	312	⇑P	P	15 52 59.5	+1.3	
HNS				pmax	pmax			
	comp=Z,12nm,0.7s							
R31K	**City Hall, Gus**	85.62	21	P	P	15 52 58.6	+0.6	
	baz=219							
J19K	**Poorman**	85.63	10	P	P	15 52 58.1	+0.1	
	baz=201							
N25K	**Chitina, Valde**	85.69	15	P	P	15 52 58.2	-0.2	
	baz=211							
CAST	**Castle Rocks**	85.70	11	IAmb	IAmb	15 52 57.9		
	comp=Z,12nm,0.8s							
CAST	**Castle Rocks**	85.70	11	P	P	15 52 57.3	-1.0	
	baz=204,SNR=6.5							
TMUT	**Trail Mountain**	85.71	46	IAmb	IAmb	15 53 01.6		
	comp=Z,14nm,1.4s							
M24K	**Tolsona, Glenn**	85.75	14	P	P	15 52 58.9	+0.2	
	baz=209							
LYN	**LuoYang**	85.78	309	⇓P	P	15 53 01.3	+1.9	
LYN				pmax	pmax			
	comp=Z,28nm,0.8s							
TNA	**Tin City**	85.78	4	P	P	15 52 58.6	-0.1	
	baz=189							
WAT6	**Susitna Watana**	85.81	13	P	P	15 52 59.1	0.0	
	baz=208							
F14K	**Arctic Creek**	85.81	5	P	P	15 52 59.0	+0.2	
	baz=191							
WAT1	**Susitna Watana**	85.86	13	P	P	15 52 58.7	-0.5	
	baz=207							
HLID	**Hailey**	85.88	41	P	P	15 53 00.7	+0.8	
	baz=237							
H17K	**Granite Mounta**	85.93	7	P	P	15 52 59.2	-0.2	
	baz=197							
P29M	**Windy Craggy**	85.94	19	P	P	15 53 00.1	+0.5	
	baz=217							
CTG	**Chitna Glacier**	85.99	17	P	P	15 53 00.0	+0.1	
	baz=214							
J20K	**Nowinta River**	86.04	10	P	P	15 52 59.6	-0.3	
	baz=202							
TRF	**Thorofare Moun**	86.06	12	P	P	15 53 00.1	-0.2	
	baz=206,SNR=8.8							
SRU	**San Rafael Swe**	86.08	46	IAmb	IAmb	15 53 02.6		
	comp=Z,7.3nm,0.9s							
CHUM	**Lake Minchumin**	86.08	11	P	P	15 52 59.9	-0.2	
	baz=204,SNR=5.1							
G16K	**Koyuk River**	86.09	6	P	P	15 52 59.9	-0.3	
	baz=194							
F15K	**North Star Dit**	86.18	5	P	P	15 53 00.2	-0.4	
	baz=192							
VHRN	**Van Horn**	86.22	55	IAmb	IAmb	15 53 04.1		
	comp=Z,6.7nm,0.8s							
MNTX	**Cornudas Mount**	86.31	54	P	P	15 53 03.1	+1.1	
	baz=244							
H18K	**Honhosa River**	86.33	8	P	P	15 53 01.5	+0.1	
	baz=198							
G17K	**Kiwalik Mounta**	86.39	7	P	P	15 53 01.7	+0.2	
	baz=196							
T35M	**Bob Quinn**	86.50	24	P	P	15 53 02.6	+0.3	
	baz=224							
BPAW	**Bear Paw Mtn.**	86.52	11	P	P	15 53 02.0	-0.3	
	baz=205							
MVCO	**Mesa Verde**	86.55	48	P	P	15 53 03.5	+0.2	
	baz=242							
I20K	**Naaghedeneel**	86.56	10	P	P	15 53 02.5	+0.1	
	baz=202							
SKAG	**Skagway**	86.57	20	P	P	15 53 03.1	+0.6	
	baz=219							
MCK	**Minley**	86.59	12	P	P	15 53 02.1	-0.4	
	baz=207,SNR=9.0							
TX31	**Lajitas Ar. Si**	86.62	57	IAmb	IAmb	15 53 06.1		
	comp=Z,13nm,1.0s							
TXAR	**Lajitas Array**	86.62	57	P	P	15 53 05.0	+1.3	
	comp=Z,3.4nm,0.8s,baz=217,slow=6.5,SNR=32							
	comp=Z,3.4nm,0.8s							
PAX	**Paxson**	86.66	14	P	P	15 53 02.3	-0.7	
	baz=210							
YUK8	**Steele Glacier**	86.69	17	P	P	15 53 03.7	+0.3	
	baz=215							
M26K	**Nabesna, AK**	86.76	15	P	P	15 53 03.4	-0.1	
	baz=212							
YUK6	**Outpost Mounta**	86.81	18	P	P	15 53 04.0	0.0	
	baz=216							
S34M	**Telegraph Cree**	86.85	23	P	P	15 53 04.8	+0.9	
	baz=223							
YUK3	**Moose Creek**	86.90	17	P	P	15 53 04.6	+0.2	
	baz=215							
NEW	**Newport**	86.93	36	P	P	15 53 04.7	+0.1	
	baz=235							
ANMO	**Albuquerque**	86.96	51	P	P	15 53 06.2	+0.9	
	baz=243							
HYT	**Haines Junctio**	86.97	18	P	P	15 53 04.9	+0.4	
	baz=217							
ELIB	**Princess Elisa**	87.00	186	*dP*	P	15 53 04.4	-0.4	
	comp=Z,5.8nm,0.7s							
G18K	**Tagagawik**	87.00	8	P	P	15 53 04.6	+0.1	
	baz=198							
M27K	**Edge Creek, AK**	87.01	16	IAmb	IAmb	15 53 06.4		
	comp=Z,12nm,0.9s							
M27K	**Edge Creek, AK**	87.01	16	P	P	15 53 05.1	+0.3	
	baz=213							
YUK4	**Talbot Arm**	87.05	18	P	P	15 53 05.4	+0.4	
	baz=216							
ALPN	**Alpine**	87.09	56	P	P	15 53 06.6	+0.7	
ALPN				IAmb	IAmb	15 53 07.8		
	comp=Z,7.0nm,0.7s							
H20K	**Anotleneega Mo**	87.15	9	P	P	15 53 05.5	+0.3	
	baz=201							
P32M	**Atlin**	87.20	21	P	P	15 53 07.8	+2.2	
	baz=221							
L26K	**Log Cabin Wild**	87.21	15	P	P	15 53 05.7	+0.2	
	baz=212							
Q32M	**Nakina River**	87.21	22	P	P	15 53 06.2	+0.3	
	baz=222							
F17K	**Baldwin Pennin**	87.23	7	P	P	15 53 05.6	+0.2	
	baz=195							
K24K	**Donnelly Dome**	87.31	14	P	P	15 53 05.7	-0.4	
	baz=210							
BVCY	**Beaver Creek**	87.32	16	P	P	15 53 06.3	+0.2	
	baz=214							
I21K	**Tanana**	87.33	11	IAmb	IAmb	15 53 06.7		
	comp=Z,11nm,0.8s							
I21K	**Tanana**	87.33	11	P	P	15 53 06.2	+0.3	
	baz=204,SNR=6.7							
NEA2	**Nenana**	87.33	12	IAmb	IAmb	15 53 07.8		
	comp=Z,7.8nm,1.0s							
NEA2	**Nenana**	87.33	12	P	P	15 53 05.0	-1.0	
	baz=207							
O30N	**Mendenhall**	87.35	19	P	P	15 53 07.0	+0.7	
	baz=219							
MLY	**Manley**	87.41	11	IAmb	IAmb	15 53 06.4		
	comp=Z,7.5nm,0.6s							
MLY	**Manley**	87.41	11	P	P	15 53 05.7	-0.7	
	baz=205,SNR=7.8							
G19K	**Purcell Mounta**	87.45	8	IAmb	IAmb	15 53 07.5		
	comp=Z,7.0nm,0.8s							
G19K	**Purcell Mounta**	87.45	8	P	P	15 53 06.7	+0.2	
	baz=199							
RIDG	**Independent Ri**	87.47	14	P	P	15 53 07.2	+0.4	
	baz=211							
HDA	**Harding Lake**	87.59	13	P	P	15 53 07.2	0.0	
	baz=205,SNR=12							
N30M	**Aishikik Lake**	87.59	18	P	P	15 53 07.2	-0.2	
	baz=218							
L27K	**Beaver Creek,**	87.61	15	P	P	15 53 07.5	+0.1	
	baz=213							
DLBC	**Dease Lake**	87.63	23	P	P	15 53 08.2	+0.6	
	baz=224							
H21K	**Melozitna Rive**	87.63	10	IAmb	IAmb	15 53 09.4		
	comp=Z,7.2nm,0.8s							
H21K	**Melozitna Rive**	87.63	10	P	P	15 53 07.4	0.0	
	baz=203							
WHY	**Whitehorse**	87.64	20	P	P	15 53 08.2	+0.5	
	baz=220							
I23K	**Minto, Yukon-K**	87.77	12	IAmb	IAmb	15 53 08.3		
	comp=Z,5.6nm,0.7s							
I23K	**Minto, Yukon-K**	87.77	12	P	P	15 53 08.0	-0.1	
	baz=206							
IMAR	**Indian Mountai**	87.78	10	P	P	15 53 07.5	-0.6	
E17K	**Hotham Inlet**	87.79	6	P	P	15 53 07.7	-0.4	
	baz=195							
COLA	**College**	87.82	12	P	P	15 53 07.6	-0.6	
	baz=208							
SCRK	**Sand Creek**	87.87	14	P	P	15 53 08.3	-0.4	
	baz=211							
XLT	**XiLinHaoTe**	87.89	319	*eP*	P	15 53 10.0	+0.7	
XLT				pmax	pmax			
	comp=Z,11nm,0.8s							
XLT				pmax	pmax			
	comp=Z,95nm,6.2s							
MSO	**Missoula**	87.92	38	P	P	15 53 09.9	+0.6	
	baz=237							
IL31		87.93	13	IAmb	IAmb	15 53 09.1		
	comp=Z,16nm,1.4s							
ILAR	**Eielson Array**	87.93	13	P	P	15 53 08.1	-0.7	
	comp=Z,4.4nm,0.7s,baz=219,slow=6.0,SNR=19							
	comp=Z,4.4nm,0.7s							
P33M	**Teslin, Yukon**	87.96	21	P	P	15 53 09.3	+0.1	
	baz=222							
S22A	**4UR Ranch, Cre**	87.97	49	P	P	15 53 11.3	+1.3	
	baz=242							
R33M	**Jennings River**	87.99	22	P	P	15 53 09.8	+0.4	
	baz=223							
M29M	**Somme Creek**	87.99	17	P	P	15 53 09.9	+0.6	
	baz=216							
TPAW	**Teton Pass**	87.99	42	IAmb	IAmb	15 53 11.9		
	comp=Z,14nm,1.4s							
N31M	**Braeburn, Yuko**	88.00	19	P	P	15 53 09.7	+0.4	
	baz=219							
F19K	**Shaleruckik Mo**	88.01	8	IAmb	IAmb	15 53 09.9		
	comp=Z,8.1nm,0.9s							
F19K	**Shaleruckik Mo**	88.01	8	P	P	15 53 09.2	+0.1	
	baz=199							
TROLL	**Troll, Antarti**	88.06	180	⇑P	P	15 53 09.4	-0.3	
	comp=Z,117nm,0.7s							
TROLL				⇑pP	pP	15 54 57.0	-2.8	
	comp=Z,303nm,0.7s							
H22K	**Ishtalitna Cre**	88.09	10	P	P	15 53 10.0	+0.5	
	baz=205							
J25K	**Salcha River,**	88.11	13	P	P	15 53 09.4	-0.4	
J25K				IAmb	IAmb	15 53 10.5		
	comp=Z,5.4nm,0.7s							
J25K	**Salcha River,**	88.11	13	P	P	15 53 09.4	-0.4	
	baz=210							
O20A	**White River Ci**	88.11	46	P	P	15 53 11.5	+1.0	
	baz=242							
POKR	**Poker Plat Res**	88.12	12	IAmb	IAmb	15 53 09.8		
	comp=Z,9.0nm,0.8s							
POKR	**Poker Plat Res**	88.12	12	P	P	15 53 09.3	-0.4	
	baz=208,SNR=9.1							
XAN	**Xi'an**	88.17	307	⇓P	P	15 53 11.4	+0.6	
XAN				pmax	pmax			
	comp=Z,29nm,0.8s							
IMW	**Indian Meadow**	88.20	42	IAmb	IAmb	15 53 13.5		
	comp=Z,12nm,1.4s							
E18K	**Tukpahlearik C**	88.25	7	P	P	15 53 10.6	+0.4	
	baz=196							
G21K	**Allakaket**	88.31	9	P	P	15 53 10.9	+0.3	
	baz=203							
K27K	**Chicken**	88.36	15	IAmb	IAmb	15 53 12.6		
	comp=Z,8.8nm,0.9s							
K27K	**Chicken**	88.36	15	P	P	15 53 11.5	+0.7	
	baz=213							
J26L	**Joseph Creek**	88.41	14	P	P	15 53 11.8	+0.6	
	baz=212							
FLWY	**Flagg Ranch**	88.44	42	IAmb	IAmb	15 53 14.3		
	comp=Z,9.8nm,0.8s							
VNA3	**Neumayer Olymp**	88.45	176	⇑P	P	15 53 11.1	-0.3	
	comp=Z,11nm,0.6s							
VNA3				⇓pP	pP	15 55 01.6	-0.1	
	comp=Z,13nm,0.8s							
F20K	**Avaraart Lake**	88.49	8	P	P	15 53 11.5	+0.2	
	baz=200							
BW06	**Boulder Array**	88.52	43	IAmb	IAmb	15 53 13.6		
	comp=Z,5.1nm,0.8s							
BW06	**Boulder Array**	88.52	43	P	P	15 53 13.0	+0.6	
	baz=241,SNR=6.0							
PDAR	**Pinedale Array**	88.52	43	P	P	15 53 12.2	-0.2	
PDAR	**Pinedale Array**	88.52	43	P	P	15 53 12.7	+0.3	
	comp=Z,2.8nm,0.7s,baz=213,slow=3.3,SNR=32							
	comp=Z,2.8nm,0.7s							
YFT	**Old Faithful**	88.55	41	IAmb	IAmb	15 53 15.7		
	comp=Z,5.9nm,0.8s							
M30M	**Minto, Yukon**	88.56	18	P	P	15 53 12.4	+0.5	
	baz=218							
N32M	**Quiet Lake**	88.59	20	P	P	15 53 12.2	+0.2	
	baz=221							
L29M	**L29M**	88.62	17	P	P	15 53 12.9	+0.8	
	baz=217							
BOZ	**Bozeman (W)**	88.64	40	IAmb	IAmb

baz=203
M31M **Drury Creek, Y** 88.98 19 P P 15 53 13.8 -0.1
baz=220
G22K **Bettles** 89.00 10 P P 15 53 14.0 +0.2
baz=204
C17K **DeLong Mountai** 89.02 5 P P 15 53 14.2 +0.3
baz=194
DAWY **Dawson** 89.06 16 P P 15 53 14.7 +0.5
baz=216,SNR=9.1
G23K **Bananza Creek** 89.06 11 P P 15 53 14.0 -0.1
baz=206
DRIO **Del Rio** 89.08 58 IAmb IAmb 15 53 16.6
comp=Z,7.2nm,0.9s
I26K **Coal Creek Min** 89.19 14 IAmb IAmb 15 53 15.5
comp=Z,7.0nm,0.8s
I26K **Coal Creek Min** 89.19 14 P P 15 53 14.9 +0.3
baz=212
EGAK **Eagle** 89.21 15 P P 15 53 15.1 +0.3
baz=214,SNR=9.3
WTLY **Watson Lake, Y** 89.27 22 P P 15 53 15.5 +0.2
baz=225
MSTX **Muleshoe** 89.27 53 P P 15 53 16.2 +0.2
baz=245
FARO **Faro, Yukon** 89.32 19 P P 15 53 15.6 +0.2
baz=221
HHC **Hu-ho-hao-te** 89.34 314 *e*P P 15 53 16.9 +0.8
HHC pmax pmax
comp=Z,40nm,0.8s
HHC pmax pmax
comp=Z,170nm,6.7s
K29M **Barlow Dome** 89.37 17 P P 15 53 16.1 +0.4
baz=217
C18K **Utukok River** 89.37 6 IAmb IAmb 15 53 16.3
comp=Z,7.0nm,1.1s
C18K **Utukok River** 89.37 6 P P 15 53 15.4 -0.2
baz=195
T25A **Trinidad** 89.42 50 P P 15 53 17.3 +0.6
baz=244
F22K **John River** 89.43 10 P P 15 53 16.1 +0.3
baz=204
KMI **Kunming** 89.47 297 ⇓P P 15 53 17.3 +0.1
KMI pmax pmax
comp=Z,9.0nm,0.8s
COLD **Coldfoot** 89.50 10 P P 15 53 16.4 +0.3
baz=206
G24K **Hadweenzic Riv** 89.51 12 P P 15 53 16.3 +0.2
baz=208
D19K **Kuna River** 89.55 7 IAmb IAmb 15 53 17.3
comp=Z,8.8nm,0.8s
D19K **Kuna River** 89.55 7 P P 15 53 16.6 +0.3
baz=198
E20K **Nigu River** 89.56 8 P P 15 53 17.3 +0.9
baz=200
MAYO **Mayo, Yukon** 89.62 17 P P 15 53 17.7 +0.9
baz=219
833A **Chaparral WMA,** 89.63 60 P P 15 53 17.2 -0.4
baz=247
J29N **Klondike Camp** 89.68 16 IAmb IAmb 15 53 18.8
comp=Z,17nm,0.7s
J29N **Klondike Camp** 89.68 16 P P 15 53 17.6 +0.6
baz=217
I27K **Kandik River** 89.79 14 P P 15 53 17.4 -0.1
baz=214
G25K **Bearman Lake** 89.83 12 P P 15 53 17.8 +0.2
baz=209
RLMT **Red Lodge** 89.85 41 IAmb IAmb 15 53 20.6
comp=Z,6.8nm,0.9s
RLMT **Red Lodge** 89.85 41 P P 15 53 19.9 +1.3
baz=241,SNR=5.5
D20K **Etivluk River** 89.94 8 P P 15 53 18.5 +0.4
baz=200
C19K **Lookout Ridge** 89.97 6 P P 15 53 18.8 +0.5
baz=197
B18K **Kokolik River** 90.01 6 P P 15 53 19.1 +0.8
baz=195
N23A **Red Feather La** 90.02 46 IAmb IAmb 15 53 20.9
comp=Z,12nm,1.4s
N23A **Red Feather La** 90.02 46 P P 15 53 20.3 +0.8
baz=243
I28M **Miner Creek** 90.06 15 P P 15 53 18.8 -0.1
I28M IAmb IAmb 15 53 19.7
comp=Z,9.3nm,0.8s
I28M **Miner Creek** 90.06 15 P P 15 53 19.0 +0.2
baz=215,SNR=6.0
E22K **Anaktuvuk Pass** 90.06 9 P P 15 53 18.8 +0.1
baz=204
F24K **Squaw Lake** 90.16 11 P P 15 53 19.4 +0.2
baz=208
HNDO **Hondo** 90.20 59 IAmb IAmb 15 53 22.2
comp=Z,8.1nm,0.8s
J30M **Hart River** 90.27 17 P P 15 53 20.2 +0.3
baz=218
CM31 **Chiang Mai Arr** 90.29 289 P P 15 53 22.0 +1.1
CM31 IAmb IAmb 15 53 23.5
comp=Z,8.8nm,0.8s
CMAR **Chiang Mai Arr** 90.29 289 P P 15 53 21.8 +0.9
CMAR **Chiang Mai Arr** 90.29 289 P P 15 53 22.5 +1.6
comp=Z,6.6nm,0.9s,baz=118,slow=2.9,SNR=50
comp=Z,6.6nm,0.9s
H27K **Steamboat Moun** 90.34 14 P P 15 53 20.2 +0.2
baz=214
E23K **Chandalar** 90.35 10 P P 15 53 20.6 +0.5
baz=206
I29M **Ogilvie Camp,** 90.39 15 IAmb IAmb 15 53 21.0
comp=Z,6.9nm,1.1s
I29M **Ogilvie Camp,** 90.39 15 P P 15 53 20.4 +0.2
baz=216,SNR=5.3
CHTO **Chiang Mai** 90.41 290 P P 15 53 22.2 +0.7
K22A **Casper** 90.43 44 P P 15 53 21.9 +0.7
baz=243
G26K **Porcupine Rive** 90.46 13 P P 15 53 21.2 +0.7
baz=212
E24K **Your Creek** 90.55 11 P P 15 53 21.1 +0.1
baz=207
C21K **Knifeblade Rid** 90.59 8 P P 15 53 21.5 +0.4
baz=201
D22K **Ayikyak River** 90.62 9 P P 15 53 21.7 +0.5
baz=203
F25K **Christian Rive** 90.64 12 P P 15 53 21.8 +0.3
baz=210
I30M **Mount Dempster** 90.77 16 P P 15 53 22.5 +0.3
baz=218
G27K **Doyon Strip** 90.79 13 P P 15 53 22.3 +0.2
baz=214
PZH **PanZhiHua** 90.82 298 P P 15 53 24.3 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,6.8s
EGMT **Eagleton** 90.98 38 P P 15 53 23.8 +0.3
baz=240
F26K **Sheenjek River** 91.02 12 P P 15 53 23.8 +0.6
baz=211
B21K **Ikpikpuk River** 91.05 8 P P 15 53 23.5 +0.3
baz=202
H29M **Whitestone** 91.06 15 P P 15 53 23.7 +0.4
baz=216
B20K **Meade River** 91.10 7 P P 15 53 23.9 +0.6
baz=199
E25K **Arctic Village** 91.12 11 P P 15 53 24.2 +0.6
baz=210
ABTX **Abilene, Hawle** 91.12 56 P P 15 53 24.5 +0.1
baz=247
D24K **Happy Valley** 91.46 10 P P 15 53 25.8 +0.7
baz=207
EPYK **Eagle Plains** 91.59 15 P P 15 53 26.4 +0.6
baz=218
G29M **Pine Creek** 91.70 15 P P 15 53 26.6 +0.3
baz=217
H31M **Peel River** 91.76 16 P P 15 53 27.0 +0.4
baz=220
C23K **Itkillik River** 91.80 9 IAmb IAmb 15 53 27.6
comp=Z,6.6nm,0.9s
C23K **Itkillik River** 91.80 9 P P 15 53 26.8 +0.1
baz=205
F28M **Old Crow** 91.85 14 P P 15 53 27.0 0.0
baz=215
B22K **Teshekpuk Lake** 91.87 8 P P 15 53 27.0 +0.1
baz=203
E27K **Coleen River** 91.96 13 P P 15 53 27.5 0.0
baz=214
C24K **Franklin Bluff** 91.99 10 P P 15 53 27.7 +0.2
baz=207
D25K **Kavik River** 92.02 11 P P 15 53 27.4 -0.3
baz=209
G30M **tAoh Zraii Nji** 92.19 15 P P 15 53 28.7 +0.1
baz=218
A22K **Sinclair Lake** 92.30 7 P P 15 53 28.9 0.0
baz=201
A21K **Barrow** 92.41 7 P P 15 53 29.3 -0.1
baz=200
LAO **LASA Array** 92.46 41 P P 15 53 31.2 +0.8
baz=243
G31M **Satah River** 92.63 16 P P 15 53 30.6 +0.1
baz=220,SNR=5.7
RSSD **Black Hills** 92.71 44 P P 15 53 31.7 0.0
baz=244
OGNE **Ogallala** 92.71 47 P P 15 53 31.9 +0.3
baz=246
E28M **Babbage River** 92.74 13 IAmb IAmb 15 53 32.1
comp=Z,3.8nm,0.8s
E28M **Babbage River** 92.74 13 P P 15 53 31.2 +0.2
baz=216
F30M **Barrier River** 92.79 15 P P 15 53 31.1 -0.1
baz=219
C26K **Camden Bay** 92.80 11 P P 15 53 31.6 +0.4
baz=211
LZH **Lanzhou** 92.81 307 *e*P P 15 53 27.6 -4.7
LZH pP PcP 15 53 33.8 +1.1
LZH pmax pmax
comp=Z,17nm,1.2s
E29M **Blow River** 92.92 14 P P 15 53 31.7 -0.1
baz=217
D27M **Malcolm River** 92.97 12 P P 15 53 32.2 +0.1
baz=214
F31M **Tsiigehtchic** 93.16 16 P P 15 53 33.0 +0.1
baz=221
D28M **Stokes Point** 93.50 13 P P 15 53 34.3 -0.1
baz=216
INK **Inuvik** 93.88 15 P P 15 53 35.7 -0.4
baz=221
DGMT **Dagmar** 94.48 40 P P 15 53 40.5 +1.0
baz=244
SONM **Songjin Array** 95.70 319 P P 15 53 45.3 +0.2
comp=Z,0.4nm,0.5s,baz=123,slow=4.6,SNR=2.2
comp=Z,0.4nm,0.5s
YKA **Yellowknife Ar** 96.09 25 P P 15 53 46.2 -0.1
comp=Z,0.7nm,0.9s,baz=244,slow=4.3,SNR=6.4
comp=Z,0.7nm,0.9s
A36M **Sachs Harbour** 98.48 14 P Pdif 15 53 56.5 -0.3
baz=229
ZALV **Zalesovo Beam** 110.42 321 PKiKP **PKiKP** 15 58 47.2 -0.8
comp=Z,1.4nm,0.6s,baz=112,slow=1.3,SNR=6.4
KURBB **Kurchatov Arra** 114.01 317 PKiKP PKPdf 15 58 53.9 -1.0
comp=Z,2.0nm,0.7s,baz=104,slow=1.9,SNR=18
BVAR **Borovoye Array** 119.02 320 PKP **PKPdf** 15 59 03.6 -0.9
comp=Z,4.4nm,0.7s,baz=80,slow=1.0,SNR=28
BRVK **Borovoye** 119.08 320 PKPdf **PKPdf** 15 59 03.2 -1.5
KK31 **Karatay Array** 119.27 309 PKPdf **PKPdf** 15 59 04.4 -1.0
KKAR **Karatay Array** 119.27 309 PKPdf **PKPdf** 15 59 04.2 -1.1
AKTO **Aktyubinsk** 127.02 319 PKP **PKPdf** 15 59 20.0 0.0
comp=Z,2.8nm,0.8s,baz=4.5,slow=1.8,SNR=7.7
ARCES **ARCESS Array B** 128.65 350 PKP **PKPdf** 15 59 22.4 -0.1
comp=Z,3.2nm,0.7s,baz=36,slow=4.8,SNR=2.8
GEYT **Alibeck** 128.86 303 PKP **PKPdf** 15 59 23.7 -0.2
comp=Z,1.9nm,0.6s,baz=269,slow=5.8,SNR=4.7
BELG **Belogornoye** 132.51 324 PKP **PKPdf** 15 59 30.2 0.0
comp=Z,11nm,0.9s,baz=324,slow=4.5,SNR=6.8
FINES **FINESS Array B** 135.54 344 PKP **PKPdf** 15 59 35.5 -0.1
comp=Z,4.3nm,1.0s,baz=105,slow=3.8,SNR=5.2
HFS **Hagfors** 139.26 351 PKhKP PKPpre 15 59 32.9
comp=Z,2.4nm,0.6s,baz=93,slow=3.0,SNR=7.4
NACGM **Naroch** 140.68 338 *e*P PKiKP 15 59 59.1 +11
comp=Z,12nm,0.9s,baz=165
AKASG **Malin Array Be** 142.87 332 PKhKP PKPpre 15 59 45.8
comp=Z,24nm,0.8s,baz=42,slow=4.5,SNR=83
KIEV **Kiev** 142.88 332 PKPpre 15 59 45.4
LODK **Lodwar** 143.75 247 PKPdf PKPab 15 59 50.9 0.0
ARPR **Arapgir-MALATY** 143.76 309 PKPdf PKPbc 15 59 50.8 +0.4
EKA **Eskdalemuir Ar** 144.65 5 PKP **PKPdf** 15 59 52.0 -0.2
comp=Z,3.2nm,0.5s,baz=328,slow=3.2,SNR=12
DIKM **Dikmen** 144.87 315 ⇑P **PKPab** 15 59 54.2 0.0
BNN **Bunyan** 145.65 310 **PKPbc** 15 59 56.1 0.0
VASR **Vasiui** 146.38 328 ⇑P **PKPbc** 15 59 58.1 +0.4
BR131 **Keskin Array S** 146.84 313 **PKPbc** 15 59 58.2 -1.2
BRTR **Keskin Array B** 146.84 313 PKPbc **PKPbc** 15 59 59.0 -0.4
comp=Z,7.5nm,0.7s,baz=136,slow=4.9,SNR=37
ASF **Jabal al Asfar** 146.89 298 PKPbc **PKPbc** 15 59 59.9 +0.2
comp=Z,14nm,0.9s,baz=252,slow=20,SNR=15
BURAR **Bucovina Array** 146.92 331 ⇑P **PKPbc** 15 59 59.9 +0.6
BURAR **Bucovina Array** 146.92 331 **PKPbc** 15 59 59.5 +0.1
TESR **Tescani** 147.04 328 ⇓P **PKPbc** 15 59 59.5 0.0
KOLS **Kolonicke sedl** 147.14 335 *e*PKP **PKPbc** 16 00 00.4 +0.7
CFR **Carcaliu** 147.19 325 ⇑P **PKPbc** 16 00 00.1 +0.1
PANC **Panciu** 147.24 327 ⇑P **PKPbc** 16 00 00.6 +0.5
TPGR **Topolog** 147.24 325 ⇑P **PKPbc** 15 59 59.6 -0.6
ANTO **Ankara** 147.35 314 ⇑P **PKPbc** 16 00 01.1 +0.4
VRI **Vrancioaia** 147.45 328 ⇑P **PKPbc** 16 00 01.0 +0.3
CRVS **Cervenica-Dubn** 147.47 336 *e*PKP **PKPbc** 16 00 01.1 +0.5
PLOR **Plostina** 147.50 328 ⇓P **PKPbc** 16 00 01.1 +0.3
HARR **Harsova** 147.62 325 ⇑P **PKPbc** 16 00 01.6 +0.5
TURR **Turia** 147.68 328 ⇑P **PKiKP** 16 00 02.2 -0.6
OSTC **Ostas** 147.74 343 ⇑*e*PKP **PKPbc** 16 00 01.8 +0.5
CHVC **Chvalec** 147.76 344 ⇑*e*PKP **PKPbc** 16 00 01.7 +0.4
CLL **Collm** 147.81 347 ⇓*i*PKPbc **PKPbc** 16 00 01.6 +0.2
comp=Z,38nm,1.0s
CLL ⇑*i*PKPab **PKPab** 16 00 05.4 -0.1
comp=Z,16nm,0.8s
UPC **Upice** 147.84 344 ⇑*e*PKP **PKPbc** 16 00 02.0 +0.5
UPC *e*PKPAB **PKPab** 16 00 05.9 +0.2
DPC **Dobruska-Polom** 147.90 343 ⇑*e*PKP **PKPbc** 16 00 02.2 +0.5
DPC *e*PKPAB **PKPab** 16 00 06.0 0.0
MMAI **Mount Meron Ar** 147.91 300 PKPbc **PKPbc** 16 00 02.8 +0.4
comp=Z,14nm,0.7s,baz=64,slow=5.7,SNR=18
BRG **Berggiesshubel** 148.01 346 *i* PKP **PKPbc** 16 00 02.5 +0.6
BRG Amp 16 00 03.2
comp=Z,17nm,1.0s
BRG **Berggiesshubel** 148.01 346 P **PKPab** 16 00 06.5 +0.2
BRG Amp 16 00 07.2
comp=Z,8.5nm,0.7s
DOPR **Dopca** 148.04 329 ⇑P **PKiKP** 16 00 03.0 -0.6
ISR **Istrita** 148.06 327 ⇑P **PKPbc** 16 00 02.5 +0.2
MORC **Moravsky Berou** 148.06 341 ⇑P **PKPbc** 16 00 02.6 +0.4
MORC **Moravsky Berou** 148.06 341 *e*PKP **PKPbc** 16 00 02.3 +0.2
MLR **Muntele Rosu** 148.11 328 ⇓P **PKPbc** 16 00 03.2 +0.7
MLR **Muntele Rosu** 148.11 328 PKPbc **PKPbc** 16 00 02.9 +0.4
comp=Z,6.5nm,0.6s,baz=292,slow=4.8,SNR=8.9
PVCC **Panska Ves** 148.19 345 ⇑*e*PKP **PKPbc** 16 00 02.9 +0.5
PVCC *e*PKPAB **PKPab** 16 00 06.6 -0.5
RICC **Richard** 148.29 346 ⇑*e*PKP **PKPbc** 16 00 03.2 +0.6
RICC *e*PKPAB **PKPab** 16 00 08.0 +0.5
MAUC **Maruska** 148.34 341 ⇑*e*PKP **PKPbc** 16 00 03.3 +0.5
HSKC **Hora Svate Kat** 148.38 346 ⇑*e*PKP **PKPbc** 16 00 03.3 +0.4
MARR **Marisel-Cluj** 148.57 332 ⇑P **PKiKP** 16 00 04.4 -0.4
PRA **Prague** 148.65 345 ⇑*e*PKP **PKiKP** 16 00 04.1 -0.5
PRU **Pruhonice** 148.69 345 ⇑*e*PKP **PKPbc** 16 00 04.0 +0.4
GOPC **GO Pecny, Ondr** 148.70 344 ⇑*e*PKP **PKPbc** 16 00 03.5 -0.2
VRAC **Vranov** 148.76 342 ⇑P **PKPbc** 16 00 04.3 +0.5
VRAC **Vranov** 148.76 342 *e*PKP **PKPbc** 16 00 04.0 +0.2
VRAC **Vranov** 148.76 342 PKPbc **PKPbc** 16 00 04.0 +0.2
comp=Z,6.1nm,0.8s,baz=121,slow=4.2,SNR=6.2
VYHS **Vyhne** 148.76 339 *e*PKP **PKPbc** 16 00 04.3 +0.4
JAVC **Velka Javorina** 148.83 340 *e*PKP **PKiKP** 16 00 05.4 +0.3
ARR **Arges** 148.84 329 ⇑P **PKiKP** 16 00 05.1 -0.2
PSZ **Piszkesteto** 148.88 337 PKPbc **PKPbc** 16 00 03.9 -0.4
NKC **Novy Kostel** 148.94 347 ⇑*e*PKP **PKPbc** 16 00 04.6 +0.3
NKC *e*PKPAB **PKPab** 16 00 11.9 +1.6
EIL **Elat** 149.02 294 PKPbc **PKPbc** 16 00 05.2 +0.1
comp=Z,10nm,0.8s,baz=332,slow=2.9,SNR=8.4
KRUC **Moravsky** 149.04 342 *e*PKP **PKPbc** 16 00 04.6 +0.1
TREC **Trest** 149.09 343 ⇑*e*PKP **PKPbc** 16 00 04.8 +0.1
ZVC **Zvikov** 149.29 345 ⇑*e*PKP **PKPbc** 16 00 05.1 0.0
ZVC *e*PKPAB **PKPab** 16 00 10.8 +0.9
MODS **Modra-Piesok** 149.38 340 *e*PKP **PKiKP** 16 00 06.3 +0.1
MEM **Membach** 149.48 355 *d*PKP **PKPbc** 16 00 04.9 -0.6
BTNL **Ternell** 149.50 355 *d*PKP **PKPbc** 16 00 05.2 -0.4
BSTI **Sart Tilman** 149.54 356 *d*PKP **PKPbc** 16 00 06.0 +0.4
GZR **Gura Zlata** 149.70 331 ⇑P **PKPbc** 16 00 06.1 -0.2
SURR **Surduc** 149.72 332 ⇓P **PKPbc** 16 00 06.1 -0.2
KHC **Kasperske Hory** 149.73 345 ⇑*e*PKP **PKPbc** 16 00 04.9 -1.3
KHC *e*PKPAB **PKPab** 16 00 13.9 +0.3
CKRC **Cesky Krumlov** 149.83 344 ⇑*e*PKP **PKPbc** 16 00 06.6 +0.1
BMRD **Maredsous** 149.87 357 *d*PcP **PKPbc** 16 00 05.7 -0.8
GERES **GERESS Array B** 149.96 345 PKPbc **PKPbc** 16 00 07.2 +0.3
comp=Z,9.5nm,0.8s,baz=122,slow=5.0,SNR=12
BZS **Buzias** 150.05 332 ⇑P **PKPbc** 16 00 07.0 0.0
DOU **Dourbes** 150.08 357 *d*PKP **PKiKP** 16 00 07.4 -0.2
CONA **Conrad Observa** 150.21 342 *e*PKP **PKiKP** 16 00 07.9 -0.1
comp=Z,12nm,0.8s
HERR **Herculane** 150.26 331 ⇑P **PKPbc** 16 00 07.4 -0.1
RONA **Rosalia, Austr** 150.29 341 *e*PKP **PKiKP** 16 00 07.9 -0.2
comp=Z,13nm,0.6s
WLF **Walferdange** 150.41 355 *d*PKP **PKiKP** 16 00 08.4 +0.2
ARSA **Arzberg** 150.92 341 *e*PKP **PKPbc** 16 00 08.5 -0.5
comp=Z,3.7nm,0.8s
FRGS **Fruska Gora** 151.18 334 ⇓P **PKPbc** 16 00 09.3 -0.4
SOKA **Soboth** 151.59 341 *e*PKP **PKPbc** 16 00 09.0 -1.7
comp=Z,4.9nm,0.9s
MOTA **Moosalm** 151.96 347 *e*PKP **PKPbc** 16 00 11.4 -0.2
comp=Z,11nm,1.1s
SQTA **Sankt Quirin** 152.06 347 *e*PKP **PKPbc** 16 00 11.7 0.0
comp=Z,4.6nm,0.6s
ABTA **Abfaltersbach** 152.21 345 *e*PKP **PKPbc** 16 00 11.4 -0.6
comp=Z,9.2nm,0.7s
PRED **Cave del Predi** 152.22 343 **PKPab** 16 00 23.5 -0.7
DAVOX **Davos/Dischmat** 152.75 349 PKPbc **PKiKP** 16 00 13.5 +0.1
comp=Z,5.5nm,0.7s,baz=274,slow=5.4,SNR=7.1
TORD **Torodi Ar. Bea** 172.99 175 PKP **PKPdf** 16 00 24.4 -1.1
comp=Z,1.7nm,0.9s,baz=30,slow=1.3,SNR=8.0
TORD PKPab **PKPab** 16 01 56.6 +1.0
comp=Z,0.3nm,0.7s,baz=153,slow=4.4,SNR=2.0

IDC ***17*** *15:43:01.8±0.8,31°.49S×178°.31W,h0km,mb4.4/6, mbtmp4.5/8,ML4.7/2,MS3.5/3,Error ellipse: s-maj=24.8km s-min=20.2km az=110.0*
WEL ***17*** *15:43:02.7±1.0,32°.5S±8°×17°8W±2°.3,h33km,M5.1/8, mB5.3/4,ML5.6/7,MLv5.2/8,Mw(mB)4.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=106.6,confirmed*
NEIC ***17*** *15:43:08.7±0.9,31°.37S±0°.09×178°.4W±0°.1,h46km±7km, mb4.6/16, Error ellipse: s-maj=17.5km s-min=4.3km az=136.0*

ISC 17 15:43:07.1±0.7,31°.67S±0°.07×178°.3W±0°.1,h35km,n63, σ2s21/61,mb4.6/13,1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.42**	**8**	P	Pn	15 43 41.4	-2.8
GLKZ				S	Sn	15 44 06.2	-6.5
RAO	**Raoul Island**	**2.43**	**8**		Pn	15 43 42.3	-2.1
RAO	**Raoul Island**	**2.43**	**8**	Pn	Pn	15 43 40.9	-3.5
	253nm,0.3s,baz=84,slow=20,SNR=7.1						
RAO				Sn	**Sn**	**15 44 08.9**	**-4.0**
	661nm,0.3s,baz=70,slow=21,SNR=10.0						
	1µm,0.4s						
TKGZ	**Te Karaka**	**7.45**	**204**	P	**Pn**	**15 44 50.3**	**-3.0**
TKGZ				S	**Sn**	**15 46 18.2**	**+1.6**
OPRZ	**Ohinepanea**	**7.47**	**213**	P	**Pn**	**15 44 53.7**	**+0.1**
OPRZ				S	**Sn**	**15 46 19.3**	**+2.2**
MWZ	**Matawai**	**7.47**	**206**	P	**Pn**	**15 44 51.3**	**-2.4**
MWZ				S	**Sn**	**15 46 15.1**	**-2.2**
URZ	**Urewera**	**7.57**	**209**	Pn	**Pn**	**15 44 53.6**	**-1.3**
	9.2nm,0.3s,baz=31,slow=24,SNR=37						
URZ				Sn	**Sn**	**15 46 17.8**	**-1.8**
	29nm,0.3s,baz=319,slow=4.1,SNR=9.1						
	28nm,0.2s						
URZ	**Urewera**	**7.57**	**209**	P	**Pn**	**15 44 52.8**	**-2.2**
URZ				S	**Sn**	**15 46 17.2**	**-2.4**
RIGZ	**Rimuhau**	**7.72**	**204**	P	**Pn**	**15 44 54.5**	**-2.6**
RIGZ				S	**Sn**	**15 46 23.0**	**-0.3**
PRGZ	**Paritu Road**	**7.88**	**202**	P	**Pn**	**15 44 56.3**	**-2.9**
PRGZ				S	**Sn**	**15 46 26.7**	**-0.4**
TOZ	**Tahuroa Road**	**7.91**	**218**	Pn	**Pn**	**15 45 02.9**	**+3.4**
TOZ	**Tahuroa Road**	**7.91**	**218**	P	**Pn**	**15 44 59.3**	**-0.2**
SNGZ	**Shannon Statio**	**7.94**	**205**	P	**Pn**	**15 44 57.5**	**-2.5**
SNGZ				S	**Sn**	**15 46 25.6**	**-3.0**
KNZ	**Kokohu**	**8.04**	**203**	P	**Pn**	**15 44 57.7**	**-3.6**
KNZ				S	**Sn**	**15 46 26.1**	**-4.8**
MHGZ	**Mahia Peninsul**	**8.08**	**201**	P	**Pn**	**15 44 58.5**	**-3.5**
MHGZ				S	**Sn**	**15 46 27.7**	**-4.3**
HIZ	**Hauiti**	**8.83**	**218**	Pn	**Pn**	**15 45 15.9**	**+3.7**
OHWZ	**Ohakea**	**9.96**	**209**	S	**Sn**	**15 47 15.2**	**-3.0**
RPZ	**Rata Peaks**	**14.66**	**212**	Pn	Pn	15 46 24.9	-7.1
	0.5nm,0.3s,baz=238,slow=20,SNR=1.9						
RPZ				Sn	Sn	15 49 00.0	-13
	1.3nm,0.3s,baz=295,slow=23,SNR=9.4						
DZM	**Mont Dzumac**	**16.62**	**301**	LR	LR	15 52 05.9	
	comp=Z,264nm,18.5s,baz=186,slow=33						
RAR	**Rarotonga**	**19.56**	**62**	LR	LR	15 55 16.6	
	comp=Z,66nm,18.4s,baz=118,slow=38						
CTA	**Charters Tower**	**33.77**	**281**	P	**P**	**15 49 45.8**	**+0.1**
	4.1nm,0.8s,baz=115,slow=11,SNR=1.6						
CTA				LR	LR	16 02 27.2	
	comp=Z,70nm,18.0s,baz=68,slow=35						
	4.1nm,0.8s						
CTAO	**Charters Tower**	**33.77**	**281**	P	**P**	**15 49 45.0**	**-0.7**
STKA	**Stephens Creek**	**33.96**	**259**	P	**P**	**15 49 48.1**	**+0.8**
STKA	**Stephens Creek**	**33.96**	**259**	P	**P**	**15 49 48.3**	**+1.0**
	2.2nm,0.5s,baz=105,slow=9.4,SNR=3.6						
	2.2nm,0.5s						
BBOO	**Buckleboo**	**38.39**	**256**	P	**P**	**15 50 23.5**	**-1.6**
BBOO				IAmb	IAmb	15 50 39.2	
	comp=Z,17nm,1.5s						
AS31	**Alice Springs**	**42.80**	**268**	P	**P**	**15 51 00.3**	**-1.3**
ASAR	**Alice Springs**	**42.80**	**268**	P	**P**	**15 51 00.2**	**-1.5**
ASAR	**Alice Springs**	**42.80**	**268**	P	**P**	**15 51 00.9**	**-0.8**
	comp=Z,4.1nm,0.5s,baz=106,slow=7.4,SNR=20						
	comp=Z,4.1nm,0.5s						
WR0	**Warramunga Arr**	**43.72**	**274**	P	**P**	**15 51 08.1**	**-1.1**
WR0				IAmb	IAmb	15 51 09.9	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**43.89**	**274**	P	**P**	**15 51 09.3**	**-1.2**
WRAB	**Tennant Creek**	**43.90**	**274**	P	**P**	**15 51 09.2**	**-1.4**
WRAB				IAmb	IAmb	15 51 10.2	
	comp=Z,7.4nm,0.6s						
WRA	**Warramunga Arr**	**43.90**	**274**	P	**P**	**15 51 09.0**	**-1.6**
WRA	**Warramunga Arr**	**43.90**	**274**	P	**P**	**15 51 09.6**	**-1.1**
	comp=Z,6.8nm,0.3s,baz=112,slow=7.9,SNR=41						
	comp=Z,6.8nm,0.3s						
WB0	**Warramunga Arr**	**43.93**	**274**	P	**P**	**15 51 09.5**	**-1.4**
WB0				IAmb	IAmb	15 51 11.1	
	comp=Z,20nm,1.1s						
MTN	**Manton Dam**	**49.94**	**280**	P	**P**	**15 51 57.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.11**	**271**	P	**P**	**15 52 13.6**	**-0.4**
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**15 53 01.8**	**+2.6**
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**15 53 01.3**	**+2.1**
	comp=Z,1.3nm,0.6s,baz=48,slow=2.2,SNR=3.2						
	comp=Z,1.3nm,0.6s						
SNAA	**Sanae**	**76.89**	**179**	P	**P**	**15 54 58.7**	**+3.4**
SNAA				IAmb	IAmb	15 55 06.9	
	comp=Z,7.8nm,1.1s						
SNAA	**Sanae**	**76.89**	**179**	⇓pP	**P**	**15 54 59.6**	**+4.2**
	comp=Z,46nm,0.5s						
MAJO	**Matsushiro**	**79.14**	**326**	P	P	15 55 04.8	-3.3
MAJO				IAmb	IAmb	15 55 08.7	
	comp=Z,15nm,1.4s						
MJB9	**Matsu-Tunnel**	**79.14**	**326**	P	**P**	**15 55 06.3**	**-1.8**
MJB9				IAmb	IAmb	15 55 09.7	
	comp=Z,14nm,1.4s						
H03S2	**Juan Fernandez**	**79.98**	**123**	T	T	17 23 57.2	
	baz=237,slow=74,SNR=27						
H03S1	**Juan Fernandez**	**79.99**	**124**	T	T	17 23 57.1	
	baz=237,slow=74,SNR=28						
H03S3	**Juan Fernandez**	**80.00**	**123**	T	T	17 23 53.9	
	baz=237,SNR=30						
H03N3	**Juan Fernandez**	**80.18**	**123**	T	T	17 24 08.3	
	baz=241,slow=72,SNR=45						
H03N2	**Juan Fernandez**	**80.18**	**123**	T	T	17 24 07.6	
	baz=241,slow=72,SNR=49						
H03N1	**Juan Fernandez**	**80.20**	**123**	T	T	17 24 03.5	
	baz=241,slow=72,SNR=116						
PLCA	**Paso Flores**	**81.83**	**133**	P	**P**	**15 55 23.8**	**+0.9**
PLCA				IAmb	IAmb	15 55 41.7	
	comp=Z,3.9nm,1.1s						
PLCA	**Paso Flores**	**81.83**	**133**	P	**P**	**15 55 23.8**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=193,slow=4.5,SNR=3.6						
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**118.39**	**310**	PKP	**PKiKP**	**16 01 52.3**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=92,slow=0.7,SNR=1.8						
KURBB	**Kurchatov Arra**	**121.77**	**313**	PKP	**PKiKP**	**16 01 58.4**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=112,slow=2.3,SNR=3.4						
BVAR	**Borovoye Array**	**127.12**	**315**	PKP	**PKPdf**	**16 02 05.8**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=130,slow=2.0,SNR=5.9						
FIA1	**FINESS Array S**	**146.24**	**339**	PKPdf	**PKPdf**	**16 02 40.1**	**-1.8**
FINES	**FINESS Array B**	**146.24**	**339**	PKPdf	**PKPdf**	**16 02 40.7**	**-1.3**
FINES	**FINESS Array B**	**146.24**	**339**	PKPbc	**PKPdf**	**16 02 41.0**	**-0.9**
	comp=Z,2.9nm,0.4s,baz=62,slow=2.3,SNR=16						
NB2	**NORSAR Subarra**	**149.96**	**351**	PKP	**PKPdf**	**16 02 49.9**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=14,slow=4.3						
NOA	**NORSAR Array B**	**149.96**	**351**	PKPbc	**PKPbc**	**16 02 52.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=13,slow=4.1,SNR=4.9						
HFS	**Hagfors**		**150.43**	**348**	PKPbc	**PKPdf**	**16 02 52.2**	**+3.3**
	comp=Z,1.8nm,0.5s,baz=96,slow=4.5,SNR=5.0						
MMAI	**Mount Meron Ar**	**151.56**	**282**	PKPbc	**PKPbc**	**16 02 57.6**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=90,slow=5.8,SNR=2.6						
AKASG	**Malin Array Be**	**152.14**

BRTR	**Keskin Array B**	**152.95**	**296**	PKPbc	**PKPbc**	**16 03 01.8**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=20,slow=4.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**161.56**	**180**	PKPab	**PKPab**	**16 03 49.3**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=179,slow=2.4,SNR=3.6						

*ISK **17** 16:02:41.5, 41.75N × 32.22E, h1km, ML2.8/14*
*AFAD **17** 16:02:42.6 ± 0.0, 41.69N × 32.22E, h11km, ML2.5*
*CFUSG **17** 16:02:46.3, 41.99N × 32.88E, h8km, mb2.7/3, Northern Turkey Magtype MSH 2.7 from 3 stations*

ISC 17 16:02:42.1 ± 1.1, **41.77N** ± 0.03 × **32.20E** ± 0.03, **h10** km ± 7km, **n29**, σ 1°**18**/46, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BTIN	**Bartın**	**0.14**	**166**	P		**Pg**	**16 02 45.1**	**-0.2**
BTIN				*i* AML		AML	16 02 47.0	
	comp=N,6μm,0.1s							
BTIN				*i* AML		AML	16 02 47.0	
	comp=E,8μm,0.5s							
BTIN				S		**Sg**	**16 02 47.0**	**-0.5**
KURC	**Kurucasile-Bar**	**0.41**	**80**	Pg		**Pg**	**16 02 50.6**	**+0.5**
KURC				Sg		**Sg**	**16 02 56.9**	**+1.3**
CIDE	**Kastamonu/Cide**	**0.57**	**79**	P		**Pg**	**16 02 53.7**	**+0.6**
CIDE				S		**Sb**	**16 03 01.9**	**-0.3**
KBUK	**KARABUK-Merkez**	**0.62**	**149**	P		**Pg**	**16 02 53.6**	**-0.6**
KBUK				S		**Sg**	**16 03 01.5**	**-0.9**
KBUK				*i* AML		AML	16 03 03.0	
	comp=N,487nm,0.4s							
KBUK				*i* AML		AML	16 03 03.0	
	comp=E,401nm,0.4s							
SAFT	**Safranbolu**	**0.65**	**146**	Pg		**Pg**	**16 02 53.9**	**-0.7**
DEVR	**Zonguldak/Devr**	**0.66**	**195**	P		**Pg**	**16 02 54.5**	**-0.3**
DEVR				S		**Sg**	**16 03 02.7**	**-0.6**
DEVR				*i* AML		AML	16 03 04.0	
	comp=E,245nm,0.4s							
DEVR				*i* AML		AML	16 03 05.0	
	comp=N,183nm,0.3s							
PELI	**Kastamonı-Ara**	**0.96**	**119**	P		**Pg**	**16 02 59.6**	**-0.9**
PELI				S		**Sb**	**16 03 13.6**	**+0.1**
PELI				*i* AML		AML	16 03 14.0	
	comp=N,340nm,0.4s							
PELI				*i* AML		AML	16 03 14.0	
	comp=E,420nm,0.4s							
BCAM	**Yenicaga**	**0.96**	**186**	P		**Pg**	**16 02 59.9**	**-0.7**
BCAM				S		**Sg**	**16 03 11.7**	**-1.5**
BCAM				*i* AML		AML	16 03 19.0	
	comp=E,91nm,0.3s							
BCAM				*i* AML		AML	16 03 24.0	
	comp=N,72nm,0.7s							
YIGI	**Dzce**	**0.99**	**215**	P		**Pg**	**16 03 00.6**	**-0.5**
YIGI				S		**Sg**	**16 03 13.1**	**-0.9**
YIGI				*i* AML		AML	16 03 14.0	
	comp=E,110nm,0.2s							
YIGI				*i* AML		AML	16 03 18.0	
	comp=N,124nm,0.2s							
BOLU	**Bolu-Merkez-Mu**	**1.07**	**202**	P		**Pg**	**16 03 02.4**	**-0.3**
BOLU				S		**Sg**	**16 03 16.4**	**-0.2**
BOLU				*i* AML		AML	16 03 20.0	
	comp=N,170nm,0.4s							
BOLU				*i* AML		AML	16 03 21.0	
	comp=E,180nm,0.5s							
SEYI	**Kastamonu-Seyd**	**1.16**	**96**	P		**Pg**	**16 03 03.9**	**-0.5**
SEYI				S		**Sg**	**16 03 19.4**	**0.0**
SEYI				*i* AML		AML	16 03 23.0	
	comp=N,125nm,0.4s							
SEYI				*i* AML		AML	16 03 23.0	
	comp=E,205nm,0.3s							
KMON	**Kastamonu**	**1.25**	**108**	Pn		**Pb**	**16 03 05.8**	**0.0**
CMDR	**Camlidere-ANKA**	**1.29**	**171**	P		**Pn**	**16 03 06.7**	**+0.3**
CMDR				S		**Sn**	**16 03 24.4**	**+0.6**
CMDR				*i* AML		AML	16 03 26.0	
	comp=N,168nm,0.4s							
ILGA	**Ilgaz**	**1.35**	**122**	P		**Pn**	**16 03 07.3**	**+0.1**
ILGA				S		**Sn**	**16 03 26.4**	**+1.1**
ILGA				*i* AML		AML	16 03 27.0	
	comp=E,319nm,0.5s							
ILGA				*i* AML		AML	16 03 28.0	
	comp=N,225nm,0.4s							
KIBS	**BOLU**	**1.38**	**191**	P		**Pn**	**16 03 07.6**	**+0.1**
KIBS				S		**Sg**	**16 03 27.2**	**+0.7**
KIBS				*i* AML		AML	16 03 28.0	
	comp=E,68nm,0.7s							
KIBS				*i* AML		AML	16 03 33.0	
	comp=N,79nm,0.6s							
YUVA	**Yuva-Kibriscik**	**1.44**	**196**	Pn		**Pb**	**16 03 09.3**	**+0.3**
YUVA				Sn		**Sg**	**16 03 29.5**	**+1.2**
MDUB	**Mudurnu**	**1.51**	**211**	Pn		**Pb**	**16 03 10.4**	**+0.2**
TOS	**Tosya**	**1.56**	**118**	Pn		**Pb**	**16 03 10.9**	**-0.1**
SAUV	**Serdivan-Sakar**	**1.75**	**234**	Pn		**Pn**	**16 03 13.9**	**+1.4**
GULT	**Gulveren**	**1.85**	**224**	Pn		**Pn**	**16 03 15.4**	**+1.4**
SILT	**Sile**	**2.02**	**253**	Pn		**Pn**	**16 03 17.8**	**+1.6**
HRT	**Hereke**	**2.13**	**244**	Pn		**Pn**	**16 03 19.5**	**+1.7**
DIKM	**Dikmen**	**2.29**	**92**	Pn		**Pn**	**16 03 21.5**	**+1.6**
BR131	**Keskin Array S**	**2.32**	**151**	Pn		**Pn**	**16 03 21.7**	**+1.2**
AFSR	**Afar-Bala (An**	**2.42**	**164**	Pn		**Pn**	**16 03 23.2**	**+1.4**
CORM	**Corum**	**2.43**	**130**	Pn		**Pn**	**16 03 23.3**	**+1.3**
SEV	**Sevastopol'**	**2.97**	**21**	*e*P		**Pn**	**16 03 30.5**	**+1.3**
SEV				Pm			16 03 38.7	
	comp=Z,1.0nm,0.2s							
SEV				*i* S		**Sn**	**16 04 03.2**	**-1.7**
SEV				Sm			16 04 10.5	
	comp=N,2.0nm,0.3s							
SEV				Sm			16 04 10.5	
	comp=E,3.0nm,0.2s							
YAL	**Yalta**	**3.06**	**27**	*e*P		**Pn**	**16 03 32.2**	**+1.7**
YAL				Pm			16 03 33.4	
	comp=Z,7.0nm,0.3s							
YAL				*i* S		**Sn**	**16 04 05.1**	**-2.1**
YAL				Sm			16 04 07.5	
	comp=N,7.0nm,0.2s							
YAL				Sm			16 04 07.5	
	comp=E,15nm,0.2s							
SUDU	**Sudak**	**3.72**	**32**	*e*P		**Pn**	**16 03 40.2**	**+0.6**
SUDU				Pm			16 03 44.4	
	comp=Z,6.0nm,0.3s							
SUDU				*e*S		**Sn**	**16 04 19.6**	**-3.9**
SUDU				Sm			16 04 25.3	
	comp=N,38nm,0.3s							
SUDU				Sm			16 04 25.3	
	comp=E,12nm,0.2s							

*IDC **17** 16:05:08.8 ± 1.4, 5.48N × 124.48E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=48.2km s-min=23.4km az=81.0*
*DJA **17** 16:05:08.0 ± 0.5, 6.1N × 12.5E °, h10km, M4.5/8, mb4.4/7, mB5.0/4, MLv4.5/8, Mw(mB)4.3/4*

ISC 17 16:05:15.7 ± 1.1, **5.61N** ± 0.08 × **124.8E** ± 0.1, **h35** km, **n11**, σ **2**°**37**/11, **mb3.3**/3, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.62**	**27**	Pn		**Pn**	**16 05 42.5**	**+0.7**
	41nm,0.3s,baz=75,slow=19,SNR=4.8							
DAV				Sn		**Sn**	**16 06 04.3**	**+2.8**
	75nm,0.3s,baz=187,slow=23,SNR=11							
SGSI	**Sangihe**	**2.03**	**160**	P		**Pn**	**16 05 49.2**	**+1.8**
GTOI	**Gorontalo**	**5.27**	**200**	P		**Pn**	**16 06 33.6**	**+1.6**
	39nm,0.5s,950nm0.2nm							
MRSI	**Marisa**	**5.87**	**210**	P		**Pn**	**16 06 43.4**	**+3.2**
	52nm,0.5s,1μm0.5nm							
LBMI	**Labuha**	**6.75**	**157**	P		**Pn**	**16 06 54.0**	**+1.6**
	46nm,1.5s,0.2nm							
LUWI	**Luwuk**	**6.92**	**197**	P		Pn	16 07 00.5	+5.7
	30nm,1.5s,0.2nm							
MPSI	**Mapaga**	**7.20**	**223**	P		**Pn**	**16 07 00.4**	**+1.9**
	6.8nm,0.9s,0.1nm							
SANI	**Sanana**	**7.70**	**171**	P		**Pn**	**16 07 06.7**	**+1.4**
	11nm,1.3s							
WRA	**Warramunga Arr**	**27.06**	**160**	P		**P**	**16 10 53.1**	**-1.9**
	0.3nm,0.7s,baz=336,slow=10,SNR=5.2							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**30.41**	**163**	P		**P**	**16 11 23.0**	**-1.9**
	0.4nm,0.8s,baz=339,slow=7.1,SNR=10							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**54.95**	**325**	P		**P**	**16 14 41.0**	**-2.3**
	0.3nm,0.6s,baz=123,slow=6.5,SNR=5.7							
	0.3nm,0.6s							

AUST 17 16:14:00.6 ± 2.7, **31.15S** × **117.58E**, **h10** km, **Error ellipse: s-maj=29.7km s-min=9.3km az=54.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**0.47**	**161**	P		Pg	16 14 10.3	+0.5
	baz=0.5							
KLBR				S		Sg	16 14 16.3	+0.3
	baz=0.5							
BLDU	**Ballidu**	**0.92**	**305**	P		Pb	16 14 18.5	-0.1
	baz=0.9							
BLDU				S		Sg	16 14 30.4	+0.2
	baz=0.9							
MUN	**Mundaring**	**1.43**	**234**	P		Pb	16 14 27.5	+0.1
	baz=1.4							
MUN				S		Sg	16 14 46.7	+0.1
	baz=1.4							
NWAO	**Narrogin (SRO)**	**1.79**	**189**	P		Pn	16 14 31.6	-0.1
	baz=1.7							
NWAO				P		Pn	16 14 31.6	-0.1
	baz=1.7							
NWAO				S		Sn	16 14 54.9	+0.3
	baz=1.7							
NWAO				S		Sn	16 14 54.9	+0.3
	baz=1.7							

*ISK **17** 16:24:51.4, 38.45N × 26.40E, h3km, ML2.7/8*
*AFAD **17** 16:24:52.1 ± 0.0, 38.42N × 26.39E, h7km ± 1km, ML2.4*
*ATH **17** 16:24:52.5, 38.44N × 26.39E, h16km ± 3km, ML2.7/2, Error ellipse: s-maj=4.1km s-min=1.5km az=278.0*
*THE **17** 16:24:52.8, 38.35N × 26.42E, h8km ± 3km, ML2.6/3, Error ellipse: s-maj=3.5km s-min=1.1km az=32.0*

ISC 17 16:24:51.9 ± 0.8, **38.42N** ± 0.02 × **26.41E** ± 0.02, **h14** km ± 6km, **n31**, σ 0°**74**/51, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CESE	**eme**	**0.12**	**224**	Pg		**Pg**	**16 24 54.9**	**-0.5**
ZEYE	**Izmir, Urla-Ze**	**0.19**	**158**	P		**Pg**	**16 24 56.6**	**+0.2**
ZEYE				S		**Sg**	**16 25 00.2**	**+0.8**
KARB	**zmir-Karabur**	**0.24**	**1**	P		**Pg**	**16 24 57.2**	**-0.1**
KARB				S		**Sg**	**16 25 00.7**	**-0.1**
KARB				*i* AML		AML	16 25 01.0	
	comp=N,537nm,0.2s							
KARB				*i* AML		AML	16 25 01.0	
	comp=E,860nm,0.2s							
EAG2	**Marmaro, Chios**	**0.27**	**298**	P		**Pb**	**16 24 57.8**	**-0.7**
EAG2				S		**Sb**	**16 25 01.7**	**-1.2**
CHOS	**Chios island**	**0.28**	**264**	Pg		**Pb**	**16 24 58.5**	**-0.3**
CHOS				Sg		**Sg**	**16 25 02.3**	**+0.3**
CHOS	**Chios island**	**0.28**	**264**	P		**Pb**	**16 24 58.5**	**-0.3**
CHOS				S		**Sb**	**16 25 02.6**	**-0.7**
	2μm,0.3s							
CHOS	**Chios island**	**0.28**	**264**	P		**Pb**	**16 24 58.4**	**-0.3**
CHOS				S		**Sg**	**16 25 02.2**	**+0.3**
CHOS				AML		AML	16 25 03.0	
	comp=N,2577μm,0.3s							
CHOS				AML		AML	16 25 04.0	
	comp=E,3461μm,0.3s							
FOCM	**Foa**	**0.39**	**41**	Pg		**Pg**	**16 24 59.4**	**-0.4**
FOCM				Sg		**Sb**	**16 25 05.3**	**-1.1**
BLCB	**Balcova**	**0.50**	**94**	Pg		**Pb**	**16 25 02.0**	**-0.5**
BLCB	**Balcova**	**0.50**	**94**	P		**Pb**	**16 25 01.9**	**-0.5**
BLCB				S		**Sb**	**16 25 09.1**	**-0.4**
DGB	**zmir**	**0.52**	**134**	P		**Pb**	**16 25 02.4**	**-0.4**
DGB				*i* AML		AML	16 25 10.0	
	comp=E,510nm,0.6s							
DGB				*i* AML		AML	16 25 10.0	
	comp=E,534nm,0.3s							
DGB				S		**Sb**	**16 25 10.2**	**0.0**
GMLD	**Gumuldur**	**0.53**	**130**	Pg		**Pb**	**16 25 02.4**	**-0.5**
GMLD				Sg		**Sb**	**16 25 10.5**	**+0.2**
RFT7	**Candarli**	**0.67**	**37**	Pg		**Pb**	**16 25 04.9**	**-0.5**
PSRA	**Psara**	**0.68**	**281**	P		**Pb**	**16 25 05.6**	**+0.2**
EAG3	**Mitilini, Lesv**	**0.68**	**11**	P		**Pb**	**16 25 05.0**	**-0.5**
LESV	**Lesvos island,**	**0.70**	**10**	P		**Pn**	**16 25 07.5**	**+0.2**
ZEDA	**zmir-Bergama**	**0.76**	**43**	P		**Pn**	**16 25 07.6**	**-0.6**
ZEDA				S		**Sb**	**16 25 17.7**	**+0.7**
ZEDA				*i* AML		AML	16 25 19.0	
	comp=E,130nm,0.9s							
ZEDA				*i* AML		AML	16 25 20.0	
	comp=E,274nm,0.6s							
DKL	**Dikili**	**0.76**	**31**	Pg		**Pb**	**16 25 06.4**	**-0.5**
SMG	**Samos**	**0.79**	**154**	P		**Pg**	**16 25 07.0**	**-0.2**
SMG				S		**Sg**	**16 25 17.8**	**+0.3**
	comp=E,890nm,0.4s							
SMG	**Samos**	**0.79**	**154**	P		**Pb**	**16 25 07.8**	**+0.4**
SMG				AML		AML	16 25 20.8	
	comp=E,2096μm,0.4s							
SMG				AML		AML	16 25 21.2	
	comp=N,1454μm,0.4s							
SIGR	**SIGRI**	**0.90**	**332**	P		**Pn**	**16 25 12.7**	**+2.6**
SIGR				S		**Sn**	**16 25 24.6**	**+1.7**
	comp=N,268nm,0.3s							
AYVA	**Ayvalik**	**0.92**	**14**	P		**Pn**	**16 25 09.6**	**-0.7**
AYVA				S		**Sn**	**16 25 23.8**	**+0.5**
AYVA				*i* AML		AML	16 25 25.0	
	comp=N,79nm,0.4s							
AYVA				*i* AML		AML	16 25 28.0	
	comp=N,122nm,0.4s							
GCAM	**G?zelcaml?**	**0.97**	**138**	Pg		**Pb**	**16 25 10.7**	**+0.3**
GCAM	**G?zelcaml?**	**0.97**	**138**	P		**Pg**	**16 25 10.3**	**-0.3**
GCAM				*i* AML		AML	16 25 23.0	
	comp=N,69nm,0.7s							
GCAM				S		**Sn**	**16 25 24.7**	**+0.2**
GCAM				*i* AML		AML	16 25 26.0	
	comp=N,106nm,0.5s							
KOCA	**Canakkale, Ayv**	**1.10**	**349**	P		**Pn**	**16 25 12.8**	**-0.1**
KOCA				S		**Sn**	**16 25 28.4**	**+0.5**
AKHS	**Akhisar**	**1.19**	**67**	P		**Pg**	**16 25 14.6**	**-0.3**
AKHS				S		**Sn**	**16 25 32.0**	**+1.9**
AKHS				*i* AML		AML	16 25 38.0	
	comp=N,56nm,0.7s							
BUHA	**Balikesir, Bur**	**1.20**	**26**	P		**Pg**	**16 25 14.4**	**-0.7**
BUHA				S		**Sn**	**16 25 31.7**	**+1.4**
BUHA				*i* AML		AML	16 25 34.0	
	comp=N,102nm,0.5s							
BUHA				*i* AML		AML	16 26 00.0	
	comp=N,58nm,1.8s							
BAYC	**CANAKKALE_Bayr**	**1.32**	**5**	P		**Pn**	**16 25 15.7**	**-0.3**
BAYC				S		**Sn**	**16 25 33.3**	**-0.1**
APE	**Apeiranthos**	**1.52**	**208**	P		**Pn**	**16 25 18.0**	**-0.7**
APE				S		**Sn**	**16 25 37.7**	**-0.5**
APE	**Apeiranthos**	**1.52**	**208**	P		**Pn**	**16 25 18.0**	**-0.7**
ALN	**Alexandroupoli**	**2.49**	**354**	P		**Pn**	**16 25 32.5**	**+0.5**

*KRNET **17** 16:29:37.3 ± 0.1, 40.39N × 78.85E, mb2.3*
*NNC **17** 16:29:40.5 ± 2.6, 40.89N × 79.23E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=17.7km s-min=14.8km az=162.0*
*SOME **17** 16:29:40.5, 40.95N × 79.37E, h5km*

ISC 17 16:29:30.2 ± 3.1, **40.3N** ± 0.1 × **79.32E** ± 0.07, **h2** km ± 14km, **n22**, σ 1°**48**/36, **9C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.81**	**321**	⇑*e*P		**Pg**	**16 30 06.1**	**+1.3**
	baz=30							
TARG				⇑*e*S		**Sb**	**16 30 27.3**	**-0.2**
	baz=30							
PRZ	**Przheval'sk**	**2.26**	**343**	⇑*e*P		**Pg**	**16 30 15.9**	**+2.4**
	baz=51							
PRZ				⇑*e*S		**Sg**	**16 30 43.5**	**+0.8**
	baz=51							
KDJ	**Kajisay**	**2.41**	**319**	⇓*e*P		**Pg**	**16 30 15.6**	**-0.8**
	baz=25							
KDJ				⇓*e*S		**Sb**	**16 30 43.8**	**-1.0**
	baz=25							
NRN	**Naryn**	**2.74**	**295**	⇓*e*P		**Pb**	**16 30 19.6**	**-0.6**
	baz=96							
NRN				⇓*e*S		**Sn**	**16 30 50.4**	**+0.9**
	baz=96							
ANVS	**Anan'yevo**	**2.75**	**334**	⇑*e*P		**Pb**	**16 30 21.5**	**+1.4**
	baz=40							
ANVS				⇑*e*S		**Sb**	**16 30 53.9**	**-0.4**
	baz=40							
SATY	**Saty**	**2.81**	**346**	Pg		**Pg**	**16 30 22.8**	**-1.3**
	1.3nm,0.2s							
SATY				Lg		Lg	16 30 53.2	
	7.4nm,0.3s							
SATY	**Saty**	**2.81**	**346**	*e*P		**Pg**	**16 30 22.7**	**-1.3**
	1.3nm,0.2s							
SATY				*e*S		**Sb**	**16 30 53.2**	**-3.0**
	7.4nm,0.3s							
UZB	**Uzymbulak**	**2.82**	**356**	Pg		**Pb**	**16 30 21.9**	**+0.5**
	1.9nm,0.2s							
UZB				Lg		Lg	16 30 51.9	
	2.6nm,0.3s							
UZB	**Uzymbulak**	**2.82**	**356**	*e*P		**Pb**	**16 30 22.0**	**+0.5**
	1.9nm,0.2s							
UZB				*e*S		**Sn**	**16 30 51.9**	**+0.7**
	2.6nm,0.3s							
PDGK	**Podgornoye**	**3.00**	**2**	Pg		**Pb**	**16 30 24.6**	**+0.1**
	0.9nm,0.6s							
PDGK				Lg		Lg	16 30 56.5	
	2.0nm,0.8s							
PDGK	**Podgornoye**	**3.00**	**2**	⇑Pg		**Pb**	**16 30 25.0**	**+0.6**
	2.0nm,0.7s							
PDGK				⇓Lg		Lg	16 30 57.9	
	2.7nm,0.6s							
KPKS	**Kokpek**	**3.17**	**352**	Pg		**Pb**	**16 30 28.7**	**+1.5**
	2.0nm,0.4s							
KPKS				Lg		Lg	16 31 03.5	
	12nm,0.4s							
KPKS	**Kokpek**	**3.17**	**352**	*e*P		**Pb**	**16 30 28.7**	**+1.5**
	1.5nm,0.2s							
KPKS				*e*S		**Sb**	**16 31 03.5**	**-2.9**
	12nm,0.4s							
KTMS	**Ketmen**	**3.21**	**14**	Pg		**Pb**	**16 30 29.4**	**+1.5**
	0.5nm,0.1s							
KTMS				Lg		Lg	16 31 04.6	
	2.2nm,0.2s							
KTMS	**Ketmen**	**3.21**	**14**	*e*P		**Pb**	**16 30 29.4**	**+1.5**
	0.5nm,0.1s							
KTMS				*e*S		**Sb**	**16 31 04.6**	**-3.0**
	2.2nm,0.2s							
TNSS	**Tian-Shan**	**3.23**	**328**	Pg		**Pg**	**16 30 31.5**	**-0.7**
	3.0nm,0.4s							
TNSS				Lg		Lg	16 31 08.4	
	2.3nm,0.4s							
TNSS	**Tian-Shan**	**3.23**	**328**	*e*P		**Pg**	**16 30 31.5**	**-0.7**
	3.0nm,0.4s							
TNSS				*e*S		**Sb**	**16 31 08.1**	**-0.5**
	2.3nm,0.4s							
KOTS	**Kotyrbulak**	**3.34**	**331**	*e*P		**Pg**	**16 30 33.6**	**-0.5**
	1.2nm,0.2s							
KOTS				*e*S		**Sb**	**16 31 11.8**	**+0.5**
	3.8nm,0.2s							
KNDC	**Almaty**	**3.38**	**329**	⇑Pg		**Pb**	**16 30 30.8**	**0.0**
	7.9nm,0.3s							
KNDC				⇑Lg		Lg	16 31 10.4	
	6.7nm,0.3s							
KTBS	**Karatobe**	**3.91**	**331**	*e*P		**Pg**	**16 30 42.6**	**-2.4**
	0.4nm,0.2s							
KTBS				*e*S		**Sb**	**16 31 27.4**	**-0.2**
	1.3nm,0.3s							
CHKK	**Chushkaly**	**3.92**	**335**	*e*P		**Pg**	**16 30 43.5**	**-1.8**
	0.5nm,0.1s							
CHKK				*e*S		**Sb**	**16 31 28.7**	**+0.6**
	2.2nm,0.2s							
DJR	**Jarkent**	**4.01**	**5**	*e*P		**Pb**	**16 30 43.8**	**+2.1**
	0.3nm,0.1s							
DJR				*e*S		**Sb**	**16 31 29.2**	**-1.5**
	2.0nm,0.2s							

*IDC **17** 16:32:48.2 ± 3.2, 34.90S × 179.58W, h0km, mb4.4/2, mbtmp4.3/3, ML3.8/1, Error ellipse: s-maj=72.8km s-min=46.5km az=123.0*
*NEIC **17** 16:32:56.9 ± 1.6, 35.2S ± 0.1 × 179.9W ± 0.2, h47km ± 11km, mb4.4/8, Error ellipse: s-maj=23.4km s-min=18.3km az=101.0*

ISC 17 16:32:54.6 ± 1.4, **35.2S** ± 0.1 × **179.8W** ± 0.2, **h39** km, **n24**, σ 0°**87**/22, **mb4.4**/6, **East of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.86**	**212**	Pn		**Pn**	**16 33 38.9**	**+1.2**
URZ	**Urewera**	**3.98**	**218**	Pn		**Pn**	**16 33 54.1**	**+1.0**
	5.0nm,0.3s,baz=340,slow=4.0,SNR=30							
URZ					Sn	**Sn**	**16 34 37.8**	**-0.7**
	9.4nm,0.3s,baz=249,slow=20,SNR=6.7							
	12nm,0.3s							
RTZ	**Ruatahuna**	**4.33**	**216**	Pn		**Pn**	**16 33 58.7**	**+0.9**
TOZ	**Tahuroa Road**	**4.59**	**235**	Pn		**Pn**	**16 34 02.0**	**+0.6**
HIZ	**Hauiti**	**5.46**	**230**	Pn		**Pn**	**16 34 13.6**	**+0.3**
MRZ	**Mangatainoka R**	**6.61**	**212**	Pn		**Pn**	**16 34 28.1**	**-1.1**
KHZ	**Kahutara**	**8.93**	**214**	Pn		**Pn**	**16 34 59.6**	**-1.3**
MQZ	**McQueen's Vall**	**10.35**	**212**	Pn		**Pn**	**16 35 20.0**	**-0.4**
RABL	**Rabaul**	**40.28**	**313**	P		**P**	**16 40 28.3**	**+0.2**
AS31	**Alice Springs**	**41.61**	**273**	P		**P**	**16 40 39.4**	**+0.5**
ASAR	**Alice Springs**	**41.61**	**273**	P		**P**	**16 40 39.0**	**0.0**
ASAR	**Alice Springs**	**41.61**	**273**	P		**P**	**16 40 39.7**	**+0.7**
	4.1nm,0.4s,baz=114,slow=8.0,SNR=59							
	4.1nm,0.4s							
WR0	**Warramunga Arr**	**42.86**	**278**	P		**P**	**16 40 48.9**	**-0.3**
WR0				IAmb		IAmb	16 41 33.2	
	comp=Z,7.5nm,0.8s							
WB2	**Warramunga Arr**	**43.02**	**278**	P		**P**	**16 40 49.8**	**-0.7**
WB2				IAmb		IAmb	16 41 01.6	
	comp=Z,11nm,1.4s							
WRAB	**Tennant Creek**	**43.02**	**278**	P		**P**	**16 40 49.2**	**-1.3**
WRAB				IAmb		IAmb	16 41 00.5	
	comp=Z,7.5nm,1.2s							
WRA	**Warramunga Arr**	**43.03**	**278**	P		**P**	**16 40 51.4**	**+0.8**
WRA	**Warramunga Arr**	**43.03**	**278**	P		**P**	**16 40 50.4**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=119,slow=7.7,SNR=19							
	comp=Z,1.9nm,0.5s							
WB0	**Warramunga Arr**	**43.07**	**278**	P		**P**	**16 40 50.6**	**-0.3**
WB0				IAmb		IAmb	16 41 03.2	
	comp=Z,10nm,1.2s							
QSPA	**South Pole Qui**	**54.97**	**180**	P		**P**	**16 42 22.6**	**+1.0**
H03N3	**Juan Fernandez**	**79.31**	**123**	T		T	18 13 23.3	
	baz=237,slow=72,SNR=15							
H03N2	**Juan Fernandez**	**79.32**	**123**	T		T	18 13 14.4	
	baz=237,slow=72,SNR=8.0							
H03N1	**Juan Fernandez**	**79.33**	**123**	T		T	18 13 15.5	
	baz=237,slow=72,SNR=12							
FINES	**FINESS Array B**	**148.98**	**336**			**PKPbc**	**16 52 36.4**	**-1.0**
FINES	**FINESS Array B**	**148.98**	**336**	PKPbc		**PKPbc**	**16 52 36.3**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=60,slow=3.4,SNR=4.1							

*IDC **17** 16:35:13.8 ± 2.3, 3.31S × 129.16E, h0km, mb3.6/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=125.8km s-min=30.0km az=69.0*
*DJA **17**

IDHR	**Dehrash**	**1.05**	**21**	Pg		**Pb**	**16 48 27.2**	**-1.2**
BHD	**Baghdad**	**1.37**	**251**	*e*Pn		**Pb**	**16 48 34.0**	**+0.2**
BHD				*e*Sn		**Sg**	**16 48 53.0**	**-0.2**
BHD				AML		AML	16 48 54.1	
	comp=E,393nm,0.8s							
IKOM	**Komasi**	**1.39**	**70**	Pg		**Pg**	**16 48 35.3**	**-0.2**
ILIN	**Lien**	**1.47**	**35**	Pg		**Pb**	**16 48 35.6**	**0.0**
RAFI	**Al-Rafai**	**2.00**	**176**	*e*Pn		**Pb**	**16 48 44.0**	**-0.4**
RAFI				*e*Sn		**Sn**	**16 49 08.0**	**+2.2**

IDC ***17*** *16:50:34.5±7.8, 30.91S×179.09W, h87km±60km, mb3.8/3, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=63.8km s-min=28.5km az=44.0*

ISC 17 16:50:36.4±1.5, 31.1S±0.1×179.3W±0.3, h100km, n7, σ1§50/8, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.72**	**202**	P		**Pn**	**16 52 27.7**	**+1.6**
	2.6nm,0.3s,baz=13,slow=7.1,SNR=13							
URZ				S		**Sn**	**16 53 49.6**	**-2.3**
	14nm,0.8s,baz=43,slow=12,SNR=2.0							
	4.9nm,0.3s							
ASAR	**Alice Springs**	**41.98**	**268**	P		**P**	**16 58 18.2**	**+0.4**
	2.0nm,0.6s,baz=106,slow=7.5,SNR=58							
	2.0nm,0.6s							
WRA	**Warramunga Arr**	**43.04**	**274**	P		**P**	**16 58 27.1**	**+0.7**
	2.0nm,0.4s,baz=111,slow=8.0,SNR=40							
	2.0nm,0.4s							
QSPA	**South Pole Qui**	**59.00**	**180**	P		**P**	**17 00 26.0**	**+0.6**
	1.3nm,0.7s,baz=69,slow=0.2,SNR=10							
	1.3nm,0.7s							
FINES	**FINESS Array B**	**145.42**	**339**	PKPbc		**PKPbc**	**17 10 01.1**	**-1.0**
	9.2nm,1.2s,baz=38,slow=3.4,SNR=12							
MMAI	**Mount Meron Ar**	**150.63**	**283**	PKPbc		**PKiKP**	**17 10 16.9**	**-0.7**
	1.5nm,0.6s,baz=83,slow=6.0,SNR=4.7							
BRTR	**Keskin Array B**	**151.96**	**297**	PKPbc		**PKPbc**	**17 10 18.9**	**-1.0**
	0.4nm,0.5s,baz=137,slow=4.3,SNR=2.6							

ISN ***17*** *16:51:41.7±0.9, 33.63N×45.74E, h11km±5km, ML3.1*
TEH ***17*** *16:51:42.1, 33.69N×45.81E, h9km±113km, ML3.0*

ISC 17 16:51:43.0±1.0, 33.66N±0.04×45.80E±0.04, h19km, n16, σ1§11/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.34**	**96**	Pg		**Pg**	**16 51 49.2**	**-1.2**
IBDR	**Badra**	**0.56**	**168**	*e*Pg		**Pb**	**16 51 53.0**	**-1.1**
IBDR				*e*Sg		**Sb**	**16 52 00.0**	**-1.6**
KGS1	**Ghasr-e-Shirin**	**0.86**	**349**	Pg		**Pb**	**16 51 58.1**	**-1.2**
IGHG	**Ghaleghazi**	**0.93**	**44**	Pg		**Pb**	**16 51 59.4**	**-1.2**
IDHR	**Dehrash**	**1.15**	**25**	Pg		**Pb**	**16 52 04.3**	**0.0**
KCHF	**Cheshme Sefid,**	**1.20**	**59**	Pg		**Pb**	**16 52 05.5**	**+0.3**
BHD	**Baghdad**	**1.25**	**252**	*e*Pn		**Pb**	**16 52 06.0**	**+0.2**
BHD				*e*Sn		**Sg**	**16 52 24.0**	**+0.7**
BHD				AML		AML	16 52 26.3	
	comp=E,430nm,0.4s							
IKOM	**Komasi**	**1.52**	**70**	Pg		**Pb**	**16 52 10.4**	**-0.2**
ILIN	**Lien**	**1.58**	**37**	Pg		**Pn**	**16 52 10.9**	**+0.6**
IKFM	**Kafar-mosalman**	**1.72**	**94**	Pg		**Pb**	**16 52 13.9**	**+0.1**
IBZA	**Bozab**	**1.90**	**64**	Pn		**Pn**	**16 52 15.5**	**+1.0**
RAFI	**Al-Rafai**	**1.95**	**172**	*e*Pn		**Pn**	**16 52 16.0**	**+1.0**
RAFI				*e*Sn		**Sb**	**16 52 42.0**	**+0.3**
IALM	**Almabolaq**	**2.30**	**58**	Pn		**Pn**	**16 52 21.5**	**+1.3**
HSAM	**Samen**	**2.40**	**76**	Pn		**Pn**	**16 52 22.5**	**+1.0**
QAMS	**Qamsar**	**4.67**	**88**	Pn		**Pn**	**16 52 53.6**	**+0.9**
IKLH	**Kolahrood**	**4.84**	**92**	Pn		**Pn**	**16 52 57.3**	**+2.2**

TEH ***17*** *16:56:39.9, 33.72N×45.80E, h10km±76km, ML2.6*
ISN ***17*** *16:56:40.9±0.6, 33.72N×45.80E, h10km±3km, ML2.6*

ISC 17 16:56:40.8±1.0, 33.75N±0.04×45.81E±0.05, h19km, n11, σ0§77/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.36**	**110**	Pg		**Pg**	**16 56 46.9**	**-1.5**
ILBA				Sg		**Sg**	**16 56 52.8**	**-0.8**
IBDR	**Badra**	**0.65**	**171**	*e*Pg		**Pb**	**16 56 53.0**	**-0.4**
IBDR				*e*Sg		**Sg**	**16 57 02.5**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.78**	**347**	Pg		**Pb**	**16 56 55.9**	**+0.2**
IGHG	**Ghaleghazi**	**0.86**	**47**	Pg		**Pb**	**16 56 57.6**	**+0.4**
IDHR	**Dehrash**	**1.06**	**27**	Pg		**Pb**	**16 57 00.2**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.15**	**63**	Pg		**Pb**	**16 57 02.9**	**+0.8**
BHD	**Baghdad**	**1.28**	**249**	*e*Pg		**Pn**	**16 57 04.0**	**+0.3**
BHD				*e*Sg		**Sb**	**16 57 21.0**	**+0.6**
IKOM	**Komasi**	**1.48**	**73**	Pg		**Pb**	**16 57 08.7**	**+0.9**
ILIN	**Lien**	**1.51**	**39**	Pg		**Pb**	**16 57 08.6**	**+0.3**
IKFM	**Kafar-mosalman**	**1.72**	**97**	Pg		**Pb**	**16 57 12.5**	**+0.8**
RAFI	**Al-Rafai**	**2.04**	**173**	*e*Pn		**Pn**	**16 57 15.0**	**+1.0**
RAFI				*e*Sn		**Sn**	**16 57 39.0**	**+0.1**

IDC ***17*** *16:58:04.7±0.7, 6.68S×151.02E, h0km, mb4.2/13, mbtmp4.2/14, ML2.2/1, MS3.5/8, Error ellipse: s-maj=28.8km s-min=15.5km az=110.0*
NEIC ***17*** *16:58:06.0±1.2, 6.72S±0.08×151.14E±0.05, h10km±1km, mb4.4/23, Error ellipse: s-maj=12.9km s-min=7.8km az=357.0*

ISC 17 16:58:09.8±0.5, 6.78S±0.06×151.17E±0.08, h40km, n83, σ1§11/72, mb4.4/21, MS3.4/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.75**	**21**	Pn		**Pn**	**16 58 50.1**	**-1.4**
RABL	**Rabaul**	**2.75**	**21**	P		**Pn**	**16 58 50.1**	**-1.4**
PMG	**Port Moresby**	**4.76**	**236**	Pn		**Pn**	**16 59 18.8**	**-0.2**
PMG	**Port Moresby**	**4.76**	**236**	P		**Pn**	**16 59 19.1**	**0.0**
PMG	**Port Moresby**	**4.76**	**236**	P		**Pn**	**16 59 19.0**	**0.0**
PMG	**Port Moresby**	**4.76**	**236**	P		**Pn**	**16 59 19.9**	**+0.9**
PMG	**Port Moresby**	**4.76**	**236**	Pn		**Pn**	**16 59 18.4**	**-0.6**
	7.1nm,0.3s,baz=62,slow=7.9,SNR=24							
PMG				Sn		**Sn**	**17 00 12.9**	**-0.1**
	17nm,0.3s,baz=146,slow=22,SNR=11							
	22nm,0.3s							
MANU	**Manus Island**	**6.04**	**321**	Pn		**Pn**	**16 59 35.2**	**-1.5**
MANU	**Manus Island**	**6.04**	**321**	P		Pn	17 00 08.4	+32
MANU	**Manus Island**	**6.04**	**321**	P		**Pn**	**16 59 39.0**	**+2.3**
HNR	**Honiara**	**9.08**	**107**	LR		LR	17 03 08.7	
	comp=Z,2μm,19.4s,baz=205,slow=33							
CTA	**Charters Tower**	**14.07**	**199**	LR		LR	17 06 30.4	
	comp=Z,142nm,18.1s,baz=42,slow=36							
CTAO	**Charters Tower**	**14.07**	**199**	P		**P**	**17 01 31.1**	**-2.6**
EIDS	**Eidsvold**	**18.49**	**180**	P		**Pn**	**17 02 23.6**	**+0.6**
MTN	**Manton Dam**	**20.64**	**251**	P		**P**	**17 02 44.7**	**-1.4**
MTN				IAmb		IAmb	17 02 47.1	
	comp=Z,27nm,1.1s							
MTN	**Manton Dam**	**20.64**	**251**	P		**P**	**17 02 45.9**	**-0.3**
MTN	**Manton Dam**	**20.64**	**251**	P		Pn	17 02 48.9	+0.2
QLP	**Quilpie**	**20.78**	**198**	P		Pn	17 02 49.3	-0.9
WB0	**Warramunga Arr**	**20.79**	**230**	P		**P**	**17 02 46.9**	**-0.9**
WB0				IAmb		IAmb	17 02 48.1	
	comp=Z,15nm,0.9s							
WR0	**Warramunga Arr**	**20.79**	**229**	P		**P**	**17 02 46.9**	**-0.9**
WR0				IAmb		IAmb	17 02 48.1	
	comp=Z,16nm,0.9s							
WRAB	**Tennant Creek**	**20.92**	**230**	P		**P**	**17 02 48.6**	**-0.6**
WRAB				IAmb		IAmb	17 02 49.4	
	comp=Z,12nm,0.9s							
WB2	**Warramunga Arr**	**20.93**	**230**	P		**P**	**17 02 48.3**	**-0.9**
WB2				IAmb		IAmb	17 02 50.3	
	comp=Z,33nm,1.5s							
WRA	**Warramunga Arr**	**20.93**	**230**	P		**P**	**17 02 47.2**	**-2.2**
WRA	**Warramunga Arr**	**20.93**	**230**	P		**P**	**17 02 48.6**	**-0.8**
	comp=Z,8.3nm,0.7s,baz=55,slow=11,SNR=34							
	comp=Z,8.3nm,0.7s							
INKA	**Innaminka**	**23.08**	**204**	P		**P**	**17 03 13.4**	**+1.3**
ARMA	**Armidale**	**23.52**	**179**	P		**P**	**17 03 16.6**	**+0.1**
ARMA				IAmb		IAmb	17 03 28.3	
	comp=Z,16nm,1.1s							
AS01	**Alice Springs**	**23.58**	**223**	P		**P**	**17 03 17.6**	**+0.6**
	comp=Z,14nm,0.7s							
AS31	**Alice Springs**	**23.61**	**223**	P		**P**	**17 03 16.8**	**-0.6**
ASAR	**Alice Springs**	**23.61**	**223**	P		**P**	**17 03 17.1**	**-0.2**
ASAR	**Alice Springs**	**23.61**	**223**	P		**P**	**17 03 17.4**	**0.0**
	comp=Z,8.8nm,0.6s,baz=53,slow=8.9,SNR=141							
	comp=Z,8.8nm,0.6s							
KNRA	**Kununurra**	**23.67**	**246**			**P**	**17 03 16.1**	**-1.8**
KNRA	**Kununurra**	**23.67**	**246**	P		**P**	**17 03 16.6**	**-1.4**
CMSA	**Cobar Meteorol**	**25.16**	**191**	P		**P**	**17 03 32.8**	**+1.3**
OOD	**Oodnadatta**	**25.55**	**213**	P		**P**	**17 03 34.7**	**-0.3**
OOD	**Oodnadatta**	**25.55**	**213**	P		**P**	**17 03 35.8**	**+0.8**
LCRK	**Leigh Creek**	**26.51**	**206**	P		**P**	**17 03 43.6**	**0.0**
LCRK	**Leigh Creek**	**26.51**	**206**	P		**P**	**17 03 45.3**	**+1.7**
STKA	**Stephens Creek**	**26.53**	**198**	P		**P**	**17 03 43.5**	**-0.3**
STKA	**Stephens Creek**	**26.53**	**198**	P		**P**	**17 03 45.4**	**+1.6**
STKA	**Stephens Creek**	**26.53**	**198**	P		**P**	**17 03 45.8**	**+2.0**
STKA	**Stephens Creek**	**26.53**	**198**	P		**P**	**17 03 43.8**	**0.0**
	comp=Z,7.5nm,0.7s,baz=2.5,slow=10,SNR=19							
STKA				LR		LR	17 14 20.7	
	comp=Z,79nm,18.4s,baz=24,slow=37							
	comp=Z,7.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P		**P**	**17 03 49.8**	**-1.2**
FITZ				IAmb		IAmb	17 03 51.4	
	comp=Z,3.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P		**P**	**17 03 50.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P		**P**	**17 03 50.8**	**-0.3**
MULG	**Mulgathing**	**28.38**	**212**	P		**P**	**17 04 00.0**	**-0.4**
MULG	**Mulgathing**	**28.38**	**212**	P		**P**	**17 04 00.2**	**-0.2**
WRKA	**Warakurna**	**28.44**	**228**	P		**P**	**17 04 00.5**	**-0.6**
WRKA	**Warakurna**	**28.44**	**228**	P		**P**	**17 04 00.7**	**-0.4**
HTT	**Hallett**	**28.86**	**202**	P		**P**	**17 04 04.8**	**+0.1**
HTT	**Hallett**	**28.86**	**202**	P		**P**	**17 04 05.0**	**+0.3**
FORT	**Forrest**	**32.24**	**219**	P		**P**	**17 04 33.2**	**-1.4**
PSA00	**Pilbara Seismi**	**33.65**	**241**	P		**P**	**17 04 46.8**	**-0.2**
PSA00				IAmb		IAmb	17 04 47.4	
	comp=Z,4.7nm,1.1s							
JCJ	**Chichijima**	**34.78**	**346**	LR		LR	17 17 15.2	
	comp=Z,37nm,21.4s,baz=118,slow=33							
JAGI	**Jajag, Banyuwa**	**36.72**	**265**	P		**P**	**17 05 11.6**	**-2.0**
MEEK	**Meekatharra**	**36.73**	**234**	P		**P**	**17 05 14.1**	**+0.6**
URZ	**Urewera**	**39.16**	**147**	LR		LR	17 18 32.5	
	comp=Z,66nm,19.9s,baz=303,slow=31							
NIUE	**Niue**	**39.73**	**112**	P		**P**	**17 05 38.2**	**-0.6**
MORW	**Morawa**	**39.86**	**232**	P		**P**	**17 05 38.9**	**-0.9**
MORW				IAmb		IAmb	17 06 22.4	
	comp=Z,18nm,1.2s							
RPZ	**Rata Peaks**	**40.72**	**158**	LR		LR	17 22 37.6	
	comp=Z,138nm,18.7s,baz=316,slow=36							
NWAO	**Narrogin (SRO)**	**40.86**	**226**	LR		LR	17 23 38.3	
	comp=Z,53nm,18.6s,baz=197,slow=38							
KSRS	**Korea Array**	**49.07**	**335**	LR		LR	17 27 15.6	
	comp=Z,16nm,18.3s,baz=325,slow=36							
PZH	**PanZhiHua**	**58.21**	**307**	P		P	17 08 04.8	+4.3
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,70nm,5.3s							
HHC	**Hu-ho-hao-te**	**59.73**	**326**	*e*P		**P**	**17 08 12.3**	**+1.5**
HHC				pmax		pmax		
	comp=Z,35nm,0.7s							
HHC				pmax		pmax		
	comp=Z,320nm,6.4s							
PETK	**Petropavlovsk-**	**59.91**	**5**	P		**P**	**17 08 12.4**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=166,slow=7.3,SNR=4.6							
	comp=Z,3.4nm,0.9s							
SONM	**Songino Array**	**67.15**	**329**	P		**P**	**17 08 58.6**	**-1.1**
SONM				IAmb		IAmb	17 09 10.0	
	comp=Z,3.1nm,1.4s							
SONM	**Songino Array**	**67.15**	**329**	P		**P**	**17 09 00.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=148,slow=3.7,SNR=4.2							
	comp=Z,0.6nm,0.7s							
VNDA	**Vanda**	**70.93**	**178**	P		**P**	**17 09 24.5**	**+1.9**
VNDA				IAmb		IAmb	17 09 42.8	
	comp=Z,6.5nm,1.4s							
VNDA	**Vanda**	**70.93**	**178**	P		**P**	**17 09 24.4**	**+1.9**
	comp=Z,2.0nm,0.6s,baz=330,slow=6.3,SNR=12							
	comp=Z,2.0nm,0.6s							
MAKZ	**Makanchi**	**80.96**	**319**	P		**P**	**17 10 20.0**	**-0.3**
ZALV	**Zalesovo Beam**	**81.90**	**327**	P		**P**	**17 10 24.1**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=95,slow=5.3,SNR=2.3							
	comp=Z,0.4nm,0.4s							
KSH	**Kashi**	**83.00**	**311**	P		**P**	**17 10 34.0**	**+2.7**
KSH				pmax		pmax		
	comp=Z,2.0nm,0.6s							
QSPA	**South Pole Qui**	**83.20**	**180**	P		**P**	**17 10 33.2**	**+1.4**
	comp=Z,4.4nm,0.7s,baz=336,slow=0.6,SNR=37							
	comp=Z,4.4nm,0.7s							
NIL	**Nilore**	**83.76**	**305**	P		**P**	**17 10 35.4**	**+0.1**
CCB	**Clear Creek Bu**	**84.18**	**22**	P		**P**	**17 10 36.7**	**+0.1**
CCB				IAmb		IAmb	17 10 37.2	
	comp=Z,1.7nm,0.7s							
KURBB	**Kurchatov Area**	**84.36**	**322**	P		**P**	**17 10 37.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=116,slow=3.9,SNR=5.0							
	comp=Z,0.7nm,0.7s							
IL31		**84.59**	**22**	P		**P**	**17 10 39.0**	**+0.4**
IL31				IAmb		IAmb	17 11 05.2	
	comp=Z,10nm,1.4s							
ILAR	**Eielson Array**	**84.59**	**22**	P		**P**	**17 10 38.5**	**-0.2**
ILAR	**Eielson Array**	**84.59**	**22**	P		**P**	**17 10 38.9**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=246,slow=5.3,SNR=16							
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**89.85**	**323**	P		**P**	**17 11 04.1**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=101,slow=6.3,SNR=3.9							
	comp=Z,0.5nm,0.6s							
NVAR	**Mina Array Bea**	**94.57**	**52**	P		**P**	**17 11 28.8**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=263,slow=7.3,SNR=4.3							
	comp=Z,0.5nm,0.6s							
YKA	**Yellowknife Ar**	**97.92**	**28**	P		Pdif	17 11 43.1	+1.9
	comp=Z,0.2nm,0.6s,baz=275,slow=5.0,SNR=3.4							
	comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.30**	**284**	PKPbc		**PKiKP**	**17 17 55.8**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=58,slow=3.6,SNR=9.2							
BDFB	**Brasilia**	**150.72**	**140**	PKPbc		**PKiKP**	**17 17 59.7**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=36,slow=5.0,SNR=6.1							

IDC 17 17:04:14.2±2.1, 31.99S×178.13W, h0km, mb3.6/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=48.7km s-min=37.4km az=63.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.38**	**211**	Pn		Pn	17 06 01.8	-1.4
	0.8nm,0.3s,baz=30,slow=20,SNR=1.2							
URZ				Sn		Sn	17 07 21.4	-6.1
	1.9nm,0.3s,baz=17,slow=20,SNR=2.3							
	6.0nm,0.5s							
ASAR	**Alice Springs**	**42.94**	**269**	P		P	17 12 15.1	0.0
	0.5nm,0.7s,baz=106,slow=7.3,SNR=10.0							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**44.07**	**274**	P		P	17 12 24.1	-0.1
	0.4nm,0.4s,baz=114,slow=8.0,SNR=13							
	0.4nm,0.4s							
QSPA	**South Pole Qui**	**58.13**	**180**	P		P	17 14 09.6	+0.1
	0.9nm,0.8s,baz=97,slow=4.8,SNR=2.0							
	0.9nm,0.8s							
FINES	**FINESS Array B**	**146.59**	**339**	PKPbc		PKPbc	17 23 56.2	-0.8
	5.2nm,1.0s,baz=28,slow=3.6,SNR=5.7							

NEIC ***17*** *17:04:17.4±1.4, 63.22N±0.06×172.6W±0.2, h15km±7km, mb_Lg3.4/6, ML3.7(AEIC), Error ellipse: s-maj=15.2km s-min=5.1km az=120.0*
AEIC ***17*** *17:04:18.4±1.5, 63.23N±0.05×172.5W±0.2, h37km±10km, Error ellipse: s-maj=15.9km s-min=3.6km az=113.0*

ISC 17 17:04:17.6±2.1, 63.27N±0.07×172.5W±0.1, h10km, n80, σ0§87/84, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**0.61**	**34**		**Pb**	**17 04 30.8**	**+0.5**
GAMB					**Sn**	**17 04 40.8**	**-1.4**
GAMB	**Gambell**	**0.61**	**34**	P	**Pb**	**17 04 30.8**	**+0.5**
	baz=230						
GAMB				S	**Sn**	**17 04 40.7**	**-1.4**
	baz=230						
TNA	**Tin City**	**3.03**	**39**		**Pn**	**17 05 05.4**	**-0.1**
TNA					**Sn**	**17 05 41.0**	**-0.8**
TNA	**Tin City**	**3.03**	**39**	P	**Pn**	**17 05 05.4**	**-0.1**
	baz=226						
TNA				S	**Sn**	**17 05 42.4**	**+0.7**
	baz=226						
ANM	**Nome**	**3.39**	**64**		**Pn**	**17 05 09.6**	**-0.9**
ANM				IAmb_Lg		17 06 08.9	
	comp=Z,141nm,0.7s						
F14K	**Arctic Creek**	**3.47**	**48**		**Pn**	**17 05 11.2**	**-0.3**
F14K	**Arctic Creek**	**3.47**	**48**	P	**Pn**	**17 05 11.2**	**-0.3**
	baz=236						
G15K	**Niukluk**	**4.08**	**61**		**Pn**	**17 05 19.2**	**-0.7**
G15K					**Sn**	**17 06 07.3**	**-0.4**
G15K	**Niukluk**	**4.08**	**61**	P	**Pn**	**17 05 20.3**	**+0.4**
	baz=250						
J14K	**Nanvaranak Lak**	**4.10**	**93**		**Pn**	**17 05 18.3**	**-1.9**
J14K				IAmb_Lg		17 06 37.5	
	comp=Z,112nm,0.8s						
M11K	**Mekoryuk**	**4.15**	**131**		**Pn**	**17 05 20.0**	**-0.9**
F15K	**North Star Dit**	**4.17**	**51**		**Pn**	**17 05 21.6**	**+0.4**
F15K	**North Star Dit**	**4.17**	**51**	P	**Pn**	**17 05 21.6**	**+0.4**
	baz=240						
H16K	**Elim**	**4.72**	**69**		**Pn**	**17 05 28.3**	**-0.3**
G16K	**Koyuk River**	**4.89**	**60**		**Pb**	**17 05 44.4**	**+1.3**
L14K	**Kuka Creek**	**4.96**	**109**		**Pn**	**17 05 31.6**	**-0.4**
L14K	**Kuka Creek**	**4.96**	**109**	IAmb_Lg		17 07 03.2	
	comp=Z,31nm,0.7s						
L14K	**Kuka Creek**	**4.96**	**109**	P	**Pn**	**17 05 31.6**	**-0.4**
	baz=296						
K15K	**Wolf Creek Mou**	**5.12**	**96**		**Pn**	**17 05 33.9**	**-0.3**
M13K	**Dall Lake**	**5.19**	**119**	Pn	**Pn**	**17 05 34.3**	**-0.8**
M13K				IAmb_Lg		17 07 10.6	
	comp=Z,45nm,1.2s						
I17K	**Unalakleet**	**5.30**	**78**		**Pn**	**17 05 36.9**	**+0.3**
I17K	**Unalakleet**	**5.30**	**78**	P	**Pn**	**17 05 36.9**	**+0.3**
	baz=269						
L15K	**Ungalak Mounta**	**5.34**	**102**		**Pn**	**17 05 36.3**	**-0.9**
J16K	**Anvik River**	**5.36**	**85**		**Pn**	**17 05 37.4**	**0.0**
J16K	**Anvik River**	**5.36**	**85**	P	**Pn**	**17 05 37.4**	**0.0**
	baz=275						
M14K	**Bethel**	**5.56**	**112**		**Pn**	**17 05 38.8**	**-1.4**
G17K	**Kiwalik Mounta**	**5.59**	**61**		**Pn**	**17 05 40.9**	**+0.2**
F17K	**Baldwin Pennin**	**5.74**	**51**		**Pn**	**17 05 41.6**	**-1.1**
H17K	**Granite Mounta**	**5.75**	**68**		**Pn**	**17 05 42.8**	**-0.1**
H17K	**Granite Mounta**	**5.75**	**68**	P	**Pn**	**17 05 42.8**	**-0.1**
	baz=260						
C16K	**Lisburne Hills**	**5.81**	**27**		**Pn**	**17 05 44.3**	**+0.6**
M15K	**Kasigluk River**	**6.13**	**110**		**Pn**	**17 05 47.3**	**-0.6**
M15K	**Kasigluk River**	**6.13**	**110**	P	**Pn**	**17 05 47.6**	**-0.4**
	baz=299						
N14K	**Kuskokwak Cree**	**6.14**	**118**		**Pn**	**17 05 47.4**	**-0.8**
SPIA	**Saint Paul Isl**	**6.22**	**169**		**Pn**	**17 05 47.5**	**-1.7**
L16K	**Owhat River**	**6.22**	**99**	Pn	**Pn**	**17 05 48.8**	**-0.6**
H18K	**Honhosa River**	**6.44**	**67**		**Pn**	**17 05 52.9**	**+0.6**
C17K	**McLeod Mountai**	**6.46**	**32**		**Pn**	**17 05 53.3**	**+0.7**
E18K	**Tukpahlearik C**	**6.47**	**45**	Pn	**Pn**	**17 05 52.4**	**-0.3**
K17K	**Iditarod**	**6.48**	**89**	Pn	**Pn**	**17 05 52.0**	**-0.8**
G18K	**Tagagawik**	**6.50**	**60**	Pn	**Pn**	**17 05 52.1**	**-1.1**
L17K	**Donlin**	**6.62**	**94**		**Pn**	**17 05 54.9**	**+0.1**
N15K	**Kwethluk River**	**6.66**	**112**	Pn	**Pn**	**17 05 54.5**	**-0.8**
M16K	**Timber Creek**	**6.72**	**104**		**Pn**	**17 05 56.1**	**0.0**
M16K	**Timber Creek**	**6.72**	**104**	P	**Pn**	**17 05 56.2**	**0.0**
	baz=295						
O14K	**Tigyukauivet M**	**6.74**	**122**	Pn	**Pn**	**17 05 55.1**	**-1.3**
P08K	**Saint George I**	**6.85**	**166**		**Pn**	**17 05 59.3**	**+1.4**
N16K	**Nishlik Lake**	**7.06**	**107**		**Pn**	**17 06 00.9**	**+0.1**
N16K	**Nishlik Lake**	**7.06**	**107**	P	**Pn**	**17 06 00.9**	**+0.1**
	baz=299						
C18K	**Utukok River**	**7.09**	**36**	Pn	**Pn**	**17 06 00.8**	**-0.4**
J18K	**Innoko River**	**7.09**	**81**	Pn	**Pn**	**17 06 01.4**	**+0.2**
G19K	**Purcell Mounta**	**7.19**	**60**	Pn	**Pn**	**17 06 02.7**	**+0.2**
M17K	**Holitna River**	**7.25**	**98**	Pn	**Pn**	**17 06 04.2**	**+0.8**
H19K	**Roundabout Mou**	**7.30**	**65**		**Pn**	**17 06 03.8**	**-0.2**
L18K	**Granite Mounta**	**7.33**	**91**	Pn	**Pn**	**17 06 04.3**	**-0.2**
TTA	**Tatalina**	**7.47**	**85**	Pn	**Pn**	**17 06 07.5**	**+1.0**
J19K	**Poorman**	**7.54**	**77**	Pn	**Pn**	**17 06 06.7**	**-0.7**
N17K	**Nushagak Hills**	**7.72**	**104**	Pn	**Pn**	**17 06 09.5**	**-0.4**
M18K	**Stony River**	**7.94**	**96**		**Pn**	**17 06 13.0**	**+0.1**
L19K	**White Mountain**	**8.16**	**90**	Pn	**Pn**	**17 06 15.2**	**-0.7**
J20K	**Nowinta River**	**8.18**	**75**	Pn	**Pn**	**17 06 16.7**	**+0.6**
SVW2	**Sparrevohn**	**8.19**	**98**	Pn	**Pn**	**17 06 13.5**	**-2.8**
N18K	**Kilae Cre

OCM	**Ochomogo**	**0.84**	**71**	*i* P		**Pb**	**18 08 17.6**	**-1.2**
OCM				*i* S		**Sb**	**18 08 29.5**	**-0.6**
OCM				IAML			18 08 32.1	
	comp=Z,1μm,1.0s							
DUNO	**Dulce Nombre,**	**0.85**	**303**	*i* P		**Pn**	**18 08 22.1**	**+2.2**
VACR	**Volcan Arenal**	**0.85**	**6**	*i* P		**Pb**	**18 08 17.8**	**-1.1**
VACR				*i* S		**Sn**	**18 08 32.6**	**+0.2**
VACR				IAML			18 08 35.9	
	comp=Z,1μm,1.0s							
RIMA	**Rio Macho**	**0.90**	**81**	*e*P		**Pb**	**18 08 18.8**	**-1.1**
REPA	**Paraso**	**0.91**	**77**	*e*P		**Pn**	**18 08 21.1**	**+0.3**
HAYA	**Volcan Irazu**	**0.98**	**68**	*i* P		**Pb**	**18 08 21.3**	**0.0**
HAYA				IAML			18 08 39.0	
	comp=Z,1μm,1.0s							
VICA	**Volcano Irazu**	**0.98**	**68**	*e*P		**Pb**	**18 08 20.9**	**-0.4**
CDM	**Cerro de Muert**	**0.99**	**94**	*i* P		**Pb**	**18 08 20.8**	**-0.7**
CDM				*i* S		**Sg**	**18 08 35.7**	**+1.3**
CDM				IAML			18 08 38.0	
	comp=Z,2μm,1.0s							
ORTG	**Ortega, Santa**	**1.01**	**317**	*e*P		**Pb**	**18 08 20.4**	**-1.1**
ORTG	**Ortega, Santa**	**1.01**	**317**	*i* P		**Pb**	**18 08 20.6**	**-0.9**
ORTG				*i* S		**Sg**	**18 08 35.0**	**+0.2**
ORTG				IAML			18 08 37.6	
	comp=Z,630nm,1.0s							
BUS1	**Rivas**	**1.01**	**94**	*e*P		**Pb**	**18 08 20.8**	**-1.0**
RIFO	**Rio Frio, Sara**	**1.08**	**50**	*i* P		**Pg**	**18 08 23.6**	**+0.6**
RIFO				*i* S		**Sn**	**18 08 38.1**	**+0.1**
RIFO				IAML			18 08 46.8	
	comp=Z,1μm,1.0s							
VERB	**Verbena**	**1.10**	**73**	*e*P		**Pb**	**18 08 22.6**	**-0.6**
COVE	**Coope Vega, Sa**	**1.15**	**18**	*e*P		**Pn**	**18 08 22.8**	**-1.3**
COVE	**Coope Vega, Sa**	**1.15**	**18**	*i* P		**Pg**	**18 08 24.6**	**+0.2**
COVE				*i* S		**Sg**	**18 08 39.6**	**+0.2**
COVE				IAML			18 08 48.2	
	comp=Z,1μm,1.0s							
OCHAL	**Ojochal**	**1.22**	**115**	*i* P		**Pn**	**18 08 25.2**	**+0.2**
OCHAL				IAML			18 08 46.3	
	comp=Z,5.2nm,1.0s							
VRLE	**La Escondida,**	**1.30**	**333**	*i* P		**Pb**	**18 08 26.4**	**-0.2**
VRLE				IAML			18 08 48.4	
	comp=Z,480nm,1.0s							
HZTE	**Horizontes, Gu**	**1.36**	**323**	*e*P		**Pn**	**18 08 26.6**	**-0.4**
HZTE	**Horizontes, Gu**	**1.36**	**323**	*i* P		**Pn**	**18 08 26.8**	**-0.1**
HZTE				IAML			18 08 27.6	
	comp=Z,670nm,1.0s							
SRBA	**San Rafael, Bu**	**1.44**	**105**	*e*P		**Pn**	**18 08 27.3**	**-0.8**
SRBA	**San Rafael, Bu**	**1.44**	**105**	*i* P		**Pn**	**18 08 27.5**	**-0.6**
SRBA				*i* S		**Sb**	**18 08 48.3**	**+1.0**
SRBA				IAML			18 08 50.2	
	comp=Z,540nm,1.0s							

IDC 17 18:10:27.1±29.0, **13.15N**×**142.12E**, **h636**km±389km, **mb2.7/5, mbtmp3.8/5, Error ellipse: s-maj=326.2km s-min=78.0km az=74.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.77**	**193**	P		P	18 16 18.3	-0.6
	0.5nm,0.8s,baz=23,slow=10,SNR=1.9 0.5nm,0.8s							
ASAR	**Alice Springs**	**37.47**	**192**	P		P	18 16 49.6	+0.4
	0.2nm,0.7s,baz=12,slow=13,SNR=4.8 0.2nm,0.7s							
MKAR	**Makanchi Array**	**59.96**	**317**	P		P	18 19 35.8	+1.7
	13nm,0.2s,baz=88,slow=7.8,SNR=1.1							
ZALV	**Zalesovo Beam**	**60.43**	**325**	P		P	18 19 36.5	-0.5
	0.4nm,0.3s,baz=101,slow=7.6,SNR=1.3 0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**63.24**	**320**	P		P	18 19 55.0	-0.2
	1.7nm,0.4s,baz=98,slow=7.3,SNR=38 1.7nm,0.4s							
BVAR	**Borovoye Array**	**68.61**	**322**	P		P	18 20 28.5	+0.1
	1.3nm,0.6s,baz=93,slow=6.3,SNR=8.2 1.3nm,0.6s							

*SKHL **17** 18:12:41.6*±*0.3, 49°.50N*×*144°.10E, h11km*±*2km, mb4.7/7*
*IDC **17** 18:12:43.8*±*1.0, 49°.59N*×*144°.04E, h0km, mb3.7/8, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=32.4km s-min=19.6km az=163.0*
*MOS **17** 18:12:43.0*±*1.8, 49°.40N*×*144°.16E, h12km, mb4.3/1, Error ellipse: s-maj=17.2km s-min=12.9km az=101.8*

ISC 17 18:12:44.5±0.6, **49.53N**±0°.03×**144.10E**±0°.05, **h10**km, **n27,** σ1§**91/43, mb3.7/8, 1D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UGL	**Uglegorsk**	**1.41**	**252**	⇓*i* PN		**Pg**	**18 13 11.4**	**-0.1**
UGL				*e*S		**Sg**	**18 13 31.4**	**+1.7**
UGL				pmax		pmax		
	comp=Z,2μm,0.7s							
UGL				smax		smax		
	comp=N,6μm,0.6s							
UGL				smax		smax		
	comp=E,5μm,0.6s							
UGL	**Uglegorsk**	**1.41**	**252**	*i* Pg		**Pg**	**18 13 11.1**	**-0.4**
UGL				AMB		AMB	18 13 13.3	
	comp=E,630nm,0.6s							
UGL				P		Pb	18 13 15.3	+4.5
UGL				*e*Sg		**Sg**	**18 13 31.5**	**+1.7**
UGL				A		A	18 13 32.0	
	comp=E,6μm,0.6s							
UGL				A		A	18 13 32.0	
	comp=E,5μm,0.6s							
TYV	**Tymovskoe**	**1.62**	**326**	*e*PN		**Pg**	**18 13 14.1**	**-1.5**
TYV				*e*S		**Sg**	**18 13 37.4**	**+0.7**
TYV				pmax		pmax		
	comp=Z,131nm,0.7s							
TYV				pmax		pmax		
	comp=Z,500nm,1.8s							
TYV				smax		smax		
	comp=N,400nm,1.5s							
TYV				smax		smax		
	comp=E,900nm,1.5s							
TYV				smax		smax		
	comp=N,291nm,1.0s							
TYV				smax		smax		
	comp=E,447nm,1.0s							
TYV	**Tymovskoe**	**1.62**	**326**	*e*Pg		**Pg**	**18 13 14.1**	**-1.5**
TYV				AMB		AMB	18 13 16.7	
	comp=E,130nm,0.7s							
TYV				P		Pb	18 13 22.2	+7.7
TYV				*e*Sg		**Sg**	**18 13 37.2**	**+0.5**
TYV				A		A	18 13 38.8	
	comp=E,400nm,0.8s							
TYV				A		A	18 13 38.8	
	comp=E,450nm,0.8s							
YSS	**Yuzh-Sakhalins**	**2.73**	**200**	*e*PN		Pn	18 13 23.2	-5.2
YSS				*e*			18 14 06.6	
YSS				smax		smax		
	comp=N,310nm,0.5s							
YSS				smax		smax		
	comp=E,530nm,0.6s							
YSS				MLR		MLR		
	comp=Z,400nm,11.0s							
YSS	**Yuzh-Sakhalins**	**2.73**	**200**	*e*P		**Pn**	**18 13 26.8**	**-1.6**
YSS				*e*Pg		**Pg**	**18 13 35.8**	**-1.0**
YSS				AMB		AMB	18 13 37.8	
	comp=Z,110nm,0.6s							
YSS				*e*rx		rx	18 13 45.5	
YSS				*e*S		**Sn**	**18 13 58.0**	**-3.4**
YSS				*e*Sg		**Sg**	**18 14 13.7**	**+1.5**
YSS				A		A	18 14 15.6	
	comp=E,410nm,0.5s							
YSS				A		A	18 14 15.6	
	comp=E,460nm,0.5s							
NKL	**Nikolayevsk**	**4.21**	**331**	*e*P		**Pn**	**18 13 49.1**	**+0.5**
NKL				*e*Pg		**Pg**	**18 14 06.3**	**+1.2**
NKL				AMB		AMB	18 14 07.9	
	comp=Z,30nm,1.0s							
NKL				*e*Sg		**Sg**	**18 15 01.2**	**+1.7**
NKL				A		A	18 15 04.3	
	comp=Z,50nm,1.0s							
NKL				A		A	18 15 04.3	
	comp=Z,50nm,1.0s							
GRNR	**Gornyy**	**5.09**	**287**	*e*PN		**Pn**	**18 14 01.9**	**+1.1**
GRNR				pmax		pmax		
	comp=E,3.0nm,0.4s							
GRNR				pmax		pmax		
	comp=N,1.0nm,0.3s							
GRNR				pmax		pmax		
	comp=Z,4.0nm,0.3s							
GRNR				MLR		MLR		
	comp=E,220nm,15.0s							
GRNR				MLR		MLR		
	comp=N,220nm,14.0s							
GRNR				MLR		MLR		
	comp=Z,170nm,12.0s							
GRNR	**Gornyy**	**5.09**	**287**	*e*P		**Pn**	**18 14 00.0**	**-0.8**
GRNR				*e*Pg		**Pg**	**18 14 21.6**	**-0.3**
GRNR				*e*S		**Sn**	**18 14 57.8**	**-1.8**
GRNR				*e*Sg		**Sg**	**18 15 29.0**	**+1.2**
ASAJ	**Asahikawa**	**5.51**	**191**	Pn		**Pn**	**18 14 07.4**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=3.2,slow=18,SNR=7.9							
ASAJ				Sn		**Sn**	**18 15 07.3**	**-2.7**
	comp=Z,1.1nm,0.3s,baz=257,slow=33,SNR=6.3 comp=Z,5.4nm,0.6s							
JKA	**Kamikawa-asahi**	**5.51**	**191**	*e*P		**Pn**	**18 14 07.4**	**+0.8**
SHO	**Shikotan**	**5.97**	**161**	*e*P		**Pn**	**18 14 12.9**	**+0.1**
SHO				AMB		AMB	18 14 15.0	
	comp=Z,20nm,0.8s							
SHO				*e*S		**Sn**	**18 15 19.8**	**-1.4**
SHO				A		A	18 15 21.4	
	comp=Z,20nm,0.7s							
SHO				A		A	18 15 21.4	
	comp=Z,40nm,0.7s							
NMR	**Nemuro--Hokkai**	**6.27**	**169**	*e*P		**Pn**	**18 14 16.6**	**-0.3**
KLR	**Kul'dur**	**8.07**	**273**	Pn		**Pn**	**18 14 42.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=82,slow=19,SNR=2.6							
KLR				Sn		**Sn**	**18 16 06.5**	**-6.4**
	comp=Z,0.2nm,0.3s,baz=72,slow=12,SNR=3.6 comp=Z,0.5nm,0.5s							
MA2	**Magadan**	**10.78**	**18**	Pn		**Pn**	**18 15 19.5**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=176,slow=16,SNR=7.8							
MA2				Sn		**Sn**	**18 17 12.7**	**-6.5**
	comp=Z,0.7nm,0.3s,baz=150,slow=18,SNR=2.5							
BOD	**Bodaibo**	**19.52**	**307**	*e*P		**Pn**	**18 17 13.8**	**+0.8**
BOD				pmax		pmax		
	comp=Z,7.0nm,0.9s							
BOD	**Bodaibo**	**19.52**	**307**	*e*P		**Pn**	**18 17 13.8**	**+0.8**
ZALV	**Zalesovo Beam**	**36.04**	**300**	P		**P**	**18 19 45.7**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=64,slow=6.6,SNR=2.0 comp=Z,0.5nm,0.4s							
KURK	**Kurchatov**	**40.76**	**298**	P		**P**	**18 20 26.8**	**+1.5**
KURK							18 22 26.5	
KURK	**Kurchatov**	**40.76**	**298**	*e*P		**P**	**18 20 26.8**	**+1.5**
KURBB	**Kurchatov Arra**	**40.85**	**298**	P		**P**	**18 20 26.8**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=71,slow=8.7,SNR=11							
KURBB				PcP		**PcP**	**18 22 26.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=64,slow=2.9,SNR=4.8 comp=Z,1.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**47.56**	**246**	P		**P**	**18 21 20.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=22,slow=7.8,SNR=2.2 comp=Z,0.5nm,0.8s							
YKA	**Yellowknife Ar**	**52.22**	**35**	P		**P**	**18 21 55.3**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=304,slow=6.8,SNR=10.0 comp=Z,0.8nm,0.8s							
AKASG	**Malin Array Be**	**65.72**	**321**	P		**P**	**18 23 29.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=36,slow=7.1,SNR=5.6 comp=Z,0.9nm,0.7s							
NVAR	**Mina Array Bea**	**66.30**	**58**	P		**P**	**18 23 34.6**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=289,slow=5.6,SNR=3.9 comp=Z,0.4nm,0.6s							
PDAR	**Pinedale Array**	**67.78**	**50**	P		**P**	**18 23 42.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=328,slow=3.2,SNR=2.0 comp=Z,0.3nm,0.4s							
TXAR	**Lajitas Array**	**81.11**	**55**	P		**P**	**18 25 01.9**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=308,slow=4.4,SNR=4.9 comp=Z,0.7nm,0.9s							

*NAO **17** 18:13:34.6*±*7.8, 79°.57N*×*4°.33E, h64km*±*74km, ML3.4*
*IDC **17** 18:13:35.5*±*1.3, 79°.20N*×*3°.29E, h0km, mb3.6/6, mbtmp3.7/10, ML3.3/3, MS4.0/3, Error ellipse: s-maj=26.0km s-min=17.6km az=23.0*
*BER **17** 18:13:35.7*±*2.3, 79°.24N*×*3°.61E, h10km, mb(Pn)4.3, ML3.4(NAO), Confirmed Earthquake*
*KOLA **17** 18:13:36.7, 79°.30N*×*4°.79E, h0km, ML2.9, Error ellipse: s-maj=51.7km s-min=25.6km az=20.0, Greenland sea, Knipovich ridge, north*
*FCIAR **17** 18:13:37.0, 79°.33N*×*4°.91E, h10km, station ZFI2 has station magnitude of 3.80 station OMEGA has station magnitude of 3.90*

ISC 17 18:13:35.9±0.8, **79.18N**±0°.07×**3.71E**±0°.05, **h12**km, **n57,** σ3§**00/77, mb3.7/6, MS4.0/3, 2D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**1.59**	**95**	Pn		**Pn**	**18 14 02.4**	**-1.4**
KBS				Sn		**Sn**	**18 14 20.9**	**-3.3**
KBS	**Kingsbay**	**1.59**	**95**	P		**Pn**	**18 14 02.0**	**-1.8**
KBS				S		**Sn**	**18 14 20.6**	**-3.7**
KBS	**Kingsbay**	**1.59**	**95**	*e*P		**Pn**	**18 14 02.4**	**-1.4**
KBS				*e*S		**Sn**	**18 14 20.2**	**-4.0**
KBS				IAML			18 14 23.5	
	comp=Z,139nm,0.7s							
KBS	**Kingsbay**	**1.59**	**95**	⇓*i* P		**Pn**	**18 14 02.2**	**-1.6**
KBS				*e*S		**Sn**	**18 14 20.3**	**-3.9**
KBS	**Kingsbay**	**1.59**	**95**	*i* P		**Pn**	**18 14 02.0**	**-1.8**
KBS				*i* S		**Sn**	**18 14 20.2**	**-4.0**
BRBB	**Barentsburg B**	**2.35**	**112**	Pn		**Pn**	**18 14 13.5**	**-0.6**
BRBB				Sn		**Sn**	**18 14 39.9**	**-3.0**
BRBB	**Barentsburg B**	**2.35**	**112**	P		**Pn**	**18 14 13.2**	**-1.0**
BRBB				S		**Sn**	**18 14 40.3**	**-2.5**
BRBB	**Barentsburg B**	**2.35**	**112**	*e*P		**Pn**	**18 14 13.5**	**-0.6**
BRBB				*e*			18 14 14.9	
BRBB				*e*S		**Sn**	**18 14 39.8**	**-3.0**
BRBB				*e*			18 14 42.4	
BRBA	**Barentsburg A**	**2.37**	**113**	Pn		**Pn**	**18 14 13.8**	**-0.6**
BRBA				Sn		**Sn**	**18 14 41.0**	**-2.3**
BRBA	**Barentsburg A**	**2.37**	**113**	*e*P		**Pn**	**18 14 13.8**	**-0.6**
BRBA				*e*			18 14 15.2	
BRBA				*e*S		**Sn**	**18 14 40.6**	**-2.7**
BRBA				*e*			18 14 42.8	
BRBA				IAML			18 14 44.1	
	comp=Z,191nm,0.4s							
SPA0	**Spitsbergen Ar**	**2.69**	**106**	Pn		**Pn**	**18 14 18.7**	**-0.2**
	baz=288,slow=12							
SPA0				Sn		**Sn**	**18 14 49.4**	**-1.9**
SPA0	**Spitsbergen Ar**	**2.69**	**106**	Pn		**Pn**	**18 14 18.7**	**-0.2**
	baz=288,slow=12							
SPA0				Sn		**Sn**	**18 14 49.4**	**-1.9**
SPA0	**Spitsbergen Ar**	**2.69**	**106**	⇓*i* P		**Pn**	**18 14 18.7**	**-0.2**
SPA0				*i* S		**Sn**	**18 14 48.5**	**-2.8**
SPITS	**Spitsbergen Ar**	**2.69**	**106**	P		**Pn**	**18 14 18.4**	**-0.5**
SPITS				S		**Sn**	**18 14 50.5**	**-0.8**
SPITS	**Spitsbergen Ar**	**2.69**	**106**	Pn		**Pn**	**18 14 18.7**	**-0.2**
	comp=Z,90nm,0.3s,baz=278,slow=11,SNR=946							
SPITS				Sn		**Sn**	**18 14 51.2**	**-0.1**
	baz=269,slow=27							
HSPB	**Hornsund (broa**	**3.28**	**126**	Pn		**Pn**	**18 14 26.6**	**-0.3**
HSPB				Sn		**Sn**	**18 15 02.9**	**-2.9**
HSPB	**Hornsund (broa**	**3.28**	**126**	*e*P		**Pn**	**18 14 26.3**	**-0.6**
HSPB				*e*S		**Sn**	**18 15 03.2**	**-2.6**
HSPB				IAML			18 15 05.5	
	comp=Z,44nm,0.3s							
HOPEN	**Hopen**	**5.21**	**110**	Pn		**Pn**	**18 14 52.4**	**-1.0**
HOPEN				Sn		**Sn**	**18 15 49.1**	**-4.2**
HOPEN	**Hopen**	**5.21**	**110**	*e*P		**Pn**	**18 14 52.5**	**-0.9**
HOPEN				*e*S		**Sn**	**18 15 48.8**	**-4.4**
HOPEN				IAML			18 15 51.0	
	comp=Z,36nm,0.2s							
HOPEN	**Hopen**	**5.21**	**110**	*e*P		**Pn**	**18 14 52.4**	**-1.0**
HOPEN				*e*S		**Sn**	**18 15 48.4**	**-4.8**
BJO1	**Bjornoya**	**5.83**	**136**	Pn		**Pn**	**18 15 02.8**	**+0.9**
BJO1	**Bjornoya**	**5.83**	**136**	*e*		**Pn**	**18 15 03.2**	**+1.3**
BJO1				IAML			18 16 15.2	
	comp=Z,12nm,0.8s							
ZFI2	**Zemlya Franca-**	**7.66**	**57**	*e*P		**Pn**	**18 15 24.8**	**-2.1**
ZFI2				*e*S		**Sn**	**18 16 44.9**	**-8.6**
	comp=Z,27nm,3.9s							
OMEGA	**Omega**	**7.67**	**57**	*e*P		**Pn**	**18 15 25.5**	**-1.7**
OMEGA				*e*S		Sn	18 16 44.4	-9.5
	comp=Z,32nm,4.1s							
NEEM	**North Greenlan**	**10.88**	**289**	*i* P		Pn	18 16 06.1	-5.2
NEEM				IAML			18 18 02.8	
	comp=Z,5.8nm,0.6s							
NEEM	**North Greenlan**	**10.88**	**289**	*i* P		Pn	18 16 06.1	-5.2
NEEM				IAML			18 18 02.8	
	comp=Z,5.8nm,0.6s							
VADS	**Vadso**	**11.18**	**130**	P		**Pn**	**18 16 14.8**	**-0.4**
VADS				S		**Sn**	**18 18 12.4**	**-7.5**
VADS	**Vadso**	**11.18**	**130**	*e*		**Pn**	**18 16 14.9**	**-0.4**
KEV	**Kevo**	**11.19**	**135**	*e*		**Pn**	**18 16 15.9**	**+0.6**
ARA0	**ARCESS Array S**	**11.20**	**138**	Pn		**Pn**	**18 16 16.2**	**+0.7**
	baz=343,slow=12							
ARA0				Sn		**Sn**	**18 18 12.9**	**-7.5**
	baz=348,slow=22							
ARA0	**ARCESS Array S**	**11.20**	**138**	Pn		**Pn**	**18 16 16.2**	**+0.7**
	baz=343,slow=12							
ARA0				*e*			18 16 16.5	
ARA0				Sn		**Sn**	**18 18 12.9**	**-7.5**
	baz=348,slow=22							
ARCES	**ARCESS Array B**	**11.20**	**138**	P		**Pn**	**18 16 17.5**	**+2.0**
ARCES				S		**Sn**	**18 18 16.3**	**-4.1**
ARCES	**ARCESS Array B**	**11.20**	**138**	Pn		**Pn**	**18 16 15.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=355,slow=10,SNR=12							
ARCES				Sn		**Sn**	**18 18 16.6**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=356,slow=20,SNR=1.4 comp=Z,0.9nm,0.3s							
SUMG	**Summit**	**11.89**	**259**	*i* P		**Pn**	**18 16 22.3**	**-2.9**
SUMG	**Summit**	**11.89**	**259**	*i* P		**Pn**	**18 16 22.3**	**-2.9**
PRVG	**Vayda Guba**	**11.94**	**127**	P		**Pn**	**18 16 24.6**	**-1.0**
PRVG				S		**Sn**	**18 18 31.9**	**-6.5**
ICESG	**Greenland Ices**	**15.02**	**252**	*i* P		**Pn**	**18 17 03.3**	**-4.5**
ICESG	**Greenland Ices**	**15.02**	**252**	*i* P		**Pn**	**18 17 03.3**	**-4.5**
ANGG	**Ammassalik, Gr**	**17.78**	**244**	*i* P		Pn	18 17 29.2	-13
ANGG	**Ammassalik, Gr**	**17.78**	**244**	*i* P		Pn	18 17 29.2	-13
DY2G	**Dye2**	**18.53**	**255**	*i* P		**Pn**	**18 17 54.0**	**+1.9**
DY2G	**Dye2**	**18.53**	**255**	*i* P		**Pn**	**18 17 54.0**	**+1.9**
FIA0	**FINESS Array S**	**19.06**	**146**	P		**Pn**	**18 18 00.5**	**+2.2**
	baz=357,slow=12							
FIA0	**FINESS Array S**	**19.06**	**146**	P		**Pn**	**18 18 00.5**	**+2.2**
	baz=357,slow=12							
FINES	**FINESS Array B**	**19.06**	**146**	P		**Pn**	**18 17 59.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=357,slow=10.0,SNR=10 comp=Z,2.3nm,0.7s							
HFS	**Hagfors**	**19.39**	**165**	P		**Pn**	**18 18 04.0**	**+1.7**
	baz=14,slow=8.6							
HFS	**Hagfors**	**19.39**	**165**	P		**Pn**	**18 18 04.0**	**+1.7**
	baz=14,slow=8.6							
HFS	**Hagfors**	**19.39**	**165**	P		**Pn**	**18 18 03.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=27,slow=9.7,SNR=7.4 comp=Z,3.4nm,0.7s							
NRIK	**Noril'sk**	**22.29**	**68**	P		**P**	**18 18 33.0**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=326,slow=8.5,SNR=2.4 comp=Z,2.2nm,0.7s							
BVAR	**Borovoye Array**	**34.13**	**99**	P		**P**	**18 20 23.2**	**+3.2**
	comp=Z,0.8nm,0.6s,baz=336,slow=12,SNR=6.3 comp=Z,0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**37.95**	**92**	P		**P**	**18 20 56.4**	**+3.6**
	comp=Z,0.4nm,0.5s,baz=341,slow=7.6,SNR=5.3 comp=Z,0.4nm,0.5s							
BRTR	**Keskin Array B**	**41.29**	**144**	P		**P**	**18 21 23.5**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=8.7,slow=7.2,SNR=2.3 comp=Z,0.3nm,0.4s							
GEYT	**Alibeck**	**46.52**	**118**	LR		LR	18 47 04.7	
	comp=Z,150nm,18.9s,baz=346,slow=43							
ANMO	**Albuquerque**	**59.57**	**297**	LR		LR	18 49 54.9	
	comp=Z,157nm,18.9s,baz=148,slow=37							
TXAR	**Lajitas Array**	**64.58**	**293**	P		**P**	**18 24 13.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=39,slow=4.7,SNR=3.7 comp=Z,0.3nm,0.6s							
TORD	**Erodi Ar. Bea**	**66.05**	**182**	P		**P**	**18 24 23.0**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=0.2,slow=6.9,SNR=2.7 comp=Z,0.7nm,1.0s							
SDV	**Santo Domingo**	**78.40**	**256**	LR		LR	19 01 26.9	
	comp=Z,50nm,19.0s,baz=78,slow=37							

*NEIC **17** 18:19:41.0*±*1.9, 4°.80S*±*0°.09×138°.39E*±*0°.09, h36km*±*8km, mb4.5/40, Error ellipse: s-maj=14.1km s-min=11.6km az=223.0*
*DJA **17** 18:19:42.7*±*0.3, 4°.5S*×*13°.8E*±*°, h162km*±*8km, M4.8/13, mB4.8/2, mb4.5/13, MLv5.0/6, Mw(mB)4.1/2*
*IDC **17** 18:19:44.5*±*3.4, 4°.78S*×*138°.67E, h75km*±*33km, mb3.8/14, mbtmp4.3/19, MS3.7/10, Error ellipse: s-maj=25.4km s-min=16.2km az=72.0*

ISC 17 18:19:40.7±0.4, **4°.89S**±0°.05×**138°.35E**±0°.07, **h35**km, **n100,** σ1§**68/97, mb4.4/34, MS4.0/6, 1C, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**2.91**	**39**	P		**Pn**	**18 20 23.6**	**-1.0**
GENI	**Genyem**	**2.91**	**39**	P		**Pn**	**18 20 23.2**	**-1.4**
MMPI	**Merauke**	**4.09**	**150**	P		Pn	18 20 52.4	+12
KMPI	**Kaimana, Papua**	**4.79**	**285**	P		**Pn**	**18 20 52.9**	**+2.6**
FAKI	**Fak Fak**	**6.39**	**288**	Pn		**Pn**	**18 21 11.5**	**-0.9**
FAKI	**Fak Fak**	**6.39**	**288**	P		**Pn**	**18 21 13.6**	**+1.2**
FAKI	**Fak Fak**	**6.39**	**288**	P		**Pn**	**18 21 12.3**	**-0.1**
	53nm,0.7s,0.4nm							
SAUI	**Saumlaki**	**7.65**	**246**			**Pn**	**18 21 29.9**	**+0.2**
SAUI	**Saumlaki**	**7.65**	**246**	P		Pn	18 21 37.0	+7.3
	198nm,0.8s,2.0nm							
SIJI	**Sorong**	**8.12**	**299**	P		**Pn**	**18 21 35.4**	**-0.7**
	25nm,0.9s,632nm0.1nm							
SWI	**Sorong**	**8.13**	**299**	P		**Pn**	**18 21 35.3**	**-0.9**
	50nm,0.6s,0.2nm							
KDU	**Kakadu**	**9.68**	**216**	P		**Pn**	**18 22 01.3**	**+3.7**
PMG	**Port Moresby**	**9.83**	**118**	Pn		**Pn**	**18 21 58.5**	**-1.0**
PMG	**Port Moresby**	**9.83**	**118**	P		**Pn**	**18 21 58.3**	**-1.3**
	11nm,0.9s,baz=338,slow=16,SNR=3.7							
PMG	**Port Moresby**	**9.83**	**118**	P		**Pn**	**18 22 01.5**	**+1.9**
	16nm,0.9s							
COEN	**Coen**	**10.19**	**153**	Pn		**Pn**	**18 22 04.3**	**-0.3**
COEN	**Coen**	**10.19**	**153**	P		**Pn**	**18 22 06.4**	**+1.8**

comp=Z,14nm,1.4s
JCJ Chichijima 32.01 6 LR LR 18 39 09.0
comp=Z,45nm,18.8s,baz=292,slow=36
NWAO Narrogin (SRO) 34.16 213 LR LR 18 41 24.2
comp=Z,325nm,18.6s,baz=172,slow=38
NJ2 Nanjing 41.15 334 *e*P **P 18 27 23.3 +1.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,4.0s
MJAR Matsushiro Arr 41.21 360 P **P 18 27 21.4 -0.8**
comp=Z,1.4nm,0.8s,baz=190,slow=14,SNR=2.5
comp=Z,1.4nm,0.8s
SLVN Son La 42.65 309 P **P 18 27 33.7 -0.5**
SLVN IAmb IAmb 18 27 35.8
comp=Z,5.9nm,1.1s
KSRS Korea Array 43.23 348 P **P 18 27 38.3 -0.2**
comp=Z,0.8nm,0.7s,baz=160,slow=10.0,SNR=2.9
comp=Z,0.8nm,0.7s
CM31 Chiang Mai Arr 45.24 302 P **P 18 27 55.0 0.0**
CM31 IAmb IAmb 18 27 56.7
comp=Z,7.6nm,0.9s
CMAR Chiang Mai Arr 45.24 302 P **P 18 27 54.7 -0.3**
CMAR Chiang Mai Arr 45.24 302 P **P 18 27 55.9 +0.9**
comp=Z,4.3nm,0.8s,baz=125,slow=6.1,SNR=36
comp=Z,4.3nm,0.8s
CHTO Chiang Mai 45.40 302 P **P 18 27 55.9 -0.3**
CHTO IAmb IAmb 18 27 57.6
comp=Z,5.9nm,0.8s
PZH PanZhiHua 47.22 313 P **P 18 28 12.8 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,6.8s
HNS HongShan 47.48 334 ⇑P **P 18 28 11.6 -0.7**
HNS pmax pmax
comp=Z,8.0nm,1.0s
BJT Baijiatuau 49.12 337 P **P 18 28 24.5 -0.4**
BJT IAmb IAmb 18 28 25.4
comp=Z,6.9nm,0.8s
BJI Beijing 49.14 337 P **P 18 28 24.8 -0.2**
BJI pmax pmax
comp=Z,4.0nm,0.9s
HHC Hu-ho-hao-te 51.71 334 *e*P **P 18 28 46.8 +2.2**
HHC pmax pmax
comp=Z,34nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.1s
SHL Shillong 54.30 306 P **P 18 29 03.7 -0.4**
GTA Gaotai 56.61 325 *e*P **P 18 29 20.8 +0.4**
GTA pP pP 18 29 24.5 -6.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 59.53 336 P **P 18 29 41.0 +0.3**
SONM Songino Array 59.53 336 P **P 18 29 40.1 -0.6**
comp=Z,0.7nm,0.7s,baz=150,slow=8.1,SNR=5.3
SONM LR LR 18 57 16.1
comp=Z,73nm,19.0s,baz=334,slow=38
comp=Z,0.7nm,0.7s
PETK Petropavlovsk- 60.05 13 P **P 18 29 43.2 -0.7**
comp=Z,2.3nm,0.7s,baz=184,slow=5.8,SNR=1.7
comp=Z,2.3nm,0.7s
YAK Yakutsk 67.06 356 P **P 18 30 29.4 -0.7**
MK31 Makanchi Array 71.29 323 P **P 18 30 56.3 -0.4**
MK31 IAmb IAmb 18 30 57.6
comp=Z,3.2nm,1.1s
MKAR Makanchi Array 71.29 323 P **P 18 30 56.7 0.0**
MKAR Makanchi Array 71.29 323 P **P 18 30 56.6 -0.1**
comp=Z,2.3nm,0.9s,baz=108,slow=5.8,SNR=18
comp=Z,2.3nm,0.9s
MAKZ Makanchi 71.48 323 P **P 18 30 57.7 -0.1**
MAKZ IAmb IAmb 18 30 58.7
comp=Z,3.9nm,0.9s
NIL Nilore 72.34 307 P **P 18 31 03.4 +0.1**
NIL IAmb IAmb 18 31 04.5
comp=Z,6.3nm,0.8s
NRN Naryn 73.03 316 P **P 18 31 06.9 -0.7**
ZALV Zalesovo Beam 73.63 330 P **P 18 31 08.9 -1.5**
ZALV Zalesovo Beam 73.63 330 P **P 18 31 09.0 -1.4**
comp=Z,0.9nm,0.6s,baz=22,slow=42,SNR=4.5
comp=Z,0.9nm,0.6s
VNDA Vanda 73.66 175 P **P 18 31 10.0 -0.2**
comp=Z,2.5nm,1.0s,baz=334,slow=7.4,SNR=5.1
VNDA LR LR 19 03 20.1
comp=Z,121nm,18.4s,baz=274,slow=36
comp=Z,2.5nm,1.0s
KURK Kurchatov 75.28 325 P **P 18 31 19.7 -0.4**
KURBB Kurchatov Arra 75.29 325 P **P 18 31 19.9 -0.3**
comp=Z,1.7nm,0.9s,baz=119,slow=4.9,SNR=18
comp=Z,1.7nm,0.9s
BTK Batken 76.23 313 P **P 18 31 24.1 -1.8**
KK31 Karatay Array 77.42 316 P **P 18 31 31.8 -0.7**
KK31 IAmb IAmb 18 31 33.4
comp=Z,3.2nm,1.2s
KKAR Karatay Array 77.42 316 P **P 18 31 31.3 -1.2**
KKAR Karatay Array 77.42 316 P **P 18 31 32.0 -0.5**
KKAR IAmb IAmb 18 31 33.4
comp=Z,3.2nm,1.2s
BVAR Borovoye Array 80.88 325 P **P 18 31 51.2 +0.1**
comp=Z,3.3nm,0.8s,baz=108,slow=8.0,SNR=18
comp=Z,3.3nm,0.8s
BRVK Borovoye 80.95 325 P **P 18 31 51.2 -0.3**
BRVK IAmb IAmb 18 31 52.3
comp=Z,4.5nm,0.9s
NRIK Noril'sk 81.69 344 P **P 18 31 54.2 -0.8**
NRIK IAmb IAmb 18 31 55.6
comp=Z,13nm,1.5s
NRIK Noril'sk 81.69 344 P **P 18 31 54.8 -0.3**
comp=Z,2.0nm,0.5s,baz=135,slow=7.1,SNR=2.8
comp=Z,2.0nm,0.5s
QSPA South Pole Qui 85.08 180 P **P 18 32 12.4 -0.4**
comp=Z,1.7nm,0.7s,baz=354,slow=2.5,SNR=6.4
QSPA LR LR 19 10 34.4
comp=Z,112nm,18.5s,baz=324,slow=36
comp=Z,1.7nm,0.7s
GEYT Alibeck 85.30 309 P **P 18 32 11.2 -3.2**
GEYT IAmb IAmb 18 32 16.4
comp=Z,6.2nm,1.4s
GEYT Alibeck 85.30 309 P **P 18 32 14.7 +0.3**
comp=Z,1.9nm,1.0s,baz=82,slow=11,SNR=5.0
comp=Z,1.9nm,1.0s
GYA0B ALIBECK ARRAY 85.30 309 P **P 18 32 10.8 -3.6**
GYA0B IAmb IAmb 18 32 18.2
comp=Z,3.0nm,0.9s
ABKAR Akbulak array 86.14 320 P **P 18 32 16.8 -1.4**
Q23K Middleton Isla 86.76 30 P **P 18 32 21.3 +0.3**
MID Middleton Isla 86.77 30 P **P 18 32 20.9 -0.1**
ILAR Eielson Array 87.95 24 P **P 18 32 24.4 -2.3**
ILAR Eielson Array 87.95 24 P **P 18 32 24.2 -2.5**
comp=Z,1.4nm,1.0s,baz=269,slow=5.6,SNR=7.3
comp=Z,1.4nm,1.0s
IL03 Eielson Array 87.96 24 P **P 18 32 25.3 -1.5**

*KRSC **17** 18:58:04.7±1.1,53.˚13N×161.˚00E,h52km±17km,Ml4.9*
*MOS **17** 18:58:06.3±1.0,53.˚17N×160.˚87E,h56km,mb4.7/28,Error ellipse: s-maj=6.6km s-min=4.3km az=87.6*
*NEIC **17** 18:58:09.1±1.9,53.˚4N±0.˚1×160.˚54E±0.˚10,h63km±5km, mb4.4/91,Error ellipse: s-maj=18.9km s-min=8.2km az=171.0*
*IDC **17** 18:58:10.4±1.6,53.˚32N×160.˚61E,h72km±12km,mb3.9/31, mbtmp4.3/35,MS3.4/5,Error ellipse: s-maj=13.2km s-min=10.3km az=139.0*

ISC 17 18:58:06.9±0.8,53.˚17N±0.˚03×160.˚81E±0.˚04,h48km±7km, n282,σ1ŝ66/312,mb4.4/94,MS3.4/4,7C-13D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.48**	**261**	PN	**Pn**	**18 58 18.2**	**+0.5**
SPN	**Mys Shipunski**	**0.48**	**261**	*e*P	**Pn**	**18 58 18.2**	**+0.5**
NLC	**Nalytchevo**	**0.88**	**271**	PN	**Pn**	**18 58 22.9**	**0.0**
NLC				S	**Sn**	**18 58 35.5**	**+0.9**
NLC	**Nalytchevo**	**0.88**	**271**	*e*P	**Pn**	**18 58 22.9**	**0.0**
NLC				*e*S	**Sn**	**18 58 35.5**	**+0.9**
KII	**Karymskiy**	**1.19**	**317**	PN	**Pn**	**18 58 27.7**	**+0.6**
KII	**Karymskiy**	**1.19**	**317**	*e*P	**Pn**	**18 58 27.7**	**+0.6**
UGLR	**Uglovaya**	**1.20**	**273**	PN	**Pn**	**18 58 28.9**	**+1.6**
UGLR	**Uglovaya**	**1.20**	**273**	*e*P	**Pn**	**18 58 28.9**	**+1.6**
SMAR	**Somma**	**1.21**	**275**	PN	**Pn**	**18 58 28.7**	**+1.1**
SMAR	**Somma**	**1.21**	**275**	*e*P	**Pn**	**18 58 28.7**	**+1.1**
KRER	**Koryakskii**	**1.25**	**277**	PN	**Pn**	**18 58 29.7**	**+1.6**
KRER				S	**Sn**	**18 58 46.6**	**+2.8**
KRER	**Koryakskii**	**1.25**	**277**	*e*P	**Pn**	**18 58 29.7**	**+1.6**
KRER				*e*S	**Sn**	**18 58 46.6**	**+2.8**
DALK	**Dalny**	**1.25**	**264**	PN	**Pn**	**18 58 28.5**	**+0.7**
DALK				S	**Sn**	**18 58 45.8**	**+2.3**
DALK	**Dalny**	**1.25**	**264**	*e*P	**Pn**	**18 58 28.5**	**+0.7**
DALK				*e*S	**Sn**	**18 58 45.8**	**+2.3**
AVH	**Avacha**	**1.25**	**275**	PN	**Pn**	**18 58 29.6**	**+1.6**
AVH	**Avacha**	**1.25**	**275**	*e*P	**Pn**	**18 58 29.6**	**+1.6**
PET	**Petropavlovsk**	**1.31**	**264**	Pn	**Pn**	**18 58 29.3**	**+0.7**
PET				Sn	**Sn**	**18 58 47.4**	**+2.4**
PET	**Petropavlovsk**	**1.31**	**264**	*d* iPN	**Pn**	**18 58 29.4**	**+0.7**
PET	**Petropavlovsk**	**1.31**	**264**	*e*P	**Pn**	**18 58 29.5**	**+0.8**
PET				*e*S	**Sn**	**18 58 47.5**	**+2.6**
KOK	**Koryaka**	**1.31**	**276**	PN	**Pn**	**18 58 30.3**	**+1.5**
KOK	**Koryaka**	**1.31**	**276**	*e*P	**Pn**	**18 58 30.3**	**+1.5**
KRX	**Arik**	**1.31**	**279**	PN	**Pn**	**18 58 30.1**	**+1.2**
KRX	**Arik**	**1.31**	**279**	*e*P	**Pn**	**18 58 30.1**	**+1.2**
INSR	**Institute**	**1.33**	**266**	*e*P	**Pn**	**18 58 29.9**	**+0.9**
INSR				*e*S	**Sn**	**18 58 48.1**	**+2.5**
RUS	**Russkaya**	**1.58**	**243**	PN	**Pn**	**18 58 33.3**	**+0.9**
RUS				S	**Sn**	**18 58 53.2**	**+1.6**
RUS	**Russkaya**	**1.58**	**243**	*e*P	**Pn**	**18 58 33.3**	**+0.9**
RUS				*e*S	**Sn**	**18 58 53.2**	**+1.6**
KRMR	**Karymshinskiy**	**1.66**	**259**	PN	**Pn**	**18 58 34.6**	**+1.2**
KRMR				S	**Sn**	**18 58 56.1**	**+2.6**
KRMR	**Karymshinskiy**	**1.66**	**259**	*e*P	**Pn**	**18 58 34.6**	**+1.2**
KRMR				*e*S	**Sn**	**18 58 56.1**	**+2.6**
GRL	**Gorelyy**	**1.77**	**251**	PN	**Pn**	**18 58 37.0**	**+1.8**
GRL				S	**Sn**	**18 58 59.4**	**+2.9**
GRL	**Gorelyy**	**1.77**	**251**	*e*P	**Pn**	**18 58 37.0**	**+1.8**
GRL				*e*S	**Sn**	**18 58 59.4**	**+2.9**
PEA0B	**Petropavlovsk-**	**1.88**	**269**	Pn	**Pn**	**18 58 38.3**	**+1.9**
PEA0B				Sn	**Sn**	**18 59 02.5**	**+3.6**
PEA0B	**Petropavlovsk-**	**1.88**	**269**	*d* iPN	**Pn**	**18 58 38.3**	**+1.9**
PETK	**Petropavlovsk-**	**1.88**	**269**	Pn	**Pn**	**18 58 37.1**	**+0.6**
PETK	**Petropavlovsk-**	**1.88**	**269**	P	**Pn**	**18 58 37.5**	**+1.0**
	669nm,0.3s,baz=86,slow=20,SNR=3735						
PETK				S	**Sn**	**18 59 01.1**	**+2.2**
	801nm,0.6s,baz=82,slow=36,SNR=10						
PETK				LR	LR	18 59 31.1	
	comp=Z,559nm,20.1s,baz=75,slow=46						
ASAK	**Asacha**	**1.94**	**247**	PN	**Pn**	**18 58 39.3**	**+1.9**
ASAK				S	**Sn**	**18 59 03.7**	**+3.2**
ASAK	**Asacha**	**1.94**	**247**	*e*P	**Pn**	**18 58 39.3**	**+1.9**
ASAK				*e*S	**Sn**	**18 59 03.7**	**+3.2**
TUMD	**Tumrok D**	**2.05**	**353**	*e*P	**Pn**	**18 58 39.5**	**+0.7**
TUMD				*e*S	**Sn**	**18 59 04.0**	**+0.8**
TUMR	**Tumrok**	**2.15**	**350**	PN	**Pn**	**18 58 42.0**	**+1.7**
TUMR				S	**Sn**	**18 59 07.8**	**+1.9**
TUMR	**Tumrok**	**2.15**	**350**	*e*P	**Pn**	**18 58 42.0**	**+1.7**
TUMR				*e*S	**Sn**	**18 59 07.8**	**+1.9**
KDTR	**Khodutka, Kamc**	**2.16**	**232**	PN	**Pn**	**18 58 41.4**	**+1.1**
KDTR				S	**Sn**	**18 59 06.8**	**+1.0**
KDTR	**Khodutka, Kamc**	**2.16**	**232**	*e*P	**Pn**	**18 58 41.4**	**+1.1**
KDTR				*e*S	**Sn**	**18 59 06.8**	**+1.0**
APC	**Apacha**	**2.22**	**265**	PN	**Pn**	**18 58 44.0**	**+2.9**
APC				S	**Sn**	**18 59 12.3**	**+5.0**
APC	**Apacha**	**2.22**	**265**	*e*P	**Pn**	**18 58 44.0**	**+2.9**
APC				*e*S	**Sn**	**18 59 12.3**	**+5.0**
KMNR	**Kamenistaya**	**2.61**	**353**	PN	**Pn**	**18 58 49.0**	**+2.4**
KMNR	**Kamenistaya**	**2.61**	**353**	*e*P	**Pn**	**18 58 49.0**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**2.77**	**359**	PN	**Pn**	**18 58 50.6**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**2.77**	**359**	*e*P	**Pn**	**18 58 50.6**	**+1.7**
BZMR	**Bezymyannaya**	**2.77**	**356**	PN	**Pn**	**18 58 50.6**	**+1.7**
BZMR	**Bezymyannaya**	**2.77**	**356**	*e*P	**Pn**	**18 58 50.6**	**+1.7**
KIRR	**Kirishev**	**2.80**	**355**	PN	**Pn**	**18 58 51.2**	**+1.9**
KIRR				S	**Sn**	**18 59 24.5**	**+2.7**
KIRR	**Kirishev**	**2.80**	**355**	*e*P	**Pn**	**18 58 51.2**	**+1.9**
KIRR				*e*S	**Sn**	**18 59 24.5**	**+2.7**
BZWR	**Bezymyannyi-We**	**2.80**	**356**	PN	**Pn**	**18 58 51.7**	**+2.4**
BZWR	**Bezymyannyi-We**	**2.80**	**356**	*e*P	**Pn**	**18 58 51.7**	**+2.4**
KPT	**Kopyto**	**2.82**	**353**	PN	**Pn**	**18 58 51.7**	**+2.2**
KPT	**Kopyto**	**2.82**	**353**	*e*P	**Pn**	**18 58 51.7**	**+2.2**
KOZ	**Kozyrevsk**	**2.94**	**350**	PN	**Pn**	**18 58 53.0**	**+1.9**
KOZ	**Kozyrevsk**	**2.94**	**350**	*e*P	**Pn**	**18 58 53.0**	**+1.9**
PAU	**Pauzhetka**	**2.99**	**237**	PN	**Pn**	**18 58 54.7**	**+3.0**
PAU	**Pauzhetka**	**2.99**	**237**	*e*P	**Pn**	**18 58 54.7**	**+3.0**
ESO	**Esso**	**3.02**	**337**	PN	**Pn**	**18 58 55.0**	**+2.8**
ESO	**Esso**	**3.02**	**337**	*e*P	**Pn**	**18 58 55.0**	**+2.8**
KLY	**Klyuchi**	**3.15**	**358**	PN	**Pn**	**18 58 55.1**	**+1.2**
KLY				S	**Sn**	**18 59 31.6**	**+1.5**
KLY	**Klyuchi**	**3.15**	**358**	*e*P	**Pn**	**18 58 55.1**	**+1.2**
KLY				*e*S	**Sn**	**18 59 31.6**	**+1.5**
SRDR	**Sredinnyy**	**3.21**	**349**	PN	**Pn**	**18 58 56.2**	**+1.3**
SRDR	**Sredinnyy**	**3.21**	**349**	*e*P	**Pn**	**18 58 56.2**	**+1.3**
KBG	**Krutoberegovo**	**3.28**	**19**	PN	**Pn**	**18 58 56.3**	**+0.6**
KBG	**Krutoberegovo**	**3.28**	**19**	*e*P	**Pn**	**18 58 56.3**	**+0.6**
BDR	**Baidarnaya**	**3.41**	**4**	PN	**Pn**	**18 58 59.1**	**+1.5**
BDR	**Baidarnaya**	**3.41**	**4**	*e*P	**Pn**	**18 58 59.1**	**+1.5**
SKR	**Severo-Kuril's**	**3.83**	**231**	*d* iPN	**Pn**	**18 59 04.1**	**+0.9**
SKR	**Severo-Kuril's**	**3.83**	**231**	*e*P	**Pn**	**18 59 04.2**	**+1.0**
SHEM	**Shemya Is, Ala**	**8.04**	**88**	P	**Pn**	**19 00 01.3**	**+0.4**
	42nm,0.4s,baz=295,slow=14,SNR=5.9						
SHEM				S	**Sn**	**19 01 24.5**	**-5.8**
	31nm,0.4s,baz=255,slow=20,SNR=1.2						
MA2	**Magadan**	**8.49**	**323**	Pn	**Pn**	**19 00 03.5**	**-3.6**
MA2	**Magadan**	**8.49**	**323**	⇓*e*PN	**Pn**	**19 00 08.9**	**+1.8**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MA2	**Magadan**	**8.49**	**323**	P	**Pn**	**19 00 08.7**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=142,slow=19,SNR=5.3						
MA2				S	**Sn**	**19 01 42.3**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=149,slow=23,SNR=2.0						
MA2				LR	LR	19 03 51.9	
	comp=Z,131nm,18.0s,baz=79,slow=41						
TYV	**Tymovskoe**	**11.42**	**266**	*e*PN	Pn	19 00 57.4	+10
TYV				*e*S	Sn	19 03 04.7	+12
TYV				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TYV				pmax	pmax		
	comp=Z,400nm,5.8s						
TYV				smax	smax		
	comp=N,5.0nm,1.1s						
TYV				smax	smax		
	comp=N,300nm,6.8s						
TYV				smax	smax		
	comp=E,500nm,6.8s						
SHO	**Shikotan**	**13.11**	**230**	*e*PN	**Pn**	**19 01 06.5**	**-3.7**
SHO				pmax	pmax		
	comp=Z,45nm,0.7s						
SHO				pmax	pmax		
	comp=E,18nm,0.4s						
SHO				pmax	pmax		
	comp=N,16nm,0.2s						
YSS	**Yuzh-Sakhalins**	**13.14**	**249**	⇑*e*PN	**Pn**	**19 01 13.5**	**+2.8**
YSS				pmax	pmax		
	comp=Z,6.0nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**13.45**	**233**	*e*PN	**Pn**	**19 01 12.2**	**-2.6**
YUK				pmax	pmax		
	comp=N,37nm,0.2s						
YUK				pmax	pmax		
	comp=E,39nm,0.2s						
YUK				pmax	pmax		
	comp=Z,153nm,0.2s						
KIWB	**Kanaga Island**	**13.48**	**87**	Pn	**Pn**	**19 01 15.6**	**+0.3**
RUSJ	**Misakicho**	**13.69**	**235**	*e*P	**Pn**	**19 01 16.7**	**-1.5**
RUSJ				*e*S	Sn	19 03 58.3	+10
ADK	**Adak**	**13.75**	**86**	Pn	**Pn**	**19 01 17.5**	**-1.5**
ADK	**Adak**	**13.75**	**86**	P	**Pn**	**19 01 17.5**	**-1.5**
NMR	**Nemuro--Hokkai**	**14.01**	**232**	*e*P	Pn	19 01 16.8	-5.7
JKA	**Kamikawa-asahi**	**15.03**	**240**	Pn	**Pn**	**19 01 35.8**	**-0.1**
JKA				IAmb	IAmb	19 01 38.7	
	comp=Z,37nm,1.0s						
ASAJ	**Asahikawa**	**15.03**	**240**	P	**Pn**	**19 01 36.2**	**+0.3**
	comp=Z,26nm,0.7s,baz=69,slow=7.8,SNR=35						
BILL	**Bilibino**	**15.14**	**8**	⇑*e*P	**Pn**	**19 01 38.2**	**+0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ATKA	**Atka Island**	**15.17**	**84**	Pn	**Pn**	**19 01 38.4**	**+0.7**
ERM	**Erimo**	**16.27**	**234**	Pn	**Pn**	**19 01 47.3**	**-4.6**
ERM	**Erimo**	**16.27**	**234**	P	**Pn**	**19 01 47.3**	**-4.6**
ERM				pmax	pmax		
	comp=Z,99nm,1.4s						
JTM	**Tenmabayashi**	**18.22**	**235**		**P**	**19 02 10.0**	**-5.8**
KLR	**Kul'dur**	**18.57**	**269**	⇑*e*P	**P**	**19 02 20.1**	**+0.5**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KLR	**Kul'dur**	**18.57**	**269**	P	**Pn**	**19 02 20.8**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=64,slow=12,SNR=10.0						
YAK	**Yakutsk**	**18.71**	**311**		**P**	**19 02 19.7**	**-1.3**
YAK	**Yakutsk**	**18.71**	**311**	*e*P	**P**	**19 02 19.7**	**-1.3**
YAK				*e*S	**Sn**	**19 05 47.0**	**-3.0**
YAK				pmax	pmax		
	comp=Z,35nm,0.7s						
YAK				pmax	pmax		
	comp=E,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				smax	smax		
	comp=E,143nm,4.6s						
YAK				smax	smax		
	comp=N,78nm,4.2s						
YAK	**Yakutsk**	**18.71**	**311**	P	**P**	**19 02 20.2**	**-0.8**
	comp=N,3.4nm,0.4s,baz=134,slow=1.7,SNR=56						
YAK				LR	LR	19 09 56.0	
	comp=N,5.1nm,20.9s,baz=91,slow=38						
JMM	**Marumori**	**20.65**	**230**	P	**P**	**19 02 42.6**	**+0.2**
HEH	**HeiHe**	**20.79**	**275**	*e*P	**P**	**19 02 43.5**	**-0.2**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,200nm,6.6s						
USRK	**Ussuriysk Ar.**	**20.92**	**256**	P	**P**	**19 02 45.9**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=48,slow=12,SNR=4.7						
USRK				LR	LR	19 10 53.3	
	comp=Z,109nm,19.0s,baz=346,slow=37						
	comp=Z,1.7nm,0.7s						
C16K	**Lisburne Hills**	**21.99**	**34**	P	**P**	**19 02 56.1**	**-0.3**
N15K	**Kwethluk River**	**22.31**	**56**	P	**P**	**19 03 00.1**	**+0.1**
N15K				IAmb	IAmb	19 03 33.3	
	comp=Z,24nm,1.1s						
J16K	**Anvik River**	**22.34**	**48**	P	**P**	**19 03 00.5**	**+0.2**
J16K				IAmb	IAmb	19 03 02.1	
	comp=Z,16nm,1.4s						
BNX	**BinXian**	**22.79**	**265**	⇓P	**P**	**19 03 04.0**	**-1.2**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,280nm,7.1s						
M16K	**Timber Creek**	**22.89**	**54**	P	**P**	**19 03 06.5**	**+0.3**
M16K				IAmb	IAmb	19 03 32.3	
	comp=Z,34nm,1.4s						
MJB9	**Matsu-Tunnel**	**22.93**	**233**	P	**P**	**19 03 09.3**	**+2.5**
MJB9				IAmb	IAmb	19 03 15.4	
	comp=Z,19nm,0.8s						
MAJO	**Matsushiro**	**22.94**	**233**	P	**P**	**19 03 08.7**	**+1.9**
MAJO				IAmb	IAmb	19 03 14.4	
	comp=Z,19nm,0.8s						
MAJO	**Matsushiro**	**22.94**	**233**	⇓*e*P	**P**	**19 03 07.8**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MJAR	**Matsushiro Arr**	**22.94**	**233**	P	**P**	**19 03 08.2**	**+1.4**
	comp=Z,7.3nm,0.7s,baz=20,slow=11,SNR=15						
	comp=Z,7.3nm,0.7s						
H17K	**Granite Mounta**	**22.94**	**44**	P	**P**	**19 03 06.0**	**-0.5**
TIXI	**Tiksi**	**23.19**	**335**	P	**P**	**19 03 07.1**	**-1.9**
TIXI	**Tiksi**	**23.19**	**335**	⇑*e*P	**P**	**19 03 07.5**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,11nm,1.4s						
C18K	**Utukok River**	**23.54**	**34**	P	**P**	**19 03 12.8**	**+0.3**
H18K	**Honhosa River**	**23.62**	**44**	P	**P**	**19 03 13.9**	**+0.7**
H18K				IAmb	IAmb	19 03 27.1	
	comp=Z,12nm,1.4s						
L18K	**Granite Mounta**	**24.02**	**51**	P	**P**	**19 03 16.1**	**-0.8**
L18K				IAmb	IAmb	19 03 22.4	
	comp=Z,19nm,1.5s						
J18K	**Innoko River**	**24.10**	**48**	P	**P**	**19 03 17.4**	**-0.2**
J18K				IAmb	IAmb	19 03 42.3	
	comp=Z,11nm,1.3s						
G19K	**Purcell Mounta**	**24.34**	**41**	P	**P**	**19 03 17.9**	**-1.9**
TTA	**Tatalina**	**24.37**	**49**	P	**P**	**19 03 20.7**	**+0.5**
TTA	**Tatalina**	**24.37**	**49**	P	**P**	**19 03 20.7**	**+0.5**
TTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
N18K	**Kilae Creek**	**24.39**	**55**	P	**P**	**19 03 21.7**	**+1.3**
N18K				IAmb	IAmb	19 03 32.6	
	comp=Z,25nm,1.5s						
J19K	**Poorman**	**24.63**	**47**	P	**P**	**19 03 22.7**	**+0.2**
K20K	**Telida**	**25.28**	**48**	P	**P**	**19 03 30.0**	**+1.7**
J20K	**Nowinta River**	**25.29**	**47**	P	**P**	**19 03 29.0**	**+0.6**
J20K				IAmb	IAmb	19 03 47.6	
	comp=Z,7.8nm,1.0s						
IMAR	**Indian Mountai**	**25.65**	**42**	P	**P**	**19 03 31.1**	**-0.6**
H21K	**Melozitna Rive**	**26.00**	**43**	P	**P**	**19 03 34.4**	**-0.5**
H21K				IAmb	IAmb	19 03 57.6	
	comp=Z,14nm,1.5s						
I21K	**Tanana**	**26.30**	**44**	P	**P**	**19 03 38.0**	**+0.5**
I21K				IAmb	IAmb	19 03 52.6	
	comp=Z,10nm,1.4s						
BOD	**Bodaibo**	**26.49**	**299**	*e*P	**P**	**19 03 38.1**	**-1.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s						
D22K	**Ayikyak River**	**26.57**	**36**	P	**P**	**19 03 39.9**	**0.0**
C23K	**Itkillik River**	**27.49**	**34**	P	**P**	**19 03 48.8**	**+0.6**
KSRS	**Korea Array**	**27.65**	**249**	P	**P**	**19 03 51.1**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=236,slow=11,SNR=2.4						
KSRS				LR	LR	19 13 51.9	
	comp=Z,49nm,20.9s,baz=40,slow=34						
	comp=Z,1.1nm,0.9s						
SML	**Sawmill**	**27.97**	**52**	P	**P**	**19 03 52.9**	**+0.3**
SML				IAmb	IAmb	19 04 24.8	
	comp=Z,11nm,1.0s						
SML	**Sawmill**	**27.97**	**52**	P	**P**	**19 03 52.9**	**+0.3**
SML				pmax	pmax		
	comp=Z,11nm,1.0s						
CCB	**Clear Creek Bu**	**28.06**	**46**	P	**P**	**19 03 52.7**	**-0.6**
F24K	**Squaw Lake**	**28.14**	**40**	P	**P**	**19 03 53.7**	**-0.3**
G24K	**Hadweenzic Riv**	**28.24**	**41**	P	**P**	**19 03 54.4**	**-0.6**
HDA	**Harding Lake**	**28.43**	**46**	P	**P**	**19 03 56.7**	**0.0**
ILAR	**Eielson Array**	**28.45**	**45**	P	**P**	**19 03 57.5**	**+0.6**
ILAR	**Eielson Array**	**28.45**	**45**	*e*P	**P**	**19 03 57.1**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**28.45**	**45**	P	**P**	**19 03 56.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=262,slow=7.9,SNR=9.4						
	comp=Z,0.8nm,0.7s						
J25K	**Salcha River,**	**29.11**	**46**	P	**P**	**19 04 01.0**	**-1.7**
J25K				IAmb	IAmb	19 04 41.9	
	comp=Z,7.0nm,1.2s						
JNU	**Nakatsue**	**29.30**	**239**	LR	LR	19 16 22.8	
	comp=Z,101nm,18.8s,baz=352,slow=37						
BMAR	**Burnt Mountain**	**29.40**	**40**	P	**P**	**19 04 06.1**	**+0.8**

comp=Z,0.7nm,0.4s
H11S1 WAKE ISLAND Hy 34.90 170 T T 19 42 10.4
baz=352,slow=76,SNR=21
H11S3 WAKE ISLAND Hy 34.91 170 T T 19 42 11.6
baz=352,slow=76,SNR=16
H11S2 WAKE ISLAND Hy 34.92 170 T T 19 42 25.6
baz=352,slow=76,SNR=7.0
HHC Hu-ho-hao-te 35.08 270 *e*P **P 19 04 54.8 -0.4**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,400nm,5.6s
NJ2 Nanjing 36.69 252 *e*P **P 19 05 09.8 +0.8**
NJ2 pmax pmax
comp=Z,3.0nm,0.6s
NJ2 pmax pmax
comp=Z,130nm,3.8s
C36M Paulatuk 36.73 35 P **P 19 05 09.6 +0.7**
C36M IAmb IAmb 19 05 30.5
comp=Z,14nm,1.5s
YKA Yellowknife Ar 42.81 43 P **P 19 06 00.5 +1.0**
comp=Z,0.3nm,0.6s,baz=295,slow=7.6,SNR=3.2
YKA PcP **PcP 19 07 50.9 +1.1**
comp=Z,0.2nm,0.7s,baz=298,slow=4.0,SNR=2.9
comp=Z,0.3nm,0.6s
GTA Gaotai 43.03 277 *e*P **P 19 06 01.9 +0.2**
GTA pmax pmax
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 43.10 303 P **P 19 05 59.0 -2.9**
ZALV Zalesovo Beam 43.10 303 P **P 19 05 59.6 -2.3**
ZALV Zalesovo Beam 43.10 303 *e*P **P 19 06 00.4 -1.5**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 43.10 303 P **P 19 05 59.9 -2.0**
comp=Z,0.7nm,0.3s,baz=56,slow=8.9,SNR=5.4
ZALV PcP **PcP 19 07 50.7 -0.1**
comp=Z,0.4nm,0.4s,baz=54,slow=4.5,SNR=3.3
comp=Z,0.7nm,0.3s
DGZ Jazzator, Alta 44.02 296 *ce*P **P 19 06 09.8 +0.2**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 47.13 351 P **P 19 06 33.7 +0.1**
comp=Z,5.2nm,0.4s,baz=81,slow=8.9,SNR=37
comp=Z,5.2nm,0.4s
SPB2 Spitsbergen Ar 47.13 351 P **P 19 06 32.9 -0.7**
JCUZ Jacuzzi 47.81 118 P **P 19 06 41.6 +2.0**
KURK Kurchatov 48.06 302 P **P 19 06 39.0 -2.1**
KURK IAmb IAmb 19 06 40.4
comp=Z,5.5nm,0.8s
KURK Kurchatov 48.06 302 *ce*P **P 19 06 39.4 -1.7**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURBB Kurchatov Arra 48.16 302 P **P 19 06 40.3 -1.6**
comp=Z,2.8nm,0.6s,baz=57,slow=7.8,SNR=22
KURBB PcP **PcP 19 08 07.6 -1.0**
comp=Z,0.9nm,0.5s,baz=48,slow=3.8,SNR=6.1
comp=Z,2.8nm,0.6s
MK31 Makanchi Array 48.51 296 P **P 19 06 42.9 -1.8**
MK31 IAmb IAmb 19 06 44.0
comp=Z,2.3nm,0.6s
MK31 Makanchi Array 48.51 296 *de*P **P 19 06 43.4 -1.3**
MKAR Makanchi Array 48.51 296 P **P 19 06 42.4 -2.3**
MKAR Makanchi Array 48.51 296 P **P 19 06 43.2 -1.5**
comp=Z,1.8nm,0.5s,baz=52,slow=6.3,SNR=58
MKAR PcP **PcP 19 08 09.8 -0.2**
comp=Z,0.4nm,0.6s,baz=58,slow=6.2,SNR=1.9
comp=Z,1.8nm,0.5s
MAKZ Makanchi 48.67 296 P **P 19 06 43.9 -2.0**
MAKZ IAmb IAmb 19 06 45.7
comp=Z,4.5nm,1.1s
MAKZ Makanchi 48.67 296 P **P 19 06 43.9 -2.0**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
BVAR Borovoye Array 50.68 309 P **P 19 06 59.0 -2.1**
comp=Z,3.6nm,0.6s,baz=62,slow=8.6,SNR=19
BVAR PcP **PcP 19 08 16.9 -0.9**
comp=Z,0.4nm,0.3s,baz=53,slow=4.2,SNR=1.4
comp=Z,3.6nm,0.6s
BRVK Borovoye 50.71 309 P **P 19 06 59.0 -2.3**
BRVK IAmb IAmb 19 07 01.8
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.71 309↑ *e*P **P 19 06 59.2 -2.1**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
PZH PanZhiHua 50.82 263 P **P 19 07 02.8 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.1s
FCC Fort Churchill 53.15 39 **P 19 07 19.2 -0.1**
FCC IAmb IAmb 19 07 37.1
comp=Z,6.4nm,1.4s
FCC Fort Churchill 53.15 39 P **P 19 07 19.2 -0.1**
FCC pmax pmax
comp=Z,6.0nm,1.5s
ARCES ARCESS Array B 53.35 342 P **P 19 07 19.8 -0.8**
ARCES IAmb IAmb 19 07 56.2
comp=Z,6.8nm,1.1s
ARCES ARCESS Array B 53.35 342 *e*P **P 19 07 19.2 -1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 53.35 342 P **P 19 07 20.4 -0.3**
comp=Z,2.1nm,0.6s,baz=43,slow=6.7,SNR=17
ARCES PcP **PcP 19 08 28.2 +0.7**
comp=Z,2.0nm,0.7s,baz=32,slow=3.7,SNR=1.6
comp=Z,2.1nm,0.6s
ARU Arti 53.63 318 P **P 19 07 21.1 -1.8**
ARU IAmb IAmb 19 07 26.0
comp=Z,3.0nm,0.6s
SUMG Summit 53.83 7 P **P 19 07 24.7 +0.1**
SUMG Summit 53.83 7 P **P 19 07 24.7 +0.1**
SUMG pmax pmax
comp=Z,17nm,1.5s
WAKR Walker 54.61 71 P **P 19 07 32.6 +2.1**
WAKR IAmb IAmb 19 07 50.8
comp=Z,3.3nm,0.6s
NVAR Mina Array Bea 55.31 71 P **P 19 07 37.3 +1.7**
comp=Z,0.5nm,0.6s,baz=302,slow=7.1,SNR=5.7
comp=Z,0.5nm,0.6s
AAK Ala-Archa 55.43 297 P **P 19 07 34.4 -1.9**
AAK IAmb IAmb 19 07 37.1
comp=Z,3.5nm,0.9s
AAK Ala-Archa 55.43 297↓ *e*P **P 19 07 35.9 -0.5**
AAK pmax pmax
comp=Z,6.0nm,1.7s
ELK Elko 55.43 67 P **P 19 07 38.1 +1.6**
ELK IAmb IAmb 19 07 56.4
comp=Z,2.6nm,0.6s
ELK Elko 55.43 67 P **P 19 07 38.1 +1.6**
ELK pmax pmax
comp=Z,3.0nm,0.6s
RLMT Red Lodge 55.63 59 P **P 19 07 39.2 +1.3**
RLMT IAmb IAmb 19 07 57.6
comp=Z,5.1nm,0.8s
KSH Kashi 56.77 293 P **P 19 07 49.1 +3.1**
KSH pmax pmax
comp=Z,2.0nm,1.1s
KLMR Klimovskoe 57.10 330 *e*P **P 19 07 45.5 -2.2**
KLMR pmax pmax
comp=Z,19nm,1.8s
PDAR Pinedale Array 57.11 61 P **P 19 07 49.3 +0.9**
PDAR Pinedale Array 57.11 61 P **P 19 07 49.2 +0.8**
comp=Z,0.4nm,0.6s,baz=323,slow=2.4,SNR=4.5
comp=Z,0.4nm,0.6s
ARSB Arslanbob 57.15 296 P **P 19 07 46.8 -1.9**
ARSB Arslanbob 57.15 296 P **P 19 07 46.8 -1.9**
ARSB pmax pmax
comp=Z,1.0nm,0.6s
KK31 Karatay Array 57.22 299 P **P 19 07 47.1 -1.9**
KK31 IAmb IAmb 19 07 50.3
comp=Z,2.8nm,0.8s
KK31 Karatay Array 57.22 299 P **P 19 07 47.1 -1.9**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 57.22 299 P **P 19 07 47.2 -1.7**
KKAR IAmb IAmb 19 07 50.3
comp=Z,2.8nm,0.8s
KKAR Karatay Array 57.22 299 P **P 19 07 47.0 -2.0**
KKAR Karatay Array 57.22 299 P **P 19 07 47.0 -2.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
UBPT Khong Chiam 57.35 251 P **P 19 07 49.1 -1.0**
ABKAR Akbulak array 58.07 311 P **P 19 07 53.2 -1.6**
ABKAR IAmb IAmb 19 07 56.3
comp=Z,2.6nm,0.8s
ABKAR Akbulak array 58.07 311 P **P 19 07 53.4 -1.3**

CHTO Chiang Mai 58.34 259 P **P 19 07 54.6 -2.5**
CHTO IAmb IAmb 19 07 58.9
comp=Z,3.7nm,0.8s
CHTO Chiang Mai 58.34 259 P **P 19 07 54.6 -2.5**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 58.45 47 P **P 19 07 58.8 +1.4**
comp=Z,1.5nm,0.5s,baz=333,slow=6.8,SNR=2.6
comp=Z,1.5nm,0.5s
CMAR Chiang Mai Arr 58.62 259 *e*P **P 19 08 00.4 +1.4**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 58.62 259 P **P 19 07 59.8 +0.8**
comp=Z,2.3nm,0.7s,baz=28,slow=6.4,SNR=21
CMAR LR LR 19 36 39.9
comp=Z,48nm,18.2s,baz=45,slow=40
comp=Z,2.3nm,0.7s
RSSD Black Hills 59.00 57 P **P 19 08 02.5 +0.9**
RSSD Black Hills 59.00 57 P **P 19 08 02.5 +0.9**
RSSD pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael Swe 59.16 65 P **P 19 08 04.1 +1.3**
SRU IAmb IAmb 19 08 22.9
comp=Z,5.7nm,0.9s
SRU San Rafael Swe 59.16 65 P **P 19 08 04.1 +1.3**
SRU pmax pmax
comp=Z,6.0nm,0.9s
HMU Henry Mountain 59.88 66 P **P 19 08 09.8 +1.9**
FINES FINESS Array B 60.22 337 P **P 19 08 09.3 -0.1**
comp=Z,5.6nm,0.5s,baz=35,slow=7.3,SNR=45
comp=Z,5.6nm,0.5s
SIMJ Simiganj 61.19 297 P **P 19 08 16.9 +0.3**
SIMJ IAmb IAmb 19 08 17.5
comp=Z,3.8nm,0.8s
NIL Nilore 62.50 290 P **P 19 08 23.8 -1.5**
NIL Nilore 62.50 290 P **P 19 08 23.8 -1.5**
NIL pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 62.68 328 *i* P **P 19 08 24.4 -1.7**
OBN pmax pmax
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 63.59 344 P **P 19 08 32.0 -0.1**
NB2 NORSAR Subarra 63.59 344 P **P 19 08 32.1 -0.1**
comp=Z,1.2nm,0.5s,baz=25,slow=6.9
NOA NORSAR Array B 63.59 344 *e*P **P 19 08 32.3 +0.2**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 63.59 344 P **P 19 08 31.7 -0.4**
comp=Z,3.0nm,0.7s,baz=21,slow=6.6,SNR=10
comp=Z,3.0nm,0.7s
NORES NORESS Array B 63.82 344 P **P 19 08 33.6 0.0**
HFS Hagfors 64.01 342 P **P 19 08 34.1 -0.7**
comp=Z,3.2nm,0.5s,baz=44,slow=4.8,SNR=31
comp=Z,3.2nm,0.5s
SCHQ Schefferville 65.38 28 P **P 19 08 44.7 +0.8**
comp=Z,2.5nm,0.7s,baz=301,slow=5.2,SNR=4.2
comp=Z,2.5nm,0.7s
GEYT Alibeck 67.41 303 *e*P **P 19 08 57.7 +0.5**
GEYT pmax pmax
comp=Z,5.0nm,0.6s
GEYT Alibeck 67.41 303 P **P 19 08 57.4 +0.2**
comp=Z,5.2nm,0.6s,baz=72,slow=4.7,SNR=14
comp=Z,5.2nm,0.6s
OK048 Pawnee Station 68.35 58 **P 19 09 03.3 +0.3**
WMOK Wichita Mounta 68.69 60 P **P 19 09 05.1 -0.2**
WMOK IAmb IAmb 19 09 24.2
comp=Z,3.6nm,0.8s
WMOK Wichita Mounta 68.69 60 P **P 19 09 05.1 -0.2**
WMOK pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 68.77 329 IAmb IAmb 19 09 05.9
comp=Z,2.4nm,0.6s
AKASG Malin Array Be 68.77 329 *e*P **P 19 09 04.9 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 68.77 329 P **P 19 09 04.4 -1.0**
comp=Z,4.9nm,0.4s,baz=29,slow=6.8,SNR=44
comp=Z,4.9nm,0.4s
AKBB Malin Array Si 68.77 329↓ *e*P **P 19 09 05.2 -0.2**
KIEV Kiev 68.78 329 P **P 19 09 04.5 -0.9**
KIEV Kiev 68.78 329 P **P 19 09 04.5 -0.9**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 69.77 317 *e*P **P 19 09 11.6 -0.1**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 69.77 317 P **P 19 09 11.8 +0.1**
comp=Z,6.2nm,0.8s,baz=27,slow=4.5,SNR=11
comp=Z,6.2nm,0.8s
ZEI Tsey 70.13 316 *e*P **P 19 09 09.5 -4.7**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
TX31 Lajitas Ar. Si 70.21 67 P **P 19 09 15.4 +0.7**
TX31 IAmb IAmb 19 09 16.9
comp=Z,3.2nm,0.7s
TXAR Lajitas Array 70.21 67 P **P 19 09 16.0 +1.3**
comp=Z,2.0nm,0.5s,baz=300,slow=4.5,SNR=25
comp=Z,2.0nm,0.5s
ONI Oni 70.48 316 P **P 19 09 16.7 +0.5**
ONI IAmb IAmb 19 09 18.0
comp=Z,5.3nm,0.8s
ONI Oni 70.48 316 P **P 19 09 16.7 +0.5**
ONI pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 71.05 350 P **P 19 09 19.7 +0.3**
comp=Z,1.0nm,0.4s,baz=16,slow=5.0,SNR=9.9
comp=Z,1.0nm,0.4s
AKH Akhalkalaki 71.44 315 P **P 19 09 22.7 +0.5**
AKH Akhalkalaki 71.44 315 P **P 19 09 22.7 +0.5**
AKH pmax pmax
comp=Z,18nm,0.7s
KWP Kalwaria Pacla 71.62 333 P **P 19 09 21.8 -1.1**
KWP Kalwaria Pacla 71.62 333 P **P 19 09 21.8 -1.1**
KWP pmax pmax
comp=Z,24nm,1.0s
BUR08 Bucovina Ar. S 72.70 330 P **P 19 09 29.3 -0.2**
BURAR Bucovina Array 72.72 330 P **P 19 09 29.5 -0.1**
BURAR Bucovina Array 72.72 330 P **P 19 09 29.5 -0.1**
BURAR pmax pmax
comp=Z,12nm,0.6s
MLR Muntele Rosu 74.41 329 P **P 19 09 39.8 +0.2**
comp=Z,7.9nm,0.6s,baz=321,slow=3.4,SNR=19
WRA Warramunga Arr 76.34 206 *e*P **P 19 09 52.8 +2.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 76.34 206 P **P 19 09 51.4 +0.7**
comp=Z,2.4nm,0.9s,baz=21,slow=6.1,SNR=8.4
comp=Z,2.4nm,0.9s
BR131 Keskin Array S 76.83 321 *de*P **P 19 09 53.9 +0.3**
BRTR Keskin Array B 76.83 321 *e*P **P 19 09 54.0 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 76.83 321 P **P 19 09 53.9 +0.3**
comp=Z,1.3nm,0.4s,baz=24,slow=3.2,SNR=12
comp=Z,1.3nm,0.4s
ASAR Alice Springs 80.01 205 P **P 19 10 12.4 +1.5**
comp=Z,1.8nm,0.7s,baz=15,slow=5.3,SNR=22
comp=Z,1.8nm,0.7s
MMAI Mount Meron Ar 81.95 316 P **P 19 10 21.9 +0.4**
comp=Z,3.4nm,0.5s,baz=32,slow=6.0,SNR=7.1
comp=Z,3.4nm,0.5s
STKA Stephens Creek 86.33 196 *e*P **P 19 10 45.0 +1.7**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 86.33 196 P **P 19 10 44.4 +1.1**
comp=Z,2.5nm,0.8s,baz=333,slow=9.0,SNR=7.4
comp=Z,2.5nm,0.8s
ESDC Sonseca Array 86.59 348 P **P 19 10 45.3 +0.4**
comp=Z,2.0nm,0.8s,baz=1.6,slow=4.3,SNR=10
comp=Z,2.0nm,0.8s
QSPA South Pole Qui 142.92 180 PKhKP PKPpre 19 17 29.7
comp=Z,2.5nm,0.6s,baz=129,slow=0.1,SNR=7.6
PLCA Paso Flores 143.58 91 *e*PKIKP **PKiKP 19 17 38.6 -0.5**
PLCA pmax pmax
comp=Z,2.0nm,1.0s
ELIB Princess Elisa 153.77 208 *d*PKiKP **PKiKP 19 17 59.6 +0.5**
ELIB *d*PKP **PKPab 19 18 13.2 +0.9**

*TEH **17** 18:58:45.9,34.˚55N×45.˚85E,h5km,ML2.8*
*ISN **17** 18:58:46.0±1.2,34.˚60N×45.˚81E,h24km±10km,ML2.7*
ISC 17 18:58:46.0±1.2,34.˚57N±0.˚07×45.˚82E±0.˚04,h10km,n10,
σ0.˚71/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**252**	Pg	**Pg**	**18 58 50.0**	**-0.2**
KGS1				Sg	**Sg**	**18 58 54.4**	**+1.3**
IDHR	**Dehrash**	**0.49**	**74**	Pg	**Pg**	**18 58 55.7**	**+0.1**
IGHG	**Ghaleghazi**	**0.66**	**111**	Pg	**Pb**	**18 58 58.9**	**-0.9**
ILBA	**Ilam Banvizeh**	**0.99**	**161**	Pg	**Pn**	**18 59 06.2**	**+0.1**
ILIN	**Lien**	**1.01**	**69**	Pg	**Pn**	**18 59 06.3**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.05**	**106**	Pg	**Pn**	**18 59 07.3**	**+0.3**
IKOM	**Komasi**	**1.45**	**105**	Pg	**Pg**	**18 59 15.2**	**+1.3**
IBDR	**Badra**	**1.46**	**176**	*e*Pg	**Pn**	**18 59 12.0**	**-0.4**
	baz=356						
IBDR				*e*Sg	**Sg**	**18 59 33.0**	**+0.2**
IBDR				AML	AML	18 59 50.5	
	comp=E,128nm,0.4s						
IBDR				AML	AML	18 59 51.1	
	comp=N,107nm,0.2s						
IBZA	**Bozab**	**1.69**	**93**	Pg	**Pg**	**18 59 18.3**	**-0.1**
BHD	**Baghdad**	**1.76**	**223**	*e*Pn	**Pn**	**18 59 17.0**	**+0.5**
BHD				*e*Sn	**Sb**	**18 59 40.0**	**-0.5**

*GRAL **17** 19:05:03.8±0.7,33.˚50N×31.˚62E,h14km±527km,MD3.8*
*NIC **17** 19:05:04.7,33.˚67N×31.˚68E,h36km±46km,Ml3.0/8*
*GII **17** 19:05:05.3±0.3,33.˚660N±0.˚002×31.˚606E±0.˚001,h40km,*
Mws3.1,confirmed
*AFAD **17** 19:05:06.7±0.0,34.˚16N×31.˚66E,h6km±3km,ML2.7*
*ISK **17** 19:05:06.2,33.˚94N×31.˚64E,h79km±1km,ML3.2/15*
ISC 17 19:05:02.2±1.6,33.˚73N±0.˚03×31.˚68E±0.˚04,h8km±12km,
n104,σ1°19/125,2C,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSC2	**CSNet OBS 4**	**0.81**	**143**↑	*i*P	**Pg**	**19 05 17.2**	**-0.6**
OSC2				S	**Sb**	**19 05 29.7**	**0.0**
OSC2				AML	AML	19 05 37.6	
	1.4nm,0.4s						
NATA	**Nata**	**1.28**	**35**	P	**Pg**	**19 05 27.2**	**+0.4**
NATA				S	**Sn**	**19 05 43.9**	**+0.1**
NATA				AML	AML	19 05 45.6	
	1.4nm,0.2s						
NATA				AML	AML	19 05 47.5	
	2.1nm,0.3s						
AKMS	**Akamas**	**1.40**	**23**↑	*i*P	**Pn**	**19 05 27.6**	**-0.4**
AKMS				AML	AML	19 05 44.9	
	1.1nm,0.3s						
AKMS				AML	AML	19 05 46.4	
	1.3nm,0.3s						
TROD	**Troodos**	**1.56**	**39**	P	**Pn**	**19 05 30.9**	**+0.5**
TROD				S	**Sn**	**19 05 48.4**	**-2.7**
TROD				AML	AML	19 05 55.5	
	0.4nm,0.3s						
TROD				AML	AML	19 05 56.2	
	0.4nm,0.4s						
ALFC	**Alefka**	**1.62**	**28**	P	**Pn**	**19 05 30.6**	**-0.4**
ALFC				AML	AML	19 05 52.2	
	0.9nm,0.3s						
ALFC				AML	AML	19 05 56.0	
	0.5nm,0.3s						
ASGA	**Asgata**	**1.68**	**50**	P	**Pn**	**19 05 32.5**	**+0.7**
ASGA				S	**Sn**	**19 05 53.2**	**-0.3**
ASGA				AML	AML	19 05 55.3	
	1.2nm,0.3s						
ASGA				AML	AML	19 05 55.4	
	1.3nm,0.4s						
LEF	**Lefka**	**1.71**	**35**	Pn	**Pn**	**19 05 32.7**	**+0.4**
LEF				Sn	**Sn**	**19 05 52.9**	**-1.5**
CSS	**Mathiatis**	**1.84**	**47**	Pn	**Pb**	**19 05 35.5**	**-0.6**
CSS				Sn	**Sn**	**19 05 57.3**	**-0.3**
CSS	**Mathiatis**	**1.84**	**47**	P	**Pn**	**19 05 35.1**	**+1.0**
CSS				S	**Sn**	**19 05 57.0**	**-0.6**
CSS				AML	AML	19 06 07.6	
	0.3nm,0.5s						
CSS				AML	AML	19 06 10.6	
	0.3nm,0.5s						
CSS	**Mathiatis**	**1.84**	**47**	P	**Pb**	**19 05 35.5**	**-0.6**
AKIN	**Akıncılar- Kıb**	**1.96**	**48**	Pn	**Pb**	**19 05 37.2**	**-0.9**
MVOU	**Mavrovouni**	**2.06**	**51**	P	**Pn**	**19 05 38.3**	**+1.1**
MVOU				S	**Sn**	**19 06 02.7**	**-0.4**
MVOU				AML	AML	19 06 13.1	
	0.3nm,0.5s						
MVOU				AML	AML	19 06 13.8	
	0.2nm,0.5s						
LFK	**Lefkose**	**2.18**	**44**	Pn	**Pn**	**19 05 40.3**	**+1.5**
GAZI	**Gazipasa**	**2.56**	**12**	Pn	**Pn**	**19 05 44.1**	**+0.2**
GAZI				Sn	**Sn**	**19 06 11.7**	**-3.6**
EREN	**Erenkoy**	**2.73**	**48**	Pn	**Pn**	**19 05 48.3**	**+2.0**
ALAN	**Alanya-ANTALYA**	**2.84**	**6**	Pn	**Pn**	**19 05 48.4**	**+0.6**
AKK1	**Akkuyu-Mersin**	**2.86**	**32**	Pn	**Pn**	**19 05 49.3**	**+1.3**
AKKU	**Akkuyu-Mersin**	**2.87**	**32**	Pn	**Pn**	**19 05 49.4**	**+1.1**
OFRI	**`Ofer**	**2.98**	**111**	P	**Pn**	**19 05 50.8**	**+1.0**
OFRI	**`Ofer**	**2.98**	**111**	S	**Sn**	**19 06 26.1**	**+0.2**
HNTI	**Hanita**	**2.99**	**101**	S	**Sn**	**19 06 26.9**	**+0.9**
HNTI	**Hanita**	**2.99**	**101**	P	**Pn**	**19 05 51.2**	**+1.2**
IKL	**Isikli**	**3.00**	**33**	Pn	**Pn**	**19 05 51.0**	**+1.0**
AKAS	**Kas**	**3.03**	**326**	Pn	**Pn**	**19 05 51.1**	**+0.6**
TEVE	**Tevekalti-Mers**	**3.07**	**28**	Pn	**Pn**	**19 05 51.9**	**+0.9**
BLGI	**Bet Lehem HaGe**	**3.10**	**108**	P	**Pn**	**19 05 52.6**	**+1.2**
BLGI	**Bet Lehem HaGe**	**3.10**	**108**	S	**Sn**	**19 06 29.3**	**+0.5**
KEPZ	**Antalya-Kepez**	**3.17**	**359**	P	**Pn**	**19 05 53.5**	**+1.1**
KEPZ				S	**Sn**	**19 06 29.9**	**-0.5**
KEPZ				*i* AML	AML	19 06 33.0	
	comp=N,32nm,0.4s						
KEPZ				*i* AML	AML	19 06 35.0	
	comp=E,32nm,0.5s						
MMC7	**Mount Meron ar**	**3.19**	**102**	P	**Pn**	**19 05 53.7**	**+1.0**
MMC7	**Mount Meron ar**	**3.19**	**102**	S	**Sn**	**19 06 31.8**	**+0.9**
KEBE	**Keben-Mersin**	**3.19**	**31**	Pn	**Pn**	**19 05 53.8**	**+1.2**
SLTI	**Sal'it**	**3.19**	**117**	P	**Pn**	**19 05 53.1**	**+0.5**
SLTI	**Sal'it**	**3.19**	**117**	S	**Sn**	**19 06 30.0**	**-0.9**
SLTI	**Sal'it**	**3.19**	**117**	P	**Pn**	**19 05 53.5**	**+0.9**
DQRL	**Deir Qamar**	**3.24**	**89**	*e*P	**Pn**	**19 05 54.0**	**+0.5**
DQRL				*e*S	**Sn**	**19 06 31.5**	**-0.8**
BHL	**Bhannes**	**3.31**	**86**	*e*P	**Pn**	**19 05 55.1**	**+0.7**
BHL				*e*S	**Sn**	**19 06 32.9**	**-1.1**
QRWL	**Qaraoun**	**3.34**	**92**	*e*P	**Pn**	**19 05 55.3**	**+0.5**
ELL	**Elmali**	**3.35**	**335**	Pn	**Pn**	**19 05 55.7**	**+0.8**
GEM	**Giv'at Ha'Em**	**3.37**	**98**	P	**Pn**	**19 05 55.4**	**+0.3**
GEM	**Giv'at Ha'Em**	**3.37**	**98**	P	**Pn**	**19 05 56.1**	**+1.0**
GEM	**Giv'at Ha'Em**	**3.37**	**98**	S	**Sn**	**19 06 35.8**	**+0.5**
SALP	**Salfit**	**3.38**	**118**	P	**Pn**	**19 05 56.3**	**+1.0**
SALP	**Salfit**	**3.38**	**118**	S	**Sn**	**19 06 35.9**	**+0.2**
NATI	**Neve Ativ**	**3.42**	**97**	S	**Sn**	**19 06 37.7**	**+1.1**
NATI	**Neve Ativ**	**3.42**	**97**	P	**Pn**	**19 05 57.3**	**+1.5**
KORT	**Korkueli**	**3.44**	**342**	Pn	**Pn**	**19 05 56.9**	**+0.7**
RCY	**Rachaya**	**3.48**	**93**	*e*P	**Pn**	**19 05 57.6**	**+1.0**
RCY				*e*S	**Sn**	**19 06 36.2**	**-1.9**
AMAZ	**Amatzia**	**3.50**	**128**	P	**Pn**	**19 05 57.5**	**+0.7**
AMAZ	**Amatzia**	**3.50**	**128**	S	**Sn**	**19 06 38.4**	**-0.1**
ZAHL	**Zahle**	**3.50**	**87**	*e*P	**Pn**	**19 05 57.6**	**+0.5**
KSHT	**Keshet**	**3.54**	**101**	S	**Sn**	**19 06 40.4**	**+0.9**
KSHT	**Keshet**	**3.54**	**101**	P	**Pn**	**19 05 59.0**	**+1.6**
HMDT	**Nahal Hemdat**	**3.55**	**113**	S	**Sn**	**19 06 40.1**	**+0.3**
HMDT	**Nahal Hemdat**	**3.55**	**113**	P	**Pn**	**19 05 58.8**	**+1.2**
QRNJ	**Al-Qirein**	**3.55**	**112**	P	**Pn**	**19 05 58.9**	**+1.3**
HWQ	**Hawqa**	**3.59**	**80**	*e*P	**Pn**	**19 05 59.0**	**+0.9**
KZIT	**Kziot**	**3.63**	**140**	P	**Pn**	**19 05 59.5**	**+0.8**
KZIT	**Kziot**	**3.63**	**140**	S	**Sn**	**19 06 41.1**	**-0.7**
KKBE	**Karaman, Kazim**	**3.63**	**16**	P	**Pn**	**19 06 01.0**	**+2.2**
KKBE				S	**Sn**	**19 06 41.9**	**-0.1**
KKBE				*i* AML	AML	19 06 45.0	
	comp=N,22nm,0.4s						
KKBE				*i* AML	AML	19 06 47.0	
	comp=E,41nm,0.6s						
UJAP	**Al Uja**	**3.64**	**118**	P	**Pn**	**19 05 59.9**	**+1.0**
UJAP	**Al Uja**	**3.64**	**118**	S	**Sn**	**19 06 42.0**	**0.0**
BUCA	**Burdur, Bucak-**	**3.71**	**346**	P	**Pn**	**19 06 03.3**	**+3.5**
BUCA				S	**Sn**	**19 06 44.5**	**+0.7**
SEDI	**Konya, Seydise**	**3.72**	**1**	P	**Pn**	**19 06 02.2**	**+2.2**
SEDI				S	**Sn**	**19 06 43.6**	**-0.4**
SEDI				*i* AML	AML	19 06 48.0	
	comp=N,43nm,0.4s						
SEDI				*i* AML	AML	19 06 48.0	
	comp=E,80nm,0.5s						
YTIR	**Yattir**	**3.74**	**128**	P	**Pn**	**19 06 00.6**	**+0.4**
YTIR	**Yattir**	**3.74**	**128**	S	**Sn**	**19 06 44.5**	**0.0**
YTIR	**Yattir**	**3.74**	**128**	P	**Pn**	**19 06 00.7**	**+0.5**
DSI	**Dead Sea**	**3.79**	**124**	P	**Pn**	**19 06 02.0**	**+1.1**
DSI	**Dead Sea**	**3.79**	**124**	S	**Sn**	**19 06 45.5**	**-0.1**
DSI	**Dead Sea**	**3.79**	**124**	P	**Pn**	**19 06 01.7**	**+0.8**
BEIL	**Beino**	**3.82**	**76**	*e*P	**Pn**	**19 06 02.3**	**+0.9**
BEIL				*e*S	**Sn**	**19 06 46.2**	**-0.3**
MDBI	**Mazsada**	**3.93**	**127**	P	**Pn**	**19 06 03.6**	**+0.8**
MDBI	**Mazsada**	**3.93**	**127**	P	**Pn**	**19 06 04.1**	**+1.4**
MDBI	**Mazsada**	**3.93**	**127**	S	**Sn**	**19 06 48.1**	**-0.9**

MSBI	**Mazada**	**3.93**	**127**	P		**Pn**	**19 06 04.1**	**+1.4**
MSBI	**Mazada**	**3.93**	**127**	S		**Sn**	**19 06 48.8**	**-0.2**
LISJ	**El Lisan**	**4.06**	**127**	P		**Pn**	**19 06 06.0**	**+1.5**
GHAJ	**Ghor Haditha**	**4.08**	**125**	P		**Pn**	**19 06 07.0**	**+2.2**
GHAJ	**Ghor Haditha**	**4.08**	**125**	P		**Pn**	**19 06 06.6**	**+1.8**
GHAJ	**Ghor Haditha**	**4.08**	**125**	S		**Sn**	**19 06 52.6**	**-0.1**
BRDR	**BURDUR-Merkez**	**4.17**	**342**	P		**Pn**	**19 06 09.0**	**+2.7**
BRDR				S		**Sn**	**19 06 55.0**	**-0.2**
BRDR				*i* AML		AML	19 06 56.0	
	comp=N,44nm,0.3s							
BRDR				*i* AML		AML	19 06 56.0	
	comp=E,59nm,0.3s							
ISP	**Isparta**	**4.20**	**347**	P		**Pn**	**19 06 08.3**	**+1.8**
KARJ	**KARJ**	**4.25**	**127**	P		Pn	19 06 01.3	-5.9
KONT	**Konya--Tatoy**	**4.25**	**7**	P		**Pn**	**19 06 09.0**	**+1.8**
KONT				*i* AML		AML	19 07 00.0	
	comp=N,10nm,0.8s							
KONT				*i* AML		AML	19 07 09.0	
	comp=E,14nm,0.5s							
ZFRI	**Zfri**	**4.34**	**136**	P		**Pn**	**19 06 08.8**	**+0.4**
ZFRI	**Zfri**	**4.34**	**136**	S		**Sn**	**19 06 58.5**	**-0.6**
DOGA	**KONYA_Doganhis**	**4.37**	**360**	P		**Pn**	**19 06 11.2**	**+2.2**
DOGA				S		**Sn**	**19 07 01.7**	**+1.5**
DOGA				*i* AML		AML	19 07 03.0	
	comp=E,19nm,0.5s							
DOGA				*i* AML		AML	19 07 04.0	
	comp=N,15nm,0.3s							
PRNI	**Paran**	**4.39**	**139**	P		**Pn**	**19 06 09.4**	**+0.2**
PRNI	**Paran**	**4.39**	**139**	S		**Sn**	**19 06 59.4**	**-1.1**
PRNI	**Paran**	**4.39**	**139**	P		**Pn**	**19 06 09.7**	**+0.6**
KRMI	**Paran Flat**	**4.43**	**143**	P		**Pn**	**19 06 09.9**	**+0.2**
KRMI	**Paran Flat**	**4.43**	**143**	P		**Pn**	**19 06 10.2**	**+0.4**
KRMI	**Paran Flat**	**4.43**	**143**	S		**Sn**	**19 07 00.7**	**-0.9**
YVAC	**Isparta, Yalva**	**4.55**	**356**	S		**Sn**	**19 07 02.1**	**-2.4**
ASF	**Jabal al Asfar**	**4.65**	**108**	P		**Pn**	**19 06 14.1**	**+1.3**
HRFI	**Mount Harif**	**4.66**	**141**	P		**Pn**	**19 06 13.0**	**+0.2**
HRFI	**Mount Harif**	**4.66**	**141**	S		**Sn**	**19 07 06.3**	**-0.8**
HRFI	**Mount Harif**	**4.66**	**141**	P		**Pn**	**19 06 13.5**	**+0.7**
KZIL	**AFYON_Kizioren**	**4.69**	**345**	P		**Pn**	**19 06 14.8**	**+1.4**
KZIL				S		**Sn**	**19 07 06.2**	**-1.8**
KZIL				*i* AML		AML	19 07 07.0	
	comp=N,32nm,0.5s							
KZIL				*i* AML		AML	19 07 07.0	
	comp=E,35nm,0.4s							
MBRI	**Mt Berech**	**4.79**	**144**	P		**Pn**	**19 06 14.7**	**0.0**
KDHN	**Kadinhani**	**4.80**	**4**	P		**Pn**	**19 06 15.9**	**+1.1**
KDHN				*i* AML		AML	19 07 08.0	
	comp=N,7.9nm,0.5s							
KDHN				S		**Sn**	**19 07 08.2**	**-2.4**
KDHN				*i* AML		AML	19 07 14.0	
	comp=E,8.1nm,0.4s							
UCKU	**Afyonkarahisar**	**4.90**	**358**	P		**Pn**	**19 06 17.9**	**+1.6**
UCKU				S		**Sn**	**19 07 11.6**	**-1.7**
UCKU				*i* AML		AML	19 07 14.0	
	comp=N,6.3nm,0.6s							
UCKU				*i* AML		AML	19 07 14.0	
	comp=E,5.8nm,0.3s							
EIL	**Elat**	**4.91**	**145**	S		**Sn**	**19 07 12.1**	**-1.2**
EIL	**Elat**	**4.91**	**145**	P		**Pn**	**19 06 16.8**	**+0.5**
APE	**Apeiranthos**	**6.03**	**305**	P		**Pn**	**19 06 31.8**	**+0.1**

IDC ***17*** *19:07:19.6±0.7, 47°.14N×10°.14E, h0km, mb3.6/9, mbtmp3.7/17, ML3.4/6, MS3.5/1, Error ellipse: s-maj=18.4km s-min=4.7km az=129.0*

LDG ***17*** *19:07:19.5±0.2, 47°.15N×10°.01E, h1km, Ml4.3/45, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

NEIC ***17*** *19:07:19.2±2.8, 47°.17N±0°.03×9°.94E±0°.05, h10km±1km, mb4.0/7, Error ellipse: s-maj=5.9km s-min=4.8km az=297.0*

ZUR ***17*** *19:07:19.2, 47°.15N×10°.01E, h1km±2km, MLh4.1/121, Error ellipse: s-maj=3981.1km s-min=1063.1km az=257.0*

BGS ***17*** *19:07:19.9±2.1, 47°.18N×10°.10E, h10km, ML4.3, ML4.3*

VIE ***17*** *19:07:19.2±0.2, 47°.16N×10°.03E, h7km, mb3.4/22, ml3.9/21, Error ellipse: s-maj=1.6km s-min=1.2km az=3.0 7 km WNW of Langen am Arlberg felt 5 ems98 at Wald am Arlberg / Vorarlberg*

PRU ***17*** *19:07:20.9, 47°.23N×10°.06E, h4km, M4.0, Langen Am Arlberg*

BUG ***17*** *19:07:20.0, 47°.15N×10°.00E, h12km±3km, MD4.2/16, ML4.8/14*

STR ***17*** *19:07:20.0±1.0, 47°N±3°×1°0E±°, h8km±5km, MLv4.5/31, Error ellipse: s-maj=0.0km s-min=0.0km az=74.5, preliminary*

BGR ***17*** *19:07:21.2±0.2, 47°.20N×10°.01E, h10km, ML4.2/25, Error ellipse: s-maj=3.3km s-min=2.2km az=164.0*

BNS ***17*** *19:07:21.9±0.4, 47°.16N×10°.03E, h10km, ML4.0*

BEO ***17*** *19:07:22.6±1.1, 47°.26N×9°.99E, h14km±6km, ML4.0/5*

ISC 17 19:07:19.4±0.9, 47°.16N±0°.01×9°.98E±0°.01, h5km±6km, n402, σ1§91/623, mb3.9/16, 20C-60D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**0.14**	**331**	*i* Pg	**Pg**	**19 07 22.3**	**0.0**
	4µm,0.2s,SNR=6701						
DAVA				*e*Sg	**Sg**	**19 07 24.7**	**+0.3**
	34µm,0.4s						
DAVA	**Damuels**	**0.14**	**331**	⇓Pg	**Pg**	**19 07 22.3**	**0.0**
DAVA				Sg	**Sg**	**19 07 24.7**	**+0.3**
DAVA	**Damuels**	**0.14**	**331**	*e*Pg	**Pg**	**19 07 22.4**	**0.0**
DAVA				*e*Sg	**Sg**	**19 07 24.7**	**+0.3**
STRW	**Triesenberg, W**	**0.30**	**262**	⇑Pg	**Pg**	**19 07 25.3**	**+0.1**
STRW				Sg	**Sg**	**19 07 30.4**	**+1.2**
SMFL	**Mauren, Feuerw**	**0.30**	**279**	⇑Pg	**Pg**	**19 07 25.7**	**+0.4**
OBER	**Oberstdorf**	**0.32**	**41**	⇑Pg	**Pg**	**19 07 25.5**	**-0.3**
OBER				Sg	**Sg**	**19 07 30.5**	**+0.5**
OBER	**Oberstdorf**	**0.32**	**41**	*e*Pg	**Pg**	**19 07 25.6**	**-0.1**
OBER				*e*Sg	**Sg**	**19 07 30.0**	**-0.1**
SBUH	**Buchs, Hochsch**	**0.35**	**272**	⇑Pg	**Pg**	**19 07 26.4**	**+0.3**
SBUA2	**Buchs, Altendo**	**0.35**	**270**	⇑Pg	**Pg**	**19 07 26.4**	**+0.2**
SHEK	**Heerbrugg, Kan**	**0.35**	**317**	⇑Pg	**Pb**	**19 07 27.4**	**-0.8**
SHEK				Sg	**Sb**	**19 07 33.8**	**-0.2**
LIENZ	**Kamor/St.Gall**	**0.36**	**292**	⇑Pg	**Pg**	**19 07 26.8**	**+0.3**
LIENZ	**Kamor/St.Gall**	**0.36**	**292**	Sg	**Sb**	**19 07 33.8**	**-0.7**
DAVOX	**Davos/Dischmat**	**0.39**	**191**	⇓Pg	**Pg**	**19 07 27.2**	**+0.3**
DAVOX				Sg	**Sg**	**19 07 33.0**	**+0.9**
DAVOX	**Davos/Dischmat**	**0.39**	**191**	Pg	**Pg**	**19 07 27.2**	**+0.3**
	402nm,0.3s,baz=6.9,slow=19,SNR=2978						
DAVOX				Lg	Lg	19 07 32.8	
	419nm,0.3s,baz=127,slow=20,SNR=30						
SCUC	**Scuol-Clozza**	**0.42**	**149**	⇓Pg	**Pg**	**19 07 27.5**	**-0.1**
PLONS	**Plons/SG**	**0.43**	**255**	⇑Pg	**Pg**	**19 07 27.8**	**+0.1**
PLONS				Sg	**Sg**	**19 07 34.5**	**+1.3**
PLONS	**Plons/SG**	**0.43**	**255**	*e*Pg	**Pg**	**19 07 27.8**	**+0.1**
PLONS				*e*Sg	**Sg**	**19 07 34.5**	**+1.3**
SAPK	**Appenzell, Kan**	**0.43**	**294**	Sg	**Sg**	**19 07 34.2**	**+0.8**
SCUG	**Chur Gewerbesc**	**0.44**	**226**	⇑Pg	**Pg**	**19 07 27.9**	**+0.1**
SCUG				Sg	**Sg**	**19 07 34.7**	**+1.2**
SGT05	**Eggersriet**	**0.46**	**308**	⇓Pg	**Pb**	**19 07 29.3**	**-0.7**
SGT05				Sg	**Sb**	**19 07 37.0**	**-0.1**
SGT04	**Schlatt-Haslen**	**0.47**	**294**	Pg	**Pg**	**19 07 29.1**	**+0.6**
SGT04				Sg	**Sb**	**19 07 37.3**	**-0.3**
UBR	**Ueberruh**	**0.53**	**9**	⇓Pg	**Pb**	**19 07 30.5**	**-0.7**
UBR				Sg	**Sb**	**19 07 39.2**	**0.0**
UBR	**Ueberruh**	**0.53**	**9**	*e*Pg	**Pb**	**19 07 30.6**	**-0.6**
UBR				*e*Sg	**Sb**	**19 07 39.3**	**+0.1**
SGT00	**Sennhlsen**	**0.53**	**300**	⇓Pg	**Pb**	**19 07 30.6**	**-0.6**
FETA	**Feichten**	**0.53**	**105**	*e*Pg	**Pg**	**19 07 29.0**	**-0.6**
	9.4nm,0.1s,SNR=221						
FETA				*e*Sg	**Sg**	**19 07 36.4**	**-0.1**
	461nm,0.3s						
FETA	**Feichten**	**0.53**	**105**	⇑Pg	**Pg**	**19 07 29.0**	**-0.6**
TETT	**Tettnang**	**0.56**	**333**	⇓Pg	**Pb**	**19 07 31.2**	**-0.5**
TETT				Sg	**Sb**	**19 07 40.4**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**0.57**	**160**	Pg	**Pg**	**19 07 30.2**	**-0.3**
FUORN				Sg	**Sg**	**19 07 37.7**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**0.57**	**160**	⇓Pg	**Pg**	**19 07 30.5**	**0.0**
ROMAN	**Romanshorn, Fo**	**0.60**	**313**	Pg	**Pg**	**19 07 31.6**	**+0.7**
RETA	**Reutte**	**0.62**	**58**	*e*Pg	**Pg**	**19 07 30.3**	**-1.1**
	181nm,0.2s,SNR=82						
RETA				*e*Sg	**Sg**	**19 07 40.2**	**+0.7**
	1µm,0.5s						
RETA	**Reutte**	**0.62**	**58**	Pg	**Pg**	**19 07 30.4**	**-1.1**
RETA	**Reutte**	**0.62**	**58**	*e*Pg	**Pg**	**19 07 30.3**	**-1.1**
MOSI	**Grossmontoni**	**0.67**	**144**	⇓Pg	**Pg**	**19 07 32.2**	**-0.1**
PANIX	**Pigniu (Panix)**	**0.68**	**241**	⇑Pg	**Pg**	**19 07 32.1**	**-0.5**
BRMO	**Bormio**	**0.74**	**158**	⇓Pg	**Pg**	**19 07 32.9**	**-0.6**
BERNI	**Berninapass**	**0.75**	**178**	⇓Pg	**Pg**	**19 07 33.7**	**-0.1**
VDL	**Val di Lei**	**0.77**	**209**	⇑Pg	**Pg**	**19 07 34.0**	**-0.3**
WILA	**Wila**	**0.78**	**290**	*e*Pg	**Pb**	**19 07 35.3**	**-0.1**
WILA				*e*Sg	**Sb**	**19 07 47.3**	**+0.9**
MOTA	**Moosalm**	**0.79**	**76**	*i* Pg	**Pg**	**19 07 32.7**	**-1.9**
	410nm,0.6s,SNR=134						
MOTA				Sg	**Sg**	**19 07 45.1**	**+0.4**
	746nm,0.4s						
TUE	**Stuetta**	**0.82**	**213**	Pg	**Pg**	**19 07 34.5**	**-0.6**
TUE				Sg	**Sg**	**19 07 46.8**	**+1.1**
WALHA	**Wallhausen, DE**	**0.83**	**316**	⇓Pg	**Pb**	**19 07 36.4**	**0.0**
WALHA	**Wallhausen, DE**	**0.83**	**316**	⇓Pg	**Pb**	**19 07 36.4**	**0.0**
WALHA				Sg	**Sb**	**19 07 48.8**	**+0.9**
SQTA	**Sankt Quirin**	**0.84**	**85**	*e*Pg	**Pg**	**19 07 33.9**	**-1.6**
	130nm,0.3s,SNR=92						
SQTA				*e*Sg	**Sg**	**19 07 45.9**	**-0.5**
	853nm,0.4s						
PART	**Garmisch-Parte**	**0.84**	**66**	*e*Pg	**Pg**	**19 07 34.3**	**-1.2**
A107C	**Memmingen - Ei**	**0.87**	**10**	Pg	**Pb**	**19 07 37.3**	**+0.2**
A107C				Sg	**Sn**	**19 07 52.8**	**+1.2**
STEIN	**Stein am Rhein**	**0.91**	**304**	⇓Pg	**Pb**	**19 07 37.9**	**+0.1**
STEIN				Sg	**Sb**	**19 07 51.4**	**+1.2**
A104A	**Biberach, Staf**	**0.92**	**349**	Pg	**Pb**	**19 07 37.9**	**0.0**
A104A				Sg	**Sb**	**19 07 51.4**	**+0.9**
ZUR	**Degenried**	**0.98**	**283**	Pg	**Pb**	**19 07 38.8**	**-0.1**
A104C	**Biberach, Ahle**	**0.99**	**347**	Pg	**Pb**	**19 07 39.1**	**0.0**
A104C				Sg	**Sb**	**19 07 53.3**	**+0.8**
ROSI	**Rosskopf**	**1.00**	**103**	⇑Pg	**Pg**	**19 07 37.5**	**-1.2**
EMING	**Emmingen-Lipti**	**1.06**	**314**	⇓Pg	**Pb**	**19 07 40.4**	**0.0**
EMING				Sg	**Sn**	**19 07 56.1**	**-0.2**
GUT	**Gutenstein**	**1.08**	**327**	⇓Pg	**Pb**	**19 07 40.6**	**-0.1**
GUT	**Gutenstein**	**1.08**	**327**	Pg	**Pb**	**19 07 40.7**	**0.0**
GUT	**Gutenstein**	**1.08**	**327**	⇓Pg	**Pb**	**19 07 40.6**	**-0.1**
WATA	**Walderalm**	**1.10**	**80**	*e*Pg	**Pg**	**19 07 38.3**	**-2.2**
	SNR=122						
WATA				Sg	**Sb**	**19 07 55.2**	**-0.5**
	1µm,0.3s						
A102A	**Sigmaringen, J**	**1.11**	**332**	Pg	**Pn**	**19 07 41.8**	**0.0**
A102A				Sg	**Sn**	**19 07 57.5**	**0.0**
WTTA	**Wattenberg**	**1.13**	**84**	*e*Pg	**Pg**	**19 07 39.0**	**-2.1**
	186nm,0.7s,SNR=185						
WTTA				*e*Sg	**Sn**	**19 07 58.4**	**+0.2**
	4µm,0.9s						
WTTA	**Wattenberg**	**1.13**	**84**	⇑Pg	**Pg**	**19 07 39.2**	**-1.9**
ZWI	**Zwiefalten, Ha**	**1.15**	**342**	⇓Pg	**Pb**	**19 07 42.0**	**+0.1**
MABI	**Malga Bissina**	**1.17**	**161**	⇓Pg	**Pg**	**19 07 40.9**	**-0.9**
SLE	**Schleitheim**	**1.18**	**301**	Pg	**Pb**	**19 07 42.4**	**+0.1**
SLE	**Schleitheim**	**1.18**	**301**	*e*Pg	**Pn**	**19 07 42.6**	**0.0**
A108A	**Ulm, Ringingen**	**1.19**	**355**	⇓Pg	**Pb**	**19 07 42.6**	**0.0**
A108A				Sg	**Sn**	**19 07 59.7**	**+0.3**
FREU	**Neufra-Freuden**	**1.22**	**332**	⇓Pn	**Pn**	**19 07 43.2**	**0.0**
FREU				Sn	**Sn**	**19 08 00.2**	**+0.1**
MSS	**Messtetten**	**1.23**	**326**	*e*Pn	**Pn**	**19 07 43.4**	**0.0**
MSS				Sn	**Sn**	**19 08 01.1**	**+0.7**
METMA	**Mettma DE**	**1.30**	**296**	⇓Pn	**Pb**	**19 07 44.5**	**+0.1**
METMA				Sg	**Sn**	**19 08 02.4**	**+0.4**
SULZ	**Cheisacher**	**1.32**	**287**	Pg	**Pb**	**19 07 45.1**	**+0.3**
SULZ	**Cheisacher**	**1.32**	**287**	*e*Pn	**Pb**	**19 07 45.3**	**+0.5**
SULZ				*e*Pg	**Pg**	**19 07 46.3**	**+1.5**
SULZ				*e*Sg	**Sn**	**19 08 04.2**	**+1.5**
A109A	**Bad Urach, See**	**1.33**	**345**	Pg	**Pn**	**19 07 44.6**	**-0.2**
A109A				Sg	**Sn**	**19 08 03.3**	**+0.4**
ROTE	**Rottweil**	**1.33**	**319**	⇓Pn	**Pn**	**19 07 44.8**	**+0.1**
ROTE				Sg	**Sn**	**19 08 04.2**	**+1.3**
FUR	**Furstenfeldbru**	**1.33**	**41**	*e*Pg	**Pb**	**19 07 44.9**	**0.0**
FUR				Sg	**Sn**	**19 08 03.6**	**+0.7**
A101B	**Rottweil, Deis**	**1.36**	**315**	Pg	**Pn**	**19 07 45.2**	**0.0**
A101B				Sg	**Sn**	**19 08 04.8**	**+1.1**
LUSI	**Trento, Gardas**	**1.37**	**151**	Pg	**Pn**	**19 07 44.7**	**-0.6**
MDI	**Monti di Nese**	**1.40**	**188**	⇓Pg	**Pn**	**19 07 45.7**	**0.0**
BERGE	**Lenzkirch (DE)**	**1.42**	**301**	⇓Pn	**Pn**	**19 07 46.1**	**+0.2**
BERGE				Pg	**Pg**	**19 07 47.2**	**+0.7**
BERGE				Sg	**Sn**	**19 08 06.8**	**+1.8**
DEGG	**Deggingen-Nord**	**1.46**	**353**	⇓Pn	**Pn**	**19 07 46.1**	**-0.4**
DEGG				Sg	**Sg**	**19 08 08.1**	**+1.8**
A100A	**Rottenburg, We**	**1.48**	**332**	Pg	**Pn**	**19 07 46.5**	**-0.2**
A100A				Sg	**Sn**	**19 08 05.4**	**-1.0**
TUBL	**Tuebingen-Lenn**	**1.49**	**336**	⇓Pn	**Pn**	**19 07 46.8**	**-0.1**
TUBL				Sg	**Sg**	**19 08 09.0**	**+1.7**
FELD	**Feldberg im Sc**	**1.52**	**299**	Sn	**Sn**	**19 08 07.3**	**-0.4**
FELD	**Feldberg im Sc**	**1.52**	**299**	⇓Pn	**Pn**	**19 07 47.6**	**+0.1**
FELD				Sg	**Sg**	**19 08 10.1**	**+1.8**
BALST	**Balsthal**	**1.57**	**277**	Pn	**Pn**	**19 07 48.4**	**+0.4**
BALST	**Balsthal**	**1.57**	**277**	*e*Pn	**Pb**	**19 07 48.7**	**-0.3**
BALST				*e*Pg	**Pg**	**19 07 50.0**	**+0.5**
BALST				*e*Sg	**Sg**	**19 08 11.8**	**+2.0**
SALO	**Salr**	**1.59**	**166**		**Pn**	**19 07 48.7**	**+0.5**
CTI	**Castel Tesino**	**1.60**	**133**		**Pn**	**19 07 48.8**	**+0.3**
A106B	**Goeppingen, Ma**	**1.60**	**354**	Pn	**Pn**	**19 07 47.9**	**-0.6**
A106B				Sn	**Sn**	**19 08 09.2**	**+0.2**
KIZ	**Kirchzarten**	**1.61**	**300**	Pn	**Pn**	**19 07 48.7**	**+0.2**
KIZ	**Kirchzarten**	**1.61**	**300**	Pg	**Pg**	**19 07 50.8**	**+0.5**
KIZ	**Kirchzarten**	**1.61**	**300**	⇓Pn	**Pn**	**19 07 48.7**	**+0.2**
KIZ				Pg	**Pg**	**19 07 50.7**	**+0.5**
KIZ				Sg	**Sg**	**19 08 12.3**	**+1.2**
BFO	**Black Forest**	**1.62**	**317**		**Pn**	**19 07 48.5**	**-0.2**
BFO				Sn	**Sn**	**19 08 07.5**	**-2.4**
BFO	**Black Forest**	**1.62**	**317**	*e*Pn	**Pn**	**19 07 48.8**	**+0.2**
BFO				*e*Pg	**Pg**	**19 07 51.0**	**+0.6**
BFO				Sn	**Sb**	**19 08 10.6**	**+0.1**
BFO				*e*Sg	**Sg**	**19 08 11.9**	**+0.5**
NORI	**Noerdlinger Ri**	**1.62**	**15**	*e*Pn	**Pn**	**19 07 47.9**	**-0.7**
NORI				*e*Sg	**Sg**	**19 08 12.6**	**+1.1**
ENDD	**Endenburg**	**1.62**	**291**	Pn	**Pn**	**19 07 48.9**	**+0.2**
ENDD	**Endenburg**	**1.62**	**291**	Pg	**Pg**	**19 07 51.1**	**+0.6**
ENDD	**Endenburg**	**1.62**	**291**	⇓Pn	**Pn**	**19 07 48.9**	**+0.2**
ENDD				Pg	**Pg**	**19 07 51.0**	**+0.5**
ENDD				Sg	**Sg**	**19 08 13.0**	**+1.5**
STU	**Stuttgart**	**1.70**	**342**		**Pn**	**19 07 48.3**	**-1.5**
STU				Sn	**Sn**	**19 08 09.4**	**-2.4**
STU	**Stuttgart**	**1.70**	**342**	*e*Pn	**Pn**	**19 07 49.6**	**-0.1**
STU				*e*Pg	**Pg**	**19 07 52.5**	**+0.6**
STU				*e*Sg	**Sg**	**19 08 14.8**	**+0.9**
URBA	**Urbach, Forsts**	**1.70**	**351**	⇓Pn	**Pn**	**19 07 49.4**	**-0.4**
URBA				Sg	**Sg**	**19 08 15.3**	**+1.3**
EMBD	**Embd, Matterta**	**1.76**	**238**	Pn	**Pb**	**19 07 51.8**	**-0.4**
ABTA	**Abfaltersbach**	**1.78**	**103**	Pg	**Pb**	**19 07 51.8**	**-0.8**
	664nm,0.9s,SNR=179						
ABTA				*e*Sg	**Sg**	**19 08 20.0**	**+3.3**
	725nm,0.7s						
OPP	**Oppenau**	**1.80**	**318**	Pn	**Pn**	**19 07 51.3**	**+0.1**
OPP	**Oppenau**	**1.80**	**318**	⇓Pn	**Pn**	**19 07 51.3**	**+0.1**
OPP				Sg	**Sg**	**19 08 18.8**	**+1.4**
GALG	**Neuhausen (Enz**	**1.81**	**334**	⇓Pn	**Pn**	**19 07 51.3**	**-0.1**
GALG				Sg	**Sg**	**19 08 19.4**	**+1.6**
VOGT	**Vogtsburg - To**	**1.81**	**301**	Pn	**Pn**	**19 07 51.7**	**+0.3**
LESA	**Schwarzleotal**	**1.85**	**81**	*e*Pg	**Pn**	**19 07 52.6**	**+0.6**
	20nm,0.6s						
LESA				*e*Sg	**Sg**	**19 08 20.7**	**+1.8**
	561nm,0.5s						
BOURR	**Bourrignon**	**1.89**	**278**	Pn	**Pn**	**19 07 52.9**	**+0.4**
BOURR	**Bourrignon**	**1.89**	**278**	Pn	**Pn**	**19 07 52.8**	**+0.4**
CIMO	**Cimolais**	**1.89**	**116**		**Pb**	**19 07 53.7**	**-0.8**
ILLF	**Illfurth**	**1.92**	**287**	Pn	**Pn**	**19 07 53.5**	**+0.7**
BABA	**Baden-Baden-Ne**	**1.97**	**323**	Pn	**Pn**	**19 07 53.5**	**+0.1**
BABA	**Baden-Baden-Ne**	**1.97**	**323**	Sn	**Sn**	**19 08 16.9**	**-1.6**
BABA	**Baden-Baden-Ne**	**1.97**	**323**	⇓Pn	**Pn**	**19 07 53.5**	**+0.1**
WALT	**Westhalten**	**2.00**	**295**	Pn	**Pn**	**19 07 54.6**	**+0.6**
SENIN	**Lac Senin/Sane**	**2.01**	**248**		**Pn**	**19 07 55.0**	**+0.7**
BRET	**Bretten**	**2.05**	**335**	Pn	**Pn**	**19 07 54.5**	**0.0**
MOF	**Molkenrain**	**2.05**	**291**	Pn	**Pn**	**19 07 55.0**	**+0.3**
DIX	**Grande Dixence**	**2.08**	**240**	Pn	**Pb**	**19 07 57.6**	**-0.1**
DIX				Pg	**Pg**	**19 08 00.0**	**+0.8**
DIX	**Grande Dixence**	**2.08**	**240**	Sg	**Sg**	**19 08 29.1**	**+2.9**
STAL	**STALIGIAL**	**2.08**	**115**		**Pb**	**19 07 58.0**	**+0.3**
GRC1	**Grafenberg Arr**	**2.11**	**29**	Pn	**Pn**	**19 07 54.2**	**-1.2**
GRC1				Sn	**Sn**	**19 08 20.6**	**-1.4**
GRC1				Sg	**Sg**	**19 08 26.3**	**-0.8**
CLUD	**Cludinico**	**2.11**	**108**	Pg	**Pb**	**19 07 58.1**	**-0.2**
TEOL	**Teolo**	**2.15**	**146**		**Pn**	**19 07 57.3**	**+1.4**
WLS	**Welschbruch**	**2.17**	**306**	Pn	**Pn**	**19 07 56.6**	**+0.3**
WLS	**Welschbruch**	**2.17**	**306**	Pn	**Pn**	**19 07 56.6**	**+0.3**
ECH	**Echery**	**2.18**	**300**		**Pn**	**19 07 56.1**	**-0.3**
ECH	**Echery**	**2.18**	**300**	⇓Pn	**Pn**	**19 07 56.6**	**+0.2**
SIND	**Sindeldorf**	**2.20**	**354**	Pn	**Pn**	**19 07 56.0**	**-0.7**
CDF	**Champ du Feu**	**2.21**	**305**	*e*P	**Pn**	**19 07 57.2**	**+0.3**
CDF	**Champ du Feu**	**2.21**	**305**	*e*Pg	**Pb**	**19 08 00.9**	**+0.9**
CDF				*e*Sg	**Sb**	**19 08 29.2**	**+1.5**
	2µm,0.6s						
HINF	**Hinteralfeld**	**2.22**	**288**	*e*P	**Pn**	**19 07 57.2**	**+0.2**
HINF				*e*Sg	**Sb**	**19 08 29.5**	**+1.6**
	1µm,0.3s						
CHMF	**Charmoille**	**2.27**	**273**	Pn	**Pn**	**19 07 57.5**	**-0.2**
CHMF				Pg	**Pg**	**19 08 02.6**	**-0.3**
CHMF				Sg	**Sg**	**19 08 33.5**	**+1.1**
KBA	**Koelnbreinsper**	**2.30**	**91**	*e*Pn	**Pb**	**19 08 00.4**	**-1.0**
	73nm,0.8s,SNR=103						
KBA				*e*Sg	**Sg**	**19 08 33.7**	**+0.5**
	994nm,1.0s						
KBA	**Koelnbreinsper**	**2.30**	**91**	*e*Pn	**Pb**	**19 08 00.5**	**-0.9**
KBA				*e*Pg	**Pg**	**19 08 03.6**	**+0.2**
KBA				*e*Sg	**Sg**	**19 08 34.1**	**+0.9**
INS5	**Hayna, Turnver**	**2.30**	**329**	Sn	**Sn**	**19 08 26.0**	**-0.7**
INS3	**Hergersweiler**	**2.32**	**327**	Pn	**Pn**	**19 07 58.9**	**+0.7**
INS3				Sn	**Sn**	**19 08 26.7**	**-0.4**
INS1	**Heuchelheim Bo**	**2.37**	**328**	Pn	**Pn**	**19 07 59.4**	**+0.4**
INS1				Sn	**Sn**	**19 08 30.4**	**+1.9**
GRB2	**Grafenberg Arr**	**2.39**	**27**	Pn	**Pn**	**19 07 57.9**	**-1.4**
PRMA	**PARMA**	**2.41**	**174**		**Pn**	**19 08 00.3**	**+0.9**
OGSI	**Sixt**	**2.48**	**245**	Pn	**Pn**	**19 08 01.8**	**+1.3**
OGSI				Pg	**Pg**	**19 08 06.6**	**-0.3**
OGSI				Sg	**Sg**	**19 08 40.3**	**+1.3**
BIOA	**Bad Ischl, Aus**	**2.54**	**77**	Pn	**Pn**	**19 08 02.2**	**+0.9**
	4.4nm,0.3s,SNR=56						
BIOA				*e*Sg	**Sg**	**19 08 41.7**	**+0.7**
	561nm,0.5s						
MYKA	**Terra Mystica**	**2.56**	**101**	*e*Pn	**Pb**	**19 08 04.4**	**-1.6**
	36nm,0.4s,SNR=26						
MYKA				*e*Sg	**Sg**	**19 08 39.9**	**-1.9**
	307nm,0.8s						
ROBS	**Robic**	**2.59**	**109**	*i* Pn	**Pn**	**19 08 04.1**	**+2.0**
ROBS				*e*Sn	**Sb**	**19 08 39.7**	**+1.1**
ROBS				IAML		19 08 55.2	
	comp=Z,427nm,1.2s						
GORR	**Gorreto**	**2.60**	**191**	Pn	**Pb**	**19 08 05.9**	**-0.6**
HAU	**Haudompre**	**2.60**	**290**	*e*P	**Pn**	**19 08 02.6**	**+0.4**
HAU				*e*Sg	**Sb**	**19 08 41.1**	**+2.3**
	comp=Z,2µm,0.4s						
GIMEL	**St. Georges /**	**2.63**	**258**	Pn	**Pn**	**19 08 03.6**	**+1.0**
GIMEL	**St. Georges /**	**2.63**	**258**	Pg	**Pg**	**19 08 09.2**	**-0.6**
GRFO	**Grafenber

MOX eSg Sg 19 09 15.5 -1.1
UBBA Unterbreizbach 3.66 0 eSg Sg 19 09 14.2 -2.8
OSSC Osservatorio P 3.75 166 Pn 19 08 20.1 +2.2
SBF Sospel 3.75 209 eP Pn 19 08 20.7 +2.7
SBF eSn Sn 19 08 58.4 -4.2
comp=Z,644nm,0.8s
ARSA Arzberg 3.78 87 i Pn Pn 19 08 19.5 +1.1
comp=Z,2.8nm,0.3s,SNR=10
ARSA Arzberg 3.78 87 ePn Pn 19 08 19.5 +1.1
BURY Giardini Botan 3.79 208 Pn Pn 19 08 21.4 +3.0
ESCA l'Escarene 3.80 210 ePn Pn 19 08 21.6 +2.9
HILG Hillesheim 3.82 326 ePn Pn 19 08 19.8 +0.9
MVIF Mont Vial 3.82 212 Pn Pn 19 08 21.5 +2.4
AHRW Bad Neuenahr-A 3.89 332 ePn Pn 19 08 20.5 +0.7
BOJS Bojanci 4.01 113 ePn Pn 19 08 23.6 +2.1
STB Steinbach 4.01 330 ePn Pn 19 08 21.8 +0.3
STB eSn Sn 19 09 08.1 -0.8
CONA Conrad Observa 4.05 77 i Pn Pn 19 08 22.8 +0.6
comp=Z,2.2nm,0.1s,SNR=11
CONA eSn Sn 19 09 14.5 +4.4
comp=Z,68nm,0.6s
HSKC Hora Svate Kat 4.13 32 ePN Pn 19 08 22.9 -0.3
HSKC eSG Sg 19 09 29.9 -2.2
comp=Z,178nm,0.4s
BHOU Houvegnez 4.14 322 dP Pn 19 08 24.0 +0.7
BHOU dS Sn 19 09 11.0 -1.0
PRU Pruhonice 4.14 45 ePN Pn 19 08 22.8 -0.5
PRU eSG Sg 19 09 29.6 -2.8
comp=Z,185nm,0.5s
PRA Prague 4.15 44 ePN Pn 19 08 23.7 +0.3
PRA eSG Sg 19 09 29.3 -3.2
comp=Z,371nm,0.6s
KASTN Kahler Asten 4.17 346 ePn Pn 19 08 24.1 +0.3
KASTN ePg Pg 19 08 39.0 -0.4
LOR Lormes 4.17 274 eP Pn 19 08 25.6 +1.8
baz=89
LOR Lormes 4.17 274 ePg Pg 19 08 37.4 -2.0
baz=89
LOR eSg Sg 19 09 30.5 -3.0
comp=Z,214nm,0.4s,baz=90
LOR Lormes 4.17 274 Pn Pn 19 08 24.5 +0.7
HOBG Hohbusch 4.20 337 ePn Pn 19 08 24.9 +0.7
GOPC GO Pecny, Ondr 4.22 47 ePN Pn 19 08 24.1 -0.3
GOPC eSN Sn 19 09 12.4 -1.6
GOPC eSG Sg 19 09 32.2 -2.6
comp=Z,228nm,1.0s
SSB Saint Sauveur 4.22 245 Pn Pn 19 08 24.1 -0.3
BNS Bensberg 4.23 335 ePn Pn 19 08 25.6 +1.1
SMF Signal de Mont 4.24 265 eP Pn 19 08 25.8 +1.1
SMF Signal de Mont 4.24 265 ePg Pg 19 08 37.9 -2.8
SMF eSg Sg 19 09 32.5 -3.1
comp=Z,226nm,0.6s
KLL Kalltalsperre 4.25 327 ePn Pn 19 08 25.6 +0.8
TREC Trest 4.25 58 ePN Pn 19 08 25.7 +0.8
TREC eSN Sn 19 09 13.5 -1.4
TREC eSG Sg 19 09 32.5 -3.5
comp=Z,220nm,0.6s
BTNL Ternell 4.27 325 dP Pn 19 08 25.9 +0.8
BTNL dS Sn 19 09 17.0 +1.8
BTNL dSnSn SgSg 19 09 39.4 +2.9
DREG Dreilaegerbach 4.29 326 ePn Pn 19 08 26.1 +0.8
MURB Monte Urbino 4.29 154 Pn Pn 19 08 28.3 +2.8
RONA Rosalia, Austr 4.32 81 i Pn Pn 19 08 26.7 +0.9
comp=Z,4.9nm,0.3s,SNR=11
RONA i Sn Sn 19 09 19.6 +3.0
comp=Z,25nm,0.4s
RONA Sg Sg 19 09 37.3 -0.8
comp=Z,119nm,0.6s
MEM Membach 4.33 324 dP Pn 19 08 26.9 +0.9
MEM dS Sn 19 09 16.6 -0.2
MEM dSnSn SgSg 19 09 42.1 +3.5
RICC Richard 4.34 37 ePN Pn 19 08 26.9 +0.9
RICC eSG Sg 19 09 35.9 -2.8
comp=Z,216nm,0.6s
RCHB Rochefort 4.35 315 dP Pn 19 08 27.6 +1.5
RCHB dS Sn 19 09 17.8 +0.6
VIVF Saint-Julien-l 4.36 240 eP Pn 19 08 27.5 +1.2
VIVF Saint-Julien-l 4.36 240 ePg Pg 19 08 41.7 -1.2
VIVF eSn Sn 19 09 13.2 -4.3
VIVF eSg Sg 19 09 36.3 -3.1
comp=Z,102nm,0.5s
GTTG Gottingen 4.39 360 ePn Pn 19 08 26.3 -0.4
GTTG eSg Sg 19 09 40.2 -0.1
CASP Castiglione de 4.42 172 Pn Pn 19 08 29.3 +2.2
SSF Saint Saulge 4.42 271 eP Pn 19 08 28.4 +1.2
SSF eSg Sg 19 09 38.2 -3.2
comp=Z,112nm,0.5s
SMRF Simiane la Rot 4.44 226 eP Pn 19 08 29.8 +2.3
SMRF eSn Sn 19 09 15.6 -4.0
comp=Z,140nm,0.8s
BCLA Clavier 4.49 318 dP Pn 19 08 29.5 +1.3
BCLA dS Sn 19 09 18.9 -1.9
BSTI Sart Tilman 4.50 321 dP Pn 19 08 29.6 +1.4
RUSF Rustrel 4.51 226 Pn Pn 19 08 30.8 +2.3
GIVF Givet 4.51 313 eP Pn 19 08 29.9 +1.5
GIVF Givet 4.51 313 ePg Pg 19 08 43.4 -2.4
GIVF eSn Sn 19 09 17.0 -4.2
GIVF eSg Sg 19 09 41.0 -3.3
comp=Z,289nm,0.7s
PVCC Panska Ves 4.53 40 ePN Pn 19 08 29.3 +0.7
PVCC eSG Sg 19 09 42.3 -2.5
comp=Z,469nm,1.0s
BRG Berggiesshubel 4.54 34 Pn Pn 19 08 26.8 -2.0
BRG Amp 19 08 33.0
comp=Z,14nm,0.6s
BRG Berggiesshubel 4.54 34 Pg Pg 19 08 44.1 -2.2
BRG Amp 19 08 51.1
comp=Z,57nm,0.8s
BRG Berggiesshubel 4.54 34 Sg Sg 19 09 42.3 -2.8
BRG Amp 19 09 49.3
comp=Z,155nm,0.9s
BRG Berggiesshubel 4.54 34 ePn Pn 19 08 27.0 -1.7
BRG eSg Sg 19 09 42.6 -2.5
LMR La Mourre 4.54 214 eP Pn 19 08 31.4 +2.5
LMR eSn Sn 19 09 17.4 -4.7
comp=Z,89nm,0.7s
AVF Avril sur Loir 4.55 268 eP Pn 19 08 30.0 +1.0
AVF Avril sur Loir 4.55 268 ePg Pg 19 08 43.9 -2.7
AVF eSg Sg 19 09 42.4 -3.2
comp=Z,359nm,0.9s
BGES Gesves 4.57 317 dP Pn 19 08 30.8 +1.6
BGES dS Sn 19 09 20.5 -2.1
CLL Collm 4.60 24 Pn Pn 19 08 26.9 -2.7
CLL Collm 4.60 24 ePn Pn 19 08 28.0 -1.6
CLL ePg Pg 19 08 49.0 +1.5
CLL eSn Sn 19 09 15.0 -8.3
CLL ex x 19 09 35.0
CLL eSg Sg 19 09 44.0 -3.0
comp=Z,321nm,0.8s
CLL Collm 4.60 24 ePn Pn 19 08 27.2 -2.3
CLL eSg Sg 19 09 44.8 -2.2
BEBN Eben Emael 4.61 324 dP Pn 19 08 31.2 +1.5
BEBN dS Sn 19 09 25.8 +2.1
DOU Dourbes 4.62 311 dP Pn 19 08 31.3 +1.3
DOU dS Sn 19 09 23.9 0.0
DOU Dourbes 4.62 311 Pn Pn 19 08 31.2 +1.3
BKLB Ruhr-Universit 4.64 338 Pn Pn 19 08 31.7 +1.6
BUG Bochum--Univer 4.64 338 ePn Pn 19 08 31.5 +1.4
BUG Sn Sn 19 09 25.3 -1.6
LAUG Laupendahl 4.64 336 ePn Pn 19 08 30.8 +0.6
BULI Ruhr-Universit 4.65 339 Pn Pn 19 08 31.8 +1.5
BULI Sn Sn 19 09 24.8 +0.2
PGF Pioggiola 4.67 189 eP Pn 19 08 32.9 +2.3
PGF eSn Sn 19 09 20.2 -5.0
comp=Z,17nm,0.4s
BMRD Maredsous 4.67 314 dP Pn 19 08 32.1 +1.6
BMRD dS Sn 19 09 26.0 +0.9
FDMO Fiordimonte 4.67 151 Pn 19 08 32.7 +2.0
CLZ Clausthal 4.69 3 ePn Pn 19 08 29.7 -1.2
CLZ eSg Sg 19 09 50.6 +0.5
KRUC Moravsky 4.70 64 ePN Pn 19 08 30.7 -0.3
KRUC ePG Pg 19 08 48.8 -0.6
KRUC eSN Sn 19 09 25.8 0.0
KRUC eSG Sg 19 09 47.9 -2.3
GUMA Gualdo di Mace 4.74 149 Pn 19 08 33.2 +1.7
BAIF Baives 4.80 309 eP Pn 19 08 33.9 +1.5
BAIF eSg Sg 19 09 50.0 -3.6
comp=Z,217nm,0.8s
NRCA Norcia 4.86 152 Pn 19 08 35.0 +1.7
CESX Cesi 4.91 157 Pn Pn 19 08 34.4 +0.5
VRAC Vranov 4.91 62 ⇓P Pn 19 08 33.8 -0.1
VRAC Vranov 4.91 62 ePN Pn 19 08 33.5 -0.4

VRAC eSN Sn 19 09 29.7 -1.4
VRAC eSG Sg 19 09 55.8 -1.3
VRAC Vranov 4.91 62 Pn Pn 19 08 33.5 -0.4
comp=Z,2.6nm,0.3s,baz=246,slow=13,SNR=19
VRAC Sn Sn 19 09 29.5 -1.7
comp=Z,13nm,0.3s,baz=137,slow=20,SNR=8.4
VRAC Lg Lg 19 09 54.9
comp=Z,13nm,0.3s,baz=328,slow=18,SNR=5.9
comp=Z,25nm,0.9s
ZST Bratislava 4.92 75 ePN Pn 19 08 34.8 +0.8
ZST eSN Sn 19 09 30.3 -1.0
ZST eSG Sg 19 09 57.5 +0.2
BGF Bois d'Agland 4.93 266 eP Pn 19 08 34.9 +0.7
BGF eSg Sg 19 09 53.8 -4.0
comp=Z,142nm,0.4s
ASSE Asse, Remlinge 5.00 5 eSg Sg 19 10 00.7 +1.0
HYF Humbligny 5.00 274 eP Pn 19 08 36.8 +1.6
HYF Humbligny 5.00 274 ePg Pg 19 08 52.5 -2.8
HYF eSg Sg 19 09 56.2 -3.9
MODS Modra-Piesok 5.07 73 ePN Pn 19 08 36.4 +0.4
MODS eSN Sn 19 09 33.5 -1.4
MODS eSG Sg 19 10 01.0 -1.0
MODS eLG Lg 19 10 05.2
UPC Upice 5.20 48 ePN Pn 19 08 37.7 -0.2
UPC eSG Sg 19 10 03.0 -3.4
comp=Z,194nm,0.7s
CAMP Campotosto 5.23 151 Pn 19 08 39.2 +0.8
DPC Dobruska-Polom 5.27 50 ePN Pn 19 08 38.8 0.0
DPC eSG Sg 19 10 04.8 -3.7
comp=Z,172nm,0.8s
CHVC Chvalec 5.27 47 ePN Pn 19 08 39.3 +0.4
CHVC eSG Sg 19 10 05.8 -2.9
comp=Z,228nm,0.8s
LASF Ste Croix 5.29 237 eP Pn 19 08 40.3 +1.2
LASF eSn Sn 19 09 35.6 -4.8
comp=Z,61nm,0.6s
CLF Chambon-Foret 5.30 282 Pn Pn 19 08 40.2 +1.0
OSTC Ostas 5.33 48 ePN Pn 19 08 40.5 +0.8
OSTC eSG Sg 19 10 06.8 -3.8
comp=Z,236nm,0.9s
TCF Toulx Ste Croi 5.42 264 eP Pn 19 08 41.1 +0.2
TCF eSn Sn 19 09 38.6 -5.0
TCF eSg Sg 19 10 09.2 -4.1
comp=Z,62nm,0.5s
JAVC Velka Javorina 5.43 69 ePN Pn 19 08 42.8 +1.7
FRNF Fournols 5.44 254 Pn Pn 19 08 42.3 +1.0
KSP Ksiaz 5.55 46 ePn Pn 19 08 44.0 +1.3
KSP eSg Sg 19 10 13.8 -3.8
BLY Banja Luka 5.57 113 ePn Pn 19 08 45.4 +2.5
MORC Moravsky Berou 5.67 60 ⇑P Pn 19 08 44.1 -0.3
MORC Moravsky Berou 5.67 60 Pn Pn 19 08 43.9 -0.4
MORC Moravsky Berou 5.67 60 ePN Pn 19 08 43.9 -0.4
MORC eSG Sg 19 10 20.4 -0.9
INTR Introdacqua 5.86 150 Pn Pn 19 08 47.7 +0.7
CAF Calviac 5.95 251 eP Pn 19 08 49.3 +1.1
CAF eSn Sn 19 09 51.1 -5.6
CAF eSg Sg 19 10 25.5 -4.8
comp=Z,128nm,1.0s
MORH Mrgy, Hungar 6.03 96 ⇓P Pn 19 08 50.5 +1.2
OKC Ostrava-Krasne 6.05 61 ePN Pn 19 08 49.8 +0.3
OKC eSG Sg 19 10 30.1 -3.5
comp=Z,772nm,1.5s
VYHS Vyhne 6.11 74 ePN Pn 19 08 49.9 -0.5
VYHS eSN Sn 19 09 59.2 -1.4
VYHS eSG Sg 19 10 33.4 -2.1
RJF Les Rejaudoux 6.16 256 eP Pn 19 08 52.1 +1.0
RJF eSg Sg 19 10 32.2 -4.9
comp=Z,80nm,0.6s
MTLF Montolieu 6.68 238 eP Pn 19 09 00.4 +2.2
MTLF Montolieu 6.68 238 ePg Pg 19 09 22.6 -4.7
MTLF eSn Sn 19 10 08.7 -6.0
MTLF eSg Sg 19 10 48.1 -5.7
comp=Z,110nm,1.1s
PSZ Piszkesteto 6.75 80 ⇑P Pn 19 09 00.4 +1.2
PSZ Piszkesteto 6.75 80 Pn Pn 19 08 59.0 -0.3
SGRT San Giovanni R 6.80 141 Pn Pn 19 09 00.7 +0.8
LFF La Frestale 6.80 254 eP Pn 19 09 02.4 +2.5
LFF eSg Sg 19 10 52.3 -5.5
comp=Z,341nm,1.2s
LDF La Druitiere 6.95 286 eP Pn 19 09 02.6 +0.8
LDF eSn Sn 19 10 15.7 -5.5
LDF eSg Sg 19 10 56.9 -5.4
comp=Z,408nm,1.1s
STON Ston 6.95 125 ePn Pn 19 09 03.9 +2.1
STON eSn Sn 19 10 19.7 -1.5
MFF Saint Martin d 6.96 269 eP Pn 19 09 02.6 +0.5
MFF eSn Sn 19 10 15.4 -6.3
MFF eSg Sg 19 10 58.2 -4.7
comp=Z,50nm,0.6s
HAPS Han Pijesak,Bl 7.00 113 ePn Pn 19 09 04.3 +1.6
FRGS Fruska Gora 7.11 103 ⇑P Pn 19 09 06.2 +2.0
FRGS Fruska Gora 7.11 103 ePn Pn 19 09 04.9 +0.8
TEKS Tekeris 7.16 108 ePn Pn 19 09 05.5 +0.7
OJC Ojcow 7.18 61 ePn Pn 19 09 06.6 +1.5
OJC eSg Sg 19 11 09.7 -0.1
OJC Ojcow 7.18 61 Pn Pn 19 09 05.3 +0.3
KECS Kecovo 7.19 76 ePN Pn 19 09 05.8 +0.6
FLN La Foliniere 7.21 287 eP Pn 19 09 06.3 +0.9
baz=99
FLN eSn Sn 19 10 22.6 -5.0
FLN eSg Sg 19 11 04.8 -5.9
comp=Z,194nm,0.8s,baz=98
BBLS Lazići 7.39 113 ePn Pn 19 09 10.5 +2.5
GRR Gorron 7.41 284 eP Pn 19 09 08.8 +0.6
GRR eSn Sn 19 10 26.3 -6.2
GRR eSg Sg 19 11 11.3 -5.8
comp=Z,164nm,0.9s
TREB Trebinje 7.41 124 ePn Pn 19 09 11.0 +2.7
STHS Stebnicka Huta 7.84 69 ePN Pn 19 09 14.7 +0.5
CRVS Cervenica-Dubn 7.89 73 ePN Pn 19 09 16.2 +1.4
EPF Esparros 7.97 242 eP Pn 19 09 18.9 +2.9
EPF eSg Sg 19 11 28.8 -6.5
comp=Z,50nm,0.9s
IVAS Ivanjica 8.01 113 ePn Pn 19 09 18.2 +1.8
BZS Buzias 8.19 97 ⇑P Pn 19 09 21.1 +2.2
BZS Buzias 8.19 97 ePn Pn 19 09 20.1 +1.2
WACR West Acre 8.21 316 eP Pn 19 09 20.5 +1.4
WACR eS Sn 19 10 49.9 -2.3
WACR IAML 19 10 52.3
comp=N,21nm,0.5s
WACR IAML 19 10 53.6
comp=E,26nm,0.6s
GRUS Gruza 8.21 110 ePn Pn 19 09 21.1 +1.9
KOLS Kolonicke sedl 8.43 73 eP Pn 19 09 23.0 +0.9
KOLS Kolonicke sedl 8.43 73 ePN Pn 19 09 23.0 +0.9
WOL Wolverton 8.43 304 eP Pn 19 09 23.0 +0.9
SURR Surduc 8.50 95 ⇑P Pn 19 09 25.2 +2.0
SGMF Saint Gilles 8.53 282 eP Pn 19 09 23.9 +0.4
SGMF eSn Sn 19 10 52.8 -7.3
comp=E,21nm,0.3s
ETSF Etsaut 8.60 244 eP Pn 19 09 27.7 +3.2
ETSF eSg Sg 19 11 48.2 -7.0
comp=E,58nm,1.2s
SELS Selova 8.79 113 ePn Pn 19 09 28.5 +1.3
SWN1 Swindon 8.84 304 eP Pn 19 09 28.9 +1.2
QUIF Quistinic 8.93 280 ePn Pn 19 09 28.1 -0.9
QUIF eSn Sn 19 11 02.4 -7.5
comp=E,38nm,0.5s
BOVS Bovan 8.97 109 ⇓P Pn 19 09 31.7 +2.1
MARR Marisel-Cluj 9.01 88 ⇑P Pn 19 09 30.9 +0.7
ROSF Rostrenen 9.01 282 ePn Pn 19 09 29.8 -0.3
ROSF eSn Sn 19 11 04.4 -7.5
comp=E,12nm,0.3s
STRD Stroud 9.16 305 eP Pn 19 09 33.3 +1.2
STRD eS Sn 19 11 11.6 -3.9
MONM Monmouth 9.54 304 eP Pn 19 09 38.2 +0.8
MCH1 Michaelchurch 9.72 305 eP Pn 19 09 40.9 +1.1
MCH1 eS Sn 19 11 23.1 -6.1
MCH1 IAML 19 11 28.2
comp=N,10nm,0.5s
MCH1 IAML 19 11 35.0
comp=E,11nm,0.6s
LBWR Ladybower, Pea 9.75 314 eP Pn 19 09 40.9 +0.7
PRVS Prvonek 9.77 114 ePn Pn 19 09 41.0 +0.4
HPK Haverah Park 10.03 317 eP Pn 19 09 44.6 +0.5
FOEL Foel Wylfa 10.23 309 eP Pn 19 09 47.9 +1.0
FOEL eS Sn 19 11 37.5 -4.3
FOEL IAML 19 11 43.0
comp=E,8.9nm,0.8s
FOEL IAML 19 11 48.3
comp=N,13nm,0.6s
LLW Llanuwchllyn 10.46 308 eP Pn 19 09 50.7 +0.7
RSBS Rosebush, Pemb 10.70 302 eP Pn 19 09 53.8 +0.6

EDMD Edmundbyers 10.74 320 eP Pn 19 09 54.7 +0.9
WLF1 Llynfaes 11.06 309 eP Pn 19 09 59.0 +0.9
KESW Keswick, Cumbr 11.11 317 eP Pn 19 09 59.3 +0.5
WPS Cemaes, Angles 11.16 309 eP Pn 19 10 00.2 +0.6
KEST Kesra 11.43 183 Pn Pn 19 10 02.2 -1.1
KEST Kesra 11.43 183 Pn Pn 19 10 10.1 +6.7
comp=N,0.1nm,0.3s,baz=307,slow=2.0,SNR=2.3
EKA Eskdalemuir Ar 11.59 320 Pn Pn 19 10 05.7 +0.3
comp=N,3.5nm,0.4s,baz=136,slow=14,SNR=31
EKA Sn Sn 19 12 10.0 -5.1
baz=126,slow=25
ESK Eskdalemuir 11.60 320 Pn Pn 19 10 05.3 -0.2
ESK Eskdalemuir 11.60 320 eP Pn 19 10 05.9 +0.4
EKB Eskdalemuir 11.61 320 Pn Pn 19 10 05.2 -0.4
IOMK Kirk Michael 11.63 313 eP Pn 19 10 06.4 +0.5
GAL1 Galloway 12.03 315 eP Pn 19 10 12.0 +0.6
DSB Dublin 12.11 306 Pn Pn 19 10 11.5 -1.0
ESDC Sonseca Array 12.59 239 Pn Pn 19 10 19.4 +0.2
comp=N,0.1nm,0.3s,baz=53,slow=14,SNR=6.0
comp=N,1.6nm,0.9s
NACGM Naroch 13.09 48 eP Pn 19 10 25.7 -0.1
comp=Z,6.0nm,0.8s,baz=239
AKASG Malin Array Be 13.13 67 Pn Pn 19 10 25.3 -1.1
comp=Z,1.0nm,0.8s,baz=260,slow=14,SNR=2.0
HFS Hagfors 13.18 8 LR LR 19 15 15.6
comp=Z,194nm,20.4s,baz=326,slow=36
FINES FINESS Array B 17.04 27 P Pn 19 11 18.1 0.0
comp=Z,0.1nm,0.3s,baz=226,slow=11,SNR=2.0
comp=Z,3.6nm,0.9s
MDT Midelt 18.13 223 P P 19 11 32.9 +0.5
comp=Z,0.1nm,0.3s,baz=24,slow=9.0,SNR=4.2
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 18.67 105 P P 19 11 37.5 -0.8
comp=Z,0.1nm,0.3s,baz=286,slow=8.2,SNR=3.3
comp=Z,1.1nm,0.8s
KBZ Khabaz 23.25 86 P P 19 12 28.8 +1.3
comp=Z,3.0nm,0.9s,baz=280,slow=9.0,SNR=3.0
comp=Z,3.0nm,0.9s
ONI Oni 24.04 89 P 19 12 36.6 +1.3
ONI IAmb IAmb 19 12 60.0
comp=Z,4.4nm,1.0s
GURO Guroymak-BITLI 24.88 99 P P 19 12 41.6 -1.5
GURO IAmb IAmb 19 12 48.6
comp=Z,3.9nm,1.1s
ABKAR Akbulak array 32.88 68 P P 19 13 51.9 -2.1
ABKAR IAmb IAmb 19 14 33.4
comp=Z,3.5nm,1.5s
TORD Torodi Ar. Bea 34.61 194 P P 19 14 09.7 +0.3
comp=Z,0.7nm,0.7s,baz=0.1,slow=7.5,SNR=4.2
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 38.17 58 P P 19 14 41.0 +1.4
comp=Z,0.6nm,0.5s,baz=287,slow=7.4,SNR=3.2
comp=Z,0.6nm,0.5s
KK31 Karatay Array 41.96 72 P P 19 15 11.0 -0.1
KKAR Karatay Array 41.96 72 P P 19 15 11.1 -0.1
KURBB Kurchatov Arra 43.74 59 P P 19 15 25.2 -0.2
comp=Z,1.0nm,0.9s,baz=296,slow=9.0,SNR=5.2
comp=Z,1.0nm,0.9s
KURK Kurchatov 43.76 59 P P 19 15 23.8 -1.7
KURK IAmb IAmb 19 16 02.8
comp=Z,3.9nm,1.4s
AAK Ala-Archa 44.76 71 P P 19 15 33.0 -0.9
AAK IAmb IAmb 19 15 36.6
comp=Z,2.4nm,0.9s
ZALV Zalesovo Beam 45.96 53 P P 19 15 40.8 -2.3
ZALV Zalesovo Beam 45.96 53 P P 19 15 44.0 +0.9
comp=Z,0.3nm,0.3s,baz=282,slow=7.2,SNR=2.2
comp=Z,0.3nm,0.3s
MK31 Makanchi Array 47.65 62 P P 19 15 55.3 -1.2
SONM Songino Array 60.74 50 P P 19 17 33.7 +1.7
comp=Z,0.4nm,0.8s,baz=282,slow=7.4,SNR=4.3
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 62.12 334 P P 19 17 42.7 +1.9
comp=Z,0.2nm,0.7s,baz=40,slow=6.7,SNR=1.6
comp=Z,0.2nm,0.7s
HHC Hu-ho-hao-te 68.14 53 eP P 19 18 19.8 -0.7
HHC pmax pmax
comp=Z,52nm,0.8s
HHC pmax pmax
comp=Z,250nm,4.9s
PZH PanZhiHua 72.20 70 P P 19 18 46.8 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,6.2s
CMAR Chiang Mai Arr 76.01 78 P P 19 19 07.7 -0.2
comp=Z,0.7nm,0.6s,baz=310,slow=7.0,SNR=6.5
comp=Z,0.7nm,0.6s
TXAR Lajitas Array 83.27 306 P P 19 19 49.7 +2.5
comp=Z,0.3nm,0.6s,baz=79,slow=3.0,SNR=3.7
comp=Z,0.3nm,0.6s
ASAR Alice Springs 129.86 82 PKP PKPdf 19 26 29.6 -0.4
comp=Z,0.3nm,0.9s,baz=328,slow=2.1,SNR=4.2

IDC ***17*** *19:19:54.7±3.0, 43°.19N×105°.33W, h0km, mb2.6/1, mbtmp3.0/3, ML2.5/2, Error ellipse: s-maj=52.1km s-min=9.7km az=153.0*

NEIC ***17*** *19:19:54.9±1.5, 43°.64N±0°.04×105°.33W±0°.06, h0km±1km, ML3.3/88, Error ellipse: s-maj=9.5km s-min=2.8km az=307.0*

ISC 17 19:19:56.4±1.1, 43°.60N±0°.05×105°.35W±0°.05, h0km, n34, σ0°93/26, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.08**	**61**			**Pn**	**19 20 18.7**	**-0.4**
K22A	**Casper**	**1.28**	**223**			**Pg**	**19 20 20.1**	**-0.8**
PHWY	**Pilot Hill**	**2.29**	**182**			**Pn**	**19 20 35.5**	**-0.3**
RWWY	**Rawlins**	**2.35**	**216**	Pn		**Pn**	**19 20 36.7**	**+0.2**
RWWY				IAML			19 21 12.0	
	189nm,1.6s							
RWWY				IAML			19 21 17.6	
	188nm,1.0s							
N23A	**Red Feather La**	**2.73**	**190**			**Pn**	**19 20 42.2**	**+0.4**
N23A				IAML			19 21 31.1	
	comp=E,90nm,0.8s							
N23A				IAML			19 21 39.4	
	comp=N,88nm,0.8s							
BRIGG	**Briggsdale**	**3.11**	**165**	Pn		**Pn**	**19 20 46.7**	**-0.1**
LAO	**LASA Array**	**3.15**	**349**			**Pn**	**19 20 45.8**	**-1.6**
PD31	**Pinedale Array**	**3.19**	**256**			**Pn**	**19 20 47.1**	**-0.9**
PDAR	**Pinedale Array**	**3.19**	**256**			**Pn**	**19 20 48.3**	**+0.3**
PDAR	**Pinedale Array**	**3.19**	**256**	Pn		**Pn**	**19 20 49.3**	**+1.3**
	comp=N,0.2nm,0.3s,baz=77,slow=17,SNR=3.8							
PDAR				Lg		Lg	19 21 31.6	
	comp=N,6.1nm,0.3s,baz=81,slow=25,SNR=2.7							
	comp=N,1.4nm,0.4s							
BW06	**Boulder Array**	**3.19**	**256**			**Pn**	**19 20 48.8**	**+0.8**
RLMT	**Red Lodge**	**3.20**	**300**			**Pn**	**19 20 48.5**	**+0.4**
RLMT				IAML			19 21 50.4	
	comp=N,60nm,2.0s							
RLMT				IAML			19 21 52.0	
	comp=N,63nm,1.2s							
OGNE	**Ogallala**	**3.61**	**136**			**Pn**	**19 20 54.5**	**+0.8**
YMP	**Mirror Lake Pl**	**3.64**	**290**			**Pn**	**19 20 53.4**	**-0.9**
YMP				IAML			19 22 28.8	
	comp=E,66nm,2.0s							
LOHW	**Long Hollow**	**3.82**	**272**	IAML			19 22 18.4	
	comp=E,33nm,1.3s							
LOHW				IAML			19 22 23.5	
	comp=E,30nm,2.5s							
H17A	**Grant Village**	**3.86**	**284**			**Pn**	**19 20 57.0**	**-0.2**
H17A				IAML			19 22 05.2	
	comp=E,49nm,2.4s							
H17A				IAML			19 22 05.9	
	comp=N,58nm,2.1s							
FLWY	**Flagg Ranch**	**3.90**	**279**			**Pn**	**19 20 58.5**	**+0.7**
MOOW	**Moose Ponds**	**3.92**	**274**			**Pn**	**19 20 59.4**	**+1.4**
YNR	**Norris Junctio**	**4.00**	**288**	IAML			19 22 46.1	
	comp=E,26nm,2.4s							
YFT	**Old Faithful**	**4.05**	**284**	Pn		**Pn**	**19 20 59.5**	**-0.3**
YFT				IAML			19 21 32.2	
	comp=E,35nm,1.7s							
YFT				IAML			19 22 17.0	
	comp=N,47nm,2.2s							
TPAW	**Teton Pass**	**4.08**	**270**	IAML			19 22 22.6	
	comp=N,54nm,1.5s							
TPAW				IAML			19 22 33.1	
	comp=N,43nm,2.2s							
FXWY	**Fox Creek**	**4.12**	**273**	IAML			19 22 22.9	
	comp=N,31nm,2.5s							
AHID	**Auburn Hatcher**	**4.29**	**261**			**Pn**	**19 21 02.6**	**-0.5**
AHID				IAML			19 22 29.6	
	comp=N,29nm,1.7s							
K30B	**Basset**	**4.30**	**100**			**Pn**	**19 21 02.4**	**-0.7**

RDMU	**Red Mountain**	**4.36**	**228**			**Pn**	**19 21 03.8**	**-0.2**
RDMU				IAML			19 22 23.6	
	comp=E,38nm,1.6s							
RDMU				IAML			19 22 31.6	
	comp=N,38nm,1.7s							
YHL	**Hebgen Lake**	**4.38**	**289**	IAML			19 22 30.0	
	comp=N,39nm,1.5s							
E28A	**Huff**	**4.44**	**46**			**Pn**	**19 21 04.7**	**-0.3**
SMCO	**Snowmass**	**4.58**	**196**	IAML			19 22 26.3	
	comp=N,35nm,1.8s							
SMCO				IAML			19 22 30.5	
	comp=N,32nm,1.9s							
BOZ	**Bozeman (W)**	**4.91**	**296**	IAML			19 22 43.5	
	comp=N,21nm,1.8s							
BOZ				IAML			19 23 48.9	
	comp=N,22nm,4.7s							
DGMT	**Dagmar**	**4.94**	**9**			**Pn**	**19 21 11.8**	**-0.1**
BSUT	**Blindstream Ca**	**5.06**	**235**	IAML			19 22 50.1	
	comp=N,22nm,1.6s							
BSUT				IAML			19 23 00.4	
	comp=E,24nm,1.7s							
I10CA	**LAC DU BONNET**	**9.18**	**41**	I		I	20 16 45.0	
	comp=E,0.3nm,1.4s,baz=220,slow=320,SNR=7.8							
ULM	**Lac du Bonnet**	**9.29**	**41**	Pn		**Pn**	**19 22 10.7**	**-0.7**
	comp=E,0.3nm,0.3s,baz=219,slow=14,SNR=1.9							
ULM				Sn		**Sn**	**19 23 55.6**	**-0.9**
	comp=E,0.1nm,0.3s,baz=299,slow=20,SNR=2.0							
ULM				Lg		Lg	19 24 50.4	
	comp=E,0.2nm,0.3s,baz=331,slow=20,SNR=4.5							
	comp=E,1.1nm,0.5s							
YKA	**Yellowknife Ar**	**19.69**	**347**	P		**Pn**	**19 24 30.9**	**+2.6**
	comp=E,0.1nm,0.4s,baz=156,slow=11,SNR=3.1							
	comp=E,0.1nm,0.4s							

*CATAC **17** 19:31:22.9±0.9, 12°.95N×88°.84W, h26km±6km, ML3.6*
*SNET **17** 19:31:22.7±1.1, 12°.90N×88°.85W, h33km±3km, ML3.2*
ISC 17 19:31:22.1±1.9**, 12°.88N**±0°.10×**88°.86W**±0°.05**, h27**km±13km**, n21**, σ0°.32/38**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.53**	**32**	*e*P		**Pn**	**19 31 33.5**	**-0.4**
ALJI				*e*S		**Sn**	**19 31 41.9**	**0.0**
ALJI	**Alcalda de J**	**0.53**	**32**	*i* P		**Pb**	**19 31 33.2**	**+0.3**
ALJI				*i* S		**Sn**	**19 31 42.1**	**+0.2**
TECO	**Alcaldia de Te**	**0.66**	**7**	*e*P		**Pn**	**19 31 35.4**	**-0.3**
TECO				*e*S		**Sn**	**19 31 45.1**	**-0.1**
TECO	**Alcaldia de Te**	**0.66**	**7**	*i* P		**Pb**	**19 31 35.3**	**+0.2**
TECO				*i* S		**Sn**	**19 31 44.5**	**-0.7**
COEB	**Comit de Eme**	**0.69**	**27**	*e*P		**Pn**	**19 31 36.2**	**-0.1**
COEB				*e*S		**Sn**	**19 31 46.3**	**+0.1**
JUCU	**Jucuar¡n**	**0.70**	**58**	*e*P		**Pb**	**19 31 35.4**	**-0.4**
JUCU				*e*S		**Sn**	**19 31 46.2**	**-0.1**
COEG	**Centro de Oper**	**0.74**	**358**	*e*P		**Pb**	**19 31 36.6**	**+0.2**
COEG				*e*S		**Sn**	**19 31 47.0**	**-0.2**
COEG				IAML			19 31 51.6	
	comp=Z,903nm,0.3s							
COEG	**Centro de Oper**	**0.74**	**358**	*i* P		**Pb**	**19 31 36.5**	**+0.1**
COEG				*i* S		**Sn**	**19 31 46.9**	**-0.3**
SJTE	**Alcalda de S**	**0.75**	**349**	*e*P		**Pb**	**19 31 36.6**	**0.0**
UESV	**Universidad de**	**0.76**	**5**	*i* P		**Pb**	**19 31 36.8**	**+0.1**
UESV				*i* S		**Sn**	**19 31 47.6**	**0.0**
UESV				IAML			19 31 48.5	
	comp=Z,2µm,1.0s							
PACA	**Pacayal**	**0.79**	**42**	*i* P		**Pn**	**19 31 37.4**	**-0.1**
PACA				IAML			19 31 50.6	
	comp=Z,7µm,1.0s							
PANCS	**Alcalda de**	**0.79**	**337**	*i* P		**Pb**	**19 31 37.4**	**0.0**
PANCS				*i* S		**Sb**	**19 31 47.6**	**-0.2**
PANCS				IAML			19 31 48.9	
	comp=Z,2µm,1.0s							
PQSS	**Presa 15 de Se**	**0.80**	**21**	*e*P		**Pn**	**19 31 38.0**	**+0.4**
PQSS				*e*S		**Sn**	**19 31 49.2**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.83**	**9**	*e*P		**Pb**	**19 31 38.0**	**0.0**
SCLA				*e*S		**Sn**	**19 31 50.5**	**+1.0**
PAVA	**Las Pavas**	**0.83**	**355**	*e*P		**Pn**	**19 31 38.0**	**-0.2**
PAVA				*e*S		**Sn**	**19 31 49.8**	**+0.1**
PAVA	**Las Pavas**	**0.83**	**355**	*i* P		**Pn**	**19 31 37.9**	**-0.3**
PAVA				*i* S		**Sn**	**19 31 49.5**	**-0.1**
PAVA				IAML			19 31 51.6	
	comp=Z,2µm,1.0s							
LCND	**La Caada**	**1.04**	**65**	*e*P		**Pn**	**19 31 40.9**	**0.0**
LCND				*e*S		**Sb**	**19 31 54.5**	**-0.1**
LCND	**La Caada**	**1.04**	**65**	*i* P		**Pn**	**19 31 40.8**	**0.0**
LCND				*i* S		**Sb**	**19 31 54.6**	**-0.1**
LCND				IAML			19 31 58.0	
	comp=Z,560nm,1.0s							
CSGN	**Cosiguina Volc**	**1.27**	**85**	*i* P		**Pn**	**19 31 44.3**	**+0.2**
CSGN				IAML			19 32 01.5	
	comp=Z,920nm,1.0s							
NUBE	**Las Nubes**	**1.36**	**319**	*e*P		**Pn**	**19 31 45.4**	**+0.1**
NUBE	**Las Nubes**	**1.36**	**319**	*i* P		**Pb**	**19 31 47.3**	**+0.4**
NUBE				*i* S		**Sn**	**19 32 02.2**	**-0.4**
NUBE				IAML			19 32 04.2	
	comp=Z,450nm,1.0s							

*IDC **17** 19:32:29.0±7.6, 20°.35S×177°.88W, h429km±79km, mb3.3/8, mbtmp4.1/8, Error ellipse: s-maj=58.7km s-min=27.7km az=147.0*
ISC 17 19:32:38.1±1.3**, 20°.5S**±0°.4×**178°.0W**±0°.3**, h534**km**, n11, σ0s86/11, mb3.7/8, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**37.80**	**244**	P		**P**	**19 39 09.0**	**0.0**
	1.7nm,0.6s,baz=92,slow=11,SNR=5.1							
	1.7nm,0.6s							
ASAR	**Alice Springs**	**44.54**	**257**	P		**P**	**19 40 01.9**	**-0.7**
	2.9nm,0.5s,baz=97,slow=8.0,SNR=66							
ASAR				PcP		**PcP**	**19 41 35.2**	**+0.9**
	0.5nm,0.5s,baz=106,slow=3.8,SNR=5.7							
	2.9nm,0.5s							
WRA	**Warramunga Ar**	**44.62**	**262**	P		**P**	**19 40 01.9**	**-1.4**
	1.4nm,0.7s,baz=96,slow=7.5,SNR=21							
	1.4nm,0.7s							
PETK	**Petropavlovsk-**	**76.30**	**345**	P		**P**	**19 43 31.8**	**+0.1**
	3.7nm,0.9s,baz=145,slow=3.5,SNR=4.5							
	3.7nm,0.9s							
TXAR	**Lajitas Array**	**87.05**	**57**	P		**P**	**19 44 27.4**	**0.0**
	0.4nm,0.6s,baz=211,slow=7.0,SNR=4.4							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**88.33**	**13**	P		**P**	**19 44 31.6**	**-0.7**
	0.5nm,0.7s,baz=223,slow=6.0,SNR=6.2							
	0.5nm,0.7s							
PDAR	**Pinedale Array**	**88.96**	**43**	P		**P**	**19 44 35.7**	**-0.4**
	0.7nm,0.8s,baz=224,slow=2.5,SNR=3.6							
	0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**90.14**	**290**	P		**P**	**19 44 43.2**	**+1.4**
	1.1nm,0.9s,baz=123,slow=2.4,SNR=8.5							
	1.1nm,0.9s							
AKASG	**Malin Array Be**	**143.04**	**331**	PKhKP		PKPpre	19 51 08.3	
	2.5nm,0.6s,baz=42,slow=4.4,SNR=16							
BRTR	**Keskin Array B**	**146.87**	**312**	PKPbc		**PKPbc**	**19 51 21.2**	**+0.4**
	0.7nm,0.6s,baz=82,slow=0.8,SNR=4.7							
MMAI	**Mount Meron Ar**	**147.84**	**300**	PKPbc		**PKiKP**	**19 51 25.2**	**+0.2**
	1.4nm,0.5s,baz=66,slow=7.1,SNR=2.5							

ISC 17 19:41:39.6±1.4**, 25°.86N**±0°.06×**110°.19W**±0°.04**, h8**km±14km**, n5, σ0s44/10, 3C-1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UAGRB	**Rancho Ultima**	**1.01**	**253**	*e*P		**Pg**	**19 41 58.7**	**-0.4**
UAGRB				*e*S		**Sb**	**19 42 13.4**	**+0.5**
EVAR0	**San Evaristo**	**1.06**	**207**	*e*P		**Pg**	**19 41 60.0**	**-0.1**
EVAR0				*e*S		**Sb**	**19 42 14.7**	**+0.4**
TSIG	**Topolobambo**	**1.06**	**104**	⇑*e*P		**Pg**	**19 42 00.1**	**0.0**
TSIG				*e*S		**Sb**	**19 42 14.7**	**+0.4**
TSIG				⇓*e*			19 42 15.3	
TSIG				IAML			19 42 15.3	
	comp=E,326nm,0.2s							
TSIG				IAML			19 42 15.4	
	comp=N,321nm,0.6s							
TSIG				⇑*e*			19 42 15.4	
NE77	**Loreto B.C.S**	**1.07**	**278**	*e*P		**Pg**	**19 42 00.6**	**+0.4**
NE77				*e*S		**Sn**	**19 42 15.5**	**-0.4**
NE80	**Navojoa**	**1.35**	**39**	*e*P		**Pb**	**19 42 05.0**	**-0.2**
NE80				*e*S		**Sg**	**19 42 23.2**	**0.0**
NE80				⇑*e*			19 42 24.1	
NE80				IAML			19 42 24.1	
	comp=E,347nm,0.1s							
NE80				IAML			19 42 24.3	
	comp=N,463nm,0.1s							
NE80				*e*			19 42 24.3	

*CATAC **17** 19:42:40.3±0.3, 15°.71N×88°.80W, h10km, ML4.0*
*SNET **17** 19:42:41.6±1.1, 15°.70N×88°.95W, h13km±7km, ML3.7*
*GCG **17** 19:42:41.2, 15°.73N×88°.84W, h10km*
ISC 17 19:42:39.9±1.1**, 15.70N**±0°.03×**88.83W**±0°.04**, h10**km±10km**, n31, σ1s00/46, Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IZABA	**Izabal, Puerto**	**0.24**	**84**	*i* P		**Pg**	**19 42 45.1**	**+0.2**
IZABA				*i* S		**Sg**	**19 42 49.2**	**+0.9**
IZABA				IAML			19 42 58.8	
	comp=Z,53nm,1.0s							
NISHN	**Nisperales Com**	**0.92**	**85**	*i* P		**Pg**	**19 42 56.9**	**-0.8**
NISHN				*i* S		**Sg**	**19 43 09.8**	**+0.2**
SARH	**Santa Rosa de**	**0.93**	**176**	*i* P		**Pg**	**19 42 56.9**	**-0.9**
SARH				*i* S		**Sg**	**19 43 08.9**	**-1.0**
ESQI	**Esquipulas**	**1.24**	**203**	*i* P		**Pn**	**19 43 01.7**	**-1.7**
ESQI				IAML			19 43 04.2	
	comp=Z,2µm,1.0s							
LLGN	**La Laguna**	**1.54**	**184**	*i* P		**Pn**	**19 43 07.4**	**-0.1**
LLGN				*i* S		**Sn**	**19 43 26.8**	**-0.7**
LLGN				IAML			19 43 28.7	
	comp=Z,1µm,1.0s							
PETF	**Flores**	**1.56**	**321**	*e*P		**Pn**	**19 43 07.5**	**-0.2**
PETF				*e*S		**Sn**	**19 43 28.0**	**0.0**
PETF	**Flores**	**1.56**	**321**	*i* P		**Pb**	**19 43 08.5**	**-0.4**
PETF				*i* S		**Sb**	**19 43 28.7**	**0.0**
PETF				IAML			19 43 31.2	
	comp=Z,4µm,1.0s							
JAMO	**Monjas**	**1.57**	**220**	*i* P		**Pn**	**19 43 07.4**	**-0.6**
JAMO				IAML			19 43 07.9	
	comp=Z,2µm,1.0s							
JUAM	**Asuncion Mita**	**1.60**	**212**	*i* S		**Pn**	**19 43 07.5**	**-0.8**
COMHN	**El Horno**	**1.76**	**135**	*i* P		**Pn**	**19 43 11.0**	**+0.3**
GUNB	**GUNB**	**1.83**	**233**	*i* P		**Pn**	**19 43 12.6**	**+0.9**
GUNB				IAML			19 43 42.3	
	comp=Z,720nm,1.0s							
UNIC	**Universidad Ca**	**1.85**	**202**	*i* P		**Pn**	**19 43 11.8**	**+0.1**
UNIC				IAML			19 43 37.6	
	comp=Z,350nm,1.0s							
LOAL	**Lomas de Alarc**	**1.93**	**208**	*i* P		**Pn**	**19 43 13.5**	**+0.7**
LOAL				IAML			19 43 47.3	
	comp=Z,3µm,1.0s							
RTR	**El Retiro**	**1.96**	**204**	*e*P		**Pn**	**19 43 14.1**	**+0.7**
RTR				*e*S		**Sn**	**19 43 38.8**	**+0.7**
LFU	**La Fuente**	**1.96**	**188**	*e*P		**Pn**	**19 43 14.5**	**+1.2**
LFU				*e*S		**Sn**	**19 43 39.2**	**+1.1**
PAVA	**Las Pavas**	**1.98**	**183**	*e*P		**Pn**	**19 43 14.6**	**+1.0**
PAVA	**Las Pavas**	**1.98**	**183**	*i* P		**Pb**	**19 43 15.6**	**-0.6**
PAVA				IAML			19 43 42.7	
	comp=Z,2µm,1.0s							
SCLA	**Alcaldia de Sa**	**1.99**	**177**	*e*P		**Pb**	**19 43 15.7**	**-0.6**
SCLA				*e*S		**Sb**	**19 43 41.0**	**-0.3**
SCLA				IAML			19 43 50.3	
	comp=Z,180nm,0.3s							
BOQS	**Boqueron**	**2.00**	**192**	*e*P		**Pn**	**19 43 14.9**	**+0.8**
BOQS				*e*S		**Sb**	**19 43 41.3**	**-0.4**
SBLS	**San Blas**	**2.00**	**202**	*e*P		**Pn**	**19 43 14.8**	**+0.7**
NUBE	**Las Nubes**	**2.01**	**207**	*e*P		**Pn**	**19 43 14.2**	**+0.2**
NUBE				*e*S		**Sn**	**19 43 39.5**	**+0.1**
NUBE	**Las Nubes**	**2.01**	**207**	*i* P		**Pn**	**19 43 14.9**	**+0.8**
NUBE				*i* S		**Sb**	**19 43 41.7**	**-0.1**
NUBE				IAML			19 43 45.1	
	comp=Z,390nm,1.0s							
CEVE	**Cerro Verde**	**2.02**	**202**	*e*P		**Pn**	**19 43 14.8**	**+0.6**
CEVE				*e*S		**Sb**	**19 43 41.1**	**-0.9**
CEVE				IAML			19 43 45.3	
	comp=Z,922nm,0.4s							
CEVE	**Cerro Verde**	**2.02**	**202**	*i* P		**Pg**	**19 43 20.9**	**+2.3**
QUIS	**Sacapulas**	**2.21**	**260**	*i* P		**Pn**	**19 43 16.2**	**-0.7**
QUIS				IAML			19 43 55.0	
	comp=Z,1µm,1.0s							
TECA	**Tecapa**	**2.22**	**172**	*e*P		**Pn**	**19 43 18.5**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.23**	**137**	*e*P		**Pn**	**19 43 18.7**	**+1.7**
PACA	**Pacayal**	**2.28**	**167**	*i* P		**Pb**	**19 43 19.8**	**-1.4**
PACA				*i* S		**Sb**	**19 43 49.8**	**+0.3**
PACA				IAML			19 43 51.4	
	comp=Z,4µm,1.0s							
LCND	**La Caada**	**2.55**	**159**	*e*P		**Pn**	**19 43 23.2**	**+1.9**
LCND				*e*S		**Sb**	**19 43 55.5**	**-1.8**
LCND				IAML			19 44 00.3	
	comp=Z,496nm,0.3s							
YUSH	**Yuscaran**	**2.59**	**132**	*i* P		**Pn**	**19 43 23.1**	**+1.0**
SOKI	**Kika Raxquin**	**2.63**	**251**	*i* P		**Pn**	**19 43 24.8**	**+2.0**
SOKI				IAML			19 43 33.0	
	comp=Z,570nm,1.0s							

*IDC **17** 19:52:49.7±3.0, 36°.06N×71°.16E, h74km±26km, mb3.8/18, mbtmp4.2/23, MS4.2/1, Error ellipse: s-maj=18.5km s-min=13.9km az=9.0*
*MOS **17** 19:52:49.2±1.2, 36°.21N×71°.11E, h66km, mb4.4/14, Error ellipse: s-maj=8.2km s-min=3.5km az=76.7*
*NNC **17** 19:52:51.9±1.8, 36°.68N×70°.71E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=18.0km s-min=10.0km az=155.0*
*NEIC **17** 19:52:53.0±1.1, 36°.27N±0°.04×71°.1E±0°.1, h102km±9km, mb4.2/14, Error ellipse: s-maj=12.4km s-min=5.2km az=78.0*
ISC 17 19:52:52.5±0.5**, 36°.21N**±0°.05×**71°.06E**±0°.04**, h102**km**, n170, σ2s40/188, mb4.1/28, 19C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.35**	**225**			**Pn**	**19 53 30.9**	**+1.0**
KBL	**Kabul**	**2.35**	**225**	PN		**Pn**	**19 53 30.9**	**+1.0**
SIMJ	**Simiganj**	**2.94**	**327**	Pn		**Pn**	**19 53 37.6**	**0.0**
NIL	**Nilore**	**3.13**	**144**			**Pn**	**19 53 41.5**	**+1.4**
NIL	**Nilore**	**3.13**	**144**	PN		**Pn**	**19 53 41.5**	**+1.4**
BTK	**Batken**	**3.84**	**357**			**Pn**	**19 53 50.9**	**+1.3**
BTK	**Batken**	**3.84**	**357**	PN		**Pn**	**19 53 50.9**	**+1.3**
KSH	**Kashi**	**5.10**	**48**	Pn		Pn	19 54 01.6	-5.0
KSH				Sn		Sn	19 54 51.5	-13
KSH				pmax		pmax		
	comp=Z,190nm,0.5s							
KSH				smax		smax		
	comp=N,410nm,0.4s							
KSH				smax		smax		
	comp=E,400nm,0.5s							
ARSB	**Arslanbob**	**5.32**	**16**			**Pn**	**19 54 09.2**	**-0.5**
ARSB	**Arslanbob**	**5.32**	**16**	PN		**Pn**	**19 54 09.2**	**-0.5**
DHRM	**DHARAMSHALA**	**5.87**	**131**	*e*P		**Pn**	**19 54 17.1**	**-0.2**
DHRM				*e*S		**Sn**	**19 55 19.3**	**-4.0**
DHRM				IAML			19 55 23.8	
	comp=N,758nm,0.2s							
DHRM				IAML			19 55 23.9	
	comp=E,493nm,0.1s							
CHM	**Chimkent**	**6.20**	**350**	*e*PN		**Pn**	**19 54 22.2**	**+0.7**
CHM				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CHM	**Chimkent**	**6.20**	**350**	*e*P		**Pn**	**19 54 22.2**	**+0.7**
	comp=Z,9.3nm,0.9s,baz=349							
AML	**Almayashu**	**6.25**	**18**	P		**Pn**	**19 54 22.7**	**+0.2**
	SNR=262							
AML	**Almayashu**	**6.25**	**18**	⇓P		**Pn**	**19 54 22.9**	**+0.3**
	comp=Z,2.2nm,0.2s							
AML				⇑S		**Sn**	**19 55 30.7**	**-2.0**
	comp=Z,52nm,0.8s							
AML	**Almayashu**	**6.25**	**18**	PN		**Pn**	**19 54 22.8**	**+0.2**
NRN	**Naryn**	**6.48**	**35**	Pn		**Pn**	**19 54 24.4**	**-1.2**
NRN	**Naryn**	**6.48**	**35**	PN		**Pn**	**19 54 24.4**	**-1.2**
BHK	**Bhakra**	**6.54**	**136**	*e*P		**Pn**	**19 54 24.8**	**-1.3**
BHK				*e*S		**Sn**	**19 55 34.8**	**-4.5**
UCH	**Uchtor**	**6.58**	**23**	P		**Pn**	**19 54 26.0**	**-1.0**
	SNR=51							
DZA	**Taraz**	**6.67**	**2**	*e*PN		**Pn**	**19 54 28.2**	**+0.3**
DZA	**Taraz**	**6.67**	**2**	*e*P		**Pn**	**19 54 28.2**	**+0.3**
	baz=0.3							
KZA	**Kyzart**	**6.70**	**28**	P		**Pn**	**19 54 28.5**	**-0.1**
	SNR=42							
EKS2	**Erkin-Say**	**6.77**	**17**	P		**Pn**	**19 54 29.9**	**+0.5**
	SNR=31							
KK31	**Karatay Array**	**6.89**	**357**	⇓P		**Pn**	**19 54 30.5**	**-0.4**
	comp=Z,33nm,0.2s,baz=176,slow=12,SNR=1423							
KK31				⇑S		**Sn**	**19 55 43.7**	**-4.1**
	comp=Z,16nm,0.3s,baz=190,slow=25,SNR=9.7							
KK31	**Karatay Array**	**6.89**	**357**	Pn		**Pn**	**19 54 30.6**	**-0.3**
KK31	**Karatay Array**	**6.89**	**357**	PN		**Pn**	**19 54 30.6**	**-0.3**
KKAR	**Karatay Array**	**6.89**	**357**			**Pn**	**19 54 30.6**	**-0.3**
KKAR	**Karatay Array**	**6.89**	**357**	PN		**Pn**	**19 54 30.6**	**-0.3**
AAK	**Ala-Archa**	**6.94**	**21**	P		**Pn**	**19 54 32.3**	**+0.6**
	SNR=91							
AAK	**Ala-Archa**	**6.94**	**21**	P		**Pn**	**19 54 32.1**	**+0.5**
	comp=Z,55nm,0.3s,baz=180,slow=6.5,SNR=287							
AAK				S		**Sn**	**19 55 47.3**	**-1.8**
	comp=Z,24nm,0.4s,baz=335,slow=20,SNR=11							
KBK	**Karagaybulak**	**7.10**	**24**	P		**Pn**	**19 54 34.6**	**+0.8**
	SNR=26							
FRU1	**Bishkek**	**7.14**	**22**			**Pn**	**19 54 35.0**	**+0.7**
FRU1	**Bishkek**	**7.14**	**22**	PN		**Pn**	**19 54 35.0**	**+0.7**
SMLA	**Simla**	**7.18**	**133**	*e*P		**Pn**	**19 54 33.2**	**-1.6**
SMLA				*e*S		**Sn**	**19 55 49.5**	**-5.4**
SMLA				IAML			19 55 53.0	
	comp=N,216nm,0.3s							
SMLA				IAML			19 55 53.4	
	comp=E,176nm,0.3s							
ULHL	**Ulahol**	**7.24**	**32**	P		**Pn**	**19 54 36.1**	**+0.3**
	SNR=45							
CHMS	**Chumysh**	**7.35**	**22**	P		**Pn**	**19 54 37.3**	**+0.2**
	SNR=50							
CHMS	**Chumysh**	**7.35**	**22**	⇓P		**Pn**	**19 54 37.4**	**+0.2**
	comp=E,26nm,0.3s							
CHMS				⇑S		**Sn**	**19 55 56.6**	**-2.3**
	comp=E,32nm,0.6s							
CHMS	**Chumysh**	**7.35**	**22**	P		**Pn**	**19 54 37.3**	**+0.2**
CHMS				S		**Sn**	**19 55 56.6**	**-2.3**
USP	**Ospenovka**	**7.52**	**20**	P		**Pn**	**19 54 39.3**	**-0.2**
	SNR=84							
TKM2	**Tokmak 2**	**7.56**	**26**	P		**Pn**	**19 54 40.4**	**+0.3**
	SNR=43							
TKM2	**Tokmak 2**	**7.56**	**26**	⇑P		**Pn**	**19 54 40.0**	**-0.1**
	comp=E,22nm,0.4s							
TKM2				⇑S		**Sn**	**19 56 03.0**	**-1.2**
	comp=E,31nm,0.8s							
TKM2	**Tokmak 2**	**7.56**	**26**	P		**Pn**	**19 54 40.0**	**-0.1**
TKM2				S		**Sn**	**19 56 03.2**	**-1.0**
SGDS	**Sogindy**	**7.73**	**20**	*e*P		**Pn**	**19 54 41.9**	**-0.4**
SGDS	**Sogindy**	**7.73**	**20**	*e*P		**Pn**	**19 54 42.0**	**-0.4**
	baz=18							
TNSS	**Tian-Shan**	**8.19**	**32**	*e*P		**Pn**	**19 54 47.4**	**-1.4**
TNSS	**Tian-Shan**	**8.19**	**32**	*e*P		**Pn**	**19 54 47.4**	**-1.4**
	baz=30							
DDI	**Dehra Dun**	**8.29**	**133**	*e*P		**Pn**	**19 54 50.5**	**+0.5**
DDI				*e*S		**Sn**	**19 56 17.0**	**-5.0**
AAA	**Alma-Ata**	**8.31**	**31**	*e*P		**Pn**	**19 54 49.2**	**-1.0**
AAA	**Alma-Ata**	**8.31**	**31**	*e*P		**Pn**	**19 54 49.3**	**-1.0**
	baz=30							
MDOK	**Medeo**	**8.33**	**32**	P		**Pn**	**19 54 50.8**	**+0.3**
	comp=E,9.8nm,0.5s							
MDOK	**Medeo**	**8.33**	**32**	*e*P		**Pn**	**19 54 49.4**	**-1.1**
MDOK	**Medeo**	**8.33**	**32**	*e*P		**Pn**	**19 54 49.5**	**-1.1**
	baz=30							
PRZ	**Przheval'sk**	**8.45**	**40**	Pn		**Pn**	**19 54 52.1**	**-0.1**
PRZ	**Przheval'sk**	**8.45**	**40**	P		**Pn**	**19 54 52.1**	**-0.1**
KUU	**Kurty**	**8.67**	**26**	*e*P		**Pn**	**19 54 53.8**	**-1.2**
KUU	**Kurty**	**8.67**	**26**	*e*P		**Pn**	**19 54 53.9**	**-1.2**
	baz=25							
SATY	**Saty**	**8.88**	**37**	*e*P		**Pn**	**19 54 56.7**	**-1.2**
SATY	**Saty**	**8.88**	**37**	*e*P		**Pn**	**19 54 56.7**	**-1.2**
	baz=36							
CHKK	**Chushkaly**	**8.88**	**29**	*e*P		**Pn**	**19 54 56.7**	**-1.1**
CHKK	**Chushkaly**	**8.88**	**29**	*e*P		**Pn**	**19 54 56.7**	**-1.1**
	baz=28							
ZHN	**Zhinishke**	**8.97**	**37**	*e*P		**Pn**	**19 54 58.3**	**-0.9**
ZHN	**Zhinishke**	**8.97**	**37**	*e*P		**Pn**	**19 54 58.4**	**-0.9**
	baz=36							
KHET	**Khetri**	**9.06**	**152**	*e*P		**Pn**	**19 54 57.9**	**-2.4**
BTLS	**Baital**	**9.10**	**13**	*e*P		**Pn**	**19 55 00.3**	**-0.6**
BTLS	**Baital**	**9.10**	**13**	*e*P		**Pn**	**19 55 00.3**	**-0.6**
	baz=12							
UZB	**Uzynbulak**	**9.25**	**39**	*e*P		**Pn**	**19 55 01.8**	**-1.2**
UZB	**Uzynbulak**	**9.25**	**39**	*e*P		**Pn**	**19 55 01.9**	**-1.2**
	baz=38							
KUDL	**Kundal**	**9.27**	**149**	*e*P		**Pn**	**19 55 01.1**	**-2.0**
KUDL				*e*S		Sn	19 56 36.6	-9.0
KPKS	**Kokpek**	**9.31**	**37**	*e*P		**Pn**	**19 55 02.4**	**-1.4**
KPKS	**Kokpek**	**9.31**	**37**	*e*P		**Pn**	**19 55 02.5**	**-1.4**
	baz=35							
SHLS	**Shalkode**	**9.48**	**40**	*e*P		**Pn**	**19 55 08.0**	**+1.8**
SHLS	**Shalkode**	**9.48**	**40**	*e*P		**Pn**	**19 55 08.0**	**+1.8**
	baz=40							
ARXS	**Arharly**	**9.52**	**31**	*e*P		**Pn**	**19 55 04.7**	**-1.9**
PDGK	**Podgornoye**	**9.62**	**40**	⇓P		**Pn**	**19 55 05

DGZ	**Jazzator, Alta**	**17.98**	**36**	*d* P		**P**	**19 56 54.1**	**-0.9**
DGZ					pmax	pmax		
	comp=Z,3.0nm,0.8s							
ZAA0	**Zalesovo Array**	**20.15**	**24**	P		**P**	**19 57 17.6**	**-0.8**
ZAA0				IAmb		IAmb	19 57 19.5	
	comp=Z,11nm,0.8s							
ZALV	**Zalesovo Beam**	**20.15**	**24**	*e*P		**P**	**19 57 18.1**	**-0.3**
ZALV					pmax	pmax		
	comp=Z,10.0nm,0.4s							
ZALV	**Zalesovo Beam**	**20.15**	**24**	P		**P**	**19 57 17.7**	**-0.7**
	comp=Z,9.8nm,0.4s,baz=218,slow=9.6,SNR=51							
	comp=Z,9.8nm,0.4s							
GNI	**Garni**	**21.03**	**289**	P		**P**	**19 57 34.2**	**+6.0**
	comp=Z,13nm,0.8s,baz=136,slow=16,SNR=4.7							
SVE	**Sverdlovsk**	**21.78**	**344**	*e*P		**P**	**19 57 38.5**	**+2.7**
ARU	**Arti**	**21.92**	**341**	P		**P**	**19 57 38.4**	**+1.1**
ARU				IAmb		IAmb	19 57 42.5	
	comp=Z,11nm,0.8s							
ARU	**Arti**	**21.92**	**341**	*c i*P		**P**	**19 57 42.1**	**+4.8**
ARU							19 58 09.8	
ARU					SS	sS	20 02 17.2	+8.8
ARU					pmax	pmax		
	comp=Z,13nm,0.8s							
ARU	**Arti**	**21.92**	**341**	P		**P**	**19 57 39.7**	**+2.4**
	comp=Z,8.1nm,0.5s,baz=156,slow=5.3,SNR=19							
	comp=Z,8.1nm,0.5s							
AKH	**Akhalkalaki**	**22.05**	**292**	P		**P**	**19 57 33.9**	**-5.2**
AKH	**Akhalkalaki**	**22.05**	**292**	P		**P**	**19 57 33.9**	**-5.2**
AKH					pmax	pmax		
	comp=Z,27nm,1.0s							
ONI	**Oni**	**22.21**	**295**	P		**P**	**19 57 40.7**	**+0.2**
ONI	**Oni**	**22.21**	**295**	P		**P**	**19 57 40.7**	**+0.2**
ONI					pmax	pmax		
	comp=Z,7.0nm,1.1s							
KBZ	**Khabaz**	**22.78**	**298**	P		**P**	**19 57 48.4**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=63,slow=11,SNR=2.1							
	comp=Z,1.8nm,0.9s							
GTA	**Gaotai**	**22.90**	**73**	*e*P		**P**	**19 57 49.4**	**+1.7**
GTA					pP	pP	19 58 13.3	+4.4
GTA					pmax	pmax		
	comp=Z,7.0nm,0.9s							
KIV	**Kislovodsk**	**22.97**	**298**	P		**P**	**19 57 47.4**	**-0.9**
KIV	**Kislovodsk**	**22.97**	**298**	*e*P		**P**	**19 57 52.2**	**+3.9**
KIV				*e*S		**S**	**20 01 59.5**	**+8.9**
KIV					pmax	pmax		
	comp=Z,7.0nm,1.0s							
BELG	**Belogornoye**	**23.14**	**322**	P		**P**	**19 57 51.5**	**+1.9**
	comp=Z,7.5nm,0.7s,baz=96,slow=0.4,SNR=8.6							
	comp=Z,7.5nm,0.7s							
ARPR	**Arapgir-MALATY**	**25.99**	**286**	P		**P**	**19 58 14.8**	**-1.1**
ARPR				IAmb		IAmb	19 58 29.0	
	comp=Z,18nm,1.5s							
PZH	**PanZhiHua**	**27.83**	**102**	P		**P**	**19 58 32.6**	**+0.1**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=Z,90nm,5.9s							
SONM	**Songino Array**	**28.46**	**55**	*e*P		**P**	**19 58 38.8**	**+1.0**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**28.46**	**55**	P		**P**	**19 58 38.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=261,slow=9.2,SNR=7.8							
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**29.57**	**288**	P		**P**	**19 58 52.3**	**+4.5**
	comp=Z,0.5nm,0.6s,baz=88,slow=9.8,SNR=3.1							
CM31	**Chiang Mai Arr**	**30.27**	**118**	P		P	19 58 48.5	-5.6
CMAR	**Chiang Mai Arr**	**30.27**	**118**	P		P	19 58 48.2	-5.9
CMAR	**Chiang Mai Arr**	**30.27**	**118**	P		P	19 58 48.2	-5.8
HHC	**Hu-ho-hao-te**	**31.82**	**69**	*e*P		**P**	**19 59 08.0**	**+0.5**
HHC					pmax	pmax		
	comp=Z,43nm,0.8s							
HHC					pmax	pmax		
	comp=Z,220nm,7.1s							
AKASG	**Malin Array Be**	**33.16**	**309**	*e*P		**P**	**19 59 22.4**	**+3.4**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**33.16**	**309**	P		**P**	**19 59 20.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=81,slow=5.9,SNR=4.2							
	comp=Z,0.3nm,0.3s							
NRIK	**Noril'sk**	**34.40**	**10**	*e*P		**P**	**19 59 31.2**	**+1.7**
NRIK					pmax	pmax		
	comp=Z,11nm,2.5s							
FINES	**FINESS Array B**	**37.75**	**326**	*e*P		**P**	**20 00 00.2**	**+2.1**
FINES					pmax	pmax		
	comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**37.75**	**326**	P		**P**	**19 59 60.0**	**+1.9**
	comp=Z,2.5nm,0.6s,baz=124,slow=8.2,SNR=11							
	comp=Z,2.5nm,0.6s							
VYHS	**Vyhne**	**39.76**	**305**	*e*P		**P**	**20 00 19.1**	**+4.0**
VYHS	**Vyhne**	**39.76**	**305**	*e*P		**P**	**20 00 19.1**	**+4.0**
ARCES	**ARCESS Array B**	**41.43**	**338**	P		**P**	**20 00 30.4**	**+1.9**
	comp=Z,1.6nm,0.5s,baz=116,slow=7.6,SNR=20							
	comp=Z,1.6nm,0.5s							
GERES	**GERESS Array B**	**43.13**	**306**	LR		LR	20 19 51.2	
	comp=Z,292nm,19.0s,baz=298,slow=38							
HFS	**Hagfors**	**43.32**	**322**	P		**P**	**20 00 45.6**	**+1.6**
	comp=Z,3.5nm,0.7s,baz=91,slow=12,SNR=15							
	comp=Z,3.5nm,0.7s							
NORES	**NORESS Array B**	**44.45**	**323**	P		**P**	**20 00 54.5**	**+1.5**
NB2	**NORSAR Subarra**	**44.64**	**323**	P		**P**	**20 00 55.6**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.64**	**323**	P		**P**	**20 00 55.9**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=95,slow=7.8,SNR=7.4							
	comp=Z,1.5nm,0.6s							
KSRS	**Korea Array**	**44.93**	**71**	*e*P		**P**	**20 00 57.8**	**+0.7**
KSRS					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KSRS	**Korea Array**	**44.93**	**71**	P		**P**	**20 00 57.3**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=272,slow=7.4,SNR=5.4							
	comp=Z,0.9nm,0.5s							
TIXI	**Tiksi**	**46.02**	**22**	P		**P**	**20 01 05.3**	**+0.1**
TIXI				IAmb		IAmb	20 01 08.0	
	comp=Z,2.2nm,0.8s							
TIXI	**Tiksi**	**46.02**	**22**	P		**P**	**20 01 05.3**	**+0.1**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**47.78**	**347**	P		**P**	**20 01 21.1**	**+2.2**
	comp=Z,13nm,1.0s,baz=98,slow=11,SNR=5.2							
	comp=Z,13nm,1.0s							
PEA0B	**Petropavlovsk-**	**60.14**	**44**	*ce*P		**P**	**20 02 51.8**	**+2.7**
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P		**P**	**20 03 26.2**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=46,slow=6.3,SNR=17							
	comp=Z,1.6nm,0.6s							
ILAR	**Eielson Array**	**75.04**	**16**	*e*P		**P**	**20 04 24.3**	**+1.8**
ILAR	**Eielson Array**	**75.04**	**16**	P		**P**	**20 04 22.1**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=333,slow=5.0,SNR=4.7							
	comp=Z,0.6nm,1.0s							
BOSA	**Boshof**	**77.56**	**220**	P		**P**	**20 04 39.0**	**+1.6**
BOSA	**Boshof**	**77.56**	**220**	P		**P**	**20 04 39.0**	**+1.6**
	comp=Z,3.1nm,0.7s,baz=11,slow=4.3,SNR=8.1							
	comp=Z,3.1nm,0.7s							
YKA	**Yellowknife Ar**	**81.53**	**3**	*e*P		**P**	**20 04 59.0**	**+0.7**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**81.53**	**3**	P		**P**	**20 04 58.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=348,slow=5.5,SNR=22							
	comp=Z,0.9nm,0.6s							
WRA	**Warramunga Arr**	**81.80**	**122**	P		**P**	**20 04 59.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=323,slow=5.2,SNR=26							
	comp=Z,0.5nm,0.3s							
ASAR	**Alice Springs**	**84.05**	**125**	P		**P**	**20 05 11.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=314,slow=5.1,SNR=9.2							
	comp=Z,0.5nm,0.6s							

IDC 17 20:15:31.5±20.0, 7.12N×93.91E, h0km, mb3.6/4, mbtmp3.6/5, ML4.1/1, MS4.0/3, Error ellipse: s-maj=396.0km s-min=86.4km az=148.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.29**	**23**	Pn	Pn	20 18 28.4	+0.5
	0.3nm,0.3s,baz=208,slow=11,SNR=3.1						
	0.4nm,0.3s						
H08S3	**Diego Garcia H**	**25.91**	**236**	T	T	20 47 49.2	
	baz=55,slow=74						
H08S2	**Diego Garcia H**	**25.91**	**236**	T	T	20 47 52.5	
	baz=55,slow=74						
H08S1	**Diego Carcia H**	**25.93**	**236**	T	T	20 48 01.3	
	baz=55						
JOW	**Kunigami**	**38.07**	**55**	LR	LR	20 40 10.7	
	comp=Z,77nm,20.4s,baz=124,slow=39						
MKAR	**Makanchi Array**	**40.77**	**348**	P	P	20 23 12.3	-2.1
	0.9nm,0.9s,baz=168,slow=7.4,SNR=3.6						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**45.21**	**346**	P	P	20 23 50.7	+0.4
	0.8nm,0.8s,baz=170,slow=7.3,SNR=10						
KURBB				LR	LR	20 45 20.0	
	comp=Z,156nm,18.8s,baz=153,slow=40						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**47.27**	**353**	P	P	20 24 06.7	+0.2
	1.1nm,0.8s,baz=178,slow=8.2,SNR=5.0						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**49.62**	**342**	P	P	20 24 25.4	+0.7
	0.2nm,0.5s,baz=152,slow=6.5,SNR=1.9						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**64.97**	**211**	T	T	21 36 52.4	
	baz=48						
H04N1	**CROZET ISLANDS**	**64.98**	**211**	T	T	21 36 58.4	
	baz=48						
H04N3	**CROZET ISLANDS**	**64.99**	**211**	T	T	21 36 44.4	
	baz=48						
DAVOX	**Davos/Dischmat**	**80.77**	**316**	LR	LR	21 13 01.6	
	comp=Z,218nm,18.3s,baz=260,slow=43						

NOU 17 20:23:39.3, 21.07S×168.93E, h0km, MLv4.0/10, Loyalty Islands
IDC 17 20:23:42.1±1.1, 21.27S×168.67E, h0km, mb4.1/8, mbtmp4.0/9, ML3.3/1, MS3.4/7, Error ellipse: s-maj=33.7km s-min=22.3km az=145.0
ISC 17 20:23:44.3±0.8, 21.17S±0.09×168.61E±0.10, h10km, n32, σ0s 24/29, mb4.1/8, MS3.3/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.62**	**240**	P	**Pg**	**20 23 56.6**	**+0.3**
LIFNC	**LIFOU**	**1.33**	**287**	P	**Pn**	**20 24 08.6**	**-0.4**
PINNC	**Pines Island,**	**1.79**	**217**	P	**Pn**	**20 24 15.4**	**+0.1**
YATNC	**Mamie plateau,**	**1.82**	**241**	P	**Pn**	**20 24 15.6**	**-0.1**
OUENC	**Ouen Island, N**	**2.06**	**233**	P	**Pn**	**20 24 19.1**	**+0.2**
DZM	**Mont Dzumac**	**2.20**	**246**	P	**Pn**	**20 24 20.8**	**-0.2**
DZM	**Mont Dzumac**	**2.20**	**246**	Pn	**Pn**	**20 24 20.6**	**-0.5**
	9.3nm,0.3s,baz=88,slow=9.8,SNR=39						
DZM				Sn	**Sn**	**20 24 47.8**	**-0.6**
	69nm,0.3s,baz=144,slow=19,SNR=12						
DZM				LR	LR	20 25 09.4	
	comp=Z,480nm,19.4s,baz=5.5,slow=39						
	26nm,0.3s						
ONTNC	**Ouen Toro**	**2.30**	**240**	P	**Pn**	**20 24 23.3**	**+1.1**
NOUC	**Port Laguerre**	**2.33**	**246**	P	**Pn**	**20 24 23.3**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.08**	**278**	P	**Pn**	**20 24 47.1**	**+0.3**
CTA	**Charters Tower**	**20.95**	**269**	LR	LR	20 35 37.1	
	comp=Z,163nm,18.2s,baz=87,slow=34						
PMG	**Port Moresby**	**23.73**	**296**	LR	LR	20 36 40.2	
	comp=Z,63nm,19.2s,baz=96,slow=33						
STKA	**Stephens Creek**	**26.35**	**241**	P	**P**	**20 29 20.9**	**+0.3**
	1.0nm,0.7s,baz=80,slow=8.8,SNR=3.6						
STKA				LR	LR	20 38 38.4	
	comp=Z,105nm,19.3s,baz=26,slow=34						
	1.0nm,0.7s						
RAR	**Rarotonga**	**29.46**	**96**	LR	LR	20 42 12.7	
	comp=Z,57nm,18.0s,baz=130,slow=38						
WRA	**Warramunga Arr**	**32.07**	**266**	P	**P**	**20 30 10.3**	**-1.4**
	1.1nm,0.9s,baz=103,slow=7.1,SNR=1.7						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**32.13**	**259**	P	**P**	**20 30 11.4**	**-0.7**
	4.7nm,0.7s,baz=81,slow=9.2,SNR=77						
ASAR				LR	LR	20 44 34.8	
	comp=Z,46nm,19.0s,baz=63,slow=39						
	4.7nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.82**	**244**	LR	LR	20 51 56.2	
	comp=Z,94nm,18.3s,baz=152,slow=36						
QSPA	**South Pole Qui**	**68.89**	**180**	P	**P**	**20 34 48.0**	**-1.2**
	2.3nm,0.6s,baz=347,slow=1.5,SNR=6.1						
	2.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**73.18**	**333**	P	**P**	**20 35 15.4**	**+0.3**
	2.7nm,0.7s,baz=129,slow=2.7,SNR=4.4						
	2.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**78.76**	**295**	P	**P**	**20 35 48.4**	**+0.8**
	0.5nm,0.6s,baz=152,slow=5.9,SNR=4.4						
	0.5nm,0.6s						
SONM	**Songino Array**	**88.40**	**323**	P	**P**	**20 36 36.4**	**-0.2**
	1.2nm,0.9s,baz=145,slow=5.3,SNR=6.1						
	1.2nm,0.9s						
NVAR	**Mina Array Bea**	**90.52**	**49**	P	**P**	**20 36 45.5**	**-1.4**
	0.6nm,0.7s,baz=245,slow=8.6,SNR=3.0						
	0.6nm,0.7s						
RONA	**Rosalia, Austr**	**145.38**	**326**	*e*PKP	**PKPbc**	**20 43 22.7**	**+0.3**
	4.0nm,0.7s						
CONA	**Conrad Observa**	**145.46**	**327**	*e*PKP	**PKPbc**	**20 43 22.5**	**-0.2**
	4.0nm,0.7s						
GERES	**GERESS Array B**	**145.88**	**330**	PKPbc	**PKPdf**	**20 43 23.6**	**+0.2**
	5.0nm,0.7s,baz=64,slow=2.3,SNR=11						
SOKA	**Soboth**	**146.70**	**326**	*e*PKP	**PKPdf**	**20 43 25.8**	**+1.0**
	1.8nm,0.6s						
LESA	**Schwarzleotal**	**147.37**	**329**	*e*PKP	**PKPdf**	**20 43 27.5**	**+1.5**
	3.6nm,0.7s						
MYKA	**Terra Mystica**	**147.45**	**327**	*e*PKP	**PKPdf**	**20 43 27.5**	**+1.4**
	1.8nm,0.4s						
ABTA	**Abfaltersbach**	**147.93**	**328**	*e*PKP	**PKPdf**	**20 43 28.6**	**+1.7**
	3.2nm,0.7s						
MOTA	**Moosalm**	**148.17**	**330**	*e*PKP	**PKPdf**	**20 43 29.7**	**+2.3**
	3.4nm,0.7s						
SQTA	**Sankt Quirin**	**148.21**	**330**	*e*PKP	**PKPdf**	**20 43 30.0**	**+2.6**
	2.7nm,0.6s						
FETA	**Feichten**	**148.58**	**330**	*e*PKP	**PKPdf**	**20 43 31.3**	**+3.3**
	2.6nm,0.7s						

YARS 17 21:04:56.2, 71.96N×131.66E, h3km
IDC 17 21:04:58.6±1.5, 70.80N×128.01E, h0km, mb3.5/4, mbtmp3.5/4, MS3.9/1, Error ellipse: s-maj=52.2km s-min=26.5km az=146.0
ISC 17 21:04:60.0±1.2, 71.10N±0.1×128.0E±0.1, h10km, n7, σ0s 83/8, mb3.4/4, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIXI	**Tiksi**	**0.76**	**23**	*i* Pg	**Pg**	**21 05 13.7**	**-1.0**
	2µm,0.3s						
TIXI				*i* Sg	**Sb**	**21 05 25.9**	**+0.3**
	9µm,0.2s						
TIXI				*i* Sg	**Sb**	**21 05 25.9**	**+0.3**
	10µm,0.3s						
NRIK	**Noril'sk**	**13.63**	**283**	Sn	**Sn**	**21 10 44.3**	**0.0**
	0.2nm,0.3s,baz=28,slow=3.2,SNR=1.7						
NRIK				Lg	Lg	21 12 08.8	
	0.3nm,0.3s,baz=138,slow=12,SNR=1.9						
SONM	**Songino Array**	**25.35**	**215**	P	**P**	**21 10 25.7**	**-1.1**
	0.6nm,0.7s,baz=7.4,slow=11,SNR=6.1						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**30.09**	**58**	P	**P**	**21 11 09.8**	**+0.8**
	0.4nm,0.8s,baz=323,slow=10,SNR=5.2						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**32.44**	**246**	P	**P**	**21 11 29.9**	**+0.1**
	0.2nm,0.4s,baz=44,slow=7.2,SNR=8.2						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**45.79**	**299**	P	**P**	**21 13 21.9**	**+0.7**
	0.5nm,0.4s,baz=29,slow=8.0,SNR=2.0						
	0.5nm,0.4s						
PDAR	**Pinedale Array**	**59.39**	**46**	LR	LR	21 43 41.7	
	comp=Z,101nm,19.2s,baz=48,slow=39						

ECX 17 21:11:51.3±0.4, 30.59N×114.20W, h20km±13km, ML2.5
MEX 17 21:11:51.7±0.5, 30.67N×114.29W, h5km, MD2.7
ISC 17 21:11:49.1±1.4, 30.56N±0.06×114.18W±0.04, h15km±12km, n12, σ0s 50/19, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.75**	**310**	*i* P	**Pb**	**21 12 04.1**	**+0.3**
SFX				*i* S	**Sb**	**21 12 14.4**	**+0.5**
SFX	**San Felipe**	**0.75**	**310**	*e*P	**Pb**	**21 12 04.2**	**+0.3**
SFX				*e*S	**Sg**	**21 12 14.0**	**+0.4**
SFX				IAML		21 12 15.3	
	comp=E,93nm,0.3s						
SFX				⇓*e*		21 12 15.3	
SLGB	**San Luis Gonza**	**0.75**	**195**	*e*P	**Pn**	**21 12 04.8**	**-0.3**
SLGB				*e*S	**Sn**	**21 12 15.8**	**-0.4**
PPXB	**Puerto Peasco**	**0.90**	**31**	*e*P	**Pb**	**21 12 06.4**	**-0.1**
PIX	**Pinacate**	**1.17**	**31**	*e*P	**Pg**	**21 12 11.3**	**-0.4**
ECBX	**El Chinero**	**1.18**	**321**	*e*P	**Pn**	**21 12 10.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.21**	**294**	*e*P	**Pg**	**21 12 12.4**	**-0.1**
SPIG				*e*S	**Sb**	**21 12 27.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.21**	**294**	*e*P	**Pn**	**21 12 11.6**	**-0.2**
SPIG				*e*S	**Sb**	**21 12 27.3**	**-0.2**
SQX	**San Quintin**	**1.47**	**271**	*e*P	**Pn**	**21 12 15.5**	**+0.5**
SQX				*e*S	**Sn**	**21 12 34.2**	**+0.3**
SQX				IAML		21 12 36.9	
	comp=E,94nm,0.2s						
SQX				⇑*e*		21 12 36.9	
SQX				*e*		21 12 38.3	
SQX				IAML		21 12 38.3	
	comp=N,94nm,0.2s						
LAPR	**La Primavera**	**1.60**	**92**	*i* S	**Sg**	**21 12 41.6**	**+0.9**
214A	**Organ Pipe Nat**	**1.82**	**40**	*i* P	**Pg**	**21 12 23.6**	**-0.4**
214A				*i* S	**Sg**	**21 12 48.1**	**+0.4**
CBX	**Cerro Bola**	**2.75**	**310**	*e*S	**Sg**	**21 13 16.6**	**-1.0**

IDC 17 21:21:06.0±4.5, 17.76S×178.67W, h570km±51km, mb3.2/10, mbtmp4.1/11, Error ellipse: s-maj=45.7km s-min=21.3km az=144.0
ISC 17 21:21:06.4±1.1, 17.85±0.3×178.7W±0.2, h579km, n15, σ0s 87/16, mb3.5/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.59**	**251**	P	**P**	**21 24 10.4**	**-0.9**
	5.5nm,0.5s,baz=84,slow=18,SNR=2.6						
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**21 27 40.3**	**+0.8**
	2.7nm,0.5s,baz=84,slow=11,SNR=6.1						
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**44.37**	**259**	P	**P**	**21 28 26.4**	**-0.2**
	1.2nm,0.7s,baz=96,slow=7.1,SNR=4.8						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**21 28 28.4**	**+0.6**
	9.8nm,0.5s,baz=88,slow=8.4,SNR=200						
ASAR				PcP	**PcP**	**21 29 58.2**	**-0.2**
	0.4nm,0.4s,baz=105,slow=4.2,SNR=5.2						
	9.8nm,0.5s						
MJAR	**Matsushiro Arr**	**67.66**	**324**	P	**P**	**21 31 07.3**	**+0.7**
	1.2nm,0.5s,baz=163,slow=5.4,SNR=2.1						
	1.2nm,0.5s						
PETK	**Petropavlovsk-**	**73.51**	**345**	P	**P**	**21 31 41.5**	**+0.8**
	2.1nm,0.7s,baz=133,slow=6.1,SNR=2.4						
	2.1nm,0.7s						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**21 32 14.6**	**+0.3**
	0.4nm,0.5s,baz=213,slow=8.0,SNR=3.4						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**21 32 44.2**	**-0.8**
	0.5nm,0.4s,baz=220,slow=5.4,SNR=17						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**21 32 48.7**	**+1.2**
	0.4nm,0.7s,baz=230,slow=5.6,SNR=5.6						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**21 32 53.6**	**+0.1**
	0.4nm,0.5s,baz=226,slow=3.3,SNR=5.3						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**21 33 22.9**	**-1.5**
	0.2nm,0.5s,baz=237,slow=4.5,SNR=3.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**108.86**	**314**	PKiKP	**PKiKP**	**21 38 29.3**	**-1.2**
	0.1nm,0.6s,baz=83,slow=1.2,SNR=4.3						
BVAR	**Borovoye Array**	**116.59**	**321**	PKP	**PKPdf**	**21 38 44.5**	**-0.6**
	0.4nm,0.4s,baz=121,slow=3.7,SNR=2.6						
BRTR	**Keskin Array B**	**144.51**	**315**	PKP	**PKPab**	**21 39 38.6**	**-0.1**
	0.5nm,0.4s,baz=119,slow=2.3,SNR=5.8						
MMAI	**Mount Meron Ar**	**145.85**	**303**	PKPbc	**PKPbc**	**21 39 42.9**	**+0.8**
	0.7nm,0.4s,baz=76,slow=6.1,SNR=4.5						

JMA 17 22:00:30.9±0.8, 34.N±1.×14.2E±., h29km, MV2.8/19, FAR SE OFF BOSO PEN
IDC 17 22:00:33.6±4.4, 33.41N×139.89E, h0km, mb3.2/3, mbtmp3.2/4, ML2.2/1, Error ellipse: s-maj=158.9km s-min=26.6km az=72.0
ISC 17 22:00:32.4±1.8, 34.10N±0.09×141.6E±0.2, h35km, n9, σ0s 94/11, mb3.1/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.78**	**316**	P	**Pn**	**22 00 45.2**	**-1.2**
BSO4	**Boso 4**	**1.39**	**310**	*e*P	**Pn**	**22 00 55.4**	**+0.2**
JKUC	**kamogawauchiur**	**1.59**	**312**	*e*P	**Pn**	**22 00 57.7**	**-0.3**
JKUC				*e*S	**Sn**	**22 01 18.6**	**+1.3**
JHJ2	**Mitsune**	**1.81**	**238**	*e*P	**Pn**	**22 01 00.6**	**-0.3**
JOD2	**Odawara 2**	**2.40**	**300**	*e*P	**Pn**	**22 01 08.9**	**-0.2**
MJAR	**Matsushiro Arr**	**3.71**	**312**	Pn	**Pn**	**22 01 27.2**	**0.0**
	0.2nm,0.3s,baz=166,slow=13,SNR=9.6						
MJAR				Sn	**Sn**	**22 02 08.1**	**-1.7**
	0.2nm,0.3s,baz=120,slow=32,SNR=5.1						
	1.5nm,0.4s						
SONM	**Songino Array**	**29.66**	**308**	P	**P**	**22 06 35.4**	**+0.8**
	0.2nm,0.5s,baz=108,slow=8.4,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**45.88**	**305**	P	**P**	**22 08 51.5**	**+0.3**
	0.1nm,0.5s,baz=88,slow=9.1,SNR=1.5						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**54.18**	**188**	P	**P**	**22 09 54.0**	**-0.3**
	0.3nm,0.7s,baz=1.1,slow=7.5,SNR=1.4						
	0.3nm,0.7s						

*NEIC 17 22:05:21.6±1.5, 43.75N±0.05×105.36W±0.06, h0km±1km, ML3.1/64, Error ellipse: s-maj=9.4km s-min=7.

Q24A	**Divide**	**4.75**	**178**		**Pn**	**22 06 37.3**	**+1.3**
DGMT	**Dagmar**	**4.82**	**9**		**Pn**	**22 06 36.7**	**+0.1**
BOZ	**Bozeman (W)**	**4.83**	**295**		**Pn**	**22 06 37.1**	**+0.2**
BOZ				IAML		22 07 24.2	
	comp=E,12nm,5.0s						
BOZ				IAML		22 08 15.4	
	comp=E,13nm,3.9s						
HWUT	**Hardware Ranch**	**5.02**	**247**		**Pn**	**22 06 39.7**	**+0.2**
BSUT	**Blindstream Ca**	**5.11**	**233**		**Pn**	**22 06 42.4**	**+1.6**
BSUT				IAML		22 08 08.2	
	comp=N,9.6nm,3.2s						
BSUT				IAML		22 08 16.5	
	comp=E,10nm,4.1s						
KSCO	**Kaye Shedlock'**	**5.14**	**155**		**Pn**	**22 06 42.2**	**+1.2**
EGMT	**Eagleton**	**5.28**	**326**		**Pn**	**22 06 42.4**	**-0.5**
LYMT	**Lyon Mountain**	**5.85**	**306**		**Pn**	**22 06 51.2**	**+0.3**
SDCO	**Great Sand Dun**	**5.97**	**181**	Pn	**Pn**	**22 06 52.8**	**+0.2**
S22A	**4UR Ranch, Cre**	**6.07**	**191**		**Pn**	**22 06 55.7**	**+1.7**
ECSD	**EROS Data Cent**	**6.36**	**87**	Pn	**Pn**	**22 06 57.0**	**-0.7**
CBKS	**Cedar Bluff**	**6.49**	**137**	Pn	**Pn**	**22 07 00.3**	**+0.8**
I10CA	**LAC DU BONNET**	**9.11**	**41**	I	I	23 06 50.0	
	baz=218,slow=309,SNR=9.4						
ULM	**Lac du Bonnet**	**9.21**	**42**	Pn	**Pn**	**22 07 35.4**	**-1.4**
	comp=E,3.1nm,0.3s,baz=228,slow=11,SNR=31						
ULM				Lg	Lg	22 10 07.1	
	comp=E,0.5nm,0.3s,baz=144,slow=18,SNR=4.4						
	comp=E,4.6nm,0.3s						
NVAR	**Mina Array Bea**	**11.09**	**246**	Pn	**Pn**	**22 08 05.3**	**+2.6**
	comp=E,0.1nm,0.3s,baz=48,slow=15,SNR=2.9						
	comp=E,0.4nm,0.6s						

*ISK **17** 22:06:37.9, 37˚.08N×28˚.60E, h5km, ML3.6/37*
*IDC **17** 22:06:37.9±1.2, 37˚.05N×28˚.62E, h0km, mb3.9/4, mbtmp3.9/9, ML3.8/5, MS3.6/2, Error ellipse: s-maj=20.4km s-min=19.3km az=110.0*
*AFAD **17** 22:06:38.7±0.0, 37˚.09N×28˚.61E, h7km±2km, MW3.7*
*THE **17** 22:06:39.4, 37˚.10N×28˚.55E, h0km±1km, ML3.4/1, Error ellipse: s-maj=2.1km s-min=1.3km az=105.0*
*ATH **17** 22:06:40.0, 37˚.06N×28˚.56E, h7km±2km, ML3.5/5, Error ellipse: s-maj=3.0km s-min=1.2km az=194.0*
*GII **17** 22:06:41.5±0.4, 36˚.875N±0˚.002×28˚.799E±0˚.001, h3km, Mws3.5, confirmed*

ISC 17 22:06:39.3±0.9, 37˚.10N±0˚.02×28˚.61E±0˚.01, h11km±6km, n137, σ1°24/167, mb4.0/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.26**	**279**	Pg	**Pg**	**22 06 44.2**	**-0.5**
YER				Sg	**Sg**	**22 06 49.1**	**+0.8**
YER	**Yerkesik**	**0.26**	**279**	P	**Pg**	**22 06 44.1**	**-0.6**
YER				S	**Sg**	**22 06 48.5**	**+0.2**
DALY	**Dalyan (Mula)**	**0.28**	**172**	Pg	**Pg**	**22 06 44.8**	**-0.1**
DALY				Sg	**Sg**	**22 06 49.5**	**+0.8**
MULA	**Mugla, Merkez-**	**0.28**	**305**	P	**Pg**	**22 06 44.5**	**-0.5**
MULA				S	**Sg**	**22 06 49.3**	**+0.4**
MULA				*i* AML	AML	22 06 51.0	
	comp=N,4μm,0.4s						
MULA				*i* AML	AML	22 06 54.0	
	comp=E,6μm,0.7s						
TURN	**Turunc**	**0.43**	**222**	Pg	**Pg**	**22 06 46.9**	**-0.8**
TURN				Sg	**Sb**	**22 06 54.4**	**-1.0**
TURN	**Turunc**	**0.43**	**222**	P	**Pg**	**22 06 47.0**	**-0.8**
TURN				S	**Sg**	**22 06 54.2**	**+0.8**
TAVA	**DENIZLI_Tavas**	**0.44**	**33**	P	**Pg**	**22 06 46.9**	**-1.1**
TAVA				S	**Sg**	**22 06 54.1**	**+0.2**
TAVA				*i* AML	AML	22 06 55.0	
	comp=N,2μm,0.8s						
TAVA				*i* AML	AML	22 06 57.0	
	comp=E,2μm,0.5s						
FETI	**Fethiye-Mugla**	**0.56**	**136**	Pg	**Pg**	**22 06 49.8**	**-0.4**
CAEL	**Denizli, Camel**	**0.57**	**87**	P	**Pg**	**22 06 50.2**	**-0.2**
CAEL				*i* AML	AML	22 07 10.0	
	comp=E,4μm,0.8s						
CAEL				*i* AML	AML	22 07 14.0	
	comp=N,6μm,0.8s						
CAME	**Cameli-Denizli**	**0.58**	**105**	Pg	**Pg**	**22 06 49.9**	**-0.6**
FETY	**Fethiye**	**0.60**	**140**	Pg	**Pg**	**22 06 50.6**	**-0.3**
DNIZ	**Denizli-Tavas-**	**0.63**	**33**	P	**Pg**	**22 06 50.8**	**-0.7**
DNIZ				*i* AML	AML	22 07 00.0	
	comp=N,4μm,0.5s						
DNIZ				S	**Sg**	**22 07 00.0**	**+0.1**
DNIZ				*i* AML	AML	22 07 03.0	
	comp=E,5μm,0.3s						
APMY	**Acipayam-Deniz**	**0.67**	**56**	Pg	**Pg**	**22 06 51.8**	**-0.5**
APMY				Sg	**Sb**	**22 07 02.8**	**+0.4**
MLSB	**Milas**	**0.69**	**287**	Pg	**Pg**	**22 06 52.4**	**-0.3**
MLSB				Sg	**Sb**	**22 07 03.2**	**+0.2**
RFTAA	**Mazikoy-Bodrum**	**0.70**	**262**	Pg	**Pg**	**22 06 52.4**	**-0.3**
ESEN	**Aydn-Nazilli**	**0.73**	**344**	P	**Pg**	**22 06 52.0**	**-1.5**
ESEN				S	**Sg**	**22 07 02.3**	**-0.7**
ESEN				*i* AML	AML	22 07 09.0	
	comp=N,1μm,0.4s						
ESEN				*i* AML	AML	22 07 09.0	
	comp=E,1μm,0.5s						
GOLH	**Golhisar**	**0.78**	**79**	P	**Pg**	**22 06 53.7**	**-0.5**
GOLH				S	**Sn**	**22 07 07.3**	**-0.7**
GOLH				*i* AML	AML	22 07 14.0	
	comp=E,1μm,0.6s						
GOLH				*i* AML	AML	22 07 19.0	
	comp=N,1μm,1.0s						
KNIK	**Mula-Seydike**	**0.81**	**108**	P	**Pg**	**22 06 54.4**	**-0.5**
KNIK				S	**Sn**	**22 07 08.4**	**-0.5**
KNIK				*i* AML	AML	22 07 09.0	
	comp=N,556nm,0.4s						
KNIK				*i* AML	AML	22 07 13.0	
	comp=E,585nm,0.6s						
IZZE	**Mula-Seydike**	**0.82**	**143**	P	**Pb**	**22 06 54.4**	**-1.2**
IZZE				S	**Sn**	**22 07 09.1**	**+0.1**
IZZE				*i* AML	AML	22 07 12.0	
	comp=E,2μm,0.4s						
IZZE				*i* AML	AML	22 07 15.0	
	comp=N,2μm,0.4s						
DATC	**Datca-Mugla**	**0.83**	**246**	Pg	**Pb**	**22 06 54.9**	**-0.8**
DAT	**Datca**	**0.90**	**246**	Pg	**Pb**	**22 06 56.5**	**-0.5**
DAT	**Datca**	**0.90**	**246**	P	**Pb**	**22 06 55.7**	**-1.3**
DAT				S	**Sn**	**22 07 10.3**	**-0.8**
BDRM	**Kayabasi**	**0.93**	**269**	P	**Pb**	**22 06 56.8**	**-0.7**
BDRM				S	**Sn**	**22 07 13.5**	**+1.7**
BDRM				*i* AML	AML	22 07 15.0	
	comp=E,1μm,0.6s						
ARG	**Arkhangelos**	**0.96**	**204**	Pg	**Pb**	**22 06 57.2**	**-0.7**
ARG	**Arkhangelos**	**0.96**	**204**	P	**Pb**	**22 06 57.2**	**-0.7**
ARG				S	**Sn**	**22 07 13.5**	**+1.1**
	2μm,0.6s						
ARG	**Arkhangelos**	**0.96**	**204**	P	**Pb**	**22 06 57.1**	**-0.8**
ARG				S	**Sb**	**22 07 09.9**	**-0.7**
ARG				AML	AML	22 07 14.8	
	comp=N,1478μm,0.4s						
ARG				AML	AML	22 07 15.8	
	comp=E,5049μm,0.7s						
INCE	**Denizli-Bozkur**	**0.98**	**51**	P	**Pb**	**22 06 57.3**	**-1.1**
INCE				S	**Sn**	**22 07 13.9**	**+0.7**
INCE				*i* AML	AML	22 07 17.0	
	comp=E,1μm,1.1s						
INCE				*i* AML	AML	22 07 19.0	
	comp=E,1μm,0.7s						
YAZI	**Mula-Datşa-**	**1.01**	**246**	P	**Pn**	**22 06 58.9**	**-0.6**
YAZI				S	**Sn**	**22 07 15.6**	**+1.9**
YAZI				*i* AML	AML	22 07 20.0	
	comp=E,614nm,0.6s						
YAZI				*i* AML	AML	22 07 22.0	
	comp=E,570nm,0.6s						
BODT	**Bodrum**	**1.04**	**269**	Pg	**Pb**	**22 06 58.7**	**-0.6**
BODT				Sg	**Sn**	**22 07 14.4**	**0.0**
BODT	**Bodrum**	**1.04**	**269**	P	**Pb**	**22 06 58.7**	**-0.6**
BODT				S	**Sn**	**22 07 13.7**	**-0.7**
ELL	**Elmali**	**1.10**	**108**	Pn	**Pg**	**22 07 00.4**	**0.0**
KIRA	**zmir-Kiraz**	**1.11**	**352**	P	**Pb**	**22 07 00.0**	**-0.6**
KIRA				*i* AML	AML	22 07 23.0	
	comp=E,727nm,0.7s						
KIRA				*i* AML	AML	22 07 24.0	
	comp=E,512nm,0.4s						
DDIM	**Aydin, Didim**	**1.15**	**289**	P	**Pn**	**22 07 00.4**	**-0.9**
DDIM				S	**Sg**	**22 07 19.9**	**+3.6**
DDIM				*i* AML	AML	22 07 22.0	
	comp=E,2μm,0.6s						
DDIM				*i* AML	AML	22 07 24.0	
	comp=E,2μm,0.6s						
IZMR	**zmir-demi**	**1.16**	**334**	P	**Pb**	**22 07 01.1**	**-0.3**
IZMR				S	**Sg**	**22 07 17.9**	**+1.1**
IZMR				*i* AML	AML	22 07 23.0	
	comp=E,621nm,0.5s						
IZMR				*i* AML	AML	22 07 28.0	
	comp=E,430nm,0.6s						
AKAS	**Kas**	**1.18**	**137**	Pn	**Pg**	**22 07 01.8**	**-0.1**
KSL	**Kastellorizon**	**1.23**	**140**	P	**Pg**	**22 07 02.8**	**0.0**
KSL				S	**Sg**	**22 07 19.6**	**+0.8**
KSL				AML	AML	22 07 29.1	
	comp=E,3850μm,0.5s						
KSL				AML	AML	22 07 31.1	
	comp=N,2906μm,0.7s						
GCAM	**G?zelcami?**	**1.25**	**299**	Pn	**Pg**	**22 07 03.1**	**-0.2**
GCAM	**G?zelcami?**	**1.25**	**299**	P	**Pb**	**22 07 02.6**	**-0.3**
GCAM				S	**Sg**	**22 07 20.2**	**+0.7**
GCAM				*i* AML	AML	22 07 24.0	
	comp=N,866nm,0.4s						
GCAM				*i* AML	AML	22 07 26.0	
	comp=N,999nm,0.7s						
KLNA	**Kalymnos**	**1.31**	**264**	P	**Pb**	**22 07 03.7**	**-0.3**
DEMR	**Demre-Antalya**	**1.35**	**129**	Pn	**Pg**	**22 07 05.0**	**-0.2**
KORT	**Korkueli**	**1.40**	**93**	Pn	**Pg**	**22 07 05.8**	**-0.3**
BASM	**Basmaki-Afyon**	**1.41**	**54**	Pn	**Pg**	**22 07 05.8**	**-0.6**
KULA	**Kula-Manisa**	**1.42**	**2**	Pn	**Pb**	**22 07 05.2**	**-0.6**
KULA	**Kula-Manisa**	**1.42**	**2**	P	**Pb**	**22 07 05.1**	**-0.7**
KULA				S	**Sg**	**22 07 24.7**	**-0.3**
KHL	**Karahalli**	**1.43**	**30**	Pn	**Pg**	**22 07 06.3**	**-0.3**
SMG	**Samos**	**1.54**	**294**	P	**Pb**	**22 07 06.8**	**-1.0**
SMG	**Samos**	**1.54**	**294**	P	**Pn**	**22 07 06.6**	**-0.1**
SMG				S	**Sn**	**22 07 24.9**	**-1.8**
SMG				AML	AML	22 07 33.7	
	comp=E,1908μm,0.4s						
SMG				AML	AML	22 07 34.9	
	comp=N,1937μm,0.5s						
BCK	**Bucak**	**1.62**	**76**	Pn	**Pb**	**22 07 09.0**	**-0.3**
KEMT	**Kemer-ANTALYA**	**1.64**	**107**	Pn	**Pb**	**22 07 09.1**	**-0.4**
ANTB	**Antalya**	**1.65**	**96**	Pn	**Pb**	**22 07 09.4**	**-0.3**
GMLD	**Gumuldur**	**1.66**	**307**	Pn	**Pb**	**22 07 09.9**	**0.0**
DGB	**zmir**	**1.67**	**305**	P	**Pb**	**22 07 08.9**	**-1.2**
DGB				S	**Sb**	**22 07 24.8**	**-0.3**
ISP	**Isparta**	**1.69**	**64**	Pn	**Pb**	**22 07 10.2**	**-0.2**
ISP	**Isparta**	**1.69**	**64**	P	**Pb**	**22 07 10.0**	**-0.5**
ISP				S	**Sb**	**22 07 31.5**	**-0.3**
ISP				AML	AML	22 07 46.5	
	comp=N,2140μm,1.0s						
ISP				AML	AML	22 07 47.5	
	comp=E,2909μm,1.0s						
GOMA	**Golmarmara-Man**	**1.70**	**341**	Pn	**Pb**	**22 07 10.5**	**-0.1**
BLCB	**Balcova**	**1.79**	**317**	Pn	**Pb**	**22 07 10.4**	**+0.3**
BLCB	**Balcova**	**1.79**	**317**	P	**Pn**	**22 07 10.3**	**+0.2**
AKS	**Akhisar**	**1.89**	**341**	Pn	**Pb**	**22 07 13.1**	**-0.7**
KARP	**Karpathos**	**1.94**	**218**	Pn	**Pb**	**22 07 13.5**	**-1.1**
KARP	**Karpathos**	**1.94**	**218**	P	**Pg**	**22 07 17.7**	**+1.3**
KARP	**Karpathos**	**1.94**	**218**	P	**Pn**	**22 07 11.7**	**-0.5**
KARP				S	**Sn**	**22 07 35.6**	**-0.9**
KARP				AML	AML	22 07 48.9	
	comp=N,2600μm,0.5s						
KARP				AML	AML	22 07 50.5	
	comp=E,2420μm,0.6s						
SIMA	**Simav-Kutahya**	**2.01**	**8**	Pn	**Pb**	**22 07 14.5**	**-1.4**
GEDZ	**Gediz**	**2.05**	**18**	Pn	**Pb**	**22 07 15.8**	**-0.7**
SHUT	**Suhut-Afyon**	**2.12**	**46**	Pn	**Pb**	**22 07 16.1**	**-1.7**
RFT7	**Candarli**	**2.29**	**325**	Pn	**Pb**	**22 07 18.6**	**-2.0**
DKL	**Dikili**	**2.39**	**326**	Pn	**Pb**	**22 07 19.7**	**-2.6**
CHOS	**Chios island**	**2.40**	**303**	Pn	**Pb**	**22 07 20.3**	**-2.2**
APE	**Apeiranthos**	**2.46**	**270**	Pn	**Pn**	**22 07 20.7**	**+1.3**
SEYD	**Seydisehir-KON**	**2.60**	**82**	Pn	**Pn**	**22 07 23.0**	**+1.6**
ZKR	**Zakros**	**2.77**	**225**	Pn	**Pn**	**22 07 25.2**	**+1.6**
ZKR	**Zakros**	**2.77**	**225**	P	**Pn**	**22 07 22.9**	**-0.7**
IDI	**Anoyia**	**3.51**	**240**	LR	LR	22 09 15.7	
	comp=E,132nm,18.9s,baz=294,slow=45						
AKMS	**Akamas**	**3.66**	**123**	P	**Pn**	**22 07 36.6**	**+0.6**
NATA	**Nata**	**3.96**	**125**	P	**Pn**	**22 07 41.1**	**+1.1**
CSS	**Mathiatis**	**4.38**	**118**	P	**Pn**	**22 07 46.7**	**+0.9**
CSS	**Mathiatis**	**4.38**	**118**	P	**Pn**	**22 07 46.0**	**+0.2**
ASGA	**Asgata**	**4.41**	**120**	P	**Pn**	**22 07 46.5**	**+0.2**
BRTR	**Keskin Array B**	**4.75**	**55**	Pn	**Pn**	**22 07 53.0**	**+2.1**
	comp=E,2.0nm,0.3s,baz=233,slow=17,SNR=54						
BRTR				Sn	**Sn**	**22 08 49.7**	**+3.7**
	comp=E,0.7nm,0.3s,baz=222,slow=25,SNR=7.0						
	comp=E,8.3nm,0.5s						
OFRI	**`Ofer**	**6.88**	**129**	P	**Pn**	**22 08 20.6**	**+0.4**
OFRI	**`Ofer**	**6.88**	**129**	S	**Sn**	**22 09 36.4**	**-2.1**
MMC7	**Mount Meron ar**	**6.89**	**124**	P	**Pn**	**22 08 19.8**	**-0.5**
MMA0B	**Mount Meron ar**	**6.90**	**124**	P	**Pn**	**22 08 19.6**	**-0.8**
MMA0B	**Mount Meron ar**	**6.90**	**124**	S	**Sn**	**22 09 37.4**	**-1.6**
MMAI	**Mount Meron Ar**	**6.90**	**124**	Pn	**Pn**	**22 08 19.7**	**-0.8**
	comp=E,5.5nm,0.3s,baz=305,slow=12,SNR=52						
MMAI				Sn	**Sn**	**22 09 36.3**	**-2.7**
	comp=E,3.3nm,0.3s,baz=307,slow=28,SNR=6.6						
	comp=E,4.4nm,0.3s						
GEM	**Giv'at Ha'Em**	**6.96**	**122**	S	**Sn**	**22 09 38.4**	**-2.0**
GEM	**Giv'at Ha'Em**	**6.96**	**122**	P	**Pn**	**22 08 21.4**	**+0.2**
NATI	**Neve Ativ**	**6.98**	**121**	S	**Sn**	**22 09 39.7**	**-1.1**
NATI	**Neve Ativ**	**6.98**	**121**	P	**Pn**	**22 08 21.9**	**+0.4**
SLTI	**Sal'it**	**7.18**	**131**	P	**Pn**	**22 08 24.4**	**+0.2**
SLTI	**Sal'it**	**7.18**	**131**	S	**Sn**	**22 09 42.6**	**-3.1**
KSHT	**Keshet**	**7.19**	**123**	S	**Sn**	**22 09 44.4**	**-1.8**
KSHT	**Keshet**	**7.19**	**123**	P	**Pn**	**22 08 24.9**	**+0.4**
MMLI	**Mount Malkishu**	**7.28**	**128**	P	**Pn**	**22 08 25.6**	**0.0**
MMLI	**Mount Malkishu**	**7.28**	**128**	S	**Sn**	**22 09 46.4**	**-2.0**
SHMJ	**Saham**	**7.32**	**124**	P	**Pn**	**22 08 27.5**	**+1.4**
SALP	**Salfit**	**7.39**	**131**	P	**Pn**	**22 08 26.9**	**-0.3**
SALP	**Salfit**	**7.39**	**131**	S	**Sn**	**22 09 48.3**	**-2.7**
QRNJ	**Al-Qirein**	**7.45**	**128**	P	Pn	22 08 34.7	+6.9
HMDT	**Nahal Hemdat**	**7.47**	**128**	S	**Sn**	**22 09 51.0**	**-2.0**
HMDT	**Nahal Hemdat**	**7.47**	**128**	P	**Pn**	**22 08 28.1**	**-0.1**
AMAZ	**Amatzia**	**7.62**	**135**	P	**Pn**	**22 08 30.7**	**-0.1**
AMAZ	**Amatzia**	**7.62**	**135**	S	**Sn**	**22 09 54.5**	**-2.1**
UJAP	**Al Uja**	**7.64**	**130**	P	**Pn**	**22 08 30.6**	**+0.2**
UJAP	**Al Uja**	**7.64**	**130**	S	**Sn**	**22 09 55.5**	**-1.5**
KZIT	**Kziot**	**7.82**	**140**	P	**Pn**	**22 08 33.9**	**+0.8**
KZIT	**Kziot**	**7.82**	**140**	S	**Sn**	**22 09 58.8**	**-2.8**
KZIT	**Kziot**	**7.82**	**140**	P	**Pn**	**22 08 32.9**	**-0.2**
YTIR	**Yattir**	**7.86**	**135**	S	**Sn**	**22 10 01.2**	**-1.4**
YTIR	**Yattir**	**7.86**	**135**	P	**Pn**	**22 08 33.4**	**-0.2**
DSI	**Dead Sea**	**7.86**	**133**	P	**Pn**	**22 08 33.4**	**-0.1**
DSI	**Dead Sea**	**7.86**	**133**	S	**Sn**	**22 10 00.8**	**-1.7**
MDBI	**Mazsada**	**8.03**	**134**	P	Pn	22 08 43.0	+7.1
MDBI	**Mazsada**	**8.03**	**134**	P	**Pn**	**22 08 35.6**	**-0.2**
MSBI	**Mazada**	**8.03**	**134**	P	**Pn**	**22 08 36.1**	**+0.3**
MSBI	**Mazada**	**8.03**	**134**	S	**Sn**	**22 10 05.0**	**-1.7**
GHAJ	**Ghor Haditha**	**8.16**	**133**	P	**Pn**	**22 08 37.9**	**+0.2**
GHAJ	**Ghor Haditha**	**8.16**	**133**	S	**Sn**	**22 10 08.0**	**-1.9**
ASF	**Jabal al Asfar**	**8.41**	**123**	Pn	**Pn**	**22 08 40.2**	**-1.0**
	comp=E,0.4nm,0.3s,baz=243,slow=23,SNR=6.2						
ASF				Sn	**Sn**	**22 10 18.0**	**+1.8**
	baz=245,slow=23						
	comp=E,1.5nm,0.5s						
ZFRI	**Zfri**	**8.51**	**138**	S	**Sn**	**22 10 16.3**	**-2.2**
ZFRI	**Zfri**	**8.51**	**138**	P	**Pn**	**22 08 41.6**	**-0.8**
PRNI	**Paran**	**8.58**	**140**	P	**Pn**	**22 08 43.4**	**-0.1**
PRNI	**Paran**	**8.58**	**140**	S	**Sn**	**22 10 18.3**	**-2.0**
MLR	**Muntele Rosu**	**8.62**	**347**	Pn	**Pn**	**22 08 45.3**	**+1.1**
	comp=E,0.4nm,0.3s,baz=174,slow=19,SNR=2.4						
	comp=E,2.4nm,0.6s						
KRMI	**Paran Flat**	**8.63**	**142**	S	**Sn**	**22 10 19.0**	**-2.4**
KRMI	**Paran Flat**	**8.63**	**142**	P	**Pn**	**22 08 44.4**	**+0.3**
HRFI	**Mount Harif**	**8.85**	**141**	S	**Sn**	**22 10 24.7**	**-2.2**
HRFI	**Mount Harif**	**8.85**	**141**	P	**Pn**	**22 08 46.9**	**-0.3**
MBRI	**Mt Berech**	**8.98**	**142**	P	**Pn**	**22 08 52.7**	**+3.6**
EIL	**Elat**	**9.11**	**143**	Pn	**Pn**	**22 08 49.5**	**-1.1**
	comp=E,1.6nm,0.3s,baz=348,slow=9.3,SNR=14						
EIL				Sn	**Sn**	**22 10 29.4**	**-3.8**
	comp=E,1.1nm,0.3s,baz=342,slow=20,SNR=5.7						
	comp=E,5.9nm,0.5s						
EIL	**Elat**	**9.11**	**143**	P	Pn	22 08 59.2	+8.5
EIL	**Elat**	**9.11**	**143**	S	**Sn**	**22 10 30.7**	**-2.5**
EIL	**Elat**	**9.11**	**143**	P	**Pn**	**22 08 50.1**	**-0.6**
FINES	**FINESS Array B**	**24.42**	**357**	P	**P**	**22 11 58.5**	**+0.9**
	comp=E,2.4nm,0.8s,baz=161,slow=8.8,SNR=2.0						
	comp=E,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.87**	**232**	P	**P**	**22 13 22.3**	**+0.2**
	comp=E,0.9nm,0.4s,baz=36,slow=9.2,SNR=20						
	comp=E,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**37.73**	**53**	P	**P**	**22 13 55.0**	**+0.1**
	comp=E,1.7nm,0.2s,baz=270,slow=8.6,SNR=1.9						
	comp=E,1.7nm,0.2s						
MKAR	**Makanchi Array**	**40.38**	**59**	P	**P**	**22 14 17.6**	**+0.4**
	comp=E,0.3nm,0.6s,baz=280,slow=8.3,SNR=5.7						
	comp=E,0.3nm,0.6s						
SUR	**Sutherland**	**69.50**	**187**	LR	LR	22 48 55.9	
	comp=E,215nm,18.5s,baz=235,slow=36						

*IDC **17** 22:07:20.1±1.1, 50˚.63N×172˚.80W, h0km, mb3.9/16, mbtmp3.9/17, ML3.8/1, Error ellipse: s-maj=31.9km s-min=17.5km az=4.0*
*NEIC **17** 22:07:20.8±1.8, 50˚.66N±0˚.06×172˚.89W±0˚.07, h10km±1km, mb4.0/40, ML4.1/6, ML3.6(AEIC), Error ellipse: s-maj=10.2km s-min=7.5km az=200.0*
*AEIC **17** 22:07:24.4±2.6, 50˚.65N±0˚.09×172˚.88W±0˚.09, h43km±7km, Error ellipse: s-maj=13.5km s-min=8.6km az=179.0*

ISC 17 22:07:22.5±3.8, 50.70N±0˚.09×172.87W±0˚.04, h17km±23km, n87, σ1°07/95, mb4.0/25, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.72**	**332**	Pn	**Pn**	**22 07 51.4**	**-0.2**
ATKA				Sn	**Sn**	**22 08 12.3**	**-0.8**
ATKA				IAML		22 08 15.0	
	comp=E,512nm,0.5s						
KOFP	**Korovin Flat P**	**1.75**	**335**		**Pn**	**22 07 52.6**	**+0.4**
KOKL	**Mount Kliuchef**	**1.83**	**334**		**Pn**	**22 07 53.5**	**+0.4**
KOKL					**Sn**	**22 08 17.5**	**+1.6**
GSMY	**Great Sitkin M**	**2.41**	**305**		**Pn**	**22 08 00.9**	**-0.2**
GSTR	**Great Sitkin T**	**2.44**	**306**		**Pn**	**22 08 01.7**	**+0.2**
GSTR				Sn	**Sn**	**22 08 29.1**	**-1.8**
GSCK	**Great Sitkin C**	**2.45**	**304**		**Pn**	**22 08 01.3**	**-0.3**
GSCK					**Sn**	**22 08 29.3**	**-1.8**
ADK	**Adak**	**2.67**	**298**	Pn	**Pn**	**22 08 04.5**	**-0.2**
ADK				Sn	**Sn**	**22 08 33.8**	**-2.8**
ADK				IAML		22 08 36.3	
	comp=E,1μm,0.3s						
CLES	**Cleveland East**	**2.82**	**40**	Pn	**Pn**	**22 08 06.5**	**-0.3**
CLES				Sn	**Sn**	**22 08 40.2**	**-0.1**
CLES				IAML		22 08 43.6	
	comp=N,694nm,0.4s						
CLES				IAML		22 08 45.6	
	comp=E,760nm,0.3s						
CLCO	**Concord Point,**	**2.87**	**42**		**Pn**	**22 08 07.0**	**-0.3**
KIRH	**Kanaga Island**	**2.91**	**296**		**Pn**	**22 08 08.1**	**+0.2**
KIWB	**Kanaga Island**	**2.92**	**295**		**Pn**	**22 08 08.1**	**-0.1**
KIWB				Sn	**Sn**	**22 08 40.7**	**-2.2**
NIKH	**Nikolski High**	**3.38**	**46**		**Pn**	**22 08 13.8**	**-0.5**
TASE	**Tanaga Southea**	**3.44**	**291**		**Pn**	**22 08 15.3**	**+0.1**
OKFG	**Magazine Ridge**	**4.09**	**47**		**Pn**	**22 08 24.5**	**+0.3**
MAPS	**Pakushin South**	**4.79**	**47**		**Pn**	**22 08 34.2**	**+0.3**
MNAT	**Makushin Natee**	**4.96**	**48**		**Pn**	**22 08 36.2**	**+0.1**
UNV	**Unalaska Valle**	**5.02**	**49**		**Pn**	**22 08 36.8**	**-0.2**
K15K	**Wolf Creek Mou**	**13.18**	**24**	Pn	**Pn**	**22 10 27.3**	**-1.3**
OHAK	**Old Harbor**	**13.22**	**53**	Pn	**Pn**	**22 10 26.0**	**-3.2**
O18K	**Koktuh Hills**	**13.58**	**41**	Pn	**Pn**	**22 10 35.3**	**+1.2**
Q19K	**Cape Douglas,**	**13.77**	**46**	Pn	**Pn**	**22 10 35.9**	**-0.9**
KDAK	**Kodiak Island**	**13.79**	**51**	Pn	**Pn**	**22 10 33.5**	**-3.4**
	comp=E,0.3nm,0.3s,baz=248,slow=3.6,SNR=7.6						
KDAK				Sn	**S**	**22 13 29.8**	**-1.9**
	comp=E,0.1nm,0.3s,baz=20,slow=1.3,SNR=1.0						
L18K	**Granite Mounta**	**14.55**	**31**	Pn	**Pn**	**22 10 48.2**	**+0.9**
BRLK	**Bradley Lake**	**15.41**	**45**	Pn	**Pn**	**22 10 57.3**	**-1.6**
SUA	**Susitna One**	**16.30**	**40**		**Pn**	**22 11 09.6**	**-0.8**
J20K	**Nowinta River**	**16.75**	**29**	Pn	**Pn**	**22 11 15.7**	**-0.3**
CAST	**Castle Rocks**	**16.92**	**33**	Pn	**Pn**	**22 11 17.6**	**-0.6**
KTH	**Kantishna Hill**	**17.42**	**34**	Pn	**Pn**	**22 11 23.3**	**-1.1**
KTH				IAmb	IAmb	22 11 27.6	
	comp=Z,12nm,1.2s						
TRF	**Thorofare Moun**	**17.58**	**35**	Pn	**Pn**	**22 11 25.6**	**-1.0**
TRF				IAmb	IAmb	22 11 39.0	
	comp=Z,10nm,1.3s						
BPAW	**Bear Paw Mtn.**	**17.73**	**33**		**Pn**	**

comp=Z,3.8nm,0.5s,baz=56,slow=6.3,SNR=37
comp=Z,3.8nm,0.5s

BRVK	**Borovoye**	**63.77**	**323**	P	**P**	**22 17 52.4**	**-0.6**
ARU	**Arti**	**65.08**	**331**	P	**P**	**22 18 02.5**	**+1.0**
FINES	**FINESS Array B**	**67.18**	**350**	P	**P**	**22 18 15.8**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=357,slow=8.4,SNR=1.6						
	comp=Z,1.5nm,0.7s						
NOA	**NORSAR Array B**	**68.57**	**358**	P	**P**	**22 18 23.5**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=6.6,slow=4.0,SNR=2.2						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**69.40**	**356**	P	**P**	**22 18 29.8**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=29,slow=3.3,SNR=8.7						
	comp=Z,1.6nm,0.4s						
ABKAR	**Akbulak array**	**70.66**	**326**	P	**P**	**22 18 37.8**	**+1.1**
ABKAR	**Akbulak array**	**70.66**	**326**	P	**P**	**22 18 37.8**	**+1.1**
ABKAR				IAmb	IAmb	22 18 39.1	
	comp=Z,8.5nm,1.4s						
EKA	**Eskdalemuir Ar**	**73.99**	**6**	P	**P**	**22 18 58.1**	**+1.6**
	comp=Z,1.9nm,0.9s,baz=354,slow=4.5,SNR=4.2						
	comp=Z,1.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**74.81**	**281**	P	**P**	**22 19 02.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=35,slow=6.6,SNR=1.5						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**77.24**	**346**	P	**P**	**22 19 15.7**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=15,slow=5.5,SNR=7.1						
	comp=Z,1.1nm,0.4s						
ASAR	**Alice Springs**	**87.65**	**227**	P	**P**	**22 20 10.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=17,slow=6.8,SNR=2.5						
	comp=Z,0.2nm,0.3s						

ISN ***17*** *22:09:24.8±0.5, 33.˚70N×45.˚56E, h7km±3km, ML2.9*
TEH ***17*** *22:09:24.5, 33.˚84N×45.˚72E, h8km±66km, ML3.1*

ISC 17 22:09:24.2±0.9, 33.˚84N±0.˚03×45.˚66E±0.˚04, h10km, n18, σ1§22/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.50**	**115**	Pg	**Pg**	**22 09 33.6**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.67**	**355**	Pg	**Pg**	**22 09 37.8**	**+0.6**
IBDR	**Badra**	**0.76**	**163**	*e*Pg	**Pg**	**22 09 38.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**22 09 47.0**	**-1.8**
IGHG	**Ghaleghazi**	**0.90**	**57**	Pg	**Pb**	**22 09 41.9**	**-0.2**
IDHR	**Dehrash**	**1.05**	**35**	Pg	**Pg**	**22 09 44.1**	**-0.2**
BHD	**Baghdad**	**1.21**	**242**	*e*Pn	**Pn**	**22 09 48.0**	**+0.8**
BHD				*e*Sn	**Sn**	**22 10 05.0**	**+1.3**
BHD				AML	AML	22 10 08.2	
	comp=E,811nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.22**	**69**	Pg	**Pn**	**22 09 47.4**	**-0.1**
ILIN	**Lien**	**1.52**	**45**	Pg	**Pg**	**22 09 53.2**	**-0.3**
IKOM	**Komasi**	**1.57**	**77**	Pg	**Pg**	**22 09 53.8**	**-0.6**
IKFM	**Kafar-mosalman**	**1.85**	**99**	Pg	**Pb**	**22 09 58.0**	**0.0**
IBZA	**Bozab**	**1.93**	**70**	Pn	**Pb**	**22 09 58.9**	**-0.7**
RAFI	**Al-Rafai**	**2.14**	**170**	*e*Pn	**Pn**	**22 10 01.0**	**+1.0**
RAFI				*e*Sn	**Sn**	**22 10 28.0**	**+1.3**
RAFI				AML	AML	22 10 33.1	
	comp=E,69nm,0.5s						
RAFI				AML	AML	22 10 34.1	
	comp=N,60nm,0.4s						
IALM	**Almabolaq**	**2.31**	**63**	Pn	**Pb**	**22 10 04.8**	**-1.3**
SDS1	**Sardasht. Az.**	**2.31**	**356**	Pn	**Pb**	**22 10 05.1**	**-1.0**
MAHB	**Mahabad**	**2.92**	**1**	Pn	**Pb**	**22 10 14.2**	**-2.3**
HAGD	**Aghdareh**	**3.04**	**70**	Pn	**Pn**	**22 10 14.1**	**+1.5**
QAMS	**Qamsar**	**4.78**	**90**	Pn	**Pn**	**22 10 37.7**	**+1.3**
IKLH	**Kolahrood**	**4.96**	**94**	Pn	**Pn**	**22 10 41.1**	**+2.0**

KRSC 17 22:17:44.3±2.0, 50.˚34N×159.˚32E, h63km±37km, MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.67**	**332**	*e*P	Pn	22 18 13.6	+2.4
KDTR				*e*S	Sn	22 18 34.6	+2.9
SKR	**Severo-Kuril's**	**2.07**	**281**	*e*P	Pn	22 18 17.7	+1.0
SKR				*e*S	Sn	22 18 41.9	+0.5
RUS	**Russkaya**	**2.16**	**347**	*e*P	Pn	22 18 20.1	+2.3
RUS				*e*S	Sn	22 18 45.9	+2.4
ASAK	**Asacha**	**2.23**	**337**	*e*P	Pn	22 18 22.0	+3.0
ASAK				*e*S	Sn	22 18 48.8	+3.3
GRL	**Gorelyy**	**2.35**	**341**	*e*P	Pn	22 18 23.8	+3.2
GRL				*e*S	Sn	22 18 52.1	+3.7
KRMR	**Karymshinskiy**	**2.60**	**344**	*e*P	Pn	22 18 27.0	+3.0
KRMR				*e*S	Sn	22 18 58.2	+3.8
DALK	**Dalny**	**2.72**	**353**	*e*P	Pn	22 18 28.0	+2.5
DALK				*e*S	Sn	22 19 59.2	+2.0
PET	**Petropavlovsk**	**2.72**	**351**	*e*S	Sn	22 19 00.2	+2.9
SPN	**Mys Shipunski**	**2.80**	**9**	*e*P	Pn	22 18 29.1	+2.5
SPN				*e*S	Sn	22 19 01.1	+1.9
UGLR	**Uglovaya**	**2.89**	**354**	*e*P	Pn	22 18 30.6	+2.6
UGLR				*e*S	Sn	22 19 02.7	+1.1
APC	**Apacha**	**2.92**	**333**	*e*P	Pn	22 18 31.6	+3.3
APC				*e*S	Sn	22 19 06.1	+4.0
SMAR	**Somma**	**2.95**	**354**	*e*P	Pn	22 18 30.9	+2.1
AVH	**Avacha**	**2.95**	**353**	*e*P	Pn	22 18 31.6	+2.8
AVH				*e*S	Sn	22 19 03.4	+0.4
KOK	**Koryaka**	**2.99**	**352**	*e*P	Pn	22 18 32.3	+3.0
KRX	**Arik**	**3.05**	**352**	*e*P	Pn	22 18 32.9	+2.7
TUMD	**Tumrok D**	**4.92**	**7**	*e*P	Pn	22 18 58.9	+3.3
TUMD				*e*S	Sn	22 19 53.7	+2.6
TUMR	**Tumrok**	**4.98**	**5**	*e*P	Pn	22 19 00.6	+4.1
KMNR	**Kamenistaya**	**5.46**	**5**	*e*P	Pn	22 19 08.1	+5.1
KPT	**Kopyto**	**5.66**	**5**	*e*P	Pn	22 19 10.4	+4.6

JMA 17 22:19:24.9±0.1, 24.˚5N±0.˚6×123.˚6E±0.˚3, h0km, MV1.4/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.21**	**146**	P	Pg	22 19 29.2	+0.4
IRIF				S	Sg	22 19 32.2	+0.7
JKRS	**Kuro-shima**	**0.46**	**126**	P	Pg	22 19 34.4	+0.8
JKRS				*e*S	Sg	22 19 41.0	+1.4
JIJ	**Ishigaki jima**	**0.51**	**106**	P	Pg	22 19 35.0	+0.3
JIJ				S	Sg	22 19 42.0	+0.7
JISG	**Ishigakijimahi**	**0.65**	**83**	P	Pg	22 19 37.9	+0.6
JISG				S	Sb	22 19 47.3	-1.3
JTJ	**Tarama**	**1.01**	**82**	S	Sb	22 19 58.8	-0.2

TAP 17 22:19:57.9, 24.˚61N×122.˚39E, h104km±1km, ML2.1, 1D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.24**	**218**	*e*S	Sn	22 20 25.2	+1.7
	baz=217						
EOS3	**EOS3**	**0.33**	**192**	*e*P	Pn	22 20 13.8	+0.9
	baz=192						
EOS3				*e*S	Sn	22 20 25.8	+1.7
	baz=192						
EGS		**0.48**	**299**	*i* P	Pn	22 20 14.1	+0.1
	baz=299						
EGS				*e*S	Sn	22 20 25.6	-0.3
	baz=299						
EOS4	**EOS4**	**0.49**	**188**	P	Pn	22 20 14.2	+0.6
	baz=188						
EOS4				S	Sn	22 20 26.1	+0.7
	baz=188						
TWC	**Suao**	**0.49**	**270**	*e*P	Pn	22 20 13.9	-0.1
	baz=269						
YOJ	**Yonaguni jima**	**0.58**	**105**	*i* P	Pn	22 20 14.9	+0.3
	baz=104						
EWUT	**Wuta**	**0.58**	**254**	*e*P	Pn	22 20 14.3	-0.4
	baz=253						
EWUT				*e*S	Sn	22 20 27.3	0.0
	baz=253						
ENA	**Nanau**	**0.62**	**253**	P	Pn	22 20 15.5	+0.5
	baz=252						
ENA				*i* S	Sn	22 20 28.0	+0.2
	baz=252						
TIPB	**Shuangxi**	**0.63**	**305**	P	Pn	22 20 14.9	-0.2
	baz=304						
TIPB				*e*S	Sn	22 20 26.4	-1.6
	baz=304						
WFSB	**Wu-fen Shan**	**0.72**	**310**	*i* S	Sn	22 20 29.5	+0.2
	baz=309						
FUSB	**Fushanzhiwuyua**	**0.75**	**282**	*e*P	Pn	22 20 17.3	+1.1
	baz=281						
FUSB				*e*S	Sn	22 20 29.1	-0.8
	baz=281						
LATG	**Datong**	**0.79**	**265**	||P	Pn	22 20 17.3	+0.6
	baz=264						
LATG				S	Sn	22 20 31.0	+0.2
	baz=264						
NDT	**Datong Townshi**	**0.80**	**270**	*e*P	Pn	22 20 16.9	+0.2
	baz=269						
NDT				*e*S	Sn	22 20 31.6	+0.9
	baz=269						
NACB	**Ninganchiao**	**0.85**	**239**	*e*P	Pn	22 20 17.2	+0.1
	baz=239						
NACB				S	Sn	22 20 31.3	-0.1
	baz=239						
ETLH	**Xiulin Townshi**	**0.92**	**244**	*e*P	Pn	22 20 17.2	-0.8
	baz=244						
ETLH				*e*S	Sn	22 20 32.4	-0.6
	baz=244						
YHNB	**Yeheng**	**0.93**	**274**	*i* P	Pn	22 20 18.5	+0.5
	baz=273						
YHNB				S	Sn	22 20 32.9	-0.1
	baz=273						
NNSB	**Datong**	**0.94**	**259**	S	Sn	22 20 33.6	+0.3
	baz=258						
NSK	**Sanguang**	**0.94**	**274**	P	Pn	22 20 18.7	+0.6
	baz=273						
NSK				*e*S	Sn	22 20 33.9	+0.6
	baz=273						
LXIB	**Xiulin Townshi**	**1.07**	**237**	*i* P	Pn	22 20 19.8	+0.2
	baz=236						
LXIB				S	Sn	22 20 35.3	-0.5
	baz=236						
WHF	**Hehuan Shan**	**1.13**	**246**	*e*P	Pn	22 20 21.3	+0.8
	baz=245						
WHF				S	Sn	22 20 37.7	+0.2
	baz=245						
ESL	**Shilin**	**1.18**	**228**	*e*P	Pn	22 20 20.3	-0.4
	baz=227						
ESL				*e*S	Sn	22 20 37.4	-0.4
	baz=227						
CHGB	**Renai**	**1.24**	**244**	P	Pn	22 20 22.1	+0.6
	baz=243						
CHGB				S	Sn	22 20 39.4	0.0
	baz=243						
WARBT	**Fenglin Townsh**	**1.28**	**226**	*e*P	Pn	22 20 22.0	+0.2
	baz=225						
WARBT				*e*S	Sn	22 20 38.5	-1.3
	baz=225						
WUSB	**Renai**	**1.32**	**242**	*e*P	Pn	22 20 23.0	+0.7
	baz=242						
WUSB				*e*S	Sn	22 20 41.5	+0.7
	baz=242						
WHP	**Taichung City**	**1.36**	**256**	*i* P	Pn	22 20 23.3	+0.5
	baz=255						
HGSD	**Ruisui**	**1.42**	**219**	*e*P	Pn	22 20 24.2	+0.7
	baz=218						
HGSD				*e*S	Sn	22 20 43.7	+0.9
	baz=218						
VWDT	**VWDT**	**1.43**	**234**	*e*S	Sn	22 20 43.4	+0.6
	baz=233						
SSLB	**Suanglung**	**1.55**	**238**	*e*P	Pn	22 20 28.1	+3.1
	baz=238						
SSLB				*e*S	Sn	22 20 48.6	+3.0
	baz=238						
ECBN	**Changbin**	**1.55**	**214**	*e*P	Pn	22 20 24.2	-0.8
	baz=213						
ECBN				*e*S	Sn	22 20 46.7	+1.2
	baz=213						
YULB	**Yu-li**	**1.57**	**220**	*i* P	Pn	22 20 25.9	+0.5
	baz=219						
YULB				*i* S	Sn	22 20 46.3	+0.2
	baz=219						
FULB	**Fuli**	**1.73**	**216**	*e*P	Pn	22 20 27.3	0.0
	baz=215						
FULB				*e*S	Sn	22 20 49.3	-0.2
	baz=215						

IDC ***17*** *22:32:34.3±1.3, 0.˚78S×120.˚96E, h0km, mb3.4/4, mbtmp3.6/5, ML3.9/1, MS2.9/1, Error ellipse: s-maj=64.3km s-min=21.3km az=69.0*
DJA ***17*** *22:32:37.5±0.3, 1.˚5S×12.˚0E±.˚, h10km, M3.9/9, MLv3.9/9*

ISC 17 22:32:40.4±0.9, 0.˚81S±0.˚05×120.˚34E±0.˚06, h49km, n13, σ1§67/15, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.23**	**339**	P	**Pn**	**22 32 59.0**	**-2.2**
MPSI				S	**Sn**	**22 33 16.7**	**0.0**
MRSI	**Marisa**	**2.05**	**51**	P	**Pn**	**22 33 12.3**	**-0.2**
TTSI	**Tana Toraja**	**2.28**	**193**	P	**Pn**	**22 33 15.9**	**+0.3**
LUWI	**Luwuk**	**2.44**	**95**	P	**Pn**	**22 33 18.1**	**+0.3**
PMSI	**Majene**	**3.03**	**208**	P	**Pn**	**22 33 25.4**	**-0.5**
GTOI	**Gorontalo**	**3.03**	**62**	P	**Pn**	**22 33 25.3**	**-0.7**
BKB	**Balikpapan**	**3.47**	**263**	P	**Pn**	**22 33 31.8**	**-0.2**
KAPI	**Kappang**	**4.21**	**188**	Pn	**Pn**	**22 33 42.3**	**+0.1**
	6.6nm,0.3s,baz=327,slow=6.9,SNR=13						
KAPI				Sn	**Sn**	**22 34 29.4**	**-0.7**
	2.2nm,0.3s,baz=44,slow=20,SNR=1.5						
KAPI				LR	LR	22 35 41.2	
	comp=Z,134nm,20.0s,baz=331,slow=43						
	21nm,0.4s						
BKSI	**Bulukumba**	**4.48**	**183**	P	**Pn**	**22 33 45.4**	**-0.5**
WRA	**Warramunga Arr**	**23.43**	**145**	P	**P**	**22 37 42.1**	**-3.5**
	1.8nm,0.8s,baz=328,slow=10,SNR=8.7						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**26.25**	**151**	P	**P**	**22 38 08.8**	**-2.5**
	0.4nm,0.8s,baz=318,slow=8.1,SNR=2.1						
	0.4nm,0.8s						
SONM	**Songino Array**	**49.95**	**348**	P	**P**	**22 41 31.6**	**+1.9**
	0.3nm,0.6s,baz=164,slow=9.2,SNR=3.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.94**	**330**	P	**P**	**22 42 30.0**	**+2.2**
	0.4nm,0.7s,baz=142,slow=7.2,SNR=6.5						
	0.4nm,0.7s						

BJI ***17*** *22:56:54.9±0.0, 29.˚88S×177.˚17W, h34km, mb5.6/66, mB6.0/55, Ms5.6/78, Ms7 5.4/76*
MOS ***17*** *22:56:57.2±0.8, 30.˚03S×177.˚77W, h36km, mb6.1/55, MS5.5/34, Error ellipse: s-maj=8.5km s-min=7.2km az=112.9*
NOU ***17*** *22:56:58.6, 30.˚43S×177.˚13W, h62km, ML6.0/175, Kermadec Islands, New Zealand*
IPGP ***17*** *22:56:58.0, 30.˚09S×177.˚76W, h38km, Mw5.9, Fault plane solution: NP1:ϕs14.00000°, δ57.00000°, λ81.00000°. NP2:ϕs209.00000°, δ34.00000°, λ103.00000°.*
NEIC ***17*** *22:56:58.1, 30.˚15S×177.˚15W, h50km, Moment Tensor Solution. Duration: 4§1 Moment tensor: Scale 10^17 Nm; Mrr5.74; Mϕϕ0.19; Mθθ-5.92; Mrϕ0.42; Mθϕ-1.32; Mrθ2.71; Fault plane solution: Mo6.57000×10^17 NP1:ϕs10.45000°, δ57.32000°, λ88.57000°. NP2:ϕs193.09000°, δ32.70000°, λ92.23000°. Principal axes: T 6.3377, Plg78.0000°, Azm276.0000°; N 0.4582, Plg1.0000°, Azm11.0000°; P -6.7959, Plg12.0000°, Azm101.0000°;*
NEIC ***17*** *22:56:58.1, 30.˚05S×177.˚72W, h50km*
NEIC ***17*** *22:56:59.4±1.3, 30.˚03S±0.˚05×177.˚74W±0.˚04, h42km±3km, mb5.9/230, Ms_20 5.6/542, Mww5.8/32, Error ellipse: s-maj=8.2km s-min=4.2km az=154.0*
IDC ***17*** *22:56:59.5±1.1, 29.˚96S×177.˚86W, h44km±9km, mb5.3/17, mbtmp5.6/17, MS5.3/56, Error ellipse: s-maj=12.3km s-min=11.3km az=69.0*
GCMT ***17*** *22:57:01.4±0.1, 30.˚08S±0.˚01×177.˚56W±0.˚01, h46km, MW5.9/162, Moment Tensor Solution. s162,c371; s162,c474; Duration: 2§1 Moment tensor: Scale 10^18 Nm; Mrr0.73±.01; Mθθ-0.03±.01; Mϕϕ-0.70±.01; Mrθ0.04±.01; Mθϕ-0.23±.00; Mϕr0.35±.01; Best double couple: Mo0.82700×10^18 NP1:ϕs13.00000°, δ58.00000°, λ85.00000°. NP2:ϕs202.00000°, δ33.00000°, λ98.00000°. Principal axes: T 0.8080, Plg77.0000°, Azm266.0000°; N 0.0390, Plg4.0000°, Azm15.0000°; P -0.8470, Plg12.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 17 22:56:58.6±0.2, 30.˚10S±0.˚03×177.˚57W±0.˚04, h37km±1km, h38km:pP-P, n1954, σ1§70/1766, mb5.9/238, MS5.6/359, 79C-47D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.88**	**340**	P	**Pn**	**22 57 13.4**	**-1.1**
GLKZ				S	**Sn**	**22 57 24.5**	**-1.7**
RAO	**Raoul Island**	**0.89**	**340**	Pn	**Pn**	**22 57 13.5**	**-1.1**
RAO				Sn	**Sn**	**22 57 24.8**	**-1.5**
RAO	**Raoul Island**	**0.89**	**340**	P	**Pn**	**22 57 13.6**	**-1.1**
	52µm,0.2s,baz=203,slow=3.9,SNR=240						
RIZ	**Raoul Island**	**0.90**	**340**	P	**Pn**	**22 57 14.0**	**-0.8**
RIZ				S	**Sn**	**22 57 24.9**	**-1.7**
MXZ	**Matakaoa Point**	**8.20**	**204**	P	**Pn**	**22 58 50.8**	**-4.2**
MXZ				S	**Sn**	**23 00 20.7**	**-5.6**
WMGZ	**Waiomatatini S**	**8.39**	**202**	P	**Pn**	**22 58 53.8**	**-3.9**
WMGZ				S	**Sn**	**23 00 27.1**	**-4.0**
HAZ	**Te Kaha**	**8.56**	**206**	P	**Pn**	**22 58 56.0**	**-3.9**
HAZ				S	**Sn**	**23 00 31.7**	**-3.5**
PKGZ	**Pakihiroa**	**8.57**	**204**	P	Pn	22 58 55.0	-5.1
PKGZ				S	**Sn**	**23 00 30.8**	**-4.8**
WIZ	**White Island**	**8.60**	**209**	P	**Pn**	**22 59 02.2**	**+1.7**
KUZ	**Kuaotunu**	**8.68**	**218**	P	**Pn**	**22 59 04.1**	**+2.5**
KUZ	**Kuaotunu**	**8.68**	**218**	P	**Pn**	**22 59 03.7**	**+2.1**
RUGZ	**Raukumara Rang**	**8.78**	**205**	P	**Pn**	**22 58 58.7**	**-4.5**
RUGZ				S	**Sn**	**23 00 34.2**	**-6.7**
TWGZ	**Tauwhareparae**	**8.86**	**203**	P	**Pn**	**22 58 59.6**	**-4.5**
TWGZ				S	**Sn**	**23 00 38.3**	**-4.4**
OUZ	**Omahuta**	**9.03**	**233**	P	Pn	22 59 10.5	+4.1
CNGZ	**Carnagh Statio**	**9.06**	**201**	P	Pn	22 59 01.7	-5.1
OPRZ	**Ohinepanea**	**9.14**	**211**	P	**Pn**	**22 59 05.7**	**-2.2**
TKGZ	**Te Karaka**	**9.14**	**203**	P	Pn	22 59 03.0	-4.9
TKGZ				S	**Sn**	**23 00 43.3**	**-6.2**
MWZ	**Matawai**	**9.16**	**205**	P	Pn	22 59 02.8	-5.4
MWZ				S	**Sn**	**23 00 44.3**	**-5.8**
MARZ	**Manawahe**	**9.20**	**210**	P	**Pn**	**22 59 08.7**	**-0.1**
MARZ				S	**Sn**	**23 00 48.2**	**-2.9**
URZ	**Urewera**	**9.26**	**207**	P	Pn	22 59 04.6	-4.9
URZ	**Urewera**	**9.26**	**207**	P	Pn	22 59 04.1	-5.3
	41nm,0.3s,baz=353,slow=3.5,SNR=82						
URZ				S	**Sn**	**23 00 46.3**	**-6.0**
	1µm,0.5s,baz=278,slow=20,SNR=16						
URZ	**Urewera**	**9.26**	**207**	P	Pn	22 59 04.3	-5.2
URZ				S	**Sn**	**23 00 46.1**	**-6.2**
RIGZ	**Rimuhau**	**9.41**	**203**	P	**Pn**	**22 59 07.1**	**-4.6**
RIGZ				S	**Sn**	**23 00 51.6**	**-4.6**
OMRZ	**Omania**	**9.43**	**211**	P	**Pn**	**22 59 12.8**	**+0.9**
TOZ	**Tahuroa Road**	**9.54**	**215**	Pn	**Pn**	**22 59 11.8**	**-1.6**
RRRZ	**Republican Roa**	**9.57**	**209**	P	**Pn**	**22 59 12.6**	**-1.1**
PRGZ	**Paritu Road**	**9.57**	**202**	P	Pn	22 59 08.0	-5.8
PRGZ				S	**Sn**	**23 00 51.6**	**-8.4**
MUGZ	**Murupara**	**9.58**	**208**	P	**Pn**	**22 59 09.6**	**-4.3**
RTZ	**Ruatahuna**	**9.62**	**206**	P	Pn	22 59 02.2	-12
SNGZ	**Shannon Statio**	**9.63**	**204**	P	**Pn**	**22 59 10.2**	**-4.4**
SNGZ				S	**Sn**	**23 00 55.7**	**-5.8**
HSRZ	**Hossack Road**	**9.66**	**210**	P	**Pn**	**22 59 19.2**	**+4.1**
HRRZ	**Handcock Road**	**9.71**	**210**	P	**Pn**	**22 59 18.7**	**+3.0**
KNZ	**Kokohu**	**9.73**	**202**	P	Pn	22 59 09.9	-6.0
PRRZ	**Plateau Road**	**9.75**	**209**	P	**Pn**	**22 59 14.1**	**-2.2**
MHGZ	**Mahia Peninsul**	**9.77**	**201**	P	Pn	22 59 10.1	-6.4
ALRZ	**Allen Road**	**9.83**	**209**	P	**Pn**	**22 59 14.4**	**-2.9**
RAHZ	**Arahi**	**9.84**	**205**	P	Pn	22 59 12.2	-5.3
MTHZ	**Maungataniwha**	**9.88**	**206**	P	**Pn**	**22 59 13.8**	**-4.2**
WHHZ	**Waihua**	**9.93**	**204**	P	**Pn**	**22 59 14.6**	**-4.1**
TLZ	**Tolley Road**	**10.00**	**213**	P	**Pn**	**22 59 22.2**	**+2.5**
MRHZ	**Matea Rd**	**10.03**	**208**	P	**Pn**	**22 59 16.5**	**-3.6**
NMHZ	**Naumai**	**10.10**	**206**	P	Pn	22 59 16.0	-5.2
ARHZ	**Aropaoanui**	**10.18**	**205**	P	Pn	22 59 16.7	-5.4
WATZ	**Wairara**	**10.21**	**211**	P	**Pn**	**22 59 19.7**	**-2.9**
BKZ	**Black Stump Fm**	**10.28**	**207**	P	Pn	22 59 18.7	-4.9
BKZ	**Black Stump Fm**	**10.28**	**207**	P	Pn	22 59 18.4	-5.1
RITZ	**Rihia Road**	**10.38**	**210**	P	**Pn**	**22 59 21.7**	**-3.2**
MCHZ	**McNeill Hill**	**10.45**	**205**	P	**Pn**	**22 59 21.2**	**-4.6**
HIZ	**Hauiti**	**10.47**	**215**	Pn	**Pn**	**22 59 25.9**	**-0.3**
HIZ	**Hauiti**	**10.47**	**215**	P	**Pn**	**22 59 25.1**	**-1.0**
HIZ	**Hauiti**	**10.47**	**215**	P	**Pn**	**22 59 28.0**	**+1.9**
CKHZ	**Cape Kidnapper**	**10.50**	**203**	P	Pn	22 59 19.9	-6.6
KWHZ	**Kaweka Forest**	**10.53**	**206**	P	Pn	22 59 20.2	-6.9
NTVZ	**North Tongarir**	**10.56**	**210**	P	Pn	22 59 22.6	-4.8
TMVZ	**Te Maari**	**10.56**	**210**	P	**Pn**	**22 59 23.4**	**-4.1**
ETVZ	**East Tongariro**	**10.58**	**210**	P	**Pn**	**22 59 24.4**	**-3.3**
WTVZ	**West Tongariro**	**10.61**	**210**	P	**Pn**	**22 59 26.5**	**-1.7**
NNVZ	**North Ngauruho**	**10.61**	**210**	P	Pn	22 59 31.4	+3.1
OTVZ	**Oturere**	**10.62**	**210**	P	**Pn**	**22 59 23.8**	**-4.5**
KAHZ	**Kahuranaki**	**10.69**	**204**	P	Pn	22 59 22.5	-6.6
COVZ	**Chateau Observ**	**10.70**	**210**	P	**Pn**	**22 59 30.9**	**+1.5**
BHHZ	**Black Hill Sta**	**10.73**	**207**	P	Pn	22 59 23.8	-6.0
KRHZ	**Kereru**	**10.74**	**206**	P	Pn	22 59 23.1	-6.7
MAVZ	**Matarangi**	**10.75**	**210**	P	**Pn**	**22 59 26.7**	**-3.6**
WHWZ	**Whangaehu Hut**	**10.75**	**210**	P	**Pn**	**22 59 29.9**	**-0.3**
WNVZ	**Wahianoa**	**10.78**	**210**	P	**Pn**	**22 59 25.9**	**-4.7**
MOVZ	**Moawhango**	**10.79**	**209**	P	Pn	22 59 25.5	-5.0
PXZ	**Pawanui**	**10.91**	**203**	P	Pn	22 59 24.9	-7.2
VRZ	**Vera Road**	**11.00**	**213**	P	**Pn**	**22 59 33.5**	**+0.2**
PNHZ	**Pukenui**	**11.04**	**206**	P	Pn	22 59 26.7	-7.2
WPHZ	**Waipukurau**	**11.09**	**205**	P	Pn	22 59 29.0	-5.5
PRHZ	**Porangahau**	**11.20**	**203**	P	Pn	22 59 28.0	-8.0
TSZ	**Takapari Road**	**11.26**	**206**	P	Pn	22 59 29.8	-7.2
DVHZ	**Dannevirke**	**11.39**	**205**	P	Pn	22 59 31.3	-7.4
WAZ	**Wanganui**	**11.40**	**210**	P	**Pn**	**22 59 39.0**	**+0.1**
ANWZ	**Angora Road**	**11.42**	**204**	P	Pn	22 59 32.6	-6.5
NEZ	**North Egmont**	**11.43**	**215**	P	Pn	22 59 44.1	+4.7
LREZ	**Lake Rotokare**	**11.43**	**213**	P	Pn	22 59 43.6	+4.3
**POWZ

RAR S Sn 23 04 17.7 -15
comp=Z,23nm,0.4s,baz=67,slow=18,SNR=2.7
RAR LR LR 23 06 34.4
comp=Z,9µm,21.3s,baz=244,slow=31
MSZ Milford Sound 18.52 214 P P 23 01 10.7 -1.0
TUZ Tuapeka 18.73 209 P P 23 01 14.0 0.0
KOUNC Koumac, New Ca 18.93 296 P P 23 01 15.9 -0.5
KOUNC IAmb IAmb 23 01 25.8
comp=Z,532nm,0.9s
KOUNC Koumac, New Ca 18.93 296 P Pn 23 01 21.3 +4.0
SYZ Scrubby Hill 19.40 209 P P 23 01 19.5 -1.9
SYZ Scrubby Hill 19.40 209 P P 23 01 20.5 -0.9
LHI Lord Howe Isla 20.11 260 P Pn 23 01 31.0 -0.3
baz=20,SNR=6.5
LHI Lord Howe Isla 20.11 260 P P 23 01 28.8 -0.5
LHI IAmb IAmb 23 01 37.0
comp=Z,339nm,0.7s
LHI Lord Howe Isla 20.11 260 P Pn 23 01 33.3 +2.0
GC1S Gold Coast 1 S 25.30 267 P P 23 02 24.1 +2.3
TBI Tubuai 25.95 82 *e*P P 23 02 17.7 -10
comp=Z,3µm,33.5s
TBI Tubuai 25.95 82 *e*P **P 23 02 24.9 -2.8**
comp=Z,346nm,1.3s
TBI *e*S **S 23 06 49.0 -6.7**
comp=Z,33µm,31.8s
TBI *e*LQ LQ 23 07 31.9
comp=Z,52µm,27.2s
TBI *e*LR LR 23 08 28.9
comp=Z,116µm,27.0s
TBI *e*LR LR 23 08 31.6
comp=Z,28µm,28.8s
ARMA Armidale 26.57 261 P P 23 02 34.1 +0.7
baz=27,SNR=102
ARMA Armidale 26.57 261 P P 23 02 33.1 -0.2
ARMA IAmb IAmb 23 02 36.5
comp=Z,197nm,0.8s
ARMA Armidale 26.57 261 P P 23 02 36.3 +2.9
RIV Riverview 26.73 254 P P 23 02 36.6 +2.0
baz=27,SNR=14
RIV Riverview 26.73 254 P P 23 02 37.3 +2.6
RIV Riverview 26.73 254 P P 23 02 36.4 +1.7
RIV pmax pmax
comp=Z,652nm,1.1s
MGCD Mangrove Creek 26.79 255 P P 23 02 37.6 +2.4
baz=27,SNR=53
MGCD Mangrove Creek 26.79 255 P P 23 02 38.1 +2.9
WOLH Wollongong Har 26.97 253 P P 23 02 38.4 +1.6
SYDH Sydney Hard Ro 27.08 254 P P 23 02 39.4 +1.6
AUPHS Peel High Scho 27.12 260 P P 23 02 39.3 +1.1
AUUHS Ulladulla High 27.32 250 P P 23 02 40.9 +1.0
EIDS Eidsvold 28.09 272 P P 23 02 47.2 +0.2
baz=28,SNR=68
EIDS Eidsvold 28.09 272 P P 23 02 46.1 -0.8
EIDS IAmb IAmb 23 02 48.6
comp=Z,261nm,0.9s
EIDS IAMs_20 IAMs_20 23 11 54.5
comp=Z,18µm,21.0s
EIDS Eidsvold 28.09 272 P P 23 02 47.7 +0.8
CNB Canberra Magne 28.22 251 P P 23 02 49.3 +1.2
baz=28,SNR=125
CNB Canberra Magne 28.22 251 P P 23 02 50.5 +2.4
PAE Paea 28.35 70 *e*PKIKP **P 23 02 47.7 -1.5**
comp=Z,60nm,1.5s
PPT2 Papeete2 28.39 70 *e*PKIKP P 23 02 34.3 -15
comp=Z,694nm,28.5s
PPT2 *e*S **S 23 07 26.2 -8.2**
comp=Z,5µm,27.8s
PPT2 *e*LQ LQ 23 08 26.1
comp=Z,13µm,26.0s
PPT2 *e*LR LR 23 09 40.2
comp=Z,20µm,28.2s
PPT2 *e*LR LR 23 09 56.4
comp=Z,27µm,26.5s
PPT Papeete 28.40 70 P P 23 02 49.7 0.0
comp=Z,59nm,0.8s,baz=77,slow=10.0,SNR=3.7
PPT LR LR 23 11 15.0
comp=Z,6µm,21.0s,baz=242,slow=30
comp=Z,59nm,0.8s
MILA Mila 28.48 247 P P 23 02 51.6 +1.2
baz=29,SNR=71
MILA Mila 28.48 247 P P 23 02 52.2 +1.9
GD1S Gladstone Soft 28.49 275 P P 23 02 51.9 +1.4
CAN Canberra 28.52 251 P P 23 02 50.4 -0.3
CAN IAmb IAmb 23 02 53.0
comp=Z,296nm,0.7s
CAN Canberra 28.52 251 P P 23 02 52.6 +1.9
CAN Canberra 28.52 251 P P 23 02 50.4 -0.3
CAN pmax pmax
comp=Z,296nm,0.7s
CAN MLR MLR
comp=Z,9µm,19.0s
TIAR Tiarei 28.59 71 *e*PKIKP **P 23 02 51.4 -0.1**
comp=Z,0.4nm,0.8s
AUSMG Snowy Mountain 28.87 248 P P 23 02 54.5 +0.6
AUDCS Dubbo College 28.93 257 P P 23 02 55.1 +0.7
YNG Young 29.02 253 P P 23 02 55.7 +0.6
RK1H Rockhampton Ha 29.23 276 P P 23 02 58.2 +1.2
HNR Honiara 29.39 310 P P 23 02 57.0 -1.5
HNR IAmb IAmb 23 03 16.8
comp=Z,358nm,1.1s
HNR Honiara 29.39 310 P P 23 02 58.6 +0.1
HNR Honiara 29.39 310 P P 23 02 57.0 -1.5
HNR pmax pmax
comp=Z,358nm,1.1s
HNR MLR MLR
comp=Z,7µm,21.0s
HNR Honiara 29.39 310 LR LR 23 12 37.4
comp=Z,99µm,21.9s,baz=144,slow=32
RMQ Roma 29.80 269 P P 23 03 04.1 +1.9
baz=30,SNR=6.0
RMQ Roma 29.80 269 P P 23 03 04.3 +2.1
AULRC Lightning Ridg 29.85 263 P P 23 03 03.0 +0.5
GLAD Gladstone 29.86 239 P P 23 03 01.9 -0.6
AULHS Lilydale High 30.50 239 P P 23 03 08.7 +0.6
CORO Coronation Par 30.59 239 P P 23 03 09.1 +0.2
MOO Moorlands 30.75 237 P P 23 03 10.2 -0.2
baz=31,SNR=21
MOO Moorlands 30.75 237 P P 23 03 09.7 -0.6
TAU Tasmania Unive 30.76 236 P P 23 03 09.5 -0.9
TAU IAmb IAmb 23 03 11.1
comp=Z,130nm,0.9s
TAU Tasmania Unive 30.76 236 P P 23 03 09.6 -0.8
TAU Tasmania Unive 30.76 236 P P 23 03 09.5 -0.9
TAU pmax pmax
comp=Z,130nm,0.9s
TAU Tasmania Unive 30.76 236 P P 23 03 09.6 -0.8
TAU PcP **PcP 23 06 07.7 +0.5**
TAU ScP **ScP 23 09 47.5 +0.4**
VAH Vaihoa 31.22 68 *e*P **P 23 03 13.1 -1.6**
comp=Z,83nm,1.1s
TOO Toolangi 31.42 246 P P 23 03 16.6 +0.2
baz=32,SNR=110
TOO Toolangi 31.42 246 P P 23 03 15.8 -0.6
TOO IAmb IAmb 23 03 18.1
comp=Z,210nm,1.0s
TOO IAMs_20 IAMs_20 23 13 33.0
comp=Z,10µm,20.0s
TOO Toolangi 31.42 246 P P 23 03 17.0 +0.6
TOO Toolangi 31.42 246 P P 23 03 15.8 -0.6
TOO pmax pmax
comp=Z,210nm,1.0s
TOO MLR MLR
comp=Z,10µm,20.0s
CMSA Cobar Meteorol 31.49 258 P P 23 03 17.2 +0.3
baz=32,SNR=228
CMSA Cobar Meteorol 31.49 258 P P 23 03 17.5 +0.5
MLBS Spotswood, Mel 31.91 246 P P 23 03 21.6 +1.1
GEXS Deakin Univers 32.40 245 P P 23 03 25.1 +0.2
BRAT Ballarat 32.66 246 P P 23 03 27.2 0.0
AUAYR Ayr State High 33.34 280 P P 23 03 34.6 +1.4
QLP Quilpie 33.69 266 P P 23 03 36.2 -0.2
baz=34,SNR=113
QLP Quilpie 33.69 266 P P 23 03 36.5 +0.2
AUHPC Hawkesdale P12 33.95 245 P P 23 03 39.7 +1.3
TV1H Townsville Har 34.00 280 P P 23 03 40.1 +1.1
CTA Charters Tower 34.12 278 P P 23 03 40.5 +0.4
CTA pmax pmax
comp=Z,1µm,1.3s
CTA Charters Tower 34.12 278 LR LR 23 16 09.8
comp=Z,15µm,18.3s,baz=114,slow=34
CTAO Charters Tower 34.12 278 P P 23 03 39.8 -0.3
CTAO Charters Tower 34.12 278 P P 23 03 41.3 +1.2
CTAO Charters Tower 34.12 278 P P 23 03 39.8 -0.3
CTAO pmax pmax
comp=Z,809nm,0.6s
CTAO MLR MLR
comp=Z,16µm,18.0s
CTAO Charters Tower 34.12 278 P P 23 03 40.7 +0.6
CTAO ScP **ScP 23 09 59.9 +0.9**
ARPS Mount Arapiles 34.33 248 P P 23 03 42.6 +0.9
baz=34,SNR=42
ARPS Mount Arapiles 34.33 248 P P 23 03 41.1 -0.6
STKA Stephens Creek 34.91 256 P P 23 03 46.8 0.0
baz=35,SNR=735
STKA Stephens Creek 34.91 256 P P 23 03 46.2 -0.6
STKA IAmb IAmb 23 03 48.5
comp=Z,84nm,0.6s
STKA Stephens Creek 34.91 256 P P 23 03 47.0 +0.2
STKA Stephens Creek 34.91 256 *c i*P **P 23 03 46.4 -0.4**
STKA Stephens Creek 34.91 256 P P 23 03 46.8 0.0
comp=Z,299nm,0.5s,baz=100,slow=11,SNR=650
STKA LR LR 23 17 05.0
comp=Z,13µm,18.4s,baz=93,slow=35
comp=Z,299nm,0.5s
INKA Innaminka 36.42 263 P P 23 04 01.3 +1.5
MTSU Mount Surprise 36.60 280 P P 23 04 01.8 +0.3
baz=37,SNR=198
MTSU Mount Surprise 36.60 280 P P 23 04 02.8 +1.3
HTT Hallett 36.94 253 P P 23 04 03.5 -0.7
baz=37,SNR=268
HTT Hallett 36.94 253 P P 23 04 04.3 0.0
HTT Hallett 36.94 253 P P 23 04 03.7 -0.6
PTPS Port Pirie 37.74 254 P P 23 04 10.9 -0.1
LCRK Leigh Creek 38.00 258 P P 23 04 13.2 0.0
WHYH Whyalla 38.11 254 P P 23 04 13.7 -0.4
RABL Rabaul 38.48 306 P P 23 04 15.8 -1.6
RABL IAmb IAmb 23 04 58.7
comp=Z,107nm,0.9s
PMG Port Moresby 38.81 295 P P 23 04 18.6 -1.5
PMG IAmb IAmb 23 04 21.0
comp=Z,220nm,1.1s
PMG Port Moresby 38.81 295 IAMs_20 IAMs_20 23 17 11.4
comp=Z,9µm,22.0s
PMG Port Moresby 38.81 295 P P 23 04 20.2 +0.1
PMG Port Moresby 38.81 295 *c i*P **P 23 04 19.3 -0.8**
PMG pmax pmax
comp=Z,229nm,1.1s
PMG Port Moresby 38.81 295 ScP **ScP 23 10 17.0 +0.6**
comp=Z,27nm,1.0s,baz=88,slow=8.7,SNR=5.0
PMG LR LR 23 17 22.1
comp=Z,10µm,21.9s,baz=128,slow=32
PMG Port Moresby 38.81 295 P P 23 04 19.6 -0.6
PMG pP **pP 23 04 30.4 +0.6**
PMG sP **sP 23 04 34.5 +0.3**
PMG PcP **PcP 23 06 31.1 0.0**
PMG Port Moresby 38.81 295 P P 23 04 19.1 -1.0
comp=Z,184nm,1.1s,comp=Z,3µmcomp=Z,8µm
BBOO Buckleboo 39.41 254 P P 23 04 23.7 -1.3
baz=40,SNR=243
BBOO Buckleboo 39.41 254 P P 23 04 23.0 -2.0
BBOO IAmb IAmb 23 04 25.6
comp=Z,235nm,0.9s
BBOO Buckleboo 39.41 254 P P 23 04 24.2 -0.8
COEN Coen 39.54 285 P P 23 04 25.2 -1.1
COEN IAmb IAmb 23 04 28.0
comp=Z,272nm,1.2s
COEN Coen 39.54 285 P P 23 04 27.3 +1.0
QIS Mount Isa 39.66 274 P P 23 04 26.2 -1.0
baz=40,SNR=174
QIS Mount Isa 39.66 274 P P 23 04 26.7 -0.5
KAVG Kavieng 40.57 306 P P 23 04 36.2 +1.4
OOD Oodnadatta 40.75 261 P P 23 04 35.7 -0.4
TAOE Nuku Hiva Isla 40.85 67 *e*PKIKP P 23 04 26.5 -11
comp=Z,312nm,30.5s
TAOE *e*S **S 23 10 37.8 -8.4**
comp=Z,4µm,27.0s
MULG Mulgathing 41.55 257 P P 23 04 41.5 -1.2
PTCN Pitcairn Islan 42.15 95 IAMs_20 IAMs_20 23 17 29.3
comp=Z,7µm,21.0s
MANU Manus Island 43.40 303 P P 23 04 55.5 -2.4
MANU IAmb IAmb 23 04 57.7
comp=Z,149nm,0.8s
MANU Manus Island 43.40 303 P P 23 04 58.5 +0.7
AS01 Alice Springs 43.45 266 P P 23 04 57.4 -0.9
AS31 Alice Springs 43.49 266 P P 23 04 56.9 -1.7
ASAR Alice Springs 43.49 266 P P 23 04 57.0 -1.7
comp=Z,160nm,0.5s,baz=102,slow=6.9,SNR=907
ASAR PcP **PcP 23 06 45.2 -1.1**
comp=Z,23nm,0.7s,baz=122,slow=3.7,SNR=1.7
ASAR ScP **ScP 23 10 33.0 -1.8**
comp=Z,11nm,0.9s,baz=110,slow=4.2,SNR=6.7
ASAR S **S 23 11 20.9 -4.2**
comp=Z,2.9nm,0.9s,baz=101,slow=13,SNR=2.0
ASAR PKiKP **PKiKP 23 13 46.5 -2.2**
comp=Z,1.8nm,0.7s,baz=88,slow=1.1,SNR=4.6
ASAR LR LR 23 22 37.5
comp=Z,15µm,18.5s,baz=116,slow=36
comp=Z,160nm,0.5s
WR0 Warramunga Arr 44.27 272 P P 23 05 02.9 -2.0
WR9 Warramunga Arr 44.30 272 IAMs_20 IAMs_20 23 21 41.6
comp=Z,9µm,21.0s
WR8 Warramunga Arr 44.31 272 IAMs_20 IAMs_20 23 21 07.9
comp=Z,10µm,22.0s
WR7 Warramunga Arr 44.33 272 IAMs_20 IAMs_20 23 21 41.5
comp=Z,9µm,21.0s
WR5 Warramunga Arr 44.37 272 IAMs_20 IAMs_20 23 21 43.6
comp=Z,9µm,21.0s
WR4 Warramunga Arr 44.40 272 IAMs_20 IAMs_20 23 21 44.2
comp=Z,9µm,21.0s
WC3 Warramunga Arr 44.42 272 IAMs_20 IAMs_20 23 21 44.9
comp=Z,9µm,21.0s
WR2 Warramunga Arr 44.43 272 IAMs_20 IAMs_20 23 21 44.2
comp=Z,10µm,21.0s
WC2 Warramunga Arr 44.44 272 IAMs_20 IAMs_20 23 21 45.4
comp=Z,9µm,21.0s
WB3 Warramunga Arr 44.45 272 IAMs_20 IAMs_20 23 21 45.6
comp=Z,8µm,20.0s
WB4 Warramunga Arr 44.45 272 IAMs_20 IAMs_20 23 22 29.7
comp=Z,8µm,19.0s
WR1 Warramunga Arr 44.46 272 IAMs_20 IAMs_20 23 21 45.8
comp=Z,9µm,21.0s
WRA Warramunga Arr 44.46 272 P P 23 05 04.3 -2.1
WRA Warramunga Arr 44.46 272 P P 23 05 04.3 -2.1
comp=Z,468nm,0.7s,baz=111,slow=8.0,SNR=1019
WRA PcP **PcP 23 06 47.3 -2.3**
comp=Z,25nm,0.8s,baz=124,slow=3.0,SNR=1.9
WRA ScP **ScP 23 10 36.8 -2.1**
comp=Z,9.0nm,0.9s,baz=106,slow=4.7,SNR=6.0
WRA S **S 23 11 32.9 -6.2**
comp=Z,9.3nm,0.8s,baz=111,slow=13,SNR=4.8
WRA PKiKP **PKiKP 23 13 48.3 -1.4**
comp=Z,2.5nm,0.7s,baz=114,slow=0.3,SNR=6.2
WRA LR LR 23 21 56.8
comp=Z,9µm,21.5s,baz=105,slow=34
WRA P4KPbc 23 42 59.3
comp=Z,0.8nm,0.6s,baz=104,slow=4.2,SNR=8.2
WB5 Warramunga Arr 44.46 272 IAMs_20 IAMs_20 23 21 45.8
comp=Z,9µm,20.0s
WB7 Warramunga Arr 44.46 272 IAMs_20 IAMs_20 23 21 45.9
comp=Z,7µm,21.0s
WC1 Warramunga Arr 44.46 272 IAMs_20 IAMs_20 23 21 46.0
comp=Z,9µm,21.0s
WB6 Warramunga Arr 44.47 272 IAMs_20 IAMs_20 23 21 47.0
comp=Z,8µm,20.0s
WB8 Warramunga Arr 44.47 272 IAMs_20 IAMs_20 23 21 47.2
comp=Z,8µm,21.0s
WB9 Warramunga Arr 44.48 272 IAMs_20 IAMs_20 23 21 35.3
comp=Z,9µm,22.0s
WB0 Warramunga Arr 44.48 272 IAMs_20 IAMs_20 23 21 12.4
comp=Z,9µm,22.0s
DRV Dumont d'Urvil 44.56 203 P P 23 05 05.8 -0.7
DRV ScP **ScP 23 10 39.3 +1.0**
TABU Tabubil 45.99 294 P P 23 05 20.0 +1.4
FORT Forrest 46.48 255 P P 23 05 19.8 -2.5
baz=47,SNR=186
FORT Forrest 46.48 255 P P 23 05 19.6 -2.7
FORT IAMs_20 IAMs_20 23 23 03.5
comp=Z,5µm,20.0s
FORT Forrest 46.48 255 P P 23 05 21.3 -1.0
WRKA Warakurna 47.88 262 P P 23 05 31.0 -2.3
baz=48,SNR=73
WRKA Warakurna 47.88 262 P P 23 05 31.3 -2.0
SBA Scott Base 48.37 184 P 23 05 37.0 +0.8
SBA Scott Base 48.37 184 P P 23 05 37.0 +0.8
SBA pmax pmax
comp=Z,152nm,0.7s
SBA Scott Base 48.37 184 P P 23 05 39.2 +3.0
SBA sP **pwP 23 05 55.1 +4.3**
SBA PcP **PcP 23 07 04.6 +2.3**
VNDA Vanda 48.44 186 P P 23 05 37.6 +0.8
VNDA Vanda 48.44 186 P P 23 05 38.2 +1.4
comp=Z,19nm,0.9s,baz=0.6,slow=7.7,SNR=41
VNDA LR LR 23 22 41.8
comp=Z,1µm,21.2s,baz=29,slow=32
comp=Z,19nm,0.9s
VNDA Vanda 48.44 186 P P 23 05 38.7 +2.0
GENI Genyem 48.46 296 P P 23 05 38.4 +0.7
GENI Genyem 48.46 296 P P 23 05 36.5 -1.2
comp=Z,305nm,1.5s,comp=Z,5µmcomp=Z,5µm
KDU Kakadu 49.23 279 P P 23 05 41.6 -2.1
baz=49,SNR=39
KDU Kakadu 49.23 279 P P 23 05 42.9 -0.8
MTN Manton Dam 50.30 278 P P 23 05 50.2 -1.7
baz=50,SNR=42
MTN Manton Dam 50.30 278 P P 23 05 50.1 -1.7
MTN IAmb IAmb 23 05 52.1
comp=Z,101nm,0.6s
MTN Manton Dam 50.30 278 P P 23 05 51.1 -0.8
KNRA Kununurra 51.05 274 P P 23 05 56.2 -1.3
baz=51,SNR=36
KNRA Kununurra 51.05 274 P P 23 05 55.7 -1.8
KNRA IAmb IAmb 23 06 00.5
comp=Z,114nm,0.6s
KNRA Kununurra 51.05 274 P P 23 05 57.3 -0.2
WAKE Wake Island 51.39 341 P P 23 05 59.2 -0.6
KMBL Kambalda 51.47 252 P P 23 05 57.7 -2.7
baz=52,SNR=12
KMBL Kambalda 51.47 252 P P 23 05 58.6 -1.9
SAUI Saumlaki 52.59 284 P P 23 06 08.1 -0.8
FITZ Fitzroy Crossi 52.73 269 P P 23 06 08.5 -1.5
baz=53,SNR=150
FITZ Fitzroy Crossi 52.73 269 P P 23 06 08.7 -1.3
FITZ Fitzroy Crossi 52.73 269 P P 23 06 09.1 -0.9
KMPI Kaimana, Papua 52.97 290 P P 23 06 10.8 -1.0
comp=Z,589nm,0.9s,comp=Z,5µmcomp=Z,5µm
CCD Concordia, Ant 53.35 196 P P 23 06 14.3 +0.1
AUALB St Joseph's Co 53.78 247 P P 23 06 15.8 -1.7
HMH Humu'ula Sheep 53.80 26 P P 23 06 17.8 -0.2
KIP Kipapa 54.57 23 P P 23 06 22.5 -0.7
KIP Kipapa 54.57 23 P P 23 06 22.6 -0.7
KIP Kipapa 54.57 23 ‖ *e*P **P 23 06 21.9 -1.3**
KIP pmax pmax
comp=Z,622nm,3.4s
FAKI Fak Fak 54.58 290 P P 23 06 21.3 -2.3
FAKI Fak Fak 54.58 290 P P 23 06 22.5 -1.1
FAKI Fak Fak 54.58 290 P P 23 06 20.3 -3.3
comp=Z,228nm,1.5s,comp=Z,3µmcomp=Z,5µm
RKGY Rocky Gully 54.61 247 P P 23 06 22.1 -1.5
baz=55,SNR=10.0
RKGY Rocky Gully 54.61 247 P P 23 06 23.0 -0.6
KLBR Kellerberrin 54.80 251 P P 23 06 22.6 -2.4
baz=55,SNR=24
KLBR Kellerberrin 54.80 251 P P 23 06 22.4 -2.6
NWAO Narrogin (SRO) 54.85 249 P P 23 06 22.6 -2.8
baz=55,SNR=4.8
NWAO P P **23 06 22.6 -2.8**
baz=55,SNR=4.8
NWAO Narrogin (SRO) 54.85 249 P P 23 06 22.7 -2.6
NWAO IAmb IAmb 23 06 23.0
comp=Z,108nm,1.4s
NWAO Narrogin (SRO) 54.85 249 P P 23 06 22.4 -3.0
NWAO IAmb IAmb 23 06 23.0
comp=Z,388nm,1.4s
NWAO Narrogin (SRO) 54.85 249 P P 23 06 23.5 -1.9
NWAO Narrogin (SRO) 54.85 249 P P 23 06 22.6 -2.8
NWAO Narrogin (SRO) 54.85 249 P P 23 06 22.7 -2.6
NWAO pmax pmax
comp=Z,108nm,1.4s
NWAO MLR MLR
comp=Z,4µm,21.0s
NWAO Narrogin (SRO) 54.85 249 LR LR 23 28 52.6
comp=Z,4µm,20.2s,baz=83,slow=35
NWAO Narrogin (SRO) 54.85 249 P P 23 06 22.8 -2.6
CASY Casey 55.58 208 P P 23 06 28.8 -1.2
CASY Casey 55.58 208 P P 23 06 28.9 -1.2
CASY PcP **PcP 23 07 28.9 -0.5**
MEEK Meekatharra 55.61 257 P P 23 06 28.1 -2.8
baz=56,SNR=64
MEEK Meekatharra 55.61 257 P P 23 06 29.0 -2.0
BLDU Ballidu 55.94 252 P P 23 06 30.3 -2.9
baz=56,SNR=35
BLDU Ballidu 55.94 252 P P 23 06 32.1 -1.1
MUN Mundaring 55.95 250 P P 23 06 30.4 -2.8
baz=56,SNR=10
MUN Mundaring 55.95 250 P P 23 06 30.7 -2.6
PSA00 Pilbara Seismi 56.37 263 P P 23 06 33.6 -2.8
PSA00 Pilbara Seismi 56.37 263 P P 23 06 33.6 -2.8
PSA00 IAmb IAmb 23 06 35.1
comp=Z,223nm,1.8s
PSA00 Pilbara Seismi 56.37 263 P P 23 06 34.1 -2.3
GUMO Guam 56.53 315 LR LR 23 27 52.9
comp=Z,3µm,21.0s,baz=128,slow=33
SIJI Sorong 56.57 291 P P 23 06 35.4 -2.5
comp=Z,333nm,1.0s,comp=Z,4µmcomp=Z,5µm
SWI Sorong 56.58 291 P P 23 06 36.3 -1.6
SWI pmax pmax
comp=Z,382nm,0.8s
SWI Sorong 56.58 291 P P 23 06 35.4 -2.5
comp=Z,388nm,0.8s,comp=Z,5µmcomp=Z,5µm
MORW Morawa 56.97 253 P P 23 06 38.1 -2.4
baz=57,SNR=16
MORW Morawa 56.97 253 P P 23 06 37.2 -3.4
MORW IAmb IAmb 23 06 38.5
comp=Z,98nm,1.2s
MORW IAMs_20 IAMs_20 23 31 15.2
comp=Z,6µm,20.0s
MORW Morawa 56.97 253 P P 23 06 38.2 -2.4
KRAI Karang Ratu 57.53 287 P P 23 06 42.1 -2.6
comp=Z,163nm,0.7s,comp=Z,3µm
SOEI Soe 57.68 278 P P 23 06 43.9 -2.0
SOEI Soe 57.68 278 P P 23 06 47.4 +1.5
SOEI Soe 57.68 278 P P 23 06 44.4 -1.5
comp=Z,195nm,0.9s,comp=Z,4µmcomp=Z,7µm
NLAI Namlea 58.65 286 P P 23 06 49.9 -2.6
comp=Z,117nm,0.6s
RPN Rapa Nui 59.16 105 LR LR 23 25 55.0
comp=Z,3µm,21.5s,baz=237,slow=29
LBMI Labuha 59.77 289 P P 23 06 58.6 -1.7
comp=Z,217nm,0.6s,comp=Z,4µm
MMRI Maumere 59.97 278 P P 23 06 59.9 -1.8
MMRI Maumere 59.97 278 P P 23 07 00.9 -0.8
MMRI Maumere 59.97 278 P P 23 06 59.8 -1.8
comp=Z,319nm,1.1s,comp=Z,5µm
QSPA South Pole Qui 60.01 180 P P 23 07 02.2 +0.8
QSPA South Pole Qui 60.01 180 P P 23 07 02.8 +1.4
comp=Z,108nm,0.8s,baz=35,slow=1.4,SNR=359
QSPA S **S 23 15 15.5 +4.3**
comp=Z,10nm,1.2s,baz=181,slow=23,SNR=2.3
QSPA LR LR 23 27 58.9
comp=Z,2µm,21.9s,baz=36,slow=31
comp=Z,108nm,0.8s
QSPA South Pole Qui 60.01 180 P P 23 07 02.7 +1.4
SANI Sanana 60.23 286 P P 23 07 02.1 -1.3
SANI Sanana 60.23 286 P P 23 07 00.1 -3.3
comp=Z,345nm,0.6s,comp=Z,4µmcomp=Z,4µm
EDFI Ende, Flores 60.38 277 P P 23 07 01.8 -2.8
comp=Z,177nm,0.6s,comp=Z,3µmcomp=Z,6µm
BASI Baing, Sumba 60.63 275 P P 23 07 05.0 -1.2
comp=Z,574nm,0.6s,comp=Z,5µmcomp=Z,6µm
TNTI Ternate 60.68 290 P P 23 07 03.8 -2.7
TNTI Ternate 60.68 290 P P 23 07 06.9 +0.4
TNTI Ternate 60.68 290 P P 23 07 03.8 -2.7
comp=Z,186nm,1.3s,comp=Z,3µmcomp=Z,2µm
GIRL Giralia 60.76 259 P P 23 07 05.8 -1.1
baz=61,SNR=9.4
GIRL Giralia 60.76 259 P P 23 07 05.4 -1.6
GIRL Giralia 60.76 259 P P 23 07 05.9 -1.1
BBSI Bau Bau 61.27 281 P P 23 07 07.3 -3.2
comp=Z,90nm,1.1s,comp=Z,1µmcomp=Z,3µm
KMSI Cibinong 63.35 288 P P 23 07 27.2 +2.8
DBNI Kabupaten Domp 63.41 276 P P 23 07 22.7 -2.2
comp=Z,153nm,0.7s
BKSI Bulukumba 63.45 280 P P 23 07 22.9 -2.2
comp=Z,150nm,0.6s,comp=Z,2µm
LUWI Luwuk 63.46 285 P P 23 07 23.0 -2.1
LUWI Luwuk 63.46 285 P P 23 07 24.8 -0.4
LUWI Luwuk 63.46 285 P P 23 07 23.5 -1.7
comp=Z,352nm,1.2s,comp=Z,4µmcomp=Z,6µm
PLAI Plampang 63.72 275 P P 23 07 25.4 -1.5
PLAI Plampang 63.72 275 P P 23 07 24.9 -2.0
comp=Z,349nm,0.9s,comp=Z,3µmcomp=Z,4µm
KAPI Kappang 63.92 280 P P 23 07 26.8 -1.4
KAPI IAmb IAmb 23 07 28.1
comp=Z,61nm,0.6s
KAPI Kappang 63.92 280 P P 23 07 26.8 -1.4
KAPI pmax pmax

comp=Z,61nm,0.6s
KAPI Kappang 63.92 280 LR LR 23 34 58.0
comp=Z,861nm,18.3s,baz=126,slow=36
MKS Makassar 64.06 279 P **P** **23 07 28.5 -0.6**
comp=Z,64nm,0.8s,comp=Z,2µm
GTOI Gorontalo 64.19 287 P **P** **23 07 28.1 -1.8**
comp=Z,176nm,0.6s,comp=Z,2µm
TWSI Taliwang, Sumb 64.53 275 P **P** **23 07 29.6 -2.6**
comp=Z,187nm,1.0s,comp=Z,3µmcomp=Z,4µm
TTSI Tana Toraja 64.88 282 P **P** **23 07 31.4 -3.1**
comp=Z,94nm,1.0s,comp=Z,2µmcomp=Z,4µm
MRSI Marisa 64.99 286 P **P** **23 07 31.7 -3.5**
comp=Z,136nm,0.6s,comp=Z,2µmcomp=Z,5µm
PMSI Majene 65.41 281 P **P** **23 07 36.1 -1.9**
comp=Z,223nm,1.6s,comp=Z,4µmcomp=Z,4µm
DAV Davao City (W) 65.83 294 P **P** **23 07 38.4 -2.2**
DAV Davao City (W) 65.83 294 LR LR 23 36 27.6
comp=Z,593nm,19.6s,baz=120,slow=36
DAV Davao City (W) 65.83 294 P **P** **23 07 39.2 -1.5**
DAV P **P** **23 07 39.2 -1.5**
SRBI Singaraja 66.29 274 P **P** **23 07 41.4 -2.2**
comp=Z,117nm,0.8s,comp=Z,4µmcomp=Z,4µm
TOLI2 Tolitoli 66.30 286 P **P** **23 07 40.3 -3.3**
TOLI2 IAmb IAmb 23 07 42.2
comp=Z,144nm,1.5s
TOLI2 Tolitoli 66.30 286 P **P** **23 07 40.7 -3.0**
MPSI Mapaga 66.62 285 P **P** **23 07 42.7 -3.0**
comp=Z,117nm,0.8s,comp=Z,2µmcomp=Z,4µm
JAGI Jajag, Banyuwa 67.02 273 P **P** **23 07 45.1 -3.2**
JAGI IAMs_20 IAMs_20 23 36 36.7
comp=Z,4µm,20.0s
JAGI Jajag, Banyuwa 67.02 273 P **P** **23 07 45.5 -2.8**
JAGI Jajag, Banyuwa 67.02 273 P **P** **23 07 44.8 -3.5**
comp=Z,190nm,1.3s,comp=Z,3µmcomp=Z,3µm
ABJI Asem Bagus 67.28 274 P **P** **23 07 47.1 -2.8**
comp=Z,92nm,1.0s,comp=Z,3µmcomp=Z,5µm
BLJI Banyuglugur 67.86 274 P **P** **23 07 50.9 -2.6**
comp=Z,154nm,0.5s,comp=Z,3µm
KMMI Kaliangget 67.87 275 P **P** **23 07 51.4 -2.3**
comp=Z,275nm,1.6s,comp=Z,5µm
BKB Balikpapan 68.30 282 P **P** **23 07 52.5 -3.8**
comp=Z,297nm,1.5s,comp=Z,5µm
KRKI Karangkates 68.64 273 P **P** **23 07 57.7 -0.8**
comp=Z,322nm,0.6s,comp=Z,17µm
JCJ Chichijima 68.67 322 P **P** **23 07 56.2 -2.1**
JCJ Chichijima 68.67 322 P **P** **23 07 57.4 -0.9**
JCJ Chichijima 68.67 322 LR LR 23 32 20.9
comp=Z,2µm,21.6s,baz=157,slow=31
GRJI Gresik 69.22 274 P **P** **23 08 00.4 -1.7**
comp=Z,226nm,0.7s,comp=Z,4µm
SJI Sawahan 69.44 273 P **P** **23 08 01.3 -2.3**
comp=Z,100nm,0.6s
NGJI Ngawi 69.89 273 P **P** **23 08 05.2 -1.0**
comp=Z,137nm,1.3s
BELA Belgrano 2 70.04 172 P **P** **23 08 06.0 -0.1**
BELA IAmb IAmb 23 08 07.6
comp=Z,92nm,0.8s
MTKI Muara Teweh, K 70.16 281 P **P** **23 08 04.9 -3.0**
comp=Z,149nm,1.0s,comp=Z,7µmcomp=Z,4µm
UGM Wanagama 70.43 272 P **P** **23 08 08.0 -1.6**
SMRI Semarang 70.92 273 P **P** **23 08 09.8 -2.8**
SMRI IAMs_20 IAMs_20 23 37 27.0
comp=Z,3µm,22.0s
KPJI Karang Pucung 72.09 272 P **P** **23 08 17.7 -1.9**
comp=Z,174nm,0.8s,comp=Z,3µm
CMJI Cimerak 72.29 271 P **P** **23 08 17.1 -3.7**
comp=Z,146nm,0.9s,comp=Z,3µmcomp=Z,4µm
PMSA Palmer Station 72.39 156 P **P** **23 08 20.9 +0.4**
PMSA Palmer Station 72.39 156 IAMs_20 IAMs_20 23 36 21.4
comp=Z,2µm,19.0s
PMSA Palmer Station 72.39 156 LR LR 23 36 32.1
comp=Z,2µm,18.1s,baz=242,slow=33
MAW Mawson 72.72 200 P **P** **23 08 21.9 -0.5**
MAW Mawson 72.72 200 P **P** **23 08 22.4 0.0**
comp=Z,58nm,0.7s,baz=134,slow=8.6,SNR=36
MAW LR LR 23 38 51.2
comp=Z,4µm,20.9s,baz=119,slow=34
comp=Z,58nm,0.7s
KKM Kota Kinabalu 72.81 288 P **P** **23 08 21.6 -2.3**
KKM IAmb IAmb 23 08 23.5
comp=Z,160nm,0.8s
KKM Kota Kinabalu 72.81 288 P **P** **23 08 22.0 -2.0**
KKM Kota Kinabalu 72.81 288 P **P** **23 08 20.7 -3.3**
comp=Z,272nm,1.1s,comp=Z,4µmcomp=Z,5µm
BBJI Bungbulang 73.14 271 P **P** **23 08 23.5 -2.4**
BBJI Bungbulang 73.14 271 P **P** **23 08 22.9 -3.0**
comp=Z,183nm,0.8s,comp=Z,2µmcomp=Z,4µm
XMIS Christmas Isla 73.43 267 P **P** **23 08 25.9 -1.6**
XMIS IAMs_20 IAMs_20 23 42 52.4
comp=Z,3µm,19.0s
LEM Lembang 73.48 272 P **P** **23 08 26.3 -1.7**
LEM pmax pmax
comp=Z,224nm,0.8s
LEM Lembang 73.48 272 LR LR 23 42 39.2
comp=Z,3µm,18.5s,baz=106,slow=37
LEM Lembang 73.48 272 P **P** **23 08 25.9 -2.1**
comp=Z,224nm,0.8s,comp=Z,4µm
STKI Sintang 73.60 280 P **P** **23 08 27.0 -1.5**
comp=Z,324nm,1.1s,comp=Z,13µm
CNJI Cibinong 73.67 271 P **P** **23 08 25.8 -3.1**
comp=Z,101nm,0.8s,comp=Z,1µm
TGY Tagaytay City 73.71 297 LR LR 23 39 43.7
comp=Z,764nm,19.7s,baz=155,slow=35
SBUM Sibu 74.22 282 P **P** **23 08 30.6 -1.5**
SBUM IAmb IAmb 23 08 32.1
comp=Z,157nm,1.5s
SBUM Sibu 74.22 282 P **P** **23 08 29.9 -2.2**
comp=Z,84nm,1.4s,comp=Z,1µm
SKJI Sukabumi 74.31 271 P **P** **23 08 30.3 -2.4**
comp=Z,336nm,0.7s,comp=Z,4µmcomp=Z,3µm
DBJI Dramaga 74.36 271 P **P** **23 08 30.6 -2.4**
comp=Z,244nm,0.8s,comp=Z,7µm
JHJ2 Mitsune 74.69 324 P **P** **23 08 32.3 -2.1**
JHJ Hachijo jima 2 74.71 324 LR LR 23 36 56.4
comp=Z,1µm,20.9s,baz=118,slow=32
KSM Kuching 75.33 280 P **P** **23 08 36.3 -2.2**
KSM Kuching 75.33 280 P **P** **23 08 37.2 -1.4**
KSM Kuching 75.33 280 P **P** **23 08 36.2 -2.4**
comp=Z,205nm,1.1s,comp=Z,3µm
GO10 Punta Arenas 75.53 143 P **P** **23 08 40.0 +0.9**
GO10 IAmb IAmb 23 08 43.8
comp=Z,182nm,0.9s
GO09 Cerro Castillo 75.81 141 P **P** **23 08 41.2 +0.5**
GO09 IAmb IAmb 23 09 03.5
comp=Z,179nm,1.4s
USHA Ushuaia 75.96 146 LR LR 23 33 43.3
comp=Z,2µm,21.4s,baz=186,slow=29
MG02 Cerro Sombrero 76.67 144 P **P** **23 08 46.1 +0.6**
MG02 IAmb IAmb 23 08 48.9
comp=Z,188nm,1.0s
JOW Kunigami 76.73 312 P **P** **23 08 44.7 -1.5**
JOW IAmb IAmb 23 09 02.7
comp=Z,118nm,0.9s
JOW Kunigami 76.73 312 P **P** **23 08 46.1 -0.1**
JOW Kunigami 76.73 312 LR LR 23 37 43.0
comp=Z,2µm,21.8s,baz=118,slow=32
JSG Sagara 76.75 324 P **P** **23 08 45.2 -1.0**
JSG Sagara 76.75 324 P **P** **23 08 46.8 +0.7**
KASI Kota Agung 76.81 271 P **P** **23 08 43.5 -3.5**
comp=Z,125nm,0.7s,comp=Z,2µm
PPBI Pangkal Pinang 77.06 275 P **P** **23 08 46.4 -2.0**
GO08 Villa O'Higgin 77.12 139 P **P** **23 08 48.9 +0.7**
ELIB Princess Elisa 77.19 187 *dP* **P** **23 08 48.5 +0.1**
comp=Z,206nm,0.6s
ELIB *dS* **S** **23 18 31.0 -3.9**
LWLI Liwa 77.44 271 P **P** **23 08 49.9 -0.8**
comp=Z,275nm,0.6s,comp=Z,4µm
AY03 Cochrane 77.72 138 P **P** **23 08 51.7 +0.1**
AY03 IAmb IAmb 23 08 55.4
comp=Z,87nm,1.1s
INU Inuyama 77.88 323 P **P** **23 08 50.4 -2.0**
INU IAmb IAmb 23 08 53.0
comp=Z,134nm,1.2s
INU IAMs_20 IAMs_20 23 38 45.6
comp=Z,3µm,22.0s
INU Inuyama 77.88 323 P **P** **23 08 51.3 -1.1**
TROLL Troll, Antarti 78.18 180 ⇑P **P** **23 08 54.2 +0.3**
comp=Z,12µm,0.8s
TROLL ⇑PcP **PcP** **23 09 01.0 -2.3**
comp=Z,11µm,0.8s
MJAR Matsushiro Arr 78.20 325 P **P** **23 08 52.4 -1.9**
comp=Z,49nm,1.0s,baz=161,slow=5.5,SNR=57
MJAR LR LR 23 40 07.9
comp=Z,789nm,20.6s,baz=138,slow=33
comp=Z,49nm,1.0s
MAJO Matsushiro 78.20 325 P **P** **23 08 52.7 -1.5**
MAJO IAmb IAmb 23 08 54.8
comp=Z,162nm,1.2s
MAJO Matsushiro 78.20 325 P **P** **23 08 53.1 -1.1**
MAJO Matsushiro 78.20 325 ⇑P **P** **23 08 53.1 -1.1**
JMN Monobe 78.32 320 P **P** **23 08 53.9 -1.1**
JMN IAmb IAmb 23 08 56.3
comp=Z,338nm,2.0s
JMN IAMs_20 IAMs_20 23 41 34.8
comp=Z,3µm,20.0s
JMN Monobe 78.32 320 P **P** **23 08 55.0 0.0**
SNAA Sanae 78.45 178 P **P** **23 08 54.6 -0.6**
SNAA IAmb IAmb 23 09 03.5
comp=Z,91nm,0.7s
SNAA Sanae 78.45 178 *cP* **P** **23 08 55.2 -0.1**
SNAA pmax pmax
comp=Z,145nm,1.2s
SNAA MLR MLR
comp=Z,1µm,18.0s
SNAA Sanae 78.45 178 ⇑P **P** **23 08 55.1 -0.1**
comp=Z,2µm,0.5s
SNAA ⇑PcP **PcP** **23 09 02.5 -1.9**
comp=Z,2µm,0.6s
SNAA ⇓S **S** **23 18 54.3 +6.0**
comp=Z,83nm,1.1s
SNAA Sanae 78.45 178 P **P** **23 08 55.1 -0.1**
comp=Z,57nm,0.7s,baz=206,slow=6.1,SNR=98
SNAA S **S** **23 18 50.8 +2.5**
comp=Z,3.5nm,0.9s,baz=67,slow=17,SNR=2.8
SNAA LR LR 23 42 53.7
comp=Z,784nm,19.0s,baz=197,slow=35
comp=Z,57nm,0.7s
VNA3 Neumayer Olymp 78.58 176 ⇑P **P** **23 08 55.7 -0.3**
comp=Z,202nm,0.6s
VNA3 ⇑PcP **PcP** **23 09 02.9 -2.0**
comp=Z,290nm,0.8s
VNA3 ⇓S **S** **23 18 56.4 +6.7**
comp=Z,2.0nm,0.7s
COYC Coyhaique 78.90 136 P **P** **23 08 59.0 +0.8**
COYC IAmb IAmb 23 09 01.9
comp=Z,132nm,1.0s
TWGBT Beinan 78.99 304 P **P** **23 08 56.0 -2.8**
VNA2 Neumayer--Watz 79.02 177 ⇑P **P** **23 08 58.4 +0.1**
comp=Z,209nm,0.6s,baz=172,slow=4.0
VNA2 ⇑PcP **PcP** **23 09 05.1 -1.7**
comp=Z,172nm,0.6s,baz=172,slow=4.0
VNA2 ⇑S **S** **23 19 01.3 +7.0**
comp=Z,1.2nm,0.4s,baz=13,slow=19
AY01 Puyuhuapi 79.16 135 P **P** **23 09 00.2 +0.6**
YULB Yu-li 79.19 305 P **P** **23 08 57.3 -2.7**
YULB Yu-li 79.19 305 P **P** **23 08 58.7 -1.3**
NVL N'lazarevskaya 79.20 183 *eP* **P** **23 08 57.7 -1.6**
NVL *eS* **S** **23 18 53.2 -2.9**
NVL pmax pmax
comp=Z,121nm,1.4s
NVL smax smax
comp=N,821nm,9.9s
NVL MLR MLR
comp=Z,2µm,22.0s
DSRI Dabo 79.25 276 P **P** **23 08 58.4 -2.1**
comp=Z,90nm,1.1s,comp=Z,4µmcomp=Z,4µm
VNA1 Neumayer--Stat 79.25 176 ⇑P **P** **23 08 59.7 +0.1**
comp=Z,211nm,0.6s
VNA1 ⇑PcP **PcP** **23 09 05.9 -1.8**
comp=Z,211nm,0.6s
NACB Ninganchiao 79.48 306 P **P** **23 08 59.3 -2.2**
NACB Ninganchiao 79.48 306 P **P** **23 09 01.5 0.0**
JNU Nakatsue 79.58 318 P **P** **23 09 00.1 -1.7**
JNU IAmb IAmb 23 09 17.9
comp=Z,113nm,1.2s
JNU Nakatsue 79.58 318 P **P** **23 09 01.1 -0.8**
JNU Nakatsue 79.58 318 LR LR 23 40 23.0
comp=Z,378nm,18.8s,baz=106,slow=33
UBSI University, Be 79.61 272 P **P** **23 08 59.0 -3.5**
comp=Z,238nm,1.2s,comp=Z,5µm
TPUB Ta-pu 79.61 305 P **P** **23 09 02.2 -0.1**
SSLB Suanglung 79.69 305 P **P** **23 09 00.1 -2.6**
TPRI Tanjung Pinang 80.00 277 P **P** **23 09 00.9 -3.7**
comp=Z,120nm,1.6s,comp=Z,4µm
JTM Tenmabayashi 80.25 329 P **P** **23 09 05.0 -0.3**
JTM IAmb IAmb 23 09 07.1
comp=Z,223nm,1.0s
JTM IAMs_20 IAMs_20 23 37 44.0
comp=Z,3µm,22.0s
JTM Tenmabayashi 80.25 329 P **P** **23 09 05.5 +0.2**
LL02 Futaleuf 80.30 134 P **P** **23 09 06.2 +0.3**
LL02 IAmb IAmb 23 09 09.4
comp=Z,96nm,1.1s
H03S2 Juan Fernandez 80.33 123 T T 00 38 25.2
baz=238,slow=74
H03S1 Juan Fernandez 80.34 123 T T 00 38 27.8
baz=238,slow=74
H03S3 Juan Fernandez 80.34 123 T T 00 38 30.2
baz=238,slow=74
ERM Erimo 80.37 331 P **P** **23 09 06.0 +0.2**
ERM IAmb IAmb 23 09 13.1
comp=Z,91nm,0.8s
ERM Erimo 80.37 331 P **P** **23 09 05.8 -0.1**
ERM Erimo 80.37 331 *cP* **P** **23 09 05.7 -0.1**
ERM pmax pmax
comp=Z,105nm,0.9s
JEM Erimo 80.37 331 P **P** **23 09 07.3 +1.4**
H03N3 Juan Fernandez 80.51 123 T T 00 38 38.7
baz=242,slow=72
H03N2 Juan Fernandez 80.52 123 T T 00 38 35.8
baz=242,slow=72
H03N1 Juan Fernandez 80.53 123 T T 00 38 36.7
baz=242,slow=72
PAF Port-aux-Franc 80.61 218 P **P** **23 09 07.0 -0.3**
PAF Port-aux-Franc 80.61 218 P **P** **23 09 07.0 -0.3**
PAF pmax pmax
comp=Z,309nm,1.2s
MYKOM Kota Tinggi 81.02 277 P **P** **23 09 07.7 -2.4**
MYKOM IAMs_20 IAMs_20 23 51 04.0
comp=Z,2µm,18.0s
MYKOM Kota Tinggi 81.02 277 P **P** **23 09 07.7 -2.4**
comp=Z,95nm,0.8s,comp=Z,2µmcomp=Z,4µm
KRJI Kerinci 81.14 273 P **P** **23 09 07.7 -3.2**
comp=Z,302nm,0.7s,comp=Z,13µmcomp=Z,4µm
KIWB Kanaga Island 81.59 0 P **P** **23 09 11.8 -0.4**
ADK Adak 81.63 1 P **P** **23 09 12.1 -0.2**
ADK Adak 81.63 1 P **P** **23 09 12.3 0.0**
ADK Adak 81.63 1 P **P** **23 09 12.1 -0.2**
ADK pmax pmax
comp=Z,293nm,0.8s
ADK MLR MLR
comp=Z,4µm,22.0s
LR05 Currie 81.79 132 P **P** **23 09 13.9 +0.2**
LR05 IAmb IAmb 23 09 20.1
comp=Z,143nm,1.1s
GSTR Great Sitkin T 81.85 1 P **P** **23 09 13.0 -0.6**
ATKA Atka Island 82.00 2 P **P** **23 09 13.5 -0.7**
ATKA Atka Island 82.00 2 P **P** **23 09 14.1 -0.1**
QZH Quanzhou 82.09 305 ⇑P **P** **23 09 14.3 -1.1**
QZH S **S** **23 19 22.5 -5.0**
QZH pmax pmax
comp=Z,1µm,6.1s
QZH LR LR
comp=Z,820nm,16.6s
QZH LR LR
comp=Z,910nm,17.5s
QZH LR LR
comp=Z,1µm,17.2s
JKA Kamikawa-asahi 82.34 332 P **P** **23 09 16.2 -0.1**
JKA IAmb IAmb 23 09 21.4
comp=Z,107nm,1.0s
JKA IAMs_20 IAMs_20 23 41 51.3
comp=Z,3µm,20.0s
ASAJ Asahikawa 82.34 332 P **P** **23 09 16.2 -0.1**
ASAJ pmax pmax
comp=Z,107nm,1.0s
ASAJ MLR MLR
comp=Z,3µm,20.0s
ASAJ Asahikawa 82.34 332 LR LR 23 42 13.0
comp=Z,3µm,20.1s,baz=165,slow=33
DLV T Lat 82.41 288 P **P** **23 09 16.1 -1.5**
DLV T Lat 82.41 288 P **P** **23 09 17.5 -0.1**
PLCA Paso Flores 82.44 133 P **P** **23 09 18.2 +0.9**
PLCA IAmb IAmb 23 09 21.0
comp=Z,98nm,1.0s
PLCA Paso Flores 82.44 133 P **P** **23 09 18.8 +1.4**
comp=Z,62nm,0.9s,baz=223,slow=5.6,SNR=62
PLCA LR LR 23 37 11.6
comp=Z,3µm,21.8s,baz=262,slow=29
comp=Z,62nm,0.9s
GO06 Curarrehue 82.48 132 P **P** **23 09 18.5 +0.9**
PDSI Padang 82.59 273 P **P** **23 09 14.4 -4.0**
comp=Z,144nm,0.6s,comp=Z,2µm
AIS Amsterdam Isla 82.62 231 P **P** **23 09 15.9 -2.3**
BKNI Bangkinang 82.71 275 P **P** **23 09 16.4 -2.7**
BKNI IAmb IAmb 23 09 17.4
comp=Z,106nm,1.0s
BKNI IAMs_20 IAMs_20 23 48 03.6
comp=Z,3µm,20.0s
BKNI Bangkinang 82.71 275 P **P** **23 09 16.8 -2.2**
BKNI Bangkinang 82.71 275 P **P** **23 09 16.3 -2.7**
comp=Z,122nm,0.8s,comp=Z,2µmcomp=Z,3µm
SHEM Shemya Is, Ala 82.79 355 LR LR 23 39 20.2
comp=Z,2µm,21.5s,baz=142,slow=31
CLES Cleveland East 82.84 5 P **P** **23 09 18.6 -0.1**
EFI East Falkland 82.84 147 P **P** **23 09 19.1 +0.1**
EFI IAmb IAmb 23 09 21.5
comp=Z,122nm,0.9s
EFI East Falkland 82.84 147 ⇓ *eP* **P** **23 09 18.9 -0.1**
EFI pmax pmax
comp=Z,142nm,1.0s
NIKH Nikolski High 83.06 5 P **P** **23 09 20.0 +0.2**
NIKH Nikolski High 83.06 5 P **P** **23 09 20.0 +0.2**
baz=188,SNR=20
SNCC San Nicolas Is 83.56 46 P **P** **23 09 22.8 -0.2**
baz=228
SISI Saibi 83.57 272 P **P** **23 09 21.8 -1.6**
comp=Z,85nm,0.7s,comp=Z,3µm
SKR Severo-Kuril's 83.73 344 *eP* P 23 09 18.6 -4.7
SKR *eS* **SKSac** **23 19 42.5 -0.3**
SKR pmax pmax
comp=Z,2µm,4.5s
TJN Taejon 83.92 318 P **P** **23 09 23.6 -1.0**
TJN Taejon 83.92 318 P **P** **23 09 24.4 -0.2**
TJN Taejon 83.92 318 *deP* **P** **23 09 24.1 -0.5**
SCI2 San Clemente I 84.00 46 P **P** **23 09 26.9 +1.7**
baz=228
SCZ2 Santa Cruz Isl 84.00 45 P **P** **23 09 26.2 +1.1**
baz=228
LPIG La Paz 84.06 58 LR LR 23 42 07.8
comp=Z,2µm,18.0s,baz=232,slow=32
SLBS Sierra La Lagu 84.08 58 P **P** **23 09 27.0 +1.1**
SLBS IAmb IAmb 23 09 47.0
comp=Z,75nm,1.1s
UNV Unalaska Valle 84.14 7 P **P** **23 09 25.8 +0.5**
UNV Unalaska Valle 84.14 7 P **P** **23 09 25.0 -0.2**
baz=190,SNR=7.5
SSE Sheshan 84.19 311 P **P** **23 09 24.8 -1.3**
SSE S **SKSac** **23 19 43.1 -3.6**
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,430nm,6.6s
SSE LR LR
comp=Z,390nm,20.6s
SBC Santa Barbara 84.25 45 P **P** **23 09 26.7 +0.3**
baz=228
KSRS Korea Array 84.36 319 P **P** **23 09 26.1 -0.7**
comp=Z,19nm,0.8s,baz=139,slow=5.9,SNR=47
KSRS PKiKP **PKiKP** **23 14 41.6 +0.6**
comp=Z,2.3nm,0.7s,baz=1.5,slow=0.4,SNR=6.6
KSRS LR LR 23 46 39.2
comp=Z,732nm,18.1s,baz=120,slow=35
comp=Z,19nm,0.8s
CIS Catalina Islan 84.36 46 P **P** **23 09 28.6 +1.6**
baz=228
KSAR Wonju Array Be 84.37 319 P **P** **23 09 26.1 -0.8**
KSAR Wonju Array Be 84.37 319 P **P** **23 09 26.1 -0.8**
KS19 Wonju Array Si 84.42 319 P **P** **23 09 26.0 -1.2**
KS19 IAmb IAmb 23 09 28.5
comp=Z,268nm,2.0s
PKM Mcpherson Peak 84.49 44 P **P** **23 09 30.2 +2.3**
baz=227,SNR=12
AKUT Akutan 84.50 7 P **P** **23 09 26.8 -0.3**
ML02 Panimavida 84.60 128 P **P** **23 09 28.5 +0.1**
ML02 IAmb IAmb 23 09 48.2
comp=Z,108nm,0.9s
SRIG Santa Rosalia 84.60 54 P **P** **23 09 28.2 -0.1**
SRIG IAmb IAmb 23 09 48.9
comp=Z,111nm,1.0s
SRIG IAMs_20 IAMs_20 23 46 14.9
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 84.64 334 P **P** **23 09 26.9 -1.1**
YSS Yuzh-Sakhalins 84.64 334 P **P** **23 09 28.2 +0.2**
YSS Yuzh-Sakhalins 84.64 334 *α iP* **P** **23 09 28.4 +0.4**
YSS *e* 23 12 42.4
YSS *e* 23 19 50.6
YSS *eS* **S** **23 19 54.8 +2.5**
YSS *eSS* **SS** **23 25 26.1 +1.1**
YSS pmax pmax
comp=Z,1µm,3.0s
YSS pmax pmax
comp=N,400nm,3.1s
YSS pmax pmax
comp=Z,120nm,0.9s
FMP Fort Macarthur 84.64 46 P **P** **23 09 29.9 +1.5**
baz=228
GO05 Huala 84.66 127 P **P** **23 09 28.9 +0.2**
GO05 IAmb IAmb 23 09 45.8
comp=Z,97nm,1.0s
SMMC Simmler 84.67 44 P **P** **23 09 30.9 +2.3**
baz=227
VTX Valle De La Tr 84.74 49 P **P** **23 09 28.9 -0.1**
VTX IAmb IAmb 23 09 49.8
comp=Z,70nm,1.2s
BCW Bitter Crk WRg 84.77 44 P **P** **23 09 29.7 +0.5**
BCW IAmb IAmb 23 09 32.7
comp=Z,102nm,0.9s
SAO San Andreas Ge 84.80 42 P **P** **23 09 28.8 -0.4**
SAO San Andreas Ge 84.80 42 P **P** **23 09 28.8 -0.4**
SAO pmax pmax
comp=Z,29nm,0.9s
SAO MLR MLR
comp=Z,4µm,20.0s
109C Camp Elliot, M 84.85 47 P **P** **23 09 30.7 +1.2**
baz=229
PBSI Pulau Batu 84.90 273 P **P** **23 09 28.0 -2.2**
comp=Z,108nm,0.7s,comp=Z,3µmcomp=Z,4µm
DECC Green Verdugo 84.97 46 P **P** **23 09 31.4 +1.3**
baz=228
OSI Osito Audit: C 84.97 45 P **P** **23 09 31.8 +1.7**
baz=228
INCN Inchon 85.11 319 P **P** **23 09 28.7 -2.0**
INCN Inchon 85.11 319 P **P** **23 09 28.5 -2.2**
QIZ Qiongzhong 85.20 295 P **P** **23 09 30.4 -1.1**
QIZ pP **pP** **23 09 41.0 -0.9**
QIZ S **S** **23 19 56.4 -2.8**
QIZ sS **sS** **23 20 15.0 -2.1**
QIZ SS **SS** **23 25 31.3 -3.0**
QIZ pmax pmax
comp=Z,20nm,0.9s
QIZ pmax pmax
comp=Z,720nm,4.7s
QIZ LR LR
comp=Z,520nm,15.7s
QIZ LR LR
comp=Z,590nm,19.1s
QIZ LR LR
comp=Z,1µm,24.5s
QIZ Qiongzhong 85.20 295 P **P** **23 09 30.2 -1.3**
QIZ IAmb IAmb 23 09 33.5
comp=Z,169nm,1.9s
ARVC Arvin 85.25 45 P **P** **23 09 33.2 +1.8**
baz=228,SNR=6.3
MURC Murrieta 85.25 47 P **P** **23 09 33.1 +1.6**
baz=229,SNR=11
MONP2 Monument Peak 85.29 48 P **P** **23 09 34.0 +2.1**
baz=230,SNR=12
PET Petropavlovsk 85.33 346 P **P** **23 09 31.1 -0.2**
PET Petropavlovsk 85.33 346 *eP* **P** **23 09 30.4 -0.9**
PET *eS* **S** **23 20 01.5 +2.6**
PET pmax pmax
comp=Z,91nm,1.6s
PET pmax pmax
comp=Z,1µm,18.0s
IKP In-Ko-Pah, Jac 85.33 48 P **P** **23 09 33.9 +1.9**
baz=230,SNR=14
BFSC Mount Baldy Ra 85.38 46 P **P** **23 09 33.7 +1.4**
baz=229,SNR=23
FALS False Pass 85.48 8 P **P** **23 09 32.1 +0.1**
baz=192
KULM Kulim 85.54 279 P **P** **23 09 31.1 -2.3**
KULM IAmb IAmb 23 09 33.3
comp=Z,54nm,0.6s
KULM IAMs_20 IAMs_20 23 52 13.6
comp=Z,3µm,20.0s
KULM Kulim 85.54 279 P **P** **23 09 30.8 -2.6**
comp=Z,114nm,1.9s,comp=Z,2µm

BO02 Sierra Bellavi 85.56 128 P P 23 09 33.5 +0.2
BO02 IAmb IAmb 23 09 36.3
comp=Z,152nm,1.3s
VES Vestal, Richgr 85.57 44 P P 23 09 34.2 +1.2
baz=228,SNR=7.6
BO01 Tunca 85.58 127 P P 23 09 33.9 +0.6
EDW2 Edwards Air Fo 85.60 45 P P 23 09 34.8 +1.6
baz=229,SNR=38
PEA0B Petropavlovsk- 85.61 345 P P 23 09 32.6 -0.2
PEA0B Petropavlovsk- 85.61 345 *c* *i*P **P 23 09 32.4 -0.3**
PETK Petropavlovsk- 85.61 345 P P 23 09 31.9 -0.8
PETK Petropavlovsk- 85.61 345 P P 23 09 32.9 +0.1
comp=Z,80nm,0.8s,baz=148,slow=6.0,SNR=62
PETK LR LR 23 41 16.5
comp=Z,2µm,21.4s,baz=169,slow=31
comp=Z,80nm,0.8s
VA05 Santo Domingo 85.61 126 P P 23 09 33.5 0.0
VA05 IAmb IAmb 23 09 50.3
comp=Z,107nm,1.0s
TEY Ternei 85.62 329 *e*P **P 23 09 32.1 -0.8**
KCPM Cahto Peak 85.65 39 P P 23 09 34.2 +0.7
KCPM IAmb IAmb 23 09 54.1
comp=Z,100nm,1.1s
VOG Valley Oaks Go 85.72 43 P P 23 09 35.0 +1.4
baz=228
RPSI Rantau Prapat 85.72 276 P P 23 09 31.4 -2.8
RPSI IAmb IAmb 23 09 32.8
comp=Z,206nm,1.7s
SWSC Sam W. Stewart 85.72 48 P P 23 09 35.7 +1.9
baz=230,SNR=11
TPFO Pinon Flats 85.73 47 P P 23 09 35.3 +1.3
baz=230,SNR=17
PFO Pinyon Flats O 85.73 47 P P 23 09 34.2 +0.2
PFO IAmb IAmb 23 09 52.3
comp=Z,51nm,1.0s
PFO Pinyon Flats O 85.73 47 *ce*P **P 23 09 35.0 +1.0**
PFO pmax pmax
comp=Z,94nm,1.0s
PFO Pinyon Flats O 85.73 47 P P 23 09 35.4 +1.4
baz=230,SNR=16
UABX UABC, Campus M 85.75 48 IAMs_20 IAMs_20 23 40 27.9
comp=Z,2µm,21.0s
CCAC Calif City Air 85.76 45 IAMs_20 IAMs_20 23 43 51.0
comp=Z,2µm,20.0s
PSI Prapat 85.77 276 P P 23 09 31.7 -3.0
PSI Prapat 85.77 276 P P 23 09 31.4 -3.3
PSI pmax pmax
comp=Z,206nm,1.7s
PSI MLR MLR
comp=Z,1µm,21.0s
PSI Prapat 85.77 276 P P 23 09 32.1 -2.6
comp=Z,40nm,1.3s,comp=Z,1µm
ISA Isabella, Lake 85.82 44 IAMs_20 IAMs_20 23 41 27.5
comp=Z,3µm,18.0s
ISA Isabella, Lake 85.82 44 P P 23 09 36.1 +1.8
baz=228,SNR=40
BBRC Big Bear Solar 85.86 46 P P 23 09 36.6 +1.8
baz=229
VA01 Torpederas 85.94 126 P P 23 09 35.2 +0.1
CNBA Chernabura Isl 85.98 10 P P 23 09 34.5 +0.1
MT09 Talagante 85.98 127 P P 23 09 35.7 +0.2
CHNA Chernabura Isl 85.99 10 P P 23 09 35.3 +0.7
baz=196
BO04 La Punta 86.13 127 P P 23 09 36.5 +0.4
BO04 IAmb IAmb 23 09 52.5
comp=Z,48nm,1.0s
MT02 Curacav 86.17 126 P P 23 09 36.9 +0.6
MT02 IAmb IAmb 23 09 52.9
comp=Z,59nm,0.8s
LRMC Laurel Mtn Rad 86.19 45 P P 23 09 37.7 +1.5
baz=229,SNR=47
GSI Gunungsitoli 86.19 274 P P 23 09 35.0 -1.6
GSI IAMs_20 IAMs_20 23 48 26.9
comp=Z,3µm,22.0s
GSI Gunungsitoli 86.19 274 P P 23 09 36.0 -0.6
GSI Gunungsitoli 86.19 274 P P 23 09 34.8 -1.8
comp=Z,317nm,0.7s,comp=Z,5µmcomp=Z,3µm
RRX Edison Barstow 86.21 46 P P 23 09 37.9 +1.7
baz=229
BELC Belle Mtn. Jos 86.27 47 P P 23 09 38.7 +2.0
baz=230,SNR=44
CMB Columbia Colle 86.29 42 IAMs_20 IAMs_20 23 45 00.7
comp=Z,2µm,19.0s
MSHR Mys Shultsa 86.32 325 *ce*P **P 23 09 36.2 -0.3**
MSHR pmax pmax
comp=Z,68nm,1.3s
NJ2 Nanjing 86.33 310⇑ *i*P **P 23 09 35.8 -1.0**
NJ2 sP **sP 23 09 51.0 -0.8**
NJ2 SKS **SKSac 23 19 58.3 -2.0**
NJ2 sS **sS 23 20 32.0 +4.1**
NJ2 pmax pmax
comp=Z,39nm,0.8s
NJ2 LR LR
comp=Z,1µm,24.6s
NJ2 LR LR
comp=Z,1µm,22.7s
NJ2 LR LR
comp=Z,3µm,24.6s
SDPT Sand Point 86.35 10 P P 23 09 37.9 +1.5
baz=195
MT05 Renca 86.37 127 P P 23 09 37.6 +0.2
BC3 Big Chuckawall 86.40 48 P P 23 09 39.5 +2.2
baz=230,SNR=37
ROC1 El Roble 86.41 126 P P 23 09 37.7 -0.1
ROC1 IAmb IAmb 23 09 47.0
comp=Z,84nm,0.8s
GLA Glamis 86.42 48 P P 23 09 39.5 +2.2
baz=231
MT03 Universidad Ad 86.47 127 P P 23 09 38.0 +0.2
MT03 IAmb IAmb 23 09 57.9
comp=Z,71nm,0.9s
LMEL Las Melosas 86.49 127 P P 23 09 38.4 +0.3
LMEL IAmb IAmb 23 09 58.2
comp=Z,150nm,1.3s
MT16 CCHEN 86.50 127 P P 23 09 37.8 -0.2
MT16 IAmb IAmb 23 09 40.9
comp=Z,88nm,0.9s
SKLT Songkhla 86.52 280 P P 23 09 37.4 -0.8
SKLT Songkhla 86.52 280 P P 23 09 36.3 -1.9
comp=Z,135nm,1.4s,comp=Z,5µm
HSIG 86.54 54 P P 23 09 37.9 -0.1
HSIG IAmb IAmb 23 09 58.5
comp=Z,73nm,1.1s
PEL Peldehue 86.55 126 P P 23 09 38.2 0.0
PEL IAMs_20 IAMs_20 23 39 09.7
comp=Z,2µm,21.0s
PEL Peldehue 86.55 126 P P 23 09 38.2 0.0
PEL pmax pmax
comp=Z,134nm,0.8s
PEL MLR MLR
comp=Z,2µm,21.0s
CWC Cottonwood Cre 86.58 44 P P 23 09 39.5 +1.3
baz=228
HEC Hector Ludlow 86.59 46 P P 23 09 39.9 +1.7
baz=230,SNR=33
GSC Goldstone, Bar 86.61 46 P P 23 09 39.9 +1.6
baz=229,SNR=56
UGL Uglegorsk 86.66 335 *c* *i*P **P 23 09 38.0 0.0**
UGL *e*S **S 23 20 11.3 -0.8**
UGL pmax pmax
comp=Z,2µm,5.0s
UBPT Khong Chiam 86.67 290 P P 23 09 37.6 -1.2
UBPT IAmb IAmb 23 09 56.3
comp=Z,77nm,0.9s
UBPT Khong Chiam 86.67 290 P P 23 09 38.7 -0.1
MPMC Manual Prospec 86.68 45 P P 23 09 40.5 +1.8
baz=229
ORV Oroville 86.70 40 IAMs_20 IAMs_20 23 45 08.5
comp=Z,2µm,19.0s
VA03 San Esteban 86.85 126 P P 23 09 40.0 +0.2
VA03 IAmb IAmb 23 10 11.0
comp=Z,48nm,0.9s
TIN Tinemaha, Big 86.89 44 P P 23 09 41.3 +1.7
baz=228,SNR=9.8
IRM Iron Mountain 86.92 47 P P 23 09 41.8 +2.1
baz=230,SNR=42
MLAC Mammoth, Mammo 86.92 43 P P 23 09 41.7 +1.8
baz=228
113A Mohawk Valley, 86.93 49 P P 23 09 40.6 +0.8
113A IAmb IAmb 23 10 00.9
comp=Z,74nm,1.2s
GMRC Granite Mounta 86.99 47 P P 23 09 42.0 +1.8
baz=230,SNR=23
214A Organ Pipe Nat 87.06 50 P P 23 09 42.4 +2.0
baz=232,SNR=20
USRK Ussuriysk Ar. 87.11 326 P P 23 09 39.6 -0.7
comp=Z,20nm,0.0s
R11B Troy Canyon, C 89.33 44 P P 23 09 52.2 +1.0
baz=230,SNR=9.3
OHAK Old Harbor 89.37 13 P P 23 09 50.7 0.0
OHAK Old Harbor 89.37 13 P P 23 09 51.8 +1.1
baz=201
TRQA Tornquist 89.39 135 P P 23 09 51.8 +0.2
TRQA IAmb IAmb 23 09 54.3
comp=Z,42nm,1.0s
TRQA Tornquist 89.39 135 P P 23 09 51.8 +0.2
TRQA pmax pmax
comp=Z,42nm,1.0s
TRQA MLR MLR
comp=Z,2µm,22.0s
R18K Karluk 89.47 12 P P 23 09 51.6 +0.4
baz=200
X16A Lo Mia Camp, P 89.47 49 P P 23 09 53.5 +1.4
X16A IAmb IAmb 23 10 11.0
comp=Z,77nm,0.9s
TLIG Tlapa 89.54 69 P P 23 09 53.3 +0.7
TLIG IAmb IAmb 23 10 13.7
comp=Z,95nm,1.5s
NAYO Nakonayok 89.58 287 P P 23 09 52.3 -0.4
JRQG Juriquilla Cam 89.69 66 P 23 09 54.3 +0.9
SNY Shenyang 89.80 320⇑ P **P 23 09 52.0 -1.1**
SNY pmax pmax
comp=Z,29nm,1.0s
SNY pmax pmax
comp=Z,690nm,3.9s
SNY LR LR
comp=Z,540nm,22.9s
SNY LR LR
comp=Z,740nm,22.0s
SNY LR LR
comp=Z,1µm,24.5s
Q17K Contact Creek 89.88 11 P P 23 09 53.6 +0.4
baz=199,SNR=9.1
H04A Detroit Lake 89.91 36 P P 23 09 53.9 +0.3
H04A IAmb IAmb 23 09 55.9
comp=Z,94nm,1.2s
UNM Universidad Na 89.97 68 IAMs_20 IAMs_20 23 40 06.9
comp=Z,2µm,22.0s
NONG Nongkai 90.02 291 P P 23 09 54.2 -0.5
KDAK Kodiak Island 90.03 13⇑ *e*P **P 23 09 52.2 -1.6**
KDAK pmax pmax
comp=Z,360nm,4.0s
KDAK Kodiak Island 90.03 13 P P 23 09 54.7 +1.0
baz=202
KDAK Kodiak Island 90.03 13 LR LR 23 45 47.2
comp=Z,845nm,18.7s,baz=229,slow=32
TIA Tai'an 90.03 313⇑ P **P 23 09 53.8 -0.6**
TIA S **S 23 20 39.3 -5.5**
TIA pmax pmax
comp=Z,73nm,0.8s
TIA pmax pmax
comp=Z,750nm,7.1s
TIA LR LR
comp=Z,320nm,24.3s
TIA LR LR
comp=Z,470nm,25.9s
TIA LR LR
comp=Z,1µm,27.0s
O14K Tigyukauivet M 90.04 8 IAMs_20 IAMs_20 23 45 26.0
comp=Z,2µm,21.0s
O14K Tigyukauivet M 90.04 8 P P 23 09 54.4 +0.6
baz=194
CN2 Changchun 90.12 323 *e*P **P 23 09 52.8 -1.8**
CN2 *e*PP **PP 23 13 29.3 +0.5**
CN2 SKS **SKSac 23 20 23.1 +0.6**
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 LR LR
comp=Z,660nm,20.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,1µm,22.0s
Q16K King Salmon 90.14 11 P P 23 09 54.7 +0.4
baz=198,SNR=10.0
O15K Ungalikthiuk R 90.15 9 P P 23 09 54.4 0.0
baz=195
GRNR Gornyy 90.18 333 *c* *i*P **P 23 09 55.2 +0.5**
GRNR *e*S **S 23 20 48.1 +2.6**
GRNR pmax pmax
comp=E,7.0nm,1.0s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR smax smax
comp=N,6.0nm,0.8s
WUAZ Wupatki 90.19 48 P P 23 09 56.3 +1.0
WUAZ IAmb IAmb 23 10 16.6
comp=Z,94nm,1.1s
WUAZ Wupatki 90.19 48 P P 23 09 57.4 +2.1
baz=232,SNR=36
P16K Nushagak River 90.28 10 P P 23 09 56.5 +1.7
baz=197
BNX BinXian 90.47 325⇑ P **P 23 09 54.6 -1.6**
BNX pP **pP 23 10 04.6 -2.0**
BNX sP **sP 23 10 08.3 -2.4**
BNX PP **PP 23 13 32.8 +1.3**
BNX sS **sS 23 21 07.1 +0.2**
BNX pmax pmax
comp=Z,48nm,1.1s
BNX pmax pmax
comp=Z,650nm,6.2s
BNX LR LR
comp=Z,450nm,20.1s
BNX LR LR
comp=Z,1µm,21.1s
BNX LR LR
comp=Z,1µm,22.8s
M11K Mekoryuk 90.63 6 P P 23 09 58.3 +1.8
baz=190,SNR=6.4
N14K Kuskokwak Cree 90.64 8 P P 23 09 57.8 +1.2
baz=194
P17K Kvichak River 90.67 11 P P 23 09 56.8 +0.1
baz=198,SNR=11
O16K Kokwok River B 90.80 10 IAMs_20 IAMs_20 23 46 19.2
comp=Z,2µm,21.0s
O16K Kokwok River B 90.80 10 P P 23 09 56.9 -0.4
baz=197
121A Cookes Peak, D 90.81 52 P P 23 09 58.8 +0.4
121A IAmb IAmb 23 10 19.6
comp=Z,56nm,1.1s
121A Cookes Peak, D 90.81 52 P P 23 10 00.3 +2.0
baz=234
121A Cookes Peak, D 90.81 52 P P 23 09 59.7 +1.4
baz=234
121A S S 23 21 01.0 +8.6
baz=234
Q20K Shuyak Island 90.84 13 P P 23 09 58.1 +0.6
baz=202
Q19K Cape Douglas, 90.90 12 IAMs_20 IAMs_20 23 46 20.7
comp=Z,3µm,20.0s
Q19K Cape Douglas, 90.90 12 P P 23 09 58.0 +0.1
baz=201,SNR=5.8
M13K Dall Lake 90.93 7 P P 23 09 59.4 +1.5
baz=192
KLR Kul'dur 90.96 330 *c* *i*P **P 23 09 58.2 -0.2**
KLR pmax pmax
comp=Z,84nm,0.9s
KLR Kul'dur 90.96 330 LR LR 23 46 19.3
comp=Z,2µm,21.1s,baz=144,slow=33
W18A Petrified Fore 91.02 49 P P 23 09 59.7 +0.4
W18A Petrified Fore 91.02 49 P P 23 10 01.3 +2.0
baz=233,SNR=18
P18K Big Mountain, 91.06 11 P P 23 09 58.4 -0.2
P18K IAmb IAmb 23 10 00.9
comp=Z,48nm,0.8s
P18K Big Mountain, 91.06 11 P P 23 09 58.4 -0.2
baz=199,SNR=12
ELK Elko 91.07 42 P P 23 09 59.2 -0.2
ELK Elko 91.07 42 P P 23 09 59.2 -0.2
ELK pmax pmax
comp=Z,20nm,1.0s
ELK MLR MLR
comp=Z,3µm,20.0s
ELK Elko 91.07 42 LR LR 23 47 51.2
comp=Z,2µm,18.0s,baz=250,slow=34
N15K Kwethluk River 91.08 9 P P 23 09 59.3 +0.7
N15K IAMs_20 IAMs_20 23 46 09.2
comp=Z,2µm,20.0s
N15K Kwethluk River 91.08 9 P P 23 09 59.3 +0.7
baz=195
O17K Koliganek Bris 91.12 10 P P 23 09 58.8 -0.1
comp=Z,2µm,20.0s
USRK Ussuriysk Ar. 87.11 326 P P 23 09 40.5 +0.1
comp=Z,32nm,0.7s,baz=137,slow=3.9,SNR=24
USRK LR LR 23 44 47.1
comp=Z,1µm,20.6s,baz=142,slow=33
comp=Z,32nm,0.7s
USA0B Ussuriysk Arra 87.11 326 P P 23 09 39.7 -0.6
USA0B IAmb IAmb 23 09 42.7
comp=Z,142nm,1.4s
USA0B Ussuriysk Arra 87.11 326 *c* *i*P **P 23 09 39.7 -0.6**
SPIA Saint Paul Isl 87.15 4 P P 23 09 41.2 +1.1
SPIA Saint Paul Isl 87.15 4 P P 23 09 41.3 +1.1
baz=186
TUQ Turquoise Moun 87.24 46 P P 23 09 43.3 +1.9
baz=230,SNR=6.1
GWY Greenwater Val 87.27 45 P P 23 09 42.0 +0.4
GWY IAmb IAmb 23 09 59.4
comp=Z,45nm,0.9s
PAYG Puerto Ayora 87.31 89 P P 23 09 42.5 +0.3
PAYG IAmb IAmb 23 09 56.9
comp=Z,67nm,1.1s
SHOC Shoshone, Teco 87.33 45 P P 23 09 43.2 +1.5
baz=230
FURC Furnace Creek, 87.33 45 P P 23 09 43.2 +1.6
baz=229,SNR=12
GRAC Grapevine Rang 87.37 44 P P 23 09 42.4 +0.5
GRAC Grapevine Rang 87.37 44 P P 23 09 44.2 +2.3
baz=229,SNR=16
S14K Fog Glacier 87.40 10 P P 23 09 42.4 +0.9
baz=196
CO02 Combarbal 87.40 125 P P 23 09 42.7 +0.2
YBH Yreka Blue Hor 87.57 38 LR LR 23 40 25.2
comp=Z,992nm,21.2s,baz=229,slow=30
CHGN Chignik 87.59 11 P P 23 09 43.2 +0.9
CHGN Chignik 87.59 11 P P 23 09 42.6 +0.4
baz=197
CHIR Chirikof Islan 87.61 12 P P 23 09 43.0 +0.5
baz=199
NEE2 Needles Airpor 87.64 47 P P 23 09 45.4 +2.3
baz=231
PDMCI Parker Dam,Lak 87.65 48 P P 23 09 45.3 +2.1
baz=231,SNR=30
NVAR Mina Array Bea 87.77 43 P P 23 09 44.7 +0.8
NVAR Mina Array Bea 87.77 43 P P 23 09 45.0 +1.1
comp=Z,28nm,0.8s,baz=222,slow=7.5,SNR=122
NVAR PKKPbc **PKKPbc 23 27 32.2 +0.2**
comp=Z,2.3nm,0.7s,baz=67,slow=3.7,SNR=11
NVAR PKPPKP **P'P'df 23 35 37.2 +1.4**
comp=Z,1.7nm,0.8s,baz=90,slow=2.9,SNR=6.9
NVAR LR LR 23 45 37.9
comp=Z,2µm,18.0s,baz=234,slow=33
comp=Z,28nm,0.8s
SNSI Sinabang, Aceh 87.82 274 P P 23 09 42.5 -2.0
comp=Z,80nm,1.2s,comp=Z,2µm
TYV Tymovskoe 87.92 336 *e*P **P 23 09 44.8 +0.7**
TYV *e*S **S 23 20 25.9 +1.7**
TYV pmax pmax
comp=Z,2µm,4.7s
TYV pmax pmax
comp=Z,123nm,0.8s
TYV smax smax
comp=N,400nm,6.7s
TYV smax smax
comp=E,500nm,6.7s
TPNV Topopah Spring 88.02 45 P P 23 09 45.7 +0.6
TPNV IAmb IAmb 23 10 07.7
comp=Z,57nm,1.1s
TPNV IAMs_20 IAMs_20 23 43 09.9
comp=Z,3µm,18.0s
TPNV Topopah Spring 88.02 45 P P 23 09 45.7 +0.6
TPNV pmax pmax
comp=Z,57nm,1.1s
TPNV MLR MLR
comp=Z,3µm,18.0s
TPNV Topopah Spring 88.02 45 P P 23 09 46.8 +1.7
baz=230,SNR=37
HUMO Hull Mountain 88.05 37 P P 23 09 45.8 +0.8
HUMO IAmb IAmb 23 09 48.4
comp=Z,145nm,1.9s
CNSH ChangSha 88.08 304⇑ P **P 23 09 41.1 -4.3**
CNSH S **S 23 20 19.3 -7.4**
CNSH pmax pmax
comp=Z,620nm,5.5s
CNSH LR LR
comp=Z,670nm,18.6s
CNSH LR LR
comp=Z,610nm,23.7s
CNSH LR LR
comp=Z,930nm,25.0s
SRIT Nakonsritamara 88.11 281 P P 23 09 44.7 -1.2
SRIT IAmb IAmb 23 09 47.9
comp=Z,100nm,1.4s
SRIT Nakonsritamara 88.11 281 P P 23 09 45.1 -0.8
TPH Tonopah 88.17 43 P P 23 09 46.2 +0.4
TPH Tonopah 88.17 43 P P 23 09 46.2 +0.4
TPH pmax pmax
comp=Z,262nm,0.9s
SURA Surathani 88.38 281 P P 23 09 47.0 -0.1
WHN Wuhan 88.46 307⇑ P **P 23 09 46.3 -0.8**
WHN pP **PcP 23 09 52.4 +3.7**
WHN sP **pP 23 09 57.6 +0.1**
WHN S **S 23 20 30.6 +0.3**
WHN LR LR
comp=Z,900nm,10.6s
WHN LR LR
comp=Z,6µm,23.8s
WHN LR LR
comp=Z,5µm,24.9s
MOIG Morelia 88.55 66 P P 23 09 47.5 -0.6
MOIG IAmb IAmb 23 10 09.3
comp=Z,40nm,0.8s
SII Sitkinak Islan 88.57 13 P P 23 09 47.8 +0.8
SII Sitkinak Islan 88.57 13 P P 23 09 49.1 +2.1
baz=200
MDJ Mudanjiang 88.58 325 P P 23 09 47.0 -0.4
MDJ pP pP 23 09 55.9 -1.9
MDJ sP sP 23 10 00.3 -1.9
MDJ PP **PP 23 13 17.9 +1.4**
MDJ S **S 23 20 32.1 +1.3**
MDJ sS sS 23 20 49.3 -0.1
MDJ pmax pmax
comp=Z,35nm,1.0s
MDJ LR LR
comp=Z,970nm,17.5s
MDJ LR LR
comp=Z,580nm,16.8s
MDJ LR LR
comp=Z,1µm,18.9s
MDJ Mudanjiang 88.58 325 P P 23 09 46.3 -1.1
MDJ IAmb IAmb 23 10 10.7
comp=Z,42nm,0.9s
TUC Tucson 88.63 51 P P 23 09 49.3 +1.3
TUC IAmb IAmb 23 10 09.7
comp=Z,88nm,1.1s
TUC Tucson 88.63 51 P P 23 09 49.3 +1.3
TUC pmax pmax
comp=Z,89nm,1.1s
TUC Tucson 88.63 51 P P 23 09 50.2 +2.1
baz=233
MLSI Meulaboh, Aceh 88.68 276 P P 23 09 46.8 -1.8
comp=Z,66nm,0.6s
LHMI Lhok Sumawe 88.69 277 P P 23 09 47.1 -1.5
LHMI IAMs_20 IAMs_20 23 52 35.0
comp=Z,2µm,19.0s
CO01 Juntas del Tor 88.73 124 P P 23 09 49.3 +0.3
CO01 IAmb IAmb 23 10 12.9
comp=Z,102nm,1.7s
LCO Las Campanas 88.83 123 IAMs_20 IAMs_20 23 39 41.3
comp=Z,3µm,22.0s
DL2 Dalian 88.98 317⇑ *i*P **P 23 09 48.6 -0.7**
DL2 S **S 23 20 35.3 +0.5**
DL2 pmax pmax
comp=Z,51nm,0.8s
DL2 pmax pmax
comp=Z,810nm,6.8s
DL2 LR LR
comp=Z,790nm,23.8s
DL2 LR LR
comp=Z,1µm,26.2s
DL2 LR LR
comp=Z,2µm,22.9s
HPIG 89.11 58 P P 23 09 50.6 +0.1
CFA Coronel Fontan 89.12 126 LR LR 23 40 55.7
comp=Z,2µm,21.9s,baz=258,slow=30
ZAIG Zacatecas 89.14 63 P P 23 09 51.0 +0.1
R11B Troy Canyon, C 89.33 44 P P 23 09 51.9 +0.6
R11B IAMs_20 IAMs_20 23 47 11.4

baz=198,SNR=5.4
SLVN Son La 91.13 294 P **P** **23 09 58.7 -1.2**
SLVN IAmb IAmb 23 10 11.6
comp=Z,34nm,0.9s
M14K Bethel 91.42 8 P **P** **23 10 00.5 +0.4**
baz=194,SNR=9.4
SRDT SRDT 91.43 286 P **P** **23 10 00.9 -0.4**
PB14 IPOC Station P 91.50 120 P **P** **23 10 02.4 +0.3**
PB14 IAmb IAmb 23 10 04.9
comp=Z,39nm,1.1s
O18K Koktuh Hills 91.50 11 P **P** **23 10 00.4 -0.3**
baz=199,SNR=35
M15K Kasigluk River 91.51 8 P **P** **23 10 01.1 +0.5**
baz=195,SNR=18
N16K Nishlik Lake 91.55 9 P **P** **23 10 02.1 +1.2**
baz=196
P19K Oil Pt 91.65 12 P **P** **23 10 01.8 +0.4**
baz=201
GYA Guiyang 91.72 300⇑*i*P **P** **23 10 01.9 -0.7**
GYA sP sP 23 10 17.0 -0.4
GYA PP **PP** **23 13 46.0 +4.0**
GYA SKS **SKSac** **23 20 32.8 0.0**
GYA pmax pmax
comp=Z,26nm,1.2s
GYA pmax pmax
comp=Z,740nm,5.4s
GYA LR LR
comp=Z,380nm,17.0s
GYA LR LR
comp=Z,600nm,18.8s
GYA LR LR
comp=Z,1μm,20.9s
ENH Enshi 91.73 304 P **P** **23 10 00.7 -1.8**
D05A Enumclaw 91.76 34 P **P** **23 10 02.3 +0.2**
GO02 Mina Guanaco 91.81 120 P **P** **23 10 03.4 0.0**
GO02 IAmb IAmb 23 10 21.2
comp=Z,41nm,0.9s
N17K Nushagak Hills 91.83 10 P **P** **23 10 02.5 +0.3**
baz=198
L14K Kuka Creek 91.91 7 P **P** **23 10 03.5 +1.1**
baz=193
CNPM China Poot 91.91 13 P **P** **23 10 03.3 +0.8**
TX31 Lajitas Ar. Si 91.91 57 P **P** **23 10 04.3 +0.8**
TX31 Lajitas Ar. Si 91.91 57 P **P** **23 10 04.9 +1.5**
baz=236
TXAR Lajitas Array 91.91 57 P **P** **23 10 04.3 +0.9**
TXAR Lajitas Array 91.91 57 P **P** **23 10 04.6 +1.1**
comp=Z,11nm,1.0s,baz=207,slow=5.2,SNR=53
TXAR PKKPbc **PKKPdf** **23 27 19.3 +0.4**
comp=Z,0.6nm,0.7s,baz=96,slow=5.5,SNR=3.2
TXAR LR LR 23 42 23.0
comp=Z,787nm,21.4s,baz=220,slow=30
comp=Z,11nm,1.0s
HOM Homer 91.96 13 P **P** **23 10 03.3 +0.6**
baz=202
O19K Port Alsworth 91.97 11 P **P** **23 10 02.7 -0.1**
baz=200
MNTX Cornudas Mount 92.00 54 P **P** **23 10 04.5 +0.8**
baz=236
M16K Timber Creek 92.05 9 IAMs_20 IAMs_20 23 46 48.3
comp=Z,2μm,20.0s
M16K Timber Creek 92.05 9 P **P** **23 10 04.3 +1.1**
baz=196,SNR=10
HMU Henry Mountain 92.06 47 P **P** **23 10 04.3 +0.2**
LYN LuoYang 92.09 309⇑P **P** **23 10 03.8 -0.2**
LYN sP pP 23 10 13.5 -0.9
LYN SKS **SKSac** **23 20 33.3 -0.9**
LYN S **S** **23 21 02.4 -1.2**
LYN pmax pmax
comp=Z,85nm,0.6s
LYN pmax pmax
comp=Z,1μm,6.2s
LYN LR LR
comp=Z,960nm,22.0s
LYN LR LR
comp=Z,2μm,22.3s
LYN LR LR
comp=Z,4μm,24.7s
DUG Dugway, Tooele 92.16 44 P **P** **23 10 04.8 +0.5**
DUG Dugway, Tooele 92.16 44 P **P** **23 10 04.9 +0.5**
DUG pmax pmax
comp=Z,13nm,1.1s
DUG MLR MLR
comp=Z,2μm,18.0s
DUG Dugway, Tooele 92.16 44 P **P** **23 10 05.2 +0.9**
baz=232,SNR=7.9
O20K Slope Mountain 92.17 12 P **P** **23 10 03.6 -0.2**
baz=202
N18K Kilae Creek 92.17 10 P **P** **23 10 03.7 0.0**
baz=199
Y22A Socorro 92.18 52 P **P** **23 10 06.1 +1.5**
baz=235
BRLK Bradley Lake 92.20 13 P **P** **23 10 04.1 +0.2**
BRSE Bradley Lake S 92.21 13 P **P** **23 10 04.8 +0.9**
baz=203,SNR=5.3
Y22D IRIS PASSCAL I 92.29 52 IAMs_20 IAMs_20 23 47 30.4
comp=Z,2μm,19.0s
Y22D IRIS PASSCAL I 92.29 52 P **P** **23 10 07.1 +2.0**
baz=235
Y22F Passcal Instru 92.29 52 P **P** **23 10 06.9 +1.8**
baz=235
HNS HongShan 92.30 312⇑P **P** **23 10 04.4 -0.4**
HNS sP **pP** **23 10 16.0 +0.7**
HNS SKS **SKSac** **23 20 27.6 -7.6**
HNS S **S** **23 21 01.9 -3.4**
HNS SS **SS** **23 27 19.3 +2.3**
HNS pmax pmax
comp=Z,98nm,0.9s
HNS pmax pmax
comp=Z,690nm,5.0s
HNS LR LR
comp=Z,1μm,23.9s
HNS LR LR
comp=Z,660nm,25.0s
HNS LR LR
comp=Z,2μm,25.0s
CMIG Matias Romero 92.31 72 LR LR 23 44 34.9
comp=Z,726nm,19.9s,baz=272,slow=31
L15K Ungalak Mounta 92.37 8 P **P** **23 10 05.2 +0.6**
baz=194
Q16A Castle Valley 92.38 46 P **P** **23 10 05.1 -0.4**
Q16A IAMs_20 IAMs_20 23 47 17.5
comp=Z,2μm,20.0s
MFID Camas Ranch 92.45 40 P **P** **23 10 05.7 +0.1**
MFID IAmb IAmb 23 10 23.0
comp=Z,38nm,0.9s
N19K Bonanza Creek 92.53 11 IAMs_20 IAMs_20 23 50 29.0
comp=Z,2μm,19.0s
N19K Bonanza Creek 92.53 11 P **P** **23 10 05.1 -0.4**
baz=200
BMO Blue Mountains 92.58 38 IAMs_20 IAMs_20 23 42 22.8
comp=Z,2μm,21.0s
SVW2 Sparrevohn 92.62 10 P **P** **23 10 04.7 -1.1**
M17K Holitna River 92.63 10 IAMs_20 IAMs_20 23 47 25.5
comp=Z,2μm,20.0s
M17K Holitna River 92.63 10 P **P** **23 10 06.8 +1.0**
baz=198
PB05 IPOC Station P 92.64 118 P **P** **23 10 06.9 -0.2**
PB05 IAmb IAmb 23 10 24.5
comp=Z,41nm,0.9s
L16K Owhat River 92.65 9 P **P** **23 10 06.3 +0.5**
baz=196,SNR=10
BBB Bella Bella 92.66 28 LR LR 23 43 38.3
comp=Z,1μm,21.7s,baz=230,slow=30
SEW Seward 92.80 14 P **P** **23 10 08.0 +1.4**
baz=204
Q23K Middleton Isla 92.87 15 P **P** **23 10 08.2 +1.3**
baz=207
M18K Stony River 92.95 10 P **P** **23 10 07.7 +0.4**
baz=199
BJT Baijiatuau 92.96 315 P **P** **23 10 06.7 -1.1**
BJT IAmb IAmb 23 10 25.5
comp=Z,29nm,0.9s
BJT Baijiatuau 92.96 315 P **P** **23 10 06.7 -1.1**
BJT pmax pmax
comp=Z,29nm,0.9s
BJT MLR MLR
comp=Z,2μm,22.0s
BJI Beijing 92.97 315 P **P** **23 10 07.1 -0.8**
BJI pP **pP** **23 10 18.8 +0.5**
BJI sP **pwP** **23 10 23.8 +0.7**
BJI S **S** **23 21 12.1 +1.0**
BJI sS **sS** **23 21 30.3 +0.5**
BJI pmax pmax
comp=Z,16nm,1.0s
BJI pmax pmax
comp=Z,190nm,7.2s
BJI LR LR
comp=Z,500nm,23.5s
BJI LR LR
comp=Z,410nm,21.4s
BJI LR LR
comp=Z,830nm,22.4s
K15K Wolf Creek Mou 92.97 7 P **P** **23 10 08.2 +0.9**
baz=194,SNR=30
PB04 IPOC Station P 92.97 118 P **P** **23 10 08.9 +0.2**
PB04 IAmb IAmb 23 10 26.3
comp=Z,35nm,0.8s
P17A Butcher Ranch, 92.98 45 IAMs_20 IAMs_20 23 45 37.8
comp=Z,2μm,20.0s
PB15 IPOC Station P 93.00 119 P **P** **23 10 08.8 -0.1**
MVCO Mesa Verde 93.06 48 P **P** **23 10 09.3 +0.6**
MVCO IAMs_20 IAMs_20 23 41 53.4
comp=Z,2μm,21.0s
MVCO Mesa Verde 93.06 48 P **P** **23 10 09.7 +1.0**
baz=234
CAPN Captain Cook N 93.08 13 P **P** **23 10 09.2 +1.4**
baz=203
O22K Cooper Landing 93.09 13 P **P** **23 10 09.5 +1.6**
baz=204
MA2 Magadan 93.10 344 P **P** **23 10 07.0 -0.9**
MA2 IAMs_20 IAMs_20 23 46 04.7
comp=Z,3μm,22.0s
MA2 Magadan 93.10 344 P **P** **23 10 07.6 -0.4**
MA2 Magadan 93.10 344*ce*P **P** **23 10 06.7 -1.3**
MA2 pmax pmax
comp=Z,66nm,1.8s
MA2 Magadan 93.10 344 LR LR 23 46 49.2
comp=Z,2μm,21.7s,baz=164,slow=32
ANMO Albuquerque 93.10 51 P **P** **23 10 09.3 +0.4**
ANMO Albuquerque 93.10 51 IAMs_20 IAMs_20 23 49 27.9
comp=Z,2μm,19.0s
ANMO Albuquerque 93.10 51*de*P **P** **23 10 08.9 0.0**
ANMO pmax pmax
comp=Z,27nm,1.0s
ANMO Albuquerque 93.10 51 P **P** **23 10 10.2 +1.3**
baz=235
ANMO Albuquerque 93.10 51 P **P** **23 10 10.3 +1.3**
baz=235
ANMO Albuquerque 93.10 51 LR LR 23 48 19.3
comp=Z,1μm,18.1s,baz=330,slow=33
P23K Montague Islan 93.14 15 P **P** **23 10 09.2 +1.0**
baz=206
NNA Nana 93.15 106⇓*e*P **P** **23 10 06.8 -2.7**
NNA pmax pmax
comp=Z,74nm,1.6s
NNA Nana 93.15 106 LR LR 23 42 14.8
comp=Z,1μm,21.5s,baz=252,slow=29
HVU Hansel Valley 93.16 43 IAMs_20 IAMs_20 23 44 17.5
comp=Z,2μm,20.0s
PB06 IPOC Station P 93.20 118 P **P** **23 10 09.8 +0.1**
PB06 IAmb IAmb 23 10 27.2
comp=Z,36nm,1.0s
J14K Nanvaranak Lak 93.20 6 P **P** **23 10 08.4 0.0**
baz=192
L17K Donlin 93.21 9 P **P** **23 10 09.5 +1.0**
baz=197
N20K Mount Spurr 93.28 12 P **P** **23 10 08.5 -0.5**
baz=202,SNR=7.1
HLID Hailey 93.33 41 P **P** **23 10 10.2 +0.4**
HLID Hailey 93.33 41 P **P** **23 10 10.8 +1.0**
baz=231,SNR=32
CRAI Chiangrai 93.38 291 P **P** **23 10 09.2 -1.1**
CRAI IAmb IAmb 23 10 12.2
comp=Z,55nm,1.5s
PLID Pearl Lake 93.43 39 IAMs_20 IAMs_20 23 49 45.5
comp=Z,2μm,18.0s
PB07 IPOC Station P 93.51 117 P **P** **23 10 11.4 +0.1**
PB07 IAmb IAmb 23 10 28.9
comp=Z,27nm,0.9s
L18K Granite Mounta 93.52 10 IAMs_20 IAMs_20 23 47 54.1
comp=Z,2μm,20.0s
L18K Granite Mounta 93.52 10 P **P** **23 10 10.6 +0.8**
baz=198
HEH HeiHe 93.64 328*e*P **P** **23 10 09.3 -1.4**
HEH PP **PP** **23 13 53.3 -3.2**
HEH pmax pmax
comp=Z,32nm,0.9s
HEH pmax pmax
comp=Z,470nm,6.7s
HEH LR LR
comp=Z,910nm,20.0s
HEH LR LR
comp=Z,1μm,21.1s
HEH LR LR
comp=Z,2μm,21.4s
CM31 Chiang Mai Arr 93.65 289 P **P** **23 10 11.0 -0.5**
SNR=13
CM31 P **P** **23 10 11.0 -0.5**
SNR=13
CMAR Chiang Mai Arr 93.65 289 P **P** **23 10 10.6 -0.9**
CMAR Chiang Mai Arr 93.65 289*ce*P **P** **23 10 11.6 +0.1**
CMAR pmax pmax
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 93.65 289 P **P** **23 10 11.7 +0.1**
comp=Z,16nm,0.8s,baz=141,slow=3.2,SNR=30
CMAR PP **PP** **23 13 55.8 -1.3**
comp=Z,4.9nm,0.9s,baz=134,slow=5.8,SNR=5.8
CMAR PKKPbc **PKKPbc** **23 27 16.7 +0.8**
comp=Z,1.2nm,0.6s,baz=290,slow=4.3,SNR=7.4
CMAR LR LR 23 54 56.5
comp=Z,401nm,19.6s,baz=125,slow=37
comp=Z,16nm,0.8s
RC01 Rabbit Creek A 93.65 13 P **P** **23 10 10.5 0.0**
baz=204,SNR=5.5
GAMB Gambell 93.67 3 P **P** **23 10 11.1 +0.7**
baz=185,SNR=9.6
PB02 IPOC Station P 93.73 117 P **P** **23 10 12.4 +0.2**
LVC Limon Verde 93.76 119 P **P** **23 10 12.8 +0.2**
LVC IAmb IAmb 23 10 33.6
comp=Z,40nm,1.1s
LVC Limon Verde 93.76 119 IAMs_20 IAMs_20 23 42 18.2
comp=Z,2μm,22.0s
LVC Limon Verde 93.76 119 P **P** **23 10 12.8 +0.2**
LVC pmax pmax
comp=Z,40nm,1.1s
LVC MLR MLR
comp=Z,2μm,22.0s
LVC Limon Verde 93.76 119 LR LR 23 43 52.1
comp=Z,1μm,21.4s,baz=268,slow=30
L19K White Mountain 93.76 10 P **P** **23 10 11.4 +0.4**
L19K IAmb IAmb 23 10 12.9
comp=Z,69nm,1.2s
L19K White Mountain 93.76 10 P **P** **23 10 11.4 +0.4**
baz=200,SNR=15
M20K Styx River 93.76 11 IAMs_20 IAMs_20 23 50 58.6
comp=Z,2μm,20.0s
M20K Styx River 93.76 11 P **P** **23 10 11.1 -0.1**
baz=201
HWUT Hardware Ranch 93.77 43 P **P** **23 10 11.9 +0.1**
K17K Iditarod 93.77 9 IAMs_20 IAMs_20 23 47 30.5
comp=Z,2μm,21.0s
K17K Iditarod 93.77 9 P **P** **23 10 11.6 +0.5**
baz=197,SNR=8.4
SUA Susitna One 93.80 13 P **P** **23 10 11.1 -0.3**
SUA IAmb IAmb 23 10 13.5
comp=Z,29nm,0.7s
SUA IAMs_20 IAMs_20 23 48 11.4
comp=Z,2μm,20.0s
SUA Susitna One 93.80 13 P **P** **23 10 11.0 -0.3**
baz=203,SNR=9.1
PATCX Punta Patache 93.81 117 P **P** **23 10 12.9 +0.4**
PATCX IAmb IAmb 23 10 30.1
comp=Z,34nm,0.9s
CMMT Chiang Mai 93.82 289 P **P** **23 10 11.8 -0.6**
comp=Z,74nm,0.8s,comp=Z,2μm
CHTO Chiang Mai 93.83 289 P **P** **23 10 11.1 -1.3**
CHTO Chiang Mai 93.83 289 P **P** **23 10 11.7 -0.6**
CHTO Chiang Mai 93.83 289 P **P** **23 10 11.1 -1.3**
CHTO pmax pmax
comp=Z,21nm,0.8s
CHTO Chiang Mai 93.83 289 P **P** **23 10 11.9 -0.5**
CHTO P **P** **23 10 11.9 -0.5**
CHTO Chiang Mai 93.83 289 P **P** **23 10 11.8 -0.6**
comp=Z,27nm,0.8s,comp=Z,587nm
U33K Whale Pass 93.83 23 P **P** **23 10 12.7 +1.3**
baz=218
TA01 Diego Aracena 93.93 116 P **P** **23 10 13.5 +0.6**
TA01 IAmb IAmb 23 10 30.5
comp=Z,46nm,1.0s
TIY Taiyuan 93.94 312*e*P **P** **23 10 13.6 +1.0**
TIY pP **pP** **23 10 22.3 -0.7**
TIY sP **pwP** **23 10 28.4 +0.6**
TIY SKS **SKSac** **23 20 43.8 -0.7**
TIY pmax pmax
comp=Z,15nm,0.7s
TIY pmax pmax
comp=Z,540nm,5.3s
TIY LR LR
comp=Z,660nm,19.9s
TIY LR LR
comp=Z,520nm,18.6s
TIY LR LR
comp=Z,1μm,22.7s
PB09 IPOC Station P 93.97 118 P **P** **23 10 13.2 -0.1**
PB09 IAmb IAmb 23 10 34.8
comp=Z,32nm,1.0s
EYAK Cordova Ski Ar 94.00 15 P **P** **23 10 12.7 +0.6**
baz=207
KMI Kunming 94.01 297⇑P **P** **23 10 13.3 -0.1**
KMI pP pP 23 10 20.9 -2.9
KMI PP **PP** **23 14 00.5 +0.4**
KMI SKS **SKSac** **23 20 46.0 +0.2**
KMI S **ScS** **23 21 22.5 -0.4**
KMI SS **SS** **23 27 38.3 -4.2**
KMI pmax pmax
comp=Z,31nm,1.2s
KMI pmax pmax
comp=Z,360nm,7.0s
KMI LR LR
comp=Z,420nm,19.3s
KMI LR LR
comp=Z,820nm,20.7s
KMI LR LR
comp=Z,1μm,32.1s
J16K Anvik River 94.04 8 P **P** **23 10 12.9 +0.6**
baz=195,SNR=20
SKT Skwentna 94.13 12 IAMs_20 IAMs_20 23 48 13.2
comp=Z,2μm,21.0s
SKT Skwentna 94.13 12 P **P** **23 10 11.9 -0.9**
baz=203
TA02 Huaiquique 94.13 116 P **P** **23 10 14.1 +0.2**
TA02 IAmb IAmb 23 10 31.6
comp=Z,52nm,1.0s
L20K Farewell, AK 94.20 11 P **P** **23 10 12.7 -0.3**
baz=201
DRIO Del Rio 94.20 58 P **P** **23 10 13.3 -0.5**
PB01 IPOC Station P 94.20 117 P **P** **23 10 14.3 0.0**
KNK Knik Glacier 94.20 14 P **P** **23 10 13.7 +0.6**
baz=205
XAN Xi'an 94.22 307⇑P **P** **23 10 13.0 -0.9**
XAN sP pwP 23 10 29.3 +0.1
XAN S **S** **23 21 20.4 -2.2**
XAN sS sS 23 21 41.8 +0.7
XAN pmax pmax
comp=Z,16nm,1.1s
XAN pmax pmax
comp=Z,710nm,6.2s
XAN LR LR
comp=Z,890nm,17.7s
XAN LR LR
comp=Z,1μm,18.2s
XAN LR LR
comp=Z,2μm,19.2s
PMR Palmer 94.23 13 P **P** **23 10 11.6 -1.5**
PMR Palmer 94.23 13 P **P** **23 10 12.5 -0.6**
PMR Palmer 94.23 13 P **P** **23 10 13.5 +0.3**
baz=205
TTA Tatalina 94.30 10 P **P** **23 10 13.2 -0.3**
TTA IAMs_20 IAMs_20 23 48 06.3
comp=Z,2μm,20.0s
TTA Tatalina 94.30 10 P **P** **23 10 14.2 +0.7**
TTA Tatalina 94.30 10 P **P** **23 10 13.2 -0.3**
TTA pmax pmax
comp=Z,35nm,1.2s
TTA MLR MLR
comp=Z,2μm,20.0s
TTA Tatalina 94.30 10 P **P** **23 10 14.1 +0.5**
baz=199,SNR=14
ATAH Atahualpa 94.34 101 LR LR 23 43 07.0
comp=Z,835nm,20.9s,baz=257,slow=29
MCRA Macar, Loja 94.41 98 P **P** **23 10 15.1 -0.2**
GHO Glory Hole Cre 94.43 13 P **P** **23 10 14.4 +0.2**
GHO IAmb IAmb 23 10 20.9
comp=Z,42nm,0.8s
S22A 4UR Ranch, Cre 94.45 49 P **P** **23 10 15.8 +0.6**
baz=235,SNR=9.2
833A Chaparral WMA, 94.53 60 P **P** **23 10 14.2 -1.2**
baz=238
SML Sawmill 94.58 13 IAMs_20 IAMs_20 23 48 15.2
comp=Z,1μm,18.0s
SML Sawmill 94.58 13 P **P** **23 10 14.8 0.0**
baz=205
I17K Unalakleet 94.61 7 P **P** **23 10 15.7 +0.9**
baz=195
BMRM Bremner River 94.64 15 P **P** **23 10 15.3 +0.2**
baz=208
M23K Glacier View 94.69 14 P **P** **23 10 15.2 -0.1**
baz=206
J18K Innoko River 94.70 9 IAMs_20 IAMs_20 23 48 09.4
comp=Z,2μm,21.0s
J18K Innoko River 94.70 9 P **P** **23 10 15.6 +0.2**
baz=198
AHID Auburn Hatcher 94.75 43 P **P** **23 10 16.1 -0.2**
AHID IAmb IAmb 23 10 35.4
comp=Z,42nm,1.1s
AHID IAMs_20 IAMs_20 23 43 59.7
comp=Z,2μm,21.0s
CUT Chulitna 94.76 12 P **P** **23 10 15.2 -0.4**
CUT IAMs_20 IAMs_20 23 48 32.8
comp=Z,2μm,20.0s
CUT Chulitna 94.76 12 P **P** **23 10 15.0 -0.5**
baz=204
PB11 IPOC Station P 94.79 116 P **P** **23 10 17.5 +0.4**
PB11 IAmb IAmb 23 10 34.5
comp=Z,48nm,0.9s
KLU Klutina 94.81 15 IAMs_20 IAMs_20 23 48 37.2
comp=Z,2μm,21.0s
KLU Klutina 94.81 15 P **P** **23 10 16.2 +0.3**
baz=207
SCM Sheep Creek Mo 94.81 14 P **P** **23 10 15.8 -0.1**
SCM IAmb IAmb 23 10 24.0
comp=Z,39nm,0.8s
SCM IAMs_20 IAMs_20 23 48 31.3
comp=Z,2μm,20.0s
SCM Sheep Creek Mo 94.81 14 P **P** **23 10 15.8 -0.1**
SCM pmax pmax
comp=Z,39nm,0.8s
SCM MLR MLR
comp=Z,2μm,20.0s
SCM Sheep Creek Mo 94.81 14 P **P** **23 10 16.7 +0.7**
baz=206
PNL Peninsula 94.83 18 P **P** **23 10 17.1 +1.1**
baz=213
ANM Nome 94.83 5 P **P** **23 10 16.4 +0.6**
baz=191
PPLA Purkeypile 94.87 11 P **P** **23 10 16.7 +0.4**
baz=202
NEW Newport 94.91 36 IAMs_20 IAMs_20 23 48 28.3
comp=Z,2μm,19.0s
NEW Newport 94.91 36 P **P** **23 10 17.4 +0.7**
baz=229
NEW Newport 94.91 36 LR LR 23 49 17.2
comp=Z,1μm,18.4s,baz=218,slow=33
O20A White River Ci 94.92 46 P **P** **23 10 17.4 +0.2**
baz=234
PINM Pinnacle 94.96 18 P **P** **23 10 17.2 +0.6**
baz=212
PB08 IPOC Station P 94.96 117 P **P** **23 10 17.9 -0.3**
K20K Telida 94.99 10 P **P** **23 10 16.7 0.0**
baz=200,SNR=6.7
BCPM Bancas Point 95.00 18 IAMs_20 IAMs_20 23 45 07.6
comp=Z,2μm,22.0s
MSTX Muleshoe 95.09 54 P **P** **23 10 17.7 -0.2**
MSTX IAmb IAmb 23 10 38.2
comp=Z,30nm,0.8s
MSTX Muleshoe 95.09 54 P **P** **23 10 18.0 0.0**
baz=237
MSTX Muleshoe 95.09 54 P **P** **23 10 19.8 +1.8**
baz=237
VRDI Verde Repeater 95.14 16 IAMs_20 IAMs_20 23 48 41.9
comp=Z,2μm,21.0s
H16K Elim 95.18 7 P **P** **23 10 17.5 0.0**
baz=193,SNR=18
N25K Chitina, Valde 95.20 15 IAMs_20 IAMs_20 23 48 48.7
comp=Z,2μm,20.0s
N25K Chitina, Valde 95.20 15 P **P** **23 10 18.0 +0.2**
baz=208
P29M Windy Craggy 95.25 19 P **P** **23 10 18.5 +0.5**
baz=214

KVTX	**Kingsville**	**95.26**	**61**	IAMs_20	IAMs_20	23 50 31.5		
	comp=Z,2µm,18.0s							
TPAW	**Teton Pass**	**95.27**	**42**	P	**P**	**23 10 18.5**	**-0.2**	
TPAW				IAMs_20	IAMs_20	23 50 14.4		
	comp=Z,2µm,19.0s							
M24K	**Tolsona, Glenn**	**95.30**	**14**	P	**P**	**23 10 18.7**	**+0.5**	
	baz=207							
SDCO	**Great Sand Dun**	**95.32**	**49**	P	**P**	**23 10 18.7**	**-0.5**	
SDCO	**Great Sand Dun**	**95.32**	**49**	P	**P**	**23 10 19.6**	**+0.5**	
	baz=236							
SDCO	**Great Sand Dun**	**95.32**	**49**	P	**P**	**23 10 20.3**	**+1.2**	
	baz=236							
FXWY	**Fox Creek**	**95.32**	**42**	IAMs_20	IAMs_20	23 50 25.7		
	comp=Z,2µm,19.0s							
SNET	**Serv Nac Est T**	**95.33**	**77**	IAMs_20	IAMs_20	23 43 01.3		
	comp=Z,2µm,21.0s							
JCT	**Junction City**	**95.36**	**58**	P	**P**	**23 10 18.7**	**-0.5**	
JCT	**Junction City**	**95.36**	**58**	P	**P**	**23 10 18.7**	**-0.5**	
JCT				pmax	pmax			
	comp=Z,18nm,1.0s							
JCT				MLR	MLR			
	comp=Z,2µm,18.0s							
JCT	**Junction City**	**95.36**	**58**	P	**P**	**23 10 19.2**	**+0.1**	
	baz=238							
JCT	**Junction City**	**95.36**	**58**	P	**P**	**23 10 20.5**	**+1.4**	
	baz=238							
JCT				S	**S**	**23 21 35.7**	**+3.1**	
	baz=238							
XLT	**XiLinHaoTe**	**95.36**	**318**	*e*P	**P**	**23 10 19.8**	**+0.9**	
XLT				pP	PcP	23 10 23.9	+4.7	
XLT				sS	sS	23 21 48.3	-2.4	
XLT				pmax	pmax			
	comp=Z,11nm,0.8s							
XLT				pmax	pmax			
	comp=Z,260nm,4.9s							
XLT				LR	LR			
	comp=Z,1µm,25.1s							
XLT				LR	LR			
	comp=Z,2µm,24.2s							
J19K	**Poorman**	**95.36**	**10**	IAMs_20	IAMs_20	23 48 39.8		
	comp=Z,2µm,20.0s							
J19K	**Poorman**	**95.36**	**10**	P	**P**	**23 10 18.9**	**+0.6**	
	baz=199							
G15K	**Niukluk**	**95.36**	**6**	P	**P**	**23 10 18.3**	**0.0**	
	baz=192							
SNOW	**Snow King Moun**	**95.37**	**42**	IAMs_20	IAMs_20	23 44 45.1		
	comp=Z,2µm,22.0s							
CAST	**Castle Rocks**	**95.37**	**11**	P	**P**	**23 10 17.2**	**-1.2**	
	baz=202,SNR=22							
MCARA	**McCarthy VSAT**	**95.37**	**16**	P	**P**	**23 10 18.6**	**+0.1**	
MCARA				IAmb	IAmb	23 10 36.7		
	comp=Z,41nm,1.1s							
MCARA	**McCarthy VSAT**	**95.37**	**16**	P	**P**	**23 10 18.3**	**-0.1**	
	baz=210							
LOGN	**Logan Glacier**	**95.39**	**17**	IAMs_20	IAMs_20	23 45 10.3		
	comp=Z,2µm,21.0s							
WAT6	**Susitna Watana**	**95.41**	**13**	P	**P**	**23 10 18.7**	**-0.1**	
	baz=206,SNR=5.7							
CTG	**Chitna Glacier**	**95.42**	**17**	P	**P**	**23 10 19.2**	**+0.4**	
	baz=211							
BARN	**Barnard Glacie**	**95.42**	**17**	IAMs_20	IAMs_20	23 44 37.6		
	comp=Z,2µm,20.0s							
CTGM	**Chitina Glacie**	**95.42**	**17**	IAMs_20	IAMs_20	23 45 11.6		
	comp=Z,2µm,22.0s							
WAT1	**Susitna Watana**	**95.47**	**13**	P	**P**	**23 10 18.7**	**-0.2**	
	baz=205							
PZH	**PanZhiHua**	**95.49**	**297**	P	**P**	**23 10 18.8**	**-1.2**	
PZH				pP	**pP**	**23 10 30.3**	**-0.1**	
PZH				PP	**PP**	**23 14 11.6**	**+0.1**	
PZH				S	S	23 21 25.4	-8.7	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,290nm,7.3s							
PZH				LR	LR			
	comp=Z,750nm,20.2s							
PZH				LR	LR			
	comp=Z,500nm,18.8s							
PZH				LR	LR			
	comp=Z,640nm,18.6s							
PLBC	**Pleasant Camp**	**95.51**	**20**	P	**P**	**23 10 19.9**	**+0.9**	
	baz=215							
IMW	**Indian Meadow**	**95.52**	**42**	IAMs_20	IAMs_20	23 50 41.0		
	comp=Z,2µm,19.0s							
LOHW	**Long Hollow**	**95.55**	**42**	IAMs_20	IAMs_20	23 50 24.8		
	comp=Z,2µm,19.0s							
O29M	**Mount Kennedy**	**95.58**	**18**	IAMs_20	IAMs_20	23 46 00.4		
	comp=Z,2µm,22.0s							
O29M	**Mount Kennedy**	**95.58**	**18**	P	**P**	**23 10 20.5**	**+0.9**	
	baz=213							
TNA	**Tin City**	**95.64**	**4**	P	**P**	**23 10 19.7**	**+0.2**	
	baz=188,SNR=23							
MSO	**Missoula**	**95.65**	**38**	IAMs_20	IAMs_20	23 49 27.1		
	comp=Z,2µm,19.0s							
MSO	**Missoula**	**95.65**	**38**	P	**P**	**23 10 20.0**	**-0.2**	
	baz=231							
F14K	**Arctic Creek**	**95.66**	**5**	P	**P**	**23 10 20.1**	**+0.5**	
	baz=190,SNR=17							
BW06	**Boulder Array**	**95.66**	**43**	IAMs_20	IAMs_20	23 45 28.9		
	comp=Z,2µm,21.0s							
BW06	**Boulder Array**	**95.66**	**43**	P	**P**	**23 10 20.6**	**+0.1**	
	baz=234,SNR=7.5							
PD31	**Pinedale Array**	**95.66**	**43**	P	**P**	**23 10 20.6**	**+0.1**	
PDAR	**Pinedale Array**	**95.66**	**43**	P	**P**	**23 10 20.3**	**-0.2**	
PDAR	**Pinedale Array**	**95.66**	**43**	P	**P**	**23 10 20.6**	**+0.1**	
	comp=Z,4.4nm,0.8s,baz=189,slow=2.1,SNR=42							
PDAR				PP	**PP**	**23 14 11.7**	**-1.0**	
	comp=Z,1.2nm,1.0s,baz=253,slow=4.5,SNR=4.0							
PDAR				PKKPbc	**PKKPbc**	**23 27 10.8**	**-1.1**	
	comp=Z,4.3nm,0.6s,baz=82,slow=4.3,SNR=34							
PDAR				PKPPKP	**P'P'df**	**23 35 23.9**	**+2.6**	
	comp=Z,0.6nm,0.8s,baz=103,slow=1.9,SNR=4.7							
PDAR				LR	LR	23 50 24.0		
	comp=Z,1µm,18.0s,baz=232,slow=34							
	comp=Z,4.4nm,0.8s							
KTH	**Kantishna Hill**	**95.70**	**12**	IAMs_20	IAMs_20	23 48 52.5		
	comp=Z,1µm,20.0s							
T25A	**Trinidad**	**95.70**	**50**	P	**P**	**23 10 20.2**	**-0.6**	
T25A	**Trinidad**	**95.70**	**50**	P	**P**	**23 10 21.1**	**+0.3**	
	baz=236							
TRF	**Thorofare Moun**	**95.71**	**12**	P	**P**	**23 10 19.7**	**-0.5**	
	baz=204							
H17K	**Granite Mounta**	**95.72**	**7**	P	**P**	**23 10 19.4**	**-0.5**	
	baz=196,SNR=10							
J20K	**Nowinta River**	**95.75**	**10**	P	**P**	**23 10 20.0**	**-0.1**	
	baz=200,SNR=5.6							
SEY	**Seymchan**	**95.77**	**347**⇑	*e*P	**P**	**23 10 19.5**	**-0.6**	
SEY				pmax	pmax			
	comp=Z,72nm,1.5s							
SEY	**Seymchan**	**95.77**	**347**	PKKPbc	PKKPbc	23 27 10.2	-1.8	
	comp=Z,1.8nm,0.6s,baz=244,slow=6.7,SNR=5.7							
SEY				LR	LR	23 48 53.3		
	comp=Z,2µm,21.4s,baz=162,slow=33							
CHUM	**Lake Minchumin**	**95.77**	**11**	P	**P**	**23 10 19.1**	**-1.0**	
	baz=202,SNR=6.1							
HARP	**HAARP**	**95.78**	**15**	P	**P**	**23 10 19.5**	**-0.8**	
	baz=208							
SKAG	**Skagway**	**95.81**	**20**	P	**P**	**23 10 21.3**	**+0.9**	
	baz=216							
P30M	**Million Dollar**	**95.88**	**19**	P	**P**	**23 10 21.9**	**+1.0**	
	baz=215							
GCSA	**Galena City Sc**	**95.91**	**9**	P	**P**	**23 10 21.1**	**+0.4**	
	baz=198							
G16K	**Koyuk River**	**95.91**	**6**	P	**P**	**23 10 21.4**	**+0.7**	
	baz=193							
S34M	**Telegraph Cree**	**95.92**	**23**	P	**P**	**23 10 22.1**	**+1.1**	
	baz=219							
DHY	**Denali Highway**	**95.92**	**13**	P	**P**	**23 10 21.1**	**0.0**	
	baz=206							
RND	**Reindeer**	**95.94**	**13**	P	**P**	**23 10 21.7**	**+0.6**	
RND				IAmb	IAmb	23 10 23.1		
	comp=Z,72nm,1.4s							
RND				IAMs_20	IAMs_20	23 48 57.9		
	comp=Z,2µm,20.0s							
RND	**Reindeer**	**95.94**	**13**	P	**P**	**23 10 21.7**	**+0.6**	
RND				pmax	pmax			
	comp=Z,72nm,1.4s							
RND				MLR	MLR			
	comp=Z,2µm,20.0s							
YHL	**Hebgen Lake**	**95.96**	**41**	P	**P**	**23 10 23.0**	**+1.1**	
YHL				IAmb	IAmb	23 10 44.3		
	comp=Z,31nm,1.2s							
YHL				IAMs_20	IAMs_20	23 45 38.2		
	comp=Z,2µm,20.0s							
COHC	**Cochancay**	**95.97**	**96**	P	**P**	**23 10 22.6**	**+0.2**	
F15K	**North Star Dit**	**96.01**	**5**	P	**P**	**23 10 21.2**	**0.0**	
	baz=191,SNR=7.9							
H17A	**Grant Village**	**96.03**	**42**	P	**P**	**23 10 24.1**	**+1.9**	
	baz=233,SNR=8.1							
YUK8	**Steele Glacier**	**96.10**	**17**	P	**P**	**23 10 22.5**	**+0.4**	
	baz=212							
H18K	**Honhosa River**	**96.11**	**8**	P	**P**	**23 10 21.9**	**+0.2**	
	baz=197							
BOZ	**Bozeman (W)**	**96.16**	**40**	P	**P**	**23 10 23.3**	**+0.7**	
BOZ				IAmb	IAmb	23 10 25.1		
	comp=Z,50nm,1.6s							
BOZ				IAMs_20	IAMs_20	23 50 51.7		
	comp=Z,2µm,19.0s							
BOZ	**Bozeman (W)**	**96.16**	**40**	P	**P**	**23 10 23.3**	**+0.7**	
BOZ				pmax	pmax			
	comp=Z,49nm,1.7s							
BOZ				MLR	MLR			
	comp=Z,2µm,19.0s							
BOZ	**Bozeman (W)**	**96.16**	**40**	P	**P**	**23 10 23.2**	**+0.7**	
	baz=233,SNR=11							
ZEA	**Zeya**	**96.16**	**331**	*e*P	**P**	**23 10 21.3**	**-0.9**	
ZEA				pmax	pmax			
	comp=Z,200nm,4.9s							
ZEA				pmax	pmax			
	comp=N,10.0nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,30nm,1.0s							
YUK6	**Outpost Mounta**	**96.18**	**18**	P	**P**	**23 10 23.0**	**+0.6**	
	baz=214							
G17K	**Kiwalik Mounta**	**96.19**	**7**	P	**P**	**23 10 22.3**	**+0.3**	
	baz=195,SNR=7.6							
BPAW	**Bear Paw Mtn.**	**96.19**	**11**	P	**P**	**23 10 22.7**	**+0.6**	
	baz=203							
MCK	**McKinley**	**96.22**	**12**	P	**P**	**23 10 22.4**	**+0.2**	
	baz=205,SNR=6.8							
PAX	**Paxson**	**96.22**	**14**	P	**P**	**23 10 22.1**	**-0.3**	
	baz=208							
Q24A	**Divide**	**96.22**	**48**	P	**P**	**23 10 24.2**	**+0.9**	
	baz=236							
CD2	**Chengdu**	**96.24**	**302**	P	**P**	**23 10 23.0**	**-0.2**	
CD2				pP	pP	23 10 32.3	-1.3	
CD2				sP	sP	23 10 35.0	-3.0	
CD2				PP	**PP**	**23 14 15.1**	**-2.0**	
CD2				SKS	**SKSac**	**23 20 53.3**	**-3.7**	
CD2				sS	sS	23 21 58.6	+0.2	
CD2				pmax	pmax			
	comp=Z,20nm,1.1s							
CD2				pmax	pmax			
	comp=Z,270nm,4.6s							
CD2				LR	LR			
	comp=Z,250nm,11.2s							
CD2				LR	LR			
	comp=Z,410nm,11.3s							
CD2				LR	LR			
	comp=Z,920nm,19.8s							
M26K	**Nabesna, AK**	**96.27**	**15**	IAMs_20	IAMs_20	23 45 42.2		
	comp=Z,2µm,22.0s							
M26K	**Nabesna, AK**	**96.27**	**15**	P	**P**	**23 10 22.9**	**+0.3**	
	baz=210							
BOSC	**San Juan Bosco**	**96.28**	**97**	P	**P**	**23 10 23.7**	**-0.3**	
I20K	**Naaghedeneel**	**96.29**	**10**	IAMs_20	IAMs_20	23 49 19.3		
	comp=Z,2µm,21.0s							
I20K	**Naaghedeneel**	**96.29**	**10**	P	**P**	**23 10 22.8**	**+0.4**	
	baz=200							
HHC	**Hu-ho-hao-te**	**96.29**	**314**⇓	*i*P	**P**	**23 10 24.1**	**+0.8**	
HHC				sP	pwP	23 10 40.3	+1.8	
HHC				sS	sS	23 21 59.0	-0.1	
HHC				SS	**SS**	**23 28 12.3**	**-1.8**	
HHC				pmax	pmax			
	comp=Z,25nm,0.9s							
HHC				pmax	pmax			
	comp=Z,620nm,5.2s							
HHC				LR	LR			
	comp=Z,2µm,20.4s							
HHC				LR	LR			
	comp=Z,2µm,20.9s							
HHC				LR	LR			
	comp=Z,4µm,21.9s							
OVMT	**Ovando**	**96.30**	**38**	P	**P**	**23 10 22.8**	**-0.4**	
HYT	**Haines Junctio**	**96.31**	**19**	IAMs_20	IAMs_20	23 47 52.3		
	comp=Z,2µm,20.0s							
HYT	**Haines Junctio**	**96.31**	**19**	P	**P**	**23 10 23.2**	**+0.3**	
	baz=214							
AMTX	**Amarillo**	**96.34**	**53**	P	**P**	**23 10 23.4**	**-0.2**	
	baz=238							
YUK3	**Moose Creek**	**96.34**	**17**	P	**P**	**23 10 23.4**	**+0.4**	
	baz=212							
Q32M	**Nakina River**	**96.36**	**22**	P	**P**	**23 10 23.9**	**+0.7**	
	baz=218							
ISCO	**Idaho Springs**	**96.39**	**47**	P	**P**	**23 10 24.1**	**+0.1**	
	baz=236							
YUK4	**Talbot Arm**	**96.44**	**18**	P	**P**	**23 10 24.2**	**+0.7**	
	baz=213							
RWWY	**Rawlins**	**96.46**	**45**	IAMs_20	IAMs_20	23 45 01.2		
	comp=Z,2µm,21.0s							
M27K	**Edge Creek, AK**	**96.49**	**16**	P	**P**	**23 10 24.5**	**+0.8**	
	baz=211							
MENT	**Mentasta**	**96.57**	**15**	IAMs_20	IAMs_20	23 49 53.9		
	comp=Z,2µm,21.0s							
MENT	**Mentasta**	**96.57**	**15**	P	**P**	**23 10 25.1**	**+1.2**	
ABTX	**Abilene, Hawle**	**96.59**	**56**	P	**P**	**23 10 22.9**	**-1.9**	
ABTX	**Abilene, Hawle**	**96.59**	**56**	P	**P**	**23 10 24.3**	**-0.5**	
	baz=239							
ABTX	**Abilene, Hawle**	**96.59**	**56**	P	**P**	**23 10 24.4**	**-0.4**	
	baz=239							
O30N	**Mendenhall**	**96.66**	**19**	IAMs_20	IAMs_20	23 46 20.6		
	comp=Z,2µm,21.0s							
O30N	**Mendenhall**	**96.66**	**19**	P	**P**	**23 10 25.1**	**+0.8**	
	baz=215							
HIA	**Hailar**	**96.69**	**324**	IAMs_20	IAMs_20	23 50 18.3		
	comp=Z,2µm,21.0s							
HIA	**Hailar**	**96.69**	**324**⇓	*e*P	**P**	**23 10 23.4**	**-1.3**	
HIA				pmax	pmax			
	comp=Z,15nm,1.7s							
DLBC	**Dease Lake**	**96.70**	**23**	P	**P**	**23 10 25.5**	**+0.9**	
	baz=220							
DLBC	**Dease Lake**	**96.70**	**23**	LR	LR	23 46 40.0		
	comp=Z,1µm,21.8s,baz=239,slow=31							
H19K	**Roundabout Mou**	**96.71**	**9**	P	**P**	**23 10 24.3**	**-0.1**	
H19K	**Roundabout Mou**	**96.71**	**9**	P	**P**	**23 10 24.7**	**+0.3**	
	baz=196							
L26K	**Log Cabin Wild**	**96.73**	**15**	IAMs_20	IAMs_20	23 49 59.1		
	comp=Z,2µm,19.0s							
L26K	**Log Cabin Wild**	**96.73**	**15**	P	**P**	**23 10 24.9**	**+0.2**	
	baz=210							
BVCY	**Beaver Creek**	**96.78**	**16**	P	**P**	**23 10 25.7**	**+0.8**	
	baz=212,SNR=8.3							
G18K	**Tagagawik**	**96.79**	**8**	P	**P**	**23 10 24.4**	**-0.4**	
	baz=197,SNR=7.3							
N23A	**Red Feather La**	**96.80**	**46**	P	**P**	**23 10 26.3**	**+0.5**	
	baz=236							
H20K	**Anotleneega Mo**	**96.89**	**9**	P	**P**	**23 10 25.5**	**+0.3**	
	baz=200,SNR=11							
K24K	**Donnelly Dome**	**96.90**	**14**	P	**P**	**23 10 25.7**	**+0.3**	
	baz=208							
WHY	**Whitehorse**	**96.92**	**20**	IAMs_20	IAMs_20	23 46 51.4		
	comp=Z,2µm,20.0s							
WHY	**Whitehorse**	**96.92**	**20**	P	**P**	**23 10 26.2**	**+0.6**	
	baz=216							
N30M	**Aishikik Lake**	**96.95**	**18**	P	**P**	**23 10 26.0**	**+0.3**	
	baz=215							
NEA2	**Nenana**	**96.98**	**12**	P	**P**	**23 10 26.3**	**+0.6**	
	baz=205							
I21K	**Tanana**	**97.03**	**11**	P	**P**	**23 10 25.6**	**-0.3**	
	baz=202							
RIDG	**Independent Ri**	**97.04**	**14**	IAMs_20	IAMs_20	23 49 51.1		
	comp=Z,2µm,20.0s							
RIDG	**Independent Ri**	**97.04**	**14**	P	Pdif	23 10 26.2	+0.1	
	baz=208							
F17K	**Baldwin Pennin**	**97.04**	**7**	P	Pdif	23 10 26.0	+0.1	
	baz=194							
MLY	**Manley**	**97.09**	**11**	P	**P**	**23 10 25.4**	**-0.9**	
MLY	**Manley**	**97.09**	**11**	P	Pdif	23 10 26.3	0.0	
	baz=203,SNR=5.8							
L27K	**Beaver Creek,**	**97.11**	**16**	P	Pdif	23 10 27.2	+0.8	
	baz=211							
R33M	**Jennings River**	**97.12**	**22**	P	Pdif	23 10 27.8	+1.1	
	baz=220							
435B	**Jarrell**	**97.15**	**59**	IAMs_20	IAMs_20	23 49 59.3		
	comp=Z,2µm,19.0s							
TGUH	**Tegucigalpa,Un**	**97.17**	**78**	IAMs_20	IAMs_20	23 43 50.0		
	comp=Z,2µm,22.0s							
P33M	**Teslin, Yukon**	**97.18**	**21**	P	Pdif	23 10 27.0	+0.1	
	baz=218							
HDA	**Harding Lake**	**97.21**	**13**	P	**P**	**23 10 26.3**	**-0.4**	
	baz=207							
RLMT	**Red Lodge**	**97.21**	**42**	IAMs_20	IAMs_20	23 52 39.8		
	comp=Z,2µm,19.0s							
RLMT	**Red Lodge**	**97.21**	**42**	P	**P**	**23 10 27.3**	**-0.2**	
	baz=234							
G19K	**Purcell Mounta**	**97.22**	**8**	P	Pdif	23 10 26.8	+0.1	
	baz=198,SNR=18							
CCB	**Clear Creek Bu**	**97.26**	**12**	P	**P**	**23 10 26.1**	**-0.9**	
TNCH	**TengChong**	**97.27**	**295**	P	**P**	**23 10 27.3**	**-0.9**	
TNCH				PP	**PP**	**23 14 24.8**	**-0.5**	
TNCH				SKS	**SKSac**	**23 21 03.5**	**+0.6**	
TNCH				S	**S**	**23 21 48.0**	**-1.6**	
TNCH				SS	**SS**	**23 28 29.0**	**+0.4**	
TNCH				pmax	pmax			
	comp=Z,15nm,0.4s							
TNCH				pmax	pmax			
	comp=Z,290nm,5.7s							
TNCH				LR	LR			
	comp=Z,420nm,21.5s							
TNCH				LR	LR			
	comp=Z,410nm,23.1s							
TNCH				LR	LR			
	comp=Z,2µm,23.3s							
JTS	**Las Juntas de**	**97.33**	**82**	LR	LR	23 44 55.9		
	comp=Z,1µm,21.4s,baz=176,slow=30							
N31M	**Braeburn, Yuko**	**97.33**	**19**	IAMs_20	IAMs_20	23 46 32.4		
	comp=Z,2µm,21.0s							
N31M	**Braeburn, Yuko**	**97.33**	**19**	P	Pdif	23 10 27.8	+0.3	
	baz=216							
H21K	**Melozitna Rive**	**97.35**	**10**	P	Pdif	23 10 27.7	+0.3	
	baz=202,SNR=6.7							
M29M	**Somme Creek**	**97.41**	**17**	IAMs_20	IAMs_20	23 47 09.5		
	comp=Z,2µm,19.0s							
M29M	**Somme Creek**	**97.41**	**17**	P	Pdif	23 10 28.7	+0.8	
	baz=214							
K22A	**Casper**	**97.42**	**45**	P	Pdif	23 10 28.7	+0.3	
	baz=236,SNR=8.3							
K22A	**Casper**	**97.42**	**45**	P	Pdif	23 10 29.6	+1.1	
	baz=236							
SCRK	**Sand Creek**	**97.43**	**14**	IAMs_20	IAMs_20	23 49 43.4		
	comp=Z,2µm,21.0s							
SCRK	**Sand Creek**	**97.43**	**14**	P	Pdif	23 10 28.1	+0.1	
	baz=209							
I23K	**Minto, Yukon-K**	**97.44**	**12**	P	Pdif	23 10 28.6	+0.9	
	baz=204							
COLA	**College**	**97.46**	**12**	P	**P**	**23 10 27.2**	**-0.5**	
COLA				IAmb	IAmb	23 10 31.6		
	comp=Z,20nm,0.7s							
COLA	**College**	**97.46**	**12**	IAMs_20	IAMs_20	23 50 06.1		
	comp=Z,2µm,20.0s							
COLA	**College**	**97.46**	**12**	P	Pdif	23 10 28.0	+0.2	
COLA	**College**	**97.46**	**12**	P	**P**	**23 10 27.2**	**-0.5**	
COLA				pmax	pmax			
	comp=Z,20nm,0.7s							
COLA				MLR	MLR			
	comp=Z,2µm,20.0s							
COLA	**College**	**97.46**	**12**	P	**P**	**23 10 27.5**	**-0.3**	
	baz=206							
MDM	**Murphy Dome**	**97.47**	**12**	P	**P**	**23 10 27.1**	**-0.8**	
MDM				IAMs_20	IAMs_20	23 50 07.4		
	comp=Z,2µm,20.0s							
IMAR	**Indian Mountai**	**97.51**	**10**	P	Pdif	23 10 28.3	+0.2	
ILAR	**Eielson Array**	**97.55**	**13**	P	**P**	**23 10 27.5**	**-0.7**	
	comp=Z,2.9nm,0.7s,baz=226,slow=4.6,SNR=19							
ILAR				PP	**PP**	**23 14 21.5**	**-5.0**	
	comp=Z,1.2nm,0.7s,baz=225,slow=7.3,SNR=5.3							
ILAR				PKiKP	**PKiKP**	**23 15 01.8**	**-0.7**	
	comp=Z,1.6nm,0.8s,baz=274,slow=2.6,SNR=10							
ILAR				PKKP	**PKKPdf**	**23 27 09.4**	**-0.7**	
	comp=Z,1.9nm,0.6s,baz=33,slow=2.9,SNR=15							
ILAR				LR	LR	23 49 41.2		
	comp=Z,234nm,19.4s,baz=214,slow=32							
	comp=Z,2.9nm,0.7s							
E17K	**Hotham Inlet**	**97.61**	**6**	P	Pdif	23 10 28.7	+0.2	
	baz=194,SNR=18							
J25K	**Salcha River,**	**97.70**	**13**	P	Pdif	23 10 29.3	+0.3	
	baz=208,SNR=9.5							
MND	**Mandalay**	**97.71**	**291**	P	**P**	**23 10 28.9**	**-1.1**	
POKR	**Poker Plat Res**	**97.76**	**12**	IAMs_20	IAMs_20	23 50 15.0		
	comp=Z,2µm,22.0s							
POKR	**Poker Plat Res**	**97.76**	**12**	P	**P**	**23 10 28.8**	**-0.4**	
	baz=206							
H22K	**Ishtalitna Cre**	**97.79**	**11**	P	**P**	**23 10 29.3**	**0.0**	
	baz=203							
F19K	**Shaleruckik Mo**	**97.79**	**8**	P	Pdif	23 10 29.5	+0.2	
	baz=197							
K27K	**Chicken**	**97.89**	**15**	IAMs_20	IAMs_20	23 50 24.0		
	comp=Z,2µm,20.0s							
K27K	**Chicken**	**97.89**	**15**	P	Pdif	23 10 30.7	+0.9	
	baz=211							
LPAZ	**La Paz**	**97.93**	**114**	P	**P**	**23 10 31.7**	**-0.3**	
LPAZ	**La Paz**	**97.93**	**114**	P	**P**	**23 10 31.7**	**-0.3**	
M30M	**Minto, Yukon**	**97.95**	**18**	IAMs_20	IAMs_20	23 48 44.6		
	comp=Z,2µm,20.0s							
M30M	**Minto, Yukon**	**97.95**	**18**	P	Pdif	23 10 31.0	+0.8	
	baz=215							
J26L	**Joseph Creek**	**97.98**	**14**	IAMs_20	IAMs_20	23 50 20.3		
	comp=Z,2µm,20.0s							
J26L	**Joseph Creek**	**97.98**	**14**	P	Pdif	23 10 31.6	+1.3	
	baz=209							
G21K	**Allakaket**	**98.05**	**10**	IAMs_20	IAMs_20	23 50 13.0		
	comp=Z,2µm,21.0s							
G21K	**Allakaket**	**98.05**	**10**	P	Pdif	23 10 31.1	+0.6	
	baz=201							
L29M	**L29M**	**98.05**	**17**	IAMs_20	IAMs_20	23 46 57.4		
	comp=Z,2µm,21.0s							
L29M	**L29M**	**98.05**	**17**	P	Pdif	23 10 31.4	+0.8	
	baz=214							
E18K	**Tukpahlearik C**	**98.06**	**7**	P	Pdif	23 10 30.8	+0.3	
	baz=195							
F20K	**Avaraart Lake**	**98.25**	**8**	IAMs_20	IAMs_20	23 52 24.7		
	comp=Z,2µm,21.0s							
F20K	**Avaraart Lake**	**98.25**	**8**	P	**P**	**23 10 31.3**	**0.0**	
	baz=199							
WMOK	**Wichita Mounta**	**98.30**	**55**	IAMs_20	IAMs_20	23 49 46.4		
	comp=Z,2µm,20.0s							
M31M	**Drury Creek, Y**	**98.31**	**19**	IAMs_20	IAMs_20	23 47 15.0		
	comp=Z,2µm,21.0s							
M31M	**Drury Creek, Y**	**98.31**	**19**	P	Pdif	23 10 33.5	+1.7	
	baz=217							
H24K	**Noodor Dome**	**98.33**	**12**	P	Pdif	23 10 32.5	+0.7	
	baz=206							
WTLY	**Watson Lake, Y**	**98.39**	**22**	P	Pdif	23 10 33.0	+0.9	
	baz=221							
E19K	**Redstone River**	**98.45**	**8**	P	Pdif	23 10 32.6	+0.3	
E19K	**Redstone River**	**98.45**	**8**	P	Pdif	23 10 32.4	+0.2	
	baz=198							
PRP	**Porcupine Dome**	**98.48**	**13**	P	**P**	**23 10 32.3**	**-0.2**	
	baz=208							
C16K	**Lisburne Hills**	**98.49**	**5**	IAMs_20	IAMs_20	23 51 26.3		
	comp=Z,2µm,20.0

	comp=Z,17nm,1.0s									
LZH					LR	LR				
	comp=Z,520nm,17.2s									
LZH					LR	LR				
	comp=Z,990nm,18.9s									
LZH					LR	LR				
	comp=Z,1µm,18.9s									
C17K	DeLong Mountai	98.85	5	P		Pdif	23 10 34.1	0.0		
	baz=193									
MAYO	Mayo, Yukon	99.03	18	IAMs_20		IAMs_20	23 48 11.9			
	comp=Z,2µm,20.0s									
J29N	Klondike Camp	99.15	16	P		Pdif	23 10 36.7	+1.2		
	baz=214									
F22K	John River	99.17	10	P		Pdif	23 10 36.8	+1.4		
	baz=202									
G24K	Hadweenzic Riv	99.18	12	P		Pdif	23 10 35.3	-0.2		
	baz=206									
C18K	Utukok River	99.19	6	IAMs_20		IAMs_20	23 52 55.0			
	comp=Z,2µm,20.0s									
C18K	Utukok River	99.19	6	P		Pdif	23 10 35.6	0.0		
	baz=194									
COLD	Coldfoot	99.20	10	P		Pdif	23 10 36.1	+0.5		
	baz=204									
TEIG	Tepich	99.29	72	LR		LR	23 48 18.9			
	comp=Z,2µm,21.0s,baz=360,slow=31									
OGNE	Ogallala	99.31	48	IAMs_20		IAMs_20	23 48 28.0			
	comp=Z,2µm,20.0s									
E20K	Nigu River	99.34	8	P		Pdif	23 10 36.9	+0.6		
	baz=199									
I27K	Kandik River	99.35	14	P		Pdif	23 10 36.9	+0.5		
	baz=211									
G25K	Bearman Lake	99.48	12	P		Pdif	23 10 38.4	+1.6		
	baz=207									
I28M	Miner Creek	99.59	15	IAMs_20		IAMs_20	23 47 49.5			
	comp=Z,2µm,22.0s									
I28M	Miner Creek	99.59	15	P		Pdif	23 10 37.9	+0.5		
	baz=213									
J30M	Hart River	99.71	17	IAMs_20		IAMs_20	23 47 39.4			
	comp=Z,2µm,22.0s									
J30M	Hart River	99.71	17	P		Pdif	23 10 39.1	+1.0		
	baz=216									
CBKS	Cedar Bluff	99.72	51	IAMs_20		IAMs_20	23 52 08.0			
	comp=Z,2µm,18.0s									
CBKS	Cedar Bluff	99.72	51	P		Pdif	23 10 39.7	+1.0		
	baz=239									
D20K	Etivluk River	99.73	8	P		Pdif	23 10 38.6	+0.7		
	baz=198									
RSSD	Black Hills	99.74	44	P		Pdif	23 10 39.3	+0.4		
	baz=238									
RSSD	Black Hills	99.74	44	P		Pdif	23 10 40.0	+1.2		
	baz=238									
C19K	Lookout Ridge	99.79	6	IAMs_20		IAMs_20	23 56 20.8			
	comp=Z,2µm,20.0s									
C19K	Lookout Ridge	99.79	6	P		Pdif	23 10 39.0	+0.8		
	baz=196									
E21K	Killik River	99.79	9	P		Pdif	23 10 39.4	+1.1		
	baz=201									
NATX	Nacogdoches	99.80	59	IAMs_20		IAMs_20	23 53 03.6			
	comp=Z,2µm,18.0s									
NATX	Nacogdoches	99.80	59	P		Pdif	23 10 39.6	+0.5		
	baz=241									
B18K	Kokolik River	99.84	6	P		Pdif	23 10 39.3	+1.0		
	baz=194									
F24K	Squaw Lake	99.84	11	IAMs_20		IAMs_20	23 51 55.2			
	comp=Z,2µm,20.0s									
F24K	Squaw Lake	99.84	11	P		Pdif	23 10 39.2	+0.7		
	baz=206									
LAO	LASA Array	99.85	41	IAMs_20		IAMs_20	23 52 23.6			
	comp=Z,2µm,20.0s									
LAO	LASA Array	99.85	41	P		Pdif	23 10 38.9	-0.2		
	baz=236									
W35A	Tecumseh	99.86	55	IAMs_20		IAMs_20	23 57 27.6			
	comp=Z,2µm,18.0s									
CPUP	Villa Florida	99.88	128	P		Pdif	23 10 39.8	0.0		
	comp=Z,5.8nm,0.8s,baz=250,slow=6.4,SNR=8.0									
CPUP					PKKPbc	PKKPbc	23 26 57.8	-0.9		
	comp=Z,4.4nm,0.6s,baz=31,slow=2.4,SNR=8.9									
I29M	Ogilvie Camp,	99.89	16	IAMs_20		IAMs_20	23 51 36.5			
	comp=Z,2µm,21.0s									
I29M	Ogilvie Camp,	99.89	16	P		Pdif	23 10 39.8	+1.1		
	baz=214									
H27K	Steamboat Moun	99.91	14	P		Pdif	23 10 40.4	+1.6		
	baz=211									
KOTAN	Kotaneelee Air	100.02	24	P		Pdif	23 10 41.6	+2.2		
	baz=225									
E23K	Chandalar	100.06	10	P		Pdif	23 10 40.0	+0.5		
	baz=204									
G26K	Porcupine Rive	100.08	13	P		Pdif	23 10 40.3	+0.9		
	baz=209									
I30M	Mount Dempster	100.23	16	IAMs_20		IAMs_20	23 48 27.1			
	comp=Z,2µm,20.0s									
I30M	Mount Dempster	100.23	16	P		Pdif	23 10 40.9	+0.5		
	baz=216,SNR=7.7									
E24K	Your Creek	100.25	11	IAMs_20		IAMs_20	23 52 21.3			
	comp=Z,2µm,20.0s									
E24K	Your Creek	100.25	11	P		Pdif	23 10 41.0	+0.6		
	baz=206									
OK033	Mehan	100.25	54	IAMs_20		IAMs_20	23 52 42.2			
	comp=Z,1µm,19.0s									
F25K	Christian Rive	100.30	12	P		Pdif	23 10 41.8	+1.2		
	baz=208									
OK052	Battle Ridge R	100.32	54	IAMs_20		IAMs_20	23 52 34.1			
	comp=Z,1µm,19.0s									
BMAR	Burnt Mountain	100.35	12			Pdif	23 10 41.0	+0.2		
C21K	Knifeblade Rid	100.36	8	P		Pdif	23 10 41.3	+0.6		
	baz=200,SNR=8.8									
D22K	Ayikyak River	100.37	9	IAMs_20		IAMs_20	23 51 39.4			
	comp=Z,2µm,21.0s									
D22K	Ayikyak River	100.37	9	P		Pdif	23 10 41.5	+0.7		
	baz=202									
G27K	Doyon Strip	100.38	14	IAMs_20		IAMs_20	23 58 35.5			
	comp=Z,2µm,19.0s									
G27K	Doyon Strip	100.38	14	P		Pdif	23 10 41.6	+0.7		
	baz=211									
H29M	Whitestone	100.59	15	P		Pdif	23 10 42.8	+1.0		
	baz=214									
F26K	Sheenjek River	100.66	12	P		Pdif	23 10 42.8	+0.7		
	baz=209,SNR=5.4									
A19K	Wainwright	100.72	6	P		Pdif	23 10 42.7	+0.5		
	baz=195									
E25K	Arctic Village	100.78	12	IAMs_20		IAMs_20	23 52 21.3			
	comp=Z,2µm,20.0s									
E25K	Arctic Village	100.78	12	P		Pdif	23 10 43.3	+0.7		
	baz=208									
B21K	Ikpikpuk River	100.82	8	P		Pdif	23 10 43.8	+1.1		
	baz=200									
B20K	Meade River	100.90	7	IAMs_20		IAMs_20	23 55 24.3			
	comp=Z,2µm,20.0s									
B20K	Meade River	100.90	7	P		Pdif	23 10 43.5	+0.4		
	baz=198									
TUL3	Leonard	101.00	55	IAMs_20		IAMs_20	23 55 26.9			
	comp=Z,2µm,18.0s									
TUL3	Leonard	101.00	55	P		Pdif	23 10 44.6	+0.3		
	baz=241									
EPYK	Eagle Plains	101.09	16	P		Pdif	23 10 44.5	+0.4		
	baz=215									
YAK	Yakutsk	101.11	338	IAMs_20		IAMs_20	23 49 02.4			
	comp=Z,2µm,22.0s									
YAK	Yakutsk	101.11	338	*e*P		Pdif	23 10 42.7	-1.4		
YAK				*e*			23 14 49.4			
YAK				*e*S		SKSac	23 21 12.3	-7.6		
YAK				*e*SSS		SSS	23 33 06.2			
YAK				pmax		pmax				
	comp=Z,13nm,0.9s									
YAK				pmax		pmax				
	comp=E,3.0nm,0.9s									
YAK				pmax		pmax				
	comp=N,3.0nm,1.2s									
YAK				pmax		pmax				
	comp=Z,10.0nm,0.6s									
YAK				smax		smax				
	comp=E,248nm,4.8s									
YAK				smax		smax				
	comp=N,102nm,3.1s									
D24K	Happy Valley	101.18	10	IAMs_20		IAMs_20	23 55 26.6			
	comp=Z,2µm,21.0s									
D24K	Happy Valley	101.18	10	P		Pdif	23 10 44.7	+0.4		
	baz=205									
H31M	Peel River	101.21	17	P		Pdif	23 10 44.7	+0.1		
	baz=217									
G29M	Pine Creek	101.24	15	P		Pdif	23 10 45.5	+0.8		
	baz=214									
F28M	Old Crow	101.43	14	IAMs_20		IAMs_20	23 52 29.3			
	comp=Z,2µm,21.0s									
F28M	Old Crow	101.43	14	P		Pdif	23 10 46.2	+0.7		
	baz=213									
C23K	Itkillik River	101.54	9	IAMs_20		IAMs_20	23 52 49.2			
	comp=Z,2µm,21.0s									
C23K	Itkillik River	101.54	9	P		Pdif	23 10 46.5	+0.6		
	baz=204									
E27K	Coleen River	101.57	13	P		Pdif	23 10 46.9	+0.8		
	baz=211									
B22K	Teshekpuk Lake	101.64	8	P		Pdif	23 10 46.9	+0.5		
	baz=201									
G30M	tAoh Zraii Nji	101.70	15	P		Pdif	23 10 47.5	+0.7		
	baz=216									
C24K	Franklin Bluff	101.71	10	P		Pdif	23 10 47.1	+0.4		
	baz=205									
D25K	Kavik River	101.72	11	IAMs_20		IAMs_20	23 53 07.1			
	comp=Z,2µm,21.0s									
D25K	Kavik River	101.72	11	P		Pdif	23 10 48.0	+1.2		
	baz=207									
DGMT	Dagmar	101.97	41	IAMs_20		IAMs_20	23 49 29.6			
	comp=Z,2µm,21.0s									
DGMT	Dagmar	101.97	41	P		Pdif	23 10 49.5	+1.1		
	baz=238									
KSU1	Kansas State U	101.97	52	IAMs_20		IAMs_20	23 57 40.9			
	comp=Z,2µm,18.0s									
BGNE	Belgrade	102.07	49	P		Pdif	23 10 49.0	0.0		
	baz=241									
A22K	Sinclair Lake	102.09	7	P		Pdif	23 10 48.7	+0.4		
	baz=200									
G31M	Satah River	102.12	16	IAMs_20		IAMs_20	23 52 53.5			
	comp=Z,2µm,20.0s									
G31M	Satah River	102.12	16	P		Pdif	23 10 49.2	+0.7		
	baz=218									
A21K	Barrow	102.21	7	P		Pdif	23 10 48.9	+0.1		
	baz=199									
F30M	Barrier River	102.32	15	P		Pdif	23 10 50.5	+1.0		
	baz=216									
E28M	Babbage River	102.34	13	IAMs_20		IAMs_20	23 58 29.5			
	comp=Z,2µm,19.0s									
E28M	Babbage River	102.34	13	P		Pdif	23 10 49.7	+0.2		
	baz=213									
WRGLY	Wrigley	102.40	22	P		Pdif	23 10 50.9	+1.0		
	baz=226									
C26K	Camden Bay	102.48	11	P		Pdif	23 10 50.9	+0.8		
	baz=209									
E29M	Blow River	102.49	14	P		Pdif	23 10 50.7	+0.5		
	baz=215									
D27M	Malcolm River	102.60	13	P		Pdif	23 10 51.1	+0.4		
	baz=212									
F31M	Tsiigehtchic	102.65	16	IAMs_20		IAMs_20	23 49 30.7			
	comp=Z,2µm,22.0s									
F31M	Tsiigehtchic	102.65	16	P		Pdif	23 10 51.2	+0.3		
	baz=218									
ULN	Ulaanbaatar	102.80	318	P		Pdif	23 10 50.7	-1.5		
ULN	Ulaanbaatar	102.80	318	P		Pdif	23 10 57.6	+5.3		
SHL	Shillong	102.80	292	IAMs_20		IAMs_20	00 03 24.5			
	comp=Z,2µm,22.0s									
SHL	Shillong	102.80	292	P		Pdif	23 10 51.1	-1.7		
SHL				pmax		pmax				
	comp=Z,58nm,0.7s									
SHL	Shillong	102.80	292	P		Pdif	23 10 53.4	+0.5		
SONM	Songino Array	103.16	318	Pdiff		Pdif	23 10 51.9	-1.9		
	comp=Z,1.8nm,0.6s,baz=138,slow=4.7,SNR=10									
SONM				PKiKP		PKiKP	23 15 12.6	-0.7		
	comp=Z,1.7nm,0.6s,baz=131,slow=2.3,SNR=8.4									
SONM				PKKPbc		PKKPbc	23 26 50.5	0.0		
	comp=Z,5.9nm,1.3s,baz=278,slow=3.5,SNR=8.8									
INK	Inuvik	103.39	15	P		Pdif	23 10 54.1	-0.1		
INK	Inuvik	103.39	15	P		Pdif	23 10 54.1	-0.1		
	baz=218									
OXF	Oxford	104.98	59	IAMs_20		IAMs_20	23 57 08.7			
	comp=Z,2µm,18.0s									
YKA	Yellowknife Ar	105.01	25	Pdiff		Pdif	23 11 01.5	0.0		
	comp=Z,0.4nm,0.8s,baz=253,slow=4.6,SNR=5.8									
YKA				PKiKP		PKiKP	23 15 15.9	-0.1		
	comp=Z,2.2nm,0.6s,baz=264,slow=1.5,SNR=24									
YKA				PKKPbc		PKKPbc	23 26 42.5	-2.7		
	comp=Z,4.6nm,0.7s,baz=38,slow=2.9,SNR=14									
YKA				PKPPKP		P'P'df	23 35 09.5	+7.7		
	comp=Z,0.8nm,0.9s,baz=48,slow=2.4,SNR=6.2									
SAML	Samuel	106.05	111	IAMs_20		IAMs_20	23 51 29.6			
	comp=Z,2µm,20.0s									
FFC	Flin Flon	106.34	36	IAMs_20		IAMs_20	23 56 05.8			
	comp=Z,2µm,20.0s									
AGMN	Agassiz Nation	106.74	44	IAMs_20		IAMs_20	23 56 33.7			
	comp=Z,2µm,18.0s									
WVT	Waverly	106.84	58	P		PKiKP	23 15 19.6	-0.7		
	baz=245									
MTDJ	Mount Denham	107.38	79	IAMs_20		IAMs_20	23 49 41.5			
	comp=Z,2µm,22.0s									
ULM	Lac du Bonnet	107.59	42	IAMs_20		IAMs_20	23 52 17.1			
	comp=Z,2µm,22.0s									
ULM	Lac du Bonnet	107.59	42	PKKPbc		PKKPbc	23 26 34.6	-2.2		
	comp=Z,2.6nm,0.7s,baz=75,slow=6.9,SNR=3.8									
JFWS	Jewell Farm	107.98	50	IAMs_20		IAMs_20	23 58 45.4			
	comp=Z,1µm,18.0s									
JFWS	Jewell Farm	107.98	50	P		PKiKP	23 15 21.6	-0.6		
	baz=246									
L42A	Oliver, Polo	108.00	52	IAMs_20		IAMs_20	00 01 15.9			
	comp=Z,2µm,18.0s									
A36M	Sachs Harbour	108.02	15	P		PKiKP	23 15 20.5	-0.8		
	baz=226									
TIXI	Tiksi	108.07	344	IAMs_20		IAMs_20	00 03 30.1			
	comp=Z,1µm,19.0s									
I40A	Norwalk	108.14	49	IAMs_20		IAMs_20	23 57 05.5			
	comp=Z,1µm,20.0s									
SPB	Sao Paulo	108.30	132	IAMs_20		IAMs_20	23 52 33.1			
	comp=Z,2µm,22.0s									
U49A	Red Boiling Sp	108.51	58	IAMs_20		IAMs_20	23 57 54.9			
	comp=Z,1µm,19.0s									
P46A	Rosedale	108.73	55	IAMs_20		IAMs_20	00 00 08.6			
	comp=Z,2µm,18.0s									
WCI	Wyandotte Cave	108.83	56	IAMs_20		IAMs_20	23 56 41.3			
	comp=Z,2µm,20.0s									
WCI	Wyandotte Cave	108.83	56	P		PKiKP	23 15 23.3	-0.6		
	baz=246									
M44A	Midewin, Midew	108.86	53	IAMs_20		IAMs_20	00 00 01.8			
	comp=Z,1µm,18.0s									
G40A	Rib Lake	108.98	48	IAMs_20		IAMs_20	23 51 53.5			
	comp=Z,1µm,20.0s									
GOGA	Godfrey	108.99	62	P		PKiKP	23 15 23.8	-0.5		
	baz=246									
CPCT	Cooper Cave	109.01	60	IAMs_20		IAMs_20	23 58 17.4			
	comp=Z,2µm,18.0s									
SFIN	Lafayette	109.11	54	IAMs_20		IAMs_20	00 04 26.7			
	comp=Z,2µm,18.0s									
K43A	Burlington	109.19	51	IAMs_20		IAMs_20	23 54 20.4			
	comp=Z,1µm,20.0s									
EYMN	Ely	109.24	45	IAMs_20		IAMs_20	23 56 39.1			
	comp=Z,1µm,20.0s									
L44A	Lake County Fo	109.27	52	IAMs_20		IAMs_20	23 58 12.5			
	comp=Z,1µm,19.0s									
V51A	Loudon	109.28	59	IAMs_20		IAMs_20	23 58 24.5			
	comp=Z,2µm,19.0s									
W52A	Murphy	109.31	60	IAMs_20		IAMs_20	00 00 24.4			
	comp=Z,2µm,19.0s									
BG3	Lake Jocassee	110.02	61	IAMs_20		IAMs_20	00 01 07.3			
	comp=Z,1µm,18.0s									
TZTN	Tazewell	110.17	59	IAMs_20		IAMs_20	23 59 57.8			
	comp=Z,2µm,18.0s									
H43A	Windswept, Lux	110.25	50	IAMs_20		IAMs_20	23 59 22.4			
	comp=Z,1µm,19.0s									
R50A	Paris	110.27	57	IAMs_20		IAMs_20	00 01 04.5			
	comp=Z,2µm,18.0s									
N47A	Urbana	110.29	54	IAMs_20		IAMs_20	00 05 04.8			
	comp=Z,2µm,18.0s									
O48B	Farmland	110.43	55	IAMs_20		IAMs_20	23 58 39.4			
	comp=Z,1µm,19.0s									
F42A	Maple Grove Fa	110.51	48	IAMs_20		IAMs_20	00 02 31.9			
	comp=Z,1µm,18.0s									
Q51A	Peebles	111.26	56	IAMs_20		IAMs_20	23 58 53.7			
	comp=Z,1µm,20.0s									
KMSC	Kings Mountain	111.29	61	IAMs_20		IAMs_20	00 02 06.8			
	comp=Z,1µm,19.0s									
N49A	Columbus Grove	111.37	54	IAMs_20		IAMs_20	00 00 26.4			
	comp=Z,1µm,18.0s									
NHSC	New Hope	111.40	63	P		PKiKP	23 15 27.3	-1.5		
	baz=247									
U54A	Nelsons Funny	111.44	59	IAMs_20		IAMs_20	00 01 32.8			
	comp=Z,2µm,18.0s									
E43A	Lone Tree Farm	111.47	48	IAMs_20		IAMs_20	23 58 13.5			
	comp=Z,2µm,20.0s									
L48A	N Adams	111.57	53	IAMs_20		IAMs_20	23 59 00.6			
	comp=Z,1µm,21.0s									
P51A	Williamsport	111.64	56	IAMs_20		IAMs_20	23 59 05.6			
	comp=Z,2µm,18.0s									
G45A	Suttons Bay	111.86	50	IAMs_20		IAMs_20	23 56 28.0			
	comp=Z,1µm,20.0s									
ACSO	Alum Creek Sta	111.97	55	P		PKiKP	23 15 28.9	-0.9		
	baz=249									
R53A	Hurricane	112.02	58	IAMs_20		IAMs_20	00 01 43.8			
	comp=Z,2µm,19.0s									
Q52A	Bidwell	112.02	57	IAMs_20		IAMs_20	23 53 23.8			
	comp=Z,1µm,22.0s									
Y58A	Scranton	112.10	63	IAMs_20		IAMs_20	00 00 45.3			
	comp=Z,1µm,18.0s									
AAM	Ann Arbor	112.24	53	IAMs_20		IAMs_20	00 00 00.0			
	comp=Z,1µm,19.0s									
W57A	Gilead	112.31	61	IAMs_20		IAMs_20	00 02 49.9			
	comp=Z,1µm,18.0s									
P52A	Corning	112.36	56	IAMs_20		IAMs_20	00 01 53.8			
	comp=Z,2µm,18.0s									
P52A	Corning	112.36	56	P		PKiKP	23 15 29.7	-0.8		
	baz=249									
X58A	Rowland	112.59	62	IAMs_20		IAMs_20	00 03 44.4			
	comp=Z,1µm,18.0s									
BLA	Blacksburg	112.74	59	IAMs_20		IAMs_20	00 00 04.0			
	comp=Z,2µm,18.0s									
BLA	Blacksburg	112.74	59	P		PKiKP	23 15 30.6	-0.8		
	baz=249									
P53A	Whipple	112.84	57	IAMs_20		IAMs_20	00 01 52.6			
	comp=Z,2µm,18.0s									
VOI	Vohitsoka	112.97	225	P		PKiKP	23 15 32.0	-0.5		
K50A	Casco	113.12	53	IAMs_20		IAMs_20	23 54 36.6			
	comp=Z,1µm,21.0s									
E46A	Sault Ste Mari	113.21	49	IAMs_20		IAMs_20	23 56 50.6			
	comp=Z,2µm,20.0s									
V58A	Windy Hill, Pi	113.21	61	IAMs_20		IAMs_20	00 02 30.7			
	comp=Z,1µm,18.0s									
O53A	New Philadelph	113.24	56	P		PKiKP	23 15 31.4	-0.8		
	baz=250									
WMQ	Urumqi	113.33	308	PKP		PKiKP	23 15 31.6	-0.7		
WMQ				LR		LR				
	comp=Z,1µm,15.3s									
WMQ				LR		LR				
	comp=Z,1µm,23.7s									
BDFB	Brasilia	113.46	126	PKiKP		PKiKP	23 15 32.8	-0.7		
	comp=Z,5.0nm,0.6s,baz=263,slow=1.7,SNR=11									
BDFB				PKKPbc		PKKPbc	23 26 16.8	-0.2		
	comp=Z,1.1nm,0.3s,baz=91,slow=7.9,SNR=3.4									
M52A	Chesterland	113.58	55	IAMs_20		IAMs_20	00 00 43.9			
	comp=Z,1µm,18.0s									
O54A	Avella	113.82	56	IAMs_20		IAMs_20	00 00 06.3			
	comp=Z,2µm,19.0s									
S57A	Dark Hollow, R	114.03	59	IAMs_20		IAMs_20	00 04 32.2			
	comp=Z,1µm,18.0s									
M53A	WI Miller and	114.03	55	IAMs_20		IAMs_20	00 02 39.8			
	comp=Z,2µm,18.0s									
M53A	WI Miller and	114.03	55	P		PKPdf	23 15 32.0	-1.6		
	baz=250									
Q56A	Snyder Ridge,	114.29	58	IAMs_20		IAMs_20	00 03 23.1			
	comp=Z,1µm,18.0s									
U59A	Littleton	114.41	61	IAMs_20		IAMs_20	00 01 57.5			
	comp=Z,2µm,18.0s									
ERPA	Erie	114.74	54	IAMs_20		IAMs_20	00 01 39.3			
	comp=Z,2µm,19.0s									
R58B	Mineral	114.90	59	IAMs_20		IAMs_20	00 01 45.2			
	comp=Z,1µm,19.0s									
OPO	Ambohidratompo	115.20	228	PKP		PKiKP	23 15 36.6	-0.3		
	comp=Z,1.1nm,0.6s,baz=168,slow=1.7,SNR=16									
P57A	Homestead Farm	115.30	58	IAMs_20		IAMs_20	00 03 36.7			
	comp=Z,1µm,19.0s									
CBN	Corbin Frederi	115.35	59	IAMs_20		IAMs_20	00 05 31.1			
	comp=Z,2µm,18.0s									
DGZ	Jazzator, Alta	115.37	314*c*	*i*PKIKP		PKPdf	23 15 34.6	-1.6		
DGZ				MLR		MLR				
	comp=Z,1µm,19.0s									
M55A	Ridgway	115.40	55	IAMs_20		IAMs_20	00 01 59.0			
	comp=Z,2µm,19.0s									
SUR	Sutherland	115.47	197			PKiKP	23 15 36.1	-1.0		
SSPA	Standing Stone	115.76	56	IAMs_20		IAMs_20	00 02 27.8			
	comp=Z,2µm,19.0s									
SSPA	Standing Stone	115.76	56	P		PKPdf	23 15 36.4	-0.7		
	baz=252									
SADO	Sadowa	116.15	52	IAMs_20		IAMs_20	23 58 02.6			
	comp=Z,1µm,21.0s									
ZSN	Zaisan	116.35	311	*i*PKIKP		PKPdf	23 15 36.4	-1.5		
ZSN	Zaisan	116.35	311	*e*PKiKP		PKPdf	23 15 36.5	-1.5		
	baz=311									
MVL	Millersville	116.68	57	IAMs_20		IAMs_20	00 03 22.2			
	comp=Z,1µm,18.0s									
RES	Resolute Bay	116.85	17			PKPdf	23 15 37.1	-1.0		
RES				IAMs_20		IAMs_20	23 57 41.3			
	comp=Z,2µm,22.0s									
RES	Resolute Bay	116.85	17	PKIKP		PKPdf	23 15 37.1	-1.0		
RES				MLR		MLR				
	comp=Z,2µm,22.0s									
DELO	Deloro Mine	117.11	52	IAMs_20		IAMs_20	00 03 14.2			
	comp=Z,1µm,19.0s									
LUPA	Lehigh Univers	117.57	57	IAMs_20		IAMs_20

KSH sPKP 23 16 00.1
KSH PKS **PKSdf** **23 19 23.8 +0.9**
KSH LR LR
comp=Z,630nm,23.4s
KSH LR LR
comp=Z,790nm,22.5s
KSH LR LR
comp=Z,1µm,23.9s
MDOK Medeo 120.55 305 *i* PKiKP **PKPdf** **23 15 44.7 -1.6**
MDOK Medeo 120.55 305 *e*PKiKP **PKPdf** **23 15 44.7 -1.6**
baz=305
TNSS Tian-Shan 120.59 305 *i* PKiKP **PKPdf** **23 15 45.4 -1.3**
TNSS Tian-Shan 120.59 305 *e*PKiKP **PKPdf** **23 15 45.5 -1.3**
baz=305
HNH Hanover 120.61 54 IAMs_20 IAMs_20 00 07 40.0
comp=Z,1µm,18.0s
AAA Alma-Ata 120.65 305 *i* PKIKP **PKPdf** **23 15 45.3 -1.1**
AAA Alma-Ata 120.65 305 *e*PKiKP **PKPdf** **23 15 45.4 -1.1**
baz=305
CHKK Chushkaly 120.75 306 *i* PKIKP **PKPdf** **23 15 44.6 -1.9**
CHKK Chushkaly 120.75 306 *e*PKiKP **PKPdf** **23 15 44.7 -1.9**
baz=306
NIL Nilore 120.84 293 PKPdf **PKPdf** **23 15 45.1 -1.9**
NIL Nilore 120.84 293 PKIKP **PKPdf** **23 15 45.1 -1.9**
NIL Nilore 120.84 293 P **PKPdf** **23 15 45.4 -1.7**
HRV Adam Dziewonsk 120.84 56 IAMs_20 IAMs_20 00 04 40.2
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 120.84 56 P **PKPdf** **23 15 46.0 -0.7**
baz=256
LBTB Lobatse 120.87 205 **PKPdf** **23 15 46.1 -1.5**
LBTB Lobatse 120.87 205 PKP **PKPdf** **23 15 46.2 -1.3**
comp=Z,10nm,0.5s,baz=177,slow=2.5,SNR=17
NRN Naryn 120.88 303 PKPdf **PKPdf** **23 15 45.8 -1.5**
NRN IAMs_20 IAMs_20 00 16 45.3
comp=Z,1µm,20.0s
NRN Naryn 120.88 303 PKIKP **PKPdf** **23 15 45.8 -1.5**
ULHL Ulahol 120.90 304 P **PKPdf** **23 15 46.7 -0.5**
SNR=8.4
LBNH Lisbon 120.99 54 P **PKPdf** **23 15 46.4 -0.5**
baz=257
KURK Kurchatov 121.10 314 **PKPdf** **23 15 45.5 -1.4**
KURK Kurchatov 121.10 314 IAMs_20 IAMs_20 00 19 28.4
comp=Z,1µm,20.0s
KURK Kurchatov 121.10 314*c i*PKIKP **PKPdf** **23 15 45.2 -1.7**
KURK pmax pmax
comp=Z,117nm,1.0s
KURK Kurchatov 121.10 314 P **PKPdf** **23 15 45.6 -1.4**
KURBB Kurchatov Arra 121.14 314 PKP **PKPdf** **23 15 45.3 -1.7**
comp=Z,64nm,0.6s,baz=107,slow=1.8,SNR=372
KURBB PKKPbc **PKKPbc** **23 25 50.5 +0.4**
comp=Z,3.4nm,0.8s,baz=282,slow=4.7,SNR=18
KUU Kurty 121.22 306 *i* PKIKP **PKPdf** **23 15 45.5 -1.9**
KUU Kurty 121.22 306 *e*PKiKP **PKPdf** **23 15 45.5 -1.9**
baz=306
M65A Busby, Falmout 121.27 57 IAMs_20 IAMs_20 23 58 57.7
comp=Z,2µm,22.0s
M65A Busby, Falmout 121.27 57 P **PKPdf** **23 15 47.0 -0.6**
baz=256
TKM2 Tokmak 2 121.52 304 P **PKPdf** **23 15 47.4 -0.9**
SNR=11
KZA Kyzart 121.58 303 P **PKPdf** **23 15 48.0 -0.7**
SNR=46
H62A Milan 121.60 54 IAMs_20 IAMs_20 00 12 07.1
comp=Z,2µm,18.0s
KBK Karagaybulak 121.93 304 P **PKPdf** **23 15 48.3 -0.8**
SNR=8.0
UCH Uchtor 122.14 303 P **PKPdf** **23 15 49.2 -0.7**
SNR=78
CHMS Chumysh 122.15 304 P **PKPdf** **23 15 48.7 -0.5**
SNR=6.1
G62A West of Eustis 122.17 53 IAMs_20 IAMs_20 00 09 36.1
comp=Z,1µm,18.0s
FRU1 Bishkek 122.19 304 **PKPdf** **23 15 48.0 -1.4**
FRU1 Bishkek 122.19 304 PKIKP **PKPdf** **23 15 48.0 -1.4**
AAK Ala-Archa 122.25 304 P **PKPdf** **23 15 48.5 -1.2**
SNR=49
AAK Ala-Archa 122.25 304 **PKPdf** **23 15 48.6 -1.2**
AAK Ala-Archa 122.25 304*c i*PKIKP **PKPdf** **23 15 48.3 -1.4**
AAK pmax pmax
comp=Z,33nm,0.6s
AAK Ala-Archa 122.25 304 PKPdf **PKPdf** **23 15 48.7 -0.9**
AAK Ala-Archa 122.25 304 P **PKPdf** **23 15 48.4 -1.2**
SGDS Sogindy 122.33 305 *i* PKIKP **PKPdf** **23 15 48.1 -1.5**
SGDS Sogindy 122.33 305 *e*PKiKP **PKPdf** **23 15 48.2 -1.5**
baz=305
USP Ospenovka 122.38 305 P **PKPdf** **23 15 48.5 -1.3**
SNR=44
AML Almayashu 122.72 303 P **PKPdf** **23 15 50.1 -0.8**
SNR=135
LMQ La Malbaie 122.76 50 **PKPdf** **23 15 49.1 -1.2**
LMQ IAMs_20 IAMs_20 00 05 38.3
comp=Z,2µm,20.0s
EKS2 Erkin-Say 122.77 304 P **PKPdf** **23 15 49.7 -0.9**
SNR=67
PKME Peaks-Kenny Pk 123.04 53 IAMs_20 IAMs_20 00 11 32.8
comp=Z,1µm,18.0s
PKME Peaks-Kenny Pk 123.04 53 P **PKPdf** **23 15 50.0 -0.8**
baz=259
BTLS Baital 123.07 307 *i* PKIKP **PKPdf** **23 15 49.5 -1.4**
BTLS Baital 123.07 307 *e*PKiKP **PKPdf** **23 15 49.6 -1.4**
baz=307
E62A Clayton Lake 123.13 51 IAMs_20 IAMs_20 00 06 21.3
comp=Z,1µm,19.0s
F63A Nahmakanta, Br 123.25 53 IAMs_20 IAMs_20 00 09 21.6
comp=Z,1µm,18.0s
D62A Allapoint, All 123.53 51 IAMs_20 IAMs_20 00 04 48.8
comp=Z,1µm,20.0s
PQI Presque Isle 124.16 52 **PKPdf** **23 15 52.1 -0.8**
BTK Batken 124.39 300 **PKPdf** **23 15 52.5 -1.2**
BTK Batken 124.39 300 PKIKP **PKPdf** **23 15 52.5 -1.2**
KBL Kabul 124.44 293 PKPdf **PKPdf** **23 15 52.7 -1.5**
KBL Kabul 124.44 293 PKIKP **PKPdf** **23 15 52.7 -1.5**
KBL Kabul 124.44 293 P **PKPdf** **23 15 53.6 -0.6**
SNR=57
DZA Taraz 124.58 304 *i* PKIKP **PKPdf** **23 15 52.7 -1.2**
DZA Taraz 124.58 304 *e*PKiKP **PKPdf** **23 15 52.8 -1.2**
baz=304
KK31 Karatay Array 125.21 304 PKPdf **PKPdf** **23 15 53.6 -1.5**
KK31 Karatay Array 125.21 304 PKIKP **PKPdf** **23 15 53.6 -1.5**
KKAR Karatay Array 125.21 304 PKPdf **PKPdf** **23 15 53.7 -1.5**
KKAR Karatay Array 125.21 304 PKIKP **PKPdf** **23 15 53.7 -1.5**
SIMJ Simiganj 125.45 298 PKPdf **PKPdf** **23 15 54.5 -1.4**
BATG Bathurst New B 125.58 51 PKPdf **PKPdf** **23 15 55.1 -0.6**
CHM Chimkent 125.73 303 *i* PKIKP **PKPdf** **23 15 55.0 -1.1**
CHM Chimkent 125.73 303 *e*PKiKP **PKPdf** **23 15 55.1 -1.1**
baz=303
SCHQ Schefferville 125.77 42 PKP **PKPdf** **23 15 54.8 -1.0**
comp=Z,20nm,0.9s,baz=352,slow=1.8,SNR=18
LMN Caledonia Moun 126.24 53 IAMs_20 IAMs_20 00 07 05.9
comp=Z,1µm,20.0s
BVAR Borovoye Array 126.44 316 PKP **PKPdf** **23 15 55.8 -1.3**
comp=Z,100nm,0.6s,baz=118,slow=3.0,SNR=6.8
BRVK Borovoye 126.51 316 PKPdf **PKPdf** **23 15 56.0 -1.3**
BRVK Borovoye 126.51 316*c i*PKIKP **PKPdf** **23 15 55.4 -1.9**
BRVK pmax pmax
comp=Z,96nm,1.0s
BRVK Borovoye 126.51 316 P **PKPdf** **23 15 56.3 -0.9**
NEEM North Greenlan 126.84 13 *i* P **PKPdf** **23 15 57.0 -0.6**
NEEM IAmb IAmb 23 15 59.2
comp=Z,48nm,0.7s
HAL Halifax 126.93 55 PKPdf **PKPdf** **23 15 58.4 +0.1**
HAL Halifax 126.93 55 PKIKP **PKPdf** **23 15 58.4 +0.1**
HAL MLR MLR
comp=Z,2µm,18.0s
UPNV Upernavik 127.65 19 *i* P **PKPdf** **23 15 58.7 -0.2**
NGCH Negor - Chabah 128.30 280 P **PKiKP** **23 16 01.9 -0.3**
GBN Guysborough 128.49 54 PKPdf **PKPdf** **23 16 01.3 +0.1**
LSZ Lusaka 128.51 212 PKPdf **PKPdf** **23 16 02.1 -0.3**
LSZ IAMs_20 IAMs_20 00 06 46.9
comp=Z,1µm,20.0s
LSZ Lusaka 128.51 212 PKP **PKPdf** **23 16 02.4 0.0**
comp=Z,19nm,0.7s,baz=174,slow=2.3,SNR=19
LSZ Lusaka 128.51 212 P **PKiKP** **23 16 03.0 0.0**
JLN Jalan Bani Buh 128.67 275 P **PKPdf** **23 16 01.9 -0.5**
SNR=6.7
RCBR Riachuelo 128.76 128 IAMs_20 IAMs_20 00 11 20.8
comp=Z,954nm,19.0s
TSUM Tsumeb 128.86 199 PKPdf **PKPdf** **23 16 01.7 -1.3**
TSUM Tsumeb 128.86 199 IAMs_20 IAMs_20 00 07 31.0
comp=Z,1µm,20.0s
TSUM Tsumeb 128.86 199 PKP **PKPdf** **23 16 02.9 -0.1**
comp=Z,4.3nm,0.5s,baz=131,slow=5.2,SNR=5.1
TSUM PP **PP** **23 18 06.5 -2.0**
comp=Z,16nm,0.8s,baz=123,slow=8.0,SNR=7.0
WBK Wadi Bani Khal 129.21 276 P **PKPdf** **23 16 02.9 -0.5**

DQM DQM 129.45 272 P **PKPdf** **23 16 03.7 -0.2**
SNR=5.1
MHTO MHTO 129.48 273 P **PKPdf** **23 16 02.9 -1.0**
SNR=11
WSAR Wadi Sarin 129.73 276 P **PKPdf** **23 16 04.1 -0.3**
HRA Herat 129.85 291 PKPdf **PKPdf** **23 16 03.3 -1.2**
HRA IAMs_20 IAMs_20 00 13 44.8
comp=Z,1µm,21.0s
JMDO Jabal Madar 129.88 275 P **PKPdf** **23 16 04.0 -0.6**
SNR=5.7
SMDO Samad 130.17 276 P **PKPdf** **23 16 04.8 -0.5**
SNR=11
BIDO Bidbid 130.26 276 P **PKPdf** **23 16 04.1 -1.2**
SNR=7.8
SHAO Shalim 130.35 269 P **PKPdf** **23 16 05.7 +0.1**
ILULI Ilulissat 130.54 22 **PKPdf** **23 16 04.5 +0.1**
ILULI Ilulissat 130.54 22 PKIKP **PKPdf** **23 16 04.5 +0.1**
ILULI Ilulissat 130.54 22 *i* P **PKPdf** **23 16 04.7 +0.3**
BSY Bisya 130.79 275 P **PKPdf** **23 16 05.5 -0.9**
SNR=8.4
KBS Kingsbay 130.90 358 *e*PKPdf **PKiKP** **23 16 06.0 +0.2**
KBS *e*SS SS 23 35 54.1 +5.3
JASK Jask - Hormozg 131.26 279 P **PKiKP** **23 16 07.7 -0.4**
RBK Rabkut 131.36 267 P **PKPdf** **23 16 07.2 -0.4**
SNR=7.5
SPA0 Spitsbergen Ar 131.42 356 *e*PKPdf **PKiKP** **23 16 06.6 -0.3**
SPITS Spitsbergen Ar 131.42 356 PKhKP PKPpre 23 15 55.3
comp=Z,3.6nm,0.6s,baz=98,slow=6.0,SNR=4.6
SPITS PKP **PKPdf** **23 16 06.0 0.0**
comp=Z,33nm,0.7s,baz=54,slow=7.3,SNR=18
SPB2 Spitsbergen Ar 131.43 356 PKPdf **PKPdf** **23 16 06.1 +0.1**
SFJD Kangerlussuaq 131.57 25 PKPdf **PKPdf** **23 16 06.4 0.0**
SFJD Kangerlussuaq 131.57 25 PKIKP **PKPdf** **23 16 06.4 0.0**
ARQ Araqi 131.58 276 P **PKPdf** **23 16 06.4 -1.5**
SNR=8.1
SOHO SOHO 131.84 277 PKPdf **PKPdf** **23 16 06.3 -2.0**
SOHO SOHO 131.84 277 P **PKPdf** **23 16 06.9 -1.4**
DOK Doka 131.89 269 P **PKPdf** **23 16 07.8 -0.8**
SNR=6.4
SVE Sverdlovsk 131.89 321 *e*PKIKP **PKPdf** **23 16 06.2 -1.2**
SVE pmax pmax
comp=Z,43nm,0.8s
WHFO Wadi Hawf 131.91 268 P **PKPdf** **23 16 07.8 -0.9**
SNR=5.0
ABTO Aybut 132.09 267 P **PKPdf** **23 16 08.7 -0.3**
SNR=6.0
NUUK Nuuk 132.13 29 *i* P **PKiKP** **23 16 08.5 -0.1**
HOPEN Hopen 132.29 353 IAMs_20 IAMs_20 00 02 29.1
comp=Z,5µm,4.3s
SUMG Summit 132.31 15 PKPdf **PKPdf** **23 16 07.7 -0.6**
SUMG Summit 132.31 15 PKIKP **PKPdf** **23 16 07.7 -0.6**
SUMG Summit 132.31 15 *i* P **PKPdf** **23 16 08.7 +0.4**
UOSS Minazif 132.39 277 IAMs_20 IAMs_20 00 08 22.4
comp=Z,1µm,22.0s
HATD Hatta, Dubai 132.41 277 PKPdf **PKPdf** **23 16 08.1 -1.2**
HATD Hatta, Dubai 132.41 277 P **PKPdf** **23 16 07.9 -1.5**
SNR=11
MDH Madha 132.42 278 PKPdf **PKPdf** **23 16 06.0 -3.4**
MDH Madha 132.42 278 P **PKPdf** **23 16 08.4 -0.9**
ASHO Ashiyiah 132.43 277 PKPdf **PKPdf** **23 16 06.4 -3.1**
ASHO Ashiyiah 132.43 277 P **PKPdf** **23 16 09.4 -0.1**
SNR=8.6
ALNE Al Ain 132.49 276 P **PKPdf** **23 16 09.5 -0.1**
SNR=9.8
UMZA Um Al Zommool 132.54 274 P **PKPdf** **23 16 08.4 -1.3**
SHME Shamm 132.79 279 PKPdf **PKPdf** **23 16 09.3 -0.7**
SHME Shamm 132.79 279 P **PKPdf** **23 16 09.9 -0.2**
FAQ Al Faqa, Dubai 132.85 277 PKPdf **PKPdf** **23 16 08.1 -2.1**
FAQ Al Faqa, Dubai 132.85 277 P **PKPdf** **23 16 09.1 -1.1**
NAZ Nazwa, Dubai 132.87 277 PKPdf **PKPdf** **23 16 09.1 -1.1**
NAZ Nazwa, Dubai 132.87 277 P **PKPdf** **23 16 09.3 -0.9**
SNR=5.9
ABKAR Akbulak array 132.99 311 **PKPdf** **23 16 08.8 -0.8**
ABKAR Akbulak array 132.99 311 **PKPdf** **23 16 08.4 -1.3**
ASUD Al Ashush, Dub 133.04 277 PKPdf **PKPdf** **23 16 09.1 -1.4**
ASUD Al Ashush, Dub 133.04 277 P **PKiKP** **23 16 11.3 -0.4**
ARU Arti 133.09 321 **PKPdf** **23 16 08.9 -0.8**
ARU Arti 133.09 321 *i* PKIKP **PKPdf** **23 16 08.8 -0.8**
ARU 23 18 31.4
KIBK Kibwezi 133.13 233 IAMs_20 IAMs_20 00 14 20.4
comp=Z,1µm,20.0s
KIBK Kibwezi 133.13 233 P **PKPdf** **23 16 11.5 +0.3**
DY2G Dye2 133.36 25 *i* P **PKPdf** **23 16 09.7 -0.5**
GEYT Alibeck 133.76 295 **PKPdf** **23 16 10.8 -0.8**
GEYT Alibeck 133.76 295 PKIKP **PKPdf** **23 16 10.8 -0.8**
GEYT Alibeck 133.76 295 PKhKP PKPpre 23 15 57.3
comp=Z,4.6nm,0.7s,baz=101,slow=6.2,SNR=9.7
GEYT PKP **PKPdf** **23 16 10.6 -1.0**
comp=Z,27nm,0.7s,baz=79,slow=3.2,SNR=32
GEYT SKPbc **SKPbc** **23 19 35.4 -2.2**
comp=Z,44nm,1.1s,baz=11,slow=3.0,SNR=16
ICESG Greenland Ices 134.15 20 *i* P **PKPdf** **23 16 12.0 +0.2**
KMBO Kilima Mbogo 134.55 233 PKPdf **PKPdf** **23 16 13.4 -0.7**
KMBO Kilima Mbogo 134.55 233 IAMs_20 IAMs_20 00 11 37.3
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 134.55 233 PKIKP **PKPdf** **23 16 13.4 -0.7**
KMBO Kilima Mbogo 134.55 233 PKiKP **PKPdf** **23 16 14.5 +0.4**
KMBO Kilima Mbogo 134.55 233 PKhKP PKPpre 23 16 01.8
comp=Z,1.0nm,0.8s,baz=59,slow=15,SNR=2.2
KMBO PKP **PKPdf** **23 16 11.6 -2.5**
comp=Z,7.3nm,1.0s,baz=91,slow=1.5,SNR=7.2
KMBO SKPbc **SKPbc** **23 19 38.2 -3.0**
comp=Z,19nm,1.0s,baz=117,slow=3.3,SNR=20
KMBO Kilima Mbogo 134.55 233 P **PKiKP** **23 16 15.0 -0.4**
KMBO Kilima Mbogo 134.55 233 *e*P PKPdf 23 16 06.0 -8.1
NRS Narsarsuaq 135.92 31 *i* P **PKiKP** **23 16 16.3 -0.1**
SLWR Sila 136.00 274 P **PKPdf** **23 16 15.2 -0.9**
ISOG Isortoq, Green 136.40 24 *i* P **PKiKP** **23 16 16.5 -0.7**
HARA HARA 136.64 250 *e*P **PKiKP** **23 16 21.0 +1.4**
ANGG Ammassalik, Gr 136.82 23 *i* P **PKPdf** **23 16 17.0 +0.7**
VADS Vadso 137.15 347 *e* **PKPdf** **23 16 10.1 -6.7**
SCO Scoresbysund 137.32 12 *i* P **PKPdf** **23 16 18.0 +0.9**
SAKB Bahrain 137.58 277 P **PKPdf** **23 16 18.9 -0.1**
HAMF Hammerfest 137.70 350 *e*PKPdf **PKPdf** **23 16 18.4 +0.5**
HAMF *e* 23 42 06.5
ATD Arta Tunnel 138.22 253 P **PKPdf** **23 16 21.5 +1.0**
APA Apatity 138.23 343 ⇓ *i*PKHKP PKPpre 23 16 09.8
APA *i* 23 19 16.7
APA *i* 23 23 25.0
APA pmax pmax
comp=Z,22nm,0.8s
ARA0 ARCESS Array S 138.37 348 *e* PKPpre 23 16 10.2
ARCES ARCESS Array B 138.37 348 PKhKP PKPpre 23 16 07.5
comp=Z,15nm,0.6s,baz=53,slow=1.9,SNR=48
ARCES SKPbc **SKPbc** **23 19 49.2 -1.4**
comp=Z,6.7nm,0.8s,baz=108,slow=0.4,SNR=4.8
LODK Lodwar 139.08 236 P **PKPdf** **23 16 23.1 +0.9**
JETT Jettan, Norway 139.18 350 *e*PKPdf PKPpre 23 16 16.7
KTK1 Kautokeino 139.22 349 *e*PKPdf PKPpre 23 16 12.4
KTK1 IAmb IAmb 23 16 28.4
comp=Z,41nm,1.2s
MBAR Mbarara 139.26 227 IAMs_20 IAMs_20 00 21 17.9
comp=Z,1µm,20.0s
MBAR Mbarara 139.26 227 ⇑ *i*PKIKP **PKPdf** **23 16 22.0 -0.7**
MBAR Mbarara 139.26 227 P **PKPdf** **23 16 23.6 +0.9**
TRO Tromso 139.31 351 *e* PKPpre 23 16 12.6
FURI Furi 140.11 246 *e*P PKPpre 23 16 12.8
WLRA Wolmera 140.21 246 *e*P PKPpre 23 16 14.0
DESE Dese 140.63 249 *e*P **PKiKP** **23 16 28.4 +0.5**
KLMR Klimovskoe 140.67 332 *e*PKIKP **PKPdf** **23 16 20.5 -3.0**
KLMR pmax pmax
comp=Z,63nm,0.8s
LKRN Lenkeran, Azer 141.14 296 PKIKP **PKPdf** **23 16 24.8 -0.3**
LOF Lofoten 141.37 353 *e*PKPdf PKPpre 23 16 20.6
STEI Steigen 141.38 352 *e*PKPdf PKPpre 23 16 20.3
FAUS Fauske 141.90 352 *e*PKPdf PKPpre 23 16 20.1
MAK Makhachkala 142.00 302 *i* P **Pdif** **23 13 43.9 -2.6**
MAK *e* 23 19 33.0
MAK *e*PPP PPP 23 22 39.8
SEKA Sheki 142.34 300 PKIKP **PKPdf** **23 16 26.8 -0.5**
MNGR Mingechevir, A 142.44 299 PKIKP **PKPdf** **23 16 27.1 -0.2**
ZKTA Zakatala 142.75 300 PKIKP **PKPdf** **23 16 28.1 +0.2**
KONS Konsvik 142.99 353 *e*PKPdf **PKPdf** **23 16 24.8 -2.7**
GANJ Ganja 143.03 299 PKIKP **PKPdf** **23 16 28.1 -0.4**
STOK Stokkvaagen 143.16 353 *e*PKPdf PKPbc 23 16 25.0 +0.2
NAX Nakhchivan 143.71 296 PKIKP **PKPdf** **23 16 29.3 -0.5**
VRH Novokhopyorsk 144.07 317 *e*PKIKP **PKPab** **23 16 26.1 -1.3**
VRH pmax pmax
comp=Z,100nm,0.6s
GNI Garni 144.26 298 PKPdf **PKPab** **23 16 28.1 -0.6**
GNI Garni 144.26 298 IAMs_20 IAMs_20 00 24 56.8
comp=Z,1µm,21.0s
GNI Garni 144.26 298 PKIKP **PKPab** **23 16 28.2 -0.6**

GNI Garni 144.26 298 PKPdf **PKPab** **23 16 26.1 -2.7**
GNI Garni 144.26 298 P PKPbc 23 16 29.1 0.0
MOS Moscow 144.29 326 *i* PKHKP PKPpre 23 16 24.0
MOS pmax pmax
comp=Z,118nm,0.6s
GRD1 Great Renaissa 144.30 245 *e*P **PKiKP** **23 16 41.2 +6.1**
TASB TASBURUN-IGDIR 144.65 298 *e*P **PKPab** **23 16 29.7 -0.4**
ZEI Tsey 144.66 303 *i* PKHKP PKPpre 23 16 27.3
ZEI pmax pmax
comp=Z,70nm,0.7s
GOF Gofitskoye 144.91 307*c i*PKIKP **PKPab** **23 16 29.6 -1.2**
FIA1 FINESS Array S 144.98 340 PKPdf **PKPbc** **23 16 29.0 -1.5**
FINES FINESS Array B 144.98 340 PKPdf **PKPbc** **23 16 28.9 -1.6**
FINES FINESS Array B 144.98 340 PKIKP **PKPbc** **23 16 28.9 -1.6**
FINES FINESS Array B 144.98 340 PKP **PKPbc** **23 16 29.2 -1.3**
comp=Z,482nm,0.6s,baz=58,slow=3.2,SNR=1965
ONI Oni 145.01 302 *e*P PKPbc 23 16 30.8 -0.5
ONI Oni 145.01 302 PKPdf **PKPbc** **23 16 30.4 -0.9**
ONI IAMs_20 IAMs_20 00 21 37.4
comp=Z,1µm,22.0s
ONI Oni 145.01 302 PKIKP **PKPbc** **23 16 30.4 -0.9**
ONI MLR MLR
comp=Z,1µm,22.0s
NSS Namsos 145.03 353 *e*PKPbc **PKPbc** **23 16 30.1 -0.5**
NSS IAmb IAmb 23 16 30.5
comp=Z,662nm,0.7s
AKH Akhalkalaki 145.11 300 *e*P **PKPbc** **23 16 31.5 -0.3**
AKH Akhalkalaki 145.11 300 **PKPbc** **23 16 30.8 -1.0**
AKH Akhalkalaki 145.11 300 PKIKP **PKPbc** **23 16 30.8 -1.0**
LPSR Galich'ya Gora 145.11 321 *e*PKIKP **PKPbc** **23 16 29.5 -1.7**
LPSR pmax pmax
comp=Z,250nm,0.8s
OBN Obninsk 145.13 326 ⇑ P **PKPbc** **23 16 30.0 -1.2**
OBN Obninsk 145.13 326 **PKPbc** **23 16 29.3 -1.9**
OBN Obninsk 145.13 326*c i*PKIKP **PKPbc** **23 16 29.9 -1.2**
OBN pmax pmax
comp=Z,248nm,0.9s
CUKT Cukurca 145.20 293 *e*P **PKPbc** **23 16 30.9 -1.3**
KBZ Khabaz 145.25 304 PKP **PKPbc** **23 16 30.7 -1.2**
comp=Z,47nm,0.8s,baz=151,slow=2.1,SNR=93
VORR Voronezh 145.35 319 *e*PKIKP **PKPbc** **23 16 30.6 -1.4**
VORR pmax pmax
comp=Z,360nm,0.6s
KIV Kislovodsk 145.36 305 ⇑ P **PKPbc** **23 16 31.2 -1.2**
KIV Kislovodsk 145.36 305 **PKPbc** **23 16 30.8 -1.6**
KIV Kislovodsk 145.36 305 *e*PKP2 **PKPbc** **23 16 29.7 -2.7**
KIV *i* 23 16 33.5
KIV *e* 23 19 47.8
KIV *e*SS SS 23 38 35.4 -6.8
KIV pmax pmax
comp=Z,134nm,1.1s
KIV Kislovodsk 145.36 305 PKPbc **PKPbc** **23 16 30.1 -2.3**
KIV Kislovodsk 145.36 305 P **PKPbc** **23 16 31.5 -0.9**
VANB Van 145.36 295 *e*P **PKPbc** **23 16 31.7 -0.9**
KARS Kars 145.49 299 *e*P **PKPdf** **23 16 32.9 0.0**
KARS Kars 145.49 299 **PKPdf** **23 16 31.3 -1.6**
KARS Kars 145.49 299 PKIKP **PKPdf** **23 16 31.3 -1.6**
VSR Storozhevoye 145.56 318 *e*PKP2 **PKPdf** **23 16 30.4 -2.0**
VSR pmax pmax
comp=Z,310nm,0.6s
VORD Divnogorie 145.58 318 *e*PKP2 **PKPdf** **23 16 30.8 -1.7**
VORD pmax pmax
comp=Z,180nm,0.6s
AGRB Hanur-Agry 145.63 297 *e*P **PKPdf** **23 16 32.9 -0.3**
AKDM Akdamar-Van 145.69 295 *e*P **PKPdf** **23 16 32.6 -0.8**
MLAZ Malazgirt-MUS 146.00 296 *e*P **PKPbc** **23 16 34.5 -0.2**
SENK Senkaya-Erzuru 146.05 299 *e*P **PKPdf** **23 16 33.7 -0.2**
GURO Guroymak-BITLI 146.43 295 *e*P **PKPdf** **23 16 33.4 -1.2**
BATM Batumi 146.43 301 *e*P **PKPdf** **23 16 34.2 -0.1**
TBLU Trondheim 146.45 354 *e*PKPdf **PKPdf** **23 16 33.8 +0.2**
MEF Metsahovi 146.46 340 *e*P **PKPdf** **23 16 33.6 -0.1**
KOPR Koprukoy-ERZUR 146.48 298 *e*P **PKPbc** **23 16 35.4 -0.7**
BCA Borcka 146.50 301 ⇑ P **PKPdf** **23 16 34.4 -0.1**
BCA Borcka 146.50 301 *e*P **PKPbc** **23 16 35.3 -0.6**
RAF Rauma 146.51 343 *e*P **PKPdf** **23 16 32.7 -1.0**
VRTB Varto-Mus 146.84 296 *e*P **PKPbc** **23 16 36.7 -0.4**
VSU Vasula 147.10 337 *e*P **PKPdf** **23 16 35.8 +1.0**
SVAN Silvan-Diyarba 147.10 295 *e*P **PKPdf** **23 16 35.1 -0.5**
KARO Karliova-Bingo 147.15 297 *e*P **PKPdf** **23 16 35.8 0.0**
CHOM Cayeli-Rize 147.19 300 *e*P **PKPdf** **23 16 35.1 -0.5**
MOL Molde 147.34 356 *e*PKPbc **PKPbc** **23 16 36.9 -0.7**
MOL IAmb IAmb 23 16 42.2
comp=Z,201nm,1.1s
SOC Sochi 147.54 305 *e*PKIKP **PKPdf** **23 16 34.6 -1.4**
SOC *e* 23 20 07.6
SOC *e*PPP PPP 23 23 22.8
SOC *e*SS SS 23 38 56.9 -10
SOC *e*SSS SSS 23 44 38.0
SOC pmax pmax
comp=Z,80nm,0.6s
MAZI Mazidag 147.72 293 *e*P **PKPdf** **23 16 35.9 -0.8**
DOMB Dombas 147.75 354 *e*PKPdf **PKPbc** **23 16 37.4 -1.4**
DOMB IAmb IAmb 23 16 41.0
comp=Z,114nm,0.8s
AKN Aaknes 147.77 356 *e*PKPbc **PKPbc** **23 16 38.5 -0.2**
MTSE Matsula 147.86 339 *e*P **PKPbc** **23 16 37.9 -1.2**
DYBB Diyarbakir 147.94 294 *e*P **PKPdf** **23 16 35.5 -1.5**
KTUT Trabzon 147.95 300 ⇓ P **PKPbc** **23 16 39.6 -0.3**
KTUT Trabzon 147.95 300 *e*P **PKPbc** **23 16 39.4 -0.5**
NC303 NORSAR Array S 148.31 352 **PKPdf** **23 16 35.6 -1.2**
FOO Floro 148.44 358 *e*PKPbc **PKPbc** **23 16 40.5 0.0**
PTK Pertek 148.47 296 *e*P **PKPdf** **23 16 37.7 -0.3**
NB2 NORSAR Subarra 148.50 352 PKP **PKPbc** **23 16 40.0 -0.8**
comp=Z,232nm,1.0s,baz=12,slow=2.7
NB2 NORSAR Subarra 148.50 352 PKPab **PKPbc** **23 16 40.0 -0.8**
baz=12,slow=2.7
NOA NORSAR Array B 148.50 352 PKPbc **PKPbc** **23 16 39.2 -1.5**
comp=Z,75nm,0.7s,baz=11,slow=4.1,SNR=214
ESPY Espiye-Giresun 148.74 300 *e*P **PKPbc** **23 16 40.6 -1.4**
NC602 NORSAR Array S 148.76 351 *e*PKPbc **PKPbc** **23 16 40.3 -1.1**
HYA Hoyanger 148.82 356 *e*PKPbc **PKPbc** **23 16 41.7 +0.2**
HYA IAmb IAmb 23 16 49.7
comp=Z,173nm,1.3s
ANN Anapa 148.84 308 *e*PKP2 **PKPbc** **23 16 40.7 -1.4**
ANN pmax pmax
comp=N,68nm,0.6s
ANN pmax pmax
comp=Z,403nm,0.8s
ANN pmax pmax
comp=E,58nm,0.6s
ANN MLR MLR
comp=Z,1µm,18.0s
SUE Sulen 149.00 358 *e*PKPbc **PKPbc** **23 16 41.6 -0.3**
URFA Urfa 149.01 293 *e*P **PKPdf** **23 16 38.2 -0.6**
HFS Hagfors 149.02 349 PKPbc **PKPbc** **23 16 40.9 -1.1**
comp=Z,160nm,0.7s,baz=90,slow=4.3,SNR=114
ILIC Ilic-Erzincan 149.05 297 *e*P **PKPbc** **23 16 42.7 -0.3**
SKAR Skarslia 149.16 354 *e*PKPbc **PKPbc** **23 16 42.2 -0.2**
SKAR IAmb IAmb 23 16 47.5
comp=Z,217nm,1.1s
SLIT Slitere, Latvi 149.21 339 *e*P **PKPdf** **23 16 39.9 +1.6**
ARPR Arapgir-MALATY 149.27 297 *e*P **PKPbc** **23 16 42.7 -0.9**
ARPR Arapgir-MALATY 149.27 297 PKPdf **PKPdf** **23 16 38.2 -1.1**
ARPR PKPbc **PKPbc** **23 16 43.5 -0.1**
ARPR IAMs_20 IAMs_20 00 29 39.5
comp=Z,953nm,20.0s
MNK Minsk 149.50 330 *i* PKP2 **PKPbc** **23 16 42.8 -0.6**
MNK *i* 23 20 17.9
MNK pmax pmax
comp=N,52nm,1.0s
MNK pmax pmax
comp=E,23nm,1.0s
MNK pmax pmax
comp=Z,252nm,1.0s
ASK Askoy 149.55 357 *e*PKPbc **PKiKP** **23 16 44.2 -0.1**
OSL Oslo 149.64 352 *e*PKPdf **PKPdf** **23 16 38.3 -0.6**
OSL *e*PKPbc **PKPbc** **23 16 43.6 +0.1**
OSL IAmb IAmb 23 16 43.7
comp=Z,120nm,0.9s
BER Bergen 149.65 357 IAmb IAmb 23 16 43.3
comp=Z,194nm,1.4s
BER *e*PKPbc **PKPbc** **23 16 43.8 +0.2**
RSDY Resadiye-TOKAT 149.87 299 *e*P **PKPbc** **23 16 44.6 -0.3**
VSVD Vaisvydziai 149.98 336 *e*P **PKPbc** **23 16 43.8 -0.7**
DARE Darende-Malaty 149.98 296 *e*P **PKPbc** **23 16 44.9 -0.4**
ODD1 Odda 150.05 356 *e*PKPdf **PKPbc** **23 16 42.4 -2.3**
ODD1 IAmb IAmb 23 16 45.3
comp=Z,161nm,0.9s
KONO Kongsberg 150.05 353 **PKPbc** **23 16 43.6 -1.0**
KONO Kongsberg 150.05 353 PKP2 **PKPbc** **23 16 43.6 -1.0**
KONO Kongsberg 150.05 353 *e*PKPbc **PKPbc** **23 16 43.9 -0.7**
SVSK Karacayir 150.19 299 *e*P **PKPdf** **23 16 40.2 -0.2**
GAZ Gaziantep 150.31 293 *e*P **PKPdf** **23 16 40.0 -0.9**

GAZ Gaziantep 150.31 293 PKPdf PKPdf 23 16 38.8 -2.0
GAZ PKPbc PKPbc 23 16 45.9 -0.1
GAZ IAMs_20 IAMs_20 00 35 54.3
comp=Z,1μm,20.0s
PABE Paberze 150.33 335 PKPdf 23 16 38.6 -1.5
PABE PKPbc PKPbc 23 16 44.7 -0.7
PABE Paberze 150.33 335 *e*P **PKPbc 23 16 44.6 -0.7**
TOKT Tokat 150.47 300 *e*P **PKPbc 23 16 45.7 -0.6**
KMRS Kahramanmaras 150.53 294 *e*P **PKPbc 23 16 45.4 -1.2**
BLS5 Blasjo 150.55 356 *e*PKPbc **PKPbc 23 16 46.0 +0.2**
BLS5 IAmb IAmb 23 16 52.6
comp=Z,157nm,0.8s
BLS5 *e*PKPab **PKPab 23 16 53.0 +0.5**
PBUR Paburge 150.63 338 *e*P **PKPbc 23 16 45.2 -0.8**
KVT Kavak 150.71 301 *e*P **PKPdf 23 16 40.4 -0.9**
KMY Karmoy 150.82 357 *e*PKPbc **PKiKP 23 16 46.8 -0.2**
SARI SarD1z-Kayseri 150.83 296 *e*P **PKPdf 23 16 40.8 -1.0**
SIM Simferopol' 151.04 310 *i* PKIKP **PKPbc 23 16 46.8 -0.6**
SIM *e* 23 16 55.5
SIM pmax pmax
comp=Z,277nm,0.6s
DIKM Dikmen 151.17 303 ⇓P **PKPbc 23 16 47.6 -0.3**
DIKM Dikmen 151.17 303 *e*P **PKPbc 23 16 47.4 -0.5**
TAHT Tahtakopru-Hat 151.18 292 *e*P **PKPdf 23 16 40.8 -1.3**
BEIL Beino 151.21 288 *e*P **PKPbc 23 16 48.0 -0.2**
BNN Bunyan 151.22 297 *e*P **PKPbc 23 16 47.3 -1.0**
AKASG Malin Array Be 151.28 323 PKPdf 23 16 39.9 -1.9
AKASG PKPbc **PKPbc 23 16 45.5 -2.3**
AKASG Malin Array Be 151.28 323 PKIKP **PKPbc 23 16 45.5 -2.3**
AKASG Malin Array Be 151.28 323 PKP **PKPdf 23 16 39.8 -2.0**
comp=Z,7.8nm,0.8s,baz=58,slow=1.5,SNR=14
AKASG PKPbc **PKPbc 23 16 46.7 -1.1**
comp=Z,176nm,0.6s,baz=46,slow=2.8,SNR=197
AKBB Malin Array Si 151.28 323 PKPdf PKPdf 23 16 39.9 -1.9
AKBB PKPbc **PKPbc 23 16 46.7 -1.1**
AKBB Malin Array Si 151.28 323 PKIKP **PKPdf 23 16 39.9 -1.9**
AKBB 23 16 46.7
KIEV Kiev 151.29 323 ⇑P **PKPbc 23 16 46.6 -1.1**
KIEV Kiev 151.29 323 PKPdf **PKPdf 23 16 40.1 -1.6**
KIEV PKPbc **PKPbc 23 16 46.4 -1.4**
KIEV Kiev 151.29 323 PKIKP **PKPdf 23 16 40.2 -1.6**
KIEV 23 16 46.4
KIEV Kiev 151.29 323 PKPbc **PKPbc 23 16 45.9 -1.9**
KOZT Kozan 151.39 294 *e*P **PKPbc 23 16 47.7 -0.8**
HWQ Hawqa 151.40 287 *e*P **PKPbc 23 16 47.9 -0.8**
RCY Rachaya 151.47 286 *e*P **PKPbc 23 16 48.4 -0.6**
CEYT Ceyhan 151.49 293 *e*P **PKPbc 23 16 48.5 -0.2**
HOMB Homborsund 151.52 353 *e*PKPbc **PKPbc 23 16 47.9 -0.2**
HOMB IAmb IAmb 23 16 48.6
comp=Z,330nm,1.0s
GHAJ Ghor Haditha 151.53 281 PKPdf 23 16 41.9 -0.9
SNART Snartemo 151.57 355 *e*PKPbc **PKPbc 23 16 47.9 -0.2**
SNART IAmb IAmb 23 16 53.2
comp=Z,683nm,1.2s
QRWL Qaraoun 151.60 286 *e*P **PKPbc 23 16 48.9 -0.3**
BHL Bhannes 151.64 286 *e*P **PKPbc 23 16 48.7 -0.6**
MMLI Mount Malkishu 151.76 283 *e*P **PKPbc 23 16 49.2 -0.4**
SUW Suwalki 151.77 334 *e*PKP **PKPdf 23 16 44.8 +2.4**
SUW Suwalki 151.77 334 *e*P **PKPdf 23 16 44.8 +2.4**
MMAI Mount Meron Ar 151.81 285 PKPbc **PKPbc 23 16 49.9 +0.1**
comp=Z,192nm,0.6s,baz=80,slow=6.3,SNR=241
HRFI Mount Harif 151.83 278 *e*P **PKPdf 23 16 40.6 -2.7**
EIL Elat 151.84 277 *e*P **PKPdf 23 16 39.8 -3.5**
CORM Corum 151.94 300 *e*P **PKPbc 23 16 49.6 -0.2**
KARA Karaisali 152.02 294 *e*P **PKPbc 23 16 49.0 -1.0**
CMRD Camardi-Nigde 152.03 294 *e*P **PKPbc 23 16 49.7 -0.4**
GULA Gulagac 152.54 296 *e*P **PKPbc 23 16 50.3 -0.9**
BR131 Keskin Array S 152.78 299 *e*P **PKPbc 23 16 49.7 -2.1**
BR131 Keskin Array S 152.78 299 PKPdf **PKPdf 23 16 42.5 -2.1**
BR131 PKPbc **PKPbc 23 16 50.8 -1.0**
BR131 Keskin Array S 152.78 299 PKIKP **PKPbc 23 16 50.8 -1.0**
BR131 Keskin Array S 152.78 299 P **PKPdf 23 16 43.0 -1.6**
SNR=36
BRTR Keskin Array B 152.78 299 PKPdf **PKPdf 23 16 42.2 -2.4**
BRTR PKPbc **PKPbc 23 16 50.8 -1.0**
BRTR Keskin Array B 152.78 299 PKP **PKPdf 23 16 43.0 -1.6**
comp=Z,5.4nm,1.0s,baz=120,slow=1.7,SNR=17
BRTR PKPbc **PKPbc 23 16 50.5 -1.3**
comp=Z,61nm,0.8s,baz=127,slow=3.8,SNR=57
YAYX Yaylak 152.78 297 *e*P **PKPdf 23 16 42.3 -2.3**
KIZK Mersin 152.81 292 *e*P **PKPbc 23 16 50.5 -1.2**
ERN Erenkoy 152.85 290 *e*P **PKPbc 23 16 51.2 -0.6**
KURC Kurucasile-Bar 152.95 304 *e*P **PKPbc 23 16 50.8 -1.0**
SILI Silifke-Mersin 153.00 292 *e*P **PKPbc 23 16 51.8 -0.3**
PURM Purcari 153.12 315 ⇑P **PKPbc 23 16 51.2 -0.8**
SULT Sultanhani-AKS 153.12 296 *e*P **PKPbc 23 16 51.3 -1.2**
KEBE Keben-Mersin 153.16 292 *e*P **PKPbc 23 16 52.1 -0.5**
SORM Soroca 153.20 320 ⇓P **PKPbc 23 16 51.4 -0.8**
SORM Soroca 153.20 320 ⇓PKIKP **PKPbc 23 16 51.4 -0.8**
IKL Isikli 153.20 292 *e*P **PKPbc 23 16 49.9 -2.7**
MUD Monsted U'grnd 153.22 352 *i* P **PKPbc 23 16 51.8 -0.2**
AFSR Afar-Bala (An 153.26 299 *e*P **PKPbc 23 16 51.9 -0.9**
LFK Lefkose 153.38 289 *e*P **PKPbc 23 16 52.4 -0.7**
ANTO Ankara 153.39 300 ⇓P **PKPbc 23 16 52.8 -0.2**
ANTO Ankara 153.39 300 PKPdf 23 16 43.5 -1.9
ANTO PKPbc **PKPbc 23 16 51.9 -1.1**
ANTO Ankara 153.39 300 IAMs_20 IAMs_20 00 27 46.3
comp=Z,1μm,22.0s
ANTO Ankara 153.39 300 PKIKP **PKPbc 23 16 51.9 -1.1**
ANTO Ankara 153.39 300 P **PKPdf 23 16 44.9 -0.5**
KULU Kulu 153.39 298 *e*P **PKPbc 23 16 52.3 -0.8**
LOD Lodumlu 153.40 300 *e*P **PKPbc 23 16 51.9 -1.1**
BR231 Keskin MP Arra 153.41 300 PKPdf **PKPdf 23 16 43.9 -1.5**
BR231 **PKPbc 23 16 52.4 -0.7**
BSD Bornholm Skovb 153.44 344 *i* P **PKPbc 23 16 51.9 -0.6**
KRMN Karaman 153.45 294 *e*P **PKPbc 23 16 51.4 -1.9**
KIS Kishinev 153.52 317 ⇓P **PKPbc 23 16 52.2 -0.7**
KIS Kishinev 153.52 317 ⇓PKIKP **PKPbc 23 16 52.2 -0.7**
CHBY Cihanbeyli 153.55 297 *e*P **PKPbc 23 16 51.2 -2.2**
CSS Mathiatis 153.55 289 *e*P **PKPbc 23 16 52.2 -1.2**
MILM Milestii Mici 153.56 317 *e*PKP **PKPbc 23 16 51.6 -1.4**
comp=Z,150nm,0.6s
MILM *e*L L 00 21 32.0
MILM LRM MLR 00 23 08.0
comp=Z,2μm,20.0s
MILM Milestii Mici 153.56 317 ⇓P **PKPbc 23 16 52.2 -0.8**
MILM Milestii Mici 153.56 317 *e*PKIKP **PKPbc 23 16 51.6 -1.4**
MILM pmax pmax
comp=Z,150nm,0.6s
LEF Lefka 153.91 289 *e*P **PKPbc 23 16 53.2 -1.0**
LADK Ladik-KONYA 154.02 296 *e*P **PKPbc 23 16 53.0 -1.5**
YUVA Yuva-Kibriscik 154.09 301 *e*P **PKPbc 23 16 53.8 -0.8**
LEOM Leova 154.12 316 ⇓P **PKPbc 23 16 52.6 -1.6**
LEOM Leova 154.12 316 ⇓PKIKP **PKPbc 23 16 52.6 -1.6**
GAZI Gazipasa 154.30 292 *e*P **PKPbc 23 16 52.9 -2.1**
VASR Vaslui 154.31 317 ⇑P **PKPbc 23 16 53.5 -1.2**
TLCR 154.39 313 ⇓P **PKPbc 23 16 52.9 -1.9**
TLCR 154.39 313 ⇓PKIKP **PKPbc 23 16 52.9 -1.9**
LVV L'vov 154.43 326 *e*PKIKP **PKPdf 23 16 44.3 -2.1**
LVV 23 17 05.8
e
MDUB Mudurnu 154.44 302 *e*P **PKPbc 23 16 54.3 -1.0**
GKP Gorka Klasztor 154.44 339 *e*PKiKP **PKiKP 23 16 54.8 +0.1**
GKP Gorka Klasztor 154.44 339 *e*P **PKiKP 23 16 54.9 +0.1**
EKA Eskdalemuir Ar 154.46 7 PKP **PKPdf 23 16 46.5 +0.2**
comp=Z,4.1nm,0.8s,baz=333,slow=0.9,SNR=5.7
EKA PKPbc **PKPbc 23 16 54.5 -0.2**
comp=Z,8.5nm,0.7s,baz=316,slow=1.1,SNR=14
EKA PKPab **PKPab 23 17 09.0 -0.1**
comp=Z,44nm,0.7s,baz=333,slow=2.9,SNR=26
ESK Eskdalemuir 154.47 7 PKPdf 23 16 46.6 +0.3
ESK Eskdalemuir 154.47 7 PKIKP **PKPdf 23 16 46.6 +0.3**
VLDR Vladesti 154.54 315 ⇑P **PKPbc 23 16 54.2 -1.0**
SCTR Scanteiesti 154.67 315 ⇑P **PKiKP 23 16 55.8 +0.3**
TATR Tatarca 154.68 315 ⇓P **PKPbc 23 16 55.4 0.0**
CIFT Cifteler, Eski 154.80 299 *e*P **PKPdf 23 16 45.8 -1.6**
CFR Carcaliu 154.82 314 ⇑P **PKiKP 23 16 55.8 +0.1**
GHRR 154.84 316 ⇑P **PKiKP 23 16 55.8 0.0**
SCHLR Schela 154.87 315 ⇓P **PKPbc 23 16 55.7 -0.2**
SAUV Serdivan-Sakar 155.00 303 *e*P **PKPdf 23 16 55.2 +7.7**
TLBR Topalu 155.17 313 ⇑P PKPdf 23 16 55.8 +8.2
HARR Harsova 155.18 313 ⇓P PKPdf 23 16 56.4 +8.8
KWP Kalwaria Pacla 155.18 328 *e*PKPab **PKPab 23 17 11.9 -0.5**
BUR08 Bucovina Ar. S 155.22 321 PKPdf **PKPdf 23 16 47.3 -0.4**
BURAR Bucovina Array 155.23 321 PKPdf **PKPdf 23 16 46.7 -1.1**
LIC Lamto 155.24 162 ⇓*i*PKIKP **PKPdf 23 16 49.2 +0.5**
comp=Z,70nm,1.0s
VRI Vrincioaia 155.34 316 ⇓P PKPdf 23 16 56.1 +8.3
KIC Kosan Boka 155.44 163 ⇓*i*PKIKP **PKPdf 23 16 49.5 +0.5**
comp=Z,54nm,1.0s
ADVT Abdulvahap 155.52 302 *e*P PKPdf 23 16 57.1 +8.9
AMRR Amara 155.59 313 ⇑P PKPdf 23 16 56.2 +8.0
AMRR Amara 155.59 313 ⇑PKIKP PKPdf 23 16 56.2 +8.0
TIC Toumodi 155.64 162 ⇑*e*PKIKP **PKPdf 23 16 49.0 -0.2**
comp=Z,71nm,1.1s
DBIC Dimbokro 155.71 162 PKPdf **PKPdf 23 16 48.2 -1.1**
DBIC Dimbokro 155.71 162 PKP **PKPdf 23 16 49.0 -0.3**
comp=Z,9.5nm,0.7s,baz=167,slow=1.7,SNR=16
KORT Korkueli 155.78 294 *e*P **PKPdf 23 16 45.2 -3.7**
BOSR Bodos 155.86 318 ⇓P PKPdf 23 16 57.2 +8.7
KOLS Kolonicke sedl 155.87 327 *e*PKIKP **PKPdf 23 16 48.2 -0.2**
KOLS *e* 23 17 14.8
KOLS Kolonicke sedl 155.87 327 *e*PKP **PKPdf 23 16 48.2 -0.2**
KOLS *e* 23 17 14.8
MLR Muntele Rosu 156.01 316 PKPdf 23 16 47.5 -1.4
MLR Muntele Rosu 156.01 316 PKIKP **PKPdf 23 16 47.5 -1.4**
OJC Ojcow 156.02 332 PKPdf **PKPdf 23 16 47.3 -1.3**
OJC Ojcow 156.02 332 PKIKP **PKPdf 23 16 47.3 -1.3**
BMR Baia Mare 156.10 323 ⇓P **PKPdf 23 16 54.7 +5.9**
BMR Baia Mare 156.10 323 ⇓PKIKP **PKPdf 23 16 54.7 +5.9**
RUE Ruedersdorf 156.12 343 *e*P **PKPdf 23 16 52.4 +3.8**
CRVS Cervenica-Dubn 156.27 328 *e*PKIKP **PKPdf 23 16 48.8 -0.2**
CRVS *e* 23 17 00.3
CRVS Cervenica-Dubn 156.27 328 *e*PKP **PKPdf 23 16 48.8 -0.2**
CRVS *e* 23 17 00.2
CRVS *e* 23 17 17.1
LOZB Loznitsa 156.63 311 ⇑P **PKPab 23 17 18.1 -0.8**
CBBR Cluj-Babes-Bol 156.64 321 ⇓P **PKPdf 23 16 56.7 +7.2**
CJR Cluj-Napoca 156.65 321 ⇑P **PKPdf 23 16 53.8 +4.2**
CJR Cluj-Napoca 156.65 321 ⇑PKIKP **PKPdf 23 16 53.8 +4.2**
KSP Ksiaz 156.82 337 *e*PKPab **PKPab 23 17 19.2 -0.1**
ARR Arges 156.85 317 ⇑P **PKPdf 23 16 49.5 -0.4**
OKC Ostrava-Krasne 156.98 333 *e*PKP2 **PKPab 23 17 19.8 -0.3**
OKC Ostrava-Krasne 156.98 333 *e*PKPAB **PKPab 23 17 19.8 -0.3**
KECS Kecovo 157.02 328 *e*PKP **PKPab 23 17 20.2 -0.1**
OSTC Ostas 157.09 337 *e*PKIKP **PKPdf 23 16 49.4 -0.6**
OSTC Ostas 157.09 337 *e*PKPDF **PKPdf 23 16 49.4 -0.6**
OSTC *e*PKPAB **PKPab 23 17 19.7 -0.9**
HUMR Humele 157.09 315 ⇑P PKPdf 23 17 00.2 +10
CHVC Chvalec 157.12 337 *e*PKIKP **PKPdf 23 16 54.9 +4.9**
CHVC Chvalec 157.12 337 *e*PKPDF **PKPdf 23 16 54.9 +4.9**
CHVC *e*PKPAB **PKPab 23 17 20.6 -0.1**
COPA Copaceanca 157.15 314 ⇓P **PKPab 23 17 20.8 -0.3**
UPC Upice 157.20 337 *e*PKIKP **PKPdf 23 16 53.6 +3.5**
UPC Upice 157.20 337 *e*PKPDF **PKPdf 23 16 53.6 +3.5**
UPC *e*PKPAB **PKPab 23 17 21.0 0.0**
DPC Dobruska-Polom 157.23 337 *e*PKIKP **PKPdf 23 16 47.4 -2.8**
DPC Dobruska-Polom 157.23 337 *e*PKPDF **PKPdf 23 16 47.4 -2.8**
DPC *e*PKPAB **PKPab 23 17 21.1 -0.1**
MORC Moravsky Berou 157.26 334 PKPdf **PKPdf 23 16 49.0 -1.3**
MORC Moravsky Berou 157.26 334 *e*PKP **PKPdf 23 16 47.9 -2.4**
MORC *e* 23 17 20.7
MORC Moravsky Berou 157.26 334 PKIKP **PKPdf 23 16 49.0 -1.3**
KRLC Kraliky 157.30 336 *e*PKIKP **PKPdf 23 16 50.1 -0.2**
KRLC Kraliky 157.30 336 *e*PKPDF **PKPdf 23 16 50.1 -0.2**
KRLC *e*PKPAB **PKPab 23 17 20.8 -0.7**
ELND Elena 157.30 311 ⇓P **PKPdf 23 16 50.6 +0.1**
CLL Collm 157.39 343 *e*PKIKP **PKPdf 23 16 52.0 +1.7**
CLL *e* 23 17 01.0
CLL MLR MLR
comp=Z,1μm,19.1s
BRG Berggiesshubel 157.52 341 ⇓*i*PKPf **PKPdf 23 16 50.0 -0.5**
BRG Amp 23 16 51.2
comp=Z,29nm,1.4s
BRG Berggiesshubel 157.52 341 P **PKPdf 23 16 54.5 +4.0**
BRG Amp 23 16 55.9
comp=Z,15nm,1.1s
BRG ⇑PKP **pPKPdf 23 17 02.1 +1.0**
BRG Amp 23 17 06.3
comp=Z,13nm,0.8s
BRG PKPab **PKPab 23 17 22.6 +0.2**
BRG Amp 23 17 23.3
comp=Z,80nm,0.8s
BRG Berggiesshubel 157.52 341 *i* PKIKP **PKPdf 23 16 49.9 -0.5**
BRG pmax pmax
comp=Z,29nm,1.4s
PVCC Panska Ves 157.64 339 *e*PKIKP **PKPdf 23 16 53.3 +2.6**
PVCC Panska Ves 157.64 339 *e*PKPDF **PKPdf 23 16 53.3 +2.6**
PVCC *e*PKPAB **PKPab 23 17 23.1 +0.2**
PSZ Piszkesteto 157.71 328 ⇑P **PKPdf 23 16 49.7 -1.2**
PSZ Piszkesteto 157.71 328 PKPdf 23 16 49.4 -1.5
PSZ Piszkesteto 157.71 328 ⇑PKIKP **PKPdf 23 16 49.7 -1.2**
VYHS Vyhne 157.75 330 *e*PKIKP **PKPdf 23 16 50.2 -0.7**
VYHS *e* 23 17 01.8
VYHS Vyhne 157.75 330 *e*PKP **PKPdf 23 16 50.2 -0.7**
VYHS *e* 23 17 01.8
VYHS *e* 23 17 23.2
VYHS *e* 23 25 46.8
RICC Richard 157.77 340 *e*PKPDF **PKPdf 23 16 53.8 +3.0**
RICC *e*PKPAB **PKPab 23 17 23.6 -0.3**
HSKC Hora Svate Kat 157.91 341 *e*PKPAB **PKPab 23 17 23.6 -0.5**
JAVC Velka Javorina 157.95 332 *e*PKP **PKPdf 23 16 50.8 -0.4**
JAVC *e* 23 17 24.2
VRAC Vranov 158.00 335 *e*PKP **PKPdf 23 16 49.9 -1.3**
VRAC *e* 23 17 24.1
PRA Prague 158.09 339 *e*PKP2 **PKPab 23 17 24.7 -0.1**
PRA Prague 158.09 339 *e*PKPAB **PKPab 23 17 24.7 -0.1**
GOPC GO Pecny, Ondr 158.11 338 *e*PKIKP **PKPdf 23 16 58.3 +7.0**
GOPC *e* 23 17 24.8
GOPC GO Pecny, Ondr 158.11 338 *e*PKPDF **PKPdf 23 16 58.3 +7.0**
GOPC *e*PKPAB **PKPab 23 17 24.8 -0.2**
PRU Pruhonice 158.13 339 *e*PKPDF **PKPdf** 23 17 02.6 +11
PRU *e*PKPAB **PKPab 23 17 24.8 -0.2**
KRUC Moravsky 158.28 335 *e*PKP **PKPdf 23 16 48.9 -2.6**
KRUC *e* 23 17 24.9
BZS Buzias 158.41 321 ⇑P **PKPdf 23 16 51.0 -0.7**
BZS Buzias 158.41 321 ⇑PKIKP **PKPdf 23 16 51.0 -0.7**
HERR Herculane 158.42 319 ⇑P **PKPdf 23 16 55.6 +3.8**
MODS Modra-Piesok 158.49 332 *e*PKIKP **PKPdf 23 16 52.1 +0.3**
MODS *e* 23 17 27.0
MODS Modra-Piesok 158.49 332 *e*PKP **PKPdf 23 16 52.1 +0.3**
MODS *e* 23 17 27.0
SRO Srobarova 158.50 330 *e*PKP2 **PKPab 23 17 26.5 -0.2**
SRO Srobarova 158.50 330 *e*PKP **PKPab 23 17 26.5 -0.2**
NKC Novy Kostel 158.51 342 *e*PKIKP **PKPdf 23 16 53.8 +2.0**
NKC *e* 23 17 26.5
NKC Novy Kostel 158.51 342 *e*PKPDF **PKPdf 23 16 53.8 +2.0**
NKC *e*PKPAB **PKPab 23 17 26.5 -0.2**
ZST Bratislava 158.71 332 *e*PKP2 **PKPab 23 17 27.1 -0.5**
ZST Bratislava 158.71 332 *e*PKP **PKPab 23 17 27.1 -0.5**
ZVC Zvikov 158.72 338 *e*PKPDF **PKPdf 23 16 51.7 -0.3**
ZVC *e*PKPAB **PKPab 23 17 27.4 -0.2**
BEBN Eben Emael 159.18 354 *d*PKP **PKPab 23 17 28.5 -0.9**
KHC Kasperske Hory 159.18 339 PKPdf **PKPdf 23 16 51.1 -1.5**
KHC Kasperske Hory 159.18 339 *e*PKIKP **PKPdf 23 16 52.0 -0.6**
KHC *e* 23 17 29.4
KHC Kasperske Hory 159.18 339 *e*PKPDF **PKPdf 23 16 52.0 -0.6**
KHC *e*PKPAB **PKPab 23 17 29.4 -0.3**
CKRC Cesky Krumlov 159.22 337 *e*PKIKP **PKPdf 23 16 52.0 -0.6**
CKRC *e* 23 17 29.7
CKRC Cesky Krumlov 159.22 337 *e*PKPDF **PKPdf 23 16 52.0 -0.6**
CKRC *e*PKPAB **PKPab 23 17 29.7 -0.1**
GRA1 Grafenberg Arr 159.32 344 PKPab **PKPab 23 17 29.4 -0.8**
GRF Grafenberg Arr 159.32 344 PKP2 **PKPab 23 17 29.4 -0.8**
GRFO Grafenberg 159.32 344 PKPab **PKPab 23 17 29.4 -0.8**
GRFO Grafenberg 159.32 344 PKP2 **PKPab 23 17 29.4 -0.8**
MEM Membach 159.33 354 *d*PKP **PKPab 23 17 29.4 -0.8**
BTNL Ternell 159.34 353 *d*PKP **PKPab 23 17 29.5 -0.8**
GEC2 GERESS Array S 159.39 338 PKPdf **PKPdf 23 16 51.5 -1.4**
GERES GERESS Array B 159.39 338 PKPdf 23 16 51.0 -1.9
GERES GERESS Array B 159.39 338 PKP **PKPdf 23 16 51.8 -1.1**
comp=Z,5.3nm,0.9s,baz=31,slow=3.1,SNR=7.4
GERES PKPab **PKPab 23 17 30.6 -0.1**
comp=Z,17nm,0.7s,baz=25,slow=4.4,SNR=13
BSTI Sart Tilman 159.40 354 *d*PKP **PKPab 23 17 30.0 -0.4**
CONA Conrad Observa 159.41 334 *e*PKP **PKPdf 23 16 52.2 -0.8**
comp=Z,3.5nm,0.9s
CONA *e*PKP **PKPab 23 17 30.1 -0.7**
comp=Z,10nm,0.8s
RONA Rosalia, Austr 159.43 333 *e*PKP **PKPdf 23 16 51.4 -1.5**
comp=Z,14nm,1.6s
RONA *i* PKP **PKPab 23 17 30.7 -0.1**
comp=Z,13nm,0.9s,SNR=5.1
BOVS Bovan 159.56 317 ⇑P **PKPdf 23 16 57.0 +3.8**
BCLA Clavier 159.58 355 *d*PKP **PKPab 23 17 30.5 -0.8**
BHOU Houvegnez 159.59 353 *d*PKP **PKPab 23 17 30.6 -0.7**
BGES Gesves 159.63 355 *d*PKP **PKPab 23 17 30.5 -1.0**
BMRD Maredsous 159.74 356 *d*PKP **PKPab 23 17 31.4 -0.6**
PEHC Pehcevo 159.79 311 *i* P **PKPab 23 17 34.4 +1.7**
RCHB Rochefort 159.85 355 *d*PKP **PKPab 23 17 31.6 -0.8**
DOU Dourbes 159.96 356 *d*PKP **PKPab 23 17 32.7 -0.2**
MOA Molln 160.07 336 *i* PKP **PKPab 23 17 33.6 +0.1**
comp=Z,12nm,0.9s,SNR=5.7
ARSA Arzberg 160.10 333 *e*PKP **PKPdf 23 16 53.9 +0.2**
comp=Z,5.4nm,0.8s
VAY Valandovo 160.22 310 *i* P **PKPab 23 17 33.3 -1.2**
WLF Walferdange 160.25 353 PKPab **PKPab 23 17 33.5 -0.7**
WLF Walferdange 160.25 353 PKP2 **PKPab 23 17 33.5 -0.7**
WLF Walferdange 160.25 353 *d*PKP **PKPab 23 17 34.0 -0.2**
STIP Stip 160.30 311 *i* P **PKPab 23 17 33.0 -1.8**
BIOA Bad Ischl, Aus 160.42 337 *e*PKP **PKPdf 23 16 54.9 +0.8**
comp=Z,10.0nm,1.2s
BIOA *i* PKP **PKPab 23 17 35.1 0.0**
comp=Z,22nm,0.6s,SNR=10.0
SKO Skopje 160.63 313 *i* P **PKPab 23 17 35.6 -0.7**
STU Stuttgart 160.64 346 PKPab 23 17 35.1 -0.9
STU Stuttgart 160.64 346 PKP2 **PKPab 23 17 35.1 -0.9**
SOKA Soboth 160.76 333 *e*PKP **PKPdf 23 16 52.9 -1.6**
comp=Z,19nm,1.8s
SOKA *i* PKP **PKPab 23 17 36.0 -0.7**
comp=Z,12nm,0.9s,SNR=6.0
LESA Schwarzleotal 160.97 338 *e*PKP **PKPdf 23 16 53.2 -1.5**
comp=Z,23nm,1.0s
LESA *e*PKP **PKPab 23 17 37.0 -0.6**
comp=Z,16nm,0.7s
KBA Koelnbreinsper 161.05 337 *e*PKP **PKPdf 23 16 54.0 -0.9**
comp=Z,23nm,2.0s
KBA *e*PKP **PKPab 23 17 38.4 +0.4**
comp=Z,15nm,0.7s
BFO Black Forest 161.24 348 PKPab **PKPab 23 17 37.0 -1.6**
BFO Black Forest 161.24 348 PKP2 **PKPab 23 17 37.0 -1.6**
FNA Florina 161.27 310 PKPdf **PKPdf 23 16 53.0 -2.2**
FNA Florina 161.27 310 PKIKP **PKPdf 23 16 53.0 -2.2**
MYKA Terra Mystica 161.33 335 *e*PKP **PKPab 23 17 38.2 -1.0**
comp=Z,15nm,0.7s
WATA Walderalm 161.39 340 *e*PKP **PKPdf 23 16 53.6 -1.6**
comp=Z,18nm,1.5s
WATA *i* PKP **PKPab 23 17 39.6 +0.1**
comp=Z,30nm,0.6s,SNR=14
WTTA Wattenberg 161.43 340 PKP **PKPdf 23 16 54.7 -0.7**
comp=Z,23nm,1.2s
WTTA *i* PKP **PKPab 23 17 39.9 +0.2**
comp=Z,63nm,0.6s,SNR=8.2
RETA Reutte 161.48 342 *e*PKP **PKPdf 23 16 54.3 -0.9**
comp=Z,12nm,1.4s
RETA *i* PKP **PKPab 23 17 39.9 +0.2**
comp=Z,42nm,0.6s,SNR=15
OHR Ohrid 161.49 311 *i* P **PKPab 23 17 39.5 -0.6**
MOTA Moosalm 161.51 341 *e*PKP **PKPdf 23 16 54.2 -1.2**
comp=Z,7.8nm,1.0s
MOTA *i* PKP **PKPab 23 17 40.1 0.0**
comp=Z,42nm,0.7s,SNR=13
SQTA Sankt Quirin 161.60 341 *e*PKP **PKPdf 23 16 54.2 -1.2**
comp=Z,11nm,1.2s
SQTA *i* PKP **PKPab 23 17 40.3 0.0**
comp=Z,46nm,0.8s,SNR=9.5
ABTA Abfaltersbach 161.62 338 *e*PKP **PKPdf 23 16 52.0 -3.5**
comp=Z,21nm,1.3s
ABTA *e*PKP **PKPab 23 17 39.5 -0.9**
comp=Z,24nm,0.7s
CLUD Cludinico 161.75 336 PKPdf **PKPdf 23 16 53.4 -2.1**
CLUD PKPab **PKPab 23 17 39.0 -2.0**
DAVA Damuels 161.89 343 *i* PKP **PKPab 23 17 41.7 0.0**
comp=Z,40nm,0.7s,SNR=11
FETA Feichten 161.91 341 *e*PKP **PKPdf 23 16 54.4 -1.4**
comp=Z,18nm,1.3s
FETA *i* PKP **PKPab 23 17 41.8 0.0**
comp=Z,18nm,0.7s,SNR=8.2
CIMO Cimolais 162.03 337 PKPdf 23 16 54.3 -1.5
CIMO PKPab **PKPab 23 17 40.3 -1.8**
FUORN Ofenpass-Fuorn 162.41 342 PKPdf **PKPdf 23 16 54.4 -2.1**
FUORN PKPab **PKPab 23 17 44.0 -0.1**
TUE Stuetta 162.78 344 PKPdf 23 16 55.4 -1.4
TOA0 Torodi Ar. Sit 163.12 178 PKPdf 23 16 55.9 -1.9
TOA0 PKPab **PKPab 23 17 46.8 -0.7**
TOA0 Torodi Ar. Sit 163.12 178 P **PKPdf 23 16 58.0 +0.2**
SNR=6.6
TORD Torodi Ar. Bea 163.12 178 PKPdf 23 16 56.4 -1.4
TORD PKPab **PKPab 23 17 47.4 -0.2**
TORD Torodi Ar. Bea 163.12 178 PKP **PKPdf 23 16 56.8 -0.9**
comp=Z,8.3nm,0.9s,baz=17,slow=2.7,SNR=27
TORD PKPab **PKPab 23 17 47.4 -0.2**
comp=Z,35nm,0.8s,baz=163,slow=2.3,SNR=20
BNI Bardonecchia 164.70 349 PKPdf 23 16 58.0 -0.5
BNI PKPab **PKPab 23 17 53.6 -0.4**
BNI Bardonecchia 164.70 349 PKIKP **PKPdf 23 16 58.0 -0.5**
BNI 23 17 53.6
SSB Saint Sauveur 164.75 354 PKPab **PKPab 23 17 53.2 -0.9**
SSB Saint Sauveur 164.75 354 PKP2 **PKPab 23 17 53.2 -0.9**
PGAV Gavieira, A. Arco 165.35 33 *e*PKPdf **PKPdf 23 17 00.0 +0.9**
POLO Lamas de Olo 166.03 34 *e*PKPdf **PKPdf 23 17 00.9 +1.2**
PVRL Vila Real 166.14 34 *e*PKPdf **PKPdf 23 17 01.0 +1.3**
PVRL Vila Real 166.14 34 *e*PKPab **PKPab 23 18 00.3 -0.1**
PBRG Braganca 166.17 30 *e*PKPdf **PKPdf 23 17 02.6 +2.9**
PVIS Viseu 166.48 36 *e*PKPdf **PKPdf 23 17 01.1 +1.1**
PVIS Viseu 166.48 36 *e*PKPab **PKPab 23 18 02.4 +0.4**
MVO Moncorvo 166.55 32 *e*PKPdf **PKPdf 23 17 01.5 +1.4**
MVO Moncorvo 166.55 32 *e*PKPab **PKPab 23 18 03.1 +0.8**
PCAS Casmilo, Conde 166.64 39 *e*PKPdf **PKPdf 23 17 00.8 +0.7**
MTE Manteigas 166.89 36 *e*PKPdf **PKPdf 23 17 00.8 +0.5**
LIS Lisbon 167.15 45 *e*PKPdf **PKPdf 23 17 01.6 +1.2**
PCBR Castelo Branco 167.34 37 *e*PKPdf **PKPdf 23 17 01.0 +0.4**
RAFF Raffo Rosso 167.78 309 PKPab **PKPab 23 18 06.9 -1.0**
PNCL Nicolau / Gran 167.91 46 *e*PKPdf **PKPdf 23 17 01.5 +0.5**
PESTR Estremoz 167.97 41 *e*PKPdf **PKPdf 23 17 02.3 +1.2**
PESTR Estremoz 167.97 41 *e*PKPab **PKPab 23 18 08.3 +0.3**
MESJ Messejana 168.27 46 *e*PKPdf **PKPdf 23 17 02.8 +1.5**
MESJ Messejana 168.27 46 *e*PKPab **PKPab 23 18 10.6 +0.7**
MESJ Messejana 168.27 46 *e*PKPdf **PKPdf 23 17 02.3 +1.0**
MORF Marmelete 168.31 49 *e*PKPdf **PKPdf 23 17 02.4 +1.0**
PBEJ Beja 168.37 44 *e*PKPdf **PKPdf 23 17 02.4 +1.0**
PCVE Castro Verde 168.51 46 *e*PKPdf **PKPdf 23 17 03.1 +1.6**
PBAR Barrancos 168.76 42 *e*PKPdf **PKPdf 23 17 02.8 +1.2**
PBAR Barrancos 168.76 42 *e*PKPab **PKPab 23 18 12.7 +0.6**
PBDV Barranco-do-Ve 168.81 48 *e*PKPdf **PKPdf 23 17 03.0 +1.3**
PAB San Pablo 169.06 29 PKPdf 23 17 00.7 -1.2
PAB San Pablo 169.06 29 PKIKP **PKPdf 23 17 00.7 -1.2**
ESDC Sonseca Array 169.10 27 PKPdf 23 17 00.0 -1.9
ESDC Sonseca Array 169.10 27 PKP **PKPdf 23 17 01.7 -0.2**
comp=Z,8.0nm,1.0s,baz=346,slow=2.5,SNR=21
ESDC PKPab **PKPab 23 18 14.1 +0.5**
comp=Z,4.4nm,0.7s,

baz=182,slow=76,SNR=4.2
H11N3 WAKE ISLAND Hy 30.30 2 T T 00 18 41.3
baz=182,slow=76,SNR=5.5
H11N2 WAKE ISLAND Hy 30.31 2 T T 00 18 44.0
baz=182,slow=76,SNR=2.9
WRA Warramunga Arr 31.62 249 P P 23 47 08.3 +0.3
1.7nm,0.9s,baz=82,slow=9.0,SNR=6.1
1.7nm,0.9s
ASAR Alice Springs 32.96 243 P P 23 47 19.6 -0.2
0.9nm,0.7s,baz=63,slow=11,SNR=8.4
0.9nm,0.7s
ILAR Eielson Array 83.22 19 P P 23 53 11.0 +0.1
0.3nm,0.6s,baz=241,slow=4.9,SNR=7.9
0.3nm,0.6s
MKAR Makanchi Array 93.33 317 P P 23 53 59.7 -0.3
0.5nm,0.8s,baz=98,slow=6.2,SNR=3.7
0.5nm,0.8s

*IDC **17** 23:42:07.3±1.6,0˚.29N×97˚.99E,h0km,mb3.8/9, mbtmp3.8/9,Error ellipse: s-maj=59.1km s-min=21.3km az=53.0*

*DJA **17** 23:42:11.2±0.5,1˚N±4˚×9˚8E±˚,h17km±7km,M3.9/9, mb4.0/1,MLv3.8/9*

ISC 17 23:42:12.1±0.8,0˚.51N±0˚.06×98˚.19E±0˚.08,h29km,n24, σ1s22/17,mb4.0/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.57**	**171**	P	**Pn**	**23 42 24.3**	**+0.1**
GSI	**Gunungsitoli**	**1.00**	**322**	P	**Pn**	**23 42 29.6**	**-0.5**
SISI	**Saibi**	**2.04**	**154**	P	**Pb**	**23 42 45.6**	**-2.8**
PSI	**Prapat**	**2.39**	**18**	P	Pn	23 42 47.2	-2.2
SNSI	**Sinabang, Aceh**	**2.65**	**315**	P	**Pn**	**23 42 52.8**	**-0.1**
PDSI	**Padang**	**2.68**	**122**	P	**Pn**	**23 42 54.4**	**+1.1**
BKNI	**Bangkinang**	**2.86**	**94**	P	**Pn**	**23 42 55.2**	**-0.5**
KCSI	**Kotacane, Aceh**	**3.02**	**352**	P	**Pn**	**23 42 56.5**	**-1.5**
KULM	**Kulim**	**5.35**	**27**	P	**Pn**	**23 43 29.0**	**-1.0**
H08S2	**Diego Garcia H**	**26.87**	**252**	T	T	00 15 12.8	
	baz=73,slow=76,SNR=38						
H08S3	**Diego Garcia H**	**26.88**	**252**	T	T	00 15 16.1	
	baz=73,slow=76,SNR=98						
H08S1	**Diego Carcia H**	**26.89**	**252**	T	T	00 15 14.6	
	baz=73,slow=76,SNR=72						
WRA	**Warramunga Arr**	**40.83**	**122**	P	**P**	**23 49 51.1**	**-0.4**
	0.6nm,0.8s,baz=302,slow=9.1,SNR=3.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**42.19**	**127**	P	**P**	**23 50 02.5**	**-0.1**
	0.2nm,0.3s,baz=297,slow=8.2,SNR=4.9						
	0.2nm,0.3s						
SONM	**Songino Array**	**47.67**	**7**	P	**P**	**23 50 46.8**	**+0.8**
	0.9nm,0.6s,baz=187,slow=9.8,SNR=6.2						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**48.15**	**345**	P	**P**	**23 50 50.9**	**+1.3**
	1.1nm,0.7s,baz=175,slow=8.1,SNR=6.2						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**52.65**	**344**	P	**P**	**23 51 23.5**	**0.0**
	0.8nm,0.6s,baz=165,slow=7.2,SNR=6.6						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**54.40**	**350**	P	**P**	**23 51 37.5**	**+1.2**
	1.5nm,0.4s,baz=176,slow=7.0,SNR=12						
	1.5nm,0.4s						
KLR	**Kul'dur**	**56.43**	**26**	P	**P**	**23 51 52.9**	**+1.9**
	1.2nm,0.5s,baz=233,slow=7.9,SNR=5.9						
	1.2nm,0.5s						
BVAR	**Borovoye Array**	**57.22**	**340**	P	**P**	**23 51 57.1**	**+0.5**
	0.9nm,0.5s,baz=134,slow=8.2,SNR=1.9						
	0.9nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.77**	**215**	T	T	00 59 26.6	
	baz=54,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**61.78**	**215**	T	T	00 59 28.8	
	baz=54,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**61.79**	**215**	T	T	00 59 27.1	
	baz=54,slow=75,SNR=15						
BRTR	**Keskin Array B**	**70.30**	**312**	P	**P**	**23 53 23.1**	**-0.2**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.1						
	0.4nm,0.5s						

*IDC **17** 23:47:30.6±4.3,36˚.24N×70˚.66E,h163km±37km,mb3.4/11, mbtmp4.0/16,Error ellipse: s-maj=28.1km s-min=17.9km az=17.0*

*NNC **17** 23:47:36.8±3.4,36˚.98N×70˚.64E,h0km,mb4.5,mpv4.4, Error ellipse: s-maj=32.0km s-min=22.5km az=140.0*

ISC 17 23:47:35.8±0.9,36˚.56N±0˚.09×70˚.8E±0˚.1,h204km,n33, σ1s31/27,mb3.5/10,5C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.02**	**21**	P	**Pn**	**23 49 03.6**	**0.0**
	SNR=445						
AML	**Almayashu**	**6.02**	**21**	⇑P	**Pn**	**23 49 03.5**	**-0.2**
	4.0nm,0.3s						
AML				⇑S	**S**	**23 50 10.1**	**-2.8**
	25nm,0.6s						
UCH	**Uchtor**	**6.37**	**26**	P	**Pn**	**23 49 08.4**	**+0.2**
	SNR=67						
KZA	**Kyzart**	**6.52**	**31**	P	**Pn**	**23 49 09.9**	**-0.3**
	SNR=10						
EKS2	**Erkin-Say**	**6.53**	**20**	P	**Pn**	**23 49 10.2**	**+0.2**
	SNR=43						
KK31	**Karatay Array**	**6.54**	**358**	P	**Pn**	**23 49 09.7**	**-0.4**
	15nm,0.3s,baz=47,slow=3.2,SNR=255						
KK31				⇑S	**S**	**23 50 20.9**	**-3.7**
	30nm,0.6s,baz=189,slow=24,SNR=14						
AAK	**Ala-Archa**	**6.72**	**24**	P	**Pn**	**23 49 12.9**	**+0.3**
	SNR=35						
AAK	**Ala-Archa**	**6.72**	**24**	P	**Pn**	**23 49 12.8**	**+0.3**
	19nm,0.3s,baz=190,slow=6.0,SNR=141						
AAK				S	**S**	**23 50 27.8**	**-1.4**
	17nm,0.5s,baz=330,slow=22,SNR=23						
KBK	**Karagaybulak**	**6.90**	**27**	P	**Pn**	**23 49 15.2**	**+0.4**
	SNR=34						
ULHL	**Ulahol**	**7.09**	**35**	P	**Pn**	**23 49 17.6**	**+0.2**
	SNR=7.7						
CHMS	**Chumysh**	**7.13**	**24**	P	**Pn**	**23 49 18.0**	**+0.3**
	SNR=26						
CHMS	**Chumysh**	**7.13**	**24**	⇑P	**Pn**	**23 49 17.8**	**0.0**
	27nm,0.8s						
CHMS				⇓S	**S**	**23 50 36.0**	**-2.7**
	22nm,0.6s						
USP	**Ospenovka**	**7.29**	**22**	P	**Pn**	**23 49 19.5**	**-0.4**
	SNR=20						
TKM2	**Tokmak 2**	**7.37**	**29**	P	**Pn**	**23 49 21.2**	**+0.2**
	SNR=100						
TKM2	**Tokmak 2**	**7.37**	**29**	⇓P	**Pn**	**23 49 21.1**	**+0.1**
	24nm,0.4s						
TKM2				⇓S	**S**	**23 50 42.6**	**-2.0**
	12nm,0.7s						
MKAR	**Makanchi Array**	**13.36**	**36**	P	**Pn**	**23 50 37.8**	**+0.2**
	3.7nm,0.8s,baz=217,slow=12,SNR=26						
AB31	**Akbulak array**	**14.94**	**332**	P	**P**	**23 50 59.9**	**+2.4**
	0.8nm,0.3s,baz=144,slow=9.7,SNR=31						
KURBB	**Kurchatov Arra**	**15.13**	**19**	P	**Pn**	**23 50 59.1**	**-0.2**
	0.6nm,0.3s,baz=209,slow=10.0,SNR=17						
BVAR	**Borovoye Array**	**16.47**	**359**	P	**Pn**	**23 51 16.1**	**+0.7**
	2.1nm,0.3s,baz=161,slow=9.8,SNR=33						
AKTO	**Aktyubinsk**	**16.63**	**330**	⇑P	Pn	23 51 25.2	+7.9
	2.5nm,0.5s						
AKTO	**Aktyubinsk**	**16.63**	**330**	P	**Pn**	**23 51 17.2**	**-0.1**
	6.1nm,0.6s,baz=142,slow=9.4,SNR=20						
WSAR	**Wadi Sarin**	**16.91**	**222**	P	**P**	**23 51 18.4**	**-1.1**
	2.3nm,0.8s,baz=59,slow=7.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.95**	**25**	P	**P**	**23 51 53.3**	**+1.2**
	5.9nm,0.3s,baz=217,slow=10,SNR=32						
	5.9nm,0.3s						
ARU	**Arti**	**21.51**	**341**	P	**P**	**23 52 09.3**	**+0.7**
	1.1nm,0.4s,baz=134,slow=6.6,SNR=5.0						
	1.1nm,0.4s						
SONM	**Songino Array**	**28.47**	**55**	P	**P**	**23 53 13.7**	**+1.8**
	0.3nm,0.5s,baz=260,slow=8.6,SNR=3.1						
	0.3nm,0.5s						
NRIK	**Noril'sk**	**34.11**	**11**	P	**P**	**23 54 02.1**	**+1.4**
	1.3nm,0.5s,baz=229,slow=5.6,SNR=3.7						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**37.32**	**326**	P	**P**	**23 54 28.8**	**+0.6**
	1.0nm,0.5s,baz=116,slow=11,SNR=7.8						
	1.0nm,0.5s						
HFS	**Hagfors**	**42.90**	**322**	P	**P**	**23 55 14.1**	**+0.2**
	2.8nm,0.8s,baz=96,slow=9.1,SNR=5.6						
	2.8nm,0.8s						
NOA	**NORSAR Array B**	**44.21**	**323**	P	**P**	**23 55 24.8**	**+0.3**
	0.7nm,0.7s,baz=97,slow=7.7,SNR=3.3						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.52**	**268**	P	**P**	**23 57 56.0**	**-1.7**
	0.8nm,0.5s,baz=52,slow=6.1,SNR=14						
	0.8nm,0.5s						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**23 59 28.8**	**+0.4**
	0.4nm,0.9s,baz=340,slow=5.9,SNR=4.0						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**82.19**	**122**	P	**P**	**23 59 32.6**	**-1.6**
	0.6nm,0.9s,baz=324,slow=4.8,SNR=4.6						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**84.45**	**125**	P	**P**	**23 59 44.5**	**-1.2**
	0.2nm,0.3s,baz=313,slow=4.7,SNR=1.5						
	0.2nm,0.3s						

*SJA **17** 23:57:22.1±1.5,21˚.77S×68˚.39W,h100km,ML3.4, MW3.5*

*GUC **17** 23:57:23.0±0.8,21˚.74S×68˚.46W,h130km±5km,ML3.6*

ISC 17 23:57:21.6±1.5,21˚.74S±0˚.03×68˚.50W±0˚.05, h142km±10km,n30,σ0.69/59,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.69**	**266**	*e*P	**Pn**	**23 57 43.4**	**0.0**
PB09				*e*S	**Sn**	**23 58 00.6**	**+0.7**
PB09				IAML		23 58 03.5	
	comp=Z,282nm,0.4s						
PB09	**IPOC Station P**	**0.69**	**266**	*e*P	**Pn**	**23 57 43.5**	**+0.2**
PB09				*i* S	**Sn**	**23 57 59.9**	**0.0**
LVC	**Limon Verde**	**0.94**	**204**	*e*P	**Pn**	**23 57 45.8**	**+0.3**
LVC				*e*S	**Sn**	**23 58 02.0**	**-1.8**
LVC				IAML		23 58 04.5	
	comp=Z,216nm,0.2s						
LVC	**Limon Verde**	**0.94**	**204**	*e*P	**Pn**	**23 57 45.4**	**-0.1**
LVC				*i* S	**Sn**	**23 58 02.8**	**-1.0**
PB01	**IPOC Station P**	**1.16**	**307**	*e*P	**Pn**	**23 57 47.1**	**0.0**
PB01				*e*S	**Sn**	**23 58 06.2**	**-0.4**
PB01				IAML		23 58 07.6	
	comp=Z,494nm,0.1s						
PB01	**IPOC Station P**	**1.16**	**307**	*e*P	**Pn**	**23 57 46.9**	**-0.2**
PB01				*i* S	**Sn**	**23 58 05.7**	**-0.8**
PB01				IAML		23 58 07.8	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**1.29**	**271**	*e*P	**Pn**	**23 57 48.7**	**+0.2**
PB07				*e*S	**Sn**	**23 58 09.1**	**+0.1**
PB07				IAML		23 58 11.5	
	comp=Z,770nm,0.4s						
PB07	**IPOC Station P**	**1.29**	**271**	*e*P	**Pn**	**23 57 48.8**	**+0.3**
PB07				*i* S	**Sn**	**23 58 08.7**	**-0.3**
PB07				IAML		23 58 09.4	
	comp=N,2μm,0.4s						
PB02	**IPOC Station P**	**1.37**	**288**	*e*P	**Pn**	**23 57 49.4**	**+0.1**
PB02				*e*S	**Sn**	**23 58 10.2**	**-0.1**
PB02				IAML		23 58 11.9	
	comp=Z,2μm,0.4s						
PB02	**IPOC Station P**	**1.37**	**288**	*e*P	**Pn**	**23 57 49.4**	**+0.1**
PB02				*i* S	**Sn**	**23 58 09.9**	**-0.4**
PB06	**IPOC Station P**	**1.38**	**226**	*e*P	**Pn**	**23 57 49.4**	**-0.1**
PB06				*e*S	**Sn**	**23 58 11.7**	**+1.0**
PB06				IAML		23 58 14.0	
	comp=Z,500nm,0.3s						
PB06	**IPOC Station P**	**1.38**	**226**	*e*P	**Pn**	**23 57 50.1**	**+0.7**
PB06				*i* S	**Sn**	**23 58 10.8**	**+0.1**
PB06				IAML		23 58 11.3	
	comp=N,599nm,0.3s						
PB04	**IPOC Station P**	**1.64**	**249**	*e*P	**Pn**	**23 57 52.6**	**+0.5**
PB04				*e*S	**Sn**	**23 58 16.6**	**+1.0**
PB04				IAML		23 58 17.7	
	comp=Z,245nm,0.1s						
PB04	**IPOC Station P**	**1.64**	**249**	*e*P	**Pn**	**23 57 52.7**	**+0.5**
PB04				*i* S	**Sn**	**23 58 15.2**	**-0.4**
PB08	**IPOC Station P**	**1.71**	**339**	*e*P	**Pn**	**23 57 53.4**	**+0.1**
PB08				*e*S	**Sn**	**23 58 18.0**	**+0.6**
PB08				IAML		23 58 20.4	
	comp=Z,175nm,0.1s						
PB08	**IPOC Station P**	**1.71**	**339**	*e*P	**Pn**	**23 57 54.0**	**+0.8**
PB08				*i* S	**Sn**	**23 58 17.5**	**+0.1**
PB08				IAML		23 58 19.6	
	comp=N,435nm,0.3s						
PATCX	**Punta Patache**	**1.79**	**300**	*e*P	**Pn**	**23 57 54.3**	**+0.4**
PATCX				*e*S	**Sn**	**23 58 19.8**	**+1.2**
PATCX				IAML		23 58 21.2	
	comp=Z,680nm,0.4s						
PATCX	**Punta Patache**	**1.79**	**300**	*e*P	**Pn**	**23 57 54.4**	**+0.5**
PATCX				*i* S	**Sn**	**23 58 17.8**	**-0.8**
PB05	**IPOC Station P**	**1.93**	**235**	*e*P	**Pn**	**23 57 55.4**	**-0.1**
PB05				*e*S	**Sn**	**23 58 21.4**	**0.0**
PB05				IAML		23 58 28.3	
	comp=Z,171nm,0.4s						
PB05	**IPOC Station P**	**1.93**	**235**	*e*P	**Pn**	**23 57 56.0**	**+0.6**
PB05				*i* S	**Sn**	**23 58 20.9**	**-0.6**
TA01	**Diego Aracena**	**1.96**	**306**	*e*P	**Pn**	**23 57 55.7**	**0.0**
TA01				*e*S	**Sn**	**23 58 22.0**	**+0.1**
TA01				IAML		23 58 22.6	
	comp=Z,160nm,0.3s						
TA01	**Diego Aracena**	**1.96**	**306**	*e*P	**Pn**	**23 57 55.7**	**0.0**
TA01				*i* S	**Sn**	**23 58 20.7**	**-1.2**
TA01				IAML		23 58 22.8	
	comp=E,593nm,0.3s						
GO01	**Chusmiza**	**2.17**	**342**	*e*P	**Pn**	**23 57 59.1**	**+0.4**
GO01				*e*S	**Sn**	**23 58 28.4**	**+1.3**
GO01				IAML		23 58 31.3	
	comp=Z,146nm,0.3s						
PB11	**IPOC Station P**	**2.25**	**331**	*e*P	**Pn**	**23 57 59.3**	**-0.2**
PB11				*e*S	**Sn**	**23 58 28.4**	**-0.1**
PB11				IAML		23 58 29.1	
	comp=Z,354nm,1.0s						
PB11	**IPOC Station P**	**2.25**	**331**	*e*P	**Pn**	**23 57 59.2**	**-0.2**
PB11				*i* S	**Sn**	**23 58 27.7**	**-0.8**
YJA	**Yavi**	**2.81**	**99**	*e*P	**Pn**	**23 58 07.6**	**+1.0**
YJA				*e*S	**Sn**	**23 58 39.6**	**-1.6**
PB14	**IPOC Station P**	**3.36**	**211**	*e*P	**Pn**	**23 58 13.9**	**+0.4**
PB14				*e*S	**Sn**	**23 58 52.9**	**-0.9**
PB14				IAML		23 59 05.2	
	comp=Z,68nm,0.8s						
PB16	**IPOC Station P**	**3.52**	**344**	*e*P	**Pn**	**23 58 16.6**	**+0.6**
PB16				*e*S	**Sn**	**23 58 58.6**	**+0.6**
PB16				IAML		23 59 02.0	
	comp=Z,33nm,0.7s						
GO02	**Mina Guanaco**	**3.55**	**196**	*e*P	**Pn**	**23 58 16.6**	**+0.6**
PB12	**IPOC Station P**	**3.56**	**331**	*e*P	**Pn**	**23 58 14.5**	**-1.5**
PB12				*e*S	**Sn**	**23 58 56.8**	**-1.2**
PB12				IAML		23 58 60.0	
	comp=Z,50nm,0.5s						

GUC 17 23:59:05.3±0.7,27˚.27S×69˚.92W,h103km±4km,ML3.3, 2C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC06	**Mina Casimiro**	**0.40**	**258**	⇓*i*P	Pn	23 59 20.4	-0.3
AC06				*i* S	Sn	23 59 31.5	-0.8
AC06				IAML		23 59 32.3	
	comp=N,1μm,0.1s						
GO03	**Copiap**	**0.43**	**221**	⇓*i*P	Pn	23 59 20.7	-0.3
GO03				*e*S	Sn	23 59 31.8	-1.0
GO03				IAML		23 59 32.2	
	comp=N,1μm,0.1s						
AC01	**Pan de Azucar**	**1.28**	**331**	*e*P	Pn	23 59 28.8	-0.3
AC01				*i* S	Sn	23 59 46.6	-0.4
AC01				IAML		23 59 47.3	
	comp=E,844nm,0.4s						
AC04	**Llanos de Chal**	**1.38**	**228**	*e*P	Pn	23 59 30.4	+0.2
AC04				*i* S	Sn	23 59 49.1	-0.1
AC04				IAML		23 59 50.9	
	comp=E,1μm,0.2s						
LCO	**Las Campanas**	**1.86**	**202**	⇑*i*P	Pn	23 59 36.5	-0.1
GO02	**Mina Guanaco**	**2.12**	**8**	⇑*i*P	Pn	23 59 40.2	+0.3
PB14	**IPOC Station P**	**2.67**	**350**	*i* P	Pn	23 59 46.6	-0.5
CO01	**Juntas del Tor**	**2.70**	**183**	*e*P	Pn	23 59 48.5	+1.1
GO04	**Tololo Observa**	**2.99**	**195**	*e*P	Pn	23 59 50.6	-0.7
CO03	**El Pedregal**	**3.62**	**191**	*e*P	Pn	23 59 58.9	-0.6

ASRS 18 00:01:55.5±0.2,51˚N±2˚×9˚8E±˚,h1km,MLh4.0/8,Error ellipse: s-maj=4.3km s-min=2.5km az=180.0,confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**2.10**	**76**	Pg	Pg	00 02 35.3	-0.5
MOY				Sg	Sb	00 03 01.7	+0.7
ZAK	**Zakamensk**	**3.62**	**101**	Pg	Pb	00 03 00.9	+0.6
ZAK				Sg	Sb	00 03 46.6	+1.9
CERR	**Cheremushki**	**4.24**	**296**	Pg	Pg	00 03 20.9	+4.4
CERR				Sg	Sg	00 04 17.6	+6.2
MINR	**Mina**	**4.28**	**332**	Pg	Pg	00 03 24.9	+7.6
MINR				Sg	Sg	00 04 20.6	+7.8
DJO	**Djoy, Khakassi**	**4.32**	**294**	Pg	Pg	00 03 21.6	+3.4
DJO				Sg	Sg	00 04 18.8	+4.5
SHTK	**Zheleznogorsk-**	**5.70**	**336**	Pg	Pg	00 03 45.6	+1.0
SHTK				Sg	Sg	00 04 59.1	+0.7
GZLN	**Zheleznogorsk**	**5.70**	**337**	Sg	Sg	00 04 59.4	+1.0
CUR	**Chagan-Uzun**	**6.06**	**263**	Pn	Pn	00 03 33.4	+7.2
CUR				Pg	Pg	00 03 54.0	+2.4
CUR				Sg	Sg	00 05 09.1	-0.9
ULGR	**Ulagan, Altay**	**6.20**	**269**	Pg	Pg	00 03 55.9	+1.7
ULGR				Sg	Sg	00 05 14.1	-0.4
TASR	**Tashtagol**	**6.28**	**288**	Pg	Pg	00 03 58.5	+2.8
TASR				Sg	Sg	00 05 18.0	+1.0
YALR	**Yailyu, Altay**	**6.34**	**279**	Pg	Pg	00 03 56.6	-0.3
YALR				Sg	Sg	00 05 18.6	-0.5
AKAR	**Aktash**	**6.47**	**266**	Pn	Pn	00 03 39.7	+7.8
AKAR				Pg	Pg	00 03 59.3	-0.1
AKAR				Sg	Sg	00 05 23.8	+0.7
CHBI	**Chibit, Altay**	**6.54**	**266**	Pn	Pn	00 03 40.3	+7.4
CHBI				Pg	Pg	00 04 02.9	+2.1
CHBI				Sg	Sg	00 05 27.0	+1.5
ARTR	**Artybash**	**6.55**	**279**	Pg	Pg	00 04 03.6	+2.8
ARTR				Sg	Sg	00 05 27.0	+1.4
DGZ	**Jazzator, Alta**	**6.74**	**261**	Pn	Pn	00 03 41.7	+6.1
DGZ				Pg	Pg	00 04 07.4	+2.9
DGZ				Sg	Sg	00 05 32.8	+1.0

*SJA **18** 00:19:01.1±0.7,31˚.26S×72˚.02W,h11km±2km,ML3.5, MW3.5*

*GUC **18** 00:19:05.1±0.8,31˚.28S×71˚.78W,h33km±3km,ML3.7*

ISC 18 00:19:03.5±1.3,31˚.28S±0˚.02×71˚.84W±0˚.04,h9km±10km, n46,σ1s24/80,4C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.63**	**16**	⇓*i*P	**Pb**	**00 19 17.0**	**+0.3**
CO06				*i* S	**Sg**	**00 19 25.3**	**+1.4**
CO06				IAML		00 19 27.4	
	comp=N,3μm,0.3s						
CO02	**Combarbal**	**0.72**	**84**	*e*P	**Pg**	**00 19 18.0**	**+0.6**
CO02				*e*S	**Sb**	**00 19 27.8**	**-0.6**
CO02				IAML		00 19 31.8	
	comp=Z,1μm,0.4s						
CO02	**Combarbal**	**0.72**	**84**	⇓*i*P	**Pg**	**00 19 18.1**	**+0.6**
CO02				*i* S	**Sg**	**00 19 27.4**	**+0.5**
CO02				IAML		00 19 28.8	
	comp=N,4μm,0.3s						
CO03	**El Pedregal**	**1.08**	**66**	*e*P	**Pg**	**00 19 24.4**	**+0.1**
CO03				*e*S	**Sn**	**00 19 41.0**	**+0.8**
CO03				IAML		00 19 41.1	
	comp=Z,333nm,0.3s						
CO03	**El Pedregal**	**1.08**	**66**	⇓*i*P	**Pg**	**00 19 23.6**	**-0.7**
CO03				*i* S	**Sg**	**00 19 37.6**	**-0.7**
VA06	**Catapilco**	**1.35**	**160**	⇓*i*P	**Pn**	**00 19 28.6**	**-0.1**
VA06				*i* S	**Sb**	**00 19 45.5**	**-1.1**
VA06				IAML		00 19 49.2	
	comp=N,2μm,0.5s						
GO04	**Tololo Observa**	**1.42**	**39**	*e*P	**Pn**	**00 19 29.6**	**-0.2**
GO04				*e*S	**Sg**	**00 19 50.7**	**+1.4**
GO04	**Tololo Observa**	**1.42**	**39**	⇓*i*P	**Pn**	**00 19 29.4**	**-0.4**
GO04				*i* S	**Sb**	**00 19 47.8**	**-1.0**
GO04				IAML		00 19 50.7	
	comp=E,2μm,0.5s						
CO05	**La Serena**	**1.45**	**21**	*e*P	**Pn**	**00 19 29.9**	**-0.1**
CO05				*e*S	**Sn**	**00 19 48.0**	**-1.2**
VA01	**Torpederas**	**1.74**	**175**	*e*P	**Pn**	**00 19 34.9**	**+0.9**
VA01				*e*S	**Sg**	**00 20 01.6**	**+2.0**
VA01				IAML		00 20 03.4	
	comp=Z,123nm,0.3s						
ROCH	**El Roble**	**1.82**	**158**	⇑*i*P	**Pn**	**00 19 35.5**	**+0.2**
ROCH				⇑*i*P	**Pn**	**00 19 35.6**	**+0.2**
ROCH				*i* S	**Sn**	**00 19 58.0**	**-0.7**
ROCH				*i* S	**Sb**	**00 20 00.0**	**-0.3**
ROCH				IAML		00 20 04.6	
	comp=E,694nm,0.5s						
ROCH				IAML		00 20 05.9	
	comp=N,924nm,0.4s						
ROC1	**El Roble**	**1.83**	**158**	*e*P	**Pn**	**00 19 35.8**	**+0.3**
ROC1				*e*S	**Sb**	**00 20 00.2**	**-0.3**
VA03	**San Esteban**	**1.84**	**144**	*e*P	**Pn**	**00 19 36.4**	**+0.9**
VA03				*e*S	**Sg**	**00 20 01.9**	**-0.7**
VA03				IAML		00 20 02.9	
	comp=Z,550nm,0.2s						
VA03	**San Esteban**	**1.84**	**144**	⇑*i*P	**Pn**	**00 19 36.2**	**+0.8**
VA03				*i* S	**Sn**	**00 19 59.7**	**+0.8**
VA03				IAML		00 20 03.0	
	comp=E,2μm,0.2s						
CO01	**Juntas del Tor**	**1.99**	**50**	*e*P	**Pn**	**00 19 38.5**	**+0.8**
CO01				*e*S	**Sg**	**00 20 06.4**	**-1.0**
CO01				IAML		00 20 07.6	
	comp=Z,132nm,0.5s						
CO01	**Juntas del Tor**	**1.99**	**50**	⇑*i*P	**Pn**	**00 19 38.5**	**+0.8**
CO01				*i* S	**Sn**	**00 20 02.6**	**-0.2**
MT02	**Curacav**	**2.06**	**163**	*e*P	**Pn**	**00 19 38.5**	**+0.2**
MT02				IAML		00 20 11.8	
	comp=Z,140nm,0.3s						
PEL	**Peldehue**	**2.10**	**153**	*e*P	**Pn**	**00 19 40.3**	**+1.3**
PEL				*e*S	**Sb**	**00 20 08.1**	**+0.1**
PEL	**Peldehue**	**2.10**	**153**	*i* P	**Pn**	**00 19 39.7**	**+0.7**
PEL				*i* S	**Sn**	**00 20 05.6**	**+0.3**
PEL				IAML		00 20 11.0	
	comp=E,479nm,0.2s						
RTLS	**Leoncito**	**2.23**	**104**	*e*P	**Pb**	**00 19 44.1**	**-0.1**
RTLS				*e*S	**Sg**	**00 20 14.6**	**-0.6**
RTLS				IAML		00 20 15.3	
	comp=Z,745nm,0.4s						
MT10	**Hacienda Santa**	**2.27**	**151**	*e*P	**Pn**	**00 19 42.1**	**+0.7**
MT10				*e*S	**Sn**	**00 20 10.0**	**+0.3**
MT

AC04					IAML		00 20 49.3	
	comp=Z,73nm,0.8s							
BO01	**Tunca**	**3.17**	**169**	*e*P		**Pn**	**00 19 54.6**	**+1.0**
BO01				*e*S		**Sg**	**00 20 42.8**	**-2.4**
BO01					IAML		00 20 47.8	
	comp=Z,68nm,0.5s							
AGUA	**GUANDACOL**	**3.40**	**59**	*e*P		**Pb**	**00 20 00.9**	**-3.1**
AGUA				*e*S		**Sg**	**00 20 54.6**	**+1.9**
AGUA					IAML		00 20 58.7	
	comp=Z,130nm,0.5s							
BO02	**Sierra Bellavi**	**3.61**	**166**	*e*P		**Pn**	**00 20 00.6**	**+0.8**
GO05	**Huala**	**3.72**	**181**	*e*P		**Pn**	**00 20 01.2**	**0.0**
AVFE	**Valle Fertil**	**3.81**	**82**	*e*P		**Pn**	**00 20 04.6**	**+2.1**
VCA	**Vinchina**	**4.04**	**52**	*e*S		**Sg**	**00 21 11.3**	**-2.1**
ACHE	**Chepes**	**4.43**	**90**	*e*P		**Pn**	**00 20 14.1**	**+2.9**
ACHE				*e*S		**Sb**	**00 21 12.3**	**-3.0**
RFA	**San Rafael**	**4.49**	**142**	IAML			00 21 28.4	
	comp=Z,23nm,0.7s							
ACLC	**CERRO LA CRUZ**	**4.61**	**68**	*e*P		**Pn**	**00 20 16.0**	**+2.4**
ACLC				IAML			00 21 20.9	
	comp=Z,113nm,0.5s							
ACLC				IAML			00 21 20.9	
	comp=Z,113nm,0.5s							

TEH ***18*** *00:25:02.5, 26˚.95N × 55˚.26E, h22km ± 30km, ML3.0*
OMAN ***18*** *00:25:04.1 ± 0.1, 26˚.99N × 55˚.26E, h10km, ml2.8/15, Error ellipse: s-maj=2.4km s-min=1.7km az=33.0*

ISC 18 00:25:02.6 ± 1.4, **27˚.07N** ± 0˚.04 × **55˚.26E** ± 0˚.04, **h9**km ± 11km, **n33**, σ1§**14/46**, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.88**	**68**	Pg	**Pg**	**00 25 19.9**	**+0.4**
LAR1	**LAR**	**0.99**	**307**	Pg	**Pn**	**00 25 23.1**	**+0.3**
IBND	**Bandar-abas**	**1.20**	**71**	Pg	**Pg**	**00 25 25.6**	**-0.1**
SHME	**Shamm**	**1.28**	**142**	P	**Pg**	**00 25 27.0**	**-0.3**
	SNR=5.8						
SHME				S	**Sg**	**00 25 44.1**	**+0.2**
BANOM	**Banah**	**1.47**	**141**	P	**Pb**	**00 25 30.4**	**+0.3**
BANOM				S	**Sb**	**00 25 49.7**	**+0.8**
MASF	**Masafi**	**1.87**	**154**	P	**Pb**	**00 25 36.5**	**-0.6**
MASF				S	**Sn**	**00 25 59.3**	**+0.6**
MDH	**Madha**	**1.99**	**152**	P	**Pn**	**00 25 37.7**	**+1.2**
MDH				S	**Sn**	**00 26 02.1**	**+0.5**
JHRM	**Jahrom**	**2.07**	**314**	Pn	**Pg**	**00 25 40.8**	**-1.5**
FAQ	**Al Faqa, Dubai**	**2.33**	**173**	P	**Pn**	**00 25 42.5**	**+1.4**
FAQ				S	**Sn**	**00 26 10.2**	**+0.3**
HATD	**Hatta, Dubai**	**2.37**	**160**	P	**Pn**	**00 25 42.6**	**+1.0**
ASUD	**Al Ashush, Dub**	**2.43**	**179**	P	**Pn**	**00 25 43.5**	**+1.0**
ASHO	**Ashiyiah**	**2.48**	**163**	P	**Pn**	**00 25 44.0**	**+0.8**
	SNR=16						
JASK	**Jask - Hormozg**	**2.62**	**117**	Pn	**Pn**	**00 25 44.3**	**-0.9**
JASK	**Jask - Hormozg**	**2.62**	**117**	P	**Pn**	**00 25 44.4**	**-0.7**
	SNR=11						
JASK				S	**Sn**	**00 26 16.1**	**-1.0**
ALNE	**Al Ain**	**3.03**	**172**	P	**Pn**	**00 25 51.7**	**+0.9**
SOHO	**SOHO**	**3.14**	**158**	P	**Pn**	**00 25 52.4**	**+0.1**
SOHO				S	**Sn**	**00 26 29.7**	**-0.1**
CHMN	**Cheshme madani**	**3.43**	**35**	Pn	**Pn**	**00 25 58.3**	**+1.7**
KHGB	**Koh Gabri**	**3.46**	**18**	Pn	**Pn**	**00 25 58.3**	**+1.4**
KBAM	**BAM**	**3.49**	**53**	Pn	**Pn**	**00 25 58.2**	**+1.0**
ARQ	**Araqi**	**3.89**	**163**	P	**Pn**	**00 26 03.0**	**+0.4**
	SNR=12						
ARQ				S	**Sn**	**00 26 48.6**	**+0.3**
UMZA	**Um Al Zommool**	**4.34**	**181**	P	**Pn**	**00 26 09.3**	**+0.6**
UMZA				S	**Sn**	**00 26 59.9**	**+0.5**
IMEH	**Mehriz**	**4.34**	**353**	Pn	**Pn**	**00 26 10.3**	**+1.3**
BSY	**Bisya**	**4.65**	**157**	P	**Pn**	**00 26 14.0**	**+0.9**
	SNR=10						
BSY				S	**Sn**	**00 27 08.1**	**+0.9**
SMDO	**Samad**	**4.72**	**147**	P	**Pn**	**00 26 15.9**	**+1.8**
SMDO				S	**Sn**	**00 27 07.4**	**-1.8**
WSAR	**Wadi Sarin**	**4.88**	**141**	P	**Pn**	**00 26 16.2**	**0.0**
	SNR=7.3						
WSAR				S	**Sn**	**00 27 09.8**	**-3.1**
JMDO	**Jabal Madar**	**5.34**	**150**	P	**Pn**	**00 26 23.1**	**+0.6**
IRAM	**Ramesheh**	**5.35**	**333**	Pn	**Pn**	**00 26 24.2**	**+1.3**
NGCH	**Negor - Chabah**	**5.54**	**107**	P	**Pn**	**00 26 24.9**	**-0.4**
NGCH				S	**Sn**	**00 27 25.9**	**-3.3**
JLN	**Jalan Bani Buh**	**6.18**	**141**	P	**Pn**	**00 26 33.9**	**-0.2**
MHTO	**MHTO**	**6.54**	**157**	P	**Pn**	**00 26 38.7**	**-0.3**
DOK	**Doka**	**8.47**	**187**	P	**Pn**	**00 27 04.6**	**-1.0**
DMTO	**DMTO**	**9.31**	**182**	P	**Pn**	**00 27 16.4**	**-0.7**
ABTO	**Aybut**	**9.84**	**191**	P	**Pn**	**00 27 23.6**	**-0.7**
	SNR=6.8						

MOS ***18*** *00:32:25.0 ± 1.1, 44˚.76N × 150˚.05E, h47km, mb4.5/20, Error ellipse: s-maj=9.3km s-min=7.5km az=118.1*
SKHL ***18*** *00:32:26.3 ± 0.2, 44˚.60N × 150˚.10E, h61km ± 8km, mb4.7/4*
IDC ***18*** *00:32:28.5 ± 0.8, 44˚.84N × 150˚.01E, h59km ± 6km, mb3.8/21, mbtmp4.0/24, Error ellipse: s-maj=17.9km s-min=15.3km az=161.0*
JMA ***18*** *00:32:28.5 ± 0.6, 45˚N ± 3˚ × 15˚0E ± ˚, h30km, MV4.4/13, SE OFF ETOROFU*
NEIC ***18*** *00:32:28.6 ± 1.1, 44˚.93N ± 0˚.08 × 149˚.8E ± 0˚.1, h50km ± 5km, mb4.3/36, Error ellipse: s-maj=13.6km s-min=10.9km az=118.0*

ISC 18 00:32:24.6 ± 0.6, **44˚.57N** ± 0˚.06 × **150˚.10E** ± 0˚.06, **h34**km, **n146**, σ1§**50**/156, **mb4.2**/51, **5C-4D**, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.72**	**294**	*e*PN	**Pn**	**00 32 52.9**	**+0.9**
KUR				*e*S	**Sn**	**00 33 13.3**	**+0.5**
KUR				pmax	pmax		
	comp=E,52nm,0.2s						
KUR				pmax	pmax		
	comp=Z,107nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,415nm,0.2s						
KUR	**Kuril'sk**	**1.72**	**294**	*e*P	**Pn**	**00 32 52.9**	**+0.9**
KUR				AMB	AMB	00 32 58.5	
	comp=E,110nm,0.2s						
KUR				*e*S	**Sn**	**00 33 13.0**	**+0.2**
KUR				A	A	00 33 14.3	
	comp=E,2μm,0.5s						
KUR				A	A	00 33 14.3	
	comp=E,420nm,0.5s						
SHO	**Shikotan**	**2.45**	**255**	*e*PN	**Pn**	**00 33 03.3**	**+1.2**
SHO				*e*S	**Sn**	**00 33 30.9**	**+0.1**
SHO				pmax	pmax		
	comp=Z,28nm,0.3s						
SHO				smax	smax		
	comp=N,134nm,0.4s						
SHO				smax	smax		
	comp=E,231nm,0.2s						
SHO	**Shikotan**	**2.45**	**255**	*e*P	**Pn**	**00 33 03.3**	**+1.2**
SHO				AMB	AMB	00 33 06.6	
	comp=E,90nm,0.3s						
SHO				*e*S	**Sn**	**00 33 30.9**	**+0.1**
SHO				A	A	00 33 33.4	
	comp=E,240nm,0.4s						
SHO				A	A	00 33 33.4	
	comp=E,260nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.08**	**262**	*e*PN	**Pn**	**00 33 12.7**	**+1.9**
YUK				*e*S	**Sn**	**00 33 47.8**	**+1.3**
YUK				pmax	pmax		
	comp=Z,132nm,0.2s						
YUK				pmax	pmax		
	comp=N,30nm,0.1s						
YUK				pmax	pmax		
	comp=E,21nm,0.1s						
YUK				smax	smax		
	comp=N,420nm,0.3s						
YUK				smax	smax		
	comp=E,562nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.08**	**262**	*e*P	**Pn**	**00 33 12.7**	**+1.9**
YUK				AMB	AMB	00 33 16.3	
	comp=E,140nm,0.6s						
YUK				*e*S	**Sn**	**00 33 47.5**	**+1.0**
YUK				A	A	00 33 52.3	
	comp=E,540nm,0.7s						
YUK				A	A	00 33 52.3	
	comp=E,680nm,0.7s						
NEM2	**Nemuro 2**	**3.36**	**251**	*e*P	**Pn**	**00 33 15.9**	**+1.2**
NEM2				*e*S	**Sn**	**00 33 51.6**	**-1.8**
NMR	**Nemuro--Hokkai**	**3.37**	**251**	*e*PN	**Pn**	**00 33 15.6**	**+0.8**
NMR				*e*S	**Sn**	**00 33 53.9**	**+0.3**
NMR	**Nemuro--Hokkai**	**3.37**	**251**	*e*P	**Pn**	**00 33 16.0**	**+1.2**
NMR				*e*S	**Sn**	**00 33 53.9**	**+0.3**
JRA	**Rausu**	**3.63**	**262**	*e*S	**Sn**	**00 34 01.4**	**+1.5**
JNK	**Nakash**	**4.00**	**258**	*e*P	**Pn**	**00 33 25.6**	**+2.2**
AKK	**Akkeshi**	**4.11**	**250**	*e*P	**Pn**	**00 33 27.5**	**+2.6**
JTKR	**Abashiri--Toko**	**4.48**	**265**	*e*P	**Pn**	**00 33 33.4**	**+3.3**
JAR	**Ashorobuto**	**4.74**	**257**	*e*P	**Pn**	**00 33 36.8**	**+3.2**
JOB	**Onbets**	**4.83**	**252**	*e*P	**Pn**	**00 33 37.1**	**+2.2**
JCH	**Churui**	**5.26**	**251**	*e*P	**Pn**	**00 33 43.0**	**+2.2**
JKK2	**Kamakawa 2**	**5.33**	**265**	*e*P	**Pn**	**00 33 45.5**	**+3.8**
JKA	**Kamikawa-asahi**	**5.39**	**268**	Pn	**Pn**	**00 33 45.2**	**+2.6**
ASAJ	**Asahikawa**	**5.40**	**268**	P	**Pn**	**00 33 46.5**	**+3.9**
	comp=E,5.1nm,0.3s,baz=86,slow=13,SNR=6.2						
YSS	**Yuzh-Sakhalins**	**5.66**	**298**	*e*P	**Pn**	**00 33 48.9**	**+2.7**
ERM	**Erimo**	**5.67**	**246**	Pn	**Pn**	**00 33 49.8**	**+3.5**
ERM	**Erimo**	**5.67**	**246**	*e*PN	**Pn**	**00 33 49.7**	**+3.4**
JNBK	**Urakawa-nobuka**	**5.81**	**249**	*e*P	**Pn**	**00 33 49.7**	**+1.4**
JANG	**Nango**	**7.60**	**240**	*e*S	**Sn**	**00 35 32.2**	**-5.6**
JTM	**Tenmabayashi**	**7.65**	**244**	Pn	**Pn**	**00 34 14.0**	**+0.5**
PAU	**Pauzhetka**	**8.24**	**31**	*e*P	**Pn**	**00 34 24.5**	**+2.9**
JMM	**Marumori**	**9.69**	**229**	Pn	**Pn**	00 34 47.3	+5.8
PETK	**Petropavlovsk-**	**9.90**	**28**	Pn	**Pn**	**00 34 44.9**	**+0.5**
PETK	**Petropavlovsk-**	**9.90**	**28**	PN	**Pn**	**00 34 44.9**	**+0.5**
NKL	**Nikolayevsk**	**10.59**	**328**	*e*P	**Pn**	**00 34 56.1**	**+2.4**
USRK	**Ussuriysk Ar.**	**12.96**	**275**	P	**Pn**	**00 35 28.2**	**+2.0**
	comp=E,3.3nm,0.7s,baz=92,slow=14,SNR=3.0						
SEY	**Seymchan**	**18.45**		3 P	**P**	**00 36 36.2**	**-0.8**
	comp=E,1.4nm,0.5s,baz=188,slow=8.5,SNR=6.6						
YAK	**Yakutsk**	**21.16**	**333**	P	**P**	**00 37 04.2**	**-2.3**
YAK	**Yakutsk**	**21.16**	**333**	*e*P	**P**	**00 37 04.5**	**-2.0**
YAK				*e*S	**S**	**00 40 56.1**	**-3.6**
YAK				*e*		00 41 12.1	
YAK				*e*SS	**SnSn**	**00 41 21.2**	**-1.2**
YAK				*e*		00 48 30.8	
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				smax	smax		
	comp=N,33nm,3.3s						
YAK				smax	smax		
	comp=E,85nm,3.9s						
XLT	**XiLinHaoTe**	**24.28**	**280**	*i*P	**P**	**00 37 39.8**	**+1.1**
XLT				pP	pwP	00 37 52.3	-0.3
XLT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,160nm,6.7s						
BILL	**Bilibino**	**25.02**	**14**	*e*P	**P**	**00 37 44.7**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.44**	**145**	T	T	01 09 11.0	
	baz=334,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.46**	**145**	T	T	01 09 11.2	
	baz=334,slow=76						
H11N3	**WAKE ISLAND Hy**	**28.46**	**145**	T	T	01 09 12.1	
	baz=334,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.46**	**147**	T	T	01 10 32.0	
	baz=335,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.47**	**147**	T	T	01 10 35.8	
	baz=335,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.48**	**147**	T	T	01 10 31.1	
	baz=335,slow=76						
ULN	**Ulaanbaatar**	**29.68**	**292**	*i*P	**P**	**00 38 27.9**	**+0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**29.68**	**292**	*e*P	**P**	**00 38 27.9**	**+0.7**
SONM	**Songino Array**	**30.12**	**292**	P	**P**	**00 38 30.9**	**-0.1**
SONM	**Songino Array**	**30.12**	**292**	*e*P	**P**	**00 38 31.4**	**+0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**30.12**	**292**	P	**P**	**00 38 31.2**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=78,slow=8.9,SNR=7.3						
	comp=Z,0.8nm,0.6s						
C19K	**Lookout Ridge**	**35.26**	**29**	P	**P**	**00 39 15.4**	**-0.2**
C19K				IAmb	IAmb	00 39 17.0	
	comp=Z,6.1nm,1.1s						
D19K	**Kuna River**	**35.60**	**30**	P	**P**	**00 39 18.6**	**0.0**
D19K				IAmb	IAmb	00 39 39.8	
	comp=Z,4.9nm,1.0s						
B20K	**Meade River**	**36.34**	**28**	P	**P**	**00 39 25.0**	**+0.3**
IMAR	**Indian Mountai**	**36.77**	**35**	P	**P**	**00 39 28.7**	**+0.2**
GTA	**Gaotai**	**37.24**	**280**	*e*P	**P**	**00 39 34.1**	**+1.1**
GTA				sP	sP	00 39 44.3	+0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MLY	**Manley**	**37.93**	**36**	P	**P**	**00 39 39.1**	**+0.7**
C23K	**Itkillik River**	**38.51**	**29**	P	**P**	**00 39 43.5**	**+0.4**
C23K				IAmb	IAmb	00 39 44.0	
	comp=Z,3.3nm,0.8s						
MDM	**Murphy Dome**	**39.00**	**37**	P	**P**	**00 39 48.0**	**+0.7**
MDM				IAmb	IAmb	00 40 16.7	
	comp=Z,5.6nm,1.4s						
ILAR	**Eielson Array**	**39.57**	**37**	P	**P**	**00 39 52.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=264,slow=7.9,SNR=13						
	comp=Z,0.6nm,0.7s						
NRIK	**Noril'sk**	**39.58**	**330**	P	**P**	**00 39 50.1**	**-1.9**
NRIK	**Noril'sk**	**39.58**	**330**	*i*P	**P**	**00 39 51.6**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NRIK	**Noril'sk**	**39.58**	**330**	P	**P**	**00 39 50.3**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=70,slow=12,SNR=5.3						
	comp=Z,0.9nm,0.4s						
D25K	**Kavik River**	**39.92**	**30**	P	**P**	**00 39 55.3**	**+0.3**
D25K				IAmb	IAmb	00 40 13.1	
	comp=Z,2.6nm,0.8s						
BMAR	**Burnt Mountain**	**40.51**	**33**	P	**P**	**00 40 00.9**	**+1.0**
BCAR	**Beaver Creek A**	**41.93**	**39**	P	**P**	**00 40 13.2**	**+1.6**
EGAK	**Eagle**	**42.02**	**37**	P	**P**	**00 40 12.6**	**+0.3**
EGAK				IAmb	IAmb	00 40 12.9	
	comp=Z,7.1nm,1.2s						
ZAA0	**Zalesovo Array**	**42.20**	**307**	P	**P**	**00 40 12.0**	**-1.8**
ZALV	**Zalesovo Beam**	**42.20**	**307**	P	**P**	**00 40 12.1**	**-1.7**
ZALV	**Zalesovo Beam**	**42.20**	**307**	*e*P	**P**	**00 40 13.6**	**-0.2**
ZALV	**Zalesovo Beam**	**42.20**	**307**	P	**P**	**00 40 12.4**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=73,slow=8.1,SNR=4.7						
ZALV				PcP	**PcP**	**00 42 08.1**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=90,slow=4.3,SNR=2.1						
	comp=Z,0.7nm,0.5s						
I30M	**Mount Dempster**	**43.98**	**36**	P	**P**	**00 40 29.1**	**+0.9**
I30M				IAmb	IAmb	00 40 30.0	
	comp=Z,3.1nm,0.7s						
INK	**Inuvik**	**44.62**	**31**	P	**P**	**00 40 33.2**	**+0.1**
INK	**Inuvik**	**44.62**	**31**	P	**P**	**00 40 33.2**	**+0.1**
INK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MK31	**Makanchi Array**	**46.08**	**298**	P	**P**	**00 40 44.5**	**-0.6**
MK31	**Makanchi Array**	**46.08**	**298**	*de*P	**P**	**00 40 44.6**	**-0.4**
MKAR	**Makanchi Array**	**46.08**	**298**	P	**P**	**00 40 44.4**	**-0.7**
MKAR	**Makanchi Array**	**46.08**	**298**	P	**P**	**00 40 44.7**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=75,slow=8.4,SNR=17						
MKAR				pP	**pwP**	**00 41 00.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=72,slow=7.5,SNR=3.7						
MKAR				PcP	**PcP**	**00 42 21.3**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=66,slow=3.6,SNR=1.4						
	comp=Z,1.8nm,0.8s						
MAKZ	**Makanchi**	**46.27**	**298**	P	**P**	**00 40 45.8**	**-0.7**
MAKZ				IAmb	IAmb	00 40 47.9	
	comp=Z,3.7nm,1.2s						
MAKZ	**Makanchi**	**46.27**	**298**	P	**P**	**00 40 45.8**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KURK	**Kurchatov**	**46.83**	**304**	P	**P**	**00 40 49.4**	**-1.4**
KURK	**Kurchatov**	**46.83**	**304**	*i*P	**P**	**00 40 50.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
KURK	**Kurchatov**	**46.83**	**304**	*e*P	**P**	**00 40 50.2**	**-0.6**
KURBB	**Kurchatov Arra**	**46.91**	**304**	P	**P**	**00 40 50.4**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=74,slow=8.4,SNR=20						
KURBB				PcP	**PcP**	**00 42 23.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=84,slow=3.1,SNR=3.0						
	comp=Z,1.7nm,0.6s						
BVAR	**Borovoye Array**	**50.62**	**310**	P	**P**	**00 41 19.3**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=50,slow=9.9,SNR=5.1						
	comp=Z,0.6nm,0.3s						
BRVK	**Borovoye**	**50.66**	**310**	*i*P	**P**	**00 41 18.8**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
BRVK	**Borovoye**	**50.66**	**310**	*e*P	**P**	**00 41 18.8**	**-1.4**
TARG	**Taragay, Kyrgy**	**51.21**	**294**	P	**P**	**00 41 25.6**	**+0.6**
TARG				IAmb	IAmb	00 41 39.6	
	comp=Z,1.8nm,0.8s						
TARG	**Taragay, Kyrgy**	**51.21**	**294**	P	**P**	**00 41 25.6**	**+0.6**
TARG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**52.91**	**296**	P	**P**	**00 41 36.4**	**-0.9**
AAK				IAmb	IAmb	00 41 38.8	
	comp=Z,4.4nm,1.1s						
AAK	**Ala-Archa**	**52.91**	**296**	*i*P	**P**	**00 41 38.0**	**+0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
AAK	**Ala-Archa**	**52.91**	**296**	*e*P	**P**	**00 41 38.0**	**+0.7**
YKA	**Yellowknife Ar**	**53.93**	**35**	P	**P**	**00 41 44.6**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=299,slow=7.4,SNR=5.0						
	comp=Z,0.3nm,0.7s						
ARSB	**Arslanbob**	**54.54**	**296**	P	**P**	**00 41 49.8**	**+0.5**
ARSB	**Arslanbob**	**54.54**	**296**	P	**P**	**00 41 49.8**	**+0.5**
ARSB				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**55.19**	**317**	P	**P**	**00 41 52.0**	**-1.5**
ARU				IAmb	IAmb	00 42 10.8	
	comp=Z,4.4nm,1.3s						
ARU	**Arti**	**55.19**	**317**	*d i*P	**P**	**00 41 52.2**	**-1.3**
ARU						00 42 52.0	
ARU				S	**S**	**00 49 30.7**	**-3.5**
ARU				pmax	pmax		
	comp=Z,22nm,3.1s						
KK31	**Karatay Array**	**55.19**	**299**	P	**P**	**00 41 53.4**	**-0.4**
KK31				IAmb	IAmb	00 41 54.8	
	comp=Z,2.4nm,0.7s						
KK31	**Karatay Array**	**55.19**	**299**	P	**P**	**00 41 53.4**	**-0.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**55.19**	**299**	P	**P**	**00 41 53.5**	**-0.3**
KKAR	**Karatay Array**	**55.19**	**299**	P	**P**	**00 41 53.5**	**-0.3**
ABKAR	**Akbulak array**	**58.19**	**310**	P	**P**	**00 42 14.0**	**-0.9**
ABKAR				IAmb	IAmb	00 42 15.9	
	comp=Z,4.6nm,1.1s						
ABKAR	**Akbulak array**	**58.19**	**310**	P	**P**	**00 42 14.1**	**-0.9**
SIMJ	**Simiganj**	**58.55**	**295**	P	**P**	**00 42 17.9**	**+0.1**
ARCES	**ARCESS Array B**	**59.21**	**340**	P	**P**	**00 42 19.9**	**-1.8**
	comp=Z,3.4nm,0.9s,baz=39,slow=7.8,SNR=1.9						
	comp=Z,3.4nm,0.9s						
SUMG	**Summit**	**63.01**	**3**	P	**P**	**00 42 47.3**	**-0.6**
SUMG	**Summit**	**63.01**	**3**	P	**P**	**00 42 47.3**	**-0.6**
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FIA1	**FINESS Array S**	**65.09**	**334**	P	**P**	**00 42 59.4**	**-1.8**
FINES	**FINESS Array B**	**65.09**	**334**	P	**P**	**00 42 59.5**	**-1.7**
FINES	**FINESS Array B**	**65.09**	**334**	P	**P**	**00 42 59.7**	**-1.5**
	comp=Z,2.4nm,0.5s,baz=28,slow=6.9,SNR=14						
	comp=Z,2.4nm,0.5s						
WRA	**Warramunga Arr**	**65.79**	**196**	P	**P**	**00 43 07.2**	**+1.1**
	comp=Z,49nm,0.5s,baz=15,slow=6.3,SNR=1.5						
GEYT	**Alibeck**	**65.89**	**300**	P	**P**	**00 43 05.9**	**-1.0**
GEYT				IAmb	IAmb	00 43 08.2	
	comp=Z,2.3nm,0.6s						
GEYT	**Alibeck**	**65.89**	**300**	P	**P**	**00 43 07.3**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=97,slow=6.1,SNR=6.1						
	comp=Z,1.4nm,0.5s						
OBN	**Obninsk**	**65.89**	**325**	*e*P	**P**	**00 43 06.5**	**0.0**
OBN				*e*		00 43 34.1	
OBN				*e*		00 45 31.8	
OBN				*e*PPP	PPP	00 47 04.5	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,140nm,11.0s						
ASAR	**Alice Springs**	**69.50**	**196**	P	**P**	**00 43 32.0**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=9.5,slow=6.7,SNR=4.9						
ASAR				pP	**PcP**	**00 43 48.9**	**-3.7**
	comp=Z,0.9nm,0.8s,baz=20,slow=6.7,SNR=4.8						
	comp=Z,0.4nm,0.6s						
NB2	**NORSAR Subarra**	**69.58**	**340**	P	**P**	**00 43 26.8**	**-2.9**
	comp=Z,2.8nm,0.6s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.58**	**340**	P	**P**	**00 43 28.6**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=28,slow=6.5,SNR=4.7						
	comp=Z,0.7nm,0.5s						
HFS	**Hagfors**	**69.73**	**338**	P	**P**	**00 43 29.3**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=45,slow=3.9,SNR=17						
	comp=Z,2.7nm,0.5s						
KIV	**Kislovodsk**	**70.78**	**313**	*e*P	**P**	**00 43 39.0**	**+1.6**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV	**Kislovodsk**	**70.78**	**313**	*e*P	**P**	**00 43 39.0**	**+1.6**
KBZ	**Khabaz**	**70.82**	**313**	P	**P**	**00 43 38.5**	**+1.0**
	comp=Z,6.9nm,0.9s,baz=326,slow=7.3,SNR=8.9						
	comp=Z,6.9nm,0.9s						
ZEI	**Tsey**	**70.94**	**312**	*e*P	**P**	**00 43 36.7**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**72.15**	**325**	P	**P**	**00 43 44.8**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=38,slow=6.3,SNR=14						
	comp=Z,1.7nm,0.4s						
AKBB	**Malin Array Si**	**72.15**	**325**	P	**P**	**00 43 44.7**	**-0.7**
AKBB	**Malin Array Si**	**72.15**	**325**	P	**P**	**00 43 44.7**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,14nm,1.5s						
KIEV	**Kiev**	**72.16**	**325**	P	**P**	**00 43 44

PKGZ			S	Sn	00 33 59.9	+0.3
PUZ	**Puketiti**	**0.96 218**	P	Pb	00 33 48.3	+0.6
PUZ			S	Sn	00 34 01.2	+1.0
HAZ	**Te Kaha**	**1.07 245**	P	Pn	00 33 48.5	-0.3
HAZ			S	Sb	00 34 04.0	+1.0
TWGZ	**Tauwhareparae**	**1.18 223**	P	Pb	00 33 51.8	+0.3
TWGZ			S	Sb	00 34 07.3	+0.9
RUGZ	**Raukumara Rang**	**1.24 238**	P	Pb	00 33 52.5	0.0
RUGZ			S	Sn	00 34 07.5	+0.4
CNGZ	**Carnagh Statio**	**1.33 208**	P	Pb	00 33 54.1	+0.3
TKGZ	**Te Karaka**	**1.45 219**	P	Pb	00 33 54.9	-1.1
MWZ	**Matawai**	**1.55 229**	P	Pn	00 33 56.3	+0.8
URZ	**Urewera**	**1.77 237**	P	Pn	00 33 59.9	+1.4
URZ	**Urewera**	**1.77 237**	P	Pn	00 33 59.9	+1.4
SNGZ	**Shannon Statio**	**1.97 222**	P	Pn	00 34 02.6	+1.3
KNZ	**Kokohu**	**2.00 211**	P	Pn	00 34 01.7	0.0
OPRZ	**Ohinepanea**	**2.02 254**	P	Pn	00 34 02.7	+0.8
MTHZ	**Maungataniwha**	**2.30 227**	P	Pn	00 34 06.9	+1.1
NMHZ	**Naumai**	**2.48 224**	P	Pn	00 34 09.9	+1.5
KUZ	**Kuaotunu**	**2.69 281**	P	Pn	00 34 12.2	+1.1
KUZ	**Kuaotunu**	**2.69 281**	P	Pn	00 34 09.5	-1.6
BKZ	**Black Stump Fm**	**2.71 226**	P	Pn	00 34 12.1	+0.7
BKZ	**Black Stump Fm**	**2.71 226**	P	Pn	00 34 12.1	+0.7
TOZ	**Tahuroa Road**	**2.82 261**	P	Pn	00 34 10.1	-2.7
KWHZ	**Kaweka Forest**	**2.93 223**	P	Pn	00 34 14.6	+0.2
GRZ	**Great Barrier**	**3.04 289**	P	Pn	00 34 17.5	+1.6
MKAZ	**Moumakai**	**3.08 273**	P	Pn	00 34 16.3	-0.1
NTVZ	**North Tongarir**	**3.17 235**	P	Pn	00 34 18.7	+0.9
BHHZ	**Black Hill Sta**	**3.17 226**	P	Pn	00 34 18.1	+0.3
BFZ	**Birch Farm**	**3.99 212**	P	Pn	00 34 29.1	+0.1
BFZ	**Birch Farm**	**3.99 212**	P	Pn	00 34 27.6	-1.4
BFZ			S	Sn	00 35 11.0	-3.9
WCZ	**Waipu Caves**	**4.00 289**	P	Pn	00 34 29.9	+0.8
TIWZ	**Tintock**	**4.22 214**	P	Pn	00 34 32.8	+0.5
MRZ	**Mangatainoka R**	**4.28 218**	P	Pn	00 34 31.5	-1.4
KHZ	**Kahutara**	**6.61 218**	P	Pn	00 35 04.2	-0.7

*DJA **18** 01:01:02.7±0.3,7°S×3°×12°7E±°, h400km±7km, M4.4/17, mb4.2/16, mB4.8/8, MLv4.8/17, Mw(mB)4.1/8*
*NEIC **18** 01:01:02.8±1.2, 6°.85S±0°.09×127°.04E±0°.05, h395km±8km, mb4.4/12, Error ellipse: s-maj=12.8km s-min=7.9km az=179.0*
*IDC **18** 01:01:05.0±3.6, 7°.00S×127°.01E, h424km±44km, mb3.5/10, mbtmp4.3/11, Error ellipse: s-maj=33.0km s-min=12.0km az=75.0*

ISC 18 01:01:03.2±0.5,**6°.95S**±0°.06×**127°.07E**±0°.07,**h407**km,**n66**, σ1°**04**/69,**mb4.1**/15,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**3.68**	**0**	P		**P**		**01 02 13.6**	**+0.9**
BNDI	**Bandanaira**	**3.71**	**50**	P		**P**		**01 02 13.7**	**+0.8**
BNDI	**Bandanaira**	**3.71**	**50**	P		**P**		**01 02 13.3**	**+0.4**
KRAI	**Karang Ratu**	**3.84**	**20**	P		**P**		**01 02 14.6**	**+0.5**
SOEI	**Soe**	**3.93**	**225**			**P**		**01 02 15.5**	**+0.4**
SOEI					Sn	**S**		**01 03 11.6**	**-2.0**
SOEI	**Soe**	**3.93**	**225**	P		**P**		**01 02 15.2**	**+0.1**
SOEI	**Soe**	**3.93**	**225**	P		**P**		**01 02 14.9**	**-0.2**
SAUI	**Saumlaki**	**4.32**	**104**	Pn		**P**		**01 02 17.9**	**-0.7**
SAUI	**Saumlaki**	**4.32**	**104**	P		**P**		**01 02 17.0**	**-1.6**
SANI	**Sanana**	**4.98**	**347**	P		**P**		**01 02 24.3**	**-0.9**
SANI	**Sanana** 73nm,0.9s,1μm0.3nm	**4.98**	**347**	P		**P**		**01 02 23.9**	**-1.3**
MMRI	**Maumere**	**5.07**	**250**			**P**		**01 02 24.4**	**-1.6**
MMRI	**Maumere**	**5.07**	**250**	P		**P**		**01 02 26.1**	**0.0**
MMRI	**Maumere** 97nm,0.5s,3μm0.4nm	**5.07**	**250**	P		**P**		**01 02 24.5**	**-1.6**
EDFI	**Ende, Flores** 38nm,0.9s,679nm0.2nm	**5.62**	**251**	P		**P**		**01 02 30.2**	**-1.7**
LBMI	**Labuha** 127nm,0.8s,3μm0.5nm	**6.28**	**4**	P		**P**		**01 02 39.0**	**+0.1**
FAKI	**Fak Fak**	**6.53**	**52**			**P**		**01 02 40.6**	**-1.8**
FAKI						**S**		**01 03 59.5**	**-2.9**
FAKI	**Fak Fak**	**6.53**	**52**	P		**P**		**01 02 40.4**	**-2.0**
FAKI	**Fak Fak** 44nm,0.8s,2μm0.4nm	**6.53**	**52**	P		**P**		**01 02 40.0**	**-2.4**
MTN	**Manton Dam**	**7.10**	**146**			**P**		**01 02 49.1**	**+0.5**
MTN	**Manton Dam**	**7.10**	**146**	P		**P**		**01 02 49.1**	**+0.5**
BASI	**Baing, Sumba** 124nm,1.5s,0.7nm	**7.20**	**243**	P		**P**		**01 02 48.2**	**-1.5**
SIJI	**Sorong** 14nm,0.7s,1μm0.5nm	**7.35**	**35**	P		**P**		**01 02 50.3**	**-1.1**
SWI	**Sorong** 18nm,0.5s,1μm0.1nm	**7.35**	**35**	P		**P**		**01 02 51.7**	**+0.3**
KMPI	**Kaimana, Papua** 259nm,0.9s,1.1nm	**7.37**	**64**	P		**P**		**01 02 50.9**	**-0.7**
KDU	**Kakadu**	**7.80**	**137**	P		**P**		**01 02 56.6**	**+0.2**
KNRA	**Kununurra**	**8.84**	**169**	P		**P**		**01 03 08.4**	**+0.6**
PLAI	**Plampang**	**9.39**	**258**	P		**P**		**01 03 11.8**	**-2.2**
TOI2	**Tolitoli**	**10.17**	**322**	P		**P**		**01 03 22.6**	**0.0**
MPSI	**Mapaga** 6.7nm,1.2s	**10.17**	**315**	P		**P**		**01 03 23.3**	**+0.6**
TWSI	**Taliwang, Sumb** 20nm,0.9s	**10.25**	**259**	P		**P**		**01 03 23.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.17**	**187**	P		**P**		**01 03 33.6**	**0.0**
WRA	**Warramunga Arr** 57nm,0.6s,baz=328,slow=11,SNR=2.0	**14.72**	**152**	P		**P**		**01 04 13.0**	**+0.5**
WB2	**Warramunga Arr**	**14.73**	**152**	P		**P**		**01 04 12.9**	**+0.3**
WR0	**Warramunga Arr**	**14.83**	**151**	P		**P**		**01 04 14.2**	**+0.5**
PSA00	**Pilbara Seismi**	**16.13**	**205**	P		**P**		**01 04 28.1**	**+0.5**
PSA00	**Pilbara Seismi**	**16.13**	**205**	P		**P**		**01 04 27.7**	**+0.1**
PSA00	comp=Z,9.0nm,0.6s				IAmb	IAmb		01 04 28.5	
PSA00	**Pilbara Seismi**	**16.13**	**205**	P		**P**		**01 04 27.8**	**+0.1**
AS31	**Alice Springs**	**17.88**	**159**	P		**P**		**01 04 47.1**	**+0.9**
ASAR	**Alice Springs** comp=Z,4.3nm,0.4s,baz=349,slow=14,SNR=86	**17.88**	**159**	P		**P**		**01 04 47.1**	**+0.9**
ASAR	comp=Z,1.4nm,0.6s,baz=345,slow=24,SNR=7.3				S	**S**		**01 07 49.7**	**-1.0**
WRKA	**Warakurna**	**18.03**	**176**	P		**P**		**01 04 48.6**	**+0.8**
QIS	**Mount Isa**	**18.18**	**139**	P		**P**		**01 04 50.0**	**+0.5**
BBJI	**Bungbulang**	**19.27**	**267**	P		**P**		**01 04 59.6**	**-1.1**
GIRL	**Giralia**	**19.91**	**217**	P		**P**		**01 05 07.5**	**+1.1**
MEEK	**Meekatharra**	**21.17**	**201**	P		**P**		**01 05 18.0**	**+0.1**
FORT	**Forrest**	**23.73**	**178**	P		**P**		**01 05 41.7**	**+0.7**
FORT	comp=Z,26nm,0.8s				IAmb	IAmb		01 05 42.6	
MORW	**Morawa**	**24.34**	**204**	P		**P**		**01 05 46.0**	**-0.6**
MORW	comp=Z,26nm,1.5s				IAmb	IAmb		01 06 13.7	
BBOO	**Buckleboo**	**27.06**	**163**	P		**P**		**01 06 11.5**	**+0.9**
BBOO	comp=Z,9.9nm,0.9s				IAmb	IAmb		01 06 12.3	
NWAO	**Narrogin (SRO)**	**27.42**	**198**	P		**P**		**01 06 14.4**	**+0.6**
NWAO	**Narrogin (SRO)**	**27.42**	**198**	P		**P**		**01 06 14.3**	**+0.6**
NWAO	comp=Z,33nm,1.4s				IAmb	IAmb		01 06 54.5	
STKA	**Stephens Creek**	**28.27**	**153**	P		**P**		**01 06 22.6**	**+1.3**
STKA	**Stephens Creek** comp=Z,4.0nm,0.4s,baz=329,slow=9.8,SNR=10 comp=Z,4.0nm,0.4s	**28.27**	**153**	P		**P**		**01 06 22.5**	**+1.3**
KSRS	**Korea Array** comp=Z,0.6nm,0.3s,baz=172,slow=11,SNR=2.5 comp=Z,0.6nm,0.3s	**44.17**	**1**	P		**P**		**01 08 34.4**	**+0.6**
MJAR	**Matsushiro Arr** comp=Z,3.7nm,0.5s,baz=187,slow=8.4,SNR=10 comp=Z,3.7nm,0.5s	**44.50**	**13**	P		**P**		**01 08 36.1**	**-0.3**
USRK	**Ussuriysk Ar.** comp=Z,3.5nm,0.5s,baz=196,slow=6.1,SNR=5.5 comp=Z,3.5nm,0.5s	**51.10**	**5**	P		**P**		**01 09 26.6**	**+0.4**
SONM	**Songino Array** comp=Z,0.8nm,0.5s,baz=171,slow=6.9,SNR=15 comp=Z,0.8nm,0.5s	**57.52**	**344**	P		**P**		**01 10 12.5**	**+0.6**
PETK	**Petropavlovsk-** comp=Z,2.9nm,0.5s,baz=180,slow=3.0,SNR=13 comp=Z,2.9nm,0.5s	**65.22**	**20**	P		**P**		**01 11 04.4**	**+1.9**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.5s,baz=124,slow=7.8,SNR=23 comp=Z,0.8nm,0.5s	**66.62**	**328**	P		**P**		**01 11 12.1**	**+0.5**
ZAA0	**Zalesovo Array**	**70.28**	**335**	P		**P**		**01 11 33.4**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,2.6nm,0.5s,baz=150,slow=5.7,SNR=14 comp=Z,2.6nm,0.5s	**70.28**	**335**	P		**P**		**01 11 33.2**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,1.9nm,0.6s,baz=133,slow=5.1,SNR=30 comp=Z,1.9nm,0.6s	**70.97**	**330**	P		**P**		**01 11 38.3**	**+0.4**
VNDA	**Vanda**	**72.86**	**173**	P		**P**		**01 11 48.8**	**+0.2**
VNDA	comp=Z,7.0nm,1.5s				IAmb	IAmb		01 11 53.1	
MAW	**Mawson**	**73.95**	**201**	P		**P**		**01 11 54.9**	**-0.1**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.4s,baz=124,slow=9.3,SNR=5.9	**76.49**	**329**	P		**P**		**01 12 10.8**	**+1.3**
	comp=Z,0.5nm,0.4s								
ABKAR	**Akbulak array**	**80.67**	**322**	P		**P**		**01 12 31.5**	**-0.6**
BOSC	**San Juan Bosco**	**152.58**	**111**			**PKPdf**		**01 20 06.9**	**+0.6**

*IDC **18** 01:20:54.1±5.9,36°.29N×19°.59E, h0km, mb3.7/3, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=101.8km s-min=47.7km az=31.0*
*ATH **18** 01:21:10.1,38°.00N×20°.92E, h12km±2km, ML3.1/8, Error ellipse: s-maj=2.6km s-min=0.7km az=238.0*
*THE **18** 01:21:10.3,37°.97N×20°.89E, h16km±1km, ML3.3/9, Error ellipse: s-maj=1.4km s-min=0.5km az=231.0*

ISC 18 01:21:09.8±1.0,**37°.97N**±0°.02×**20°.90E**±0°.02,**h9**km±8km, **n43**,σ0°**68**/68,**mb3.6**/3,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.27**	**191**	P		**Pg**		**01 21 15.6**	**+0.4**
LTHK				S		**Sb**		**01 21 20.8**	**-0.7**
	12μm,0.4s								
LTHK	**Lithakia**	**0.27**	**191**	P		**Pg**		**01 21 15.6**	**+0.4**
LTHK				S		**Sb**		**01 21 20.9**	**-0.5**
LTHK				AML		AML		01 21 30.6	
	comp=N,20208μm,0.4s								
LTHK				AML		AML		01 21 30.7	
	comp=E,27959μm,0.5s								
PSDA	**Pessada-Kefalo**	**0.29**	**299**	P		**Pg**		**01 21 15.7**	**+0.2**
PSDA				S		**Sb**		**01 21 21.0**	**-1.0**
KRI1	**kERI**	**0.32**	**192**	P		**Pg**		**01 21 16.5**	**+0.4**
KRI1				S		**Sb**		**01 21 22.5**	**-0.4**
	comp=E,7μm,0.7s								
VLS	**Valsamata**	**0.32**	**310**	P		**Pg**		**01 21 15.9**	**-0.3**
VLS				S		**Sb**		**01 21 22.0**	**-1.0**
	comp=E,5μm,0.3s								
VLS	**Valsamata**	**0.32**	**310**	P		**Pg**		**01 21 16.3**	**+0.1**
VLS				S		**Sg**		**01 21 21.7**	**+1.3**
LXR1	**Lixouri, Cepha**	**0.43**	**302**	P		**Pg**		**01 21 18.6**	**+0.4**
LXR1				S		**Sb**		**01 21 25.6**	**-0.6**
	comp=E,12μm,0.6s								
LXRA	**Lixouri, Kepha**	**0.43**	**302**	P		**Pg**		**01 21 18.6**	**+0.4**
LXRA				S		**Sb**		**01 21 25.3**	**-0.8**
LXRA				AML		AML		01 21 26.9	
	comp=N,14962μm,0.4s								
LXRA				AML		AML		01 21 27.3	
	comp=E,14452μm,0.2s								
RLS	**Riolos of Patr**	**0.46**	**79**	P		**Pg**		**01 21 18.6**	**-0.1**
RLS				S		**Sb**		**01 21 26.8**	**-0.1**
	comp=E,2μm,0.5s								
RLS	**Riolos of Patr**	**0.46**	**79**	P		**Pg**		**01 21 18.7**	**0.0**
RLS				S		**Sg**		**01 21 24.6**	**-0.1**
RLS				AML		AML		01 21 30.4	
	comp=N,4937μm,0.6s								
RLS				AML		AML		01 21 30.5	
	comp=E,4808μm,0.5s								
KEF4	**Livadi, Kephal**	**0.47**	**307**	P		**Pg**		**01 21 19.1**	**+0.1**
KEF4				S		**Sb**		**01 21 26.6**	**-0.8**
KEF4	**Livadi, Kephal**	**0.47**	**307**	P		**Pg**		**01 21 19.2**	**+0.1**
KEF4				S		**Sb**		**01 21 26.3**	**-1.1**
KEF3	**Kipouria, Keph**	**0.49**	**298**	P		**Pg**		**01 21 19.3**	**-0.1**
KEF3				S		**Sb**		**01 21 27.2**	**-0.8**
KEF3	**Kipouria, Keph**	**0.49**	**298**	P		**Pg**		**01 21 19.1**	**-0.2**
KEF3				S		**Sb**		**01 21 27.1**	**-0.8**
DMLN	**Damoulianata-K**	**0.49**	**303**	P		**Pg**		**01 21 19.9**	**+0.5**
DMLN				S		**Sb**		**01 21 27.5**	**-0.5**
	comp=E,4μm,0.6s								
DMLN	**Damoulianata-K**	**0.49**	**303**	P		**Pg**		**01 21 20.0**	**+0.5**
DMLN				S		**Sg**		**01 21 25.7**	**-0.2**
FSK	**Fiskardo**	**0.55**	**331**	P		**Pg**		**01 21 20.1**	**-0.4**
FSK				S		**Sg**		**01 21 28.2**	**+0.4**
FSK				AML		AML		01 21 45.7	
	comp=N,2892μm,0.8s								
FSK				AML		AML		01 21 45.9	
	comp=E,3618μm,0.9s								
AST1	**Astakos**	**0.59**	**15**	P		**Pg**		**01 21 21.5**	**+0.3**
AST1				S		**Sb**		**01 21 31.2**	**+0.5**
	comp=E,3μm,0.6s								
DRO	**Drossia**	**0.64**	**92**	P		**Pg**		**01 21 21.9**	**-0.3**
DRO				S		**Sb**		**01 21 32.7**	**+0.4**
	comp=E,3μm,0.6s								
DRO	**Drossia**	**0.64**	**92**	P		**Pg**		**01 21 21.7**	**-0.5**
DRO				S		**Sg**		**01 21 30.8**	**+0.2**
DRO				AML		AML		01 21 37.2	
	comp=E,6389μm,0.6s								
DRO				AML		AML		01 21 39.2	
	comp=N,6604μm,0.5s								
EVGI	**Lefkada island**	**0.68**	**344**	P		**Pg**		**01 21 22.8**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.75**	**340**	P		**Pg**		**01 21 23.9**	**-0.5**
DRAG				S		**Sb**		**01 21 36.4**	**+0.8**
	comp=N,190nm,0.8s								
DRAG	**Dragano-Lefkad**	**0.75**	**340**	P		**Pg**		**01 21 23.0**	**-1.4**
DRAG				S		**Sg**		**01 21 33.9**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.76**	**348**	P		**Pg**		**01 21 23.7**	**-0.7**
UPR	**University Cam**	**0.76**	**66**	P		**Pg**		**01 21 25.2**	**+0.7**
PVO	**Paravola**	**0.81**	**37**	P		**Pg**		**01 21 25.7**	**+0.3**
PVO	**Paravola**	**0.81**	**37**	P		**Pg**		**01 21 24.9**	**-0.5**
PVO				S		**Sg**		**01 21 35.6**	**-0.3**
EFP	**Efpalio**	**0.91**	**60**	P		**Pg**		**01 21 27.3**	**-0.1**
EFP	**Efpalio**	**0.91**	**60**	P		**Pg**		**01 21 27.1**	**-0.2**
EFP				S		**Sg**		**01 21 40.0**	**+0.7**
EFP				AML		AML		01 21 47.8	
	comp=E,2933μm,0.7s								
EFP				AML		AML		01 21 49.6	
	comp=N,2541μm,0.8s								
KLV	**Kalavryta, Ach**	**0.99**	**86**	P		**Pb**		**01 21 28.0**	**-1.2**
KLV				S		**Sg**		**01 21 40.7**	**-1.0**
KLV				AML		AML		01 21 47.4	
	comp=N,1128μm,0.8s								
KLV				AML		AML		01 21 49.3	
	comp=E,987μm,0.9s								
ALIK	**Aliki, Aigiali**	**1.00**	**73**	P		**Pb**		**01 21 29.3**	**0.0**
ANX	**Ano Chora**	**1.01**	**52**	P		**Pb**		**01 21 29.2**	**-0.4**
ANX	**Ano Chora**	**1.01**	**52**	P		**Pb**		**01 21 28.9**	**-0.7**
ANX				S		**Sg**		**01 21 42.1**	**-0.4**
ANX				AML		AML		01 21 51.1	
	comp=E,2519μm,0.7s								
ANX				AML		AML		01 21 56.9	
	comp=N,2306μm,0.5s								
GUR	**Goura**	**1.14**	**91**	P		**Pb**		**01 21 30.7**	**-1.1**
GUR	**Goura**	**1.14**	**91**	P		**Pb**		**01 21 30.6**	**-1.2**
EVR	**Evrytania**	**1.18**	**37**	P		**Pn**		**01 21 32.4**	**-0.2**
EVR	**Evrytania**	**1.18**	**37**	P		**Pn**		**01 21 32.0**	**-0.6**
PYL	**PYLOS**	**1.27**	**148**	P		**Pn**		**01 21 32.7**	**-1.0**
BRTR	**Keskin Array B** baz=247,slow=14,SNR=1.6 comp=N,0.6nm,0.9s	**10.09**	**76**	Pn		Pn		01 23 41.5	+6.5
AKASG	**Malin Array Be** comp=N,0.4nm,0.3s,baz=210,slow=9.4,SNR=2.5 comp=N,0.1nm,0.4s	**14.04**	**22**	Pn		**P**		**01 24 38.7**	**+2.0**
HFS	**Hagfors** comp=N,0.9nm,0.5s,baz=180,slow=10,SNR=1.4 comp=N,0.9nm,0.5s	**22.65**	**351**	P		**P**		**01 26 11.5**	**+0.5**
MKAR	**Makanchi Array** comp=N,0.3nm,0.5s,baz=279,slow=7.2,SNR=11 comp=N,0.3nm,0.5s	**45.15**	**58**	P		**P**		**01 29 26.2**	**-0.4**
ZALV	**Zalesovo Beam** comp=N,0.7nm,0.4s,baz=270,slow=7.6,SNR=4.1 comp=N,0.7nm,0.4s	**45.60**	**48**	P		**P**		**01 29 31.1**	**+1.0**

*IDC **18** 01:32:34.4±1.5,20°.33S×70°.87W, h0km, mb3.6/3, mbtmp3.8/5, ML3.8/2, MS3.3/2, Error ellipse: s-maj=43.4km s-min=30.3km az=83.0*
*SJA **18** 01:32:38.0±0.9,20°.59S×70°.68W, h31km±2km, ML3.7, MW4.0*
*GUC **18** 01:32:39.4±0.7,20°.52S×70°.71W, h11km±5km, ML3.6*

ISC 18 01:32:36.3±1.4,**20°.59S**±0°.02×**70°.82W**±0°.05,**h25**km±11km, **n45**,σ1°**72**/66,**4C-8D**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.59**	**88**	*e*P		**Pn**		**01 32 48.4**	**-0.8**
TA01				*e*S		**Sn**		**01 32 55.9**	**-2.2**
TA01				IAML				01 32 59.0	
	comp=Z,2μm,0.8s								
TA01	**Diego Aracena**	**0.59**	**88**	⇓*i*P		**Pn**		**01 32 48.4**	**-0.8**
TA01				*i* S		**Sn**		**01 32 55.4**	**-2.7**
TA01				IAML				01 32 55.9	
	comp=N,6μm,0.5s								
PATCX	**Punta Patache**	**0.66**	**111**	*e*P		**Pn**		**01 32 53.8**	**+3.5**
PATCX				IAML				01 33 12.0	
	comp=Z,1μm,0.5s								
PATCX	**Punta Patache**	**0.66**	**111**	⇓*i*P		**Pn**		**01 32 50.1**	**-0.1**
PATCX				*i* S		**Sn**		**01 32 58.5**	**-1.4**
PATCX				IAML				01 33 01.5	
	comp=E,3μm,0.6s								
TA02	**Huaiquique**	**0.71**	**64**	*e*P		**Pn**		**01 32 53.8**	**+2.9**
TA02				*e*S		**Sn**		**01 33 00.6**	**-0.5**
TA02				IAML				01 33 02.2	
	comp=Z,3μm,0.5s								
TA02	**Huaiquique**	**0.71**	**64**	⇓*i*P		**Pb**		**01 32 50.1**	**0.0**
TA02				*i* S		**Sb**		**01 32 57.7**	**-1.9**
TA02				IAML				01 32 60.0	
	comp=N,6μm,0.1s								
HMBC	**Humberstone**	**0.92**	**71**	*e*P		**Pb**		**01 32 53.5**	**-0.2**
HMBC				*e*S		**Sn**		**01 33 07.8**	**+1.4**
HMBC				IAML				01 33 09.0	
	comp=Z,3μm,0.7s								
HMBC	**Humberstone**	**0.92**	**71**	⇓*i*P		**Pb**		**01 32 53.5**	**-0.2**
HMBC				*i* S		**Sb**		**01 33 03.9**	**-1.7**
HMBC				IAML				01 33 09.3	
	comp=N,3μm,0.6s								
PB02	**IPOC Station P**	**1.12**	**130**	*e*P		**Pn**		**01 32 53.8**	**-2.9**
PB02				*e*P		**Pb**		**01 32 58.8**	**+1.5**
PB02				*e*S		**Sb**		**01 33 14.4**	**+3.0**
PB02				IAML				01 33 19.3	
	comp=Z,3μm,0.5s								
PB02	**IPOC Station P**	**1.12**	**130**	⇓*i*P		**Pb**		**01 32 58.2**	**+1.0**
PB02				*i* S		**Sb**		**01 33 12.8**	**+1.3**
PB02				IAML				01 33 18.9	
	comp=E,3μm,0.2s								
PB01	**IPOC Station P**	**1.32**	**110**	*e*P		**Pb**		**01 33 00.8**	**+0.3**
PB01				*e*S		**Sb**		**01 33 17.4**	**+0.2**
PB01				IAML				01 33 18.9	
	comp=Z,982nm,0.2s								
PB01	**IPOC Station P**	**1.32**	**110**	⇓*i*P		**Pb**		**01 33 00.6**	**0.0**
PB01				*i* S		**Sb**		**01 33 17.1**	**0.0**
PB01				IAML				01 33 18.6	
	comp=N,2μm,0.5s								
PB11	**IPOC Station P**	**1.36**	**53**	*e*P		**Pb**		**01 33 00.7**	**-0.7**
PB11				*e*S		**Sb**		**01 33 18.0**	**-0.4**
PB11				IAML				01 33 23.6	
	comp=Z,1μm,0.9s								
PB11	**IPOC Station P**	**1.36**	**53**	⇓*i*P		**Pb**		**01 33 00.6**	**-0.7**
PB11				*i* S		**Sb**		**01 33 17.2**	**-1.2**
PB11				IAML				01 33 18.9	
	comp=N,3μm,0.3s								
PB07	**IPOC Station P**	**1.43**	**143**	*e*P		**Pb**		**01 33 03.4**	**+1.0**
PB07				*e*S		**Sb**		**01 33 23.5**	**+3.3**
PB07				IAML				01 33 26.5	
	comp=Z,838nm,0.5s								
PB07	**IPOC Station P**	**1.43**	**143**	⇑*i*P		**Pb**		**01 33 03.1**	**+0.7**
PB07				*i* S		**Sb**		**01 33 21.2**	**+1.0**
PB07				IAML				01 33 37.0	
	comp=E,993nm,0.7s								
PB08	**IPOC Station P**	**1.62**	**74**	*e*P		**Pb**		**01 33 05.0**	**-0.8**
PB08				*e*S		**Sb**		**01 33 25.5**	**-0.5**
PB08				IAML				01 33 28.1	
	comp=Z,540nm,0.7s								
PB08	**IPOC Station P**	**1.62**	**74**	⇓*i*P		**Pb**		**01 33 04.9**	**-0.8**
PB08				*i* S		**Sb**		**01 33 24.9**	**-1.1**
PB08				IAML				01 33 28.3	
	comp=E,880nm,0.4s								
GO01	**Chusmiza**	**1.78**	**59**	*e*P		**Pb**		**01 33 07.6**	**-0.9**
GO01				*e*S		**Sb**		**01 33 30.4**	**-0.2**
GO01				IAML				01 33 35.1	
	comp=Z,766nm,0.9s								
GO01	**Chusmiza**	**1.78**	**59**	⇑*i*P		**Pb**		**01 33 07.4**	**-1.2**
GO01				*i* S		**Sb**		**01 33 29.7**	**-0.9**
GO01				IAML				01 33 32.9	
	comp=N,2μm,0.1s								
PB04	**IPOC Station P**	**1.84**	**160**	*e*P		Pn		01 32 53.8	-13
PB04				*e*P		**Pb**		**01 33 08.6**	**-0.9**
PB04				*e*S		**Sb**		**01 33 31.8**	**-0.5**
PB04				IAML				01 33 44.4	
	comp=Z,747nm,0.6s								
PB09	**IPOC Station P**	**1.90**	**130**	*e*P		**Pb**		**01 33 10.5**	**+0.1**
PB09				*e*S		**Sb**		**01 33 36.2**	**+2.5**
PB09				IAML				01 33 47.4	
	comp=Z,750nm,0.7s								
PB09	**IPOC Station P**	**1.90**	**130**	⇑*i*P		**Pb**		**01 33 10.8**	**+0.4**
PB09				*i* S		**Sb**		**01 33 35.5**	**+1.8**
PB09				IAML				01 33 44.2	
	comp=E,854nm,0.5s								
PB12	**IPOC Station P**	**2.02**	**13**	*e*P		**Pb**		**01 33 11.8**	**-0.6**
PB12				*e*S		**Sn**		**01 33 34.2**	**+0.9**
PB12				IAML				01 33 41.9	
	comp=Z,919nm,0.8s								
PB12	**IPOC Station P**	**2.02**	**13**	⇑*i*P		**Pn**		**01 33 11.3**	**+2.4**
PB

mB4.9/34,Ms4.4/19,Ms7 4.1/20
MOS ***18*** *01:50:58.7± 1.0,27˚.36N× 141˚.59E,h57km,mb5.4/51,Error ellipse: s-maj=9.2km s-min=4.0km az=115.9*
NEIC ***18*** *01:51:01.0± 1.8,27˚.46N± 0˚.07× 141˚.83E± 0˚.09,h51km± 2km, mb5.0/148,Error ellipse: s-maj=13.7km s-min=8.0km az=53.0*
IDC ***18*** *01:51:01.5± 1.6,27˚.33N× 141˚.75E,h71km± 12km,mb4.5/27, mbtmp4.8/33,MS3.7/24,Error ellipse: s-maj=15.4km s-min=11.4km az=82.0*
JMA ***18*** *01:51:02.1± 0.1,27˚.3N± 0˚.6× 14˚.2E± ˚,h67km,MD5.0/26, MV5.2/26,NEAR CHICHIJIMA ISLAND*
JMA Felt II J1 at NEAR CHICHIJIMA ISLAND .
GCMT ***18*** *01:51:04.0± 0.6,27˚.39N± 0˚.04× 142˚.08E± 0˚.04,h82km± 6km, MW4.8/61,Moment Tensor Solution. s13,c16; s61,c88; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.95± .17; Mθθ-0.65± .18; Mϕϕ 1.60± .18; Mrθ-0.35± .09; Mϕθ-1.21± .13; Mϕr-1.54± .09; Best double couple: M◎2.40200×10¹⁶ NP1:ϕs118.00000°,δ75.00000°,λ-52.00000°. NP2: ϕs118.00000°,δ41.00000°,λ-157.00000°. Principal axes: T 2.6120, Plg21.0000°, Azm72.0000°; N -0.4190, Plg37.0000°, Azm178.0000°; P -2.1920, Plg46.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 01:51:00.8± 0.4,27˚.35N± 0˚.03× 141˚.88E± 0˚.05,h67km± 3km, h67km:pP-P,n759,σ1§27/761,mb5.1/230,27C-38D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	ISC
				Op						
CBIJ	**Chichi jima**	**0.37**	**133**	P		**Pn**	**01**	**51**	**12.7**	**+0.5**
CBIJ				S		**Sn**	**01**	**51**	**20.4**	**-0.1**
CBIJ	**Chichi jima**	**0.37**	**133**	A		A	01	51	12.7	
comp=E,440nm,1.3s,comp=N,235nm,0.6s										
JCJ	**Chichijima**	**0.37**	**133**			**Pn**	**01**	**51**	**12.6**	**+0.4**
JCJ						**Sn**	**01**	**51**	**20.1**	**-0.4**
JCJ	**Chichijima**	**0.37**	**133**	P		**Pn**	**01**	**51**	**08.7**	**-3.5**
comp=N,36μm,0.4s,baz=20,slow=1.9,SNR=6563										
JCJ				S		**Sn**	**01**	**51**	**16.2**	**-4.3**
comp=N,59μm,0.4s,baz=217,slow=20,SNR=60										
JHH2	**Haha-jima-NKT2**	**0.76**	**159**	P		**Pn**	**01**	**51**	**16.8**	**+0.6**
JHH2				*e*S		**Sn**	**01**	**51**	**28.1**	**+0.5**
JHH2	**Haha-jima-NKT2**	**0.76**	**159**	A		A	01	51	16.8	
comp=E,151nm,0.4s,comp=N,142nm,0.6s										
JAOM	**Aogashimamukai**	**5.42**	**341**	*e*P		**Pn**	**01**	**52**	**19.9**	**+0.9**
JHJ2	**Mitsune**	**6.01**	**343**	Pn		**Pn**	**01**	**52**	**26.5**	**-0.6**
JHJ2	**Mitsune**	**6.01**	**343**	*e*P		**Pn**	**01**	**52**	**27.2**	**+0.1**
JHJ	**Hachijo jima 2**	**6.03**	**343**	P		**Pn**	**01**	**52**	**25.9**	**-1.5**
comp=N,217nm,0.8s,baz=86,slow=23,SNR=18										
JHJ				S		**Sn**	**01**	**53**	**33.0**	**-2.0**
comp=N,224nm,0.3s,baz=73,slow=21,SNR=8.0										
JMKN	**Mikurajimanish**	**6.81**	**344**	*e*P		**Pn**	**01**	**52**	**38.5**	**+0.5**
JMYK	**Miyake Tsubota**	**6.98**	**344**	*e*P		**Pn**	**01**	**52**	**40.2**	**-0.1**
JMYK				*e*S		**Sn**	**01**	**53**	**56.0**	**-2.2**
BSO1	**Boso 1**	**7.32**	**354**	*e*P		**Pn**	**01**	**52**	**43.5**	**-1.0**
BSO1				*e*S		**Sn**	**01**	**54**	**04.5**	**-1.3**
BSO3	**Boso 3**	**7.52**	**351**	P		**Pn**	**01**	**52**	**46.6**	**-0.9**
JIM2	**Oshima 3**	**7.64**	**345**	*e*P		**Pn**	**01**	**52**	**49.5**	**+0.1**
JOD2	**Odawara 2**	**8.24**	**344**	*e*P		**Pn**	**01**	**52**	**58.9**	**+1.3**
JOD2				*e*S		**Sn**	**01**	**54**	**30.1**	**+1.0**
JTNC	**Tanabenakahech**	**8.41**	**322**	P		**Pn**	**01**	**53**	**02.0**	**+2.1**
JYN	**Shimob**	**8.61**	**342**	*e*S		**Sn**	**01**	**54**	**40.6**	**+2.4**
INU	**Inuyama**	**8.99**	**334**	Pn		**Pn**	**01**	**53**	**08.9**	**+1.1**
INU	**Inuyama**	**8.99**	**334**	P		**Pn**	**01**	**53**	**09.8**	**+2.0**
JRY	**Ryogami san**	**9.00**	**344**	*e*P		**Pn**	**01**	**53**	**07.4**	**-0.6**
JRY				*e*S		**Sn**	**01**	**54**	**46.2**	**-1.7**
JAI	**Aioi**	**9.06**	**317**	*e*P		Pn	01	53	12.3	+3.5
JAG	**Ashikaga**	**9.28**	**348**	P		**Pn**	**01**	**53**	**10.0**	**-1.8**
JMN	**Monobe**	**9.38**	**315**	Pn		Pn	01	53	17.1	+3.9
JMN	**Monobe**	**9.38**	**315**	P		Pn	01	53	17.2	+4.0
JMZ	**Minamidaito 2**	**9.66**	**263**	Pn		Pn	01	53	23.2	+6.2
MJAR	**Matsushiro Arr**	**9.68**	**342**	P		**Pn**	**01**	**53**	**17.5**	**+0.3**
comp=N,9.9nm,0.4s,baz=143,slow=12,SNR=35										
MJAR				S		**Sn**	**01**	**55**	**02.2**	**-2.1**
comp=N,33nm,0.7s,baz=134,slow=13,SNR=4.8										
MAJO	**Matsushiro**	**9.68**	**342**	Pn		**Pn**	**01**	**53**	**17.0**	**-0.3**
MAJO	**Matsushiro**	**9.68**	**342**	P		**Pn**	**01**	**53**	**18.0**	**+0.7**
MAJO	**Matsushiro**	**9.68**	**342**	⇑*e*P		**Pn**	**01**	**53**	**16.6**	**-0.7**
MJB9	**Matsu-Tunnel**	**9.68**	**342**			**Pn**	**01**	**53**	**16.6**	**-0.7**
JMM	**Marumori**	**10.52**	**355**	Pn		**Pn**	**01**	**53**	**27.1**	**-1.7**
JNU	**Nakatsue**	**11.11**	**304**	Pn		Pn	01	53	42.1	+5.3
JNU	**Nakatsue**	**11.11**	**304**	P		Pn	01	53	41.9	+5.0
JNU	**Nakatsue**	**11.11**	**304**	P		Pn	01	53	42.6	+5.8
comp=N,56nm,0.9s,baz=103,slow=6.0,SNR=23										
JNU				LR		LR	01	57	36.1	
comp=N,276nm,18.6s,baz=125,slow=36										
JOW	**Kunigami**	**12.13**	**271**	P		**P**	**01**	**53**	**58.1**	**-3.0**
JOW	**Kunigami**	**12.13**	**271**	P		**Pn**	**01**	**53**	**51.8**	**+0.9**
comp=N,12nm,0.6s,baz=116,slow=18,SNR=4.4										
JTM	**Tenmabayashi**	**13.42**	**357**	Pn		**Pn**	**01**	**54**	**05.1**	**-3.1**
ERM	**Erimo**	**14.67**	**4**			**Pn**	**01**	**54**	**22.6**	**-1.9**
ERM	**Erimo**	**14.67**	**4**	⇑*e*P		**Pn**	**01**	**54**	**22.9**	**-1.6**
TJN	**Taejon**	**15.25**	**310**	P		**P**	**01**	**54**	**35.3**	**-0.3**
TJN				IAmb		IAmb	01	54	38.9	
comp=Z,86nm,0.8s										
TJN	**Taejon**	**15.25**	**310**	P		**P**	**01**	**54**	**34.0**	**-1.6**
TJN	**Taejon**	**15.25**	**310**	P		**P**	**01**	**54**	**35.3**	**-0.3**
TJN				pmax		pmax				
comp=Z,86nm,0.8s										
KSRS	**Korea Array**	**15.49**	**314**	P		**P**	**01**	**54**	**37.0**	**-1.3**
KSRS	**Korea Array**	**15.49**	**314**	P		**P**	**01**	**54**	**37.0**	**-1.3**
comp=Z,9.1nm,0.8s,baz=122,slow=11,SNR=23										
KSRS				LR		LR	02	00	03.1	
comp=Z,262nm,21.4s,baz=125,slow=35										
KS19	**Wonju Array Si**	**15.55**	**314**	P		**P**	**01**	**54**	**39.4**	**+0.4**
ASAJ	**Asahikawa**	**16.74**	**2**	P		**P**	**01**	**54**	**51.5**	**-0.5**
comp=Z,28nm,0.7s,baz=205,slow=17,SNR=13										
ASAJ				S		Sn	01	57	44.2	-12
comp=Z,13nm,0.7s,baz=259,slow=19,SNR=2.5										
ASAJ				LR		LR	02	01	45.9	
comp=Z,198nm,21.8s,baz=180,slow=38										
JKA	**Kamikawa-asahi**	**16.74**	**2**	P		**Pn**	**01**	**54**	**50.7**	**-0.1**
USA0B	**Ussuriysk Arra**	**18.60**	**337**	P		**P**	**01**	**55**	**12.2**	**-0.4**
USA0B	**Ussuriysk Arra**	**18.60**	**337**	*c i*P		**Pn**	**01**	**55**	**14.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**18.60**	**337**	P		**P**	**01**	**55**	**12.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**18.60**	**337**	P		**P**	**01**	**55**	**12.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**18.60**	**337**	P		**P**	**01**	**55**	**12.0**	**-0.6**
comp=Z,37nm,0.9s,baz=151,slow=9.5,SNR=25										
USRK				LR		LR	02	01	47.0	
comp=Z,114nm,18.3s,baz=161,slow=35										
YHNB	**Yeheng**	**18.62**	**266**			**Pn**	**01**	**55**	**14.5**	**+0.5**
YHNB				IAmb		IAmb	01	55	16.2	
comp=Z,121nm,0.7s										
YHNB	**Yeheng**	**18.62**	**266**	P		**Pn**	**01**	**55**	**16.0**	**+2.0**
YULB	**Yu-li**	**19.01**	**263**			**P**	**01**	**55**	**18.7**	**+1.5**
YULB				IAmb		IAmb	01	55	21.8	
comp=Z,92nm,0.8s										
YULB	**Yu-li**	**19.01**	**263**	P		**Pn**	**01**	**55**	**20.3**	**+1.7**
SSLB	**Suanglung**	**19.20**	**264**			**P**	**01**	**55**	**20.1**	**+0.7**
SSLB				IAmb		IAmb	01	55	23.7	
comp=Z,112nm,0.7s										
SSLB	**Suanglung**	**19.20**	**264**	P		**Pn**	**01**	**55**	**22.9**	**+1.9**
TWGBT	**Beinan**	**19.36**	**261**	P		**Pn**	**01**	**55**	**25.6**	**+2.8**
TWG	**Pinlang**	**19.37**	**261**	P		**P**	**01**	**55**	**22.0**	**+0.8**
YSS	**Yuzh-Sakhalins**	**19.58**	**2**	P		**P**	**01**	**55**	**23.3**	**0.0**
YSS				IAmb		IAmb	01	55	31.1	
comp=Z,62nm,0.7s										
YSS	**Yuzh-Sakhalins**	**19.58**	**2**	*e*P		**Pn**	**01**	**55**	**24.7**	**-0.4**
YSS				*e*S		**S**	**01**	**58**	**55.6**	**-5.1**
YSS				pmax		pmax				
comp=Z,300nm,3.9s										
YSS				pmax		pmax				
comp=N,200nm,3.5s										
YSS				pmax		pmax				
comp=Z,90nm,0.7s										
YSS				smax		smax				
comp=E,300nm,7.0s										
YSS				MLR		MLR				
comp=Z,300nm,15.0s										
TPUB	**Ta-pu**	**19.62**	**263**	P		**P**	**01**	**55**	**23.8**	**-0.2**
TPUB				IAmb		IAmb	01	55	31.7	
comp=Z,83nm,1.1s										
TPUB	**Ta-pu**	**19.62**	**263**	P		**Pn**	**01**	**55**	**27.8**	**+1.9**
MDJ	**Mudanjiang**	**19.85**	**333**	P		**P**	**01**	**55**	**26.3**	**+0.1**
MDJ				SS		**SnSn**	**01**	**59**	**33.3**	**+6.7**
MDJ				PcP		**PcP**	**01**	**59**	**35.6**	**-5.7**
MDJ				PcS		**PcS**	**02**	**03**	**16.3**	**-2.3**
MDJ				pmax		pmax				
comp=Z,11nm,0.7s										
MDJ				pmax		pmax				
comp=Z,340nm,4.4s										
MDJ				LR		LR				
comp=Z,210nm,14.0s										
MDJ				LR		LR				
comp=Z,320nm,11.8s										
MDJ				LR		LR				
comp=Z,380nm,10.4s										
MDJ	**Mudanjiang**	**19.85**	**333**	P		**P**	**01**	**55**	**25.9**	**-0.4**
MDJ	**Mudanjiang**	**19.85**	**333**	P		**P**	**01**	**55**	**24.6**	**-1.6**
NJ2	**Nanjing**	**20.53**	**289**	*e*P		Pn	01	55	40.3	+3.9
NJ2				pP		pwP	01	55	48.9	-3.0
NJ2				sP		sP	01	55	52.8	-1.7
NJ2				pmax		pmax				
comp=Z,15nm,0.7s										
NJ2				pmax		pmax				
comp=Z,200nm,3.6s										
CN2	**Changchun**	**21.10**	**325**	*e*P		**P**	**01**	**55**	**41.1**	**+1.4**
CN2				*e*S		**S**	**01**	**59**	**25.1**	**-5.7**
CN2				pmax		pmax				
comp=Z,10.0nm,1.2s										
CN2				pmax		pmax				
comp=Z,100nm,3.0s										
CN2				LR		LR				
comp=Z,100nm,10.0s										
CN2				LR		LR				
comp=Z,200nm,10.0s										
CN2				LR		LR				
comp=Z,200nm,10.0s										
BNX	**BinXian**	**21.66**	**332**	⇓P		**P**	**01**	**55**	**44.1**	**-1.6**
BNX				pmax		pmax				
comp=Z,19nm,1.0s										
BNX				pmax		pmax				
comp=Z,190nm,4.9s										
TIA	**Tai'an**	**22.77**	**299**	⇓P		**P**	**01**	**55**	**55.6**	**-2.1**
TIA				pmax		pmax				
comp=Z,39nm,1.0s										
KLR	**Kul'dur**	**23.20**	**343**	*de*P		**P**	**01**	**56**	**01.3**	**-0.6**
KLR				pmax		pmax				
comp=Z,211nm,1.7s										
KLR	**Kul'dur**	**23.20**	**343**	LR		LR	02	04	26.3	
comp=Z,122nm,21.8s,baz=155,slow=35										
TYV	**Tymovskoe**	**23.49**	**1**	*e*P		**P**	**01**	**56**	**05.4**	**+0.9**
TYV				pmax		pmax				
comp=Z,200nm,4.7s										
TYV				pmax		pmax				
comp=Z,28nm,0.8s										
TGY	**Tagaytay City**	**23.56**	**240**	LR		LR	02	04	29.2	
comp=Z,83nm,21.0s,baz=342,slow=34										
GRNR	**Gornyy**	**23.75**	**351**	⇓*i*P		**P**	**01**	**56**	**08.1**	**+1.2**
GRNR				pmax		pmax				
comp=N,40nm,0.9s										
GRNR				pmax		pmax				
comp=Z,50nm,1.0s										
H11N2	**WAKE ISLAND Hy**	**24.13**	**103**	T		T	02	21	00.0	
baz=294,slow=75,SNR=19										
H11N1	**WAKE ISLAND Hy**	**24.13**	**103**	T		T	02	21	01.4	
baz=294,slow=75,SNR=26										
H11N3	**WAKE ISLAND Hy**	**24.15**	**103**	T		T	02	21	08.9	
baz=294,slow=75,SNR=28										
WHN	**Wuhan**	**24.27**	**284**	⇑P		**P**	**01**	**56**	**11.8**	**0.0**
WHN				pP		**pP**	**01**	**56**	**25.5**	**-1.0**
WHN				sP		**sP**	**01**	**56**	**36.8**	**+2.9**
WHN				pmax		pmax				
comp=Z,96nm,0.7s										
H11S3	**WAKE ISLAND Hy**	**24.46**	**106**	T		T	02	21	40.0	
baz=296,slow=76,SNR=38										
H11S1	**WAKE ISLAND Hy**	**24.46**	**106**	T		T	02	21	36.1	
baz=296,slow=76,SNR=45										
H11S2	**WAKE ISLAND Hy**	**24.47**	**106**	T		T	02	21	37.9	
baz=296,slow=76,SNR=32										
BJI	**Beijing**	**24.75**	**307**	P		**P**	**01**	**56**	**13.5**	**-2.5**
BJI				pmax		pmax				
comp=Z,4.0nm,1.6s										
BJI				pmax		pmax				
comp=Z,79nm,6.4s										
HNS	**HongShan**	**24.96**	**300**	⇑P		**P**	**01**	**56**	**17.0**	**-1.0**
HNS				S		**S**	**02**	**00**	**32.6**	**-4.3**
HNS				pmax		pmax				
comp=Z,32nm,1.1s										
HNS				LR		LR				
comp=Z,310nm,18.1s										
HNS				LR		LR				
comp=Z,330nm,20.5s										
HEH	**HeiHe**	**25.41**	**338**	*e*P		**P**	**01**	**56**	**22.4**	**+0.5**
HEH				pmax		pmax				
comp=Z,170nm,1.0s										
HEH				pmax		pmax				
comp=Z,260nm,4.0s										
DAV	**Davao City (W)**	**25.42**	**220**	LR		LR	02	05	39.8	
comp=Z,72nm,20.4s,baz=359,slow=35										
CNSH	**ChangSha**	**25.60**	**279**	⇑P		**P**	**01**	**56**	**24.9**	**+1.0**
CNSH				pmax		pmax				
comp=Z,21nm,1.9s										
LYN	**LuoYang**	**26.16**	**293**	⇓P		**P**	**01**	**56**	**27.8**	**-1.1**
LYN				sP		sP	01	56	53.5	+2.5
LYN				PP		**PnPn**	**01**	**57**	**15.9**	**+5.1**
LYN				pmax		pmax				
comp=Z,54nm,1.1s										
LYN				pmax		pmax				
comp=Z,190nm,6.1s										
XLT	**XiLinHaoTe**	**26.53**	**315**	*e*P		**P**	**01**	**56**	**32.3**	**0.0**
XLT				pmax		pmax				
comp=Z,5.0nm,0.9s										
XLT				pmax		pmax				
comp=Z,140nm,5.1s										
HIA	**Hailar**	**27.75**	**328**	P		**P**	**01**	**56**	**42.4**	**-0.6**
HIA	**Hailar**	**27.75**	**328**	P		**P**	**01**	**56**	**41.5**	**-1.5**
HIA	**Hailar**	**27.75**	**328**	⇑*e*P		**P**	**01**	**56**	**41.9**	**-1.1**
HIA				pmax		pmax				
comp=Z,13nm,0.8s										
PETK	**Petropavlovsk-**	**28.29**	**20**	LR		LR	02	07	12.9	
comp=Z,61nm,21.7s,baz=206,slow=34										
HHC	**Hu-ho-hao-te**	**28.32**	**306**	*e*P		P	01	56	53.8	+5.4
HHC				pmax		pmax				
comp=Z,19nm,0.6s										
HHC				pmax		pmax				
comp=Z,130nm,4.4s										
HHC				LR		LR				
comp=N,400nm,18.6s										
HHC				LR		LR				
comp=E,450nm,18.4s										
HHC				LR		LR				
comp=Z,690nm,18.8s										
ENH	**Enshi**	**28.48**	**284**	P		**P**	**01**	**56**	**48.1**	**-1.6**
ENH				IAmb		IAmb	01	56	50.7	
comp=Z,25nm,0.9s										
ENH	**Enshi**	**28.48**	**284**	P		**P**	**01**	**56**	**50.4**	**+0.6**
ZEA	**Zeya**	**28.49**	**342**	*e*P		**P**	**01**	**56**	**50.5**	**+1.0**
ZEA				pmax		pmax				
comp=N,70nm,0.8s										
ZEA				pmax		pmax				
comp=E,20nm,0.8s										
ZEA				pmax		pmax				
comp=Z,130nm,0.8s										
XAN	**Xi'an**	**29.03**	**291**	⇓P		**P**	**01**	**56**	**53.4**	**-1.2**
XAN				LR		LR				
comp=Z,300nm,8.6s										
XAN				LR		LR				
comp=Z,240nm,9.6s										
XAN				LR		LR				
comp=Z,500nm,8.6s										
BTO	**Baotou**	**29.37**	**305**	*e*P		**P**	**01**	**56**	**58.9**	**+1.3**
BTO				pP		**pwP**	**01**	**57**	**13.8**	**-4.1**
BTO				sP		sP	01	57	24.6	+4.8
BTO				PP		**PnPn**	**01**	**57**	**57.8**	**+3.7**
BTO				S		**S**	**02**	**01**	**48.8**	**+2.2**
BTO				sS		**sS**	**02**	**02**	**12.8**	**+0.3**
BTO				SS		**SnSn**	**02**	**03**	**24.0**	**+5.1**
BTO				pmax		pmax				
comp=Z,10.0nm,0.6s										
BTO				pmax		pmax				
comp=Z,150nm,5.0s										
BTO				LR		LR				
comp=Z,180nm,10.4s										
BTO				LR		LR				
comp=Z,230nm,10.8s										
BTO				LR		LR				
comp=Z,180nm,8.0s										
QIZ	**Qiongzhong**	**30.52**	**261**	P		P	01	57	13.8	+5.9
QIZ				S		S	02	02	17.8	+13
QIZ				LR		LR				
comp=N,150nm,7.3s										
QIZ				LR		LR				
comp=E,150nm,11.0s										
QIZ				LR		LR				
comp=Z,170nm,10.6s										
KMSI	**Cibinong**	**31.69**	**216**	P		**P**	**01**	**57**	**18.1**	**0.0**
comp=Z,197nm,0.8s										
GTOI	**Gorontalo**	**32.15**	**217**	P		**P**	**01**	**57**	**22.1**	**-0.1**
comp=Z,18nm,1.1s										
KKM	**Kota Kinabalu**	**32.31**	**234**	P		**P**	**01**	**57**	**24.0**	**+0.2**
comp=Z,14nm,1.0s										
MA2	**Magadan**	**32.79**	**8**	P		**P**	**01**	**57**	**27.2**	**-0.2**
MA2				IAmb		IAmb	01	57	29.7	
comp=Z,36nm,1.3s										
MA2	**Magadan**	**32.79**	**8**	*de*P		**P**	**01**	**57**	**28.2**	**+0.8**
MA2				pmax		pmax				
comp=Z,30nm,1.3s										
MA2	**Magadan**	**32.79**	**8**	LR		LR	02	15	32.8	
comp=Z,21nm,19.5s,baz=226,slow=45										
MA2	**Magadan**	**32.79**	**8**	P		**P**	**01**	**57**	**28.1**	**+0.8**
TOLI2	**Tolitoli**	**33.02**	**221**	P		**P**	**01**	**57**	**30.0**	**+0.2**
TOLI2				IAmb		IAmb	01	57	31.1	
comp=Z,25nm,0.9s										
TOLI2	**Tolitoli**	**33.02**	**221**	P		**P**	**01**	**57**	**30.8**	**+1.0**
KRAI	**Karang Ratu**	**33.15**	**205**	P		**P**	**01**	**57**	**30.9**	**-0.1**
comp=Z,28nm,1.1s										
LZH	**Lanzhou**	**33.33**	**295**	⇓P		**P**	**01**	**57**	**31.4**	**-1.2**
LZH				PcP		**PcP**	**02**	**00**	**14.6**	**+1.4**
LZH				pmax		pmax				
comp=Z,47nm,1.5s										
CD2	**Chengdu**	**33.38**	**285**	P		**P**	**01**	**57**	**32.0**	**-0.9**
CD2				pmax		pmax				
comp=Z,120nm,0.7s										
LUWI	**Luwuk**	**33.69**	**216**	P		**P**	**01**	**57**	**37.0**	**+1.4**
LUWI	**Luwuk**	**33.69**	**216**	P		**P**	**01**	**57**	**35.0**	**-0.6**
comp=Z,95nm,1.2s,comp=Z,2μm										
ULN	**Ulaanbaatar**	**33.95**	**316**	P		**P**	**01**	**57**	**36.3**	**-1.5**
ULN				PcP		**PcP**	**02**	**00**	**15.7**	**+1.0**
ULN	**Ulaanbaatar**	**33.95**	**316**	*i* P		**P**	**01**	**57**	**36.9**	**-0.9**
ULN	**Ulaanbaatar**	**33.95**	**316**	P		**P**	**01**	**57**	**37.5**	**-0.4**
ULN				PcP		**PcP**	**02**	**00**	**15.2**	**+0.5**
ULN	**Ulaanbaatar**	**33.95**	**316**	P		**P**	**01**	**57**	**36.6**	**-1.2**
comp=Z,48nm,1.5s										
MPSI	**Mapaga**	**34.16**	**222**	P		**P**	**01**	**57**	**39.3**	**-0.4**
comp=Z,11nm,0.8s										
SONM	**Songino Array**	**34.34**	**316**	P		**P**	**01**	**57**	**40.8**	**-0.4**
SONM						**PcP**	**02**	**00**	**16.7**	**+0.8**
SONM	**Songino Array**	**34.34**	**316**	P		**P**	**01**	**57**	**40.1**	**-1.1**
comp=Z,6.8nm,0.9s,baz=121,slow=7.6,SNR=35										
SONM				PcP		**PcP**	**02**	**00**	**16.5**	**+0.6**
comp=Z,4.1nm,1.0s,baz=121,slow=2.2,SNR=7.9										
SONM				ScP		**ScP**	**02**	**03**	**53.9**	**-1.2**
comp=Z,1.3nm,0.7s,baz=145,slow=3.1,SNR=7.5										
SONM				LR		LR	02	11	55.9	
comp=Z,89nm,21.7s,baz=356,slow=37										
comp=Z,6.8nm,0.9s										
SHEM	**Shemya Is, Ala**	**34.88**	**35**	LR		LR	02	10	10.9	
comp=Z,73nm,19.4s,baz=292,slow=33										
KMI	**Kunming**	**35.08**	**275**	⇑P		**P**	**01**	**57**	**49.5**	**+1.6**
KMI				pmax		pmax				
comp=Z,29nm,0.4s										
KMI				LR		LR				
comp=Z,160nm,8.1s										
KMI				LR		LR				
comp=Z,150nm,10.7s										
KMI				LR		LR				
comp=Z,220nm,30.1s										
YAK	**Yakutsk**	**35.62**	**350**	P		**P**	**01**	**57**	**52.1**	**+0.4**
YAK	**Yakutsk**	**35.62**	**350**	*e*P		**P**	**01**	**57**	**51.8**	**0.0**
YAK				*e**PP		**pwP**	**01**	**58**	**09.2**	**-1.7**
YAK				*e*			01	59	13.8	
YAK				*e*			02	00	17.7	
YAK				*e*S		**S**	**02**	**03**	**23.1**	**+0.2**
YAK				*e*SS		**SnSn**	**02**	**05**	**49.6**	**-0.1**
YAK				*e*			02	08	00.3	
YAK				pmax		pmax				
comp=Z,37nm,0.8s										
YAK				pmax		pmax				
comp=N,15nm,1.1s										
YAK				pmax		pmax				
comp=E,3.0nm,1.1s										
YAK				pmax		pmax				
comp=Z,208nm,4.4s										
YAK				pmax		pmax				
comp=N,152nm,4.8s										
YAK				smax		smax				
comp=E,89nm,3.5s										
YAK				smax		smax				
comp=N,62nm,2.7s										
MMPI	**Merauke**	**35.63**	**183**	P		**P**	**01**	**57**	**52.0**	**-0.4**
comp=N,895nm,0.7s										
PZH	**PanZhiHua**	**35.69**	**278**	P		**P**	**01**	**57**	**52.8**	**-0.2**
PZH				pmax		pmax				
comp=N,40nm,1.2s									

PLAI **Plampang** 42.88 216 P P 01 58 51.7 -1.1
comp=Z,65nm,1.0s
BILL **Bilibino** 43.27 13 P P 01 58 55.6 +0.2
BILL **Bilibino** 43.27 13 *e*P P 01 58 56.4 +1.1
BILL pmax pmax
comp=Z,34nm,1.7s
BILL **Bilibino** 43.27 13 P P 01 58 56.7 +1.3
TWSI **Taliwang, Sumb** 43.28 218 P P 01 58 55.0 -1.1
comp=Z,51nm,1.0s,comp=Z,811nm
SURA **Surathani** 43.74 254 P P 01 59 01.4 +1.6
comp=Z,44nm,1.0s
SKLT **Songkhla** 43.93 251 P P 01 59 01.5 +0.1
comp=Z,93nm,0.9s
SRIT **Nakonsritamara** 44.05 253 P P 01 59 03.7 +1.3
SRIT IAmb IAmb 01 59 04.7
comp=Z,37nm,1.0s
SRIT **Nakonsritamara** 44.05 253 P P 01 59 04.0 +1.7
LSA **Lhasa** 44.34 285 P P 01 59 05.3 +0.2
LSA IAmb IAmb 01 59 06.6
comp=Z,13nm,0.7s
LSA **Lhasa** 44.34 285 P P 01 59 05.3 +0.2
LSA pmax pmax
comp=Z,13nm,0.7s
LSA **Lhasa** 44.34 285 P P 01 59 05.9 +0.8
BLJI **Banyuglugur** 44.35 222 P P 01 59 04.1 -0.6
comp=Z,39nm,1.3s
MYKOM **Kota Tinggi** 44.40 242 P P 01 59 05.3 +0.2
SHL **Shillong** 44.55 280 P P 01 59 05.8 -0.7
SHL **Shillong** 44.55 280 P P 01 59 05.8 -0.7
SHL pmax pmax
comp=Z,72nm,1.1s
JAGI **Jajag, Banyuwa** 44.60 221 P P 01 59 05.5 -1.2
comp=Z,58nm,0.9s
KULM **Kulim** 44.93 248 P P 01 59 09.5 +0.2
KULM IAmb IAmb 01 59 11.1
comp=Z,19nm,0.7s
KULM **Kulim** 44.93 248 P P 01 59 09.7 +0.4
comp=Z,29nm,1.1s
TIXI **Tiksi** 44.93 354 P P 01 59 07.8 -0.7
TIXI IAmb IAmb 01 59 09.9
comp=Z,25nm,1.1s
TIXI **Tiksi** 44.93 354⇈ *e*P P 01 59 06.6 -1.9
TIXI pmax pmax
comp=Z,17nm,0.8s
TIXI **Tiksi** 44.93 354 P P 01 59 08.9 +0.4
P08K **Saint George I** 45.07 36 P P 01 59 09.9 0.0
baz=250
UNV **Unalaska Valle** 45.94 40 P P 01 59 16.9 +0.1
baz=256
WMQ **Urumqi** 46.20 306 *e*P P 01 59 18.6 -0.6
WMQ PcP PcP 02 00 54.6 +0.7
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ LR LR
comp=Z,220nm,24.1s
DGZ **Jazzator, Alta** 46.89 314 *i* P P 01 59 24.1 -0.4
KPJI **Karang Pucung** 46.97 228 P P 01 59 24.8 -0.5
comp=Z,132nm,1.1s
LEM **Lembang** 47.47 229 P P 01 59 30.0 +0.6
LEM pmax pmax
comp=Z,109nm,0.8s
LEM **Lembang** 47.47 229 P P 01 59 29.2 -0.2
comp=Z,109nm,0.8s
WRA **Warramunga Arr** 47.58 190 P P 01 59 29.5 -0.5
comp=Z,59nm,0.8s,baz=16,slow=9.2,SNR=1.7
WRA ScP ScP 02 04 44.7 -2.5
comp=Z,46nm,0.7s,baz=6.5,slow=4.7,SNR=1.4
comp=Z,59nm,0.8s
QIS **Mount Isa** 47.68 183 P P 01 59 30.1 -0.6
PSI **Prapat** 47.74 247 P P 01 59 32.5 +0.9
PSI **Prapat** 47.74 247 P P 01 59 31.7 +0.1
comp=Z,24nm,0.8s
BBJI **Bungbulang** 47.91 229 P P 01 59 31.2 -1.5
comp=Z,46nm,1.5s
FALS **False Pass** 47.93 39 P P 01 59 32.5 +0.2
baz=258
LWLI **Liwa** 48.68 234 P P 01 59 44.3 +5.6
ZAA0 **Zalesovo Array** 49.12 319 P P 01 59 40.2 -1.2
ZALV **Zalesovo Beam** 49.12 319 P P 01 59 40.0 -1.4
comp=Z,14nm,0.7s,baz=94,slow=7.4,SNR=54
ZALV PcP PcP 02 01 04.0 0.0
comp=Z,29nm,0.7s,baz=108,slow=3.7,SNR=36
comp=Z,14nm,0.7s
GSI **Gunungsitoli** 49.70 246 P P 01 59 46.4 -0.1
comp=Z,36nm,0.9s
GSI **Gunungsitoli** 49.70 246 P P 01 59 45.5 -1.0
comp=Z,36nm,0.9s
F14K **Arctic Creek** 49.84 25 P P 01 59 47.8 +1.1
baz=246
ANM **Nome** 49.86 27 P P 01 59 48.5 +1.6
ANM **Nome** 49.86 27 P P 01 59 48.5 +1.6
ANM pmax pmax
comp=Z,9.0nm,0.9s
ANM **Nome** 49.86 27 P P 01 59 47.8 +0.9
baz=248
SISI **Saibi** 50.05 242 P P 01 59 47.9 -1.2
comp=Z,22nm,1.3s
MK31 **Makanchi Array** 50.10 309 *d* *i*P P 01 59 47.4 -1.7
MKAR **Makanchi Array** 50.10 309 P P 01 59 47.5 -1.6
comp=Z,2.8nm,0.6s,baz=90,slow=8.3,SNR=37
MKAR PcP PcP 02 01 07.9 +0.1
comp=Z,18nm,0.6s,baz=80,slow=6.3,SNR=37
MKAR ScP ScP 02 04 56.0 -1.9
comp=Z,2.0nm,0.8s,baz=82,slow=5.7,SNR=5.6
MKAR LR LR 02 21 30.2
comp=Z,168nm,19.9s,baz=350,slow=37
comp=Z,2.8nm,0.6s
MAKZ **Makanchi** 50.32 309 P P 01 59 49.2 -1.6
MAKZ PcP PcP 02 01 07.8 -0.9
F15K **North Star Dit** 50.57 25 P P 01 59 53.5 +1.2
F15K IAmb IAmb 02 00 24.0
comp=Z,24nm,1.2s
F15K **North Star Dit** 50.57 25 P P 01 59 53.1 +0.7
baz=248
L15K **Ungalak Mounta** 50.58 31 P P 01 59 53.4 +1.0
baz=254
H16K **Elim** 51.15 27 P P 01 59 57.8 +1.2
baz=251
AS31 **Alice Springs** 51.30 189 P P 01 59 59.0 +0.7
ASAR **Alice Springs** 51.30 189 P P 01 59 58.0 -0.3
ASAR **Alice Springs** 51.30 189 P P 01 59 57.5 -0.8
comp=Z,1.4nm,0.4s,baz=3.4,slow=5.5,SNR=21
ASAR PcP PcP 02 01 12.6 +0.1
comp=Z,2.9nm,0.8s,baz=14,slow=4.1,SNR=7.8
ASAR ScP ScP 02 05 01.1 -2.0
comp=Z,0.7nm,0.8s,baz=356,slow=4.8,SNR=3.3
comp=Z,1.4nm,0.4s
C16K **Lisburne Hills** 51.36 22 P P 01 59 59.5 +1.4
C16K **Lisburne Hills** 51.36 22 P P 01 59 58.9 +0.8
baz=245
J16K **Anvik River** 51.42 29 P P 01 59 58.3 -0.4
baz=254
I17K **Unalakleet** 51.56 28 P P 02 00 00.2 +0.5
baz=253
SEM **Semipalatinsk** 51.56 314 *e*P P 01 59 58.0 -2.2
SEM pmax pmax
comp=Z,10.0nm,0.8s
SEM **Semipalatinsk** 51.56 314 *e*P P 01 59 58.0 -2.2
comp=Z,9.6nm,0.8s,baz=314
N16K **Nishlik Lake** 51.57 33 P P 01 59 59.6 -0.3
baz=258
M16K **Timber Creek** 51.60 32 P P 02 00 00.0 -0.1
baz=257
P16K **Nushagak River** 51.67 35 P P 02 00 01.1 +0.5
baz=260
G17K **Kiwalik Mounta** 52.06 26 P P 02 00 04.3 +0.8
baz=252
F17K **Baldwin Pennin** 52.13 25 P P 02 00 04.8 +0.9
baz=251
E17K **Hotham Inlet** 52.13 24 P P 02 00 05.1 +1.2
baz=250
L17K **Donlin** 52.16 31 P P 02 00 05.1 +0.9
baz=257
C17K **DeLong Mountai** 52.17 22 P P 02 00 05.7 +1.4
baz=247
SHLS **Shalkode** 52.20 305 *e*P P 02 00 01.4 -3.6
SHLS **Shalkode** 52.20 305 *e*P P 02 00 01.4 -3.6
baz=305
K17K **Iditarod** 52.29 30 P P 02 00 06.1 +0.9
baz=256
NRIK **Noril'sk** 52.31 339 P P 02 00 06.1 +0.9
NRIK **Noril'sk** 52.31 339 *d* *i*P P 02 00 05.8 +0.6
NRIK **Noril'sk** 52.31 339 P P 02 00 05.9 +0.7
comp=Z,93nm,0.8s,baz=111,slow=8.5,SNR=184
comp=Z,93nm,0.8s
N17K **Nushagak Hills** 52.35 33 P P 02 00 06.1 +0.4
baz=259

M17K **Holitna River** 52.40 32 P P 02 00 06.5 +0.5
baz=258
P17K **Kvichak River** 52.48 35 P P 02 00 07.5 +0.8
baz=261
UZB **Uzynbulak** 52.52 305 *e*P P 02 00 05.8 -1.6
UZB **Uzynbulak** 52.52 305 *e*P P 02 00 05.8 -1.6
baz=305
WUS **Wushi** 52.54 302 P P 02 00 06.9 -0.7
WUS PcP PcP 02 01 17.3 +0.1
KURK **Kurchatov** 52.61 314 *d* *i*P P 02 00 05.9 -1.8
KURK pmax pmax
comp=Z,22nm,1.1s
KURK **Kurchatov** 52.61 314 P P 02 00 06.1 -1.6
KURK PcP PcP 02 01 16.4 -0.6
KURBB **Kurchatov Arra** 52.67 314 P P 02 00 06.9 -1.3
comp=Z,11nm,0.8s,baz=90,slow=8.2,SNR=107
KURBB PcP PcP 02 01 16.9 -0.3
comp=Z,9.8nm,0.6s,baz=94,slow=4.2,SNR=18
KURBB LR LR 02 23 28.8
comp=Z,123nm,19.2s,baz=153,slow=37
comp=Z,11nm,0.8s
E18K **Tukpahlearik C** 52.70 24 P P 02 00 09.0 +0.9
E18K IAmb IAmb 02 00 40.6
comp=Z,27nm,1.6s
E18K **Tukpahlearik C** 52.70 24 P P 02 00 09.1 +0.9
baz=251
KPKS **Kokpek** 52.75 305 *e*P P 02 00 07.5 -1.5
KPKS **Kokpek** 52.75 305 *e*P P 02 00 07.5 -1.5
baz=305
F18K **Selawik** 52.79 25 P P 02 00 10.2 +1.4
baz=252
TDK **Taldyqorghan** 52.85 307 *e*P P 02 00 08.5 -1.1
TDK **Taldyqorghan** 52.85 307 *e*P P 02 00 08.6 -1.1
baz=307
H18K **Honhosa River** 52.88 27 P P 02 00 09.8 +0.3
baz=255
C18K **Utukok River** 52.91 23 P P 02 00 10.9 +1.1
C18K **Utukok River** 52.91 23 P P 02 00 10.4 +0.6
baz=249
L18K **Granite Mounta** 52.91 31 P P 02 00 10.5 +0.7
baz=258
ZHN **Zhinishke** 52.95 305 *e*P P 02 00 08.9 -1.6
ZHN **Zhinishke** 52.95 305 *e*P P 02 00 08.9 -1.6
baz=305
G18K **Tagagawik** 52.97 26 P P 02 00 10.8 +0.6
baz=254
B18K **Kokolik River** 52.97 22 P P 02 00 11.6 +1.5
baz=248
SATY **Saty** 52.98 305 *e*P P 02 00 09.4 -1.4
SATY **Saty** 52.98 305 *e*P P 02 00 09.4 -1.4
baz=305
A19K **Wainwright** 53.52 21 P P 02 00 15.3 +1.1
baz=248
F19K **Shaleruckik Mo** 53.57 25 P P 02 00 15.7 +1.2
baz=254
C19K **Lookout Ridge** 53.62 22 P P 02 00 16.8 +1.8
C19K IAmb IAmb 02 00 19.0
comp=Z,28nm,1.4s
C19K **Lookout Ridge** 53.62 22 P P 02 00 16.2 +1.2
baz=250
QLP **Quilpie** 53.67 177 P P 02 00 15.4 -0.3
comp=Z,27nm,1.8s
L19K **White Mountain** 53.75 31 P P 02 00 16.6 +0.6
baz=260
H19K **Roundabout Mou** 53.75 27 P P 02 00 17.8 +1.9
H19K IAmb IAmb 02 00 47.4
comp=Z,17nm,1.3s
H19K **Roundabout Mou** 53.75 27 P P 02 00 16.2 +0.3
baz=256
J19K **Poorman** 53.75 29 P P 02 00 17.4 +1.5
J19K IAmb IAmb 02 00 45.8
comp=Z,38nm,1.8s
J19K **Poorman** 53.75 29 P P 02 00 16.8 +0.9
baz=258
OHAK **Old Harbor** 53.90 38 P P 02 00 16.5 -0.5
baz=265
D19K **Kuna River** 53.93 23 P P 02 00 18.8 +1.5
D19K PcP PcP 02 01 23.5 +1.7
D19K IAmb IAmb 02 01 23.9
comp=Z,8.6nm,0.8s
D19K **Kuna River** 53.93 23 P P 02 00 18.4 +1.2
baz=252
CHKK **Chushkaly** 53.94 306 *e*P P 02 00 16.3 -1.4
CHKK **Chushkaly** 53.94 306 *e*P P 02 00 16.3 -1.4
baz=306
E19K **Redstone River** 53.95 25 P P 02 00 19.0 +1.7
E19K **Redstone River** 53.95 25 P P 02 00 17.1 -0.2
baz=254
MDOK **Medeo** 53.96 305 *e*P P 02 00 16.7 -1.3
MDOK **Medeo** 53.96 305 *e*P P 02 00 16.8 -1.3
baz=305
TNSS **Tian-Shan** 54.05 305 *e*P P 02 00 17.9 -1.0
TNSS **Tian-Shan** 54.05 305 *e*P P 02 00 18.0 -1.0
baz=305
L20K **Farewell, AK** 54.25 31 P P 02 00 19.2 -0.4
baz=261
K20K **Telida** 54.31 30 P P 02 00 21.4 +1.4
K20K IAmb IAmb 02 00 40.0
comp=Z,9.8nm,0.8s
K20K **Telida** 54.31 30 P P 02 00 21.4 +1.4
baz=260
KDAK **Kodiak Island** 54.32 37 P P 02 00 20.7 +0.5
baz=265
KDAK **Kodiak Island** 54.32 37 LR LR 02 23 04.1
comp=Z,62nm,19.6s,baz=272,slow=35
H20K **Anotleneega Mo** 54.38 27 P P 02 00 21.2 +0.7
baz=258
F20K **Avaraart Lake** 54.41 25 P P 02 00 22.0 +1.4
F20K **Avaraart Lake** 54.41 25 P P 02 00 21.2 +0.6
baz=256
KUU **Kurty** 54.41 306 *e*P P 02 00 19.4 -1.6
KUU pmax pmax
comp=Z,14nm,0.6s
KUU **Kurty** 54.41 306 *e*P P 02 00 19.5 -1.6
comp=Z,14nm,0.6s,baz=306
J20K **Nowinta River** 54.42 29 P P 02 00 22.1 +1.3
J20K IAmb IAmb 02 00 40.9
comp=Z,46nm,1.8s
J20K **Nowinta River** 54.42 29 P P 02 00 21.5 +0.7
baz=259
D20K **Etivluk River** 54.52 23 P P 02 00 23.3 +1.8
baz=254
E20K **Nigu River** 54.55 24 P P 02 00 23.1 +1.3
baz=255
DZM **Mont Dzumac** 54.58 152 LR LR 02 21 30.1
comp=Z,140nm,20.8s,baz=29,slow=34
B20K **Meade River** 54.72 22 P P 02 00 24.6 +1.8
B20K IAmb IAmb 02 00 26.5
comp=Z,13nm,0.8s
B20K **Meade River** 54.72 22 P P 02 00 24.2 +1.4
baz=252
INKA **Innaminka** 54.79 181 P P 02 00 23.7 -0.1
comp=Z,70nm,0.6s
N20K **Mount Spurr** 54.86 33 P P 02 00 25.8 +1.7
baz=263
NRN **Naryn** 54.93 303 P P 02 00 24.4 -0.8
NRN IAmb IAmb 02 01 27.4
comp=Z,10nm,0.9s
NRN **Naryn** 54.93 303 P P 02 00 24.4 -0.8
NRN pmax pmax
comp=Z,10.0nm,0.9s
PPLA **Purkeypile** 55.08 31 P P 02 00 27.1 +1.3
baz=262
G21K **Allakaket** 55.14 26 P P 02 00 27.8 +1.7
G21K IAmb IAmb 02 00 57.6
comp=Z,30nm,1.6s
G21K **Allakaket** 55.14 26 P P 02 00 27.7 +1.7
baz=258
CHUM **Lake Minchumin** 55.17 29 P P 02 00 27.9 +1.7
baz=261
CAST **Castle Rocks** 55.20 30 P P 02 00 28.4 +2.0
CAST IAmb IAmb 02 00 46.2
comp=Z,14nm,1.0s
CAST **Castle Rocks** 55.20 30 P P 02 00 28.3 +1.9
baz=262
KSH **Kashi** 55.21 301 P P 02 00 29.4 +2.3
KSH PcP PcP 02 01 29.1 +1.7
KSH pmax pmax
comp=Z,7.0nm,0.8s
H21K **Melozitna Rive** 55.26 27 P P 02 00 28.5 +1.7
H21K IAmb IAmb 02 00 30.9
comp=Z,26nm,1.4s
H21K **Melozitna Rive** 55.26 27 P P 02 00 28.3 +1.5
baz=260
SKT **Skwentna** 55.27 32 P P 02 00 28.0 +1.0
baz=263
C21K **Knifeblade Rid** 55.28 23 P P 02 00 28.8 +1.9
baz=255
F21K **Alatna River** 55.30 25 P P 02 00 28.7 +1.5
baz=258
B21K **Ikpikpuk River** 55.46 22 IAmb IAmb 02 00 31.2
comp=Z,12nm,0.8s
B21K **Ikpikpuk River** 55.46 22 P P 02 00 30.4 +2.2
baz=255
I21K **Tanana** 55.52 28 P P 02 00 30.5 +1.9
I21K IAmb IAmb 02 00 59.9
comp=Z,25nm,1.4s
I21K **Tanana** 55.52 28 P P 02 00 30.5 +1.9
baz=261
SGDS **Sogindy** 55.69 306 *e*P P 02 00 28.8 -1.5
SGDS **Sogindy** 55.69 306 *e*P P 02 00 28.9 -1.5
baz=306
A22K **Sinclair Lake** 55.71 21 P P 02 00 32.0 +2.1
baz=254
BPAW **Bear Paw Mtn.** 55.78 29 P P 02 00 32.3 +1.6
baz=262
F22K **John River** 55.85 25 P P 02 00 32.9 +1.8
baz=259
H22K **Ishtalitna Cre** 55.88 27 P P 02 00 32.8 +1.5
baz=261
AAK **Ala-Archa** 55.88 305⇈ *e*P P 02 00 31.0 -0.9
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK **Ala-Archa** 55.88 305 P P 02 00 30.8 -1.1
AAK PcP PcP 02 01 29.9 -0.1
CUT **Chulitna** 55.90 31 P P 02 00 31.8 +0.3
baz=264
BTLS **Baital** 55.93 308 *e*P P 02 00 30.6 -1.3
BTLS **Baital** 55.93 308 *e*P P 02 00 30.6 -1.3
baz=308
D22K **Ayikyak River** 55.95 23 IAmb IAmb 02 00 35.1
comp=Z,23nm,1.1s
D22K **Ayikyak River** 55.95 23 P P 02 00 33.2 +1.4
baz=258
O22K **Cooper Landing** 56.00 34 P P 02 00 32.7 +0.6
baz=266
G22K **Bettles** 56.00 26 P P 02 00 33.2 +1.1
baz=260
TRF **Thorofare Moun** 56.01 30 P P 02 00 33.2 +0.8
baz=264
MLY **Manley** 56.01 28 P P 02 00 33.9 +1.6
MLY **Manley** 56.01 28 P P 02 00 33.7 +1.4
baz=262
B22K **Teshekpuk Lake** 56.04 22 IAmb IAmb 02 00 35.0
comp=Z,22nm,1.2s
B22K **Teshekpuk Lake** 56.04 22 P P 02 00 33.9 +1.6
baz=256
RC01 **Rabbit Creek A** 56.04 33 P P 02 00 34.9 +2.4
baz=266
SEW **Seward** 56.11 34 P P 02 00 33.9 +1.0
baz=267
PMR **Palmer** 56.37 32 P P 02 00 36.1 +1.4
baz=266
G23K **Bananza Creek** 56.55 26 IAmb IAmb 02 01 11.9
comp=Z,15nm,0.9s
G23K **Bananza Creek** 56.55 26 P P 02 00 37.1 +1.1
baz=262,SNR=11
COLD **Coldfoot** 56.56 26 P P 02 00 37.3 +1.3
baz=261,SNR=6.1
I23K **Minto, Yukon-K** 56.61 28 P P 02 00 37.9 +1.4
baz=263
MCK **McKinley** 56.64 30 P P 02 00 37.7 +1.0
baz=265
NEA2 **Nenana** 56.67 29 IAmb IAmb 02 00 56.0
comp=Z,12nm,0.9s
NEA2 **Nenana** 56.67 29 P P 02 00 38.4 +1.5
baz=264
KNK **Knik Glacier** 56.68 33 P P 02 00 38.5 +1.4
baz=267
WAT1 **Susitna Watana** 56.73 31 P P 02 00 38.8 +1.3
baz=266
SML **Sawmill** 56.76 32 P P 02 00 38.6 +1.0
baz=266
C23K **Itkillik River** 56.86 22 P P 02 00 40.3 +2.1
baz=259,SNR=21
E23K **Chandalar** 56.91 25 P P 02 00 39.8 +1.1
baz=261
M23K **Glacier View** 57.05 32 P P 02 00 40.8 +1.1
baz=267
WAT6 **Susitna Watana** 57.09 31 P P 02 00 40.0 -0.2
baz=266
P23K **Montague Islan** 57.13 34 P P 02 00 40.8 +0.5
baz=268
SCM **Sheep Creek Mo** 57.24 32 P P 02 00 41.5 +0.4
baz=267
DHY **Denali Highway** 57.29 31 P P 02 00 41.7 +0.2
baz=266
H24K **Noodor Dome** 57.30 27 IAmb IAmb 02 01 11.7
comp=Z,14nm,1.2s
H24K **Noodor Dome** 57.30 27 P P 02 00 42.8 +1.4
baz=264
D24K **Happy Valley** 57.37 23 P P 02 00 43.6 +1.8
baz=261
POKR **Poker Plat Res** 57.42 28 P P 02 00 43.8 +1.6
baz=265
F24K **Squaw Lake** 57.48 25 P P 02 00 44.4 +1.7
baz=263
C24K **Franklin Bluff** 57.50 23 P P 02 00 44.3 +1.7
baz=261
G24K **Hadweenzic Riv** 57.55 26 IAmb IAmb 02 01 22.1
comp=Z,42nm,1.9s
G24K **Hadweenzic Riv** 57.55 26 P P 02 00 44.5 +1.4
baz=264
HDA **Harding Lake** 57.57 29 P P 02 00 44.7 +1.5
baz=266
IL31 57.62 29 IAmb IAmb 02 01 02.0
comp=Z,10nm,1.0s
ILAR **Eielson Array** 57.62 29 P P 02 00 43.8 +0.2
ILAR **Eielson Array** 57.62 29 P P 02 00 44.0 +0.4
comp=Z,2.5nm,0.8s,baz=270,slow=5.4,SNR=25
ILAR LR LR 02 22 34.0
comp=Z,57nm,21.4s,baz=40,slow=33
comp=Z,2.5nm,0.8s
Q23K **Middleton Isla** 57.66 35 P P 02 00 45.5 +1.6
baz=270
BVAR **Borovoye Array** 57.67 317 P P 02 00 43.1 -1.0
comp=Z,23nm,0.7s,baz=92,slow=8.1,SNR=83
BVAR PcP PcP 02 01 36.3 -0.2
comp=Z,26nm,0.7s,baz=94,slow=4.8,SNR=17
comp=Z,23nm,0.7s
BRVK **Borovoye** 57.73 317 P P 02 00 44.7 +0.2
BRVK IAmb IAmb 02 01 37.7
comp=Z,16nm,0.8s
BRVK **Borovoye** 57.73 317 *d* *i*P P 02 00 43.5 -1.1
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK **Borovoye** 57.73 317 P P 02 00 43.5 -1.1
BRVK PcP PcP 02 01 36.8 0.0
M24K **Tolsona, Glenn** 57.80 32 P P 02 00 46.3 +1.3
baz=268
MULG **Mulgathing** 57.80 188 P P 02 00 45.8 +0.6
comp=Z,14nm,1.3s
K24K **Donnelly Dome** 58.04 30 P P 02 00 48.1 +1.4
baz=268
G25K **Bearman Lake** 58.10 26 P P 02 00 48.8 +1.9
baz=265
PAX **Paxson** 58.15 31 P P 02 00 47.3 -0.2
baz=268
DZA **Taraz** 58.15 305 *e*P P 02 00 46.4 -1.3
DZA **Taraz** 58.15 305 *e*P P 02 00 46.5 -1.3
baz=305
PRP **Porcupine Dome** 58.24 28 P P 02 00 49.8 +1.6
baz=267
D25K **Kavik River** 58.25 23 IAmb IAmb 02 00 51.0
comp=Z,11nm,0.9s
D25K **Kavik River** 58.25 23 P P 02 00 49.9 +1.9
baz=264
J25K **Salcha River,** 58.26 29 P P 02 00 50.1 +1.9
baz=267
F25K **Christian Rive** 58.35 25 P P 02 00 51.1 +2.4
baz=265
E25K **Arctic Village** 58.42 25 P P 02 00 51.2 +2.0
E25K IAmb IAmb 02 00 52.8
comp=Z,14nm,1.1s
E25K **Arctic Village** 58.42 25 P P 02 00 51.2 +2.0
baz=265,SNR=9.9
FYU **Fort Yukon** 58.43 27 P P 02 00 50.9 +1.7
RIDG **Independent Ri** 58.46 30 P P 02 00 50.9 +1.4
baz=268
NIL **Nilore** 58.50 294 P P 02 00 50.7 +0.3
NIL **Nilore** 58.50 294 P P 02 00 50.7 +0.3
NIL pmax pmax
comp=Z,18nm,0.7s
NIL **Nilore** 58.50 294 P P 02 00 50.0 -0.4
BMRM **Bremner River** 58.53 33 P P 02 00 51.3 +1.2

baz=270
BMAR Burnt Mountain 58.74 26 P P 02 00 53.7 +2.2
C26K Camden Bay 58.83 23 P P 02 00 53.8 +1.9
baz=264
SCRK Sand Creek 58.84 30 P P 02 00 53.4 +1.1
SCRK IAmb IAmb 02 01 10.9
comp=Z,14nm,1.0s
SCRK Sand Creek 58.84 30 P P 02 00 53.7 +1.4
baz=269,SNR=8.4
STKA Stephens Creek 58.90 180 P P 02 00 52.5 -0.3
comp=Z,2.1nm,1.1s
STKA Stephens Creek 58.90 180⇑ eP P 02 00 52.6 -0.3
baz=282,SNR=16
STKA Stephens Creek 58.90 180 P P 02 00 52.4 -0.3
comp=Z,6.6nm,0.7s,baz=339,slow=7.3,SNR=20
comp=Z,6.6nm,0.7s
F26K Sheenjek River 58.93 25 P P 02 00 53.9 +1.2
baz=267
G26K Porcupine Rive 59.03 26 P P 02 00 55.0 +1.6
baz=267
J26L Joseph Creek 59.04 29 IAmb IAmb 02 01 19.8
comp=Z,12nm,0.8s
J26L Joseph Creek 59.04 29 P P 02 00 54.8 +1.2
baz=269
L26K Log Cabin Wild 59.12 31 IAmb IAmb 02 01 56.4
comp=Z,41nm,1.9s
L26K Log Cabin Wild 59.12 31 P P 02 00 55.1 +1.0
baz=270
I26K Coal Creek Min 59.23 28 P P 02 00 55.6 +0.8
baz=269
CHM Chimkent 59.51 305 eP P 02 00 55.9 -1.2
CHM pmax pmax
comp=Z,6.0nm,0.4s
CHM Chimkent 59.51 305 eP P 02 00 55.9 -1.2
comp=Z,5.7nm,0.4s,baz=305
K27K Chicken 59.68 30 P P 02 00 58.5 +0.5
baz=271
M27K Edge Creek, AK 59.81 32 P P 02 00 59.3 +0.3
baz=272
L27K Beaver Creek, 59.81 31 P P 02 00 59.5 +0.6
baz=272
G27K Doyon Strip 59.86 26 P P 02 01 00.5 +1.3
baz=269
I27K Kandik River 59.87 28 P P 02 00 59.9 +0.6
baz=270
H27K Steamboat Moun 59.91 27 P P 02 01 00.4 +0.9
baz=270
E27K Coleen River 59.91 25 IAmb IAmb 02 01 02.8
comp=Z,11nm,1.2s
E27K Coleen River 59.91 25 P P 02 01 00.5 +1.0
baz=269
EGAK Eagle 60.07 29 P P 02 01 01.6 +1.0
baz=271
D27M Malcolm River 60.17 24 IAmb IAmb 02 01 34.0
comp=Z,9.3nm,1.1s
D27M Malcolm River 60.17 24 P P 02 01 02.5 +1.2
baz=269
YUK3 Moose Creek 60.50 32 P P 02 01 04.5 +0.6
baz=273
F28M Old Crow 60.56 26 P P 02 01 06.0 +2.1
F28M IAmb IAmb 02 01 36.0
comp=Z,8.9nm,1.1s
F28M Old Crow 60.56 26 P P 02 01 04.7 +0.8
baz=271,SNR=7.0
I28M Miner Creek 60.58 28 IAmb IAmb 02 02 06.4
comp=Z,33nm,2.0s
I28M Miner Creek 60.58 28 P P 02 01 05.0 +0.8
baz=272,SNR=5.1
E28M Babbage River 60.68 24 IAmb IAmb 02 01 08.1
comp=Z,16nm,1.2s
E28M Babbage River 60.68 24 P P 02 01 05.9 +1.2
baz=270
SIMJ Simiganj 60.70 301 P P 02 01 04.5 -1.0
SIMJ PcP PcP **02 01 48.5 -0.5**
DAWY Dawson 60.86 30 P P 02 01 07.3 +1.3
baz=273
YUK8 Steele Glacier 60.87 33 P P 02 01 07.5 +1.1
baz=274
D28M Stokes Point 60.96 24 P P 02 01 07.6 +1.0
baz=271
H29M Whitestone 61.19 27 P P 02 01 09.5 +1.3
baz=273
E29M Blow River 61.29 25 P P 02 01 10.8 +2.0
baz=272
G29M Pine Creek 61.30 26 IAmb IAmb 02 01 40.6
comp=Z,14nm,0.9s
G29M Pine Creek 61.30 26 P P 02 01 10.8 +1.9
baz=273
J29N Klondike Camp 61.35 29 P P 02 01 10.1 +0.7
J29N IAmb IAmb 02 01 38.8
comp=Z,53nm,2.0s
J29N Klondike Camp 61.35 29 P P 02 01 11.1 +1.7
baz=274
M29M Somme Creek 61.39 31 IAmb IAmb 02 01 29.6
comp=Z,14nm,1.1s
M29M Somme Creek 61.39 31 P P 02 01 11.6 +1.8
baz=275
YUK4 Talbot Arm 61.40 33 P P 02 01 11.6 +1.7
baz=275
L29M L29M 61.49 31 IAmb IAmb 02 01 45.7
comp=Z,11nm,1.0s
L29M L29M 61.49 31 P P 02 01 12.3 +1.9
baz=275
O29M Mount Kennedy 61.53 34 P P 02 01 12.5 +1.7
baz=276
YUK6 Outpost Mounta 61.57 33 P P 02 01 12.1 +0.9
baz=276
K29M Barlow Dome 61.70 30 IAmb IAmb 02 01 47.3
comp=Z,9.7nm,0.9s
K29M Barlow Dome 61.70 30 P P 02 01 13.3 +1.4
baz=275
EPYK Eagle Plains 61.85 27 P P 02 01 14.4 +1.7
baz=274,SNR=11
G30M tAoh Zraii Nji 62.00 26 IAmb IAmb 02 01 17.4
comp=Z,17nm,1.1s
G30M tAoh Zraii Nji 62.00 26 P P 02 01 15.0 +1.4
baz=274
HYT Haines Junctio 62.00 33 P P 02 01 15.3 +1.4
baz=276
I30M Mount Dempster 62.08 28 IAmb IAmb 02 01 48.2
comp=Z,38nm,1.9s
I30M Mount Dempster 62.08 28 P P 02 01 16.0 +1.7
baz=275
F30M Barrier River 62.12 25 P P 02 01 16.7 +2.2
baz=274,SNR=8.8
N30M Aishikik Lake 62.13 32 P P 02 01 16.3 +1.6
baz=276
M30M Minto, Yukon 62.15 31 P P 02 01 16.7 +1.9
baz=276
J30M Hart River 62.16 29 P P 02 01 16.8 +1.9
baz=276
P30M Million Dollar 62.35 34 P P 02 01 17.8 +1.6
baz=277
O30N Mendenhall 62.70 33 P P 02 01 20.1 +1.6
baz=278
N31M Braeburn, Yuko 62.75 32 P P 02 01 20.0 +1.2
baz=278
G31M Satah River 62.77 26 IAmb IAmb 02 01 20.7
comp=Z,27nm,1.4s
G31M Satah River 62.77 26 P P 02 01 20.0 +1.3
baz=276,SNR=7.5
SVE Sverdlovsk 62.86 322⇓ eP P 02 01 19.5 0.0
SVE pmax pmax
comp=Z,11nm,0.8s
H31M Peel River 62.86 27 IAmb IAmb 02 01 22.0
comp=Z,18nm,1.2s
H31M Peel River 62.86 27 P P 02 01 21.3 +1.9
baz=277
INK Inuvik 62.91 25 P P 02 01 20.8 +1.2
INK Inuvik 62.91 25 P P 02 01 20.8 +1.2
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 62.91 25 P P 02 01 20.8 +1.2
baz=276,SNR=10
F31M Tsiigehtchic 62.92 26 IAmb IAmb 02 01 53.0
comp=Z,13nm,1.2s
F31M Tsiigehtchic 62.92 26 P P 02 01 20.7 +1.0
baz=276
WHY Whitehorse 63.30 33 P P 02 01 23.8 +1.2
baz=279
M31M Drury Creek, Y 63.31 31 IAmb IAmb 02 01 44.9
comp=Z,7.9nm,0.9s
M31M Drury Creek, Y 63.31 31 P P 02 01 23.8 +1.4
baz=278
ARPS Mount Arapiles 63.78 180 P P 02 01 25.1 -0.6
FARO Faro, Yukon 63.79 31 P P 02 01 26.8 +1.2
baz=279
ARU Arti 64.05 322 *d* **iP P 02 01 26.5 -0.9**
ARU 02 01 59.2

ARU S S **02 10 01.9 +3.2**
ARU SS SS **02 14 11.3 +3.3**
ARU pmax pmax
comp=Z,15nm,0.6s
ARU Arti 64.05 322 P P 02 01 26.5 -0.9
N32M Quiet Lake 64.09 32 P P 02 01 28.9 +1.2
baz=280
Q32M Nakina River 64.90 35 P P 02 01 34.2 +1.0
baz=282
A36M Sachs Harbour 65.14 20 IAmb IAmb 02 01 36.7
comp=Z,17nm,0.8s
A36M Sachs Harbour 65.14 20 P P 02 01 35.3 +1.1
baz=282,SNR=16
CRAG Craig 65.18 39 P P 02 01 33.5 -1.2
baz=283
AKTO Aktyubinsk 65.66 316 LR LR 02 29 12.1
comp=Z,125nm,19.1s,baz=56,slow=35
C36M Paulatuk 66.11 23 IAmb IAmb 02 01 41.9
comp=Z,10nm,0.8s
C36M Paulatuk 66.11 23 P P 02 01 41.5 +1.1
baz=284,SNR=6.6
WTLY Watson Lake, Y 66.37 33 P P 02 01 43.5 +1.1
baz=284
KIRV Kirov 68.33 326 *de* **P P 02 01 54.6 -0.1**
GEYT Alibeck 69.13 303 P P 02 01 59.8 -0.4
comp=Z,6.2nm,0.8s,baz=5.2,slow=3.3,SNR=16
comp=Z,6.2nm,0.8s
EUNU Eureka 69.69 8 IAmb IAmb 02 02 04.9
comp=Z,18nm,0.9s
ALE Alert 69.72 3 P P 02 02 04.3 +1.3
SPITS Spitsbergen Ar 70.08 350 P P 02 02 06.4 +1.1
comp=Z,13nm,0.9s,baz=87,slow=6.1,SNR=8.6
comp=Z,13nm,0.9s
LVZ Lovozero 71.13 338 P P 02 02 11.9 0.0
LVZ PcP PcP **02 02 33.9 +2.2**
BELG Belogornoye 71.29 320 *ce* **P P 02 02 12.6 -0.4**
BELG pmax pmax
comp=Z,6.0nm,0.9s
APA Apatity 71.71 337 ⇓ *i* **P P 02 02 14.9 -0.4**
APA pmax pmax
comp=Z,52nm,0.9s
VADS Vadso 71.76 341 *eP* **P 02 02 16.9 +1.4**
YKA Yellowknife Ar 72.05 28 *i* **P P 02 02 17.7 +0.3**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 72.05 28 P P 02 02 17.9 +0.5
comp=Z,3.5nm,0.9s,baz=293,slow=5.8,SNR=37
comp=Z,3.5nm,0.9s
KLMR Klimovskoe 72.22 330 *eP* **P 02 02 16.4 -2.0**
KLMR pmax pmax
comp=Z,55nm,1.0s
KEV Kevo 72.65 341 P P 02 02 21.7 +0.9
KEV Kevo 72.65 341 P P 02 02 21.7 +0.9
KEV pmax pmax
comp=Z,40nm,1.1s
ARA0 ARCESS Array S 73.21 341 *eP* **P 02 02 25.5 +1.3**
ARCES ARCESS Array B 73.21 341 P P 02 02 25.5 +1.3
ARCES ARCESS Array B 73.21 341 P P 02 02 25.5 +1.3
ARCES pmax pmax
comp=Z,48nm,1.1s
ARCES ARCESS Array B 73.21 341 P P 02 02 25.4 +1.2
comp=Z,30nm,0.7s,baz=71,slow=7.9,SNR=69
ARCES LR LR 02 37 45.2
comp=Z,207nm,19.3s,baz=248,slow=38
comp=Z,30nm,0.7s
KTK1 Kautokeino 74.17 341 *eP* **P 02 02 30.8 +0.9**
JETT Jettan, Norway 74.65 342 *eP* **P 02 02 33.9 +1.2**
MAK Makhachkala 74.90 311 *eP* **P 02 02 32.7 -1.8**
MAK *e* 02 05 21.3
MAK *e* PPP PPP 02 07 05.1
MAK *e* S S **02 12 05.6 -0.9**
MAK *e* SS SS **02 16 54.9 -0.4**
MAK pmax pmax
comp=Z,269nm,1.1s
TRO Tromso 75.00 342 *eP* **P 02 02 35.0 +0.4**
VRH Novokhopyorsk 75.13 320 *eP* **P 02 02 35.2 -0.5**
VRH pmax pmax
comp=Z,24nm,0.7s
NEEM North Greenlan 75.15 3 *i* **P P 02 02 36.0 +0.2**
NEEM IAmb IAmb 02 02 38.9
comp=Z,22nm,0.7s
MOS Moscow 75.34 325 *eP* **P 02 02 34.2 -2.6**
MOS pmax pmax
comp=Z,87nm,1.3s
LKRN Lenkeran, Azer 75.70 306 P P 02 02 37.8 -1.4
SEKA Sheki 75.81 309 P P 02 02 38.0 -1.9
ZKTA Zakatala 76.03 310 P P 02 02 39.6 -1.4
MNGR Mingechevir, A 76.06 309 P P 02 02 39.9 -1.3
LPSR Galich'ya Gora 76.08 322 *eP* **P 02 02 40.7 -0.3**
LPSR pmax pmax
comp=Z,40nm,0.8s
YBH Yreka Blue Hor 76.10 50 LR LR 02 31 40.2
comp=Z,44nm,19.1s,baz=344,slow=32
OBN Obninsk 76.16 325 P P 02 02 41.7 +0.3
OBN Obninsk 76.16 325 *de* **P P 02 02 41.2 -0.3**
OBN *e* PP **pP 02 02 56.3 -2.0**
OBN *e* SP **sP 02 03 03.0 -2.1**
OBN *e* 02 05 30.5
OBN *e* PPP PPP 02 07 24.0
OBN *e* S S **02 12 21.1 +1.0**
OBN pmax pmax
comp=Z,58nm,1.0s
OBN MLR MLR
comp=Z,136nm,11.0s
VORR Voronezh 76.34 321 *eP* **P 02 02 42.7 +0.1**
VORR pmax pmax
comp=Z,65nm,0.8s
VSR Storozhevoye 76.57 321 *eP* **P 02 02 43.3 -0.6**
VSR pmax pmax
comp=Z,50nm,0.8s
VORD Divnogorie 76.61 321 *eP* **P 02 02 43.3 -0.8**
VORD pmax pmax
comp=Z,20nm,0.8s
GANJ Ganja 76.64 309 P P 02 02 43.1 -1.5
PUL Pulkovo 76.77 331 *ce* **P P 02 02 45.6 +0.8**
PUL pmax pmax
comp=Z,36nm,0.4s
NEW Newport 76.90 42 P P 02 02 46.3 +0.4
baz=296
STEI Steigen 77.14 342 *eP* **P 02 02 47.7 +0.9**
STEI IAmb IAmb 02 02 48.4
comp=Z,46nm,1.0s
ZEI Tsey 77.38 312 *eP* **P 02 02 47.0 -1.9**
ZEI pmax pmax
comp=Z,19nm,1.4s
FAUS Fauske 77.50 341 *eP* **P 02 02 49.5 +0.7**
FINES FINESS Array B 77.60 334 P P 02 02 49.7 +0.3
comp=Z,40nm,0.7s,baz=72,slow=5.0,SNR=194
comp=Z,40nm,0.7s
KBZ Khabaz 77.63 313 *de* **P P 02 02 49.8 -0.2**
KBZ pmax pmax
comp=Z,21nm,0.9s
KBZ Khabaz 77.63 313 P P 02 02 50.4 +0.4
comp=Z,19nm,0.8s,baz=90,slow=2.9,SNR=46
KBZ LR LR 02 39 35.9
comp=Z,141nm,18.7s,baz=340,slow=38
comp=Z,19nm,0.8s
KIV Kislovodsk 77.67 313 ⇓ P P 02 02 51.7 +1.4
KIV Kislovodsk 77.67 313 P P 02 02 51.2 +0.9
KIV IAmb IAmb 02 02 52.4
comp=Z,21nm,0.9s
KIV Kislovodsk 77.67 313 *eP* **P 02 02 51.4 +1.1**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,121nm,18.0s
ONI Oni 77.76 312 P P 02 02 50.4 -0.5
ONI IAmb IAmb 02 02 52.5
comp=Z,12nm,1.0s
ONI Oni 77.76 312 P P 02 02 50.4 -0.5
ONI pmax pmax
comp=Z,12nm,1.0s
NAX Nakhchivan 77.84 308 P P 02 02 49.9 -1.4
BMO Blue Mountains 78.32 46 P P 02 02 55.2 +1.4
BMO Blue Mountains 78.32 46 P P 02 02 55.3 +1.4
BMO pmax pmax
comp=Z,8.0nm,1.1s
MEF Metsahovi 78.98 333 *eP* **P 02 02 57.4 +0.4**
VSU Vasula 79.04 331 *de* **P P 02 02 57.6 +0.2**
VSU pmax pmax
comp=Z,108nm,0.8s
VSU Vasula 79.04 331 eP P 02 02 58.0 +0.6
CMB Columbia Colle 79.29 53 P P 02 02 59.9 +0.6
CMB Columbia Colle 79.29 53 P P 02 02 59.9 +0.6
CMB pmax pmax

comp=Z,8.0nm,1.2s
UPNV Upernavik 79.38 5 *i* **P P 02 02 58.9 -0.1**
UPNV IAmb IAmb 02 03 00.5
comp=Z,6.1nm,0.6s
RAF Rauma 79.52 335 *eP* **P 02 03 00.4 +0.4**
SOC Sochi 79.76 314 *eP* **P 02 02 59.4 -2.3**
SOC *e* 02 05 58.4
SOC *e* PPP PPP 02 07 49.4
SOC *e* S S **02 13 00.1 +0.9**
PPT Papeete 80.03 116 LR LR 02 28 48.5
comp=Z,76nm,21.9s,baz=270,slow=28
MTSE Matsula 80.12 332 *eP* **P 02 03 04.1 +0.8**
SUMG Summit 80.34 0 IAmb IAmb 02 03 08.0
comp=Z,62nm,1.6s
SUMG Summit 80.34 0 *i* **P P 02 03 05.0 +0.2**
SUMG IAmb IAmb 02 03 07.3
comp=Z,8.8nm,0.7s
NSS Namsos 80.48 340 *eP* **P 02 03 05.1 0.0**
NSS IAmb IAmb 02 03 06.5
comp=Z,19nm,0.8s
NVAR Mina Array Bea 80.58 52 P P 02 03 07.3 +0.8
comp=Z,1.2nm,0.6s,baz=291,slow=5.5,SNR=10
comp=Z,1.2nm,0.6s
HLID Hailey 80.76 46 P P 02 03 08.4 +1.1
baz=299
MNK Minsk 80.78 327 *i* **P P 02 03 06.8 -0.1**
MNK *i* 02 06 20.1
MNK *i* S S **02 13 13.2 +3.7**
MNK pmax pmax
comp=Z,73nm,0.8s
MNK pmax pmax
comp=E,21nm,1.4s
MNK pmax pmax
comp=N,29nm,1.0s
ISAL Salakas 80.99 329 *eP* **P 02 03 07.6 -0.4**
EGMT Eagleton 81.34 40 P P 02 03 10.7 +0.5
baz=302
SBC Santa Barbara 81.39 56 P P 02 03 12.2 +1.6
baz=297
SLIT Slitere, Latvi 81.43 332 *eP* **P 02 03 09.9 -0.4**
FFC Flin Flon 81.67 32 P P 02 03 12.6 +0.9
FFC IAmb IAmb 02 03 45.1
comp=Z,30nm,2.0s
FFC Flin Flon 81.67 32 P P 02 03 12.6 +0.9
FFC pmax pmax
comp=Z,30nm,2.0s
VSVD Vaisvydziai 81.74 330 *eP* **P 02 03 12.1 +0.1**
TBLU Trondheim 81.94 340 *eP* **P 02 03 12.3 -0.5**
TBLU IAmb IAmb 02 03 13.0
comp=Z,32nm,1.0s
PABE Paberze 82.01 329 *eP* **P 02 03 13.9 +0.6**
AKASG Malin Array Be 82.25 324 IAmb IAmb 02 03 15.6
comp=Z,29nm,1.1s
AKASG Malin Array Be 82.25 324 *i* **P P 02 03 14.3 -0.5**
AKASG pmax pmax
comp=Z,31nm,0.8s
AKASG Malin Array Be 82.25 324 P P 02 03 14.6 -0.2
comp=Z,26nm,0.8s,baz=48,slow=5.6,SNR=84
comp=Z,26nm,0.8s
AKBB Malin Array Si 82.25 324 *de* **P P 02 03 14.2 -0.6**
MPMC Manual Prospec 82.25 53 P P 02 03 15.8 +0.4
baz=298
KIEV Kiev 82.26 324 ⇓ **P P 02 03 14.5 -0.2**
KIEV Kiev 82.26 324 P P 02 03 14.6 -0.2
KIEV Kiev 82.26 324 P P 02 03 14.6 -0.2
KIEV pmax pmax
comp=Z,41nm,1.0s
LRMC Laurel Mtn Rad 82.39 54 P P 02 03 16.4 +0.4
baz=298
EDW2 Edwards Air Fo 82.44 55 P P 02 03 17.2 +1.0
baz=298
R11B Troy Canyon, C 82.50 51 P P 02 03 17.7 +1.2
baz=299
SIM Simferopol' 82.58 317 κ *i* **P P 02 03 17.7 +1.1**
SIM pmax pmax
comp=Z,50nm,0.9s
PBUR Paburge 82.59 331 *eP* **P 02 03 16.9 +0.5**
TPNV Topopah Spring 82.71 52 P P 02 03 18.6 +1.0
baz=299
H17A Grant Village 82.74 44 P P 02 03 18.6 +0.8
baz=301
GWY Greenwater Val 82.78 53 P P 02 03 18.8 +0.8
ARPR Arapgir-MALATY 82.82 310 P P 02 03 19.1 +0.9
HFS Hagfors 83.08 337 P P 02 03 18.7 -0.2
comp=Z,18nm,0.7s,baz=90,slow=4.6,SNR=55
comp=Z,18nm,0.7s
NC303 NORSAR Array S 83.08 338 IAmb IAmb 02 03 21.1
comp=Z,22nm,0.8s
GSC Goldstone, Bar 83.10 54 P P 02 03 20.8 +1.2
baz=299
RLMT Red Lodge 83.15 42 P P 02 03 20.9 +1.1
baz=302
DOMB Dombas 83.21 340 *eP* **P 02 03 19.8 +0.2**
DOMB IAmb IAmb 02 03 20.8
comp=Z,28nm,0.8s
NB2 NORSAR Subarra 83.27 338 P P 02 03 21.0 +1.1
NB2 NORSAR Subarra 83.27 338 P P 02 03 19.3 -0.6
comp=Z,11nm,0.7s,baz=47,slow=5.1
NB2 PP PP **02 06 31.7 +0.2**
comp=Z,3.3nm,0.8s,baz=42,slow=7.9
NB2 NORSAR Subarra 83.27 338 P P 02 03 19.3 -0.6
baz=47,slow=5.1
NOA NORSAR Array B 83.27 338 P P 02 03 20.0 +0.1
comp=Z,18nm,0.8s,baz=46,slow=4.9,SNR=63
NOA PP PP **02 06 30.5 -1.0**
comp=Z,7.2nm,0.9s,baz=43,slow=8.4,SNR=8.4
comp=Z,18nm,0.8s
SUW Suwalki 83.29 329 *eP* P 02 03 16.6 -3.4
SUW Suwalki 83.29 329 eP P 02 03 17.1 -3.0
NC602 NORSAR Array S 83.39 338 eP P 02 03 19.3 -1.2
NC602 IAmb IAmb 02 03 22.1
comp=Z,8.3nm,0.8s
NORES NORESS Array B 83.39 338 P P 02 03 20.6 +0.1
DUG Dugway, Tooele 83.46 48 P P 02 03 22.3 +0.8
baz=300
NAO01 NORSAR Array S 83.52 338 IAmb IAmb 02 06 34.6
comp=Z,28nm,1.1s
AKN Aaknes 83.73 340 *eP* **P 02 03 23.0 +0.8**
ICESG Greenland Ices 83.84 1 *i* **P P 02 03 23.0 -0.1**
ICESG IAmb IAmb 02 03 25.1
comp=Z,8.7nm,0.8s
PFO Pinyon Flats O 84.16 55 P P 02 03 26.0 +0.8
baz=299
TPFO Pinon Flats 84.17 55 P P 02 03 25.8 +0.6
baz=299
GMRC Granite Mounta 84.17 54 P P 02 03 26.5 +1.3
baz=299
SORM Soroca 84.17 322 ⇓ **P P 02 03 24.2 -0.6**
SORM Soroca 84.17 322 P P 02 03 24.1 -0.6
BW06 Boulder Array 84.22 45 P P 02 03 26.9 +1.5
baz=302
PDAR Pinedale Array 84.22 45 P P 02 03 25.9 +0.5
comp=Z,0.8nm,0.8s,baz=268,slow=2.2,SNR=7.0
comp=Z,0.8nm,0.8s
PURM Purcari 84.23 320 ⇑ **P P 02 03 25.1 0.0**
OSL Oslo 84.25 338 *eP* **P 02 03 24.8 0.0**
BELC Belle Mtn. Jos 84.31 55 P P 02 03 26.6 +0.7
baz=299
SKAR Skarslia 84.49 339 *eP* **P 02 03 26.8 +0.6**
SKAR IAmb IAmb 02 03 47.0
comp=Z,469nm,2.8s
MONP2 Monument Peak 84.53 56 P P 02 03 28.1 +1.0
baz=299
KIS Kishinev 84.56 321 *eP* **P 02 03 26.0 -0.7**
comp=Z,34nm,0.6s
KIS Kishinev 84.56 321 *eP* **P 02 03 26.0 -0.7**
KIS pmax pmax
comp=Z,30nm,0.6s
MILM Milestii Mici 84.61 321 ⇓ *i* **P P 02 03 26.0 -1.0**
comp=Z,70nm,1.1s
MILM Milestii Mici 84.61 321 ⇓ P P 02 03 26.2 -0.7
MILM Milestii Mici 84.61 321 P P 02 03 26.2 -0.7
FOO Floro 84.77 341 *eP* **P 02 03 28.8 +1.3**
KONO Kongsberg 84.85 338 *eP* **P 02 03 27.5 -0.4**
IRM Iron Mountain 84.85 54 P P 02 03 29.5 +1.0
baz=300
KNB Kanab 85.06 51 IAmb IAmb 02 04 10.9
comp=Z,10nm,1.1s
RDMU Red Mountain 85.38 46 IAmb IAmb 02 03 38.9
comp=Z,6.3nm,0.8s
P18A Preston Nutter 85.44 48 IAmb IAmb 02 04 10.4
comp=Z,30nm,1.9s
LVV L'vov 85.46 325 *eP* **P 02 03 31.2 0.0**
PDMCI Parker Dam,Lak 85.50 54 P P 02 03 32.7 +1.0
baz=300
ODD1 Odda 85.61 339 *eP* **P 02 03 32.5 +0.7**

ODD1					IAmb	IAmb	02 03 33.5		
	comp=Z,27nm,0.7s								
BR131	**Keskin Array S**	**85.63**	**313**		IAmb	IAmb	02 05 41.7		
	comp=Z,33nm,1.9s								
BR131	**Keskin Array S**	**85.63**	**313**	⇑	*eP*	**P**	**02 03 31.6**	**-0.8**	
BRTR	**Keskin Array B**	**85.63**	**313**		*i* P	**P**	**02 03 31.8**	**-0.6**	
BRTR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
BRTR	**Keskin Array B**	**85.63**	**313**		P	**P**	**02 03 31.9**	**-0.5**	
	comp=Z,3.5nm,0.7s,baz=86,slow=3.0,SNR=16								
	comp=Z,3.5nm,0.7s								
CFR	**Carcaliu**	**86.00**	**320**	⇓	P	**P**	**02 03 33.1**	**-0.9**	
CFR	**Carcaliu**	**86.00**	**320**		P	**P**	**02 03 33.0**	**-0.9**	
TPGR	**Topolog**	**86.02**	**319**	⇑	P	**P**	**02 03 34.2**	**+0.1**	
BLS5	**Blasjo**	**86.05**	**339**		*eP*	**P**	**02 03 34.0**	**+0.1**	
K22A	**Casper**	**86.16**	**43**		P	**P**	**02 03 35.2**	**+0.1**	
	baz=304								
BSD	**Bornholm Skovb**	**86.17**	**333**		*i* P	**P**	**02 03 33.7**	**-0.9**	
BSD					IAmb	IAmb	02 03 35.6		
	comp=Z,27nm,0.8s								
BUR08	**Bucovina Ar. S**	**86.18**	**323**		IAmb	IAmb	02 03 35.8		
	comp=Z,12nm,0.7s								
BURAR	**Bucovina Array**	**86.19**	**323**	⇑	P	**P**	**02 03 35.0**	**0.0**	
BURAR	**Bucovina Array**	**86.19**	**323**		P	**P**	**02 03 34.9**	**0.0**	
KWP	**Kalwaria Pacla**	**86.25**	**325**		*eP*	**P**	**02 03 35.2**	**0.0**	
DY2G	**Dye2**	**86.27**	**3**		*i* P	**P**	**02 03 35.5**	**+0.4**	
DY2G					IAmb	IAmb	02 03 37.0		
	comp=Z,9.3nm,0.6s								
VRI	**Vrincioaia**	**86.40**	**321**	⇑	P	**P**	**02 03 36.6**	**+0.6**	
VRI	**Vrincioaia**	**86.40**	**321**		P	**P**	**02 03 36.5**	**+0.6**	
O20A	**White River Ci**	**86.47**	**46**		P	**P**	**02 03 38.1**	**+1.5**	
	baz=303								
TURR	**Turia**	**86.69**	**321**	⇑	P	**P**	**02 03 38.0**	**+0.6**	
BOSR	**Bodos**	**86.87**	**321**	⇓	P	**P**	**02 03 38.7**	**+0.4**	
KOLS	**Kolonicke sedl**	**86.92**	**325**		*eP*	**P**	**02 03 38.2**	**-0.2**	
KOLS					pmax	pmax			
	comp=Z,8.0nm,0.9s								
KOLS	**Kolonicke sedl**	**86.92**	**325**		*eP*	**P**	**02 03 38.2**	**-0.2**	
ARCR	**ARCALIA**	**86.97**	**323**	⇑	P	**P**	**02 03 39.5**	**+0.8**	
BMR	**Baia Mare**	**87.07**	**323**	⇓	P	**P**	**02 03 39.5**	**+0.4**	
BMR	**Baia Mare**	**87.07**	**323**		P	**P**	**02 03 39.5**	**+0.4**	
STHS	**Stebnicka Huta**	**87.13**	**326**		*eP*	**P**	**02 03 39.3**	**-0.1**	
STHS					pmax	pmax			
	comp=Z,12nm,0.9s								
STHS	**Stebnicka Huta**	**87.13**	**326**		*eP*	**P**	**02 03 39.3**	**-0.1**	
CRVS	**Cervenica-Dubn**	**87.35**	**325**		*eP*	**P**	**02 03 40.6**	**+0.1**	
CRVS					pmax	pmax			
	comp=Z,32nm,1.1s								
CRVS	**Cervenica-Dubn**	**87.35**	**325**		*eP*	**P**	**02 03 40.6**	**+0.1**	
214A	**Organ Pipe Nat**	**87.65**	**55**		P	**P**	**02 03 41.9**	**-0.4**	
	baz=301								
ARR	**Arges**	**87.87**	**321**	⇓	P	**P**	**02 03 43.5**	**+0.3**	
MARR	**Marisel-Cluj**	**87.89**	**323**	⇑	P	**P**	**02 03 43.0**	**-0.2**	
MVCO	**Mesa Verde**	**87.90**	**49**		P	**P**	**02 03 44.1**	**+0.5**	
	baz=303								
MMAI	**Mount Meron Ar**	**87.94**	**306**		P	**P**	**02 03 43.1**	**-0.6**	
	comp=Z,8.1nm,0.8s,baz=34,slow=9.1,SNR=7.5								
	comp=Z,8.1nm,0.8s								
LANS	**Liptovska Anna**	**88.18**	**326**		*eP*	**P**	**02 03 45.3**	**+0.8**	
LANS					pmax	pmax			
	comp=Z,7.0nm,1.0s								
LANS	**Liptovska Anna**	**88.18**	**326**		*eP*	**P**	**02 03 45.3**	**+0.8**	
LOT	**Lotru**	**88.30**	**322**	⇓	P	**P**	**02 03 45.1**	**-0.1**	
OKC	**Ostrava-Krasne**	**88.37**	**327**		*eP*	**P**	**02 03 44.7**	**-0.6**	
OKC	**Ostrava-Krasne**	**88.37**	**327**		*eP*	**P**	**02 03 44.7**	**-0.6**	
KSP	**Ksiaz**	**88.55**	**329**		*eP*	**P**	**02 03 45.9**	**-0.2**	
MORC	**Moravsky Berou**	**88.70**	**328**	⇓	P	**P**	**02 03 46.8**	**-0.2**	
MORC	**Moravsky Berou**	**88.70**	**328**		*eP*	**P**	**02 03 46.5**	**-0.4**	
MORC	**Moravsky Berou**	**88.70**	**328**		P	**P**	**02 03 46.7**	**-0.2**	
PSZ	**Piszkesteto**	**88.78**	**325**	⇓	P	**P**	**02 03 47.4**	**0.0**	
PSZ	**Piszkesteto**	**88.78**	**325**		P	**P**	**02 03 47.4**	**0.0**	
OSTC	**Ostas**	**88.78**	**329**		*eP*	**P**	**02 03 47.2**	**-0.1**	
OSTC	**Ostas**	**88.78**	**329**		*eP*	**P**	**02 03 47.2**	**-0.1**	
CHVC	**Chvalec**	**88.84**	**329**		*eP*	**P**	**02 03 47.7**	**+0.2**	
CHVC	**Chvalec**	**88.84**	**329**		*eP*	**P**	**02 03 47.7**	**+0.2**	
KRLC	**Kraliky**	**88.85**	**328**		*eP*	**P**	**02 03 47.5**	**-0.1**	
KRLC	**Kraliky**	**88.85**	**328**		*eP*	**P**	**02 03 47.5**	**-0.1**	
DPC	**Dobruska-Polom**	**88.88**	**329**		*eP*	**P**	**02 03 47.8**	**+0.1**	
DPC	**Dobruska-Polom**	**88.88**	**329**		*eP*	**P**	**02 03 47.8**	**+0.1**	
UPC	**Upice**	**88.91**	**329**		*eP*	**P**	**02 03 48.0**	**+0.2**	
UPC	**Upice**	**88.91**	**329**		*eP*	**P**	**02 03 48.0**	**+0.2**	
VYHS	**Vyhne**	**88.93**	**326**		*eP*	**P**	**02 03 48.2**	**+0.2**	
VYHS					pmax	pmax			
	comp=Z,31nm,0.9s								
VYHS	**Vyhne**	**88.93**	**326**		*eP*	**P**	**02 03 48.2**	**+0.2**	
SIRR	**Siria**	**88.93**	**323**	⇑	P	**P**	**02 03 47.9**	**-0.1**	
SURR	**Surduc**	**89.01**	**323**	⇑	P	**P**	**02 03 47.8**	**-0.6**	
JAVC	**Velka Javorina**	**89.26**	**327**		*eP*	**P**	**02 03 50.5**	**+0.9**	
BZS	**Buzias**	**89.37**	**323**	⇑	P	**P**	**02 03 49.1**	**-1.1**	
BZS	**Buzias**	**89.37**	**323**		P	**P**	**02 03 49.0**	**-1.1**	
VRAC	**Vranov**	**89.47**	**328**	⇑	P	**P**	**02 03 50.8**	**+0.2**	
VRAC	**Vranov**	**89.47**	**328**		*eP*	**P**	**02 03 50.3**	**-0.2**	
VRAC	**Vranov**	**89.47**	**328**		P	**P**	**02 03 50.7**	**+0.2**	
PVCC	**Panska Ves**	**89.56**	**329**		*eP*	**P**	**02 03 51.1**	**+0.3**	
PVCC	**Panska Ves**	**89.56**	**329**		*eP*	**P**	**02 03 51.1**	**+0.3**	
BRG	**Berggiesshubel**	**89.59**	**330**		*i* P	**P**	**02 03 51.0**	**0.0**	
BRG					Amp		02 03 52.1		
	comp=Z,9.7nm,0.8s								
BRG	**Berggiesshubel**	**89.59**	**330**		*i* P	**P**	**02 03 51.0**	**0.0**	
BRG							02 04 08.7		
BRG					pmax	pmax			
	comp=Z,10.0nm,0.8s								
SMOL	**Smolenice**	**89.61**	**327**		*eP*	**P**	**02 03 51.8**	**+0.6**	
SMOL					pmax	pmax			
	comp=Z,20nm,0.9s								
SRO	**Srobarova**	**89.65**	**326**		*eP*	**P**	**02 03 51.5**	**+0.2**	
SRO					pmax	pmax			
	comp=Z,26nm,0.8s								
SRO	**Srobarova**	**89.65**	**326**		*eP*	**P**	**02 03 51.5**	**+0.2**	
CLL	**Collm**	**89.69**	**331**	⇑	*i* P	**P**	**02 03 51.1**	**-0.3**	
CLL					pmax	pmax			
	comp=Z,16nm,0.8s								
CLL	**Collm**	**89.69**	**331**	⇑	*i* P	**P**	**02 03 51.1**	**-0.3**	
	comp=Z,16nm,0.8s								
CLL					*e*PP	**PP**	**02 07 23.0**	**-0.4**	
KRUC	**Moravsky**	**89.73**	**328**		*eP*	**P**	**02 03 51.4**	**-0.3**	
MODS	**Modra-Piesok**	**89.78**	**327**		*eP*	**P**	**02 03 52.5**	**+0.5**	
MODS					pmax	pmax			
	comp=Z,42nm,1.1s								
MODS	**Modra-Piesok**	**89.78**	**327**		*eP*	**P**	**02 03 52.5**	**+0.5**	
GOPC	**GO Pecny, Ondr**	**89.89**	**329**		*eP*	**P**	**02 03 52.3**	**-0.2**	
GOPC	**GO Pecny, Ondr**	**89.89**	**329**		*eP*	**P**	**02 03 52.3**	**-0.2**	
PRU	**Pruhonice**	**89.95**	**329**		*eP*	**P**	**02 03 52.8**	**+0.1**	
PRU	**Pruhonice**	**89.95**	**329**		*eP*	**P**	**02 03 52.8**	**+0.1**	
HSKC	**Hora Svate Kat**	**90.01**	**330**		*eP*	**P**	**02 03 52.8**	**-0.2**	
ZVC	**Zvikov**	**90.50**	**329**		*eP*	**P**	**02 03 55.1**	**-0.2**	
ANMO	**Albuquerque**	**90.53**	**50**		P	**P**	**02 03 56.7**	**+0.8**	
	baz=304								
MORH	**Mrgy, Hungar**	**90.55**	**324**	⇓	P	**P**	**02 03 55.0**	**-0.6**	
T25A	**Trinidad**	**90.64**	**47**		P	**P**	**02 03 57.3**	**+0.9**	
	baz=306								
FRGS	**Fruska Gora**	**90.64**	**323**	⇓	P	**P**	**02 03 55.6**	**-0.4**	
NKC	**Novy Kostel**	**90.71**	**330**		*eP*	**P**	**02 03 56.3**	**0.0**	
NKC	**Novy Kostel**	**90.71**	**330**		*eP*	**P**	**02 03 56.3**	**0.0**	
RONA	**Rosalia, Austr**	**90.72**	**327**		*i* P	**P**	**02 03 56.3**	**-0.1**	
	comp=Z,16nm,0.9s,SNR=5.8								
CONA	**Conrad Observa**	**90.77**	**327**		*i* P	**P**	**02 03 56.6**	**-0.1**	
	comp=Z,22nm,0.9s,SNR=8.9								
CKRC	**Cesky Krumlov**	**90.89**	**328**		*eP*	**P**	**02 03 56.6**	**-0.5**	
CKRC	**Cesky Krumlov**	**90.89**	**328**		*eP*	**P**	**02 03 56.6**	**-0.5**	
KHC	**Kasperske Hory**	**91.00**	**329**	⇓	*eP*	**P**	**02 03 57.2**	**-0.5**	
KHC					pmax	pmax			
	comp=Z,64nm,1.3s								
KHC	**Kasperske Hory**	**91.00**	**329**		*eP*	**P**	**02 03 57.5**	**-0.2**	
GERES	**GERESS Array B**	**91.15**	**329**		P	**P**	**02 03 58.0**	**-0.5**	
GERES	**GERESS Array B**	**91.15**	**329**		P	**P**	**02 03 58.0**	**-0.5**	
	comp=Z,10nm,0.7s,baz=29,slow=6.1,SNR=34								
GERES					LR	LR	02 46 27.8		
	comp=Z,176nm,18.4s,baz=282,slow=36								
	comp=Z,10nm,0.7s								
ARSA	**Arzberg**	**91.41**	**327**		*i* P	**P**	**02 03 59.6**	**0.0**	
	comp=Z,21nm,1.0s,SNR=5.8								
MOA	**Molln**	**91.59**	**328**		*i* P	**P**	**02 04 00.3**	**-0.1**	
	comp=Z,19nm,0.9s								
GRF	**Grafenberg Arr**	**91.65**	**330**		*eP*	**P**	**02 04 00.6**	**-0.1**	
	comp=Z,21nm,1.0s,baz=42,slow=4.3								
BIOA	**Bad Ischl, Aus**	**92.00**	**328**		*i* P	**P**	**02 04 02.4**	**0.0**	
	comp=Z,26nm,1.0s,SNR=8.0								
SOKA	**Soboth**	**92.05**	**327**		*eP*	**P**	**02 04 02.1**	**-0.6**	
	comp=Z,26nm,0.9s,SNR=6.3								
EKA	**Eskdalemuir Ar**	**92.38**	**341**		P	**P**	**02 04 04.7**	**+0.8**	
	comp=Z,4.8nm,0.8s,baz=27,slow=6.4,SNR=7.7								
EKA					PP	**PP**	**02 07 45.2**	**+0.8**	
	comp=Z,3.5nm,0.9s,baz=58,slow=8.0,SNR=4.5								
	comp=Z,4.8nm,0.8s								
OBKA	**Obir**	**92.41**	**327**		*eP*	**P**	**02 04 03.7**	**-0.6**	
	comp=Z,13nm,0.8s								
KBA	**Koelnbreinsper**	**92.58**	**328**		*i* P	**P**	**02 04 06.9**	**+1.7**	
	comp=Z,14nm,0.9s								
LESA	**Schwarzleotal**	**92.65**	**328**		*i* P	**P**	**02 04 04.8**	**-0.5**	
	comp=Z,24nm,0.9s								
LJU	**Ljubljana**	**92.75**	**326**		*i* P	**P**	**02 04 05.0**	**-0.7**	
MYKA	**Terra Mystica**	**92.76**	**327**		*i* P	**P**	**02 04 04.6**	**-1.3**	
	comp=Z,13nm,0.8s								
BOJS	**Bojanci**	**92.77**	**326**		*i* P	**P**	**02 04 05.5**	**-0.3**	
GBAS	**Gorenja Brezov**	**92.87**	**326**		*i* P	**P**	**02 04 05.4**	**-0.9**	
ABTA	**Abfaltersbach**	**93.22**	**328**		*i* P	**P**	**02 04 06.7**	**-1.4**	
	comp=Z,29nm,0.9s,SNR=6.7								
WATA	**Walderalm**	**93.23**	**329**		*i* P	**P**	**02 04 07.5**	**-0.7**	
	comp=Z,14nm,1.1s								
WTTA	**Wattenberg**	**93.25**	**329**		*i* P	**P**	**02 04 06.6**	**-1.7**	
	comp=Z,14nm,1.0s								
MOTA	**Moosalm**	**93.44**	**329**		*i* P	**P**	**02 04 08.4**	**-0.7**	
	comp=Z,14nm,1.0s								
SQTA	**Sankt Quirin**	**93.48**	**329**		*i* P	**P**	**02 04 08.6**	**-0.7**	
	comp=Z,11nm,0.9s								
RETA	**Reutte**	**93.49**	**329**		*i* P	**P**	**02 04 08.9**	**-0.3**	
	comp=Z,15nm,1.1s								
LPIG	**La Paz**	**93.62**	**61**		LR	LR	02 42 43.4		
	comp=Z,38nm,18.4s,baz=24,slow=33								
FETA	**Feichten**	**93.85**	**329**		*i* P	**P**	**02 04 10.6**	**-0.4**	
	comp=Z,18nm,0.9s,SNR=5.2								
DAVA	**Damuels**	**94.04**	**330**		*i* P	**P**	**02 04 11.5**	**-0.4**	
	comp=Z,30nm,0.9s,SNR=6.1								
JFWS	**Jewell Farm**	**95.23**	**36**		P	**P**	**02 04 18.3**	**+1.1**	
	baz=315								
TXAR	**Lajitas Array**	**95.67**	**53**		P	**P**	**02 04 21.1**	**+1.4**	
	comp=Z,0.4nm,0.5s,baz=316,slow=3.8,SNR=2.4								
	comp=Z,0.4nm,0.5s								
WVT	**Waverly**	**101.38**	**39**		P	**Pdif**	**02 04 45.8**	**+0.8**	
	baz=316								
OXF	**Oxford**	**101.63**	**41**		P	**Pdif**	**02 04 47.0**	**+0.9**	
	baz=315								
LBNH	**Lisbon**	**102.33**	**24**		P	**Pdif**	**02 04 50.5**	**+1.4**	
	baz=330								
ESDC	**Sonseca Array**	**106.11**	**333**		PP	PKiKP	02 09 09.1	-8.5	
	comp=Z,1.3nm,1.2s,baz=7.5,slow=24,SNR=1.7								
QSPA	**South Pole Qui**	**117.12**	**180**		PKP	**PKPdf**	**02 09 35.7**	**-1.8**	
	comp=Z,1.2nm,0.5s,baz=323,slow=2.6,SNR=5.2								
TORD	**Tondi Ar. Bea**	**124.21**	**311**		PKP	**PKPdf**	**02 09 52.2**	**-0.4**	
	comp=Z,1.0nm,0.6s,baz=360,slow=3.8,SNR=8.1								
BOSA	**Boshof**	**124.62**	**253**		PKP	**PKPdf**	**02 09 52.6**	**-0.5**	
	comp=Z,2.1nm,1.0s,baz=18,slow=3.2,SNR=3.0								
DBIC	**Dimbokro**	**133.31**	**312**		PKP	**PKPdf**	**02 10 10.4**	**+0.5**	
	comp=Z,3.0nm,0.9s,baz=59,slow=1.6,SNR=3.8								
ETMB	**Extrema**	**148.29**	**62**		PKPdf	**PKPdf**	**02 10 38.2**	**+1.5**	
SAML	**Samuel**	**150.07**	**57**		PKPdf	**PKPdf**	**02 10 40.6**	**+1.0**	
SAML	**Samuel**	**150.07**	**57**		PKIKP	**PKPdf**	**02 10 40.6**	**+1.0**	
LPAZ	**La Paz**	**150.12**	**75**		PKPdf	**PKPdf**	**02 10 39.8**	**-0.6**	
LPAZ						**PKPbc**	**02 10 46.0**	**+0.5**	
LPAZ	**La Paz**	**150.12**	**75**		PKIKP	**PKPdf**	**02 10 39.8**	**-0.6**	
PLCA	**Paso Flores**	**150.18**	**125**		PKPdf	**PKPdf**	**02 10 40.8**	**+1.7**	
PLCA	**Paso Flores**	**150.18**	**125**		PKPbc	**PKPbc**	**02 10 44.2**	**-0.1**	
	comp=Z,2.8nm,0.8s,baz=263,slow=4.4,SNR=7.0								

NEIC ***18*** *02:03:30.3±1.5, 25°.23N±0°.06×95°.03E±0°.08, h84km±6km, mb4.5/38, Error ellipse: s-maj=11.1km s-min=8.9km az=64.0*

NDI ***18*** *02:03:31.1±3.7, 25°.27N×95°.02E, h80km, ML4.1, MW4.3, mb4.5(NEIC)*

IDC ***18*** *02:03:31.3±1.7, 25°.16N×95°.13E, h102km±14km, mb3.7/19, mbtmp4.1/20, Error ellipse: s-maj=25.4km s-min=12.6km az=59.0*

ISC 18 02:03:30.7±0.6, 25°.23N±0°.04×94°.98E±0°.04, h95km±4km, n99, σ1°47/123, mb4.2/42, 2D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**0.93**	**302**	*i* Pg		**Pn**	**02 03 49.2**	**-1.0**
KOHI				*i* Sg		**Sn**	**02 04 00.6**	**-4.2**
KOHI				IAML			02 04 22.1	
	3μm,0.7s							
IMP	**Imphal**	**1.02**	**248**	*eP*		**Pn**	**02 03 50.8**	**-0.2**
IMP				IAML			02 04 09.6	
	comp=E,1μm,0.2s							
IMP				*eS*		**Sn**	**02 04 11.6**	**+5.3**
IMP				IAML			02 04 14.8	
	comp=E,3μm,0.3s							
MOKO	**MOKOCHONG**	**1.17**	**339**	*eP*		**Pn**	**02 03 52.5**	**-0.4**
MOKO				*eS*		**Sn**	**02 04 08.7**	**-0.8**
SILR	**SILCHAR**	**2.03**	**258**	*eP*		**Pn**	**02 04 04.1**	**+0.7**
SILR				*eS*		**Sn**	**02 04 27.7**	**-0.7**
ITAN	**ITANAGAR**	**2.22**	**330**	*eP*		**Pn**	**02 04 05.6**	**-0.4**
ITAN				*eS*		**Sn**	**02 04 31.1**	**-1.8**
ITAN				IAML			02 04 44.5	
	comp=E,5μm,0.1s							
ITAN				IAML			02 04 45.6	
	comp=N,3μm,0.4s							
DIBR	**DIBRUGARH**	**2.23**	**358**	*ex*		x	02 04 12.0	
DIBR				*eS*		**Sn**	**02 04 31.5**	**-1.7**
LKP	**Lekhapani**	**2.24**	**20**	*eP*		**Pn**	**02 04 05.8**	**-0.4**
LKP				*ex*		x	02 04 28.1	
TEZP	**TEZPUR**	**2.41**	**306**	*eP*		**Pn**	**02 04 07.2**	**-1.2**
TEZP				*eS*		**Sn**	**02 04 37.1**	**-0.2**
ZIRO	**ZIRO**	**2.51**	**336**	*eP*		**Pn**	**02 04 08.9**	**-1.0**
ZIRO				*eS*		**Sn**	**02 04 37.4**	**-2.6**
SHL	**Shillong**	**2.82**	**278**	Pn		**Pn**	**02 04 12.9**	**-1.2**
SHL	**Shillong**	**2.82**	**278**	*eP*		**Pn**	**02 04 13.3**	**-0.8**
SHL				*eS*		**Sn**	**02 04 44.4**	**-3.2**
TNCH	**TengChong**	**3.21**	**93**	Pn		**Pn**	**02 04 15.9**	**-3.5**
TNCH				Sg		Sn	02 05 13.9	+17
TNCH				smax		smax		
	comp=N,450nm,1.1s							
TNCH				smax		smax		
	comp=E,450nm,1.3s							
TNCH	**TengChong**	**3.21**	**93**	Pg		Pn	02 04 31.1	+12
SAIH	**SAIHA**	**3.28**	**214**	*eP*		**Pn**	**02 04 20.4**	**+0.2**
SAIH				*eS*		**Sn**	**02 04 56.9**	**-1.6**
MND	**Mandalay**	**3.36**	**162**			**Pn**	**02 04 19.9**	**-1.3**
AGT	**Agartala**	**3.65**	**249**	*eS*		**Sn**	**02 05 06.8**	**-0.5**
DHUB	**DHUBRI**	**4.57**	**281**	*eP*		Pn	02 04 44.6	+7.1
DHUB				*eS*		**Sn**	**02 05 33.0**	**+3.5**
LSA	**Lhasa**	**5.61**	**323**	Pn		**Pn**	**02 04 52.2**	**+0.1**
GTK	**Tadong**	**6.09**	**291**	*eP*		**Pn**	**02 04 58.8**	**+0.4**
GTK				*eS*		**Sn**	**02 06 03.8**	**-3.1**
PZH	**PanZhiHua**	**6.22**	**77**	P		**Pn**	**02 05 02.1**	**+2.0**
KMI	**Kunming**	**7.03**	**89**	⇓	Pn	**Pn**	**02 05 13.1**	**+1.9**
KMI				LR		LR		
	comp=N,150nm,4.6s							
KMI				LR		LR		
	comp=E,160nm,4.2s							
CRAI	**Chiangrai**	**7.04**	**134**	Pn		**Pn**	**02 05 10.8**	**-0.3**
CHTO	**Chiang Mai**	**7.36**	**149**	Pn		**Pn**	**02 05 15.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**7.67**	**151**	Pn		**Pn**	**02 05 19.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**7.67**	**151**	P		**Pn**	**02 05 20.1**	**+0.3**
	comp=E,16nm,0.9s,baz=325,slow=13,SNR=76							
BOK	**Bokaro**	**8.41**	**262**	*eP*		**Pn**	**02 05 28.1**	**-1.7**
BOK				*eS*		**Sn**	**02 06 56.4**	**-6.6**
GYA	**Guiyang**	**10.59**	**81**	⇓	P	**Pn**	**02 06 02.3**	**+2.6**
GYA				pmax		pmax		
	comp=Z,32nm,0.8s							
GOMU	**GeErMu**	**10.94**	**359**	P		**Pn**	**02 06 02.0**	**-2.5**
GOMU				pmax		pmax		
	comp=Z,7.0nm,0.7s							
LZH	**Lanzhou**	**13.23**	**33**	*eP*		**Pn**	**02 06 33.1**	**-1.9**
LZH				pP		P	02 06 44.8	+3.5
LZH				pmax		pmax		
	comp=Z,17nm,1.5s							
ENH	**Enshi**	**13.79**	**65**	Pn		**Pn**	**02 06 40.7**	**-1.4**
UBPT	**Khong Chiam**	**13.95**	**133**	P		**P**	**02 06 48.2**	**-1.0**
GTA	**Gaotai**	**14.72**	**15**	*eP*		**P**	**02 06 58.3**	**+0.5**
GTA				sP		sPn	02 07 20.5	-0.1
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WMQ	**Urumqi**	**19.48**	**344**	*eP*		**Pn**	**02 07 53.9**	**+1.6**
HHC	**Hu-ho-hao-te**	**20.82**	**38**	*eP*		Pn	02 08 06.6	-1.4
HHC				pmax		pmax		
	comp=Z,11nm,0.5s							
HHC				pmax		pmax		
	comp=Z,120nm,8.0s							
KSH	**Kashi**	**21.41**	**316**	P		**P**	**02 08 12.8**	**+1.8**
KSH				pP		pP	02 08 32.1	+2.4
KSH				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NJ2	**Nanjing**	**22.00**	**67**	*eP*		**P**	**02 08 18.0**	**+0.8**
NJ2				pP		**pP**	**02 08 36.1**	**+0.2**
NJ2				sP		**sP**	**02 08 48.1**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,230nm,5.7s							
MK31	**Makanchi Array**	**23.79**	**338**	P		**P**	**02 08 35.3**	**+0.6**
MKAR	**Makanchi Array**	**23.79**	**338**	P		**P**	**02 08 35.9**	**+1.2**
MKAR	**Makanchi Array**	**23.79**	**338**	P		**P**	**02 08 36.2**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=153,slow=8.6,SNR=40							
MKAR				PcP		**PcP**	**02 12 16.1**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=167,slow=1.9,SNR=3.9							
MKAR				ScP		**ScP**	**02 15 44.6**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=116,slow=2.8,SNR=8.7							
	comp=Z,2.0nm,0.5s							
MAKZ	**Makanchi**	**23.91**	**338**	P		**P**	**02 08 37.2**	**+1.5**
AAK	**Ala-Archa**	**24.20**	**321**	P		**P**	**02 08 39.3**	**+0.8**
KBL	**Kabul**	**24.27**	**299**	P		**P**	**02 08 40.6**	**+1.2**
SONM	**Songino Array**	**24.30**	**19**	P		**P**	**02 08 40.7**	**+1.3**
SONM	**Songino Array**	**24.30**	**19**	P		**P**	**02 08 40.3**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=201,slow=9.6,SNR=6.3							
SONM				ScP		**ScP**	**02 15 45.9**	**-1.1**
	comp=Z,1.1nm,1.1s,baz=202,slow=1.6,SNR=4.1							
	comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**28.35**	**338**	P		**P**	**02 09 16.8**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=149,slow=8.5,SNR=8.3							
KURBB				PcP		**PcP**	**02 12 26.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=166,slow=2.3,SNR=7.3							
KURBB				ScP		**ScP**	**02 15 58.2**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=157,slow=2.8,SNR=14							
	comp=Z,1.5nm,0.8s							
ZAA0	**Zalesovo Array**	**29.67**	**348**	P		**P**	**02 09 28.5**	**+1.2**
ZALV	**Zalesovo Beam**	**29.67**	**348**	P		**P**	**02 09 28.6**	**+1.3**
ZALV	**Zalesovo Beam**	**29.67**	**348**	P		**P**	**02 09 28.4**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=152,slow=6.7,SNR=6.3							
	comp=Z,0.8nm,0.3s							
BVAR	**Borovoye Array**	**33.36**	**333**	P		**P**	**02 10 01.3**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=139,slow=10,SNR=13							
BVAR				PcP		**PcP**	**02 12 38.1**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=234,slow=0.4,SNR=4.8							
BVAR				ScP		**ScP**	**02 16 14.7**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=140,slow=4.8,SNR=7.5							
	comp=Z,1.1nm,0.4s							
MDJ	**Mudanjiang**	**34.00**	**47**	P		**P**	**02 10 05.6**	**+0.3**
MDJ		

	comp=Z,4.4nm,0.8s						
BOSA	**Boshof**	**85.76**	**236**	P	**P**	**02 16 00.2**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=48,slow=7.5,SNR=3.0						
	comp=Z,2.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**87.41**	**283**	P	**P**	**02 16 08.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=52,slow=4.5,SNR=6.2						
	comp=Z,0.8nm,0.7s						
YKA	**Yellowknife Ar**	**89.44**	**13**	P	**P**	**02 16 16.4**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=319,slow=3.6,SNR=7.1						
	comp=Z,0.4nm,0.7s						
BDFB	**Brasilia**	**144.14**	**278**	PKP	PKPbc	02 22 55.2	+0.6
	comp=Z,3.3nm,0.7s,baz=152,slow=4.0,SNR=7.1						

IDC ***18*** *02:16:32.0±1.3,31°.95N×55°.64E,h0km,mb3.9/9, mbtmp4.0/14,ML3.7/5,MS3.5/7,Error ellipse: s-maj=27.5km s-min=18.2km az=152.0*
TEH ***18*** *02:16:31.8,32°.12N×55°.69E,h7km±39km,ML4.4*
DSN ***18*** *02:16:36.6±1.3,31°.97N×55°.39E,h15km,ML3.5/8,Error ellipse: s-maj=21.1km s-min=10.7km az=68.0*
OMAN ***18*** *02:16:37.2±0.8,31°.93N×55°.50E,h10km,mb4.9/13, ms2.8/2,Error ellipse: s-maj=14.6km s-min=5.7km az=358.0*

ISC 18 02:16:33.2±0.5,32°.11N±0°.03×55°.67E±0°.03,h10km,n118, σ1s54/122,mb4.0/10,MS3.2/3,1D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.53**	**189**	Pg	**Pb**	**02 16 42.9**	**-1.7**
IBAF				Sg	**Sb**	**02 16 50.8**	**-1.6**
ICHK	**Chekchek**	**1.08**	**277**	Pg	**Pg**	**02 16 52.8**	**-1.2**
IMEH	**Mehriz**	**1.15**	**232**	Pg	**Pn**	**02 16 54.9**	**-0.7**
IMEH				Sg	**Sb**	**02 17 09.4**	**-1.0**
TPRV	**Parvadeh(Tabas**	**1.26**	**43**	Pg	**Pg**	**02 16 55.7**	**-1.7**
ZRDN	**Zarand Kerman**	**1.36**	**147**	Pg	**Pg**	**02 16 58.1**	**-1.3**
ISAD	**Sadrabad**	**1.69**	**264**	Pg	**Pg**	**02 17 04.4**	**-1.3**
KHGB	**Koh Gabri**	**1.86**	**158**	Pn	**Pb**	**02 17 06.8**	**-0.8**
TKDS	**Koohdasht(Taba**	**1.94**	**39**	Pn	**Pb**	**02 17 06.3**	**-2.4**
ANAR	**Anarak**	**1.96**	**304**	Pn	**Pb**	**02 17 07.6**	**-1.5**
TNSJ	**Nastanj**	**2.01**	**23**	Pn	**Pb**	**02 17 07.5**	**-2.4**
KRM1	**Kerman Provinc**	**2.11**	**139**	Pn	**Pb**	**02 17 10.5**	**-1.2**
TVBK	**TV Kerman**	**2.32**	**156**	Pn	**Pb**	**02 17 13.0**	**-2.3**
NGRK	**Negar Kerman**	**2.62**	**159**	Pn	**Pb**	**02 17 17.1**	**-3.5**
ITEG	**Tejag**	**2.72**	**72**	Pn	**Pn**	**02 17 17.6**	**+0.4**
CHMN	**Cheshme madani**	**2.76**	**144**	Pn	**Pn**	**02 17 18.2**	**+0.4**
IRAM	**Ramesheh**	**2.81**	**265**	Pn	**Pn**	**02 17 19.8**	**+1.4**
IKOO	**Kooshah**	**2.84**	**83**	Pn	**Pn**	**02 17 19.4**	**+0.5**
IZEF	**Zefreh**	**2.93**	**286**	Pn	**Pb**	**02 17 21.7**	**-4.0**
BSRN	**Basiran**	**2.94**	**92**	Pn	**Pn**	**02 17 20.1**	**-0.1**
IGAR	**Gharneh**	**3.08**	**276**	Pn	**Pn**	**02 17 23.8**	**+1.5**
AFRZ	**Afriz**	**3.11**	**64**	Pn	**Pn**	**02 17 22.7**	**+0.2**
KRSH	**Karshahi**	**3.50**	**303**	Pn	**Pn**	**02 17 28.8**	**+0.9**
IDAH	**Dahanechah**	**3.61**	**79**	Pn	**Pn**	**02 17 29.9**	**+0.4**
ISFB	**Sefidab**	**3.64**	**309**	Pn	**Pn**	**02 17 30.9**	**+1.2**
IKLH	**Kolahrood**	**3.65**	**290**	Pn	**Pn**	**02 17 32.2**	**+2.2**
IANJ	**Anjilo**	**3.65**	**337**	Pn	**Pn**	**02 17 31.1**	**+1.1**
IBRJ	**Brojen**	**3.75**	**268**	Pn	**Pn**	**02 17 32.7**	**+1.3**
NHDN	**Nehbandan**	**3.80**	**100**	Pn	**Pn**	**02 17 32.5**	**+0.5**
KBAM	**BAM**	**3.81**	**140**	Pn	**Pn**	**02 17 32.8**	**+0.7**
QAMS	**Qamsar**	**3.94**	**295**	Pn	**Pn**	**02 17 35.2**	**+1.2**
ILAS	**Lasjerd**	**3.97**	**326**	Pn	**Pn**	**02 17 35.5**	**+1.1**
IPIR	**Pirpir**	**4.08**	**279**	Pn	**Pn**	**02 17 37.6**	**+1.6**
SHRT	**Shahrakht**	**4.18**	**67**	Pn	**Pn**	**02 17 37.8**	**+0.7**
IFIR	**Firoozkooh**	**4.28**	**326**	Pn	**Pn**	**02 17 39.5**	**+0.8**
IVRN	**Varamin**	**4.37**	**312**	Pn	**Pn**	**02 17 41.1**	**+1.4**
TBHD	**Torbat heydari**	**4.44**	**41**	Pn	**Pn**	**02 17 41.6**	**+0.8**
KHNJ	**Kahnooj**	**4.51**	**156**	Pn	**Pn**	**02 17 43.4**	**+1.7**
SBZV	**Sabzevar**	**4.56**	**20**	Pn	**Pn**	**02 17 43.5**	**+1.0**
LAR1	**LAR**	**4.56**	**195**	Pn	**Pn**	**02 17 44.1**	**+1.7**
IDMV	**Damavand**	**4.59**	**320**	Pn	**Pn**	**02 17 44.1**	**+1.1**
IGLO	**Ghaloghah**	**4.64**	**341**	Pn	**Pn**	**02 17 45.7**	**+2.1**
IQOM	**Qom**	**4.71**	**307**	Pn	**Pn**	**02 17 45.6**	**+1.0**
GENO	**Geno**	**4.71**	**175**	Pn	**Pn**	**02 17 46.2**	**+1.6**
ABEH	**Behbahan**	**4.87**	**253**	Pn	**Pn**	**02 17 47.4**	**+0.8**
IPRN	**Peran**	**4.96**	**327**	Pn	**Pn**	**02 17 49.4**	**+1.5**
TBJM	**Torbat-e-JAM**	**5.00**	**50**	Pn	**Pn**	**02 17 49.5**	**+0.9**
IPAY	**Payeh**	**5.13**	**32**	Pn	**Pn**	**02 17 51.6**	**+1.2**
IMND	**Minoodasht**	**5.14**	**358**	Pn	**Pn**	**02 17 50.7**	**+0.5**
IAKL	**Akhelmad**	**5.16**	**29**	Pn	**Pn**	**02 17 51.8**	**+1.0**
ZHDN	**Zahedan**	**5.19**	**120**	Pn	**Pn**	**02 17 52.1**	**+1.0**
DSBU	**Dashti - Bushe**	**5.34**	**227**	Pn	**Pn**	**02 17 55.0**	**+2.0**
JRKH	**Jarkhoshk**	**5.43**	**44**	Pn	**Pn**	**02 17 55.3**	**+1.0**
MRVT	**Maraveh tapeh**	**5.55**	**3**	Pn	**Pn**	**02 17 56.8**	**+0.9**
IMYA	**Miami**	**5.59**	**40**	Pn	**Pn**	**02 17 57.5**	**+0.8**
IKRD	**Kardeh**	**5.64**	**33**	Pn	**Pn**	**02 17 59.2**	**+1.8**
IRAZ	**Razeghan**	**5.80**	**306**	Pn	**Pn**	**02 18 01.0**	**+1.4**
KLST	**Kelardasht - M**	**5.82**	**320**	Pn	**Pn**	**02 18 02.0**	**+2.1**
IEMG	**Emamgholi**	**5.83**	**24**	Pn	**Pn**	**02 18 00.8**	**+0.7**
SHME	**Shamm**	**6.05**	**176**	P	**Pn**	**02 18 04.1**	**+1.3**
SHME	**Shamm**	**6.05**	**176**	P	**Pn**	**02 18 04.8**	**+2.0**
HAGD	**Aghdareh**	**6.09**	**298**	Pn	**Pn**	**02 18 05.0**	**+1.5**
GEYT	**Alibeck**	**6.14**	**18**	Pn	**Pn**	**02 18 05.6**	**+1.5**
	4.2nm,0.3s,baz=191,slow=14,SNR=37						
GEYT				LR	LR	02 20 46.5	
	comp=Z,395nm,18.1s,baz=265,slow=40						
	24nm,0.6s						
HSAM	**Samen**	**6.28**	**291**	Pn	**Pn**	**02 18 07.9**	**+1.6**
JASK	**Jask - Hormozg**	**6.51**	**162**	Pn	**Pn**	**02 18 10.5**	**+1.3**
JASK	**Jask - Hormozg**	**6.51**	**162**	P	**Pn**	**02 18 11.0**	**+1.9**
MASF	**Masafi**	**6.73**	**176**	P	**Pn**	**02 18 14.4**	**+2.2**
IKFM	**Kafar-mosalman**	**6.73**	**284**	Pn	**Pn**	**02 18 13.6**	**+1.5**
MSFE	**Esma-Masafi**	**6.74**	**176**	P	**Pn**	**02 18 13.8**	**+1.5**
MSFE				S	**Sn**	**02 19 30.2**	**+1.0**
MDH	**Madha**	**6.81**	**175**	P	**Pn**	**02 18 15.3**	**+2.1**
QSDN	**Sirdan**	**6.93**	**311**	Pn	**Pn**	**02 18 16.3**	**+1.2**
IBZA	**Bozab**	**6.95**	**292**	Pn	**Pn**	**02 18 16.6**	**+1.3**
NAZ	**Nazwa, Dubai**	**7.09**	**180**	P	**Pn**	**02 18 18.6**	**+1.4**
NAZ	**Nazwa, Dubai**	**7.09**	**180**	P	**Pn**	**02 18 19.1**	**+1.9**
	SNR=5.7						
HATD	**Hatta, Dubai**	**7.27**	**177**	P	**Pn**	**02 18 20.8**	**+1.2**
HATD	**Hatta, Dubai**	**7.27**	**177**	P	**Pn**	**02 18 20.8**	**+1.2**
FAQ	**Al Faqa, Dubai**	**7.34**	**181**	P	**Pn**	**02 18 22.2**	**+1.7**
FAQ	**Al Faqa, Dubai**	**7.34**	**181**	P	**Pn**	**02 18 22.4**	**+1.9**
FAQ				P	**Pn**	**02 18 22.4**	**+1.9**
ASHO	**Ashiyiah**	**7.41**	**177**	P	**Pn**	**02 18 21.9**	**+0.4**
ASHO	**Ashiyiah**	**7.41**	**177**	P	**Pn**	**02 18 22.5**	**+1.0**
	SNR=6.2						
ASUD	**Al Ashush, Dub**	**7.46**	**182**	P	**Pn**	**02 18 24.3**	**+2.1**
ASUD	**Al Ashush, Dub**	**7.46**	**182**	P	**Pn**	**02 18 24.5**	**+2.3**
ASUD				S	**Sn**	**02 19 48.3**	**+1.4**
SHMA	**Al-Shehemyia**	**7.47**	**215**	P	**Pn**	**02 18 24.0**	**+1.7**
	SNR=6.3						
SAKB	**Bahrain**	**7.58**	**218**	P	**Pn**	**02 18 26.0**	**+2.2**
SOHO	**SOHO**	**7.98**	**174**	P	**Pn**	**02 18 29.1**	**-0.2**
IDHR	**Dehrash**	**8.18**	**291**	Pn	**Pn**	**02 18 33.4**	**+1.3**
TRNA	**Turayna**	**8.33**	**209**	P	**Pn**	**02 18 35.6**	**+1.6**
TRNA				S	**Sn**	**02 20 06.7**	**-1.5**
MZWR	**Madinat Zayed**	**8.47**	**191**	P	**Pn**	**02 18 36.3**	**+0.4**
SMRA	**Abu-Samra**	**8.48**	**211**	P	**Pn**	**02 18 36.2**	**0.0**
IHSH	**Hashtrud**	**8.64**	**309**	Pn	**Pn**	**02 18 39.8**	**+1.1**
ISRB	**Sarab**	**8.69**	**313**	Pn	**Pn**	**02 18 40.9**	**+1.6**
SLWR	**Sila**	**8.74**	**205**	P	**Pn**	**02 18 39.7**	**-0.1**
SLWR				S	**Sn**	**02 20 18.7**	**+0.2**
ARQ	**Araqi**	**8.77**	**175**	P	**Pn**	**02 18 41.4**	**+1.2**
GRMI	**Germi**	**9.21**	**319**	Pn	**Pn**	**02 18 47.1**	**+0.9**
WSAR	**Wadi Sarin**	**9.22**	**163**	Pn	**Pn**	**02 18 44.4**	**-1.9**
	0.3nm,0.3s,baz=26,slow=14,SNR=3.9						
WSAR				Sn	Sn	02 20 46.5	+16
	0.3nm,0.3s,baz=283,slow=18,SNR=1.9						
	2.5nm,0.6s						
WSAR	**Wadi Sarin**	**9.22**	**163**	P	**Pn**	**02 18 46.8**	**+0.5**
SMDO	**Samad**	**9.26**	**166**	P	**Pn**	**02 18 49.5**	**+2.5**
UMZA	**Um Al Zommool**	**9.37**	**183**	P	**Pn**	**02 18 47.9**	**-0.5**
BSY	**Bisya**	**9.43**	**171**	P	**Pn**	**02 18 52.2**	**+3.0**
JLN	**Jalan Bani Buh**	**10.46**	**161**	P	**Pn**	**02 19 04.6**	**+1.3**
MHTO	**MHTO**	**11.27**	**169**	P	**Pn**	**02 19 14.9**	**+0.5**
ASF	**Jabal al Asfar**	**15.90**	**275**	Pn	**Pn**	**02 20 15.5**	**-1.8**
	0.7nm,0.3s,baz=60,slow=23,SNR=10						
	4.7nm,0.5s						
MMAI	**Mount Meron Ar**	**17.11**	**278**	LR	LR	02 28 19.1	
	comp=Z,142nm,18.4s,baz=48,slow=41						
EIL	**Elat**	**17.95**	**268**	LR	LR	02 29 13.6	
	comp=Z,90nm,21.6s,baz=58,slow=42						
KSH	**Kashi**	**18.03**	**60**	P	**Pn**	**02 20 40.9**	**-3.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKTO	**Aktyubinsk**	**18.39**	**5**	P	**P**	**02 20 48.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=184,slow=10,SNR=34						
	comp=Z,9.3nm,0.7s						
BRTR	**Keskin Array B**	**19.36**	**299**	P	**Pn**	**02 20 59.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=6.0						
BRTR				LR	LR	02 29 11.2	
	comp=Z,223nm,20.9s,baz=309,slow=39						
	comp=Z,1.0nm,0.6s						
BELG	**Belogornoye**	**21.10**	**346**	P	**P**	**02 21 19.9**	**+2.2**
	comp=Z,12nm,0.8s,baz=123,slow=10.0,SNR=4.9						
BELG				LR	LR	02 32 21.1	
	comp=Z,96nm,20.8s,baz=325,slow=45						
	comp=Z,12nm,0.8s						
BVAR	**Borovoye Array**	**23.46**	**23**	P	**P**	**02 21 45.5**	**+2.8**
	comp=Z,3.9nm,0.8s,baz=211,slow=7.2,SNR=21						
	comp=Z,3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**25.06**	**36**	P	**P**	**02 21 58.8**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=234,slow=9.5,SNR=17						
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**25.10**	**47**	P	**P**	**02 21 59.2**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=229,slow=8.8,SNR=5.7						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**26.95**	**321**	P	**P**	**02 22 16.4**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=127,slow=8.5,SNR=6.9						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**30.14**	**35**	P	**P**	**02 22 44.2**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=243,slow=9.8,SNR=7.9						
ZALV				LR	LR	02 34 46.9	
	comp=Z,62nm,20.3s,baz=304,slow=36						
	comp=Z,1.3nm,0.5s						
GERES	**GERESS Array B**	**35.52**	**310**	P	**P**	**02 23 31.0**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=106,slow=8.6,SNR=6.1						
	comp=Z,2.2nm,0.8s						
KHC	**Kasperske Hory**	**35.66**	**311**	*e*P	**P**	**02 23 31.6**	**+0.2**
SONM	**Songino Array**	**41.16**	**52**	LR	LR	02 42 31.6	
	comp=Z,83nm,20.8s,baz=288,slow=38						
LYN	**LuoYang**	**46.99**	**71**	||P	**P**	**02 25 02.3**	**-2.3**
LYN				pmax	pmax		
	comp=Z,16nm,0.6s						
LYN				pmax	pmax		
	comp=Z,290nm,8.2s						
TORD	**Torodi Ar. Bea**	**52.71**	**262**	P	**P**	**02 25 48.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=52,slow=8.3,SNR=12						
	comp=Z,2.1nm,0.8s						
YKA	**Yellowknife Ar**	**85.40**	**355**	P	**P**	**02 29 12.7**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=353,slow=4.7,SNR=5.2						
	comp=Z,0.3nm,0.8s						

CATAC 18 02:29:16.4±1.1,11°.01N×87°.11W,h18km±9km,ML3.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	**Masachapa**	**0.99**	**34**	*i* P	Pg	02 29 35.8	+0.1
COPN	**Copaltepe**	**1.27**	**23**	*i* P	Pb	02 29 39.6	-0.3
COPN				IAML		02 29 39.6	
	comp=Z,3μm,1.0s						
NANN	**Nandasmo**	**1.34**	**46**	*i* P	Pn	02 29 40.6	+0.3
NANN				IAML		02 29 55.1	
	comp=Z,7μm,1.0s						
SAPS	**Ciudad Sandino**	**1.35**	**31**	*i* P	Pn	02 29 40.1	-0.2
SAPS				IAML		02 29 43.8	
	comp=Z,770nm,1.0s						
UNAN	**Cigeo UNAN**	**1.37**	**37**	*i* P	Pn	02 29 40.4	-0.3
UNAN				IAML		02 29 41.4	
	comp=Z,3μm,1.0s						
UNAN				*i* S	Sn	02 29 50.4	-8.0
TISN	**Laguna Tiscapa**	**1.40**	**36**	*i* P	Pn	02 29 40.9	-0.1
TISN				IAML		02 29 41.4	
	comp=Z,120nm,1.0s						
APQ2	**Apoyeque**	**1.41**	**33**	*i* P	Pn	02 29 41.2	0.0
APQ2				IAML		02 29 41.3	
	comp=Z,860nm,1.0s						
APYN	**Apoyeque**	**1.43**	**31**	*i* P	Pn	02 29 40.9	-0.6
APYN				IAML		02 29 41.3	
	comp=Z,820nm,1.0s						
WILN	**Americas 2**	**1.46**	**38**	*i* P	Pn	02 29 37.2	-4.7
LEVN	**Ruinas Leon Vi**	**1.47**	**19**	*i* P	Pn	02 29 42.0	0.0
LEVN				IAML		02 29 42.4	
	comp=Z,740nm,1.0s						
MACN	**El Madrono**	**1.51**	**16**	*i* P	Pn	02 29 42.8	+0.1
MACN				IAML		02 29 43.1	
	comp=Z,430nm,1.0s						
HZTE	**Horizontes, Gu**	**1.51**	**101**	*i* P	Pn	02 29 40.7	-1.9
CNGA	**Al SSO del Vol**	**1.53**	**15**	*i* P	Pn	02 29 42.7	-0.2
CNGA				IAML		02 29 44.1	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**1.54**	**15**	*i* P	Pn	02 29 43.1	+0.1
CNGN				IAML		02 30 17.8	
	comp=Z,900nm,1.0s						
ROCN	**Rota Cerro Neg**	**1.55**	**13**	*i* P	Pn	02 29 41.9	-1.2
ROCN				IAML		02 29 42.3	
	comp=Z,1μm,1.0s						
MOM2	**El Cardon**	**1.55**	**23**	*i* P	Pn	02 29 42.9	-0.2
MOM2				IAML		02 29 43.9	
	comp=Z,2μm,1.0s						
TELN	**Telica**	**1.61**	**10**	*i* P	Pn	02 29 44.0	-0.1
TELN				IAML		02 30 08.2	
	comp=Z,89nm,1.0s						
HERN	**Volcan Telica**	**1.62**	**10**	*i* P	Pn	02 29 43.9	-0.2
HERN				IAML		02 29 44.3	
	comp=Z,900nm,1.0s						
CRIN	**San Cristobal**	**1.69**	**2**	*i* P	Pn	02 29 45.0	-0.1
CRIN				IAML		02 29 45.8	
	comp=Z,2μm,1.0s						
ORTG	**Ortega, Santa**	**1.74**	**111**	*i* P	Pn	02 29 43.3	-2.5
ORTG				*i* S	Sn	02 30 04.0	-3.6
INDI	**Punta indio, G**	**1.94**	**125**	*i* P	Pn	02 29 44.7	-3.8
INDI				*i* S	Sn	02 30 06.1	-6.4
VMAR	**Armenia, Volca**	**1.97**	**95**	*i* P	Pn	02 29 48.3	-0.6
VMAR				*i* S	Sn	02 30 14.0	+0.8
VMAR				IAML		02 30 17.5	
	comp=Z,200nm,1.0s						
CSGN	**Cosiguina Volc**	**2.01**	**347**	*i* P	Pn	02 29 49.2	-0.3
CSGN				IAML		02 29 49.8	
	comp=Z,4μm,1.0s						
BOAB	**BOACO BROADBAN**	**2.01**	**44**	*i* P	Pn	02 29 48.6	-0.9
BOAB				IAML		02 30 04.9	
	comp=Z,120nm,1.0s						
ACON	**Acoyapa**	**2.12**	**63**	*i* P	Pn	02 29 50.6	-0.4
ACON				IAML		02 30 27.1	
	comp=Z,120nm,1.0s						
LIMN	**Finca el Limon**	**2.17**	**19**	*i* P	Pn	02 29 51.6	-0.1
LIMN				IAML		02 29 52.1	
	comp=Z,220nm,1.0s						
MATN	**Matagalpa**	**2.23**	**31**	*i* P	Pn	02 29 52.1	-0.6
MATN				IAML		02 30 26.3	
	comp=Z,82nm,1.0s						
CNCH	**Conchagua**	**2.37**	**343**	*i* P	Pn	02 29 54.2	-0.3
CNCH				*i* S	Sn	02 30 23.6	+0.4
CNCH				IAML		02 30 26.1	
	comp=Z,980nm,1.0s						
CNCH	**Conchagua**	**2.37**	**343**	*i* P	Pn	02 29 54.1	-0.4
CNCH				*i* S	Sn	02 30 23.7	+0.5
CNCH				IAML		02 30 26.1	
	comp=Z,980nm,1.0s						
LCND	**La Caada**	**2.42**	**342**	*i* P	Pn	02 29 54.7	-0.3
LCND				IAML		02 30 29.5	
	comp=Z,370nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.69**	**21**	*i* P	Pn	02 29 58.6	-0.4
RCPN				IAML		02 29 59.3	
	comp=Z,1.7nm,1.0s						
ALJI	**Alcalda de J**	**2.71**	**328**	*i* P	Pn	02 29 58.8	-0.4
ALJI				IAML		02 30 56.5	
	comp=Z,750nm,1.0s						
PACA	**Pacayal**	**2.72**	**334**	*i* P	Pn	02 30 00.0	+0.6
PACA				*i* S	Sn	02 30 30.9	-1.0
PACA				IAML		02 30 41.8	
	comp=Z,2μm,1.0s						
TECO	**Alcaldia de Te**	**3.00**	**327**	*i* P	Pn	02 30 02.7	-0.4
TECO				*i* S	Sn	02 30 36.6	-2.1
TECO				IAML		02 31 34.2	
	comp=Z,180nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.04**	**357**	*i* P	Pn	02 30 04.4	+0.7
TGUH				IAML		02 30 05.1	
	comp=Z,460nm,1.0s						
UESV	**Universidad de**	**3.09**	**328**	*i* P	Pn	02 30 04.1	-0.2
UESV				IAML		02 30 06.0	
	comp=Z,220nm,1.0s						
UESV				*i* S	Sn	02 30 39.7	-1.1
SCLA	**Alcaldia de Sa**	**3.11**	**330**	*i* P	Pn	02 30 04.9	+0.2
SCLA				*i* S	Sn	02 30 40.8	-0.7
SCLA				IAML		02 30 46.0	
	comp=Z,140nm,1.0s						
COEG	**Centro de Oper**	**3.12**	**326**	*i* P	Pn	02 30 04.9	0.0
COEG				IAML		02 30 50.0	
	comp=Z,140nm,1.0s						
COEG	**Centro de Oper**	**3.12**	**326**	*i* P	Pn	02 30 04.6	-0.3
COEG				*i* S	Sn	02 30 40.7	-1.1
COEG				IAML		02 30 50.0	
	comp=Z,140nm,1.0s						
SJTE	**Alcalda de S**	**3.19**	**325**	*i* P	Pn	02 30 05.9	+0.1
SJTE				*i* S	Sn	02 30 41.8	-1.6
SJTE				IAML		02 30 43.3	
	comp=Z,190nm,1.0s						
TBLN	**Tablon, Guarco**	**3.27**	**111**	*i* P	Pn	02 30 06.9	-0.1
TBLN				IAML		02 30 19.5	
	comp=Z,79nm,1.0s						
OCM	**Ochomogo**	**3.29**	**109**	*i* P	Pn	02 30 07.5	+0.3
OCM				IAML		02 30 18.0	
	comp=Z,130nm,1.0s						
LCR2	**La Lucha 2**	**3.30**	**112**	*i* P	Pn	02 30 07.0	-0.4
LCR2				IAML		02 30 16.1	
	comp=Z,95nm,1.0s						
HAYA	**Volcan Irazu**	**3.37**	**107**	*i* P	Pn	02 30 09.5	+1.0
PMON	**Piamonte**	**3.45**	**322**	*i* P	Sn	02 30 50.3	+0.5
CDM	**Cerro de Muert**	**3.59**	**113**	*i* P	Pn	02 30 10.8	-0.8
CDM				IAML		02 30 20.0	
	comp=Z,86nm,1.0s						
NUBE	**Las Nubes**	**3.89**	**318**	*i* P	Pn	02 30 15.0	-0.4
NUBE	**Las Nubes**	**3.89**	**318**	*i* P	Sn	02 30 57.7	-3.0
OCHAL	**Ojochal**	**3.90**	**119**	*i* P	Pb	02 30 22.6	-2.1
SMCA	**Catarina**	**6.17**	**309**	*i* P	Pg	02 31 27.2	+13

IDC 18 02:35:53.0±27.0,17°.01S×172°.03W,h0km,mb4.5/3, mbtmp4.5/3,MS4.1/2,Error ellipse: s-maj=514.9km s-min=162.0km az=73.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**28.28**	**282**	LR	LR	02 53 09.4	
	comp=Z,922nm,18.3s,baz=162,slow=37						
CTA	**Charters Tower**	**39.60**	**259**	P	P	02 43 26.2	-0.3
	3.2nm,0.5s,baz=75,slow=12,SNR=1.5						
	3.2nm,0.5s						
STKA	**Stephens Creek**	**44.41**	**242**	P	P	02 44 06.0	+0.3
	2.0nm,0.3s,baz=68,slow=5.4,SNR=11						
	2.0nm,0.3s						
WRA	**Warramunga Arr**	**50.78**	**258**	P	P	02 44 55.2	-0.2
	58nm,0.5s,baz=97,slow=7.0,SNR=1.7						
ASAR	**Alice Springs**	**50.89**	**253**	P	P	02 44 55.9	-0.3
	6.1nm,0.7s,baz=89,slow=8.2,SNR=41						
	6.1nm,0.7s						
KAPI	**Kappang**	**67.73**	**272**	LR	LR	03 16 20.1	
	comp=Z,53nm,18.5s,baz=344,slow=36						

NCEDC ***18*** *02:41:48.0±1.5,37°.27N±0°.03×121°.65W±0°.03,h6km±6km, ML3.0/41,ML2.8/70(NEIC),Error ellipse: s-maj=4.4km s-min=1.9km az=218.0*

NEIC 18 02:41:47.2±1.4,37°.28N±0°.04×121°.69W±0°.04,h16km±7km, Error ellipse: s-maj=6.0km s-min=4.3km az=219.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOB	**Coe Ranch Numb**	**0.02**	**151**		Pg	02 41 50.8	+0.7
C072	**Blauer Lane Sa**	**0.06**	**279**		Pg	02 41 50.5	+0.3
MHC	**Mount Hamilton**	**0.07**	**28**		Pg	02 41 51.5	+0.9
C059	**Quail Canyon R**	**0.10**	**314**		Pg	02 41 50.9	+0.3
C054	**Valleyhaven Wa**	**0.11**	**267**		Pb	02 41 51.4	+0.4
CADM	**Anderson Res.**	**0.12**	**157**		Pg	02 41 50.9	+0.1
JLAB	**Laurel Hill**	**0.13**	**198**		Pb	02 41 51.3	0.0
ARN	**Arnold Ranch**	**0.14**	**59**		Pb	02 41 52.1	-0.6
SCCB	**Santa Clara Co**	**0.14**	**274**		Pb	02 41 51.9	+0.4
C041	**El Campo Drive**	**0.15**	**311**		Pb	02 41 52.2	+0.5
C046	**N 16th Street**	**0.17**	**296**		Pb	02 41 52.8	+0.7
C016	**Longford Drive**	**0.19**	**310**		Pb	02 41 53.2	+0.9
CALM	**Calaveras Res.**	**0.20**	**333**		Pb	02 41

BAVM	**Antelope Valle**	**0.82**	**140**			Pg	02 42 03.3	+0.1
CPIM	**Pinole Ridge**	**0.83**	**330**			Pn	02 42 04.8	+0.5
CSPM	**San Pablo Rdg**	**0.84**	**324**			Pn	02 42 04.8	+0.4
HERB	**Hercules**	**0.87**	**328**			Pn	02 42 05.5	+0.8
BBGB	**Big Mountain B**	**0.87**	**143**			Pn	02 42 04.6	-0.3
BPRM	**Ponciano Ridge**	**0.87**	**182**			Pn	02 42 04.5	-0.3
CPMM	**Point Molate**	**0.88**	**320**			Pn	02 42 05.1	+0.1
BPIM	**Pinnacles**	**0.89**	**152**			Pg	02 42 04.5	0.0
HAST	**Hastings Reser**	**0.89**	**173**			Pg	02 42 04.8	+0.2
BBNM	**San Benito**	**0.91**	**147**			Pn	02 42 05.5	+0.1
BSMM	**Soledad Missio**	**0.92**	**167**			Pn	02 42 05.3	-0.2
BSGM	**Shirttail Gulc**	**0.93**	**158**			Pb	02 42 05.0	0.0
LRV	**Little Rabbit**	**1.00**	**148**			Pn	02 42 07.0	+0.3
MYLM	**Yosemite Lake**	**1.01**	**84**			Pb	02 42 06.4	0.0
BPOM	**Post Ranch**	**1.05**	**184**			Pg	02 42 07.5	0.0
MCUB	**Copperopolis B**	**1.10**	**50**			Pb	02 42 07.9	0.0
NOLM	**Olema**	**1.16**	**311**			Pg	02 42 09.3	-0.4
NBRB	**Beebe Ranch Br**	**1.20**	**325**			Pg	02 42 10.2	-0.1
CVS	**Carmenet Viney**	**1.23**	**330**			Pb	02 42 10.4	+0.3
PCCM	**Crazy Canyon**	**1.26**	**160**			Pb	02 42 10.5	-0.1
PMPB	**Monarch Peak**	**1.27**	**146**			Pn	02 42 10.7	+0.2
PMPB	**Monarch Peak**	**1.27**	**146**	IAML			02 42 41.1	
	comp=E,255nm,0.6s							
CMB	**Columbia Colle**	**1.28**	**53**			Pb	02 42 11.1	+0.1
CMB	**Columbia Colle**	**1.28**	**53**	IAML			02 42 29.1	
	comp=E,130nm,0.9s							
CMB				IAML			02 42 29.2	
	comp=N,222nm,1.0s							
MCCM	**Marconi Confer**	**1.28**	**313**			Pn	02 42 10.7	+0.2
MCCM	**Marconi Confer**	**1.28**	**313**	IAML			02 42 34.3	
	comp=E,173nm,0.6s							
HULI	**Fort Hunter Li**	**1.30**	**164**			Pb	02 42 11.2	-0.2
NTYM	**Taylor**	**1.35**	**325**			Pb	02 42 12.5	+0.3
PJUM	**Juniper Ridge**	**1.37**	**140**			Pn	02 42 11.9	+0.2
PPTM	**Peach Tree Val**	**1.40**	**146**			Pb	02 42 13.0	0.0
PSAM	**San Ardo**	**1.40**	**153**			Pb	02 42 12.7	-0.3
PDRM	**Domengine Ranc**	**1.41**	**131**			Pn	02 42 12.7	+0.4
MHDM	**Hidden Dam**	**1.44**	**96**			Pn	02 42 12.9	+0.3
NBPM	**Berryessa Peak**	**1.45**	**344**			Pb	02 42 13.8	0.0
PSMM	**Smith Mountain**	**1.49**	**144**			Pn	02 42 14.6	0.0
PHSB	**Hesperia Broad**	**1.54**	**160**			Pn	02 42 14.5	+0.4
MMIM	**Miami Mountain**	**1.55**	**84**			Pn	02 42 14.9	+0.6
PHPM	**Hope Ranch**	**1.56**	**146**			Pn	02 42 14.9	+0.6
NHSM	**Mount Saint He**	**1.56**	**332**			Pb	02 42 15.3	-0.6
FRI	**Friant**	**1.60**	**100**			Pn	02 42 15.6	+0.6
PANM	**San Antonio Re**	**1.62**	**157**			Pn	02 42 15.8	+0.6
PVCM	**Vineyard Canyo**	**1.64**	**145**			Pn	02 42 15.9	+0.5
NMTM	**Middletown**	**1.64**	**339**			Pb	02 42 16.9	-0.2
PSTM	**Stockdale Moun**	**1.65**	**144**			Pn	02 42 15.9	+0.3
PHCM	**Hearst Castle**	**1.65**	**165**			Pn	02 42 16.3	+0.7
PPO	**Portuguese Can**	**1.65**	**148**			Pn	02 42 16.2	+0.6
MNRC	**McLaughlin Min**	**1.71**	**340**			Pb	02 42 18.6	+0.3
CTM	**Castle Mountai**	**1.73**	**141**			Pb	02 42 18.9	+0.3
PWKM	**Work Ranch**	**1.74**	**147**			Pn	02 42 17.4	+0.6
AFDM	**Forest Hills D**	**1.76**	**18**			Pb	02 42 18.2	-1.0
GDXM	**Geysers**	**1.76**	**331**			Pn	02 42 18.1	+0.9
RAMR	**Ramage Ranch**	**1.76**	**158**			Pn	02 42 17.7	+0.6
GHCM	**House Creek**	**1.79**	**318**			Pn	02 42 17.7	+0.2
PSRM	**Scobie Ranch**	**1.81**	**141**			Pn	02 42 18.9	+1.1
PKLM	**Kerr Lake**	**1.85**	**144**			Pn	02 42 19.2	+0.8
KCC	**Kaiser Creek**	**1.89**	**88**			Pb	02 42 20.8	-0.5
TRAM	**Private Proper**	**1.96**	**144**			Pn	02 42 20.6	+0.7
HOPS	**Hopland Field**	**2.03**	**328**			Pn	02 42 21.6	+0.8
HOPS	**Hopland Field**	**2.03**	**328**	IAML			02 43 09.0	
	comp=E,59nm,3.0s							
GHLM	**Highland Sprin**	**2.05**	**330**			Pn	02 42 21.9	+0.8
MDPB	**Devils Postpil**	**2.10**	**79**			Pb	02 42 24.2	-0.9
MDPB	**Devils Postpil**	**2.10**	**79**	IAML			02 42 55.3	
	comp=E,105nm,0.7s							
EMB	**Emerald Bay**	**2.10**	**36**			Pb	02 42 25.0	-0.2
EMB	**Emerald Bay**	**2.10**	**36**	IAML			02 43 00.1	
	comp=E,117nm,0.6s							
EMB				IAML			02 43 01.3	
	comp=N,109nm,1.2s							
MRDM	**Red Cones**	**2.12**	**80**			Pb	02 42 24.8	-0.6
MINS	**Minaret Summit**	**2.12**	**79**			Pb	02 42 24.7	-0.8
MMPM	**Mammoth Pass**	**2.14**	**80**			Pb	02 42 25.2	-0.6
RUBR	**Rubicon Trail**	**2.14**	**34**			Pb	02 42 25.6	-0.2
MDCM	**Deadman Creek**	**2.15**	**78**			Pb	02 42 25.1	-0.8
MLIM	**Lincoln Peak**	**2.15**	**80**			Pb	02 42 26.0	-0.1
WAKR	**Walker**	**2.16**	**55**			Pb	02 42 25.9	-0.2
WAKR	**Walker**	**2.16**	**55**	IAML			02 42 59.0	
	comp=N,84nm,0.9s							
MDYM	**Dry Creek**	**2.16**	**79**			Pb	02 42 25.7	-0.5
OMMB	**Old Mammoth Mi**	**2.16**	**80**			Pb	02 42 25.5	-0.7
OMMB	**Old Mammoth Mi**	**2.16**	**80**	IAML			02 42 54.0	
	comp=N,66nm,0.5s							
MEMM	**East Mammoth H**	**2.22**	**79**			Pb	02 42 26.6	-0.5
MLCM	**Laurel Creek C**	**2.23**	**81**			Pb	02 42 26.7	-0.6
MGPM	**Gravel Pit**	**2.24**	**80**			Pb	02 42 27.1	-0.5
MCBM	**Casa Benchmark**	**2.25**	**80**			Pb	02 42 27.5	-0.2
ORV	**Oroville**	**2.28**	**4**			Pn	02 42 25.3	+1.0
MCVM	**Convict Lake**	**2.29**	**81**			Pb	02 42 27.4	-1.0
MDRNC	**Doe Ridge**	**2.30**	**80**			Pb	02 42 28.0	-0.5
DONR	**Donner Summit**	**2.33**	**27**			Pb	02 42 27.5	-1.6
OGOM	**Van Goodin Ran**	**2.37**	**1**			Pn	02 42 26.8	+1.2
MPK	**Martis Peak**	**2.40**	**32**			Pn	02 42 26.7	+0.5
MPK				IAML			02 43 13.7	
	comp=N,80nm,0.9s							
PNTR	**Pine Nut**	**2.44**	**42**	Pn	Pn		02 42 27.5	+0.8
BENR	**Benton**	**2.51**	**79**			Pb	02 42 31.6	-0.5
BHPR	**Bishop**	**2.55**	**89**			Pb	02 42 31.7	-1.1
YERR	**Yerington**	**2.57**	**48**	IAML			02 43 08.7	
	comp=N,62nm,0.5s							
LHV	**Little Huntoon**	**2.70**	**68**	IAML			02 43 17.1	
	comp=E,50nm,0.9s							
LHV				IAML			02 43 25.2	
	comp=N,52nm,1.0s							
RYN	**Ryan**	**2.84**	**61**	IAML			02 43 24.3	
	comp=E,38nm,0.8s							
RYN				IAML			02 43 33.7	
	comp=N,25nm,1.1s							
BCW	**Bitter Crk WRg**	**2.97**	**141**	Pn	Pn		02 42 34.4	+0.6
BCW				IAML			02 43 18.1	
	comp=N,40nm,4.9s							
BCW				IAML			02 43 51.1	
	comp=E,47nm,3.0s							
NV11	**Mina Array Sit**	**3.02**	**66**	IAML			02 43 26.3	
	comp=N,19nm,1.9s							
PAHR	**Pah Rah Range**	**3.02**	**36**			Pn	02 42 35.8	+1.2
PAHR				IAML			02 43 29.1	
	comp=N,19nm,2.1s							
PAHR				IAML			02 43 35.5	
	comp=E,20nm,1.6s							
ISA	**Isabella, Lake**	**3.05**	**121**	Pn	Pn		02 42 36.3	+1.4
ISA				IAML			02 43 30.4	
	comp=E,20nm,0.8s							
KVN	**Kaiserville**	**3.33**	**57**	Pn	Pn		02 42 40.9	+2.0
KVN				IAML			02 43 36.8	
	comp=N,22nm,0.9s							
KVN				IAML			02 43 39.0	
	comp=E,21nm,1.8s							
MZP	**Montezuma Peak**	**3.45**	**82**	Pn	Pn		02 42 42.0	+1.5
GMN	**Gold Mountain**	**3.53**	**88**	Pn	Pn		02 42 43.2	+1.6
GMN				IAML			02 43 43.5	
	comp=N,23nm,0.7s							
GMN				IAML			02 43 44.5	
	comp=E,16nm,1.3s							
CCAC	**Calif City Air**	**3.65**	**124**	IAML			02 43 52.7	
	comp=E,22nm,2.5s							
CCAC				IAML			02 44 02.1	
	comp=N,31nm,1.4s							
WCT	**Wildcat Mounta**	**4.08**	**95**	Pn	Pn		02 42 50.5	+1.5
WCT				IAML			02 44 00.0	
	comp=N,10.0nm,4.3s							
WCT				IAML			02 44 01.4	
	comp=E,16nm,3.8s							
GWY	**Greenwater Val**	**4.17**	**104**	IAML			02 44 06.4	
	comp=N,9.1nm,3.3s							
GWY				IAML			02 44 18.0	
	comp=E,11nm,4.3s							
TPNV	**Topopah Spring**	**4.36**	**93**	IAML			02 44 13.4	
	comp=E,16nm,3.0s							

*UPP **18** 02:47:19.1±0.0,67.˙19N×20.˙68E,h0km,ML2.8,Confirmed Induced event*
*HEL **18** 02:47:19.1±0.2,67.˙20N×20.˙59E,h0km,ML0.9,Suspected explosion*
DNK 18 02:47:19.5±0.3,67.˙19N×20.˙70E,h0km,ML2.8(UPP), **Suspected explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**216**	P	Pg	02 47 20.9	-0.2
DUNU				S	Sg	02 47 22.4	+0.2
DUNU	**Dundret**	**0.09**	**216**	P	Pg	02 47 20.9	-0.2
DUNU				S	Sg	02 47 22.4	+0.2
MASU	**Masugnsbyn**	**0.57**	**61**	P	Pg	02 47 30.2	-0.2
MASU	**Masugnsbyn**	**0.57**	**61**	P	Pg	02 47 30.2	-0.2
RATU	**Laukkuluspa**	**0.77**	**327**	P	Pg	02 47 33.4	-0.8
RATU	**Laukkuluspa**	**0.77**	**327**	P	Pg	02 47 33.4	-0.8
KUA	**Kurravaara**	**0.78**	**350**	P	Pg	02 47 33.7	-0.7
KUA	**Kurravaara**	**0.78**	**350**	P	Pg	02 47 33.7	-0.7
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	02 47 35.5	-0.7
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	02 47 35.5	-0.7
PAJU	**Pajala**	**0.96**	**99**	P	Pg	02 47 36.9	-0.9
PAJU	**Pajala**	**0.96**	**99**	PG	Pg	02 47 37.0	-0.9
PAJU				SB	Sg	02 47 51.2	+1.0
PAJU	**Pajala**	**0.96**	**99**	P	Pg	02 47 36.9	-0.9
LANU	**Lannavaara**	**0.99**	**29**	P	Pg	02 47 37.7	-0.8
LANU	**Lannavaara**	**0.99**	**29**	PB	Pg	02 47 37.6	-0.9
	baz=210						
LANU	**Lannavaara**	**0.99**	**29**	P	Pg	02 47 37.7	-0.8
KOVU	**Salmi**	**1.06**	**349**	P	Pg	02 47 38.7	-1.0
KOVU	**Salmi**	**1.06**	**349**	P	Pg	02 47 38.7	-1.0
KLF	**Kolari**	**1.27**	**87**	PG	Pg	02 47 42.6	-1.2
KLF				MSG		02 47 58.8	
	comp=Z,0.4nm,0.2s						
KLF				SG	Sg	02 48 00.0	-0.3
HEF	**Hetta**	**1.66**	**41**	PG	Pn	02 47 49.2	-0.7
	baz=227						
HEF				MSG		02 48 09.4	
	comp=Z,0.5nm,0.2s						
HEF				SN	Sn	02 48 11.3	-0.6
KALU	**Kalix**	**1.71**	**140**	P	Pn	02 47 49.9	-0.6
KALU	**Kalix**	**1.71**	**140**	PG	Pn	02 47 50.7	+0.2
	baz=322						
KALU				SN	Sg	02 48 14.5	+0.2
KALU	**Kalix**	**1.71**	**140**	P	Pn	02 47 49.9	-0.6
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	02 47 50.4	-0.4
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	02 47 50.4	-0.4
KIF	**Kilpisjarvi**	**1.82**	**1**	PG	Pn	02 47 52.5	+0.5
KIF				MSG		02 48 14.1	
	comp=Z,1.5nm,0.2s						
TOF	**Tornio**	**1.83**	**126**	PG	Pn	02 47 52.7	+0.6
	baz=308						
TOF				MSG		02 48 14.8	
	comp=Z,0.5nm,0.2s						
TOF				SN	Sb	02 48 17.1	0.0
KTK1	**Kautokeino**	**2.06**	**26**	SG	Sb	02 48 24.1	+0.2
RNF	**Rovaniemi**	**2.18**	**103**	PG	Pb	02 47 58.6	-1.1
RNF				SG	Sg	02 48 28.3	-1.0
SGF	**Sodankyl**	**2.27**	**81**	SG	Sb	02 48 30.2	+0.2
ARA0	**ARCESS Array S**	**2.95**	**35**	PG	Pb	02 48 12.6	-0.3
ARA0				SG	Sb	02 48 49.7	+0.2
KEV	**Kevo**	**3.47**	**39**	PN	Pn	02 48 16.3	+1.7

*AEIC **18** 02:47:45.5±2.3,59.˙79N±0.˙03×136.˙77W±0.˙05,h15km±4km, Error ellipse: s-maj=4.8km s-min=2.1km az=217.0*
*ANF **18** 02:47:46.1±0.1,59.˙79N×136.˙72W,h0km,ML4.8/51,Error ellipse: s-maj=1.1km s-min=0.9km az=40.0*
*IDC **18** 02:47:46.8±0.5,59.˙76N×136.˙86W,h0km,mb4.3/29, mbtmp4.3/35,ML4.0/6,MS3.7/19,Error ellipse: s-maj=14.0km s-min=7.8km az=43.0*
*PGC **18** 02:47:47.1±0.0,59.˙79N×136.˙77W,h2km,ML4.6/32, Mw4.5,114km southeast of Haines Jct., Yt Southeastern Alaska*
*NEIC **18** 02:47:47.7±2.0,59.˙79N±0.˙03×136.˙79W±0.˙05,h10km±1km, mb4.5/109,ML4.6/90,Mwr4.3/62,ML4.3(AEIC), Mwr4.5(OTT),Error ellipse: s-maj=5.3km s-min=3.9km az=221.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.50; Mθθ-0.89; Mϕϕ-1.61; Mrθ-0.82; Mθϕ2.27; Mϕr-0.91; Fault plane solution: M₀3.39000×10¹⁵ NP1:ϕs293.05000°,δ50.67000°,λ.50.36000°. NP2: ϕs165.63000°,δ53.44000°,λ127.90000°. Principal axes: T 3.1896, Plg60.0000°, Azm137.0000°; N 0.3639, Plg30.0000°, Azm321.0000°; P -3.5535, Plg2.0000°, Azm230.0000°;*
*NEIC **18** 02:47:47.1,59.˙79N×136.˙77W,h5km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr6.81; Mθθ-1.48; Mϕϕ-3.00; Mrθ-1.84; Mθϕ3.03; Mϕr-1.37; Fault plane solution: M₀6.60000×10¹⁵ NP1:ϕs304.00000°, δ48.00000°,λ.64.00000°. NP2:ϕs160.00000°,δ48.00000°, λ.116.00000°. Principal axes: T 6.8192, Plg71.0000°, Azm143.0000°; N -0.6773, Plg19.0000°, Azm322.0000°; P -6.1419, Plg0.0000°, Azm52.0000°;*
*NEIC **18** 02:47:48.5,59.˙89N×136.˙93W,h5km*
*PPT **18** 02:47:49.6±0.2,59.˙83N×136.˙59W,h10km,mb4.6/10, MLv5.0/7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 18 02:47:47.6±0.3,59.˙80N±0.˙02×136.˙72W±0.˙01,h10km, n801,σ1ş52/853,mb4.5/93,MS3.6/17,1C-1D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P30M	**Million Dollar**	**0.35**	**339**		**Pg**	**02 47 53.6**	**-1.0**
P30M					**Sg**	**02 47 58.3**	**-0.8**
P30M	**Million Dollar**	**0.35**	**339**	P	**Pg**	**02 47 53.5**	**-1.0**
	baz=164						
P30M				S	**Sg**	**02 47 58.5**	**-0.6**
	baz=164						
P30M	**Million Dollar**	**0.35**	**339**	P	**Pg**	**02 47 53.6**	**-1.0**
P30M				S	**Sg**	**02 47 58.3**	**-0.8**
PLBC	**Pleasant Camp**	**0.39**	**152**		**Pg**	**02 47 54.3**	**-0.9**
PLBC					**Sg**	**02 47 59.6**	**-0.7**
PLBC	**Pleasant Camp**	**0.39**	**152**	P	**Pg**	**02 47 54.2**	**-1.0**
	baz=329,SNR=772						
PLBC	**Pleasant Camp**	**0.39**	**152**	P	**Pg**	**02 47 54.3**	**-0.9**
PLBC				S	**Sg**	**02 47 59.6**	**-0.7**
P29M	**Windy Craggy**	**0.54**	**252**		**Pg**	**02 47 56.3**	**-1.9**
P29M					**Sg**	**02 48 03.7**	**-1.7**
P29M	**Windy Craggy**	**0.54**	**252**	IAML		02 48 04.2	
	comp=N,56μm,0.5s						
P29M				IAML		02 48 04.2	
	comp=E,33μm,0.5s						
P29M	**Windy Craggy**	**0.54**	**252**	P	**Pg**	**02 47 56.3**	**-1.9**
	baz=71						
P29M				S	**Sg**	**02 48 03.5**	**-1.9**
	baz=71						
P29M	**Windy Craggy**	**0.54**	**252**	P	**Pg**	**02 47 56.3**	**-1.9**
P29M				S	**Sg**	**02 48 03.7**	**-1.7**
SKAG	**Skagway**	**0.78**	**115**		**Pg**	**02 48 01.4**	**-1.3**
SKAG	**Skagway**	**0.78**	**115**	P	**Pg**	**02 48 01.7**	**-1.0**
SKAG	**Skagway**	**0.78**	**115**	P	**Pg**	**02 48 01.3**	**-1.3**
	baz=295,SNR=1000						
SKAG				S	**Sg**	**02 48 11.8**	**-1.1**
	baz=295						
YUK7	**Dusty Glacier**	**1.02**	**317**		**Pg**	**02 48 04.8**	**-2.5**
YUK7					**Sg**	**02 48 18.8**	**-1.8**
YUK7	**Dusty Glacier**	**1.02**	**317**	P	**Pg**	**02 48 04.8**	**-2.5**
YUK7				S	**Sg**	**02 48 18.8**	**-1.8**
O30N	**Mendenhall**	**1.02**	**17**		**Pg**	**02 48 06.0**	**-1.3**
O30N				IAML		02 48 20.6	
	comp=E,13μm,0.8s						
O30N	**Mendenhall**	**1.02**	**17**	P	**Pg**	**02 48 06.0**	**-1.3**
	baz=199,SNR=1000						
O30N				S	**Sg**	**02 48 19.7**	**-0.9**
	baz=199						
O29M	**Mount Kennedy**	**1.06**	**299**		**Pg**	**02 48 05.3**	**-2.7**
O29M				IAML		02 48 24.8	
	comp=N,9μm,0.8s						
O29M				IAML		02 48 28.3	
	comp=E,10μm,0.8s						
O29M	**Mount Kennedy**	**1.06**	**299**	P	**Pg**	**02 48 05.3**	**-2.7**
	baz=119						
O29M	**Mount Kennedy**	**1.06**	**299**	P	**Pg**	**02 48 05.4**	**-2.7**
O29M				S	**Sg**	**02 48 19.3**	**-2.5**
HYT	**Haines Junctio**	**1.10**	**340**		**Pg**	**02 48 06.3**	**-2.5**
HYT	**Haines Junctio**	**1.10**	**340**		**Sg**	**02 48 21.0**	**-2.1**
HYT	**Haines Junctio**	**1.10**	**340**	P	**Pg**	**02 48 06.1**	**-2.7**
	baz=160,SNR=1000						
HYT	**Haines Junctio**	**1.10**	**340**	P	**Pg**	**02 48 06.2**	**-2.5**
HYT				S	**Sg**	**02 48 21.0**	**-2.1**
WHY	**Whitehorse**	**1.26**	**46**		**Pn**	**02 48 10.2**	**-1.2**
WHY	**Whitehorse**	**1.26**	**46**	P	**Pn**	**02 48 10.2**	**-1.2**
	baz=228,SNR=1000						
WHY				S	**Sb**	**02 48 27.5**	**-0.3**
	baz=228						
WHY	**Whitehorse**	**1.26**	**46**	P	**Pn**	**02 48 10.2**	**-1.2**

WHY				S	**Sb**	**02 48 27.2**	**-0.6**
PNL	**Peninsula**	**1.36**	**266**		**Sn**	**02 48 29.3**	**-1.5**
PNL	**Peninsula**	**1.36**	**266**		**Pn**	**02 48 10.9**	**-1.9**
PNL	**Peninsula**	**1.36**	**266**	P	**Pn**	**02 48 11.0**	**-1.7**
PNL	**Peninsula**	**1.36**	**266**	P	**Pn**	**02 48 10.8**	**-1.9**
	baz=84,SNR=1000						
PNL	**Peninsula**	**1.36**	**266**	P	**Pn**	**02 48 10.9**	**-1.9**
PNL				S	**Sb**	**02 48 28.6**	**-2.1**
YUK6	**Outpost Mounta**	**1.41**	**325**	Pn	**Pn**	**02 48 11.9**	**-1.7**
YUK6					**Sg**	**02 48 31.9**	**-1.1**
YUK6	**Outpost Mounta**	**1.41**	**325**	P	**Pn**	**02 48 11.5**	**-2.0**
	baz=145,SNR=1000						
YUK6	**Outpost Mounta**	**1.41**	**325**	Pn	**Pn**	**02 48 11.9**	**-1.7**
YUK6				Sg	**Sg**	**02 48 31.9**	**-1.1**
YUK5	**Granite Creek**	**1.45**	**338**	Pn	**Pn**	**02 48 12.5**	**-1.5**
YUK5					**Sb**	**02 48 32.8**	**-0.6**
YUK5	**Granite Creek**	**1.45**	**338**	Pn	**Pn**	**02 48 12.5**	**-1.5**
YUK5				Sg	**Sb**	**02 48 32.8**	**-0.6**
R31K	**City Hall, Gus**	**1.48**	**160**		**Pn**	**02 48 13.0**	**-1.2**
R31K	**City Hall, Gus**	**1.48**	**160**	P	**Pn**	**02 48 13.2**	**-1.0**
	baz=339						
R31K				S	**Sg**	**02 48 33.6**	**-1.5**
	baz=339						
BCPM	**Bancas Point**	**1.48**	**277**		**Sb**	**02 48 32.5**	**-1.6**
YKU2	**Yakutat**	**1.53**	**260**		**Pb**	**02 48 14.7**	**-1.2**
YKU2	**Yakutat**	**1.53**	**260**	P	**Pg**	**02 48 15.6**	**-1.3**
P32M	**Atlin**	**1.54**	**97**	Pn	**Pb**	**02 48 15.0**	**-1.2**
P32M					**Sg**	**02 48 35.9**	**-1.1**
P32M	**Atlin**	**1.54**	**97**	P	**Pb**	**02 48 14.9**	**-1.3**
	baz=279,SNR=1000						
P32M	**Atlin**	**1.54**	**97**	Pn	**Pb**	**02 48 15.0**	**-1.2**
P32M				Sg	**Sg**	**02 48 35.9**	**-1.1**
BESE	**Bessie Mountai**	**1.55**	**141**	Pn	**Pn**	**02 48 14.6**	**-0.7**
BESE					**Sb**	**02 48 35.6**	**-0.6**
BESE	**Bessie Mountai**	**1.55**	**141**	Pn	**Pn**	**02 48 14.6**	**-0.7**
BESE				Sg	**Sb**	**02 48 35.6**	**-0.6**
N30M	**Aishikik Lake**	**1.68**	**354**	Pn	**Pb**	**02 48 17.2**	**-1.4**
N30M					**Sb**	**02 48 39.1**	**-0.6**
N30M	**Aishikik Lake**	**1.68**	**354**	P	**Pb**	**02 48 17.0**	**-1.6**
	baz=175,SNR=1000						
N30M	**Aishikik Lake**	**1.68**	**354**	Pn	**Pb**	**02 48 17.2**	**-1.4**
N30M				Sg	**Sb**	**02 48 39.1**	**-0.6**
N31M	**Braeburn, Yuko**	**1.75**	**15**		**Pn**	**02 48 18.2**	**+0.1**
N31M	**Braeburn, Yuko**	**1.75**	**15**	P	**Pb**	**02 48 18.5**	**-1.5**
	baz=196,SNR=250						
N31M	**Braeburn, Yuko**	**1.75**	**15**	Pn	**Pb**	**02 48 18.6**	**-1.3**
N31M				Sg	**Sg**	**02 48 43.0**	**-1.0**
PINM	**Pinnacle**	**1.80**	**281**	P	**Pn**	**02 48 18.3**	**-0.5**
	baz=98,SNR=688						
PCA	**Pinnacle**	**1.81**	**281**	Pn	**Pn**	**02 48 18.4**	**-0.5**
PCA				Sg	**Sb**	**02 48 42.3**	**-1.2**
PCA	**Pinnacle**	**1.81**	**281**	Pn	**Pn**	**02 48 18.4**	**-0.5**
PCA				Sg	**Sb**	**02 48 42.3**	**-1.2**
YUK4	**Talbot Arm**	**1.82**	**329**	Pn	**Pb**	**02 48 19.8**	**-1.4**
YUK4				Sg	**Sg**	**02 48 45.9**	**-0.2**
YUK4	**Talbot Arm**	**1.82**	**329**	P	**Pb**	**02 48 19.8**	**-1.4**
	baz=151,SNR=1000						
YUK4				Sb	**Sg**	**02 48 47.0**	**+0.9**
	baz=151						
YUK4	**Talbot Arm**	**1.82**	**329**	Pn	**Pb**	**02 48 19.8**	**-1.4**
YUK4				Sg	**Sg**	**02 48 45.9**	**-0.2**
S31K	**Pelican**	**1.86**	**172**		**Pn**	**02 48 18.7**	**-0.8**
S31K				IAML		02 48 48.8	
	comp=E,6μm,0.9s						
S31K	**Pelican**	**1.86**	**172**	P	**Pn**	**02 48 19.0**	**-0.5**
	baz=352,SNR=1000						
R32K	**Eaglecrest**	**1.91**	**142**		**Pn**	**02 48 18.9**	**-1.3**
R32K				IAML		02 48 48.0	
	comp=E,5μm,0.5s						
R32K				IAML		02 48 49.3	
	comp=N,5μm,0.4s						
R32K	**Eaglecrest**	**1.91**	**142**	P	**Pn**	**02 48 18.9**	**-1.3**
	baz=324,SNR=293						
R32K				S	**Sb**	**02 48 44.3**	**-1.9**
	baz=324						
JIS	**Juneau Island**	**1.95**	**141**		**Pn**	**02 48 18.8**	**-1.9**
JIS				IAML		02 48 50.0	
	comp=E,7μm,0.8s						
JIS	**Juneau Island**	**1.95**	**141**	P	**Pn**	**02 48 19.8**	**-0.9**
P33M	**Teslin, Yukon**	**2.00**	**76**	Pn	**Pn**	**02 48 21.2**	**-0.4**
P33M				Sg	**Sb**	**02 48 49.9**	**+0.7**
P33M	**Teslin, Yukon**	**2.00**	**76**	P	**Pn**	**02 48 21.0**	**-0.5**
	baz=260,SNR=1000						
P33M				Sb	**Sb**	**02 48 50.0**	**+0.9**
	baz=260						
P33M	**Teslin, Yukon**	**2.00**	**76**	Pn	**Pn**	**02 48 21.2**	**-0.4**
P33M			

M30M				Sg	Sg	02 49 13.9	-3.1	
YUK2	**White River**	**2.84**	**316**	Pn	Pn	02 48 32.6	-0.5	
YUK2	**White River**	**2.84**	**316**	Pn	Pn	02 48 32.6	-0.5	
YUK2				Sg	Sg	02 49 18.7	-0.1	
SIT	**Sitka**	**2.85**	**164**	Pn	Pn	02 48 32.5	-0.5	
SIT	comp=E,3µm,0.8s			IAML		02 49 20.7		
SIT	comp=N,2µm,1.1s			IAML		02 49 21.6		
SIT	**Sitka**	**2.85**	**164**	P	Pn	02 48 32.9	-0.1	
SIT	**Sitka**	**2.85**	**164**	P	Pn	02 48 32.2	-0.9	
	baz=345							
CYK	**Cape Yakataga**	**2.92**	**278**		Pn	02 48 33.8	-0.2	
FARO	**Faro, Yukon**	**2.94**	**32**	Pn	Pn	02 48 34.8	+0.5	
FARO	**Faro, Yukon**	**2.94**	**32**	P	Pn	02 48 34.3	-0.1	
	baz=216,SNR=15							
FARO	**Faro, Yukon**	**2.94**	**32**	Pn	Pn	02 48 34.8	+0.5	
FARO				Sg	Sg	02 49 18.9	-3.0	
R33M	**Jennings River**	**2.95**	**95**		Pn	02 48 34.8	+0.2	
R33M	**Jennings River**	**2.95**	**95**	P	Pn	02 48 34.5	-0.2	
	baz=280							
R33M	**Jennings River**	**2.95**	**95**	Pn	Pn	02 48 34.3	-0.3	
R33M				Sn	Sn	02 49 10.1	-0.1	
R33M				Sg	Sg	02 49 18.9	-3.5	
BARK	**Barkley Ridge**	**2.96**	**284**		Pn	02 48 34.7	+0.1	
KIAG	**Kiagna River**	**3.02**	**294**	Pn	Pn	02 48 35.2	-0.5	
KIAG	**Kiagna River**	**3.02**	**294**	Pn	Pn	02 48 35.2	-0.5	
SNH	**Sunshine Point**	**3.10**	**280**		Pn	02 48 37.3	+0.7	
SNH	comp=N,2µm,1.3s			IAML		02 49 39.9		
SNH	comp=E,1µm,1.0s			IAML		02 49 47.9		
PTPK	**Patty Peak**	**3.17**	**299**	Pn	Pn	02 48 37.5	-0.2	
PTPK	**Patty Peak**	**3.17**	**299**	Pn	Pn	02 48 37.5	-0.2	
PTPK				Sg	Sg	02 49 25.1	-4.1	
BVCY	**Beaver Creek**	**3.31**	**324**	Pn	Pn	02 48 39.0	-0.4	
BVCY				Sg	Sb	02 49 27.1	+0.5	
BVCY	**Beaver Creek**	**3.31**	**324**	P	Pn	02 48 39.3	-0.1	
	baz=141,SNR=14							
BVCY	**Beaver Creek**	**3.31**	**324**	Pn	Pn	02 48 39.0	-0.4	
BVCY				Sg	Sb	02 49 27.1	+0.5	
L29M	**L29M**	**3.39**	**349**	Pn	Pn	02 48 40.8	+0.2	
L29M	**L29M**	**3.39**	**349**	P	Pn	02 48 40.7	+0.2	
	baz=168							
L29M	**L29M**	**3.39**	**349**	Pn	Pn	02 48 40.8	+0.2	
L29M				Sg	Sg	02 49 33.3	-3.1	
S34M	**Telegraph Cree**	**3.46**	**121**	Pn	Pn	02 48 41.7	+0.1	
S34M	**Telegraph Cree**	**3.46**	**121**	P	Pn	02 48 41.7	+0.1	
	baz=305,SNR=284							
S34M				S	Sn	02 49 23.2	+0.6	
	baz=305							
S34M	**Telegraph Cree**	**3.46**	**121**	Pn	Pn	02 48 41.7	+0.1	
S34M				Sg	Sg	02 49 35.6	-3.1	
BERG	**Berg Lake**	**3.55**	**283**		Pn	02 48 42.6	-0.2	
BERG	**Berg Lake**	**3.55**	**283**	IAML		02 49 35.8		
	comp=N,1µm,0.8s							
M27K	**Edge Creek, AK**	**3.59**	**318**	Pn	Pn	02 48 42.9	-0.5	
M27K	**Edge Creek, AK**	**3.59**	**318**	P	Pn	02 48 42.9	-0.5	
	baz=134							
M27K	**Edge Creek, AK**	**3.59**	**318**	Pn	Pn	02 48 42.9	-0.5	
T33K	**Petersburg**	**3.59**	**145**		Pn	02 48 43.9	+0.7	
T33K	**Petersburg**	**3.59**	**145**	P	Pn	02 48 43.4	+0.2	
	baz=328							
T33K				S	Sn	02 49 25.6	-0.1	
	baz=328							
VRDI	**Verde Repeater**	**3.63**	**296**		Pn	02 48 43.7	-0.2	
DLBC	**Dease Lake**	**3.71**	**109**	Pn	Pn	02 48 44.8	-0.2	
DLBC	**Dease Lake**	**3.71**	**109**	IAML		02 49 48.8		
	comp=E,2µm,0.7s							
DLBC	**Dease Lake**	**3.71**	**109**	P	Pn	02 48 44.5	-0.4	
	baz=294,SNR=110							
DLBC	**Dease Lake**	**3.71**	**109**	Pn	Pn	02 48 45.5	+0.5	
	comp=E,23nm,0.3s,baz=298,slow=9.6,SNR=242							
DLBC				Lg	Lg	02 49 41.8		
	comp=E,204nm,0.3s,baz=28,slow=23,SNR=12							
	comp=E,90nm,0.5s							
DLBC	**Dease Lake**	**3.71**	**109**	Pn	Pn	02 48 44.8	-0.2	
DLBC				Sg	Sg	02 49 43.5	-3.1	
MAYO	**Mayo, Yukon**	**3.83**	**6**	Pn	Pn	02 48 47.6	+1.0	
MAYO	**Mayo, Yukon**	**3.83**	**6**	P	Pn	02 48 46.5	-0.1	
	baz=187							
MAYO	**Mayo, Yukon**	**3.83**	**6**	Pn	Pn	02 48 47.6	+1.0	
MAYO				Sg	Sb	02 49 45.4	+3.8	
GLB	**Gilahina Butte**	**3.86**	**298**		Pn	02 48 47.1	0.0	
KAIM	**Kayak Island**	**3.89**	**275**		Pn	02 48 47.9	+0.6	
KAIM	**Kayak Island**	**3.89**	**275**	IAML		02 50 13.7		
	comp=E,677nm,0.9s							
KAIM				IAML		02 50 14.8		
	comp=N,1µm,1.6s							
KAIM	**Kayak Island**	**3.89**	**275**	P	Pn	02 48 47.1	-0.2	
	baz=89							
WTLY	**Watson Lake, Y**	**4.00**	**82**	Pn	Pn	02 48 48.3	-0.6	
WTLY	**Watson Lake, Y**	**4.00**	**82**	P	Pn	02 48 48.0	-0.9	
	baz=269,SNR=14							
WTLY	**Watson Lake, Y**	**4.00**	**82**	Pn	Pn	02 48 48.3	-0.6	
WTLY				Sg	Sg	02 49 51.4	-4.4	
M26K	**Nabesna, AK**	**4.01**	**313**		Pn	02 48 49.0	-0.2	
M26K	**Nabesna, AK**	**4.01**	**313**	P	Pn	02 48 48.7	-0.4	
	baz=128,SNR=45							
RAGM	**Ragged Mountai**	**4.03**	**282**		Pn	02 48 49.4	+0.1	
RAGM				IAML		02 50 04.9		
	comp=E,906nm,1.1s							
GOAT	**Goat Mountain**	**4.08**	**285**		Pn	02 48 49.6	-0.4	
K29M	**Barlow Dome**	**4.08**	**355**	Pn	Pn	02 48 50.3	+0.2	
K29M	**Barlow Dome**	**4.08**	**355**	IAML		02 50 01.9		
	comp=N,1µm,0.9s							
K29M	**Barlow Dome**	**4.08**	**355**	P	Pn	02 48 50.1	0.0	
	baz=175							
K29M	**Barlow Dome**	**4.08**	**355**	Pn	Pn	02 48 50.3	+0.2	
K29M				Sg	Sg	02 49 53.4	-5.0	
BCAR	**Beaver Creek A**	**4.08**	**326**	Pn	Pn	02 48 49.5	-0.6	
BMRM	**Bremner River**	**4.09**	**290**		Pn	02 48 50.1	-0.1	
BMRM	**Bremner River**	**4.09**	**290**	P	Pn	02 48 49.9	-0.3	
	baz=104							
L27K	**Beaver Creek,**	**4.09**	**325**		Pn	02 48 49.4	-0.9	
L27K	**Beaver Creek,**	**4.09**	**325**	P	Pn	02 48 48.7	-1.5	
	baz=141							
L27K	**Beaver Creek,**	**4.09**	**325**	Pn	Pn	02 48 49.1	-1.1	
L27K				Sg	Sb	02 49 51.2	+2.0	
WRAK	**Wrangell Islan**	**4.11**	**144**	Pn	Pn	02 48 49.2	-1.2	
WRAK	**Wrangell Islan**	**4.11**	**144**	P	Pn	02 48 49.1	-1.2	
	baz=327							
WRAK	**Wrangell Islan**	**4.11**	**144**	Pn	Pn	02 48 49.2	-1.2	
WRAK				Sg	Sg	02 49 56.0	-3.4	
U33K	**Whale Pass**	**4.16**	**151**	Pn	Pn	02 48 49.8	-1.3	
U33K	comp=N,575nm,0.9s			IAML		02 50 02.8		
U33K	comp=E,810nm,1.5s			IAML		02 50 03.3		
U33K	**Whale Pass**	**4.16**	**151**	P	Pn	02 48 49.9	-1.2	
	baz=334							
WASW	**Wrangell South**	**4.22**	**304**		Pn	02 48 52.8	+0.6	
N25K	**Chitina, Valde**	**4.28**	**298**		Pn	02 48 53.1	+0.3	
N25K	**Chitina, Valde**	**4.28**	**298**	P	Pn	02 48 52.6	-0.2	
	baz=112							
T35M	**Bob Quinn**	**4.42**	**127**	Pn	Pn	02 48 55.0	+0.3	
T35M	**Bob Quinn**	**4.42**	**127**	P	Pn	02 48 54.4	-0.3	
	baz=312							
T35M	**Bob Quinn**	**4.42**	**127**	Pn	Pn	02 48 55.0	+0.3	
T35M				Sg	Sg	02 50 03.6	-5.8	
DAWY	**Dawson**	**4.46**	**345**		Pn	02 48 55.7	+0.3	
DAWY	**Dawson**	**4.46**	**345**	P	Pn	02 48 55.6	+0.3	
	baz=163,SNR=71							
DAWY	**Dawson**	**4.46**	**345**	Pn	Pn	02 48 55.5	+0.1	
DAWY				Sg	Sb	02 50 04.4	+4.5	
L26K	**Log Cabin Wild**	**4.54**	**318**		Pn	02 48 55.8	-0.5	
L26K	**Log Cabin Wild**	**4.54**	**318**	IAML		02 50 40.7		
	comp=E,391nm,0.6s							
L26K	**Log Cabin Wild**	**4.54**	**318**	P	Pn	02 48 55.9	-0.5	
	baz=133,SNR=37							
EYAK	**Cordova Ski Ar**	**4.57**	**283**		Pn	02 48 57.5	+0.7	
EYAK	**Cordova Ski Ar**	**4.57**	**283**	P	Pn	02 48 56.8	0.0	
EYAK	**Cordova Ski Ar**	**4.57**	**283**	P	Pn	02 48 56.1	-0.7	
	baz=96							
MENT	**Mentasta**	**4.61**	**316**		Pn	02 48 56.8	-0.5	
MENT	comp=E,380nm,0.7s			IAML		02 50 43.8		
MENT	comp=N,336nm,0.7s			IAML		02 51 07.5		
DIV	**Divide**	**4.68**	**290**	Pn	Pn	02 48 58.2	-0.1	
DIV	**Divide**	**4.68**	**290**	Pn	Pn	02 48 58.2	-0.1	
J29N	**Klondike Camp**	**4.72**	**352**		Pn	02 48 57.9	-1.0	
J29N	**Klondike Camp**	**4.72**	**352**	IAML		02 50 24.0		
	comp=E,4µm,0.7s							
J29N	comp=N,4µm,0.7s			IAML		02 50 28.1		
J29N	**Klondike Camp**	**4.72**	**352**	P	Pn	02 48 58.1	-0.8	
	baz=171							
CRAG	**Craig**	**4.75**	**154**		Pn	02 48 58.0	-1.2	
CRAG	**Craig**	**4.75**	**154**	IAML		02 50 18.3		
	comp=N,484nm,1.4s							
CRAG	comp=E,548nm,1.4s			IAML		02 50 19.1		
CRAG	**Craig**	**4.75**	**154**	P	Pn	02 48 58.2	-1.0	
CRAG	**Craig**	**4.75**	**154**	P	Pn	02 48 58.0	-1.2	
	baz=337							
J30M	**Hart River**	**4.80**	**2**	Pn	Pn	02 49 00.7	+0.7	
J30M	**Hart River**	**4.80**	**2**	P	Pn	02 49 00.4	+0.4	
	baz=183,SNR=88							
J30M	**Hart River**	**4.80**	**2**	Pn	Pn	02 49 00.7	+0.7	
J30M				Sg	Sg	02 50 15.2	-6.3	
KLU	**Klutina**	**4.84**	**295**	Pn	Pn	02 49 00.9	+0.4	
KLU	comp=E,293nm,0.9s			IAML		02 50 20.0		
KLU	comp=N,287nm,0.8s			IAML		02 50 21.9		
KLU	**Klutina**	**4.84**	**295**	P	Pn	02 49 00.2	-0.3	
	baz=107							
HARP	**HAARP**	**4.85**	**306**	P	Pn	02 49 00.7	+0.1	
	baz=119							
HIN	**Hinchinbrook I**	**4.94**	**281**		Pn	02 49 02.2	+0.5	
HIN	**Hinchinbrook I**	**4.94**	**281**	IAML		02 50 38.2		
HIN	comp=E,467nm,1.0s			IAML		02 50 50.1		
HIN	comp=N,329nm,1.1s			IAML		02 50 50.1		
K27K	**Chicken**	**4.94**	**331**	Pn	Pn	02 49 02.2	+0.4	
K27K	**Chicken**	**4.94**	**331**	IAML		02 50 33.8		
K27K	comp=E,408nm,1.3s			IAML		02 51 01.2		
	comp=N,344nm,1.3s							
K27K	**Chicken**	**4.94**	**331**	P	Pn	02 49 01.8	0.0	
	baz=147							
K27K	**Chicken**	**4.94**	**331**	Pn	Pn	02 49 02.2	+0.4	
K27K				Sg	Sg	02 50 21.9	-4.3	
FID	**Port Fidalgo**	**4.95**	**285**		Pn	02 49 03.3	+1.3	
FID	**Port Fidalgo**	**4.95**	**285**	IAML		02 50 26.0		
FID	comp=N,231nm,1.3s			IAML		02 50 32.6		
	comp=E,230nm,1.4s							
M24K	**Tolsona, Glenn**	**5.16**	**301**		Pn	02 49 05.8	+1.0	
M24K	**Tolsona, Glenn**	**5.16**	**301**	IAML		02 50 46.2		
M24K	comp=N,361nm,1.5s			IAML		02 50 47.0		
	comp=E,413nm,1.4s							
M24K	**Tolsona, Glenn**	**5.16**	**301**	P	Pn	02 49 04.6	-0.2	
	baz=113							
V35K	**Ketchikan**	**5.26**	**146**		Pn	02 49 05.9	-0.2	
V35K	**Ketchikan**	**5.26**	**146**	IAML		02 50 34.4		
V35K	comp=N,349nm,1.1s			IAML		02 50 41.6		
	comp=E,354nm,1.0s							
V35K	**Ketchikan**	**5.26**	**146**	P	Pn	02 49 05.7	-0.5	
	baz=330							
PAX	**Paxson**	**5.27**	**311**		Pn	02 49 07.2	+0.8	
PAX	**Paxson**	**5.27**	**311**	P	Pn	02 49 06.1	-0.4	
	baz=124							
U35K	**Hyder**	**5.28**	**135**		Pn	02 49 07.4	+0.9	
U35K	**Hyder**	**5.28**	**135**	P	Pn	02 49 06.5	0.0	
	baz=320							
P23K	**Montague Islan**	**5.38**	**277**		Pn	02 49 07.4	-0.5	
P23K	**Montague Islan**	**5.38**	**277**	P	Pn	02 49 07.2	-0.7	
	baz=88							
EGAK	**Eagle**	**5.41**	**339**	Pn	Pn	02 49 08.7	+0.5	
EGAK	**Eagle**	**5.41**	**339**	P	Pn	02 49 08.8	+0.5	
	baz=156,SNR=79							
EGAK	**Eagle**	**5.41**	**339**	Pn	Pn	02 49 08.7	+0.5	
EGAK				Sg	Sg	02 50 36.9	-4.2	
SCRK	**Sand Creek**	**5.42**	**324**		Pn	02 49 07.6	-0.9	
SCRK	**Sand Creek**	**5.42**	**324**	P	Pn	02 49 07.9	-0.6	
	baz=138							
I30M	**Mount Dempster**	**5.45**	**2**	Pn	Pn	02 49 10.2	+1.3	
I30M	**Mount Dempster**	**5.45**	**2**	P	Pn	02 49 09.0	+0.2	
	baz=182							
I30M	**Mount Dempster**	**5.45**	**2**	Pn	Pn	02 49 10.2	+1.3	
I30M				Sg	Sb	02 50 34.5	+6.3	
RIDG	**Independent Ri**	**5.52**	**319**	P	Pn	02 49 09.0	-0.9	
	baz=132							
SCM	**Sheep Creek Mo**	**5.58**	**296**		Pn	02 49 10.1	-0.5	
SCM	**Sheep Creek Mo**	**5.58**	**296**	P	Pn	02 49 10.7	0.0	
	baz=107							
I29M	**Ogilvie Camp,**	**5.63**	**353**	Pn	Pn	02 49 13.2	+1.9	
I29M	**Ogilvie Camp,**	**5.63**	**353**	P	Pn	02 49 12.5	+1.2	
	baz=172							
I29M	**Ogilvie Camp,**	**5.63**	**353**	Pn	Pn	02 49 13.2	+1.9	
I29M				Sg	Sg	02 50 43.6	-4.6	
J26L	**Joseph Creek**	**5.71**	**329**		Pn	02 49 12.2	-0.2	
J26L	**Joseph Creek**	**5.71**	**329**	P	Pn	02 49 12.5	+0.1	
	baz=143,SNR=27							
M23K	**Glacier View**	**5.75**	**295**		Pn	02 49 12.7	-0.2	
M23K	**Glacier View**	**5.75**	**295**	P	Pn	02 49 13.2	+0.2	
	baz=106							
I28M	**Miner Creek**	**5.86**	**347**	Pn	Pn	02 49 14.9	+0.4	
I28M	**Miner Creek**	**5.86**	**347**	P	Pn	02 49 14.3	-0.2	
	baz=164							
I28M	**Miner Creek**	**5.86**	**347**	Pn	Pn	02 49 14.9	+0.4	
I28M				Sg	Sg	02 50 50.2	-5.4	
K24K	**Donnelly Dome**	**5.88**	**317**	P	Pn	02 49 15.5	+0.7	
	baz=129							
TOAD	**Toad River Com**	**5.96**	**94**	Pn	Pn	02 49 16.8	+1.0	
TOAD				Sg	Sg	02 50 51.5	-7.2	
KNK	**Knik Glacier**	**6.00**	**291**		Pn	02 49 17.6	+1.2	
KNK	**Knik Glacier**	**6.00**	**291**	P	Pn	02 49 16.5	+0.1	
	baz=101							
WAT6	**Susitna Watana**	**6.01**	**302**		Pn	02 49 16.7	+0.1	
WAT6	**Susitna Watana**	**6.01**	**302**	P	Pn	02 49 16.8	+0.1	
	baz=113							
SML	**Sawmill**	**6.03**	**294**		Pn	02 49 17.4	+0.5	
SML	**Sawmill**	**6.03**	**294**	P	Pn	02 49 16.7	-0.2	
	baz=105							
DHY	**Denali Highway**	**6.08**	**307**		Pn	02 49 17.0	-0.5	
DHY	**Denali Highway**	**6.08**	**307**	P	Pn	02 49 17.2	-0.3	
	baz=192							
H31M	**Peel River**	**6.13**	**9**	Pn	Pn	02 49 18.5	+0.4	
H31M	**Peel River**	**6.13**	**9**	P	Pn	02 49 18.6	+0.5	
	baz=192							
H31M	**Peel River**	**6.13**	**9**	Pn	Pn	02 49 18.5	+0.4	
H31M				Sg	Sg	02 50 57.5	-6.6	
I27K	**Kandik River**	**6.25**	**341**	Pn	Pn	02 49 20.0	+0.3	
I27K	**Kandik River**	**6.25**	**341**	P	Pn	02 49 20.2	+0.5	
	baz=157							
I27K	**Kandik River**	**6.25**	**341**	Pn	Pn	02 49 20.0	+0.3	
I26K	**Coal Creek Min**	**6.28**	**334**		Pn	02 49 20.9	+0.8	
I26K	**Coal Creek Min**	**6.28**	**334**	P	Pn	02 49 20.1	0.0	
	baz=149							
GHO	**Glory Hole Cre**	**6.30**	**294**		Pn	02 49 20.5	0.0	
J25K	**Salcha River,**	**6.30**	**324**	P	Pn	02 49 20.2	-0.3	
	baz=136							
PMR	**Palmer**	**6.36**	**292**	P	Pn	02 49 22.2	+1.0	
PMR	**Palmer**	**6.36**	**292**	P	Pn	02 49 20.0	-1.2	
	baz=101							
KOTAN	**Kotaneelee Air**	**6.37**	**82**	P	Pn	02 49 21.4	0.0	
	baz=272,SNR=10							
SEW	**Seward**	**6.41**	**278**		Pn	02 49 22.5	+0.6	
SEW	**Seward**	**6.41**	**278**	P	Pn	02 49 21.7	-0.2	
	baz=87							
WAT1	**Susitna Watana**	**6.46**	**303**		Pn	02 49 23.1	+0.4	
WAT1	**Susitna Watana**	**6.46**	**303**	P	Pn	02 49 23.2	+0.5	
	baz=113							
H29M	**Whitestone**	**6.49**	**354**	Pn	Pn	02 49 23.6	+0.5	
H29M				Sg	Sg	02 51 07.6	-8.0	
H29M	**Whitestone**	**6.49**	**354**	P	Pn	02 49 23.4	+0.3	
	baz=173,SNR=27							
H29M	**Whitestone**	**6.49**	**354**	Pn	Pn	02 49 23.6	+0.5	
H29M				Sg	Sg	02 51 07.6	-8.0	
RUBB	**Prince Rupert**	**6.52**	**144**	Pn	Pn	02 49 22.9	-0.5	
RUBB	**Prince Rupert**	**6.52**	**144**	Pn	Pn	02 49 22.9	-0.5	
RUBB				Sg	Sg	02 51 10.4	-6.2	
NBC1	**NorthernBC 1**	**6.52**	**86**	Pn	Pn	02 49 24.1	+0.6	
NBC1	**NorthernBC 1**	**6.52**	**86**	Pn	Pn	02 49 24.1	+0.6	
NBC1				Sg	Sg	02 51 08.9	-7.9	
O22K	**Cooper Landing**	**6.53**	**282**		Pn	02 49 24.4	+0.7	
O22K	**Cooper Landing**	**6.53**	**282**	P	Pn	02 49 23.7	0.0	
	baz=90							
RC01	**Rabbit Creek A**	**6.57**	**287**		Pn	02 49 24.1	-0.1	
RC01	**Rabbit Creek A**	**6.57**	**287**	P	Pn	02 49 24.1	-0.1	
	baz=96							
WAT7	**Susitna Watana**	**6.58**	**303**		Pn	02 49 25.9	+1.5	
EPYK	**Eagle Plains**	**6.60**	**360**	Pn	Pn	02 49 25.3	+0.7	
EPYK	**Eagle Plains**	**6.60**	**360**	P	Pn	02 49 25.2	+0.6	
	baz=180							
EPYK	**Eagle Plains**	**6.60**	**360**	Pn	Pn	02 49 25.3	+0.7	
EPYK				Sg	Sg	02 51 12.9	-6.2	
FLDN	**Fort Liard**	**6.65**	**80**	Pn	Pn	02 49 25.8	+0.5	
FLDN	**Fort Liard**	**6.65**	**80**	P	Pn	02 49 25.8	+0.5	
	baz=272,SNR=11							
FLDN	**Fort Liard**	**6.65**	**80**	Pn	Pn	02 49 25.8	+0.5	
HDA	**Harding Lake**	**6.66**	**318**	P	Pn	02 49 25.6	+0.1	
	baz=130							
SLKM	**Skilak Lake**	**6.78**	**282**		Pn	02 49 27.1	0.0	
H27K	**Steamboat Moun**	**6.81**	**343**	Pn	Pn	02 49 27.9	+0.3	
H27K	**Steamboat Moun**	**6.81**	**343**	P	Pn	02 49 27.7	+0.1	
	baz=159							
H27K	**Steamboat Moun**	**6.81**	**343**	Pn	Pn	02 49 27.9	+0.3	
RND	**Reindeer**	**6.82**	**307**		Pn	02 49 28.2	+0.5	
IL31		**6.88**	**321**		Pn	02 49 28.8	+0.5	
ILAR	**Eielson Array**	**6.88**	**321**	Pn	Pn	02 49 28.5	+0.1	
ILAR	**Eielson Array**	**6.88**	**321**	Pn	Pn	02 49 29.1	+0.8	
	comp=E,0.4nm,0.3s,baz=146,slow=11,SNR=42							
ILAR				Lg	Lg	02 51 22.6		
	comp=E,2.9nm,0.3s,baz=128,slow=26,SNR=6.1							
ILAR				LR	LR	02 52 31.7		
	comp=E,192nm,18.3s,baz=92,slow=42							
	comp=E,4.4nm,0.8s							
MCK	**McKinley**	**7.01**	**309**		Pn	02 49 30.1	-0.1	
MCK	**McKinley**	**7.01**	**309**	P	Pn	02 49 30.8	+0.6	
	baz=119							
DIB	**Dawson Inlet,**	**7.01**	**159**		Pn	02 49 29.8	-0.4	
DIB	**Dawson Inlet,**	**7.01**	**159**	Pn	Pn	02 49 29.6	-0.7	
GRNB	**Grenville Isla**	**7.02**	**145**	Pn	Pn	02 49 29.9	-0.5	
GRNB	**Grenville Isla**	**7.02**	**145**	Pn	Pn	02 49 29.9	-0.5	
PRP	**Porcupine Dome**	**7.02**	**329**	P	Pn	02 49 31.0	+0.6	
	baz=141							
CUT	**Chulitna**	**7.07**	**298**		Pn	02 49 31.3	+0.4	
CUT	**Chulitna**	**7.07**	**298**	P	Pn	02 49 31.4	+0.4	
	baz=106							
BRSE	**Bradley Lake S**	**7.08**	**276**	P	Pn	02 49 31.4	+0.2	
	baz=84							
SUA	**Susitna One**	**7.10**	**290**	Pn	Pn	02 49 32.0	+0.5	
SUA	**Susitna One**	**7.10**	**290**	P	Pn	02 49 31.7	+0.1	
	baz=98							
CCB	**Clear Creek Bu**	**7.10**	**318**	Pn	Pn	02 49 30.9	-0.5	
BRLK	**Bradley Lake**	**7.15**	**276**		Pn	02 49 32.6	+0.4	
G29M	**Pine Creek**	**7.17**	**356**	Pn	Pn	02 49 32.9	+0.6	
G29M	**Pine Creek**	**7.17**	**356**	P	Pn	02 49 32.8	+0.4	
	baz=175							
G29M	**Pine Creek**	**7.17**	**356**	Pn	Pn	02 49 32.9	+0.6	
G29M				Sg	Sg	02 51 31.9	-5.4	
WRGLY	**Wrigley**	**7.21**	**56**	P	Pn	02 49 32.9	0.0	
	baz=248,SNR=33							
G30M	**tAoh Zraii Nji**	**7.21**	**2**	Pn	Pn	02 49 33.0	0.0	
G30M	**tAoh Zraii Nji**	**7.21**	**2**	P	Pn	02 49 33.2	+0.2	
	baz=182							
G30M	**tAoh Zraii Nji**	**7.21**	**2**	Pn	Pn	02 49 33.0	0.0	
G30M				Sg	Sg	02 51 32.6	-6.3	
FNSB	**Fort Nelson**	**7.23**	**92**	Pn	Pn	02 49 32.8	-0.4	
FNSB				Sg	Sg	02 51 31.5	-7.9	
G31M	**Satah River**	**7.24**	**8**	Pn	Pn	02 49 33.8	+0.5	
G31M	**Satah River**	**7.24**	**8**	P	Pn	02 49 34.0	+0.7	
	baz=190,SNR=152							
G31M	**Satah River**	**7.24**	**8**	Pn	Pn	02 49 33.8	+0.5	
KITB	**Kitimat**	**7.24**	**139**	Pn	Pn	02 49 33.7	+0.4	
KITB	**Kitimat**	**7.24**	**139**	Pn	Pn	02 49 33.7	+0.4	
KITB				Sg	Sg	02 51 30.3	-9.3	
POKR	**Poker Plat Res**	**7.28**	**322**		Pn	02 49 33.8	-0.2	
POKR	**Poker Plat Res**	**7.28**	**322**	P	Pn	02 49 34.5	+0.5	
	baz=132							
CNPM	**China Poot**	**7.36**	**274**		Pn	02 49 34.9	-0.1	
G27K	**Doyon Strip**	**7.38**	**345**	Pn	Pn	02 49 35.9	+0.7	
G27K	**Doyon Strip**	**7.38**	**345**	P	Pn	02 49 35.5	+0.2	
	baz=160							
G27K	**Doyon Strip**	**7.38**	**345**	Pn	Pn	02 49 35.9	+0.7	
TRF	**Thorofare Moun**	**7.43**	**305**		Pn	02 49 36.6	+0.5	
TRF	**Thorofare Moun**	**7.43**	**305**	P	Pn	02 49 36.5	+0.4	
	baz=114							
MDM	**Murphy Dome**	**7.44**	**319**	Pn	Pn	02 49 36.1	0.0	
NEA2	**Nenana**	**7.51**	**315**		Pn	02 49 37.3	+0.3	
NEA2	**Nenana**	**7.51**	**315**	P	Pn	02 49 37.6	+0.6	
	baz=124							
HOM	**Homer**	**7.55**	**275**	P	Pn

KDAK **Kodiak Island** 8.48 263 P Pn 02 49 50.2 -0.1
baz=70
KDAK **Kodiak Island** 8.48 263 Pn Pn 02 49 48.8 -1.6
comp=E,8.2nm,0.3s,baz=72,slow=8.2,SNR=75
KDAK LR LR 02 53 14.0
comp=E,266nm,20.9s,baz=64,slow=39
comp=E,31nm,0.5s
F26K Sheenjek River 8.57 341 P Pn 02 49 52.2 +0.6
baz=154
FSJB Fort St James 8.61 123 Pn Pn 02 49 52.0 -0.2
FSJB Fort St James 8.61 123 Pn Pn 02 49 52.0 -0.2
BMTB Bullhead Mount 8.62 110 Pn Pn 02 49 54.3 +1.9
E29M Blow River 8.64 357 Pn Pn 02 49 52.7 +0.2
E29M Blow River 8.64 357 P Pn 02 49 52.3 -0.2
baz=176
E29M Blow River 8.64 357 Pn Pn 02 49 52.7 +0.2
INK Inuvik 8.65 8 Pn Pn 02 49 52.8 +0.2
INK Inuvik 8.65 8 P Pn 02 49 52.3 -0.4
baz=191,SNR=5.6
INK Inuvik 8.65 8 Pn Pn 02 49 53.1 +0.4
comp=E,0.3nm,0.3s,baz=171,slow=10,SNR=20
INK Sn Sn 02 51 25.4 -4.8
comp=E,0.3nm,0.3s,baz=194,slow=14,SNR=1.5
INK Lg Lg 02 52 14.8
comp=E,1.7nm,0.3s,baz=266,slow=20,SNR=4.0
comp=E,5.5nm,0.9s
INK Inuvik 8.65 8 Pn Pn 02 49 52.8 +0.2
E27K Coleen River 8.69 348 Pn Pn 02 49 53.6 +0.4
E27K Coleen River 8.69 348 P Pn 02 49 53.6 +0.4
baz=164
E27K Coleen River 8.69 348 Pn Pn 02 49 53.6 +0.4
Q19K Cape Douglas, 8.69 272 Pn Pn 02 49 53.4 +0.2
Q19K Cape Douglas, 8.69 272 P Pn 02 49 53.3 +0.1
baz=77
L20K Farewell, AK 8.72 295 Pn 02 49 53.3 -0.4
L20K Farewell, AK 8.72 295 P Pn 02 49 53.5 -0.2
baz=100
F25K Christian Rive 8.76 337 P Pn 02 49 54.7 +0.5
baz=149
O19K Port Alsworth 8.83 280 P Pn 02 49 54.4 -0.7
baz=85
I21K Tanana 8.87 314 Pn 02 49 55.9 +0.2
I21K Tanana 8.87 314 P Pn 02 49 55.7 0.0
baz=121
N19K Bonanza Creek 8.88 284 Pn 02 49 55.7 -0.2
N19K Bonanza Creek 8.88 284 P Pn 02 49 55.2 -0.7
baz=89
E28M Babbage River 8.93 353 Pn Pn 02 49 56.9 +0.4
E28M Babbage River 8.93 353 P Pn 02 49 56.5 0.0
baz=171
E28M Babbage River 8.93 353 Pn Pn 02 49 56.9 +0.4
K20K Telida 9.00 301 Pn Pn 02 49 57.2 -0.2
K20K Telida 9.00 301 P Pn 02 49 57.3 -0.2
baz=106
BBB Bella Bella 9.02 144 Pn Pn 02 49 57.9 +0.2
BBB Bella Bella 9.02 144 Pn Pn 02 49 58.5 +0.7
comp=E,1.3nm,0.3s,baz=328,slow=14,SNR=7.0
comp=E,19nm,0.8s
BBB Bella Bella 9.02 144 Pn Pn 02 49 57.9 +0.2
OHAK Old Harbor 9.05 261 Pn Pn 02 49 57.4 -0.7
OHAK Old Harbor 9.05 261 P Pn 02 49 57.4 -0.7
OHAK Old Harbor 9.05 261 P Pn 02 49 57.2 -0.8
baz=66
H22K Ishtalitna Cre 9.05 319 P Pn 02 49 58.2 0.0
baz=126
L19K White Mountain 9.12 293 Pn 02 49 58.8 -0.4
L19K White Mountain 9.12 293 P Pn 02 49 58.5 -0.7
baz=97
G23K Bananza Creek 9.15 325 Pn Pn 02 49 59.9 +0.4
G23K Bananza Creek 9.15 325 P Pn 02 50 00.3 +0.8
baz=133
F24K Squaw Lake 9.19 332 P Pn 02 50 00.2 +0.2
baz=142
E25K Arctic Village 9.20 339 Pn Pn 02 50 00.7 +0.5
E25K Arctic Village 9.20 339 P Pn 02 50 00.2 -0.1
baz=151
J20K Nowinta River 9.29 306 Pn 02 50 01.1 -0.3
J20K Nowinta River 9.29 306 P Pn 02 50 01.3 -0.1
baz=110
O18K Koktuh Hills 9.31 278 Pn Pn 02 50 01.9 +0.2
O18K Koktuh Hills 9.31 278 P Pn 02 50 02.1 +0.3
baz=82
P18K Big Mountain, 9.39 276 P Pn 02 50 03.1 +0.2
baz=80
SVW2 Sparrevohn 9.41 286 Pn Pn 02 50 03.6 +0.6
SVW2 Sparrevohn 9.41 286 P Pn 02 50 03.5 +0.4
H21K Melozitna Rive 9.41 315 Pn 02 50 03.8 +0.6
H21K Melozitna Rive 9.41 315 P Pn 02 50 03.7 +0.6
baz=121
NBC4 NorthernBC 4 9.51 109 Pn Pn 02 50 04.6 0.0
NBC4 NorthernBC 4 9.51 109 Pn Pn 02 50 04.6 0.0
M18K Stony River 9.53 288 P Pn 02 50 02.9 -1.9
baz=92
COLD Coldfoot 9.56 327 Pn Pn 02 50 08.1 +3.0
COLD Coldfoot 9.56 327 P Pn 02 50 06.8 +1.7
baz=135
COLD Coldfoot 9.56 327 Pn Pn 02 50 08.1 +3.0
N18K Kilae Creek 9.57 284 Pn 02 50 05.1 -0.2
N18K Kilae Creek 9.57 284 P Pn 02 50 04.4 -0.9
baz=87
D28M Stokes Point 9.61 356 Pn Pn 02 50 05.4 -0.3
D28M Stokes Point 9.61 356 P Pn 02 50 06.5 +0.7
baz=174
D28M Stokes Point 9.61 356 Pn Pn 02 50 05.4 -0.3
I20K Naaghedeneel 9.65 309 Pn 02 50 06.6 +0.3
I20K Naaghedeneel 9.65 309 P Pn 02 50 06.9 +0.6
baz=113
D27M Malcolm River 9.65 351 Pn Pn 02 50 08.2 +1.7
D27M Malcolm River 9.65 351 P Pn 02 50 07.2 +0.7
baz=167
D27M Malcolm River 9.65 351 Pn Pn 02 50 08.2 +1.7
G22K Bettles 9.73 323 P Pn 02 50 07.9 +0.5
baz=130
TTA Tatalina 9.77 297 Pn Pn 02 50 06.8 -1.2
TTA Tatalina 9.77 297 P Pn 02 50 07.3 -0.7
TTA Tatalina 9.77 297 P Pn 02 50 07.3 -0.7
baz=100
SII Sitkinak Islan 9.77 258 P Pn 02 50 08.2 +0.1
baz=63
J19K Poorman 9.84 303 Pn 02 50 08.6 -0.4
J19K Poorman 9.84 303 P Pn 02 50 08.6 -0.4
baz=107
IMAR Indian Mountai 9.92 316 Pn 02 50 11.0 +1.0
L18K Granite Mounta 9.98 293 Pn Pn 02 50 10.9 0.0
L18K Granite Mounta 9.98 293 P Pn 02 50 10.0 -0.9
baz=95
Q17K Contact Creek 9.99 269 P Pn 02 50 10.7 -0.5
baz=73
E23K Chandalar 10.02 331 P Pn 02 50 12.7 +1.2
baz=140
P17K Kvichak River 10.04 275 P Pn 02 50 11.5 -0.2
baz=78
H20K Anotleneega Mo 10.10 312 P Pn 02 50 12.1 -0.3
baz=116
G21K Allakaket 10.12 319 P Pn 02 50 13.3 +0.6
baz=124
HILA High Level 10.18 88 Pn Pn 02 50 14.5 +0.9
J18K Innoko River 10.18 300 Pn 02 50 13.6 -0.1
J18K Innoko River 10.18 300 P Pn 02 50 13.1 -0.6
baz=102
WTMTA White Mountain 10.20 106 Pn 02 50 13.8 -0.2
WTMTA White Mountain 10.20 106 P Pn 02 50 13.8 -0.2
N17K Nushagak Hills 10.22 283 Pn Pn 02 50 13.7 -0.5
N17K Nushagak Hills 10.22 283 P Pn 02 50 13.9 -0.3
baz=85
O17K Koliganek Bris 10.27 279 P Pn 02 50 14.7 0.0
baz=81
M17K Holitna River 10.30 288 Pn 02 50 14.8 -0.6
M17K Holitna River 10.30 288 P Pn 02 50 14.5 -0.8
baz=90
F22K John River 10.31 325 P Pn 02 50 15.8 +0.4
baz=131
D25K Kavik River 10.40 341 P Pn 02 50 17.8 +1.1
baz=152
F21K Alatna River 10.52 322 P Pn 02 50 18.3 0.0
baz=127
H19K Roundabout Mou 10.70 311 P Pn 02 50 20.6 -0.2
baz=113
D24K Happy Valley 10.71 336 Pn 02 50 20.2 -0.7
D24K Happy Valley 10.71 336 P Pn 02 50 21.6 +0.7
baz=145
L17K Donlin 10.73 292 P Pn 02 50 20.3 -0.9
baz=93
K17K Iditarod 10.78 295 P Pn 02 50 21.1 -0.7
baz=96
O16K Kokwok River B 10.79 278 P Pn 02 50 21.8 -0.2
baz=80
C36M Paulatuk 10.98 24 Pn 02 50 23.9 -0.7
C36M Paulatuk 10.98 24 Pn Pn 02 50 24.1 -0.5
C36M Paulatuk 10.98 24 P Pn 02 50 23.6 -0.9
baz=216
C36M Paulatuk 10.98 24 P Pn 02 50 23.9 -0.7
YKA Yellowknife Ar 11.00 66 Pn Pn 02 50 24.9 +0.1
comp=E,0.9nm,0.3s,baz=266,slow=13,SNR=34
YKA Lg Lg 02 53 29.4
comp=E,0.5nm,0.3s,baz=262,slow=26,SNR=5.8
YKA LR LR 02 55 06.3
comp=E,271nm,18.4s,baz=267,slow=40
comp=E,7.6nm,0.6s
N16K Nishlik Lake 11.01 283 P Pn 02 50 23.5 -1.4
baz=84
F20K Avaraart Lake 11.15 319 P Pn 02 50 27.0 +0.2
baz=122
C24K Franklin Bluff 11.16 338 P Pn 02 50 26.7 -0.3
baz=147
G19K Purcell Mounta 11.20 313 Pn 02 50 27.0 -0.5
G19K Purcell Mounta 11.20 313 P Pn 02 50 27.1 -0.4
baz=115
L16K Owhat River 11.28 290 P Pn 02 50 27.6 -1.0
baz=90
H18K Honhosa River 11.32 307 P Pn 02 50 28.2 -1.0
baz=108
D22K Ayikyak River 11.39 330 P Pn 02 50 29.9 -0.3
baz=135
E21K Killik River 11.44 326 P Pn 02 50 29.6 -1.3
baz=131
C23K Itkillik River 11.64 336 P Pn 02 50 33.0 -0.5
baz=143
G18K Tagagawik 11.69 311 P Pn 02 50 33.5 -0.7
baz=111
N15K Kwethluk River 11.70 282 P Pn 02 50 33.6 -0.8
baz=82
F19K Shaleruckik Mo 11.75 316 P Pn 02 50 33.5 -1.5
baz=117
O15K Ungalikthiuk R 11.75 277 P Pn 02 50 34.1 -0.9
baz=77
E19K Redstone River 11.86 319 P Pn 02 50 35.2 -1.4
baz=121
J16K Anvik River 11.88 297 P Pn 02 50 35.9 -1.0
baz=96
H17K Granite Mounta 11.89 305 Pn 02 50 36.4 -0.6
H17K Granite Mounta 11.89 305 P Pn 02 50 36.0 -1.0
baz=105
M15K Kasigluk River 11.92 285 P Pn 02 50 36.5 -0.9
baz=84
E20K Nigu River 11.97 323 P Pn 02 50 36.5 -1.6
baz=126
BRLDA Berland Lookou 11.97 110 Pn 02 50 38.9 +0.7
CHGN Chignik 12.00 263 P Pn 02 50 37.0 -1.4
baz=64
I17K Unalakleet 12.01 300 Pn Pn 02 50 38.4 -0.2
I17K Unalakleet 12.01 300 P Pn 02 50 36.2 -2.3
baz=99
C21K Knifeblade Rid 12.13 328 P Pn 02 50 38.7 -1.6
baz=132
L15K Ungalak Mounta 12.24 290 P Pn 02 50 39.8 -1.9
baz=88
K15K Wolf Creek Mou 12.25 292 P Pn 02 50 41.1 -0.8
baz=91
G17K Kiwalik Mounta 12.34 308 P Pn 02 50 41.7 -1.4
baz=106
D20K Elvik River 12.37 325 P Pn 02 50 42.6 -0.9
baz=127
B21K Ikpikpuk River 12.41 330 P Pn 02 50 42.5 -1.4
baz=134
LLLB Lillooet 12.48 131 Pn 02 50 48.5 +3.4
LLLB Lillooet 12.48 131 P Pn 02 50 48.5 +3.4
S14K Fog Glacier 12.57 264 P Pn 02 50 45.7 -0.8
baz=64
B22K Teshekpuk Lake 12.64 334 P Pn 02 50 46.3 -0.9
baz=139
D19K Kuna River 12.69 322 P Pn 02 50 47.2 -0.8
baz=123
MNB Mounoet Dainar 12.74 119 Pn 02 50 54.0 +5.1
MNB Mounoet Dainar 12.74 119 P Pn 02 50 54.0 +5.1
H16K Elim 12.80 303 P Pn 02 50 48.7 -0.6
baz=101
L14K Kuka Creek 12.83 288 Pn Pn 02 50 49.5 -0.3
L14K Kuka Creek 12.83 288 P Pn 02 50 49.2 -0.6
baz=86
F17K Baldwin Pennin 12.87 311 P Pn 02 50 49.6 -0.7
baz=110
E18K Tukpahlearik C 13.00 316 P Pn 02 50 51.5 -0.6
baz=115
G16K Koyuk River 13.00 306 Pn 02 50 51.4 -0.7
G16K Koyuk River 13.00 306 P Pn 02 50 51.3 -0.8
baz=104
A36M Sachs Harbour 13.06 16 Pn 02 50 51.5 -1.4
A36M Sachs Harbour 13.06 16 P Pn 02 50 52.2 -0.7
baz=206
A36M Sachs Harbour 13.06 16 P Pn 02 50 51.5 -1.4
J14K Nanvaranak Lak 13.20 294 P Pn 02 50 53.5 -1.2
baz=91
CHNA Chernabura Isl 13.29 258 P Pn 02 50 55.2 -0.9
baz=59
E17K Hotham Inlet 13.31 314 P Pn 02 50 54.5 -1.7
baz=111
B20K Meade River 13.32 329 P Pn 02 50 55.4 -1.1
baz=130
C19K Lookout Ridge 13.48 323 P Pn 02 50 57.6 -1.0
baz=123
A22K Sinclair Lake 13.48 334 P Pn 02 50 57.5 -1.1
baz=137
G15K Niukluk 13.62 304 P Pn 02 50 59.2 -1.3
baz=100
C18K Utukok River 13.75 320 P Pn 02 51 00.9 -1.5
baz=118
A21K Barrow 14.08 333 P Pn 02 51 05.4 -1.4
baz=135
ANM Nome 14.12 302 Pn Pn 02 51 07.7 +0.2
ANM Nome 14.12 302 P Pn 02 51 05.9 -1.6
baz=97
B18K Kokolik River 14.29 322 P Pn 02 51 08.0 -1.6
baz=120
C17K DeLong Mountai 14.32 318 P Pn 02 51 09.3 -0.9
baz=114
EDM Edmonton 14.43 107 Pn Pn 02 51 11.3 -0.5
EDM Edmonton 14.43 107 P Pn 02 51 11.4 -0.3
A19K Wainwright 14.51 326 P Pn 02 51 11.6 -1.1
baz=124
F14K Arctic Creek 14.65 305 P Pn 02 51 13.7 -0.9
baz=99
C16K Lisburne Hills 14.99 316 P Pn 02 51 18.4 -0.8
baz=111
D05A Enumclaw 15.32 139 P P 02 51 27.1 -1.4
LTY Liberty 15.71 136 P P 02 51 32.3 -0.7
LTY lAmb lAmb 02 51 36.5
comp=Z,42nm,1.2s
LON Longmire 15.77 139 P P 02 51 33.2 -0.3
NEW Newport 16.23 127 P P 02 51 36.1 -2.5
NEW Newport 16.23 127 P Pn 02 51 35.0 -0.5
baz=323
NEW Newport 16.23 127 Pn P 02 51 37.5 -1.2
comp=Z,0.1nm,0.3s,baz=326,slow=11,SNR=4.6
NEW LR LR 02 58 35.7
comp=Z,177nm,20.0s,baz=312,slow=40
MSO Missoula 18.68 124 P 02 52 02.5 -3.2
MSO Missoula 18.68 124 P Pn 02 52 05.2 -0.9
baz=322
OVMT Ovando 18.89 122 P Pn 02 52 07.9 -0.8
BMO Blue Mountains 18.98 133 Pn 02 52 08.5 -1.2
LYMT Lyon Mountain 19.27 121 P Pn 02 52 13.0 -0.4
FFC Flin Flon 19.30 90 P Pn 02 52 12.9 -0.6
FFC Flin Flon 19.30 90 lAmb lAmb 02 52 20.3
comp=Z,18nm,0.9s
FFC Flin Flon 19.30 90 P Pn 02 52 12.9 -0.6
EGMT Eagleton 19.61 115 P P 02 52 14.2 -1.8
EGMT lAmb lAmb 02 52 25.1
comp=Z,15nm,0.9s
EGMT Eagleton 19.61 115 P Pn 02 52 16.1 -1.2
baz=317
J08A Circle Bar Ran 19.87 138 P P 02 52 16.8 -2.1
YBH Yreka Blue Hor 20.06 148 P Pn 02 52 25.8 +3.1
comp=Z,6.3nm,1.1s,baz=243,slow=2.3,SNR=4.5
WVOR Wild Horse Val 20.64 139 P P 02 52 25.1 -2.1
MFID Camas Ranch 20.76 133 P P 02 52 28.1 -0.4
HLID Hailey 21.17 130 P P 02 52 33.6 +0.6
HLID lAmb lAmb 02 52 38.6
comp=Z,28nm,1.5s
HLID Hailey 21.17 130 P P 02 52 32.8 -0.2
baz=328
RES Resolute Bay 21.27 29 P P 02 52 32.4 -1.1
RES lAmb lAmb 02 52 43.9
comp=Z,13nm,0.9s
RES Resolute Bay 21.27 29 P P 02 52 34.6 +1.0
comp=Z,5.0nm,0.7s,baz=235,slow=12,SNR=17
RES LR LR 03 01 13.6
comp=Z,252nm,19.4s,baz=12,slow=38
comp=Z,5.0nm,0.7s
RES Resolute Bay 21.27 29 P P 02 52 34.4 +0.8
FCC Fort Churchill 21.53 74 P P 02 52 35.9 -0.6
FCC Fort Churchill 21.53 74 P P 02 52 36.8 +0.3
DGMT Dagmar 21.92 107 P P 02 52 41.1 +0.2
DGMT Dagmar 21.92 107 P P 02 52 40.0 -0.9
baz=313
RLMT Red Lodge 22.03 120 P P 02 52 42.8 +0.5
RLMT Red Lodge 22.03 120 P P 02 52 43.2 +0.9
baz=322
H17A Grant Village 22.04 123 P P 02 52 42.9 +0.4
baz=324
IMW Indian Meadow 22.30 124 P P 02 52 43.0 -2.2
IMW lAmb lAmb 02 52 50.7
comp=Z,15nm,1.1s
ORV Oroville 22.42 148 P P 02 52 46.0 -0.3
FXWY Fox Creek 22.47 125 P P 02 52 43.6 -3.4
FXWY lAmb lAmb 02 53 05.0
comp=Z,16nm,1.4s
MOOW Moose Ponds 22.50 124 P P 02 52 50.7 +3.4
TPAW Teton Pass 22.62 125 P P 02 52 47.1 -1.5
TPAW lAmb lAmb 02 52 53.1
comp=Z,18nm,1.4s
LOHW Long Hollow 22.67 124 P P 02 52 49.6 +0.6
LOHW lAmb lAmb 02 53 17.2
comp=Z,13nm,1.3s
REDW Red Top Meadow 22.77 125 P P 02 52 51.5 +1.4
PAHR Pah Rah Range 22.88 144 P P 02 52 51.9 +0.6
PAHR lAmb lAmb 02 52 56.1
comp=Z,14nm,1.3s
BMN Battle Mountai 22.90 139 P P 02 52 50.4 -1.1
BMN lAmb lAmb 02 52 55.8
comp=Z,12nm,1.1s
AFDM Forest Hills D 23.13 147 P P 02 52 53.4 -0.3
ELK Elko 23.30 135 P P 02 52 56.0 +0.3
HVU Hansel Valley 23.32 130 P P 02 52 55.5 -0.3
HVU lAmb lAmb 02 53 08.8
comp=Z,14nm,1.4s
PNTR Pine Nut 23.39 145 P P 02 52 57.2 +0.7
YERR Yerington 23.59 144 P P 02 52 59.8 +1.2
BW06 Boulder Array 23.80 124 P P 02 52 58.3 -2.3
BW06 Boulder Array 23.80 124 P P 02 53 01.4 +0.8
baz=325
PD31 Pinedale Array 23.80 124 P P 02 52 58.7 -1.9
PDAR Pinedale Array 23.80 124 P P 02 53 02.4 +1.8
comp=Z,2.8nm,0.8s,baz=327,slow=4.7,SNR=25
PDAR LR LR 03 03 02.6
comp=Z,174nm,19.8s,baz=12,slow=38
comp=Z,2.8nm,0.8s
SPUT South Promonto 23.85 130 P P 02 53 01.4 +0.4
KVN Kaiserville 23.88 142 P P 02 53 00.9 -0.3
KVN lAmb lAmb 02 53 05.4
comp=Z,9.9nm,0.8s
HWUT Hardware Ranch 23.94 128 P P 02 53 03.4 +1.5
WAKR Walker 23.98 145 P P 02 53 01.6 -0.7
RYN Ryan 24.14 143 P P 02 53 05.6 +1.9
NVAR Mina Array Bea 24.38 143 P P 02 53 07.6 +1.6
NVAR Mina Array Bea 24.38 143 P P 02 53 08.7 +2.7
comp=Z,7.6nm,0.7s,baz=330,slow=8.3,SNR=69
NVAR PcP **PcP** 02 56 46.3 +1.3
comp=Z,0.7nm,0.7s,baz=283,slow=2.8,SNR=3.6
NVAR LR LR 03 03 44.8
comp=Z,114nm,20.5s,baz=86,slow=39
comp=Z,7.6nm,0.7s
TCUT Toone Canyon 24.42 129 P P 02 53 05.0 -1.4
TCUT lAmb lAmb 02 53 22.1
comp=Z,16nm,1.3s
NV11 Mina Array Sit 24.43 143 P P 02 53 07.7 +1.4
NV11 lAmb lAmb 02 53 10.8
comp=Z,7.8nm,0.7s
LHV Little Huntoon 24.49 144 P P 02 53 06.5 -0.2
LHV lAmb lAmb 02 53 18.9
comp=Z,11nm,1.1s
DUG Dugway, Tooele 24.68 132 P P 02 53 07.3 -1.2
DUG lAmb lAmb 02 53 13.1
comp=Z,9.8nm,0.9s
DUG Dugway, Tooele 24.68 132 P P 02 53 10.0 +1.4
baz=331
MDPB Devils Postpil 24.89 145 P P 02 53 10.5 -0.2
ULM Lac du Bonnet 24.90 94 P P 02 53 11.0 +0.7
ULM lAmb lAmb 02 53 39.6
comp=Z,11nm,1.1s
ULM Lac du Bonnet 24.90 94 P P 02 53 12.2 +1.9
comp=Z,6.8nm,1.0s,baz=294,slow=9.1,SNR=6.5
ULM LR LR 03 02 45.8
comp=Z,168nm,21.4s,baz=7.0,slow=36
comp=Z,6.8nm,1.0s
OMMB Old Mammoth Mi 24.93 145 P P 02 53 11.5 +0.4
OMMB lAmb lAmb 02 53 14.7
comp=Z,7.1nm,1.0s
TPH Tonopah 25.04 142 P P 02 53 12.6 +0.6
EUNU Eureka 25.07 18 P P 02 53 13.9 +2.2
NLU North Lily Min 25.16 131 P P 02 53 11.7 -1.3
RSSD Black Hills 25.17 114 P P 02 53 14.7 +1.6
RSSD Black Hills 25.17 114 P P 02 53 13.3 +0.2
baz=320
R11B Troy Canyon, C 25.33 138 P P 02 53 15.4 +0.9
R11B lAmb lAmb 02 53 17.8
comp=Z,12nm,1.2s
R11B Troy Canyon, C 25.33 138 P P 02 53 14.9 +0.4
baz=335
MZP Montezuma Peak 25.34 142 P P 02 53 15.7 +1.0
MZP lAmb lAmb 02 53 19.5
comp=Z,13nm,1.2s
RDMU Red Mountain 25.62 127 P P 02 53 19.1 +1.9
RDMU lAmb lAmb 02 53 21.2
comp=Z,5.7nm,0.8s
GMN Gold Mountain 25.74 142 P P 02 53 19.4 +1.0
GRAC Grapevine Rang 25.99 143 P P 02 53 21.8 +1.4
GRAC lAmb lAmb 02 53 26.4
comp=Z,15nm,1.0s
GRAC Grapevine Rang 25.99 143 P P 02 53 21.3 +0.9
baz=338
P18A Preston Nutter 26.16 129 P P 02 53 22.5 +0.4
P18A lAmb lAmb 02 53 25.6
comp=Z,15nm,1.3s
CWC Cottonwood Cre 26.29 144 P P 02 53 24.2 +0.9
baz=339
MVU Marysvale 26.38 133 P P 02 53 24.8 +0.7
TPNV Topopah Spring 26.38 141 P P 02 53 24.7 +0.6
TPNV lAmb lAmb 02 53 27.4
comp=Z,11nm,1.1s
TPNV Topopah Spring 26.38 141 P P 02 53 24.6 +0.6
baz=337
MSU Marysvale 26.39 133 P P 02 53 24.9 +0.8
WCT Wildcat Mounta 26.41 142 P P 02 53 24.9 +0.7
WCT lAmb lAmb 02 53 30.0
comp=Z,11nm,1.0s
Q16A Castle Valley 26.41 131 P P 02 53 25.1 +0.8
Q16A lAmb lAmb 02 53 27.6
comp=Z,10nm,1.3s
O20A White River Ci 26.54 125 P P 02 53 26.3 +0.8
baz=327
ISA Isabella, Lake 26.90 146 P P 02 53 30.0 +1.3
baz=340
LRMC Laurel Mtn Rad 27.30 145 P P 02 53 32.9 +0.6
baz=339
SHOC Shoshone, Teco 27.34 142 P P 02 53 33.9 +1.4
baz=337
KNB Kanab 27.48 135 P P 02 53 32.8 -1.2
KNB lAmb lAmb 02 54 11.8
comp=Z,9.4nm,1.3s
SHEM Shemya Is, Ala 27.64 277 LR LR 03 04 36.7
comp=Z,92nm,18.4s,baz=154,slow=37
GSC Goldstone, Bar 27.73 143 P P 02 53 37.0 +0.9
baz=338
EDW2 Edwards Air Fo 27.77 146 P P 02 53 36.7 +0.3
baz=340
TUQ Turquoise Moun 27.88 142 P P 02 53 37.8 +0.4
baz=338
ISCO Idaho Springs 27.92 122 P P 02 53 38.6 +0.5
baz=326
V12A Nelson 27.95 140 P P 02 53 36.6 -1.5
V12A lAmb lAmb 02 53 42.6
comp=Z,4.8nm,0.9s
GMRC Granite Mounta 28.56 142 P P 02 53 44.1 +0.5
baz=338
ECSD EROS Data Cent 28.99 106 P P 02 53 45.9 -1.3
ECSD lAmb lAmb 02 53 49.4
comp=Z,14nm,1.1s
ECSD EROS Data Cent 28.99 106 P P 02 53 47.3 +0.1

baz=318
WUAZ Wupatki 29.34 135 P P 02 53 49.8 -0.7
WUAZ IAmb IAmb 02 53 53.2
comp=Z,6.4nm,0.8s
WUAZ Wupatki 29.34 135 P P 02 53 51.1 +0.6
baz=334
BC3 Big Chuckawall 29.67 142 P P 02 53 54.5 +1.1
baz=338
MONP2 Monument Peak 30.09 144 P P 02 53 57.8 +0.6
baz=340
W18A Petrified Fore 30.30 132 P P 02 53 59.6 +0.6
baz=333
X16A Lo Mia Camp, P 30.30 136 P P 02 53 57.4 -1.7
X18A Snowflake 30.74 133 P P 02 54 01.0 -2.0
X18A IAmb IAmb 02 54 06.5
comp=Z,7.7nm,1.0s
FRB Frobisher Bay 31.09 53 LR LR 03 06 06.9
comp=Z,167nm,21.0s,baz=22,slow=35
CBKS Cedar Bluff 31.34 115 P P 02 54 08.3 +0.3
baz=324
ANMO Albuquerque 31.71 128 P P 02 54 11.2 -0.3
ANMO IAmb IAmb 02 54 18.0
comp=Z,6.9nm,1.4s
ANMO Albuquerque 31.71 128 P P 02 54 11.9 +0.4
baz=331
ANMO Albuquerque 31.71 128 LR LR 03 07 36.5
comp=Z,30nm,21.6s,baz=103,slow=38
R32A Long Quarter, 32.13 115 P P 02 54 15.4 +0.5
TUC Tucson 32.44 136 P P 02 54 16.6 -1.2
TUC IAmb IAmb 02 54 21.8
comp=Z,14nm,1.4s
TUC Tucson 32.44 136 P P 02 54 18.1 +0.3
baz=336
KSU1 Kansas State U 32.56 111 P P 02 54 19.2 +0.5
KSU1 Kansas State U 32.56 111 P P 02 54 17.8 -0.8
baz=323
DUN6 Lazy B Ranch 32.83 134 P P 02 54 22.7 +1.5
121A Cookes Peak, D 33.33 132 P P 02 54 25.2 -0.4
baz=334
P38A Dawn 33.62 107 P P 02 54 28.9 +1.0
AMTX Amarillo 33.74 122 P P 02 54 28.8 -0.4
baz=329
MSTX Muleshoe 34.06 124 P P 02 54 32.4 +0.4
MSTX Muleshoe 34.06 124 P P 02 54 31.6 -0.4
baz=330
P40A Paris 34.41 106 P P 02 54 33.9 -0.9
WMOK Wichita Mounta 35.14 118 P P 02 54 39.4 -1.7
WMOK IAmb IAmb 02 54 43.9
comp=Z,6.4nm,0.8s
S39A Bolivar 35.24 109 P P 02 54 42.0 0.0
S39A IAmb IAmb 02 54 43.1
comp=Z,8.9nm,1.1s
PETK Petropavlovsk- 35.48 289 LR LR 03 09 09.4
comp=Z,70nm,21.2s,baz=32,slow=36
TUL3 Leonard 35.52 114 P P 02 54 44.6 +0.2
baz=325
U38A Gravette 35.74 112 P P 02 54 45.0 -1.4
U38A IAmb IAmb 02 54 47.7
comp=Z,6.4nm,0.8s
CCM Cathedral Cave 35.95 107 P P 02 54 47.1 -0.9
baz=322
VHRN Van Horn 35.96 130 P P 02 54 49.1 +0.8
VHRN IAmb IAmb 02 54 52.2
comp=Z,6.7nm,1.1s
MGMO Mountain Grove 36.17 109 P P 02 54 49.6 -0.4
MGMO IAmb IAmb 02 54 51.2
comp=Z,7.8nm,0.8s
TIXI Tiksi 36.29 328 LR LR 03 13 28.2
comp=Z,4.5nm,18.9s,baz=85,slow=42
Q44A Meyer Farm, Va 36.38 103 P P 02 54 51.8 0.0
FVM French Village 36.41 106 P P 02 54 50.2 -1.7
SCHQ Schefferville 36.45 66 P P 02 54 54.2 +2.0
comp=Z,4.6nm,0.9s,baz=303,slow=11,SNR=4.5
SCHQ LR LR 03 09 06.7
comp=Z,102nm,19.6s,baz=74,slow=35
comp=Z,4.6nm,0.9s
N47A Urbana 36.52 98 P P 02 54 53.5 +0.6
ABTX Abilene, Hawle 36.55 121 P P 02 54 53.3 0.0
baz=329
OLIL Olney 36.96 103 P P 02 54 56.3 -0.4
SIUC Southern Illin 37.21 105 P P 02 54 59.0 +0.2
O48B Farmland 37.26 98 P P 02 54 58.6 -0.6
baz=319
PBMO Poplar Bluff 37.36 107 P P 02 54 59.7 -0.4
OZNA Ozona 37.39 125 P P 02 55 00.3 -0.2
OZNA IAmb IAmb 02 55 02.8
comp=Z,6.8nm,0.9s
TXAR Lajitas Array 37.76 129 P P 02 55 05.9 +2.2
comp=Z,1.0nm,0.9s,baz=332,slow=7.1,SNR=6.5
TXAR LR LR 03 11 54.3
comp=Z,81nm,18.2s,baz=10,slow=38
comp=Z,1.0nm,0.9s
SAND Sanderson 37.83 127 P P 02 55 05.2 +1.0
P49A Miami Univ. Ec 38.03 98 P P 02 55 05.2 -0.5
baz=320
ACSO Alum Creek Sta 38.37 96 P P 02 55 08.5 -0.1
baz=319
ERPA Erie 38.48 91 P P 02 55 08.0 -1.5
baz=317
T47A Sharon Grove 38.81 103 P P 02 55 12.1 -0.2
T47A IAmb IAmb 02 55 14.3
comp=Z,12nm,0.8s
WVT Waverly 39.14 105 P P 02 55 13.8 -1.3
WVT IAmb IAmb 02 55 17.0
comp=Z,8.3nm,0.8s
WVT Waverly 39.14 105 P P 02 55 15.4 +0.3
baz=323
OXF Oxford 39.67 108 P P 02 55 19.6 0.0
OXF Oxford 39.67 108 P P 02 55 19.9 +0.3
baz=324
U49A Red Boiling Sp 39.84 102 P P 02 55 21.0 0.0
U49A IAmb IAmb 02 55 23.0
comp=Z,13nm,0.8s
PLAL Pickwick Lake 39.94 106 P P 02 55 22.3 +0.6
PLAL IAmb IAmb 02 55 26.5
comp=Z,13nm,0.9s
V48A Smith Brothers 39.94 104 P P 02 55 22.7 +0.9
V48A IAmb IAmb 02 55 23.9
comp=Z,11nm,0.9s
S51A Beattyville 40.05 99 P P 02 55 23.8 +1.1
S51A IAmb IAmb 02 55 27.0
comp=Z,11nm,0.9s
TZTN Tazewell 40.92 100 P P 02 55 30.2 +0.3
baz=322
TKL Tuckaleechee C 41.51 101 P P 02 55 35.3 +0.6
TKL IAmb IAmb 02 55 38.8
comp=Z,12nm,0.8s
TKL Tuckaleechee C 41.51 101 LR LR 03 13 20.6
comp=Z,186nm,19.0s,baz=345,slow=37
YAK Yakutsk 41.76 315 LR LR 03 16 38.9
comp=Z,4.5nm,18.4s,baz=94,slow=42
V53A Saluda 41.98 100 P P 02 55 39.5 +0.9
LRAL Lakeview Retre 42.04 107 P P 02 55 38.2 -0.8
baz=325
KMSC Kings Mountain 43.13 99 P P 02 55 48.5 +0.6
baz=323
GOGA Godfrey 43.46 103 P P 02 55 50.9 +0.3
baz=324
JMIC Jan Mayen 44.55 22 LR LR 03 13 21.8
comp=Z,137nm,19.5s,baz=90,slow=34
NRIK Noril'sk 47.30 340 P P 02 56 21.5 +0.9
NRIK IAmb IAmb 02 56 22.2
comp=Z,9.2nm,1.4s
NRIK Noril'sk 47.30 340 P P 02 56 21.2 +0.6
comp=Z,2.3nm,0.6s,baz=27,slow=9.4,SNR=5.7
comp=Z,2.3nm,0.6s
ARCES ARCESS Array B 50.33 8 P P 02 56 46.0 +2.2
comp=Z,3.9nm,0.7s,baz=341,slow=6.4,SNR=7.6
comp=Z,3.9nm,0.7s
NC204 NORSAR Array S 56.67 18 P P 02 57 29.9 -0.6
NC303 NORSAR Array S 56.81 18 P P 02 57 32.8 +1.4
NB2 NORSAR Subarra 56.96 18 P P 02 57 32.0 -0.6
comp=Z,4.2nm,0.7s,baz=342,slow=7.4
NOA NORSAR Array B 56.96 18 P P 02 57 33.5 +1.0
comp=Z,4.7nm,0.8s,baz=344,slow=7.2,SNR=12
NOA LR LR 03 23 27.6
comp=Z,144nm,19.5s,baz=15,slow=38
comp=Z,4.7nm,0.8s
HFS Hagfors 58.20 17 P P 02 57 42.2 +0.9
comp=Z,6.8nm,0.7s,baz=20,slow=4.9,SNR=9.2
comp=Z,6.8nm,0.7s
FINES FINESS Array B 58.36 10 P P 02 57 44.6 +2.3
comp=Z,5.5nm,0.8s,baz=339,slow=8.2,SNR=9.7
comp=Z,5.5nm,0.8s
EKA Eskdalemuir Ar 59.40 29 P P 02 57 51.2 +1.6
comp=Z,5.8nm,0.7s,baz=321,slow=6.5,SNR=13
comp=Z,5.8nm,0.7s

KSRS Korea Array 61.00 295 P P 02 58 01.7 +0.9
comp=Z,1.7nm,0.6s,baz=29,slow=7.0,SNR=5.1
comp=Z,1.7nm,0.6s
SONM Songino Array 61.08 317 P P 02 58 02.8 +1.4
comp=Z,0.8nm,0.9s,baz=42,slow=6.8,SNR=4.7
comp=Z,0.8nm,0.9s
ZALV Zalesovo Beam 61.82 334 P P 02 58 05.5 -0.7
comp=Z,0.3nm,0.3s,baz=212,slow=5.1,SNR=2.2
comp=Z,0.3nm,0.3s
ARU Arti 63.48 351 P P 02 58 15.3 -1.9
ARU Arti 63.48 351 P P 02 58 17.6 +0.4
comp=Z,2.2nm,0.4s,baz=337,slow=4.4,SNR=6.9
comp=Z,2.2nm,0.4s
HHC Hu-ho-hao-te 65.15 309 *e*P P 02 58 28.1 -0.4
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,390nm,5.9s
OBN Obninsk 65.31 4 P P 02 58 30.0 +0.9
comp=Z,6.8nm,0.3s,baz=63,slow=11,SNR=3.5
comp=Z,6.8nm,0.3s
BRVK Borovoye 65.42 342 P P 02 58 29.6 -0.3
BRVK IAmb IAmb 02 58 36.2
comp=Z,2.7nm,0.7s
BVAR Borovoye Array 65.43 342 P P 02 58 30.6 +0.5
comp=Z,1.9nm,0.9s,baz=29,slow=6.8,SNR=6.2
comp=Z,1.9nm,0.9s
KURBB Kurchatov Arra 66.29 336 P P 02 58 35.4 -0.2
comp=Z,1.5nm,0.7s,baz=24,slow=6.1,SNR=8.9
KURBB PcP **PcP 02 59 06.2 +0.8**
comp=Z,0.7nm,0.4s,baz=20,slow=4.4,SNR=4.4
comp=Z,1.5nm,0.7s
BRG Berggiesshubel 67.15 20 *e*P P 02 58 43.2 +2.1
BRG Amp 02 58 45.4
comp=Z,3.7nm,0.9s
OSTC Ostas 67.83 18 *e*P P 02 58 48.9 +3.5
DPC Dobruska-Polom 68.05 18 *e*P P 02 58 51.0 +4.2
ZVC Zvikov 68.58 20 *e*P P 02 58 54.4 +4.3
KHC Kasperske Hory 68.77 20 *e*P P 02 58 55.1 +3.8
GERES GERESS Array B 69.07 20 P P 02 58 54.9 +1.6
comp=Z,2.1nm,0.9s,baz=342,slow=8.4,SNR=6.1
comp=Z,2.1nm,0.9s
MKAR Makanchi Array 69.08 332 P P 02 58 52.2 -1.1
comp=Z,0.4nm,0.7s,baz=32,slow=3.4,SNR=4.2
comp=Z,0.4nm,0.7s
VRAC Vranov 69.10 18 P P 02 58 53.3 -0.1
comp=Z,3.5nm,0.9s,baz=4.6,slow=6.6,SNR=3.8
comp=Z,3.5nm,0.9s
MAKZ Makanchi 69.14 333 P P 02 58 54.1 +0.4
MAKZ IAmb IAmb 02 58 54.9
comp=Z,2.8nm,1.2s
CKRC Cesky Krumlov 69.20 20 *e*P P 02 58 57.9 +3.9
AKASG Malin Array Be 69.27 10 P P 02 58 55.1 +0.8
comp=Z,3.6nm,0.7s,baz=352,slow=5.9,SNR=11
comp=Z,3.6nm,0.7s
AKBB Malin Array Si 69.27 10 P P 02 58 55.1 +0.8
KIEV Kiev 69.27 10 P P 02 58 55.1 +0.7
AKTO Aktyubinsk 69.47 350 P P 02 58 56.2 +0.6
comp=Z,3.9nm,0.9s,baz=349,slow=4.6,SNR=9.1
comp=Z,3.9nm,0.9s
RETA Reutte 69.82 23 *e*pP pP 02 59 01.8 +0.2
comp=Z,9.3nm,1.3s
WATA Walderalm 70.13 22 *i* pP pP 02 59 02.5 -1.1
comp=Z,12nm,1.2s
SQTA Sankt Quirin 70.17 23 *i* P P 02 58 59.5 -0.6
comp=Z,7.3nm,1.2s
BIOA Bad Ischl, Aus 70.17 21 *e*pP pP 02 59 05.5 +1.8
comp=Z,4.1nm,0.9s
LYN LuoYang 70.20 305 ⇓P P 02 59 01.4 +1.1
LYN PP **PP 03 01 36.3 +1.2**
LYN pmax pmax
comp=Z,22nm,0.6s
LYN pmax pmax
comp=Z,180nm,5.8s
WTTA Wattenberg 70.21 22 *e*pP pP 02 59 02.2 -2.0
comp=Z,12nm,1.3s
VYHS Vyhne 70.24 17 *e*P P 02 59 03.9 +3.5
LESA Schwarzleotal 70.25 22 *e*pP pP 02 59 04.0 -0.3
comp=Z,8.5nm,1.1s
KOLS Kolonicke sedl 70.28 15 *e*P P 02 59 05.1 +4.5
CONA Conrad Observa 70.32 19 *i* pP pP 02 59 02.4 -2.3
comp=Z,5.4nm,0.9s
DAVOX Davos/Dischmat 70.32 24 P P 02 59 02.4 +1.2
comp=Z,4.1nm,0.8s,baz=344,slow=10.0,SNR=5.2
comp=Z,4.1nm,0.8s
SDV Santo Domingo 70.43 107 LR LR 03 29 41.1
comp=Z,60nm,21.5s,baz=82,slow=36
ABKAR Akbulak array 70.46 349 P P 02 59 01.7 0.0
ABKAR IAmb IAmb 02 59 05.8
comp=Z,6.1nm,1.0s
WMQ Urumqi 70.49 327 *e*P P 02 59 03.6 +1.5
WMQ pmax pmax
comp=Z,12nm,1.1s
RONA Rosalia, Austr 70.62 19 *e*P P 02 59 01.8 -1.0
comp=Z,2.2nm,0.8s
KBA Koelnbreinsper 70.71 21 *i* pP pP 02 59 05.7 -1.5
comp=Z,7.1nm,0.8s
ARSA Arzberg 70.92 20 *e*pP pP 02 59 05.6 -2.7
comp=Z,3.8nm,0.8s
MYKA Terra Mystica 71.19 21 *e*pP pP 02 59 08.1 -1.9
comp=Z,6.6nm,1.0s
SOKA Soboth 71.39 20 *e*pP pP 02 59 09.9 -1.4
comp=Z,11nm,1.8s
OBKA Obir 71.47 20 *i* pP pP 02 59 09.7 -2.0
comp=Z,12nm,1.0s
BAUV El Baul 71.65 104 P P 02 59 10.3 +1.0
LZH Lanzhou 72.26 312 ⇑P P 02 59 13.6 +0.6
LZH sP sP 02 59 21.8 +3.7
LZH pmax pmax
comp=Z,17nm,1.4s
ESDC Sonseca Array 73.52 36 P P 02 59 21.5 +1.2
comp=Z,3.1nm,0.9s,baz=324,slow=5.4,SNR=8.6
comp=Z,3.1nm,0.9s
KBZ Khabaz 76.83 0 P P 02 59 40.1 +0.9
comp=Z,5.4nm,1.0s,baz=314,slow=2.1,SNR=4.8
comp=Z,5.4nm,1.0s
KSH Kashi 77.43 335 P P 02 59 45.9 +3.1
KSH pmax pmax
comp=Z,3.0nm,0.6s
PPT Papeete 77.80 193 LR LR 03 27 58.2
comp=Z,195nm,18.4s,baz=40,slow=31
PPT2 Papeete2 77.82 193 *e*LR LR 03 23 50.7
comp=Z,71nm,20.5s
PPT2 *e*LR LR 03 24 00.1
comp=Z,110nm,26.8s
PPT2 Papeete2 77.82 193 *e*LR LR 03 23 49.9
comp=Z,71nm,20.5s
BRTR Keskin Array B 80.51 8 P P 03 00 00.6 +0.8
comp=Z,4.1nm,0.9s,baz=358,slow=3.1,SNR=9.8
comp=Z,4.1nm,0.9s
PZH PanZhiHua 81.61 309 P P 03 00 06.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.7s
CMAR Chiang Mai Arr 89.95 308 P P 03 00 46.6 -0.5
comp=Z,1.0nm,0.3s,baz=0.2,slow=4.7,SNR=5.0
comp=Z,1.0nm,0.3s
DZM Mont Dzumac 93.77 231 *e*LR LR 03 31 15.3
comp=Z,82nm,24.1s
BOSA Boshof 146.48 30 PKPbc PKPab 03 07 28.8 -0.8
comp=Z,13nm,0.9s,baz=3.0,slow=3.3,SNR=10
QSPA South Pole Qui 149.62 180 PKPbc PKiKP 03 07 36.4 -0.3
comp=Z,12nm,0.9s,baz=78,slow=1.6,SNR=24

*IDC **18** 02:54:48.4±1.6,33.7°73N×45.6°63E,h0km,mb3.9/10, mbtmp3.8/11,ML3.4/1,MS3.4/2,Error ellipse: s-maj=34.3km s-min=17.4km az=160.0*
*ISN **18** 02:54:48.9±0.6,33.6°68N×45.7°2E,h12km±3km,ML3.7*
*TEH **18** 02:54:49.0,33.7°71N×45.7°7E,h8km±61km,ML3.6*
ISC 18 02:54:50.0±0.6,33.7°0N±0.0°3×45.7°5E±0.0°4,h13km,n51, σ1s28/52,mb3.9/9,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.39**	**101**	Pg		**Pg**	**02 54 57.2**	**-0.7**
IBDR	**Badra**	**0.61**	**165**	*e*Pg		**Pg**	**02 55 01.0**	**-0.9**
IBDR				*e*Sg		**Sg**	**02 55 09.0**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**0.82**	**351**	Pg		**Pg**	**02 55 04.7**	**-1.1**
IGHG	**Ghaleghazi**	**0.93**	**47**	Pg		**Pg**	**02 55 07.0**	**-1.0**
IDHR	**Dehrash**	**1.13**	**28**	Pg		**Pb**	**02 55 10.2**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.22**	**62**	Pg		**Pn**	**02 55 12.2**	**-0.8**
BHD	**Baghdad**	**1.22**	**250**	*e*Pn		**Pn**	**02 55 13.0**	**+0.2**
BHD				*e*Sn		**Sn**	**02 55 31.0**	**+1.9**
BHD				AML		AML	02 55 34.5	
	comp=E,4μm,0.4s							

IKOM Komasi 1.54 72 Pg Pn 02 55 18.6 +1.2
ILIN Lien 1.58 39 Pg Pn 02 55 19.2 +1.2
IKFM Kafar-mosalman 1.76 95 Pg Pn 02 55 21.7 +1.5
IBZA Bozab 1.92 66 Pn Pn 02 55 23.8 +1.2
RAFI Al-Rafai 1.99 171 *e*Pn Pn 02 55 24.0 +0.6
RAFI *e*Sn **Sn 02 55 50.0 +1.7**
RAFI AML AML 02 56 00.8
comp=E,466nm,0.4s
RAFI AML AML 02 56 01.6
comp=N,434nm,0.6s
IALM Almabolaq 2.31 59 Pn Pn 02 55 29.9 +1.8
HSAM Samen 2.43 77 Pn Pn 02 55 30.4 +0.8
SDS1 Sardasht. Az. 2.45 355 Pn Pn 02 55 31.2 +1.2
HAGD Aghdareh 3.02 67 Pn Pn 02 55 39.0 +1.1
MAHB Mahabad 3.06 359 Pn Pn 02 55 40.0 +1.7
IHSH Hashtrud 3.81 19 Pn Pn 02 55 50.4 +1.8
IRAZ Razeghan 3.85 63 Pn Pn 02 55 50.6 +1.5
QSDN Sirdan 3.96 44 Pn Pn 02 55 51.3 +0.5
ISRB Sarab 4.40 20 Pn Pn 02 55 58.0 +1.2
IPIR Pirpir 4.43 102 Pn Pn 02 55 58.0 +0.8
ZNGN Zangian 4.58 109 Pn Pn 02 56 00.1 +0.8
QAMS Qamsar 4.71 88 Pn Pn 02 56 02.0 +1.0
IHRS Heris 4.73 12 Pn Pn 02 56 02.6 +1.3
IKLH Kolahrood 4.89 93 Pn Pn 02 56 04.9 +1.4
IVRN Varamin 5.11 74 Pn Pn 02 56 06.8 +0.4
KLST Kelardasht - M 5.18 56 Pn Pn 02 56 08.3 +0.7
KRSH Karshahi 5.32 85 Pn Pn 02 56 09.8 +0.4
GRMI Germi 5.39 18 Pn Pn 02 56 11.6 +1.4
ISFB Sefidab 5.43 81 Pn Pn 02 56 10.9 +0.1
MZPU Pul - Mazandar 5.50 59 Pn Pn 02 56 13.5 +1.6
IZEF Zefreh 5.57 96 Pn Pn 02 56 14.3 +1.4
MAKU Maku 5.71 352 Pn Pn 02 56 16.5 +1.8
IRAM Ramesheh 5.90 107 Pn Pn 02 56 18.6 +1.3
IFIR Firoozkooh 6.09 69 Pn Pn 02 56 21.1 +1.1
GNI Garni 6.49 353 Pg Pb 02 56 44.9 +2.0
comp=N,0.4nm,0.3s,baz=243,slow=11,SNR=2.1
DSBU Dashti - Bushe 7.12 137 Pn Pn 02 56 35.8 +1.9
ASF Jabal al Asfar 7.59 261 Pn Pn 02 56 39.4 -1.1
comp=N,0.5nm,0.3s,baz=59,slow=20,SNR=2.1
ASF Lg Lg 02 58 48.0
comp=N,1.2nm,0.3s,baz=252,slow=19,SNR=2.2
comp=N,1.1nm,0.3s
EIL Elat 10.04 249 LR LR 03 00 43.7
comp=N,66nm,18.8s,baz=57,slow=36
AKASG Malin Array Be 20.86 329 P P 02 59 29.8 -1.8
comp=N,0.5nm,0.4s,baz=141,slow=9.6,SNR=7.2
comp=N,0.5nm,0.4s
BVAR Borovoye Array 26.12 35 P P 03 00 26.1 +2.4
comp=N,0.8nm,0.5s,baz=237,slow=8.4,SNR=3.5
comp=N,0.8nm,0.5s
KURBB Kurchatov Arra 29.29 45 P P 03 00 53.2 +1.2
comp=N,1.5nm,0.2s,baz=255,slow=9.0,SNR=2.4
comp=N,1.5nm,0.2s
MKAR Makanchi Array 30.52 54 P P 03 01 03.2 +0.3
comp=N,0.8nm,0.6s,baz=251,slow=10,SNR=6.3
comp=N,0.8nm,0.6s
HFS Hagfors 33.72 331 P P 03 01 29.4 -1.4
comp=N,1.4nm,0.5s,baz=128,slow=9.7,SNR=7.3
comp=N,1.4nm,0.5s
ZALV Zalesovo Beam 34.10 42 P P 03 01 33.3 -0.9
comp=N,0.7nm,0.3s,baz=245,slow=9.2,SNR=4.8
comp=N,0.7nm,0.3s
ARCES ARCESS Array B 37.62 349 P P 03 02 04.8 +0.6
comp=N,2.1nm,0.8s,baz=166,slow=8.2,SNR=1.7
comp=N,2.1nm,0.8s
EKA Eskdalemuir Ar 39.98 318 P P 03 02 23.3 -0.8
comp=N,0.2nm,0.3s,baz=109,slow=8.7,SNR=3.5
comp=N,0.2nm,0.3s
TORD Torodi Ar. Bea 44.89 254 P P 03 03 04.2 -0.4
comp=N,0.3nm,0.5s,baz=58,slow=6.0,SNR=5.3
comp=N,0.3nm,0.5s
SPITS Spitsbergen Ar 46.36 352 P P 03 03 16.1 +0.7
comp=N,1.3nm,0.5s,baz=148,slow=12,SNR=8.3
comp=N,1.3nm,0.5s
MJAR Matsushiro Arr 72.63 57 LR LR 03 42 09.1
comp=N,68nm,18.5s,baz=332,slow=39

*TRN **18** 02:57:34.0,10.5°57N×62.5°72W,h47km,MD3.1*
*FUNV **18** 02:57:36.0,10.5°10N×62.5°76W,h8km,MW3.1*
ISC 18 02:57:32.2±1.4,10.4°44N±0.0°5×62.6°1W±0.0°4,h89km±14km, n12,σ1s99/21,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.66**	**291**	*e*P		**Pn**	**02 57 49.6**	**+1.4**
CRUV				*e*S		**Sn**	**02 57 57.1**	**-3.2**
TRN	**Trinidad (W)**	**1.20**	**80**	*e*P		**Pn**	**02 57 56.4**	**+2.2**
TRN				*e*S		**Sn**	**02 58 11.7**	**+0.9**
GRFF	**Grenada Fort F**	**1.81**	**28**	*e*P		**Pn**	**02 58 02.7**	**+0.7**
GRFF				*e*S		**Sn**	**02 58 23.5**	**-1.1**
GRW	**Mount Saint Ca**	**1.95**	**28**	*e*P		**Pn**	**02 58 04.5**	**+0.7**
GRW				*e*S		**Sn**	**02 58 25.4**	**-2.4**
GRHS	**Sauteurs**	**2.01**	**28**	*e*P		**Pn**	**02 58 05.6**	**+1.0**
GRHS				*e*S		**Sn**	**02 58 27.0**	**-2.3**
PCRV	**Puerto La Cruz**	**2.02**	**263**	*e*P		**Pn**	**02 58 06.5**	**+1.9**
PCRV				*e*S		**Sn**	**02 58 29.9**	**+0.5**
GCMP	**Grenada, Carri**	**2.34**	**29**	*e*P		**Pn**	**02 58 09.7**	**+0.8**
GCMP				*e*S		**Sn**	**02 58 36.5**	**-0.5**
LUEV	**Luepa**	**4.70**	**166**	*e*P		**Pn**	**02 58 41.8**	**+0.8**
LUEV				*e*S		**Sn**	**02 59 31.1**	**-3.3**
CACV	**CAICARA DEL OR**	**4.82**	**234**	*e*P		Pn	02 58 37.6	-4.8
CACV				*e*S		Sn	02 59 23.4	-14
BENV	**Beln**	**4.94**	**265**	*e*P		**Pn**	**02 58 46.3**	**+2.2**
BENV				*e*S		**Sn**	**02 59 39.0**	**-1.0**
BAUV	**El Baul**	**5.56**	**255**	*e*P		**Pn**	**02 58 54.2**	**+1.7**
BAUV				*e*S		**Sn**	**02 59 52.0**	**-3.1**
BAUV	**El Baul**	**5.56**	**255**	*e*P		**Pn**	**02 58 53.6**	**+1.2**

*TEH **18** 03:02:19.5,33.6°69N×45.5°76E,h14km±52km,ML2.8*
*ISN **18** 03:02:19.7±0.7,33.6°63N×45.5°77E,h20km±10km,ML2.5*
ISC 18 03:02:19.6±1.0,33.6°5N±0.0°5×45.7°7E±0.0°4,h19km,n11, σ0s81/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.37**	**94**	Pg		**Pg**	**03 02 27.1**	**-0.4**
ILBA				Sg		**Sb**	**03 02 33.7**	**+0.6**
IBDR	**Badra**	**0.56**	**166**	*e*Pg		**Pb**	**03 02 30.0**	**-0.7**
	baz=345							
IBDR				*e*Sg		**Sb**	**03 02 38.0**	**-0.2**
IBDR				AML		AML	03 02 49.2	
	comp=N,185nm,0.5s							
IBDR				AML		AML	03 02 55.6	
	comp=E,173nm,0.3s							
KGS1	**Ghasr-e-Shirin**	**0.87**	**350**	Pg		**Pb**	**03 02 35.9**	**-0.2**
IGHG	**Ghaleghazi**	**0.95**	**44**	Pg		**Pb**	**03 02 37.2**	**-0.5**
IDHR	**Dehrash**	**1.17**	**26**	Pg		**Pn**	**03 02 40.3**	**-0.9**
BHD	**Baghdad**	**1.22**	**252**	*e*Pn		**Pg**	**03 02 43.0**	**-0.2**
BHD				*e*Sn		**Sg**	**03 03 01.0**	**+1.8**
BHD				AML		AML	03 03 07.7	
	comp=E,242nm,0.6s							
KCHF	**Cheshme Sefid,**	**1.23**	**59**	Pg		**Pb**	**03 02 42.8**	**+0.5**
IKOM	**Komasi**	**1.54**	**70**	Pg		**Pb**	**03 02 48.6**	**+0.9**
ILIN	**Lien**	**1.61**	**38**	Pg		**Pb**	**03 02 49.1**	**+0.3**
IKFM	**Kafar-mosalman**	**1.74**	**94**	Pg		**Pb**	**03 02 51.7**	**+0.8**
IBZA	**Bozab**	**1.92**	**64**	Pn		**Pb**	**03 02 53.8**	**-0.4**

*NEIC **18** 03:18:42.6±1.3,12.°1S±0.°1×166.°9E±0.°1,h110km±9km, mb4.5/60,Error ellipse: s-maj=17.5km s-min=15.6km az=132.0*
*IDC **18** 03:18:51.9±3.6,12.°34S×166.°93E,h209km±31km,mb3.7/9, mbtmp4.2/9,Error ellipse: s-maj=31.3km s-min=18.0km az=133.0*
ISC 18 03:18:51.0±0.6,12.°3S±0.°1×166.°8E±0.°1,h200km,n78, σ0s88/77,mb4.3/39,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.76**	**182**	Pn		Pn	03 21 02.8	-4.4
PINNC	**Pines Island,**	**10.31**	**177**	Pn		Pn	03 21 10.3	-3.9
EIDS	**Eidsvold**	**19.77**	**227**	P		**P**	**03 23 06.5**	**+0.5**
CTA	**Charters Tower**	**21.23**	**246**	P		**P**	**03 23 22.8**	**+1.3**
	14nm,0.7s,baz=78,slow=9.7,SNR=14							
	14nm,0.7s							
CTAO	**Charters Tower**	**21.23**	**246**	P		**P**	**03 23 21.6**	**+0.1**
CTAO				IAmb		IAmb	03 24 03.1	
	comp=Z,37nm,1.4s							
ARMA	**Armidale**	**22.91**	**216**	P		**P**	**03 23 38.2**	**+0.5**
ARMA				IAmb		IAmb	03 23 40.2	
	comp=Z,26nm,1.2s							
COEN	**Coen**	**23.10**	**263**	P		**P**	**03 23 39.5**	**+0.1**

COEN					IAmb	IAmb	03 23 42.4	
	comp=Z,17nm,0.8s							
STKA	**Stephens Creek**	**30.33**	**226**	P		**P**	**03 24 44.5**	**+0.6**
STKA	**Stephens Creek**	**30.33**	**226**	P		**P**	**03 24 44.8**	**+0.8**
	comp=Z,2.4nm,0.4s,baz=43,slow=11,SNR=8.8							
	comp=Z,2.4nm,0.4s							
RPZ	**Rata Peaks**	**31.55**	**174**	P		**P**	**03 24 54.7**	**+0.2**
WR0	**Warramunga Arr**	**31.91**	**252**	P		**P**	**03 24 57.8**	**-0.2**
WR0					IAmb	IAmb	03 25 04.6	
	comp=Z,9.8nm,1.3s							
WB0	**Warramunga Arr**	**32.02**	**252**	P		**P**	**03 24 58.8**	**-0.2**
WB0					IAmb	IAmb	03 24 59.7	
	comp=Z,8.3nm,0.8s							
WB2	**Warramunga Arr**	**32.08**	**252**	P		**P**	**03 24 59.2**	**-0.3**
WB2					IAmb	IAmb	03 25 29.0	
	comp=Z,15nm,1.3s							
WRA	**Warramunga Arr**	**32.09**	**252**	P		**P**	**03 24 59.4**	**-0.3**
	comp=Z,44nm,0.4s,baz=83,slow=9.1,SNR=1.8							
AS31	**Alice Springs**	**33.23**	**245**	P		**P**	**03 25 09.3**	**-0.2**
AS31					IAmb	IAmb	03 25 09.7	
	comp=Z,3.1nm,0.4s							
ASAR	**Alice Springs**	**33.23**	**245**	P		**P**	**03 25 08.9**	**-0.6**
ASAR	**Alice Springs**	**33.23**	**245**	P		**P**	**03 25 09.2**	**-0.2**
	comp=Z,5.3nm,0.5s,baz=71,slow=9.6,SNR=68							
ASAR					ScP	**ScP**	**03 31 11.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=62,slow=3.7,SNR=4.4							
	comp=Z,5.3nm,0.5s							
BBOO	**Buckleboo**	**34.81**	**229**	P		**P**	**03 25 23.3**	**+0.4**
BBOO					IAmb	IAmb	03 25 23.9	
	comp=Z,7.5nm,0.7s							
KNRA	**Kununurra**	**37.07**	**260**	P		**P**	**03 25 42.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**40.11**	**256**	P		**P**	**03 26 08.1**	**+0.5**
FORT	**Forrest**	**40.24**	**237**	P		**P**	**03 26 08.6**	**+0.1**
PSA00	**Pilbara Seismi**	**45.75**	**252**	P		**P**	**03 26 52.6**	**-0.2**
PSA00					IAmb	IAmb	03 27 14.5	
	comp=Z,8.3nm,1.4s							
TOLI2	**Tolitoli**	**47.61**	**283**	P		**P**	**03 27 06.1**	**-1.2**
TOLI2					IAmb	IAmb	03 27 16.2	
	comp=Z,5.2nm,0.9s							
JGF	**Kuroka**	**55.17**	**331**	P		**P**	**03 28 01.9**	**-1.2**
VNDA	**Vanda**	**65.30**	**181**	P		**P**	**03 29 10.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=36,slow=8.7,SNR=1.7							
	comp=Z,0.6nm,0.6s							
ATKA	**Atka Island**	**66.27**	**13**	P		**P**	**03 29 18.3**	**+0.8**
QSPA	**South Pole Qui**	**77.75**	**180**	P		**P**	**03 30 25.1**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=87,slow=3.2,SNR=4.0							
	comp=Z,0.9nm,0.3s							
M16K	**Timber Creek**	**77.92**	**16**	P		**P**	**03 30 27.9**	**+1.4**
K15K	**Wolf Creek Mou**	**78.33**	**14**	P		**P**	**03 30 29.9**	**+1.2**
K15K					IAmb	IAmb	03 31 03.9	
	comp=Z,19nm,1.4s							
J16K	**Anvik River**	**79.39**	**14**	P		**P**	**03 30 35.3**	**+0.8**
BRLK	**Bradley Lake**	**79.40**	**20**	P		**P**	**03 30 34.8**	**+0.2**
K17K	**Iditarod**	**79.50**	**16**	P		**P**	**03 30 36.6**	**+1.6**
K17K					IAmb	IAmb	03 31 11.3	
	comp=Z,17nm,1.5s							
L18K	**Granite Mounta**	**79.53**	**16**	P		**P**	**03 30 36.2**	**+1.1**
L18K					IAmb	IAmb	03 30 45.4	
	comp=Z,13nm,1.4s							
L19K	**White Mountain**	**80.02**	**17**	P		**P**	**03 30 38.6**	**+0.8**
L19K					IAmb	IAmb	03 31 03.9	
	comp=Z,7.3nm,1.4s							
TTA	**Tatalina**	**80.29**	**16**	P		**P**	**03 30 40.0**	**+0.7**
J18K	**Innoko River**	**80.53**	**16**	P		**P**	**03 30 41.0**	**+0.5**
J18K					IAmb	IAmb	03 30 43.7	
	comp=Z,7.9nm,1.2s							
J19K	**Poorman**	**81.25**	**16**	P		**P**	**03 30 45.4**	**+1.1**
J19K					IAmb	IAmb	03 31 27.7	
	comp=Z,10nm,1.5s							
SML	**Sawmill**	**81.75**	**20**	P		**P**	**03 30 47.5**	**+0.4**
CAST	**Castle Rocks**	**81.78**	**17**	P		**P**	**03 30 47.3**	**+0.1**
J20K	**Nowinta River**	**81.79**	**16**	P		**P**	**03 30 49.3**	**+2.2**
J20K					IAmb	IAmb	03 31 18.8	
	comp=Z,10nm,1.4s							
SCM	**Sheep Creek Mo**	**82.11**	**20**	P		**P**	**03 30 49.5**	**+0.5**
BERG	**Berg Lake**	**82.40**	**22**	P		**P**	**03 30 51.4**	**+1.0**
M24K	**Tolsona, Glenn**	**82.69**	**20**	P		**P**	**03 30 53.3**	**+1.4**
RND	**Reindeer**	**82.75**	**18**	P		**P**	**03 30 52.6**	**+0.4**
RND					IAmb	IAmb	03 30 53.4	
	comp=Z,4.6nm,0.6s							
N25K	**Chitina, Valde**	**82.89**	**21**	P		**P**	**03 30 53.5**	**+0.4**
E18K	**Tukpahlearik C**	**82.91**	**12**	P		**P**	**03 30 54.2**	**+1.3**
DHY	**Denali Highway**	**82.97**	**19**	P		**P**	**03 30 53.9**	**+0.4**
DHY					IAmb	IAmb	03 31 33.1	
	comp=Z,8.9nm,1.4s							
VRDI	**Verde Repeater**	**83.05**	**22**	P		**P**	**03 30 54.3**	**+0.3**
VRDI					IAmb	IAmb	03 31 15.2	
	comp=Z,14nm,1.4s							
IMAR	**Indian Mountai**	**83.31**	**15**	P		**P**	**03 30 55.8**	**+0.8**
MLY	**Manley**	**83.39**	**17**	P		**P**	**03 30 55.8**	**+0.4**
BARN	**Barnard Glacie**	**83.60**	**23**	P		**P**	**03 30 57.3**	**+0.5**
BARN					IAmb	IAmb	03 31 11.1	
	comp=Z,14nm,1.2s							
CTGM	**Chitina Glacie**	**83.66**	**23**	P		**P**	**03 30 57.8**	**+0.8**
E19K	**Redstone River**	**83.66**	**13**	P		**P**	**03 30 58.2**	**+1.4**
E19K					IAmb	IAmb	03 30 59.5	
	comp=Z,2.7nm,0.6s							
LOGN	**Logan Glacier**	**83.70**	**23**	P		**P**	**03 30 57.5**	**+0.3**
G21K	**Allakaket**	**83.79**	**15**	P		**P**	**03 30 58.8**	**+1.4**
G21K					IAmb	IAmb	03 31 16.7	
	comp=Z,6.4nm,1.5s							
C18K	**Utukok River**	**83.84**	**11**	P		**P**	**03 30 58.5**	**+0.8**
CCB	**Clear Creek Bu**	**83.96**	**18**	P		**P**	**03 30 58.1**	**-0.1**
CCB					IAmb	IAmb	03 30 58.8	
	comp=Z,3.1nm,0.6s							
M26K	**Nabesna, AK**	**83.99**	**21**	P		**P**	**03 30 59.4**	**+0.8**
M26K					IAmb	IAmb	03 31 09.3	
	comp=Z,8.2nm,1.2s							
HDA	**Harding Lake**	**84.05**	**18**	P		**P**	**03 30 59.2**	**+0.4**
MDM	**Murphy Dome**	**84.06**	**18**	P		**P**	**03 30 58.8**	**-0.1**
MDM					IAmb	IAmb	03 31 12.1	
	comp=Z,6.5nm,1.3s							
RIDG	**Independent Ri**	**84.26**	**20**	P		**P**	**03 31 00.1**	**+0.2**
RIDG					IAmb	IAmb	03 31 06.2	
	comp=Z,9.8nm,1.3s							
D19K	**Kuna River**	**84.33**	**12**	P		**P**	**03 31 01.5**	**+1.4**
IL31		**84.33**	**18**	P		**P**	**03 31 00.5**	**+0.4**
IL31					IAmb	IAmb	03 31 00.8	
	comp=Z,5.4nm,0.7s							
ILAR	**Eielson Array**	**84.33**	**18**	P		**P**	**03 31 00.3**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=240,slow=5.1,SNR=63							
	comp=Z,3.7nm,0.6s							
F21K	**Alatna River**	**84.35**	**14**	P		**P**	**03 31 01.6**	**+1.3**
M27K	**Edge Creek, AK**	**84.35**	**21**	P		**P**	**03 31 01.5**	**+1.0**
M27K					IAmb	IAmb	03 31 40.8	
	comp=Z,11nm,1.4s							
C19K	**Lookout Ridge**	**84.54**	**11**	P		**P**	**03 31 02.7**	**+1.5**
J25K	**Salcha River,**	**84.69**	**19**	P		**P**	**03 31 02.8**	**+0.7**
J25K					IAmb	IAmb	03 31 03.4	
	comp=Z,4.9nm,0.6s							
SCRK	**Sand Creek**	**84.70**	**20**	P		**P**	**03 31 03.1**	**+1.0**
BCAR	**Beaver Creek A**	**84.84**	**21**	P		**P**	**03 31 03.8**	**+0.9**
G23K	**Bananza Creek**	**84.84**	**16**	P		**P**	**03 31 04.1**	**+1.3**
J26L	**Joseph Creek**	**85.19**	**19**	P		**P**	**03 31 06.1**	**+1.5**
NVAR	**Mina Array Bea**	**86.00**	**49**	P		**P**	**03 31 08.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=231,slow=5.7,SNR=3.0							
	comp=Z,0.4nm,0.7s							
MKAR	**Makanchi Array**	**95.14**	**317**	P		**P**	**03 31 52.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=76,slow=6.1,SNR=2.9							
	comp=Z,0.3nm,0.6s							
YKA	**Yellowknife Ar**	**95.56**	**27**	P		**P**	**03 31 51.8**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=262,slow=4.7,SNR=8.6							
	comp=Z,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**117.78**	**346**	PKP		**PKPdf**	**03 37 12.9**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=69,slow=1.8,SNR=17							
FINES	**FINESS Array B**	**123.29**	**339**	PKP		**PKPdf**	**03 37 23.0**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=151,slow=3.2,SNR=4.2							
ESDC	**Sonseca Array**	**151.51**	**345**	PKPbc		**PKPbc**	**03 38 22.7**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=0.0,slow=5.1,SNR=5.2							

VIE ***18*** *03:44:14.5±0.8, 50.°12N×18.°45E, h0km, mb2.5/3, ml2.6/6, Error ellipse: s-maj=8.4km s-min=3.4km az=156.0 35 km NNE of Ostrava Suspected Mining induced.*

IPEC ***18*** *03:44:15.3±0.2, 50.°04N×18.°54E, h1km, ML2.6/4, Error ellipse: s-maj=2.0km s-min=1.0km az=164.0*

PRU ***18*** *03:44:18.2, 50.°03N×18.°34E, h0km*

ISC 18 03:44:15.1±0.8, 50.°05N±0.°03×18.°52E±0.°02, h0km, n43, σ0s81/73, 6C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.21**	**279**	*e*PG		**Pg**		**03 44 20.7**	**+1.5**
RAC				*e*SG		**Sg**		**03 44 24.3**	**+2.4**
OKC	**Ostrava-Krasne**	**0.32**	**228**	*e*PG		**Pg**		**03 44 21.9**	**+0.7**
OKC				*e*SG		**Sg**		**03 44 26.4**	**+1.0**
	comp=Z,135nm,0.4s								
MORC	**Moravsky Berou**	**0.69**	**247**	⇑P		**Pg**		**03 44 28.5**	**+0.3**
MORC				⇓S		**Sb**		**03 44 38.8**	**-1.2**
MORC	**Moravsky Berou**	**0.69**	**247**	*e*Pg		**Pg**		**03 44 28.3**	**0.0**
	baz=68								
MORC				*e*Sg		**Sg**		**03 44 37.5**	**+0.4**
	169nm,0.5s,baz=68								
MORC	**Moravsky Berou**	**0.69**	**247**	*e*PG		**Pg**		**03 44 28.4**	**+0.1**
MORC				*e*SG		**Sg**		**03 44 37.6**	**+0.4**
MAUC	**Maruska**	**0.82**	**213**	*e*PG		**Pg**		**03 44 31.3**	**+0.5**
MAUC				*e*SG		**Sg**		**03 44 42.5**	**+1.1**
OJC	**Ojcow**	**0.84**	**78**	*e*Pg		**Pg**		**03 44 31.3**	**+0.1**
OJC				*e*Sg		**Sb**		**03 44 43.7**	**-0.8**
LANS	**Liptovska Anna**	**1.09**	**145**	*e*PG		**Pb**		**03 44 36.6**	**-0.3**
LANS				*e*SG		**Sb**		**03 44 52.2**	**+0.5**
LANS				*e*LG		Lg		03 44 55.9	
JAVC	**Velka Javorina**	**1.31**	**205**	*e*Pg		**Pg**		**03 44 40.2**	**0.0**
	baz=25								
JAVC	**Velka Javorina**	**1.31**	**205**	*e*PG		**Pg**		**03 44 40.3**	**0.0**
NIE	**Niedzica**	**1.32**	**118**	*e*Pg		**Pb**		**03 44 40.4**	**-0.4**
NIE				*e*Sg		**Sn**		**03 45 00.2**	**+1.0**
DPC	**Dobruska-Polom**	**1.44**	**283**	*e*PG		**Pn**		**03 44 42.2**	**-0.4**
DPC				*e*SG		**Sg**		**03 45 01.5**	**+0.1**
	comp=Z,59nm,0.7s								
VRAC	**Vranov**	**1.45**	**240**	⇑P		**Pn**		**03 44 42.2**	**-0.5**
VRAC				⇑S		**Sb**		**03 45 02.2**	**+0.1**
VRAC	**Vranov**	**1.45**	**240**	*e*Pg		**Pn**		**03 44 41.9**	**-0.8**
	baz=59								
VRAC				*e*Sg		**Sg**		**03 45 01.0**	**-0.8**
	70nm,0.4s,baz=59								
OSTC	**Ostas**	**1.56**	**290**	*e*PG		**Pn**		**03 44 43.6**	**-0.6**
OSTC				*e*SG		**Sg**		**03 45 05.4**	**+0.2**
VYHS	**Vyhne**	**1.57**	**172**	*e*PG		**Pn**		**03 44 43.6**	**-0.7**
VYHS				*e*SG		**Sg**		**03 45 06.0**	**+0.4**
KSP	**Ksiaz**	**1.63**	**300**	*e*Pg		**Pn**		**03 44 44.6**	**-0.5**
KSP				*e*Sg		**Sb**		**03 45 06.7**	**+0.4**
CHVC	**Chvalec**	**1.67**	**290**	*e*PG		**Pn**		**03 44 45.7**	**+0.1**
CHVC				*e*SG		**Sg**		**03 45 08.4**	**-0.3**
UPC	**Upice**	**1.67**	**287**	*e*PG		**Pn**		**03 44 46.0**	**+0.3**
UPC				*e*SG		**Sg**		**03 45 08.7**	**-0.1**
KRUC	**Moravsky**	**1.70**	**235**	*e*Pn		**Pn**		**03 44 45.9**	**-0.1**
	baz=54								
KRUC				*e*Sg		**Sn**		**03 45 08.5**	**0.0**
	48nm,0.5s,baz=54								
MODS	**Modra-Piesok**	**1.86**	**206**	*e*SG		**Sb**		**03 45 13.6**	**-0.3**
MODS				*e*LG		Lg		03 45 22.1	
STHS	**Stebnicka Huta**	**1.88**	**109**	*e*PN		**Pn**		**03 44 48.6**	**+0.1**
KECS	**Kecovo**	**2.03**	**140**	*e*PN		**Pn**		**03 44 50.0**	**-0.6**
KECS				*e*SN		**Sn**		**03 45 15.1**	**-1.5**
ZST	**Bratislava**	**2.08**	**207**	*e*SN		**Sn**		**03 45 16.2**	**-1.5**
CRVS	**Cervenica-Dubn**	**2.24**	**120**	*e*PG		**Pb**		**03 44 56.9**	**+0.5**
CRVS				*e*SG		**Sg**		**03 45 28.2**	**+1.2**
PSZ	**Piszkesteto**	**2.32**	**156**	⇑P		**Pn**		**03 44 54.8**	**+0.2**
PSZ				⇓S		**Sb**		**03 45 27.1**	**+0.1**
GOPC	**GO Pecny, Ondr**	**2.41**	**268**	*e*SG		**Sb**		**03 45 30.0**	**+0.3**
	comp=Z,15nm,0.5s								
PRU	**Pruhonice**	**2.56**	**270**	*e*PG		**Pb**		**03 45 03.0**	**+1.0**
PRU				*e*SG		**Sb**		**03 45 34.8**	**+0.8**
KOLS	**Kolonicke sedl**	**2.69**	**113**	*e*PG		**Pb**		**03 45 04.1**	**-0.1**
KOLS				*e*LG		Lg		03 45 53.4	
CONA	**Conrad Observa**	**2.75**	**220**	*e*Pn		**Pn**		**03 45 00.2**	**-0.4**
	0.7nm,0.3s								
CONA				*e*Sn		**Sn**		**03 45 33.6**	**-1.0**
	3.3nm,0.3s								
RONA	**Rosalia, Austr**	**2.77**	**213**	*e*Pn		**Pn**		**03 45 01.2**	**+0.4**
	0.8nm,0.3s								
RONA				*e*Sn		**Sn**		**03 45 33.7**	**-1.2**
	5.0nm,0.4s								
ZVC	**Zvikov**	**2.87**	**259**	*e*PG		**Pb**		**03 45 08.3**	**+1.1**
CKRC	**Cesky Krumlov**	**3.01**	**247**	*e*PG		**Pb**		**03 45 09.5**	**-0.1**
CKRC				*e*SG		**Sb**		**03 45 47.4**	**+0.5**
	comp=Z,14nm,0.4s								
BRG	**Berggiesshubel**	**3.04**	**288**	Pg		**Pg**		**03 45 11.7**	**-1.6**
BRG				Sg		**Sg**		**03 45 51.2**	**-1.5**
BRG				Amp				03 46 02.5	
	comp=Z,11nm,0.5s								
KHC	**Kasperske Hory**	**3.34**	**256**	*e*PN		**Pn**		**03 45 07.8**	**-0.9**
KHC				*e*PG		**Pb**		**03 45 15.9**	**+0.6**
KHC				*e*SG		**Sg**		**03 46 01.1**	**-1.4**
	comp=Z,15nm,0.5s								
ARSA	**Arzberg**	**3.43**	**216**	*i* Pn		**Pn**		**03 45 10.1**	**+0.2**
	comp=Z,0.6nm,0.3s								
ARSA				*e*Sn		**Sn**		**03 45 51.8**	**+0.5**
	comp=Z,3.0nm,0.4s								
CLL	**Collm**	**3.73**	**292**	*e*Pg		**Pg**		**03 45 28.0**	**+1.5**
CLL				*e*Sg		**Sg**		**03 46 14.0**	**-0.8**
	comp=Z,12nm,0.7s								
BIOA	**Bad Ischl, Aus**	**3.99**	**236**	*e*Sn		**Sn**		**03 46 05.7**	**+0.6**
	comp=Z,8.0nm,0.4s								
SIRR	**Siria**	**4.33**	**150**	⇑P		**Pn**		**03 45 22.0**	**-0.2**
LESA	**Schwarzleotal**	**4.67**	**238**	*e*Sn		**Sn**		**03 46 21.3**	**-0.6**
	comp=Z,3.9nm,0.3s								
BZS	**Buzias**	**4.90**	**154**	⇓P		**Pn**		**03 45 30.3**	**+0.2**
BURAR	**Bucovina Array**	**5.05**	**116**	⇑P		**Pn**		**03 45 32.4**	**+0.3**
WTTA	**Wattenberg**	**5.34**	**241**	*e*Sn		**Sn**		**03 46 36.8**	**-1.8**
	comp=Z,5.1nm,0.5s								

IDC 18 04:11:15.9±7.5, 3.°96S×143.°40E, h0km, mb3.3/2, mbtmp3.4/2, ML4.9/1, Error ellipse: s-maj=259.3km s-min=34.8km az=94.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.18**	**208**	P		P		04 15 31.2	+0.9
	4.5nm,0.3s,baz=22,slow=12,SNR=1.4								
ASAR	**Alice Springs**	**21.64**	**204**	P		P		04 16 07.3	-0.7
	0.7nm,0.5s,baz=36,slow=8.5,SNR=14								
	0.7nm,0.5s								
MKAR	**Makanchi Array**	**73.66**	**321**	P		P		04 22 51.5	+0.1
	0.2nm,0.6s,baz=101,slow=7.5,SNR=3.0								
	0.2nm,0.6s								

IDC ***18*** *04:18:18.9±0.5, 15.°03S×173.°38W, h0km, mb4.6/15, mbtmp4.6/15, MS4.3/56, Error ellipse: s-maj=25.2km s-min=14.8km az=127.0*

NEIC ***18*** *04:18:21.0±1.9, 15.°05S±0.°08×172.°8W±0.°2, h10km±1km, mb5.1/260, Error ellipse: s-maj=27.1km s-min=11.5km az=285.0*

BJI ***18*** *04:18:22.9±0.0, 14.°81S×173.°04W, h23km, mb4.8/18, mB5.5/15, Ms5.3/3, Ms7 4.9/3*

GCMT ***18*** *04:18:27.0±0.3, 14.°89S±0.°02×173.°16W±0.°02, h12km, MW5.2/82, Moment Tensor Solution. s14,c16; s82,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.96±. 12; $M_{\theta\theta}$2.23±. 12; $M_{\phi\phi}$-1.28±. 14; $M_{r\theta}$-4.51±.36; $M_{\theta\phi}$0.35±. 10; $M_{\phi r}$4.50±.33; Best double couple: M_o6.64200×10^{16} NP1:ϕ_s132.00000°, δ87.00000°, λ-74.00000°. NP2: ϕ_s232.00000°, δ16.00000°, λ-169.00000°. Principal axes: T 6.2920, Plg40.0000°, Azm207.0000°; N 0.6920, Plg16.0000°, Azm311.0000°; P -6.9920, Plg46.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 04:18:23.5±0.3, 15.°20S±0.°07×173.°09W±0.°08, h29km, n581, σ1s21/444, mb5.1/149, MS4.3/58, 6C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.81**	**45**	Pn		Pn		04 18 46.8	-5.9
NIUE	**Niue**	**4.90**	**142**	Pn		Pn		**04 19 33.2**	**-2.1**
RAO	**Raoul Island**	**14.68**	**197**	LR		LR		04 26 52.9	
	comp=Z,1μm,21.1s,baz=358,slow=35								
MARNC	**Mare, Loyalty**	**18.97**	**248**	P		**P**		**04 22 43.1**	**+0.4**
PINNC	**Pines Island,**	**19.82**	**245**			**P**		**04 22 53.2**	**+1.2**
OUENC	**Ouen Island, N**	**20.30**	**246**	P		**P**		**04 22 58.0**	**+0.9**
OUENC				IAmb		IAmb		04 23 05.2	
	comp=Z,67nm,1.0s								
DZM	**Mont Dzumac**	**20.55**	**248**	P		**P**		**04 23 02.0**	**+2.0**
DZM				IAmb		IAmb		04 23 15.1	
	comp=Z,97nm,1.4s								
DZM	**Mont Dzumac**	**20.55**	**248**	P		**P**		**04 22 57.0**	**-3.0**
	comp=Z,10nm,1.0s,baz=98,slow=18,SNR=2.0								
DZM				LR		LR		04 29 36.0	
	comp=Z,2μm,21.4s,baz=100,slow=33								
	comp=Z,10nm,1.0s								
PPT	**Papeete**	**22.68**	**99**	LR		LR		04 29 30.4	
	comp=Z,249nm,21.2s,baz=253,slow=29								
WMGZ	**Waiomatatini S**	**23.75**	**197**	P		**P**		**04 23 35.3**	**+1.9**
HAZ	**Te Kaha**	**23.88**	**198**	P		**P**		**04 23 34.7**	**+0.2**
PUZ	**Puketiti**	**24.03**	**197**	P		**P**		**04 23 37.0**	**+1.0**
RUGZ	**Raukumara Rang**	**24.10**	**198**	P		**P**		**04 23 38.6**	**+1.8**
TWGZ	**Tauwhareparae**	**24.21**	**197**	P		**P**		**04 23 39.5**	**+1.8**
MWZ	**Matawai**	**24.49**	**198**	P		**P**		**04 23 42.1**	**+1.8**
URZ	**Urewera**	**24.55**	**199**	LR		LR		04 32 00.7	
	comp=Z,1μm,19.8s,baz=120,slow=33								
URZ	**Urewera**	**24.55**	**199**	P		**P**		**04 23 39.7**	**-1.0**
TOZ	**Tahuroa Road**	**24.61**	**202**	P		**P**		**04 23 42.1**	**+0.8**
TOZ				IAmb		IAmb		04 23 45.8	
	comp=Z,74nm,1.4s								
TOZ	**Tahuroa Road**	**24.61**	**202**	P		**P**		**04 23 42.2**	**+0.9**
RIGZ	**Rimuhau**	**24.77**	**197**	P		**P**		**04 23 43.6**	**+0.8**
RTZ	**Ruatahuna**	**24.91**	**199**	P		**P**		**04 23 44.9**	**+0.7**
RTZ				IAmb		IAmb		04 23 47.3	
	comp=Z,30nm,0.6s								
SNGZ	**Shannon Statio**	**24.96**	**198**	P		**P**		**04 23 44.9**	**+0.4**
KNZ	**Kokohu**	**25.08**	**197**	P		**P**		**04 23 47.3**	**+1.8**
HIZ	**Hauiti**	**25.54**	**202**	P		**P**		**04 23 50.2**	**+0.5**
HIZ	**Hauiti**	**25.54**	**202**	P		**P**		**04 23 52.4**	**+2.6**
BKZ	**Black Stump Fm**	**25.57**	**199**	P		**P**		**04 23 50.0**	**-0.1**
KWHZ	**Kaweka Forest**	**25.83**	**199**	P		**P**		**04 23 51.5**	**-0.9**
OTVZ	**Oturere**	**25.84**	**200**	P		**P**		**04 23 51.7**	**-0.9**
BHHZ	**Black Hill Sta**	**26.00**	**199**	P		**P**		**04 23 52.4**	**-1.6**
KRHZ	**Kereru**	**26.05**	**199**	P		**P**		**04 23 54.8**	**+0.5**
HNR	**Honiara**	**26.94**	**279**	LR		LR		04 33 10.1	
	comp=Z,3μm,20.2s,baz=125,slow=33								
BFZ	**Birch Farm**	**27.04**	**198**	P		**P**		**04 24 02.6**	**-0.6**
LTZ	**Lake Taylor**	**30.23**	**202**	P		**P**		**04 24 28.6**	**-3.1**
INZ	**Inchbonnie**	**30.48**	**203**	P		**P**		**04 24 32.3**	**-1.5**
OXZ	**Oxford**	**30.79**	**201**	P		**P**		**04 24 34.1**	**-2.5**
RPZ	**Rata Peaks**	**31.48**	**202**	LR		LR		04 36 31.2	
	comp=Z,847nm,20.7s,baz=43,slow=35								
MLZ	**Mavora Lakes**	**33.99**	**204**	P		**P**		**04 25 03.1**	**-1.5**
WHZ	**Wether Hill Ro**	**34.50**	**204**	P		**P**		**04 25 07.8**	**-1.3**
H11S2	**WAKE ISLAND Hy**	**38.95**	**329**	T		T		05 07 07.4	
	baz=149,slow=76,SNR=13								
H11S3	**WAKE ISLAND Hy**	**38.96**	**329**	T		T		05 07 08.5	
	baz=149,slow=76,SNR=12								
H11S1	**WAKE ISLAND Hy**	**38.96**	**329**	T		T		05 07 14.1	
	baz=149,slow=76,SNR=13								
CTA	**Charters Tower**	**38.98**	**257**	LR		LR		04 39 17.6	
	comp=Z,346nm,21.7s,baz=86,slow=32								
PMG	**Port Moresby**	**39.22**	**274**	LR		LR		04 41 14.6	
	comp=Z,204nm,18.4s,baz=54,slow=35								
H11N3	**WAKE ISLAND Hy**	**39.89**	**330**	T		T		05 08 24.0	
	baz=150,slow=76,SNR=17								
H11N1	**WAKE ISLAND Hy**	**39.89**	**330**	T		T		05 08 25.3	
	baz=150,slow=76,SNR=15								
H11N2	**WAKE ISLAND Hy**	**39.90**	**330**	T		T		05 08 25.4	
	baz=150,slow=76,SNR=18								
TOO	**Toolangi**	**42.82**	**231**	P		**P**		**04 26 17.2**	**-1.9**
TOO				IAmb		IAmb		04 26 18.2	
	comp=Z,31nm,1.1s								
STKA	**Stephens Creek**	**44.40**	**240**	P		**P**		**04 26 30.0**	**-1.7**
STKA	**Stephens Creek**	**44.40**	**240**	P		**P**		**04 26 29.9**	**-1.9**
	comp=Z,9.1nm,0.7s,baz=82,slow=9.1,SNR=19								
STKA				LR		LR		04 42 45.4	
	comp=Z,295nm,21.6s,baz=44,slow=33								
	comp

TPNV **Topopah Spring** 74.51 44 P P 04 29 59.3 -0.4
baz=237
PDMCI **Parker Dam,Lak** 74.57 47 P P 04 29 60.0 +0.1
baz=239
KDAK **Kodiak Island** 74.67 11 LR LR 04 55 05.3
comp=Z,527nm,20.5s,baz=229,slow=30
V12A **Nelson** 74.81 46 P P 04 29 58.1 -3.3
QSPA **South Pole Qui** 74.84 180 P P 04 30 02.4 +1.2
QSPA IAmb IAmb 04 30 03.5
comp=Z,27nm,1.1s
QSPA **South Pole Qui** 74.84 180 P P 04 30 02.2 +1.0
comp=Z,16nm,0.9s,baz=54,slow=2.6,SNR=38
QSPA LR LR 05 01 49.0
comp=Z,44nm,18.1s,baz=44,slow=35
comp=Z,16nm,0.9s
SHPR **Sheep Range** 75.01 45 P P 04 29 59.4 -3.2
J05D **Fort Rock, OR** 75.08 36 P P 04 30 00.1 -2.8
J05D IAmb IAmb 04 30 04.8
comp=Z,17nm,1.0s
Y14A **Wickenburg** 75.20 48 P P 04 30 00.6 -3.0
R11B **Troy Canyon, C** 75.71 43 P P 04 30 03.2 -3.4
R11B **Troy Canyon, C** 75.71 43 P P 04 30 06.3 -0.4
baz=237
P18K **Big Mountain,** 75.74 9 P P 04 30 05.2 -0.9
baz=197
M13K **Dall Lake** 75.76 5 P P 04 30 05.3 -0.8
baz=189
BMN **Battle Mountai** 75.81 41 P P 04 30 04.4 -2.8
O17K **Koliganek Bris** 75.83 8 P P 04 30 06.3 -0.3
baz=196
TUC **Tucson** 76.03 51 P P 04 30 05.0 -3.5
TUC **Tucson** 76.03 51 P P 04 30 08.8 +0.3
baz=242
WVOR **Wild Horse Val** 76.09 38 P P 04 30 06.7 -2.0
WVOR IAmb IAmb 04 30 10.2
comp=Z,19nm,1.4s
O18K **Koktuh Hills** 76.18 9 P P 04 30 08.3 -0.4
baz=197
M14K **Bethel** 76.22 6 P P 04 30 09.0 +0.3
M14K **Bethel** 76.22 6 P P 04 30 09.5 +0.8
baz=191,SNR=5.5
KSRS **Korea Array** 76.22 315 LR LR 04 57 53.0
comp=Z,76nm,22.0s,baz=110,slow=31
M15K **Kasigluk River** 76.29 6 P P 04 30 09.6 +0.5
baz=192
N16K **Nishlik Lake** 76.29 7 P P 04 30 09.7 +0.4
baz=194
X16A **Lo Mia Camp, P** 76.56 48 P P 04 30 09.1 -2.5
I07A **Izee** 76.56 37 P P 04 30 11.1 -0.2
I07A IAmb IAmb 04 30 12.5
comp=Z,16nm,1.3s
LCMT **Little Creek M** 76.58 45 P P 04 30 09.2 -2.4
O19K **Port Alsworth** 76.65 10 P P 04 30 11.2 0.0
baz=198
J08A **Circle Bar Ran** 76.73 38 P P 04 30 10.4 -1.8
J08A IAmb IAmb 04 30 30.1
comp=Z,41nm,1.8s
L14K **Kuka Creek** 76.73 5 P P 04 30 11.3 -0.3
baz=190
319A **Douglas** 76.73 52 P P 04 30 10.1 -2.4
M16K **Timber Creek** 76.80 7 P P 04 30 12.3 +0.3
M16K **Timber Creek** 76.80 7 P P 04 30 12.0 -0.1
baz=194
BRSE **Bradley Lake S** 76.85 11 P P 04 30 12.2 -0.2
baz=202
KNB **Kanab** 76.88 46 P P 04 30 10.7 -2.6
KNB IAmb IAmb 04 30 15.6
comp=Z,35nm,1.7s
SPR3 **Spring Creek 3** 76.89 43 P P 04 30 13.4 -0.1
U15A **North Rim** 76.95 46 P P 04 30 13.2 -0.7
U15A IAmb IAmb 04 30 16.1
comp=Z,20nm,1.4s
WUAZ **Wupatki** 77.14 47 P P 04 30 13.6 -1.3
WUAZ **Wupatki** 77.14 47 P P 04 30 14.4 -0.4
baz=240
L15K **Ungalak Mounta** 77.17 6 P P 04 30 14.8 +0.7
baz=191
ELK **Elko** 77.23 41 P P 04 30 14.7 -0.6
ELK **Elko** 77.23 41 LR LR 04 56 33.1
comp=Z,366nm,20.6s,baz=248,slow=30
M17K **Holitna River** 77.35 8 P P 04 30 16.1 +1.0
baz=195
L16K **Owhat River** 77.41 7 P P 04 30 16.4 +0.9
baz=193
DUN6 **Lazy B Ranch** 77.41 51 P P 04 30 14.2 -2.2
PKCU **Pink Cliffs** 77.44 45 P P 04 30 14.2 -2.4
PKCU IAmb IAmb 04 30 19.7
comp=Z,38nm,1.5s
BBB **Bella Bella** 77.57 26 LR LR 04 58 23.7
comp=Z,336nm,18.4s,baz=232,slow=31
G08A **Pilot Rock** 77.60 36 P P 04 30 15.2 -1.9
G08A IAmb IAmb 04 30 18.5
comp=Z,28nm,1.3s
X18A **Snowflake** 77.69 49 P P 04 30 16.3 -1.7
X18A IAmb IAmb 04 30 20.0
comp=Z,22nm,1.6s
K15K **Wolf Creek Mou** 77.77 5 P P 04 30 16.7 -0.8
K15K **Wolf Creek Mou** 77.77 5 P P 04 30 18.6 +1.1
baz=191
MTPU **Mount Pierson** 77.83 45 P P 04 30 17.5 -1.4
MTPU IAmb IAmb 04 30 21.6
comp=Z,20nm,1.4s
E07A **Sunnyside** 77.87 34 P P 04 30 16.6 -1.8
HAWA **Hanford** 77.94 35 P P 04 30 17.4 -1.4
N20K **Mount Spurr** 77.94 10 P P 04 30 18.1 -0.5
baz=200
L17K **Donlin** 77.96 7 P P 04 30 20.3 +1.7
baz=194
MVU **Marysvale** 78.05 44 P P 04 30 19.1 -0.8
MSU **Marysvale** 78.07 44 P P 04 30 19.0 -1.0
L18K **Granite Mounta** 78.24 8 P P 04 30 18.7 -1.4
L18K **Granite Mounta** 78.24 8 P P 04 30 20.5 +0.4
baz=196
E08A **Dider Farm, El** 78.26 35 P P 04 30 20.1 -0.4
E08A IAmb IAmb 04 30 22.0
comp=Z,20nm,1.3s
BMO **Blue Mountains** 78.29 37 P P 04 30 18.9 -2.0
RC01 **Rabbit Creek A** 78.29 11 P P 04 30 19.5 -0.9
RC01 IAmb IAmb 04 30 21.0
comp=Z,28nm,1.1s
RC01 **Rabbit Creek A** 78.29 11 P P 04 30 19.9 -0.5
baz=203
MFID **Camas Ranch** 78.34 39 P P 04 30 18.4 -2.9
MFID IAmb IAmb 04 30 22.6
comp=Z,22nm,1.6s
KAIM **Kayak Island** 78.37 14 P P 04 30 21.0 +0.1
baz=208
121A **Cookes Peak, D** 78.39 52 P P 04 30 20.3 -1.6
121A **Cookes Peak, D** 78.39 52 P P 04 30 21.3 -0.6
baz=243
121A **Cookes Peak, D** 78.39 52 P P 04 30 23.0 +1.1
baz=243
M20K **Styx River** 78.44 10 P P 04 30 20.7 -0.5
M20K **Styx River** 78.44 10 P P 04 30 20.8 -0.5
baz=199
SUA **Susitna One** 78.45 11 P P 04 30 20.0 -1.4
SUA **Susitna One** 78.45 11 P P 04 30 21.4 0.0
baz=202
L19K **White Mountain** 78.46 9 P P 04 30 21.4 +0.1
baz=198
V35K **Ketchikan** 78.49 23 P P 04 30 21.7 +0.1
baz=220
DUG **Dugway, Tooele** 78.51 43 P P 04 30 20.8 -1.6
DUG IAmb IAmb 04 30 39.1
comp=Z,32nm,1.9s
DUG **Dugway, Tooele** 78.51 43 P P 04 30 22.2 -0.1
baz=239,SNR=5.3
K17K **Iditarod** 78.52 7 P P 04 30 20.8 -0.9
K17K IAmb IAmb 04 30 23.6
comp=Z,33nm,1.3s
K17K **Iditarod** 78.52 7 P P 04 30 23.1 +1.4
baz=194
SIT **Sitka** 78.53 20 P P 04 30 21.1 -0.7
baz=217
D08A **Wollman Farm,** 78.68 34 P P 04 30 21.3 -1.6
D08A IAmb IAmb 04 30 24.4
comp=Z,18nm,1.3s
HMU **Henry Mountain** 78.77 46 P P 04 30 22.6 -1.3
HMU IAmb IAmb 04 30 25.6
comp=Z,23nm,1.5s
SKT **Skwentna** 78.79 10 P P 04 30 22.5 -0.7
baz=201
KNK **Knik Glacier** 78.83 12 P P 04 30 23.1 -0.3
baz=204
J16K **Anvik River** 78.83 6 P P 04 30 22.7 -0.7
J16K **Anvik River** 78.83 6 P P 04 30 24.2 +0.9
baz=192
PMR **Palmer** 78.86 11 P P 04 30 22.6 -1.0
PMR IAmb IAmb 04 30 24.1
comp=Z,26nm,1.2s
PMR **Palmer** 78.86 11 P P 04 30 23.0 -0.6
baz=203
L20K **Farewell, AK** 78.88 9 P P 04 30 23.7 0.0
baz=199
Q16A **Castle Valley** 78.96 45 P P 04 30 22.6 -2.3
F10A **Beach Ranch, E** 78.98 36 P P 04 30 23.5 -1.2
F10A IAmb IAmb 04 30 25.6
comp=Z,30nm,1.4s
TTA **Tatalina** 79.01 8 P P 04 30 22.7 -1.8
TTA **Tatalina** 79.01 8 P P 04 30 24.8 +0.3
baz=196,SNR=6.8
MDJ **Mudanjiang** 79.05 322 P P 04 30 27.4 +2.4
MDJ pP pwP 04 30 37.8 +0.3
MDJ sP sP 04 30 42.5 +6.4
MDJ PP **PP** **04 33 22.8 -1.7**
MDJ S **S** **04 40 21.6 -0.6**
MDJ sS SKKSac 04 40 39.4 -0.7
MDJ ScS **ScS** **04 40 44.1 -1.1**
MDJ SS **SS** **04 45 24.0 -4.8**
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ pmax pmax
comp=Z,230nm,4.8s
MDJ LR LR
comp=Z,370nm,13.3s
MDJ LR LR
comp=Z,390nm,16.8s
MDJ LR LR
comp=Z,380nm,14.2s
TMUT **Trail Mountain** 79.12 44 P P 04 30 24.3 -1.6
TMUT IAmb IAmb 04 30 28.2
comp=Z,32nm,1.4s
PLID **Pearl Lake** 79.18 37 P P 04 30 24.6 -1.4
SML **Sawmill** 79.22 12 P P 04 30 25.3 -0.2
baz=204
BMRM **Bremner River** 79.25 14 P P 04 30 25.1 -0.7
baz=208,SNR=6.7
HLID **Hailey** 79.28 39 P P 04 30 25.0 -1.5
HLID **Hailey** 79.28 39 P P 04 30 26.6 0.0
baz=237
SPUT **South Promonto** 79.32 42 P P 04 30 24.1 -2.7
SPUT IAmb IAmb 04 30 28.4
comp=Z,22nm,1.4s
M23K **Glacier View** 79.32 12 P P 04 30 26.4 +0.3
baz=205
HVU **Hansel Valley** 79.36 41 P P 04 30 25.6 -1.3
CUT **Chulitna** 79.41 11 P P 04 30 26.0 -0.5
baz=202
I17K **Unalakleet** 79.42 6 IAmb IAmb 04 30 28.6
comp=Z,23nm,1.2s
I17K **Unalakleet** 79.42 6 P P 04 30 26.7 +0.2
baz=192
KLU **Klutina** 79.43 13 P P 04 30 26.1 -0.6
baz=206
J18K **Innoko River** 79.44 7 IAmb IAmb 04 30 28.2
comp=Z,22nm,1.0s
J18K **Innoko River** 79.44 7 P P 04 30 26.6 -0.1
baz=196
SCM **Sheep Creek Mo** 79.44 12 P P 04 30 26.4 -0.4
baz=205
C09A **Chrisman Ranch** 79.48 34 IAmb IAmb 04 30 28.4
comp=Z,27nm,1.4s
SRU **San Rafael Swe** 79.49 45 P P 04 30 25.9 -1.9
P17A **Butcher Ranch,** 79.52 44 IAmb IAmb 04 30 30.0
comp=Z,31nm,1.5s
K20K **Telida** 79.69 9 IAmb IAmb 04 30 29.1
comp=Z,18nm,1.1s
K20K **Telida** 79.69 9 P P 04 30 27.7 -0.3
baz=198,SNR=6.6
ANM **Nome** 79.74 3 P P 04 30 27.9 -0.3
baz=187
VHRN **Van Horn** 79.80 54 IAmb IAmb 04 30 32.2
comp=Z,40nm,1.9s
N25K **Chitina, Valde** 79.82 13 IAmb IAmb 04 30 29.7
comp=Z,23nm,1.1s
N25K **Chitina, Valde** 79.82 13 P P 04 30 28.0 -0.9
baz=208,SNR=5.9
GLB **Gilahina Butte** 79.85 14 IAmb IAmb 04 30 29.7
comp=Z,20nm,1.1s
P29M **Windy Craggy** 79.88 17 IAmb IAmb 04 30 30.6
comp=Z,20nm,1.1s
P29M **Windy Craggy** 79.88 17 P P 04 30 28.7 -0.5
baz=214
M24K **Tolsona, Glenn** 79.92 12 P P 04 30 28.9 -0.5
baz=206
MCARA **Methy VSAT** 79.98 14 P P 04 30 29.2 -0.5
baz=209
MVCO **Mesa Verde** 79.99 47 P P 04 30 29.6 -1.0
baz=242
H16K **Elim** 80.02 5 P P 04 30 29.8 0.0
baz=190,SNR=9.0
CTG **Chitna Glacier** 80.03 15 P P 04 30 29.8 -0.3
baz=211
BARN **Barnard Glacie** 80.03 15 IAmb IAmb 04 30 31.1
comp=Z,21nm,1.0s
WAT6 **Susitna Watana** 80.04 12 P P 04 30 28.9 -1.2
baz=204,SNR=5.4
CAST **Castle Rocks** 80.05 9 P P 04 30 28.6 -1.4
baz=200
MA2 **Magadan** 80.06 342 LR LR 05 01 21.6
comp=Z,95nm,20.9s,baz=138,slow=32
J19K **Poorman** 80.09 8 P P 04 30 29.3 -0.9
baz=197
WAT1 **Susitna Watana** 80.11 11 P P 04 30 29.6 -0.8
baz=204
O29M **Mount Kennedy** 80.20 17 P P 04 30 30.2 -0.9
baz=213
G15K **Niukluk** 80.25 4 P P 04 30 30.4 -0.6
baz=188
TX31 **Lajitas Ar. Si** 80.25 56 IAmb IAmb 04 30 34.1
comp=Z,29nm,1.3s
TX31 **Lajitas Ar. Si** 80.25 56 P P 04 30 32.6 +0.6
baz=246
TXAR **Lajitas Array** 80.25 56 P P 04 30 32.7 +0.7
comp=Z,4.7nm,1.1s,baz=235,slow=4.4,SNR=20
TXAR LR LR 04 59 49.4
comp=Z,153nm,19.0s,baz=276,slow=31
comp=Z,4.7nm,1.1s
NJ2 **Nanjing** 80.28 307 eP P 04 30 33.1 +1.2
NJ2 pP **sP** **04 30 43.3 +0.4**
NJ2 sP **pwP** **04 30 46.4 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,260nm,5.9s
KTH **Kantishna Hill** 80.36 10 IAmb IAmb 04 30 32.4
comp=Z,16nm,1.0s
NEW **Newport** 80.37 34 P P 04 30 31.8 -0.4
baz=234
NEW **Newport** 80.37 34 LR LR 04 59 38.5
comp=Z,255nm,19.5s,baz=220,slow=31
TRF **Thorofare Moun** 80.37 10 IAmb IAmb 04 30 39.1
comp=Z,17nm,1.0s
TRF **Thorofare Moun** 80.37 10 P P 04 30 31.5 -0.5
baz=202,SNR=5.7
HARP **HAARP** 80.40 13 P P 04 30 32.2 +0.3
baz=207
ANMO **Albuquerque** 80.44 50 P P 04 30 31.0 -2.1
ANMO **Albuquerque** 80.44 50 P P 04 30 33.4 +0.4
baz=244
ANMO **Albuquerque** 80.44 50 P P 04 30 33.8 +0.8
baz=244
ANMO **Albuquerque** 80.44 50 LR LR 04 58 31.0
comp=Z,293nm,20.7s,baz=352,slow=30
CHUM **Lake Minchumin** 80.45 9 P P 04 30 30.9 -1.2
baz=200,SNR=10
SKAG **Skagway** 80.46 18 P P 04 30 32.5 +0.3
baz=216
J20K **Nowinta River** 80.46 8 IAmb IAmb 04 30 33.3
comp=Z,26nm,1.0s
J20K **Nowinta River** 80.46 8 P P 04 30 30.7 -1.5
baz=198
P30M **Million Dollar** 80.51 17 P P 04 30 32.7 +0.1
baz=215
KLR **Kul'dur** 80.51 327 LR LR 05 01 06.0
comp=Z,111nm,20.5s,baz=208,slow=32
H17K **Granite Mounta** 80.52 6 P P 04 30 32.1 -0.4
baz=193
DHY **Denali Highway** 80.56 12 P P 04 30 32.2 -0.8
baz=205
RND **Reindeer** 80.58 11 IAmb IAmb 04 30 34.2
comp=Z,24nm,1.0s
F14K **Arctic Creek** 80.59 3 P P 04 30 32.2 -0.6
baz=186
TNA **Tin City** 80.61 2 P P 04 30 32.4 -0.5
baz=185,SNR=5.3
S34M **Telegraph Cree** 80.62 21 IAmb IAmb 04 32 38.8
comp=Z,52nm,1.8s
S34M **Telegraph Cree** 80.62 21 P P 04 30 32.9 -0.3
baz=221
GCSA **Galena City Sc** 80.66 7 P P 04 30 33.1 -0.1
baz=196
YUK8 **Steele Glacier** 80.71 16 P P 04 30 33.4 -0.5
baz=212
G16K **Koyuk River** 80.76 5 P P 04 30 33.3 -0.5
baz=190
YUK6 **Outpost Mounta** 80.79 16 P P 04 30 34.1 -0.3
baz=214
PAX **Paxson** 80.85 12 P P 04 30 33.2 -1.2
baz=207
BPAW **Bear Paw Mtn.** 80.86 10 P P 04 30 33.3 -1.1
baz=201
MCK **McKinley** 80.87 11 P P 04 30 33.5 -1.0
baz=203,SNR=14
M26K **Nabesna, AK** 80.88 14 IAmb IAmb 04 30 35.5
comp=Z,26nm,1.1s
M26K **Nabesna, AK** 80.88 14 P P 04 30 34.0 -0.6
baz=209
H18K **Honhosa River** 80.89 6 P P 04 30 34.3 -0.2
baz=194
F15K **North Star Dit** 80.92 4 P P 04 30 33.5 -1.1
baz=188
HYT **Haines Junctio** 80.93 17 IAmb IAmb 04 30 36.3
comp=Z,26nm,1.2s
HYT **Haines Junctio** 80.93 17 P P 04 30 34.2 -0.8
baz=214
YUK3 **Moose Creek** 80.95 15 P P 04 30 34.7 -0.4
baz=212,SNR=6.8
BNX **BinXian** 80.96 322 pP P 04 30 35.6 +0.3
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,170nm,4.1s
G17K **Kiwalik Mounta** 81.00 5 P P 04 30 34.7 -0.4
baz=192
I20K **Naaghedeneel** 81.00 8 IAmb IAmb 04 30 36.5
comp=Z,43nm,1.4s
I20K **Naaghedeneel** 81.00 8 P P 04 30 34.6 -0.4
baz=198
Q32M **Nakina River** 81.04 20 P P 04 30 35.2 -0.4
baz=219
YUK4 **Talbot Arm** 81.05 16 P P 04 30 35.3 -0.3
baz=213
P32M **Atlin** 81.06 19 P P 04 30 36.2 +0.7
baz=218
M27K **Edge Creek, AK** 81.10 14 P P 04 30 35.7 -0.1
baz=210
CN2 **Changchun** 81.12 320 eP P 04 30 36.3 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.8s
O30N **Mendenhall** 81.29 17 IAmb IAmb 04 30 38.1
comp=Z,21nm,1.1s
O30N **Mendenhall** 81.29 17 P P 04 30 36.5 -0.2
baz=216
MSO **Missoula** 81.34 37 IAmb IAmb 04 30 38.2
comp=Z,21nm,1.3s
MSO **Missoula** 81.34 37 P P 04 30 36.3 -1.1
baz=237,SNR=6.9
L26K **Log Cabin Wild** 81.35 13 IAmb IAmb 04 30 38.8
comp=Z,28nm,1.6s
L26K **Log Cabin Wild** 81.35 13 P P 04 30 36.6 -0.4
baz=209,SNR=5.8
TPAW **Teton Pass** 81.39 41 IAmb IAmb 04 30 39.6
comp=Z,19nm,1.2s
BVCY **Beaver Creek** 81.39 15 P P 04 30 37.0 -0.2
baz=211
DLBC **Dease Lake** 81.41 21 P P 04 30 37.6 +0.1
baz=222
DLBC **Dease Lake** 81.41 21 LR LR 05 00 23.0
comp=Z,240nm,18.7s,baz=274,slow=31
S22A **4UR Ranch, Cre** 81.41 47 P P 04 30 33.5 -4.7
S22A IAmb IAmb 04 30 40.5
comp=Z,52nm,1.9s
S22A **4UR Ranch, Cre** 81.41 47 P P 04 30 38.2 -0.1
baz=243,SNR=8.3
H19K **Roundabout Mou** 81.46 7 IAmb IAmb 04 30 39.1
comp=Z,15nm,1.0s
H19K **Roundabout Mou** 81.46 7 P P 04 30 37.3 -0.1
baz=196
O20A **White River Ci** 81.53 45 IAmb IAmb 04 31 41.4
comp=Z,44nm,1.9s
O20A **White River Ci** 81.53 45 P P 04 30 38.3 -0.4
baz=242
K24K **Donnelly Dome** 81.53 12 P P 04 30 37.1 -0.9
baz=206
WHY **Whitehorse** 81.55 18 P P 04 30 37.3 -0.9
baz=217
N30M **Aishikik Lake** 81.57 17 P P 04 30 38.1 -0.2
baz=215
G18K **Tagagawik** 81.58 6 IAmb IAmb 04 30 39.1
comp=Z,16nm,1.1s
G18K **Tagagawik** 81.58 6 P P 04 30 37.7 -0.4
baz=194
IMW **Indian Meadow** 81.60 40 IAmb IAmb 04 30 40.8
comp=Z,17nm,1.2s
H20K **Anotleneega Mo** 81.62 8 P P 04 30 38.0 -0.3
baz=197
NEA2 **Nenana** 81.64 10 P P 04 30 37.7 -0.8
baz=203,SNR=9.9
RIDG **Independent Ri** 81.66 12 IAmb IAmb 04 30 39.9
comp=Z,29nm,1.4s
RIDG **Independent Ri** 81.66 12 P P 04 30 37.9 -0.8
baz=207,SNR=7.3
I21K **Tanana** 81.72 9 P P 04 30 38.1 -0.7
baz=200
L27K **Beaver Creek,** 81.72 14 IAmb IAmb 04 30 40.0
comp=Z,22nm,1.6s
L27K **Beaver Creek,** 81.72 14 P P 04 30 39.0 0.0
baz=210
MLY **Manley** 81.77 9 IAmb IAmb 04 30 39.3
comp=Z,20nm,1.0s
MLY **Manley** 81.77 9 P P 04 30 38.6 -0.6
baz=201,SNR=13
R33M **Jennings River** 81.80 20 P P 04 30 39.6 -0.1
baz=221
FLWY **Flagg Ranch** 81.85 40 IAmb IAmb 04 30 42.2
comp=Z,28nm,1.2s
HDA **Harding Lake** 81.85 11 IAmb IAmb 04 30 40.0
comp=Z,20nm,1.0s
HDA **Harding Lake** 81.85 11 P P 04 30 38.8 -0.7
baz=205,SNR=14
F17K **Baldwin Pennin** 81.88 5 IAmb IAmb 04 30 41.1
comp=Z,14nm,0.9s
F17K **Baldwin Pennin** 81.88 5 P P 04 30 39.7 +0.1
baz=191
BW06 **Boulder Array** 81.92 42 IAmb IAmb 04 30 41.9
comp=Z,36nm,1.8s
BW06 **Boulder Array** 81.92 42 P P 04 30 39.8 -0.9
baz=241,SNR=6.2
PD31 **Pinedale Array** 81.92 42 IAmb IAmb 04 30 41.9
comp=Z,32nm,1.8s
PDAR **Pinedale Array** 81.92 42 P P 04 30 38.0 -2.7
PDAR **Pinedale Array** 81.92 42 P P 04 30 40.4 -0.3
comp=Z,1.5nm,0.7s,baz=211,slow=2.6,SNR=14
PDAR LR LR 05 01 46.2
comp=Z,304nm,18.6s,baz=257,slow=32
comp=Z,1.5nm,0.7s
SMCO **Snowmass** 81.96 46 IAmb IAmb 04 30 47.3
comp=Z,18nm,1.3s
N31M **Braeburn, Yuko** 81.96 17 IAmb IAmb 04 30 42.0
comp=Z,20nm,1.1s
N31M **Braeburn, Yuko** 81.96 17 P P 04 30 40.3 +0.1
baz=216
G19K **Purcell Mounta** 81.98 7 IAmb IAmb 04 30 41.6
comp=Z,17nm,0.9s
G19K **Purcell Mounta** 81.98 7 P P 04 30 39.6 -0.6
baz=195
M29M **Somme Creek** 82.02 15 IAmb IAmb 04 30 41.5
comp=Z,15nm,1.1s
M29M **Somme Creek** 82.02 15 P P 04 30 40.4 -0.2
baz=213
BOZ **Bozeman (W)** 82.05 39 P P 04 30 40.5 -0.7
baz=239
SCRK **Sand Creek** 82.05 13 IAmb IAmb 04 30 41.6
comp=Z,16nm,1.0s
SCRK **Sand Creek** 82.05 13 P P 04 30 40.1 -0.7
baz=208,SNR=11
H21K **Melozitna Rive** 82.05 8 IAmb IAmb 04 30 42.0
comp=Z,16nm,1.1s
H21K **Melozitna Rive** 82.05 8 P P 04 30 40.3 -0.3
baz=199

H17A	Grant Village baz=240	82.08	40	P	P	04 30 41.1	-0.4	
I23K	Minto, Yukon-K comp=Z,20nm,1.1s	82.10	10	IAmb	IAmb	04 30 41.3		
I23K	Minto, Yukon-K baz=203,SNR=12	82.10	10	P	P	04 30 40.0	-0.8	
COLA	College	82.11	11	P	P	04 30 39.7	-1.2	
COLA	College baz=204	82.11	11	P	P	04 30 40.2	-0.7	
MDM	Murphy Dome comp=Z,29nm,1.2s	82.12	10	IAmb	IAmb	04 30 41.5		
YNR	Norris Junctio comp=Z,21nm,1.5s	82.18	40	IAmb	IAmb	04 31 00.8		
IL31	comp=Z,33nm,1.5s	82.19	11	IAmb	IAmb	04 30 41.8		
ILAR	Eielson Array comp=Z,5.1nm,0.9s,baz=239,slow=6.0,SNR=26	82.19	11	P LR	P LR	04 30 40.6	-0.8	
	comp=Z,221nm,21.1s,baz=194,slow=30 comp=Z,5.1nm,0.9s					04 59 46.6		
J25K	Salcha River, comp=Z,20nm,1.0s	82.34	12	IAmb	IAmb	04 30 43.0		
J25K	Salcha River, baz=207	82.34	12	P	P	04 30 41.4	-0.9	
SDCO	Great Sand Dun baz=244,SNR=9.6	82.36	48	P	P	04 30 42.2	-1.1	
SDCO	Great Sand Dun baz=244	82.36	48	P	P	04 30 43.7	+0.5	
SEY	Seymchan comp=Z,198nm,21.3s,baz=129,slow=32	82.40	345	LR	LR	05 02 21.3		
POKR	Poker Plat Res baz=205,SNR=21	82.41	11	P	P	04 30 42.0	-0.4	
E17K	Hotham Inlet baz=191	82.47	4	P	P	04 30 42.3	-0.4	
H22K	Ishtalitna Cre baz=201	82.48	9	P	P	04 30 42.4	-0.5	
N32M	Quiet Lake baz=218	82.48	18	P	P	04 30 42.7	-0.3	
K27K	Chicken comp=Z,24nm,1.4s	82.51	13	IAmb	IAmb	04 30 44.6		
K27K	Chicken baz=210	82.51	13	P	P	04 30 42.6	-0.4	
M30M	Minto, Yukon baz=215	82.57	16	P	P	04 30 42.9	-0.5	
F19K	Shaleruckik Mo comp=Z,16nm,0.9s	82.58	6	IAmb	IAmb	04 30 44.4		
F19K	Shaleruckik Mo baz=195,SNR=6.6	82.58	6	P	P	04 30 42.6	-0.8	
J26L	Joseph Creek baz=208	82.60	12	P	P	04 30 42.8	-0.8	
L29M	L29M baz=214	82.66	15	P	P	04 30 43.6	-0.3	
DRIO	Del Rio comp=Z,15nm,1.1s	82.74	57	IAmb	IAmb	04 30 46.5		
G21K	Allakaket comp=Z,21nm,1.2s	82.77	8	IAmb	IAmb	04 30 45.2		
G21K	Allakaket baz=199	82.77	8	P	P	04 30 44.2	-0.1	
MSTX	Muleshoe baz=246	82.80	52	P	P	04 30 44.7	-0.7	
T25A	Trinidad baz=245	82.88	49	P	P	04 30 45.1	-0.8	
E18K	Tukpahlearik C comp=Z,15nm,1.0s	82.89	5	IAmb	IAmb	04 30 46.4		
E18K	Tukpahlearik C baz=192	82.89	5	P	P	04 30 44.8	-0.1	
OZNA	Ozona comp=Z,14nm,1.3s	82.89	55	IAmb	IAmb	04 30 49.3		
M31M	Drury Creek, Y comp=Z,27nm,1.9s	82.93	17	IAmb	IAmb	04 33 06.2		
M31M	Drury Creek, Y baz=217	82.93	17	P	P	04 30 44.6	-0.7	
H24K	Noodor Dome baz=204	82.98	10	P	P	04 30 44.6	-0.9	
F20K	Avaraart Lake baz=197	83.01	7	P	P	04 30 45.4	-0.1	
WTLY	Watson Lake, Y baz=222	83.07	21	P	P	04 30 45.8	-0.3	
PRP	Porcupine Dome baz=206,SNR=28	83.12	11	P	P	04 30 45.4	-1.0	
Q24A	Divide comp=Z,26nm,1.2s	83.14	47	IAmb	IAmb	04 30 49.1		
Q24A	Divide baz=244,SNR=7.8	83.14	47	P	P	04 30 46.1	-1.2	
DAWY	Dawson baz=212,SNR=12	83.15	14	P	P	04 30 45.9	-0.5	
ISCO	Idaho Springs baz=244	83.18	46	P	P	04 30 46.5	-0.9	
E19K	Redstone River comp=Z,20nm,1.0s	83.24	6	IAmb	IAmb	04 30 48.2		
E19K	Redstone River baz=195	83.24	6	P	P	04 30 46.5	-0.3	
FARO	Faro, Yukon baz=218	83.25	18	P	P	04 30 47.3	+0.4	
RLMT	Red Lodge comp=Z,24nm,1.2s	83.25	40	IAmb	IAmb	04 30 49.4		
RLMT	Red Lodge baz=240,SNR=8.5	83.25	40	P	P	04 30 47.3	-0.3	
833A	Chaparral WMA, baz=249	83.34	58	P	P	04 30 47.1	-1.1	
EGAK	Eagle comp=Z,14nm,1.1s	83.36	13	IAmb	IAmb	04 30 48.5		
EGAK	Eagle baz=211,SNR=6.6	83.36	13	P	P	04 30 46.8	-0.6	
I26K	Coal Creek Min comp=Z,20nm,1.1s	83.39	12	IAmb	IAmb	04 30 48.9		
I26K	Coal Creek Min baz=209	83.39	12	P	P	04 30 47.5	-0.1	
K29M	Barlow Dome comp=Z,18nm,1.1s	83.42	15	IAmb	IAmb	04 30 49.3		
K29M	Barlow Dome baz=214	83.42	15	P	P	04 30 47.7	-0.2	
G22K	Bettles baz=201	83.42	8	P	P	04 30 47.1	-0.6	
C16K	Lisburne Hills baz=187	83.43	3	P	P	04 30 47.4	-0.2	
N23A	Red Feather La comp=Z,16nm,1.1s	83.43	45	IAmb	IAmb	04 30 50.4		
N23A	Red Feather La baz=243	83.43	45	P	P	04 30 48.1	-0.6	
F21K	Alatna River baz=199,SNR=8.4	83.44	8	P	P	04 30 47.2	-0.6	
G23K	Bananza Creek comp=Z,18nm,1.1s	83.44	9	IAmb	IAmb	04 30 49.0		
G23K	Bananza Creek baz=202	83.44	9	P	P	04 30 47.4	-0.5	
CMIG	Matias Romero comp=Z,171nm,20.4s,baz=209,slow=29	83.53	70	LR	LR	04 59 19.0		
C17K	DeLong Mountai baz=189	83.75	4	P	P	04 30 48.7	-0.7	
J29N	Klondike Camp comp=Z,20nm,1.0s	83.76	14	IAmb	IAmb	04 30 51.3		
J29N	Klondike Camp baz=213,SNR=6.2	83.76	14	P	P	04 30 49.3	-0.2	
JCT	Junction City baz=248	83.79	56	P	P	04 30 49.3	-1.2	
RTBA	Rita Blanca comp=Z,21nm,1.3s	83.82	50	IAmb	IAmb	04 30 51.3		
K22A	Casper baz=243,SNR=5.4	83.83	43	P	P	04 30 49.6	-1.0	
K22A	Casper baz=243	83.83	43	P	P	04 30 51.4	+0.8	
HNDO	Hondo comp=Z,14nm,1.0s	83.86	57	IAmb	IAmb	04 30 53.2		
F22K	John River baz=200	83.88	8	P	P	04 30 49.6	-0.5	
COLD	Coldfoot baz=202,SNR=13	83.90	9	P	P	04 30 50.0	-0.2	
PHWY	Pilot Hill comp=Z,15nm,1.4s	83.94	44	IAmb	IAmb	04 30 52.5		
I27K	Kandik River baz=210	83.97	13	P	P	04 30 50.0	-0.6	
AMTX	Amarillo baz=247	83.99	52	P	P	04 30 50.4	-1.1	
C18K	Utukok River baz=191	84.06	4	P	P	04 30 49.9	-1.1	
E20K	Nigu River baz=196	84.12	6	P	P	04 30 50.5	-0.8	
G25K	Bearman Lake baz=206	84.14	10	P	P	04 30 51.0	-0.3	
D19K	Kuna River comp=Z,18nm,1.0s	84.16	5	IAmb	IAmb	04 30 52.7		
D19K	Kuna River baz=194	84.16	5	P	P	04 30 51.8	+0.3	
I28M	Miner Creek comp=Z,18nm,1.3s	84.20	13	IAmb	IAmb	04 30 52.7		
I28M	Miner Creek baz=212	84.20	13	P	P	04 30 51.1	-0.8	
PMSA	Palmer Station comp=Z,126nm,21.7s,baz=298,slow=29	84.24	156	LR	LR	04 58 58.6		
J30M	Hart River comp=Z,12nm,1.1s	84.32	15	IAmb	IAmb	04 30 53.6		
J30M	Hart River baz=215	84.32	15	P	P	04 30 52.2	-0.3	
BILL	Bilibino	84.35	352	P	P	04 30 52.2	-0.2	
EGMT	Eagleton comp=Z,18nm,1.0s	84.39	37	IAmb	IAmb	04 30 54.3		
EGMT	Eagleton baz=240,SNR=7.0	84.39	37	P	P	04 30 52.1	-1.1	
I29M	Ogilvie Camp, comp=Z,20nm,1.1s	84.50	14	IAmb	IAmb	04 30 54.0		
I29M	Ogilvie Camp, baz=213,SNR=5.8	84.50	14	P	P	04 30 52.6	-0.7	
D20K	Etivluk River baz=196	84.52	6	P	P	04 30 52.0	-1.3	
F24K	Squaw Lake comp=Z,11nm,1.0s	84.52	9	IAmb	IAmb	04 30 54.9		
F24K	Squaw Lake baz=204	84.52	9	P	P	04 30 52.7	-0.7	
H27K	Steamboat Moun baz=210,SNR=7.6	84.53	12	P	P	04 30 53.0	-0.5	
E21K	Killik River comp=Z,15nm,1.1s	84.55	7	IAmb	IAmb	04 30 54.5		
E21K	Killik River baz=198	84.55	7	P	P	04 30 52.6	-0.8	
C19K	Lookout Ridge baz=193	84.63	5	P	P	04 30 53.4	-0.5	
ABTX	Abilene, Hawle baz=248	84.70	54	P	P	04 30 55.3	+0.2	
ABTX	Abilene, Hawle baz=248	84.70	54	P	P	04 30 54.4	-0.6	
B18K	Kokolik River baz=191	84.72	4	P	P	04 30 53.7	-0.5	
G26K	Porcupine Rive baz=208	84.72	11	P	P	04 30 54.0	-0.3	
BRDY	Brady comp=Z,11nm,1.1s	84.72	56	IAmb	IAmb	04 30 57.8		
E23K	Chandalar baz=202	84.76	9	P	P	04 30 55.4	+0.8	
KOTAN	Kotaneelee Air baz=227	84.76	22	P	P	04 30 55.0	+0.3	
I30M	Mount Dempster baz=215	84.84	15	P	P	04 30 54.9	-0.3	
KSCO	Kaye Shedlock' baz=246	84.94	47	P	P	04 30 55.0	-1.2	
F25K	Christian Rive baz=206	84.96	10	P	P	04 30 55.5	-0.1	
G27K	Doyon Strip comp=Z,10nm,1.1s	85.01	12	IAmb	IAmb	04 30 57.3		
G27K	Doyon Strip baz=210	85.01	12	P	P	04 30 55.1	-0.7	
D22K	Ayikyak River baz=199	85.12	7	P	P	04 30 56.3	0.0	
C21K	Knifeblade Rid baz=197	85.14	6	P	P	04 30 56.5	+0.1	
H29M	Whitestone baz=213	85.20	13	P	P	04 30 56.5	-0.2	
F26K	Sheenjek River baz=208	85.31	11	P	P	04 30 56.9	-0.4	
E25K	Arctic Village comp=Z,18nm,1.0s	85.45	10	IAmb	IAmb	04 30 59.7		
E25K	Arctic Village baz=206,SNR=19	85.45	10	P	P	04 30 57.6	-0.4	
HNS	HongShan	85.56	310	⇑P	P	04 31 01.0	+1.8	
HNS	comp=Z,7.0nm,1.1s			pmax	pmax			
A19K	Wainwright baz=191	85.60	4	P	P	04 30 58.4	-0.2	
B21K	Ikpikpuk River comp=Z,34nm,1.9s	85.60	6	IAmb	IAmb	04 31 09.2		
B21K	Ikpikpuk River baz=198	85.60	6	P	P	04 30 58.2	-0.4	
435B	Jarrell baz=250	85.68	57	P	P	04 30 59.2	-0.8	
EPYK	Eagle Plains comp=Z,18nm,1.1s	85.70	14	IAmb	IAmb	04 31 00.2		
EPYK	Eagle Plains baz=215,SNR=8.1	85.70	14	P	P	04 30 59.0	-0.3	
B20K	Meade River comp=Z,17nm,1.2s	85.72	5	IAmb	IAmb	04 31 00.6		
B20K	Meade River baz=195	85.72	5	P	P	04 30 58.9	-0.3	
H31M	Peel River comp=Z,16nm,1.2s	85.82	15	IAmb	IAmb	04 31 19.4		
H31M	Peel River baz=217	85.82	15	P	P	04 30 58.7	-1.2	
G29M	Pine Creek comp=Z,15nm,1.0s	85.86	13	IAmb	IAmb	04 31 00.9		
G29M	Pine Creek baz=214	85.86	13	P	P	04 30 59.1	-1.0	
LAO	LASA Array baz=243	85.86	39	P	P	04 30 59.5	-1.1	
LAO	LASA Array baz=243	85.86	39	P	P	04 31 01.0	+0.4	
D24K	Happy Valley comp=Z,11nm,1.1s	85.88	8	IAmb	IAmb	04 31 01.6		
D24K	Happy Valley baz=203	85.88	8	P	P	04 30 59.4	-0.7	
WTFS	Wichita Falls comp=Z,17nm,1.0s	86.04	54	IAmb	IAmb	04 31 02.9		
F28M	Old Crow comp=Z,10nm,1.0s	86.06	12	IAmb	IAmb	04 31 02.2		
F28M	Old Crow baz=212,SNR=9.2	86.06	12	P	P	04 31 01.0	-0.1	
RSSD	Black Hills	86.11	42	P	P	04 30 59.3	-2.7	
RSSD	comp=Z,19nm,1.2s			IAmb	IAmb	04 31 02.8		
RSSD	Black Hills baz=244	86.11	42	P	P	04 31 00.8	-1.3	
RSSD	Black Hills baz=244	86.11	42	P	P	04 31 01.7	-0.4	
WHTX	Lake Whitney, baz=249	86.20	56	P	P	04 31 01.9	-0.6	
E27K	Coleen River comp=Z,16nm,1.1s	86.21	11	IAmb	IAmb	04 31 03.4		
E27K	Coleen River baz=210	86.21	11	P	P	04 31 01.9	+0.2	
C23K	Itkillik River comp=Z,18nm,1.1s	86.27	8	IAmb	IAmb	04 31 03.5		
C23K	Itkillik River baz=201	86.27	8	P	P	04 31 02.1	+0.1	
G30M	tAoh Zraii Nji baz=215,SNR=18	86.32	14	P	P	04 31 01.4	-0.9	
D25K	Kavik River baz=206	86.40	9	P	P	04 31 02.9	+0.2	
B22K	Teshekpuk Lake comp=Z,19nm,1.2s	86.41	7	IAmb	IAmb	04 31 03.9		
B22K	Teshekpuk Lake baz=199	86.41	7	P	P	04 31 02.5	-0.1	
C24K	Franklin Bluff baz=203	86.42	8	P	P	04 31 02.9	+0.2	
G31M	Satah River baz=217,SNR=11	86.73	14	P	P	04 31 03.8	-0.5	
X34A	Smith Ranch, M comp=Z,19nm,1.0s	86.82	53	IAmb	IAmb	04 31 09.4		
Z35A	Peaven, San baz=250	86.83	54	P	P	04 31 06.5	+1.0	
A22K	Sinclair Lake baz=197	86.89	6	P	P	04 31 04.8	-0.1	
F30M	Barrier River baz=216	86.93	13	P	P	04 31 05.2	-0.1	
E28M	Babbage River comp=Z,16nm,1.5s	86.97	12	IAmb	IAmb	04 31 06.7		
E28M	Babbage River baz=212	86.97	12	P	P	04 31 05.4	-0.1	
WRGLY	Wrigley comp=Z,9.6nm,1.0s	87.08	20	IAmb	IAmb	04 31 07.0		
WRGLY	Wrigley baz=227	87.08	20	P	P	04 31 05.3	-0.8	
E29M	Blow River baz=214	87.12	12	P	P	04 31 05.3	-0.9	
D27M	Malcolm River baz=211	87.25	11	P	P	04 31 06.5	-0.3	
F31M	Tsiigehtchic baz=218,SNR=19	87.27	14	P	P	04 31 06.2	-0.6	
237A	Washetta, Mont baz=250	87.52	56	P	P	04 31 10.0	+1.1	
DGMT	Dagmar baz=244,SNR=6.9	87.89	38	P	P	04 31 09.5	-0.8	
DGMT	Dagmar baz=244	87.89	38	P	P	04 31 10.7	+0.4	
INK	Inuvik comp=Z,12nm,1.1s	88.00	14	IAmb	IAmb	04 31 11.0		
INK	Inuvik baz=218,SNR=8.8	88.00	14	P	P	04 31 10.2	-0.1	
INK	Inuvik	88.00	14	LR	LR	05 03 08.2		
	comp=Z,272nm,22.0s,baz=181,slow=31							
MAW	Mawson comp=Z,5.5nm,0.6s,baz=156,slow=10.0,SNR=2.3	88.08	199	P	P	04 31 11.8	+0.9	
MAW	comp=Z,286nm,18.8s,baz=116,slow=34 comp=Z,5.5nm,0.6s			LR	LR	05 08 29.1		
TUL3	Leonard baz=250	88.84	52	P	P	04 31 15.6	+0.5	
HHC	Hu-ho-hao-te	89.11	313	eP	P	04 31 17.3	+0.9	
HHC	comp=Z,16nm,0.6s			pmax	pmax			
HHC	comp=Z,350nm,7.6s			pmax	pmax			
HHC	comp=Z,330nm,19.5s			LR	LR			
HHC	comp=Z,630nm,19.1s			LR	LR			
HHC	comp=Z,340nm,19.1s			LR	LR			
PLCA	Paso Flores comp=Z,1.5nm,1.0s,baz=249,slow=8.6,SNR=2.9	89.42	132	P	P	04 31 19.5	+1.5	
PLCA	comp=Z,100nm,20.7s,baz=242,slow=30 comp=Z,1.5nm,1.0s			LR	LR	05 02 43.5		
YKA	Yellowknife Ar comp=Z,4.1nm,0.9s,baz=236,slow=4.4,SNR=48	89.80	23	P	P	04 31 18.5	-0.4	
YKA	comp=Z,323nm,19.7s,baz=257,slow=31 comp=Z,4.1nm,0.9s			LR	LR	05 04 16.6		
BTO	Baotou	90.12	312	eP	P	04 31 22.9	+1.7	
BTO				pP	pwP	04 31 33.6	-0.5	
BTO				sP	sP	04 31 37.5	+5.2	
BTO				PP	PP	04 34 58.4	+3.4	
BTO				S	S	04 42 15.6	+2.6	
BTO				SS	SS	04 48 09.9	-2.7	
BTO	comp=Z,11nm,0.5s			pmax	pmax			
BTO	comp=Z,310nm,4.3s			pmax	pmax			
BTO	comp=Z,490nm,5.2s			LR	LR			
BTO	comp=Z,720nm,6.5s			LR	LR			
BTO	comp=Z,610nm,9.9s			LR	LR			
TEIG	Tepich comp=Z,757nm,20.9s,baz=284,slow=31	90.43	69	LR	LR	05 04 45.8		
ECSD	EROS Data Cent baz=250	90.91	45	P	P	04 31 23.4	-1.2	
R40A	Maddies Statio comp=Z,15nm,1.2s	92.27	51	IAmb	IAmb	04 31 31.6		
R40A	Maddies Statio baz=252	92.27	51	P	P	04 31 30.4	-0.6	
ELIB	Princess Elisa comp=Z,18nm,1.0s	92.36	185	dP	P	04 31 30.4	-0.6	
PZH	PanZhiHua	92.45	297	P	P	04 31 33.8	+1.5	
PZH	comp=Z,10.0nm,0.4s			pmax	pmax			
PZH	comp=Z,150nm,5.3s			pmax	pmax			
LCAR	Lake Charles comp=Z,9.5nm,1.2s	92.46	53	IAmb	IAmb	04 31 33.0		
LCAR	Lake Charles baz=253	92.46	53	P	P	04 31 31.8	-0.1	
A36M	Sachs Harbour baz=226	92.64	13	P	P	04 31 31.6	-0.4	
ATAH	Atahualpa comp=Z,93nm,20.7s,baz=280,slow=29	92.65	98	LR	LR	05 03 51.7		
T42A	Van Buren baz=253	92.79	53	P	P	04 31 33.2	-0.2	
NNA	Nana comp=Z,53nm,20.3s,baz=305,slow=30	92.81	103	LR	LR	05 04 06.1		
CMAR	Chiang Mai Arr comp=Z,16nm,19.4s,baz=150,slow=35	92.84	288	LR	LR	05 11 57.0		
TROLL	Troll, Antarti comp=Z,312nm,1.2s	92.95	179	⇑P	P	04 31 34.9	+1.1	
CCM	Cathedral Cave baz=253	92.97	51	P	P	04 31 32.9	-1.4	
VNA3	Neumayer Olymp comp=Z,5.8nm,0.8s	93.03	175	⇑P	P	04 31 34.4	+0.4	
SNAA	Sanae comp=Z,91nm,1.0s	93.09	177	⇑P	P	04 31 34.6	+0.3	
SNAA	Sanae comp=Z,5.3nm,1.1s,baz=215,slow=5.9,SNR=4.9	93.09	177	P	P	04 31 34.5	+0.2	
VNA2	comp=Z,5.3nm,1.1s Neumayer--Watz comp=Z,4.6nm,0.8s,baz=199,slow=2.0	93.53	175	⇑P	P	04 31 36.9	+0.6	
ULM	Lac du Bonnet comp=Z,13nm,1.2s	93.59	39	IAmb	IAmb	04 31 36.8		
ULM	Lac du Bonnet comp=Z,3.5nm,0.9s,baz=260,slow=7.1,SNR=5.1	93.59	39	P	P	04 31 35.9	-0.9	
ULM	comp=Z,411nm,18.4s,baz=274,slow=32 comp=Z,3.5nm,0.9s			LR	LR	05 08 54.1		
VNA1	Neumayer--Stat comp=Z,8.2nm,0.8s	93.72	175	⇑P	P	04 31 37.3	+0.1	
CFA	Coronel Fontan comp=Z,60nm,18.3s,baz=204,slow=30	94.32	124	LR	LR	05 06 18.8		
TIXI	Tiksi comp=Z,6.2nm,20.4s,baz=108,slow=34	94.89	344	LR	LR	05 11 22.5		
SONM	Songjiang Array comp=Z,51nm,18.9s,baz=32,slow=36	94.89	318	LR	LR	05 15 31.6		
JFWS	Jewell Farm baz=254	95.07	47	P	P	04 31 42.6	-1.2	
LVC	Limon Verde comp=Z,49nm,20.3s,baz=272,slow=29	96.83	116	LR	LR	05 05 54.6		
TKL	Tuckaleechee C comp=Z,168nm,18.6s,baz=294,slow=33	98.15	55	LR	LR	05 12 18.6		
ROSC	El Rosal comp=Z,88nm,20.7s,baz=244,slow=30	99.70	88	LR	LR	05 07 42.3		
MKAR	Makanchi Array comp=Z,0.4nm,0.9s,baz=47,slow=1.9,SNR=2.8	110.90	315	PKiKP	PKiKP			04 36 52.7 -1.3
TSUM	Tsumeb	144.24	197	PKPdf	PKPbc	04 37 56.6	+0.7	
CRVS	Cervenica-Dubn	144.33	343	ePKP	PKPdf	04 37 58.3	+1.4	
MORC	Moravsky Berou	144.44	348	ePKP	PKPbc	04 37 55.8	+0.2	
LANS	Liptovska Anna	144.61	346	ePKP	PKPdf	04 37 59.0	+1.6	
VRAC	Vranov	145.07	349	ePKP	PKPbc	04 37 57.5	-0.1	
JAVC	Velka Javorina	145.29	347	ePKP	PKPdf	04 37 59.1	+0.5	
BNN	Bunyan	145.34	318		PKPbc	04 37 58.3	-0.6	
ZVC	Zvikov	145.34	352	ePKP	PKPdf	04 37 59.4	+0.8	
KRUC	Moravsky	145.34	349	ePKP	PKPbc	04 37 56.9	-1.5	
VYHS	Vyhne	145.38	346	ePKP	PKPdf	04 37 59.0	+0.3	
WLF	Walferdange	145.62	1		PKPdf	04 37 58.8	-0.2	
KHC	Kasperske Hory	145.72	352	ePKP	PKPdf	04 37 59.0	-0.3	
MODS	Modra-Piesok	145.83	348	ePKP	PKPab	04 38 01.0	+0.6	
KMBO	Kilima Mbogo comp=Z,6.3nm,0.9s,baz=48,slow=3.8,SNR=7.8	145.89	244	PKPbc	PKPdf	04 38 00.1	-0.9	
CKRC	Cesky Krumlov	145.93	351	ePKP	PKPdf	04 37 59.0	-0.6	
GERES	GERESS Array B comp=Z,3.9nm,1.0s,baz=352,slow=8.1,SNR=7.7	145.99	352	PKPbc	PKPbc	04 38 00.4	-0.2	
ZST	Bratislava	146.04	348	ePKP	PKPab	04 38 02.1	+0.9	
BRTR	Keskin Array B	146.19	321		PKPbc	04 38 01.6	0.0	
BRTR	Keskin Array B comp=Z,9.0nm,1.0s,baz=90,slow=1.9,SNR=25	146.19	321	PKPbc	PKPbc	04 38 01.8	+0.2	
CONA	Conrad Observa comp=Z,26nm,1.8s	146.53	349	i PKiKP	PKiKP	04 38 06.8	+1.7	
RONA	Rosalia, Austr comp=Z,27nm,1.5s	146.67	348	epPKP	pPKPdf	04 38 10.5	+0.8	
MOA	Molln comp=Z,10nm,1.4s	146.88	351	i PKP	PKPab	04 38 03.8	-0.6	
BFO	Black Forest	146.94	358		PKPbc	04 38 02.4	-1.0	
BIOA	Bad Ischl, Aus comp=Z,3.6nm,1.0s	147.12	352	epPKP	pPKPdf	04 38 12.2	+1.7	
ARSA	Arzberg comp=Z,4.7nm,1.2s	147.25	349	i PKP	PKPab	04 38 05.8	-0.1	
LESA	Schwarzleotal comp=Z,8.4nm,1.1s	147.51	353	ePKiKP	PKiKP	04 38 08.4	+1.2	
RETA	Reutte comp=Z,5.4nm,1.1s	147.65	355	i PKP	PKPab	04 38 07.1	-0.5	
WATA	Walderalm comp=Z,5.2nm,0.7s	147.72	354	ePKiKP	PKPab	04 38 09.4	+1.4	
MOTA	Moosalm comp=Z,11nm,1.0s	147.76	355	ePKiKP	PKPab	04 38 08.7	+0.6	
WTTA	Wattenberg comp=Z,9.1nm,1.1s	147.79	354	ePKP	PKPbc	04 38 06.0	+0.1	
SQTA	Sankt Quirin comp=Z,6.9nm,1.0s	147.87	354	i PKP	PKPab	04 38 09.9	+1.4	
SOKA	Soboth comp=Z,9.0nm,1.2s	147.89	349	ePKP	PKPbc	04 38 05.5	-0.6	
DAVA	Damuels comp=Z,14nm,1.2s	147.91	356	ePKP	PKPbc	04 38 06.5	+0.3	
FETA	Feichten comp=Z,10nm,1.3s	148.11	355	ePKP	PKPab	04 38 09.5	0.0	
OBKA	Obir comp=Z,22nm,1.9s	148.14	350	ePKP	PKPab	04 38 09.4	-0.1	
MYKA	Terra Mystica comp=Z,11nm,1.1s	148.16	351	i PKP	PKPbc	04 38 06.1	-0.6	

ABTA	**Abfaltersbach**	**148.20**	**353**	*e*PKP	**PKPbc**	**04**	**38**	**07.4**	**+0.5**
	comp=Z,14nm,1.3s								
FUORN	**Ofenpass-Fuorn**	**148.55**	**356**	PKPdf	**PKPdf**	**04**	**38**	**03.0**	**-1.4**
ESDC	**Sonseca Array**	**153.82**	**19**	PKPab	**PKPab**	**04**	**38**	**32.3**	**-0.9**
	comp=Z,3.8nm,1.2s,baz=319,slow=2.6,SNR=8.5								
TORD	**Torodi Ar. Bea**	**174.55**	**111**	PKP	**PKPdf**	**04**	**38**	**33.5**	**+2.1**
	comp=Z,1.6nm,1.1s,baz=353,slow=3.0,SNR=4.9								

MOS ***18*** *05:14:06.2±1.0, 44.˚44N×148.˚25E, h59km, mb4.3/16, Error ellipse: s-maj=8.0km s-min=7.2km az=56.5*
MOS Felt (II) at Gornyy, Kuril'sk, Reydovo.
SKHL ***18*** *05:14:06.5±0.8, 44.˚40N×148.˚40E, h64km±6km, mb5.2/8*
JMA ***18*** *05:14:07.5±0.4, 44.˚N±1.˚×14.˚8E±.˚, h0km, MD4.3/35, MV4.8/35, SE OFF ETOROFU*
IDC ***18*** *05:14:07.4±3.7, 44.˚54N×148.˚17E, h46km±35km, mb3.7/23, mbtmp4.0/25, ML3.3/2, MS3.0/7, Error ellipse: s-maj=17.0km s-min=14.7km az=146.0*
NIED ***18*** *05:14:07.5, 44.˚03N×147.˚98E, h0km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.57; Mϑϑ-0.36; Mϕϕ-0.20; Mrϑ1.03; Mrϕ-0.47; Mϑϕ1.14; Fault plane solution: Mo1.67000×10¹⁵ NP1:ϕs42.00000°, δ78.00000°, λ86.00000°. NP2:ϕs242.00000°, δ12.00000°, λ109.00000°.*
NEIC ***18*** *05:14:10.9±1.4, 44.˚6N±0.˚1×148.˚08E±0.˚05, h71km, gKm, mb4.2/43 Error ellipse: s-maj=14.9km s-min=5.5km az=179.0*

ISC 18 05:14:07.9±0.7,**44.˚37N**±0.˚04×**148.˚22E**±0.˚06,**h55**km±6km, **n166,** σt**11**/172,**mb4.1**/53,**3C-8D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.90**	**344**	*e*PN		**Pn**	**05 14 23.3**	**-1.0**
KUR				*i* S		**Sn**	**05 14 35.0**	**-1.5**
KUR				pmax	pmax			
	comp=Z,2μm,0.3s							
KUR				pmax	pmax			
	comp=N,463nm,0.4s							
KUR				pmax	pmax			
	comp=E,454nm,0.2s							
KUR				smax	smax			
	comp=N,6μm,0.2s							
KUR	**Kuril'sk**	**0.90**	**344**	*e*P		**Pn**	**05 14 23.3**	**-1.0**
KUR				AMB	AMB		05 14 24.1	
	comp=N,2μm,0.3s							
KUR				*i* S		**Sn**	**05 14 35.3**	**-1.2**
KUR				A	A		05 14 38.1	
	comp=N,6μm,0.2s							
SHO	**Shikotan**	**1.12**	**244**	ǁ *i* PN		**Pn**	**05 14 26.7**	**-0.6**
SHO				*e*S		**Sn**	**05 14 39.7**	**-2.1**
SHO				pmax	pmax			
	comp=Z,620nm,0.3s							
SHO				pmax	pmax			
	comp=N,250nm,0.4s							
SHO				pmax	pmax			
	comp=E,267nm,0.3s							
SHO				smax	smax			
	comp=E,6μm,0.4s							
SHO				smax	smax			
	comp=N,2μm,0.2s							
SHO	**Shikotan**	**1.12**	**244**	*i* P		**Pn**	**05 14 26.7**	**-0.6**
SHO				AMB	AMB		05 14 27.1	
	comp=N,620nm,0.3s							
SHO				*e*S		**Sn**	**05 14 40.1**	**-1.7**
SHO				A	A		05 14 40.9	
	comp=N,2μm,0.4s							
SHO				A	A		05 14 40.9	
	comp=N,6μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.73**	**259**	*d i* PN		**Pn**	**05 14 35.7**	**+0.2**
YUK				*e*S		**Sn**	**05 14 57.7**	**+1.2**
YUK				pmax	pmax			
	comp=Z,2μm,0.2s							
YUK				pmax	pmax			
	comp=E,334nm,0.1s							
YUK				pmax	pmax			
	comp=N,357nm,0.2s							
YUK				smax	smax			
	comp=N,2μm,0.5s							
YUK				smax	smax			
	comp=E,4μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.73**	**259**	*i* P		**Pn**	**05 14 35.5**	**0.0**
YUK				AMB	AMB		05 14 37.4	
	comp=E,2μm,0.3s							
YUK				*e*S		**Sn**	**05 14 56.5**	**0.0**
YUK				A	A		05 15 02.7	
	comp=E,2μm,0.5s							
YUK				A	A		05 15 02.7	
	comp=E,4μm,0.5s							
NEM2	**Nemuro 2**	**2.06**	**241**	*e*P		**Pn**	**05 14 39.5**	**-0.5**
NEM2				*e*S		**Sn**	**05 15 03.3**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.06**	**242**	ǁ *i* PN		**Pn**	**05 14 39.5**	**-0.6**
NMR				*e*S		**Sn**	**05 15 03.0**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.06**	**242**	*i* P		**Pn**	**05 14 39.5**	**-0.6**
NMR				*e*S		**Sn**	**05 15 03.3**	**-1.3**
RUSJ	**Misakicho**	**2.15**	**264**	ǁ *i* PN		**Pn**	**05 14 42.9**	**+1.6**
RUSJ				*e*S		**Sn**	**05 15 09.3**	**+2.5**
JRA	**Rausu**	**2.27**	**260**	*e*P		**Pn**	**05 14 44.2**	**+1.2**
JNSB	**Nemuroshibetsu**	**2.39**	**257**	*e*P		**Pn**	**05 14 45.7**	**+1.1**
JKHN	**Kushirohamanak**	**2.57**	**241**	*e*P		**Pn**	**05 14 47.0**	**0.0**
JKHN				*e*S		**Sn**	**05 15 15.9**	**-1.0**
JNK	**Nakash**	**2.65**	**254**	*e*P		**Pn**	**05 14 48.9**	**+0.8**
JNK				*e*S		**Sn**	**05 15 19.1**	**+0.2**
AKK	**Akkeshi**	**2.80**	**242**	*e*P		**Pn**	**05 14 49.9**	**-0.3**
JAK	**Akkeshi**	**2.90**	**243**	*e*P		**Pn**	**05 14 51.7**	**+0.1**
JAK				*e*S		**Sn**	**05 15 24.5**	**-0.8**
JAK	**Akkeshi**	**2.90**	**243**	A		A	05 14 51.7	
	comp=E,2.0nm,0.3s,comp=N,2.0nm,1.1s							
JTKR	**Abashiri--Toko**	**3.13**	**264**	*e*P		**Pn**	**05 14 55.8**	**+1.1**
JAR	**Ashorobuto**	**3.40**	**253**	*e*P		**Pn**	**05 14 59.9**	**+1.6**
JOB	**Onbets**	**3.51**	**247**	*e*P		**Pn**	**05 15 00.7**	**+0.9**
JOB				*e*S		**Sn**	**05 15 40.3**	**+0.3**
JMP	**Maruseppu**	**3.52**	**266**	*e*P		**Pn**	**05 15 01.2**	**+1.2**
JCH	**Churui**	**3.95**	**245**	*e*P		**Pn**	**05 15 06.5**	**+0.7**
JKK2	**Kamakawa 2**	**3.97**	**265**	*e*P		**Pn**	**05 15 08.8**	**+2.6**
JKA	**Kamikawa-asahi**	**4.05**	**268**			**Pn**	**05 15 09.4**	**+2.2**
JKA	**Kamikawa-asahi**	**4.05**	**268**	*e*P		**Pn**	**05 15 09.4**	**+2.2**
ASAJ	**Asahikawa**	**4.05**	**268**	PN		**Pn**	**05 15 09.4**	**+2.1**
ASAJ	**Asahikawa**	**4.05**	**268**	P		**Pn**	**05 15 09.8**	**+2.5**
	comp=N,14nm,0.4s,baz=50,slow=20,SNR=18							
ASAJ				S		Sn	05 16 04.4	+11
	comp=N,29nm,0.6s,baz=78,slow=20,SNR=1.8							
ASAJ				LR		LR	05 16 50.1	
	comp=N,291nm,21.4s,baz=134,slow=40							
JSE	**Soyaes**	**4.06**	**280**	*e*P		**Pn**	**05 15 08.7**	**+1.2**
ERM	**Erimo**	**4.39**	**239**			**Pn**	**05 15 15.1**	**+3.2**
ERM	**Erimo**	**4.39**	**239**	*d i* PN		**Pn**	**05 15 14.3**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.50**	**244**	*e*P		**Pn**	**05 15 13.7**	**+0.1**
JNBK	**Urakawa-nobuka**	**4.50**	**244**	A		A	05 15 13.7	
	comp=E,4.0nm,1.8s,comp=N,2.0nm,0.6s							
JWK2	**Keihoku**	**4.59**	**284**	*e*P		**Pn**	**05 15 17.4**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.62**	**306**			**Pn**	**05 15 15.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.62**	**306**	*e*PN		**Pn**	**05 15 15.2**	**+0.2**
YSS				*e*S		**Sn**	**05 16 07.3**	**0.0**
YSS				pmax	pmax			
	comp=Z,60nm,0.4s							
YSS				smax	smax			
	comp=N,30nm,0.7s							
YSS				MLR	MLR			
	comp=Z,300nm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.62**	**306**	*e*P		**Pn**	**05 15 15.3**	**+0.2**
YSS				AMB	AMB		05 15 16.3	
	comp=Z,110nm,0.3s							
YSS				*e*S		**Sn**	**05 16 07.5**	**+0.2**
YSS				A	A		05 16 09.4	
	comp=Z,30nm,0.3s							
YSS				A	A		05 16 09.4	
	comp=Z,30nm,0.3s							
JRBN	**Rebuntou**	**5.19**	**284**	*e*P		**Pn**	**05 15 24.8**	**+1.9**
UGL	**Uglegorsk**	**6.33**	**320**	*e*P		**Pn**	**05 15 39.1**	**+0.7**
UGL				AMB	AMB		05 15 42.2	
	comp=Z,50nm,0.4s							
JTM	**Tenmabayashi**	**6.38**	**238**	Pn		**Pn**	**05 15 40.4**	**+1.2**
TYV	**Tymovskoe**	**7.50**	**332**	*e*PN		**Pn**	**05 15 57.2**	**+2.7**
TYV				*e*S		**Sn**	**05 17 20.7**	**+2.7**
TYV				pmax	pmax			
	comp=Z,11nm,0.8s							
TYV				pmax	pmax			
	comp=Z,200nm,5.2s							
TYV				smax	smax			
	comp=N,6.0nm,1.0s							
TYV				smax	smax			
	comp=E,6.0nm,1.0s							
TYV				smax	smax			
	comp=N,300nm,6.6s							
TYV				smax	smax			
	comp=E,200nm,6.6s							
TYV	**Tymovskoe**	**7.50**	**332**	*e*P		**Pn**	**05 15 55.7**	**+1.2**
TYV				*e*S		**Sn**	**05 17 16.7**	**-1.3**
SKR	**Severo-Kuril's**	**8.27**	**37**	ǁ *e*PN		Pn	05 16 02.1	-2.9
SKR	**Severo-Kuril's**	**8.27**	**37**	*e*P		Pn	05 16 03.0	-2.0
SKR				AMB	AMB		05 16 08.4	
	comp=E,40nm,0.7s							
JMM	**Marumori**	**8.58**	**223**	Pn		**Pn**	**05 16 12.0**	**+2.7**
PAU	**Pauzhetka**	**9.14**	**36**	*e*P		Pn	05 16 15.7	-1.2
JSD	**Sado**	**9.81**	**233**	Pn		**Pn**	**05 16 29.4**	**+3.2**
NKL	**Nikolayevsk**	**10.09**	**333**	*e*P		**Pn**	**05 16 30.2**	**+0.3**
PETK	**Petropavlovsk-**	**10.74**	**32**	LR		LR	05 21 07.5	
	comp=E,70nm,18.5s,baz=269,slow=40							
MJAR	**Matsushiro Arr**	**10.92**	**228**	P		**Pn**	**05 16 41.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=32,slow=13,SNR=1.5 comp=E,1.2nm,0.3s							
MAJO	**Matsushiro**	**10.92**	**228**	ǁ *e*PN		**Pn**	**05 16 41.2**	**-0.2**
PET	**Petropavlovsk**	**11.05**	**35**	Pn		**Pn**	**05 16 43.3**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.64**	**275**	Pn		**Pn**	**05 16 51.2**	**+0.1**
USA0B	**Ussuriysk Arra**	**11.64**	**275**	PN		**Pn**	**05 16 51.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.64**	**275**	Pn		**Pn**	**05 16 51.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.64**	**275**	PN		**Pn**	**05 16 51.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.64**	**275**	P		**Pn**	**05 16 53.2**	**+2.1**
	comp=E,6.2nm,0.9s,baz=78,slow=14,SNR=6.6							
USRK				LR		LR	05 21 04.4	
	comp=E,117nm,18.5s,baz=37,slow=36							
KLR	**Kul'dur**	**12.28**	**299**	P		Pn	05 17 04.3	+4.5
	comp=E,1.9nm,0.7s,baz=109,slow=14,SNR=8.7							
KLR				LR		LR	05 21 47.5	
	comp=E,126nm,20.4s,baz=232,slow=38							
MA2	**Magadan**	**15.30**	**5**	LR		LR	05 24 28.2	
	comp=E,91nm,18.6s,baz=328,slow=41							
KSRS	**Korea Array**	**16.80**	**253**	P		**Pn**	**05 17 58.2**	**-1.1**
	comp=E,0.2nm,0.3s,baz=49,slow=11,SNR=2.1							
KSRS				LR		LR	05 23 47.2	
	comp=E,46nm,21.6s,baz=85,slow=34 comp=E,0.9nm,0.6s							
HIA	**Hailar**	**20.03**	**294**	P		**P**	**05 18 35.0**	**-1.1**
HIA	**Hailar**	**20.03**	**294**	P		**P**	**05 18 35.0**	**-1.1**
HIA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
YAK	**Yakutsk**	**20.74**	**335**	P		**P**	**05 18 41.6**	**-2.0**
YAK	**Yakutsk**	**20.74**	**335**	LR		LR	05 26 03.7	
	comp=Z,5.1nm,21.2s,baz=296,slow=35							
BILL	**Bilibino**	**25.55**	**16**	P		**P**	**05 19 31.2**	**+0.2**
ULN	**Ulaanbaatar**	**28.50**	**292**	ǁ *e*P		**P**	**05 19 57.7**	**-0.3**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ULN	**Ulaanbaatar**	**28.50**	**292**	*e*P		**P**	**05 19 57.7**	**-0.3**
TIK	**Tiksi**	**28.90**	**347**	*e*P		**P**	**05 20 00.6**	**-0.4**
TIXI	**Tiksi**	**28.91**	**347**	P		**P**	**05 20 00.6**	**-0.5**
TIXI	**Tiksi**	**28.91**	**347**	P		**P**	**05 20 00.6**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**28.95**	**292**	*e*P		**P**	**05 20 01.7**	**-0.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
SONM	**Songino Array**	**28.95**	**292**	P		**P**	**05 20 02.8**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=90,slow=5.9,SNR=4.0 comp=Z,1.1nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**29.09**	**142**	T		T	05 50 51.0	
	baz=332,slow=76,SNR=214							
H11N1	**WAKE ISLAND Hy**	**29.10**	**142**	T		T	05 50 53.2	
	baz=332,slow=76,SNR=185							
H11N3	**WAKE ISLAND Hy**	**29.11**	**142**	T		T	05 50 53.6	
	baz=332,slow=76,SNR=224							
H11S1	**WAKE ISLAND Hy**	**30.08**	**143**	T		T	05 52 07.2	
	baz=333,slow=76,SNR=497							
H11S3	**WAKE ISLAND Hy**	**30.09**	**143**	T		T	05 52 04.6	
	baz=333,slow=76,SNR=255							
H11S2	**WAKE ISLAND Hy**	**30.10**	**143**	T		T	05 52 05.1	
	baz=333,slow=76,SNR=292							
C16K	**Lisburne Hills**	**33.81**	**29**	P		**P**	**05 20 44.0**	**-0.2**
C16K				IAmb	IAmb		05 20 44.4	
	comp=Z,2.3nm,0.8s							
L16K	**Owhat River**	**34.75**	**41**	P		**P**	**05 20 53.0**	**+0.7**
L16K				IAmb	IAmb		05 21 09.1	
	comp=Z,3.9nm,1.1s							
M16K	**Timber Creek**	**34.94**	**43**	P		**P**	**05 20 54.8**	**+0.8**
M17K	**Holitna River**	**35.70**	**42**	P		**P**	**05 21 01.9**	**+1.3**
L18K	**Granite Mounta**	**36.10**	**41**	P		**P**	**05 21 05.3**	**+1.3**
L18K				IAmb	IAmb		05 21 25.4	
	comp=Z,1.9nm,1.0s							
B20K	**Meade River**	**37.13**	**28**	P		**P**	**05 21 12.0**	**-0.6**
J20K	**Nowinta River**	**37.38**	**38**	P		**P**	**05 21 15.9**	**+1.1**
J20K				IAmb	IAmb		05 21 17.4	
	comp=Z,4.2nm,1.1s							
M20K	**Styx River**	**37.77**	**41**	P		**P**	**05 21 19.6**	**+1.4**
M20K				IAmb	IAmb		05 21 45.5	
	comp=Z,2.7nm,1.0s							
G21K	**Allakaket**	**37.85**	**34**	P		**P**	**05 21 19.4**	**+0.7**
G21K				IAmb	IAmb		05 21 21.1	
	comp=Z,2.8nm,0.8s							
B21K	**Ikpikpuk River**	**37.91**	**29**	P		**P**	**05 21 19.2**	**0.0**
H21K	**Melozitna Rive**	**38.05**	**35**	P		**P**	**05 21 20.7**	**+0.2**
H21K				IAmb	IAmb		05 21 22.4	
	comp=Z,3.5nm,1.1s							
B22K	**Teshekpuk Lake**	**38.45**	**28**	P		**P**	**05 21 23.1**	**-0.7**
B22K				IAmb	IAmb		05 21 23.2	
	comp=Z,2.2nm,0.8s							
C23K	**Itkillik River**	**39.32**	**29**	P		**P**	**05 21 30.8**	**-0.2**
C23K				IAmb	IAmb		05 21 32.9	
	comp=Z,4.2nm,1.0s							
D24K	**Happy Valley**	**39.87**	**30**	P		**P**	**05 21 36.1**	**+0.5**
D24K				IAmb	IAmb		05 22 04.3	
	comp=Z,3.3nm,1.1s							
ILAR	**Eielson Array**	**40.53**	**37**	*e*P		**P**	**05 21 41.1**	**0.0**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**40.53**	**37**	P		**P**	**05 21 40.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=251,slow=7.0,SNR=8.5 comp=Z,0.8nm,0.8s							
D25K	**Kavik River**	**40.76**	**30**	P		**P**	**05 21 43.1**	**+0.1**
D25K				IAmb	IAmb		05 21 56.2	
	comp=Z,2.7nm,0.9s							
M24K	**Tolsona, Glenn**	**41.03**	**41**	P		**P**	**05 21 46.3**	**+0.9**
M24K				IAmb	IAmb		05 21 59.0	
	comp=Z,3.6nm,0.8s							
ZALV	**Zalesovo Beam**	**41.24**	**307**	P		**P**	**05 21 46.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=81,slow=12,SNR=1.8							
ZALV				PcP		**PcP**	**05 23 44.6**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=83,slow=3.7,SNR=9.0 comp=Z,0.3nm,0.3s							
L26K	**Log Cabin Wild**	**42.23**	**39**	P		**P**	**05 21 56.1**	**+1.0**
E27K	**Coleen River**	**42.50**	**31**	P		**P**	**05 21 58.5**	**+1.2**
K27K	**Chicken**	**42.67**	**38**	P		**P**	**05 21 59.7**	**+1.0**
K27K				IAmb	IAmb		05 22 00.2	
	comp=Z,4.9nm,0.8s							
L27K	**Beaver Creek,**	**42.91**	**39**	P		**P**	**05 22 02.2**	**+1.5**
L27K				IAmb	IAmb		05 22 02.7	
	comp=Z,4.1nm,0.8s							
BCAR	**Beaver Creek A**	**42.93**	**39**	P		**P**	**05 22 02.3**	**+1.5**
DAWY	**Dawson**	**43.83**	**37**	P		**P**	**05 22 08.9**	**+0.8**
G30M	**tAoh Zraii Nji**	**44.67**	**33**	P		**P**	**05 22 15.0**	**+0.3**
G30M				IAmb	IAmb		05 22 28.3	
	comp=Z,2.0nm,0.8s							
I30M	**Mount Dempster**	**44.91**	**35**	P		**P**	**05 22 17.8**	**+1.0**
I30M				IAmb	IAmb		05 22 18.7	
	comp=Z,5.3nm,1.1s							
MK31	**Makanchi Array**	**44.98**	**297**	P		**P**	**05 22 17.6**	**+0.1**
MK31	**Makanchi Array**	**44.98**	**297**	*de*P		**P**	**05 22 17.0**	**-0.4**
MKAR	**Makanchi Array**	**44.98**	**297**	P		**P**	**05 22 17.2**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=79,slow=8.6,SNR=16							
MKAR				PcP		**PcP**	**05 23 57.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=69,slow=4.8,SNR=11 comp=Z,1.2nm,0.6s							
MAKZ	**Makanchi**	**45.17**	**298**	P		**P**	**05 22 19.1**	**+0.1**
MAKZ				IAmb	IAmb		05 22 20.2	
	comp=Z,1.5nm,0.6s							
MAKZ	**Makanchi**	**45.17**	**298**	P		**P**	**05 22 19.1**	**+0.1**
MAKZ				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**45.47**	**31**	P		**P**	**05 22 21.0**	**0.0**
INK	**Inuvik**	**45.47**	**31**	P		**P**	**05 22 21.0**	**0.0**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**45.82**	**304**	P		**P**	**05 22 24.0**	**0.0**
KURK	**Kurchatov**	**45.82**	**304**	P		**P**	**05 22 24.3**	**+0.3**
KURK							05 24 01.0	
KURK	**Kurchatov**	**45.82**	**304**	*e*P		**P**	**05 22 24.3**	**+0.3**
KURBB	**Kurchatov Arra**	**45.91**	**304**	P		**P**	**05 22 24.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=70,slow=8.5,SNR=8.1							
KURBB				PcP		**PcP**	**05 24 00.9**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=74,slow=3.6,SNR=13 comp=Z,0.6nm,0.4s							
FARO	**Faro, Yukon**	**46.91**	**39**	P		**P**	**05 22 33.5**	**+1.0**
CHTO	**Chiang Mai**	**48.20**	**254**	P		**P**	**05 22 42.7**	**-0.2**
CHTO				IAmb	IAmb		05 22 44.6	
	comp=Z,4.4nm,0.8s							
CHTO	**Chiang Mai**	**48.20**	**254**	P		**P**	**05 22 42.7**	**-0.2**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**48.44**	**254**	P		**P**	**05 22 46.0**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=38,slow=8.2,SNR=6.7 comp=Z,0.9nm,0.4s							
SHL	**Shillong**	**48.84**	**267**	P		**P**	**05 22 47.6**	**-0.4**
SHL	**Shillong**	**48.84**	**267**	P		**P**	**05 22 47.6**	**-0.4**
SHL				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BVAR	**Borovoye Array**	**49.70**	**309**	PcP		**PcP**	**05 24 14.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=61,slow=6.2,SNR=4.2							
GRNB	**Grenville Isla**	**51.55**	**48**	P		**P**	**05 23 08.6**	**+0.7**
AAK	**Ala-Archa**	**51.78**	**296**	ǁ *e*P		**P**	**05 23 10.3**	**+0.3**
AAK				pmax	pmax			
	comp=Z,7.0nm,2.5s							
AAK	**Ala-Archa**	**51.78**	**296**	*e*P		**P**	**05 23 10.3**	**+0.3**
KK31	**Karatay Array**	**54.10**	**298**	P		**P**	**05 23 26.5**	**-0.4**
KK31				IAmb	IAmb		05 23 28.6	
	comp=Z,1.8nm,1.1s							
KK31	**Karatay Array**	**54.10**	**298**	P		**P**	**05 23 26.5**	**-0.4**
KK31				pmax	pmax			
	comp=Z,2.0nm,1.2s							
KKAR	**Karatay Array**	**54.10**	**298**	P		**P**	**05 23 26.6**	**-0.3**
KKAR				IAmb	IAmb		05 23 28.6	
	comp=Z,1.8nm,1.1s							
KKAR	**Karatay Array**	**54.10**	**298**	P		**P**	**05 23 26.6**	**-0.3**
KKAR				pmax	pmax			
	comp=Z,2.0nm,1.2s							
RES	**Resolute Bay**	**54.15**	**17**	P		**P**	**05 23 26.2**	**-0.4**
RES				IAmb	IAmb		05 23 26.5	
	comp=Z,1.5nm,0.8s							
RES	**Resolute Bay**	**54.15**	**17**	P		**P**	**05 23 26.3**	**-0.4**
RES				pmax	pmax			
	comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**54.85**	**34**	P		**P**	**05 23 32.3**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=302,slow=8.2,SNR=17 comp=Z,1.6nm,0.8s							
ABKAR	**Akbulak array**	**57.27**	**309**	P		**P**	**05 23 49.0**	**-0.5**
ABKAR				IAmb	IAmb		05 23 50.0	
	comp=Z,1.1nm,0.6s							
SIMJ	**Simiganj**	**57.41**	**294**	P		**P**	**05 23 50.4**	**-0.4**
KEV	**Kevo**	**58.40**	**340**	*e*P		P	05 24 03.5	+6.4
ARCES	**ARCESS Array B**	**58.93**	**340**	P		**P**	**05 24 00.2**	**-0.6**
	comp=Z,5.4nm,0.9s,baz=42,slow=7.3,SNR=2.4							
ARCES				PcP		**PcP**	**05 24 48.8**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=65,slow=4.3,SNR=1.4 comp=Z,5.4nm,0.9s							
FINES	**FINESS Array B**	**64.67**	**333**	*e*P		**P**	**05 24 38.6**	**-0.8**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**64.67**	**333**	P		**P**	**05 24 38.3**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=45,slow=8.2,SNR=12							
FINES				PcP		**PcP**	**05 25 11.9**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=42,slow=4.3,SNR=3.4 comp=Z,1.7nm,0.6s							
FFC	**Flin Flon**	**64.74**	**37**	P		**P**	**05 24 40.6**	**+0.6**
FFC				IAmb	IAmb		05 24 41.2	
	comp=Z,6.3nm,1.1s							
FFC	**Flin Flon**	**64.74**	**37**	P		**P**	**05 24 40.6**	**+0.6**
FFC				pmax	pmax			
	comp=Z,6.0nm,1.1s							
FCC	**Fort Churchill**	**65.09**	**31**	P		**P**	**05 24 42.3**	**+0.1**
FCC	**Fort Churchill**	**65.09**	**31**	P		**P**	**05 24 42.3**	**+0.1**
FCC				pmax	pmax			
	comp=Z,2.0nm,1.2s							
WRA	**Warramunga Arr**	**65.25**	**194**	P		**P**	**05 24 44.5**	**+0.8**
	comp=Z,94nm,0.8s,baz=9.6,slow=6.3,SNR=1.6							
OBN	**Obninsk**	**65.27**	**324**	*e*P		**P**	**05 24 46.4**	**+3.0**
OBN				*e**PP		**pP**	**05 24 59.5**	**+1.0**
OBN				*e**SP		**sP**	**05 25 05.4**	**+0.7**
OBN				*e*			05 25 18.1	
OBN				*e*			05 27 09.6	
OBN				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NVAR	**Mina Array Bea**	**66.59**	**59**	P		**P**	**05 24 53.5**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=292,slow=7.2,SNR=6.0 comp=Z,0.9nm,0.7s							
PDAR	**Pinedale Array**	**68.92**	**50**	P		**P**	**05 25 07.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=243,slow=0.3,SNR=5.0 comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs

0.5nm,0.8s,baz=132,slow=7.6,SNR=3.4
0.5nm,0.8s
ARCES ARCESS Array B 79.25 339 P **P 05 51 56.0 -0.6**
2.8nm,0.8s,baz=85,slow=5.2,SNR=4.5
2.8nm,0.8s

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*SOME **18** 05:48:58.6,39.°37N×75.°65E,h5km*
*NNC **18** 05:49:02.1±1.5,39.°48N×75.°85E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=11.3km s-min=7.9km az=144.0
*KRNET **18** 05:49:06.2±0.1,39.°55N×75.°05E,mb2.9*
ISC 18 05:49:03.7±2.0,39.°36N±0.°09×75.°18E±0.°05,h10km,n38,
σ2°34/66,22C-17D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.45**	**297**	⇓*i*P	**Pn**	**05 49 30.3**	**0.0**
	baz=92						
SFK				⇓*i*S	**Sn**	05 49 47.6	-1.9
	baz=92						
NRN	**Naryn**	**2.16**	**17**	⇑*i*P	**Pb**	**05 49 42.3**	**-0.9**
	baz=20						
NRN				⇑*i*S	**Sb**	05 50 08.6	-1.6
	baz=20						
OHH	**Osh**	**2.18**	**303**	⇑*i*P	**Pb**	**05 49 42.1**	**-1.2**
	baz=0.0						
OHH				⇑*i*S	**Sb**	05 50 08.8	-1.6
	baz=0.0						
ARLS	**Aral**	**2.58**	**346**	⇑*e*P	**Pn**	**05 49 47.6**	**+1.8**
	baz=47						
ARLS				⇑*i*S	**Sn**	05 50 17.8	+0.5
	baz=47						
ARSB	**Arslanbob**	**2.58**	**320**	⇑*e*P	**Pn**	**05 49 47.5**	**+1.7**
	baz=19						
ARSB				⇑*i*S	**Sn**	05 50 18.1	+0.8
	baz=19						
KZA	**Kyzart**	**2.72**	**1**	⇑*i*P	**Pn**	**05 49 49.7**	**+1.9**
	baz=3.0						
KZA				⇑*i*S	**Sn**	05 50 22.2	+1.3
	baz=3.0						
UCH	**Uchtor**	**2.91**	**350**	⇓*i*P	**Pn**	**05 49 52.5**	**+2.0**
	baz=52						
UCH				⇓*i*S	**Sn**	05 50 26.3	+0.5
	baz=52						
AML	**Almayashu**	**2.99**	**338**	⇑Pn	**Pn**	**05 49 54.1**	**+2.5**
	1.0nm,0.4s						
AML				⇑Sn	**Sb**	05 50 32.7	-1.4
	3.0nm,0.8s						
AML	**Almayashu**	**2.99**	**338**	⇓*i*P	**Pn**	**05 49 53.3**	**+1.7**
	baz=39						
AML				⇓*i*S	**Sn**	05 50 27.9	+0.2
	baz=39						
ULHL	**Ulahol**	**2.99**	**15**	⇓*i*P	**Pn**	**05 49 54.0**	**+2.6**
	baz=18						
ULHL				⇓*i*S	**Sn**	05 50 28.9	+1.4
	baz=18						
KDJ	**Kajisay**	**3.16**	**28**	⇑*e*P	**Pb**	**05 49 57.3**	**-2.7**
	baz=32						
KDJ				⇑*e*S	**Sn**	05 50 34.4	+2.9
	baz=32						
BOOM	**Boomskoye usch**	**3.18**	**10**	⇓*i*P	**Pn**	**05 49 56.5**	**+2.5**
	baz=13						
BOOM				⇓*i*S	**Sn**	05 50 33.5	+1.5
	baz=13						
KBK	**Karagaybulak**	**3.30**	**357**	⇑*i*P	**Pn**	**05 49 57.9**	**+2.3**
	baz=59						
KBK				⇑*i*S	**Sn**	05 50 35.3	+0.3
	baz=59						
AAK	**Ala-Archa**	**3.32**	**351**	⇑*i*P	**Pn**	**05 49 57.9**	**+2.1**
	baz=52						
AAK				⇑*i*S	**Sn**	05 50 35.8	+0.4
	baz=52						
BTK	**Batken**	**3.44**	**283**	⇓*i*P	**Pn**	**05 50 00.9**	**+3.5**
	baz=80						
BTK				⇓*i*S	**Sn**	05 50 40.4	+2.1
	baz=80						
ARK	**Arkit**	**3.46**	**316**	⇑*i*P	**Pn**	**05 50 00.0**	**+2.3**
	baz=15						
ARK				⇑*i*S	**Sn**	05 50 38.8	0.0
	baz=15						
TKM2	**Tokmak 2**	**3.57**	**5**	⇑Pg	**Pb**	**05 50 03.8**	**-3.3**
	5.6nm,0.3s						
TKM2				⇓Lg	Lg	05 50 50.4	
	8.4nm,0.5s						
MRKS	**Merke**	**3.69**	**337**	Pg	**Pb**	**05 50 09.4**	**+0.3**
	6.5nm,0.2s						
MRKS				Lg	Lg	05 51 00.8	
	4.3nm,0.3s						
MRKS	**Merke**	**3.69**	**337**	*e*P	**Pb**	**05 50 09.4**	**+0.3**
	6.5nm,0.2s						
MRKS				*e*S	**Sg**	05 51 00.8	-1.4
	4.3nm,0.3s						
KST	**Kastek**	**3.73**	**9**	Pg	**Pb**	**05 50 06.6**	**-3.2**
	4.2nm,0.4s						
KST				Lg	Lg	05 50 55.9	
	20nm,0.4s						
KST	**Kastek**	**3.73**	**9**	*e*P	**Pb**	**05 50 06.5**	**-3.2**
	4.2nm,0.4s						
KST				*e*S	**Sb**	05 50 55.9	+0.9
	20nm,0.4s						
TRKS	**Terek-Say**	**3.77**	**306**	⇓*i*P	**Pn**	**05 50 03.8**	**+1.7**
	baz=4.0						
TRKS				⇓*i*S	**Sn**	05 50 45.3	-1.3
	baz=4.0						
IZV	**Izvestkoviy**	**3.83**	**16**	Pg	**Pb**	**05 50 07.6**	**-3.8**
	0.8nm,0.1s						
IZV				Lg	Lg	05 50 57.7	
	14nm,0.3s						
IZV	**Izvestkoviy**	**3.83**	**16**	*e*P	**Pb**	**05 50 07.6**	**-3.8**
	0.8nm,0.1s						
IZV				*e*S	**Sb**	05 50 57.7	-0.2
	14nm,0.3s						
MTBS	**Maitube**	**3.88**	**14**	Pg	**Pb**	**05 50 08.7**	**-3.7**
	5.1nm,0.2s						
MTBS				Lg	Lg	05 50 59.5	
	6.6nm,0.3s						
MTBS	**Maitube**	**3.88**	**14**	*e*P	**Pb**	**05 50 08.7**	**-3.7**
	5.1nm,0.2s						
MTBS				*e*S	**Sb**	05 50 59.5	+0.1
	6.6nm,0.3s						
DGS	**Degeres**	**3.90**	**6**	Pg	**Pb**	**05 50 09.8**	**-2.9**
	11nm,0.3s						
DGS				Lg	Lg	05 51 01.5	
	8.6nm,0.4s						
DGS	**Degeres**	**3.90**	**6**	*e*P	**Pb**	**05 50 09.8**	**-2.9**
	11nm,0.3s						
DGS				*e*S	**Sb**	05 51 01.5	+1.5
	8.6nm,0.4s						
TNSS	**Tian-Shan**	**3.91**	**19**	Pg	**Pb**	**05 50 09.0**	**-4.0**
	3.4nm,0.2s						
TNSS				Lg	Lg	05 51 00.1	
	3.4nm,0.3s						
TNSS	**Tian-Shan**	**3.91**	**19**	*e*P	**Pb**	**05 50 09.0**	**-4.0**
	3.4nm,0.2s						
TNSS				*e*S	**Sb**	05 51 00.1	-0.4
	3.4nm,0.3s						
MDOK	**Medeo**	**4.05**	**20**	Pg	**Pb**	**05 50 11.4**	**-3.9**
	1.5nm,0.2s						
MDOK				Lg	Lg	05 51 04.1	
	4.3nm,0.3s						
MDOK	**Medeo**	**4.05**	**20**	*e*P	**Pb**	**05 50 11.4**	**-3.9**
	1.5nm,0.2s						
MDOK				*e*S	**Sb**	05 51 04.1	-0.3
	4.3nm,0.3s						
KRBS	**Karabastau**	**4.35**	**5**	*e*P	**Pb**	**05 50 17.8**	**-2.4**
KRBS				*e*S	**Sb**	05 51 15.4	+2.6
KTBS	**Karatobe**	**4.49**	**14**	Pg	**Pb**	**05 50 20.1**	**-2.6**
	2.1nm,0.2s						
KTBS				Lg	Lg	05 51 19.1	
	6.8nm,0.3s						
KTBS	**Karatobe**	**4.49**	**14**	*e*P	**Pb**	**05 50 20.1**	**-2.6**
	2.1nm,0.2s						
KTBS				*e*S	**Sb**	05 51 19.1	+2.2
	6.8nm,0.3s						
KUU	**Kurty**	**4.61**	**10**	Pg	**Pb**	**05 50 22.9**	**-1.9**
	1.1nm,0.1s						
KUU				Lg	Lg	05 51 23.9	
	9.9nm,0.3s						
KUU	**Kurty**	**4.61**	**10**	*e*P	**Pb**	**05 50 22.9**	**-1.9**
	1.1nm,0.1s						
KUU				*e*S	**Sb**	05 51 23.9	+3.5
	9.9nm,0.3s						
KK31	**Karatay Array**	**5.14**	**318**	⇑Pn	**Pn**	**05 50 24.3**	**+3.6**
	0.5nm,0.5s,baz=129,slow=13,SNR=8.9						
KK31				⇓Pg	**Pg**	**05 50 41.2**	**-0.9**
	0.4nm,0.4s,baz=134,slow=15,SNR=3.9						
KK31				⇓Lg	Lg	05 51 53.0	
	3.7nm,0.8s						

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*VIE **18** 05:52:49.5±0.4,45.°55N×14.°30E,h10km,mb1.8/2,ml1.9/4,*
Error ellipse: s-maj=2.8km s-min=1.4km az=166.0 24 km
NNW of Rijeka
LJU 18 05:52:49.4,45.°58N×14.°28E,h11km,ML1.7,4C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.09**	**126**	⇑*i*Pg	Pg	05 52 51.9	-0.2
KNDS	**Knezji Dol**	**0.09**	**126**	⇑*i*Pg	Pg	05 52 52.7	+0.6
SKDS	**Skadanscina**	**0.19**	**259**	⇑*i*Pg	Pg	05 52 53.5	+0.1
SKDS				*i* Sg	Sg	05 52 56.8	+0.5
SKDS				IAML		05 52 57.2	
	comp=Z,28nm,0.0s						
SKDS	**Skadanscina**	**0.19**	**259**	IAML		05 52 58.2	
	comp=Z,37nm,0.0s						
CEY	**Cerknica**	**0.19**	**34**	*i* Pg	Pg	05 52 53.5	0.0
CEY				*i* Sg	Sg	05 52 56.7	+0.3
CEY	**Cerknica**	**0.19**	**34**	*i* Pg	Pb	05 52 54.4	-0.5
CEY				IAML		05 52 58.4	
	comp=Z,63nm,0.1s						
RIY	**Rijeka**	**0.29**	**150**	*e*Pg	Pg	05 52 55.9	+0.5
RIY				Sg	Sg	05 53 00.4	+1.1
GBRS	**Gornja Briga**	**0.38**	**97**	*i* Pg	Pg	05 52 57.1	+0.2
TRI	**Trieste**	**0.38**	**290**	*e*Pg	Pg	05 52 57.0	0.0
TRI				*e*Sg	Sg	05 53 02.9	+0.9
A253A	**Karojba, Istri**	**0.43**	**228**	Sg	Sg	05 53 03.4	-0.3
SMRN	**Sveta Marina**	**0.55**	**189**	*e*Pg	Pg	05 52 59.4	-0.8
SMRN				Sg	Sg	05 53 08.0	+0.6
SABO	**M.te Sabotino**	**0.62**	**310**	⇑*e*Pg	Pg	05 53 01.1	-0.3
SABO				*e*Sg	Sb	05 53 10.6	-0.4
OBKA	**Obir**	**0.95**	**11**	*i* Pg	Pb	05 53 07.9	0.0
	comp=Z,0.5nm,0.2s						
OBKA				*e*Sg	Sn	05 53 22.3	-0.1
	comp=Z,2.5nm,0.2s						
NVLJ	**Novalja**	**1.10**	**157**	*e*Pg	Pn	05 53 11.2	+0.5
NVLJ				Sg	Sn	05 53 26.6	+0.7
MYKA	**Terra Mystica**	**1.14**	**337**	*i* Pg	Pn	05 53 13.0	+1.7
	comp=Z,0.4nm,0.2s						
MYKA				*e*Sg	Sn	05 53 28.6	+1.6
	comp=Z,2.9nm,0.3s						
SOKA	**Soboth**	**1.22**	**25**	*e*Pg	Pg	05 53 14.3	+1.5
	comp=Z,0.6nm,0.2s						
SOKA				*i* Sg	Sn	05 53 30.2	+1.2
	comp=Z,0.8nm,0.2s						
VIRC	**Vir**	**1.40**	**157**	*e*Pg	Pg	05 53 17.1	+0.9
VIRC				Sg	Sg	05 53 36.8	+2.3
ABTA	**Abfaltersbach**	**1.69**	**314**	*e*Pg	Pg	05 53 21.6	-0.3
	comp=Z,0.3nm,0.1s						
ABTA				*i* Sg	Sg	05 53 46.9	+3.0
	comp=Z,1.0nm,0.2s						

IDC 18 05:53:37.5±6.0,30.°84S×179.°35W,h0km,mb3.5/2,
mbtmp3.5/2,Error ellipse: s-maj=235.1km
s-min=60.0km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.93**	**268**	P	P	06 01 29.8	-0.4
	0.3nm,0.6s,baz=107,slow=7.7,SNR=5.7						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**42.96**	**273**	P	P	06 01 38.7	+0.1
	0.5nm,0.5s,baz=114,slow=8.1,SNR=6.6						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**145.15**	**339**	PKPbc	PKPbc	06 13 15.0	-0.8
	3.1nm,1.0s,baz=87,slow=4.2,SNR=4.8						

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*UCR **18** 05:54:30.8±1.2,9.°36N×84.°59W,h0km±3km,MW4.1*
*CATAC **18** 05:54:31.4±0.5,9.°35N×84.°61W,h7km±4km,ML3.2*
ISC 18 05:54:32.1±1.2,9.°35N±0.°03×84.°59W±0.°02,h12km±9km,
n84,σ1°48/109,4C-7D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.30**	**56**	⇑*e*P	**Pb**	**05 54 38.0**	**-1.4**
JACO	**JACO, Garabito**	**0.32**	**346**	⇓*i*P	**Pg**	**05 54 37.8**	**-0.7**
JACO				*e*S	**Sb**	05 54 44.0	-0.8
JACO	**JACO, Garabito**	**0.32**	**346**	*i* P	**Pg**	**05 54 38.0**	**-0.5**
JACO				*i* S	**Sb**	05 54 44.0	-0.8
JACO				IAML		05 54 44.4	
	comp=Z,3μm,1.0s						
LLNJ	**Naranjito**	**0.49**	**76**	⇑*e*P	**Pb**	**05 54 41.5**	**-1.3**
LLNJ				*e*S	**Sb**	05 54 50.0	+0.1
CBL1	**Cabuya**	**0.55**	**295**	⇓*e*P	**Pb**	**05 54 42.8**	**-1.0**
TRB2	**Turrubares**	**0.57**	**14**	⇓*e*P	**Pg**	**05 54 42.2**	**-1.1**
ACOS	**Acosta**	**0.60**	**43**	*e*P	**Pg**	**05 54 42.6**	**-1.3**
ABE2	**San Pablo**	**0.63**	**56**	*e*P	**Pg**	**05 54 43.9**	**-0.5**
RAZU	**San Marcos de**	**0.63**	**61**	*e*P	**Pb**	**05 54 44.2**	**-1.1**
ARZA	**Esparza**	**0.64**	**353**	*e*P	**Pb**	**05 54 44.5**	**-0.8**
ARZA				*e*S	**Sn**	05 54 55.1	-2.1
LCR2	**La Lucha 2**	**0.69**	**56**	*e*P	**Pg**	**05 54 44.3**	**-1.3**
LCR2				*e*S	**Sb**	05 54 55.2	-0.5
LCR2	**La Lucha 2**	**0.69**	**56**	*i* P	**Pg**	**05 54 44.6**	**-1.0**
LCR2				*i* S	**Sb**	05 54 55.3	-0.5
LCR2				IAML		05 55 06.2	
	comp=Z,640nm,1.0s						
BELE	**Belen**	**0.73**	**32**	*e*P	**Pg**	**05 54 45.4**	**-0.9**
SRA1	**San Ramn**	**0.73**	**8**	*e*P	**Pg**	**05 54 45.1**	**-1.3**
RAMO	**San Ramon**	**0.74**	**9**	*e*P	**Pb**	**05 54 46.2**	**-0.8**
TCS1	**Tacares**	**0.74**	**22**	⇓*e*P	**Pg**	**05 54 45.6**	**-0.9**
TCS1	**Tacares**	**0.74**	**22**	*i* P	**Pg**	**05 54 45.8**	**-0.7**
TCS1				IAML		05 55 00.5	
	comp=Z,5μm,1.0s						
AMPA	**Desamparados**	**0.74**	**44**	*e*P	**Pb**	**05 54 46.1**	**-1.1**
LUJA	**Lujan**	**0.76**	**42**	*e*P	**Pb**	**05 54 46.6**	**-0.8**
SARCI	**Sarchi**	**0.77**	**18**	*e*P	**Pg**	**05 54 46.2**	**-0.8**
HDC	**Heredia**	**0.79**	**36**	*e*P	**Pg**	**05 54 43.7**	**-3.8**
HDC3	**Heredia 3**	**0.80**	**36**	*e*P	**Pb**	**05 54 46.9**	**-1.1**
HDC3	**Heredia 3**	**0.80**	**36**	*i* P	**Pb**	**05 54 47.3**	**-0.7**
HDC3				*i* S	**Sn**	**05 55 00.5**	**-0.7**
HDC3				IAML		05 55 08.2	
	comp=Z,770nm,1.0s						
TRIO	**Tres Rios**	**0.80**	**47**	*e*P	**Pb**	**05 54 47.9**	**-0.1**
OCM	**Ochomogo**	**0.82**	**49**	*e*P	**Pg**	**05 54 47.2**	**-0.7**
OCM	**Ochomogo**	**0.82**	**49**	*i* P	**Pg**	**05 54 47.3**	**-0.7**
OCM				*i* S	**Sn**	**05 55 04.3**	**+2.5**
OCM				IAML		05 55 14.3	
	comp=Z,250nm,1.0s						
CDM	**Cerro de Muert**	**0.83**	**76**	*e*P	**Pg**	**05 54 47.2**	**-1.1**
CDM				*e*S	**Sb**	**05 55 00.7**	**+0.5**
CDM	**Cerro de Muert**	**0.83**	**76**	*i* P	**Pg**	**05 54 47.5**	**-0.8**
CDM				*i* S	**Sn**	**05 55 01.2**	**-1.4**
CDM				IAML		05 55 06.8	
	comp=Z,630nm,1.0s						
ZARE	**Zarcero**	**0.85**	**13**	*e*P	**Pg**	**05 54 47.7**	**-0.8**
REPA	**Paraso**	**0.85**	**56**	*e*P	**Pn**	**05 54 50.3**	**+0.2**
BUS1	**Rivas**	**0.85**	**76**	*e*P	**Pg**	**05 54 47.3**	**-1.3**
ZELE	**Perez Zeledon**	**0.87**	**89**	*e*P	**Pg**	**05 54 47.8**	**-1.1**
PEZE	**Perez Zeledon,**	**0.90**	**88**	*i* P	**Pb**	**05 54 49.3**	**-0.4**
PEZE				*i* S	**Sn**	**05 55 05.4**	**+1.8**
PEZE				IAML		05 55 13.7	
	comp=Z,420nm,1.0s						
NYURE	**Nandayure**	**0.92**	**314**	*e*P	**Pn**	**05 54 49.5**	**-1.4**
NYURE				*e*S	**Sn**	**05 55 04.7**	**+0.7**
CVIMO	**Finca Echandi**	**0.92**	**43**	*e*P	**Pn**	**05 54 50.2**	**-0.9**
CPMI	**Catarata Coope**	**0.94**	**12**	*e*P	**Pg**	**05 54 49.0**	**-1.3**
CPMI				*e*S	**Sb**	**05 55 03.1**	**-0.1**
CPMI	**Catarata Coope**	**0.94**	**12**	*i* P	**Pg**	**05 54 49.2**	**-1.2**
CPMI				IAML		05 55 09.9	
	comp=Z,480nm,1.0s						
PCAYA	**Pacayas**	**0.95**	**54**	*e*P	**Pg**	**05 54 49.3**	**-1.1**
PCAYA				*e*S	**Sn**	**05 55 06.4**	**+1.3**
HAYA	**Volcan Irazu**	**0.96**	**50**	*i* P	**Pn**	**05 54 52.3**	**+0.5**
OCHAL	**Ojochal**	**0.96**	**105**	*i* P	**Pn**	**05 54 50.8**	**-0.7**
OCHAL				*i* S	**Sn**	**05 55 07.0**	**+1.9**
OCHAL				IAML		05 55 13.4	
	comp=Z,6.0nm,1.0s						
VICA	**Volcano Irazu**	**0.96**	**49**	*e*P	**Pn**	**05 54 51.6**	**-0.2**
ICR3	**Volcano Irazu**	**0.97**	**50**	*e*P	**Pn**	**05 54 51.5**	**-0.4**
ICR3				*e*S	**Sn**	**05 55 09.7**	**+3.8**
VINA	**Juan Vinas**	**0.99**	**57**	*e*P	**Pg**	**05 54 50.0**	**-1.2**
JTS	**Las Juntas de**	**1.00**	**339**	*e*P	**Pg**	**05 54 49.3**	**-2.1**
SOCE	**Pocosol**	**1.02**	**358**	*e*P	**Pg**	**05 54 50.4**	**-1.5**
SOCE	**Pocosol**	**1.02**	**358**	*i* P	**Pg**	**05 54 50.8**	**-1.1**
SOCE				IAML		05 55 15.7	
	comp=Z,610nm,1.0s						
INDI	**Punta indio, G**	**1.04**	**299**	*e*P	**Pg**	**05 54 50.7**	**-1.5**
INDI				*e*S	**Sn**	**05 55 09.1**	**+2.1**
INDI	**Punta indio, G**	**1.04**	**299**	*i* P	**Pn**	**05 54 51.7**	**-0.8**
INDI				IAML		05 55 14.6	
	comp=Z,420nm,1.0s						
TURIB	**Turrialba**	**1.04**	**58**	*e*P	**Pn**	**05 54 51.6**	**-1.0**
CVTV	**Tajo**	**1.05**	**52**	*e*P	**Pn**	**05 54 53.1**	**+0.1**
VTCV	**VTCV, Calle Va**	**1.05**	**53**	*e*P	**Pg**	**05 54 51.2**	**-1.2**
VERB	**Verbena**	**1.05**	**56**	*e*P	**Pg**	**05 54 51.2**	**-1.3**
CMARA	**Lajas Hojancha**	**1.06**	**309**	*e*P	**Pg**	**05 54 51.1**	**-1.4**
CMARA				*e*S	**Sn**	**05 55 10.6**	**+2.9**
VTLO	**VTLO**	**1.09**	**51**	*e*P	**Pn**	**05 54 52.6**	**-0.9**
ARE1	**Arenal 1**	**1.11**	**353**	*e*P	**Pn**	**05 54 52.1**	**-1.1**
TUNA	**La Fortuna**	**1.11**	**357**	*e*P	**Pn**	**05 54 53.0**	**-0.6**
RVSTA	**Santa Teresita**	**1.11**	**56**	*e*P	**Pb**	**05 54 52.2**	**-1.2**
VACR	**Volcan Arenal**	**1.12**	**355**	⇑*e*P	**Pb**	**05 54 52.4**	**-1.0**
VACR	**Volcan Arenal**	**1.12**	**355**	*i* P	**Pb**	**05 54 52.4**	**-1.0**
VACR				*i* S	**Sn**	**05 55 15.0**	**+6.0**
VACR				IAML		05 55 21.1	
	comp=Z,500nm,1.0s						
ITAL	**Pital**	**1.13**	**16**	*e*P	**Pb**	**05 54 51.9**	**-1.8**
NICO	**Nicoya**	**1.15**	**312**	*e*P	**Pb**	**05 54 52.7**	**-1.2**
RIFO	**Rio Frio, Sara**	**1.16**	**34**	⇓*i*P	**Pb**	**05 54 52.6**	**-1.5**
RIFO				*e*S	**Sn**	**05 55 09.4**	**-0.6**
RIFO	**Rio Frio, Sara**	**1.16**	**34**	*i* P	**Pb**	**05 54 53.0**	**-1.1**
RIFO				*i* S	**Sn**	**05 55 10.4**	**+0.4**
RIFO				IAML		05 55 20.8	
	comp=Z,880nm,1.0s						
EDPN	**Palmar Norte**	**1.18**	**109**	*e*P	**Pb**	**05 54 53.4**	**-1.0**
EDPN				*e*S	**Sn**	**05 55 12.5**	**+2.0**
CNAS	**Canas**	**1.18**	**335**	*e*P	**Pg**	**05 54 55.8**	**+0.9**
JUD3	**Juan Diaz 3**	**1.24**	**311**	*e*P	**Pn**	**05 54 53.6**	**-1.7**
PLVR	**Palo Verde**	**1.24**	**323**	⇓*e*P	**Pn**	**05 54 53.7**	**-1.8**
PLVR				*e*S	**Sn**	**05 55 13.7**	**+1.4**
IRES	**Siquirres**	**1.29**	**55**	*e*P	**Pb**	**05 54 55.7**	**-0.7**
CARI	**Cariari**	**1.31**	**40**	*e*P	**Pg**	**05 54 56.6**	**-0.7**
ORTG	**Ortega, Santa**	**1.32**	**319**	*e*P	**Pn**	**05 54 55.1**	**-1.4**
ORTG				*e*S	**Sg**	**05 55 18.8**	**+4.1**
ORTG	**Ortega, Santa**	**1.32**	**319**	*i* P	**Pn**	**05 54 55.0**	**-1.5**
ORTG				*i* S	**Sg**	**05 55 18.6**	**+3.8**
ORTG				IAML		05 55 22.1	
	comp=Z,260nm,1.0s						
DRK0	**Durika**	**1.32**	**94**	*e*P	**Pn**	**05 54 55.9**	**-0.8**
BAGA	**Bagaces**	**1.34**	**330**	*e*P	**Pg**	**05 54 56.7**	**-1.2**
COVE	**Coope Vega, Sa**	**1.37**	**8**	*e*P	**Pn**	**05 54 56.1**	**-1.0**
CUI	**Cuipilapa**	**1.42**	**336**	⇓*e*P	**Pn**	**05 54 56.8**	**-0.9**
COLC	**Colonia**	**1.44**	**335**	*e*P	**Pn**	**05 54 57.5**	**-0.6**
CAMAV	**Centro de Prod**	**1.47**	**336**	*e*P	**Pn**	**05 54 57.5**	**-1.0**
POTG	**Potrero Grande**	**1.48**	**102**	*e*P	**Pn**	**05 54 58.6**	**-1.0**
POTG	**Potrero Grande**	**1.48**	**102**	*i* P	**Pb**	**05 54 58.7**	**-0.9**
POTG				IAML		05 55 28.9	
	comp=Z,420nm,1.0s						
VERA	**Finca Concepci**	**1.52**	**349**	⇑*e*P	**Pn**	**05 54 58.6**	**-0.5**
PIRO	**Carate, Puerto**	**1.55**	**127**	*e*P	**Pg**	**05 55 01.1**	**-0.9**
EDAD	**Golfito**	**1.57**	**116**	*e*P	**Pn**	**05 54 59.2**	**-0.6**
LCHIL	**Los Chiles**	**1.68**	**356**	*e*P	**Pn**	**05 55 00.9**	**-0.4**
BRIBI	**Bribri**	**1.73**	**81**	*e*P	**Pg**	**05 55 05.1**	**-0.3**

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*NEIC **18** 05:55:11.6±2.7,38.°79N±0.°01×122.°70W±0.°02,h5km±4km,*
Error ellipse: s-maj=2.2km s-min=1.5km az=66.0
*NCEDC **18** 05:55:11.9±3.0,38.°79N±0.°01×122.°74W±0.°02,h2km±1km,*
Mwr4.3/6,mb4.1/9(NEIC),ML3.9/70(NEIC),Error ellipse:
s-maj=2.4km s-min=1.9km az=76.0
*IDC **18** 05:55:12.1±1.4,38.°68N×122.°86W,h0km,mb3.5/3,*
mbtmp3.7/9,ML3.6/6,MS3.7/23,Error ellipse:
s-maj=17.5km s-min=10.5km az=41.0
*ANF **18** 05:55:14.5±0.9,38.°55N×122.°78W,h0km,ML4.3/13,Error*
ellipse: s-maj=13.2km s-min=8.1km az=35.0
ISC 18 05:55:12.1±0.9,38.°78N±0.°02×122.°72W±0.°02,h3km±6km,
n274,σ1°91/252,mb4.0/5,MS3.7/15,Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCRM	**Castle Rock Sp**	**0.01**	**129**		**Pg**	**05 55 12.7**	**-0.1**
GBGM	**Boggs Mountain**	**0.05**	**42**		**Pg**	**05 55 13.5**	**+0.3**
GDXM	**Geysers**	**0.07**	**298**		**Pg**	**05 55 13.3**	**-0.2**
GSGM	**Seigler Mounta**	**0.09**	**5**		**Pg**	**05 55 13.6**	**-0.3**
GGPM	**Geyser Peak**	**0.10**	**263**		**Pg**	**05 55 13.9**	**-0.1**
NHSM	**Mount Saint He**	**0.15**	**145**		**Pg**	**05 55 15.4**	**+0.4**
GRTM	**Round Top Moun**	**0.17**	**14**		**Pg**	**05 55 15.6**	**+0.2**
GPMM	**Pine Mountain**	**0.19**	**292**		**Pg**	**05 55 15.8**	**0.0**
NMTM	**Middletown**	**0.22**	**82**		**Pb**	**05 55 17.1**	**+0.8**
GCVM	**Cloverdale**	**0.23**	**268**		**Pg**	**05 55 17.0**	**+0.5**
GSSM	**Skaggs Springs**	**0.24**	**252**		**Pg**	**05 55 17.4**	**+0.7**
MNRC	**McLaughlin Min**	**0.24**	**65**		**Pb**	**05 55 17.9**	**+1.2**
HOPS	**Hopland Field**	**0.35**	**308**	Pg	**Pg**	**05 55 19.1**	**+0.3**
HOPS				IAML		05 55 28.3	
	comp=E,20μm,0.9s						
HOPS				IAML		05 55 28.9	
	comp=N,18μm,1.3s						
GHLM	**Highland Sprin**	**0.35**	**319**		**Pg**	**05 55 18.9**	**+0.1**
NTYM	**Taylor**	**0.39**	**173**		**Pb**	**05 55 20.5**	**-1.1**
GBMM	**Baldy Mountain**

CVLM	Vallecito	1.34	148			Pg		05 55 37.1	-0.7
KPK	Kanaka Peak	1.36	53			Pb		05 55 36.4	-1.8
AFDM	Forest Hills D	1.38	82		Pg	Pb		05 55 36.7	-1.8
WENL	Wente Vineyard	1.38	146			Pb		05 55 37.5	-1.0
O02D	Mt. Diablo Mer	1.40	358			Pg		05 55 38.7	-0.2
JRSC	Jasper Ridge	1.42	164			Pn		05 55 36.9	-1.9
JSFB	Stanford Teles	1.44	162			Pb		05 55 38.0	-1.4
JFP	Foothills Park	1.48	163			Pn		05 55 37.9	-1.6
CSTL	Corral Hollow	1.49	139			Pb		05 55 38.8	-1.6
LTCM	Tuscan Springs	1.50	18			Pb		05 55 38.7	-1.9
CALM	Calaveras Res.	1.51	151			Pb		05 55 38.9	-1.8
JBMM	Black Mountain	1.52	163			Pn		05 55 38.9	-1.3
JSJM	St Joseph	1.52	161			Pn		05 55 39.0	-1.2
LBPM	Beegum Peak	1.54	355			Pg		05 55 41.9	+0.2
CMLM	Mount Lewis	1.55	147			Pb		05 55 39.8	-1.6
JPSM		1.60	169			Pn		05 55 39.6	-1.6
CMMM	Mount Mocho	1.64	143			Pb		05 55 40.8	-2.1
MHC	Mount Hamilton	1.67	149			Pn		05 55 41.1	-1.1
JJOM	Saint Joseph's	1.67	159			Pn		05 55 40.7	-1.6
O03E	Paynes Creek	1.67	25			Pb		05 55 41.2	-2.4
MTOS	Mt Oso, Westle	1.68	139			Pn		05 55 41.2	-1.1
ARN	Arnold Ranch	1.71	146			Pn		05 55 41.7	-1.0
CCOB	Coe Ranch Numb	1.73	151			Pb		05 55 42.8	-1.6
CMPM	Mikes Peak	1.80	142			Pb		05 55 43.8	-1.8
JLAB	Laurel Hill	1.80	154			Pn		05 55 42.8	-1.2
LDBM	Digger Butte	1.80	23			Pb		05 55 43.4	-2.4
CADM	Anderson Res.	1.83	151			Pb		05 55 43.7	-2.4
MCUB	Copperopolis B	1.83	115			Pb		05 55 43.6	-2.6
KHBM	Hayfork Bally	1.92	349			Pb		05 55 47.3	-0.5
HLPM	Lions Peak	1.94	153			Pn		05 55 44.5	-1.3
LRDM	Redding Peak	1.95	30			Pb		05 55 45.6	-2.5
DONR	Donner Summit	1.96	72			Pb		05 55 46.6	-1.9
JELB	Ellicott, Sant	1.98	159			Pn		05 55 45.4	-0.9
CMB	Columbia Colle	1.98	111		Pn	Pb		05 55 46.2	-2.5
TNK	Tinkers Knob	2.00	75			Pg		05 55 52.1	+1.7
CDC	Canada Road	2.00	150			Pn		05 55 46.0	-0.7
RUBR	Rubicon Trail	2.02	81			Pb		05 55 48.0	-1.5
HCBM	Chamberlain	2.02	155			Pn		05 55 45.9	-1.1
HCOM	Corn Cob Canyo	2.05	157			Pn		05 55 45.9	-1.5
EMB	Emerald Bay	2.05	84		Pn	Pb		05 55 48.2	-1.9
EMB	comp=E,1μm,0.7s				IAML			05 56 18.8	
EMB	comp=N,1μm,0.8s				IAML			05 56 22.9	
HPCM	Pacheco Lake	2.06	146			Pn		05 55 46.9	-0.7
SLD	San Luis Dam	2.07	145			Pn		05 55 47.1	-0.7
HFEM	San Felipe	2.07	149			Pn		05 55 46.8	-1.0
ANZ	Anzar Road	2.09	154			Pn		05 55 47.3	-0.6
PACP	Pacheco Peak	2.10	147			Pb		05 55 47.9	-2.8
LOY	Loyalton	2.12	65			Pb		05 55 49.2	-2.0
HTUM	Tustin Road	2.12	156			Pn		05 55 46.7	-1.7
BEKR	Beckworth	2.13	59			Pb		05 55 49.9	-1.5
HERM	Elkhorn Road	2.13	158			Pn		05 55 47.2	-1.3
HBTM	San Juan Bauti	2.13	154			Pn		05 55 47.5	-1.1
LGPM	Granite Peak	2.13	358			Pg		05 55 51.6	-1.4
MPK	Martis Peak	2.16	75			Pb		05 55 50.3	-1.7
BABR	Babbit Peak	2.19	67			Pn		05 55 47.5	-2.2
N02D	Trinity Center	2.19	0			Pb		05 55 50.2	-2.2
KHMM	Horse Mountain	2.23	340			Pb		05 55 50.0	-3.1
KHMM	comp=E,486nm,3.2s				IAML			05 56 47.9	
KHMM	comp=N,507nm,2.2s				IAML			05 56 59.5	
FRP	Fremont Peak	2.24	154			Pn		05 55 48.4	-1.7
SAO	San Andreas Ge	2.25	153			Pn		05 55 48.9	-1.3
HATC	Hat Creek Radi	2.26	25			Pb		05 55 52.1	-1.4
HMOM	Monterey	2.26	163			Pn		05 55 49.3	-1.1
BSLM	Silva Ranch	2.27	151			Pn		05 55 49.7	-0.8
MYLM	Yosemite Lake	2.29	127			Pn		05 55 50.2	-0.4
PEAR	Peavine Mounta	2.30	68			Pb		05 55 52.1	-2.2
BMRR	Black Mountain	2.30	54			Pb		05 55 52.7	-1.7
BSRM	Salinas Radio	2.31	155			Pn		05 55 49.2	-1.8
BPCNC	Pine Canyon	2.37	158			Pn		05 55 50.2	-1.6
SCZ	Santa Cruz	2.41	154			Pn		05 55 50.6	-1.8
BJOM	Mount Johnson	2.42	152			Pn		05 55 51.1	-1.3
PNTR	Pine Nut	2.45	82			Pb		05 55 54.1	-2.8
BJCM	Johnson Can.	2.46	154			Pn		05 55 51.5	-1.6
BPRM	Ponciano Ridge	2.49	161			Pn		05 55 51.9	-1.7
BVL	Bear Valley	2.51	151			Pn		05 55 52.5	-1.2
BAVM	Antelope Valle	2.52	147			Pn		05 55 52.9	-1.0
HAST	Hastings Reser	2.56	158			Pn		05 55 52.6	-1.9
BBGB	Big Mountain B	2.57	148			Pn		05 55 54.7	+0.1
BPIM	Pinnacles	2.59	151			Pn		05 55 53.4	-1.5
BSMM	Soledad Missio	2.60	156			Pn		05 55 53.6	-1.5
BBNM	San Benito	2.61	150			Pn		05 55 54.4	-0.7
M02C	Callahan	2.61	358			Pb		05 55 59.2	-0.3
BSGM	Shirttail Gulc	2.63	153			Pn		05 55 53.9	-1.5
LRV	Little Rabbit	2.71	150			Pn		05 55 56.1	-0.4
MMIM	Miami Mountain	2.71	119			Pn		05 55 57.1	+0.5
YERR	Yerington	2.72	85			Pb		05 55 57.5	-4.0
YERR	comp=N,752nm,1.0s				IAML			05 56 55.9	
PAHR	Pah Rah Range	2.75	69			Pb		05 55 57.8	-4.2
PAHR	comp=N,314nm,1.7s				IAML			05 56 56.2	
PAHR	comp=E,468nm,1.6s				IAML			05 56 57.6	
MHDM	Hidden Dam	2.78	126			Pn		05 55 57.8	+0.3
KRMB	Red Mountain	2.89	342		Pn	Pn		05 55 58.9	-0.2
YBH	Yreka Blue Hor	2.95	0		Pn	Pb		05 56 02.7	-2.7
YBH	comp=E,3.2nm,0.3s,baz=178,slow=9.4,SNR=19 comp=E,955nm,19.7s,baz=218,slow=42 comp=E,12nm,0.5s				LR	LR		05 57 21.6	
PCCM	Crazy Canyon	2.96	155			Pn		05 55 59.1	-0.7
PMPB	Monarch Peak	2.98	149			Pn		05 56 00.1	-0.2
PMPB	comp=N,474nm,1.0s				IAML			05 57 05.2	
PMPB	comp=E,526nm,1.4s				IAML			05 57 22.8	
MDCM	Deadman Creek	3.09	109			Pb		05 56 03.5	-4.2
MINS	Minaret Summit	3.09	110			Pb		05 56 03.9	-4.0
MRDM	Red Cones	3.12	111			Pb		05 56 04.3	-4.0
MDYM	Dry Creek	3.13	110			Pb		05 56 04.7	-3.8
MMLB	Mammoth Lakes	3.15	110			Pb		05 56 06.2	-2.9
OMMB	Old Mammoth Mi	3.15	110			Pb		05 56 04.2	-4.7
OMMB	comp=E,360nm,0.2s				IAML			05 57 10.9	
OMMB	comp=N,491nm,0.4s				IAML			05 57 11.0	
MEMM	East Mammoth H	3.18	109			Pb		05 56 05.7	-3.6
MLAC	Mammoth, Mammo	3.27	109			Pb		05 56 08.0	-2.9
MLAC	Mammoth, Mammo baz=292,SNR=264	3.27	109		P	Pb		05 56 07.7	-3.1
RYN	Ryan	3.29	91			Pn		05 56 05.2	+0.6
RYN	comp=E,398nm,1.3s				IAML			05 57 00.6	
RYN	comp=N,271nm,1.2s				IAML			05 57 12.5	
LHV	Little Huntoon	3.35	98			Pn		05 56 06.8	+1.6
PWKM	Work Ranch	3.44	149			Pn		05 56 06.3	-0.3
L04D	Klamath Falls	3.45	5		Pn	Pb		05 56 09.1	-4.8
L04D	comp=E,177nm,2.3s				IAML			05 57 43.2	
NVAR	Mina Array Bea	3.48	94			Pn		05 56 07.8	+0.5
NVAR	Mina Array Bea comp=E,5.0nm,0.3s,baz=271,slow=15,SNR=113	3.48	94		Pn	Pn		05 56 08.2	+1.0
NVAR	comp=E,18nm,0.3s,baz=264,slow=17,SNR=50				Pg	Pg		05 56 15.7	-3.0
NVAR	comp=E,9.2nm,0.3s,baz=263,slow=21,SNR=5.9				Lg	Lg		05 57 05.3	
NVAR	comp=E,226nm,21.6s,baz=280,slow=32 comp=E,14nm,0.5s				LR	LR		05 57 10.0	
NV11	Mina Array Sit	3.59	94			Pn		05 56 09.4	+0.6
NV11	comp=N,300nm,1.8s				IAML			05 57 09.4	
NV11	comp=E,230nm,2.7s				IAML			05 57 24.5	
VOG	Valley Oaks Go baz=314	3.61	132		P	Pn		05 56 09.7	+0.9
VOG	baz=314				S	Sn		05 56 53.7	+1.7
KVN	Kaiserville	3.62	84			Pn		05 56 09.3	+0.2
KVN	comp=N,163nm,1.3s				IAML			05 57 21.1	
KBO	Bosley Butte	3.62	342		Pn	Pn		05 56 07.8	-1.3
KBO	comp=N,294nm,2.9s				IAML			05 58 04.5	
HUMO	Hull Mountain	3.83	357			Pn		05 56 13.2	+1.2
SMMC	Simmler baz=328	4.09	147		P	Pn		05 56 16.8	+1.3
VES	Vestal, Richgr baz=316,SNR=22	4.12	134		P	Pn		05 56 16.1	+0.3
K05A	Summer Lake	4.18	19			Pn		05 56 16.5	-0.4
K05A	comp=N,122nm,2.3s				IAML			05 58 06.7	
K05A	comp=E,89nm,2.8s				IAML			05 58 17.6	
CWC	Cottonwood Cre baz=304	4.36	121		P	Pn		05 56 21.8	+2.5
CWC	baz=304				Sb	Sb		05 57 24.4	+1.9
TPH	Tonopah	4.37	98			Pn		05 56 20.0	+0.5
J01E	Myrtle Point	4.47	349		Pn	Pn		05 56 20.8	+0.1
J01E	comp=N,107nm,3.1s				IAML			05 58 00.1	
J01E	comp=E,133nm,4.4s				IAML			05 58 18.3	
PKM	Mcpherson Peak baz=330	4.53	148		P	Pn		05 56 21.3	-0.3
BMN	Battle Mountai	4.56	67			Pn		05 56 21.7	-0.4
GRAC	Grapevine Rang baz=294,SNR=9.1	4.59	111		P	Pn		05 56 25.0	+2.6
ISA	Isabella, Lake	4.60	131		Pn	Pn		05 56 23.2	+0.6
ISA	comp=E,99nm,1.1s				IAML			05 57 32.0	
ISA	comp=N,74nm,1.5s				IAML			05 57 53.2	
ISA	Isabella, Lake baz=314,SNR=25	4.60	131		P	Pn		05 56 24.0	+1.5
BCW	Bitter Crk WRg comp=N,149nm,1.8s	4.66	144		Pn IAML	Pn		05 56 23.7	+0.3
BCW								05 58 12.1	
TEJ	El Tejon	4.79	136			Pn		05 56 25.6	+0.5
ARVC	Arvin	4.79	138		P	Pn		05 56 25.5	+0.3
WVOR	baz=321,SNR=24 Wild Horse Val	4.80	39			Pn		05 56 26.0	+0.8
WVOR	comp=N,59nm,2.3s				IAML			05 58 18.2	
MPMC	Manual Prospec baz=305	4.97	121		P	Pn		05 56 29.8	+2.1
FURC	Furnace Creek, baz=298	5.19	115		P	Pn		05 56 34.3	+3.8
LRMC	Laurel Mtn Rad baz=311	5.20	128		P	Pn		05 56 33.0	+2.2
LRMC	baz=311				Sb	Sb		05 57 50.3	+3.7
CCAC	Calif City Air	5.22	132			Pn		05 56 27.4	-3.7
EDW2	Edwards Air Fo baz=317,SNR=17	5.43	134		P	Pn		05 56 34.6	+0.6
EDW2	baz=317				Sb	Sb		05 57 56.7	+3.5
TPNV	Topopah Spring baz=292,SNR=10	5.44	108		P	Pn		05 56 35.5	+1.4
R11B	Troy Canyon, C	5.61	92		Pn	Pn		05 56 36.2	-0.3
R11B	Troy Canyon, C baz=277,SNR=7.5	5.61	92		P	Pn		05 56 37.7	+1.2
R11B	baz=277				Sb	Sg		05 58 04.2	-8.0
DECC	Green Verdugo baz=323	5.73	141		Sb	Sb		05 58 07.1	+5.3
GSC	Goldstone, Bar	5.87	124		Pn	Pn		05 56 40.5	+0.5
GSC	Goldstone, Bar baz=308,SNR=6.7	5.87	124		P	Pn		05 56 41.9	+2.0
GSC	baz=308				Sb	Sb		05 58 11.0	+5.3
PASC	Pasadena Art C	5.87	140		Pn	Pn		05 56 40.1	+0.2
SHOC	Shoshone, Teco baz=301	5.88	117		P	Pn		05 56 42.6	+2.5
SHOC	baz=301				Sb	Sb		05 58 11.7	+5.6
RRX	Edison Barstow baz=312	6.02	129		Sb	Sb		05 58 16.0	+6.0
ELK	Elko	6.09	69		Pn	Pn		05 56 42.8	-0.4
ELK	Elko comp=N,0.3nm,0.3s,baz=259,slow=11,SNR=44	6.09	69		Pn	Pn		05 56 45.5	+2.3
ELK	comp=N,0.8nm,0.3s,baz=77,slow=18,SNR=2.0				Lg	Lg		05 58 24.2	
ELK	comp=N,400nm,19.3s,baz=233,slow=38 comp=N,12nm,0.9s				LR	LR		05 59 08.4	
BFSC	Mount Baldy Ra baz=320	6.09	136		P	Pn		05 56 43.8	+0.7
Q12A	Willow Creek R	6.16	85		Pn	Pn		05 56 44.5	+0.4
TUQ	Turquoise Moun baz=304	6.37	119		P	Pn		05 56 47.4	+0.4
TUQ	baz=304				Sb	Sb		05 58 26.5	+6.2
HEC	Hector,Ludlow baz=310	6.46	126		P	Pn		05 56 49.7	+1.6
SPR3	Spring Creek 3	6.55	85		Pn	Pn		05 56 48.8	-0.7
MFID	Camas Ranch	6.97	46		Pn	Pn		05 56 55.4	+0.3
BELC	Belle Mtn. Jos baz=313	7.22	129		P	Pn		05 56 59.1	+0.6
PFO	Pinyon Flats O	7.22	134			Pn		05 56 58.5	-0.2
PFO	Pinyon Flats O baz=317	7.22	134		P	Pn		05 56 59.5	+0.8
PFO	Pinyon Flats O comp=N,0.7nm,0.3s,baz=310,slow=9.2,SNR=10	7.22	134		Pn	Pn		05 56 59.0	+0.4
PFO	comp=N,590nm,18.5s,baz=324,slow=43 comp=N,3.2nm,0.6s				LR	LR		06 00 21.4	
BC3	Big Chuckawall baz=313	7.78	129		P	Pn		05 57 06.8	+0.5
MONP2	Monument Peak baz=321,SNR=5.1	7.79	137		P	Pn		05 57 07.3	+0.9
DUG	Dugway, Tooele baz=263,SNR=18	7.79	76		P	Pn		05 57 08.9	+2.5
IKP	In-Ko-Pah, Jac baz=321	8.14	137		P	Pn		05 57 13.0	+1.9
PDMCI	Parker Dam,Lak baz=306	8.22	120		P	Pn		05 57 14.4	+2.2
MSU	Marysvale	8.26	89		Pn	Pn		05 57 15.3	+2.4
BW06	Boulder Array baz=253	10.75	64		P	Pn		05 57 52.8	+5.8
PDAR	Pinedale Array comp=N,0.1nm,0.3s,baz=247,slow=10,SNR=32	10.75	64		Pn	Pn		05 57 53.6	+6.6
PDAR	baz=246,slow=19,SNR=1.2				Lg	Lg		06 01 05.6	
PDAR	comp=N,151nm,21.3s,baz=264,slow=40 comp=N,6.4nm,0.9s				LR	LR		06 02 22.9	
O20A	White River Ci baz=268	11.28	79		P	Pn		05 57 59.4	+5.1
ANMO	Albuquerque comp=N,346nm,19.0s,baz=40,slow=38	13.57	101		LR	LR		06 03 46.2	
BBB	Bella Bella comp=N,284nm,19.0s,baz=194,slow=36	13.93	346		LR	LR		06 03 32.6	
RSSD	Black Hills	14.99	63		Pn	Pn		05 58 42.6	-2.3
BRLDA	Berland Lookou	15.74	12		Pn	Pn		05 58 52.4	-2.3
EDM	Edmonton	15.82	21		Pn	Pn		05 58 55.0	-0.7
E28A	Huff	17.94	57		P	P		05 59 20.8	-2.2
LPIG	La Paz comp=N,476nm,20.1s,baz=334,slow=39	18.03	141		LR	LR		06 06 51.0	
TX31	Lajitas Ar. Si	18.35	115			P		05 59 26.8	-1.0
TX31	comp=Z,23nm,1.2s				IAmb	IAmb		05 59 34.4	
TXAR	Lajitas Array	18.36	115			P		05 59 27.1	-0.7
TXAR	Lajitas Array baz=295,slow=10,SNR=18 comp=Z,3.5nm,1.0s	18.36	115		P	P		05 59 30.6	+2.7
ECSD	EROS Data Cent	20.20	67		P	Pn		05 59 48.1	-1.7
ECSD	comp=Z,8.6nm,1.0s				IAmb	IAmb		05 59 58.6	
ECSD	EROS Data Cent baz=265,SNR=6.1	20.20	67		P	Pn		05 59 47.5	-2.3
F33A	5 Mile Ranch, comp=Z,17nm,1.3s	20.72	62		P IAmb	Pn IAmb		05 59 53.2 05 59 60.0	-2.6
F33A									
BRDY	Brady	20.78	104		P	Pn		05 59 54.1	-2.5
BRDY	comp=Z,9.0nm,1.0s				IAmb	IAmb		06 00 01.4	
N35A	Tabor	20.88	76		P	P		05 59 54.1	-1.1
FFC	Flin Flon	21.24	35		P	P		05 59 58.6	-0.4
FFC	comp=Z,8.4nm,1.1s				IAmb	IAmb		06 00 06.6	
ULM	Lac du Bonnet comp=Z,2.8nm,0.8s,baz=243,slow=7.2,SNR=4.7 comp=Z,2.8nm,0.8s	22.19	50		P	P		06 00 10.8	+1.6
YKA	Yellowknife Ar comp=Z,0.3nm,0.8s,baz=192,slow=9.8,SNR=4.4	24.26	9		P	P		06 00 32.5	+2.5
YKA	comp=Z,274nm,19.1s,baz=137,slow=41 comp=Z,0.3nm,0.8s				LR	LR		06 11 48.3	
KDAK	Kodiak Island comp=Z,154nm,19.7s,baz=108,slow=31	27.15	324		LR	LR		06 09 24.8	
ILAR	Eielson Array comp=Z,128nm,20.1s,baz=100,slow=33	29.64	339		LR	LR		06 11 44.3	
INK	Inuvik comp=Z,208nm,20.4s,baz=180,slow=40	30.18	352		LR	LR		06 15 28.7	
TKL	Tuckaleechee C comp=Z,177nm,20.9s,baz=314,slow=38	31.01	83		LR	LR		06 14 38.2	
CMIG	Matias Romero comp=Z,119nm,18.6s,baz=272,slow=39	32.52	124		LR	LR		06 16 08.2	
RES	Resolute Bay comp=Z,193nm,18.6s,baz=11,slow=37	38.28	12		LR	LR		06 18 54.9	
FRB	Frobisher Bay comp=Z,138nm,20.1s,baz=238,slow=38	40.35	34		LR	LR		06 20 48.2	
SJG	San Juan comp=Z,61nm,18.9s,baz=292,slow=40	52.97	96		LR	LR		06 30 13.0	
SDV	Santo Domingo comp=Z,42nm,21.7s,baz=338,slow=39	55.23	108		LR	LR		06 31 09.2	
MA2	Magadan comp=Z,46nm,21.0s,baz=36,slow=34	55.87	322		LR	LR		06 26 35.7	
PCRV	Puerto La Cruz comp=Z,81nm,18.1s,slow=40	58.92	103		LR	LR		06 34 25.4	
SPITS	Spitsbergen Ar comp=Z,172nm,19.7s,baz=192,slow=38	60.76	9		LR	LR		06 33 27.3	
H11S1	WAKE ISLAND Hy baz=55,slow=75,SNR=16	63.68	273		T	T		07 14 52.2	
H11S2	WAKE ISLAND Hy baz=55,slow=75,SNR=9.6	63.68	273		T	T		07 14 51.1	
H11S3	WAKE ISLAND Hy baz=55,slow=75,SNR=4.7	63.70	273		T	T		07 14 52.8	
YAK	Yakutsk comp=Z,5.5nm,19.1s,baz=302,slow=35	63.98	330		LR	LR		06 32 12.0	
KLR	Kul'dur comp=Z,61nm,18.3s,baz=357,slow=36	70.50	318		LR	LR		06 37 21.6	
HHC	Hu-ho-hao-te	86.55	322		eP	P		06 07 57.5	+0.9
HHC	comp=Z,10.0nm,0.5s				pmax	pmax			
HHC	comp=Z,250nm,4.4s				pmax	pmax			
KURBB	Kurchatov Arra comp=Z,0.7nm,0.7s,baz=17,slow=4.0,SNR=3.4 comp=Z,0.7nm,0.7s	89.04	347		P	P		06 08 10.7	+2.4
PZH	PanZhiHua	102.89	320		P	Pdif		06 09 12.9	+1.1
PZH	comp=Z,10.0nm,0.4s				pmax	pmax			
PZH	comp=Z,150nm,6.0s				pmax	pmax			

ISN ***18*** *06:03:59.7±0.9, 33.78N×45.70E, h0km±4km, ML3.2*
TEH ***18*** *06:04:00.8, 33.78N×45.67E, h12km±59km, ML3.2*

ISC 18 06:04:01.4±0.9, 33.78N±0.04×45.69E±0.04, h10km, n17, σ1°02/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	Ilam Banvizeh	0.46	110	Pg	Pg	06 04 10.2	-0.2
ILBA				Sg	Sb	06 04 17.8	-0.7
IBDR	Badra	0.70	163	ePg	Pg	06 04 14.0	-1.0
IBDR				eSg	Sg	06 04 24.0	-0.1
KGS1	Ghasr-e-Shirin	0.73	353	Pg	Pb	06 04 15.5	-0.8
IGHG	Ghaleghazi	0.91	53	Pg	Pg	06 04 18.9	-0.1
IDHR	Dehrash	1.08	32	Pg	Pg	06 04 21.2	-1.0
BHD	Baghdad	1.21	245	ePg	Pg	06 04 24.0	-0.7
BHD				eSg	Sn	06 04 43.0	+2.2
KCHF	Cheshme Sefid,	1.22	66	Pg	Pn	06 04 24.3	-0.4
ILIN	Lien	1.55	42	Pg	Pb	06 04 30.1	-0.3
IKOM	Komasi	1.56	75	Pg	Pg	06 04 31.7	+0.3
IKFM	Kafar-mosalman	1.82	98	Pn	Pb	06 04 34.1	-0.6
IBZA	Bozab	1.93	69	Pn	Pb	06 04 36.3	-0.5
RAFI	Al-Rafai	2.08	170	ePn	Pb	06 04 38.0	-1.3
RAFI				eSn	Sb	06 05 06.0	+0.7
RAFI				AML	AML	06 05 09.2	
RAFI	comp=E,277nm,0.4s			AML	AML	06 05 26.6	
	comp=N,243nm,0.4s						
IALM	Almabolaq	2.31	62	Pn	Pb	06 04 41.7	-1.8
HSAM	Samen	2.46	79	Pn	Pn	06 04 42.7	+0.9
HAGD	Aghdareh	3.04	69	Pn	Pn	06 04 50.5	+0.7
IKLH	Kolahrood	4.94	94	Pn	Pn	06 05 17.4	+1.5
IRAM	Ramesheh	5.97	107	Pn	Pn	06 05 30.8	+0.8

IDC 18 06:04:23.1±2.6, 54.07N×86.40E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=21.5km s-min=12.5km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA baz=81,slow=350,SNR=3.0	0.94	263	I	I	06 10 14.0	
ZALV	Zalesovo Beam 0.7nm,0.3s,baz=86,slow=17,SNR=11	0.94	263	Pg	Pg	06 04 39.7	-1.4
ZALV	1.8nm,0.3s,baz=69,slow=26,SNR=10			Lg	Lg	06 04 55.1	
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=54,slow=13,SNR=4.2 0.3nm,0.3s	5.93	238	Pn	Pn	06 05 53.3	+1.2
MKAR	Makanchi Array 0.2nm,0.3s,baz=13,slow=12,SNR=14	7.74	201	Pn	Pn	06 06 18.2	+1.1
MKAR	baz=15,slow=31,SNR=2.0 0.3nm,0.3s			Sn	Sn	06 07 44.5	-0.9

FUNV ***18*** *06:11:23.3, 10.62N×62.05W, h17km, MW3.3*
TRN ***18*** *06:11:24.9, 10.85N×62.27W, h81km, MD3.2*

ISC 18 06:11:23.9±1.9, 10.83N±0.07×62.24W±0.07, h96km±18km, n11, σ1°28/19, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	Trinidad (W)	0.84	103	eP	Pn	06 11 43.1	+0.8
TRN				eS	Sn	06 11 55.3	-0.9
CRUV	Carupano	1.00	261	eP	Pn	06 11 44.1	+0.1
CRUV				eS	Sn	06 11 59.0	-0.2
GRFF	Grenada Fort F	1.30	22	eP	Pn	06 11 48.1	+0.5
GRFF				eS	Sn	06 12 04.8	-0.7
GRW	Mount Saint Ca	1.43	23	eP	Pn	06 11 49.7	+0.4
GRW				eS	Sn	06 12 08.4	-0.1
GRHS	Sauteurs	1.50	23	eP	Pn	06 11 50.8	+0.8
GRHS				eS	Sn	06 12 08.8	-1.0
GCMP	Grenada, Carri	1.82	26	eP	Pn	06 11 54.5	+0.4
GCMP				eS	Sn	06 12 16.3	-0.8
PCRV	Puerto La Cruz	2.45	255	eP	Pn	06 12 03.2	+0.8
PCRV				eS	Sn	06 12 32.6	+0.9
BENV	Beln	5.35	261	eP	Pn	06 12 42.8	+1.3
BENV				eS	Sn	06 13 42.1	+0.3
CACV	CAICARA DEL OR	5.35	233	eP	Pn	06 12 35.7	-5.7
CACV				eS	Sn	06 13 29.6	-12
BAUV	El Baul	6.02	252	eP	Pn

DAVOX				Sg	Sg	06 24 58.9	+0.8	
DAVOX	**Davos/Dischmat**	0.39	191	||Pg	Pg	06 24 53.1	0.0
DAVOX				Sg	Sg	06 24 58.9	+0.8	
DAVOX	**Davos/Dischmat**	0.39	191	||P	Pg	06 24 53.1	0.0
DAVOX				S	Sg	06 24 59.0	+0.8	
DAVOX				AML	AML			
	comp=N,148μm,0.4s							
DAVOX				AML	AML			
	comp=N,148μm,0.4s							
DAVOX				AML	AML			
	comp=E,176μm,0.4s							
PLONS	**Plons/SG**	0.43	255	Pg	Pg	06 24 53.5	-0.3	
PLONS	**Plons/SG**	0.43	255	Pg	Pg	06 24 53.5	-0.3	
PLONS	**Plons/SG**	0.43	255	P	Pg	06 24 53.7	-0.1	
PLONS				S	Sg	06 25 00.6	+1.1	
SGT04	**Schlatt-Haslen**	0.47	293	Pg	Pg	06 24 55.1	+0.5	
SGT04				Sg	Sb	06 25 02.8	-1.2	
SGT04	**Schlatt-Haslen**	0.47	293	Pg	Pg	06 24 55.1	+0.5	
SGT04				Sg	Sb	06 25 02.8	-1.2	
FETA	**Feichten**	0.53	105	*e*Pg	Pg	06 24 55.3	-0.4	
	comp=E,3.2nm,0.2s,SNR=17							
FETA				*e*Sg	Sg	06 25 02.7	+0.2	
	comp=E,12nm,0.3s							
FETA	**Feichten**	0.53	105	||Pg	Pg	06 24 55.1	-0.5
FETA	**Feichten**	0.53	105	||Pg	Pg	06 24 55.1	-0.5
FUORN	**Ofenpass-Fuorn**	0.57	161	||Pg	Pg	06 24 56.4	-0.1
FUORN	**Ofenpass-Fuorn**	0.57	161	||Pg	Pg	06 24 56.4	-0.1
FUORN	**Ofenpass-Fuorn**	0.57	161	P	Pg	06 24 56.5	-0.1
FUORN				S	Sg	06 25 04.0	0.0	
RETA	**Reutte**	0.62	58	*e*Pg	Pg	06 24 57.0	-0.4	
	comp=E,3.3nm,0.3s							
RETA				Sg	Sg	06 25 05.8	+0.4	
	comp=E,1.9nm,0.2s							
MOSI	**Grossmontoni**	0.67	145	||Pg	Pg	06 24 58.2	-0.2
MOSI	**Grossmontoni**	0.67	145	||Pg	Pg	06 24 58.2	-0.2
MOSI	**Grossmontoni**	0.67	145	P	Pg	06 24 58.1	-0.2
MOSI				S	Sg	06 25 07.5	+0.4	
MOSI				AML	AML			
	comp=E,120μm,0.9s							
MOSI				AML	AML			
	comp=N,178μm,0.5s							
MOSI				AML	AML			
	comp=N,177μm,0.5s							
MOSI				AML	AML			
	comp=E,120μm,1.1s							
BRMO	**Bormio**	0.74	159	P	Pg	06 24 59.4	-0.2	
BRMO				S	Sg	06 25 08.9	-0.2	
BERNI	**Berninapass**	0.75	178	P	Pg	06 24 59.5	-0.5	
BERNI				S	Sg	06 25 09.8	+0.2	
MOTA	**Moosalm**	0.78	76	*e*Pg	Pg	06 25 00.1	-0.4	
	comp=E,0.8nm,0.1s							
MOTA				*e*Sg	Sg	06 25 10.9	+0.3	
	comp=E,3.1nm,0.1s							
TUE	**Stuetta**	0.82	213	P	Pg	06 25 00.3	-1.0	
TUE				S	Sg	06 25 11.6	-0.2	
TUE				AML	AML			
	comp=N,44μm,1.5s							
TUE				AML	AML			
	comp=E,40μm,1.5s							
TUE				AML	AML			
	comp=E,36μm,1.4s							
TUE				AML	AML			
	comp=N,40μm,1.4s							
TUE				AML	AML			
	comp=N,44μm,0.5s							
TUE				AML	AML			
	comp=E,40μm,0.5s							
SQTA	**Sankt Quirin**	0.83	86	*e*Pg	Pg	06 25 01.0	-0.5	
	comp=E,1.5nm,0.2s							
SQTA				*e*Sg	Sg	06 25 12.9	+0.5	
	comp=E,2.7nm,0.2s							
ZUR	**Degenried**	0.98	283	Pn	Pn	06 25 06.3	0.0	
ZUR	**Degenried**	0.98	283	Sn	Sn	06 25 22.0	+1.3	
ROSI	**Rosskopf**	1.00	103	P	Pg	06 25 04.0	-0.7	
GUT	**Gutenstein**	1.08	327	Sg	Sn	06 25 22.6	-0.6	
GUT	**Gutenstein**	1.08	327	Pg	Pn	06 25 07.1	-0.5	
WATA	**Walderalm**	1.09	80	Pn	Pn	06 25 08.4	+0.4	
	comp=E,2.8nm,0.2s							
WATA				Sn	Sn	06 25 24.3	+0.7	
	comp=E,19nm,0.2s							
BNALP	**Bannalp**	1.11	255	P	Pg	06 25 06.4	-0.4	
BNALP				S	Sb	06 25 21.6	-0.8	
WTTA	**Wattenberg**	1.13	84	*e*Pn	Pn	06 25 08.4	0.0	
	comp=E,2.4nm,0.1s							
WTTA				Sn	Sn	06 25 25.1	+0.6	
	comp=E,3.5nm,0.3s							
WTTA	**Wattenberg**	1.13	84	P	Pg	06 25 07.0	-0.2	
WTTA				S	Sb	06 25 23.1	+0.2	
WTTA				AML	AML			
	comp=N,79μm,0.8s							
WTTA				AML	AML			
	comp=N,79μm,1.2s							
WTTA				AML	AML			
	comp=E,55μm,1.3s							
FUSIO	**Fusio**	1.15	233	P	Pg	06 25 06.7	-1.0	
SLE	**Schleitheim**	1.18	301	Sg	Sb	06 25 24.5	+0.2	
SLE	**Schleitheim**	1.18	301	Pg	Pn	06 25 08.7	-0.3	
SULZ	**Cheisacher**	1.33	287	Sg	Sn	06 25 30.1	+0.8	
SULZ	**Cheisacher**	1.33	287	Pg	Pb	06 25 11.5	+0.4	
FELD	**Feldberg im Sc**	1.52	299	Pg	Pg	06 25 14.8	+0.1	
FELD	**Feldberg im Sc**	1.52	299	Sn	Sg	06 25 35.4	+0.9	
BALST	**Balsthal**	1.57	277	Pg	Pb	06 25 14.6	-0.7	
BALST	**Balsthal**	1.57	277	Sg	Sg	06 25 37.7	+1.7	
KIZ	**Kirchzarten**	1.61	300	Pn	Pn	06 25 15.0	+0.1	
KIZ	**Kirchzarten**	1.61	300	Sn	Sn	06 25 38.0	+0.7	
ENDD	**Endenburg**	1.62	291	Pn	Pn	06 25 14.8	-0.3	
ENDD	**Endenburg**	1.62	291	Pg	Pg	06 25 16.6	-0.1	
ENDD	**Endenburg**	1.62	291	Sg	Sg	06 25 38.3	+0.5	
ABTA	**Abfaltersbach**	1.78	103	Pg	Pg	06 25 19.1	-0.5	
	comp=E,2.2nm,0.4s							
ABTA				Sg	Sg	06 25 45.6	+3.0	
	comp=E,2.2nm,0.2s							
LESA	**Schwarzleotal**	1.85	81	*e*Pg	Pg	06 25 20.4	-0.5	
	comp=E,0.9nm,0.1s							
BOURR	**Bourrignon**	1.89	278	Pn	Pn	06 25 17.8	-1.1	
BOURR				Pg	Pg	06 25 21.6	-0.2	
BOURR	**Bourrignon**	1.89	278	Sg	Sg	06 25 46.6	+0.3	

IDC 18 06:27:14.5±3.1,7°82S×150°66E,h0km,mb3.7/2, mbtmp3.7/3,ML3.6/1,MS3.8/2,Error ellipse: s-maj=82.0km s-min=48.4km az=109.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**231**	P	P		06 31 47.5	-0.1
	0.2nm,0.3s,baz=54,slow=10,SNR=6.1 1.5nm,0.7s							
ASAR	**Alice Springs**	**22.50**	**224**	P	P		06 32 16.1	+0.2
	1.9nm,0.9s,baz=57,slow=9.0,SNR=17 1.9nm,0.9s							
STKA	**Stephens Creek**	**25.38**	**198**	P	P		06 32 42.9	-0.7
	2.9nm,0.9s,baz=13,slow=8.7,SNR=6.0 2.9nm,0.9s							
TGY	**Tagaytay City**	**36.66**	**306**	LR	LR		06 47 20.3	
	comp=Z,108nm,21.1s,baz=198,slow=33							
ZALV	**Zalesovo Beam**	**82.49**	**327**	LR	LR		07 17 53.1	
	comp=Z,80nm,18.6s,baz=319,slow=37							
TORD	**Torodi Ar. Bea**	**149.04**	**282**	PKPbc	PKPbc		06 47 05.8	0.0
	0.2nm,0.3s,baz=72,slow=2.8,SNR=4.0							

*IDC **18** 06:30:49.9±5.8,6°74S×150°96E,h60km±50km,mb3.9/11, mbtmp4.2/12,ML1.8/1,MS3.5/8,Error ellipse: s-maj=39.4km s-min=20.1km az=87.0*

ISC 18 06:30:47.2±0.7,6°7S±0°1×151°1E±0°1,h36km,n22, σ1s90°15,mb4.1/10,MS3.3/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75**	**235**	P	P	**Pn**	06 31 57.2	+1.0
	3.3nm,0.3s,baz=62,slow=10,SNR=4.0							
PMG				S	S	**Sn**	06 32 50.5	+0.4
	51nm,0.6s,baz=158,slow=19,SNR=10 12nm,0.4s							
HNR	**Honiara**	**9.15**	**108**	LR	LR		06 35 55.4	
	comp=Z,2μm,18.6s,baz=27,slow=33							
CTA	**Charters Tower**	**14.11**	**199**	LR	LR		06 39 09.4	
	comp=Z,83nm,18.4s,baz=81,slow=36							
WRA	**Warramunga Arr**	**20.94**	**229**	P	P		06 35 25.9	-1.2
	7.8nm,0.7s,baz=54,slow=11,SNR=25 7.8nm,0.7s							
GUMO	**Guam**	**21.10**	**343**	LR	LR		06 42 47.4	
	comp=Z,54nm,19.5s,baz=118,slow=34							
DZM	**Mont Dzumac**	**21.26**	**137**	LR	LR		06 42 13.7	
	comp=Z,136nm,19.8s,baz=296,slow=32							
ASAR	**Alice Springs**	**23.62**	**223**	P	P		06 35 54.5	-0.7
	9.4nm,0.9s,baz=57,slow=9.1,SNR=53 9.4nm,0.9s							
STKA	**Stephens Creek**	**26.57**	**198**	P	P		06 36 20.7	-1.3
	7.6nm,0.6s,baz=7.7,slow=10,SNR=16 7.8nm,0.6s							
JCJ	**Chichijima**	**34.70**	**346**	LR	LR		06 47 48.1	
	comp=Z,42nm,21.7s,baz=48,slow=29							
RPZ	**Rata Peaks**	**40.80**	**158**	LR	LR		06 52 42.2	
	comp=Z,39nm,20.4s,baz=284,slow=32							
NWAO	**Narrogin (SRO)**	**40.87**	**226**	LR	LR		06 53 56.6	
	comp=Z,39nm,20.4s,baz=154,slow=34							
LEM	**Lembang**	**43.19**	**267**	LR	LR		06 58 47.8	
	comp=Z,145nm,21.0s,baz=234,slow=39							
SONM	**Songino Array**	**67.06**	**329**	P	P		06 41 37.9	+1.0
	0.4nm,0.4s,baz=144,slow=5.2,SNR=3.4 0.4nm,0.4s							
VNDA	**Vanda**	**71.00**	**178**	P	P		06 42 01.2	+0.5
	2.3nm,0.6s,baz=331,slow=6.9,SNR=18 2.3nm,0.6s							
ZALV	**Zalesovo Beam**	**81.82**	**327**	P	P		06 43 02.1	-0.2
	0.7nm,0.6s,baz=98,slow=7.4,SNR=2.7 0.7nm,0.6s							
QSPA	**South Pole Qui**	**83.26**	**180**	P	P		06 43 10.1	+0.2
	5.1nm,0.7s,baz=347,slow=0.5,SNR=15 5.1nm,0.7s							
KURBB	**Kurchatov Arra**	**84.27**	**322**	P	P		06 43 13.7	-1.4
	0.2nm,0.3s,baz=114,slow=4.9,SNR=2.8 0.2nm,0.3s							
ILAR	**Eielson Array**	**84.55**	**22**	P	P		06 43 15.2	-1.0
	0.8nm,0.7s,baz=256,slow=5.3,SNR=5.0 0.8nm,0.7s							
NVAR	**Mina Array Bea**	**94.57**	**52**	P	P		06 44 06.2	+1.5
	0.9nm,0.8s,baz=249,slow=5.1,SNR=6.5 0.9nm,0.8s							
YKA	**Yellowknife Ar**	**97.88**	**28**	P	P		06 44 19.0	+0.2
	0.3nm,0.8s,baz=268,slow=5.1,SNR=5.0 0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**149.23**	**284**	PKPbc	PKPbc		06 50 32.1	-0.9
	0.7nm,0.7s,baz=70,slow=3.5,SNR=4.0							
BDFB	**Brasilia**	**150.80**	**140**	PKPbc	PKPbc		06 50 37.0	0.0
	3.7nm,0.7s,baz=229,slow=6.2,SNR=6.1							

IDC 18 06:42:24.2±1.7,18°08N×96°02E,h0km,mb3.5/3, mbtmp3.3/4,ML3.4/1,MS2.5/1,Error ellipse: s-maj=23.1km s-min=17.3km az=36.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**2.80**	**82**	Pn	Pn		06 43 10.8	+0.5
	1.7nm,0.3s,baz=262,slow=14,SNR=23							
CMAR				Pg	Pg		06 43 17.0	-1.0
	7.1nm,0.3s,baz=264,slow=19,SNR=15							
CMAR				Lg	Lg		06 43 51.1	
	9.9nm,0.3s,baz=263,slow=31,SNR=3.5							
CMAR				LR	LR		06 44 23.6	
	comp=Z,70nm,18.2s,baz=265,slow=43 1.5nm,0.3s							
MKAR	**Makanchi Array**	**30.79**	**341**	P	P		06 48 41.3	-0.3
	0.2nm,0.4s,baz=159,slow=8.4,SNR=4.1 0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**35.34**	**341**	P	P		06 49 20.6	-0.6
	0.4nm,0.4s,baz=149,slow=8.8,SNR=1.8 0.4nm,0.4s							
ASAR	**Alice Springs**	**55.58**	**137**	P	P		06 52 02.2	+0.3
	0.3nm,0.8s,baz=313,slow=4.6,SNR=2.2 0.3nm,0.8s							

*RSNC **18** 06:42:34.2±0.9, 11°17N×72°17W,h82km±8km, ML2.7*
*FUNV **18** 06:42:35.7, 11°03N×72°14W,h22km, MW3.9*

ISC 18 06:42:33.6±1.5,11°17N±0°06×72°17W±0°03,h83km±14km, n27,σ1s53°51,1C,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.72**	**258**	*e*P	P	**Pn**	06 42 49.9	0.0
CRJC				*e*S	S	**Sn**	06 43 02.1	+0.1
CRJC				*i*			06 43 05.4	
	comp=Z,180nm,0.2s							
MCQV	**Machiques**	**1.17**	**198**	||*e*P	P	**Pn**	06 42 56.3	+1.3
MCQV				*e*S	S	**Sn**	06 43 09.5	-1.5
LL6C	**La Loma 6 Bece**	**1.79**	**217**	*e*P	P	**Pn**	06 43 03.3	+0.4
LL6C				*e*S	S	**Sn**	06 43 25.9	+0.7
LL6C				*i*			06 43 28.0	
	comp=Z,50nm,0.2s							
SMRC	**Santa Marta, M**	**2.02**	**270**	*e*P	P	**Pn**	06 43 05.4	-0.5
SMRC				*e*S	S	**Sn**	06 43 28.6	-2.0
SIQV	**Siquisique**	**2.37**	**102**	*e*P	P	**Pn**	06 43 11.7	+1.1
SIQV				*e*S	S	**Sn**	06 43 39.0	0.0
ARGC	**Ariguani, Magd**	**2.43**	**238**	*e*P	P	**Pn**	06 43 11.2	-0.1
ARGC				*e*S	S	**Sn**	06 43 39.8	-0.4
ARGC				*i*			06 43 43.8	
	comp=Z,22nm,0.2s							
CURV	**Curarigua**	**2.45**	**118**	*e*P	P	**Pn**	06 43 12.6	+0.8
CURV				*e*S	S	**Sn**	06 43 40.0	-1.0
SDV	**Santo Domingo**	**2.73**	**146**	*e*P	P	**Pn**	06 43 16.0	+0.4
SDV				*e*S	S	**Sn**	06 43 47.1	-0.6
SDV				*i*			06 43 52.3	
	comp=Z,17nm,0.2s							
SANV	**Sanarito**	**3.07**	**122**	*e*P	P	**Pn**	06 43 21.1	+0.9
SANV				*e*S	S	**Sn**	06 43 56.5	+0.5
OCAC	**Ocana**	**3.13**	**201**	*e*P	P	**Pn**	06 43 20.5	-0.5
OCAC				*e*S	S	**Sn**	06 43 57.4	0.0
SOCV	**Socops**	**3.15**	**156**	*e*P	P	**Pn**	06 43 21.4	+0.3
SOCV				*e*S	S	**Sn**	06 43 54.8	-2.9
TEPV	**Terepaima**	**3.16**	**112**	*e*P	P	**Pn**	06 43 22.0	+0.7
TEPV				*e*S	S	**Sn**	06 43 57.0	-1.0
SJCC	**San Jacinto, C**	**3.22**	**247**	*e*P	P	**Pn**	06 43 23.3	+1.1
SJCC				*e*S	S	**Sn**	06 44 00.9	+1.3
SJCC				*i*			06 44 06.8	
	comp=Z,11nm,0.7s							
CAPV	**Capacho**	**3.29**	**183**	*e*P	P	**Pn**	06 43 23.4	+0.2
CAPV				*e*S	S	**Sn**	06 43 58.0	-3.4
PAMC	**Pamplona, Colo**	**3.84**	**188**	*e*P	P	**Pn**	06 43 30.8	-0.1
PAMC				*e*S	S	**Sn**	06 44 15.2	-0.1
PAMC				*i*			06 44 20.1	
	comp=Z,22nm,0.2s							
TURV	**Turiamo**	**4.31**	**99**	*e*S	S	**Sn**	06 44 24.1	-1.8
ZARC	**Zaragoza, Cauc**	**4.52**	**216**	*e*P	P	**Pn**	06 43 40.2	+0.5
ZARC				*e*S	S	**Sn**	06 44 29.9	-1.2
ZARC				*i*			06 44 36.8	
	comp=Z,17nm,0.4s							
BAUV	**El Baul**	**4.62**	**118**	*e*P	P	**Pn**	06 43 41.8	+0.7
BAUV				*e*S	S	**Sn**	06 44 30.4	-3.2
BENV	**Beln**	**4.65**	**105**	*e*P	P	**Pn**	06 43 42.5	+1.0
BENV				*e*S	S	**Sn**	06 44 31.9	-2.4
BARC	**Barichara**	**4.66**	**193**	*e*P	P	**Pn**	06 43 42.6	+0.8
BARC				*e*S	S	**Sn**	06 44 34.3	-0.5
BARC				*i*			06 44 38.4	
	comp=Z,11nm,0.3s							
TAMC	**Tame, Arauca**	**4.72**	**175**	*e*P	P	**Pn**	06 43 43.0	+0.5
TAMC				*e*S	S	**Sn**	06 44 35.2	-0.8
TAMC				*i*			06 44 40.5	
	comp=Z,9.6nm,0.4s							
UREC	**San Jos de Ur**	**4.75**	**225**	*e*P	P	**Pn**	06 43 43.2	+0.3
UREC				*e*S	S	**Sn**	06 44 37.2	+0.5
UREC				*i*			06 44 43.4	
	comp=Z,6.9nm,0.2s							
PTBC	**PUERTO BERRIO,**	**5.13**	**206**	*e*P	P	**Pn**	06 43 47.4	-0.7
PTBC				*e*S	S	**Sn**	06 44 44.0	-2.0
PTBC				*i*			06 44 53.4	
	comp=Z,4.9nm,0.4s							
SPBC	**San Pablo de B**	**5.80**	**199**	*e*P	P	**Pn**	06 43 57.5	+0.3
SPBC				*e*S	S	**Sn**	06 45 01.9	-0.5
SPBC				*i*			06 45 20.9	
	comp=Z,3.6nm,0.5s							
CBOC	**Ciudad Bolivar**	**6.50**	**216**	*e*P	P	**Pn**	06 44 08.8	+1.9
CACV	**CAICARA DEL OR**	**6.61**	**122**	*e*P	P	Pn	06 44 14.6	+6.4
CACV				*e*S	S	**Sn**	06 45 28.1	+6.1
GUY2C	**Guyana, Caldas**	**6.70**	**208**	*e*P	P	**Pn**	06 44 11.5	+1.5
GUY2C				*e*S	S	**Sn**	06 45 25.7	+0.6
GUY2C				*i*			06 45 47.6	
	comp=Z,3.3nm,0.6s							

IDC 18 06:47:09.3±2.5,10°64S×127°73E,H0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=203.9km s-min=27.8km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.25**	**162**	P	Pn		06 51 47.7	-0.7
	0.7nm,0.8s,baz=341,slow=11,SNR=1.5 0.7nm,0.8s							
ASAR	**Alice Springs**	**23.67**	**166**	P	P		06 52 22.1	-0.6
	0.5nm,0.7s,baz=345,slow=12,SNR=8.9 0.5nm,0.7s							
MKAR	**Makanchi Array**	**61.70**	**326**	P	P		06 57 29.4	-0.1
	0.3nm,0.5s,baz=120,slow=8.4,SNR=4.2 0.3nm,0.5s							

*IDC **18** 07:00:59.1±0.6,15°10S×173°66W,h0km,mb4.3/11, mbtmp4.3/11,MS3.8/15,Error ellipse: s-maj=29.4km s-min=17.0km az=130.0*
*NEIC **18** 07:00:59.7±1.9,15°07S±0°08×173°51W±0°05,h10km±1km, mb4.7/22,Error ellipse: s-maj=13.5km s-min=7.6km az=201.0*

ISC 18 07:01:00.1±0.5,15°11S±0°08×173°58W±0°09,h10km,n60, σ0s95°41,mb4.7/19,MS3.9/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**56**			**Pn**	07 01 33.9	-1.8
NIUE	**Niue**	**5.27**	**139**			**Pn**	07 02 18.1	-0.9
FUNA	**Funafuti**	**9.63**	**312**		Pn	**Pn**	07 03 18.6	-0.2
RAO	**Raoul Island**	**14.63**	**195**		LR	LR	07 09 11.0	
	comp=Z,150nm,21.1s,baz=119,slow=34							
MARNC	**Mare, Loyalty**	**18.56**	**247**		P	**P**	07 05 16.3	-0.9
LIFNC	**LIFOU**	**19.09**	**250**		P	**P**	07 05 22.3	-0.7
LIFNC					IAmb	IAmb	07 05 42.7	
	comp=Z,36nm,1.0s							
PINNC	**Pines Island,**	**19.43**	**245**		P	**P**	07 05 26.6	-0.2
PINNC					IAmb	IAmb	07 05 44.7	
	comp=Z,60nm,1.2s							
DZM	**Mont Dzumac**	**20.14**	**247**		P	**P**	07 05 35.1	+0.4
DZM					IAmb	IAmb	07 05 43.5	
	comp=Z,50nm,1.3s							
DZM	**Mont Dzumac**	**20.14**	**247**		LR	LR	07 12 22.0	
	comp=Z,260nm,20.7s,baz=208,slow=34							
URZ	**Urewera**	**24.48**	**198**		LR	LR	07 14 16.4	
	comp=Z,257nm,20.8s,baz=121,slow=33							
TOZ	**Tahuroa Road**	**24.52**	**201**		P	**P**	07 06 21.0	+1.2
TOZ					IAmb	IAmb	07 06 33.7	
	comp=Z,27nm,1.4s							
BFZ	**Birch Farm**	**26.97**	**197**		P	**P**	07 06 41.4	-0.6
RPZ	**Rata Peaks**	**31.38**	**202**		LR	LR	07 18 58.9	
	comp=Z,160nm,19.5s,baz=12,slow=34							
ARMA	**Armidale**	**35.34**	**238**		P	**P**	07 07 55.3	-0.7
ARMA					IAmb	IAmb	07 08 19.3	
	comp=Z,15nm,1.3s							
CTA	**Charters Tower**	**38.53**	**257**		LR	LR	07 21 38.0	
	comp=Z,111nm,20.5s,baz=84,slow=32							
H11S2	**WAKE ISLAND Hy**	**38.62**	**329**		T	T	07 49 03.4	
	baz=147,slow=76,SNR=33							
H11S3	**WAKE ISLAND Hy**	**38.64**	**329**		T	T	07 49 04.4	
	baz=147,slow=76,SNR=16							
H11S1	**WAKE ISLAND Hy**	**38.64**	**329**		T	T	07 49 08.9	
	baz=147,slow=76,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	**39.57**	**330**		T	T	07 50 09.3	
	baz=149,slow=76,SNR=29							
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**		T	T	07 50 12.0	
	baz=149,slow=76,SNR=22							
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**		T	T	07 50 11.2	
	baz=149,slow=76,SNR=30							
TOO	**Toolangi**	**42.51**	**230**		P	**P**	07 08 54.4	-1.5
STKA	**Stephens Creek**	**44.03**	**240**		P	**P**	07 09 08.3	+0.1
STKA	**Stephens Creek**	**44.03**	**240**		P	**P**	07 09 08.7	+0.5
	comp=Z,3.9nm,0.9s,baz=66,slow=8.4,SNR=6.7 comp=Z,3.9nm,0.9s							
WR0	**Warramunga Arr**	**49.55**	**257**		P	**P**	07 09 50.6	-1.0
WR0					IAmb	IAmb	07 09 54.8	
	comp=Z,9.4nm,1.2s							
WRA	**Warramunga Arr**	**49.74**	**257**		P	**P**	07 09 52.3	-0.8
	comp=Z,1.4nm,0.5s,baz=96,slow=6.2,SNR=17 comp=Z,1.4nm,0.5s							
AS31	**Alice Springs**	**50.03**	**252**		P	**P**	07 09 54.4	-0.9
ASAR	**Alice Springs**	**50.03**	**252**		P	**P**	07 09 53.9	-1.4
ASAR	**Alice Springs**	**50.03**	**252**		P	**P**	07 09 54.6	-0.7
	comp=Z,9.4nm,0.6s,baz=86,slow=8.1,SNR=156							
ASAR					LR	LR	07 29 11.2	
	comp=Z,134nm,21.8s,baz=110,slow=34 comp=Z,9.4nm,0.6s							
FORT	**Forrest**	**55.39**	**243**		P	**P**	07 10 33.4	-1.4
VNDA	**Vanda**	**63.64**	**186**		P	**P**	07 11 31.6	+0.6
VNDA					IAmb	IAmb	07 11 33.2	
	comp=Z,4.9nm,0.9s							
VNDA	**Vanda**	**63.64**	**186**		P	**P**	07 11 31.8	+0.8
	comp=Z,3.4nm,0.8s,baz=357,slow=6.0,SNR=12 comp=Z,3.4nm,0.8s							
SHEM	**Shemya Is, Ala**	**68.39**	**352**		LR	LR	07 35 33.5	
	comp=Z,69nm,19.9s,baz=138,slow=30							
MJAR	**Matsushiro Arr**	**68.60**	**320**		LR	LR	07 42 13.4	
	comp=Z,32nm,18.3s,baz=114,slow=36							
CASY	**Casey**	**70.59**	**205**		P	**P**	07 12 16.0	+0.7
CASY					IAmb	IAmb	07 12 24.8	
	comp=Z,13nm,1.4s							
PETK	**Petropavlovsk-**	**72.30**	**342**		P	**P**	07 12 27.7	+2.0
	comp=Z,3.0nm,0.8s,baz=98,slow=10,SNR=4.1 comp=Z,3.0nm,0.8s							
PFO	**Pinyon Flats O**	**72.86**	**47**		LR	LR	07 37 02.3	
	comp=Z,132nm,20.3s,baz=325,slow=30							
LPIG	**La Paz**	**73.04**	**59**		LR	LR	07 36 56.1	
	comp=Z,94nm,19.0s,baz=338,slow=30							
YBH	**Yreka Blue Hor**	**73.48**	**37**		LR	LR	07 37 00.6	
	comp=Z,145nm,19.7s,baz=340,slow=29							
NVAR	**Mina Array Bea**	**74.23**	**42**		P	**P**	07 12 38.4	+0.6
	comp=Z,1.3nm,0.8s,baz=227,slow=9.9,S

	comp=N,235nm,0.4s							
CSTR	**Hydro, Custer**	**0.56**	**299**	Pg	Pg	07 06 12.4	+0.5	
FNO	**Franklin**	**0.58**	**102**	Pg	Pg	07 06 12.1	-0.3	
FNO				IAML		07 06 27.0		
	comp=N,209nm,0.5s							
ADOK	**Arcadia Dam**	**0.65**	**65**		Pg	07 06 12.8	-0.9	
ADOK				Sg	Sg	07 06 22.1	0.0	
OK029	**Liberty Lake**	**0.67**	**51**		Pg	07 06 13.8	-0.3	
OK029				Sg	Sg	07 06 23.3	+0.6	
OK029				IAML		07 06 29.3		
	comp=N,188nm,0.5s							
OK029				IAML		07 06 32.4		
	comp=N,177nm,0.5s							
X34A	**Smith Ranch, M**	**0.80**	**165**		Pg	07 06 16.2	-0.4	
X34A				IAML		07 06 44.3		
	comp=E,157nm,0.6s							
X34A				IAML		07 06 45.0		
	comp=N,133nm,1.0s							
WMOK	**Wichita Mounta**	**0.85**	**222**	Pg	Pg	07 06 17.0	-0.6	
WMOK				Sg	Sg	07 06 28.6	-0.1	
W35A	**Tecumseh**	**1.02**	**102**		Pg	07 06 20.3	-0.5	
W35A				Sg	Sg	07 06 34.1	0.0	
W35A				IAML		07 06 37.5		
	comp=N,110nm,0.4s							
W35A				IAML		07 06 43.3		
	comp=E,139nm,0.3s							
CROK	**Carrier**	**1.13**	**4**		Pg	07 06 22.0	-0.9	
OK033	**Mehan**	**1.15**	**54**		Pg	07 06 22.5	-0.8	
OK033				Sg	Sg	07 06 37.9	-0.3	
OK052	**Battle Ridge R**	**1.22**	**59**		Pb	07 06 23.4	-1.1	
OK052				IAML		07 06 41.7		
	comp=E,176nm,0.2s							
OK038	**West end E0370**	**1.22**	**334**	Pg	Pb	07 06 23.8	-0.8	
OK038				Sg	Sg	07 06 40.4	0.0	
U32A	**Winter Ranch,**	**1.24**	**324**	Pg	Pb	07 06 23.6	-1.4	
U32A				IAML		07 06 46.8		
	comp=E,157nm,0.3s							
U32A				IAML		07 06 48.8		
	comp=N,142nm,0.1s							
QUOK	**Quay**	**1.38**	**54**		Pn	07 06 26.4	-0.5	
DEOK	**Depew**	**1.38**	**70**		Pn	07 06 26.4	-0.5	
OK048	**Pawnee Station**	**1.39**	**42**		Pn	07 06 26.6	-0.4	
OK035	**E0210 Rd and N**	**1.42**	**339**		Pn	07 06 27.1	-0.3	
OK032	**Salt Plains WL**	**1.43**	**356**		Pn	07 06 27.1	-0.4	
GC02	**Grant County #**	**1.48**	**7**		Pn	07 06 27.9	-0.4	
OK051	**E0350 and S346**	**1.52**	**42**		Pn	07 06 28.6	-0.1	
LOOK	**Love County**	**1.57**	**151**	Pg	Pn	07 06 29.2	-0.4	
KAN14	**Manchester OK**	**1.58**	**4**		Pn	07 06 29.3	-0.3	
KAN13	**South Haven SW**	**1.71**	**17**		Pn	07 06 30.8	-0.5	
KAN05	**Bluff City Nor**	**1.74**	**6**		Pn	07 06 31.4	-0.4	
KAN09	**Caldwell North**	**1.79**	**12**	Pn	Pn	07 06 32.2	-0.4	
KAN06	**Argonia West S**	**1.88**	**6**	IAmb_Lg		07 07 02.2		
	comp=Z,26nm,1.2s							
FW03	**Perrin-Whitt E**	**2.33**	**179**	IAmb_Lg		07 07 17.9		
	comp=Z,23nm,0.8s							
FW06	**Azle**	**2.44**	**169**	IAmb_Lg		07 07 19.6		
	comp=Z,11nm,0.7s							
DKNS	**Dickens**	**2.90**	**235**	IAmb_Lg		07 07 40.8		
	comp=Z,15nm,1.1s							
AMTX	**Amarillo**	**2.98**	**262**	IAmb_Lg		07 07 42.2		
	comp=Z,12nm,0.9s							
HHAR	**Hobbs**	**3.49**	**74**	Pn	Pn	07 06 56.0	0.0	
CBKS	**Cedar Bluff**	**3.67**	**339**	IAmb_Lg		07 08 04.9		
	comp=Z,12nm,1.0s							
KSU1	**Kansas State U**	**3.90**	**17**	IAmb_Lg		07 08 14.4		
	comp=Z,15nm,0.8s							
RTBA	**Rita Blanca**	**3.92**	**287**	IAmb_Lg		07 08 10.8		
	comp=Z,14nm,1.3s							
X40A	**Basin Creek Fa**	**4.41**	**100**	IAmb_Lg		07 08 26.7		
	comp=Z,8.7nm,0.8s							
S39A	**Bolivar**	**4.48**	**58**	IAmb_Lg		07 08 31.3		
WHAR	**Wooly Hollow**	**4.74**	**89**	Pn	Pn	07 07 12.8	-0.3	
MGMO	**Mountain Grove**	**5.03**	**68**	IAmb_Lg		07 08 47.8		
	comp=Z,9.4nm,0.8s							
JCT	**Junction City**	**5.09**	**197**	IAmb_Lg		07 08 50.4		
	comp=Z,7.1nm,0.9s							
T42A	**Van Buren**	**5.89**	**72**	IAmb_Lg		07 09 10.5		
	comp=Z,6.6nm,0.8s							
Q24A	**Divide**	**6.67**	**304**	IAmb_Lg		07 09 37.7		
	comp=Z,6.3nm,0.9s							
146A	**Union**	**7.98**	**107**	IAmb_Lg		07 10 08.7		
	comp=Z,4.8nm,0.8s							

*IDC **18** 07:35:54.0±0.6,8.°45S×158.°86E,h103km±6km,mb4.0/15, mbtmp4.3/15,MS3.0/1,Error ellipse: s-maj=15.3km s-min=8.9km az=51.0*
*NEIC **18** 07:35:54.6±1.6,8.°5S±0.°1×158.°9E±0.°1,h105km±8km, mb4.4/27,Error ellipse: s-maj=20.6km s-min=8.8km az=47.0*

ISC 18 07:35:53.9±0.5,8.°41S±0.°07×158.°91E±0.°08,h100km,n51, σ1§11/55,mb4.3/27,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.45**	**135**		**Pn**	**07 36 20.0**	**+0.4**
HNR	**Honiara**	**1.45**	**135**	P	**Pn**	**07 36 19.7**	**+0.2**
	5μm,0.3s,baz=201,slow=13,SNR=22						
HNR				S	**Sn**	**07 36 39.4**	**+0.5**
	22μm,0.3s,baz=208,slow=20,SNR=26						
LIFNC	**LIFOU**	**14.70**	**148**	P	P	07 39 40.8	+20
MARNC	**Mare, Loyalty**	**15.69**	**147**	P	P	07 39 41.1	+10
COEN	**Coen**	**16.38**	**249**	P	**Pn**	**07 39 38.9**	**+0.8**
COEN				IAmb	IAmb	07 39 43.4	
	comp=Z,29nm,1.4s						
CTA	**Charters Tower**	**16.87**	**225**	P	**P**	**07 39 47.8**	**+3.3**
	comp=Z,4.1nm,0.6s,baz=57,slow=13,SNR=1.8						
CTA				LR	LR	07 44 38.8	
	comp=Z,51nm,19.1s,baz=82,slow=31						
CTAO	**Charters Tower**	**16.87**	**225**	P	**P**	**07 39 47.7**	**+3.2**
CTAO				IAmb	IAmb	07 40 17.7	
	comp=Z,35nm,1.4s						
EIDS	**Eidsvold**	**18.44**	**203**	P	**Pn**	**07 40 03.6**	**+0.6**
EIDS				IAmb	IAmb	07 40 04.8	
	comp=Z,6.7nm,0.6s						
ARMA	**Armidale**	**22.93**	**196**	P	**P**	**07 40 50.2**	**+0.5**
ARMA				IAmb	IAmb	07 40 51.8	
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**26.22**	**241**	P	**P**	**07 41 18.7**	**-1.0**
WR0				IAmb	IAmb	07 41 48.8	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**26.39**	**242**	P	**P**	**07 41 20.9**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=67,slow=9.1,SNR=23						
WRA				PcP	**PcP**	**07 44 44.1**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=60,slow=2.4,SNR=7.2						
	comp=Z,3.5nm,0.5s						
MTN	**Manton Dam**	**27.64**	**258**	P	**P**	**07 41 32.0**	**-0.5**
MTN				IAmb	IAmb	07 42 04.7	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**28.34**	**235**	P	**P**	**07 41 37.6**	**-1.0**
ASAR	**Alice Springs**	**28.34**	**235**	P	**P**	**07 41 37.9**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=62,slow=9.6,SNR=89						
ASAR				PcP	**PcP**	**07 44 48.4**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=70,slow=2.9,SNR=6.8						
	comp=Z,3.5nm,0.5s						
STKA	**Stephens Creek**	**28.36**	**212**	P	**P**	**07 41 38.6**	**-0.1**
STKA	**Stephens Creek**	**28.36**	**212**	P	**P**	**07 41 38.4**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=44,slow=15,SNR=16						
	comp=Z,2.4nm,0.5s						
KNRA	**Kununurra**	**30.32**	**253**	P	**P**	**07 41 55.0**	**-1.2**
BBOO	**Buckleboo**	**32.20**	**218**	P	**P**	**07 42 12.2**	**-0.4**
BBOO				IAmb	IAmb	07 42 12.8	
	comp=Z,7.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**33.73**	**250**	P	**P**	**07 42 24.1**	**-1.9**
LTZ	**Lake Taylor**	**36.20**	**163**	P	**P**	**07 42 46.9**	**-0.1**
GVZ	**Greta Valley S**	**36.59**	**163**	P	**P**	**07 42 49.7**	**-0.6**
PSA00	**Pilbara Seismi**	**39.81**	**246**	P	**P**	**07 43 16.2**	**-1.4**
MORW	**Morawa**	**45.16**	**237**	P	**P**	**07 44 00.3**	**-0.7**
KSRS	**Korea Array**	**54.05**	**330**	P	**P**	**07 45 08.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=134,slow=7.2,SNR=4.8						
	comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**64.89**	**295**	P	**P**	**07 46 23.3**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=113,slow=4.1,SNR=1.4						
	comp=Z,0.8nm,0.3s						
LZH	**Lanzhou**	**68.05**	**314**	*eP*	**P**	**07 46 44.8**	**+1.7**
LZH				pP	pP	07 46 54.0	-14
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
VNDA	**Vanda**	**69.10**	**179**	P	**P**	**07 46 48.2**	**-0.5**
VNDA				IAmb	IAmb	07 47 14.1	
	comp=Z,5.4nm,1.5s						
VNDA	**Vanda**	**69.10**	**179**	P	**P**	**07 46 47.9**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=338,slow=4.3,SNR=6.7						
	comp=Z,1.2nm,0.7s						
SBA	**Scott Base**	**69.54**	**178**	P	**P**	**07 46 52.4**	**+1.0**
GTA	**Gaotai**	**72.43**	**316**	*eP*	**P**	**07 47 10.8**	**+1.0**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SONM	**Songino Array**	**72.64**	**326**	P	**P**	**07 47 11.5**	**+0.7**
SONM				IAmb	IAmb	07 47 12.5	
	comp=Z,3.9nm,0.8s						
SONM	**Songino Array**	**72.64**	**326**	P	**P**	**07 47 12.1**	**+1.2**
	comp=Z,4.6nm,0.7s,baz=134,slow=5.2,SNR=15						
SONM				pP	**pP**	**07 47 37.1**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=146,slow=8.0,SNR=2.1						
	comp=Z,4.6nm,0.7s						
M16K	**Timber Creek**	**76.68**	**20**	P	**P**	**07 47 33.9**	**+0.2**
L18K	**Granite Mounta**	**78.30**	**20**	P	**P**	**07 47 43.5**	**+0.8**
L18K				IAmb	IAmb	07 48 13.6	
	comp=Z,15nm,1.4s						
L19K	**White Mountain**	**78.89**	**20**	P	**P**	**07 47 45.7**	**-0.2**
L19K				IAmb	IAmb	07 48 19.2	
	comp=Z,12nm,1.4s						
TTA	**Tatalina**	**79.02**	**19**	P	**P**	**07 47 46.9**	**+0.1**
TTA				IAmb	IAmb	07 48 16.0	
	comp=Z,8.7nm,1.5s						
PMR	**Palmer**	**80.56**	**22**	P	**P**	**07 47 54.9**	**0.0**
PMR				IAmb	IAmb	07 47 57.5	
	comp=Z,8.9nm,1.0s						
CAST	**Castle Rocks**	**80.67**	**20**	P	**P**	**07 47 55.0**	**-0.5**
CAST				IAmb	IAmb	07 48 21.8	
	comp=Z,8.4nm,1.4s						
E18K	**Tukpahlearik C**	**80.99**	**15**	P	**P**	**07 47 56.6**	**-0.5**
QSPA	**South Pole Qui**	**81.58**	**180**	P	**P**	**07 47 59.6**	**-1.0**
QSPA	**South Pole Qui**	**81.58**	**180**	P	**P**	**07 47 59.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=344,slow=1.6,SNR=6.4						
	comp=Z,0.6nm,0.5s						
E19K	**Redstone River**	**81.89**	**16**	P	**P**	**07 48 01.7**	**-0.3**
E19K				IAmb	IAmb	07 48 05.3	
	comp=Z,4.3nm,0.9s						
ILAR	**Eielson Array**	**83.30**	**20**	P	**P**	**07 48 08.4**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=244,slow=4.9,SNR=12						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**87.03**	**318**	P	**P**	**07 48 27.6**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=97,slow=7.1,SNR=15						
MKAR				pP	**pP**	**07 48 54.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=106,slow=8.9,SNR=2.4						
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**87.53**	**325**	P	**P**	**07 48 28.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=106,slow=4.8,SNR=3.7						
	comp=Z,0.5nm,0.3s						
NVAR	**Mina Array Bea**	**89.56**	**51**	P	**P**	**07 48 42.2**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=251,slow=6.1,SNR=6.3						
	comp=Z,0.8nm,0.7s						
BVAR	**Borovoye Array**	**95.76**	**323**	P	**P**	**07 49 07.2**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=102,slow=6.3,SNR=7.5						
	comp=Z,2.3nm,0.7s						
YKA	**Yellowknife Ar**	**95.77**	**28**	P	**P**	**07 49 08.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=260,slow=4.5,SNR=12						
YKA				pP	**pP**	**07 49 34.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=260,slow=4.5,SNR=3.3						
	comp=Z,0.6nm,0.6s						
PDAR	**Pinedale Array**	**96.77**	**48**	P	**P**	**07 49 14.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=241,slow=3.1,SNR=5.0						
	comp=Z,0.4nm,0.6s						
AKASG	**Malin Array Be**	**120.92**	**325**	PKP	**PKPdf**	**07 54 32.5**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=60,slow=0.7,SNR=2.0						
ESDC	**Sonseca Array**	**145.29**	**336**	PKPbc	**PKPbc**	**07 55 19.6**	**-0.8**
	comp=Z,3.2nm,1.0s,baz=14,slow=3.7,SNR=10						

*IDC **18** 07:54:39.0±1.9,36.°35N×76.°77E,h0km,mb3.9/6, mbtmp3.7/10,ML2.7/4,Error ellipse: s-maj=32.2km s-min=28.3km az=51.0*

ISC 18 07:54:48.8±1.7,36.°5N±0.°1×77.°2E±0.°1,h77km,n11, σ1§81/13,mb4.0/6,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.49**	**342**	Pn	**Pn**	**07 56 22.8**	**+1.1**
	0.3nm,0.3s,baz=95,slow=12,SNR=3.1						
AAK				Sn	**Sn**	**07 57 35.5**	**+1.2**
	0.4nm,0.3s,baz=2.4,slow=17,SNR=1.9						
AAK				Lg	Lg	07 58 06.4	
	0.2nm,0.3s,baz=15,slow=20,SNR=2.4						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**10.96**	**19**	Pn	**Pn**	**07 57 20.7**	**-1.8**
	0.2nm,0.3s,baz=203,slow=13,SNR=8.9						
MKAR				Sn	**Sn**	**07 59 23.0**	**-0.2**
	0.2nm,0.3s,baz=192,slow=22,SNR=7.1						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**14.15**	**3**	Pn	**Pn**	**07 58 04.4**	**-0.9**
	baz=194,slow=12,SNR=5.2						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**18.23**	**14**	P	**Pn**	**07 58 56.1**	**-0.2**
	0.1nm,0.3s,baz=237,slow=13,SNR=2.1						
	0.5nm,0.4s						
SONM	**Songino Array**	**24.25**	**53**	P	**P**	**08 00 02.1**	**+3.5**
	1.4nm,0.9s,baz=249,slow=12,SNR=5.3						
	1.4nm,0.9s						
FINES	**FINESS Array B**	**40.34**	**325**	P	**P**	**08 02 17.7**	**-0.7**
	3.2nm,0.7s,baz=109,slow=9.0,SNR=12						
	3.2nm,0.7s						
ARCES	**ARCESS Array B**	**43.12**	**336**	P	**P**	**08 02 39.4**	**-1.7**
	2.6nm,0.9s,baz=101,slow=6.3,SNR=7.4						
	2.6nm,0.9s						
HFS	**Hagfors**	**46.18**	**322**	P	**P**	**08 03 05.1**	**-0.4**
	0.7nm,0.3s,baz=76,slow=7.7,SNR=1.6						
	0.7nm,0.3s						
NB2	**NORSAR Subarra**	**47.41**	**323**	P	**P**	**08 03 12.6**	**-2.5**
	comp=Z,2.5nm,0.7s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**47.41**	**323**	P	**P**	**08 03 13.3**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=97,slow=7.2,SNR=4.7						
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**80.89**	**6**	P	**P**	**08 06 55.0**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=346,slow=5.1,SNR=4.9						
	comp=Z,0.2nm,0.6s						

*PGC **18** 08:04:15.7±2.6,52.°31N×132.°12W,h33km,ML3.0/15, 107km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **18** 08:04:20.0±2.4,52.°39N×131.°35W,h0km,mb3.1/1, mbtmp3.2/4,ML2.8/2,Error ellipse: s-maj=44.5km s-min=22.2km az=73.0*

ISC 18 08:04:15.9±1.6,52.°29N±0.°06×132.°20W±0.°05,h17km±9km, n28,σ2§32/39,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.40**	**44**	P	**Pg**	**08 04 24.5**	**+0.5**
BNB				S	**Sg**	**08 04 29.9**	**+0.4**
HG1B	**Mitchell Dam**	**0.65**	**4**	P	**Pg**	**08 04 28.0**	**-0.5**
HG1B				S	**Sg**	**08 04 37.2**	**+0.1**
DIB	**Dawson Inlet,**	**0.93**	**350**	P	**Pg**	**08 04 32.0**	**-1.9**
DIB				S	**Sg**	**08 04 44.3**	**-1.7**
BNAB	**Bonilla**	**1.53**	**38**	Pn	**Pn**	**08 04 41.5**	**-1.0**
BNAB				Sn	**Sn**	**08 04 59.5**	**-2.5**
NDB	**Naden**	**1.73**	**345**	Pn	**Pn**	**08 04 42.8**	**-2.3**
NDB				Sn	**Sn**	**08 05 04.8**	**-2.1**
BNKB	**Banks Island**	**1.74**	**52**	Pn	**Pn**	**08 04 44.0**	**-1.3**
BNKB				Sn	**Sn**	**08 05 06.4**	**-0.8**
LIB	**Langara Island**	**2.04**	**346**	Pn	**Pn**	**08 04 47.4**	**-2.0**
LIB				Sn	**Sn**	**08 05 11.2**	**-3.2**
GRNB	**Grenville Isla**	**2.06**	**40**	Pn	**Pn**	**08 04 49.1**	**-0.6**
GRNB				Sn	**Sn**	**08 05 15.1**	**0.0**
GRIB	**Gribbell Islan**	**2.13**	**59**	Pn	**Pn**	**08 04 49.5**	**-1.2**
GRIB				Sn	**Sn**	**08 05 14.3**	**-2.5**
HWKB	**Hawksbury Isla**	**2.26**	**53**	Pn	**Pn**	**08 04 50.7**	**-1.9**
HWKB				Sn	**Sn**	**08 05 18.4**	**-1.6**
RUBB	**Prince Rupert**	**2.35**	**29**	Pn	**Pn**	**08 04 53.3**	**-0.4**
BUTB	**Butedale**	**2.40**	**70**	Pn	**Pn**	**08 04 53.9**	**-0.6**
BUTB				Sn	**Sn**	**08 05 19.9**	**-3.7**
BBB	**Bella Bella**	**2.52**	**91**	Pn	**Pn**	**08 04 54.1**	**-1.8**
BBB				Sn	**Sn**	**08 05 21.2**	**-5.0**
MBLB	**Minette Bay Lo**	**2.77**	**50**	Sn	**Sn**	**08 05 31.4**	**-1.2**
KITB	**Kitimat**	**2.79**	**49**	Pn	**Pn**	**08 04 59.1**	**-0.6**
KITB				Sn	**Sn**	**08 05 31.7**	**-1.3**
PHC	**Port Hardy**	**3.38**	**116**	Sn	**Sn**	**08 05 40.9**	**-6.5**
WRAK	**Wrangell Islan**	**4.14**	**359**	Pn	**Pn**	**08 05 17.4**	**-0.8**
WRAK				Sn	**Sn**	**08 06 04.5**	**-1.7**
T35M	**Bob Quinn**	**4.83**	**13**	Pn	**Pn**	**08 05 29.4**	**+1.6**
FSJB	**Fort St James**	**5.21**	**62**	Pn	**Pn**	**08 05 32.8**	**-0.2**
S34M	**Telegraph Cree**	**5.67**	**6**	Pn	**Pn**	**08 05 37.0**	**-2.2**
DLBC	**Dease Lake**	**6.28**	**10**	Pn	**Pn**	**08 05 50.0**	**+2.2**
YKA	**Yellowknife Ar**	**13.89**	**36**	Pn	**Pn**	**08 07 29.7**	**-2.0**
	0.8nm,0.8s,baz=227,slow=12,SNR=11						
ILAR	**Eielson Array**	**14.62**	**334**	Pn	**P**	**08 07 50.4**	**+2.4**
	baz=148,slow=11,SNR=5.9						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**16.91**	**140**	Pn	**P**	**08 08 17.7**	**+3.9**
	0.1nm,0.3s,baz=316,slow=7.6,SNR=1.6						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**31.15**	**126**	P	**P**	**08 10 36.0**	**+2.2**
	0.1nm,0.5s,baz=319,slow=5.0,SNR=2.6						
	0.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**56.89**	**259**	T	T	09 16 05.1	
	baz=39,slow=76,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**56.90**	**259**	T	T	09 16 05.7	
	baz=39,slow=76,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**56.91**	**259**	T	T	09 16 06.7	
	baz=39,slow=76,SNR=5.9						

*RSNC **18** 08:07:42.6±1.7,6.°85N×73.°14W,h147km±7km,ML3.0, Mw3.5*
*IDC **18** 08:07:43.7±7.2,6.°66N×73.°22W,h177km±167km,mb2.7/2, mbtmp3.2/3,ML2.0/1,Error ellipse: s-maj=237.6km s-min=87.7km az=173.0*

ISC 18 08:07:41.6±1.0,6.°87N±0.°03×73.°11W±0.°04,h153km±7km, n28,σ1§12/50,4C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**195**	*i*P	**Pn**	**08 08 02.6**	**-0.1**
BARC				*e*S	**Sn**	**08 08 17.8**	**-1.1**
BARC				*i*		08 08 18.7	
	comp=Z,304nm,0.2s						
PAMC	**Pamplona, Colo**	**0.62**	**41**	*e*P	**Pn**	**08 08 05.5**	**+0.9**
PAMC				*e*S	**Sn**	**08 08 22.4**	**+0.4**
PAMC				*i*		08 08 24.6	
	comp=Z,185nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.37**	**256**	*e*P	**Pn**	**08 08 09.2**	**-1.0**
PTBC				*e*S	**Sn**	**08 08 30.1**	**-1.9**
PTBC				*i*		08 08 31.4	
	comp=Z,77nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**108**	*i*P	**Pn**	**08 08 11.0**	**+0.8**
TAMC				*e*S	**Sn**	**08 08 32.5**	**+0.4**
TAMC				*i*		08 08 33.1	
	comp=Z,89nm,0.2s						
OCAC	**Ocana**	**1.38**	**351**	*e*P	**Pn**	**08 08 11.0**	**+0.7**
OCAC				*e*S	**Sn**	**08 08 32.7**	**+0.3**
OCAC				*i*		08 08 37.6	
	comp=Z,246nm,0.4s						
SPBC	**San Pablo de B**	**1.54**	**218**	*e*P	**Pn**	**08 08 11.6**	**-0.3**
SPBC				*e*S	**Sn**	**08 08 33.8**	**-1.4**
SPBC				*i*		08 08 36.3	
	comp=Z,270nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**08 08 15.6**	**+0.4**
ZARC				*e*S	**Sn**	**08 08 41.2**	**+0.4**
ZARC				*i*		08 08 46.6	
	comp=Z,142nm,0.3s						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**08 08 22.9**	**+1.5**
	comp=Z,9.5nm,0.3s,baz=71,slow=11,SNR=32						
ROSC				S	**Sn**	**08 08 52.3**	**+0.3**
	comp=Z,101nm,0.4s,baz=37,slow=20,SNR=9.9						
	comp=Z,22nm,0.3s						
ROSC	**El Rosal**	**2.34**	**211**	*e*P	**Pn**	**08 08 22.5**	**+1.1**
ROSC				*e*S	**Sn**	**08 08 51.8**	**-0.2**
ROSC				*i*		08 09 00.5	
	comp=Z,118nm,0.3s						
CVER	**Cruz Verde, Cu**	**2.52**	**202**	*e*P	**Pn**	**08 08 24.3**	**+0.7**
CVER				*e*S	**Sn**	**08 08 54.2**	**-1.8**
CVER				*i*		08 09 02.4	
	comp=Z,50nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**290**	*e*P	**Pn**	**08 08 23.0**	**-0.6**
UREC				*e*S	**Sn**	**08 08 54.6**	**-1.4**
UREC				*i*		08 09 00.8	
	comp=Z,62nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.77**	**234**	*e*P	**Pn**	**08 08 27.1**	**+0.4**
GUY2C				*e*S	**Sn**	**08 09 00.6**	**-0.8**
GUY2C				*i*		08 09 09.4	
	comp=Z,48nm,0.3s						
VILC	**Villavicencio,**	**2.80**	**192**	*e*P	**Pn**	**08 08 26.5**	**-0.2**
VILC				*e*S	**Sn**	**08 09 00.5**	**-1.1**
VILC				*i*		08 09 07.2	
	comp=Z,51nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.82**	**160**	*i*P	**Pn**	**08 08 25.8**	**-1.1**
PTGC				*e*S	**Sn**	**08 08 58.9**	**-3.0**
PTGC				*i*		08 09 01.8	
	comp=Z,32nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.05**	**251**	*e*P	**Pn**	**08 08 30.6**	**+0.7**
CBOC				*e*S	**Sn**	**08 09 08.0**	**+0.8**
CBOC				*i*		08 09 17.0	
	comp=Z,19nm,0.4s						
DBBC	**Dabeiba**	**3.08**	**273**	*e*P	**Pn**	**08 08 30.9**	**+0.7**
DBBC				*e*S	**Sn**	**08 09 06.5**	**-1.2**
DBBC				*i*		08 09 14.6	
	comp=Z,22nm,0.2s						
SDV	**Santo Domingo**	**3.17**	**51**	*e*P	**Pn**	**08 08 32.3**	**+0.8**
SDV				*e*S	**Sn**	**08 09 09.1**	**-1.0**

PATR	**El Naranjo**	**0.94**	**8**	*eP*		**Pg**	**08 23 20.5**	**-0.8**
PATR				*eS*		**Sg**	**08 23 32.9**	**-0.8**
CHUJ	**Union Juarez**	**0.94**	**16**	*eP*		**Pg**	**08 23 20.5**	**-0.8**
CHUJ				*eS*		**Sg**	**08 23 32.5**	**-1.3**
PAVE	**Pavencul**	**1.02**	**11**	*eP*		**Pg**	**08 23 21.8**	**-1.1**
PAVE				*eS*		**Sg**	**08 23 34.4**	**-2.0**
SOKI	**Kika Raxquin**	**1.13**	**56**	*i P*		**Pg**	**08 23 23.9**	**-1.1**
SOKI				*i S*		**Sg**	**08 23 37.8**	**-2.0**
SOKI				IAML			08 23 44.6	
	comp=Z,340nm,1.0s							
HUEH	**Huehuetenango**	**1.41**	**37**	*i P*		**Pn**	**08 23 28.5**	**0.0**
HUEH				*i S*		**Sn**	**08 23 46.3**	**-0.7**
HUEH				IAML			08 23 50.1	
	comp=Z,430nm,1.0s							
QUIS	**Sacapulas**	**1.66**	**48**	*i P*		**Pn**	**08 23 31.8**	**0.0**
QUIS				IAML			08 23 36.4	
	comp=Z,240nm,1.0s							
QUIS				*i S*		**Sn**	**08 23 52.3**	**-0.7**
PCIG		**1.72**	**332**	*eP*		**Pn**	**08 23 32.6**	**0.0**
PCIG				*eS*		**Sn**	**08 23 52.6**	**-1.7**
CCIG	**Comitan**	**2.10**	**6**	*i P*		**Pn**	**08 23 39.3**	**+1.3**
CCIG				*i S*		**Sn**	**08 24 06.7**	**+2.7**
CCIG				IAML			08 24 10.3	
	comp=Z,92nm,1.0s							
ESQI	**Esquipulas**	**2.96**	**82**	*i P*		**Pn**	**08 23 50.3**	**+0.6**
ESQI				IAML			08 24 09.4	
	comp=Z,140nm,1.0s							

*IDC **18** 08:42:24.5±4.6,36°.95N×76°.86E,h0km,mb3.8/5, mbtmp3.7/6,ML2.9/1,Error ellipse: s-maj=90.5km s-min=33.6km az=176.0*

ISC 18 08:42:30.0±3.5,37.0N±0°.4×76°.9E±0°.2,h35km,n6,σ1§43/6, mb3.9/5,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MKAR	**Makanchi Array**	**10.61**	**21**	Pn	**Pn**	**08**	**44**	**59.1**	**-0.3**
	0.1nm,0.3s,baz=206,slow=13,SNR=3.2 0.3nm,0.4s								
SONM	**Songino Array**	**24.19**	**54**	P	**P**	**08**	**47**	**43.0**	**-0.2**
	0.8nm,0.7s,baz=247,slow=11,SNR=5.1 0.8nm,0.7s								
FINES	**FINESS Array B**	**39.81**	**324**	P	**P**	**08**	**49**	**58.0**	**-1.5**
	1.7nm,0.7s,baz=122,slow=10,SNR=7.1 1.7nm,0.7s								
ARCES	**ARCESS Array B**	**42.59**	**336**	P	**P**	**08**	**50**	**23.6**	**+1.4**
	1.8nm,0.8s,baz=106,slow=9.6,SNR=4.1 1.8nm,0.8s								
HFS	**Hagfors**	**45.65**	**321**	P	**P**	**08**	**50**	**46.3**	**-0.5**
	2.0nm,0.8s,baz=110,slow=8.0,SNR=2.0 2.0nm,0.8s								
NOA	**NORSAR Array B**	**46.88**	**323**	P	**P**	**08**	**50**	**55.2**	**-1.3**
	0.9nm,0.8s,baz=92,slow=7.6,SNR=3.7 0.9nm,0.8s								

*IDC **18** 08:43:55.7±0.7,16°.99N×94°.50W,h111km±5km,mb3.7/15, mbtmp4.0/16,MS3.8/2,Error ellipse: s-maj=24.1km s-min=14.6km az=73.0*

*NEIC **18** 08:43:55.5±2.1,16°.98N±0°.03×94°.83W±0°.04,h112km±8km, mb4.4/48,Md4.8/105(MEX),Error ellipse: s-maj=6.1km s-min=3.7km az=121.0*

*CATAC **18** 08:43:56.2±0.7,17°.09N×94°.77W,h116km±15km,MB6.2, mb4.6,ML5.2*

*MEX **18** 08:43:57.4±0.6,17°.03N×94°.82W,h113km±5km,MD4.8*

ISC 18 08:43:55.6±0.4,16°.98N±0°.03×94°.82W±0°.02,h120km±3km, n204,σ1§62/268,mb4.2/25,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CMIG	**Matias Romero**	**0.12**	**331**	P	**Pn**	**08**	**44**	**11.6**	**-0.4**
	4µm,0.3s,baz=156,slow=2.6,SNR=9791								
CMIG				S	**Sn**	**08**	**44**	**23.1**	**-1.4**
	3µm,0.5s,baz=300,slow=20,SNR=16								
CMIG	**Matias Romero**	**0.12**	**331**	*i P*	**Pn**	**08**	**44**	**11.7**	**-0.4**
CMIG				*eS*	**Sn**	**08**	**44**	**22.8**	**-1.7**
NILT	**Santiago Nilte**	**0.46**	**155**	*eP*	**Pn**	**08**	**44**	**13.0**	**-0.3**
NILT				*eS*	**Sn**	**08**	**44**	**25.4**	**-1.2**
UXUV	**UXUV**	**0.73**	**63**	*eP*	**Pn**	**08**	**44**	**15.1**	**0.0**
UXUV				*eS*	**Sn**	**08**	**44**	**28.4**	**-1.5**
TUIG	**Tuzandepetl**	**1.11**	**20**	*i P*	**Pn**	**08**	**44**	**18.8**	**0.0**
TUIG				*eS*	**Sn**	**08**	**44**	**35.0**	**-1.3**
CARR	**Arriaga**	**1.14**	**130**	*eP*	**Pn**	**08**	**44**	**18.8**	**-0.2**
CARR				*eS*	**Sn**	**08**	**44**	**36.0**	**-0.7**
NEUV	**Arroyo Zacate**	**1.19**	**308**	*eP*	**Pn**	**08**	**44**	**18.9**	**-0.7**
NEUV				*eS*	**Sn**	**08**	**44**	**35.9**	**-1.8**
PMUV	**Sontecomapan**	**1.58**	**350**	*eP*	**Pn**	**08**	**44**	**23.5**	**-0.6**
PMUV				*eS*	**Sn**	**08**	**44**	**43.7**	**-2.0**
TGIG		**1.64**	**97**		**Pn**	**08**	**44**	**24.9**	**+0.1**
TGIG					**Sn**	**08**	**44**	**45.0**	**-1.9**
TGIG		**1.64**	**97**	*i P*	**Pn**	**08**	**44**	**24.9**	**+0.1**
TGIG				*eS*	**Sn**	**08**	**44**	**45.0**	**-1.9**
TGBT	**Tuxtla Gutierr**	**1.67**	**97**		**Pn**	**08**	**44**	**25.1**	**+0.1**
TGBT					**Sn**	**08**	**44**	**45.9**	**-1.6**
TGBT	**Tuxtla Gutierr**	**1.67**	**97**	*eP*	**Pn**	**08**	**44**	**25.1**	**+0.1**
TGBT				*eS*	**Sn**	**08**	**44**	**45.9**	**-1.6**
HUIG	**Huatulco**	**1.73**	**226**		**Pn**	**08**	**44**	**23.6**	**-2.1**
HUIG					**Sn**	**08**	**44**	**46.4**	**-2.3**
HUIG	**Huatulco**	**1.73**	**226**	*eP*	**Pn**	**08**	**44**	**23.6**	**-2.1**
HUIG				*eS*	**Sn**	**08**	**44**	**46.4**	**-2.3**
OXLC	**Oaxaca**	**1.80**	**273**	*i P*	**Pn**	**08**	**44**	**27.5**	**+0.7**
OXLC				*i S*	**Sn**	**08**	**44**	**50.5**	**-0.2**
OXIG	**Oaxaca**	**1.83**	**273**		**Pn**	**08**	**44**	**27.9**	**+0.7**
OXIG					**Sn**	**08**	**44**	**50.9**	**-0.4**
VHO	**Vista Hermosa**	**1.83**	**273**	*eP*	**Pn**	**08**	**44**	**27.9**	**+0.7**
VHO				*i S*	**Sn**	**08**	**44**	**50.9**	**-0.4**
PCIG		**2.00**	**129**		**Pn**	**08**	**44**	**29.4**	**+0.3**
PCIG					**Sn**	**08**	**44**	**54.0**	**-0.6**
PCIG		**2.00**	**129**	*eP*	**Pn**	**08**	**44**	**29.4**	**+0.3**
PCIG				*eS*	**Sn**	**08**	**44**	**54.0**	**-0.6**
VHSA	**Villahermosa**	**2.05**	**61**	*eP*	**Pn**	**08**	**44**	**29.7**	**0.0**
VHSA				*eS*	**Sn**	**08**	**44**	**55.9**	**+0.1**
TOIG	**Toxpalan**	**2.41**	**298**		**Pn**	**08**	**44**	**34.6**	**+0.2**
TOIG					**Sn**	**08**	**45**	**01.9**	**-2.2**
TOIG	**Toxpalan**	**2.41**	**298**	*eP*	**Pn**	**08**	**44**	**34.6**	**+0.2**
TOIG				*eS*	**Sn**	**08**	**45**	**01.9**	**-2.2**
PEIG	**Puerto Escondi**	**2.44**	**247**		**Pn**	**08**	**44**	**32.3**	**-2.3**
PEIG	**Puerto Escondi**	**2.44**	**247**	*i P*	**Pn**	**08**	**44**	**32.3**	**-2.3**
PEIG				*eS*	**Sn**	**08**	**45**	**01.7**	**-2.9**
YOIG	**Yosondua**	**2.61**	**268**		**Pn**	**08**	**44**	**36.8**	**-0.4**
YOIG	**Yosondua**	**2.61**	**268**	*eP*	**Pn**	**08**	**44**	**36.8**	**-0.4**
YOIG				*eS*	**Sn**	**08**	**45**	**04.3**	**-4.7**
CCIG	**Comitan**	**2.67**	**105**	Pn	**Pn**	**08**	**44**	**38.1**	**+0.4**
CCIG	**Comitan**	**2.67**	**105**	*eP*	**Pn**	**08**	**44**	**38.4**	**+0.6**
CCIG				*eS*	**Sn**	**08**	**45**	**05.7**	**-4.4**
TPIG	**Tehuac#an**	**2.81**	**301**		**Pn**	**08**	**44**	**40.0**	**+0.4**
TPIG	**Tehuac#an**	**2.81**	**301**	*eP*	**Pn**	**08**	**44**	**40.0**	**+0.4**
TPIG				*eS*	**Sn**	**08**	**45**	**10.9**	**-2.6**
TXIG	**Tlaxiaco**	**2.83**	**276**		**Pn**	**08**	**44**	**40.5**	**+0.6**
TXIG					**Sn**	**08**	**45**	**12.6**	**-1.5**
TXIG	**Tlaxiaco**	**2.83**	**276**	*i P*	**Pn**	**08**	**44**	**40.5**	**+0.6**
TXIG				*eS*	**Sn**	**08**	**45**	**12.6**	**-1.5**
HLIG	**Huajuapan de L**	**2.97**	**287**		**Pn**	**08**	**44**	**42.7**	**+0.9**
HLIG	**Huajuapan de L**	**2.97**	**287**	*i P*	**Pn**	**08**	**44**	**42.7**	**+0.9**
HLIG				*eS*	**Sn**	**08**	**45**	**13.9**	**-3.3**
JAUV	**Jalcomulco**	**3.03**	**322**	*eP*	**Pn**	**08**	**44**	**41.0**	**-1.3**
JAUV				*eS*	**Sn**	**08**	**45**	**14.2**	**-4.1**
PATR	**El Naranjo**	**3.10**	**126**	*eP*	**Pn**	**08**	**44**	**44.1**	**+0.6**
PATR				*eS*	**Sn**	**08**	**45**	**19.9**	**-0.5**
PAVE	**Pavencul**	**3.10**	**125**	*eP*	**Pn**	**08**	**44**	**44.2**	**+0.7**
PAVE				*eS*	**Sn**	**08**	**45**	**19.8**	**-0.6**
LVIG	**Laguna Verde**	**3.12**	**331**	*i P*	**Pn**	**08**	**44**	**41.8**	**-1.7**
LVIG				*eS*	**Sn**	**08**	**45**	**17.0**	**-3.4**
THIG		**3.21**	**130**		**Pn**	**08**	**44**	**45.6**	**+0.9**
THIG					**Sn**	**08**	**45**	**21.4**	**-1.2**
THIG		**3.21**	**130**	*eP*	**Pn**	**08**	**44**	**45.6**	**+0.9**
THIG				*eS*	**Sn**	**08**	**45**	**21.4**	**-1.2**
CHUJ	**Union Juarez**	**3.21**	**125**	*eP*	**Pn**	**08**	**44**	**45.3**	**+0.3**
CHUJ				*eS*	**Sn**	**08**	**45**	**22.6**	**-0.4**
PNIG	**Pinotepa**	**3.22**	**260**		**Pn**	**08**	**44**	**43.2**	**-1.7**
PNIG	**Pinotepa**	**3.22**	**260**	*i P*	**Pn**	**08**	**44**	**43.2**	**-1.7**
PNIG				*eS*	**Sn**	**08**	**45**	**20.1**	**-2.8**
FTIG	**Fresnillo de T**	**3.29**	**287**		**Pn**	**08**	**44**	**46.8**	**+0.9**
FTIG	**Fresnillo de T**	**3.29**	**287**	*i P*	**Pn**	**08**	**44**	**46.8**	**+0.9**
FTIG				*eS*	**Sn**	**08**	**45**	**21.6**	**-3.1**
SMCA	**Catarina**	**3.38**	**128**	*i P*	**Pn**	**08**	**44**	**47.7**	**+0.7**
SMCA				IAML			08 45 28.4		
	comp=Z,1µm,1.0s								
SMSP	**San Marcos**	**3.54**	**124**	*eP*	**Pn**	**08**	**44**	**50.9**	**+1.6**
SMSP				*eS*	**Sn**	**08**	**45**	**32.0**	**+1.2**
HUEH	**Huehuetenango**	**3.59**	**117**		**Pn**	**08**	**44**	**50.0**	**+0.1**
HUEH				Sn	**Sn**	**08**	**45**	**32.1**	**+0.1**
HUEH	**Huehuetenango**	**3.59**	**117**	*eP*	**Pn**	**08**	**44**	**49.8**	**-0.2**
HUEH				*eS*	**Sn**	**08**	**45**	**27.4**	**-4.6**
HUEH	**Huehuetenango**	**3.59**	**117**	*i P*	**Pn**	**08**	**44**	**50.5**	**+0.5**
HUEH				*i S*	Sn	08	45	19.5	-12
HUEH				IAML		08	45	38.9	
	comp=Z,5µm,1.0s								
TLIG	**Tlapa**	**3.62**	**280**		**Pn**	**08**	**44**	**51.1**	**+0.9**
TLIG	**Tlapa**	**3.62**	**280**	*i P*	**Pn**	**08**	**44**	**51.0**	**+0.7**
TLIG				*eS*	**Sn**	**08**	**45**	**29.2**	**-3.4**
TLIG	**Tlapa**	**3.62**	**280**	*i P*	**Pn**	**08**	**44**	**51.2**	**+0.9**
TLIG				*i S*	Sn	08	45	21.1	-11
TLIG				IAML		08	45	54.3	
	comp=Z,1µm,1.0s								
MGIG	**Malinaltepec**	**3.66**	**274**		**Pn**	**08**	**44**	**51.0**	**+0.3**
MGIG	**Malinaltepec**	**3.66**	**274**	*i P*	**Pn**	**08**	**44**	**51.0**	**+0.3**
MGIG				*eS*	**Sn**	**08**	**45**	**30.3**	**-3.0**
RTAL	**Retalhuleu**	**3.88**	**129**	Pn	**Pn**	**08**	**44**	**54.4**	**+0.9**
RTAL	**Retalhuleu**	**3.88**	**129**	*eP*	**Pn**	**08**	**44**	**55.0**	**+1.4**
RTAL				*eS*	**Sn**	**08**	**45**	**37.7**	**-0.8**
SOKI	**Kika Raxquin**	**3.93**	**123**	*i P*	**Pn**	**08**	**44**	**55.1**	**+0.5**
SOKI				IAML		08	45	51.7	
	comp=Z,640nm,1.0s								
QUIS	**Sacapulas**	**3.96**	**115**	*i P*	**Pn**	**08**	**44**	**55.2**	**+0.4**
QUIS				IAML		08	45	41.9	
	comp=Z,3µm,1.0s								
SCIG	**Sabancuy**	**3.98**	**60**	*i P*	**Pn**	**08**	**44**	**53.7**	**-1.2**
SCIG				*eS*	**Sn**	**08**	**45**	**36.3**	**-4.6**
PPM	**Popocatepetl**	**4.17**	**300**	*eP*	**Pn**	**08**	**44**	**59.7**	**+1.8**
PPM				*eS*	**Sn**	**08**	**45**	**45.2**	**-1.0**
PPIG	**Popocatepetl**	**4.17**	**300**		**Pn**	**08**	**44**	**59.7**	**+1.7**
PPIG					**Sn**	**08**	**45**	**45.2**	**-1.0**
YAIG	**Yautepec**	**4.45**	**295**		**Pn**	**08**	**45**	**03.0**	**+1.6**
YAIG	**Yautepec**	**4.45**	**295**	*eP*	**Pn**	**08**	**45**	**03.0**	**+1.6**
YAIG				*eS*	**Sn**	**08**	**45**	**49.3**	**-3.2**
THVM	**De Xico**	**4.58**	**301**	*eP*	**Pn**	**08**	**45**	**04.0**	**+0.9**
DAIG	**Los Arroyos**	**4.62**	**271**		**Pn**	**08**	**45**	**02.8**	**-0.7**
DAIG					**Sn**	**08**	**45**	**55.1**	**-1.1**
DAIG	**Los Arroyos**	**4.62**	**271**	*eP*	**Pn**	**08**	**45**	**02.8**	**-0.7**
DAIG				*eS*	**Sn**	**08**	**45**	**55.1**	**-1.1**
XCVM	**Xochimilco**	**4.67**	**300**	*eP*	**Pn**	**08**	**45**	**05.7**	**+1.3**
XCVM				*eS*	**Sn**	**08**	**45**	**56.2**	**-1.6**
MEIG	**Mezcala**	**4.67**	**282**		**Pn**	**08**	**45**	**05.3**	**+1.0**
MEIG	**Mezcala**	**4.67**	**282**	*i P*	**Pn**	**08**	**45**	**05.3**	**+1.0**
MEIG				*eS*	**Sn**	**08**	**45**	**53.0**	**-4.7**
PLIG	**Platanillo**	**4.68**	**288**		**Pn**	**08**	**45**	**06.0**	**+1.7**
PLIG	**Platanillo**	**4.68**	**288**	*eP*	**Pn**	**08**	**45**	**06.0**	**+1.7**
PLIG				*eS*	**Sn**	**08**	**45**	**54.7**	**-3.0**
TLVM	**San Miguel Top**	**4.68**	**299**	*eP*	**Pn**	**08**	**45**	**07.0**	**+2.4**
TLVM				*eS*	**Sn**	**08**	**45**	**56.4**	**-1.8**
PETF	**Flores**	**4.74**	**90**		**Pn**	**08**	**45**	**05.2**	**+0.1**
PETF	**Flores**	**4.74**	**90**	*eP*	**Pn**	**08**	**45**	**04.5**	**-0.6**
PETF				*eS*	**Sn**	**08**	**45**	**54.9**	**-4.3**
PETF	**Flores**	**4.74**	**90**	*i P*	**Pn**	**08**	**45**	**04.9**	**-0.2**
PETF				IAML		08	45	59.0	
	comp=Z,3µm,1.0s								
UNM	**Universidad Na**	**4.75**	**300**		**Pn**	**08**	**45**	**06.0**	**+0.5**
PTVM	**Pico Tres Padr**	**4.83**	**303**		**Pn**	**08**	**45**	**07.0**	**+0.4**
PTVM	**Pico Tres Padr**	**4.83**	**303**	*eP*	**Pn**	**08**	**45**	**07.0**	**+0.4**
AOVM	**Tlapan**	**4.84**	**299**	*eP*	**Pn**	**08**	**45**	**08.8**	**+1.8**
INVM	**La Marquesa**	**4.91**	**299**	*eP*	**Pn**	**08**	**45**	**09.8**	**+2.1**
INVM				*eS*	**Sn**	**08**	**46**	**01.9**	**-1.8**
ZUVM	**ZUMPANGO**	**4.93**	**306**		**Pn**	**08**	**45**	**09.7**	**+1.8**
ZUVM	**ZUMPANGO**	**4.93**	**306**	*eP*	**Pn**	**08**	**45**	**09.7**	**+1.8**
ZUVM				*eS*	**Sn**	**08**	**46**	**00.6**	**-3.5**
AZVM	**Cuida Lopez Ma**	**4.97**	**302**	*eP*	**Pn**	**08**	**45**	**11.1**	**+2.6**
AZVM				*eS*	**Sn**	**08**	**46**	**08.8**	**+3.8**
TOVM	**TOLUCA**	**5.15**	**297**	*eP*	**Pn**	**08**	**45**	**13.2**	**+2.2**
TOVM				*eS*	**Sn**	**08**	**46**	**11.2**	**+1.7**
DEIG	**Demacu**	**5.18**	**310**	*eP*	**Pn**	**08**	**45**	**13.4**	**+2.2**
DEIG				*eS*	**Sn**	**08**	**46**	**06.4**	**-3.7**
CAIG	**El Cayaco**	**5.21**	**271**		**Pn**	**08**	**45**	**10.7**	**-0.8**
CAIG	**El Cayaco**	**5.21**	**271**	*i P*	**Pn**	**08**	**45**	**10.7**	**-0.8**
CAIG				*eS*	**Sn**	**08**	**46**	**06.5**	**-4.0**
CTLV	**Llano Grande**	**5.58**	**324**	*eP*	**Pn**	**08**	**45**	**15.8**	**+2.5**
ACIG	**Acambay**	**5.65**	**303**	*eP*	**Pn**	**08**	**45**	**14.5**	**-3.0**
NUBE	**Las Nubes**	**5.75**	**122**	*i P*	**Pn**	**08**	**45**	**21.6**	**+2.8**
ESQI	**Esquipulas**	**5.80**	**114**		**Pn**	**08**	**45**	**19.1**	**-0.3**
ESQI	**Esquipulas**	**5.80**	**114**	*i P*	**Pn**	**08**	**45**	**19.2**	**-0.3**
ESQI				IAmb	IAmb	08	45	44.3	
	comp=Z,82nm,1.2s								
ESQI				IAML		08	47	44.9	
	comp=Z,500nm,1.0s								
MTO3	**Montecristo**	**5.85**	**115**	Pn	**Pn**	**08**	**45**	**20.0**	**-0.3**
IZABA	**Izabal, Puerto**	**6.12**	**101**	*eP*	**Pn**	**08**	**45**	**22.2**	**-1.4**
IZABA				*eS*	**Sn**	**08**	**46**	**27.8**	**-4.6**
SARH	**Santa Rosa de**	**6.23**	**110**	*i P*	**Pn**	**08**	**45**	**24.3**	**-1.0**
JRQG	**Juriquilla Cam**	**6.49**	**306**	Pn	**Pn**	**08**	**45**	**30.2**	**+2.0**
MOIG	**Morelia**	**6.62**	**295**	Pn	**Pn**	**08**	**45**	**31.2**	**+0.6**
MOIG	**Morelia**	**6.62**	**295**	*i P*	**Pn**	**08**	**45**	**34.2**	**+3.6**
COEG	**Centro de Oper**	**6.64**	**119**	*i P*	**Pn**	**08**	**45**	**32.9**	**+2.1**
SCLA	**Alcaldia de Sa**	**6.72**	**118**	*i P*	**Pn**	**08**	**45**	**34.2**	**+2.3**
NISHN	**Nisperales Com**	**6.76**	**99**	*i P*	**Pn**	**08**	**45**	**30.6**	**-1.9**
TEIG	**Tepich**	**6.99**	**62**	Pn	**Pn**	**08**	**45**	**33.6**	**-1.9**
TEIG	**Tepich**	**6.99**	**62**	LR	LR	08	48	35.2	
	comp=Z,729nm,18.8s,baz=10,slow=42								
TGUH	**Tegucigalpa,Un**	**7.83**	**111**	Pn	**Pn**	**08**	**45**	**47.3**	**+0.2**
TGUH	**Tegucigalpa,Un**	**7.83**	**111**	*i P*	**Pn**	**08**	**45**	**47.5**	**+0.5**
TGUH				IAmb	IAmb	08	46	00.3	
	comp=Z,35nm,1.3s								
TGUH				IAML		08	47	32.6	
	comp=Z,100nm,1.0s								
YUSH	**Yuscaran**	**8.26**	**110**	*i P*	**Pn**	**08**	**45**	**53.3**	**+0.5**
ROCN	**Rota Cerro Neg**	**8.98**	**119**	*i P*	**Pn**	**08**	**46**	**04.0**	**+1.5**
ROCN				IAmb	IAmb	08	46	06.8	
	comp=Z,26nm,0.4s								
LIMN	**Finca el Limon**	**9.05**	**114**	*i P*	**Pn**	**08**	**46**	**06.4**	**+3.0**
MOMN	**Momotombo**	**9.21**	**118**	*i P*	**Pn**	**08**	**46**	**08.4**	**+2.8**
MOM2	**El Cardon**	**9.24**	**118**	*i P*	**Pn**	**08**	**46**	**08.4**	**+2.4**
BOAB	**BOACO BROADBAN**	**9.94**	**116**	Pn	**Pn**	**08**	**46**	**16.9**	**+1.6**
ACON	**Acoyapa**	**10.59**	**117**	Pn	**Pn**	**08**	**46**	**24.5**	**+0.4**
ORTG	**Ortega, Santa**	**11.22**	**125**	Pn	**Pn**	**08**	**46**	**33.5**	**+0.8**
ORTG	**Ortega, Santa**	**11.22**	**125**	*i P*	**Pn**	**08**	**46**	**33.4**	**+0.6**
ORTG				IAmb	IAmb	08	46	34.1	
	comp=Z,35nm,0.8s								
INDI	**Punta indio, G**	**11.49**	**127**	*i P*	**Pn**	**08**	**46**	**39.1**	**+2.9**
JTS	**Las Juntas de**	**11.67**	**123**	Pn	**Pn**	**08**	**46**	**39.4**	**+0.8**
JTS	**Las Juntas de**	**11.67**	**123**	P	**Pn**	**08**	**46**	**38.9**	**+0.4**
	comp=Z,7.8nm,0.4s,baz=124,slow=13,SNR=11								
COVE	**Coope Vega, Sa**	**11.88**	**120**	Pn	**Pn**	**08**	**46**	**41.6**	**+0.3**
833A	**Chaparral WMA,**	**12.05**	**340**		**Pn**	**08**	**46**	**43.6**	**+0.1**
JACO	**JACO, Garabito**	**12.27**	**125**	Pn	**Pn**	**08**	**46**	**46.3**	**-0.2**
LCR2	**La Lucha 2**	**12.74**	**123**		**Pn**	**08**	**46**	**53.1**	**+0.2**
LCR2	**La Lucha 2**	**12.74**	**123**	*i P*	**Pn**	**08**	**46**	**53.3**	**+0.4**
LCR2				IAmb	IAmb	08	47	02.9	
	comp=Z,18nm,0.5s								
RIMA	**Rio Macho**	**12.85**	**123**		**Pn**	**08**	**46**	**54.6**	**+0.4**
RIMA	**Rio Macho**	**12.85**	**123**	*i P*	**Pn**	**08**	**46**	**56.1**	**+1.9**
CDMT	**Cerro de Muert**	**13.05**	**123**	*i P*	**Pn**	**08**	**46**	**59.4**	**+2.4**
HNDO	**Hondo**	**13.14**	**343**		**Pn**	**08**	**46**	**57.1**	**-0.6**
FSCY	**Frank Sound, G**	**13.17**	**78**	Pn	**Pn**	**08**	**46**	**55.2**	**-2.9**
PEZE	**Perez Zeledon,**	**13.22**	**123**	Pn	**Pn**	**08**	**46**	**59.1**	**+0.2**
OCHAL	**Ojochal**	**13.41**	**124**	*i P*	**P**	**08**	**47**	**04.9**	**-1.5**
DRIO	**Del Rio**	**13.48**	**338**		**Pn**	**08**	**47**	**02.5**	**+0.5**
DRK0	**Durika**	**13.63**	**123**		**Pn**	**08**	**47**	**04.7**	**+0.4**
POTG	**Potrero Grande**	**13.86**	**123**	*i P*	**P**	**08**	**47**	**09.8**	**-1.6**
CDITO	**Canoas**	**14.33**	**124**	Pn	**Pn**	**08**	**47**	**13.5**	**+0.3**
SAND	**Sanderson**	**14.54**	**334**	Pn	**Pn**	**08**	**47**	**16.6**	**+0.9**
TXAR	**Lajitas Array**	**14.73**	**328**	Pn	**Pn**	**08**	**47**	**17.9**	**-0.3**
TXAR	**Lajitas Array**	**14.73**	**328**	P	**P**	**08**	**47**	**21.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=152,slow=14,SNR=12								
TX31	**Lajitas Ar. Si**	**14.73**	**328**		**Pn**	**08**	**47**	**17.7**	**-0.5**
WHTX	**Lake Whitney,**	**15.13**	**351**		**Pn**	**08**	**47**	**21.6**	**-1.5**
SGCY	**Sterling City**	**15.93**	**340**	P	**Pn**	**08**	**47**	**33.2**	**+0.2**
MNHN	**Monahans**	**16.01**	**335**	P	**P**	**08**	**47**	**35.4**	**+0.1**
MNHN				IAmb	IAmb	08	47	42.1	
	comp=Z,25nm,0.8s								
PLPT	**Palo Pinto**	**16.07**	**349**		**Pn**	**08**	**47**	**34.2**	**-0.6**
Z38A	**Mt. Pleasant**	**16.21**	**360**		**Pn**	**08**	**47**	**36.3**	**-0.2**
Z38A				IAmb	IAmb	08	47	39.7	
	comp=Z,30nm,0.8s								
Z35A	**Perchaven, San**	**16.43**	**353**	P	**Pn**	**08**	**47**	**39.0**	**-0.1**
Z35A				IAmb	IAmb	08	47	57.8	
	comp=Z,20nm,0.6s								
MTDJ	**Mount Denham**	**16.53**	**83**	Pn	**Pn**	**08**	**47**	**38.9**	**-1.7**
WLAR	**White Oak Lake**	**16.70**	**5**	P	**Pn**	**08**	**47**	**41.2**	**-1.3**
WLAR				IAmb	IAmb	08	47	50.4	
	comp=Z,47nm,1.4s								
250A	**Grady**	**16.82**	**26**		**P**	**08**	**47**	**44.1**	**0.0**
352A	**Blakely**	**17.00**	**30**		**P**	**08**	**47**	**44.7**	**-1.4**
POST	**Post**	**17.11**	**341**		**P**	**08**	**47**	**47.1**	**-0.3**
POST				IAmb	IAmb	08	48	01.2	
	comp=Z,9.4nm,0.5s								
LRAL	**Lakeview Retre**	**17.47**	**22**	P	**P**	**08**	**47**	**50.5**	**-0.7**
WHAR	**Wooly Hollow**	**18.37**	**7**	P	**P**	**08**	**48**	**01.3**	**+0.2**
WHAR				IAmb	IAmb	08	48	29.4	
	comp=Z,30nm,1.3s								
Y49A	**Blount Mountai**	**18.43**	**23**	P	**P**	**08**	**48**	**01.5**	**-0.2**
Y49A				IAmb	IAmb	08	48	05.5	
	comp=Z,21nm,1.2s								
255A	**Hazlehurst**	**18.62**	**35**	P	**P**	**08**	**48**	**03.3**	**-0.6**
255A				IAmb	IAmb	08	48	14.0	
	comp=Z,28nm,1.0s								
DEOK	**Depew**	**18.84**	**356**		**P**	**08**	**48**	**05.7**	**-0.6**
DEOK				IAmb	IAmb	08	48	07.5	
	comp=Z,18nm,0.5s								
AMTX	**Amarillo**	**18.85**	**342**	P	**P**	**08**	**48**	**06.4**	**-0.1**
AMTX				IAmb	IAmb	08	48	11.5	
	comp=Z,11nm,0.8s								
TUL3	**Leonard**	**18.87**	**358**		**P**	**08**	**48**	**06.7**	**+0.1**
TUL3				IAmb	IAmb	08	48	32.4	
	comp=Z,15nm,0.8s								
PLAL	**Pickwick Lake**	**18.91**	**17**	P	**P**	**08**	**48**	**06.6**	**-0.4**
FCAR	**Ozark Folk Cen**	**18.98**	**7**	P	**P**	**08**	**48**	**08.6**	**+0.8**
OK052	**Battle Ridge R**	**19.02**	**

ZALV				Lg	Lg	08 47 30.5			
	2.2nm,0.3s,baz=91,slow=25,SNR=11								
KURK	**Kurchatov**	**7.80**	**253**	⇑Pn	**Pn**	**08 47 37.3**	**+0.9**		
	3.3nm,0.7s								
KURK				⇓Sn	**Sn**	**08 49 06.1**	**+0.8**		
	7.7nm,0.8s								
KURK				⇑Lg	Lg	08 49 50.0			
	33nm,1.1s								
KURBB	**Kurchatov Arra**	**7.89**	**253**	⇑Pn	**Pn**	**08 47 39.6**	**+1.9**		
	6.3nm,1.2s								
KURBB				⇑Sn	**Sn**	**08 49 07.7**	**+0.2**		
	29nm,0.8s								
KURBB				⇑Lg	Lg	08 49 52.6			
	32nm,0.8s								
KURBB	**Kurchatov Arra**	**7.89**	**253**	Pn	**Pn**	**08 47 36.0**	**-1.6**		
	0.1nm,0.3s,baz=65,slow=14,SNR=6.6								
KURBB				Sn	**Sn**	**08 49 08.6**	**+1.0**		
	0.2nm,0.3s,baz=68,slow=23,SNR=2.4								
KURBB				Lg	Lg	08 49 58.0			
	0.1nm,0.3s,baz=72,slow=33,SNR=12								
	1.8nm,0.6s								
MK31	**Makanchi Array**	**8.53**	**221**	⇑Pn	**Pn**	**08 47 47.4**	**+0.9**		
	1.5nm,0.8s,baz=42,slow=13,SNR=4.6								
MK31				⇓Sn	**Sn**	**08 49 24.7**	**+1.2**		
	2.0nm,0.8s,baz=44,slow=24,SNR=4.7								
MK31				⇑Lg	Lg	08 50 14.2			
	12nm,0.9s,baz=38,slow=29,SNR=4.8								
MKAR	**Makanchi Array**	**8.53**	**221**	Pn	Pn	08 47 41.0	-5.6		
	0.1nm,0.3s,baz=30,slow=15,SNR=2.1								
MKAR				Sn	**Sn**	**08 49 21.6**	**-1.8**		
	baz=35,slow=16,SNR=1.1								
MKAR				Lg	Lg	08 50 11.1			
	0.1nm,0.3s,baz=32,slow=22,SNR=2.3								
	0.2nm,0.5s								
MAKZ	**Makanchi**	**8.64**	**222**	⇑Sn	**Sn**	**08 49 26.5**	**+0.3**		
	3.1nm,0.7s								
MAKZ				⇑Lg	Lg	08 50 16.9			
	14nm,1.2s								
SONM	**Songino Array**	**11.62**	**113**	Lg	Lg	08 51 34.0			
	0.2nm,0.3s,baz=303,slow=25,SNR=9.5								

IDC 18 09:00:42.1±2.6, 53°.71N×86°.98E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=22.9km s-min=15.5km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**281**	I	I	09 08 06.2	
	baz=100,slow=353,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.30**	**281**	Pg	Pg	09 01 05.6	-1.5
	1.0nm,0.3s,baz=102,slow=17,SNR=12						
ZALV				Lg	Lg	09 01 24.2	
	1.5nm,0.3s,baz=103,slow=31,SNR=11						
KURBB	**Kurchatov Arra**	**6.05**	**243**	Pn	Pn	09 02 13.6	+0.9
	0.1nm,0.3s,baz=58,slow=14,SNR=4.2						
KURBB				Sn	Sn	09 03 22.6	0.0
	0.1nm,0.3s,baz=75,slow=12,SNR=5.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.55**	**205**	Pn	Pn	09 02 34.6	+1.3
	0.1nm,0.3s,baz=25,slow=13,SNR=6.4						
	0.3nm,0.5s						

*IDC **18** 09:31:50.0±1.5, 16°.38S×178°.69W, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=112.1km s-min=20.2km az=150.0*

ISC 18 09:31:55.3±1.4, 16°.4S±0°.6×178°.7W±0°.4, h35km, n7, σ0s79/7, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.11**	**239**	P	**P**	**09 39 19.6**	**+0.1**
	1.0nm,0.4s,baz=65,slow=8.4,SNR=6.3						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**44.64**	**258**	P	**P**	**09 40 05.0**	**+0.1**
	0.7nm,0.5s,baz=96,slow=7.4,SNR=14						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**44.93**	**253**	P	**P**	**09 40 07.0**	**-0.2**
	8.3nm,0.6s,baz=88,slow=8.1,SNR=179						
	8.3nm,0.6s						
NVAR	**Mina Array Bea**	**78.56**	**44**	P	**P**	**09 43 54.9**	**+1.3**
	0.8nm,0.7s,baz=227,slow=7.0,SNR=5.1						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**84.51**	**13**	P	**P**	**09 44 24.0**	**-0.2**
	0.1nm,0.5s,baz=221,slow=6.2,SNR=1.2						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**85.45**	**58**	P	**P**	**09 44 29.7**	**-0.2**
	0.6nm,0.8s,baz=214,slow=6.6,SNR=8.0						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**86.48**	**44**	P	**P**	**09 44 34.0**	**-0.9**
	0.3nm,0.6s,baz=207,slow=3.5,SNR=4.2						
	0.3nm,0.6s						

IDC 18 09:49:59.5±3.5, 4°.52S×153°.19E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=149.0km s-min=50.5km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.92**	**229**	P	P	09 55 15.8	+0.4
	1.2nm,0.5s,baz=56,slow=10,SNR=7.8						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**26.62**	**223**	P	P	09 55 40.6	+0.7
	0.3nm,0.4s,baz=58,slow=9.1,SNR=5.0						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.58**	**289**	PKPbc	PKPbc	10 09 53.0	-1.5
	0.1nm,0.3s,baz=62,slow=3.1,SNR=2.0						

*IDC **18** 10:00:07.1±2.4, 37°.01N×23°.87E, h0km, mb3.9/11, mbtmp3.9/13, ML4.1/2, Error ellipse: s-maj=54.3km s-min=20.1km az=32.0*
*ATH **18** 10:00:17.9, 36°.73N×23°.80E, h91km±2km, ML3.5/19, Error ellipse: s-maj=2.4km s-min=0.8km az=66.0*
*GII **18** 10:00:17.3±0.4, 36°.09N±0°.04×24°.19E±0°.01, h7km, Mws3.6, confirmed*
*THE **18** 10:00:18.4, 36°.75N×23°.81E, h84km±3km, ML3.4/13, Error ellipse: s-maj=3.0km s-min=0.8km az=232.0*

ISC 18 10:00:15.7±0.7, 36°.74N±0°.03×23°.86E±0°.03, h94km±6km, n84, σ2s39/118, mb3.7/11, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHLO	**Agia Marina, M**	**0.43**	**96**	P	**Pn**	**10 00 32.8**	**+2.4**
MHLO				S	**Sn**	**10 00 43.1**	**+1.8**
	4μm,0.5s						
MHLO	**Agia Marina, M**	**0.43**	**96**	P	**Pn**	**10 00 33.0**	**+2.7**
MHLO				S	**Sn**	**10 00 43.5**	**+2.1**
MHLO				AML	AML	10 00 47.6	
	comp=E,8030μm,0.5s						
MHLO				AML	AML	10 00 47.8	
	comp=N,7978μm,0.5s						
YDRA	**Hydra**	**0.69**	**333**	P	**Pn**	**10 00 34.2**	**+1.7**
YDRA				S	**Sn**	**10 00 46.1**	**+1.1**
YDRA				AML	AML	10 00 46.1	
	comp=N,4654μm,0.3s						
YDRA				AML	AML	10 00 48.0	
	comp=E,6337μm,0.3s						
VLI	**Velíai**	**0.74**	**269**	P	**Pn**	**10 00 34.5**	**+1.5**
VLI				S	**Sn**	**10 00 46.1**	**+0.1**
	comp=E,7μm,0.2s						
VLI	**Velíai**	**0.74**	**269**	P	**Pn**	**10 00 34.7**	**+1.7**
VLI				S	**Sn**	**10 00 46.0**	**+0.1**
VLI				AML	AML	10 00 46.3	
	comp=N,18251μm,0.3s						
VLI				AML	AML	10 00 46.5	
	comp=E,9111μm,0.3s						
KRND	**KRANIDI**	**0.86**	**319**	P	**Pn**	**10 00 35.8**	**+1.6**
KRND				S	**Sn**	**10 00 48.2**	**+0.2**
	comp=E,1μm,0.6s						
KRND	**KRANIDI**	**0.86**	**319**	P	**Pn**	**10 00 35.7**	**+1.6**
KRND				S	**Sn**	**10 00 48.0**	**+0.1**
KRND				AML	AML	10 00 49.9	
	comp=N,2286μm,0.5s						
KRND				AML	AML	10 00 51.0	
	comp=E,2313μm,0.3s						
ANKY	**Antikythira Is**	**0.98**	**208**	P	**Pn**	**10 00 37.6**	**+2.1**
ANKY				S	**Sn**	**10 00 51.7**	**+1.4**
	comp=E,935nm,0.3s						
ANKY	**Antikythira Is**	**0.98**	**208**	P	**Pn**	**10 00 36.2**	**+0.8**
ANKY				S	**Sn**	**10 00 51.7**	**+1.4**
EPID	**Epidavros**	**1.06**	**326**	P	**Pn**	**10 00 38.2**	**+1.9**
EPID				S	**Sn**	**10 00 53.1**	**+1.2**
VLY	**Voula,Athens**	**1.11**	**357**	P	**Pn**	**10 00 38.6**	**+1.7**
VLY				S	**Sn**	**10 00 53.1**	**+0.1**
	comp=E,640nm,0.4s						
VLY	**Voula,Athens**	**1.11**	**357**	P	**Pn**	**10 00 38.7**	**+1.7**
VLY				S	**Sn**	**10 00 53.5**	**+0.5**
VLY				AML	AML	10 00 55.0	
	comp=N,1335μm,0.5s						
VLY				AML	AML	10 00 56.8	
	comp=E,1213μm,0.4s						
RODP	**Rodopos**	**1.18**	**184**	P	**Pn**	**10 00 40.2**	**+2.5**
RODP				S	**Sn**	**10 00 55.9**	**+1.6**
	comp=E,818nm,0.4s						
CHAN	**Chania**	**1.23**	**173**	P	**Pn**	**10 00 40.2**	**+1.9**
CHAN				S	**Sn**	**10 00 57.1**	**+1.9**
CHAN				AML	AML	10 00 58.3	
	comp=E,13238μm,0.3s						
CHAN				AML	AML	10 00 59.0	
	comp=N,7065μm,0.4s						
ATHU	**Athens Univers**	**1.23**	**357**	P	**Pn**	**10 00 40.1**	**+1.8**
ATHU				S	**Sn**	**10 00 55.9**	**+0.5**
ATHU				AML	AML	10 00 56.5	
	comp=N,754μm,0.6s						
ATHU				AML	AML	10 00 56.6	
	comp=E,629μm,0.6s						
ATH	**Athens Observa**	**1.24**	**355**	P	**Pn**	**10 00 40.5**	**+2.1**
ATH	**Athens Observa**	**1.24**	**355**	P	**Pn**	**10 00 40.6**	**+2.1**
ATH				S	**Sn**	**10 00 56.4**	**+0.9**
ATH				AML	AML	10 00 57.0	
	comp=E,4439μm,0.5s						
ATH				AML	AML	10 00 57.5	
	comp=N,808μm,0.6s						
CMBO	**Columbo, Santo**	**1.27**	**102**	P	**Pn**	**10 00 41.5**	**+2.7**
IMMV	**Iera Moni Meta**	**1.28**	**176**	P	**Pn**	**10 00 41.5**	**+2.6**
IMMV				S	**Sn**	**10 00 58.3**	**+1.9**
	comp=N,3μm,0.4s						
IMMV	**Iera Moni Meta**	**1.28**	**176**	P	**Pn**	**10 00 41.6**	**+2.7**
IMMV				S	**Sn**	**10 00 58.0**	**+1.5**
IMMV				AML	AML	10 01 01.3	
	comp=E,5666μm,0.3s						
IMMV				AML	AML	10 01 01.7	
	comp=N,4322μm,0.6s						
PTL	**Penteli**	**1.31**	**0**	P	**Pn**	**10 00 42.4**	**+3.1**
PTL				S	**Sn**	**10 00 58.8**	**+1.7**
PTL				AML	AML	10 00 59.5	
	comp=N,2417μm,0.6s						
PTL				AML	AML	10 00 59.5	
	comp=E,3029μm,0.7s						
DION	**Dionisos Attik**	**1.34**	**2**	P	**Pn**	**10 00 42.9**	**+3.2**
DION				S	**Sn**	**10 00 59.6**	**+1.8**
DION				AML	AML	10 01 00.2	
	comp=E,3765μm,0.5s						
DION				AML	AML	10 01 01.2	
	comp=N,2595μm,0.6s						
PRNS	**Prines Rethymn**	**1.47**	**159**	P	**Pn**	**10 00 43.8**	**+2.6**
PRNS				S	**Sn**	**10 01 02.5**	**+2.0**
	comp=N,770nm,0.3s						
VILL	**Villia**	**1.49**	**343**	P	**Pn**	**10 00 43.4**	**+1.9**
VILL				S	**Sn**	**10 01 01.9**	**+0.8**
	comp=N,585nm,0.6s						
VIL2	**Platees**	**1.54**	**342**	P	**Pn**	**10 00 43.5**	**+1.3**
VIL2				S	**Sn**	**10 01 01.8**	**-0.5**
VIL2				AML	AML	10 01 03.8	
	comp=N,861μm,0.8s						
VIL2				AML	AML	10 01 07.5	
	comp=E,1038μm,0.4s						
THAL	**Thalero**	**1.61**	**324**	P	**Pn**	**10 00 44.7**	**+1.7**
THAL				S	**Sn**	**10 01 05.0**	**+1.3**
	comp=E,1μm,0.5s						
IDI	**Anoyia**	**1.67**	**150**	P	**Pn**	**10 00 45.6**	**+1.8**
IDI				S	**Sn**	**10 01 06.3**	**+1.1**
	comp=E,1μm,0.2s						
IDI	**Anoyia**	**1.67**	**150**	P	**Pn**	**10 00 45.8**	**+1.9**
IDI				S	**Sn**	**10 01 05.7**	**+0.5**
IDI				AML	AML	10 01 06.8	
	comp=E,2538μm,0.2s						
IDI				AML	AML	10 01 09.1	
	comp=N,2806μm,0.2s						
GUR	**Goura**	**1.70**	**315**	P	**Pn**	**10 00 46.1**	**+1.9**
GUR				S	**Sn**	**10 01 06.8**	**+0.8**
	comp=N,1μm,0.4s						
GUR	**Goura**	**1.70**	**315**	P	**Pn**	**10 00 46.2**	**+1.9**
GUR				S	**Sn**	**10 01 06.4**	**+0.4**
GUR				AML	AML	10 01 07.6	
	comp=N,1989μm,0.5s						
GUR				AML	AML	10 01 09.6	
	comp=E,2589μm,0.5s						
PYL	**PYLOS**	**1.71**	**276**	P	**Pn**	**10 00 46.0**	**+1.7**
PYL				S	**Sn**	**10 01 06.9**	**+0.9**
	comp=E,595nm,0.4s						
PYL	**PYLOS**	**1.71**	**276**	P	**Pn**	**10 00 46.0**	**+1.7**
PYL				S	**Sn**	**10 01 06.5**	**+0.5**
PYL				AML	AML	10 01 08.8	
	comp=E,1273μm,0.2s						
PYL				AML	AML	10 01 11.5	
	comp=N,1146μm,0.5s						
IACM	**Heraklion**	**1.73**	**145**	P	**Pn**	**10 00 47.4**	**+2.9**
IACM	**Heraklion**	**1.73**	**145**	P	**Pn**	**10 00 46.2**	**+1.7**
IACM				S	**Sn**	**10 01 07.9**	**+1.4**
KSTL	**Kastelli Herak**	**1.73**	**145**	P	Pn	10 00 50.2	+5.6
KSTL				S	**Sn**	**10 01 13.2**	**+6.6**
KSTL				AML	AML	10 01 13.9	
	comp=N,3700μm,0.6s						
KSTL				AML	AML	10 01 15.7	
	comp=E,1523μm,0.4s						
KLV	**Kalavryta, Ach**	**1.89**	**314**	P	**Pn**	**10 00 48.4**	**+1.8**
KLV				S	**Sn**	**10 01 10.9**	**+0.8**
KLV				AML	AML	10 01 12.7	
	comp=N,510μm,0.7s						
KLV				AML	AML	10 01 20.1	
	comp=E,388μm,0.4s						
DLFA	**Delphi**	**2.05**	**328**	P	**Pn**	**10 00 50.5**	**+1.9**
ALIK	**Aliki, Aigiali**	**2.06**	**318**	P	**Pn**	**10 00 50.7**	**+1.9**
AXAR	**Agios Charalam**	**2.24**	**335**	P	**Pn**	**10 00 52.2**	**+1.1**
EFP	**Efpalio**	**2.29**	**318**	P	**Pn**	**10 00 53.8**	**+1.9**
FRMA	**Ierapetra Chan**	**2.29**	**138**	P	**Pn**	**10 00 56.4**	**+4.6**
FRMA				S	**Sn**	**10 01 23.1**	**+3.6**
FRMA				AML	AML	10 01 26.0	
	comp=E,765μm,0.4s						
FRMA				AML	AML	10 01 30.9	
	comp=N,676μm,0.3s						
RLS	**Riolos of Patr**	**2.32**	**305**	P	**Pn**	**10 00 54.9**	**+2.7**
ANX	**Ano Chora**	**2.41**	**321**	P	**Pn**	**10 00 55.4**	**+1.9**
ANX	**Ano Chora**	**2.41**	**321**	P	**Pn**	**10 00 55.4**	**+1.9**
ANX				S	**Sn**	**10 01 23.7**	**+1.3**
ANX				AML	AML	10 01 29.3	
	comp=E,515μm,0.3s						
ANX				AML	AML	10 01 31.8	
	comp=N,581μm,0.4s						
ZKR	**Zakros**	**2.50**	**130**	P	**Pn**	**10 00 57.0**	**+2.3**
AGG	**Agios Georgios**	**2.58**	**332**	P	**Pn**	**10 00 58.1**	**+2.3**
LTHK	**Lithakia**	**2.60**	**293**	P	**Pn**	**10 00 57.2**	**+1.3**
LTHK				S	**Sn**	**10 01 26.3**	**-0.6**
VLS	**Valsamata**	**2.98**	**300**	P	**Pn**	**10 01 01.9**	**+1.0**
EVGI	**Lefkada island**	**3.16**	**307**	P	**Pn**	**10 01 05.7**	**+2.2**
THL	**Klokotos Trika**	**3.18**	**333**	P	**Pn**	**10 01 05.8**	**+2.2**
NYDR	**Nydri-Lefkada**	**3.19**	**309**	P	**Pn**	**10 01 05.9**	**+2.2**
LKD2	**Lefkada island**	**3.26**	**310**	P	**Pn**	**10 01 07.3**	**+2.5**
VAE	**Valguarnera**	**7.59**	**278**	Sn	Sn	10 03 19.0	-9.0
	comp=N,2.0nm,0.3s,baz=180,slow=20,SNR=2.1						
MMAI	**Mount Meron Ar**	**10.18**	**108**	Pn	**Pn**	**10 02 36.5**	**-2.3**
	comp=N,1.7nm,0.3s,baz=320,slow=15,SNR=5.5						
	comp=N,1.3nm,0.4s						
GEM	**Giv'at Ha'Em**	**10.30**	**107**	P	**Pn**	**10 02 39.7**	**-0.8**
GEM	**Giv'at Ha'Em**	**10.30**	**107**	S	**Sn**	**10 04 31.1**	**-2.9**
KZIT	**Kziot**	**10.51**	**121**	S	**Sn**	**10 04 33.9**	**-5.3**
KZIT	**Kziot**	**10.51**	**121**	P	**Pn**	**10 02 41.2**	**-2.2**
YTIR	**Yattir**	**10.76**	**117**	P	**Pn**	**10 02 44.9**	**-1.9**
YTIR	**Yattir**	**10.76**	**117**	S	**Sn**	**10 04 40.8**	**-4.6**
DSI	**Dead Sea**	**10.84**	**115**	P	**Pn**	**10 02 46.2**	**-1.6**
DSI	**Dead Sea**	**10.84**	**115**	S	**Sn**	**10 04 42.5**	**-4.7**
MSBI	**Mazada**	**10.96**	**116**	P	**Pn**	**10 02 48.0**	**-1.4**
MSBI	**Mazada**	**10.96**	**116**	S	**Sn**	**10 04 45.2**	**-4.8**
KRMI	**Paran Flat**	**11.22**	**123**	P	**Pn**	**10 02 50.5**	**-2.4**
KRMI	**Paran Flat**	**11.22**	**123**	S	**Sn**	**10 04 49.4**	**-7.0**
HRFI	**Mount Harif**	**11.48**	**122**	S	**Sn**	**10 04 56.9**	**-5.9**
HRFI	**Mount Harif**	**11.48**	**122**	P	**Pn**	**10 02 53.7**	**-2.8**
MBRI	**Mt Berech**	**11.55**	**124**	P	**Pn**	**10 02 55.0**	**-2.5**
MBRI	**Mt Berech**	**11.55**	**124**	S	**Sn**	**10 04 58.4**	**-6.1**
EIL	**Elat**	**11.65**	**124**	Pn	**Pn**	**10 02 57.6**	**-1.2**
	comp=N,1.4nm,0.3s,baz=221,slow=1.8,SNR=9.7						
	comp=N,4.4nm,0.5s						
EIL	**Elat**	**11.65**	**124**	P	**Pn**	**10 02 56.9**	**-1.9**
EIL	**Elat**	**11.65**	**124**	S	**Sn**	**10 05 01.0**	**-5.9**
HFS	**Hagfors**	**24.31**	**348**	P	**P**	**10 05 23.5**	**-0.6**
	comp=N,1.3nm,0.6s,baz=139,slow=13,SNR=5.2						
	comp=N,1.3nm,0.6s						
FINES	**FINESS Array B**	**24.77**	**3**	P	**P**	**10 05 28.2**	**0.0**
	comp=N,0.9nm,0.5s,baz=148,slow=11,SNR=3.8						
	comp=N,0.9nm,0.5s						
NOA	**NORSAR Array B**	**25.61**	**346**	P	**P**	**10 05 36.0**	**+0.1**
	comp=N,1.0nm,0.8s,baz=145,slow=11,SNR=1.7						
	comp=N,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**26.15**	**324**	P	**P**	**10 05 42.2**	**+1.4**
	comp=N,1.8nm,0.7s,baz=116,slow=9.6,SNR=3.8						
	comp=N,1.8nm,0.7s						
ARCES	**ARCESS Array B**	**32.87**	**1**	P	**P**	**10 06 40.0**	**-0.1**
	comp=N,2.6nm,0.9s,baz=189,slow=11,SNR=1.9						
	comp=N,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**40.97**	**52**	P	**P**	**10 07 50.1**	**+1.2**
	comp=N,1.6nm,0.4s,baz=274,slow=8.8,SNR=8.7						
	comp=N,0.6nm,0.4s						
SPITS	**Spitsbergen Ar**	**41.67**	**358**	P	**P**	**10 07 55.2**	**+0.8**
	comp=N,11nm,1.1s,baz=146,slow=10,SNR=5.5						
	comp=N,11nm,1.1s						
MKAR	**Makanchi Array**	**43.80**	**58**	P	**P**	**10 08 13.2**	**+1.2**
	comp=N,1.6nm,0.3s,baz=272,slow=8.2,SNR=40						
	comp=N,1.6nm,0.3s						
ZALV	**Zalesovo Beam**	**44.69**	**47**	P	**P**	**10 08 19.7**	**+0.7**
	comp=N,1.9nm,0.3s,baz=271,slow=8.1,SNR=11						
	comp=N,1.9nm,0.3s						
SONM	**Songino Array**	**59.30**	**51**	P	**P**	**10 10 09.0**	**+1.4**
	comp=N,0.3nm,0.5s,baz=302,slow=7.9,SNR=2.9						
	comp=N,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**75.62**	**341**	P	**P**	**10 11 50.9**	**+1.0**
	comp=N,0.1nm,0.4s,baz=29,slow=5.2,SNR=10						
	comp=N,0.1nm,0.4s						

*IDC **18** 10:08:29.0±1.1, 4°.31S×104°.36W, h0km, mb3.7/6, mbtmp3.7/6, MS4.1/29, Error ellipse: s-maj=102.1km s-min=24.8km az=74.0*
*GCMT **18** 10:08:32.0±0.4, 4°.52S±0°.02×105°.97W±0°.02, h15km±1km, MW4.9/86, Moment Tensor Solution. s10,c10; s86,c117; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.02±.11; Mθθ0.80±.10; Mϕϕ -0.82±.10; Mrθ0.84±.36; Mθϕ2.06±.09; Mϕr-0.65±.32; Best double couple: Mo2.43600×10^16^ NP1:ϕs280.00000°, δ82.00000°, λ-22.00000°. NP2: ϕs13.00000°, δ68.00000°, λ-171.00000°. Principal axes: T 2.2560, Plg9.0000°, Azm328.0000°; N 0.3610, Plg67.0000°, Azm80.0000°; P -2.6170, Plg21.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 18 10:08:30.3±1.0, 4°.4S±0°.2×104°.7W±0°.6, h10km, n43, σ1s85/7, mb3.8/6, MS4.2/29, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**23.01**	**191**	LR	LR	10 20 00.8	
	comp=Z,326nm,19.4s,baz=6.5,slow=30						
CMIG	**Matias Romero**	**23.46**	**24**	LR	LR	10 20 42.1	
	comp=Z,202nm,22.0s,baz=225,slow=32						
ATAH	**Atahualpa**	**26.28**	**97**	LR	LR	10 20 52.1	
	comp=Z,51nm,20.5s,baz=273,slow=29						
NNA	**Nana**	**28.53**	**107**	LR	LR	10 23 11.4	
	comp=Z,256nm,21.0s,baz=288,slow=31						
LPIG	**La Paz**	**28.88**	**349**	LR	LR	10 22 49.3	
	comp=Z,317nm,21.8s,baz=176,slow=30						
ROSC	**El Rosal**	**31.69**	**73**	LR	LR	10 25 00.7	
	comp=Z,138nm,20.9s,baz=276,slow=32						
TXAR	**Lajitas Array**	**33.58**	**2**	LR	LR	10 26 20.6	
	comp=Z,191nm,21.4s,baz=314,slow=32						
SDV	**Santo Domingo**	**36.42**	**69**	LR	LR	10 28 32.8	
	comp=Z,306nm,20.0s,baz=266,slow=33						
H03N2	**Juan Fernandez**	**37.54**	**143**	T	T	10 56 18.3	
	baz=315,slow=77,SNR=8.5						
H03N1	**Juan Fernandez**	**37.55**	**143**	T	T	10 56 16.4	
	baz=315,slow=77,SNR=10.0						
H03N3	**Juan Fernandez**	**37.55**	**143**	T	T	10 56 22.1	
	baz=315,slow=77,SNR=6.8						
LVC	**Limon Verde**	**39.03**	**121**	LR	LR	10 28 17.2	
	comp=Z,222nm,21.1s,baz=290,slow=31						
PFO	**Pinyon Flats O**	**39.44**	**344**	LR	LR	10 28 24.4	
	comp=Z,338nm,18.8s,baz=28,slow=30						
PCRV	**Puerto La Cruz**	**42.43**	**70**	LR	LR	10 32 06.6	
	comp=Z,214nm,22.0s,slow=34						
CFA	**Coronel Fontan**	**43.59**	**133**	LR	LR	10 30 42.1	
	comp=Z,256nm,18.7s,baz=303,slow=31						
SIV	**San Ignacio**	**44.33**	**108**	LR	LR	10 32 54.8	
	comp=Z,285nm,21.3s,baz=308,slow=33						
NVAR	**Mina Array Bea**	**44.47**	**345**	P	**P**	**10 16 40.8**	**-1.2**
	0.4nm,0.6s,baz=160,slow=9.3,SNR=5.5						
NVAR				LR	LR	10 33 23.4	
	comp=Z,263nm,19.6s,baz=303,slow=34						
	0.4nm,0.6s						
PPT	**Papeete**	**45.84**	**250**	LR	LR	10 30 29.2	
	comp=Z,136nm,19.0s,baz=85,slow=29						
ELK	**Elko**	**45.98**	**349**	LR	LR	10 34 05.1	
	comp=Z,326nm,21.6s,baz=172,slow=33						
PDAR	**Pinedale Array**	**47.17**	**355**	P	**P**	**10 17 03.8**	**+0.4**
	0.4nm,0.8s,baz=156,slow=6.9,SNR=2.6						
	0.4nm,0.8s						
PLCA	**Paso Flores**	**47.39**	**145**	P	**P**	**10 17 05.3**	**+0.3**
	0.7nm,0.7s,baz=248,slow=11,SNR=2.9						
PLCA				LR	LR	10 32 15.1	
	comp=Z,329nm,19.4s,baz=330,slow=30						
	0.7nm,0.7s						
YBH	**Yreka Blue Hor**	**48.79**	**342**	LR	LR	10 32 22.1	
	comp=Z,306nm,21.6s,baz=325,slow=29						
CPUP	**Villa Florida**	**50.20**	**121**	LR	LR	10 35 45.6	
	comp=Z,151nm,19.7s,baz=276,slow=33						
ULM	**Lac du Bonnet**	**54.98**	**7**	LR	LR	10 40 03.1	
	comp=Z,246nm,20.0s,baz=258,slow=34						
RAR	**Rarotonga**	**55.95**	**247**	LR	LR	10 36 50.0	
	comp=Z,112nm,21.9s,baz=101,slow=30						
PMSA	**Palmer Station**	**66.83**	**162**	LR	LR	10 41 36.6	
	comp=Z,294nm,18.3s,baz=309,slow=30						
**Y

RAC				*e*SG	**Sb**	**10 40 04.6**	**+0.1**	
OKC	**Ostrava-Krasne**	**0.60**	**225**	*e*PG	**Pb**	**10 40 00.1**	**-0.2**	
OJC	**Ojcow**	**0.64**	**93**	*e*Pg	**Pg**	**10 40 00.1**	**+0.8**	
OJC				*e*Sg	**Sg**	**10 40 08.9**	**+1.3**	
MORC	**Moravsky Berou**	**0.94**	**240**	*e*Pg	**Pb**	**10 40 06.0**	**-0.3**	
	baz=61							
MORC				*e*Sg	**Sg**	**10 40 17.1**	**-0.3**	
	322nm,0.5s,baz=61							
MORC	**Moravsky Berou**	**0.94**	**240**	*e*PG	**Pb**	**10 40 06.1**	**-0.3**	
MORC				*e*SG	**Sg**	**10 40 17.2**	**-0.2**	
MAUC	**Maruska**	**1.09**	**216**	*e*PG	**Pb**	**10 40 09.3**	**+0.4**	
MAUC				*e*SG	**Sn**	**10 40 24.7**	**-0.8**	
LANS	**Liptovska Anna**	**1.19**	**158**	*e*PG	**Pb**	**10 40 10.9**	**+0.4**	
LANS				*e*SG	**Sb**	**10 40 26.8**	**+0.3**	
LANS				*e*LG	Lg	10 40 32.3		
NIE	**Niedzica**	**1.28**	**130**	*e*Pg	**Pg**	**10 40 12.1**	**+0.5**	
NIE				*e*Sg	**Sn**	**10 40 30.3**	**+0.1**	
KRLC	**Kraliky**	**1.31**	**263**	*e*PG	**Pg**	**10 40 12.1**	**-0.1**	
KRLC				*e*SG	**Sg**	**10 40 28.9**	**-0.3**	
	comp=Z,117nm,0.3s							
JAVC	**Velka Javorina**	**1.58**	**208**	*e*Pn	**Pb**	**10 40 17.0**	**-0.2**	
	baz=28							
DPC	**Dobruska-Polom**	**1.59**	**274**	*e*PG	**Pn**	**10 40 16.8**	**+0.3**	
DPC				*e*SG	**Sg**	**10 40 38.7**	**+0.5**	
	comp=Z,108nm,0.7s							
OSTC	**Ostas**	**1.68**	**281**	*e*PG	**Pn**	**10 40 18.2**	**+0.5**	
OSTC				*e*SG	**Sg**	**10 40 41.3**	**+0.2**	
	comp=Z,86nm,0.6s							
KSP	**Ksiaz**	**1.70**	**291**	*e*Pg	**Pg**	**10 40 20.3**	**+0.6**	
KSP				*e*Sg	**Sg**	**10 40 42.9**	**+1.2**	
VRAC	**Vranov**	**1.72**	**237**	*e*Pn	**Pb**	**10 40 19.2**	**-0.3**	
	baz=57							
VRAC				*e*Sg	**Sb**	**10 40 41.4**	**-0.2**	
	195nm,0.6s,baz=57							
VRAC	**Vranov**	**1.72**	**237**	Pn	**Pb**	**10 40 19.4**	**-0.1**	
	8.2nm,0.3s,baz=48,slow=13,SNR=25							
VRAC				Sn	**Sb**	**10 40 41.3**	**-0.4**	
	27nm,0.3s,baz=119,slow=19,SNR=25							
VYHS	**Vyhne**	**1.77**	**179**	*e*PN	**Pn**	**10 40 19.0**	**+0.1**	
VYHS				*e*SN	**Sn**	**10 40 41.2**	**-0.9**	
STHS	**Stebnicka Huta**	**1.79**	**117**	*e*PN	**Pn**	**10 40 18.7**	**-0.5**	
STHS				*e*SG	**Sg**	**10 40 45.4**	**+0.9**	
STHS				*e*LG	Lg	10 40 50.4		
UPC	**Upice**	**1.80**	**279**	*e*PG	**Pb**	**10 40 20.8**	**-0.1**	
KRUC	**Moravsky**	**1.97**	**233**	*e*Pn	**Pn**	**10 40 22.3**	**+0.6**	
	baz=53							
KRUC				*e*Sg	**Sb**	**10 40 49.2**	**+0.4**	
	115nm,0.7s,baz=53							
KRUC	**Moravsky**	**1.97**	**233**	*e*PN	**Pn**	**10 40 22.4**	**+0.7**	
KRUC				*e*SG	**Sb**	**10 40 49.3**	**+0.4**	
KECS	**Kecovo**	**2.09**	**148**	*e*PN	**Pn**	**10 40 23.2**	**-0.1**	
KECS				*e*LG	Lg	10 41 00.1		
CRVS	**Cervenica-Dubn**	**2.20**	**127**	*e*PN	**Pn**	**10 40 25.3**	**+0.5**	
CRVS				*e*SG	**Sg**	**10 40 58.4**	**+0.7**	
GOPC	**GO Pecny, Ondr**	**2.61**	**264**	*e*SG	**Sb**	**10 41 08.1**	**+0.8**	
	comp=Z,114nm,0.6s							
KOLS	**Kolonicke sedl**	**2.62**	**119**	*e*PG	**Pb**	**10 40 36.1**	**+1.3**	
KOLS				*e*SN	**Sn**	**10 41 03.4**	**+0.3**	
KOLS				*e*LG	Lg	10 41 14.2		
PRU	**Pruhonice**	**2.76**	**266**	*e*SG	**Sb**	**10 41 12.7**	**+1.3**	
	comp=Z,39nm,0.5s							
CONA	**Conrad Observa**	**3.03**	**221**	*i* Pn	**Pn**	**10 40 37.3**	**+1.0**	
	1.9nm,0.3s							
CONA				*i* Sn	**Sb**	**10 41 17.2**	**-2.2**	
	26nm,0.6s							
RONA	**Rosalia, Austr**	**3.05**	**214**	*i* Pn	**Pn**	**10 40 37.3**	**+0.8**	
	3.3nm,0.3s							
RONA				*i* Sn	**Sn**	**10 41 13.6**	**0.0**	
	1.8nm,0.2s							
ZVC	**Zvikov**	**3.10**	**256**	*e*PG	**Pb**	**10 40 42.6**	**-0.3**	
BRG	**Berggiesshubel**	**3.16**	**283**	Pg	**Pg**	**10 40 48.0**	**+0.4**	
BRG				Sg	**Sg**	**10 41 28.4**	**-0.1**	
BRG				Amp		10 41 39.6		
	comp=Z,42nm,0.6s							
CKRC	**Cesky Krumlov**	**3.26**	**246**	*e*SG	**Sg**	**10 41 29.7**	**-2.1**	
	comp=Z,60nm,0.5s							
KHC	**Kasperske Hory**	**3.58**	**254**	*e*PN	**Pn**	**10 40 45.5**	**+1.7**	
KHC				*e*PG	**Pb**	**10 40 53.4**	**+2.3**	
KHC				*e*SG	**Sg**	**10 41 39.1**	**-2.7**	
	comp=Z,77nm,0.6s							
GERES	**GERESS Array B**	**3.61**	**249**	Pn	**Pn**	**10 40 45.8**	**+1.5**	
	comp=Z,0.5nm,0.3s,baz=59,slow=15,SNR=2.7							
GERES				Pg	**Pg**	**10 40 55.3**	**-0.9**	
	comp=Z,1.6nm,0.3s,baz=61,slow=17,SNR=7.4							
GERES				Lg	Lg	10 41 39.5		
	comp=Z,7.3nm,0.3s,baz=65,slow=30,SNR=11							
	comp=Z,1.1nm,0.4s							
ARSA	**Arzberg**	**3.71**	**217**	*e*Pn	**Pn**	**10 40 47.2**	**+1.6**	
	comp=Z,0.9nm,0.3s							
ARSA				*e*Sn	**Sb**	**10 41 35.2**	**-3.8**	
	comp=Z,4.7nm,0.5s							
CLL	**Collm**	**3.83**	**288**	*e*Pg	**Pg**	**10 41 02.0**	**+1.6**	
CLL				*e*Sg	**Sg**	**10 41 49.0**	**-0.9**	
	comp=Z,49nm,1.1s							
MOA	**Molln**	**3.84**	**233**	*e*Pn	**Pn**	**10 40 47.1**	**-0.2**	
	comp=Z,1.1nm,0.3s							
MOA				*i* Sn	**Sn**	**10 41 34.3**	**+1.2**	
	comp=Z,7.4nm,0.6s							
BIOA	**Bad Ischl, Aus**	**4.26**	**235**	*i* Sn	**Sn**	**10 41 45.6**	**+1.9**	
	comp=Z,43nm,0.6s							
KBA	**Koelnbreinsper**	**4.82**	**231**	*e*Sg	**Sg**	**10 42 26.7**	**+5.0**	
	comp=Z,17nm,0.6s							
LESA	**Schwarzleotal**	**4.94**	**237**	*e*Sg	**Sg**	**10 42 24.8**	**-0.8**	
	comp=Z,18nm,0.7s							
WTTA	**Wattenberg**	**5.61**	**240**	*e*Sg	**Sg**	**10 42 47.6**	**+0.5**	
	comp=Z,19nm,0.9s							
AKASG	**Malin Array Be**	**6.67**	**82**	Pg	Pb	10 41 38.9	-4.8	
	comp=Z,0.6nm,0.3s,baz=264,slow=16,SNR=1.7							
AKASG				Sn	**Sn**	**10 42 37.1**	**-5.7**	
	comp=Z,2.5nm,0.3s,baz=261,slow=23,SNR=4.8							
AKASG				Lg	Lg	10 43 08.5		
	comp=Z,1.8nm,0.3s,baz=267,slow=26,SNR=7.7							
DAVOX	**Davos/Dischmat**	**6.87**	**243**	Lg	Lg	10 43 29.0		
	comp=Z,1.4nm,0.3s,baz=211,slow=18,SNR=7.5							
HFS	**Hagfors**	**10.31**	**346**	Pn	**Pn**	**10 42 15.5**	**-0.6**	
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=1.2							
	comp=Z,0.8nm,0.4s							
NOA	**NORSAR Array B**	**11.61**	**341**	Pn	**Pn**	**10 42 34.5**	**+0.6**	
	baz=157,slow=12,SNR=2.2							
	comp=Z,0.8nm,0.6s							
FINES	**FINESS Array B**	**11.92**	**17**	Pn	**Pn**	**10 42 35.5**	**-2.5**	
	comp=Z,0.3nm,0.3s,baz=192,slow=12,SNR=9.4							
FINES				Sn	Sn	10 44 43.6	-8.0	
	comp=Z,0.8nm,0.3s,baz=190,slow=20,SNR=10							
	comp=Z,2.7nm,0.7s							
ARCES	**ARCESS Array B**	**19.61**	**7**	Pn	**P**	**10 44 15.2**	**-1.3**	
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=5.9							
	comp=Z,2.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**39.56**	**207**	LR	LR	11 04 45.4		
	comp=Z,103nm,21.2s,baz=322,slow=38							
YKA	**Yellowknife Ar**	**61.68**	**337**	P	**P**	**10 50 07.5**	**+1.2**	
	comp=Z,0.2nm,0.7s,baz=22,slow=6.9,SNR=3.7							
	comp=Z,0.2nm,0.7s							
ILAR	**Eielson Array**	**64.77**	**353**	P	**P**	**10 50 26.9**	**+0.2**	
	comp=Z,0.1nm,0.6s,baz=0.0,slow=8.4,SNR=2.0							
	comp=Z,0.1nm,0.6s							

*TIF **18** 10:40:06.8,41°.39N×44°.01E,h15km*
*NORS **18** 10:40:07.2,41°.48N×44°.00E,h10km,MPVA3.6*
*AFAD **18** 10:40:08.0±0.0,41°.40N×43°.92E,h7km±2km,ML2.0*

ISC 18 10:40:07.0±0.9, **41°.39N**±0°.02×**44°.03E**±0°.02, **h9**km±7km, **n35**, σ0°**93**/65, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.14**	**115**	P	**Pg**	**10 40 11.2**	**+1.0**
DMNI				S	**Sg**	**10 40 13.7**	**+1.3**
TRLG	**Trialeti**	**0.16**	**21**	P	**Pg**	**10 40 10.8**	**+0.2**
TRLG				S	**Sg**	**10 40 13.1**	**0.0**
BRNG	**Burnasheti**	**0.28**	**328**	P	**Pg**	**10 40 13.3**	**+0.6**
BRNG				S	**Sb**	**10 40 17.5**	**-1.7**
KZRT	**Kazreti**	**0.28**	**90**	P	**Pg**	**10 40 09.4**	**-3.3**
KZRT				S	**Sg**	**10 40 13.4**	**-3.0**
BGD	**Bogdanovka**	**0.34**	**249**	P	**Pb**	**10 40 14.6**	**-0.8**
BGD				S	**Sb**	**10 40 19.8**	**-1.3**
AKH	**Akhalkalaki**	**0.40**	**273**	P	**Pg**	**10 40 15.3**	**+0.3**
AKH				S	**Sg**	**10 40 20.7**	**+0.4**
SEAG	**Tbilisi Sea**	**0.69**	**57**	P	**Pg**	**10 40 20.9**	**+0.4**
EAK	**Akyaka**	**0.77**	**204**	P	**Pg**	**10 40 22.3**	**+0.5**
EAK				S	**Sg**	**10 40 32.2**	**+0.3**
EAK				*i* AML	AML	10 40 34.0	
	comp=E,94nm,0.4s						
EAK				*i* AML	AML	10 40 41.0	
	comp=N,94nm,0.6s						
ALIG	**Mtskhetisjvari**	**0.77**	**339**	P	**Pg**	**10 40 21.5**	**-0.4**
ALIG				S	**Sg**	**10 40 31.5**	**-0.5**
ABS	**Abastumani**	**0.98**	**292**	P	**Pg**	**10 40 25.3**	**-0.6**
ABS				S	**Sb**	**10 40 38.9**	**-0.5**
EPOS	**Posof**	**0.98**	**277**	P	**Pg**	**10 40 25.6**	**-0.4**
EPOS				*i* AML	AML	10 40 45.0	
	comp=N,38nm,0.9s						
EPOS				*i* AML	AML	10 40 45.0	
	comp=E,24nm,0.9s						
AHAN	**Ardahan-Merkez**	**1.08**	**259**	P	**Pg**	**10 40 27.7**	**-0.1**
AHAN				S	**Sb**	**10 40 42.3**	**0.0**
AHAN				*i* AML	AML	10 40 48.0	
	comp=N,41nm,0.3s						
AHAN				*i* AML	AML	10 40 50.0	
	comp=E,64nm,0.5s						
DIGO	**Kars**	**1.09**	**207**	P	**Pg**	**10 40 28.1**	**+0.1**
DIGO				S	**Sg**	**10 40 42.4**	**+0.2**
DIGO				*i* AML	AML	10 40 50.0	
	comp=E,164nm,0.4s						
DIGO				*i* AML	AML	10 40 50.0	
	comp=N,118nm,0.4s						
BOZK	**Kars-Merkez-Bo**	**1.12**	**225**	P	**Pg**	**10 40 28.5**	**-0.1**
BOZK				S	**Sg**	**10 40 43.4**	**+0.1**
BOZK				*i* AML	AML	10 40 45.0	
	comp=N,28nm,0.5s						
BOZK				*i* AML	AML	10 40 47.0	
	comp=E,34nm,0.5s						
GUDG	**Gudauri**	**1.13**	**17**	P	**Pg**	**10 40 28.3**	**-0.4**
GUDG	**Gudauri**	**1.13**	**17**	*e*Pg	**Pg**	**10 40 28.3**	**-0.4**
GUDG				*e*Sg	**Sn**	**10 40 44.4**	**-0.5**
CHRG	**Chargali**	**1.16**	**35**	P	**Pb**	**10 40 28.8**	**-0.5**
CHRG				S	**Sg**	**10 40 44.2**	**-0.1**
GOLE	**Ardahan-G¶le**	**1.21**	**243**	P	**Pn**	**10 40 30.3**	**0.0**
GOLE				S	**Sn**	**10 40 47.0**	**+0.1**
GOLE				*i* AML	AML	10 40 48.0	
	comp=E,111nm,0.2s						
GOLE				*i* AML	AML	10 40 49.0	
	comp=N,116nm,0.3s						
TKB	**Tkibuli**	**1.23**	**322**	P	**Pb**	**10 40 30.0**	**-0.5**
TKB				S	**Sg**	**10 40 46.4**	**-0.4**
ONI	**Oni**	**1.28**	**341**	P	**Pn**	**10 40 30.6**	**-0.5**
ONI				S	**Sg**	**10 40 47.8**	**-0.4**
ONI	**Oni**	**1.28**	**341**	*e*Pg	**Pn**	**10 40 30.6**	**-0.5**
ONI				*e*Sg	**Sg**	**10 40 47.7**	**-0.4**
MTEO	**Meteo**	**1.35**	**16**	P	**Pn**	**10 40 32.5**	**+0.1**
MTEO				S	**Sn**	**10 40 53.8**	**+3.2**
ZEI	**Tsey**	**1.40**	**356**	*e*Pg	**Pb**	**10 40 33.4**	**-0.1**
ZEI				*e*Sg	**Sg**	**10 40 52.2**	**0.0**
LACR	**Lac**	**1.45**	**8**	*e*Pg	**Pb**	**10 40 34.2**	**-0.1**
LACR				*e*Sg	**Sg**	**10 40 54.8**	**+1.0**
SHTL	**Shatili**	**1.52**	**33**	P	**Pb**	**10 40 35.3**	**-0.1**
DAGI	**Agillar**	**1.62**	**260**	P	**Pg**	**10 40 37.6**	**-0.6**
DAGI				S	**Sg**	**10 40 59.1**	**-0.1**
DAGI				*i* AML	AML	10 41 00.0	
	comp=N,28nm,0.7s						
DAGI				*i* AML	AML	10 41 02.0	
	comp=E,20nm,0.4s						
KORR	**Kora**	**1.70**	**1**	*e*Pg	**Pg**	**10 40 39.6**	**0.0**
KORR				*e*Sg	**Sg**	**10 41 03.1**	**+1.5**
KOTA	**Agri, Merkez-K**	**1.70**	**202**	P	**Pg**	**10 40 40.3**	**+0.6**
KOTA				*i* AML	AML	10 41 00.0	
	comp=E,9.6nm,4.0s						
LGD	**Lagodekhi**	**1.72**	**74**	P	**Pb**	**10 40 39.0**	**+0.2**
LGD				S	**Sg**	**10 41 03.0**	**+0.6**
DDEM	**Demirkent**	**1.79**	**255**	P	**Pb**	**10 40 39.5**	**-0.5**
DDEM				S	**Sb**	**10 41 02.3**	**-0.3**
DDEM				*i* AML	AML	10 41 05.0	
	comp=N,94nm,0.4s						
DDEM				*i* AML	AML	10 41 07.0	
	comp=E,54nm,0.3s						
VSHL	**Vashlovani**	**1.80**	**94**	P	**Pb**	**10 40 40.5**	**+0.4**
VSHL				S	**Sb**	**10 41 04.3**	**+1.7**
DBAD	**Bademkaya**	**1.80**	**259**	P	**Pb**	**10 40 40.5**	**+0.4**
DBAD				S	**Sb**	**10 41 02.8**	**0.0**
DBAD				*i* AML	AML	10 41 05.0	
	comp=N,36nm,0.4s						
DBAD				*i* AML	AML	10 41 06.0	
	comp=E,47nm,0.4s						
LSNR	**Lesken**	**1.90**	**356**	*e*Pg	**Pb**	**10 40 42.4**	**+0.6**
LSNR				*e*Sg	**Sg**	**10 41 08.1**	**+0.2**
BTLR	**Botlikh**	**2.08**	**51**	*e*Pg	**Pb**	**10 40 44.4**	**-0.4**
BTLR				*e*Sg	**Sg**	**10 41 12.6**	**-1.1**
NEUR	**Neytrino**	**2.12**	**333**	*e*Pg	**Pb**	**10 40 45.3**	**-0.3**
NEUR				*e*Sg	**Sb**	**10 41 12.7**	**+0.7**

*IDC **18** 10:40:43.5±6.4,6°.37S×130°.12E,h108km±62km,mb3.6/6,*
mbtmp4.0/7,MS3.9/3,Error ellipse: s-maj=205.5km
s-min=20.3km az=70.0
*DJA **18** 10:40:45.6±0.3,6°.5S±2°×13°.0E±°,h163km±6km,M4.6/12,*
mb4.7/8,mB5.1/7,MLv4.7/12,Mw4.5/3,Mw(mB)4.4/7
*NEIC **18** 10:40:46.5±2.2,6°.32S±0°.06×130°.16E±0°.09,h143km±11km,*
mb4.1/7,Error ellipse: s-maj=12.8km s-min=7.0km
az=111.0

ISC 18 10:40:47.8±0.6, **6°.47S**±0°.05×**130°.10E**±0°.06, **h146**km, **n66**, σ1°**89**/63, **mb3.8/7, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.92**	**142**	Pn	**Pn**	**10 41 21.8**	**+0.1**
SAUI				Sn	**Sn**	**10 41 48.0**	**+0.2**
SAUI	**Saumlaki**	**1.92**	**142**	P	**Pn**	**10 41 21.7**	**0.0**
SAUI	**Saumlaki**	**1.92**	**142**	P	**Pn**	**10 41 21.8**	**+0.1**
SAUI				S	**Sn**	**10 41 48.1**	**+0.2**
BNDI	**Bandanaira**	**1.94**	**354**	P	**Pn**	**10 41 20.0**	**-2.0**
BNDI				S	**Sn**	**10 41 45.2**	**-3.0**
KRAI	**Karang Ratu**	**3.56**	**331**	P	**Pn**	**10 41 40.6**	**-1.6**
FAKI	**Fak Fak**	**4.12**	**31**		Pn	10 41 45.1	-4.5
FAKI	**Fak Fak**	**4.12**	**31**	P	Pn	10 41 45.0	-4.6
NLAI	**Namlea**	**4.38**	**317**	P	**Pn**	**10 41 51.8**	**-1.2**
KMPI	**Kaimana, Papua**	**4.54**	**52**	P	Pn	10 41 51.9	-3.2
SlJI	**Sorong**	**5.68**	**12**	P	Pn	10 42 06.2	-4.0
	30nm,0.8s,4µm0.7nm						
SWI	**Sorong**	**5.68**	**12**	P	Pn	10 42 05.8	-4.5
SANI	**Sanana**	**6.00**	**317**	P	**Pn**	**10 42 15.2**	**+0.7**
SANI	**Sanana**	**6.00**	**317**	P	**Pn**	**10 42 12.7**	**-1.8**
	36nm,0.7s,0.1nm						
LBMI	**Labuha**	**6.34**	**336**	P	Pn	10 42 15.9	-3.2
	102nm,0.9s,0.4nm						
MTN	**Manton Dam**	**6.42**	**171**	Pn	**Pn**	**10 42 19.5**	**-0.5**
MTN				Sn	**Sn**	**10 43 27.7**	**-4.6**
MTN	**Manton Dam**	**6.42**	**171**	P	**Pn**	**10 42 18.8**	**-1.3**
KDU	**Kakadu**	**6.61**	**159**	P	**Pn**	**10 42 20.8**	**-1.8**
SOEI	**Soe**	**6.64**	**240**		**Pn**	**10 42 38.8**	**+0.7**
SOEI				Sn	**Sn**	**10 43 38.8**	**+1.1**
SOEI	**Soe**	**6.64**	**240**	P	**Pn**	**10 42 23.6**	**+0.5**
	183nm,0.7s,2µm0.8nm						
EDFI	**Ende, Flores**	**8.64**	**254**	P	**Pn**	**10 42 51.6**	**+1.7**
	11nm,0.9s,475nm						
KNRA	**Kununurra**	**9.25**	**188**	Pn	**Pn**	**10 42 55.8**	**-2.1**
KNRA				Sn	**Sn**	**10 44 32.8**	**-7.7**
KNRA	**Kununurra**	**9.25**	**188**	P	**Pn**	**10 42 55.6**	**-2.3**
TOLI2	**Tolitoli**	**11.97**	**309**	P	**Pn**	**10 43 36.2**	**+2.4**
FITZ	**Fitzroy Crossi**	**12.35**	**200**	Pn	**Pn**	**10 43 35.7**	**-3.1**
FITZ	**Fitzroy Crossi**	**12.35**	**200**	P	**Pn**	**10 43 36.1**	**-2.7**
PLAI	**Plampang**	**12.44**	**258**	P	**Pn**	**10 43 38.9**	**-1.1**
WB0	**Warramunga Arr**	**13.87**	**163**	Pn	**Pn**	**10 43 55.1**	**-3.1**
WRA	**Warramunga Arr**	**14.02**	**163**	P	**Pn**	**10 43 56.8**	**-3.4**
	7.9nm,0.4s,baz=346,slow=13,SNR=50						
WB2	**Warramunga Arr**	**14.02**	**163**	Pn	**Pn**	**10 43 57.1**	**-3.1**
WR0	**Warramunga Arr**	**14.09**	**163**	Pn	**Pn**	**10 43 58.2**	**-2.9**
COEN	**Coen**	**14.86**	**121**	P	**Pn**	**10 44 11.6**	**+0.9**
QIS	**Mount Isa**	**16.77**	**148**	P	**Pn**	**10 44 35.1**	**+0.9**
AS31	**Alice Springs**	**17.49**	**168**		**P**	**10 44 41.3**	**-0.5**
AS31				IAmb	IAmb	10 44 48.2	
	comp=Z,3.8nm,0.7s						
ASAR	**Alice Springs**	**17.49**	**168**	Pn	**Pn**	**10 44 43.4**	**+0.5**
ASAR	**Alice Springs**	**17.49**	**168**	P	**Pn**	**10 44 42.9**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=344,slow=10,SNR=57						
AS01	**Alice Springs**	**17.50**	**168**	P	**Pn**	**10 44 42.9**	**0.0**
PSA00	**Pilbara Seismi**	**18.00**	**212**	P	**Pn**	**10 44 48.3**	**-0.6**
PSA00				IAmb	IAmb	10 44 49.2	
	comp=Z,18nm,0.6s						
PSA00	**Pilbara Seismi**	**18.00**	**212**	P	**Pn**	**10 44 48.4**	**-0.5**
MTSU	**Mount Surprise**	**18.08**	**131**	P	**Pn**	**10 44 50.7**	**+0.8**
WRKA	**Warakurna**	**18.55**	**185**	P	**Pn**	**10 44 54.9**	**-0.5**
OOD	**Oodnadatta**	**21.87**	**167**	P	**P**	**10 45 29.8**	**+0.8**
MEEK	**Meekatharra**	**22.85**	**207**	P	**P**	**10 45 39.3**	**+0.7**
MULG	**Mulgathing**	**23.98**	**172**	P	**P**	**10 45 50.6**	**+1.7**
FORT	**Forrest**	**24.26**	**184**	P	**P**	**10 45 52.8**	**+1.4**
LCRK	**Leigh Creek**	**25.05**	**163**	P	**P**	**10 46 00.3**	**+1.8**
KMBL	**Kambalda**	**25.94**	**196**	P	**P**	**10 46 07.6**	**+1.0**
BBOO	**Buckleboo**	**26.79**	**169**	P	**P**	**10 46 14.1**	**-0.2**
BBOO				IAmb	IAmb	10 46 56.3	
	comp=Z,111nm,1.4s						
BBOO	**Buckleboo**	**26.79**	**169**	P	**P**	**10 46 15.4**	**+1.2**
BLDU	**Ballidu**	**27.12**	**206**	P	**P**	**10 46 18.2**	**+1.0**
STKA	**Stephens Creek**	**27.47**	**158**	P	**P**	**10 46 19.0**	**-1.2**
STKA	**Stephens Creek**	**27.47**	**158**	P	**P**	**10 46 20.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=319,slow=10,SNR=4.5						
	comp=Z,0.7nm,0.3s						
CMSA	**Cobar Meteorol**	**28.90**	**152**	P	**P**	**10 46 34.9**	**+1.9**
NWAO	**Narrogin (SRO)**	**28.92**	**203**	P	**P**	**10 46 33.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**28.92**	**203**	P	**P**	**10 46 34.0**	**+0.8**
YNG	**Young**	**32.45**	**151**	P	**P**	**10 47 06.4**	**+2.1**
WHN	**Wuhan**	**39.77**	**339**	P	P	10 47 57.1	-9.4
MJAR	**Matsushiro Arr**	**43.45**	**10**	LR	LR	11 05 01.3	
	comp=Z,89nm,20.9s,baz=46,slow=34						
SONM	**Songino Array**	**57.97**	**341**	LR	LR	11 17 21.5	
	comp=Z,121nm,18.1s,baz=338,slow=38						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**10 51 29.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=106,slow=8.5,SNR=5.3						
MKAR				LR	LR	11 25 57.7	
	comp=Z,100nm,18.2s,baz=9.0,slow=40						
	comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**71.15**	**334**	P	**P**	**10 51 49.8**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=128,slow=8.3,SNR=2.2						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.11**	**328**	P	**P**	**10 51 56.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=137,slow=5.5,SNR=4.4						
	comp=Z,0.3nm,0.4s						
VNDA	**Vanda**	**72.96**	**173**	P	**P**	**10 52 01.9**	**+1.0**
VNDA				IAmb	IAmb	10 52 07.0	
	comp=Z,4.8nm,1.4s						
VNDA	**Vanda**	**72.96**	**173**	P	**P**	**10 52 01.8**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=315,slow=7.6,SNR=6.2						
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**83.51**	**180**	P	**P**	**10 52 59.5**	**+0.3**
QSPA				IAmb	IAmb	10 53 25.3	
	comp=Z,0.7nm,1.0s						
QSPA	**South Pole Qui**	**83.51**	**180**	P	**P**	**10 52 59.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=324,slow=0.7,SNR=13						
	comp=Z,0.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**128.80**	**282**	PKP	**PKPdf**	**10 59 38.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=59,slow=0.3,SNR=1.7						

TUN 18 10:45:14.5,36°.72N×8°.61E,h26km,MD2.0,Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLIT	**Baltah**	**0.28**	**91**	*i* P	Pb	10 45 21.0	-0.3
BLIT				*i* S	Sb	10 45 25.6	-0.3
BLIT	**Baltah**	**0.28**	**91**	*i* P	Pb	10 45 20.7	-0.6
GHAT	**Ghardimaou**	**0.33**	**228**	*i* P	Pb	10 45 21.7	-0.4
GHAT	**Ghardimaou**	**0.33**	**228**	*i* P	Pn	10 45 25.5	+1.8
KRIT	**Krib**	**0.53**	**135**	*i* P	Pb	10 45 24.9	-0.5
KRIT	**Krib**	**0.53**	**135**	*i* P	Pb	10 45 25.1	-0.2

*KRNET **18** 10:49:15.5±0.1,41°.76N×80°.25E,h18km,mb3.5*
*SOME **18** 10:49:16.8,41°.73N×80°.30E,h30km*
*NNC **18** 10:49:17.0±1.3,41°.76N×80°.16E,h0km,mb4.2,mpv4.0,*
Error ellipse: s-maj=8.3km s-min=5.9km az=150.0

ISC 18 10:49:17.4±1.6, **41°.76N**±0°.06×**80°.19E**±0°.05, **h10**km, **n72**, σ1°**61**/117, **31C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.49**	**339**	P	**Pn**	**10 49 43.8**	**-0.6**
	56nm,0.2s

		50nm,0.2s						
KNOS					Lg	Lg	10 50 39.2	
		70nm,0.3s						
KOTS	**Kotyrbulak**		**2.71**	**304**	Pg	**Pb**	**10 50 05.7**	**-0.4**
		48nm,0.3s						
KOTS					Lg	Lg	10 50 40.9	
		74nm,0.5s						
KOTS	**Kotyrbulak**		**2.71**	**304**	*e*P	**Pb**	**10 50 05.7**	**-0.4**
		48nm,0.3s						
KOTS					*e*S	**Sb**	**10 50 40.9**	**+1.4**
		74nm,0.5s						
MDOK	**Medeo**		**2.71**	**302**	⇓Pg	**Pb**	**10 50 05.3**	**-0.9**
		26nm,0.4s						
MDOK					Pg	**Pb**	**10 50 05.8**	**-0.4**
		46nm,0.3s						
MDOK					Lg	Lg	10 50 41.3	
		66nm,0.5s						
MDOK					Lg	Lg	10 50 41.9	
		86nm,0.9s						
MDOK	**Medeo**		**2.71**	**302**	*e*P	**Pb**	**10 50 05.8**	**-0.4**
		46nm,0.3s						
MDOK					*e*S	**Sg**	**10 50 41.3**	**-3.3**
		66nm,0.5s						
TNSS	**Tian-Shan**		**2.72**	**299**	Pg	**Pb**	**10 50 06.1**	**-0.4**
		45nm,0.5s						
TNSS					Lg	Lg	10 50 41.6	
		35nm,0.3s						
TNSS	**Tian-Shan**		**2.72**	**299**	*e*P	**Pb**	**10 50 06.1**	**-0.4**
		45nm,0.5s						
TNSS					*e*S	**Sg**	**10 50 41.6**	**-3.3**
		35nm,0.3s						
AAA	**Alma-Ata**		**2.82**	**302**	Pg	**Pb**	**10 50 08.2**	**+0.2**
		102nm,0.2s						
AAA					Lg	Lg	10 50 45.0	
		62nm,0.1s						
AAA	**Alma-Ata**		**2.82**	**302**	*e*P	**Pb**	**10 50 08.2**	**+0.2**
		102nm,0.2s						
AAA					*e*S	**Sg**	**10 50 45.0**	**-3.1**
		62nm,0.1s						
IZV	**Izvestkoviy**		**2.94**	**297**	Pg	**Pb**	**10 50 09.8**	**-0.3**
		14nm,0.3s						
IZV					Lg	Lg	10 50 47.8	
		79nm,0.3s						
IZV	**Izvestkoviy**		**2.94**	**297**	*e*P	**Pb**	**10 50 09.8**	**-0.3**
		14nm,0.3s						
IZV					*e*S	**Sb**	**10 50 47.8**	**+1.7**
		79nm,0.3s						
ULHL	**Ulahol**		**2.98**	**281**	⇑*i*P	**Pn**	**10 50 06.7**	**+1.7**
		baz=81						
ULHL					⇑*i*S	**Sb**	**10 50 44.2**	**-3.2**
		baz=81						
ARXS	**Arharly**		**3.00**	**325**	Pg	**Pb**	**10 50 10.6**	**-0.4**
		14nm,0.3s						
ARXS					Lg	Lg	10 50 49.3	
		69nm,0.3s						
ARXS	**Arharly**		**3.00**	**325**	*e*P	**Pb**	**10 50 10.6**	**-0.4**
		14nm,0.3s						
ARXS					*e*S	**Sb**	**10 50 49.3**	**+1.6**
		69nm,0.3s						
MTBS	**Maitube**		**3.10**	**297**	Pg	**Pb**	**10 50 12.2**	**-0.5**
		14nm,0.2s						
MTBS					Lg	Lg	10 50 52.0	
		35nm,0.2s						
MTBS	**Maitube**		**3.10**	**297**	*e*P	**Pb**	**10 50 12.2**	**-0.5**
		14nm,0.2s						
MTBS					*e*S	**Sb**	**10 50 52.0**	**+1.3**
		35nm,0.2s						
CHKK	**Chushkaly**		**3.15**	**313**	Pg	**Pb**	**10 50 13.5**	**0.0**
		18nm,0.2s						
CHKK					Lg	Lg	10 50 54.3	
		56nm,0.3s						
CHKK	**Chushkaly**		**3.15**	**313**	*e*P	**Pb**	**10 50 13.5**	**0.0**
		18nm,0.2s						
CHKK					*e*S	**Sg**	**10 50 54.3**	**-4.3**
		56nm,0.3s						
NRN	**Naryn**		**3.16**	**265**	⇑*i*P	**Pn**	**10 50 09.3**	**+1.7**
		baz=65						
NRN					⇑*i*S	**Sb**	**10 50 49.1**	**-3.5**
		baz=65						
KTBS	**Karatobe**		**3.24**	**308**	Pg	**Pb**	**10 50 15.2**	**+0.1**
		24nm,0.2s						
KTBS					Lg	Lg	10 50 57.0	
		74nm,0.2s						
KTBS	**Karatobe**		**3.24**	**308**	*e*P	**Pb**	**10 50 15.2**	**+0.1**
		24nm,0.2s						
KTBS					*e*S	**Sg**	**10 50 57.0**	**-4.4**
		74nm,0.2s						
BOOM	**Boomskoye usch**		**3.25**	**284**	⇑*i*P	**Pn**	**10 50 10.4**	**+1.8**
		baz=84						
BOOM					⇑*i*S	**Sb**	**10 50 50.3**	**-4.6**
		baz=84						
TDK	**Taldyqorghan**		**3.49**	**339**	Pg	**Pb**	**10 50 19.1**	**-0.2**
		53nm,0.3s						
TDK					Lg	Lg	10 51 03.8	
		53nm,0.4s						
TDK	**Taldyqorghan**		**3.49**	**339**	*e*P	**Pb**	**10 50 19.1**	**-0.2**
		53nm,0.3s						
TDK					*e*S	**Sb**	**10 51 03.9**	**+2.1**
		53nm,0.4s						
KUU	**Kurty**		**3.54**	**308**	Pg	**Pb**	**10 50 20.2**	**-0.1**
		6.9nm,0.1s						
KUU					Lg	Lg	10 51 06.0	
		12nm,0.3s						
KUU	**Kurty**		**3.54**	**308**	*e*P	**Pb**	**10 50 20.2**	**-0.1**
		6.9nm,0.1s						
KUU					*e*S	**Sb**	**10 51 06.0**	**+2.6**
		12nm,0.3s						
KAPS	**Kapalarasan**		**3.57**	**350**	Pg	**Pb**	**10 50 20.3**	**-0.4**
		3.6nm,0.4s						
KAPS					Lg	Lg	10 51 06.0	
		17nm,0.2s						
KAPS	**Kapalarasan**		**3.57**	**350**	*e*P	**Pb**	**10 50 20.3**	**-0.4**
		3.6nm,0.4s						
KAPS					*e*S	**Sb**	**10 51 06.0**	**+1.9**
		17nm,0.2s						
DGS	**Degeres**		**3.59**	**296**	Pg	**Pb**	**10 50 21.0**	**0.0**
		11nm,0.3s						
DGS					Lg	Lg	10 51 06.9	
		29nm,0.2s						
DGS	**Degeres**		**3.59**	**296**	*e*P	**Pb**	**10 50 21.0**	**0.0**
		11nm,0.3s						
DGS					*e*S	**Sb**	**10 51 06.9**	**+2.3**
		29nm,0.2s						
TKM2	**Tokmak 2**		**3.60**	**290**	⇑*i*P	**Pn**	**10 50 15.3**	**+1.8**
		baz=90						
TKM2					⇑*i*S	**Sn**	**10 50 59.1**	**+3.0**
		baz=90						
KZA	**Kyzart**		**3.70**	**277**	⇑*e*P	**Pn**	**10 50 16.6**	**+1.5**
		baz=77						
KZA					⇑*i*S	**Sn**	**10 51 01.7**	**+2.7**
		baz=77						
KBK	**Karagaybulak**		**4.00**	**285**	⇑*e*P	**Pn**	**10 50 20.5**	**+1.6**
		baz=85						
KBK					⇑*i*S	**Sn**	**10 51 08.7**	**+2.8**
		baz=85						
UCH	**Uchtor**		**4.26**	**278**	⇑*e*P	**Pn**	**10 50 24.4**	**+1.6**
		baz=78						
UCH					⇑*i*S	**Sn**	**10 51 15.2**	**+2.5**
		baz=78						
ARLS	**Aral**		**4.39**	**273**	⇑*e*P	**Pn**	**10 50 26.1**	**+1.8**
		baz=73						
ARLS					⇑*i*S	**Sn**	**10 51 17.8**	**+2.3**
		baz=73						
SGDS	**Sogindy**		**4.44**	**294**	Pg	**Pb**	**10 50 37.2**	**+1.7**
		5.0nm,0.6s						
SGDS					Lg	Lg	10 51 35.0	
		9.0nm,0.1s						
USP	**Ospenovka**		**4.47**	**292**	⇑*e*P	**Pn**	**10 50 26.9**	**+1.6**
		baz=91						
USP					⇑*i*S	**Sn**	**10 51 19.5**	**+2.2**
		baz=91						
EKS2	**Erkin-Say**		**4.85**	**283**	⇑*e*P	**Pn**	**10 50 32.4**	**+1.8**
		baz=83						
EKS2					⇑*e*S	**Sn**	**10 51 28.8**	**+2.0**
		baz=83						
MAKZ	**Makanchi**		**5.20**	**14**	⇑Pn	**Pn**	**10 50 38.4**	**+3.1**
		1.7nm,0.4s						
MAKZ					⇓Sn	**Sn**	**10 51 35.9**	**+0.5**
		2.5nm,0.5s						
MAKZ					⇑Lg	Lg	10 52 00.7	
		2.9nm,0.6s						
MK31	**Makanchi Array**		**5.25**	**16**	Pn	**Pn**	**10 50 36.5**	**+0.5**
		0.6nm,0.3s,baz=201,slow=13,SNR=63						
MK31					⇑Sn	**Sn**	**10 51 38.7**	**+2.2**
		1.5nm,0.4s,baz=194,slow=25,SNR=5.8						
MK31					⇓Lg	Lg	10 52 00.7	
		3.1nm,0.5s						
MRKS	**Merke**		**5.26**	**283**	Pg	**Pg**	**10 50 56.4**	**-1.8**
		3.4nm,0.4s						
MRKS					Lg	Lg	10 52 08.2	
		7.4nm,0.4s						
MRKS	**Merke**		**5.26**	**283**	*e*P	**Pg**	**10 50 56.4**	**-1.8**
		3.4nm,0.4s						
MRKS					*e*S	**Sg**	**10 52 08.2**	**+1.8**
		7.4nm,0.4s						
BTLS	**Baital**		**5.55**	**308**	Pg	**Pg**	**10 51 01.6**	**-2.0**
		2.5nm,0.3s						
BTLS					Lg	Lg	10 52 17.0	
		4.2nm,0.5s						
BTLS	**Baital**		**5.55**	**308**	*e*P	**Pg**	**10 51 01.6**	**-2.0**
		2.5nm,0.3s						
BTLS					*e*S	**Sg**	**10 52 17.0**	**+1.5**
		4.2nm,0.5s						
OTUK	**Ortayu**		**8.54**	**322**	⇑Lg	Lg	10 53 50.6	
		7.7nm,1.3s						
KURBB	**Kurchatov Arra**		**8.94**	**353**	⇓Lg	Lg	10 54 01.2	
		8.3nm,0.7s						
KURK	**Kurchatov**		**9.02**	**354**	⇓Lg	Lg	10 54 04.8	
		12nm,1.2s						

*CNRM **18** 10:59:10.7, 35°.76N×3°.67W, h25km, ML2.4*
*MDD **18** 10:59:11.9±0.7, 35°.78N×3°.62W, h0km, mb_Lg2.6/5, Error ellipse: s-maj=6.4km s-min=3.8km az=51.0*
*INMG **18** 10:59:12.6±1.5, 35°.73N×3°.59W, h19km±9km, ML2.2, Error ellipse: s-maj=4.9km s-min=4.7km az=51.0*
ISC 18 10:59:10.9±1.6, 35.71N±0°.02×3.66W±0°.04, h15km±13km, n29, σ0s84/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.54**	**205**	P	**Pb**	**10 59 22.3**	**+0.3**
PALE	**Palemas**	**0.54**	**205**	S	**Sb**	**10 59 30.5**	**+0.9**
EMEL	**Melilla**	**0.70**	**125**	Pg	**Pb**	**10 59 25.0**	**+0.1**
EMEL				Sg	**Sb**	**10 59 34.4**	**0.0**
GOG	**Mont Gurugu**	**0.73**	**131**	P	**Pb**	**10 59 25.4**	**+0.1**
GOG	**Mont Gurugu**	**0.73**	**131**	S	**Sb**	**10 59 35.6**	**+0.5**
ELGU	**Los Guajares,**	**1.16**	**1**	Pg	**Pg**	**10 59 33.0**	**-0.2**
ELGU				Sg	**Sb**	**10 59 47.0**	**-0.6**
ELGU				*i* Vmb_Lg		10 59 51.6	
AKLM	**AKL**	**1.21**	**188**	P	**Pn**	**10 59 32.5**	**-0.8**
AKLM	**AKL**	**1.21**	**188**	S	**Sb**	**10 59 47.2**	**-1.6**
EMIJ	**Mijas**	**1.24**	**314**	Pg	**Pn**	**10 59 33.6**	**-0.2**
EMIJ				Sg	**Sb**	**10 59 49.6**	**-0.3**
EMIJ				*i* Vmb_Lg		10 59 52.2	
EBER	**Berja**	**1.34**	**28**	Pg	**Pg**	**10 59 36.6**	**-0.2**
EBER				Sg	**Sb**	**10 59 51.1**	**-1.8**
EBER				*i* Vmb_Lg		11 00 00.6	
TAF	**Taforalt**	**1.36**	**131**	P	**Pn**	**10 59 35.2**	**-0.2**
TAF	**Taforalt**	**1.36**	**131**	S	**Sn**	**10 59 52.2**	**-0.9**
SMIR	**Smir Dam**	**1.40**	**269**	P	**Pn**	**10 59 34.2**	**-1.7**
SMIR	**Smir Dam**	**1.40**	**269**	S	**Sn**	**10 59 53.4**	**-0.7**
EQES	**Quesada**	**2.15**	**13**	Pg	**Pb**	**10 59 49.7**	**+0.2**
EQES				Sg	**Sb**	**11 00 16.4**	**+0.4**
EQES				*i* Vmb_Lg		11 00 21.6	
EADA	**Adamuz**	**2.56**	**344**	Pn	**Pn**	**10 59 53.1**	**+1.2**
EADA				Sn	**Sn**	**11 00 23.7**	**+0.9**
EADA				*i* Vmb_Lg		11 00 33.0	
MD31	**MD31**	**2.97**	**198**	P	**Pn**	**10 59 59.3**	**+1.6**
MD31	**MD31**	**2.97**	**198**	S	**Sn**	**11 00 32.8**	**-0.3**
MDT	**Midelt**	**2.99**	**195**	P	**Pn**	**10 59 58.8**	**+0.9**
MDT	**Midelt**	**2.99**	**195**	S	**Sn**	**11 00 34.2**	**+0.7**
ZHG	**ZHG**	**3.34**	**228**	P	**Pn**	**11 00 03.1**	**+0.5**
PBAR	**Barrancos**	**3.66**	**313**	*e*P	**Pn**	**11 00 08.0**	**+1.1**
PBAR				*e*S	**Sn**	**11 00 49.4**	**-0.4**
PVAQ	**Vaqueiros**	**3.68**	**299**	*e*S	**Sn**	**11 00 50.3**	**0.0**
PBDV	**Barranco-do-Ve**	**3.77**	**295**	*e*P	**Pn**	**11 00 09.2**	**+0.8**
PBDV				*e*S	**Sn**	**11 00 52.0**	**-0.5**
PBDV				A	A	11 00 58.5	
	2.5nm,0.2s						
PCVE	**Castro Verde**	**4.01**	**300**	*e*P	**Pn**	**11 00 12.8**	**+1.1**
PCVE				*e*S	**Sn**	**11 00 58.0**	**-0.5**
PCVE				A	A	11 01 03.6	
	2.9nm,0.2s						
MESJ	**Messejana**	**4.23**	**302**	*e*P	**Pn**	**11 00 15.3**	**+0.5**
MESJ				*e*S	**Sn**	**11 01 03.4**	**-0.6**
MESJ				A	A	11 01 04.3	
	3.9nm,0.7s						
PESTR	**Estremoz**	**4.45**	**316**	*e*P	**Pn**	**11 00 18.7**	**+0.9**
PESTR				*e*S	**Sn**	**11 01 08.5**	**-0.8**
PESTR				A	A	11 01 12.2	
	2.8nm,0.6s						
PNCL	**Nicolau / Gran**	**4.58**	**303**	*e*P	**Pn**	**11 00 20.7**	**+1.1**
PNCL				*e*S	**Sn**	**11 01 11.8**	**-0.7**
PMRV	**Marv??o**	**4.75**	**323**	*e*P	**Pn**	**11 00 22.2**	**+0.2**
PMRV				*e*S	**Sn**	**11 01 17.4**	**+0.6**
PMRV				A	A	11 01 21.4	
	1.5nm,0.3s						

*ATH **18** 10:59:32.9, 39°.83N×23°.53E, h12km±1km, ML2.3/2, Error ellipse: s-maj=2.0km s-min=1.5km az=132.0*
*THE **18** 10:59:33.4, 39°.84N×23°.61E, h13km±1km, ML2.1/4, Error ellipse: s-maj=2.4km s-min=1.0km az=153.0*
ISC 18 10:59:32.4±1.1, 39.83N±0°.04×23.54E±0°.05, h15km±8km, n15, σ0s47/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.15**	**47**	P	**Pg**	**10 59 36.2**	**-0.1**
PAIG				S	**Sg**	**10 59 38.7**	**-0.1**
	3μm,0.1s						
XOR	**Xorichti**	**0.53**	**210**	P	**Pg**	**10 59 43.3**	**+0.4**
OUR	**Ouranopolis**	**0.61**	**34**	P	**Pg**	**10 59 44.5**	**+0.1**
OUR				S	**Sg**	**10 59 52.6**	**0.0**
	450nm,0.3s						
OUR	**Ouranopolis**	**0.61**	**34**	P	**Pg**	**10 59 44.5**	**+0.1**
OUR				S	**Sg**	**10 59 53.1**	**+0.5**
OUR				AML	AML	10 59 57.4	
	comp=E,1114μm,0.4s						
OUR				AML	AML	10 59 57.7	
	comp=N,690μm,0.3s						
HORT	**Hortiatis**	**0.84**	**337**	P	**Pg**	**10 59 48.3**	**-0.5**
HORT				S	**Sb**	**11 00 00.7**	**+0.7**
THE	**Thessaloniki**	**0.92**	**332**	P	**Pg**	**10 59 50.2**	**0.0**
SOH	**Sokhos**	**1.01**	**352**	P	**Pb**	**10 59 52.3**	**+0.7**
SOH	**Sokhos**	**1.01**	**352**	P	**Pg**	**10 59 51.8**	**0.0**
SOH				S	**Sg**	**11 00 04.4**	**-0.6**
SOH				AML	AML	11 00 09.6	
	comp=N,257μm,0.9s						
SOH				AML	AML	11 00 10.2	
	comp=E,282μm,0.6s						
KOKK	**Kokkinochori,**	**1.05**	**19**	P	**Pg**	**10 59 52.7**	**0.0**
KOKK				S	**Sb**	**11 00 07.1**	**+1.1**
	comp=E,25nm,0.8s						
THAS	**Thassos island**	**1.20**	**49**	P	**Pb**	**10 59 54.4**	**-0.4**
THAS				S	**Sb**	**11 00 10.0**	**-0.1**
	comp=E,95nm,0.9s						
THAS	**Thassos island**	**1.20**	**49**	P	**Pb**	**10 59 54.6**	**-0.2**
THAS				S	**Sb**	**11 00 10.4**	**+0.3**
THL	**Klokotos Trika**	**1.20**	**258**	P	**Pn**	**10 59 54.0**	**-0.7**
SRS	**Serrai**	**1.29**	**2**	P	**Pn**	**10 59 55.3**	**-0.7**
SRS				S	**Sb**	**11 00 12.9**	**0.0**
KNT	**Kendrikon**	**1.42**	**340**	P	**Pn**	**10 59 57.6**	**-0.1**
KNT				S	**Sn**	**11 00 16.0**	**-0.3**
NVR	**Nevrokopi**	**1.54**	**9**	P	**Pn**	**10 59 59.8**	**+0.3**

IDC 18 11:00:42.1±5.0, 48°.57N×33°.68E, h0km, mb3.4/1, mbtmp3.5/1, ML2.5/1, Error ellipse: s-maj=63.0km s-min=36.9km az=12.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**3.60**	**308**	Pn	Pn	11 01 40.3	+1.2
	0.4nm,0.3s,baz=137,slow=11,SNR=1.8						
AKASG				Lg	Lg	11 02 35.6	
	2.6nm,0.3s,baz=127,slow=29,SNR=7.6						
I31KZ	**AKTYUBINSK INF**	**15.91**	**74**	I	I	12 39 10.0	
	baz=272,slow=338,SNR=0.6						
ARCES	**ARCESS Array B**	**21.40**	**352**	P	P	11 05 30.0	-1.1
	1.6nm,0.9s,baz=165,slow=11,SNR=1.1						
	1.6nm,0.9s						

KRSZO 18 11:00:57.5±1.3, 48°.13N×17°.00E, h0km, M2.3/2, Error ellipse: s-maj=9.2km s-min=4.7km az=140.0, Suspected Explosion. locality : Hainburg Austria description : suspected quarry blast, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZST	**Bratislava**	**0.09**	**46**	Pg	Pg	11 01 00.7	+1.4
ZST				Lg	Lg	11 01 01.5	
ZST	**Bratislava**	**0.09**	**46**	*e*Pg	Pg	11 01 00.8	+1.5
ZST				*e*Sg	Sg	11 01 02.8	+2.3
MODS	**Modra-Piesok**	**0.30**	**37**	Pg	Pg	11 01 04.5	+1.1
MODS				Lg	Lg	11 01 08.0	
MODS	**Modra-Piesok**	**0.30**	**37**	*e*Pg	Pg	11 01 04.4	+1.0
MODS				*e*Sg	Sg	11 01 08.9	+1.6
CONA	**Conrad Observa**	**0.79**	**256**	Lg	Lg	11 01 23.6	
JAVC	**Velka Javorina**	**0.85**	**31**	*e*Pg	Pn	11 01 18.1	+1.2
KRUC	**Moravsky**	**1.01**	**337**	*e*Pg	Pb	11 01 17.7	-0.3
KRUC				*e*Sg	Sg	11 01 30.0	-0.1
KRUC	**Moravsky**	**1.01**	**337**	Pn	Pb	11 01 17.9	0.0
KRUC				Lg	Lg	11 01 31.5	
VRAC	**Vranov**	**1.21**	**347**	*e*Pg	Pg	11 01 19.8	-0.9
VRAC	**Vranov**	**1.21**	**347**	Lg	Lg	11 01 37.2	
VYHS	**Vyhne**	**1.28**	**73**	Lg	Lg	11 01 40.9	
ARSA	**Arzberg**	**1.33**	**229**	Pg	Pn	11 01 23.8	+0.4
ARSA				Lg	Lg	11 01 42.9	

*IDC **18** 11:36:41.5±1.4, 30°.42N×57°.46E, h0km, mb3.7/9, mbtmp3.7/10, ML3.1/1, Error ellipse: s-maj=34.1km s-min=22.9km az=147.0*
*TEH **18** 11:36:42.7, 30°.68N×57°.43E, h8km±32km, ML3.8*
ISC 18 11:36:44.0±1.2, 30°.62N±0°.05×57°.41E±0°.04, h9km±8km, n34, σ1s05/37, mb3.7/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.17**	**225**	Pg	**Pg**	**11 36 47.8**	**0.0**
KRM1				Sg	**Sg**	**11 36 51.0**	**+0.6**
CHMN	**Cheshme madani**	**0.77**	**172**	Pg	**Pb**	**11 36 58.6**	**-1.2**
ZRDN	**Zarand Kerman**	**0.83**	**295**	Pg	**Pb**	**11 36 59.3**	**-1.4**
KHGB	**Koh Gabri**	**0.84**	**253**	Pg	**Pb**	**11 36 59.5**	**-1.5**
TVBK	**TV Kerman**	**0.85**	**222**	Pg	**Pb**	**11 37 00.6**	**-0.5**
NGRK	**Negar Kerman**	**1.14**	**211**	Pg	**Pg**	**11 37 05.9**	**-0.1**
KBAM	**BAM**	**1.74**	**148**	Pg	**Pb**	**11 37 15.4**	**-0.7**
IBAF	**Bafgh**	**1.85**	**302**	Pn	**Pn**	**11 37 17.5**	**+1.4**
BSRN	**Basiran**	**1.99**	**47**	Pn	**Pn**	**11 37 18.0**	**+0.1**
IKOO	**Kooshah**	**2.25**	**37**	Pn	**Pn**	**11 37 21.8**	**+0.1**
NHDN	**Nehbandan**	**2.39**	**71**	Pn	**Pn**	**11 37 24.4**	**+0.9**
TPRV	**Parvadeh(Tabas**	**2.48**	**346**	Pn	**Pn**	**11 37 24.7**	**+0.1**
IMEH	**Mehriz**	**2.52**	**288**	Pn	**Pn**	**11 37 26.2**	**+0.8**
ITEG	**Tejag**	**2.54**	**26**	Pn	**Pn**	**11 37 25.3**	**-0.2**
KHNJ	**Kahnooj**	**2.68**	**174**	Pn	**Pb**	**11 37 29.7**	**-2.5**
TKDS	**Koohdasht(Taba**	**2.99**	**355**	Pn	**Pn**	**11 37 31.7**	**0.0**
AFRZ	**Afriz**	**3.11**	**26**	Pn	**Pn**	**11 37 33.8**	**+0.4**
ZHDN	**Zahedan**	**3.19**	**112**	Pn	**Pn**	**11 37 35.6**	**+1.1**
TNSJ	**Nastanj**	**3.40**	**349**	Pn	**Pn**	**11 37 37.8**	**+0.5**
SHRT	**Shahrakht**	**3.88**	**38**	Pn	**Pn**	**11 37 44.4**	**+0.5**
ANAR	**Anarak**	**4.04**	**310**	Pn	**Pn**	**11 37 46.4**	**+0.2**
SBZV	**Sabzevar**	**5.75**	**2**	Pn	**Pn**	**11 38 10.2**	**+0.5**
JRKH	**Jarkhoshk**	**5.82**	**24**	Pn	**Pn**	**11 38 11.7**	**+1.2**
GEYT	**Alibeck**	**7.31**	**4**	Pn	**Pn**	**11 38 32.6**	**+1.6**
	0.3nm,0.3s,baz=211,slow=20,SNR=2.1						
GEYT				Sn	**Sn**	**11 39 54.8**	**+0.7**
	1.2nm,0.3s,baz=84,slow=26,SNR=2.1						
	0.9nm,0.3s						
WSAR	**Wadi Sarin**	**7.44**	**171**	Pn	**Pn**	**11 38 35.1**	**+2.4**
	1.2nm,0.3s,baz=15,slow=11,SNR=10						
WSAR				Sn	**Sn**	**11 39 58.5**	**+1.3**
	0.2nm,0.3s,baz=248,slow=19,SNR=1.0						
AKTO	**Aktyubinsk**	**19.80**	**1**	P	**P**	**11 41 15.4**	**+0.9**
	1.4nm,0.6s,baz=179,slow=8.7,SNR=4.7						
	1.4nm,0.6s						
BRTR	**Keskin Array B**	**21.40**	**302**	P	**P**	**11 41 32.8**	**+0.6**
	1.6nm,0.8s,baz=108,slow=7.9,SNR=4.5						
	1.6nm,0.8s						
BVAR	**Borovoye Array**	**24.31**	**19**	P	**P**	**11 42 02.3**	**+0.6**
	3.2nm,0.6s,baz=201,slow=7.5,SNR=17						
	3.2nm,0.6s						
MKAR	**Makanchi Array**	**25.10**	**43**	P	**P**	**11 42 09.3**	**+0.3**
	0.5nm,0.6s,baz=228,slow=9.2,SNR=9.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**25.45**	**32**	P	**P**	**11 42 12.1**	**0.0**
	0.9nm,0.3s,baz=231,slow=8.8,SNR=2.7						
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**30.55**	**32**	P	**P**	**11 42 57.7**	**+0.1**
	0.6nm,0.5s,baz=238,slow=10.0,SNR=2.5						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**54.02**	**264**	P	**P**	**11 46 07.9**	**-0.9**
	1.1nm,0.7s,baz=57,slow=8.1,SNR=7.6						
	1.1nm,0.7s						
YKA	**Yellowknife Ar**	**86.99**	**356**	P	**P**	**11 49 29.1**	**-0.2**
	0.1nm,0.8s,baz=356,slow=4.6,SNR=3.6						
	0.1nm,0.8s						
ASAR	**Alice Springs**	**91.02**	**117**	P	**P**	**11 49 47.4**	**-1.6**
	0.3nm,0.7s,baz=310,slow=4.9,SNR=4.6						
	0.3nm,0.7s						

*CNRM **18** 11:42:59.1, 36°.10N×7°.74W, h5km, ML2.5*
*IGIL **18** 11:43:03.0, 36°.25N×7°.64W, h0km, ML2.0*
*MDD **18** 11:43:03.0±0.6, 36°.23N×7°.64W, h5km±3km, mb_Lg3.0/13, Error ellipse: s-maj=5.0km s-min=2.9km az=36.0*
*SFS **18** 11:43:03.9, 36°.10N×7°.74W, h36km, ML3.3/15, ML3.2/15, MLv3.2/15*
*INMG **18** 11:43:04.3±1.1, 36°.25N×7°.62W, h4km±3km, ML2.5, Error ellipse: s-maj=4.0km s-min=2.2km az=35.0*
ISC 18 11:43:02.2±1.4, 36.20N±0°.04×7.63W±0°.03, h17km±9km, n74, σ1s28/112, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**1.07**	**347**	*e*P	**Pg**	**11 43 23.1**	**+0.2**
PBDV				*e*S	**Sg**	**11 43 37.0**	**+0.2**
PBDV				A	A	11 43 44.9	
	34nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.07**	**347**	P	**Pg**	**11 43 22.9**	**+0.1**
PBDV				S	**Sg**	**11 43 37.2**	**+0.4**

PBAR					*e*S	**Sn**	**11 44 00.7**	**+0.2**
PBAR					A	A	11 44 05.4	
	comp=N,13nm,0.5s							
PBAR	**Barrancos**	**2.02**	**13**	P		**Pn**	**11 43 36.5**	**+1.0**
PBAR					S	**Sn**	**11 44 01.3**	**+0.8**
PNCL	**Nicolau / Gran**	**2.04**	**340**	*e*P		**Pn**	**11 43 36.3**	**+0.5**
PNCL					*e*S	**Sn**	**11 44 01.6**	**+0.8**
PNCL					A	A	11 44 10.3	
	comp=N,27nm,0.4s							
PNCL	**Nicolau / Gran**	**2.04**	**340**	P		**Pn**	**11 43 36.2**	**+0.5**
EMIJ	**Mijas**	**2.33**	**80**	Pn		**Pn**	**11 43 40.1**	**+0.3**
EMIJ					Sn	**Sn**	**11 44 08.2**	**+0.1**
EVO	**Evora**	**2.35**	**353**	*e*S		**Sn**	**11 44 08.6**	**+0.2**
EVO					A	A	11 44 23.0	
	comp=N,20nm,0.1s							
EVO	**Evora**	**2.35**	**353**	P		**Pn**	**11 43 39.9**	**-0.1**
ECAB	**El Cabril**	**2.57**	**43**	P		**Pn**	**11 43 44.8**	**+1.7**
ECAB					S	**Sn**	**11 44 14.3**	**+0.2**
ECAB	**El Cabril**	**2.57**	**43**	Pn		**Pn**	**11 43 44.3**	**+1.2**
ECAB					Sn	**Sn**	**11 44 13.6**	**-0.4**
ECAB					*i* Vmb_Lg		11 44 16.6	
PESTR	**Estremoz**	**2.66**	**1**	*e*P		**Pn**	**11 43 45.2**	**+0.9**
PESTR					*e*S	**Sn**	**11 44 16.1**	**-0.1**
PESTR					A	A	11 44 19.9	
	comp=N,3.8nm,0.3s							
PESTR	**Estremoz**	**2.66**	**1**	P		**Pn**	**11 43 44.6**	**+0.3**
PESTR	**Estremoz**	**2.66**	**1**	P		**Pn**	**11 43 45.1**	**+0.7**
PESTR	**Estremoz**	**2.66**	**1**	S		**Sn**	**11 44 18.3**	**+2.1**
PACT	**Alcochete**	**2.73**	**340**	*e*P		**Pn**	**11 43 46.6**	**+1.3**
PACT					*e*S	**Sn**	**11 44 20.7**	**+2.7**
PACT					A	A	11 44 36.9	
	comp=N,42nm,0.2s							
ZHG	**ZHG**	**2.87**	**163**	P		**Pn**	**11 43 46.9**	**-0.3**
ZHG	**ZHG**	**2.87**	**163**	S		**Sn**	**11 44 21.6**	**+0.2**
PMTG	**Montargil**	**2.90**	**351**	*e*P		**Pn**	**11 43 48.5**	**+0.9**
PMTG					*e*S	**Sn**	**11 44 22.0**	**-0.1**
PMTG					A	A	11 44 41.6	
	comp=N,11nm,1.3s							
EGOR	**Sierra Gorda,**	**2.97**	**71**	Pn		**Pn**	**11 43 49.1**	**+0.3**
EGOR					Sn	**Sn**	**11 44 23.0**	**-1.1**
EGOR					*i* Vmb_Lg		11 44 30.5	
PMAFR	**Mafra**	**3.05**	**335**	*e*P		**Pn**	**11 43 50.5**	**+0.9**
PMAFR					*e*S	**Sn**	**11 44 24.8**	**-0.9**
PMAFR					A	A	11 44 30.8	
	comp=N,31nm,0.6s							
PMAFR	**Mafra**	**3.05**	**335**	P		**Pn**	**11 43 50.3**	**+0.7**
PMAFR					S	**Sn**	**11 44 23.6**	**-2.1**
EADA	**Adamuz**	**3.13**	**50**	P		**Pn**	**11 43 51.9**	**+1.1**
EADA					S	**Sn**	**11 44 26.5**	**-1.3**
EADA	**Adamuz**	**3.13**	**50**	Pn		**Pn**	**11 43 52.0**	**+1.2**
EADA					Sn	**Sn**	**11 44 26.4**	**-1.5**
EADA					*i* Vmb_Lg		11 44 29.8	
PMRV	**Marv??o**	**3.23**	**3**	*e*P		**Pn**	**11 43 53.0**	**+0.9**
PMRV					*e*S	**Sn**	**11 44 29.9**	**-0.3**
PMRV					A	A	11 44 47.7	
	comp=N,7.9nm,0.5s							
ELGU	**Los Guajares,**	**3.29**	**77**	P		**Pn**	**11 43 54.6**	**+1.5**
IFR	**Ifrane**	**3.38**	**142**	P		Pn	11 43 53.0	-1.4
PSBE	**So Bento**	**3.43**	**345**	*e*P		**Pn**	**11 43 56.0**	**+1.1**
PSBE					*e*S	**Sn**	**11 44 34.6**	**-0.7**
PSBE					A	A	11 44 37.2	
	comp=N,13nm,0.5s							
EQUE	**Quentar**	**3.51**	**72**	Pn		**Pn**	**11 43 57.1**	**+1.0**
EQUE					Sn	**Sn**	**11 44 37.6**	**+0.2**
PCBR	**Castelo Branco**	**3.63**	**2**	*e*P		**Pn**	**11 43 58.8**	**+1.1**
PCBR					*e*S	**Sn**	**11 44 39.6**	**-0.6**
PCBR					A	A	11 44 43.3	
	comp=N,3.9nm,0.4s							
SRHM	**Skhour des Reh**	**3.73**	**183**	P		Pn	11 43 58.6	-0.5
PCAS	**Casmilo, Conde**	**3.91**	**350**	*e*P		**Pn**	**11 44 02.5**	**+1.1**
PCAS					*e*S	**Sn**	**11 44 45.8**	**-1.1**
EQES	**Quesada**	**3.98**	**65**	Pn		**Pn**	**11 44 03.6**	**+1.0**
EQES					Sn	**Sn**	**11 44 48.1**	**-0.9**
EQES					*i* Vmb_Lg		11 44 52.4	
EPLA	**Plasencia**	**4.04**	**17**	Pn		**Pn**	**11 44 04.4**	**+1.0**
EPLA					Sn	**Sn**	**11 44 48.8**	**-1.6**
EPLA					*i* Vmb_Lg		11 44 52.9	
MD31	**MD31**	**4.08**	**144**	P		**Pn**	**11 44 03.5**	**-0.5**
MD31	**MD31**	**4.08**	**144**	S		Sn	11 44 47.6	-3.8
MTE	**Manteigas**	**4.19**	**1**	*e*P		**Pn**	**11 44 06.4**	**+1.0**
MTE					*e*S	**Sn**	**11 44 52.6**	**-1.4**
MDT	**Midelt**	**4.20**	**143**	P		Pn	11 44 04.8	-0.8
PAB	**San Pablo**	**4.23**	**37**	Pn		**Pn**	**11 44 07.5**	**+1.5**
PAB					Sn	**Sn**	**11 44 51.6**	**-3.3**
PAB					*i* Vmb_Lg		11 44 54.6	
MVO	**Moncorvo**	**4.98**	**5**	*e*P		**Pn**	**11 44 17.0**	**+0.8**
MVO					*e*S	**Sn**	**11 45 11.5**	**-1.9**
MVO					A	A	11 45 14.7	
	comp=N,6.0nm,0.2s							
OUK	**Oukaimeden**	**4.99**	**182**	P		Pn	11 44 15.0	-1.6
POLO	**Lamas de Olo**	**5.17**	**359**	*e*P		**Pn**	**11 44 19.7**	**+0.9**
POLO					*e*S	**Sn**	**11 45 15.5**	**-2.6**
POLO					A	A	11 45 18.3	
	comp=N,2.3nm,0.7s							
GUD	**Guadarrama**	**5.21**	**31**	Pn		**Pn**	**11 44 21.2**	**+1.8**
GUD					Sn	**Sn**	**11 45 17.5**	**-1.7**
TIO	**Tiouine**	**5.27**	**177**	P		Pn	11 44 18.7	-1.7
OUZM	**OUZ**	**5.33**	**172**	P		Pn	11 44 20.2	-1.0
UCM	**Universidad Co**	**5.36**	**39**	P		**Pn**	**11 44 23.4**	**+2.0**
ETOB	**Tobarra**	**5.42**	**61**	P		**Pn**	**11 44 22.7**	**+0.4**
ETOB					S	**Sn**	**11 45 21.8**	**-2.5**
ETOB	**Tobarra**	**5.42**	**61**	Pn		**Pn**	**11 44 22.3**	**0.0**
ETOB					Sn	**Sn**	**11 45 21.6**	**-2.8**
ETOB					*i* Vmb_Lg		11 45 31.1	
PBRG	**Braganca**	**5.64**	**7**	*e*P		**Pn**	**11 44 25.6**	**+0.3**
PBRG					*e*S	**Sn**	**11 45 26.8**	**-2.8**
TTIG	**Tnine Tigouga,**	**5.68**	**187**	P		Pn	11 44 21.1	-4.9
PGAV	**Gavieira, Arco**	**5.78**	**355**	*e*P		**Pn**	**11 44 27.4**	**+0.2**
PGAV					*e*S	**Sn**	**11 45 30.3**	**-2.8**
EVIV	**Cofrentes, Val**	**6.00**	**57**	Pn		**Pn**	**11 44 30.8**	**+0.5**
EVIV					Sn	**Sn**	**11 45 35.9**	**-2.6**
EMOS	**Mosqueruela**	**7.00**	**51**	Pn		**Pn**	**11 44 46.0**	**+1.9**
EMOS					Sn	**Sn**	**11 45 59.6**	**-3.7**

IDC ***18*** *11:48:04.9±3.8, 18°.95N×145°.28E, h0km, mb3.7/6, mbtmp3.7/6, MS4.4/3, Error ellipse: s-maj=99.3km s-min=47.6km az=11.0*

ISC 18 11:48:06.7±3.7, 19°.0N±0°.6×145°.3E±0°.4, h10km, n10, σ1§46/6, mb3.8/6, MS4.5/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSRS	**Korea Array**	**23.87**	**324**	P		**P**	**11 53 20.8**	**+0.4**
	0.8nm,0.6s,baz=152,slow=8.8,SNR=4.3							
	0.8nm,0.6s							
KLR	**Kul'dur**	**32.08**	**343**	P		**P**	**11 54 33.3**	**-0.5**
	1.4nm,0.4s,baz=148,slow=12,SNR=8.1							
	1.4nm,0.4s							
TIXI	**Tiksi**	**53.53**	**354**	LR		LR	12 20 38.8	
	comp=Z,14nm,20.1s,baz=18,slow=36							
MKAR	**Makanchi Array**	**58.00**	**314**	P		**P**	**11 58 00.8**	**+1.1**
	0.2nm,0.4s,baz=98,slow=6.5,SNR=2.0							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**66.02**	**320**	P		**P**	**11 58 53.5**	**+0.1**
	0.7nm,0.4s,baz=103,slow=6.2,SNR=5.4							
	0.7nm,0.4s							
INK	**Inuvik**	**69.23**	**23**	LR		LR	12 29 18.8	
	comp=Z,202nm,19.5s,baz=176,slow=36							
YKA	**Yellowknife Ar**	**77.88**	**28**	P		**P**	**12 00 05.3**	**+0.9**
	0.2nm,0.6s,baz=298,slow=5.5,SNR=4.0							
	0.2nm,0.6s							
FINES	**FINESS Array B**	**86.46**	**335**	P		**P**	**12 00 47.5**	**-2.0**
	1.3nm,0.9s,baz=38,slow=5.3,SNR=5.6							
	1.3nm,0.9s							
FRB	**Frobisher Bay**	**93.41**	**14**	LR		LR	12 44 45.1	
	comp=Z,195nm,20.0s,baz=321,slow=36							
SFJD	**Kangerlussuaq**	**93.44**	**6**	LR		LR	12 42 51.3	
	comp=Z,249nm,20.8s,baz=326,slow=35							

DNK 18 12:04:03.4±1.7, 55°.55N×13°.31E, h14km±5km, ML1.9, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LUNU	**Lund**	**0.12**	**41**	*i* P		Pg	12 04 06.0	-0.7
LUNU					*i* S	Sg	12 04 09.3	+0.4
LUNU	**Lund**	**0.12**	**41**	P		Pg	12 04 07.0	+0.4
LUNU					S	Sg	12 04 09.4	+0.5
BJUU	**Bjuv**	**0.55**	**343**	P		Pn	12 04 16.4	-0.6
DEL	**Delary**	**0.98**	**18**	*e*P		Pb	12 04 20.4	-1.8
DEL					*e*S	Sb	12 04 34.9	-0.1
DEL	**Delary**	**0.98**	**18**	P		Pb	12 04 21.9	-0.3
BSD	**Bornholm Skovb**	**1.01**	**115**	*i* P		Pb	12 04 22.0	-0.8
BSD					*i* S	Sb	12 04 35.0	-0.8
BSD					IAML		12 04 43.8	
	comp=Z,12nm,0.8s							
BLEU	**Blekinge**	**1.60**	**61**	*e*P		Pn	12 04 30.6	-0.7
BLEU					*e*S	Sn	12 04 51.0	-0.8
BLEU	**Blekinge**	**1.60**	**61**	P		Pn	12 04 30.9	-0.4
VXJU	**Vaexsjoe**	**1.65**	**33**	P		Pb	12 04 33.2	-0.5

BJI ***18*** *12:08:44.4±0.0, 52°.48N×153°.95E, h429km, mb5.0/85, mB5.0/66*

KRSC ***18*** *12:08:50.8±1.0, 52°.23N×153°.27E, h491km±15km, Ml5.8, Felt [II-III] at kordon Kronoki.*

MOS ***18*** *12:08:52.6±0.8, 52°.46N×153°.01E, h470km, mb5.0/111, Error ellipse: s-maj=5.2km s-min=3.6km az=91.9*

NEIC ***18*** *12:08:53.5, 52°.54N×152°.99E, h480km*

NEIC ***18*** *12:08:53.5, 52°.54N×152°.99E, h480km, Moment Tensor Solution. Duration: 3§9 Moment tensor: Scale 10^17Nm; Mrr0.38; Mθθ1.04; Mϕϕ-1.43; Mrθ2.35; Mθϕ-4.84; Mϕr-0.94; Fault plane solution: M◎5.58000×10^17 NP1:φ◎80.79000°, δ78.99000°, λ156.91000°. NP2:φ◎175.44000°, δ67.36000°, λ11.94000°. Principal axes: T 5.8842, Plg24.0000°, Azm36.0000°; N -0.6033, Plg65.0000°, Azm237.0000°; P -5.2810, Plg8.0000°, Azm130.0000°;*

NEIC ***18*** *12:08:53.9±1.4, 52°.52N±0°.10×153°.0E±0°.1, h466km±3km, mb5.1/692, Mwb5.7/29, Mww5.8/32 Error ellipse: s-maj=15.2km s-min=8.8km az=150.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.54; Mθθ1.33; Mϕϕ-1.87; Mrθ1.93; Mθϕ-4.09; Mϕr-1.15; Fault plane solution: M◎4.95000×10^17 NP1:φ◎76.41000°, δ73.40000°, λ159.99000°. NP2:φ◎172.35000°, δ70.86000°, λ17.60000°. Principal axes: T 5.1957, Plg26.0000°, Azm34.0000°; N -0.5338, Plg64.0000°, Azm218.0000°; P -4.6620, Plg2.0000°, Azm125.0000°;*

NEIC ***18*** *12:08:54.4, 52°.51N×153°.02E, h472km*

IDC ***18*** *12:08:54.1±0.4, 52°.52N×153°.01E, h473km±4km, mb4.4/44, mbtmp5.3/52, Error ellipse: s-maj=6.6km s-min=5.7km az=154.0*

GCMT ***18*** *12:08:55.9±0.1, 52°.62N±0°.01×153°.01E±0°.02, h470km±1km, MW5.8/137, Moment Tensor Solution. s137,c253; s56,c61; Duration: 1§9 Moment tensor: Scale 10^17Nm; Mrr0.24±.05; Mθθ1.69±.09; Mϕϕ-1.94±.09; Mrθ2.21±.09; Mθϕ-5.51±.07; Mϕr-0.88±.09; Best double couple: M◎6.25600×10^17 NP1:φ◎79.00000°, δ80.00000°, λ161.00000°. NP2:φ◎173.00000°, δ72.00000°, λ11.00000°. Principal axes: T 6.5270, Plg20.0000°, Azm35.0000°; N -0.5500, Plg69.0000°, Azm232.0000°; P -5.9850, Plg6.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 18 12:08:53.2±0.3, 52°.42N±0°.03×153°.00E±0°.03, h466km±2km, h465km:pP-P, n1687, σ1§24/1812, mb5.1/561, 38C-44D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PAU	**Pauzhetka**	**2.55**	**111**	PN		**P**	**12 09 59.3**	**+1.0**
PAU					S	**S**	**12 10 51.2**	**-0.1**
PAU	**Pauzhetka**	**2.55**	**111**	*i* P		**P**	**12 09 59.3**	**+1.0**
PAU					*e*S	**S**	**12 10 51.2**	**-0.1**
SKR	**Severo-Kuril's**	**2.61**	**131**	*e*PN		**P**	**12 09 58.1**	**-0.7**
SKR					*e*S	**S**	**12 10 49.7**	**-2.3**
SKR					pmax	pmax		
	comp=Z,2μm,0.8s							
SKR					smax	smax		
	comp=N,3μm,0.7s							
SKR					smax	smax		
	comp=E,5μm,0.8s							
SKR					MLR	MLR		
	comp=Z,2μm,10.0s							
SKR	**Severo-Kuril's**	**2.61**	**131**	*e*P		**P**	**12 09 58.0**	**-0.8**
SKR					*e*S	**S**	**12 10 50.4**	**-1.6**
PEA0B	**Petropavlovsk-**	**2.94**	**75**	P		**P**	**12 10 00.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**2.94**	**75**	*d* PN		**P**	**12 10 00.7**	**-0.2**
PETK	**Petropavlovsk-**	**2.94**	**75**	P		**P**	**12 10 00.0**	**-0.9**
PETK	**Petropavlovsk-**	**2.94**	**75**	P		**P**	**12 10 00.6**	**-0.3**
	comp=Z,996nm,0.8s,baz=287,slow=2.1,SNR=527							
PETK					S	**S**	**12 10 57.1**	**+0.9**
	comp=Z,117nm,0.8s,baz=291,slow=6.0,SNR=1.4							
ASAK	**Asacha**	**3.00**	**89**	PN		**P**	**12 10 01.5**	**0.0**
ASAK	**Asacha**	**3.00**	**89**	*e*P		**P**	**12 10 01.5**	**0.0**
GRL	**Gorelyy**	**3.11**	**86**	PN		**P**	**12 10 02.6**	**+0.3**
GRL	**Gorelyy**	**3.11**	**86**	*i* P		**P**	**12 10 02.6**	**+0.3**
KRMR	**Karymshinskiy**	**3.15**	**80**	PN		**P**	**12 10 02.4**	**-0.1**
KRMR					S	**S**	**12 10 58.2**	**-0.7**
KRMR	**Karymshinskiy**	**3.15**	**80**	*i* P		**P**	**12 10 02.4**	**-0.1**
KRMR					*e*S	**S**	**12 10 58.2**	**-0.7**
MTVR	**Mutnovka**	**3.17**	**87**	PN		**P**	**12 10 02.7**	**-0.1**
MTVR	**Mutnovka**	**3.17**	**87**	*e*P		**P**	**12 10 02.7**	**-0.1**
KDTR	**Khodutka, Kamc**	**3.19**	**99**	PN		**P**	**12 10 01.4**	**-1.4**
KDTR	**Khodutka, Kamc**	**3.19**	**99**	*e*P		**P**	**12 10 01.4**	**-1.4**
GNL	**Ganaly**	**3.25**	**65**	PN		**P**	**12 10 03.2**	**-0.1**
GNL	**Ganaly**	**3.25**	**65**	*e*P		**P**	**12 10 03.2**	**-0.1**
RUS	**Russkaya**	**3.38**	**88**	PN		**P**	**12 10 03.2**	**-0.9**
RUS					S	**S**	**12 10 58.4**	**-3.6**
RUS	**Russkaya**	**3.38**	**88**	*i* P		**P**	**12 10 03.2**	**-0.9**
RUS					*e*S	**S**	**12 10 58.4**	**-3.6**
INSR	**Institute**	**3.47**	**77**	*e*P		**P**	**12 10 05.2**	**+0.4**
INSR					*e*S	**S**	**12 11 03.3**	**0.0**
PET	**Petropavlovsk**	**3.49**	**78**	P		**P**	**12 10 04.0**	**-1.0**
PET	**Petropavlovsk**	**3.49**	**78**	P		**P**	**12 10 04.9**	**-0.1**
PET	**Petropavlovsk**	**3.49**	**78**	*d* PN		**P**	**12 10 04.4**	**-0.6**
PET	**Petropavlovsk**	**3.49**	**78**	*i* P		**P**	**12 10 04.7**	**-0.3**
PET					*e*S	**S**	**12 11 02.9**	**-0.7**
KOK	**Koryaka**	**3.53**	**73**	PN		**P**	**12 10 05.7**	**+0.2**
KOK	**Koryaka**	**3.53**	**73**	*i* P		**P**	**12 10 05.7**	**+0.2**
KRX	**Arik**	**3.55**	**72**	PN		**P**	**12 10 05.8**	**+0.1**
KRX	**Arik**	**3.55**	**72**	*i* P		**P**	**12 10 05.8**	**+0.1**
DALK	**Dalny**	**3.55**	**78**	PN		**P**	**12 10 05.1**	**-0.4**
DALK					S	**S**	**12 11 02.1**	**-2.4**
DALK	**Dalny**	**3.55**	**78**	*e*P		**P**	**12 10 05.1**	**-0.4**
DALK					*e*S	**S**	**12 11 02.1**	**-2.4**
AVH	**Avacha**	**3.58**	**74**	PN		**P**	**12 10 06.4**	**+0.5**
AVH	**Avacha**	**3.58**	**74**	*e*P		**P**	**12 10 06.4**	**+0.5**
SMAR	**Somma**	**3.62**	**74**	PN		**P**	**12 10 06.5**	**+0.2**
SMAR	**Somma**	**3.62**	**74**	*i* P		**P**	**12 10 06.5**	**+0.2**
UGLR	**Uglovaya**	**3.62**	**75**	PN		**P**	**12 10 06.5**	**+0.3**
UGLR	**Uglovaya**	**3.62**	**75**	*i* P		**P**	**12 10 06.5**	**+0.3**
NLC	**Nalytchevo**	**3.93**	**76**	PN		**P**	**12 10 07.4**	**-1.1**
NLC	**Nalytchevo**	**3.93**	**76**	*e*P		**P**	**12 10 07.4**	**-1.1**
KII	**Karymskiy**	**4.20**	**65**	PN		**P**	**12 10 11.4**	**+0.3**
KII					S	**S**	**12 11 16.0**	**+1.4**
KII	**Karymskiy**	**4.20**	**65**	*e*P		**P**	**12 10 11.4**	**+0.3**
KII					*e*S	**S**	**12 11 16.0**	**+1.4**
SPN	**Mys Shipunski**	**4.32**	**78**	PN		**P**	**12 10 10.3**	**-1.7**
SPN					S	**S**	**12 11 10.4**	**-5.9**
SPN	**Mys Shipunski**	**4.32**	**78**	*e*P		**P**	**12 10 10.3**	**-1.7**
SPN					*e*S	**S**	**12 11 10.4**	**-5.9**
ESO	**Esso**	**4.85**	**41**	PN		**P**	**12 10 19.3**	**+2.5**
ESO					S	**S**	**12 11 27.6**	**+2.4**
ESO	**Esso**	**4.85**	**41**	*e*P		**P**	**12 10 19.3**	**+2.5**
ESO					*e*S	**S**	**12 11 27.6**	**+2.4**
TUMR	**Tumrok**	**5.11**	**53**	PN		**P**	**12 10 20.6**	**+1.2**
TUMR	**Tumrok**	**5.11**	**53**	*i* P		**P**	**12 10 20.6**	**+1.2**
TUMD	**Tumrok D**	**5.20**	**55**	*e*P		**P**	**12 10 21.2**	**+1.1**
TUMD					*e*S	**S**	**12 11 30.3**	**-0.8**
KMNR	**Kamenistaya**	**5.41**	**49**	PN		**P**	**12 10 22.9**	**+0.6**
KMNR	**Kamenistaya**	**5.41**	**49**	*e*P		**P**	**12 10 22.9**	**+0.6**
KOZ	**Kozyrevsk**	**5.43**	**45**	PN		**P**	**12 10 23.6**	**+1.3**
KOZ					S	**S**	**12 11 33.4**	**-1.9**
KOZ	**Kozyrevsk**	**5.43**	**45**	*e*P		**P**	**12 10 23.6**	**+1.3**
KOZ					*e*S	**S**	**12 11 33.4**	**-1.9**
KPT	**Kopyto**	**5.53**	**47**	PN		**P**	**12 10 23.9**	**+0.5**
KPT	**Kopyto**	**5.53**	**47**	*e*P		**P**	**12 10 23.9**	**+0.5**
SRDR	**Sredinnyy**	**5.54**	**43**	PN		**P**	**12 10 24.0**	**+0.6**
SRDR					S	**S**	**12 11 39.1**	**+1.9**
SRDR	**Sredinnyy**	**5.54**	**43**	*e*P		**P**	**12 10 24.0**	**+0.6**
SRDR					*e*S	**S**	**12 11 39.1**	**+1.9**
KIRR	**Kirishev**	**5.58**	**48**	PN		**P**	**12 10 24.4**	**+0.5**
KIRR	**Kirishev**	**5.58**	**48**	*e*P		**P**	**12 10 24.4**	**+0.5**
BZMR	**Bezymyannaya**	**5.63**	**48**	PN		**P**	**12 10 25.7**	**+1.2**
BZMR	**Bezymyannaya**	**5.63**	**48**	*e*P		**P**	**12 10 25.7**	**+1.2**
BZP	**Bezymyannyi-Pe**	**5.64**	**49**	*e*P		**P**	**12 10 24.9**	**+0.3**
BZWR	**Bezymyannyi-We**	**5.65**	**48**	PN		**P**	**12 10 25.6**	**+0.9**
BZWR	**Bezymyannyi-We**	**5.65**	**48**	*e*P		**P**	**12 10 25.6**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**5.73**	**49**	PN		**P**	**12 10 26.1**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**5.73**	**49**	*e*P		**P**	**12 10 26.1**	**+0.7**
ZLN	**Zelenaya**	**5.83**	**49**	PN		**P**	**12 10 27.5**	**+1.2**
ZLN	**Zelenaya**	**5.83**	**49**	*e*P		**P**	**12 10 27.5**	**+1.2**
CIRR	**Tsirk**	**5.86**	**48**	PN		**P**	**12 10 27.6**	**+0.9**
CIRR	**Tsirk**	**5.86**	**48**	*e*P		**P**	**12 10 27.6**	**+0.9**
KLY	**Klyuchi**	**5.93**	**46**	PN		**P**	**12 10 28.9**	**+1.7**
KLY					S	**S**	**12 11 46.6**	**+2.4**
KLY	**Klyuchi**	**5.93**	**46**	*e*P		**P**	**12 10 28.9**	**+1.7**
KLY					*e*S	**S**	**12 11 46.6**	**+2.4**
OKH	**Okha**	**6.18**	**285**	*d* PN		**P**	**12 10 32.1**	**+2.3**
OKH					*i* S	**S**	**12 11 46.3**	**-2.6**
OKH					pmax	pmax		
	comp=Z,4μm,7.4s							
OKH					smax	smax		
	comp=N,36μm,7.6s							
OKH					smax	smax		
	comp=E,10μm,9.1s							
OKH					MLR	MLR		
	comp=E,3μm,8.0s							
OKH					MLR	MLR		
	comp=Z,2μm,7.0s							
OKH	**Okha**	**6.18**	**285**	*e*P		**P**	**12 10 32.0**	**+2.3**
TIGL	**Tigil**	**6.27**	**29**	*e*P		**P**	**12 10 31.1**	**+0.6**
TIGL					*e*S	**S**	**12 11 51.6**	**+1.3**
BDR	**Baidarnaya**	**6.33**	**46**	PN		**P**	**12 10 32.2**	**+0.8**
BDR	**Baidarnaya**	**6.33**	**46**	*e*P		**P**	**12 10 32.2**	**+0.8**
SRKR	**Sorokina**	**6.37**	**45**	PN		**P**	**12 10 32.6**	**+0.9**
SRKR	**Sorokina**	**6.37**	**45**	*e*P		**P**	**12 10 32.6**	**+0.9**
SMKR	**Semkarok**	**6.46**	**46**	PN		**P**	**12 10 34.1**	**+1.5**
SMKR	**Semkarok**	**6.46**	**46**	*e*P		**P**	**12 10 34.1**	**+1.5**
TYV	**Tymovskoe**	**6.62**	**260**	*e*PN		**P**	**12 10 37.2**	**+2.9**
TYV					*e*S	**S**	**12 12 00.5**	**+3.3**
TYV					pmax	pmax		
	comp=Z,4μm,3.6s							
TYV					pmax	pmax		
	comp=Z,900nm,0.8s							
TYV					smax	smax		
	comp=N,50μm,3.8s							
TYV					smax	smax		
	comp=E,16μm,3.8s							
TYV					smax	smax		
	comp=N,1μm,1.8s							
TYV					smax	smax		
	comp=E,553nm,1.8s							
TYV	**Tymovskoe**	**6.62**	**260**	*e*P		**P**	**12 10 37.1**	**+2.8**
KBG	**Krutoberegovo**	**6.85**	**52**	PN		**P**	**12 10 35.4**	**-1.1**
KBG	**Krutoberegovo**	**6.85**	**52**	*e*P		**P**	**12 10 35.4**	**-1.1**
MA2	**Magadan**	**7.28**	**351**	P		**P**	**12 10 41.6**	**+0.6**
MA2	**Magadan**	**7.28**	**351**	P		**P**	**12 10 41.9**	**+0.9**
MA2	**Magadan**	**7.28**	**351**	P		**P**	**12 10 41.8**	**+0.9**
	comp=E,701nm,0.6s,baz=159,slow=9.1,SNR=389							
MA2					S	**S**	**12 12 10.8**	**+1.3**
	comp=E,4μm,1.1s,baz=152,slow=15,SNR=56							
NKL	**Nikolayevsk**	**7.51**	**280**	*e*PN		**P**	**12 10 42.1**	**-1.3**
NKL					pmax	pmax		
	comp=E,2μm,1.4s							
NKL					pmax	pmax		
	comp=N,271nm,1.1s							
NKL					pmax	pmax		
	comp=Z,4μm,1.3s							
NKL					MLR	MLR		
	comp=E,6μm,8.0s							
NKL					MLR	MLR		
	comp=N,13μm,9.0s							
NKL					MLR	MLR		
	comp=Z,10μm,10.0s							
UGL	**Uglegorsk**	**7.70**	**249**	*c* PN		**P**	**12 10 48.9**	**+3.4**
UGL					pmax	pmax		
	comp=Z,7μm,5.5s							
UGL					pmax	pmax		
	comp=N,2μm,6.0s							
UGL					pmax	pmax		
	comp=E,5μm,4.9s							
UGL					pmax	pmax		
	comp=Z,1μm,0.9s							
PALN	**Palana**	**7.75**	**28**	PN		**P**	**12 10 46.4**	**+0.5**
PALN	**Palana**	**7.75**	**28**	*i* P		**P**	**12 10 46.4**	**+0.5**
PALN					*e*S	**S**	**12 12 17.7**	**-0.8**
KUR	**Kuril'sk**	**7.95**	**207**	*c* PN		**P**	**12 10 48.1**	**-0.2**
KUR					pmax	pmax		
	comp=Z,552nm,

ERM Erimo 12.36 217 P **P** 12 11 34.8 -1.0
ERM Erimo 12.36 217 *ce*PN **P** 12 11 34.7 -1.1
ERM pmax pmax
comp=Z,263nm,1.0s
SHEM Shemya Is, Ala 12.84 80 P **P** 12 11 41.5 +0.8
comp=Z,343nm,0.5s,baz=32,slow=1.9,SNR=37
SHEM S **S** 12 14 01.0 +2.1
comp=Z,100nm,1.0s,baz=251,slow=22,SNR=5.9
TEY Ternei 13.08 242 ⇓ *e*PN **P** 12 11 45.2 +1.7
TEY *e* 12 14 03.8
TEY pmax pmax
comp=E,40nm,1.2s
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=Z,60nm,1.1s
TEY pmax pmax
comp=E,500nm,2.8s
TEY pmax pmax
comp=Z,500nm,2.8s
TEY pmax pmax
comp=N,300nm,3.3s
KLR Kul'dur 13.79 265 P **P** 12 11 52.4 +1.4
comp=N,30nm,0.5s,baz=70,slow=9.8,SNR=155
KLR S **S** 12 14 18.6 +0.8
comp=N,17nm,1.0s,baz=347,slow=14,SNR=2.0
JTM Tenmabayashi 14.21 220 **P** 12 11 53.8 -1.7
JTM Tenmabayashi 14.21 220 P **P** 12 11 53.9 -1.7
ZEA Zeya 15.50 285 *e*P **P** 12 12 08.7 -0.4
ZEA *e*S **S** 12 14 45.0 -5.9
ZEA pmax pmax
comp=N,110nm,1.9s
ZEA pmax pmax
comp=E,760nm,4.0s
ZEA pmax pmax
comp=Z,1μm,4.2s
ZEA pmax pmax
comp=N,50nm,1.3s
ZEA pmax pmax
comp=E,120nm,1.3s
ZEA smax smax
comp=E,4μm,4.9s
ZEA smax smax
comp=N,5μm,3.9s
YAK Yakutsk 15.78 317 P **P** 12 12 10.8 -1.0
YAK Yakutsk 15.78 317 *d i*P **P** 12 12 10.9 -1.0
YAK *e*S **S** 12 14 53.9 -2.1
YAK pmax pmax
comp=Z,644nm,1.1s
YAK pmax pmax
comp=E,329nm,1.3s
YAK pmax pmax
comp=N,130nm,1.4s
YAK smax smax
comp=E,9μm,2.6s
YAK smax smax
comp=N,4μm,2.2s
YAK Yakutsk 15.78 317 P **P** 12 12 11.1 -0.8
comp=N,21nm,0.9s,baz=168,slow=4.2,SNR=176
YAK S **S** 12 14 54.9 -1.0
comp=N,24nm,1.0s,baz=293,slow=22,SNR=11
HEH HeiHe 16.11 272 *e*P **P** 12 12 14.3 -1.2
HEH sP sP 12 13 59.9 -14
HEH S **S** 12 15 02.3 -0.3
HEH pmax pmax
comp=N,110nm,0.5s
HEH pmax pmax
comp=N,1μm,7.8s
USA08 Ussuriysk Arra 16.17 248 *i* P **P** 12 12 16.5 +0.2
USRK Ussuriysk Ar. 16.17 248 P **P** 12 12 15.2 -1.1
USRK Ussuriysk Ar. 16.17 248 P **P** 12 12 15.2 -1.1
USRK Ussuriysk Ar. 16.17 248 P **P** 12 12 16.3 0.0
comp=N,23nm,0.6s,baz=63,slow=9.2,SNR=26
AMKA Amchitka 16.24 83 P **P** 12 12 15.2 -1.7
JMM Marumori 16.87 215 P **P** 12 12 23.4 -0.3
JMM Marumori 16.87 215 P **P** 12 12 24.5 +0.8
BILL Bilibino 16.93 17 P **P** 12 12 22.3 -1.6
BILL Bilibino 16.93 17 *i* P **P** 12 12 22.7 -1.2
BILL pmax pmax
comp=Z,337nm,1.1s
MDJ Mudanjiang 17.30 253 P **P** 12 12 27.6 -0.5
MDJ sP sP 12 14 17.3 -10
MDJ S **S** 12 15 23.5 -1.4
MDJ PcP **PcP** 12 16 46.4 +3.6
MDJ ScP **ScP** 12 19 38.4 +5.4
MDJ pmax pmax
comp=Z,64nm,0.9s
MDJ pmax pmax
comp=Z,780nm,3.6s
MDJ Mudanjiang 17.30 253 P **P** 12 12 27.1 -1.0
MDJ Mudanjiang 17.30 253 P **P** 12 12 29.6 +1.5
MSHR Mys Shultsa 17.67 245 *e*P **P** 12 12 28.5 -3.4
BNX BinXian 17.99 258 ⇓ P **P** 12 12 34.3 -0.7
BNX sP sP 12 14 26.0 -8.5
BNX S **S** 12 15 34.4 -2.2
BNX PcP **PcP** 12 16 43.9 0.0
BNX ScP **ScP** 12 19 34.5 +0.1
BNX pmax pmax
comp=Z,87nm,0.6s
BNX pmax pmax
comp=Z,1μm,3.5s
KIWB Kanaga Island 18.28 80 P **P** 12 12 36.2 -1.4
ADK Adak 18.55 80 P **P** 12 12 38.4 -1.8
ADK Adak 18.55 80 P **P** 12 12 38.6 -1.6
ADK Adak 18.55 80 P **P** 12 12 38.4 -1.8
MJB9 Matsu-Tunnel 19.00 219 P **P** 12 12 45.7 +1.1
MAJO Matsushiro 19.00 219 P **P** 12 12 45.1 +0.6
MAJO Matsushiro 19.00 219 P **P** 12 12 45.6 +1.0
MAJO Matsushiro 19.00 219 *i* P **P** 12 12 45.2 +0.6
MAJO pmax pmax
comp=Z,554nm,1.7s
MJAR Matsushiro Arr 19.00 219 P **P** 12 12 45.2 +0.6
comp=Z,88nm,0.6s,baz=16,slow=9.9,SNR=170
MJAR ScP **ScP** 12 19 38.5 +1.6
comp=Z,3.6nm,0.9s,baz=20,slow=3.0,SNR=4.9
ATKA Atka Island 19.97 78 P **P** 12 12 52.0 -1.1
ATKA Atka Island 19.97 78 P **P** 12 12 52.0 -1.1
CN2 Changchun 20.21 256 *e*P **P** 12 12 54.6 -0.9
CN2 *e*S **S** 12 16 10.8 -1.9
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 pmax pmax
comp=Z,600nm,3.4s
INU Inuyama 20.51 220 P **P** 12 12 57.6 -0.7
INU Inuyama 20.51 220 P **P** 12 12 59.2 +0.9
JSG Sagara 20.66 217 P **P** 12 13 00.9 +1.2
HIA Hailar 21.13 275 P **P** 12 13 04.0 +0.2
GAMB Gambell 21.52 44 P **P** 12 13 06.5 -0.5
baz=255,SNR=11
GAMB S **S** 12 16 34.3 +1.3
baz=255
SPIA Saint Paul Isl 21.53 63 P **P** 12 13 07.8 +0.6
SPIA Saint Paul Isl 21.53 63 P **P** 12 13 07.3 +0.1
baz=273
P08K Saint George I 21.95 64 P **P** 12 13 10.8 -0.2
baz=275
TIXI Tiksi 22.05 340 *ce*P **P** 12 13 11.6 -0.2
TIXI pmax pmax
comp=Z,236nm,1.3s
TIXI Tiksi 22.05 340 P **P** 12 13 11.5 -0.2
comp=Z,6.5nm,0.9s,baz=152,slow=7.9,SNR=98
SNY Shenyang 22.49 254 ⇑ P **P** 12 13 17.1 +1.0
SNY S **S** 12 16 49.1 +0.2
SNY pmax pmax
comp=Z,30nm,0.7s
BOD Bodaibo 22.70 299 *e*P **P** 12 13 17.7 -0.1
BOD pmax pmax
comp=Z,99nm,1.5s
NIKH Nikolski High 22.95 73 P **P** 12 13 18.5 -1.6
NIKH Nikolski High 22.95 73 P **P** 12 13 20.1 0.0
baz=284
KS19 Wonju Array Si 23.05 240 P **P** 12 13 22.1 +1.0
KSRS Korea Array 23.05 239 P **P** 12 13 22.1 +0.9
comp=Z,26nm,0.7s,baz=44,slow=9.3,SNR=73
KSRS pP **pP** 12 14 46.5 +6.4
comp=Z,4.8nm,0.8s,baz=43,slow=10.0,SNR=2.3
KSRS PcP **PcP** 12 16 54.4 +0.6
comp=Z,2.8nm,0.8s,baz=357,slow=2.8,SNR=5.2
KSRS ScP **ScP** 12 19 46.7 -0.2
comp=Z,3.2nm,0.9s,baz=40,slow=1.1,SNR=7.7
comp=Z,26nm,0.7s
KSAR Wonju Array Be 23.08 240 P **P** 12 13 22.1 +0.6
KSAR Wonju Array Be 23.08 240 P **P** 12 13 22.1 +0.6
JMN Monobe 23.20 224 P **P** 12 13 23.7 +1.1
JMN Monobe 23.20 224 P **P** 12 13 24.0 +1.4

TNA Tin City 23.56 41 P **P** 12 13 25.8 +0.4
baz=255,SNR=76
TNA S **S** 12 17 07.1 +2.0
baz=255
M11K Mekoryuk 23.60 54 P **P** 12 13 26.1 +0.4
baz=269,SNR=8.9
M11K S **S** 12 17 09.1 +3.2
baz=269
INCN Inchon 23.72 241 P **P** 12 13 27.8 +0.6
INCN Inchon 23.72 241 P **P** 12 13 27.8 +0.6
INCN Inchon 23.72 241 P **P** 12 13 28.1 +0.9
UNV Unalaska Valle 24.11 70 P **P** 12 13 29.1 -1.3
TJN Taejon 24.16 239 *ce*P **P** 12 13 32.1 +1.0
F14K Arctic Creek 24.18 42 P **P** 12 13 31.7 +0.7
baz=257,SNR=128
F14K S **S** 12 17 16.0 +1.0
baz=257
ANM Nome 24.40 44 P **P** 12 13 33.5 +0.6
baz=260,SNR=60
ANM S **S** 12 17 20.1 +1.6
baz=260
AKUT Akutan 24.47 69 P **P** 12 13 32.6 -1.0
F15K North Star Dit 24.91 41 P **P** 12 13 37.9 +0.5
baz=259,SNR=44
F15K S **S** 12 17 27.1 +0.5
baz=259
J14K Nanvaranak Lak 24.98 49 P **P** 12 13 38.2 +0.1
baz=266
J14K S **S** 12 17 28.6 +1.0
baz=266
M13K Dall Lake 25.01 54 P **P** 12 13 38.7 +0.3
baz=271
G15K Niukluk 25.04 43 P **P** 12 13 38.5 -0.1
baz=261
G15K S **S** 12 17 30.6 +2.2
baz=261
JNU Nakatsue 25.04 228 P **P** 12 13 39.8 +0.8
JNU Nakatsue 25.04 228 P **P** 12 13 39.9 +0.9
C16K Lisburne Hills 25.31 35 P **P** 12 13 40.7 -0.1
baz=252
C16K S **S** 12 17 32.3 -0.2
baz=252
L14K Kuka Creek 25.33 52 P **P** 12 13 41.8 +0.6
baz=270
L14K S **S** 12 17 34.7 +1.6
baz=270
DL2 Dalian 25.52 251 P **P** 12 13 42.8 -0.3
DL2 S **S** 12 17 38.1 +1.5
DL2 pmax pmax
comp=Z,55nm,1.1s
DL2 pmax pmax
comp=Z,310nm,4.5s
FALS False Pass 25.65 67 P **P** 12 13 44.3 +0.3
FALS False Pass 25.65 67 P **P** 12 13 44.7 +0.6
baz=283
M14K Bethel 25.69 53 P **P** 12 13 45.1 +0.8
baz=272,SNR=25
M14K S **S** 12 17 39.6 +0.8
baz=272
H16K Elim 25.75 44 P **P** 12 13 45.0 +0.2
baz=263,SNR=118
H16K S **S** 12 17 41.2 +1.7
baz=263
G16K Koyuk River 25.80 43 P **P** 12 13 45.3 +0.1
baz=262,SNR=62
G16K S **S** 12 17 41.7 +1.3
baz=262
XLT XiLinHaoTe 25.82 266 ⇓ *i*P **P** 12 13 46.9 +1.1
XLT sP sP 12 15 53.8 -5.5
XLT S **S** 12 17 41.3 -0.1
XLT ScP **ScP** 12 19 57.3 +2.6
XLT pmax pmax
comp=Z,51nm,0.6s
XLT pmax pmax
comp=Z,170nm,4.3s
N14K Kuskokwak Cree 25.86 55 P **P** 12 13 46.3 +0.4
baz=274
N14K S **S** 12 17 43.8 +2.3
baz=274
K15K Wolf Creek Mou 25.90 50 P **P** 12 13 46.5 +0.3
baz=269,SNR=44
K15K S **S** 12 17 44.8 +2.8
baz=269
L15K Ungalak Mounta 25.91 51 P **P** 12 13 46.4 +0.1
baz=270
L15K S **S** 12 17 43.1 +0.9
baz=270
O14K Tigyukauivet M 26.13 57 P **P** 12 13 49.1 +0.9
baz=275
O14K S **S** 12 17 47.8 +2.1
baz=275
C17K DeLong Mountai 26.13 35 P **P** 12 13 48.6 +0.4
baz=254
C17K S **S** 12 17 45.3 -0.3
baz=254
E17K Hotham Inlet 26.30 39 P **P** 12 13 49.8 0.0
baz=259,SNR=523
E17K S **S** 12 17 49.1 +0.8
baz=259
M15K Kasigluk River 26.32 53 P **P** 12 13 50.1 +0.1
baz=273,SNR=21
M15K S **S** 12 17 50.0 +1.3
baz=273
I17K Unalakleet 26.35 46 P **P** 12 13 50.6 +0.5
baz=266
I17K S **S** 12 17 50.1 +1.1
baz=266
J16K Anvik River 26.36 48 P **P** 12 13 50.6 +0.4
baz=268,SNR=18
J16K S **S** 12 17 50.5 +1.3
baz=268
F17K Baldwin Pennin 26.41 40 P **P** 12 13 51.0 +0.4
baz=261,SNR=115
F17K S **S** 12 17 51.1 +1.2
baz=261
G17K Kiwalik Mounta 26.52 43 P **P** 12 13 52.1 +0.5
baz=263,SNR=294
G17K S **S** 12 17 52.4 +0.6
baz=263
JCJ Chichijima 26.56 202 P **P** 12 13 54.3 +1.8
N15K Kwethluk River 26.64 55 P **P** 12 13 53.2 +0.3
baz=274,SNR=27
N15K S **S** 12 17 55.3 +1.5
baz=274
H17K Granite Mounta 26.77 44 P **P** 12 13 54.2 +0.4
baz=265,SNR=154
H17K S **S** 12 17 57.0 +1.4
baz=265
E18K Tukpahlearik C 26.84 38 P **P** 12 13 54.8 +0.4
baz=259
E18K S **S** 12 17 57.0 +0.3
baz=259
B18K Kokolik River 26.85 34 P **P** 12 13 54.8 +0.3
baz=254
B18K S **S** 12 17 56.3 -0.6
baz=254
L16K Owhat River 26.87 51 P **P** 12 13 54.7 0.0
baz=272,SNR=33
O15K Ungalikthiuk R 26.87 57 P **P** 12 13 54.8 -0.1
baz=277,SNR=11
O15K S **S** 12 17 58.4 +1.0
baz=277
C18K Utukok River 26.88 36 P **P** 12 13 54.5 -0.3
baz=256
M16K Timber Creek 27.15 53 P **P** 12 13 57.4 +0.2
baz=274,SNR=18
M16K S **S** 12 18 02.1 +0.5
baz=274
SDPT Sand Point 27.18 65 P **P** 12 13 56.9 -0.7
SDPT Sand Point 27.18 65 P **P** 12 13 57.8 +0.2
baz=284
N16K Nishlik Lake 27.28 54 P **P** 12 13 58.8 +0.4
baz=275
N16K S **S** 12 18 05.4 +1.7
baz=275
A19K Wainwright 27.33 32 P **P** 12 13 58.8 0.0
baz=254
A19K S **S** 12 18 03.4 -0.9
baz=254
G18K Tagagawik 27.39 42 P **P** 12 13 59.2 -0.1
baz=264
G18K S **S** 12 18 06.4 +1.2
baz=264
K17K Iditarod 27.40 49 P **P** 12 13 59.8 +0.4
baz=271,SNR=45
K17K S **S** 12 18 06.7 +1.2
baz=271

L17K Donlin 27.41 50 P **P** 12 14 00.0 +0.5
baz=272
L17K S **S** 12 18 07.9 +2.2
baz=272
H18K Honhosa River 27.44 43 P **P** 12 14 00.2 +0.4
baz=266,SNR=233
H18K S **S** 12 18 08.1 +1.9
baz=266
C19K Lookout Ridge 27.55 35 P **P** 12 14 00.9 +0.1
baz=257
O16K Kokwok River B 27.70 56 P **P** 12 14 02.4 +0.2
baz=277
O16K S **S** 12 18 10.0 -0.3
baz=277
CHNA Chernabura Isl 27.80 66 P **P** 12 14 02.1 -0.9
baz=285,SNR=11
CNBA Chernabura Isl 27.81 66 P **P** 12 14 01.7 -1.4
P16K Nushagak River 27.83 57 P **P** 12 14 03.6 +0.4
baz=278
F19K Shaleruckik Mo 27.84 40 P **P** 12 14 03.1 -0.1
baz=264,SNR=161
F19K S **S** 12 18 10.9 -1.4
baz=264
M17K Holitna River 27.86 52 P **P** 12 14 04.2 +0.8
baz=274,SNR=43
M17K S **S** 12 18 15.9 +3.2
baz=274
D19K Kuna River 27.96 36 P **P** 12 14 04.2 -0.1
baz=260
BJI Beijing 28.00 259 P **P** 12 14 05.8 +0.8
BJI S **S** 12 18 13.4 -2.0
BJI pmax pmax
comp=Z,200nm,4.1s
G19K Purcell Mounta 28.05 41 P **P** 12 14 04.8 -0.3
baz=266,SNR=166
G19K S **S** 12 18 16.0 +0.4
baz=266
GCSA Galena City Sc 28.05 44 P **P** 12 14 04.7 -0.3
baz=268,SNR=100
N17K Nushagak Hills 28.05 53 P **P** 12 14 05.5 +0.3
baz=276,SNR=15
N17K S **S** 12 18 17.6 +1.9
baz=276
CHGN Chignik 28.10 63 P **P** 12 14 07.6 +1.9
baz=283
J18K Innoko River 28.11 47 P **P** 12 14 06.0 +0.3
baz=271,SNR=100
J18K S **S** 12 18 16.4 -0.3
baz=271
E19K Redstone River 28.13 39 P **P** 12 14 06.1 +0.3
baz=263,SNR=582
E19K S **S** 12 18 16.7 -0.1
baz=263
L18K Granite Mounta 28.16 50 P **P** 12 14 07.1 +0.9
baz=273
L18K S **S** 12 18 18.3 +0.8
baz=273
O17K Koliganek Bris 28.18 55 P **P** 12 14 06.9 +0.6
baz=278,SNR=34
O17K S **S** 12 18 18.3 +0.5
baz=278
H19K Roundabout Mou 28.27 43 P **P** 12 14 07.4 +0.4
baz=267,SNR=356
H19K S **S** 12 18 20.4 +1.5
baz=267
R16K Pilot Point 28.29 60 S **S** 12 18 22.3 +2.8
baz=281
TTA Tatalina 28.44 48 P **P** 12 14 08.9 +0.2
TTA Tatalina 28.44 48 P **P** 12 14 08.8 +0.2
baz=272,SNR=97
TTA S **S** 12 18 23.4 +1.4
baz=272
Q16K King Salmon 28.57 57 P **P** 12 14 09.8 +0.1
baz=280,SNR=14
Q16K S **S** 12 18 24.4 +0.6
baz=280
J19K Poorman 28.59 46 P **P** 12 14 09.8 -0.1
baz=271,SNR=90
J19K S **S** 12 18 23.3 -0.8
baz=271
P17K Kvichak River 28.60 56 P **P** 12 14 10.2 +0.2
baz=279,SNR=25
P17K S **S** 12 18 24.6 +0.4
baz=279
M18K Stony River 28.62 51 P **P** 12 14 11.1 +0.9
baz=275,SNR=42
M18K S **S** 12 18 26.9 +2.3
baz=275
E20K Nigu River 28.62 37 P **P** 12 14 10.3 +0.1
baz=262
F20K Avaraart Lake 28.66 40 P **P** 12 14 10.4 -0.1
baz=265
F20K S **S** 12 18 24.9 -0.2
baz=265
N18K Kilae Creek 28.67 53 P **P** 12 14 11.5 +0.9
baz=277,SNR=31
N18K S **S** 12 18 29.0 +3.5
baz=277
SVW2 Sparrevohn 28.78 52 P **P** 12 14 12.5 +0.9
H20K Anotleneega Mo 28.92 43 P **P** 12 14 12.8 +0.1
baz=269,SNR=132
H20K S **S** 12 18 28.5 -0.7
baz=269
L19K White Mountain 29.02 50 P **P** 12 14 13.6 -0.1
baz=275
L19K S **S** 12 18 30.9 0.0
baz=275
Q17K Contact Creek 29.04 58 P **P** 12 14 13.9 -0.1
baz=281,SNR=22
Q17K S **S** 12 18 31.8 +0.3
baz=281
A21K Barrow 29.05 31 P **P** 12 14 13.5 -0.3
baz=256,SNR=52
A21K S **S** 12 18 29.8 -1.2
baz=256
I20K Naaghedeneel 29.08 44 P **P** 12 14 14.6 +0.5
baz=270
I20K S **S** 12 18 33.5 +1.9
baz=270
O18K Koktuh Hills 29.12 55 P **P** 12 14 14.9 +0.4
O18K Koktuh Hills 29.12 55 P **P** 12 14 15.4 +0.8
baz=279,SNR=19
O18K S **S** 12 18 33.2 +0.8
baz=279
P18K Big Mountain, 29.18 56 P **P** 12 14 15.5 +0.4
P18K Big Mountain, 29.18 56 P **P** 12 14 15.6 +0.4
baz=280,SNR=22
P18K S **S** 12 18 34.3 +0.9
baz=280
J20K Nowinta River 29.23 46 P **P** 12 14 15.9 +0.4
baz=272,SNR=153
J20K S **S** 12 18 35.7 +1.6
baz=272
C21K Knifeblade Rid 29.26 35 P **P** 12 14 16.1 +0.5
baz=262
C21K S **S** 12 18 34.1 -0.3
baz=262
K20K Telida 29.30 47 P **P** 12 14 16.5 +0.4
baz=273
K20K S **S** 12 18 36.3 +1.1
baz=273
IRK Irkutsk 29.33 289 *e*P **P** 12 14 16.6 +0.1
N19K Bonanza Creek 29.34 53 P **P** 12 14 16.9 +0.3
baz=278,SNR=31
N19K S **S** 12 18 37.3 +1.2
baz=278
IMAR Indian Mountai 29.40 42 P **P** 12 14 16.8 -0.1
ULN Ulaanbaatar 29.40 280 P **P** 12 14 17.6 +0.2
ULN Ulaanbaatar 29.40 280 *i* P **P** 12 14 17.8 +0.4
ULN pmax pmax
comp=Z,17nm,0.9s
ULN Ulaanbaatar 29.40 280 P **P** 12 14 18.4 +1.0
ULN Ulaanbaatar 29.40 280 P **P** 12 14 17.8 +0.4
comp=Z,73nm,1.2s,comp=Z,10μm
L20K Farewell, AK 29.45 49 P **P** 12 14 17.2 -0.2
baz=275,SNR=49
L20K S **S** 12 18 38.7 +1.1
baz=275
E21K Killik River 29.46 37 P **P** 12 14 17.5 0.0
baz=264
A22K Sinclair Lake 29.50 32 P **P** 12 14 17.7 0.0
baz=259
O19K Port Alsworth 29.51 54 P **P** 12 14 18.5 +0.6
baz=279,SNR=19
O19K S **S** 12 18 40.1 +1.7
baz=279
G21K Allakaket 29.51 41 P **P** 12 14 18.0 +0.1
baz=268

F21K **Alatna River** 29.55 39 P P 12 14 18.2 0.0
baz=267
CHIR **Chirikof Islan** 29.74 63 P P 12 14 20.1 +0.2
baz=286
H21K **Melozitna Rive** 29.78 43 P P 12 14 20.3 +0.1
baz=270,SNR=137
SONM **Songino Array** 29.81 280 P P 12 14 20.9 0.0
SONM **Songino Array** 29.81 280 P P 12 14 20.9 0.0
SONM **Songino Array** 29.81 280 P P 12 14 21.9 +1.0
comp=Z,2.6nm,0.4s,baz=59,slow=8.1,SNR=19
SONM PP PP 12 15 45.8 -0.8
comp=Z,15nm,1.1s,baz=61,slow=7.0,SNR=13
SONM PcP PcP 12 17 10.4 +0.5
comp=Z,4.1nm,0.7s,baz=72,slow=2.1,SNR=4.5
SONM ScP ScP 12 20 06.9 -0.2
comp=Z,20nm,1.2s,baz=83,slow=2.2,SNR=12
comp=Z,2.6nm,0.4s
M20K **Styx River** 29.86 50 P P 12 14 21.9 +0.9
baz=277,SNR=57
M20K S S 12 18 45.2 +1.2
baz=277
B22K **Teshekpuk Lake** 29.90 33 P P 12 14 21.2 0.0
baz=262
B22K S S 12 18 43.7 -0.5
baz=262
R18K **Karluk** 29.93 59 P P 12 14 21.2 -0.4
baz=283
TIA **Tai'an** 29.97 252 ⇓P P 12 14 22.0 -0.2
TIA PP PP 12 15 44.8 -3.4
TIA S S 12 18 45.3 -0.8
TIA SS SS 12 21 27.6 -1.9
TIA pmax pmax
comp=Z,48nm,0.7s
D22K **Ayikyak River** 29.98 36 P P 12 14 22.2 +0.3
baz=265
CHUM **Lake Minchumin** 30.05 46 P P 12 14 23.0 +0.4
baz=274,SNR=105
CHUM S S 12 18 49.3 +2.5
baz=274
Q19K **Cape Douglas,** 30.07 56 P P 12 14 22.7 -0.1
Q19K **Cape Douglas,** 30.07 56 P P 12 14 22.8 0.0
baz=282,SNR=17
Q19K S S 12 18 48.2 +1.1
baz=282
F22K **John River** 30.07 39 P P 12 14 23.0 +0.2
baz=268
I21K **Tanana** 30.14 44 P P 12 14 23.6 +0.3
baz=272,SNR=80
I21K S S 12 18 49.4 +1.4
baz=272
P19K **Oil Pt** 30.14 55 P P 12 14 24.1 +0.7
P19K **Oil Pt** 30.14 55 P P 12 14 23.8 +0.4
baz=281,SNR=8.8
P19K S S 12 18 48.8 +0.6
baz=281
PPLA **Purkeypile** 30.19 48 P P 12 14 24.6 +0.6
baz=276,SNR=74
PPLA S S 12 18 49.1 -0.1
baz=276
CAST **Castle Rocks** 30.19 47 P P 12 14 24.1 +0.2
CAST **Castle Rocks** 30.19 47 P P 12 14 24.5 +0.7
baz=275,SNR=108
CAST S S 12 18 49.9 +1.0
baz=275
RSO **Redoubt South** 30.24 53 P P 12 14 24.9 +0.4
E22K **Anaktuvuk Pass** 30.24 38 P P 12 14 24.3 +0.1
baz=267
E22K S S 12 18 48.8 -0.8
baz=267
HHC **Hu-ho-hao-te** 30.30 264 *e*P P 12 14 25.9 +0.7
HHC PP PP 12 15 52.1 +0.4
HHC S S 12 18 53.5 +2.1
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,290nm,7.0s
G22K **Bettles** 30.32 40 P P 12 14 24.7 -0.2
baz=269
G22K S S 12 18 50.1 -0.6
baz=269
SII **Sitkinak Islan** 30.32 61 P P 12 14 24.7 -0.3
SII **Sitkinak Islan** 30.32 61 P P 12 14 25.2 +0.2
baz=285
O20K **Slope Mountain** 30.36 54 P P 12 14 25.6 +0.1
baz=280,SNR=18
O20K S S 12 18 53.2 +1.4
baz=280
H22K **Ishtalitna Cre** 30.37 42 P P 12 14 25.9 +0.5
baz=271,SNR=279
H22K S S 12 18 53.0 +1.3
baz=271
N20K **Mount Spurr** 30.39 51 P P 12 14 26.4 +0.8
baz=279,SNR=51
N20K S S 12 18 55.0 +2.8
baz=279
HNS **HongShan** 30.58 256 ⇓P P 12 14 28.5 +1.0
HNS S S 12 18 56.3 +0.8
HNS sS sS 12 21 26.4 +0.4
HNS pmax pmax
comp=Z,100nm,1.3s
HNS pmax pmax
comp=Z,520nm,3.7s
ZAK **Zakamensk** 30.59 286 *e*P P 12 14 28.6 +1.0
ZAK *e* 12 15 54.4
ZAK pmax pmax
comp=Z,71nm,1.3s
ZAK pmax pmax
comp=Z,34nm,1.4s
SKT **Skwentna** 30.60 50 P P 12 14 27.5 +0.1
SKT **Skwentna** 30.60 50 P P 12 14 27.6 +0.2
baz=278,SNR=33
SKT S S 12 18 56.5 +1.2
baz=278
BPAW **Bear Paw Mtn.** 30.62 46 P P 12 14 27.5 -0.1
BPAW **Bear Paw Mtn.** 30.62 46 P P 12 14 27.6 +0.1
baz=275,SNR=126
BPAW S S 12 18 56.3 +0.7
baz=275
OHAK **Old Harbor** 30.63 59 P P 12 14 27.1 -0.5
OHAK **Old Harbor** 30.63 59 P P 12 14 26.7 -0.9
OHAK **Old Harbor** 30.63 59 P P 12 14 27.3 -0.4
baz=285,SNR=17
MLY **Manley** 30.67 44 P P 12 14 27.7 -0.3
MLY **Manley** 30.67 44 P P 12 14 28.4 +0.4
baz=273,SNR=134
MLY S S 12 18 57.2 +0.9
baz=273
KTH **Kantishna Hill** 30.70 47 P P 12 14 28.3 0.0
Q20K **Shuyak Island** 30.77 57 P P 12 14 28.0 -0.9
baz=283,SNR=6.9
Q20K S S 12 18 56.5 -1.4
baz=283
C23K **Itkillik River** 30.79 34 P P 12 14 28.7 -0.2
C23K **Itkillik River** 30.79 34 P P 12 14 28.6 -0.3
baz=265,SNR=284
C23K S S 12 18 57.9 -0.1
baz=265
COLD **Coldfoot** 30.83 39 P P 12 14 29.1 -0.2
baz=270,SNR=300
COLD S S 12 18 57.7 -0.9
baz=270
KDAK **Kodiak Island** 30.86 58 P P 12 14 28.7 -1.0
KDAK IAmb IAmb 12 14 31.7
comp=Z,120nm,0.9s
KDAK **Kodiak Island** 30.86 58 *i* P P 12 14 29.5 -0.1
KDAK pmax pmax
comp=Z,188nm,0.9s
KDAK **Kodiak Island** 30.86 58 P P 12 14 29.0 -0.6
baz=284
KDAK **Kodiak Island** 30.86 58 P P 12 14 29.1 -0.5
KDAK ScP ScP 12 20 10.7 +0.5
G23K **Bananza Creek** 30.90 40 P P 12 14 29.6 -0.4
baz=271
G23K S S 12 18 59.2 -0.7
baz=271
HOM **Homer** 30.93 54 P P 12 14 30.2 0.0
HOM **Homer** 30.93 54 P P 12 14 29.7 -0.5
baz=282,SNR=9.0
HOM S S 12 18 59.7 -0.7
baz=282
CAPN **Captain Cook N** 30.96 52 P P 12 14 31.8 +1.3
CAPN **Captain Cook N** 30.96 52 P P 12 14 30.6 +0.1
baz=280,SNR=5.9
TRF **Thorofare Moun** 30.99 47 P P 12 14 30.9 0.0
TRF **Thorofare Moun** 30.99 47 P P 12 14 30.9 0.0
baz=276,SNR=103
TRF S S 12 19 02.0 +0.4
baz=276
SUA **Susitna One** 31.04 51 P P 12 14 30.7 -0.7
SUA **Susitna One** 31.04 51 P P 12 14 31.0 -0.4
baz=279,SNR=34
SUA S S 12 19 03.9 +1.5
baz=279
E23K **Chandalar** 31.06 38 P P 12 14 31.5 +0.1
baz=269
E23K S S 12 19 02.1 -0.3
baz=269
CUT **Chulitna** 31.13 49 P P 12 14 31.6 -0.3
CUT **Chulitna** 31.13 49 P P 12 14 31.8 -0.1
baz=278,SNR=102
CUT S S 12 19 02.9 -0.4
baz=278
CNPM **China Poot** 31.16 55 P P 12 14 30.6 -1.6
I23K **Minto, Yukon-K** 31.24 43 P P 12 14 32.6 -0.3
baz=274,SNR=249
I23K S S 12 19 06.2 +1.2
baz=274
FIS **Fire Island** 31.35 51 P P 12 14 34.7 +0.9
BRSE **Bradley Lake S** 31.36 54 P P 12 14 33.7 -0.2
baz=282,SNR=22
BRSE S S 12 19 06.1 -1.0
baz=282
D24K **Happy Valley** 31.38 36 P P 12 14 33.9 -0.1
baz=268
D24K S S 12 19 07.3 +0.2
baz=268
BTO **Baotou** 31.39 265 *e*P P 12 14 32.9 -1.7
BTO pP pP 12 15 57.8 +2.0
BTO PP PP 12 16 03.9 +0.9
BTO sP sP 12 16 45.6 -3.8
BTO S S 12 19 10.0 +1.9
BTO pmax pmax
comp=Z,60nm,0.9s
BTO pmax pmax
comp=Z,340nm,5.8s
NEA2 **Nenana** 31.41 45 P P 12 14 34.0 -0.3
baz=276,SNR=214
NEA2 S S 12 19 08.0 +0.3
baz=276
MOY **Mondy** 31.43 290 *e*P P 12 14 35.8 +1.0
MOY *e* 12 16 04.6
MOY pmax pmax
comp=Z,148nm,1.4s
C24K **Franklin Bluff** 31.45 35 P P 12 14 34.3 -0.2
baz=267
C24K S S 12 19 07.6 -0.5
baz=267
E24K **Your Creek** 31.48 38 P P 12 14 34.9 -0.1
baz=270
SSE **Sheshan** 31.49 240 P P 12 14 35.3 -0.1
SSE S S 12 19 10.4 +0.8
SSE sS sS 12 21 38.9 -1.6
SSE pmax pmax
comp=Z,13nm,0.9s
SSE pmax pmax
comp=Z,380nm,4.3s
MCK **McKinley** 31.56 46 P P 12 14 35.5 -0.1
baz=277,SNR=122
MCK S S 12 19 09.8 -0.3
baz=277
JOW **Kunigami** 31.57 226 P P 12 14 36.6 +0.4
RC01 **Rabbit Creek A** 31.59 51 P P 12 14 35.2 -0.7
baz=281,SNR=29
RC01 S S 12 19 10.4 -0.1
baz=281
O22K **Cooper Landing** 31.71 52 P P 12 14 36.8 -0.1
baz=282,SNR=42
O22K S S 12 19 12.6 +0.3
baz=282
F24K **Squaw Lake** 31.72 39 P P 12 14 36.7 -0.3
baz=272
TIY **Taiyuan** 31.73 259 *e*P P 12 14 38.4 +0.9
TIY S S 12 19 15.4 +2.0
TIY sS sS 12 21 41.8 -2.5
TIY SS SS 12 21 55.5 -7.5
TIY pmax pmax
comp=Z,28nm,0.5s
TIY pmax pmax
comp=Z,200nm,5.1s
PMR **Palmer** 31.79 50 P P 12 14 37.1 -0.4
PMR **Palmer** 31.79 50 P P 12 14 37.2 -0.3
baz=280,SNR=32
PMR S S 12 19 11.8 -1.6
baz=280
H24K **Noodor Dome** 31.81 42 P P 12 14 38.1 +0.3
baz=274
H24K S S 12 19 14.6 +0.7
baz=274
WAT1 **Susitna Watana** 31.85 48 P P 12 14 37.7 -0.5
baz=279
WAT1 S S 12 19 13.5 -1.2
baz=279
COLA **College** 31.91 44 P P 12 14 38.9 +0.4
COLA **College** 31.91 44 P P 12 14 38.9 +0.4
COLA **College** 31.91 44 *c* *i*P P 12 14 39.2 +0.7
COLA pmax pmax
comp=Z,174nm,1.4s
COLA **College** 31.91 44 P P 12 14 38.4 -0.1
baz=276
COLA S S 12 19 15.4 +0.2
baz=276
COLA **College** 31.91 44 P P 12 14 38.9 +0.4
G24K **Hadweenzic Riv** 31.92 40 P P 12 14 39.4 +0.8
baz=273,SNR=303
G24K S S 12 19 17.4 +2.0
baz=273
SEW **Seward** 31.92 53 P P 12 14 38.0 -0.7
baz=282,SNR=20
SEW S S 12 19 15.5 0.0
baz=282
NJ2 **Nanjing** 32.01 244 ⇑*i*P P 12 14 40.8 +0.9
NJ2 PP PP 12 16 08.0 -1.5
NJ2 sP sP 12 16 52.5 -2.4
NJ2 S S 12 19 20.8 +3.1
NJ2 SS SS 12 22 01.4 -7.1
NJ2 pmax pmax
comp=Z,89nm,0.7s
NJ2 pmax pmax
comp=Z,340nm,3.8s
POKR **Poker Plat Res** 32.06 43 P P 12 14 39.9 0.0
baz=276,SNR=153
POKR S S 12 19 18.6 +1.0
baz=276
SML **Sawmill** 32.12 50 P P 12 14 40.7 +0.2
baz=281,SNR=131
SML S S 12 19 17.7 -1.1
baz=281
KNK **Knik Glacier** 32.14 50 P P 12 14 40.7 +0.1
baz=281,SNR=119
KNK S S 12 19 18.1 -0.9
baz=281
D25K **Kavik River** 32.26 35 P P 12 14 41.4 -0.2
baz=270
WAT6 **Susitna Watana** 32.26 48 P P 12 14 40.8 -1.0
baz=280,SNR=62
WAT6 S S 12 19 20.5 -0.6
baz=280
ILAR **Eielson Array** 32.33 44 P P 12 14 41.8 -0.4
comp=Z,113nm,0.8s,baz=248,slow=4.8,SNR=558
ILAR S S 12 19 18.6 -3.1
comp=Z,2.7nm,1.1s,baz=315,slow=11,SNR=1.2
comp=Z,113nm,0.8s
HDA **Harding Lake** 32.34 45 P P 12 14 41.7 -0.7
baz=278,SNR=112
HDA S S 12 19 21.4 -0.6
baz=278
HDA S S 12 19 21.4 -0.6
baz=278
DHY **Denali Highway** 32.35 47 P P 12 14 42.2 -0.4
baz=279,SNR=122
DHY S S 12 19 22.0 -0.4
baz=279
M23K **Glacier View** 32.41 50 P P 12 14 42.4 -0.5
baz=281,SNR=52
M23K S S 12 19 22.6 -0.5
baz=281
G25K **Bearman Lake** 32.46 40 P P 12 14 43.8 +0.6
baz=274
F25K **Christian Rive** 32.58 39 P P 12 14 44.4 0.0
baz=274,SNR=177
F25K S S 12 19 26.5 +0.9
baz=274
E25K **Arctic Village** 32.58 38 P P 12 14 44.5 +0.2
E25K **Arctic Village** 32.58 38 P P 12 14 44.3 0.0
baz=273,SNR=192
E25K S S 12 19 25.4 -0.1
baz=273
SCM **Sheep Creek Mo** 32.59 50 P P 12 14 44.6 +0.1
baz=281,SNR=68
SCM S S 12 19 25.7 -0.2
baz=281
C26K **Camden Bay** 32.77 34 P P 12 14 46.3 +0.5
baz=271
PRP **Porcupine Dome** 32.81 43 P P 12 14 46.4 -0.1
baz=277,SNR=607
PRP S S 12 19 30.5 +1.1
baz=277
K24K **Donnelly Dome** 32.94 46 P P 12 14 46.6 -0.8
baz=279,SNR=148
K24K S S 12 19 30.0 -1.2
baz=279
P23K **Montague Islan** 32.95 53 P P 12 14 47.1 -0.4
baz=284,SNR=19
P23K S S 12 19 32.1 +0.8
baz=284
J25K **Salcha River,** 32.99 44 P P 12 14 46.6 -1.3
baz=278,SNR=124
J25K S S 12 19 30.7 -1.4
baz=278
BMAR **Burnt Mountain** 33.00 39 P P 12 14 48.8 +0.9
M24K **Tolsona, Glenn** 33.07 49 P P 12 14 49.1 +0.6
baz=282,SNR=37
M24K S S 12 19 33.6 +0.4
baz=282
F26K **Sheenjek River** 33.14 38 P P 12 14 49.8 +0.7
baz=275,SNR=242
F26K S S 12 19 35.1 +0.9
baz=275
PAX **Paxson** 33.22 47 P P 12 14 49.4 -0.5
baz=281,SNR=54
PAX S S 12 19 35.7 0.0
baz=281
KLU **Klutina** 33.31 50 P P 12 14 50.8 +0.1
baz=283,SNR=68
KLU S S 12 19 37.8 +0.8
baz=283
G26K **Porcupine Rive** 33.35 40 P P 12 14 51.5 +0.6
baz=276
RIDG **Independent Ri** 33.36 46 P P 12 14 50.1 -0.9
baz=280,SNR=139
RIDG S S 12 19 36.8 -0.8
baz=280
HARP **HAARP** 33.48 48 P P 12 14 52.1 +0.1
baz=282,SNR=24
Q23K **Middleton Isla** 33.60 54 P P 12 14 53.3 +0.2
baz=286
EYAK **Cordova Ski Ar** 33.61 52 P P 12 14 53.4 +0.3
EYAK **Cordova Ski Ar** 33.61 52 P P 12 14 53.2 +0.1
baz=284,SNR=17
EYAK S S 12 19 42.3 +1.0
baz=284
SCRK **Sand Creek** 33.69 45 P P 12 14 53.1 -0.8
baz=280,SNR=277
SCRK S S 12 19 41.5 -1.3
baz=280
J26L **Joseph Creek** 33.78 44 IAmb IAmb 12 14 57.4
comp=Z,60nm,0.7s
J26L **Joseph Creek** 33.78 44 P P 12 14 53.8 -0.8
baz=280,SNR=79
J26L S S 12 19 42.8 -1.3
baz=280
I26K **Coal Creek Min** 33.82 43 IAmb IAmb 12 14 59.2
comp=Z,60nm,0.9s
I26K **Coal Creek Min** 33.82 43 P P 12 14 53.8 -1.0
baz=279
I26K S S 12 19 43.9 -0.6
baz=279
LYN **LuoYang** 33.85 254 ⇓P P 12 14 56.1 +0.6
LYN pP pP 12 16 20.4 +2.7
LYN PP PP 12 16 28.4 -0.3
LYN S S 12 19 46.6 +1.0
LYN sS sS 12 22 17.9 +0.4
LYN pmax pmax
comp=Z,190nm,0.6s
LYN pmax pmax
comp=Z,810nm,3.5s
N25K **Chitina, Valde** 33.91 49 P P 12 14 55.8 +0.1
baz=284,SNR=57
N25K S S 12 19 47.2 +1.2
baz=284
NRIK **Noril'sk** 33.96 325 P P 12 14 56.2 +0.2
NRIK **Noril'sk** 33.96 325 *ce*P P 12 14 56.6 +0.6
NRIK pmax pmax
comp=Z,43nm,1.4s
NRIK **Noril'sk** 33.96 325 P P 12 14 55.8 -0.2
comp=Z,11nm,0.5s,baz=91,slow=9.4,SNR=19
NRIK pP pP 12 16 20.1 +1.7
comp=Z,6.4nm,0.6s,baz=79,slow=10,SNR=2.1
NRIK S S 12 19 45.0 -1.6
comp=Z,19nm,0.8s,baz=266,slow=21,SNR=11
comp=Z,11nm,0.5s
MENT **Mentasta** 34.01 47 IAmb IAmb 12 15 01.3
comp=Z,122nm,1.0s
MENT **Mentasta** 34.01 47 P P 12 14 57.2 +0.7
BMRM **Bremner River** 34.05 51 P P 12 14 57.1 +0.2
baz=284,SNR=74
BMRM S S 12 19 49.8 +1.6
baz=284
E27K **Coleen River** 34.06 37 P P 12 14 57.0 +0.2
baz=276
L26K **Log Cabin Wild** 34.16 47 P P 12 14 57.6 -0.1
baz=282,SNR=49
D27M **Malcolm River** 34.18 35 P P 12 14 58.0 +0.1
baz=275
G27K **Doyon Strip** 34.20 40 P P 12 14 58.8 +0.7
baz=278
H27K **Steamboat Moun** 34.34 41 P P 12 15 00.3 +1.0
baz=279,SNR=284
I27K **Kandik River** 34.41 42 P P 12 14 59.7 -0.1
baz=280,SNR=170
I27K S S 12 19 53.2 -0.3
baz=280
KAIM **Kayak Island** 34.41 52 P P 12 15 00.6 +0.7
baz=286,SNR=6.3
M26K **Nabesna, AK** 34.46 48 P P 12 15 01.3 +0.9
baz=284
K27K **Chicken** 34.51 45 P P 12 15 00.8 +0.2
baz=282
VRDI **Verde Repeater** 34.53 50 IAmb IAmb 12 15 04.6
comp=Z,95nm,0.9s
JMJ **Miyako jima 2** 34.65 228 P P 12 15 03.6 +1.3
EGAK **Eagle** 34.75 43 P P 12 15 02.2 -0.5
baz=282,SNR=238
EGAK S S 12 19 58.5 0.0
baz=282
E28M **Babbage River** 34.77 36 P P 12 15 02.6 -0.2
baz=277,SNR=236
E28M S S 12 19 58.8 +0.1
baz=277
F28M **Old Crow** 34.78 38 P P 12 15 03.3 +0.5
baz=278,SNR=216
F28M S S 12 19 57.3 -1.6
baz=278
L27K **Beaver Creek,** 34.83 46 P P 12 15 04.0 +0.6
baz=284
L27K S S 12 20 01.1 +1.3
baz=284
D28M **Stokes Point** 34.96 35 P P 12 15 04.5 +0.1
baz=277
M27K **Edge Creek, AK** 34.97 48 P P 12 15 05.5 +0.7
baz=284,SNR=209
M27K S S 12 20 04.0 +1.7
baz=284
I28M **Miner Creek** 35.12 42 P P 12 15 06.5 +0.6
baz=282
I28M S S 12 20 05.7 +1.3
baz=282
E29M **Blow River** 35.39 37 P P 12 15 08.8 +0.8
baz=279
BVCY **Beaver Creek** 35.42 47 P P 12 15 09.0 +0.6
baz=285,SNR=79
BVCY S S 12 20 10.4 +1.7
baz=285
CTG **Chitna Glacier** 35.59 50 P P 12 15 10.9 +1.0
baz=287
CTG S S 12 20 12.7 +1.1
baz=287
G29M **Pine Creek** 35.60 39 P P 12 15 10.8 +1.0
baz=281
H29M **Whitestone** 35.60 40 P P 12 15 10.3 +0.5
baz=282
DAWY **Dawson** 35.65 44 IAmb IAmb 12 15 12.9

comp=Z,70nm,1.0s
DAWY Dawson 35.65 44 P **P** 12 15 10.0 -0.3
baz=284,SNR=56
DAWY S **S** 12 20 13.7 +1.4
baz=284
WHN Wuhan 35.67 248⇑ *i*P **P** 12 15 11.5 +0.7
WHN PP **PP** 12 16 45.0 +0.1
WHN S **S** 12 20 10.6 -2.6
WHN sS **sS** 12 22 46.0 -0.1
WHN pmax pmax
comp=Z,130nm,0.7s
YUK3 Moose Creek 35.77 48 P **P** 12 15 11.5 0.0
baz=286,SNR=73
YUK3 S **S** 12 20 14.7 +0.3
baz=286
I29M Ogilvie Camp, 35.81 42 P **P** 12 15 11.6 0.0
baz=283,SNR=288
I29M S **S** 12 20 14.6 +0.1
baz=283
J29N Klondike Camp 36.06 43 IAmb IAmb 12 15 30.7
comp=Z,36nm,0.8s
J29N Klondike Camp 36.06 43 P **P** 12 15 13.4 -0.3
baz=284,SNR=23
EPYK Eagle Plains 36.22 40 P **P** 12 15 15.2 +0.2
baz=283,SNR=120
EPYK S **S** 12 20 22.1 +1.4
baz=283
YUK8 Steele Glacier 36.23 49 P **P** 12 15 15.8 +0.4
baz=287,SNR=24
G30M tAoh Zraii Nji 36.28 39 P **P** 12 15 15.5 0.0
baz=282
G30M S **S** 12 20 22.9 +1.2
baz=282
XAN Xi'an 36.31 257 ⇓P **P** 12 15 16.3 +0.1
XAN S **S** 12 20 21.1 -1.7
XAN pmax pmax
comp=Z,36nm,0.8s
XAN pmax pmax
comp=Z,240nm,3.5s
XAN Xi'an 36.31 257 P **P** 12 15 16.1 -0.1
F30M Barrier River 36.32 38 P **P** 12 15 16.6 +0.9
baz=282
F30M S **S** 12 20 23.4 +1.4
baz=282
PINM Pinnacle 36.37 51 P **P** 12 15 16.6 +0.3
baz=289,SNR=38
PINM S **S** 12 20 23.8 +0.7
baz=289
L29M L29M 36.44 46 P **P** 12 15 18.1 +1.1
baz=286,SNR=295
L29M S **S** 12 20 24.3 +0.2
baz=286
M29M Somme Creek 36.48 47 IAmb IAmb 12 15 21.4
comp=Z,83nm,0.8s
M29M Somme Creek 36.48 47 P **P** 12 15 18.4 +1.1
baz=287,SNR=95
K29M Barlow Dome 36.51 44 IAmb IAmb 12 15 21.2
comp=Z,68nm,0.8s
K29M Barlow Dome 36.51 44 P **P** 12 15 17.8 +0.3
baz=286
YHNB Yeheng 36.62 233 P **P** 12 15 20.8 +1.9
I30M Mount Dempster 36.63 42 P **P** 12 15 18.8 +0.3
baz=285,SNR=231
I30M S **S** 12 20 28.5 +1.5
baz=285
YUK4 Talbot Arm 36.73 49 P **P** 12 15 19.7 +0.2
baz=288,SNR=45
J30M Hart River 36.82 43 P **P** 12 15 20.5 +0.4
baz=286
J30M S **S** 12 20 29.0 -0.8
baz=286
PNL Peninsula 36.91 51 P **P** 12 15 20.9 +0.1
PNL Peninsula 36.91 51 P **P** 12 15 20.9 +0.1
baz=290,SNR=7.3
NACB Ninganchiao 36.93 232 P **P** 12 15 21.9 +0.5
YUK6 Outpost Mounta 36.98 49 P **P** 12 15 21.7 +0.1
baz=289,SNR=23
INK Inuvik 37.00 36 P **P** 12 15 21.6 +0.2
baz=283,SNR=130
G31M Satah River 37.04 39 P **P** 12 15 21.7 0.0
baz=284,SNR=104
G31M S **S** 12 20 32.1 -0.7
baz=284
O29M Mount Kennedy 37.09 50 IAmb IAmb 12 15 26.3
comp=Z,61nm,0.9s
O29M Mount Kennedy 37.09 50 P **P** 12 15 22.9 +0.5
baz=289,SNR=21
F31M Tsiigehtchic 37.12 38 P **P** 12 15 22.4 +0.1
baz=284,SNR=266
F31M S **S** 12 20 33.6 -0.4
baz=284
M30M Minto, Yukon 37.19 46 P **P** 12 15 24.3 +1.3
baz=288,SNR=110
MAYO Mayo, Yukon 37.27 44 P **P** 12 15 24.7 +1.0
baz=287,SNR=150
H31M Peel River 37.30 40 P **P** 12 15 23.9 0.0
baz=285
H31M S **S** 12 20 35.6 -1.2
baz=285
N30M Aishikik Lake 37.40 48 P **P** 12 15 25.5 +0.7
baz=289,SNR=25
HYT Haines Junctio 37.42 49 P **P** 12 15 26.2 +1.1
baz=290,SNR=151
P29M Windy Craggy 37.72 51 P **P** 12 15 28.9 +1.5
baz=291
YULB Yu-li 37.74 232 P **P** 12 15 28.4 +0.4
P30M Million Dollar 37.91 50 P **P** 12 15 30.6 +1.6
baz=291,SNR=65
N31M Braeburn, Yuko 37.99 48 P **P** 12 15 30.8 +1.2
baz=290,SNR=124
N31M S **S** 12 20 50.4 +3.2
baz=290
LZH Lanzhou 38.00 264 ⇓P **P** 12 15 30.9 +0.7
LZH ScP **ScP** 12 20 38.3 +1.7
LZH S **S** 12 20 45.8 -2.4
LZH sS sS 12 23 19.8 -2.7
LZH pmax pmax
comp=Z,81nm,1.5s
LZH pmax pmax
comp=Z,250nm,5.2s
O30N Mendenhall 38.09 49 P **P** 12 15 31.7 +1.2
baz=290,SNR=84
O30N S **S** 12 20 53.4 +4.7
baz=290
TPUB Ta-pu 38.14 233 IAmb IAmb 12 15 53.4
comp=Z,104nm,1.5s
TPUB Ta-pu 38.14 233 P **P** 12 15 31.9 +0.6
CNSH ChangSha 38.27 247 ⇓P **P** 12 15 30.8 -1.5
CNSH pP **pP** 12 16 52.6 -3.9
CNSH S **S** 12 20 49.6 -2.3
CNSH pmax pmax
comp=Z,390nm,4.4s
TWG Pinlang 38.33 232 IAmb IAmb 12 15 42.5
comp=Z,37nm,0.7s
GTA Gaotai 38.35 272 P **P** 12 15 33.8 +0.8
GTA PP **PP** 12 17 14.8 +0.9
GTA ScP **ScP** 12 20 39.3 +1.4
GTA S **S** 12 20 54.8 +1.5
GTA sS sS 12 23 25.3 -2.5
GTA ScS **ScS** 12 24 47.3 -2.4
GTA pmax pmax
comp=Z,33nm,1.3s
GTA pmax pmax
comp=Z,250nm,4.6s
M31M Drury Creek, Y 38.37 46 P **P** 12 15 33.8 +1.1
baz=290,SNR=68
M31M S **S** 12 20 55.3 +2.6
baz=290
PLBC Pleasant Camp 38.43 51 P **P** 12 15 34.0 +0.8
baz=292,SNR=6.9
PLBC S **S** 12 20 57.0 +3.4
baz=292
ENH Enshi 38.67 252 P **P** 12 15 35.4 -0.2
WHY Whitehorse 38.69 49 P **P** 12 15 36.3 +0.9
baz=291,SNR=74
FARO Faro, Yukon 38.81 46 P **P** 12 15 37.0 +0.7
baz=291,SNR=77
A36M Sachs Harbour 38.87 29 P **P** 12 15 36.8 +0.3
baz=285,SNR=183
A36M S **S** 12 20 59.7 0.0
baz=285
SKAG Skagway 38.92 50 IAmb IAmb 12 15 41.7
comp=Z,73nm,1.0s
SKAG Skagway 38.92 50 P **P** 12 15 38.7 +1.5
SKAG Skagway 38.92 50 P **P** 12 15 38.1 +1.0
baz=292,SNR=17
S31K Pelican 39.07 53 IAmb IAmb 12 15 42.8
comp=Z,112nm,1.1s
S31K Pelican 39.07 53 P **P** 12 15 39.5 +1.1
baz=294,SNR=7.2
R31K City Hall, Gus 39.13 52 P **P** 12 15 40.2 +1.3
baz=293
N32M Quiet Lake 39.32 47 IAmb IAmb 12 15 44.0
comp=Z,101nm,0.9s
N32M Quiet Lake 39.32 47 P **P** 12 15 41.0 +0.5
baz=292
ZAA0 Zalesovo Array 39.45 300 P **P** 12 15 41.2 -0.3
ZALV Zalesovo Beam 39.45 300 P **P** 12 15 41.1 -0.5
ZALV Zalesovo Beam 39.45 300 *i*P **P** 12 15 41.2 -0.3
ZALV pmax pmax
comp=Z,12nm,0.5s
ZALV Zalesovo Beam 39.45 300 P **P** 12 15 41.3 -0.2
comp=Z,12nm,0.5s,baz=57,slow=6.6,SNR=77
ZALV PP **PP** 12 17 21.4 -3.6
comp=Z,15nm,1.1s,baz=60,slow=10,SNR=6.2
ZALV PcP **PcP** 12 17 37.6 -0.4
comp=Z,10nm,0.8s,baz=56,slow=5.6,SNR=3.9
ZALV ScP **ScP** 12 20 40.8 -0.9
comp=Z,13nm,1.0s,baz=58,slow=3.7,SNR=6.6
comp=Z,12nm,0.5s
P32M Atlin 39.63 50 IAmb IAmb 12 15 47.1
comp=Z,91nm,1.2s
P32M Atlin 39.63 50 P **P** 12 15 43.5 +0.5
baz=293,SNR=17
R32K Eaglecrest 39.78 52 IAmb IAmb 12 15 48.6
comp=Z,108nm,1.0s
R32K Eaglecrest 39.78 52 P **P** 12 15 45.1 +0.9
baz=294,SNR=17
P33M Teslin, Yukon 39.80 49 P **P** 12 15 45.5 +1.0
baz=293,SNR=75
JIS Juneau Island 39.84 52 IAmb IAmb 12 15 49.2
comp=Z,130nm,1.0s
JIS Juneau Island 39.84 52 P **P** 12 15 46.1 +1.5
SIT Sitka 39.89 54 P **P** 12 15 47.1 +2.1
SIT Sitka 39.89 54 P **P** 12 15 46.0 +1.0
baz=295,SNR=8.7
C36M Paulatuk 40.02 33 P **P** 12 15 45.8 -0.2
baz=289,SNR=100
C36M S **S** 12 21 16.1 -0.6
baz=289
DGZ Jazzator, Alta 40.03 293 *i*P **P** 12 15 47.6 +1.1
DGZ pmax pmax
comp=Z,34nm,0.7s
S32K Killisnoo 40.08 53 IAmb IAmb 12 15 51.0
comp=Z,84nm,1.2s
S32K Killisnoo 40.08 53 P **P** 12 15 47.8 +1.2
baz=295,SNR=5.9
Q32M Nakina River 40.56 50 IAmb IAmb 12 15 55.4
comp=Z,132nm,1.0s
Q32M Nakina River 40.56 50 P **P** 12 15 51.5 +0.8
baz=295
R33M Jennings River 40.99 49 P **P** 12 15 55.6 +1.5
baz=295
T33K Petersburg 41.17 53 P **P** 12 15 56.8 +1.6
baz=297
U33K Whale Pass 41.40 54 P **P** 12 15 59.2 +2.1
U33K IAmb IAmb 12 16 02.0
comp=Z,92nm,1.1s
U33K Whale Pass 41.40 54 P **P** 12 15 58.4 +1.2
baz=297
S34M Telegraph Cree 41.56 51 IAmb IAmb 12 16 03.1
comp=Z,112nm,1.0s
S34M Telegraph Cree 41.56 51 P **P** 12 15 59.3 +0.9
baz=297,SNR=42
CD2 Chengdu 41.60 259 P **P** 12 15 59.4 +0.2
CD2 pP pP 12 17 25.8 +0.6
CD2 PP **PP** 12 17 47.0 -0.8
CD2 S **S** 12 21 40.9 +0.1
CD2 SS **SS** 12 24 59.9 -4.6
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,250nm,4.7s
WRAK Wrangell Islan 41.65 54 IAmb IAmb 12 16 03.9
comp=Z,129nm,1.0s
WRAK Wrangell Islan 41.65 54 P **P** 12 16 00.2 +1.1
baz=298,SNR=13
WTLY Watson Lake, Y 41.67 48 P **P** 12 15 59.7 +0.3
baz=296,SNR=54
CRAG Craig 41.70 55 P **P** 12 16 00.5 +1.0
CRAG IAmb IAmb 12 16 04.4
comp=Z,83nm,1.0s
CRAG Craig 41.70 55 P **P** 12 16 01.8 +2.3
CRAG Craig 41.70 55 P **P** 12 15 59.6 +0.1
baz=298
DLBC Dease Lake 41.85 50 P **P** 12 16 02.7 +1.9
DLBC Dease Lake 41.85 50 P **P** 12 16 01.4 +0.6
baz=297,SNR=41
GULI GuiLin 41.95 247 ⇑P **P** 12 15 57.5 -4.4
GULI pmax pmax
comp=Z,40nm,0.9s
GULI pmax pmax
comp=Z,260nm,3.5s
T35M Bob Quinn 42.41 52 P **P** 12 16 06.2 +1.0
baz=298,SNR=25
V35K Ketchikan 42.52 55 P **P** 12 16 06.6 +0.6
baz=299
WRGLY Wrigley 42.61 42 P **P** 12 16 06.9 +0.2
baz=296,SNR=60
U35K Hyder 43.03 54 P **P** 12 16 10.3 +0.3
baz=299
WMQ Urumqi 43.06 286 *e*P **P** 12 16 11.5 +0.9
WMQ PcP **PcP** 12 17 45.0 -5.3
WMQ ScP **ScP** 12 20 56.8 +0.4
WMQ S **S** 12 22 04.6 +3.1
WMQ pmax pmax
comp=Z,67nm,1.3s
WMQ pmax pmax
comp=Z,240nm,4.7s
GYA Guiyang 43.16 251 ⇑P **P** 12 16 12.5 +0.8
GYA ScP **ScP** 12 21 01.3 +4.2
GYA S **S** 12 22 04.4 +0.9
GYA sS sS 12 24 40.6 -0.8
GYA pmax pmax
comp=Z,100nm,0.8s
GYA pmax pmax
comp=Z,320nm,3.9s
GOMU GeErMu 43.45 272 P **P** 12 16 13.9 -0.2
GOMU pP pP 12 17 39.0 -1.9
GOMU PcP **PcP** 12 17 53.4 +1.2
GOMU sP sP 12 18 28.5 -4.6
GOMU S **S** 12 22 07.3 -0.6
GOMU sS sS 12 24 43.3 -2.6
GOMU pmax pmax
comp=Z,26nm,0.7s
EUNU Eureka 43.59 13 P **P** 12 16 14.0 -0.2
SEM Semipalatinsk 43.64 298 *e*P **P** 12 16 14.7 -0.5
SEM pmax pmax
comp=Z,62nm,1.6s
SEM Semipalatinsk 43.64 298 *e*P **P** 12 16 14.8 -0.5
comp=Z,62nm,1.6s,baz=298
KOTAN Kotaneelee Air 43.78 46 P **P** 12 16 16.4 +0.5
baz=299,SNR=34
FLDN Fort Liard 43.98 46 IAmb IAmb 12 16 21.3
comp=Z,42nm,0.7s
FLDN Fort Liard 43.98 46 P **P** 12 16 18.0 +0.6
baz=299,SNR=13
ALE Alert 44.10 6 P **P** 12 16 17.3 -0.8
ALE ScP **ScP** 12 21 01.8 +1.9
KURK Kurchatov 44.35 299 P **P** 12 16 21.1 +0.7
KURK Kurchatov 44.35 299 ⇓*i*P **P** 12 16 20.5 +0.1
KURK pmax pmax
comp=Z,133nm,1.3s
KURK Kurchatov 44.35 299 P **P** 12 16 20.9 +0.5
KURK S **S** 12 22 18.5 -1.1
KURK Kurchatov 44.35 299 P **P** 12 16 20.7 +0.2
KURK pP **pP** 12 17 50.8 +3.0
KURK ScP **ScP** 12 21 02.0 +0.6
KURBB Kurchatov Arra 44.45 299 P **P** 12 16 20.9 -0.3
KURBB Kurchatov Arra 44.45 299 P **P** 12 16 21.3 +0.1
comp=Z,42nm,0.5s,baz=63,slow=7.8,SNR=293
KURBB pP **PcP** 12 17 51.8 -3.1
comp=Z,26nm,1.1s,baz=62,slow=8.5,SNR=3.1
KURBB ScP **ScP** 12 21 01.6 -0.3
comp=Z,18nm,1.1s,baz=63,slow=3.1,SNR=8.0
KURBB S **S** 12 22 21.4 +0.4
comp=Z,5.3nm,0.9s,baz=298,slow=39,SNR=5.2
comp=Z,42nm,0.5s
MK31 Makanchi Array 44.49 292 *i*P **P** 12 16 20.6 -1.0
MK31 pmax pmax
comp=Z,11nm,0.4s
MKAR Makanchi Array 44.49 292 P **P** 12 16 21.9 +0.3
MKAR Makanchi Array 44.49 292 P **P** 12 16 21.6 0.0
comp=Z,12nm,0.5s,baz=59,slow=6.7,SNR=216
MKAR ScP **ScP** 12 21 01.7 -0.4
comp=Z,18nm,1.2s,baz=60,slow=5.8,SNR=6.5
comp=Z,12nm,0.5s
MAKZ Makanchi 44.66 292 P **P** 12 16 22.9 -0.1
MAKZ IAmb IAmb 12 18 01.0
comp=Z,82nm,1.5s
MAKZ Makanchi 44.66 292 P **P** 12 16 21.2 -1.7
MAKZ Makanchi 44.66 292 P **P** 12 16 22.8 -0.1
MAKZ PcP **PcP** 12 17 57.4 +1.6
RES Resolute Bay 45.51 20 P **P** 12 16 28.8 -0.2
RES Resolute Bay 45.51 20 P **P** 12 16 28.8 -0.2
RES pmax pmax
comp=Z,119nm,0.7s
PZH PanZhiHua 46.02 256 P **P** 12 16 33.5 -0.3
PZH ScP **ScP** 12 21 11.3 +2.3
PZH S **S** 12 22 42.4 -1.7
PZH sS **sS** 12 25 22.5 -1.5
PZH pmax pmax
comp=Z,50nm,0.6s
PZH pmax pmax
comp=Z,170nm,4.9s
KMI Kunming 46.47 254 ⇓P **P** 12 16 37.5 +0.1
KMI S **S** 12 22 49.8 -0.8
KMI pmax pmax
comp=Z,50nm,1.4s
KMI pmax pmax
comp=Z,230nm,3.2s
KMI Kunming 46.47 254 P **P** 12 16 37.8 +0.4
YKA Yellowknife Ar 46.51 40 P **P** 12 16 36.6 -0.2
comp=Z,71nm,0.7s,baz=302,slow=7.5,SNR=567
YKA ScP **ScP** 12 21 10.4 +0.3
comp=Z,5.4nm,0.8s,baz=302,slow=4.1,SNR=7.6
YKA S **S** 12 22 51.0 +1.4
comp=Z,13nm,1.1s,baz=302,slow=14,SNR=12
comp=Z,71nm,0.7s
KBS Kingsbay 46.88 350 *e*P **P** 12 16 39.4 -0.1
KBS IAmb IAmb 12 16 41.3
comp=Z,101nm,0.9s
KBS *e*S **S** 12 22 54.4 -0.1
KBS Kingsbay 46.88 350 *i*P **P** 12 16 39.2 -0.3
KBS Kingsbay 46.88 350 P **P** 12 16 39.2 -0.3
SPA0 Spitsbergen Ar 47.02 349⇑*i*P **P** 12 16 39.8 -0.8
SPA0 *e*S **S** 12 22 56.8 +0.3
SPITS Spitsbergen Ar 47.02 349 P **P** 12 16 39.8 -0.8
comp=Z,14nm,0.4s,baz=59,slow=9.8,SNR=78
comp=Z,14nm,0.4s
SPB2 Spitsbergen Ar 47.02 349 P **P** 12 16 40.0 -0.5
QIZ Qiongzhong 47.24 242 P **P** 12 16 44.5 +1.5
QIZ pP **pP** 12 18 11.5 -0.3
QIZ PP **PP** 12 18 40.6 +1.1
QIZ ScP **ScP** 12 21 16.8 +2.8
QIZ S **S** 12 23 04.0 +3.0
QIZ sS **sS** 12 25 39.4 -2.4
QIZ ScS **ScS** 12 25 48.8 +2.9
QIZ pmax pmax
comp=Z,26nm,1.0s
QIZ pmax pmax
comp=Z,190nm,3.8s
BVA0 Borovoye Array 47.34 305 P **P** 12 16 41.8 -1.5
BVAR Borovoye Array 47.34 305 P **P** 12 16 43.2 -0.1
comp=Z,34nm,0.5s,baz=58,slow=7.5,SNR=208
BVAR S **S** 12 23 00.7 -0.9
comp=Z,4.2nm,0.8s,baz=52,slow=9.5,SNR=3.1
comp=Z,34nm,0.5s
BRVK Borovoye 47.38 306 P **P** 12 16 43.7 +0.2
BRVK IAmb IAmb 12 16 44.8
comp=Z,32nm,0.5s
BRVK Borovoye 47.38 306 *i*P **P** 12 16 43.3 -0.3
BRVK pmax pmax
comp=Z,62nm,1.4s
BRVK Borovoye 47.38 306 P **P** 12 16 43.8 +0.2
BRVK S **S** 12 23 00.6 -1.4
BRVK Borovoye 47.38 306 P **P** 12 16 43.7 +0.2
BRVK PcP **PcP** 12 18 03.8 -1.5
TDK Taldyqorghan 47.73 292 *e*P **P** 12 16 47.0 +0.6
TDK pmax pmax
comp=Z,49nm,0.7s
TDK Taldyqorghan 47.73 292 *e*P **P** 12 16 47.1 +0.6
comp=Z,49nm,0.7s,baz=292
PDGK Podgornoye 48.13 290 P **P** 12 16 48.8 -0.8
SHLS Shalkode 48.26 290 *e*P **P** 12 16 49.1 -1.4
SHLS Shalkode 48.26 290 *e*P **P** 12 16 49.1 -1.4
baz=290
KPKS Kokpek 48.51 291 *e*P **P** 12 16 52.7 +0.3
KPKS Kokpek 48.51 291 *e*P **P** 12 16 52.8 +0.3
baz=291
UZB Uzynbulak 48.52 290 *e*P **P** 12 16 52.8 +0.3
UZB *e*S **S** 12 23 19.4 +1.1
UZB Uzynbulak 48.52 290 *e*P **P** 12 16 52.8 +0.3
baz=290
UZB *e*S **S** 12 23 19.4 +1.1
baz=290
ARXS Arharly 48.54 292 *e*P **P** 12 16 52.8 +0.2
TULEG Thule 48.58 12 IAmb IAmb 12 16 53.3
comp=Z,82nm,1.1s
TULEG Thule 48.58 12 *i*P **P** 12 16 52.0 -0.3
TULEG IAmb IAmb 12 16 54.0
comp=Z,31nm,0.7s
SLVN Son La 48.71 250 IAmb IAmb 12 16 56.6
comp=Z,43nm,0.7s
ZHN Zhinishke 48.84 290 *e*P **P** 12 16 55.0 +0.1
ZHN Zhinishke 48.84 290 *e*P **P** 12 16 55.0 +0.1
baz=290
SATY Saty 48.92 290 *d*iP **P** 12 16 56.1 +0.6
SATY *e*S **S** 12 23 25.0 +1.1
SATY Saty 48.92 290 ⇓*i*P **P** 12 16 56.1 +0.6
baz=290
SATY *e*S **S** 12 23 25.0 +1.1
baz=290
TNCH TengChong 49.05 258 P **P** 12 16 57.9 +1.2
TNCH pP pP 12 18 26.0 -0.4
TNCH S **S** 12 23 27.6 +1.4
TNCH sS sS 12 26 04.3 -3.9
TNCH SS **SS** 12 27 04.5 +0.3
TNCH pmax pmax
comp=Z,54nm,0.7s
TNCH pmax pmax
comp=Z,240nm,4.4s
OTUK Ortayu 49.12 299 P **P** 12 16 56.3 -0.5
CHKK Chushkaly 49.24 292 *e*P **P** 12 16 57.6 -0.1
CHKK Chushkaly 49.24 292 *e*P **P** 12 16 57.7 -0.1
baz=292
NEEM North Greenlan 49.53 7 *i*P **P** 12 16 58.3 -1.4
NEEM IAmb IAmb 12 17 02.4
comp=Z,70nm,0.9s
KUU Kurty 49.58 292 *e*P **P** 12 17 00.1 -0.2
KUU *e*S **S** 12 23 33.5 +0.8
KUU pmax pmax
comp=Z,55nm,1.2s
KUU Kurty 49.58 292 *e*P **P** 12 17 00.1 -0.2
comp=Z,55nm,1.2s,baz=292
KUU *e*S **S** 12 23 33.5 +0.8
baz=292
WUS Wushi 49.62 288 P **P** 12 17 01.6 +0.9
WUS PcP **PcP** 12 18 14.4 +0.5
WUS ScP **ScP** 12 21 23.4 -0.6
MDOK Medeo 49.64 291 *i*P **P** 12 17 00.8 0.0
MDOK Medeo 49.64 291 *i*P **P** 12 17 00.8 0.0
baz=291
AAA Alma-Ata 49.68 291 *e*P **P** 12 17 01.7 +0.7
AAA Alma-Ata 49.68 291 *e*P **P** 12 17 01.8 +0.7
baz=291
BJO1 Bjornoya 49.68 345 *e*P **P** 12 16 59.9 -0.6
BJO1 IAmb IAmb 12 17 00.5
comp=Z,54nm,0.4s
BJO1 *e*S **S** 12 23 34.5 +1.4
SVE Sverdlovsk 49.72 314 *e*P **P** 12 17 01.9 +0.9
SVE pmax pmax
comp=Z,29nm,1.1s
TNSS Tian-Shan 49.77 291 *e*P **P** 12 17 02.2 +0.1
TNSS Tian-Shan 49.77 291 *e*P **P** 12 17 02.3 +0.1
baz=291
BRLDA Berland Lookou 50.11 50 IAmb IAmb 12 17 07.5
comp=Z,135nm,0.9s
LSA Lhasa 50.13 268 P **P** 12 17 06.2 +1.2
LSA pmax pmax
comp=Z,52nm,0.8s
LSA Lhasa 50.13 268 P **P** 12 17 06.8 +1.8
BTLS Baital 50.16 295 *d*iP **P** 12 17 04.6 +0.2
BTLS Baital 50.16 295 ⇓*i*P **P** 12 17 04.7 +0.2
baz=295
PGC Sidney 50.41 59 P **P** 12 17 06.3 +0.2
PGC IAmb IAmb 12 17 12.8
comp=Z,93nm,1.4s

MOKO **MOKOCHONG** 50.51 262 *eP* **P** **12 17 09.0 +1.5**
TKM2 **Tokmak 2** 50.62 292 P **P** **12 17 08.3 +0.2**
SNR=33
ULHL **Ulahol** 50.68 291 P **P** **12 17 08.8 +0.3**
SNR=30
BOOM **Boomskoye usch** 50.69 291 P **P** **12 17 09.5 +0.9**
BOOM pmax pmax
comp=Z,30nm,0.7s
SGDS **Sogindy** 50.83 293 *d iP* **P** **12 17 09.9 +0.5**
SGDS **Sogindy** 50.83 293 ⇓ *iP* **P** **12 17 10.0 +0.5**
baz=293
ARU **Arti** 50.88 314 P **P** **12 17 09.2 -0.3**
ARU IAmb IAmb 12 18 45.1
comp=Z,104nm,1.3s
ARU **Arti** 50.88 314 *d iP* **P** **12 17 09.2 -0.3**
ARU 12 18 16.4
ARU *PP **pP** **12 18 41.1 +0.9**
ARU 12 19 09.2
ARU S **S** **12 23 49.1 -0.7**
ARU 12 26 08.4
ARU *SS **sS** **12 26 33.8 +0.7**
ARU pmax pmax
comp=Z,84nm,1.4s
ARU **Arti** 50.88 314 P **P** **12 17 09.6 +0.1**
comp=Z,26nm,0.5s,baz=57,slow=4.4,SNR=36
ARU pP **pP** **12 18 42.4 +2.2**
comp=Z,30nm,1.0s,baz=51,slow=4.0,SNR=2.5
comp=Z,26nm,0.5s
ARU **Arti** 50.88 314 P **P** **12 17 09.4 -0.1**
ARU pP **pP** **12 18 42.9 +2.7**
NLWA **Neilton Lookou** 50.97 60 P **P** **12 17 11.4 +1.0**
USP **Ospenovka** 51.02 293 P **P** **12 17 11.5 +0.6**
SNR=61
CHMS **Chumysh** 51.05 293 P **P** **12 17 11.5 +0.5**
SNR=10.0
KBK **Karagaybulak** 51.15 292 P **P** **12 17 12.1 +0.1**
SNR=19
VADS **Vadso** 51.19 339 *eP* **P** **12 17 10.6 -0.9**
VADS *eS* **S** **12 23 50.5 -3.1**
KOHI **KOHIMA** 51.20 262 *eP* **P** **12 17 13.4 +0.9**
KOHI IAmb IAmb 12 17 16.5
comp=Z,110nm,0.6s
FRU1 **Bishkek** 51.23 292 IAmb IAmb 12 17 14.3
KZA **Kyzart** 51.35 291 P **P** **12 17 15.2 +1.4**
SNR=14
AAK **Ala-Archa** 51.42 292 P **P** **12 17 15.0 +1.0**
SNR=6.3
AAK **Ala-Archa** 51.42 292 P **P** **12 17 14.7 +0.7**
AAK **Ala-Archa** 51.42 292 *d iP* **P** **12 17 14.6 +0.7**
AAK pmax pmax
comp=Z,56nm,1.5s
AAK **Ala-Archa** 51.42 292 *i* P **P** **12 17 14.6 +0.7**
SNR=51
AAK **Ala-Archa** 51.42 292 P **P** **12 17 14.2 +0.3**
AAK **Ala-Archa** 51.42 292 P **P** **12 17 14.3 +0.3**
AAK pP **pP** **12 18 48.5 +3.9**
B06A **Marblemount** 51.52 58 IAmb IAmb 12 17 17.6
comp=Z,174nm,1.5s
LVZ **Lovozero** 51.56 335 P **P** **12 17 14.1 -0.3**
LVZ IAmb IAmb 12 17 15.3
comp=Z,141nm,1.6s
LVZ **Lovozero** 51.56 335 P **P** **12 17 14.1 -0.3**
LVZ pmax pmax
comp=Z,141nm,1.6s
LVZ **Lovozero** 51.56 335 P **P** **12 17 14.0 -0.4**
CRAI **Chiangrai** 51.62 252 P **P** **12 17 15.7 +0.2**
EKS2 **Erkin-Say** 51.81 293 P **P** **12 17 17.9 +1.1**
SNR=16
IMP **Imphal** 51.95 262 *eP* **P** **12 17 18.4 +0.5**
IMP IAmb IAmb 12 17 19.7
comp=Z,79nm,0.7s
HAMF **Hammerfest** 51.98 341 *eP* **P** **12 17 16.4 -0.9**
HAMF IAmb IAmb 12 17 17.4
comp=Z,117nm,1.4s
HAMF *eS* **S** **12 24 01.6 -2.7**
KEV **Kevo** 51.99 339 P **P** **12 17 16.5 -0.9**
KEV pmax pmax
comp=Z,43nm,1.7s
KEV **Kevo** 51.99 339 P **P** **12 17 16.5 -0.9**
ARLS **Aral** 52.02 292 P **P** **12 17 19.1 +0.8**
ARLS pmax pmax
comp=Z,26nm,1.8s
D05A **Enumclaw** 52.09 59 IAmb IAmb 12 17 22.7
comp=Z,80nm,1.0s
APA **Apatity** 52.13 335 ⇓ *iP* **P** **12 17 16.3 -2.1**
APA *i* 12 19 25.0
APA *i* PPP PPP 12 20 41.0
APA *i* S **S** **12 24 00.0 -6.3**
APA *i* 12 26 41.0
APA pmax pmax
comp=Z,19nm,1.1s
AML **Almayashu** 52.20 292 P **P** **12 17 21.3 +1.4**
SNR=19
ARA0 **ARCESS Array S** 52.49 339 *eP* **P** **12 17 20.0 -1.0**
ARA0 *eS* **S** **12 24 06.4 -4.8**
ARCES **ARCESS Array B** 52.49 339 P **P** **12 17 20.1 -0.9**
ARCES IAmb IAmb 12 17 21.9
comp=Z,134nm,1.5s
ARCES **ARCESS Array B** 52.49 339 P **P** **12 17 20.1 -0.9**
comp=Z,10nm,0.4s,baz=39,slow=7.8,SNR=142
comp=Z,10nm,0.4s
KSH **Kashi** 52.60 288 P **P** **12 17 26.6 +4.1**
KSH S **S** **12 24 22.0 +8.2**
KSH sS sS 12 27 02.5 +4.2
KSH pmax pmax
comp=Z,28nm,1.4s
SHL **Shillong** 52.66 264 P **P** **12 17 23.2 +0.1**
SHL pmax pmax
comp=Z,198nm,0.6s
SHL **Shillong** 52.66 264 *eP* **P** **12 17 23.2 +0.1**
SHL IAmb IAmb 12 17 24.5
comp=Z,64nm,0.6s
SHL **Shillong** 52.66 264 P **P** **12 17 23.3 +0.2**
SNR=25
F04A **Amboy** 52.66 61 IAmb IAmb 12 17 26.8
comp=Z,65nm,0.8s
DZA **Taraz** 53.03 294 *eP* **P** **12 17 25.7 +0.3**
DZA **Taraz** 53.03 294 *eP* **P** **12 17 25.7 +0.3**
baz=294
KIRV **Kirov** 53.27 321 *ceP* **P** **12 17 26.5 -0.2**
KIRV **Kirov** 53.27 321 P **P** **12 17 26.3 -0.4**
comp=Z,32nm,0.5s,baz=48,slow=5.6,SNR=8.7
comp=Z,32nm,0.5s
KK31 **Karatay Array** 53.35 295 *eP* **P** **12 17 27.5 -0.2**
KKAR **Karatay Array** 53.35 295 P **P** **12 17 27.4 -0.3**
KKAR **Karatay Array** 53.35 295 IAmb IAmb 12 17 31.6
comp=Z,22nm,1.1s
KKAR **Karatay Array** 53.35 295 P **P** **12 17 27.4 -0.3**
GTK **Tadong** 53.39 268 *eP* **P** **12 17 29.3 +1.0**
KTK1 **Kautokeino** 53.39 340 ⇑ *iP* **P** **12 17 26.7 -0.8**
KTK1 *eS* **S** **12 24 22.9 -0.3**
ARK **Arkit** 53.40 293 P **P** **12 17 29.3 +1.2**
ARK pmax pmax
comp=Z,18nm,0.5s
UPNV **Upernavik** 53.46 10 *i* P **P** **12 17 26.4 -1.6**
UPNV IAmb IAmb 12 17 27.2
comp=Z,38nm,0.5s
HOOD **Mount Hood Mea** 53.47 61 IAmb IAmb 12 17 33.1
comp=Z,125nm,0.9s
JETT **Jettan, Norway** 53.52 341 *eP* **P** **12 17 27.8 -0.7**
AZL **Aizawl** 53.53 262 *eP* **P** **12 17 30.3 +1.0**
AZL IAmb IAmb 12 17 31.4
comp=Z,33nm,0.6s
CMMT **Chiang Mai** 53.56 252 P **P** **12 17 30.0 +0.6**
comp=Z,189nm,0.8s,comp=Z,2µm
CHTO **Chiang Mai** 53.56 252 P **P** **12 17 30.2 +0.7**
CHTO **Chiang Mai** 53.56 252 P **P** **12 17 30.4 +1.0**
CHTO **Chiang Mai** 53.56 252 P **P** **12 17 30.2 +0.7**
CHTO pmax pmax
comp=Z,49nm,0.8s
CHTO **Chiang Mai** 53.56 252 P **P** **12 17 30.2 +0.7**
CHTO **Chiang Mai** 53.56 252 P **P** **12 17 30.1 +0.7**
CHTO **Chiang Mai** 53.56 252 P **P** **12 17 29.8 +0.4**
comp=Z,69nm,0.8s,comp=Z,585nm
J01E **Myrtle Point** 53.64 64 IAmb IAmb 12 17 34.9
comp=Z,148nm,1.0s
TRO **Tromso** 53.75 342 *eP* **P** **12 17 29.1 -0.9**
TRO IAmb IAmb 12 17 30.4
comp=Z,141nm,1.4s
TRO *eS* **S** **12 24 26.3 -1.5**
OHH **Osh** 53.77 291 P **P** **12 17 31.9 +1.2**
OHH pmax pmax
comp=Z,29nm,1.5s
CM31 **Chiang Mai Arr** 53.84 252 P **P** **12 17 32.9 +1.5**
SNR=13
CMAR **Chiang Mai Arr** 53.84 252 P **P** **12 17 32.1 +0.7**
CMAR **Chiang Mai Arr** 53.84 252 *i* P **P** **12 17 32.2 +0.8**
CMAR pmax pmax
comp=Z,27nm,0.8s
CMAR **Chiang Mai Arr** 53.84 252 P **P** **12 17 32.2 +0.8**
comp=Z,26nm,0.8s,baz=25,slow=6.8,SNR=123
CMAR PcP **PcP** **12 18 30.1 +0.2**
comp=Z,5.4nm,0.7s,baz=11,slow=3.6,SNR=8.4
CMAR ScP **ScP** **12 21 42.3 -0.2**
comp=Z,1.3nm,0.7s,baz=10,slow=3.8,SNR=2.9
comp=Z,26nm,0.8s
NEW **Newport** 53.91 56 P **P** **12 17 32.5 +0.9**
NEW pmax pmax
comp=Z,65nm,1.1s
NEW **Newport** 53.91 56 P **P** **12 17 31.8 +0.2**
baz=311,SNR=29
F07A **Phinny Hill Vi** 54.01 60 IAmb IAmb 12 17 36.7
comp=Z,93nm,0.9s
I04A **Tendick Farm,** 54.06 63 IAmb IAmb 12 17 35.1
comp=Z,101nm,1.4s
SAIH **SAIHA** 54.28 261 *eP* **P** **12 17 35.0 +0.3**
CHM **Chimkent** 54.37 295 *eP* **P** **12 17 35.2 +0.3**
CHM **Chimkent** 54.37 295 *eP* **P** **12 17 35.3 +0.3**
baz=295
E09A **Wood Farm, Sta** 54.54 58 IAmb IAmb 12 17 39.5
comp=Z,83nm,1.0s
KSXB **Camp Six Broad** 54.55 66 IAmb IAmb 12 17 41.1
comp=Z,155nm,1.3s
AB31 **Akbulak array** 54.84 307 *eP* **P** **12 17 37.5 -0.6**
ABKAR **Akbulak array** 54.84 307 P **P** **12 17 38.3 +0.2**
PINE **Pine Mountain** 54.86 62 IAmb IAmb 12 17 43.1
comp=Z,100nm,1.0s
AKTO **Aktyubinsk** 54.99 309 P **P** **12 17 38.0 -1.1**
AKTO **Aktyubinsk** 54.99 309 P **P** **12 17 39.0 -0.1**
comp=Z,14nm,0.5s,baz=64,slow=7.5,SNR=62
comp=Z,14nm,0.5s
J05D **Fort Rock, OR** 55.04 63 IAmb IAmb 12 17 45.1
comp=Z,110nm,0.8s
SUMG **Summit** 55.04 4 *i* P **P** **12 17 38.5 -1.1**
SUMG IAmb IAmb 12 17 42.3
comp=Z,59nm,0.8s
L04D **Klamath Falls** 55.16 64 IAmb IAmb 12 17 45.7
comp=Z,157nm,1.0s
BTK **Batken** 55.20 292 P **P** **12 17 41.0 +0.1**
BTK pmax pmax
comp=Z,46nm,1.2s
KKM **Kota Kinabalu** 55.21 226 P **P** **12 17 42.5 +1.2**
KKM **Kota Kinabalu** 55.21 226 P **P** **12 17 39.5 -1.7**
comp=Z,37nm,1.3s
KLMR **Klimovskoe** 55.26 327 *eP* **P** **12 17 39.2 -1.6**
KLMR *e*PP **pP** **12 19 10.4 -3.1**
KLMR *e* 12 19 50.0
KLMR *eS* **S** **12 24 46.5 -1.4**
KLMR pmax pmax
comp=Z,89nm,1.4s
KHMM **Horse Mountain** 55.27 66 IAmb IAmb 12 17 49.0
comp=Z,138nm,1.4s
F10A **Beach Ranch, E** 55.37 58 P **P** **12 17 42.5 +0.5**
K05A **Summer Lake** 55.60 63 IAmb IAmb 12 17 48.6
comp=Z,164nm,1.2s
NAYO **Nakonayok** 55.78 247 P **P** **12 17 46.4 +1.3**
comp=Z,361nm,0.7s
STEI **Steigen** 55.91 342 *eP* **P** **12 17 44.0 -1.2**
OUL **Oulu** 55.97 336 P **P** **12 17 45.5 -0.2**
OUL pmax pmax
comp=Z,59nm,1.3s
LOF **Lofoten** 56.04 343 *eP* **P** **12 17 45.0 -1.1**
SWI **Sorong** 56.15 206 P **P** **12 17 48.2 +0.6**
comp=Z,51nm,1.0s
SIJI **Sorong** 56.16 206 P **P** **12 17 48.7 +1.0**
comp=Z,26nm,1.4s
FAUS **Fauske** 56.38 342 ⇑ *iP* **P** **12 17 47.4 -1.0**
FAUS *eS* **S** **12 24 59.3 -2.9**
J08A **Circle Bar Ran** 56.48 61 IAmb IAmb 12 17 54.2
comp=Z,110nm,1.1s
MSO **Missoula** 56.48 55 IAmb IAmb 12 17 53.2
comp=Z,72nm,0.9s
MSO **Missoula** 56.48 55 P **P** **12 17 49.5 -0.2**
baz=313,SNR=50
FFC **Flin Flon** 56.51 42 P **P** **12 17 49.9 +0.3**
FFC IAmb IAmb 12 17 52.5
comp=Z,118nm,0.9s
FFC **Flin Flon** 56.51 42 P **P** **12 17 49.9 +0.3**
FFC pmax pmax
comp=Z,118nm,0.9s
FFC **Flin Flon** 56.51 42 P **P** **12 17 49.6 0.0**
FCC **Fort Churchill** 56.60 35 IAmb IAmb 12 17 52.2
comp=Z,135nm,0.8s
PLID **Pearl Lake** 56.61 58 IAmb IAmb 12 17 54.9
comp=Z,81nm,0.8s
SRDT **SRDT** 57.00 249 P **P** **12 17 51.8 -1.7**
comp=Z,57nm,0.5s
WVOR **Wild Horse Val** 57.02 62 IAmb IAmb 12 17 57.9
comp=Z,126nm,1.2s
LBMI **Labuha** 57.04 211 P **P** **12 17 53.3 -0.5**
comp=Z,27nm,1.4s,comp=Z,1µm
SIMJ **Simiganj** 57.18 292 P **P** **12 17 54.9 +0.2**
SIMJ **Simiganj** 57.18 292 P **P** **12 17 54.5 -0.2**
SIMJ PcP **PcP** **12 18 43.0 +0.1**
SIMJ pP **pP** **12 19 31.2 +3.2**
SIMJ ScP **ScP** **12 21 55.8 -1.3**
DHRM **DHARAMSHALA** 57.37 282 *eP* **P** **12 17 56.0 -0.2**
DHRM IAmb IAmb 12 17 57.2
comp=Z,106nm,0.4s
ILULI **Ilulissat** 57.40 10 IAmb IAmb 12 17 56.2
comp=Z,88nm,0.8s
ILULI **Ilulissat** 57.40 10 *i* P **P** **12 17 53.5 -1.9**
ILULI IAmb IAmb 12 17 56.5
comp=Z,52nm,0.7s
KONS **Konsvik** 57.56 342 *eP* **P** **12 17 56.1 -0.5**
MOR8 **Moi Rana** 57.60 341 *eP* **P** **12 17 54.6 -2.3**
MOR8 IAmb IAmb 12 17 55.9
comp=Z,443nm,2.1s
MOR8 *eS* **S** **12 25 14.7 -3.4**
SMLA **Simla** 57.64 280 *eP* **P** **12 17 57.4 -0.4**
SMLA *eS* **S** **12 25 18.1 -1.4**
EGMT **Eagleton** 57.72 52 P **P** **12 17 58.4 +0.2**
EGMT IAmb IAmb 12 18 01.3
comp=Z,81nm,1.1s
EGMT **Eagleton** 57.72 52 P **P** **12 17 57.7 -0.4**
baz=314,SNR=32
MFID **Camas Ranch** 57.84 59 IAmb IAmb 12 18 03.1
comp=Z,74nm,1.1s
FAKI **Fak Fak** 57.86 205 P **P** **12 17 59.9 +0.5**
NIL **Nilore** 58.20 285 P **P** **12 18 01.9 +0.3**
NIL IAmb IAmb 12 18 03.5
comp=Z,85nm,0.9s
NIL **Nilore** 58.20 285 P **P** **12 18 01.9 +0.3**
NIL pmax pmax
comp=Z,85nm,0.9s
BELG **Belogornoye** 58.32 316 *i* P **P** **12 18 01.5 -0.4**
BELG pmax pmax
comp=Z,8.0nm,0.8s
BELG **Belogornoye** 58.32 316 P **P** **12 18 01.6 -0.4**
comp=Z,46nm,0.6s,baz=227,slow=3.0,SNR=10.0
BELG pP **pP** **12 19 37.5 +1.5**
comp=Z,49nm,1.0s,baz=200,slow=2.2,SNR=3.2
BELG S **S** **12 25 26.1 -1.5**
comp=Z,22nm,0.9s,baz=180,slow=22,SNR=16
comp=Z,46nm,0.6s
ICESG **Greenland Ices** 58.45 5 *i* P **P** **12 18 01.9 -1.1**
ICESG IAmb IAmb 12 18 06.6
comp=Z,68nm,0.7s
HLID **Hailey** 58.48 58 IAmb IAmb 12 18 07.0
comp=Z,156nm,2.0s
HLID **Hailey** 58.48 58 P **P** **12 18 03.6 +0.1**
baz=314,SNR=26
BOZ **Bozeman (W)** 58.49 55 IAmb IAmb 12 18 07.3
comp=Z,129nm,1.2s
BOZ **Bozeman (W)** 58.49 55 P **P** **12 18 03.3 -0.2**
baz=315,SNR=30
PAHR **Pah Rah Range** 58.49 65 IAmb IAmb 12 18 07.7
comp=Z,62nm,1.1s
PNTR **Pine Nut** 58.80 65 IAmb IAmb 12 18 10.2
comp=Z,69nm,1.1s
SANI **Sanana** 58.85 212 P **P** **12 18 04.0 -2.1**
comp=Z,20nm,0.9s
FINES **FINESS Array B** 58.90 333 P **P** **12 18 05.0 -0.8**
FINES **FINESS Array B** 58.90 333 P **P** **12 18 05.0 -0.8**
comp=Z,18nm,0.5s,baz=36,slow=7.7,SNR=130
comp=Z,18nm,0.5s
YERR **Yerington** 59.07 65 IAmb IAmb 12 18 11.9
comp=Z,83nm,1.1s
KRAI **Karang Ratu** 59.30 209 P **P** **12 18 08.7 -0.5**
comp=Z,15nm,0.6s
NSS **Namsos** 59.54 342 *eP* **P** **12 18 09.4 -0.6**
NSS *eS* **S** **12 25 42.1 -0.6**
SFJD **Kangerlussuaq** 59.58 11 P **P** **12 18 09.0 -1.2**
SFJD IAmb IAmb 12 18 11.1
comp=Z,81nm,1.1s
SFJD **Kangerlussuaq** 59.58 11 P **P** **12 18 09.0 -1.2**
SFJD pmax pmax
comp=Z,81nm,1.1s
SFJD **Kangerlussuaq** 59.58 11 *i* P **P** **12 18 09.2 -1.1**
SFJD IAmb IAmb 12 18 11.9
comp=Z,34nm,0.8s
SFJD **Kangerlussuaq** 59.58 11 P **P** **12 18 08.8 -1.5**
SFJD ScP **ScP** **12 22 06.2 -0.8**
YNR **Norris Junctio** 59.59 55 IAmb IAmb 12 18 15.5
comp=Z,165nm,1.7s
SOEG **Soedalen** 59.65 2 *i* P **P** **12 18 09.8 -1.0**
SOEG IAmb IAmb 12 18 13.5
comp=Z,20nm,0.9s
YFT **Old Faithful** 59.70 56 IAmb IAmb 12 18 18.2
comp=Z,97nm,0.9s
FRB **Frobisher Bay** 59.72 20 P **P** **12 18 09.1 -2.1**
FRB pmax pmax
comp=Z,93nm,1.3s
BBGB **Big Mountain B** 59.75 68 IAmb IAmb 12 18 16.6
comp=Z,87nm,1.0s
MOS **Moscow** 59.77 324 *eP* **P** **12 18 09.6 -2.1**
MOS *e*PP **pP** **12 19 48.2 +1.9**
MOS *e*SP **sP** **12 20 39.2 +2.6**
MOS *eS* **S** **12 25 43.2 -2.6**
MOS *e* 12 27 10.1
MOS pmax pmax
comp=Z,42nm,1.0s
YMP **Mirror Lake Pl** 59.83 55 IAmb IAmb 12 18 17.0
comp=Z,71nm,1.2s
H17A **Grant Village** 59.87 55 IAmb IAmb 12 18 18.9
comp=Z,77nm,1.0s
H17A **Grant Village** 59.87 55 P **P** **12 18 14.9 +2.0**
baz=316,SNR=41
NVAR **Mina Array Bea** 59.98 65 P **P** **12 18 14.7 +1.0**
comp=Z,21nm,0.8s,baz=300,slow=6.6,SNR=106
comp=Z,21nm,0.8s
LHV **Little Huntoon** 60.00 65 IAmb IAmb 12 18 18.5
comp=Z,81nm,1.2s
RLMT **Red Lodge** 60.01 54 IAmb IAmb 12 18 17.9
comp=Z,131nm,1.1s
RLMT **Red Lodge** 60.01 54 P **P** **12 18 14.5 +0.7**
baz=316,SNR=60
DGMT **Dagmar** 60.02 49 IAmb IAmb 12 18 16.8
comp=Z,122nm,0.9s
DGMT **Dagmar** 60.02 49 P **P** **12 18 13.9 +0.3**
baz=317,SNR=12
DGMT **Dagmar** 60.02 49 P **P** **12 18 14.0 +0.4**
baz=317,SNR=12
FLWY **Flagg Ranch** 60.03 56 IAmb IAmb 12 18 18.7
comp=Z,109nm,1.4s
IMW **Indian Meadow** 60.04 56 IAmb IAmb 12 18 17.5
comp=Z,157nm,1.9s
KBL **Kabul** 60.04 289 P **P** **12 18 13.5 -0.7**
KBL **Kabul** 60.04 289 P **P** **12 18 13.5 -0.7**
KBL pmax pmax
comp=Z,25nm,0.8s
KBL **Kabul** 60.04 289 P **P** **12 18 13.1 -1.1**
SNR=15
MDPB **Devils Postpil** 60.12 66 P **P** **12 18 15.0 +0.3**
PMPB **Monarch Peak** 60.14 68 P **P** **12 18 15.4 +0.7**
KUDL **Kundal** 60.19 278 *eP* **P** **12 18 14.0 -0.9**
SBUM **Sibu** 60.20 229 P **P** **12 18 17.3 +2.1**
comp=Z,29nm,1.1s,comp=Z,279nm
MOOW **Moose Ponds** 60.24 56 P **P** **12 18 16.7 +1.3**
MLAC **Mammoth, Mammo** 60.25 66 P **P** **12 18 16.6 +1.0**
baz=315,SNR=6.5
Q09A **Carvers** 60.32 64 IAmb IAmb 12 18 18.3
comp=Z,43nm,0.8s
TPAW **Teton Pass** 60.32 56 IAmb IAmb 12 18 20.6
comp=Z,190nm,1.6s
LAO **LASA Array** 60.36 51 IAmb IAmb 12 18 19.7
comp=Z,156nm,1.1s
LAO **LASA Array** 60.36 51 P **P** **12 18 16.0 +0.1**
baz=316,SNR=20
LAO **LASA Array** 60.36 51 P **P** **12 18 16.3 +0.4**
baz=316,SNR=20
MEF **Metsahovi** 60.38 333 *eP* **P** **12 18 15.3 -0.4**
RAF **Rauma** 60.40 335 *eP* **P** **12 18 15.3 -0.6**
LOHW **Long Hollow** 60.41 56 IAmb IAmb 12 18 21.0
comp=Z,79nm,1.1s
SNOW **Snow King Moun** 60.44 56 IAmb IAmb 12 18 21.4
comp=Z,65nm,1.1s
DY2G **Dye2** 60.53 9 *i* P **P** **12 18 15.5 -1.4**
DY2G IAmb IAmb 12 18 20.1
comp=Z,47nm,0.6s
OBN **Obninsk** 60.63 324 ⇑ *iP* **P** **12 18 17.2 -0.2**
OBN *e* 12 18 56.3
OBN *i* *PP **pP** **12 19 54.2 +1.8**
OBN *e* 12 20 35.4
OBN pmax pmax
comp=Z,98nm,1.7s
OBN **Obninsk** 60.63 324 P **P** **12 18 17.6 +0.1**
comp=Z,16nm,0.4s,baz=135,slow=2.8,SNR=8.7
comp=Z,16nm,0.4s
AHID **Auburn Hatcher** 60.76 57 IAmb IAmb 12 18 22.7
comp=Z,59nm,1.1s
VOG **Valley Oaks Go** 60.88 67 P **P** **12 18 19.8 +0.4**
baz=316
TIN **Tinemaha, Big** 61.00 66 P **P** **12 18 21.3 +0.9**
baz=316
BGU **Big Grassy Mou** 61.07 60 IAmb IAmb 12 18 24.3
comp=Z,94nm,1.7s
SPUT **South Promonto** 61.10 59 IAmb IAmb 12 18 25.2
comp=Z,60nm,1.1s
VSU **Vasula** 61.18 331 *ceP* **P** **12 18 19.6 -1.4**
VSU pmax pmax
comp=Z,105nm,1.7s
VSU **Vasula** 61.18 331 *eP* **P** **12 18 20.5 -0.5**
SMMC **Simmler** 61.24 69 P **P** **12 18 23.0 +1.1**
baz=316,SNR=8.8
HWUT **Hardware Ranch** 61.35 58 P **P** **12 18 23.9 +1.2**
HWUT IAmb IAmb 12 18 26.8
comp=Z,68nm,1.0s
VES **Vestal, Richgr** 61.39 68 P **P** **12 18 22.9 +0.1**
baz=316,SNR=11
SRIT **Nakonsritamara** 61.41 245 P **P** **12 18 25.1 +1.9**
Q12A **Willow Creek R** 61.46 62 IAmb IAmb 12 18 27.6
comp=Z,79nm,1.1s
CWC **Cottonwood Cre** 61.52 67 P **P** **12 18 24.5 +0.6**
baz=316
GRAC **Grapevine Rang** 61.52 66 IAmb IAmb 12 18 28.8
comp=Z,47nm,0.8s
GRAC **Grapevine Rang** 61.52 66 P **P** **12 18 25.0 +1.2**
baz=316,SNR=20
DGPR **DIGLIPUR** 61.53 254 *eP* **P** **12 18 24.5 +0.6**
DGPR IAmb IAmb 12 18 25.8
comp=Z,47nm,0.7s
R11B **Troy Canyon, C** 61.54 63 P **P** **12 18 24.6 +0.6**
baz=316,SNR=26
BW06 **Boulder Array** 61.55 56 P **P** **12 18 24.3 +0.2**
BW06 IAmb IAmb 12 18 28.1
comp=Z,56nm,0.8s
BW06 **Boulder Array** 61.55 56 P **P** **12 18 24.5 +0.4**
baz=317,SNR=86
PD31 **Pinedale Array** 61.55 56 IAmb IAmb 12 18 28.1
comp=Z,48nm,0.8s
PDAR **Pinedale Array** 61.55 56 P **P** **12 18 24.4 +0.3**
comp=Z,44nm,0.8s,baz=316,slow=1.0,SNR=200
comp=Z,44nm,0.8s
PKM **Mcpherson Peak** 61.65 69 P **P** **12 18 25.6 +0.8**
baz=316,SNR=14
VRH **Novokhopyorsk** 61.66 318 *eP* **P** **12 18 22.5 -1.8**
VRH *e*PP **pP** **12 19 58.7 -1.0**
VRH *eS* **S** **12 26 04.8 -4.7**
VRH pmax pmax
comp=Z,40nm,0.5s
LPSR **Galich'ya Gora** 61.70 321 *eP* **P** **12 18 22.9 -1.6**
LPSR *e*PP **pP** **12 19 58.9 -1.0**
LPSR *eS* **S** **12 26 05.9 -4.1**
LPSR pmax pmax
comp=Z,20nm,0.6s
DUG **Dugway, Tooele** 61.71 60 IAmb IAmb 12 18 29.8
comp=Z,51nm,0.8s
DUG **Dugway, Tooele** 61.71 60 P **P** **12 18 26.2 +1.1**
DUG pmax pmax
comp=Z,75nm,1.2s
DUG **Dugway, Tooele** 61.71 60 P **P** **12 18 26.1 +1.0**
baz=316,SNR=55
SPR3 **Spring Creek 3** 61.76 62 IAmb IAmb 12 18 31.0
comp=Z,52nm,0.9s
TCUT **Toone Canyon** 61.79 59 IAmb IAmb 12 18 29.6

comp=Z,72nm,1.1s
MTSE Matsula 61.81 333 *e*P P 12 18 24.9 -0.3
BCW Bitter Crk WRg 61.84 69 IAmb IAmb 12 18 30.3
comp=Z,119nm,1.5s
ISA Isabella, Lake 61.86 67 P P 12 18 26.2 +0.2
baz=316,SNR=11
KSM Kuching 61.95 230 P P 12 18 28.5 +1.8
comp=Z,50nm,1.1s
ISOG Isortoq, Green 62.00 6 *i* P P 12 18 24.8 -1.5
ISOG IAmb IAmb 12 18 25.9
comp=Z,30nm,0.6s
ANGG Ammassalik, Gr 62.01 5 *i* P P 12 18 25.4 -1.0
ANGG IAmb IAmb 12 18 27.6
comp=Z,17nm,0.7s
SKLT Songkhla 62.03 243 P P 12 18 28.9 +1.6
ARVC Arvin 62.04 68 P P 12 18 27.5 +0.4
baz=316
MPMC Manual Prospec 62.13 66 P P 12 18 28.4 +0.5
baz=316,SNR=29
NUUK Nuuk 62.16 12 *i* P P 12 18 26.5 -0.8
NUUK IAmb IAmb 12 18 29.3
comp=Z,31nm,1.0s
MOL Molde 62.16 343 *e*P P 12 18 27.3 0.0
TPNV Topopah Spring 62.18 65 IAmb IAmb 12 18 32.8
comp=Z,63nm,0.8s
TPNV Topopah Spring 62.18 65 P P 12 18 28.6 +0.3
baz=316,SNR=65
FURC Furnace Creek, 62.19 66 P P 12 18 29.1 +1.1
baz=316,SNR=50
NLU North Lily Min 62.28 60 IAmb IAmb 12 18 32.8
comp=Z,57nm,1.0s
ULM Lac du Bonnet 62.33 43 P P 12 18 27.8 -0.9
comp=Z,15nm,0.5s,baz=319,slow=7.1,SNR=31
ULM PP PP 12 20 50.0 -2.5
comp=Z,8.3nm,1.0s,baz=316,slow=11,SNR=3.3
comp=Z,15nm,0.5s
DOMB Dombas 62.36 342 *e*P P 12 18 27.8 -0.9
SCZ2 Santa Cruz Isl 62.40 69 P P 12 18 29.9 +0.5
baz=317
LRMC Laurel Mtn Rad 62.44 67 P P 12 18 30.3 +0.5
baz=317,SNR=24
MPU Maple Canyon 62.47 60 IAmb IAmb 12 18 34.0
comp=Z,101nm,1.3s
OSI Osito Audit: C 62.47 68 P P 12 18 30.4 +0.4
baz=317
CCAC Calif City Air 62.48 67 IAmb IAmb 12 18 33.8
comp=Z,44nm,0.9s
GWY Greenwater Val 62.50 66 IAmb IAmb 12 18 34.7
comp=Z,34nm,0.8s
BSUT Blindstream Ca 62.55 59 IAmb IAmb 12 18 35.5
comp=Z,47nm,0.9s
MDND Maddock 62.55 46 P P 12 18 30.2 0.0
baz=319,SNR=16
MDND Maddock 62.55 46 P P 12 18 30.7 +0.5
baz=319,SNR=16
AKN Aakmes 62.62 343 *e*P P 12 18 29.7 -0.8
NC405 NORSAR Array S 62.67 340 IAmb IAmb 12 18 32.7
comp=Z,78nm,1.1s
VSR Storozhevoye 62.68 320 *e*P P 12 18 29.8 -1.2
VSR *e**PP pP 12 20 06.2 -0.5
VSR *e*S S 12 26 18.3 -3.8
VSR pmax pmax
comp=Z,10.0nm,0.5s
EDW2 Edwards Air Fo 62.69 68 P P 12 18 32.1 +0.7
baz=317,SNR=34
NC204 NORSAR Array S 62.72 341 IAmb IAmb 12 18 33.0
comp=Z,58nm,0.8s
VORD Divnogorie 62.82 319 *e*P P 12 18 30.6 -1.3
VORD *e**PP pP 12 20 08.2 +0.5
VORD pmax pmax
comp=Z,10.0nm,0.5s
NB2 NORSAR Subarra 62.85 340 P P 12 18 30.7 -1.3
comp=Z,8.6nm,0.6s,baz=24,slow=6.9
NB2 NORSAR Subarra 62.85 340 P P 12 18 30.7 -1.3
baz=24,slow=6.9
NOA NORSAR Array B 62.85 340 P P 12 18 31.1 -0.9
comp=Z,24nm,0.8s,baz=25,slow=6.5,SNR=51
comp=Z,24nm,0.8s
SHOC Shoshone, Teco 62.92 66 P P 12 18 33.4 +0.6
baz=317,SNR=7.0
NBO00 NORSAR Array S 62.94 340 IAmb IAmb 12 18 34.3
comp=Z,51nm,1.1s
DECC Green Verdugo 62.95 68 P P 12 18 33.6 +0.5
baz=317
SNCC San Nicolas Is 63.00 70 P P 12 18 33.6 +0.2
baz=317
NC602 NORSAR Array S 63.05 340 IAmb IAmb 12 18 45.7
comp=Z,161nm,1.8s
NC602 NORSAR Array S 63.05 340 *e*P P 12 18 32.2 -1.0
NORES NORESS Array B 63.05 340 P P 12 18 32.4 -0.8
GSC Goldstone, Bar 63.06 67 P P 12 18 33.9 +0.1
baz=317,SNR=23
BORG Borgarnes 63.09 357 P P 12 18 33.8 +0.5
comp=Z,50nm,1.0s,baz=339,slow=7.9,SNR=4.4
comp=Z,50nm,1.0s
NAO01 NORSAR Array S 63.09 340 IAmb IAmb 12 18 35.1
comp=Z,58nm,1.1s
HFS Hagfors 63.13 339 P P 12 18 32.8 -0.9
comp=Z,23nm,0.4s,baz=56,slow=3.7,SNR=166
HFS S S 12 26 25.9 -1.4
comp=Z,4.6nm,0.9s,baz=40,slow=11,SNR=4.0
comp=Z,23nm,0.4s
RDMU Red Mountain 63.14 58 IAmb IAmb 12 18 38.9
comp=Z,73nm,1.0s
SLIT Silitere, Latvi 63.16 333 *e*P P 12 18 33.6 -0.3
K22A Casper 63.16 54 IAmb IAmb 12 18 38.7
comp=Z,60nm,0.9s
K22A Casper 63.16 54 P P 12 18 34.4 0.0
baz=318,SNR=25
K22A Casper 63.16 54 P P 12 18 34.7 +0.2
baz=318,SNR=25
TMUT Trail Mountain 63.21 60 IAmb IAmb 12 18 40.1
comp=Z,53nm,0.8s
RRX Edison Barstow 63.26 67 P P 12 18 35.7 +0.6
baz=317
RSSD Black Hills 63.29 52 P P 12 18 35.3 -0.1
RSSD IAmb IAmb 12 18 39.0
comp=Z,84nm,0.8s
RSSD Black Hills 63.29 52 P P 12 18 35.3 -0.1
RSSD pmax pmax
comp=Z,84nm,0.8s
RSSD Black Hills 63.29 52 P P 12 18 35.0 -0.4
baz=318
RSSD Black Hills 63.29 52 P P 12 18 35.2 -0.1
baz=318,SNR=84
RSSD S S 12 26 29.4 -0.9
baz=318
RSSD Black Hills 63.29 52 P P 12 18 35.3 -0.1
P17A Butcher Ranch, 63.33 59 IAmb IAmb 12 18 39.6
comp=Z,66nm,1.2s
BFSC Mount Baldy Ra 63.35 68 P P 12 18 36.0 +0.2
baz=317,SNR=19
FMP Fort Macarthur 63.37 69 P P 12 18 36.1 +0.4
baz=317
TUQ Turquoise Moun 63.46 66 P P 12 18 36.9 +0.4
baz=317,SNR=38
P18A Preston Nutter 63.48 59 IAmb IAmb 12 18 40.7
comp=Z,58nm,1.1s
FOO Floro 63.51 344 *e*P P 12 18 36.6 +0.5
Q16A Castle Valley 63.51 60 IAmb IAmb 12 18 40.8
comp=Z,40nm,1.0s
CIS Catalina Islan 63.53 69 P P 12 18 36.9 +0.1
baz=317
RWWY Rawlins 63.53 56 IAmb IAmb 12 18 40.1
comp=Z,104nm,1.6s
KULM Kulim 63.58 242 P P 12 18 38.2 +0.9
KULM IAmb IAmb 12 18 39.5
comp=Z,26nm,0.7s
KULM Kulim 63.58 242 P P 12 18 39.0 +1.7
comp=Z,39nm,0.8s
MTPU Mount Pierson 63.61 61 IAmb IAmb 12 18 42.2
comp=Z,42nm,1.1s
HEC Hector,Ludlow 63.67 67 P P 12 18 38.2 +0.4
baz=317,SNR=18
HYA Hoyanger 63.71 343 *e*P P 12 18 37.0 -0.4
SRU San Rafael Swe 63.71 60 IAmb IAmb 12 18 42.7
comp=Z,48nm,0.8s
GEYT Alibeck 63.72 299 P P 12 18 39.0 +1.0
comp=Z,12nm,0.5s,baz=60,slow=3.6,SNR=23
GEYT pP pP 12 20 15.4 +1.4
comp=Z,3.1nm,0.5s,baz=35,slow=5.8,SNR=1.6
comp=Z,12nm,0.5s
GYA0 ALIBECK ARRAY 63.72 299 P P 12 18 38.3 +0.3
BBRC Big Bear Solar 63.75 67 P P 12 18 39.0 +0.5
baz=317,SNR=27
SKAR Skarslia 63.76 342 *e*P P 12 18 37.6 -0.2
SKAR IAmb IAmb 12 18 38.7
comp=Z,195nm,1.8s
SKAR *e*S S 12 26 34.6 -0.4
SCI2 San Clemente I 63.76 70 P P 12 18 38.2 0.0
baz=317
KAPI Kappang 63.79 217 P P 12 18 39.5 +0.9
KAPI Kappang 63.79 217 P P 12 18 39.5 +0.9
comp=Z,12nm,0.7s,baz=330,slow=8.0,SNR=6.9
comp=Z,12nm,0.7s
AGMN Agassiz Nation 63.84 44 IAmb IAmb 12 18 40.3
comp=Z,50nm,0.9s
AGMN Agassiz Nation 63.84 44 P P 12 18 37.4 -1.1
baz=321,SNR=25
AGMN Agassiz Nation 63.84 44 P P 12 18 37.3 -1.2
baz=321,SNR=25
V12A Nelson 63.84 65 IAmb IAmb 12 18 43.1
comp=Z,62nm,1.3s
ELS Elsinore Mount 63.91 68 IAmb IAmb 12 18 43.5
comp=Z,30nm,0.8s
OSL Oslo 63.95 340 *e*P P 12 18 39.2 +0.2
PKCU Pink Cliffs 63.98 62 IAmb IAmb 12 18 45.5
comp=Z,46nm,0.9s
KNB Kanab 64.01 63 IAmb IAmb 12 18 44.5
comp=Z,44nm,1.0s
HRA Herat 64.04 293 P P 12 18 40.5 +0.2
HRA IAmb IAmb 12 18 41.8
comp=Z,59nm,1.8s
SUE Sulen 64.06 343 *e*P P 12 18 39.8 +0.1
MURC Murrieta 64.08 68 P P 12 18 40.4 +0.1
baz=317,SNR=11
GMRC Granite Mounta 64.08 66 P P 12 18 40.7 +0.2
baz=317,SNR=35
VSVD Vaisvydziai 64.09 331 *e*P P 12 18 39.9 0.0
MNK Minsk 64.11 328 *i* P P 12 18 38.8 -1.3
MNK *i* *PP pP 12 20 19.6 +3.1
MNK *i* 12 21 06.1
MNK *i* PPP PPP 12 22 46.5
MNK *i* S S 12 26 37.8 -1.6
MNK *i* SS SS 12 31 00.4 +2.4
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=N,20nm,1.0s
MNK pmax pmax
comp=Z,48nm,1.2s
O20A White River Ci 64.15 57 P P 12 18 40.8 -0.1
baz=318,SNR=56
KONO Kongsberg 64.45 340 *e*P P 12 18 42.4 +0.3
KONO Kongsberg 64.45 340 P P 12 18 41.9 -0.2
BELC Belle Mtn. Jos 64.46 67 P P 12 18 42.9 0.0
baz=318,SNR=15
PABE Paberze 64.49 331 *e*P P 12 18 42.9 +0.4
PFO Pinyon Flats O 64.49 68 P P 12 18 43.3 +0.2
PFO Pinyon Flats O 64.49 68 P P 12 18 43.3 +0.2
PFO pmax pmax
comp=Z,30nm,1.2s
PFO Pinyon Flats O 64.49 68 P P 12 18 43.1 +0.1
baz=318,SNR=11
PFO Pinyon Flats O 64.49 68 P P 12 18 43.5 +0.4
TPFO Pinon Flats 64.49 68 P P 12 18 43.4 +0.3
baz=318,SNR=12
ASK Askoy 64.52 343 *e*P P 12 18 43.6 +1.0
BER Bergen 64.59 343 *e*P P 12 18 42.9 -0.1
BER IAmb IAmb 12 18 44.0
comp=Z,211nm,1.6s
109C Camp Elliot, M 64.65 69 P P 12 18 44.1 +0.2
baz=318
NEE2 Needles Airpor 64.67 66 P P 12 18 44.4 +0.3
baz=318
STRU Stroemstad 64.68 339 *i* P P 12 18 43.2 -0.4
B35A Bob, Littlefor 64.68 43 IAmb IAmb 12 18 45.7
comp=Z,65nm,0.8s
B35A Bob, Littlefor 64.68 43 P P 12 18 42.9 -1.0
baz=322,SNR=26
U15A North Rim 64.73 63 IAmb IAmb 12 18 49.0
comp=Z,52nm,1.2s
N23A Red Feather La 64.75 55 IAmb IAmb 12 18 48.3
comp=Z,42nm,1.1s
N23A Red Feather La 64.75 55 P P 12 18 44.7 -0.1
baz=319,SNR=16
ODD1 Odda 64.79 342 *e*P P 12 18 44.1 -0.3
IRM Iron Mountain 64.83 66 P P 12 18 46.0 +0.9
baz=318,SNR=34
BC3 Big Chuckawall 65.02 67 P P 12 18 46.8 +0.4
baz=318,SNR=16
MONP2 Monument Peak 65.04 68 P P 12 18 46.9 +0.2
baz=318,SNR=6.2
BLS5 Blasjo 65.28 342 *e*P P 12 18 47.5 0.0
PDMCI Parker Dam,Lak 65.28 66 P P 12 18 48.5 +0.6
baz=318,SNR=32
CBX Cerro Bola 65.33 69 IAmb IAmb 12 18 50.2
comp=Z,64nm,1.1s
SWSC Sam W. Stewart 65.35 68 P P 12 18 48.5 +0.2
baz=316,SNR=9.9
AKL Akola 65.37 272 *e*P P 12 18 48.9 +0.2
AKL IAmb IAmb 12 18 49.9
comp=Z,30nm,1.0s
MAK Makhachkala 65.37 309 *e*P P 12 18 48.5 +0.2
MAK *e**PP pP 12 20 24.1 -0.9
MAK *e* 12 21 18.0
MAK *e*PPP PPP 12 23 02.5
MAK *e*S S 12 26 56.2 +1.3
MAK *e*SS SS 12 31 21.0 +3.0
MAK pmax pmax
comp=Z,379nm,1.2s
IKP In-Ko-Pah, Jac 65.39 68 P P 12 18 49.0 +0.3
baz=318,SNR=10
SUSD Miller 65.44 48 P P 12 18 48.7 -0.1
baz=320,SNR=9.3
SUSD S S 12 26 53.2 -2.6
baz=320
SUSD Miller 65.44 48 P P 12 18 48.4 -0.3
baz=320,SNR=9.3
BLYC Blythe 65.48 66 IAmb IAmb 12 18 53.8
comp=Z,35nm,0.8s
TJOU Tjoern 65.49 339 *i* P P 12 18 47.8 -1.0
SMCO Snowmass 65.51 57 IAmb IAmb 12 18 51.4
comp=Z,26nm,0.8s
F33A 5 Mile Ranch, 65.55 46 IAmb IAmb 12 18 51.7
comp=Z,69nm,0.9s
F33A 5 Mile Ranch, 65.55 46 P P 12 18 48.5 -0.9
baz=321,SNR=26
BORU Boraas 65.59 338 *i* P P 12 18 48.4 -1.0
KMY Karmoy 65.70 342 *e*P P 12 18 50.1 0.0
ISCO Idaho Springs 65.74 56 IAmb IAmb 12 18 55.0
comp=Z,57nm,1.1s
ISCO Idaho Springs 65.74 56 P P 12 18 51.9 +0.8
ISCO pmax pmax
comp=Z,48nm,1.3s
ISCO Idaho Springs 65.74 56 P P 12 18 50.9 -0.2
baz=319,SNR=41
ISCO Idaho Springs 65.74 56 P P 12 18 51.4 +0.2
baz=319,SNR=41
BRIGG Briggsdale 65.81 55 IAmb IAmb 12 18 55.0
comp=Z,93nm,1.1s
WUAZ Wupatki 65.91 63 IAmb IAmb 12 18 56.4
comp=Z,57nm,1.1s
WUAZ Wupatki 65.91 63 P P 12 18 52.2 +0.1
baz=318,SNR=35
EYMN Ely 65.93 42 P P 12 18 51.0 -0.7
baz=323
EYMN S S 12 26 59.4 -2.0
baz=323
EYMN Ely 65.93 42 P P 12 18 50.0 -1.8
baz=323
HOMB Homborsund 65.94 340 *e*P P 12 18 51.6 0.0
SUW Suwalki 66.00 330 IAmb IAmb 12 18 50.4
comp=Z,98nm,1.2s
SUW Suwalki 66.00 330 *e*P P 12 18 49.5 -2.6
ONAU Onsala 66.00 338 *i* P P 12 18 50.9 -1.1
BLEU Blekinge 66.05 336 *i* P P 12 18 50.7 -1.6
SNART Snartemo 66.14 341 *e*P P 12 18 52.4 -0.4
SNART Snartemo 66.14 341 *i* P P 12 18 52.5 -0.4
FABU Falkenberg 66.18 338 *i* P P 12 18 52.5 -0.6
Y14A Wickenburg 66.18 65 IAmb IAmb 12 18 55.7
comp=Z,29nm,0.8s
MVCO Mesa Verde 66.19 60 P P 12 18 53.8 -0.1
baz=319,SNR=19
DEL Delary 66.38 337 *i* P P 12 18 52.6 -1.8
K30B Basset 66.49 50 P P 12 18 55.1 -0.3
baz=321,SNR=21
K30B S S 12 27 08.5 +0.1
baz=321
PSI Prapat 66.59 242 P P 12 18 56.0 -0.5
comp=Z,17nm,0.7s
Q24A Divide 66.61 56 P P 12 18 56.8 +0.3
baz=320,SNR=20
COEN Coen 66.65 190 P P 12 18 57.8 +1.3
COEN Coen 66.65 190 P P 12 18 57.6 +1.1
OGNE Ogallala 66.66 53 P P 12 18 56.3 -0.3
baz=320,SNR=28
OGNE Ogallala 66.66 53 P P 12 18 56.6 0.0
baz=320,SNR=28
S22A 4UR Ranch, Cre 66.66 58 IAmb IAmb 12 19 00.9
comp=Z,51nm,1.4s
S22A 4UR Ranch, Cre 66.66 58 P P 12 18 57.0 +0.1
baz=319,SNR=24
X16A Lo Mia Camp, P 66.69 64 IAmb IAmb 12 19 01.8
comp=Z,32nm,0.9s
F36A Milaca 66.74 44 IAmb IAmb 12 18 57.8
comp=Z,71nm,1.9s
F36A Milaca 66.74 44 P P 12 18 55.3 -1.5
baz=322,SNR=9.1
AKASG Malin Array Be 66.82 325 P P 12 18 56.2 -1.0
comp=Z,4.5nm,0.4s,baz=32,slow=6.1,SNR=25
AKASG pP pP 12 20 35.7 +1.1
comp=Z,5.5nm,0.8s,baz=30,slow=6.4,SNR=2.4
comp=Z,4.5nm,0.4s
AKBB Malin Array Si 66.82 325 IAmb IAmb 12 20 50.2
comp=Z,53nm,1.4s
KIEV Kiev 66.83 325 ⇑P P 12 18 56.0 -1.3
KIEV Kiev 66.83 325 P P 12 18 56.4 -0.9
KIEV IAmb IAmb 12 20 50.2
comp=Z,52nm,1.5s
KIEV Kiev 66.83 325 P P 12 18 56.0 -1.3
SEKA Sheki 66.86 308 P P 12 18 57.3 -0.4
HYB Hyderabad 66.92 269 *e*P P 12 18 58.4 0.0
KBZ Khabaz 66.92 312 *ce*P P 12 18 58.2 +0.2
KBZ pmax pmax
comp=Z,23nm,1.4s
KBZ Khabaz 66.92 312 P P 12 18 58.5 +0.5
comp=Z,6.8nm,0.5s,baz=98,slow=1.9,SNR=36
comp=Z,6.8nm,0.5s
BJUU Bjuv 66.94 337 *i* P P 12 18 56.9 -1.0
E38A The Farm, Brul 66.97 43 P P 12 18 57.0 -1.3
baz=323,SNR=23
ECSD EROS Data Cent 67.05 48 IAmb IAmb 12 19 01.2
comp=Z,71nm,0.8s
ECSD EROS Data Cent 67.05 48 P P 12 18 58.2 -0.6
baz=322,SNR=80
ECSD S S 12 27 13.4 -1.5
baz=322
ECSD EROS Data Cent 67.05 48 P P 12 18 57.5 -1.3
baz=322,SNR=80
W18A Petrified Fore 67.09 62 P P 12 18 59.6 +0.1
baz=319
ZEI Tsey 67.20 311 *e*P P 12 18 58.8 -1.2
ZEI pmax pmax
comp=Z,5.0nm,0.6s
KDU Kakadu 67.22 202 P P 12 19 01.1 +1.0
BSD Bornholm Skovb 67.34 335 *i* P P 12 18 58.8 -1.6
BSD IAmb IAmb 12 19 01.0
comp=Z,26nm,0.6s
SDCO Great Sand Dun 67.35 57 P P 12 19 00.7 -0.5
baz=320,SNR=39
SDCO Great Sand Dun 67.35 57 P P 12 19 01.1 0.0
baz=320,SNR=39
X18A Snowflake 67.42 63 IAmb IAmb 12 19 05.7
comp=Z,49nm,1.1s
MUD Monsted U'grnd 67.48 339 *e*P P 12 19 00.7 -0.4
SPMN Marine on St. 67.55 44 IAmb IAmb 12 19 03.7
comp=Z,41nm,0.9s
SPMN Marine on St. 67.55 44 P P 12 19 01.6 -0.2
baz=323,SNR=9.9
SPMN Marine on St. 67.55 44 P P 12 19 00.9 -1.0
baz=323,SNR=9.9
ONI Oni 67.56 311 P P 12 19 02.9 +0.9
ONI IAmb IAmb 12 20 45.5
comp=Z,56nm,1.7s
ONI Oni 67.56 311 P P 12 19 02.9 +0.9
ONI pmax pmax
comp=Z,56nm,1.7s
MTN Manton Dam 67.68 203 P P 12 19 04.0 +1.1
MTN IAmb IAmb 12 19 04.6
comp=Z,26nm,0.6s
MTN Manton Dam 67.68 203 P P 12 19 04.1 +1.2
GANJ Ganja 67.72 308 P P 12 19 02.4 -0.6
214A Organ Pipe Nat 67.77 66 IAmb IAmb 12 19 07.5
comp=Z,35nm,1.0s
214A Organ Pipe Nat 67.77 66 P P 12 19 03.7 +0.2
baz=319,SNR=17
KSCO Kaye Shedlock' 67.84 55 P P 12 19 03.5 -0.5
baz=320
SCHQ Schefferville 68.12 24 P P 12 19 03.8 -1.4
comp=Z,44nm,0.4s,baz=351,slow=5.7,SNR=166
comp=Z,44nm,0.4s
BGNE Belgrade 68.16 50 P P 12 19 05.2 -0.6
baz=322,SNR=10
BGNE S S 12 27 28.7 +0.7
baz=322
BGNE Belgrade 68.16 50 P P 12 19 04.8 -0.9
baz=322,SNR=10
BGNE S S 12 27 28.6 +0.6
baz=322
I37B Waseca 68.26 45 P P 12 19 05.7 -0.5
baz=323,SNR=21
T25A Trinidad 68.37 57 IAmb IAmb 12 19 10.4
comp=Z,59nm,1.2s
T25A Trinidad 68.37 57 P P 12 19 07.5 +0.2
baz=320,SNR=12
SOC Sochi 68.46 314 *e*P P 12 19 06.2 -1.2
SOC *e**PP pP 12 20 43.5 -1.8
SOC *e**SP sP 12 21 35.2 +0.6
SOC *e* 12 21 47.3
SOC *e*PPP PPP 12 23 26.7
SOC *e*S S 12 27 30.0 -1.3
SOC *e*SS SS 12 32 08.2 +2.9
SOC pmax pmax
comp=Z,16nm,0.6s
ANN Anapa 68.47 316 *e*P P 12 19 08.9 +1.5
ANN pmax pmax
comp=Z,102nm,1.2s
L34A Svendsen Farm, 68.55 49 P P 12 19 08.1 0.0
baz=322,SNR=8.9
L34A S S 12 27 31.2 -1.2
baz=322
GSI Gunungsitoli 68.57 242 P P 12 19 09.3 +0.8
GSI IAmb IAmb 12 19 11.1
comp=Z,39nm,0.7s
G40A Rib Lake 68.61 43 IAmb IAmb 12 19 10.2
comp=Z,54nm,1.0s
G40A Rib Lake 68.61 43 P P 12 19 07.5 -0.9
baz=324,SNR=8.9
TUC Tucson 68.63 65 P P 12 19 09.0 +0.2
TUC Tucson 68.63 65 P P 12 19 09.0 +0.2
TUC Tucson 68.63 65 P P 12 19 09.4 +0.6
baz=320
TUC Tucson 68.63 65 P P 12 19 09.6 +0.8
GNI Garni 68.86 309 *i* P P 12 19 10.7 +0.6
GNI pmax pmax
comp=Z,31nm,1.2s
GNI Garni 68.86 309 P P 12 19 11.6 +1.5
comp=Z,8.6nm,0.5s,baz=274,slow=2.5,SNR=4.0
comp=Z,8.6nm,0.5s
GNI Garni 68.86 309 P P 12 19 11.6 +1.5
ANMO Albuquerque 68.98 60 P P 12 19 11.6 +0.5
ANMO Albuquerque 68.98 60 *i* P P 12 19 11.1 +0.1
ANMO pmax pmax
comp=Z,23nm,1.2s
ANMO Albuquerque 68.98 60 P P 12 19 11.2 +0.2
baz=320
ANMO Albuquerque 68.98 60 P P 12 19 11.5 +0.5
baz=320,SNR=23
ANMO Albuquerque 68.98 60 P P 12 19 11.5 +0.5
ANMO pP pP 12 20 53.0 +3.6
N33B J Bar K, Exete 69.01 50 S S 12 27 37.5 -0.4
baz=322
BATM Batumi 69.14 312 P P 12 19 10.3 -1.3
SORM Soroca 69.28 324 ⇓P P 12 19 11.5 -0.9
SORM Soroca 69.28 324 P P 12 19 11.4 -0.9
LVV L'vov 69.34 327 *e*P P 12 19 12.4 -0.3
Y22D IRIS PASSCAL I 69.40 61 IAmb IAmb 12 19 17.9
comp=Z,128nm,1.6s
Y22D IRIS PASSCAL I 69.40 61 P P 12 19 14.0 +0.5
baz=320
Y22F Passcal Instru 69.40 61 P P 12 19 12.7 -0.8
baz=320
CBKS Cedar Bluff 69.42 53 IAmb IAmb 12 19 16.0
comp=Z,54nm,0.8s
CBKS Cedar Bluff 69.42 53 P P 12 19 12.8 -0.6
baz=322,SNR=16
CBKS Cedar Bluff 69.42 53 P P 12 19 12.4 -1.0
baz=322,SNR=16

Y22A	Socorro	69.48	61	P	P	12 19 14.7	+0.7	P38A	Dawn	71.71	48
	baz=320,SNR=16								comp=Z,84nm,0.8s		
BSEG	Bad Segeberg	69.54	338	P	P	12 19 13.8	+0.1	P38A	Dawn	71.71	48
BSEG				pmax	pmax				baz=324,SNR=17		
	comp=Z,35nm,1.5s							P38A			
I40A	Norwalk	69.55	44	IAmb	IAmb	12 19 15.8			baz=324		
	comp=Z,59nm,0.8s							ELIS	Ellis County	71.73	54
I40A	Norwalk	69.55	44	P	P	12 19 13.0	-1.0		comp=Z,51nm,0.9s		
	baz=324,SNR=12							OK038	West end E0370	71.74	54
K38A	Parkersburg	69.62	46	IAmb	IAmb	12 19 16.2			comp=Z,50nm,1.0s		
	comp=Z,78nm,1.1s							OK032	Salt Plains WL	71.75	53
N35A	Tabor	69.76	49	P	P	12 19 15.3	-0.1		comp=Z,68nm,1.4s		
	baz=323,SNR=13							KAN09	Caldwell North	71.77	53
N35A				S	S	12 27 43.3	-3.1		comp=Z,38nm,0.9s		
	baz=323							KAN17	Caldwell West	71.78	53
RTBA	Rita Blanca	69.77	56	IAmb	IAmb	12 19 18.2			comp=Z,47nm,1.0s		
	comp=Z,74nm,1.1s							HSKC	Hora Svate Kat	71.81	334
KWP	Kalwaria Pacla	69.94	328	eP	P	12 19 16.7	+0.5	TURR	Turia	71.89	324
KWP	Kalwaria Pacla	69.94	328	IAmb	IAmb	12 19 19.6		N41A	Harden Midland	72.04	46
	comp=Z,68nm,1.1s								comp=Z,93nm,1.1s		
KWP	Kalwaria Pacla	69.94	328	P	P	12 19 16.6	+0.3	MNTX	Cornudas Mount	72.05	61
KWP				pmax	pmax				baz=321,SNR=55		
	comp=Z,63nm,0.9s							MNTX			
SCIA	State Center	70.02	47	P	P	12 19 16.4	-0.5		baz=321		
	baz=324							MNTX	Cornudas Mount	72.05	61
E46A	Sault Ste Mari	70.05	38	IAmb	IAmb	12 19 18.1			baz=321,SNR=55		
	comp=Z,61nm,1.1s							GOPC	GO Pecny, Ondr	72.07	333
E46A	Sault Ste Mari	70.05	38	P	P	12 19 16.4	-0.5	GOPC	GO Pecny, Ondr	72.07	333
	baz=327,SNR=5.2							PRU	Pruhonice	72.07	333
121A	Cookes Peak, D	70.11	62	IAmb	IAmb	12 19 22.1		PRU	Pruhonice	72.07	333
	comp=Z,63nm,1.1s							SMWD	Samnorwood	72.08	56
121A	Cookes Peak, D	70.11	62	P	P	12 19 18.1	+0.3		comp=Z,66nm,0.9s		
	baz=320,SNR=40							L44A	Lake County Fo	72.09	43
121A				S	S	12 27 55.4	+4.3		baz=326		
	baz=320							CROK	Carrier	72.10	53
121A	Cookes Peak, D	70.11	62	P	P	12 19 19.0	+1.2		comp=Z,53nm,1.1s		
	baz=320,SNR=40							VRAC	Vranov	72.10	332
319A	Douglas	70.17	64	IAmb	IAmb	12 19 22.7		VRAC	Vranov	72.10	332
	comp=Z,64nm,1.0s							VRAC			
R32A	Long Quarter,	70.23	52	IAmb	IAmb	12 19 20.0			e		
	comp=Z,74nm,1.6s							VRAC	Vranov	72.10	332
R32A	Long Quarter,	70.23	52	P	P	12 19 17.7	-0.5		comp=Z,18nm,0.6s,baz=24,slow=5.5,SNR=17		
	baz=322								comp=Z,18nm,0.6s		
I42A	Draeger Farm,	70.27	43	IAmb	IAmb	12 19 20.2		VYHS	Vyhne	72.16	330
	comp=Z,71nm,0.9s							VYHS			
OJC	Ojcow	70.33	330	IAmb	IAmb	12 19 21.0			comp=Z,129nm,2.2s		
	comp=Z,39nm,1.1s							VYHS	Vyhne	72.16	330
OJC	Ojcow	70.33	330	P	P	12 19 18.7	+0.1	VYHS			
OJC				pmax	pmax			JAVC	Velka Javorina	72.18	331
	comp=Z,32nm,1.5s							JAVC			
JFWS	Jewell Farm	70.50	44	P	P	12 19 18.1	-1.6	MOX	Moxa	72.25	335
	baz=325							MOX			
JFWS				S	S	12 27 55.2	+0.4		comp=Z,23nm,0.9s		
	baz=325							PSZ	Piszkesteto	72.34	329
JFWS	Jewell Farm	70.50	44	P	P	12 19 17.7	-2.0	PSZ	Piszkesteto	72.34	329
	baz=325							KRUC	Moravsky	72.38	332
STHS	Stebnicka Huta	70.59	329	eP	P	12 19 20.5	+0.3	KRUC			
STHS				pmax	pmax				e		
	comp=Z,19nm,0.9s							KRUC	Moravsky	72.38	332
STHS	Stebnicka Huta	70.59	329	eP	P	12 19 20.5	+0.3	MLR	Muntele Rosu	72.40	324
STHS				epP	pP	12 21 03.1	+4.2	MLR	Muntele Rosu	72.40	324
KOLS	Kolonicke sedl	70.68	328	eP	P	12 19 21.4	+0.7		comp=Z,154nm,1.9s		
KOLS				pmax	pmax			MLR	Muntele Rosu	72.40	324
	comp=Z,15nm,0.7s								comp=Z,14nm,0.5s,baz=294,slow=5.5,SNR=7.1		
KOLS	Kolonicke sedl	70.68	328	eP	P	12 19 21.4	+0.7		comp=Z,14nm,0.5s		
KOLS				epP	pP	12 21 02.6	+3.2	NKC	Novy Kostel	72.41	335
KSU1	Kansas State U	70.70	51	IAmb	IAmb	12 19 23.1		NKC			
	comp=Z,58nm,0.8s								comp=Z,22nm,1.4s		
KSU1	Kansas State U	70.70	51	P	P	12 19 19.9	-1.1	CTA	Charters Tower	72.44	187
	baz=323,SNR=15							CTAO	Charters Tower	72.44	187
KSU1	Kansas State U	70.70	51	P	P	12 19 20.0	-1.1	P40A	Paris	72.46	47
	baz=323,SNR=15								baz=325,SNR=34		
L40A	Anamosa	70.77	45	IAmb	IAmb	12 19 22.7		J47A	Sunmer	72.47	40
	comp=Z,43nm,0.9s								comp=Z,70nm,0.8s		
L40A	Anamosa	70.77	45	P	P	12 19 19.9	-1.5	J47A	Sunmer	72.47	40
	baz=324,SNR=7.1								baz=327,SNR=7.4		
KSP	Ksiaz	70.81	333	eP	P	12 19 22.0	+0.6	J47A			
EKA	Eskdalemuir Ar	70.81	346	P	P	12 19 20.6	-0.7		baz=327,SNR=7.4		
	comp=Z,11nm,0.4s,baz=16,slow=4.9,SNR=110							T35A	Sooner Cattle	72.48	52
	comp=Z,11nm,0.4s								comp=Z,35nm,0.8s		
ESK	Eskdalemuir	70.83	346	P	P	12 19 20.8	-0.7	T35B	Sooner Cattle	72.48	52
BURAR	Bucovina Array	70.84	326	⇓P	P	12 19 21.2	-0.6		baz=323,SNR=13		
BURAR	Bucovina Array	70.84	326	P	P	12 19 21.1	-0.6	BUG	Bochum--Univer	72.56	338
NIE	Niedzica	70.89	329	eP	P	12 19 22.9	+0.9	BUG			
NIE	Niedzica	70.89	329	P	P	12 19 22.2	+0.3		comp=Z,62nm,1.7s		
NIE				pmax	pmax			SMOL	Smolenice	72.56	331
	comp=Z,9.0nm,1.5s							SMOL			
CRVS	Cervenica-Dubn	70.97	329	eP	P	12 19 23.2	+0.8		comp=Z,44nm,2.0s		
CRVS				pmax	pmax			OK051	E0350 and S346	72.66	52
	comp=Z,120nm,2.1s								comp=Z,54nm,1.0s		
CRVS	Cervenica-Dubn	70.97	329	eP	P	12 19 23.2	+0.8	I49A	Point Hope	72.66	39
CRVS				epP	pP	12 21 03.6	+2.4		baz=328		
KNRA	Kununurra	70.99	205	P	P	12 19 23.2	+0.4	I49A			
KNRA	Kununurra	70.99	205	P	P	12 19 23.5	+0.7		baz=328		
UPC	Upice	71.19	333	eP	P	12 19 23.8	+0.1	ZVC	Zvikov	72.66	333
UPC	Upice	71.19	333	eP	P	12 19 23.8	+0.1	OK048	Pawnee Station	72.67	53
GLMI	Grayling	71.22	39	P	P	12 19 22.9	-1.0		comp=Z,50nm,1.1s		
	baz=327							M44A	Midewin, Midew	72.69	44
DPC	Dobruska-Polom	71.24	332	eP	P	12 19 24.1	+0.1		comp=Z,52nm,0.9s		
DPC	Dobruska-Polom	71.24	332	eP	P	12 19 24.1	+0.1	MODS	Modra-Piesok	72.73	331
TESR	Tescani	71.28	324	⇑P	P	12 19 23.3	-1.0	MODS			
CLL	Collm	71.28	335	IAmb	IAmb	12 19 26.0			comp=Z,61nm,1.1s		
	comp=Z,55nm,1.2s							MODS	Modra-Piesok	72.73	331
CLL	Collm	71.28	335	*i* P	P	12 19 23.3	-0.9	HDIL	Hopedale	72.84	45
CLL				*e**PP	pP	12 21 05.0	+1.9		comp=Z,98nm,1.1s		
CLL				*i* S	S	12 28 01.6	-1.8	SRO	Srobarova	72.92	330
CLL				pmax	pmax			SRO	Srobarova	72.92	330
	comp=Z,51nm,1.1s							JASK	Jask - Hormozg	72.92	290
KRLC	Kraliky	71.36	332	eP	P	12 19 24.4	-0.3	ZST	Bratislava	72.95	331
KRLC	Kraliky	71.36	332	eP	P	12 19 24.4	-0.3	ZST	Bratislava	72.95	331
LANS	Liptovska Anna	71.38	330	eP	P	12 19 25.5	+0.6	VHRN	Van Horn	72.97	62
LANS				pmax	pmax				comp=Z,35nm,0.9s		
	comp=Z,21nm,0.9s							OK033	Mehan	72.97	53
LANS	Liptovska Anna	71.38	330	eP	P	12 19 25.5	+0.6		comp=Z,84nm,1.0s		
MORC	Moravsky Berou	71.40	331	⇓P	P	12 19 25.5	+0.5	QUOK	Quay	72.98	53
MORC	Moravsky Berou	71.40	331	IAmb	IAmb	12 19 27.6			comp=Z,98nm,1.1s		
	comp=Z,32nm,0.9s							POST	Post	73.03	58
MORC	Moravsky Berou	71.40	331	eP	P	12 19 24.8	-0.2		comp=Z,78nm,1.1s		
MORC				*e*		12 21 06.1		WMOK	Wichita Mounta	73.10	55
MORC	Moravsky Berou	71.40	331	P	P	12 19 25.4	+0.5	WMOK			
NGCH	Negor - Chabah	71.41	287	P	P	12 19 27.0	+1.6		comp=Z,50nm,1.0s		
BRG	Berggiesshubel	71.43	334	eP	P	12 19 25.0	0.0	WMOK	Wichita Mounta	73.10	55
BRG				Amp		12 19 27.2			baz=323,SNR=12		
	comp=Z,27nm,1.3s							WMOK			
BRG				⇑PP	PcP	12 19 45.3	+3.9		baz=323,SNR=12		
BRG				Amp		12 19 45.7		KHC	Kasperske Hory	73.11	333
	comp=Z,10.0nm,1.0s							KHC			
BRG				pP	pP	12 21 07.5	+3.5		comp=Z,77nm,0.9s		
BRG				Amp		12 21 14.6		KHC	Kasperske Hory	73.11	333
	comp=Z,10nm,1.1s							LDAQ	Lac Daran	73.11	29
BRG	Berggiesshubel	71.43	334	eP	P	12 19 25.0	0.0		comp=Z,60nm,0.9s		
BRG						12 19 45.3		PECS	Pecos	73.11	61
BRG						12 21 07.5			comp=Z,34nm,0.9s		
BRG				pmax	pmax			GRA3	Grafenberg Arr	73.13	335
	comp=Z,27nm,1.3s								comp=Z,50nm,1.1s,baz=23,slow=4.9		
K43A	Burlington	71.48	43	IAmb	IAmb	12 19 27.5		SIRR	Siria	73.22	327
	comp=Z,52nm,0.8s							GRA2	Grafenberg Arr	73.22	335
K43A	Burlington	71.48	43	P	P	12 19 24.3	-1.2		comp=Z,60nm,1.0s,baz=23,slow=4.9		
	baz=326							GRF	Grafenberg Arr	73.22	335
L42A	Oliver, Polo	71.49	44	IAmb	IAmb	12 19 27.2			comp=Z,43nm,1.0s,baz=23,slow=4.9		
	comp=Z,47nm,0.8s							ODSA	Odessa	73.23	59
L42A	Oliver, Polo	71.49	44	P	P	12 19 23.9	-1.6		comp=Z,57nm,1.2s		
	baz=325							GRA4	Grafenberg Arr	73.28	335
AMTX	Amarillo	71.52	57	IAmb	IAmb	12 19 29.6			comp=Z,54nm,1.0s,baz=23,slow=4.9		
	comp=Z,43nm,0.8s							WET	Wettzell	73.29	334
AMTX	Amarillo	71.52	57	P	P	12 19 25.6	-0.4	WET			
	baz=322								comp=Z,26nm,0.7s		
AMTX	Amarillo	71.52	57	P	P	12 19 25.2	-0.8	GEC2	GERESS Array S	73.33	333
	baz=322,SNR=13							GEC2			
KAN08	Anthony NE Sta	71.53	53	IAmb	IAmb	12 19 27.8			comp=Z,17nm,0.8s		
	comp=Z,53nm,1.0s							GERES	GERESS Array B	73.33	333
KECS	Kecovo	71.65	329	eP	P	12 19 26.3	-0.1		comp=Z,8.6nm,0.5s,baz=30,slow=6.6,SNR=13		
MSTX	Muleshoe	71.67	58	IAmb	IAmb	12 19 30.3			comp=Z,8.6nm,0.5s		
	comp=Z,42nm,0.9s							DEOK	Depew	73.35	53
MSTX	Muleshoe	71.67	58	P	P	12 19 26.6	-0.4		comp=Z,94nm,1.0s		
	baz=322,SNR=13							R40A	Maddies Statio	73.37	48
MSTX				S	S	12 28 07.8	-0.7		comp=Z,127nm,1.4s		
	baz=322							R40A	Maddies Statio	73.37	48
MSTX	Muleshoe	71.67	58	P	P	12 19 27.4	+0.5		baz=325,SNR=24		
	baz=322,SNR=13							S39A	Bolivar	73.37	49
KAN05	Bluff City Nor	71.67	53	IAmb	IAmb	12 19 28.7			comp=Z,44nm,1.0s		
	comp=Z,43nm,0.8s							S39A	Bolivar	73.37	49
KAN01	Argonia South	71.69	53	IAmb	IAmb	12 19 28.8			baz=324,SNR=26		
	comp=Z,58nm,1.0s							GRB1	Grafenberg Arr	73.39	335
U32A	Winter Ranch,	71.69	54	IAmb	IAmb	12 19 29.4			comp=Z,66nm,1.4s,baz=23,slow=4.9		
	comp=Z,55nm,1.2s							GRB3	Grafenberg Arr	73.39	335
	comp=Z,53nm,1.2s,baz=23,slow=4.9							TNS	Taunus Mts	73.42	337
TNS				pmax	pmax				comp=Z,34nm,0.6s		
	comp=Z,34nm,0.6s							PALK	Pallekele	73.49	260
PALK	Pallekele	73.49	260	P	P	12 19 36.5	-1.1	PALK	Pallekele	73.49	260
GRB2	Grafenberg Arr	73.49	335	eP	P	12 19 37.9	+0.8	GRB2	Grafenberg Arr	73.49	335
	comp=Z,27nm,0.8s,baz=23,slow=4.9								comp=Z,27nm,0.8s,baz=23,slow=4.9		
P43A	Skaggs, Pawnee	73.50	46	IAmb	IAmb	12 19 39.0		P43A	Skaggs, Pawnee	73.50	46
	comp=Z,46nm,1.0s								comp=Z,46nm,1.0s		
SURR	Surduc	73.51	326	⇑P	P	12 19 37.2	0.0	SURR	Surduc	73.51	326
O44A	Mansfield	73.53	45	IAmb	IAmb	12 19 39.5		O44A	Mansfield	73.53	45
	comp=Z,32nm,0.7s								comp=Z,32nm,0.7s		
CONA	Conrad Observa	73.55	332	*i* P	P	12 19 37.9	+0.4	CONA	Conrad Observa	73.55	332
	comp=Z,37nm,1.1s,SNR=14								comp=Z,37nm,1.1s,SNR=14		
QIS	Mount Isa	73.60	193	P	P	12 19 38.0	+0.1	QIS	Mount Isa	73.60	193
BTNL	Ternell	73.61	339	*d*P	P	12 19 37.0	-0.7	BTNL	Ternell	73.61	339
MEM	Membach	73.62	339	P	P	12 19 38.3	+0.6	MEM	Membach	73.62	339
MEM				pmax	pmax			MEM			
	comp=Z,48nm,1.2s								comp=Z,48nm,1.2s		
MEM	Membach	73.62	339	*d*P	P	12 19 37.2	-0.5	MEM	Membach	73.62	339
RONA	Rosalia, Austr	73.63	331	*i* P	P	12 19 39.3	+1.4	RONA	Rosalia, Austr	73.63	331
	comp=Z,35nm,1.1s,SNR=7.0								comp=Z,35nm,1.1s,SNR=7.0		
GRB5	Grafenberg Arr	73.64	335	eP	P	12 19 38.5	+0.6	GRB5	Grafenberg Arr	73.64	335
	comp=Z,31nm,1.0s,baz=23,slow=4.9								comp=Z,31nm,1.0s,baz=23,slow=4.9		
TUL3	Leonard	73.64	52	P	P	12 19 37.9	-0.2	TUL3	Leonard	73.64	52
	baz=324,SNR=20								baz=324,SNR=20		
TUL3	Leonard	73.64	52	P	P	12 19 37.7	-0.4	TUL3	Leonard	73.64	52
	baz=324,SNR=20								baz=324,SNR=20		
X34A	Smith Ranch, M	73.68	54	IAmb	IAmb	12 19 42.3		X34A	Smith Ranch, M	73.68	54
	comp=Z,65nm,1.0s								comp=Z,65nm,1.0s		
GRC4	Grafenberg Arr	73.70	335	eP	P	12 19 38.8	+0.5	GRC4	Grafenberg Arr	73.70	335
	comp=Z,34nm,1.3s,baz=23,slow=4.9								comp=Z,34nm,1.3s,baz=23,slow=4.9		
L48A	N Adams	73.71	41	P	P	12 19 37.6	-0.9	L48A	N Adams	73.71	41
	baz=328,SNR=13								baz=328,SNR=13		
L48A				P	P	12 19 37.6	-0.9	L48A			
	baz=328,SNR=13								baz=328,SNR=13		
W35A	Tecumseh	73.72	53	IAmb	IAmb	12 19 41.4		W35A	Tecumseh	73.72	53
	comp=Z,77nm,1.1s								comp=Z,77nm,1.1s		
AAM	Ann Arbor	73.72	40	P	P	12 19 37.7	-0.8	AAM	Ann Arbor	73.72	40
	baz=328								baz=328		
K50A	Casco	73.72	39	P	P	12 19 38.1	-0.4	K50A	Casco	73.72	39
	baz=328								baz=328		
K50A				P	P	12 19 38.1	-0.4	K50A			
	baz=328								baz=328		
MNHN	Monahans	73.73	60	IAmb	IAmb	12 19 42.2		MNHN	Monahans	73.73	60
	comp=Z,34nm,0.9s								comp=Z,34nm,0.9s		
BSTI	Sart Tilman	73.74	339	*d*P	P	12 19 38.7	+0.3	BSTI	Sart Tilman	73.74	339
SHME	Shamm	73.77	292	P	P	12 19 38.7	-0.3	SHME	Shamm	73.77	292
SHME	Shamm	73.77	292	P	P	12 19 38.7	-0.3	SHME	Shamm	73.77	292
BANOM	Banah	73.78	291	P	P	12 19 39.0	-0.1	BANOM	Banah	73.78	291
GRC1	Grafenberg Arr	73.78	335	eP	P	12 19 39.2	+0.5	GRC1	Grafenberg Arr	73.78	335
	comp=Z,28nm,0.9s,baz=23,slow=4.9								comp=Z,28nm,0.9s,baz=23,slow=4.9		
BZS	Buzias	73.80	327	⇑P	P	12 19 38.3	-0.6	BZS	Buzias	73.80	327
BZS	Buzias	73.80	327	P	P	12 19 38.9	0.0	BZS	Buzias	73.80	327
BZS				pmax	pmax			BZS			
	comp=Z,21nm,1.8s								comp=Z,21nm,1.8s		
RLO	Rose Lookout	73.80	51	IAmb	IAmb	12 19 41.5		RLO	Rose Lookout	73.80	51
	comp=Z,113nm,1.5s								comp=Z,113nm,1.5s		
COPA	Copaceanca	73.83	324	⇑P	P	12 19 38.4	-0.7	COPA	Copaceanca	73.83	324
BHOU	Houvegnez	73.86	339	*d*P	P	12 19 39.6	+0.5	BHOU	Houvegnez	73.86	339
	comp=Z,19nm,1.1s								comp=Z,19nm,1.1s		
WRAB	Tennant Creek	73.86	198	P	P	12 19 39.8	+0.4	WRAB	Tennant Creek	73.86	198
WRAB	Tennant Creek	73.86	198	P	P	12 19 39.8	+0.4	WRAB	Tennant Creek	73.86	198
WRAB				pmax	pmax			WRAB			
	comp=Z,18nm,0.8s								comp=Z,18nm,0.8s		
GRC3	Grafenberg Arr	73.86	335	eP	P	12 19 39.7	+0.5	GRC3	Grafenberg Arr	73.86	335
	comp=Z,29nm,0.9s,baz=23,slow=4.9								comp=Z,29nm,0.9s,baz=23,slow=4.9		
WB2	Warramunga Arr	73.87	198	P	P	12 19 39.8	+0.4	WB2	Warramunga Arr	73.87	198
WRA	Warramunga Arr	73.87	198	P	P	12 19 39.7	+0.3	WRA	Warramunga Arr	73.87	198
	comp=Z,39nm,0.4s,baz=14,slow=6.0,SNR=69								comp=Z,39nm,0.4s,baz=14,slow=6.0,SNR=69		
	comp=Z,39nm,0.4s								comp=Z,39nm,0.4s		
U38A	Gravette	73.88	51	IAmb	IAmb	12 19 41.7		U38A	Gravette	73.88	51
	comp=Z,84nm,1.4s								comp=Z,84nm,1.4s		
U38A	Gravette	73.88	51	P	P	12 19 38.4	-1.1	U38A	Gravette	73.88	51
	baz=324,SNR=23								baz=324,SNR=23		
U38A				S	S	12 28 29.4	-3.5	U38A			
	baz=324								baz=324		
SFIN	Lafayette	73.93	44	P	P	12 19 39.1	-0.6	SFIN	Lafayette	73.93	44
	baz=327								baz=327		
GRC2	Grafenberg Arr	73.94	335	eP	P	12 19 40.2	+0.5	GRC2	Grafenberg Arr	73.94	335
	comp=Z,66nm,1.6s,baz=23,slow=4.9								comp=Z,66nm,1.6s,baz=23,slow=4.9		
BCLA	Clavier	73.95	339	*d*P	P	12 19 39.3	-0.4	BCLA	Clavier	73.95	339
SLM	Saint Louis	74.01	47	IAmb	IAmb	12 19 42.1		SLM	Saint Louis	74.01	47
	comp=Z,124nm,1.3s								comp=Z,124nm,1.3s		
ALPN	Alpine	74.02	61	IAmb	IAmb	12 19 44.0		ALPN	Alpine	74.02	61
	comp=Z,34nm,0.9s								comp=Z,34nm,0.9s		
CCM	Cathedral Cave	74.03	48	P	P	12 19 38.8	-1.5	CCM	Cathedral Cave	74.03	48
CCM				IAmb	IAmb	12 19 42.3		CCM			
	comp=Z,66nm,1.1s								comp=Z,66nm,1.1s		
CCM	Cathedral Cave	74.03	48	P	P	12 19 38.8	-1.5	CCM	Cathedral Cave	74.03	48
CCM				pmax	pmax			CCM			
	comp=Z,66nm,1.2s								comp=Z,66nm,1.2s		
CCM	Cathedral Cave	74.03	48	P	P	12 19 39.2	-1.1	CCM	Cathedral Cave	74.03	48
	baz=325								baz=325		
CCM	Cathedral Cave	74.03	48	P	P	12 19 39.2	-1.1	CCM	Cathedral Cave	74.03	48
	baz=325,SNR=15								baz=325,SNR=15		
BGES	Gesves	74.03	339	*d*P	P	12 19 39.5	-0.6	BGES	Gesves	74.03	339
BGES				*d*PcP	PcP	12 19 52.1	-0.5	BGES			
WTFS	Witchita Falls	74.03	55	IAmb	IAmb	12 19 42.9		WTFS	Witchita Falls	74.03	55
	comp=Z,48nm,1.1s								comp=Z,48nm,1.1s		
DELO	Deloro Mine	74.08	35	IAmb	IAmb	12 19 41.8		DELO	Deloro Mine	74.08	35
	comp=Z,33nm,0.8s								comp=Z,33nm,0.8s		
MOA	Molln	74.08	332	eP	P	12 19 40.5	0.0	MOA	Molln	74.08	332
	comp=Z,10nm,0.7s								comp=Z,10nm,0.7s		
N47A	Urbana	74.09	42	IAmb	IAmb	12 19 42.1		N47A	Urbana	74.09	42
	comp=Z,70nm,1.2s								comp=Z,70nm,1.2s		
N47A	Urbana	74.09	42	P	P	12 19 39.6	-1.1	N47A	Urbana	74.09	42
	baz=327								baz=327		
N47A				P	P	12 19 39.6	-1.1	N47A			
	baz=327								baz=327		
BMRD	Maredsous	74.18	339	*d*P	P	12 19 40.5	-0.4	BMRD	Maredsous	74.18	339
	comp=Z,23nm,1.2s								comp=Z,23nm,1.2s		
RCHB	Rochefort	74.21	339	*d*P	P	12 19 40.5	-0.7	RCHB	Rochefort	74.21	339
	comp=Z,17nm,1.3s								comp=Z,17nm,1.3s		
HHAR	Hobbs	74.22	51	IAmb	IAmb	12 19 43.6		HHAR	Hobbs	74.22	51
	comp=Z,57nm,1.0s								comp=Z,57nm,1.0s		
BR131	Keskin Array S	74.24	316	IAmb	IAmb	12 22 30.0		BR131	Keskin Array S	74.24	316
	comp=Z,79nm,1.9s								comp=Z,79nm,1.9s		
BR131	Keskin Array S	74.24	316	P	P	12 19 41.6	0.0	BR131	Keskin Array S	74.24	316
BRTR	Keskin Array B	74.24	316	P	P	12 19 41.6	0.0	BRTR	Keskin Array B	74.24	316
	comp=Z,4.2nm,0.5s,baz=54,slow=2.8,SNR=22								comp=Z,4.2nm,0.5s,baz=54,slow=2.8,SNR=22		
	comp=Z,4.2nm,0.5s								comp=Z,4.2nm,0.5s		
MORH	Mrgy, Hungar	74.24	329	⇑P	P	12 19 41.0	-0.4	MORH	Mrgy, Hungar	74.24	329
MDH	Madha	74.26	291	P	P	12 19 40.9	-0.9	MDH	Madha	74.26	291
ARSA	Arzberg	74.26	331	*i* P	P	12 19 42.2	+0.7	ARSA	Arzberg	74.26	331
	comp=Z,25nm,1.1s,SNR=6.5								comp=Z,25nm,1.1s,SNR=6.5		
MASF	Masafi	74.28	291	P	P	12 19 41.8	-0.2	MASF	Masafi	74.28	291
MSFE	Esma-Masafi	74.29	291	P	P	12 19 41.8	-0.3	MSFE	Esma-Masafi	74.29	291
MGMO	Mountain Grove	74.30	49	IAmb	IAmb	12 19 43.7		MGMO	Mountain Grove	74.30	49
	comp=Z,39nm,0.9s								comp=Z,39nm,0.9s		
Q44A	Meyer Farm, Va	74.32	46	IAmb	IAmb	12 19 43.9		Q44A	Meyer Farm, Va	74.32	46
	comp=Z,72nm,1.2s								comp=Z,72nm,1.2s		
Q44A	Meyer Farm, Va	74.32	46	P	P	12 19 40.7	-1.3	Q44A	Meyer Farm, Va	74.32	46
	baz=326,SNR=5.4								baz=326,S

comp=Z,43nm,1.1s
D62A Allapoint, All 74.56 28 P P 12 19 42.0 -1.1
baz=335,SNR=7.0
D62A P P 12 19 42.0 -1.1
baz=335,SNR=7.0
BIDO Bidbid 74.56 288 P P 12 19 44.3 +0.6
U40A Yellville 74.67 50 P P 12 19 42.9 -1.1
baz=325,SNR=52
U40A P P 12 19 42.9 -1.1
baz=325,SNR=52
N49A Columbus Grove 74.68 41 IAmb IAmb 12 19 45.8
comp=Z,42nm,0.8s
N49A Columbus Grove 74.68 41 P P 12 19 42.9 -1.0
baz=328,SNR=7.9
N49A P P 12 19 42.9 -1.0
baz=328,SNR=7.9
HATD Hatta, Dubai 74.72 291 *i* P P 12 19 44.4 -0.1
SNR=12
HATD Hatta, Dubai 74.72 291 P P 12 19 44.5 0.0
SNR=9.9
M50A Fremont 74.72 40 IAmb IAmb 12 19 46.4
comp=Z,52nm,0.9s
M50A Fremont 74.72 40 P P 12 19 43.3 -0.9
baz=328
M50A P P 12 19 43.3 -0.9
baz=328
WBK Wadi Bani Khal 74.78 287 P P 12 19 45.6 +0.7
FRGS Fruska Gora 74.81 328 ⇓P P 12 19 44.5 -0.1
FRGS Fruska Gora 74.81 328 *eP* P 12 19 43.2 -1.4
TX31 Lajitas Ar. Si 74.81 62 IAmb IAmb 12 19 46.9
comp=Z,57nm,0.8s
TX31 Lajitas Ar. Si 74.81 62 P P 12 19 45.4 +0.3
baz=322,SNR=51
TXAR Lajitas Array 74.81 62 P P 12 19 45.5 +0.5
comp=Z,18nm,0.6s,baz=302,slow=5.0,SNR=280
comp=Z,18nm,0.6s
E62A Clayton Lake 74.83 29 IAmb IAmb 12 19 46.4
comp=Z,59nm,1.1s
E62A Clayton Lake 74.83 29 P P 12 19 43.7 -1.0
baz=335,SNR=12
E62A P P 12 19 43.7 -1.0
baz=335,SNR=12
O48B Farmland 74.84 42 IAmb IAmb 12 19 46.4
comp=Z,55nm,0.9s
O48B Farmland 74.84 42 P P 12 19 43.6 -1.3
baz=328,SNR=9.6
O48B Farmland 74.84 42 P P 12 19 43.3 -1.6
baz=328,SNR=9.6
NAZ Nazwa, Dubai 74.86 291 P P 12 19 45.5 +0.2
PLPT Palo Pinto 74.86 56 IAmb IAmb 12 19 47.7
comp=Z,68nm,1.2s
OLIL Olney 74.86 45 IAmb IAmb 12 19 47.0
comp=Z,108nm,1.8s
ASHO Ashiyiah 74.87 291 *i* P P 12 19 43.9 -1.5
SNR=7.3
ASHO Ashiyiah 74.87 291 P P 12 19 45.2 -0.1
SNR=6.9
JLN Jalan Bani Buh 74.88 287 P P 12 19 46.2 +0.8
SNR=5.2
LESA Schwarzleotal 74.91 333 *eP* P 12 19 45.6 +0.3
comp=Z,16nm,0.5s
SOKA Soboth 74.92 331 *i* P P 12 19 45.3 0.0
comp=Z,51nm,1.3s,SNR=14
PERS Pernice 74.94 331 *i* P P 12 19 45.2 -0.2
SMDO Samad 74.98 288 P P 12 19 45.9 -0.1
SOHO SOHO 75.02 290 *i* P P 12 19 45.5 -0.6
SNR=11
SOHO SOHO 75.02 290 P P 12 19 45.9 -0.2
LONY Lake Ozonia 75.03 33 IAmb IAmb 12 19 47.2
comp=Z,34nm,0.8s
LONY Lake Ozonia 75.03 33 P P 12 19 44.5 -1.4
baz=332
KBA Koelnbreinsper 75.04 333 *i* P P 12 19 46.5 +0.3
comp=Z,37nm,0.5s,SNR=34
FAQ Al Faqa, Dubai 75.09 291 *i* P P 12 19 45.9 -0.6
SNR=9.0
FAQ Al Faqa, Dubai 75.09 291 P P 12 19 46.2 -0.3
SAND Sanderson 75.15 60 IAmb IAmb 12 19 50.2
comp=Z,62nm,1.2s
BFO Black Forest 75.21 336 P P 12 19 46.2 -0.6
BFO IAmb IAmb 12 19 48.4
comp=Z,156nm,1.9s
BFO Black Forest 75.21 336 P P 12 19 46.2 -0.6
BFO pmax pmax
comp=Z,156nm,1.9s
SIUC Southern Illin 75.22 47 IAmb IAmb 12 19 49.6
comp=Z,48nm,0.8s
BATG Bathurst New B 75.22 26 IAmb IAmb 12 19 48.9
comp=Z,111nm,1.3s
OBKA Obir 75.22 332 *eP* P 12 19 46.7 -0.3
comp=Z,21nm,0.7s,SNR=5.7
OBKA Obir 75.22 332 *eP* P 12 19 46.5 -0.5
S44A Carbondale 75.22 47 IAmb IAmb 12 19 49.7
comp=Z,46nm,0.8s
S44A Carbondale 75.22 47 P P 12 19 46.1 -0.9
baz=326,SNR=14
M52A Chesterland 75.27 39 P P 12 19 46.7 -0.6
baz=329,SNR=12
M52A P P 12 19 46.7 -0.6
baz=329,SNR=12
ERPA Erie 75.29 38 P P 12 19 46.8 -0.6
baz=330,SNR=13
ERPA Erie 75.29 38 P P 12 19 46.5 -0.9
baz=330,SNR=13
WATA Walderalm 75.29 334 *i* P P 12 19 47.6 +0.1
comp=Z,79nm,1.6s,SNR=10.0
ASUD Al Ashush, Dub 75.33 291 *i* P P 12 19 46.9 -0.9
SNR=6.5
ASUD Al Ashush, Dub 75.33 291 P P 12 19 47.8 -0.1
WTTA Wattenberg 75.34 334 *i* P P 12 19 48.1 +0.3
comp=Z,73nm,1.3s,SNR=14
WTTA Wattenberg 75.34 334 P P 12 19 48.1 +0.3
WTTA pmax pmax
comp=Z,55nm,1.7s
CGM3 Cape Girardeau 75.37 47 IAmb IAmb 12 19 49.9
comp=Z,84nm,1.5s
MYKA Terra Mystica 75.37 332 *i* P P 12 19 48.5 +0.7
comp=Z,8.7nm,0.5s,SNR=6.2
RETA Reutte 75.37 335 *eP* P P 12 19 48.2 +0.3
comp=Z,16nm,0.9s
CDF Champ du Feu 75.38 337 *eP* P P 12 19 47.1 -0.8
CDF pmax pmax
comp=Z,29nm,0.8s
FCAR Ozark Folk Cen 75.39 50 IAmb IAmb 12 19 50.0
comp=Z,90nm,1.4s
P48A Milroy 75.40 43 IAmb IAmb 12 19 49.7
comp=Z,43nm,0.8s
P48A Milroy 75.40 43 P P 12 19 46.8 -1.2
baz=328,SNR=7.9
P48A P P 12 19 46.8 -1.2
baz=328,SNR=7.9
N51A Ashland 75.40 40 IAmb IAmb 12 19 49.8
comp=Z,71nm,0.8s
N51A Ashland 75.40 40 P P 12 19 47.0 -1.0
baz=329,SNR=12
N51A P P 12 19 47.0 -1.0
baz=329,SNR=12
MOTA Moosalm 75.41 334 *i* P P 12 19 47.9 -0.2
comp=Z,60nm,1.2s,SNR=12
DRLN Deer Lake 75.44 20 IAmb IAmb 12 19 49.7
comp=Z,57nm,1.1s
TEKS Tekeris 75.44 328 *eP* P 12 19 46.2 -2.0
PBMO Poplar Bluff 75.45 48 IAmb IAmb 12 19 50.6
comp=Z,83nm,1.1s
PBMO Poplar Bluff 75.45 48 P P 12 19 47.4 -1.0
baz=326,SNR=21
JMDO Jabal Madar 75.48 288 P P 12 19 48.7 -0.1
SNR=6.1
SQTA Sankt Quirin 75.50 334 *i* P P 12 19 49.0 +0.4
comp=Z,76nm,1.4s,SNR=13
BOVS Bovan 75.51 326 ⇓P P 12 19 47.3 -1.2
ALNE Al Ain 75.53 291 *i* P P 12 19 48.4 -0.6
SNR=8.7
ALNE Al Ain 75.53 291 P P 12 19 48.9 -0.1
SNR=5.3
WVNY West Valley, N 75.56 37 P P 12 19 48.0 -0.9
baz=330,SNR=11
PRED Cave del Predi 75.56 332 IAmb IAmb 12 19 51.2
comp=Z,40nm,1.0s
CRES Cresnjev 75.57 331 *i* P P 12 19 48.1 -0.7
CRES Cresnjev 75.57 331 *eP* P 12 19 47.3 -1.6
AJN Ajban 75.58 291 P P 12 19 48.8 -0.5
ABTA Abfaltersbach 75.58 333 *i* P P 12 19 49.0 0.0
comp=Z,22nm,0.7s,SNR=8.0
ECH Echery 75.60 337 P P 12 19 49.6 +0.6
ECH pmax pmax
comp=Z,34nm,1.2s

M53A WI Miller and 75.62 39 P P 12 19 48.4 -0.8
baz=330,SNR=15
P49A Miami Univ. Ec 75.63 42 IAmb IAmb 12 19 51.0
comp=Z,54nm,1.0s
P49A Miami Univ. Ec 75.63 42 P P 12 19 48.6 -0.7
baz=328,SNR=5.7
P49A Miami Univ. Ec 75.63 42 P P 12 19 48.0 -1.3
baz=328,SNR=5.7
ARQ Araqi 75.65 289 P P 12 19 49.7 0.0
SLE Schleitheim 75.69 336 P P 12 19 49.4 -0.2
SLE pmax pmax
comp=Z,32nm,0.9s
USIN University of 75.69 45 IAmb IAmb 12 19 52.4
comp=Z,77nm,0.9s
LCAR Lake Charles 75.70 49 IAmb IAmb 12 19 50.9
comp=Z,107nm,1.7s
LCAR Lake Charles 75.70 49 P P 12 19 49.5 -0.2
baz=326,SNR=9.1
BSY Bisya 75.71 289 P P 12 19 50.2 +0.2
SNR=7.3
SLBS Sierra La Lagu 75.71 70 P P 12 19 49.5 -0.7
NCB Newcomb 75.72 33 IAmb IAmb 12 19 51.5
comp=Z,59nm,0.9s
NCB Newcomb 75.72 33 P P 12 19 48.8 -1.0
baz=332,SNR=9.0
ACSO Alum Creek Sta 75.74 41 IAmb IAmb 12 19 51.9
comp=Z,57nm,1.1s
ACSO Alum Creek Sta 75.74 41 P P 12 19 49.0 -1.0
baz=329
DAVA Damuels 75.79 335 *eP* P 12 19 51.2 +0.9
comp=Z,25nm,1.2s
F63A Nahmakanta, Br 75.79 29 P P 12 19 48.9 -1.2
baz=335,SNR=5.7
F63A P P 12 19 48.9 -1.2
baz=335,SNR=5.7
G62A West of Eustis 75.80 30 IAmb IAmb 12 19 52.4
comp=Z,42nm,1.2s
G62A West of Eustis 75.80 30 P P 12 19 50.2 0.0
baz=334,SNR=5.5
G62A P P 12 19 50.2 0.0
baz=334,SNR=5.5
WHAR Wooly Hollow 75.81 50 IAmb IAmb 12 19 53.2
comp=Z,89nm,1.0s
FETA Feichten 75.81 334 *i* P P 12 19 50.6 +0.2
comp=Z,38nm,1.1s,SNR=8.8
A051A Mrakovica 75.86 330 *eP* P 12 19 48.7 -1.9
F64A Sherman 75.86 28 IAmb IAmb 12 19 52.1
comp=Z,46nm,0.9s
F64A Sherman 75.86 28 P P 12 19 49.5 -0.9
baz=336
F64A P P 12 19 49.5 -0.9
baz=336
VT1 Waterbury 75.89 32 IAmb IAmb 12 19 52.8
comp=Z,66nm,0.8s
J58A Remsen 75.90 34 IAmb IAmb 12 19 52.2
comp=Z,67nm,0.9s
J58A Remsen 75.90 34 P P 12 19 49.0 -1.8
baz=332,SNR=11
J58A P P 12 19 49.0 -1.8
baz=332,SNR=11
BOJS Bojanci 75.92 331 *eP* P 12 19 50.1 -0.7
PAOC Oil Creek Stat 75.93 38 P P 12 19 49.9 -1.0
baz=330
CEY Cerknica 75.95 331 *eP* P 12 19 48.1 -2.9
WHTX Lake Whitney, 75.96 56 IAmb IAmb 12 19 54.1
comp=Z,64nm,1.1s
WHTX Lake Whitney, 75.96 56 P P 12 19 51.0 -0.3
baz=324,SNR=8.7
WHTX Lake Whitney, 75.96 56 P P 12 19 50.6 -0.7
baz=324,SNR=8.7
JCT Junction City 75.96 58 P P 12 19 50.7 -0.7
JCT Junction City 75.96 58 P P 12 19 50.9 -0.5
baz=323,SNR=15
JCT Junction City 75.96 58 P P 12 19 51.7 +0.3
baz=323,SNR=15
HAU Haudompre 75.98 338 *eP* P 12 19 50.2 -1.0
HAU pmax pmax
comp=Z,20nm,0.8s
CIMO Cimolais 76.00 333 IAmb IAmb 12 19 52.6
comp=Z,23nm,1.2s
BLY Banja Luka 76.01 329 *eP* P 12 19 47.8 -3.5
HAPS Han Pijesak,Bl 76.04 328 *eP* P 12 19 50.7 -1.0
HINF Hinteralfeld 76.04 337 *eP* P 12 19 50.3 -1.2
HINF pmax pmax
comp=Z,49nm,1.6s
WCI Wyandotte Cave 76.06 44 P P 12 19 50.7 -1.0
WCI IAmb IAmb 12 19 53.9
comp=Z,55nm,0.9s
WCI Wyandotte Cave 76.06 44 P P 12 19 50.7 -1.0
WCI pmax pmax
comp=Z,55nm,1.0s
WCI Wyandotte Cave 76.06 44 P P 12 19 50.8 -0.9
baz=327
WCI Wyandotte Cave 76.06 44 P P 12 19 50.8 -0.9
baz=327,SNR=10
J59A Piesco 76.08 34 IAmb IAmb 12 19 53.2
comp=Z,62nm,0.9s
BBLS Lazići 76.09 327 *eP* P 12 19 51.5 -0.4
N53A Lisbon 76.10 39 IAmb IAmb 12 19 53.9
comp=Z,102nm,1.1s
N53A Lisbon 76.10 39 P P 12 19 50.9 -1.0
baz=330,SNR=14
N53A P P 12 19 50.9 -1.0
baz=330,SNR=14
PKME Peaks-Kenny Pk 76.13 29 P P 12 19 51.0 -0.9
baz=335
Z38A Mt. Pleasant 76.16 53 IAmb IAmb 12 19 55.0
comp=Z,78nm,1.2s
L56A Greenwood 76.17 36 IAmb IAmb 12 19 53.9
comp=Z,44nm,0.8s
L56A Greenwood 76.17 36 P P 12 19 50.4 -1.9
baz=331,SNR=9.2
L56A P P 12 19 50.4 -1.9
baz=331,SNR=9.2
H62A Milan 76.18 31 IAmb IAmb 12 19 54.5
comp=Z,49nm,0.8s
H62A Milan 76.18 31 P P 12 19 51.6 -0.7
baz=334,SNR=8.9
H62A P P 12 19 51.6 -0.7
baz=334,SNR=8.9
LBNH Lisbon 76.24 32 IAmb IAmb 12 19 54.9
comp=Z,55nm,1.1s
LBNH Lisbon 76.24 32 P P 12 19 51.9 -0.7
baz=334
SKDS Skanscina 76.25 332 *eP* P 12 19 49.2 -3.5
DAVOX Davos/Dischmat 76.25 335 P P 12 19 53.4 +0.5
comp=Z,24nm,0.5s,baz=22,slow=3.2,SNR=26
comp=Z,24nm,0.5s
O52A Adamsville 76.30 40 IAmb IAmb 12 19 54.8
comp=Z,58nm,0.9s
O52A Adamsville 76.30 40 P P 12 19 51.8 -1.2
baz=329,SNR=9.0
O52A P P 12 19 51.8 -1.2
baz=329,SNR=9.0
M55A Ridgway 76.31 37 IAmb IAmb 12 19 55.0
comp=Z,70nm,0.9s
M55A Ridgway 76.31 37 P P 12 19 52.0 -1.1
baz=330,SNR=13
M55A P P 12 19 52.0 -1.1
baz=330,SNR=13
RUDO Rudo 76.32 327 *eP* P 12 19 51.9 -1.2
MGRS Mrkonjic Grad 76.34 329 *eP* P 12 19 53.1 -0.1
ACCN Adirondack Com 76.43 33 IAmb IAmb 12 19 55.5
comp=Z,55nm,1.1s
O53A New Philadelph 76.43 40 IAmb IAmb 12 19 55.6
comp=Z,67nm,0.9s
O53A New Philadelph 76.43 40 P P 12 19 53.0 -0.7
baz=330,SNR=12
SJES Sjenica 76.43 327 *eP* P 12 19 53.0 -0.8
A050A Klekovaca 76.46 330 *eP* P 12 19 50.2 -3.7
R49A Shelbyville 76.49 43 IAmb IAmb 12 19 55.7
comp=Z,172nm,1.9s
JRN Qarnain Island 76.49 293 P P 12 19 53.5 -0.8
P52A Corning 76.59 41 P P 12 19 54.0 -0.6
baz=329
Q51A Peebles 76.62 42 IAmb IAmb 12 19 56.9
comp=Z,50nm,0.8s
Q51A Peebles 76.62 42 P P 12 19 53.8 -1.0
baz=329,SNR=11
Q51A P P 12 19 53.8 -1.0
baz=329,SNR=11
MHTO MHTO 76.63 287 P P 12 19 55.2 +0.1
SNR=23
WVL Waterville 76.65 30 IAmb IAmb 12 19 57.2
comp=Z,131nm,1.9s
TUE Stuetta 76.68 335 IAmb IAmb 12 19 58.0
comp=Z,45nm,0.8s

UPAO U. Pittsburgh 76.69 39 P P 12 19 54.8 -0.4
baz=330
FLN La Foliniere 76.70 342 *eP* P 12 19 54.1 -0.9
FLN pmax pmax
comp=Z,60nm,1.0s
G65A Princeton 76.70 28 IAmb IAmb 12 19 56.9
comp=Z,40nm,0.9s
G65A Princeton 76.70 28 P P 12 19 54.3 -0.7
baz=336
G65A P P 12 19 54.3 -0.7
baz=336
WLAR White Oak Lake 76.72 52 IAmb IAmb 12 19 58.3
comp=Z,57nm,1.1s
T47A Sharon Grove 76.75 45 IAmb IAmb 12 19 57.9
comp=Z,60nm,0.9s
T47A Sharon Grove 76.75 45 P P 12 19 55.0 -0.5
baz=327,SNR=16
237A Washetta, Mont 76.78 54 P P 12 19 55.6 -0.1
baz=324
LDF La Druitiere 76.79 342 *eP* P 12 19 54.8 -0.8
LDF pmax pmax
comp=Z,91nm,1.4s
O54A Avella 76.81 39 IAmb IAmb 12 19 58.0
comp=Z,76nm,1.1s
O54A Avella 76.81 39 P P 12 19 55.0 -0.8
baz=330,SNR=7.8
O54A P P 12 19 55.0 -0.8
baz=330,SNR=7.8
SHMA Al-Shehemyia 76.83 295 P P 12 19 55.7 -0.4
I63A Otisfield 76.83 31 IAmb IAmb 12 19 58.4
comp=Z,61nm,0.9s
I63A Otisfield 76.83 31 P P 12 19 55.4 -0.5
baz=334,SNR=6.3
I63A P P 12 19 55.4 -0.5
baz=334,SNR=6.3
UPM Unac-Piva 76.84 327 *eP* P 12 19 54.6 -1.6
R50A Paris 76.85 43 IAmb IAmb 12 19 58.4
comp=Z,47nm,1.1s
R50A Paris 76.85 43 P P 12 19 55.6 -0.5
baz=328,SNR=5.5
R50A P P 12 19 55.6 -0.5
baz=328,SNR=5.5
435B Jarrell 76.86 56 IAmb IAmb 12 19 59.2
comp=Z,65nm,1.4s
435B Jarrell 76.86 56 P P 12 19 55.9 -0.4
baz=324
CLF Chambon-Foret 76.86 340 IAmb IAmb 12 19 58.7
comp=Z,73nm,1.1s
LMN Caledonia Moun 76.87 26 IAmb IAmb 12 19 58.3
comp=Z,43nm,0.9s
UMZA Um Al Zommool 76.92 290 P P 12 19 56.1 -0.6
GGN Saint George 76.98 28 P P 12 19 55.8 -0.8
P53A Whipple 77.02 40 IAmb IAmb 12 19 58.9
comp=Z,37nm,0.9s
P53A Whipple 77.02 40 P P 12 19 56.5 -0.4
baz=330
P53A P P 12 19 56.5 -0.4
baz=330
L59A Walton 77.02 35 IAmb IAmb 12 19 58.6
comp=Z,96nm,1.0s
L59A Walton 77.02 35 P P 12 19 55.9 -1.1
baz=332,SNR=10
L59A P P 12 19 55.9 -1.1
baz=332,SNR=10
NEVS Nevesinje 77.02 328 *eP* P 12 19 51.6 -5.4
M57A Sunshine Farm, 77.03 36 IAmb IAmb 12 19 58.7
comp=Z,50nm,0.8s
M57A Sunshine Farm, 77.03 36 P P 12 19 55.9 -1.1
baz=331,SNR=11
M57A P P 12 19 55.9 -1.1
baz=331,SNR=11
TEOL Teolo 77.08 333 IAmb IAmb 12 19 59.3
comp=Z,52nm,0.8s
Q52A Bidwell 77.11 41 IAmb IAmb 12 19 59.7
comp=Z,40nm,1.0s
Q52A Bidwell 77.11 41 P P 12 19 56.9 -0.6
baz=329
Q52A P P 12 19 56.9 -0.6
baz=329
GRR Gorron 77.12 342 *eP* P 12 19 56.8 -0.6
GRR pmax pmax
comp=Z,85nm,1.0s
WVT Waverly 77.15 46 P P 12 19 57.2 -0.6
WVT IAmb IAmb 12 20 00.1
comp=Z,41nm,1.1s
WVT Waverly 77.15 46 P P 12 19 57.2 -0.6
WVT pmax pmax
comp=Z,41nm,1.1s
WVT Waverly 77.15 46 P P 12 19 56.7 -1.1
baz=327
WVT Waverly 77.15 46 P P 12 19 56.6 -1.1
baz=327,SNR=14
SALO Salr 77.16 334 IAmb IAmb 12 19 59.8
comp=Z,37nm,0.8s
CCAR Cane Creek 77.17 50 IAmb IAmb 12 20 01.0
comp=Z,102nm,1.2s
BRY Bratogost 77.23 327 *eP* P 12 19 56.5 -1.8
LOR Lormes 77.24 339 *eP* P 12 19 57.4 -0.7
LOR pmax pmax
comp=Z,54nm,1.6s
CABF La Chapelle 77.35 337 *eP* P 12 19 59.1 +0.3
CABF pmax pmax
comp=Z,232nm,2.4s
SSPA Standing Stone 77.36 37 P P 12 19 58.1 -0.7
SSPA IAmb IAmb 12 19 59.8
comp=Z,148nm,2.0s
SSPA Standing Stone 77.36 37 P P 12 19 57.7 -1.1
baz=331
MCWV Mont Chateau 77.47 39 IAmb IAmb 12 20 01.9
comp=Z,33nm,0.8s
MCWV Mont Chateau 77.47 39 P P 12 19 58.9 -0.5
baz=330
SSF Saint Saulge 77.52 339 *eP* P 12 19 58.8 -0.8
SSF pmax pmax
comp=Z,35nm,1.0s
STON Ston 77.53 328 *eP* P 12 19 55.8 -3.9
NATX Nacogdoches 77.54 54 IAmb IAmb 12 20 04.1
comp=Z,103nm,1.1s
NATX Nacogdoches 77.54 54 P P 12 19 59.2 -0.7
baz=325
AS01 Alice Springs 77.57 198 P P 12 20 00.9 +0.9
ASAR Alice Springs 77.58 198 P P 12 20 01.1 +0.9
comp=Z,20nm,0.4s,baz=13,slow=4.9,SNR=190
comp=Z,20nm,0.4s
L61B Northampton 77.59 33 P P 12 19 59.4 -0.6
baz=334
N58A Sunbury 77.61 36 IAmb IAmb 12 20 01.9
comp=Z,45nm,1.0s
N58A Sunbury 77.61 36 P P 12 19 59.0 -1.2
baz=332,SNR=5.1
N58A P P 12 19 59.0 -1.2
baz=332,SNR=5.1
MZR Muzera 77.65 292 P P 12 20 00.7 0.0
DRME Dracevica, Mon 77.66 327 *eP* P 12 19 58.8 -1.6
Q54A Coxs Mills 77.67 40 IAmb IAmb 12 20 02.9
comp=Z,38nm,0.9s
Q54A Coxs Mills 77.67 40 P P 12 19 59.7 -0.8
baz=330
Q54A P P 12 19 59.7 -0.8
baz=330
DQM DQM 77.70 287 P P 12 20 00.8 -0.2
S51A Beattyville 77.70 43 IAmb IAmb 12 20 02.7
comp=Z,44nm,0.9s
T50A Nancy 77.70 44 IAmb IAmb 12 20 02.9
comp=Z,42nm,0.8s
T50A Nancy 77.70 44 P P 12 20 00.0 -0.8
baz=328
T50A P P 12 20 00.0 -0.8
baz=328
U49A Red Boiling Sp 77.73 45 IAmb IAmb 12 20 03.1
comp=Z,59nm,1.2s
U49A Red Boiling Sp 77.73 45 P P 12 19 59.6 -1.3
baz=328,SNR=13
EF01 Eagle Ford 01 77.78 58 IAmb IAmb 12 20 05.2
comp=Z,78nm,1.1s
SMRA Abu-Samra 77.78 295 P P 12 20 00.7 -0.6
R53A Hurricane 77.78 41 IAmb IAmb 12 20 03.3
comp=Z,44nm,0.9s
OXF Oxford 77.78 48 IAmb IAmb 12 20 04.0
comp=Z,94nm,1.0s
OXF Oxford 77.78 48 P P 12 20 00.7 -0.5
baz=326,SNR=5.9
OXF Oxford 77.78 48 P P 12 20 00.3 -0.9
baz=326,SNR=5.9
SLWR Sila 77.83 294 P P 12 20 01.2 -0.4
CLTN Cedars of Leba 77.84 45 IAmb IAmb 12 20 03.8
comp=Z,62nm,1.1s

833A	**Chaparral WMA,** baz=324,SNR=8.4	**77.89**	**59**	P		**P**	**12 20 01.4**	**-0.5**
833A	**Chaparral WMA,** baz=324,SNR=8.4	**77.89**	**59**	P		**P**	**12 20 01.1**	**-0.8**
HRV	**Adam Dziewonsk**	**77.91**	**32**	P		**P**	**12 20 01.6**	**-0.2**
HRV	**Adam Dziewonsk** baz=334	**77.91**	**32**	P		**P**	**12 20 01.0**	**-0.7**
V48A	**Smith Brothers** comp=Z,37nm,0.8s	**77.92**	**46**	IAmb	IAmb	12 20 04.6		
V48A	**Smith Brothers** baz=327,SNR=14	**77.92**	**46**	P		**P**	**12 20 01.1**	**-0.9**
QUIF	**Quistinic**	**77.99**	**344**	*e*P		**P**	**12 20 01.3**	**-0.8**
QUIF	comp=Z,90nm,1.2s			pmax	pmax			
WES	**Weston** comp=Z,59nm,1.0s	**78.09**	**32**	IAmb	IAmb	12 20 05.0		
BGF	**Bois d'Agland**	**78.14**	**339**	*e*P		**P**	**12 20 03.1**	**+0.2**
BGF	comp=Z,67nm,1.5s			pmax	pmax			
ODNJ	**Ogdensburg** baz=333	**78.15**	**35**	P		**P**	**12 20 02.2**	**-0.9**
TIR	**Tirane**	**78.17**	**326**	⇑P		**P**	**12 20 03.0**	**-0.2**
TIR	**Tirane** comp=Z,48nm,0.6s	**78.17**	**326**	IAmb	IAmb	12 20 03.9		
TIR	**Tirane**	**78.17**	**326**	P		**P**	**12 20 03.0**	**-0.2**
ZCCA	**Zocca** comp=Z,69nm,1.2s	**78.21**	**333**	IAmb	IAmb	12 20 07.6		
LPL	**La Plagne**	**78.23**	**336**	*e*P		**P**	**12 20 02.3**	**-1.4**
LPL	comp=Z,28nm,0.6s			pmax	pmax			
TRNY	**Table Rock, Ra** comp=Z,45nm,1.1s	**78.23**	**34**	IAmb	IAmb	12 20 05.0		
LPG	**La Plagne**	**78.24**	**336**	*e*P		**P**	**12 20 04.0**	**+0.1**
LPG	comp=Z,30nm,0.6s			pmax	pmax			
Y45A	**Yeager Farm, C** baz=326,SNR=15	**78.26**	**49**	P		**P**	**12 20 03.7**	**-0.1**
735A	**Kenedy** comp=Z,66nm,1.1s	**78.29**	**58**	IAmb	IAmb	12 20 08.0		
LUPA	**Lehigh Univers** comp=Z,45nm,1.1s	**78.31**	**36**	IAmb	IAmb	12 20 05.6		
143A	**Socs Landing,** comp=Z,75nm,1.1s	**78.35**	**51**	IAmb	IAmb	12 20 07.5		
HKT	**Hockley**	**78.42**	**56**	P		**P**	**12 20 04.9**	**+0.2**
HKT	comp=Z,23nm,1.8s			pmax	pmax			
PAL	**Palisades** comp=Z,53nm,1.1s	**78.46**	**34**	IAmb	IAmb	12 20 06.4		
PAL	**Palisades** baz=333	**78.46**	**34**	P		**P**	**12 20 03.6**	**-1.1**
R55A	**Marlinton** comp=Z,62nm,0.9s	**78.55**	**40**	IAmb	IAmb	12 20 08.2		
TZTN	**Tazewell** comp=Z,37nm,0.9s	**78.65**	**43**	IAmb	IAmb	12 20 08.1		
TZTN	**Tazewell** baz=329	**78.65**	**43**	P		**P**	**12 20 05.5**	**-0.4**
L64A	**Middleborough** comp=Z,48nm,0.8s	**78.65**	**32**	IAmb	IAmb	12 20 08.0		
BNI	**Bardonecchia**	**78.67**	**336**	P		**P**	**12 20 06.0**	**0.0**
BNI	comp=Z,24nm,0.7s			pmax	pmax			
MFF	**Saint Martin d**	**78.71**	**341**	*e*P		**P**	**12 20 05.6**	**-0.4**
MFF	comp=Z,314nm,2.2s			pmax	pmax			
SWET	**Sewanee** comp=Z,61nm,1.1s	**78.75**	**46**	IAmb	IAmb	12 20 08.2		
MURB	**Monte Urbino** comp=Z,51nm,0.9s	**78.77**	**332**	IAmb	IAmb	12 20 10.5		
SDMD	**Soldier's Deli** baz=332	**78.82**	**37**	P		**P**	**12 20 06.0**	**-0.8**
X48A	**Hartselle** baz=328,SNR=6.7	**78.91**	**47**	P		**P**	**12 20 05.9**	**-1.3**
MBDF	**Montbardon**	**78.96**	**336**	*e*P		**P**	**12 20 07.1**	**-0.5**
MBDF	comp=Z,26nm,1.0s			pmax	pmax			
SSB	**Saint Sauveur**	**78.97**	**338**	P		**P**	**12 20 07.2**	**-0.3**
SSB	comp=Z,28nm,1.5s			pmax	pmax			
NRCA	**Norcia** comp=Z,56nm,1.0s	**78.99**	**331**	IAmb	IAmb	12 20 13.2		
ORIF	**Oris-en-Rattie**	**79.00**	**337**	*e*P		**P**	**12 20 07.7**	**0.0**
ORIF	comp=Z,36nm,0.7s			pmax	pmax			
ASF	**Jabal al Asfar** comp=Z,6.4nm,0.8s,baz=54,slow=24,SNR=3.6	**79.02**	**309**	P		**P**	**12 20 08.3**	**+0.3**
MMAI	**Mount Meron Ar** comp=Z,6.4nm,0.8s	**79.03**	**311**	P		**P**	**12 20 08.4**	**+0.4**
441A	**DeRidder** comp=Z,13nm,0.5s,baz=39,slow=6.8,SNR=17 comp=Z,81nm,1.0s	**79.09**	**53**	IAmb	IAmb	12 20 12.8		
VBMS	**Vicksburg** comp=Z,66nm,1.1s	**79.17**	**51**	IAmb	IAmb	12 20 11.9		
CAMP	**Campotosto** comp=Z,148nm,1.8s	**79.17**	**331**	IAmb	IAmb	12 20 13.2		
V52A	**Sevierville** comp=Z,50nm,1.1s	**79.23**	**44**	IAmb	IAmb	12 20 11.1		
V52A	**Sevierville** baz=329,SNR=9.2	**79.23**	**44**	P		**P**	**12 20 07.8**	**-1.2**
VIVF	**Saint-Julien-l**	**79.34**	**338**	*e*P		**P**	**12 20 09.3**	**-0.2**
VIVF	comp=Z,24nm,0.8s			pmax	pmax			
BLA	**Blacksburg** baz=330	**79.36**	**41**	P		**P**	**12 20 08.9**	**-0.9**
BLA	**Blacksburg** baz=330	**79.36**	**41**	P		**P**	**12 20 09.1**	**-0.7**
U54A	**Nelsons Funny** comp=Z,31nm,0.8s	**79.39**	**42**	IAmb	IAmb	12 20 12.1		
ISO	**Isola**	**79.40**	**336**	P		**P**	**12 20 10.6**	**+0.8**
ISO	comp=Z,37nm,1.4s			pmax	pmax			
S57A	**Dark Hollow, R** comp=Z,62nm,1.2s	**79.46**	**39**	IAmb	IAmb	12 20 12.5		
S57A	**Dark Hollow, R** baz=331	**79.46**	**39**	P		**P**	**12 20 09.6**	**-0.6**
S57A	baz=331			P		**P**	**12 20 09.6**	**-0.6**
146A	**Union** baz=327,SNR=12	**79.50**	**49**	P		**P**	**12 20 10.6**	**+0.1**
SBF	**Sospel**	**79.60**	**335**	*e*P		**P**	**12 20 11.0**	**+0.1**
SBF	comp=Z,23nm,0.6s			pmax	pmax			
RJF	**Les Rejaudoux**	**79.61**	**340**	*e*P		**P**	**12 20 11.5**	**+0.6**
RJF	comp=Z,196nm,2.1s			pmax	pmax			
CBN	**Corbin Frederi** baz=332	**79.68**	**38**	P		**P**	**12 20 10.5**	**-0.8**
X51A	**Calhoun** comp=Z,137nm,1.8s	**79.77**	**45**	IAmb	IAmb	12 23 02.9		
CAF	**Calviac**	**79.86**	**339**	*e*P		**P**	**12 20 12.1**	**-0.1**
CAF	comp=Z,43nm,1.3s			pmax	pmax			
WRKA	**Warakurna**	**80.09**	**203**	P		**P**	**12 20 14.0**	**+0.5**
LRAL	**Lakeview Retre** baz=328,SNR=5.8	**80.12**	**48**	P		**P**	**12 20 12.3**	**-1.4**
LRAL	**Lakeview Retre** baz=328,SNR=5.8	**80.12**	**48**	P		**P**	**12 20 11.9**	**-1.8**
LFF	**La Frestale**	**80.12**	**340**	*e*P		**P**	**12 20 13.3**	**-0.2**
LFF	comp=Z,98nm,1.4s			pmax	pmax			
U56A	**King** comp=Z,151nm,1.8s	**80.12**	**41**	IAmb	IAmb	12 20 15.1		
V55A	**Taylorsville** comp=Z,123nm,1.8s	**80.21**	**42**	IAmb	IAmb	12 20 14.5		
SHAO	**Shalim** SNR=6.4	**80.31**	**287**	*i* P		**P**	**12 20 14.3**	**-0.6**
SHAO	**Shalim**	**80.31**	**287**	P		**P**	**12 20 14.7**	**-0.3**
LMR	**La Mourre**	**80.33**	**336**	*e*P		**P**	**12 20 14.0**	**-0.6**
LMR	comp=Z,95nm,1.5s			pmax	pmax			
346A	**Big Creek Wild** comp=Z,58nm,1.0s	**80.36**	**50**	IAmb	IAmb	12 20 18.4		
PGF	**Pioggiola**	**80.42**	**334**	*e*P		**P**	**12 20 14.3**	**-1.0**
PGF	comp=Z,41nm,1.1s			pmax	pmax			
INKA	**Innaminka**	**80.54**	**191**	P		**P**	**12 20 17.1**	**+1.4**
Z51A	**Franklin** comp=Z,33nm,0.8s	**80.69**	**46**	IAmb	IAmb	12 20 19.0		
DOK	**Doka**	**80.72**	**288**	P		**P**	**12 20 16.4**	**-0.6**
KMSC	**Kings Mountain** baz=330	**80.78**	**42**	P		**P**	**12 20 16.3**	**-0.8**
DMTO	**DMTO**	**80.95**	**287**	P		**P**	**12 20 17.0**	**-1.2**
V58A	**Windy Hill, Pi** comp=Z,47nm,1.1s	**81.11**	**40**	IAmb	IAmb	12 20 21.0		
U59A	**Littleton** comp=Z,116nm,1.8s	**81.14**	**39**	IAmb	IAmb	12 20 20.7		
TIP	**Timpagrande**	**81.17**	**327**	⇑P		**P**	**12 20 19.1**	**-0.1**
OOD	**Oodnadatta**	**81.30**	**195**	P		**P**	**12 20 20.4**	**+0.8**
MTLF	**Montolieu**	**81.33**	**339**	*e*P		**P**	**12 20 19.8**	**-0.1**
MTLF	comp=Z,38nm,1.0s			pmax	pmax			
250A	**Grady** comp=Z,104nm,1.1s	**81.34**	**48**	IAmb	IAmb	12 20 22.5		
GOGA	**Godfrey** comp=Z,72nm,1.6s	**81.36**	**45**	IAmb	IAmb	12 20 21.7		
GOGA	**Godfrey** baz=329	**81.36**	**45**	P		**P**	**12 20 19.6**	**-0.5**
WHFO	**Wadi Hawf**	**81.47**	**288**	P		**P**	**12 20 20.2**	**-0.9**
RBK	**Rabkut**	**81.55**	**288**	P		**P**	**12 20 20.9**	**-0.5**
BIRD	**Birdtown, Kers** comp=Z,42nm,1.1s	**81.56**	**42**	IAmb	IAmb	12 20 23.3		
BRAL	**Brewton** baz=328	**81.66**	**49**	P		**P**	**12 20 21.5**	**-0.2**
W59A	**Clinton** comp=Z,121nm,1.2s	**81.92**	**40**	IAmb	IAmb	12 20 25.5		
EPF	**Esparros**	**82.03**	**340**	*e*P		**P**	**12 20 22.9**	**-0.6**
EPF	comp=Z,31nm,1.1s			pmax	pmax			
CNNC	**Cliffs of the** baz=332	**82.08**	**40**	P		**P**	**12 20 23.6**	**-0.2**
X58A	**Rowland** comp=Z,56nm,1.0s	**82.10**	**41**	IAmb	IAmb	12 20 26.1		
ABTO	**Aybut**	**82.19**	**288**	P		**P**	**12 20 24.4**	**-0.4**
154A	**Montrose** comp=Z,73nm,0.9s	**82.20**	**45**	IAmb	IAmb	12 20 27.0		
ETSF	**Etsaut**	**82.34**	**341**	*e*P		**P**	**12 20 25.0**	**-0.2**
ETSF	comp=Z,11nm,0.7s			pmax	pmax			
TIGA	**Tifton** baz=329	**82.99**	**46**	P		**P**	**12 20 28.3**	**-0.3**
NHSC	**New Hope** baz=331	**83.01**	**43**	P		**P**	**12 20 27.2**	**-1.3**
LCRK	**Leigh Creek**	**83.52**	**193**	P		**P**	**12 20 31.7**	**+0.8**
CMSA	**Cobar Meteorol**	**83.84**	**186**	P		**P**	**12 20 33.7**	**+1.2**
MULG	**Mulgathing**	**84.00**	**196**	P		**P**	**12 20 33.9**	**+0.6**
MEEK	**Meekatharra**	**84.27**	**211**	P		**P**	**12 20 34.9**	**+0.1**
PBRG	**Braganca** comp=Z,40nm,2.0s	**84.52**	**345**	*e*P		**P**	**12 20 35.2**	**-0.8**
STKA	**Stephens Creek** comp=Z,2.0nm,0.4s,baz=10.0,slow=6.8,SNR=5.5 comp=Z,2.0nm,0.4s	**84.53**	**190**	P		**P**	**12 20 36.4**	**+0.5**
PGAV	**Gavieira, Arco** comp=Z,73nm,1.7s	**84.60**	**346**	*e*P		**P**	**12 20 35.8**	**-0.7**
POLO	**Lamas de Olo** comp=Z,20nm,1.8s	**85.11**	**346**	*e*P		**P**	**12 20 38.2**	**-0.8**
PVRL	**Vila Real**	**85.19**	**346**	*e*P		**P**	**12 20 38.3**	**-1.0**
MVO	**Moncorvo** comp=Z,39nm,1.6s	**85.19**	**345**	*e*P		**P**	**12 20 38.5**	**-0.9**
PPT2	**Papeete2** comp=Z,311nm,24.8s	**85.58**	**126**	*e*S		**S**	**12 30 35.3**	**+1.6**
FORT	**Forrest**	**85.67**	**201**	P		**P**	**12 20 41.7**	**+0.2**
MTE	**Manteigas** comp=Z,41nm,1.6s	**86.02**	**345**	*e*P		**P**	**12 20 44.1**	**+0.7**
ESDC	**Sonseca Array** comp=Z,11nm,1.1s,baz=6.9,slow=4.3,SNR=18 comp=Z,11nm,1.1s	**86.12**	**342**	P		**P**	**12 20 42.8**	**-1.0**
BBOO	**Buckleboo**	**86.16**	**194**	P		**P**	**12 20 43.5**	**-0.2**
PCBR	**Castelo Branco** comp=Z,44nm,2.0s	**86.56**	**345**	*e*P		**P**	**12 20 46.2**	**+0.4**
KEST	**Kesra** comp=Z,7.9nm,0.5s,baz=349,slow=2.1,SNR=12 comp=Z,7.9nm,0.5s	**86.66**	**331**	P		**P**	**12 20 46.1**	**-0.4**
KEST	**Kesra**	**86.66**	**331**	P		**P**	**12 20 46.2**	**-0.3**
DWPF	**Disney Wildern** baz=330	**86.80**	**46**	P		**P**	**12 20 46.9**	**-0.3**
PESTR	**Estremoz** comp=Z,41nm,1.8s	**87.53**	**345**	*e*P		**P**	**12 20 50.6**	**+0.2**
PBAR	**Barrancos** comp=Z,40nm,1.8s	**88.12**	**344**	*e*P		**P**	**12 20 53.4**	**+0.2**
ARPS	**Mount Arapiles**	**89.35**	**189**	P		**P**	**12 20 59.0**	**+0.4**
TBI	**Tubuai** comp=Z,1μm,32.5s	**90.54**	**129**	*e*S		**S**	**12 31 17.4**	**-2.0**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=62,slow=3.7,SNR=4.1	**110.16**	**330**	PKiKP		**PKiKP**	**12 26 30.3**	**-1.1**
TORD				PP		**PP**	**12 27 08.1**	**-5.0**
	comp=Z,1.4nm,1.0s,baz=14,slow=9.1,SNR=3.0							
DBIC	**Dimbokro**	**118.18**	**335**	PKIKP		**PKiKP**	**12 26 47.0**	**+0.1**
DBIC	**Dimbokro** comp=Z,1.8nm,0.6s,baz=344,slow=3.8,SNR=2.6	**118.18**	**335**	PKP		**PKiKP**	**12 26 47.0**	**+0.1**
SAML	**Samuel**	**127.63**	**47**	PKPdf		**PKPdf**	**12 27 04.4**	**-0.5**
SAML	**Samuel**	**127.63**	**47**	PKIKP		**PKPdf**	**12 27 04.4**	**-0.5**
BOSA	**Boshof** comp=Z,1.1nm,0.6s,baz=143,slow=5.1,SNR=1.7	**134.93**	**281**	PKhKP		PKPpre	12 27 08.2	
BOSA				PP		**PP**	**12 30 02.8**	**+3.1**
	comp=Z,8.6nm,1.0s,baz=38,slow=6.0,SNR=6.9							
QSPA	**South Pole Qui**	**142.16**	**180**			PKPpre	12 27 25.9	
QSPA	**South Pole Qui** comp=Z,4.6nm,0.5s,baz=205,slow=1.0,SNR=5.1	**142.16**	**180**	PKhKP		PKPpre	12 27 25.6	
QSPA				PKP		**PKPdf**	**12 27 29.2**	**-1.0**
	comp=Z,6.5nm,0.7s,baz=238,slow=1.1,SNR=5.1							
CPUP	**Villa Florida**	**145.40**	**53**	PKPdf		**PKPdf**	**12 27 37.0**	**-0.1**
CPUP	**Villa Florida**	**145.40**	**53**	PKIKP		**PKPdf**	**12 27 37.0**	**-0.1**
CPUP	**Villa Florida** comp=Z,15nm,0.9s,baz=308,slow=2.5,SNR=11	**145.40**	**53**	PKPbc		**PKPdf**	**12 27 37.4**	**+0.3**
PLCA	**Paso Flores** comp=Z,12nm,1.0s,baz=253,slow=3.7,SNR=24	**148.34**	**86**	PKPbc		**PKPbc**	**12 27 45.8**	**0.0**
ELIB	**Princess Elisa**	**150.80**	**209**	*d*PKPdf		**PKPbc**	**12 27 49.9**	**-0.8**
ELIB				*d*PKP		**PKPab**	**12 27 60.0**	**-0.2**
ELIB				*dp*PKP		**pPKPbc**	**12 29 41.2**	**+0.1**
TRQA	**Tornquist**	**151.81**	**73**			**PKPbc**	**12 27 53.1**	**-0.8**
SNAA	**Sanae** comp=Z,2.6nm,0.8s,baz=228,slow=7.1,SNR=3.2	**157.93**	**200**	PKPab		**PKPab**	**12 28 29.8**	**-0.8**
HOPE	**Hope Point**	**174.02**	**112**			**PKPab**	**12 29 40.8**	**-1.3**
HOPE	**Hope Point**	**174.02**	**112**	PKP2		**PKPab**	**12 29 40.8**	**-1.3**

JMA 18 12:10:10.9±0.1,34°.9N±0°.2×139°.3E±0°.2,h13km,MV0.6/11, E OFF IZU PENINSULA,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTJ3	**Kamata3**	**0.15**	**269**	P	Pg	12 10 14.4	-0.1
KTJ3				*e*S	Sg	12 10 17.2	+0.1
AJI	**Ajiro2**	**0.17**	**309**	P	Pg	12 10 14.9	+0.1
AJI				*e*S	Sg	12 10 17.9	+0.3
JIZS	**Izushimoda**	**0.38**	**235**	P	Pg	12 10 18.4	-0.1
JIZS				S	Sg	12 10 23.7	+0.1

*IDC **18** 12:11:01.9±0.7,4°.24N×126°.93E,h0km,mb4.0/10, mbtmp4.0/10,Error ellipse: s-maj=46.6km s-min=15.1km az=69.0*
*NEIC **18** 12:11:08.8±2.4,3°.55N±0°.09×126°.53E±0°.09,h10km±2km, mb4.4/14,Error ellipse: s-maj=21.7km s-min=3.5km az=43.0*
*DJA **18** 12:11:10.4±0.8,4°.N±7°×12°.7E±°,h59km±19km,M4.6/12, mb4.5/11,mB5.3/7,MLv4.6/12,Mw(mB)4.8/7,MwMwp7.3/1, Mwp7.0/1*

ISC 18 12:11:03.9±0.6,4°.05N±0°.06×126°.82E±0°.06,h10km,n52, σ2s24/55,mb4.3/17,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.34**	**254**	P	**Pg**	**12 11 31.0**	**+1.4**
SGSI				S	**Sn**	**12 11 48.0**	**+1.5**
TNTI	**Ternate**	**3.31**	**170**		**Pn**	**12 11 57.5**	**+1.7**
TNTI				Sn	**Sn**	**12 12 29.0**	**-6.2**
TNTI	**Ternate**	**3.31**	**170**	P	**Pb**	**12 12 00.1**	**-2.6**
TNTI	**Ternate**	**3.31**	**170**	P	**Pn**	**12 11 59.7**	**+3.9**
TNTI				S	**Sn**	**12 12 37.0**	**+1.8**
KMSI	**Cibinong**	**4.47**	**219**	P	**Pn**	**12 12 13.4**	**+1.6**
LBMI	**Labuha**	**4.71**	**172**	P	**Pn**	**12 12 19.4**	**+4.3**
GTOI	**Gorontalo** 29nm,1.2s,0.1nm	**5.10**	**228**	P	**Pn**	**12 12 24.0**	**+3.6**
GTOI				S	**Sn**	**12 13 18.1**	**-1.3**
	29nm,1.2s,0.1nm						
MRSI	**Marisa** 59nm,0.4s,1μm0.3nm	**6.03**	**234**	P	**Pn**	**12 12 37.4**	**+4.1**
MRSI				S	**Sn**	**12 13 40.7**	**-1.7**
	59nm,0.4s,1μm0.3nm						
SANI	**Sanana**	**6.12**	**188**	P	**Pn**	**12 12 37.7**	**+3.2**
SANI	**Sanana** 13nm,0.4s,1μm0.2nm	**6.12**	**188**	P	**Pn**	**12 12 35.8**	**+1.3**
LUWI	**Luwuk**	**6.48**	**219**		**Pn**	**12 12 37.7**	**-1.8**
LUWI	**Luwuk** 85nm,0.8s,5μm0.6nm	**6.48**	**219**	P	**Pn**	**12 12 42.1**	**+2.7**
SWI	**Sorong** 50nm,0.5s,0.2nm	**6.60**	**138**	P	**Pn**	**12 12 44.2**	**+3.1**
SIJI	**Sorong** 44nm,0.8s,2μm0.2nm	**6.61**	**138**	P	Pn	12 12 45.2	+4.0
TOLI2	**Tolitoli**	**6.70**	**244**	P	**Pn**	**12 12 49.1**	**+6.6**
TOLI2	**Tolitoli** 23nm,0.8s	**6.70**	**244**	P	Pn	12 12 49.1	+6.6
NLAI	**Namlea** 17nm,0.6s,6μm0.6nm	**7.25**	**178**	P	**Pn**	**12 12 53.0**	**+3.0**
KRAI	**Karang Ratu** 19nm,0.5s,6μm0.7nm	**7.49**	**168**	P	**Pn**	**12 12 58.1**	**+4.7**
FAKI	**Fak Fak**	**8.80**	**142**	Pn	**Pn**	**12 13 14.1**	**+2.7**
FAKI				Sn	**Sn**	**12 14 50.6**	**0.0**
FAKI	**Fak Fak**	**8.80**	**142**	P	Pn	12 13 15.7	+4.4
FAKI	**Fak Fak**	**8.80**	**142**	P	**Pn**	**12 13 14.4**	**+3.1**
KKM	**Kota Kinabalu**	**10.74**	**281**	Pn	**Pn**	**12 13 40.9**	**+2.8**
SBUM	**Sibu**	**14.66**	**264**	Pn	**Pn**	**12 14 32.8**	**+1.2**
MTN	**Manton Dam**	**17.33**	**166**	Pn	**Pn**	**12 15 05.1**	**-1.0**
MTN	**Manton Dam**	**17.33**	**166**	P	**Pn**	**12 15 05.8**	**-0.3**
KDU	**Kakadu**	**17.56**	**161**	P	**P**	**12 15 09.1**	**-0.9**
KNRA	**Kununurra**	**19.70**	**174**	P	**P**	**12 15 32.5**	**-1.0**
KNRA	comp=Z,13nm,0.7s			IAmb	IAmb	12 15 48.6	
KNRA	**Kununurra**	**19.70**	**174**	P	**P**	**12 15 33.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P	**P**	**12 15 56.7**	**-2.3**
WB0	**Warramunga Arr**	**24.82**	**163**	P	**P**	**12 16 26.9**	**+0.4**
WB0	comp=Z,12nm,1.0s			IAmb	IAmb	12 16 47.2	
WRAB	**Tennant Creek**	**24.96**	**163**	P	**P**	**12 16 25.6**	**-2.2**
WRAB	comp=Z,16nm,0.9s			IAmb	IAmb	12 16 39.1	
WRA	**Warramunga Arr** comp=Z,3.9nm,0.6s,baz=345,slow=11,SNR=15	**24.97**	**163**	P	**P**	**12 16 28.7**	**+0.9**
WB2	**Warramunga Arr**	**24.97**	**163**	P	**P**	**12 16 28.2**	**+0.3**
WR0	**Warramunga Arr**	**25.04**	**163**	P	**P**	**12 16 29.2**	**+0.6**
WR0	comp=Z,10.0nm,0.9s			IAmb	IAmb	12 16 39.9	
PSA00	**Pilbara Seismi**	**26.37**	**195**	P	**P**	**12 16 39.0**	**-1.5**
PSA00	comp=Z,7.9nm,0.8s			IAmb	IAmb	12 16 50.0	
ASAR	**Alice Springs** comp=Z,1.1nm,0.7s,baz=349,slow=7.1,SNR=8.7 comp=Z,1.1nm,0.7s	**28.41**	**166**	P	**P**	**12 16 59.0**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.4s,baz=108,slow=7.0,SNR=6.2 comp=Z,0.7nm,0.4s	**30.79**	**300**	P	**P**	**12 17 20.6**	**+0.6**
FORT	**Forrest**	**34.66**	**178**	P	**P**	**12 17 52.6**	**-1.1**
EIDS	**Eidsvold**	**37.55**	**142**	P	**P**	**12 18 19.8**	**+1.2**
EIDS	comp=Z,10nm,1.1s			IAmb	IAmb	12 18 37.8	
BBOO	**Buckleboo**	**37.70**	**167**	P	**P**	**12 18 20.1**	**+0.4**
BBOO	comp=Z,6.3nm,0.9s			IAmb	IAmb	12 18 27.8	
STKA	**Stephens Creek**	**38.40**	**160**	P	**P**	**12 18 26.5**	**+0.8**
STKA	**Stephens Creek** comp=Z,6.8nm,0.8s,baz=332,slow=7.6,SNR=18 comp=Z,6.8nm,0.8s	**38.40**	**160**	P	**P**	**12 18 26.7**	**+1.1**
ARMA	**Armidale**	**41.69**	**147**	P	**P**	**12 18 55.2**	**+2.1**
SONM	**Songino Array** comp=Z,0.9nm,0.6s,baz=151,slow=6.3,SNR=1.6 comp=Z,0.9nm,0.6s	**47.02**	**341**	P	**P**	**12 19 35.3**	**-0.3**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.4s,baz=109,slow=7.8,SNR=1.9 comp=Z,0.9nm,0.4s	**57.34**	**325**	P	**P**	**12 20 51.0**	**-1.3**
ZALV	**Zalesovo Beam** comp=Z,3.4nm,0.9s,baz=117,slow=5.0,SNR=1.9 comp=Z,3.4nm,0.8s	**60.34**	**333**	P	**P**	**12 21 09.9**	**-3.1**
KURBB	**Kurchatov Arra** comp=Z,2.0nm,0.8s,baz=126,slow=6.4,SNR=2.7 comp=Z,2.0nm,0.8s	**61.52**	**327**	P	**P**	**12 21 19.4**	**-1.7**
TIXI	**Tiksi** comp=Z,0.1nm,0.5s,baz=135,slow=2.9,SNR=3.0 comp=Z,0.1nm,0.5s	**67.52**	**1**	P	**P**	**12 21 58.2**	**-1.7**
VNDA	**Vanda**	**83.73**	**173**	P	**P**	**12 23 33.0**	**+0.3**
VNDA	comp=Z,3.2nm,1.2s			IAmb	IAmb	12 23 35.6	
VNDA	**Vanda** comp=Z,1.7nm,0.9s,baz=324,slow=7.1,SNR=5.9 comp=Z,1.7nm,0.9s	**83.73**	**173**	P	**P**	**12 23 32.6**	**0.0**
ILAR	**Eielson Array** comp=Z,0.6nm,0.8s,baz=243,slow=6.0,SNR=3.0 comp=Z,0.6nm,0.8s	**84.78**	**25**	P	**P**	**12 23 36.8**	**-1.5**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.9s,baz=242,slow=2.7,SNR=3.6	**121.33**	**52**	PKP	**PKiKP**	**12 29 58.5**	**0.0**

DJA 18 12:12:57.9±0.6,6°S.3°×10°2E.°,h10km,M4.3/9,mb4.4/5, mB4.7/1,MLv4.3/9,Mw(mB)3.9/1,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**1.05**	**19**	P	Pn	12 13 18.7	0.0
EGSI				S	Sg	12 13 30.5	-1.3
LWLI	**Liwa**	**2.50**	**58**	P	Pn	12 13 39.4	+0.7
UBSI	**University, Be**	**2.59**	**8**	P	Pn	12 13 39.3	-0.7
KASI	**Kota Agung**	**2.68**	**72**	P	Pn	12 13 42.3	+1.1
KASI				S	Sn	12 14 10.4	-3.3
LHSI	**Lahat**	**2.97**	**32**	P	Pn	12 13 43.8	-1.3
PPSI	**Pulau Pagai**	**4.04**	**332**	P	Pn	12 14 01.2	+1.3
CNJI	**Cibinong** 18nm,1.2s,673nm0.1nm	**5.25**	**101**	P	Pn	12 14 16.8	+0.3
BBJI	**Bungbulang** 27nm,1.1s,0.2nm	**5.79**	**101**	P	Pn	12 14 25.5	+1.6
CMJI	**Cimerak**	**6.62**	**103**	P	Pn	12 14 35.9	+0.5

*SOME **18** 12:41:55.1,43°.80N×82°.73E,h10km,MS3.8*
*IDC **18** 12:41:56.1±0.7,43°.53N×82°.82E,h0km,mb4.0/16, mbtmp4.0/24,ML3.8/8,MS3.6/2,Error ellipse: s-maj=12.2km s-min=10.9km az=55.0*
*MOS **18** 12:41:57.4±1.1,43°.61N×82°.86E,h16km,mb4.4/8,Error ellipse: s-maj=5.3km s-min=5.1km az=125.1*
*BJI **18** 12:41:57.5±0.0,43°.55N×82°.74E,h19km,mb4.3/11, mB4.5/1,ML4.4/9,Ms7 4.2/1*
*NEIC **18** 12:41:58.6±1.5,43°.60N±0°.07×83°.0E±0°.1,h10km±1km, mb4.6/28,Error ellipse: s-maj=13.9km s-min=11.1km az=116.0*
*NNC **18** 12:41:59.7±1.0,43°.75N×82°.49E,h0km,mb5.1,mpv5.0, Error ellipse: s-maj=9.4km s-min=4.2km az=139.0*

ISC 18 12:41:58.3±0.7,43°.62N±0°.03×82°.72E±0°.03,h10km±4km, n229,σ2s17/269,mb4.4/41,19C-16D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 264nm,0.2s	**1.73**	**265**	P	**Pn**	**12 42 28.9**	**+0.4**
KTMS				S	**Sb**	**12 42 52.7**	**+0.6**
	2μm,0.4s						
KTMS	**Ketmen** 260nm,0.2s	**1.73**	**265**	*e*P	**Pn**	**12 42 28.9**	**+0.4**
KTMS				*e*S	**Sb**	**12 42 52.7**	**+0.6**
	2μm,0.4s						
DJR	**Jarkent** 2μm,0.2s	**2.23**	**290**	Pg	**Pn**	**12 42

UZB Uzynbulak 2.73 261 *e*P **Pn 12 42 43.6 +1.2**
baz=258
UZB *e*S **Sn 12 43 19.5 +3.8**
baz=258
UZB Uzynbulak 2.73 261 *e*P **Pb 12 42 46.3 -1.1**
388nm,0.2s
UZB *e*S **Sb 12 43 23.0 +2.0**
2µm,0.2s
KAPS Kapalarasan 2.93 306 Pg **Pn 12 42 46.9 +1.9**
356nm,0.3s
KAPS Lg Lg 12 43 24.5
2µm,0.2s
KAPS Kapalarasan 2.93 306 *e*P **Pn 12 42 46.9 +1.9**
356nm,0.3s
KAPS *e*S **Sb 12 43 24.5 -1.9**
2µm,0.2s
KPKS Kokpek 2.94 268 Pg **Pb 12 42 49.1 -1.7**
345nm,0.1s
KPKS Lg Lg 12 43 28.2
4µm,0.2s
KPKS Kokpek 2.94 268 *e*PN **Pn 12 42 46.5 +1.4**
KPKS Kokpek 2.94 268 *e*P **Pn 12 42 46.6 +1.4**
baz=265
KPKS Kokpek 2.94 268 *e*P **Pb 12 42 49.1 -1.7**
345nm,0.1s
KPKS *e*S **Sb 12 43 28.2 +1.4**
4µm,0.2s
BLB Baldybastay 3.10 280 Pg **Pb 12 42 51.1 -2.5**
904nm,0.2s
BLB Lg Lg 12 43 31.6
3µm,0.3s
ZHN Zhinishke 3.15 263 Pg **Pb 12 42 53.3 -1.1**
123nm,0.1s
ZHN Lg Lg 12 43 35.2
2µm,0.2s
ZHN Zhinishke 3.15 263 *e*PN **Pn 12 42 49.8 +1.7**
ZHN *e*S **Sn 12 43 29.2 +3.3**
ZHN Zhinishke 3.15 263 *e*P **Pn 12 42 49.9 +1.7**
baz=261
ZHN *e*S **Sn 12 43 29.3 +3.3**
baz=261
ZHN Zhinishke 3.15 263 *e*P **Pb 12 42 53.4 -1.1**
123nm,0.1s
ZHN *e*S **Sb 12 43 35.2 +2.2**
2µm,0.2s
MK31 Makanchi Array 3.19 355 Pn **Pn 12 42 50.2 +1.7**
11nm,0.3s,baz=178,slow=14,SNR=4881
MK31 ⇓Pg **Pb 12 42 56.4 +1.4**
145nm,0.4s,baz=172,slow=17,SNR=96
MK31 ⇑Lg Lg 12 43 36.9
561nm,0.5s,baz=178,slow=28,SNR=11
MK31 Makanchi Array 3.19 355 **Pn 12 42 50.4 +1.9**
MK31 Makanchi Array 3.19 355*ce*PN **Pn 12 42 50.2 +1.7**
MKAR Makanchi Array 3.19 355 Pn **Pn 12 42 50.6 +2.1**
MKAR Makanchi Array 3.19 355 Pn **Pn 12 42 50.8 +2.2**
22nm,0.3s,baz=174,slow=15,SNR=831
MKAR Pg **Pb 12 42 56.8 +1.7**
132nm,0.3s,baz=169,slow=18,SNR=90
MKAR Lg Lg 12 43 35.8
346nm,0.3s,baz=177,slow=30,SNR=20
MKAR LR LR 12 43 44.2
comp=Z,633nm,19.4s,baz=36,slow=33
35nm,0.3s
SATY Saty 3.19 261 Pg **Pb 12 42 54.0 -1.2**
194nm,0.3s
SATY Lg Lg 12 43 36.3
2µm,0.2s
SATY Saty 3.19 261 *e*PN **Pn 12 42 50.4 +1.7**
SATY *e*S **Sn 12 43 30.7 +3.8**
SATY Saty 3.19 261 *e*P **Pn 12 42 50.5 +1.7**
baz=259
SATY *e*S **Sn 12 43 30.8 +3.8**
baz=259
SATY Saty 3.19 261 *e*P **Pb 12 42 54.0 -1.2**
194nm,0.3s
SATY *e*S **Sb 12 43 36.3 +2.0**
2µm,0.2s
MAKZ Makanchi 3.23 351 ⇓Pn **Pn 12 42 50.9 +1.7**
42nm,0.7s
MAKZ ⇑Pg **Pg 12 42 58.0 -2.2**
179nm,0.5s
MAKZ ⇓Lg Lg 12 43 37.1
368nm,0.5s
MAKZ Makanchi 3.23 351 Pn **Pn 12 42 50.8 +1.7**
MAKZ Makanchi 3.23 351 PN **Pn 12 42 50.8 +1.7**
KURS Kuram 3.31 269 Pg **Pb 12 42 55.8 -1.3**
107nm,0.3s
KURS Lg Lg 12 43 39.6
707nm,0.3s
KURS Kuram 3.31 269 *e*P **Pb 12 42 55.8 -1.3**
107nm,0.3s
KURS *e*S **Sb 12 43 39.6 +2.2**
707nm,0.3s
PRZ Przheval'sk 3.36 252 Pn **Pn 12 42 53.8 +2.7**
PRZ Przheval'sk 3.36 252 PN **Pn 12 42 53.8 +2.7**
TDK Taldyqorghan 3.39 296 Pg **Pb 12 42 55.9 -2.5**
837nm,0.3s
TDK Lg Lg 12 43 39.7
3µm,0.4s
TDK Taldyqorghan 3.39 296 *e*PN **Pn 12 42 53.2 +1.9**
TDK Taldyqorghan 3.39 296 *e*P **Pn 12 42 53.2 +1.9**
baz=293
TDK Taldyqorghan 3.39 296 *e*P **Pb 12 42 55.9 -2.5**
837nm,0.3s
TDK *e*S **Sb 12 43 39.7 0.0**
3µm,0.4s
ARXS Arharly 3.58 281 Pg **Pb 12 42 59.3 -2.5**
479nm,0.2s
ARXS Lg Lg 12 43 45.4
3µm,0.2s
ARXS Arharly 3.58 281 *e*PN **Pb 12 43 00.3 -1.5**
ARXS Arharly 3.58 281 *e*P **Pb 12 42 59.3 -2.5**
479nm,0.2s
ARXS *e*S **Sb 12 43 45.4 +0.1**
3µm,0.2s
WMQ Urumqi 3.61 85 *e*Pn Pb 12 42 56.9 -5.4
WMQ Sn **Sb 12 43 42.1 -4.2**
WMQ smax smax
comp=N,1µm,0.7s
WMQ smax smax
comp=E,890nm,0.5s
TARG Taragay, Kyrgy 4.08 244 Pn **Pn 12 43 03.5 +2.4**
TARG Taragay, Kyrgy 4.08 244 PN **Pn 12 43 03.6 +2.4**
KOTS Kotyrbulak 4.10 267 Pg **Pb 12 43 10.3 -0.3**
175nm,0.3s
KOTS Lg Lg 12 44 04.7
1µm,0.4s
KOTS Kotyrbulak 4.10 267 *e*P **Pb 12 43 10.3 -0.3**
175nm,0.3s
KOTS *e*S **Sb 12 44 04.7 +4.4**
1µm,0.4s
ZSN Zaisan 4.12 21 Pg **Pn 12 43 03.7 +2.4**
371nm,0.4s
ZSN Lg Lg 12 43 52.9
413nm,0.4s
ZSN Zaisan 4.12 21 *e*P **Pn 12 43 03.7 +2.4**
371nm,0.4s
ZSN *e*S **Sn 12 43 52.9 +3.4**
413nm,0.4s
MDOK Medeo 4.16 266 ⇓Pn **Pn 12 43 03.2 +1.2**
14nm,0.5s
MDOK Pg **Pb 12 43 11.4 -0.2**
79nm,0.2s
MDOK ⇓Pg Pg 12 43 12.5 -5.4
95nm,0.5s
MDOK Lg Lg 12 44 06.5
590nm,0.4s
MDOK ⇑Lg Lg 12 44 10.1
556nm,0.6s
MDOK Medeo 4.16 266 PN **Pb 12 43 12.0 +0.4**
MDOK Medeo 4.16 266 *e*P **Pn 12 43 03.8 +1.9**
baz=264
MDOK *e*S **Sn 12 43 54.3 +3.6**
baz=264
MDOK Medeo 4.16 266 *e*P **Pb 12 43 11.4 -0.2**
79nm,0.2s
MDOK *e*S **Sb 12 44 06.5 +4.5**
590nm,0.4s
CHKK Chushkaly 4.16 275 Pg **Pb 12 43 10.1 -1.5**
138nm,0.2s
CHKK Lg Lg 12 44 04.4
1µm,0.2s
CHKK Chushkaly 4.16 275 *e*PN **Pn 12 43 03.1 +1.3**
CHKK Chushkaly 4.16 275 *e*P **Pn 12 43 03.2 +1.3**
baz=273
CHKK Chushkaly 4.16 275 *e*P **Pb 12 43 10.1 -1.5**
138nm,0.2s
CHKK *e*S **Sb 12 44 04.4 +2.5**
1µm,0.2s
KNDC Almaty 4.21 266 ⇓Pn **Pn 12 43 04.8 +2.2**
20nm,0.2s
KNDC ⇑Pg **Pb 12 43 13.5 +1.0**
302nm,0.8s
KNDC ⇓Lg Lg 12 44 10.8
582nm,0.7s
KNDC Almaty 4.21 266 PN **Pn 12 43 04.8 +2.2**
KNDC PG **Pb 12 43 13.5 +1.0**
AAA Alma-Ata 4.25 266 Pg **Pb 12 43 12.3 -0.8**
209nm,0.2s
AAA Lg Lg 12 44 08.2
803nm,0.5s
AAA Alma-Ata 4.25 266 *e*PN **Pb 12 43 13.7 +0.6**
AAA Alma-Ata 4.25 266 *e*P **Pn 12 43 04.5 +1.4**
baz=264
AAA Alma-Ata 4.25 266 *e*P **Pb 12 43 12.3 -0.8**
209nm,0.2s
AAA *e*S **Sb 12 44 08.2 +3.8**
803nm,0.5s
TNSS Tian-Shan 4.25 264 Pg **Pb 12 43 13.2 -0.1**
78nm,0.3s
TNSS Lg Lg 12 44 09.7
281nm,0.2s
TNSS Tian-Shan 4.25 264 *e*PN **Pn 12 43 05.1 +1.7**
TNSS Tian-Shan 4.25 264 *e*P **Pn 12 43 05.1 +1.7**
baz=262
TNSS Tian-Shan 4.25 264 *e*P **Pb 12 43 13.2 -0.1**
78nm,0.3s
TNSS *e*S **Sb 12 44 09.7 +4.9**
281nm,0.2s
KTBS Karatobe 4.38 273 Pg **Pb 12 43 15.0 -0.4**
152nm,0.3s
KTBS Lg Lg 12 44 12.6
6.5nm,0.3s
KTBS Karatobe 4.38 273 *e*P **Pb 12 43 14.9 -0.4**
152nm,0.3s
KTBS *e*S **Sb 12 44 12.6 +4.3**
6.5nm,0.3s
IZV Izvestkoviy 4.49 265 Pg **Pb 12 43 17.6 +0.3**
88nm,0.3s
IZV Lg Lg 12 44 17.4
757nm,0.4s
IZV Izvestkoviy 4.49 265 *e*P **Pb 12 43 17.6 +0.3**
88nm,0.3s
IZV *e*S **Sb 12 44 17.4 +5.8**
757nm,0.4s
MTBS Maitube 4.61 266 Pg **Pb 12 43 19.7 +0.4**
94nm,0.2s
MTBS Lg Lg 12 44 20.6
504nm,0.3s
MTBS Maitube 4.61 266 *e*P **Pb 12 43 19.7 +0.4**
94nm,0.2s
MTBS *e*S **Sb 12 44 20.6 +5.7**
504nm,0.3s
KUU Kurty 4.63 276 Pg **Pb 12 43 19.5 0.0**
104nm,0.2s
KUU Lg Lg 12 44 20.5
643nm,0.3s
KUU Kurty 4.63 276 *e*PN **Pn 12 43 09.4 +1.1**
KUU *e*S **Sn 12 44 04.8 +2.7**
KUU Kurty 4.63 276 *e*P **Pn 12 43 09.5 +1.1**
baz=274
KUU *e*S **Sn 12 44 04.8 +2.7**
baz=274
KUU Kurty 4.63 276 *e*P **Pb 12 43 19.5 0.0**
104nm,0.2s
KUU *e*S **Sb 12 44 20.5 +5.1**
572nm,3.4s
ULHL Ulahol 4.95 256 P **Pn 12 43 14.4 +1.5**
SNR=27
KST Kastek 4.96 266 Pg **Pb 12 43 26.0 +0.7**
151nm,0.3s
KST Lg Lg 12 44 31.7
473nm,0.2s
KST Kastek 4.96 266 *e*P **Pb 12 43 26.0 +0.7**
151nm,0.3s
KST *e*S **Sb 12 44 31.7 +6.7**
473nm,0.2s
DGS Degeres 5.07 268 Pg **Pb 12 43 27.7 +0.6**
112nm,0.2s
DGS Lg Lg 12 44 34.5
610nm,0.3s
DGS Degeres 5.07 268 *e*P **Pb 12 43 27.7 +0.6**
112nm,0.2s
DGS *e*S **Sb 12 44 34.5 +6.3**
610nm,0.3s
BOOM Boomskoye usch 5.09 260 Pn **Pn 12 43 16.4 +1.5**
BOOM Boomskoye usch 5.09 260 PN **Pn 12 43 16.4 +1.5**
TKM2 Tokmak 2 5.25 265 P **Pn 12 43 19.7 +2.7**
SNR=43
NRN Naryn 5.42 249 Pn **Pn 12 43 21.4 +1.9**
NRN Naryn 5.42 249 PN **Pn 12 43 21.4 +1.9**
KZA Kyzart 5.70 257 P **Pn 12 43 25.6 +2.2**
SNR=25
KBK Karagaybulak 5.77 263 P **Pn 12 43 26.5 +2.4**
SNR=14
CHMS Chumysh 5.84 267 P **Pn 12 43 27.2 +2.2**
SNR=9.4
SGDS Sogindy 5.88 271 Pg **Pb 12 43 45.4 +4.5**
25nm,0.2s
SGDS Lg Lg 12 45 04.9
238nm,0.5s
SGDS Sogindy 5.88 271 *e*PN **Pn 12 43 27.0 +1.5**
SGDS pmax pmax
comp=Z,2.0nm,0.3s
SGDS Sogindy 5.88 271 *e*P **Pn 12 43 27.1 +1.5**
comp=Z,1.6nm,0.3s,baz=270
USP Ospenovka 5.99 269 P **Pn 12 43 29.5 +2.5**
SNR=13
AAK Ala-Archa 6.10 264*ce*PN **Pn 12 43 30.3 +1.7**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 6.10 264 Pn **Pn 12 43 30.5 +1.9**
comp=Z,0.9nm,0.3s,baz=102,slow=8.9,SNR=12
AAK Pg **Pb 12 43 47.3 +2.6**
comp=Z,6.5nm,0.3s,baz=98,slow=8.5,SNR=17
AAK Lg Lg 12 45 10.5
comp=Z,11nm,0.3s,baz=256,slow=23,SNR=6.6
comp=Z,4.6nm,0.4s
UCH Uchtor 6.18 260 P **Pn 12 43 32.5 +2.5**
SNR=17
BTLS Baital 6.38 286 Pg **Pb 12 43 53.1 +3.7**
comp=Z,42nm,0.4s
BTLS Lg Lg 12 45 18.6
comp=Z,18nm,0.4s
BTLS Baital 6.38 286 *e*PN **Pn 12 43 33.5 +1.2**
BTLS pmax pmax
comp=Z,3.0nm,0.6s
BTLS Baital 6.38 286 *e*P **Pn 12 43 33.5 +1.2**
comp=Z,3.5nm,0.6s,baz=284
BTLS Baital 6.38 286 *e*P **Pb 12 43 53.1 +3.7**
comp=Z,42nm,0.4s
BTLS *e*S **Sg 12 45 18.6 -4.4**
comp=Z,18nm,0.4s
ARLS Aral 6.43 257 PN **Pn 12 43 35.4 +2.3**
ARLS pmax pmax
comp=Z,55nm,0.8s
KSH Kashi 6.51 233 Pn Pb 12 43 43.6 -8.1
KSH Sn **Sb 12 45 04.1 -5.5**
KSH smax smax
comp=Z,110nm,1.2s
KSH smax smax
comp=Z,85nm,1.2s
DGZ Jazzator, Alta 6.89 26*d i*PN **Pn 12 43 41.6 +2.1**
MRKS Merke 6.99 266 Pg Pb 12 44 05.9 +6.1
comp=Z,34nm,0.2s
MRKS Lg Lg 12 45 40.4
comp=Z,154nm,0.4s
MRKS Merke 6.99 266 *e*P Pb 12 44 05.9 +6.0
comp=Z,34nm,0.2s
MRKS *e*S **Sg 12 45 40.4 -2.2**
comp=Z,154nm,0.4s
SEM Semipalatinsk 7.00 347 Pg **Pb 12 44 01.8 +1.8**
comp=Z,16nm,0.2s
SEM Lg Lg 12 45 32.9
comp=Z,140nm,0.3s
SEM Semipalatinsk 7.00 347 *e*PN **Pn 12 43 40.4 -0.6**
SEM Semipalatinsk 7.00 347 *e*P **Pn 12 43 40.4 -0.6**
baz=346
SEM Semipalatinsk 7.00 347 *e*P **Pb 12 44 01.8 +1.8**
comp=Z,16nm,0.2s
SEM *e*S Sb 12 45 32.9 +9.3
comp=Z,140nm,0.3s
ARSB Arslanbob 7.55 256 Pn 12 43 55.4 +6.8
ARSB Arslanbob 7.55 256 P Pn 12 43 55.4 +6.8
KURBB Kurchatov Arra 7.56 339 ⇑Pn **Pn 12 43 48.0 -0.6**
comp=Z,34nm,0.6s
KURBB ⇓Lg Lg 12 45 56.6
comp=Z,528nm,0.7s
KURBB Kurchatov Arra 7.56 339 P **Pn 12 43 47.9 -0.6**
KURBB Kurchatov Arra 7.56 339 Pn **Pn 12 43 48.7 +0.1**
comp=Z,1.3nm,0.3s,baz=160,slow=12,SNR=81
KURBB Sn **Sn 12 45 12.3 -1.9**
comp=Z,2.1nm,0.3s,baz=150,slow=26,SNR=5.0
KURBB Lg Lg 12 45 54.8
comp=Z,2.9nm,0.3s,baz=162,slow=32,SNR=6.2
comp=Z,25nm,0.7s
KURK Kurchatov 7.63 340 Pn **Pn 12 43 49.7 +0.3**
KURK Kurchatov 7.63 340*ce*P **Pn 12 43 49.3 -0.1**
KURK pmax pmax
comp=Z,18nm,1.0s
ARK Arkit 8.13 261 P **Pn 12 44 00.5 +4.1**
ARK pmax pmax
comp=Z,5.0nm,0.7s
OTUK Ortayu 8.58 306 Pg Pg 12 44 33.5 -9.0
comp=Z,4.3nm,0.2s
OTUK Lg Lg 12 46 27.6
comp=Z,50nm,0.3s
OTUK Ortayu 8.58 306 ⇑Pn **Pn 12 44 02.2 -0.4**
comp=Z,7.9nm,0.6s
OTUK ⇑Lg Lg 12 46 28.7
comp=Z,158nm,1.0s
OTUK Ortayu 8.58 306 P **Pn 12 44 02.2 -0.4**
KK31 Karatay Array 8.91 271 ⇑Pn **Pn 12 44 09.0 +2.0**
comp=Z,0.8nm,0.3s,baz=72,slow=13,SNR=5.1
KK31 ⇓Pg Pg 12 44 40.3 -8.4
comp=Z,4.2nm,0.4s,baz=83,slow=18,SNR=7.3
KK31 ⇓Lg Lg 12 46 39.2
comp=Z,66nm,0.7s,baz=77,slow=30,SNR=7.0
KK31 Karatay Array 8.91 271 *e*P Pn 12 44 17.1 +10
KKAR Karatay Array 8.91 271 Pn **Pn 12 44 09.4 +2.4**
KKAR Karatay Array 8.91 271 P **Pn 12 44 09.4 +2.4**
ZAA0 Zalesovo Array 10.43 7 ⇓Pn **Pn 12 44 26.6 -1.2**
comp=Z,2.1nm,0.5s
ZAA0 ⇑Sn **Sn 12 46 22.5 -2.1**
comp=Z,2.0nm,0.5s
ZAA0 ⇓Lg Lg 12 47 27.2
comp=Z,16nm,0.9s
ZAA0 Zalesovo Array 10.43 7 Pn **Pn 12 44 27.1 -0.7**
ZALV Zalesovo Beam 10.43 7 Pn **Pn 12 44 27.1 -0.7**
comp=Z,4.9nm,0.3s,baz=187,slow=13,SNR=76
ZALV Sn **Sn 12 46 18.6 -6.0**
comp=Z,3.7nm,0.3s,baz=194,slow=22,SNR=4.7
ZALV Lg Lg 12 47 25.3
comp=Z,1.6nm,0.3s,baz=183,slow=29,SNR=2.0
comp=Z,14nm,0.4s
SIMJ Simiganj 11.46 249 Pn **Pn 12 44 44.7 +2.6**
GOMU GeErMu 11.88 125 P **Pn 12 44 46.3 -1.7**
GOMU pmax pmax
comp=Z,21nm,0.7s
NIL Nilore 12.39 220 Pn **Pn 12 44 55.4 +0.6**
NIL Nilore 12.39 220 P **Pn 12 44 55.4 +0.6**
DHRM DHARAMSHALA 12.42 206 *e*P **Pn 12 44 55.8 +0.4**
DHRM *ex* x 12 46 51.3
DHRM IAML 12 47 17.6
comp=N,64nm,0.2s
DHRM IAML 12 47 18.7
comp=E,88nm,0.3s
THN Thein Dam 12.45 209 *e*P **Pn 12 44 54.6 -0.9**
THN *e*S Sn 12 47 00.0 -14
THN IAML 12 47 13.7
comp=N,39nm,0.4s
THN IAML 12 47 15.9
comp=E,32nm,0.2s
BVA0 Borovoye Array 12.47 323 Pn **Pn 12 44 56.4 +0.7**
comp=E,4.4nm,0.5s,baz=124,slow=12,SNR=12
BVA0 ⇑Lg Lg 12 48 24.9
comp=E,67nm,1.1s,baz=134,slow=31,SNR=6.6
BVA0 Borovoye Array 12.47 323 P **Pn 12 44 56.4 +0.7**
BVAR Borovoye Array 12.47 323 Pn **Pn 12 44 57.0 +1.3**
comp=E,0.2nm,0.3s,baz=125,slow=12,SNR=13
BVAR Sn **Sn 12 47 07.6 -6.9**
comp=E,0.1nm,0.3s,baz=130,slow=16,SNR=2.5
BVAR Lg Lg 12 48 28.0
comp=E,0.4nm,0.3s,baz=120,slow=25,SNR=6.9
comp=E,2.2nm,0.4s
BRVK Borovoye 12.54 323 Pn **Pn 12 44 57.8 +1.2**
BRVK Borovoye 12.54 323*ce*P **Pn 12 44 58.4 +1.8**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
SMLA Simla 13.22 201 *e*P **Pn 12 45 03.6 -2.4**
SMLA *e*S Sn 12 47 16.3 -17
SMLA IAML 12 47 26.8
comp=N,20nm,0.2s
SMLA IAML 12 47 27.1
comp=E,22nm,0.2s
GTA Gaotai 13.48 102 *e*P **Pn 12 45 08.8 -0.9**
GTA pP P 12 45 12.3 -6.8
GTA pmax pmax
comp=E,4.0nm,0.7s
MOY Mondy 14.69 50 *e*P **P 12 45 34.8 +2.4**
LSA Lhasa 15.44 151 Pn **Pn 12 45 35.1 -1.5**
LSA Lhasa 15.44 151 P **Pn 12 45 35.1 -1.5**
LSA pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 15.55 57 *e*P **Pn 12 45 36.9 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
AB31 Akbulak array 16.65 298 P **Pn 12 45 49.9 -1.7**
comp=Z,2.9nm,0.7s,baz=111,slow=9.3,SNR=14
SONM Songino Array 17.04 67 Pn **Pn 12 45 55.0 -1.7**
SONM Songino Array 17.04 67 Pn **P 12 45 57.0 -1.5**
comp=Z,0.9nm,0.3s,baz=264,slow=12,SNR=20
comp=Z,7.1nm,0.7s
ULN Ulaanbaatar 17.48 67 Pn **Pn 12 46 00.1 -2.1**
ULN **P 12 46 01.0 -2.5**
ULN Ulaanbaatar 17.48 67 *i* P **P 12 46 02.1 -1.3**
AKTO Aktyubinsk 18.11 301 ⇓P **P 12 46 11.6 +1.4**
comp=Z,4.8nm,0.9s
AKTO Aktyubinsk 18.11 301 P **P 12 46 12.3 +2.1**
comp=Z,0.5nm,0.3s,baz=96,slow=9.9,SNR=5.5
AKTO Lg Lg 12 51 30.4
comp=Z,0.2nm,0.3s,baz=184,slow=7.6,SNR=5.0
comp=Z,4.8nm,0.8s
AJM Ajmer 18.32 204 *e*P **P 12 46 16.7 +4.1**
AJM *e*S Sn 12 49 17.8 -19
SVE Sverdlovsk 19.23 321 *e*P **Pn 12 46 24.1 +0.8**
GEYT Alibeck 19.45 261 P **Pn 12 46 26.1 0.0**
comp=Z,0.2nm,0.3s,baz=84,slow=19,SNR=1.8
comp=Z,0.6nm,0.3s
SHL Shillong 19.50 154 **P 12 46 24.6 -1.2**
SHL Shillong 19.50 154 P **P 12 46 24.6 -1.2**
SHL pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 19.99 318 Pn 12 46 31.8 -0.7
ARU IAmb IAmb 12 46 38.6
comp=Z,20nm,1.3s
ARU Arti 19.99 318*d i*P Pn 12 46 32.6 +0.1
ARU 12 46 47.4
ARU S Sn 12 50 19.3 +2.2
ARU SS **SnSn 12 50 34.9 +3.5**
ARU pmax pmax
comp=Z,13nm,1.6s
ARU Arti 19.99 318 P Pn 12 46 31.7 -0.8
comp=Z,3.1nm,0.4s,baz=90,slow=20,SNR=2.8
comp=Z,3.1nm,0.4s
BTO Baotou 20.44 89 *e*P **P 12 46 35.1 -0.8**
BTO pP **sP 12 46 39.3 -1.1**
BTO sP **pP 12 46 41.8 +2.8**
BTO PP **PnPn 12 46 53.5 +0.6**
BTO S Sn 12 50 24.5 -3.9
BTO SS **SnSn 12 50 44.8 +2.0**
BTO pmax pmax
comp=Z,29nm,0.6s
BTO LR LR
comp=Z,440nm,10.0s
TNCH TengChong 22.61 140 *e*P **P 12 46 56.9 -2.4**
TNCH pP sP 12 47 02.3 -1.4
TNCH pmax pmax
comp=Z,18nm,0.4s
BOD Bodaibo 24.10 43 *e*P **P 12 47 14.8 +1.0**
BOD pmax pmax
comp=Z,8.0nm,1.6s
KIRV Kirov 25.37 318 *i* P **P 12 47 27.0 +1.7**
MAK Makhachkala 25.53 281 *e*P **P 12 47 22.8 -4.1**
MAK *e*S **S 12 51 48.6 -5.7**
NRIK Noril'sk 25.91 4*ce*P **P 12 47 30.7 +0.6**
NRIK pmax pmax
comp=Z,6.0nm,0.9s
NRIK Noril'sk 25.91 4 P **P 12 47 29.8 -0.3**
comp=Z,3.5nm,0.5s,baz=192,slow=13,SNR=7.5

	comp=Z,3.5nm,0.5s								
WHN	**Wuhan**	**28.23**	**107**	P		**P**		**12 47 53.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**28.57**	**146**	P		**P**		**12 47 54.1**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=321,slow=9.0,SNR=13								
	comp=Z,1.5nm,0.6s								
KIV	**Kislovodsk**	**28.71**	**285**	*e*P		**P**		**12 47 56.2**	**+0.6**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
OBN	**Obninsk**	**31.60**	**308**	*e*P		**P**		**12 48 24.5**	**+3.6**
OBN				*e*				12 49 25.7	
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KLR	**Kul'dur**	**33.77**	**63**	*ce*P		**P**		**12 48 39.9**	**-0.1**
KLR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
USRK	**Ussuriysk Ar.**	**35.07**	**72**	P		**P**		**12 48 49.6**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=270,slow=8.6,SNR=3.2								
	comp=Z,1.7nm,0.7s								
TIXI	**Tiksi**	**35.77**	**23**	*ce*P		**P**		**12 48 57.6**	**+0.6**
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.3s								
AKASG	**Malin Array Be**	**36.36**	**300**	P		**P**		**12 49 04.3**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=68,slow=7.5,SNR=3.3								
	comp=Z,0.2nm,0.4s								
FINES	**FINESS Array B**	**37.37**	**319**	P		**P**		**12 49 12.4**	**+1.7**
FINES	**FINESS Array B**	**37.37**	**319**	P		**P**		**12 49 12.7**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=92,slow=9.0,SNR=1.2								
	comp=Z,0.5nm,0.4s								
ARCES	**ARCESS Array B**	**38.57**	**332**	P		**P**		**12 49 21.0**	**+0.2**
ARCES				IAmb		IAmb		12 49 26.1	
	comp=Z,24nm,1.4s								
ARCES	**ARCESS Array B**	**38.57**	**332**	P		**P**		**12 49 21.2**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=90,slow=7.9,SNR=17								
	comp=Z,5.1nm,0.9s								
ASAJ	**Asahikawa**	**42.32**	**68**	P		**P**		**12 49 50.2**	**-2.0**
ASAJ				pmax		pmax			
	comp=Z,30nm,1.5s								
JKA	**Kamikawa-asahi**	**42.32**	**68**	P		**P**		**12 49 50.2**	**-2.0**
JKA				IAmb		IAmb		12 50 16.8	
	comp=Z,30nm,1.5s								
ERM	**Erimo**	**43.50**	**70**	P		**P**		**12 50 00.7**	**-1.0**
ERM	**Erimo**	**43.50**	**70**	P		**P**		**12 50 00.7**	**-1.0**
ERM				pmax		pmax			
	comp=Z,57nm,1.5s								
HFS	**Hagfors**	**43.51**	**317**	P		**P**		**12 50 02.9**	**+1.3**
	comp=Z,3.1nm,1.0s,baz=89,slow=7.6,SNR=1.7								
	comp=Z,3.1nm,1.0s								
NC405	**NORSAR Array S**	**44.30**	**319**	P		**P**		**12 50 07.7**	**-0.2**
NC405				IAmb		IAmb		12 50 47.5	
	comp=Z,18nm,1.2s								
NB2	**NORSAR Subarra**	**44.55**	**319**	P		**P**		**12 50 08.9**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=79,slow=8.6								
NOA	**NORSAR Array B**	**44.55**	**319**	P		**P**		**12 50 10.6**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=78,slow=7.8,SNR=3.5								
NOA				LR		LR		13 09 41.9	
	comp=Z,121nm,20.1s,baz=330,slow=37								
	comp=Z,0.7nm,0.5s								
KBA	**Koelnbreinsper**	**47.41**	**300**	*e*pP		pP		12 50 38.1	+1.8
	comp=Z,0.6nm,0.3s								
WTTA	**Wattenberg**	**48.41**	**301**	*i* pP		pP		12 50 45.9	+1.9
	comp=Z,6.5nm,0.6s								
WATA	**Walderalm**	**48.42**	**301**	*i* pP		pP		12 50 47.2	+3.1
	comp=Z,4.7nm,0.7s								
PETK	**Petropavlovsk-**	**48.55**	**51**	P		**P**		**12 50 42.2**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=287,slow=5.7,SNR=4.3								
	comp=Z,0.9nm,0.6s								
SQTA	**Sankt Quirin**	**48.70**	**301**	*i* pP		pP		12 50 47.7	+1.6
	comp=Z,5.4nm,0.4s								
FETA	**Feichten**	**49.08**	**301**	*e*pP		pP		12 50 48.3	-0.8
	comp=Z,1.3nm,0.5s								
C18K	**Utukok River**	**58.48**	**23**	P		**P**		**12 51 54.6**	**+0.5**
B22K	**Teshekpuk Lake**	**59.34**	**19**	P		**P**		**12 52 00.4**	**+0.4**
B22K				IAmb		IAmb		12 52 00.9	
	comp=Z,3.7nm,0.8s								
D19K	**Kuna River**	**59.44**	**22**	P		**P**		**12 52 00.8**	**+0.1**
D19K				IAmb		IAmb		12 52 19.0	
	comp=Z,2.5nm,0.9s								
H18K	**Honhosa River**	**61.66**	**25**	P		**P**		**12 52 16.0**	**+0.1**
H18K				IAmb		IAmb		12 52 16.7	
	comp=Z,2.9nm,0.7s								
ESDC	**Sonseca Array**	**61.99**	**299**	P		**P**		**12 52 19.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=63,slow=6.1,SNR=2.0								
	comp=Z,0.8nm,0.5s								
IMAR	**Indian Mountai**	**62.42**	**23**	P		**P**		**12 52 20.6**	**-0.4**
K15K	**Wolf Creek Mou**	**62.60**	**28**	P		**P**		**12 52 23.0**	**+0.8**
L16K	**Owhat River**	**63.70**	**28**	P		**P**		**12 52 30.4**	**+0.9**
MLY	**Manley**	**63.97**	**22**	P		**P**		**12 52 31.5**	**+0.2**
MLY				IAmb		IAmb		12 52 32.5	
	comp=Z,3.8nm,1.0s								
BPAW	**Bear Paw Mtn.**	**64.61**	**23**	P		**P**		**12 52 35.4**	**-0.1**
BPAW				IAmb		IAmb		12 52 36.4	
	comp=Z,5.3nm,0.9s								
NEA2	**Nenana**	**64.76**	**22**	P		**P**		**12 52 36.4**	**-0.1**
NEA2				IAmb		IAmb		12 52 57.3	
	comp=Z,5.0nm,1.3s								
INK	**Inuvik**	**65.14**	**14**	P		**P**		**12 52 38.7**	**-0.1**
INK				IAmb		IAmb		12 52 58.5	
	comp=Z,4.4nm,1.4s								
INK	**Inuvik**	**65.14**	**14**	P		**P**		**12 52 38.7**	**-0.1**
INK				pmax		pmax			
	comp=Z,4.0nm,1.5s								
ILAR	**Eielson Array**	**65.20**	**21**	P		**P**		**12 52 38.7**	**-0.6**
ILAR	**Eielson Array**	**65.20**	**21**	P		**P**		**12 52 39.0**	**-0.3**
ILAR	**Eielson Array**	**65.20**	**21**	P		**P**		**12 52 39.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=316,slow=5.1,SNR=29								
	comp=Z,2.5nm,0.8s								
C36M	**Paulatuk**	**65.62**	**10**	P		**P**		**12 52 41.2**	**-0.7**
C36M				IAmb		IAmb		12 52 56.3	
	comp=Z,12nm,1.5s								
G31M	**Satah River**	**66.23**	**15**	P		**P**		**12 52 45.5**	**-0.4**
G31M				IAmb		IAmb		12 52 46.2	
	comp=Z,9.0nm,1.2s								
SML	**Sawmill**	**67.16**	**24**	P		**P**		**12 52 51.4**	**-0.6**
KDAK	**Kodiak Island**	**68.96**	**28**	P		**P**		**12 53 03.2**	**-0.1**
KDAK	**Kodiak Island**	**68.96**	**28**	P		**P**		**12 53 03.2**	**-0.1**
KDAK				pmax		pmax			
	comp=Z,53nm,1.5s								
VRDI	**Verde Repeater**	**69.00**	**22**	P		**P**		**12 53 03.2**	**-0.6**
VRDI				IAmb		IAmb		12 53 42.0	
	comp=Z,7.6nm,1.2s								
OHAK	**Old Harbor**	**69.15**	**29**	P		**P**		**12 53 04.8**	**+0.4**
YKA	**Yellowknife Ar**	**73.32**	**8**	*ce*P		P		12 53 33.7	+4.1
YKA	**Yellowknife Ar**	**73.32**	**8**	P		**P**		**12 53 28.8**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=4.5,slow=6.3,SNR=7.6								
	comp=Z,0.2nm,0.5s								
TORD	**Torodi Ar. Bea**	**74.59**	**274**	P		**P**		**12 53 36.9**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=41,slow=5.4,SNR=14								
	comp=Z,0.7nm,0.5s								
SCHQ	**Schefferville**	**78.55**	**343**	P		**P**		**12 53 59.0**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=5.8,slow=7.4,SNR=7.9								
	comp=Z,1.1nm,0.4s								
WRA	**Warramunga Arr**	**78.98**	**131**	P		**P**		**12 54 00.4**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=309,slow=3.3,SNR=3.6								
ASAR	**Alice Springs**	**81.78**	**134**	P		**P**		**12 54 15.8**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=326,slow=5.5,SNR=6.4								
	comp=Z,0.7nm,0.8s								

NEIC ***18*** *12:54:51.5±0.7, 20.°20N±0.°09×155.°65W±0.°07, h35km±10km, Error ellipse: s-maj=13.9km s-min=8.1km az=207.0*

HVO 18 12:54:53.1±2.4**, 20.°22N**±0.°06×**155.°66W**±0.°03**, h28**km±8km**, **ML2.4**/7, ML2.8**/32(NEIC), **Error ellipse: s-maj=9.3km s-min=4.6km az=187.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HPAH	**Hawaii Prepara**	**0.19**	**191**		Pb	12 54 58.4	-0.7
HPAH					Sb	12 55 02.3	-0.8
HPAH	**Hawaii Prepara**	**0.19**	**191**	IAML		12 55 02.5	
	comp=E,468nm,0.1s						
HPAH				IAML		12 55 02.5	
	comp=N,1μm,0.2s						
MHA	**Mahukona**	**0.23**	**262**	Pg	Pb	12 54 58.4	-1.1
MHA	**Mahukona**	**0.23**	**262**		Sb	12 55 03.6	-0.2
POHA	**Pohakuloa**	**0.47**	**165**		Pb	12 55 01.7	-1.5
POHA	**Pohakuloa**	**0.47**	**165**	IAML		12 55 08.3	
	comp=N,563nm,0.2s						
POHA				IAML		12 55 09.5	
	comp=N,414nm,0.2s						
HUH	**Hualalai**	**0.56**	**197**	Pn	Pb	12 55 03.8	-0.8
HUH					Sb	12 55 12.6	+0.2
HUH				IAML		12 55 13.1	
	comp=N,557nm,0.2s						
HUH				IAML		12 55 15.9	
	comp=E,380nm,1.4s						
HMH	**Humu'ula Sheep**	**0.64**	**165**	Pn	Pb	12 55 05.5	-0.4
HMH				IAML		12 55 28.3	
	comp=N,412nm,4.1s						
HMH	**Humu'ula Sheep**	**0.64**	**165**		Pb	12 55 04.0	-1.9
KHLU	**Kahalu`u**	**0.66**	**199**		Pb	12 55 04.0	-2.2
KHLU	**Kahalu`u**	**0.66**	**199**		Sb	12 55 11.9	-3.2
KHLU	**Kahalu`u**	**0.66**	**199**	IAML		12 55 10.7	
	comp=E,281nm,3.6s						
ALEP	**Alea Permanent**	**0.67**	**179**		Pb	12 55 04.4	-2.2
ALEP					Sb	12 55 13.2	-2.6
MLOA	**Mauna Loa Obse**	**0.68**	**173**		Pb	12 55 05.0	-1.8
MLOA					Sb	12 55 13.6	-2.5
MWH	**Moku'aweowe**	**0.73**	**175**		Pb	12 55 05.2	-2.4
MWH	**Moku'aweowe**	**0.73**	**175**	IAML		12 55 30.7	
	comp=E,371nm,1.6s						
MWH				IAML		12 55 32.1	
	comp=N,338nm,2.6s						
CPH	**Captain Cook**	**0.77**	**199**		Pb	12 55 05.3	-2.6
MLH	**Mauna Loa**	**0.77**	**160**		Pb	12 55 05.7	-2.4
MLH	**Mauna Loa**	**0.77**	**160**	IAML		12 55 12.2	
	comp=E,229nm,4.0s						
MLH				IAML		12 55 35.1	
	comp=N,372nm,4.7s						
RSD	**Rainshed**	**0.83**	**154**		Pb	12 55 06.7	-2.5
RSD					Sb	12 55 16.5	-3.5
RSD	**Rainshed**	**0.83**	**154**	IAML		12 55 30.1	
	comp=E,361nm,3.7s						
AIN	**Ainahou**	**0.86**	**167**		Pn	12 55 07.1	-2.6
AIN	**Ainahou**	**0.86**	**167**	IAML		12 55 22.1	
	comp=E,308nm,3.7s						
UWB	**Uwekahuna B**	**0.87**	**155**	IAML		12 55 31.9	
	comp=E,240nm,3.8s						
SBLHI	**Steaming Bluff**	**0.87**	**155**		Pn	12 55 06.7	-2.9
SBLHI	**Steaming Bluff**	**0.87**	**155**	IAML		12 55 39.7	
	comp=E,322nm,2.1s						
WRMHI	**West Rim**	**0.88**	**157**		Pn	12 55 06.8	-2.9
WRMHI	**West Rim**	**0.88**	**157**	IAML		12 55 15.3	
	comp=N,621nm,1.5s						
WRMHI				IAML		12 55 18.9	
	comp=E,736nm,1.4s						
PUH	**Pauahi**	**0.94**	**154**		Pn	12 55 07.8	-2.8
PUH					Sb	12 55 18.2	-4.8
PUH	**Pauahi**	**0.94**	**154**	IAML		12 55 37.4	
	comp=E,208nm,3.4s						
PUH				IAML		12 55 41.7	
	comp=N,352nm,3.9s						
KHU	**Kahuku**	**0.97**	**178**		Pn	12 55 08.2	-2.9
KHU					Sb	12 55 19.0	-5.0
KHU	**Kahuku**	**0.97**	**178**	IAML		12 55 30.2	
	comp=N,350nm,3.8s						
JOKA	**Jonika Flow**	**0.99**	**142**		Pn	12 55 08.4	-2.9
JOKA					Sn	12 55 19.5	-5.0
HTC	**Hot Caves**	**1.01**	**166**		Pn	12 55 08.7	-2.7

SKHL ***18*** *12:58:18.3±0.2, 47.°90N×153.°50E, h124km±8km, mb5.3/6, msha5.9/6*
MOS ***18*** *12:58:18.1±1.4, 47.°97N×153.°30E, h78km, mb4.2/1, Error ellipse: s-maj=15.3km s-min=7.7km az=62.2*
IDC ***18*** *12:58:20.8±2.5, 48.°10N×153.°23E, h132km±22km, mb3.6/15, mbtmp4.0/18, MS4.3/1, Error ellipse: s-maj=21.8km s-min=13.9km az=166.0*
NEIC ***18*** *12:58:20.2±1.0, 48.°2N±0.°2×152.°9E±0.°3, h119km±14km, mb4.2/29, Error ellipse: s-maj=36.4km s-min=14.6km az=137.0*
JMA ***18*** *12:58:23.3±0.8, 47.°7N±7.°×15.°4E±.°, h167km, MV3.7/13, KURILE ISLANDS REGION*

ISC 18 12:58:17.9±0.6**, 47.80N**±0.°08×**153.°38E**±0.°08**, h117**km**, **n102**, s2**s12/107**, mb4.1**/30**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.40**	**31**	*e*PN	**Pn**	**12 59 08.5**	**-0.7**
SKR				*e*S	**Sn**	**12 59 45.9**	**-3.0**
SKR				pmax	pmax		
	comp=Z,259nm,0.5s						
SKR				smax	smax		
	comp=E,201nm,0.5s						
SKR				smax	smax		
	comp=N,193nm,0.5s						
SKR				MLR	MLR		
	comp=Z,200nm,12.0s						
SKR	**Severo-Kuril's**	**3.40**	**31**	*e*P	**Pn**	**12 59 08.5**	**-0.7**
SKR				AMB	AMB	12 59 10.8	
	comp=Z,190nm,0.5s						
SKR				*e*S	**Sn**	**12 59 46.3**	**-2.6**
SKR				A	A	12 59 49.5	
	comp=Z,250nm,0.2s						
SKR				A	A	12 59 49.5	
	comp=Z,240nm,0.2s						
PAU	**Pauzhetka**	**4.29**	**30**	*e*S	**Sn**	**13 00 08.5**	**-1.9**
PAU				*e*P	**Pn**	**12 59 21.8**	**+0.6**
PAU				AMB	AMB	12 59 22.7	
	comp=Z,40nm,0.5s						
PAU				A	A	13 00 09.6	
	comp=Z,350nm,0.4s						
PAU				A	A	13 00 09.6	
	comp=Z,560nm,0.4s						
KUR	**Kuril'sk**	**4.59**	**238**	*e*PN	**Pn**	**12 59 29.5**	**+4.3**
KUR				*e*S	**Sn**	**13 00 23.6**	**+6.1**
KUR				pmax	pmax		
	comp=N,21nm,0.3s						
KUR				pmax	pmax		
	comp=Z,93nm,0.3s						
KUR				pmax	pmax		
	comp=E,47nm,0.2s						
KUR				smax	smax		
	comp=N,146nm,0.6s						
KUR				smax	smax		
	comp=E,66nm,0.3s						
KUR	**Kuril'sk**	**4.59**	**238**	*e*S	**Sn**	**13 00 22.0**	**+4.5**
KUR				*e*P	**Pn**	**12 59 29.5**	**+4.3**
KUR				AMB	AMB	12 59 30.8	
	comp=E,90nm,0.3s						
KUR				A	A	13 00 27.5	
	comp=E,150nm,0.6s						
KUR				A	A	13 00 27.5	
	comp=E,70nm,0.6s						
PEA0B	**Petropavlovsk-**	**5.99**	**26**	Pn	**Pn**	**12 59 43.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**5.99**	**26**	PN	**Pn**	**12 59 43.5**	**-0.5**
PETK	**Petropavlovsk-**	**5.99**	**26**	Pn	**Pn**	**12 59 42.7**	**-1.3**
PETK	**Petropavlovsk-**	**5.99**	**26**	P	**Pn**	**12 59 43.2**	**-0.7**
	comp=E,7.6nm,0.6s,baz=180,slow=11,SNR=66						
SHO	**Shikotan**	**6.03**	**232**	*e*PN	**Pn**	**12 59 44.7**	**0.0**
SHO				*e*S	**Sn**	**13 00 49.1**	**-3.2**
SHO				pmax	pmax		
	comp=Z,44nm,0.3s						
SHO				pmax	pmax		
	comp=N,22nm,0.2s						
SHO				smax	smax		
	comp=N,55nm,0.2s						
SHO				smax	smax		
	comp=E,109nm,0.2s						
SHO	**Shikotan**	**6.03**	**232**	*e*S	**Sn**	**13 00 49.4**	**-2.9**
SHO				*e*P	**Pn**	**12 59 45.0**	**+0.3**
SHO				AMB	AMB	12 59 45.9	
	comp=E,40nm,0.3s						
SHO				A	A	13 00 51.6	
	comp=E,60nm,0.3s						
SHO				A	A	13 00 51.6	
	comp=E,80nm,0.3s						
PET	**Petropavlovsk**	**6.22**	**31**	Pn	**Pn**	**12 59 46.3**	**-0.8**
PET	**Petropavlovsk**	**6.22**	**31**	*e*P	**Pn**	**12 59 48.6**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**6.46**	**237**	*c i*PN	**Pn**	**12 59 52.4**	**+2.0**
YUK				*i* S	**Sn**	**13 01 04.2**	**+1.6**
YUK				pmax	pmax		
	comp=Z,328nm,0.4s						
YUK				pmax	pmax		
	comp=Z,323nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**6.46**	**237**	*i* S	**Sn**	**13 01 04.8**	**+2.2**
YUK				*i* P	**Pn**	**12 59 52.7**	**+2.3**
YUK				AMB	AMB	12 59 53.9	
	comp=Z,300nm,0.2s						
YUK				A	A	13 01 08.7	
	comp=Z,200nm,0.6s						
YUK				A	A	13 01 08.7	
	comp=Z,250nm,0.6s						
RUSJ	**Misakicho**	**6.77**	**240**	*e*PN	**Pn**	**12 59 56.6**	**+2.0**
RUSJ				*e*S	**Sn**	**13 01 14.7**	**+4.6**
JRA	**Rausu**	**6.94**	**239**	*e*P	**Pn**	**12 59 59.1**	**+2.2**
NEM2	**Nemuro 2**	**6.95**	**233**	*e*P	**Pn**	**12 59 56.9**	**-0.2**
NEM2				*e*S	**Sn**	**13 01 09.9**	**-4.8**
NMR	**Nemuro--Hokkai**	**6.96**	**233**	*e*PN	**Pn**	**12 59 56.7**	**-0.5**
NMR	**Nemuro--Hokkai**	**6.96**	**233**	*e*P	**Pn**	**12 59 57.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.26**	**267**	*e*PN	**Pn**	**13 00 05.3**	**+4.0**
YSS	**Yuzh-Sakhalins**	**7.26**	**267**	*e*P	**Pn**	**13 00 03.5**	**+2.2**
JNK	**Nakash**	**7.38**	**238**	*e*P	**Pn**	**13 00 04.4**	**+1.5**
JTKR	**Abashiri--Toko**	**7.64**	**243**	*e*P	**Pn**	**13 00 08.8**	**+2.5**
TYV	**Tymovskoe**	**7.64**	**298**	*e*P	**Pn**	**13 00 08.1**	**+1.7**
JAK	**Akkeshi**	**7.77**	**235**	*e*P	**Pn**	**13 00 07.7**	**-0.5**
JAK				*e*S	**Sn**	**13 01 29.0**	**-5.5**
JAR	**Ashorobuto**	**8.11**	**240**	*e*P	**Pn**	**13 00 14.7**	**+2.0**
JAR				*e*S	**Sn**	**13 01 41.6**	**-1.1**
JOB	**Onbets**	**8.31**	**237**	*e*P	**Pn**	**13 00 15.9**	**+0.3**
JOB				*e*S	**Sn**	**13 01 44.7**	**-3.0**
JKA	**Kamikawa-asahi**	**8.36**	**248**	Pn	**Pn**	**13 00 20.0**	**+3.8**
JKA	**Kamikawa-asahi**	**8.36**	**248**	*e*P	**Pn**	**13 00 20.3**	**+4.1**
ASAJ	**Asahikawa**	**8.37**	**248**	P	**Pn**	**13 00 20.3**	**+4.1**
	comp=Z,10.0nm,0.4s,baz=63,slow=13,SNR=41						
JKK2	**Kamakawa 2**	**8.40**	**246**	*e*P	**Pn**	**13 00 19.7**	**+3.1**
JCH	**Churui**	**8.77**	**237**	*e*P	**Pn**	**13 00 21.1**	**-0.5**
JCH				*e*S	**Sn**	**13 01 53.4**	**-5.3**
ERM	**Erimo**	**9.27**	**235**	Pn	**Pn**	**13 00 29.6**	**+1.1**
ERM	**Erimo**	**9.27**	**235**	PN	**Pn**	**13 00 29.6**	**+1.1**
JNBK	**Urakawa-nobuka**	**9.33**	**238**	*e*P	**Pn**	**13 00 27.7**	**-1.5**
JNBK				*e*S	**Sn**	**13 02 06.1**	**-6.2**
JTM	**Tenmabayashi**	**11.26**	**236**	Pn	Pn	13 00 52.6	-2.7
JANG	**Nango**	**11.30**	**233**	*e*P	Pn	13 00 52.2	-3.7
JANG				*e*S	Sn	13 02 48.7	-11
SEY	**Seymchan**	**15.18**	**358**	P	**Pn**	**13 01 44.7**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=194,slow=10,SNR=21						
BILL	**Bilibino**	**21.33**	**13**	P	**P**	**13 02 53.6**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**30.08**	**154**	T	T	13 36 09.1	
	baz=341,slow=76,SNR=139						
H11N1	**WAKE ISLAND Hy**	**30.09**	**154**	T	T	13 36 09.2	
	baz=341,slow=76,SNR=117						
H11N3	**WAKE ISLAND Hy**	**30.09**	**154**	T	T	13 36 13.8	
	baz=341,slow=76,SNR=96						
C18K	**Utukok River**	**30.62**	**31**	P	**P**	**13 04 20.7**	**+0.2**
M17K	**Holitna River**	**30.74**	**45**	P	**P**	**13 04 22.8**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**31.18**	**155**	T	T	13 37 34.2	
	baz=342,slow=76,SNR=148						
H11S3	**WAKE ISLAND Hy**	**31.19**	**155**	T	T	13 37 29.7	
	baz=342,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**31.20**	**155**	T	T	13 37 34.2	
	baz=342,slow=76,SNR=77						
C19K	**Lookout Ridge**	**31.32**	**30**	P	**P**	**13 04 27.4**	**+0.8**
C19K				IAmb	IAmb	13 04 35.0	
	comp=Z,6.4nm,1.5s						
D19K	**Kuna River**	**31.65**	**32**	P	**P**	**13 04 29.6**	**+0.1**
D19K				IAmb	IAmb	13 04 32.7	
	comp=Z,3.1nm,0.9s						
IMAR	**Indian Mountai**	**32.81**	**37**	P	**P**	**13 04 39.9**	**+0.2**
H21K	**Melozitna Rive**	**33.16**	**38**	P	**P**	**13 04 43.4**	**+0.6**
H21K				IAmb	IAmb	13 04 53.1	
	comp=Z,7.5nm,1.4s						
E22K	**Anaktuvuk Pass**	**33.87**	**33**	P	**P**	**13 04 49.6**	**+0.7**
E22K				IAmb	IAmb	13 04 49.9	
	comp=Z,3.1nm,0.6s						
C23K	**Itkillik River**	**34.57**	**30**		**P**	**13 04 55.5**	**+0.7**
MDM	**Murphy Dome**	**35.04**	**39**	P	**P**	**13 05 00.2**	**+1.2**
MDM				IAmb	IAmb	13 05 00.5	
	comp=Z,2.5nm,0.9s						
SML	**Sawmill**	**35.09**	**45**	P	**P**	**13 05 00.4**	**+0.9**
E24K	**Your Creek**	**35.10**	**34**	P	**P**	**13 05 00.6**	**+1.1**
E24K				IAmb	IAmb	13 05 00.8	
	comp=Z,2.0nm,0.6s						
H24K	**Noodor Dome**	**35.20**	**38**	P	**P**	**13 05 01.0**	**+0.6**
H24K				IAmb	IAmb	13 05 16.9	
	comp=Z,7.0nm,1.5s						
CCB	**Clear Creek Bu**	**35.22**	**40**	P	**P**	**13 05 01.6**	**+1.1**
F24K	**Squaw Lake**	**35.28**	**35**	P	**P**	**13 05 01.6**	**+0.5**
HDA	**Harding Lake**	**35.60**	**40**	P	**P**	**13 05 04.1**	**+0.4**
HDA				IAmb	IAmb	13 05 37.3	
	comp=Z,4.5nm,1.2s						
ILAR	**Eielson Array**	**35.62**	**39**	P	**P**	**13 05 04.8**	**+0.9**
ILAR	**Eielson Array**	**35.62**	**39**	P	**P**	**13 05 04.8**	**+0.9**
ILAR	**Eielson Array**	**35.62**	**39**	P	**P**	**13 05 03.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=255,slow=8.0,SNR=9.4						
	comp=Z,0.3nm,0.6s						
D25K	**Kavik River**	**35.98**	**32**	P	**P**	**13 05 07.5**	**+0.6**
PRP	**Porcupine Dome**	**36.18**	**38**	P	**P**	**13 05 09.8**	**+0.9**
FYU	**Fort Yukon**	**36.29**	**36**	P	**P**	**13 05 10.7**	**+1.2**
BMAR	**Burnt Mountain**	**36.55**	**35**	P	**P**	**13 05 13.2**	**+1.4**
SCRK	**Sand Creek**	**36.91**	**41**	P	**P**	**13 05 15.3**	**+0.3**
SCRK				IAmb	IAmb	13 05 31.8	
	comp=Z,6.5nm,1.4s						
K27K	**Chicken**	**37.75**	**40**	P	**P**	**13 05 22.8**	**+0.9**
K27K				IAmb	IAmb	13 05 49.0	
	comp=Z,6.5nm,1.4s						
L27K	**Beaver Creek,**	**37.97**	**42**	P	**P**	**13 05 25.4**	**+1.5**
L27K				IAmb	IAmb	13 05 56.7	
	comp=Z,3.9nm,1.4s						
BCAR	**Beaver Creek A**	**37.99**	**42**	P	**P**	**13 05 25.4**	**+1.3**
I28M	**Miner Creek**	**38.51**	**38**	P	**P**	**13 05 29.4**	**+1.0**
G29M	**Pine Creek**	**39.13**	**36**	P	**P**	**13 05 34.7**	**+1.3**
G29M				IAmb	IAmb	13 06 04.1	

*IDC **18** 12:58:42.0±1.6,36.87S×178.08E,h0km,mb4.2/4, mbtmp4.1/4,Error ellipse: s-maj=39.1km s-min=29.2km az=81.0*
*NOU **18** 12:58:42.6,37.19S×178.66E,h131km,MLv4.5/14,Off E. Coast of N. Island, N.Z.*
*WEL **18** 12:58:52.4±0.7,37°S±½°×17°8E±½°,h29km±5km,M4.0/19, ML4.3/19,MLv4.0/19,Error ellipse: s-maj=0.0km s-min=0.0km az=32.3,confirmed*

ISC 18 12:58:51.6±0.8,37°36S±0'05"×177°74E±0'04,h50km,n149, σ2°34/156,mb4.1/5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.39**	**175**	P	**Pn**	**12 59 02.7**	**+1.0**
HAZ				S	**Sn**	**12 59 11.2**	**+2.4**
WIZ	**White Island**	**0.47**	**249**	P	**Pn**	**12 59 03.9**	**+1.5**
WIZ				S	**Sn**	**12 59 13.1**	**+2.9**
WSRZ	**White Island S**	**0.47**	**251**	P	**Pn**	**12 59 04.2**	**+1.7**
WSRZ				S	**Sn**	**12 59 13.5**	**+3.2**
MXZ	**Matakaoa Point**	**0.49**	**114**	P	**Pn**	**12 59 02.7**	**-0.1**
MXZ	**Matakaoa Point**	**0.49**	**114**	P	**Pn**	**12 59 02.7**	**-0.1**
PKGZ	**Pakihiroa**	**0.59**	**153**	P	**Pn**	**12 59 05.1**	**+1.1**
RUGZ	**Raukumara Rang**	**0.60**	**184**	P	**Pn**	**12 59 05.1**	**+0.9**
WMGZ	**Waiomatatini S**	**0.70**	**130**	P	**Pn**	**12 59 07.4**	**+2.0**
WMGZ				S	**Sn**	**12 59 20.4**	**+5.0**
WHRZ	**Whale Island**	**0.78**	**231**	P	**Pn**	**12 59 08.2**	**+1.8**
WHRZ				S	**Sn**	**12 59 20.5**	**+3.3**
PUZ	**Puketiti**	**0.82**	**150**	P	**Pn**	**12 59 08.6**	**+1.7**
PUZ				S	**Sn**	**12 59 22.4**	**+4.3**
TWGZ	**Tauwhareparae**	**0.83**	**167**	P	**Pn**	**12 59 09.3**	**+2.1**
TWGZ				S	**Sn**	**12 59 25.1**	**+6.6**
MWZ	**Matawai**	**0.98**	**190**	P	**Pn**	**12 59 10.4**	**+1.3**
MWZ				S	**Sn**	**12 59 23.8**	**+1.8**
URZ	**Urewera**	**1.02**	**209**	P	**Pn**	**12 59 11.0**	**+1.4**
URZ	**Urewera**	**1.02**	**209**	Pn	**Pn**	**12 59 11.2**	**+1.6**
URZ	202nm,0.3s,baz=353,slow=4.3,SNR=1368			Sn	**Sn**	**12 59 25.1**	**+2.2**
	baz=86,slow=19						
URZ	**Urewera**	**1.02**	**209**	P	**Pn**	**12 59 11.0**	**+1.4**
MARZ	**Manawahe**	**1.05**	**233**	P	**Pn**	**12 59 11.6**	**+1.7**
OPRZ	**Ohinepanea**	**1.05**	**243**	P	**Pn**	**12 59 11.3**	**+1.3**
TKGZ	**Te Karaka**	**1.08**	**175**	P	**Pn**	**12 59 12.7**	**+2.4**
EDRZ	**Edgecumbe**	**1.08**	**227**	P	**Pn**	**12 59 12.2**	**+1.7**
RAGZ	**Rawiri**	**1.16**	**193**	P	**Pn**	**12 59 13.6**	**+2.1**
CNGZ	**Carnagh Statio**	**1.18**	**162**	P	**Pn**	**12 59 13.5**	**+1.8**
MYRZ	**Mayor Island**	**1.20**	**274**	P	**Pn**	**12 59 13.2**	**+1.3**
TGRZ	**Tauranga**	**1.23**	**252**	P	**Pn**	**12 59 13.8**	**+1.4**
LIRZ	**Lichensteins R**	**1.25**	**239**	P	**Pn**	**12 59 14.6**	**+1.9**
MKRZ	**Makatiti**	**1.27**	**232**	P	**Pn**	**12 59 15.9**	**+2.8**
TARZ	**Mount Tarawera**	**1.31**	**228**	P	**Pn**	**12 59 16.0**	**+2.4**
OMRZ	**Omania**	**1.31**	**235**	P	**Pn**	**12 59 15.5**	**+2.0**
RIGZ	**Rimuhau**	**1.34**	**179**	P	**Pn**	**12 59 15.8**	**+1.9**
MUGZ	**Murupara**	**1.35**	**214**	P	**Pn**	**12 59 15.5**	**+1.4**
KARZ	**Kaharoa**	**1.35**	**241**	P	**Pn**	**12 59 15.9**	**+1.8**
RRRZ	**Republican Roa**	**1.37**	**224**	P	**Pn**	**12 59 16.2**	**+1.8**
RTZ	**Ruatahuna**	**1.39**	**205**	P	**Pn**	**12 59 16.0**	**+1.4**
HLRZ	**Highlands Stat**	**1.41**	**231**	P	**Pn**	**12 59 17.0**	**+2.1**
NGRZ	**Ngongotaha**	**1.43**	**239**	P	**Pn**	**12 59 17.6**	**+2.3**
SNGZ	**Shannon Statio**	**1.45**	**192**	P	**Pn**	**12 59 17.9**	**+2.5**
UTU	**Utuhina**	**1.47**	**236**	P	**Pn**	**12 59 18.7**	**+3.0**
KMRZ	**Kaimai**	**1.50**	**251**	P	**Pn**	**12 59 17.6**	**+1.4**
HSRZ	**Hossack Road**	**1.51**	**231**	P	**Pn**	**12 59 18.8**	**+2.5**
HRRZ	**Handcock Road**	**1.54**	**228**	P	**Pn**	**12 59 18.8**	**+2.1**
PRRZ	**Plateau Road**	**1.55**	**223**	P	**Pn**	**12 59 18.6**	**+1.8**
PRGZ	**Paritu Road**	**1.56**	**176**	P	**Pn**	**12 59 18.0**	**+1.0**
GRRZ	**Galatos Road**	**1.62**	**202**	P	**Pn**	**12 59 20.1**	**+2.4**
ALRZ	**Allen Road**	**1.63**	**222**	P	**Pn**	**12 59 19.9**	**+1.3**
RAHZ	**Arahi**	**1.63**	**198**	P	**Pn**	**12 59 20.9**	**+3.0**
MTHZ	**Maungataniwha**	**1.65**	**205**	P	**Pn**	**12 59 19.5**	**+1.4**
KNZ	**Kokohu**	**1.66**	**182**	P	**Pn**	**12 59 19.2**	**+1.0**
WPRZ	**Whakapapataran**	**1.70**	**227**	P	**Pn**	**12 59 21.2**	**+2.4**
KUZ	**Kuaotunu**	**1.73**	**290**	P	**Pn**	**12 59 19.6**	**+0.5**
KUZ	**Kuaotunu**	**1.73**	**290**	P	**Pn**	**12 59 19.7**	**+0.5**
WHHZ	**Waihua**	**1.76**	**193**	P	**Pn**	**12 59 21.8**	**+2.2**
MHGZ	**Mahia Peninsul**	**1.79**	**176**	P	**Pn**	**12 59 21.1**	**+1.0**
THQ2	**Tauhara North**	**1.80**	**223**	P	Pn	12 59 25.5	+5.3
MRHZ	**Matea Rd**	**1.80**	**215**	P	**Pn**	**12 59 21.8**	**+1.6**
TOZ	**Tahuroa Road**	**1.81**	**258**	P	**Pn**	**12 59 21.7**	**+1.4**
NMHZ	**Naumai**	**1.88**	**203**	P	**Pn**	**12 59 23.8**	**+2.4**
KUTZ	**Kaahu Road**	**1.88**	**233**	P	**Pn**	**12 59 23.6**	**+2.3**
WHTZ	**Whakaora**	**1.91**	**227**	P	**Pn**	**12 59 25.8**	**+4.0**
ARHZ	**Aropaoanui**	**1.98**	**197**	P	**Pn**	**12 59 24.7**	**+2.0**
TLZ	**Tolley Road**	**1.99**	**240**	P	**Pn**	**12 59 24.5**	**+1.7**
HATZ	**Hinemaiaia**	**2.00**	**220**	P	**Pn**	**12 59 24.3**	**+3.0**
BKZ	**Black Stump Fm**	**2.05**	**208**	P	**Pn**	**12 59 26.4**	**+5.7**
BKZ	**Black Stump Fm**	**2.05**	**208**	P	**Pn**	**12 59 25.7**	**+2.0**
MKAZ	**Moumakai**	**2.07**	**276**	P	**Pn**	**12 59 25.2**	**+1.3**
WATZ	**Wairara**	**2.07**	**229**	P	**Pn**	**12 59 26.3**	**+2.3**
GRZ	**Great Barrier**	**2.14**	**301**	P	**Pn**	**12 59 25.4**	**+0.5**
RATZ	**Rangitukua**	**2.16**	**225**	P	**Pn**	**12 59 27.9**	**+2.8**
WIAZ	**Waiheke Island**	**2.16**	**285**	P	**Pn**	**12 59 26.3**	**+1.2**
RITZ	**Rihia Road**	**2.19**	**222**	P	**Pn**	**12 59 28.2**	**+2.7**
MCHZ	**McNeill Hill**	**2.23**	**201**	P	**Pn**	**12 59 28.0**	**+1.9**
KATZ	**Kakaramea**	**2.27**	**224**	P	**Pn**	**12 59 30.6**	**+3.8**
ETAZ	**East Tamaki Re**	**2.28**	**279**	P	**Pn**	**12 59 28.3**	**+1.6**
KWHZ	**Kaweka Forest**	**2.30**	**206**	P	**Pn**	**12 59 28.8**	**+1.7**
MBAZ	**Motutapu North**	**2.35**	**284**	P	**Pn**	**12 59 29.1**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.35**	**193**	P	**Pn**	**12 59 28.5**	**+0.8**
TMVZ	**Te Maari**	**2.37**	**222**	P	**Pn**	**12 59 30.6**	**+2.5**
NTVZ	**North Tongarir**	**2.37**	**222**	P	**Pn**	**12 59 30.7**	**+2.5**
ETVZ	**East Tongariro**	**2.38**	**221**	P	**Pn**	**12 59 30.7**	**+2.4**
KRVZ	**Karewarewa**	**2.39**	**223**	P	**Pn**	**12 59 31.5**	**+3.1**
OTVZ	**Oturere**	**2.43**	**222**	P	**Pn**	**12 59 31.1**	**+2.2**
NNVZ	**North Ngauruho**	**2.43**	**223**	P	**Pn**	**12 59 31.7**	**+2.7**
WTVZ	**West Tongariro**	**2.43**	**223**	P	**Pn**	**12 59 31.5**	**+2.6**
EPAZ	**Eden Park BICE**	**2.44**	**281**	P	**Pn**	**12 59 30.8**	**+1.9**
ABAZ	**Army Bay**	**2.45**	**287**	P	**Pn**	**12 59 30.6**	**+1.6**
SNVZ	**South Ngauruho**	**2.46**	**222**	P	**Pn**	**12 59 31.6**	**+2.3**
HBAZ	**Herne Bay Bore**	**2.46**	**281**	P	**Pn**	**12 59 31.1**	**+1.9**
NGZ	**Ngauruhoe**	**2.47**	**222**	P	**Pn**	**12 59 32.7**	**+3.2**
TWVZ	**Taurewa**	**2.49**	**226**	P	**Pn**	**12 59 32.4**	**+2.7**
AWAZ	**Awhitu Peninsu**	**2.49**	**276**	P	**Pn**	**12 59 31.5**	**+1.9**
BHHZ	**Black Hill Sta**	**2.50**	**211**	P	**Pn**	**12 59 31.7**	**+1.9**
TUVZ	**Tukino**	**2.51**	**220**	P	**Pn**	**12 59 32.8**	**+2.7**
KRHZ	**Kereru**	**2.52**	**205**	P	**Pn**	**12 59 31.0**	**+1.0**
COVZ	**Chateau Observ**	**2.52**	**223**	P	**Pn**	**12 59 33.0**	**+2.8**
KAHZ	**Kahuranaki**	**2.52**	**195**	P	**Pn**	**12 59 31.0**	**+0.9**
HIZ	**Hauiti**	**2.55**	**242**	P	**Pn**	**12 59 32.9**	**+2.4**
HIZ	**Hauiti**	**2.55**	**242**	P	**Pn**	**12 59 32.9**	**+2.4**
FWVZ	**Far West T-bar**	**2.55**	**222**	P	**Pn**	**12 59 34.1**	**+3.4**
WHVZ	**Whangaehu Hut**	**2.55**	**221**	P	**Pn**	**12 59 33.3**	**+2.6**
MAVZ	**Matarangi**	**2.56**	**221**	P	**Pn**	**12 59 33.5**	**+2.7**
WTAZ	**Waiatarua**	**2.56**	**279**	P	**Pn**	**12 59 32.6**	**+1.9**
MOVZ	**Moawhango**	**2.57**	**217**	P	**Pn**	**12 59 32.4**	**+1.6**
WNVZ	**Wahianoa**	**2.58**	**220**	P	**Pn**	**12 59 33.3**	**+2.2**
TRVZ	**Turoa**	**2.59**	**221**	P	**Pn**	**12 59 33.9**	**+2.7**
RVAZ	**Riverhead Bore**	**2.59**	**282**	P	**Pn**	**12 59 32.8**	**+1.7**
PKVZ	**Pokaka**	**2.69**	**224**	P	**Pn**	**12 59 35.5**	**+3.1**
MTVZ	**Mangateitei**	**2.69**	**221**	P	**Pn**	**12 59 34.9**	**+2.4**
PXZ	**Pawanui**	**2.75**	**194**	P	**Pn**	**12 59 33.0**	**-0.2**
PNHZ	**Pukenui**	**2.82**	**205**	P	**Pn**	**12 59 34.5**	**+0.3**
WPHZ	**Waipukurau**	**2.88**	**200**	P	**Pn**	**12 59 35.0**	**0.0**
VRZ	**Vera Road**	**2.93**	**232**	P	**Pn**	**12 59 38.8**	**+3.1**
PRHZ	**Porangahau**	**3.02**	**196**	P	**Pn**	**12 59 36.5**	**-0.4**
TSZ	**Takapari Road**	**3.03**	**207**	P	**Pn**	**12 59 37.0**	**0.0**
WCZ	**Waipu Caves**	**3.08**	**297**	P	**Pn**	**12 59 38.6**	**+1.0**
DVHZ	**Dannevirke**	**3.18**	**222**	P	**Pn**	**12 59 38.3**	**-0.7**
MHEZ	**Mangahewa**	**3.19**	**236**	P	Pn	12 59 44.4	+5.2
WAZ	**Wanganui**	**3.22**	**221**	P	**Pn**	**12 59 42.0**	**+2.4**
ANWZ	**Angora Road**	**3.24**	**197**	P	**Pn**	**12 59 39.4**	**-0.6**
DREZ	**Durham Road**	**3.33**	**236**	P	**Pn**	**12 59 45.9**	**+4.8**
LREZ	**Lake Rotokare**	**3.35**	**230**	P	**Pn**	**12 59 45.1**	**+3.6**
POWZ	**Post Office Ro**	**3.39**	**206**	P	**Pn**	**12 59 42.6**	**+0.6**
OHWZ	**Ohakea**	**3.41**	**213**	P	**Pn**	**12 59 43.8**	**+1.5**
NEZ	**North Egmont**	**3.44**	**235**	P	**Pn**	**12 59 47.1**	**+4.4**
PKE	**Pukeiti**	**3.47**	**237**	P	Pn	12 59 48.3	+5.2
PRWZ	**Pori Road**	**3.47**	**203**	P	**Pn**	**12 59 42.7**	**-0.4**
KHEZ	**Kahui Hut**	**3.50**	**235**	P	**Pn**	**12 59 47.3**	**+3.7**
KHEZ	**Kahui Hut**	**3.50**	**235**	P	**Pn**	**12 59 48.3**	**+4.7**
BFZ	**Birch Farm**	**3.51**	**199**	P	**Pn**	**12 59 42.8**	**-0.8**
NBEZ	**Newall Road No**	**3.59**	**237**	P	**Pn**	**12 59 48.9**	**+4.3**
NMEZ	**Namu Road**	**3.66**	**235**	P	**Pn**	**12 59 49.7**	**+4.1**
TIWZ	**Tintock**	**3.70**	**202**	P	**Pn**	**12 59 46.2**	**0.0**
CPWZ	**Castlepoint**	**3.74**	**198**	P	**Pn**	**12 59 46.1**	**-0.6**
OUZ	**Omahuta**	**3.97**	**301**	P	**Pn**	**12 59 51.2**	**+1.3**
OUZ	**Omahuta**	**3.97**	**301**	P	**Pn**	**12 59 51.2**	**+1.3**
SNZO	**South Karori**	**4.59**	**210**	P	**Pn**	**12 59 58.2**	**-0.2**
TKNZ	**Takaka Hill**	**5.21**	**224**	P	**Pn**	**13 00 06.7**	**-0.3**

QRZ	**Quartz Range**	**5.33**	**228**	P	**Pn**	**13 00 08.0**	**-0.5**
QRZ	**Quartz Range**	**5.33**	**228**	P	**Pn**	**13 00 08.0**	**-0.5**
KHZ	**Kahutara**	**5.99**	**211**	P	**Pn**	**13 00 15.2**	**-2.4**
CTZ	**Chatham Island**	**7.68**	**148**	P	**Pn**	**13 00 39.6**	**-1.1**
RPZ	**Rata Peaks**	**8.13**	**217**	P	**Pn**	**13 00 45.0**	**-2.0**
RPZ	**Rata Peaks**	**8.13**	**217**	Pn	**Pn**	**13 00 44.2**	**-2.7**
RPZ	2.1nm,0.3s,baz=273,slow=1.2,SNR=15			Sn	**Sn**	**13 02 10.2**	**-7.2**
	7.1nm,0.3s,baz=298,slow=22,SNR=17						
ODZ	**Otahua Downs**	**9.35**	**213**	P	**Pn**	**13 01 00.7**	**-2.9**
JCZ	**Jackson Bay**	**9.54**	**223**	P	**Pn**	**13 01 04.4**	**-1.9**
STKA	**Stephens Creek**	**30.12**	**270**	P	**P**	**13 04 56.4**	**-0.1**
	3.4nm,0.8s,baz=120,slow=11,SNR=8.0 3.4nm,0.8s						
ASAR	**Alice Springs**	**39.81**	**277**	P	**P**	**13 06 18.2**	**-1.8**
	2.9nm,0.9s,baz=119,slow=8.3,SNR=24 2.9nm,0.9s						
WRA	**Warramunga Arr**	**41.45**	**282**	P	**P**	**13 06 31.0**	**-2.6**
	74nm,0.7s,baz=122,slow=7.8,SNR=1.3						
QSPA	**South Pole Qui**	**52.76**	**180**	P	**P**	**13 08 02.2**	**+0.9**
	1.0nm,0.8s,baz=152,slow=1.1,SNR=2.4 1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**92.47**	**291**	P	**P**	**13 11 57.1**	**-0.3**
	1.1nm,0.7s,baz=134,slow=3.8,SNR=6.5 1.1nm,0.7s						
ARCES	**ARCESS Array B**	**144.45**	**344**	PKP	**PKPab**	**13 18 16.2**	**-3.3**
	1.2nm,0.6s,baz=33,slow=2.2,SNR=6.3						
FINES	**FINESS Array B**	**150.10**	**333**	PKPbc	**PKPdf**	**13 18 32.2**	**+1.5**
	1.0nm,0.5s,baz=33,slow=4.5,SNR=11						

*SJA **18** 13:00:02.9±0.7,21.39S×66.65W,h229km±6km,ML3.5, MW3.5*
*SCB **18** 13:00:04.6±1.3,21.42S×66.76W,h210km±9km,ML3.9/5, MW3.5,Error ellipse: s-maj=4.8km s-min=3.9km az=0.0*

ISC 18 13:00:03.4±1.8,21.44S±0'04×66.73W±0'05, h227km±13km,n45,σ1°13/66,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.04**	**80**	Pg	**Pn**	**13 00 36.7**	**-0.1**
MOCB				Sg	**S**	**13 01 00.6**	**-2.1**
MOCB				IAML		13 01 01.3	
	286nm,0.3s						
YJA	**Yavi**	**1.35**	**123**	*e*P	**Pn**	**13 00 39.3**	**+0.4**
YJA				*e*S	**S**	**13 01 05.7**	**-0.8**
LVC	**Limon Verde**	**2.33**	**240**	*e*P	**Pn**	**13 00 49.0**	**+1.4**
LVC				*e*S	**S**	**13 01 23.0**	**+0.8**
LVC	**Limon Verde**	**2.33**	**240**	Pg	**Pn**	**13 00 49.0**	**+1.4**
PB09	**IPOC Station P**	**2.36**	**261**	*e*P	**Pn**	**13 00 49.0**	**+1.2**
PB09				*e*S	**S**	**13 01 24.5**	**+2.1**
PB09				IAML		13 01 28.1	
	comp=Z,61nm,0.2s						
PB09	**IPOC Station P**	**2.36**	**261**	Pg	**Pn**	**13 00 49.0**	**+1.2**
PB01	**IPOC Station P**	**2.60**	**278**	*e*P	**Pn**	**13 00 50.5**	**+0.3**
PB01				*e*S	**S**	**13 01 26.8**	**+0.1**
PB01				IAML		13 01 27.5	
	comp=Z,116nm,0.1s						
PB01	**IPOC Station P**	**2.60**	**278**	Pg	**Pn**	**13 00 50.7**	**+0.5**
PB08	**IPOC Station P**	**2.61**	**299**	*e*P	**Pn**	**13 00 51.2**	**+0.7**
PB08				*e*S	**S**	**13 01 28.7**	**+1.2**
PB08	**IPOC Station P**	**2.61**	**299**	Pg	**Pn**	**13 00 51.3**	**+0.7**
GO01	**Chusmiza**	**2.90**	**307**	*e*P	**Pn**	**13 00 54.9**	**+0.9**
GO01	**Chusmiza**	**2.90**	**307**	Pg	**Pn**	**13 00 54.5**	**+0.5**
PB06	**IPOC Station P**	**2.92**	**244**	*e*P	**Pn**	**13 00 55.0**	**+1.3**
PB06				*e*S	S	13 01 23.1	-10
PB06				IAML		13 01 38.0	
	comp=Z,58nm,0.2s						
PB06	**IPOC Station P**	**2.92**	**244**	Pg	**Pn**	**13 00 54.8**	**+1.1**
PB07	**IPOC Station P**	**2.95**	**264**	*e*P	**Pn**	**13 00 54.5**	**+0.5**
PB07				*e*S	**S**	**13 01 33.5**	**-0.2**
PB07				IAML		13 01 34.3	
	comp=Z,160nm,0.1s						
PB07	**IPOC Station P**	**2.95**	**264**	Pg	**Pn**	**13 00 54.6**	**+0.5**
PB07	**IPOC Station P**	**2.95**	**264**	Pg	**Pn**	**13 00 54.7**	**+0.6**
PB07				Sg	**S**	**13 01 32.4**	**-1.3**
PB07				IAML		13 01 33.1	
	comp=Z,234nm,0.2s						
PB02	**IPOC Station P**	**2.95**	**272**	*e*P	**Pn**	**13 00 54.3**	**+0.3**
PB02				*e*S	**S**	**13 01 32.3**	**-1.4**
PB02	**IPOC Station P**	**2.95**	**272**	Pg	**Pn**	**13 00 54.4**	**+0.4**
PB02	**IPOC Station P**	**2.95**	**272**	Pg	**Pn**	**13 00 54.5**	**+0.4**
PB02				Sg	**S**	**13 01 32.0**	**-1.7**
PB02				IAML		13 01 32.4	
	comp=Z,494nm,0.4s						
PB15	**IPOC Station P**	**3.08**	**235**	*e*P	**Pn**	**13 00 57.2**	**+1.6**
PB15				*e*S	**S**	**13 01 36.6**	**0.0**
PB15	**IPOC Station P**	**3.08**	**235**	Pg	**Pn**	**13 00 57.0**	**+1.4**
PB15				Sg	**S**	**13 01 35.7**	**-0.9**
PB15				IAML		13 01 41.7	
	comp=Z,464nm,0.2s						
PB11	**IPOC Station P**	**3.21**	**301**	*e*P	**Pn**	**13 00 56.9**	**-0.2**
PB11				*e*S	**S**	**13 01 38.8**	**-0.3**
PB11				IAML		13 01 40.6	
	comp=Z,69nm,0.2s						
PB11	**IPOC Station P**	**3.21**	**301**	Pg	**Pn**	**13 00 57.2**	**+0.1**
PATCX	**Punta Patache**	**3.25**	**280**	*e*P	**Pn**	**13 00 57.3**	**-0.1**
PATCX				*e*S	**S**	**13 01 38.5**	**-1.3**
PATCX				IAML		13 01 40.5	
	comp=Z,54nm,0.2s						
PB04	**IPOC Station P**	**3.29**	**254**	*e*P	**Pn**	**13 00 58.6**	**+0.6**
PB04				*e*S	**S**	**13 01 39.6**	**-1.2**
PB04				IAML		13 01 41.5	
	comp=Z,82nm,0.1s						
PB04	**IPOC Station P**	**3.29**	**254**	Pg	**Pn**	**13 00 58.6**	**+0.6**
PB04	**IPOC Station P**	**3.29**	**254**	Pg	**Pn**	**13 00 58.8**	**+0.8**
PB04				Sg	**S**	**13 01 39.1**	**-1.7**
PB04				IAML		13 01 45.9	
	comp=Z,96nm,0.2s						
TA01	**Diego Aracena**	**3.34**	**285**	*e*P	**Pn**	**13 00 57.7**	**-0.6**
TA01				*e*S	S	13 01 29.0	-12
TA01				IAML		13 01 29.1	
	comp=Z,46nm,1.1s						
TA01	**Diego Aracena**	**3.34**	**285**	Pg	**Pn**	**13 00 58.2**	**-0.1**
TA02	**Huaiquique**	**3.38**	**290**	*e*P	**Pn**	**13 00 58.9**	**0.0**
TA02				*e*S	**S**	**13 01 41.5**	**-0.9**
TA02				IAML		13 01 42.6	
	comp=Z,127nm,0.1s						
TA02	**Huaiquique**	**3.38**	**290**	Pg	**Pn**	**13 00 58.6**	**-0.3**
SOET	**ToroToro**	**3.42**	**15**	Pg	**Pn**	**13 00 59.7**	**-0.1**
SLA	**San Lorenzo**	**3.46**	**161**	*e*P	**Pn**	**13 01 01.3**	**+1.4**
PB05	**IPOC Station P**	**3.51**	**246**	Pg	**Pn**	**13 01 01.3**	**+0.8**
PB16	**IPOC Station P**	**4.04**	**319**	*e*P	**Pn**	**13 01 08.5**	**+1.1**
PB16				*e*S	**S**	**13 01 59.0**	**+1.3**
PB16				IAML		13 01 59.6	
	comp=Z,23nm,0.3s						
PB16	**IPOC Station P**	**4.04**	**319**	Pg	**Pn**	**13 01 08.7**	**+1.3**
PB12	**IPOC Station P**	**4.40**	**309**	*e*P	**Pn**	**13 01 09.8**	**-1.4**
PB12				*e*S	**S**	**13 02 01.5**	**-3.1**
PB12				IAML		13 02 03.7	
	comp=Z,31nm,0.3s						
GO02	**Mina Guanaco**	**4.54**	**215**	*e*P	**Pn**	**13 01 13.5**	**+0.5**
GO02				*e*S	**S**	**13 02 07.0**	**-1.1**
GO02	**Mina Guanaco**	**4.54**	**215**	Pg	**Pn**	**13 01 13.6**	**+0.5**
PB14	**IPOC Station P**	**4.63**	**226**	*e*P	**Pn**	**13 01 14.4**	**+0.2**
PB14				*e*S	**S**	**13 02 08.0**	**-2.2**
PB14				IAML		13 02 11.7	
	comp=Z,52nm,0.1s						
SOEJ	**Jacaque**	**4.65**	**343**	Pg	**Pn**	**13 01 15.9**	**+1.2**
BBOE	**La Paz, Chanca**	**4.75**	**345**	Pg	**Pn**	**13 01 17.5**	**+1.5**
BBOD	**La Paz, Gloria**	**5.09**	**339**	Pg	**Pn**	**13 01 21.3**	**+1.0**
LPAZ	**La Paz**	**5.29**	**345**	*e*P	**Pn**	**13 01 24.7**	**+1.8**

*OSPL **18** 13:05:21.6±0.5,19.75N×71.28W,h49km±4km,ML2.5*
*SDD **18** 13:05:24.0±2.4,19.59N×71.20W,h20km±28km,MD2.8, ML2.1,MW2.6*

ISC 18 13:05:22.2±1.1,19.64N±0'04×71.22W±0'03,h34km±3km, n10,σ0°90/20,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOPP1	**Punta Rusia, P**	**0.22**	**5**	*i* P	**Pb**	**13 05 28.7**	**-0.5**
LOPP1				*e*S	**Sb**	**13 05 34.2**	**+0.3**
LOPP1				IAML		13 05 36.4	
	comp=Z,709nm,0.2s						
LUDR	**Luperon**	**0.36**	**44**	*e*Pg	**Pn**	**13 05 30.5**	**-0.6**
LUDR				*e*Sg	**Sb**	**13 05 38.2**	**+1.4**
LUDR				IAML		13 05 39.4	
	comp=Z,550nm,0.2s						
LODA1	**ITESIL, Dajabo**	**0.47**	**259**	*i* P	**Pb**	**13 05 31.4**	**-1.0**
LODA1				*e*S	**Sb**	**13 05 38.9**	**-0.5**
LODA1				IAML		13 05 41.4	
	comp=Z,511nm,0.8s						
MCDR	**Montecristi**	**0.48**	**302**	*e*Pg	**Pn**	**13 05 33.0**	**+0.2**
MCDR				*e*Sg	**Sn**	**13 05 41.1**	**+1.1**
MCDR				IAML		13 05 45.4	
	comp=Z,105nm,0.1s						
SC01	**Santiago de lo**	**0.51**	**114**	*i* P	**Pn**	**13 05 33.4**	**+0.3**
SC01				*e*S	**Sn**	**13 05 42.3**	**+1.6**
SC01				IAML		13 05 43.6	
	comp=Z,95nm,0.5s						
SDDR	**Presa de Saban**	**0.65**	**186**	*e*Pg	**Pb**	**13 05 35.4**	**-0.1**
SDDR				*e*Sg	**Sb**	**13 05 44.9**	**+0.5**
SDDR				IAML		13 05 45.5	
	comp=Z,79nm,0.5s						
SDDR	**Presa de Saban**	**0.65**	**186**	*i* P	**Pb**	**13 05 35.5**	**+0.1**
SDDR				*e*S	**Sb**	**13 05 45.2**	**+0.8**
SDDR				IAML		13 05 45.5	
	comp=Z,80nm,0.5s						
ABDR	**Alto Bandera**	**0.99**	**146**	*e*Pg	**Pb**	**13 05 40.5**	**-0.7**
ABDR				*e*Sg	**Sn**	**13 05 51.6**	**-1.5**
ABDR				IAML		13 05 56.6	
	comp=Z,21nm,1.1s						
DR08	**Loma La Naviza**	**1.31**	**120**	*e*Pg	**Pb**	**13 05 45.5**	**-0.9**
DR08				*e*Sg	**Sb**	**13 06 03.6**	**+0.5**
HATOM	**Hato Mayor del**	**1.93**	**116**	*e*Pg	**Pb**	**13 05 56.2**	**-0.6**
HATOM				*e*Sg	**Sb**	**13 06 20.9**	**+0.3**
HATOM				IAML		13 06 23.7	
	comp=Z,18nm,0.1s						

IDC 18 13:07:36.4±2.7,30.24N×95.86E,h0km,mb3.5/2, mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=276.9km s-min=24.7km az=61.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.59**	**331**	P	Pn	13 12 06.8	-0.5
	0.1nm,0.3s,baz=143,slow=10,SNR=5.4 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**25.01**	**344**	P	P	13 13 01.2	-0.5
	0.6nm,0.5s,baz=140,slow=11,SNR=2.1 0.6nm,0.5s						
WRA	**Warramunga Arr**	**62.13**	**139**	P	P	13 17 59.8	+0.4
	0.7nm,0.7s,baz=311,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**64.86**	**141**	P	P	13 18 17.2	-0.2
	0.4nm,0.6s,baz=325,slow=6.7,SNR=8.5 0.4nm,0.6s						

*UCR **18** 13:29:24.1±1.2,8.90N×84.63W,h15km±10km,MW4.0*
*CATAC **18** 13:29:25.6±0.9,9.05N×84.53W,h17km±7km,ML3.2*

**ISC 18 13:29:24

0.9nm,0.8s

*TAP **18** 13:36:31.7,24.67N×122.37E,h102km,ML4.0,D*
*JMA **18** 13:36:31.9±0.1,24.6N±1.0×122.4E±0.3,h94km±1km,*
MV3.2/19,NW OFF ISHIGAKIJIMA IS

ISC 18 13:36:31.9±1.2,**24.62N**±0.03×**122.42E**±0.02,**h95**km±5km,
n154,**n098**/286,**1C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.27**	**222**	*i* P	**Pn**	**13 36 46.1**	**+0.6**
	baz=220						
EOS2				S	**Sn**	**13 36 57.4**	**+1.6**
	baz=220						
EOS3	**EOS3**	**0.34**	**196**	*i* P	**Pn**	**13 36 46.6**	**+0.6**
	baz=204						
EOS3				S	**Sn**	**13 36 58.5**	**+2.1**
	baz=204						
EGS		**0.50**	**297**	*e*P	**Pn**	**13 36 47.3**	**+0.2**
	baz=288						
JYNG	**Yonagunijimaku**	**0.50**	**109**	P	**Pn**	**13 36 47.1**	**-0.1**
JYNG				*e*S	**Sn**	**13 36 58.2**	**-0.4**
EOS4	**EOS4**	**0.51**	**191**	*e*P	**Pn**	**13 36 46.9**	**+0.1**
	baz=193						
EOS4				*e*S	**Sn**	**13 36 58.2**	**+0.3**
	baz=193						
TWC	**Suao**	**0.52**	**269**	*i* P	**Pn**	**13 36 47.1**	**-0.2**
	baz=262						
TWC				*e*S	**Sn**	**13 36 58.0**	**-0.9**
	baz=262						
ESAO	**Su ao**	**0.53**	**266**	*e*P	**Pn**	**13 36 47.3**	**-0.1**
	baz=258						
ESAO				*e*S	**Sn**	**13 36 58.2**	**-0.7**
	baz=258						
TWB1	**Santiao Chiao**	**0.56**	**315**	P	**Pn**	**13 36 47.6**	**0.0**
	baz=309						
TWB1				S	**Sn**	**13 36 59.0**	**-0.3**
	baz=309						
YOJ	**Yonaguni jima**	**0.56**	**106**	P	**Pn**	**13 36 47.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.56**	**106**	P	**Pn**	**13 36 47.5**	**-0.1**
YOJ				S	**Sn**	**13 36 59.0**	**-0.4**
EWUT	**Wuta**	**0.61**	**254**	P	**Pn**	**13 36 48.2**	**+0.2**
	baz=247						
EWUT				*e*S	**Sn**	**13 37 00.4**	**+0.2**
	baz=247						
ILA	**Ilan**	**0.63**	**284**	*e*P	**Pn**	**13 36 48.5**	**+0.3**
	baz=276						
ILA				*e*S	**Sn**	**13 37 00.6**	**+0.2**
	baz=276						
NDS	**Dongshan**	**0.65**	**272**	*e*P	**Pn**	**13 36 48.8**	**+0.5**
	baz=266						
NDS				*e*S	**Sn**	**13 37 00.7**	**0.0**
	baz=266						
TIPB	**Shuangxi**	**0.65**	**303**	P	**Pn**	**13 36 48.4**	**-0.1**
	baz=299						
TIPB				*e*S	**Sn**	**13 36 59.2**	**-1.6**
	baz=299						
ENA	**Nanau**	**0.65**	**253**	*e*P	**Pn**	**13 36 48.6**	**+0.2**
	baz=246						
ENA				*e*S	**Sn**	**13 37 01.0**	**+0.2**
	baz=246						
EAHA	**Aohua**	**0.69**	**245**	*i* P	**Pn**	**13 36 48.9**	**+0.1**
	baz=232						
EAHA				S	**Sn**	**13 37 01.8**	**+0.4**
	baz=232						
SXI1	**Grass Mountain**	**0.69**	**314**	P	**Pn**	**13 36 48.9**	**0.0**
	baz=313						
SXI1				*e*S	**Sn**	**13 37 00.7**	**-0.8**
	baz=313						
TWE	**Neicheng**	**0.70**	**279**	↑*i*P	**Pn**	**13 36 49.1**	**+0.3**
	baz=277						
TWE				S	**Sn**	**13 37 01.4**	**-0.1**
	baz=277						
NWF	**Wu-fen Shan**	**0.74**	**308**	*i* P	**Pn**	**13 36 49.4**	**+0.1**
	baz=299						
NWF				S	**Sn**	**13 37 01.9**	**-0.4**
	baz=299						
WFSB	**Wu-fen Shan**	**0.74**	**308**	*i* P	**Pn**	**13 36 49.5**	**+0.3**
	baz=301						
WFSB				S	**Sn**	**13 37 01.7**	**-0.5**
	baz=301						
FUSB	**Fushanzhiwuyua**	**0.77**	**281**	P	**Pn**	**13 36 49.8**	**+0.1**
	baz=282						
FUSB				S	**Sn**	**13 37 02.6**	**-0.4**
	baz=282						
ENTT	**Nioudou**	**0.78**	**272**	*i* P	**Pn**	**13 36 50.3**	**+0.6**
	baz=271						
ENTT				S	**Sn**	**13 37 03.5**	**+0.5**
	baz=271						
TNOU	**National Taiwa**	**0.79**	**312**	*e*P	**Pn**	**13 36 49.9**	**+0.2**
	baz=303						
TNOU				*e*S	**Sn**	**13 37 02.6**	**-0.5**
	baz=303						
LATG	**Datong**	**0.82**	**264**	*i* P	**Pn**	**13 36 50.6**	**+0.5**
	baz=254						
LATG				*i* S	**Sn**	**13 37 04.9**	**+1.0**
	baz=254						
NDT	**Datong Townshi**	**0.83**	**269**	*i* P	**Pn**	**13 36 51.0**	**+0.8**
	baz=265						
NDT				S	**Sn**	**13 37 04.6**	**+0.7**
	baz=265						
TWA	**Mucha**	**0.84**	**295**	*i* P	**Pn**	**13 36 50.3**	**0.0**
	baz=286						
TWA				S	**Sn**	**13 37 03.3**	**-0.9**
	baz=286						
NWLT	**Wulai**	**0.85**	**281**	*i* P	**Pn**	**13 36 50.5**	**+0.1**
	baz=284						
NWLT				*e*S	**Sn**	**13 37 03.6**	**-0.7**
	baz=284						
ETL	**Fush Village**	**0.86**	**238**	P	**Pn**	**13 36 50.2**	**-0.3**
	baz=233						
ETL				S	**Sn**	**13 37 04.1**	**-0.4**
	baz=233						
NACB	**Ninganchiao**	**0.88**	**240**	P	**Pn**	**13 36 50.1**	**-0.5**
NACB	**Ninganchiao**	**0.88**	**240**	*i* P	**Pn**	**13 36 50.3**	**-0.4**
	baz=230						
NACB				S	**Sn**	**13 37 04.3**	**-0.4**
	baz=230						
NHDH	**Xindian Distri**	**0.89**	**293**	*i* P	**Pn**	**13 36 50.7**	**-0.1**
	baz=284						
NHDH				S	**Sn**	**13 37 04.1**	**-0.8**
	baz=284						
TATO	**Taipei**	**0.92**	**293**	P	**Pn**	**13 36 51.0**	**-0.1**
TWD	**Chiawan**	**0.93**	**235**	P	**Pn**	**13 36 51.0**	**-0.2**
	baz=229						
TWD				S	**Sn**	**13 37 05.3**	**-0.3**
	baz=229						
YM01	**YM01**	**0.94**	**304**	P	**Pn**	**13 36 51.4**	**+0.1**
	baz=296						
YM01				S	**Sn**	**13 37 05.4**	**-0.5**
	baz=296						
YM08	**YM08**	**0.95**	**307**	*e*P	**Pn**	**13 36 51.2**	**-0.2**
	baz=299						
YM08				*e*S	**Sn**	**13 37 05.1**	**-1.0**
	baz=299						
ETLH	**Xiulin Townshi**	**0.95**	**245**	P	**Pn**	**13 36 51.5**	**-0.1**
	baz=235						
ETLH				*e*S	**Sn**	**13 37 05.6**	**-0.7**
	baz=235						
YHNB	**Yeheng**	**0.96**	**273**	P	**Pn**	**13 36 52.0**	**+0.5**
YHNB	**Yeheng**	**0.96**	**273**	*i* P	**Pn**	**13 36 52.1**	**+0.6**
	baz=277						
YHNB				S	**Sn**	**13 37 06.4**	**0.0**
	baz=277						
NNSB	**Datong**	**0.97**	**259**	P	**Pn**	**13 36 51.9**	**+0.2**
	baz=250						
NNSB				*e*S	**Sn**	**13 37 06.9**	**+0.3**
	baz=250						
NSK	**Sanguang**	**0.97**	**274**	*e*P	**Pn**	**13 36 52.2**	**+0.5**
	baz=277						
NSK				*e*S	**Sn**	**13 37 06.7**	**+0.1**
	baz=277						
NNS	**Nan Shan**	**0.97**	**260**	P	**Pn**	**13 36 52.1**	**+0.3**
	baz=251						
NNS				*e*S	**Sn**	**13 37 07.1**	**+0.3**
	baz=251						
HWA	**Hwalien**	**0.98**	**230**	P	**Pn**	**13 36 51.8**	**+0.1**
	baz=217						
HWA				*e*S	**Sn**	**13 37 07.0**	**+0.4**
	baz=217						
TWY	**Chenhua**	**0.99**	**311**	*e*P	**Pn**	**13 36 52.1**	**+0.2**
	baz=304						
TWY				*e*S	**Sn**	**13 37 06.9**	**0.0**
	baz=304						
ANP	**Anpu**	**1.00**	**305**	*e*P	**Pn**	**13 36 52.0**	**-0.1**
	baz=297						
TWS1	**Kuangyinshan**	**1.03**	**298**	*e*P	**Pn**	**13 36 52.4**	**+0.1**
	baz=296						
TWS1				*e*S	**Sn**	**13 37 07.3**	**-0.4**
	baz=296						
NTST	**Danshui**	**1.04**	**302**	*e*P	**Pn**	**13 36 52.5**	**+0.1**
	baz=300						
NTST				S	**Sn**	**13 37 07.5**	**-0.3**
	baz=300						
PCYT	**Pengchaiyu**	**1.06**	**342**	*e*P	**Pn**	**13 36 52.1**	**-0.5**
	baz=338						
ETM	**Tongmen**	**1.07**	**233**	*i* P	**Pn**	**13 36 52.5**	**-0.3**
	baz=237						
ETM				*i* S	**Sn**	**13 37 07.8**	**-0.7**
	baz=237						
LXIB	**Xiulin Townshi**	**1.10**	**237**	P	**Pn**	**13 36 52.9**	**-0.4**
	baz=224						
LXIB				*e*S	**Sn**	**13 37 08.6**	**-0.7**
	baz=224						
FUSS	**Fushou**	**1.14**	**251**	P	**Pn**	**13 36 54.3**	**+0.5**
	baz=242						
FUSS				*e*S	**Sn**	**13 37 10.4**	**+0.2**
	baz=242						
SHUL	**Shoufeng**	**1.14**	**224**	P	**Pn**	**13 36 53.5**	**0.0**
	baz=212						
SHUL				*e*S	**Sn**	**13 37 10.1**	**+0.2**
	baz=212						
WHF	**Hehuan Shan**	**1.16**	**246**	P	**Pn**	**13 36 54.5**	**+0.3**
	baz=242						
WHF				*e*S	**Sn**	**13 37 10.5**	**-0.4**
	baz=242						
NCU	**National Centr**	**1.18**	**288**	*e*P	**Pn**	**13 36 54.6**	**+0.6**
	baz=277						
NCU				*e*S	**Sn**	**13 37 11.4**	**+0.8**
	baz=277						
NCUH	**Zhongli**	**1.18**	**287**	*e*P	**Pn**	**13 36 54.7**	**+0.7**
	baz=277						
NCUH				*e*S	**Sn**	**13 37 11.2**	**+0.5**
	baz=277						
NFF	**Wufeng Townshi**	**1.19**	**271**	P	**Pn**	**13 36 54.7**	**+0.5**
	baz=277						
NFF				S	**Sn**	**13 37 11.1**	**+0.1**
	baz=277						
TWT	**Tachien**	**1.20**	**253**	P	**Pn**	**13 36 55.4**	**+1.1**
	baz=243						
TWT				S	**Sn**	**13 37 11.8**	**+0.5**
	baz=243						
ESL	**Shilin**	**1.21**	**229**	*i* P	**Pn**	**13 36 53.9**	**-0.5**
	baz=233						
ESL				S	**Sn**	**13 37 09.9**	**-1.4**
	baz=233						
TDCB	**Techi**	**1.21**	**253**	*i* P	**Pn**	**13 36 55.4**	**+0.9**
	baz=243						
TDCB				*i* S	**Sn**	**13 37 11.7**	**+0.2**
	baz=243						
TEGC	**Jichi Village**	**1.21**	**222**	*e*P	**Pn**	**13 36 54.5**	**+0.1**
	baz=211						
TEGC				*e*S	**Sn**	**13 37 11.1**	**-0.3**
	baz=211						
IRIF	**Iriomote-Funau**	**1.22**	**103**	P	**Pn**	**13 36 54.2**	**-0.3**
IRIF				S	**Sn**	**13 37 11.3**	**-0.3**
CHGB	**Renai**	**1.27**	**244**	*i* P	**Pn**	**13 36 55.8**	**+0.5**
	baz=235						
CHGB				S	**Sn**	**13 37 13.2**	**+0.2**
	baz=235						
LIOB	**Emei**	**1.28**	**272**	P	**Pn**	**13 36 55.9**	**+0.6**
	baz=269						
LIOB				*e*S	**Sn**	**13 37 13.1**	**+0.2**
	baz=269						
NSTT	**Nanjuang**	**1.30**	**271**	P	**Pn**	**13 36 55.9**	**+0.5**
	baz=268						
NSTT				*i* S	**Sn**	**13 37 12.9**	**-0.2**
	baz=268						
WARBT	**Fenglin Townsh**	**1.30**	**227**	*i* P	**Pn**	**13 36 54.9**	**-0.6**
	baz=230						
WARBT				*i* S	**Sn**	**13 37 11.9**	**-1.5**
	baz=230						
EGFH	**Guangfu**	**1.31**	**224**	*i* P	**Pn**	**13 36 55.1**	**-0.5**
	baz=230						
EGFH				S	**Sn**	**13 37 12.4**	**-1.1**
	baz=230						
OWD	**Renai**	**1.32**	**240**	P	**Pn**	**13 36 56.0**	**+0.2**
	baz=232						
OWD				*e*S	**Sn**	**13 37 13.2**	**-0.6**
	baz=232						
HSN	**Hsinchu**	**1.34**	**278**	*e*P	**Pn**	**13 36 54.8**	**-1.0**
	baz=277						
HSN				*e*S	**Sn**	**13 37 13.8**	**-0.1**
	baz=277						
WUSB	**Renai**	**1.35**	**243**	P	**Pn**	**13 36 56.7**	**+0.5**
	baz=239						
WUSB				*e*S	**Sn**	**13 37 14.5**	**+0.1**
	baz=239						
HATJ	**Hateruma jima**	**1.38**	**114**	P	**Pn**	**13 36 56.6**	**+0.2**
HATJ				S	**Sn**	**13 37 15.2**	**+0.3**
WHP	**Taichung City**	**1.39**	**256**	*e*P	**Pn**	**13 36 58.3**	**+1.6**
	baz=253						
WHP				*e*S	**Sn**	**13 37 16.6**	**+1.2**
	baz=253						
HGSD	**Ruisui**	**1.45**	**219**	*i* P	**Pn**	**13 36 57.0**	**-0.2**
	baz=211						
HGSD				*i* S	**Sn**	**13 37 16.1**	**-0.3**
	baz=211						
VWDT	**VWDT**	**1.45**	**234**	*i* P	**Pn**	**13 36 57.8**	**+0.5**
	baz=225						
VWDT				S	**Sn**	**13 37 16.8**	**+0.2**
	baz=225						
NMLH	**Miaoli**	**1.49**	**267**	P	**Pn**	**13 36 58.5**	**+0.7**
	baz=264						
NMLH				*i* S	**Sn**	**13 37 17.9**	**+0.5**
	baz=264						
WCS	**Beigang Elemen**	**1.49**	**248**	*i* P	**Pn**	**13 36 59.0**	**+1.2**
	baz=241						
WCS				*e*S	**Sn**	**13 37 18.7**	**+1.4**
	baz=241						
JKRS	**Kuro-shima**	**1.49**	**104**	P	**Pn**	**13 36 58.0**	**+0.2**
JKRS				S	**Sn**	**13 37 17.8**	**+0.3**
EHY	**Hungye**	**1.50**	**223**	*i* P	**Pn**	**13 36 57.2**	**-0.7**
	baz=227						
EHY				*e*S	**Sn**	**13 37 15.8**	**-1.8**
	baz=227						
NSY	**Sanyi**	**1.53**	**263**	*e*P	**Pn**	**13 36 59.2**	**+0.9**
	baz=260						
NSY				*e*S	**Sn**	**13 37 19.1**	**+0.9**
	baz=260						
TWQ1	**Liyutan**	**1.53**	**260**	P	**Pn**	**13 36 58.9**	**+0.6**
	baz=257						
TWQ1				*e*S	**Sn**	**13 37 18.8**	**+0.6**
	baz=257						
ECBN	**Changbin**	**1.57**	**215**	P	**Pn**	**13 36 58.5**	**-0.3**
	baz=206						
ECBN				*e*S	**Sn**	**13 37 18.3**	**-0.9**
	baz=206						
SMLT	**Sun Moon Lake**	**1.57**	**243**	P	**Pn**	**13 37 00.1**	**+1.1**
	baz=234						
SMLT				*e*S	**Sn**	**13 37 21.2**	**+1.8**
	baz=234						
SSLB	**Suanglung**	**1.58**	**239**	P	**Pn**	**13 36 59.3**	**+0.4**
SSLB	**Suanglung**	**1.58**	**239**	P	**Pn**	**13 36 59.4**	**+0.4**
	baz=232						
SSLB				*e*S	**Sn**	**13 37 20.1**	**+0.7**
	baz=232						
JIJ	**Ishigaki jima**	**1.59**	**99**	P	**Pn**	**13 36 58.8**	**-0.1**
JIJ				*e*S	**Sn**	**13 37 18.9**	**-0.6**
YULB	**Yu-li**	**1.60**	**220**	P	**Pn**	**13 36 58.4**	**-0.8**
YULB	**Yu-li**	**1.60**	**220**	*i* P	**Pn**	**13 36 58.4**	**-0.8**
	baz=217						
YULB				S	**Sn**	**13 37 17.7**	**-2.1**
	baz=217						
TYC	**Yuchr**	**1.60**	**244**	P	**Pn**	**13 37 00.5**	**+1.4**
	baz=241						
TYC				*e*S	**Sn**	**13 37 21.0**	**+1.3**
	baz=241						
EYUL	**Yuli**	**1.62**	**219**	*e*P	**Pn**	**13 36 59.4**	**-0.1**
	baz=223						
TWF1	**Yuli**	**1.63**	**220**	*i* P	**Pn**	**13 36 59.0**	**-0.5**
	baz=224						
TWF1				S	**Sn**	**13 37 19.2**	**-1.3**
	baz=224						
WDJ	**Dajia District**	**1.65**	**261**	*e*P	**Pn**	**13 37 00.7**	**+1.0**
	baz=258						
WDJ				*e*S	**Sn**	**13 37 22.1**	**+1.1**
	baz=258						
TCU	**Taichung**	**1.66**	**254**	*e*P	**Pn**	**13 36 59.7**	**-0.2**
	baz=251						
TCU				*e*S	**Sn**	**13 37 21.5**	**+0.3**
	baz=251						
CHKH	**Chenggong**	**1.70**	**214**	*e*P	**Pn**	**13 36 59.9**	**-0.6**
	baz=211						
CHKH				*e*S	**Sn**	**13 37 20.8**	**-1.4**
	baz=211						
WHYT	**Xinyi Township**	**1.70**	**238**	*e*P	**Pn**	**13 37 01.9**	**+1.4**
	baz=229						
WHYT				*e*S	**Sn**	**13 37 23.7**	**+1.4**
	baz=229						
JISG	**Ishigakijimahi**	**1.72**	**91**	P	**Pn**	**13 37 00.6**	**0.0**
JISG				*e*S	**Sn**	**13 37 22.5**	**+0.1**
WJS	**Zhushan**	**1.74**	**243**	P	**Pn**	**13 37 02.5**	**+1.6**
	baz=250						
WJS				*e*S	**Sn**	**13 37 25.2**	**+2.1**
	baz=250						
FULB	**Fuli**	**1.75**	**216**	*e*P	**Pn**	**13 37 01.0**	**-0.1**
	baz=222						
FULB				*e*S	**Sn**	**13 37 23.2**	**-0.2**
	baz=222						
WNT	**Mingjian**	**1.75**	**245**	*e*P	**Pn**	**13 37 02.4**	**+1.3**
	baz=243						
WNT				*e*S	**Sn**	**13 37 25.0**	**+1.7**
	baz=243						
WCHH	**Zhanghua**	**1.79**	**253**	*e*P	**Pn**	**13 37 01.5**	**0.0**
	baz=250						
WCHH				*e*S	**Sn**	**13 37 24.6**	**+0.6**
	baz=250						
CHKT	**Chengkung**	**1.80**	**213**	*i* P	**Pn**	**13 37 00.9**	**-0.7**
	baz=204						
CHKT				*e*S	**Sn**	**13 37 22.3**	**-2.0**
	baz=204						
EHD	**Haiduan**	**1.84**	**218**	*e*P	**Pn**	**13 37 01.4**	**-0.8**
	baz=222						
EHD				*e*S	**Sn**	**13 37 24.2**	**-1.1**
	baz=222						
ALS	**Alishan**	**1.85**	**234**	P	**Pn**	**13 37 03.6**	**+1.1**
	baz=225						
ALS				*e*S	**Sn**	**13 37 26.8**	**+0.9**
	baz=225						
ECS	**Chishang**	**1.88**	**216**	*e*P	**Pn**	**13 37 02.9**	**+0.2**
	baz=213						
ECS				*e*S	**Sn**	**13 37 26.4**	**+0.2**
	baz=213						
CHN5	**Tsauling**	**1.89**	**238**	*e*P	**Pn**	**13 37 04.5**	**+1.5**
	baz=245						
CHN5				*e*S	**Sn**	**13 37 28.3**	**+1.7**
	baz=245						
ELDTW	**Lidau**	**1.92**	**222**	*e*P	**Pn**	**13 37 03.0**	**-0.4**
	baz=219						
ELDTW				*e*S	**Sn**	**13 37 26.3**	**-1.0**
	baz=219						
EDH	**Donghe**	**1.93**	**212**	P	**Pn**	**13 37 03.1**	**-0.3**
	baz=205						
EDH				S	**Sn**	**13 37 26.4**	**-1.1**
	baz=205						
WGK	**Gukeng**	**1.94**	**242**	*e*P	**Pn**	**13 37 05.2**	**+1.7**
	baz=249						
WGK				*e*S	**Sn**	**13 37 29.9**	**+2.3**
	baz=249						
WDLH	**Douliu**	**1.96**	**242**	*e*P	**Pn**	**13 37 05.0**	**+1.3**
	baz=250						
WDLH				*e*S	**Sn**	**13 37 29.8**	**+1.8**
	baz=250						
WRL	**Guolierlin Hig**	**2.00**	**250**	*e*P	**Pn**	**13 37 04.6**	**+0.3**
	baz=254						
WRL				*e*S	**Sn**	**13 37 28.6**	**-0.4**
	baz=254						
WCKO	**Fanlu**	**2.04**	**235**	P	**Pn**	**13 37 06.4**	**+1.6**
	baz=233						
WCKO				*e*S	**Sn**	**13 37 31.7**	**+1.8**
	baz=233						
JTJ	**Tarama**	**2.07**	**89**	P	**Pn**	**13 37 05.6**	**+0.4**
JTJ				S	**Sn**	**13 37 31.0**	**+0.3**
LONT	**Longtian**	**2.08**	**215**	*e*P	**Pn**	**13 37 04.5**	**-0.8**
	baz=212						
LONT				*e*S	**Sn**	**13 37 29.5**	**-1.3**
	baz=212						
WTK	**Tuku**	**2.08**	**244**	*e*P	**Pn**	**13 37 06.1**	**+0.8**
	baz=242						
WTK				S	**Sn**	**13 37 31.3**	**+0.5**
	baz=242						
STYH	**Taoyuan**	**2.09**	**227**	P	**Pn**	**13 37 06.6**	**+1.2**
	baz=217						
STYH				*e*S	**Sn**	**13 37 31.9**	**+0.9**
	baz=217						
WTCT	**Ta-ch'eng**	**2.10**	**249**	*e*S	**Sn**	**13 37 31.4**	**+0.2**
	baz=254						
CHN4	**Tsaushan**	**2.10**	**233**	*e*P	**Pn**	**13 37 07.2**	**+1.7**
	baz=231						
CHN4				*e*S	**Sn**	**13 37 32.3**	**+1.0**
	baz=231						
TPUB	**Ta-pu**	**2.10**	**232**	P	**Pn**	**13 37 07.0**	**+1.4**
TPUB	**Ta-pu**	**2.10**	**232**	*e*P	**Pn**	**13 37 06.8**	**+1.1**
	baz=229						
TPUB				*e*S	**Sn**	**13 37 32.9**	**+1.4**
	baz=229						
LDUT	**Ludao**	**2.12**	**205**	P	**Pn**	**13 37 05.3**	**-0.6**
	baz=202						
LDUT				*e*S	**Sn**	**13 37 29.6**	**-2.3**
	baz=202						
WTP	**Ta-pu**	**2.15**	**231**	*e*P	**Pn**	**13 37 07.8**	**+1.5**
	baz=228						
WTP				*e*S	**Sn**	**13 37 34.1**	**+1.6**
	baz=228						
TWGBT	**Beinan**	**2.17**	**215**	P	**Pn**	**13 37 06.3**	**-0.3**
TWGBT	**Beinan**	**2.17**	**215**	P	**Pn**	**13 37 05.6**	**-1.0**
	baz=212						
TWGBT				*e*S	**Sn**	**13 37 31.7**	**-1.4**
	baz=212						
TWG	**Pinlang**	**2.18**	**215**	P	**Pn**	**13 37 05.8**	**-0.8**
	baz=212						
TWG				*e*S	**Sn**	**13 37 31.5**	**-1.6**
	baz=212						
TWK	**Hsinying**	**2.23**	**233**	*e*P	**Pn**	**13 37 08.3**	**+1.1**
	baz=230						
TWK				*e*S	**Sn**	**13 37 36.3**	**+2.0**
	baz=230						
WSF	**Szhu**	**2.24**	**245**	*e*S	**Sn**	**13 37 35.5**	**+1.0**
	baz=242						
CHN1	**Nanshi**	**2.25**	**231**	*e*P	**Pn**	**13 37 08.9**	**+1.4**
	baz=228						
CHN1				*e*S	**Sn**	**13 37 36.1**	**+1.3**
	baz=228						
SNST	**Tainan City**	**2.25**	**232**	*e*P	**Pn**	**13 37 08.9**	**+1.4**
	baz=230						
SNST				*e*S	**Sn**	**13 37 36.1**	**+1.3**
	baz=230						
SGST	**Jiashian**	**2.28**	**228**	*e*P	**Pn**	**13 37 08.5**	**+0.6**
	baz=226						
SGST				*e*S	**Sn**	**13 37 36.8**	**+1.3**
	baz=226						
SLGT	**Liugui**	**2.29**	**226**	*e*P	**Pn**	**13 37 10.0**	**+1.8**
	baz=232						
SLGT				*e*S	**Sn**	**13 37 38.6**	**+2.7**
	baz=232						
ICHU	**Yijhu**	**2.33**	**238**	*e*P	**Pn**	**13 37 10.0**	**+1.4**
	baz=236						
ICHU				*e*S	**Sn**	**13 37 37.3**	**+0.6**
	baz=236						
CHN8	**Yiju**	**2.39**	**238**	*e*P	**Pn**	**13 37 10.0**	**+0.6**
	baz=236						
CHN8				*e*S	**Sn**	**13 37 39.5**	**+1.4**
	baz=236						
ECL	**Taimali**	**2.42**	**214**	P	**Pn**	**13 37 09.2**	**-0.7**
	baz=206						
ECL				S	**Sn**	**13 37 37.4**	**-1.5**
	baz=206						
SCST	**Cishan**	**2.47**	**226**	*e*P	**Pn**	**13 37 12.0**	**+1.6**
	baz=231						
SHHT	**Tainan City**	**2.48**	**231**	*e*P	**Pn**	**13 37 11.9**	**+1.4**
	baz=228						
SHHT				*e*S	**Sn**	**13 37 43.7**	**+3.5**
	baz=228						
SCLT	**Jiali**	**2.50**	**235**	*e*S	**Sn**	**13 37 42.5**	**+1.8**
	baz=242						
JIRB	**Irabujima**	**2.51**	**85**	*e*P	**Pn**	**13 37 11.5**	**+0.6**
JIRB				*e*S	**Sn**	**13 37 41.6**	**+0.7**
TSMG	**Majia**	**2.51**	**221**	*e*P	**Pn**	**13 37 12.7**	**+1.8**
	baz=219						
TSMG				*e*S	**Sn**	**13 37 41.7**	**+0.7**
	baz=219						
TWM1	**Shoushan**	**2.56**	**226**	*e*P	**Pn**	**13 37 15.1**	**+3.4**
	baz=223						
JIKM	**Ikemajima**	**2.58**	**83**	*e*P	**Pn**	**13 37 12.6**	**+0.6**
JIKM				*e*S	**Sn**	**13 37 43.2**	**+0.5**
MASBT	**Mashibuluo**	**2.59**	**220**	P	**Pn**	**13 37 13.3**	**+1.2**
	baz=218						
MASBT				*e*S	**Sn**	**13 37 44.1**	**+1.3**
	baz=218						
TSCK	**Chigu Township**	**2.59**	**236**	*e*P	**Pn**	**13 37 11.8**	**-0.3**
	baz=234						
TSCK				*e*S	**Sn**	**13 37 43.5**	**+0.5**

	baz=234							
JMJ2	**Miyako jima3**	**2.64**	**87**	P	**Pn**	**13 37 13.4**	**+0.6**
JMJ2				S	**Sn**	**13 37 44.9**	**+0.7**
EAST	**Anshuo**	**2.65**	**213**	*eP*	**Pn**	**13 37 12.4**	**-0.6**
	baz=206							
TAWH	**Dawu Township**	**2.67**	**212**	P	**Pn**	**13 37 12.4**	**-0.7**
	baz=206							
TAWH				*eS*	**Sn**	**13 37 43.0**	**-1.8**
	baz=206							
LAY	**Lan-yu**	**2.69**	**198**	*eP*	**Pn**	**13 37 12.4**	**-1.0**
	baz=194							
MATB	**Ma-tsu**	**2.71**	**305**	*eP*	**Pn**	**13 37 13.4**	**-0.3**
	baz=303							
MATB				*eS*	**Sn**	**13 37 44.8**	**-1.0**
	baz=303							
JOGS	**Gusukube**	**2.72**	**86**	P	**Pn**	**13 37 14.5**	**+0.7**
JOGS				S	**Sn**	**13 37 46.5**	**+0.6**
LYUB	**Lan-yu**	**2.72**	**197**	P	**Pn**	**13 37 12.6**	**-1.2**
	baz=193							
VWUC	**VWUC**	**2.73**	**278**	*eP*	**Pn**	**13 37 13.4**	**-0.4**
	baz=276							
VWUC				S	**Sn**	**13 37 44.1**	**-2.1**
	baz=276							
SCZT	**Fangliau**	**2.78**	**217**	*eP*	**Pn**	**13 37 16.1**	**+1.5**
	baz=213							
PNG	**Penghu**	**2.82**	**249**	*eS*	**Sn**	**13 37 46.8**	**-1.7**
	baz=247							
PHUB	**P'eng-hu**	**2.83**	**248**	P	**Pn**	**13 37 14.6**	**-0.6**
	baz=246							
PHUB				*eS*	**Sn**	**13 37 46.0**	**-2.6**
	baz=246							
WDGT	**Dungji**	**2.87**	**242**	P	**Pn**	**13 37 15.7**	**-0.1**
	baz=232							
WDGT				*eS*	**Sn**	**13 37 47.7**	**-1.8**
	baz=232							
VCHM	**Qimei**	**3.08**	**244**	*eP*	**Pn**	**13 37 17.9**	**-0.7**
	baz=234							
VCHM				S	**Sn**	**13 37 53.5**	**-1.1**
	baz=234							
KNM	**Kinmen**	**3.64**	**268**	*eP*	**Pn**	**13 37 26.6**	**+0.5**
	baz=266							
KNM				*eS*	**Sn**	**13 38 08.2**	**+0.1**
	baz=266							
KNMB	**Chin-men Tao**	**3.68**	**268**	P	**Pn**	**13 37 25.7**	**-0.9**
	baz=267							
KNMB				*eS*	**Sn**	**13 38 06.7**	**-2.3**
	baz=267							

*IDC **18** 13:38:11.8±0.8,33°.38N×47°.07E,h0km,mb4.0/18, mbtmp4.0/22,ML3.8/4,MS3.2/2,Error ellipse: s-maj=20.0km s-min=13.9km az=162.0*
*NEIC **18** 13:38:12.2±2.4,33°.2N±0°.1×47°.1E±0°.2,h10km±2km, mb4.2/29,Error ellipse: s-maj=25.4km s-min=13.0km az=230.0*
*TEH **18** 13:38:13.5,33°.44N×47°.12E,h8km±56km,ML4.0*
*ISN **18** 13:38:13.8±1.0,33°.47N×47°.18E,h15km±6km,ML4.0*
*OMAN **18** 13:38:23.0±0.2,32°.36N×47°.07E,h10km,Error ellipse: s-maj=3.6km s-min=2.6km az=24.0*

ISC 18 13:38:14.7±1.1,33°.36N±0°.03×47°.14E±0°.03,h23km±9km, n151,σ2s61/185,mb4.1/38,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.62**	**74**	Pg	**Pb**	**13 38 26.1**	**-0.7**
IKFM				Sg	**Sb**	**13 38 34.8**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.82**	**289**	Pg	**Pb**	**13 38 28.9**	**-1.4**
IKOM	**Komasi**	**0.87**	**21**	Pg	**Pb**	**13 38 29.6**	**-1.7**
IKOM				Sg	**Sb**	**13 38 41.8**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.92**	**355**	Pg	**Pb**	**13 38 29.8**	**-2.3**
KCHF				Sg	**Sb**	**13 38 41.1**	**-2.9**
IBDR	**Badra**	**1.04**	**257**	*eP*g	**Pb**	**13 38 35.0**	**+1.0**
IBDR				*eS*g	**Sn**	**13 38 49.0**	**+1.4**
IBDR				AML	AML	13 38 53.8	
	comp=N,3μm,0.8s						
IBDR				AML	AML	13 38 57.1	
	comp=E,3μm,0.5s						
IGHG	**Ghaleghazi**	**1.08**	**334**	Pg	**Pn**	**13 38 33.4**	**-1.2**
IBZA	**Bozab**	**1.26**	**28**	Pg	**Pn**	**13 38 37.2**	**0.0**
IDHR	**Dehrash**	**1.48**	**335**	Pg	**Pn**	**13 38 40.7**	**+0.7**
HSAM	**Samen**	**1.49**	**55**	Pg	**Pn**	**13 38 40.9**	**+0.7**
ILIN	**Lien**	**1.56**	**355**	Pg	**Pn**	**13 38 42.5**	**+1.2**
KGS1	**Ghasr-e-Shirin**	**1.72**	**312**	Pg	**Pb**	**13 38 45.3**	**-0.4**
IALM	**Almabolaq**	**1.73**	**29**	Pg	**Pb**	**13 38 45.6**	**-0.4**
RAFI	**Al-Rafai**	**1.84**	**208**	*eP*n	**Pb**	**13 38 48.0**	**+0.3**
RAFI				*eS*n	**Sb**	**13 39 14.0**	**+3.6**
RAFI				AML	AML	13 39 19.1	
	comp=E,1μm,0.6s						
RAFI				AML	AML	13 39 19.3	
	comp=N,1μm,0.3s						
HAGD	**Aghdareh**	**2.21**	**48**	Pn	**Pn**	**13 38 52.7**	**+2.5**
BHD	**Baghdad**	**2.31**	**269**	*eP*n	**Pn**	**13 38 53.5**	**+2.2**
BHD				*eS*n	**Sb**	**13 39 23.0**	**-0.7**
BHD				AML	AML	13 39 40.2	
	comp=E,2μm,0.5s						
AHWZ	**Ahwaz**	**2.39**	**147**	Pn	**Pn**	**13 38 55.3**	**+2.9**
IRAZ	**Razeghan**	**3.08**	**48**	Pn	**Pn**	**13 39 04.8**	**+2.6**
SDS1	**Sardasht. Az.**	**3.10**	**334**	Pn	**Pn**	**13 39 03.8**	**+1.5**
JHBN	**Jahan bin**	**3.18**	**110**	Pn	**Pn**	**13 39 05.7**	**+2.1**
IPIR	**Pirpir**	**3.23**	**101**	Pn	**Pn**	**13 39 07.4**	**+3.2**
ZNGN	**Zangian**	**3.37**	**111**	Pn	**Pn**	**13 39 09.0**	**+2.8**
QSDN	**Sirdan**	**3.56**	**28**	Pn	**Pn**	**13 39 11.4**	**+2.7**
QAMS	**Qamsar**	**3.58**	**83**	Pn	**Pn**	**13 39 12.0**	**+3.0**
IQOM	**Qom**	**3.58**	**65**	Pn	**Pn**	**13 39 11.3**	**+2.2**
MAHB	**Mahabad**	**3.60**	**341**	Pn	**Pn**	**13 39 10.9**	**+1.8**
IKLH	**Kolahrood**	**3.72**	**89**	Pn	**Pn**	**13 39 14.3**	**+3.4**
IMHD	**Mahdasht**	**3.73**	**50**	Pn	**Pn**	**13 39 13.4**	**+2.5**
IBRJ	**Brojen**	**3.77**	**111**	Pn	**Pn**	**13 39 13.7**	**+2.1**
ABEH	**Behbahan**	**3.82**	**135**	Pn	**Pn**	**13 39 15.2**	**+3.1**
IHSH	**Hashtrud**	**3.94**	**1**	Pn	**Pn**	**13 39 16.2**	**+2.2**
IVRN	**Varamin**	**4.14**	**66**	Pn	**Pn**	**13 39 18.9**	**+2.3**
KRSH	**Karshahi**	**4.21**	**80**	Pn	**Pn**	**13 39 20.7**	**+3.1**
IGAR	**Gharneh**	**4.24**	**102**	Pn	**Pn**	**13 39 20.7**	**+2.7**
ISFB	**Sefidab**	**4.36**	**75**	Pn	**Pn**	**13 39 21.8**	**+2.2**
IZEF	**Zefreh**	**4.38**	**95**	Pn	**Pn**	**13 39 23.0**	**+2.9**
ISRB	**Sarab**	**4.48**	**5**	Pn	**Pn**	**13 39 23.5**	**+2.2**
KLST	**Kelardasht - M**	**4.51**	**45**	Pn	**Pn**	**13 39 24.8**	**+2.9**
IDMV	**Damavand**	**4.61**	**60**	Pn	**Pn**	**13 39 25.6**	**+2.3**
IRAM	**Ramesheh**	**4.69**	**108**	Pn	**Pn**	**13 39 27.3**	**+3.0**
MZPU	**Pul - Mazandar**	**4.77**	**49**	Pn	**Pn**	**13 39 28.2**	**+2.9**
ITBZ	**Tabriz**	**4.93**	**351**	Pn	**Pn**	**13 39 28.8**	**+1.2**
IHRS	**Heris**	**4.95**	**359**	Pn	**Pn**	**13 39 30.2**	**+2.3**
ISHB	**Shabestar**	**5.07**	**346**	Pn	**Pn**	**13 39 30.8**	**+1.4**
IFIR	**Firoozkooh**	**5.17**	**62**	Pn	**Pn**	**13 39 33.2**	**+2.4**
GRMI	**Germi**	**5.47**	**6**	Pn	**Pn**	**13 39 36.8**	**+1.9**
DSBU	**Dashti - Bushe**	**6.11**	**143**	Pn	**Pn**	**13 39 46.7**	**+3.1**
IMEH	**Mehriz**	**6.62**	**105**	Pn	**Pn**	**13 39 53.8**	**+3.0**
GNI	**Garni**	**7.04**	**345**	Pn	**Pn**	**13 39 57.5**	**+0.9**
TPRV	**Parvadeh(Tabas**	**8.01**	**90**	Pn	**Pn**	**13 40 12.9**	**+3.2**
ASF	**Jabal al Asfar**	**8.70**	**265**	Pn	**Pn**	**13 40 16.6**	**-2.6**
	comp=E,0.4nm,0.3s,baz=233,slow=20,SNR=1.6						
ASF				Sn	**Sn**	**13 41 53.4**	**-3.3**
	comp=E,1.5nm,0.3s,baz=248,slow=19,SNR=1.8 comp=E,2.0nm,0.3s						
SMRA	**Abu-Samra**	**9.17**	**158**	P	**Pn**	**13 40 24.4**	**-1.1**
TRNA	**Turayna**	**9.30**	**156**	P	**Pn**	**13 40 26.5**	**-0.8**
ONI	**Oni**	**9.66**	**344**		**Pn**	**13 40 34.7**	**+2.3**
JRN	**Qarnain Island**	**9.76**	**148**	P	**Pn**	**13 40 34.7**	**+1.1**
GHWR	**Ruwais**	**10.63**	**150**	P	**Pn**	**13 40 45.2**	**-0.3**
GHWR				S	**Sn**	**13 42 36.9**	**-6.9**
SHME	**Shamm**	**10.69**	**131**	P	**Pn**	**13 40 48.1**	**+1.7**
BANOM	**Banah**	**10.88**	**131**	P	**Pn**	**13 40 50.1**	**+1.1**
BANOM				S	**Sn**	**13 42 47.3**	**-2.7**
EIL	**Elat**	**11.03**	**254**	Pn	**Pn**	**13 40 50.5**	**-0.5**
	comp=E,0.6nm,0.3s,baz=157,slow=13,SNR=2.2						
EIL				LR	LR	13 46 26.4	
	comp=E,125nm,18.2s,baz=69,slow=45 comp=E,4.4nm,0.8s						
AJN	**Ajban**	**11.13**	**140**	P	**Pn**	**13 40 54.9**	**+2.5**
AJN				S	**Sn**	**13 42 51.0**	**-5.2**
NAZ	**Nazwa, Dubai**	**11.18**	**136**	P	**Pn**	**13 40 54.3**	**+1.2**
	SNR=8.6						
NAZ				S	**Sn**	**13 42 53.7**	**-3.6**
MASF	**Masafi**	**11.19**	**133**	P	**Pn**	**13 40 54.2**	**+0.9**
	SNR=7.5						
MASF				S	**Sn**	**13 42 53.9**	**-3.8**
MZWR	**Madinat Zayed**	**11.25**	**147**	P	**Pn**	**13 40 53.8**	**-0.2**
MZWR				S	**Sn**	**13 42 53.3**	**-5.7**
ASUD	**Al Ashush, Dub**	**11.27**	**138**	Pn	**Pn**	**13 40 56.0**	**+1.7**
ASUD	**Al Ashush, Dub**	**11.27**	**138**	P	**Pn**	**13 40 56.4**	**+2.1**
ASUD				S	**Sn**	**13 42 56.4**	**-3.2**
FAQ	**Al Faqa, Dubai**	**11.32**	**137**	Pn	**Pn**	**13 40 56.7**	**+1.6**
FAQ	**Al Faqa, Dubai**	**11.32**	**137**	P	**Pn**	**13 40 56.8**	**+1.6**
FAQ				S	**Sn**	**13 42 56.5**	**-4.4**
MDH	**Madha**	**11.33**	**133**	P	**Pn**	**13 40 56.4**	**+1.3**
MDH				S	**Sn**	**13 42 57.0**	**-3.9**
HATD	**Hatta, Dubai**	**11.58**	**135**	Pn	**Pn**	**13 40 59.1**	**+0.5**
HATD	**Hatta, Dubai**	**11.58**	**135**	P	**Pn**	**13 40 59.7**	**+1.1**
	SNR=8.7						
HATD				S	**Sn**	**13 43 03.4**	**-3.8**
ASHO	**Ashiyiah**	**11.64**	**136**	Pn	**Pn**	**13 41 00.1**	**+0.7**
ASHO				Sn	**Sn**	**13 43 04.0**	**-4.7**
ASHO	**Ashiyiah**	**11.64**	**136**	P	**Pn**	**13 41 00.6**	**+1.1**
	SNR=5.9						
ASHO				S	**Sn**	**13 43 04.8**	**-3.9**
MZR	**Muzera**	**11.73**	**150**	P	**Pn**	**13 41 01.4**	**+0.7**
JASK	**Jask - Hormozg**	**11.95**	**126**	P	**Pn**	**13 41 05.1**	**+1.4**
ALNE	**Al Ain**	**11.96**	**139**	Pn	**Pn**	**13 41 03.9**	**+0.2**
ALNE	**Al Ain**	**11.96**	**139**	P	**Pn**	**13 41 04.8**	**+1.0**
	SNR=7.8						
ALNE				S	**Sn**	**13 43 14.3**	**-2.1**
SOHO	**SOHO**	**12.34**	**136**	Pn	**Pn**	**13 41 09.5**	**+0.5**
SOHO	**SOHO**	**12.34**	**136**	P	**Pn**	**13 41 09.8**	**+0.8**
SOHO				S	**Sn**	**13 43 22.0**	**-3.8**
BRTR	**Keskin Array B**	**12.57**	**304**	Pn	P	13 41 19.1	-4.5
	comp=E,0.1nm,0.3s,baz=130,slow=16,SNR=2.0						
BRTR				LR	LR	13 46 46.2	
	comp=E,82nm,18.3s,baz=350,slow=41						
UMZA	**Um Al Zommool**	**12.75**	**144**	P	**Pn**	**13 41 15.0**	**+0.4**
UMZA				S	**Sn**	**13 43 29.4**	**-6.3**
ARQ	**Araqi**	**12.95**	**138**	P	**Pn**	**13 41 18.2**	**+0.8**
ARQ				S	**Sn**	**13 43 36.6**	**-4.2**
BSY	**Bisya**	**13.80**	**137**	P	**Pn**	**13 41 29.0**	**0.0**
	SNR=12						
BSY				S	**Sn**	**13 43 55.9**	**-5.6**
SMDO	**Samad**	**14.05**	**134**	P	**Pn**	**13 41 32.4**	**-0.1**
	SNR=7.2						
SMDO				S	**Sn**	**13 44 02.7**	**-5.1**
WSAR	**Wadi Sarin**	**14.28**	**132**	Pn	**Pn**	**13 41 34.6**	**-0.8**
	comp=E,1.9nm,0.3s,baz=312,slow=8.8,SNR=29 comp=E,4.8nm,0.5s						
WSAR	**Wadi Sarin**	**14.28**	**132**	P	**Pn**	**13 41 34.7**	**-0.8**
	SNR=12						
WSAR				S	**Sn**	**13 44 06.8**	**-6.3**
JMDO	**Jabal Madar**	**14.61**	**136**	P	**Pn**	**13 41 39.2**	**-0.9**
WBK	**Wadi Bani Khal**	**14.95**	**133**	P	**Pn**	**13 41 44.8**	**+0.1**
WBK				S	**Sn**	**13 44 26.7**	**-2.9**
JLN	**Jalan Bani Buh**	**15.56**	**133**	P	**Pn**	**13 41 53.5**	**+0.9**
MHTO	**MHTO**	**15.63**	**139**	P	**Pn**	**13 41 54.0**	**+0.5**
MHTO				S	**Sn**	**13 44 40.9**	**-5.1**
DOK	**Doka**	**15.96**	**155**	P	**Pn**	**13 41 57.0**	**-0.8**
	SNR=7.7						
DOK				S	**Sn**	**13 44 47.2**	**-6.9**
DQM	**DQM**	**16.27**	**143**	P	**Pn**	**13 42 01.2**	**-0.7**
DQM				S	**Sn**	**13 44 54.0**	**-7.7**
WHFO	**Wadi Hawf**	**16.49**	**157**	P	**Pn**	**13 42 03.4**	**-1.2**
	SNR=5.4						
WHFO				S	**Sn**	**13 44 57.9**	**-9.2**
ABTO	**Aybut**	**16.87**	**159**	P	**Pn**	**13 42 08.2**	**-1.3**
ABTO				S	**Sn**	**13 45 07.0**	**-9.4**
SHAO	**Shalim**	**17.07**	**151**	P	**Pn**	**13 42 11.2**	**-0.6**
SHAO				S	Sn	13 45 11.2	-10
DMTO	**DMTO**	**17.09**	**154**	P	**Pn**	**13 42 11.0**	**-1.1**
DMTO				S	**Sn**	**13 45 11.8**	**-10**
KBL	**Kabul**	**18.21**	**80**	P	**Pn**	**13 42 25.7**	**-0.5**
SIMJ	**Simiganj**	**18.46**	**67**	P	**Pn**	**13 42 28.9**	**+0.1**
ABKAR	**Akbulak array**	**18.53**	**27**	P	**Pn**	**13 42 30.5**	**+0.9**
AKTO	**Aktyubinsk**	**18.85**	**22**	P	**P**	**13 42 33.9**	**+0.9**
	comp=E,0.2nm,0.3s,baz=203,slow=13,SNR=4.5 comp=E,2.7nm,0.7s						
KK31	**Karatay Array**	**20.72**	**55**	P	**P**	**13 42 53.7**	**+0.2**
KK31				IAmb	IAmb	13 43 03.5	
	comp=Z,5.7nm,0.9s						
KKAR	**Karatay Array**	**20.72**	**55**	P	**P**	**13 42 53.5**	**+0.1**
KKAR	**Karatay Array**	**20.72**	**55**	P	**P**	**13 42 53.7**	**+0.2**
KKAR				IAmb	IAmb	13 43 03.5	
	comp=Z,5.6nm,0.9s						
AKASG	**Malin Array Be**	**21.75**	**328**	P	**P**	**13 43 03.4**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=138,slow=9.8,SNR=12 comp=Z,1.1nm,0.4s						
AKBB	**Malin Array Si**	**21.75**	**328**	P	**P**	**13 43 04.4**	**0.0**
AKBB				IAmb	IAmb	13 43 11.3	
	comp=Z,16nm,1.2s						
KIEV	**Kiev**	**21.75**	**328**	P	**P**	**13 43 04.5**	**+0.1**
KIEV				IAmb	IAmb	13 43 11.3	
	comp=Z,14nm,1.2s						
NIL	**Nilore**	**21.77**	**82**	P	**P**	**13 43 04.7**	**-0.1**
NIL				IAmb	IAmb	13 43 15.1	
	comp=Z,13nm,0.7s						
BURAR	**Bucovina Array**	**21.82**	**317**	P	**P**	**13 43 04.8**	**-0.5**
BUR08	**Bucovina Ar. S**	**21.85**	**317**	P	**P**	**13 43 04.3**	**-1.3**
BUR08				IAmb	IAmb	13 43 10.3	
	comp=Z,19nm,1.4s						
ARSB	**Arslanbob**	**21.98**	**61**	P	**P**	**13 43 09.8**	**+2.7**
NRN	**Naryn**	**24.23**	**62**	P	**P**	**13 43 32.4**	**+2.4**
NRN				IAmb	IAmb	13 43 37.7	
	comp=Z,2.9nm,0.8s						
ARU	**Arti**	**24.38**	**15**	P	**P**	**13 43 32.7**	**+1.8**
ARU				IAmb	IAmb	13 44 07.0	
	comp=Z,8.5nm,1.3s						
BOOM	**Boomskoye usch**	**24.39**	**60**	P	**P**	**13 43 33.5**	**+2.2**
BRVK	**Borovoye**	**25.73**	**33**	P	**P**	**13 43 41.8**	**-1.4**
BRVK				IAmb	IAmb	13 44 11.9	
	comp=Z,3.4nm,0.8s						
BVAR	**Borovoye Array**	**25.76**	**33**	P	**P**	**13 43 44.9**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=225,slow=10,SNR=10 comp=Z,1.7nm,0.6s						
OJC	**Ojcow**	**26.23**	**318**	P	**P**	**13 43 49.1**	**+1.3**
OJC				IAmb	IAmb	13 43 50.7	
	comp=Z,8.2nm,0.8s						
MORC	**Moravsky Berou**	**27.31**	**316**	P	**P**	**13 43 56.5**	**-1.1**
MORC				IAmb	IAmb	13 44 20.7	
	comp=Z,4.5nm,1.1s						
KURBB	**Kurchatov Arra**	**28.72**	**44**	P	**P**	**13 44 11.8**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=248,slow=9.2,SNR=12 comp=Z,1.3nm,0.7s						
KURK	**Kurchatov**	**28.81**	**44**	P	**P**	**13 44 12.6**	**+1.7**
KURK				IAmb	IAmb	13 44 21.2	
	comp=Z,2.9nm,0.9s						
KBA	**Koelnbreinsper**	**28.97**	**308**	*eP*	**P**	**13 44 13.3**	**+0.9**
	comp=Z,2.9nm,0.6s						
STAL	**STALIGIAL**	**29.18**	**306**	P	**P**	**13 44 14.2**	**0.0**
LESA	**Schwarzleotal**	**29.50**	**309**	*eP*	**P**	**13 44 17.5**	**+0.4**
	comp=Z,1.2nm,0.4s						
TEOL	**Teolo**	**29.69**	**304**	P	**P**	**13 44 17.3**	**-1.5**
MK31	**Makanchi Array**	**29.80**	**53**	P	**P**	**13 44 20.9**	**+1.2**
MKAR	**Makanchi Array**	**29.80**	**53**	P	**P**	**13 44 20.9**	**+1.2**
MKAR	**Makanchi Array**	**29.80**	**53**	P	**P**	**13 44 21.3**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=249,slow=10,SNR=5.2 comp=Z,0.4nm,0.4s						
CTI	**Castel Tesino**	**29.85**	**306**	P	**P**	**13 44 20.8**	**+0.5**
CTI				IAmb	IAmb	13 44 21.8	
	comp=Z,5.6nm,0.7s						
WTTA	**Wattenberg**	**30.14**	**308**	*eP*	**P**	**13 44 23.8**	**+0.9**
	comp=Z,2.6nm,0.4s						
SQTA	**Sankt Quirin**	**30.41**	**308**	*eP*	**P**	**13 44 25.9**	**+0.6**
	comp=Z,7.1nm,0.4s						
MOTA	**Moosalm**	**30.51**	**308**	*eP*	**P**	**13 44 26.5**	**+0.4**
	comp=Z,4.2nm,0.5s						
FETA	**Feichten**	**30.68**	**307**	*eP*	**P**	**13 44 28.1**	**+0.5**
	comp=Z,2.0nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**30.91**	**306**	P	**P**	**13 44 30.4**	**+0.7**
FUORN				IAmb	IAmb	13 45 02.7	
	comp=Z,4.9nm,1.1s						
FIA1	**FINESS Array S**	**31.21**	**341**	P	**P**	**13 44 29.6**	**-2.4**
FINES	**FINESS Array B**	**31.21**	**341**	P	**P**	**13 44 31.9**	**0.0**
	comp=Z,1.1nm,0.5s,baz=150,slow=11,SNR=1.5 comp=Z,1.1nm,0.5s						
DAVA	**Damuels**	**31.31**	**308**	*eP*	**P**	**13 44 33.3**	**+0.1**
	comp=Z,8.2nm,0.5s						
BNI	**Bardonecchia**	**33.13**	**303**	P	**P**	**13 44 49.8**	**+0.6**
ZAA0	**Zalesovo Array**	**33.60**	**41**	P	**P**	**13 44 52.8**	**-0.2**
ZAA0				IAmb	IAmb	13 45 05.5	
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**33.60**	**41**	P	**P**	**13 44 53.1**	**+0.2**
ZALV	**Zalesovo Beam**	**33.60**	**41**	P	**P**	**13 44 53.6**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=246,slow=11,SNR=5.1 comp=Z,0.9nm,0.5s						
HFS	**Hangfors**	**34.58**	**331**	P	**P**	**13 45 01.4**	**0.0**
	comp=Z,1.9nm,0.3s,baz=133,slow=7.7,SNR=16 comp=Z,1.9nm,0.3s						
NOA	**NORSAR Array B**	**36.10**	**331**	P	**P**	**13 45 13.7**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=125,slow=8.5,SNR=4.0 comp=Z,1.5nm,0.9s						
ARCES	**ARCESS Array B**	**38.19**	**348**	P	**P**	**13 45 32.6**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=167,slow=9.1,SNR=21 comp=Z,0.7nm,0.3s						
EKA	**Eskdalemuir Ar**	**41.00**	**318**	P	**P**	**13 45 56.0**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=104,slow=8.6,SNR=32 comp=Z,4.4nm,0.5s						
EKB	**Eskdalemuir**	**41.02**	**318**	P	**P**	**13 45 55.1**	**-0.8**
ESK	**Eskdalemuir**	**41.03**	**318**	P	**P**	**13 45 55.8**	**-0.1**
ESDC	**Sonseca Array**	**41.09**	**294**	P	**P**	**13 45 57.6**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=71,slow=8.0,SNR=2.1 comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**45.91**	**255**	P	**P**	**13 46 36.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=64,slow=7.4,SNR=8.0						
TORD				PcP	**PcP**	**13 48 13.8**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=37,slow=4.0,SNR=3.7 comp=Z,0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**46.86**	**352**	P	**P**	**13 46 43.3**	**+0.9**
	comp=Z,8.0nm,0.8s,baz=140,slow=11,SNR=8.9 comp=Z,8.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**48.44**	**94**	P	**P**	**13 46 55.8**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=288,slow=8.1,SNR=6.4 comp=Z,0.6nm,0.5s						
DBIC	**Dimbokro**	**54.90**	**253**	P	**P**	**13 47 44.3**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=36,slow=7.6,SNR=8.0						
DBIC				PcP	**PcP**	**13 48 46.8**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=0.0,slow=0.0,SNR=3.2 comp=Z,2.4nm,0.4s						
KSRS	**Korea Array**	**64.02**	**61**	P	**P**	**13 48 47.2**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=280,slow=7.4,SNR=2.2 comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**81.58**	**6**	P	**P**	**13 50 30.2**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=35,slow=3.7,SNR=4.7 comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**83.36**	**352**	P	**P**	**13 50 39.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=10,slow=5.6,SNR=8.7 comp=Z,0.4nm,0.6s						

*NEIC **18** 13:46:15.5±0.9,35°.99N±0°.01×96°.82W±0°.02,h9km±8km, Error ellipse: s-maj=2.7km s-min=1.3km az=66.0*

TUL 18 13:46:15.6±0.7,35°.989N±0°.010×96°.80W±0°.02,h5km±1km, ML2.4,mb_Lg2.5/7(NEIC),**ML2.4**/30(NEIC),**Error ellipse: s-maj=2.3km s-min=1.4km az=84.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK052	**Battle Ridge R**	**0.00**	**7**	Pg	Pg	**13 46 16.8**	**+0.2**
OK033	**Mehan**	**0.12**	**297**	Pg	Pg	**13 46 18.6**	**+0.4**
OK033				IAML		13 46 20.7	
	2μm,0.3s						
QUOK	**Quay**	**0.20**	**23**		Pg	**13 46 20.2**	**+0.7**
DEOK	**Depew**	**0.29**	**120**	Pg	Pg	**13 46 21.8**	**+0.6**
DEOK				Sg	Sg	**13 46 26.1**	**+1.1**
DEOK				IAML		13 46 26.2	
	comp=N,376nm,0.3s						
OK048	**Pawnee Station**	**0.44**	**345**	Pg	Pg	**13 46 24.6**	**+0.5**
OK048				Sg	Sg	**13 46 29.8**	**-0.1**
OK048				IAML		13 46 30.8	
	comp=N,306nm,0.1s						
OK051	**E0350 and S346**	**0.52**	**357**	Pg	Pg	**13 46 25.4**	**-0.2**
OK051				Sg	Sg	**13 46 32.5**	**+0.2**
OK051				IAML		13 46 33.2	
	comp=N,464nm,0.2s						
OK051				IAML		13 46 36.8	
	comp=N,340nm,0.2s						
OK029	**Liberty Lake**	**0.56**	**250**	Pg	Pg	**13 46 25.9**	**-0.5**
OK029				IAML		13 46 36.6	
	comp=N,148nm,0.2s						
OK029				IAML		13 46 36.8	
	comp=N,342nm,0.5s						
TUL3	**Leonard**	**0.82**	**95**		Pg	**13 46 31.3**	**-0.1**
W35A	**Tecumseh**	**0.84**	**184**	Pg	Pg	**13 46 31.2**	**-0.4**
W35A				IAML		13 46 43.1	
	comp=E,207nm,0.3s						
FNO	**Franklin**	**0.88**	**214**	Pg	Pg	**13 46 31.7**	**-0.7**
FNO				IAML		13 46 47.0	
	comp=N,103nm,0.2s						
FNO				IAML		13 46 53.4	
	comp=E,92nm,0.2s						
T35A	**Sooner Cattle**	**0.95**	**14**	Pg	Pg	**13 46 33.8**	**-0.2**
T35A				IAML		13 46 47.4	
	comp=N,141nm,0.2s						
T35A		

GO04	**Tololo Observa**	**2.33**	**138**	*eP*		**Pn**	**13 47 28.7**	**-1.1**
GO04				*i S*		**Sn**	**13 47 54.9**	**-2.7**
GO04	**Tololo Observa**	**2.33**	**138**	⇑*iP*		**Pn**	**13 47 28.7**	**-1.1**
GO04				*eS*		**Sn**	**13 47 54.5**	**-3.1**
CO06	**Fray Jorge**	**2.37**	**159**			**Pn**	**13 47 27.9**	**-2.3**
CO06	**Fray Jorge**	**2.37**	**159**	*eP*		**Pn**	**13 47 27.8**	**-2.3**
CO06				*i S*		**Sn**	**13 47 52.9**	**-5.3**
CO06				IAML			13 47 54.8	
	comp=N,1µm,0.3s							
CO06	**Fray Jorge**	**2.37**	**159**	⇑*iP*		**Pn**	**13 47 27.8**	**-2.3**
CO06				*eS*		**Sn**	**13 47 52.3**	**-5.9**
CO06				IAML			13 47 54.8	
	comp=N,1µm,0.3s							
CO01	**Juntas del Tor**	**2.67**	**125**			**Pn**	**13 47 34.3**	**-0.1**
CO01	**Juntas del Tor**	**2.67**	**125**	*eP*		**Pn**	**13 47 34.4**	**-0.1**
CO01				*i S*		**Sn**	**13 48 04.7**	**-1.3**
CO01				IAML			13 48 08.3	
	comp=N,951nm,0.4s							
CO01	**Juntas del Tor**	**2.67**	**125**	⇑*iP*		**Pn**	**13 47 34.4**	**-0.1**
CO01				IAML			13 48 08.3	
	comp=N,928nm,0.3s							
CO03	**El Pedregal**	**2.91**	**145**			**Pn**	**13 47 36.4**	**-1.1**
CO03	**El Pedregal**	**2.91**	**145**	*eP*		**Pn**	**13 47 36.5**	**-1.1**
CO03				IAML			13 48 15.7	
	comp=Z,261nm,0.5s							
CO03	**El Pedregal**	**2.91**	**145**	*eP*		**Pn**	**13 47 36.4**	**-1.1**
CO03				*i S*		**Sn**	**13 48 08.1**	**-3.5**
CO03				IAML			13 48 10.0	
	comp=E,795nm,0.2s							
CO03	**El Pedregal**	**2.91**	**145**	*eP*		**Pn**	**13 47 36.1**	**-1.4**
CO03				*eS*		**Sn**	**13 48 06.7**	**-4.9**
CO03				IAML			13 48 10.0	
	comp=E,874nm,0.1s							
AC01	**Pan de Azucar**	**2.91**	**38**			**Pn**	**13 47 35.0**	**-2.6**
AC01	**Pan de Azucar**	**2.91**	**38**	*eP*		**Pn**	**13 47 34.9**	**-2.6**
AC01				*i S*		**Sn**	**13 48 07.0**	**-4.5**
AC01	**Pan de Azucar**	**2.91**	**38**	*eP*		**Pn**	**13 47 34.9**	**-2.6**
AC01				*eS*		**Sn**	**13 48 07.1**	**-4.5**
CO02	**Combarbal**	**3.08**	**153**			**Pn**	**13 47 39.0**	**-1.0**
CO02	**Combarbal**	**3.08**	**153**	*eP*		**Pn**	**13 47 39.0**	**-1.0**
CO02				*eS*		**Sn**	**13 48 12.7**	**-3.1**
CO02				IAML			13 48 14.9	
	comp=Z,595nm,0.4s							
CO02	**Combarbal**	**3.08**	**153**	*eP*		**Pn**	**13 47 38.8**	**-1.2**
CO02				*i S*		**Sn**	**13 48 11.5**	**-4.3**
CO02	**Combarbal**	**3.08**	**153**	⇑*iP*		**Pn**	**13 47 39.0**	**-1.0**
CO02				*eS*		**Sn**	**13 48 11.7**	**-4.2**
AROD	**Rodeo**	**3.23**	**123**	*eP*		**Pn**	**13 47 43.7**	**+1.5**
AROD				*eS*		**Sn**	**13 48 22.3**	**+2.5**
ACDV	**Cuesta del Vie**	**3.50**	**120**	*eP*		**Pn**	**13 47 48.4**	**+2.7**
ACDV				IAML			13 48 40.1	
	comp=Z,130nm,1.3s							
ACCO	**Cerro Coronel**	**3.75**	**125**	*eP*		**Pn**	**13 47 51.8**	**+2.4**
ACCO				*eS*		**Sn**	**13 48 36.4**	**+3.7**
ACCO				IAML			13 48 45.0	
	comp=Z,190nm,0.3s							
AGUA	**GUANDACOL**	**3.75**	**107**	*eP*		**Pn**	**13 47 52.2**	**+3.0**
AGUA				*eS*		**Sb**	**13 48 39.3**	**-4.7**
AGUA				IAML			13 48 45.4	
	comp=Z,161nm,1.6s							
VCA	**Vinchina**	**3.88**	**95**	*eP*		**Pn**	**13 47 54.4**	**+3.3**
VCA				*eS*		**Sb**	**13 48 42.2**	**-5.6**
VCA				IAML			13 48 48.5	
	comp=Z,142nm,0.3s							
GO02	**Mina Guanaco**	**4.24**	**40**			**Pn**	**13 47 54.6**	**-1.6**
GO02	**Mina Guanaco**	**4.24**	**40**	*eP*		**Pn**	**13 47 54.4**	**-1.7**
GO02				*i S*		**Sn**	**13 48 42.5**	**-2.4**
GO02	**Mina Guanaco**	**4.24**	**40**	*eP*		**Pn**	**13 47 54.4**	**-1.7**
GO02				*eS*		**Sn**	**13 48 42.4**	**-2.4**
VA06	**Catapilco**	**4.25**	**165**			**Pn**	**13 47 54.2**	**-1.7**
VA06	**Catapilco**	**4.25**	**165**	*eS*		**Sn**	**13 48 38.4**	**-6.1**
PB14	**IPOC Station P**	**4.29**	**28**			**Pn**	**13 47 53.6**	**-3.2**
RTLS	**Leoncito**	**4.40**	**140**	*eP*		**Pn**	**13 48 00.2**	**+1.9**
RTLS				*eS*		**Sn**	**13 48 52.0**	**+3.3**
RTLS				IAML			13 48 54.2	
	comp=Z,377nm,0.6s							
RTLL	**Cerro Villicun**	**4.60**	**130**	*eP*		**Pn**	**13 48 02.4**	**+1.7**
RTLL				*eS*		**Sn**	**13 48 56.2**	**+3.1**
RTLL				IAML			13 48 59.9	
	comp=Z,107nm,0.5s							
VA03	**San Esteban**	**4.65**	**158**			**Pn**	**13 48 00.5**	**-1.0**
VA03	**San Esteban**	**4.65**	**158**	*eP*		**Pn**	**13 48 01.7**	**+0.2**
VA03				*eS*		**Sn**	**13 48 55.0**	**+0.5**
VA03				IAML			13 48 59.2	
	comp=Z,161nm,0.3s							
AUSP	**Uspallata**	**4.68**	**144**	*eP*		**Pn**	**13 48 04.2**	**+2.1**
AUSP				*eS*		**Sn**	**13 48 58.8**	**+3.3**
ROC1	**El Roble**	**4.71**	**163**			**Pn**	**13 48 00.3**	**-2.3**
ROC1	**El Roble**	**4.71**	**163**	*eP*		**Pn**	**13 48 01.5**	**-1.0**
ROC1				*eS*		**Sn**	**13 48 52.3**	**-4.0**
RTCV	**Cerro Valdivia**	**4.90**	**135**	*eP*		**Pn**	**13 48 07.6**	**+2.7**
RTCV				*eS*		Sn	13 48 48.1	-12
CFA	**Coronel Fontan**	**4.92**	**131**	*eP*		Pn	13 47 57.6	-7.7
CFA				IAML			13 49 05.5	
	comp=Z,49nm,0.3s							
CFA	**Coronel Fontan**	**4.92**	**131**			**Pn**	**13 48 06.8**	**+1.6**
	comp=Z,48nm,0.3s,baz=306,slow=13							
CFA					Sn	**Sn**	**13 49 01.2**	**0.0**
	comp=Z,14nm,0.3s,baz=72,slow=19,SNR=3.2							
MT02	**Curacav**	**4.96**	**166**		Pn	**Pn**	**13 48 04.5**	**-1.2**
PEL	**Peldehue**	**4.96**	**161**	*eP*		**Pn**	**13 48 05.2**	**-0.6**
PEL				*eS*		**Sn**	**13 49 04.1**	**+2.0**
AVFE	**Valle Fertil**	**5.00**	**117**	*eP*		**Pn**	**13 48 07.7**	**+1.3**
AVFE				*eS*		**Sn**	**13 49 03.9**	**+0.7**
AVFE				IAML			13 49 08.4	
	comp=Z,108nm,0.7s							
ACLC	**CERRO LA CRUZ**	**5.05**	**102**	*eP*		**Pn**	**13 48 05.8**	**+1.3**
ACLC				IAML			13 49 35.4	
	comp=Z,46nm,0.8s							
ASAL	**Salagasta**	**5.26**	**143**	*eP*		**Pn**	**13 48 12.1**	**+2.2**
ASAL				IAML			13 49 35.8	
	comp=Z,55nm,0.9s							
VA05	**Santo Domingo**	**5.26**	**171**	Pn		Pn	**13 48 08.1**	**-1.7**
MT03	**Universidad Ad**	**5.34**	**161**	Pn		**Pn**	**13 48 10.2**	**-0.8**
ARCO	**CERRO ARCO**	**5.40**	**145**	*eP*		**Pn**	**13 48 15.3**	**+3.4**
ARCO				IAML			13 49 40.1	
	comp=Z,77nm,1.1s							
MT09	**Talagante**	**5.49**	**166**			**Pn**	**13 48 12.3**	**-0.8**
MT01	**Popeta**	**5.52**	**168**			**Pn**	**13 48 12.6**	**-0.8**
MT13	**San Alfonso**	**5.64**	**160**			**Pn**	**13 48 15.2**	**+0.1**
AAGR	**Agrelo**	**5.65**	**146**	*eP*		**Pn**	**13 48 19.2**	**+3.9**
AAGR				IAML			13 49 50.0	
	comp=Z,63nm,1.1s							
LMEL	**Las Melosas**	**5.76**	**160**			**Pn**	**13 48 16.9**	**+0.1**
BO04	**La Punta**	**5.78**	**163**			**Pn**	**13 48 14.4**	**-2.6**
ACHE	**Chepes**	**5.83**	**119**	*eP*		**Pn**	**13 48 19.0**	**+1.2**
ACHE				*eS*		**Sn**	**13 49 25.0**	**+1.3**
PB15	**IPOC Station P**	**5.94**	**29**			**Pn**	**13 48 18.1**	**-1.2**
PB05	**IPOC Station P**	**5.98**	**22**			**Pn**	**13 48 16.1**	**-3.8**
CYA	**Choya**	**6.00**	**92**	*eP*		**Pn**	**13 48 20.8**	**+0.8**
CYA				*eS*		**Sn**	**13 49 28.1**	**+0.5**
CYA				IAML			13 49 29.4	
	comp=Z,28nm,0.7s							
BO01	**Tunca**	**6.06**	**168**			**Pn**	**13 48 19.7**	**-1.2**
FSA	**Cafayete**	**6.34**	**70**	*eP*		**Pn**	**13 48 28.7**	**+3.8**
PB06	**IPOC Station P**	**6.34**	**26**	Pn		**Pn**	**13 48 22.3**	**-2.6**
BO02	**Sierra Bellavi**	**6.51**	**167**			**Pn**	**13 48 26.4**	**-0.7**
GO05	**Huala**	**6.56**	**175**	Pn		**Pn**	**13 48 26.1**	**-1.6**
AHML	**Horco Molle**	**6.67**	**77**	*eP*		**Pn**	**13 48 30.5**	**+1.3**
LVC	**Limon Verde**	**6.71**	**31**			**Pn**	**13 48 27.6**	**-2.5**
LVC	**Limon Verde**	**6.71**	**31**	Pn		**Pn**	**13 48 29.2**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=200,slow=10,SNR=14							
LVC					Sn	**Sn**	**13 49 42.2**	**-3.4**
	comp=Z,1.6nm,0.3s,baz=65,slow=19,SNR=1.9							
LVC					LR	LR	13 51 03.7	
	comp=Z,75nm,18.8s,baz=204,slow=37							
	comp=Z,5.5nm,0.3s							
PB07	**IPOC Station P**	**7.14**	**21**			**Pn**	**13 48 32.8**	**-3.0**
PB09	**IPOC Station P**	**7.29**	**25**			**Pn**	**13 48 35.9**	**-2.1**
H03N1	**Juan Fernandez**	**7.35**	**226**	Pn		Pn	13 48 35.2	-3.0
H03N2	**Juan Fernandez**	**7.36**	**226**	Pn		Pn	13 48 35.2	-3.2
H03N3	**Juan Fernandez**	**7.37**	**226**	Pn		Pn	13 48 34.9	-3.6
VA04	**Juan Fernndez**	**7.43**	**224**	Pn		Pn	13 48 35.2	-4.4
PB02	**IPOC Station P**	**7.52**	**20**			**Pn**	**13 48 38.0**	**-3.0**
TCA	**Tanti**	**7.53**	**114**	*eP*		**Pn**	**13 48 40.4**	**-0.7**
TCA				*eS*		**Sn**	**13 50 02.6**	**-2.9**
TCA				IAML			13 50 51.4	
	comp=Z,26nm,0.9s							
H03S3	**Juan Fernandez**	**7.60**	**224**	Pn		Pn	13 48 37.1	-4.6
H03S1	**Juan Fernandez**	**7.61**	**224**	Pn		Pn	13 48 37.1	-4.8
H03S2	**Juan Fernandez**	**7.62**	**224**	Pn		Pn	13 48 37.2	-4.7
PB01	**IPOC Station P**	**7.90**	**22**			**Pn**	**13 48 42.9**	**-3.3**
PATCX	**Punta Patache**	**7.92**	**17**	Pn		**Pn**	**13 48 42.6**	**-3.8**
TA01	**Diego Aracena**	**8.16**	**16**	Pn		**Pn**	**13 48 47.7**	**-1.9**
PB08	**IPOC Station P**	**8.85**	**22**	Pn		**Pn**	**13 48 58.1**	**-1.4**
PB11	**IPOC Station P**	**9.06**	**18**	Pn		**Pn**	**13 48 59.5**	**-2.6**
GO01	**Chusmiza**	**9.28**	**20**	Pn		**Pn**	**13 49 02.8**	**-2.7**
PB12	**IPOC Station P**	**10.01**	**13**	Pn		**Pn**	**13 49 12.6**	**-2.6**
PB16	**IPOC Station P**	**10.46**	**16**	Pn		**Pn**	**13 49 19.4**	**-2.4**
PLCA	**Paso Flores**	**12.37**	**173**	Pn		**Pn**	**13 49 45.2**	**-2.1**
PLCA	**Paso Flores**	**12.37**	**173**	Pn		**Pn**	**13 49 45.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=336,slow=13,SNR=5.1							
	comp=Z,0.6nm,0.5s							
LPAZ	**La Paz**	**12.79**	**20**	Pn		**Pn**	**13 49 50.2**	**-3.5**
LL05	**Los Muermos**	**12.94**	**183**	Pn		**Pn**	**13 49 54.1**	**-1.0**
TRQA	**Tornquist**	**13.06**	**140**	Pn		**Pn**	**13 49 54.6**	**-2.2**
SIV	**San Ignacio**	**16.35**	**43**	Pn		**Pn**	**13 50 38.9**	**-1.8**
	baz=240,slow=9.5,SNR=5.1							
ITAB	**Concordia**	**18.15**	**91**	P		**Pn**	**13 51 01.3**	**-1.8**
ITAB				IAmb		IAmb	13 51 12.2	
	comp=Z,47nm,1.5s							
SAML	**Samuel**	**21.34**	**26**	P		**P**	**13 51 36.8**	**-1.1**
BDFB	**Brasilia**	**26.06**	**66**	P		**P**	**13 52 24.2**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=219,slow=15,SNR=3.6							
	comp=Z,2.2nm,0.5s							
SNAA	**Sanae**	**56.91**	**159**	P		**P**	**13 56 34.6**	**-0.5**
SNAA				IAmb		IAmb	13 57 16.9	
	comp=Z,9.1nm,1.5s							
QSPA	**South Pole Qui**	**61.77**	**180**	P		**P**	**13 57 09.3**	**+0.5**
QSPA	**South Pole Qui**	**61.77**	**180**	P		**P**	**13 57 09.9**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=205,slow=2.2,SNR=8.7							
	comp=Z,2.3nm,0.8s							
TXAR	**Lajitas Array**	**64.68**	**330**	P		**P**	**13 57 30.9**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=154,slow=9.3,SNR=12							
TXAR				pP		**sP**	**13 57 39.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=149,slow=8.7,SNR=4.3							
	comp=Z,0.5nm,0.5s							
DBIC	**Dimbokro**	**73.95**	**73**	P		**P**	**13 58 27.4**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=214,slow=7.5,SNR=4.3							
DBIC				pP		**pP**	**13 58 35.8**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=237,slow=6.4,SNR=2.9							
	comp=Z,2.9nm,0.8s							
PDAR	**Pinedale Array**	**78.60**	**333**	P		**P**	**13 58 54.2**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=131,slow=6.4,SNR=4.8							
PDAR				pP		**sP**	**13 59 03.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=128,slow=4.0,SNR=3.6							
	comp=Z,0.3nm,0.5s							
NVAR	**Mina Array Bea**	**79.06**	**325**	P		**P**	**13 58 57.9**	**+3.1**
	comp=Z,0.3nm,0.2s,baz=179,slow=5.4,SNR=3.0							
NVAR				pP		**sP**	**13 59 06.6**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=149,slow=3.1,SNR=4.0							
	comp=Z,0.3nm,0.2s							
ULM	**Lac du Bonnet**	**81.03**	**345**	P		**P**	**13 59 06.4**	**+1.6**
	comp=Z,1.5nm,0.4s,baz=140,slow=2.3,SNR=5.7							
	comp=Z,1.5nm,0.4s							
TOA0	**Torodi Ar. Sit**	**82.82**	**71**	P		**P**	**13 59 14.7**	**-0.4**
TOA0				IAmb		IAmb	13 59 25.7	
	comp=Z,3.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.82**	**71**	P		**P**	**13 59 14.1**	**-1.0**
TORD				IAmb		IAmb	13 59 25.7	
	comp=Z,3.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.82**	**71**	P		**P**	**13 59 16.1**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=274,slow=4.1,SNR=9.8							
TORD				pP		**sP**	**13 59 25.5**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=266,slow=3.5,SNR=9.0							
	comp=Z,1.8nm,0.6s							
ASAR	**Alice Springs**	**122.23**	**209**	PKP		**PKPdf**	**14 05 46.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=116,slow=1.8,SNR=8.7							
ASAR				pPKP		**pPKPdf**	**14 05 55.2**	**+1.0**
	comp=Z,2.1nm,1.3s,baz=153,slow=0.6,SNR=2.8							
KURBB	**Kurchatov Arra**	**148.94**	**37**	PKPbc		**PKPbc**	**14 06 39.7**	**+2.0**
	comp=Z,1.2nm,0.5s,baz=302,slow=3.3,SNR=14							
KURBB				pPKPbc		**pPKPbc**	**14 06 48.5**	**+2.2**
	comp=Z,1.6nm,0.5s,baz=303,slow=3.2,SNR=8.6							
ZALV	**Zalesovo Beam**	**149.65**	**27**	PKPbc		**PKiKP**	**14 06 41.4**	**+1.0**
	comp=Z,4.2nm,0.5s,baz=304,slow=3.3,SNR=18							
ZALV				pPKPbc		**pPKPbc**	**14 06 49.9**	**+2.0**
	comp=Z,4.3nm,0.5s,baz=325,slow=7.2,SNR=8.6							
MKAR	**Makanchi Array**	**153.16**	**40**	PKPbc		**PKiKP**	**14 06 49.4**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=296,slow=1.9,SNR=7.6							
MKAR				pPKPbc		**pPKPbc**	**14 06 58.1**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=313,slow=1.7,SNR=6.2							

*IDC **18** 14:10:10.0±3.5,29.92N×132.00E,h0km,mb3.5/4, mbtmp3.5/5,ML3.0/1,Error ellipse: s-maj=102.1km s-min=43.9km azr=20.0*
*JMA **18** 14:10:19.8±0.2,30.1N±0.6×131.3E±0.8,h26km±1km, MV3.1/26,E OFF TANEGASHIMA ISLAND*
ISC 18 14:10:16.8±2.7,30.12N±0.07×131.5E±0.1,h14km±13km, n18,σ0.88/23,mb3.5/4,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.56**	**300**	*i* P		**Pb**	**14 10 28.8**	**+0.4**
JMTN				S		**Sg**	**14 10 35.0**	**-0.2**
JTN	**Tanegashima 3**	**0.68**	**323**	*i* P		**Pb**	**14 10 31.4**	**+1.1**
JTN				*eS*		**Sg**	**14 10 39.6**	**+0.7**
JYAK	**Yakushimahirau**	**0.83**	**279**	*i* P		**Pb**	**14 10 33.1**	**+0.2**
JYAK				S		**Sg**	**14 10 43.2**	**-0.6**
JKC	**Kuchinoerabu**	**1.14**	**288**	P		**Pb**	**14 10 38.6**	**+0.3**
JTSR	**Tashiro 2**	**1.14**	**336**	P		**Pn**	**14 10 39.0**	**+0.6**
JNN	**Nakanoshima**	**1.40**	**259**	*eP*		**Pb**	**14 10 42.5**	**-0.2**
JNAR	**Kushima--Naru**	**1.41**	**354**	P		**Pg**	**14 10 43.8**	**-0.3**
JNKG	**Nichinankitago**	**1.54**	**358**	P		**Pg**	**14 10 45.8**	**-0.7**
JNKG				*eS*		**Sb**	**14 11 05.4**	**+0.9**
JSU	**Suzuyama**	**1.63**	**328**	P		**Pn**	**14 10 45.7**	**+0.6**
JTAJ	**Takarajima**	**2.18**	**244**	*eP*		**Pn**	**14 10 53.9**	**+1.2**
JAM	**Amami Oshima**	**2.34**	**224**	*eP*		**Pn**	**14 10 56.1**	**+1.2**
JAMN	**Amaminishikomi**	**2.73**	**227**	P		**Pn**	**14 11 01.5**	**+1.3**
JAMN				S		**Sn**	**14 11 32.8**	**-0.2**
JTK	**Tokunoshima**	**3.19**	**224**	P		**Pn**	**14 11 08.0**	**+1.4**
JTK				S		**Sn**	**14 11 44.8**	**+0.3**
KSRS	**Korea Array**	**7.89**	**339**	Pn		**Pn**	**14 12 11.5**	**+0.5**
	0.2nm,0.3s,baz=154,slow=15,SNR=2.2							
	0.5nm,0.4s							
SONM	**Songino Array**	**26.14**	**320**	P		**P**	**14 15 48.8**	**-1.8**
	0.3nm,0.4s,baz=139,slow=9.0,SNR=2.0							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**41.23**	**308**	P		**P**	**14 18 00.6**	**-0.7**
	0.2nm,0.5s,baz=98,slow=8.2,SNR=2.8							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**49.38**	**316**	P		**P**	**14 19 05.6**	**-0.2**
	1.0nm,0.8s,baz=95,slow=8.7,SNR=5.5							
	1.0nm,0.8s							
NVAR	**Mina Array Bea**	**85.78**	**48**	P		P	14 22 50.5	-5.6
	0.2nm,0.4s,baz=287,slow=7.4,SNR=2.1							
	0.2nm,0.4s							

*SJA **18** 14:15:35.4±0.8,31.01S×71.56W,h25km±3km,ML3.3, MW3.5*
*GUC **18** 14:15:37.8±0.5,31.08S×71.44W,h52km±1km,ML3.3*
ISC 18 14:15:37.8±1.4,31.02S±0.02×71.57W±0.05,h26km±13km, n43,σ1.66/75,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.35**	**351**	⇓*iP*		**Pn**	**14 15 48.1**	**+0.9**
CO06				*i S*		**Sn**	**14 15 56.0**	**+2.6**
CO06				IAML			14 15 57.8	
	comp=N,3µm,0.3s							
CO02	**Combarbal**	**0.53**	**111**	⇑*iP*		**Pb**	**14 15 47.9**	**-0.7**
CO02				*i S*		**Sb**	**14 15 55.4**	**-0.5**
CO03	**El Pedregal**	**0.78**	**77**	*eP*		**Pn**	**14 15 51.2**	**-2.1**
CO03				*eS*		**Sn**	**14 16 01.9**	**-2.3**
CO03				IAML			14 16 02.6	
	comp=Z,951nm,0.1s							
CO03	**El Pedregal**	**0.78**	**77**	⇓*iP*		**Pn**	**14 15 51.5**	**-1.8**
CO03				*i S*		**Sn**	**14 16 01.7**	**-2.5**
GO04	**Tololo Observa**	**1.08**	**39**	*eP*		Pn	14 15 51.2	-6.3
GO04				*eP*		**Pn**	**14 15 56.1**	**-1.3**
GO04				*eS*		**Sn**	**14 16 11.0**	**-0.7**
GO04				IAML			14 16 14.2	
	comp=Z,1µm,0.3s							
GO04	**Tololo Observa**	**1.08**	**39**	⇓*iP*		**Pn**	**14 15 56.7**	**-0.8**
GO04				*i S*		**Sn**	**14 16 10.0**	**-1.7**
CO05	**La Serena**	**1.14**	**151**	*eP*		**Pn**	**14 15 58.4**	**+0.3**
CO05				*i S*		**Sb**	**14 16 13.9**	**+0.7**
VA06	**Catapilco**	**1.55**	**171**	⇑*iP*		**Pn**	**14 16 01.9**	**-1.9**
CO01	**Juntas del Tor**	**1.65**	**51**	*eP*		**Pn**	**14 16 05.3**	**0.0**
CO01				*eS*		**Sn**	**14 16 25.9**	**+0.1**
CO01				IAML			14 16 25.9	
	comp=Z,282nm,0.3s							
CO01	**Juntas del Tor**	**1.65**	**51**	⇓*iP*		**Pn**	**14 16 05.1**	**-0.3**
CO01				*i S*		**Sn**	**14 16 25.4**	**-0.4**
CO01				IAML			14 16 26.2	
	comp=N,404nm,0.3s							
VA03	**San Esteban**	**1.94**	**154**	*eP*		**Pn**	**14 16 07.8**	**-1.5**
VA03				*eS*		**Sn**	**14 16 33.2**	**+0.3**
VA03				IAML			14 16 39.9	
	comp=Z,215nm,0.3s							
VA03	**San Esteban**	**1.94**	**154**	*eP*		**Pn**	**14 16 07.7**	**-1.6**
AROD	**Rodeo**	**2.00**	**65**	*eP*		**Pn**	**14 16 11.4**	**+1.1**
AROD				*eS*		**Sn**	**14 16 30.7**	**-4.0**
ROCH	**El Roble**	**2.00**	**166**	*eP*		**Pn**	**14 16 08.5**	**-1.7**
ROCH				*i S*		**Sn**	**14 16 33.9**	**-0.7**
ROCH				IAML			14 16 37.6	
	comp=N,446nm,0.4s							
RTLS	**Leoncito**	**2.10**	**112**	*eP*		**Pn**	**14 16 12.0**	**+0.5**
RTLS				*eS*		**Sn**	**14 16 38.7**	**+1.8**
RTLS				IAML			14 16 43.5	
	comp=Z,418nm,0.9s							
DOCA	**Reserva Natura**	**2.14**	**89**	*eP*		**Pn**	**14 16 11.8**	**-0.4**
DOCA				*eP*		**Pn**	**14 16 12.6**	**+0.3**
DOCA				*eS*		**Sb**	**14 16 48.0**	**+5.5**
DOCA				IAML			14 16 48.1	
	comp=Z,190nm,0.6s							
LCO	**Las Campanas**	**2.14**	**21**	*eP*		**Pn**	**14 16 11.8**	**-0.3**
LCO				*eP*		**Pn**	**14 16 12.6**	**+0.4**
LCO				*eS*		**Sn**	**14 16 33.2**	**-4.8**
LCO				*eS*		**Sn**	**14 16 39.4**	**+1.4**
LCO				IAML			14 16 47.3	
	comp=Z,203nm,0.3s							
LCO	**Las Campanas**	**2.14**	**21**	*eP*		**Pn**	**14 16 12.4**	**+0.3**
LCO				*i S*		**Sn**	**14 16 38.0**	**+0.1**
ACCO	**Cerro Coronel**	**2.20**	**79**	*eP*		**Pn**	**14 16 14.2**	**+1.2**
ACCO				*eS*		Sn	14 16 27.4	-12
PEL	**Peldehue**	**2.25**	**161**	*eP*		**Pn**	**14 16 12.6**	**-0.8**
PEL				*i S*		**Sn**	**14 16 40.3**	**0.0**
MT02	**Curacav**	**2.26**	**171**	*eP*		**Pn**	**14 16 12.1**	**-1.5**
MT02				*eS*		**Sn**	**14 16 42.4**	**+1.7**
MT02	**Curacav**	**2.26**	**171**	*eP*		**Pn**	**14 16 11.6**	**-2.0**
MT02				*i S*		**Sn**	**14 16 40.6**	**0.0**
MT05	**Renca**	**2.47**	**164**	*eP*		**Pn**	**14 16 15.9**	**-0.6**
MT05				*eS*		**Sn**	**14 16 49.7**	**+3.9**
MT05				IAML			14 16 57.2	
	comp=Z,80nm,0.2s							
MT05	**Renca**	**2.47**	**164**	*eP*		**Pn**	**14 16 15.4**	**-1.1**
MT14	**Cerro Cal¡n**	**2.53**	**160**	*eP*		**Pn**	**14 16 17.9**	**+0.6**
MT14				IAML			14 16 57.2	
	comp=E,263nm,0.4s							
FCH	**Farellones**	**2.54**	**155**	*eP*		**Pn**	**14 16 17.0**	**-0.8**
MT03	**Universidad Ad**	**2.63**	**160**	*eP*		**Pn**	**14 16 18.2**	**-0.4**
MT03				*eS*		**Sn**	**14 16 51.4**	**+1.7**
MT03				IAML			14 16 56.3	
	comp=Z,182nm,0.1s							
VA05	**Santo Domingo**	**2.63**	**181**	*eP*		**Pn**	**14 16 19.6**	**+1.0**
MT04	**Ro Olivares**	**2.67**	**153**	*eP*		**Pn

TUWZ	**Tuamarina**	**34.93**	**159**	P	**P**	**14 23 27.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**35.16**	**159**	P	**P**	**14 23 30.3**	**+0.2**
BHW	**Baring Head**	**35.25**	**158**	P	**P**	**14 23 32.3**	**+1.4**
KAPI	**Kappang**	**38.18**	**274**	LR	LR	14 39 30.2	
	comp=Z,141nm,21.7s,baz=56,slow=36						
PSA00	**Pilbara Seismi**	**38.63**	**247**	P	**P**	**14 23 59.8**	**-0.2**
PSA00				IAmb	IAmb	14 24 41.8	
	comp=Z,7.6nm,1.2s						
TGY	**Tagaytay City**	**43.53**	**302**	LR	LR	14 41 09.6	
	comp=Z,97nm,19.4s,baz=120,slow=34						
NACB	**Ningaanchiao**	**48.72**	**314**	P	**P**	**14 25 20.7**	**-0.4**
PETK	**Petropavlovsk-**	**62.19**	**360**	P	**P**	**14 26 57.1**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=161,slow=6.3,SNR=2.5						
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**64.48**	**296**	P	**P**	**14 27 12.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=106,slow=5.7,SNR=1.3						
	comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**72.91**	**326**	P	**P**	**14 28 06.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=141,slow=7.8,SNR=1.9						
	comp=Z,0.2nm,0.3s						
PALK	**Pallekele**	**78.76**	**279**	LR	LR	15 05 56.6	
	comp=Z,29nm,19.3s,baz=196,slow=38						
QSPA	**South Pole Qui**	**80.66**	**180**	P	**P**	**14 28 48.3**	**-0.9**
QSPA				IAmb	IAmb	14 29 11.8	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**84.47**	**21**	P	**P**	**14 29 09.4**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=237,slow=5.3,SNR=1.9						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**87.12**	**318**	P	**P**	**14 29 23.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=94,slow=5.2,SNR=6.4						
	comp=Z,0.5nm,0.6s						

*HEL **18** 14:16:40.1±0.1,67.62N×33.77E,h0km,ML2.3,Suspected explosion*
*KOLA **18** 14:16:40.8,67.66N×33.74E,h0km,ML2.6,Error ellipse: s-maj=3.6km s-min=1.3km az=150.0,Khibiny, mines Kirovsk, Yukspor*

ISC 18 14:16:39.5±0.9,67.64N±0.05×33.76E±0.04,h0km,n25,
σ1s45/43,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.15**	**244**	P	**Pg**	**14 16 43.7**	**+1.3**
APA				S	**Sg**	**14 16 46.2**	**+1.9**
APA0	**Apatity Array**	**0.29**	**265**	P	**Pg**	**14 16 45.9**	**+0.8**
APA0				S	**Sg**	**14 16 49.9**	**+1.0**
LVZ	**Lovozero**	**0.43**	**52**	P	**Pg**	**14 16 48.4**	**+0.7**
LVZ				S	**Sg**	**14 16 54.2**	**+0.9**
LVZ	**Lovozero**	**0.43**	**52**	PG	**Pg**	**14 16 47.9**	**+0.2**
LVZ				SG	**Sg**	**14 16 54.0**	**+0.8**
VRF	**Varrio**	**1.59**	**276**	PG	**Pn**	**14 17 08.6**	**-0.2**
VRF				MSG		14 17 27.8	
	comp=Z,41nm,0.2s						
VRF				SG	**Sn**	**14 17 29.1**	**-1.0**
TERR	**Teriberka**	**1.65**	**17**	P	**Pn**	**14 17 09.6**	**-0.1**
TERR				S	**Sn**	**14 17 30.8**	**-0.8**
OLKF	**Oulanka, Finla**	**2.16**	**234**	PG	**Pb**	**14 17 18.7**	**-0.8**
OLKF				MSG		14 17 43.9	
	comp=Z,16nm,0.2s						
KU6	**Riekki**	**2.23**	**225**	PG	**Pb**	**14 17 19.7**	**-0.9**
	baz=45						
KU6				MSG		14 17 45.7	
	comp=Z,15nm,0.2s						
SGF	**Sodankyl**	**2.79**	**269**	PN	**Pn**	**14 17 25.9**	**+0.6**
	baz=81						
SGF				SG	**Sb**	**14 18 04.0**	**-0.7**
VADS	**Vadso**	**2.96**	**329**	P	**Pn**	**14 17 28.1**	**+0.4**
VADS				S	**Sn**	**14 18 03.4**	**-0.5**
RNF	**Rovaniemi**	**3.20**	**255**	PN	**Pn**	**14 17 31.7**	**+0.8**
	baz=67						
RNF				SN	**Sn**	**14 18 11.2**	**+1.5**
KEV	**Kevo**	**3.26**	**314**	*eP*	**Pn**	**14 17 33.8**	**+2.0**
KEV	**Kevo**	**3.26**	**314**	PN	**Pn**	**14 17 32.7**	**+0.9**
	baz=127						
KEV				SN	**Sn**	**14 18 10.9**	**-0.2**
ARA0	**ARCESS Array S**	**3.58**	**306**	*eP*	**Pn**	**14 17 36.6**	**+0.4**
ARA0	**ARCESS Array S**	**3.58**	**306**	PG	**Pb**	**14 17 45.3**	**+1.7**
	baz=120						
ARA0				SN	**Sn**	**14 18 17.5**	**-1.6**
ARCES	**ARCESS Array B**	**3.58**	**306**	P	**Pn**	**14 17 36.3**	**+0.1**
ARCES				S	**Sn**	**14 18 17.8**	**-1.3**
RMF	**Romuvaara**	**3.77**	**206**	PN	**Pn**	**14 17 40.0**	**+1.1**
HEF	**Hetta**	**3.88**	**286**	PN	**Pn**	**14 17 40.5**	**+0.2**
HEF				SN	**Sn**	**14 18 25.0**	**-1.4**
TOF	**Tornio**	**4.04**	**252**	PN	**Pn**	**14 17 43.1**	**+0.7**
TOF				SN	**Sn**	**14 18 30.0**	**-0.3**
OUL	**Oulu**	**4.07**	**235**	PB	**Pb**	**14 17 49.8**	**-2.2**
	baz=47						
KTK1	**Kautokeino**	**4.14**	**294**	PN	**Pn**	**14 17 44.3**	**+0.4**
KTK1				SN	**Sn**	**14 18 31.0**	**-2.0**
LANU	**Lannavaara**	**4.47**	**281**	PN	**Pn**	**14 17 48.4**	**-0.1**
	baz=94						
LANU				SN	**Sn**	**14 18 40.8**	**-0.4**
KALU	**Kalix**	**4.49**	**251**	PN	**Pn**	**14 17 50.7**	**+2.0**
KALU				SN	**Sn**	**14 18 40.8**	**-0.7**
FAUS	**Fauske**	**7.08**	**277**	P	**Pn**	**14 18 23.1**	**-1.2**
FAUS				S	**Sn**	**14 19 40.9**	**-4.5**
FAUS	**Fauske**	**7.08**	**277**	*e*Sg	**Sn**	**14 19 41.3**	**-4.1**

BER 18 14:18:05.6±1.2,64.49N×12.96E,h0km,ML1.1,
Suspected explosion,Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NSS	**Namsos**	**0.43**	**276**	*eP*	Pg	14 18 13.1	-0.7
NSS				*eS*	Sg	14 18 19.1	-0.3
NSS				*i* Sg	Sb	14 18 19.3	-3.7
NSS				IAML		14 18 20.5	
	comp=Z,6.6nm,0.2s						
MOR8	**Moi Rana**	**1.80**	**20**	IAML		14 19 12.3	
	comp=Z,2.8nm,0.5s						
MOR8	**Moi Rana**	**1.80**	**20**	*eP*	Pb	14 18 38.9	-0.5
KONS	**Konsvik**	**2.02**	**2**	IAML		14 19 10.5	
	comp=Z,5.1nm,0.7s						
KONS	**Konsvik**	**2.02**	**2**	*eP*	Pn	14 18 38.0	-2.9
KONS	**Konsvik**	**2.02**	**2**	*eS*	Sn	14 19 03.3	-3.5

*DJA **18** 14:30:53.5±0.4,4°S±3°×13°2E±°,h101km±9km,M3.9/8, mb3.8/4,MLv3.9/8*

ISC 18 14:30:54.8±1.1,3.92S±0.06×131.62E±0.06,h50km,n15,
σ1s99/17,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.17**	**32**	P	**Pn**	**14 31 17.8**	**+2.9**
FAKI	**Fak Fak**	**1.17**	**32**	P	**Pn**	**14 31 17.7**	**+2.9**
FAKI				S	**Sn**	**14 31 29.2**	**-0.5**
BNDI	**Bandanaira**	**1.81**	**251**	P	**Pn**	**14 31 26.6**	**+3.0**
BNDI	**Bandanaira**	**1.81**	**251**	P	**Pn**	**14 31 25.0**	**+1.4**
KMPI	**Kaimana, Papua**	**2.09**	**83**	P	**Pn**	**14 31 25.9**	**-1.5**
SIJI	**Sorong**	**3.05**	**353**	P	**Pn**	**14 31 40.9**	**+0.4**
SIJI				S	**Sn**	**14 32 14.5**	**-1.3**
SWI	**Sorong**	**3.05**	**353**	P	**Pn**	**14 31 41.1**	**+0.5**
SWI				S	**Sn**	**14 32 13.8**	**-2.1**
KRAI	**Karang Ratu**	**3.27**	**280**	P	**Pn**	**14 31 45.3**	**+1.7**
NLAI	**Namlea**	**4.56**	**278**	P	**Pn**	**14 32 02.1**	**+0.8**
LBMI	**Labuha**	**5.25**	**308**	P	**Pn**	**14 32 11.6**	**+0.9**
SANI	**Sanana**	**5.92**	**288**	P	**Pn**	**14 32 17.3**	**-2.7**
KDU	**Kakadu**	**8.76**	**175**	P	**Pn**	**14 33 00.0**	**+1.2**
MTN	**Manton Dam**	**8.88**	**183**	P	**Pn**	**14 33 02.8**	**+2.2**
LUWI	**Luwuk**	**9.29**	**288**	P	Pn	14 33 00.0	-6.1
KNRA	**Kununurra**	**12.02**	**193**	P	**Pn**	**14 33 42.9**	**-0.6**

*DJA **18** 14:31:56.1±0.4,1°N±4°×12°6E±°,h43km±25km,M4.4/13, mb4.7/6,mB4.8/1,MLv4.3/13,Mw(mB)4.1/1*
*NEIC **18** 14:31:57.4±2.3,0.68N±0.09×126.56E±0.05,h42km±8km, mb4.6/37,Error ellipse: s-maj=12.5km s-min=7.3km az=177.0*
*IDC **18** 14:31:58.1±2.8,0.64N×126.42E,h53km±26km,mb3.8/12, mbtmp4.1/13,ML4.3/1,MS3.4/3,Error ellipse: s-maj=26.0km s-min=12.3km az=75.0*

ISC 18 14:31:57.1±0.5,0.67N±0.05×126.48E±0.05,h47km,n81,
σ1s98/84,mb4.5/32,MS3.3/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.90**	**84**		**Pn**	**14 32 12.3**	**-1.1**
TNTI				Sn	**Sn**	**14 32 22.7**	**-2.6**
TNTI	**Ternate**	**0.90**	**84**	P	**Pn**	**14 32 12.5**	**-0.9**
TNTI				S	**Sn**	**14 32 25.2**	**-0.1**
TNTI	**Ternate**	**0.90**	**84**	P	**Pn**	**14 32 12.4**	**-0.9**
LBMI	**Labuha**	**1.66**	**142**	P	**Pn**	**14 32 23.2**	**-0.6**
LBMI				S	**Sn**	**14 32 44.1**	**+0.2**
KMSI	**Cibinong**	**2.50**	**268**	P	**Pn**	**14 32 34.0**	**-1.3**
SANI	**Sanana**	**2.75**	**190**	P	**Pn**	**14 32 37.2**	**-1.5**
SGSI	**Sangihe**	**3.14**	**342**	P	**Pn**	**14 32 41.8**	**-2.3**
GTOI	**Gorontalo**	**3.46**	**269**	P	**Pn**	**14 32 49.6**	**+1.0**
NLAI	**Namlea**	**3.94**	**171**	P	**Pn**	**14 32 54.3**	**-0.8**
LUWI	**Luwuk**	**4.08**	**245**		**Pn**	**14 32 57.7**	**+0.7**
LUWI	**Luwuk**	**4.08**	**245**	P	**Pn**	**14 32 59.3**	**+2.3**
KRAI	**Karang Ratu**	**4.40**	**154**	P	**Pn**	**14 33 03.4**	**+1.9**
MRSI	**Marisa**	**4.54**	**268**	P	**Pn**	**14 33 03.5**	**+0.2**
TOLI2	**Tolitoli**	**5.71**	**274**	Pn	**Pn**	**14 33 22.5**	**+3.1**
TOLI2	**Tolitoli**	**5.71**	**274**	P	Pn	14 33 25.3	+5.9
MPSI	**Mapaga**	**6.58**	**267**	P	**Pn**	**14 33 31.7**	**+0.3**
	18nm,0.8s,0.1nm						
FAKI	**Fak Fak**	**6.79**	**122**	Pn	**Pn**	**14 33 33.8**	**-0.4**
TTSI	**Tana Toraja**	**7.61**	**241**	P	**Pn**	**14 33 45.5**	**0.0**
	37nm,0.6s,0.2nm						
PMSI	**Majene**	**8.62**	**241**	P	**Pn**	**14 33 58.6**	**-0.8**
	53nm,0.9s						
BKSI	**Bulukumba**	**8.70**	**227**	P	**Pn**	**14 34 00.5**	**0.0**
	40nm,0.7s,511nm						
KAPI	**Kappang**	**8.78**	**230**	P	**Pn**	**14 34 03.1**	**+1.6**
	3.1nm,0.3s,baz=54,slow=4.9,SNR=7.5						
KAPI				S	**Sn**	**14 35 38.1**	**-1.1**
	3.4nm,0.4s,baz=99,slow=24,SNR=1.3						
	14nm,0.5s						
MKS	**Makassar**	**9.12**	**230**	P	**Pn**	**14 34 06.0**	**-0.2**
KSM	**Kuching**	**16.18**	**273**		**P**	**14 35 43.0**	**-1.0**
KNRA	**Kununurra**	**16.40**	**172**	Pn	**Pn**	**14 35 42.7**	**-1.5**
WB0	**Warramunga Arr**	**21.75**	**160**	P	**P**	**14 36 44.3**	**-0.5**
WB0				IAmb	IAmb	14 36 52.2	
	comp=Z,21nm,0.9s						
WRAB	**Tennant Creek**	**21.89**	**160**	P	**P**	**14 36 46.4**	**+0.1**
WRAB				IAmb	IAmb	14 37 00.8	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**21.89**	**160**	P	**P**	**14 36 46.3**	**-0.1**
	comp=Z,10nm,0.5s,baz=338,slow=11,SNR=26						
WB2	**Warramunga Arr**	**21.89**	**160**	P	**P**	**14 36 45.9**	**-0.5**
WB2				IAmb	IAmb	14 37 00.9	
	comp=Z,22nm,0.8s						
WR0	**Warramunga Arr**	**21.98**	**159**	P	**P**	**14 36 47.1**	**-0.2**
WR0				IAmb	IAmb	14 36 54.6	
	comp=Z,35nm,1.2s						
COEN	**Coen**	**22.02**	**132**	P	**P**	**14 36 48.5**	**+0.7**
COEN				IAmb	IAmb	14 37 05.0	
	comp=Z,34nm,1.4s						
PSA00	**Pilbara Seismi**	**23.04**	**196**	P	**P**	**14 36 57.2**	**-1.3**
PSA00				IAmb	IAmb	14 37 40.1	
	comp=Z,32nm,1.4s						
YULB	**Yu-li**	**23.14**	**348**	P	**P**	**14 36 56.9**	**-2.6**
YULB				IAmb	IAmb	14 37 23.9	
	comp=Z,26nm,1.3s						
TPUB	**Ta-pu**	**23.20**	**346**	P	**P**	**14 36 59.6**	**-0.4**
LHSI	**Lahat**	**23.37**	**259**	P	**P**	**14 37 02.7**	**+0.9**
YHNB	**Yeheng**	**24.36**	**349**	P	**P**	**14 37 11.8**	**+0.8**
AS31	**Alice Springs**	**25.25**	**164**	P	**P**	**14 37 19.7**	**+0.7**
ASAR	**Alice Springs**	**25.25**	**164**	P	**P**	**14 37 19.9**	**+0.9**
ASAR	**Alice Springs**	**25.25**	**164**	P	**P**	**14 37 19.4**	**+0.4**
	comp=Z,3.1nm,0.3s,baz=346,slow=12,SNR=44						
ASAR				PcP	**PcP**	**14 40 51.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=7.0,slow=1.7,SNR=2.0						
ASAR				ScP	**ScP**	**14 44 26.6**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=339,slow=2.8,SNR=1.9						
	comp=Z,3.1nm,0.3s						
KULM	**Kulim**	**26.19**	**281**	P	**P**	**14 37 27.3**	**-0.3**
KULM				IAmb	IAmb	14 37 48.4	
	comp=Z,18nm,1.4s						
FORT	**Forrest**	**31.32**	**177**	P	**P**	**14 38 13.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**32.30**	**305**	P	**P**	**14 38 22.1**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=126,slow=9.1,SNR=1.8						
	comp=Z,0.5nm,0.9s						
JNU	**Nakatsue**	**32.54**	**7**	LR	LR	14 51 59.5	
	comp=Z,31nm,21.6s,baz=108,slow=37						
BBOO	**Buckleboo**	**34.51**	**166**	P	**P**	**14 38 40.1**	**-0.9**
STKA	**Stephens Creek**	**35.40**	**157**	P	**P**	**14 38 47.5**	**-1.1**
STKA	**Stephens Creek**	**35.40**	**157**	P	**P**	**14 38 48.8**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=323,slow=7.5,SNR=12						
	comp=Z,3.5nm,0.6s						
KSRS	**Korea Array**	**36.62**	**2**	P	**P**	**14 38 59.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=179,slow=9.6,SNR=2.5						
	comp=Z,0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**37.31**	**16**	P	**P**	**14 39 05.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=188,slow=9.3,SNR=2.3						
MJAR				LR	LR	14 53 26.6	
	comp=Z,52nm,19.9s,baz=190,slow=34						
	comp=Z,1.2nm,0.6s						
CAN	**Canberra**	**41.53**	**152**	P	**P**	**14 39 40.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**43.62**	**6**	P	**P**	**14 39 57.5**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=178,slow=10,SNR=3.7						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**50.11**	**342**	P	**P**	**14 40 49.2**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=164,slow=9.2,SNR=5.2						
	comp=Z,1.1nm,0.7s						
MK31	**Makanchi Array**	**59.92**	**326**	P	**P**	**14 41 57.9**	**-0.6**
MK31				IAmb	IAmb	14 42 07.3	
	comp=Z,3.8nm,1.1s						
MKAR	**Makanchi Array**	**59.92**	**326**		**P**	**14 41 57.9**	**-0.6**
MKAR	**Makanchi Array**	**59.92**	**326**	P	**P**	**14 41 58.1**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=120,slow=7.6,SNR=23						
	comp=Z,1.6nm,0.4s						
MAKZ	**Makanchi**	**60.11**	**326**	P	**P**	**14 41 58.9**	**-0.9**
ZALV	**Zalesovo Beam**	**63.19**	**334**	P	**P**	**14 42 19.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=128,slow=9.6,SNR=4.4						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.17**	**328**	P	**P**	**14 42 26.5**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=130,slow=6.2,SNR=21						
	comp=Z,3.1nm,0.7s						
KURK	**Kurchatov**	**64.18**	**328**		**P**	**14 42 26.4**	**-0.5**
BVAR	**Borovoye Array**	**69.74**	**328**	P	**P**	**14 43 03.6**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=117,slow=5.0,SNR=7.1						
	comp=Z,1.5nm,0.5s						
ABKAR	**Akbulak array**	**74.35**	**321**	P	**P**	**14 43 29.4**	**-0.5**
VNDA	**Vanda**	**80.45**	**173**	P	**P**	**14 44 03.5**	**+0.1**
VNDA	**Vanda**	**80.45**	**173**	P	**P**	**14 44 03.9**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=327,slow=6.2,SNR=6.8						
	comp=Z,0.9nm,0.5s						
E18K	**Tukpahlearik C**	**82.87**	**22**	P	**P**	**14 44 17.0**	**+0.6**
E18K				IAmb	IAmb	14 44 33.4	
	comp=Z,6.0nm,0.9s						
C18K	**Utukok River**	**82.99**	**21**	P	**P**	**14 44 17.6**	**+0.5**
L18K	**Granite Mounta**	**83.28**	**27**	P	**P**	**14 44 20.0**	**+1.4**
L18K				IAmb	IAmb	14 44 26.0	
	comp=Z,7.4nm,1.1s						
J18K	**Innoko River**	**83.52**	**26**	P	**P**	**14 44 20.5**	**+0.7**
J18K				IAmb	IAmb	14 44 48.3	
	comp=Z,9.9nm,1.4s						
SVW2	**Sparrevohn**	**83.59**	**29**	P	**P**	**14 44 20.9**	**+0.7**
SVW2				IAmb	IAmb	14 44 46.0	
	comp=Z,7.9nm,1.2s						
C19K	**Lookout Ridge**	**83.68**	**20**	P	**P**	**14 44 22.5**	**+1.9**
TTA	**Tatalina**	**83.73**	**27**	P	**P**	**14 44 20.8**	**-0.2**
G19K	**Purcell Mounta**	**83.91**	**23**	P	**P**	**14 44 22.3**	**+0.5**
G19K				IAmb	IAmb	14 44 38.6	
	comp=Z,5.9nm,0.9s						
H19K	**Roundabout Mou**	**84.04**	**24**	P	**P**	**14 44 23.7**	**+1.3**
D19K	**Kuna River**	**84.05**	**21**	P	**P**	**14 44 24.2**	**+1.7**
D19K				IAmb	IAmb	14 44 28.8	
	comp=Z,3.7nm,0.9s						
N19K	**Bonanza Creek**	**84.07**	**29**	P	**P**	**14 44 24.9**	**+2.1**
N19K				IAmb	IAmb	14 44 26.6	
	comp=Z,6.7nm,0.9s						
IMAR	**Indian Mountai**	**85.22**	**24**	P	**P**	**14 44 29.6**	**+1.2**
B21K	**Ikpikpuk River**	**85.51**	**20**	P	**P**	**14 44 30.1**	**+0.3**
B21K				IAmb	IAmb	14 44 57.1	
	comp=Z,7.8nm,1.4s						
B22K	**Teshekpuk Lake**	**86.04**	**20**	P	**P**	**14 44 33.5**	**+1.2**
BMAR	**Burnt Mountain**	**88.98**	**23**	P	**P**	**14 44 46.9**	**+0.3**
KMBO	**Kilima Mbogo**	**89.24**	**269**	LR	LR	15 22 36.4	
	comp=Z,59nm,19.3s,baz=82,slow=34						
BCAR	**Beaver Creek A**	**90.20**	**27**	P	**P**	**14 44 51.7**	**-0.7**
QSPA	**South Pole Qui**	**90.60**	**180**	P	**P**	**14 44 55.1**	**+0.8**
QSPA				IAmb	IAmb	14 45 12.6	
	comp=Z,5.1nm,1.4s						
I28M	**Miner Creek**	**90.89**	**25**	P	**P**	**14 44 56.9**	**+1.2**
I28M				IAmb	IAmb	14 45 17.8	
	comp=Z,4.6nm,1.4s						

*IDC **18** 14:41:14.6±62.0,17.47S×172.66E,h0km,mb4.4/2, mbtmp4.4/2,Error ellipse: s-maj=1062.0km s-min=128.8km az=73.0*

*NEIC **18** 14:42:07.2±0.7,18.9S±0.2×169.7E±0.2,h249km±12km, mb4.3/8,Error ellipse: s-maj=26.5km s-min=17.3km az=134.0*
*NOU **18** 14:42:11.4,19.04S×169.66E,h203km,MLv3.8/8, Vanuatu Islands*

ISC 18 14:42:07.1±2.1,18.9S±0.2×169.6E±0.2,h250km,n28,
σ1s00/26,mb4.3/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.91**	**230**		**Pn**	**14 42 58.9**	**+0.3**
LIFNC				Sn	**S**	**14 43 38.1**	**-1.3**
LIFNC	**LIFOU**	**2.91**	**230**	P	**Pn**	**14 42 59.6**	**+1.0**
MARNC	**Mare, Loyalty**	**2.97**	**210**	Pn	**Pn**	**14 42 59.3**	**+0.1**
MARNC				Sn	**S**	**14 43 39.4**	**-1.0**
MARNC	**Mare, Loyalty**	**2.97**	**210**	P	**Pn**	**14 42 59.9**	**+0.7**
YATNC	**Mamie plateau,**	**4.05**	**219**	P	**Pn**	**14 43 12.1**	**+0.7**
PINNC	**Pines Island,**	**4.22**	**208**	Pn	**Pn**	**14 43 13.9**	**+0.5**
PINNC	**Pines Island,**	**4.22**	**208**	P	**Pn**	**14 43 14.7**	**+1.3**
DZM	**Mont Dzumac**	**4.33**	**223**	Pn	**Pn**	**14 43 15.6**	**+0.7**
DZM	**Mont Dzumac**	**4.33**	**223**	P	**Pn**	**14 43 16.9**	**+2.0**
OUENC	**Ouen Island, N**	**4.36**	**216**		**Pn**	**14 43 15.1**	**0.0**
OUENC	**Ouen Island, N**	**4.36**	**216**	P	**Pn**	**14 43 16.9**	**+1.8**
ONTNC	**Ouen Toro**	**4.50**	**221**	P	**Pn**	**14 43 18.8**	**+2.0**
STKA	**Stephens Creek**	**28.32**	**237**	P	**P**	**14 47 38.7**	**+0.7**
	1.6nm,0.6s,baz=68,slow=10,SNR=7.5						
	1.6nm,0.6s						
WR0	**Warramunga Arr**	**33.05**	**262**	IAmb	IAmb	14 48 23.3	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**33.05**	**262**	P	**P**	**14 48 19.0**	**-0.5**
BBOO	**Buckleboo**	**33.06**	**239**	P	**P**	**14 48 18.9**	**-0.5**
WB0	**Warramunga Arr**	**33.21**	**263**	IAmb	IAmb	14 48 38.9	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**33.21**	**263**	P	**P**	**14 48 20.3**	**-0.6**
WB2	**Warramunga Arr**	**33.23**	**262**	IAmb	IAmb	14 48 30.9	
	comp=Z,9.0nm,1.3s						
WB2	**Warramunga Arr**	**33.23**	**262**	P	**P**	**14 48 20.8**	**-0.4**
WRA	**Warramunga Arr**	**33.24**	**262**	P	**P**	**14 48 20.3**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=92,slow=8.6,SNR=5.1						
AS31	**Alice Springs**	**33.55**	**256**	IAmb	IAmb	14 48 24.5	
	comp=Z,3.8nm,0.5s						
AS31	**Alice Springs**	**33.55**	**256**	P	**P**	**14 48 23.9**	**0.0**
ASAR	**Alice Springs**	**33.55**	**256**	P	**P**	**14 48 23.4**	**-0.4**
ASAR	**Alice Springs**	**33.55**	**256**	P	**P**	**14 48 23.9**	**0.0**
	comp=Z,6.3nm,0.5s,baz=82,slow=9.0,SNR=213						
	comp=Z,6.3nm,0.5s						
KNRA	**Kununurra**	**39.07**	**268**	P	**P**	**14 49 10.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.62**	**264**	P	**P**	**14 49 32.5**	**+1.2**
QSPA	**South Pole Qui**	**71.16**	**180**	P	**P**	**14 52 58.2**	**-0.2**

*IDC **18** 14:47:09.8±1.6,16.1N×82.98W,h0km,mb3.6/6, mbtmp3.7/8,ML3.5/2,MS3.4/4,Error ellipse: s-maj=47.2km s-min=27.4km az=66.0*

ISC 18 14:47:14.9±1.3,16.2N±0.2×83.0W±0.2,h35km,n12,
σ1s05/8,mb3.7/6,North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**11.41**	**276**	Pn	**Pn**	**14 49 55.3**	**-0.2**
	0.3nm,0.3s,baz=99,slow=14,SNR=2.0						
	3.8nm,0.9s						
SDV	**Santo Domingo**	**14.09**	**119**	LR	LR	14 57 21.9	
	comp=Z,228nm,18.7s,baz=292,slow=44						
ROSC	**El Rosal**	**14.13**	**142**	LR	LR	14 57 35.2	
	comp=Z,215nm,18.5s,baz=74,slow=44						
SJG	**San Juan**	**16.24**	**81**	LR	LR	14 56 31.3	
	comp=Z,106nm,21.9s,baz=242,slow=35						
TKL	**Tuckaleechee C**	**19.42**	**358**	P	**P**	**14 51 38.1**	**0.0**
	0.2nm,0.3s,baz=190,slow=6.1,SNR=1.4						
	2.9nm,0.9s						
TXAR	**Lajitas Array**	**23.06**	**308**	P	**P**	**14 52 16.9**	**-0.6**
	2.6nm,0.9s,baz=124,slow=11,SNR=18						
	2.6nm,0.9s						
MDP	**Montagnes des**	**31.77**	**107**	LR	LR	15 07 30.7	
	comp=Z,58nm,20.2s,baz=344,slow=38						
PDAR	**Pinedale Array**	**34.88**	**325**	P	**P**	**14 54 02.3**	**-1.0**
	0.4nm,0.7s,baz=129,slow=12,SNR=4.3						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**38.06**	**313**	P	**P**	**14 54 31.5**	**+1.1**
	0.7nm,0.8s,baz=116,slow=8.1,SNR=2.7						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**51.30**

comp=E,69nm,0.8s
YAK *i* Sg **Sg** 14 54 51.9 +5.8
comp=E,58nm,0.7s
YAK Yakutsk 7.90 231 Pn **Pn** 14 52 27.5 -0.1
comp=E,0.1nm,0.3s,baz=66,slow=2.1,SNR=2.3
YAK Sn **Sn** 14 53 53.1 -3.9
comp=E,0.4nm,0.3s,baz=77,slow=19,SNR=12
YAK Lg Lg 14 54 42.8
comp=E,0.1nm,0.3s,baz=118,slow=20,SNR=5.7
USMR Ust'-Maya 8.09 210 *e*P **Pn** 14 52 32.2 +1.9
USMR *e*SG **Sn** 14 54 02.0 +0.3
MA2 Magadan 8.86 152 *i* P **Pn** 14 52 45.3 +4.3
MA2 Magadan 8.86 152 *i* Lg Lg 14 55 21.0
MA2 *i* Lg Lg 14 55 21.0
BILL Bilibino 8.90 77 Pn **Pn** 14 52 43.5 +2.1
BILL Bilibino 8.90 77 *i* P **Pn** 14 52 42.5 +1.1
ZEA Zeya 15.79 216 *e*P **Pn** 14 54 16.2 +1.0
ZEA pmax pmax
comp=Z,10.0nm,0.9s
BOD Bodaibo 16.25 247 *e*P **Pn** 14 54 19.6 -1.3
BOD pmax pmax
comp=Z,8.0nm,1.7s
PETK Petropavlovsk- 16.29 146 Pn **Pn** 14 54 21.1 -0.5
PETK Petropavlovsk- 16.29 146 *e*P **P** 14 54 29.9 +5.3
PETK Petropavlovsk- 16.29 146 Pn **P** 14 54 25.0 +0.4
comp=Z,7.1nm,1.1s,baz=331,slow=5.3,SNR=5.3
PET Petropavlovsk 16.58 144 Pn **Pn** 14 54 22.3 -2.9
PET Petropavlovsk 16.58 144 *e*P **P** 14 54 32.8 +5.1
PET pmax pmax
comp=Z,46nm,1.1s
C16K Lisburne Hills 19.04 64 P **Pn** 14 54 55.9 +0.4
KLR Kul'dur 19.29 202 *i* P **Pn** 14 55 00.7 +2.1
KLR pmax pmax
comp=Z,1.0nm,0.9s
KLR Kul'dur 19.29 202 P **Pn** 14 55 00.2 +1.6
comp=Z,0.1nm,0.3s,baz=358,slow=14,SNR=2.5
comp=Z,1.0nm,0.6s
NRIK Noril'sk 19.70 300 *i* P **Pn** 14 55 03.2 -0.2
NRIK pmax pmax
comp=Z,2.0nm,0.9s
C18K Utukok River 20.30 61 P **P** 14 55 09.2 +0.6
F15K North Star Dit 20.42 71 P **P** 14 55 10.6 +0.8
F15K IAmb IAmb 14 55 12.5
comp=Z,7.2nm,0.8s
C19K Lookout Ridge 20.65 59 P Pn 14 55 14.2 -0.4
C19K IAmb IAmb 14 55 15.3
comp=Z,7.4nm,0.9s
E18K Tukpahlearik C 21.03 64 P **P** 14 55 15.3 -1.1
E18K IAmb IAmb 14 55 18.5
comp=Z,5.9nm,0.8s
F17K Baldwin Pennin 21.27 67 P **P** 14 55 15.1 -3.8
F17K IAmb IAmb 14 55 28.3
comp=Z,9.0nm,1.1s
D19K Kuna River 21.39 60 P **P** 14 55 20.8 +0.5
D19K IAmb IAmb 14 55 25.5
comp=Z,5.4nm,0.7s
G16K Koyuk River 21.40 70 P **P** 14 55 21.0 +0.6
G16K IAmb IAmb 14 55 23.6
comp=Z,6.8nm,0.9s
B21K Ikpikpuk River 22.04 56 P **P** 14 55 28.0 +0.8
B21K IAmb IAmb 14 55 31.8
comp=Z,6.6nm,1.1s
B22K Teshekpuk Lake 22.11 54 P **P** 14 55 27.7 -0.3
B22K IAmb IAmb 14 55 32.3
comp=Z,7.9nm,0.9s
F19K Shaleruckik Mo 22.29 64 P **P** 14 55 29.9 0.0
G18K Tagagawik 22.46 67 P **P** 14 55 29.9 -1.9
G18K IAmb IAmb 14 55 48.3
comp=Z,14nm,1.5s
H17K Granite Mounta 22.52 70 P **P** 14 55 32.3 -0.1
G19K Purcell Mounta 22.87 65 P **P** 14 55 36.1 0.0
F20K Avaraart Lake 22.88 63 P **P** 14 55 35.7 -0.4
H18K Honhosa River 22.95 68 P **P** 14 55 34.9 -2.1
H18K IAmb IAmb 14 55 39.7
comp=Z,10nm,1.3s
D22K Ayikyak River 22.99 57 P **P** 14 55 38.3 +1.0
D22K IAmb IAmb 14 55 42.7
comp=Z,8.3nm,0.9s
C23K Itkillik River 23.20 54 P **P** 14 55 39.4 0.0
C23K IAmb IAmb 14 55 44.9
comp=Z,11nm,1.2s
K15K Wolf Creek Mou 23.45 76 P **P** 14 55 43.0 +0.9
K15K IAmb IAmb 14 55 44.7
comp=Z,5.5nm,0.9s
F21K Alatna River 23.54 61 P **P** 14 55 42.2 -0.8
F21K IAmb IAmb 14 55 46.0
comp=Z,6.3nm,0.9s
L14K Kuka Creek 23.61 79 P **P** 14 55 44.3 +0.7
E22K Anaktuvuk Pass 23.63 58 P **P** 14 55 44.7 +0.9
E22K IAmb IAmb 14 55 45.4
comp=Z,4.1nm,0.8s
IMAR Indian Mountai 24.11 64 P **P** 14 55 49.5 +1.1
MDJ Mudanjiang 24.11 203 P **P** 14 55 49.1 +0.6
MDJ pmax pmax
comp=Z,9.0nm,1.4s
MDJ pmax pmax
comp=Z,180nm,4.7s
AMKA Amchitka 24.17 114 P **P** 14 55 45.1 -3.9
L16K Owhat River 24.58 76 P **P** 14 55 53.3 +0.7
L16K IAmb IAmb 14 55 58.8
comp=Z,4.5nm,1.0s
J19K Poorman 24.59 69 P **P** 14 55 53.4 +0.6
H21K Melozitna Rive 24.62 64 P **P** 14 55 53.5 +0.5
H21K IAmb IAmb 14 55 57.6
comp=Z,5.3nm,1.0s
E24K Your Creek 24.74 57 IAmb IAmb 14 55 56.6
comp=Z,5.0nm,0.8s
G23K Bananza Creek 24.97 60 **P** 14 55 55.6 -0.6
G23K IAmb IAmb 14 55 59.1
comp=Z,3.9nm,0.8s
I21K Tanana 25.17 64 P **P** 14 55 58.7 +0.7
I21K IAmb IAmb 14 56 02.8
comp=Z,7.4nm,0.9s
M16K Timber Creek 25.21 77 P **P** 14 55 58.1 -0.3
E25K Arctic Village 25.64 55 P **P** 14 56 04.7 +2.5
MLY Manley 25.69 64 P **P** 14 56 03.5 +0.8
BMAR Burnt Mountain 26.34 56 P **P** 14 56 09.5 +0.9
MDM Murphy Dome 26.59 63 P **P** 14 56 10.8 0.0
SONM Songino Array 27.07 241 P **P** 14 56 16.3 +0.9
comp=Z,0.7nm,0.9s,baz=48,slow=2.1,SNR=2.8
comp=Z,0.7nm,0.9s
IL31 27.16 62 P **P** 14 56 16.5 +0.6
IL31 IAmb IAmb 14 56 40.6
comp=Z,9.8nm,1.5s
ILAR Eielson Array 27.16 62 *e*P **P** 14 56 16.8 +0.9
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 27.16 62 P **P** 14 56 16.6 +0.7
comp=Z,1.5nm,0.8s,baz=302,slow=9.5,SNR=23
comp=Z,1.5nm,0.8s
HHC Hu-ho-hao-te 31.75 228 *e*P **P** 14 56 56.3 -0.7
HHC pmax pmax
comp=Z,37nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.2s
KURK Kurchatov 34.96 274 *ce*P **P** 14 57 24.3 -0.4
KURK pmax pmax
comp=Z,11nm,2.5s
KURBB Kurchatov Arra 35.07 274 P **P** 14 57 25.8 +0.2
comp=Z,1.1nm,0.5s,baz=36,slow=8.6,SNR=9.2
comp=Z,1.1nm,0.5s
BVAR Borovoye Array 36.23 283 P **P** 14 57 35.7 0.0
comp=Z,1.7nm,0.7s,baz=49,slow=6.7,SNR=7.4
comp=Z,1.7nm,0.7s
BRVK Borovoye 36.25 283 *ce*P **P** 14 57 36.0 +0.3
BRVK pmax pmax
comp=Z,9.0nm,2.5s
MK31 Makanchi Array 36.76 267 P **P** 14 57 39.4 -0.8
MK31 Makanchi Array 36.76 267 *i* P **P** 14 57 40.0 -0.2
MKAR Makanchi Array 36.76 267 P **P** 14 57 39.9 -0.3
MKAR Makanchi Array 36.76 267 *e*P **P** 14 57 40.4 +0.2
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 36.76 267 P **P** 14 57 40.1 -0.1
comp=Z,1.6nm,0.6s,baz=46,slow=7.2,SNR=18
comp=Z,1.6nm,0.6s
WMQ Urumqi 37.22 259 *e*P **P** 14 57 45.4 +1.2
YKA Yellowknife Ar 38.80 46 *e*P **P** 14 57 58.2 +1.0
YKA Yellowknife Ar 38.80 46 P **P** 14 57 57.5 +0.3
comp=Z,0.4nm,0.8s,baz=319,slow=8.0,SNR=8.6
comp=Z,0.4nm,0.8s
ABKAR Akbulak array 43.14 288 P **P** 14 58 32.2 -0.9
FINES FINESS Array B 43.27 321 *e*P **P** 14 58 34.6 +0.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 43.27 321 P **P** 14 58 34.3 +0.3
comp=Z,1.8nm,0.6s,baz=32,slow=11,SNR=8.2
comp=Z,1.8nm,0.6s
OBN Obninsk 45.95 310 *e*P **P** 14 58 57.1 +1.7
OBN pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 46.85 330 P **P** 14 59 02.0 -0.5
NOA NORSAR Array B 46.85 330 P **P** 14 59 02.0 -0.5
comp=Z,1.3nm,0.8s,baz=25,slow=7.8,SNR=4.0
comp=Z,1.3nm,0.8s
HFS Hagfors 47.19 328 P **P** 14 59 03.1 -2.0
comp=Z,1.4nm,0.9s,baz=22,slow=5.1,SNR=1.2
comp=Z,1.4nm,0.9s
PZH PanZhiHua 48.02 232 P **P** 14 59 10.3 -1.8
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,6.1s
AKASG Malin Array Be 51.95 312 P **P** 14 59 41.2 -0.3
comp=Z,1.5nm,0.7s,baz=27,slow=10.0,SNR=5.3
comp=Z,1.5nm,0.7s
GEYT Alibeck 53.54 282 P **P** 14 59 54.6 +1.1
comp=Z,0.9nm,0.5s,baz=342,slow=9.1,SNR=3.7
comp=Z,0.9nm,0.5s
KBZ Khabaz 53.89 298 P **P** 14 59 56.7 +0.8
comp=Z,2.8nm,0.9s,baz=51,slow=14,SNR=2.4
comp=Z,2.8nm,0.9s
EKA Eskdalemuir Ar 54.72 337 P **P** 15 00 02.3 +0.5
comp=Z,2.6nm,0.8s,baz=17,slow=5.2,SNR=3.7
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 57.37 56 P **P** 15 00 21.4 +0.2
comp=Z,0.6nm,0.7s,baz=332,slow=5.5,SNR=6.3
comp=Z,0.6nm,0.7s
NVAR Mina Array Bea 58.34 66 P **P** 15 00 29.2 +1.2
comp=Z,0.3nm,0.5s,baz=329,slow=6.4,SNR=1.5
comp=Z,0.3nm,0.5s
BRTR Keskin Array B 60.53 303 *e*P **P** 15 00 45.3 +2.2
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 60.53 303 P **P** 15 00 44.0 +1.0
comp=Z,1.0nm,0.6s,baz=33,slow=4.7,SNR=3.5
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 70.06 333 P **P** 15 01 44.6 -0.1
comp=Z,1.2nm,0.8s,baz=360,slow=6.4,SNR=4.5
comp=Z,1.2nm,0.8s
ASAR Alice Springs 91.28 188 P **P** 15 03 35.4 -2.8
comp=Z,0.3nm,1.0s,baz=5.9,slow=3.9,SNR=2.4

*NEIC **18** 14:50:35.6±2.2, 14°.47N±0°.09×147°.11E±0°.03, h10km±2km, mb4.4/11, Error ellipse: s-maj=15.3km s-min=4.0km az=168.0*
*IDC **18** 14:50:36.5±1.4, 14°.47N×147°.00E, h0km, mb3.8/9, mbtmp3.8/10, ML3.9/1, Error ellipse: s-maj=34.6km s-min=21.6km az=135.0*
ISC 18 14:50:36.5±0.7, 14°.47N±0°.10×147°.09E±0°.09, h10km, n25, σ1s65/26, mb4.3/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.33**	**248**	Pn	**Pn**	**14 51 13.8**	**-1.1**
GUMO	**Guam**	**2.33**	**248**	Pn	**Pn**	**14 51 15.6**	**+0.7**
	32nm,0.3s,baz=62,slow=3.5,SNR=17						
GUMO				Sn	**Sn**	**14 51 42.7**	**-0.9**
	53nm,0.3s,baz=102,slow=20,SNR=5.0						
	57nm,0.3s						
JCJ	**Chichijima**	**13.37**	**341**	Pn	**Pn**	**14 53 44.7**	**-1.7**
PATS	**Pohnpei**	**13.38**	**123**		**Pn**	**14 53 44.2**	**-2.4**
JMN	**Monobe**	**22.61**	**330**	P	**P**	**14 55 33.5**	**-4.0**
JMN				IAmb	IAmb	14 56 02.8	
	comp=Z,36nm,1.4s						
JMM	**Marumori**	**23.96**	**348**	P	**P**	**14 55 49.8**	**-1.3**
JMM				IAmb	IAmb	14 55 54.8	
	comp=Z,15nm,0.9s						
ASAR	**Alice Springs**	**40.04**	**199**	P	**P**	**14 58 13.1**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=20,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.24**	**282**	P	**P**	**14 59 03.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=94,slow=3.7,SNR=2.0						
	comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**47.29**	**323**	P	**P**	**14 59 11.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=134,slow=6.7,SNR=4.1						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**62.18**	**324**	P	**P**	**15 01 00.1**	**+2.0**
	comp=Z,0.9nm,0.6s,baz=108,slow=9.5,SNR=4.1						
	comp=Z,0.9nm,0.6s						
MK31	**Makanchi Array**	**62.37**	**315**	P	**P**	**15 01 00.1**	**+0.6**
MK31				IAmb	IAmb	15 01 17.2	
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**62.37**	**315**	P	**P**	**15 00 57.6**	**-1.9**
MKAR	**Makanchi Array**	**62.37**	**315**	P	**P**	**15 01 00.9**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=91,slow=8.4,SNR=22						
	comp=Z,1.3nm,0.4s						
MAKZ	**Makanchi**	**62.58**	**315**	P	**P**	**15 00 59.3**	**-1.6**
MAKZ				IAmb	IAmb	15 01 05.3	
	comp=Z,2.7nm,0.5s						
D19K	**Kuna River**	**64.11**	**20**	P	**P**	**15 01 11.7**	**+1.0**
IMAR	**Indian Mountai**	**64.55**	**23**	P	**P**	**15 01 14.2**	**+0.7**
KURK	**Kurchatov**	**65.31**	**319**	P	**P**	**15 01 18.8**	**+0.1**
KURBB	**Kurchatov Arra**	**65.36**	**319**	P	**P**	**15 01 19.7**	**+0.7**
	comp=Z,3.6nm,0.5s,baz=98,slow=7.0,SNR=29						
	comp=Z,3.6nm,0.5s						
ILAR	**Eielson Array**	**66.86**	**25**	P	**P**	**15 01 29.6**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=257,slow=6.7,SNR=7.3						
	comp=Z,0.3nm,0.6s						
C23K	**Itkillik River**	**67.10**	**19**	P	**P**	**15 01 30.8**	**+0.9**
C23K				IAmb	IAmb	15 01 45.0	
	comp=Z,2.5nm,1.1s						
RIDG	**Independent Ri**	**67.46**	**27**	P	**P**	**15 01 33.7**	**+1.4**
RIDG				IAmb	IAmb	15 01 54.0	
	comp=Z,2.7nm,1.2s						
J26L	**Joseph Creek**	**68.18**	**26**	P	**P**	**15 01 35.8**	**-1.1**
BMAR	**Burnt Mountain**	**68.46**	**23**	P	**P**	**15 01 37.4**	**-1.2**
BVAR	**Borovoye Array**	**70.58**	**321**	P	**P**	**15 01 53.1**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=103,slow=7.6,SNR=11						
	comp=Z,1.2nm,0.4s						
YKA	**Yellowknife Ar**	**81.08**	**28**	P	**P**	**15 02 54.6**	**+2.8**
	comp=Z,0.2nm,0.6s,baz=288,slow=5.5,SNR=3.2						
	comp=Z,0.2nm,0.6s						

*SOME **18** 14:57:12.4, 40°.30N×77°.58E, h10km*
*KRNET **18** 14:57:13.5±0.1, 40°.31N×77°.43E, mb3.2*
*NNC **18** 14:57:14.7±0.6, 40°.38N×77°.54E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=4.2km s-min=3.8km az=163.0*
ISC 18 14:57:15.5±1.6, 40°.29N±0°.07×77°.50E±0°.04, h10km, n67, σ1s44/104, 23C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.61**	**316**	⇑*i*P	**Pn**	**14 57 42.6**	**-1.7**
	baz=16						
NRN				⇑*i*S	**Sn**	**14 58 03.6**	**-1.7**
	baz=16						
KDJ	**Kajisay**	**1.85**	**353**	⇑*i*P	**Pn**	**14 57 47.3**	**-0.2**
	baz=55						
KDJ				⇑*i*S	**Sb**	**14 58 12.2**	**-0.7**
	baz=55						
ULHL	**Ulahol**	**2.17**	**335**	P	**Pb**	**14 57 52.9**	**-2.2**
	SNR=38						
ULHL	**Ulahol**	**2.17**	**335**	⇓*i*P	**Pn**	**14 57 52.3**	**+0.4**
	baz=36						
ULHL				⇓*i*S	**Sb**	**14 58 20.6**	**-1.5**
	baz=36						
PRZ	**Przheval'sk**	**2.29**	**17**	⇑*i*P	**Pn**	**14 57 54.0**	**+0.4**
	baz=18						
PRZ				⇑*i*S	**Sb**	**14 58 24.5**	**-1.1**
	baz=18						
KZA	**Kyzart**	**2.46**	**317**	P	**Pb**	**14 57 59.0**	**-1.1**
	SNR=91						
KZA	**Kyzart**	**2.46**	**317**	⇓*e*P	**Pn**	**14 57 56.3**	**+0.2**
	baz=18						
KZA				⇓*i*S	**Sn**	**14 58 27.4**	**+0.9**
	baz=18						
ANVS	**Anan'yevo**	**2.50**	**3**	⇓*e*P	**Pn**	**14 57 56.7**	**+0.4**
	baz=4.0						
ANVS				⇓*e*S	**Sn**	**14 58 28.5**	**+1.6**
	baz=4.0						
TNSS	**Tian-Shan**	**2.78**	**352**	Pg	**Pb**	**14 58 04.0**	**-1.4**
	38nm,0.1s						
TNSS				Lg	Lg	14 58 41.3	
	24nm,0.3s						
TNSS	**Tian-Shan**	**2.78**	**352**	*e*P	**Pb**	**14 58 04.0**	**-1.4**
	38nm,0.1s						
TNSS				*e*S	**Sb**	**14 58 41.3**	**+1.6**
	24nm,0.3s						
IZV	**Izvestkoviy**	**2.82**	**347**	Pg	**Pb**	**14 58 04.7**	**-1.4**
	41nm,0.2s						
IZV				Lg	Lg	14 58 42.5	
	91nm,0.3s						
IZV	**Izvestkoviy**	**2.82**	**347**	*e*P	**Pb**	**14 58 04.7**	**-1.4**
	41nm,0.2s						
IZV				*e*S	**Sb**	**14 58 42.5**	**+1.7**
	91nm,0.3s						
SATY	**Saty**	**2.85**	**14**	Pg	**Pb**	**14 58 05.1**	**-1.4**
	32nm,0.2s						
SATY				Lg	Lg	14 58 43.2	
	27nm,0.2s						
SATY	**Saty**	**2.85**	**14**	*e*P	**Pb**	**14 58 05.1**	**-1.4**
	32nm,0.2s						
SATY				*e*S	**Sb**	**14 58 43.2**	**+1.7**
	27nm,0.2s						
ARLS	**Aral**	**2.87**	**304**	⇑*i*P	**Pn**	**14 58 01.4**	**0.0**
	baz=4.0						
ARLS				⇑*i*S	**Sn**	**14 58 36.2**	**+0.1**
	baz=4.0						
MDOK	**Medeo**	**2.89**	**353**	⇓Pn	**Pn**	**14 58 01.5**	**-0.2**
	30nm,0.5s						
MDOK				Pg	**Pb**	**14 58 06.0**	**-1.2**
	42nm,0.1s						
MDOK				⇑Lg	Lg	14 58 42.9	
	42nm,0.5s						
MDOK				Lg	Lg	14 58 44.8	
	56nm,0.3s						
MDOK	**Medeo**	**2.89**	**353**	*e*P	**Pb**	**14 58 06.0**	**-1.2**
	42nm,0.1s						
MDOK				*e*S	**Sb**	**14 58 44.8**	**+2.0**
	56nm,0.3s						
MTBS	**Maitube**	**2.95**	**345**	Pg	**Pb**	**14 58 07.1**	**-1.1**
	38nm,0.1s						
MTBS				Lg	Lg	14 58 46.6	
	90nm,0.3s						
MTBS	**Maitube**	**2.95**	**345**	*e*P	**Pb**	**14 58 07.1**	**-1.1**
	38nm,0.1s						
MTBS				*e*S	**Sb**	**14 58 46.6**	**+2.3**
	90nm,0.3s						
KNDC	**Almaty**	**2.95**	**352**	⇑Pn	**Pn**	**14 58 02.4**	**-0.1**
	86nm,0.7s						
KNDC				⇑Lg	Lg	14 58 45.1	
	117nm,0.6s						
KOTS	**Kotyrbulak**	**2.96**	**355**	Pg	**Pb**	**14 58 07.1**	**-1.2**
	40nm,0.1s						
KOTS				Lg	Lg	14 58 46.6	
	75nm,0.1s						
KOTS	**Kotyrbulak**	**2.96**	**355**	*e*P	**Pb**	**14 58 07.1**	**-1.2**
	40nm,0.1s						
KOTS				*e*S	**Sb**	**14 58 46.6**	**+2.0**
	75nm,0.1s						
UCH	**Uchtor**	**2.97**	**312**	P	**Pb**	**14 58 07.8**	**-0.9**
	SNR=8.0						
UCH	**Uchtor**	**2.97**	**312**	⇑*i*P	**Pn**	**14 58 03.2**	**+0.1**
	baz=12						
UCH				⇑*i*S	**Sn**	**14 58 39.2**	**+0.2**
	baz=12						
KST	**Kastek**	**2.98**	**338**	Pg	**Pb**	**14 58 07.9**	**-0.9**
	10nm,0.1s						
KST				Lg	Lg	14 58 47.9	
	59nm,0.2s						
KST	**Kastek**	**2.98**	**338**	*e*P	**Pb**	**14 58 07.9**	**-0.9**
	10nm,0.1s						
KST				*e*S	**Sb**	**14 58 47.9**	**+2.5**
	59nm,0.2s						
TKM2	**Tokmak 2**	**2.99**	**332**	P	**Pb**	**14 58 08.0**	**-1.0**
	SNR=10						
TKM2	**Tokmak 2**	**2.99**	**332**	⇓*i*P	**Pn**	**14 58 03.7**	**+0.5**
	baz=33						
TKM2				⇓*i*S	**Sn**	**14 58 39.9**	**+0.7**
	baz=33						
KBK	**Karagaybulak**	**3.04**	**322**	P	**Pb**	**14 58 09.0**	**-0.8**
	SNR=10.0						
KBK	**Karagaybulak**	**3.04**	**322**	⇓*i*P	**Pn**	**14 58 04.3**	**+0.4**
	baz=22						
KBK				⇓*i*S	**Sn**	**14 58 41.0**	**+0.6**
	baz=22						
SFK	**Sufi-Kurgan**	**3.07**	**266**	⇑*i*P	**Pn**	**14 58 04.4**	**+0.1**
	baz=66						
SFK				⇑*i*S	**Sn**	**14 58 41.4**	**+0.1**
	baz=66						
UZB	**Uzynbulak**	**3.08**	**21**	Pg	**Pb**	**14 58 09.1**	**-1.3**
	9.1nm,0.2s						
UZB				Lg	Lg	14 58 50.1	
	14nm,0.2s						
UZB	**Uzynbulak**	**3.08**	**21**	*e*P	**Pb**	**14 58 09.1**	**-1.3**
	9.1nm,0.2s						
UZB				*e*S	**Sb**	**14 58 50.0**	**+2.0**
	14nm,0.2s						
DGS	**Degeres**	**3.22**	**337**	Pg	**Pb**	**14 58 12.0**	**-0.8**
	14nm,0.3s						
DGS				Lg	Lg	14 58 55.0	
	36nm,0.5s						
DGS	**Degeres**	**3.22**	**337**	*e*P	**Pb**	**14 58 12.0**	**-0.8**
	14nm,0.3s						
DGS				*e*S	**Sb**	**14 58 55.0**	**+2.8**
	36nm,0.5s						
SHLS	**Shalkode**	**3.22**	**27**	*e*P	**Pb**	**14 58 13.5**	**+0.7**
	21nm,0.3s						
SHLS				*e*S	**Sg**	**14 58 57.5**	**-1.4**
	29nm,0.4s						
KURS	**Kuram**	**3.24**	**9**	Pg	**Pb**	**14 58 11.9**	**-1.1**
	13nm,0.2s						
KURS				Lg	Lg	14 58 54.9	
	17nm,0.3s						
KURS	**Kuram**	**3.24**	**9**	*e*P	**Pb**	**14 58 11.9**	**-1.1**
	13nm,0.2s						
KURS				*e*S	**Sb**	**14 58 54.9**	**+2.3**
	17nm,0.3s						
AAK	**Ala-Archa**	**3.26**	**317**	P	**Pb**	**14 58 12.4**	**-1.0**
	SNR=6.5						
AAK	**Ala-Archa**	**3.26**	**317**	⇑*i*P	**Pn**	**14 58 07.0**	**+0.2**
	baz=18						
AAK				⇑*i*S	**Sn**	**14 58 46.1**	**+0.5**
	baz=18						
KPKS	**Kokpek**	**3.30**	**15**	Pg	**Pb**	**14 58 12.1**	**-2.0**
	46nm,0.3s						
KPKS				Lg	Lg	14 58 55.3	
	33nm,0.2s						
KPKS	**Kokpek**	**3.30**	**15**	*e*P	**Pb**	**14 58 12.1**	**-2.0**
	46nm,0.3s						
KPKS				*e*S	**Sb**	**14 58 55.3**	**+1.0**
	33nm,0.2s						
FRU1	**Bishkek**	**3.31**	**320**	⇑*i*P	**Pn**	**14 58 08.2**	**+0.7**
	baz=21						
FRU1				⇑*i*S	**Sn**	**14 58 47.8**	**+0.9**
	baz=21						
PDGK	**Podgornoye**	**3.38**	**25**	Pg	**Pb**	**14 58 14.1**	**-1.5**
	8.1nm,0.2s						
PDGK				Lg	Lg	14 58 58.6	
	23nm,0.4s						
PDGK	**Podgornoye**	**3.38**	**25**	⇓Pn	**Pn**	**14 58 07.8**	**-0.6**
	8.0nm,0.4s						
PDGK				⇓Lg	Lg	14 58 55.8	
	48nm,0.7s						
CHMS	**Chumysh**	**3.40**	**324**	P	**Pb**	**14 58 14.8**	**-1.1**
	SNR=6.7						
CHMS	**Chumysh**	**3.40**	**324**	⇑*i*P	**Pn**	**14 58 08.9**	**+0.3**
	baz=24						
CHMS				⇑*i*S	**Sn**	**14 58 49.6**	**+0.6**
	baz=24						
AML	**Almayashu**	**3.41**	**304**	⇓*e*P	**Pn**	**14 58 09.3**	**+0.2**
	baz=4.0						
AML				⇓*i*S	**Sn**	**14 58 49.7**	**-0.1**
	baz=4.0						
KTBS	**Karatobe**	**3.47**	**350**	Pg	**Pb**	**14 58 16.1**	**-1.0**
	15nm,0.4s						
KTBS				Lg	Lg	14 59 02.0	
	66nm,0.5s						
KTBS	**Karatobe**	**3.47**	**350**	*e*P	**Pb**	**14 58 16.1**	**-1.0**
	15nm,0.4s						
KTBS				*e*S	**Sb**	**14 59 02.0**	**+2.6**
	66nm,0.5s						
CHKK	**Chushkaly**	**3.58**	**354**	Pg	**Pb**	**14 58 18.2**	**-0.7**
	12nm,0.2s						
CHKK				Lg	Lg	14 59 05.6	
	38nm,0.4s						
CHKK	**Chushkaly**	**3.58**	**354**	*e*P	**Pb**	**14 58 18.2**	**-0.7**
	12nm,0.2s						
CHKK				*e*S	**Sb**	**14 59 05.6**	**+3.2**
	38nm,0.4s						
EKS2	**Erkin-Say**	**3.67**	**312**	⇑*i*P	**Pn**	**14 58 12.6**	**+0.3**
	baz=12						
EKS2				⇑*i*S	**Sn**	**14 58 55.7**	**0.0**
	baz=12						
KUU	**Kurty**	**3.70**	**347**	Pg	**Pb**	**14 58 20.2**	**-0.8**
	8.6nm,0.2s						
KUU				Lg	Lg	14 59 09.2	
	48nm,0.3s						

KUU	**Kurty**	**3.70**	**347**	*eP*	**Pb**	**14 58 20.2**	**-0.8**		
	8.6nm,0.2s								
KUU				*eS*	**Sb**	**14 59 09.2**	**+3.3**		
	48nm,0.3s								
USP	**Ospenovka**	**3.73**	**324**	P	**Pb**	**14 58 20.3**	**-1.1**		
	SNR=20								
USP	**Ospenovka**	**3.73**	**324**	⇓*iP*	**Pn**	**14 58 13.5**	**+0.4**		
	baz=24								
USP				⇓*iS*	**Sn**	**14 58 57.4**	**+0.3**		
	baz=24								
KTMS	**Ketmen**	**3.81**	**33**	*eP*	**Pb**	**14 58 21.2**	**-1.6**		
KTMS				*eS*	**Sb**	**14 59 10.7**	**+1.7**		
SGDS	**Sogindy**	**3.82**	**327**	Pg	**Pb**	**14 58 22.5**	**-0.4**		
	7.2nm,0.3s								
SGDS				Lg	Lg	14 59 13.0			
	14nm,0.4s								
BLB	**Baldybastay**	**3.87**	**11**	Pg	**Pb**	**14 58 23.5**	**-0.5**		
	26nm,0.2s								
BLB				Lg	Lg	14 59 14.7			
	26nm,0.3s								
ARXS	**Arharly**	**3.93**	**3**	Pg	**Pb**	**14 58 24.4**	**-0.5**		
	8.9nm,0.3s								
ARXS				Lg	Lg	14 59 16.2			
	15nm,0.3s								
ARXS	**Arharly**	**3.93**	**3**	*eP*	**Pb**	**14 58 24.4**	**-0.5**		
	8.9nm,0.3s								
ARXS				*eS*	**Sb**	**14 59 16.2**	**+3.8**		
	15nm,0.3s								
MRKS	**Merke**	**4.04**	**309**	Pg	**Pb**	**14 58 27.1**	**+0.3**		
	3.8nm,0.2s								
MRKS				Lg	Lg	14 59 20.8			
	12nm,0.3s								
MRKS	**Merke**	**4.04**	**309**	*eP*	**Pb**	**14 58 27.1**	**+0.3**		
	3.8nm,0.2s								
MRKS				*eS*	**Sg**	**14 59 20.8**	**-4.3**		
	12nm,0.3s								
DJR	**Jarkent**	**4.38**	**22**	Pg	**Pb**	**14 58 31.9**	**-0.7**		
	2.6nm,0.2s								
DJR				Lg	Lg	14 59 29.2			
	12nm,0.3s								
DJR	**Jarkent**	**4.38**	**22**	*eP*	**Pb**	**14 58 31.9**	**-0.7**		
	2.6nm,0.2s								
DJR				*eS*	**Sb**	**14 59 29.2**	**+3.7**		
	12nm,0.3s								
KK31	**Karatay Array**	**5.94**	**301**	⇓Pg	**Pb**	**14 59 01.2**	**+2.1**		
	0.4nm,0.3s,baz=126,slow=15,SNR=4.4								
KK31				⇓Lg	Lg	15 00 23.6			
	1.8nm,0.7s,baz=104,slow=26,SNR=3.5								

MEX ***18*** *14:58:40.1±0.8,14.˚37N×93.˚46W,h21km,MD4.6*
NEIC ***18*** *14:58:41.1,14.˚49N×93.˚15W,h20km*
NEIC ***18*** *14:58:41.1,14.˚89N×93.˚15W,h20km,Moment Tensor Solution. Duration: 1ᵗᵎ6 Moment tensor: Scale 10¹⁶Nm; Mrr3.67; Mθθ-2.48; Mϕϕ-1.19; Mrθ-0.14; Mθϕ1.56; Mϕr-0.02; Fault plane solution: M₀3.60000×10¹⁶ NP1: ϕs302.28000°,δ45.84000°,λ87.95000°. NP2: ϕs125.22000°,δ44.20000°,λ92.11000°. Principal axes: T 3.6708, Plg88.0000°, Azm153.0000°; N -0.1484, Plg1.0000°, Azm304.0000°; P -3.5224, Plg1.0000°, Azm34.0000°;*
NEIC ***18*** *14:58:42.0±2.8,14.˚58N±0.˚06×93.˚18W±0.˚06,h24km±4km, mb5.0/129,Mww5.0/20,Md4.6/23(MEX) Error ellipse: s-maj=9.3km s-min=7.5km az=198.0*
GCMT ***18*** *14:58:42.0±0.3,14.˚56N±0.˚02×93.˚45W±0.˚02,h21km, MW5.1/95,Moment Tensor Solution. s73,c89; s95,c137; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.80±.20; Mθθ-3.12±.12; Mϕϕ-1.68±.12; Mrθ1.61±.19; Mθϕ1.86±.08; Mϕr-2.15±.22; Best double couple: M₀5.31700×10¹⁶ NP1:ϕs133.00000°,δ60.00000°,λ98.00000°. NP2: ϕs297.00000°,δ31.00000°,λ76.00000°. Principal axes: T 5.5740, Plg74.0000°, Azm64.0000°; N -0.5120, Plg7.0000°, Azm309.0000°; P -5.0610, Plg15.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***18*** *14:58:42.0±4.3,14.˚61N×92.˚85W,h33km±32km,mb4.3/20, mbtmp4.5/24,ML4.9/3,MS4.3/42 Error ellipse: s-maj=23.7km s-min=13.3km az=52.0*
GCG ***18*** *14:58:44.2±0.9,14.˚60N×93.˚12W,h49km*
SNET ***18*** *14:58:46.7±0.8,14.˚41N×92.˚85W,h23km±4km,ML5.0*
CATAC ***18*** *14:58:47.4±0.7,14.˚38N×92.˚77W,h27km±6km,ML5.0*

ISC 18 14:58:40.8±1.2,14.˚38N±0.˚04×93.˚24W±0.˚03,h29km±8km, n654,σ1ᵗᵎ62/668,mb5.0/69,MS4.3/42,1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**61**		**Pb**	**14 58 59.6**	**-1.3**
THIG					**Sn**	**14 59 14.3**	**+0.4**
THIG		**1.08**	**61**	*eP*	**Pb**	**14 58 59.6**	**-1.3**
THIG				*eS*	**Sn**	**14 59 14.3**	**+0.4**
PATR	**El Naranjo**	**1.22**	**53**	*eP*	**Pn**	**14 59 01.1**	**-1.0**
PATR				*i S*	**Sn**	**14 59 15.6**	**-2.0**
SMCA	**Catarina**	**1.22**	**67**	*i P*	**Pb**	**14 59 03.4**	**+0.1**
SMCA				IAML		14 59 03.5	
	comp=Z,20μm,1.0s						
SMCA				*i S*	**Sn**	**14 59 15.2**	**-2.2**
CHUJ	**Union Juarez**	**1.30**	**57**	*eP*	**Pn**	**14 59 02.5**	**-0.7**
CHUJ				*i S*	**Sb**	**14 59 20.3**	**-1.0**
PAVE	**Pavencul**	**1.30**	**52**	*i P*	**Pn**	**14 59 02.6**	**-0.7**
PAVE				*i S*	**Sb**	**14 59 20.2**	**-1.2**
PCIG		**1.32**	**1**		**Pn**	**14 59 00.9**	**-2.4**
PCIG					**Sn**	**14 59 15.5**	**-4.3**
PCIG		**1.32**	**1**	*i P*	**Pn**	**14 59 00.9**	**-2.4**
PCIG				*i S*	**Sn**	**14 59 15.5**	**-4.3**
RTAL	**Retalhuleu**	**1.50**	**84**		**Pn**	**14 59 06.2**	**+0.5**
RTAL	**Retalhuleu**	**1.50**	**84**	*eP*	**Pn**	**14 59 06.3**	**+0.5**
RTAL				*i S*	**Sn**	**14 59 24.3**	**-0.1**
RTAL	**Retalhuleu**	**1.50**	**84**	*eP*	**Pn**	**14 59 06.3**	**+0.5**
RTAL				*eS*	**Sn**	**14 59 22.7**	**-1.7**
RTAL	**Retalhuleu**	**1.50**	**84**	*i P*	**Pn**	**14 59 06.3**	**+0.5**
RTAL				*i S*	**Sn**	**14 59 21.2**	**-3.2**
RTAL				IAML		14 59 46.0	
	comp=Z,12μm,1.0s						
SMSP	**San Marcos**	**1.53**	**67**	*eP*	**Pn**	**14 59 06.2**	**-0.2**
SMSP				*eS*	**Sn**	**14 59 22.9**	**-2.6**
SMSP	**San Marcos**	**1.53**	**67**	*i P*	**Pn**	**14 59 06.6**	**+0.2**
SMSP				*i S*	**Sn**	**14 59 22.3**	**-3.1**
SMSP				IAML		14 59 35.7	
	comp=Z,30μm,1.0s						
SULM	**Suchitepequez,**	**1.62**	**92**	*eP*	**Pb**	**14 59 09.5**	**-0.6**
STG3	**Santiaguito 3,**	**1.65**	**78**	*eP*	**Pn**	**14 59 08.6**	**+0.7**
QUEO	**Labor Ovalle**	**1.74**	**73**	*i P*	**Pn**	**14 59 10.0**	**+0.7**
QUEO				IAML		14 59 11.7	
	comp=Z,32μm,1.0s						
QUEO				*i S*	**Sn**	**14 59 27.4**	**-3.2**
SOKI	**Kika Raxquin**	**1.83**	**76**	*i P*	**Pn**	**14 59 11.4**	**+0.8**
SOKI				*i S*	**Sn**	**14 59 29.2**	**-3.8**
SOKI				IAML		14 59 44.8	
	comp=Z,10μm,1.0s						
HUEH	**Huehuetenango**	**1.92**	**61**		**Pb**	**14 59 13.2**	**-2.1**
HUEH	**Huehuetenango**	**1.92**	**61**	*i P*	**Pb**	**14 59 13.1**	**-2.2**
HUEH				*eS*	**Sb**	**14 59 37.7**	**-1.2**
HUEH	**Huehuetenango**	**1.92**	**61**	*i P*	**Pb**	**14 59 13.5**	**-1.8**
HUEH				*i S*	**Sn**	**14 59 32.5**	**-2.5**
HUEH				IAML		14 59 50.3	
	comp=Z,30μm,1.0s						
CARR	**Arriaga**	**1.97**	**341**	*eP*	**Pn**	**14 59 10.6**	**-1.6**
CARR				*i S*	**Sn**	**14 59 33.4**	**-2.5**
CCIG	**Comitan**	**2.17**	**29**		**Pn**	**14 59 16.1**	**+1.0**
CCIG	**Comitan**	**2.17**	**29**	*eP*	**Pb**	**14 59 16.6**	**-2.9**
CCIG				*i S*	**Sb**	**14 59 44.3**	**-1.7**
CCIG	**Comitan**	**2.17**	**29**	*i P*	**Pb**	**14 59 19.3**	**-0.2**
CCIG				*i S*	**Sb**	**14 59 44.7**	**-1.4**
CCIG				IAML		14 59 47.5	
	comp=Z,12μm,1.0s						
QUIS	**Sacapulas**	**2.26**	**66**	*i P*	**Pn**	**14 59 16.8**	**+0.4**
QUIS				IAML		14 59 20.3	
	comp=Z,11μm,1.0s						
QUIS				*i S*	**Sn**	**14 59 40.3**	**-3.1**
FUG	**Fuego 3**	**2.32**	**88**	*eP*	**Pn**	**14 59 18.9**	**+1.7**
TGBT	**Tuxtla Gutierr**	**2.39**	**3**	*eP*	**Pn**	**14 59 18.6**	**+0.6**
TGBT				*i S*	**Sn**	**14 59 46.2**	**-0.1**
TGIG		**2.39**	**3**	*eP*	**Pn**	**14 59 18.4**	**+0.3**
TGIG				*i S*	**Sn**	**14 59 44.0**	**-2.3**
PCG	**Pacaya**	**2.55**	**89**	*eP*	**Pb**	**14 59 23.2**	**-2.9**
NILT	**Santiago Nilte**	**2.55**	**329**	*eP*	**Pn**	**14 59 19.1**	**-1.1**
NILT				*i S*	**Sn**	**14 59 48.0**	**-2.3**
GUMI	**Mixco**	**2.55**	**84**	*i P*	**Pn**	**14 59 21.2**	**+0.8**
GUMI				IAML		14 59 26.3	
	comp=Z,10μm,1.0s						
GUMI				*i S*	**Sn**	**14 59 46.9**	**-3.8**
GCG4	**OSOP**	**2.63**	**85**	*i P*	**Pn**	**14 59 22.3**	**+0.9**
GCG4				*i S*	**Sn**	**14 59 48.7**	**-3.7**
GCG4				IAML		15 00 13.3	
	comp=Z,5μm,1.0s						
NBG	**Las Nubes**	**2.81**	**85**	*eP*	**Pb**	**14 59 27.6**	**-2.9**
GUNB	**GUNB**	**2.81**	**85**	*i P*	**Pn**	**14 59 24.5**	**+0.5**
GUNB				*i S*	**Sn**	**14 59 53.0**	**-4.1**
GUNB				IAML		15 00 26.6	
	comp=Z,3μm,1.0s						
AVCB	**Coban**	**2.94**	**68**	*i P*	**Pn**	**14 59 26.7**	**+0.9**
AVCB				*i S*	**Sn**	**14 59 57.3**	**-2.9**
AVCB				IAML		15 00 08.0	
	comp=Z,13μm,1.0s						
UXUV	**UXUV**	**3.05**	**343**	*eP*	**Pn**	**14 59 27.0**	**-0.1**
UXUV				*i S*	**Sn**	**15 00 03.1**	**+0.4**
HUIG	**Huatulco**	**3.10**	**297**		**Pn**	**14 59 25.6**	**-2.2**
HUIG					**Sn**	**14 59 55.5**	**-8.4**
HUIG	**Huatulco**	**3.10**	**297**	*eP*	**Pn**	**14 59 25.6**	**-2.2**
HUIG				*i S*	**Sn**	**14 59 55.5**	**-8.4**
CMIG	**Matias Romero**	**3.13**	**330**		**Pn**	**14 59 26.7**	**-1.4**
CMIG					**Sn**	**15 00 01.2**	**-3.4**
CMIG	**Matias Romero**	**3.13**	**330**	Pn	**Pn**	**14 59 27.6**	**-0.5**
	comp=Z,47nm,0.3s,baz=172,slow=9.8,SNR=402						
CMIG				Sn	**Sn**	**15 00 04.5**	**-0.1**
	comp=Z,243nm,0.3s,baz=132,slow=12,SNR=11						
CMIG				LR	LR	15 00 37.3	
	comp=Z,2μm,18.9s,baz=112,slow=36 comp=Z,183nm,0.3s						
CMIG	**Matias Romero**	**3.13**	**330**	*eP*	**Pn**	**14 59 26.7**	**-1.4**
CMIG				*i S*	**Sn**	**15 00 01.2**	**-3.4**
JAMO	**Monjas**	**3.25**	**88**	*i P*	**Pn**	**14 59 30.1**	**+0.1**
JAMO				*i S*	**Sn**	**15 00 03.7**	**-4.1**
JAMO				IAML		15 00 26.3	
	comp=Z,7μm,1.0s						
SLOZ	**Alcaldia de Sa**	**3.37**	**96**	*eP*	**Pn**	**14 59 32.7**	**+1.2**
SLOZ				*eS*	**Sn**	**15 00 08.8**	**-1.7**
LOAL	**Lomas de Alarc**	**3.37**	**96**	*eP*	**Pn**	**14 59 33.5**	**+1.9**
LOAL				*eS*	**Sn**	**15 00 09.4**	**-1.3**
NUBE	**Las Nubes**	**3.39**	**98**	*eP*	**Pn**	**14 59 33.5**	**+1.6**
NUBE				*eS*	**Sn**	**15 00 09.2**	**-2.0**
JUAM	**Asuncion Mita**	**3.42**	**90**	*i P*	**Pn**	**14 59 32.6**	**+0.4**
JUAM				*i S*	**Sn**	**15 00 09.1**	**-2.8**
JUAM				IAML		15 00 38.3	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**3.55**	**98**	*eP*	**Pn**	**14 59 35.9**	**+1.7**
CEVE	**Cerro Verde**	**3.55**	**98**	*eP*	**Pn**	**14 59 36.8**	**+2.6**
CEVE				IAML		15 00 35.9	
	comp=Z,4μm,0.5s						
VHSA	**Villahermosa**	**3.59**	**5**	*eP*	**Pn**	**14 59 34.9**	**+0.3**
VHSA				*eS*	**Sn**	**15 00 16.6**	**+0.5**
JAYA	**Jayaque - finc**	**3.75**	**101**	*eP*	**Pn**	**14 59 38.0**	**+1.2**
MTO3	**Montecristo**	**3.75**	**89**		**Pn**	**14 59 38.5**	**+1.5**
ESQI	**Esquipulas**	**3.78**	**87**		**Pn**	**14 59 38.4**	**+1.2**
TUIG	**Tuzandepetl**	**3.81**	**343**	*eP*	**Pn**	**14 59 35.8**	**-1.8**
TUIG				*eS*	**Sn**	**15 00 17.4**	**-3.9**
PMON	**Piamonte**	**3.86**	**99**	*eP*	**Pn**	**14 59 40.3**	**+1.9**
BOQS	**Boqueron**	**3.89**	**99**	*eP*	**Pn**	**14 59 41.3**	**+2.4**
SNET	**Serv Nac Est T**	**3.95**	**100**		**Pn**	**14 59 41.7**	**+2.2**
PEIG	**Puerto Escondi**	**4.11**	**294**	*eP*	**Pn**	**14 59 40.0**	**-1.7**
PEIG				*i S*	Sn	15 00 17.6	-11
PETF	**Flores**	**4.11**	**52**		**Pn**	**14 59 43.8**	**+2.1**
PETF	**Flores**	**4.11**	**52**	*eP*	**Pn**	**14 59 44.3**	**+2.6**
PETF				*i S*	**Sn**	**15 00 32.6**	**+3.8**
PETF	**Flores**	**4.11**	**52**	*eP*	**Pn**	**14 59 43.7**	**+2.1**
PETF				*eS*	**Sn**	**15 00 29.0**	**+0.2**
NEUV	**Arroyo Zacate**	**4.13**	**324**	*eP*	**Pn**	**14 59 45.2**	**+3.2**
NEUV				*i S*	**Sn**	**15 00 27.1**	**-2.3**
OXLC	**Oaxaca**	**4.28**	**309**	*eP*	**Pn**	**14 59 44.0**	**-0.2**
OXLC				*eS*	**Sn**	**15 00 30.5**	**-2.7**
COEG	**Centro de Oper**	**4.29**	**100**	*eP*	**Pn**	**14 59 46.1**	**+1.8**
VHO	**Vista Hermosa**	**4.30**	**309**	*eP*	**Pn**	**14 59 45.4**	**+0.9**
VHO				*i S*	**Sn**	**15 00 31.5**	**-2.3**
PMUV	**Sontecomapan**	**4.52**	**337**	*eP*	**Pn**	**14 59 44.7**	**-2.7**
PMUV				*i S*	Sn	15 00 28.9	-10
YOIG	**Yosondua**	**4.83**	**301**	*eP*	**Pn**	**14 59 53.0**	**+1.2**
YOIG				*i S*	**Sn**	**15 00 41.5**	**-5.4**
SCIG	**Sabancuy**	**4.97**	**23**	*eP*	**Pn**	**14 59 54.1**	**+0.7**
SCIG				*i S*	Sn	15 00 36.0	-14
PNIG	**Pinotepa**	**5.12**	**294**	*eP*	**Pn**	**14 59 54.9**	**-1.8**
PNIG				*i S*	Sn	15 00 45.1	-8.8
TOIG	**Toxpalan**	**5.21**	**316**	*eP*	**Pn**	**14 59 57.4**	**+0.5**
TOIG				*eS*	**Sn**	**15 00 53.8**	**-2.3**
TXIG	**Tlaxiaco**	**5.21**	**304**	*eP*	**Pn**	**14 59 58.4**	**+1.3**
TXIG				*i S*	**Sn**	**15 00 55.1**	**-1.3**
HLIG	**Huajuapan de L**	**5.57**	**309**	*eP*	**Pn**	**15 00 04.6**	**+2.6**
HLIG				*i S*	**Sn**	**15 01 01.1**	**-4.1**
TPIG	**Tehuac#an**	**5.64**	**316**	*eP*	**Pn**	**15 00 05.2**	**+2.3**
TPIG				*i S*	**Sn**	**15 01 03.8**	**-3.0**
FTIG	**Fresnillo de T**	**5.87**	**307**	*eP*	**Pn**	**15 00 08.1**	**+2.2**
FTIG				*i S*	**Sn**	**15 01 09.8**	**-2.6**
JAUV	**Jalcomulco**	**6.02**	**326**	*eP*	**Pn**	**15 00 06.6**	**-1.4**
JAUV				*i S*	**Sn**	**15 01 10.8**	**-5.2**
TLIG	**Tlapa**	**6.03**	**302**		**Pn**	**15 00 09.9**	**+1.8**
TLIG	**Tlapa**	**6.03**	**302**	*eP*	**Pn**	**15 00 09.7**	**+1.6**
TLIG				*eS*	**Sn**	**15 01 12.3**	**-3.9**
LVIG	**Laguna Verde**	**6.12**	**331**	*eP*	**Pn**	**15 00 09.5**	**-2.8**
LVIG				*eS*	**Sn**	**15 01 10.2**	**-8.2**
CRIN	**San Cristobal**	**6.24**	**105**		**Pn**	**15 00 12.2**	**+1.1**
CNGN	**Cerro Negro**	**6.63**	**106**	Pn	**Pn**	**15 00 18.6**	**+2.2**
DAIG	**Los Arroyos**	**6.71**	**294**	*eP*	**Pn**	**15 00 17.5**	**0.0**
DAIG				*eS*	**Sn**	**15 01 24.7**	**-8.3**
PPM	**Popocatepetl**	**6.96**	**313**	*eP*	**Pn**	**15 00 22.3**	**+1.1**
PPM				*i S*	**Sn**	**15 01 44.4**	**+4.7**
MEIG	**Mezcala**	**7.08**	**301**	*eP*	**Pn**	**15 00 23.7**	**+1.2**
MEIG				*eS*	**Sn**	**15 01 33.2**	**-8.8**
YAIG	**Yautepec**	**7.15**	**309**	*eP*	**Pn**	**15 00 26.5**	**+2.9**
YAIG				*i S*	**Sn**	**15 01 37.5**	**-6.4**
PLIG	**Platanillo**	**7.22**	**304**	*eP*	**Pn**	**15 00 21.2**	**-3.3**
PLIG				*eS*	**Sn**	**15 01 39.8**	**-5.8**
CAIG	**El Cayaco**	**7.27**	**292**	*eP*	**Pn**	**15 00 25.4**	**+0.3**
CAIG				*i S*	Sn	15 01 36.0	-11
TEIG	**Tepich**	**7.50**	**38**	Pn	**Pn**	**15 00 27.9**	**-0.3**
TEIG	**Tepich**	**7.50**	**38**	LR	LR	15 03 44.4	
	comp=Z,25μm,21.3s,baz=354,slow=43						
BOAB	**BOACO BROADBAN**	**7.61**	**104**		**Pn**	**15 00 30.4**	**+0.6**
DEIG	**Demacu**	**8.08**	**318**	*eP*	Pn	15 00 30.7	-5.8
DEIG				*i S*	**Sn**	**15 02 04.3**	**-2.8**
ACON	**Acoyapa**	**8.21**	**106**		**Pn**	**15 00 39.1**	**+1.0**
ORTG	**Ortega, Santa**	**8.58**	**117**	Pn	**Pn**	**15 00 46.8**	**+3.6**
JTS	**Las Juntas de**	**9.06**	**116**	Pn	**Pn**	**15 00 46.7**	**-3.0**
	comp=Z,1.7nm,0.3s,baz=355,slow=23,SNR=0.7						
JTS				Sn	**Sn**	**15 02 24.2**	**-6.5**
	baz=156,slow=18						
MOIG	**Morelia**	**9.25**	**306**	Pn	**Pn**	**15 00 55.2**	**+2.6**
JACO	**JACO, Garabito**	**9.61**	**118**	Pn	Pn	15 01 02.0	+4.7
LCR2	**La Lucha 2**	**10.13**	**116**		**Pn**	**15 01 07.1**	**+2.5**
SRBA	**San Rafael, Bu**	**10.94**	**117**		**Pn**	**15 01 18.6**	**+3.1**
DRK0	**Durika**	**11.02**	**116**	Pn	**Pn**	**15 01 20.1**	**+3.4**
HBVL	**Hebbronville**	**13.60**	**339**	Pn	**Pn**	**15 01 49.9**	**-1.9**
833A	**Chaparral WMA,**	**15.01**	**339**	Pn	**Pn**	**15 02 09.1**	**-1.9**
833A	**Chaparral WMA,**	**15.01**	**339**	P	**Pn**	**15 02 12.3**	**+1.3**
	baz=156,SNR=21						
833A	**Chaparral WMA,**	**15.01**	**339**	P	**Pn**	**15 02 11.5**	**+0.6**
	baz=156,SNR=21						
HNDO	**Hondo**	**16.08**	**341**	Pn	**Pn**	**15 02 25.0**	**+0.1**
DRIO	**Del Rio**	**16.45**	**337**		**Pn**	**15 02 29.3**	**-0.3**
435B	**Jarrell**	**16.81**	**347**	P	**P**	**15 02 35.4**	**-0.6**
	baz=165						
JCT	**Junction City**	**17.13**	**340**		**Pn**	**15 02 38.3**	**+0.2**
JCT	**Junction City**	**17.13**	**340**	P	**P**	**15 02 39.5**	**-0.1**
	baz=157,SNR=15						
JCT	**Junction City**	**17.13**	**340**	P	**P**	**15 02 39.2**	**-0.4**
	baz=157,SNR=15						
NATX	**Nacogdoches**	**17.35**	**356**	P	**P**	**15 02 42.1**	**+0.1**
	baz=175						
DWPF	**Disney Wildern**	**17.52**	**37**	P	**P**	**15 02 43.1**	**-0.8**
	baz=221						
SAND	**Sanderson**	**17.54**	**334**	P	**P**	**15 02 44.9**	**+0.7**
SAND				IAmb	IAmb	15 02 50.6	
	comp=Z,155nm,1.0s						
BRDY	**Brady**	**17.64**	**344**	P	**P**	**15 02 45.0**	**-0.3**
BRAL	**Brewton**	**17.65**	**18**	P	**P**	**15 02 45.2**	**-0.1**
	baz=200						
TX31	**Lajitas Ar. Si**	**17.74**	**329**		**P**	**15 02 46.5**	**0.0**
TX31				IAmb	IAmb	15 02 54.9	
	comp=Z,136nm,1.4s						
TX31	**Lajitas Ar. Si**	**17.74**	**329**	P	**P**	**15 02 47.9**	**+1.5**
	baz=144,SNR=51						
TXAR	**Lajitas Array**	**17.74**	**329**		**P**	**15 02 46.7**	**+0.3**
TXAR	**Lajitas Array**	**17.74**	**329**	P	**P**	**15 02 47.5**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=152,slow=17,SNR=40						
TXAR				LR	LR	15 10 36.2	
	comp=Z,392nm,18.0s,baz=134,slow=40 comp=Z,13nm,0.7s						
VBMS	**Vicksburg**	**17.93**	**8**	P	**P**	**15 02 49.2**	**+0.8**
	baz=188						
WHTX	**Lake Whitney,**	**17.95**	**348**		**P**	**15 02 49.9**	**+1.2**
WHTX	**Lake Whitney,**	**17.95**	**348**	P	**P**	**15 02 50.4**	**+1.8**
	baz=166,SNR=10.0						
WHTX	**Lake Whitney,**	**17.95**	**348**	P	**P**	**15 02 49.5**	**+0.9**
	baz=166,SNR=10.0						
OZNA	**Ozona**	**17.99**	**338**		**P**	**15 02 49.0**	**-0.2**
OZNA				IAmb	IAmb	15 02 56.3	
	comp=Z,136nm,1.2s						
DBBC	**Dabeiba**	**18.25**	**112**	*eP*	**Pn**	**15 02 52.0**	**-0.2**
ALPN	**Alpine**	**18.58**	**331**	P	**Pn**	**15 02 58.6**	**+2.5**
ALPN				IAmb	IAmb	15 03 04.6	
	comp=Z,71nm,0.9s						
250A	**Grady**	**18.64**	**19**	P	**Pn**	**15 02 56.2**	**-0.5**
LPIG	**La Paz**	**18.78**	**304**	P	**Pn**	**15 03 02.5**	**+4.1**
	comp=Z,11nm,0.3s,baz=158,slow=7.4,SNR=5.2						
LPIG				LR	LR	15 10 06.8	
	comp=Z,749nm,18.4s,baz=128,slow=36 comp=Z,26nm,0.3s						
SGCY	**Sterling City**	**18.89**	**339**	P	**P**	**15 02 59.0**	**-0.1**
SGCY				IAmb	IAmb	15 03 06.2	
	comp=Z,157nm,0.9s						
PLPT	**Palo Pinto**	**18.93**	**347**	P	**P**	**15 02 58.7**	**-0.7**
PLPT				IAmb	IAmb	15 03 05.7	
	comp=Z,96nm,1.2s						
CBOC	**Ciudad Bolivar**	**18.94**	**115**	*eP*	**Pn**	**15 03 01.6**	**+1.0**
MNHN	**Monahans**	**19.01**	**334**	P	**Pn**	**15 03 00.7**	**-0.6**
MNHN				IAmb	IAmb	15 03 07.3	
	comp=Z,97nm,1.1s						
ABTX	**Abilene, Hawle**	**19.08**	**343**	P	**Pn**	**15 03 02.6**	**+0.6**
	baz=160,SNR=13						
ABTX	**Abilene, Hawle**	**19.08**	**343**	P	**Pn**	**15 03 03.5**	**+1.5**
	baz=160,SNR=13						
TIGA	**Tifton**	**19.14**	**26**	P	**Pn**	**15 03 02.3**	**-0.4**
	baz=209						
PLMC	**San Jos del P**	**19.17**	**118**	*eP*	**P**	**15 03 01.9**	**-0.3**
LRAL	**Lakeview Retre**	**19.42**	**16**	P	**Pn**	**15 03 05.1**	**-1.0**
	baz=198,SNR=5.4						
LRAL	**Lakeview Retre**	**19.42**	**16**	P	**Pn**	**15 03 08.3**	**+2.2**
	baz=198,SNR=5.4						
PECS	**Pecos**	**19.52**	**332**	P	**Pn**	**15 03 07.2**	**-0.2**
PECS				IAmb	IAmb	15 03 17.1	
	comp=Z,95nm,1.0s						
VHRN	**Van Horn**	**19.58**	**328**	P	**P**	**15 03 07.2**	**+0.6**
ODSA	**Odessa**	**19.60**	**336**	P	**Pn**	**15 03 08.3**	**-0.1**
ODSA				IAmb	IAmb	15 03 10.6	
	comp=Z,111nm,0.9s						
SN01	**Snyder 1**	**19.68**	**341**	P	**Pn**	**15 03 09.4**	**+0.2**
SN01				IAmb	IAmb	15 03 15.7	
	comp=Z,59nm,0.8s						
152A	**Waverly Hall**	**19.79**	**22**	P	**Pn**	**15 03 12.0**	**+1.4**
	baz=205,SNR=10						
GUY2C	**Cuyuna, Caldas**	**19.80**	**116**	*eP*	**Pn**	**15 03 11.9**	**+0.6**
PTBC	**PUERTO BERRIO,**	**20.03**	**111**	*eP*	**P**	**15 03 11.9**	**+0.2**
POST	**Post**	**20.07**	**339**	P	**P**	**15 03 12.6**	**+0.7**
POST				IAmb	IAmb	15 03 18.2	
	comp=Z,73nm,1.0s						
OXF	**Oxford**	**20.34**	**9**	P	**P**	**15 03 15.4**	**+0.6**
	baz=190						
DKNS	**Dickens**	**20.43**	**341**	P	Pn	15 03 17.0	-1.1
DKNS				IAmb	IAmb	15 03 22.8	
	comp=Z,84nm,1.1s						
GCUF	**Volcan Galeras**	**20.43**	**128**	*eP*	Pn	15 03 18.7	0.0
MNTX	**Cornudas Mount**	**20.51**	**329**	P	Pn	15 03 18.7	-0.3
	baz=144,SNR=44						
MNTX	**Cornudas Mount**	**20.51**	**329**	P	**P**	**15 03 17.7**	**+0.9**
	baz=144,SNR=44						
ORTC	**Ortega, Tolima**	**20.56**	**119**	*eP*	Pn	15 03 19.2	-0.6
X48A	**Hartselle**	**

ANMO **Albuquerque** 23.69 332 P P 15 03 50.9 +0.5
ANMO **Albuquerque** 23.69 332 P P 15 03 52.1 +1.7
baz=146
ANMO **Albuquerque** 23.69 332 P P 15 03 51.5 +1.1
baz=146,SNR=26
ANMO **Albuquerque** 23.69 332 LR LR 15 14 23.5
comp=Z,498nm,20.3s,baz=214,slow=40
TUC **Tucson** 23.98 321 P P 15 03 55.3 +2.3
TUC IAmb IAmb 15 03 58.0
comp=Z,37nm,0.9s
TUC **Tucson** 23.98 321 P P 15 03 55.1 +2.1
baz=134
WCI **Wyandotte Cave** 24.54 13 P P 15 03 58.8 +0.8
baz=196
T25A **Trinidad** 24.76 338 P P 15 04 00.7 +0.5
T25A IAmb IAmb 15 04 06.5
comp=Z,47nm,0.8s
T25A **Trinidad** 24.76 338 P P 15 04 00.4 +0.2
baz=153,SNR=30
KSU1 **Kansas State U** 24.80 354 P P 15 03 59.8 -0.5
baz=172
CBKS **Cedar Bluff** 25.01 348 P P 15 04 02.3 +0.1
baz=165
214A **Organ Pipe Nat** 25.02 318 P P 15 04 03.9 +1.4
baz=130,SNR=9.1
P40A **Paris** 25.07 2 P P 15 04 00.5 -2.3
P40A IAmb IAmb 15 04 23.0
comp=Z,42nm,1.3s
P40A **Paris** 25.07 2 P P 15 04 01.2 -1.5
baz=182,SNR=6.2
BAUV **El Baul** 25.25 100 P P 15 04 03.1 -1.5
W18A **Petrified Fore** 25.44 327 P P 15 04 07.7 +1.3
baz=140
BLA **Blacksburg** 25.44 24 P P 15 04 06.2 0.0
baz=210
SDCO **Great Sand Dun** 25.70 337 P P 15 04 09.5 +0.7
SDCO IAmb IAmb 15 04 11.3
comp=Z,30nm,1.1s
SDCO **Great Sand Dun** 25.70 337 P P 15 04 09.5 +0.7
baz=151,SNR=30
SDCO **Great Sand Dun** 25.70 337 P P 15 04 10.1 +1.3
baz=151,SNR=30
X16A **Lo Mia Camp, P** 25.86 324 P P 15 04 11.1 +1.0
KSCO **Kaye Shedlock'** 25.90 343 P P 15 04 10.7 +0.3
baz=158
ATAH **Atahualpa** 25.96 144 LR LR 15 12 58.0
comp=Z,624nm,18.1s,baz=300,slow=33
S22A **4UR Ranch, Cre** 26.22 335 P P 15 04 14.2 +0.6
baz=149,SNR=14
SJG **San Juan** 26.26 78 LR LR 15 14 23.6
comp=Z,633nm,21.8s,baz=220,slow=36
N38A **Joes South For** 26.32 0 P P 15 04 10.8 -3.2
N38A **Joes South For** 26.32 0 P P 15 04 14.1 +0.1
baz=180,SNR=8.7
SFIN **Lafayette** 26.45 11 P P 15 04 15.1 -0.2
baz=193
MVCO **Mesa Verde** 26.49 332 P P 15 04 16.3 +0.3
MVCO IAmb IAmb 15 04 20.0
comp=Z,28nm,0.9s
MVCO **Mesa Verde** 26.49 332 P P 15 04 16.1 +0.2
baz=145,SNR=16
WUAZ **Wupatki** 26.62 325 P P 15 04 16.1 -1.0
WUAZ **Wupatki** 26.62 325 P P 15 04 17.9 +0.9
baz=137,SNR=15
Q24A **Divide** 26.65 339 P P 15 04 18.0 +0.6
baz=153
O48B **Farmland** 26.73 14 P P 15 04 17.8 0.0
baz=197
P52A **Corning** 26.98 19 P P 15 04 19.9 -0.1
baz=204
BGNE **Belgrade** 27.27 352 P P 15 04 22.8 +0.2
baz=169
ACSO **Alum Creek Sta** 27.27 17 P P 15 04 22.6 -0.1
baz=202
PDMCI **Parker Dam,Lak** 27.39 320 P P 15 04 24.6 +0.8
baz=131,SNR=7.7
ISCO **Idaho Springs** 27.56 339 P P 15 04 26.0 +0.5
ISCO **Idaho Springs** 27.56 339 P P 15 04 26.0 +0.5
baz=153,SNR=7.3
ISCO **Idaho Springs** 27.56 339 P P 15 04 26.9 +1.3
baz=153,SNR=7.3
OGNE **Ogallala** 27.56 345 P P 15 04 25.3 0.0
baz=161
SWSC **Sam W. Stewart** 27.62 316 P P 15 04 27.0 +1.2
baz=126
IKP **In-Ko-Pah, Jac** 27.66 315 P P 15 04 27.2 +0.9
baz=126
U15A **North Rim** 27.79 326 P P 15 04 28.7 +1.0
BC3 **Big Chuckawall** 27.82 317 P P 15 04 29.1 +1.3
baz=128,SNR=23
IRM **Iron Mountain** 27.93 319 P P 15 04 30.1 +1.4
baz=129,SNR=11
MONP2 **Monument Peak** 28.01 315 P P 15 04 30.5 +0.9
baz=125
HMU **Henry Mountain** 28.14 330 P P 15 04 30.1 -0.6
HMU IAmb IAmb 15 04 33.5
comp=Z,47nm,1.5s
PCRV **Puerto La Cruz** 28.24 95 LR LR 15 16 30.9
comp=Z,553nm,21.0s,slow=38
BELC **Belle Mtn. Jos** 28.39 317 P P 15 04 34.1 +1.2
baz=128,SNR=5.3
TPFO **Pinon Flats** 28.45 316 P P 15 04 34.4 +1.0
baz=126
PFO **Pinyon Flats O** 28.46 316 P P 15 04 35.0 +1.5
baz=126
PFO **Pinyon Flats O** 28.46 316 LR LR 15 16 04.3
comp=Z,704nm,18.6s,baz=120,slow=36
N23A **Red Feather La** 28.65 340 P P 15 04 36.1 +0.9
baz=153
GMRC **Granite Mounta** 28.66 319 P P 15 04 36.2 +0.9
baz=129,SNR=7.1
O20A **White River Ci** 28.83 336 P P 15 04 38.0 +1.2
baz=148,SNR=7.0
MTPU **Mount Pierson** 28.94 328 P P 15 04 39.2 +1.2
MTPU IAmb IAmb 15 05 42.0
comp=Z,53nm,2.0s
MURC **Murrieta** 28.95 316 P P 15 04 39.6 +1.9
baz=125
HEC **Hector,Ludlow** 29.12 318 P P 15 04 40.5 +1.2
baz=128,SNR=5.9
TUQ **Turquoise Moun** 29.24 320 P P 15 04 42.0 +1.5
baz=130,SNR=6.5
ECSD **EROS Data Cent** 29.40 355 P P 15 04 40.6 -0.9
ECSD **EROS Data Cent** 29.40 355 P P 15 04 41.7 +0.2
baz=173
SHPR **Sheep Range** 29.48 322 P P 15 04 40.5 -2.2
BFSC **Mount Baldy Ra** 29.63 316 P P 15 04 45.0 +1.1
baz=126
CIS **Catalina Islan** 29.68 314 P P 15 04 46.0 +1.8
baz=123
GSC **Goldstone, Bar** 29.72 319 P P 15 04 46.3 +1.7
baz=128
RWWY **Rawlins** 29.79 339 P P 15 04 43.0 -2.4
RWWY IAmb IAmb 15 04 48.9
comp=Z,25nm,0.6s
EDW2 **Edwards Air Fo** 30.23 317 P P 15 04 49.9 +0.8
baz=126
SUSD **Miller** 30.36 352 P P 15 04 50.4 +0.3
baz=169
LRMC **Laurel Mtn Rad** 30.39 318 P P 15 04 51.4 +0.8
baz=127
K22A **Casper** 30.41 340 P P 15 04 50.9 +0.2
baz=154,SNR=6.1
K22A **Casper** 30.41 340 P P 15 04 51.9 +1.1
baz=154,SNR=6.1
TPNV **Topopah Spring** 30.43 322 P P 15 04 52.8 +1.8
baz=131,SNR=9.1
MPMC **Manual Prospec** 30.62 319 P P 15 04 54.1 +1.4
baz=128,SNR=10
SPMN **Marine on St.** 30.75 1 P P 15 04 54.3 +0.9
baz=181
SPR3 **Spring Creek 3** 30.77 327 P P 15 04 53.9 -0.3
SPR3 PcP PcP 15 07 52.9 +1.7
NNA **Nana** 30.83 147 LR LR 15 15 10.3
comp=Z,467nm,19.2s,baz=325,slow=32
DUG **Dugway, Tooele** 30.90 330 P P 15 04 55.9 +0.8
baz=140
ARVC **Arvin** 30.93 316 P P 15 04 56.6 +1.3
baz=125
R11B **Troy Canyon, C** 31.00 325 P P 15 04 56.9 +0.9
baz=134,SNR=12
ISA **Isabella, Lake** 31.01 318 P P 15 04 57.6 +1.6
baz=126
RSSD **Black Hills** 31.04 345 P P 15 04 56.4 0.0
RSSD **Black Hills** 31.04 345 P P 15 04 57.5 +1.1
baz=159
RSSD **Black Hills** 31.04 345 P P 15 04 56.9 +0.6
baz=159,SNR=7.8
GRAC **Grapevine Rang** 31.14 321 P P 15 04 58.1 +1.0
baz=130,SNR=5.4
SBC **Santa Barbara** 31.15 315 P P 15 04 58.5 +1.4
baz=123
CWC **Cottonwood Cre** 31.23 319 P P 15 04 59.4 +1.3
baz=128
PKM **Mcpherson Peak** 31.46 315 P P 15 05 01.2 +1.1
baz=124
VES **Vestal, Richgr** 31.52 317 P P 15 05 02.0 +1.6
baz=126
BW06 **Boulder Array** 31.59 337 P P 15 05 01.7 +0.5
baz=148
PDAR **Pinedale Array** 31.59 337 P P 15 05 00.9 -0.3
PDAR **Pinedale Array** 31.59 337 P P 15 05 01.8 +0.5
comp=Z,2.0nm,0.8s,baz=136,slow=8.8,SNR=15
PDAR PcP PcP 15 07 53.4 +0.2
comp=Z,0.5nm,0.6s,baz=140,slow=4.5,SNR=5.0
PDAR LR LR 15 19 31.5
comp=Z,415nm,18.7s,baz=0.5,slow=40
comp=Z,2.0nm,0.8s
HVU **Hansel Valley** 32.13 332 P P 15 05 07.6 +1.8
HVU IAmb IAmb 15 05 07.9
comp=Z,22nm,1.2s
ELK **Elko** 32.53 328 P P 15 05 11.1 +1.6
ELK **Elko** 32.53 328 LR LR 15 19 43.1
comp=Z,724nm,20.9s,baz=158,slow=39
SADO **Sadowa** 32.57 19 LR LR 15 19 15.5
comp=Z,349nm,20.1s,baz=275,slow=38
NVAR **Mina Array Bea** 32.63 322 P P 15 05 12.1 +1.7
NVAR PcP PcP 15 07 58.1 +1.9
NVAR **Mina Array Bea** 32.63 322 P P 15 05 12.2 +1.8
comp=Z,19nm,0.8s,baz=140,slow=9.0,SNR=95
NVAR PcP PcP 15 07 57.2 +1.1
comp=Z,4.2nm,0.9s,baz=160,slow=5.7,SNR=6.1
NVAR LR LR 15 20 19.4
comp=Z,2um,19.4s,baz=137,slow=40
comp=Z,19nm,0.8s
LOHW **Long Hollow** 32.71 336 P P 15 05 11.8 +0.7
TPAW **Teton Pass** 32.74 336 P P 15 05 11.7 +0.3
TPAW IAmb IAmb 15 05 17.2
comp=Z,32nm,1.1s
MOOW **Moose Ponds** 32.88 336 P P 15 05 12.3 -0.3
H17A **Grant Village** 33.36 337 P P 15 05 17.6 +0.8
baz=148,SNR=6.4
MDND **Maddock** 33.79 352 P P 15 05 18.7 -1.4
baz=169
AGMN **Agassiz Nation** 33.89 357 P P 15 05 19.9 -1.0
baz=175
LAO **LASA Array** 34.00 344 P P 15 05 21.4 -0.6
baz=157
HLID **Hailey** 34.27 332 P P 15 05 26.2 +1.6
baz=141,SNR=16
BOZ **Bozeman (W)** 34.78 337 P P 15 05 30.0 +1.0
baz=147
DGMT **Dagmar** 35.18 347 IAmb IAmb 15 05 44.5
comp=Z,16nm,0.8s
DGMT **Dagmar** 35.18 347 P P 15 05 32.1 -0.1
baz=161
WVOR **Wild Horse Val** 35.52 327 P P 15 05 34.8 -0.5
WVOR IAmb IAmb 15 05 37.8
comp=Z,27nm,1.1s
ULM **Lac du Bonnet** 35.84 357 P P 15 05 35.5 -2.2
comp=Z,9.6nm,1.0s,baz=180,slow=8.7,SNR=12
ULM PcP PcP 15 08 04.6 -0.2
comp=Z,6.1nm,0.9s,baz=200,slow=4.0,SNR=3.2
comp=Z,9.6nm,1.0s
ETMB **Extrema** 36.00 130 IAmb IAmb 15 05 41.3
comp=Z,56nm,1.7s
PLID **Pearl Lake** 36.18 332 P P 15 05 41.1 +0.1
PLID IAmb IAmb 15 05 42.9
comp=Z,23nm,0.9s
EGMT **Eagleton** 36.23 341 P P 15 05 41.7 +0.4
baz=152,SNR=11
MSO **Missoula** 36.70 336 IAmb IAmb 15 05 47.0
comp=Z,16nm,0.9s
MSO **Missoula** 36.70 336 P P 15 05 45.8 +0.5
baz=145,SNR=7.4
YBH **Yreka Blue Hor** 37.33 323 P P 15 05 49.3 -1.5
F10A **Beach Ranch, E** 37.41 332 P P 15 05 50.4 -1.0
F10A IAmb IAmb 15 05 52.9
comp=Z,28nm,0.8s
SAML **Samuel** 37.76 126 P P 15 05 54.3 -0.3
NEW **Newport** 39.13 335 P P 15 06 06.3 +0.5
baz=141
NEW **Newport** 39.13 335 LR LR 15 24 31.1
comp=Z,998nm,18.0s,baz=245,slow=40
LPAZ **La Paz** 39.29 140 P P 15 06 06.1 -2.0
PB16 **IPOC Station P** 40.05 144 P P 15 06 16.6 +2.3
PB16 IAmb IAmb 15 06 17.5
comp=Z,51nm,2.0s
MDP **Montagnes des** 40.99 99 LR LR 15 24 23.2
comp=Z,519nm,21.6s,baz=288,slow=38
LVC **Limon Verde** 43.81 147 LR LR 15 24 22.2
comp=Z,246nm,20.2s,baz=328,slow=35
SIV **San Ignacio** 43.83 132 LR LR 15 24 10.7
comp=Z,462nm,19.3s,baz=286,slow=35
RPN **Rapa Nui** 44.12 201 LR LR 15 20 26.8
SCHQ **Schefferville** 45.29 21 P P 15 06 53.4 -2.4
comp=Z,1.9nm,0.8s,baz=232,slow=17,SNR=1.8
SCHQ PcP PcP 15 08 34.9 -0.4
comp=Z,3.6nm,0.6s,baz=259,slow=3.1,SNR=10
SCHQ LR LR 15 27 11.1
comp=Z,572nm,18.1s,baz=224,slow=38
comp=Z,1.9nm,0.8s
YKA **Yellowknife Ar** 50.39 347 P P 15 07 34.7 -0.4
comp=Z,19nm,0.9s,baz=152,slow=7.3,SNR=209
YKA LR LR 15 31 30.2
comp=Z,247nm,19.0s,baz=185,slow=39
comp=Z,19nm,0.9s
KOTAN **Kotaneelee Air** 50.93 341 P P 15 07 39.9 +0.6
baz=140,SNR=7.3
CRAG **Craig** 51.22 332 P P 15 07 42.4 +0.9
baz=127
DLBC **Dease Lake** 51.82 336 P P 15 07 46.9 +0.8
baz=132,SNR=8.3
S34M **Telegraph Cree** 51.91 335 P P 15 07 47.7 +1.0
baz=131
TAOE **Nuku Hiva Isla** 51.94 246 eS S 15 15 09.3 0.0
comp=Z,209nm,25.3s
TAOE eLR LR 15 22 43.4
comp=Z,289nm,23.3s
FRB **Frobisher Bay** 52.22 14 LR LR 15 31 40.3
comp=Z,308nm,18.4s,baz=99,slow=38
WTLY **Watson Lake, Y** 52.52 338 P P 15 07 52.2 +0.9
baz=135,SNR=7.6
R33M **Jennings River** 52.83 337 P P 15 07 54.9 +1.3
baz=132
Q32M **Nakina River** 53.05 336 P P 15 07 56.6 +1.3
baz=130
SIT **Sitka** 53.16 333 P P 15 07 56.9 +1.1
baz=126
WRGLY **Wrigley** 53.19 343 P P 15 07 56.8 +0.8
baz=142,SNR=8.4
CPUP **Villa Florida** 53.45 139 P P 15 07 58.1 -0.4
comp=Z,2.1nm,0.6s,baz=300,slow=6.4,SNR=3.7
CPUP LR LR 15 32 08.7
comp=Z,148nm,18.9s,baz=340,slow=38
comp=Z,2.1nm,0.6s
BDFB **Brasilia** 53.74 122 P P 15 08 01.3 +0.5
comp=Z,6.3nm,0.7s,baz=298,slow=7.2,SNR=8.2
BDFB LR LR 15 31 38.1
comp=Z,254nm,19.9s,baz=316,slow=37
comp=Z,6.3nm,0.7s
P32M **Atlin** 54.02 336 P P 15 08 02.7 +0.4
baz=129
P33M **Teslin, Yukon** 54.07 337 P P 15 08 03.1 +0.4
baz=130
S31K **Pelican** 54.08 333 P P 15 08 03.7 +1.1
baz=125
SKAG **Skagway** 54.59 335 P P 15 08 07.0 +0.7
baz=127
N32M **Quiet Lake** 54.78 338 P P 15 08 08.7 +0.9
baz=130
WHY **Whitehorse** 55.15 336 IAmb IAmb 15 08 11.7
comp=Z,20nm,1.6s
WHY **Whitehorse** 55.15 336 P P 15 08 10.1 -0.5
baz=128
FARO **Faro, Yukon** 55.59 339 P P 15 08 14.6 +1.0
FARO IAmb IAmb 15 09 07.0
comp=Z,30nm,1.8s
FARO **Faro, Yukon** 55.59 339 P P 15 08 14.4 +0.9
baz=131,SNR=5.5
P30M **Million Dollar** 55.65 335 P P 15 08 15.2 +1.2
baz=126
P29M **Windy Craggy** 55.69 334 P P 15 08 14.8 +0.5
baz=124
O30N **Mendenhall** 55.69 336 P P 15 08 15.2 +0.9
baz=127,SNR=5.3
M31M **Drury Creek, Y** 55.94 338 P P 15 08 16.8 +0.8
baz=130
N31M **Braeburn, Yuko** 56.01 337 P P 15 08 17.7 +1.2
baz=128
HYT **Haines Junctio** 56.28 336 IAmb IAmb 15 08 21.6
comp=Z,50nm,1.9s
HYT **Haines Junctio** 56.28 336 P P 15 08 19.5 +0.9
baz=125
PNL **Peninsula** 56.41 334 P P 15 08 19.9 +0.4
baz=123
O29M **Mount Kennedy** 56.41 335 P P 15 08 20.9 +1.3
baz=124
N30M **Aishikik Lake** 56.49 336 P P 15 08 20.8 +0.7
baz=126
YUK6 **Outpost Mounta** 56.69 336 P P 15 08 22.3 +0.6
baz=125
YUK4 **Talbot Arm** 57.03 336 P P 15 08 24.8 +0.7
baz=125
M30M **Minto, Yukon** 57.05 338 P P 15 08 22.8 -1.2
M30M IAmb IAmb 15 08 27.3
comp=Z,16nm,1.4s
M30M **Minto, Yukon** 57.05 338 P P 15 08 25.1 +1.1
baz=127,SNR=6.8
MAYO **Mayo, Yukon** 57.36 339 P P 15 08 27.3 +1.2
baz=129
YUK8 **Steele Glacier** 57.45 335 P P 15 08 28.2 +1.2
baz=123
M29M **Somme Creek** 57.59 337 P P 15 08 29.5 +1.6
baz=125
L29M **L29M** 57.86 338 P P 15 08 30.8 +1.1
baz=126
CTG **Chitna Glacier** 57.92 335 P P 15 08 31.8 +1.6
baz=122
YUK3 **Moose Creek** 57.99 336 P P 15 08 31.5 +0.6
baz=123
K29M **Barlow Dome** 58.08 339 P P 15 08 31.8 +0.5
baz=127
J30M **Hart River** 58.12 340 P P 15 08 32.3 +0.7
baz=129
C36M **Paulatuk** 58.27 348 P P 15 08 32.9 +0.5
baz=144
H31M **Peel River** 58.28 341 P P 15 08 32.0 -0.5
baz=131
BVCY **Beaver Creek** 58.50 336 P P 15 08 34.8 +0.6
baz=123
I30M **Mount Dempster** 58.55 340 P P 15 08 35.2 +0.6
baz=129,SNR=9.3
J29N **Klondike Camp** 58.69 339 P P 15 08 36.2 +0.7
baz=126
PLCA **Paso Flores** 58.73 160 P P 15 08 36.8 +0.7
comp=Z,2.0nm,0.9s,baz=326,slow=9.6,SNR=4.3
PLCA LR LR 15 29 11.6
comp=Z,214nm,18.1s,baz=5.5,slow=31
comp=Z,2.0nm,0.9s
MCARA **McCarthy VSAT** 58.84 335 P P 15 08 37.9 +1.4
baz=120
M27K **Edge Creek, AK** 58.87 336 P P 15 08 37.7 +0.8
baz=122
DAWY **Dawson** 58.88 338 P P 15 08 36.2 -0.6
DAWY **Dawson** 58.88 338 P P 15 08 37.1 +0.3
baz=125
G31M **Satah River** 59.01 342 P P 15 08 36.8 -0.7
G31M IAmb IAmb 15 08 38.7
comp=Z,16nm,0.9s
G31M **Satah River** 59.01 342 P P 15 08 38.0 +0.6
baz=132,SNR=12
F31M **Tsiigehtchic** 59.20 343 P P 15 08 38.6 -0.2
F31M IAmb IAmb 15 08 40.0
comp=Z,14nm,0.9s
F31M **Tsiigehtchic** 59.20 343 P P 15 08 39.5 +0.7
baz=133,SNR=9.3
L27K **Beaver Creek,** 59.23 337 P P 15 08 39.9 +0.7
baz=122
I29M **Ogilvie Camp,** 59.27 340 P P 15 08 39.7 +0.3
baz=127,SNR=6.9
BMRM **Bremner River** 59.30 334 P P 15 08 39.7 0.0
baz=118
M26K **Nabesna, AK** 59.34 336 P P 15 08 40.3 +0.3
baz=120
Q23K **Middleton Isla** 59.38 332 P P 15 08 40.6 +0.4
baz=116
EPYK **Eagle Plains** 59.38 341 P P 15 08 40.6 +0.3
baz=129
N25K **Chitina, Valde** 59.60 334 P P 15 08 41.8 -0.1
N25K **Chitina, Valde** 59.60 334 P P 15 08 43.3 +1.4
baz=118,SNR=6.9
EYAK **Cordova Ski Ar** 59.60 333 P P 15 08 43.0 +1.2
baz=117
G30M **tAoh Zraii Nji** 59.62 342 P P 15 08 42.7 +0.8
baz=130
INK **Inuvik** 59.74 344 P P 15 08 42.4 -0.1
INK IAmb IAmb 15 08 43.8
comp=Z,16nm,0.8s
INK **Inuvik** 59.74 344 P P 15 08 42.8 +0.2
baz=133,SNR=15
INK **Inuvik** 59.74 344 LR LR 15 39 01.4
comp=Z,468nm,18.2s,baz=182,slow=41
L26K **Log Cabin Wild** 59.80 336 P P 15 08 43.7 +0.6
baz=120
H29M **Whitestone** 59.81 341 P P 15 08 43.5 +0.4
H29M IAmb IAmb 15 08 45.1
comp=Z,17nm,1.2s
H29M **Whitestone** 59.81 341 P P 15 08 43.0 -0.2
baz=127,SNR=6.6
K27K **Chicken** 59.84 337 P P 15 08 44.3 +1.0
baz=122
I28M **Miner Creek** 59.87 339 P P 15 08 42.3 -1.4
I28M **Miner Creek** 59.87 339 P P 15 08 43.7 0.0
baz=125
F30M **Barrier River** 59.90 343 P P 15 08 44.2 +0.5
baz=131
EGAK **Eagle** 59.92 338 P P 15 08 42.0 -1.9
EGAK IAmb IAmb 15 08 47.7
comp=Z,40nm,2.0s
EGAK **Eagle** 59.92 338 P P 15 08 43.9 +0.1
baz=124,SNR=5.6
P23K **Montague Islan** 60.10 332 P P 15 08 46.0 +0.8
baz=115
KLU **Klutina** 60.11 334 P P 15 08 46.1 +0.7
baz=117,SNR=6.5
G29M **Pine Creek** 60.13 341 P P 15 08 45.7 +0.3
baz=128
HARP **HAARP** 60.21 335 P P 15 08 46.8 +0.8
baz=118,SNR=5.9
RCBR **Riachuelo** 60.30 105 LR LR 15 35 47.7
comp=Z,210nm,21.8s,baz=278,slow=37
RES **Resolute Bay** 60.31 359 P P 15 08 45.7 -0.7
RES IAmb IAmb 15 08 46.7
comp=Z,18nm,0.9s
RES **Resolute Bay** 60.31 359 LR LR 15 35 44.6
comp=Z,264nm,18.8s,baz=204,slow=37
M24K **Tolsona, Glenn** 60.50 334 P P 15 08 48.5 +0.6
baz=117
SCRK **Sand Creek** 60.53 337 P P 15 08 48.7 +0.5
baz=120,SNR=5.2
I27K **Kandik River** 60.54 339 P P 15 08 48.8 +0.6
baz=124
PAX **Paxson** 60.61 336 P P 15 08 48.9 +0.1
baz=118,SNR=9.6
J26L **Joseph Creek** 60.64 338 P P 15 08 49.8 +0.8
baz=121
A36M **Sachs Harbour** 60.65 349 P P 15 08 48.4 -0.3
baz=144,SNR=12
RIDG **Independent Ri** 60.74 336 P P 15 08 49.4 -0.3
RIDG **Independent Ri** 60.74 336 P P 15 08 50.0 +0.4
baz=119,SNR=8.8
H27K **Steamboat Moun** 60.86 340 P P 15 08 50.6 +0.3
baz=124
SCM **Sheep Creek Mo** 60.86 334 P P 15 08 50.2 -0.3
baz=116
I26K **Coal Creek Min** 60.92 338 P P 15 08 50.9 +0.3
baz=122
M23K **Glacier View** 61.01 334 P P 15 08 52.0 +0.6
baz=115
E29M **Blow River** 61.02 343 P P 15 08 51.7 +0.4
baz=129
SEW **Seward** 61.08 332 P P 15 08 51.9 +0.1
baz=113
F28M **Old Crow** 61.13 341 P P 15 08 50.9 -1.2
F28M **Old Crow** 61.13 341 P P 15 08 52.6 +0.4
baz=126,SNR=26
K24K **Donnelly Dome** 61.14 336 P P 15 08 52.2 0.0
baz=118,SNR=9.5
KNK **Knik Glacier** 61.17 333 P P 15 08 52.7 +0.2
baz=114
G27K **Doyon Strip** 61.23 340 P P 15 08 53.0 +0.2

baz=124
SML Sawmill 61.28 334 P **P** **15 08 53.5 +0.2**
baz=115
WAT6 Susitna Watana 61.36 335 P **P** **15 08 54.4 +0.4**
baz=116,SNR=13
J25K Salcha River, 61.37 337 P **P** **15 08 54.4 +0.5**
baz=119
DHY Denali Highway 61.43 335 P **P** **15 08 54.9 +0.4**
baz=116
GHO Glory Hole Cre 61.52 333 P **P** **15 08 54.9 0.0**
PMR Palmer 61.54 333 P **P** **15 08 55.3 +0.4**
baz=114
BRSE Bradley Lake S 61.55 331 P **P** **15 08 55.4 +0.3**
baz=111
RC01 Rabbit Creek A 61.60 333 P **P** **15 08 56.1 +0.7**
RC01 Rabbit Creek A 61.60 333 P **P** **15 08 55.5 +0.1**
baz=113,SNR=7.2
BRLK Bradley Lake 61.62 331 P **P** **15 08 56.2 +0.6**
E28M Babbage River 61.62 342 IAmb IAmb 15 08 56.7
comp=Z,13nm,0.9s
E28M Babbage River 61.62 342 P **P** **15 08 55.8 +0.3**
baz=127
KDAK Kodiak Island 61.77 328 LR LR 15 36 35.3
comp=Z,285nm,18.3s,baz=112,slow=37
WAT1 Susitna Watana 61.81 335 P **P** **15 08 57.0 +0.2**
baz=115
D28M Stokes Point 61.84 343 P **P** **15 08 57.3 +0.5**
baz=128
HDA Harding Lake 61.88 337 P **P** **15 08 57.4 +0.2**
baz=118,SNR=9.7
PRP Porcupine Dome 61.88 338 P **P** **15 08 57.5 +0.1**
PRP IAmb IAmb 15 08 58.9
comp=Z,18nm,0.9s
PRP Porcupine Dome 61.88 338 P **P** **15 08 57.4 +0.1**
baz=120,SNR=13
E27K Coleen River 61.99 342 P **P** **15 08 58.6 +0.6**
baz=125
G26K Porcupine Rive 62.01 340 P **P** **15 08 58.5 +0.5**
baz=122
IL31 62.02 337 P **P** **15 08 57.7 -0.4**
ILAR Eielson Array 62.02 337 P **P** **15 08 57.4 -0.8**
ILAR Eielson Array 62.02 337 P **P** **15 08 58.5 +0.3**
comp=Z,7.7nm,0.9s,baz=141,slow=4.6,SNR=63
ILAR LR LR 15 39 58.3
comp=Z,390nm,18.1s,baz=133,slow=40
comp=Z,7.7nm,0.9s
RND Reindeer 62.18 335 P **P** **15 09 00.1 +0.8**
SUA Susitna One 62.20 333 P **P** **15 09 00.3 +0.7**
SUA IAmb IAmb 15 09 02.3
comp=Z,13nm,0.7s
SUA Susitna One 62.20 333 P **P** **15 08 59.8 +0.2**
baz=112,SNR=9.5
CCB Clear Creek Bu 62.31 337 P **P** **15 08 59.5 -0.6**
MCK McKinley 62.35 335 P **P** **15 09 00.8 +0.3**
baz=115,SNR=9.7
CUT Chulitna 62.36 334 P **P** **15 09 01.0 +0.6**
baz=113
POKR Poker Plat Res 62.39 337 P **P** **15 09 00.9 +0.2**
baz=117
COLA College 62.44 337 P **P** **15 09 01.3 +0.4**
baz=117
F26K Sheenjek River 62.52 340 P **P** **15 09 01.5 -0.1**
baz=122,SNR=6.7
BMAR Burnt Mountain 62.53 340 P **P** **15 09 01.9 +0.3**
MDM Murphy Dome 62.62 337 P **P** **15 09 01.2 -1.0**
MDM IAmb IAmb 15 09 04.1
comp=Z,32nm,1.7s
G25K Bearman Lake 62.70 339 P **P** **15 09 03.1 +0.5**
baz=119
SKT Skwentna 62.74 333 P **P** **15 09 03.4 +0.3**
baz=112,SNR=8.8
RSO Redoubt South 62.75 331 P **P** **15 09 03.2 -0.1**
BWN Browne 62.75 336 P **P** **15 09 03.0 -0.1**
N20K Mount Spurr 62.76 332 P **P** **15 09 03.0 -0.2**
baz=111,SNR=7.3
NEA2 Nenana 62.78 336 P **P** **15 09 03.3 +0.1**
baz=116
TRF Thorofare Moun 62.79 335 P **P** **15 09 03.8 +0.3**
TRF Thorofare Moun 62.79 335 P **P** **15 09 03.6 +0.1**
baz=114,SNR=15
H24K Noodor Dome 62.89 338 P **P** **15 09 03.9 -0.1**
baz=117
F25K Christian Rive 62.96 340 P **P** **15 09 05.5 +1.0**
baz=120,SNR=11
KTH Kantishna Hill 63.09 335 P **P** **15 09 04.8 -0.6**
KTH IAmb IAmb 15 09 06.5
comp=Z,17nm,0.9s
I23K Minto, Yukon-K 63.13 337 P **P** **15 09 06.1 +0.6**
baz=115,SNR=15
G24K Hadweenzic Riv 63.15 339 IAmb IAmb 15 09 07.5
comp=Z,14nm,1.0s
G24K Hadweenzic Riv 63.15 339 P **P** **15 09 06.3 +0.6**
baz=118,SNR=11
E25K Arctic Village 63.21 341 P **P** **15 09 06.9 +0.8**
E25K IAmb IAmb 15 09 09.0
comp=Z,8.5nm,0.9s
E25K Arctic Village 63.21 341 P **P** **15 09 06.1 +0.1**
baz=121,SNR=9.2
BPAW Bear Paw Mtn. 63.33 335 P **P** **15 09 06.6 -0.3**
BPAW IAmb IAmb 15 09 08.0
comp=Z,14nm,0.8s
BPAW Bear Paw Mtn. 63.33 335 P **P** **15 09 06.8 -0.2**
baz=113,SNR=9.5
PPLA Purkeypile 63.37 334 P **P** **15 09 07.0 -0.3**
baz=112
O19K Port Alsworth 63.39 331 P **P** **15 09 07.4 0.0**
baz=108
M20K Styx River 63.41 333 P **P** **15 09 07.7 +0.1**
baz=110
CAST Castle Rocks 63.52 335 P **P** **15 09 07.3 -0.9**
CAST IAmb IAmb 15 09 09.0
comp=Z,16nm,0.9s
CAST Castle Rocks 63.52 335 P **P** **15 09 07.7 -0.5**
baz=112,SNR=15
Q17K Contact Creek 63.59 328 P **P** **15 09 08.7 -0.1**
baz=106
MLY Manley 63.61 336 P **P** **15 09 08.8 0.0**
MLY Manley 63.61 336 P **P** **15 09 08.9 0.0**
baz=114,SNR=15
N19K Bonanza Creek 63.67 331 P **P** **15 09 09.1 -0.2**
baz=108
F24K Squaw Lake 63.68 340 P **P** **15 09 09.7 +0.5**
baz=118
O18K Koktuh Hills 63.71 330 P **P** **15 09 08.9 -0.6**
baz=107
CHUM Lake Minchumin 63.79 335 P **P** **15 09 09.8 -0.1**
baz=112
L20K Farewell, AK 63.95 333 P **P** **15 09 11.0 -0.1**
baz=110,SNR=10
C26K Camden Bay 63.95 342 P **P** **15 09 11.4 +0.6**
baz=122
PPT2 Papeete2 64.01 242 *e*LR LR 15 28 20.7
comp=Z,190nm,21.5s
PPT2 *e*LR LR 15 28 22.7
comp=Z,228nm,24.0s
G23K Bananza Creek 64.06 338 P **P** **15 09 11.6 -0.1**
baz=116,SNR=7.5
D25K Kavik River 64.08 342 P **P** **15 09 12.7 +0.9**
baz=120
P17K Kvichak River 64.12 329 P **P** **15 09 12.6 +0.5**
baz=106
E24K Your Creek 64.14 340 P **P** **15 09 13.1 +0.8**
baz=118
I21K Tanana 64.15 336 P **P** **15 09 12.1 -0.2**
I21K IAmb IAmb 15 09 13.6
comp=Z,20nm,1.2s
I21K Tanana 64.15 336 P **P** **15 09 12.1 -0.2**
baz=113,SNR=6.3
H22K Ishtalitna Cre 64.21 337 P **P** **15 09 12.6 -0.1**
baz=114
L19K White Mountain 64.28 333 P **P** **15 09 12.5 -0.7**
L19K IAmb IAmb 15 09 14.2
comp=Z,11nm,1.1s
L19K White Mountain 64.28 333 P **P** **15 09 13.0 -0.2**
baz=109
N18K Kilae Creek 64.28 331 P **P** **15 09 13.0 -0.3**
baz=107
K20K Telida 64.33 334 P **P** **15 09 13.3 -0.2**
K20K Telida 64.33 334 P **P** **15 09 13.3 -0.2**
baz=110,SNR=15
COLD Coldfoot 64.34 339 P **P** **15 09 13.9 +0.4**
baz=116,SNR=7.1
M18K Stony River 64.50 332 P **P** **15 09 14.4 -0.2**
baz=107
E23K Chandalar 64.51 340 P **P** **15 09 16.0 +1.3**
baz=116
O17K Koliganek Bris 64.60 330 P **P** **15 09 15.0 -0.3**
baz=106
J20K Nowinta River 64.65 335 IAmb IAmb 15 09 16.5
comp=Z,16nm,1.1s
J20K Nowinta River 64.65 335 P **P** **15 09 15.2 -0.4**
baz=110,SNR=7.9
H21K Melozitna Rive 64.66 337 P **P** **15 09 15.2 -0.4**
baz=112,SNR=5.1
G22K Bettles 64.68 338 P **P** **15 09 16.0 +0.3**
baz=114,SNR=7.2
D24K Happy Valley 64.75 341 P **P** **15 09 16.5 +0.3**
baz=118
N17K Nushagak Hills 64.85 331 P **P** **15 09 17.5 +0.6**
baz=106
C24K Franklin Bluff 64.98 342 P **P** **15 09 18.4 +0.8**
baz=118,SNR=18
I20K Naaghedeneel 65.00 336 P **P** **15 09 18.5 +0.7**
baz=110
TTA Tatalina 65.02 333 P **P** **15 09 17.2 -0.9**
TTA Tatalina 65.02 333 P **P** **15 09 18.0 -0.1**
baz=108,SNR=6.9
L18K Granite Mounta 65.11 332 P **P** **15 09 18.6 +0.1**
baz=107
IMAR Indian Mountai 65.14 337 P **P** **15 09 18.0 -0.7**
F22K John River 65.16 339 P **P** **15 09 19.9 +1.1**
baz=114
J19K Poorman 65.19 335 P **P** **15 09 18.7 -0.4**
baz=109
M17K Holitna River 65.21 331 P **P** **15 09 19.5 +0.2**
baz=106
G21K Allakaket 65.25 337 P **P** **15 09 20.2 +0.7**
baz=112
E22K Anaktuvuk Pass 65.29 339 P **P** **15 09 20.4 +0.7**
baz=114
H20K Anotleneega Mo 65.40 336 P **P** **15 09 20.7 +0.3**
baz=110
J18K Innoko River 65.49 334 IAmb IAmb 15 09 22.0
comp=Z,18nm,1.4s
J18K Innoko River 65.49 334 P **P** **15 09 21.6 +0.5**
baz=108
F21K Alatna River 65.51 338 P **P** **15 09 21.7 +0.6**
baz=112
N16K Nishlik Lake 65.59 330 P **P** **15 09 22.0 +0.2**
baz=104
C23K Itkillik River 65.63 341 P **P** **15 09 22.3 +0.5**
C23K Itkillik River 65.63 341 P **P** **15 09 22.6 +0.8**
baz=116,SNR=32
L17K Donlin 65.81 332 P **P** **15 09 22.8 -0.2**
baz=105
O15K Ungalikthiuk R 65.81 329 P **P** **15 09 24.4 +1.2**
baz=103
M16K Timber Creek 65.82 331 P **P** **15 09 23.1 -0.2**
baz=104
D22K Ayikyak River 65.89 340 P **P** **15 09 24.1 +0.6**
baz=114
GCSA Galena City Sc 65.95 335 P **P** **15 09 24.3 +0.3**
baz=108
K17K Iditarod 65.97 333 P **P** **15 09 23.6 -0.5**
baz=106
H19K Roundabout Mou 66.03 336 P **P** **15 09 24.5 +0.1**
baz=109
E21K Killik River 66.15 339 P **P** **15 09 25.9 +0.7**
baz=112
N15K Kwethluk River 66.16 330 P **P** **15 09 27.0 +1.5**
baz=103
L16K Owhat River 66.23 332 P **P** **15 09 25.9 +0.1**
L16K IAmb IAmb 15 09 27.5
comp=Z,9.9nm,1.0s
L16K Owhat River 66.23 332 P **P** **15 09 26.7 +0.8**
baz=104
F20K Avaraart Lake 66.26 338 P **P** **15 09 26.6 +0.6**
baz=110
G19K Purcell Mounta 66.47 337 IAmb IAmb 15 09 28.6
comp=Z,16nm,1.0s
G19K Purcell Mounta 66.47 337 P **P** **15 09 27.9 +0.6**
baz=108
TBI Tubuai 66.55 236 *e*S **S** **15 18 16.8 -1.1**
comp=Z,569nm,25.0s
TBI Tubuai 66.55 236 *e*LR LR 15 29 39.0
comp=Z,1μm,27.5s
TBI *e*LR LR 15 29 46.7
comp=Z,903nm,28.0s
M15K Kasigluk River 66.57 330 P **P** **15 09 28.3 +0.3**
baz=102
H18K Honhosa River 66.68 335 P **P** **15 09 28.9 +0.2**
baz=107
C21K Knifeblade Rid 66.69 340 P **P** **15 09 29.5 +0.8**
baz=112
B22K Teshekpuk Lake 66.72 341 P **P** **15 09 29.6 +0.9**
baz=114
B21K Ikpikpuk River 66.81 340 P **P** **15 09 29.8 +0.4**
baz=112
E20K Nigu River 66.85 339 P **P** **15 09 30.3 +0.5**
baz=110
N14K Kuskokwak Cree 66.89 329 P **P** **15 09 30.2 +0.2**
baz=101
F19K Shaleruckik Mo 66.95 337 P **P** **15 09 30.8 +0.5**
baz=108
G18K Tagagawik 67.01 336 P **P** **15 09 31.6 +0.8**
baz=107
J16K Anvik River 67.13 333 IAmb IAmb 15 09 33.6
comp=Z,18nm,0.9s
J16K Anvik River 67.13 333 P **P** **15 09 32.1 +0.6**
baz=104,SNR=8.1
D20K Etivluk River 67.15 339 P **P** **15 09 32.1 +0.4**
baz=110
L15K Ungalak Mounta 67.16 331 P **P** **15 09 32.4 +0.6**
baz=102,SNR=5.6
M14K Bethel 67.19 330 P **P** **15 09 32.6 +0.7**
baz=101
H17K Granite Mounta 67.25 335 P **P** **15 09 32.9 +0.6**
baz=105
I17K Unalakleet 67.31 334 P **P** **15 09 34.0 +1.3**
baz=104
K15K Wolf Creek Mou 67.31 332 P **P** **15 09 33.8 +1.0**
baz=102
A22K Sinclair Lake 67.45 342 P **P** **15 09 34.0 +0.6**
baz=112
D19K Kuna River 67.60 339 P **P** **15 09 35.4 +1.0**
baz=108
L14K Kuka Creek 67.65 331 P **P** **15 09 35.6 +0.8**
baz=101
G17K Kiwalik Mounta 67.70 335 P **P** **15 09 35.9 +0.8**
baz=105,SNR=6.5
M13K Dall Lake 67.80 330 P **P** **15 09 36.9 +1.1**
baz=100
A21K Barrow 68.07 342 P **P** **15 09 38.3 +1.0**
baz=111
H16K Elim 68.14 334 P **P** **15 09 39.2 +1.3**
baz=103,SNR=6.8
F17K Baldwin Pennin 68.17 336 P **P** **15 09 38.3 +0.3**
baz=104
E18K Tukpahlearik C 68.18 337 P **P** **15 09 38.3 +0.2**
baz=105
C19K Lookout Ridge 68.30 339 P **P** **15 09 39.8 +0.9**
baz=107
J14K Nanvaranak Lak 68.33 332 IAmb IAmb 15 09 41.4
comp=Z,21nm,1.0s
J14K Nanvaranak Lak 68.33 332 P **P** **15 09 40.1 +1.1**
baz=101,SNR=5.4
G16K Koyuk River 68.36 335 P **P** **15 09 39.7 +0.5**
baz=103
E17K Hotham Inlet 68.55 337 P **P** **15 09 40.7 +0.2**
baz=104,SNR=24
C18K Utukok River 68.73 339 P **P** **15 09 41.8 +0.2**
baz=105
G15K Niukluk 68.97 335 P **P** **15 09 43.8 +0.7**
baz=101
A19K Wainwright 69.11 340 P **P** **15 09 44.7 +0.9**
baz=106
B18K Kokolik River 69.13 339 P **P** **15 09 44.9 +0.9**
baz=105
F15K North Star Dit 69.36 335 P **P** **15 09 46.8 +1.3**
baz=101,SNR=7.6
BORG Borgarnes 69.39 26 LR LR 15 40 32.9
comp=Z,220nm,18.5s,baz=284,slow=36
C17K DeLong Mountai 69.39 338 P **P** **15 09 45.9 +0.3**
baz=103
ANM Nome 69.45 334 P **P** **15 09 45.4 -0.7**
ANM Nome 69.45 334 P **P** **15 09 46.6 +0.5**
baz=100
NIKH Nikolski High 70.00 321 P **P** **15 09 49.8 +0.2**
baz=92
F14K Arctic Creek 70.01 335 P **P** **15 09 49.9 +0.4**
baz=99
C16K Lisburne Hills 70.13 338 P **P** **15 09 50.4 +0.2**
baz=101
P08K Saint George I 70.58 325 P **P** **15 09 53.7 +0.6**
baz=93
TNA Tin City 70.68 335 P **P** **15 09 54.2 +0.7**
baz=98
GAMB Gambell 72.11 333 P **P** **15 10 02.9 +0.7**
baz=94
RAR Rarotonga 74.26 243 LR LR 15 37 02.8
comp=Z,183nm,18.9s,baz=326,slow=31
ADK Adak 74.80 320 P **P** **15 10 17.7 -0.6**
EKA Eskdalemuir Ar 78.36 36 P **P** **15 10 35.8 -2.5**
comp=Z,3.3nm,0.8s,baz=282,slow=4.3,SNR=9.3
comp=Z,3.3nm,0.8s
SPITS Spitsbergen Ar 79.95 11 P **P** **15 10 47.2 +0.4**
comp=Z,5.8nm,0.8s,baz=246,slow=11,SNR=1.5
SPITS LR LR 15 50 09.4
comp=Z,277nm,18.4s,baz=265,slow=39
comp=Z,5.8nm,0.8s
ESDC Sonseca Array 80.42 52 P **P** **15 10 48.0 -2.0**
comp=Z,2.2nm,0.8s,baz=286,slow=6.0,SNR=11
comp=Z,2.2nm,0.8s
MDT Midelt 81.22 58 LR LR 15 38 58.2
comp=Z,146nm,21.4s,baz=289,slow=30
PMSA Palmer Station 81.98 168 LR LR 15 39 35.3
comp=Z,150nm,18.1s,baz=273,slow=30
NOA NORSAR Array B 84.38 28 P **P** **15 11 10.3 0.0**
comp=Z,2.0nm,0.9s,baz=291,slow=5.1,SNR=5.1
comp=Z,2.0nm,0.9s
HFS Hagfors 85.85 29 P **P** **15 11 16.5 -1.0**
comp=Z,2.3nm,0.7s,baz=276,slow=7.3,SNR=3.6
comp=Z,2.3nm,0.7s
ARCES ARCESS Array B 86.15 18 P **P** **15 11 17.6 -1.3**
ARCES ARCESS Array B 86.15 18 P **P** **15 11 17.9 -1.0**
comp=Z,6.4nm,0.9s,baz=289,slow=4.9,SNR=11
comp=Z,6.4nm,0.9s
DBIC Dimbokro 86.81 84 P **P** **15 11 20.4 -2.8**
DBIC IAmb IAmb 15 11 24.1
comp=Z,7.7nm,0.9s
DBIC Dimbokro 86.81 84 P **P** **15 11 22.4 -0.7**
comp=Z,4.5nm,0.7s,baz=289,slow=6.8,SNR=5.9
DBIC LR LR 15 47 16.0
comp=Z,93nm,18.9s,baz=331,slow=34
comp=Z,4.5nm,0.7s
DAVOX Davos/Dischmat 88.39 42 LR LR 15 47 20.2
comp=Z,193nm,19.8s,baz=271,slow=33
TIXI Tiksi 89.64 348 LR LR 15 55 47.5
comp=Z,8.7nm,21.9s,baz=60,slow=38
PETK Petropavlovsk- 89.65 325 P **P** **15 11 36.1 +0.1**
comp=Z,3.3nm,0.9s,baz=91,slow=12,SNR=4.0
comp=Z,3.3nm,0.9s
MA2 Magadan 90.21 333 LR LR 15 55 10.7
comp=Z,119nm,19.1s,baz=60,slow=38
FINES FINESS Array B 90.66 25 P **P** **15 11 39.8 -0.7**
FINES FINESS Array B 90.66 25 P **P** **15 11 39.1 -1.4**
comp=Z,3.0nm,0.9s,baz=289,slow=4.3,SNR=4.3
comp=Z,3.0nm,0.9s
TORD Torodi Ar. Bea 91.45 76 P **P** **15 11 43.6 -1.5**
comp=Z,0.6nm,0.7s,baz=299,slow=5.3,SNR=3.6
comp=Z,0.6nm,0.7s
MODS Modra-Piesok 92.44 39 *e*P **P** **15 11 50.7 +1.7**
VAE Valguarnera 94.83 50 LR LR 15 51 19.8
comp=Z,419nm,18.7s,baz=336,slow=34
NRIK Noril'sk 96.50 360 LR LR 16 00 42.8
comp=Z,122nm,18.1s,baz=348,slow=39
YAK Yakutsk 96.72 341 LR LR 16 05 16.1
comp=Z,6.0nm,18.0s,baz=48,slow=41
MLR Muntele Rosu 99.03 38 LR LR 16 00 21.3
comp=Z,171nm,18.0s,baz=282,slow=38
DZM Mont Dzumac 104.67 251 *e*LR LR 15 47 20.1
comp=Z,179nm,23.8s
MDJ Mudanjiang 109.56 329 Pdif **Pdif** **15 13 07.5 +1.6**
MDJ PP **PP** **15 17 39.8 +0.9**
MDJ SS SS 15 32 56.3 -2.8
MDJ AMB AMB
comp=Z,230nm,6.2s
KURBB Kurchatov Arra 114.88 6 PKP **PKiKP** **15 17 18.4 -0.3**
comp=Z,1.3nm,0.8s,baz=352,slow=2.2,SNR=14
MKAR Makanchi Array 118.98 4 PKP **PKPdf** **15 17 25.9 -1.0**
comp=Z,1.1nm,0.7s,baz=11,slow=1.9,SNR=14
HHC Hu-ho-hao-te 120.43 338 *e*PKP **PKPdf** **15 17 28.3 -1.7**
HHC LR LR
comp=Z,330nm,16.9s
HHC LR LR
comp=Z,450nm,16.3s
BTO Baotou 121.19 339 *e*PKP **PKiKP** **15 17 34.3 +2.8**
BTO SKS **SKSdf** **15 24 39.8 -1.9**
BTO LR LR
comp=Z,350nm,5.0s
BTO LR LR
comp=Z,300nm,4.7s
BOSA Boshof 121.60 115 PKP **PKPdf** **15 17 32.0 -0.5**
comp=Z,2.3nm,0.9s,baz=309,slow=4.3,SNR=2.0
WMQ Urumqi 122.08 359 *e*PKP **PKiKP** **15 17 34.0 +0.9**
NJ2 Nanjing 124.53 327 *e*PKP **PKiKP** **15 17 38.9 +0.7**
SIMA Simiganj 124.68 17 PKPdf **PKiKP** **15 17 39.2 +0.7**
GTA Gaotai 125.12 348 *e*PKP **PKiKP** **15 17 42.5 +3.1**
GTA sPKP 15 17 59.8
GTA PP **PP** **15 19 29.3 +2.4**
KSH Kashi 125.45 10 PKP **PKiKP** **15 17 41.5 +1.5**
STKA Stephens Creek 127.20 241 PKP **PKPdf** **15 17 43.4 +0.4**
comp=Z,2.2nm,0.7s,baz=107,slow=1.8,SNR=6.0
LZH Lanzhou 127.27 343 ||PKP **PKiKP** **15 17 44.6 +0.8**
XAN Xi'an 127.43 337 PKP PKPdf 15 17 32.9 -11
WHN Wuhan 128.04 330 PKPbc PKiKP 15 17 53.3 +8.1
CD2 Chengdu 132.10 340 PKP **PKPdf** **15 17 51.0 -1.4**
WRA Warramunga Arr 134.32 256 PKP **PKPdf** **15 17 57.3 +0.5**
comp=Z,1.8nm,0.7s,baz=84,slow=2.3,SNR=9.1
ASAR Alice Springs 134.66 251 PKP **PKPdf** **15 17 57.9 +0.5**
comp=Z,1.4nm,0.8s,baz=80,slow=1.5,SNR=13
PZH PanZhiHua 136.83 340 PKP **PKPdf** **15 18 01.3 -0.2**
CMAR Chiang Mai Arr 145.23 339 PKPdf **PKPbc** **15 18 16.4 +0.2**
CMAR Chiang Mai Arr 145.23 339 PKPbc **PKPbc** **15 18 16.0 -0.2**
comp=Z,12nm,0.8s,baz=342,slow=3.8,SNR=58
HYB Hyderabad 147.38 15 *e*PKPdf **PKPdf** **15 18 20.9 +0.5**
HYB *e*PKPab **PKPab** **15 18 24.4 -0.1**
PSA00 Pilbara Seismi 147.78 252 PKPbc **PKPbc** **15 18 23.8 +0.1**

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*SKHL **18** 15:30:01.8±0.7, 44°.40N×148°.30E, h48km±4km, mb4.8/3*
*JMA **18** 15:30:01.2±0.3, 44°N±1°×14°8E±°, h0km, MV4.4/31, SE OFF ETOROFU*
ISC 18 15:29:57.8±3.4, 44°.27N±0°.09×148°.4E±0°.2, h9km±27km,
n20,σ1°73/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KUR	**Kuril'sk**	**1.02**	**340**	*i* P		**Pb**	**15 30 17.5**	**-0.1**
KUR					AMB	AMB	15 30 18.1	
	730nm,0.3s							
KUR				*e*S		**Sg**	**15 30 29.6**	**-1.1**
KUR					A	A	15 30 30.1	
	810nm,0.3s							
KUR					A	A	15 30 30.1	
	2μm,0.3s							
SHO	**Shikotan**	**1.17**	**250**	*i* P		**Pn**	**15 30 20.8**	**+0.5**
SHO					AMB	AMB	15 30 21.0	
	160nm,0.3s							
SHO				*i* S		**Sb**	**15 30 34.5**	**-0.8**
SHO					A	A	15 30 34.8	
	230nm,0.3s							
SHO					A	A	15 30 34.8	
	1μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.81**	**263**	*i* P		**Pn**	**15 30 29.8**	**+0.7**
YUK					AMB	AMB	15 30 31.5	
	300nm,0.2s							
YUK				*i* S		**Sn**	**15 30 50.2**	**-1.9**
YUK					A	A	15 30 55.1	
	1μm,0.4s							
YUK					A	A	15 30 55.1	
	800nm,0.4s							
NEM2	**Nemuro 2**	**2.10**	**245**	*e*P		**Pn**	**15 30 33.6**	**+0.6**
NEM2				*e*S		**Sn**	**15 30 57.0**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.10**	**246**	*i* P		**Pn**	**15 30 33.5**	**+0.4**
NMR				*e*S		**Sn**	**15 30 57.6**	**-1.8**
JRA	**Rausu**	**2.35**	**263**	*e*P		**Pn**	**15 30 38.2**	**+1.7**
JRA				*e*S		**Sn**	**15 31 05.6**	**+0.1**
JNSB	**Nemuroshibetsu**	**2.47**	**260**	*e*P		**Pn**	**15 30 39.8**	**+1.7**
JNSB				*e*S		**Sn**	**15 31 08.6**	**+0.3**
JKHN	**Kushirohamanak**	**2.60**	**244**	*e*P		**Pn**	**15 30 41.1**	**+1.1**
JKHN				*e*S		**Sn**	**15 31 10.9**	**-0.8**
JNK	**Nakash**	**2.71**	**257**	*e*P		**Pn**	**15 30 43.0**	**+1.5**
JNK				*e*S		**Sn**	**15 31 13.7**	**-0.8**
AKK	**Akkeshi**	**2.84**	**245**	*e*P		**Pn**	**15 30 44.5**	**+1.2**
JAK	**Akkeshi**	**2.94**	**246**	*e*P		**Pn**	**15 30 45.6**	**+1.0**
JAR	**Ashorobuto**	**3.46**	**255**	*e*P		**Pn**	**15 30 54.0**	**+2.2**
JOB	**Onbets**	**3.56**	**249**	*e*P		**Pn**	**15 30 54.8**	**+1.7**
JOB				*e*S		**Sn**	**15 31 34.3**	**-0.9**
JCH	**Churui**	**3.99**	**247**	*e*P		**Pn**	**15 31 00.3**	**+1.2**
JKK2	**Kamakawa 2**	**4.06**	**266**	*e*P		**Pn**	**15 31 04.1**	**+4.1**

JNBK	**Urakawa-nobuka**	**4.55**	**246**	*eP*	**Pn**	**15 31 08.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.76**	**306**	*eP*	**Pn**	**15 31 09.8**	**+0.2**
JEW	**Eniwo**	**5.22**	**256**	*eP*	**Pn**	**15 31 20.3**	**+4.4**
JOT	**Ohata**	**6.10**	**244**	*eP*	**Pn**	**15 31 29.5**	**+1.5**
JANG	**Nango**	**6.39**	**235**	*eP*	**Pn**	**15 31 32.8**	**+0.7**

NEIC ***18*** *15:33:05.7±1.8,50.°66N±0.°03×176.°34W±0.°08,h28km±8km, mb3.9/95,WL3.3(AEIC),Error ellipse: s-maj=7.3km s-min=4.7km az=88.0*

AEIC ***18*** *15:33:06.5±1.9,50.°51N±0.°08×176.°35W±0.°09,h6km±7km, Error ellipse: s-maj=11.2km s-min=7.7km az=166.0*

IDC ***18*** *15:33:10.1±1.3,50.°73N×174.°65W,h0km,mb3.5/7, mbtmp3.7/9,ML3.1/2,MS3.6/1,Error ellipse: s-maj=37.6km s-min=20.5km az=173.0*

ISC 18 15:33:04.9±2.5,**50.7N**±0.°1×**176.°37W**±0.°05,**h22**km±16km, **n145,**σ1**9**46/144,**mb3.9**/30,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
KIMD	**Kanaga Island**	**1.23**	**334**			**Pn**	**15 33 26.9**			**+0.1**
ADK	**Adak**	**1.24**	**351**			**Pn**	**15 33 26.8**			**-0.1**
ADK	**Adak**	**1.24**	**351**			**Sb**	**15 33 43.3**			**0.0**
KIWB	**Kanaga Island**	**1.29**	**338**			**Pn**	**15 33 27.9**			**+0.2**
KIWB						**Sb**	**15 33 44.5**			**-0.1**
KIRH	**Kanaga Island**	**1.32**	**340**			**Pb**	**15 33 28.6**			**-0.5**
ADAG	**Mount Adagdak**	**1.33**	**354**			**Pb**	**15 33 28.6**			**-0.6**
GSCK	**Great Sitkin C**	**1.36**	**6**			**Pb**	**15 33 29.0**			**-0.7**
GSCK						**Sb**	**15 33 47.2**			**+0.5**
KICM	**Kanaga Island**	**1.36**	**338**			**Pb**	**15 33 29.2**			**-0.5**
KICM						**Sb**	**15 33 47.2**			**+0.4**
GSMY	**Great Sitkin M**	**1.40**	**8**			**Pb**	**15 33 29.6**			**-0.8**
GSSP	**Great Sitkin S**	**1.44**	**5**			**Pb**	**15 33 30.3**			**-0.8**
GSSP						**Sb**	**15 33 49.6**			**+0.7**
GSTR	**Great Sitkin T**	**1.45**	**8**			**Pb**	**15 33 30.5**			**-0.8**
TAFL	**Tanaga Flats**	**1.46**	**319**			**Pn**	**15 33 30.3**			**+0.4**
TAFL						**Sb**	**15 33 49.3**			**-0.2**
TASE	**Tanaga Southea**	**1.57**	**319**			**Pn**	**15 33 32.2**			**+0.6**
TAFP	**Tanaga Falls P**	**1.60**	**322**			**Pn**	**15 33 32.5**			**+0.6**
TAFP						**Sn**	**15 33 52.7**			**+0.8**
TANO	**Tanaga North**	**1.67**	**320**			**Pn**	**15 33 33.6**			**+0.8**
GALAA	**Gareloi Lava P**	**1.87**	**307**			**Pn**	**15 33 36.3**			**+0.8**
GALAA						**Sn**	**15 33 58.1**			**-0.3**
GANO	**Gareloi North**	**1.92**	**308**			**Pn**	**15 33 36.8**			**+0.5**
ATKA	**Atka Island**	**2.06**	**41**			**Pn**	**15 33 37.9**			**-0.2**
ATKA	**Atka Island**	**2.06**	**41**			**Sn**	**15 34 02.2**			**-0.9**
KOKL	**Mount Kliuchef**	**2.15**	**38**			**Pn**	**15 33 39.8**			**+0.3**
KOFP	**Korovin Flat P**	**2.16**	**40**			**Pn**	**15 33 40.1**			**+0.6**
KOSE	**Korovin Southe**	**2.23**	**40**			**Pn**	**15 33 41.2**			**+0.7**
CERB	**Semis' Cerberu**	**2.81**	**298**			**Pn**	**15 33 48.3**			**-0.2**
AMKA	**Amchitka**	**2.82**	**286**			**Pn**	**15 33 47.8**			**-0.8**
AMKA						**Sn**	**15 34 18.8**			**-3.2**
AKUT	**Akutan**	**7.36**	**58**	Pn		**Pn**	**15 34 52.9**			**+2.0**
SDPT	**Sand Point**	**10.66**	**58**	Pn		**Pn**	**15 35 35.6**			**-0.6**
O14K	**Tigyukauivet M**	**12.20**	**39**	Pn		**Pn**	**15 36 00.3**			**+3.2**
N15K	**Kwethluk River**	**13.24**	**38**	Pn		**Pn**	**15 36 12.9**			**+1.6**
O16K	**Kokwok River B**	**13.72**	**42**	Pn		**Pn**	**15 36 19.6**			**+1.8**
K15K	**Wolf Creek Mou**	**14.21**	**29**	Pn		**P**	**15 36 28.3**			**-3.4**
M16K	**Timber Creek**	**14.21**	**36**			**Pn**	**15 36 27.3**			**+2.7**
L16K	**Owhat River**	**14.47**	**34**			**Pn**	**15 36 29.9**			**+1.8**
N17K	**Nushagak Hills**	**14.61**	**40**	Pn		**Pn**	**15 36 32.0**			**+2.0**
M17K	**Holitna River**	**15.03**	**37**	Pn		**P**	**15 36 37.7**			**-3.1**
J16K	**Anvik River**	**15.23**	**28**	Pn		**Pn**	**15 36 39.6**			**+1.3**
J16K				IAmb		IAmb	15 36 44.4			
	comp=Z,12nm,1.4s									
N18K	**Kilae Creek**	**15.23**	**41**	Pn		**Pn**	**15 36 38.9**			**+0.5**
Q19K	**Cape Douglas,**	**15.44**	**49**	Pn		**Pn**	**15 36 41.1**			**+0.1**
K17K	**Iditarod**	**15.56**	**32**	Pn		**P**	**15 36 44.0**			**-2.8**
K17K				IAmb		IAmb	15 37 00.2			
	comp=Z,7.7nm,1.1s									
KDAK	**Kodiak Island**	**15.58**	**54**	Pn		**Pn**	**15 36 41.2**			**-1.6**
KDAK	**Kodiak Island**	**15.58**	**54**	Pn		**Pn**	**15 36 39.5**			**-3.3**
	comp=Z,0.2nm,0.3s,baz=206,slow=5.3,SNR=8.0									
	comp=Z,12nm,1.0s									
L18K	**Granite Mounta**	**15.81**	**35**	P		**P**	**15 36 48.7**			**-0.8**
L18K				IAmb		IAmb	15 36 55.1			
	comp=Z,16nm,1.4s									
N19K	**Bonanza Creek**	**15.89**	**42**			**P**	**15 36 49.6**			**-1.0**
N19K				IAmb		IAmb	15 37 13.0			
	comp=Z,19nm,1.5s									
P19K	**Oil Pt**	**15.92**	**47**	Pn		**Pn**	**15 36 47.4**			**+0.1**
SYI	**Shuyak Island**	**15.93**	**51**	Pn		**Pn**	**15 36 45.3**			**-2.1**
PETK	**Petropavlovsk-**	**16.17**	**289**	P		P	15 37 11.3			+18
	comp=Z,0.1nm,0.3s,baz=94,slow=13,SNR=1.3									
	comp=Z,2.3nm,0.9s									
L19K	**White Mountain**	**16.48**	**37**	Pn		**Pn**	**15 36 54.1**			**-0.3**
RSO	**Redoubt South**	**16.48**	**44**	Pn		**Pn**	**15 36 53.2**			**-1.5**
TTA	**Tatalina**	**16.50**	**34**	Pn		**Pn**	**15 36 53.7**			**-1.0**
J18K	**Innoko River**	**16.60**	**32**	Pn		**Pn**	**15 36 54.7**			**-1.3**
H17K	**Granite Mounta**	**16.70**	**25**	Pn		**Pn**	**15 36 56.2**			**-0.9**
CNPM	**China Poot**	**16.81**	**48**	Pn		**Pn**	**15 36 56.9**			**-1.8**
M20K	**Styx River**	**17.00**	**40**	Pn		**Pn**	**15 36 59.9**			**-1.2**
M20K				IAmb		IAmb	15 37 28.1			
	comp=Z,12nm,1.4s									
BRLK	**Bradley Lake**	**17.06**	**48**	Pn		**Pn**	**15 37 00.5**			**-1.2**
H18K	**Honhosa River**	**17.29**	**26**			**P**	**15 37 04.6**			**-1.3**
J19K	**Poorman**	**17.32**	**32**	Pn		**Pn**	**15 37 03.6**			**-1.3**
J19K				IAmb		IAmb	15 37 34.0			
	comp=Z,17nm,1.5s									
K20K	**Telida**	**17.46**	**35**	Pn		**Pn**	**15 37 05.2**			**-1.4**
K20K				IAmb		IAmb	15 37 36.5			
	comp=Z,12nm,1.4s									
SKT	**Skwentna**	**17.71**	**41**	P		**Pn**	**15 37 07.8**			**-2.0**
SEW	**Seward**	**17.86**	**48**	P		**Pn**	**15 37 08.5**			**-3.1**
SEW				IAmb		IAmb	15 37 38.7			
	comp=Z,14nm,1.1s									
PPLA	**Purkeypile**	**17.90**	**38**	P		**Pn**	**15 37 10.2**			**-2.1**
PPLA				IAmb		IAmb	15 37 51.1			
	comp=Z,16nm,1.4s									
J20K	**Nowinta River**	**17.93**	**33**	P		**Pn**	**15 37 10.2**			**-2.2**
H19K	**Roundabout Mou**	**18.11**	**27**	P		**Pn**	**15 37 13.3**			**-1.4**
H19K				IAmb		IAmb	15 37 39.5			
	comp=Z,8.0nm,1.4s									
CAST	**Castle Rocks**	**18.23**	**36**	P		**P**	**15 37 17.7**			**+1.4**
G19K	**Purcell Mounta**	**18.39**	**25**	P		**Pn**	**15 37 19.0**			**+1.0**
C16K	**Lisburne Hills**	**18.48**	**13**	P		**Pn**	**15 37 18.7**			**-0.5**
C16K				IAmb		IAmb	15 37 52.8			
	comp=Z,8.8nm,1.4s									
E18K	**Tukpahlearik C**	**18.56**	**19**	P		**Pn**	**15 37 20.1**			**-0.1**
GHO	**Glory Hole Cre**	**18.72**	**43**	P		**P**	**15 37 20.2**			**-1.5**
GHO				IAmb		IAmb	15 37 51.2			
	comp=Z,12nm,1.3s									
KTH	**Kantishna Hill**	**18.74**	**37**	P		**Pn**	**15 37 22.8**			**+0.4**
KTH				IAmb		IAmb	15 37 39.8			
	comp=Z,10nm,0.9s									
KNK	**Knik Glacier**	**18.79**	**44**	P		**P**	**15 37 21.3**			**-1.1**
KNK				IAmb		IAmb	15 37 31.9			
	comp=Z,7.2nm,1.1s									
TRF	**Thorofare Moun**	**18.93**	**38**	P		**P**	**15 37 22.9**			**-1.3**
SML	**Sawmill**	**19.00**	**43**	P		**P**	**15 37 23.4**			**-1.4**
BPAW	**Bear Paw Mtn.**	**19.01**	**35**	P		**P**	**15 37 23.1**			**-1.7**
BPAW				IAmb		IAmb	15 37 58.6			
	comp=Z,7.3nm,1.3s									
I21K	**Tanana**	**19.28**	**32**	P		**P**	**15 37 26.3**			**-1.4**
H21K	**Melozitna Rive**	**19.31**	**30**	P		**Pn**	**15 37 28.2**			**-1.0**
H21K				IAmb		IAmb	15 37 57.3			
	comp=Z,8.1nm,1.4s									
HIN	**Hinchinbrook I**	**19.34**	**48**	P		**P**	**15 37 27.6**			**-1.0**
F20K	**Avaraart Lake**	**19.42**	**25**	P		**P**	**15 37 28.8**			**-0.5**
SCM	**Sheep Creek Mo**	**19.45**	**44**	P		**P**	**15 37 28.8**			**-0.9**
FID	**Port Fidalgo**	**19.46**	**47**	P		**P**	**15 37 28.2**			**-1.6**
RND	**Reindeer**	**19.47**	**39**	P		**P**	**15 37 29.8**			**-0.2**
RND				IAmb		IAmb	15 37 57.8			
	comp=Z,6.3nm,1.2s									
C18K	**Utukok River**	**19.50**	**17**	P		**P**	**15 37 29.8**			**-0.4**
MCK	**McKinley**	**19.60**	**38**	P		**P**	**15 37 31.0**			**-0.2**
MLY	**Manley**	**19.62**	**33**	P		**Pn**	**15 37 31.6**			**-1.3**
G21K	**Allakaket**	**19.67**	**28**	P		**Pn**	**15 37 33.6**			**+0.2**
DHY	**Denali Highway**	**19.92**	**40**	P		**Pn**	**15 37 35.1**			**-1.6**
DHY				IAmb		IAmb	15 37 54.6			
	comp=Z,3.0nm,0.7s									
KLU	**Klutina**	**19.95**	**45**	P		**P**	**15 37 35.0**			**-0.3**
KLU				IAmb		IAmb	15 37 43.6			
	comp=Z,5.1nm,1.2s									
D19K	**Kuna River**	**19.98**	**20**	P		**P**	**15 37 35.3**			**-0.1**
M24K	**Tolsona, Glenn**	**20.05**	**44**	P		Pn	15 37 36.5			-1.6
F21K	**Alatna River**	**20.16**	**26**	P		**P**	**15 37 37.4**			**0.0**
I23K	**Minto, Yukon-K**	**20.17**	**34**	P		**P**	**15 37 37.5**			**+0.1**
I23K				IAmb		IAmb	15 37 47.5			
	comp=Z,3.8nm,1.0s									
C19K	**Lookout Ridge**	**20.19**	**17**	P		**P**	**15 37 37.9**			**+0.2**
CCB	**Clear Creek Bu**	**20.48**	**36**	P		**P**	**15 37 40.9**			**+0.1**
MDM	**Murphy Dome**	**20.48**	**35**	P		**P**	**15 37 41.0**			**+0.2**
MDM				IAmb		IAmb	15 37 56.5			
	comp=Z,6.9nm,1.2s									
N25K	**Chitina, Valde**	**20.59**	**46**	P		**P**	**15 37 42.0**			**-0.2**
N25K				IAmb		IAmb	15 37 58.4			
	comp=Z,3.8nm,1.0s									
HDA	**Harding Lake**	**20.69**	**37**	P		**P**	**15 37 43.3**			**+0.2**
HDA				IAmb		IAmb	15 37 51.0			
	comp=Z,3.6nm,0.8s									
G23K	**Bananza Creek**	**20.86**	**30**	P		**P**	**15 37 45.2**			**+0.3**
IL31		**20.88**	**36**	P		**P**	**15 37 44.3**			**-0.8**
IL31				IAmb		IAmb	15 38 17.7			
	comp=Z,5.9nm,1.4s									
ILAR	**Eielson Array**	**20.88**	**36**	P		**P**	**15 37 45.2**			**+0.1**
	comp=Z,0.2nm,0.4s,baz=237,slow=10,SNR=9.5									
	comp=Z,0.2nm,0.4s									
IL03	**Eielson Array**	**20.90**	**36**	P		**P**	**15 37 45.3**			**-0.1**
GLB	**Gilahina Butte**	**20.91**	**46**	P		**P**	**15 37 45.3**			**-0.3**
GLB				IAmb		IAmb	15 38 17.3			
	comp=Z,8.2nm,1.5s									
VRDI	**Verde Repeater**	**21.01**	**47**	P		**P**	**15 37 46.3**			**-0.5**
H24K	**Noodor Dome**	**21.07**	**33**	P		**P**	**15 37 47.1**			**-0.1**
H24K				IAmb		IAmb	15 38 08.1			
	comp=Z,4.8nm,0.9s									
RIDG	**Independent Ri**	**21.23**	**40**	P		**P**	**15 37 49.0**			**0.0**
E22K	**Anaktuvuk Pass**	**21.25**	**25**	P		**P**	**15 37 49.9**			**+0.7**
E22K				IAmb		IAmb	15 38 30.7			
	comp=Z,6.7nm,1.5s									
J25K	**Salcha River,**	**21.39**	**38**	P		**P**	**15 37 50.7**			**0.0**
J25K				IAmb		IAmb	15 38 23.7			
	comp=Z,9.8nm,1.4s									
MENT	**Mentasta**	**21.41**	**43**	P		**P**	**15 37 51.3**			**+0.4**
MENT				IAmb		IAmb	15 38 24.9			
	comp=Z,3.3nm,1.0s									
B20K	**Meade River**	**21.42**	**18**	P		**P**	**15 37 52.0**			**+1.1**
B20K				IAmb		IAmb	15 38 10.1			
	comp=Z,2.8nm,0.8s									
D22K	**Ayikyak River**	**21.55**	**23**	P		**P**	**15 37 52.8**			**+0.5**
D22K				IAmb		IAmb	15 38 33.5			
	comp=Z,8.7nm,1.4s									
B21K	**Ikpikpuk River**	**21.64**	**21**	P		**P**	**15 37 53.7**			**+0.4**
B21K				IAmb		IAmb	15 37 57.1			
	comp=Z,3.9nm,0.9s									
SCRK	**Sand Creek**	**21.68**	**40**	P		**P**	**15 37 54.3**			**+0.4**
SCRK				IAmb		IAmb	15 38 09.8			
	comp=Z,6.4nm,1.0s									
BARN	**Barnard Glacie**	**21.82**	**48**	P		**P**	**15 37 55.7**			**+0.2**
F24K	**Squaw Lake**	**22.01**	**29**	P		**P**	**15 37 56.4**			**-0.9**
M27K	**Edge Creek, AK**	**22.04**	**45**	P		**P**	**15 37 59.2**			**+1.4**
M27K				IAmb		IAmb	15 38 43.4			
	comp=Z,11nm,1.5s									
J26L	**Joseph Creek**	**22.05**	**39**	P		**P**	**15 37 57.5**			**-0.3**
J26L				IAmb		IAmb	15 38 17.8			
	comp=Z,2.5nm,0.6s									
E24K	**Your Creek**	**22.16**	**28**	P		**P**	**15 37 59.2**			**+0.3**
E24K				IAmb		IAmb	15 38 31.2			
	comp=Z,6.0nm,1.4s									
L27K	**Beaver Creek,**	**22.27**	**43**	P		**P**	**15 37 56.1**			**-4.1**
L27K				IAmb		IAmb	15 38 24.2			
	comp=Z,3.5nm,1.2s									
BCAR	**Beaver Creek A**	**22.29**	**43**	P		**P**	**15 37 56.6**			**-3.7**
B22K	**Teshekpuk Lake**	**22.46**	**20**	P		**P**	**15 38 01.7**			**-0.4**
B22K				IAmb		IAmb	15 38 07.4			
	comp=Z,8.8nm,1.4s									
K27K	**Chicken**	**22.48**	**40**	P		**P**	**15 38 02.0**			**-0.4**
K27K				IAmb		IAmb	15 38 09.7			
	comp=Z,4.6nm,1.1s									
I26K	**Coal Creek Min**	**22.54**	**37**	P		**P**	**15 38 00.5**			**-2.4**
I26K				IAmb		IAmb	15 38 28.9			
	comp=Z,4.8nm,1.2s									
C23K	**Itkillik River**	**22.75**	**23**	P		**P**	**15 38 04.8**			**-0.3**
C23K				IAmb		IAmb	15 38 24.9			
	comp=Z,6.7nm,1.4s									
BMAR	**Burnt Mountain**	**23.02**	**31**	P		**P**	**15 38 07.2**			**-0.8**
E25K	**Arctic Village**	**23.08**	**29**	P		**P**	**15 38 08.4**			**-0.2**
E25K				IAmb		IAmb	15 38 37.8			
	comp=Z,3.6nm,1.4s									
EGAK	**Eagle**	**23.12**	**39**	P		**P**	**15 38 09.3**			**+0.4**
D25K	**Kavik River**	**23.54**	**26**	P		**P**	**15 38 11.0**			**-2.2**
D25K				IAmb		IAmb	15 38 19.9			
	comp=Z,5.5nm,1.5s									
M29M	**Somme Creek**	**23.60**	**46**	P		**P**	**15 38 10.9**			**-3.0**
M29M				IAmb		IAmb	15 38 14.1			
	comp=Z,3.7nm,1.3s									
I28M	**Miner Creek**	**23.84**	**38**	P		**P**	**15 38 11.8**			**-4.4**
I28M				IAmb		IAmb	15 38 31.1			
	comp=Z,4.1nm,1.2s									
N30M	**Aishikik Lake**	**24.06**	**48**	P		**P**	**15 38 16.7**			**-1.6**
N30M				IAmb		IAmb	15 38 56.6			
	comp=Z,5.0nm,1.2s									
K29M	**Barlow Dome**	**24.34**	**42**	P		**P**	**15 38 19.8**			**-1.1**
K29M				IAmb		IAmb	15 38 38.4			
	comp=Z,4.1nm,1.2s									
F28M	**Old Crow**	**24.71**	**33**	P		**P**	**15 38 22.6**			**-1.4**
H29M	**Whitestone**	**24.71**	**37**	P		**P**	**15 38 23.4**			**-0.7**
J30M	**Hart River**	**25.03**	**41**	P		**P**	**15 38 25.0**			**-2.2**
J30M				IAmb		IAmb	15 38 36.2			
	comp=Z,3.8nm,1.1s									
WHY	**Whitehorse**	**25.03**	**50**	P		**P**	**15 38 25.5**			**-1.7**
I30M	**Mount Dempster**	**25.18**	**40**	P		**P**	**15 38 23.3**			**-5.2**
E29M	**Blow River**	**25.71**	**32**	P		**P**	**15 38 32.4**			**-0.7**
E29M				IAmb		IAmb	15 38 42.9			
	comp=Z,5.5nm,1.4s									
CRAG	**Craig**	**26.10**	**62**	P		**P**	**15 38 36.1**			**-0.6**
Q32M	**Nakina River**	**26.30**	**54**	P		**P**	**15 38 37.9**			**-0.8**
H11N2	**WAKE ISLAND Hy**	**33.59**	**209**	T		T	16 16 08.0			
	baz=18									
H11N3	**WAKE ISLAND Hy**	**33.60**	**209**	T		T	16 16 17.8			
	baz=18									
H11N1	**WAKE ISLAND Hy**	**33.61**	**209**	T		T	16 16 26.8			
	baz=18									
YKA	**Yellowknife Ar**	**34.62**	**46**	P		**P**	**15 39 53.7**			**+1.8**
	comp=Z,0.1nm,0.6s,baz=253,slow=8.3,SNR=2.6									
	comp=Z,0.1nm,0.6s									
JCJ	**Chichijima**	**39.21**	**249**	LR		LR	15 54 59.1			
	comp=Z,91nm,20.5s,baz=72,slow=32									
PDAR	**Pinedale Array**	**45.06**	**73**	P		**P**	**15 41 20.6**			**+1.5**
	comp=Z,0.9nm,0.8s,baz=310,slow=3.5,SNR=4.4									
	comp=Z,0.9nm,0.8s									
TXAR	**Lajitas Array**	**57.24**	**82**	P		**P**	**15 42 51.1**			**+0.6**
	comp=Z,0.5nm,0.7s,baz=288,slow=4.9,SNR=4.3									
	comp=Z,0.5nm,0.7s									
KURBB	**Kurchatov Arra**	**60.73**	**315**	P		P	15 43 27.2			+13
	comp=Z,0.6nm,0.6s,baz=47,slow=6.7,SNR=6.0									
	comp=Z,0.6nm,0.6s									
BVAR	**Borovoye Array**	**62.42**	**321**	P		P	15 43 39.4			+14
	comp=Z,3.1nm,0.6s,baz=51,slow=6.5,SNR=12									
	comp=Z,3.1nm,0.6s									
ASAR	**Alice Springs**	**86.02**	**225**	P		P	15 45 55.6			+12
	comp=Z,0.2nm,0.8s,baz=34,slow=5.2,SNR=4.5									
	comp=Z,0.2nm,0.8s									

IDC ***18*** *15:34:01.7±0.7,71.°56N×2.°35W,h0km, mb3.5/12, mbtmp3.7/17,ML3.4/5,MS3.9/16,Error ellipse: s-maj=19.4km s-min=13.7km az=42.0*

NEIC ***18*** *15:34:02.6±2.3,71.°70N±0.°02×1.°8W±0.°3,h10km±2km, mb4.2/23,Error ellipse: s-maj=14.5km s-min=3.3km az=279.0*

BER ***18*** *15:34:09.2±1.7,71.°81N×0.°92W,h15km±44km,mb(Pn)4.4, Confirmed Earthquake*

ISC 18 15:34:02.6±0.5,**71.°62N**±0.°06×**1.°66W**±0.°06,**h10**km,**n104,** σ1**8**87/98,**mb4.0**/25,**MS3.8**/14,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
LOF	**Lofoten**	**6.30**	**116**	*eP*		**Pn**	**15 35 35.9**			**+0.6**
LOF				*eS*		**Sn**	**15 36 43.4**			**-3.8**
LOF				IAML			15 36 56.2			
	comp=Z,5.4nm,1.0s									
BJO1	**Bjornoya**	**6.67**	**55**	*eP*		**Pn**	**15 35 40.8**			**+0.5**
SCO	**Scoresbysund**	**6.69**	**270**	*i* P		**Pn**	**15 35 38.0**			**-2.7**
STEI	**Steigen**	**6.92**	**114**	*eP*		**Pn**	**15 35 45.0**			**+1.3**
STEI				*eS*		**Sn**	**15 36 57.3**			**-5.0**
STEI				IAML			15 37 01.7			
	comp=Z,5.7nm,0.8s									
HSPB	**Hornsund (broa**	**7.10**	**33**	*eP*		**Pn**	**15 35 45.5**			**-0.7**
TRO	**Tromso**	**7.12**	**96**	*eP*		**Pn**	**15 35 46.0**			**-0.5**
TRO				IAML			15 37 04.8			
	comp=Z,3.0nm,0.6s									
FAUS	**Fauske**	**7.29**	**117**	*eP*		**Pn**	**15 35 49.5**			**+0.5**
FAUS				*eS*		**Sn**	**15 37 05.3**			**-6.4**
FAUS				IAML			15 37 18.4			
	comp=Z,4.5nm,0.5s									
KONS	**Konsvik**	**7.36**	**127**	*eP*		**Pn**	**15 35 51.0**			**+1.1**
KONS				*eS*		**Sn**	**15 37 07.9**			**-5.5**
KONS				IAML			15 37 09.8			
	comp=Z,6.3nm,0.6s									
JETT	**Jettan, Norway**	**7.62**	**95**	*eP*		**Pn**	**15 35 53.4**			**0.0**
BRBA	**Barentsburg A**	**7.65**	**25**	*eP*		**Pn**	**15 35 53.1**			**-0.6**
BRBB	**Barentsburg B**	**7.67**	**25**	*eP*		**Pn**	**15 35 53.6**			**-0.5**
MOR8	**Moi Rana**	**7.96**	**125**	*eP*		**Pn**	**15 35 59.8**			**+1.7**
MOR8				IAML			15 37 28.0			
	comp=Z,5.1nm,0.4s									
SPA0	**Spitsbergen Ar**	**8.04**	**27**	*eP*		**Pn**	**15 35 59.0**			**-0.2**
SPB2	**Spitsbergen Ar**	**8.04**	**27**	Pn		**Pn**	**15 35 58.9**			**-0.2**
SPITS	**Spitsbergen Ar**	**8.04**	**27**	Pn		**Pn**	**15 35 59.4**			**+0.3**
	baz=200,slow=15									
	comp=Z,3.1nm,0.3s									
KBS	**Kingsbay**	**8.08**	**19**	Pn		**Pn**	**15 36 00.1**			**+0.4**
KBS	**Kingsbay**	**8.08**	**19**	*eP*		**Pn**	**15 35 57.8**			**-1.9**
SALU	**Saltoluokta**	**8.23**	**111**	*eP*		**Pn**	**15 36 03.2**			**+1.4**
HAMF	**Hammerfest**	**8.24**	**85**	*eP*		**Pn**	**15 36 00.5**			**-1.4**
NSS	**Namsos**	**8.73**	**138**	*eP*		**Pn**	**15 36 10.9**			**+2.3**
NSS				*eS*		Sn	15 37 38.3			-8.7
NSS				IAML			15 37 46.4			
	comp=Z,4.2nm,0.4s									
KTK1	**Kautokeino**	**8.76**	**95**	*eP*		**Pn**	**15 36 09.2**			**+0.2**
KTK1				IAML			15 37 42.0			
	comp=Z,2.0nm,0.8s									
HEF	**Hetta**	**9.20**	**98**	*eP*		**Pn**	**15 36 15.1**			**0.0**
ARA0	**ARCESS Array S**	**9.24**	**90**	*eP*		**Pn**	**15 36 15.5**			**-0.1**
ARCES	**ARCESS Array B**	**9.24**	**90**	Pn		**Pn**	**15 36 15.7**			**0.0**
ARCES	**ARCESS Array B**	**9.24**	**90**	Pn		**Pn**	**15 36 15.6**			**-0.1**
	comp=Z,0.9nm,0.3s,baz=288,slow=11,SNR=117									
ARCES					LR	LR	15 39 21.5			
	comp=Z,386nm,21.1s,baz=290,slow=34									
TBLU	**Trondheim**	**9.55**	**146**	*eP*		**Pn**	**15 36 20.5**			**+0.7**
KEV	**Kevo**	**9.62**	**87**	Pn		**Pn**	**15 36 20.4**			**-0.4**
KEV	**Kevo**	**9.62**	**87**	*eP*		**Pn**	**15 36 20.2**			**-0.6**
AKN	**Aaknes**	**10.06**	**156**	*eP*		**Pn**	**15 36 29.5**			**+2.6**
AKN				*eS*		**Sn**	**15 38 14.9**			**-4.8**
AKN				IAML			15 38 21.9			
	comp=Z,7.1nm,0.7s									
VADS	**Vadso**	**10.22**	**84**	*eP*		**Pn**	**15 36 27.5**			**-1.5**
NOD	**Norderasen**	**10.31**	**134**	*eP*

K27K					IAmb	IAmb	15 41 55.3		
	comp=Z,5.6nm,1.4s								
BCAR	**Beaver Creek A**	**42.82**	**335**		P	**P**	**15 41 57.4**	**-2.6**	
MMAI	**Mount Meron Ar**	**43.37**	**132**		LR	LR	16 01 26.0		
	comp=Z,83nm,20.1s,baz=277,slow=38								
KK31	**Karatay Array**	**44.21**	**90**		P	**P**	**15 42 11.8**	**+0.5**	
KKAR	**Karatay Array**	**44.21**	**90**		P	**P**	**15 42 11.3**	**0.0**	
MKAR	**Makanchi Array**	**44.60**	**77**		P	**P**	**15 42 17.5**	**+3.1**	
	comp=Z,0.5nm,0.9s,baz=350,slow=3.7,SNR=3.3								
	comp=Z,0.5nm,0.9s								
N25K	**Chitina, Valde**	**44.60**	**336**		P	**P**	**15 42 13.4**	**-1.0**	
EIL	**Elat**	**46.48**	**134**		LR	LR	16 03 39.8		
	comp=Z,78nm,19.1s,baz=330,slow=38								
KDAK	**Kodiak Island**	**49.28**	**340**		LR	LR	16 06 16.8		
	comp=Z,173nm,18.8s,baz=110,slow=39								
SONM	**Songino Array**	**50.61**	**56**		P	**P**	**15 43 02.3**	**+1.1**	
	comp=Z,0.1nm,0.4s,baz=319,slow=4.2,SNR=1.7								
	comp=Z,0.1nm,0.4s								
TKL	**Tuckaleechee C**	**54.14**	**276**		LR	LR	16 04 11.0		
	comp=Z,118nm,19.4s,baz=326,slow=34								
PDAR	**Pinedale Array**	**55.26**	**301**		P	**P**	**15 43 34.6**	**-1.1**	
	comp=Z,0.5nm,0.9s,baz=35,slow=3.3,SNR=3.7								
	comp=Z,0.5nm,0.9s								
TORD	**Torodi Ar. Bea**	**58.48**	**176**		P	**P**	**15 43 59.3**	**+0.8**	
	comp=Z,1.1nm,1.0s,baz=8.1,slow=7.2,SNR=5.1								
	comp=Z,1.1nm,1.0s								
YBH	**Yreka Blue Hor**	**59.57**	**312**		LR	LR	16 07 17.9		
	comp=Z,79nm,21.1s,baz=342,slow=34								
NVAR	**Mina Array Bea**	**61.62**	**307**		P	**P**	**15 44 20.6**	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=40,slow=9.9,SNR=3.6								
	comp=Z,0.2nm,0.3s								
ANMO	**Albuquerque**	**61.69**	**296**		LR	LR	16 09 26.4		
	comp=Z,93nm,18.1s,baz=54,slow=34								
ATD	**Arta Tunnel**	**65.79**	**131**		LR	LR	16 12 08.7		
	comp=Z,5.8nm,19.4s,baz=312,slow=35								
TXAR	**Lajitas Array**	**66.13**	**291**		P	**P**	**15 44 49.8**	**0.0**	
	comp=Z,0.9nm,0.9s,baz=32,slow=3.6,SNR=5.8								
TXAR					LR	LR	16 15 44.1		
	comp=Z,102nm,21.7s,baz=320,slow=38								
	comp=Z,0.9nm,0.9s								

IDC ***18*** *15:44:33.7±0.7,71.60N×2.01W,h0km,mb3.7/13, mbtmp3.8/18,ML3.5/5,MS3.8/4,Error ellipse: s-maj=19.8km s-min=12.8km az=46.0*
NEIC ***18*** *15:44:34.7±0.9,71.66N±0.08×1.69W±0.06,h10km±1km, mb4.2/16,Error ellipse: s-maj=15.8km s-min=12.0km az=222.0*
NAO ***18*** *15:44:37.0±257.0,71.67N×0.91W,h13km±165km,ML3.8*
BER ***18*** *15:44:38.5±2.6,71.76N×0.97W,h0km±60km,mb(Pn)4.4, ML3.8(NAO),Confirmed Earthquake*

ISC 18 15:44:34.7±0.5,71.66N±0.06×1.49W±0.06,h10km,n106, σ1s50/105,mb4.0/20,MS3.7/4,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**6.26**	**117**	Pn	**Pn**	**15 46 07.9**	**+1.0**
LOF	**Lofoten**	**6.26**	**117**	*e*P	**Pn**	**15 46 06.9**	**-0.1**
LOF				*e*S	**Sn**	**15 47 13.6**	**-4.8**
LOF				IAML		15 47 18.7	
	comp=Z,5.9nm,0.7s						
SCO	**Scoresbysund**	**6.75**	**270**	*i* P	Pn	15 46 09.0	-4.6
STEI	**Steigen**	**6.88**	**115**	*e*P	**Pn**	**15 46 16.1**	**+0.7**
STEI				IAML		15 47 32.2	
	comp=Z,4.7nm,0.6s						
HSPB	**Hornsund (broa**	**7.04**	**33**	Pn	**Pn**	**15 46 17.0**	**-0.6**
HSPB	**Hornsund (broa**	**7.04**	**33**	*e*P	**Pn**	**15 46 16.4**	**-1.2**
HSPB				IAML		15 47 53.6	
	comp=Z,4.0nm,0.7s						
TRO	**Tromso**	**7.07**	**97**	Pn	**Pn**	**15 46 16.9**	**-1.1**
TRO	**Tromso**	**7.07**	**97**	*e*P	**Pn**	**15 46 17.0**	**-1.0**
FAUS	**Fauske**	**7.26**	**118**	*e*P	**Pn**	**15 46 21.2**	**+0.6**
FAUS				*e*S	**Sn**	**15 47 37.9**	**-5.1**
FAUS				IAML		15 47 48.8	
	comp=Z,3.3nm,0.5s						
KONS	**Konsvik**	**7.34**	**128**	*e*P	**Pn**	**15 46 22.0**	**+0.3**
KONS				*e*S	**Sn**	**15 47 39.8**	**-5.1**
KONS				IAML		15 47 44.1	
	comp=Z,6.0nm,0.8s						
JETT	**Jettan, Norway**	**7.57**	**96**	Pn	**Pn**	**15 46 24.7**	**-0.2**
JETT	**Jettan, Norway**	**7.57**	**96**	Pn	**Pn**	**15 46 24.7**	**-0.2**
BRBB	**Barentsburg B**	**7.62**	**25**	Pn	**Pn**	**15 46 26.5**	**+1.0**
BRBB	**Barentsburg B**	**7.62**	**25**	*e*P	**Pn**	**15 46 26.6**	**+1.0**
MOR8	**Moi Rana**	**7.93**	**126**	*e*P	**Pn**	**15 46 31.4**	**+1.5**
MOR8				IAML		15 47 58.7	
	comp=Z,5.6nm,0.3s						
SPA0	**Spitsbergen Ar**	**7.98**	**27**	Pn	**Pn**	**15 46 30.6**	**0.0**
	baz=216,slow=16						
SPA0	**Spitsbergen Ar**	**7.98**	**27**	Pn	**Pn**	**15 46 30.6**	**0.0**
	baz=216,slow=16						
SPA0	**Spitsbergen Ar**	**7.98**	**27**	*e*P	**Pn**	**15 46 29.9**	**-0.6**
SPB2	**Spitsbergen Ar**	**7.98**	**27**	Pn	**Pn**	**15 46 30.5**	**-0.1**
SPITS	**Spitsbergen Ar**	**7.98**	**27**	Pn	**Pn**	**15 46 30.7**	**+0.2**
	baz=203,slow=14						
	comp=Z,2.4nm,0.4s						
KBS	**Kingsbay**	**8.03**	**19**	Pn	**Pn**	**15 46 31.0**	**-0.2**
KBS	**Kingsbay**	**8.03**	**19**	Pn	**Pn**	**15 46 31.9**	**+0.7**
KBS	**Kingsbay**	**8.03**	**19**	P	**Pn**	**15 46 30.5**	**-0.7**
SALU	**Saltoluokta**	**8.19**	**112**	*e*P	**Pn**	**15 46 34.5**	**+1.0**
KTK1	**Kautokeino**	**8.71**	**96**	*e*P	**Pn**	**15 46 40.6**	**+0.1**
NSS	**Namsos**	**8.72**	**138**	*e*P	**Pn**	**15 46 41.7**	**+1.1**
NSS				*e*S	**Sn**	**15 48 12.9**	**-5.9**
NSS				IAML		15 48 21.2	
	comp=Z,6.1nm,0.6s						
HEF	**Hetta**	**9.15**	**99**	*e*P	**Pn**	**15 46 46.1**	**-0.5**
ARA0	**ARCESS Array S**	**9.19**	**90**	Pn	**Pn**	**15 46 46.9**	**-0.1**
	baz=290,slow=11						
ARA0	**ARCESS Array S**	**9.19**	**90**	*e*P	**Pn**	**15 46 46.6**	**-0.4**
ARA0				Pn	Pn	15 46 46.9	-0.1
	baz=290,slow=11						
ARCES	**ARCESS Array B**	**9.19**	**90**	Pn	**Pn**	**15 46 47.2**	**+0.1**
ARCES	**ARCESS Array B**	**9.19**	**90**	Pn	**Pn**	**15 46 47.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=289,slow=11,SNR=121						
KEV	**Kevo**	**9.57**	**88**	Pn	**Pn**	**15 46 51.3**	**-0.9**
KEV	**Kevo**	**9.57**	**88**	Pn	**Pn**	**15 46 50.8**	**-1.4**
KEV	**Kevo**	**9.57**	**88**	*e*P	**Pn**	**15 46 51.5**	**-0.7**
AKN	**Aaknes**	**10.07**	**157**	Pn	**Pn**	**15 47 00.7**	**+1.5**
AKN	**Aaknes**	**10.07**	**157**	Pn	**Pn**	**15 47 00.7**	**+1.5**
VADS	**Vadso**	**10.16**	**84**	*e*P	**Pn**	**15 46 59.8**	**-0.6**
VADS				IAML		15 49 07.2	
	comp=Z,4.1nm,0.8s						
NOD	**Norderasen**	**10.30**	**135**	*e*P	**Pn**	**15 47 03.9**	**+1.6**
DOMB	**Dombas**	**10.48**	**152**	*e*P	**Pn**	**15 47 04.3**	**-0.5**
DOMB				*e*S	Sn	15 48 52.9	-9.3
DOMB				IAML		15 49 05.4	
	comp=Z,3.4nm,0.5s						
SUE	**Sulen**	**10.93**	**164**	*e*P	**Pn**	**15 47 12.0**	**+1.2**
HYA	**Hoyanger**	**10.96**	**160**	*e*P	**Pn**	**15 47 12.5**	**+1.2**
HYA				IAML		15 49 14.7	
	comp=Z,2.9nm,1.5s						
SUMG	**Summit**	**11.28**	**292**		**Pn**	**15 47 12.3**	**-3.6**
SUMG	**Summit**	**11.28**	**292**	*i* P	**Pn**	**15 47 13.3**	**-2.7**
NC204	**NORSAR Array S**	**11.48**	**149**		**Pn**	**15 47 17.6**	**-0.9**
NC204	**NORSAR Array S**	**11.48**	**149**	*e*P	**Pn**	**15 47 19.4**	**+1.0**
ASK	**Askoy**	**11.53**	**163**	*e*P	**Pn**	**15 47 20.6**	**+1.5**
SKAR	**Skarslia**	**11.69**	**156**	*e*P	**Pn**	**15 47 22.2**	**+0.9**
NBO00	**NORSAR Array S**	**11.71**	**149**	Pn	**Pn**	**15 47 21.9**	**+0.3**
NBO00	**NORSAR Array S**	**11.71**	**149**	*e*P	**Pn**	**15 47 24.5**	**+2.9**
NB2	**NORSAR Subarra**	**11.78**	**148**	Pn	**Pn**	**15 47 23.6**	**+1.1**
NB2	**NORSAR Subarra**	**11.78**	**148**	Pn	**Pn**	**15 47 23.6**	**+1.1**
NOA	**NORSAR Array B**	**11.78**	**148**	Pn	**Pn**	**15 47 22.7**	**+0.2**
	baz=340,slow=12,SNR=7.1						
NOA				Sn	**Sn**	**15 49 33.7**	**-0.1**
	baz=325,slow=21,SNR=1.1						
	comp=Z,0.6nm,0.4s						
NB201	**NORSAR Array S**	**11.78**	**148**	Pn	**Pn**	**15 47 22.6**	**0.0**
NC405	**NORSAR Array S**	**11.79**	**147**		**Pn**	**15 47 21.8**	**-0.9**
NC602	**NORSAR Array S**	**12.12**	**148**	Pn	**Pn**	**15 47 25.6**	**-1.5**
NRA0	**NORESS Array S**	**12.12**	**148**	Pn	**Pn**	**15 47 28.1**	**+1.0**
	baz=333,slow=18						
NRA0	**NORESS Array S**	**12.12**	**148**	Pn	**Pn**	**15 47 28.1**	**+1.0**
	baz=333,slow=18						
APA0	**Apatity Array**	**12.54**	**92**	Pn	**Pn**	**15 47 32.4**	**-0.4**
	baz=306,slow=14						
APA0	**Apatity Array**	**12.54**	**92**	Pn	**Pn**	**15 47 32.4**	**-0.4**
	baz=306,slow=14						
ICESG	**Greenland Ices**	**12.92**	**277**	*e*P	Pn	15 47 32.5	-5.9
HFS	**Hagfors**	**13.06**	**145**	Pn	**Pn**	**15 47 40.7**	**+0.7**
HFS	**Hagfors**	**13.06**	**145**	Pn	**Pn**	**15 47 40.7**	**+0.7**
HFS	**Hagfors**	**13.06**	**145**	Pn	**Pn**	**15 47 40.9**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=338,slow=10,SNR=44						
HFS				Sn	**Sn**	**15 50 02.3**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=315,slow=23,SNR=1.5						
	comp=Z,13nm,0.6s						

NEEM	**North Greenlan**	**13.96**	**316**	*e*P		Pn	15 47 45.6	-6.8	
FIA0	**FINESS Array S**	**14.82**	**120**	P		**Pn**	**15 48 03.9**	**0.0**	
	baz=336,slow=12								
FIA0	**FINESS Array S**	**14.82**	**120**	P		**Pn**	**15 48 03.9**	**0.0**	
	baz=336,slow=12								
FIA1	**FINESS Array S**	**14.82**	**120**			**Pn**	**15 48 02.9**	**-1.0**	
FINES	**FINESS Array B**	**14.82**	**120**	Pn		**Pn**	**15 48 03.6**	**-0.3**	
FINES	**FINESS Array B**	**14.82**	**120**	Pn		**Pn**	**15 48 04.0**	**+0.1**	
	comp=Z,0.4nm,0.3s,baz=334,slow=13,SNR=16								
	comp=Z,1.1nm,0.9s								
EKA	**Eskdalemuir Ar**	**16.40**	**183**	Pn		**Pn**	**15 48 26.0**	**+1.3**	
	baz=4.5,slow=12								
	comp=Z,4.1nm,1.0s								
KLMR	**Klimovskoe**	**19.25**	**103**	*e*P		**P**	**15 48 58.4**	**-0.4**	
	comp=Z,37nm,1.4s								
PABE	**Paberze**	**19.48**	**133**	P		**P**	**15 49 01.4**	**+0.1**	
PABE				IAmb		IAmb	15 49 04.8		
	comp=Z,20nm,0.8s								
PRGR	**Permogore**	**20.56**	**95**	*e*P		Pn	15 49 15.4	+0.2	
	comp=Z,7.1nm,0.7s								
SUW	**Suwalki**	**20.68**	**136**	P		**P**	**15 49 13.1**	**-1.3**	
VRAC	**Vranov**	**23.91**	**150**	LR		LR	16 00 06.0		
	comp=Z,160nm,20.3s,baz=320,slow=39								
AKASG	**Malin Array Be**	**25.16**	**130**	P		**P**	**15 50 00.1**	**+0.6**	
	comp=Z,1.4nm,0.6s,baz=337,slow=9.2,SNR=5.0								
	comp=Z,1.4nm,0.6s								
FRB	**Frobisher Bay**	**25.25**	**286**	LR		LR	15 58 59.5		
	comp=Z,240nm,18.4s,baz=178,slow=34								
DAVOX	**Davos/Dischmat**	**25.52**	**162**	LR		LR	16 00 02.3		
	comp=Z,171nm,19.5s,baz=280,slow=36								
SCHQ	**Schefferville**	**31.78**	**273**	LR		LR	16 02 17.8		
	comp=Z,188nm,19.1s,baz=318,slow=34								
ESDC	**Sonseca Array**	**32.08**	**184**	P		**P**	**15 51 02.2**	**+0.8**	
	comp=Z,1.4nm,1.0s,baz=353,slow=11,SNR=4.0								
	comp=Z,1.4nm,1.0s								
FNA	**Florina**	**32.99**	**147**	P		**P**	**15 51 10.1**	**+0.7**	
FNA				IAmb		IAmb	15 51 12.3		
	comp=Z,6.8nm,1.3s								
KBZ	**Khabaz**	**35.17**	**118**	P		**P**	**15 51 31.4**	**+3.1**	
	comp=Z,2.8nm,0.8s,baz=283,slow=1.7,SNR=3.5								
	comp=Z,2.8nm,0.8s								
ABKAR	**Akbulak array**	**35.33**	**96**	P		**P**	**15 51 30.0**	**+0.4**	
ABKAR				IAmb		IAmb	15 51 36.7		
	comp=Z,3.1nm,1.1s								
ABKAR	**Akbulak array**	**35.33**	**96**	P		**P**	**15 51 30.4**	**+0.8**	
BVAR	**Borovoye Array**	**35.37**	**83**	P		**P**	**15 51 32.1**	**+2.2**	
	comp=Z,1.3nm,0.8s,baz=308,slow=7.3,SNR=7.9								
	comp=Z,1.3nm,0.8s								
BRTR	**Keskin Array B**	**36.53**	**132**	P		**P**	**15 51 42.2**	**+2.1**	
BRTR	**Keskin Array B**	**36.53**	**132**	P		**P**	**15 51 41.8**	**+1.7**	
	comp=Z,1.1nm,0.7s,baz=306,slow=4.4,SNR=3.9								
	comp=Z,1.1nm,0.7s								
B22K	**Teshekpuk Lake**	**37.06**	**345**	P		**P**	**15 51 44.1**	**0.0**	
B22K				IAmb		IAmb	15 51 50.2		
	comp=Z,9.7nm,1.4s								
E29M	**Blow River**	**37.24**	**335**	P		**P**	**15 51 45.7**	**-0.1**	
C23K	**Itkillik River**	**37.30**	**343**	P		**P**	**15 51 45.9**	**-0.3**	
G31M	**Satah River**	**38.10**	**332**	P		**P**	**15 51 53.1**	**+0.2**	
G31M				IAmb		IAmb	15 52 06.9		
	comp=Z,5.6nm,1.2s								
YKA	**Yellowknife Ar**	**38.52**	**317**	P		**P**	**15 51 56.8**	**+0.2**	
	comp=Z,0.9nm,1.0s,baz=28,slow=8.9,SNR=8.7								
YKA				PcP		**PcP**	**15 54 08.2**	**-0.7**	
	comp=Z,0.2nm,0.7s,baz=15,slow=2.7,SNR=3.7								
	comp=Z,0.9nm,1.0s								
G29M	**Pine Creek**	**38.65**	**334**	P		**P**	**15 51 57.8**	**+0.1**	
G29M				IAmb		IAmb	15 51 58.6		
	comp=Z,5.6nm,1.1s								
H29M	**Whitestone**	**39.35**	**334**	P		**P**	**15 52 03.7**	**+0.3**	
KURK	**Kurchatov**	**39.93**	**77**	P		**P**	**15 52 08.6**	**+0.1**	
KURBB	**Kurchatov Arra**	**39.99**	**77**	P		**P**	**15 52 10.4**	**+1.5**	
	comp=Z,0.6nm,0.7s,baz=336,slow=7.1,SNR=7.9								
	comp=Z,0.6nm,0.7s								
I30M	**Mount Dempster**	**40.00**	**332**	P		**P**	**15 52 09.3**	**+0.2**	
I30M				IAmb		IAmb	15 52 18.6		
	comp=Z,6.1nm,1.4s								
F20K	**Avaraart Lake**	**40.47**	**345**	P		**P**	**15 52 12.6**	**-0.1**	
F20K				IAmb		IAmb	15 52 19.0		
	comp=Z,3.7nm,1.0s								
J30M	**Hart River**	**40.60**	**332**	P		**P**	**15 52 13.2**	**-0.9**	
ILAR	**Eielson Array**	**41.81**	**339**	P		**P**	**15 52 24.4**	**+0.5**	
	comp=Z,1.1nm,1.1s,baz=18,slow=6.1,SNR=8.1								
	comp=Z,1.1nm,1.1s								
MKAR	**Makanchi Array**	**44.54**	**77**	P		**P**	**15 52 47.9**	**+1.8**	
	comp=Z,0.6nm,0.8s,baz=330,slow=4.3,SNR=3.5								
	comp=Z,0.6nm,0.8s								
GEYT	**Alibeck**	**44.98**	**105**	P		**P**	**15 52 51.5**	**+1.8**	
	comp=Z,2.1nm,0.9s,baz=316,slow=10,SNR=2.8								
	comp=Z,2.1nm,0.9s								
V58A	**Windy Hill, Pi**	**52.59**	**271**	P		**P**	**15 53 48.0**	**-0.1**	
PDAR	**Pinedale Array**	**55.29**	**302**	P		**P**	**15 54 08.1**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=308,slow=34,SNR=3.1								
	comp=Z,0.2nm,0.4s								
TORD	**Torodi Ar. Bea**	**58.51**	**176**	P		**P**	**15 54 30.9**	**+0.1**	
	comp=Z,1.3nm,0.9s,baz=354,slow=7.5,SNR=5.7								
	comp=Z,1.3nm,0.9s								
TXAR	**Lajitas Array**	**66.17**	**291**	P		**P**	**15 55 20.9**	**-1.2**	
	comp=Z,0.4nm,0.7s,baz=48,slow=5.6,SNR=5.2								
	comp=Z,0.4nm,0.7s								

TEH 18 15:52:06.8,29.18N×58.34E,h8km±22km,ML3.7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBAM	**BAM**	**0.11**	**112**	Pg	Pg	15 52 09.8	+0.4
CHMN	**Cheshme madani**	**0.97**	**315**	Pg	Pb	15 52 26.1	0.0
CHMN				Sg	Sb	15 52 39.7	+0.4
KHNJ	**Kahnooj**	**1.34**	**205**	Pg	Pn	15 52 32.0	+0.1
NGRK	**Negar Kerman**	**1.48**	**289**	Pg	Pn	15 52 35.2	+0.1
TVBK	**TV Kerman**	**1.59**	**301**	Pg	Pg	15 52 37.6	+0.2
KRM1	**Kerman Provinc**	**1.61**	**325**	Pg	Pg	15 52 37.9	+0.1
KHGB	**Koh Gabri**	**2.01**	**307**	Pn	Pb	15 52 43.5	-0.2
ZHDN	**Zahedan**	**2.17**	**84**	Pn	Pb	15 52 45.7	-0.7
NHDN	**Nehbandan**	**2.66**	**33**	Pn	Pn	15 52 52.1	+1.9
BSRN	**Basiran**	**2.86**	**14**	Pn	Pn	15 52 54.9	+2.0
IKOO	**Kooshah**	**3.29**	**10**	Pn	Pn	15 53 01.0	+2.1
JASK	**Jask - Hormozg**	**3.32**	**187**	Pn	Pn	15 53 01.6	+2.5
ITEG	**Tejag**	**3.73**	**5**	Pn	Pn	15 53 07.2	+2.4
SRVN	**Saravan**	**3.99**	**115**	Pn	Pn	15 53 10.5	+2.0
TPRV	**Parvadeh(Tabas**	**4.09**	**340**	Pn	Pn	15 53 12.1	+2.3
AFRZ	**Afriz**	**4.28**	**8**	Pn	Pn	15 53 14.3	+1.9
TKDS	**Koohdasht(Taba**	**4.54**	**347**	Pn	Pn	15 53 18.7	+2.7
NGCH	**Negor - Chabah**	**4.55**	**146**	Pn	Pn	15 53 16.8	+0.9
SHRT	**Shahrakht**	**4.76**	**20**	Pn	Pn	15 53 21.3	+2.4
DSBU	**Dashti - Bushe**	**6.26**	**264**	Pn	Pn	15 53 42.1	+2.6

JMA ***18*** *15:58:32.7±0.2,25°N±2°×122.5E±0.7,h34km±4km, MV2.6/12,NW OFF ISHIGAKIJIMA IS*
TAP ***18*** *15:58:33.3,24.84N×122.35E,h7km±1km,ML3.0,D*

ISC 18 15:58:30.4±1.1,24.86N±0.03×122.55E±0.02,h13km±9km, n76,σ0s58/112,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.53**	**213**	*i* P	**Pn**	**15 58 43.1**	**-0.4**
	baz=194						
EOS2				S	**Sn**	**15 58 51.1**	**-1.2**
	baz=194						
TWB1	**Santiao Chiao**	**0.53**	**286**	⇑*i* P	**Pb**	**15 58 41.5**	**0.0**
	baz=296						
TWB1				*i* S	**Sg**	**15 58 47.5**	**-0.3**
	baz=296						
JYNG	**Yonagunijimaku**	**0.55**	**138**	*i* P	**Pn**	**15 58 44.2**	**+0.3**
JYNG				*e*S	**Sn**	**15 58 51.9**	**-1.1**
EGS		**0.56**	**268**	*i* P	**Pg**	**15 58 40.8**	**-0.5**
	baz=269						
EGS				S	**Sg**	**15 58 48.0**	**-0.8**
	baz=269						
YOJ	**Yonaguni jima**	**0.58**	**133**	P	**Pn**	**15 58 44.9**	**+0.5**
YOJ	**Yonaguni jima**	**0.58**	**133**	*i* P	**Pn**	**15 58 44.6**	**+0.2**
YOJ				S	**Sn**	**15 58 53.2**	**-0.6**
EOS3	**EOS3**	**0.61**	**200**	*i* P	**Pn**	**15 58 45.1**	**+0.4**
	baz=183						
EOS3				S	**Sn**	**15 58 54.7**	**+0.4**
	baz=183						
SXI1	**Grass Mountain**	**0.65**	**291**	⇑*i* P	**Pb**	**15 58 44.3**	**+0.6**
	baz=299						
SXI1				*i* S	**Sb**	**15 58 52.6**	**-0.2**
	baz=299						
TIPB	**Shuangxi**	**0.66**	**280**	*i* P	**Pb**	**15 58 44.5**	**+0.6**
	baz=284						
TIPB				*i* S	**Sg**	**15 58 51.9**	**-0.2**
	baz=284						

TWC	**Suao**	**0.68**	**248**	⇑*i* P		**Pb**	**15 58 44.1**	**-0.1**	
	baz=242								
TWC				*i* S		**Sg**	**15 58 53.0**	**+0.3**	
	baz=242								
ESAO	**Su ao**	**0.70**	**246**	*e*P		**Pg**	**15 58 44.3**	**+0.3**	
	baz=240								
ESAO				*e*S		**Sg**	**15 58 53.2**	**0.0**	
	baz=240								
NWF	**Wu-fen Shan**	**0.72**	**287**	*i* P		**Pb**	**15 58 45.6**	**+0.6**	
	baz=293								
NWF				*i* S		**Sb**	**15 58 55.0**	**+0.1**	
	baz=293								
WFSB	**Wu-fen Shan**	**0.72**	**287**	*i* P		**Pb**	**15 58 45.5**	**+0.6**	
	baz=293								
WFSB				*i* S		**Sb**	**15 58 54.7**	**-0.1**	
	baz=293								
TNOU	**National Taiwa**	**0.76**	**292**	P		**Pb**	**15 58 45.9**	**+0.4**	
	baz=300								
TNOU				S		**Sg**	**15 58 55.0**	**-0.1**	
	baz=300								
EOS4	**EOS4**	**0.77**	**196**	*i* P		**Pn**	**15 58 47.3**	**+0.6**	
	baz=182								
EOS4				S		**Sn**	**15 58 58.1**	**+0.2**	
	baz=182								
NDS	**Dongshan**	**0.79**	**253**	P		**Pb**	**15 58 46.1**	**+0.1**	
	baz=250								
NDS				S		**Sg**	**15 58 55.7**	**-0.4**	
	baz=250								
EWUT	**Wuta**	**0.81**	**239**	P		**Pb**	**15 58 46.9**	**+0.5**	
	baz=232								
EWUT				*e*S		**Sg**	**15 58 56.8**	**0.0**	
	baz=232								
ENA	**Nanau**	**0.85**	**240**	P		**Pb**	**15 58 47.3**	**+0.2**	
	baz=232								
ENA				S		**Sg**	**15 58 56.8**	**-1.3**	
	baz=232								
FUSB	**Fushanzhiwuyua**	**0.88**	**264**	P		**Pn**	**15 58 48.3**	**-0.3**	
	baz=263								
FUSB				S		**Sg**	**15 58 58.3**	**-0.6**	
	baz=263								
PCYT	**Pengchaiyu**	**0.88**	**331**	P		**Pn**	**15 58 49.1**	**+0.6**	
	baz=342								
TWA	**Mucha**	**0.88**	**278**	*i* P		**Pb**	**15 58 48.0**	**+0.4**	
	baz=280								
TWA				*i* S		**Sg**	**15 58 58.8**	**-0.3**	
	baz=280								
EAHA	**Aohua**	**0.91**	**234**	P		**Pn**	**15 58 48.9**	**0.0**	
	baz=227								
EAHA				*e*S		**Sb**	**15 59 00.2**	**+0.2**	
	baz=227								
ENTT	**Nioudou**	**0.92**	**256**	*i* P		**Pn**	**15 58 49.0**	**-0.1**	
	baz=253								
ENTT				S		**Sg**	**15 58 59.4**	**-0.8**	
	baz=253								
YM08	**YM08**	**0.93**	**291**	P		**Pg**	**15 58 48.2**	**-0.1**	
	baz=296								
YM08				*e*S		**Sg**	**15 59 00.0**	**-0.5**	
	baz=296								
YM01	**YM01**	**0.93**	**288**	P		**Pb**	**15 58 48.8**	**+0.3**	
	baz=293								
YM01				*e*S		**Sg**	**15 58 59.9**	**-0.7**	
	baz=293								
NHDH	**Xindian Distri**	**0.93**	**276**	*e*P		**Pn**	**15 58 49.0**	**-0.2**	
	baz=279								
NHDH				*e*S		**Sg**	**15 59 00.2**	**-0.5**	
	baz=279								
NWLT	**Wulai**	**0.95**	**265**	P		**Pn**	**15 58 49.5**	**0.0**	
	baz=265								
NWLT				S		**Sg**	**15 59 00.6**	**-0.7**	
	baz=265								
TWY	**Chenhua**	**0.95**	**296**	*i* P		**Pb**	**15 58 48.9**	**+0.

baz=213
TWF1 Yuli 1.89 217 *e*P **Pb 15 59 04.3 -0.4**
baz=212
WHYT Xinyi Township 1.93 233 *e*P **Pb 15 59 06.3 +0.7**
baz=230
WJS Zhushan 1.96 238 *e*P **Pb 15 59 07.0 +1.1**
baz=235
ALS Alishan 2.08 230 *e*P **Pb 15 59 08.4 +0.1**
baz=226
CHN5 Tsauling 2.12 234 *e*P **Pb 15 59 09.6 +0.7**
baz=230
TPUB Ta-pu 2.34 229 P **Pb 15 59 11.8 -0.8**

NEIC ***18*** *16:12:29.5±1.8,6.°11S±0.°09×155.°19E±0.°08,h37km±8km, mb4.4/19, Error ellipse: s-maj=13.9km s-min=10.8km az=208.0*
IDC ***18*** *16:12:37.8±2.8,6.°17S×154.°36E,h57km±22km,mb3.4/5, mbtmp3.9/7,ML3.3/2, Error ellipse: s-maj=24.0km s-min=15.5km az=79.0*
ISC 18 16:12:29.0±0.7,6.°01S±0.°07×155.°12E±0.°08,h35km,n37, σ1s51/36,mb4.3/15,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RABL	**Rabaul**	**3.45**	**301**		**Pn**	**Pn**	**16 13 22.4**	**+2.1**
RABL					Sn	**Sn**	**16 14 00.3**	**+0.2**
KRVT	**Keravat (AS076**	**3.51**	**299**	P	**Pn**	**Pn**	**16 13 23.0**	**+1.9**
KRVT				S		**Sn**	**16 13 57.2**	**-4.3**
HNR	**Honiara**	**5.87**	**126**	Pn	**Pn**	**Pn**	**16 13 51.9**	**-1.7**
HNR	**Honiara**	**5.87**	**126**	S	Sn	Sn	16 15 27.4	+28
	610nm,0.6s,baz=186,slow=12,SNR=2.0							
PMG	**Port Moresby**	**8.57**	**246**		**Pn**	**Pn**	**16 14 31.2**	**+0.5**
PMG					Sn	**Sn**	**16 16 03.8**	**-2.5**
PMG	**Port Moresby**	**8.57**	**246**	P	**Pn**	**Pn**	**16 14 31.1**	**+0.5**
	7.4nm,0.3s,baz=48,slow=12,SNR=34							
PMG				S		Sn	16 15 56.8	-10
	8.5nm,0.5s,baz=343,slow=23,SNR=1.9							
	43nm,0.5s							
PATS	**Pohnpei**	**13.15**	**14**	Pn	**Pn**	**Pn**	**16 15 31.1**	**-2.4**
DZM	**Mont Dzumac**	**19.36**	**147**	P	Pn	Pn	16 17 02.6	+9.4
	0.4nm,0.3s,baz=308,slow=13,SNR=2.5							
	5.7nm,0.8s							
WR0	**Warramunga Arr**	**24.33**	**233**	P	**P**	**P**	**16 17 44.1**	**+0.3**
WR0				IAmb	IAmb	IAmb	16 17 59.1	
	comp=Z,9.9nm,1.2s							
WB0	**Warramunga Arr**	**24.35**	**234**	P	**P**	**P**	**16 17 43.6**	**-0.3**
WB0				IAmb	IAmb	IAmb	16 18 16.6	
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**24.48**	**234**	P	**P**	**P**	**16 17 45.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=58,slow=9.6,SNR=3.6							
MTN	**Manton Dam**	**24.60**	**252**	P	**P**	**P**	**16 17 46.3**	**+0.1**
AS31	**Alice Springs**	**26.92**	**227**	P	**P**	**P**	**16 18 06.6**	**-0.6**
ASAR	**Alice Springs**	**26.92**	**227**	P	**P**	**P**	**16 18 07.2**	**+0.1**
ASAR	**Alice Springs**	**26.92**	**227**	P	**P**	**P**	**16 18 07.6**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=56,slow=9.2,SNR=12							
ASAR				PcP	**PcP**	**PcP**	**16 21 32.5**	**+3.7**
	comp=Z,0.5nm,0.6s,baz=49,slow=2.6,SNR=6.6							
ASAR				ScP	**ScP**	**ScP**	**16 25 08.3**	**+1.7**
	comp=Z,0.2nm,0.9s,baz=47,slow=3.1,SNR=1.9							
	comp=Z,0.3nm,0.6s							
SONM	**Songino Array**	**68.58**	**327**	P	**P**	**P**	**16 23 27.7**	**-0.7**
SONM				IAmb	IAmb	IAmb	16 23 36.3	
	comp=Z,4.3nm,1.4s							
SONM	**Songino Array**	**68.58**	**327**	P	P		16 23 35.1	+6.6
	comp=Z,0.6nm,0.4s,baz=143,slow=5.3,SNR=4.7							
	comp=Z,0.6nm,0.4s							
VNDA	**Vanda**	**71.56**	**178**	P	**P**	**P**	**16 23 46.5**	**+0.5**
VNDA				IAmb	IAmb	IAmb	16 24 00.5	
	comp=Z,7.3nm,1.5s							
K15K	**Wolf Creek Mou**	**75.76**	**19**	P	**P**	**P**	**16 24 11.5**	**+0.6**
J16K	**Anvik River**	**76.76**	**19**	P	**P**	**P**	**16 24 18.7**	**+2.1**
SVW2	**Sparrevohn**	**77.05**	**22**	P	**P**	**P**	**16 24 20.3**	**+2.0**
SVW2				IAmb	IAmb	IAmb	16 24 24.2	
	comp=Z,10nm,1.3s							
L19K	**White Mountain**	**78.00**	**22**	P	**P**	**P**	**16 24 23.9**	**+0.3**
L19K				IAmb	IAmb	IAmb	16 24 53.9	
	comp=Z,9.0nm,1.4s							
D19K	**Kuna River**	**81.11**	**16**	P	**P**	**P**	**16 24 40.2**	**-0.2**
B20K	**Meade River**	**82.39**	**15**	P	**P**	**P**	**16 24 47.5**	**+0.4**
B20K				IAmb	IAmb	IAmb	16 25 00.7	
	comp=Z,7.2nm,1.4s							
ILAR	**Eielson Array**	**82.42**	**22**	P	P		16 24 54.9	+7.6
	comp=Z,0.4nm,0.7s,baz=238,slow=5.1,SNR=9.4							
	comp=Z,0.4nm,0.7s							
MKAR	**Makanchi Array**	**82.75**	**319**	P	**P**	**P**	**16 24 49.4**	**-0.1**
MKAR	**Makanchi Array**	**82.75**	**319**	P	P		16 24 54.6	+5.1
	comp=Z,0.3nm,0.6s,baz=109,slow=5.8,SNR=2.7							
	comp=Z,0.3nm,0.6s							
D22K	**Ayikyak River**	**82.88**	**17**	P	**P**	**P**	**16 24 49.8**	**+0.1**
J25K	**Salcha River,**	**82.90**	**22**	P	**P**	**P**	**16 24 49.3**	**-0.6**
J25K				IAmb	IAmb	IAmb	16 25 09.3	
	comp=Z,4.6nm,1.4s							
J26L	**Joseph Creek**	**83.52**	**22**	P	**P**	**P**	**16 24 53.0**	**-0.2**
B22K	**Teshekpuk Lake**	**83.58**	**15**	P	**P**	**P**	**16 24 54.3**	**+1.2**
B22K				IAmb	IAmb	IAmb	16 25 13.3	
	comp=Z,4.2nm,1.4s							
QSPA	**South Pole Qui**	**83.96**	**180**	P	**P**	**P**	**16 24 55.8**	**+0.3**
QSPA				IAmb	IAmb	IAmb	16 25 08.2	
	comp=Z,4.8nm,1.4s							
QSPA	**South Pole Qui**	**83.96**	**180**	P	P		16 25 00.5	+5.0
	comp=Z,1.5nm,0.7s,baz=14,slow=4.8,SNR=9.0							
	comp=Z,1.5nm,0.7s							
BMAR	**Burnt Mountain**	**84.59**	**20**	P	**P**	**P**	**16 25 00.6**	**+2.1**
N30M	**Aishikik Lake**	**84.88**	**27**	P	**P**	**P**	**16 24 60.0**	**-0.1**
N30M				IAmb	IAmb	IAmb	16 25 05.0	
	comp=Z,3.5nm,0.6s							
I28M	**Miner Creek**	**85.33**	**22**	P	**P**	**P**	**16 25 01.8**	**-0.5**
G31M	**Satah River**	**88.02**	**22**	P	**P**	**P**	**16 25 15.0**	**-0.3**

NOU ***18*** *16:19:59.4,13.°67S×167.°36E,h105km, MLv5.0/10, Vanuatu Islands*
IDC ***18*** *16:20:14.2±5.6,14.°92S×167.°25E,h107km±47km,mb3.5/4, mbtmp3.9/5, Error ellipse: s-maj=38.0km s-min=33.4km az=11.0*
NEIC ***18*** *16:20:16.1±2.7,15.°1S±0.°1×167.°2E±0.°1,h111km±12km, mb4.3/11, Error ellipse: s-maj=20.6km s-min=16.8km az=77.0*
ISC 18 16:20:13.7±1.0,14.°95S±0.°09×167.°2E±0.°1,h100km,n32, σ1s94/39,mb4.0/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.79**	**180**		**Pn**	**Pn**	**16 21 37.3**	**+0.1**
LIFNC	**LIFOU**	**5.79**	**180**	P	**Pn**	**Pn**	**16 21 40.2**	**+3.0**
KOUNC	**Koumac, New Ca**	**6.24**	**206**	Pn	**Pn**	**Pn**	**16 21 45.2**	**+2.0**
KOUNC				Sn	**Sn**	**Sn**	**16 22 49.2**	**-3.9**
KOUNC	**Koumac, New Ca**	**6.24**	**206**	P	**Pn**	**Pn**	**16 21 45.3**	**+2.0**
MARNC	**Mare, Loyalty**	**6.54**	**174**	Pn	**Pn**	**Pn**	**16 21 47.6**	**+0.3**
MARNC				Sn	**Sn**	**Sn**	**16 22 55.4**	**-5.0**
DZM	**Mont Dzumac**	**7.12**	**186**	Pn	**Pn**	**Pn**	**16 21 56.0**	**+0.7**
DZM				Sn	**Sn**	**Sn**	**16 23 14.1**	**-0.7**
DZM	**Mont Dzumac**	**7.12**	**186**	P	**Pn**	**Pn**	**16 21 57.0**	**+1.6**
DZM	**Mont Dzumac**	**7.12**	**186**	P	**Pn**	**Pn**	**16 21 56.7**	**+1.3**
	5.6nm,0.3s,baz=316,slow=19,SNR=28							
DZM				S		**Sn**	**16 23 15.8**	**+1.0**
	5.4nm,0.5s,baz=317,slow=24,SNR=1.8							
NOUC	**Port Laguerre**	**7.17**	**187**	P	**Pn**	**Pn**	**16 21 59.1**	**+3.2**
ONTNC	**Ouen Toro**	**7.35**	**186**	Pn	**Pn**	**Pn**	**16 21 58.5**	**+0.1**
ONTNC				Sn	**Sn**	**Sn**	**16 23 20.4**	**+0.1**
ONTNC	**Ouen Toro**	**7.35**	**186**	P	**Pn**	**Pn**	**16 22 01.7**	**+3.3**
OUENC	**Ouen Island, N**	**7.44**	**183**	Pn	**Pn**	**Pn**	**16 22 02.0**	**+2.5**
OUENC				Sn	**Sn**	**Sn**	**16 23 21.3**	**-1.1**
OUENC	**Ouen Island, N**	**7.44**	**183**	P	**Pn**	**Pn**	**16 22 03.0**	**+3.4**
PINNC	**Pines Island,**	**7.62**	**179**	Pn	**Pn**	**Pn**	**16 22 04.2**	**+2.1**
PINNC				Sn	**Sn**	**Sn**	**16 23 26.8**	**-0.1**
PINNC	**Pines Island,**	**7.62**	**179**	P	**Pn**	**Pn**	**16 22 05.9**	**+3.8**
COEN	**Coen**	**23.32**	**269**	P	**P**	**P**	**16 25 13.4**	**+0.1**
COEN				IAmb	IAmb	IAmb	16 25 46.7	
	comp=Z,13nm,1.2s							
RTZ	**Ruatahuna**	**25.09**	**162**	P	**P**	**P**	**16 25 28.9**	**-0.2**
RTZ				IAmb	IAmb	IAmb	16 25 34.7	
	comp=Z,33nm,1.4s							
BKZ	**Black Stump Fm**	**25.46**	**163**	P	**P**	**P**	**16 25 33.3**	**+0.9**
LTZ	**Lake Taylor**	**28.07**	**172**	P	**P**	**P**	**16 25 57.0**	**+1.2**
LTZ				IAmb	IAmb	IAmb	16 26 37.5	
	comp=Z,20nm,1.4s							
STKA	**Stephens Creek**	**28.83**	**230**	P	**P**	**P**	**16 26 03.3**	**+0.6**
STKA	**Stephens Creek**	**28.83**	**230**	P	**P**	**P**	**16 26 04.2**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=84,slow=7.1,SNR=3.3							
	comp=Z,1.0nm,0.4s							

WB0	**Warramunga Arr**	**31.68**	**257**	P	**P**	**P**	**16 26 26.7**	**-1.3**
WB0				IAmb	IAmb		16 26 50.7	
	comp=Z,8.2nm,1.3s							
WB2	**Warramunga Arr**	**31.73**	**256**	P	**P**	**P**	**16 26 27.4**	**-1.1**
WB2				IAmb	IAmb		16 27 01.2	
	comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**31.74**	**256**	P	**P**	**P**	**16 26 27.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=83,slow=9.6,SNR=4.1							
AS31	**Alice Springs**	**32.56**	**249**	P	**P**	**P**	**16 26 35.2**	**-0.6**
AS31				IAmb	IAmb		16 26 46.5	
	comp=Z,1.5nm,1.2s							
ASAR	**Alice Springs**	**32.56**	**249**	P	**P**	**P**	**16 26 34.9**	**-0.8**
ASAR	**Alice Springs**	**32.56**	**249**	P	**P**	**P**	**16 26 35.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=74,slow=9.4,SNR=14							
	comp=Z,0.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**39.94**	**260**	P	**P**	**P**	**16 27 38.7**	**+0.1**
SBA	**Scott Base**	**62.91**	**180**	P	**P**	**P**	**16 30 27.2**	**-1.7**
QSPA	**South Pole Qui**	**75.08**	**180**	P	**P**	**P**	**16 31 44.8**	**+0.2**
QSPA				IAmb	IAmb	IAmb	16 31 46.9	
	comp=Z,5.2nm,1.2s							
QSPA	**South Pole Qui**	**75.08**	**180**	P	**P**	**P**	**16 31 43.9**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=7.7,slow=0.7,SNR=5.2							
	comp=Z,1.5nm,0.9s							
ILAR	**Eielson Array**	**86.75**	**18**	P	**P**	**P**	**16 32 45.9**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=233,slow=4.4,SNR=1.8							
	comp=Z,0.2nm,0.7s							

IDC 18 16:39:59.5±2.6,27.°61N×90.°36E,h0km,mb3.2/3, mbtmp3.2/4,ML3.8/1,Error ellipse: s-maj=90.4km s-min=25.9km az=71.0,Bhutan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.05**	**137**	Pn	Pn	Pn	16 42 53.9	+1.2
	0.2nm,0.3s,baz=310,slow=10,SNR=2.4							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**20.18**	**344**	P	P	P	16 44 35.9	+0.3
	0.6nm,0.5s,baz=157,slow=10,SNR=8.5							
	0.6nm,0.5s							
SONM	**Songino Array**	**23.76**	**28**	P	P	P	16 45 13.5	-0.1
	0.2nm,0.4s,baz=201,slow=12,SNR=2.1							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**63.61**	**133**	P	P	P	16 50 32.6	0.0
	0.6nm,1.0s,baz=323,slow=7.1,SNR=1.7							
ASAR	**Alice Springs**	**66.06**	**136**	P	P	P	16 50 48.1	-0.4
	0.3nm,0.9s,baz=317,slow=6.0,SNR=1.8							
	0.3nm,0.9s							

KRNET ***18*** *16:41:45.1±0.1,40.°04N×75.°05E,h24km,mb3.4*
SOME ***18*** *16:41:46.7,40.°08N×75.°13E,h15km*
NNC ***18*** *16:41:48.1±0.8,40.°14N×75.°13E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=6.4km s-min=4.1km az=161.0*
ISC 18 16:41:43.2±1.4,40.°06N±0.°04×75.°08E±0.°03,h1km±10km, n77,σ1s70/119,40C-16D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.21**	**268**	⇑*i*P	**Pg**	**Pg**	**16 42 07.1**	**+0.7**
	baz=69							
SFK				⇑*i*S	**Sg**	**Sg**	**16 42 23.0**	**+1.0**
	baz=69							
NRN	**Naryn**	**1.54**	**27**	⇑*i*P	**Pg**	**Pg**	**16 42 13.2**	**+0.4**
	baz=27							
NRN				⇑*i*S	**Sg**	**Sg**	**16 42 34.0**	**+1.1**
	baz=27							
OHH	**Osh**	**1.81**	**286**	⇑*i*P	**Pb**	**Pb**	**16 42 17.6**	**+0.4**
	baz=86							
OHH				⇑*i*S	**Sg**	**Sg**	**16 42 41.1**	**-0.4**
	baz=86							
ARLS	**Aral**	**1.89**	**343**	⇑*i*P	**Pb**	**Pb**	**16 42 18.9**	**+0.3**
	baz=44							
ARLS				⇑*i*S	**Sg**	**Sg**	**16 42 43.7**	**-0.3**
	baz=44							
KZA	**Kyzart**	**2.02**	**4**	P	**Pg**	**Pg**	**16 42 23.4**	**+1.3**
	SNR=20							
KZA	**Kyzart**	**2.02**	**4**	⇓*i*P	**Pb**	**Pb**	**16 42 21.3**	**+0.2**
	baz=4.0							
KZA				⇓*i*S	**Sb**	**Sb**	**16 42 47.3**	**+0.4**
	baz=4.0							
ARSB	**Arslanbob**	**2.03**	**309**	⇑*i*P	**Pb**	**Pb**	**16 42 20.7**	**-0.4**
	baz=10.0							
ARSB				⇑*i*S	**Sb**	**Sb**	**16 42 46.6**	**-0.3**
	baz=10.0							
UCH	**Uchtor**	**2.21**	**349**	P	**Pg**	**Pg**	**16 42 26.9**	**+1.3**
	SNR=85							
UCH	**Uchtor**	**2.21**	**349**	⇑*i*P	**Pb**	**Pb**	**16 42 23.8**	**-0.5**
	baz=50							
UCH				⇑*i*S	**Sb**	**Sb**	**16 42 51.9**	**-0.4**
	baz=50							
AML	**Almayashu**	**2.32**	**334**	P	**Pg**	**Pg**	**16 42 28.4**	**+0.7**
	SNR=33							
AML	**Almayashu**	**2.32**	**334**	⇑*i*P	**Pb**	**Pb**	**16 42 25.0**	**-1.1**
	baz=34							
AML				⇑*i*S	**Sb**	**Sb**	**16 42 54.4**	**-1.0**
	baz=34							
ULHL	**Ulahol**	**2.36**	**22**	P	**Pg**	**Pg**	**16 42 28.3**	**-0.1**
	SNR=15							
ULHL	**Ulahol**	**2.36**	**22**	⇑*i*P	**Pb**	**Pb**	**16 42 25.8**	**-0.8**
	baz=22							
ULHL				⇑*i*S	**Sb**	**Sb**	**16 42 55.6**	**-0.7**
	baz=22							
DRK	**Karamyk**	**2.59**	**258**	⇓*e*P	**Pb**	**Pb**	**16 42 28.6**	**-2.0**
	baz=58							
DRK				⇓*e*S	**Sb**	**Sb**	**16 42 59.9**	**-3.1**
	baz=58							
KBK	**Karagaybulak**	**2.60**	**358**	P	**Pg**	**Pg**	**16 42 32.4**	**-0.6**
	SNR=37							
KBK	**Karagaybulak**	**2.60**	**358**	⇑*i*P	**Pb**	**Pb**	**16 42 29.1**	**-1.6**
	baz=58							
KBK				⇑*i*S	**Sb**	**Sb**	**16 43 00.9**	**-2.3**
	baz=58							
KDJ	**Kajisay**	**2.61**	**37**	⇑*i*P	**Pb**	**Pb**	**16 42 29.1**	**-1.8**
	baz=37							
KDJ				⇑*i*S	**Sb**	**Sb**	**16 43 01.5**	**-2.1**
	baz=37							
AAK	**Ala-Archa**	**2.62**	**351**	P	**Pb**	**Pb**	**16 42 32.2**	**+1.3**
	SNR=67							
AAK	**Ala-Archa**	**2.62**	**351**	⇓*i*P	**Pb**	**Pb**	**16 42 29.2**	**-1.8**
	baz=51							
AAK				⇓*i*S	**Sb**	**Sb**	**16 43 01.4**	**-2.3**
	baz=51							
FRU1	**Bishkek**	**2.77**	**353**	⇑*i*P	**Pb**	**Pb**	**16 42 31.4**	**-2.2**
	baz=54							
FRU1				⇑*i*S	**Sb**	**Sb**	**16 43 05.3**	**-2.8**
	baz=54							
EKS2	**Erkin-Say**	**2.78**	**340**	P	**Pb**	**Pb**	**16 42 34.9**	**+1.2**
	SNR=12							
EKS2	**Erkin-Say**	**2.78**	**340**	⇑*i*P	**Pb**	**Pb**	**16 42 31.5**	**-2.3**
	baz=40							
EKS2				⇑*i*S	**Sb**	**Sb**	**16 43 04.6**	**-3.8**
	baz=40							
TKM2	**Tokmak 2**	**2.89**	**8**	P	**Pb**	**Pb**	**16 42 34.6**	**-1.1**
	SNR=11							
TKM2	**Tokmak 2**	**2.89**	**8**	⇑*i*P	**Pb**	**Pb**	**16 42 33.2**	**-2.5**
	baz=8.0							
TKM2				⇑*i*S	**Sb**	**Sb**	**16 43 08.0**	**-3.6**
	baz=8.0							
ARK	**Arkit**	**2.93**	**307**	⇑*i*P	**Pb**	**Pb**	**16 42 33.2**	**-3.1**
	baz=8.0							
ARK				⇑*i*S	**Sn**	**Sn**	**16 43 08.4**	**+1.5**
	baz=8.0							
CHMS	**Chumysh**	**2.95**	**355**	P	**Pg**	**Pg**	**16 42 40.2**	**+0.5**
	SNR=22							
CHMS	**Chumysh**	**2.95**	**355**	⇑*e*P	**Pb**	**Pb**	**16 42 33.6**	**-3.0**
	baz=56							
CHMS				⇑*i*S	**Sb**	**Sb**	**16 43 09.1**	**-4.1**
	baz=56							
MRKS	**Merke**	**3.02**	**333**	Pg	**Pg**	**Pg**	**16 42 42.5**	**+1.3**
	17nm,0.3s							
MRKS				Lg	Lg	Lg	16 43 22.7	
	32nm,0.3s							
MRKS	**Merke**	**3.02**	**333**	*e*P	**Pg**	**Pg**	**16 42 42.5**	**+1.3**
	17nm,0.3s							
MRKS				*e*S	**Sg**	**Sg**	**16 43 22.7**	**+2.3**
	32nm,0.3s							
KST	**Kastek**	**3.06**	**12**	Pg	**Pg**	**Pg**	**16 42 42.4**	**+0.6**
	8.5nm,0.2s							
KST				Lg	Lg	Lg	16 43 22.6	
	66nm,0.3s							
KST	**Kastek**	**3.06**	**12**	*e*P	**Pg**	**Pg**	**16 42 42.4**	**+0.6**
	8.5nm,0.2s							
KST				*e*S	**Sg**	**Sg**	**16 43 22.6**	**+1.1**
	66nm,0.3s							
IZV	**Izvestkoviy**	**3.19**	**21**	Pg	**Pg**	**Pg**	**16 42 45.2**	**+0.8**
	4.3nm,0.2s							
IZV				Lg	Lg	Lg	16 43 27.4	
	35nm,0.3s							
IZV	**Izvestkoviy**	**3.19**	**21**	*e*P	**Pg**	**Pg**	**16 42 45.2**	**+0.8**
	4.3nm,0.2s							
IZV				*e*S	**Sg**	**Sg**	**16 43 27.4**	**+1.6**
	35nm,0.3s							
DGS	**Degeres**	**3.23**	**9**	Pg	**Pg**	**Pg**	**16 42 46.0**	**+0.9**
	16nm,0.2s							
DGS				Lg	Lg	Lg	16 43 28.7	
	38nm,0.5s							
DGS	**Degeres**	**3.23**	**9**	*e*P	**Pg**	**Pg**	**16 42 46.0**	**+0.9**
	16nm,0.2s							
DGS				*e*S	**Sg**	**Sg**	**16 43 28.7**	**+1.8**
	38nm,0.5s							
MTBS	**Maitube**	**3.23**	**18**	Pg	**Pg**	**Pg**	**16 42 45.4**	**+0.2**
	5.7nm,0.2s							
MTBS				Lg	Lg	Lg	16 43 27.6	
	30nm,0.2s							
MTBS	**Maitube**	**3.23**	**18**	*e*P	**Pg**	**Pg**	**16 42 45.4**	**+0.2**
	5.7nm,0.2s							
MTBS				*e*S	**Sg**	**Sg**	**16 43 27.6**	**+0.5**
	30nm,0.2s							
USP	**Ospenovka**	**3.24**	**353**	P	**Pb**	**Pb**	**16 42 40.5**	**-1.0**
	SNR=6.0							
USP	**Ospenovka**	**3.24**	**353**	⇑*i*P	**Pb**	**Pb**	**16 42 37.8**	**-3.7**
	baz=53							
USP				⇑*i*S	**Sn**	**Sn**	**16 43 16.0**	**+1.6**
	baz=53							
BTK	**Batken**	**3.27**	**271**	⇑*i*P	**Pn**	**Pn**	**16 42 37.9**	**+2.3**
	baz=72							
BTK				⇑*i*S	**Sn**	**Sn**	**16 43 15.8**	**+0.6**
	baz=72							
TNSS	**Tian-Shan**	**3.29**	**25**	Pg	**Pg**	**Pg**	**16 42 47.1**	**+0.7**
	5.6nm,0.1s							
TNSS				Lg	Lg	Lg	16 43 30.4	
	21nm,0.5s							
TNSS	**Tian-Shan**	**3.29**	**25**	*e*P	**Pg**	**Pg**	**16 42 47.1**	**+0.7**
	5.6nm,0.1s							
TNSS				*e*S	**Sg**	**Sg**	**16 43 30.4**	**+1.4**
	21nm,0.5s							
TRKS	**Terek-Say**	**3.33**	**298**	⇓*i*P	**Pn**	**Pn**	**16 42 37.9**	**+1.3**
	baz=97							
TRKS				⇓*i*S	**Sn**	**Sn**	**16 43 16.3**	**-0.6**
	baz=97							
ANVS	**Anan'yevo**	**3.35**	**35**	⇓*i*P	**Pb**	**Pb**	**16 42 39.5**	**-4.0**
	baz=35							
ANVS				⇓*i*S	**Sn**	**Sn**	**16 43 18.9**	**+1.5**
	baz=35							
SGDS	**Sogindy**	**3.41**	**355**	Pg	**Pg**	**Pg**	**16 42 49.4**	**+0.9**
	9.2nm,0.2s							
SGDS				Lg	Lg	Lg	16 43 34.6	
	14nm,0.8s							
MDOK	**Medeo**	**3.44**	**25**	⇓Pg	**Pg**	**Pg**	**16 42 47.7**	**-1.4**
	4.7nm,0.5s							
MDOK				Pg	**Pg**	**Pg**	**16 42 49.1**	**0.0**
	4.2nm,0.2s							
MDOK				Lg	Lg	Lg	16 43 32.2	
	46nm,0.8s							
MDOK				Lg	Lg	Lg	16 43 34.1	
	36nm,0.6s							
MDOK	**Medeo**	**3.44**	**25**	*e*P	**Pg**	**Pg**	**16 42 49.1**	**0.0**
	4.2nm,0.2s							
MDOK				*e*S	**Sg**	**Sg**	**16 43 34.1**	**+0.4**
	36nm,0.6s							
KNDC	**Almaty**	**3.46**	**24**	⇑Lg	Lg	Lg	16 43 36.8	
	85nm,0.6s							
PRZ	**Przheval'sk**	**3.49**	**45**	⇓*i*P	**Pn**	**Pn**	**16 42 41.3**	**+2.5**
	baz=45							
PRZ				⇓*i*S	**Sn**	**Sn**	**16 43 22.6**	**+1.8**
	baz=45							
KOTS	**Kotyrbulak**	**3.52**	**25**	Pg	**Pg**	**Pg**	**16 42 50.6**	**-0.1**
	4.0nm,0.2s							
KOTS				Lg	Lg	Lg	16 43 36.5	
	56nm,0.7s							
KOTS	**Kotyrbulak**	**3.52**	**25**	*e*P	**Pg**	**Pg**	**16 42 50.6**	**-0.1**
	4.0nm,0.2s							
KOTS				*e*S	**Sg**	**Sg**	**16 43 36.5**	**+0.1**
	56nm,0.7s							
KTBS	**Karatobe**	**3.84**	**18**	Pg	**Pg**	**Pg**	**16 42 56.5**	**-0.4**
	6.6nm,0.4s							
KTBS				Lg	Lg	Lg	16 43 46.8	
	31nm,0.2s							
KTBS	**Karatobe**	**3.84**	**18**	*e*P	**Pg**	**Pg**	**16 42 56.5**	**-0.4**
	6.6nm,0.4s							
KTBS				*e*S	**Sg**	**Sg**	**16 43 46.8**	**0.0**
	31nm,0.2s							
SATY	**Saty**	**3.91**	**39**	Pg	**Pg**	**Pg**	**16 42 57.2**	**-0.9**
	1.3nm,0.1s							
SATY				Lg	Lg	Lg	16 43 47.9	
	25nm,0.4s							
SATY	**Saty**	**3.91**	**39**	*e*P	**Pg**	**Pg**	**16 42 57.2**	**-0.9**
	1.3nm,0.1s							
SATY				*e*S	**Sg**	**Sg**	**16 43 47.9**	**-0.8**
	25nm,0.4s							
KUU	**Kurty**	**3.95**	**13**	Pg	**Pg**	**Pg**

KNOS					Lg	Lg	16 44 31.4		
	7.3nm,0.5s								
DJR	**Jarkent**	**5.52**	**38**		Pg	**Pg**	**16 43 29.1**	**0.0**	
	1.5nm,0.2s								
DJR					Lg	Lg	16 44 42.4		
	6.6nm,0.5s								
DJR	**Jarkent**	**5.52**	**38**	*e*	P	**Pg**	**16 43 29.1**	**0.0**	
	1.5nm,0.2s								
DJR				*e*	S	**Sg**	**16 44 42.4**	**+1.8**	
	6.6nm,0.5s								
OTUK	**Ortayu**	**8.42**	**347**	‖	Lg	Lg	16 46 10.1		
	6.0nm,0.8s								

*IDC **18** 16:48:36.8±1.0,34˚21N×45˚32E,h0km,mb3.7/11, mbtmp3.8/17,ML3.6/6,MS3.3/4,Error ellipse: s-maj=19.4km s-min=13.8km az=169.0*
*NEIC **18** 16:48:38.5±1.5,34˚49N±0˚05×45˚22E±0˚09,h10km±4km, mb4.0/12,Error ellipse: s-maj=11.8km s-min=4.8km az=117.0*
*ISN **18** 16:48:41.8±1.5,34˚58N×45˚74E,h11km±999km,ML4.1*
*TEH **18** 16:48:42.0,34˚56N×45˚67E,h9km±31km,ML4.0*
*OMAN **18** 16:48:50.9±0.2,33˚34N×45˚67E,h8km,mb4.1/28,Error ellipse: s-maj=7.9km s-min=2.6km az=23.0*

ISC 18 16:48:40.8±0.5,34˚54N±0˚03×45˚69E±0˚03,h10km,n109, σ3s01/106,mb3.7/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.09**	**249**		**Pg**	**16 49 44.6**	**+1.4**
IDHR	**Dehrash**	**0.60**	**74**		**Pg**	**16 48 53.6**	**+1.2**
IGHG	**Ghaleghazi**	**0.76**	**106**		**Pg**	**16 48 57.1**	**+1.7**
IGHG					**Sn**	**16 49 10.1**	**+0.8**
ILBA	**Ilam Banvizeh**	**1.01**	**155**		**Pg**	**16 49 01.8**	**+1.7**
ILIN	**Lien**	**1.11**	**70**		**Pb**	**16 49 03.7**	**+1.4**
KCHF	**Cheshme Sefid,**	**1.15**	**103**		**Pb**	**16 49 04.3**	**+1.5**
KCHF					**Sn**	**16 49 21.2**	**+2.2**
IBDR	**Badra**	**1.44**	**172**	*e*Pn	**Pg**	**16 49 11.0**	**+2.6**
IBDR				*e*Sn	**Sg**	**16 49 30.0**	**+3.0**
IKOM	**Komasi**	**1.55**	**103**		**Pg**	**16 49 11.9**	**+1.4**
SDS1	**Sardasht. Az.**	**1.62**	**354**		**Pg**	**16 49 12.5**	**+0.7**
BHD	**Baghdad**	**1.67**	**221**	*e*Pn	**Pb**	**16 49 13.0**	**+1.4**
BHD				*e*Sn	**Sg**	**16 49 37.0**	**+2.6**
BHD					AML	AML	16 49 46.9		
	comp=E,3μm,0.6s								
IBZA	**Bozab**	**1.79**	**92**		Pn	**Pb**	**16 49 15.7**	**+1.8**
IKFM	**Kafar-mosalman**	**2.06**	**119**		Pn	**Pb**	**16 49 18.9**	**+0.7**
IALM	**Almabolaq**	**2.07**	**80**		Pn	**Pb**	**16 49 19.5**	**+0.9**
MAHB	**Mahabad**	**2.22**	**0**		Pn	**Pb**	**16 49 21.1**	**0.0**
HSAM	**Samen**	**2.43**	**97**		Pn	**Pn**	**16 49 24.0**	**+3.2**
RAFI	**Al-Rafai**	**2.83**	**173**	*e*Pn	**Pn**	**16 49 29.0**	**+3.0**
RAFI				*e*Sn	**Sn**	**16 50 04.5**	**+4.4**
RAFI					AML	AML	16 50 22.1		
	comp=N,1μm,0.4s								
RAFI					AML	AML	16 50 30.1		
	comp=E,1μm,0.4s								
HAGD	**Aghdareh**	**2.86**	**83**		Pn	**Pn**	**16 49 30.5**	**+3.8**
QSDN	**Sirdan**	**3.45**	**54**		Pn	**Pn**	**16 49 39.1**	**+4.2**
IRAZ	**Razeghan**	**3.59**	**75**		Pn	**Pn**	**16 49 40.5**	**+3.8**
ISRB	**Sarab**	**3.65**	**25**		Pn	**Pn**	**16 49 41.1**	**+3.6**
IQOM	**Qom**	**4.44**	**85**		Pn	**Pn**	**16 49 51.6**	**+3.1**
GRMI	**Germi**	**4.62**	**22**		Pn	**Pn**	**16 49 54.2**	**+3.5**
IPIR	**Pirpir**	**4.72**	**112**		Pn	**Pn**	**16 49 55.2**	**+2.9**
QAMS	**Qamsar**	**4.80**	**98**		Pn	**Pn**	**16 49 56.8**	**+3.4**
MAKU	**Maku**	**4.88**	**351**		Pn	**Pn**	**16 49 57.8**	**+3.5**
ZNGN	**Zangian**	**4.95**	**118**		Pn	**Pn**	**16 49 57.5**	**+2.0**
GURO	**Guroymak-BITLI**	**4.97**	**325**		Pn	Pn	16 49 49.1	-6.5
IVRN	**Varamin**	**4.99**	**83**		Pn	**Pn**	**16 49 59.1**	**+3.3**
IKLH	**Kolahrood**	**5.04**	**102**		Pn	**Pn**	**16 49 59.2**	**+2.5**
IDMV	**Damavand**	**5.30**	**77**		Pn	**Pn**	**16 50 03.7**	**+3.3**
IBRJ	**Brojen**	**5.35**	**118**		Pn	**Pn**	**16 50 03.2**	**+2.2**
KRSH	**Karshahi**	**5.37**	**94**		Pn	**Pn**	**16 50 03.6**	**+2.5**
ISFB	**Sefidab**	**5.42**	**90**		Pn	**Pn**	**16 50 04.7**	**+3.0**
GNI	**Garni**	**5.65**	**353**		Pg	Pb	16 50 25.1	+5.5
	comp=E,0.3nm,0.3s,baz=217,slow=18,SNR=1.6								
GNI					Lg	Lg	16 51 46.0		
	comp=E,0.3nm,0.3s,baz=128,slow=20,SNR=1.7								
IGAR	**Gharneh**	**5.72**	**110**		Pn	**Pn**	**16 50 08.8**	**+2.8**
IZEF	**Zefreh**	**5.77**	**105**		Pn	**Pn**	**16 50 10.1**	**+3.4**
IFIR	**Firoozkooh**	**5.89**	**77**		Pn	**Pn**	**16 50 12.2**	**+3.7**
IRAM	**Ramesheh**	**6.24**	**114**		Pn	Pn	**16 50 15.9**	**+2.8**
ASF	**Jabal al Asfar**	**7.72**	**255**		Pn	Pn	16 50 26.8	-6.6
	comp=E,0.7nm,0.3s,baz=68,slow=22,SNR=2.0								
ASF					Lg	Lg	16 52 29.9		
	comp=E,0.3nm,0.3s,baz=61,slow=23,SNR=1.1								
	comp=E,22nm,1.4s								
DSBU	**Dashti - Bushe**	**7.78**	**141**		Pn	**Pn**	**16 50 35.6**	**+1.5**
MMAI	**Mount Meron Ar**	**8.70**	**263**		Pn	Pn	16 50 38.5	-8.3
	comp=E,0.3nm,0.3s,baz=78,slow=13,SNR=2.4								
MMAI					Lg	Lg	16 53 02.9		
	comp=E,0.7nm,0.3s,baz=284,slow=21,SNR=1.9								
	comp=E,8.9nm,1.0s								
SAKB	**Bahrain**	**9.50**	**153**	P		Pn	16 50 52.1	-5.6	
SAKB				S		Sn	16 52 34.4	-10	
EIL	**Elat**	**10.32**	**245**	LR		LR	16 55 31.1		
	comp=E,63nm,19.2s,baz=52,slow=42								
GEYT	**Ailbeck**	**10.59**	**68**	Pn		**Pn**	**16 51 13.9**	**+1.3**	
	comp=E,0.2nm,0.3s,baz=295,slow=7.8,SNR=2.0								
GEYT				LR		LR	16 55 41.7		
	comp=E,128nm,19.3s,baz=350,slow=39								
	comp=E,0.4nm,0.3s								
TRNA	**Turayna**	**10.88**	**152**	S		Sn	16 53 07.6	-11	
JRN	**Qarnain Island**	**11.40**	**145**	S		Sn	16 53 19.9	-11	
SLWR	**Sila**	**11.67**	**152**	P		Pn	16 51 20.9	-6.4	
SLWR				S		Sn	16 53 28.0	-10	
SHME	**Shamm**	**12.37**	**130**	S		Sn	16 53 47.6	-7.2	
BANOM	**Banah**	**12.56**	**130**	P		**Pn**	**16 51 39.9**	**+0.3**	
BANOM				S		**Sn**	**16 53 52.9**	**-6.6**	
AJN	**Ajban**	**12.81**	**138**	P		Pn	16 51 39.2	-3.8	
AJN				S		Sn	16 53 58.2	-7.4	
NAZ	**Nazwa, Dubai**	**12.86**	**135**	P		**Pn**	**16 51 44.8**	**+1.2**	
	SNR=6.4								
MASF	**Masafi**	**12.87**	**132**	P		**Pn**	**16 51 43.8**	**0.0**	
MASF				S		Sn	16 53 60.0	-7.2	
MZWR	**Madinat Zayed**	**12.90**	**144**	P		**Pn**	**16 51 42.4**	**-1.7**	
MZWR				S		Sn	16 53 59.4	-8.4	
ASUD	**Al Ashush, Dub**	**12.95**	**137**	P		**Pn**	**16 51 45.5**	**+0.6**	
	SNR=5.5								
FAQ	**Al Faqa, Dubai**	**13.01**	**136**	P		**Pn**	**16 51 45.3**	**-0.4**	
FAQ				S		Sn	16 54 02.8	-7.7	
MDH	**Madha**	**13.01**	**132**	P		**Pn**	**16 51 46.2**	**+0.5**	
MDH				S		Sn	16 54 02.1	-8.4	
HATD	**Hatta, Dubai**	**13.26**	**134**	P		**Pn**	**16 51 48.9**	**-0.3**	
	SNR=6.0								
HATD				S		Sn	16 54 09.2	-7.5	
ASHO	**Ashiyiah**	**13.32**	**135**	P		**Pn**	**16 51 49.4**	**-0.7**	
	SNR=7.2								
ASHO				S		**Sn**	**16 54 11.2**	**-7.1**	
MZR	**Muzera**	**13.36**	**147**	S		Sn	16 54 09.3	-10	
JASK	**Jask - Hormozg**	**13.61**	**126**	P		**Pn**	**16 51 55.8**	**+1.9**	
ALNE	**Al Ain**	**13.63**	**137**	P		**Pn**	**16 51 53.6**	**-0.6**	
	SNR=7.3								
ALNE				S		Sn	16 54 17.4	-8.4	
SOHO	**SOHO**	**14.02**	**135**	P		**Pn**	**16 52 00.4**	**+0.9**	
SOHO				S		Sn	16 54 26.0	-9.2	
UMZA	**Um Al Zommool**	**14.41**	**142**	P		**Pn**	**16 52 03.1**	**-1.7**	
UMZA				S		Sn	16 54 35.5	-9.2	
ARQ	**Araqi**	**14.63**	**137**	P		**Pn**	**16 52 07.7**	**-0.2**	
ARQ				S		Sn	16 54 41.5	-8.8	
BIDO	**Bidbid**	**15.44**	**132**	P		**Pn**	**16 52 18.1**	**-0.5**	
BIDO				S		**Sn**	**16 55 03.7**	**-6.1**	
BSY	**Bisya**	**15.48**	**136**	P		**Pn**	**16 52 19.3**	**0.0**	
BSY				S		Sn	16 55 00.6	-10	
SMDO	**Samad**	**15.74**	**133**	P		**Pn**	**16 52 23.1**	**+0.5**	
	SNR=12								
SMDO				S		**Sn**	**16 55 08.4**	**-8.8**	
WSAR	**Wadi Sarin**	**15.96**	**131**	Pn		**Pn**	**16 52 22.5**	**-2.9**	
	comp=E,1.2nm,0.3s,baz=319,slow=10,SNR=6.9								
	comp=E,2.6nm,0.5s								
WSAR	**Wadi Sarin**	**15.96**	**131**	P		**Pn**	**16 52 25.0**	**-0.5**	
WSAR				S		**Sn**	**16 55 13.8**	**-8.6**	
JMDO	**Jabal Madar**	**16.29**	**135**	P		**Pn**	**16 52 30.4**	**+0.6**	
JMDO				S		**Sn**	**16 55 23.4**	**-7.3**	
WBK	**Wadi Bani Khal**	**16.63**	**132**	P		**Pn**	**16 52 34.9**	**+0.9**	
WBK				S		**Sn**	**16 55 32.2**	**-6.7**	
JLN	**Jalan Bani Buh**	**17.24**	**132**	P		**P**	**16 52 44.2**	**+0.9**	
	SNR=8.3								
JLN				S		**Sn**	**16 55 47.0**	**-6.7**	
MHTO	**MHTO**	**17.31**	**138**	P		**Pn**	**16 52 40.4**	**-2.1**	
MHTO				S		Sn	16 55 44.5	-11	
DOK	**Doka**	**17.55**	**153**	P		**Pn**	**16 52 42.6**	**-2.9**	
	SNR=7.7								

BELG	**Belogornoye**	**17.90**	**4**	P		**Pn**	**16 52 49.4**	**-0.3**	
	comp=E,0.3nm,0.3s,baz=134,slow=2.9,SNR=5.2								
	comp=E,7.4nm,0.9s								
DQM	**DQM**	**17.94**	**141**	P		**Pn**	**16 52 49.6**	**-0.8**	
WHFO	**Wadi Hawf**	**18.05**	**154**	P		**Pn**	**16 52 48.3**	**-3.6**	
	SNR=13								
WHFO				S		Sn	16 56 00.7	-13	
ABKAR	**Akbulak array**	**18.09**	**31**			**Pn**	**16 52 52.5**	**+0.5**	
ABKAR	**Akbulak array**	**18.09**	**31**			**Pn**	**16 52 52.6**	**+0.6**	
ABKAR				IAmb		IAmb	16 53 34.2		
	comp=Z,1.7nm,1.1s								
AKTO	**Aktyubinsk**	**18.26**	**26**	P		**Pn**	**16 52 55.3**	**+1.1**	
	comp=Z,0.1nm,0.3s,baz=226,slow=9.5,SNR=3.9								
	comp=Z,1.3nm,0.8s								
ABTO	**Aybut**	**18.42**	**156**	P		**P**	**16 52 53.9**	**-2.4**	
ABTO				S		Sn	16 56 09.2	-13	
RBK	**Rabkut**	**18.59**	**154**	P		**P**	**16 52 55.7**	**-2.5**	
RBK				S		Sn	16 56 13.2	-13	
DMTO	**DMTO**	**18.68**	**151**	P		**P**	**16 52 56.9**	**-2.2**	
DMTO				S		Sn	16 56 15.0	-14	
SHAO	**Shalim**	**18.68**	**149**	P		**P**	**16 52 57.2**	**-2.0**	
SHAO				S		Sn	16 56 18.1	-10	
AKASG	**Malin Array Be**	**20.12**	**328**	P		**P**	**16 53 13.3**	**-1.4**	
	comp=Z,0.3nm,0.4s,baz=139,slow=9.8,SNR=5.2								
	comp=Z,0.3nm,0.4s								
AKBB	**Malin Array Si**	**20.12**	**328**	P		**P**	**16 53 09.8**	**-4.8**	
BURAR	**Bucovina Array**	**20.14**	**317**	P		**P**	**16 53 09.4**	**-5.7**	
BUR08	**Bucovina Ar. S**	**20.17**	**317**	P		**P**	**16 53 09.7**	**-5.7**	
BUR08				IAmb		IAmb	16 53 26.2		
	comp=Z,12nm,1.5s								
KK31	**Karatay Array**	**21.09**	**59**	P		**P**	**16 53 25.1**	**-0.2**	
KK31				IAmb		IAmb	16 53 36.9		
	comp=Z,7.5nm,1.4s								
KKAR	**Karatay Array**	**21.09**	**59**	P		**P**	**16 53 25.4**	**+0.1**	
KKAR	**Karatay Array**	**21.09**	**59**	P		**P**	**16 53 25.5**	**+0.2**	
KKAR				IAmb		IAmb	16 53 36.9		
	comp=Z,7.4nm,1.4s								
ARSB	**Arslanbob**	**22.51**	**64**	P		**P**	**16 53 42.2**	**+1.5**	
NIL	**Nilore**	**22.82**	**84**	P		**P**	**16 53 45.2**	**+1.3**	
SUW	**Suwalki**	**25.08**	**328**	P		**P**	**16 54 00.3**	**-4.9**	
BVAR	**Borovoye Array**	**25.47**	**36**	P		**P**	**16 54 10.6**	**+1.8**	
	comp=Z,1.1nm,0.8s,baz=246,slow=11,SNR=5.7								
	comp=Z,1.1nm,0.8s								
KURBB	**Kurchatov Arra**	**28.73**	**46**	P		**P**	**16 54 39.8**	**+1.6**	
	comp=Z,0.8nm,0.7s,baz=257,slow=8.4,SNR=3.0								
	comp=Z,0.8nm,0.7s								
FINES	**FINESS Array B**	**29.70**	**341**	P		**P**	**16 54 45.9**	**-0.7**	
	comp=Z,0.4nm,0.3s,baz=161,slow=10.0,SNR=1.3								
	comp=Z,0.4nm,0.3s								
MK31	**Makanchi Array**	**30.07**	**55**	P		**P**	**16 54 50.2**	**+0.1**	
MK31				IAmb		IAmb	16 55 19.4		
	comp=Z,2.9nm,1.4s								
MKAR	**Makanchi Array**	**30.07**	**55**	P		**P**	**16 54 50.7**	**+0.6**	
MKAR	**Makanchi Array**	**30.07**	**55**	P		**P**	**16 54 51.8**	**+1.7**	
	comp=Z,0.7nm,0.9s,baz=248,slow=6.4,SNR=5.2								
	comp=Z,0.7nm,0.9s								
HFS	**Hagfors**	**32.97**	**331**	P		**P**	**16 55 14.8**	**-0.6**	
	comp=Z,4.5nm,1.0s,baz=134,slow=8.4,SNR=7.9								
	comp=Z,4.5nm,1.0s								
ZALV	**Zalesovo Beam**	**33.51**	**42**	P		**P**	**16 55 22.3**	**+2.0**	
	comp=Z,0.2nm,0.3s,baz=252,slow=7.3,SNR=1.7								
	comp=Z,0.2nm,0.3s								
EKA	**Eskdalemuir Ar**	**39.33**	**317**	P		P	16 56 06.0	-3.8	
	comp=Z,1.4nm,0.8s,baz=103,slow=8.4,SNR=2.5								
	comp=Z,1.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**45.08**	**253**	P		P	16 56 51.3	-6.0	
	comp=Z,0.2nm,0.4s,baz=47,slow=9.2,SNR=1.9								
	comp=Z,0.2nm,0.4s								
CMAR	**Chiang Mai Arr**	**49.73**	**95**	P		**P**	**16 57 33.8**	**+0.3**	
CMAR	**Chiang Mai Arr**	**49.73**	**95**	P		**P**	**16 57 33.2**	**-0.2**	
	comp=Z,1.9nm,0.7s,baz=296,slow=8.3,SNR=18								
CMAR				LR		LR	17 22 44.8		
	comp=Z,27nm,18.1s,baz=255,slow=41								
	comp=Z,1.9nm,0.7s								
TSUM	**Tsumeb**	**59.76**	**211**	LR		LR	17 26 30.8		
	comp=Z,70nm,18.3s,baz=334,slow=38								
BOSA	**Boshof**	**65.72**	**200**	P		P	16 59 21.7	-4.0	
YKA	**Yellowknife Ar**	**82.01**	**351**	P		**P**	**17 01 00.8**	**+0.1**	
	comp=Z,0.3nm,0.9s,baz=22,slow=5.5,SNR=4.7								
	comp=Z,0.3nm,0.9s								

*NEIC **18** 16:49:20.3±1.1,47˚40N±0˚01×122˚05W±0˚03,h19km±2km, Error ellipse: s-maj=2.9km s-min=1.8km az=110.0*
*SEA **18** 16:49:21.2±1.8,47˚40N×122˚05W,h11km±4km,ML2.1/24,ML2.5/40(NEIC),Error ellipse: s-maj=1.5km s-min=0.9km az=190.0*
*PGC **18** 16:49:21.2,47˚40N×122˚05W,h11km,ML2.1,ML2.1/5, 30km southeast of Seattle, Wa Washington*

ISC 18 16:49:20.8±0.9,47˚40N±0˚02×122˚05W±0˚02,h24km±5km, n77,σ0s81/108,Washington

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAW	**Raver**	**0.10**	**129**		**Pb**	**16 49 24.2**	**-1.1**
KNEL	**Kent Elementar**	**0.14**	**261**		**Pb**	**16 49 28.7**	**+3.1**
RATT	**Rattlesnake La**	**0.17**	**82**		**Pb**	**16 49 25.0**	**-1.0**
RATT					**Sb**	**16 49 28.3**	**-1.2**
HICC	**Highline Commu**	**0.17**	**266**		**Pb**	**16 49 25.1**	**-0.9**
CDMR	**Cedar Moraine**	**0.20**	**84**		**Pb**	**16 49 25.5**	**-0.8**
CDMR					**Sb**	**16 49 29.4**	**-0.8**
SP2	**Seward Park 2**	**0.21**	**319**		**Pb**	**16 49 26.0**	**-0.4**
D05A	**Enumclaw**	**0.22**	**169**		**Sb**	**16 49 29.9**	**-0.5**
D05A	**Enumclaw**	**0.22**	**169**		**Pb**	**16 49 26.2**	**-0.3**
D05A	**Enumclaw**	**0.22**	**169**	P	**Pb**	**16 49 26.2**	**-0.3**
D05A				S	**Sb**	**16 49 29.9**	**-0.5**
GSM	**Grass Mountain**	**0.26**	**139**		**Pb**	**16 49 26.5**	**-0.8**
VVHS	**Vashon High Sc**	**0.28**	**275**		**Pb**	**16 49 26.9**	**-0.4**
C05A	**Tolt Reservoir**	**0.38**	**40**		**Pb**	**16 49 28.9**	**-0.1**
C05A					**Sb**	**16 49 33.9**	**-0.7**
C05A	**Tolt Reservoir**	**0.38**	**40**	P	**Pb**	**16 49 28.5**	**-0.5**
TTW	**Tolt Reservoir**	**0.38**	**40**		**Pb**	**16 49 28.3**	**-0.7**
GHW	**Garrison Hill**	**0.39**	**203**		**Pb**	**16 49 28.3**	**-0.8**
B941	**Kapowsin**	**0.43**	**196**		**Pb**	**16 49 28.7**	**-1.0**
B941					**Sb**	**16 49 34.8**	**-1.0**
RVC	**Mount Rainier-**	**0.46**	**173**		**Pb**	**16 49 29.8**	**-0.6**
RVC					**Sb**	**16 49 36.6**	**-0.3**
GMW	**Gold Mountain**	**0.52**	**287**		**Pb**	**16 49 30.4**	**-0.9**
OBSR	**Observation Ro**	**0.53**	**162**		**Pb**	**16 49 30.9**	**-0.6**
FMW	**Mount Fremont**	**0.54**	**151**		**Pb**	**16 49 30.8**	**-0.8**
FMW	**Mount Fremont**	**0.54**	**151**	P	**Pb**	**16 49 30.9**	**-0.8**
FMW				S	**Sb**	**16 49 38.1**	**-1.0**
GNW	**Green Mountain**	**0.55**	**287**		**Pb**	**16 49 31.0**	**-0.8**
GNW					**Sb**	**16 49 39.2**	**-0.1**
GNW	**Green Mountain**	**0.55**	**287**	P	**Pb**	**16 49 31.0**	**-0.8**
GNW				S	**Sb**	**16 49 38.7**	**-0.6**
RCS	**Mount Rainier-**	**0.57**	**158**		**Pb**	**16 49 31.7**	**-0.7**
REMR	**Mount Rainier-**	**0.60**	**166**		**Pb**	**16 49 31.9**	**-0.8**
REMR					**Sb**	**16 49 40.1**	**-0.7**
SR41	**SR410 Landslid**	**0.62**	**146**		**Pb**	**16 49 32.4**	**-0.7**
LON	**Longmire**	**0.67**	**166**		**Pb**	**16 49 32.0**	**-1.0**
LON	**Longmire**	**0.67**	**166**		**Pb**	**16 49 32.9**	**-1.0**
LON					**Sb**	**16 49 42.1**	**-0.7**
LON				IAML		16 49 42.3	
	comp=E,38nm,0.3s						
LON				IAML		16 49 48.2	
	comp=N,40nm,2.3s						
LON	**Longmire**	**0.67**	**166**	P	**Pb**	**16 49 32.9**	**-1.0**
LON				S	**Sb**	**16 49 41.6**	**-1.2**
C04A	**Brinnon**	**0.70**	**297**		**Pb**	**16 49 33.4**	**-1.0**
C04A					**Sb**	**16 49 43.3**	**-0.3**
B013	**Quilcene**	**0.71**	**306**		**Pb**	**16 49 33.5**	**-1.0**
B013					**Sb**	**16 49 43.5**	**-0.4**
B013	**Quilcene**	**0.71**	**306**		**Pb**	**16 49 33.6**	**-1.0**
B013					**Sb**	**16 49 43.6**	**-0.4**
HDW	**Hoodsport**	**0.72**	**290**		**Pb**	**16 49 33.8**	**-1.0**
HDW					**Sb**	**16 49 44.2**	**-0.2**
HDW	**Hoodsport**	**0.72**	**290**	P	**Pb**	**16 49 33.8**	**-1.0**
HDW				S	**Sb**	**16 49 43.8**	**-0.6**
JCW	**Jim Creek**	**0.80**	**6**		**Pb**	**16 49 35.4**	**-0.6**
JCW	**Jim Creek**	**0.80**	**6**	P	**Pb**	**16 49 35.4**	**-0.6**
JCW				S	**Sb**	**16 49 46.3**	**-0.1**
CPW	**Capitol Peak**	**0.86**	**240**	P	**Pb**	**16 49 36.1**	**-0.9**
CPW				S	**Sb**	**16 49 47.3**	**-0.8**
GPW	**Glacier Peak**	**0.94**	**40**	P	**Pb**	**16 49 38.1**	**-0.5**
GPW				S	**Sb**	**16 49 50.5**	**-0.3**
LTY	**Liberty**	**0.95**	**98**	Pg	**Pb**	**16 49 38.3**	**-0.3**
LTY				Sg	**Sb**	**16 49 50.9**	**+0.2**
LTY	**Liberty**	**0.95**	**98**	P	**Pb**	**16 49 38.1**	**-0.5**
LTY				S	**Sb**	**16 49 50.8**	**0.0**
NAC	**Naches**	**1.07**	**128**		**Pn**	**16 49 40.5**	**+0.2**
RPW	**Rockport**	**1.11**	**19**	P	**Pn**	**16 49 40.9**	**+0.1**
RPW				S	**Sb**	**16 49 54.7**	**-0.6**

B201	**Coldwater, Mou**	**1.11**	**188**			**Pn**	**16 49 40.6**	**-0.3**	
ERK	**Elk Rock**	**1.11**	**190**			**Pn**	**16 49 40.6**	**-0.4**	
B202	**Windy Ridge, M**	**1.16**	**183**			**Pn**	**16 49 41.4**	**-0.1**	
B06A	**Marblemount**	**1.18**	**19**	Pn		**Pn**	**16 49 41.7**	**-0.1**	
B06A				IAML			16 50 01.7		
	comp=E,60nm,0.4s								
B06A				IAML			16 50 02.7		
	comp=N,56nm,0.3s								
B06A	**Marblemount**	**1.18**	**19**	P		**Pn**	**16 49 41.9**	**+0.1**	
OSD	**Olympics--Snow**	**1.20**	**291**	P		**Pn**	**16 49 42.2**	**0.0**	
FL2	**Flat Top 2**	**1.22**	**190**			**Pn**	**16 49 42.5**	**0.0**	
NLWA	**Neilton Lookou**	**1.24**	**270**	Pn		**Pb**	**16 49 44.5**	**+1.1**	
NLWA				IAML			16 50 09.1		
	comp=N,102nm,2.8s								
NLWA				IAML			16 50 13.8		
	comp=N,76nm,2.9s								
B203	**Quarry, Mount**	**1.25**	**189**			**Pn**	**16 49 42.9**	**+0.1**	
CDFW	**Cedar Flats**	**1.29**	**180**			**Pb**	**16 49 44.2**	**-0.1**	
VGZ	**Gonzales**	**1.33**	**320**	P		**Pn**	**16 49 43.0**	**-0.7**	
VGZ				S		**Sn**	**16 49 59.8**	**-0.9**	
E03A	**Lebam**	**1.34**	**231**	Pn		**Pb**	**16 49 45.2**	**0.0**	
E03A				IAML			16 50 15.4		
	comp=N,119nm,4.0s								
E03A				IAML			16 50 21.2		
	comp=E,124nm,4.7s								
MCW	**Mount Constitu**	**1.38**	**338**	P		**Pn**	**16 49 44.9**	**+0.2**	
MCW				S		**Sb**	**16 50 02.8**	**-0.4**	
MBW	**Mount Baker**	**1.39**	**4**			**Pb**	**16 49 45.8**	**-0.3**	
MBW	**Mount Baker**	**1.39**	**4**	P		**Pb**	**16 49 45.8**	**-0.3**	
MBW				S		**Sb**	**16 50 03.8**	**+0.4**	
MXC	**Moxie City**	**1.46**	**124**			**Pb**	**16 49 47.1**	**-0.1**	
F04D	**Rainier, OR**	**1.48**	**207**	Pn		**Pn**	**16 49 46.7**	**+0.9**	
F04A	**Amboy**	**1.49**	**190**	Pn		**Pn**	**16 49 46.4**	**+0.3**	
F04A				IAML			16 50 13.4		
	comp=N,53nm,3.3s								
F04A				IAML			16 50 37.2		
	comp=E,67nm,4.3s								
RADR	**Rader Ridge**	**1.55**	**231**	Pn		**Pn**	**16 49 47.6**	**+0.8**	
B009	**North Saanich**	**1.56**	**323**	P		**Pn**	**16 49 46.5**	**-0.5**	
B009				S		**Sn**	**16 50 07.2**	**+0.7**	
B011	**North Saanich**	**1.56**	**324**	P		**Pn**	**16 49 47.8**	**+0.7**	
B011				S		**Sn**	**16 50 07.0**	**+0.5**	
PGC	**Sidney**	**1.56**	**324**	Pn		**Pn**	**16 49 47.4**	**+0.3**	
PGC				IAML			16 50 10.0		
	comp=E,68nm,4.8s								
PGC				IAML			16 50 38.9		
	comp=N,58nm,3.5s								
PGC	**Sidney**	**1.56**	**324**	P		**Pn**	**16 49 46.5**	**-0.5**	
PGC				S		**Sn**	**16 50 07.4**	**+0.9**	
B010	**North Saanich**	**1.56**	**324**	P		**Pn**	**16 49 46.7**	**-0.4**	
B010				S		**Sn**	**16 50 07.4**	**+0.8**	
SNB	**Saturna Island**	**1.57**	**332**	S		**Sb**	**16 50 07.9**	**-0.6**	
SYMB	**Survey Mountai**	**1.65**	**315**

	3.0nm,0.3s								
PDGK	**Podgornoye**	**2.03**	**152**	⇑Pn		**Pn**	**17 00 15.7**	**+1.2**	
	0.7nm,0.5s								
PDGK				⇓Sn		**Sb**	**17 00 42.0**	**-0.6**	
	3.3nm,0.4s								
KOTS	**Kotyrbulak**	**2.06**	**203**	Pg		**Pb**	**17 00 17.0**	**-0.6**	
	1.8nm,0.2s								
KOTS				Lg		Lg	17 00 43.6		
	11nm,0.3s								
KOTS	**Kotyrbulak**	**2.06**	**203**	*eP*		**Pb**	**17 00 17.0**	**-0.6**	
	1.8nm,0.2s								
KOTS				*eS*		**Sb**	**17 00 43.6**	**+0.2**	
	11nm,0.3s								
UZB	**Uzynbulak**	**2.07**	**163**	Pg		**Pb**	**17 00 18.1**	**+0.2**	
	3.1nm,0.2s								
UZB				Lg		Lg	17 00 45.4		
	6.0nm,0.2s								
UZB	**Uzynbulak**	**2.07**	**163**	*eP*		**Pb**	**17 00 18.1**	**+0.2**	
	3.1nm,0.2s								
UZB				*eS*		**Sg**	**17 00 45.4**	**-1.0**	
	6.0nm,0.2s								
SATY	**Saty**	**2.08**	**176**	Pg		**Pb**	**17 00 18.2**	**+0.2**	
	1.4nm,0.1s								
SATY				Lg		Lg	17 00 45.7		
	15nm,0.2s								
SATY	**Saty**	**2.08**	**176**	*eP*		**Pb**	**17 00 18.2**	**+0.2**	
	1.4nm,0.1s								
SATY				*eS*		**Sg**	**17 00 45.7**	**-1.0**	
	15nm,0.2s								
TNSS	**Tian-Shan**	**2.29**	**204**	Pg		**Pb**	**17 00 21.6**	**0.0**	
	0.5nm,0.1s								
TNSS				Lg		Lg	17 00 51.3		
	3.0nm,0.2s								
TNSS	**Tian-Shan**	**2.29**	**204**	*eP*		**Pb**	**17 00 21.6**	**0.0**	
	0.5nm,0.1s								
TNSS				*eS*		**Sb**	**17 00 51.3**	**+1.1**	
	3.0nm,0.2s								
MTBS	**Maitube**	**2.38**	**213**	Pg		**Pb**	**17 00 22.7**	**-0.3**	
	0.9nm,0.1s								
MTBS				Lg		Lg	17 00 53.3		
	6.7nm,0.2s								
MTBS	**Maitube**	**2.38**	**213**	*eP*		**Pb**	**17 00 22.7**	**-0.3**	
	0.9nm,0.1s								
MTBS				*eS*		**Sb**	**17 00 53.3**	**+0.8**	
	6.7nm,0.2s								
MAKZ	**Makanchi**	**3.12**	**56**	⇓Lg		Lg	17 01 16.1		
	0.4nm,0.3s								
MK31	**Makanchi Array**	**3.30**	**58**	Lg		Lg	17 01 22.0		
	0.4nm,0.4s,baz=241,slow=29,SNR=4.4								

NEIC ***18*** *17:47:12.7±0.7, 19°.19N±0°.05×155°.34W±0°.03, h51km±5km, Error ellipse: s-maj=8.6km s-min=3.2km az=154.0*

HVO 18 17:47:18.1±2.3, 19°.27N±0°.02×155°.32W±0°.01, h10km±3km, ML2.6/2, ML2.0/32(NEIC), Error ellipse: s-maj=2.7km s-min=1.2km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.02**	**25**		Pg	17 47 21.0	+1.0
HTC	**Hot Caves**	**0.08**	**244**		Pg	17 47 20.9	+0.4
SDHHI	**Sand Hill**	**0.12**	**12**		Pg	17 47 21.1	+0.1
SDHHI				IAML		17 47 24.1	
	comp=N,944nm,1.3s						
KKO	**Keanakako`i**	**0.13**	**22**		Pg	17 47 21.3	0.0
KKO				IAML		17 47 25.6	
	comp=E,808nm,1.4s						
WRMHI	**West Rim**	**0.13**	**8**		Pg	17 47 21.4	+0.1
PUH	**Pauahi**	**0.14**	**44**		Pg	17 47 21.2	-0.1
PUH				IAML		17 47 24.3	
	comp=N,296nm,1.3s						
BYL	**Byron's Ledge**	**0.15**	**22**		Pg	17 47 21.3	-0.2
BYL				IAML		17 47 24.3	
	comp=E,528nm,0.9s						
BYL				IAML		17 47 26.4	
	comp=N,695nm,1.3s						
UWE	**Uwekahuna**	**0.15**	**9**		Pg	17 47 22.3	+0.7
UWB	**Uwekahuna B**	**0.15**	**14**		Pg	17 47 21.9	+0.3
HATHI	**Halema'uma'u T**	**0.16**	**20**		Pg	17 47 21.3	-0.4
AIN	**Ainahou**	**0.16**	**307**		Sg	17 47 27.3	+2.9
AIN	**Ainahou**	**0.16**	**307**		Pg	17 47 21.7	-0.1
AIN				IAML		17 47 24.1	
	comp=N,159nm,1.4s						
AIN				IAML		17 47 27.6	
	comp=E,149nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.18**	**53**		Pb	17 47 22.9	-0.5
STCH	**Steam Cracks**	**0.21**	**59**		Pg	17 47 21.7	-0.9
STCH				IAML		17 47 24.3	
	comp=E,220nm,0.6s						
STCH				IAML		17 47 26.5	
	comp=N,294nm,0.8s						
MLH	**Mauna Loa**	**0.23**	**344**		Sg	17 47 28.4	+2.1
MLH	**Mauna Loa**	**0.23**	**344**		Pg	17 47 22.1	-0.8
MLH				IAML		17 47 23.8	
	comp=N,180nm,1.3s						
MLH				IAML		17 47 29.9	
	comp=E,163nm,1.3s						
NPOC	**North of Pu'u**	**0.23**	**59**		Pg	17 47 21.9	-1.0
NPOC				IAML		17 47 26.3	
	comp=E,345nm,0.8s						
NPOC				IAML		17 47 26.6	
	comp=N,400nm,0.9s						
JCUZ	**Jacuzzi**	**0.23**	**62**		Pg	17 47 21.9	-1.0
JCUZ				IAML		17 47 26.8	
	comp=N,303nm,1.5s						
JCUZ				IAML		17 47 27.1	
	comp=E,235nm,0.7s						
KHU	**Kahuku**	**0.28**	**264**		Sg	17 47 27.8	0.0
KHU	**Kahuku**	**0.28**	**264**		Pg	17 47 21.9	-2.0
KHU				IAML		17 47 33.0	
	comp=N,156nm,1.3s						
MWH	**Moku'aweowe**	**0.34**	**309**		Pg	17 47 23.1	-1.9
MWH				IAML		17 47 26.9	
	comp=E,135nm,1.1s						
MWH				IAML		17 47 37.0	
	comp=N,156nm,1.2s						
HMH	**Humu'ula Sheep**	**0.36**	**335**		Pg	17 47 23.7	-1.7
HMH				IAML		17 47 33.9	
	comp=N,144nm,1.0s						
HMH				IAML		17 47 35.3	
	comp=E,156nm,1.4s						
KHLU	**Kahalu`u**	**0.63**	**300**		Pg	17 47 26.2	-4.0
HUH	**Hualalai**	**0.64**	**310**		Pg	17 47 27.3	-3.2

MOS ***18*** *17:48:35.2±0.9, 6°.38S×132°.79E, h28km, mb5.9/68, MS5.0/13, Error ellipse: s-maj=8.1km s-min=4.7km az=118.5*

BJI ***18*** *17:48:36.9±0.0, 6°.54S×133°.03E, h32km, mb5.6/86, mB5.7/60, Ms5.0/86, Ms7 4.8/83*

IPGP ***18*** *17:48:37.0, 6°.39S×132°.89E, h37km, Mw5.6, Fault plane solution: NP1:φs325.00000°, δ50.00000°, λ165.00000°. NP2:φs64.00000°, δ79.00000°, λ41.00000°.*

NEIC ***18*** *17:48:39.8, 6°.39S×132°.81E, h36km*

NEIC ***18*** *17:48:39.2, 6°.40S×132°.81E, h23km*

NEIC ***18*** *17:48:39.8, 6°.39S×132°.91E, h36km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^17 Nm; Mrr1.79; Mθθ-4.34; Mφφ2.55; Mrθ0.63; Mθφ0.45; Mφr0.21; Fault plane solution: Mo3.54000×10^17 NP1:φs50.49000°, δ81.98000°, λ16.35000°. NP2:φs318.15000°, δ73.82000°, λ171.64000°. Principal axes: T 2.6570, Plg17.0000°, Azm275.0000°; N 1.7704, Plg72.0000°, Azm76.0000°; P -4.4273, Plg6.0000°, Azm183.0000°;*

DJA ***18*** *17:48:40.5±0.2, 6°.5S±1°×13°.3E±°, h62km±2km, M5.6/121, mB6.1/96, mb5.8/121, MLv6.5/12, Mw(mB)5.7/96, MwMwp5.2/44, Mwp5.4/44*

NEIC ***18*** *17:48:40.5±1.9, 6°.40S±0°.01×132°.81E±0°.06, h33km±3km, mb5.7/90, Ms_20 5.3/121, Mwb5.6/25, Mww5.6/28, Error ellipse: s-maj=9.3km s-min=1.5km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.97; Mθθ1.00; Mφφ-1.97; Mrθ0.80; Mθφ2.64; Mφr-0.07; Fault plane solution: Mo3.24000×10^17 NP1:φs13.38000°, δ71.37000°, λ169.51000°. NP2:φs106.76000°, δ80.07000°, λ18.92000°. Principal axes: T 2.7846, Plg20.0000°, Azm331.0000°; N 0.7773, Plg69.0000°, Azm133.0000°; P -3.5619, Plg6.0000°, Azm239.0000°;*

IDC ***18*** *17:48:41.1±1.8, 6°.41S×132°.72E, h36km±14km, mb5.3/35, mbtmp5.5/39, ML5.1/4, MS4.7/37 Error ellipse: s-maj=13.7km s-min=8.5km az=66.0*

GCMT ***18*** *17:48:42.5±0.1, 6°.40S±0°.01×132°.77E±0°.01, h40km,*

MW5.7/148, Moment Tensor Solution. s122,c218; s148,c273; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr1.82±.05; Mθθ-4.42±.04; Mφφ2.60±.05; Mrθ1.12±.06; Mθφ0.16±.04; Mφr0.88±.06; Best double couple: Mo3.93300×10^17 NP1:φs53.00000°, δ73.00000°, λ34.00000°. NP2:φs313.00000°, δ58.00000°, λ160.00000°.

Principal axes: T 3.2510, Plg35.0000°, Azm277.0000°; N 1.3640, Plg53.0000°, Azm77.0000°; P -4.6150, Plg10.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 18 17:48:40.4±0.3, 6°.40S±0°.02×132°.76E±0°.03, h35km±1km, h36km:pP-P, n1209, σ1960/1294, mb5.7/189, MS5.0/126, 50C-11D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.14**	**222**		**Pn**	**17 49 15.1**	**+1.5**
SAUI	**Saumlaki**	**2.14**	**222**	P	**Pb**	**17 49 16.7**	**-1.8**
SAUI				S	**Sn**	**17 49 38.8**	**-0.2**
KMPI	**Kaimana, Papua**	**2.88**	**19**	P	**Pn**	**17 49 25.1**	**+1.3**
KMPI				S	**Sn**	**17 49 54.4**	**-2.9**
BNDI	**Bandanaira**	**3.40**	**303**	P	**Pn**	**17 49 33.0**	**+2.1**
BNDI				S	**Sn**	**17 50 10.1**	**+0.1**
FAKI	**Fak Fak**	**3.49**	**352**		**Pn**	**17 49 32.9**	**+0.6**
FAKI	**Fak Fak**	**3.49**	**352**	P	**Pn**	**17 49 33.4**	**+1.1**
FAKI	**Fak Fak**	**3.49**	**352**	P	**Pn**	**17 49 33.1**	**+0.8**
FAKI				S	**Sn**	**17 50 10.7**	**-1.8**
KRAI	**Karang Ratu**	**5.31**	**305**	P	**Pn**	**17 49 59.3**	**+2.0**
	2μm,0.9s,42μm14nn						
SIJI	**Sorong**	**5.69**	**345**	P	**Pn**	**17 50 02.1**	**-0.4**
	2μm,0.7s,106μm35μm30nn						
SWI	**Sorong**	**5.70**	**345**	P	**Pn**	**17 50 02.0**	**-0.6**
	4μm,0.7s,54μm41μm54nn						
KDU	**Kakadu**	**6.25**	**183**	P	**Pn**	**17 50 10.6**	**+0.3**
	baz=6.3,SNR=1000						
KDU	**Kakadu**	**6.25**	**183**	P	**Pn**	**17 50 11.0**	**+0.7**
NLAI	**Namlea**	**6.45**	**299**	P	**Pn**	**17 50 14.7**	**+1.8**
	522nm,0.5s,19μm6.6nm						
MTN	**Manton Dam**	**6.60**	**194**	P	**Pn**	**17 50 14.8**	**-0.2**
	baz=6.6,SNR=1000						
MTN	**Manton Dam**	**6.60**	**194**		**Pn**	**17 50 14.9**	**-0.2**
MTN	**Manton Dam**	**6.60**	**194**	P	**Pn**	**17 50 15.6**	**+0.6**
LBMI	**Labuha**	**7.76**	**317**	P	**Pn**	**17 50 31.6**	**+0.6**
	3μm,1.1s,25μm39nn						
MMPI	**Merauke**	**7.84**	**106**	P	**Pn**	**17 50 31.6**	**-0.4**
	4μm,0.5s,63μm55nn						
SANI	**Sanana**	**8.01**	**302**	P	**Pn**	**17 50 34.3**	**-0.1**
	1μm,0.8s,10μm7μm4.1nn						
GENI	**Genyem**	**8.30**	**63**	P	**Pn**	**17 50 38.9**	**+0.5**
	4μm,0.7s,35μm4μm						
TABU	**Tabubil**	**8.50**	**83**	P	**Pn**	**17 50 41.2**	**0.0**
TNTI	**Ternate**	**8.93**	**323**		**Pn**	**17 50 46.6**	**-0.3**
TNTI	**Ternate**	**8.93**	**323**	P	**Pn**	**17 50 46.5**	**-0.5**
	318nm,0.8s,3μm9μm						
SOEI	**Soe**	**9.04**	**248**		**Pn**	**17 50 47.9**	**-0.7**
SOEI	**Soe**	**9.04**	**248**	P	**Pn**	**17 50 50.0**	**+1.3**
SOEI	**Soe**	**9.04**	**248**	P	**Pn**	**17 50 47.7**	**-1.0**
	2μm,0.8s,18μm6μm						
KNRA	**Kununurra**	**10.02**	**203**	P	**Pn**	**17 51 00.5**	**-1.4**
	baz=10.0,SNR=1000						
KNRA	**Kununurra**	**10.02**	**203**	P	**Pn**	**17 51 01.1**	**-0.8**
BBSI	**Bau Bau**	**10.17**	**275**	P	**Pn**	**17 51 07.5**	**+3.5**
	718nm,1.0s,9μm6μm						
MMRI	**Maumere**	**10.66**	**257**		**Pn**	**17 51 08.8**	**-2.0**
MMRI	**Maumere**	**10.66**	**257**	P	**Pn**	**17 51 12.5**	**+1.7**
MMRI	**Maumere**	**10.66**	**257**	P	**Pn**	**17 51 09.4**	**-1.4**
	493nm,0.8s,7μm3μm						
KMSI	**Cibinong**	**11.17**	**308**	P	**Pn**	**17 51 16.8**	**-0.9**
	2μm,0.7s,14μm7μm						
EDFI	**Ende, Flores**	**11.21**	**257**	P	**Pn**	**17 51 17.6**	**-0.8**
	236nm,0.8s,3μm3μm						
LUWI	**Luwuk**	**11.29**	**298**		**Pn**	**17 51 18.0**	**-1.4**
LUWI	**Luwuk**	**11.29**	**298**	P	**Pn**	**17 51 20.6**	**+1.2**
LUWI	**Luwuk**	**11.29**	**298**	P	**Pn**	**17 51 19.2**	**-0.2**
	478nm,1.4s,5μm						
GTOI	**Gorontalo**	**11.98**	**305**	P	**Pn**	**17 51 30.4**	**+1.6**
	248nm,0.9s,3μm						
SGSI	**Sangihe**	**12.35**	**324**	P	**Pn**	**17 51 33.0**	**-0.8**
	934nm,0.9s,9μm14μm						
BKSI	**Bulukumba**	**12.61**	**274**	P	**Pn**	**17 51 38.6**	**+1.1**
	324nm,0.9s,3μm						
BASI	**Baing, Sumba**	**12.63**	**252**	P	**Pn**	**17 51 36.2**	**-1.5**
	2μm,0.8s,13μm						
COEN	**Coen**	**12.71**	**127**	P	**Pn**	**17 51 36.4**	**-2.5**
	baz=13						
COEN	**Coen**	**12.71**	**127**		**Pn**	**17 51 36.3**	**-2.5**
COEN	**Coen**	**12.71**	**127**	P	**Pn**	**17 51 36.3**	**-2.5**
MRSI	**Marisa**	**12.77**	**302**	P	**Pn**	**17 51 39.0**	**-0.7**
	353nm,0.8s,4μm3μm						
KAPI	**Kappang**	**13.01**	**275**	Pn	**Pn**	**17 51 42.7**	**-0.2**
KAPI	**Kappang**	**13.01**	**275**	P	**Pn**	**17 51 42.7**	**-0.2**
KAPI	**Kappang**	**13.01**	**275**	Pn	**Pn**	**17 51 42.0**	**-0.9**
	2.4nm,0.3s,baz=202,slow=20,SNR=1.7						
KAPI				Sn	**Sn**	**17 54 09.0**	**+2.5**
	2.9nm,0.3s,baz=102,slow=17,SNR=1.2						
	8.4nm,0.4s						
MKS	**Makassar**	**13.27**	**274**	P	**Pn**	**17 51 46.3**	**-0.1**
	241nm,1.0s,3μm						
TTSI	**Tana Toraja**	**13.31**	**284**	P	**Pn**	**17 51 49.3**	**+2.2**
	260nm,0.9s,6μm6μm						
WB0	**Warramunga Arr**	**13.38**	**173**		**Pn**	**17 51 43.5**	**-4.5**
FITZ	**Fitzroy Crossi**	**13.54**	**210**	P	**Pn**	**17 51 46.1**	**-4.0**
	baz=14,SNR=1000						
FITZ	**Fitzroy Crossi**	**13.54**	**210**		**Pn**	**17 51 46.2**	**-4.0**
WRAB	**Tennant Creek**	**13.54**	**174**		Pn	17 51 45.5	-4.7
WRAB	**Tennant Creek**	**13.54**	**174**	P	Pn	17 51 45.5	-4.7
WRA	**Warramunga Arr**	**13.55**	**174**		Pn	17 51 45.6	-4.7
WRA	**Warramunga Arr**	**13.55**	**174**	*i* P	**Pn**	**17 51 47.5**	**-2.8**
WRA				pmax	pmax		
	comp=Z,773nm,0.6s						
WRA	**Warramunga Arr**	**13.55**	**174**	Pn	**Pn**	**17 51 46.8**	**-3.5**
	comp=Z,147nm,0.3s,baz=2.6,slow=13,SNR=19						
WRA				Sn	Sn	17 54 05.3	-14
	comp=Z,44nm,0.3s,baz=358,slow=22,SNR=1.5						
WRA				LR	LR	17 57 29.6	
	comp=Z,34μm,19.7s,baz=350,slow=39						
WRA				P3KPbc		18 27 39.6	
	comp=Z,0.2nm,0.6s,baz=176,slow=3.1,SNR=0.9						
WB2	**Warramunga Arr**	**13.55**	**174**	P	**Pn**	**17 51 45.8**	**-4.5**
	baz=14						
WB2	**Warramunga Arr**	**13.55**	**174**		Pn	17 51 45.4	-4.9
WR0	**Warramunga Arr**	**13.59**	**173**		Pn	17 51 46.0	-4.8
PMSI	**Majene**	**14.09**	**281**	P	**Pn**	**17 51 58.1**	**+0.5**
	comp=Z,498nm,1.0s,comp=Z,8μmcomp=Z,6μm						
TOLI2	**Tolitoli**	**14.09**	**302**		**Pn**	**17 51 56.8**	**-0.9**
TOLI2	**Tolitoli**	**14.09**	**302**	P	**Pn**	**17 51 57.8**	**+0.2**
MMSI	**Mamuju**	**14.28**	**284**	P	**Pn**	**17 52 00.6**	**+0.3**
	comp=Z,113nm,0.9s,comp=Z,3μm						
MPSI	**Mapaga**	**14.47**	**297**	P	**Pn**	**17 52 02.2**	**-0.7**
	comp=Z,143nm,1.1s,comp=Z,3μmcomp=Z,4μm						
DBNI	**Kabupaten Domp**	**14.47**	**261**	P	**Pn**	**17 52 00.6**	**-2.3**
	comp=Z,361nm,0.6s,comp=Z,5μm						
PMG	**Port Moresby**	**14.58**	**103**		**Pn**	**17 52 02.9**	**-1.4**
PMG	**Port Moresby**	**14.58**	**103**	P	**Pn**	**17 52 03.1**	**-1.1**
PMG	**Port Moresby**	**14.58**	**103**	P	**Pn**	**17 52 03.2**	**-1.1**
PMG	**Port Moresby**	**14.58**	**103**	*i* P	**Pn**	**17 52 03.4**	**-0.9**
PMG	**Port Moresby**	**14.58**	**103**	P	**Pn**	**17 52 03.1**	**-1.1**
	comp=Z,30nm,0.3s,baz=333,slow=8.7,SNR=110						
PMG				Sn	Sn	17 54 31.0	-14
	comp=Z,9.5nm,0.3s,baz=165,slow=3.5,SNR=1.1						
PMG				LR	LR	17 58 44.2	
	comp=Z,7μm,19.9s,baz=280,slow=41						
	comp=Z,419nm,0.6s						
PMG	**Port Moresby**	**14.58**	**103**	P	**Pn**	**17 52 03.3**	**-1.1**
	comp=Z,564nm,0.8s,comp=Z,9μm						
PLAI	**Plampang**	**15.04**	**260**	P	**Pn**	**17 52 04.7**	**-5.8**
	comp=Z,799nm,0.9s,comp=Z,6μmcomp=Z,3μm						
DAV	**Davao City (W)**	**15.17**	**332**	*e*P	**Pn**	**17 52 14.0**	**+1.7**
DAV	**Davao City (W)**	**15.17**	**332**	Pn	**Pn**	**17 52 12.1**	**-0.2**
DAV	**Davao City (W)**	**15.17**	**332**	Pn	**Pn**	**17 52 11.3**	**-1.0**
	comp=Z,50nm,0.3s,baz=38,slow=3.5,SNR=7.9						
DAV				Sn	**Sn**	**17 54 59.8**	**+0.4**
	comp=Z,62nm,0.3s,baz=26,slow=8.3,SNR=1.8						
	comp=Z,102nm,0.4s						
DAV	**Davao City (W)**	**15.17**	**332**	P	**Pn**	**17 52 12.6**	**+0.3**
DAV	**Davao City (W)**	**15.17**	**332**	P	**Pn**	**17 52 11.8**	**-0.5**
	comp=Z,988nm,0.9s,comp=Z,1μmcomp=Z,12μm						
QIS	**Mount Isa**	**15.56**	**155**	P	**Pn**	**17 52 12.9**	**-4.5**
	baz=16,SNR=401						
TWSI	**Taliwang, Sumb**	**15.90**	**261**	P	**Pn**	**17 52 18.2**	**-3.6**
	comp=Z,167nm,0.7s,comp=Z,2μmcomp=Z,2μm						
MTSU	**Mount Surprise**	**16.23**	**137**	P	**Pn**	**17 52 24.2**	**-1.7**
	baz=16,SNR=32						
BKB	**Balikpapan**	**16.62**	**287**	P	**Pn**	**17 52 29.3**	**-1.5**
BKB	**Balikpapan**	**16.62**	**287**	P	**Pn**	**17 52 29.5**	**-1.4**
	comp=Z,196nm,0.7s,comp=Z,4μmcomp=Z,5μm						
AS31	**Alice Springs**	**17.20**	**176**	P	**Pn**	**17 52 33.5**	**-4.6**
AS31				IAmb	IAmb	17 52 41.5	
	comp=Z,422nm,0.6s						
ASAR	**Alice Springs**	**17.20**	**176**	P	**Pn**	**17 52 34.0**	**-4.2**
ASAR	**Alice Springs**	**17.20**	**176**	P	**Pn**	**17 52 34.0**	**-4.2**
ASAR	**Alice Springs**	**17.20**	**176**	P	**Pn**	**17 52 35.0**	**-3.2**
	comp=Z,636nm,0.6s,baz=353,slow=7.9,SNR=1867						
ASAR				S	Sn	17 55 35.0	-14
	comp=Z,190nm,0.7s,baz=358,slow=28,SNR=5.0						
ASAR				LR	LR	17 59 43.0	
	comp=Z,25μm,18.9s,baz=2.0,slow=38						
ASAR				P3KPbc		18 27 27.8	
	comp=Z,0.2nm,0.4s,baz=165,slow=3.8,SNR=1.8						
SRBI	**Singaraja**	**17.48**	**263**	P	**Pn**	**17 52 39.3**	**-2.4**
	comp=Z,151nm,0.7s,comp=Z,2μm						
DNP	**Denpasar**	**17.54**	**261**	P	**Pn**	**17 52 39.5**	**-2.9**
	comp=Z,362nm,1.1s						
BYJI	**Banyuwangi**	**18.34**	**263**	P	**P**	**17 52 48.3**	**-3.7**
	comp=Z,382nm,0.9s,comp=Z,15μm						
ABJI	**Asem Bagus**	**18.43**	**265**	P	**P**	**17 52 50.1**	**-2.9**
	comp=Z,188nm,0.9s,comp=Z,4μm						
JAGI	**Jajag, Banyuwa**	**18.56**	**262**	P	**P**	**17 52 49.8**	**-4.7**
JAGI	**Jajag, Banyuwa**	**18.56**	**262**	P	**P**	**17 52 50.0**	**-4.5**
	comp=Z,138nm,1.0s,comp=Z,2μmcomp=Z,3μm						
MTKI	**Muara Teweh, K**	**18.62**	**286**	P	**P**	**17 52 53.3**	**-1.9**
	comp=Z,224nm,1.0s,comp=Z,4μmcomp=Z,6μm						
KMMI	**Kalianget**	**18.67**	**267**	P	**P**	**17 52 55.0**	**-0.7**
TV1H	**Townsville Har**	**18.71**	**134**	P	**Pn**	**17 52 57.3**	**+0.7**
CTA	**Charters Tower**	**18.89**	**137**	P	**Pn**	**17 52 59.6**	**+0.7**
CTA	**Charters Tower**	**18.89**	**137**	P	**Pn**	**17 52 58.9**	**-0.1**
	comp=Z,22nm,0.3s,baz=321,slow=11,SNR=251						
CTA				S	Sn	17 56 18.2	-11
	comp=Z,34nm,0.6s,baz=229,slow=16,SNR=2.0						
CTA				LR	LR	18 00 52.1	
	comp=Z,16μm,18.1s,baz=313,slow=39						
	comp=Z,255nm,0.6s						
CTAO	**Charters Tower**	**18.89**	**137**	P	**P**	**17 52 56.3**	**-1.8**
CTAO				IAmb	IAmb	17 53 01.5	
	comp=Z,274nm,0.7s						
CTAO	**Charters Tower**	**18.89**	**137**	P	**Pn**	**17 52 59.6**	**+0.7**
CTAO	**Charters Tower**	**18.89**	**137**	P	**P**	**17 52 56.3**	**-1.8**
CTAO				pmax	pmax		
	comp=Z,274nm,0.7s						
WRKA	**Warakurna**	**19.02**	**192**	P	**P**	**17 52 56.1**	**-3.4**
	baz=19,SNR=1000						
BLJI	**Banyuglugur**	**19.06**	**265**	P	**P**	**17 52 56.7**	**-3.3**
	comp=Z,321nm,0.7s,comp=Z,3μm						
PKKI	**Palangkaraya**	**19.18**	**282**	P	**P**	**17 52 58.0**	**-3.2**
	comp=Z,367nm,0.9s,comp=Z,4μmcomp=Z,5μm						
KRVT	**Keravat (AS076**	**19.30**	**85**	P	**Pn**	**17 53 04.0**	**+0.2**
RABL	**Rabaul**	**19.45**	**84**		**Pn**	**17 53 05.3**	**-0.3**
RABL				IAmb	IAmb	17 53 17.1	
	comp=Z,414nm,0.9s						
RABL	**Rabaul**	**19.45**	**84**	P	**P**	**17 53 04.8**	**+0.5**
PSA00	**Pilbara Seismi**	**19.58**	**218**	P	**P**	**17 53 05.2**	**-0.4**
BWJI	**Bawean**	**19.99**	**270**	P	**P**	**17 53 07.3**	**-2.8**
	comp=Z,775nm,1.4s,comp=Z,6μm						
GRJI	**Gresik**	**20.15**	**267**	P	**P**	**17 53 08.3**	**-3.5**
	comp=Z,644nm,0.9s,comp=Z,7μmcomp=Z,6μm						
KRKI	**Karangkates**	**20.21**	**264**	P	**P**	**17 53 08.9**	**-3.7**
	comp=Z,234nm,0.9s,comp=Z,14μm						
KKM	**Kota Kinabalu**	**20.62**	**306**	P	**P**	**17 53 16.3**	**-0.8**
KKM				IAmb	IAmb	17 53 32.3	
	comp=Z,241nm,0.9s						
KKM	**Kota Kinabalu**	**20.62**	**306**	P	**P**	**17 53 17.9**	**+0.8**
KKM	**Kota Kinabalu**	**20.62**	**306**	P	**P**	**17 53 17.2**	**+0.1**
	comp=Z,294nm,1.4s,comp=Z,4μmcomp=Z,5μm						
SJI	**Sawahan**	**20.87**	**265**	P	**P**	**17 53 16.5**	**-3.3**
	comp=Z,171nm,0.7s,comp=Z,3μm						
NGJI	**Ngawi**	**21.16**	**266**	P	**P**	**17 53 19.6**	**-3.2**
	comp=Z,162nm,1.0s						
OOD	**Oodnadatta**	**21.46**	**173**	P	**P**	**17 53 25.9**	**0.0**
UGM	**Wanagama**	**22.11**	**265**	P	**P**	**17 53 34.1**	**+1.0**
UGM	**Wanagama**	**22.11**	**265**	P	**P**	**17 53 29.0**	**-4.1**
	comp=Z,208nm,1.3s						
SMRI	**Semarang**	**22.17**	**267**	P	**P**	**17 53 33.3**	**-0.4**
SMRI				IAmb	IAmb	17 53 40.1	
	comp=Z,182nm,0.8s						
SMRI	**Semarang**	**22.17**	**267**	P	**P**	**17 53 30.9**	**-2.8**
	comp=Z,280nm,0.7s						
STKI	**Sintang**	**22.18**	**286**	P	**P**	**17 53 30.6**	**-3.2**
	comp=Z,127nm,0.9s						
SBUM	**Sibu**	**22.31**	**293**	P	**P**	**17 53 33.7**	**-1.5**
SBUM	**Sibu**	**22.31**	**293**	P	**P**	**17 53 32.4**	**-2.7**
	comp=Z,89nm,1.3s,comp=Z,1μm						
YOGI	**Yogyakarta**	**22.33**	**265**	P	**P**	**17 53 31.9**	**-3.5**
	comp=Z,149nm,0.

	comp=Z,59nm,0.5s								
KMBL	**Kambalda**	**26.85**	**201**	P	**P**	**17**	**54**	**17.5**	**-0.3**
	baz=27,SNR=53								
KMBL	**Kambalda**	**26.85**	**201**	P	**P**	**17**	**54**	**17.6**	**-0.3**
PPBI	**Pangkal Pinang**	**26.87**	**278**	P	**P**	**17**	**54**	**15.0**	**-3.2**
	comp=Z,154nm,1.4s,comp=Z,5µmcomp=Z,3µm								
WHYH	**Whyalla**	**26.88**	**171**	P	**P**	**17**	**54**	**17.8**	**-0.2**
XMI	**Christmas Isla**	**27.07**	**260**	P	**P**	**17**	**54**	**20.6**	**+0.6**
HNR	**Honiara**	**27.10**	**98**	P	**P**	**17**	**54**	**18.5**	**-1.7**
HNR	**Honiara**	**27.10**	**98**	IAMs_20	IAMs_20	18	05	17.1	
	comp=Z,3µm,21.0s								
HNR	**Honiara**	**27.10**	**98**	P	**P**	**17**	**54**	**20.2**	**0.0**
HNR	**Honiara**	**27.10**	**98**	P	**P**	**17**	**54**	**18.5**	**-1.7**
HNR				pmax	pmax				
	comp=Z,367nm,1.0s								
HNR				MLR	MLR				
	comp=Z,3µm,21.0s								
HNR	**Honiara**	**27.10**	**98**	LR	LR	18	05	17.8	
	comp=Z,41µm,19.4s,baz=285,slow=37								
XMIS	**Christmas Isla**	**27.11**	**260**	P	**P**	**17**	**54**	**21.2**	**+0.8**
HTT	**Hallett**	**27.50**	**169**	P	**P**	**17**	**54**	**23.3**	**-0.5**
	baz=28,SNR=36								
HTT	**Hallett**	**27.50**	**169**	P	**P**	**17**	**54**	**23.6**	**-0.1**
MORW	**Morawa**	**27.53**	**213**	P	**P**	**17**	**54**	**23.9**	**0.0**
	baz=28,SNR=16								
MORW	**Morawa**	**27.53**	**213**	P	**P**	**17**	**54**	**23.9**	**0.0**
MORW				IAmb	IAmb	17	54	56.8	
	comp=Z,143nm,1.1s								
MORW	**Morawa**	**27.53**	**213**	P	**P**	**17**	**54**	**24.4**	**+0.4**
CMSA	**Cobar Meteorol**	**27.79**	**156**	P	**P**	**17**	**54**	**25.6**	**-0.6**
	baz=28,SNR=62								
CMSA	**Cobar Meteorol**	**27.79**	**156**	P	**P**	**17**	**54**	**26.1**	**-0.1**
PMBI	**Palembang**	**28.10**	**276**	P	**P**	**17**	**54**	**30.0**	**+0.8**
PMBI	**Palembang**	**28.10**	**276**	P	**P**	**17**	**54**	**27.5**	**-1.7**
	comp=Z,651nm,1.0s,comp=Z,6µmcomp=Z,3µm								
KASI	**Kota Agung**	**28.12**	**270**	P	**P**	**17**	**54**	**25.4**	**-4.0**
	comp=Z,154nm,0.9s								
BLDU	**Ballidu**	**28.41**	**210**	P	**P**	**17**	**54**	**32.1**	**+0.2**
	baz=28,SNR=62								
BLDU	**Ballidu**	**28.41**	**210**	P	**P**	**17**	**54**	**32.1**	**+0.2**
LWLI	**Liwa**	**28.59**	**271**	P	P	17	54	28.1	-5.6
	comp=Z,272nm,0.8s,comp=Z,2µm								
DSRI	**Dabo**	**28.72**	**281**	P	**P**	**17**	**54**	**31.6**	**-3.2**
	comp=Z,156nm,1.1s,comp=Z,2µmcomp=Z,3µm								
KLBR	**Kellerberrin**	**28.73**	**207**	P	**P**	**17**	**54**	**34.7**	**+0.1**
	baz=29,SNR=31								
KLBR	**Kellerberrin**	**28.73**	**207**	P	**P**	**17**	**54**	**34.7**	**+0.1**
TPRI	**Tanjung Pinang**	**29.10**	**283**	P	**P**	**17**	**54**	**34.2**	**-3.9**
	comp=Z,214nm,1.2s,comp=Z,4µmcomp=Z,2µm								
LHSI	**Lahat**	**29.22**	**274**	P	**P**	**17**	**54**	**36.2**	**-3.0**
	comp=Z,167nm,0.7s,comp=Z,6µm								
ARMA	**Armidale**	**29.76**	**146**	P	**P**	**17**	**54**	**43.8**	**-0.2**
	baz=30,SNR=24								
ARMA	**Armidale**	**29.76**	**146**	P	**P**	**17**	**54**	**44.7**	**+0.8**
ARMA				IAmb	IAmb	17	55	06.8	
	comp=Z,498nm,2.0s								
ARMA	**Armidale**	**29.76**	**146**	P	**P**	**17**	**54**	**44.6**	**+0.7**
MUN	**Mundaring**	**29.77**	**209**	P	**P**	**17**	**54**	**44.2**	**+0.3**
	baz=30,SNR=8.9								
MUN	**Mundaring**	**29.77**	**209**	P	**P**	**17**	**54**	**44.2**	**+0.3**
MYKOM	**Kota Tinggi**	**29.98**	**285**	IAmb	IAmb	17	54	49.0	
	comp=Z,26nm,0.8s								
MYKOM	**Kota Tinggi**	**29.98**	**285**	P	P	17	54	39.9	-6.1
	comp=Z,167nm,1.2s,comp=Z,3µm								
NWAO	**Narrogin (SRO)**	**30.09**	**207**	P	**P**	**17**	**54**	**46.8**	**+0.1**
	baz=30,SNR=16								
NWAO				P	**P**	**17**	**54**	**46.8**	**+0.1**
	baz=30,SNR=16								
NWAO	**Narrogin (SRO)**	**30.09**	**207**	P	**P**	**17**	**54**	**46.4**	**-0.3**
NWAO				IAmb	IAmb	17	55	39.5	
	comp=Z,134nm,0.9s								
NWAO	**Narrogin (SRO)**	**30.09**	**207**	IAMs_20	IAMs_20	18	07	46.8	
	comp=Z,6µm,20.0s								
NWAO	**Narrogin (SRO)**	**30.09**	**207**	P	**P**	**17**	**54**	**46.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**30.09**	**207**	P	**P**	**17**	**54**	**46.4**	**-0.3**
NWAO				pmax	pmax				
	comp=Z,134nm,0.9s								
NWAO				MLR	MLR				
	comp=Z,6µm,20.0s								
NWAO	**Narrogin (SRO)**	**30.09**	**207**	LR	LR	18	08	07.1	
	comp=Z,7µm,18.5s,baz=21,slow=39								
NWAO	**Narrogin (SRO)**	**30.09**	**207**	P	**P**	**17**	**54**	**46.4**	**-0.3**
NWAO				P	**P**	**17**	**54**	**46.4**	**-0.3**
DLV	**T Lat**	**30.24**	**307**	P	**P**	**17**	**54**	**49.4**	**+1.0**
ARPS	**Mount Arapiles**	**31.35**	**166**	P	**P**	**17**	**54**	**58.3**	**+0.5**
	baz=31,SNR=95								
ARPS	**Mount Arapiles**	**31.35**	**166**	P	**P**	**17**	**54**	**58.0**	**+0.2**
KRJI	**Kerinci**	**31.49**	**276**	P	**P**	**17**	**54**	**59.2**	**-0.2**
	comp=Z,1µm,0.9s,comp=Z,10µm								
RKGY	**Rocky Gully**	**31.63**	**205**	P	**P**	**17**	**55**	**01.4**	**+1.2**
	baz=32,SNR=13								
YULB	**Yu-li**	**31.65**	**340**	P	**P**	**17**	**55**	**01.0**	**+0.4**
MGCD	**Mangrove Creek**	**31.66**	**150**	P	**P**	**17**	**55**	**01.1**	**+0.5**
	baz=32,SNR=13								
MGCD	**Mangrove Creek**	**31.66**	**150**	P	**P**	**17**	**55**	**01.8**	**+1.2**
TPUB	**Ta-pu**	**31.81**	**339**	P	**P**	**17**	**55**	**00.9**	**-1.0**
TPUB				IAmb	IAmb	17	55	03.1	
	comp=Z,106nm,1.2s								
TPUB	**Ta-pu**	**31.81**	**339**	P	**P**	**17**	**55**	**01.5**	**-0.4**
JMZ	**Minamidaito 2**	**32.06**	**357**	IAMs_20	IAMs_20	18	07	48.1	
	comp=Z,9µm,21.0s								
YOJ	**Yonaguni jima**	**32.11**	**343**	P	**P**	**17**	**55**	**06.0**	**+1.5**
SSLB	**Suanglung**	**32.14**	**339**	P	**P**	**17**	**55**	**03.5**	**-1.3**
SSLB				IAmb	IAmb	17	55	06.5	
	comp=Z,125nm,0.9s								
SSLB	**Suanglung**	**32.14**	**339**	P	**P**	**17**	**55**	**04.2**	**-0.6**
NACB	**Ninganchiao**	**32.28**	**341**	P	**P**	**17**	**55**	**06.0**	**0.0**
BKNI	**Bangkinang**	**32.35**	**281**	P	**P**	**17**	**55**	**04.6**	**-2.2**
	comp=Z,374nm,1.0s,comp=Z,4µm								
CAN	**Canberra**	**32.44**	**155**	P	**P**	**17**	**55**	**07.2**	**-0.2**
CAN				IAmb	IAmb	17	55	30.1	
	comp=Z,77nm,0.8s								
CAN				IAMs_20	IAMs_20	18	08	45.0	
	comp=Z,8µm,19.0s								
CAN	**Canberra**	**32.44**	**155**	P	**P**	**17**	**55**	**07.9**	**+0.6**
CAN	**Canberra**	**32.44**	**155**	P	**P**	**17**	**55**	**07.2**	**-0.2**
CAN				pmax	pmax				
	comp=Z,77nm,0.8s								
CAN				MLR	MLR				
	comp=Z,8µm,19.0s								
CAN	**Canberra**	**32.44**	**155**	P	**P**	**17**	**55**	**08.0**	**+0.6**
CAN				sP	**sP**	**17**	**55**	**22.2**	**+1.4**
CNB	**Canberra Magne**	**32.59**	**154**	P	**P**	**17**	**55**	**09.3**	**+0.6**
	baz=33,SNR=38								
CNB	**Canberra Magne**	**32.59**	**154**	P	**P**	**17**	**55**	**09.5**	**+0.8**
BRAT	**Ballarat**	**32.64**	**163**	P	**P**	**17**	**55**	**10.1**	**+1.1**
PDSI	**Padang**	**32.67**	**278**	P	**P**	**17**	**55**	**06.0**	**-3.7**
	comp=Z,228nm,0.6s,comp=Z,3µm								
YHNB	**Yeheng**	**32.81**	**341**	IAmb	IAmb	17	55	19.8	
	comp=Z,77nm,0.9s								
YHNB	**Yeheng**	**32.81**	**341**	P	**P**	**17**	**55**	**11.5**	**+0.7**
TOO	**Toolangi**	**33.13**	**161**	P	**P**	**17**	**55**	**14.5**	**+1.1**
	baz=33,SNR=55								
TOO	**Toolangi**	**33.13**	**161**	P	**P**	**17**	**55**	**14.5**	**+1.1**
TOO	**Toolangi**	**33.13**	**161**	P	**P**	**17**	**55**	**14.5**	**+1.1**
TOO	**Toolangi**	**33.13**	**161**	P	**P**	**17**	**55**	**14.5**	**+1.1**
TOO				pmax	pmax				
	comp=Z,47nm,0.7s								
JOW	**Kunigami**	**33.32**	**353**	P	**P**	**17**	**55**	**17.8**	**+2.7**
JOW	**Kunigami**	**33.32**	**353**	P	**P**	**17**	**55**	**15.7**	**+0.6**
	comp=Z,169nm,1.1s,baz=173,slow=7.4,SNR=12								
JOW				S	**S**	**18**	**00**	**33.5**	**0.0**
	comp=Z,7.9nm,0.8s,baz=295,slow=16,SNR=1.2								
	comp=Z,169nm,1.1s								
GEXS	**Deakin Univers**	**33.34**	**163**	P	**P**	**17**	**55**	**17.1**	**+1.9**
KOUNC	**Koumac, New Ca**	**33.64**	**118**	P	**P**	**17**	**55**	**17.5**	**-0.5**
KOUNC	**Koumac, New Ca**	**33.64**	**118**	P	**P**	**17**	**55**	**18.4**	**+0.3**
QIZ	**Qiongzhong**	**33.89**	**319**	P	**P**	**17**	**55**	**21.3**	**+1.1**
QIZ				S	**S**	**18**	**00**	**38.5**	**-4.1**
QIZ				sS	**pS**	**18**	**00**	**55.8**	**+2.1**
QIZ				pmax	pmax				
	comp=Z,550nm,1.7s								
QIZ				LR	LR				
	comp=Z,1µm,15.2s								
QIZ				LR	LR				
	comp=Z,1µm,16.2s								
QIZ				LR	LR				
	comp=Z,1µm,18.1s								
QIZ	**Qiongzhong**	**33.89**	**319**	P	**P**	**17**	**55**	**21.4**	**+1.2**
QIZ	**Qiongzhong**	**33.89**	**319**	P	**P**	**17**	**55**	**20.8**	**+0.7**
QIZ				sP	**sP**	**17**	**55**	**34.3**	**+1.1**
SISI	**Saibi**	**33.95**	**277**	P	**P**	**17**	**55**	**16.7**	**-4.1**
	comp=Z,306nm,0.8s,comp=Z,3µm								
MILA	**Mila**	**33.99**	**156**	P	**P**	**17**	**55**	**21.5**	**+0.5**
	baz=34,SNR=12								
MILA	**Mila**	**33.99**	**156**	P	**P**	**17**	**55**	**21.9**	**+1.0**
QZH	**Quanzhou**	**34.07**	**337**	⇓*i*P	**P**	**17**	**55**	**22.9**	**+1.3**
QZH				S	**S**	**18**	**00**	**43.8**	**-1.4**
QZH				pmax	pmax				
	comp=Z,140nm,1.0s								
QZH				LR	LR				
	comp=Z,930nm,24.0s								
QZH				LR	LR				
	comp=Z,1µm,19.6s								
QZH				LR	LR				
	comp=Z,1µm,18.2s								
KULM	**Kulim**	**34.09**	**289**	P	**P**	**17**	**55**	**21.5**	**-0.5**
	comp=Z,195nm,1.1s,comp=Z,3µm								
JCJ	**Chichijima**	**34.52**	**15**	P	**P**	**17**	**55**	**24.4**	**-1.2**
JCJ	**Chichijima**	**34.52**	**15**	P	**P**	**17**	**55**	**25.9**	**+0.3**
JCJ	**Chichijima**	**34.52**	**15**	P	P	17	55	20.7	-4.9
	comp=Z,79nm,0.4s,baz=268,slow=16,SNR=23								
JCJ				S	S	18	00	40.9	-11
	comp=Z,17nm,0.6s,baz=44,slow=21,SNR=1.0								
UBPT	**Khong Chiam**	**34.57**	**309**	P	**P**	**17**	**55**	**27.5**	**+1.4**
SKLT	**Songkhla**	**34.78**	**292**	P	**P**	**17**	**55**	**28.9**	**+0.9**
SKLT	**Songkhla**	**34.78**	**292**	P	**P**	**17**	**55**	**24.0**	**-4.0**
	comp=Z,300nm,1.1s,comp=Z,5µm								
PBSI	**Pulau Batu**	**34.97**	**279**	P	**P**	**17**	**55**	**25.8**	**-3.9**
	comp=Z,188nm,0.8s								
PSI	**Prapat**	**34.99**	**284**	P	**P**	**17**	**55**	**29.0**	**-1.0**
PSI				pmax	pmax				
	comp=Z,244nm,1.1s								
COCO	**West Island**	**35.89**	**258**	P	**P**	**17**	**55**	**37.0**	**-0.5**
COCO	**West Island**	**35.89**	**258**	P	**P**	**17**	**55**	**37.0**	**-0.5**
COCO				pmax	pmax				
	comp=Z,607nm,1.6s								
GSI	**Gunungsitoli**	**35.94**	**281**	P	**P**	**17**	**55**	**37.3**	**-0.7**
GSI	**Gunungsitoli**	**35.94**	**281**	P	**P**	**17**	**55**	**34.0**	**-4.0**
	comp=Z,252nm,0.8s,comp=Z,3µm								
NOUC	**Port Laguerre**	**35.95**	**119**	P	**P**	**17**	**55**	**39.0**	**+1.1**
NOUC	**Port Laguerre**	**35.95**	**119**	P	**P**	**17**	**55**	**37.7**	**-0.3**
NOUC				sP	**sP**	**17**	**55**	**52.2**	**+0.7**
DZM	**Mont Dzumac**	**36.06**	**119**	P	**P**	**17**	**55**	**38.0**	**-1.0**
DZM				IAmb	IAmb	17	55	56.3	
	comp=Z,178nm,1.5s								
DZM	**Mont Dzumac**	**36.06**	**119**	P	**P**	**17**	**55**	**39.4**	**+0.4**
DZM	**Mont Dzumac**	**36.06**	**119**	*e*P	**P**	**17**	**55**	**38.3**	**-0.7**
	comp=Z,203nm,1.4s								
DZM				*e*S	**S**	**18**	**01**	**13.9**	**-2.3**
	comp=Z,917nm,29.3s								
DZM				*e*SS	**SS**	**18**	**03**	**49.6**	**-4.7**
	comp=Z,1µm,26.9s								
DZM				*e*LR	LR	18	05	19.1	
	comp=Z,4µm,31.6s								
DZM	**Mont Dzumac**	**36.06**	**119**	LR	LR	18	12	05.8	
	comp=Z,573nm,18.4s,baz=300,slow=39								
DZM	**Mont Dzumac**	**36.06**	**119**	P	**P**	**17**	**55**	**39.1**	**+0.1**
DZM				sP	**sP**	**17**	**55**	**54.2**	**+1.7**
KCSI	**Kotacane, Aceh**	**36.29**	**285**	P	**P**	**17**	**55**	**37.2**	**-3.8**
	comp=Z,121nm,1.7s,comp=Z,2µm								
LIFNC	**LIFOU**	**36.33**	**117**	P	**P**	**17**	**55**	**41.8**	**+0.6**
YATNC	**Mamie plateau,**	**36.44**	**119**	P	**P**	**17**	**55**	**43.4**	**+1.2**
OUENC	**Ouen Island, N**	**36.52**	**119**	P	**P**	**17**	**55**	**43.8**	**+0.9**
GLAD	**Gladstone**	**37.04**	**161**	P	**P**	**17**	**55**	**47.9**	**+0.9**
NAYO	**Nakonayok**	**37.36**	**304**	P	**P**	**17**	**55**	**51.3**	**+1.2**
SNSI	**Sinabang, Aceh**	**37.41**	**282**	P	P	17	55	45.5	-5.0
	comp=Z,209nm,1.5s,comp=Z,4µm								
LHMI	**Lhok Sumawe**	**37.56**	**287**	P	**P**	**17**	**55**	**52.9**	**+1.1**
LHMI	**Lhok Sumawe**	**37.56**	**287**	P	**P**	**17**	**55**	**49.2**	**-2.6**
	comp=Z,982nm,0.8s,comp=Z,10µmcomp=Z,4µm								
MLSI	**Meulaboh, Aceh**	**37.81**	**285**	P	**P**	**17**	**55**	**51.0**	**-2.9**
	comp=Z,420nm,0.8s,comp=Z,5µm								
NONG	**Nongkai**	**38.01**	**310**	P	**P**	**17**	**55**	**56.0**	**+0.5**
MOO	**Moorlands**	**38.11**	**163**	P	**P**	**17**	**55**	**56.3**	**+0.3**
	baz=38,SNR=12								
MOO	**Moorlands**	**38.11**	**163**	P	**P**	**17**	**55**	**57.3**	**+1.3**
GULI	**GuiLin**	**38.29**	**326**	⇑P	**P**	**17**	**55**	**53.5**	**-4.3**
GULI				pP	pP	17	55	59.8	-7.5
GULI				sP	**pwP**	**17**	**56**	**04.1**	**-5.7**
GULI				PP	**PP**	**17**	**57**	**25.9**	**0.0**
GULI				S	S	18	01	31.5	-18
GULI				SS	**SS**	**18**	**04**	**47.0**	**+7.6**
GULI				pmax	pmax				
	comp=Z,40nm,1.2s								
GULI				pmax	pmax				
	comp=Z,400nm,4.3s								
GULI				LR	LR				
	comp=N,1µm,27.3s								
GULI				LR	LR				
	comp=E,1µm,26.0s								
GULI				LR	LR				
	comp=Z,2µm,26.0s								
TAU	**Tasmania Unive**	**38.57**	**163**	P	**P**	**17**	**56**	**00.8**	**+0.9**
TAU	**Tasmania Unive**	**38.57**	**163**	P	**P**	**17**	**56**	**00.7**	**+0.9**
SSE	**Sheshan**	**38.89**	**344**	P	**P**	**17**	**56**	**05.0**	**+2.3**
SSE				pP	**pP**	**17**	**56**	**11.0**	**-1.2**
SSE				sP	**sP**	**17**	**56**	**13.6**	**-2.5**
SSE				PP	**PnPn**	**17**	**57**	**35.5**	**+0.7**
SSE				S	**S**	**18**	**01**	**59.0**	**+0.3**
SSE				sS	**sS**	**18**	**02**	**14.6**	**-0.7**
SSE				pmax	pmax				
	comp=Z,82nm,1.0s								
SSE				pmax	pmax				
	comp=Z,300nm,5.4s								
SRDT	**SRDT**	**39.22**	**302**	P	**P**	**17**	**56**	**07.2**	**+1.5**
SRDT	**SRDT**	**39.22**	**302**	P	**P**	**17**	**56**	**04.1**	**-1.6**
	comp=Z,319nm,1.6s,comp=Z,11µm								
JNU	**Nakatsue**	**39.34**	**358**	P	**P**	**17**	**56**	**07.1**	**+0.6**
JNU				IAmb	IAmb	17	56	09.7	
	comp=Z,265nm,1.0s								
JNU	**Nakatsue**	**39.34**	**358**	P	**P**	**17**	**56**	**08.1**	**+1.6**
JNU	**Nakatsue**	**39.34**	**358**	P	**P**	**17**	**56**	**07.5**	**+1.0**
	comp=Z,217nm,1.0s,baz=201,slow=2.1,SNR=75								
JNU				S	**S**	**18**	**02**	**05.8**	**+0.2**
	comp=Z,12nm,1.1s,baz=9.1,slow=21,SNR=3.4								
JNU				LR	LR	18	12	43.2	
	comp=Z,2µm,20.3s,baz=184,slow=37								
	comp=Z,217nm,1.0s								
CNSH	**ChangSha**	**39.34**	**332**	⇑P	**P**	**17**	**56**	**04.3**	**-2.3**
CNSH				PP	**PnPn**	**17**	**57**	**40.4**	**+0.1**
CNSH				PcP	**PcP**	**17**	**58**	**11.8**	**-2.9**
CNSH				S	**S**	**18**	**02**	**02.8**	**-2.8**
CNSH				pmax	pmax				
	comp=Z,480nm,3.8s								
CNSH				LR	LR				
	comp=Z,1µm,28.6s								
CNSH				LR	LR				
	comp=Z,800nm,24.5s								
CNSH				LR	LR				
	comp=Z,1µm,23.7s								
JHJ	**Hachijo jima 2**	**39.86**	**9**	LR	LR	18	11	51.5	
	comp=Z,3µm,20.6s,baz=199,slow=35								
JMN	**Monobe**	**39.92**	**1**	P	**P**	**17**	**56**	**12.2**	**+0.8**
JMN				IAmb	IAmb	17	56	32.8	
	comp=Z,217nm,1.1s								
JMN	**Monobe**	**39.92**	**1**	P	**P**	**17**	**56**	**13.2**	**+1.9**
NJ2	**Nanjing**	**40.47**	**342**	⇑P	**P**	**17**	**56**	**17.4**	**+1.6**
NJ2				pP	**pP**	**17**	**56**	**23.9**	**-1.5**
NJ2				sP	**pwP**	**17**	**56**	**28.5**	**+0.7**
NJ2				S	**S**	**18**	**02**	**26.4**	**+4.1**
NJ2				sS	**sS**	**18**	**02**	**38.3**	**-0.7**
NJ2				pmax	pmax				
	comp=Z,110nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,780nm,4.1s								
NJ2				LR	LR				
	comp=Z,530nm,22.7s								
NJ2				LR	LR				
	comp=Z,900nm,23.7s								
NJ2				LR	LR				
	comp=Z,1µm,22.3s								
WHN	**Wuhan**	**40.75**	**335**	⇑*i*P	**P**	**17**	**56**	**19.8**	**+1.7**
WHN				pP	**pwP**	**17**	**56**	**30.8**	**+0.6**
WHN				sP	**sP**	**17**	**56**	**37.6**	**+6.1**
WHN				S	**S**	**18**	**02**	**26.4**	**-0.1**
WHN				SS	**SS**	**18**	**05**	**24.8**	**-3.5**
WHN				pmax	pmax				
	comp=Z,450nm,0.9s								
WHN				LR	LR				
	comp=Z,2µm,16.3s								
WHN				LR	LR				
	comp=Z,1µm,10.1s								
WHN				LR	LR				
	comp=Z,4µm,25.5s								
GYA	**Guiyang**	**41.31**	**323**	⇓P	**P**	**17**	**56**	**24.9**	**+1.8**
GYA				pP	pP	17	56	32.8	+0.2
GYA				S	**S**	**18**	**02**	**33.1**	**-2.3**
GYA				pmax	pmax				
	comp=Z,120nm,0.8s								
GYA				pmax	pmax				
	comp=Z,770nm,5.2s								
GYA				LR	LR				
	comp=Z,920nm,15.6s								
GYA				LR	LR				
	comp=Z,590nm,27.3s								
GYA				LR	LR				
	comp=Z,1µm,32.6s								
CM31	**Chiang Mai Arr**	**41.50**	**307**	P	**P**	**17**	**56**	**24.9**	**+0.3**
CM31	**Chiang Mai Arr**	**41.50**	**307**	P	**P**	**17**	**56**	**25.5**	**+0.9**
	SNR=53								
CM31				P	**P**	**17**	**56**	**25.5**	**+0.9**
	SNR=53								
CMAR	**Chiang Mai Arr**	**41.50**	**307**	P	**P**	**17**	**56**	**25.4**	**+0.9**
	comp=Z,44nm,0.8s,baz=139,slow=7.6,SNR=340								
CMAR				S	**S**	**18**	**02**	**38.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=316,slow=20,SNR=2.4								
	comp=Z,44nm,0.8s								
CHTO	**Chiang Mai**	**41.69**	**308**	P	**P**	**17**	**56**	**26.5**	**+0.4**
CHTO				IAmb	IAmb	17	56	28.8	
	comp=Z,192nm,1.2s								
CHTO	**Chiang Mai**	**41.69**	**308**	P	**P**	**17**	**56**	**27.0**	**+0.8**
CHTO	**Chiang Mai**	**41.69**	**308**	P	**P**	**17**	**56**	**26.5**	**+0.4**
CHTO				pmax	pmax				
	comp=Z,192nm,1.3s								
CHTO	**Chiang Mai**	**41.69**	**308**	P	**P**	**17**	**56**	**26.9**	**+0.7**
CHTO				P	**P**	**17**	**56**	**26.9**	**+0.7**
CHTO	**Chiang Mai**	**41.69**	**308**	P	**P**	**17**	**56**	**26.9**	**+0.7**
CHTO	**Chiang Mai**	**41.69**	**308**	P	**P**	**17**	**56**	**23.5**	**-2.7**
	comp=Z,124nm,1.1s,comp=Z,2µm								
INU	**Inuyama**	**41.72**	**5**	P	**P**	**17**	**56**	**26.5**	**+0.5**
INU	**Inuyama**	**41.72**	**5**	P	**P**	**17**	**56**	**26.8**	**+0.8**
INU	**Inuyama**	**41.72**	**5**	P	**P**	**17**	**56**	**27.1**	**+1.0**
INU				pP	**pwP**	**17**	**56**	**37.0**	**-1.4**
ENH	**Enshi**	**42.75**	**330**	P	**P**	**17**	**56**	**35.3**	**+0.7**
KMI	**Kunming**	**42.83**	**318**	⇑P	**P**	**17**	**56**	**37.0**	**+1.4**
KMI				pP	pP	17	56	46.0	+0.5
KMI				sP	sP	17	56	49.9	+0.9
KMI				PP	**PP**	**17**	**58**	**15.5**	**+0.1**
KMI				PcP	**PcP**	**17**	**58**	**28.5**	**+2.0**
KMI				S	**S**	**18**	**02**	**54.3**	**-3.7**
KMI				pmax	pmax				
	comp=Z,110nm,1.4s								
KMI				pmax	pmax				
	comp=Z,570nm,6.5s								
KMI				LR	LR				
	comp=Z,410nm,19.7s								
KMI				LR	LR				
	comp=Z,550nm,16.9s								
KMI				LR	LR				
	comp=Z,980nm,31.9s								
TJN	**Taejon**	**42.85**	**354**	P	**P**	**17**	**56**	**35.6**	**+0.4**
TJN	**Taejon**	**42.85**	**354**	P	**P**	**17**	**56**	**37.1**	**+1.9**
TJN	**Taejon**	**42.85**	**354**	*e*P	**P**	**17**	**56**	**35.6**	**+0.4**
MAJO	**Matsushiro**	**43.02**	**6**	P	**P**	**17**	**56**	**36.0**	**-0.7**
MAJO	**Matsushiro**	**43.02**	**6**	IAMs_20	IAMs_20	18	13	55.3	
	comp=Z,2µm,20.0s								
MAJO	**Matsushiro**	**43.02**	**6**	P	**P**	**17**	**56**	**37.0**	**+0.3**
MAJO	**Matsushiro**	**43.02**	**6**	*i*P	**P**	**17**	**56**	**36.2**	**-0.5**
MAJO				pmax	pmax				
	comp=Z,85nm,0.9s								
MAJO				MLR	MLR				
	comp=Z,2µm,18.0s								
MAJO	**Matsushiro**	**43.02**	**6**	P	**P**	**17**	**56**	**36.4**	**-0.3**
MAJO				pP	**pP**	**17**	**56**	**46.6**	**+0.4**
MJAR	**Matsushiro Arr**	**43.02**	**6**	P	**P**	**17**	**56**	**36.5**	**-0.2**
	comp=Z,41nm,0.8s,baz=188,slow=9.1,SNR=50								
MJAR				PcP	**PcP**	**17**	**58**	**27.4**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=191,slow=2.9,SNR=4.2								
MJAR				LR	LR	18	14	07.2	
	comp=Z,2µm,19.6s,baz=177,slow=36								
	comp=Z,41nm,0.8s								
KSRS	**Korea Array**	**43.86**	**354**	P	**P**	**17**	**56**	**44.5**	**+1.2**
	comp=Z,19nm,0.8s,baz=182,slow=11,SNR=86								

comp=Z,2μm,22.7s
XAN Xi'an 46.11 332 P **P** **17 57 01.8 +0.3**
XAN pP **pP** **17 57 11.8 +0.6**
DL2 Dalian 46.24 348 P **P** **17 57 03.3 +1.0**
DL2 S **S** **18 03 43.8 -2.9**
DL2 pmax pmax
comp=Z,120nm,0.8s
DL2 pmax pmax
comp=Z,320nm,7.3s
DL2 LR LR
comp=Z,1μm,20.1s
DL2 LR LR
comp=Z,490nm,21.6s
DL2 LR LR
comp=Z,1μm,20.6s
CD2 Chengdu 46.33 325 P **P** **17 57 03.8 +0.6**
CD2 pP pP 17 57 13.0 +0.1
CD2 PP **PP** **17 58 53.9 +1.4**
CD2 S **S** **18 03 43.1 -5.2**
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,760nm,3.5s
CD2 LR LR
comp=Z,1μm,15.5s
CD2 LR LR
comp=Z,2μm,20.2s
CD2 LR LR
comp=Z,2μm,26.5s
HHU Hamhung 46.35 354 P **P** **17 57 05.1 +2.0**
HNS HongShan 46.72 340 ⇑P **P** **17 57 07.0 +0.9**
HNS PP **PP** **17 58 51.8 -4.6**
HNS S **S** **18 03 51.1 -2.4**
HNS SS **SS** **18 07 19.8 -0.6**
HNS pmax pmax
comp=Z,110nm,1.4s
HNS LR LR
comp=Z,800nm,16.9s
HNS LR LR
comp=Z,1μm,23.9s
SUJ Sinuiju 46.89 351 P **P** **17 57 08.3 +0.9**
SUJ S **S** **18 03 56.1 +0.2**
SUJ AmB
comp=Z,262nm,1.5s
DGTI Dogotuki 47.00 106 P **P** **17 57 09.4 +0.7**
OUZ Omahuta 47.22 133 IAMs_20 IAMs_20 18 16 01.9
comp=Z,5μm,20.0s
JTM Tenmabayashi 47.57 9 IAMs_20 IAMs_20 18 15 07.7
comp=Z,2μm,22.0s
JTM Tenmabayashi 47.57 9 P **P** **17 57 14.4 +1.7**
TIY Taiyuan 47.80 338 *e*P **P** **17 57 16.3 +1.7**
TIY S **S** **18 04 08.3 -0.9**
TIY pmax pmax
comp=Z,100nm,0.7s
TIY pmax pmax
comp=Z,580nm,5.3s
TIY LR LR
comp=Z,500nm,22.7s
TIY LR LR
comp=Z,450nm,21.3s
TIY LR LR
comp=Z,590nm,20.6s
BJT Baijiatuau 48.66 343 P **P** **17 57 22.2 +1.1**
BJI Beijing 48.67 343 P **P** **17 57 22.0 +0.8**
BJI pP **pP** **17 57 28.8 -2.2**
BJI S **S** **18 04 18.1 -3.1**
BJI pmax pmax
comp=Z,51nm,1.5s
BJI LR LR
comp=Z,410nm,26.1s
BJI LR LR
comp=Z,400nm,27.4s
BJI LR LR
comp=Z,600nm,27.5s
SNY Shenyang 48.72 351 ⇓P **P** **17 57 22.8 +1.3**
SNY S S 18 04 12.6 -9.2
SNY SS **SS** **18 07 49.4 -3.3**
SNY LR LR
comp=Z,580nm,20.6s
SNY LR LR
comp=Z,440nm,15.2s
SNY LR LR
comp=Z,760nm,20.4s
MSHR Mys Shultsa 48.77 358 *i*P **P** **17 57 22.4 +0.6**
MSHR pmax pmax
comp=Z,52nm,1.4s
JCZ Jackson Bay 49.00 146 P **P** **17 57 25.3 +1.4**
ERM Erimo 49.11 10 P **P** **17 57 26.2 +1.7**
JEM Erimo 49.11 10 IAMs_20 IAMs_20 18 18 55.1
comp=Z,1μm,21.0s
JEM Erimo 49.11 10 P **P** **17 57 26.5 +2.0**
QRZ Quartz Range 49.33 140 IAmb IAmb 17 57 46.6
comp=Z,185nm,1.7s
QRZ Quartz Range 49.33 140 P **P** **17 57 27.2 +0.9**
DSZ Denniston Nort 49.38 142 IAMs_20 IAMs_20 18 17 26.4
comp=Z,5μm,21.0s
HIZ Hauiti 49.67 136 IAMs_20 IAMs_20 18 18 05.2
comp=Z,3μm,20.0s
INZ Inchbonnie 49.72 143 IAMs_20 IAMs_20 18 17 53.2
comp=Z,4μm,20.0s
LBZ Lake Benmore 49.98 145 P **P** **17 57 30.9 -0.3**
RPZ Rata Peaks 50.08 144 P **P** **17 57 32.0 0.0**
RPZ IAmb IAmb 17 57 52.5
comp=Z,244nm,1.9s
RPZ Rata Peaks 50.08 144 P **P** **17 57 32.4 +0.4**
RPZ Rata Peaks 50.08 144 LR LR 18 18 56.6
comp=Z,3μm,18.3s,baz=308,slow=36
THZ Tophouse 50.08 141 IAMs_20 IAMs_20 18 16 57.5
comp=Z,4μm,18.0s
LZH Lanzhou 50.23 329 ⇑P **P** **17 57 34.8 +1.5**
LZH sP pwP 17 57 45.3 -0.3
LZH S **S** **18 04 39.9 -3.6**
LZH pmax pmax
comp=Z,130nm,1.4s
LZH pmax pmax
comp=Z,420nm,5.2s
LZH LR LR
comp=Z,510nm,12.0s
LZH LR LR
comp=Z,810nm,12.0s
LZH LR LR
comp=Z,670nm,12.4s
USA0B Ussuriysk Arra 50.37 359 *i*P **P** **17 57 34.3 +0.3**
USRK Ussuriysk Ar. 50.37 359 P **P** **17 57 34.8 +0.7**
USRK comp=Z,13nm,0.6s,baz=184,slow=6.6,SNR=29 LR LR 18 18 57.4
comp=Z,310nm,19.6s,baz=166,slow=36
comp=Z,13nm,0.6s
CN2 Changchun 50.40 353 *e*P **P** **17 57 34.4 +0.1**
CN2 *e*S **S** **18 04 47.0 +1.7**
CN2 SS **SS** **18 08 12.5 -7.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
ODZ Otahua Downs 50.65 146 P **P** **17 57 36.4 +0.2**
KHZ Kahutara 50.83 141 IAMs_20 IAMs_20 18 18 32.4
comp=Z,5μm,19.0s
KHZ Kahutara 50.83 141 P **P** **17 57 37.5 -0.1**
SHL Shillong 50.86 310 P **P** **17 57 38.0 -0.3**
SNR=65
MDJ Mudanjiang 50.86 357 P **P** **17 57 39.0 +1.2**
MDJ pP pP 17 57 47.3 -0.3
MDJ sP pwP 17 57 50.1 +0.3
MDJ PcP **PcP** **17 58 58.4 +4.3**
MDJ PP **PP** **17 59 33.3 -1.1**
MDJ S **S** **18 04 45.3 -6.3**
MDJ pmax pmax
comp=Z,75nm,1.1s
MDJ pmax pmax
comp=Z,450nm,4.2s
MDJ LR LR
comp=Z,670nm,20.0s
MDJ LR LR
comp=Z,890nm,19.4s
MDJ LR LR
comp=Z,1μm,20.6s
MDJ Mudanjiang 50.86 357 IAmb IAmb 17 57 58.4
comp=Z,117nm,1.1s
MDJ Mudanjiang 50.86 357 P **P** **17 57 39.4 +1.6**
MDJ Mudanjiang 50.86 357 P **P** **17 57 38.7 +0.9**
MDJ pP **pwP** **17 57 49.5 -0.3**
HHC Hu-ho-hao-te 50.89 339 ⇓*i*P **P** **17 57 40.3 +2.1**
HHC sP pwP 17 57 50.3 -0.1
HHC S **S** **18 04 53.8 +1.4**
HHC sS sS 18 05 11.3 +1.8
HHC ScS **ScS** **18 07 27.3 +0.8**
HHC SS **SS** **18 08 27.8 0.0**
HHC pmax pmax
comp=Z,54nm,1.0s
HHC pmax pmax
comp=Z,540nm,4.5s
HHC LR LR
comp=Z,760nm,21.1s
HHC LR LR
comp=Z,560nm,21.2s
HHC LR LR
comp=Z,2μm,21.1s
SNZO South Karori 50.98 140 P **P** **17 57 37.4 -1.4**
SNZO IAmb IAmb 17 57 38.5
comp=Z,68nm,0.8s
SNZO South Karori 50.98 140 P **P** **17 57 38.3 -0.5**
SNZO South Karori 50.98 140 P **P** **17 57 37.6 -1.2**
ASAJ Asahikawa 51.06 9 LR LR 18 20 18.7
comp=Z,672nm,19.8s,baz=198,slow=37
BKZ Black Stump Fm 51.11 136 IAMs_20 IAMs_20 18 19 03.8
comp=Z,2μm,21.0s
BKZ Black Stump Fm 51.11 136 P **P** **17 57 39.9 0.0**
URZ Urewera 51.12 135 P **P** **17 57 39.5 -0.4**
URZ Urewera 51.12 135 LR LR 18 20 55.1
comp=Z,2μm,18.1s,baz=75,slow=38
BHW Baring Head 51.13 140 IAMs_20 IAMs_20 18 18 56.8
comp=Z,4μm,20.0s
RTZ Ruatahuna 51.19 135 IAMs_20 IAMs_20 18 17 07.0
comp=Z,2μm,19.0s
MRZ Mangatainoka R 51.22 138 IAMs_20 IAMs_20 18 17 45.0
comp=Z,4μm,20.0s
BTO Baotou 51.23 338 *e*P P 17 57 31.6 -9.2
BTO pP pP 17 57 38.1 -13
BTO sP pwP 17 57 42.0 -11
BTO PP PP 17 59 25.5 -13
BTO S S 18 04 40.6 -17
BTO sS pS 18 04 58.3 -11
BTO Baotou 51.23 338 SS **SS** **18 08 23.5 -10**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,1μm,7.9s
BTO LR LR
comp=N,1μm,20.6s
BTO LR LR
comp=E,820nm,15.3s
BTO LR LR
comp=Z,2μm,21.8s
TEY Ternei 51.32 3 ⇑*e*P **P** **17 57 41.4 +0.3**
TEY pmax pmax
comp=Z,30nm,1.2s
TEY pmax pmax
comp=N,20nm,1.1s
MXZ Matakaoa Point 51.66 134 IAMs_20 IAMs_20 18 18 18.9
comp=Z,5μm,22.0s
MXZ Matakaoa Point 51.66 134 P **P** **17 57 44.5 +0.5**
BFZ Birch Farm 51.67 138 IAmb IAmb 17 58 05.6
comp=Z,67nm,1.0s
BFZ IAMs_20 IAMs_20 18 19 05.6
comp=Z,5μm,20.0s
BFZ Birch Farm 51.67 138 P **P** **17 57 44.1 +0.1**
RAO Raoul Island 51.69 122 LR LR 18 17 34.4
comp=Z,790nm,21.0s,baz=300,slow=34
BNX BinXian 52.12 355 ⇑P **P** **17 57 47.3 +0.1**
BNX pP **pP** **17 57 53.6 -3.5**
BNX PP **PP** **17 59 46.6 +0.8**
BNX S **S** **18 05 07.3 -1.7**
BNX pmax pmax
comp=Z,79nm,1.0s
BNX pmax pmax
comp=Z,360nm,4.6s
BNX LR LR
comp=Z,730nm,22.2s
BNX LR LR
comp=Z,470nm,16.3s
BNX LR LR
comp=Z,2μm,22.8s
XLT XiLinHaoTe 52.28 345 *e*P **P** **17 57 49.3 +0.7**
XLT pP pP 17 57 55.3 -3.1
XLT sP pwP 17 57 57.9 -2.8
XLT S **S** **18 05 07.6 -3.9**
XLT sS sS 18 05 27.4 -1.2
XLT pmax pmax
comp=Z,51nm,1.6s
XLT pmax pmax
comp=Z,470nm,5.9s
XLT LR LR
comp=Z,760nm,21.4s
XLT LR LR
comp=Z,1μm,26.7s
MCQ Macquarie Isla 52.41 161 P **P** **17 57 50.3 +1.1**
baz=52,SNR=5.7
MCQ Macquarie Isla 52.41 161 P **P** **17 57 50.1 +0.9**
PALK Pallekele 53.67 284 P **P** **17 57 59.5 +0.1**
PALK IAmb IAmb 17 58 01.8
comp=Z,66nm,0.9s
PALK Pallekele 53.67 284 *i*P **P** **17 57 59.7 +0.4**
PALK pmax pmax
comp=Z,103nm,1.0s
PALK Pallekele 53.67 284 LR LR 18 22 41.6
comp=Z,675nm,21.4s,baz=216,slow=38
PALK Pallekele 53.67 284 P **P** **17 57 59.9 +0.6**
PALK P **P** **17 57 59.9 +0.6**
PALK Pallekele 53.67 284 P **P** **17 57 59.6 +0.4**
PALK Pallekele 53.67 284 P **P** **17 57 56.8 -2.5**
comp=Z,75nm,2.0s,comp=Z,1μmcomp=Z,1μm
LSA Lhasa 53.70 314 *i*P **P** **17 58 00.4 +0.7**
SNR=70
LSA Lhasa 53.70 314 P **P** **17 58 01.2 +1.5**
LSA Lhasa 53.70 314 P **P** **17 58 01.3 +1.5**
YSS Yuzh-Sakhalins 53.85 8 P **P** **17 57 59.1 -0.8**
YSS IAmb IAmb 17 58 20.2
comp=Z,69nm,0.8s
YSS IAMs_20 IAMs_20 18 21 53.2
comp=Z,1μm,21.0s
YSS Yuzh-Sakhalins 53.85 8 P **P** **17 58 01.4 +1.5**
YSS Yuzh-Sakhalins 53.85 8 *e*P **P** **17 58 00.2 +0.3**
YSS *e**PP **pP** **17 58 08.6 -1.1**
YSS *e* 17 58 59.9
YSS *e* 18 00 10.2
YSS *e*S **S** **18 05 31.1 -1.4**
YSS pmax pmax
comp=Z,300nm,3.1s
YSS pmax pmax
comp=Z,80nm,0.6s
YSS Yuzh-Sakhalins 53.85 8 P **P** **17 58 01.0 +1.1**
YSS pP **pwP** **17 58 11.8 -0.7**
GTA Gaotai 54.82 329 P **P** **17 58 08.9 +1.6**
GTA pP pP 17 58 17.6 +0.4
GTA S **S** **18 05 44.1 -2.1**
GTA pmax pmax
comp=Z,180nm,1.2s
GTA pmax pmax
comp=Z,710nm,5.8s
GTA LR LR
comp=Z,440nm,18.2s
GTA LR LR
comp=Z,510nm,18.5s
GTA LR LR
comp=Z,550nm,19.6s
AFI Afiamalu 55.00 102 P **P** **17 58 10.1 +1.1**
AFI pmax pmax
comp=Z,130nm,1.3s
GOMU GeErMu 55.33 323 P **P** **17 58 13.1 +1.8**
GOMU S **S** **18 05 56.5 +2.9**
GOMU pmax pmax
comp=Z,29nm,1.0s
GOMU LR LR
comp=Z,720nm,22.6s
GOMU LR LR
comp=Z,830nm,22.0s
GOMU LR LR
comp=Z,2μm,24.8s
KLR Kul'dur 55.40 359*c**e*P **P** **17 58 12.4 +1.3**
KLR pmax pmax
comp=Z,104nm,2.5s
KLR Kul'dur 55.40 359 LR LR 18 21 49.7
comp=Z,398nm,20.0s,baz=176,slow=36
UGL Uglegorsk 55.84 7 *e*P **P** **17 58 15.2 +1.0**
UGL *e*S **S** **18 06 02.1 +3.0**
UGL pmax pmax
comp=Z,170nm,1.0s
UGL pmax pmax
comp=Z,1μm,5.0s
HEH HeiHe 56.61 356 *e*P **P** **17 58 19.8 +0.1**
HEH pP **pP** **17 58 27.8 -1.9**
HEH S **S** **18 06 04.8 -4.5**
HEH SS **SS** **18 09 53.1 -4.4**
HEH pmax pmax
comp=Z,72nm,1.4s
HEH pmax pmax
comp=Z,530nm,5.5s
HEH LR LR
comp=Z,550nm,21.4s
HEH LR LR
comp=Z,690nm,21.8s
HEH LR LR
comp=Z,1μm,24.2s
GRNR Gornyy 57.02 3 ⇓*i*P **P** **17 58 23.3 +0.6**
GRNR pmax pmax
comp=N,5.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,1.2s
TYV Tymovskoe 57.67 7 *e*P **P** **17 58 28.0 +0.8**
TYV *e*S **S** **18 06 26.1 +2.9**
TYV pmax pmax
comp=Z,47nm,1.4s
TYV pmax pmax
comp=Z,700nm,4.2s
TYV smax smax
comp=N,700nm,6.5s
TYV smax smax
comp=E,400nm,6.5s
HYB Hyderabad 58.53 295 ⇑*e*P **P** **17 58 33.8 -0.1**
HYB IVmB_BB 17 58 34.6
comp=Z,1μm,1.6s
HYB *e*S **S** **18 06 36.2 +0.5**
ULN Ulaanbaatar 58.59 340 P **P** **17 58 34.8 +0.8**
ULN IAmb IAmb 17 58 37.1
comp=Z,130nm,1.1s
ULN Ulaanbaatar 58.59 340 *i*P **P** **17 58 35.3 +1.4**
ULN pmax pmax
comp=Z,154nm,1.2s
ULN Ulaanbaatar 58.59 340 P **P** **17 58 35.6 +1.7**
ULN P **P** **17 58 35.6 +1.7**
ULN Ulaanbaatar 58.59 340 P **P** **17 58 35.4 +1.4**
ULN pP **pwP** **17 58 45.5 -0.7**
ULN Ulaanbaatar 58.59 340 P **P** **17 58 32.0 -1.9**
comp=Z,440nm,1.6s,comp=Z,6μm
SONM Songino Array 58.79 340 P **P** **17 58 36.7 +1.4**
comp=Z,53nm,1.1s,baz=156,slow=6.6,SNR=137
SONM S **S** **18 06 39.0 +0.7**
comp=Z,0.6nm,0.7s,baz=104,slow=5.2,SNR=1.7
SONM PKPPKP **P'P'df** **18 28 11.5 +2.2**
comp=Z,1.0nm,1.0s,baz=298,slow=3.1,SNR=2.8
SONM PKP2bc **P'P'bc** **18 28 23.3 +3.1**
comp=Z,4.0nm,1.0s,baz=313,slow=1.1,SNR=11
comp=Z,53nm,1.1s
DGAR Diego Garcia 59.83 265 P **P** **17 58 42.7 -0.3**
DGAR Diego Garcia 59.83 265 P **P** **17 58 42.7 -0.3**
DGAR pmax pmax
comp=Z,363nm,1.2s
DGAR Diego Garcia 59.83 265 P **P** **17 58 44.5 +1.5**
ZEA Zeya 60.09 356 *e*P **P** **17 58 44.7 +0.7**
ZEA pmax pmax
comp=N,100nm,1.4s
ZEA pmax pmax
comp=Z,300nm,1.6s
ZEA pmax pmax
comp=N,60nm,1.4s
ZEA pmax pmax
comp=Z,100nm,1.2s
DRV Dumont d'Urvil 60.38 177 P **P** **17 58 45.9 +0.1**
DRV sP **sP** **17 58 59.6 +0.2**
CIT Chita 60.47 346 *e*P **P** **17 58 48.3 +1.6**
CIT *e* 17 58 54.0
CIT *e* 17 59 33.8
CIT pmax pmax
comp=Z,216nm,2.1s
MNCI Minicoy 61.28 283 P **P** **17 58 52.9 0.0**
CASY Casey 61.74 190 P **P** **17 58 54.3 -0.7**
CASY IAmb IAmb 17 58 56.5
comp=Z,62nm,1.1s
CASY Casey 61.74 190 P **P** **17 58 54.8 -0.2**
ZAK Zakamensk 62.04 339 *e*P **P** **17 58 57.5 +0.1**
ZAK pmax pmax
comp=Z,73nm,1.6s
PEA0B Petropavlovsk- 62.94 17*c**e*P **P** **17 59 05.1 +1.9**
PETK Petropavlovsk- 62.94 17 P **P** **17 59 03.9 +0.7**
comp=Z,65nm,1.1s,baz=168,slow=1.5,SNR=48
PETK LR LR 18 25 05.8
comp=Z,447nm,21.9s,baz=195,slow=35
comp=Z,65nm,1.1s
PET Petropavlovsk 63.14 17 P **P** **17 59 04.0 -0.5**
PET IAmb IAmb 17 59 25.3
comp=Z,72nm,1.0s
PET Petropavlovsk 63.14 17 *e*P **P** **17 59 04.8 +0.3**
PET *e*S **S** **18 07 34.8 +1.6**
PET pmax pmax
comp=Z,73nm,1.1s
PET pmax pmax
comp=Z,300nm,15.7s
PET MLR MLR
comp=Z,600nm,16.0s
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 63.14 17 P **P** **17 59 05.0 +0.5**
IRK Irkutsk 63.27 341 *e*P **P** **17 59 06.5 +1.0**
IRK *e*S **S** **18 07 37.6 +2.7**
IRK pmax pmax
comp=Z,232nm,2.0s
MOY Mondy 63.92 339 *e*P **P** **17 59 11.3 +1.4**
MOY pmax pmax
comp=Z,320nm,2.2s
WMQ Urumqi 64.42 325 *e*P **P** **17 59 15.1 +1.8**
WMQ sP sP 17 59 28.8 +1.8
WMQ PP **PP** **18 01 36.4 +1.0**
WMQ S **S** **18 07 50.0 +0.3**
WMQ sS sS 18 08 06.9 +0.8
WMQ pmax pmax
comp=Z,270nm,1.1s
WMQ pmax pmax
comp=Z,410nm,5.9s
WMQ LR LR
comp=Z,1μm,20.3s
WMQ LR LR
comp=Z,600nm,16.9s
WMQ LR LR
comp=Z,710nm,20.3s
BOD Bodaibo 65.79 349 *e*P **P** **17 59 22.0 +0.2**
BOD pmax pmax
comp=Z,149nm,1.6s
RAR Rarotonga 66.73 110 LR LR 18 26 26.3
comp=Z,217nm,20.5s,baz=278,slow=34
RAR Rarotonga 66.73 110 P **P** **17 59 29.3 +0.8**
RAR pP **pP** **17 59 39.9 +1.4**
MA2 Magadan 67.31 10 P **P** **17 59 32.0 +0.5**
MA2 IAmb IAmb 17 59 34.2
comp=Z,60nm,1.0s
MA2 Magadan 67.31 10*c**e*P **P** **17 59 33.0 +1.5**
MA2 pmax pmax
comp=Z,122nm,1.7s
MA2 Magadan 67.31 10 LR LR 18 27 45.0
comp=Z,310nm,21.6s,baz=205,slow=35
MA2 Magadan 67.31 10 P **P** **17 59 32.6 +1.1**
MA2 sP **sP** **17 59 47.6 +2.3**
WUS Wushi 68.09 319 P **P** **17 59 38.9 +1.8**
WUS pP **pwP** **17 59 48.7 -0.8**
YAK Yakutsk 68.27 358 P **P** **17 59 38.0 +0.6**
YAK Yakutsk 68.27 358*c**i*P **P** **17 59 38.0 +0.6**
YAK *e* 18 02 05.9
YAK *e*S **S** **18 08 36.4 +0.9**
YAK *e**SS **sS** **18 08 56.2 +4.2**
YAK *e* 18 09 30.8
YAK *e*SS **SS** **18 13 02.8 +3.5**
YAK pmax pmax
comp=Z,157nm,1.0s
YAK pmax pmax
comp=N,56nm,1.1s
YAK pmax pmax
comp=E,13nm,1.3s
YAK pmax pmax
comp=Z,58nm,2.0s
YAK smax smax

comp=E,172nnm,4.8s
YAK smax smax
comp=N,123nnm,2.8s
YAK Yakutsk 68.27 358 LR LR 18 29 01.8
comp=N,25nnm,21.8s,baz=170,slow=36
YAK Yakutsk 68.27 358 P **P** **17 59 38.2 +0.8**
YAK sP **sP** **17 59 52.2 +1.0**
DGZ Jazzator, Alta 68.31 330 *i* P **P** **17 59 39.3 +1.1**
DGZ pmax pmax
comp=Z,148nnm,1.2s
SHEM Shemya Is, Ala 68.54 26 LR LR 18 26 01.4
comp=Z,721nnm,21.4s,baz=256,slow=33
CCD Concordia, Ant 68.87 183 P **P** **17 59 42.1 +0.5**
CCD sP **sP** **17 59 57.4 +2.1**
NIL Nilore 68.92 310 P **P** **17 59 43.9 +1.7**
NIL P **P** **17 59 43.9 +1.7**
SHLS Shalkode 68.94 321 *c i* P **P** **17 59 42.2 -0.1**
SHLS pmax pmax
comp=Z,133nnm,1.5s
SHLS Shalkode 68.94 321 ⇑ *i* P **P** **17 59 42.2 -0.1**
comp=Z,133nnm,1.5s,baz=321
UZB Uzynbulak 69.22 321 *c i* P **P** **17 59 45.4 +1.4**
UZB pmax pmax
comp=Z,96nnm,1.4s
UZB Uzynbulak 69.22 321 ⇑ *i* P **P** **17 59 45.5 +1.4**
comp=Z,96nnm,1.4s,baz=321
MK31 Makanchi Array 69.25 325 *ce* P **P** **17 59 45.2 +1.2**
MKAR Makanchi Array 69.25 325 P **P** **17 59 45.3 +1.3**
comp=Z,61nm,0.5s,baz=118,slow=8.0,SNR=389
MKAR S **S** **18 08 46.4 -1.5**
comp=Z,0.5nm,0.8s,baz=145,slow=4.4,SNR=1.6
MKAR PKKP **PKKPdf** **18 19 42.2 +2.7**
comp=Z,0.4nm,1.0s,baz=318,slow=1.9,SNR=3.6
MKAR PKPPKP **P'P'df** **18 27 52.0 -1.1**
comp=Z,0.7nm,1.0s,baz=294,slow=1.2,SNR=3.9
MKAR LR LR 18 35 02.8
comp=Z,211nm,18.1s,baz=128,slow=40
comp=Z,61nm,0.5s
MAKZ Makanchi 69.44 325 P **P** **17 59 46.0 +0.9**
MAKZ Makanchi 69.44 325 P **P** **17 59 46.0 +0.9**
MAKZ pmax pmax
comp=Z,176nm,1.1s
MAKZ Makanchi 69.44 325 P **P** **17 59 46.2 +1.1**
MAKZ pP **pwP** **17 59 57.2 -0.4**
MAKZ sP **sP** **18 00 01.0 +2.1**
KSH Kashi 69.45 316 P **P** **17 59 47.9 +2.4**
KSH pP pP 17 59 55.1 -0.5
KSH sP pwP 17 59 58.6 +0.6
KSH S **S** **18 08 52.5 +1.7**
KSH SS **SS** **18 13 24.8 +6.0**
KSH pmax pmax
comp=Z,120nm,0.9s
KSH LR LR
comp=Z,370nm,17.2s
KSH LR LR
comp=Z,300nm,15.1s
KSH LR LR
comp=Z,540nm,21.3s
SATY Saty 69.56 321 *c i* P **P** **17 59 47.7 +1.6**
SATY *e*S **S** **18 08 52.9 +1.0**
SATY pmax pmax
comp=Z,187nm,1.8s
SATY Saty 69.56 321 ⇑ *i* P **P** **17 59 47.7 +1.6**
comp=Z,187nm,1.8s,baz=320
SATY *e*S **S** **18 08 52.9 +1.0**
baz=320
KPKS Kokpek 69.59 321 *c i* P **P** **17 59 47.6 +1.4**
KPKS pmax pmax
comp=Z,179nm,1.8s
KPKS Kokpek 69.59 321 ⇑ *i* P **P** **17 59 47.6 +1.4**
comp=Z,179nm,1.8s,baz=321
ZHN Zhinishke 69.59 321 *c i* P **P** **17 59 47.7 +1.4**
ZHN pmax pmax
comp=Z,82nm,1.7s
ZHN Zhinishke 69.59 321 ⇑ *i* P **P** **17 59 47.7 +1.4**
comp=Z,82nm,1.7s,baz=321
MDOK Medeo 70.47 320 *i* P **P** **17 59 53.2 +1.5**
MDOK *e*S **S** **18 09 04.1 +1.5**
MDOK Medeo 70.47 320 *i* P **P** **17 59 53.2 +1.5**
baz=320
MDOK *e*S **S** **18 09 04.1 +1.5**
baz=320
ARXS Arharly 70.50 321 *e* P **P** **17 59 52.6 +0.8**
ULHL Ulahol 70.55 319 P **P** **17 59 54.8 +2.5**
SNR=10
TDK Taldyqorghan 70.55 322 ⇑ *i* P **P** **17 59 53.5 +1.5**
TDK Taldyqorghan 70.55 322 ⇑ *i* P **P** **17 59 53.6 +1.5**
baz=322
AAA Alma-Ata 70.58 320 *e* P **P** **17 59 53.8 +1.6**
AAA pmax pmax
comp=Z,88nm,0.9s
AAA Alma-Ata 70.58 320 *e* P **P** **17 59 53.9 +1.6**
comp=Z,88nm,0.9s,baz=320
SEY Seymchan 70.74 9 *ce* P **P** **17 59 53.8 +1.1**
SEY pmax pmax
comp=Z,166nm,1.7s
SEY Seymchan 70.74 9 LR LR 18 29 08.6
comp=Z,503nm,21.9s,baz=198,slow=34
CHKK Chushkaly 70.85 321 *e* P **P** **17 59 54.9 +1.1**
CHKK Chushkaly 70.85 321 *e* P **P** **17 59 54.1 +0.3**
baz=321
KUU Kurty 71.28 321 *c i* P **P** **17 59 57.6 +1.2**
KUU pmax pmax
comp=Z,79nm,1.2s
KUU Kurty 71.28 321 ⇑ *i* P **P** **17 59 57.7 +1.2**
comp=Z,79nm,1.2s,baz=320
TKM2 Tokmak 2 71.29 319 P **P** **17 59 58.4 +1.6**
SNR=32
KBK Karagaybulak 71.59 319 P **P** **18 00 00.4 +1.9**
SNR=9.4
FRU1 Bishkek 71.86 319 P **P** **18 00 01.5 +1.4**
FRU1 pmax pmax
comp=Z,74nm,1.5s
CHMS Chumysh 71.87 319 P **P** **18 00 01.7 +1.7**
SNR=7.2
AAK Ala-Archa 71.88 319 *i* P **P** **18 00 01.7 +1.5**
AAK pmax pmax
comp=Z,103nm,1.0s
AAK Ala-Archa 71.88 319 *i* P **P** **18 00 01.4 +1.1**
SNR=18
AAK Ala-Archa 71.88 319 P **P** **18 00 01.5 +1.3**
comp=Z,70nm,0.9s,baz=120,slow=5.5,SNR=64
AAK LR LR 18 35 29.8
comp=Z,300nm,21.9s,baz=96,slow=39
comp=Z,70nm,0.9s
AAK Ala-Archa 71.88 319 P **P** **18 00 03.1 +2.8**
OHH Osh 72.09 316 P **P** **18 00 03.1 +1.6**
OHH pmax pmax
comp=Z,130nm,1.1s
SGDS Sogindy 72.16 319 *c i* P **P** **18 00 02.9 +1.1**
SGDS Sogindy 72.16 319 ⇑ *i* P **P** **18 00 02.9 +1.1**
baz=320
ADK Adak 72.27 30 P **P** **18 00 01.9 -0.3**
ADK IAmb IAmb 18 00 25.6
comp=Z,134nm,1.2s
ADK Adak 72.27 30 P **P** **18 00 03.7 +1.5**
ADK Adak 72.27 30 P **P** **18 00 01.9 -0.3**
ADK pmax pmax
comp=Z,134nm,1.3s
ZAA0 Zalesovo Array 72.28 333 IAmb IAmb 18 00 03.8
comp=Z,84nm,0.8s
ZALV Zalesovo Beam 72.28 333 P **P** **18 00 02.2 0.0**
comp=Z,65nm,0.7s,baz=117,slow=5.3,SNR=178
ZALV PKPPKP **P'P'df** **18 27 48.2 +1.0**
comp=Z,0.4nm,0.5s,baz=285,slow=2.9,SNR=3.8
comp=Z,65nm,0.7s
EKS2 Erkin-Say 72.36 318 P **P** **18 00 05.0 +1.9**
SNR=27
SEM Semipalatinsk 72.42 328 *c i* P **P** **18 00 03.6 +0.2**
SEM pmax pmax
comp=Z,100nm,1.4s
SEM Semipalatinsk 72.42 328 ⇑ *i* P **P** **18 00 03.7 +0.2**
comp=Z,100nm,1.4s,baz=328
KBL Kabul 72.49 309 P **P** **18 00 04.3 +0.1**
KBL IAmb IAmb 18 00 06.7
comp=Z,91nm,1.0s
KBL Kabul 72.49 309 P **P** **18 00 04.3 +0.1**
KBL pmax pmax
comp=Z,91nm,1.0s
KBL Kabul 72.49 309 P **P** **18 00 05.2 +1.1**
SNR=41
KBL P **P** **18 00 05.2 +1.1**
SNR=41
VNDA Vanda 72.72 174 P **P** **18 00 04.2 -0.3**
VNDA Vanda 72.72 174 P **P** **18 00 04.6 +0.1**
comp=Z,20nm,0.8s,baz=316,slow=6.3,SNR=51
VNDA S **S** **18 09 25.5 -1.7**
comp=Z,1.2nm,1.1s,baz=163,slow=14,SNR=1.4
VNDA LR LR 18 30 53.1
comp=Z,2μm,19.4s,baz=348,slow=35
comp=Z,20nm,0.8s
BTK Batken 73.27 315 P **P** **18 00 10.0 +1.5**
BTK pmax pmax
comp=Z,118nm,1.2s
BTLS Baital 73.27 321 *c i* P **P** **18 00 09.1 +0.9**
BTLS pmax pmax
comp=Z,83nm,1.6s
BTLS Baital 73.27 321 ⇑ *i* P **P** **18 00 09.2 +0.9**
comp=Z,83nm,1.6s,baz=321
KURBB Kurchatov Arra 73.46 327 P **P** **18 00 10.0 +0.8**
comp=Z,70nm,1.0s,baz=125,slow=4.7,SNR=170
KURBB PKPPKP **P'P'df** **18 27 46.7 +1.1**
comp=Z,0.6nm,0.9s,baz=303,slow=3.5,SNR=4.9
comp=Z,70nm,1.0s
KURK Kurchatov 73.46 327 P **P** **18 00 09.8 +0.6**
KURK IAmb IAmb 18 00 11.6
comp=Z,196nm,1.2s
KURK Kurchatov 73.46 327 *ce* P **P** **18 00 09.8 +0.6**
KURK pmax pmax
comp=Z,194nm,1.3s
KURK Kurchatov 73.46 327 P **P** **18 00 10.2 +0.9**
KURK P **P** **18 00 10.2 +0.9**
SBA Scott Base 73.58 173 IAMs_20 IAMs_20 18 29 51.0
comp=Z,2μm,19.0s
TRKS Terek-Say 73.64 316 P **P** **18 00 12.7 +1.9**
TRKS pmax pmax
comp=Z,112nm,1.0s
ATKA Atka Island 73.71 31 P **P** **18 00 11.6 +0.9**
DZA Taraz 74.08 318 *e* P **P** **18 00 14.4 +1.3**
DZA pmax pmax
comp=Z,105nm,1.2s
DZA Taraz 74.08 318 *e* P **P** **18 00 14.4 +1.3**
comp=Z,106nm,1.2s,baz=318
KHLU Kahalu`u 74.77 68 P **P** **18 00 16.6 -1.1**
CHM Chimkent 75.01 317 *e* P **P** **18 00 19.8 +1.3**
CHM pmax pmax
comp=Z,74nm,0.9s
CHM Chimkent 75.01 317 *e* P **P** **18 00 19.8 +1.3**
comp=Z,74nm,0.9s,baz=317
RSD Rainshed 75.31 68 P **P** **18 00 18.9 -1.9**
TBI Tubuai 76.30 112 *e* P **P** **18 00 23.8 -2.5**
comp=Z,204nm,21.8s
TBI *e*S **S** **18 10 13.4 +4.4**
comp=Z,904nm,36.5s
TBI *e*SS **SS** **18 14 59.7 -3.9**
comp=Z,990nm,32.2s
TBI *e*LQ LQ 18 20 50.4
comp=Z,7μm,33.0s
TBI *e*LR LR 18 24 03.1
comp=Z,5μm,32.8s
TBI *e*LR LR 18 24 05.0
comp=Z,1μm,25.0s
NGCH Negor - Chabah 76.33 298 P **P** **18 00 28.6 +2.2**
SNR=12
PPT2 Papeete2 76.37 106 *e* PKP1 P 18 00 20.5 -6.4
comp=Z,129nm,23.2s
PPT2 *e*S **S** **18 10 10.2 +0.1**
comp=Z,230nm,26.8s
PPT2 *e*SS **SS** **18 15 05.9 +0.9**
comp=Z,246nm,29.0s
PPT2 *e*LR LR 18 23 46.6
comp=Z,1μm,29.8s
PPT2 *e*LR LR 18 24 07.1
comp=Z,866nm,24.0s
PPT2 *e*LR LR 18 24 08.4
comp=Z,801nm,39.0s
PPT Papeete 76.37 106 P **P** **18 00 28.3 +1.5**
comp=Z,81nm,0.8s,baz=305,slow=10,SNR=5.8
PPT LR LR 18 31 47.2
comp=Z,185nm,18.9s,baz=260,slow=34
comp=Z,81nm,0.8s
MAW Mawson 76.51 202 P **P** **18 00 27.3 +0.7**
MAW Mawson 76.51 202 P **P** **18 00 27.9 +1.3**
comp=Z,70nm,0.9s,baz=70,slow=6.2,SNR=30
MAW LR LR 18 31 19.3
comp=Z,2μm,21.1s,baz=73,slow=33
comp=Z,70nm,0.9s
MSEY Mahe Island 76.87 267 P **P** **18 00 31.2 +1.5**
MSEY P **P** **18 00 31.2 +1.5**
NIKH Nikolski High 76.89 32 P **P** **18 00 30.2 +1.3**
NIKH Nikolski High 76.89 32 P **P** **18 00 29.3 +0.3**
baz=240
JLN Jalan Bani Buh 77.14 294 P **P** **18 00 33.0 +1.9**
SNR=17
JLN P **P** **18 00 33.0 +1.9**
SNR=17
WBK Wadi Bani Khal 77.64 295 P **P** **18 00 36.0 +2.1**
SNR=14
HRA Herat 77.76 307 P **P** **18 00 34.8 +0.2**
BILL Bilibino 77.93 12 P **P** **18 00 33.6 -0.8**
BILL Bilibino 77.93 12 *i* P **P** **18 00 34.2 -0.3**
BILL pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 77.93 359 P **P** **18 00 33.4 -1.0**
TIXI IAMs_20 IAMs_20 18 34 46.9
comp=Z,793nm,20.0s
TIXI Tiksi 77.93 359 *ce* P **P** **18 00 33.8 -0.6**
TIXI pmax pmax
comp=Z,79nm,1.7s
TIXI MLR MLR
comp=Z,804nm,21.0s
TIXI Tiksi 77.93 359 LR LR 18 34 57.2
comp=Z,35nm,21.0s,baz=137,slow=36
WSAR Wadi Sarin 78.07 295 P **P** **18 00 37.5 +1.2**
comp=Z,47nm,0.9s,baz=136,slow=5.4,SNR=42
comp=Z,47nm,0.9s
WSAR Wadi Sarin 78.07 295 P **P** **18 00 37.1 +0.9**
SNR=27
MHTO MHTO 78.21 293 P **P** **18 00 38.0 +0.9**
SNR=35
MHTO P **P** **18 00 38.0 +0.9**
SNR=35
SPIA Saint Paul Isl 78.35 28 P **P** **18 00 39.2 +2.2**
SPIA Saint Paul Isl 78.35 28 P **P** **18 00 37.8 +0.8**
baz=238
JMDO Jabal Madar 78.37 294 P **P** **18 00 40.0 +2.1**
SNR=18
JMDO P **P** **18 00 40.0 +2.1**
SNR=18
P08K Saint George I 78.38 29 P **P** **18 00 38.5 +1.3**
baz=239
DQM DQM 78.40 292 P **P** **18 00 40.0 +1.9**
SNR=11
UNV Unalaska Valle 78.54 32 P **P** **18 00 39.8 +1.7**
UNV Unalaska Valle 78.54 32 P **P** **18 00 38.7 +0.5**
baz=242
SMDO Samad 78.56 295 P **P** **18 00 40.2 +1.2**
SNR=24
SMDO P **P** **18 00 40.2 +1.2**
SNR=24
BIDO Bidbid 78.59 295 P **P** **18 00 41.0 +1.9**
SNR=40
BVAR Borovoye Array 79.03 327 P **P** **18 00 41.5 +0.6**
comp=Z,32nm,0.6s,baz=127,slow=9.0,SNR=159
BVAR S **S** **18 10 35.0 -2.5**
comp=Z,0.4nm,0.5s,baz=246,slow=39,SNR=1.2
comp=Z,32nm,0.6s
AKUT Akutan 79.06 32 P **P** **18 00 42.8 +1.9**
BRVK Borovoye 79.11 327 P **P** **18 00 41.6 +0.3**
BRVK IAmb IAmb 18 00 43.5
comp=Z,94nm,1.0s
BRVK Borovoye 79.11 327 *ce* P **P** **18 00 41.9 +0.6**
BRVK pmax pmax
comp=Z,193nm,1.7s
BSY Bisya 79.26 295 P **P** **18 00 44.0 +1.1**
SNR=18
JASK Jask - Hormozg 79.32 298 P **P** **18 00 47.3 +4.3**
SNR=13
SHAO Shalim 79.83 290 *i* P **P** **18 00 46.5 +0.5**
SNR=15
SHAO Shalim 79.83 290 P **P** **18 00 48.0 +2.0**
SNR=12
SHAO P **P** **18 00 48.0 +2.0**
SNR=12
ARQ Araqi 79.99 295 P **P** **18 00 47.3 +0.5**
SNR=20
ARQ P **P** **18 00 47.3 +0.5**
SNR=20
SOHO SOHO 80.14 296 *i* P **P** **18 00 48.0 +0.5**
SNR=48
SOHO SOHO 80.14 296 P **P** **18 00 48.3 +0.8**
DMTO DMTO 80.41 289 P **P** **18 00 51.0 +1.9**
SNR=10
MDH Madha 80.58 297 P **P** **18 00 50.2 +0.3**
FALS False Pass 80.61 32 P **P** **18 00 49.9 +0.6**
baz=245
HATD Hatta, Dubai 80.64 296 *i* P **P** **18 00 50.7 +0.5**
SNR=18
HATD Hatta, Dubai 80.64 296 P **P** **18 00 52.0 +1.8**
SNR=14
ASHO Ashiyiah 80.67 296 *i* P **P** **18 00 51.1 +0.7**
SNR=19
ASHO Ashiyiah 80.67 296 P **P** **18 00 53.0 +2.6**
SNR=14
MSFE Esma-Masafi 80.72 297 *i* P **P** **18 00 50.9 +0.2**
SNR=20
MASF Masafi 80.72 297 P **P** **18 00 53.2 +2.5**
SNR=15
ALNE Al Ain 80.83 296 *i* P **P** **18 00 51.8 +0.6**
SNR=15
ALNE Al Ain 80.83 296 P **P** **18 00 52.5 +1.3**
SNR=21
ALNE P **P** **18 00 52.5 +1.3**
SNR=21
SHME Shamm 80.87 298 *i* P **P** **18 00 52.5 +1.1**
SNR=20
SHME Shamm 80.87 298 P **P** **18 00 53.6 +2.2**
SNR=9.0
RBK Rabkut 81.07 289 P **P** **18 00 54.0 +1.3**
SNR=26
NAZ Nazwa, Dubai 81.09 296 *i* P **P** **18 00 53.4 +0.8**
SNR=12
NAZ Nazwa, Dubai 81.09 296 P **P** **18 00 55.0 +2.4**
SNR=10
NAZ P **P** **18 00 55.0 +2.4**
SNR=10
FAQ Al Faqa, Dubai 81.10 296 *i* P **P** **18 00 54.0 +1.3**
SNR=26
FAQ Al Faqa, Dubai 81.10 296 P **P** **18 00 54.1 +1.4**
SNR=15
UMZA Um Al Zommool 81.10 294 P **P** **18 00 53.2 +0.5**
UMZA P **P** **18 00 53.2 +0.5**
ASUD Al Ashush, Dub 81.31 296 *i* P **P** **18 00 54.9 +1.1**
SNR=23
ASUD Al Ashush, Dub 81.31 296 P **P** **18 00 57.0 +3.2**
SNR=5.7
DOK Doka 81.33 290 P **P** **18 00 55.0 +1.0**
SNR=34
GAMB Gambell 81.33 22 P **P** **18 00 54.2 +1.2**
baz=236
WHFO Wadi Hawf 81.55 289 P **P** **18 00 56.0 +0.7**
SNR=21
AJN Ajban 81.61 296 *i* P **P** **18 00 55.7 +0.3**
SNR=6.2
AJN Ajban 81.61 296 P **P** **18 00 57.6 +2.3**
SNR=5.5
NRIK Noril'sk 81.66 345 IAmb IAmb 18 01 16.4
comp=Z,146nm,1.1s
NRIK IAMs_20 IAMs_20 18 39 12.1
comp=Z,1μm,20.0s
NRIK Noril'sk 81.66 345 *ce* P **P** **18 00 55.4 +0.7**
NRIK pmax pmax
comp=Z,167nm,1.2s
NRIK Noril'sk 81.66 345 P **P** **18 00 55.2 +0.6**
comp=Z,50nm,0.6s,baz=129,slow=5.6,SNR=68
NRIK LR LR 18 39 12.2
comp=Z,966nm,20.8s,baz=136,slow=37
comp=Z,50nm,0.6s
M11K Mekoryuk 81.78 26 P **P** **18 00 56.9 +1.4**
baz=241
ABTO Aybut 81.90 288 P **P** **18 00 57.9 +0.8**
SNR=25
GEYT Alibeck 81.93 310 P **P** **18 00 57.7 +0.9**
comp=Z,29nm,0.6s,baz=157,slow=4.2,SNR=60
comp=Z,29nm,0.6s
SDPT Sand Point 82.36 32 P **P** **18 01 00.3 +1.7**
SDPT Sand Point 82.36 32 P **P** **18 00 58.7 +0.2**
baz=247
MZWR Madinat Zayed 82.45 295 P **P** **18 01 00.8 +1.0**
MZWR P **P** **18 01 00.8 +1.0**
CHNA Chernabura Isl 82.63 33 P **P** **18 01 00.1 +0.1**
baz=248
MZR Muzera 82.68 294 P **P** **18 01 02.4 +1.4**
M13K Dall Lake 83.06 27 P **P** **18 01 03.6 +1.5**
baz=244,SNR=7.1
S14K Fog Glacier 83.19 31 P **P** **18 01 03.6 +0.5**
baz=248
GHWR Ruwais 83.39 295 P **P** **18 01 06.0 +1.3**
GHWR P **P** **18 01 06.0 +1.3**
O14K Tigyukauivet M 83.52 28 IAMs_20 IAMs_20 18 33 09.3
comp=Z,1μm,21.0s
O14K Tigyukauivet M 83.52 28 P **P** **18 01 05.4 +0.9**
baz=246
QSPA South Pole Qui 83.57 180 P **P** **18 01 04.7 -0.3**
comp=Z,64nm,1.0s,baz=321,slow=1.6,SNR=185
QSPA PKPPKP **P'P'df** **18 27 28.9 -0.2**
comp=Z,3.4nm,1.1s,baz=148,slow=4.5,SNR=3.9
QSPA LR LR 18 36 49.1
comp=Z,2μm,21.3s,baz=9.5,slow=35
comp=Z,64nm,1.0s
JRN Qarnain Island 83.59 296 P **P** **18 01 06.6 +0.9**
N14K Kuskokwak Cree 83.60 27 P **P** **18 01 05.7 +0.8**
baz=246
TNA Tin City 83.67 21 P **P** **18 01 06.4 +1.2**
baz=239
ABKAR Akbulak array 83.75 321 IAmb IAmb 18 01 07.9
comp=Z,69nm,1.2s
L14K Kuka Creek 83.75 26 P **P** **18 01 06.9 +1.3**
baz=244,SNR=22
CHGN Chignik 83.79 32 P **P** **18 01 06.3 +0.3**
baz=249
M14K Bethel 83.82 27 P **P** **18 01 07.3 +1.3**
baz=245,SNR=10
VOI Vohitsoka 83.91 249 P **P** **18 01 07.5 0.0**
VOI IAmb IAmb 18 01 10.1
comp=Z,142nm,1.8s
VOI Vohitsoka 83.91 249 P **P** **18 01 08.9 +1.3**
J14K Nanvaranak Lak 84.00 25 P **P** **18 01 08.1 +1.2**
baz=244
ANM Nome 84.12 23 P **P** **18 01 08.9 +1.4**
baz=242
O15K Ungalikthiuk R 84.17 29 P **P** **18 01 08.8 +1.0**
baz=247
F14K Arctic Creek 84.20 22 P **P** **18 01 09.2 +1.3**
baz=241
M15K Kasigluk River 84.37 27 P **P** **18 01 09.6 +0.8**
baz=246
L15K Ungalak Mounta 84.42 26 P **P** **18 01 10.1 +1.0**
baz=246,SNR=6.7
N15K Kwethluk River 84.43 28 IAMs_20 IAMs_20 18 33 37.1
comp=Z,1μm,20.0s
N15K Kwethluk River 84.43 28 P **P** **18 01 10.3 +1.1**
baz=247
SLWR Sila 84.48 295 P **P** **18 01 11.3 +1.1**
K15K Wolf Creek Mou 84.65 25 P **P** **18 01 11.7 +1.4**
baz=245
R16K Pilot Point 84.67 30 P **P** **18 01 10.6 +0.2**
baz=249
G15K Niukluk 84.82 22 P **P** **18 01 11.6 +0.5**
baz=243
F15K North Star Dit 84.93 22 P **P** **18 01 12.7 +1.1**
baz=242
P16K Nushagak River 84.99 29 P **P** **18 01 12.9 +0.9**
baz=249
TRNA Turayna 85.02 295 P **P** **18 01 15.0 +2.1**
SNR=8.2
CHIR Chirikof Islan 85.10 33 P **P** **18 01 13.4 +0.8**
baz=251
O16K Kokwok River B 85.15 28 P **P** **18 01 13.7 +0.9**
baz=249
N16K Nishlik Lake 85.16 28 P **P** **18 01 14.3 +1.4**
baz=248
M16K Timber Creek 85.28 27 P **P** **18 01 14.6 +1.2**
baz=248
AKTO Aktyubinsk 85.28 322 P **P** **18 01 14.3 +0.6**
comp=Z,46nm,0.7s,baz=101,slow=5.0,SNR=72
comp=Z,46nm,0.7s
L16K Owhat River 85.31 26 IAMs_20 IAMs_20 18 34 12.3
comp=Z,1μm,22.0s
L16K Owhat River 85.31 26 P **P** **18 01 14.5 +1.0**
baz=247,SNR=16
H16K Elim 85.36 23 P **P** **18 01 14.8 +1.0**
baz=245
SMRA Abu-Samra 85.37 295 P **P** **18 01 17.0 +2.3**
SNR=13
SHMA Al-Shehemyia 85.42 297 P **P** **18 01 18.0 +3.1**
SNR=5.2
J16K Anvik River 85.45 25 P **P** **18 01 15.9 +1.6**
baz=246,SNR=27
G16K Koyuk River 85.64 22 P **P** **18 01 16.1 +1.0**
baz=244

I17K	Unalakleet	85.66	24	P		P	18 01 16.6	+1.4
	baz=246							
SVE	Sverdlovsk	85.68	328	*de*P		P	18 01 15.5	0.0
SVE				pmax		pmax		
	comp=Z,97nm,1.4s							
O17K	Koliganek Bris	85.68	29	P		P	18 01 16.5	+1.1
	baz=250							
Q17K	Contact Creek	85.76	30	P		P	18 01 15.7	-0.3
	baz=251							
P17K	Kvichak River	85.80	29	P		P	18 01 16.1	+0.1
	baz=250							
SAKB	Bahrain	85.82	297	P		P	18 01 18.1	+1.2
C16K	Lisburne Hills	85.90	19	P		P	18 01 16.9	+0.5
	baz=241							
N17K	Nushagak Hills	85.91	28	P		P	18 01 18.1	+1.5
	baz=249							
L17K	Donlin	85.98	26	P		P	18 01 18.2	+1.3
	baz=248,SNR=6.3							
SII	Sitkinak Islan	86.09	32	P		P	18 01 18.6	+1.0
	baz=252							
M17K	Holitna River	86.10	27	P		P	18 01 19.0	+1.5
	baz=249							
TAOE	Nuku Hiva Isla	86.18	98	*e*PKP1		P	18 01 12.1	-6.9
	comp=Z,112nm,25.6s							
TAOE	Nuku Hiva Isla	86.18	98	*e*S		S	18 11 47.4	-4.8
	comp=Z,195nm,26.2s							
TAOE	Nuku Hiva Isla	86.18	98	*e*LR		LR	18 28 26.2	
	comp=Z,691nm,24.1s							
K17K	Iditarod	86.20	26	P		P	18 01 19.5	+1.5
	baz=248							
R18K	Karluk	86.26	31	P		P	18 01 19.8	+1.4
	baz=252							
G17K	Kiwalik Mounta	86.33	23	P		P	18 01 19.6	+1.1
	baz=246,SNR=23							
H17K	Granite Mounta	86.39	23	P		P	18 01 20.0	+1.2
	baz=247							
P18K	Big Mountain,	86.45	29	IAmb		IAmb	18 01 20.4	
	comp=Z,85nm,1.5s							
P18K	Big Mountain,	86.45	29	P		P	18 01 19.1	-0.2
	baz=251							
F17K	Baldwin Pennin	86.49	22	P		P	18 01 20.4	+1.1
	baz=245,SNR=6.1							
E17K	Hotham Inlet	86.56	21	P		P	18 01 20.5	+0.9
	baz=245							
N18K	Kilae Creek	86.56	28	P		P	18 01 20.7	+0.9
	baz=251,SNR=6.9							
O18K	Koktuh Hills	86.61	29	P		P	18 01 20.5	+0.4
	baz=251							
ARU	Arti	86.66	328	P		P	18 01 19.3	-1.1
ARU				IAmb		IAmb	18 01 22.2	
	comp=Z,132nm,2.0s							
ARU	Arti	86.66	328	*c i* P		P	18 01 20.0	-0.3
ARU							18 04 38.0	
ARU				S		SKSac	18 11 43.3	-1.0
ARU				pmax		pmax		
	comp=Z,39nm,1.4s							
ARU	Arti	86.66	328	P		P	18 01 19.4	-0.9
	comp=Z,12nm,0.4s,baz=86,slow=6.0,SNR=33							
ARU				PP		PP	18 04 42.8	+0.1
	comp=Z,13nm,0.8s,baz=116,slow=6.3,SNR=8.1							
	comp=Z,12nm,0.4s							
C17K	DeLong Mountai	86.70	19	P		P	18 01 20.6	+0.3
	baz=244							
L18K	Granite Mounta	86.72	26	P		P	18 01 21.9	+1.4
	baz=250,SNR=9.2							
OHAK	Old Harbor	86.76	32	P		P	18 01 21.4	+0.6
	baz=253							
M18K	Stony River	86.86	27	P		P	18 01 22.3	+1.1
	baz=251,SNR=9.6							
H18K	Honhosa River	87.08	23	P		P	18 01 22.5	+0.2
	baz=248							
Q19K	Cape Douglas,	87.08	30	P		P	18 01 22.0	-0.4
	baz=253							
E18K	Tukpahlearik C	87.13	21	P		P	18 01 22.9	+0.5
	baz=246							
J18K	Innoko River	87.14	25	P		P	18 01 23.4	+0.8
	baz=250							
O19K	Port Alsworth	87.14	29	P		P	18 01 22.7	+0.1
	baz=252							
G18K	Tagagawik	87.25	23	P		P	18 01 23.3	+0.3
	baz=248							
N19K	Bonanza Creek	87.26	28	P		P	18 01 24.4	+1.1
	baz=252							
TTA	Tatalina	87.26	26	P		P	18 01 24.2	+0.9
	baz=250,SNR=16							
KDAK	Kodiak Island	87.29	31	P		P	18 01 23.7	+0.3
KDAK	Kodiak Island	87.29	31	IAMs_20		IAMs_20	18 35 42.7	
	comp=Z,2µm,19.0s							
KDAK	Kodiak Island	87.29	31	*i* P		P	18 01 23.5	+0.2
KDAK				pmax		pmax		
	comp=Z,95nm,1.0s							
KDAK	Kodiak Island	87.29	31	P		P	18 01 23.8	+0.5
	baz=254							
KDAK	Kodiak Island	87.29	31	P		P	18 01 23.1	-0.2
	comp=Z,132nm,1.2s,baz=288,slow=1.7,SNR=10.0							
KDAK				LR		LR	18 36 50.1	
	comp=Z,1µm,21.0s,baz=263,slow=33							
	comp=Z,132nm,1.2s							
C18K	Utukok River	87.44	20	P		P	18 01 24.3	+0.4
	baz=245							
P19K	Oil Pt	87.50	29	P		P	18 01 24.5	+0.1
	baz=253							
L19K	White Mountain	87.52	27	P		P	18 01 25.5	+1.0
	baz=251							
GCSA	Galena City Sc	87.52	24	P		P	18 01 25.2	+0.8
	baz=250							
B18K	Kokolik River	87.54	19	P		P	18 01 25.1	+0.7
	baz=245							
Q20K	Shuyak Island	87.61	30	P		P	18 01 25.2	+0.3
	baz=254							
J19K	Poorman	87.78	25	P		P	18 01 26.3	+0.7
	baz=251							
O20K	Slope Mountain	87.92	29	P		P	18 01 26.4	-0.1
	baz=253							
F19K	Shaleruckik Mo	87.92	22	P		P	18 01 26.6	+0.4
	baz=249							
G19K	Purcell Mounta	87.93	23	P		P	18 01 26.8	+0.5
	baz=249							
H19K	Roundabout Mou	87.96	23	P		P	18 01 26.8	+0.4
	baz=250							
L20K	Farewell, AK	88.04	26	P		P	18 01 27.7	+0.8
	baz=252							
A19K	Wainwright	88.13	18	P		P	18 01 27.8	+0.7
	baz=245							
C19K	Lookout Ridge	88.15	19	P		P	18 01 27.7	+0.3
	baz=247							
M20K	Styx River	88.20	27	P		P	18 01 28.5	+0.7
	baz=253							
K20K	Telida	88.23	26	P		P	18 01 28.9	+1.1
	baz=252							
HOM	Homer	88.28	29	P		P	18 01 28.1	+0.1
	baz=254							
D19K	Kuna River	88.42	20	P		P	18 01 28.7	+0.1
	baz=248							
N20K	Mount Spurr	88.43	28	P		P	18 01 28.6	-0.3
	baz=254,SNR=6.5							
J20K	Nowinta River	88.45	25	P		P	18 01 29.9	+1.1
	baz=252							
I20K	Naaghedeneel	88.51	24	P		P	18 01 30.0	+1.0
	baz=252							
H20K	Anotleneega Mo	88.57	23	P		P	18 01 29.6	+0.3
	baz=251							
BRSE	Bradley Lake S	88.74	30	P		P	18 01 30.4	+0.1
	baz=255							
F20K	Avaraart Lake	88.76	22	P		P	18 01 30.7	+0.6
	baz=250							
CAPN	Captain Cook N	88.81	28	P		P	18 01 31.4	+0.9
	baz=255							
PPLA	Purkeypile	88.91	26	P		P	18 01 31.5	+0.3
	baz=254							
SKT	Skwentna	88.95	27	P		P	18 01 30.8	-0.4
	baz=254							
E20K	Nigu River	89.00	21	P		P	18 01 31.6	+0.2
	baz=250							
D20K	Etivluk River	89.01	20	P		P	18 01 31.6	+0.2
	baz=250							
CAST	Castle Rocks	89.10	26	P		P	18 01 32.1	+0.2
	baz=254							
CHUM	Lake Minchumin	89.14	25	P		P	18 01 32.6	+0.6
	baz=254,SNR=11							
SUA	Susitna One	89.18	28	P		P	18 01 32.2	-0.3
	baz=255,SNR=5.4							
O22K	Cooper Landing	89.42	29	P		P	18 01 33.4	0.0
	baz=256							
G21K	Allakaket	89.42	23	P		P	18 01 33.7	+0.3
	baz=252							
H21K	Melozitna Rive	89.44	24	P		P	18 01 33.8	+0.4
	baz=253							
SEW	Seward	89.46	29	P		P	18 01 33.7	+0.2
	baz=256,SNR=7.6							
RC01	Rabbit Creek A	89.56	28	P		P	18 01 34.1	+0.1
	baz=256,SNR=7.6							
I21K	Tanana	89.64	24	P		P	18 01 34.7	+0.3
	baz=254							
CUT	Chulitna	89.64	27	P		P	18 01 34.1	-0.3
	baz=256							
F21K	Alatna River	89.64	22	P		P	18 01 34.2	-0.1
	baz=252							
BPAW	Bear Paw Mtn.	89.76	25	P		P	18 01 34.8	-0.1
	baz=255							
C21K	Knifeblade Rid	89.78	20	P		P	18 01 35.3	+0.3
	baz=251							
E21K	Killik River	89.84	21	P		P	18 01 35.4	+0.1
	baz=252							
ELIB	Princess Elisa	89.87	197	*d* P		P	18 01 36.8	+1.1
	comp=Z,49nm,1.0s							
TRF	Thorofare Moun	89.89	26	P		P	18 01 35.5	-0.3
	baz=255							
A21K	Barrow	89.92	18	P		P	18 01 35.5	0.0
	baz=250							
PMR	Palmer	89.96	28	IAMs_20		IAMs_20	18 36 55.4	
	comp=Z,897nm,19.0s							
PMR	Palmer	89.96	28	P		P	18 01 36.0	+0.1
	baz=256							
B21K	Ikpikpuk River	89.99	20	P		P	18 01 35.9	0.0
	baz=252							
H22K	Ishtalitna Cre	90.07	23	P		P	18 01 36.6	+0.2
	baz=254							
GHO	Glory Hole Cre	90.10	28	IAMs_20		IAMs_20	18 34 13.2	
	comp=Z,1µm,19.0s							
MLY	Manley	90.10	24	P		P	18 01 36.5	-0.1
	baz=255							
F22K	John River	90.21	22	P		P	18 01 37.7	+0.7
	baz=250							
KNK	Knik Glacier	90.23	28	IAMs_20		IAMs_20	18 37 03.9	
	comp=Z,1µm,22.0s							
KNK	Knik Glacier	90.23	28	P		P	18 01 37.4	+0.1
	baz=257,SNR=5.6							
A22K	Sinclair Lake	90.31	18	P		P	18 01 37.5	+0.2
	baz=251							
SML	Sawmill	90.38	28	IAMs_20		IAMs_20	18 37 07.7	
	comp=Z,1µm,18.0s							
SML	Sawmill	90.38	28	P		P	18 01 38.0	+0.1
	baz=257							
D22K	Ayikyak River	90.42	20	P		P	18 01 38.0	0.0
	baz=253							
P23K	Montague Islan	90.44	30	P		P	18 01 38.3	+0.1
	baz=258							
WAT1	Susitna Watana	90.51	27	P		P	18 01 38.4	-0.1
	baz=257							
E22K	Anaktuvuk Pass	90.52	21	P		P	18 01 38.4	0.0
	baz=254							
MCK	McKinley	90.55	26	P		P	18 01 38.3	-0.4
	baz=257							
B22K	Teshekpuk Lake	90.60	19	P		P	18 01 38.5	-0.2
	baz=253							
M23K	Glacier View	90.66	28	P		P	18 01 39.1	-0.1
	baz=258							
NEA2	Nenana	90.69	25	P		P	18 01 39.3	0.0
	baz=257							
I23K	Minto, Yukon-K	90.70	24	P		P	18 01 39.3	0.0
	baz=256,SNR=7.9							
G23K	Bananza Creek	90.81	23	P		P	18 01 40.2	+0.4
	baz=256							
WAT6	Susitna Watana	90.82	27	P		P	18 01 40.1	-0.1
	baz=258							
SEKA	Sheki	90.83	311	P		P	18 01 41.5	+0.9
MAK	Makhachkala	90.84	313	*e* P		P	18 01 37.9	-2.6
MAK				*e*			18 05 20.5	
MAK				*e* PPP		PPP	18 07 15.7	
MAK				*e*			18 12 06.5	
MAK				*e* SS		SS	18 18 46.1	+7.9
MAK				*e* SSS		SSS	18 22 16.1	
MAK				pmax		pmax		
	comp=Z,296nm,1.3s							
MAK				MLR		MLR		
	comp=Z,194nm,21.0s							
Q23K	Middleton Isla	90.85	30	P		P	18 01 40.3	+0.2
	baz=259							
SCM	Sheep Creek Mo	90.85	28	P		P	18 01 40.2	0.0
	baz=258							
COLD	Coldfoot	90.87	22	P		P	18 01 40.5	+0.4
	baz=256							
HIN	Hinchinbrook I	90.96	29	IAMs_20		IAMs_20	18 38 22.0	
	comp=Z,1µm,18.0s							
DHY	Denali Highway	91.09	27	P		P	18 01 41.3	-0.1
	baz=258							
ATD	Arta Tunnel	91.17	281	P		P	18 01 43.0	+0.3
	comp=Z,0.8nm,1.0s,baz=128,slow=6.0,SNR=5.7							
ATD				LR		LR	18 41 46.7	
	comp=Z,8.5nm,19.9s,baz=77,slow=35							
COLA	College	91.26	25	P		P	18 01 42.2	+0.4
	baz=258							
E23K	Chandalar	91.29	22	P		P	18 01 42.5	+0.3
	baz=256							
ZKTA	Zakatala	91.32	312	P		P	18 01 44.2	+1.4
EYAK	Cordova Ski Ar	91.35	29	P		P	18 01 43.0	+0.6
	baz=259							
C23K	Itkillik River	91.38	20	P		P	18 01 42.7	+0.3
	baz=255							
GANJ	Ganja	91.42	311	P		P	18 01 44.6	+1.3
M24K	Tolsona, Glenn	91.44	28	P		P	18 01 43.0	+0.1
	baz=259							
KLU	Klutina	91.44	28	IAMs_20		IAMs_20	18 37 39.8	
	comp=Z,1µm,20.0s							
KLU	Klutina	91.44	28	P		P	18 01 43.3	+0.3
	baz=259							
H24K	Noodor Dome	91.45	24	P		P	18 01 43.1	+0.2
	baz=258							
POKR	Poker Plat Res	91.48	25	P		P	18 01 43.3	+0.3
	baz=258							
HDA	Harding Lake	91.55	25	P		P	18 01 43.5	+0.2
	baz=258							
ILAR	Eielson Array	91.64	25	P		P	18 01 42.4	-1.3
	comp=Z,5.4nm,0.6s,baz=262,slow=4.8,SNR=6.4							
ILAR				PP		PP	18 05 21.0	-1.4
	comp=Z,4.1nm,1.1s,baz=255,slow=7.2,SNR=5.4							
ILAR				PKKPbc		PKKPdf	18 19 03.9	+0.8
	comp=Z,1.0nm,0.9s,baz=111,slow=2.2,SNR=7.8							
ILAR				LR		LR	18 39 42.5	
	comp=Z,296nm,20.5s,baz=253,slow=33							
	comp=Z,5.4nm,0.6s							
E24K	Your Creek	91.71	22	P		P	18 01 43.8	-0.2
	baz=257							
G24K	Hadweenzic Riv	91.80	23	P		P	18 01 44.8	+0.4
	baz=258							
F24K	Squaw Lake	91.81	22	P		P	18 01 44.7	+0.2
	baz=258							
D24K	Happy Valley	91.83	21	P		P	18 01 44.8	+0.4
	baz=257							
KAIM	Kayak Island	91.90	30	P		P	18 01 45.4	+0.4
	baz=261							
PAX	Paxson	91.92	27	P		P	18 01 45.2	+0.1
	baz=260							
K24K	Donnelly Dome	91.93	26	P		P	18 01 45.1	0.0
	baz=260							
KIRV	Kirov	91.94	329	*ce* P		P	18 01 44.3	-0.9
KIRV	Kirov	91.94	329	P		P	18 01 43.9	-1.3
	comp=Z,11nm,0.6s,baz=112,slow=4.9,SNR=9.6							
KIRV				LR		LR	18 47 12.8	
	comp=Z,268nm,20.4s,baz=100,slow=38							
	comp=Z,11nm,0.6s							
HARP	HAARP	91.96	27	P		P	18 01 45.3	0.0
	baz=260							
BMRM	Bremner River	91.98	29	P		P	18 01 45.2	-0.3
	baz=260							
C24K	Franklin Bluff	92.00	20	P		P	18 01 45.2	-0.1
	baz=257							
BELG	Belogornoye	92.05	322	*i* P		P	18 01 44.1	-1.7
BELG				pmax		pmax		
	comp=Z,11nm,1.3s							
BELG	Belogornoye	92.05	322	P		P	18 01 44.5	-1.3
	comp=Z,30nm,0.9s,baz=55,slow=21,SNR=14							
	comp=Z,30nm,0.9s							
N25K	Chitina, Valde	92.09	28	P		P	18 01 45.8	-0.2
	baz=260							
J25K	Salcha River,	92.25	25	P		P	18 01 46.3	-0.3
	baz=260							
RIDG	Independent Ri	92.33	26	P		P	18 01 46.8	-0.2
	baz=260							
G25K	Bearman Lake	92.34	23	P		P	18 01 47.7	+0.9
	baz=259							
PRP	Porcupine Dome	92.35	24	P		P	18 01 46.6	-0.6
	baz=260							
GNI	Garni	92.56	310	LR		LR	18 51 35.3	
	comp=Z,114nm,20.5s,baz=92,slow=41							
F25K	Christian Rive	92.67	22	P		P	18 01 48.6	+0.1
	baz=260							
D25K	Kavik River	92.72	21	P		P	18 01 48.2	-0.4
	baz=259							
SCRK	Sand Creek	92.75	26	P		P	18 01 48.8	-0.2
	baz=261							
E25K	Arctic Village	92.79	22	P		P	18 01 49.3	+0.3
	baz=260							
L26K	Log Cabin Wild	92.89	27	P		P	18 01 49.5	0.0
	baz=262							
J26L	Joseph Creek	93.01	26	P		P	18 01 50.1	-0.1
	baz=262							
F26K	Sheenjek River	93.25	22	P		P	18 01 51.8	+0.6
	baz=261							
G26K	Porcupine Rive	93.28	23	P		P	18 01 51.4	+0.2
	baz=261							
I26K	Coal Creek Min	93.30	25	P		P	18 01 51.6	+0.2
	baz=262							
ZEI	Tsey	93.46	312	*e* P		P	18 01 52.1	-0.8
ZEI				pmax		pmax		
	comp=Z,20nm,1.3s							
M27K	Edge Creek, AK	93.47	28	P		P	18 01 52.6	+0.2
	baz=263							
CTG	Chitna Glacier	93.56	29	P		P	18 01 53.3	+0.5
	baz=263							
L27K	Beaver Creek,	93.58	27	P		P	18 01 52.8	+0.1
	baz=263							
K27K	Chicken	93.59	26	P		P	18 01 53.4	+0.7
	baz=263							
NVL	N'lazarevskaya	93.72	197	*e* P		P	18 01 48.4	-4.8
NVL				pmax		pmax		
	comp=Z,33nm,1.3s							
NVL				MLR		MLR		
	comp=Z,5µm,22.0s							
BVCY	Beaver Creek	93.94	28	P		P	18 01 54.9	+0.4
	baz=264							
I27K	Kandik River	93.97	25	P		P	18 01 55.0	+0.5
	baz=263							
PINM	Pinnacle	94.00	30	P		P	18 01 55.0	+0.3
	baz=264							
YUK3	Moose Creek	94.06	28	P		P	18 01 55.3	+0.1
	baz=264							
EGAK	Eagle	94.07	25	P		P	18 01 55.0	+0.1
	baz=264							
H27K	Steamboat Moun	94.08	24	P		P	18 01 55.4	+0.5
	baz=264							
G27K	Doyon Strip	94.09	23	P		P	18 01 55.4	+0.3
	baz=263							
KBZ	Khabaz	94.27	313	*ce* P		P	18 01 56.2	-0.1
KBZ				pmax		pmax		
	comp=Z,22nm,1.5s							
KBZ	Khabaz	94.27	313	P		P	18 01 56.1	-0.2
	comp=Z,5.0nm,0.8s,baz=90,slow=3.4,SNR=8.0							
	comp=Z,5.0nm,0.8s							
E27K	Coleen River	94.27	22	P		P	18 01 56.1	+0.3
	baz=264							
YUK8	Steele Glacier	94.35	29	P		P	18 01 56.6	0.0
	baz=265							
PNL	Peninsula	94.38	31	P		P	18 01 56.5	0.0
	baz=265							
KIBK	Kibwezi	94.42	267	P		P	18 01 56.4	-1.4
KIBK				IAmb		IAmb	18 02 00.5	
	comp=Z,33nm,1.3s							
KIBK				IAMs_20		IAMs_20	18 41 01.4	
	comp=Z,835nm,21.0s							
KIBK	Kibwezi	94.42	267	P		P	18 01 59.3	+1.5
	SNR=5.2							
KIV	Kislovodsk	94.44	314	*e* P		P	18 01 55.2	-2.0
KIV				pmax		pmax		
	comp=Z,12nm,1.0s							
D27M	Malcolm River	94.61	21	P		P	18 01 57.6	+0.2
	baz=264							
I28M	Miner Creek	94.65	25	P		P	18 01 58.2	+0.5
	baz=265							
DAWY	Dawson	94.76	26	P		P	18 01 58.4	+0.2
	baz=265							
O29M	Mount Kennedy	94.85	30	P		P	18 01 58.7	0.0
	baz=266							
F28M	Old Crow	94.86	23	P		P	18 01 58.6	+0.1
	baz=265,SNR=9.5							
YUK4	Talbot Arm	94.89	29	P		P	18 01 59.4	+0.4
	baz=266							
FURI	Furi	94.98	278	IAMs_20		IAMs_20	18 43 14.3	
	comp=Z,713nm,21.0s							
YUK6	Outpost Mounta	95.00	29	P		P	18 01 59.4	-0.1
	baz=266							
M29M	Somme Creek	95.06	28	P		P	18 01 59.7	+0.1
	baz=266							
E28M	Babbage River	95.07	22	P		P	18 01 59.8	+0.3
	baz=266							
P29M	Windy Craggy	95.22	31	P		P	18 02 00.4	+0.1
	baz=266							
L29M	L29M	95.26	27	P		P	18 02 01.0	+0.5
	baz=266							
J29N	Klondike Camp	95.30	26	IAMs_20		IAMs_20	18 38 28.2	
	comp=Z,1µm,21.0s							
J29N	Klondike Camp	95.30	26	P		P	18 02 00.3	-0.4
	baz=266							
I29M	Ogilvie Camp,	95.32	25	P		P	18 02 00.5	-0.2
	baz=266							
KMBO	Kilima Mbogo	95.34	268	P		P	18 01 59.7	-2.5
KMBO				IAmb		IAmb	18 02 05.1	
	comp=Z,63nm,1.7s							
KMBO	Kilima Mbogo	95.34	268	IAMs_20		IAMs_20	18 41 31.9	
	comp=Z,595nm,21.0s							
KMBO	Kilima Mbogo	95.34	268	*i* P		P	18 02 01.7	-0.5
KMBO				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KMBO	Kilima Mbogo	95.34	268	*i* P		P	18 02 03.4	+1.2
	SNR=8.9							
KMBO	Kilima Mbogo	95.34	268	P		P	18 02 00.5	-1.7
	comp=Z,3.4nm,0.6s,baz=103,slow=5.6,SNR=14							
KMBO				LR		LR	18 42 40.3	
	comp=Z,366nm,21.8s,baz=92,slow=34							
	comp=Z,3.4nm,0.6s							
KMBO	Kilima Mbogo	95.34	268	P		P	18 02 03.9	+1.7
KMBO				P		P	18 02 03.9	+1.7
H29M	Whitestone	95.35	24	P		P	18 02 01.0	+0.2
	baz=266							
TROLL	Troll, Antarti	95.41	194	⇑P		P	18 02 01.9	+0.7
	comp=Z,570nm,0.8s							
D28M	Stokes Point	95.41	21	P		P	18 02 01.0	+0.1
	baz=266							
HYT	Haines Junctio	95.41	29	P		P	18 02 01.2	-0.1
	baz=267							
G29M	Pine Creek	95.53	23	P		P	18 02 01.7	+0.1
	baz=267							
BELA	Belgrano 2	95.56	183	P		P	18 02 00.8	-0.8
K29M	Barlow Dome	95.57	26	P		P	18 02 01.9	-0.1
	baz=267							
VRH	Novokhopyorsk	95.58	321	*e* P		P	18 02 00.4	-1.7
VRH				pmax		pmax		
	comp=Z,16nm,0.7s							
P30M	Million Dollar	95.64	30	P		P	18 02 02.7	+0.4
	baz=267							
N30M	Aishikik Lake	95.65	29	P		P	18 02 02.4	+0.1
	baz=267							
E29M	Blow River	95.66	22	P		P	18 02 01.7	-0.4
	baz=267							
M30M	Minto, Yukon	95.84	28	P		P	18 02 03.5	+0.4
	baz=267							
S31K	Pelican	95.91	32	P		P	18 02 03.0	-0.4
	baz=267							
EPYK	Eagle Plains	96.03	24	IAmb		IAmb	18 02 04.9	
	comp=Z,85nm,1.8s							
EPYK	Eagle Plains	96.03	24	P		P	18 02 03.3	-0.6
	baz=268							
O30N	Mendenhall	96.10	30	P		P	18 02 04.5	+0.1
	baz=268							
J30M	Hart River	96.12	26	P		P	18 02 04.5	0.0
	baz=268							
I30M	Mount Dempster	96.13	25	P		P	18 02 04.3	-0.2
	baz=268							
G30M	tAoh Zraii Nji	96.24	23	P		P	18 02 04.3	-0.5
	baz=268							
N31M	Braeburn, Yuko	96.28	29	P		P	18 02 05.0	-0.1
	baz=268							
SIT	Sitka	96.37	33	P		P	18 02 05.8	+0.2
	baz=268							
F30M	Barrier River	96.43	23	P		P	18 02 05.8	+0.2
	baz=269		

SOC eSSS SSS 18 23 43.5
SOC MLR MLR
comp=Z,219nm,18.0s
WHY Whitehorse 96.69 30 P **P 18 02 07.4 +0.2**
baz=269
S32K Killisnoo 96.78 33 P **P 18 02 06.5 -0.9**
baz=269
R32K Eaglecrest 96.83 32 IAMs_20 IAMs_20 18 39 07.4
comp=Z,1µm,20.0s
R32K Eaglecrest 96.83 32 P **P 18 02 07.3 -0.3**
baz=269
SNAA Sanae 96.87 193 *ce*P **P 18 02 08.7 +1.0**
SNAA pmax pmax
comp=Z,11nm,0.8s
SNAA Sanae 96.87 193 ⇑P **P 18 02 07.9 +0.2**
comp=Z,166nm,0.8s
SNAA Sanae 96.87 193 P **P 18 02 05.9 -1.8**
comp=Z,7.4nm,0.9s,baz=135,slow=2.2,SNR=11
comp=Z,7.4nm,0.9s
M31M Drury Creek, Y 96.95 28 P **P 18 02 08.1 -0.1**
baz=270
H31M Peel River 96.98 24 P **P 18 02 08.0 -0.2**
baz=270
G31M Satah River 97.01 23 P **P 18 02 07.8 -0.4**
baz=270,SNR=9.3
KLMR Klimovskoe 97.12 330 *e*P **P 18 02 04.8 -4.1**
KLMR pmax pmax
comp=Z,69nm,1.3s
VORR Voronezh 97.17 321 *e*P **P 18 02 08.4 -0.9**
VORR pmax pmax
comp=Z,54nm,0.4s
VSR Storozhevoye 97.19 321 *e*P P 18 02 03.1 -6.3
VSR pmax pmax
comp=Z,20nm,1.0s
F31M Tsiigehtchic 97.21 23 P **P 18 02 08.6 -0.5**
baz=271,SNR=12
P32M Atlin 97.26 31 P **P 18 02 09.1 -0.5**
baz=270
INK Inuvik 97.28 22 IAmb IAmb 18 02 10.7
comp=Z,20nm,1.1s
INK Inuvik 97.28 22 P **P 18 02 08.8 -0.7**
baz=271,SNR=14
INK Inuvik 97.28 22 P **P 18 02 08.2 -1.2**
comp=Z,10nm,0.9s,baz=267,slow=5.6,SNR=13
INK PP **PP 18 06 04.3 -1.8**
comp=Z,2.9nm,1.0s,baz=280,slow=8.6,SNR=3.3
INK LR LR 18 48 21.1
comp=Z,144nm,19.5s,baz=206,slow=37
comp=Z,10nm,0.9s
LPSR Galich'ya Gora 97.36 322 *e*P **P 18 02 07.6 -2.5**
LPSR pmax pmax
comp=Z,30nm,1.0s
FARO Faro, Yukon 97.44 28 P **P 18 02 10.1 -0.3**
baz=270,SNR=6.2
CRAG Craig 97.57 35 P **P 18 02 10.5 -0.5**
baz=270
U33K Whale Pass 97.57 34 P **P 18 02 10.8 -0.2**
baz=270
N32M Quiet Lake 97.57 29 P Pdif 18 02 11.1 0.0
baz=270
P33M Teslin, Yukon 97.71 30 P **P 18 02 10.9 -0.8**
baz=271
WRAK Wrangell Islan 98.00 34 P **P 18 02 12.3 -0.6**
baz=270
MOS Moscow 98.14 325 *e*P **P 18 02 10.3 -3.2**
MOS *e* 18 06 12.2
MOS *e*S **S 18 13 36.7 -1.6**
MOS pmax pmax
comp=Z,64nm,1.3s
ASF Jabal al Asfar 98.32 302 P **P 18 02 14.4 -0.6**
comp=Z,14nm,1.0s,baz=75,slow=22,SNR=4.3
comp=Z,14nm,1.0s
S34M Telegraph Cree 98.63 32 Pdiff **P 18 02 15.4 -0.3**
baz=272
R33M Jennings River 98.67 31 Pdiff **P 18 02 15.6 -0.5**
baz=272
OBN Obninsk 98.75 325⇓ *e*P **P 18 02 15.5 -0.8**
OBN *e*PPP PPP 18 08 25.7
OBN *e*S **SKSac 18 12 52.0 +0.3**
OBN *e*SS **SS 18 20 25.5 -4.4**
OBN pmax pmax
comp=Z,26nm,0.8s
OBN MLR MLR
comp=Z,549nm,23.0s
OBN Obninsk 98.75 325 LR LR 18 50 59.5
comp=Z,223nm,21.7s,baz=88,slow=38
T35M Bob Quinn 99.14 33 Pdiff **Pdif 18 02 17.7 -0.4**
baz=272
DLBC Dease Lake 99.20 32 Pdiff **Pdif 18 02 18.5 0.0**
baz=273
DLBC Dease Lake 99.20 32 P **Pdif 18 02 18.4 0.0**
comp=Z,3.6nm,1.0s,baz=281,slow=5.9,SNR=3.0
DLBC LR LR 18 46 00.9
comp=Z,320nm,19.4s,baz=282,slow=35
comp=Z,3.6nm,1.0s
APA Apatity 99.45 337⇓ *i*P **Pdif 18 02 12.4 -6.8**
APA pmax pmax
comp=Z,7.0nm,0.9s
MMAI Mount Meron Ar 99.61 302 LR LR 18 56 16.9
comp=Z,143nm,19.8s,baz=78,slow=41
A36M Sachs Harbour 99.76 18 Pdiff **Pdif 18 02 20.7 +0.3**
baz=279
EIL Elat 99.90 299 LR LR 18 55 04.7
comp=Z,141nm,19.7s,baz=102,slow=40
C36M Paulatuk 100.59 21 Pdiff **Pdif 18 02 24.2 0.0**
baz=280
BRTR Keskin Array B 101.06 309 *i*P **Pdif 18 02 28.0 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 101.06 309 P **Pdif 18 02 26.7 -0.5**
comp=Z,2.1nm,0.8s,baz=114,slow=6.8,SNR=7.0
SPITS Spitsbergen Ar 101.50 349 P **Pdif 18 02 28.2 0.0**
comp=Z,14nm,0.8s,baz=85,slow=9.5,SNR=9.0
ARCES ARCESS Array B 101.96 340 P **Pdif 18 02 30.6 +0.2**
comp=Z,11nm,0.8s,baz=81,slow=6.0,SNR=36
ARCES PKiKP **PKiKP 18 06 53.9 +1.0**
comp=Z,3.7nm,0.9s,baz=119,slow=1.5,SNR=4.0
KOTAN Kotaneelee Air 102.08 30 Pdiff **Pdif 18 02 30.7 -0.4**
baz=278
AKASG Malin Array Be 103.49 321 Pdiff **Pdif 18 02 36.4 -1.2**
comp=Z,1.0nm,0.7s,baz=72,slow=3.0,SNR=5.2
AKASG PP **PP 18 06 52.8 -0.9**
comp=Z,2.8nm,0.9s,baz=83,slow=6.9,SNR=6.0
FINES FINESS Array B 103.54 332 Pdiff **Pdif 18 02 36.9 -0.6**
comp=Z,3.1nm,0.6s,baz=48,slow=5.5,SNR=19
FINES PKiKP **PKiKP 18 06 57.3 +1.3**
comp=Z,3.1nm,0.8s,baz=99,slow=4.8,SNR=3.6
YKA Yellowknife Ar 106.00 26 Pdiff **Pdif 18 02 48.4 0.0**
comp=Z,3.3nm,1.1s,baz=291,slow=4.7,SNR=20
YKA PKiKP **PKiKP 18 06 59.8 -0.6**
comp=Z,2.6nm,1.1s,baz=287,slow=2.1,SNR=7.9
YKA PKiKPbc **PKKPbc 18 18 22.6 -2.8**
comp=Z,0.1nm,0.4s,baz=108,slow=3.2,SNR=8.1
YKA PKKP **PKKPdf 18 18 37.4 +0.7**
comp=Z,0.8nm,0.8s,baz=103,slow=2.6,SNR=9.0
SCZ2 Santa Cruz Isl 108.14 56 PKiKP **PKiKP 18 07 04.5 -0.9**
baz=274
SNCC San Nicolas Is 108.30 57 PKiKP **PKiKP 18 07 04.8 -0.8**
baz=274
CRVS Cervenica-Dubn 108.74 320 *e*P **Pdif 18 03 02.7 +1.7**
CRVS Cervenica-Dubn 108.74 320 *e*PDIFF **Pdif 18 03 02.7 +1.7**
NVAR Mina Array Bea 108.78 52 Pdiff **Pdif 18 03 03.7 +2.1**
comp=Z,0.3nm,0.5s,baz=296,slow=21,SNR=3.1
NVAR PP **PP 18 07 33.0 -0.4**
comp=Z,0.6nm,0.7s,baz=255,slow=6.5,SNR=1.8
NVAR PKKP **PKKPdf 18 18 29.6 -1.6**
comp=Z,1.2nm,0.8s,baz=108,slow=6.4,SNR=7.5
CIS Catalina Islan 109.21 57 PKiKP **PKiKP 18 07 06.4 -1.0**
baz=275
EDW2 Edwards Air Fo 109.42 55 PKiKP **PKiKP 18 07 06.7 -1.0**
baz=276
LRMC Laurel Mtn Rad 109.61 55 PKiKP **PKiKP 18 07 07.7 -0.5**
baz=276
GRAC Grapevine Rang 109.69 53 PKiKP **PKiKP 18 07 07.7 -0.5**
baz=277
MPMC Manual Prospec 109.70 54 PKiKP **PKiKP 18 07 07.9 -0.5**
baz=276
HFS Hagfors 109.72 332 Pdiff **Pdif 18 03 03.8 -1.2**
comp=Z,2.0nm,0.5s,baz=90,slow=7.4,SNR=7.7
BFSC Mount Baldy Ra 109.76 56 PKiKP **PKiKP 18 07 07.7 -0.8**
baz=276
109C Camp Elliot, M 110.35 57 PKiKP **PKiKP 18 07 08.5 -1.0**
baz=276
BBRC Big Bear Solar 110.36 56 PKiKP **PKiKP 18 07 09.1 -0.7**
baz=276
NB2 NORSAR Subarra 110.47 334 P **Pdif 18 03 08.7 +0.3**
comp=Z,0.5nm,0.5s,baz=70,slow=4.3
NOA NORSAR Array B 110.47 334 Pdiff **Pdif 18 03 07.7 -0.8**
comp=Z,0.9nm,0.6s,baz=75,slow=4.2,SNR=5.4
MSO Missoula 110.52 42 PKiKP **PKiKP 18 07 09.4 -0.2**
baz=283
VYHS Vyhne 110.53 320 *e*P **Pdif 18 03 08.4 -0.5**
VYHS Vyhne 110.53 320 *e*PDIFF **Pdif 18 03 08.4 -0.5**
TPNV Topopah Spring 110.58 53 PKiKP **PKiKP 18 07 09.7 -0.3**
baz=278
PFO Pinyon Flats O 110.81 57 PKiKP **PKiKP 18 07 10.3 -0.2**
baz=276
TPFO Pinon Flats 110.82 57 PKiKP **PKiKP 18 07 10.1 -0.4**
baz=276
HLID Hailey 110.88 46 PKiKP **PKiKP 18 07 10.0 -0.5**
baz=281
R11B Troy Canyon, C 110.91 51 PKiKP **PKiKP 18 07 10.5 -0.1**
baz=279
MONP2 Monument Peak 110.92 57 PKiKP **PKiKP 18 07 10.5 -0.4**
baz=276
TUQ Turquoise Moun 111.04 55 PKiKP **PKiKP 18 07 10.8 -0.2**
baz=277
BELC Belle Mtn. Jos 111.15 56 PKiKP **PKiKP 18 07 11.1 -0.1**
baz=277
IKP In-Ko-Pah, Jac 111.21 58 PKiKP **PKiKP 18 07 11.0 -0.2**
baz=276
GMRC Granite Mounta 111.33 55 PKiKP **PKiKP 18 07 11.6 +0.1**
baz=277
SWSC Sam W. Stewart 111.44 57 PKiKP **PKiKP 18 07 11.8 +0.3**
baz=277
BC3 Big Chuckawall 111.64 56 PKiKP **PKiKP 18 07 12.2 +0.2**
baz=277
IRM Iron Mountain 111.83 56 PKiKP **PKiKP 18 07 12.4 +0.1**
baz=277
CPBX Cerro Prieto 111.91 58 IAMs_20 IAMs_20 18 43 26.7
comp=Z,865nm,19.0s
NEE2 Needles Airpor 112.19 55 PKiKP **PKiKP 18 07 12.9 0.0**
baz=278
BOZ Bozeman (W) 112.36 43 PKiKP **PKiKP 18 07 13.0 -0.2**
baz=284
DUG Dugway, Tooele 112.71 49 PKiKP **PKiKP 18 07 14.6 +0.6**
baz=281
BRG Berggiesshubel 112.90 323 *e*P **PKiKP 18 07 07.0 -6.8**
BRG Amp 18 07 10.7
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 112.90 323 *e*PKiKP **PKiKP 18 07 07.0 -6.8**
BRG pmax pmax
comp=Z,5.0nm,1.0s
EGMT Eagleton 112.95 40 PKiKP **PKiKP 18 07 14.6 +0.5**
baz=287
CLL Collm 113.31 324 *e*PP **PP 18 08 07.0 +1.9**
CLL *e*PPP PPP 18 10 36.0
CLL *e*PPPP 18 12 18.0
CLL *e*SKKSac SKKSac 18 15 06.0 +1.3
CLL *e*PS **PS 18 17 36.0 -5.5**
CLL *e*PPS PPS 18 19 00.0
CLL *ex* x 18 35 24.0
H17A Grant Village 113.39 44 PKiKP **PKiKP 18 07 14.6 -0.7**
baz=285
Y14A Wickenburg 113.62 56 IAMs_20 IAMs_20 18 48 20.0
comp=Z,1µm,19.0s
GERES GERESS Array B 113.70 321 PKiKP **PKiKP 18 07 16.2 +0.7**
comp=Z,1.3nm,0.3s,baz=85,slow=2.2,SNR=1.7
214A Organ Pipe Nat 114.06 58 PKiKP PKPdf 18 07 16.0 -0.6
baz=278
RLMT Red Lodge 114.10 43 PKiKP PKPdf 18 07 16.1 -0.4
baz=286
SGRT San Giovanni R 114.28 313 IAMs_20 IAMs_20 19 00 26.9
comp=Z,474nm,18.0s
BW06 Boulder Array 114.52 46 PKiKP **PKiKP 18 07 17.8 +0.3**
baz=285
PDAR Pinedale Array 114.52 46 PKP **PKiKP 18 07 17.5 0.0**
comp=Z,1.4nm,0.9s,baz=241,slow=3.1,SNR=6.1
PDAR PKKPbc **PKKPbc 18 17 56.6 -0.8**
comp=Z,1.3nm,1.0s,baz=147,slow=2.2,SNR=5.6
WUAZ Wupatki 114.70 54 PKiKP PKPdf 18 07 17.9 0.0
baz=280
LESA Schwarzleotal 114.80 320 *e*PKiKP PKPdf 18 07 18.0 +0.4
ABTA Abfaltersbach 115.12 319 *e*PKP **PKiKP 18 07 18.0 -0.3**
comp=Z,4.7nm,0.8s
WTTA Wentenberg 115.52 320 *e*PKiKP **PKPdf 18 07 19.4 +0.2**
comp=Z,9.3nm,0.6s
WATA Walderalm 115.54 320 *e*PKiKP **PKPdf 18 07 21.1 +2.0**
comp=Z,3.0nm,0.4s
LAO LASA Array 115.65 41 PKiKP **PKPdf 18 07 19.6 +0.3**
baz=289
TUC Tucson 115.71 57 PKiKP **PKiKP 18 07 19.9 0.0**
baz=279
CAMP Campotosto 115.76 314 IAMs_20 IAMs_20 18 47 57.9
comp=Z,315nm,20.0s
SQTA Santa Quirin 115.81 320 *e*PKiKP **PKPdf 18 07 20.9 +1.2**
comp=Z,2.8nm,0.5s
MOTA Moosalm 115.84 320 *e*PKiKP **PKPdf 18 07 20.5 +0.8**
comp=Z,3.4nm,0.6s
W18A Petrified Fore 116.09 54 PKiKP **PKPdf 18 07 20.5 -0.2**
baz=281
O20A White River Ci 116.14 48 PKiKP **PKiKP 18 07 20.8 +0.2**
baz=284
FETA Feichten 116.19 320 *e*PKiKP **PKiKP 18 07 21.7 +1.3**
comp=Z,1.4nm,0.5s
DGMT Dagmar 116.32 38 PKiKP **PKiKP 18 07 21.1 +0.6**
baz=292
RAFF Raffo Rosso 116.35 308 IAMs_20 IAMs_20 18 40 44.2
comp=Z,695nm,22.0s
FUORN Ofenpass-Fuorn 116.63 319 **PKPdf 18 07 21.0 -0.5**
MVCO Mesa Verde 116.63 52 PKiKP **PKPdf 18 07 21.5 -0.2**
baz=283
DAVA Damuels 116.64 320 *e*PKiKP **PKiKP 18 07 21.6 +0.3**
comp=Z,5.0nm,0.6s
FCC Fort Churchill 116.66 25 **PKPdf 18 07 19.0 -1.7**
FCC Fort Churchill 116.66 25 PKiKP **PKPdf 18 07 19.0 -1.7**
K22A Casper 116.70 45 PKiKP **PKiKP 18 07 22.3 +0.7**
baz=287
N23A Red Feather La 117.62 47 PKiKP **PKiKP 18 07 23.7 +0.2**
baz=287
S22A 4UR Ranch, Cre 117.80 51 PKiKP **PKPdf 18 07 23.9 -0.1**
baz=284
RSSD Black Hills 117.96 43 **PKPdf 18 07 22.6 -1.4**
RSSD Black Hills 117.96 43 PKiKP **PKPdf 18 07 22.7 -1.4**
RSSD Black Hills 117.96 43 PKiKP **PKiKP 18 07 24.4 +0.4**
baz=290
RSSD Black Hills 117.96 43 P **PKiKP 18 07 24.3 +0.3**
baz=290
121A Cookes Peak, D 118.17 57 PKiKP **PKiKP 18 07 24.9 +0.2**
baz=281
ISCO Idaho Springs 118.17 48 PKiKP **PKiKP 18 07 24.9 +0.1**
baz=286
Y22A Socorro 118.56 55 P **PKiKP 18 07 26.9 +1.4**
baz=282
Y22D IRIS PASSCAL I 118.57 55 PKiKP **PKiKP 18 07 25.8 +0.3**
baz=282
Y22F Passcal Instru 118.57 55 PKiKP **PKiKP 18 07 25.5 0.0**
baz=282
Q24A Divide 118.75 49 PKiKP **PKPdf 18 07 25.6 -0.3**
baz=286
ANMO Albuquerque 118.75 54 PKiKP **PKPdf 18 07 25.8 0.0**
baz=283
ANMO Albuquerque 118.75 54 PKP **PKiKP 18 07 26.1 +0.2**
comp=Z,3.1nm,0.6s,baz=285,slow=4.7,SNR=8.1
SDCO Great Sand Dun 118.81 50 PKiKP **PKPdf 18 07 25.8 -0.1**
baz=285
SDCO Great Sand Dun 118.81 50 P **PKiKP 18 07 27.3 +1.3**
baz=285
MDND Maddock 119.38 38 PKiKP **PKiKP 18 07 26.8 +0.3**
baz=295
T25A Trinidad 119.81 51 PKiKP **PKPdf 18 07 27.7 -0.1**
baz=286
EKA Eskdalemuir Ar 119.92 333 PKP **PKiKP 18 07 27.5 +0.3**
comp=Z,1.8nm,0.4s,baz=22,slow=3.5,SNR=16
MNTX Cornudas Mount 120.34 57 PKiKP **PKiKP 18 07 28.8 0.0**
baz=282
MNTX Cornudas Mount 120.34 57 P **PKiKP 18 07 30.0 +1.2**
baz=282
OGNE Ogallala 120.42 46 PKiKP **PKiKP 18 07 29.0 +0.2**
baz=290
ULM Lac du Bonnet 120.44 34 PKP **PKPdf 18 07 28.2 0.0**
comp=Z,3.5nm,0.7s,baz=310,slow=3.2,SNR=7.2
ULM PKKPbc **PKKPab 18 17 35.8 -0.2**
comp=Z,1.5nm,0.4s,baz=135,slow=5.0,SNR=4.0
KSCO Kaye Shedlock' 120.62 48 PKiKP **PKPdf 18 07 28.9 -0.2**
baz=288
KEST Kesra 120.64 308 PKP **PKiKP 18 07 29.8 +0.4**
comp=Z,6.5nm,0.9s,baz=285,slow=22,SNR=4.7
SUSD Miller 121.22 41 PKiKP **PKPdf 18 07 29.6 -0.4**
baz=294
AGMN Agassiz Nation 121.41 36 PKiKP **PKPdf 18 07 30.2 0.0**
baz=299
K30B Basset 121.49 43 P **PKiKP 18 07 31.3 +0.6**
baz=293
MSTX Muleshoe 121.94 54 PKiKP **PKPdf 18 07 31.6 -0.2**
baz=285
MSTX Muleshoe 121.94 54 P **PKiKP 18 07 32.6 +0.6**
baz=285
TXAR Lajitas Array 122.27 59 PKhKP PKPpre 18 07 13.5
comp=Z,0.3nm,0.3s,baz=326,slow=4.4,SNR=5.6
TXAR PKP **PKiKP 18 07 33.1 +0.3**
comp=Z,4.2nm,1.0s,baz=323,slow=1.9,SNR=12
TXAR PKKPbc **PKKPbc 18 17 30.2 +1.4**
comp=Z,1.8nm,1.0s,baz=116,slow=5.7,SNR=9.9
F33A 5 Mile Ranch, 122.31 39 P **PKiKP 18 07 32.4 +0.2**
baz=297
AMTX Amarillo 122.56 53 PKiKP **PKPdf 18 07 32.4 -0.6**
baz=286
B35A Bob, Littlefor 122.61 35 P **PKiKP 18 07 32.8 +0.1**
baz=301
CBKS Cedar Bluff 122.81 48 IAMs_20 IAMs_20 18 55 54.8
comp=Z,916nm,21.0s
CBKS Cedar Bluff 122.81 48 PKiKP **PKPdf 18 07 33.3 0.0**
baz=290
CBKS Cedar Bluff 122.81 48 P **PKiKP 18 07 33.8 +0.3**
baz=290
BGNE Belgrade 122.98 44 PKiKP **PKPdf 18 07 33.5 0.0**
baz=293
ECSD EROS Data Cent 123.05 41 **PKPdf 18 07 32.2 -1.3**
ECSD EROS Data Cent 123.05 41 PKiKP **PKPdf 18 07 33.3 -0.2**
baz=296
ECSD EROS Data Cent 123.05 41 P **PKPdf 18 07 33.5 -0.1**
baz=296
F36A Milaca 124.00 38 P **PKiKP 18 07 36.1 +0.5**
baz=300
EYMN Ely 124.09 35 PKiKP **PKiKP 18 07 35.6 -0.1**
baz=303
SPMN Marine on St. 124.76 38 PKiKP **PKiKP 18 07 37.1 +0.1**
baz=300
SPMN Marine on St. 124.76 38 P **PKiKP 18 07 37.3 +0.3**
baz=300
ABTX Abilene, Hawle 124.83 55 PKiKP **PKPdf 18 07 37.4 +0.1**
baz=286
ABTX Abilene, Hawle 124.83 55 P **PKiKP 18 07 38.8 +1.1**
baz=286
WMOK Wichita Mounta 124.88 52 PKiKP **PKPdf 18 07 37.0 -0.3**
baz=288
KSU1 Kansas State U 124.97 46 PKiKP **PKiKP 18 07 37.6 -0.1**
baz=293
I37A Lemond, Waseca 124.98 39 **PKPdf 18 07 36.4 -0.9**
I37B Waseca 124.98 39 P **PKiKP 18 07 38.0 +0.5**
baz=299
JCT Junction City 125.28 57 PKiKP **PKPdf 18 07 38.4 +0.1**
baz=285
JCT Junction City 125.28 57 P **PKiKP 18 07 39.3 +0.7**
baz=285
LL02 Futaleuf 125.83 158 **PKPdf 18 07 38.4 -0.6**
T35B Sooner Cattle 125.87 49 P **PKiKP 18 07 40.0 +0.4**
baz=292
SCIA State Center 126.11 42 PKiKP **PKiKP 18 07 39.8 -0.1**
baz=298
833A Chaparral WMA, 126.15 60 PKiKP **PKPdf 18 07 40.0 +0.1**
baz=284
G40A Rib Lake 126.30 37 P **PKiKP 18 07 40.3 +0.1**
baz=303
TUL3 Leonard 126.78 49 PKiKP **PKiKP 18 07 41.2 -0.2**
baz=292
WHTX Lake Whitney, 126.78 55 PKiKP **PKPdf 18 07 41.2 +0.1**
baz=288
P38A Dawn 126.92 44 P **PKiKP 18 07 41.5 -0.1**
baz=296
435B Jarrell 127.03 56 PKiKP **PKPdf 18 07 41.5 -0.1**
baz=287
RLO Rose Lookout 127.26 49 IAMs_20 IAMs_20 19 08 29.5
comp=Z,3µm,21.0s
JFWS Jewell Farm 127.52 39 PKiKP **PKPdf 18 07 42.4 +0.3**
baz=301
U38A Gravette 127.63 48 P **PKPdf 18 07 42.7 +0.1**
baz=293
S39A Bolivar 127.90 46 P **PKiKP 18 07 43.4 -0.2**
baz=295
HHAR Hobbs 128.03 48 **PKPdf 18 07 43.4 +0.1**
L42A Oliver, Polo 128.36 40 P **PKiKP 18 07 44.2 -0.2**
baz=301
R40A Maddies Statio 128.40 45 P **PKiKP 18 07 44.7 +0.1**
baz=296
PLCA Paso Flores 128.44 157 **PKiKP 18 07 44.8 0.0**
PLCA Paso Flores 128.44 157 PKP **PKiKP 18 07 44.5 -0.3**
comp=Z,13nm,0.9s,baz=222,slow=2.1,SNR=22
U40A Yellville 128.80 48 P **PKPdf 18 07 44.3 -0.5**
baz=294
U40A P **PKPdf 18 07 44.3 -0.5**
baz=294
ESDC Sonseca Array 128.96 317 **PKiKP 18 07 45.9 +0.2**
ESDC Sonseca Array 128.96 317 PKP **PKPdf 18 07 45.4 +0.3**
comp=Z,2.0nm,0.8s,baz=41,slow=1.4,SNR=12
ESDC PP **PP 18 09 53.8 +1.6**
comp=Z,2.4nm,1.0s,baz=62,slow=5.8,SNR=6.4
NATX Nacogdoches 129.11 54 PKiKP **PKPdf 18 07 45.1 -0.4**
baz=290
SCHQ Schefferville 129.20 14 PKP **PKiKP 18 07 45.4 -0.2**
comp=Z,7.8nm,0.6s,baz=331,slow=3.7,SNR=18
CCM Cathedral Cave 129.22 45 PKiKP **PKPdf 18 07 45.7 +0.2**
baz=297
CCM Cathedral Cave 129.22 45 P **PKiKP 18 07 46.5 +0.3**
baz=297
HDIL Hopedale 129.35 41 PKiKP **PKPdf 18 07 46.0 +0.3**
baz=301
L44A Lake County Fo 129.38 39 PKiKP **PKPdf 18 07 45.5 -0.1**
baz=303
P43A Skaggs, Pawnee 129.66 42 P **PKiKP 18 07 47.6 +0.6**
baz=300
PBRG Braganca 129.68 321 *e*PKP **PKiKP 18 07 48.4 +1.3**
GLMI Grayling 129.78 34 PKiKP **PKPdf 18 07 46.7 +0.4**
baz=308
T42A Van Buren 129.79 46 P **PKiKP 18 07 47.7 +0.3**
baz=296
MVO Moncorvo 130.21 320 *e*PKP **PKiKP 18 07 49.5 +1.3**
PGAV Gavieira, Arco 130.54 322 *e*PKP **PKiKP 18 07 50.5 +1.6**
SFIN Lafayette 130.87 40 PKiKP **PKPdf 18 07 48.5 0.0**
baz=303
MTE Manteigas 130.95 320 *e*PKP **PKiKP 18 07 51.8 +2.1**
PCBR Castelo Branco 131.21 319 *e*PKP **PKiKP 18 07 52.1 +2.0**
TORD Torodi Ar. Bea 131.37 282 **PKPdf 18 07 46.4 -3.8**
TORD Torodi Ar. Bea 131.37 282 PKhKP PKPpre 18 07 37.0
comp=Z,0.4nm,0.4s,baz=40,slow=2.1,SNR=4.7
TORD PKP **PKPdf 18 07 50.6 +0.4**
comp=Z,6.8nm,0.8s,baz=44,slow=3.2,SNR=15
TORD PP **PP 18 10 02.3 -6.7**
comp=Z,0.8nm,0.6s,baz=78,slow=5.9,SNR=1.3
TORD SKPbc **SKPbc 18 11 12.0 -0.9**
comp=Z,4.7nm,0.8s,baz=72,slow=2.5,SNR=6.1
L48A N Adams 131.64 37 P **PKiKP 18 07 50.7 -0.3**
baz=307
L48A P **PKiKP 18 07 50.7 -0.3**
baz=307
AAM Ann Arbor 131.88 36 PKiKP **PKPdf 18 07 50.7 +0.3**
baz=308
OXF Oxford 132.13 48 PKiKP **PKPdf 18 07 51.4 +0.3**
baz=296
O48B Farmland 132.17 39 PKiKP **PKPdf 18 07 51.2 +0.2**
baz=305
O48B Farmland 132.17 39 P **PKiKP 18 07 52.9 +0.8**
baz=305
EVO Evora 132.26 318 *e*PKP **PKPdf 18 07 51.6 +0.4**
WVT Waverly 132.53 46 PKiKP **PKPdf 18 07 52.0 +0.1**
baz=299
WCI Wyandotte Cave 132.54 42 PKiKP **PKPdf 18 07 52.1 +0.3**
baz=292
P49A Miami Univ. Ec 132.86 40 PKiKP **PKPdf 18 07 52.7 +0.4**
baz=304
ACSO Alum Creek Sta 133.54 38 PKiKP **PKPdf 18 07 53.8 +0.2**
baz=307
TRQA Tornquist 133.69 164 **PKPdf 18 07 53.8 -0.3**
TRQA IAMs_20 IAMs_20 19 07 25.8
comp=Z,905nm,20.0s
TRQA Tornquist 133.69 164 PKiKP **PKPdf 18 07 53.8 -0.3**
TRQA MLR MLR
comp=Z,900nm,20.0s
ERPA Erie 134.10 34 PKiKP **PKPdf 18 07 54.8 +0.2**
baz=312
M53A WI Miller and 134.16 35 PKiKP **PKPdf 18 07 55.1 +0.3**
baz=310
T50A Nancy 134.16 43 P **PKPdf 18 07 55.3 +0.5**
baz=302
T50A P **PKPdf 18 07 55.3 +0.5**
baz=302
P52A Corning 134.42 38 PKiKP **PKPdf 18 07 55.6 +0.4**
baz=307
LRAL Lakeview Retre 134.58 49 PKiKP **PKPdf 18 07 55.7 -0.1**
baz=297
O53A New Philadelph 134.60 37 PKiKP **PKPdf 18 07 56.0 +0.4**
baz=309
LONY Lake Ozonia 135.07 28 PKiKP **PKPdf 18 07 57.0 +0.6**

	baz=320							
TZTN	**Tazewell**	**135.29**	**43**	PKiKP		**PKPdf**	**18 07 57.6**	**+0.6**
	baz=303							
BRAL	**Brewton**	**135.35**	**51**	PKiKP		**PKPdf**	**18 07 57.9**	**+0.6**
	baz=295							
MCWV	**Mont Chateau**	**135.78**	**37**	PKiKP		**PKPdf**	**18 07 58.5**	**+0.7**
	baz=310							
PQI	**Presque Isle**	**136.07**	**21**			**PKPdf**	**18 07 56.1**	**-2.0**
BINY	**Binghamton**	**136.19**	**31**	PKiKP		**PKPdf**	**18 07 59.1**	**+0.5**
	baz=316							
SSPA	**Standing Stone**	**136.26**	**34**	PKiKP		**PKPdf**	**18 07 59.0**	**+0.3**
	baz=313							
LBNH	**Lisbon**	**136.56**	**26**	PKiKP		**PKPdf**	**18 07 59.4**	**+0.3**
	baz=323							
PKME	**Peaks-Kenny Pk**	**136.80**	**23**	PKiKP		**PKPdf**	**18 07 59.8**	**+0.3**
	baz=327							
BLA	**Blacksburg**	**136.95**	**40**	PKiKP		**PKPdf**	**18 08 00.2**	**+0.1**
	baz=307							
GOGA	**Godfrey**	**137.00**	**46**	PKiKP		**PKPdf**	**18 08 00.6**	**+0.3**
	baz=301							
PETF	**Flores**	**137.06**	**72**	IAMs_20		IAMs_20	19 01 37.3	
	comp=Z,596nm,20.0s							
WVL	**Waterville**	**137.24**	**24**	IAMs_20		IAMs_20	19 06 52.7	
	comp=Z,999nm,22.0s							
KMSC	**Kings Mountain**	**137.56**	**43**	PKiKP		**PKPdf**	**18 08 01.8**	**+0.5**
	baz=304							
L61B	**Northampton**	**137.62**	**28**	PKiKP		**PKPdf**	**18 08 01.6**	**+0.5**
	baz=321							
CO01	**Juntas del Tor**	**137.70**	**150**			**PKPdf**	**18 07 59.2**	**-2.8**
TIGA	**Tifton**	**137.88**	**49**	PKiKP		**PKPdf**	**18 08 02.3**	**+0.3**
	baz=299							
DBIC	**Dimbokro**	**137.90**	**273**	PKP		**PKPdf**	**18 08 02.8**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=359,slow=0.3,SNR=4.4							
DBIC				PP		**PP**	**18 10 49.1**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=82,slow=8.1,SNR=4.0							
HRV	**Adam Dziewonsk**	**138.09**	**27**	PKiKP		**PKPdf**	**18 08 02.6**	**+0.6**
	baz=322							
PAL	**Palisades**	**138.12**	**31**	PKiKP		**PKPdf**	**18 08 02.8**	**+0.7**
	baz=318							
CBN	**Corbin Frederi**	**138.19**	**36**	PKiKP		**PKPdf**	**18 08 03.0**	**+0.7**
	baz=312							
M65A	**Busby, Falmout**	**139.26**	**27**	PKiKP		**PKPdf**	**18 08 04.8**	**+0.7**
	baz=323							
NHSC	**New Hope**	**139.49**	**45**	PKiKP		**PKPdf**	**18 08 05.4**	**+0.5**
	baz=304							
CNNC	**Cliffs of the**	**139.77**	**40**	PKiKP		**PKPdf**	**18 08 05.6**	**+0.3**
	baz=308							
DWPF	**Disney Wildern**	**141.09**	**52**	PKiKP		**PKPdf**	**18 08 08.5**	**+0.6**
	baz=297							
PB14	**IPOC Station P**	**141.79**	**145**			**PKPdf**	**18 08 05.1**	**-4.6**
GO02	**Mina Guanaco**	**141.83**	**146**			**PKPdf**	**18 08 05.7**	**-4.0**
ACON	**Acoyapa**	**142.18**	**79**	IAMs_20		IAMs_20	18 51 39.1	
	comp=Z,316nm,20.0s							
ESPN	**Las Esperanzas**	**143.01**	**78**	IAMs_20		IAMs_20	18 52 14.1	
	comp=Z,259nm,18.0s							
ITQB	**Itaqui**	**143.02**	**166**			PKPbc	18 08 09.1	+1.0
HDC	**Heredia**	**143.35**	**82**	IAMs_20		IAMs_20	18 57 58.2	
	comp=Z,764nm,20.0s							
NNA	**Nana**	**145.36**	**122**	PKPbc		**PKPab**	**18 08 16.1**	**+0.2**
	comp=Z,53nm,0.7s,baz=258,slow=7.2,SNR=21							
NNA	**Nana**	**145.36**	**122**	*eP*		**PKPbc**	**18 08 09.3**	**-6.4**
MCRA	**Macar, Loja**	**145.64**	**107**	*eP*		**PKPdf**	**18 08 16.4**	**0.0**
PRVC	**Isla de Provid**	**145.71**	**76**	*eP*		**PKPab**	**18 08 17.1**	**0.0**
ARNL	**Arenillas**	**145.77**	**106**		IAMs_20	IAMs_20	19 09 55.2	
	comp=Z,597nm,19.0s							
CPUP	**Villa Florida**	**146.03**	**164**			**PKPdf**	**18 08 16.9**	**+0.3**
CPUP	**Villa Florida**	**146.03**	**164**	PKP2		**PKPdf**	**18 08 16.9**	**+0.3**
CPUP	**Villa Florida**	**146.03**	**164**	PKPbc		**PKPbc**	**18 08 17.6**	**+0.2**
	comp=Z,76nm,1.0s,baz=203,slow=2.1,SNR=74							
ATAH	**Atahualpa**	**146.14**	**113**	PKPbc		**PKPab**	**18 08 19.8**	**+0.5**
	comp=Z,67nm,0.8s,baz=252,slow=2.3,SNR=48							
ITAB	**Concordia**	**146.23**	**172**			**PKPab**	**18 08 18.6**	**-0.1**
CACAO	**El Cacao, Vera**	**146.62**	**86**	*eP*		**PKPab**	**18 08 20.6**	**0.0**
COHC	**Cochancay**	**146.85**	**104**	*eP*		**PKPbc**	**18 08 19.9**	**-0.3**
BOSC	**San Juan Bosco**	**147.39**	**106**			**PKPdf**	**18 08 18.4**	**-1.1**
PIAT	**Ana Tenorio**	**148.18**	**102**	*eP*		**PKPdf**	**18 08 18.9**	**-2.2**
OTAV	**Otavalo**	**148.27**	**100**			**PKPdf**	**18 08 21.0**	**-0.3**
OTAV	**Otavalo**	**148.27**	**100**	IAMs_20		IAMs_20	19 10 42.9	
	comp=Z,331nm,21.0s							
OTAV	**Otavalo**	**148.27**	**100**	PKIKP		**PKPdf**	**18 08 21.0**	**-0.3**
OTAV				MLR		MLR		
	comp=Z,300nm,21.0s							
OTAV	**Otavalo**	**148.27**	**100**	*eP*		**PKPbc**	**18 08 23.6**	**-1.0**
TUMC	**Tumaco**	**148.28**	**97**	*eP*		**PKiKP**	**18 08 25.8**	**0.0**
GR1C	**Gorgona, Isla**	**149.00**	**95**	*eP*		**PKPbc**	**18 08 24.5**	**-1.5**
TULM	**Tulcn-Chalpat**	**149.01**	**99**	IAMs_20		IAMs_20	19 16 07.7	
	comp=Z,410nm,21.0s							
BONI	**La Bonita**	**149.21**	**100**	*eP*		**PKPdf**	**18 08 24.1**	**+1.6**
GCUF	**Volcan Galeras**	**149.54**	**98**	*eP*		**PKPdf**	**18 08 22.8**	**-0.7**
PTAC	**Punta Ardita,**	**149.64**	**87**	*eP*		**PKPdf**	**18 08 18.1**	**-4.8**
BBAC	**Balboa, Cauca**	**149.77**	**97**	*eP*		**PKPdf**	**18 08 23.6**	**+0.2**
CAPC	**Capurgana**	**150.07**	**84**	*eP*		**PKPbc**	**18 08 26.2**	**-2.4**
JAMC	**Jamundi, Valle**	**150.51**	**95**	*eP*		**PKiKP**	**18 08 30.5**	**-0.2**
APAC	**Apartado, Choc**	**150.86**	**85**	*eP*		**PKiKP**	**18 08 32.1**	**+1.1**
CZSB	**Cruzeiro do Su**	**150.99**	**119**			**PKPdf**	**18 08 26.8**	**+1.8**
CZSB	**Cruzeiro do Su**	**150.99**	**119**	*eP*		**PKiKP**	**18 08 31.9**	**+0.6**
PLMC	**San Jos del P**	**151.07**	**91**	*eP*		**PKiKP**	**18 08 31.4**	**-0.2**
DBBC	**Dabeiba**	**151.23**	**87**	*eP*		**PKiKP**	**18 08 33.2**	**+1.2**
CBOC	**Ciudad Bolivar**	**151.39**	**89**	*eP*		**PKPdf**	**18 08 25.4**	**-0.5**
BETC	**Betania**	**151.66**	**96**	*eP*		**PKiKP**	**18 08 34.5**	**+1.7**
PTLC	**Puerto Leguiza**	**151.82**	**102**	*eP*		**PKPdf**	**18 08 25.0**	**-1.4**
UREC	**San Jos de Ur**	**151.90**	**86**	*eP*		**PKPdf**	**18 08 24.8**	**-1.6**
GUY2C	**Guyana, Caldas**	**152.00**	**91**	*eP*		**PKPdf**	**18 08 27.9**	**+0.8**
ORTC	**Ortega, Tolima**	**152.01**	**94**	*eP*		**PKPdf**	**18 08 27.2**	**+0.6**
SJCC	**San Jacinto, C**	**152.14**	**81**	*eP*		**PKPdf**	**18 08 27.6**	**+0.8**
PRAC	**Prado**	**152.34**	**94**	*eP*		**PKPdf**	**18 08 27.6**	**+0.4**
ZARC	**Zaragoza, Cauc**	**152.57**	**86**	*eP*		**PKPbc**	**18 08 31.2**	**-3.1**
PTBC	**PUERTO BERRIO**	**152.96**	**88**	*eP*		**PKPdf**	**18 08 27.9**	**-0.1**
ROSC	**El Rosal**	**153.01**	**92**	IAMs_20		IAMs_20	19 18 37.1	
	comp=Z,479nm,20.0s							
ROSC	**El Rosal**	**153.01**	**92**	PKP		**PKPdf**	**18 08 29.2**	**+0.6**
	comp=Z,8.8nm,0.4s,baz=151,slow=7.2,SNR=7.2							
ROSC				PKPbc		**PKiKP**	**18 08 36.5**	**+0.4**
	comp=Z,11nm,0.4s,baz=59,slow=1.6,SNR=9.9							
ROSC				PKPab		**PKPab**	**18 08 47.8**	**+0.6**
	comp=Z,26nm,0.5s,baz=194,slow=1.6,SNR=12							
ROSC	**El Rosal**	**153.01**	**92**	*eP*		**PKPdf**	**18 08 31.0**	**+2.5**
CVER	**Cruz Verde, Cu**	**153.23**	**93**	*eP*		**PKPbc**	**18 08 35.1**	**-1.4**
SPBC	**San Pablo de B**	**153.31**	**90**	*eP*		**PKPdf**	**18 08 28.7**	**+0.1**
VILC	**Villavicencio,**	**153.57**	**94**	*eP*		**PKiKP**	**18 08 40.7**	**+3.8**
LL6C	**La Loma 6 Bece**	**154.02**	**81**	*eP*		**PKPdf**	**18 08 29.4**	**-0.1**
OCAC	**Ocana**	**154.08**	**84**	*eP*		**PKPbc**	**18 08 36.9**	**-1.0**
BARC	**Barichara**	**154.23**	**88**	*eP*		**PKPbc**	**18 08 37.1**	**-1.2**
CRJC	**Cerrejon, Guaj**	**154.25**	**78**	*eP*		**PKPdf**	**18 08 30.6**	**+0.7**
URIC	**Uribia, Colomb**	**155.01**	**76**	IAMs_20		IAMs_20	19 22 46.1	
	comp=Z,392nm,20.0s							
URIC	**Uribia, Colomb**	**155.01**	**76**	*eP*		**PKPab**	**18 08 50.8**	**-4.3**
PTGC	**Puerto Gaitan,**	**155.12**	**94**	*eP*		**PKPdf**	**18 08 29.1**	**-2.0**
SDV	**Santo Domingo**	**156.69**	**82**	IAMs_20		IAMs_20	19 21 28.7	
	comp=Z,566nm,20.0s							
SDV	**Santo Domingo**	**156.69**	**82**	PKP		**PKPdf**	**18 08 33.2**	**-0.1**
	comp=Z,23nm,0.9s,baz=257,slow=1.2,SNR=16							
SDV	**Santo Domingo**	**156.69**	**82**	*eP*		**PKPdf**	**18 08 33.1**	**-0.3**
CELP	**Cerrillos**	**157.86**	**57**	PKPdf		**PKPdf**	**18 08 33.3**	**-1.1**
SAML	**Samuel**	**157.98**	**134**	PKPdf		**PKPdf**	**18 08 34.4**	**-0.3**
SAML	**Samuel**	**157.98**	**134**	IAMs_20		IAMs_20	19 29 10.0	
	comp=Z,564nm,20.0s							
SAML	**Samuel**	**157.98**	**134**	PKIKP		**PKPdf**	**18 08 34.4**	**-0.3**
SAML				MLR		MLR		
	comp=Z,600nm,20.0s							
BDFB	**Brasilia**	**158.09**	**178**	PKP		**PKPdf**	**18 08 35.0**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=0.2,slow=0.9,SNR=6.3							
SJG	**San Juan**	**158.19**	**56**	PKP		**PKPdf**	**18 08 34.6**	**-0.2**
	comp=Z,11nm,0.3s,baz=50,slow=3.7,SNR=4.7							
BAUV	**El Baul**	**159.24**	**82**	PKPdf		**PKPdf**	**18 08 32.3**	**-3.9**
FDF	**Fort de France**	**164.03**	**58**	PKPdf		**PKPdf**	**18 08 39.6**	**-1.6**
FDF	**Fort de France**	**164.03**	**58**	PKIKP		**PKPdf**	**18 08 39.6**	**-1.6**
BBGH	**Gun Hill**	**166.14**	**60**	*eP*		**PKPdf**	**18 08 44.0**	**+1.1**
BOAV	**Boa Vista**	**166.18**	**106**	PKPdf		**PKPdf**	**18 08 43.3**	**+0.2**
BOAV	**Boa Vista**	**166.18**	**106**	*eP*		PKPdf	18 08 52.0	+8.9

***IDC 18** 17:52:47.9±28.0,**31.80N**×**105.82E**,**h0**km,**mb3.4**/2,*
mbtmp3.3**/3,**ML3.0**/1,**Error ellipse: s-maj=427.2km
s-min=100.3km az=144.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**16.02**	**1**	Pn	Pn	17 56 35.1	+0.4
	0.1nm,0.3s,baz=182,slow=12,SNR=1.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**23.45**	**316**	P	P	17 57 59.1	+0.2
	0.5nm,0.6s,baz=109,slow=11,SNR=4.5						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**26.77**	**332**	P	P	17 58 28.9	-0.3
	0.5nm,0.5s,baz=153,slow=9.7,SNR=3.7						
	0.5nm,0.5s						

***IDC 18** 17:54:24.0±7.1,5.19S×130.27E,h348km±86km,mb3.4/10,*
mbtmp4.2/11,Error ellipse: s-maj=48.3km s-min=30.5km
az=102.0
ISC 18 17:54:24.0±1.1,5.2S±0.2×130.4E±0.4,h350km,n11,
σ1s05/11,mb3.7/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**18.70**	**170**	P	**P**	**17 58 18.7**	**+0.2**
	50nm,0.6s,baz=336,slow=11,SNR=1.4						
MJAR	**Matsushiro Arr**	**42.14**	**9**	P	**P**	**18 01 42.4**	**-1.0**
	2.2nm,0.8s,baz=175,slow=8.2,SNR=2.9						
	2.2nm,0.8s						
KSRS	**Korea Array**	**42.47**	**357**	P	**P**	**18 01 45.7**	**-0.2**
	0.9nm,0.6s,baz=163,slow=8.4,SNR=1.8						
	0.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**49.16**	**2**	P	**P**	**18 02 37.9**	**+0.3**
	3.8nm,0.7s,baz=168,slow=6.3,SNR=4.3						
	3.8nm,0.7s						
SONM	**Songino Array**	**56.84**	**341**	P	**P**	**18 03 33.1**	**-0.1**
	1.3nm,0.6s,baz=154,slow=5.8,SNR=2.7						
	1.3nm,0.6s						
PETK	**Petropavlovsk-**	**62.48**	**18**	P	**P**	**18 04 13.3**	**+2.2**
	1.1nm,0.5s,baz=182,slow=7.3,SNR=4.5						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**66.91**	**326**	P	**P**	**18 04 39.5**	**-0.1**
	1.9nm,0.5s,baz=116,slow=8.5,SNR=2.6						
	1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**70.12**	**333**	P	**P**	**18 04 58.8**	**-0.3**
	2.7nm,0.7s,baz=154,slow=3.8,SNR=3.0						
	2.7nm,0.7s						
KURBB	**Kurchatov Arra**	**71.16**	**328**	P	**P**	**18 05 05.5**	**+0.2**
	3.4nm,0.6s,baz=121,slow=5.0,SNR=4.7						
	3.4nm,0.6s						
BVAR	**Borovoye Array**	**76.72**	**327**	P	**P**	**18 05 37.6**	**+0.3**
	0.5nm,0.3s,baz=110,slow=7.4,SNR=1.2						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**91.55**	**25**	P	**P**	**18 06 49.7**	**-1.6**
	0.3nm,0.7s,baz=279,slow=3.5,SNR=0.6						
	0.3nm,0.7s						

***IDC 18** 17:57:48.2±1.4,34.31N×26.66E,h0km,mb3.7/6,*
mbtmp3.7/10,ML3.7/4,Error ellipse: s-maj=29.8km
s-min=23.5km az=169.0
*AFAD **18** 17:57:52.0±0.0,34.73N×26.77E,h7km±4km,ML3.4*
*ISK **18** 17:57:55.1,34.78N×26.50E,h20km,ML2.7/11*
ISC 18 17:57:49.5±2.2,34.61N±0.07×26.73E±0.04,h2km±12km,
n32,σ2s48/45,mb3.8/6,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.66**	**320**	Pg	**Pb**	**17 58 04.0**	**+0.3**
ZKR				Sg	**Sb**	**17 58 10.5**	**-2.8**
KARP	**Karpathos**	**1.00**	**21**	Pg	**Pn**	**17 58 13.8**	**+3.1**
KARP				Sg	**Sn**	**17 58 27.2**	**+1.8**
IDI	**Anoyia**	**1.66**	**295**	Pn	**Pn**	**17 58 20.6**	**+1.0**
IDI				Sn	**Sn**	**17 58 38.9**	**-2.6**
ARG	**Arkhangelos**	**1.97**	**35**	Pn	**Pg**	**17 58 28.3**	**+1.0**
DAT	**Datca**	**2.23**	**18**	Pn	**Pb**	**17 58 30.7**	**+0.1**
IMMV	**Iera Moni Meta**	**2.41**	**291**	Pn	**Pn**	**17 58 31.2**	**+1.3**
TURN	**Turunc**	**2.49**	**29**	Pn	**Pb**	**17 58 35.3**	**+0.3**
TURN	**Turunc**	**2.49**	**29**	P	**Pn**	**17 58 33.6**	**+2.6**
TURN				S	**Sg**	**17 59 07.8**	**-1.8**
RFTAA	**Mazikoy-Bodrum**	**2.52**	**19**	Pn	**Pb**	**17 58 34.3**	**-1.2**
APE	**Apeiranthos**	**2.64**	**339**	Pn	**Pn**	**17 58 34.9**	**+1.7**
DALY	**Dalyan (Mula)**	**2.71**	**35**	Pn	**Pb**	**17 58 37.6**	**-1.0**
IZZE	**Mula-Seydike**	**2.74**	**47**	P	**Pn**	**17 58 37.5**	**+3.1**
IZZE				S	**Sn**	**17 59 07.4**	**-0.7**
MLSB	**Milas**	**2.81**	**17**	Pn	**Pb**	**17 58 38.7**	**-1.8**
KNIK	**Mula-Seydike**	**3.22**	**45**	P	**Pn**	**17 58 44.0**	**+2.8**
KNIK				S	**Sn**	**17 59 24.0**	**+3.9**
CAEL	**Denizli, Camel**	**3.28**	**39**	P	**Pn**	**17 58 45.8**	**+3.8**
CAEL				S	**Sn**	**17 59 22.0**	**+0.4**
CAEL				*i* AML	AML	17 59 34.0	
	comp=E,168nm,2.0s						
CAEL				*i* AML	AML	17 59 48.0	
	comp=N,184nm,2.4s						
TAVA	**DENIZLI_Tavas**	**3.36**	**31**	P	**Pn**	**17 58 46.6**	**+3.5**
TAVA				S	**Sb**	**17 59 27.1**	**-4.0**
TAVA				*i* AML	AML	17 59 54.0	
	comp=E,85nm,3.8s						
AKUM	**Antalya-Kumluc**	**3.41**	**59**	P	**Pn**	**17 58 46.5**	**+2.8**
AKUM				S	**Sn**	**17 59 27.9**	**+3.2**
AKUM				*i* AML	AML	17 59 41.0	
	comp=N,154nm,2.7s						
AKUM				*i* AML	AML	18 00 27.0	
	comp=E,146nm,3.5s						
AKUM				*i* AML	AML	18 00 29.0	
	comp=Z,137nm,3.5s						
ESEN	**Aydn-Nazilli**	**3.44**	**22**	P	**Pn**	**17 58 46.1**	**+2.0**
ESEN				S	**Sn**	**17 59 27.6**	**+2.1**
GOLH	**Golhisar**	**3.49**	**40**	P	**Pn**	**17 58 48.5**	**+3.6**
GOLH				S	**Sn**	**17 59 28.6**	**+1.8**
GOLH				*i* AML	AML	17 59 33.0	
	comp=Z,110nm,3.5s						
GOLH				*i* AML	AML	17 59 46.0	
	comp=N,88nm,2.8s						
KORT	**Korkueli**	**3.79**	**50**	P	**Pn**	**17 58 53.7**	**+4.6**
KORT				S	**Sn**	**17 59 37.8**	**+3.5**
KORT				*i* AML	AML	17 59 57.0	
	comp=Z,65nm,3.2s						
MMAI	**Mount Meron Ar**	**7.39**	**100**	Pn	**Pn**	**17 59 37.5**	**-1.0**
	1.2nm,0.3s,baz=266,slow=13,SNR=6.2						
MMAI				Sn	**Sn**	**18 00 58.2**	**-4.8**
	4.0nm,0.3s,baz=302,slow=19,SNR=2.0						
	0.6nm,0.3s						
BRTR	**Keskin Array B**	**7.52**	**45**	Pn	**Pn**	**17 59 41.4**	**+1.1**
	0.1nm,0.3s,baz=291,slow=29,SNR=1.8						
BRTR				Sn	**Sn**	**18 01 02.9**	**-3.3**
	baz=234,slow=42,SNR=1.8						
EIL	**Elat**	**8.53**	**123**	Pn	Pn	17 59 52.1	-2.0
	0.5nm,0.3s,baz=323,slow=6.6,SNR=6.6						
EIL				Sn		18 01 23.5	-7.5
	2.1nm,0.3s,baz=260,slow=2.2,SNR=7.6						
	2.1nm,0.4s						
ASF	**Jabal al Asfar**	**8.84**	**103**	Sn	**Sn**	**18 01 36.8**	**-1.9**
	0.3nm,0.3s,baz=72,slow=21,SNR=1.5						
GNI	**Garni**	**15.35**	**64**	Pn	**P**	**18 01 31.7**	**-0.5**
	0.3nm,0.3s,baz=25,slow=22,SNR=1.5						
	2.1nm,0.6s						
AKASG	**Malin Array Be**	**16.19**	**6**	Pn	**P**	**18 01 41.5**	**+0.3**
	0.5nm,0.3s,baz=193,slow=10,SNR=4.7						
	0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**29.24**	**324**	P	**P**	**18 03 52.9**	**+0.4**
	1.1nm,0.6s,baz=121,slow=8.3,SNR=1.9						
	1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**31.15**	**233**	P	**P**	**18 04 07.1**	**-2.8**
	0.4nm,0.5s,baz=31,slow=9.8,SNR=3.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**40.47**	**50**	P	**P**	**18 05 30.5**	**+1.1**
	0.9nm,0.5s,baz=276,slow=9.5,SNR=2.1						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**43.01**	**56**	P	**P**	**18 05 51.4**	**+1.1**
	0.4nm,0.6s,baz=267,slow=8.5,SNR=1.2						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**44.46**	**46**	P	**P**	**18 06 01.9**	**+0.1**
	0.6nm,0.4s,baz=278,slow=7.9,SNR=1.5						
	0.6nm,0.4s						
SONM	**Songino Array**	**58.84**	**51**	P	**P**	**18 07 50.1**	**+0.5**
	0.5nm,0.5s,baz=279,slow=7.5,SNR=4.3						
	0.5nm,0.5s						

KRNET 18 17:58:30.7±0.1,39.32N×71.58E,h15km,mb3.0,26C-6D,
Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.23**	**46**	⇑*eP*	Pg	17 58 35.7	-0.4
	baz=46						
DRK				⇑*eS*	Sg	17 58 39.2	-0.5
	baz=46						
BTK	**Batken**	**0.94**	**322**	⇓*iP*	Pb	17 58 48.4	-0.4
	baz=22						
BTK				⇓*iS*	Sg	17 59 01.7	+0.3
	baz=22						
OHH	**Osh**	**1.52**	**37**	⇑*iP*	Pb	17 58 58.7	+0.1
	baz=37						
OHH				⇑*iS*	Sg	17 59 19.2	-0.4
	baz=37						
SFK	**Sufi-Kurgan**	**1.64**	**64**	⇑*iP*	Pb	17 59 00.5	-0.2
	baz=64						
SFK				⇑*iS*	Sg	17 59 22.8	-0.6
	baz=64						
TRKS	**Terek-Say**	**2.23**	**351**	⇑*iP*	Pb	17 59 09.3	-1.6
	baz=52						
TRKS				⇑*iS*	Sb	17 59 37.3	-1.1
	baz=52						
ARSB	**Arslanbob**	**2.27**	**28**	⇑*iP*	Pb	17 59 10.9	-0.6
	baz=28						
ARSB				⇑*iS*	Sb	17 59 39.9	+0.5
	baz=28						
ARK	**Arkit**	**2.49**	**7**	⇑*iP*	Pb	17 59 14.0	-1.2
	baz=7.0						
ARK				⇑*iS*	Sb	17 59 45.7	-0.1
	baz=7.0						
AML	**Almayashu**	**3.23**	**29**	P	Pb	17 59 25.7	-2.3
	SNR=23						
AML	**Almayashu**	**3.23**	**29**	⇓*iP*	Pn	17 59 24.5	+3.2
	baz=29						
AML				⇓*iS*	Sn	18 00 03.4	+3.7
	baz=29						
ARLS	**Aral**	**3.29**	**39**	⇑*iP*	Pn	17 59 24.8	+3.0
	baz=39						
ARLS				⇑*iS*	Sn	18 00 04.2	+3.5
	baz=39						
UCH	**Uchtor**	**3.66**	**37**	P	Pn	17 59 30.3	+3.1
	SNR=9.0						
UCH	**Uchtor**	**3.66**	**37**	⇑*iP*	Pn	17 59 30.2	+3.0
	baz=37						
UCH				⇑*iS*	Sn	18 00 13.5	+3.2
	baz=37						
EKS2	**Erkin-Say**	**3.73**	**26**	⇑*iP*	Pn	17 59 30.9	+3.1
	baz=26						
EKS2				⇑*iS*	Sn	18 00 14.8	+3.3
	baz=26						
KKAR	**Karatay Array**	**3.87**	**348**	⇑*iP*	Pn	17 59 32.7	+3.1
	baz=48						
KKAR				⇑*iS*	Sn	18 00 17.9	+3.1
	baz=48						
KZA	**Kyzart**	**3.92**	**44**	P	Pb	17 59 35.7	-4.0
	SNR=7.0						
KZA	**Kyzart**	**3.92**	**44**	⇑*iP*	Pn	17 59 33.7	+3.0
	baz=44						
KZA				⇑*iS*	Sn	18 00 19.9	+3.3
	baz=44						
NRN	**Naryn**	**3.98**	**57**	⇑*eP*	Pn	17 59 34.2	+2.7
	baz=57						
NRN				⇑*eS*	Sn	18 00 20.0	+2.0
	baz=57						
AAK	**Ala-Archa**	**3.98**	**33**	P	Pb	17 59 36.1	-4.5
	SNR=6.4						
AAK	**Ala-Archa**	**3.98**	**33**	⇓*iP*	Pn	17 59 34.4	+3.1
	baz=33						
AAK				⇓*iS*	Sn	18 00 21.2	+3.4
	baz=33						
KBK	**Karagaybulak**	**4.20**	**36**	⇑*iP*	Pn	17 59 37.7	+3.4
	baz=36						
KBK				⇑*iS*	Sn	18 00 26.0	+2.9
	baz=36						
USP	**Ospenovka**	**4.51**	**28**	P	Pn	17 59 42.8	+4.3
	SNR=9.0						

***IDC 18** 17:17:12.7±1.2,18.32N×96.12E,h0km,mb3.8/6,*
mbtmp3.7/7,ML3.1/1,MS4.1/2,Error ellipse: s-maj=30.1km
s-min=15.5km az=32.0
ISC 18 18:17:14.3±1.4,18.3N±0.2×96.1E±0.1,h10km,n10,
σ0s44/9,mb3.8/7,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.69**	**86**	Pn	**Pn**	**18 17 57.5**	**-0.3**
	0.8nm,0.3s,baz=264,slow=14,SNR=23						
CMAR				Pg	**Pg**	**18 18 06.3**	**+0.3**
	12nm,0.3s,baz=262,slow=19,SNR=38	

BZP	**Bezymyannyi-Pe**	**3.37**	**280**	*e*P	**Pn**	**18 46 42.4**	**+2.3**
BZMR	**Bezymyannaya**	**3.39**	**280**	*e*P	**Pn**	**18 46 41.8**	**+1.3**
BZWR	**Bezymyannyi-We**	**3.39**	**281**	*e*P	**Pn**	**18 46 42.7**	**+2.2**
TUMD	**Tumrok D**	**3.46**	**268**	*e*P	**Pn**	**18 46 42.8**	**+1.6**
TUMD				*e*S	**Sn**	**18 47 23.7**	**+2.2**
KIRR	**Kirishev**	**3.48**	**280**	*e*P	**Pn**	**18 46 43.7**	**+2.1**
KMNR	**Kamenistaya**	**3.52**	**277**	*e*P	**Pn**	**18 46 44.6**	**+2.4**
KPT	**Kopyto**	**3.55**	**281**	*e*P	**Pn**	**18 46 44.7**	**+2.2**
TUMR	**Tumrok**	**3.59**	**270**	*e*P	**Pn**	**18 46 45.4**	**+2.2**
KOZ	**Kozyrevsk**	**3.75**	**282**	*e*P	**Pn**	**18 46 48.2**	**+2.9**
SRDR	**Sredinnyy**	**3.88**	**285**	*e*P	**Pn**	**18 46 48.9**	**+1.9**
KII	**Karymskiy**	**4.29**	**253**	*e*P	**Pn**	**18 46 54.6**	**+1.8**
ESO	**Esso**	**4.40**	**279**	*e*P	**Pn**	**18 46 57.1**	**+2.9**
SPN	**Mys Shipunski**	**4.45**	**240**	*e*P	**Pn**	**18 46 54.3**	**-0.5**
SMAR	**Somma**	**4.98**	**247**	*e*P	**Pn**	**18 47 03.6**	**+1.2**
TILK	**Tilichiki**	**4.99**	**358**	*e*P	**Pn**	**18 47 03.5**	**+1.3**
AVH	**Avacha**	**5.01**	**247**	*e*P	**Pn**	**18 47 04.3**	**+1.6**
KRX	**Arik**	**5.02**	**248**	*e*P	**Pn**	**18 47 04.1**	**+1.4**
PALN	**Palana**	**5.04**	**319**	*e*P	**Pn**	**18 47 03.6**	**+0.6**
KOK	**Koryaka**	**5.05**	**248**	*e*P	**Pn**	**18 47 04.7**	**+1.4**
PET	**Petropavlovsk**	**5.18**	**245**	*e*P	**Pn**	**18 47 05.5**	**+0.6**
KRMR	**Karymshinskiy**	**5.55**	**245**	*e*P	**Pn**	**18 47 11.4**	**+1.5**
KRMR				*e*S	**Sn**	**18 48 13.1**	**0.0**
RUS	**Russkaya**	**5.58**	**240**	*e*P	**Pn**	**18 47 10.5**	**+0.1**
PETK	**Petropavlovsk-** 1.6nm,0.3s,baz=69,slow=16,SNR=40	**5.64**	**249**	Pn	**Pn**	**18 47 11.7**	**+0.5**
PETK				Sn	**Sn**	**18 48 15.2**	**-0.1**
	0.6nm,0.3s,baz=88,slow=20,SNR=1.7 3.6nm,0.4s						
MTVR	**Mutnovka**	**5.72**	**242**	*e*P	**Pn**	**18 47 13.0**	**+0.6**
GRL	**Gorelyy**	**5.73**	**243**	*e*P	**Pn**	**18 47 13.5**	**+1.0**
ASAK	**Asacha**	**5.92**	**242**	*e*P	**Pn**	**18 47 16.4**	**+1.3**
KDTR	**Khodutka, Kamc**	**6.18**	**237**	*e*P	**Pn**	**18 47 18.5**	**0.0**
KMSK	**Kamenskaya**	**7.01**	**359**	*e*P	**Pn**	**18 47 31.1**	**+1.1**
YAK	**Yakutsk** baz=244,slow=1.2,SNR=2.3	**19.94**	**304**	P	**P**	**18 50 16.9**	**-1.9**
ILAR	**Eielson Array** 1.0nm,0.9s,baz=251,slow=8.7,SNR=9.5 1.0nm,0.9s	**24.47**	**49**	P	**P**	**18 51 05.5**	**-0.4**
H11N2	**WAKE ISLAND Hy** baz=360,slow=76,SNR=45	**35.69**	**179**	T	T	19 30 15.4	
H11N3	**WAKE ISLAND Hy** baz=360,slow=76,SNR=35	**35.70**	**179**	T	T	19 30 16.9	
H11N1	**WAKE ISLAND Hy** baz=360,slow=76,SNR=42	**35.70**	**179**	T	T	19 30 10.5	
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=53,slow=8.3,SNR=1.6	**49.68**	**303**	P	**P**	**18 54 37.2**	**-1.4**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=52,slow=8.1,SNR=2.1 0.2nm,0.7s	**50.41**	**298**	P	**P**	**18 54 43.5**	**-0.7**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=300,slow=5.4,SNR=1.7 0.2nm,0.5s	**66.33**	**72**	P	**P**	**18 56 37.1**	**+1.4**

*DNK **18** 18:50:15.3±0.8, 49°.95N×18°.40E, h15km, ML3.0*
*IDC **18** 18:50:16.6±1.0, 50°.00N×18°.46E, h0km, mbtmp3.4/5, ML2.9/5, Error ellipse: s-maj=23.0km s-min=8.3km az=149.0*
*VIE **18** 18:50:16.2±1.2, 50°.10N×18°.37E, h0km, mb2.6/6, ml2.8/8, ms3.7/1, Error ellipse: s-maj=9.8km s-min=6.9km az=169.0*
31 km NNE of Ostrava Suspected Mining induced.
*IPEC **18** 18:50:16.0±0.2, 50°.09N×18°.50E, h1km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=1.1km az=163.0*
*PRU **18** 18:50:18.2, 50°.08N×18°.35E, h0km*
ISC 18 18:50:14.5±0.7, **50°.10N**±0°.03×**18°.49E**±0°.02, **h0**km, **n65,** σ1§**27**/105, **13C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.19**	**266**	*e*PG	**Pg**	**18 50 21.0**	**+2.9**
RAC				*e*SG	**Sg**	**18 50 24.3**	**+3.7**
OKC	**Ostrava-Krasne**	**0.34**	**221**	*e*PG	**Pb**	**18 50 22.9**	**-0.5**
OKC				*e*SG	**Sb**	**18 50 27.8**	**-1.6**
	comp=Z,421nm,0.7s						
MORC	**Moravsky Berou**	**0.69**	**243**	⇑P	**Pb**	**18 50 29.3**	**-0.2**
MORC				⇑S	**Sb**	**18 50 39.0**	**-0.6**
MORC	**Moravsky Berou** baz=63	**0.69**	**243**	*e*Pg	**Pb**	**18 50 29.1**	**-0.3**
MORC				*e*Sg	**Sg**	**18 50 38.0**	**+1.3**
	310nm,0.5s,baz=63						
OJC	**Ojcow**	**0.85**	**81**	*e*Pg	**Pb**	**18 50 32.3**	**+0.2**
OJC				*e*Sg	**Sb**	**18 50 45.6**	**+1.6**
MAUC	**Maruska**	**0.85**	**211**	*e*PG	**Pb**	**18 50 32.4**	**+0.3**
MAUC				*e*SG	**Sb**	**18 50 44.0**	**-0.1**
KRLC	**Kraliky**	**1.10**	**270**	*e*SG	**Sg**	**18 50 50.4**	**+0.5**
LANS	**Liptovska Anna**	**1.14**	**146**	*e*PG	**Pn**	**18 50 38.1**	**+0.4**
LANS				*e*SG	**Sg**	**18 50 51.2**	**+0.2**
LANS				*e*LG	Lg	18 50 57.3	
JAVC	**Velka Javorina** baz=24	**1.35**	**204**	*e*Pg	**Pb**	**18 50 41.3**	**+0.7**
JAVC	**Velka Javorina**	**1.35**	**204**	*e*PG	**Pb**	**18 50 41.4**	**+0.8**
NIE	**Niedzica**	**1.35**	**119**	*e*Pg	**Pb**	**18 50 41.9**	**+1.2**
NIE				*e*Sg	**Sn**	**18 51 01.7**	**+2.4**
DPC	**Dobruska-Polom**	**1.42**	**281**	*e*PG	**Pb**	**18 50 42.3**	**+0.5**
DPC				*e*SG	**Sn**	**18 51 01.6**	**+0.7**
	comp=Z,163nm,0.6s						
VRAC	**Vranov**	**1.47**	**238**	⇓P	**Pb**	**18 50 42.9**	**+0.3**
VRAC				⇑S	**Sn**	**18 51 02.4**	**+0.4**
VRAC	**Vranov** baz=57	**1.47**	**238**	*e*Pg	**Pb**	**18 50 42.8**	**+0.2**
VRAC				*e*Sg	**Sb**	**18 51 01.9**	**+0.2**
	80nm,0.4s,baz=57						
VRAC	**Vranov**	**1.47**	**238**	*e*PG	**Pb**	**18 50 42.9**	**+0.3**
VRAC				*e*SG	**Sb**	**18 51 02.0**	**+0.2**
VRAC	**Vranov** 13nm,0.3s,baz=60,slow=15,SNR=59	**1.47**	**238**	Pg	**Pb**	**18 50 42.9**	**+0.3**
VRAC				Lg	Lg	18 51 02.1	
	20nm,0.3s,baz=170,slow=19,SNR=20						
OSTC	**Ostas**	**1.53**	**288**	*e*PG	**Pg**	**18 50 44.1**	**+0.3**
OSTC				*e*SG	**Sn**	**18 51 05.2**	**+1.5**
	comp=Z,68nm,0.4s						
KSP	**Ksiaz**	**1.59**	**299**	*e*Pg	**Pg**	**18 50 45.1**	**+0.2**
KSP				*e*Sg	**Sg**	**18 51 06.8**	**+1.3**
VYHS	**Vyhne**	**1.62**	**172**	*e*PG	**Pn**	**18 50 44.7**	**+0.4**
VYHS				*e*SG	**Sg**	**18 51 06.8**	**+0.4**
CHVC	**Chvalec**	**1.64**	**288**	*e*PG	**Pg**	**18 50 45.9**	**+0.1**
CHVC				*e*SG	**Sg**	**18 51 08.6**	**+1.5**
KRUC	**Moravsky** baz=52	**1.71**	**234**	*e*Pn	**Pb**	**18 50 46.8**	**0.0**
KRUC				*e*Sg	**Sg**	**18 51 09.7**	**+0.3**
	43nm,0.2s,baz=52						
KRUC	**Moravsky**	**1.71**	**234**	*e*PN	**Pb**	**18 50 46.9**	**+0.1**
KRUC				*e*SG	**Sg**	**18 51 09.8**	**+0.3**
MODS	**Modra-Piesok**	**1.90**	**205**	*e*PN	**Pn**	**18 50 49.0**	**+0.9**
MODS				*e*SN	**Sn**	**18 51 12.1**	**-0.7**
STHS	**Stebnicka Huta**	**1.91**	**110**	*e*PN	**Pg**	**18 50 51.4**	**+0.4**
STHS				*e*LG	Lg	18 51 26.3	
KECS	**Kecovo**	**2.08**	**140**	*e*PN	**Pn**	**18 50 51.2**	**+0.7**
KECS				*e*LG	Lg	18 51 25.5	
ZST	**Bratislava**	**2.11**	**206**	*e*PN	**Pn**	**18 50 51.9**	**+0.9**
ZST				*e*SN	**Sn**	**18 51 17.2**	**-0.7**
CRVS	**Cervenica-Dubn**	**2.27**	**121**	*e*PG	**Pg**	**18 50 58.4**	**+0.4**
PSZ	**Piszkesteto**	**2.37**	**157**	⇑P	**Pn**	**18 50 54.7**	**+0.1**
GOPC	**GO Pecny, Ondr**	**2.40**	**267**	*e*PG	**Pb**	**18 50 58.6**	**+0.1**
GOPC				*e*SG	**Sb**	**18 51 29.9**	**+1.3**
	comp=Z,56nm,0.8s						
PRU	**Pruhonice**	**2.55**	**269**	*e*PG	**Pb**	**18 51 02.3**	**+1.2**
PRU				*e*SG	**Sb**	**18 51 34.5**	**+1.6**
	comp=Z,31nm,0.4s						
PVCC	**Panska Ves**	**2.55**	**281**	*e*PG	**Pg**	**18 51 02.6**	**-0.8**
PVCC				*e*SG	**Sg**	**18 51 37.2**	**+0.8**
KOLS	**Kolonicke sedl**	**2.72**	**114**	*e*PG	**Pb**	**18 51 03.9**	**-0.1**
KOLS				*e*LG	Lg	18 51 50.7	
CONA	**Conrad Observa** 2.1nm,0.3s	**2.78**	**220**	*e*Pn	**Pn**	**18 51 00.9**	**+0.6**
CONA				Sn	**Sn**	**18 51 34.5**	**0.0**
	8.9nm,0.4s						
RONA	**Rosalia, Austr** 3.8nm,0.3s	**2.80**	**212**	*e*Pn	**Pn**	**18 51 01.6**	**+1.1**
RONA				*e*Sn	**Sn**	**18 51 35.5**	**+0.4**
	8.3nm,0.3s						
ZVC	**Zvikov**	**2.87**	**258**	*e*PG	**Pb**	**18 51 06.8**	**+0.4**
BRG	**Berggiesshubel**	**3.01**	**287**	Pg	**Pg**	**18 51 11.5**	**-0.6**
BRG				Sg	**Sg**	**18 51 51.0**	**0.0**
BRG				Amp		18 51 53.9	
	comp=Z,18nm,0.4s						
CKRC	**Cesky Krumlov**	**3.01**	**247**	*e*PN	**Pn**	**18 51 05.0**	**+1.6**
CKRC				*e*PG	**Pg**	**18 51 11.5**	**-0.7**
CKRC				*e*SG	**Sg**	**18 51 50.1**	**-1.1**
	comp=Z,31nm,0.5s						
HSKC	**Hora Svate Kat**	**3.28**	**281**	*e*PG	**Pg**	**18 51 16.1**	**-1.2**
HSKC				*e*SG	**Sg**	**18 51 59.4**	**-0.4**
	comp=Z,37nm,0.6s						
KHC	**Kasperske Hory**	**3.34**	**255**	*e*PN	**Pn**	**18 51 08.2**	**+0.3**
KHC				*e*PG	**Pg**	**18 51 17.1**	**-1.3**
KHC				*e*SG	**Sg**	**18 51 59.7**	**-2.0**
	comp=Z,27nm,0.5s						
GERES	**GERESS Array B**	**3.37**	**250**	Pn	**Pn**	**18 51 08.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=156,slow=7.5,SNR=2.0						
GERES				Pg	**Pg**	**18 51 18.2**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=68,slow=16,SNR=13						
GERES				Lg	Lg	18 52 00.8	
	comp=Z,5.6nm,0.3s,baz=64,slow=27,SNR=8.8 comp=Z,1.1nm,0.4s						
ARSA	**Arzberg** comp=Z,0.7nm,0.2s	**3.46**	**216**	*i* Pn	**Pn**	**18 51 10.8**	**+1.2**
MOA	**Molln** comp=Z,20nm,0.6s	**3.58**	**233**	Sg	**Sg**	**18 52 08.2**	**-1.2**
CLL	**Collm**	**3.69**	**291**	*e*Pg	**Pg**	**18 51 27.0**	**+1.8**
CLL				*e*Sg	**Sg**	**18 52 13.0**	**-0.1**
	comp=Z,17nm,0.7s						
MORH	**Mrgy, Hungar**	**3.89**	**178**	⇑P	**Pn**	**18 51 15.9**	**+0.5**
MORH				⇑S	**Sn**	**18 51 59.2**	**-2.5**
BIOA	**Bad Ischl, Aus** comp=Z,2.4nm,0.3s	**4.01**	**235**	*e*Pn	**Pn**	**18 51 18.9**	**+1.8**
BIOA				*e*Sg	**Sg**	**18 52 25.8**	**+2.7**
	comp=Z,22nm,0.4s						
SOKA	**Soboth** comp=Z,0.8nm,0.3s	**4.12**	**215**	Pn	**Pn**	**18 51 21.1**	**+2.3**
DRGR		**4.34**	**138**	⇓P	**Pn**	**18 51 22.1**	**+0.4**
SIRR	**Siria**	**4.38**	**150**	⇑P	**Pn**	**18 51 22.0**	**-0.2**
MARR	**Marisel-Cluj**	**4.61**	**136**	⇑P	**Pn**	**18 51 25.1**	**-0.3**
LESA	**Schwarzleotal** comp=Z,0.3nm,0.1s	**4.69**	**237**	*e*Pn	**Pn**	**18 51 27.3**	**+0.8**
LESA				*e*Sn	**Sn**	**18 52 22.0**	**+0.4**
	comp=Z,0.9nm,0.2s						
BZS	**Buzias**	**4.95**	**154**	⇑P	**Pn**	**18 51 29.4**	**-0.6**
SURR	**Surduc**	**4.98**	**149**	⇑P	**Pn**	**18 51 30.4**	**0.0**
BURAR	**Bucovina Array**	**5.08**	**117**	⇑P	**Pn**	**18 51 33.1**	**+1.2**
WTTA	**Wattenberg** comp=Z,8.8nm,0.4s	**5.35**	**241**	Sg	**Sg**	**18 53 08.2**	**+1.9**
BSD	**Bornholm Skovb**	**5.48**	**338**	*i* P	**Pn**	**18 51 37.7**	**+0.5**
BSD				*i* S	**Sn**	**18 52 38.1**	**-2.7**
BSD				IAML		18 52 43.4	
	comp=Z,10nm,0.8s						
GZR	**Gura Zlata**	**5.52**	**147**	⇑P	**Pn**	**18 51 38.7**	**+0.8**
SQTA	**Sankt Quirin** comp=Z,5.2nm,0.4s	**5.62**	**242**	*e*Sg	**Sg**	**18 53 14.6**	**-0.3**
LUNU	**Lund**	**6.33**	**333**	*i* P	**Pn**	**18 51 49.0**	**+0.1**
LUNU				*i* S	**Sn**	**18 52 57.5**	**-4.4**
DAVA	**Damuels** comp=Z,6.9nm,0.4s	**6.36**	**247**	*e*Sg	**Sg**	**18 53 41.4**	**+2.9**
BLEU	**Blekinge**	**6.42**	**347**	⇑*i*P	**Pn**	**18 51 50.1**	**-0.1**
BLEU				*i* S	**Sn**	**18 53 00.4**	**-3.8**
DAVOX	**Davos/Dischmat**	**6.62**	**243**	Pn	**Pn**	**18 51 52.5**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=68,slow=11,SNR=7.5						
DAVOX				Lg	Lg	18 53 43.9	
	comp=Z,0.5nm,0.3s,baz=172,slow=21,SNR=2.3 comp=Z,1.9nm,0.4s						
AKASG	**Malin Array Be**	**6.89**	**81**	Pn	**Pn**	**18 51 56.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=265,slow=11,SNR=2.3						
AKASG				Pg	**Pb**	**18 52 16.4**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=272,slow=12,SNR=1.7						
AKASG				Lg	Lg	18 53 52.5	
	comp=Z,0.5nm,0.3s,baz=266,slow=27,SNR=1.8 comp=Z,0.1nm,0.3s						
DEL	**Delary**	**6.96**	**338**	*i* P	**Pn**	**18 51 58.2**	**+0.6**
FINES	**FINESS Array B**	**12.14**	**18**	Pn	**Pn**	**18 53 06.1**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=11 comp=Z,0.6nm,0.3s						
ARCES	**ARCES Array B** baz=190,slow=13,SNR=2.0 comp=Z,5.9nm,1.2s	**19.79**	**7**	Pn	**P**	**18 54 45.3**	**-0.7**

*NEIC **18** 19:18:56.2±1.1, 19°.5S±0°.2×177°.5W±0°.1, h471km±10km, mb4.3/26, Error ellipse: s-maj=29.8km s-min=12.2km az=147.0*
*IDC **18** 19:19:13.5±3.1, 19°.28S×178°.23W, h670km±42km, mb3.0/4, mbtmp4.2/5, Error ellipse: s-maj=38.2km s-min=25.4km az=161.0*
ISC 18 19:18:56.9±0.6, **19°.7S**±0°.1×**177°.33W**±0°.10, **h500**km, **n47,** σ1§**17**/46, **mb4.2**/20, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.01**	**86**	P	**P**	**19 20 42.7**	**-0.5**
AFI	**Afiamalu**	**7.81**	**44**	P	**P**	**19 20 49.2**	**-2.3**
RAO	**Raoul Island**	**9.56**	**183**	P	**P**	**19 21 09.4**	**-0.1**
RAO	**Raoul Island** 376nm,0.4s,baz=44,slow=19,SNR=2.6	**9.56**	**183**	P	P	19 21 33.7	+24
PINNC	**Pines Island,**	**14.51**	**256**	P	**P**	**19 22 00.7**	**-1.2**
OUENC	**Ouen Island, N**	**15.03**	**257**	P	**P**	**19 22 05.4**	**-2.1**
DZM	**Mont Dzumac**	**15.36**	**258**	P	**P**	**19 22 13.8**	**+2.9**
DZM	**Mont Dzumac** 14nm,0.5s,baz=100,slow=21,SNR=19	**15.36**	**258**	P	P	19 22 16.8	+5.8
KOUNC	**Koumac, New Ca**	**17.29**	**264**	P	**P**	**19 22 28.1**	**-2.7**
HNR	**Honiara** 402nm,0.3s,baz=201,slow=23,SNR=2.6	**24.20**	**292**	P	**P**	**19 23 33.9**	**+0.4**
EIDS	**Eidsvold**	**29.68**	**253**	P	**P**	**19 24 22.4**	**+0.8**
EIDS				IAmb	IAmb	19 24 56.4	
	comp=Z,11nm,1.2s						
ARMA	**Armidale**	**30.00**	**243**	P	**P**	**19 24 25.6**	**+1.2**
ARMA				IAmb	IAmb	19 24 26.3	
	comp=Z,22nm,1.5s						
CTAO	**Charters Tower**	**34.21**	**263**	P	**P**	**19 25 01.0**	**+0.6**
TOO	**Toolangi**	**36.90**	**233**	P	**P**	**19 25 23.2**	**+0.7**
TOO				IAmb	IAmb	19 25 41.1	
	comp=Z,14nm,1.5s						
COEN	**Coen**	**38.17**	**272**	P	**P**	**19 25 34.2**	**+1.0**
COEN				IAmb	IAmb	19 26 13.1	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**38.72**	**243**	P	**P**	**19 25 36.7**	**-0.9**
STKA	**Stephens Creek** comp=Z,2.7nm,0.7s,baz=95,slow=11,SNR=6.5 comp=Z,2.7nm,0.7s	**38.72**	**243**	P	**P**	**19 25 37.5**	**-0.1**
BBOO	**Buckleboo**	**43.49**	**243**	P	**P**	**19 26 15.4**	**-0.1**
BBOO				IAmb	IAmb	19 26 15.9	
	comp=Z,6.3nm,0.7s						
SBLHI	**Steaming Bluff**	**44.46**	**30**	P	**P**	**19 26 23.4**	**+0.1**
WR0	**Warramunga Arr**	**45.16**	**261**	P	**P**	**19 26 28.4**	**-0.2**
WB0	**Warramunga Arr**	**45.32**	**261**	P	**P**	**19 26 29.7**	**-0.2**
AS31	**Alice Springs**	**45.33**	**256**	P	**P**	**19 26 29.8**	**-0.1**
ASAR	**Alice Springs**	**45.33**	**256**	P	**P**	**19 26 29.5**	**-0.5**
ASAR	**Alice Springs** comp=Z,5.8nm,0.5s,baz=85,slow=8.5,SNR=150	**45.33**	**256**	P	**P**	**19 26 30.1**	**+0.2**
ASAR				PcP	**PcP**	**19 27 58.6**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=100,slow=4.5,SNR=1.1 comp=Z,5.8nm,0.5s						
WB2	**Warramunga Arr**	**45.34**	**261**	P	**P**	**19 26 29.8**	**-0.2**
WB2				IAmb	IAmb	19 26 57.8	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**45.34**	**261**	P	**P**	**19 26 29.7**	**-0.3**
WRA	**Warramunga Arr** comp=Z,3.0nm,0.5s,baz=96,slow=8.0,SNR=16	**45.35**	**261**	P	**P**	**19 26 29.8**	**-0.3**
MTN	**Manton Dam**	**49.79**	**270**	P	**P**	**19 27 03.0**	**-0.5**
MTN				IAmb	IAmb	19 27 04.3	
	comp=Z,9.0nm,0.8s						
KNRA	**Kununurra**	**51.35**	**265**	P	**P**	**19 27 13.8**	**-1.1**
KNRA				IAmb	IAmb	19 27 22.1	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.77**	**262**	P	**P**	**19 27 32.1**	**-0.2**
SOEI	**Soe**	**57.11**	**271**	P	**P**	**19 27 57.0**	**+1.2**
PSA00	**Pilbara Seismi**	**58.47**	**256**	P	**P**	**19 28 05.1**	**+0.3**
L18K	**Granite Mounta**	**83.24**	**10**	P	**P**	**19 30 31.8**	**+1.9**
L18K				IAmb	IAmb	19 30 48.3	
	comp=Z,11nm,1.4s						
K17K	**Iditarod**	**83.47**	**9**		**P**	**19 30 32.2**	**+1.2**
K17K				IAmb	IAmb	19 30 39.8	
	comp=Z,9.0nm,1.2s						
J16K	**Anvik River**	**83.71**	**8**	P	**P**	**19 30 33.8**	**+1.6**
J16K				IAmb	IAmb	19 31 02.3	
	comp=Z,9.3nm,1.4s						
TTA	**Tatalina**	**84.02**	**10**	P	**P**	**19 30 34.8**	**+0.9**
TTA				IAmb	IAmb	19 30 36.4	
	comp=Z,7.3nm,1.3s						
GHO	**Glory Hole Cre**	**84.27**	**13**	P	**P**	**19 30 36.7**	**+1.6**
GHO				IAmb	IAmb	19 31 00.1	
	comp=Z,12nm,1.4s						
J18K	**Innoko River**	**84.41**	**9**	P	**P**	**19 30 36.6**	**+0.9**
J18K				IAmb	IAmb	19 31 14.6	
	comp=Z,7.6nm,1.4s						
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=229,slow=6.2,SNR=6.6 comp=Z,0.3nm,0.6s	**87.36**	**13**	P	**P**	**19 30 50.4**	**+0.5**
PDAR	**Pinedale Array**	**87.92**	**43**	P	**P**	**19 30 55.4**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=206,slow=3.9,SNR=2.2 comp=Z,0.2nm,0.5s						
GAZ	**Gaziantep**	**145.22**	**307**	PKPdf	**PKPab**	**19 37 38.5**	**-0.9**
MBAR	**Mbarara**	**145.90**	**237**	PKPdf	**PKPbc**	**19 37 40.4**	**-0.8**
BR131	**Keskin Array S**	**146.73**	**314**	PKPdf	**PKPdf**	**19 37 40.3**	**+0.1**
BRTR	**Keskin Array B**	**146.73**	**314**	PKPdf	**PKPdf**	**19 37 39.9**	**-0.3**
CLL	**Collm**	**147.39**	**348**	PKPdf	**PKPdf**	**19 37 38.8**	**-1.9**
GHAJ	**Ghor Haditha**	**148.24**	**298**	PKPdf	**PKPdf**	**19 37 41.8**	**-0.9**
PSZ	**Piszkesteto**	**148.54**	**338**	PKPdf	**PKPdf**	**19 37 42.4**	**-0.4**

*SCB **18** 19:23:00.1±1.3, 20°.40S×68°.11W, h162km±12km, ML3.3/3, MW3.7, Error ellipse: s-maj=4.2km s-min=2.8km az=1.0*
*GUC **18** 19:23:01.0±0.6, 20°.33S×68°.20W, h175km±3km, ML3.1*
ISC 18 19:23:00.1±1.7, **20°.38S**±0°.04×**68°.14W**±0°.05, **h169**km±14km, **n33,** σ0§**68**/46, **4C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.98**	**284**	⇑*i*P	**Pn**	**19 23 27.5**	**+0.5**
PB08				*e*S	**Sn**	**19 23 47.9**	**+0.3**
PB08	**IPOC Station P**	**0.98**	**284**	Pg	**Pn**	**19 23 27.5**	**+0.5**
GO01	**Chusmiza**	**1.22**	**305**	⇑*i*P	**Pn**	**19 23 29.2**	**+0.2**
PB01	**IPOC Station P**	**1.43**	**242**	*e*P	**Pn**	**19 23 30.7**	**+0.2**
PB01				*e*S	**Sn**	**19 23 53.8**	**-0.1**
PB01				IAML		19 23 55.7	
	comp=N,229nm,0.3s						
PB01	**IPOC Station P**	**1.43**	**242**	Pg	**Pn**	**19 23 31.3**	**+0.8**
PB11	**IPOC Station P**	**1.56**	**293**	⇑*i*P	**Pn**	**19 23 31.8**	**-0.1**
PB11				*e*S	**Sn**	**19 23 55.6**	**-0.7**
PB11				IAML		19 23 58.9	
	comp=N,153nm,0.1s						
PB11	**IPOC Station P**	**1.56**	**293**	Pg	**Pn**	**19 23 31.9**	**+0.1**
HMBC	**Humberstone**	**1.65**	**273**	*e*P	**Pn**	**19 23 32.4**	**-0.3**
HMBC				*e*S	**Sn**	**19 23 57.0**	**-0.8**
HMBC				IAML		19 24 00.2	
	comp=N,149nm,0.5s						
HMBC	**Humberstone**	**1.65**	**273**	Pg	**Pn**	**19 23 32.9**	**+0.2**
PB09	**IPOC Station P**	**1.75**	**216**	*e*P	**Pn**	**19 23 35.1**	**+1.3**
PB09				*e*S	**Sn**	**19 24 00.9**	**+1.0**
PB09				IAML		19 24 04.6	
	comp=E,47nm,0.5s						
PB09	**IPOC Station P**	**1.75**	**216**	Pg	**Pn**	**19 23 34.9**	**+1.1**
SOEO	**Opoqueri**	**1.82**	**7**	Pg	**Pn**	**19 23 34.8**	**-0.2**
TA02	**Huaiquique**	**1.87**	**273**	*e*P	**Pn**	**19 23 35.0**	**0.0**
TA02				IAML		19 24 03.0	
	comp=N,592nm,0.1s						
PB02	**IPOC Station P**	**1.89**	**240**	*e*P	**Pn**	**19 23 35.4**	**+0.2**
PB02				*e*S	**Sn**	**19 24 02.3**	**-0.3**
PB02				IAML		19 24 03.5	
	comp=N,338nm,0.3s						
PB02	**IPOC Station P**	**1.89**	**240**	Pg	**Pn**	**19 23 36.1**	**+0.8**
PB02				Sg	**Sn**	**19 24 02.2**	**-0.3**
PB02				IAML		19 24 03.3	
	comp=N,232nm,0.4s						
TA01	**Diego Aracena**	**1.93**	**264**	*e*P	**Pn**	**19 23 35.1**	**-0.4**
TA01				*e*S	**Sn**	**19 24 01.2**	**-1.7**
TA01				IAML		19 24 02.9	
	comp=E,60nm,0.4s						
TA01	**Diego Aracena**	**1.93**	**264**	Pg	**Pn**	**19 23 35.3**	**-0.2**
PATCX	**Punta Patache**	**1.94**	**257**	*e*P	**Pn**	**19 23 35.8**	**0.0**
PATCX				*e*S	**Sn**	**19 24 02.9**	**-0.5**
PATCX				IAML		19 24 05.0	
	comp=N,103nm,0.3s						
PB07	**IPOC Station P**	**2.11**	**230**	*e*P	**Pn**	**19 23 38.3**	**+0.5**
PB07				*e*S	**Sn**	**19 24 06.3**	**-0.7**
PB07				IAML		19 24 08.1	
	comp=N,107nm,0.3s						
PB07	**IPOC Station P**	**2.11**	**230**	Pg	**Pn**	**19 23 38.4**	**+0.6**
PB16	**IPOC Station P**	**2.41**	**327**	⇑*i*P	**Pn**	**19 23 42.1**	**+0.4**
PB16				*e*S	**Sn**	**19 24 13.8**	**-0.1**
PB16				IAML		19 24 16.6	
	comp=E,20nm,0.3s				

SLWR Sila 4.54 186 P Pn 19 31 22.7 +1.0
SLWR S Sn 19 32 15.1 +0.6
GHWR Ruwais 4.66 173 Pn Pn 19 31 24.3 +1.0
GHWR Ruwais 4.66 173 P Pn 19 31 23.9 +0.6
GHWR S Sn 19 32 17.3 0.0
AJN Ajban 4.72 148 P Pn 19 31 23.3 -0.8
AJN Ajban 4.72 148 P Pn 19 31 25.2 +1.1
NAZ Nazwa, Dubai 4.73 139 *i* P Pn 19 31 24.5 +0.3
SNR=12
NAZ Nazwa, Dubai 4.73 139 P Pn 19 31 24.4 +0.3
SNR=5.6
NAZ S Sn 19 32 17.8 -1.3
IKLH Kolahrood 4.73 353 Pn Pn 19 31 25.3 +0.9
ANAR Anarak 4.75 15 Pn Pn 19 31 27.0 +2.4
MASF Masafi 4.76 132 P Pn 19 31 25.4 +0.8
SNR=11
MASF S Sn 19 32 16.2 -3.6
MSFE Esma-Masafi 4.77 132 *i* P Pn 19 31 24.8 0.0
SNR=11
CHMN Cheshme madani 4.80 74 Pn Pn 19 31 27.7 +2.2
ASUD Al Ashush, Dub 4.83 144 *i* P Pn 19 31 26.2 +0.5
SNR=36
ASUD Al Ashush, Dub 4.83 144 P Pn 19 31 27.0 +1.3
SNR=35
FAQ Al Faqa, Dubai 4.88 141 *i* P Pn 19 31 26.5 +0.3
SNR=7.5
FAQ Al Faqa, Dubai 4.88 141 P Pn 19 31 27.0 +0.7
SNR=7.5
FAQ S Sn 19 32 20.9 -1.8
MDH Madha 4.90 131 *i* P Pn 19 31 26.4 -0.1
SNR=7.3
MDH Madha 4.90 131 P Pn 19 31 27.2 +0.7
SNR=7.6
MDH S Sn 19 32 22.4 -0.8
MZWR Madinat Zayed 5.05 163 P Pn 19 31 29.4 +0.9
MZWR S Sn 19 32 23.9 -3.0
HATD Hatta, Dubai 5.13 136 *i* P Pn 19 31 29.9 +0.2
SNR=7.8
HATD S Sn 19 32 25.1 -3.8
HATD Hatta, Dubai 5.13 136 P Pn 19 31 30.6 +0.9
HATD S Sn 19 32 27.4 -1.5
QAMS Qamsar 5.16 352 Pn Pn 19 31 31.6 +1.2
ASHO Ashiyiah 5.19 138 *i* P Pn 19 31 30.4 -0.2
SNR=18
ASHO Ashiyiah 5.19 138 P Pn 19 31 31.0 +0.4
SNR=18
ASHO S Sn 19 32 29.6 -0.9
KRSH Karshahi 5.35 359 Pn Pn 19 31 34.2 +1.4
KBAM BAM 5.48 83 Pn Pn 19 31 37.1 +2.5
ALNE Al Ain 5.52 144 *i* P Pn 19 31 34.8 -0.3
SNR=18
ALNE Al Ain 5.52 144 P Pn 19 31 35.8 +0.7
SNR=18
ALNE S Sn 19 32 35.9 -2.7
MZR Muzera 5.69 168 P Pn 19 31 40.1 +2.7
MZR S Sn 19 32 44.7 +1.8
JASK Jask - Hormozg 5.71 117 P Pn 19 31 37.5 -0.2
JASK S Sn 19 32 42.8 -0.4
ISFB Sefidab 5.73 0 Pn Pn 19 31 38.6 +0.6
TPRV Parvadeh(Tabas 5.84 40 Pn Pn 19 31 41.8 +2.3
SOHO SOHO 5.89 138 *i* P Pn 19 31 40.1 0.0
SNR=11
SOHO SOHO 5.89 138 P Pn 19 31 40.0 -0.1
SOHO S Sn 19 32 46.9 -0.8
IVRN Varamin 6.38 356 Pn Pn 19 31 48.0 +1.0
HSAM Samen 6.39 332 Pn Pn 19 31 48.2 +1.0
UMZA Um Al Zommool 6.43 155 P Pn 19 31 48.4 +0.8
UMZA S Sn 19 32 58.3 -2.8
ARQ Araqi 6.51 143 P Pn 19 31 48.7 0.0
SNR=52
ARQ S Sn 19 33 02.8 -0.3
TKDS Koohdasht(Taba 6.51 39 Pn Pn 19 31 50.9 +2.0
TNSJ Nastanj 6.52 34 Pn Pn 19 31 51.5 +2.6
HAGD Aghdareh 6.73 338 Pn Pn 19 31 53.2 +1.2
BSRN Basiran 6.83 59 Pn Pn 19 31 55.7 +2.5
IKOM Komasi 6.86 325 Pn Pn 19 31 54.3 +0.6
IDMV Damavand 6.95 359 Pn Pn 19 31 55.8 +0.8
IRAZ Razeghan 7.05 344 Pn Pn 19 31 57.3 +1.0
BSY Bisya 7.36 141 P Pn 19 32 00.0 -0.3
SNR=45
BSY P Pn 19 32 00.0 -0.3
SNR=45
BSY S Sn 19 33 23.3 -0.5
BSY S Sn 19 33 23.3 -0.5
AFRZ Afriz 7.54 49 Pn Pn 19 32 05.6 +2.6
SMDO Samad 7.61 135 P Pn 19 32 03.6 -0.3
SNR=20
WSAR Wadi Sarin 7.85 131 Pn Pn 19 32 06.3 -0.9
1.0nm,0.3s,baz=316,slow=9.1,SNR=22
WSAR Sn Sn 19 33 29.1 -7.0
1.5nm,0.3s,baz=173,slow=13,SNR=1.6
9.8nm,0.7s
WSAR Wadi Sarin 7.85 131 P Pn 19 32 06.7 -0.5
SNR=7.8
WSAR S Sn 19 33 32.9 -3.2
KLST Kelardasht - M 7.95 353 Pn Pn 19 32 09.7 +1.0
JMDO Jabal Madar 8.16 138 P Pn 19 32 11.3 -0.1
JMDO P Pn 19 32 11.3 -0.1
QSDN Sirdan 8.29 343 Pn Pn 19 32 14.0 +0.7
WBK Wadi Bani Khal 8.52 133 P Pn 19 32 15.3 -1.0
SNR=6.0
NGCH Negor - Chabah 8.57 110 P Pn 19 32 16.6 -0.4
SNR=6.8
NGCH S Sn 19 33 49.4 -4.3
SBZV Sabzevar 8.99 29 Pn Pn 19 32 25.1 +2.2
JLN Jalan Bani Buh 9.13 133 P Pn 19 32 23.0 -1.7
SNR=13
JLN P Pn 19 32 23.0 -1.7
SNR=13
MHTO MHTO 9.20 144 P Pn 19 32 25.0 -0.6
SNR=23
MRVT Maraveh tapeh 9.59 19 Pn Pn 19 32 32.7 +1.8
DQM DQM 9.90 150 P Pn 19 32 34.5 -0.7
DOK Doka 10.09 170 P Pn 19 32 36.1 -1.8
SNR=20
HRA Herat 10.30 53 Pn Pn 19 32 40.7 -0.1
GEYT Alibeck 10.52 26 Pn Pn 19 32 44.1 +0.4
GEYT Alibeck 10.52 26 P Pn 19 32 44.1 +0.4
GEYT Alibeck 10.52 26 Pn Pn 19 32 47.0 +3.4
1.4nm,0.3s,baz=212,slow=12,SNR=15
GYA0B ALIBECK ARRAY 10.52 26 Pn Pn 19 32 44.0 +0.4
WHFO Wadi Hawf 10.73 172 P Pn 19 32 45.0 -1.7
SNR=17
SHAO Shalim 10.98 163 *i* P Pn 19 32 48.3 -1.8
SNR=12
SHAO Shalim 10.98 163 P Pn 19 32 48.0 -2.1
SNR=12
DMTO DMTO 11.12 166 P Pn 19 32 49.8 -2.1
SNR=32
RBK Rabkut 11.20 170 P Pn 19 32 51.5 -1.6
ABTO Aybut 11.24 175 P Pn 19 32 51.8 -1.9
SNR=21
GNI Garni 13.06 334 *i* P Pn 19 33 17.6 -1.0
GNI Garni 13.06 334 Pn Pn 19 33 19.7 +1.1
0.4nm,0.3s,baz=239,slow=20,SNR=1.3
GNI LR LR 19 38 56.5
comp=Z,178nm,18.5s,baz=154,slow=40
2.5nm,0.5s
ASF Jabal al Asfar 13.71 289 Pn Pn 19 33 25.4 -1.9
0.6nm,0.3s,baz=54,slow=21,SNR=1.3
ASF Sn Sn 19 35 50.1 -10
0.4nm,0.3s,baz=222,slow=23,SNR=1.8
1.8nm,0.3s
MAK Makhachkala 14.82 346 *e*P Pn 19 33 39.1 -3.3
MAK *e*S Sn 19 36 23.2 -3.4
MAK pmax pmax
comp=Z,298nm,1.2s
MAK MLR MLR
comp=Z,339nm,14.0s
MMAI Mount Meron Ar 15.12 291 Pn Pn 19 33 44.7 -1.7
comp=Z,1.8nm,0.3s,baz=106,slow=15,SNR=1.5
MMAI LR LR 19 40 42.2
comp=Z,131nm,18.1s,baz=83,slow=42
2.1nm,0.5s
EIL Elat 15.14 278 Pn Pn 19 33 46.0 -0.9
comp=Z,0.1nm,0.3s,baz=69,slow=12,SNR=2.1
EIL Sn Sn 19 36 32.4 -2.2
comp=Z,0.4nm,0.3s,baz=56,slow=14,SNR=1.6
comp=Z,4.4nm,0.7s
KBL Kabul 15.49 63 Pn Pn 19 33 53.8 +2.2
KBL IAmb IAmb 19 33 59.8
comp=Z,16nm,1.1s
KBL Kabul 15.49 63 P Pn 19 33 53.8 +2.2
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 15.49 63 P P 19 33 55.0 -1.1
SNR=8.1
ZEI Tsey 15.67 337 *e*P Pn 19 33 54.4 +0.5
ZEI pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 16.85 336 *i* P P 19 34 10.4 -0.4
KBZ pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 16.85 336 Pn Pn 19 34 09.7 +0.9
comp=Z,0.1nm,0.3s,baz=154,slow=8.8,SNR=4.3
comp=Z,4.8nm,1.0s
KIV Kislovodsk 17.12 336 *e*P Pn 19 34 12.7 +0.4
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,69nm,14.0s
SIMJ Simiganj 17.17 50 Pn 19 34 12.9 -0.1
SIMJ IAmb IAmb 19 34 19.0
comp=Z,25nm,1.2s
NIL Nilore 18.67 69 P P 19 34 31.1 0.0
NIL IAmb IAmb 19 34 41.6
comp=Z,13nm,0.8s
NIL Nilore 18.67 69 P P 19 34 31.1 0.0
NIL pmax pmax
comp=Z,13nm,0.9s
BR131 Keskin Array S 18.93 311 P P 19 34 32.1 -1.9
BR131 Keskin Array S 18.93 311 *i* P P 19 34 33.8 -0.2
BR131 Keskin Array S 18.93 311 P P 19 34 34.0 +0.1
BRTR Keskin Array B 18.93 311 P P 19 34 31.8 -2.1
BRTR Keskin Array B 18.93 311 *i* P Pn 19 34 34.5 -0.1
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 18.93 311 P P 19 34 34.1 +0.1
comp=Z,0.3nm,0.3s,baz=136,slow=13,SNR=10
BRTR LR LR 19 43 50.5
comp=Z,256nm,20.4s,baz=118,slow=43
comp=Z,2.2nm,0.6s
KK31 Karatay Array 20.64 41 P P 19 34 52.9 +0.4
KK31 IAmb IAmb 19 35 01.4
comp=Z,7.8nm,0.8s
KK31 Karatay Array 20.64 41 P P 19 34 52.9 +0.4
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 20.64 41 P P 19 34 53.0 +0.6
KKAR Karatay Array 20.64 41 P P 19 34 51.6 -0.9
KKAR IAmb IAmb 19 35 01.5
comp=Z,7.7nm,0.8s
KKAR Karatay Array 20.64 41 P P 19 34 53.0 +0.6
ARSB Arslanbob 21.15 48 P P 19 34 57.5 -0.6
ARSB Arslanbob 21.15 48 P P 19 34 57.5 -0.6
ARSB pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 21.45 14 P P 19 34 58.7 -2.4
ABKAR IAmb IAmb 19 35 06.0
comp=Z,5.5nm,0.7s
KSH Kashi 22.41 55 P P 19 35 10.6 -1.1
KSH pP pP 19 35 13.5 -1.6
KSH pmax pmax
comp=Z,4.0nm,0.5s
AAK Ala-Archa 22.79 46 P P 19 35 14.3 -1.4
AAK IAmb IAmb 19 35 27.4
comp=Z,8.2nm,0.9s
AAK Ala-Archa 22.79 46 *i* P P 19 35 15.6 -0.1
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 22.79 46 P P 19 35 18.7 +3.0
comp=Z,2.0nm,0.7s,baz=254,slow=9.1,SNR=10.0
AAK LR LR 19 46 19.8
comp=Z,126nm,19.9s,baz=255,slow=42
comp=Z,2.0nm,0.7s
AAK Ala-Archa 22.79 46 P P 19 35 20.1 +4.4
NRN Naryn 23.20 50 P P 19 35 20.8 +0.6
NRN Naryn 23.20 50 P P 19 35 20.8 +0.6
NRN pmax pmax
comp=Z,5.0nm,0.8s
VRH Novokhopyorsk 23.92 344 *e*P P 19 35 25.4 -1.3
VRH pmax pmax
comp=Z,60nm,0.7s
BELG Belogornoye 24.01 353 LR LR 19 46 12.2
comp=Z,71nm,19.1s,baz=236,slow=40
VORD Divnogorie 24.37 340 *e*P P 19 35 29.3 -1.6
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 24.63 340 *e*P P 19 35 31.2 -2.1
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 25.02 341 *e*P P 19 35 35.2 -1.6
VORR pmax pmax
comp=Z,40nm,0.5s
LPSR Galich'ya Gora 25.93 341 *e*P P 19 35 43.2 -1.8
LPSR pmax pmax
comp=Z,20nm,0.8s
BVAR Borovoye Array 27.84 24 P P 19 36 04.3 +2.1
comp=Z,1.7nm,0.6s,baz=224,slow=7.8,SNR=9.3
comp=Z,1.7nm,0.6s
AKASG Malin Array Be 28.09 328 *i* P P 19 36 02.7 -1.7
AKASG Malin Array Be 28.09 328 P P 19 36 03.3 -1.1
comp=Z,0.6nm,0.4s,baz=131,slow=8.1,SNR=6.6
comp=Z,0.6nm,0.4s
ARU Arti 28.17 7 LR LR 19 48 48.6
comp=Z,145nm,19.2s,baz=188,slow=40
OBN Obninsk 28.80 341 *e*P P 19 36 11.9 +1.1
OBN *e* 19 37 02.9
OBN *e*PPP PPP 19 37 12.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
MAKZ Makanchi 29.47 44 P P 19 36 18.6 +1.8
MAKZ Makanchi 29.47 44 P P 19 36 18.7 +1.8
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 29.62 35 P P 19 36 20.1 +2.0
comp=Z,3.4nm,0.7s,baz=234,slow=9.1,SNR=13
KURBB ScP **ScP** 19 43 06.2 +1.8
comp=Z,0.2nm,0.7s,baz=238,slow=3.7,SNR=4.1
comp=Z,3.4nm,0.7s
MK31 Makanchi Array 29.66 44 P P 19 36 20.5 +2.0
MK31 Makanchi Array 29.66 44 *i* P P 19 36 20.0 +1.5
MKAR Makanchi Array 29.66 44 P P 19 36 20.1 +1.5
MKAR Makanchi Array 29.66 44 *ce*P P 19 36 21.1 +2.6
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 29.66 44 P P 19 36 19.5 +1.0
comp=Z,1.8nm,0.7s,baz=231,slow=7.8,SNR=18
MKAR PcP **PcP** 19 39 21.8 -1.0
comp=Z,0.4nm,0.8s,baz=267,slow=2.5,SNR=2.2
MKAR LR LR 19 48 57.8
comp=Z,108nm,18.1s,baz=332,slow=38
comp=Z,1.8nm,0.7s
KURK Kurchatov 29.72 35 P P 19 36 20.6 +1.6
KURK IAmb IAmb 19 36 26.1
comp=Z,5.3nm,0.9s
KURK Kurchatov 29.72 35 *ce*P P 19 36 20.5 +1.6
KURK pmax pmax
comp=Z,5.0nm,0.8s
KIRV Kirov 30.03 357 *i* P P 19 36 21.7 +0.1
KIRV Kirov 30.03 357 LR LR 19 50 53.6
comp=Z,117nm,21.1s,baz=312,slow=41
KOLS Kolonicke sedl 30.64 320 *e*P P 19 36 29.9 +2.8
KOLS Kolonicke sedl 30.64 320 *e*P P 19 36 29.8 +2.7
LANS Liptovska Anna 32.36 318 *e*P P 19 36 43.5 +1.2
LANS Liptovska Anna 32.36 318 *e*P P 19 36 43.5 +1.2
VYHS Vyhne 32.44 317 *e*P P 19 36 45.0 +2.0
VYHS Vyhne 32.44 317 *e*P P 19 36 45.0 +2.0
MODS Modra-Piesok 33.34 316 *e*P P 19 36 55.5 +4.7
MODS Modra-Piesok 33.34 316 *e*P P 19 36 55.5 +4.7
KLMR Klimovskoe 33.36 349 *e*P P 19 36 49.6 -1.2
KLMR pmax pmax
comp=Z,27nm,1.4s
LSA Lhasa 33.90 79 P P 19 36 57.4 +0.9
LSA IAmb IAmb 19 37 07.5
comp=Z,3.2nm,1.1s
LSA Lhasa 33.90 79 P P 19 36 57.4 +0.9
LSA pmax pmax
comp=Z,3.0nm,1.1s
DGZ Jazzator, Alta 34.02 42 *i* P P 19 36 58.6 +1.6
DGZ pmax pmax
comp=Z,10.0nm,2.0s
PALK Pallekele 34.23 123 LR LR 19 50 47.6
comp=Z,67nm,19.9s,baz=58,slow=36
ZAA0 Zalesovo Array 34.70 34 P P 19 37 03.2 +0.7
ZAA0 IAmb IAmb 19 37 09.0
comp=Z,8.1nm,1.0s
ZALV Zalesovo Beam 34.70 34 P P 19 37 02.3 -0.3
ZALV Zalesovo Beam 34.70 34 *i* P P 19 37 03.2 +0.6
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 34.70 34 P P 19 37 02.5 0.0
comp=Z,5.0nm,0.6s,baz=241,slow=9.2,SNR=24
ZALV PcP PcP 19 39 36.6 +0.3
comp=Z,0.5nm,0.4s,baz=227,slow=6.6,SNR=1.8
ZALV LR LR 19 51 22.5
comp=Z,63nm,18.2s,baz=354,slow=36
comp=Z,5.0nm,0.6s
KBA Koelnbreinsper 35.37 312 *e*P P 19 37 08.5 -0.2
KHC Kasperske Hory 35.89 316 *e*P P 19 37 17.0 +4.0
KHC Kasperske Hory 35.89 316 *e*P P 19 37 17.0 +4.0
LESA Schwarzleotal 35.91 312 *e*P P 19 37 12.7 -0.4
comp=Z,1.6nm,0.3s
WATA Walderalm 36.60 312 *e*P P 19 37 19.2 0.0
comp=Z,1.6nm,0.4s
KEST Kesra 36.77 292 P P 19 37 21.6 +0.9
comp=Z,4.6nm,0.9s,baz=11,slow=2.6,SNR=7.4
comp=Z,4.6nm,0.9s
SQTA Sankt Quirin 36.81 312 *e*P P 19 37 20.1 -0.8
comp=Z,2.9nm,0.4s
MOTA Moosalm 36.91 312 *e*P P 19 37 21.2 -0.6
comp=Z,0.9nm,0.3s
CLL Collm 37.03 319 *i* P P 19 37 22.8 +0.2
CLL Collm 37.03 319 *i* P P 19 37 22.8 +0.2
FETA Feichten 37.07 311 *e*P P 19 37 23.8 +0.5
comp=Z,5.0nm,0.8s
FIA1 FINESS Array S 37.16 339 P P 19 37 21.5 -2.1
FINES FINESS Array B 37.16 339 P P 19 37 22.2 -1.4
FINES FINESS Array B 37.16 339 P P 19 37 23.2 -0.4
comp=Z,3.1nm,0.6s,baz=139,slow=11,SNR=24
comp=Z,3.1nm,0.6s
DAVA Damuels 37.70 311 *e*P P 19 37 27.8 -0.8
comp=Z,2.8nm,0.4s
HFS Hagfors 40.84 332 P P 19 37 53.9 -0.5
comp=Z,2.3nm,0.4s,baz=138,slow=8.6,SNR=25
comp=Z,2.3nm,0.4s
NC405 NORSAR Array S 42.19 332 P P 19 38 04.1 -1.4
NC405 IAmb IAmb 19 38 09.1
comp=Z,14nm,1.4s
NB201 NORSAR Array S 42.33 332 P P 19 38 04.3 -2.3
NB2 NORSAR Subarra 42.36 332 P P 19 38 05.7 -1.2
comp=Z,2.8nm,0.6s,baz=120,slow=8.6
NOA NORSAR Array B 42.36 332 P P 19 38 05.8 -1.0
comp=Z,0.8nm,0.5s,baz=127,slow=9.1,SNR=7.9
comp=Z,0.8nm,0.5s
NAO01 NORSAR Array S 42.39 331 P P 19 38 05.8 -1.3
NAO01 IAmb IAmb 19 38 13.1
comp=Z,29nm,1.4s
NBO00 NORSAR Array S 42.53 332 P P 19 38 07.6 -0.7
NBO00 IAmb IAmb 19 38 15.5
comp=Z,29nm,1.4s
CMAR Chiang Mai Arr 43.76 93 P P 19 38 20.5 +1.7
comp=Z,0.7nm,0.7s,baz=282,slow=8.4,SNR=1.4
CMAR LR LR 20 01 35.8
comp=Z,49nm,19.0s,baz=85,slow=43
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 43.77 347 P P 19 38 17.9 -0.2
ARCES ARCESS Array B 43.77 347 P P 19 38 18.5 +0.3
comp=Z,2.2nm,0.6s,baz=138,slow=8.4,SNR=19
comp=Z,2.2nm,0.6s
NRIK Noril'sk 45.58 17 P P 19 38 34.0 +1.4
NRIK Noril'sk 45.58 17 P P 19 38 34.0 +1.4
comp=Z,0.8nm,0.4s,baz=10,slow=15,SNR=1.0
comp=Z,0.8nm,0.4s
SONM Songino Array 45.66 50 P P 19 38 34.8 +1.0
comp=Z,0.6nm,0.9s,baz=257,slow=7.5,SNR=4.5
comp=Z,0.6nm,0.9s
ESDC Sonseca Array 47.12 299 P P 19 38 44.8 -0.5
comp=Z,0.9nm,1.0s,baz=79,slow=7.3,SNR=2.8
comp=Z,0.9nm,1.0s
EKA Eskdalemuir Ar 47.45 320 P P 19 38 46.3 -1.2
comp=Z,0.8nm,0.4s,baz=103,slow=7.7,SNR=14
comp=Z,0.8nm,0.4s
EKB Eskdalemuir 47.47 320 P P 19 38 46.7 -0.9
ESK Eskdalemuir 47.47 320 P P 19 38 47.9 +0.3
ESK Eskdalemuir 47.47 320 P P 19 38 47.9 +0.3
ESK pmax pmax
comp=Z,29nm,1.5s
DSB Dublin 49.01 317 P P 19 38 58.4 -1.2
TOA0 Torodi Ar. Sit 49.31 263 P P 19 39 01.8 -0.5
TOA0 IAmb IAmb 19 39 05.3
comp=Z,5.9nm,0.7s
TORD Torodi Ar. Bea 49.31 263 P P 19 39 01.4 -0.9
TORD IAmb IAmb 19 39 05.4
comp=Z,3.9nm,0.7s
TORD Torodi Ar. Bea 49.31 263 P P 19 39 01.1 -1.2
comp=Z,6.4nm,0.6s,baz=56,slow=9.3,SNR=28
comp=Z,6.4nm,0.6s
SPITS Spitsbergen Ar 52.19 351 P P 19 39 23.5 +0.3
comp=Z,10nm,1.0s,baz=140,slow=11,SNR=1.8
SPITS LR LR 20 04 35.5
comp=Z,126nm,19.8s,baz=188,slow=40
comp=Z,10nm,1.0s
DBIC Dimbokro 58.03 259 P P 19 40 06.2 -0.1
comp=Z,6.0nm,0.6s,baz=49,slow=6.6,SNR=12
comp=Z,6.0nm,0.6s
LBTB Lobatse 59.15 208 P P 19 40 15.1 +1.2
LBTB Lobatse 59.15 208 P P 19 40 15.1 +1.2
LBTB pmax pmax
comp=Z,22nm,1.4s
LBTB Lobatse 59.15 208 P P 19 40 14.2 +0.3
comp=Z,8.0nm,0.7s,baz=20,slow=8.1,SNR=4.5
comp=Z,8.0nm,0.7s
BOSA Boshof 62.48 207 P P 19 40 37.9 +1.3
BOSA Boshof 62.48 207 P P 19 40 37.9 +1.3
BOSA pmax pmax
comp=Z,16nm,1.4s
BOSA Boshof 62.48 207 P P 19 40 36.7 +0.2
comp=Z,2.9nm,0.9s,baz=29,slow=6.5,SNR=5.7
comp=Z,2.9nm,0.9s
KSRS Korea Array 62.52 60 P P 19 40 37.5 +0.8
comp=Z,1.0nm,0.6s,baz=281,slow=5.9,SNR=4.5
comp=Z,1.0nm,0.6s
SUMG Summit 63.19 340 P P 19 40 39.8 -1.3
SUMG IAmb IAmb 19 40 48.0
comp=Z,9.5nm,1.4s
SUMG Summit 63.19 340 P P 19 40 39.8 -1.3
SUMG pmax pmax
comp=Z,10.0nm,1.4s
USRK Ussuriysk Ar. 63.68 52 P P 19 40 46.1 +1.8
comp=Z,1.2nm,0.6s,baz=263,slow=5.7,SNR=2.8
comp=Z,1.2nm,0.6s
SUR Sutherland 67.61 208 P P 19 41 10.6 +0.7
comp=Z,4.3nm,0.9s,baz=174,slow=10,SNR=1.7
comp=Z,4.3nm,0.9s
SCHQ Schefferville 81.88 329 P P 19 42 31.8 -0.4
comp=Z,1.4nm,0.5s,baz=45,slow=6.2,SNR=2.0
comp=Z,1.4nm,0.5s
ILAR Eielson Array 85.74 8 P P 19 42 51.5 -0.3
comp=Z,0.6nm,0.7s,baz=277,slow=2.5,SNR=4.0
comp=Z,0.6nm,0.7s
YKA Yellowknife Ar 88.61 354 *i* P P 19 43 09.3 +3.6
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 88.61 354 P P 19 43 05.8 +0.2
comp=Z,1.0nm,0.7s,baz=5.4,slow=5.2,SNR=19
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 92.74 111 P P 19 43 24.5 -1.2
comp=Z,0.4nm,0.7s,baz=312,slow=4.0,SNR=1.4
ASAR Alice Springs 94.20 115 P P 19 43 31.0 -1.3
comp=Z,0.4nm,0.5s,baz=302,slow=4.5,SNR=17
comp=Z,0.4nm,0.5s

IDC ***18*** *20:02:12.8±5.5, 17°.19S×179°.40W, h663km±79km, mb3.1/5, mbtmp4.1/6, Error ellipse: s-maj=67.8km s-min=26.5km az=163.0*

NEIC ***18*** *20:02:18.1±0.7, 16°.6S±0°.1×179°.1E±0°.2, h573km±11km, mb4.3/10, Error ellipse: s-maj=23.2km s-min=17.6km az=99.0*

ISC 18 20:02:12.8±1.2, 17°.1S±0°.1×179°.9W±0°.2, h600km, n27, σ1°.49/18, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**12.20**	**172**	P	P	20 05 06.8	+13
RAO	**Raoul Island**	**12.20**	**172**	P	P	**20 04 53.3**	**-0.1**
	367nm,0.4s,baz=84,slow=22,SNR=4.7						
LIFNC	**LIFOU**	**12.68**	**251**	P	P	20 04 55.9	-2.6
PINNC	**Pines Island,**	**13.08**	**243**	P	P	20 05 00.9	-1.6
OUENC	**Ouen Island, N**	**13.53**	**245**	P	P	20 05 05.7	-1.4
DZM	**Mont Dzumac**	**13.76**	**247**	P	P	20 05 07.9	-1.6
DZM	**Mont Dzumac**	**13.76**	**247**	P	P	**20 05 10.6**	**+1.1**
	2.8nm,0.5s,baz=79,slow=19,SNR=1.7						
KOUNC	**Koumac, New Ca**	**15.34**	**255**	P	P	**20 05 22.4**	**-1.8**
CAN	**Canberra**	**33.06**	**231**	P	P	**20 08 03.2**	**+2.6**
CAN				IAmb	IAmb	20 08 28.8	

	comp=Z,21nm,1.5s						
JOHN	**Johnston Islan**	**35.18**	**17**	P	P	20 08 22.3	+4.0
STKA	**Stephens Creek**	**37.76**	**240**	P	**P**	**20 08 38.8**	**-0.6**
STKA	**Stephens Creek**	**37.76**	**240**	P	**P**	**20 08 38.5**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=88,slow=10,SNR=16						
	comp=Z,3.6nm,0.5s						
WAKE	**Wake Island**	**38.53**	**339**	P	**P**	**20 08 46.3**	**+0.7**
WR0	**Warramunga Arr**	**43.18**	**259**	P	**P**	**20 09 22.0**	**-0.5**
WR0				IAmb	IAmb	20 09 29.9	
	comp=Z,9.8nm,1.3s						
WB0	**Warramunga Arr**	**43.33**	**259**	P	**P**	**20 09 24.0**	**+0.3**
WB0				IAmb	IAmb	20 10 04.0	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**43.36**	**259**	P	**P**	**20 09 23.8**	**-0.1**
WRAB	**Tennant Creek**	**43.36**	**259**	P	**P**	**20 09 23.6**	**-0.3**
WRAB				IAmb	IAmb	20 10 00.4	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**43.63**	**254**	P	**P**	**20 09 26.1**	**+0.1**
AS31				IAmb	IAmb	20 09 26.9	
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**43.63**	**254**	P	**P**	**20 09 26.1**	**+0.1**
ASAR	**Alice Springs**	**43.63**	**254**	P	**P**	**20 09 26.4**	**+0.4**
	comp=Z,18nm,0.5s,baz=89,slow=8.2,SNR=314						
ASAR				PcP	**PcP**	**20 10 55.5**	**-4.2**
	comp=Z,0.3nm,0.6s,baz=77,slow=4.2,SNR=2.3						
	comp=Z,18nm,0.5s						
SBA	**Scott Base**	**61.10**	**183**	P	P	20 11 39.5	+10
SBA				IAmb	IAmb	20 11 40.5	
	comp=Z,40nm,1.4s						
ILAR	**Eielson Array**	**85.47**	**14**	P	P	20 13 42.1	-5.7
	comp=Z,0.2nm,0.4s,baz=223,slow=5.4,SNR=7.0						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.80**	**58**	P	P	20 13 47.8	-7.2
	comp=Z,0.3nm,0.6s,baz=225,slow=4.8,SNR=3.9						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**87.79**	**44**	P	P	20 13 52.4	-7.2
	comp=Z,0.3nm,0.5s,baz=195,slow=2.8,SNR=2.1						
	comp=Z,0.3nm,0.5s						
GRA1	**Grafenberg Arr**	**146.30**	**347**	PKPdf	**PKiKP**	**20 20 49.6**	**+0.1**
GRFO	**Grafenberg**	**146.30**	**347**	PKPdf	**PKiKP**	**20 20 49.6**	**+0.1**
WLF	**Walferdange**	**147.19**	**353**	PKPbc	**PKPab**	**20 20 54.7**	**+1.4**

*SLM **18** 20:04:44.9±1.3,36.°606N±0.°010×89.°90W±0.°01,h5km±2km, Md2.7/8,mb_Lg2.3/6(NEIC),ML2.3/30(NEIC),Error ellipse: s-maj=1.5km s-min=1.1km az=197.0*
*ANF **18** 20:04:44.8±0.3,36.°64N×89.°88W,h5km,ML2.3/7,Error ellipse: s-maj=3.2km s-min=2.1km az=1.0*
*NEIC **18** 20:04:45.4±0.8,36.°61N±0.°02×89.901W±0.°007, h11km±3km,Error ellipse: s-maj=2.5km s-min=0.7km az=190.0*

ISC 18 20:04:45.0±0.8,**36.°62N**±0.°02×**89.°90W**±0.°02,**h12**km±5km, **n65**,σ**0°79/73**,**New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLDM	**Malden**	**0.01**	**305**		**Pg**	**20 04 47.3**	**+0.2**
TOPM	**Tallapoosa**	**0.09**	**172**		**Pg**	**20 04 47.1**	**-0.6**
BETM	**Bethany**	**0.12**	**268**		**Pg**	**20 04 48.0**	**-0.1**
BETM					**Sg**	**20 04 50.3**	**-0.1**
BRNM	**Bernie**	**0.13**	**325**		**Pg**	**20 04 48.4**	**+0.2**
BRNM					**Sg**	**20 04 50.8**	**+0.2**
PARMO	**Parma**	**0.13**	**69**		**Pg**	**20 04 48.0**	**-0.2**
PARMO					**Sg**	**20 04 50.5**	**-0.1**
PARMO	**Parma**	**0.13**	**69**	IAML		20 04 50.6	
	comp=E,1μm,0.3s						
PARMO				IAML		20 04 50.6	
	comp=N,2μm,0.3s						
COKM	**Charter Oak**	**0.17**	**57**		**Pg**	**20 04 48.8**	**0.0**
COKM					**Sg**	**20 04 51.8**	**+0.2**
CATM	**Catron**	**0.21**	**91**		**Pg**	**20 04 49.3**	**-0.1**
MARMO	**Marston**	**0.21**	**114**		**Pg**	**20 04 49.3**	**-0.2**
MARMO					**Sg**	**20 04 52.6**	**+0.1**
PGVM	**Portageville**	**0.21**	**138**		**Pg**	**20 04 49.3**	**-0.2**
PGVM					**Sg**	**20 04 52.5**	**-0.1**
PVMO	**Portageville**	**0.26**	**141**		**Pg**	**20 04 50.1**	**-0.2**
PVMO	**Portageville**	**0.26**	**141**	IAML		20 04 54.3	
	comp=E,531nm,0.6s						
PVMO				IAML		20 04 56.4	
	comp=N,544nm,0.5s						
WADM	**Wardell**	**0.27**	**161**		**Pg**	**20 04 50.3**	**-0.2**
GUAMO	**Guam**	**0.28**	**11**		**Pg**	**20 04 50.8**	**+0.1**
PENMO	**Penman**	**0.28**	**127**		**Pg**	**20 04 50.5**	**-0.2**
PENMO					**Sg**	**20 04 54.6**	**+0.1**
NMMO	**New Madrid**	**0.28**	**96**		**Pg**	**20 04 50.8**	**0.0**
POBM	**Portage Bay**	**0.28**	**137**		**Pg**	**20 04 50.6**	**-0.2**
POBM					**Sg**	**20 04 54.9**	**+0.2**
WALK	**Watson Lake**	**0.30**	**105**		**Pg**	**20 04 51.0**	**-0.1**
HENM	**Henderson Moun**	**0.36**	**74**		**Pg**	**20 04 52.2**	**-0.1**
PBMO	**Poplar Bluff**	**0.45**	**291**		**Pg**	**20 04 53.7**	**-0.2**
PBMO				IAML		20 05 00.6	
	comp=N,368nm,0.2s						
PBMO				IAML		20 05 01.0	
	comp=E,281nm,0.2s						
PBMO	**Poplar Bluff**	**0.45**	**291**	P	**Pg**	**20 04 53.8**	**-0.2**
	baz=112						
PBMO				S	**Sg**	**20 05 00.1**	**+0.2**
	baz=112						
PEBM	**Pemiscott Bayo**	**0.50**	**176**	Pg	**Pg**	**20 04 53.9**	**-0.9**
HICK	**Hickman**	**0.55**	**98**		**Pg**	**20 04 55.6**	**-0.1**
HICK	**Hickman**	**0.55**	**98**	IAML		20 05 03.8	
	comp=N,311nm,0.2s						
HICK				IAML		20 05 04.1	
	comp=E,219nm,0.2s						
GLAT	**Glass**	**0.61**	**125**		**Pg**	**20 04 57.0**	**+0.2**
GLAT	**Glass**	**0.61**	**125**	IAML		20 05 14.3	
	comp=E,163nm,1.8s						
LNXT	**Lenox**	**0.61**	**147**		**Pg**	**20 04 56.7**	**-0.1**
LNXT	**Lenox**	**0.61**	**147**	IAML		20 05 09.8	
	comp=N,159nm,0.3s						
LNXT				IAML		20 05 10.5	
	comp=E,174nm,0.3s						
LNXT	**Lenox**	**0.61**	**147**	P	**Pg**	**20 04 56.8**	**-0.1**
	baz=327						
GNAR	**Gosnell**	**0.66**	**188**		**Pg**	**20 04 57.8**	**+0.1**
CGM3	**Cape Girardeau**	**0.71**	**16**		**Pg**	**20 04 58.2**	**-0.5**
CGM3	**Cape Girardeau**	**0.71**	**16**		**Sg**	**20 05 07.7**	**-0.4**
CGM3				IAML		20 05 07.9	
	comp=E,180nm,0.2s						
CGM3				IAML		20 05 17.0	
	comp=N,142nm,0.2s						
HALT	**Halls**	**0.84**	**147**		**Pg**	**20 05 01.1**	**-0.1**
HALT	**Halls**	**0.84**	**147**	IAML		20 05 07.2	
	comp=N,96nm,3.0s						
HALT				IAML		20 05 13.8	
	comp=E,88nm,0.3s						
T45B	**Paducah**	**1.09**	**68**	S	**Sb**	**20 05 19.4**	**-0.4**
	baz=248						
T45A	**Paducah**	**1.09**	**68**	Pg	**Pb**	**20 05 05.4**	**-0.3**
T45A				IAML		20 05 23.9	
	comp=N,91nm,0.2s						
T45A				IAML		20 05 25.3	
	comp=E,98nm,0.5s						
LCAR	**Lake Charles**	**1.15**	**242**		**Pb**	**20 05 05.9**	**-0.8**
LCAR					**Sb**	**20 05 20.9**	**-0.6**
LCAR	**Lake Charles**	**1.15**	**242**	P	**Pb**	**20 05 06.1**	**-0.6**
	baz=62						
S44A	**Carbondale**	**1.19**	**26**		**Pn**	**20 05 07.2**	**-0.3**
S44A	**Carbondale**	**1.19**	**26**	Pg	**Pn**	**20 05 06.8**	**-0.7**
S44A	**Carbondale**	**1.19**	**26**		**Sb**	**20 05 23.0**	**+0.1**
S44A	**Carbondale**	**1.19**	**26**	P	**Pn**	**20 05 06.8**	**-0.7**
	baz=206						
S44A				S	**Sb**	**20 05 22.7**	**-0.3**
	baz=206						
SIUC	**Southern Illin**	**1.23**	**26**	Pg	**Pn**	**20 05 07.0**	**-0.9**
SIUC					**Sb**	**20 05 22.4**	**-1.4**
FVM	**French Village**	**1.43**	**343**		**Pn**	**20 05 11.0**	**+0.4**
FVM					**Sn**	**20 05 28.9**	**-0.6**
FVM	**French Village**	**1.43**	**343**	P	**Pn**	**20 05 11.1**	**+0.4**
	baz=163						
EBZ	**Ebenezer Churc**	**1.54**	**163**		**Pn**	**20 05 12.8**	**+0.6**
WVT	**Waverly**	**1.74**	**106**	Pn	**Pn**	**20 05 15.4**	**+0.3**
WVT					**Sn**	**20 05 38.0**	**+0.8**
WVT	**Waverly**	**1.74**	**106**	P	**Pn**	**20 05 16.0**	**+1.0**
	baz=287						
WVT				S	**Sb**	**20 05 38.7**	**0.0**
	baz=287						
CCM	**Cathedral Cave**	**1.79**	**324**	Pn	**Pn**	**20 05 17.0**	**+1.3**
CCM	**Cathedral Cave**	**1.79**	**324**	P	**Pn**	**20 05 17.2**	**+1.5**
	baz=143						
CCM				S	**Sb**	**20 05 40.6**	**+0.5**
	baz=143						
FCAR	**Ozark Folk Cen**	**1.94**	**249**		**Pb**	**20 05 19.5**	**-0.7**
MGMO	**Mountain Grove**	**1.97**	**287**	Pn	**Pn**	**20 05 18.7**	**+0.5**
MGMO				IAmb_Lg		20 05 51.9	
	comp=Z,12nm,1.0s						
OXF	**Oxford**	**2.14**	**169**	Pn	**Pn**	**20 05 20.6**	**+0.1**
PLAL	**Pickwick Lake**	**2.21**	**137**	Pn	**Pn**	**20 05 22.7**	**+1.3**
PWLA	**Pickwick Lake**	**2.21**	**137**		**Pn**	**20 05 23.6**	**+2.1**
T47A	**Sharon Grove**	**2.28**	**80**	Pn	**Pn**	**20 05 23.6**	**+1.2**
T47A	**Sharon Grove**	**2.28**	**80**	P	**Pn**	**20 05 23.7**	**+1.4**
	baz=261						
Q44A	**Meyer Farm, Va**	**2.39**	**17**		**Pn**	**20 05 26.3**	**+2.4**
U40A	**Yellville**	**2.39**	**265**		**Pn**	**20 05 25.7**	**+2.0**
R40A	**Maddies Statio**	**2.52**	**312**	Pn	**Pn**	**20 05 26.7**	**+1.1**
R40A				IAmb_Lg		20 06 09.8	
	comp=Z,4.7nm,0.8s						
S39A	**Bolivar**	**2.93**	**292**	Pn	**Pn**	**20 05 32.5**	**+1.0**
P38A	**Dawn**	**4.15**	**317**	Pn	**Pn**	**20 05 47.2**	**-0.9**
Q51A	**Peebles**	**5.72**	**63**	IAmb_Lg		20 07 44.1	
	comp=Z,5.5nm,0.9s						
152A	**Waverly Hall**	**5.81**	**131**		**Pn**	**20 06 08.6**	**-2.3**
I37A	**Lemond, Waseca**	**7.86**	**341**	IAmb_Lg		20 09 11.6	
	comp=Z,7.7nm,1.1s						

*DSN **18** 20:28:48.9±0.8,27.°08N×55.°56E,h8km,ML2.6/6,Error ellipse: s-maj=13.5km s-min=6.5km az=61.0*
*TEH **18** 20:28:48.8,26.°89N×55.°57E,h18km±120km,ML2.9*
*OMAN **18** 20:28:58.5±0.3,26.°48N×55.°65E,h16km±2km,ml2.4/15, Error ellipse: s-maj=9.1km s-min=4.5km az=2.0*

ISC 18 20:28:50.4±1.4,**26.°97N**±0.°04×**55.°52E**±0.°05,**h23**km±14km, **n33**,σ**1°76/57**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENO	**Geno**	**0.72**	**53**	Pg	**Pb**	**20 29 02.3**	**-2.1**
IBND	**Bandar-abas**	**1.02**	**62**	Pg	**Pn**	**20 29 08.8**	**-0.5**
IBND				Sg	**Sn**	**20 29 23.5**	**+0.5**
SHME	**Shamm**	**1.07**	**149**	P	**Pb**	**20 29 10.6**	**+0.4**
SHME	**Shamm**	**1.07**	**149**	P	**Pb**	**20 29 10.5**	**+0.3**
	SNR=22						
SHME				S	**Sb**	**20 29 19.6**	**-4.1**
LAR1	**LAR**	**1.24**	**305**	Pg	**Pb**	**20 29 13.8**	**+0.6**
BANOM	**Banah**	**1.25**	**146**	P	**Pb**	**20 29 13.8**	**+0.5**
BANOM	**Banah**	**1.25**	**146**	P	**Pb**	**20 29 13.8**	**+0.5**
BANOM				S	**Sn**	**20 29 26.5**	**-2.1**
UMQ	**Umm Al-Quwin**	**1.44**	**175**	P	**Pn**	**20 29 15.9**	**+0.9**
UMQ				S	**Sn**	**20 29 31.8**	**-1.4**
MASF	**Masafi**	**1.69**	**160**	P	**Pb**	**20 29 20.8**	**+0.1**
MASF				S	**Sn**	**20 29 38.7**	**-0.7**
MSFE	**Esma-Masafi**	**1.70**	**160**	P	**Pb**	**20 29 20.4**	**-0.6**
MSFE				S	**Sb**	**20 29 44.7**	**+2.8**
MDH	**Madha**	**1.80**	**157**	P	**Pb**	**20 29 22.4**	**-0.3**
MDH				S	**Sb**	**20 29 46.6**	**+1.8**
MDH	**Madha**	**1.80**	**157**	P	**Pb**	**20 29 22.7**	**0.0**
	SNR=7.2						
MDH				S	**Sn**	**20 29 40.5**	**-1.6**
NAZ	**Nazwa, Dubai**	**1.97**	**176**	P	**Pb**	**20 29 24.6**	**-1.0**
NAZ				S	**Sn**	**20 29 43.5**	**-2.8**
HATD	**Hatta, Dubai**	**2.20**	**165**	P	**Pb**	**20 29 29.6**	**+0.1**
HATD				S	**Sn**	**20 29 50.4**	**-1.7**
FAQ	**Al Faqa, Dubai**	**2.21**	**178**	P	**Pb**	**20 29 28.0**	**-1.7**
FAQ				S	**Sn**	**20 29 52.2**	**0.0**
ASHO	**Ashiyiah**	**2.32**	**168**	P	**Pn**	**20 29 29.3**	**+2.1**
ASHO	**Ashiyiah**	**2.32**	**168**	P	**Pn**	**20 29 29.6**	**+2.4**
	SNR=14						
ASHO				S	**Sn**	**20 29 54.0**	**-1.1**
ASUD	**Al Ashush, Dub**	**2.34**	**184**	P	**Pb**	**20 29 30.8**	**-1.0**
	SNR=13						
ASUD				S	**Sn**	**20 29 55.8**	**+0.4**
AJN	**Ajban**	**2.44**	**192**	P	**Pb**	**20 29 32.1**	**-1.5**
AJN				S	**Sn**	**20 29 56.1**	**-1.9**
NGRK	**Negar Kerman**	**2.87**	**21**	Pn	**Pn**	**20 29 36.0**	**+0.9**
ALNE	**Al Ain**	**2.90**	**176**	P	**Pn**	**20 29 37.6**	**+2.4**
ALNE				S	**Sn**	**20 30 05.3**	**-4.1**
SOHO	**SOHO**	**2.96**	**162**	P	**Pn**	**20 29 38.5**	**+2.5**
ARQ	**Araqi**	**3.72**	**166**	P	**Pn**	**20 29 47.7**	**+1.2**
	SNR=8.6						
ARQ				S	**Sn**	**20 30 28.7**	**-1.0**
UMZA	**Um Al Zommool**	**4.25**	**185**	P	**Pn**	**20 29 55.6**	**+2.0**
UMZA				S	**Sn**	**20 30 41.2**	**-1.3**
BSY	**Bisya**	**4.47**	**160**	P	**Pn**	**20 29 58.6**	**+1.8**
BSY				S	**Sn**	**20 30 47.7**	**-0.3**
WSAR	**Wadi Sarin**	**4.66**	**142**	P	**Pn**	**20 30 00.9**	**+1.6**
WSAR				S	**Sn**	**20 30 53.2**	**+0.5**
WBK	**Wadi Bani Khal**	**5.35**	**143**	P	**Pn**	**20 30 12.3**	**+3.5**
WBK				S	**Sn**	**20 31 08.7**	**-1.0**
JLN	**Jalan Bani Buh**	**5.96**	**143**	P	**Pn**	**20 30 17.8**	**+0.6**
JLN				S	**Sn**	**20 31 22.9**	**-1.9**
MHTO	**MHTO**	**6.36**	**159**	P	**Pn**	**20 30 24.0**	**+1.3**
MHTO				S	**Sn**	**20 31 33.7**	**-0.9**
DQM	**DQM**	**7.24**	**165**	P	**Pn**	**20 30 37.8**	**+2.9**
DOK	**Doka**	**8.41**	**189**	P	**Pn**	**20 30 51.8**	**+0.9**
DOK				S	**Sn**	**20 32 22.5**	**-2.5**
DMTO	**DMTO**	**9.22**	**183**	P	**Pn**	**20 31 04.1**	**+2.1**
DMTO				S	**Sn**	**20 32 43.4**	**-1.6**
ABTO	**Aybut**	**9.79**	**193**	P	**Pn**	**20 31 10.0**	**+0.2**
	SNR=6.8						

*SKHL **18** 20:35:53.1±0.1,45.°00N×148.°60E,h138km±7km,mb4.5/3, msha5.6/3*
*MOS **18** 20:35:53.2±1.3,45.°20N×148.°42E,h124km,mb4.3/1,Error ellipse: s-maj=17.0km s-min=11.7km az=79.5*
*JMA **18** 20:35:55.9±0.5,45.°N±3.°×14.°9E±.°,h130km,MV3.7/13,SE OFF ETOROFU*
*IDC **18** 20:36:03.1±8.7,45.°67N×148.°21E,h207km±66km, mb3.3/11,mbtmp3.8/12,Error ellipse: s-maj=57.8km s-min=18.3km az=171.0*

ISC 18 20:35:52.9±0.9,**44.°99N**±0.°06×**148.°63E**±0.°08,**h146**km±6km, **n50**,σ**1°45/63**,**mb3.7/11**,**2C-1D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.59**	**295**	*e*PN	**Pn**	**20 36 15.1**	**+0.9**
KUR				*e*S	**Sn**	**20 36 30.4**	**0.0**
KUR				pmax	pmax		
	comp=Z,125nm,0.5s						
KUR				smax	smax		
	comp=E,936nm,0.5s						
KUR				smax	smax		
	comp=N,247nm,0.3s						
KUR	**Kuril'sk**	**0.59**	**295**	*e*P	**Pn**	**20 36 15.1**	**+0.9**
KUR				AMB	AMB	20 36 19.7	
	comp=N,130nm,0.3s						
KUR				*e*S	**Sn**	**20 36 30.0**	**-0.4**
KUR				A	A	20 36 31.8	
	comp=N,250nm,0.3s						
KUR				A	A	20 36 31.8	
	comp=N,940nm,0.3s						
SHO	**Shikotan**	**1.71**	**230**	⇑*i*PN	**Pn**	**20 36 25.2**	**+0.8**
SHO				*i* S	**Sn**	**20 36 47.2**	**-1.2**
SHO				pmax	pmax		
	comp=N,62nm,0.2s						
SHO				pmax	pmax		
	comp=E,72nm,0.2s						
SHO				pmax	pmax		
	comp=Z,147nm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.4s						
SHO				smax	smax		
	comp=E,698nm,0.2s						
SHO	**Shikotan**	**1.71**	**230**	*i* P	**Pn**	**20 36 25.0**	**+0.6**
SHO				AMB	AMB	20 36 25.8	
	comp=E,110nm,0.5s						
SHO				*i* S	**Sn**	**20 36 47.2**	**-1.2**
SHO				A	A	20 36 49.0	
	comp=E,2μm,0.4s						
SHO				A	A	20 36 49.0	
	comp=E,700nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.20**	**245**	*d i*PN	**Pn**	**20 36 31.9**	**+1.8**
YUK				*i* S	**Sn**	**20 36 59.4**	**+0.8**
YUK				pmax	pmax		
	comp=N,32nm,0.2s						
YUK				pmax	pmax		
	comp=Z,90nm,0.2s						
YUK				smax	smax		
	comp=N,599nm,0.4s						
YUK				smax	smax		
	comp=E,838nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.20**	**245**	*i* P	**Pn**	**20 36 31.5**	**+1.4**
YUK				AMB	AMB	20 36 37.1	
	comp=E,190nm,0.5s						
YUK				*i* S	**Sn**	**20 36 59.5**	**+0.8**
YUK				A	A	20 37 02.2	
	comp=E,500nm,0.4s						
YUK				A	A	20 37 02.2	
	comp=E,730nm,0.4s						
RUSJ	**Misakicho**	**2.57**	**251**	*e*PN	**Pn**	**20 36 36.2**	**+1.5**
RUSJ				*e*S	**Sn**	**20 37 11.2**	**+4.4**
NEM2	**Nemuro 2**	**2.63**	**233**	*e*P	**Pn**	**20 36 36.0**	**+0.5**
NEM2				*e*S	**Sn**	**20 37 06.1**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.64**	**233**	⇑*i*PN	**Pn**	**20 36 35.9**	**+0.4**
NMR				*i* S	**Sn**	**20 37 06.0**	**-2.4**
NMR	**Nemuro--Hokkai**	**2.64**	**233**	*i* P	**Pn**	**20 36 35.9**	**+0.4**
NMR				*i* S	**Sn**	**20 37 06.0**	**-2.4**
JRA	**Rausu**	**2.72**	**248**	*e*P	**Pn**	**20 36 38.1**	**+1.6**
JRA				*e*S	**Sn**	**20 37 10.4**	**+0.3**
JNK	**Nakash**	**3.14**	**245**	*e*P	**Pn**	**20 36 43.4**	**+1.5**
JNK				*e*S	**Sn**	**20 37 20.4**	**+0.7**
AKK	**Akkeshi**	**3.37**	**235**	*e*P	**Pn**	**20 36 45.6**	**+0.8**
JAK	**Akkeshi**	**3.47**	**236**	*e*P	**Pn**	**20 36 46.6**	**+0.5**
JAK				*e*S	**Sn**	**20 37 24.9**	**-2.2**
JTKR	**Abashiri--Toko**	**3.53**	**255**	*e*P	**Pn**	**20 36 48.2**	**+1.4**
JTKR				*e*S	**Sn**	**20 37 29.0**	**+0.4**
JAR	**Ashorobuto**	**3.88**	**246**	*e*P	**Pn**	**20 36 53.5**	**+2.0**
JAR				*e*S	**Sn**	**20 37 38.4**	**+1.4**
JOB	**Onbets**	**4.04**	**241**	*e*P	**Pn**	**20 36 54.9**	**+1.4**
JOB				*e*S	**Sn**	**20 37 39.7**	**-0.9**
JKK2	**Kamakawa 2**	**4.36**	**257**	*e*P	**Pn**	**20 36 59.7**	**+2.0**
ASAJ	**Asahikawa**	**4.40**	**261**	P	**Pn**	**20 36 59.6**	**+1.4**
	comp=E,6.3nm,0.4s,baz=88,slow=15,SNR=4.9						
ASAJ				S	Sn	20 38 06.7	+18
	comp=E,3.6nm,0.3s,baz=288,slow=16,SNR=1.8						
JCH	**Churui**	**4.49**	**240**	*e*P	**Pn**	**20 37 00.4**	**+1.0**
JCH				*e*S	**Sn**	**20 37 49.9**	**-1.3**
YSS	**Yuzh-Sakhalins**	**4.54**	**298**	*e*PN	**Pn**	**20 37 01.0**	**+0.9**
YSS				*e*S	**Sn**	**20 37 50.7**	**-1.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=N,10.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.54**	**298**	*e*P	**Pn**	**20 37 01.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**5.05**	**240**	*e*P	**Pn**	**20 37 06.6**	**-0.3**
JANG	**Nango**	**6.98**	**231**	*e*S	Sn	20 38 45.4	-5.4
SEY	**Seymchan**	**18.11**	**6**	P	**Pn**	**20 39 52.4**	**-2.5**
	comp=N,1.4nm,0.6s,baz=197,slow=17,SNR=8.3						
YAK	**Yakutsk**	**20.31**	**334**	P	**P**	**20 40 15.0**	**-2.1**
YAK	**Yakutsk**	**20.31**	**334**	P	**P**	**20 40 15.0**	**-2.1**
	comp=N,0.5nm,0.4s,baz=17,slow=0.8,SNR=8.1						
YAK	**Yakutsk**	**20.31**	**334**	*e*P	**P**	**20 40 15.0**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**29.40**	**143**	T	T	21 12 58.2	
	baz=333,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**29.41**	**143**	T	T	21 12 59.6	
	baz=333,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**29.42**	**143**	T	T	21 12 58.2	
	baz=333,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**30.41**	**144**	T	T	21 14 11.3	
	baz=334,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**30.41**	**144**	T	T	21 14 15.2	
	baz=334,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**30.43**	**144**	T	T	21 14 14.5	
	baz=334,slow=76,SNR=27						
ILAR	**Eielson Array**	**39.86**	**37**	P	**P**	**20 43 13.3**	**+1.5**
	comp=N,0.3nm,0.7s,baz=277,slow=10.0,SNR=4.7						
	comp=N,0.3nm,0.7s						
MKAR	**Makanchi Array**	**44.96**	**297**	P	**P**	**20 43 53.1**	**-0.1**
	comp=N,1.2nm,0.6s,baz=71,slow=8.4,SNR=18						
MKAR				PcP	**PcP**	**20 45 32.9**	**+1.0**
	comp=N,0.4nm,0.7s,baz=69,slow=4.0,SNR=3.7						
	comp=N,1.2nm,0.6s						
KURK	**Kurchatov**	**45.72**	**303**	P	**P**	**20 43 58.8**	**-0.3**
KURK						20 45 35.3	
KURK	**Kurchatov**	**45.72**	**303**	*e*P	**P**	**20 43 58.8**	**-0.3**
KURBB	**Kurchatov Arra**	**45.81**	**303**	P	**P**	**20 43 58.8**	**-1.0**
	comp=N,0.3nm,0.3s,baz=68,slow=8.3,SNR=10						
KURBB				PcP	**PcP**	**20 45 35.3**	**+0.6**
	comp=N,0.2nm,0.6s,baz=47,slow=4.1,SNR=2.1						
	comp=N,0.3nm,0.3s						
YKA	**Yellowknife Ar**	**54.18**	**35**	P	**P**	**20 45 04.0**	**+1.4**
	comp=N,0.4nm,0.8s,baz=299,slow=7.3,SNR=4.0						
	comp=N,0.4nm,0.8s						
FINES	**FINESS Array B**	**64.25**	**333**	P	**P**	**20 46 10.4**	**-1.5**
	comp=N,1.2nm,0.6s,baz=30,slow=7.7,SNR=11						
	comp=N,1.2nm,0.6s						
NB2	**NORSAR Subarra**	**68.82**	**339**	P	**P**	**20 46 40.0**	**-1.0**
	comp=Z,4.3nm,1.1s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**68.82**	**339**	P	**P**	**20 46 40.0**	**-1.0**
NOA	**NORSAR Array B**	**68.82**	**339**	P	**P**	**20 46 40.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=30,slow=6.6,SNR=6.7						
	comp=Z,0.7nm,0.8s						
HFS	**Hagfors**	**68.95**	**338**	P	**P**	**20 46 40.5**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=45,slow=4.4,SNR=8.9						
	comp=Z,0.9nm,0.4s						
AKASG	**Malin Array Be**	**71.20**	**324**	P	**P**	**20 46 55.0**	**-0.6**
AKASG	**Malin Array Be**	**71.20**	**324**	P	**P**	**20 46 55.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=38,slow=6.0,SNR=6.1						
	comp=Z,0.5nm,0.3s						
EKA	**Eskdalemuir Ar**	**77.23**	**344**	P	**P**	**20 47 30.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=49,slow=3.3,SNR=2.1		

CSS	**Mathiatis**	**0.53**	**74**	Pg	**Pg**	**20 47 32.9**	**-0.2**
CSS				Sg	**Sg**	**20 47 38.1**	**-2.2**
CSS	**Mathiatis**	**0.53**	**74**	⇓*e*P	**Pg**	**20 47 33.0**	**-0.2**
CSS				S	**Sb**	**20 47 41.2**	**+0.5**
CSS				AML	AML	20 47 42.0	
	2.0nm,0.4s						
CSS				AML	AML	20 47 44.1	
	1.7nm,0.4s						
ATHAL	**Athalassa**	**0.65**	**60**	P	**Pg**	**20 47 35.6**	**+0.3**
ATHAL				AML	AML	20 47 52.2	
	2.7nm,0.6s						
ATHAL				AML	AML	20 47 56.0	
	2.7nm,1.0s						
AKIN	**Akıncılar- Kıb**	**0.65**	**72**	Pg	**Pg**	**20 47 34.9**	**-0.5**
AKIN				Sg	**Sg**	**20 47 41.6**	**-2.5**
MVOU	**Mavrovouni**	**0.78**	**75**	P	**Pb**	**20 47 37.3**	**-0.3**
MVOU				S	**Sn**	**20 47 49.3**	**-0.7**
MVOU				AML	AML	20 47 56.0	
	0.9nm,0.5s						
MVOU				AML	AML	20 47 56.9	
	0.7nm,0.4s						
PARAL	**Paralimni**	**1.11**	**80**	P	**Pg**	**20 47 44.7**	**+0.8**
PARAL				S	**Sg**	**20 48 02.4**	**+3.9**
PARAL				AML	AML	20 48 04.7	
	1.5nm,1.0s						
PARAL				AML	AML	20 48 05.6	
	1.1nm,0.6s						
EREN	**Erenkoy**	**1.39**	**59**	Pn	**Pb**	**20 47 48.3**	**+0.3**
EREN	**Erenkoy**	**1.39**	**59**	P	**Pg**	**20 47 51.3**	**+2.0**
EREN				S	**Sg**	**20 48 09.9**	**+2.4**
EREN				*i* AML	AML	20 48 32.0	
	comp=E,213nm,1.3s						
EREN				*i* AML	AML	20 48 35.0	
	comp=N,248nm,1.5s						
GAZI	**Gazipasa**	**1.45**	**347**	P	**Pn**	**20 47 48.2**	**+0.3**
GAZI				S	**Sn**	**20 48 06.0**	**-0.5**
AKK2	**Akkuyu-Mersin**	**1.48**	**27**	Pn	**Pn**	**20 47 49.3**	**+1.0**
AKK1	**Akkuyu-Mersin**	**1.49**	**27**	Pn	**Pn**	**20 47 49.3**	**+0.9**
AKKU	**Akkuyu-Mersin**	**1.50**	**27**	Pn	**Pn**	**20 47 49.6**	**+1.0**
GULN	**MERSIN_Gulnar**	**1.52**	**26**	P	**Pn**	**20 47 48.4**	**-0.5**
GULN				S	**Sn**	**20 48 08.6**	**+0.3**
TISA	**Tisan-Mersin**	**1.56**	**30**	Pn	**Pn**	**20 47 50.3**	**+0.9**
TEPK	**Tepekoy-MERSIN**	**1.56**	**26**	Pn	**Pn**	**20 47 50.1**	**+0.6**
IKL	**Isikli**	**1.63**	**29**	Pn	**Pn**	**20 47 50.6**	**+0.3**
KEBE	**Keben-Mersin**	**1.82**	**26**	Pn	**Pn**	**20 47 54.4**	**+1.4**
SILI	**Silifke-Mersin**	**1.84**	**32**	Pn	**Pn**	**20 47 54.7**	**+1.5**
HDMB	**Hadim**	**2.15**	**355**	Pn	**Pn**	**20 47 59.9**	**+2.2**
KRMN	**Karaman**	**2.39**	**11**	Pn	**Pn**	**20 48 03.0**	**+2.0**
KKBE	**Karaman, Kazim**	**2.40**	**4**	P	**Pb**	**20 48 03.9**	**-1.4**
KKBE				S	**Sb**	**20 48 35.1**	**+0.3**
AKUM	**Antalya-Kumluc**	**2.44**	**309**	P	**Pg**	**20 48 09.4**	**0.0**
AKUM				S	**Sg**	**20 48 40.5**	**-0.6**
SEYD	**Seydisehir-KON**	**2.68**	**345**	Pn	**Pb**	**20 48 08.2**	**-1.8**
SEDI	**Konya, Seydise**	**2.74**	**344**	P	**Pb**	**20 48 09.6**	**-1.5**
SEDI				S	**Sb**	**20 48 42.9**	**-1.5**
SEDI				*i* AML	AML	20 48 48.0	
	comp=E,66nm,1.3s						
SEDI				*i* AML	AML	20 48 52.0	
	comp=N,72nm,0.6s						
KERG	**Konya-Eregli**	**2.83**	**23**	P	**Pb**	**20 48 10.4**	**-2.3**
KERG				S	**Sb**	**20 48 45.8**	**-1.3**
KERG				*i* AML	AML	20 48 48.0	
	comp=N,78nm,0.6s						
KERG				*i* AML	AML	20 48 48.0	
	comp=E,71nm,0.9s						
MMC7	**Mount Meron ar**	**2.86**	**128**	P	**Pn**	**20 48 07.2**	**-0.2**
MMC1	**Mount Meron ar**	**2.86**	**128**	P	**Pn**	**20 48 07.5**	**+0.1**
MMC1				S	**Sn**	**20 48 40.2**	**-1.3**
MMA0B	**Mount Meron ar**	**2.87**	**128**	P	**Pn**	**20 48 07.1**	**-0.4**
MMA0B	**Mount Meron ar**	**2.87**	**128**	S	**Sn**	**20 48 41.6**	**-0.1**
MMB1	**Mount Meron ar**	**2.88**	**128**	P	**Pn**	**20 48 07.3**	**-0.3**
OFRI	**`Ofer**	**2.90**	**138**	S	**Sn**	**20 48 42.1**	**-0.2**
OFRI	**`Ofer**	**2.90**	**138**	P	**Pn**	**20 48 08.0**	**+0.2**
GEM	**Giv'at Ha'Em**	**2.93**	**122**	P	**Pn**	**20 48 07.1**	**-1.1**
GEM	**Giv'at Ha'Em**	**2.93**	**122**	S	**Sn**	**20 48 42.0**	**-1.0**
GEM	**Giv'at Ha'Em**	**2.93**	**122**	P	**Pn**	**20 48 09.0**	**+0.8**
GULE	**Gulek**	**2.98**	**34**	P	**Pn**	**20 48 11.1**	**+2.0**
GULE				S	**Sb**	**20 48 49.9**	**-1.3**
GULE				*i* AML	AML	20 48 56.0	
	comp=Z,53nm,1.3s						
GULE				*i* AML	AML	20 49 00.0	
	comp=E,80nm,0.5s						
GULE				*i* AML	AML	20 49 23.0	
	comp=N,62nm,1.6s						
SLTI	**Sal'it**	**3.22**	**142**	P	**Pb**	**20 48 18.8**	**-0.5**
SLTI	**Sal'it**	**3.22**	**142**	P	**Pn**	**20 48 12.7**	**+0.4**
SLTI	**Sal'it**	**3.22**	**142**	S	**Sn**	**20 48 50.1**	**-0.2**
MMLI	**Mount Malkishu**	**3.28**	**136**	P	**Pn**	**20 48 14.8**	**+1.7**
MMLI	**Mount Malkishu**	**3.28**	**136**	S	**Sn**	**20 48 51.6**	**-0.1**
MMLI	**Mount Malkishu**	**3.28**	**136**	P	**Pn**	**20 48 13.6**	**+0.5**
SHMJ	**Saham**	**3.29**	**128**	P	**Pn**	**20 48 12.7**	**-0.5**
HMDT	**Nahal Hemdat**	**3.48**	**137**	P	**Pn**	**20 48 16.3**	**+0.6**
HMDT	**Nahal Hemdat**	**3.48**	**137**	S	**Sn**	**20 48 56.3**	**-0.1**
HMDT	**Nahal Hemdat**	**3.48**	**137**	P	**Pn**	**20 48 16.3**	**+0.6**
AMAZ	**Amatzia**	**3.76**	**150**	P	**Pn**	**20 48 19.9**	**+0.2**
AMAZ	**Amatzia**	**3.76**	**150**	S	**Sn**	**20 49 03.5**	**-0.1**
DSI	**Dead Sea**	**3.94**	**145**	S	**Sn**	**20 49 07.1**	**-0.7**
DSI	**Dead Sea**	**3.94**	**145**	P	**Pn**	**20 48 22.2**	**+0.1**
MSBI	**Mazada**	**4.14**	**147**	P	**Pn**	**20 48 25.1**	**+0.2**
MSBI	**Mazada**	**4.14**	**147**	S	**Sn**	**20 49 12.6**	**-0.3**
KZIT	**Kziot**	**4.15**	**160**	P	**Pn**	**20 48 24.9**	**-0.1**
KZIT	**Kziot**	**4.15**	**160**	S	**Sn**	**20 49 12.8**	**-0.4**
KARJ	**KARJ**	**4.44**	**145**	P	Pn	20 48 21.4	-7.6
PRNI	**Paran**	**4.86**	**156**	S	**Sn**	**20 49 30.4**	**-0.2**
PRNI	**Paran**	**4.86**	**156**	P	**Pn**	**20 48 34.3**	**-0.4**
HRFI	**Mount Harif**	**5.16**	**157**	S	**Sn**	**20 49 37.8**	**-0.3**
HRFI	**Mount Harif**	**5.16**	**157**	P	**Pn**	**20 48 39.0**	**+0.1**
MBRI	**Mt Berech**	**5.34**	**159**	P	**Pn**	**20 48 42.2**	**+0.7**
MBRI	**Mt Berech**	**5.34**	**159**	S	**Sn**	**20 49 42.8**	**+0.1**
EIL	**Elat**	**5.47**	**159**	P	**Pn**	**20 48 43.5**	**+0.3**
EIL	**Elat**	**5.47**	**159**	S	**Sn**	**20 49 44.7**	**-1.0**

*IDC **18** 20:55:04.9±8.3,36°.55N×72°.17E,h123km±35km,mb3.6/2, mbtmp3.7/9,MS3.7/1,Error ellipse: s-maj=117.8km s-min=28.4km az=156.0*

ISC 18 20:55:05.4±3.1,36.7N±0°.3×71.9E±0°.1,h100km,n19, σ132/19,1C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.56**	**14**	P	**Pn**	**20 56 27.1**	**+1.0**
	SNR=189						
UCH	**Uchtor**	**5.84**	**19**	P	**Pn**	**20 56 31.0**	**+1.0**
	SNR=35						
KZA	**Kyzart**	**5.93**	**25**	P	**Pn**	**20 56 31.6**	**+0.5**
	SNR=16						
EKS2	**Erkin-Say**	**6.09**	**13**	P	**Pn**	**20 56 34.4**	**+1.4**
	SNR=18						
AAK	**Ala-Archa**	**6.22**	**18**	P	**Pn**	**20 56 35.9**	**+1.1**
	SNR=16						
AAK	**Ala-Archa**	**6.22**	**18**	P	**Pn**	**20 56 36.0**	**+1.2**
	7.5nm,0.3s,baz=144,slow=5.4,SNR=78						
AAK				S	Sn	20 57 36.6	-8.0
	2.6nm,0.5s,baz=334,slow=20,SNR=2.2						
ULHL	**Ulahol**	**6.44**	**30**	P	**Pn**	**20 56 38.5**	**+0.6**
	SNR=5.5						
KK31	**Karatay Array**	**6.45**	**351**	⇓P	**Pn**	**20 56 38.5**	**+0.7**
	1.3nm,0.2s,baz=184,slow=14,SNR=49						
KK31				S	Sn	20 57 41.8	-8.1
	41nm,0.6s,baz=180,slow=24,SNR=29						
CHMS	**Chumysh**	**6.63**	**18**	P	**Pn**	**20 56 41.2**	**+1.0**
	SNR=6.8						
GEYT	**Alibeck**	**11.04**	**280**	P	**Pn**	**20 57 42.6**	**+2.3**
	0.8nm,0.3s,baz=101,slow=13,SNR=8.9						
GEYT				S	**Sn**	**20 59 39.3**	**-2.5**
	1.7nm,0.5s,baz=280,slow=36,SNR=3.1						
MKAR	**Makanchi Array**	**12.68**	**34**	P	**Pn**	**20 58 01.6**	**-0.4**
	0.2nm,0.6s,baz=223,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**14.68**	**17**	P	**Pn**	**20 58 29.2**	**+1.4**
	0.5nm,0.7s,baz=206,slow=10,SNR=2.0						
AB31	**Akbulak array**	**15.25**	**329**	⇑P	**Pn**	**20 58 34.0**	**-1.1**
	0.4nm,0.3s,baz=164,slow=10.0,SNR=37						
BVAR	**Borovoye Array**	**16.32**	**357**	P	**Pn**	**20 58 48.6**	**+0.1**
	0.5nm,0.4s,baz=166,slow=13,SNR=5.4						
AKTO	**Aktyubinsk**	**16.95**	**328**	P	**Pn**	**20 58 56.9**	**+0.7**
	0.9nm,0.3s,baz=126,slow=8.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.41**	**23**	P	**P**	**20 59 21.6**	**-1.8**
	0.9nm,0.3s,baz=210,slow=9.5,SNR=4.6						
ARCES	**ARCESS Array B**	**41.21**	**337**	P	**P**	**21 02 39.1**	**-0.7**
	2.4nm,0.9s,baz=121,slow=8.7,SNR=1.7						
	2.4nm,0.9s						
HFS	**Hagfors**	**43.33**	**322**	P	**P**	**21 02 56.7**	**-0.5**
	2.1nm,0.9s,baz=87,slow=12,SNR=1.6						
KLR	**Kul'dur**	**44.42**	**54**	LR	LR	21 24 42.4	
	comp=Z,93nm,18.5s,baz=356,slow=40						

*KRNET **18** 21:50:25.8±0.1,39°.86N×75°.35E,mb3.1*
*SOME **18** 21:50:25.9,39°.88N×75°.38E,h5km*
*NNC **18** 21:50:27.4±0.9,39°.94N×75°.35E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=7.0km s-min=4.6km az=160.0*

ISC 18 21:50:27.4±1.1,39°.93N±0°.05×75°.31E±0°.03,h10km,n66, σ2.35/100,10C-24D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.39**	**274**	⇑*i*P	**Pb**	**21 50 52.9**	**-0.7**
	baz=77						
SFK				⇑*i*S	**Sg**	**21 51 12.7**	**+0.5**
	baz=77						
NRN	**Naryn**	**1.59**	**19**	⇓*i*P	**Pb**	**21 50 56.3**	**-0.8**
	baz=17						
NRN				⇓*i*S	**Sg**	**21 51 18.4**	**-0.3**
	baz=17						
OHH	**Osh**	**2.02**	**288**	⇓*i*P	**Pb**	**21 51 03.9**	**-0.4**
	baz=89						
OHH				⇓*i*S	**Sg**	**21 51 31.6**	**-0.8**
	baz=89						
ARLS	**Aral**	**2.07**	**339**	⇑*e*P	**Pb**	**21 51 04.8**	**-0.4**
	baz=39						
ARLS				⇑*e*S	**Sb**	**21 51 33.2**	**+2.1**
	baz=39						
KZA	**Kyzart**	**2.15**	**359**	P	**Pb**	**21 51 05.9**	**-0.7**
	SNR=33						
ARSB	**Arslanbob**	**2.26**	**309**	⇓*e*P	**Pb**	**21 51 07.5**	**-0.8**
	baz=10.0						
ARSB				⇓*e*S	**Sb**	**21 51 37.4**	**+1.1**
	baz=10.0						
UCH	**Uchtor**	**2.38**	**346**	P	**Pb**	**21 51 09.8**	**-0.7**
	SNR=22						
ULHL	**Ulahol**	**2.42**	**17**	P	**Pb**	**21 51 11.3**	**+0.1**
	SNR=22						
AML	**Almayashu**	**2.52**	**331**	P	**Pb**	**21 51 11.6**	**-1.3**
	SNR=56						
KDJ	**Kajisay**	**2.62**	**32**	⇓*e*P	**Pb**	**21 51 12.1**	**-2.4**
	baz=31						
KDJ				⇓*e*S	**Sb**	**21 51 45.8**	**-0.9**
	baz=31						
KBK	**Karagaybulak**	**2.74**	**354**	P	**Pb**	**21 51 14.8**	**-1.7**
	SNR=49						
DRK	**Karamyk**	**2.74**	**262**	⇑*e*P	**Pb**	**21 51 13.6**	**-3.1**
	baz=63						
DRK				⇑*e*S	**Sb**	**21 51 48.5**	**-2.0**
	baz=63						
AAK	**Ala-Archa**	**2.78**	**347**	P	**Pb**	**21 51 15.2**	**-2.0**
	SNR=30						
FRU1	**Bishkek**	**2.93**	**350**	⇓*e*P	**Pb**	**21 51 17.1**	**-2.6**
	baz=50						
FRU1				⇓*e*S	**Sb**	**21 51 53.9**	**-1.6**
	baz=50						
EKS2	**Erkin-Say**	**2.97**	**338**	P	**Pb**	**21 51 18.1**	**-2.3**
	SNR=7.5						
TKM2	**Tokmak 2**	**3.00**	**4**	P	**Pb**	**21 51 18.2**	**-2.8**
	SNR=15						
CHMS	**Chumysh**	**3.10**	**352**	P	**Pb**	**21 51 19.8**	**-2.8**
	SNR=13						
KST	**Kastek**	**3.15**	**9**	Pg	**Pg**	**21 51 25.4**	**-2.4**
	18nm,0.2s						
KST				Lg	Lg	21 52 08.2	
	128nm,0.7s						
KST	**Kastek**	**3.15**	**9**	*e*P	**Pg**	**21 51 25.4**	**-2.4**
	18nm,0.2s						
KST				*e*S	**Sg**	**21 52 08.2**	**-0.5**
	128nm,0.7s						
MRKS	**Merke**	**3.22**	**332**	Pg	**Pg**	**21 51 27.0**	**-2.2**
	23nm,0.3s						
MRKS				Lg	Lg	21 52 10.8	
	30nm,0.3s						
MRKS	**Merke**	**3.22**	**332**	*e*P	**Pg**	**21 51 27.0**	**-2.2**
	23nm,0.3s						
MRKS				*e*S	**Sg**	**21 52 10.8**	**-0.1**
	30nm,0.3s						
MTBS	**Maitube**	**3.31**	**14**	Pg	**Pg**	**21 51 28.1**	**-2.7**
	8.5nm,0.2s						
MTBS				Lg	Lg	21 52 12.6	
	42nm,0.3s						
MTBS	**Maitube**	**3.31**	**14**	*e*P	**Pb**	**21 51 27.9**	**+1.7**
	8.5nm,0.2s						
MTBS				*e*S	**Sg**	**21 52 12.6**	**-1.0**
	42nm,0.3s						
DGS	**Degeres**	**3.33**	**6**	Pg	**Pg**	**21 51 28.8**	**-2.4**
	16nm,0.2s						
DGS				Lg	Lg	21 52 14.0	
	52nm,0.4s						
DGS	**Degeres**	**3.33**	**6**	*e*P	**Pg**	**21 51 28.8**	**-2.4**
	16nm,0.2s						
DGS				*e*S	**Sg**	**21 52 14.0**	**-0.4**
	52nm,0.4s						
TNSS	**Tian-Shan**	**3.34**	**21**	Pg	**Pb**	**21 51 28.2**	**+1.2**
	21nm,0.1s						
TNSS				Lg	Lg	21 52 12.9	
	17nm,0.5s						
TNSS	**Tian-Shan**	**3.34**	**21**	*e*P	**Pb**	**21 51 28.2**	**+1.2**
	21nm,0.1s						
TNSS				*e*S	**Sg**	**21 52 12.9**	**-1.8**
	17nm,0.5s						
ANVS	**Anan'yevo**	**3.36**	**31**	⇓*i*P	**Pn**	**21 51 22.5**	**+2.4**
	baz=30						
ANVS				⇓*i*S	**Sn**	**21 52 03.6**	**+3.4**
	baz=30						
USP	**Ospenovka**	**3.39**	**350**	P	**Pn**	**21 51 23.3**	**+2.9**
	SNR=6.8						
BTK	**Batken**	**3.45**	**274**	⇓*e*P	**Pn**	**21 51 23.2**	**+1.9**
	baz=75						
BTK				⇓*e*S	**Sn**	**21 52 05.4**	**+3.1**
	baz=75						
PRZ	**Przheval'sk**	**3.46**	**41**	⇓*i*P	**Pn**	**21 51 23.8**	**+2.4**
	baz=40						
PRZ				⇓*i*S	**Sn**	**21 52 05.9**	**+3.3**
	baz=40						
MDOK	**Medeo**	**3.49**	**21**	⇑Pn	**Pn**	**21 51 24.0**	**+2.2**
	2.4nm,0.6s						
MDOK				Pg	**Pb**	**21 51 30.2**	**+0.9**
	4.8nm,0.3s						
MDOK				Pg	**Pb**	**21 51 30.7**	**+1.4**
	13nm,0.1s						
MDOK				Lg	Lg	21 52 17.1	
	72nm,0.9s						
MDOK				Lg	Lg	21 52 17.5	
	79nm,0.7s						
MDOK	**Medeo**	**3.49**	**21**	*e*P	**Pb**	**21 51 30.7**	**+1.4**
	13nm,0.1s						
MDOK				*e*S	**Sg**	**21 52 17.1**	**-2.3**
	72nm,0.9s						
AAA	**Alma-Ata**	**3.49**	**20**	Pg	**Pg**	**21 51 31.7**	**-2.6**
	31nm,0.2s						
AAA				Lg	Lg	21 52 18.9	
	155nm,0.4s						
AAA	**Alma-Ata**	**3.49**	**20**	*e*P	**Pg**	**21 51 31.7**	**-2.6**
	31nm,0.2s						
AAA				*e*S	**Sg**	**21 52 18.9**	**-0.7**
	155nm,0.4s						
KNDC	**Almaty**	**3.52**	**20**	⇓Pg	**Pb**	**21 51 31.3**	**+1.6**
	17nm,0.4s						
KNDC				⇓Lg	Lg	21 52 18.7	
	197nm,0.6s						
TRKS	**Terek-Say**	**3.55**	**298**	⇑*i*P	**Pn**	**21 51 24.3**	**+1.6**
	baz=98						
TRKS				⇑*i*S	**Sn**	**21 52 07.3**	**+2.5**
	baz=98						
SGDS	**Sogindy**	**3.56**	**352**	Pg	**Pg**	**21 51 33.5**	**-2.0**
	22nm,0.2s						
SGDS				Lg	Lg	21 52 22.2	
	20nm,0.4s						
KOTS	**Kotyrbulak**	**3.57**	**22**	Pg	**Pg**	**21 51 32.6**	**-3.1**
	5.4nm,0.3s						
KOTS				Lg	Lg	21 52 20.5	
	174nm,0.5s						
KOTS	**Kotyrbulak**	**3.57**	**22**	*e*P	**Pg**	**21 51 32.6**	**-3.1**
	5.4nm,0.3s						
KOTS				*e*S	**Sg**	**21 52 20.5**	**-1.5**
	174nm,0.5s						
SATY	**Saty**	**3.90**	**36**	Pg	**Pb**	**21 51 38.2**	**+1.9**
	7.8nm,0.3s						
SATY				Lg	Lg	21 52 29.9	
	24nm,0.4s						
SATY	**Saty**	**3.90**	**36**	*e*P	**Pb**	**21 51 38.2**	**+1.9**
	7.8nm,0.3s						
SATY				*e*S	**Sg**	**21 52 29.9**	**-2.7**
	24nm,0.4s						
KTBS	**Karatobe**	**3.92**	**15**	Pg	**Pb**	**21 51 38.7**	**+2.1**
	15nm,0.2s						
KTBS				Lg	Lg	21 52 31.2	
	59nm,0.4s						
KTBS	**Karatobe**	**3.92**	**15**	*e*P	**Pb**	**21 51 38.7**	**+2.1**
	15nm,0.2s						
KTBS				*e*S	**Sg**	**21 52 31.2**	**-2.0**
	59nm,0.4s						
KUU	**Kurty**	**4.04**	**11**	Pg	**Pb**	**21 51 41.0**	**+2.4**
	8.2nm,0.2s						
KUU				Lg	Lg	21 52 34.8	
	33nm,0.4s						
KUU	**Kurty**	**4.04**	**11**	*e*P	**Pb**	**21 51 41.0**	**+2.4**
	8.2nm,0.2s						
KUU				*e*S	**Sg**	**21 52 34.8**	**-2.2**
	33nm,0.4s						
CHKK	**Chushkaly**	**4.12**	**17**	Pg	**Pb**	**21 51 42.1**	**+2.1**
	10nm,0.3s						
CHKK				Lg	Lg	21 52 36.9	
	69nm,0.6s						
CHKK	**Chushkaly**	**4.12**	**17**	*e*P	**Pb**	**21 51 42.1**	**+2.1**
	10nm,0.3s						
CHKK				*e*S	**Sg**	**21 52 36.9**	**-2.7**
	69nm,0.6s						
KURS	**Kuram**	**4.15**	**30**	Pg	**Pb**	**21 51 42.0**	**+1.5**
	4.7nm,0.4s						
KURS				Lg	Lg	21 52 36.6	
	15nm,0.5s						
KURS	**Kuram**	**4.15**	**30**	*e*P	**Pb**	**21 51 42.0**	**+1.5**
	4.7nm,0.4s						
KURS				*e*S	**Sg**	**21 52 36.6**	**-4.1**
	15nm,0.5s						
DZA	**Taraz**	**4.21**	**316**	Pg	**Pg**	**21 51 45.0**	**-3.0**
	15nm,0.1s						
DZA				Lg	Lg	21 52 41.7	
	24nm,0.1s						
DZA	**Taraz**	**4.21**	**316**	*e*P	**Pg**	**21 51 45.0**	**-3.0**
	15nm,0.1s						
DZA				*e*S	**Sg**	**21 52 41.7**	**-0.8**
	24nm,0.1s						
UZB	**Uzynbulak**	**4.26**	**40**	Pg	**Pb**	**21 51 44.0**	**+1.6**
	3.6nm,0.1s						
UZB				Lg	Lg	21 52 40.0	
	12nm,0.4s						
UZB	**Uzynbulak**	**4.26**	**40**	*e*P	**Pb**	**21 51 44.0**	**+1.6**
	3.6nm,0.1s						
UZB				*e*S	**Sg**	**21 52 40.0**	**-4.0**
	12nm,0.4s						
KPKS	**Kokpek**	**4.35**	**34**	Pg	**Pb**	**21 51 45.1**	**+1.2**
	4.4nm,0.3s						
KPKS				Lg	Lg	21 52 41.9	
	35nm,0.5s						
KPKS	**Kokpek**	**4.35**	**34**	*e*P	**Pb**	**21 51 45.1**	**+1.2**
	4.4nm,0.3s						
KPKS				*e*S	**Sg**	**21 52 41.9**	**-4.9**
	35nm,0.5s						
PDGK	**Podgornoye**	**4.62**	**41**	Pg	**Pb**	**21 51 50.6**	**+2.0**
	1.5nm,0.6s						
PDGK				Lg	Lg	21 52 51.4	
	5.5nm,0.5s						
PDGK	**Podgornoye**	**4.62**	**41**	⇓Pn	**Pn**	**21 51 38.8**	**+1.4**
	3.1nm,0.7s						
PDGK				⇓Lg	Lg	21 52 51.2	
	14nm,0.7s						
ARXS	**Arharly**	**4.67**	**23**	*e*P	**Pg**	**21 51 53.1**	**-3.8**
	8.1nm,0.5s						
ARXS				*e*S	**Sg**	**21 52 55.5**	**-2.0**
	14nm,0.5s						
KK31	**Karatay Array**	**4.80**	**313**	⇓Pn	**Pn**	**21 51 40.5**	**+0.8**
	0.6nm,0.3s,baz=0.0,slow=0.1,SNR=16						
KK31				⇓Pg	**Pb**	**21 51 54.7**	**+3.1**
	1.2nm,0.5s,baz=149,slow=16,SNR=5.0						
KK31				⇑Lg	Lg	21 53 01.9	
	12nm,1.1s,baz=137,slow=26,SNR=6.2						
KKAR	**Karatay Array**	**4.80**	**313**	⇓*i*P	**Pn**	**21 51 42.6**	**+2.9**
	baz=13						
KKAR				⇓*i*S	**Sn**	**21 52 39.9**	**+4.5**
	baz=13						
BTLS	**Baital**	**5.20**	**350**	Pg	**Pg**	**21 52 02.4**	**-4.4**
	2.6nm,0.1s						
BTLS				Lg	Lg	21 53 11.6	
	8.3nm,0.5s						
BTLS	**Baital**	**5.20**	**350**	*e*P	**Pg**	**21 52 02.4**	**-4.4**
	2.6nm,0.1s						
BTLS				*e*S	**Sg**	**21 53 11.6**	**-2.5**
	8.3nm,0.5s						
KNOS	**Konyrlen**	**5.28**	**32**	Pg	**Pb**	**21 52 03.1**	**+3.3**
	2.2nm,0.2s						
KNOS				Lg	Lg	21 53 12.8	
	6.3nm,0.6s						
DJR	**Jarkent**	**5.52**	**36**	Pg	**Pb**	**21 52 06.9**	**+3.0**
	0.9nm,0.1s						
DJR				Lg	Lg	21 53 19.4	
	3.4nm,0.2s						
DJR	**Jarkent**	**5.52**	**36**	*e*P	Pg	21 52 07.9	-5.2
	1.4nm,0.2s						
DJR				*e*S	**Sg**	**21 53 20.6**	**-4.0**
	3.4nm,0.2s						

IDC 18 21:54:12.9±3.8,49°.83S×117°.38E,h0km,mb3.8/2, mbtmp4.0/3,ML2.2/1,MS3.6/4,Error ellipse: s-maj=136.5km s-min=63.4km az=100.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.11**	**350**	T	T	22 12 45.9	
	baz=174,slow=74,SNR=83						
H01W1	**Cape Leeuwin H**	**15.11**	**350**	T	T	22 12 47.0	
	baz=174,slow=74,SNR=48						
H01W3	**Cape Leeuwin H**	**15.12**	**350**	T	T	22 12 48.1	
	baz=174,slow=74,SNR=69						
NWAO	**Narrogin (SRO)**	**16.88**	**360**	Pn	Pn	21 58 11.0	+0.4
	0.4nm,0.3s,baz=196,slow=9.2,SNR=3.7						
NWAO				LR	LR	22 02 52.7	
	comp=Z,123nm,18.1s,baz=300,slow=31						
	7.0nm,0.6s						
ASAR	**Alice Springs**	**29.14**	**32**	P	P	22 00 15.9	+0.2
	0.7nm,0.3s,baz=214,slow=9.5,SNR=4.6						
	0.7nm,0.9s						
WRA	**Warramunga Arr**

ISN **18** *22:28:24.8±0.3,34.51N×45.78E,h24km±2km,ML3.0*
TEH **18** *22:28:25.8,34.40N×45.78E,h9km±31km,ML3.2*
ISC 18 22:28:25.4±1.1**,34.46N**±0.04×**45.79E**±0.04**,h13**km±10km**,**n12,**σ0.78/17,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**286**			**Pg**	**Pg**	**22 28 29.6**	**+0.2**
KGS1						Sg	**Sb**	**22 28 33.4**	**-0.5**
IDHR	**Dehrash**	**0.55**	**64**			**Pg**	**Pg**	**22 28 36.5**	**+0.2**
IGHG	**Ghaleghazi**	**0.66**	**101**			**Pg**	**Pb**	**22 28 38.8**	**-0.1**
IGHG						Sg	**Sn**	**22 28 49.4**	**-1.6**
ILBA	**Ilam Banvizeh**	**0.90**	**157**			**Pg**	**Pb**	**22 28 42.5**	**-0.4**
IBDR	**Badra**	**1.35**	**175**	*e*		**Pg**	**Pb**	**22 28 50.0**	**-0.5**
IBDR				*e*		Sg	**Sg**	**22 29 08.5**	**-0.4**
IBDR						AML	AML	22 29 13.5	
	comp=N,162nm,0.5s								
IBDR						AML	AML	22 29 14.2	
	comp=E,372nm,0.9s								
IKOM	**Komasi**	**1.45**	**101**			**Pg**	**Pg**	**22 28 54.0**	**+0.6**
BHD	**Baghdad**	**1.67**	**225**	*e*		**Pg**	**Pb**	**22 28 55.0**	**-0.9**
BHD				*e*		Sg	**Sb**	**22 29 17.0**	**+0.2**
BHD						AML	AML	22 29 30.6	
	comp=E,193nm,0.3s								
SDS1	**Sardasht. Az.**	**1.71**	**352**			Pg	**Pg**	**22 28 58.5**	**+0.3**
IKFM	**Kafar-mosalman**	**1.95**	**118**			Pn	**Pb**	**22 29 00.4**	**-0.3**
MAHB	**Mahabad**	**2.31**	**358**			Pn	**Pb**	**22 29 07.1**	**+0.1**
HSAM	**Samen**	**2.34**	**95**			Pn	**Pb**	**22 29 06.5**	**-1.1**
RAFI	**Al-Rafai**	**2.74**	**174**	*e*		Pn	**Pn**	**22 29 10.0**	**+0.9**
RAFI				*e*		Sn	**Sn**	**22 29 43.0**	**+1.0**
RAFI						AML	AML	22 29 49.1	
	comp=E,102nm,0.3s								
RAFI						AML	AML	22 29 49.9	
	comp=N,133nm,0.3s								

IDC **18** *22:28:24.5±4.8,1.03S×90.42W,h0km,mb3.6/6,*
mbtmp3.7/7,ML3.7/1,MS3.1/1,Error ellipse:
s-maj=144.8km s-min=95.8km az=74.0
IGQ **18** *22:28:26±0.0,1.3S±1.9×91.1W±,h0km*
ISC 18 22:28:28.1±0.9,**0.85S**±0.09×**91.06W**±0.08,**h10**km,**n18,**σ1.58/14,mb3.7/6,Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VCH1	**Volcn Chico**	**0.08**	**329**			P	**Pg**	**22 28 28.0**	**-2.6**
VCH1						S	**Sg**	**22 28 30.0**	**-2.4**
PVIL	**Puerto Villami**	**0.14**	**133**			P	**Pg**	**22 28 30.0**	**-1.3**
PVIL						S	**Sg**	**22 28 32.0**	**-1.5**
FER2	**Fernandina2, P**	**0.52**	**317**			P	**Pg**	**22 28 37.0**	**-1.3**
FER2						S	**Sg**	**22 28 45.0**	**-0.2**
PAYG	**Puerto Ayora**	**0.79**	**77**			P	**Pg**	**22 28 42.0**	**-1.4**
NNA	**Nana**	**17.93**	**129**			LR	LR	22 37 50.5	
	comp=Z,56nm,18.9s,baz=302,slow=33								
CMIG	**Matias Romero**	**18.22**	**348**			P	**P**	**22 32 42.2**	**+0.7**
	0.2nm,0.3s,baz=169,slow=16,SNR=2.5								
	2.4nm,0.8s								
TXAR	**Lajitas Array**	**32.34**	**339**			P	**P**	**22 35 00.1**	**+2.2**
	0.4nm,0.8s,baz=156,slow=9.5,SNR=3.9								
	0.4nm,0.8s								
H03N2	**Juan Fernandez**	**34.36**	**162**			T	T	23 11 17.3	
	baz=338,slow=77,SNR=35								
H03N1	**Juan Fernandez**	**34.37**	**162**			T	T	23 11 18.5	
	baz=338,slow=77,SNR=61								
H03N3	**Juan Fernandez**	**34.38**	**162**			T	T	23 11 17.5	
	baz=338,slow=77,SNR=36								
NVAR	**Mina Array Bea**	**46.45**	**330**			P	**P**	**22 36 56.8**	**+1.2**
	0.2nm,0.3s,baz=131,slow=6.6,SNR=1.9								
	0.2nm,0.3s								
PDAR	**Pinedale Array**	**46.51**	**341**			P	**P**	**22 36 56.4**	**+0.4**
	0.7nm,0.9s,baz=144,slow=7.8,SNR=2.6								
	0.7nm,0.9s								
ULM	**Lac du Bonnet**	**51.07**	**356**			P	**P**	**22 37 30.1**	**-0.5**
	1.9nm,0.8s,baz=270,slow=6.1,SNR=3.1								
	1.9nm,0.8s								
YKA	**Yellowknife Ar**	**65.64**	**348**			P	**P**	**22 39 12.3**	**+0.1**
	0.4nm,0.8s,baz=150,slow=6.1,SNR=7.3								
	0.4nm,0.8s								
ILAR	**Eielson Array**	**76.86**	**339**			P	**P**	**22 40 20.4**	**+0.3**
	0.7nm,0.7s,baz=136,slow=4.5,SNR=12								
	0.7nm,0.7s								
H11S2	**WAKE ISLAND Hyd**	**101.88**	**289**			T	T	00 35 31.0	
	baz=85,slow=74,SNR=11								
H11S1	**WAKE ISLAND Hyd**	**101.88**	**289**			T	T	00 35 31.3	
	baz=85,slow=74,SNR=10								
H11S3	**WAKE ISLAND Hyd**	**101.89**	**289**			T	T	00 35 32.2	
	baz=85,slow=74,SNR=5.1								

SOME **18** *22:32:47.8,41.57N×76.42E,h15km*
KRNET **18** *22:32:48.0±0.1,41.61N×76.42E,h12km,mb2.8*
NNC **18** *22:32:49.2±0.7,41.62N×76.42E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=4.5km s-min=3.4km az=0.0
KNET **18** *22:32:51.0±0.4,41.69N×76.26E,h0km,ml2.2,Error*
ellipse: s-maj=3.1km s-min=2.1km az=0.0
ISC 18 22:32:49.1±1.2,**41.63N**±0.03×**76.41E**±0.02,**h6**km±12km**,**n77,**σ1.00/136,36C-19D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.36**	**238**	⇑	*i*P	**Pg**	**Pg**	**22 32 55.9**	**-0.3**
	baz=41								
NRN				⇑	*i*S	**Sg**	**Sg**	**22 33 01.3**	**+0.2**
	baz=41								
ULHL	**Ulahol**	**0.63**	**349**	⇑	P	**Pg**	**Pg**	**22 33 01.0**	**-0.2**
	16nm,0.2s,SNR=60								
ULHL				⇑	S	**Sg**	**Sg**	**22 33 10.1**	**+0.7**
	54nm,0.2s								
ULHL	**Ulahol**	**0.63**	**349**	⇑	*i*P	**Pg**	**Pg**	**22 33 00.6**	**-0.6**
	baz=48								
ULHL				⇑	*i*S	**Sg**	**Sg**	**22 33 09.8**	**+0.3**
	baz=48								
KDJ	**Kajisay**	**0.76**	**49**	⇓	*i*P	**Pg**	**Pg**	**22 33 02.7**	**-1.1**
	baz=48								
KDJ				⇓	*i*S	**Sg**	**Sg**	**22 33 13.5**	**-0.2**
	baz=48								
KZA	**Kyzart**	**0.97**	**298**	⇑	P	**Pg**	**Pg**	**22 33 07.1**	**-0.7**
	27nm,0.2s,SNR=20								
KZA				⇑	S	**Sg**	**Sg**	**22 33 20.9**	**+0.3**
	35nm,0.1s								
KZA	**Kyzart**	**0.97**	**298**	⇓	*i*P	**Pg**	**Pg**	**22 33 07.0**	**-0.8**
	baz=99								
KZA				⇓	*i*S	**Sg**	**Sg**	**22 33 20.8**	**+0.3**
	baz=99								
TKM2	**Tokmak 2**	**1.43**	**335**	⇓	P	**Pb**	**Pb**	**22 33 15.7**	**-0.6**
	4.2nm,0.1s,SNR=7.6								
TKM2	**Tokmak 2**	**1.43**	**335**	⇑	*i*P	**Pn**	**Pb**	**22 33 15.2**	**-0.6**
	baz=35								
TKM2				⇑	*i*S	**Sb**	**Sb**	**22 33 34.7**	**0.0**
	baz=35								
KST	**Kastek**	**1.45**	**347**		P	**Pn**	**Pb**	**22 33 15.9**	**-0.2**
	1.5nm,0.1s								
KST					S	**Sg**	**Sg**	**22 33 36.3**	**+0.6**
	14nm,0.3s								
KST	**Kastek**	**1.45**	**347**	*e*	P	**Pn**	**Pb**	**22 33 15.9**	**-0.2**
	1.5nm,0.1s								
KST				*e*	S	**Sg**	**Sg**	**22 33 36.3**	**+0.6**
	14nm,0.3s								
KST	**Kastek**	**1.45**	**347**	*e*	P	**Pn**	**Pb**	**22 33 15.9**	**-0.2**
	baz=47								
KST				*e*	S	**Sg**	**Sg**	**22 33 36.3**	**+0.6**
	baz=47								
TNSS	**Tian-Shan**	**1.46**	**16**		P	**Pn**	**Pb**	**22 33 16.2**	**-0.3**
	5.1nm,0.1s								
TNSS					S	**Sg**	**Sg**	**22 33 36.8**	**+0.7**
	14nm,0.2s								
TNSS	**Tian-Shan**	**1.46**	**16**	*e*	P	**Pn**	**Pb**	**22 33 16.2**	**-0.3**
	5.1nm,0.1s								
TNSS				*e*	S	**Sg**	**Sg**	**22 33 36.9**	**+0.7**
	14nm,0.2s								
TNSS	**Tian-Shan**	**1.46**	**16**	*e*	P	**Pn**	**Pb**	**22 33 16.2**	**-0.3**
	baz=15								
TNSS				*e*	S	**Sg**	**Sg**	**22 33 36.9**	**+0.7**
	baz=15								
ANVS	**Anan'yevo**	**1.48**	**39**	⇓	*i*P	**Pn**	**Pb**	**22 33 16.1**	**-0.5**
	baz=38								
ANVS				⇓	*i*S	**Sg**	**Sg**	**22 33 36.5**	**-0.3**
	baz=38								
KBK	**Karagaybulak**	**1.50**	**314**	⇓	P	**Pb**	**Pb**	**22 33 17.2**	**-0.2**
	9.6nm,0.2s,SNR=10								
KBK				⇑	S	**Sg**	**Sg**	**22 33 38.2**	**+1.1**
	24nm,0.2s								
KBK	**Karagaybulak**	**1.50**	**314**	⇑	*i*P	**Pn**	**Pb**	**22 33 16.4**	**-0.3**
	baz=14								
KBK				⇑	*i*S	**Sb**	**Sb**	**22 33 37.0**	**+0.3**
	baz=14								
MTBS	**Maitube**	**1.50**	**1**		P	**Pb**	**Pb**	**22 33 16.8**	**-0.7**
	1.7nm,0.1s								
MTBS					S	**Sg**	**Sg**	**22 33 37.5**	**+0.2**
	14nm,0.1s								
MTBS	**Maitube**	**1.50**	**1**	*e*	P	**Pb**	**Pb**	**22 33 16.8**	**-0.7**
	1.7nm,0.1s								
MTBS				*e*	S	**Sg**	**Sg**	**22 33 37.5**	**+0.2**
	14nm,0.1s								
MTBS	**Maitube**	**1.50**	**1**	*e*	P	**Pb**	**Pb**	**22 33 16.8**	**-0.7**
	baz=0.0								
MTBS				*e*	S	**Sg**	**Sg**	**22 33 37.5**	**+0.2**
	baz=0.0								
UCH	**Uchtor**	**1.54**	**294**	⇑	P	**Pn**	**Pb**	**22 33 17.5**	**0.0**
	21nm,0.3s,SNR=13								
UCH				⇑	S	**Sg**	**Sg**	**22 33 39.2**	**+0.8**
	51nm,0.5s								
UCH	**Uchtor**	**1.54**	**294**	⇓	*i*P	**Pn**	**Pb**	**22 33 17.0**	**-0.5**
	baz=94								
UCH				⇓	*i*S	**Sg**	**Sg**	**22 33 38.5**	**0.0**
	baz=94								
ARLS	**Aral**	**1.58**	**279**	⇑	*e*P	**Pn**	**Pb**	**22 33 17.3**	**-0.5**
	baz=80								
ARLS				⇑	*e*S	**Sg**	**Sg**	**22 33 39.6**	**-0.2**
	baz=80								
MDOK	**Medeo**	**1.60**	**17**		Pg	**Pb**	**Pb**	**22 33 18.5**	**-0.7**
	5.1nm,0.1s								
MDOK					P	**Pb**	**Pb**	**22 33 18.6**	**-0.7**
	2.8nm,0.4s								
MDOK					S	**Sg**	**Sg**	**22 33 40.4**	**-0.3**
	26nm,0.5s								
MDOK					Lg	Lg	Lg	22 33 40.9	
	27nm,0.2s								
MDOK	**Medeo**	**1.60**	**17**	*e*	P	**Pb**	**Pb**	**22 33 18.5**	**-0.7**
	5.1nm,0.1s								
MDOK				*e*	S	**Sg**	**Sg**	**22 33 40.9**	**+0.2**
	27nm,0.2s								
MDOK	**Medeo**	**1.60**	**17**	*e*	P	**Pb**	**Pb**	**22 33 18.5**	**-0.7**
	baz=16								
MDOK				*e*	S	**Sg**	**Sg**	**22 33 40.9**	**+0.2**
	baz=16								
AAA	**Alma-Ata**	**1.62**	**13**		P	**Pb**	**Pb**	**22 33 18.9**	**-0.6**
	9.1nm,0.1s								
AAA					S	**Sg**	**Sg**	**22 33 41.4**	**+0.1**
	21nm,0.1s								
AAA	**Alma-Ata**	**1.62**	**13**	*e*	P	**Pb**	**Pb**	**22 33 18.9**	**-0.6**
	9.1nm,0.1s								
AAA				*e*	S	**Sg**	**Sg**	**22 33 41.4**	**+0.1**
	21nm,0.1s								
AAA	**Alma-Ata**	**1.62**	**13**	*e*	P	**Pb**	**Pb**	**22 33 18.9**	**-0.6**
	baz=13								
AAA				*e*	S	**Sg**	**Sg**	**22 33 41.4**	**+0.1**
	baz=13								
DGS	**Degeres**	**1.68**	**344**		P	**Pb**	**Pb**	**22 33 20.1**	**-0.4**
	2.5nm,0.1s								
DGS					S	**Sg**	**Sg**	**22 33 43.5**	**+0.5**
	12nm,0.2s								
DGS	**Degeres**	**1.68**	**344**	*e*	P	**Pb**	**Pb**	**22 33 20.1**	**-0.4**
	2.5nm,0.1s								
DGS				*e*	S	**Sg**	**Sg**	**22 33 43.5**	**+0.5**
	12nm,0.2s								
DGS	**Degeres**	**1.68**	**344**	*e*	P	**Pb**	**Pb**	**22 33 20.1**	**-0.4**
	baz=44								
DGS				*e*	S	**Sg**	**Sg**	**22 33 43.6**	**+0.5**
	baz=44								
KOTS	**Kotyrbulak**	**1.69**	**18**		P	**Pb**	**Pb**	**22 33 20.3**	**-0.4**
	14nm,0.1s								
KOTS					S	**Sg**	**Sg**	**22 33 43.9**	**+0.6**
	83nm,0.2s								
KOTS	**Kotyrbulak**	**1.69**	**18**	*e*	P	**Pb**	**Pb**	**22 33 20.3**	**-0.4**
	14nm,0.1s								
KOTS				*e*	S	**Sg**	**Sg**	**22 33 43.9**	**+0.6**
	83nm,0.2s								
KOTS	**Kotyrbulak**	**1.69**	**18**	*e*	P	**Pb**	**Pb**	**22 33 20.3**	**-0.4**
	baz=17								
KOTS				*e*	S	**Sg**	**Sg**	**22 33 43.9**	**+0.6**
	baz=17								
PRZ	**Przheval'sk**	**1.71**	**59**	⇓	*i*P	**Pb**	**Pb**	**22 33 20.3**	**-0.8**
	baz=58								
PRZ				⇓	*i*S	**Sg**	**Sg**	**22 33 43.8**	**-0.3**
	baz=58								
AAK	**Ala-Archa**	**1.74**	**306**	⇓	P	**Pb**	**Pb**	**22 33 21.4**	**-0.3**
	6.3nm,0.2s,SNR=14								
AAK				⇑	S	**Sg**	**Sg**	**22 33 45.3**	**+0.1**
	11nm,0.3s								
AAK	**Ala-Archa**	**1.74**	**306**	⇑	*i*P	**Pb**	**Pb**	**22 33 20.9**	**-0.7**
	baz=6.0								
AAK				⇑	*i*S	**Sb**	**Sb**	**22 33 44.5**	**+0.6**
	baz=6.0								
FRU1	**Bishkek**	**1.77**	**312**	⇑	*e*P	**Pb**	**Pb**	**22 33 21.5**	**-0.5**
	baz=13								
FRU1				⇑	*e*S	**Sg**	**Sg**	**22 33 46.1**	**+0.1**
	baz=13								
CHMS	**Chumysh**	**1.84**	**319**	⇑	P	**Pb**	**Pb**	**22 33 23.3**	**+0.1**
	6.2nm,0.2s,SNR=5.1								
CHMS				⇓	S	**Sg**	**Sg**	**22 33 48.8**	**+0.6**
	4.4nm,0.1s								
CHMS	**Chumysh**	**1.84**	**319**	⇑	*i*P	**Pb**	**Pb**	**22 33 22.4**	**-0.8**
	baz=19								
CHMS				⇑	*i*S	**Sg**	**Sg**	**22 33 47.5**	**-0.7**
	baz=19								
SATY	**Saty**	**2.06**	**45**		Pg	**Pb**	**Pb**	**22 33 26.7**	**-0.3**
	6.2nm,0.2s								
SATY					Lg	Lg	Lg	22 33 54.8	
	37nm,0.3s								
SATY	**Saty**	**2.06**	**45**	*e*	P	**Pb**	**Pb**	**22 33 26.7**	**-0.3**
	6.2nm,0.2s								
SATY				*e*	S	**Sg**	**Sg**	**22 33 54.8**	**-0.5**
	37nm,0.3s								
AML	**Almayashu**	**2.09**	**285**	⇑	P	**Pb**	**Pb**	**22 33 27.6**	**-0.1**
	11nm,0.2s,SNR=26								
AML				⇑	S	**Sg**	**Sg**	**22 33 56.2**	**0.0**
	24nm,0.3s								
AML	**Almayashu**	**2.09**	**285**	⇑	*i*P	**Pb**	**Pb**	**22 33 26.7**	**-0.9**
	baz=85								
AML				⇑	*i*S	**Sb**	**Sb**	**22 33 54.5**	**+0.5**
	baz=85								
KTBS	**Karatobe**	**2.09**	**5**		Pg	**Pb**	**Pb**	**22 33 27.6**	**+0.1**
	5.1nm,0.2s								
KTBS					Lg	Lg	Lg	22 33 56.4	
	29nm,0.3s								
KTBS	**Karatobe**	**2.09**	**5**	*e*	P	**Pb**	**Pb**	**22 33 27.6**	**+0.1**
	5.1nm,0.2s								
KTBS				*e*	S	**Sg**	**Sg**	**22 33 56.4**	**+0.1**
	29nm,0.3s								
USP	**Ospenovka**	**2.16**	**320**	⇓	P	**Pb**	**Pb**	**22 33 29.0**	**+0.3**
	5.8nm,0.2s,SNR=22								
USP	**Ospenovka**	**2.16**	**320**	⇑	*i*P	**Pb**	**Pb**	**22 33 27.3**	**-1.4**
	baz=20								
USP				⇑	*i*S	**Sb**	**Sb**	**22 33 56.1**	**+0.3**
	baz=20								
EKS2	**Erkin-Say**	**2.21**	**299**	⇑	P	**Pb**	**Pb**	**22 33 30.2**	**+0.7**
	3.5nm,0.3s,SNR=10								
EKS2	**Erkin-Say**	**2.21**	**299**	⇓	*i*P	**Pb**	**Pb**	**22 33 28.2**	**-1.4**
	baz=99								
EKS2				⇓	*i*S	**Sb**	**Sb**	**22 33 57.1**	**-0.2**
	baz=99								
SGDS	**Sogindy**	**2.25**	**325**		Pg	**Pb**	**Pb**	**22 33 30.7**	**+0.5**
	5.4nm,0.3s								
SGDS					Lg	Lg	Lg	22 34 01.7	
	11nm,0.2s								
KUU	**Kurty**	**2.26**	**359**		Pg	**Pb**	**Pb**	**22 33 30.7**	**+0.3**
	5.0nm,0.2s								
KUU					Lg	Lg	Lg	22 34 01.7	
	30nm,0.4s								
KUU	**Kurty**	**2.26**	**359**	*e*	P	**Pb**	**Pb**	**22 33 30.7**	**+0.3**
	5.0nm,0.2s								
KUU				*e*	S	**Sg**	**Sg**	**22 34 01.7**	**-0.1**
	30nm,0.4s								
CHKK	**Chushkaly**	**2.27**	**11**		Pg	**Pb**	**Pb**	**22 33 30.4**	**0.0**
	3.3nm,0.2s								
CHKK					Lg	Lg	Lg	22 34 01.1	
	64nm,0.1s								
CHKK	**Chushkaly**	**2.27**	**11**	*e*	P	**Pb**	**Pb**	**22 33 30.4**	**0.0**
	3.3nm,0.2s								
CHKK				*e*	S	**Sg**	**Sg**	**22 34 01.1**	**-0.7**
	64nm,0.1s								
UZB	**Uzynbulak**	**2.46**	**51**		Pg	**Pb**	**Pb**	**22 33 33.2**	**-0.6**
	18nm,0.2s								
UZB					Lg	Lg	Lg	22 34 05.9	
	21nm,0.4s								
UZB	**Uzynbulak**	**2.46**	**51**	*e*	P	**Pb**	**Pb**	**22 33 33.2**	**-0.6**
	18nm,0.2s								
UZB				*e*	S	**Sb**	**Sb**	**22 34 05.9**	**+1.4**
	21nm,0.4s								
KPKS	**Kokpek**	**2.49**	**42**		Pg	**Pb**	**Pb**	**22 33 33.8**	**-0.5**
	18nm,0.2s								
KPKS					Lg	Lg	Lg	22 34 07.0	
	62nm,0.4s								
KPKS	**Kokpek**	**2.49**	**42**	*e*	P	**Pb**	**Pb**	**22 33 33.8**	**-0.5**
	18nm,0.2s								
KPKS				*e*	S	**Sg**	**Sg**	**22 34 07.0**	**-2.1**
	62nm,0.4s								
ARSB	**Arslanbob**	**2.59**	**264**	⇓	*e*P	**Pn**	**Pb**	**22 33 33.2**	**+1.5**
	baz=65								
ARSB				⇓	*e*S	**Sb**	**Sb**	**22 34 06.5**	**-1.8**
	baz=65								
MRKS	**Merke**	**2.62**	**296**		Pg	**Pb**	**Pb**	**22 33 36.5**	**+0.1**
	10nm,0.3s								
MRKS					Lg	Lg	Lg	22 34 11.5	
	13nm,0.3s								
MRKS	**Merke**	**2.62**	**296**	*e*	P	**Pb**	**Pb**	**22 33 36.5**	**+0.1**
	10nm,0.3s								
MRKS				*e*	S	**Sg**	**Sg**	**22 34 11.5**	**-1.6**
	13nm,0.3s								
SHLS	**Shalkode**	**2.73**	**55**		Pg	**Pg**	**Pg**	**22 33 42.9**	**+1.5**
	8.7nm,0.2s								
SHLS					Lg	Lg	Lg	22 34 22.7	
	27nm,0.2s								
SHLS	**Shalkode**	**2.73**	**55**	*e*	P	**Pg**	**Pg**	**22 33 42.9**	**+1.5**
	8.7nm,0.2s								
SHLS				*e*	S	**Sg**	**Sg**	**22 34 22.7**	**+6.0**
	27nm,0.2s								
SFK	**Sufi-Kurgan**	**2.73**	**235**	⇑	*i*P	**Pn**	**Pb**	**22 33 35.6**	**+1.9**
	baz=35								
SFK				⇑	*i*S	**Sb**	**Sb**	**22 34 10.0**	**-2.4**
	baz=35								
ARXS	**Arharly**	**2.79**	**21**		Pg	**Pb**	**Pb**	**22 33 39.2**	**-0.1**
	4.3nm,0.3s								
ARXS					Lg	Lg	Lg	22 34 16.3	
	12nm,0.1s								
ARXS	**Arharly**	**2.79**	**21**	*e*	P	**Pb**	**Pb**	**22 33 39.2**	**-0.1**
	4.3nm,0.3s								
ARXS				*e*	S	**Sg**	**Sg**	**22 34 16.3**	**-2.3**
	12nm,0.1s								
PDGK	**Podgornoye**	**2.84**	**52**		Pg	**Pb**	**Pb**	**22 33 40.0**	**-0.3**
	3.4nm,0.3s								
PDGK					Lg	Lg	Lg	22 34 17.8	
	16nm,0.6s								
PDGK	**Podgornoye**	**2.84**	**52**	⇑	Pn	**Pb**	**Pb**	**22 33 38.2**	**-2.1**
	5.2nm,0.6s								
PDGK				⇑	Sn	**Sb**	**Sb**	**22 34 13.8**	**-1.7**
	42nm,0.9s								
BLB	**Baldybastay**	**2.90**	**31**		Pg	**Pb**	**Pb**	**22 33 41.4**	**+0.1**
	4.2nm,0.1s								
BLB					Lg	Lg	Lg	22 34 19.9	
	7.8nm,0.3s								
KNOS	**Konyrlen**	**3.40**	**36**		Pg	**Pb**	**Pb**	**22 33 50.3**	**+0.4**
	1.5nm,0.1s								
KNOS					Lg	Lg	Lg	22 34 35.5	
	6.6nm,0.3s								
DJR	**Jarkent**	**3.67**	**41**		Pg	**Pb**	**Pb**	**22 33 55.4**	**+1.0**
	0.6nm,0.1s								
DJR					Lg	Lg	Lg	22 34 43.9	
	6.4nm,0.1s								
DJR	**Jarkent**	**3.67**	**41**	*e*	P	**Pb**	**Pb**	**22 33 55.4**	**+1.0**
	0.6nm,0.1s								
DJR				*e*	S	**Sg**	**Sg**	**22 34 43.9**	**-2.9**
	6.4nm,0.1s								
BTLS	**Baital**	**3.82**	**334**		Pg	**Pb**	**Pb**	**22 33 59.3**	**+2.4**
	0.9nm,0.1s								
BTLS					Lg	Lg	Lg	22 34 50.9	
	3.5nm,0.2s								
BTLS	**Baital**	**3.82**	**334**	*e*	P	**Pb**	**Pb**	**22 33 59.3**	**+2.4**
	0.9nm,0.1s								
BTLS				*e*	S	**Sg**	**Sg**	**22 34 50.9**	**-0.9**
	3.5nm,0.2s								
KK31	**Karatay Array**	**4.61**	**291**		Pg	**Pb**	**Pb**	**22 34 12.1**	**+1.7**
	0.5nm,0.4s,baz=120,slow=15,SNR=5.9								
KK31					Lg	Lg	Lg	22 35 13.5	
	1.5nm,0.5s,baz=107,slow=25,SNR=4.3								

JMA 18 23:06:50.1±0.3,**24.0N**±1.0×**123.7E**±0.8,**h23**km±1km,
MV1.0/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.08**	**51**			P	Pb	23 06 54.2	-0.2
HATJ						S	Sb	23 06 57.1	-0.1
IRIF	**Iriomote-Funau**	**0.33**	**359**			P	Pb	23 06 57.4	-0.1
IRIF						S	Sb	23 07 02.2	-0.2
JKRS	**Kuro-shima**	**0.34**	**47**			P	Pb	23 06 57.7	+0.1
JKRS						S	Sb	23 07 03.1	+0.4
JIJ	**Ishigaki jima**	**0.51**	**46**			P	Pb	23 07 00.2	-0.3
JIJ						S	Sb	23 07 06.8	-0.8
JISG	**Ishigakijimahi**	**0.78**	**42**	*e*		P	Pb	23 07 04.5	-0.5
JISG				*e*		S	Sb	23 07 14.9	-0.2

TAP 18 23:07:48.5,24.36N×121.76E,h15km,ML1.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.03**	**219**	*e*		P	Pg	23 07 51.3

GO03				*e*S		**Sn**	**23 15 29.5**	**-0.5**
GO03				IAML			23 15 31.9	
	comp=Z,1μm,0.3s							
GO03	**Copiap**	**0.06**	**104**	*e*P		**Pn**	**23 15 18.8**	**-0.6**
GO03				*i* S		**Sn**	**23 15 28.9**	**-1.1**
GO03				IAML			23 15 30.8	
	comp=N,3μm,0.3s							
AC06	**Mina Casimiro**	**0.23**	**347**⇑	*i* P		**Pn**	**23 15 19.9**	**+0.1**
AC06				*i* S		**Sn**	**23 15 30.0**	**-0.6**
AC06				IAML			23 15 30.9	
	comp=N,2μm,0.1s							
AC04	**Llanos de Chal**	**0.93**	**228**	*e*P		**Pn**	**23 15 25.0**	**-0.1**
AC04				*e*S		**Sn**	**23 15 41.2**	**+1.3**
AC04				IAML			23 15 43.1	
	comp=Z,621nm,0.2s							
AC04	**Llanos de Chal**	**0.93**	**228**	*e*P		**Pn**	**23 15 25.6**	**+0.5**
AC04				*i* S		**Sn**	**23 15 40.2**	**+0.3**
AC01	**Pan de Azucar**	**1.45**	**349**	*e*P		**Pn**	**23 15 31.3**	**+0.3**
AC01				*e*S		**Sn**	**23 15 51.7**	**+1.2**
AC01				IAML			23 15 52.5	
	comp=Z,288nm,0.1s							
AC01	**Pan de Azucar**	**1.45**	**349**⇓	*i* P		**Pn**	**23 15 32.0**	**+1.0**
AC01				*i* S		**Sn**	**23 15 50.9**	**+0.3**
LCO	**Las Campanas**	**1.47**	**194**	*e*P		**Pn**	**23 15 31.3**	**-0.3**
LCO				*e*S		**Sn**	**23 15 51.3**	**-0.1**
LCO				IAML			23 15 51.3	
	comp=Z,1μm,0.3s							
LCO	**Las Campanas**	**1.47**	**194**	*e*P		**Pn**	**23 15 31.2**	**-0.3**
LCO				*i* S		**Sn**	**23 15 50.7**	**-0.7**
VCA	**Vinchina**	**2.18**	**122**	*e*P		**Pn**	**23 15 41.2**	**+0.9**
VCA				*e*S		**Sn**	**23 16 09.2**	**+2.0**
VCA				IAML			23 16 12.0	
	comp=Z,319nm,0.3s							
VCA	**Vinchina**	**2.18**	**122**	*e*P		**Pn**	**23 15 41.6**	**+1.3**
VCA				*i* S		**Sn**	**23 16 07.6**	**+0.4**
VCA				IAML			23 16 12.0	
	comp=E,489nm,0.4s							
CO01	**Juntas del Tor**	**2.40**	**176**	*e*P		Pn	23 15 38.1	-5.2
CO01				*e*P		**Pn**	**23 15 43.1**	**-0.2**
CO01				*e*S		**Sn**	**23 16 13.1**	**+0.7**
CO01	**Juntas del Tor**	**2.40**	**176**	*e*P		**Pn**	**23 15 43.5**	**+0.1**
CO05	**La Serena**	**2.47**	**199**	*e*P		**Pn**	**23 15 44.3**	**+0.2**
AGUA	**GUANDACOL**	**2.48**	**141**	*e*P		**Pn**	**23 15 45.5**	**+1.2**
AGUA				*e*S		**Sn**	**23 16 16.2**	**+2.1**
AGUA				IAML			23 16 16.3	
	comp=Z,308nm,0.4s							
GO02	**Mina Guanaco**	**2.49**	**15**	*e*P		**Pn**	**23 15 45.2**	**+0.6**
GO02				*e*S		**Sn**	**23 16 16.3**	**+1.6**
GO02				IAML			23 16 21.4	
	comp=Z,138nm,0.1s							
GO02	**Mina Guanaco**	**2.49**	**15**⇓	*i* P		**Pn**	**23 15 45.0**	**+0.4**
GO04	**Tololo Observa**	**2.62**	**190**	*e*P		**Pn**	**23 15 45.7**	**-0.6**
GO04				IAML			23 16 45.5	
	comp=Z,308nm,0.5s							
GO04	**Tololo Observa**	**2.62**	**190**	*e*P		**Pn**	**23 15 45.4**	**-0.9**
AROD	**Rodeo**	**2.68**	**165**	*e*P		**Pn**	**23 15 48.6**	**+1.5**
AROD				*e*S		Sn	23 16 09.6	-10
PB14	**IPOC Station P**	**2.94**	**358**	*e*P		**Pn**	**23 15 50.5**	**-0.2**
PB14				*e*S		**Sn**	**23 16 24.9**	**-0.6**
PB14				IAML			23 16 32.3	
	comp=Z,96nm,0.5s							
PB14	**IPOC Station P**	**2.94**	**358**	*i* P		**Pn**	**23 15 50.4**	**-0.2**
ACCO	**Cerro Coronel**	**3.19**	**161**	*e*P		**Pn**	**23 15 55.1**	**+1.3**
ACCO				*e*S		**Sn**	**23 16 33.2**	**+1.9**
CO03	**El Pedregal**	**3.27**	**186**	*e*P		**Pn**	**23 15 54.3**	**-0.4**
CO03				*e*S		Sn	23 16 15.6	-17
CO03				*e*S		Sn	23 16 21.4	-11
CO03				IAML			23 16 54.4	
	comp=Z,114nm,0.5s							
CO03	**El Pedregal**	**3.27**	**186**	*e*P		**Pn**	**23 15 54.2**	**-0.6**
ACLC	**CERRO LA CRUZ**	**3.47**	**123**	*e*P		**Pn**	**23 15 57.8**	**+0.3**
ACLC				*e*S		**Sn**	**23 16 38.1**	**+0.2**
ACLC				IAML			23 16 39.0	
	comp=Z,201nm,0.3s							
DOCA	**Reserva Natura**	**3.52**	**163**	*e*P		**Pn**	**23 15 58.8**	**+0.4**
DOCA				*e*S		**Sn**	**23 16 40.8**	**+1.4**
DOCA				IAML			23 17 06.8	
	comp=Z,68nm,0.7s							
CO02	**Combarbal**	**3.66**	**189**	*e*P		**Pn**	**23 15 58.9**	**-1.1**
CO02				*e*S		Sn	23 16 26.9	-16
CO02				IAML			23 17 06.6	
	comp=Z,135nm,0.9s							
CO02	**Combarbal**	**3.66**	**189**	*e*P		**Pn**	**23 15 58.8**	**-1.3**
AVFE	**Valle Fertil**	**3.95**	**142**	*e*P		**Pn**	**23 16 03.9**	**0.0**
AVFE				*e*S		**Sn**	**23 16 47.1**	**-2.2**
AVFE				IAML			23 16 50.4	
	comp=Z,69nm,0.3s							
CYA	**Choya**	**4.07**	**103**	*e*P		**Pn**	**23 16 04.8**	**-0.6**
CYA				*e*S		**Sn**	**23 16 48.6**	**-3.5**
CYA				IAML			23 16 48.9	
	comp=Z,40nm,0.8s							
RTLS	**Leoncito**	**4.29**	**169**	*e*P		**Pn**	**23 16 09.8**	**+1.0**
RTLS				*e*P		**Pn**	**23 16 09.8**	**+1.0**
RTLS				*e*S		**Sn**	**23 17 01.2**	**+3.3**
RTLS				IAML			23 17 07.1	
	comp=Z,71nm,0.9s							
CFA	**Coronel Fontan**	**4.39**	**156**	*e*P		**Pn**	**23 16 09.8**	**-0.1**
CFA				*e*S		**Sn**	**23 16 59.0**	**-1.0**
PB15	**IPOC Station P**	**4.42**	**10**	*e*P		**Pn**	**23 16 10.3**	**-0.1**
PB15				*e*S		**Sn**	**23 17 01.1**	**+0.2**
PB15				*e*S		**Sn**	**23 17 01.2**	**+0.4**
PB15				IAML			23 17 10.3	
	comp=Z,164nm,0.2s							
PB15	**IPOC Station P**	**4.42**	**10**	*e*P		**Pn**	**23 16 10.0**	**-0.4**
AHML	**Horco Molle**	**4.49**	**81**	*e*P		**Pn**	**23 16 11.7**	**+0.5**
ACHE	**Chepes**	**4.77**	**139**	*e*P		**Pn**	**23 16 15.2**	**+0.1**
ACHE				*e*S		**Sn**	**23 17 05.5**	**-3.9**
PB06	**IPOC Station P**	**4.90**	**8**	*e*P		**Pn**	**23 16 15.6**	**-1.2**
PB06				*e*S		**Sn**	**23 17 11.7**	**-0.7**
PB06				IAML			23 17 46.1	
	comp=Z,28nm,0.5s							
LVC	**Limon Verde**	**5.11**	**15**	*e*P		**Pn**	**23 16 19.3**	**-0.5**
LVC				*e*S		**Sn**	**23 17 17.5**	**-0.3**
LVC				IAML			23 17 46.5	
	comp=Z,21nm,0.5s							
ASAL	**Salagasta**	**5.15**	**166**	*e*P		**Pn**	**23 16 20.6**	**+0.4**
ASAL				IAML			23 17 39.6	
	comp=Z,17nm,4.9s							

NIED ***18*** *23:22:41.2, 35.˚72N×140.˚86E, h9km, MW3.5, Moment Tension Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.28; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$2.20; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.42; $M_{\phi r}$0.24; Fault plane solution: $M_0$1.99000×10^{14} NP1: ϕ_s203.00000°, δ58.00000°, λ-45.00000°. NP2: ϕ_s321.00000°, δ53.00000°, λ-139.00000°.*

JMA 18 23:22:41.2±0.3, **35.˚7N**±0.˚5×**14.˚1E**±˚, **h9**km±1km, **MV3.8**/20, **NEAR CHOSHI CITY, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.34**	**257**	P	Pg	23 22 48.6	+0.6
JIHU	**Itakohorinouch**	**0.37**	**312**	P	Pg	23 22 49.1	+0.7
JIHU				*e*S	Sb	23 22 55.1	-0.6
JCN	**Nagara**	**0.61**	**241**	P	Pb	23 22 54.1	-0.1
JCN				*e*S	Sb	23 23 02.9	0.0
JYT	**Yasato**	**0.74**	**313**	P	Pg	23 22 55.0	-0.5
JYT				*e*S	Sg	23 23 04.5	-0.7
BSO4	**Boso 4**	**0.84**	**211**	*e*P	Pb	23 22 57.9	-0.1
JHO	**Hitachi**	**0.92**	**345**	*e*P	Pg	23 22 57.6	-1.4
BSO3	**Boso 3**	**0.96**	**197**	P	Pg	23 22 59.5	-0.2

TAP ***18*** *23:28:28.6, 23.˚52N×121.˚64E, h33km, ML2.7, C*
JMA ***18*** *23:28:28.2±0.2, 23.˚5N±0.˚6×12.˚2E±˚, h27km±3km, TAIWAN REGION*

ISC 18 23:28:28.5±1.0, **23.˚51N**±0.˚02×**121.˚67E**±0.˚03, **h33**km±2km, **n74**, σ0**59**/108, **2C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.22**	**266**	P	**Pb**	**23 28 35.4**	**+0.1**
	baz=262						
TEGC	**Jichi Village**	**0.23**	**330**	P	**Pb**	**23 28 36.0**	**+0.6**
	baz=335						
TEGC				S	**Sb**	**23 28 41.6**	**+1.4**
	baz=335						
EGFH	**Guangfu**	**0.27**	**306**	*e*P	**Pb**	**23 28 36.4**	**+0.4**
	baz=307						
EGFH				*e*S	**Sb**	**23 28 41.8**	**+0.8**
	baz=307						
ECBN	**Changbin**	**0.28**	**226**	P	**Pn**	**23 28 36.5**	**+0.5**
	baz=220						
ECBN				*e*S	**Sb**	**23 28 41.6**	**+0.6**
	baz=220						
SHUL	**Shoufeng**	**0.29**	**341**	*i* P	**Pn**	**23 28 36.8**	**+0.4**
	baz=345						
SHUL				*i* S	**Sb**	**23 28 42.9**	**+1.5**
	baz=345						
EHY	**Hungye**	**0.32**	**270**	*i* P	**Pn**	**23 28 36.7**	**-0.1**
	baz=266						
EHY				*i* S	**Sb**	**23 28 42.0**	**+0.1**
	baz=266						
WARBT	**Fenglin Townsh**	**0.33**	**309**⇑	*i* P	**Pn**	**23 28 36.8**	**-0.2**
	baz=310						
WARBT				*i* S	**Sb**	**23 28 42.3**	**0.0**
	baz=310						
EYUL	**Yuli**	**0.36**	**243**	P	**Pn**	**23 28 37.7**	**+0.3**
	baz=239						
YULB	**Yu-li**	**0.36**	**251**	P	**Pn**	**23 28 37.2**	**-0.2**
YULB	**Yu-li**	**0.36**	**251**	*i* P	**Pn**	**23 28 37.3**	**-0.2**
	baz=248						
YULB				*i* S	**Sn**	**23 28 43.2**	**+0.1**
	baz=248						
ESL	**Shilin**	**0.37**	**325**⇑	*i* P	**Pn**	**23 28 37.2**	**-0.4**
	baz=328						
ESL				*i* S	**Sn**	**23 28 43.2**	**-0.3**
	baz=328						
TWF1	**Yuli**	**0.37**	**245**	*i* P	**Pn**	**23 28 37.5**	**-0.1**
	baz=241						
TWF1				*i* S	**Sn**	**23 28 44.0**	**+0.5**
	baz=241						
CHKH	**Chenggong**	**0.40**	**218**	*e*P	**Pb**	**23 28 37.7**	**+0.1**
	baz=214						
CHKH				*e*S	**Sn**	**23 28 44.1**	**-0.2**
	baz=214						
FULB	**Fuli**	**0.46**	**228**	P	**Pn**	**23 28 39.0**	**+0.2**
	baz=224						
FULB				S	**Sn**	**23 28 46.3**	**+0.4**
	baz=224						
HWA	**Hwalien**	**0.47**	**353**	P	**Pn**	**23 28 39.0**	**+0.1**
	baz=357						
HWA				S	**Sn**	**23 28 47.1**	**+1.0**
	baz=357						
ETM	**Tongmen**	**0.48**	**341**	*i* P	**Pn**	**23 28 39.0**	**-0.1**
	baz=343						
ETM				S	**Sn**	**23 28 46.0**	**-0.4**
	baz=343						
CHKT	**Chengkung**	**0.49**	**214**	P	**Pb**	**23 28 37.9**	**-1.0**
	baz=210						
CHKT				S	**Sb**	**23 28 45.6**	**-0.6**
	baz=210						
VWDT	**VWDT**	**0.54**	**297**	P	**Pn**	**23 28 40.0**	**+0.2**
	baz=297						
VWDT				S	**Sn**	**23 28 48.0**	**+0.3**
	baz=297						
LXIB	**Xiulin Townshi**	**0.56**	**336**	*i* P	**Pb**	**23 28 39.8**	**-0.4**
	baz=337						
LXIB				S	**Sb**	**23 28 47.6**	**-0.6**
	baz=337						
TWD	**Chiawan**	**0.57**	**354**	*i* P	**Pb**	**23 28 40.2**	**-0.1**
	baz=356						
TWD				S	**Sn**	**23 28 48.4**	**-0.1**
	baz=356						
ECS	**Chishang**	**0.58**	**225**	*e*P	**Pb**	**23 28 39.9**	**-0.6**
	baz=222						
EDH	**Donghe**	**0.63**	**212**	*e*P	**Pn**	**23 28 39.7**	**-1.3**
	baz=209						
EDH				*e*S	**Sb**	**23 28 49.2**	**-0.6**
	baz=209						
OWD	**Renai**	**0.63**	**315**	P	**Pb**	**23 28 41.3**	**-0.1**
	baz=315						
OWD				S	**Sb**	**23 28 49.5**	**-0.6**
	baz=315						
ETL	**Fush Village**	**0.65**	**356**	P	**Pb**	**23 28 41.5**	**-0.1**
	baz=358						
ETL				S	**Sn**	**23 28 50.4**	**-0.1**
	baz=358						
NACB	**Ninganchiao**	**0.67**	**354**	P	**Pn**	**23 28 41.5**	**-0.1**
NACB	**Ninganchiao**	**0.67**	**354**	P	**Pn**	**23 28 41.4**	**-0.1**
	baz=356						
NACB				S	**Sb**	**23 28 50.4**	**-0.5**
	baz=356						
ELDTW	**Lidau**	**0.68**	**242**	P	**Pn**	**23 28 41.1**	**-0.8**
	baz=239						
WUSB	**Renai**	**0.70**	**314**	P	**Pn**	**23 28 42.0**	**-0.1**
	baz=314						
WUSB				S	**Sn**	**23 28 51.3**	**-0.5**
	baz=314						
CHGB	**Renai**	**0.71**	**321**	*i* P	**Pb**	**23 28 42.7**	**0.0**
	baz=321						
CHGB				*i* S	**Sn**	**23 28 52.1**	**-0.2**
	baz=321						
SSLB	**Suanglung**	**0.71**	**293**	P	**Pb**	**23 28 44.6**	**+2.1**
SSLB	**Suanglung**	**0.71**	**293**	P	**Pb**	**23 28 42.3**	**-0.3**
	baz=293						
SSLB				S	**Sn**	**23 28 51.7**	**-0.3**
	baz=293						
ETLH	**Xiulin Townshi**	**0.71**	**346**	P	**Pn**	**23 28 42.3**	**-0.1**
	baz=348						
ETLH				*e*S	**Sb**	**23 28 51.3**	**-1.0**
	baz=348						
WHF	**Hehuan Shan**	**0.73**	**330**	P	**Pn**	**23 28 42.6**	**-0.3**
	baz=331						
WHYT	**Xinyi Township**	**0.77**	**284**	*e*P	**Pn**	**23 28 41.5**	**-1.6**
	baz=283						
WHYT				*e*S	**Sb**	**23 28 54.4**	**+0.6**
	baz=283						
ALS	**Alishan**	**0.79**	**270**	*i* P	**Pb**	**23 28 44.4**	**+0.3**
	baz=269						
ALS				S	**Sb**	**23 28 54.7**	**0.0**
	baz=269						
SMLT	**Sun Moon Lake**	**0.80**	**298**	P	**Pb**	**23 28 44.8**	**+0.8**
	baz=298						
SMLT				S	**Sb**	**23 28 55.2**	**+0.6**
	baz=298						
TYC	**Yuchr**	**0.84**	**298**	P	**Pb**	**23 28 44.9**	**+0.2**
	baz=298						
TYC				S	**Sb**	**23 28 56.0**	**+0.4**
	baz=298						
EOS4	**EOS4**	**0.85**	**44**	*e*P	**Pn**	**23 28 44.5**	**+0.7**
	baz=46						
TWT	**Tachien**	**0.87**	**329**	P	**Pb**	**23 28 45.3**	**+0.1**
	baz=329						
TWT				S	**Sb**	**23 28 56.5**	**-0.2**
	baz=329						
TDCB	**Techi**	**0.88**	**328**	P	**Pb**	**23 28 45.2**	**-0.1**
	baz=328						
TDCB				S	**Sb**	**23 28 56.2**	**-0.7**
	baz=328						
TWGBT	**Beinan**	**0.88**	**218**	P	**Pb**	**23 28 46.1**	**+0.8**
TWGBT	**Beinan**	**0.88**	**218**	*e*P	**Pb**	**23 28 45.1**	**-0.2**
	baz=216						
TWG	**Pinlang**	**0.88**	**219**	*e*P	**Pn**	**23 28 44.2**	**-0.3**
	baz=216						
WCS	**Beigang Elemen**	**0.88**	**308**	*e*P	**Pb**	**23 28 45.2**	**-0.2**
	baz=308						
WCS				*e*S	**Sb**	**23 28 57.6**	**+0.7**
	baz=308						
STYH	**Taoyuan**	**0.89**	**248**	*e*P	**Pb**	**23 28 45.1**	**-0.3**
	baz=246						
CHN5	**Tsauling**	**0.91**	**276**	P	**Pb**	**23 28 46.6**	**+0.7**
	baz=275						
ENA	**Nanau**	**0.92**	**4**	*e*P	**Pn**	**23 28 45.3**	**+0.2**
	baz=6.0						
EWUT	**Wuta**	**0.94**	**6**	*e*P	**Pb**	**23 28 46.1**	**-0.2**
	baz=7.0						
NNSB	**Datong**	**0.95**	**344**	P	**Pn**	**23 28 46.0**	**+0.3**
	baz=345						
NNSB				*e*S	**Sn**	**23 28 58.0**	**-0.1**
	baz=345						
NNS	**Nan Shan**	**0.96**	**344**	*e*P	**Pb**	**23 28 46.2**	**-0.6**
	baz=345						
NNS				*e*S	**Sb**	**23 28 58.6**	**-0.7**
	baz=345						
TPUB	**Ta-pu**	**0.97**	**258**	P	**Pb**	**23 28 47.1**	**+0.2**
TPUB	**Ta-pu**	**0.97**	**258**	*e*P	**Pb**	**23 28 46.9**	**-0.1**
	baz=256						
WCKO	**Fanlu**	**0.98**	**266**	*e*P	**Pb**	**23 28 47.6**	**+0.6**
	baz=265						
CHN4	**Tsaushan**	**1.00**	**261**	*e*P	**Pb**	**23 28 48.3**	**+1.0**
	baz=260						
WTP	**Ta-pu**	**1.00**	**255**	*e*P	**Pb**	**23 28 47.0**	**-0.4**
	baz=253						
WHP	**Taichung City**	**1.01**	**319**	*e*P	**Pb**	**23 28 48.0**	**+0.4**
	baz=319						
LATG	**Datong**	**1.03**	**353**	P	**Pn**	**23 28 47.2**	**+0.5**
	baz=354						
SLGT	**Liugui**	**1.07**	**242**	*e*P	**Pb**	**23 28 48.7**	**+0.2**
	baz=240						
SGST	**Jiashian**	**1.08**	**247**	*e*P	**Pb**	**23 28 48.3**	**-0.5**
	baz=245						
CHN1	**Nanshi**	**1.09**	**253**	*e*P	**Pb**	**23 28 49.9**	**+0.9**
	baz=251						
TWC	**Suao**	**1.11**	**9**	*e*P	**Pb**	**23 28 48.7**	**-0.4**
	baz=10.0						
TWK	**Hsinying**	**1.11**	**258**	*e*P	**Pb**	**23 28 49.9**	**+0.6**
	baz=256						
SNST	**Tainan City**	**1.11**	**255**	*e*P	**Pb**	**23 28 49.9**	**+0.6**
	baz=254						
ENTT	**Nioudou**	**1.13**	**355**	*e*P	**Pn**	**23 28 47.5**	**-0.5**
	baz=356						
TWQ1	**Liyutan**	**1.17**	**316**	*e*P	**Pb**	**23 28 50.8**	**+0.6**
	baz=316						
YHNB	**Yeheng**	**1.19**	**347**	P	**Pb**	**23 28 50.1**	**-0.4**
YHNB	**Yeheng**	**1.19**	**347**	*e*P	**Pb**	**23 28 49.9**	**-0.7**
	baz=348						
NSK	**Sanguang**	**1.20**	**346**	*e*P	**Pb**	**23 28 50.1**	**-0.6**
	baz=347						
NFF	**Wufeng Townshi**	**1.23**	**336**	*e*P	**Pb**	**23 28 50.6**	**-0.6**
	baz=336						
WRL	**Guolierlin Hig**	**1.25**	**289**	*e*P	**Pb**	**23 28 50.5**	**-1.0**
	baz=288						
FUSB	**Fushanzhiwuyua**	**1.25**	**357**	*e*P	**Pb**	**23 28 51.1**	**-0.4**
	baz=357						
NWLT	**Wulai**	**1.27**	**353**	*e*P	**Pb**	**23 28 51.3**	**-0.7**
	baz=354						
JIJ	**Ishigaki jima**	**2.42**	**69**	*e*P	**Pn**	**23 29 06.2**	**+0.5**
JISG	**Ishigakijimahi**	**2.65**	**66**	P	**Pn**	**23 29 09.6**	**+0.8**

AFAD 18 23:57:07.6±0.0, **37.˚07N**×**28.˚61E**, **h7**km±2km, **ML1.5, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.29**	**309**	P	Pg	23 57 14.0	+0.6
MULA				*i* AML	AML	23 57 18.0	
	comp=Z,81nm,2.6s						
MULA				S	Sg	23 57 18.2	+0.8
TURN	**Turunc**	**0.41**	**225**	P	Pg	23 57 16.1	+0.5
TURN				S	Sb	23 57 22.7	-1.0
TURN				*i* AML	AML	23 57 26.0	
	comp=Z,48nm,2.2s						
TURN				*i* AML	AML	23 57 32.0	
	comp=E,50nm,1.8s						
TAVA	**DENIZLI_Tavas**	**0.46**	**32**	P	Pg	23 57 16.8	+0.2
TAVA				S	Sg	23 57 22.9	+0.2
TAVA				*i* AML	AML	23 57 24.0	
	comp=Z,39nm,1.1s						
ESEN	**Aydn-Nazilli**	**0.75**	**344**	P	Pg	23 57 22.3	+0.2
ESEN				S	Sg	23 57 29.6	-2.3
ESEN				*i* AML	AML	23 57 33.0	
	comp=N,22nm,1.9s						
ESEN				*i* AML	AML	23 57 52.0	
	comp=Z,31nm,2.0s						
ESEN				*i* AML	AML	23 57 52.0	
	comp=E,22nm,1.2s						

IDC ***18*** *23:57:39.8±1.9, 24.˚43N×122.˚09E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=144.9km s-min=20.9km az=65.0.*

NIED ***18*** *23:57:48.5, 24.˚42N×122.˚24E, h69km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}2.51; $M_{\theta\theta}$-1.21; $M_{\phi\phi}$-1.30; $M_{r\theta}$0.39; $M_{\theta\phi}$-0.58; $M_{\phi r}$1.51; Fault plane solution: $M_0$2.65000×10^{14} NP1: ϕ_s28.00000°, δ63.00000°, λ81.00000°. NP2: ϕ_s227.00000°, δ29.00000°, λ107.00000°.*

ASIES ***18*** *23:57:49.0, 24.˚51N×122.˚14E, h75km, ML4.1, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.17; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.10; $M_{r\theta}$0.93; $M_{\theta\phi}$0.32; $M_{\phi r}$3.23; Fault plane solution: $M_0$3.37660×10^{21} NP1: ϕ_s15.60000°, δ89.57000°, λ94.78000°. NP2: ϕ_s110.73000°, δ4.80000°, λ5.14000°. Principal axes: T Plg45.2290°, Azm290.4080°; N Plg4.7810°, Azm195.5720°; P Plg44.3730°, Azm100.8790°;*

TAP ***18*** *23:57:49.0, 24.˚51N×122.˚14E, h75km, ML4.1, C*

JMA ***18*** *23:57:48.5±0.2, 24.˚4N±1.˚0×122.˚2E±0.˚4, h69km±2km, MV3.5/16, TAIWAN REGION*

ISC 18 23:57:48.5±0.8, **24.˚50N**±0.˚03×**122.˚25E**±0.˚02, **h70**km±5km, **n130**, σ0**90**/214, **mb3.7**/6, **3C-20D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.08**	**192**⇑	*i*P	**Pn**	**23 57 59.4**	**+0.8**
	baz=195						
EOS2				*i* S	**Sn**	**23 58 08.0**	**+2.2**
	baz=195						
EOS3	**EOS3**	**0.22**	**163**⇑	*i*P	**Pn**	**23 57 59.9**	**+0.9**
	baz=164						
EOS3				S	**Sn**	**23 58 08.8**	**+2.1**
	baz=164						
EOS4	**EOS4**	**0.38**	**170**	P	**Pn**	**23 57 60.0**	**+0.2**
	baz=163						
ESAO	**Su ao**	**0.38**	**282**	P	**Pn**	**23 58 00.7**	**+0.5**
	baz=283						
ESAO				S	**Sn**	**23 58 09.0**	**+0.1**
	baz=283						
TWC	**Suao**	**0.38**	**287**⇑	*i*P	**Pn**	**23 58 00.3**	**0.0**
	baz=291						
TWC				*i* S	**Sn**	**23 58 08.8**	**-0.1**
	baz=291						
EWUT	**Wuta**	**0.43**	**263**	P	**Pn**	**23 58 00.8**	**+0.2**
	baz=254						
EWUT				S	**Sn**	**23 58 09.9**	**+0.3**
	baz=254						
EGS		**0.45**	**320**	P	**Pn**	**23 58 01.1**	**+0.3**
	baz=338						
ENA	**Nanau**	**0.47**	**262**⇓	*i*P	**Pn**	**23 58 01.2**	**+0.2**
	baz=252						
ENA				S	**Sn**	**23 58 10.9**	**+0.7**
	baz=252						
EAHA	**Aohua**	**0.49**	**251**	*e*P	**Pn**	**23 58 01.4**	**+0.2**
	baz=243						
EAHA				*e*S	**Sn**	**23 58 10.9**	**+0.3**
	baz=243						
EHP	**Heping Village**	**0.50**	**248**	*e*P	**Pn**	**23 58 01.4**	**+0.1**
	baz=240						
EHP				S	**Sn**	**23 58 11.3**	**+0.6**
	baz=240						
NDS	**Dongshan**	**0.51**	**286**	*e*P	**Pn**	**23 58 02.1**	**+0.7**
	baz=287						
NDS				*e*S	**Sn**	**23 58 11.4**	**+0.6**
	baz=287						
NTC	**Toucheng**	**0.52**	**313**	*e*P	**Pn**	**23 58 01.6**	**+0.1**
	baz=324						
ILA	**Ilan**	**0.53**	**301**	P	**Pn**	**23 58 02.2**	**+0.6**
	baz=305						
ILA				S	**Sn**	**23 58 12.1**	**+0.8**
	baz=305						
TWB1	**Santiao Chiao**	**0.56**	**335**⇓	*i*P	**Pn**	**23 58 01.9**	**0.0**
	baz=342						
TWB1				S	**Sn**	**23 58 11.4**	**-0.4**
	baz=342						
TWE	**Neicheng**	**0.58**	**293**⇓	*i*P	**Pn**	**23 58 02.5**	**+0.5**
	baz=296						
TWE				*e*S

baz=231
NACB S Sn 23 58 13.2 -0.7
baz=231
NDT Datong Townshi 0.68 279 ⇓P Pn 23 58 03.9 +0.7
baz=274
NDT S Sn 23 58 14.8 +0.8
baz=274
SXI1 Grass Mountain 0.69 330 P Pn 23 58 03.6 +0.2
baz=337
SXI1 S Sn 23 58 14.0 -0.3
baz=337
YOJ Yonaguni jima 0.69 93 P Pn 23 58 03.5 +0.2
YOJ S Sn 23 58 14.1 -0.2
YOJ Yonaguni jima 0.69 93 A A 23 58 03.5
comp=E,4.0nm,3.3s,comp=N,3.0nm,0.4s
NWF Wu-fen Shan 0.71 323 ⇓*i*P Pn 23 58 03.9 +0.3
baz=329
NWF *i* S Sn 23 58 14.7 -0.2
baz=329
WFSB Wu-fen Shan 0.71 323 P Pn 23 58 03.9 +0.3
baz=330
WFSB S Sn 23 58 14.7 0.0
baz=330
TWD Chiawan 0.73 235 P Pn 23 58 03.3 -0.4
baz=228
TWD S Sn 23 58 14.5 -0.4
baz=228
NWLT Wulai 0.73 293 *e*P Pn 23 58 04.7 +0.9
baz=294
NWLT *e*S Sn 23 58 16.1 +1.0
baz=294
ETLH Xiulin Townshi 0.76 248 P Pn 23 58 03.9 -0.2
baz=237
ETLH *e*S Sn 23 58 15.2 -0.5
baz=237
TWA Mucha 0.77 309 ⇓*i*P Pn 23 58 04.6 +0.3
baz=320
TWA S Sn 23 58 15.9 0.0
baz=320
HWA Hwalien 0.78 229 P Pn 23 58 04.2 -0.2
baz=222
HWA S Sn 23 58 16.8 +0.7
baz=222
TNOU National Taiwa 0.78 327 *e*P Pn 23 58 04.4 +0.1
baz=332
NNSB Datong 0.79 265 ⇓P Pn 23 58 04.7 +0.1
baz=257
NNSB *e*S Sn 23 58 16.2 -0.3
baz=257
NNSH Datong 0.79 265 *e*P Pn 23 58 04.8 +0.2
baz=259
NNS Nan Shan 0.80 266 ⇓*i*P Pn 23 58 04.8 +0.1
baz=258
NNS S Sn 23 58 16.6 0.0
baz=258
NHDH Xindian Distri 0.81 305 *e*P Pn 23 58 05.0 +0.4
baz=317
NHDH *e*S Sn 23 58 16.8 +0.2
baz=317
YHNB Yeheng 0.81 282 ⇓*i*P Pn 23 58 05.4 +0.6
baz=282
YHNB *e*S Sn 23 58 17.5 +0.6
baz=282
NHY Taipei 0.82 311 *e*P Pn 23 58 04.8 0.0
baz=323
NHY *e*S Sn 23 58 17.4 +0.5
baz=323
NSK Sanguang 0.83 283 ⇓P Pn 23 58 05.5 +0.5
baz=283
NSK S Sn 23 58 17.4 +0.2
baz=283
TAP Taipei 0.87 309 *e*P Pn 23 58 05.6 +0.3
baz=320
TAP *e*S Sn 23 58 18.0 +0.2
baz=320
ETM Tongmen 0.87 233 *e*P Pn 23 58 05.0 -0.4
baz=237
ETM *e*S Sn 23 58 16.9 -1.0
baz=237
YM01 YM01 0.90 317 P Pn 23 58 05.8 0.0
baz=320
YM01 S Sn 23 58 18.3 -0.3
baz=320
LXIB Xiulin Townshi 0.90 238 P Pn 23 58 05.3 -0.6
baz=233
LXIB *e*S Sn 23 58 17.6 -1.2
baz=233
YM08 YM08 0.91 319 P Pn 23 58 05.8 -0.2
baz=323
YM08 S Sn 23 58 18.1 -0.9
baz=323
SHUL Shoufeng 0.94 222 *e*P Pn 23 58 06.0 -0.3
baz=209
ANP Anpu 0.95 316 *e*P Pn 23 58 06.3 -0.2
baz=320
WHF Hehuan Shan 0.96 249 P Pn 23 58 06.9 -0.1
baz=245
WHF S Sn 23 58 20.2 -0.4
baz=245
TWS1 Kuangyinshan 0.97 309 ⇓*i*P Pn 23 58 07.0 +0.4
baz=316
TWS1 S Sn 23 58 20.3 +0.3
baz=316
TWY Chenhua 0.98 323 P Pn 23 58 07.1 +0.4
baz=327
TWY *e*S Sn 23 58 20.2 0.0
baz=327
NTST Danshui 0.99 313 P Pn 23 58 07.2 +0.4
baz=322
NTST *e*S Sn 23 58 20.5 +0.1
baz=322
ESL Shilin 1.01 228 ⇓*i*P Pn 23 58 06.4 -0.7
baz=230
ESL *e*S Sn 23 58 19.8 -1.1
baz=230
TWT Tachien 1.01 256 P Pn 23 58 08.1 +0.8
baz=253
TWT S Sn 23 58 21.7 +0.5
baz=253
TEGC Jichi Village 1.02 220 *e*P Pn 23 58 07.0 -0.2
baz=207
TDCB Techi 1.02 257 P Pn 23 58 08.0 +0.6
baz=254
TDCB *e*S Sn 23 58 21.5 0.0
baz=254
NFF Wufeng Townshi 1.04 278 P Pn 23 58 08.2 +0.7
baz=284
NFF *e*S Sn 23 58 22.2 +0.5
baz=284
CHGB Renai 1.07 246 ⇓P Pn 23 58 08.5 +0.4
baz=237
CHGB S Sn 23 58 22.4 -0.3
baz=237
NCUH Zhongli 1.08 296 P Pn 23 58 08.7 +0.7
baz=287
NCUH *e*S Sn 23 58 23.1 +0.7
baz=287
WARBT Fenglin Townsh 1.10 226 ⇓P Pn 23 58 07.5 -0.9
baz=229
WARBT *e*S Sn 23 58 21.3 -1.9
baz=229
EGFH Guangfu 1.11 223 *e*P Pn 23 58 07.7 -0.7
baz=228
OWD Renai 1.12 241 P Pn 23 58 08.6 0.0
baz=233
LIOB Emei 1.13 278 P Pn 23 58 09.3 +0.6
baz=277
LIOB *e*S Sn 23 58 24.4 +0.6
baz=277
PCYT Pengchaiyu 1.14 352 *e*P Pn 23 58 09.3 +0.5
baz=350
NSTT Nanjuang 1.15 277 *e*P Pn 23 58 09.5 +0.6
baz=276
NSTT *e*S Sn 23 58 24.8 +0.8
baz=276
WUSB Renai 1.15 244 *e*P Pn 23 58 09.4 +0.4
baz=236
WUSB *e*S Sn 23 58 23.5 -0.8
baz=236
SBCB Hsinchu 1.19 285 *e*P Pn 23 58 09.8 +0.4
baz=285
NHW Xinwu Township 1.21 295 P Pn 23 58 10.3 +0.7
baz=296
NHW *e*S Sn 23 58 24.9 -0.5
baz=296
WHP Taichung City 1.21 260 P Pn 23 58 11.1 +1.4
baz=256
WHP S Sn 23 58 26.7 +1.0
baz=256
HGSD Ruisui 1.25 217 P Pn 23 58 09.7 -0.5
baz=205
HGSD *e*S Sn 23 58 27.6 +1.1
baz=205
VWDT VWDT 1.25 234 ⇓P Pn 23 58 10.5 +0.3
baz=225
VWDT S Sn 23 58 25.9 -0.6
baz=225
WCS Beigang Elemen 1.30 251 *e*P Pn 23 58 11.7 +1.0
baz=248
EHY Hungye 1.30 221 ⇓*i*P Pn 23 58 09.8 -1.1
baz=224
NMLH Miaoli 1.33 272 P Pn 23 58 12.1 +0.9
baz=270
NMLH *e*S Sn 23 58 28.9 +0.6
baz=270
TWQ1 Liyutan 1.35 264 *e*P Pn 23 58 12.2 +0.7
baz=262
NSY Sanyi 1.36 267 P Pn 23 58 12.6 +1.0
baz=265
NSY *e*S Sn 23 58 28.9 -0.1
baz=265
SMLT Sun Moon Lake 1.38 244 *e*P Pn 23 58 12.9 +1.0
baz=234
SMLT *e*S Sn 23 58 30.5 +1.0
baz=234
SSLB Suanglung 1.38 239 *e*P Pn 23 58 12.0 +0.2
baz=237
TYC Yuchr 1.40 245 *e*P Pn 23 58 13.2 +1.1
baz=247
TYC *e*S Sn 23 58 30.5 +0.6
baz=247
YULB Yu-li 1.40 219 *e*P Pn 23 58 11.2 -1.0
baz=223
TWF1 Yuli 1.43 218 P Pn 23 58 11.7 -0.9
baz=223
TCU Taichung 1.48 257 *e*P Pn 23 58 14.1 +1.0
baz=254
HATJ Hateruma jima 1.48 107 P Pn 23 58 14.1 +0.8
HATJ S Sn 23 58 32.9 +1.0
WHYT Xinyi Township 1.50 238 *e*P Pn 23 58 14.9 +1.3
baz=230
WHYT *e*S Sn 23 58 33.9 +1.4
baz=230
CHKH Chenggong 1.52 211 *e*P Pn 23 58 13.7 0.0
baz=199
CHKH *e*S Sn 23 58 30.8 -1.8
baz=199
WJS Zhushan 1.54 245 P Pn 23 58 15.8 +1.8
baz=254
WJS *e*S Sn 23 58 34.8 +1.5
baz=254
FULB Fuli 1.56 214 *e*P Pn 23 58 13.8 -0.5
baz=220
WCHH Zhanghua 1.60 255 *e*P Pn 23 58 15.7 +1.0
baz=253
CHKT Chengkung 1.61 210 *e*P Pn 23 58 14.0 -0.9
baz=199
JKRS Kuro-shima 1.62 99 *i*P Pn 23 58 15.7 +0.6
JKRS S Sn 23 58 35.5 +0.2
ALS Alishan 1.65 234 *e*P Pn 23 58 16.5 +0.8
baz=223
ALS *e*S Sn 23 58 36.6 +0.5
baz=223
CHN5 Tsauling 1.69 238 P Pn 23 58 17.3 +1.2
baz=246
CHN5 S Sn 23 58 39.0 +2.0
baz=246
ELDTW Lidau 1.72 221 *e*P Pn 23 58 15.9 -0.6
baz=214
JIJ Ishigaki jima 1.73 94 *i*P Pn 23 58 16.4 -0.2
JIJ S Sn 23 58 37.1 -0.7
WDLH Douliu 1.76 243 *e*P Pn 23 58 18.0 +1.1
baz=252
WDLH *e*S Sn 23 58 40.8 +2.3
baz=252
WRL Guolierlin Hig 1.81 251 *e*P Pn 23 58 18.0 +0.5
baz=259
WRL *e*S Sn 23 58 39.9 +0.2
baz=259
WCKO Fanlu 1.84 235 *e*P Pn 23 58 19.9 +1.9
baz=226
WCKO *e*S Sn 23 58 42.6 +2.2
baz=226
JISG Ishigakijimahi 1.88 87 *i*P Pn 23 58 18.5 0.0
JISG *e*S Sn 23 58 41.0 -0.4
WTK Tuku 1.88 245 *e*P Pn 23 58 19.4 +0.9
baz=254
WTK *e*S Sn 23 58 42.2 +0.8
baz=254
CHN2 Minshiung 1.89 240 *e*P Pn 23 58 20.6 +2.1
baz=249
LONT Longtian 1.89 213 *e*P Pn 23 58 17.0 -1.6
baz=211
STYH Taoyuan 1.89 226 *e*P Pn 23 58 19.5 +0.9
baz=223
CHN4 Tsaushan 1.90 233 P Pn 23 58 20.2 +1.4
baz=231
CHN4 S Sn 23 58 44.0 +2.2
baz=231
TPUB Ta-pu 1.90 232 *e*P Pn 23 58 20.2 +1.4
baz=230
TPUB *e*S Sn 23 58 43.5 +1.6
baz=230
STYT Tauyuan 1.90 226 *e*P Pn 23 58 21.1 +2.1
baz=224
STYT *e*S Sn 23 58 43.4 +1.4
baz=224
WTP Ta-pu 1.95 231 *e*P Pn 23 58 20.7 +1.3
baz=228
WTP *e*S Sn 23 58 45.0 +1.9
baz=228
LDUT Ludao 1.95 202 *e*P Pn 23 58 19.6 +0.2
baz=199
LDUT *e*S Sn 23 58 40.7 -2.4
baz=199
TWK Hsinying 2.02 233 *e*P Pn 23 58 21.9 +1.4
baz=231
TWK *e*S Sn 23 58 46.5 +1.6
baz=231
CHN1 Nanshi 2.05 231 *e*P Pn 23 58 22.0 +1.2
baz=229
CHN1 *e*S Sn 23 58 47.0 +1.6
baz=229
SNST Tainan City 2.05 232 *e*P Pn 23 58 22.8 +2.0
baz=230
SGST Jiashian 2.08 228 *e*P Pn 23 58 21.5 +0.3
baz=226
SLGT Liugui 2.10 225 *e*P Pn 23 58 23.3 +1.9
baz=232
ICHU Yijhu 2.13 238 *e*P Pn 23 58 23.4 +1.5
baz=246
JTJ Tarama 2.24 86 *e*P Pn 23 58 24.1 +0.8
JTJ S Sn 23 58 50.4 +0.5
TSMG Majia 2.31 220 *e*P Pn 23 58 25.8 +1.5
baz=218
MASBT Mashibuluo 2.39 219 *e*P Pn 23 58 26.5 +1.1
baz=217
MASBT *e*S Sn 23 58 54.8 +1.1
baz=217
VWUC VWUC 2.59 282 *e*P Pn 23 58 27.9 -0.3
baz=280
PHUB P'eng-hu 2.64 249 *e*P Pn 23 58 27.9 -0.9
baz=247
MATB Ma-tsu 2.66 309 *e*P Pn 23 58 28.8 -0.2
baz=308
JIKM Ikemajima 2.76 80 *e*P Pn 23 58 31.6 +1.2
JIKM S Sn 23 59 04.0 +1.4
JMJ2 Miyako jima3 2.81 84 *e*P Pn 23 58 32.2 +1.0
JMJ2 S Sn 23 59 05.0 +1.1
KNM Kinmen 3.48 269 *e*P Pn 23 58 41.4 +1.2
baz=267
KNMB Chin-men Tao 3.52 270 *e*P Pn 23 58 39.8 -0.9
baz=268
SONM Songino Array 26.47 336 P P 00 03 18.9 -0.2
comp=N,1.0nm,0.7s,baz=147,slow=9.9,SNR=8.2
comp=N,1.0nm,0.7s
MKAR Makanchi Array 38.80 315 P P 00 05 06.2 -0.2
comp=N,0.3nm,0.3s,baz=99,slow=9.1,SNR=14
comp=N,0.3nm,0.3s
ZALV Zalesovo Beam 40.52 326 P P 00 05 19.4 -1.1
comp=N,0.4nm,0.3s,baz=134,slow=10.0,SNR=2.9
comp=N,0.4nm,0.3s
WRA Warramunga Arr 45.71 164 P P 00 06 02.3 -0.4
comp=N,73nm,0.4s,baz=345,slow=8.7,SNR=1.5
BVAR Borovoye Array 48.05 320 P P 00 06 19.9 -0.8
comp=N,0.4nm,0.4s,baz=123,slow=5.3,SNR=2.6
comp=N,0.4nm,0.4s
ASAR Alice Springs 49.19 166 P P 00 06 29.8 +0.1
comp=N,0.9nm,0.8s,baz=347,slow=7.6,SNR=3.8
comp=N,0.9nm,0.8s

NAO ***18*** *23:57:24.6,35˚.79N×22˚.49E,h33km, mb4.3*
IDC ***18*** *23:57:52.0±0.7,39˚.40N×22˚.80E,h0km,mb3.8/19, mbtmp3.8/27,ML3.4/8,MS3.2/4, Error ellipse: s-maj=13.8km s-min=10.5km az=141.0*
AFAD ***18*** *23:57:53.0±0.0,39˚.43N×22˚.98E,h3km±24km, MW3.9*
ISK ***18*** *23:57:53.3,39˚.44N×22˚.92E,h17km, ML3.6/26*
PDG ***18*** *23:57:53.2±0.5,39˚.48N×23˚.02E,h9km±1km,ML3.8/11, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
ATH ***18*** *23:57:53.5,39˚.44N×22˚.90E,h11km,ML3.9/21,Manual Solution by S.Koutrakis This location: 2020/05/07 04:19:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
THE ***18*** *23:57:54.0,39˚.43N×22˚.90E,h11km,ML3.8/14,Error ellipse: s-maj=0.9km s-min=0.5km az=146.0*
SOF ***18*** *23:57:54.6,39˚.5N±0˚.1×23˚.07E±0˚.05,h18km±22km, MD4.2/15*
BEO ***18*** *23:57:59.8±0.9,39˚.73N×22˚.92E,h27km±6km, ML3.3/12*
ISC 18 23:57:53.9±0.8,**39˚42N**±0˚.02×**22˚91E**±0˚.02,**h13**km±5km, **n281,σ1°28**/349,**mb3.9**/18,**53C-9D,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.23**	**104**	P	**Pg**	**23 57 58.7**	**-0.3**
XOR				S	**Sg**	**23 58 02.3**	**0.0**
	74µm,0.4s						
XOR	**Xorichti**	**0.23**	**104**	P	**Pg**	**23 57 58.7**	**-0.3**
XOR				S	**Sg**	**23 58 01.8**	**-0.5**
NEO	**Neokhori**	**0.27**	**115**	P	**Pg**	**23 57 59.5**	**-0.2**
NEO				S	**Sg**	**23 58 03.3**	**-0.3**
	119µm,0.2s						
NEO	**Neokhori**	**0.27**	**115**	P	**Pg**	**23 57 59.5**	**-0.2**
NEO				S	**Sg**	**23 58 03.2**	**-0.3**
AGG	**Agios Georgios**	**0.60**	**228**	Pg	**Pg**	**23 58 05.4**	**-0.3**
AGG				Sg	**Sb**	**23 58 14.9**	**+0.2**
AGG	**Agios Georgios**	**0.60**	**228**	P	**Pg**	**23 58 05.1**	**-0.6**
AGG				S	**Sg**	**23 58 13.7**	**+0.1**
	22µm,0.5s						
AGG	**Agios Georgios**	**0.60**	**228**	P	**Pg**	**23 58 05.5**	**-0.3**
AGG				S	**Sb**	**23 58 14.3**	**-0.4**
AGG				*i* AML	AML	23 58 17.0	
	comp=Z,4µm,0.4s						
AGG	**Agios Georgios**	**0.60**	**228**	P	**Pg**	**23 58 05.1**	**-0.6**
AGG				S	**Sg**	**23 58 13.6**	**-0.1**
AXAR	**Agios Charalam**	**0.68**	**196**	P	**Pg**	**23 58 06.2**	**-1.1**
AXAR				S	**Sb**	**23 58 17.2**	**+0.2**
	29µm,0.4s						
AXAR	**Agios Charalam**	**0.68**	**196**	P	**Pg**	**23 58 06.5**	**-0.8**
AXAR				S	**Sg**	**23 58 16.6**	**+0.3**
THL	**Klokotos Trika**	**0.70**	**282**	P	**Pg**	**23 58 06.6**	**-1.0**
THL				S	**Sb**	**23 58 18.0**	**+0.4**
	6µm,0.8s						
THL	**Klokotos Trika**	**0.70**	**282**	P	**Pg**	**23 58 06.6**	**-1.0**
THL				S	**Sg**	**23 58 16.3**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.73**	**236**	P	**Pg**	**23 58 07.7**	**-0.4**
MAKR				S	**Sb**	**23 58 18.4**	**+0.1**
	35µm,0.4s						
MAKR	**Makrakomi, Fth**	**0.73**	**236**	P	**Pg**	**23 58 07.7**	**-0.4**
MAKR				S	**Sg**	**23 58 17.5**	**-0.1**
PAIG	**Paliouri**	**0.78**	**50**	Pg	**Pg**	**23 58 09.0**	**-0.1**
PAIG				Sg	**Sb**	**23 58 19.8**	**0.0**
PAIG	**Paliouri**	**0.78**	**50**	P	**Pb**	**23 58 09.2**	**-0.2**
PAIG				S	**Sn**	**23 58 21.1**	**-1.1**
	4µm,0.5s						
ALNA	**Alonissos**	**0.80**	**110**	P	**Pg**	**23 58 09.2**	**-0.1**
ALNA				S	**Sg**	**23 58 19.9**	**+0.1**
DLFA	**Delphi**	**1.00**	**199**	P	**Pb**	**23 58 12.1**	**-1.0**
DLFA				S	**Sb**	**23 58 25.8**	**-0.3**
ANX	**Ano Chora**	**1.13**	**223**	P	**Pb**	**23 58 14.4**	**-0.9**
ANX				S	**Sn**	**23 58 31.6**	**+0.7**
	7µm,0.5s						
ANX	**Ano Chora**	**1.13**	**223**	P	**Pb**	**23 58 14.8**	**-0.6**
HORT	**Hortiatis**	**1.18**	**7**	Pn	**Pn**	**23 58 15.3**	**-0.9**
HORT				Sn	**Sb**	**23 58 31.5**	**0.0**
HORT	**Hortiatis**	**1.18**	**7**	P	**Pn**	**23 58 15.5**	**-0.7**
HORT				S	**Sb**	**23 58 31.6**	**0.0**
	1µm,0.2s						
HORT	**Hortiatis**	**1.18**	**7**	P	**Pn**	**23 58 15.5**	**-0.7**
HORT				S	**Sb**	**23 58 31.4**	**0.0**
THE	**Thessaloniki**	**1.21**	**2**	P	**Pn**	**23 58 15.6**	**-0.9**
THE	**Thessaloniki**	**1.21**	**2**	P	**Pn**	**23 58 15.6**	**-0.9**
THE				S	**Sb**	**23 58 32.2**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.22**	**130**	P	**Pn**	**23 58 16.3**	**-0.3**
KYMI				S	**Sg**	**23 58 33.7**	**+0.4**
	2µm,0.5s						
KYMI	**Kymi, Euboea I**	**1.22**	**130**	P	**Pn**	**23 58 16.4**	**-0.3**
KYMI				S	**Sg**	**23 58 33.3**	**0.0**
OUR	**Ouranopolis**	**1.23**	**42**	Pn	**Pn**	**23 58 16.5**	**-0.3**
OUR				Sn	**Sb**	**23 58 32.3**	**-0.5**
OUR	**Ouranopolis**	**1.23**	**42**	P	**Pn**	**23 58 16.4**	**-0.3**
OUR	**Ouranopolis**	**1.23**	**42**	P	**Pn**	**23 58 16.2**	**-0.6**
OUR				S	**Sb**	**23 58 32.9**	**+0.1**
VIL2	**Platees**	**1.24**	**167**	P	**Pg**	**23 58 17.6**	**-0.2**
VIL2				S	**Sg**	**23 58 35.6**	**+1.5**
EFP	**Efpalio**	**1.26**	**218**	P	**Pn**	**23 58 16.3**	**-0.9**
EFP				S	**Sn**	**23 58 34.1**	**0.0**
	5µm,0.6s						
EFP	**Efpalio**	**1.26**	**218**	P	**Pn**	**23 58 17.0**	**-0.3**
VILL	**Villia**	**1.30**	**166**	P	**Pn**	**23 58 17.5**	**-0.3**
KPRO	**Kipourio**	**1.30**	**295**	P	**Pn**	**23 58 18.0**	**+0.1**
KPRO	**Kipourio**	**1.30**	**295**	P	**Pn**	**23 58 17.6**	**-0.2**
KPRO				S	**Sb**	**23 58 34.9**	**-0.1**
PVO	**Paravola**	**1.34**	**234**	P	**Pb**	**23 58 18.7**	**-0.2**
PVO				S	**Sb**	**23 58 35.9**	**-0.1**
PVO	**Paravola**	**1.34**	**234**	P	**Pb**	**23 58 18.8**	**-0.2**
SKY	**Skiros Island**	**1.39**	**113**	P	**Pn**	**23 58 18.7**	**-0.3**
THAL	**Thalero**	**1.40**	**188**	P	**Pn**	**23 58 19.3**	**+0.2**
SOH	**Sokhos**	**1.44**	**14**	P	**Pn**	**23 58 20.0**	**+0.3**
SOH				S	**Sn**	**23 58 38.5**	**+0.1**
	4µm,0.6s						
SOH	**Sokhos**	**1.44**	**14**	P	**Pn**	**23 58 19.8**	**0.0**
SOH				S	**Sn**	**23 58 38.6**	**+0.1**
KLV	**Kalavryta, Ach**	**1.50**	**203**	P	**Pn**	**23 58 20.4**	**-0.2**
GUR	**Goura**	**1.55**	**197**	P	**Pn**	**23 58 21.6**	**+0.3**
PENT	**Pentalofos**	**1.56**	**300**	P	**Pb**	**23 58 22.2**	**-0.6**
PTL	**Penteli**	**1.56**	**151**	P	**Pn**	**23 58 21.9**	**+0.5**
PTL				S	**Sb**	**23 58 42.5**	**0.0**
DION	**Dionisos Attik**	**1.57**	**149**	P	**Pn**	**23 58 21.7**	**+0.2**
DION				S	**Sn**	**23 58 41.9**	**+0.3**
ATH	**Athens Observa**	**1.58**	**156**	P	**Pn**	**23 58 21.7**	**+0.1**
ATH	**Athens Observa**	**1.58**	**156**	P	**Pn**	**23 58 21.9**	**+0.3**
ATH				S	**Sn**	**23 58 42.4**	**+0.5**
ATHU	**Athens Univers**	**1.61**	**154**	P	**Pn**	**23 58 22.0**	**0.0**
ATHU				S	**Sb**	**23 58 43.4**	**-0.3**
	712nm,0.5s						
ATHU	**Athens Univers**	**1.61**	**154**	P	**Pn**	**23 58 22.0**	**0.0**
ATHU				S	**Sn**	**23 58 43.1**	**+0.5**
KOKK	**Kokkinochori,**	**1.63**	**31**	P	**Pn**	**23 58 22.1**	**-0.1**
KOKK				S	**Sn**	**23 58 42.4**	**-0.6**
	1µm,0.7s						
KOKK	**Kokkinochori,**	**1.63**	**31**	P	**Pn**	**23 58 22.2**	**-0.1**
VLY	**Voula,Athens**	**1.72**	**156**	P	**Pn**	**23 58 23.7**	**+0.2**
KNT	**Kendrikon**	**1.74**	**360**	Pn	**Pn**	**23 58 23.6**	**-0.2**
FNA	**Florina**	**1.79**	**320**	Pn	**Pn**	**23 58 24.2**	**-0.4**
FNA	**Florina**	**1.79**	**320**	P	**Pn**	**23 58 25.5**	**+0.9**
FNA				S	**Sg**	**23 58 51.4**	**-0.3**
FNA				*i* AML	AML	23 58 59.0	
	comp=Z,212nm,0.7s						
FNA	**Florina**	**1.79**	**320**	*e*Pg	**Pg**	**23 58 29.4**	**+1.0**
FNA				*e*Sg	**Sb**	**23 58 49.2**	**+0.1**
FNA	**Florina**	**1.79**	**320**	P	**Pn**	**23 58 25.0**	**+0.4**
LIA	**Limnos Island**	**1.82**	**74**	P	**Pn**	**23 58 24.4**	**-0.5**
MMB	**Musomishta**	**2.22**	**17**	P	**Pn**	**23 58 30.7**	**+0.3**
MMB				S	**Sn**	**23 58 58.5**	**+0.8**
SIGR	**SIGRI**	**2.30**	**94**	Pn	**Pn**	**23 58 31.5**	**0.0**
OHR	**Ohrid**	**2.33**	**317**	*i* Pn	**Pb**	**23 58 34.1**	**-1.7**
STIP	**Stip**	**2.33**	**347**	*i* Pn	**Pn**	**23 58 32.7**	**+0.7**
PEHC	**Pehcevo**	**2.35**	**360**	*i* Pn	**Pn**	**23 58 32.9**	**+0.5**
KEK	**Kerkira**	**2.42**	**278**	Pn	**Pn**	**23 58 33.6**	**+0.5**
KKB	**Krupnik**	**2.42**	**4**	P	**Pn**	**23 58 33.7**	**+0.5**
KKB				S	**Sn**	**23 59 02.9**	**+0.2**
GOAD	**anakkale-G¶**	**2.43**	**71**	P	**Pn**	**23 58 32.5**	**-0.8**
GOAD				S	**Sn**	**23 59 01.0**	**-1.9**
GOAD				*i* AML	AML	23 59 29.0	

comp=Z,108nm,1.0s
GADA Gvkgeada 2.43 71 Pn **Pn** **23 58 32.9 -0.4**
BOZC Bozcaada 2.47 79 P **Pn** **23 58 33.8 0.0**
BOZC S **Sn** **23 58 59.9 -3.9**
BOZC *i* AML AML 23 59 10.0
comp=Z,59nm,0.7s
KOCA Canakkale, Ayv 2.50 87 P **Pn** **23 58 34.8 +0.4**
KOCA S **Sn** **23 59 00.4 -4.3**
RDO Rodhopi 2.65 49 Pn **Pn** **23 58 35.7 -0.6**
RZN Rozhen 2.66 31 P **Pn** **23 58 36.9 +0.2**
RZN S **Sn** **23 59 07.9 -1.0**
EZN Ezine 2.67 80 P **Pn** 23 58 19.7 -17
EZN S Sn 23 58 50.9 -18
ENZZ Sultanice-Enez 2.75 64 Pn **Pn** **23 58 37.4 -0.3**
ENZZ Sultanice-Enez 2.75 64 P **Pn** **23 58 37.0 -0.7**
ENZZ S **Sn** **23 59 07.4 -3.4**
ENZZ *i* AML AML 00 00 07.0
comp=Z,455nm,0.7s
SKO Skopje 2.78 337 *e*Pn **Pn** **23 58 38.7 +0.6**
SKO Skopje 2.78 337 *i* Pn **Pn** **23 58 38.7 +0.6**
CAVK Edirne/Enez-Ca 2.81 62 P **Pn** **23 58 38.0 -0.4**
CAVK *i* AML AML 23 59 12.0
comp=Z,125nm,0.7s
ENEZ Enez 2.82 61 Pn **Pn** **23 58 38.2 -0.4**
ALN Alexandroupoli 2.82 58 Pn **Pn** **23 58 38.1 -0.6**
ALN Alexandroupoli 2.82 58 P **Pn** **23 58 37.9 -0.7**
ALN *i* AML AML 23 59 39.0
comp=Z,39nm,0.7s
BAYC CANAKKALE_Bayr 2.83 82 P **Pn** **23 58 39.2 +0.4**
BAYC S **Sn** **23 59 09.0 -3.8**
BAYC *i* AML AML 23 59 18.0
comp=Z,35nm,1.0s
COMU Canakkale 2.83 75 Pn **Pn** **23 58 39.0 +0.2**
KARB zmir-Karabur 2.83 104 P **Pn** **23 58 39.5 +0.6**
KARB *i* AML AML 23 59 39.0
comp=Z,66nm,1.8s
KDZ Kurdzhali 2.88 39 Pn **Pn** **23 58 39.4 -0.1**
KDZ Kurdzhali 2.88 39 P **Pn** **23 58 39.2 -0.3**
GELI Tayfur-Gelibol 2.91 69 Pn **Pn** **23 58 39.6 -0.3**
AYVA Ayvalik 2.94 91 P **Pn** **23 58 40.4 +0.1**
AYVA *i* AML AML 23 59 43.0
comp=Z,59nm,0.7s
ERIK Erikli-Kesan 3.04 65 Pn **Pn** **23 58 40.9 -0.7**
ERIK Erikli-Kesan 3.04 65 P **Pn** **23 58 40.9 -0.7**
ERIK *i* AML AML 23 59 43.0
comp=Z,54nm,0.9s
ZEYE Izmir, Urla-Ze 3.05 112 P **Pn** **23 58 43.6 +1.8**
PLD Plovdiv 3.06 27 Pn **Pn** **23 58 42.1 +0.2**
PLD Plovdiv 3.06 27 P **Pn** **23 58 42.2 +0.3**
PLD Plovdiv 3.06 27 *e*Pn **Pn** **23 58 42.1 +0.2**
PLD *e*Sn **Sn** **23 59 14.2 -4.2**
PLNA Plana 3.08 7 P **Pn** **23 58 43.2 +0.9**
BOSS Bosilegrad 3.09 354 *e*Pn **Pn** **23 58 42.9 +0.6**
BOSS *e*Sn **Sn** **23 59 16.0 -3.1**
LPK Lapseki 3.11 71 Pn **Pn** **23 58 42.8 +0.1**
DKL Dikili 3.13 95 Pn **Pn** **23 58 43.7 +0.9**
DKL Dikili 3.13 95 P **Pn** **23 58 44.0 +1.2**
DKL *i* AML AML 23 59 56.0
comp=Z,35nm,0.9s
APE Apeiranthos 3.13 138 ⇓P **Pn** **23 58 43.3 +0.3**
APE Apeiranthos 3.13 138 Pn **Pn** **23 58 43.5 +0.5**
APE Apeiranthos 3.13 138 P **Pn** **23 58 43.4 +0.5**
APE S **Sg** **23 59 33.1 -1.4**
PRVS Prvonek 3.14 349 *e*Pn **Pn** **23 58 43.6 +0.4**
RFT7 Candarli 3.15 97 Pn **Pn** **23 58 43.6 +0.4**
VTS Vitosha 3.20 4 P **Pn** **23 58 44.5 +0.5**
VTS Vitosha 3.20 4 *e*Pn **Pn** **23 58 44.5 +0.5**
VTS *e*Sn **Sn** **23 59 16.6 -5.5**
BUHA Balikesir, Bur 3.23 87 P **Pn** **23 58 45.7 +1.4**
BUHA *i* AML AML 23 59 56.0
comp=Z,36nm,1.1s
PGB Panagyurishte 3.23 17 P **Pn** **23 58 44.8 +0.4**
CANM Can-anakkale 3.25 78 Pn **Pn** **23 58 45.2 +0.6**
ZEDA zmir-Bergama 3.27 97 P **Pn** **23 58 45.8 +0.9**
ZEDA *i* AML AML 23 59 36.0
comp=Z,29nm,1.3s
DIM Dimitrovgrad 3.31 37 P **Pn** **23 58 45.6 +0.2**
UKOP Uzunkopru-Edir 3.32 58 Pn **Pn** **23 58 45.9 +0.4**
UKOP Uzunkopru-Edir 3.32 58 P **Pn** **23 58 45.2 -0.3**
UKOP *i* AML AML 23 59 32.0
comp=Z,234nm,0.6s
BLCB Balcova 3.39 107 Pn **Pn** **23 58 47.8 +1.3**
BLCB Balcova 3.39 107 P **Pn** **23 58 49.4 +2.9**
DGB zmir 3.40 113 P **Pn** **23 58 48.0 +1.4**
DGB *i* AML AML 00 00 08.0
comp=Z,60nm,3.7s
TRAN Tran 3.41 357 P **Pn** **23 58 47.8 +0.9**
BARS Barje 3.49 347 *e*Pn **Pn** **23 58 48.4 +0.5**
KRBG Karabiga-Canak 3.51 73 P **Pn** **23 58 48.2 0.0**
KRBG *i* AML AML 00 00 08.0
comp=Z,29nm,1.4s
RKY Sarkoy-Tekirda 3.51 68 P **Pn** **23 58 47.5 -0.8**
RKY *i* AML AML 00 00 07.0
comp=Z,49nm,1.0s
ULC Ulcinj 3.77 314 ⇑*i*Pn **Pn** **23 58 53.4 +1.7**
ULC *i* Sn **Sn** **23 59 36.9 +1.1**
GCAM G?zelcaml? 3.80 116 P **Pn** **23 58 53.1 +1.0**
GCAM *i* AML AML 23 59 50.0
comp=Z,32nm,1.5s
ZAPS Zavoj 3.85 357 *e*Pn **Pn** **23 58 53.7 +0.8**
PVY Plav 3.87 326 ⇑*i*Pn **Pn** **23 58 54.6 +1.3**
PVY *i* Sn **Sn** **23 59 39.1 +0.5**
RODP Rodopos 3.92 170 Pn **Pn** **23 58 54.9 +1.2**
DRME Dracevica, Mon 3.95 316 ⇓*i*Pn **Pn** **23 58 55.8 +1.6**
DRME *i* Sn **Sn** **23 59 41.3 +1.0**
DRME Dracevica, Mon 3.95 316 *e*Pn **Pn** **23 58 56.7 +2.5**
MPEP Malo Peshtene 3.98 9 P **Pn** **23 58 55.5 +0.9**
SELS Selova 4.02 341 *e*Pn **Pn** **23 58 55.3 +0.1**
IMMV Iera Moni Meta 4.05 167 Pn **Pn** **23 58 57.7 +2.2**
PVL Pavlikeni 4.07 24 P **Pn** **23 58 56.5 +0.7**
JMB Yambol 4.11 41 P **Pn** **23 58 56.0 -0.4**
IVA Berane 4.13 328 ⇑*i*Pn **Pn** **23 58 58.1 +1.4**
IVA *i* Sn **Sn** **23 59 45.1 +0.2**
ELND Elena 4.16 32 ⇑P **Pn** **23 58 57.3 +0.2**
PLVB Pleven 4.17 17 ⇑P **Pn** **23 58 57.6 +0.5**
BUM Brajici-Budva 4.18 315 ⇑*i*Pn **Pn** **23 59 6.2 +2.1**
BUM *i* Sn **Sn** **23 59 46.8 +0.6**
BLKB Belogradchik 4.20 358 ⇑P **Pn** **23 58 58.5 +0.9**
KOME Kolasin 4.27 324 ⇑*i*Pn **Pn** **23 59 00.1 +1.4**
KOME *i* Sn **Sn** **23 59 48.8 +0.3**
VALD Valchedram 4.28 5 P **Pn** **23 59 00.1 +1.4**
BOVS Bovan 4.30 348 ⇓P **Pn** **23 58 59.0 -0.1**
BOVS Bovan 4.30 348 *e*Pn **Pn** **23 58 58.5 -0.5**
CEME Cevo 4.34 317 ⇑*i*Pn **Pn** **23 59 01.4 +1.6**
CEME *i* Sn **Sn** **23 59 50.5 +0.4**
ZAGS Zajecar 4.41 354 *e*Pn **Pn** **23 59 00.7 +0.1**
SJES Sjenica 4.42 331 *e*Pn **Pn** **23 59 01.6 +0.8**
SJES Sjenica 4.42 331 *e*Pn **Pn** **23 59 01.3 +0.5**
NKME Niksic 4.48 319 ⇑*i*Pn **Pn** **23 59 03.2 +1.7**
NKME *i* Sn **Sn** **23 59 55.6 +2.1**
SZH Strazhitsa 4.48 30 P **Pn** **23 59 01.9 +0.4**
HCY Herceg Novi 4.50 314 ⇓*i*Pn **Pn** **23 59 03.6 +1.8**
HCY *i* Sn **Sn** **23 59 54.5 +0.5**
HCY Herceg Novi 4.50 314 *e*Pn **Pn** **23 59 02.4 +0.6**
IVAS Ivanjica 4.63 334 *e*Pn **Pn** **23 59 03.8 +0.1**
PLE Pljevlja 4.71 327 ⇑*i*Pn **Pn** **23 59 06.2 +1.4**
GRUS Gruza 4.75 341 *e*Pn **Pn** **23 59 05.2 0.0**
TREB Trebinje 4.76 315 *e*Pn **Pn** **23 59 06.4 +1.1**
TREB *e*Sn **Sn** **23 59 57.9 -2.5**
TREB Trebinje 4.76 315 *e*Pn **Pn** **23 59 05.9 +0.6**
TIP Timpagrande 4.77 269 ⇑P **Pn** **23 59 07.7 +2.1**
BRY Bratogost 4.79 318 ⇑*i*Pn **Pn** **23 59 07.3 +1.5**
BRY *i* Sn **Sn** **00 00 01.2 0.0**
BRY Bratogost 4.79 318 *e*Pn **Pn** **23 59 07.1 +1.3**
LOZB Loznitsa 4.82 34 ⇑P **Pn** **23 59 05.7 -0.4**
UPM Unac-Piva 4.83 323 ⇑*i*Pn **Pn** **23 59 07.6 +1.2**
UPM *i* Sn **Sn** **00 00 02.0 -0.3**
UPM Unac-Piva 4.83 323 *e*Pn **Pn** **23 59 07.0 +0.6**
PUNG Punghina 4.85 0 ⇑P **Pg** **23 59 29.8 +3.0**
MATE Matera 4.91 286 ⇑P **Pn** **23 59 08.8 +1.4**
RAZG Razgrad 4.94 32 ⇑P **Pn** **23 59 06.6 -1.2**
RUDO Rudo 4.96 329 *e*Pn **Pn** **23 59 07.8 -0.3**
ROIA ROIAK 4.98 41 P **Pn** **23 59 08.7 +0.4**
COPA Copaceanca 5.01 19 ⇑P **Pn** **23 59 09.9 +1.2**
PRD Provadia 5.04 41 P **Pn** **23 59 09.4 +0.2**
NEF NEVSHA 5.05 39 P **Pn** **23 59 09.4 0.0**
KUBS Kucevo 5.07 350 *e*Pn **Pn** **23 59 08.7 -0.9**
AVR AVREN 5.15 43 P **Pn** **23 59 10.6 -0.1**
DIVS Divibare 5.15 336 *e*Pn **Pn** **23 59 11.1 +0.3**
BBLS Lazići 5.16 331 *e*Pn **Pn** **23 59 11.6 +0.8**
BBLS Lazići 5.16 331 *e*Pn **Pn** **23 59 11.0 +0.2**
STON Ston 5.22 313 *e*Pn **Pn** **23 59 12.6 +0.9**
STON Ston 5.22 313 *e*Pn **Pn** **23 59 12.2 +0.5**
NEVS Nevesinje 5.29 319 *e*Pn **Pn** **23 59 13.0 +0.3**
SGRR Singureni 5.32 25 ⇓P **Pn** **23 59 13.2 +0.2**
HUMR Humele 5.33 16 ⇑P **Pn** **23 59 14.3 +1.2**
MDVR Moldovita 5.43 351 ⇑P **Pn** **23 59 14.4 -0.1**
HERR Herculane 5.47 356 ⇑P **Pn** **23 59 13.4 -1.6**
HAPS Han Pijesak,Bl 5.52 329 *e*Pn **Pn** **23 59 17.2 +1.4**
HAPS Han Pijesak,Bl 5.52 329 *e*Pn **Pn** **23 59 17.8 +2.0**
TEKS Tekeris 5.71 335 *e*Pn **Pn** **23 59 18.9 +0.6**
TEKS Tekeris 5.71 335 *e*Pn **Pn** **23 59 17.5 -0.8**
PSN Preselentsi 5.75 41 P **Pn** **23 59 19.2 +0.2**
SULR 5.81 24 ⇑P **Pn** **23 59 21.3 +1.5**
GZR Gura Zlata 5.97 359 ⇓P **Pn** **23 59 21.8 -0.1**
MTUR Matau 6.01 15 ⇑P **Pn** **23 59 23.9 +1.3**
LOT Lotru 6.05 6 ⇑P **Pn** **23 59 23.2 0.0**
ARR Arges 6.08 12 ⇑P **Pn** **23 59 24.1 +0.7**
FRGS Fruska Gora 6.17 339 ⇑P **Pn** **23 59 27.5 +2.8**
FRGS Fruska Gora 6.17 339 *e*Pn **Pn** **23 59 25.3 +0.6**
FRGS Fruska Gora 6.17 339 *e*Pn **Pn** **23 59 27.0 +2.3**
VOIR 6.21 14 ⇑P **Pn** **23 59 26.8 +1.4**
BZS Buzias 6.26 352 ⇑P **Pn** **23 59 25.7 -0.2**
BZS Buzias 6.26 352 *e*Pn **Pn** **23 59 25.6 -0.3**
ISR Istrita 6.30 24 ⇑P **Pn** **23 59 28.5 +2.0**
TLBR Topalu 6.39 35 ⇑P **Pn** **23 59 27.4 -0.2**
HARR Harsova 6.46 34 ⇑P **Pn** **23 59 29.3 +0.7**
DEV Deva 6.46 360 ⇑P **Pn** **23 59 28.8 +0.2**
MLR Muntele Rosu 6.47 19 ⇑P **Pn** **23 59 30.5 +1.6**
MLR Muntele Rosu 6.47 19 Pn **Pn** **23 59 30.3 +1.4**
7.3nm,0.3s,baz=245,slow=4.9,SNR=38
MLR Sn **Sn** **00 00 43.2 +0.6**
baz=110,slow=21
MLR Lg Lg 00 01 19.2
0.6nm,0.3s,baz=222,slow=16,SNR=1.5
MLR LR LR 00 02 36.4
comp=Z,111nm,19.4s,baz=259,slow=44
NEHR Nehoiu 6.50 22 ⇑P **Pn** **23 59 31.7 +2.5**
MGRS Mrkonjic Grad 6.61 321 *e*Pn **Pn** **23 59 30.6 -0.2**
BISRR Bisoca 6.74 23 ⇑P **Pn** **23 59 36.1 +3.6**
DOPR Dopca 6.79 15 ⇑P **Pn** **23 59 34.6 +1.4**
TPGR Topolog 6.80 35 ⇑P **Pn** **23 59 34.9 +1.5**
BLY Banja Luka 6.81 323 *e*Pn **Pn** **23 59 34.7 +1.2**
BLY Banja Luka 6.81 323 *e*Pn **Pn** **23 59 35.1 +1.6**
COVR Voineasa-Covas 6.86 20 ⇑P **Pn** **23 59 35.7 +1.5**
CFR Carcaliu 6.93 32 ⇑P **Pn** **23 59 33.6 -1.5**
A050A Klekovaca 6.94 319 *e*Pn **Pn** **23 59 37.3 +2.1**
VAE Valguarnera 6.94 256 Pn **Pn** **23 59 35.7 +0.3**
0.5nm,0.3s,baz=32,slow=20,SNR=1.8
VAE Sn **Sn** **00 00 52.9 -1.3**
0.1nm,0.3s,baz=94,slow=17,SNR=1.6
7.5nm,0.9s
PLOR Plostina 6.99 22 ⇑P **Pn** **23 59 38.0 +2.0**
OZUR 7.00 17 ⇑P **Pn** **23 59 37.7 +1.6**
TURR Turia 7.01 18 ⇓P **Pn** **23 59 38.0 +1.7**
VRI Vrincioaia 7.03 22 ⇓P **Pn** **23 59 38.6 +2.2**
ODBI Odobesti 7.04 24 ⇑P **Pn** **23 59 38.8 +2.2**
A051A Mrakovica 7.14 323 *e*Pn **Pn** **23 59 38.4 +0.3**
PANC Panciu 7.16 24 ⇑P **Pn** **23 59 41.2 +3.0**
TLCR 7.23 35 ⇓P **Pn** **23 59 39.3 0.0**
GHRR 7.41 25 ⇑P **Pn** **23 59 42.4 +0.6**
VARL Varlezi 7.42 28 ⇑P **Pn** **23 59 44.2 +2.3**
VLDR Vladesti 7.46 29 ⇑P **Pn** **23 59 44.7 +2.3**
MORH Mrgy, Hungar 7.47 337 ⇑P **Pn** **23 59 43.0 +0.4**
TESR Tescani 7.60 20 ⇑P **Pn** **23 59 45.7 +1.4**
BIR Birlad 7.67 25 ⇑P **Pn** **23 59 46.7 +1.5**
ARCR ARCALIA 7.73 7 ⇑P **Pn** **23 59 47.0 +0.9**
PRAR RASCA 8.29 16 ⇑P **Pn** **23 59 55.9 +2.1**
BRTR Keskin Array B 8.30 85 Pn **Pn** **23 59 55.9 +1.8**
0.6nm,0.3s,baz=261,slow=11,SNR=14
BRTR Sn **Sn** **00 01 23.9 -3.8**
0.1nm,0.3s,baz=279,slow=19,SNR=2.1
1.4nm,0.5s
BOJS Bojanci 8.30 320 *e*Pn **Pn** **23 59 53.9 0.0**
BURAR Bucovina Array 8.36 11 ⇑P **Pn** **23 59 55.8 +1.1**
CRES Cresnjev 8.43 322 *e*Pn **Pn** **23 59 53.9 -1.8**
CEY Cerknica 8.88 318 *e*Pn **Pn** **23 59 58.8 -3.1**
SKDS Skadanscina 8.97 316 *e*Pn **Pn** **00 00 04.4 +1.3**
SOKA Soboth 9.26 324 *e*Pn **Pn** **00 00 08.3 +1.2**
2.2nm,0.5s
OBKA Obir 9.36 322 *i* Pn **Pn** **00 00 11.2 +2.8**
0.5nm,0.2s
OBKA Obir 9.36 322 *e*Pn **Pn** **00 00 09.2 +0.7**
ARSA Arzberg 9.49 328 *i* Pn **Pn** **00 00 13.5 +3.3**
3.7nm,0.6s
RONA Rosalia, Austr 9.56 332 *i* Pn **Pn** **00 00 10.8 -0.3**
1.7nm,0.5s
CONA Conrad Observa 9.91 331 *i* Pn **Pn** **00 00 17.9 +1.9**
0.4nm,0.3s
KBA Koelnbreinsper 10.35 321 *i* Pn **Pn** **00 00 23.9 +1.9**
2.3nm,0.5s
MOA Mlin 10.49 326 *i* Pn **Pn** **00 00 26.9 +3.0**
0.8nm,0.4s
ABTA Abfaltersbach 10.54 317 *i* Pn **Pn** **00 00 24.3 -0.4**
1.1nm,0.3s
LESA Schwarzleotal 10.91 320 *i* Pn **Pn** **00 00 32.4 +2.6**
0.6nm,0.3s
WTTA Wattenberg 11.34 317 *i* Pn **Pn** **00 00 35.8 +0.2**
0.8nm,0.3s
KEST Kesra 11.37 255 Pn **Pn** **00 00 34.9 -1.2**
0.1nm,0.3s,baz=355,slow=18,SNR=1.3
KEST Sn **Sn** **00 02 39.3 -3.7**
baz=43,slow=19,SNR=1.1
1.5nm,0.8s
WATA Walderalm 11.41 318 *i* Pn **Pn** **00 00 37.6 +1.0**
0.9nm,0.2s
GERES GERESS Array B 11.50 328 Pn **Pn** **00 00 38.3 +0.5**
0.2nm,0.3s,baz=140,slow=15,SNR=2.5
0.6nm,0.8s
SQTA Sankt Quirin 11.54 316 *i* Pn **Pn** **00 00 38.8 +0.4**
1.7nm,0.4s
MOTA Moosalm 11.67 317 *i* Pn **Pn** **00 00 41.9 +1.7**
2.8nm,0.5s
FETA Feichten 11.68 315 *i* Pn **Pn** **00 00 39.3 -1.0**
0.7nm,0.5s
RETA Reutte 11.94 316 *i* Pn **Pn** **00 00 47.3 +3.5**
0.6nm,0.3s
MMAI Mount Meron Ar 11.94 119 Pn **Pn** **00 00 46.1 +2.2**
1.1nm,0.3s,baz=294,slow=11,SNR=2.5
8.7nm,0.8s
DAVOX Davos/Dischmat 12.02 312 Pn **Pn** **00 00 44.4 -0.6**
0.3nm,0.3s,baz=129,slow=14,SNR=1.8
DAVOX Sn **Sn** **00 02 53.4 -5.5**
0.1nm,0.3s,baz=163,slow=24,SNR=1.1
DAVOX LR LR 00 06 42.7
comp=Z,134nm,19.4s,baz=81,slow=44
0.7nm,0.4s
AKASG Malin Array Be 12.12 19 Pn **Pn** **00 00 45.5 -0.7**
0.8nm,0.3s,baz=200,slow=13,SNR=4.1
0.3nm,0.3s
DAVA Damuels 12.30 314 *e*Pn **Pn** **00 00 50.5 +1.7**
0.9nm,0.4s
KBZ Khabaz 15.56 68 Pn **Pn** **00 01 34.5 +1.7**
baz=254,slow=17,SNR=1.2
2.1nm,0.9s
ESDC Sonseca Array 20.70 279 P **P** **00 02 32.7 -1.0**
0.8nm,0.6s,baz=74,slow=11,SNR=9.4
0.8nm,0.6s
BELG Belogornoye 21.41 45 P **P** **00 02 43.4 +2.1**
11nm,0.9s,baz=338,slow=8.3,SNR=2.4
11nm,0.9s
HFS Hagfors 21.53 347 P **P** **00 02 42.1 -0.3**
3.6nm,0.6s,baz=167,slow=14,SNR=16
3.6nm,0.6s
FINES FINESS Array B 22.13 4 P **P** **00 02 47.8 -1.1**
1.1nm,0.5s,baz=190,slow=9.7,SNR=9.9
1.1nm,0.5s
NB2 NORSAR Subarra 22.82 345 P **P** **00 02 56.3 -0.1**
comp=Z,8.0nm,1.2s,baz=159,slow=9.3
NOA NORSAR Array B 22.82 345 P **P** **00 02 55.4 -1.0**
comp=Z,3.8nm,0.9s,baz=152,slow=11,SNR=9.0
NOA LR LR 00 12 56.0
comp=Z,45nm,18.5s,baz=190,slow=40
comp=Z,3.8nm,0.9s
EKA Eskdalemuir Ar 23.56 321 P **P** **00 03 02.6 -1.2**
comp=Z,1.1nm,0.5s,baz=116,slow=8.9,SNR=6.8
comp=Z,1.1nm,0.5s
ARCES ARCESS Array B 30.20 2 P **P** **00 04 04.4 +0.7**
comp=Z,2.2nm,1.0s,baz=205,slow=9.9,SNR=1.3
comp=Z,2.2nm,1.0s
TORD Torodi Ar. Bea 32.18 221 P **P** **00 04 21.6 0.0**
comp=Z,2.4nm,0.5s,baz=32,slow=9.4,SNR=13
comp=Z,2.4nm,0.5s
BVAR Borovoye Array 34.89 51 P **P** **00 04 45.8 +1.0**
comp=Z,1.0nm,0.8s,baz=262,slow=5.4,SNR=5.4
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 39.99 55 P **P** **00 05 29.0 +0.9**
comp=Z,0.6nm,0.3s,baz=277,slow=9.3,SNR=4.4
comp=Z,0.6nm,0.3s
DBIC Dimbokro 41.08 225 P **P** **00 05 36.6 -0.8**
comp=Z,1.4nm,0.5s,baz=21,slow=9.6,SNR=5.0
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 43.06 60 P **P** **00 05 54.2 +0.8**
comp=Z,1.2nm,0.8s,baz=266,slow=8.4,SNR=17
comp=Z,1.2nm,0.6s
ZALV Zalesovo Beam 43.47 49 P **P** **00 05 56.6 +0.1**
comp=Z,0.8nm,0.5s,baz=282,slow=8.6,SNR=6.0
comp=Z,0.8nm,0.5s
SONM Songino Array 58.23 52 P **P** **00 07 48.4 +0.5**
comp=Z,0.2nm,0.5s,baz=305,slow=5.1,SNR=2.5
comp=Z,0.2nm,0.5s
SCHQ Schefferville 58.81 317 P **P** **00 07 51.4 -0.3**
comp=Z,2.1nm,0.7s,baz=46,slow=6.0,SNR=3.9
comp=Z,2.1nm,0.7s
LBTB Lobatse 64.15 177 LR LR 00 37 21.5
comp=Z,46nm,18.1s,baz=327,slow=37
CMAR Chiang Mai Arr 67.89 84 P **P** **00 08 52.8 +0.5**
comp=Z,0.7nm,0.3s,baz=310,slow=7.0,SNR=1.6
comp=Z,0.7nm,0.3s
YKA Yellowknife Ar 72.84 341 P **P** **00 09 22.2 +0.3**
comp=Z,0.4nm,0.8s,baz=32,slow=5.6,SNR=5.2
comp=Z,0.4nm,0.8s
ULM Lac du Bonnet 75.78 325 P **P** **00 09 39.2 -0.1**
comp=Z,1.5nm,0.5s,baz=75,slow=12,SNR=4.0
comp=Z,1.5nm,0.5s
ILAR Eielson Array 75.83 356 P **P** **00 09 40.7 +1.4**
comp=Z,0.3nm,0.8s,baz=359,slow=4.5,SNR=3.2
comp=Z,0.3nm,0.8s
ASAR Alice Springs 120.46 97 PKP **PKPdf** **00 16 44.3 -1.1**
comp=Z,0.2nm,0.5s,baz=318,slow=1.6,SNR=1.7

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*IDC **19** 00:20:24.4±2.1,37°.53N×71°.90E,h110km±17km, mb3.8/21, mbtmp4.2/27,MS3.8/3, Error ellipse: s-maj=17.9km s-min=12.3km az=146.0*
*MOS **19** 00:20:24.4±0.9, 37°.55N×71°.95E,h123km, mb4.3/13, Error ellipse: s-maj=8.0km s-min=4.0km az=80.5*
*NEIC **19** 00:20:25.3±2.7, 37°.53N±0°.07×71°.8E±0°.1, h134km±11km, mb4.2/7, Error ellipse: s-maj=12.4km s-min=9.9km az=120.0*
ISC 19 00:20:23.9±0.5,**37°.54N**±0°.05×**71°.83E**±0°.05,**h100**km,**n163,** σ1.8**s81**/171,**mb4.2**/43,**6C**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIMJ	**Simiganj**	**2.49**	**298**			**Pn**	**00 21 04.2**	**+1.2**
SIMJ					Sn	**Sn**	**00 21 34.0**	**+1.0**
BTK	**Batken**	**2.64**	**343**			**Pn**	**00 21 08.2**	**+3.3**
BTK					Sn	**Sn**	**00 21 40.1**	**+3.7**
BTK	**Batken**	**2.64**	**343**	PN	Pn	**Pn**	**00 21 08.2**	**+3.3**
OHH	**Osh**	**3.07**	**14**	PN	Pn	**Pn**	**00 21 13.3**	**+2.7**
KBL	**Kabul**	**3.75**	**218**	Pn	Pn	**Pn**	**00 21 22.0**	**+2.2**
KBL	**Kabul**	**3.75**	**218**	PN	Pn	**Pn**	**00 21 22.0**	**+2.2**
KSH	**Kashi**	**3.80**	**57**	Pn	Pn	**Pn**	**00 21 18.1**	**-2.3**
KSH					Sn	Sn	00 21 57.1	-7.2
KSH					pmax	pmax		
	comp=Z,200nm,0.6s							
KSH					smax	smax		
	comp=N,990nm,0.6s							
KSH					smax	smax		
	comp=E,590nm,0.6s							
ARSB	**Arslanbob**	**3.88**	**13**	Pn		**Pn**	**00 21 23.3**	**+1.7**
ARSB	**Arslanbob**	**3.88**	**13**	PN	Pn	**Pn**	**00 21 23.3**	**+1.7**
TRKS	**Terek-Say**	**4.02**	**353**	PN	Pn	**Pn**	**00 21 24.3**	**+0.8**
NIL	**Nilore**	**4.05**	**163**	PN	Pn	**Pn**	**00 21 25.2**	**+1.5**
AML	**Almayashu** SNR=402	**4.81**	**17**	P		**Pn**	**00 21 36.0**	**+1.7**
UCH	**Uchtor** SNR=50	**5.12**	**23**	P		**Pn**	**00 21 40.2**	**+1.7**
KZA	**Kyzart** SNR=30	**5.24**	**29**	P		**Pn**	**00 21 41.4**	**+1.2**
EKS2	**Erkin-Say** SNR=577	**5.33**	**16**	P		**Pn**	**00 21 43.2**	**+2.1**
DZA	**Taraz**	**5.36**	**356**	*e*PN		**Pn**	**00 21 42.9**	**+1.5**
DZA	**Taraz** baz=355	**5.36**	**356**	*e*P		**Pn**	**00 21 43.0**	**+1.5**
AAK	**Ala-Archa** SNR=127	**5.49**	**21**	P		**Pn**	**00 21 45.5**	**+2.2**
AAK	**Ala-Archa**	**5.49**	**21**	Pn		**Pn**	**00 21 45.6**	**+2.3**
AAK	**Ala-Archa**	**5.49**	**21**	*e*PN		**Pn**	**00 21 45.2**	**+1.9**
AAK					pmax	pmax		
	comp=Z,35nm,0.4s							
AAK	**Ala-Archa**	**5.49**	**21**	P		**Pn**	**00 21 44.8**	**+1.6**
	comp=Z,69nm,0.4s,baz=191,slow=4.9,SNR=567							
AAK					S	**Sn**	**00 22 45.2**	**+0.1**
	comp=Z,19nm,0.4s,baz=189,slow=12,SNR=3.9							
KBK	**Karagaybulak** SNR=29	**5.64**	**24**	P		**Pn**	**00 21 47.4**	**+2.0**
KK31	**Karatay Array**	**5.65**	**350**	Pn		**Pn**	**00 21 47.0**	**+1.7**
KK31	**Karatay Array**	**5.65**	**350**	PN		**Pn**	**00 21 47.0**	**+1.7**
KKAR	**Karatay Array**	**5.65**	**350**	Pn		**Pn**	**00 21 47.0**	**+1.7**
KKAR	**Karatay Array**	**5.65**	**350**			**Pn**	**00 21 47.0**	**+1.7**
KKAR	**Karatay Array**	**5.65**	**350**	PN		**Pn**	**00 21 47.0**	**+1.7**
FRU1	**Bishkek**	**5.68**	**21**			**Pn**	**00 21 48.5**	**+2.6**
FRU1	**Bishkek**	**5.68**	**21**	PN		**Pn**	**00 21 48.5**	**+2.6**
ULHL	**Ulahol** SNR=16	**5.80**	**34**	P		**Pn**	**00 21 48.7**	**+1.2**
CHMS	**Chumysh** SNR=56	**5.89**	**21**	P		**Pn**	**00 21 50.7**	**+2.0**
USP	**Ospenovka** SNR=82	**6.07**	**19**	P		**Pn**	**00 21 52.5**	**+1.4**
TKM2	**Tokmak 2** SNR=49	**6.10**	**27**	P		**Pn**	**00 21 53.2**	**+1.6**
TARG	**Taragay, Kyrgy**	**6.23**	**46**	PN		**Pn**	**00 21 56.1**	**+2.6**
TARG					pmax	pmax		
	comp=Z,10.0nm,0.9s							
SGDS	**Sogindy**	**6.28**	**19**	*e*PN		**Pn**	**00 21 54.7**	**+0.8**
SGDS					pmax	pmax		
	comp=Z,7.0nm,0.3s							
SGDS	**Sogindy**	**6.28**	**19**	*e*P		**Pn**	**00 21 54.8**	**+0.8**
	comp=Z,7.0nm,0.3s,baz=18							
SGDS				*e*S		**Sn**	**00 23 04.5**	**+0.3**
	baz=18							
DHRM	**DHARAMSHALA**	**6.43**	**144**	*e*P		**Pn**	**00 21 55.1**	**-1.1**
DHRM				*e*S		Sn	00 23 02.0	-6.2
DHRM				AMP			00 23 02.2	
	comp=E,982nm,0.3s							
DHRM				AMP			00 23 02.8	
	comp=N,1μm,0.2s							
DHRM				IAML			00 23 11.4	
	comp=E,791nm,0.1s							
TNSS	**Tian-Shan**	**6.74**	**34**	*e*PN		**Pn**	**00 22 01.5**	**+1.0**
TNSS	**Tian-Shan** baz=34	**6.74**	**34**	*e*P		**Pn**	**00 22 01.5**	**+1.0**
MDOK	**Medeo**	**6.89**	**34**	*e*PN		**Pn**	**00 22 03.8**	**+1.6**
MDOK	**Medeo** baz=34	**6.89**	**34**	*e*P		**Pn**	**00 22 03.9**	**+1.6**
PRZ	**Przheval'sk**	**7.06**	**44**	Pn		**Pn**	**00 22 06.5**	**+1.9**
PRZ	**Przheval'sk**	**7.06**	**44**	PN		**Pn**	**00 22 06.5**	**+1.9**
BHK	**Bhakra**	**7.18**	**147**	*e*P		**Pn**	**00 22 06.0**	**-0.3**
BHK				*e*S		Sn	00 23 18.9	-7.4
BHK				AMP			00 23 20.7	
	comp=N,850nm,0.1s							
KUU	**Kurty**	**7.21**	**27**	*e*PN		**Pn**	**00 22 06.6**	**+0.1**
KUU					pmax	pmax		
	comp=Z,3.0nm,0.4s							
KUU	**Kurty**	**7.21**	**27**	*e*P		**Pn**	**00 22 06.7**	**+0.1**
	comp=Z,3.4nm,0.4s,baz=27							

TDK	**Taldyqorghan**	**8.95**	**31**	*e*P		**Pn**	**00 22 30.7**	**+0.6**
	baz=31								
NDI	**New Delhi**	**9.92**	**151**	*e*P		**Pn**	**00 22 41.9**	**-1.5**
NDI				*e*S		Sn	00 24 21.6	-11
NDI					AMP		00 24 23.0	
	comp=N,176nm,0.2s							
NDI					AMP		00 24 23.2	
	comp=E,299nm,0.3s							
KUDL	**Kundal**	**10.15**	**156**	*e*P		Pn	00 22 44.4	-2.2
PTH	**Pithoragarh**	**10.60**	**136**	*e*P		**Pn**	**00 22 51.1**	**-1.8**
GEYT	**Alibeck**	**10.87**	**276**			**Pn**	**00 22 53.9**	**-2.5**
GEYT	**Alibeck**	**10.87**	**276**	P		**Pn**	**00 22 53.9**	**-2.5**
GEYT	**Alibeck**	**10.87**	**276**	P		Pn	00 22 53.5	-2.9
	comp=E,8,6nm,0.4s,baz=127,slow=12,SNR=93								
GEYT				S		Sn	00 24 48.1	-7.9
	comp=E,10nm,0.5s,baz=146,slow=25,SNR=11								
GYA0B	**ALIBECK ARRAY**	**10.87**	**276**			**Pn**	**00 22 53.9**	**-2.5**
AJM	**Ajmer**	**11.28**	**167**	*e*P		Pn	00 22 59.5	-2.4
MAKZ	**Makanchi**	**11.92**	**36**			**Pn**	**00 23 09.8**	**-0.6**
MAKZ	**Makanchi**	**11.92**	**36**	P		**Pn**	**00 23 09.8**	**-0.6**
MK31	**Makanchi Array**	**12.06**	**37**			**Pn**	**00 23 12.2**	**0.0**
MK31	**Makanchi Array**	**12.06**	**37**	*ce*P		**Pn**	**00 23 12.2**	**0.0**
MKAR	**Makanchi Array**	**12.06**	**37**	Pn		**Pn**	**00 23 12.2**	**0.0**
MKAR	**Makanchi Array**	**12.06**	**37**	*i* P		**Pn**	**00 23 12.3**	**0.0**
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**12.06**	**37**	P		**Pn**	**00 23 11.3**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=221,slow=13,SNR=22								
WMQ	**Urumqi**	**13.57**	**58**	*e*P		**Pn**	**00 23 33.3**	**+1.2**
KURBB	**Kurchatov Arra**	**13.93**	**18**	P		**Pn**	**00 23 34.0**	**-2.7**
	comp=Z,1.0nm,0.2s,baz=194,slow=7.8,SNR=1.7								
KURK	**Kurchatov**	**14.04**	**18**			**Pn**	**00 23 37.7**	**-0.4**
KURK	**Kurchatov**	**14.04**	**18**	*i* P		**Pn**	**00 23 37.0**	**-1.0**
ABKAR	**Akbulak array**	**14.53**	**327**			**Pn**	**00 23 42.7**	**-1.7**
ABKAR	**Akbulak array**	**14.53**	**327**			**Pn**	**00 23 42.7**	**-1.7**
BVAR	**Borovoye Array**	**15.52**	**357**	P		**Pn**	**00 23 56.2**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=169,slow=13,SNR=8.8								
BVAR				S		**Sn**	**00 26 42.3**	**-6.0**
	comp=Z,2.2nm,0.5s,baz=166,slow=22,SNR=6.5								
BRVK	**Borovoye**	**15.56**	**357**	P		**Pn**	**00 23 58.9**	**+1.5**
BRVK				IAmb		IAmb	00 24 01.1		
	comp=Z,4.2nm,0.6s								
BRVK	**Borovoye**	**15.56**	**357**	*ce*P		**Pn**	**00 23 58.7**	**+1.3**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
AKTO	**Aktyubinsk**	**16.24**	**327**	P		**Pn**	**00 24 06.3**	**+0.4**
	comp=Z,25nm,0.5s,baz=132,slow=7.9,SNR=59								
AKTO				S		**Sn**	**00 26 57.2**	**-8.6**
	comp=Z,12nm,0.6s,baz=359,slow=23,SNR=9.4								
DGZ	**Jazzator, Alta**	**16.55**	**38**	*i* P		**Pn**	**00 24 09.6**	**-0.3**
DGZ				pmax		pmax			
	comp=Z,2.0nm,0.5s								
WSAR	**Wadi Sarin**	**18.21**	**222**	P		**P**	**00 24 29.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=62,slow=6.3,SNR=4.3								
ZAA0	**Zalesovo Array**	**18.70**	**24**	P		**P**	**00 24 34.9**	**+0.8**
ZALV	**Zalesovo Beam**	**18.70**	**24**	P		**P**	**00 24 34.8**	**+0.7**
ZALV	**Zalesovo Beam**	**18.70**	**24**	*e*P		**P**	**00 24 33.8**	**-0.3**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**18.70**	**24**	P		**P**	**00 24 33.6**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=224,slow=11,SNR=12								
SEKA	**Sheki**	**19.37**	**289**	P		**P**	**00 24 39.2**	**-2.5**
MNGR	**Mingechevir, A**	**19.44**	**287**	P		**P**	**00 24 40.8**	**-1.5**
ZKTA	**Zakatala**	**19.83**	**290**	P		**P**	**00 24 45.0**	**-1.6**
NAX	**Nakhchivan**	**20.70**	**283**	P		**P**	**00 24 53.6**	**-2.4**
ARU	**Arti**	**20.89**	**339**	P		**P**	**00 24 57.5**	**-0.3**
ARU				IAmb		IAmb	00 24 58.7		
	comp=Z,7.7nm,0.8s								
ARU	**Arti**	**20.89**	**339**	*c* *i* P		**P**	**00 24 57.4**	**-0.3**
ARU							00 25 27.8		
ARU				S		**S**	**00 28 44.0**	**-0.8**
ARU				pmax		pmax			
	comp=Z,9.0nm,0.8s								
ARU	**Arti**	**20.89**	**339**	P		**P**	**00 24 57.6**	**-0.3**
	comp=Z,7.1nm,0.6s,baz=147,slow=6.5,SNR=16								
ARU				S		**S**	**00 28 45.0**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=111,slow=23,SNR=2.2								
ARU				LR		LR	00 34 09.0		
	comp=Z,84nm,20.3s,baz=340,slow=39								
	comp=Z,7.1nm,0.6s								
GNI	**Garni**	**21.23**	**285**	P		**P**	**00 25 04.3**	**+2.5**
GNI				IAmb		IAmb	00 25 12.9		
	comp=Z,34nm,1.3s								
GNI	**Garni**	**21.23**	**285**	*i* P		**P**	**00 25 04.2**	**+2.4**
GNI				pmax		pmax			
	comp=Z,2.0nm,0.4s								
GNI	**Garni**	**21.23**	**285**	P		**P**	**00 25 03.5**	**+1.7**
	comp=Z,6.7nm,0.6s,baz=336,slow=3.1,SNR=6.1								
	comp=Z,6.7nm,0.6s								
GTA	**Gaotai**	**21.96**	**76**	*e*P		**P**	**00 25 12.1**	**+2.6**
GTA				pP		pP	00 25 36.6	+6.5	
GTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
AKH	**Akhalkalaki**	**22.17**	**289**	P		**P**	**00 25 13.0**	**+1.2**
AKH	**Akhalkalaki**	**22.17**	**289**	P		**P**	**00 25 13.0**	**+1.2**
AKH				pmax		pmax			
	comp=Z,61nm,1.4s								
NCK	**Nalchik**	**22.21**	**294**	*i* P		**P**	**00 25 12.8**	**+0.7**
NCK				pmax		pmax			
	comp=Z,11nm,0.8s								
ONI	**Oni**	**22.24**	**292**	P		**P**	**00 25 14.0**	**+1.6**
ONI				IAmb		IAmb	00 25 16.2		
	comp=Z,14nm,1.2s								
ONI	**Oni**	**22.24**	**292**	P		**P**	**00 25 14.0**	**+1.6**
ONI				pmax		pmax			
	comp=Z,14nm,1.2s								
KOHI	**KOHIMA**	**22.27**	**116**	*e*P		**P**	**00 25 11.4**	**-1.5**
KOHI				IAmb		IAmb	00 25 12.8		
	comp=Z,8.2nm,0.5s								
BELG	**Belogornoye**	**22.52**	**319**	*i* P		**P**	**00 25 14.2**	**-0.9**
BELG				pmax		pmax			
	comp=Z,2.0nm,0.8s								
BELG	**Belogornoye**	**22.52**	**319**	P		**P**	**00 25 14.8**	**-0.3**
	comp=Z,12nm,0.7s,baz=222,slow=3.0,SNR=5.7								
	comp=Z,12nm,0.7s								
KBZ	**Khabaz**	**22.74**	**295**	*i* P		**P**	**00 25 19.5**	**+2.1**
KBZ				pmax		pmax			
	comp=Z,74nm,3.2s								
KBZ	**Khabaz**	**22.74**	**295**	P		**P**	**00 25 17.2**	**-0.2**
	comp=Z,3.5nm,1.0s,baz=226,slow=16,SNR=1.9								
KBZ				S		**S**	**00 29 24.8**	**+6.3**
	comp=Z,2.8nm,1.0s,baz=264,slow=12,SNR=1.9								
	comp=Z,3.5nm,1.0s								
KIV	**Kislovodsk**	**22.92**	**295**	P		**P**	**00 25 16.9**	**-2.4**
KIV				IAmb		IAmb	00 25 52.9		
	comp=Z,8.5nm,0.7s								
SAIH	**SAIHA**	**23.60**	**124**	*e*P		**P**	**00 25 25.2**	**-0.7**
SAIH				IAmb		IAmb	00 25 26.5		
	comp=Z,6.4nm,0.3s								
KIRV	**Kirov**	**25.61**	**332**	*ce*P		**P**	**00 25 45.3**	**+1.8**
ANN	**Anapa**	**26.74**	**297**	*e*P		**P**	**00 25 51.9**	**-2.0**
ANN				*e**PP		**pP**	**00 26 19.3**	**+2.2**
ANN				*e*S		**S**	**00 30 18.2**	**-4.0**
ANN				pmax		pmax			
	comp=Z,122nm,1.3s								
OBN	**Obninsk**	**29.60**	**318**	*i* P		**P**	**00 26 19.7**	**+0.5**
OBN				*e**PP		**pP**	**00 26 45.8**	**+3.4**
OBN				*e*			00 27 14.7		
OBN				*e*S		S	00 30 57.4	-9.5
OBN				pmax		pmax			
	comp=Z,5.0nm,0.7s								
BRTR	**Keskin Array B**	**29.77**	**286**	*ce*P		**P**	**00 26 21.8**	**+0.7**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BRTR	**Keskin Array B**	**29.77**	**286**	P		**P**	**00 26 21.6**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=94,slow=8.4,SNR=10								
	comp=Z,1.4nm,0.6s								
HHC	**Hu-ho-hao-te**	**30.79**	**71**	*e*P		**P**	**00 26 29.8**	**-0.2**
HHC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,120nm,5.0s								
AKASG	**Malin Array Be**	**32.83**	**307**	*e*P		**P**	**00 26 48.6**	**+1.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**32.83**	**307**	P		**P**	**00 26 48.0**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=108,slow=9.9,SNR=7.1								
	comp=Z,0.7nm,0.3s								
NRIK	**Noril'sk**	**32.99**	**10**	*e*P		**P**	**00 26 50.7**	**+1.9**
NRIK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
NRIK	**Noril'sk**	**32.99**	**10**	P		**P**	**00 26 48.5**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=180,slow=8.9,SNR=3.5								
	comp=Z,1.4nm,0.7s								
FINES	**FINESS Array B**	**37.00**	**325**	P		**P**	**00 27 23.4**	**+0.1**
	comp=Z,3.6nm,0.3s,baz=119,slow=9.3,SNR=70								
	comp=Z,3.6nm,0.3s								
ARCES	**ARCESS Array B**	**40.45**	**337**	*e*P		**P**	**00 27 52.9**	**+0.9**
ARCES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B**	**40.45**	**337**	P		**P**	**00 27 51.9**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=114,slow=8.5,SNR=30								
	comp=Z,2.5nm,0.5s								
CONA	**Conrad Observa**	**41.56**	**303**	*e*P		**P**	**00 27 59.1**	**-2.5**
	comp=Z,1.9nm,0.8s								
SOKA	**Soboth**	**42.29**	**301**	*e*P		**P**	**00 28 05.7**	**-1.9**
	comp=Z,5.1nm,1.0s								
BRG	**Berggiesshubel**	**42.51**	**307**	P		**P**	**00 28 09.8**	**+0.7**
BRG					pmax	pmax			
	comp=Z,7.0nm,1.5s								
HFS	**Hagfors**		**42.67**	**321**	P	**P**	**00 28 10.0**	**-0.2**
	comp=Z,9.2nm,0.5s,baz=98,slow=11,SNR=72								
	comp=Z,9.2nm,0.5s								
GERES	**GERESS Array B**	**42.88**	**304**	P		**P**	**00 28 12.8**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=57,slow=9.1,SNR=2.7								
	comp=Z,0.4nm,0.4s								
CLL	**Collm**	**43.07**	**308**	*e*P		**P**	**00 28 13.0**	**-0.6**
CLL	**Collm**	**43.07**	**308**	*e*P		**P**	**00 28 13.0**	**-0.6**
CLL				*e*PP		**PP**	**00 29 58.0**	**+2.7**
CLL				*e*SS		SS	00 37 48.0	+0.6
CLL				*e*SS			00 38 26.0		
KBA	**Koelnbreinsper**	**43.38**	**302**	*e*P		**P**	**00 28 16.2**	**-0.2**
	comp=Z,0.4nm,0.3s								
LESA	**Schwarzleotal**	**43.77**	**303**	*i* P		**P**	**00 28 19.1**	**-0.2**
	comp=Z,1.6nm,0.4s								
NORES	**NORESS Array B**	**43.78**	**322**	P		**P**	**00 28 18.6**	**-0.6**
NB2	**NORSAR Subarra**	**43.96**	**322**	P		**P**	**00 28 20.1**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=93,slow=8.6								
NOA	**NORSAR Array B**	**43.96**	**322**	P		**P**	**00 28 20.1**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=108,slow=7.2,SNR=10								
	comp=Z,2.5nm,0.7s								
BSEG	**Bad Segeberg**	**44.48**	**312**	P		**P**	**00 28 25.8**	**+1.0**
BSEG					pmax	pmax			
	comp=Z,7.0nm,0.9s								
WTTA	**Wattenberg**	**44.49**	**303**	*i* P		**P**	**00 28 24.8**	**-0.5**
	comp=Z,1.1nm,0.4s								
WATA	**Walderalm**	**44.52**	**303**	*i* P		**P**	**00 28 25.2**	**-0.2**
	comp=Z,0.4nm,0.3s								
SQTA	**Sankt Quirin**	**44.79**	**303**	*i* P		**P**	**00 28 26.6**	**-1.0**
	comp=Z,3.8nm,1.1s								
MOTA	**Moosalm**	**44.83**	**303**	*e*P		**P**	**00 28 25.8**	**-2.2**
	comp=Z,2.1nm,0.7s								
RETA	**Reutte**	**45.04**	**303**	*i* P		**P**	**00 28 27.7**	**-1.8**
	comp=Z,0.5nm,0.3s								
USRK	**Ussuriysk Ar.**	**45.09**	**62**	P		**P**	**00 28 29.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=293,slow=15,SNR=8.0								
	comp=Z,1.0nm,0.6s								
FETA	**Feichten**	**45.15**	**302**	*e*P		**P**	**00 28 29.3**	**-1.2**
	comp=Z,1.9nm,0.6s								
DAVA	**Damuels**	**45.66**	**303**	*i* P		**P**	**00 28 33.8**	**-0.7**
	comp=Z,7.9nm,0.5s								
SPITS	**Spitsbergen Ar**	**46.64**	**346**	P		**P**	**00 28 41.9**	**+0.4**
	comp=Z,18nm,1.1s,baz=122,slow=11,SNR=5.6								
SPITS					ScP	**ScP**	**00 33 56.9**	**-1.1**
	comp=Z,9.6nm,0.9s,baz=99,slow=5.2,SNR=1.8								
	comp=Z,18nm,1.1s								
TGY	**Tagaytay City**	**49.32**	**105**	LR		LR	00 49 32.0		
	comp=Z,606nm,20.8s,baz=62,slow=36								
KEST	**Kesra**	**49.34**	**288**	P		**P**	**00 29 03.6**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=80,slow=6.1,SNR=11								
	comp=Z,1.5nm,0.5s								
EKA	**Eskdalemuir Ar**	**52.01**	**316**	P		**P**	**00 29 21.9**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=92,slow=9.9,SNR=5.0								
	comp=Z,1.1nm,0.6s								
ESDC	**Sonseca Array**	**57.56**	**298**	P		**P**	**00 30 02.7**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=56,slow=7.4,SNR=15								
	comp=Z,1.2nm,0.5s								
TAM	**Tamanrasset**	**58.10**	**275**	P		**P**	**00 30 06.7**	**-0.5**
PETK	**Petropavlovsk-**	**58.76**	**45**	LR		LR	00 57 38.1		
	comp=Z,48nm,20.9s,baz=38,slow=38								
SUMG	**Summit**	**60.30**	**341**	P		**P**	**00 30 22.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**66.41**	**269**	P		**P**	**00 31 00.8**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=48,slow=6.2,SNR=25								
	comp=Z,1.5nm,0.6s								
INK	**Inuvik**	**72.77**	**10**	P		**P**	**00 31 40.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=333,slow=6.3,SNR=7.9								
	comp=Z,0.9nm,0.5s								
ILAR	**Eielson Array**	**73.60**	**16**	*e*P		**P**	**00 31 44.9**	**-0.9**
ILAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
ILAR	**Eielson Array**	**73.60**	**16**	P		**P**	**00 31 44.8**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=257,slow=2.8,SNR=4.4								
	comp=Z,0.4nm,0.9s								
YKA	**Yellowknife Ar**	**80.18**	**3**	P		**P**	**00 32 21.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=348,slow=5.8,SNR=13								
	comp=Z,0.5nm,0.5s								

*TEH **19** 00:38:39.4, 33°.70N×45°.67E, h12km±59km, ML3.1*
*ISN **19** 00:38:39.5±1.3, 33°.67N×45°.71E, h1km±6km, ML3.1*
ISC 19 00:38:39.7±1.3, 33°.72N±0°.04×45°.71E±0°.04, h5km±12km, n15, σ1s11/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.43**	**103**	Pg		**Pg**	**00 38 48.4**	**+0.4**
ILBA				Sg		**Sg**	**00 38 54.8**	**+1.2**
IBDR	**Badra**	**0.64**	**163**	*e*Pg		**Pb**	**00 38 52.0**	**-1.3**
IBDR				*e*Sg		**Sg**	**00 39 00.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.79**	**353**	Pg		**Pg**	**00 38 54.8**	**-0.1**
IGHG	**Ghaleghazi**	**0.94**	**49**	Pg		**Pn**	**00 38 58.8**	**-1.0**
IDHR	**Dehrash**	**1.13**	**30**	Pg		**Pg**	**00 39 02.1**	**+0.7**
IDHR				Sg		**Sn**	**00 39 17.9**	**-0.4**
BHD	**Baghdad**	**1.20**	**248**	*e*Pg		**Pg**	**00 39 04.0**	**+1.3**
BHD				*e*Sg		**Sn**	**00 39 21.0**	**+1.3**
BHD				AML		AML	00 39 26.6	
	comp=E,654nm,0.5s							
KCHF	**Cheshme Sefid,**	**1.24**	**63**	Pg		**Pg**	**00 39 03.8**	**+0.3**
IKOM	**Komasi**	**1.56**	**73**	Pg		**Pg**	**00 39 09.9**	**+0.1**
ILIN	**Lien**	**1.58**	**41**	Pg		**Pg**	**00 39 10.3**	**+0.1**
IKFM	**Kafar-mosalman**	**1.79**	**96**	Pn		**Pb**	**00 39 12.6**	**-0.4**
RAFI	**Al-Rafai**	**2.02**	**170**	*e*Pn		**Pb**	**00 39 15.0**	**-1.9**
RAFI				*e*Sn		**Sg**	**00 39 43.0**	**-1.6**
RAFI				AML		AML	00 39 50.2	
	comp=N,116nm,0.3s							
RAFI				AML		AML	00 40 06.1	
	comp=E,257nm,0.2s							
SDS1	**Sardasht. Az.**	**2.43**	**356**	Pn		**Pn**	**00 39 20.3**	**+0.1**
HSAM	**Samen**	**2.45**	**78**	Pn		**Pn**	**00 39 21.8**	**+1.1**
QAMS	**Qamsar**	**4.74**	**88**	Pn		**Pn**	**00 39 53.5**	**+1.4**
IKLH	**Kolahrood**	**4.92**	**93**	Pn		**Pn**	**00 39 55.8**	**+1.2**

ROM 19 00:44:29.4±0.0, 42°.580N±0°.003×13°.238E±0°.004, h10km, ML2.4/26, 2C, Error ellipse: s-maj=0.3km s-min=0.2km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.07**	**194**	P		Pg	00 44 32.1	+0.3
RM33				S		Sg	00 44 33.9	+0.3
RM33				AML		AML		
	comp=E,6335μm,1.6s							
RM33				AML		AML		
	comp=N,3680μm,1.0s							
RM33				AML		AML		
	comp=E,6615μm,1.0s							
RM33				AML		AML		
	comp=E,6335μm,0.4s							
RM33				AML		AML		
	comp=N,3625μm,1.0s							
SMA1	**SAN MARTINO**	**0.09**	**55**	P		Pg	00 44 32.5	+0.4
SMA1				S		Sg	00 44 34.6	+0.6
SMA1				AML		AML		
	comp=E,6235μm,0.6s							
SMA1				AML		AML		
	comp=N,2135μm,0.6s							
CAMP	**Campotosto**	**0.13**	**109**	P		Pg	00 44 33.2	+0.5
CAMP				S		Sg	00 44 35.8	+0.8
CAMP				AML		AML		
	comp=N,814μm,1.0s							
CAMP				AML		AML		
	comp=E,1119μm,0.6s							
T1247	**Pizzolo (AQ)**	**0.14**	**162**	P		Pg	00 44 33.3	+0.5
T1247				S		Sg	00 44 36.3	+1.1
LNSS	**Leonessa**	**0.15**	**279**	P		Pg	00 44 33.3	+0.4
LNSS				S		Sg	00 44 36.2	+0.8
LNSS				AML		AML		
	comp=N,5695μm,0.2s							
LNSS				AML		AML		
	comp=E,4500μm,0.5s							
T1214	**Arquata del Tr**	**0.18**	**353**	P		Pg	00 44 33.9	+0.4
T1214				S		Sg	00 44 37.1	+0.8
NRCA	**Norcia**	**0.27**	**340**	P		Pg	00 44 35.3	+0.3
NRCA				S		Sg	00 44 39.6	+0.9
NRCA				AML		AML		
	comp=E,851μm,0.2s							
NRCA				AML		AML		
	comp=N,602μm,0.7s							
NRCA				AML		AML		
	comp=N,660μm,0.7s							
NRCA				AML		AML		
	comp=E,868μm,0.2s							
NRCA				AML		AML		
	comp=E,723μm,0.2s							
NRCA				AML		AML		
	comp=E,714μm,0.2s							
TERO	**Teramo**	**0.27**	**81**	P		Pg	00 44 35.4	+0.3
TERO				S		Sg	00 44 39.7	+0.9
TERO				AML		AML		
	comp=N,386μm,0.3s							
TERO				AML		AML		
	comp=E,324μm,0.3s							
TERO				AML		AML		
	comp=E,300μm,0.3s							
GIGS	**Gran Sasso**	**0.28**	**118**	P		Pg	00 44 35.5	+0.4
GIGS				S		Sg	00 44 39.9	+1.0
GIGS				AML		AML		
	comp=N,119μm,0.4s							
GIGS				AML		AML		
	comp=E,113μm,0.7s							
GAVE	**Gavelli**	**0.28**	**294**	AML		AML		
	comp=N,276μm,0.3s							
GAVE				AML		AML		
	comp=N,276μm,0.3s							
GAVE				AML		AML		
	comp=E,909μm,0.2s							
GAVE				AML		AML		
	comp=N,910μm,0.6s							
GAVE				AML		AML		
	comp=E,965μm,0.7s							
GAVE				AML		AML		
	comp=E,908μm,0.2s							
GAVE				AML		AML		
	comp=E,908μm,1.8s							
GAVE				AML		AML		
	comp=E,965μm,1.3s							
FIAM	**Fiamignano**	**0.32**	**196**	P		Pg	00 44 36.4	+0.4
FIAM				S		Sb	00 44 41.7	-1.0
FIAM				AML		AML		
	comp=N,254μm,0.7s							
FIAM				AML		AML		
	comp=E,314μm,0.7s							
MMO1	**Montemonaco**	**0.33**	**12**	P		Pg	00 44 36.4	+0.3
MMO1				S		Sb	00 44 41.7	-1.1
MC2	**Monte Cornacci**	**0.34**	**354**	P		Pg	00 44 36.7	+0.4
MC2				S		Sb	00 44 42.5	-0.7
ARRO	**Arrone**	**0.35**	**270**	⇑P		Pg	00 44 36.8	+0.4
ARRO				S		Sb	00 44 42.4	-0.9
ARRO				AML		AML		
	comp=E,278μm,0.2s							
ARRO				AML		AML		
	comp=N,288μm,0.7s							
ARRO				AML		AML		
	comp=N,288μm,1.3s							
T1221	**Campello sul C**	**0.40**	**314**	P		Pg	00 44 37.7	+0.3
T1221				S		Sb	00 44 44.0	-0.9
FAGN	**Fagnano**	**0.41**	**141**	P		Pb	00 44 38.1	-0.6
FAGN				AML		AML		
	comp=E,446μm,0.3s							
FAGN				AML		AML		
	comp=N,332μm,0.4s							
MF5	**Montefalcone A**	**0.44**	**22**	⇑P		Pb	00 44 38.9	-0.4
MF5				AML		AML		
	comp=E,630μm,0.3s							
MF5				AML		AML		
	comp=E,630μm,1.7s							
MF5				AML		AML		
	comp=N,588μm,0.4s							
FDMO	**Fiordimonte**	**0.47**	**346**	P		Pg	00 44 38.9	+0.2
FDMO				S		Sb	00 44 46.0	-0.8
FDMO				AML		AML		
	comp=E,136μm,0.9s							
FDMO				AML		AML		
	comp=N,144μm,1.1s							
OFFI	**Offida**	**0.48**	**43**	P		Pb	00 44 39.8	-0.2
OFFI				AML		AML		
	comp=E,460μm,0.7s							
OFFI				AML		AML		
	comp=N,574μm,0.7s							
CESX	**Cesi**	**0.49**	**274**	P		Pg	00 44 39.1	+0.1
CESX				S		Sb	00 44 46.6	-0.6
CESX				AML		AML		
	comp=N,276μm,0.3s							
CESX				AML		AML		
	comp=E,204μm,0.5s							
GUMA	**Gualdo di Mace**	**0.49**	**8**	P		Pb	00 44 39.6	-0.5
GUMA				AML		AML		
	comp=E,824μm,0.6s							
GUMA				AML		AML		
	comp=N,701μm,0.3s							
GUMA				AML		AML		
	comp=E,824μm,1.4s							
CESI	**CESI - Serrava**	**0.49**	**330**	P		Pg	00 44 39.3	+0.2
CESI				S		Sb	00 44 46.8	-0.6
CESI				AML		AML		
	comp=E,124μm,0.5s							
CESI				AML		AML		
	comp=N,202μm,1.0s							
CESI				AML		AML		
	comp=N,202μm,1.0s							
T0110	**Collepietro**	**0.53**	**131**	P		Pg

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.53**	**158**	Pn		**Pn**	**00 59 58.3**	**+1.0**
	6.2nm,0.3s,baz=326,slow=13,SNR=1.7							
WRA				Sn		**Sn**	**01 02 25.7**	**-1.4**
	15nm,0.3s,baz=339,slow=23,SNR=1.4							
ASAR	**Alice Springs**	**16.87**	**164**	P		**Pn**	**01 00 41.1**	**+2.5**
	0.5nm,0.5s,baz=339,slow=12,SNR=8.0							
ASAR				S		**S**	**01 03 45.3**	**-1.0**
	0.2nm,0.5s,baz=350,slow=25,SNR=1.4							
SONM	**Songino Array**	**58.48**	**342**	P		**P**	**01 06 32.2**	**+0.5**
	0.5nm,0.9s,baz=144,slow=5.2,SNR=3.3							
	0.5nm,0.9s							
MKAR	**Makanchi Array**	**67.99**	**327**	P		**P**	**01 07 33.3**	**-0.9**
	0.6nm,0.8s,baz=113,slow=8.3,SNR=8.2							
	0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**71.48**	**334**	P		**P**	**01 07 54.3**	**-0.9**
	0.3nm,0.4s,baz=130,slow=6.0,SNR=2.2							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**72.31**	**329**	P		**P**	**01 07 59.6**	**-0.6**
	0.4nm,0.5s,baz=128,slow=4.9,SNR=10							
	0.4nm,0.5s							

SKHL ***19*** *01:00:56.0±0.1, 44°.40N×149°.10E, h37km±2km, mb4.7/3*
JMA ***19*** *01:00:56.0±0.9, 45°.N±4°×14°.9E±°, h30km, MV4.1/12, SE OFF ETOROFU*

ISC 19 01:00:55.6±3.9, 44°.42N±0°.09×149°.1E±0°.2, h42km, n14, σ1$ 05/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.17**	**314**	*e*P		**Pn**	**01 01 15.4**	**-0.1**
KUR				AMB		AMB	01 01 16.8	
	480nm,0.5s							
KUR				*i* S		**Sn**	**01 01 29.6**	**-0.7**
KUR				A		A	01 01 32.9	
	2μm,0.6s							
KUR				A		A	01 01 32.9	
	2μm,0.6s							
SHO	**Shikotan**	**1.69**	**252**	*e*P		**Pn**	**01 01 22.3**	**-0.4**
SHO				AMB		AMB	01 01 24.3	
	80nm,0.3s							
SHO				*i* S		**Sn**	**01 01 41.9**	**-1.2**
SHO				A		A	01 01 45.6	
	320nm,0.3s							
SHO				A		A	01 01 45.6	
	470nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.33**	**262**	*i* P		**Pn**	**01 01 32.0**	**+0.6**
YUK				AMB		AMB	01 01 33.6	
	300nm,0.4s							
YUK				*e*S		**Sn**	**01 01 58.0**	**-0.7**
YUK				A		A	01 02 05.0	
	540nm,0.6s							
YUK				A		A	01 02 05.0	
	480nm,0.6s							
NEM2	**Nemuro 2**	**2.62**	**247**	*e*P		**Pn**	**01 01 35.6**	**+0.3**
NEM2				*e*S		**Sn**	**01 02 05.2**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.62**	**248**	*e*P		**Pn**	**01 01 35.7**	**+0.3**
NMR				*e*S		**Sn**	**01 02 05.5**	**-0.5**
JRA	**Rausu**	**2.87**	**262**	*e*P		**Pn**	**01 01 40.7**	**+1.9**
JNK	**Nakash**	**3.24**	**257**	*e*P		**Pn**	**01 01 45.0**	**+1.1**
AKK	**Akkeshi**	**3.36**	**247**	*e*P		**Pn**	**01 01 46.6**	**+1.0**
JAK	**Akkeshi**	**3.47**	**247**	*e*P		**Pn**	**01 01 47.5**	**+0.5**
JAR	**Ashorobuto**	**3.98**	**255**	*e*P		**Pn**	**01 01 55.8**	**+1.7**
JOB	**Onbets**	**4.08**	**250**	*e*P		**Pn**	**01 01 57.0**	**+1.6**
JOB				*e*S		**Sn**	**01 02 41.2**	**-0.7**
JCH	**Churui**	**4.52**	**248**	*e*P		**Pn**	**01 02 02.8**	**+1.3**
JNBK	**Urakawa-nobuka**	**5.07**	**247**	*e*P		**Pn**	**01 02 10.0**	**+0.9**
JANG	**Nango**	**6.89**	**237**	*e*P		**Pn**	**01 02 33.4**	**-0.7**

IDC ***19*** *01:03:46.9±0.6, 1°.60N×126°.29E, h0km, mb4.3/18, mbtmp4.3/19, ML3.7/1, MS3.3/10, Error ellipse: s-maj=26.8km s-min=13.9km az=81.0*
NEIC ***19*** *01:03:48.7±1.7, 1°.65N±0°.09×126°.48E±0°.06, h10km±1km, mb4.6/39, Error ellipse: s-maj=15.8km s-min=8.1km az=25.0*
DJA ***19*** *01:03:51.4±0.3, 2°.N±3°×12°.6E±°, h10km, M4.6/13, mb4.6/6, mB4.9/3, MLv4.6/13, Mw(mB)4.2/3, MwMwp4.7/1, Mwp5.0/1*

ISC 19 01:03:49.6±0.5, 1°.61N±0°.05×126°.42E±0°.05, h10km, n105, σ1$ 42/60, mb4.5/45, MS3.1/10, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.26**	**131**			**Pn**	**01 04 13.7**	**+0.4**
TNTI				Sn		**Sb**	**01 04 28.6**	**-1.2**
TNTI	**Ternate**	**1.26**	**131**	P		**Pn**	**01 04 14.3**	**+1.0**
TNTI				S		**Sb**	**01 04 33.2**	**+3.4**
SGSI	**Sangihe**	**2.25**	**337**	P		**Pn**	**01 04 29.2**	**+2.3**
SGSI				S		**Sn**	**01 04 55.9**	**+1.2**
LBMI	**Labuha**	**2.48**	**154**	P		**Pn**	**01 04 31.4**	**+1.3**
KMSI	**Cibinong**	**2.65**	**247**	P		**Pn**	**01 04 33.6**	**+1.2**
KMSI				S		**Sn**	**01 05 03.0**	**-1.5**
GTOI	**Gorontalo**	**3.54**	**254**	P		**Pn**	**01 04 46.6**	**+1.9**
SANI	**Sanana**	**3.66**	**187**	P		**Pn**	**01 04 47.0**	**+0.7**
LUWI	**Luwuk**	**4.50**	**234**	Pn		**Pn**	**01 04 58.5**	**+0.6**
LUWI				Sn		**Sn**	**01 05 51.5**	**+1.2**
LUWI	**Luwuk**	**4.50**	**234**	P		**Pn**	**01 04 58.7**	**+0.8**
MRSI	**Marisa**	**4.62**	**256**	P		**Pn**	**01 05 01.0**	**+1.5**
NLAI	**Namlea**	**4.87**	**172**	P		**Pn**	**01 05 04.4**	**+1.5**
DAV	**Davao City (W)**	**5.49**	**351**	LR		LR	01 07 34.2	
	comp=Z,353nm,18.9s,baz=151,slow=41							
MPSI	**Mapaga**	**6.64**	**259**	P		**Pn**	**01 05 28.5**	**+1.2**
	51nm,1.1s,2μm0.3nm							
FAKI	**Fak Fak**	**7.36**	**128**			**Pn**	**01 05 37.0**	**-0.2**
FAKI	**Fak Fak**	**7.36**	**128**	P		**Pn**	**01 05 40.3**	**+3.1**
	53nm,0.8s,3μm0.2nm							
BKSI	**Bulukumba**	**9.33**	**222**	P		**Pn**	**01 06 07.5**	**+3.3**
	19nm,0.7s,485nm							
KAPI	**Kappang**	**9.36**	**225**	Pn		**Pn**	**01 06 05.6**	**+0.9**
KAPI	**Kappang**	**9.36**	**225**	Pn		Pn	01 06 02.6	-2.1
	0.7nm,0.3s,baz=102,slow=17,SNR=1.5							
KAPI				Sn		**Sn**	**01 07 48.6**	**-1.6**
	0.7nm,0.3s,baz=83,slow=20,SNR=1.3							
	4.8nm,0.5s							
EDFI	**Ende, Flores**	**11.32**	**205**	P		**Pn**	**01 06 34.8**	**+3.2**
	10nm,1.0s							
SOEI	**Soe**	**11.49**	**191**	P		**Pn**	**01 06 34.7**	**+0.7**
SBUM	**Sibu**	**14.21**	**274**	Pn		**Pn**	**01 07 12.1**	**+0.9**
MTN	**Manton Dam**	**15.10**	**162**			**Pn**	**01 07 22.7**	**-0.5**
KNRA	**Kununurra**	**17.33**	**172**			**Pn**	**01 07 51.0**	**-0.8**
KNRA				IAmb		IAmb	01 07 56.1	
	comp=Z,40nm,0.9s							
GUMO	**Guam**	**21.79**	**56**	LR		LR	01 16 05.0	
	comp=Z,56nm,21.8s,baz=99,slow=34							
WB0	**Warramunga Arr**	**22.64**	**160**	P		**P**	**01 08 49.5**	**-1.6**
WB0				IAmb		IAmb	01 08 53.5	
	comp=Z,28nm,0.9s							
WB2	**Warramunga Arr**	**22.79**	**160**	P		**P**	**01 08 50.8**	**-1.8**
WR0	**Warramunga Arr**	**22.87**	**160**	P		**P**	**01 08 51.6**	**-1.8**
WR0				IAmb		IAmb	01 08 54.6	
	comp=Z,18nm,0.8s							
QIZ	**Qiongzhong**	**23.74**	**318**	P		**P**	**01 09 01.1**	**-1.1**
QIZ				S		**S**	**01 13 15.5**	**-2.1**
QIZ				pmax		pmax		
	comp=Z,90nm,1.8s							
QIZ				LR		LR		
	comp=Z,190nm,16.7s							
JOW	**Kunigami**	**25.14**	**4**	LR		LR	01 18 01.3	
	comp=Z,54nm,20.8s,baz=146,slow=34							
AS31	**Alice Springs**	**26.16**	**164**	P		**P**	**01 09 22.6**	**-1.7**
ASAR	**Alice Springs**	**26.16**	**164**	P		**P**	**01 09 22.2**	**-2.2**
ASAR	**Alice Springs**	**26.16**	**164**	P		**P**	**01 09 23.4**	**-0.9**
	comp=Z,4.9nm,0.8s,baz=349,slow=7.2,SNR=27							
	comp=Z,4.9nm,0.8s							
RPSI	**Rantau Prapat**	**27.50**	**273**	P		**P**	**01 09 35.7**	**-0.8**
RPSI				IAmb		IAmb	01 09 49.7	
	comp=Z,6.5nm,0.4s							
CTA	**Charters Tower**	**29.04**	**139**	LR		LR	01 22 36.9	
	comp=Z,65nm,21.4s,baz=278,slow=39							
NJ2	**Nanjing**	**31.11**	**348**	*e*P		**P**	**01 10 09.3**	**+1.0**
NJ2				sP		sP	01 10 27.8	+16
NJ2				pmax		pmax		
	comp=Z,19nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,240nm,3.5s							
JNU	**Nakatsue**	**31.62**	**7**	LR		LR	01 25 32.8	
	comp=Z,38nm,18.6s,baz=164,slow=41							
CMAR	**Chiang Mai Arr**	**31.73**	**304**	LR		LR	01 23 58.2	
	comp=Z,38nm,20.0s,baz=110,slow=38							
ENH	**Enshi**	**32.72**	**332**	P		P	01 10 21.3	-1.3
PZH	**PanZhiHua**	**34.28**	**318**	P		**P**	**01 10 36.3**	**0.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,110nm,5.7s							
KSRS	**Korea Array**	**35.70**	**2**	P		**P**	**01 10 48.0**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=179,slow=8.6,SNR=5.8							
	comp=Z,1.3nm,0.6s							
XAN	**Xi'an**	**36.18**	**335**	⇓P		P	01 10 50.3	-2.2
XAN				pmax		pmax		
	comp=Z,12nm,1.2s							
STKA	**Stephens Creek**	**36.28**	**158**	P		P	01 10 51.5	-1.8
	comp=Z,4.7nm,0.8s,baz=336,slow=9.6,SNR=7.3							
	comp=Z,4.7nm,0.8s							
MJAR	**Matsushiro Arr**	**36.43**	**16**	P		P	01 10 53.3	-1.3
	comp=Z,1.7nm,0.6s,baz=186,slow=8.8,SNR=4.6							
MJAR				LR		LR	01 27 55.9	
	comp=Z,27nm,18.4s,baz=218,slow=40							
	comp=Z,1.7nm,0.6s							
BJT	**Baijiatuau**	**39.35**	**348**	P		P	01 11 17.9	-1.3
BJI	**Beijing**	**39.37**	**348**	P		P	01 11 18.3	-1.0
BJI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BJI				pmax		pmax		
	comp=Z,64nm,5.1s							
HHC	**Hu-ho-hao-te**	**41.31**	**343**	*e*P		**P**	**01 11 35.5**	**-0.1**
HHC				pmax		pmax		
	comp=Z,22nm,0.6s							
HHC				pmax		pmax		
	comp=Z,190nm,5.0s							
USRK	**Ussuriysk Ar.**	**42.70**	**6**	P		**P**	**01 11 46.6**	**-0.1**
	comp=Z,6.1nm,1.0s,baz=191,slow=7.7,SNR=5.3							
	comp=Z,6.1nm,1.0s							
MDJ	**Mudanjiang**	**42.92**	**3**	P		**P**	**01 11 48.3**	**-0.2**
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.2s							
MDJ				pmax		pmax		
	comp=Z,110nm,4.8s							
LSA	**Lhasa**	**43.63**	**313**	P		P	01 11 52.6	-2.4
GTA	**Gaotai**	**44.76**	**330**	*e*P		P	01 12 02.3	-1.3
GTA				pP		sP	01 12 16.4	+9.0
GTA				PcP		**PcP**	**01 13 45.4**	**-0.4**
GTA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
PALK	**Pallekele**	**45.90**	**279**	LR		LR	01 32 39.6	
	comp=Z,24nm,18.7s,baz=175,slow=38							
HIA	**Hailar**	**47.82**	**354**	P		P	01 12 26.0	-1.4
HEH	**HeiHe**	**48.47**	**1**	*e*P		P	01 12 30.3	-2.0
ULN	**Ulaanbaatar**	**49.03**	**343**	P		P	01 12 35.7	-1.2
SONM	**Songino Array**	**49.20**	**342**	P		P	01 12 37.0	-1.1
SONM	**Songino Array**	**49.20**	**342**	P		P	01 12 36.4	-1.7
	comp=Z,2.4nm,0.9s,baz=167,slow=7.4,SNR=10.0							
SONM				PcP		**PcP**	**01 14 00.7**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=162,slow=4.8,SNR=6.6							
	comp=Z,2.4nm,0.9s							
WMQ	**Urumqi**	**54.29**	**326**	*e*P		P	01 13 13.8	-2.4
WMQ				pmax		pmax		
	comp=Z,21nm,0.9s							
PETK	**Petropavlovsk-**	**57.50**	**22**	P		**P**	**01 13 38.8**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=192,slow=4.4,SNR=3.7							
	comp=Z,2.6nm,0.6s							
MK31	**Makanchi Array**	**59.12**	**326**	P		P	01 13 48.8	-1.6
MK31				IAmb		IAmb	01 13 53.3	
	comp=Z,5.2nm,1.0s							
MKAR	**Makanchi Array**	**59.12**	**326**	P		P	01 13 48.9	-1.5
MKAR	**Makanchi Array**	**59.12**	**326**	P		P	01 13 48.4	-2.0
	comp=Z,2.6nm,0.4s,baz=121,slow=8.3,SNR=31							
	comp=Z,2.6nm,0.4s							
MAKZ	**Makanchi**	**59.30**	**326**	P		P	01 13 49.7	-2.0
MAKZ				IAmb		IAmb	01 13 54.1	
	comp=Z,5.3nm,0.8s							
KSH	**Kashi**	**59.33**	**316**	P		**P**	**01 13 54.5**	**+2.3**
KSH				pmax		pmax		
	comp=Z,2.0nm,0.9s							
NRN	**Naryn**	**60.18**	**318**	P		P	01 13 55.8	-2.4
ARSB	**Arslanbob**	**62.17**	**317**	P		P	01 14 10.4	-1.1
ZAA0	**Zalesovo Array**	**62.33**	**334**	P		**P**	**01 14 11.3**	**-0.8**
ZALV	**Zalesovo Beam**	**62.33**	**334**	P		P	01 14 10.3	-1.8
ZALV	**Zalesovo Beam**	**62.33**	**334**	P		P	01 14 09.9	-2.2
	comp=Z,1.1nm,0.5s,baz=121,slow=8.8,SNR=7.9							
	comp=Z,1.1nm,0.5s							
KBL	**Kabul**	**62.57**	**308**	P		P	01 14 12.6	-1.8
KBL				IAmb		IAmb	01 14 14.0	
	comp=Z,3.5nm,0.6s							
KURBB	**Kurchatov Arra**	**63.35**	**328**	P		P	01 14 16.6	-2.4
	comp=Z,4.3nm,0.6s,baz=127,slow=6.3,SNR=78							
	comp=Z,4.3nm,0.6s							
KURK	**Kurchatov**	**63.36**	**328**	P		P	01 14 17.4	-1.6
SIMJ	**Simiganj**	**63.97**	**313**	P		P	01 14 21.4	-2.1
KK31	**Karatay Array**	**64.57**	**318**	P		P	01 14 25.1	-2.2
KK31				IAmb		IAmb	01 14 29.3	
	comp=Z,4.1nm,1.1s							
KKAR	**Karatay Array**	**64.57**	**318**	P		P	01 14 25.1	-2.1
KKAR				IAmb		IAmb	01 14 29.3	
	comp=Z,4.1nm,1.1s							
BVAR	**Borovoye Array**	**68.92**	**328**	P		P	01 14 53.0	-1.8
	comp=Z,1.3nm,0.6s,baz=140,slow=9.2,SNR=14							
	comp=Z,1.3nm,0.6s							
BRVK	**Borovoye**	**69.00**	**328**	P		P	01 14 53.8	-1.4
BRVK				IAmb		IAmb	01 15 16.4	
	comp=Z,3.7nm,1.0s							
TIXI	**Tiksi**	**69.95**	**1**	P		P	01 14 59.2	-1.5
GEYT	**Alibeck**	**71.98**	**309**	P		P	01 15 11.2	-2.6
GEYT				IAmb		IAmb	01 15 15.7	
	comp=Z,4.5nm,1.0s							
GEYT	**Alibeck**	**71.98**	**309**	P		**P**	**01 15 13.9**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=280,slow=9.9,SNR=5.1							
	comp=Z,2.0nm,0.8s							
NRIK	**Noril'sk**	**72.40**	**346**	P		P	01 15 13.9	-1.7
NRIK				IAmb		IAmb	01 15 15.8	
	comp=Z,7.0nm,0.8s							
NRIK	**Noril'sk**	**72.40**	**346**	P		**P**	**01 15 15.1**	**-0.6**
	comp=Z,5.7nm,0.7s,baz=132,slow=6.4,SNR=16							
	comp=Z,5.7nm,0.7s							
ABKAR	**Akbulak array**	**73.59**	**321**	P		P	01 15 20.9	-2.2
ARU	**Arti**	**76.56**	**328**	P		P	01 15 38.1	-1.9
ARU				IAmb		IAmb	01 15 41.2	
	comp=Z,5.6nm,0.9s							
C16K	**Lisburne Hills**	**80.57**	**21**	P		P	01 16 00.1	-1.8
C16K				IAmb		IAmb	01 16 03.6	
	comp=Z,6.0nm,1.1s							
VNDA	**Vanda**	**81.38**	**173**	P		**P**	**01 16 05.5**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=286,slow=5.9,SNR=4.4							
	comp=Z,1.7nm,0.8s							
C18K	**Utukok River**	**82.14**	**21**	P		P	01 16 08.0	-2.4
C18K				IAmb		IAmb	01 16 11.4	
	comp=Z,3.4nm,0.8s							
J18K	**Innoko River**	**82.71**	**26**	P		P	01 16 12.2	-1.2
TTA	**Tatalina**	**82.92**	**27**	P		P	01 16 12.7	-1.9
TTA				IAmb		IAmb	01 16 16.3	
	comp=Z,5.6nm,0.8s							
L19K	**White Mountain**	**83.32**	**28**	P		**P**	**01 16 15.8**	**-0.8**
L19K				IAmb		IAmb	01 16 18.5	
	comp=Z,5.0nm,0.8s							
J20K	**Nowinta River**	**83.95**	**26**	P		**P**	**01 16 19.1**	**-0.6**
J20K				IAmb		IAmb	01 16 47.9	
	comp=Z,4.8nm,1.1s							
KBZ	**Khabaz**	**84.20**	**314**	P		P	01 16 20.2	-1.2
	comp=Z,2.4nm,0.8s,baz=214,slow=2.2,SNR=2.7							
	comp=Z,2.4nm,0.8s							
KVAR	**Kislovodsk Arr**	**84.36**	**314**	LR		LR	01 56 22.8	
	comp=Z,80nm,21.0s,baz=73,slow=37							
IMAR	**Indian Mountai**	**84.39**	**24**	P		**P**	**01 16 21.8**	**-0.1**
PPT	**Papeete**	**84.77**	**108**	LR		LR	01 51 38.3	
	comp=Z,34nm,18.4s,baz=82,slow=34							
SUA	**Susitna One**	**85.16**	**29**	P		P	01 16 24.6	-1.5
C23K	**Itkillik River**	**86.07**	**20**	P		**P**	**01 16 29.6**	**-0.7**
C23K				IAmb		IAmb	01 16 31.8	
	comp=Z,4.2nm,0.8s							
D24K	**Happy Valley**	**86.63**	**21**	P		**P**	**01 16 33.2**	**+0.2**
ILAR	**Eielson Array**	**87.14**	**25**	P		P	01 16 34.2	-1.4
	comp=Z,0.7nm,0.8s,baz=233,slow=5.4,SNR=9.8							
	comp=Z,0.7nm,0.8s							
BCAR	**Beaver Creek A**	**89.39**	**27**	P		**P**	**01 16 45.6**	**-0.8**
BRTR	**Keskin Array B**	**91.12**	**310**	P		P	01 16 52.8	-2.4
	comp=Z,1.7nm,1.0s,baz=158,slow=1.3,SNR=3.5							
	comp=Z,1.7nm,1.0s							
FINES	**FINESS Array B**	**93.54**	**332**	P		**P**	**01 17 04.9**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=90,slow=5.7,SNR=6.6							
	comp=Z,2.9nm,1.0s							
BURAR	**Bucovina Array**	**96.36**	**318**	P		P	01 17 16.9	-2.2
BURAR				IAmb		IAmb	01 17 18.0	
	comp=Z,2.0nm,0.9s							
VYHS	**Vyhne**	**100.37**	**320**	*e*PDIFF		**Pdif**	**01 17 37.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**123.25**	**287**	PKP		**PKPdf**	**01 22 46.3**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=44,slow=2.8,SNR=14							
CFA	**Coronel Fontan**	**147.11**	**157**	PKPbc		**PKPdf**	**01 23 32.9**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=162,slow=2.7,SNR=5.6							

NEIC ***19*** *01:11:39.0±2.1, 13°.23S±0°.07×74°.58W±0°.07, h81km±4km, mb5.3/437, Error ellipse: s-maj=11.2km s-min=9.1km az=57.0*
IDC ***19*** *01:11:41.0±0.5, 13°.21S×74°.67W, h102km±4km, mb4.4/17, mbtmp4.7/21, MS4.0/31, Error ellipse: s-maj=14.5km s-min=7.8km az=41.0*
VAO ***19*** *01:11:41.5±0.6, 13°.22S×74°.31W, h80km±4km, mb4.8*
GCMT ***19*** *01:11:43.0±0.2, 13°.35S±0°.02×74°.65W±0°.02, h108km±1km, MW5.1/110, Moment Tensor Solution. s78,c99; s110,c172; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.84±.14; Mθθ1.01±.14; Mϕϕ4.83±.18; Mrθ-0.07±.11; Mθϕ1.58±.14; Mϕr-2.99±.15; Best double couple: M0 6.35900×10^16 NP1:ϕs12.00000°, δ59.00000°, λ-98.00000°. NP2:ϕs207.00000°, δ32.00000°, λ-77.00000°. Principal axes: T 6.0830, Plg14.0000°, Azm107.0000°; N 0.5530, Plg7.0000°, Azm16.0000°; P -6.6360, Plg75.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 01:11:39.5±0.4, 13°.22S±0°.04×74°.54W±0°.05, h91km±3km, h91km:pP-P, n939, σ1$ 07/765, mb5.2/226, 2C-3D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**2.56**	**298**	Pn		**Pn**	**01 12 18.1**	**-1.1**
NNA				Sn		**Sn**	**01 12 48.1**	**-1.6**
NNA	**Nana**	**2.56**	**298**	P		**Pn**	**01 12 18.5**	**-0.7**
	3μm,0.3s,baz=120,slow=10,SNR=837							
NNA				S		**Sn**	**01 12 49.0**	**-0.7**
	8μm,0.5s,baz=226,slow=8.6,SNR=13							
NNA				LR		LR	01 13 30.3	
	comp=Z,3μm,18.1s,baz=56,slow=45							
NNA	**Nana**	**2.56**	**298**	*i* P		**Pn**	**01 12 18.1**	**-1.1**
CZSB	**Cruzeiro do Su**	**5.75**	**19**	Pn		**Pn**	**01 13 02.4**	**0.0**
CZSB	**Cruzeiro do Su**	**5.75**	**19**	*e*P		**Pn**	**01 13 02.6**	**+0.2**
CZSB	**Cruzeiro do Su**	**5.75**	**19**	*e*P		**Pn**	**01 13 02.8**	**+0.3**
AP01	**Chacalluta**	**6.52**	**142**			**Pn**	**01 13 12.4**	**-0.5**
PB12	**IPOC Station P**	**6.72**	**143**	Pn		**Pn**	**01 13 14.6**	**-1.2**
LPAZ	**La Paz**	**6.91**	**117**	Pn		**Pn**	**01 13 19.6**	**+0.8**
PB16	**IPOC Station P**	**7.03**	**137**			**Pn**	**01 13 19.6**	**-0.7**
ATAH	**Atahualpa**	**7.14**	**328**	P		**Pn**	**01 13 23.7**	**+2.0**
	68nm,0.4s,baz=153,slow=8.0,SNR=37							
ATAH				S		**Sn**	**01 14 42.3**	**+0.8**
	62nm,0.5s,baz=190,slow=15,SNR=1.5							
PB11	**IPOC Station P**	**8.02**	**145**	Pn		**Pn**	**01 13 29.9**	**-3.5**
TA02	**Huaiquique**	**8.19**	**150**			**Pn**	**01 13 32.4**	**-3.1**
GO01	**Chusmiza**	**8.21**	**142**			**Pn**	**01 13 35.4**	**-1.0**
TA01	**Diego Aracena**	**8.41**	**151**	Pn		**Pn**	**01 13 36.4**	**-2.3**
PB08	**IPOC Station P**	**8.60**	**144**			**Pn**	**01 13 38.9**	**-2.7**
PATCX	**Punta Patache**	**8.64**	**152**			**Pn**	**01 13 40.5**	**-1.4**
ETMB	**Extrema**	**8.84**	**68**	Pn		**Pn**	**01 13 44.4**	**-0.1**
ETMB	**Extrema**	**8.84**	**68**	*e*P		**Pn**	**01 13 44.7**	**+0.2**
PB01	**IPOC Station P**	**9.16**	**149**			**Pn**	**01 13 46.7**	**-2.2**
PB02	**IPOC Station P**	**9.20**	**152**			**Pn**	**01 13 47.8**	**-1.6**
PB07	**IPOC Station P**	**9.55**	**153**			**Pn**	**01 13 52.2**	**-2.2**
PB09	**IPOC Station P**	**9.91**	**150**			**Pn**	**01 13 58.1**	**-1.2**
PB04	**IPOC Station P**	**9.98**	**156**			**Pn**	**01 13 58.0**	**-2.3**
TBTG	**Tabatinga, AM**	**10.08**	**27**	*e*P		**Pn**	**01 14 00.2**	**-1.2**
MCRA	**Macar, Loja**	**10.29**	**328**	Pn		**Pn**	**01 14 01.9**	**-2.5**
MCRA	**Macar, Loja**	**10.29**	**328**	*e*P		**Pn**	**01 14 00.7**	**-3.6**
PB05	**IPOC Station P**	**10.43**	**157**	Pn		**Pn**	**01 14 04.7**	**-1.6**
PB06	**IPOC Station P**	**10.55**	**154**			**Pn**	**01 14 05.8**	**-2.2**
BOSC	**San Juan Bosco**	**10.74**	**338**	Pn		**Pn**	**01 14 06.5**	**-4.1**
LVC	**Limon Verde**	**10.77**	**151**	Pn		**Pn**	**01 14 08.6**	**-2.5**
LVC	**Limon Verde**	**10.77**	**151**	P		**Pn**	**01 14 10.1**	**-1.0**
	16nm,0.2s,baz=354,slow=8.5,SNR=35							
LVC				S		**Sn**	**01 16 07.7**	**-2.1**
	48nm,0.7s,baz=198,slow=18,SNR=9.3							
LVC	**Limon Verde**	**10.77**	**151**	*e*P		**Pn**	**01 14 09.1**	**-2.0**
PB15	**IPOC Station P**	**11.04**	**155**			**Pn**	**01 14 13.0**	**-1.6**
ARNL	**Arenillas**	**11.05**	**330**			**Pn**	**01 14 12.3**	**-2.4**
COHC	**Cochancay**	**11.66**	**336

GUY2C Guyana, Caldas 18.34 357 eP Pn 01 15 49.6 +1.2
SALV Santo Antonio 18.44 101 eP Pn 01 15 50.3 +1.2
BDQN Bodoquena, MS 18.48 115 eP P 01 15 49.0 +0.6
CLDB Colider 18.48 85 eP Pn 01 15 50.0 +0.2
AVFE Valle Fertil 18.55 160 i P Pn 01 15 49.9 -0.5
AVFE IAML 01 18 42.1
comp=Z,5.4nm,2.2s
TICA Tres Isletas 18.66 137 eP Pn 01 15 52.2 +0.5
SPBC San Pablo de B 18.76 1 eP P 01 15 54.7 +1.7
CBOC Ciudad Bolivar 19.02 356 eP P 01 15 54.8 +0.3
ESFA Espinillo Form 19.12 130 eP Pn 01 15 57.9 +0.7
CFA Coronel Fontan 19.19 163 P Pn 01 15 57.3 -0.7
comp=Z,8.9nm,0.8s,baz=347,slow=11,SNR=14
CFA S S 01 19 28.6 -0.3
comp=Z,1.2nm,0.4s,baz=259,slow=16,SNR=1.7
AQDB Aquidauana 19.41 114 P P 01 15 59.5 +0.9
AQDB Aquidauana 19.41 114 eP Pn 01 16 00.4 -0.2
PP1B Ponte de Pedra 19.45 105 eP P 01 15 59.9 +0.9
PTBC PUERTO BERRIO, 19.63 0 eP P 01 16 01.8 +0.7
RVDE Rio Verde (Bra 19.69 110 eP P 01 16 02.3 +0.6
ANTJ Antonio Joao (19.69 119 eP Pn 01 16 03.7 -0.3
TAMC Tame, Arauca 19.72 8 eP P 01 16 02.3 +0.3
BARC Barichara 19.73 4 eP Pn 01 16 03.5 -1.1
VA03 San Esteban 19.79 170 P P 01 16 02.5 -0.2
NPGB Novo Progresso 19.85 74 eP P 01 16 04.5 +1.1
ROC1 El Roble 19.93 171 P P 01 16 04.3 -0.1
PEL Peldehue 20.14 171 P P 01 16 06.5 0.0
PEL IAmb IAmb 01 16 12.9
comp=Z,163nm,1.6s
DBBC Dabeiba 20.18 355 eP Pn 01 16 08.3 -1.3
MT02 Curacav 20.19 172 P P 01 16 05.4 -1.5
MT05 Renca 20.38 171 P Pn 01 16 10.9 -0.9
PTAC Punta Ardita, 20.49 351 eP P 01 16 10.4 +0.1
PAMC Pamplona, Colo 20.51 5 eP Pn 01 16 12.7 -1.2
ITTB Itaituba 20.55 66 eP P 01 16 12.0 +1.1
ZARC Zaragoza, Cauc 20.58 359 eP P 01 16 12.4 +1.1
SCCA San Cayetano, 20.61 136 eP Pn 01 16 13.6 -0.9
MT09 Talagante 20.72 172 P P 01 16 12.7 0.0
MT09 IAmb IAmb 01 16 19.6
comp=Z,178nm,1.8s
CPUP Villa Florida 20.76 131 P P 01 16 14.4 +1.2
CPUP Villa Florida 20.76 131 P P 01 16 14.3 +1.2
comp=Z,19nm,1.0s,baz=308,slow=11,SNR=17
comp=Z,19nm,1.0s
CPUP Villa Florida 20.76 131 eP P 01 16 14.5 +1.4
MT13 San Alfonso 20.80 170 P P 01 16 13.4 -0.2
BOAV Boa Vista 20.84 43 P P 01 16 15.4 +1.3
BOAV Boa Vista 20.84 43 eP P 01 16 12.0 -2.1
BOAV Boa Vista 20.84 43 eP P 01 16 15.6 +1.5
UREC San Jos de Ur 20.86 357 eP P 01 16 15.9 +1.6
LMEL Las Melosas 20.91 170 P P 01 16 14.8 -0.1
AMBA Amambai (Brazi 20.92 120 eP P 01 16 16.6 +1.7
BO04 La Punta 20.98 171 P P 01 16 15.9 +0.4
APAC Apartado, Choc 21.04 354 eP P 01 16 19.4 +2.7
RPRD Ribas do Rio P 21.20 113 eP P 01 16 19.6 +1.6
BO01 Tunca 21.31 172 P P 01 16 18.8 -0.1
CACAO El Cacao, Vera 21.37 343 eP P 01 16 20.7 +1.0
C2SB Chapadao do Su 21.57 108 eP P 01 16 22.9 +1.0
BO02 Sierra Bellavi 21.75 172 P P 01 16 23.9 +0.2
DVLD Doverlandia 21.89 102 eP P 01 16 25.0 -0.3
UPD2 Meteti 21.90 351 eP P 01 16 27.4 +2.1
MECA Mercedes 22.06 139 eP P 01 16 29.2 +2.3
ARAG Araguaiana, MT 22.15 99 eP P 01 16 28.0 -0.1
SDV Santo Domingo 22.30 10 P P 01 16 29.7 -0.2
SDV Santo Domingo 22.30 10 LR LR 01 26 37.1
comp=Z,278nm,20.4s,baz=170,slow=40
SDV Santo Domingo 22.30 10 eP P 01 16 29.7 -0.2
SDV Santo Domingo 22.30 10 eP P 01 16 30.1 +0.2
SNDB Serra Nova Dou 22.72 89 eP P 01 16 34.5 +0.4
AZCA Azaras, Argent 22.76 133 eP P 01 16 35.0 +0.6
TRCB Terra Rica 22.88 118 eP P 01 16 36.2 +0.6
ARGC Ariguani, Magd 22.93 1 eP P 01 16 36.9 +0.8
BAUV El Baul 22.95 17 P P 01 16 36.2 0.0
SJCC San Jacinto, C 22.98 358 P P 01 16 36.7 +0.1
SJCC IAmb IAmb 01 16 48.7
comp=Z,108nm,1.0s
SJCC San Jacinto, C 22.98 358 eP P 01 16 36.5 -0.1
MALB Monte Alegre 23.03 62 eP P 01 16 38.3 +1.1
ITQB Itaqui 23.32 137 P P 01 16 41.1 +1.4
ITQB Itaqui 23.32 137 eP P 01 16 41.0 +1.4
BRU2 Volcan 23.32 339 P P 01 16 40.4 +0.4
BRU2 IAmb IAmb 01 16 43.2
comp=Z,241nm,1.7s
ARAP Termas del Ara 23.61 141 eP P 01 16 43.9 +1.6
PCMB Pacaembu 23.70 114 eP P 01 16 45.0 +1.7
FRBT Francisco Belt 23.84 125 eP P 01 16 45.5 +1.0
CRSM Crissiumal (Br 23.84 130 eP P 01 16 45.0 +0.5
UNIS Unistalda (Bra 23.99 134 eP P 01 16 47.8 +2.0
ITRB Iturama 24.06 109 eP P 01 16 47.2 +0.7
LDASE Londrina, Braz 24.40 118 eP P 01 16 50.2 +0.6
LCR2 La Lucha 2 24.67 337 P P 01 16 51.9 -0.4
RODS Rosario do Sul 24.70 137 eP P 01 16 54.0 +1.8
JACO JACO, Garabito 24.85 336 P P 01 16 52.4 -1.3
TBOT Tacuaremb 25.09 140 eP P 01 16 58.5 +2.8
PCRV Puerto La Cruz 25.24 23 LR LR 01 28 14.1
comp=Z,463nm,18.5s,slow=39
MCPB Macapa, AP 25.68 62 eP P 01 17 03.1 +1.8
FRTB Fartura 25.73 117 eP P 01 17 03.7 +2.1
IPMB Ipameri, GO 25.79 104 eP P 01 17 02.1 -0.1
BDFB Brasilia 25.81 99 P P 01 17 03.0 +0.5
comp=Z,2.8nm,0.6s,baz=240,slow=7.1,SNR=4.8
BDFB LR LR 01 28 06.9
comp=Z,428nm,19.4s,baz=298,slow=38
comp=Z,2.8nm,0.6s
CPSB Cacapava Do Su 25.93 135 eP P 01 17 04.0 +0.6
GO06 Curarrehue 26.40 175 P P 01 17 06.7 -0.9
PLTB Pedras Altas 26.65 137 eP P 01 17 11.3 +1.5
SMTB Santa Maria do 26.80 83 eP P 01 17 12.9 +1.6
LR05 Currie 27.00 176 P P 01 17 12.4 -0.4
PLCA Paso Flores 27.63 173 P P 01 17 18.1 -0.5
PLCA Paso Flores 27.63 173 P P 01 17 18.5 0.0
comp=Z,3.6nm,0.7s,baz=349,slow=11,SNR=13
PLCA PcP PcP 01 20 34.2 +0.3
comp=Z,1.2nm,0.6s,baz=49,slow=4.2,SNR=3.5
PLCA LR LR 01 27 10.2
comp=Z,109nm,20.1s,baz=344,slow=34
comp=Z,3.6nm,0.7s
SPB Sao Paulo 27.67 116 P P 01 17 17.4 -1.6
SPB Sao Paulo 27.67 116 eP P 01 17 20.7 +1.7
MDP Montagnes des 28.36 51 LR LR 01 30 08.9
comp=Z,464nm,18.5s,baz=253,slow=39
LL01 San Ignacio de 29.11 177 P P 01 17 30.3 -1.3
MLPR Magueyes Islan 31.86 14 P P 01 17 55.9 -0.1
OBIP Obispado Ponce 32.04 14 P P 01 17 57.4 -0.2
CELP Cerrillos 32.08 14 P P 01 17 57.7 -0.3
PRSN Puerto Rico Se 32.08 13 P P 01 17 57.7 -0.2
SJG San Juan 32.22 15 P P 01 17 59.2 0.0
SJG IAmb IAmb 01 18 00.1
comp=Z,49nm,0.9s
SJG San Juan 32.22 15 P P 01 17 59.1 -0.1
AOPR Arecibo Observ 32.30 14 P P 01 17 59.2 -0.7
COYC Coyhaique 32.31 177 P P 01 17 59.8 0.0
COYC IAmb IAmb 01 18 06.4
comp=Z,26nm,0.9s
COYC Coyhaique 32.31 177 P P 01 17 59.5 -0.2
GCPR Guaynabo City 32.42 15 P P 01 18 00.8 -0.2
GCPR IAmb IAmb 01 18 02.8
comp=Z,55nm,0.8s
RIB01 Linhares ES 33.30 105 eP P 01 18 08.4 -0.4
NAN01 Guarapari, ES 33.45 102 eP P 01 18 09.1 -1.0
NBPN Ponto Novo - B 33.66 90 eP P 01 18 12.6 +0.7
NBPS Pedro II - PI 33.82 78 eP P 01 18 15.0 +1.5
CMC01 Camacan, BA 33.99 98 eP P 01 18 15.4 +0.7
GDU01 Guandu, BA 33.99 95 eP P 01 18 17.2 +2.4
NBIT Itapeh - BA 34.08 97 eP P 01 18 16.8 +1.3
CCIG Comitan 34.09 329 P P 01 18 15.3 -0.4
NBPB Pedra_Branca-C 35.29 81 eP P 01 18 27.3 +1.3
RPN Rapa Nui 35.33 242 LR LR 01 29 52.8
comp=Z,161nm,19.6s,baz=45,slow=31
NBMO Morrinhos-CE 35.49 77 eP P 01 18 28.2 +0.6
NBMA Muriti-CE 35.65 84 eP P 01 18 30.1 +0.9
TEIG Tepich 35.88 338 P P 01 18 31.1 +0.3
NBLA Lagarto - SE 35.99 91 eP P 01 18 31.7 -0.3
NBTA Tacaratu-PE 36.00 87 eP P 01 18 32.6 +0.5
NBCL Cascavel-CE 36.88 79 eP P 01 18 39.6 0.0
NBLV Livramento - P 37.44 85 eP P 01 18 43.1 -1.3
NBAN Anadia - AL 37.65 89 eP P 01 18 45.5 -0.6
NBCA Caruaru-PE 38.15 87 eP P 01 18 51.0 +0.6
NBBL Bica de Lurdes 38.91 87 eP P 01 18 57.5 +0.8
DWPF Disney Wildern 41.62 351 P P 01 19 21.1 +2.3
baz=170
ZAIG Zacatecas 45.09 322 P P 01 19 45.7 -1.4
ZAIG IAmb IAmb 01 19 50.1
comp=Z,46nm,1.5s
BRAL Brewton 45.74 345 P P 01 19 51.6 -0.2
baz=163
NHSC New Hope 46.38 353 P P 01 19 57.0 +0.3
baz=172
GOGA Godfrey 47.15 350 P P 01 20 01.9 -0.8
baz=168
LRAL Lakeview Retre 47.51 346 P P 01 20 05.2 -0.4
baz=164
HKT Hockley 47.57 335 P P 01 20 06.4 +0.4
833A Chaparral WMA, 47.80 330 P P 01 20 07.1 -0.8
833A Chaparral WMA, 47.80 330 P P 01 20 08.4 +0.5
baz=147
HNVL Huntsville, TX 48.13 336 P P 01 20 10.5 +0.1
HNVL IAmb IAmb 01 20 12.8
comp=Z,77nm,1.4s
W57A Gilead 48.38 354 IAmb IAmb 01 20 13.3
comp=Z,34nm,0.9s
W57A Gilead 48.38 354 P P 01 20 12.0 -0.2
baz=173
W57A P P 01 20 12.0 -0.2
baz=173
KMSC Kings Mountain 48.53 353 IAmb IAmb 01 20 14.8
comp=Z,20nm,0.8s
KMSC Kings Mountain 48.53 353 P P 01 20 13.0 -0.4
baz=171,SNR=5.9
KMSC Kings Mountain 48.53 353 P P 01 20 13.4 0.0
baz=171,SNR=5.9
W52A Murphy 48.87 350 P P 01 20 15.9 -0.1
X48A Hartselle 48.88 346 IAmb IAmb 01 20 15.6
comp=Z,24nm,1.2s
V58A Windy Hill, Pi 48.94 355 IAmb IAmb 01 20 16.9
comp=Z,30nm,1.1s
V58A Windy Hill, Pi 48.94 355 P P 01 20 16.5 0.0
baz=174
V58A P P 01 20 16.5 0.0
baz=174
Y45A Yeager Farm, C 48.96 343 IAmb IAmb 01 20 16.9
comp=Z,31nm,0.8s
Y45A Yeager Farm, C 48.96 343 P P 01 20 16.4 -0.2
baz=161
W50A Signal Mountai 49.23 348 IAmb IAmb 01 20 18.5
comp=Z,20nm,0.9s
W50A Signal Mountai 49.23 348 P P 01 20 17.9 -0.9
baz=166,SNR=6.3
237A Washetta, Mont 49.37 336 IAmb IAmb 01 20 21.2
comp=Z,24nm,0.8s
237A Washetta, Mont 49.37 336 P P 01 20 20.5 +0.6
baz=152,SNR=6.7
SWET Sewanee 49.37 348 IAmb IAmb 01 20 19.7
comp=Z,15nm,0.8s
TKL Tuckaleechee C 49.39 350 LR LR 01 43 01.5
comp=Z,78nm,21.7s,baz=173,slow=38
OXF Oxford 49.53 344 P P 01 20 19.5 -1.6
baz=161
U56A King 49.61 354 IAmb IAmb 01 20 22.6
comp=Z,29nm,0.8s
U56A King 49.61 354 P P 01 20 21.9 +0.3
baz=173,SNR=5.2
U56A P P 01 20 21.9 +0.3
baz=173,SNR=5.2
PLAL Pickwick Lake 49.63 345 P P 01 20 20.6 -1.2
V51A Loudon 49.63 350 P P 01 20 21.1 -0.7
baz=168
JCT Juon City 49.79 331 P P 01 20 23.0 -0.1
baz=147
U54A Nelsons Funny 49.95 352 IAmb IAmb 01 20 24.5
comp=Z,16nm,0.7s
T59A Double "B" Far 50.00 357 P P 01 20 24.9 +0.4
baz=176
T59A P P 01 20 24.9 +0.4
baz=176
WHTX Lake Whitney, 50.03 334 IAmb IAmb 01 20 26.3
comp=Z,49nm,1.3s
WHTX Lake Whitney, 50.03 334 P P 01 20 25.3 +0.4
baz=150
V48A Smith Brothers 50.06 347 IAmb IAmb 01 20 24.6
comp=Z,20nm,0.8s
V48A Smith Brothers 50.06 347 P P 01 20 23.8 -1.2
baz=164,SNR=9.1
HPIG 50.07 323 IAmb IAmb 01 20 27.8
comp=Z,14nm,0.7s
BRDY Brady 50.10 332 IAmb IAmb 01 20 26.4
comp=Z,53nm,1.9s
T57A Hurt 50.15 355 IAmb IAmb 01 20 26.8
comp=Z,38nm,0.8s
T57A Hurt 50.15 355 P P 01 20 25.7 +0.1
baz=174,SNR=9.3
T57A P P 01 20 25.7 +0.1
baz=174,SNR=9.3
TZTN Tazewell 50.22 351 P P 01 20 25.5 -0.7
baz=169
BLA Blacksburg 50.47 354 P P 01 20 28.5 +0.3
baz=173
SAND Sanderson 50.49 329 IAmb IAmb 01 20 30.1
comp=Z,20nm,1.2s
U49A Red Boiling Sp 50.59 348 IAmb IAmb 01 20 29.2
comp=Z,49nm,1.8s
WVT Waverly 50.66 346 P P 01 20 28.5 -1.1
WVT Waverly 50.66 346 P P 01 20 27.8 -1.8
baz=163
WVT Waverly 50.66 346 P P 01 20 27.8 -1.8
baz=163,SNR=5.9
WVT Waverly 50.66 346 P P 01 20 27.8 -1.8
WVT sP pP 01 20 56.3 +3.5
WVT PcP PcP 01 21 45.1 -0.7
TXAR Lajitas Array 50.80 327 P P 01 20 30.9 +0.1
comp=Z,5.5nm,0.6s,baz=152,slow=8.7,SNR=93
TXAR PcP PcP 01 21 47.1 +0.5
comp=Z,2.1nm,0.7s,baz=158,slow=7.6,SNR=4.2
comp=Z,5.5nm,0.6s
TX31 Lajitas Ar. Si 50.80 327 IAmb IAmb 01 20 32.1
comp=Z,30nm,1.1s
TX31 Lajitas Ar. Si 50.80 327 P P 01 20 30.7 -0.1
baz=142,SNR=22
S57A Dark Hollow, R 50.88 355 IAmb IAmb 01 20 32.4
comp=Z,24nm,0.8s
S57A Dark Hollow, R 50.88 355 P P 01 20 31.1 -0.1
baz=174,SNR=5.3
S57A P P 01 20 31.1 -0.1
baz=174,SNR=5.3
WHAR Wooly Hollow 51.09 341 IAmb IAmb 01 20 32.9
comp=Z,16nm,0.9s
PLPT Palo Pinto 51.10 334 IAmb IAmb 01 20 35.5
comp=Z,62nm,1.7s
Z35A Perchaven, San 51.11 335 P P 01 20 33.8 +0.8
S54A Dingess, Beckl 51.15 353 IAmb IAmb 01 20 33.5
comp=Z,28nm,0.8s
CBN Corbin Frederi 51.22 357 P P 01 20 33.3 -0.4
baz=176
T47A Sharon Grove 51.32 347 P P 01 20 33.3 -1.2
baz=164,SNR=5.1
LCAR Lake Charles 51.48 343 P P 01 20 34.5 -1.2
baz=159,SNR=8.8
ABTX Abilene, Hawle 51.52 333 P P 01 20 35.9 -0.2
baz=148,SNR=18
ABTX Abilene, Hawle 51.52 333 P P 01 20 36.2 +0.1
baz=148,SNR=18
FCAR Ozark Folk Cen 51.60 342 P P 01 20 35.6 -0.9
ALPN Alpine 51.61 328 IAmb IAmb 01 20 38.3
comp=Z,36nm,1.4s
SGCY Sterling City 51.61 331 IAmb IAmb 01 20 37.9
comp=Z,36nm,1.2s
LOOK Love County 51.66 336 IAmb IAmb 01 20 38.1
comp=Z,28nm,1.0s
MNHN Monahans 51.93 329 IAmb IAmb 01 20 40.6
comp=Z,44nm,1.2s
WTFS Witchita Falls 51.99 335 IAmb IAmb 01 20 41.8
comp=Z,25nm,1.0s
PMSA Palmer Station 52.00 174 LR LR 01 41 04.2
comp=Z,83nm,18.2s,baz=296,slow=34
R50A Paris 52.05 350 IAmb IAmb 01 20 39.7
comp=Z,20nm,0.8s
R50A Paris 52.05 350 P P 01 20 38.6 -1.2
baz=168,SNR=5.7
R50A P P 01 20 38.6 -1.2
baz=168,SNR=5.7
Q56A Snyder Ridge, 52.17 355 IAmb IAmb 01 20 42.5
comp=Z,26nm,0.7s
Q56A Snyder Ridge, 52.17 355 P P 01 20 41.4 +0.6
baz=174,SNR=6.5
Q56A P P 01 20 41.4 +0.6
baz=174,SNR=6.5
R49A Shelbyville 52.20 349 IAmb IAmb 01 20 41.4
comp=Z,62nm,1.6s
U40A Yellville 52.25 341 P P 01 20 40.5 -1.0
baz=157,SNR=16
U40A P P 01 20 40.5 -1.0
baz=157,SNR=16
Q54A Coxs Mills 52.26 354 IAmb IAmb 01 20 41.9
comp=Z,18nm,0.8s
Q54A Coxs Mills 52.26 354 P P 01 20 40.8 -0.7
baz=172,SNR=5.1
Q54A P P 01 20 40.8 -0.7
baz=172,SNR=5.1
SN01 Snyder 1 52.28 332 IAmb IAmb 01 20 42.4
comp=Z,26nm,1.1s
WCI Wyandotte Cave 52.35 348 P P 01 20 41.1 -1.0
WCI IAmb IAmb 01 20 41.5
comp=Z,24nm,0.8s
WCI Wyandotte Cave 52.35 348 P P 01 20 40.6 -1.5
baz=166
WCI Wyandotte Cave 52.35 348 P P 01 20 40.8 -1.3
baz=166,SNR=11
WCI Wyandotte Cave 52.35 348 P P 01 20 41.1 -1.0
S44A Carbondale 52.50 345 IAmb IAmb 01 20 43.2
comp=Z,22nm,0.8s
S44A Carbondale 52.50 345 P P 01 20 42.0 -1.2
baz=162,SNR=5.7
PECS Pecos 52.52 328 IAmb IAmb 01 20 45.0
comp=Z,27nm,1.2s
HHAR Hobbs 52.53 340 IAmb IAmb 01 20 43.6
comp=Z,24nm,1.0s
VHRN Van Horn 52.64 327 IAmb IAmb 01 20 45.9
comp=Z,28nm,1.0s
RLO Rose Lookout 52.79 339 IAmb IAmb 01 20 46.7
comp=Z,59nm,1.5s
P53A Whipple 52.82 353 IAmb IAmb 01 20 45.8
comp=Z,35nm,1.1s
P53A Whipple 52.82 353 P P 01 20 45.3 -0.3
baz=172
P53A P P 01 20 45.3 -0.3
baz=172
U38A Gravette 52.82 340 P P 01 20 45.1 -0.6
baz=156,SNR=8.8
TUL3 Leonard 52.84 338 P P 01 20 45.5 -0.3
TUL3 IAmb IAmb 01 20 46.8
comp=Z,57nm,1.2s
TUL3 Leonard 52.84 338 P P 01 20 44.7 -1.1
baz=154,SNR=8.8
TUL3 Leonard 52.84 338 P P 01 20 45.1 -0.6
baz=154,SNR=8.8
MCWV Mont Chateau 52.84 355 P P 01 20 46.0 +0.3
baz=174
MCWV Mont Chateau 52.84 355 P P 01 20 45.9 +0.3
baz=174
FNO Franklin 52.86 336 IAmb IAmb 01 20 46.5
comp=Z,34nm,1.0s
DKNS Dickens 52.97 332 IAmb IAmb 01 20 48.0
comp=Z,32nm,0.8s
MVL Millersville 52.97 358 IAmb IAmb 01 20 48.8
comp=Z,56nm,1.2s
P51A Williamsport 53.03 352 IAmb IAmb 01 20 46.6
comp=Z,31nm,1.2s
DEOK Depew 53.03 338 IAmb IAmb 01 20 48.0
comp=Z,50nm,1.3s
P52A Corning 53.05 353 P P 01 20 45.9 -1.4
baz=171
TUPA Temple Univers 53.12 359 P P 01 20 48.1 +0.4
baz=179
P49A Miami Univ. Ec 53.33 350 P P 01 20 47.6 -1.8
baz=168
P49A Miami Univ. Ec 53.33 350 P P 01 20 48.0 -1.4
baz=168
OK029 Liberty Lake 53.35 337 IAmb IAmb 01 20 50.0
comp=Z,36nm,0.9s
CCM Cathedral Cave 53.36 344 P P 01 20 48.7 -0.8
CCM IAmb IAmb 01 20 49.7
comp=Z,85nm,2.0s
CCM Cathedral Cave 53.36 344 P P 01 20 48.8 -0.8
baz=160
CCM Cathedral Cave 53.36 344 P P 01 20 48.6 -1.0
baz=160,SNR=6.3
CCM Cathedral Cave 53.36 344 P P 01 20 48.5 -1.0
CCM PcP PcP 01 21 55.7 -0.2
OK033 Mehan 53.38 337 IAmb IAmb 01 20 50.4
comp=Z,44nm,1.2s
P48A Milroy 53.38 350 P P 01 20 48.1 -1.6
baz=167
P48A P P 01 20 48.1 -1.6
baz=167
QUOK Quay 53.40 338 IAmb IAmb 01 20 50.6
comp=Z,19nm,0.9s
O52A Adamsville 53.49 353 IAmb IAmb 01 20 50.2
comp=Z,17nm,0.8s
O53A New Philadelph 53.55 354 P P 01 20 50.2 -0.8
baz=172
MNTX Cornudas Mount 53.57 327 P P 01 20 50.2 -1.1
baz=142,SNR=12
MNTX Cornudas Mount 53.57 327 P P 01 20 50.4 -0.8
baz=142,SNR=12
Q44A Meyer Farm, Va 53.59 346 P P 01 20 49.9 -1.3
baz=162,SNR=17
S39A Bolivar 53.63 342 IAmb IAmb 01 20 51.4
comp=Z,22nm,0.8s
S39A Bolivar 53.63 342 P P 01 20 50.8 -0.7
baz=157,SNR=15
SSPA Standing Stone 53.67 357 P P 01 20 52.3 +0.5
SSPA Standing Stone 53.67 357 P P 01 20 51.5 -0.3
baz=176
SSPA Standing Stone 53.67 357 P P 01 20 52.3 +0.5
OK048 Pawnee Station 53.71 338 IAmb IAmb 01 20 53.1
comp=Z,30nm,0.9s
OK051 E0350 and S346 53.74 338 IAmb IAmb 01 20 53.4
comp=Z,41nm,0.9s
ACSO Alum Creek Sta 53.75 352 IAmb IAmb 01 20 52.1
comp=Z,21nm,0.8s
ACSO Alum Creek Sta 53.75 352 P P 01 20 51.8 -0.6
baz=170
ACSO Alum Creek Sta 53.75 352 P P 01 20 51.5 -0.9
baz=170
N58A Sunbury 53.82 358 IAmb IAmb 01 20 54.4
comp=Z,24nm,0.8s
N58A Sunbury 53.82 358 P P 01 20 53.6 +0.7
baz=177,SNR=5.3
N58A P P 01 20 53.6 +0.7
baz=177,SNR=5.3
R40A Maddies Statio 53.87 343 IAmb IAmb 01 20 53.4
comp=Z,18nm,0.8s
R40A Maddies Statio 53.87 343 P P 01 20 51.9 -1.4
baz=159,SNR=12
P46A Rosedale 53.87 348 IAmb IAmb 01 20 53.6
comp=Z,28nm,0.8s
T35A Sooner Cattle 53.99 338 IAmb IAmb 01 20 55.4
comp=Z,51nm,1.3s
T35B Sooner Cattle 53.99 338 P P 01 20 53.6 -0.7
baz=153,SNR=6.9
MSTX Muleshoe 54.08 331 IAmb IAmb 01 20 55.9
comp=Z,37nm,1.1s
MSTX Muleshoe 54.08 331 P P 01 20 54.5 -0.6
baz=146,SNR=6.4
MSTX Muleshoe 54.08 331 P P 01 20 55.0 0.0
baz=146,SNR=6.4
O48B Farmland 54.11 350 IAmb IAmb 01 20 54.9
comp=Z,39nm,1.1s
O48B Farmland 54.11 350 P P 01 20 53.4 -1.6
baz=167,SNR=6.0
O48B Farmland 54.11 350 P P 01 20 53.8 -1.2
baz=167,SNR=6.0
CROK Carrier 54.18 337 IAmb IAmb 01 20 56.2
comp=Z,24nm,0.9s
AMTX Amarillo 54.33 333 P P 01 20 55.6 -1.3
baz=147
M57A Sunshine Farm, 54.34 358 P P 01 20 57.6 +1.0
baz=177,SNR=6.5
M57A P P 01 20 57.6 +1.0
baz=177,SNR=6.5
P43A Skaggs, Pawnee 54.41 346 P P 01 20 56.3 -0.9
baz=162,SNR=9.4
U32A Winter Ranch, 54.47 336 P P 01 20 57.2 -0.6
baz=150,SNR=8.8
OK032 Salt Plains WL 54.53 337 IAmb IAmb 01 20 58.2
comp=Z,52nm,1.3s
SFIN Lafayette 54.59 348 P P 01 20 56.7 -1.8
SFIN IAmb IAmb 01 20 57.2
comp=Z,19nm,0.7s
SFIN Lafayette 54.59 348 P P 01 20 56.3 -2.1
baz=165,SNR=5.1
SFIN Lafayette 54.59 348 P P 01 20 56.5 -1.9
baz=165,SNR=5.1
N49A Columbus Grove 54.60 351 IAmb IAmb 01 20 58.7
comp=Z,50nm,1.2s
N49A Columbus Grove 54.60 351 P P 01 20 57.4 -1.2
baz=169,SNR=5.4
N49A P P 01 20 57.4 -1.2

baz=169,SNR=5.4
PAOC Oil Creek Stat 54.67 355 P P 01 20 59.0 -0.1
baz=174
M53A WI Miller and 54.68 354 P P 01 20 58.3 -0.8
baz=173
N47A Urbana 54.81 350 IAmb IAmb 01 20 59.0
comp=Z,23nm,0.8s
N47A Urbana 54.81 350 P P 01 20 58.5 -1.6
baz=167
N47A P P 01 20 58.5 -1.6
baz=167
ALLY Alegheny Colle 54.84 355 IAmb IAmb 01 21 00.4
comp=Z,18nm,0.7s
M52A Chesterland 54.85 354 P P 01 20 59.6 -0.7
baz=172
M52A P P 01 20 59.6 -0.7
baz=172
M50A Fremont 54.91 352 IAmb IAmb 01 21 00.8
comp=Z,24nm,0.8s
M50A Fremont 54.91 352 P P 01 21 00.1 -0.7
baz=170
M50A P P 01 21 00.1 -0.7
baz=170
P40A Paris 54.96 343 IAmb IAmb 01 21 01.0
comp=Z,14nm,0.6s
P40A Paris 54.96 343 P P 01 21 00.0 -1.1
baz=159,SNR=7.6
L59A Walton 55.14 360 P P 01 21 03.5 +1.0
baz=179,SNR=5.6
L59A P P 01 21 03.5 +1.0
baz=179,SNR=5.6
BINY Binghamton 55.16 359 P P 01 21 03.1 +0.5
baz=178,SNR=10
BINY Binghamton 55.16 359 P P 01 21 03.6 +1.0
baz=178,SNR=10
HDIL Hopedale 55.23 346 IAmb IAmb 01 21 02.4
comp=Z,30nm,0.8s
HDIL Hopedale 55.23 346 P P 01 21 01.1 -1.9
baz=162,SNR=5.9
HDIL Hopedale 55.23 346 P P 01 21 01.4 -1.6
baz=162,SNR=5.9
ERPA Erie 55.29 355 P P 01 21 03.1 -0.4
baz=174
ERPA Erie 55.29 355 P P 01 21 03.1 -0.4
baz=174
L61B Northampton 55.42 2 P P 01 21 05.0 +0.6
baz=182
P38A Dawn 55.47 342 IAmb IAmb 01 21 05.3
comp=Z,22nm,0.6s
P38A Dawn 55.47 342 P P 01 21 03.9 -0.9
baz=158,SNR=14
319A Douglas 55.48 324 IAmb IAmb 01 21 07.0
comp=Z,31nm,0.9s
WVNY West Valley, N 55.48 356 P P 01 21 03.7 -1.2
WVNY West Valley, N 55.48 356 P P 01 21 04.9 +0.1
baz=175,SNR=5.2
121A Cookes Peak, D 55.50 326 IAmb IAmb 01 21 07.5
comp=Z,27nm,0.9s
121A Cookes Peak, D 55.50 326 P P 01 21 05.9 +0.5
baz=140,SNR=20
121A Cookes Peak, D 55.50 326 P P 01 21 05.9 +0.5
baz=140,SNR=20
HRV Adam Dziewonsk 55.52 3 P P 01 21 05.7 +0.6
baz=184
HRV Adam Dziewonsk 55.52 3 P P 01 21 05.7 +0.6
HCNY Howe Caverns 55.64 0 P P 01 21 06.7 +0.7
baz=180,SNR=6.9
K57A Scipio Center 55.70 358 P P 01 21 06.9 +0.4
baz=178,SNR=6.7
N41A Harden Midland 55.74 345 IAmb IAmb 01 21 06.3
comp=Z,37nm,0.8s
N41A Harden Midland 55.74 345 P P 01 21 05.5 -1.2
baz=161,SNR=8.0
KSU1 Kansas State U 55.98 339 IAmb IAmb 01 21 08.2
comp=Z,16nm,0.9s
KSU1 Kansas State U 55.98 339 P P 01 21 07.6 -0.9
baz=154
KSU1 Kansas State U 55.98 339 P P 01 21 08.1 -0.4
baz=154
RTBA Rita Blanca 56.10 333 IAmb IAmb 01 21 09.8
comp=Z,19nm,0.9s
R32A Long Quarter, 56.13 337 P P 01 21 09.5 -0.1
baz=151,SNR=14
Y22A Socorro 56.14 328 P P 01 21 10.8 +0.8
baz=141,SNR=7.8
J57A Williamstown 56.37 359 P P 01 21 11.6 +0.5
baz=178
J57A P P 01 21 11.6 +0.5
baz=178
J59A Piesco 56.41 0 P P 01 21 11.8 +0.3
J59A Piesco 56.41 0 P P 01 21 11.8 +0.3
baz=180
J59A P P 01 21 11.8 +0.3
baz=180
ANMO Albuquerque 56.67 329 P P 01 21 13.4 -0.3
ANMO Albuquerque 56.67 329 P P 01 21 14.1 +0.3
baz=142
ANMO Albuquerque 56.67 329 P P 01 21 13.5 -0.2
baz=142,SNR=17
ANMO Albuquerque 56.67 329 P P 01 21 13.9 +0.2
ANMO PcP PcP 01 22 09.2 +0.2
CBKS Cedar Bluff 56.87 337 P P 01 21 14.6 -0.3
baz=150,SNR=12
CBKS Cedar Bluff 56.87 337 P P 01 21 14.7 -0.2
baz=150,SNR=12
NCB Newcomb 56.91 0 P P 01 21 15.9 +0.8
baz=180
WCNY West Carthage 56.93 359 P P 01 21 15.7 +0.5
baz=179
J47A Sunmer 56.97 351 P P 01 21 14.3 -1.1
J47A Sunmer 56.97 351 P P 01 21 13.9 -1.5
baz=168,SNR=6.4
J47A P P 01 21 13.9 -1.5
baz=168,SNR=6.4
TUC Tucson 57.03 323 P P 01 21 16.4 +0.2
TUC Tucson 57.03 323 P P 01 21 16.1 -0.1
baz=137
TUC Tucson 57.03 323 P P 01 21 16.3 +0.2
TUC PcP PcP 01 22 10.5 +0.2
L40A Anamosa 57.11 345 IAmb IAmb 01 21 16.1
comp=Z,21nm,1.0s
LBNH Lisbon 57.23 2 P P 01 21 17.9 +0.6
baz=183
T25A Trinidad 57.44 332 P P 01 21 18.9 -0.2
baz=145,SNR=16
DELO Deloro Mine 57.53 357 IAmb IAmb 01 21 19.8
comp=Z,25nm,0.7s
LONY Lake Ozonia 57.56 360 P P 01 21 20.1 +0.5
LONY Lake Ozonia 57.56 360 P P 01 21 19.6 0.0
baz=180,SNR=5.5
JFWS Jewell Farm 57.69 346 IAmb IAmb 01 21 24.1
comp=Z,39nm,1.6s
FRNY Flat Rock 57.78 1 P P 01 21 21.9 +0.8
FRNY IAmb IAmb 01 21 23.0
comp=Z,39nm,1.1s
FRNY Flat Rock 57.78 1 P P 01 21 21.9 +0.8
baz=181,SNR=6.5
SADO Sadowa 57.86 356 LR LR 01 50 17.7
comp=Z,81nm,18.5s,baz=89,slow=40
214A Organ Pipe Nat 57.98 322 P P 01 21 23.1 +0.3
baz=135,SNR=11
X18A Snowflake 58.19 326 IAmb IAmb 01 21 26.4
comp=Z,31nm,1.4s
KSCO Kaye Shedlock' 58.20 334 P P 01 21 24.1 -0.3
baz=148
KSCO Kaye Shedlock' 58.20 334 P P 01 21 24.6 +0.2
baz=148
G62A West of Eustis 58.27 3 P P 01 21 26.1 +1.5
baz=185,SNR=5.6
G62A P P 01 21 26.1 +1.5
baz=185,SNR=5.6
PKME Peaks-Kenny Pk 58.40 4 P P 01 21 25.8 +0.4
PKME Peaks-Kenny Pk 58.40 4 P P 01 21 26.3 +0.9
baz=186
SDCO Great Sand Dun 58.43 331 P P 01 21 26.2 0.0
baz=144,SNR=49
SDCO Great Sand Dun 58.43 331 P P 01 21 26.5 +0.3
baz=144,SNR=49
W18A Petrified Fore 58.52 326 P P 01 21 27.2 +0.5
baz=139,SNR=14
BGNE Belgrade 58.57 339 P P 01 21 26.0 -0.7
baz=153,SNR=7.3
BGNE Belgrade 58.57 339 P P 01 21 26.4 -0.3
baz=153,SNR=7.3
I40A Norwalk 58.70 346 IAmb IAmb 01 21 27.5
comp=Z,23nm,0.9s
X16A Lo Mia Camp, P 58.94 325 IAmb IAmb 01 21 31.1
comp=Z,17nm,0.8s
S22A 4UR Ranch, Cre 59.06 330 P P 01 21 30.9 +0.3
baz=143,SNR=13
F64A Sherman 59.07 5 P P 01 21 31.0 +1.0
F64A IAmb IAmb 01 21 32.2
comp=Z,33nm,0.9s
F64A Sherman 59.07 5 P P 01 21 30.8 +0.7
baz=187,SNR=6.9
F64A P P 01 21 30.8 +0.7
baz=187,SNR=6.9
113A Mohawk Valley, 59.12 322 P P 01 21 31.3 +0.6
TRQ Mont Tremblant 59.16 360 IAmb IAmb 01 21 31.5
comp=Z,26nm,1.0s
Q24A Divide 59.26 332 IAmb IAmb 01 21 33.2
comp=Z,22nm,0.8s
Q24A Divide 59.26 332 P P 01 21 32.1 +0.2
baz=145,SNR=17
MVCO Mesa Verde 59.47 329 IAmb IAmb 01 21 34.0
comp=Z,14nm,0.8s
MVCO Mesa Verde 59.47 329 P P 01 21 33.2 -0.1
baz=141,SNR=12
Y14A Wickenburg 59.49 323 IAmb IAmb 01 21 34.6
comp=Z,16nm,0.8s
I37A Lemond, Waseca 59.50 344 IAmb IAmb 01 21 32.4
comp=Z,14nm,0.6s
OGNE Ogallala 59.60 336 P P 01 21 33.6 -0.3
baz=149,SNR=14
OGNE Ogallala 59.60 336 P P 01 21 34.0 +0.1
baz=149,SNR=14
WUAZ Wupatki 59.71 326 IAmb IAmb 01 21 36.9
comp=Z,32nm,1.0s
WUAZ Wupatki 59.71 326 P P 01 21 35.8 +0.9
baz=138,SNR=17
E62A Clayton Lake 59.73 4 P P 01 21 35.9 +1.3
baz=186,SNR=6.8
E62A P P 01 21 35.9 +1.3
baz=186,SNR=6.8
PQI Presque Isle 59.90 5 IAmb IAmb 01 21 37.8
comp=Z,32nm,1.0s
ESJX Sierra Juarez 59.95 320 P P 01 21 35.8 -0.8
ISCO Idaho Springs 60.15 333 P P 01 21 38.3 +0.3
baz=145,SNR=16
ISCO Idaho Springs 60.15 333 P P 01 21 38.0 0.0
baz=145,SNR=16
ECSD EROS Data Cent 60.16 342 IAmb IAmb 01 21 37.4
comp=Z,18nm,0.8s
ECSD EROS Data Cent 60.16 342 P P 01 21 36.9 -0.7
baz=155,SNR=17
ECSD EROS Data Cent 60.16 342 P P 01 21 36.7 -0.9
baz=155,SNR=17
K30B Basset 60.20 339 P P 01 21 37.7 -0.2
baz=152,SNR=9.7
D62A Allapoint, All 60.23 4 IAmb IAmb 01 21 40.0
comp=Z,31nm,0.8s
D62A Allapoint, All 60.23 4 P P 01 21 38.7 +0.7
baz=186,SNR=8.6
D62A P P 01 21 38.7 +0.7
baz=186,SNR=8.6
BLYC Blythe 60.26 322 IAmb IAmb 01 21 40.0
comp=Z,17nm,0.8s
SMCO Snowmass 60.27 331 IAmb IAmb 01 21 40.1
comp=Z,23nm,1.1s
YUH Yuha Desert 60.37 320 IAmb IAmb 01 21 40.6
comp=Z,64nm,2.0s
PDMCI Parker Dam,Lak 60.42 323 P P 01 21 40.2 +0.7
baz=135,SNR=5.0
RMX La Rumorosa 60.43 320 P P 01 21 39.2 -0.7
RMX IAmb IAmb 01 21 42.8
comp=Z,33nm,1.8s
PV05 Paradox Valley 60.44 329 P P 01 21 39.1 -0.8
SPMN Marine on St. 60.48 345 IAmb IAmb 01 21 39.8
comp=Z,28nm,0.8s
SPMN Marine on St. 60.48 345 P P 01 21 38.7 -1.0
baz=160,SNR=7.9
SPMN Marine on St. 60.48 345 P P 01 21 38.7 -1.0
baz=160,SNR=7.9
IKP In-Ko-Pah, Jac 60.48 320 P P 01 21 40.6 +0.4
baz=132
SWSC Sam W. Stewart 60.49 320 P P 01 21 41.2 +1.1
baz=133
CBX Cerro Bola 60.61 319 P P 01 21 41.1 0.0
CBX IAmb IAmb 01 21 43.6
comp=Z,27nm,1.1s
BATG Bathurst New B 60.70 7 P P 01 21 41.5 +0.3
TKX Tecate 60.74 320 P P 01 21 42.5 +0.7
TKX IAmb IAmb 01 21 44.0
comp=Z,36nm,1.3s
BC3 Big Chuckawall 60.76 321 P P 01 21 42.9 +0.9
baz=133,SNR=14
MONP2 Monument Peak 60.84 320 P P 01 21 43.1 +0.4
baz=132
U15A North Rim 60.88 326 IAmb IAmb 01 21 44.6
comp=Z,14nm,0.8s
IRM Iron Mountain 60.91 322 P P 01 21 43.9 +0.9
baz=134,SNR=20
LDAQ Lac Dan 60.98 3 P P 01 21 43.0 -0.1
VLDQ Val d'Or 61.11 358 IAmb IAmb 01 21 44.7
comp=Z,26nm,0.7s
HMU Henry Mountain 61.17 328 IAmb IAmb 01 21 48.0
comp=Z,30nm,1.3s
N23A Red Feather La 61.19 333 P P 01 21 45.3 +0.3
baz=145
F36A Milaca 61.25 345 P P 01 21 44.4 -0.6
baz=159,SNR=12
109C Camp Elliot, M 61.27 320 P P 01 21 46.1 +0.8
baz=132
PHWY Pilot Hill 61.31 334 IAmb IAmb 01 21 47.4
comp=Z,46nm,1.6s
PMD Palm Desert 61.32 321 IAmb IAmb 01 21 48.0
comp=Z,34nm,1.6s
BELC Belle Mtn. Jos 61.32 321 P P 01 21 46.8 +0.9
baz=133,SNR=6.6
TPFO Pinon Flats 61.34 321 P P 01 21 47.4 +1.4
baz=132,SNR=9.9
PFO Pinyon Flats O 61.35 321 P P 01 21 46.1 +0.1
PFO IAmb IAmb 01 21 47.6
comp=Z,13nm,0.8s
PFO Pinyon Flats O 61.35 321 P P 01 21 47.1 +1.0
baz=132,SNR=8.9
PFO Pinyon Flats O 61.35 321 P P 01 21 47.0 +1.0
PFO PcP PcP 01 22 28.0 +0.5
E38A The Farm, Brul 61.48 347 IAmb IAmb 01 21 46.0
comp=Z,15nm,0.9s
E38A The Farm, Brul 61.48 347 P P 01 21 45.8 -0.7
baz=161
SUSD Miller 61.54 340 P P 01 21 46.1 -0.9
baz=153
KNB Kanab 61.60 326 IAmb IAmb 01 21 49.5
comp=Z,23nm,0.8s
O20A White River Ci 61.62 331 IAmb IAmb 01 21 49.3
comp=Z,29nm,0.8s
O20A White River Ci 61.62 331 P P 01 21 48.2 +0.4
baz=142,SNR=21
GMRC Granite Mounta 61.65 322 P P 01 21 49.0 +0.9
baz=134,SNR=7.2
MURC Murrieta 61.80 320 P P 01 21 49.3 +0.4
baz=132
SRU San Rafael Swe 61.95 329 IAmb IAmb 01 21 50.8
comp=Z,19nm,0.8s
ELS Elsinore Mount 61.97 320 P P 01 21 50.3 +0.1
ELS IAmb IAmb 01 21 51.6
comp=Z,16nm,0.9s
F33A 5 Mile Ranch, 61.98 343 IAmb IAmb 01 21 49.7
comp=Z,21nm,0.8s
F33A 5 Mile Ranch, 61.98 343 P P 01 21 48.8 -1.0
baz=156,SNR=13
MTPU Mount Pierson 62.00 327 IAmb IAmb 01 21 51.7
comp=Z,11nm,0.7s
HEC Hector,Ludlow 62.09 322 P P 01 21 52.1 +1.2
baz=133,SNR=5.5
Q16A Castle Valley 62.13 328 IAmb IAmb 01 21 53.2
comp=Z,21nm,0.8s
P18A Preston Nutter 62.20 329 P P 01 21 52.3 +0.5
P18A IAmb IAmb 01 21 53.4
comp=Z,15nm,0.7s
TUQ Turquoise Moun 62.26 322 P P 01 21 52.9 +0.8
baz=134,SNR=5.9
TMUT Trail Mountain 62.43 328 IAmb IAmb 01 21 54.7
comp=Z,14nm,0.6s
BFSC Mount Baldy Ra 62.51 320 P P 01 21 54.7 +0.9
baz=132
TCRU Three Creeks R 62.56 327 IAmb IAmb 01 21 55.6
comp=Z,17nm,0.8s
GSC Goldstone, Bar 62.69 322 P P 01 21 55.7 +0.7
baz=133,SNR=8.9
EYMN Ely 62.74 347 P P 01 21 53.9 -1.0
baz=162
EYMN Ely 62.74 347 P P 01 21 53.5 -1.4
baz=162
SHOC Shoshone, Teco 62.78 323 P P 01 21 56.1 +0.6
baz=133
K22A Casper 62.87 334 IAmb IAmb 01 21 56.8
comp=Z,26nm,0.7s
K22A Casper 62.87 334 P P 01 21 56.2 +0.1
baz=145,SNR=14
K22A Casper 62.87 334 P P 01 21 56.1 0.0
baz=145,SNR=14
RSSD Black Hills 63.08 337 P P 01 21 57.6 +0.2
RSSD IAmb IAmb 01 21 59.1
comp=Z,62nm,1.4s
RSSD Black Hills 63.08 337 P P 01 21 57.5 0.0
baz=148
RSSD Black Hills 63.08 337 P P 01 21 57.4 -0.1
baz=148,SNR=18
RSSD Black Hills 63.08 337 P P 01 21 57.7 +0.2
RSSD pP pP 01 22 18.4 -3.4
EDW2 Edwards Air Fo 63.14 321 P P 01 21 58.5 +0.6
baz=132,SNR=12
BSUT Blindstream Ca 63.15 330 IAmb IAmb 01 21 60.0
comp=Z,26nm,1.0s
CCAC Calif City Air 63.33 321 IAmb IAmb 01 22 00.8
comp=Z,27nm,0.7s
D32A Dogwood Acres, 63.36 343 P P 01 21 58.9 -0.2
D32B Dogwood Acres, 63.36 343 P P 01 21 58.9 -0.1
baz=156
TPNV Topopah Spring 63.49 323 P P 01 22 01.0 +0.7
baz=134,SNR=11
FURC Furnace Creek, 63.52 323 P P 01 22 01.5 +1.3
baz=133,SNR=7.3
WCT Wildcat Mounta 63.60 323 IAmb IAmb 01 22 02.7
comp=Z,19nm,0.7s
MPMC Manual Prospec 63.61 322 P P 01 22 01.3 +0.2
baz=132,SNR=12
B35A Bob, Littlefor 63.63 346 IAmb IAmb 01 22 00.5
comp=Z,20nm,0.7s
B35A Bob, Littlefor 63.63 346 P P 01 21 59.9 -0.9
baz=159,SNR=11
ARVC Arvin 63.82 320 P P 01 22 03.1 +0.8
baz=131
SPR3 Spring Creek 3 63.85 326 IAmb IAmb 01 22 03.9
comp=Z,19nm,0.9s
TCUT Toone Canyon 63.91 330 IAmb IAmb 01 22 05.7
comp=Z,29nm,0.7s
DUG Dugway, Tooele 63.92 328 IAmb IAmb 01 22 05.1
comp=Z,33nm,0.8s
DUG Dugway, Tooele 63.92 328 P P 01 22 03.8 +0.7
baz=136,SNR=33
ISA Isabella, Lake 63.95 321 P P 01 22 03.9 +0.6
baz=131,SNR=14
E28A Huff 63.99 340 P P 01 22 03.3 +0.1
baz=152,SNR=14
DRLN Deer Lake 64.00 12 P P 01 22 03.8 +0.7
R11B Troy Canyon, C 64.08 325 P P 01 22 05.3 +1.1
baz=135,SNR=19
AGMN Agassiz Nation 64.11 344 IAmb IAmb 01 22 04.1
comp=Z,21nm,0.7s
AGMN Agassiz Nation 64.11 344 P P 01 22 03.5 -0.4
baz=157,SNR=12
AGMN Agassiz Nation 64.11 344 P P 01 22 03.5 -0.4
baz=157,SNR=12
Q12A Willow Creek R 64.15 326 IAmb IAmb 01 22 06.0
comp=Z,17nm,0.8s
GRAC Grapevine Rang 64.17 323 IAmb IAmb 01 22 07.2
comp=Z,72nm,1.9s
GRAC Grapevine Rang 64.17 323 P P 01 22 05.5 +0.9
baz=133,SNR=5.8
CWC Cottonwood Cre 64.22 322 P P 01 22 05.9 +0.8
baz=132
PKM Mcpherson Peak 64.28 320 P P 01 22 06.2 +0.7
baz=130
BW06 Boulder Array 64.31 332 P P 01 22 05.2 -0.4
baz=142,SNR=12
PDAR Pinedale Array 64.31 332 P P 01 22 05.1 -0.5
comp=Z,2.6nm,0.4s,baz=121,slow=9.5,SNR=57
PDAR pP pP 01 22 30.4 +0.4
comp=Z,1.9nm,0.8s,baz=112,slow=14,SNR=2.8
comp=Z,2.6nm,0.4s
HWUT Hardware Ranch 64.36 330 P P 01 22 05.9 0.0
HWUT IAmb IAmb 01 22 07.0
comp=Z,41nm,1.2s
VES Vestal, Richgr 64.44 321 P P 01 22 07.7 +1.4
baz=131,SNR=5.4
SMMC Simmler 64.67 320 P P 01 22 09.3 +1.4
baz=130
TIN Tinemaha, Big 64.72 322 P P 01 22 09.2 +0.9
baz=132
MDND Maddock 64.77 342 P P 01 22 08.6 +0.4
baz=153
OMMB Old Mammoth Mi 65.55 322 IAmb IAmb 01 22 15.8
comp=Z,28nm,0.9s
NV11 Mina Array Sit 65.60 323 IAmb IAmb 01 22 16.3
comp=Z,52nm,1.9s
NVAR Mina Array Bea 65.69 323 P P 01 22 15.4 +0.8
comp=Z,4.4nm,0.7s,baz=149,slow=7.3,SNR=20
NVAR PcP PcP 01 22 45.7 +0.3
comp=Z,2.8nm,0.6s,baz=124,slow=5.1,SNR=7.0
comp=Z,4.4nm,0.7s
IMW Indian Meadow 65.82 332 IAmb IAmb 01 22 16.9
comp=Z,69nm,1.8s
FLWY Flagg Ranch 65.85 332 IAmb IAmb 01 22 17.3
comp=Z,43nm,0.8s
ULM Lac du Bonnet 65.91 345 IAmb IAmb 01 22 15.4
comp=Z,25nm,0.8s
ULM Lac du Bonnet 65.91 345 P P 01 22 14.8 -0.7
comp=Z,17nm,0.6s,baz=159,slow=5.9,SNR=41
ULM PcP PcP 01 22 45.2 -0.4
comp=Z,6.6nm,0.8s,baz=168,slow=4.2,SNR=4.1
comp=Z,17nm,0.6s
RLMT Red Lodge 66.04 334 IAmb IAmb 01 22 18.3
comp=Z,64nm,1.6s
RLMT Red Lodge 66.04 334 P P 01 22 16.8 +0.1
baz=143,SNR=13
H17A Grant Village 66.04 333 P P 01 22 18.1 +1.2
baz=141
LAO LASA Array 66.07 337 P P 01 22 16.9 +0.1
baz=146,SNR=8.2
LAO LASA Array 66.07 337 P P 01 22 16.2 -0.5
baz=146,SNR=8.2
WAKR Walker 66.40 323 IAmb IAmb 01 22 21.7
comp=Z,70nm,1.8s
BMN Battle Mountai 66.44 326 P P 01 22 19.9 +0.5
YHL Hebgen Lake 66.67 332 IAmb IAmb 01 22 23.2
comp=Z,37nm,0.8s
DGMT Dagmar 66.82 339 IAmb IAmb 01 22 22.7
comp=Z,31nm,0.7s
DGMT Dagmar 66.82 339 P P 01 22 21.8 +0.4
baz=148,SNR=10
DGMT Dagmar 66.82 339 P P 01 22 22.0 +0.6
baz=148,SNR=10
PAHR Pah Rah Range 67.17 324 IAmb IAmb 01 22 26.2
comp=Z,27nm,0.9s
HLID Hailey 67.22 330 P P 01 22 25.1 +0.9
baz=138,SNR=15
BOZ Bozeman (W) 67.44 333 P P 01 22 26.0 +0.4
baz=141
AFDM Forest Hills D 67.60 322 IAmb IAmb 01 22 28.5
comp=Z,59nm,1.9s
MFID Camas Ranch 67.81 329 IAmb IAmb 01 22 29.4
comp=Z,21nm,0.8s
SCHQ Schefferville 68.10 5 P P 01 22 29.3 0.0
SCHQ Schefferville 68.10 5 P P 01 22 29.5 +0.1
comp=Z,16nm,0.9s,baz=200,slow=5.0,SNR=24
SCHQ LR LR 01 54 00.9
comp=Z,93nm,18.3s,baz=248,slow=37
comp=Z,16nm,0.9s
EGMT Eagleton 68.55 335 P P 01 22 32.6 +0.3
baz=143,SNR=7.8
MSO Missoula 69.42 332 IAmb IAmb 01 22 40.0
comp=Z,39nm,1.3s
MSO Missoula 69.42 332 P P 01 22 38.7 +0.9
baz=139,SNR=10
BMO Blue Mountains 69.58 329 IAmb IAmb 01 22 40.5
comp=Z,61nm,2.0s
VNA2 Neumayer--Watz 70.19 161 ⇓P P 01 22 42.7 +0.6
baz=287,slow=6.0
F10A Beach Ranch, E 70.34 330 IAmb IAmb 01 22 52.0
comp=Z,82nm,1.9s
PINE Pine Mountain 70.75 326 IAmb IAmb 01 22 47.9
comp=Z,27nm,1.1s
FFC Flin Flon 71.56 344 P P 01 22 50.2 -0.3
FFC Flin Flon 71.56 344 P P 01 22 50.2 -0.3
SNAA Sanae 71.80 162 P P 01 22 52.6 +0.6
SNAA Sanae 71.80 162 ⇓P P 01 22 52.5 +0.6
comp=Z,148nm,0.6s
NEW Newport 71.94 332 P P 01 22 53.3 +0.3
baz=136
DBIC Dimbokro 71.97 78 P P 01 22 54.0 +0.2

comp=Z,12nm,0.6s,baz=248,slow=5.7,SNR=18
DBIC LR LR 01 52 55.8
comp=Z,121nm,18.2s,baz=270,slow=34
comp=Z,12nm,0.6s
PPT2 Papeete2 72.05 256 *e*S **S 01 32 10.9 +1.4**
comp=Z,142nm,23.8s
PPT2 *e*S SKiKP 01 32 11.8 -11
comp=Z,106nm,25.0s
PPT2 Papeete2 72.05 256 *e*LR LR 01 45 02.0
comp=Z,132nm,35.0s
LTY Liberty 72.94 329 IAmb IAmb 01 23 01.3
comp=Z,92nm,1.8s
FCC Fort Churchill 73.48 350 P **P 01 23 01.8 -0.1**
BRLDA Berland Lookou 76.30 336 IAmb IAmb 01 23 19.0
comp=Z,46nm,1.4s
QSPA South Pole Qui 76.92 180 P **P 01 23 22.3 +0.5**
QSPA South Pole Qui 76.92 180 P **P 01 23 22.8 +1.0**
comp=Z,7.0nm,0.7s,baz=146,slow=2.4,SNR=21
QSPA pP **pP 01 23 49.2 +2.3**
comp=Z,5.0nm,0.9s,baz=256,slow=1.4,SNR=1.5
comp=Z,7.0nm,0.7s
NUUK Nuuk 79.12 10 *i* P **P 01 23 32.0 -1.5**
NUUK IAmb IAmb 01 23 34.7
comp=Z,57nm,1.3s
HILA High Level 79.46 339 P **P 01 23 34.8 -0.8**
BBB Bella Bella 79.81 330 LR LR 02 01 16.2
comp=Z,165nm,18.3s,baz=123,slow=37
TOA0 Torodi Ar. Sit 79.96 74 P **P 01 23 39.8 +0.5**
TOA0 IAmb IAmb 01 23 40.8
comp=Z,27nm,0.9s
TORD Torodi Ar. Bea 79.96 74 P **P 01 23 39.6 +0.3**
TORD IAmb IAmb 01 23 40.8
comp=Z,22nm,0.9s
TORD Torodi Ar. Bea 79.96 74 P **P 01 23 39.8 +0.5**
comp=Z,19nm,0.8s,baz=275,slow=4.9,SNR=88
TORD LR LR 01 58 51.6
comp=Z,91nm,18.6s,baz=324,slow=35
comp=Z,19nm,0.8s
ELIB Princess Elisa 79.97 162 *d*P **P 01 23 39.1 +0.7**
MDT Midelt 80.86 53 LR LR 01 56 39.3
comp=Z,70nm,20.5s,baz=258,slow=33
RAR Rarotonga 80.95 250 LR LR 01 50 53.6
comp=Z,53nm,21.9s,baz=354,slow=29
YKA Yellowknife Ar 81.68 342 P **P 01 23 46.9 -0.5**
comp=Z,17nm,0.8s,baz=138,slow=5.6,SNR=180
comp=Z,17nm,0.8s
DY2G Dye2 82.18 11 *i* P **P 01 23 47.5 -2.7**
DY2G IAmb IAmb 01 23 51.0
comp=Z,226nm,1.8s
FLDN Fort Liard 82.98 338 P **P 01 23 55.3 +1.1**
baz=132
KOTAN Kotaneelee Air 83.12 337 P **P 01 23 55.7 +0.7**
baz=132,SNR=7.2
T35M Bob Quinn 83.67 333 P **P 01 23 58.8 +0.9**
baz=126,SNR=7.9
ESDC Sonseca Array 83.95 47 P **P 01 24 01.3 +1.5**
ESDC Sonseca Array 83.95 47 P **P 01 24 01.1 +1.3**
comp=Z,4.9nm,0.9s,baz=255,slow=5.9,SNR=18
ESDC pP **pP 01 24 27.0 +2.2**
comp=Z,3.3nm,1.2s,baz=242,slow=6.2,SNR=3.2
comp=Z,4.9nm,0.9s
VNDA Vanda 84.00 190 P **P 01 23 59.1 -0.2**
comp=Z,3.0nm,0.9s,baz=129,slow=5.2,SNR=7.5
VNDA LR LR 01 53 22.5
comp=Z,122nm,21.6s,baz=138,slow=30
comp=Z,3.0nm,0.9s
DLBC Dease Lake 84.44 334 IAmb IAmb 01 24 03.9
comp=Z,20nm,0.9s
DLBC Dease Lake 84.44 334 P **P 01 24 02.7 +0.9**
baz=126,SNR=10.0
S34M Telegraph Cree 84.60 333 P **P 01 24 03.7 +1.2**
baz=125
WTLY Watson Lake, Y 84.94 336 P **P 01 24 04.8 +0.5**
baz=128,SNR=8.2
WRGLY Wrigley 85.00 340 IAmb IAmb 01 24 05.9
comp=Z,74nm,1.7s
R33M Jennings River 85.39 335 IAmb IAmb 01 24 08.9
comp=Z,27nm,1.2s
R33M Jennings River 85.39 335 P **P 01 24 07.5 +0.8**
baz=126,SNR=7.6
TGTN Hyland Airport 85.61 337 P **P 01 24 08.6 +1.1**
baz=128,SNR=24
Q32M Nakina River 85.69 334 IAmb IAmb 01 24 09.9
comp=Z,22nm,1.2s
Q32M Nakina River 85.69 334 P **P 01 24 09.0 +0.8**
baz=124
ICESG Greenland Ices 85.72 12 *i* P **P 01 24 06.6 -1.7**
ICESG IAmb IAmb 01 24 12.8
comp=Z,15nm,0.7s
TAM Tamanrasset 86.13 66 P **P 01 24 12.2 +1.1**
R32K Eaglecrest 86.30 333 P **P 01 24 11.9 +0.9**
baz=122
P33M Teslin, Yukon 86.63 335 IAmb IAmb 01 24 13.9
comp=Z,16nm,1.0s
P33M Teslin, Yukon 86.63 335 P **P 01 24 13.3 +0.6**
baz=124,SNR=9.7
P32M Atlin 86.66 334 P **P 01 24 13.7 +0.9**
baz=123
S31K Pelican 86.91 332 P **P 01 24 14.8 +0.9**
baz=121
N32M Quiet Lake 87.26 336 P **P 01 24 16.1 +0.4**
baz=124
SKAG Skagway 87.29 333 P **P 01 24 16.2 +0.5**
baz=122
SUR Sutherland 87.47 123 LR LR 01 59 53.0
comp=Z,59nm,18.9s,baz=266,slow=33
TSUM Tsumeb 87.70 109 LR LR 02 00 20.2
comp=Z,56nm,20.9s,baz=284,slow=33
WHY Whitehorse 87.73 335 P **P 01 24 18.2 +0.2**
baz=122
PLBC Pleasant Camp 87.74 333 P **P 01 24 19.0 +1.1**
baz=121
FARO Faro, Yukon 87.97 336 IAmb IAmb 01 24 20.4
comp=Z,18nm,1.0s
FARO Faro, Yukon 87.97 336 P **P 01 24 19.9 +0.9**
baz=124,SNR=14
O30N Mendenhall 88.30 334 P **P 01 24 21.7 +1.1**
baz=121,SNR=12
P30M Million Dollar 88.33 334 P **P 01 24 22.0 +1.2**
baz=120
M31M Drury Creek, Y 88.36 336 P **P 01 24 22.0 +1.2**
M31M Drury Creek, Y 88.36 336 P **P 01 24 21.5 +0.7**
baz=123,SNR=9.8
P29M Windy Craggy 88.43 333 IAmb IAmb 01 24 23.2
comp=Z,32nm,1.1s
P29M Windy Craggy 88.43 333 P **P 01 24 22.1 +0.9**
baz=120
N31M Braeburn, Yuko 88.54 335 P **P 01 24 22.5 +0.7**
baz=121,SNR=11
RES Resolute Bay 88.65 355 IAmb IAmb 01 24 23.1
comp=Z,12nm,0.8s
RES Resolute Bay 88.65 355 LR LR 02 07 19.2
comp=Z,73nm,18.4s,baz=174,slow=38
SUMG Summit 88.83 10 P **P 01 24 24.1 +0.8**
SUMG Summit 88.83 10 *i* P **P 01 24 24.0 +0.7**
SUMG IAmb IAmb 01 24 25.0
comp=Z,19nm,0.8s
HYT Haines Junctio 88.92 334 P **P 01 24 25.0 +1.3**
baz=120,SNR=13
N30M Aishikik Lake 89.07 335 P **P 01 24 25.6 +1.4**
baz=120
O29M Mount Kennedy 89.13 333 P **P 01 24 25.5 +0.9**
baz=119,SNR=6.8
PNL Peninsula 89.19 333 P **P 01 24 25.4 +0.7**
baz=118
YUK6 Outpost Mounta 89.35 334 P **P 01 24 27.1 +1.4**
baz=119,SNR=9.9
BCPM Bancas Point 89.43 333 IAmb IAmb 01 24 27.3
comp=Z,30nm,1.0s
M30M Minto, Yukon 89.51 336 P **P 01 24 26.8 +0.5**
baz=120,SNR=10
YUK4 Talbot Arm 89.66 334 P **P 01 24 28.0 +0.8**
baz=119,SNR=22
MAYO Mayo, Yukon 89.69 337 P **P 01 24 28.1 +1.1**
baz=121
PINM Pinnacle 89.77 333 P **P 01 24 28.1 +0.6**
baz=118,SNR=6.4
YUK8 Steele Glacier 90.11 334 P **P 01 24 30.3 +1.0**
baz=118,SNR=9.4
M29M Somme Creek 90.12 335 P **P 01 24 30.1 +1.0**
baz=119
H31M Peel River 90.30 339 P **P 01 24 30.5 +0.7**
H31M IAmb IAmb 01 24 31.3
comp=Z,29nm,1.2s
H31M Peel River 90.30 339 P **P 01 24 30.8 +0.9**
baz=123
L29M L29M 90.31 336 P **P 01 24 30.6 +0.6**
baz=119

J30M Hart River 90.36 338 P **P 01 24 30.9 +0.6**
baz=121
LOGN Logan Glacier 90.43 333 IAmb IAmb 01 24 35.0
comp=Z,20nm,1.3s
K29M Barlow Dome 90.44 337 IAmb IAmb 01 24 31.5
comp=Z,16nm,1.1s
K29M Barlow Dome 90.44 337 P **P 01 24 30.8 +0.2**
baz=120,SNR=13
EKA Eskdalemuir Ar 90.51 33 P **P 01 24 31.2 +0.3**
comp=Z,1.1nm,0.7s,baz=268,slow=6.4,SNR=3.5
comp=Z,1.1nm,0.7s
YUK3 Moose Creek 90.63 334 P **P 01 24 32.1 +0.4**
baz=117,SNR=12
CTG Chitna Glacier 90.64 333 P **P 01 24 32.2 +0.5**
baz=116
I30M Mount Dempster 90.71 338 P **P 01 24 32.6 +0.7**
baz=121
G31M Satah River 90.88 340 IAmb IAmb 01 24 33.6
comp=Z,23nm,1.4s
G31M Satah River 90.88 340 P **P 01 24 32.5 0.0**
baz=123,SNR=6.6
F31M Tsiigehtchic 90.99 341 P **P**
F31M IAmb IAmb 01 24 34.2
comp=Z,34nm,1.6s
F31M Tsiigehtchic 90.99 341 P **P 01 24 32.7 -0.2**
baz=123,SNR=6.2
J29N Klondike Camp 91.00 337 IAmb IAmb 01 24 34.4
comp=Z,9.2nm,0.8s
J29N Klondike Camp 91.00 337 P **P 01 24 34.0 +0.8**
baz=119
BVCY Beaver Creek 91.09 335 P **P 01 24 34.4 +0.8**
baz=117,SNR=6.6
DAWY Dawson 91.27 337 IAmb IAmb 01 24 35.0
comp=Z,8.2nm,0.7s
DAWY Dawson 91.27 337 P **P 01 24 34.6 +0.2**
baz=118,SNR=7.2
A36M Sachs Harbour 91.38 346 P **P 01 24 34.3 -0.3**
baz=131,SNR=22
INK Inuvik 91.40 341 IAmb IAmb 01 24 36.1
comp=Z,20nm,1.2s
INK Inuvik 91.40 341 P **P 01 24 34.7 -0.1**
baz=124,SNR=12
INK Inuvik 91.40 341 LR LR 02 11 25.0
comp=Z,128nm,18.0s,baz=180,slow=39
EPYK Eagle Plains 91.42 339 IAmb IAmb 01 24 37.6
comp=Z,37nm,1.9s
EPYK Eagle Plains 91.42 339 P **P 01 24 34.8 -0.3**
baz=121
I29M Ogilvie Camp, 91.48 338 IAmb IAmb 01 24 36.0
comp=Z,8.0nm,0.8s
I29M Ogilvie Camp, 91.48 338 P **P 01 24 35.2 -0.1**
baz=119
M27K Edge Creek, AK 91.49 334 IAmb IAmb 01 24 36.6
comp=Z,9.4nm,0.8s
M27K Edge Creek, AK 91.49 334 P **P 01 24 36.1 +0.5**
baz=116,SNR=6.5
NEEM North Greenlan 91.51 5 *i* P **P 01 24 35.0 -0.6**
NEEM IAmb IAmb 01 24 37.0
comp=Z,16nm,0.6s
VRDI Verde Repeater 91.68 333 IAmb IAmb 01 24 37.3
comp=Z,12nm,0.8s
F30M Barrier River 91.74 340 P **P 01 24 36.4 -0.1**
baz=121,SNR=5.4
BCAR Beaver Creek A 91.76 335 P **P 01 24 36.9 +0.2**
L27K Beaver Creek, 91.78 335 P **P 01 24 37.2 +0.4**
baz=116,SNR=14
H29M Whitestone 91.92 339 IAmb IAmb 01 24 37.9
comp=Z,10nm,0.9s
H29M Whitestone 91.92 339 P **P 01 24 37.7 +0.3**
baz=119
M26K Nabesna, AK 91.98 334 P **P 01 24 37.8 0.0**
baz=115
BMRM Bremner River 92.09 333 P **P 01 24 38.6 +0.3**
baz=114
I28M Miner Creek 92.12 338 IAmb IAmb 01 24 50.9
comp=Z,27nm,2.0s
I28M Miner Creek 92.12 338 P **P 01 24 38.5 +0.1**
baz=118
G29M Pine Creek 92.14 339 IAmb IAmb 01 24 38.6
comp=Z,11nm,0.9s
G29M Pine Creek 92.14 339 P **P 01 24 38.3 0.0**
baz=119
BOSA Bosnof 92.15 120 LR LR 02 01 56.8
comp=Z,88nm,21.9s,baz=242,slow=33
EGAK Eagle 92.28 337 IAmb IAmb 01 24 40.0
comp=Z,8.8nm,0.8s
EGAK Eagle 92.28 337 P **P 01 24 38.8 -0.1**
baz=117,SNR=6.2
K27K Chicken 92.30 336 P **P 01 24 40.0 +0.8**
baz=116
N25K Chitina, Valde 92.34 333 P **P 01 24 39.2 -0.3**
baz=114
L26K Log Cabin Wild 92.39 335 P **P 01 24 39.3 -0.3**
baz=115
EYAK Cordova Ski Ar 92.44 332 P **P 01 24 39.8 0.0**
baz=113
KEST Kesra 92.74 54 LR LR 02 03 13.2
comp=Z,62nm,21.9s,baz=324,slow=33
I27K Kandik River 92.82 337 P **P 01 24 41.5 0.0**
baz=116
E29M Blow River 92.83 341 IAmb IAmb 01 24 42.2
comp=Z,14nm,0.9s
E29M Blow River 92.83 341 P **P 01 24 41.3 -0.2**
baz=119
KLU Klutina 92.88 333 P **P 01 24 41.8 -0.2**
baz=112,SNR=14
HARP HAARP 92.90 334 P **P 01 24 42.0 0.0**
baz=113
SCRK Sand Creek 93.04 336 P **P 01 24 42.6 -0.1**
baz=114,SNR=6.2
H27K Steamboat Moun 93.06 338 P **P 01 24 42.8 +0.1**
baz=116
J26L Joseph Creek 93.09 336 P **P 01 24 43.0 +0.1**
J26L IAmb IAmb 01 24 44.0
comp=Z,11nm,0.8s
J26L Joseph Creek 93.09 336 P **P 01 24 42.7 -0.2**
baz=114,SNR=13
F28M Old Crow 93.11 340 P **P 01 24 42.4 -0.4**
baz=118,SNR=5.3
M24K Tolsona, Glenn 93.22 333 P **P 01 24 43.3 -0.3**
baz=112,SNR=8.4
PAX Paxson 93.25 334 P **P 01 24 43.6 0.0**
baz=113,SNR=8.8
I26K Coal Creek Min 93.27 337 IAmb IAmb 01 24 44.2
comp=Z,22nm,1.6s
I26K Coal Creek Min 93.27 337 P **P 01 24 43.1 -0.4**
baz=115
RIDG Independent Ri 93.30 335 P **P 01 24 43.9 +0.1**
baz=113
G27K Doyon Strip 93.36 339 P **P 01 24 43.6 -0.4**
baz=116
E28M Babbage River 93.46 341 P **P 01 24 43.9 -0.5**
baz=118
D28M Stokes Point 93.55 341 P **P 01 24 44.8 +0.1**
baz=119
SCM Sheep Creek Mo 93.63 333 P **P 01 24 45.2 -0.2**
baz=111
K24K Donnelly Dome 93.70 335 P **P 01 24 45.8 +0.1**
baz=112
MAW Mawson 93.72 165 LR LR 02 04 26.1
comp=Z,81nm,21.8s,baz=242,slow=34
M23K Glacier View 93.79 333 P **P 01 24 46.3 +0.2**
baz=111
J25K Salcha River, 93.85 336 IAmb IAmb 01 24 47.0
comp=Z,7.0nm,0.8s
J25K Salcha River, 93.85 336 P **P 01 24 46.2 -0.1**
baz=113,SNR=9.7
E27K Coleen River 93.95 340 P **P 01 24 46.9 +0.3**
baz=116
SML Sawmill 94.06 333 P **P 01 24 47.1 -0.3**
baz=110,SNR=8.6
WAT6 Susitna Watana 94.08 334 P **P 01 24 47.4 -0.2**
baz=111,SNR=8.7
DHY Denali Highway 94.10 334 P **P 01 24 47.2 -0.4**
baz=111
G26K Porcupine Rive 94.19 338 P **P 01 24 47.4 -0.3**
baz=114
D27M Malcolm River 94.21 341 IAmb IAmb 01 24 49.0
comp=Z,7.1nm,0.8s
D27M Malcolm River 94.21 341 P **P 01 24 48.3 +0.3**
baz=116
PRP Porcupine Dome 94.26 337 P **P 01 24 48.5 +0.1**
baz=113,SNR=7.0
GHO Glory Hole Cre 94.32 333 IAmb IAmb 01 24 48.8
comp=Z,10.0nm,0.8s
HDA Harding Lake 94.41 335 P **P 01 24 48.5 -0.3**
baz=112
RC01 Rabbit Creek A 94.45 332 IAmb IAmb 01 24 49.5
comp=Z,9.6nm,0.9s
RC01 Rabbit Creek A 94.45 332 P **P 01 24 48.9 -0.3**
baz=109
BRSE Bradley Lake S 94.49 330 P **P 01 24 49.5 +0.1**
baz=108
WAT1 Susitna Watana 94.52 334 P **P 01 24 49.0 -0.4**
baz=110
IL31 94.52 336 IAmb IAmb 01 24 50.8
comp=Z,31nm,1.9s
ILAR Eielson Array 94.52 336 P **P 01 24 47.9 -1.4**
ILAR Eielson Array 94.52 336 P **P 01 24 48.5 -0.9**
comp=Z,1.3nm,0.6s,baz=150,slow=2.4,SNR=32
comp=Z,1.3nm,0.6s
BRLK Bradley Lake 94.57 330 IAmb IAmb 01 24 50.2
comp=Z,16nm,0.9s
F26K Sheenjek River 94.62 339 P **P 01 24 50.1 +0.3**
baz=114
KDAK Kodiak Island 94.81 328 LR LR 02 07 11.1
comp=Z,92nm,18.8s,baz=84,slow=35
CCB Clear Creek Bu 94.84 336 IAmb IAmb 01 24 51.4
comp=Z,7.0nm,0.8s
RND Reindeer 94.84 334 IAmb IAmb 01 24 52.2
comp=Z,11nm,0.8s
POKR Poker Plat Res 94.86 336 IAmb IAmb 01 24 51.9
comp=Z,11nm,0.7s
POKR Poker Plat Res 94.86 336 P **P 01 24 50.8 -0.1**
baz=111,SNR=9.0
HOM Homer 94.90 330 P **P 01 24 51.2 +0.1**
baz=108
COLA College 94.94 336 P **P 01 24 51.9 +0.7**
COLA College 94.94 336 P **P 01 24 51.0 -0.2**
baz=111
G25K Bearman Lake 94.95 338 P **P 01 24 51.6 +0.4**
baz=112
MCK McKinley 94.99 335 P **P 01 24 51.3 -0.3**
baz=110
SUA Susitna One 95.04 332 IAmb IAmb 01 24 53.0
comp=Z,10nm,0.9s
SUA Susitna One 95.04 332 P **P 01 24 51.8 -0.1**
baz=108,SNR=5.2
F25K Christian Rive 95.10 339 P **P 01 24 52.5 +0.5**
baz=112
CUT Chulitna 95.12 333 P **P 01 24 52.7 +0.6**
baz=109
E25K Arctic Village 95.28 339 P **P 01 24 53.1 +0.3**
baz=112
H24K Noodor Dome 95.29 337 IAmb IAmb 01 24 53.4
comp=Z,6.1nm,0.8s
H24K Noodor Dome 95.29 337 P **P 01 24 53.1 +0.2**
baz=110
NEA2 Nenana 95.33 335 IAmb IAmb 01 24 53.7
comp=Z,8.7nm,0.7s
NEA2 Nenana 95.33 335 P **P 01 24 52.8 -0.3**
baz=110,SNR=6.3
G24K Hadweenzic Riv 95.44 338 P **P 01 24 53.8 +0.2**
G24K IAmb IAmb 01 24 54.5
comp=Z,5.1nm,0.8s
G24K Hadweenzic Riv 95.44 338 P **P 01 24 53.7 +0.2**
baz=111
TRF Thorofare Moun 95.47 334 IAmb IAmb 01 24 54.9
comp=Z,7.6nm,0.7s
TRF Thorofare Moun 95.47 334 P **P 01 24 53.4 -0.5**
baz=109,SNR=6.5
O20K Slope Mountain 95.50 330 P **P 01 24 54.0 0.0**
baz=107
SKT Skwentna 95.55 332 IAmb IAmb 01 24 54.8
comp=Z,14nm,0.9s
SKT Skwentna 95.55 332 P **P 01 24 53.9 -0.2**
baz=108,SNR=7.2
N20K Mount Spurr 95.63 332 P **P 01 24 54.0 -0.5**
baz=107
I23K Minto, Yukon-K 95.63 336 IAmb IAmb 01 24 54.5
comp=Z,6.4nm,0.8s
I23K Minto, Yukon-K 95.63 336 P **P 01 24 54.5 +0.2**
baz=109,SNR=5.9
DAVOX Davos/Dischmat 95.74 43 LR LR 02 08 04.7
comp=Z,135nm,18.0s,baz=259,slow=35
C26K Camden Bay 95.75 341 P **P 01 24 55.0 +0.2**
baz=113
URZ Urewera 95.81 229 LR LR 01 59 01.6
comp=Z,123nm,20.8s,baz=120,slow=30
F24K Squaw Lake 95.88 338 P **P 01 24 56.1 +0.6**
baz=110
BPAW Bear Paw Mtn. 95.97 335 P **P 01 24 55.6 -0.4**
baz=108,SNR=7.1
D25K Kavik River 96.00 340 P **P 01 24 56.0 -0.1**
baz=112
PPLA Purkeypile 96.12 333 P **P 01 24 56.6 -0.3**
baz=107
MLY Manley 96.15 336 IAmb IAmb 01 24 57.2
comp=Z,4.6nm,0.8s
MLY Manley 96.15 336 P **P 01 24 56.6 -0.2**
baz=108,SNR=7.0
CAST Castle Rocks 96.23 334 IAmb IAmb 01 24 57.4
comp=Z,11nm,0.8s
CAST Castle Rocks 96.23 334 P **P 01 24 56.4 -0.8**
baz=107,SNR=14
M20K Styx River 96.25 332 P **P 01 24 56.5 -0.9**
baz=106
E24K Your Creek 96.28 339 P **P 01 24 57.4 0.0**
baz=110
FETA Feichten 96.36 43 *e*P **P 01 24 59.8 +1.4**
comp=Z,9.1nm,1.5s
G23K Bananza Creek 96.40 337 IAmb IAmb 01 24 58.8
comp=Z,4.8nm,0.8s
G23K Bananza Creek 96.40 337 P **P 01 24 58.2 +0.3**
baz=108
CHUM Lake Minchumin 96.46 334 P **P 01 24 57.2 -1.0**
baz=107
COLD Coldfoot 96.63 338 P **P 01 24 58.6 -0.3**
baz=108
MOTA Moosalm 96.68 43 *i* P **P 01 25 00.3 +0.5**
comp=Z,3.1nm,0.8s
O18K Koktuh Hills 96.69 330 P **P 01 24 58.5 -0.8**
baz=105
SQTA Sankt Quirin 96.73 43 *e*P **P 01 25 00.5 +0.5**
comp=Z,10nm,1.1s
L20K Farewell, AK 96.75 333 P **P 01 24 58.7 -0.9**
baz=106
C24K Franklin Bluff 96.91 340 P **P 01 24 59.8 -0.2**
baz=109
WATA Walderalm 96.99 43 *i* P **P 01 25 02.1 +0.9**
comp=Z,6.9nm,1.0s
WTTA Wattenberg 97.02 43 *i* P Pdif 01 25 02.0 +0.6
comp=Z,7.6nm,1.0s
G22K Bettles 97.02 337 P **P 01 25 00.3 -0.3**
baz=107
K20K Telida 97.07 333 P **P 01 24 59.9 -1.1**
baz=105
Q16K King Salmon 97.12 329 P **P 01 25 01.0 -0.2**
baz=104
N18K Kilae Creek 97.22 331 P **P 01 25 01.5 -0.2**
baz=104
J20K Nowinta River 97.31 334 P **P 01 25 01.8 -0.2**
baz=105
F22K John River 97.44 338 P **P 01 25 02.4 -0.2**
baz=106
ABTA Abfaltersbach 97.50 44 *i* P Pdif 01 25 04.2 +0.7
comp=Z,10nm,1.3s
C23K Itkillik River 97.58 340 P Pdif 01 25 03.2 +0.1
baz=108
INTR Introdacqua 97.58 49 P **P 01 25 02.2 -1.7**
O17K Koliganek Bris 97.59 330 P **P 01 25 03.1 -0.2**
baz=103
G21K Allakaket 97.67 337 P **P 01 25 03.5 -0.1**
baz=105
RPZ Rata Peaks 97.77 222 LR LR 01 59 33.1
comp=Z,90nm,21.6s,baz=120,slow=29
F21K Alatna River 97.85 337 P Pdif 01 25 04.6 +0.1
baz=105
J19K Poorman 97.90 334 P Pdif 01 25 04.9 +0.1
baz=104
H20K Anotleneega Mo 97.95 335 P Pdif 01 25 05.0 +0.1
baz=104
L18K Granite Mounta 97.96 332 P **P 01 25 04.4 -0.5**
baz=103
D22K Ayikyak River 98.00 339 P Pdif 01 25 05.1 0.0
baz=106
O16K Kokwok River B 98.05 329 P **P 01 25 05.2 -0.3**
baz=102
M17K Holitna River 98.12 331 P **P 01 25 05.3 -0.5**
baz=103
KBA Koelnbreinsper 98.13 44 *i* Pdiff Pdif 01 25 08.1 +1.7
comp=Z,9.0nm,1.3s
J18K Innoko River 98.25 333 P **P 01 25 06.3 0.0**
baz=103
LSZ Lusaka 98.49 108 LR LR 02 07 35.0
comp=Z,81nm,20.8s,baz=270,slow=34

H19K	**Roundabout Mou**	**98.60**	**335**	P	Pdif	01 25 08.2	+0.4
	baz=103							
B22K	**Teshekpuk Lake**	**98.64**	**340**	IAmb	IAmb	01 25 08.3		
	comp=Z,8.9nm,0.9s							
B22K	**Teshekpuk Lake**	**98.64**	**340**	P	Pdif	01 25 08.0	+0.1	
	baz=105							
F20K	**Avaraart Lake**	**98.66**	**337**	P	Pdif	01 25 08.0	0.0	
	baz=103							
GERES	**GERESS Array B**	**98.68**	**42**	P	Pdif	01 25 09.4	+0.7	
	comp=Z,1.8nm,0.8s,baz=222,slow=1.8,SNR=7.4							
	comp=Z,1.8nm,0.8s							
M16K	**Timber Creek**	**98.76**	**331**	P	Pdif	01 25 08.7	0.0	
	baz=101							
K17K	**Iditarod**	**98.79**	**332**	P	Pdif	01 25 09.0	+0.3	
	baz=102							
C21K	**Knifeblade Rid**	**98.81**	**339**	P	**P**	**01 25 08.4**	**-0.2**	
	baz=104							
B21K	**Ikpikpuk River**	**98.86**	**340**	P	Pdif	01 25 08.9	+0.1	
	baz=104							
G19K	**Purcell Mounta**	**98.99**	**336**	P	Pdif	01 25 09.6	0.0	
	baz=102							
E20K	**Nigu River**	**99.10**	**338**	P	P	01 25 10.3		
	baz=103							
L16K	**Owhat River**	**99.14**	**331**	P	P	01 25 10.9		
	baz=101							
N15K	**Kwethluk River**	**99.15**	**330**	P	P	01 25 10.8		
	baz=100							
H18K	**Honhosa River**	**99.30**	**335**	P	**Pdif**	**01 25 11.6**	**+0.7**	
	baz=101							
A22K	**Sinclair Lake**	**99.31**	**341**	P	**Pdif**	**01 25 10.5**	**-0.2**	
	baz=103							
E19K	**Redstone River**	**99.32**	**337**	P	**Pdif**	**01 25 10.7**	**-0.3**	
	baz=102							
D20K	**Etivluk River**	**99.35**	**338**	P	**Pdif**	**01 25 11.5**	**+0.4**	
	baz=102							
F19K	**Shaleruckik Mo**	**99.40**	**337**	P	**Pdif**	**01 25 11.7**	**+0.4**	
	baz=102							
NOA	**NORSAR Array B**	**99.41**	**29**	LR	LR	02 08 12.6		
	comp=Z,42nm,19.5s,baz=220,slow=34							
G18K	**Tagagawik**	**99.56**	**336**	P	**Pdif**	**01 25 13.0**	**+0.9**	
	baz=101							
B20K	**Meade River**	**99.81**	**340**	P	**Pdif**	**01 25 13.6**	**+0.5**	
	baz=102							
N14K	**Kuskokwak Cree**	**99.90**	**329**	P	**Pdif**	**01 25 14.1**	**+0.5**	
	baz=99							
H17K	**Granite Mounta**	**99.91**	**334**	P	**Pdif**	**01 25 14.5**	**+0.9**	
	baz=100							
J16K	**Anvik River**	**99.93**	**333**	P	**Pdif**	**01 25 14.9**	**+1.1**	
	baz=100							
L15K	**Ungalak Mounta**	**100.08**	**331**	P	**Pdif**	**01 25 15.3**	**+0.8**	
	baz=99							
M14K	**Bethel**	**100.16**	**330**	P	**Pdif**	**01 25 15.3**	**+0.5**	
	baz=99							
K15K	**Wolf Creek Mou**	**100.19**	**332**	P	**Pdif**	**01 25 15.6**	**+0.6**	
	baz=99							
G17K	**Kiwalik Mounta**	**100.31**	**335**	P	**Pdif**	**01 25 15.5**	**+0.1**	
	baz=99							
E18K	**Tukpahlearik C**	**100.59**	**337**	P	**Pdif**	**01 25 17.1**	**+0.5**	
	baz=99							
E17K	**Hotham Inlet**	**101.01**	**337**	P	**Pdif**	**01 25 19.3**	**+0.8**	
	baz=98							
C17K	**DeLong Mountai**	**101.69**	**338**	P	**Pdif**	**01 25 22.3**	**+0.8**	
	baz=96							
F15K	**North Star Dit**	**101.98**	**335**	P	**Pdif**	**01 25 23.5**	**+0.6**	
	baz=96							
ANM	**Nome**	**102.19**	**334**	P	**Pdif**	**01 25 23.9**	**+0.1**	
	baz=95							
FINES	**FINESS Array B**	**106.59**	**30**	PKKPbc	PKKPbc	01 41 13.2	-2.5	
	comp=Z,2.2nm,0.9s,baz=82,slow=4.0,SNR=5.1							
KBZ	**Khabaz**	**118.81**	**47**	PKP	**PKiKP**	**01 30 18.1**	**+0.7**	
	comp=Z,3.5nm,0.8s,baz=167,slow=5.1,SNR=4.6							
SEY	**Seymchan**	**120.42**	**337**	PKP	**PKiKP**	**01 30 20.1**	**+0.1**	
	comp=Z,0.6nm,0.3s,baz=89,slow=6.9,SNR=5.1							
STKA	**Stephens Creek**	**123.34**	**217**	PKP	**PKPdf**	**01 30 25.7**	**-0.9**	
	comp=Z,2.1nm,0.8s,baz=170,slow=14,SNR=3.6							
ABKAR	**Akbulak array**	**128.23**	**37**	PKPdf	**PKiKP**	**01 30 36.2**	**+0.3**	
BRVK	**Borovoye**	**131.43**	**28**	PKPdf	**PKPdf**	**01 30 41.7**	**+0.4**	
BVAR	**Borovoye Array**	**131.50**	**28**	PKP	**PKPdf**	**01 30 41.3**	**-0.1**	
	comp=Z,2.8nm,0.8s,baz=318,slow=2.0,SNR=12							
AS31	**Alice Springs**	**133.98**	**217**		**PKPdf**	**01 30 46.9**	**-0.1**	
ASAR	**Alice Springs**	**133.98**	**217**	PKPdf	**PKPdf**	**01 30 46.5**	**-0.6**	
ASAR	**Alice Springs**	**133.98**	**217**	PKP	**PKPdf**	**01 30 46.9**	**-0.2**	
	comp=Z,2.6nm,0.7s,baz=135,slow=2.1,SNR=19							
ZAA0	**Zalesovo Array**	**136.22**	**18**	PKPdf	**PKiKP**	**01 30 51.2**	**-0.7**	
ZALV	**Zalesovo Beam**	**136.22**	**18**	PKP	**PKPdf**	**01 30 50.2**	**0.0**	
	comp=Z,5.6nm,0.7s,baz=320,slow=1.0,SNR=9.5							
ZALV				pPKP	**pPKPdf**	**01 31 17.9**	**+0.8**	
	comp=Z,2.6nm,0.8s,baz=303,slow=2.4,SNR=3.1							
WB2	**Warramunga Arr**	**136.47**	**221**	PKPdf	**PKPdf**	**01 30 51.3**	**-0.4**	
KURK	**Kurchatov**	**136.71**	**25**	PKPdf	**PKiKP**	**01 30 52.6**	**-0.4**	
KURBB	**Kurchatov Arra**	**136.74**	**25**	PKP	**PKiKP**	**01 30 52.2**	**-0.8**	
	comp=Z,2.7nm,0.8s,baz=310,slow=2.6,SNR=14							
KURBB				pPKP	**pPKPdf**	**01 31 18.9**	**+1.1**	
	comp=Z,1.3nm,1.0s,baz=316,slow=2.4,SNR=2.0							
SIMJ	**Simiganj**	**139.00**	**45**	PKPdf	**PKPdf**	**01 30 56.5**	**+0.5**	
ARSB	**Arslanbob**	**140.20**	**39**	PKPdf	**PKPdf**	**01 30 58.9**	**+0.8**	
AAK	**Ala-Archa**	**140.32**	**36**	PKPdf	**PKPdf**	**01 30 59.1**	**+0.8**	
MAKZ	**Makanchi**	**141.14**	**26**		**PKPdf**	**01 30 57.1**	**-2.3**	
MDJ	**Mudanjiang**	**142.54**	**331**	PKP	**PKPdf**	**01 31 02.4**	**+0.4**	
MJAR	**Matsushiro Arr**	**142.59**	**314**	PKhKP	PKPpre	01 30 57.5		
	comp=Z,6.9nm,0.8s,baz=58,slow=1.0,SNR=16							
BNX	**BinXian**	**142.64**	**334**	⇑PKP	**PKPdf**	**01 30 57.6**	**-4.5**	
KSH	**Kashi**	**143.11**	**39**	PKP	PKPbc	01 31 01.8	+1.3	
KSH				pPKP	pPKPdf	01 31 27.4	-2.6	
NIL	**Nilore**	**144.36**	**50**		PKPbc	01 31 04.5	+0.3	
ULN	**Ulaanbaatar**	**145.44**	**358**	PKPbc	**PKPab**	**01 31 08.0**	**+0.5**	
SONM	**Songino Array**	**145.48**	**359**	PKPbc	**PKPab**	**01 31 08.0**	**+0.9**	
SONM	**Songino Array**	**145.48**	**359**	PKPbc	**PKPab**	**01 31 08.3**	**+0.6**	
	comp=Z,21nm,0.7s,baz=326,slow=2.4,SNR=147							
SONM				pPKPbc	**pPKPdf**	**01 31 35.0**	**+0.9**	
	comp=Z,13nm,0.8s,baz=321,slow=2.0,SNR=8.0							
WMQ	**Urumqi**	**145.90**	**23**	ePKPbc	**PKPab**	**01 31 09.4**	**+0.1**	
JMN	**Monobe**	**147.07**	**313**	PKPbc	**PKPbc**	**01 31 11.6**	**-0.9**	
XLT	**XiLinHaoTe**	**148.09**	**345**	ePKPbc	**PKPbc**	**01 31 15.0**	**0.0**	
KS19	**Wonju Array Si**	**148.62**	**324**	PKPbc	**PKPbc**	**01 31 16.9**	**+0.5**	
KSRS	**Korea Array**	**148.62**	**324**	PKP	**PKPdf**	**01 31 12.9**	**+0.3**	
	comp=Z,10nm,1.0s,baz=353,slow=1.7,SNR=20							
KSRS				PKPbc	**PKiKP**	**01 31 17.4**	**-0.4**	
	comp=Z,5.9nm,0.8s,baz=42,slow=1.6,SNR=14							
KSRS				pPKPbc	**pPKPbc**	**01 31 43.8**	**+0.7**	
	comp=Z,3.5nm,0.8s,baz=51,slow=1.6,SNR=2.5							
KSAR	**Wonju Array Be**	**148.66**	**324**	PKPdf	**PKPdf**	**01 31 12.2**	**-0.5**	
SOEI	**Soe**	**150.51**	**220**	PKPbc	**PKPbc**	**01 31 21.5**	**-0.3**	
BJI	**Beijing**	**151.67**	**342**	PKPbc	**PKPbc**	**01 31 22.3**	**-1.3**	
BJT	**Baijiatuau**	**151.69**	**342**		**PKPbc**	**01 31 22.1**	**-1.6**	
HHC	**Hu-ho-hao-te**	**151.96**	**350**	ePKPbc	**PKPdf**	**01 31 19.4**	**+1.5**	
BTO	**Baotou**	**152.43**	**352**	ePKPbc	**PKPdf**	**01 31 15.5**	**-3.1**	
BTO				pPKP	**pPKPdf**	**01 31 43.8**	**-1.7**	
BTO				sP	**pPKPbc**	**01 31 52.9**	**+0.6**	
BTO				SKS	**SKSdf**	**01 38 16.3**	**-1.6**	
BTO				LR	LR			
	comp=Z,170nm,5.0s							
GTA	**Gaotai**	**153.44**	**10**	PKPbc	**PKPdf**	**01 31 21.3**	**+1.2**	
GTA				pPKP	PKPab	01 31 38.9	-1.3	
NJ2	**Nanjing**	**157.59**	**329**	ePKP	**PKPdf**	**01 31 26.8**	**+1.1**	
XAN	**Xi'an**	**159.04**	**352**	PKP	**PKPdf**	**01 31 28.0**	**+0.5**	
CD2	**Chengdu**	**162.32**	**5**	PKP	**PKPdf**	**01 31 30.8**	**-0.4**	
PZH	**PanZhiHua**	**166.33**	**14**	PKP	**PKPdf**	**01 31 34.8**	**-0.2**	
CMAR	**Chiang Mai Arr**	**171.85**	**49**	PKP	**PKPdf**	**01 31 38.6**	**+0.2**	
	comp=Z,0.7nm,0.3s,baz=295,slow=2.5,SNR=5.7							

*IDC **19** 01:23:05.8±1.5,54.°26N×168.°89E,h0km,mb3.6/6, mbtmp3.6/8,ML3.5/2,MS3.4/7,Error ellipse: s-maj=40.1km s-min=19.6km az=10.0*

*KRSC **19** 01:23:10.2±1.4,54.°05N×168.°33E,h30km±21km,Ml4.0*

ISC 19 01:23:07.0±0.8,**54.°16N**±0.°09×**168.°82E**±0.°05,**h10**km,**n37, σ2s03**/33,**mb3.8**/6,**MS4.0**/4,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.96**	**304**	*eP*	**Pn**	**01 23 39.2**	**-1.0**
BKI				*eS*	**Sn**	**01 24 03.5**	**-1.4**
SHEM	**Shemya Is, Ala**	**3.47**	**112**	Pn	**Pn**	**01 24 00.5**	**-0.5**
	21nm,0.3s,baz=299,slow=19,SNR=4.5						
SHEM				Sn	**Sn**	**01 24 42.0**	**0.0**
	19nm,0.3s,baz=249,slow=19,SNR=6.4						
SHEM				LR	LR	01 25 21.6	
	comp=Z,75nm,18.3s,baz=278,slow=39						
	66nm,0.4s						
SMKR	**Semkarok**	**4.84**	**303**	*eP*	**Pn**	**01 24 23.1**	**+3.1**
TUMD	**Tumrok D**	**5.00**	**285**	*eS*	**Sn**	**01 25 19.7**	**-0.1**
TUMR	**Tumrok**	**5.15**	**286**	*eP*	**Pn**	**01 24 27.8**	**+3.5**
KMNR	**Kamenistaya**	**5.20**	**291**	*eP*	**Pn**	**01 24 26.9**	**+2.0**
KMNR				*eS*	**Sn**	**01 25 24.1**	**-0.8**
SPN	**Mys Shipunski**	**5.34**	**262**	*eP*	**Pn**	**01 24 27.7**	**+0.9**
SPN				*eS*	**Sn**	**01 25 25.3**	**-3.0**
UGLR	**Uglovaya**	**6.02**	**265**	*eP*	**Pn**	**01 24 38.3**	**+2.1**
SMAR	**Somma**	**6.02**	**265**	*eP*	**Pn**	**01 24 37.6**	**+1.4**
AVH	**Avacha**	**6.05**	**266**	*eP*	**Pn**	**01 24 38.2**	**+1.6**
KRX	**Arik**	**6.09**	**267**	*eP*	**Pn**	**01 24 39.1**	**+1.9**
KOK	**Koryaka**	**6.11**	**266**	*eP*	**Pn**	**01 24 39.3**	**+1.9**
RUS	**Russkaya**	**6.42**	**259**	*eP*	**Pn**	**01 24 43.7**	**+2.2**
GNL	**Ganaly**	**6.44**	**270**	*eP*	**Pn**	**01 24 44.7**	**+2.7**
KRMR	**Karymshinskiy**	**6.52**	**263**	*eP*	**Pn**	**01 24 45.4**	**+2.5**
KRMR				*eS*	**Sn**	**01 25 54.1**	**-3.1**
MTVR	**Mutnovka**	**6.59**	**260**	*eP*	**Pn**	**01 24 46.3**	**+2.3**
GRL	**Gorelyy**	**6.63**	**260**	*eP*	**Pn**	**01 24 46.2**	**+1.6**
PETK	**Petropavlovsk-**	**6.70**	**265**	Pn	**Pn**	**01 24 47.7**	**+2.3**
	0.9nm,0.3s,baz=76,slow=18,SNR=7.6						
PETK				Sn	**Sn**	**01 26 04.8**	**+3.1**
	0.7nm,0.3s,baz=88,slow=18,SNR=1.7						
PETK				LR	LR	01 27 27.9	
	comp=Z,47nm,21.0s,baz=77,slow=39						
	1.3nm,0.4s						
ASAK	**Asacha**	**6.79**	**259**	*eP*	**Pn**	**01 24 49.2**	**+2.5**
KDTR	**Khodutka, Kamc**	**6.90**	**254**	*eP*	**Pn**	**01 24 49.1**	**+1.0**
KDTR				*eS*	**Sn**	**01 26 04.3**	**-2.3**
ASAJ	**Asahikawa**	**19.77**	**250**	LR	LR	01 35 41.4	
	comp=Z,66nm,20.2s,baz=226,slow=38						
ILAR	**Eielson Array**	**24.34**	**47**	P	**P**	**01 28 23.9**	**-0.7**
	0.3nm,0.6s,baz=257,slow=7.7,SNR=5.8						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**34.40**	**183**	T	T	02 06 21.1	
	baz=2.4,slow=76,SNR=466						
H11N3	**WAKE ISLAND Hy**	**34.41**	**183**	T	T	02 06 22.0	
	baz=2.4,slow=76,SNR=550						
H11N1	**WAKE ISLAND Hy**	**34.42**	**183**	T	T	02 06 22.4	
	baz=2.4,slow=76,SNR=297						
H11S1	**WAKE ISLAND Hy**	**35.62**	**183**	T	T	02 07 52.8	
	baz=2.7,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**35.63**	**183**	T	T	02 07 53.8	
	baz=2.7,slow=76,SNR=68						
H11S2	**WAKE ISLAND Hy**	**35.64**	**183**	T	T	02 07 54.1	
	baz=2.7,slow=76,SNR=148						
YKA	**Yellowknife Ar**	**38.77**	**46**	P	**P**	**01 30 32.3**	**+1.2**
	0.1nm,0.6s,baz=295,slow=8.7,SNR=2.2						
	0.1nm,0.6s						
BVAR	**Borovoye Array**	**53.67**	**312**	P	**P**	**01 32 28.1**	**-0.3**
	0.5nm,0.5s,baz=46,slow=8.8,SNR=2.7						
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**53.76**	**345**	P	**P**	**01 32 28.2**	**-0.7**
	4.4nm,1.0s,baz=24,slow=9.2,SNR=1.8						
	4.4nm,1.0s						
NOA	**NORSAR Array B**	**63.78**	**348**	P	**P**	**01 33 37.3**	**-1.3**
	1.0nm,0.9s,baz=17,slow=6.7,SNR=2.3						
	1.0nm,0.9s						
TXAR	**Lajitas Array**	**65.39**	**74**	P	**P**	**01 33 49.8**	**+0.1**
	0.4nm,0.6s,baz=305,slow=5.8,SNR=6.1						
	0.4nm,0.6s						
VRAC	**Vranov**	**74.28**	**342**	LR	LR	02 11 22.4	
	comp=Z,78nm,18.1s,baz=280,slow=39						
GERES	**GERESS Array B**	**75.24**	**343**	LR	LR	02 11 59.5	
	comp=Z,62nm,18.3s,baz=274,slow=39						
MLR	**Muntele Rosu**	**75.82**	**334**	LR	LR	02 10 29.4	
	comp=Z,147nm,18.3s,baz=274,slow=38						
EIL	**Elat**	**87.50**	**321**	LR	LR	02 22 11.8	
	comp=Z,46nm,20.4s,baz=248,slow=40						

*NEIC **19** 01:35:35.4±1.9,34.°96N×0.°01×97.°65W×0.°02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.8km az=141.0*

TUL 19 01:35:36±1.8,**34.°96N**±0.°01×**97.°66W**±0.°02,**h7**km±4km, **ML2.6,mb_Lg2.3**/19(NEIC),**ML2.0**/16(NEIC),**Error ellipse: s-maj=2.3km s-min=0.8km az=127.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNO	**Franklin**	**0.36**	**36**	Pg	Pg	01 35 42.9	-0.1
FNO				Sg	Sg	01 35 47.8	-0.1
FNO				IAML		01 35 52.4	
	comp=E,122nm,0.4s						
FNO				IAML		01 35 55.9	
	comp=N,114nm,0.7s						
X34A	**Smith Ranch, M**	**0.39**	**202**	Pg	Pg	01 35 43.8	+0.2
X34A				Sg	Sb	01 35 50.6	-0.9
OK029	**Liberty Lake**	**0.85**	**11**	Pg	Pg	01 35 52.3	0.0
OK029				Sg	Sg	01 36 03.7	+0.4
OK029				IAML		01 36 07.5	
	comp=N,64nm,0.5s						
OK029				IAML		01 36 10.1	
	comp=N,54nm,0.5s						
WMOK	**Wichita Mounta**	**0.95**	**257**	Pg	Pg	01 35 52.9	-1.4
WMOK				Sg	Sg	01 36 06.5	-0.1
LOOK	**Love County**	**1.05**	**158**	Pg	Pg	01 35 55.7	-0.4
LOOK				Sg	Sb	01 36 10.5	+0.1
CSTR	**Hydro, Custer**	**1.08**	**309**	Pg	Pg	01 35 56.5	-0.3
OK022	**Battle Ridge R**	**1.24**	**34**		Pb	01 35 59.6	-1.2
DEOK	**Depew**	**1.29**	**47**		Pb	01 35 59.8	-0.7
WTFS	**Witchita Falls**	**1.37**	**209**		Pn	01 36 00.4	-1.1
QUOK	**Quay**	**1.43**	**32**		Pn	01 36 01.9	-0.5
CROK	**Carrier**	**1.56**	**350**		Pn	01 36 04.4	+0.2
OK048	**Pawnee Station**	**1.56**	**22**		Pn	01 36 04.2	0.0
OK048				IAmb_Lg		01 36 27.0	
	comp=Z,14nm,1.1s						
OK038	**West end E0370**	**1.75**	**330**	Pn	Pn	01 36 06.8	0.0
U32A	**Winter Ranch,**	**1.79**	**323**	Pn	Pn	01 36 07.2	-0.2
TUL3	**Leonard**	**1.79**	**58**		Pn	01 36 07.2	-0.2
BLOK	**Blackwell**	**1.83**	**11**	Pn	Pn	01 36 07.9	0.0
OK032	**Salt Plains WL**	**1.89**	**346**	IAmb_Lg		01 36 38.9	
	comp=Z,24nm,0.9s						
GC02	**Grant County #**	**1.89**	**355**	Pn	Pn	01 36 08.9	+0.2
KAN13	**South Haven SW**	**2.05**	**4**	IAmb_Lg		01 36 40.4	
	comp=Z,14nm,0.9s						
KAN17	**Caldwell West**	**2.08**	**358**	IAmb_Lg		01 36 43.0	
	comp=Z,19nm,0.8s						
T35A	**Sooner Cattle**	**2.16**	**25**	Pn	Pn	01 36 12.5	+0.1
T35A				IAmb_Lg		01 36 46.0	
	comp=Z,14nm,0.9s						
PLPT	**Palo Pinto**	**2.21**	**194**		Pn	01 36 12.8	-0.4
FW07	**Weatherford**	**2.26**	**183**	IAmb_Lg		01 36 49.6	
	comp=Z,12nm,0.7s						
WHTX	**Lake Whitney,**	**2.97**	**177**	IAmb_Lg		01 37 16.4	
	comp=Z,8.2nm,0.7s						
HHAR	**Hobbs**	**3.30**	**65**		Pn	01 36 28.0	-0.1
HHAR				IAmb_Lg		01 37 27.1	
	comp=Z,7.6nm,1.0s						
AMTX	**Amarillo**	**3.31**	**270**	IAmb_Lg		01 37 25.2	
	comp=Z,7.2nm,0.9s						
BRDY	**Brady**	**3.84**	**197**	Pn	Pn	01 36 35.2	-0.3
WHAR	**Wooly Hollow**	**4.41**	**84**	IAmb_Lg		01 37 58.2	
	comp=Z,7.7nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.61**	**77**	IAmb_Lg		01 38 03.6	
	comp=Z,6.3nm,0.8s						

*ATH **19** 01:39:05.7,38.°87N×26.°83E,h8km±2km,ML2.5/4,Manual Solution by N.Liadopoulou This location: 2020/05/07 15:06:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

*ISK **19** 01:39:06.0,38.°90N×26.°76E,h8km,ML2.1/17*

*AFAD **19** 01:39:06.3±0.0,38.°90N×26.°76E,h7km±2km,ML1.9*

ISC 19 01:39:05.7±0.8,**38.°90N**±0.°02×**26.°77E**±0.°02,**h16**km±5km, **n33,σ0s80**/50,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAND	**Candarli**	**0.06**	**30**	Pg	**Pg**	**01 39 08.3**	**-0.5**
CAND				Sg	**Sg**	**01 39 10.1**	**-0.7**
RFT7	**Candarli**	**0.13**	**66**	Pg	**Pg**	**01 39 09.7**	**+0.2**
RFT7				Sg	**Sg**	**01 39 11.9**	**-0.1**
FOCM	**Foa**	**0.19**	**188**	Pg	**Pb**	**01 39 09.5**	**-1.4**
FOCM				Sg	**Sg**	**01 39 13.7**	**+0.3**
DKL	**Dikili**	**0.20**	**33**	Pg	**Pg**	**01 39 10.9**	**+0.4**
DKL				Sg	**Sb**	**01 39 13.9**	**-0.6**
EAG3	**Mitilini, Lesv**	**0.24**	**320**	P	**Pb**	**01 39 11.6**	**-0.1**
EAG3				S	**Sg**	**01 39 16.1**	**+1.4**
ZEDA	**zmir-Bergama**	**0.25**	**76**	P	**Pb**	**01 39 11.7**	**-0.2**
ZEDA				S	**Sg**	**01 39 15.4**	**+0.3**
ZEDA				*i* AML	AML	01 39 16.0	
	comp=Z,196nm,0.4s						
ZEDA				*i* AML	AML	01 39 16.0	
	comp=N,315nm,0.1s						
ZEDA				*i* AML	AML	01 39 16.0	
	comp=E,320nm,0.3s						
KARB	**zmir-Karabur**	**0.37**	**229**	P	**Pb**	**01 39 14.1**	**+0.3**
KARB				S	**Sb**	**01 39 19.6**	**+0.3**
AYVA	**Ayvalik**	**0.41**	**352**	P	**Pb**	**01 39 14.3**	**-0.2**
AYVA				S	**Sb**	**01 39 20.5**	**0.0**
AYVA				*i* AML	AML	01 39 22.0	
	comp=N,97nm,0.6s						
PRK	**Paraskevi**	**0.51**	**312**	P	**Pb**	**01 39 16.1**	**-0.3**
PRK				S	**Sb**	**01 39 24.3**	**+0.7**
BLCB	**Balcova**	**0.56**	**157**	Pg	**Pb**	**01 39 17.2**	**0.0**
BLCB				Sg	**Sb**	**01 39 25.3**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**0.69**	**197**	P	**Pg**	**01 39 19.5**	**+0.2**
ZEYE				S	**Sn**	**01 39 30.4**	**-0.9**
ZEYE				*i* AML	AML	01 39 33.0	
	comp=N,58nm,0.4s						
ZEYE				*i* AML	AML	01 39 34.0	
	comp=Z,57nm,0.2s						
GPNR	**Gulpinar-Canak**	**0.74**	**318**	Pg	**Pn**	**01 39 20.9**	**-0.6**
GPNR				Sg	**Sn**	**01 39 31.5**	**-0.9**
CHOS	**Chios island**	**0.76**	**227**	P	**Pn**	**01 39 20.9**	**-0.9**
CHOS				S	**Sn**	**01 39 31.3**	**-1.8**
SIGR	**SIGRI**	**0.77**	**294**	P	**Pn**	**01 39 23.1**	**+1.1**
SIGR				S	**Sn**	**01 39 33.6**	**+0.4**
AKHS	**Akhisar**	**0.82**	**91**	P	**Pg**	**01 39 21.9**	**+0.2**
AKHS				S	**Sn**	**01 39 33.7**	**-0.7**
AKHS				*i* AML	AML	01 39 36.0	
	comp=E,33nm,0.9s						
MYT1	**Mytilini**	**0.83**	**191**	P	Pb	01 39 11.5	-10
MYT1				S	Sb	01 39 15.5	-17
DGB	**zmir**	**0.86**	**174**	P	**Pn**	**01 39 26.0**	**+2.9**
DGB				S	**Sn**	**01 39 36.2**	**+1.0**
DGB				*i* AML	AML	01 39 40.0	
	comp=Z,37nm,1.5s						
CANM	**Can-anakkale**	**1.13**	**11**	Pn	**Pg**	**01 39 28.1**	**+0.6**
BALB	**Balikesir**	**1.14**	**49**	Pn	**Pg**	**01 39 28.2**	**+0.5**
SMG	**Samos**	**1.20**	**177**	P	**Pn**	**01 39 27.4**	**-0.4**
SMG				S	**Sg**	**01 39 44.0**	**-0.4**
COMU	**Canakkale**	**1.22**	**349**	Pn	**Pg**	**01 39 29.7**	**+0.5**
GCAM	**G?zlcaml?**	**1.26**	**163**	Pn	**Pg**	**01 39 30.6**	**+0.6**
GONE	**Gonen-Balikesi**	**1.34**	**32**	Pn	**Pg**	**01 39 31.8**	**+0.2**
LPK	**Lapseki**	**1.47**	**360**	Pn	**Pg**	**01 39 33.5**	**-0.5**
KULA	**Kula-Manisa**	**1.53**	**104**	Pn	**Pg**	**01 39 34.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.54**	**15**	Pn	**Pb**	**01 39 34.6**	**+0.7**
LIA	**Limnos Island**	**1.58**	**309**	P	**Pb**	**01 39 34.6**	**+0.1**
LIA				S	**Sg**	**01 39 55.6**	**-0.9**
EDC	**Edincik**	**1.67**	**30**	Pn	**Pb**	**01 39 36.4**	**+0.3**
SIMA	**Simav-Kutahya**	**1.74**	**83**	Pn	**Pb**	**01 39 37.3**	**0.0**
SMTH	**Samothraki Isl**	**1.83**	**329**	P	**Pb**	**01 39 38.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.83**	**42**	Pn	**Pb**	**01 39 38.7**	**-0.2**
ALN	**Alexandroupoli**	**2.07**	**345**	P	**Pb**	**01 39 42.1**	**-0.7**
TVSB	**Tavsanli**	**2.17**	**75**	Pn	**Pb**	**01 39 43.4**	**-1.2**

*TAP **19** 02:00:40.7,24.°88N×122.°64E,h15km±1km,ML3.0,D*

*JMA **19** 02:00:41.2±0.1,25.°N±1.°×122.°7E±0.°5,h37km±1km, MV2.5/12,NW OFF ISHIGAKIJIMA IS*

ISC 19 02:00:39.2±1.1,**24.°91N**±0.°05×**122.°69E**±0.°03,**h28**km±11km, **n33,σ0s61**/58,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonaqunijimaku**	**0.52**	**153**	*eP*	**Pn**	**02 00 50.5**	**-0.2**
JYNG				*eS*	**Sb**	**02 00 57.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.54**	**147**	P	**Pn**	**02 00 50.9**	**-0.1**
YOJ				*eS*	**Sb**	**02 00 57.6**	**+0.1**
YOJ	**Yonaguni

*IDC **19** 02:35:21.6±0.8, 16°.70S×177°.38W, h0km, mb4.2/10, mbtmp4.2/11, ML3.8/1, MS3.9/36, Error ellipse: s-maj=28.5km s-min=18.7km az=129.0*
*NEIC **19** 02:36:01.0±1.9, 17°.65S±0°.3×177°.1W±0°.2, h380km±14km, mb4.3/28, Error ellipse: s-maj=49.8km s-min=10.8km az=145.0*

ISC 19 02:35:59.9±0.8, **17°.5S**±0°.2×**177°.4W**±0°.2, **h350**km, **n80**, σ1§**69**/47, **mb4.3**/25, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.71**	**182**	LR		LR	LR	02 42 21.6	
	comp=Z,694nm,21.8s,baz=74,slow=34								
DZM	**Mont Dzumac**	**15.90**	**251**	Pn		P	P	02 39 09.3	-15
	0.4nm,0.3s,baz=190,slow=17,SNR=1.9								
DZM				LR		LR	LR	02 44 20.5	
	comp=Z,1μm,21.4s,baz=88,slow=33 5.1nm,0.9s								
URZ	**Urewera**	**21.25**	**192**	P		**P**	**P**	**02 40 18.8**	**-0.3**
	14nm,0.9s,baz=140,slow=2.7,SNR=4.2								
URZ				LR		LR	LR	02 47 00.8	
	comp=Z,205nm,21.5s,baz=120,slow=32 14nm,0.9s								
HNR	**Honiara**	**23.46**	**287**	LR		LR	LR	02 48 15.7	
	comp=Z,5μm,19.6s,baz=136,slow=33								
PPT	**Papeete**	**26.49**	**94**	LR		LR	LR	02 48 35.4	
	comp=Z,153nm,20.2s,baz=258,slow=30								
EIDS	**Eidsvold**	**30.34**	**250**	P		**P**	**P**	**02 41 40.1**	**-0.4**
ARMA	**Armidale**	**31.01**	**240**	P		**P**	**P**	**02 41 46.1**	**-0.4**
ARMA						IAmb	IAmb	02 42 15.7	
	comp=Z,15nm,1.3s								
CTA	**Charters Tower**	**34.50**	**260**	LR		LR	LR	02 54 36.4	
	comp=Z,298nm,19.5s,baz=92,slow=33								
PMG	**Port Moresby**	**35.38**	**278**	LR		LR	LR	02 55 47.7	
	comp=Z,110nm,18.3s,baz=116,slow=35								
TOO	**Toolangi**	**38.20**	**231**	P		**P**	**P**	**02 42 47.4**	**+0.1**
TOO						IAmb	IAmb	02 43 16.9	
	comp=Z,18nm,1.4s								
STKA	**Stephens Creek**	**39.70**	**241**	P		**P**	**P**	**02 42 59.5**	**-0.2**
STKA	**Stephens Creek**	**39.70**	**241**	P		**P**	**P**	**02 42 59.5**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=67,slow=9.3,SNR=11								
STKA				LR		LR	LR	02 58 48.2	
	comp=Z,138nm,18.4s,baz=38,slow=35 comp=Z,7.8nm,0.8s								
WB2	**Warramunga Arr**	**45.68**	**259**	P		**P**	**P**	**02 43 47.9**	**+0.6**
WRA	**Warramunga Arr**	**45.69**	**259**	P		P	P	02 43 44.4	-3.1
	comp=Z,1.5nm,1.0s,baz=91,slow=7.0,SNR=3.7								
AS31	**Alice Springs**	**45.86**	**254**	P		**P**	**P**	**02 43 49.0**	**+0.2**
ASAR	**Alice Springs**	**45.86**	**254**	P		**P**	**P**	**02 43 48.1**	**-0.7**
ASAR	**Alice Springs**	**45.86**	**254**	P		**P**	**P**	**02 43 47.2**	**-1.6**
	comp=Z,3.8nm,0.6s,baz=87,slow=8.3,SNR=27								
ASAR				LR		LR	LR	03 02 26.2	
	comp=Z,430nm,18.0s,baz=102,slow=35 comp=Z,3.8nm,0.6s								
FORT	**Forrest**	**51.09**	**244**	P		P	P	02 44 25.9	-2.1
KNRA	**Kununurra**	**51.52**	**264**	P		P	**P**	**02 44 30.1**	**-1.4**
KNRA						IAmb	IAmb	02 44 38.6	
	comp=Z,17nm,1.1s								
JCJ	**Chichijima**	**59.20**	**318**	LR		LR	LR	03 06 59.4	
	comp=Z,58nm,18.2s,baz=49,slow=32								
NWAO	**Narrogin (SRO)**	**60.28**	**242**	LR		LR	LR	03 10 45.6	
	comp=Z,45nm,19.1s,baz=253,slow=35								
VNDA	**Vanda**	**60.94**	**185**	LR		LR	LR	03 07 51.8	
	comp=Z,65nm,19.0s,baz=102,slow=32								
KAPI	**Kappang**	**62.66**	**273**	LR		LR	LR	03 12 54.7	
	comp=Z,24nm,19.2s,baz=93,slow=36								
JGF	**Kuroka**	**68.03**	**321**	P		P	P	02 46 19.4	-3.2
MJAR	**Matsushiro Arr**	**68.18**	**323**	P		P	P	02 46 20.0	-3.5
	comp=Z,1.0nm,0.3s,baz=162,slow=5.8,SNR=4.7 comp=Z,1.0nm,0.3s								
SHEM	**Shemya Is, Ala**	**70.32**	**354**	LR		LR	LR	03 13 36.8	
	comp=Z,66nm,20.0s,baz=319,slow=33								
JNU	**Nakatsue**	**70.54**	**316**	LR		LR	LR	03 14 09.4	
	comp=Z,25nm,18.2s,baz=136,slow=33								
ASAJ	**Asahikawa**	**71.40**	**331**	LR		LR	LR	03 12 26.4	
	comp=Z,70nm,20.4s,baz=56,slow=32								
QSPA	**South Pole Qui**	**72.56**	**180**	P		P	P	02 46 54.8	+5.4
	comp=Z,5.5nm,0.9s,baz=37,slow=2.8,SNR=11								
QSPA				LR		LR	LR	03 13 04.9	
	comp=Z,56nm,21.7s,baz=64,slow=31 comp=Z,5.5nm,0.9s								
PETK	**Petropavlovsk-**	**73.54**	**345**	LR		LR	LR	03 15 53.0	
	comp=Z,45nm,18.8s,baz=138,slow=33								
KSRS	**Korea Array**	**75.06**	**318**	P		**P**	**P**	**02 47 02.9**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=136,slow=5.1,SNR=2.9								
KSRS				LR		LR	LR	03 13 52.3	
	comp=Z,28nm,21.9s,baz=330,slow=31 comp=Z,1.1nm,0.6s								
PFO	**Pinyon Flats O**	**77.14**	**48**	LR		LR	LR	03 15 23.7	
	comp=Z,163nm,18.2s,baz=272,slow=31								
LPIG	**La Paz**	**77.37**	**60**	LR		LR	LR	03 17 09.9	
	comp=Z,106nm,18.2s,baz=288,slow=33								
YBH	**Yreka Blue Hor**	**77.58**	**39**	LR		LR	LR	03 16 14.1	
	comp=Z,176nm,19.9s,baz=315,slow=32								
KDAK	**Kodiak Island**	**77.77**	**13**	LR		LR	LR	03 16 07.9	
	comp=Z,83nm,19.8s,baz=179,slow=32								
NVAR	**Mina Array Bea**	**78.44**	**43**	LR		LR	LR	03 17 40.6	
	comp=Z,126nm,19.1s,baz=271,slow=33								
KLR	**Kul'dur**	**80.27**	**329**	LR		LR	LR	03 17 55.3	
	comp=Z,52nm,19.6s,baz=127,slow=32								
J16K	**Anvik River**	**81.58**	**8**	P		**P**	**P**	**02 47 38.2**	**-0.7**
J16K						IAmb	IAmb	02 47 43.1	
	comp=Z,7.9nm,1.1s								
ELK	**Elko**	**81.68**	**43**	LR		LR	LR	03 15 17.7	
	comp=Z,70nm,20.0s,baz=304,slow=30								
TTA	**Tatalina**	**81.90**	**10**	P		**P**	**P**	**02 47 39.7**	**-0.9**
VRDI	**Verde Repeater**	**83.01**	**16**	P		**P**	**P**	**02 47 43.8**	**-2.8**
VRDI						IAmb	IAmb	02 47 49.4	
	comp=Z,8.2nm,1.4s								
BARN	**Barnard Glacie**	**83.34**	**17**	P		**P**	**P**	**02 47 46.5**	**-1.7**
BARN						IAmb	IAmb	02 47 50.1	
	comp=Z,6.0nm,1.1s								
TRF	**Thorofare Moun**	**83.40**	**12**	P		**P**	**P**	**02 47 46.5**	**-1.9**
TRF						IAmb	IAmb	02 47 52.4	
	comp=Z,5.5nm,1.0s								
SEY	**Seymchan**	**83.60**	**347**	LR		LR	LR	03 19 25.8	
	comp=Z,57nm,21.0s,baz=7.5,slow=32								
BJT	**Baijiatuau**	**84.19**	**315**	P		**P**	**P**	**02 47 52.2**	**-0.4**
BJT						IAmb	IAmb	02 48 20.1	
	comp=Z,3.1nm,0.6s								
G19K	**Purcell Mounta**	**84.77**	**8**	P		**P**	**P**	**02 47 52.7**	**-2.3**
TXAR	**Lajitas Array**	**84.93**	**57**	P		**P**	**P**	**02 47 57.1**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=216,slow=5.7,SNR=7.3								
TXAR				LR		LR	LR	03 20 25.6	
	comp=Z,58nm,18.0s,baz=285,slow=32 comp=Z,1.1nm,0.9s								
H21K	**Melozitna Rive**	**84.96**	**10**	P		**P**	**P**	**02 47 55.5**	**-0.4**
CCB	**Clear Creek Bu**	**84.97**	**12**	P		**P**	**P**	**02 47 53.9**	**-2.0**
ANMO	**Albuquerque**	**85.06**	**51**	LR		LR	LR	03 20 46.6	
	comp=Z,74nm,19.2s,baz=334,slow=32								
IMAR	**Indian Mountai**	**85.11**	**9**	P		**P**	**P**	**02 47 54.6**	**-2.0**
SCRK	**Sand Creek**	**85.22**	**14**	P		**P**	**P**	**02 47 56.9**	**-0.5**
SCRK						IAmb	IAmb	02 48 02.3	
	comp=Z,8.5nm,1.4s								
ILAR	**Eielson Array**	**85.27**	**13**	P		**P**	**P**	**02 47 55.5**	**-1.9**
	comp=Z,4.9nm,1.0s,baz=226,slow=5.5,SNR=13								
ILAR				LR		LR	LR	03 20 36.6	
	comp=Z,66nm,19.5s,baz=151,slow=32 comp=Z,4.9nm,1.0s								
N31M	**Braeburn, Yuko**	**85.39**	**19**	P		**P**	**P**	**02 47 55.6**	**-2.6**
N31M						IAmb	IAmb	02 48 03.6	
	comp=Z,6.7nm,1.1s								
J25K	**Salcha River,**	**85.45**	**13**	P		**P**	**P**	**02 47 55.8**	**-2.7**
J25K						IAmb	IAmb	02 48 01.5	
	comp=Z,5.0nm,0.9s								
E18K	**Tukpahlearik C**	**85.57**	**6**	P		**P**	**P**	**02 47 58.2**	**-0.7**
L29M	**L29M**	**85.98**	**17**	P		**P**	**P**	**02 48 00.2**	**-0.8**
PDAR	**Pinedale Array**	**86.37**	**43**	P		**P**	**P**	**02 48 00.8**	**-2.8**
PDAR	**Pinedale Array**	**86.37**	**43**	P		**P**	**P**	**02 48 02.4**	**-1.3**
	comp=Z,0.7nm,1.0s,baz=209,slow=2.7,SNR=4.7								
PDAR				LR		LR	LR	03 18 10.6	
	comp=Z,85nm,19.5s,baz=294,slow=30 comp=Z,0.7nm,1.0s								
DAWY	**Dawson**	**86.42**	**16**	P		**P**	**P**	**02 48 02.6**	**-0.6**
DAWY						IAmb	IAmb	02 48 05.8	
	comp=Z,5.5nm,1.2s								
K29M	**Barlow Dome**	**86.74**	**17**	P		**P**	**P**	**02 48 03.3**	**-1.5**
K29M						IAmb	IAmb	02 48 24.2	
	comp=Z,4.6nm,1.3s								
E24K	**Your Creek**	**87.88**	**10**	P		**P**	**P**	**02 48 09.2**	**-0.8**
E24K						IAmb	IAmb	02 48 10.7	
	comp=Z,5.1nm,1.4s								
BMAR	**Burnt Mountain**	**88.05**	**12**	P		**P**	**P**	**02 48 09.6**	**-1.2**
CMIG	**Matias Romero**	**88.16**	**72**	LR		LR	LR	03 21 57.7	
	comp=Z,83nm,18.0s,baz=220,slow=32								
H29M	**Whitestone**	**88.41**	**15**	P		**P**	**P**	**02 48 11.4**	**-1.0**
YKA	**Yellowknife Ar**	**93.54**	**24**	P		**P**	**P**	**02 48 36.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=254,slow=4.5,SNR=4.2								
YKA				LR		LR	LR	03 23 47.1	
	comp=Z,82nm,19.0s,baz=279,slow=31 comp=Z,0.1nm,0.3s								
TEIG	**Tepich**	**95.07**	**71**	LR		LR	LR	03 22 47.2	
	comp=Z,462nm,20.4s,baz=4.5,slow=30								
JTS	**Las Juntas de**	**95.31**	**81**	LR		LR	LR	03 21 59.0	
	comp=Z,74nm,19.8s,baz=352,slow=29								
NNA	**Nana**	**96.25**	**105**	LR		LR	LR	03 23 26.1	
	comp=Z,35nm,19.9s,baz=304,slow=30								
ATAH	**Atahualpa**	**96.36**	**99**	LR		LR	LR	03 22 15.5	
	comp=Z,92nm,21.3s,baz=292,slow=29								
BRTR	**Keskin Array B**	**145.19**	**316**	PKP			**PKPab**	**02 54 59.6**	**+2.0**
	comp=Z,6.9nm,0.9s,baz=143,slow=3.7,SNR=17								
GERES	**GERESS Array B**	**147.46**	**346**	PKPbc			**PKPbc**	**02 55 05.1**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=31,slow=3.1,SNR=4.7								
CONA	**Conrad Observa**	**147.77**	**343**	*i* PKiKP			**PKPab**	**02 55 10.8**	**+3.4**
	comp=Z,6.9nm,1.2s								
ARSA	**Arzberg**	**148.48**	**343**	*e*PKP			**PKiKP**	**02 55 09.6**	**+2.6**
	comp=Z,6.7nm,1.5s								
BIOA	**Bad Ischl, Aus**	**148.56**	**346**	*i* PKiKP			**PKPab**	**02 55 12.2**	**+1.7**
	comp=Z,7.0nm,1.5s								
LESA	**Schwarzleotal**	**149.03**	**347**	*i* PKP			**PKiKP**	**02 55 09.5**	**+1.3**
	comp=Z,7.3nm,1.3s								
WTTA	**Wattenberg**	**149.40**	**348**	*i* PKP			**PKPbc**	**02 55 08.7**	**+0.5**
	comp=Z,7.5nm,1.1s								
SQTA	**Sankt Quirin**	**149.52**	**348**	*e*PKP			**PKiKP**	**02 55 11.4**	**+2.1**
	comp=Z,8.4nm,1.5s								
ABTA	**Abfaltersbach**	**149.71**	**346**	*i* PKiKP			**PKiKP**	**02 55 13.9**	**+4.3**
	comp=Z,6.9nm,1.0s								
FETA	**Feichten**	**149.81**	**349**	*i* PKP			**PKPab**	**02 55 16.7**	**+0.8**
	comp=Z,7.6nm,1.3s								

*ISN **19** 02:40:11.7±0.6, 33°.71N×45°.51E, h8km±3km, ML3.2*
*TEH **19** 02:40:12.2, 33°.77N×45°.53E, h19km±60km, ML3.0*

ISC 19 02:40:12.4±1.0, **33°.72N**±0°.04×**45°.52E**±0°.04, **h13**km, **n15**, σ1§**48**/19, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.58**	**100**	Pg		Pg	**Pb**	**02 40 23.9**	**-0.6**
IBDR	**Badra**	**0.70**	**151**	*e*Pg		**Pg**	**Pg**	**02 40 25.0**	**-1.0**
IBDR				*e*Sg		**Sg**	**Sg**	**02 40 35.0**	**-0.2**
IBDR						AML	AML	02 40 45.4	
	comp=E,878nm,0.3s								
IBDR						AML	AML	02 40 52.1	
	comp=N,1μm,0.5s								
KGS1	**Ghasr-e-Shirin**	**0.78**	**4**	Pg		Pg	**Pg**	**02 40 26.6**	**-1.0**
BHD	**Baghdad**	**1.06**	**245**	*e*Pg		Pg	**Pb**	**02 40 32.0**	**-0.5**
BHD				*e*Sg		Sg	**Sb**	**02 40 46.0**	**-0.2**
BHD						AML	AML	02 40 59.2	
	comp=E,458nm,0.4s								
IGHG	**Ghaleghazi**	**1.06**	**55**	Pg		Pg	**Pb**	**02 40 31.1**	**-1.6**
IDHR	**Dehrash**	**1.21**	**36**	Pg		Pg	**Pg**	**02 40 34.9**	**-0.8**
ILIN	**Lien**	**1.69**	**45**	Pg		Pg	**Pg**	**02 40 43.9**	**-0.9**
IKOM	**Komasi**	**1.71**	**74**	Pg		Pg	**Pg**	**02 40 44.5**	**-0.8**
IKOM						Sg	**Sg**	**02 41 08.2**	**+0.7**
IKFM	**Kafar-mosalman**	**1.95**	**95**	Pn		Pn	**Pb**	**02 40 48.3**	**-1.5**
RAFI	**Al-Rafai**	**2.06**	**166**	*e*Pn		Pn	**Pb**	**02 40 48.0**	**-1.6**
RAFI				*e*Sn		Sn	**Sb**	**02 41 15.0**	**0.0**
RAFI						AML	AML	02 41 23.9	
	comp=E,322nm,0.3s								
RAFI						AML	AML	02 41 27.7	
	comp=N,259nm,0.6s								
IALM	**Almabolaq**	**2.47**	**62**	Pn		Pn	**Pb**	**02 40 55.3**	**-1.4**
HSAM	**Samen**	**2.61**	**78**	Pn		Pn	**Pn**	**02 40 55.7**	**+1.3**
HAGD	**Aghdareh**	**3.19**	**69**	Pn		Pn	**Pn**	**02 41 04.9**	**+2.4**
QAMS	**Qamsar**	**4.90**	**88**	Pn		Pn	**Pn**	**02 41 28.2**	**+2.2**
IKLH	**Kolahrood**	**5.08**	**93**	Pn		Pn	**Pn**	**02 41 31.2**	**+2.8**

*IDC **19** 02:53:54.2±5.9, 28°.27N×85°.76E, h0km, mb3.7/5, mbtmp3.6/6, ML3.5/1, MS2.6/1, Error ellipse: s-maj=101.9km s-min=57.1km az=174.0*

ISC 19 02:54:01.2±5.7, **28°.5N**±0°.7×**85°.8E**±0°.4, **h35**km, **n7**, σ1§**33**/6, **mb3.4**/5, **Nepal**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.44**	**352**	P		**P**	**P**	**02 58 14.0**	**+0.3**
	0.2nm,0.3s,baz=176,slow=9.9,SNR=6.1 0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**22.75**	**348**	P		**P**	**P**	**02 59 00.2**	**0.0**
	0.4nm,0.4s,baz=172,slow=9.7,SNR=4.7 0.4nm,0.4s								
SONM	**Songino Array**	**25.03**	**34**	P		**P**	**P**	**02 59 22.4**	**+0.3**
	0.4nm,0.5s,baz=222,slow=9.3,SNR=2.6 0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**25.41**	**359**	P		**P**	**P**	**02 59 25.8**	**+0.5**
	0.4nm,0.3s,baz=178,slow=11,SNR=1.6 0.4nm,0.3s								
TIXI	**Tiksi**	**49.13**	**17**	LR		LR	LR	03 25 34.4	
	comp=Z,7.1nm,20.2s,baz=144,slow=38								
FINES	**FINESS Array B**	**50.97**	**328**	P		**P**	**P**	**03 03 00.1**	**+1.1**
	1.5nm,0.8s,baz=116,slow=6.3,SNR=4.0 1.5nm,0.8s								
ARCES	**ARCESS Array B**	**53.27**	**338**	P		**P**	**P**	**03 03 14.2**	**-1.9**
	3.8nm,0.9s,baz=96,slow=8.3,SNR=2.3 3.8nm,0.9s								

*IDC **19** 03:13:12.6±1.3, 30°.83N×57°.26E, h0km, mb3.5/9, mbtmp3.6/11, ML3.1/2, MS3.6/2, Error ellipse: s-maj=29.4km s-min=21.2km az=134.0*
*TEH **19** 03:13:13.2, 30°.81N×57°.31E, h14km±35km, ML3.7*

ISC 19 03:13:14.2±0.7, **30°.79N**±0°.04×**57°.31E**±0°.04, **h10**km, **n37**, σ0§**88**/35, **mb3.4**/9, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.29**	**186**	Pg		Pg	**Pg**	**03 13 19.9**	**-0.2**
ZRDN	**Zarand Kerman**	**0.69**	**285**	Pg		Pg	**Pg**	**03 13 26.5**	**-1.0**
KHGB	**Koh Gabri**	**0.83**	**240**	Pg		Pg	**Pg**	**03 13 29.4**	**-0.8**
TVBK	**TV Kerman**	**0.93**	**211**	Pg		Pg	**Pg**	**03 13 32.1**	**-0.1**
CHMN	**Cheshme madani**	**0.95**	**168**	Pg		Pg	**Pg**	**03 13 31.7**	**-0.8**
NGRK	**Negar Kerman**	**1.25**	**204**	Pg		Pg	**Pb**	**03 13 37.3**	**-0.7**
IBAF	**Bafgh**	**1.69**	**299**	Pg		Pn	**Pn**	**03 13 44.6**	**+0.6**
KBAM	**BAM**	**1.92**	**149**	Pn		Pn	**Pn**	**03 13 47.5**	**+0.4**
BSRN	**Basiran**	**1.95**	**53**	Pn		Pn	**Pn**	**03 13 47.3**	**-0.1**
IKOO	**Kooshah**	**2.18**	**41**	Pn		Pn	**Pn**	**03 13 50.8**	**0.0**
TPRV	**Parvadeh(Tabas**	**2.29**	**347**	Pn		Pn	**Pn**	**03 13 52.1**	**-0.1**
NHDN	**Nehbandan**	**2.43**	**75**	Pn		Pn	**Pn**	**03 13 54.6**	**+0.6**
ITEG	**Tejag**	**2.43**	**30**	Pn		Pn	**Pn**	**03 13 54.4**	**+0.3**
TKDS	**Koohdasht(Taba**	**2.82**	**357**	Pn		Pn	**Pn**	**03 13 59.0**	**-0.4**
TNSJ	**Nastanj**	**3.22**	**350**	Pn		Pn	**Pn**	**03 14 05.3**	**+0.4**
ISAD	**Sadrabad**	**3.30**	**291**	Pn		Pn	**Pn**	**03 14 07.0**	**+0.9**
ZHDN	**Zahedan**	**3.34**	**114**	Pn		Pn	**Pn**	**03 14 06.7**	**+0.1**
SHRT	**Shahrakht**	**3.81**	**41**	Pn		Pn	**Pn**	**03 14 14.0**	**+1.0**
ANAR	**Anarak**	**3.87**	**309**	Pn		Pn	**Pn**	**03 14 14.8**	**+0.9**
IZEF	**Zefreh**	**4.73**	**298**	Pn		Pn	**Pn**	**03 14 27.2**	**+1.4**
TBJM	**Torbat-e-JAM**	**5.14**	**29**	Pn		Pn	**Pn**	**03 14 32.2**	**+0.9**
KRSH	**Karshahi**	**5.40**	**307**	Pn		Pn	**Pn**	**03 14 35.5**	**+0.5**
ISFB	**Sefidab**	**5.56**	**311**	Pn		Pn	**Pn**	**03 14 38.3**	**+1.2**
SBZV	**Sabzevar**	**5.59**	**3**	Pn		Pn	**Pn**	**03 14 38.6**	**+1.0**
GEYT	**Alibeck**	**7.15**	**5**	Pn		Pn	**Pn**	**03 14 59.2**	**+0.3**
	0.2nm,0.3s,baz=151,slow=13,SNR=1.5								
GEYT						Sn	**Sn**	**03 16 22.6**	**+2.4**
	baz=150,slow=18 0.8nm,0.2s								
WSAR	**Wadi Sarin**	**7.61**	**171**	Pn			**Pn**	**03 15 07.3**	**+2.1**
	0.4nm,0.3s,baz=15,slow=6.5,SNR=6.3 3.8nm,0.7s								
BRTR	**Keskin Array B**	**21.24**	**301**	P		**P**	**P**	**03 17 59.6**	**-0.9**
	0.6nm,0.5s,baz=129,slow=15,SNR=2.8 0.6nm,0.5s								
BVAR	**Borovoye Array**	**24.18**	**19**	P		**P**	**P**	**03 18 30.2**	**-0.4**
	0.8nm,0.7s,baz=214,slow=6.9,SNR=4.7 0.8nm,0.7s								
MKAR	**Makanchi Array**	**25.04**	**43**	P		**P**	**P**	**03 18 38.3**	**-0.2**
	0.2nm,0.5s,baz=249,slow=4.0,SNR=2.6 0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**25.36**	**33**	P		**P**	**P**	**03 18 40.5**	**-0.8**
	0.2nm,0.3s,baz=233,slow=8.5,SNR=5.2 0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**30.46**	**33**	P		**P**	**P**	**03 19 27.6**	**+0.7**
	0.4nm,0.4s,baz=226,slow=10,SNR=3.9 0.4nm,0.4s								
FINES	**FINESS Array B**	**36.84**	**335**	P		**P**	**P**	**03 20 22.5**	**+0.2**
	1.9nm,0.8s,baz=146,slow=10,SNR=4.2 1.9nm,0.8s								
ARCES	**ARCESS Array B**	**42.77**	**344**	LR		LR	LR	03 42 24.0	
	comp=Z,94nm,18.3s,baz=276,slow=41								
EKA	**Eskdalemuir Ar**	**48.67**	**319**	P		**P**	**P**	**03 21 58.2**	**-0.1**
	2.8nm,0.9s,baz=70,slow=9.1,SNR=2.5 2.8nm,0.9s								
TORD	**Torodi Ar. Bea**	**53.95**	**264**	P		**P**	**P**	**03 22 37.7**	**-0.7**
	0.9nm,0.7s,baz=54,slow=6.9,SNR=7.3 0.9nm,0.7s								
JOW	**Kunigami**	**61.35**	**74**	LR		LR	LR	03 54 50.3	
	comp=Z,32nm,18.4s,baz=154,slow=41								
ILAR	**Eielson Array**	**82.89**	**10**	P		P	P	03 25 37.0	-1.7
	0.2nm,0.7s,baz=304,slow=5.3,SNR=1.8 0.2nm,0.7s								

*TAP **19** 03:37:39.3, 24°.42N×122°.72E, h81km, ML3.1, C*
*JMA **19** 03:37:39.4±0.1, 24°.4N±2°.×122°.7E±0°.6, h80km±1km, MV1.8/13, NW OFF ISHIGAKIJIMA IS*

ISC 19 03:37:39.5±1.4, **24°.39N**±0°.05×**122°.72E**±0°.03, **h81**km±8km, **n62**, σ0§**98**/103, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.22**	**73**	P			**Pn**	**03 37 51.4**	**-0.1**
JYNG				*e*S			**Sn**	**03 38 00.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.28**	**74**	P			**Pn**	**03 37 51.7**	**-0.1**
YOJ				S			**Sn**	**03 38 00.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.28**	**74**	*e*P			**Pn**	**03 37 51.7**	**-0.1**
	baz=74								
YOJ				S			**Sn**	**03 38 00.4**	**-0.4**
	baz=74								
EOS3	**EOS3**	**0.38**	**255**	*e*P			**Pn**	**03 37 53.2**	**+0.9**
	baz=253								
EOS3				*e*S			**Sn**	**03 38 03.6**	**+2.0**
	baz=253								
EOS2	**EOS2**	**0.45**	**274**	*e*P			**Pn**	**03 37 53.3**	**+0.5**
	baz=277								
EOS2				S			**Sn**	**03 38 04.0**	**+1.4**
	baz=277								
EOS4	**EOS4**	**0.45**	**234**	S			**Sn**	**03 38 03.0**	**+0.8**
	baz=231								
ESAO	**Su ao**	**0.82**	**283**	*e*P			**Pn**	**03 37 56.5**	**0.0**
	baz=286								
ESAO				*e*S			**Sn**	**03 38 08.4**	**-0.8**
	baz=286								
TWC	**Suao**	**0.82**	**286**	P			**Pn**	**03 37 56.3**	**-0.2**
	baz=288								
TWC				S			**Sn**	**03 38 08.3**	**-0.9**
	baz=288								
EWUT	**Wuta**	**0.86**	**274**	*e*P			**Pn**	**03 37 57.0**	**+0.1**
	baz=271								
EWUT				*e*S			**Sn**	**03 38 09.4**	**-0.6**
	baz=271								
TIPB	**Shuangxi**	**1.00**	**306**	P			**Pn**	**03 37 58.3**	**-0.3**
	baz=303								
TWE	**Neicheng**	**1.01**	**289**	*e*P			**Pn**	**03 37 58.9**	**+0.1**
	baz=287								
HATJ	**Hateruma jima**	**1.04**	**108**	S			**Sn**	**03 38 14.3**	**+0.5**
NACB	**Ninganchiao**	**1.05**	**259**	*e*P			**Pn**	**03 37 58.9**	**-0.3**
	baz=256								
NACB				*e*S			**Sn**	**03 38 12.9**	**-1.0**
	baz=256								
TWD	**Chiawan**	**1.07**	**254**	*e*S			**Sn**	**03 38 13.5**	**-0.9**
	baz=251								
ENTT	**Nioudou**	**1.08**	**284**	*e*P			**Pn**	**03 38 00.1**	**+0.5**
	baz=287								
FUSB	**Fushanzhiwuyua**	**1.09**	**290**	*i* P			**Pn**	**03 37 59.9**	**+0.1**
	baz=288								
FUSB				*e*S			**Sn**	**03 38 14.0**	**-1.1**
	baz=288								
LATG	**Dat

SMLT	**Sun Moon Lake**	**1.74**	**254**	*eS*	**Sn**	**03 38 30.4 +0.7**
	baz=248					
FULB	**Fuli**	**1.76**	**228**	*eP*	**Pn**	**03 38 07.2 -1.1**
	baz=220					
FULB				*eS*	**Sn**	**03 38 29.8 -0.4**
	baz=220					
TYC	**Yuchr**	**1.77**	**255**	*eS*	**Sn**	**03 38 31.0 +0.7**
	baz=249					
CHKT	**Chengkung**	**1.78**	**224**	*eS*	**Sn**	**03 38 28.6 -2.0**
	baz=219					
JTJ	**Tarama**	**1.82**	**82**	S	**Sn**	**03 38 32.0 +0.4**
WHYT	**Xinyi Township**	**1.84**	**248**	*eP*	**Pn**	**03 38 10.7 +1.3**
	baz=250					
WHYT				*eS*	**Sn**	**03 38 32.6 +0.5**
	baz=250					
ELDTW	**Lidau**	**1.96**	**233**	*eP*	**Pn**	**03 38 10.7 -0.4**
	baz=226					
ELDTW				*eS*	**Sn**	**03 38 33.7 -1.4**
	baz=226					
CHN5	**Tsauling**	**2.03**	**248**	*eP*	**Pn**	**03 38 13.4 +1.5**
	baz=239					
CHN5				*eS*	**Sn**	**03 38 38.0 +1.4**
	baz=239					
LONT	**Longtian**	**2.07**	**225**	*eS*	**Sn**	**03 38 35.8 -1.7**
	baz=232					
STYH	**Taoyuan**	**2.15**	**236**	*eP*	**Pn**	**03 38 14.2 +0.7**
	baz=231					
STYH				*eS*	**Sn**	**03 38 38.9 -0.5**
	baz=231					
CHN4	**Tsaushan**	**2.20**	**243**	*eP*	**Pn**	**03 38 15.9 +1.8**
	baz=234					
CHN4				*eS*	**Sn**	**03 38 42.0 +1.3**
	baz=234					
WTP	**Ta-pu**	**2.24**	**240**	*eP*	**Pn**	**03 38 16.5 +1.8**
	baz=238					
WTP				*eS*	**Sn**	**03 38 42.8 +1.2**
	baz=238					
TWK	**Hsinying**	**2.33**	**242**	*eP*	**Pn**	**03 38 17.9 +2.0**
	baz=241					
TWK				*eS*	**Sn**	**03 38 44.9 +1.2**
	baz=241					
SLGT	**Liugui**	**2.35**	**234**	*eP*	**Pn**	**03 38 17.8 +1.6**
	baz=227					
SLGT				*eS*	**Sn**	**03 38 45.9 +1.7**
	baz=227					

IDC ***19*** *03:43:05.5±0.7,4°.89S×153°.68E, h57km±6km, mb3.7/13, mbtmp4.0/14, Error ellipse: s-maj=16.6km s-min=9.5km az=23.0*

NEIC ***19*** *03:43:06.8±1.1,4°.9S±0°.1×153°.5E±0°.1, h63km±8km, mb4.4/16, Error ellipse: s-maj=17.5km s-min=14.0km az=59.0*

ISC 19 03:43:05.6±0.5,**4°.96S**±0°.07×**153°.58E**±0°.08,**h56**km,**n39,**
σ1§**06**/46,**mb4.0**/19,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.60**	**298**	Pn	**Pn**	**03 43 31.7**	**0.0**
KRVT	**Keravat (AS076**	**1.68**	**293**	P	**Pn**	**03 43 32.2**	**-0.4**
KRVT				S	**Sn**	**03 43 55.1**	**+2.0**
PMG	**Port Moresby**	**7.75**	**235**		**Pn**	**03 44 56.8**	**+1.0**
PMG	**Port Moresby**	**7.75**	**235**	P	**Pn**	**03 44 56.7**	**+0.8**
	17nm,0.4s,baz=358,slow=4.3,SNR=6.7						
PMG				S	**Sn**	**03 46 21.0**	**-1.3**
	12nm,0.4s,baz=85,slow=21,SNR=5.7						
DZM	**Mont Dzumac**	**21.09**	**145**	P	**P**	**03 47 46.7**	**+1.1**
DZM				IAmb	IAmb	03 48 19.0	
	comp=Z,34nm,1.5s						
DZM	**Mont Dzumac**	**21.09**	**145**	P	**P**	**03 47 46.4**	**+0.8**
	comp=Z,2.3nm,0.4s,baz=336,slow=20,SNR=1.5						
	comp=Z,2.3nm,0.4s						
MTN	**Manton Dam**	**23.50**	**249**	P	**P**	**03 48 11.2**	**+0.4**
MTN				IAmb	IAmb	03 48 28.0	
	comp=Z,21nm,1.5s						
WB0	**Warramunga Arr**	**23.78**	**230**	P	**P**	**03 48 13.0**	**-0.4**
WB0				IAmb	IAmb	03 48 13.7	
	comp=Z,14nm,1.5s						
WR0	**Warramunga Arr**	**23.78**	**230**	P	**P**	**03 48 12.2**	**-1.2**
WB2	**Warramunga Arr**	**23.92**	**230**	P	**P**	**03 48 13.6**	**-1.0**
WRA	**Warramunga Arr**	**23.93**	**230**	P	**P**	**03 48 14.8**	**+0.1**
	comp=Z,4.1nm,1.0s,baz=50,slow=10.0,SNR=6.8						
ASAR	**Alice Springs**	**26.56**	**224**	P	**P**	**03 48 38.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=61,slow=9.3,SNR=1.2						
ASAR				PcP	**PcP**	**03 52 02.8**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=53,slow=5.2,SNR=5.2						
	comp=Z,0.2nm,0.5s						
KNRA	**Kununurra**	**26.60**	**245**	P	**P**	**03 48 38.8**	**-0.1**
KNRA				IAmb	IAmb	03 48 57.1	
	comp=Z,9.4nm,0.7s						
STKA	**Stephens Creek**	**29.04**	**201**	P	**P**	**03 49 00.3**	**-0.3**
STKA	**Stephens Creek**	**29.04**	**201**	P	**P**	**03 49 01.4**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=62,slow=18,SNR=1.5						
	comp=Z,1.0nm,0.5s						
TCW	**Tory Channel**	**40.58**	**156**	P	**P**	**03 50 40.8**	**+1.0**
LTZ	**Lake Taylor**	**41.16**	**159**	P	**P**	**03 50 44.4**	**-0.2**
LTZ				IAmb	IAmb	03 51 21.2	
	comp=Z,19nm,1.4s						
GVZ	**Greta Valley S**	**41.59**	**158**	P	**P**	**03 50 48.6**	**+0.5**
MORW	**Morawa**	**42.85**	**232**	P	**P**	**03 50 57.4**	**-1.2**
NWAO	**Narrogin (SRO)**	**43.83**	**226**	P	**P**	**03 51 03.2**	**-3.2**
SONM	**Songino Array**	**66.87**	**327**	P	**P**	**03 53 52.8**	**+0.7**
SONM	**Songino Array**	**66.87**	**327**	P	**P**	**03 53 52.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=134,slow=5.6,SNR=7.0						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**72.64**	**178**	P	**P**	**03 54 27.7**	**+0.9**
VNDA				IAmb	IAmb	03 55 04.4	
	comp=Z,7.3nm,1.5s						
VNDA	**Vanda**	**72.64**	**178**	P	**P**	**03 54 27.6**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=357,slow=4.8,SNR=5.9						
	comp=Z,2.0nm,0.8s						
Q23K	**Middleton Isla**	**79.62**	**27**	P	**P**	**03 55 06.7**	**0.0**
IMAR	**Indian Mountai**	**80.28**	**19**	P	**P**	**03 55 10.0**	**-0.2**
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**03 55 13.3**	**-1.0**
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**03 55 15.0**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9,SNR=7.3						
MKAR				pP	**pP**	**03 55 31.0**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=101,slow=6.4,SNR=7.6						
	comp=Z,0.5nm,0.5s						
MAKZ	**Makanchi**	**81.17**	**319**	P	**P**	**03 55 14.9**	**-0.5**
MAKZ				IAmb	IAmb	03 55 32.8	
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**81.72**	**326**	P	**P**	**03 55 17.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=113,slow=9.6,SNR=3.6						
ZALV				pP	**pP**	**03 55 32.8**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=156,slow=7.4,SNR=2.3						
	comp=Z,0.7nm,0.5s						
ILAR	**Eielson Array**	**82.02**	**22**	P	**P**	**03 55 17.3**	**-2.2**
	comp=Z,0.6nm,1.1s,baz=257,slow=3.6,SNR=2.5						
	comp=Z,0.6nm,1.1s						
KURBB	**Kurchatov Arra**	**84.40**	**322**	P	**P**	**03 55 30.8**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=107,slow=3.7,SNR=8.9						
KURBB				pP	**pP**	**03 55 48.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=109,slow=4.3,SNR=1.7						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**85.00**	**180**	P	**P**	**03 55 35.4**	**+0.4**
QSPA				IAmb	IAmb	03 55 36.4	
	comp=Z,4.2nm,0.8s						
QSPA	**South Pole Qui**	**85.00**	**180**	P	**P**	**03 55 35.0**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=1.7,slow=1.0,SNR=12						
	comp=Z,4.4nm,0.7s						
BVAR	**Borovoye Array**	**89.83**	**323**	P	**P**	**03 55 57.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=110,slow=8.1,SNR=5.7						
	comp=Z,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**91.58**	**52**	P	**P**	**03 56 06.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=247,slow=12,SNR=1.4						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**95.21**	**28**	P	**P**	**03 56 22.0**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=259,slow=6.0,SNR=1.8						
	comp=Z,0.1nm,0.6s						
PLCA	**Paso Flores**	**119.18**	**143**	PKP	**PKPdf**	**04 01 48.1**	**-0.9**
	comp=Z,2.5nm,1.0s,baz=210,slow=7.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.09**	**288**	PKPbc	**PKPbc**	**04 02 53.3**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=64,slow=2.4,SNR=43						
TORD				pPKPbc	**pPKPbc**	**04 03 09.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=68,slow=3.7,SNR=3.7						

NEIC ***19*** *04:01:30.0±1.5,21°.9S±0°.1×179°.1W±0°.1, h560km±9km, mb4.5/40, Error ellipse: s-maj=20.7km s-min=15.4km az=134.0*

IDC ***19*** *04:01:34.9±4.0,21°.84S×179°.28W, h616km±47km, mb3.4/11, mbtmp4.3/11, Error ellipse: s-maj=22.1km s-min=15.9km az=81.0*

ISC 19 04:01:30.9±0.4,**21°.94S**±0°.08×**179°.07W**±0°.09,**h576**km,
n95,σ1§**48**/94,**mb4.4**/31,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**9.03**	**73**	P	**P**	**04 03 38.0**	**-1.5**
AFI	**Afiamalu**	**10.58**	**42**	P	**P**	**04 03 52.8**	**-2.4**
MARNC	**Mare, Loyalty**	**12.00**	**270**	P	**P**	**04 04 07.7**	**-1.8**
DZM	**Mont Dzumac**	**13.44**	**267**	P	**P**	**04 04 23.2**	**-1.2**
	3.7nm,0.6s,baz=131,slow=11,SNR=1.6						
WCZ	**Waipu Caves**	**15.09**	**201**	P	P	04 05 25.1	+45
HAZ	**Te Kaha**	**16.00**	**189**	P	**P**	**04 04 48.0**	**-1.1**
RUGZ	**Raukumara Rang**	**16.22**	**189**	P	**P**	**04 04 50.9**	**-0.4**
TWGZ	**Tauwhareparae**	**16.38**	**188**	P	**P**	**04 04 53.2**	**+0.5**
TOZ	**Tahuroa Road**	**16.42**	**195**	P	**P**	**04 04 54.3**	**+1.3**
TOZ				IAmb	IAmb	04 04 55.2	
	comp=Z,13nm,1.0s						
URZ	**Urewera**	**16.60**	**191**	P	**P**	**04 04 51.8**	**-2.7**
	comp=Z,7.5nm,0.3s,baz=352,slow=1.8,SNR=19						
URZ				S	**S**	**04 07 34.9**	**-5.6**
	comp=Z,6.8nm,0.8s,baz=286,slow=12,SNR=2.0						
URZ	**Urewera**	**16.60**	**191**	P	**P**	**04 04 51.8**	**-2.7**
CNGZ	**Carnagh Statio**	**16.66**	**187**	P	**P**	**04 04 55.4**	**+0.2**
RIGZ	**Rimuhau**	**16.93**	**189**	P	**P**	**04 04 56.7**	**-1.0**
PRRZ	**Plateau Road**	**16.96**	**192**	P	**P**	**04 04 50.7**	**-7.2**
RTZ	**Ruatahuna**	**16.97**	**191**	P	**P**	**04 04 55.8**	**-2.2**
NMHZ	**Naumai**	**17.47**	**191**	P	**P**	**04 05 01.5**	**-1.1**
BKZ	**Black Stump Fm**	**17.59**	**191**	P	**P**	**04 05 01.7**	**-2.0**
BKZ	**Black Stump Fm**	**17.59**	**191**	P	**P**	**04 05 01.4**	**-2.2**
OTVZ	**Oturere**	**17.75**	**194**	P	**P**	**04 05 04.1**	**-1.2**
SNVZ	**South Ngauruho**	**17.78**	**194**	P	**P**	**04 05 05.3**	**-0.3**
KWHZ	**Kaweka Forest**	**17.85**	**191**	P	**P**	**04 05 04.3**	**-1.7**
WNVZ	**Wahianoa**	**17.92**	**194**	P	**P**	**04 05 05.9**	**-0.9**
BHHZ	**Black Hill Sta**	**17.98**	**192**	P	**P**	**04 05 05.1**	**-2.2**
KRHZ	**Kereru**	**18.07**	**191**	P	**P**	**04 05 08.1**	**+0.1**
KAHZ	**Kahuranaki**	**18.13**	**190**	P	**P**	**04 05 07.8**	**-0.8**
PXZ	**Pawanui**	**18.37**	**190**	P	**P**	**04 05 09.8**	**-0.9**
TSZ	**Takapari Road**	**18.55**	**192**	P	**P**	**04 05 12.1**	**-0.3**
BFZ	**Birch Farm**	**19.11**	**191**	P	**P**	**04 05 16.0**	**-1.4**
BFZ	**Birch Farm**	**19.11**	**191**	P	**P**	**04 05 15.8**	**-1.5**
MRZ	**Mangatainoka R**	**19.21**	**192**	P	**P**	**04 05 16.5**	**-1.9**
TCW	**Tory Channel**	**20.02**	**195**	P	**P**	**04 05 26.5**	**+0.8**
QRZ	**Quartz Range**	**20.13**	**199**	P	**P**	**04 05 26.9**	**+0.2**
MRNZ	**Matariki Terra**	**20.59**	**198**	P	**P**	**04 05 30.6**	**-0.2**
THZ	**Tophouse**	**20.89**	**197**	P	**P**	**04 05 33.2**	**-0.4**
THZ				IAmb	IAmb	04 05 38.0	
	comp=Z,27nm,1.4s						
GVZ	**Greta Valley S**	**21.98**	**196**	P	**P**	**04 05 41.9**	**-1.4**
LTZ	**Lake Taylor**	**22.01**	**197**	P	**P**	**04 05 41.7**	**-1.8**
LTZ				IAmb	IAmb	04 05 46.6	
	comp=Z,17nm,1.1s						
MLZ	**Mavora Lakes**	**25.62**	**201**	P	**P**	**04 06 17.1**	**+1.5**
MLZ				IAmb	IAmb	04 06 18.6	
	comp=Z,12nm,1.0s						
ARMA	**Armidale**	**27.56**	**246**	P	**P**	**04 06 34.1**	**+1.3**
ARMA				IAmb	IAmb	04 06 35.1	
	comp=Z,10.0nm,0.8s						
CAN	**Canberra**	**30.89**	**237**	P	**P**	**04 07 03.3**	**+1.7**
CAN				IAmb	IAmb	04 07 03.6	
	comp=Z,16nm,0.9s						
CTAO	**Charters Tower**	**32.38**	**267**	P	**P**	**04 07 14.6**	**+0.2**
CTAO				IAmb	IAmb	04 07 16.5	
	comp=Z,16nm,1.1s						
TOO	**Toolangi**	**34.25**	**235**	P	**P**	**04 07 30.8**	**+0.9**
TOO				IAmb	IAmb	04 07 31.3	
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**36.28**	**246**	P	**P**	**04 07 47.5**	**+0.8**
STKA	**Stephens Creek**	**36.28**	**246**	P	**P**	**04 07 47.4**	**+0.7**
	comp=Z,7.2nm,0.5s,baz=94,slow=11,SNR=16						
	comp=Z,7.2nm,0.5s						
BBOO	**Buckleboo**	**41.02**	**245**	P	**P**	**04 08 24.8**	**-0.1**
BBOO				IAmb	IAmb	04 08 25.5	
	comp=Z,14nm,0.9s						
AS31	**Alice Springs**	**43.23**	**258**	P	**P**	**04 08 42.8**	**+0.3**
ASAR	**Alice Springs**	**43.23**	**258**	P	**P**	**04 08 42.1**	**-0.4**
ASAR	**Alice Springs**	**43.23**	**258**	P	**P**	**04 08 42.4**	**-0.1**
	comp=Z,10nm,0.8s,baz=100,slow=7.9,SNR=87						
ASAR				PcP	**PcP**	**04 10 19.1**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=119,slow=3.6,SNR=5.2						
	comp=Z,10nm,0.8s						
WB0	**Warramunga Arr**	**43.41**	**264**	P	**P**	**04 08 43.2**	**-0.7**
WB0				IAmb	IAmb	04 08 44.1	
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**43.42**	**264**	P	**P**	**04 08 43.2**	**-0.8**
WB2				IAmb	IAmb	04 08 44.3	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**43.43**	**264**	P	**P**	**04 08 43.3**	**-0.8**
	comp=Z,5.2nm,0.6s,baz=96,slow=7.8,SNR=22						
FORT	**Forrest**	**47.82**	**248**	P	**P**	**04 09 17.1**	**-0.1**
MTN	**Manton Dam**	**48.20**	**272**	P	**P**	**04 09 19.7**	**-0.5**
MTN				IAmb	IAmb	04 09 20.1	
	comp=Z,9.3nm,0.7s						
KNRA	**Kununurra**	**49.58**	**268**	P	**P**	**04 09 30.3**	**-0.1**
KNRA				IAmb	IAmb	04 09 30.7	
	comp=Z,10nm,0.8s						
PSA00	**Pilbara Seismi**	**56.38**	**258**	P	**P**	**04 10 18.0**	**-0.7**
VNDA	**Vanda**	**56.40**	**185**	P	**P**	**04 10 20.2**	**+2.4**
VNDA	**Vanda**	**56.40**	**185**	P	**P**	**04 10 19.9**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=29,slow=5.7,SNR=7.5						
	comp=Z,0.7nm,0.4s						
NWAO	**Narrogin (SRO)**	**56.84**	**244**	P	**P**	**04 10 21.1**	**-0.5**
MORW	**Morawa**	**58.37**	**249**	P	**P**	**04 10 32.0**	**-0.1**
QSPA	**South Pole Qui**	**68.14**	**180**	P	**P**	**04 11 35.8**	**+1.9**
QSPA	**South Pole Qui**	**68.14**	**180**	P	**P**	**04 11 35.4**	**+1.5**
	comp=Z,3.2nm,0.5s,baz=316,slow=0.3,SNR=17						
	comp=Z,3.2nm,0.5s						
KIWB	**Kanaga Island**	**73.49**	**1**	P	**P**	**04 12 05.3**	**+0.1**
ADK	**Adak**	**73.53**	**2**	P	**P**	**04 12 04.8**	**-0.6**
UNV	**Unalaska Valle**	**76.24**	**8**	P	**P**	**04 12 20.1**	**-0.4**
KSRS	**Korea Array**	**77.31**	**319**	P	**P**	**04 12 27.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=148,slow=7.2,SNR=1.9						
	comp=Z,0.6nm,0.4s						
PETK	**Petropavlovsk-**	**77.41**	**346**	P	**P**	**04 12 27.3**	**+0.4**
PETK	**Petropavlovsk-**	**77.41**	**346**	P	**P**	**04 12 26.6**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=121,slow=4.3,SNR=3.9						
	comp=Z,2.0nm,0.6s						
BELA	**Belgrano 2**	**78.27**	**173**	P	**P**	**04 12 32.2**	**+0.8**
TJX	**Tijuana**	**80.25**	**49**	P	**P**	**04 12 43.2**	**+0.7**
OHAK	**Old Harbor**	**81.77**	**14**	P	**P**	**04 12 50.4**	**+0.7**
OHAK				IAmb	IAmb	04 13 05.6	
	comp=Z,25nm,1.3s						
NVAR	**Mina Array Bea**	**82.75**	**44**	P	**P**	**04 12 56.4**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=221,slow=8.8,SNR=6.6						
	comp=Z,1.3nm,0.7s						
NV11	**Mina Array Sit**	**82.85**	**44**	P	**P**	**04 12 56.0**	**+0.2**
O16K	**Kokwok River B**	**83.04**	**11**	P	**P**	**04 12 55.6**	**-0.4**
SNAA	**Sanae**	**86.61**	**179**	P	**P**	**04 13 13.3**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=202,slow=9.2,SNR=6.8						
	comp=Z,2.7nm,1.0s						
GHO	**Glory Hole Cre**	**86.85**	**14**	P	**P**	**04 13 14.8**	**+0.3**
GHO				IAmb	IAmb	04 13 15.4	
	comp=Z,12nm,0.8s						
SCM	**Sheep Creek Mo**	**87.27**	**14**	P	**P**	**04 13 16.9**	**+0.4**
CAST	**Castle Rocks**	**87.68**	**12**	P	**P**	**04 13 17.3**	**-1.0**
CAST				IAmb	IAmb	04 13 18.0	
	comp=Z,5.0nm,0.6s						
TRF	**Thorofare Moun**	**88.06**	**13**	P	**P**	**04 13 19.8**	**-0.5**
TRF				IAmb	IAmb	04 13 20.9	
	comp=Z,9.4nm,0.8s						
RND	**Reindeer**	**88.31**	**13**	P	**P**	**04 13 21.6**	**+0.2**
RND				IAmb	IAmb	04 13 22.5	
	comp=Z,11nm,1.0s						
TXAR	**Lajitas Array**	**88.67**	**58**	P	**P**	**04 13 25.0**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=215,slow=6.1,SNR=11						
	comp=Z,1.3nm,0.9s						
M27K	**Edge Creek, AK**	**89.06**	**16**	P	**P**	**04 13 25.3**	**+0.4**
M27K				IAmb	IAmb	04 13 26.9	
	comp=Z,10nm,1.3s						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**04 13 30.4**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=147,slow=3.8,SNR=9.0						
ILAR	**Eielson Array**	**89.93**	**13**	P	**P**	**04 13 28.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=217,slow=4.9,SNR=23						
	comp=Z,0.6nm,0.5s						
E19K	**Redstone River**	**90.60**	**8**	P	**P**	**04 13 32.3**	**+0.6**
E19K				IAmb	IAmb	04 13 33.0	
	comp=Z,6.8nm,1.1s						
PDAR	**Pinedale Array**	**90.69**	**44**	P	**P**	**04 13 33.6**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=192,slow=4.1,SNR=5.7						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**119.52**	**319**	PKP	**PKPdf**	**04 19 14.4**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=106,slow=2.4,SNR=4.0						
SPITS	**Spitsbergen Ar**	**123.23**	**356**	PKP	**PKPdf**	**04 19 20.6**	**-1.3**
	comp=Z,14nm,1.1s,baz=0.0,slow=2.4,SNR=0.9						
ARCES	**ARCESS Array B**	**130.14**	**349**	PKP	**PKPdf**	**04 19 35.1**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=355,slow=2.6,SNR=4.9						
NOA	**NORSAR Array B**	**140.27**	**352**	PKhKP	PKPpre	04 19 47.7	
	comp=Z,0.6nm,0.8s,baz=26,slow=4.0,SNR=3.8						
HFS	**Hagfors**	**140.78**	**350**	PKhKP	PKPpre	04 19 49.3	
	comp=Z,1.4nm,0.4s,baz=59,slow=5.7,SNR=15						
AKASG	**Malin Array Be**	**143.76**	**329**	PKP	PKPbc	04 19 58.6	-1.3
	comp=Z,1.8nm,0.4s,baz=41,slow=4.1,SNR=22						
EKA	**Eskdalemuir Ar**	**146.51**	**4**	PKPbc	**PKPbc**	**04 20 07.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=335,slow=2.1,SNR=3.9						
BRTR	**Keskin Array B**	**147.03**	**310**	PKPbc	**PKPbc**	**04 20 09.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=123,slow=4.6,SNR=5.0						
GERES	**GERESS Array B**	**151.28**	**342**	PKPbc	**PKPbc**	**04 20 19.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=347,slow=5.5,SNR=6.2						
ESDC	**Sonseca Array**	**161.83**	**12**	PKPab	**PKPab**	**04 21 16.3**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=336,slow=6.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**171.23**	**185**	PKP	**PKPdf**	**04 20 33.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=54,slow=2.1,SNR=3.9						
TORD				PKPab	**PKPab**	**04 21 58.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=177,slow=3.0,SNR=7.3						

IDC ***19*** *04:16:41.1±1.6,55°.62N×166°.22E, h0km, mb3.4/3, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=70.1km s-min=23.2km az=162.0*

KRSC ***19*** *04:16:43.5±1.1,55°.33N×166°.04E, h32km±10km, Ml3.6*

ISC 19 04:16:43.7±1.1,**55°.44N**±0°.09×**166°.29E**±0°.09,**h20**km,**n22,**
σ1§**16**/27,**mb3.4**/3,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.29**	**218**	*i* P	**Pb**	**04 16 49.5**	**-0.8**
BKI				*eS*	**Sb**	**04 16 54.7**	**-0.1**
SMKR	**Semkarok**	**2.94**	**295**	*eP*	**Pn**	**04 17 29.3**	**-0.1**
TUMD	**Tumrok D**	**3.38**	**268**	*eP*	**Pn**	**04 17 35.8**	**+0.6**
TUMD				*eS*	**Sn**	**04 18 13.9**	**-0.8**
KMNR	**Kamenistaya**	**3.45**	**278**	*eP*	**Pn**	**04 17 37.7**	**+1.3**
TUMR	**Tumrok**	**3.51**	**270**	*eP*	**Pn**	**04 17 38.5**	**+1.3**
SRDR	**Sredinnyy**	**3.81**	**286**	*eP*	**Pn**	**04 17 42.1**	**+0.9**
SPN	**Mys Shipunski**	**4.36**	**240**	*eP*	**Pn**	**04 17 48.7**	**0.0**
SPN				*eS*	**Sn**	**04 18 36.8**	**-2.0**
SMAR	**Somma**	**4.89**	**247**	*eP*	**Pn**	**04 17 57.2**	**+0.9**
UGLR	**Uglovaya**	**4.91**	**246**	*eP*	**Pn**	**04 17 57.5**	**+1.1**
AVH	**Avacha**	**4.92**	**247**	*eP*	**Pn**	**04 17 57.4**	**+0.8**
KRX	**Arik**	**4.93**	**248**	*eP*	**Pn**	**04 17 57.7**	**+1.1**
KOK	**Koryaka**	**4.96**	**248**	*eP*	**Pn**	**04 17 58.4**	**+1.2**
GNL	**Ganaly**	**5.16**	**254**	*eP*	**Pn**	**04 18 01.4**	**+1.6**
KRMR	**Karymshinskiy**	**5.46**	**245**	*eP*	**Pn**	**04 18 06.3**	**+2.4**
KRMR				*eS*	**Sn**	**04 19 05.8**	**-0.3**
RUS	**Russkaya**	**5.49**	**240**	*eP*	**Pn**	**04 18 04.7**	**+0.5**
PETK	**Petropavlovsk-**	**5.55**	**249**	Pn	**Pn**	**04 18 05.8**	**+0.7**
	0.9nm,0.3s,baz=71,slow=17,SNR=15						
PETK				Sn	**Sn**	**04 19 09.7**	**+1.4**
	0.1nm,0.3s,baz=96,slow=25,SNR=1.6						
	1.8nm,0.4s						
MTVR	**Mutnovka**	**5.63**	**242**	*eP*	**Pn**	**04 18 07.2**	**+0.9**
GRL	**Gorelyy**	**5.64**	**243**	*eP*	**Pn**	**04 18 07.4**	**+0.9**
ASAK	**Asacha**	**5.83**	**242**	*eP*	**Pn**	**04 18 10.8**	**+1.8**
ILAR	**Eielson Array**	**24.56**	**49**	P	**P**	**04 22 01.4**	**-0.4**
	0.5nm,0.8s,baz=250,slow=8.6,SNR=7.1						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**49.64**	**303**	P	**P**	**04 25 32.8**	**-0.6**
	0.2nm,0.5s,baz=55,slow=9.1,SNR=2.0						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**66.41**	**72**	P	**P**	**04 27 31.9**	**+0.6**
	0.3nm,0.5s,baz=309,slow=5.4,SNR=8.9						
	0.3nm,0.5s						

IDC ***19*** *04:18:00.8±2.4,17°.84S

	baz=248						
M11K	**Mekoryuk**	4.13	131		Pn	Pn	04 21 20.7 -0.1
M11K	**Mekoryuk**	4.13	131	P	Pn	Pn	04 21 20.7 -0.1
	baz=317						
F15K	**North Star Dit**	4.23	50		Pn	Pn	04 21 22.2 0.0
F15K	**North Star Dit**	4.23	50	IAmb_Lg			04 22 44.2
	comp=Z,81nm,0.8s						
F15K	**North Star Dit**	4.23	50	P	Pn	Pn	04 21 22.2 0.0
	baz=236						
H16K	**Elim**	4.76	68		Pn	Pn	04 21 29.9 +0.4
H16K	**Elim**	4.76	68	P	Pn	Pn	04 21 29.8 +0.4
	baz=257						
G16K	**Koyuk River**	4.94	59		Pn	Pn	04 21 32.6 +0.7
G16K	**Koyuk River**	4.94	59	P	Pn	Pn	04 21 32.6 +0.7
	baz=248						
L14K	**Kuka Creek**	4.97	108	Pn	Pn	Pn	04 21 32.8 +0.5
L14K				IAmb_Lg			04 23 01.7
	comp=Z,41nm,0.9s						
L14K	**Kuka Creek**	4.97	108	P	Pn	Pn	04 21 32.8 +0.5
	baz=297						
K15K	**Wolf Creek Mou**	5.14	95	Pn	Pn	Pn	04 21 34.8 +0.1
K15K	**Wolf Creek Mou**	5.14	95	P	Pn	Pn	04 21 34.5 -0.1
	baz=285						
M13K	**Dall Lake**	5.18	119			Pn	04 21 35.6 +0.4
M13K	**Dall Lake**	5.18	119	P		Pn	04 21 35.6 +0.4
	baz=307						
I17K	**Unalakleet**	5.33	77			Pn	04 21 36.9 -0.4
L15K	**Ungalak Mounta**	5.35	102			Pn	04 21 37.6 0.0
L15K	**Ungalak Mounta**	5.35	102	P		Pn	04 21 37.6 0.0
	baz=292						
J16K	**Anvik River**	5.39	84	Pn		Pn	04 21 38.8 +0.7
J16K	**Anvik River**	5.39	84	P		Pn	04 21 38.6 +0.5
	baz=274						
M14K	**Bethel**	5.56	112			Pn	04 21 40.8 +0.4
M14K	**Bethel**	5.56	112	P		Pn	04 21 40.6 +0.2
	baz=301						
H17K	**Granite Mounta**	5.80	67	Pn		Pn	04 21 44.0 +0.2
C16K	**Lisburne Hills**	5.88	27	Pn		Pn	04 21 45.5 +0.7
M15K	**Kasigluk River**	6.13	109			Pn	04 21 48.4 +0.2
N14K	**Kuskokwak Cree**	6.14	118			Pn	04 21 48.3 0.0
L16K	**Owhat River**	6.24	98			Pn	04 21 49.9 +0.1
H18K	**Honhosa River**	6.49	66			Pn	04 21 52.6 -0.6
K17K	**Iditarod**	6.51	88	Pn		Pn	04 21 52.9 -0.5
E18K	**Tukpahlearik C**	6.54	45	Pn		Pn	04 21 53.5 -0.3
N15K	**Kwethluk River**	6.66	112			Pn	04 21 55.3 -0.2
M16K	**Timber Creek**	6.73	103	Pn		Pn	04 21 57.0 +0.5
J18K	**Innoko River**	7.12	81	Pn		Pn	04 22 03.1 +1.2
N17K	**Nushagak Hills**	7.73	103			Pn	04 22 10.3 +0.1
O17K	**Koliganek Bris**	8.14	108			Pn	04 22 15.6 -0.2
L19K	**White Mountain**	8.19	89	Pn		Pn	04 22 17.4 +0.9
SVW2	**Sparrevohn**	8.21	97	Pn		Pn	04 22 16.3 -0.5
IMAR	**Indian Mountai**	8.53	63	Pn		Pn	04 22 20.8 -0.3
CAST	**Castle Rocks**	9.19	80	Pn		Pn	04 22 30.3 0.0
BPAW	**Bear Paw Mtn.**	9.61	75	Pn		Pn	04 22 36.0 +0.1

*IDC **19** 04:23:12.8±1.4, 16°.14S×74°.09W, h0km, mb3.8/5, mbtmp3.8/5, MS3.5/3, Error ellipse: s-maj=41.6km s-min=30.8km az=76.0*
*NEIC **19** 04:23:14.4±1.7, 15°.99S±0°.08×74°.5W±0°.1, h10km±1km, mb4.3/6, Error ellipse: s-maj=19.8km s-min=10.9km az=243.0*

ISC 19 04:23:13.8±0.8, **16°.05S**±0°.08×**74°.5W**±0°.1, **h10**km, **n40, σ1§46**/34, **mb3.9**/7, **MS3.3**/3, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	4.60	121	Pn	Pn	04 24 22.4	-1.1
NNA	**Nana**	4.63	330		Pn	04 24 23.9	0.0
PB12	**IPOC Station P**	4.74	123		Pn	04 24 26.4	+0.9
PB18	**Visviri**	5.05	108		Pn	04 24 30.1	-0.1
PB16	**IPOC Station P**	5.29	116		Pn	04 24 35.0	+1.5
TA02	**Huaiquique**	5.91	136		Pn	04 24 42.4	+0.9
PB11	**IPOC Station P**	5.91	129		Pn	04 24 41.3	-0.4
TA01	**Diego Aracena**	6.09	138		Pn	04 24 44.8	+0.9
LPAZ	**La Paz**	6.13	93		Pn	04 24 49.1	+4.0
GO01	**Chusmiza**	6.21	126		Pn	04 24 47.0	+1.0
PATCX	**Punta Patache**	6.29	140		Pn	04 24 47.4	+0.5
PB08	**IPOC Station P**	6.52	129		Pn	04 24 50.7	+0.5
PB02	**IPOC Station P**	6.83	141		Pn	04 24 55.3	+1.1
PB01	**IPOC Station P**	6.88	137	Pn	Pn	04 24 55.6	+0.7
PB07	**IPOC Station P**	7.14	143	Pn	Pn	04 24 59.4	+0.7
PB09	**IPOC Station P**	7.58	140	Pn	Pn	04 25 05.5	+0.8
PB05	**IPOC Station P**	7.89	150	Pn	Pn	04 25 08.8	0.0
LVC	**Limon Verde**	8.40	142		Pn	04 25 17.6	+1.6
CZSB	**Cruzeiro do Su**	8.45	12		Pn	04 25 15.7	-0.8
PB15	**IPOC Station P**	8.56	147	Pn	Pn	04 25 19.1	+1.0
PB14	**IPOC Station P**	9.36	156	Pn	Pn	04 25 28.6	-0.5
ETMB	**Extrema**	10.18	54		Pn	04 25 41.0	+0.8
MCRA	**Macar, Loja**	12.78	335		Pn	04 26 15.7	0.0
SAML	**Samuel**	13.11	59		Pn	04 26 18.3	-2.0
BOSC	**San Juan Bosco**	13.40	343		Pn	04 26 25.0	+0.6
COHC	**Cochancay**	14.28	340	Pn	Pn	04 26 36.5	+0.2
CO02	**Combarbal**	15.43	169	Pn	Pn	04 26 53.9	+2.2
CO02				IAmb	IAmb	04 27 02.1	
	comp=Z,30nm,1.4s						
SLOR	**San Lorenzo -**	15.72	345	Pn	Pn	04 26 55.2	-0.7
SLOR				IAmb	IAmb	04 27 11.5	
	comp=Z,9.3nm,0.8s						
TULM	**Tulcn-Chalpat**	16.97	349	Pn	Pn	04 27 09.8	-2.1
ROSC	**El Rosal**	20.75	1	LR	LR	04 37 56.6	
	comp=Z,74nm,20.8s,baz=88,slow=42						
BOAV	**Boa Vista**	22.95	38	P	P	04 28 16.2	-2.4
BOAV				IAmb	IAmb	04 28 24.7	
	comp=Z,7.8nm,1.1s						
PLCA	**Paso Flores**	24.84	173	P	P	04 28 37.2	+0.8
	comp=Z,1.7nm,1.1s,baz=357,slow=10,SNR=3.5						
	comp=Z,1.7nm,1.1s						
BDFB	**Brasilia**	25.49	93	P	P	04 28 41.3	-1.3
	comp=Z,1.1nm,0.4s,baz=252,slow=6.4,SNR=3.1						
	comp=Z,1.1nm,0.4s						
BAUV	**El Baul**	25.64	15	P	P	04 28 42.0	-1.8
BAUV				IAmb	IAmb	04 28 46.3	
	comp=Z,18nm,1.1s						
JTS	**Las Juntas de**	28.14	338	LR	LR	04 39 45.5	
	comp=Z,81nm,19.6s,baz=36,slow=35						
TXAR	**Lajitas Array**	53.18	328	P	P	04 32 35.8	+3.4
	comp=Z,0.3nm,0.7s,baz=157,slow=9.5,SNR=2.7						
	comp=Z,0.3nm,0.7s						
ANMO	**Albuquerque**	59.10	330	LR	LR	05 00 20.9	
	comp=Z,88nm,18.0s,baz=349,slow=38						
SNAA	**Sanae**	69.13	161	P	P	04 34 18.7	-1.3
SNAA	**Sanae**	69.13	161	P	P	04 34 18.3	-1.8
	comp=Z,2.1nm,0.7s,baz=278,slow=11,SNR=6.7						
	comp=Z,2.1nm,0.7s						
TORD	**Torodi Ar. Bea**	80.72	73	P	P	04 35 25.5	-2.5
	comp=Z,0.8nm,0.7s,baz=247,slow=4.6,SNR=7.1						
	comp=Z,0.8nm,0.7s						

*CNRM **19** 04:40:55.4, 35°.63N×4°.62W, h106km, ML2.2*
*SFS **19** 04:40:57.9, 35°.58N×4°.71W, h84km, ML2.9/29, MLv2.5/29*
*IGIL **19** 04:40:58.6, 35°.59N×4°.74W, h30km, ML2.6*
*MDD **19** 04:40:58.3±0.3, 35°.59N×4°.74W, h31km±2km, mb_Lg2.9/26, Error ellipse: s-maj=2.8km s-min=2.3km az=135.0*
*INMG **19** 04:40:58.7±1.3, 35°.67N×4°.75W, h72km±5km, ML2.5, Error ellipse: s-maj=4.8km s-min=3.1km az=171.0*

ISC 19 04:40:57.3±1.1, **35°.61N**±0°.02×**4°.73W**±0°.02, **h35**km, **n88, σ1§85**/141, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIR	**Smir Dam**	0.54	278	P	Pn	04 41 13.8	+5.3
SMIR	**Smir Dam**	0.54	278	S	Sn	04 41 27.0	+11
PVLZ	**Peæn de**	0.56	141	Pn	Pn	04 41 11.8	+3.1
PVLZ				Sn	**Sn**	**04 41 22.0**	**+5.3**
CEU	**Ceuta**	0.60	299	Pn	Pn	04 41 13.1	+3.8
CEU				Sn	**Sn**	**04 41 24.2**	**+6.3**
ECEU	**Ceuta**	0.60	299	Pn	Pn	04 41 14.0	+4.5
PALE	**Palemas**	0.75	121	P	**Pn**	**04 41 12.8**	**+1.3**
PALE	**Palemas**	0.75	121	S	**Sn**	**04 41 26.2**	**+4.6**
EMIJ	**Mijas**	0.95	358	Pn	**Pn**	**04 41 16.0**	**+1.7**
EMIJ				Sn	**Sn**	**04 41 29.1**	**+2.4**
EMIJ	**Mijas**	0.95	358	Pg	**Pn**	**04 41 15.9**	**+1.7**
EMIJ				Sg	**Sn**	**04 41 28.8**	**+2.1**
EMIJ				*i* Vmb_Lg		04 41 31.1	
EJIF	**Jimena Fronter**	1.03	325	Pg	Pn	04 41 19.3	+4.0
EJIF				Sg	**Sn**	**04 41 34.6**	**+6.1**
RSA	**Sarsar**	1.15	231	P	**Pn**	**04 41 20.0**	**+3.0**
RSA	**Sarsar**	1.15	231	S	**Sn**	**04 41 37.4**	**+5.8**
EMAL	**Malaga-Limoner**	1.18	12	Pn	**Pn**	**04 41 18.9**	**+1.7**
EMAL				Sn	**Sn**	**04 41 34.3**	**+2.2**
AKLM	**AKL**	1.30	147	P	**Pn**	**04 41 20.9**	**+1.8**
AKLM	**AKL**	1.30	147	S	**Sn**	**04 41 36.1**	**+0.8**
GOG	**Mont Gurugu**	1.47	105	P	**Pn**	**04 41 20.6**	**-0.7**
GOG	**Mont Gurugu**	1.47	105	S	**Sn**	**04 41 40.0**	**+0.7**
ELGU	**Los Guajares,**	1.54	35	Pn	**Pn**	**04 41 22.9**	**+0.6**
ELGU				Sn	**Sn**	**04 41 41.9**	**+0.8**
ELGU	**Los Guajares,**	1.54	35	Pn	**Pn**	**04 41 23.1**	**+0.8**
ELGU				Sn	**Sn**	**04 41 41.5**	**+0.4**
ELGU				*i* Vmb_Lg		04 41 43.8	
ESPR	**Espera**	1.55	324	Sn	**Sn**	**04 41 45.1**	**+3.7**
ESPR				Pn	**Pn**	**04 41 25.1**	**+2.6**
ESPR	**Espera**	1.55	324	Pn	**Pn**	**04 41 25.0**	**+2.5**
ESPR				Sn	**Sn**	**04 41 41.3**	**-0.1**
ESPR				*i* Vmb_Lg		04 41 48.2	
EGOR	**Sierra Gorda,**	1.58	18	Pn	**Pn**	**04 41 24.5**	**+1.6**
EGOR	**Sierra Gorda,**	1.58	18	Pn	**Pn**	**04 41 24.6**	**+1.6**
EGOR				Sn	**Sn**	**04 41 44.0**	**+1.8**
EGOR				*i* Vmb_Lg		04 41 52.5	
EQUE	**Quentar**	1.90	33	Pn	**Pn**	**04 41 28.0**	**+0.6**
EQUE				Sn	**Sn**	**04 41 49.8**	**-0.3**
EQUE				*i* Vmb_Lg		04 42 00.6	
EQTA	**Presa de Quent**	1.90	33	Sn	**Sn**	**04 41 52.4**	**+2.3**
EBER	**Berja**	1.96	49	Pn	**Pn**	**04 41 29.1**	**+0.8**
EBER				Sn	**Sn**	**04 41 51.4**	**-0.4**
EBER	**Berja**	1.96	49	Pn	**Pn**	**04 41 29.6**	**+1.3**
EBER				Sn	**Sn**	**04 41 51.0**	**-0.8**
EBER				*i* Vmb_Lg		04 41 54.8	
TAF	**Taforalt**	2.05	112	P	**Pn**	**04 41 29.4**	**0.0**
TAF	**Taforalt**	2.05	112	S	**Sn**	**04 41 51.0**	**-2.8**
IFR	**Ifrane**	2.11	189	Pn	**Pn**	**04 41 30.3**	**0.0**
IFR				Sn	**Sn**	**04 41 53.3**	**-2.1**
ARNO	**Arenosillo**	2.20	313	Pn	**Pn**	**04 41 33.1**	**+1.8**
ARNO				Sn	**Sn**	**04 41 58.5**	**+1.2**
ECAB	**El Cabril**	2.52	347	Pn	**Pn**	**04 41 36.7**	**+0.9**
ECAB				Sn	**Sn**	**04 42 04.5**	**-0.9**
ECAB	**El Cabril**	2.52	347	Pn	**Pn**	**04 41 36.0**	**+0.2**
ECAB				Sn	**Sn**	**04 42 04.9**	**-0.5**
ECAB				*i* Vmb_Lg		04 42 11.3	
EADA	**Adamuz**	2.56	3	Pn	**Pn**	**04 41 37.7**	**+1.4**
EADA				Sn	**Sn**	**04 42 05.2**	**-1.0**
EADA	**Adamuz**	2.56	3	Pn	**Pn**	**04 41 38.0**	**+1.7**
EADA				Sn	**Sn**	**04 42 05.0**	**-1.2**
EADA				*i* Vmb_Lg		04 42 07.8	
EQES	**Quesada**	2.56	31	Pn	**Pn**	**04 41 38.3**	**+1.8**
EQES				Sn	**Sn**	**04 42 07.5**	**+1.0**
EQES				*i* Vmb_Lg		04 42 09.2	
EMIN	**Mina Concepcio**	2.66	325	Pn	**Pn**	**04 41 38.6**	**+0.9**
EMIN				Sn	**Sn**	**04 42 08.0**	**-0.7**
EMIN	**Mina Concepcio**	2.66	325	Pn	**Pn**	**04 41 38.5**	**+0.8**
EMIN				Sn	**Sn**	**04 42 08.4**	**-0.4**
EMIN				*i* Vmb_Lg		04 42 09.0	
ZHG	**ZHG**	2.67	217	P	**Pn**	**04 41 38.4**	**+0.4**
MD31	**MD31**	2.73	181	P	**Pn**	**04 41 38.8**	**0.0**
MD31	**MD31**	2.73	181	S	**Sn**	**04 42 10.4**	**-0.2**
MDT	**Midelt**	2.79	178	P	**Pn**	**04 41 39.4**	**-0.2**
MDT	**Midelt**	2.79	178	S	**Sn**	**04 42 09.6**	**-2.5**
EGRO	**El Granado**	2.94	312	Pn	**Pn**	**04 41 42.2**	**+0.7**
EGRO				Sn	**Sn**	**04 42 14.3**	**-1.2**
EGRO	**El Granado**	2.94	312	Pn	**Pn**	**04 41 41.5**	**+0.1**
EGRO				Sn	**Sn**	**04 42 13.9**	**-1.6**
EGRO				*i* Vmb_Lg		04 42 15.3	
PVAQ	**Vaqueiros**	3.00	308	*e*P	**Pn**	**04 41 43.0**	**+0.6**
PVAQ				*e*S	**Sn**	**04 42 16.0**	**-1.2**
PVAQ	**Vaqueiros**	3.00	308	Pn	**Pn**	**04 41 42.8**	**+0.4**
PVAQ				Sn	**Sn**	**04 42 16.0**	**-1.2**
PVAQ	**Vaqueiros**	3.00	308	P	**Pn**	**04 41 42.2**	**-0.2**
PBDV	**Barranco-do-Ve**	3.06	303	*e*P	**Pn**	**04 41 43.8**	**+0.6**
PBDV				*e*S	**Sn**	**04 42 17.8**	**-0.7**
PBDV				A	A	04 42 18.7	
	15nm,0.7s						
PBAR	**Barrancos**	3.16	325	*e*P	**Pn**	**04 41 45.4**	**+0.8**
PBAR				*e*S	**Sn**	**04 42 19.6**	**-1.5**
PBAR				A	A	04 42 22.1	
	7.3nm,0.1s						
PBAR	**Barrancos**	3.16	325	Pn	**Pn**	**04 41 45.4**	**+0.8**
PBAR				Sn	**Sn**	**04 42 19.6**	**-1.5**
AVE	**Averroes**	3.20	225	Pn	**Pn**	**04 41 44.8**	**-0.3**
AVE				Sn	**Sn**	**04 42 19.7**	**-2.3**
PCVE	**Castro Verde**	3.34	308	*e*P	**Pn**	**04 41 47.6**	**+0.5**
PCVE				*e*S	**Sn**	**04 42 24.5**	**-1.1**
PCVE				A	A	04 42 28.3	
	7.9nm,0.7s						
PCVE	**Castro Verde**	3.34	308	Pn	**Pn**	**04 41 47.6**	**+0.5**
PCVE				Sn	**Sn**	**04 42 24.4**	**-1.2**
PBEJ	**Beja**	3.49	315	*e*P	**Pn**	**04 41 49.6**	**+0.5**
PBEJ				*e*S	**Sn**	**04 42 28.0**	**-1.1**
PBEJ				A	A	04 42 28.5	
	7.0nm,0.1s						
MESJ	**Messejana**	3.58	309	*e*P	**Pn**	**04 41 50.9**	**+0.5**
MESJ				*e*S	**Sn**	**04 42 30.4**	**-1.1**
MESJ				A	A	04 42 31.1	
	9.9nm,0.5s						
MESJ	**Messejana**	3.58	309	*e*P	**Pn**	**04 41 50.9**	**+0.5**
MESJ				*e*S	**Sn**	**04 42 29.2**	**-2.3**
MESJ				IAML		04 42 30.5	
	comp=N,6.5nm,0.1s						
MORF	**Marmelete**	3.59	299	*e*P	**Pn**	**04 41 51.0**	**+0.5**
MORF				*e*S	**Sn**	**04 42 30.4**	**-1.3**
MORF				A	A	04 42 32.0	
	comp=N,19nm,0.5s						
MORF	**Marmelete**	3.59	299	*e*P	**Pn**	**04 41 51.0**	**+0.5**
MORF				*e*S	**Sn**	**04 42 29.2**	**-2.4**
MORF				IAML		04 42 31.9	
	comp=N,42nm,0.2s						
EBAD	**Badajoz**	3.63	330	Pn	**Pn**	**04 41 52.0**	**+1.0**
EBAD				Sn	**Sn**	**04 42 31.3**	**-1.4**
EBAD	**Badajoz**	3.63	330	Pn	**Pn**	**04 41 51.7**	**+0.7**
EBAD				Sn	**Sn**	**04 42 31.3**	**-1.4**
EBAD				*i* Vmb_Lg		04 42 32.1	
PTEO	**Sao Teotonio**	3.75	302	*e*P	**Pn**	**04 41 53.6**	**+0.9**
PTEO				*e*S	**Sn**	**04 42 34.6**	**-1.1**
PTEO				A	A	04 42 36.6	
	comp=N,14nm,0.3s						
EVO	**Evora**	3.93	319	*e*P	**Pn**	**04 41 55.9**	**+0.8**
EVO				*e*S	**Sn**	**04 42 38.5**	**-1.4**
EVO				A	A	04 42 40.3	
	comp=N,20nm,0.1s						
EVO	**Evora**	3.93	319	Pn	**Pn**	**04 41 55.9**	**+0.8**
EVO				Sn	**Sn**	**04 42 38.3**	**-1.7**
PNCL	**Nicolau / Gran**	3.94	310	*e*P	**Pn**	**04 41 55.8**	**+0.5**
PNCL				*e*S	**Sn**	**04 42 38.6**	**-1.7**
PNCL				A	A	04 42 40.3	
	comp=N,6.7nm,0.7s						
PNCL	**Nicolau / Gran**	3.94	310	Pn	**Pn**	**04 41 55.8**	**+0.5**
PNCL				Sn	**Sn**	**04 42 37.7**	**-2.6**
ETOB	**Tobarra**	3.95	39	Pn	**Pn**	**04 41 56.6**	**+1.1**
ETOB	**Tobarra**	3.95	39	Pn	**Pn**	**04 41 56.4**	**+0.9**
ETOB				Sn	**Sn**	**04 42 39.9**	**-0.8**
ETOB				*i* Vmb_Lg		04 42 44.9	
PESTR	**Estremoz**	3.98	326	*e*P	**Pn**	**04 41 56.6**	**+0.8**
PESTR				*e*S	**Sn**	**04 42 39.3**	**-1.9**
PESTR				A	A	04 42 41.5	
	comp=N,3.4nm,0.1s						
PESTR	**Estremoz**	3.98	326	Sn	**Sn**	**04 42 39.1**	**-2.0**
PESTR				Pn	**Pn**	**04 41 56.6**	**+0.8**
PESTR	**Estremoz**	3.98	326	P	**Pn**	**04 41 56.4**	**+0.6**
PESTR	**Estremoz**	3.98	326	S	**Sn**	**04 42 41.0**	**-0.2**
PMRV	**Marv??o**	4.36	332	*e*P	**Pn**	**04 42 01.8**	**+0.7**
PMRV				*e*S	**Sn**	**04 42 48.4**	**-2.3**
PMTG	**Montargil**	4.44	322	*e*P	**Pn**	**04 42 02.7**	**+0.6**
PMTG				*e*S	**Sn**	**04 42 49.8**	**-2.7**
EPLA	**Plasencia**	4.58	347	Pn	**Pn**	**04 42 04.4**	**+0.4**
EPLA				Sn	**Sn**	**04 42 53.3**	**-2.7**
EPLA				*i* Vmb_Lg		04 42 59.0	
PCBR	**Castelo Branco**	4.75	334	*e*P	**Pn**	**04 42 07.2**	**+0.8**
PCBR				*e*S	**Sn**	**04 42 58.4**	**-1.9**
UCM	**Universidad Co**	4.83	14	Pn	**Pn**	**04 42 06.9**	**-0.7**
UCM				Sn	**Sn**	**04 42 59.4**	**-3.0**
ECHE	**Chera**	4.97	36	Sn	**Sn**	**04 43 01.9**	**-3.8**
GUD	**Guadarrama**	5.05	5	Pn	**Pn**	**04 42 10.4**	**-0.2**
GUD				Sn	**Sn**	**04 43 04.6**	**-3.1**
GUD				*i* Vmb_Lg		04 43 07.7	
TIO	**Tiouine**	5.13	205	Pn	**Pn**	**04 42 11.7**	**-0.1**
TIO				Sn	**Sn**	**04 43 05.9**	**-4.0**
MTE	**Manteigas**	5.28	336	*e*P	**Pn**	**04 42 14.4**	**+0.7**
MTE				*e*S	**Sn**	**04 43 11.9**	**-1.4**
PCAS	**Casmilo, Conde**	5.35	327	*e*P	**Pn**	**04 42 15.6**	**+1.0**
PVIS	**Viseu**	5.68	335	*e*P	**Pn**	**04 42 19.6**	**+0.4**
PVIS				*e*S	**Sn**	**04 43 20.7**	**-2.4**
MVO	**Moncorvo**	5.83	343	*e*P	**Pn**	**04 42 22.3**	**+0.9**
MVO				*e*S	**Sn**	**04 43 23.4**	**-3.6**
PVRL	**Vila Real**	6.12	338	*e*P	**Pn**	**04 42 25.9**	**+0.6**
PVRL				*e*S	**Sn**	**04 43 31.0**	**-3.2**
PVRL				A	A	04 43 33.7	
	comp=N,3.6nm,0.5s						
POLO	**Lamas de Olo**	6.24	338	*e*P	**Pn**	**04 42 28.0**	**+1.1**
ECAL	**Calabor**	6.51	347	Pn	**Pn**	**04 42 31.7**	**+1.0**
PGAV	**Gavieira, Arco**	6.92	338	*e*P	**Pn**	**04 42 37.3**	**+1.0**

*NEIC **19** 04:44:47.9±1.2, 35°.04N±0°.02×96°.15W±0°.03, h5km±2km, Error ellipse: s-maj=5.0km s-min=2.9km az=136.0*
*TUL **19** 04:44:48.8±1.4, 35°.06N±0°.02×96°.17W±0°.03, h4km±5km, ML2.8, mb_Lg3.0/72(NEIC), ML3.2/24(NEIC), Error ellipse: s-maj=4.1km s-min=2.5km az=136.0*
*ANF **19** 04:44:49.5±0.2, 35°.06N×96°.14W, h5km, ML3.6/7, Error ellipse: s-maj=4.0km s-min=2.0km az=94.0*

ISC 19 04:44:47.6±1.3, **35°.04N**±0°.02×**96°.15W**±0°.02, **h3**km±14km, **n84, σ1§34/76, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	0.60	281	Pg	**Pg**	**04 44 57.7**	**-1.5**
W35A				Sg	**Sg**	**04 45 08.0**	**+1.0**
W35A				IAML		04 45 14.0	
	comp=N,2µm,0.7s						
W35A				IAML		04 45 19.4	
	comp=E,829nm,0.5s						
DEOK	**Depew**	0.85	341		**Pb**	**04 45 04.8**	**-0.2**
DEOK				Sg	**Sb**	**04 45 16.2**	**-0.8**
TUL3	**Leonard**	0.92	19		**Pb**	**04 45 06.3**	**+0.1**
TUL3				Sg	**Sb**	**04 45 18.3**	**-0.5**
TUL3	**Leonard**	0.92	19	P	**Pb**	**04 45 06.3**	**+0.1**
	baz=200						
TUL3				S	**Sb**	**04 45 18.5**	**-0.4**
	baz=200						
FNO	**Franklin**	1.05	283		**Pb**	**04 45 08.2**	**-0.2**
FNO				Sg	**Sg**	**04 45 21.9**	**+0.7**
FNO				IAML		04 45 25.1	
	comp=N,491nm,0.4s						
OK052	**Battle Ridge R**	1.09	331		**Pb**	**04 45 08.7**	**-0.4**
OK052				Sg	**Sg**	**04 45 22.6**	**-0.1**
OK052				IAML		04 45 26.1	
	comp=N,457nm,0.2s						
OKCSW	**OKLAHOMA CITY**	1.11	290		**Pg**	**04 45 09.4**	**+0.5**
OKCSW				Sg	**Sb**	**04 45 24.0**	**-0.4**
ADOK	**Arcadia Dam**	1.17	302	Sg	**Sb**	**04 45 25.3**	**-0.7**
OK033	**Mehan**	1.19	328		**Pb**	**04 45 10.1**	**-0.7**
OK033				IAML		04 45 30.8	
	comp=N,532nm,0.5s						
OK033				IAML		04 45 30.8	
	comp=N,464nm,0.5s						
QUOK	**Quay**	1.22	338		**Pn**	**04 45 10.9**	**-0.7**
QUOK				Sg	**Sg**	**04 45 27.2**	**+0.4**
QUOK				IAML		04 45 32.1	
	comp=N,513nm,0.3s						
OK029	**Liberty Lake**	1.31	306		**Pb**	**04 45 12.6**	**-0.2**
OK029				Sg	**Sb**	**04 45 29.6**	**-0.4**
OK029				IAML		04 45 33.8	
	comp=N,506nm,0.4s						
LOOK	**Love County**	1.34	219		**Pg**	**04 45 14.3**	**+1.0**
LOOK				IAML		04 45 35.4	
	comp=N,326nm,0.3s						
LOOK				IAML		04 45 37.8	
	comp=E,391nm,0.2s						
X34A	**Smith Ranch, M**	1.45	253		**Pg**	**04 45 15.5**	**+0.1**
RLO	**Rose Lookout**	1.46	39		**Pg**	**04 45 16.0**	**+0.5**
OK048	**Pawnee Station**	1.52	335		**Pb**	**04 45 15.8**	**-0.6**
OK051	**E0350 and S346**	1.57	339		**Pb**	**04 45 16.9**	**-0.3**
T35A	**Sooner Cattle**	1.90	351		**Pb**	**04 45 22.5**	**-0.4**
T35A				IAmb_Lg		04 45 51.5	
	comp=Z,69nm,1.0s						
T35B	**Sooner Cattle**	1.90	351	P	**Pb**	**04 45 22.6**	**-0.3**
	baz=172						
T35B				S	**Sg**	**04 45 48.3**	**-0.3**
	baz=172						
BLOK	**Blackwell**	1.93	334		**Pb**	**04 45 22.6**	**-0.7**
Z35A	**Perchaven, San**	1.93	209		**Pb**	**04 45 23.7**	**+0.3**
Z35A				IAmb_Lg		04 45 49.6	
	comp=Z,78nm,0.7s						
Z35A	**Perchaven, San**	1.93	209	P	**Pb**	**04 45 23.4**	**0.0**

POST	**Post**	**4.86**	**248**			**Pn**	**04 46 02.4**	**+0.8**
POST				IAmb_Lg			04 47 31.6	
	comp=Z,20nm,0.8s							
CCM	**Cathedral Cave**	**4.97**	**51**	IAmb_Lg			04 47 34.6	
	comp=Z,26nm,0.7s							
P38A	**Dawn**	**5.03**	**24**	IAmb_Lg			04 47 36.8	
	comp=Z,34nm,0.8s							
SGCY	**Sterling City**	**5.19**	**235**	IAmb_Lg			04 47 43.7	
	comp=Z,36nm,0.7s							
RTBA	**Rita Blanca**	**5.54**	**287**	IAmb_Lg			04 47 58.4	
	comp=Z,18nm,0.9s							
OXF	**Oxford**	**5.58**	**93**	IAmb_Lg			04 47 54.3	
	comp=Z,26nm,1.0s							
N33A	**J Bar K, Exete**	**5.78**	**350**	IAmb_Lg			04 48 03.8	
	comp=Z,20nm,0.7s							
OZNA	**Ozona**	**5.86**	**227**	Pn		**Pn**	**04 46 17.1**	**+1.7**
HNDO	**Hondo**	**6.10**	**207**	Pn		**Pn**	**04 46 20.1**	**+1.4**
S44A	**Carbondale**	**6.16**	**63**	IAmb_Lg			04 48 04.5	
	comp=Z,19nm,0.8s							
T45A	**Paducah**	**6.40**	**70**	IAmb_Lg			04 48 14.1	
	comp=Z,22nm,0.7s							
KSCO	**Kaye Shedlock'**	**6.52**	**309**	IAmb_Lg			04 48 23.0	
	comp=Z,24nm,0.8s							
BGNE	**Belgrade**	**6.55**	**347**	IAmb_Lg			04 48 21.0	
	comp=Z,21nm,0.8s							
DRIO	**Del Rio**	**6.75**	**215**	IAmb_Lg			04 48 24.4	
	comp=Z,16nm,0.8s							
T25A	**Trinidad**	**7.01**	**290**	IAmb_Lg			04 48 48.7	
	comp=Z,27nm,1.1s							
Q24A	**Divide**	**8.19**	**301**	IAmb_Lg			04 49 12.3	
	comp=Z,10nm,0.7s							
PHWY	**Pilot Hill**	**9.63**	**313**	IAmb_Lg			04 50 07.3	
	comp=Z,7.0nm,0.9s							
SUSD	**Miller**	**9.64**	**348**	IAmb_Lg			04 49 57.8	
	comp=Z,14nm,0.8s							

*IDC **19** 04:48:45.3±2.2,9°.90N×57°.85E, h0km, mb3.9/6, mbtmp3.9/6, MS3.4/4, Error ellipse: s-maj=55.5km s-min=27.3km az=174.0*
*NEIC **19** 04:48:46.7±1.6,9°.7N±0°.2×58°.2E±0°.1, h10km±2km, mb4.0/7, Error ellipse: s-maj=31.3km s-min=16.5km az=169.0*
ISC 19 04:48:46.1±1.3,9°.8N±0°.2×58°.0E±0°.2, h10km, n21, σ1s05/17, mb4.0/10, MS3.4/3, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**13.41**	**3**	LR		LR	LR	04 56 16.5	
	comp=Z,126nm,20.5s,baz=230,slow=34								
MBAR	**Mbarara**	**29.01**	**251**	P		**P**	**P**	**04 54 47.5**	**+0.8**
GNI	**Garni**	**32.47**	**341**	LR		LR	LR	05 08 39.8	
	comp=Z,65nm,18.8s,baz=202,slow=37								
KK31	**Karatay Array**	**34.97**	**16**	P		**P**	**P**	**04 55 39.2**	**+0.7**
KK31				IAmb		IAmb	IAmb	04 55 40.8	
	comp=Z,2.0nm,0.8s								
KKAR	**Karatay Array**	**34.97**	**16**	P		**P**	**P**	**04 55 39.7**	**+1.2**
KKAR	**Karatay Array**	**34.97**	**16**	P		**P**	**P**	**04 55 39.2**	**+0.7**
KKAR				IAmb		IAmb	IAmb	04 55 40.8	
	comp=Z,1.9nm,0.8s								
AAK	**Ala-Archa**	**35.80**	**21**	LR		LR	LR	05 10 23.6	
	comp=Z,49nm,20.9s,baz=276,slow=36								
BRTR	**Keskin Array B**	**36.88**	**328**	P		**P**	**P**	**04 55 55.3**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=170,slow=8.8,SNR=2.5								
	comp=Z,1.4nm,0.9s								
ABKAR	**Akbulak array**	**39.40**	**2**	P		**P**	**P**	**04 56 16.9**	**+0.9**
ABKAR				IAmb		IAmb	IAmb	04 56 17.6	
	comp=Z,4.3nm,0.9s								
ABKAR	**Akbulak array**	**39.40**	**2**	P		**P**	**P**	**04 56 16.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**40.57**	**73**	P		**P**	**P**	**04 56 24.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**40.57**	**73**	P		**P**	**P**	**04 56 27.8**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=264,slow=8.1,SNR=7.3								
	comp=Z,0.9nm,0.3s								
MK31	**Makanchi Array**	**42.30**	**25**	P		**P**	**P**	**04 56 38.6**	**-1.4**
MKAR	**Makanchi Array**	**42.30**	**25**	P		**P**	**P**	**04 56 40.0**	**0.0**
MKAR	**Makanchi Array**	**42.30**	**25**	P		**P**	**P**	**04 56 40.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=224,slow=8.1,SNR=4.0								
	comp=Z,0.4nm,0.8s								
BURAR	**Bucovina Array**	**46.78**	**330**	P		**P**	**P**	**04 57 15.8**	**-0.1**
BURAR				IAmb		IAmb	IAmb	04 57 16.2	
	comp=Z,0.8nm,0.7s								
ZALV	**Zalesovo Beam**	**49.02**	**21**	P		**P**	**P**	**04 57 32.7**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=227,slow=9.0,SNR=8.9								
	comp=Z,2.0nm,0.6s								
BOSA	**Boshof**	**49.55**	**219**	LR		LR	LR	05 15 44.2	
	comp=Z,41nm,19.6s,baz=18,slow=33								
TORD	**Torodi Ar. Bea**	**55.18**	**279**	P		**P**	**P**	**04 58 19.1**	**-0.5**
TORD				IAmb		IAmb	IAmb	04 58 20.1	
	comp=Z,1.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**55.18**	**279**	P		**P**	**P**	**04 58 19.1**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=84,slow=6.8,SNR=7.4								
	comp=Z,0.9nm,0.8s								
FINES	**FINESS Array B**	**56.65**	**342**	P		**P**	**P**	**04 58 27.8**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=128,slow=7.8,SNR=2.1								
	comp=Z,1.4nm,0.7s								

*NEIC **19** 05:04:01.9±0.4,36°.46N±0°.02×98°.83W±0°.02, h5km±4km, Error ellipse: s-maj=2.9km s-min=1.7km az=160.0*
TUL 19 05:04:02.1±0.3,36°.46N±0°.02×98°.82W±0°.02, h6km±3km, ML2.8, mb_Lg2.5/24(NEIC), ML2.8/18(NEIC), Error ellipse: s-maj=2.9km s-min=2.0km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.06**	**73**	Pg		Pg	Pg	05 04 04.1	+0.3
U32A	**Winter Ranch,**	**0.17**	**242**				Pg	05 04 05.8	+0.3
U32A				IAML				05 04 09.0	
	comp=N,3μm,0.1s								
OK035	**E0210 Rd and N**	**0.26**	**19**	Pg		Pg	Pg	05 04 07.8	+0.5
OK035				IAML				05 04 12.1	
	comp=N,2μm,0.2s								
OK032	**Salt Plains WL**	**0.60**	**55**	Pg		Pg	Pg	05 04 13.4	-0.2
OK032				IAML				05 04 28.1	
	comp=N,407nm,0.2s								
OK032				IAML				05 04 34.0	
	comp=N,403nm,0.2s								
ELIS	**Ellis County**	**0.62**	**231**	Pg		Pg	Pg	05 04 13.7	-0.5
ELIS				IAML				05 04 29.1	
	comp=N,642nm,0.3s								
ELIS				IAML				05 04 29.8	
	comp=E,615nm,0.3s								
CROK	**Carrier**	**0.68**	**86**				Pg	05 04 15.1	0.0
CROK				IAML				05 04 31.5	
	comp=E,349nm,0.3s								
CROK				IAML				05 04 34.4	
	comp=N,492nm,0.3s								
CSTR	**Hydro, Custer**	**0.82**	**173**				Pg	05 04 17.7	-0.1
KAN14	**Manchester OK**	**0.85**	**54**				Pg	05 04 18.3	-0.1
GC02	**Grant County #**	**0.86**	**63**				Pg	05 04 18.6	-0.1
KAN10	**Anthony SW Sta**	**0.88**	**41**	Pg		Pg	Pg	05 04 19.1	+0.1
KAN05	**Bluff City Nor**	**1.00**	**49**	Pg		Pg	Pg	05 04 21.1	-0.2
KAN08	**Anthony NE Sta**	**1.02**	**41**	Pg		Pg	Pg	05 04 21.7	-0.1
KAN17	**Caldwell West**	**1.03**	**55**	Pg		Pg	Pg	05 04 21.5	-0.4
KAN12	**Harper NE Stat**	**1.06**	**38**	Pg		Pg	Pg	05 04 22.2	-0.3
KAN01	**Argonia South**	**1.10**	**51**	Pg		Pg	Pg	05 04 22.7	-0.4
OK029	**Liberty Lake**	**1.29**	**121**				Pn	05 04 25.8	-0.8
OK029				IAML				05 04 46.1	
	comp=N,174nm,0.4s								
OK029				IAML				05 04 46.7	
	comp=N,203nm,0.5s								
SMWD	**Samnorwood**	**1.78**	**221**	IAmb_Lg				05 04 57.7	
	comp=Z,20nm,0.8s								
AMTX	**Amarillo**	**2.81**	**237**	IAmb_Lg				05 05 35.6	
	comp=Z,23nm,0.8s								
RLO	**Rose Lookout**	**3.08**	**94**	IAmb_Lg				05 05 41.3	
	comp=Z,10nm,0.8s								
APMT	**Aspermont**	**3.31**	**199**	IAmb_Lg				05 05 48.3	
	comp=Z,10nm,0.8s								
FW06	**Azle**	**3.63**	**163**	IAmb_Lg				05 06 04.5	
	comp=Z,12nm,0.8s								
ABTX	**Abilene, Hawle**	**3.89**	**190**	IAmb_Lg				05 06 04.9	
	comp=Z,12nm,0.7s								
POST	**Post**	**4.04**	**214**	IAmb_Lg				05 06 13.4	
	comp=Z,9.4nm,0.8s								
MSTX	**Muleshoe**	**4.08**	**234**	IAmb_Lg				05 06 18.7	
	comp=Z,8.0nm,0.8s								
T25A	**Trinidad**	**4.54**	**280**	IAmb_Lg				05 06 24.8	
	comp=Z,14nm,0.8s								
X40A	**Basin Creek Fa**	**5.26**	**110**	IAmb_Lg				05 06 56.9	
	comp=Z,5.7nm,0.7s								
FCAR	**Ozark Folk Cen**	**5.45**	**94**	IAmb_Lg				05 06 57.7	
	comp=Z,11nm,1.1s								
R40A	**Maddies Statio**	**5.53**	**69**	IAmb_Lg				05 06 58.6	
	comp=Z,8.3nm,1.0s								

*IDC **19** 05:09:24.6±2.8, 46°.24N×152°.69E, h0km, mb3.6/11, mbtmp3.6/12, ML2.4/1, MS3.0/1, Error ellipse: s-maj=70.3km s-min=29.0km az=173.0*
*SKHL **19** 05:09:28.1±0.7, 46°.10N×153°.00E, h62km±2km, mb4.6/4*
ISC 19 05:09:28.8±1.3, 46°.2N±0°.2×152°.8E±0°.1, h31km, n24, σ1s35/21, mb3.6/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.60**	**257**	*eP*		**Pn**	**Pn**	**05 10 23.6**	**+1.3**
KUR					AMB	AMB	AMB	05 10 26.6	
	50nm,0.8s								
KUR				*eS*		**Sn**	**Sn**	**05 11 03.2**	**-0.5**
KUR				A		A	A	05 11 14.1	
	60nm,0.6s								
KUR				A		A	A	05 11 14.1	
	100nm,0.6s								
SHO	**Shikotan**	**4.83**	**244**	*eP*		**Pn**	**Pn**	**05 10 39.6**	**+0.3**
SHO					AMB	AMB	AMB	05 10 43.6	
	40nm,0.5s								
SHO				*eS*		**Sn**	**Sn**	**05 11 33.6**	**-0.6**
SHO				A		A	A	05 11 35.0	
	50nm,0.5s								
SHO				A		A	A	05 11 35.0	
	40nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.37**	**249**	*eP*		**Pn**	**Pn**	**05 10 47.6**	**+0.9**
YUK					AMB	AMB	AMB	05 10 48.8	
	50nm,0.3s								
YUK				*eS*		**Sn**	**Sn**	**05 11 46.6**	**-0.9**
YUK				A		A	A	05 11 54.6	
	130nm,0.4s								
YUK				A		A	A	05 11 54.6	
	90nm,0.4s								
NMR	**Nemuro--Hokkai**	**5.78**	**243**	*eP*		**Pn**	**Pn**	**05 10 51.9**	**-0.4**
NMR				*eS*		**Sn**	**Sn**	**05 11 54.9**	**-2.5**
ASAJ	**Asahikawa**	**7.52**	**258**	Pn		**Pn**	**Pn**	**05 11 18.8**	**+2.7**
	0.9nm,0.3s,baz=16,slow=4.3,SNR=3.1								
PETK	**Petropavlovsk-**	**7.62**	**23**	Pn		**Pn**	**Pn**	**05 11 14.8**	**-2.8**
	0.3nm,0.3s,baz=179,slow=13,SNR=1.6								
	0.7nm,0.5s								
USRK	**Ussuriysk Ar.**	**14.82**	**270**	LR		LR	LR	05 17 36.2	
	comp=Z,55nm,19.5s,baz=172,slow=33								
H11N2	**WAKE ISLAND Hy**	**28.81**	**152**	T		T	T	05 47 12.4	
	baz=340,slow=75,SNR=5.4								
H11N1	**WAKE ISLAND Hy**	**28.82**	**152**	T		T	T	05 47 13.7	
	baz=340,slow=75,SNR=3.7								
H11N3	**WAKE ISLAND Hy**	**28.83**	**152**	T		T	T	05 47 14.2	
	baz=340,slow=75,SNR=4.7								
H11S1	**WAKE ISLAND Hy**	**29.89**	**153**	T		T	T	05 48 33.1	
	baz=340,slow=76,SNR=4.8								
H11S3	**WAKE ISLAND Hy**	**29.90**	**153**	T		T	T	05 48 22.1	
	baz=340,slow=76,SNR=5.1								
H11S2	**WAKE ISLAND Hy**	**29.91**	**153**	T		T	T	05 48 28.9	
	baz=340,slow=76,SNR=6.3								
MKAR	**Makanchi Array**	**47.02**	**298**	P		**P**	**P**	**05 17 56.9**	**-0.1**
	0.1nm,0.3s,baz=58,slow=5.6,SNR=5.0								
	0.1nm,0.3s								
KURBB	**Kurchatov Arra**	**47.60**	**304**	P		**P**	**P**	**05 18 00.8**	**-0.6**
	0.2nm,0.4s,baz=72,slow=8.6,SNR=2.5								
	0.2nm,0.4s								
BVAR	**Borovoye Array**	**51.06**	**310**	P		**P**	**P**	**05 18 26.9**	**-1.0**
	0.4nm,0.4s,baz=34,slow=5.1,SNR=2.0								
	0.4nm,0.4s								
YKA	**Yellowknife Ar**	**51.50**	**36**	P		**P**	**P**	**05 18 32.8**	**+1.8**
	0.1nm,0.5s,baz=299,slow=7.7,SNR=3.6								
	0.1nm,0.5s								
ARCES	**ARCESS Array B**	**58.32**	**341**	P		**P**	**P**	**05 19 20.4**	**+0.2**
	4.2nm,1.0s,baz=30,slow=7.3,SNR=2.0								
	4.2nm,1.0s								
FINES	**FINESS Array B**	**64.47**	**335**	P		**P**	**P**	**05 20 01.3**	**-0.5**
	1.7nm,0.8s,baz=71,slow=8.3,SNR=4.9								
	1.7nm,0.8s								
NOA	**NORSAR Array B**	**68.70**	**341**	P		**P**	**P**	**05 20 29.2**	**+0.3**
	0.2nm,0.3s,baz=29,slow=6.6,SNR=5.9								
	0.2nm,0.3s								
HFS	**Hagfors**	**68.92**	**339**	P		**P**	**P**	**05 20 30.1**	**-0.1**
	2.9nm,0.9s,baz=35,slow=5.4,SNR=9.0								
	2.9nm,0.9s								
AKASG	**Malin Array Be**	**71.91**	**326**	P		**P**	**P**	**05 20 48.2**	**-0.3**
	0.3nm,0.4s,baz=36,slow=6.3,SNR=4.2								
	0.3nm,0.4s								
EKA	**Eskdalemuir Ar**	**76.84**	**346**	P		**P**	**P**	**05 21 18.7**	**+1.5**
	0.4nm,0.5s,baz=20,slow=5.3,SNR=1.6								
	0.4nm,0.5s								
TXAR	**Lajitas Array**	**77.95**	**60**	P		**P**	**P**	**05 21 24.0**	**0.0**
	0.2nm,0.7s,baz=328,slow=3.2,SNR=2.4								
	0.2nm,0.7s								

*NNC **19** 05:23:23.4±1.2, 44°.85N×81°.03E, h0km, mb2.2, mpv2.3, Error ellipse: s-maj=12.0km s-min=6.6km az=110.0*
*SOME **19** 05:23:25.4, 44°.82N×81°.05E, h20km*
ISC 19 05:23:23.3±1.6, 44°.84N±0°.05×81°.04E±0°.07, h10km±14km, n11, σ0s54/18, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.03**	**241**	P		P	**Pb**	**05 23 43.6**	**+0.3**
DJR	0.3nm,0.1s								
				S			**Sg**	**05 23 57.1**	**+0.6**
	1.8nm,0.2s								
DJR	**Jarkent**	**1.03**	**241**	*eP*			**Pb**	**05 23 43.6**	**+0.3**
DJR	0.3nm,0.1s								
				eS			**Sg**	**05 23 57.1**	**+0.6**
	2.1nm,0.1s								
KTMS	**Ketmen**	**1.48**	**200**	P			**Pg**	**05 23 51.2**	**-0.5**
	0.9nm,0.2s								
KTMS				S			**Sb**	**05 24 10.1**	**+0.2**
	4.0nm,0.2s								
KTMS	**Ketmen**	**1.48**	**200**	*eP*			**Pg**	**05 23 51.2**	**-0.5**
	0.9nm,0.2s								
KTMS				*eS*			**Sb**	**05 24 10.1**	**+0.2**
	4.0nm,0.2s								
PDGK	**Podgornoye**	**1.88**	**217**	P			**Pb**	**05 23 58.1**	**+0.2**
	0.3nm,0.3s								
PDGK				S			**Sb**	**05 24 22.2**	**+0.7**
	3.5nm,0.5s								
MK31	**Makanchi Array**	**2.14**	**24**	⇑P			**Pb**	**05 24 02.9**	**+0.7**
	0.2nm,0.3s,baz=204,slow=15,SNR=10								
MK31				⇑S			**Sb**	**05 24 28.8**	**-0.1**
	0.5nm,0.3s,baz=202,slow=25,SNR=10								
UZB	**Uzynbulak**	**2.23**	**221**	Pg			**Pb**	**05 24 04.3**	**+0.4**
	4.2nm,0.2s								
UZB				Lg			Lg	05 24 32.6	
	3.7nm,0.3s								
UZB	**Uzynbulak**	**2.23**	**221**	*eP*			**Pg**	**05 24 05.6**	**-0.5**
	4.3nm,0.2s								
UZB				*eS*			**Sg**	**05 24 34.6**	**-0.5**
	2.2nm,0.2s								
ARXS	**Arharly**	**2.38**	**256**	*eP*			**Pg**	**05 24 08.6**	**-0.4**
	0.5nm,0.2s								
ARXS				*eS*			**Sg**	**05 24 39.7**	**-0.1**
	3.7nm,0.3s								
KURBB	**Kurchatov Arra**	**6.03**	**345**	⇓Lg			Lg	05 26 34.2	
	15nm,0.7s								
KURK	**Kurchatov**	**6.10**	**345**	⇓Sn			**Sn**	**05 26 02.5**	**-0.8**
	2.5nm,0.9s								
KURK				⇓Lg			Lg	05 26 31.7	
	5.2nm,0.6s								

IDC 19 05:23:48.5±1.5, 54°.63N×83°.74E, h0km, mbtmp3.0/3, ML2.6/3, 1C, Error ellipse: s-maj=13.7km s-min=9.2km az=4.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**137**	I		I	I	05 29 26.2	
	0.3nm,0.9s,baz=315,slow=338,SNR=34								
ZALV	**Zalesovo Beam**	**0.93**	**137**	Pg		Pg	Pg	05 24 05.7	-0.6
	4.9nm,0.3s,baz=321,slow=17,SNR=35								
ZALV				Lg		Lg	Lg	05 24 20.3	
	11nm,0.3s,baz=321,slow=29,SNR=13								
KURBB	**Kurchatov Arra**	**5.11**	**220**	Pn		Pn	Pn	05 25 06.2	-0.1
	0.1nm,0.3s,baz=40,slow=13,SNR=5.7								
KURBB				Sn		Sn	Sn	05 26 04.7	-1.3
	0.1nm,0.3s,baz=25,slow=16,SNR=1.6								
KURBB				Lg		Lg	Lg	05 26 29.9	
	0.1nm,0.3s,baz=40,slow=33,SNR=4.6								
	0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**5.11**	**220**	⇑Sn		Sn	Sn	05 26 05.1	-0.9
	3.5nm,0.6s								
MKAR	**Makanchi Array**	**7.90**	**187**	Pn		Pn	Pn	05 25 44.6	0.0
	0.2nm,0.3s,baz=9.3,slow=10,SNR=4.8								
MKAR				Sn		Sn	Sn	05 27 08.0	-6.6
	0.1nm,0.3s,baz=338,slow=31,SNR=2.3								
MKAR				Lg		Lg	Lg	05 28 00.1	
	0.1nm,0.3s,baz=13,slow=28,SNR=3.0								
	0.3nm,0.3s								
BVAR	**Borovoye Array**	**8.06**	**264**	Pn		Pn	Pn	05 25 46.4	-0.5
	0.1nm,0.3s,baz=69,slow=14,SNR=6.5								
	1.1nm,0.5s								

IDC 19 05:33:24.3±2.0, 51°.63N×83°.04E, h0km, mbtmp2.1/1, ML1.7/1, Error ellipse: s-maj=43.9km s-min=13.2km az=106.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**2.56**	**24**	Pg		Pb	Pb	05 34 10.6	-0.5
	0.5nm,0.3s,baz=217,slow=15,SNR=7.6								
ZALV				Lg		Lg	Lg	05 34 45.4	
	0.4nm,0.3s,baz=208,slow=26,SNR=4.3								
I46RU	**ZALESOVO INFRA**	**2.56**	**24**	I		I	I	05 49 30.0	
	0.1nm,0.7s,baz=207,slow=331,SNR=2.5								
MKAR	**Makanchi Array**	**4.87**	**186**	Pn		Pn	Pn	05 34 40.5	+1.8
	baz=15,slow=13,SNR=2.5								
MKAR				Lg		Lg	Lg	05 35 55.3	
	0.2nm,0.3s,baz=8.6,slow=28,SNR=6.9								
	0.2nm,0.6s								

*DJA **19** 05:44:44.9±0.6, 6°.5s±5°×15°.5E±°, h157km±5km, M4.9/33, mB5.5/13, mb5.1/33, MLv4.7/2, Mw(mB)4.9/13*
*IDC **19** 05:44:45.4±0.6, 6°.11S×154°.81E, h164km±4km, mb4.1/16, mbtmp4.5/20, MS3.6/10, Error ellipse: s-maj=14.0km s-min=9.3km az=125.0*
*NEIC **19** 05:44:46.8±1.0, 6°.06S±0°.09×154°.9E±0°.1, h164km±1km, mb4.9/43, Error ellipse: s-maj=14.9km s-min=13.4km az=74.0*
*GCMT **19** 05:44:48.8±0.4, 6°.35S±0°.03×155°.00E±0°.03, h179km±5km, MW5.1/71, Moment Tensor Solution. s11,c12; s71,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.79±.23; Mθθ -1.19±.22; Mφφ 0.40±.23; Mrθ 1.15±. 17; Mθφ 3.66±.26; Mφr -3.01±.18; Best double couple: Mo 4.89600×10^16 NP1: φs 263.00000°, δ 48.00000°, λ 5.00000°. Principal axes: T 4.3440, Plg31.0000°, Azm117.0000°; N 1.0980, Plg48.0000°, Azm345.0000°; P -5.4470, Plg25.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 05:44:46.3±0.4, 6°.13S±0°.04×154°.89E±0°.05, h162km±3km, h163km: pP-P, n463, σ0s95/471, mb4.9/60, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.33**	**305**				**Pn**	**05 45 38.7**	**+0.4**
RABL	**Rabaul**	**3.33**	**305**	P			**Pn**	**05 45 41.5**	**+3.2**
KRVT	**Keravat (AS076**	**3.38**	**302**	P			**Pn**	**05 45 37.8**	**-1.2**
	135nm,0.6s,baz=150,slow=1.6,SNR=30								
KRVT						S	**Sn**	**05 46 21.0**	**+1.1**
	55nm,0.3s,baz=228,slow=24,SNR=6.5								
KAVG	**Kavieng**	**5.38**	**311**	P			**Pn**	**05 46 06.6**	**+1.6**
PMG	**Port Moresby**	**8.33**	**246**				**Pn**	**05 46 48.2**	**+4.2**
PMG	**Port Moresby**	**8.33**	**246**	P			**Pn**	**05 46 48.4**	**+4.3**
PMG	**Port Moresby**	**8.33**	**246**	P			**Pn**	**05 46 43.9**	**-0.1**
	20nm,0.8s,baz=32,slow=4.0,SNR=5.5								
PMG						S	**Sn**	**05 48 14.2**	**-2.7**
	11nm,0.4s,baz=84,slow=12,SNR=1.2								
PMG						LR	LR	05 48 51.7	
	comp=Z,265nm,21.3s,baz=12,slow=30								
MANU	**Manus Island**	**8.53**	**298**	Pn			**Pn**	**05 46 46.8**	**0.0**
MANU	**Manus Island**	**8.53**	**298**	P			**Pn**	**05 46 48.4**	**+1.6**
	69nm,1.6s								
PATS	**Pohnpei**	**13.32**	**15**	Pn			**Pn**	**05 47 48.6**	**-0.7**
COEN	**Coen**	**13.91**	**235**				**P**	**05 47 59.4**	**-0.4**
COEN	**Coen**	**13.91**	**235**	P			**P**	**05 48 00.3**	**+0.6**
AUAYR	**Ayr State High**	**15.23**	**208**	P			**P**	**05 48 17.4**	**+3.1**
TV1H	**Townsville Har**	**15.25**	**210**	P			**P**	**05 48 16.8**	**+2.3**
MTSU	**Mount Surprise**	**15.78**	**220**	P			**P**	**05 48 23.3**	**+2.9**
CTA	**Charters Tower**	**16.22**	**210**	P			**Pn**	**05 48 23.6**	**-1.7**
	7.2nm,0.8s,baz=115,slow=4.5,SNR=2.7								
CTA						LR	LR	05 53 42.6	
	comp=Z,108nm,21.0s,baz=73,slow=33								
CTAO	**Charters Tower**	**16.22**	**210**	P			**P**	**05 48 27.4**	**+2.2**
CTAO	**Charters Tower**	**16.22**	**210**	P			**P**	**05 48 28.3**	**+3.0**
KOUNC	**Koumac, New Ca**	**16.99**	**148**				**P**	**05 48 34.2**	**+0.5**
KOUNC	**Koumac, New Ca**	**16.99**	**148**	P			**Pn**	**05 48 35.5**	**+1.0**
RK1H	**Rockhampton Ha**	**17.68**	**193**	P			**Pn**	**05 48 43.6**	**+0.9**
GD1S	**Gladstone Soft**	**17.98**	**191**	P			**Pn**	**05 48 47.7**	**+1.5**
LIFNC	**LIFOU**	**18.86**	**142**	P			**P**	**05 48 53.6**	**-0.5**
LIFNC	**LIFOU**	**18.86**	**142**	P			**P**	**05 48 54.2**	**+0.1**
NOUC	**Port Laguerre**	**19.34**	**146**	P			**P**	**05 48 59.6**	**+0.3**

comp=Z,54nm,1.1s
SOEI Soe 30.54 261 P **P** **05 50 46.0 +1.1**
SOEI Soe 30.54 261 P **P** **05 50 46.5 +1.6**
comp=Z,82nm,1.0s
FITZ Fitzroy Crossi 30.92 245 P **P** **05 50 47.2 -0.9**
FITZ IAmb IAmb 05 50 48.5
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 30.92 245 P **P** **05 50 47.6 -0.5**
MULG Mulgathing 31.01 217 P **P** **05 50 48.1 -0.6**
WHYH Whyalla 31.25 209 P **P** **05 50 50.8 +0.1**
KMSI Cibinong 31.57 281 P **P** **05 50 57.1 +3.3**
WRKA Warakurna 31.66 231 P **P** **05 50 54.2 -0.4**
BBOO Buckleboo 31.82 211 P **P** **05 50 55.3 -0.5**
BBOO IAmb IAmb 05 50 56.5
comp=Z,25nm,0.8s
LUWI Luwuk 32.44 278 P **P** **05 51 01.7 +0.2**
LUWI Luwuk 32.44 278 P **P** **05 51 02.2 +0.7**
LUWI Luwuk 32.44 278 P **P** **05 51 02.2 +0.7**
comp=Z,111nm,1.0s,comp=Z,7µm
MMRI Maumere 32.47 264 P **P** **05 51 01.4 -0.3**
MMRI Maumere 32.47 264 P **P** **05 51 02.2 +0.5**
MMRI Maumere 32.47 264 P **P** **05 51 02.3 +0.5**
comp=Z,212nm,1.1s,comp=Z,4µm
GTOI Gorontalo 32.53 281 P **P** **05 51 03.4 +1.2**
comp=Z,55nm,0.8s,comp=Z,406nm
ARPS Mount Arapiles 32.76 200 P **P** **05 51 04.5 +0.6**
EDFI Ende, Flores 33.02 263 P **P** **05 51 05.8 -0.8**
comp=Z,101nm,1.0s,comp=Z,999nm
MRSI Marisa 33.54 280 P **P** **05 51 12.2 +1.2**
comp=Z,25nm,0.9s,comp=Z,1µm
TOLI2 Tolitoli 34.80 281 P **P** **05 51 20.5 -1.4**
TOLI2 IAmb IAmb 05 51 22.0
comp=Z,21nm,0.8s
TOLI2 Tolitoli 34.80 281 P **P** **05 51 21.0 -0.9**
KAPI Kappang 34.99 270 P **P** **05 51 23.4 -0.1**
KAPI IAmb IAmb 05 51 59.0
comp=Z,31nm,0.9s
MPSI Mapaga 35.52 279 P **P** **05 51 27.1 -0.9**
comp=Z,102nm,0.9s
TOZ Tahuroa Road 36.63 152 P **P** **05 51 38.0 +0.9**
PLAI Plampang 36.89 263 P **P** **05 51 38.3 -1.4**
PLAI Plampang 36.89 263 P **P** **05 51 39.3 -0.4**
comp=Z,92nm,0.9s
PSA00 Pilbara Seismi 37.20 242 P **P** **05 51 41.2 -1.0**
PSA00 IAmb IAmb 05 51 42.6
comp=Z,18nm,1.1s
PSA00 Pilbara Seismi 37.20 242 P **P** **05 51 41.9 -0.3**
URZ Urewera 37.81 151 P **P** **05 51 47.4 +0.3**
RTZ Ruatahuna 38.03 151 P **P** **05 51 49.0 0.0**
BKZ Black Stump Fm 38.24 152 P **P** **05 51 50.8 +0.1**
TKNZ Takaka Hill 38.33 158 P **P** **05 51 52.1 +0.8**
TCW Tory Channel 38.99 157 P **P** **05 51 57.2 +0.3**
TUWZ Tuamarina 39.05 157 P **P** **05 51 57.5 +0.2**
SNZO South Karori 39.24 156 P **P** **05 51 59.8 +0.9**
KMBL Kambalda 39.81 227 P **P** **05 52 03.7 -0.2**
MEEK Meekatharra 40.12 235 P **P** **05 52 06.3 -0.2**
GIRL Giralia 42.48 243 P **P** **05 52 27.0 +1.2**
KLBR Kellerberrin 42.97 229 P **P** **05 52 28.9 -0.7**
MORW Morawa 43.19 233 P **P** **05 52 31.2 -0.1**
MORW IAmb IAmb 05 52 31.7
comp=Z,32nm,0.8s
MORW Morawa 43.19 233 P **P** **05 52 31.1 -0.3**
SBUM Sibu 43.45 280 P **P** **05 52 35.9 +2.2**
comp=Z,5.5nm,1.8s
NWAO Narrogin (SRO) 43.99 228 P **P** **05 52 37.5 -0.3**
NWAO IAmb IAmb 05 52 38.3
comp=Z,31nm,1.1s
NWAO Narrogin (SRO) 43.99 228 P **P** **05 52 37.9 +0.1**
NWAO Narrogin (SRO) 43.99 228 LR LR 06 10 55.5
comp=Z,120nm,18.1s,baz=323,slow=36
NWAO Narrogin (SRO) 43.99 228 P **P** **05 52 37.7 0.0**
MUN Mundaring 44.31 229 P **P** **05 52 40.0 -0.3**
RKGY Rocky Gully 45.01 226 P **P** **05 52 46.6 +0.8**
KSM Kuching 45.15 278 P **P** **05 52 46.0 -1.1**
KSM IAmb IAmb 05 53 45.8
comp=Z,28nm,0.5s
JNU Nakatsue 45.20 331 LR LR 06 09 56.0
comp=Z,41nm,21.4s,baz=110,slow=34
KPJI Karang Pucung 45.65 266 P **P** **05 52 51.5 +0.4**
comp=Z,104nm,1.0s
BBJI Bungbulang 46.91 266 P **P** **05 53 00.0 -1.1**
BBJI Bungbulang 46.91 266 P **P** **05 53 00.5 -0.6**
comp=Z,123nm,0.8s
CNJI Cibinong 47.43 266 P **P** **05 53 04.5 -0.5**
comp=Z,134nm,0.9s,comp=Z,1µm
NJ2 Nanjing 51.19 320 *e*P **P** **05 53 33.3 +0.2**
NJ2 pmax pmax
comp=Z,14nm,0.6s
USRK Ussuriysk Ar. 54.19 340 P **P** **05 53 55.1 +0.2**
KULM Kulim 55.33 281 P **P** **05 54 02.7 -1.1**
MDJ Mudanjiang 55.40 338 P **P** **05 54 05.8 +2.1**
MDJ pmax pmax
comp=Z,7.0nm,1.9s
MDJ pmax pmax
comp=Z,130nm,5.2s
PEA0B Petropavlovsk- 59.06 2 P **P** **05 54 28.3 -0.8**
PEA0B IAmb IAmb 05 54 30.5
comp=Z,28nm,1.1s
PETK Petropavlovsk- 59.06 2 P **P** **05 54 28.9 -0.3**
PETK Petropavlovsk- 59.06 2 P **P** **05 54 27.1 -2.0**
comp=Z,12nm,0.9s,baz=177,slow=8.3,SNR=12
PETK LR LR 06 16 20.4
comp=Z,20nm,21.4s,baz=105,slow=32
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 60.32 295 P **P** **05 54 38.1 -0.4**
CMAR Chiang Mai Arr 60.32 295 P **P** **05 54 36.5 -2.1**
comp=Z,0.9nm,0.3s,baz=118,slow=4.8,SNR=6.3
comp=Z,0.9nm,0.3s
PZH PanZhiHua 60.83 305 P **P** **05 54 43.3 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,5.7s
CD2 Chengdu 61.18 310 *e*P **P** **05 54 43.5 -0.6**
DRV Dumont d'Urvil 61.31 187 P **P** **05 54 44.6 +0.4**
HHC Hu-ho-hao-te 61.34 324 *e*P **P** **05 54 47.8 +2.7**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,270nm,5.1s
BTO Baotou 62.11 323 *e*P **P** **05 54 53.1 +2.9**
BTO pP **pwP** **05 55 31.1 +0.6**
BTO sP sP 05 55 55.3 +10
BTO S **S** **06 03 06.4 +3.8**
BTO Baotou 62.11 323 SS SS 06 07 16.8 +8.2
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,310nm,4.7s
BTO LR LR
comp=N,230nm,6.5s
BTO LR LR
comp=E,410nm,5.6s
BTO LR LR
comp=Z,170nm,5.9s
ADK Adak 62.69 19 P **P** **05 54 54.0 +0.3**
UNV Unalaska Valle 67.97 24 P **P** **05 55 28.7 +1.1**
baz=222
GTA Gaotai 68.04 317 *e*P **P** **05 55 29.8 +1.2**
GTA pP pP 05 56 07.8 +0.7
GTA pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 68.55 327 P **P** **05 55 32.1 +0.5**
SONM Songino Array 68.55 327 P **P** **05 55 31.4 -0.2**
comp=Z,1.5nm,0.7s,baz=146,slow=5.4,SNR=10
comp=Z,1.5nm,0.7s
CCD Concordia, Ant 71.25 188 P **P** **05 55 48.7 +0.8**
VNDA Vanda 71.45 178 P **P** **05 55 49.2 +0.7**
VNDA Vanda 71.45 178 P **P** **05 55 46.8 -1.8**
comp=Z,4.0nm,1.1s,baz=4.5,slow=7.4,SNR=3.8
comp=Z,4.0nm,1.1s
VNDA Vanda 71.45 178 P **P** **05 55 48.9 +0.3**
VNDA pP **pP** **05 56 26.3 -0.3**
VNDA sP **sP** **05 56 43.0 -0.6**
O14K Tigyukauivet M 73.89 22 P **P** **05 56 04.0 +0.8**
baz=226
M13K Dall Lake 73.97 20 P **P** **05 56 04.5 +0.9**
baz=224
GAMB Gambell 74.11 15 P **P** **05 56 04.9 +0.5**
baz=215
O15K Ungalikthiuk R 74.37 22 P **P** **05 56 07.0 +1.0**
baz=227
K13K Kusilvak Mount 74.66 19 P **P** **05 56 08.5 +0.9**
baz=222
M14K Bethel 74.70 20 P **P** **05 56 08.6 +0.8**
baz=225
L14K Kuka Creek 74.87 20 P **P** **05 56 09.3 +0.5**
baz=224
N15K Kwethluk River 74.95 21 P **P** **05 56 10.2 +0.9**
baz=227
P16K Nushagak River 74.98 23 P **P** **05 56 09.1 -0.4**
baz=229
SII Sitkinak Islan 75.00 26 P **P** **05 56 09.2 -0.5**
baz=233
M15K Kasigluk River 75.10 21 P **P** **05 56 10.4 +0.2**
baz=226
Q17K Contact Creek 75.33 24 P **P** **05 56 11.1 -0.6**
baz=231
J14K Nanvaranak Lak 75.61 18 P **P** **05 56 13.9 +0.9**
baz=223
N16K Nishlik Lake 75.64 22 P **P** **05 56 13.3 -0.1**
baz=228
OHAK Old Harbor 75.80 26 P **P** **05 56 13.8 -0.3**
baz=234
O17K Koliganek Bris 75.81 23 P **P** **05 56 14.3 +0.1**
baz=230
K15K Wolf Creek Mou 75.94 19 P **P** **05 56 15.5 +0.6**
baz=225
M16K Timber Creek 75.94 21 P **P** **05 56 15.0 0.0**
baz=228
L16K Owhat River 76.23 21 P **P** **05 56 15.9 -0.7**
L16K IAmb IAmb 05 57 12.1
comp=Z,28nm,1.6s
L16K Owhat River 76.23 21 P **P** **05 56 16.9 +0.3**
baz=227
N17K Nushagak Hills 76.27 22 P **P** **05 56 17.4 +0.6**
baz=229
ANM Nome 76.43 16 P **P** **05 56 18.3 +0.6**
ANM Nome 76.43 16 P **P** **05 56 18.4 +0.7**
baz=221
TNA Tin City 76.51 15 P **P** **05 56 19.1 +1.0**
baz=218
O18K Koktuh Hills 76.60 23 P **P** **05 56 19.6 +0.9**
baz=231
Q19K Cape Douglas, 76.66 25 P **P** **05 56 18.1 -1.1**
M17K Holitna River 76.75 21 P **P** **05 56 20.5 +1.0**
baz=229
N18K Kilae Creek 76.86 23 P **P** **05 56 20.7 +0.6**
baz=231
F14K Arctic Creek 76.86 16 P **P** **05 56 20.8 +0.8**
baz=220
L17K Donlin 76.93 21 P **P** **05 56 20.9 +0.4**
baz=228
J16K Anvik River 76.94 19 P **P** **05 56 21.9 +1.4**
baz=226
Q20K Shuyak Island 77.00 25 P **P** **05 56 22.0 +1.0**
baz=234
G15K Niukluk 77.13 17 P **P** **05 56 22.4 +0.9**
baz=222
SVW2 Sparrevohn 77.24 22 P **P** **05 56 22.2 -0.1**
P19K Oil Pt 77.27 24 P **P** **05 56 22.0 -0.5**
P19K Oil Pt 77.27 24 P **P** **05 56 22.5 +0.1**
baz=233
K17K Iditarod 77.32 20 P **P** **05 56 23.5 +0.9**
baz=228
I17K Unalakleet 77.33 19 P **P** **05 56 23.6 +0.9**
baz=226
H16K Elim 77.40 17 P **P** **05 56 23.5 +0.5**
baz=224
M18K Stony River 77.40 22 P **P** **05 56 23.7 +0.6**
baz=230
N19K Bonanza Creek 77.48 23 P **P** **05 56 24.2 +0.5**
baz=232
F15K North Star Dit 77.50 16 P **P** **05 56 24.4 +0.8**
baz=221
L18K Granite Mounta 77.55 21 P **P** **05 56 24.3 +0.3**
baz=230
O20K Slope Mountain 77.77 24 P **P** **05 56 26.0 +0.7**
baz=234
G16K Koyuk River 77.91 17 P **P** **05 56 26.7 +0.8**
baz=224
HOM Homer 77.92 25 P **P** **05 56 26.4 +0.3**
baz=235
WMQ Urumqi 78.12 317 *e*P **P** **05 56 29.1 +1.5**
L19K White Mountain 78.19 22 P **P** **05 56 28.1 +0.5**
baz=231
TTA Tatalina 78.25 21 P **P** **05 56 27.4 -0.5**
TTA Tatalina 78.25 21 P **P** **05 56 28.3 +0.4**
baz=230
H17K Granite Mounta 78.31 18 P **P** **05 56 28.8 +0.7**
baz=226
BRSE Bradley Lake S 78.35 25 P **P** **05 56 28.5 0.0**
baz=236
J18K Innoko River 78.35 20 P **P** **05 56 28.7 +0.3**
baz=229
G17K Kiwalik Mounta 78.48 17 P **P** **05 56 29.5 +0.4**
baz=225
N20K Mount Spurr 78.60 23 P **P** **05 56 29.7 -0.1**
baz=234
M20K Styx River 78.65 22 P **P** **05 56 30.2 +0.1**
baz=233
L20K Farewell, AK 78.73 22 P **P** **05 56 31.3 +0.8**
baz=232
CAPN Captain Cook N 78.76 24 P **P** **05 56 31.3 +0.7**
baz=235
H18K Honhosa River 78.94 18 P **P** **05 56 32.2 +0.6**
baz=228
F17K Baiwin Pennin 78.98 16 P **P** **05 56 32.3 +0.6**
baz=224
J19K Poorman 79.07 20 P **P** **05 56 32.8 +0.5**
baz=230
SEW Seward 79.09 25 P **P** **05 56 32.7 +0.3**
baz=237
GCSA Galena City Sc 79.14 19 P **P** **05 56 33.0 +0.4**
baz=229
K20K Telida 79.21 21 P **P** **05 56 33.2 +0.1**
baz=232
C16K Lisburne Hills 79.27 14 P **P** **05 56 34.0 +0.7**
baz=220
E17K Hotham Inlet 79.28 16 P **P** **05 56 34.5 +1.2**
baz=224
SKT Skwentna 79.32 23 P **P** **05 56 33.5 -0.2**
baz=234
SUA Susitna One 79.33 23 P **P** **05 56 33.2 -0.7**
baz=235
FIS Fire Island 79.35 24 P **P** **05 56 34.2 +0.4**
G18K Tagagawik 79.36 18 P **P** **05 56 33.9 +0.1**
baz=227
D17K Noatak River 79.40 15 P **P** **05 56 33.8 -0.2**
baz=223
RC01 Rabbit Creek A 79.52 24 P **P** **05 56 34.5 -0.3**
baz=236
PPLA Purkeypile 79.61 22 P **P** **05 56 34.9 -0.6**
baz=234
J20K Nowinta River 79.69 20 P **P** **05 56 35.6 0.0**
baz=232
H19K Roundabout Mou 79.79 19 P **P** **05 56 36.9 +0.8**
baz=229
E18K Tukpahlearik C 79.86 16 P **P** **05 56 37.4 +0.9**
baz=225
C17K DeLong Mountai 79.95 15 P **P** **05 56 37.6 +0.7**
baz=222
CAST Castle Rocks 79.96 21 P **P** **05 56 36.4 -0.7**
CAST Castle Rocks 79.96 21 P **P** **05 56 36.9 -0.2**
baz=234
G19K Purcell Mounta 80.00 18 P **P** **05 56 37.2 -0.1**
baz=229
PMR Palmer 80.04 24 P **P** **05 56 37.6 +0.1**
baz=237
CHUM Lake Minchumin 80.15 21 P **P** **05 56 38.1 0.0**
baz=234
KNK Knik Glacier 80.21 24 P **P** **05 56 38.3 -0.2**
baz=237
F19K Shalerrokik Mo 80.25 17 P **P** **05 56 38.8 +0.2**
baz=228
H20K Anotleneega Mo 80.27 19 P **P** **05 56 39.1 +0.3**
baz=231
SML Sawmill 80.48 24 P **P** **05 56 39.9 -0.1**
SML IAmb IAmb 05 57 25.8
comp=Z,23nm,1.2s
SML Sawmill 80.48 24 P **P** **05 56 40.1 +0.2**
baz=238
C18K Utukok River 80.58 15 P **P** **05 56 41.0 +0.6**
baz=223
TRF Thorofare Moun 80.63 22 P **P** **05 56 41.0 +0.1**
baz=235
M23K Glacier View 80.71 24 P **P** **05 56 41.2 0.0**
baz=238
BPAW Bear Paw Mtn. 80.75 21 P **P** **05 56 41.4 0.0**
baz=235
E19K Redstone River 80.83 17 P **P** **05 56 42.3 +0.6**
baz=228
EYAK Cordova Ski Ar 80.89 26 P **P** **05 56 43.1 +1.0**
baz=240
SCM Sheep Creek Mo 80.89 24 P **P** **05 56 42.6 +0.3**
baz=238
B18K Kokolik River 80.94 14 P **P** **05 56 42.4 +0.2**
baz=224
WAT1 Susitna Watana 80.94 23 P **P** **05 56 42.2 -0.3**
baz=237
F20K Avaraart Lake 81.00 18 P **P** **05 56 43.1 +0.5**
baz=230
I21K Tanana 81.04 20 P **P** **05 56 43.8 +1.0**
baz=234
H21K Melozitna Rive 81.05 19 P **P** **05 56 43.3 +0.4**
baz=233
WAT6 Susitna Watana 81.12 23 P **P** **05 56 43.9 +0.4**
baz=238
D19K Kuna River 81.28 16 P **P** **05 56 44.0 -0.1**
baz=227
KLU Klutina 81.29 25 P **P** **05 56 44.1 -0.2**
KLU IAmb IAmb 05 57 30.0
comp=Z,59nm,1.7s
KLU Klutina 81.29 25 P **P** **05 56 44.7 +0.3**
baz=240
MCK McKinley 81.29 22 P **P** **05 56 43.9 -0.3**
baz=237
C19K Lookout Ridge 81.31 15 P **P** **05 56 45.3 +1.0**
baz=226
G21K Allakaket 81.35 19 P **P** **05 56 44.7 +0.2**
baz=232
MLY Manley 81.38 20 P **P** **05 56 44.8 +0.1**
baz=235
M24K Tolsona, Glenn 81.50 24 P **P** **05 56 45.5 +0.1**
M24K IAmb IAmb 05 57 32.1
comp=Z,59nm,1.4s
M24K Tolsona, Glenn 81.50 24 P **P** **05 56 45.0 -0.4**
baz=239
DHY Denali Highway 81.53 23 P **P** **05 56 45.8 +0.1**
baz=238
BMRM Bremner River 81.59 25 P **P** **05 56 46.5 +0.7**
baz=241
E20K Nigu River 81.66 16 P **P** **05 56 46.7 +0.6**
baz=229
H22K Ishtalitna Cre 81.67 20 P **P** **05 56 46.7 +0.6**
baz=234
NEA2 Nenana 81.72 21 P **P** **05 56 46.2 -0.2**
baz=236
A19K Wainwright 81.73 14 P **P** **05 56 47.0 +0.7**
baz=224
F21K Alatna River 81.79 18 P **P** **05 56 46.9 +0.1**
baz=232
D20K Etivluk River 81.84 16 P **P** **05 56 47.7 +0.7**
baz=229
N25K Chitina, Valde 81.90 25 P **P** **05 56 47.8 +0.3**
baz=241
I23K Minto, Yukon-K 81.93 21 P **P** **05 56 48.0 +0.5**
baz=236
HARP HAARP 82.06 24 P **P** **05 56 48.6 +0.3**
baz=240
GLB Gilahina Butte 82.15 25 P **P** **05 56 48.4 -0.4**
GLB IAmb IAmb 05 57 34.3
comp=Z,32nm,1.3s
PAX Paxson 82.22 23 P **P** **05 56 49.4 +0.2**
baz=240
G22K Bettles 82.23 19 P **P** **05 56 49.4 +0.4**
baz=234
HDA Harding Lake 82.39 22 P **P** **05 56 49.6 -0.3**
baz=238
K24K Donnelly Dome 82.52 23 P **P** **05 56 50.6 -0.1**
baz=240
B20K Meade River 82.56 15 P **P** **05 56 50.9 +0.3**
baz=228
G23K Bananza Creek 82.59 19 P **P** **05 56 50.9 0.0**
baz=235
ILAR Eielson Array 82.61 22 P **P** **05 56 49.5 -1.6**
comp=Z,0.9nm,0.6s,baz=236,slow=5.5,SNR=16
ILAR pP **pP** **05 57 29.9 -0.8**
comp=Z,2.6nm,0.9s,baz=233,slow=5.3,SNR=2.8
comp=Z,0.9nm,0.6s
C21K Knifeblade Rid 82.63 16 P **P** **05 56 51.1 0.0**
baz=230
MK31 Makanchi Array 82.69 319 P **P** **05 56 51.4 -0.5**
MKAR Makanchi Array 82.69 319 P **P** **05 56 50.7 -1.2**
MKAR Makanchi Array 82.69 319 P **P** **05 56 51.4 -0.5**
comp=Z,2.5nm,0.8s,baz=102,slow=5.9,SNR=25
MKAR pP **pP** **05 57 29.7 -2.3**
comp=Z,1.4nm,0.9s,baz=98,slow=5.0,SNR=2.8
comp=Z,2.5nm,0.8s
COLD Coldfoot 82.82 19 P **P** **05 56 52.0 -0.1**
baz=235
RIDG Independent Ri 82.85 23 P **P** **05 56 52.0 -0.3**
baz=240
BARN Barnard Glacie 82.90 26 P **P** **05 56 52.9 0.0**
BARN IAmb IAmb 05 59 59.3
comp=Z,13nm,0.9s
M26K Nabesna, AK 82.94 25 P **P** **05 56 53.2 +0.3**
baz=242
B21K Ikpikpuk River 82.97 16 P **P** **05 56 53.2 +0.4**
baz=231
CTG Chitna Glacier 83.00 26 P **P** **05 56 53.1 -0.2**
baz=244
D22K Ayikyak River 83.05 17 P **P** **05 56 53.7 +0.4**
baz=232
J25K Salcha River, 83.09 22 P **P** **05 56 53.4 -0.2**
baz=240
L26K Log Cabin Wild 83.09 24 P **P** **05 56 53.9 +0.2**
baz=242
PINM Pinnacle 83.11 27 P **P** **05 56 54.3 +0.4**
baz=245
SCRK Sand Creek 83.30 23 P **P** **05 56 54.4 -0.3**
baz=241
PNL Peninsula 83.32 28 P **P** **05 56 54.8 -0.1**
baz=246
M27K Edge Creek, AK 83.39 25 P **P** **05 56 55.8 +0.5**
baz=243
ZALV Zalesovo Beam 83.41 326 P **P** **05 56 53.8 -1.5**
comp=Z,0.8nm,0.4s,baz=121,slow=6.3,SNR=5.8
ZALV pP **pP** **05 57 34.2 -1.1**
comp=Z,1.1nm,0.5s,baz=103,slow=6.5,SNR=3.9
comp=Z,0.8nm,0.4s
G24K Hadweenzic Riv 83.42 20 P **P** **05 56 55.5 +0.3**
baz=236
E23K Chandalar 83.48 18 P **P** **05 56 55.9 +0.3**
baz=236
PRP Porcupine Dome 83.49 21 P **P** **05 56 55.7 0.0**
baz=240
A21K Barrow 83.57 14 P **P** **05 56 56.4 +0.6**
baz=228
J26L Joseph Creek 83.71 23 P **P** **05 56 57.0 +0.2**
baz=242
L27K Beaver Creek, 83.73 24 P **P** **05 56 57.4 +0.5**
baz=243
F24K Squaw Lake 83.73 19 P **P** **05 56 56.9 +0.1**
baz=237
YUK3 Moose Creek 83.73 26 P **P** **05 56 56.9 -0.3**
baz=245,SNR=6.3
B22K Teshekpuk Lake 83.75 15 P **P** **05 56 56.5 -0.2**
baz=232
A22K Sinclair Lake 83.77 15 P **P** **05 56 57.0 +0.2**
baz=230
YUK8 Steele Glacier 83.83 26 P **P** **05 56 57.8 +0.1**
baz=245,SNR=5.8
BVCY Beaver Creek 83.84 25 P **P** **05 56 57.6 +0.2**
baz=244,SNR=7.6
QSPA South Pole Qui 83.84 180 P **P** **05 56 56.5 -1.0**
comp=Z,5.3nm,0.8s,baz=335,slow=0.5,SNR=18
comp=Z,5.3nm,0.8s
G25K Bearman Lake 83.92 20 P **P** **05 56 58.1 +0.4**
baz=239
O29M Mount Kennedy 83.96 27 P **P** **05 56 58.2 0.0**
baz=246
K27K Chicken 84.07 23 P **P** **05 56 58.9 +0.4**
baz=243
C23K Itkillik River 84.21 16 P **P** **05 56 59.6 +0.5**
baz=234
I26K Coal Creek Min 84.25 22 P **P** **05 56 59.8 +0.4**
baz=242
YUK6 Outpost Mounta 84.31 27 P **P** **05 56 60.0 -0.1**
baz=247
D24K Happy Valley 84.34 17 P **P** **05 57 00.5 +0.7**
baz=236
YUK4 Talbot Arm 84.34 26 P **P** **05 57 01.0 +0.8**
baz=246,SNR=7.7
F25K Christian Rive 84.50 19 P **P** **05 57 01.2 +0.5**
baz=239
P30M Million Dollar 84.63 28 P **P** **05 57 02.0 +0.5**
baz=248
HYT Haines Junctio 84.65 27 P **P** **05 57 01.6 0.0**
HYT IAmb IAmb 05 57 48.5
comp=Z,34nm,1.0s

HYT	Haines Junctio	84.65	27	P	P	05 57 01.7	0.0
	baz=247,SNR=9.6						
C24K	Franklin Bluff	84.69	17	P	P	05 57 02.0	+0.5
	baz=236						
EGAK	Eagle	84.76	23	P	P	05 57 02.3	+0.4
	baz=244						
E25K	Arctic Village	84.80	19	P	P	05 57 02.5	+0.4
	baz=239						
G26K	Porcupine Rive	84.81	20	P	P	05 57 02.6	+0.4
	baz=241						
S32K	Killisnoo	84.84	31	P	P	05 57 02.4	-0.1
	baz=250						
M29M	Somme Creek	84.87	25	P	P	05 57 02.9	+0.2
	baz=246						
CRAG	Craig	84.95	33	P	P	05 57 02.7	-0.4
	baz=252						
I27K	Kandik River	84.96	22	P	P	05 57 03.4	+0.4
	baz=243						
F26K	Sheenjek River	85.05	20	P	P	05 57 03.6	+0.1
	baz=241						
N30M	Aishikik Lake	85.08	27	P	P	05 57 03.9	+0.2
	baz=248						
DAWY	Dawson	85.15	24	P	P	05 57 04.5	+0.5
	baz=245						
R32K	Eaglecrest	85.15	30	P	P	05 57 04.1	+0.1
	baz=250						
SKAG	Skagway	85.16	29	P	P	05 57 04.6	+0.6
	baz=249						
D25K	Kavik River	85.17	18	P	P	05 57 03.9	-0.1
	baz=238						
H27K	Steamboat Moun	85.27	21	P	P	05 57 04.6	+0.1
	baz=243						
L29M	L29M	85.27	25	P	P	05 57 05.0	+0.4
L29M				IAmb	IAmb	05 57 51.8	
	comp=Z,18nm,1.0s						
L29M	L29M	85.27	25	P	P	05 57 04.8	+0.1
	baz=247,SNR=8.8						
O30N	Mendenhall	85.27	27	P	P	05 57 04.5	-0.3
O30N				IAmb	IAmb	05 57 51.3	
	comp=Z,13nm,1.1s						
O30N	Mendenhall	85.27	27	P	P	05 57 04.4	-0.3
	baz=249,SNR=5.0						
G27K	Doyon Strip	85.49	21	P	P	05 57 05.9	+0.3
	baz=243						
I28M	Miner Creek	85.52	22	P	P	05 57 05.9	0.0
	baz=245						
M30M	Minto, Yukon	85.63	26	P	P	05 57 06.7	+0.3
	baz=248,SNR=8.4						
WRAK	Wrangell Islan	85.66	32	P	P	05 57 06.2	-0.4
	baz=252						
N31M	Braeburn, Yuko	85.67	27	P	P	05 57 07.6	+1.0
	baz=249						
V35K	Ketchikan	85.73	33	P	P	05 57 07.6	+0.7
	baz=253						
J29N	Klondike Camp	85.77	24	P	P	05 57 08.0	+0.9
	baz=246						
WHY	Whitehorse	85.79	28	P	P	05 57 08.0	+0.6
	baz=250						
K29M	Barlow Dome	85.81	24	P	P	05 57 08.2	+0.8
	baz=247						
C26K	Camden Bay	85.92	17	P	P	05 57 08.8	+1.3
	baz=240						
P32M	Atlin	85.98	29	P	P	05 57 08.6	+0.5
	baz=251						
I29M	Ogilvie Camp,	86.10	23	P	P	05 57 08.9	+0.3
	baz=246						
KURBB	Kurchatov Arra	86.12	322	P	P	05 57 07.5	-1.5
	comp=Z,0.2nm,0.4s,baz=99,slow=4.5,SNR=4.2						
KURBB				pP	pP	05 57 47.0	-2.4
	comp=Z,2.4nm,1.1s,baz=107,slow=3.7,SNR=7.6						
E27K	Coleen River	86.13	20	P	P	05 57 09.8	+1.0
	baz=243						
H29M	Whitestone	86.42	22	P	P	05 57 10.6	+0.4
	baz=246						
F28M	Old Crow	86.47	20	P	P	05 57 10.6	+0.2
	baz=245						
Q32M	Nakina River	86.48	30	P	P	05 57 11.1	+0.2
	baz=252						
M31M	Drury Creek, Y	86.54	26	P	P	05 57 10.9	+0.1
	baz=250						
J30M	Hart River	86.57	24	P	P	05 57 11.8	+0.7
	baz=248						
P33M	Teslin, Yukon	86.61	28	P	P	05 57 11.9	+0.6
	baz=252						
S34M	Telegraph Cree	86.74	31	P	P	05 57 12.7	+0.8
	baz=253						
N32M	Quiet Lake	86.78	28	P	P	05 57 12.3	+0.2
	baz=251						
I30M	Mount Dempster	86.80	23	P	P	05 57 13.0	+0.8
	baz=248						
G29M	Pine Creek	86.83	21	P	P	05 57 12.9	+0.7
	baz=246						
T35M	Bob Quinn	86.93	32	P	P	05 57 13.4	+0.5
	baz=254						
E28M	Babbage River	87.00	20	P	P	05 57 13.6	+0.7
	baz=245						
FARO	Faro, Yukon	87.01	26	P	P	05 57 13.9	+0.7
	baz=251,SNR=5.2						
EPYK	Eagle Plains	87.10	22	P	P	05 57 13.4	-0.1
EPYK				IAmb	IAmb	05 58 00.4	
	comp=Z,40nm,1.2s						
EPYK	Eagle Plains	87.10	22	P	P	05 57 13.7	+0.2
	baz=248						
R33M	Jennings River	87.25	30	P	P	05 57 14.7	+0.2
	baz=253						
DLBC	Dease Lake	87.45	31	P	P	05 57 15.6	+0.2
	baz=254						
E29M	Blow River	87.47	20	P	P	05 57 14.7	-0.5
	baz=247						
G30M	tAoh Zraii Nji	87.51	22	P	P	05 57 15.3	-0.1
	baz=248						
H31M	Peel River	87.80	23	P	P	05 57 16.6	-0.2
	baz=250						
F30M	Barrier River	87.90	21	P	P	05 57 17.7	+0.5
	baz=249						
G31M	Satah River	88.21	22	P	P	05 57 19.1	+0.4
	baz=250						
YBH	Yreka Blue Hor	88.39	48	LR	LR	06 31 36.1	
	comp=Z,68nm,18.1s,baz=332,slow=32						
WTLY	Watson Lake, Y	88.50	29	P	P	05 57 20.9	+0.6
	baz=255						
F31M	Tsiigehtchic	88.58	21	P	P	05 57 20.5	+0.1
	baz=250						
INK	Inuvik	88.95	21	P	P	05 57 21.4	-0.6
	comp=Z,0.7nm,0.6s,baz=182,slow=6.4,SNR=2.2						
INK				LR	LR	06 39 57.7	
	comp=Z,36nm,18.0s,baz=0.5,slow=37						
	comp=Z,0.7nm,0.6s						
VES	Vestal, Richgr	90.33	54	P	P	05 57 29.0	-0.3
	baz=263						
ARVC	Arvin	90.45	55	P	P	05 57 30.2	+0.3
	baz=263						
CIS	Catalina Islan	90.58	57	P	P	05 57 30.6	0.0
	baz=263						
FMP	Fort Macarthur	90.72	56	P	P	05 57 31.0	-0.1
	baz=263						
ISA	Isabella, Lake	90.80	54	P	P	05 57 31.8	+0.2
	baz=263						
KOTAN	Kotaneelee Air	90.82	30	P	P	05 57 31.6	+0.6
	baz=259						
EDW2	Edwards Air Fo	91.10	55	P	P	05 57 33.7	+0.7
	baz=263,SNR=6.5						
FLDN	Fort Liard	91.13	30	P	P	05 57 33.7	+1.3
	baz=260						
CWC	Cottonwood Cre	91.21	54	P	P	05 57 34.0	+0.3
	baz=263						
NVAR	Mina Array Bea	91.27	52	P	P	05 57 34.0	+0.1
	comp=Z,9.1nm,0.9s,baz=253,slow=6.6,SNR=25						
NVAR				pP	pP	05 58 15.0	+0.5
	comp=Z,1.2nm,0.8s,baz=251,slow=11,SNR=1.4						
	comp=Z,9.1nm,0.9s						
BFSC	Mount Baldy Ra	91.30	56	P	P	05 57 34.4	+0.3
	baz=264,SNR=6.1						
LRMC	Laurel Mtn Rad	91.42	55	P	P	05 57 35.2	+0.6
	baz=264						
BVAR	Borovoye Array	91.54	323	P	P	05 57 33.4	-1.1
	comp=Z,0.5nm,0.5s,baz=108,slow=5.8,SNR=2.6						
BVAR				pP	pP	05 58 14.0	-1.3
	comp=Z,2.1nm,0.9s,baz=108,slow=4.8,SNR=4.7						
	comp=Z,0.5nm,0.5s						
109C	Camp Elliot, M	91.61	57	P	P	05 57 35.5	+0.1
	baz=264						
MURC	Murrieta	91.61	57	P	P	05 57 36.0	+0.7
	baz=264						
MPMC	Manual Prospec	91.64	54	P	P	05 57 36.3	+0.6
	baz=264,SNR=5.8						
WRGLY	Wrigley	91.67	27	P	P	05 57 35.6	+0.8
	baz=260						
GRAC	Grapevine Rang	91.84	53	P	P	05 57 37.0	+0.6
	baz=264						
BBRC	Big Bear Solar	91.91	56	P	P	05 57 37.5	+0.5
	baz=264						
RRX	Edison Barstow	91.91	55	P	P	05 57 37.5	+0.8
	baz=264						
GSC	Goldstone, Bar	92.11	55	P	P	05 57 38.0	+0.3
	baz=264						
MONP2	Monument Peak	92.18	57	P	P	05 57 39.2	+1.0
	baz=264,SNR=5.6						
FURC	Furnace Creek,	92.19	54	P	P	05 57 38.8	+0.9
	baz=264						
PFO	Pinyon Flats O	92.22	57	P	P	05 57 39.0	+0.6
	baz=264						
TPFO	Pinon Flats	92.23	57	P	P	05 57 39.5	+1.1
	baz=264,SNR=5.0						
IKP	In-Ko-Pah, Jac	92.42	58	P	P	05 57 40.0	+0.8
	baz=264						
HEC	Hector,Ludlow	92.45	55	P	P	05 57 39.7	+0.4
	baz=264						
SHOC	Shoshone, Teco	92.60	54	P	P	05 57 41.2	+1.3
	baz=264						
BELC	Belle Mtn. Jos	92.65	56	P	P	05 57 41.5	+1.2
	baz=264,SNR=11						
A36M	Sachs Harbour	92.65	18	P	P	05 57 40.7	+1.5
	baz=258						
SWSC	Sam W. Stewart	92.71	57	P	P	05 57 41.4	+1.0
	baz=264						
TPNV	Topopah Spring	92.73	53	P	P	05 57 41.4	+0.8
	baz=264,SNR=6.0						
TUQ	Turquoise Moun	92.84	55	P	P	05 57 41.4	+0.2
	baz=265						
GMRC	Granite Mounta	93.00	56	P	P	05 57 42.5	+0.7
	baz=265,SNR=7.2						
BC3	Big Chuckawall	93.06	57	P	P	05 57 42.1	0.0
	baz=265,SNR=7.1						
NEW	Newport	93.18	42	P	P	05 57 42.9	+0.6
	baz=264						
NEW	Newport	93.18	42	P	P	05 57 41.4	-0.9
	comp=Z,4.4nm,1.0s,baz=266,slow=11,SNR=4.3						
NEW				LR	LR	06 35 46.0	
	comp=Z,62nm,18.1s,baz=272,slow=33						
	comp=Z,4.4nm,1.0s						
IRM	Iron Mountain	93.36	56	P	P	05 57 44.2	+0.7
	baz=265,SNR=17						
R11B	Troy Canyon, C	93.38	52	P	P	05 57 44.2	+0.5
	baz=265,SNR=7.4						
GLA	Glamis	93.53	57	P	P	05 57 45.1	+0.8
	baz=265						
NEE2	Needles Airpor	93.85	56	P	P	05 57 46.5	+0.9
	baz=265						
PDMCI	Parker Dam,Lak	94.21	56	P	P	05 57 47.5	+0.2
	baz=266						
HLID	Hailey	94.68	47	P	P	05 57 49.2	-0.2
	baz=266						
MSO	Missoula	95.22	44	P	P	05 57 52.2	+0.4
	baz=267						
YKA	Yellowknife Ar	95.62	28	P	P	05 57 51.8	-1.3
	comp=Z,2.8nm,0.9s,baz=268,slow=4.7,SNR=31						
YKA				pP	pP	05 58 33.9	0.0
	comp=Z,3.6nm,0.9s,baz=265,slow=3.2,SNR=3.9						
	comp=Z,2.8nm,0.9s						
DUG	Dugway, Tooele	95.66	50	P	P	05 57 54.0	+0.1
	baz=267						
WUAZ	Wupatki	96.55	55	P	P	05 57 57.9	-0.2
	baz=267						
BOZ	Bozeman (W)	96.77	45	P	P	05 57 58.3	-0.6
	baz=268						
EGMT	Eagleton	98.10	42	P	P	05 58 04.3	-0.4
	baz=270						
BW06	Boulder Array	98.19	48	P	P	05 58 04.8	-0.7
	baz=269						
PDAR	Pinedale Array	98.19	48	P	P	05 58 03.5	-1.9
	comp=Z,0.8nm,0.7s,baz=258,slow=2.3,SNR=7.6						
	comp=Z,0.8nm,0.7s						
MVCO	Mesa Verde	98.93	53	P	Pdif	05 58 09.0	+0.1
	baz=269						
O20A	White River Ci	99.16	50	P	Pdif	05 58 09.7	-0.1
	baz=270						
S22A	4UR Ranch, Cre	100.26	53	P	Pdif	05 58 14.7	-0.1
	baz=270						
K22A	Casper	100.43	48	P	Pdif	05 58 15.1	-0.2
	baz=271						
LAO	LASA Array	100.52	44	P	Pdif	05 58 15.7	+0.2
	baz=272						
ANMO	Albuquerque	100.56	56	P	Pdif	05 58 15.5	-0.6
	baz=270						
N23A	Red Feather La	100.91	50	P	Pdif	05 58 16.9	-0.8
	baz=271						
ISCO	Idaho Springs	101.18	51	P	Pdif	05 58 18.9	0.0
	baz=271						
SDCO	Great Sand Dun	101.31	53	P	Pdif	05 58 18.9	-0.6
	baz=271						
MNTX	Cornudas Mount	101.46	59	P	Pdif	05 58 20.2	+0.2
	baz=270						
TXAR	Lajitas Array	102.94	61	Pdiff	Pdif	05 58 29.3	+2.6
	baz=318,slow=2.4,SNR=1.7						
KSU1	Kansas State U	108.18	51	P	PKiKP	06 02 55.2	-0.3
	baz=277						
TUL3	Leonard	109.20	54	P	PKiKP	06 02 56.8	-0.7
	baz=276						
EYMN	Ely	110.26	41	P	PKiKP	06 02 58.4	-0.8
	baz=284						
CCM	Cathedral Cave	112.50	51	P	PKiKP	06 03 03.2	-0.4
	baz=280						
L44A	Lake County Fo	114.12	46	P	PKiKP	06 03 06.6	0.0
	baz=284						
OXF	Oxford	114.57	55	P	PKPdf	06 03 06.9	-0.9
	baz=280						
SFIN	Lafayette	115.16	48	P	PKiKP	06 03 08.3	-0.4
	baz=284						
GLMI	Grayling	115.69	43	P	PKPdf	06 03 09.5	-0.1
	baz=288						
LRAL	Lakeview Retre	116.81	56	P	PKPdf	06 03 11.6	-0.5
	baz=281						
M53A	WI Miller and	119.51	45	P	PKPdf	06 03 16.7	-0.4
	baz=289						
O53A	New Philadelph	119.51	47	P	PKPdf	06 03 16.6	-0.5
	baz=289						
MCWV	Mont Chateau	120.70	47	P	PKPdf	06 03 18.8	-0.6
	baz=289						
KMSC	Kings Mountain	120.92	53	P	PKPdf	06 03 19.2	-0.8
	baz=286						
BLA	Blacksburg	121.04	50	P	PKPdf	06 03 19.4	-0.8
	baz=288						
SSPA	Standing Stone	121.77	45	P	PKPdf	06 03 20.3	-1.1
	baz=292						
NHSC	New Hope	122.38	55	P	PKPdf	06 03 21.5	-1.2
	baz=285						
LONY	Lake Ozonia	122.39	40	P	PKPdf	06 03 21.2	-1.3
	baz=297						
LBNH	Lisbon	124.25	39	P	PKPdf	06 03 24.9	-1.2
	baz=299						
PAL	Palisades	124.40	44	P	PKPdf	06 03 25.8	-0.6
	baz=295						
L61B	Northampton	124.60	42	P	PKPdf	06 03 25.5	-1.3
	baz=297						
HRV	Adam Dziewonsk	125.31	41	P	PKPdf	06 03 27.4	-0.8
	baz=298						
ROSC	El Rosal	131.01	89	PKP	PKPdf	06 03 40.1	-0.2
	comp=Z,8.7nm,0.5s,baz=277,slow=1.9,SNR=7.6						
BDFB	Brasilia	148.66	134	PKPbc	PKPbc	06 04 14.2	-1.3
	comp=Z,5.1nm,0.8s,baz=189,slow=4.7,SNR=5.9						
TORD	Torodi Ar. Bea	152.69	287	PKPbc	PKPbc	06 04 22.9	-2.1
	comp=Z,0.7nm,0.7s,baz=7.9,slow=3.5,SNR=6.0						

IDC 19 05:54:30.8±4.2, 3°56'S×151°42'E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=124.4km s-min=33.4km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.30	224	P	P	05 59 41.0	+0.5
	1.0nm,0.5s,baz=52,slow=10,SNR=4.1						
ASAR	Alice Springs	26.19	219	P	P	06 00 07.5	+0.1
	0.4nm,0.4s,baz=53,slow=8.7,SNR=7.0						
	0.4nm,0.4s						
SONM	Songino Array	64.55	328	P	P	06 05 09.5	-0.4
	0.4nm,0.8s,baz=117,slow=5.0,SNR=2.1						
	0.4nm,0.8s						

IDC 19 06:00:58.8±2.9, 54°50N×87°01E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.7km s-min=17.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.40	248	I	I	06 08 16.2	
	baz=68,slow=345,SNR=12						
ZALV	Zalesovo Beam	1.40	248	Pg	Pn	06 01 23.6	-2.0
	0.7nm,0.3s,baz=67,slow=17,SNR=14						
ZALV				Lg	Lg	06 01 43.8	
	0.5nm,0.3s,baz=62,slow=26,SNR=2.3						
KURBB	Kurchatov Arra	6.47	237	Pn	Pn	06 02 35.7	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=19						
KURBB				Sn	Sn	06 03 48.3	-1.2
	baz=64,slow=2.2,SNR=1.6						
KURBB				Lg	Lg	06 04 26.1	
	baz=43,slow=32,SNR=2.1						
	1.9nm,0.7s						
MKAR	Makanchi Array	8.28	203	Pn	Pn	06 03 01.4	+1.3
	0.1nm,0.3s,baz=22,slow=13,SNR=4.2						
MKAR				Sn	Sn	06 04 33.6	-0.6
	0.1nm,0.3s,baz=23,slow=24,SNR=2.7						
	0.2nm,0.4s						

*IDC **19** 06:05:26.6±1.9, 49°.31N×97°.01E, h0km, mbtmp2.9/2, ML3.1/1, Error ellipse: s-maj=54.5km s-min=14.9km az=12.0*
*ASRS **19** 06:05:29.9±0.3, 50°N±2°×97°E±°, h10km, MLh4.3/10, Error ellipse: s-maj=4.4km s-min=2.2km az=4.5, confirmed*

ISC 19 06:05:27.9±0.8, 49°.53N±0°.06×97°.09E±0°.03, h10km, n21, σ2s95/34, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	Mondy	3.28	48	Pg	Pb	06 06 29.5	+3.3
MOY				Sg	Sg	06 07 14.0	+0.9
ZAK	Zakamensk	4.08	76	Pn	Pn	06 06 32.5	+2.0
ZAK				Pg	Pb	06 06 43.1	+3.2
ZAK				Sg	Sg	06 07 39.0	0.0
CERR	Cheremushki	4.88	315	Pg	Pg	06 06 58.7	-2.6
CERR				Sg	Sg	06 08 02.4	-2.1
DJO	Djoy, Khakassi	4.93	314	Pn	Pn	06 06 40.1	-1.9
DJO				Pg	Pb	06 06 58.6	+4.4
DJO				Sg	Sg	06 08 02.0	-3.9
MINR	Mina	5.66	343	Pg	Pg	06 07 16.2	-0.1
MINR				Sg	Sg	06 08 32.6	+3.1
CUR	Chagan-Uzun	5.69	279	Pg	Pb	06 07 12.8	+5.5
CUR				Sg	Sg	06 08 26.9	-3.5
ULGR	Ulagan, Altay	5.98	284	Pg	Pg	06 07 18.6	-3.8
ULGR				Sg	Sg	06 08 38.6	-1.2
AKAR	Aktash	6.17	281	Pn	Pn	06 07 06.0	+6.9
AKAR				Pg	Pb	06 07 18.7	+3.3
AKAR				Sg	Sg	06 08 43.8	-2.0
CHBI	Chibit, Altay	6.24	281	Pn	Pn	06 06 58.2	-1.9
CHBI				Pg	Pg	06 07 24.7	-2.6
CHBI				Sg	Sg	06 08 47.0	-1.2
DGZ	Jazzator, Alta	6.28	275	Pn	Pn	06 07 00.8	+0.1
DGZ				Pg	Pb	06 07 23.6	+6.2
DGZ				Sg	Sg	06 08 47.0	-2.4
SONM	Songino Array	6.39	102	Pn	Pn	06 07 02.6	+0.4
	0.5nm,0.3s,baz=283,slow=15,SNR=7.4						
SONM				Pg	Pb	06 07 22.9	+3.7
	0.6nm,0.3s,baz=284,slow=17,SNR=6.7						
SONM				Lg	Lg	06 08 49.7	
	3.9nm,0.3s,baz=281,slow=29,SNR=14						
	0.5nm,0.3s						
YALR	Yailyu, Altay	6.43	294	Pn	Pn	06 07 03.1	+0.4
YALR				Pg	Pg	06 07 27.4	-3.6
YALR				Sg	Sg	06 08 50.7	-3.6
LUZB	Luzhba, Kemero	6.57	312	Sg	Sg	06 08 53.3	-5.3
TASR	Tashtagol	6.64	303	Pg	Pb	06 07 29.2	+5.9
TASR				Sg	Sg	06 08 57.2	-3.5
ARTR	Artybash	6.64	294	Sg	Sg	06 08 59.5	-1.4
ULN	Ulaanbaatar	6.80	100	Pg	Pb	06 07 33.4	+7.2
ULN				Sg	Sg	06 09 02.5	-3.5
SHTK	Zheleznogorsk-	7.13	344	Pg	Pb	06 07 38.1	+6.4
SHTK				Sg	Sg	06 09 11.4	-5.2
GZLN	Zheleznogorsk	7.15	345	Pg	Pg	06 07 41.8	-2.8
GZLN				Sg	Sg	06 09 14.1	-3.1
ZALV	Zalesovo Beam	8.80	305	Pg	Pg	06 08 07.5	-8.8
	0.1nm,0.3s,baz=120,slow=16,SNR=2.3						
ZALV				Lg	Lg	06 10 06.1	
	0.3nm,0.3s,baz=111,slow=23,SNR=7.6						
MKAR	Makanchi Array	10.26	260	Pg	Pn	06 08 34.4	+39
	0.1nm,0.3s,baz=81,slow=18,SNR=2.1						
MKAR				Lg	Lg	06 10 49.1	
	0.2nm,0.3s,baz=73,slow=31,SNR=7.8						
KURBB	Kurchatov Arra	11.98	282	Pn	Pn	06 08 18.1	-0.4
	0.1nm,0.3s,baz=118,slow=18,SNR=1.2						
KURBB				Lg	Lg	06 11 48.7	
	baz=85,slow=35,SNR=4.7						

IDC 19 06:05:44.9±2.8, 54°.15N×86°.47E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=22.4km s-min=13.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.99	259	I	I	06 11 29.4	
	baz=80,slow=346,SNR=3.5						
ZALV	Zalesovo Beam	0.99	259	Pg	Pg	06 06 02.6	-1.3
	1.4nm,0.3s,baz=79,slow=17,SNR=14						
ZALV				Lg	Lg	06 06 18.3	
	1.2nm,0.3s,baz=75,slow=28,SNR=11						
KURBB	Kurchatov Arra	6.01	237	Pn	Pn	06 07 16.0	+1.0
	0.2nm,0.3s,baz=53,slow=13,SNR=7.0						
	0.8nm,0.4s						
MKAR	Makanchi Array	7.83	202	Pn	Pn	06 07 41.0	+0.9
	0.1nm,0.3s,baz=25,slow=13,SNR=5.5						
	0.2nm,0.2s						

*MEX **19** 06:09:36.6±0.9, 15°.21N×94°.68W, h25km±120km, MD4.1*
*NEIC **19** 06:09:37.0±1.5, 15°.32N±0°.08×94°.62W±0°.03, h44km±15km, mb4.2/11, Md4.1/42(MEX), Error ellipse: s-maj=11.9km s-min=3.1km az=191.0*
*CATAC **19** 06:09:40.3±1.4, 15°.13N×94°.33W, h103km±30km, ML4.4*

ISC 19 06:09:35.9±0.8, 15°.26N±0°.05×94°.65W±0°.03, h40km, n52, σ1s67/80, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	Arriaga	1.21	36	eP	Pn	06 09 55.1	-1.2
CARR				eS	Sn	06 10 07.5	-4.1
NILT	Santiago Nilte	1.30	1	eP	Pn	06 09 56.5	-1.1
NILT				eS	Sn	06 10 11.3	-2.4
PCIG		1.45	72		Pn	06 09 59.3	-0.2
PCIG					Sn	06 10 16.3	-1.1
PCIG		1.45	72	i P	Pn	06 09 59.3	-0.2
PCIG				i S	Sn	06 10 16.3	-1.1
HUIG	Huatulco	1.50	290		Pn	06 09 59.6	-0.6
HUIG	Huatulco	1.50	290	eP	Pn	06 09 59.6	-0.6
HUIG				eS	Sn	06 10 15.7	-2.9
CMIG	Matias Romero	1.84	353		Pn	06 10 05.1	+0.1
CMIG					Sn	06 10 25.8	-1.2
CMIG	Matias Romero	1.84	353	i P	Pn	06 10 05.1	+0.1
CMIG				i S	Sn	06 10 25.8	-1.2
UXUV	UXUV	2.10	13	i P	Pn	06 10 09.7	+1.1
UXUV				eS	Sn	06 10 33.8	+0.2
TGIG		2.11	44		Pn	06 10 09.6	+0.8
TGIG					Sn	06 10 34.9	+1.1
TGIG		2.11	44	eP	Pn	06 10 09.6	+0.8
TGIG				eS	Sn	06 10 34.9	+1.1
TGBT	Tuxtla Gutierr	2.13	45		Pn	06 10 09.7	+0.8
TGBT					Sn	06 10 35.2	+1.1
TGBT	Tuxtla Gutierr	2.13	45	eP	Pn	06 10 09.7	+0.8
TGBT				eS	Sn	06 10 35.2	+1.1
PATR	El Naranjo	2.33	93	i P	Pn	06 10 11.8	-0.2
PATR				eS	Sn	06 10 37.9	-1.7
PAVE	Pavencul	2.39	91	eP	Pn	06 10 12.8	+0.1
PAVE				eS	Sn	06 10 38.9	-1.9
CHUJ	Union Juarez	2.46	93	eP	Pn	06 10 13.5	-0.2
CHUJ				eS	Sn	06 10 40.6	-2.0
SMCA

SMSP	**San Marcos**	**2.78**	**95**	*e*P		**Pn**	**06 10 17.1**	**-1.1**
SMSP				*e*S		**Sn**	**06 10 50.1**	**-0.6**
SMSP	**San Marcos**	**2.78**	**95**	*i* P		**Pn**	**06 10 19.2**	**+1.0**
SMSP				*i* S		**Sn**	**06 10 49.1**	**-1.6**
SMSP				IAML			06 10 55.6	
	comp=Z,2µm,1.0s							
RTAL	**Retalhuleu**	**2.95**	**104**	Pn		**Pn**	**06 10 21.1**	**+0.9**
RTAL	**Retalhuleu**	**2.95**	**104**	*e*P		**Pn**	**06 10 20.9**	**+0.7**
RTAL				*e*S		**Sn**	**06 10 52.1**	**-2.3**
RTAL	**Retalhuleu**	**2.95**	**104**	*i* P		**Pn**	**06 10 20.8**	**+0.6**
RTAL				*i* S		**Sn**	**06 10 54.6**	**+0.2**
RTAL				IAML			06 11 29.0	
	comp=Z,470nm,1.0s							
HUEH	**Huehuetenango**	**3.04**	**88**			**Pn**	**06 10 23.2**	**+1.6**
HUEH	**Huehuetenango**	**3.04**	**88**	*e*P		**Pn**	**06 10 24.0**	**+2.4**
HUEH				*e*S		**Sn**	**06 10 54.9**	**-2.0**
HUEH	**Huehuetenango**	**3.04**	**88**	*i* P		**Pn**	**06 10 23.7**	**+2.1**
HUEH				*i* S		**Sn**	**06 10 59.7**	**+2.8**
HUEH				IAML			06 11 15.3	
	comp=Z,2µm,1.0s							
QUIS	**Sacapulas**	**3.43**	**89**	*i* P		**Pn**	**06 10 30.1**	**+3.1**
QUIS				*i* S		**Sn**	**06 11 05.5**	**-1.0**
TLIG	**Tlapa**	**4.40**	**302**			**Pn**	**06 10 42.0**	**+1.7**
PETF	**Flores**	**4.88**	**70**			**Pn**	**06 10 47.6**	**+0.8**
PETF	**Flores**	**4.88**	**70**	*e*P		**Pn**	**06 10 47.3**	**+0.5**
PETF				*e*S		**Sn**	**06 11 37.0**	**-5.1**
PETF	**Flores**	**4.88**	**70**	*i* P		**Pn**	**06 10 48.0**	**+1.2**
PETF				IAML			06 10 49.4	
	comp=Z,260nm,1.0s							
PETF				*i* S		**Sn**	**06 11 39.8**	**-2.3**
NUBE	**Las Nubes**	**4.90**	**105**	*i* P		Pn	06 10 52.4	+5.2
NUBE				*i* S		**Sn**	**06 11 39.7**	**-3.1**
TEIG	**Tepich**	**7.83**	**50**			**Pn**	**06 11 26.7**	**-0.5**
SOR	**Soroa**	**13.31**	**54**	Pn		**Pn**	**06 12 41.8**	**-0.6**
BRDY	**Brady**	**16.45**	**347**	Pn		**Pn**	**06 13 23.6**	**-0.1**
MTDJ	**Mount Denham**	**16.65**	**77**	Pn		**Pn**	**06 13 25.9**	**-0.6**
553A	**Crawfordville**	**17.58**	**31**	Pn		**Pn**	**06 13 36.4**	**-1.4**
553A				IAmb		IAmb	06 14 10.1	
	comp=Z,63nm,1.1s							
WTFS	**Witchita Falls**	**18.75**	**350**	P		**P**	**06 13 51.4**	**0.0**
WTFS				IAmb		IAmb	06 14 24.7	
	comp=Z,11nm,1.1s							
GTBY	**Guantanamo Bay**	**19.19**	**73**	P		**P**	**06 13 56.6**	**+0.2**
CBOC	**Ciudad Bolivar**	**20.54**	**115**	*e*P		Pn	06 14 14.8	+1.0
FCAR	**Ozark Folk Cen**	**20.67**	**6**	P		**P**	**06 14 12.5**	**+0.1**
GOGA	**Godfrey**	**20.72**	**27**	P		**P**	**06 14 12.5**	**-0.4**
GOGA				IAmb		IAmb	06 14 55.2	
	comp=Z,16nm,1.4s							
FPAL	**Fort Paine**	**20.86**	**21**	P		**P**	**06 14 13.9**	**-0.5**
FPAL				IAmb		IAmb	06 14 31.5	
	comp=Z,8.5nm,1.2s							
GUY2C	**Guyana, Caldas**	**21.41**	**116**	*e*P		**P**	**06 14 24.1**	**+3.0**
ORTC	**Ortega, Tolima**	**22.18**	**119**	*e*P		**P**	**06 14 33.0**	**+4.2**
SPBC	**San Pablo de B**	**22.35**	**113**	*e*P		**P**	**06 14 31.3**	**+0.6**
MACA	**Manacapuru-AM**	**38.28**	**116**	P		**P**	**06 16 52.5**	**-0.3**
MACA				IAmb		IAmb	06 17 32.5	
	comp=Z,5.9nm,1.0s							
BATG	**Bathurst New B**	**39.77**	**31**	P		**P**	**06 17 04.4**	**-0.5**
BATG				IAmb		IAmb	06 17 06.8	
	comp=Z,7.8nm,1.2s							

*IDC **19** 06:12:43.1±0.7,5.22S×151.49E,h137km±5km,mb3.8/10, mbtmp4.2/11,Error ellipse: s-maj=30.1km s-min=10.1km az=122.0*
*NEIC **19** 06:12:44.0±1.7,5.13S±0.05×151.42E±0.09,h139km±8km, mb4.4/29,Error ellipse: s-maj=13.2km s-min=6.2km az=111.0*

ISC 19 06:12:42.5±0.5,**5.09S**±0.07×**151.35E**±0.08,**h129**km,**n52,** σ1§**42**/56,**mb4.3**/24,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.03**	**41**	P		**Pn**	**06 13 07.7**	**+2.1**
	99nm,0.4s,baz=325,slow=1.1,SNR=30							
KRVT				S		**Sn**	**06 13 25.7**	**+2.6**
	105nm,0.5s,baz=232,slow=19,SNR=64							
RABL	**Rabaul**	**1.21**	**42**			**Pn**	**06 13 08.9**	**+1.5**
MANU	**Manus Island**	**5.00**	**307**	Pn		**Pn**	**06 13 58.4**	**+2.8**
PMG	**Port Moresby**	**5.97**	**224**			**Pn**	**06 14 10.8**	**+2.0**
PMG	**Port Moresby**	**5.97**	**224**	P		**Pn**	**06 14 09.5**	**+0.8**
	36nm,0.6s,baz=39,slow=5.6,SNR=11							
PMG				S		**Sn**	**06 15 17.3**	**+1.3**
	167nm,0.8s,baz=323,slow=20,SNR=16							
COEN	**Coen**	**11.94**	**222**	Pn		**Pn**	**06 15 31.2**	**+2.5**
CTAO	**Charters Tower**	**15.71**	**198**	Pn		**Pn**	**06 16 16.3**	**-0.6**
CTAO				IAmb		IAmb	06 16 16.4	
	comp=Z,16nm,1.2s							
FAKI	**Fak Fak**	**19.18**	**276**	P		**P**	**06 16 55.8**	**-0.6**
FAKI				IAmb		IAmb	06 17 11.3	
	comp=Z,31nm,1.1s							
GUMO	**Guam**	**19.64**	**341**	P		**P**	**06 16 55.8**	**-5.5**
EIDS	**Eidsvold**	**20.16**	**181**	P		**P**	**06 17 07.5**	**+0.6**
MTN	**Manton Dam**	**21.39**	**248**	P		**P**	**06 17 20.2**	**+0.1**
MTN				IAmb		IAmb	06 17 23.8	
	comp=Z,37nm,1.4s							
WB0	**Warramunga Arr**	**22.03**	**227**	P		**P**	**06 17 26.6**	**-0.3**
WB0				IAmb		IAmb	06 17 28.7	
	comp=Z,17nm,1.1s							
WR0	**Warramunga Arr**	**22.05**	**226**	P		**P**	**06 17 27.1**	**+0.1**
WR0				IAmb		IAmb	06 17 29.5	
	comp=Z,16nm,1.2s							
WRA	**Warramunga Arr**	**22.18**	**227**	P		**P**	**06 17 28.7**	**+0.2**
	comp=Z,77nm,0.4s,baz=50,slow=12,SNR=1.8							
WRA				S		**S**	**06 21 22.9**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=43,slow=1.9,SNR=2.7							
DZM	**Mont Dzumac**	**22.32**	**141**	P		**P**	**06 17 28.7**	**-1.1**
DZM				IAmb		IAmb	06 17 31.2	
	comp=Z,20nm,1.3s							
KNRA	**Kununurra**	**24.55**	**243**			**P**	**06 17 50.6**	**+0.1**
AS31	**Alice Springs**	**24.98**	**221**	P		**P**	**06 17 54.7**	**+0.3**
AS31				IAmb		IAmb	06 17 57.5	
	comp=Z,3.8nm,0.5s							
ASAR	**Alice Springs**	**24.98**	**221**	P		**P**	**06 17 54.5**	**+0.2**
ASAR	**Alice Springs**	**24.98**	**221**	*e*P		**P**	**06 17 54.2**	**-0.1**
	comp=Z,5.1nm,0.4s,baz=54,slow=9.1,SNR=59							
ASAR				PcP		**PcP**	**06 21 26.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=29,slow=2.1,SNR=2.2							
	comp=Z,5.1nm,0.4s							
FITZ	**Fitzroy Crossi**	**28.26**	**241**	P		**P**	**06 18 23.5**	**-0.3**
PSA00	**Pilbara Seismi**	**34.64**	**239**	P		**P**	**06 19 18.9**	**-0.9**
GIRL	**Giralia**	**39.87**	**240**	P		**P**	**06 20 04.0**	**+0.2**
MORW	**Morawa**	**41.05**	**230**	P		**P**	**06 20 13.3**	**-0.2**
MORW				IAmb		IAmb	06 20 30.1	
	comp=Z,18nm,1.3s							
BKNI	**Bangkinang**	**50.54**	**275**	P		**P**	**06 21 25.1**	**-3.1**
CMAR	**Chiang Mai Arr**	**56.70**	**296**	P		**P**	**06 22 14.4**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=124,slow=4.8,SNR=7.0							
	comp=Z,1.2nm,0.3s							
PEA0B	**Petropavlovsk-**	**58.23**	**4**	P		**P**	**06 22 22.3**	**-0.9**
PETK	**Petropavlovsk-**	**58.23**	**4**	P		**P**	**06 22 22.6**	**-0.6**
PETK	**Petropavlovsk-**	**58.23**	**4**	P		**P**	**06 22 23.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=184,slow=8.1,SNR=1.8							
	comp=Z,1.1nm,0.6s							
SONM	**Songino Array**	**65.81**	**329**	P		**P**	**06 23 15.9**	**+1.8**
SONM	**Songino Array**	**65.81**	**329**	P		**P**	**06 23 15.9**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=152,slow=5.5,SNR=14							
	comp=Z,1.9nm,0.6s							
CASY	**Casey**	**67.32**	**197**	P		**P**	**06 23 22.7**	**-0.5**
CASY				IAmb		IAmb	06 23 23.3	
	comp=Z,13nm,1.2s							
L14K	**Kuka Creek**	**75.13**	**21**	P		**P**	**06 24 12.3**	**+2.1**
L14K				IAmb		IAmb	06 24 18.7	
	comp=Z,5.4nm,1.0s							
M16K	**Timber Creek**	**76.30**	**22**	P		**P**	**06 24 18.0**	**+1.1**
M16K				IAmb		IAmb	06 24 35.4	
	comp=Z,11nm,1.3s							
J16K	**Anvik River**	**77.15**	**20**	P		**P**	**06 24 23.0**	**+1.4**
J16K				IAmb		IAmb	06 24 30.0	
	comp=Z,5.7nm,1.1s							
G16K	**Koyuk River**	**77.99**	**18**	P		**P**	**06 24 26.6**	**+0.4**
G16K				IAmb		IAmb	06 25 04.9	
	comp=Z,5.9nm,1.2s							
L19K	**White Mountain**	**78.57**	**23**	P		**P**	**06 24 30.9**	**+1.3**
CNPM	**China Poot**	**78.60**	**26**	P		**P**	**06 24 30.1**	**+0.3**
MK31	**Makanchi Array**	**79.60**	**319**	P		**P**	**06 24 36.6**	**+1.1**
MKAR	**Makanchi Array**	**79.60**	**319**	P		**P**	**06 24 36.3**	**+0.8**
MKAR	**Makanchi Array**	**79.60**	**319**	P		**P**	**06 24 36.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=99,slow=7.6,SNR=14							
	comp=Z,0.8nm,0.5s							
CAST	**Castle Rocks**	**80.32**	**22**	P		**P**	**06 24 37.6**	**-1.4**
ZALV	**Zalesovo Beam**	**80.60**	**327**	P		**P**	**06 24 40.7**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=106,slow=5.1,SNR=6.6							
	comp=Z,1.4nm,0.5s							

E19K	**Redstone River**	**80.90**	**18**	P		**P**	**06 24 43.5**	**+1.5**
SML	**Sawmill**	**80.98**	**25**			**P**	**06 24 43.4**	**+0.7**
SML				IAmb		IAmb	06 24 52.6	
	comp=Z,14nm,1.4s							
IMAR	**Indian Mountai**	**81.14**	**20**	P		**P**	**06 24 43.5**	**+0.2**
MLY	**Manley**	**81.67**	**21**	P		**P**	**06 24 47.0**	**+0.8**
MLY				IAmb		IAmb	06 24 47.4	
	comp=Z,2.7nm,0.5s							
ILAR	**Eielson Array**	**82.97**	**22**	P		**P**	**06 24 52.2**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=247,slow=5.2,SNR=26							
	comp=Z,1.2nm,0.6s							
KURBB	**Kurchatov Arra**	**83.14**	**322**	P		**P**	**06 24 54.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=111,slow=4.3,SNR=6.2							
	comp=Z,0.5nm,0.4s							
QSPA	**South Pole Qui**	**84.87**	**180**	P		**P**	**06 25 01.7**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=45,slow=5.2,SNR=1.2							
	comp=Z,0.4nm,0.4s							
BVAR	**Borovoye Array**	**88.61**	**323**	P		**P**	**06 25 20.9**	**0.0**
	comp=Z,1.4nm,0.6s,baz=108,slow=5.1,SNR=6.5							
	comp=Z,1.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**125.88**	**342**	PKP		**PKiKP**	**06 31 29.7**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=349,slow=3.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**149.02**	**287**	PKPbc		**PKPbc**	**06 32 16.6**	**0.0**
	comp=Z,4.3nm,0.8s,baz=61,slow=3.7,SNR=25							

IDC 19 06:22:34.0±2.4,**7.75S**×**116.31E**,**h0**km,**mb3.8**/4, **mbtmp3.9**/4,**Error ellipse: s-maj=141.7km s-min=21.5km az=54.0,Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.26**	**127**	P		P	06 27 22.0	-0.1
	0.7nm,0.7s,baz=306,slow=10.0,SNR=3.3							
ASAR	**Alice Springs**	**23.13**	**135**	P		P	06 27 42.0	-0.1
	1.2nm,0.5s,baz=312,slow=8.9,SNR=23							
	1.2nm,0.5s							
SONM	**Songino Array**	**56.03**	**352**	P		P	06 32 14.8	0.0
	1.6nm,0.7s,baz=167,slow=7.6,SNR=8.8							
	1.6nm,0.7s							
MKAR	**Makanchi Array**	**62.16**	**334**	P		P	06 32 58.0	+0.8
	0.4nm,0.5s,baz=135,slow=6.9,SNR=7.8							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**66.95**	**340**	P		P	06 33 27.1	-1.2
	0.4nm,0.3s,baz=144,slow=5.4,SNR=2.4							
	0.4nm,0.3s							

*IDC **19** 06:26:21.5±0.5,7.90N×127.51E,h0km,mb4.5/20, mbtmp4.5/22,ML4.0/2,MS3.4/11,Error ellipse: s-maj=22.0km s-min=11.8km az=77.0*
*DJA **19** 06:26:22.0±0.4,8˚N±3˚×12˚8E±˚,h10km,M5.1/16,mB5.4/7, mb5.0/16,MLv5.5/1,Mw(mB)4.8/7,*
*NEIC **19** 06:26:24.1±1.0,7.95N±0.08×127.38E±0.09,h10km±1km, mb4.7/46,Error ellipse: s-maj=15.5km s-min=13.7km az=70.0*

ISC 19 06:26:23.7±0.4,**7.88N**±0.05×**127.48E**±0.06,**h10**km,**n123,** σ1§**57**/116,**mb4.7**/53,**MS3.4**/10,**2C-2D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**2.05**	**247**	*i* P		**Pb**	**06 27 00.0**	**-1.0**
DAV	**Davao City (W)**	**2.05**	**247**	Pn		**Pb**	**06 26 59.7**	**-1.3**
	143nm,0.3s,baz=71,slow=5.5,SNR=18							
DAV				Sn		**Sg**	**06 27 29.6**	**0.0**
	74nm,0.3s,baz=264,slow=13,SNR=1.8							
	585nm,0.5s							
SGSI	**Sangihe**	**4.60**	**205**	P		**Pn**	**06 27 35.6**	**+2.2**
TNTI	**Ternate**	**7.07**	**181**	Pn		**Pn**	**06 28 07.6**	**+0.3**
KMSI	**Cibinong**	**8.05**	**206**	P		**Pn**	**06 28 22.5**	**+1.7**
	239nm,0.7s							
GTOI	**Gorontalo**	**8.46**	**212**	P		**Pn**	**06 28 27.8**	**+1.3**
	38nm,0.9s,530nm							
MRSI	**Marisa**	**9.20**	**217**	P		**Pn**	**06 28 38.6**	**+2.1**
	110nm,0.7s,2µm							
TOLI2	**Tolitoli**	**9.47**	**225**	Pn		**Pn**	**06 28 40.2**	**-0.1**
SANI	**Sanana**	**9.98**	**189**	P		**Pn**	**06 28 46.4**	**-0.9**
	23nm,0.8s							
LUWI	**Luwuk**	**10.03**	**208**	Pn		**Pn**	**06 28 47.8**	**-0.2**
LUWI	**Luwuk**	**10.03**	**208**	P		**Pn**	**06 28 51.0**	**+3.0**
	141nm,1.0s,4µm							
MPSI	**Mapaga**	**10.64**	**226**	P		Pn	06 29 01.2	+4.8
	10nm,0.9s							
KRAI	**Karang Ratu**	**11.16**	**175**	P		Pn	06 29 37.2	+34
TTSI	**Tana Toraja**	**13.27**	**215**	P		**Pn**	**06 29 35.5**	**+3.1**
	78nm,0.9s							
KAPI	**Kappang**	**14.95**	**211**	Pn		**Pn**	**06 29 56.8**	**+1.5**
KAPI	**Kappang**	**14.95**	**211**	Pn		**Pn**	**06 29 54.8**	**-0.5**
	0.3nm,0.3s,baz=27,slow=8.7,SNR=3.9							
	8.1nm,0.7s							
SBUM	**Sibu**	**16.12**	**251**	P		**Pn**	**06 30 11.2**	**+0.6**
TPUB	**Ta-pu**	**16.68**	**338**			**Pn**	**06 30 17.8**	**0.0**
TPUB				IAmb		IAmb	06 30 18.1	
	comp=Z,40nm,0.6s							
SSLB	**Suanglung**	**17.01**	**339**			**P**	**06 30 22.7**	**-1.1**
EDFI	**Ende, Flores**	**17.50**	**199**	P		**Pn**	**06 30 29.0**	**+0.8**
	comp=Z,24nm,0.7s,comp=Z,872nm							
SOEI	**Soe**	**17.81**	**190**	P		**P**	**06 30 34.4**	**+1.6**
SOEI				IAmb		IAmb	06 31 01.4	
	comp=Z,34nm,0.9s							
GUMO	**Guam**	**18.00**	**70**	LR		LR	06 37 37.7	
	comp=Z,88nm,18.1s,baz=258,slow=38							
JOW	**Lunigami**	**18.86**	**2**	LR		LR	06 37 47.4	
	comp=Z,105nm,18.8s,baz=125,slow=36							
QIZ	**Qiongzhong**	**20.39**	**305**	P		**P**	**06 31 00.6**	**-0.4**
QIZ				S		**S**	**06 34 45.9**	**-3.7**
QIZ				pmax		pmax		
	comp=Z,10.0nm,1.2s							
QIZ				LR		LR		
	comp=N,150nm,3.4s							
QIZ				LR		LR		
	comp=E,210nm,3.0s							
QIZ				LR		LR		
	comp=Z,170nm,5.1s							
MTN	**Manton Dam**	**20.91**	**170**	P		**P**	**06 31 07.0**	**+0.4**
KNRA	**Kununurra**	**23.44**	**177**	P		**P**	**06 31 33.9**	**+0.5**
KNRA				IAmb		IAmb	06 31 59.4	
	comp=Z,15nm,0.8s							
PPBI	**Pangkal Pinang**	**23.51**	**246**	P		**P**	**06 31 37.2**	**+3.1**
JCJ	**Chichijima**	**23.66**	**34**	LR		LR	06 39 48.3	
	comp=Z,58nm,21.9s,baz=286,slow=34							
JNU	**Nakatsue**	**25.31**	**7**	LR		LR	06 41 22.2	
	comp=Z,43nm,20.8s,baz=174,slow=36							
NJ2	**Nanjing**	**25.35**	**343**	*e*P		**P**	**06 31 52.8**	**+1.8**
NJ2				pP		**pwP**	**06 32 04.8**	**+3.4**
NJ2				sP		sP	06 32 11.8	+20
NJ2				pmax		pmax		
	comp=Z,12nm,0.6s							
WHN	**Wuhan**	**25.68**	**333**	P		**P**	**06 31 56.3**	**+2.3**
FITZ	**Fitzroy Crossi**	**25.88**	**184**	P		**P**	**06 31 55.6**	**-0.3**
JMN	**Monobe**	**26.39**	**12**	P		**P**	**06 32 01.1**	**+0.5**
JMN				IAmb		IAmb	06 32 04.0	
	comp=Z,21nm,0.8s							
COEN	**Coen**	**26.71**	**144**	P		**P**	**06 32 03.3**	**-0.2**
COEN				IAmb		IAmb	06 32 36.1	
	comp=Z,21nm,1.4s							
JHJ	**Hachijo jima 2**	**27.58**	**23**	LR		LR	06 42 09.5	
	comp=Z,81nm,20.1s,baz=155,slow=34							
WB0	**Warramunga Arr**	**28.31**	**166**	P		**P**	**06 32 17.1**	**-0.6**
WB0				IAmb		IAmb	06 32 45.4	
	comp=Z,10nm,0.9s							
WRA	**Warramunga Arr**	**28.46**	**166**	P		**P**	**06 32 20.6**	**+1.4**
WRA	**Warramunga Arr**	**28.46**	**166**	P		**P**	**06 32 17.8**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=349,slow=9.7,SNR=7.3							
WRA				PcP		**PcP**	**06 35 30.7**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=339,slow=2.7,SNR=7.3							
WB2	**Warramunga Arr**	**28.47**	**166**	P		**P**	**06 32 18.6**	**-0.6**
WB2				IAmb		IAmb	06 32 25.0	
	comp=Z,20nm,1.4s							
CRAI	**Chiangrai**	**28.95**	**298**	P		**P**	**06 32 21.8**	**-1.8**
CRAI				IAmb		IAmb	06 32 27.8	
	comp=Z,7.0nm,1.0s							
KSRS	**Korea Array**	**29.44**	**1**	P		**P**	**06 32 26.7**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=174,slow=10,SNR=10							
	comp=Z,2.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**29.66**	**294**	P		**P**	**06 32 28.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**29.66**	**294**	P		**P**	**06 32 27.9**	**-2.0**
	comp=Z,1.0nm,0.4s,baz=121,slow=7.0,SNR=6.9							
	comp=Z,1.0nm,0.4s							
CHTO	**Chiang Mai**	**29.76**	**294**	P		**P**	**06 32 29.1**	**-1.7**
MJAR	**Matsushiro Arr**	**30.16**	**17**	LR		LR	06 43 40.9	
	comp=Z,70nm,20.5s,baz=212,slow=34							
PZH	**PanZhiHua**	**30.66**	**310**	P		**P**	**06 32 37.0**	**-1.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,120nm,5.8s							
XAN	**Xi'an**	**31.15**	**329**	⇑P		**P**	**06 32 40.5**	**-2.4**
XAN				pP		pwP	06 32 54.0	+0.8
XAN				sP		sP	06 33 01.4	+17
XAN				pmax		pmax		
	comp=Z,21nm,0.8s							
XAN				pmax		pmax		
	comp=Z,80nm,3.5s							
HNS	**HongShan**	**31.59**	**340**	⇓P		**P**	**06 32 46.6**	**0.0**
HNS				pmax		pmax		
	comp=Z,21nm,0.8s							
AS31	**Alice Springs**	**31.98**	**169**	P		**P**	**06 32 50.9**	**+0.6**
ASAR	**Alice Springs**	**31.98**	**169**	P		**P**	**06 32 50.5**	**+0.2**
ASAR	**Alice Springs**	**31.98**	**169**	P		**P**	**06 32 49.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=353,slow=6.2,SNR=9.4							
ASAR				PcP		**PcP**	**06 35 40.4**	**0.0**
	comp=Z,5.1nm,0.4s,baz=347,slow=2.5,SNR=51							
	comp=Z,0.6nm,0.5s							
CTA	**Charters Tower**	**33.38**	**147**	LR		LR	06 48 58.9	
	comp=Z,61nm,18.2s,baz=284,slow=41							
CTAO	**Charters Tower**	**33.38**	**147**	P		**P**	**06 33 03.0**	**+0.4**
BJI	**Beijing**	**33.58**	**344**	P		**P**	**06 33 04.1**	**+0.1**
BJI				pmax		pmax		
	comp=Z,6.0nm,0.9s							
LZH	**Lanzhou**	**35.41**	**326**	⇑P		**P**	**06 33 19.9**	**-0.3**
LZH				pP		pwP	06 33 36.6	+6.2
LZH				pmax		pmax		
	comp=Z,20nm,1.4s							
HHC	**Hu-ho-hao-te**	**35.76**	**339**	*e*P		P	06 33 28.9	+5.9
HHC				pmax		pmax		
	comp=Z,14nm,0.5s							
HHC				pmax		pmax		
	comp=Z,160nm,4.8s							
BTO	**Baotou**	**36.11**	**337**	*e*P		**P**	**06 33 29.8**	**+3.7**
BTO				pP		**pwP**	**06 33 41.3**	**+4.8**
BTO				sP		sP	06 33 47.6	+20
BTO				PP		**PP**	**06 34 54.6**	**+6.4**
BTO				S		**S**	**06 39 10.4**	**+4.7**
BTO				SS		**SnSn**	**06 41 28.8**	**-2.2**
BTO				pmax		pmax		
	comp=Z,14nm,0.5s							
BTO				pmax		pmax		
	comp=Z,290nm,4.7s							
BTO				LR		LR		
	comp=N,240nm,4.7s							
BTO				LR		LR		
	comp=E,480nm,5.7s							
BTO				LR		LR		
	comp=Z,200nm,5.5s							
USRK	**Ussuriysk Ar.**	**36.39**	**5**	P		**P**	**06 33 26.9**	**-1.4**
	comp=Z,1.9nm,0.5s,baz=171,slow=28,SNR=3.5							
	comp=Z,1.9nm,0.5s							
HNR	**Honiara**	**36.63**	**117**	LR		LR	06 47 16.5	
	comp=Z,884nm,20.8s,baz=263,slow=34							
MDJ	**Mudanjiang**	**36.64**	**3**	P		**P**	**06 33 31.8**	**+1.4**
MDJ				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,86nm,5.2s							
MORW	**Morawa**	**38.35**	**196**	P		**P**	**06 33 44.4**	**-0.7**
MORW				IAmb		IAmb	06 34 26.7	
	comp=Z,12nm,1.1s							
ASAJ	**Asahikawa**	**38.43**	**18**	LR		LR	06 48 12.3	
	comp=Z,85nm,20.8s,baz=338,slow=34							
FORT	**Forrest**	**38.45**	**179**	P		**P**	**06 33 45.5**	**-0.3**
GTA	**Gaotai**	**40.01**	**326**	*e*P		**P**	**06 33 58.0**	**-1.1**
GTA				pP		pwP	06 34 10.3	+1.0
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BBOO	**Buckeloo**	**41.28**	**169**	P		**P**	**06 34 09.7**	**+0.2**
BBOO				IAmb		IAmb	06 34 10.2	
	comp=Z,26nm,1.2s							
STKA	**Stephens Creek**	**41.77**	**162**	P		**P**	**06 34 13.4**	**-0.1**
STKA	**Stephens Creek**	**41.77**	**162**	P		**P**	**06 34 12.9**	**-0.6**
	comp=Z,10nm,0.5s,baz=340,slow=8.3,SNR=28							
STKA				PcP		**PcP**	**06 36 09.2**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=356,slow=8.1,SNR=2.9							
	comp=Z,10nm,0.5s							
ULN	**Ulaanbaatar**	**43.46**	**340**	P		**P**	**06 34 27.1**	**0.0**
ULN				IAmb		IAmb	06 34 28.3	
	comp=Z,17nm,1.4s							
ULN	**Ulaanbaatar**

ILAR Eielson Array 81.06 26 P **P** 06 38 37.2 -1.6
comp=Z,1.1nm,0.6s,baz=248,slow=4.9,SNR=21
comp=Z,1.1nm,0.6s
DAWY Dawson 84.34 26 P **P** 06 38 56.2 +0.3
DAWY IAmb IAmb 06 38 57.5
comp=Z,3.5nm,1.0s
L29M L29M 85.02 27 P **P** 06 38 59.4 0.0
PPT2 Papeete2 85.69 108 *e*LR LR 07 06 05.9
comp=Z,61nm,28.2s
PPT2 *e*LR LR 07 06 15.8
comp=Z,107nm,25.8s
SPITS Spitsbergen Ar 86.57 349 P **P** 06 39 06.2 -0.7
comp=Z,11nm,0.9s,baz=91,slow=12,SNR=2.5
comp=Z,11nm,0.9s
TBI Tubuai 86.78 114 *e*LR LR 07 06 37.6
comp=Z,486nm,32.5s
ARCES ARCESS Array B 86.83 340 P **P** 06 39 08.8 +0.6
comp=Z,1.6nm,0.7s,baz=84,slow=5.9,SNR=6.2
comp=Z,1.6nm,0.7s
VNDA Vanda 87.43 173 P **P** 06 39 09.8 -1.1
comp=Z,2.7nm,0.6s,baz=319,slow=6.6,SNR=33
comp=Z,2.7nm,0.6s
FINES FINESS Array B 88.54 332 P **P** 06 39 15.1 -1.5
comp=Z,1.6nm,0.5s,baz=71,slow=5.0,SNR=17
comp=Z,1.6nm,0.5s
KMBO Kilima Mbogo 90.37 269 LR LR 07 17 30.5
comp=Z,15nm,18.1s,baz=88,slow=34
TAOE Nuku Hiva Isla 93.52 98 *e*LR LR 07 09 54.2
comp=Z,69nm,23.3s
NOA NORSAR Array B 95.41 334 LR LR 07 28 54.9
comp=Z,18nm,18.7s,baz=50,slow=39
YKA Yellowknife Ar 95.43 24 P **P** 06 39 48.4 0.0
comp=Z,1.0nm,0.8s,baz=301,slow=4.9,SNR=17
comp=Z,1.0nm,0.8s
QSPA South Pole Qui 97.76 180 P **P** 06 39 59.2 +0.2
comp=Z,0.5nm,0.3s,baz=328,slow=6.7,SNR=1.7
comp=Z,0.5nm,0.3s
TXAR Lajitas Array 118.44 51 PKP **PKPdf** 06 45 12.2 -0.3
comp=Z,0.2nm,0.5s,baz=333,slow=1.6,SNR=6.9
TORD Torodi Ar. Bea 122.24 291 PKP **PKPdf** 06 45 18.2 -1.9
comp=Z,0.8nm,0.9s,baz=53,slow=2.1,SNR=6.0
PLCA Paso Flores 143.56 157 PKP PKPbc 06 45 57.6 +1.0
comp=Z,1.8nm,0.6s,baz=180,slow=1.4,SNR=9.5

TUN 19 06:47:48.9, 37.21N×9.07E, h0km, MD2.8, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLIT	**Baltah**	**0.51**	**191**	*i* P	Pg	06 47 58.5	-0.1
BLIT				*i* S	Pg	06 47 58.5	-0.1
BLIT	**Baltah**	**0.51**	**191**	*i* P	Pg	06 47 58.5	-0.1
BLIT				*i* S	Sg	06 48 04.9	-0.3
BLIT	**Baltah**	**0.51**	**191**	*i* P	Pg	06 47 58.6	0.0
KRIT	**Krib**	**0.87**	**180**	*i* P	Pg	06 48 06.0	+0.4
KRIT				*i* S	Sb	06 48 18.5	-0.6
KRIT	**Krib**	**0.87**	**180**	*i* P	Pg	06 48 06.0	+0.4
KRIT	**Krib**	**0.87**	**180**	*i* P	Pg	06 48 05.8	+0.2
GHAT	**Ghardimaou**	**0.94**	**221**	*i* P	Pg	06 48 07.0	+0.1
GHAT	**Ghardimaou**	**0.94**	**221**	*i* P	Pg	06 48 07.0	0.0
GHAT				*i* S	Sg	06 48 19.5	+0.3
GHAT	**Ghardimaou**	**0.94**	**221**	*i* P	Pg	06 48 07.0	0.0

IDC 19 06:58:02.8±2.0, 3.03N×128.78E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=147.1km s-min=22.4km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.47**	**167**	P	P	07 03 14.1	-0.2
	2.9nm,0.6s,baz=347,slow=11,SNR=10						
ASAR	**Alice Springs**	**27.00**	**170**	P	P	07 03 46.9	+0.2
	0.6nm,0.8s,baz=352,slow=7.3,SNR=5.3						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**59.30**	**325**	P	P	07 08 07.8	+1.2
	1.2nm,0.5s,baz=120,slow=8.4,SNR=6.5						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.44**	**327**	P	P	07 08 32.6	-1.7
	0.8nm,0.6s,baz=126,slow=6.9,SNR=2.7						
	0.8nm,0.6s						

NOU 19 06:58:02.5, 15.96S×167.10E, h17km, MLv4.2/4, Vanuatu Islands, Vanuatu Islands

IDC 19 07:05:56.6±2.6, 54.18N×86.41E, h0km, mbtmp3.2/2, ML3.1/2, Error ellipse: s-maj=20.3km s-min=12.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**257**	I	I	07 11 34.5	
	baz=74,slow=346,SNR=9.0						
ZALV	**Zalesovo Beam**	**0.97**	**257**	Pg	Pg	07 06 13.7	-1.5
	3.4nm,0.3s,baz=72,slow=16,SNR=12						
ZALV				Lg	Lg	07 06 29.1	
	14nm,0.3s,baz=78,slow=30,SNR=24						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	07 07 27.9	+1.4
	0.2nm,0.3s,baz=53,slow=13,SNR=11						
KURBB				Lg	Lg	07 09 06.7	
	baz=52,slow=32,SNR=1.2						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**7.84**	**201**	Pn	Pn	07 07 52.4	+0.5
	0.5nm,0.3s,baz=21,slow=13,SNR=5.8						
	0.6nm,0.3s						

*IDC **19** 07:13:52.0±1.2, 49.79N×81.65E, h0km, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=16.5km s-min=7.8km az=55.0*
*SOME **19** 07:13:55.9, 49.48N×81.33E, h5km*
*NNC **19** 07:13:56.8±0.9, 49.57N×81.29E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=14.7km s-min=4.3km az=55.0, Suspected Mining explosion.*
ISC 19 07:13:53.7±0.9, 49.53N±0.04×81.22E±0.06, h0km, n17, σ1s15/25, 2C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.07**	**325**	P	**Pn**	**07 14 17.4**	**+1.1**
	7.3nm,0.1s						
SEM				S	**Sn**	**07 14 33.1**	**+1.1**
	13nm,0.2s						
SEM	**Semipalatinsk**	**1.07**	**325**	*e*P	**Pn**	**07 14 17.4**	**+1.1**
	7.3nm,0.1s						
SEM				*e*S	**Sn**	**07 14 33.1**	**+1.1**
	13nm,0.2s						
KURBB	**Kurchatov Arra**	**2.04**	**303**	⇓P	**Pb**	**07 14 30.9**	**-0.8**
	29nm,0.8s						
KURBB				⇓S	**Sg**	**07 15 00.8**	**+1.4**
	123nm,0.9s						
KURBB	**Kurchatov Arra**	**2.04**	**303**	Pg	**Pn**	**07 14 30.3**	**+0.9**
	0.3nm,0.3s,baz=112,slow=19,SNR=112						
KURBB				Lg	Lg	07 15 02.3	
	0.5nm,0.3s,baz=109,slow=30,SNR=22						
KURK	**Kurchatov**	**2.05**	**306**	⇑P	**Pb**	**07 14 31.1**	**-0.7**
	24nm,0.8s						
KURK				⇓S	**Sg**	**07 15 00.5**	**+1.0**
	26nm,0.7s						
MK31	**Makanchi Array**	**2.83**	**165**	⇑P	**Pb**	**07 14 44.4**	**-0.8**
	1.0nm,0.5s,baz=355,slow=12,SNR=30						
MK31				⇓S	**Sb**	**07 15 20.9**	**+0.4**
	14nm,0.8s,baz=7.0,slow=28,SNR=18						
MKAR	**Makanchi Array**	**2.83**	**165**	Pn	**Pn**	**07 14 42.6**	**+2.3**
	0.6nm,0.3s,baz=353,slow=15,SNR=31						
MKAR				Sn	**Sb**	**07 15 19.8**	**-0.7**
	0.5nm,0.3s,baz=354,slow=22,SNR=5.1						
MKAR				Lg	Lg	07 15 25.2	
	0.9nm,0.3s,baz=355,slow=26,SNR=13						
	1.9nm,0.5s						
ZSN	**Zaisan**	**3.20**	**129**	Pg	**Pb**	**07 14 50.5**	**-0.9**
	2.5nm,0.4s						
ZSN				Lg	Lg	07 15 29.8	
	13nm,0.9s						
ZSN	**Zaisan**	**3.20**	**129**	*e*P	**Pb**	**07 14 50.5**	**-0.9**
	2.5nm,0.4s						
ZSN				*e*S	**Sb**	**07 15 29.9**	**-1.1**
	13nm,0.9s						
KAPS	**Kapalarasan**	**4.43**	**197**	Pg	**Pg**	**07 15 18.4**	**-0.2**
	1.3nm,0.7s						
KAPS				Lg	Lg	07 16 17.1	
	6.9nm,1.1s						
KAPS	**Kapalarasan**	**4.43**	**197**	*e*P	**Pg**	**07 15 18.4**	**-0.2**
	1.3nm,0.7s						
KAPS				*e*S	**Sg**	**07 16 17.1**	**+1.0**
	6.9nm,1.1s						
I46RU	**ZALESOVO INFRA**	**4.96**	**25**	I	I	07 42 56.2	
	0.1nm,1.1s,baz=203,slow=340,SNR=1.6						
ZALV	**Zalesovo Beam**	**4.96**	**25**	Pn	Pn	07 15 04.7	-4.6
	0.1nm,0.3s,baz=212,slow=14,SNR=4.1						
ZALV				Sn	Sn	07 15 56.1	-11
	0.4nm,0.3s,baz=221,slow=20,SNR=2.6						
ZALV				Lg	Lg	07 16 17.8	
	0.4nm,0.3s,baz=200,slow=28,SNR=12						
	0.4nm,0.3s						
OTUK	**Ortayu**	**6.00**	**261**	Pg	**Pg**	**07 15 47.0**	**-1.5**
	0.9nm,0.8s						
OTUK				Lg	Lg	07 17 06.5	
	2.3nm,0.8s						
KTBS	**Karatobe**	**6.61**	**210**	Pg	**Pg**	**07 15 59.2**	**-1.0**
	0.6nm,0.4s						
KTBS				Lg	Lg	07 17 27.2	
	4.0nm,0.7s						
KTBS	**Karatobe**	**6.61**	**210**	*e*P	**Pg**	**07 15 59.2**	**-1.0**
	0.6nm,0.4s						
KTBS				*e*S	**Sg**	**07 17 27.2**	**+1.4**
	4.0nm,0.7s						
BVAR	**Borovoye Array**	**7.63**	**301**	Pn	**Pn**	**07 15 45.3**	**-0.8**
	baz=46,slow=4.2,SNR=1.5						
BVAR				Sn	**Sn**	**07 17 12.1**	**-1.3**
	baz=112,slow=24,SNR=5.2						
BVAR				Lg	Lg	07 17 57.2	
	baz=112,slow=22,SNR=5.3						
	0.2nm,0.4s						

*NNC **19** 07:17:36.8±0.7, 49.97N×78.54E, h0km, mpv2.5, Error ellipse: s-maj=16.4km s-min=3.0km az=83.0, Suspected Mining explosion.*
*IDC **19** 07:17:37.6±1.3, 50.02N×78.70E, h0km, mbtmp2.3/2, ML1.5/1, Error ellipse: s-maj=10.4km s-min=8.0km az=51.0*
ISC 19 07:17:37.7±1.7, 49.97N±0.08×78.7E±0.2, h0km, n15, σ1s04/25, 9C-13D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.62**	**349**	⇑P	**Pg**	**07 17 48.7**	**-0.9**
KUR07				⇓S	**Sg**	**07 17 57.7**	**0.0**
KUR06	**Kurchatov Arra**	**0.64**	**350**	⇓P	**Pg**	**07 17 49.0**	**-1.0**
KUR06				⇓S	**Sg**	**07 17 58.2**	**-0.1**
KUR14	**Kurchatov Arra**	**0.65**	**354**	⇑P	**Pg**	**07 17 49.0**	**-1.1**
KUR14				⇑S	**Sg**	**07 17 58.0**	**-0.5**
KUR15	**Kurchatov Arra**	**0.65**	**352**	⇑P	**Pg**	**07 17 49.2**	**-1.0**
KUR15				⇑S	**Sg**	**07 17 58.6**	**-0.1**
KURBB	**Kurchatov Arra**	**0.66**	**350**	⇓P	**Pg**	**07 17 49.3**	**-1.1**
	4.0nm,0.2s						
KURBB				⇓S	**Sg**	**07 17 58.9**	**0.0**
	14nm,0.5s						
KURBB	**Kurchatov Arra**	**0.66**	**350**	Pg	**Pg**	**07 17 49.3**	**-1.1**
	0.7nm,0.3s,baz=166,slow=17,SNR=35						
KURBB				Lg	Lg	07 17 58.6	
	0.8nm,0.3s,baz=171,slow=33,SNR=11						
KUR16	**Kurchatov Arra**	**0.67**	**349**	⇓P	**Pg**	**07 17 49.5**	**-1.0**
KUR16				⇓S	**Sg**	**07 17 59.0**	**-0.2**
KUR17	**Kurchatov Arra**	**0.68**	**347**	⇑P	**Pg**	**07 17 49.9**	**-0.8**
KUR17				⇑S	**Sg**	**07 17 59.7**	**+0.2**
KUR05	**Kurchatov Arra**	**0.68**	**351**	⇑P	**Pg**	**07 17 49.5**	**-1.2**
KUR05				⇓S	**Sg**	**07 17 58.9**	**-0.6**
KUR04	**Kurchatov Arra**	**0.70**	**352**	⇑P	**Pg**	**07 17 50.0**	**-1.1**
KUR04				⇓S	**Sg**	**07 17 59.7**	**-0.4**
KURK	**Kurchatov**	**0.75**	**356**	⇓P	**Pg**	**07 17 50.7**	**-1.3**
	2.1nm,0.4s						
KURK				⇓S	**Sg**	**07 18 01.9**	**+0.2**
	2.1nm,0.4s						
MK31	**Makanchi Array**	**3.98**	**142**	⇓Pn	**Pn**	**07 18 41.7**	**+1.7**
	0.3nm,0.1s,baz=344,slow=4.7,SNR=11						
MK31				⇓Pg	**Pg**	**07 18 52.1**	**-1.8**
	0.2nm,0.1s,baz=332,slow=16,SNR=5.6						
MK31				Lg	Lg	07 19 44.4	
	0.4nm,0.2s,baz=327,slow=27,SNR=7.4						
MKAR	**Makanchi Array**	**3.98**	**142**	Pn	**Pn**	**07 18 41.5**	**+1.5**
	baz=323,slow=10,SNR=6.2						
MKAR				Lg	Lg	07 19 41.9	
	0.5nm,0.3s,baz=333,slow=28,SNR=9.8						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**5.49**	**41**	Pn	**Pn**	**07 19 02.1**	**+1.4**
	0.3nm,0.3s,baz=223,slow=14,SNR=1.8						
I46RU	**ZALESOVO INFRA**	**5.49**	**41**	I	I	07 51 20.0	
	baz=222,slow=320,SNR=4.0						

RSNC 19 07:27:36.8±2.4, 4.40N×76.32W, h124km±8km, ML3.0, Mw3.6, 6C-4D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.41**	**183**	*e*P	Pn	07 27 53.8	-1.0
YOTC				*e*S	Sn	07 28 08.2	-0.3
YOTC				*i*		07 28 09.8	
	comp=Z,694nm,0.3s						
PLMC	**San Jos del P**	**0.51**	**5**	*e*P	Pn	07 27 54.1	-1.2
PLMC				*e*S	Sn	07 28 09.6	+0.3
ARMEC	**Armenia, Quind**	**0.68**	**77**	*e*P	Pn	07 27 55.3	-1.3
ARMEC				*e*S	Sn	07 28 10.0	-1.5
NIZA	**Niza - Manizal**	**1.07**	**52**	*e*P	Pn	07 28 01.0	+0.8
NIZA				*e*S	Sn	07 28 18.0	+0.1
MALC	**Bahia Malaga**	**1.08**	**249**	*e*P	Pn	07 28 00.5	+0.5
MALC				*e*S	Sn	07 28 20.2	+2.7
MALC				*i*		07 28 22.7	
	comp=Z,155nm,0.3s						
PIZC	**Pizarro, Choco**	**1.18**	**299**	⇓*e*P	Pn	07 28 01.1	+0.2
PIZC				*e*S	Sn	07 28 19.7	+0.5
PIZC				*i*		07 28 24.0	
	comp=Z,212nm,0.3s						
ORTC	**Ortega, Tolima**	**1.18**	**114**	⇑*i*P	Pn	07 28 00.2	-0.8
ORTC				*e*S	Sn	07 28 18.2	-1.2
ORTC				*i*		07 28 20.6	
	comp=Z,344nm,0.3s						
JAMC	**Jamundi, Valle**	**1.23**	**197**	*e*P	Pn	07 28 01.0	-0.7
JAMC				*e*S	Sn	07 28 20.5	-0.1
JAMC				*i*		07 28 24.8	
	comp=Z,182nm,0.6s						
GUY2C	**Guyana, Caldas**	**1.26**	**49**	⇑*e*P	Pn	07 28 01.6	-0.7
GUY2C				*e*S	Sn	07 28 21.3	-0.3
GUY2C				*i*		07 28 23.6	
	comp=Z,198nm,0.7s						
CBOC	**Ciudad Bolivar**	**1.49**	**12**	*e*P	Pn	07 28 03.6	-1.0
CBOC				*e*S	Sn	07 28 25.4	-0.2
CBOC				*i*		07 28 33.1	
	comp=Z,161nm,0.7s						
PRAC	**Prado**	**1.59**	**115**	⇑*i*P	Pn	07 28 05.0	-0.5
PRAC				*e*S	Sn	07 28 27.3	-0.1
PRAC				*i*		07 28 28.8	
	comp=Z,242nm,0.5s						
POPC	**Popayan, Colom**	**1.88**	**191**	*e*P	Pn	07 28 08.5	-0.8
POPC				*e*S	Sn	07 28 32.9	-1.1
BETC	**Betania**	**1.92**	**153**	⇑*e*P	Pn	07 28 09.3	-0.3
BETC				*e*S	Sn	07 28 33.5	-1.0
ROSC	**El Rosal**	**2.04**	**78**	⇑*i*P	Pn	07 28 12.5	+1.2
ROSC				*e*S	Sn	07 28 40.5	+2.7
ROSC				*i*		07 28 42.8	
	comp=Z,65nm,0.5s						
SOLC	**Bahia Solano**	**2.11**	**329**	*e*P	Pn	07 28 11.3	-0.5
SOLC				*e*S	Sn	07 28 38.5	-0.2
CVER	**Cruz Verde, Cu**	**2.25**	**87**	⇑*e*P	Pn	07 28 14.6	+0.6
CVER				*e*S	Sn	07 28 44.4	+2.0
CVER				*i*		07 28 46.7	
	comp=Z,56nm,0.6s						
GARC	**Garzon, Huila**	**2.35**	**159**	⇓*e*P	Pn	07 28 14.2	-0.9
GARC				*e*S	Sn	07 28 42.8	-1.6
GARC				*i*		07 28 43.6	
	comp=Z,154nm,0.4s						
BBAC	**Balboa, Cauca**	**2.54**	**201**	*e*P	Pn	07 28 16.6	-0.8
BBAC				*e*S	Sn	07 28 46.3	-2.3
BBAC				*i*		07 28 56.9	
	comp=Z,32nm,0.3s						
SPBC	**San Pablo de B**	**2.57**	**61**	*e*P	Pn	07 28 17.5	-0.2
SPBC				*e*S	Sn	07 28 48.7	-0.4
SPBC				*i*		07 28 55.1	
	comp=Z,22nm,0.7s						
DBBC	**Dabeiba**	**2.60**	**2**	*e*P	Pn	07 28 18.1	0.0
DBBC				*e*S	Sn	07 28 49.6	-0.4
DBBC				*i*		07 28 57.2	
	comp=Z,20nm,0.5s						
VILC	**Villavicencio,**	**2.64**	**96**	*e*P	Pn	07 28 19.2	+0.6
VILC				*e*S	Sn	07 28 52.6	+1.7
VILC				*i*		07 28 54.7	
	comp=Z,105nm,0.4s						
PTBC	**PUERTO BERRIO,**	**2.83**	**41**	*e*P	Pn	07 28 20.0	-0.9
PTBC				*e*S	Sn	07 28 52.9	-2.1
PTBC				*i*		07 28 56.5	
	comp=Z,33nm,0.6s						
CRUC	**La Cruz**	**2.88**	**193**	⇓*e*P	Pn	07 28 21.6	-0.4
PTAC	**Punta Ardita,**	**3.10**	**332**	⇓*i*P	Pn	07 28 23.6	-1.0
PTAC				*e*S	Sn	07 28 58.1	-3.3
GCUF	**Volcan Galeras**	**3.31**	**198**	*e*P	Pn	07 28 26.9	-0.9
GCUF				*e*S	Sn	07 29 06.4	-0.7
GCUF				*i*		07 29 08.5	
	comp=Z,12nm,0.3s						
ZARC	**Zaragoza, Cauc**	**3.40**	**25**	*e*P	Pn	07 28 27.3	-1.2
ZARC				*e*S	Sn	07 29 05.4	-3.1
ZARC				*i*		07 29 07.1	
	comp=Z,65nm,0.3s						
UREC	**San Jos de Ur**	**3.42**	**13**	*e*P	Pn	07 28 28.1	-0.8
UREC				*e*S	Sn	07 29 07.5	-1.6
UREC				*i*		07 29 10.5	
	comp=Z,20nm,0.2s						
BARC	**Barichara**	**3.81**	**55**	*e*P	Pn	07 28 33.6	-0.6
BARC				*e*S	Sn	07 29 17.7	-0.9
BARC				*i*		07 29 21.7	
	comp=Z,56nm,0.7s						
UPD2	**Meteti**	**4.45**	**338**	*e*P	Pn	07 28 42.5	0.0
UPD2				*e*S	Sn	07 29 33.3	-0.2
UPD2				*i*		07 29 39.6	
	comp=Z,14nm,0.5s						
PTLC	**Puerto Leguiza**	**4.47**	**160**	*e*P	Pn	07 28 46.8	+4.1
OTAV	**Otavalo**	**4.65**	**207**	*e*P	Pn	07 28 46.7	+1.2
OTAV				*e*S	Sn	07 29 37.0	-1.9

IDC 19 07:41:56.7±69.0, 15.88S×177.12W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=1278.0km s-min=186.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.70**	**239**	P	P	07 49 39.3	0.0
	1.0nm,0.7s,baz=83,slow=10,SNR=4.4						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**46.25**	**257**	P	P	07 50 24.4	+0.2
	0.9nm,0.9s,baz=91,slow=7.5,SNR=1.8						
ASAR	**Alice Springs**	**46.56**	**252**	P	P	07 50 26.2	-0.4
	1.9nm,0.6s,baz=89,slow=7.9,SNR=22						
	1.9nm,0.6s						

*IDC **19** 07:54:14.5±5.2, 13.08S×166.96E, h224km±50km, mb3.5/7, mbtmp4.0/8, Error ellipse: s-maj=36.9km s-min=22.1km az=160.0*
ISC 19 07:54:12.0±0.9, 12.96S±0.10×166.9E±0.2, h200km, n10, σ1s10/11, mb3.8/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.08**	**183**	P	**Pn**	**07 56 20.6**	**+1.2**
	6.4nm,1.0s,baz=289,slow=17,SNR=1.7						
DZM				S	**Sn**	**07 57 60.0**	**-1.2**
	4.6nm,0.8s,baz=265,slow=22,SNR=1.7						
STKA	**Stephens Creek**	**29.91**	**227**	P	**P**	**08 00 01.9**	**+0.7**
	1.6nm,0.5s,baz=49,slow=11,SNR=4.6						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**31.96**	**253**	P	**P**	**08 00 19.6**	**+0.2**
	1.0nm,0.5s,baz=86,slow=9.3,SNR=3.9						
ASAR	**Alice Springs**	**33.02**	**246**	P	**P**	**08 00 29.0**	**+0.4**
	1.1nm,0.4s,baz=75,slow=10.0,SNR=17						
	1.1nm,0.4s						
QSPA	**South Pole Qui**	**77.06**	**180**	P	**P**	**08 05 41.5**	**-1.3**
	0.7nm,0.5s,baz=318,slow=1.3,SNR=2.0						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**84.96**	**18**	P	**P**	**08 06 24.1**	**-0.1**
	0.8nm,0.4s,baz=240,slow=5.0,SNR=30						
	0.8nm,0.4s						
NVAR	**Mina Array Bea**	**86.39**	**49**	P	**P**	**08 06 32.3**	**+0.1**
	0.2nm,0.4s,baz=296,slow=4.6,SNR=1.7						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**94.01**	**47**	P	**P**	**08 07 09.2**	**+1.5**
	0.1nm,0.5s,baz=219,slow=1.2,SNR=1.4						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**95.69**	**317**	P	**P**	**08 07 13.7**	**-1.4**
	0.4nm,0.6s,baz=95,slow=7.2,SNR=0.9						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**118.46**	**346**	PKP	**PKiKP**	**08 12 35.4**	**+0.2**
	2.0nm,0.8s,baz=80,slow=2.9,SNR=12						

*IDC **19** 07:54:59.0±6.8, 32.58S×138.23E, h0km, mbtmp2.9/2, ML2.8/3, Error ellipse: s-maj=92.2km s-min=23.0km az=12.0*
*NOU **19** 07:54:58.9, 32.84S×138.24E, h0km, MLv3.2/7, Near Coast of South Australia*
*AUST **19** 07:54:58.6±0.7, 32.78S×138.25E, h10km, Error ellipse: s-maj=8.8km s-min=6.1km az=46.0*
ISC 19 07:54:57.9±0.8, 32.80S±0.05×138.22E±0.04, h10km, n20, σ1s87/28, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPS	**Port Pirie**	**0.41**	**207**	P	**Pg**	**07 55 06.8**	**+0.8**
AUJCS	**Jamestown Cent**	**0.52**	**140**	P	**Pg**	**07 55 09.2**	**+1.3**
	baz=0.5						
WHYH	**Whyalla**	**0.59**	**247**	P	**Pg**	**07 55 11.2**	**+1.9**
HTT	**Hallett**	**0.86**	**137**	P	**Pg**	**07 55 15.2**	**+0.7**
	baz=0.9,SNR=68						
HTT				S	**Sg**	**07 55 26.3**	**+0.6**
	baz=0.9						
BBOO	**Buckeboo**	**1.82**	**269**	P	**Pn**	**07 55 31.1**	**+1.9**
	baz=1.8,SNR=77						
BBOO				S	**Sn**	**07 55 54.9**	**+2.6**
	baz=1.8						
LCRK	**Leigh Creek**	**2.35**	**360**	P	**Pn**	**07 55 38.0**	**+1.5**
	baz=2.3,SNR=7.2						
LCRK				S	**Sn**	**07 56 06.8**	**+1.4**
	baz=2.3						
LCRK	**Leigh Creek**	**2.35**	**360**	P	**Pb**	**07 55 39.5**	**-0.8**
STKA	**Stephens Creek**	**3.00**	**73**	P	**Pn**	**07 55 46.4**	**+0.8**
	baz=3.0,SNR=13						
STKA	**Stephens Creek**	**3.00**	**73**	P	**Pn**	**07 55 48.4**	**+2.9**
STKA	**Stephens Creek**	**3.00**	**73**	Pn	**Pn**	**07 55 46.9**	**+1.4**
	0.9nm,0.3s,baz=252,slow=13,SNR=20						
STKA				Sn	**Sn**	**07 56 22.1**	**+0.5**
	1.6nm,0.3s,baz=260,slow=14,SNR=4.4						
STKA				Lg	Lg	07 56 32.9	
	4.1nm,0.3s,baz=270,slow=4.0,SNR=5.0						
	2.6nm,0.4s						
MULG	**Mulgathing**	**4.35**	**304**	P	**Pn**	**07 56 05.1**	**+1.1**
	baz=4.4,SNR=24						
MULG				S	**Sn**	**07 56 54.9**	**+0.1**
	baz=4.4						
MULG	**Mulgathing**	**4.35**	**304**	P	**Pn**	**07 56 05.2**	**+1.2**
ARPS	**Mount Arapiles**	**4.95**	**144**	P	**Pn**	**07 56 13.4**	**+1.0**
	baz=5.0,SNR=15						
ARPS				S	**Sn**	**07 57 08.9**	**-0.7**
	baz=5.0						
ARPS	**Mount Arapiles**	**4.95**	**144**	P	**Pn**	**07 56 13.0**	**+0.7**
OOD	**Oodnadatta**	**5.45**	**336**	P	**Pn**	**07 56 20.7**	**+1.6**
	baz=5.5,SNR=3.9						
OOD				S	**Sn**	**07 57 19.8**	**-2.1**
	baz=5.5						

0.1nm,0.3s,baz=43,slow=14,SNR=2.8
0.5nm,0.3s
MKAR Makanchi Array 9.24 197 Pn Pn 08 02 19.9 0.0
0.1nm,0.3s,baz=16,slow=12,SNR=1.7
0.1nm,0.3s

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*IDC **19** 08:06:47.5±1.6,6°.20S×149°.43E, h0km, mb3.4/2, mbtmp3.5/3, ML1.9/1, Error ellipse: s-maj=103.2km s-min=26.3km az=123.0*
ISC 19 08:06:54.5±1.8,6°.3S±0°.5×149°.2E±0°.9, h50km, n6, σ1s 64/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.72**	**212**	Pn	**Pn**	**08 07 49.9**	**+0.4**
	5.9nm,0.3s,baz=76,slow=4.3,SNR=9.7						
PMG				Sn	**Sn**	**08 08 31.0**	**-1.1**
	18nm,0.3s,baz=46,slow=13,SNR=11						
	14nm,0.4s						
WRA	**Warramunga Arr**	**19.83**	**225**	P	**P**	**08 11 21.9**	**+0.6**
	1.0nm,0.4s,baz=51,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**22.71**	**219**	P	**P**	**08 11 53.1**	**+0.8**
	0.5nm,0.7s,baz=55,slow=9.5,SNR=8.8						
ASAR				PcP	**PcP**	**08 15 43.4**	**+0.2**
	0.1nm,0.5s,baz=38,slow=3.8,SNR=1.2						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**84.86**	**23**	P	**P**	**08 19 23.8**	**+0.1**
	0.4nm,0.7s,baz=242,slow=4.8,SNR=5.3						
	0.4nm,0.7s						
SFJD	**Kangerlussuaq**	**117.84**	**9**	*i* P	**Pdif**	**08 21 50.0**	**-3.3**
TORD	**Torodi Ar. Bea**	**147.25**	**285**	PKPbc	**PKPbc**	**08 26 33.5**	**-0.1**
	0.3nm,0.3s,baz=66,slow=4.5,SNR=5.9						

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*IDC **19** 08:32:46.9±1.6,5°.42N×92°.13E, h0km, mb3.4/6, mbtmp3.5/8, ML3.9/2, MS3.2/1, Error ellipse: s-maj=46.1km s-min=24.0km az=55.0*
ISC 19 08:32:51.4±1.2,5°.4N±0°.2×91°.94E±0°.09, h35km, n15, σ2s 06/9, mb3.5/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.32**	**280**	Pn	**Pn**	**08 35 33.0**	**+2.3**
	0.3nm,0.3s,baz=114,slow=20,SNR=1.4						
PALK				Sn	**Sn**	**08 37 32.6**	**-3.5**
	2.2nm,0.3s,baz=120,slow=20,SNR=5.1						
	2.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.63**	**27**	Pn	**Pn**	**08 36 14.3**	**-1.6**
	0.3nm,0.3s,baz=207,slow=14,SNR=0.9						
	1.3nm,0.4s						
H08S3	**Diego Garcia H**	**23.36**	**236**	T	T	09 03 32.3	
	baz=60						
H08S2	**Diego Garcia H**	**23.36**	**236**	T	T	09 03 20.1	
	baz=60						
H08S1	**Diego Carcia H**	**23.37**	**236**	T	T	09 03 51.5	
	baz=60						
MKAR	**Makanchi Array**	**42.03**	**350**	P	**P**	**08 40 40.6**	**+1.1**
	0.2nm,0.4s,baz=161,slow=9.2,SNR=2.9						
	0.2nm,0.4s						
SONM	**Songino Array**	**44.01**	**14**	P	**P**	**08 40 56.6**	**+1.0**
	0.4nm,0.7s,baz=201,slow=7.8,SNR=3.0						
	0.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**45.09**	**150**	LR	LR	08 58 53.5	
	comp=Z,28nm,18.8s,baz=20,slow=35						
KURBB	**Kurchatov Arra**	**46.41**	**348**	P	**P**	**08 41 15.2**	**+0.8**
	0.2nm,0.3s,baz=170,slow=6.0,SNR=1.3						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**48.70**	**354**	P	**P**	**08 41 32.5**	**+0.3**
	0.3nm,0.3s,baz=170,slow=8.8,SNR=2.0						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**48.72**	**122**	P	**P**	**08 41 33.0**	**+0.1**
	0.3nm,0.6s,baz=296,slow=7.7,SNR=1.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**50.12**	**127**	P	**P**	**08 41 42.1**	**-1.5**
	0.2nm,0.4s,baz=310,slow=8.1,SNR=1.7						
	0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**62.54**	**210**	T	T	09 50 51.9	
	baz=50,slow=75,SNR=4.9						
H04N1	**CROZET ISLANDS**	**62.55**	**210**	T	T	09 51 03.1	
	baz=50,slow=75,SNR=4.8						
H04N3	**CROZET ISLANDS**	**62.55**	**210**	T	T	09 51 01.3	
	baz=50,slow=75,SNR=4.9						

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*KNET **19** 08:40:11.1±0.3,42°.53N×75°.52E, h20km±7km, ml1.2, Error ellipse: s-maj=3.3km s-min=2.3km az=54.0*
*SOME **19** 08:40:12.7, 42°.55N×75°.50E, h15km*
*NNC **19** 08:40:12.5±0.5,42°.56N×75°.53E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=4.1km s-min=2.6km az=157.0, Suspected Mining explosion.*
ISC 19 08:40:11.4±0.9,42°.57N±0°.03×75°.52E±0°.02, h0km, n28, σ0s 55/53, 9C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.35**	**9**	⇓P	**Pb**	**08 40 20.0**	**-0.7**
	11nm,0.1s,SNR=96						
TKM2				⇑S	**Sb**	**08 40 25.7**	**-1.2**
	58nm,0.1s						
TKM2	**Tokmak 2**	**0.35**	**9**	⇑P	**Pb**	**08 40 20.0**	**-0.7**
	2.7nm,0.2s						
TKM2				⇓S	**Sb**	**08 40 25.4**	**-1.5**
	7.0nm,0.2s						
KZA	**Kyzart**	**0.54**	**202**	⇓P	**Pg**	**08 40 21.7**	**0.0**
	2.3nm,0.1s,SNR=16						
KZA				⇓S	**Sg**	**08 40 27.9**	**-0.7**
	11nm,0.2s						
KST	**Kastek**	**0.57**	**34**	P	**Pb**	**08 40 24.2**	**-0.2**
	0.9nm,0.1s						
KST				S	**Sb**	**08 40 32.5**	**-0.7**
	16nm,0.2s						
KST	**Kastek**	**0.57**	**34**	*e*P	**Pb**	**08 40 24.2**	**-0.2**
	0.9nm,0.1s						
KST				*e*S	**Sb**	**08 40 32.5**	**-0.7**
	16nm,0.2s						
ULHL	**Ulahol**	**0.62**	**121**	⇑P	**Pg**	**08 40 23.7**	**+0.3**
	1.6nm,0.1s,SNR=14						
ULHL				⇓S	**Sg**	**08 40 32.0**	**+0.5**
	7.5nm,0.2s						
DGS	**Degeres**	**0.69**	**15**	P	**Pb**	**08 40 26.3**	**-0.2**
	1.0nm,0.1s						
DGS				S	**Sb**	**08 40 36.1**	**-0.6**
	8.8nm,0.2s						
DGS	**Degeres**	**0.69**	**15**	*e*P	**Pb**	**08 40 26.3**	**-0.2**
	1.0nm,0.1s						
DGS				*e*S	**Sb**	**08 40 36.1**	**-0.6**
	8.8nm,0.2s						
CHMS	**Chumysh**	**0.71**	**307**	⇑P	**Pg**	**08 40 25.4**	**+0.4**
	1.0nm,0.1s						
CHMS				⇑S	**Sg**	**08 40 35.4**	**+1.1**
	5.6nm,0.2s						
AAK	**Ala-Archa**	**0.76**	**275**	⇑P	**Pg**	**08 40 25.9**	**-0.2**
	2.9nm,0.1s,SNR=7.5						
AAK				⇓S	**Sg**	**08 40 36.3**	**+0.3**
	7.1nm,0.1s						
MTBS	**Maitube**	**0.87**	**50**	P	**Pb**	**08 40 29.5**	**0.0**
	1.9nm,0.2s						
MTBS				S	**Sb**	**08 40 41.6**	**0.0**
	3.9nm,0.2s						
MTBS	**Maitube**	**0.87**	**50**	*e*P	**Pb**	**08 40 29.5**	**0.0**
	1.9nm,0.2s						
MTBS				*e*S	**Sb**	**08 40 41.6**	**0.0**
	3.9nm,0.2s						
USP	**Ospenovka**	**1.02**	**313**	⇑P	**Pg**	**08 40 31.3**	**+0.2**
	1.2nm,0.1s,SNR=5.2						
USP				⇑S	**Sg**	**08 40 45.3**	**+1.0**
	2.7nm,0.1s						
TNSS	**Tian-Shan**	**1.15**	**66**	P	**Pb**	**08 40 34.4**	**0.0**
	2.4nm,0.2s						
TNSS				S	**Sb**	**08 40 49.9**	**-0.1**
	3.3nm,0.2s						
TNSS	**Tian-Shan**	**1.15**	**66**	*e*P	**Pb**	**08 40 34.4**	**0.0**
	2.4nm,0.2s						
TNSS				*e*S	**Sb**	**08 40 49.9**	**-0.1**
	3.3nm,0.2s						
EKS2	**Erkin-Say**	**1.29**	**274**	⇑P	**Pg**	**08 40 36.0**	**-0.2**
	1.2nm,0.2s,SNR=6.4						
KTBS	**Karatobe**	**1.42**	**36**	P	**Pb**	**08 40 39.0**	**+0.2**
	1.4nm,0.2s						
KTBS				S	**Sb**	**08 40 57.9**	**+0.4**
	8.2nm,0.3s						
KTBS	**Karatobe**	**1.42**	**36**	*e*P	**Pb**	**08 40 39.0**	**+0.2**
	1.4nm,0.2s						
KTBS				*e*S	**Sb**	**08 40 57.9**	**+0.4**
	8.2nm,0.3s						
KUU	**Kurty**	**1.45**	**24**	P	**Pn**	**08 40 39.2**	**+0.3**
	0.9nm,0.2s						
KUU				S	**Sg**	**08 40 58.2**	**+0.3**
	7.1nm,0.4s						
KUU	**Kurty**	**1.45**	**24**	*e*P	**Pn**	**08 40 39.2**	**+0.3**
	0.9nm,0.2s						
KUU				*e*S	**Sg**	**08 40 58.2**	**+0.3**
	7.1nm,0.4s						
CHKK	**Chushkaly**	**1.67**	**39**	P	**Pg**	**08 40 43.5**	**+0.1**
	0.8nm,0.1s						
CHKK				S	**Sg**	**08 41 05.6**	**+0.5**
	4.9nm,0.2s						
CHKK	**Chushkaly**	**1.67**	**39**	*e*P	**Pg**	**08 40 43.5**	**+0.1**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**08 41 05.6**	**+0.5**
	4.9nm,0.2s						
MRKS	**Merke**	**1.70**	**277**	P	**Pb**	**08 40 43.8**	**+0.1**
	1.7nm,0.3s						
MRKS				S	**Sg**	**08 41 06.0**	**-0.1**
	6.4nm,0.2s						
MRKS	**Merke**	**1.70**	**277**	*e*P	**Pb**	**08 40 43.8**	**+0.1**
	1.7nm,0.3s						
MRKS				*e*S	**Sg**	**08 41 06.0**	**-0.1**
	6.4nm,0.2s						
ARXS	**Arharly**	**2.35**	**45**	Pg	**Pb**	**08 40 55.4**	**+0.8**
	0.7nm,0.2s						
ARXS				Lg	Lg	08 41 26.0	
	4.3nm,0.3s						
ARXS	**Arharly**	**2.35**	**45**	*e*P	**Pb**	**08 40 55.5**	**+0.8**
	0.7nm,0.2s						
ARXS				*e*S	**Sg**	**08 41 26.0**	**-0.8**
	4.3nm,0.3s						
KPKS	**Kokpek**	**2.48**	**68**	Pg	**Pg**	**08 40 58.1**	**-0.9**
	1.8nm,0.2s						
KPKS				Lg	Lg	08 41 31.5	
	3.9nm,0.4s						
KPKS	**Kokpek**	**2.48**	**68**	*e*P	**Pg**	**08 40 58.1**	**-0.9**
	1.8nm,0.2s						
KPKS				*e*S	**Sg**	**08 41 31.5**	**+0.2**
	3.9nm,0.4s						

IDC 19 08:46:44.0±1.7,54°.64N×83°.72E, h0km, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=15.1km s-min=10.1km az=4.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**136**	I	I	08 52 20.0	
	0.4nm,0.9s,baz=316,slow=337,SNR=13						
ZALV	**Zalesovo Beam**	**0.94**	**136**	Pg	Pg	08 47 01.4	-0.7
	1.8nm,0.3s,baz=322,slow=16,SNR=16						
ZALV				Lg	Lg	08 47 15.8	
	3.5nm,0.3s,baz=315,slow=30,SNR=16						
KURBB	**Kurchatov Arra**	**5.11**	**220**	Pn	Pn	08 48 01.6	-0.2
	baz=41,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 49 28.0	
	baz=43,slow=31,SNR=4.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**7.91**	**187**	Pn	Pn	08 48 40.6	+0.5
	0.1nm,0.3s,baz=13,slow=11,SNR=2.7						
MKAR				Lg	Lg	08 50 55.4	
	baz=0.9,slow=28,SNR=1.7						
	0.2nm,0.5s						
BVAR	**Bovoye Array**	**8.05**	**264**	Pn	Pn	08 48 41.2	-0.9
	baz=61,slow=16,SNR=3.0						
	0.5nm,0.4s						

IDC 19 08:49:17.3±3.2,53°.49N×90°.52E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=28.1km s-min=22.6km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.42**	**280**	Pn	Pn	08 50 11.6	-0.2
	0.3nm,0.3s,baz=95,slow=16,SNR=3.2						
ZALV				Lg	Lg	08 51 06.3	
	4.0nm,0.3s,baz=96,slow=26,SNR=11						
	1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**7.92**	**254**	Pn	Pn	08 51 13.3	-0.4
	0.2nm,0.3s,baz=67,slow=15,SNR=12						
KURBB				Sn	Sn	08 52 42.7	-1.2
	baz=68,slow=24						
KURBB				Lg	Lg	08 53 28.2	
	baz=71,slow=32,SNR=1.7						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**8.53**	**222**	Pn	Pn	08 51 23.1	+1.2
	0.2nm,0.3s,baz=42,slow=13,SNR=9.3						
MKAR				Sn	Sn	08 52 57.3	-1.5
	baz=30,slow=27,SNR=1.7						
MKAR				Lg	Lg	08 53 49.0	
	baz=37,slow=27,SNR=2.8						
	0.4nm,0.4s						
I34MN	**SONGINO INFRAS**	**11.57**	**113**	I	I	09 56 00.0	
	baz=309,slow=328,SNR=0.7						

ROM 19 09:06:23.5±0.2,43°.096N±0°.009×13°.66E±0°.01, h26km±1km, ML2.2/20, 1D, Error ellipse: s-maj=1.0km s-min=0.6km az=128.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADA	**Capodarco di F**	**0.13**	**38**	P	Pb	09 06 28.7	+0.2
CADA				S	Sb	09 06 32.5	+0.6
OFFI	**Offida**	**0.16**	**172**	P	Pn	09 06 29.7	-0.6
OFFI				AML	AML		
	comp=E,968μm,1.4s						
OFFI				AML	AML		
	comp=N,1150μm,0.9s						
OFFI				AML	AML		
	comp=N,1150μm,1.1s						
OFFI				AML	AML		
	comp=E,968μm,0.6s						
MF5	**Montefalcone A**	**0.18**	**233**	⇓P	Pb	09 06 28.8	-0.3
MF5				S	Sb	09 06 32.6	-0.3
MF5				AML	AML		
	comp=E,762μm,0.6s						
MF5				AML	AML		
	comp=N,554μm,0.7s						
MF5				AML	AML		
	comp=E,762μm,1.4s						
MF5				AML	AML		
	comp=N,554μm,1.3s						
MF5				END			
GUMA	**Gualdo di Mace**	**0.24**	**262**	P	Pb	09 06 29.6	-0.1
GUMA				S	Sb	09 06 34.3	+0.3
MMO1	**Montemonaco**	**0.31**	**231**	P	Pb	09 06 30.5	-0.3
MMO1				S	Sb	09 06 35.8	0.0
MMO1				END			
MC2	**Monte Cornacci**	**0.39**	**242**	P	Pb	09 06 31.9	-0.2
MC2				S	Sb	09 06 38.3	+0.4
MC2				END			
MTRA	**Matera**	**0.39**	**209**	P	Pb	09 06 31.8	-0.1
MTRA				S	Sb	09 06 38.2	+0.5
FDMO	**Fiordimonte**	**0.42**	**262**	P	Pb	09 06 32.3	-0.1
FDMO				S	Sb	09 06 39.3	+0.7
FDMO				AML	AML		
	comp=E,444μm,0.2s						
FDMO				AML	AML		
	comp=N,182μm,0.2s						
FDMO				END			
T1214	**Arquata del Tr**	**0.47**	**224**	P	Pb	09 06 33.2	-0.1
T1214				S	Sb	09 06 41.0	+1.0
T1214				AML	AML		
	comp=E,342μm,0.3s						
T1214				AML	AML		
	comp=E,313μm,0.3s						
T1214				AML	AML		
	comp=N,268μm,0.9s						
T1214				AML	AML		
	comp=N,242μm,0.9s						
T1214				END			
NRCA	**Norcia**	**0.47**	**237**	P	Pb	09 06 33.2	-0.1
NRCA				S	Sb	09 06 41.1	+1.1
NRCA				AML	AML		
	comp=N,952μm,0.1s						
NRCA				AML	AML		
	comp=N,991μm,0.1s						
NRCA				AML	AML		
	comp=E,758μm,0.2s						
NRCA				AML	AML		
	comp=E,741μm,0.2s						
NRCA				END			
SMA1	**SAN MARTINO**	**0.52**	**207**	P	Pb	09 06 34.0	-0.2
SMA1				S	Sb	09 06 42.0	+0.7
SMA1				AML	AML		
	comp=E,224μm,0.4s						
SMA1				AML	AML		
	comp=N,290μm,0.7s						
SMA1				AML	AML		
	comp=E,224μm,0.4s						
SMA1				AML	AML		
	comp=N,290μm,1.3s						
SMA1				END			
SNTG	**Esanatoglia**	**0.55**	**287**	P	Pb	09 06 34.6	+0.1
SNTG				S	Sn	09 06 43.5	-0.4
SNTG				AML	AML		
	comp=E,138μm,0.5s						
SNTG				AML	AML		
	comp=N,118μm,0.2s						
T1221	**Campello sul C**	**0.64**	**249**	P	Pb	09 06 36.2	+0.1
T1221				S	Sn	09 06 46.1	-0.1
RM33	**Pellescritta (**	**0.67**	**209**	P	Pb	09 06 36.5	-0.2
RM33				S	Sn	09 06 47.3	+0.2
RM33				AML	AML		
	comp=E,141μm,0.6s						
RM33				AML	AML		
	comp=N,152μm,0.8s						
RM33				AML	AML		
	comp=E,142μm,0.6s						
RM33				AML	AML		
	comp=E,142μm,1.4s						

ROM 19 09:06:59.1±0.1,42°.987N±0°.004×13°.038E±0°.006, h10km, Md1.5/4, 1C, Error ellipse: s-maj=0.5km s-min=0.5km az=353.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.06**	**36**	⇑P	Pg	09 07 01.5	+0.2
FDMO				S	Sg	09 07 02.9	0.0
FDMO				AML	AML		
	comp=E,776μm,0.2s						
FDMO				AML	AML		
	comp=N,440μm,1.4s						
FDMO				END			
MC2	**Monte Cornacci**	**0.13**	**123**	P	Pg	09 07 03.0	+0.6
MC2				S	Sg	09 07 05.6	+1.0
MC2				END			
CSP1	**Cessapalombo**	**0.16**	**49**	P	Pg	09 07 02.9	+0.2
CSP1				S	Sg	09 07 06.6	+1.4
NRCA	**Norcia**	**0.16**	**160**	P	Pg	09 07 03.3	+0.6
NRCA				S	Sg	09 07 05.9	+0.7
NRCA				END			
T1221	**Campello sul C**	**0.19**	**228**	P	Pg	09 07 03.8	+0.7
T1221				S	Sg	09 07 07.1	+1.2
T1221				END			
T1214	**Arquata del Tr**	**0.26**	**151**	P	Pg	09 07 05.0	+0.5
T1214				S	Sg	09 07 09.2	+1.2
ASSB	**Assisi San Ben**	**0.28**	**282**	P	Pg	09 07 05.5	+0.6
ASSB				S	Sb	09 07 10.3	-0.9

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*NEIC **19** 09:23:35.0±1.9, 13°.70S±0°.09×166°.4E±0°.1, h10km±1km, mb4.7/38, Error ellipse: s-maj=22.8km s-min=13.7km az=68.0*
*IDC **19** 09:23:40.3±4.9, 13°.67S×166°.28E, h52km±45km, mb3.8/13, mbtmp4.0/14, ML3.2/1, MS3.2/3, Error ellipse: s-maj=27.5km s-min=23.2km az=87.0*
ISC 19 09:23:34.8±0.6,13°.68S±0°.07×166°.3E±0°.1, h10km, n66, σ0s 83/54, mb4.6/33, MS3.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**7.10**	**196**	Pn	**Pn**	**09 25 17.9**	**-1.0**
LIFNC	**LIFOU**	**7.12**	**173**	Pn	**Pn**	**09 25 19.4**	**+0.4**
HNR	**Honiara**	**7.53**	**303**	Pn	**Pn**	**09 25 25.7**	**+1.0**
HNR	**Honiara**	**7.53**	**303**	LR	LR	09 28 07.4	
	comp=Z,3μm,18.9s,baz=198,slow=36						
DZM	**Mont Dzumac**	**8.35**	**179**	Pn	**Pn**	**09 25 36.0**	**-0.1**
DZM	**Mont Dzumac**	**8.35**	**179**	P	**Pn**	**09 25 39.6**	**+3.5**
	0.3nm,0.3s,baz=322,slow=23,SNR=1.1						
DZM				S	**Sn**	**09 27 10.6**	**+0.1**
	3.8nm,0.7s,baz=306,slow=19,SNR=1.0						
	1.5nm,0.4s						
ONTNC	**Ouen Toro**	**8.58**	**179**	Pn	**Pn**	**09 25 39.7**	**+0.5**
OUENC	**Ouen Island, N**	**8.71**	**177**	Pn	**Pn**	**09 25 41.7**	**+0.8**
PINNC	**Pines Island,**	**8.95**	**173**	Pn	**Pn**	**09 25 43.1**	**-1.2**
WB0	**Warramunga Arr**	**31.13**	**254**	P	P	09 29 52.1	-1.8
WB0				IAmb	IAmb	09 30 08.8	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**31.20**	**254**	P	**P**	**09 29 55.5**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=83,slow=7.8,SNR=3.2						
WRA				PcP	**PcP**	**09 32 49.0**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=73,slow=2.9,SNR=1.3						
	comp=Z,0.7nm,0.8s						
DCZ	**Deep Cove**	**31.69**	**179**	P	**P**	**09 29 58.1**	**-0.4**
ASAR	**Alice Springs**	**32.20**	**247**	P	**P**	**09 30 03.9**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=70,slow=9.4,SNR=6.8						
ASAR				LR	LR	09 43 45.8	
	comp=Z,76nm,18.0s,baz=102,slow=38						
	comp=Z,0.6nm,0.8s						
GUMO	**Guam**	**34.43**	**321**	LR	LR	09 43 48.4	
	comp=Z,25nm,21.6s,baz=88,slow=35						
LUWI	**Luwuk**	**44.87**	**283**	P	**P**	**09 31 49.3**	**-0.5**
DAV	**Davao City (W)**	**45.39**	**295**	LR	LR	09 51 00.4	
	comp=Z,23nm,19.4s,baz=163,slow=36						
ASAJ	**Asahikawa**	**61.45**	**341**	P	**P**	**09 33 51.6**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=134,slow=15,SNR=1.8						
	comp=Z,2.6nm,0.4s						
USA0B	**Ussuriysk Arra**	**65.54**	**334**	P	**P**	**09 34 19.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**65.54**	**334**	P	**P**	**09 34 19.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**65.54**	**334**	P	**P**	**09 34 18.0**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=138,slow=5.9,SNR=5.8						
	comp=Z,5.1nm,0.9s						
KLR	**Kul'dur**	**69.68**	**337**	P	**P**	**09 34 44.3**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=110,slow=1.4,SNR=9.0						
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**76.34**	**180**	P	**P**	**09 35 24.1**	**0.0**
QSPA	**South Pole Qui**	**76.34**	**180**	P	**P**	**09 35 23.9**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=50,slow=4.0,SNR=6.0						
	comp=Z,1.9nm,0.6s						
OHAK	**Old Harbor**	**78.14**	**21**	P	**P**	**09 35 34.6**	**+0.7**
OHAK				IAmb	IAmb	09 35 48.1	
	comp=Z,14nm,1.3s						
N15K	**Kwethluk River**	**78.39**	**16**	P	**P**	**09 35 36.1**	**+0.8**
O16K	**Kokwok River B**	**78.48**	**18**	P	**P**	**09 35 35.7**	**-0.1**
O16K				IAmb	IAmb	09 35 38.8	
	comp=Z,16nm,1.4s						
M16K	**Timber Creek**	**79.41**	**16**	P	**P**	**09 35 41.8**	**+0.9**
M16K				IAmb	IAmb	09 35 54.4	
	comp=Z,14nm,1.4s						
O18K	**Koktuh Hills**	**79.56**	**19**	P	**P**	**09 35 42.1**	**+0.4**
K15K	**Wolf Creek Mou**	**79.81**	**15**	P	**P**	**09 35 44.0**	**+1.0**
L18K	**Granite Mounta**	**81.02**	**17**	P	P	09 35 48.2	-1.3
L18K				IAmb	IAmb	09 36 11.4	
	comp=Z,15nm,1.4s						
SONM	**Songino Array**	**81.11**	**324**	P	**P**	**09 35 49.6**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=108,slow=4.8,SNR=4.9						
	comp=Z,0.7nm,0.8s						
H17K	**Granite Mounta**	**82.44**	**14**	P	P	09 35 54.9	-2.1
SML	**Sawmill**	**83.25**	**20**	P	**P**	**09 36 02.0**	**+0.7**
CAST	**Castle Rocks**	**83.27**	**18**	P	**P**	**09 36 00.7**	**-0.7**
CAST				IAmb	IAmb	09 36 20.2	
	comp=Z,3.5nm,1.0s						
SCM	**Sheep Creek Mo**	**83.60**	**20**	P	**P**	**09 36 04.0**	**+0.8**
SCM				IAmb	IAmb	09 36 23.7	
	comp=Z,10.0nm,1.3s						
KTH	**Kantishna Hill**	**83.72**	**18**	P	**P**	**09 36 04.0**	**+0.3**
KTH				IAmb	IAmb	09 36 17.0	
	comp=Z,6.2nm,1.4s						
TRF	**Thorofare Moun**	**83.83**	**18**	P	**P**	**09 36 04.0**	**-0.4**
TRF				IAmb	IAmb	09 36 23.7	
	comp=Z,6.9nm,1.2s						
G19K	**Purcell Mounta**	**84.11**	**14**	P	**P**	**09 36 05.4**	**-0.1**
G19K				IAmb	IAmb	09 36 28.1	
	comp=Z,3.6nm,1.1s						
RND	**Reindeer**	**84.24**	**19**	P	**P**	**09 36 05.8**	**-0.6**
RND				IAmb	IAmb	09 36 07.7	
	comp=Z,2.5nm,0.7s						
SAO	**San Andreas Ge**	**84.37**	**50**	P	P	09 36 04.9	-2.7
N25K	**Chitina, Valde**	**84.38**	**21**	P	**P**	**09 36 07.2**	**0.0**
N25K		

CCB	**Clear Creek Bu**	**85.45**	**18**	P	**P**	**09 36 12.4**	**+0.1**	
HDA	**Harding Lake**	**85.55**	**18**	P	**P**	**09 36 13.6**	**+0.7**	
HDA				IAmb	IAmb	09 36 31.7		
	comp=Z,5.1nm,0.9s							
MDM	**Murphy Dome**	**85.55**	**18**	P	**P**	**09 36 12.3**	**-0.6**	
RIDG	**Independent Ri**	**85.75**	**20**	P	**P**	**09 36 14.4**	**+0.4**	
RIDG				IAmb	IAmb	09 36 42.2		
	comp=Z,4.3nm,1.3s							
D19K	**Kuna River**	**85.81**	**12**	P	P	09 36 12.3	-1.8	
IL31		**85.82**	**18**	P	**P**	**09 36 13.9**	**-0.2**	
ILAR	**Eielson Array**	**85.82**	**18**	P	P	09 36 13.2	-1.0	
ILAR	**Eielson Array**	**85.82**	**18**	P	**P**	**09 36 13.5**	**-0.7**	
	comp=Z,0.9nm,0.4s,baz=240,slow=4.9,SNR=44							
	comp=Z,0.9nm,0.4s							
IL03	**Eielson Array**	**85.83**	**18**	P	**P**	**09 36 14.4**	**+0.1**	
J25K	**Salcha River,**	**86.18**	**19**	P	**P**	**09 36 16.4**	**+0.3**	
SCRK	**Sand Creek**	**86.19**	**20**	P	P	09 36 15.2	-1.0	
SCRK				IAmb	IAmb	09 36 16.9		
	comp=Z,6.1nm,1.5s							
OMMB	**Old Mammoth Mi**	**86.50**	**50**	P	P	09 36 16.9	-1.7	
NVAR	**Mina Array Bea**	**87.30**	**50**	P	**P**	**09 36 23.2**	**+0.9**	
	comp=Z,0.3nm,0.4s,baz=303,slow=5.2,SNR=2.0							
	comp=Z,0.3nm,0.4s							
I26K	**Coal Creek Min**	**87.35**	**19**	P	**P**	**09 36 21.8**	**+0.2**	
F24K	**Squaw Lake**	**87.50**	**16**	P	**P**	**09 36 22.5**	**+0.1**	
F24K				IAmb	IAmb	09 36 50.9		
	comp=Z,5.8nm,1.4s							
EGAK	**Eagle**	**87.65**	**20**	P	**P**	**09 36 23.7**	**+0.6**	
EGAK				IAmb	IAmb	09 36 28.1		
	comp=Z,4.3nm,1.4s							
BELA	**Belgrano 2**	**87.84**	**176**	P	P	09 36 22.2	-1.8	
BELA				IAmb	IAmb	09 36 23.9		
	comp=Z,2.5nm,0.8s							
PDAR	**Pinedale Array**	**94.92**	**47**	P	**P**	**09 36 58.8**	**+1.0**	
	comp=Z,0.2nm,0.7s,baz=8.5,slow=1.8,SNR=1.9							
	comp=Z,0.2nm,0.7s							
MKAR	**Makanchi Array**	**95.81**	**317**	P	**P**	**09 37 01.2**	**-0.2**	
	comp=Z,0.8nm,0.9s,baz=89,slow=6.3,SNR=5.2							
	comp=Z,0.8nm,0.9s							
ZALV	**Zalesovo Beam**	**96.00**	**324**	P	P	09 37 00.6	-1.5	
	comp=Z,1.1nm,0.7s,baz=86,slow=6.2,SNR=5.1							
	comp=Z,1.1nm,0.7s							
YKA	**Yellowknife Ar**	**97.05**	**27**	P	**P**	**09 37 06.0**	**-0.7**	
	comp=Z,0.1nm,0.5s,baz=259,slow=4.7,SNR=4.7							
	comp=Z,0.1nm,0.5s							
ARCES	**ARCESS Array B**	**119.01**	**345**	PKP	**PKPdf**	**09 42 21.2**	**-2.1**	
	comp=Z,0.7nm,0.4s,baz=64,slow=2.8,SNR=6.6							

*SNET **19** 09:27:54.2±3.1, 13°.60N×90°.61W, h26km, ML4.0*
*CATAC **19** 09:27:54.3±0.6, 13°.59N×90°.64W, h27km±5km, ML3.7*
*GCG **19** 09:27:57.9±1.4, 13°.79N×90°.81W, h13km±15km, MD3.6*
ISC 19 09:27:52.7±1.5,**13°.51N**±0°.06×**90.70W**±0°.03,**h32**km±12km,
n53,σ1s00/81,**2D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.88**	**6**	*e*P	**Pb**	**09 28 10.3**	**+0.6**
FUG	**Fuego 3**	**0.94**	**351**	*e*P	**Pb**	**09 28 11.2**	**+0.5**
NUBE	**Las Nubes**	**0.97**	**66**	*e*P	**Pn**	**09 28 10.5**	**+0.2**
NUBE				*e*S	**Sn**	**09 28 22.4**	**-0.7**
NUBE	**Las Nubes**	**0.97**	**66**	*i* P	**Pn**	**09 28 10.4**	**+0.1**
NUBE				IAML		09 28 12.7	
	comp=Z,900nm,1.0s						
NUBE				*i* S	**Sn**	**09 28 22.2**	**-0.9**
LOAL	**Lomas de Alarc**	**1.01**	**61**	*i* P	**Pb**	**09 28 11.6**	**-0.2**
LOAL				*i* S	**Sb**	**09 28 24.8**	**0.0**
LOAL				IAML		09 28 26.8	
	comp=Z,5μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.02**	**60**	*e*P	**Pb**	**09 28 11.6**	**-0.4**
SLOZ				*e*S	**Sn**	**09 28 24.5**	**+0.3**
CEVE	**Cerro Verde**	**1.09**	**73**	*e*P	**Pb**	**09 28 12.5**	**-0.7**
CEVE	**Cerro Verde**	**1.09**	**73**	*i* P	**Pb**	**09 28 12.5**	**-0.7**
CEVE				*i* S	**Sn**	**09 28 26.5**	**+0.4**
CEVE				IAML		09 28 32.2	
	comp=Z,3μm,1.0s						
RTR	**El Retiro**	**1.09**	**69‖**	*e*P	**Pb**	**09 28 12.8**	**-0.4**
SBLS	**San Blas**	**1.09**	**72**	*e*P	**Pb**	**09 28 12.7**	**-0.6**
SNJE	**San Jose**	**1.12**	**71**	*e*P	**Pb**	**09 28 13.0**	**-0.7**
NBG	**Las Nubes**	**1.12**	**17**	*e*P	**Pb**	**09 28 14.5**	**+0.7**
NBG				*e*S	**Sb**	**09 28 29.2**	**+1.0**
GUNB	**GUNB**	**1.13**	**17**	*i* P	**Pn**	**09 28 12.9**	**+0.2**
GUNB				*i* S	**Sn**	**09 28 27.2**	**-0.1**
GUNB				IAML		09 28 27.9	
	comp=Z,2μm,1.0s						
SULM	**Suchitepequez,**	**1.16**	**313**	*e*P	**Pb**	**09 28 15.3**	**+1.1**
SULM				*e*S	**Sn**	**09 28 26.2**	**-1.2**
UNIC	**Universidad Ca**	**1.21**	**67**	*e*P	**Pn**	**09 28 14.1**	**+0.6**
UNIC	**Universidad Ca**	**1.21**	**67**	*i* P	**Pn**	**09 28 13.8**	**+0.3**
UNIC				IAML		09 28 14.4	
	comp=Z,380nm,1.0s						
UNIC				*i* S	**Sn**	**09 28 29.1**	**+0.2**
JAYA	**Jayaque - finc**	**1.22**	**83**	*e*P	**Pb**	**09 28 14.7**	**-0.6**
JAYA	**Jayaque - finc**	**1.22**	**83**	*i* P	**Pb**	**09 28 15.0**	**-0.4**
JAYA				*i* S	**Sn**	**09 28 29.1**	**-0.2**
JAYA				IAML		09 28 30.3	
	comp=Z,4μm,1.0s						
JAMO	**Monjas**	**1.26**	**39**	*i* P	**Pn**	**09 28 15.0**	**+0.8**
JAMO				*i* S	**Sb**	**09 28 31.6**	**-0.3**
JAMO				IAML		09 28 42.5	
	comp=Z,3μm,1.0s						
JUAM	**Asuncion Mita**	**1.26**	**49**	*i* P	**Pn**	**09 28 14.4**	**+0.2**
JUAM				IAML		09 28 32.6	
	comp=Z,1μm,1.0s						
CEDA	**San Andres**	**1.30**	**77**	*i* P	**Pn**	**09 28 15.4**	**+0.7**
CEDA				*i* S	**Sn**	**09 28 31.3**	**+0.3**
CEDA				IAML		09 28 38.8	
	comp=Z,3μm,1.0s						
LALI	**Alcalda de L**	**1.34**	**91**	*e*P	**Pb**	**09 28 16.1**	**-1.1**
LALI	**Alcalda de L**	**1.34**	**91**	*i* P	**Pb**	**09 28 16.9**	**-0.3**
LALI				IAML		09 28 35.4	
	comp=Z,240nm,1.0s						
PMON	**Piamonte**	**1.36**	**81**	*e*P	**Pb**	**09 28 16.5**	**-1.1**
PMON	**Piamonte**	**1.36**	**81**	*i* P	**Pb**	**09 28 16.5**	**-1.1**
PMON				*i* S	**Sn**	**09 28 32.9**	**+0.3**
PMON				IAML		09 28 44.3	
	comp=Z,2μm,1.0s						
ITCA	**Escuela Especi**	**1.39**	**83**	*i* P	**Pb**	**09 28 17.5**	**-0.6**
ITCA				IAML		09 28 41.6	
	comp=Z,2μm,1.0s						
BOQS	**Boqueron**	**1.39**	**81**	*e*P	**Pb**	**09 28 17.3**	**-1.0**
RTAL	**Retalhuleu**	**1.40**	**316**	*i* P	**Pn**	**09 28 17.0**	**+0.9**
RTAL				*i* S	**Sn**	**09 28 34.1**	**+0.6**
RTAL				IAML		09 28 53.0	
	comp=Z,560nm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.42**	**77**	*e*P	**Pn**	**09 28 17.4**	**+1.0**
QUEZ	**Alcaldia de Qu**	**1.42**	**77**	*i* P	**Pn**	**09 28 17.3**	**+0.9**
QUEZ				*i* S	**Sn**	**09 28 34.8**	**+0.8**
QUEZ				IAML		09 28 41.3	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**1.43**	**82**	*i* P	**Pb**	**09 28 17.7**	**-1.2**
UEES				*i* S	**Sn**	**09 28 34.9**	**+0.5**
UEES				IAML		09 28 38.7	
	comp=Z,550nm,1.0s						
SNET	**Serv Nac Est T**	**1.43**	**83**	*e*P	**Pn**	**09 28 17.6**	**+0.9**
SNET	**Serv Nac Est T**	**1.43**	**83**	*i* P	**Pb**	**09 28 17.9**	**-1.0**
SNET				*i* S	**Sn**	**09 28 34.9**	**+0.5**
SNET				IAML		09 28 39.2	
	comp=Z,2μm,1.0s						
SEMO	**Seminario San**	**1.44**	**82**	*i* P	**Pb**	**09 28 17.8**	**-1.3**
SEMO				IAML		09 28 43.7	
	comp=Z,3μm,1.0s						
STG3	**Santiaguito 3,**	**1.46**	**325**	*e*P	**Pb**	**09 28 19.0**	**-0.5**
STG3				*e*S	**Sn**	**09 28 32.8**	**-2.6**
UTEC	**Universidad Te**	**1.46**	**82**	*i* S	**Sn**	**09 28 36.2**	**+1.0**
SOKI	**Kika Raxquin**	**1.47**	**332**	*i* P	**Pb**	**09 28 19.3**	**-0.5**
SOKI				*i* S	**Sn**	**09 28 36.4**	**+0.6**
SOKI				IAML		09 28 38.2	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**1.48**	**86**	*i* P	**Pb**	**09 28 18.3**	**-1.3**
PANCS				*i* S	**Sn**	**09 28 35.8**	**+0.3**
PANCS				IAML		09 28 38.8	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.49**	**85**	*i* P	**Pb**	**09 28 20.3**	**+0.4**
LOMA				*i* S	**Sn**	**09 28 36.5**	**+0.7**
SJTE	**Alcalda de S**	**1.65**	**86**	*e*P	**Pb**	**09 28 21.0**	**-1.5**
SJTE	**Alcalda de S**	**1.65**	**86**	*i* P	**Pb**	**09 28 22.3**	**-0.2**
SJTE				*i* S	**Sn**	**09 28 40.6**	**+0.9**
SJTE				IAML		09 28 44.3	
	comp=Z,460nm,1.0s						
ESQI	**Esquipulas**	**1.68**	**51**	*i* P	**Pn**	**09 28 20.4**	**+0.4**
ESQI				*i* S	**Sn**	**09 28 41.0**	**+0.5**
ESQI				IAML		09 28 45.5	
	comp=Z,390nm,1.0s						
PAVA	**Las Pavas**	**1.72**	**83**	*i* P	**Pb**	**09 28 22.5**	**-1.3**
PAVA				IAML		09 28 52.7	
	comp=Z,580nm,1.0s						
COEG	**Centro de Oper**	**1.77**	**86**	*e*P	**Pn**	**09 28 22.6**	**+1.4**
COEG	**Centro de Oper**	**1.77**	**86**	*i* P	**Pb**	**09 28 23.1**	**-1.5**
COEG				*i* S	**Sn**	**09 28 44.0**	**+1.3**
COEG				IAML		09 28 51.5	
	comp=Z,370nm,1.0s						
QUIS	**Sacapulas**	**1.81**	**348**	*i* P	**Pb**	**09 28 24.2**	**-1.2**
QUIS				*i* S	**Sn**	**09 28 45.5**	**+1.7**
QUIS				IAML		09 28 48.6	
	comp=Z,590nm,1.0s						
TECO	**Alcaldia de Te**	**1.86**	**89**	*i* P	**Pb**	**09 28 24.2**	**-2.0**
TECO				*i* S	**Sn**	**09 28 45.4**	**+0.5**
TECO				IAML		09 28 57.5	
	comp=Z,180nm,1.0s						
SMCA	**Catarina**	**1.89**	**315**	*i* P	**Pn**	**09 28 24.6**	**+1.7**
SMCA				*i* S	**Sn**	**09 28 45.2**	**-0.5**
SMCA				IAML		09 28 46.7	
	comp=Z,560nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.92**	**84**	*i* P	**Pn**	**09 28 24.3**	**+1.0**
SCLA				*i* S	**Sb**	**09 28 49.6**	**-1.2**
SCLA				IAML		09 28 57.7	
	comp=Z,120nm,1.0s						
HUEH	**Huehuetenango**	**1.96**	**337‖**	*i* P	**Pn**	**09 28 20.4**	**-3.6**
PQSS	**Presa 15 de Se**	**2.08**	**87**	*i* P	**Pn**	**09 28 26.5**	**+1.1**
PQSS				IAML		09 28 56.7	
	comp=Z,150nm,1.0s						
COEB	**Comit de Eme**	**2.11**	**90**	*e*P	**Pn**	**09 28 27.4**	**+1.4**
SARH	**Santa Rosa de**	**2.26**	**56**	*i* P	**Pn**	**09 28 28.4**	**+0.4**

*JMA **19** 09:28:11.3±0.4, 34°.N±2°.×13°.7E±°, h370km±3km, MV3.2/30, SE OFF KII PENINSULA*
*IDC **19** 09:28:12.1±1.1, 33°.64N×137°.33E, h353km±9km, mb3.0/14, mbtmp3.8/20, Error ellipse: s-maj=17.8km s-min=13.9km az=116.0*
ISC 19 09:28:12.6±0.7,**33°.69N**±0°.08×**137°.30E**±0°.06,**h357**km±6km,
n37,σ0s81/48,**mb3.2**/14,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.20**	**25**	P	**Pn**	**09 28 58.0**	**+1.1**
TTO2	**TONANKAI O.B.S**	**0.23**	**282**	P	**Pn**	**09 28 57.8**	**+1.0**
TTO4	**TONANKAI O.B.S**	**0.38**	**32**	P	**Pn**	**09 28 58.0**	**+1.0**
TTO1	**TONANKAI O.B.S**	**0.43**	**262**	P	**Pn**	**09 28 57.9**	**+0.8**
TK02	**Tokai 2**	**0.46**	**55**	P	**Pn**	**09 28 58.2**	**+1.0**
JIE	**Ise**	**0.86**	**325**	P	**Pn**	**09 28 59.0**	**+0.4**
JIE				*e*S	**S**	**09 29 35.5**	**+0.1**
JTNC	**Tanabenakahech**	**1.41**	**276**	*i* P	**Pn**	**09 29 01.0**	**0.0**
JTNC				*e*S	**S**	**09 29 39.1**	**-0.8**
JWY	**Kouya**	**1.52**	**291**	P	**Pn**	**09 29 01.9**	**+0.3**
JWY				*e*S	**S**	**09 29 40.0**	**-0.9**
JYTA	**Yamagatataniai**	**1.96**	**346**	P	**Pn**	**09 29 04.7**	**+0.5**
JYTA				*e*S	**S**	**09 29 45.7**	**0.0**
JOD2	**Odawara 2**	**2.16**	**43**	P	**Pn**	**09 29 06.1**	**+0.5**
JOD2				*e*S	**S**	**09 29 48.7**	**+0.4**
JWT	**Wachi**	**2.23**	**316**	P	**Pn**	**09 29 06.3**	**+0.2**
JWT				S	**S**	**09 29 48.2**	**-1.0**
JAI	**Aioi**	**2.38**	**273**	P	**Pn**	**09 29 07.1**	**-0.2**
JAI				*e*S	**S**	**09 29 50.0**	**-1.2**
JRY	**Ryogami san**	**2.67**	**29**	P	**Pn**	**09 29 10.0**	**+0.4**
JRY				*e*S	**S**	**09 29 55.7**	**+0.2**
JMN	**Monobe**	**2.85**	**272**	P	**Pn**	**09 29 11.3**	**+0.1**
MJAR	**Matsushiro Arr**	**2.95**	**14**	P	**Pn**	**09 29 11.9**	**0.0**
	15nm,0.6s,baz=180,slow=8.8,SNR=61						
MJAR				S	**S**	**09 29 58.8**	**-1.0**
	2.4nm,0.5s,baz=193,slow=16,SNR=2.6						
MAT	**Matsushiro**	**2.95**	**14**	P	**Pn**	**09 29 12.0**	**0.0**
MAT				S	**S**	**09 29 58.7**	**-1.1**
BSO1	**Boso 1**	**3.20**	**71**	P	**Pn**	**09 29 12.5**	**-1.1**
BSO1				*e*S	**S**	**09 30 00.7**	**-2.2**
JAG	**Ashikaga**	**3.25**	**32**	P	**Pn**	**09 29 13.8**	**-0.9**
JNU	**Nakatsue**	**5.40**	**266**	P	**Pn**	**09 29 37.0**	**0.0**
	19nm,0.8s,baz=78,slow=2.5,SNR=20						
KSRS	**Korea Array**	**8.51**	**299**	P	**P**	**09 30 13.4**	**-1.7**
	2.9nm,0.7s,baz=113,slow=12,SNR=11						
ASAJ	**Asahikawa**	**11.20**	**20**	P	**P**	**09 30 44.8**	**-0.1**
	3.3nm,0.3s,baz=251,slow=12,SNR=6.6						
USRK	**Ussuriysk Ar.**	**11.28**	**340**	P	**P**	**09 30 46.0**	**+0.2**
	2.0nm,0.7s,baz=156,slow=8.9,SNR=2.7						
KLR	**Kul'dur**	**16.07**	**347**	P	**P**	**09 31 37.5**	**-0.7**
	0.5nm,0.4s,baz=156,slow=23,SNR=2.2						
SONM	**Songino Array**	**27.13**	**311**	P	**P**	**09 33 26.2**	**+1.9**
	0.5nm,0.5s,baz=116,slow=10,SNR=3.6						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.41**	**256**	P	**P**	**09 34 53.1**	**+0.2**
	1.2nm,0.3s,baz=49,slow=8.5,SNR=1.5						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**43.14**	**305**	P	**P**	**09 35 39.3**	**+0.1**
	0.1nm,0.3s,baz=84,slow=8.5,SNR=1.8						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**53.40**	**183**	P	**P**	**09 36 56.0**	**-0.8**
	0.3nm,0.3s,baz=359,slow=7.5,SNR=5.6						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**54.10**	**31**	P	**P**	**09 37 01.8**	**+0.4**
	0.3nm,0.8s,baz=248,slow=5.4,SNR=1.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**57.12**	**184**	P	**P**	**09 37 22.6**	**-0.6**
	0.2nm,0.3s,baz=355,slow=4.5,SNR=1.6						
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**65.93**	**339**	P	**P**	**09 38 20.8**	**0.0**
	5.2nm,1.0s,baz=60,slow=10,SNR=3.6						
	5.2nm,1.0s						
YKA	**Yellowknife Ar**	**68.36**	**28**	P	**P**	**09 38 36.6**	**+0.5**
	0.2nm,0.6s,baz=301,slow=6.8,SNR=5.1						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**70.18**	**332**	P	**P**	**09 38 46.9**	**-0.2**
	1.3nm,0.4s,baz=49,slow=6.8,SNR=17						
	1.3nm,0.4s						
AKASG	**Malin Array Be**	**74.84**	**321**	P	**P**	**09 39 13.8**	**-0.7**
	0.2nm,0.3s,baz=90,slow=0.9,SNR=2.1						
	0.2nm,0.3s						
HFS	**Hagfors**	**75.70**	**335**	P	**P**	**09 39 18.8**	**-0.4**
	0.5nm,0.3s,baz=67,slow=3.7,SNR=1.5						
	0.5nm,0.3s						
NOA	**NORSAR Array B**	**75.92**	**336**	P	**P**	**09 39 20.4**	**-0.1**
	0.8nm,0.7s,baz=42,slow=5.8,SNR=3.3						
	0.8nm,0.7s						
PDAR	**Pinedale Array**	**82.41**	**43**	P	**P**	**09 39 56.4**	**+0.4**
	0.3nm,0.7s,baz=241,slow=1.5,SNR=3.5						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**94.83**	**50**	P	**P**	**09 40 55.7**	**+0.7**
	0.1nm,0.5s,baz=333,slow=1.0,SNR=2.7						
	0.1nm,0.5s						

IDC 19 09:29:31.9±2.4,**54°.31N**×**86°.19E,h0**km,**mbtmp3.2**/3,
ML2.5/3,**Error ellipse: s-maj=19.4km s-min=11.2km az=59.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**246**	I	I	09 34 27.7	
	baz=67,slow=342,SNR=5.5						
ZALV	**Zalesovo Beam**	**0.89**	**246**	Pg	Pg	09 29 48.1	-0.7
	1.8nm,0.3s,baz=64,slow=17,SNR=12						
ZALV				Lg	Lg	09 30 01.6	
	6.4nm,0.3s,baz=64,slow=26,SNR=5.4						
KURBB	**Kurchatov Arra**	**5.96**	**235**	Pn	Pn	09 31 00.9	-0.4
	0.1nm,0.3s,baz=52,slow=13,SNR=1.8						
KURBB				Lg	Lg	09 32 41.3	
	baz=51,slow=30,SNR=1.4						
	1.1nm,0.2s						
MKAR	**Makanchi Array**	**7.92**	**200**	Pn	Pn	09 31 29.6	+1.3
	0.3nm,0.3s,baz=19,slow=12,SNR=14						
MKAR				Sn	Sn	09 32 58.8	+0.2
	0.1nm,0.3s,baz=22,slow=28,SNR=2.9						
MKAR				Lg	Lg	09 33 43.5	
	baz=24,slow=30,SNR=2.3						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**9.47**	**269**	Pn	Pn	09 31 48.7	-0.8
	baz=75,slow=14,SNR=1.7						
	0.3nm,0.2s						

*IDC **19** 09:37:54.3±0.6, 14°.59N×55°.67E, h0km, mb4.1/27, mbtmp4.1/28, ML3.8/1, MS3.7/49, Error ellipse: s-maj=15.9km s-min=14.8km az=133.0*
*NEIC **19** 09:37:58.3±2.2, 14°.82N±0°.10×55°.63E±0°.07, h10km±1km, mb4.6/46, Error ellipse: s-maj=18.0km s-min=9.9km az=154.0*
*OMAN **19** 09:38:04.1±0.2, 15°.26N×55°.82E, h13km±11km, mb4.1/19, ml4.1/7, ms3.6/6, Error ellipse: s-maj=22.5km s-min=3.1km az=354.0*
ISC 19 09:37:57.1±0.5,**14°.82N**±0°.06×**55°.73E**±0°.05,**h10**km,**n168,**
σ2s00/167,**mb4.5**/68,**MS3.8**/49,**1D,Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMTO	**DMTO**	**2.98**	**345**	P	**Pn**	**09 38 44.5**	**0.0**
	SNR=10						
DMTO				S	**Sn**	**09 39 18.5**	**-1.8**
	SNR=16						
RBK	**Rabkut**	**3.05**	**331**	P	**Pn**	**09 38 45.9**	**+0.4**
	SNR=10						
RBK				S	**Sn**	**09 39 20.0**	**-2.1**
	SNR=22						
SHAO	**Shalim**	**3.19**	**358**	P	**Pn**	**09 38 48.6**	**+1.1**
	SNR=60						
SHAO				S	**Sn**	**09 39 22.9**	**-2.7**
	SNR=11						
ABTO	**Aybut**	**3.44**	**317**	P	**Pn**	**09 38 50.9**	**0.0**
	SNR=58						
ABTO				S	**Sn**	**09 39 29.9**	**-1.9**
	SNR=8.9						
WHFO	**Wadi Hawf**	**3.62**	**329**	P	**Pn**	**09 38 54.7**	**+1.4**
	SNR=33						
WHFO				S	**Sn**	**09 39 36.1**	**-0.1**
	SNR=13						
DOK	**Doka**	**4.08**	**338**	P	**Pn**	**09 39 00.8**	**+1.1**
	SNR=11						
DOK				S	**Sn**	**09 39 46.3**	**-1.3**
	SNR=9.4						
DQM	**DQM**	**5.37**	**18**	P	**Pn**	**09 39 17.8**	**+0.4**
	SNR=10						
DQM				S	**Sn**	**09 40 14.9**	**-4.4**
MHTO	**MHTO**	**6.50**	**19**	P	**Pn**	**09 39 32.9**	**+0.1**
	SNR=13						
MHTO				S	**Sn**	**09 40 45.3**	**-1.8**
JMDO	**Jabal Madar**	**7.84**	**16**	P	**Pn**	**09 39 52.6**	**+1.2**
JMDO				P	**Pn**	**09 39 52.6**	**+1.2**
JMDO				S	**Sn**	**09 41 17.6**	**-2.7**
JMDO				S	**Sn**	**09 41 17.6**	**-2.7**
UMZA	**Um Al Zommool**	**7.88**	**356**	P	**Pn**	**09 39 54.0**	**+2.2**
UMZA				S	**Sn**	**09 41 17.8**	**-3.2**
BSY	**Bisya**	**8.01**	**10**	P	**Pn**	**09 39 53.9**	**+0.2**
	SNR=9.2						
BSY				S	**Sn**	**09 41 22.7**	**-1.7**
JLN	**Jalan Bani Buh**	**8.09**	**25**	P	**Pn**	**09 39 56.3**	**+1.6**
JLN				P	**Pn**	**09 39 56.3**	**+1.6**
JLN				S	**Sn**	**09 41 22.7**	**-3.5**
JLN				S	**Sn**	**09 41 22.7**	**-3.5**
WBK	**Wadi Bani Khal**	**8.34**	**21**	P	**Pn**	**09 39 58.8**	**+0.6**
	SNR=19						
WBK				P	**Pn**	**09 39 58.8**	**+0.6**
	SNR=19						
WBK				S	**Sn**	**09 41 29.4**	**-3.0**
WBK				S	**Sn**	**09 41 29.4**	**-3.0**
SMDO	**Samad**	**8.49**	**15**	P	**Pn**	**09 40 01.7**	**+1.4**
	SNR=8.5						
SMDO				P	**Pn**	**09 40 01.7**	**+1.4**
	SNR=8.5						
SMDO				S	**Sn**	**09 41 34.4**	**-1.9**
SMDO				S	**Sn**	**09 41 34.4**	**-1.9**
ARQ	**Araqi**	**8.51**	**5**	P	**Pn**	**09 40 01.4**	**+0.9**
	SNR=8.3						
ARQ				P	**Pn**	**09 40 01.4**	**+0.9**
	SNR=8.3						
ARQ				S	**Sn**	**09 41 34.1**	**-2.6**
ARQ				S	**Sn**	**09 41 34.1**	**-2.6**
WSAR	**Wadi Sarin**	**8.81**	**18**	Pn	**Pn**	**09 40 04.8**	**0.0**
	1.1nm,0.3s,baz=231,slow=13,SNR=16						
WSAR				Sn	**Sn**	**09 41 35.3**	**-8.9**
	0.4nm,0.3s,baz=228,slow=12,SNR=2.1						
WSAR				LR	LR	09 43 31.2	
	comp=Z,868nm,19.0s,baz=224,slow=37						
	3.6nm,0.5s						
WSAR	**Wadi Sarin**	**8.81**	**18**	P	**Pn**	**09 40 06.8**	**+2.1**
WSAR				S	**Sn**	**09 41 43.0**	**-1.3**
BIDO	**Bidbid**	**8.95**	**14**	P	**Pn**	**09 40 07.0**	**+0.5**
ALNE	**Al Ain**	**9.19**	**0**	P	**Pn**	**09 40 11.5**	**+1.6**
ALNE				S	**Sn**	**09 41 49.4**	**-4.1**
SOHO	**SOHO**	**9.30**	**5**	P	**Pn**	**09 40 11.3**	**-0.1**
SOHO				P	**Pn**	**09 40 11.3**	**-0.1**
SOHO				S	**Sn**	**09 41 49.9**	**-6.3**
SOHO				S	**Sn**	**09 41 49.9**	**-6.3**
GHWR	**Ruwais**	**9.49**	**344**	P	**Pn**	**09 40 17.7**	**+3.7**
ASUD	**Al Ashush, Dub**	**9.77**	**358**	P	**Pn**	**09 40 19.5**	**+1.7**
ASUD				S	**Sn**	**09 42 04.2**	**-3.4**
ASHO	**Ashiyiah**	**9.82**	**2**	P	**Pn**	**09 40 21.1**	**+2.6**
ASHO				S	**Sn**	**09 42 03.7**	**-5.3**
SLWR	**Sila**	**9.96**	**338**	P	**Pn**	**09 40 22.6**	**+2.2**
SLWR				S	**Sn**	**09 42 09.3**	**-3.1**
HATD	**Hatta, Dubai**	**9.97**	**2**	P	**Pn**	**09 40 22.1**	**+1.6**
	SNR=7.4						
HATD

ARG	**Arkhangelos**	**32.59**	**316**	P		**P**	**09 44 28.9**	**0.0**
BOOM	**Boomskoye usch**	**32.61**	**28**	P		**P**	**09 44 30.8**	**+1.6**
BOOM				IAmb		IAmb	09 44 39.6	
	comp=Z,7.0nm,1.2s							
OPO	**Ambohidratompo**	**34.23**	**195**	LR		LR	09 55 36.1	
	comp=Z,170nm,18.3s,baz=175,slow=31							
ABKAR	**Akbulak array**	**34.52**	**5**	P		**P**	**09 44 46.6**	**+1.1**
ABKAR				IAmb		IAmb	09 44 49.0	
	comp=Z,6.7nm,1.1s							
ABKAR	**Akbulak array**	**34.52**	**5**	P		**P**	**09 44 46.6**	**+1.1**
SHL	**Shillong**	**35.47**	**67**	P		**P**	**09 44 54.8**	**+0.5**
SHL				IAmb		IAmb	09 45 01.7	
	comp=Z,10nm,1.0s							
AKTO	**Aktyubinsk**	**35.57**	**3**	P		**P**	**09 44 55.5**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=202,slow=7.4,SNR=10							
AKTO				LR		LR	10 01 40.3	
	comp=Z,148nm,20.1s,baz=201,slow=40							
	comp=Z,3.7nm,0.7s							
BELG	**Belogornoye**	**38.04**	**352**	LR		LR	10 05 33.7	
	comp=Z,95nm,19.1s,baz=133,slow=43							
MAKZ	**Makanchi**	**38.69**	**29**	P		**P**	**09 45 21.9**	**+0.7**
MAKZ				IAmb		IAmb	09 45 31.0	
	comp=Z,12nm,1.4s							
MK31	**Makanchi Array**	**38.83**	**29**	P		**P**	**09 45 24.1**	**+1.7**
MKAR	**Makanchi Array**	**38.83**	**29**	P		**P**	**09 45 23.8**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=220,slow=8.4,SNR=5.5							
MKAR				LR		LR	10 04 00.3	
	comp=Z,104nm,18.8s,baz=248,slow=40							
	comp=Z,1.2nm,0.6s							
FNA	**Florina**	**39.50**	**318**	P		**P**	**09 45 27.6**	**-0.5**
BVAR	**Borovoye Array**	**39.85**	**14**	P		**P**	**09 45 31.6**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=227,slow=5.7,SNR=8.3							
BVAR				PcP		**PcP**	**09 47 35.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=194,slow=3.0,SNR=1.8							
BVAR				LR		LR	10 03 29.7	
	comp=Z,81nm,19.8s,baz=211,slow=38							
	comp=Z,2.3nm,0.9s							
BRVK	**Borovoye**	**39.86**	**14**	P		**P**	**09 45 32.2**	**+1.4**
KURBB	**Kurchatov Arra**	**40.20**	**22**	P		**P**	**09 45 34.4**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=219,slow=8.5,SNR=4.6							
KURBB				LR		LR	10 03 45.9	
	comp=Z,112nm,20.1s,baz=165,slow=38							
	comp=Z,2.7nm,0.9s							
KURK	**Kurchatov**	**40.31**	**22**	P		**P**	**09 45 34.7**	**+0.2**
PUK	**Puka**	**41.10**	**318**	P		**P**	**09 45 41.0**	**-0.4**
PUK				IAmb		IAmb	09 45 49.2	
	comp=Z,12nm,0.9s							
BUR08	**Bucovina Ar. S**	**41.36**	**329**	P		**P**	**09 45 44.7**	**+1.2**
BUR08				IAmb		IAmb	09 46 09.0	
	comp=Z,10.0nm,1.5s							
CMAR	**Chiang Mai Arr**	**41.49**	**79**	P		**P**	**09 45 44.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=275,slow=9.4,SNR=4.7							
	comp=Z,0.9nm,0.3s							
ARU	**Arti**	**41.59**	**2**	LR		LR	10 04 16.6	
	comp=Z,105nm,19.9s,baz=171,slow=38							
AKASG	**Malin Array Be**	**41.71**	**335**	P		**P**	**09 45 45.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=130,slow=8.6,SNR=4.6							
AKASG				LR		LR	10 06 27.9	
	comp=Z,65nm,19.9s,baz=208,slow=41							
	comp=Z,0.1nm,0.3s							
AKBB	**Malin Array Si**	**41.71**	**335**	P		**P**	**09 45 46.7**	**+0.6**
AKBB				IAmb		IAmb	09 46 02.5	
	comp=Z,8.6nm,1.2s							
KIEV	**Kiev**	**41.72**	**335**	P		**P**	**09 45 46.6**	**+0.5**
CUC	**Castrocucco**	**42.90**	**314**	P		**P**	**09 45 58.0**	**+1.9**
CUC				IAmb		IAmb	09 46 08.1	
	comp=Z,18nm,1.2s							
KOLS	**Kolonicke sedl**	**43.69**	**328**	*e*P		P	09 46 10.3	+8.1
KIRV	**Kirov**	**43.95**	**355**	LR		LR	10 07 14.9	
	comp=Z,141nm,18.0s,baz=190,slow=40							
ZALV	**Zalesovo Beam**	**45.21**	**24**	P		**P**	**09 46 14.6**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=197,slow=4.6,SNR=11							
ZALV				LR		LR	10 05 44.4	
	comp=Z,84nm,20.0s,baz=226,slow=37							
	comp=Z,4.2nm,0.6s							
VYHS	**Vyhne**	**45.23**	**326**	*e*P		P	09 46 22.1	+7.5
GTA	**Gaotai**	**45.66**	**49**	*e*P		**P**	**09 46 20.0**	**+1.7**
GTA				pP		pwP	09 46 25.3	+1.8
GTA				PP		**PP**	**09 48 11.5**	**+6.3**
GTA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GTA				LR		LR		
	comp=N,69nm,14.5s							
GTA				LR		LR		
	comp=E,120nm,17.5s							
GTA				LR		LR		
	comp=Z,150nm,18.5s							
NACGM	**Naroch**	**45.88**	**337**	*e*P		**P**	**09 46 19.8**	**+0.2**
	comp=Z,8.0nm,0.9s,baz=139							
MODS	**Modra-Piesok**	**46.02**	**325**	*e*P		P	09 46 27.9	+7.0
ZST	**Bratislava**	**46.02**	**325**	*e*P		P	09 46 30.0	+9.1
RONA	**Rosalia, Austr**	**46.22**	**324**	*e*P		**P**	**09 46 24.1**	**+1.7**
	comp=Z,12nm,1.1s							
ARSA	**Arzberg**	**46.43**	**323**	*e*P		**P**	**09 46 25.2**	**+1.1**
	comp=Z,15nm,1.4s							
SOKA	**Soboth**	**46.44**	**322**	*e*P		**P**	**09 46 25.4**	**+1.2**
	comp=Z,9.1nm,1.0s							
CONA	**Conrad Observa**	**46.59**	**324**	*e*P		**P**	**09 46 26.5**	**+1.1**
	comp=Z,15nm,1.7s							
OBKA	**Obir**	**46.65**	**321**	*e*P		**P**	**09 46 28.2**	**+2.3**
	comp=Z,9.3nm,0.9s							
MORC	**Moravsky Berou**	**46.66**	**327**	P		**P**	**09 46 26.4**	**+0.4**
MYKA	**Terra Mystica**	**47.26**	**321**	*i* P		**P**	**09 46 32.3**	**+1.7**
	comp=Z,10.0nm,1.1s							
CLUD	**Cludinico**	**47.64**	**320**	P		**P**	**09 46 31.8**	**-1.8**
KBA	**Koelnbreinsper**	**47.65**	**321**	*i* pP		**P**	**09 46 37.8**	**+4.0**
	comp=Z,9.4nm,1.1s							
STAL	**STALIGIAL**	**47.66**	**320**	P		**P**	**09 46 34.1**	**+0.4**
BIOA	**Bad Ischl, Aus**	**47.76**	**322**	*e*pP		P	09 46 41.2	+6.7
	comp=Z,7.0nm,0.9s							
ABTA	**Abfaltersbach**	**48.00**	**321**	*e*P		**P**	**09 46 40.0**	**+3.6**
	comp=Z,14nm,1.2s							
LESA	**Schwarzleotal**	**48.21**	**322**	*i* P		**P**	**09 46 37.8**	**-0.3**
	comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**48.29**	**324**	P		**P**	**09 46 38.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=140,slow=6.2,SNR=1.3							
	comp=Z,0.3nm,0.3s							
WTTA	**Wattenberg**	**48.77**	**321**	*e*P		**P**	**09 46 43.1**	**+0.7**
	comp=Z,12nm,1.3s							
WATA	**Walderalm**	**48.84**	**321**	*e*P		**P**	**09 46 42.8**	**-0.1**
	comp=Z,10nm,1.2s							
SQTA	**Sankt Quirin**	**49.01**	**321**	*i* P		**P**	**09 46 44.3**	**+0.1**
	comp=Z,12nm,0.9s							
MOTA	**Moosalm**	**49.13**	**321**	*e*P		**P**	**09 46 44.7**	**-0.5**
	comp=Z,12nm,1.0s							
FETA	**Feichten**	**49.22**	**320**	*i* P		**P**	**09 46 48.1**	**+2.2**
	comp=Z,9.7nm,1.0s							
LBTB	**Lobatse**	**49.30**	**217**	P		**P**	**09 46 46.0**	**-0.7**
LBTB				IAmb		IAmb	09 46 53.9	
	comp=Z,10nm,0.9s							
LBTB	**Lobatse**	**49.30**	**217**	LR		LR	10 05 54.4	
	comp=Z,111nm,20.9s,baz=32,slow=34							
RETA	**Reutte**	**49.40**	**321**	*e*P		**P**	**09 46 48.3**	**+1.1**
	comp=Z,1.6nm,0.5s							
DAVOX	**Davos/Dischmat**	**49.64**	**320**	LR		LR	10 12 35.5	
	comp=Z,42nm,18.9s,baz=82,slow=42							
DAVA	**Damuels**	**49.85**	**320**	*e*P		**P**	**09 46 50.5**	**-0.2**
	comp=Z,11nm,1.5s							
GRA1	**Grafenberg Arr**	**50.12**	**324**	P		**P**	**09 46 53.5**	**+0.9**
GRA1				IAmb		IAmb	09 46 55.6	
	comp=Z,9.5nm,0.7s							
GRFO	**Grafenberg**	**50.12**	**324**	P		**P**	**09 46 53.3**	**+0.8**
GRFO				IAmb		IAmb	09 46 55.5	
	comp=Z,8.8nm,0.7s							
TSUM	**Tsumeb**	**50.53**	**229**	LR		LR	10 08 22.3	
	comp=Z,230nm,20.4s,baz=74,slow=36							
FIA1	**FINESS Array S**	**51.19**	**342**	P		**P**	**09 47 00.7**	**+0.3**
FIA1				IAmb		IAmb	09 47 27.2	
	comp=Z,14nm,1.1s							
FINES	**FINESS Array B**	**51.19**	**342**	P		**P**	**09 47 00.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=135,slow=8.8,SNR=8.7							
FINES				LR		LR	10 11 08.2	
	comp=Z,100nm,18.5s,baz=147,slow=39							
	comp=Z,1.5nm,0.6s							
XAN	**Xi'an**	**51.48**	**58**	⇓P		P	09 46 57.1	-6.0
XAN				pmax		pmax		
	comp=Z,5.0nm,0.6s							
BOSA	**Boshof**	**52.28**	**214**	P		**P**	**09 47 08.9**	**-0.2**
BOSA				IAmb		IAmb	09 47 09.9	
	comp=Z,16nm,1.4s							
BOSA	**Boshof**	**52.28**	**214**	P		**P**	**09 47 06.8**	**-2.4**
	comp=Z,5.1nm,1.0s,baz=91,slow=7.7,SNR=3.7							
BOSA				LR		LR	10 10 00.8	
	comp=Z,110nm,18.3s,baz=22,slow=37							
	comp=Z,5.1nm,1.0s							
TOA0	**Torodi Ar. Sit**	**52.36**	**275**	P		**P**	**09 47 08.7**	**-1.2**
TOA0				IAmb		IAmb	09 47 10.7	
	comp=Z,5.0nm,1.2s							
TORD	**Torodi Ar. Bea**	**52.36**	**275**	P		**P**	**09 47 09.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**52.36**	**275**	P		**P**	**09 47 08.7**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=66,slow=6.4,SNR=8.7							
TORD				PcP		**PcP**	**09 48 19.8**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=76,slow=5.6,SNR=2.4							
	comp=Z,1.7nm,0.9s							
SONM	**Songino Array**	**53.07**	**41**	P		**P**	**09 47 15.7**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=241,slow=6.7,SNR=6.1							
SONM				PcP		**PcP**	**09 48 21.1**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=276,slow=13,SNR=1.6							
SONM				LR		LR	10 11 51.6	
	comp=Z,88nm,20.2s,baz=216,slow=38							
	comp=Z,0.8nm,0.8s							
HFS	**Hagfors**	**54.58**	**336**	P		**P**	**09 47 25.0**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=201,slow=11,SNR=2.2							
HFS				LR		LR	10 13 16.8	
	comp=Z,70nm,18.2s,baz=148,slow=39							
	comp=Z,3.3nm,1.0s							
HHC	**Hu-ho-hao-te**	**54.72**	**50**	*e*P		**P**	**09 47 28.3**	**+1.3**
HHC				pmax		pmax		
	comp=Z,23nm,0.5s							
HHC				pmax		pmax		
	comp=Z,220nm,4.9s							
LEM	**Lembang**	**55.75**	**109**	LR		LR	10 09 55.9	
	comp=Z,46nm,18.1s,baz=246,slow=34							
NOA	**NORSAR Array B**	**56.11**	**336**	P		**P**	**09 47 35.4**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=138,slow=8.2,SNR=1.4							
NOA				LR		LR	10 14 46.0	
	comp=Z,43nm,18.2s,baz=140,slow=39							
	comp=Z,0.3nm,0.5s							
ESDC	**Sonseca Array**	**57.44**	**308**	P		**P**	**09 47 46.0**	**-0.4**
ESDC				IAmb		IAmb	09 47 53.2	
	comp=Z,17nm,1.5s							
ESDC	**Sonseca Array**	**57.44**	**308**	P		**P**	**09 47 46.2**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=81,slow=5.6,SNR=19							
	comp=Z,3.3nm,0.8s							
SUR	**Sutherland**	**57.62**	**215**	LR		LR	10 13 02.9	
	comp=Z,56nm,19.4s,baz=32,slow=37							
PAB	**San Pablo**	**57.72**	**308**	P		**P**	**09 47 48.0**	**-0.4**
ARCES	**ARCESS Array B**	**57.87**	**348**	P		**P**	**09 47 48.8**	**-0.1**
ARCES	**ARCESS Array B**	**57.87**	**348**	P		**P**	**09 47 49.5**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=156,slow=6.9,SNR=4.4							
ARCES				LR		LR	10 16 37.1	
	comp=Z,113nm,18.0s,baz=284,slow=40							
	comp=Z,2.7nm,0.8s							
NRIK	**Noril'sk**	**58.05**	**13**	LR		LR	10 15 59.4	
	comp=Z,73nm,19.1s,baz=173,slow=39							
NJ2	**Nanjing**	**59.63**	**61**	*e*P		**P**	**09 48 02.8**	**+1.1**
NJ2				sP		**pwP**	**09 48 07.8**	**0.0**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**60.39**	**326**	P		**P**	**09 48 05.9**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=104,slow=5.9,SNR=1.6							
	comp=Z,1.6nm,0.9s							
H04N1	**CROZET ISLANDS**	**60.79**	**183**	T		T	10 53 48.7	
	baz=3.4,slow=76,SNR=12							
H04N2	**CROZET ISLANDS**	**60.80**	**183**	T		T	10 53 49.5	
	baz=3.4,slow=76,SNR=11							
H04N3	**CROZET ISLANDS**	**60.81**	**183**	T		T	10 53 46.7	
	baz=3.4,slow=76,SNR=12							
SPITS	**Spitsbergen Ar**	**66.25**	**352**	LR		LR	10 21 39.3	
	comp=Z,84nm,18.1s,baz=134,slow=40							
KAPI	**Kappang**	**66.42**	**102**	LR		LR	10 14 23.6	
	comp=Z,20nm,20.5s,baz=315,slow=33							
KSRS	**Korea Array**	**67.09**	**55**	P		**P**	**09 48 50.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=271,slow=6.0,SNR=6.8							
KSRS				LR		LR	10 19 01.7	
	comp=Z,21nm,19.5s,baz=280,slow=37							
	comp=Z,1.6nm,0.8s							
JOW	**Kunigami**	**68.08**	**67**	LR		LR	10 19 19.6	
	comp=Z,54nm,19.1s,baz=128,slow=36							
MDJ	**Mudanjiang**	**68.29**	**48**	P		**P**	**09 49 00.5**	**+2.0**
MDJ				pmax		pmax		
	comp=Z,6.0nm,2.1s							
MDJ				pmax		pmax		
	comp=Z,290nm,7.3s							
JNU	**Nakatsue**	**69.74**	**60**	LR		LR	10 21 18.1	
	comp=Z,44nm,18.3s,baz=280,slow=37							
KLR	**Kul'dur**	**69.81**	**43**	LR		LR	10 22 14.0	
	comp=Z,66nm,21.8s,baz=238,slow=38							
TIXI	**Tiksi**	**70.74**	**19**	LR		LR	10 24 09.9	
	comp=Z,6.2nm,19.3s,baz=227,slow=39							
BORG	**Borgarnes**	**71.19**	**334**	LR		LR	10 25 01.8	
	comp=Z,49nm,19.2s,baz=130,slow=40							
H01W3	**Cape Leeuwin H**	**74.22**	**133**	T		T	11 10 22.6	
	baz=302,slow=75,SNR=11							
H01W2	**Cape Leeuwin H**	**74.23**	**133**	T		T	11 10 34.2	
	baz=302,slow=75,SNR=11							
H01W1	**Cape Leeuwin H**	**74.24**	**133**	T		T	11 10 27.4	
	baz=302,slow=75,SNR=11							
MJAR	**Matsushiro Arr**	**75.37**	**56**	P		**P**	**09 49 41.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=284,slow=4.2,SNR=2.0							
MJAR				LR		LR	10 24 13.2	
	comp=Z,42nm,18.7s,baz=294,slow=37							
	comp=Z,0.6nm,0.5s							
ASAJ	**Asahikawa**	**77.62**	**47**	LR		LR	10 25 41.4	
	comp=Z,52nm,18.1s,baz=12,slow=37							
MA2	**Magadan**	**79.89**	**31**	LR		LR	10 28 25.8	
	comp=Z,66nm,18.8s,baz=27,slow=38							
SEY	**Seymchan**	**79.94**	**27**	LR		LR	10 27 42.2	
	comp=Z,61nm,20.9s,baz=298,slow=37							
MAW	**Mawson**	**82.36**	**177**	LR		LR	10 17 48.2	
	comp=Z,71nm,21.5s,baz=13,slow=29							
WRA	**Warramunga Arr**	**84.63**	**112**	P		**P**	**09 50 29.6**	**-2.0**
	comp=Z,2.4nm,1.1s,baz=297,slow=4.2,SNR=4.8							
	comp=Z,2.4nm,1.1s							
PETK	**Petropavlovsk-**	**85.31**	**36**	LR		LR	10 32 23.5	
	comp=Z,30nm,18.2s,baz=304,slow=38							
ASAR	**Alice Springs**	**85.39**	**116**	P		**P**	**09 50 33.5**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=289,slow=4.8,SNR=7.4							
ASAR				LR		LR	10 26 35.1	
	comp=Z,33nm,18.0s,baz=222,slow=34							
	comp=Z,1.2nm,0.9s							
RES	**Resolute Bay**	**88.80**	**353**	LR		LR	10 35 59.4	
	comp=Z,83nm,18.7s,baz=32,slow=39							
FRB	**Frobisher Bay**	**90.84**	**338**	LR		LR	10 37 38.4	
	comp=Z,46nm,19.4s,baz=44,slow=39							
STKA	**Stephens Creek**	**94.25**	**122**	P		**P**	**09 51 15.9**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=354,slow=6.7,SNR=1.3							
	comp=Z,1.0nm,0.6s							
CTA	**Charters Tower**	**95.45**	**109**	LR		LR	10 31 55.5	
	comp=Z,31nm,19.9s,baz=81,slow=34							
ILAR	**Eielson Array**	**98.80**	**10**	LR		LR	10 42 08.2	
	comp=Z,49nm,18.0s,baz=17,slow=39							
PDAR	**Pinedale Array**	**121.13**	**347**	PKP		**PKPdf**	**09 56 49.6**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=64,slow=2.5,SNR=5.8							
NVAR	**Mina Array Bea**	**126.74**	**354**	PKP		**PKPdf**	**09 57 02.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=235,slow=2.2,SNR=1.9							
TXAR	**Lajitas Array**	**131.81**	**336**	PKP		**PKPdf**	**09 57 09.7**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=151,slow=2.1,SNR=2.6							

*NNC **19** 09:42:09.7±1.1, 44.°64N×81.°92E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=11.3km s-min=4.4km az=128.0
*SOME **19** 09:42:10.6, 44.°65N×81.°87E, h20km*
ISC 19 09:42:07.1±1.7, 44.°67N±0.°05×82.°12E±0.°07, h2km±18km, n25, σ0s70/39, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.70**	**259**	P	**Pb**	**09 42 39.6**	**+0.5**
	11nm,0.2s						
DJR				S	**Sn**	**09 43 00.5**	**+0.2**
	11nm,0.2s						
DJR	**Jarkent**	**1.70**	**259**	*e*P	**Pn**	**09 42 38.9**	**+1.0**
	1.3nm,0.2s						
DJR				*e*S	**Sn**	**09 42 59.1**	**-1.2**
	10nm,0.2s						
KAPS	**Kapalarasan**	**2.05**	**288**	P	**Pb**	**09 42 45.7**	**+0.6**
	5.2nm,0.2s						
KAPS				S	**Sb**	**09 43 10.7**	**-0.4**
	12nm,0.3s						
KAPS	**Kapalarasan**	**2.05**	**288**	*e*P	**Pb**	**09 42 45.7**	**+0.6**
	5.2nm,0.2s						
KAPS				*e*S	**Sb**	**09 43 10.7**	**-0.4**
	12nm,0.3s						
MK31	**Makanchi Array**	**2.12**	**3**	⇑P	**Pb**	**09 42 46.9**	**+0.6**
	7.1nm,0.3s,baz=191,slow=13,SNR=433						
MK31				⇑S	**Sg**	**09 43 14.7**	**-0.7**
	2.0nm,0.2s,baz=192,slow=22,SNR=9.8						
MAKZ	**Makanchi**	**2.14**	**357**	⇓P	**Pb**	**09 42 46.8**	**+0.2**
	4.7nm,0.3s						
MAKZ				⇑S	**Sg**	**09 43 14.6**	**-1.2**
	6.9nm,0.3s						
PDGK	**Podgornoye**	**2.32**	**236**	Pg	**Pb**	**09 42 49.2**	**-0.6**
	4.1nm,0.3s						
PDGK				Lg	Lg	09 43 16.8	
	8.3nm,0.6s						
SHLS	**Shalkode**	**2.44**	**233**	Pg	**Pn**	**09 42 48.9**	**+0.7**
	19nm,0.2s						
SHLS				Lg	Lg	09 43 16.7	
	27nm,0.4s						
SHLS	**Shalkode**	**2.44**	**233**	*e*P	**Pn**	**09 42 48.9**	**+0.7**
	19nm,0.2s						
SHLS				*e*S	**Sn**	**09 43 16.7**	**-2.0**
	27nm,0.4s						
BLB	**Baldybastay**	**2.67**	**259**	Pg	**Pb**	**09 42 55.9**	**+0.2**
	18nm,0.2s						
BLB				Lg	Lg	09 43 28.4	
	8.9nm,0.4s						
UZB	**Uzynbulak**	**2.71**	**237**	Pg	**Pb**	**09 42 56.6**	**+0.3**
	8.7nm,0.2s						
UZB				Lg	Lg	09 43 30.1	
	6.9nm,0.2s						
UZB	**Uzynbulak**	**2.71**	**237**	*e*P	**Pb**	**09 42 56.6**	**+0.3**
	8.7nm,0.2s						
UZB				*e*S	**Sb**	**09 43 30.1**	**+0.1**
	6.9nm,0.2s						
KPKS	**Kokpek**	**2.75**	**245**	Pg	**Pb**	**09 42 57.2**	**+0.1**
	15nm,0.2s						
KPKS				Lg	Lg	09 43 30.8	
	23nm,0.2s						
KPKS	**Kokpek**	**2.75**	**245**	*e*P	**Pb**	**09 42 57.2**	**+0.1**
	15nm,0.2s						
KPKS				*e*S	**Sb**	**09 43 30.8**	**-0.5**
	23nm,0.2s						
ZHN	**Zhinishke**	**3.06**	**242**	Pg	**Pb**	**09 43 03.0**	**+0.8**
	2.1nm,0.1s						
ZHN				Lg	Lg	09 43 40.5	
	22nm,0.2s						
ZHN	**Zhinishke**	**3.06**	**242**	*e*P	**Pb**	**09 43 03.0**	**+0.8**
	2.1nm,0.1s						
ZHN				*e*S	**Sb**	**09 43 40.5**	**+0.4**
	22nm,0.2s						
ARXS	**Arharly**	**3.11**	**263**	Pg	**Pb**	**09 43 03.5**	**+0.4**
	5.7nm,0.3s						
ARXS				Lg	Lg	09 43 42.2	
	15nm,0.3s						
ARXS	**Arharly**	**3.11**	**263**	*e*P	**Pb**	**09 43 03.5**	**+0.4**
	5.7nm,0.3s						
ARXS				*e*S	**Sb**	**09 43 41.5**	**+0.1**
	15nm,0.3s						
SATY	**Saty**	**3.13**	**240**	Pg	**Pb**	**09 43 04.4**	**+0.9**
	2.4nm,0.3s						
SATY				Lg	Lg	09 43 42.8	
	22nm,0.2s						
SATY	**Saty**	**3.13**	**240**	*e*P	**Pb**	**09 43 04.4**	**+0.9**
	2.4nm,0.3s						
SATY				*e*S	**Sb**	**09 43 42.8**	**+0.6**
	22nm,0.2s						
ZSN	**Zaisan**	**3.37**	**34**	Pg	**Pg**	**09 43 10.9**	**-0.9**
	4.5nm,0.3s						
ZSN				Lg	Lg	09 43 53.9	
	2.8nm,0.5s						
ZSN	**Zaisan**	**3.37**	**34**	*e*P	**Pg**	**09 43 12.2**	**+0.5**
	3.8nm,0.2s						
ZSN				*e*S	**Sg**	**09 43 55.7**	**+0.3**
	3.8nm,0.2s						
KTBS	**Karatobe**	**4.03**	**258**	Pg	**Pb**	**09 43 19.2**	**+0.5**
	2.4nm,0.3s						
KTBS				Lg	Lg	09 44 08.3	
	8.9nm,0.6s						
KTBS	**Karatobe**	**4.03**	**258**	*e*P	**Pb**	**09 43 19.2**	**+0.5**
	2.4nm,0.3s						
KTBS				*e*S	**Sb**	**09 44 08.3**	**+0.4**
	8.9nm,0.6s						
KSH	**Kashi**	**6.88**	**224**	P	**Pb**	**09 44 07.1**	**-0.4**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.9s						

*NEIC **19** 09:53:33.8±1.9, 53.°84N±0.°07×164.°79W±0.°05,*
h59km±11km, mb3.6/15, ML3.5/8, ML3.5(AEIC), Error ellipse:
s-maj=10.7km s-min=3.0km az=164.0
*AEIC **19** 09:53:34.2±1.6, 53.°75N±0.°05×164.°72W±0.°03, h40km±8km,*
Error ellipse: s-maj=7.0km s-min=2.7km az=180.0
ISC 19 09:53:33.3±1.3, 53.°8N±0.°1×164.°73W±0.°07, h65km±14km, n177, σ1s90/189, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**0.67**	**301**		**Pn**	**09 53 47.3**	**-0.3**
AKSA	**Akutan Strait**	**0.67**	**301**		**Pn**	**09 53 46.8**	**-0.7**
AKSA					**Sn**	**09 53 57.3**	**-0.7**
WESE	**West Dahl East**	**0.69**	**7**		**Pn**	**09 53 47.6**	**-0.2**
AKUT	**Akutan**	**0.71**	**300**		**Pn**	**09 53 47.4**	**-0.5**
AKUT					**Sn**	**09 53 57.7**	**-1.0**
AKUT				IAML		09 53 58.8	
	comp=N,2μm,0.5s						
AKUT	**Akutan**	**0.71**	**300

N14K	**Kuskokwak Cree** baz=196	**6.37**	**14**	P		**Pn**	**09 55 04.7**	**+0.4**
P16K	**Nushagak River**	**6.44**	**33**			**Pn**	**09 55 05.5**	**+0.1**
P16K	**Nushagak River** baz=218	**6.44**	**33**	P		**Pn**	**09 55 05.5**	**+0.1**
SII	**Sitkinak Islan**	**6.64**	**61**	P		**Pn**	**09 55 08.7**	**+0.5**
Q17K	**Contact Creek** baz=231	**6.68**	**44**	P		**Pn**	**09 55 08.7**	**-0.1**
CNTC	**Contact Creek**	**6.68**	**44**			**Pn**	**09 55 08.7**	**-0.1**
M13K	**Dall Lake**	**6.68**	**6**			**Pn**	**09 55 08.8**	**+0.1**
M13K	**Dall Lake** baz=187	**6.68**	**6**	P		**Pn**	**09 55 08.2**	**-0.5**
ANCK	**Angle Creek**	**6.80**	**46**			**Pn**	**09 55 11.4**	**+1.0**
O16K	**Kokwok River B**	**6.87**	**29**			**Pn**	**09 55 12.3**	**+1.2**
O16K	**Kokwok River B** baz=215	**6.87**	**29**	P		**Pn**	**09 55 11.3**	**+0.1**
N15K	**Kwethluk River**	**6.88**	**20**			**Pn**	**09 55 12.2**	**+0.9**
N15K	**Kwethluk River** baz=203	**6.88**	**20**	P		**Pn**	**09 55 12.0**	**+0.6**
ACHA	**Angle Creek He**	**6.88**	**46**			**Pn**	**09 55 11.4**	**-0.1**
KAKN	**Katmai Knife C**	**7.05**	**46**			**Pn**	**09 55 14.3**	**+0.5**
P17K	**Kvichak River**	**7.09**	**37**			**Pn**	**09 55 14.2**	**-0.1**
P17K	**Kvichak River** baz=224	**7.09**	**37**	P		**Pn**	**09 55 14.2**	**-0.1**
M14K	**Bethel**	**7.14**	**11**			**Pn**	**09 55 15.3**	**+0.4**
M14K	**Bethel** baz=193	**7.14**	**11**	P		**Pn**	**09 55 15.2**	**+0.4**
M15K	**Kasigluk River**	**7.26**	**16**			**Pn**	**09 55 16.6**	**+0.1**
M15K	**Kasigluk River** baz=199	**7.26**	**16**	P		**Pn**	**09 55 16.6**	**+0.1**
O17K	**Koliganek Bris**	**7.31**	**32**			**Pn**	**09 55 17.2**	**-0.1**
O17K	**Koliganek Bris** baz=218	**7.31**	**32**	P		**Pn**	**09 55 17.2**	**-0.1**
OHAK	**Old Harbor**	**7.35**	**58**			**Pn**	**09 55 17.0**	**-0.7**
OHAK	**Old Harbor**	**7.35**	**58**	P		**Pn**	**09 55 17.2**	**-0.6**
OHAK	**Old Harbor** baz=247	**7.35**	**58**	P		**Pn**	**09 55 17.1**	**-0.7**
KAHG	**Katmai Hook Gl**	**7.38**	**46**			**Pn**	**09 55 18.5**	**+0.1**
N16K	**Nishlik Lake**	**7.44**	**23**			**Pn**	**09 55 20.0**	**+1.0**
N16K	**Nishlik Lake** baz=208	**7.44**	**23**	P		**Pn**	**09 55 20.0**	**+1.0**
ADK	**Adak**	**7.49**	**260**	Pn		**Pn**	**09 55 21.7**	**+1.9**
ADK	**Adak**	**7.49**	**260**	P		**Pn**	**09 55 21.4**	**+1.6**
L14K	**Kuka Creek**	**7.65**	**7**			**Pn**	**09 55 22.7**	**+0.8**
L14K	**Kuka Creek** baz=189	**7.65**	**7**	P		**Pn**	**09 55 22.1**	**+0.2**
P18K	**Big Mountain,**	**7.68**	**39**	Pn		**Pn**	**09 55 24.6**	**+2.2**
M16K	**Timber Creek**	**7.89**	**21**			**Pn**	**09 55 25.6**	**+0.4**
M16K	**Timber Creek** baz=206	**7.89**	**21**	P		**Pn**	**09 55 25.0**	**-0.1**
N17K	**Nushagak Hills**	**7.89**	**28**			**Pn**	**09 55 25.9**	**+0.7**
N17K	**Nushagak Hills** baz=214	**7.89**	**28**	P		**Pn**	**09 55 25.3**	**+0.1**
KDAK	**Kodiak Island**	**7.92**	**55**			**Pn**	**09 55 24.9**	**-0.7**
KDAK	**Kodiak Island** baz=245	**7.92**	**55**	P		**Pn**	**09 55 24.3**	**-1.3**
O18K	**Koktuh Hills**	**8.01**	**37**	Pn		**Pn**	**09 55 28.7**	**+1.9**
Q19K	**Cape Douglas,**	**8.02**	**46**	Pn		**Pn**	**09 55 28.1**	**+1.1**
K13K	**Kusilvak Mount**	**8.16**	**0**	Pn		**Pn**	**09 55 28.9**	**0.0**
SYI	**Shuyak Island**	**8.40**	**50**	Pn		**Pn**	**09 55 31.9**	**-0.2**
N18K	**Kilae Creek**	**8.40**	**31**	Pn		**Pn**	**09 55 32.5**	**+0.4**
L16K	**Owhat River**	**8.42**	**17**	Pn		**Pn**	**09 55 32.9**	**+0.5**
M17K	**Holitna River**	**8.57**	**24**	Pn		**Pn**	**09 55 35.3**	**+0.8**
P19K	**Oil Pt**	**8.62**	**42**	Pn		**Pn**	**09 55 35.0**	**-0.2**
K15K	**Wolf Creek Mou**	**8.69**	**10**			**Pn**	**09 55 37.1**	**+1.0**
SVW2	**Sparrevohn**	**8.82**	**30**	Pn		**Pn**	**09 55 37.9**	**0.0**
SVW2	**Sparrevohn**	**8.82**	**30**	P		**Pn**	**09 55 38.3**	**+0.4**
N19K	**Bonanza Creek**	**8.95**	**34**	Pn		**Pn**	**09 55 41.5**	**+1.7**
CNPM	**China Poot**	**9.38**	**47**			**Pn**	**09 55 44.6**	**-1.0**
L18K	**Granite Mounta**	**9.46**	**24**	Pn		**Pn**	**09 55 47.4**	**+0.8**
K17K	**Iditarod**	**9.56**	**18**	Pn		**Pn**	**09 55 48.3**	**+0.3**
BRLK	**Bradley Lake**	**9.66**	**46**	Pn		**Pn**	**09 55 47.9**	**-1.5**
J16K	**Anvik River**	**9.76**	**11**	Pn		**Pn**	**09 55 51.4**	**+0.7**
L19K	**White Mountain**	**9.90**	**28**	Pn		**Pn**	**09 55 53.4**	**+0.7**
M20K	**Styx River**	**10.18**	**33**	Pn		**Pn**	**09 55 58.9**	**+2.3**
TTA	**Tatalina**	**10.23**	**23**	Pn		**Pn**	**09 55 57.3**	**+0.1**
TTA	**Tatalina**	**10.23**	**23**	P		**Pn**	**09 55 57.3**	**+0.1**
I17K	**Unalakleet**	**10.34**	**10**	Pn		**Pn**	**09 55 58.4**	**-0.1**
SEW	**Seward**	**10.45**	**47**	Pn		**Pn**	**09 55 59.0**	**-1.2**
O22K	**Cooper Landing**	**10.54**	**45**	Pn		**Pn**	**09 56 00.7**	**-0.6**
J18K	**Innoko River**	**10.55**	**20**	Pn		**Pn**	**09 56 02.1**	**+0.6**
ANM	**Nome**	**10.81**	**359**	Pn		**Pn**	**09 56 05.6**	**+0.6**
RC01	**Rabbit Creek A**	**10.87**	**42**	Pn		**Pn**	**09 56 05.3**	**-0.6**
K20K	**Telida**	**11.07**	**26**	Pn		**Pn**	**09 56 08.8**	**+0.2**
J19K	**Poorman**	**11.25**	**21**	Pn		**Pn**	**09 56 11.4**	**+0.5**
PMR	**Palmer**	**11.41**	**41**	P		**Pn**	**09 56 13.7**	**+0.6**
H17K	**Granite Mounta**	**11.44**	**10**	Pn		**Pn**	**09 56 15.3**	**+1.7**
KNK	**Knik Glacier**	**11.57**	**42**	Pn		**Pn**	**09 56 15.3**	**-0.1**
CAST	**Castle Rocks**	**11.66**	**29**	Pn		**Pn**	**09 56 17.2**	**+0.5**
G16K	**Koyuk River**	**11.70**	**5**	Pn		**Pn**	**09 56 17.8**	**+0.7**
J20K	**Nowinta River**	**11.73**	**23**	Pn		**Pn**	**09 56 17.8**	**+0.2**
H18K	**Honhosa River**	**11.84**	**13**	Pn		**Pn**	**09 56 20.9**	**+1.8**
HIN	**Hinchinbrook I**	**11.89**	**49**	Pn		**Pn**	**09 56 18.1**	**-1.6**
TNA	**Tin City**	**11.91**	**354**	Pn		**Pn**	**09 56 21.2**	**+1.1**
F15K	**North Star Dit**	**11.95**	**0**	Pn		**Pn**	**09 56 21.0**	**+0.3**
FID	**Port Fidalgo**	**12.06**	**47**	Pn		**Pn**	**09 56 19.5**	**-2.6**
TRF	**Thorofare Moun**	**12.23**	**32**	Pn		**Pn**	**09 56 23.6**	**-0.8**
SCM	**Sheep Creek Mo**	**12.25**	**42**	Pn		**Pn**	**09 56 23.3**	**-1.5**
H19K	**Roundabout Mou**	**12.48**	**16**	Pn		**Pn**	**09 56 29.4**	**+1.7**
BPAW	**Bear Paw Mtn.**	**12.50**	**29**	Pn		**Pn**	**09 56 27.6**	**-0.5**
RND	**Reindeer**	**12.66**	**34**	Pn		**Pn**	**09 56 30.7**	**+0.4**
M24K	**Tolsona, Glenn**	**12.86**	**42**	Pn		**Pn**	**09 56 30.9**	**-2.1**
G19K	**Purcell Mounta**	**12.95**	**14**	Pn		**Pn**	**09 56 33.0**	**-1.2**
BMRM	**Bremner River**	**12.98**	**48**	Pn		**Pn**	**09 56 32.2**	**-2.4**
BWN	**Browne**	**13.00**	**31**	Pn		**Pn**	**09 56 32.9**	**-2.0**
I21K	**Tanana**	**13.09**	**24**	Pn		**Pn**	**09 56 37.0**	**+1.0**
BERG	**Berg Lake**	**13.16**	**51**	Pn		**Pn**	**09 56 36.3**	**-0.9**
N25K	**Chitina, Valde**	**13.25**	**46**	Pn		**Pn**	**09 56 37.6**	**-1.9**
MLY	**Manley**	**13.29**	**27**	Pn		**Pn**	**09 56 38.9**	**+0.2**
H21K	**Melozitna Rive**	**13.30**	**22**	Pn		**Pn**	**09 56 39.5**	**+0.6**
IMAR	**Indian Mountai**	**13.38**	**20**	Pn		**Pn**	**09 56 40.7**	**+0.8**
F19K	**Shaleruckik Mo**	**13.52**	**12**	Pn		**Pn**	**09 56 43.5**	**+1.8**
GLB	**Gilahina Butte**	**13.53**	**47**	Pn		**Pn**	**09 56 40.0**	**-2.0**
I23K	**Minto, Yukon-K**	**13.75**	**28**	Pn		**Pn**	**09 56 42.5**	**-2.4**
CCB	**Clear Creek Bu**	**13.85**	**32**	Pn		**Pn**	**09 56 46.0**	**-0.2**
G21K	**Allakaket**	**13.89**	**19**	Pn		**Pn**	**09 56 46.5**	**-0.3**
F20K	**Avaraart Lake**	**14.00**	**15**	Pn		**Pn**	**09 56 49.2**	**+1.1**
E19K	**Redstone River**	**14.18**	**12**	Pn		**Pn**	**09 56 49.5**	**-1.1**
ILAR	**Eielson Array**	**14.22**	**32**	Pn		**Pn**	**09 56 49.0**	**-2.1**
MENT	**Mentasta**	**14.26**	**42**	Pn		**Pn**	**09 56 49.5**	**-2.3**
RIDG	**Independent Ri**	**14.27**	**38**	Pn		**Pn**	**09 56 51.2**	**-0.7**
M26K	**Nabesna, AK**	**14.30**	**44**	Pn		**Pn**	**09 56 49.9**	**-2.3**
C16K	**Lisburne Hills**	**14.54**	**359**	Pn		**Pn**	**09 56 58.0**	**+2.8**
SCRK	**Sand Creek**	**14.72**	**38**	Pn		**Pn**	**09 56 55.2**	**-2.5**
M27K	**Edge Creek, AK**	**14.75**	**45**	Pn		**Pn**	**09 56 56.6**	**-1.5**
G23K	**Bananza Creek**	**14.81**	**23**	Pn		**Pn**	**09 56 57.9**	**-0.9**
D19K	**Kuna River**	**15.08**	**9**			**Pn**	**09 57 05.6**	**+3.4**
D19K	comp=Z,4.9nm,1.5s				IAmb	IAmb	09 57 32.9	
J26L	**Joseph Creek**	**15.17**	**37**	Pn		**Pn**	**09 57 02.6**	**-0.9**
E25K	**Arctic Village**	**16.99**	**25**	Pn		**Pn**	**09 57 26.6**	**+0.3**
G27K	**Doyon Strip**	**17.19**	**32**			**Pn**	**09 57 28.9**	**+0.2**
C23K	**Itkillik River**	**17.34**	**16**			**Pn**	**09 57 30.7**	**+0.2**
C23K	comp=Z,5.5nm,1.2s				IAmb	IAmb	09 57 39.5	
H29M	**Whitestone**	**17.94**	**36**	P		**Pn**	**09 57 36.4**	**-1.5**
H29M	comp=Z,3.2nm,0.8s				IAmb	IAmb	09 57 58.1	
E27K	**Coleen River**	**18.09**	**28**	P		**P**	**09 57 39.0**	**-0.4**
E27K	comp=Z,4.8nm,1.4s				IAmb	IAmb	09 57 47.8	
F28M	**Old Crow**	**18.23**	**31**	P		**P**	**09 57 40.1**	**-0.8**
F28M	comp=Z,4.6nm,1.5s				IAmb	IAmb	09 58 06.0	
G29M	**Pine Creek**	**18.42**	**34**	P		**P**	**09 57 41.9**	**-1.0**
G29M	comp=Z,7.0nm,1.4s				IAmb	IAmb	09 57 53.2	
EPYK	**Eagle Plains**	**18.59**	**36**	P		**P**	**09 57 44.6**	**-0.2**
EPYK	comp=Z,8.2nm,0.8s				IAmb	IAmb	09 58 08.5	
G30M	**tAoh Zraii Nji**	**19.06**	**35**	P		**P**	**09 57 49.5**	**-0.5**
E29M	**Blow River**	**19.29**	**30**	P		**P**	**09 57 51.6**	**-0.8**
E29M	comp=Z,4.2nm,1.4s				IAmb	IAmb	09 58 13.6	
F31M	**Tsiigehtchic**	**20.13**	**35**	P		**P**	**09 58 00.6**	**-1.0**
INK	**Inuvik**	**20.62**	**33**	P		**P**	**09 58 04.8**	**-2.0**
INK	comp=Z,6.1nm,1.5s				IAmb	IAmb	09 58 19.4	
C36M	**Paulatuk**	**24.18**	**34**	P		**P**	**09 58 43.4**	**+0.4**

*AEIC **19** 09:56:17.1±2.2,59°.80N±0°.02×136°.77W±0°.03,h10km±6km,*

Error ellipse: s-maj=2.8km s-min=2.3km az=199.0
*ANF **19** 09:56:17.6±0.1,59°.78N×136°.76W,h0km,ML4.1/44,Error ellipse: s-maj=1.4km s-min=1.2km az=43.0*
*PGC **19** 09:56:18.6,59°.79N×136°.76W,h1km,ML3.9,ML3.9/32, 114km southeast of Haines Jct., Yt Southeastern Alaska*
*IDC **19** 09:56:18.9±1.1,59°.84N×136°.98W,h0km,mb3.3/4, mbtmp3.3/6,ML3.2/2,MS3.2/1,Error ellipse: s-maj=20.6km s-min=10.4km az=31.0*
*NEIC **19** 09:56:18.5±2.0,59°.79N±0°.02×136°.78W±0°.04,h3km±6km, ML3.9/113,Mwr3.7/27,ML3.9(OTT),ML3.6(AEIC),Error ellipse: s-maj=3.1km s-min=2.4km az=220.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr2.81; Mθθ-1.76; Mφφ-1.05; Mrθ-0.32; Mθφ3.07; Mφr-2.39; Fault plane solution: M0 4.61000×10¹⁴ NP1: φs280.42000°,δ45.25000°,λ37.70000°. NP2: φs161.87000°,δ64.26000°,λ128.59000°. Principal axes: T 4.4493, Plg54.0000°, Azm120.0000°; N 0.3086, Plg34.0000°, Azm323.0000°; P -4.7579, Plg11.0000°, Azm225.0000°;*
*NEIC **19** 09:56:19.1,59°.76N×136°.68W,h10km*
ISC 19 09:56:18.0±1.0,59°.82N±0°.02×136°.75W±0°.02,h4km±7km, n381,σ1s78/504,mb3.4/4,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
P30M	**Million Dollar**	**0.32**	**341**		**Pg**	**09 56 24.9**		**+0.7**
P30M					**Sg**	**09 56 29.7**		**+1.3**
P30M	**Million Dollar** baz=163	**0.32**	**341**	P	**Pg**	**09 56 24.9**		**+0.7**
P30M				S	**Sg**	**09 56 29.7**		**+1.3**
P30M	**Million Dollar** baz=163	**0.32**	**341**	P	**Pg**	**09 56 24.9**		**+0.7**
P30M				S	**Sg**	**09 56 29.7**		**+1.3**
PLBC	**Pleasant Camp**	**0.41**	**152**		**Pg**	**09 56 25.8**		**-0.1**
PLBC					**Sg**	**09 56 31.0**		**-0.2**
PLBC	**Pleasant Camp** baz=330,SNR=970	**0.41**	**152**	P	**Pg**	**09 56 25.8**		**-0.1**
PLBC	baz=330			S	**Sg**	**09 56 30.8**		**-0.5**
PLBC	**Pleasant Camp**	**0.41**	**152**	P	**Pg**	**09 56 25.8**		**-0.1**
PLBC				S	**Sg**	**09 56 31.0**		**-0.2**
P29M	**Windy Craggy**	**0.54**	**250**		**Pg**	**09 56 27.8**		**-0.5**
P29M					**Sg**	**09 56 34.8**		**-0.4**
P29M	comp=E,14μm,0.3s			IAML		09 56 35.8		
P29M	**Windy Craggy** baz=72	**0.54**	**250**	P	**Pg**	**09 56 27.8**		**-0.5**
P29M	baz=72			S	**Sg**	**09 56 34.5**		**-0.7**
P29M	**Windy Craggy**	**0.54**	**250**	P	**Pg**	**09 56 27.7**		**-0.5**
P29M				S	**Sg**	**09 56 34.8**		**-0.4**
SKAG	**Skagway**	**0.81**	**116**		**Pg**	**09 56 32.9**		**-0.5**
SKAG				Sg	**Sg**	**09 56 42.7**		**-1.2**
SKAG	**Skagway**	**0.81**	**116**	P	**Pg**	**09 56 33.0**		**-0.5**
SKAG	**Skagway** baz=295,SNR=1000	**0.81**	**116**	P	**Pg**	**09 56 32.9**		**-0.5**
SKAG	baz=295			S	**Sg**	**09 56 42.8**		**-1.0**
YUK7	**Dusty Glacier**	**1.00**	**316**		**Pg**	**09 56 36.4**		**-0.7**
YUK7					**Sg**	**09 56 50.1**		**+0.1**
YUK7	**Dusty Glacier**	**1.00**	**316**	P	**Pg**	**09 56 36.3**		**-0.8**
YUK7				S	**Sg**	**09 56 50.1**		**+0.1**
O30N	**Mendenhall**	**1.01**	**19**		**Pg**	**09 56 37.5**		**+0.2**
O30N				Sg	**Sg**	**09 56 51.2**		**+0.8**
O30N	comp=E,3μm,0.5s			IAML		09 56 51.8		
O30N	**Mendenhall** baz=199,SNR=1000	**1.01**	**19**	P	**Pg**	**09 56 37.6**		**+0.2**
O30N	baz=199			S	**Sg**	**09 56 51.2**		**+0.8**
O29M	**Mount Kennedy**	**1.04**	**299**		**Pg**	**09 56 36.6**		**-1.2**
O29M				IAML		09 56 57.0		
O29M	comp=N,2μm,0.6s			IAML		09 56 58.9		
O29M	**Mount Kennedy** baz=119	**1.04**	**299**	P	**Pg**	**09 56 36.7**		**-1.2**
O29M	baz=119			S	**Sg**	**09 56 50.5**		**-0.7**
O29M	**Mount Kennedy**	**1.04**	**299**	P	**Pg**	**09 56 36.6**		**-1.2**
O29M				S	**Sg**	**09 56 51.1**		**-0.1**
HYT	**Haines Junctio**	**1.08**	**340**		**Pg**	**09 56 37.7**		**-0.9**
HYT					**Sg**	**09 56 53.0**		**+0.5**
HYT	**Haines Junctio** baz=160,SNR=1000	**1.08**	**340**	P	**Pg**	**09 56 37.6**		**-0.9**
HYT	baz=160			S	**Sg**	**09 56 53.5**		**+1.0**
HYT	**Haines Junctio**	**1.08**	**340**	P	**Pg**	**09 56 37.6**		**-0.9**
HYT				S	**Sg**	**09 56 52.8**		**+0.2**
WHY	**Whitehorse**	**1.26**	**47**	Pg	**Pg**	**09 56 41.8**		**-0.3**
WHY					**Sg**	**09 56 58.9**		**+0.5**
WHY	comp=E,2μm,0.7s			IAML		09 57 00.2		
WHY	comp=N,2μm,0.6s			IAML		09 57 05.9		
WHY	**Whitehorse** baz=228,SNR=1000	**1.26**	**47**	P	**Pg**	**09 56 41.7**		**-0.3**
WHY	baz=228			S	**Sg**	**09 56 58.9**		**+0.5**
WHY	**Whitehorse**	**1.26**	**47**	P	**Pg**	**09 56 41.7**		**-0.3**
WHY				S	**Sg**	**09 56 58.6**		**+0.2**
PNL	**Peninsula**	**1.35**	**265**		**Pg**	**09 56 42.3**		**-1.6**
PNL	**Peninsula**	**1.35**	**265**	P	**Pg**	**09 56 42.4**		**-1.4**
PNL	**Peninsula** baz=84,SNR=1000	**1.35**	**265**	P	**Pg**	**09 56 42.2**		**-1.6**
PNL	baz=84			S	**Sg**	**09 57 01.2**		**-0.1**
PNL	**Peninsula**	**1.35**	**265**	P	**Pg**	**09 56 42.2**		**-1.6**
PNL				S	**Sg**	**09 57 01.0**		**-0.3**
YUK6	**Outpost Mounta**	**1.38**	**325**		**Pg**	**09 56 43.1**		**-1.3**
YUK6	**Outpost Mounta** baz=145,SNR=1000	**1.38**	**325**	P	**Pg**	**09 56 43.0**		**-1.5**
YUK6	baz=145			S	**Sg**	**09 57 03.1**		**+0.7**
YUK6	**Outpost Mounta**	**1.38**	**325**	P	**Pg**	**09 56 43.0**		**-1.5**
YUK6				S	**Sg**	**09 57 02.1**		**-0.3**
YUK5	**Granite Creek**	**1.43**	**338**		**Pn**	**09 56 43.9**		**-1.0**
YUK5	**Granite Creek**	**1.43**	**338**	P	**Pn**	**09 56 43.9**		**-1.0**
YUK5				S	**Sg**	**09 57 04.0**		**+0.2**
BCPM	**Bancas Point**	**1.46**	**277**		**Pn**	**09 56 44.3**		**-0.9**
BCPM					**Sg**	**09 57 03.7**		**-1.1**
BCPM	comp=E,3μm,0.3s			IAML		09 57 08.9		
BCPM	comp=N,2μm,0.4s			IAML		09 57 10.3		
R31K	**City Hall, Gus**	**1.50**	**159**		**Pn**	**09 56 44.6**		**-1.1**
R31K	**City Hall, Gus** baz=340,SNR=721	**1.50**	**159**	P	**Pn**	**09 56 44.6**		**-1.1**
R31K	baz=340			S	**Sg**	**09 57 04.6**		**-1.6**
YKU2	**Yakutat**	**1.51**	**260**		**Pn**	**09 56 46.7**		**+0.8**
YKU2	**Yakutat**	**1.51**	**260**	P	**Pn**	**09 56 46.7**		**+0.8**
P32M	**Atlin**	**1.56**	**97**		**Pn**	**09 56 46.5**		**0.0**
P32M					**Sn**	**09 57 07.3**		**+0.1**
P32M	comp=N,2μm,0.5s			IAML		09 57 10.4		
P32M	comp=E,3μm,0.4s			IAML		09 57 11.3		
P32M	**Atlin** baz=279,SNR=1000	**1.56**	**97**	P	**Pn**	**09 56 46.4**		**0.0**
P32M	baz=279			S	**Sn**	**09 57 07.4**		**+0.1**
P32M	**Atlin**	**1.56**	**97**	Pn	**Pn**	**09 56 46.5**		**0.0**
P32M				Sn	**Sn**	**09 57 07.4**		**+0.2**
BESE	**Bessie Mountai**	**1.58**	**141**		**Pn**	**09 56 45.8**		**-1.1**
BESE	**Bessie Mountai**	**1.58**	**141**	Pn	**Pn**	**09 56 45.9**		**-1.1**
BESE				Sn	**Sn**	**09 57 07.5**		**-0.3**
N30M	**Aishikik Lake**	**1.65**	**354**		**Pn**	**09 56 48.7**		**+0.8**
N30M	comp=E,1μm,0.2s			IAML		09 57 13.3		
N30M	comp=N,873nm,0.3s			IAML		09 57 19.3		
N30M	**Aishikik Lake** baz=174,SNR=1000	**1.65**	**354**	P	**Pn**	**09 56 48.5**		**+0.6**
N30M	baz=174			S	**Sn**	**09 57 11.1**		**+1.4**
N30M	**Aishikik Lake**	**1.65**	**354**	Pn	**Pn**	**09 56 48.7**		**+0.8**
N30M				Sn	**Sn**	**09 57 09.8**		**+0.1**
N31M	**Braeburn, Yuko**	**1.74**	**16**		**Pn**	**09 56 47.4**		**-1.7**
N31M	**Braeburn, Yuko** baz=196	**1.74**	**16**	P	**Pn**	**09 56 50.3**		**+1.3**
N31M				S	**Sn**	**09 57 13.4**		**+1.6**
N31M	**Braeburn, Yuko**	**1.74**	**16**	Pn	**Pn**	**09 56 50.0**		**+0.9**
N31M				Sn	**Sn**	**09 57 12.1**		**+0.4**
PINM	**Pinnacle** baz=98,SNR=512	**1.78**	**280**	P	**Pn**	**09 56 49.7**		**0.0**
PINM	baz=98			S	**Sn**	**09 57 12.8**		**0.0**
PCA	**Pinnacle**	**1.79**	**280**	Pn	**Pn**	**09 56 49.9**		**+0.2**
PCA	**Pinnacle**	**1.79**	**280**	Pn	**Pn**	**09 56 49.9**		**+0.2**
PCA				Sn	**Sn**	**09 57 13.6**		**+0.8**
YUK4	**Talbot Arm** baz=151,SNR=952	**1.79**	**329**	P	**Pn**	**09 56 51.1**		**+1.2**
YUK4	baz=151			Sg	**Sg**	**09 57 19.0**		**+3.4**
YUK4	**Talbot Arm**	**1.79**	**329**	Pn	**Pn**	**09 56 51.2**		**+1.3**
S31K	**Pelican**	**1.88**	**172**		**Pn**	**09 56 50.4**		**-0.5**
S31K	comp=E,1μm,0.5s			IAML		09 57 16.9		
S31K	comp=N,2μm,0.5s			IAML		09 57 17.3		
S31K	**Pelican** baz=352,SNR=1000	**1.88**	**172**	P	**Pn**	**09 56 50.2**		**-0.7**
S31K	baz=352			S	**Sn**	**09 57 14.9**		**-0.2**
R32K	**Eaglecrest**	**1.93**	**142**		**Pn**	**09 56 50.4**		**-1.3**
R32K	comp=E,1μm,0.3s			IAML		09 57 20.0		
R32K	**Eaglecrest** baz=324,SNR=1000	**1.93**	**142**	P	**Pn**	**09 56 50.4**		**-1.3**
R32K	baz=324			Sb	**Sb**	**09 57 18.2**		**0.0**
JIS	**Juneau Island**	**1.97**	**141**		**Pn**	**09 56 50.9**		**-1.2**
JIS	comp=E,2μm,0.4s			IAML		09 57 21.7		
JIS	**Juneau Island**	**1.97**	**141**	P	**Pn**	**09 56 51.1**		**-1.1**
P33M	**Teslin, Yukon**	**2.01**	**77**		**Pn**	**09 56 52.8**		**-0.1**
P33M	comp=E,1μm,0.7s			IAML		09 57 22.6		
P33M	**Teslin, Yukon** baz=260,SNR=1000	**2.01**	**77**	P	**Pn**	**09 56 52.6**		**-0.2**
P33M	baz=260			Sb	**Sb**	**09 57 22.2**		**+1.5**
P33M	**Teslin, Yukon**	**2.01**	**77**	Pn	**Pn**	**09 56 52.8**		**-0.1**
P33M				Sn	**Sn**	**09 57 19.6**		**+1.1**
SAMH	**Samovar Hills**	**2.05**	**280**		**Pn**	**09 56 54.6**		**+1.3**
SAMH	**Samovar Hills**	**2.05**	**280**	Pn	**Pn**	**09 56 54.6**		**+1.3**
SAMH				Sn	**Sn**	**09 57 20.7**		**+1.3**
YUK8	**Steele Glacier**	**2.09**	**316**		**Pn**	**09 56 54.4**		**+0.3**
YUK8	**Steele Glacier** baz=134,SNR=762	**2.09**	**316**	P	**Pn**	**09 56 54.4**		**+0.3**
YUK8	baz=134			Sb	**Sb**	**09 57 24.9**		**+1.8**
YUK8	**Steele Glacier**	**2.09**	**316**	Pn	**Pn**	**09 56 54.7**		**+0.6**
YUK8				Sg	**Sb**	**09 57 24.8**		**+1.7**
N32M	**Quiet Lake**	**2.25**	**52**		**Pn**	**09 56 56.9**		**+0.7**
N32M	**Quiet Lake** baz=235	**2.25**	**52**	P	**Pn**	**09 56 56.8**		**+0.7**
N32M	baz=235			Sb	**Sb**	**09 57 29.6**		**+2.0**
N32M	**Quiet Lake**	**2.25**	**52**	P	**Pn**	**09 56 56.8**		**+0.7**
N32M				Sg	**Sb**	**09 57 29.3**		**+1.7**
LOGN	**Logan Glacier**	**2.34**	**297**		**Pn**	**09 56 58.2**		**+0.7**
LOGN	**Logan Glacier**	**2.34**	**297**	Pn	**Pn**	**09 56 58.1**		**+0.6**
LOGN				Sn	**Sn**	**09 57 27.1**		**+0.3**
Q32M	**Nakina River**	**2.45**	**109**		**Pn**	**09 56 59.0**		**0.0**
Q32M	comp=N,605nm,0.7s			IAML		09 57 37.4		
Q32M	comp=E,715nm,0.8s			IAML		09 57 38.0		
Q32M	**Nakina River** baz=292,SNR=765	**2.45**	**109**	P	**Pn**	**09 56 58.8**		**-0.1**
Q32M	**Nakina River**	**2.45**	**109**	Pn	**Pn**	**09 56 58.9**		**0.0**
Q32M				Sn	**Sn**	**09 57 29.5**		**+0.1**
Q32M				Sg	**Sb**	**09 57 35.6**		**+2.3**
CTGM	**Chitina Glacie**	**2.55**	**299**		**Pn**	**09 57 00.8**		**+0.6**
CTGM	comp=N,344nm,1.2s			IAML		09 57 42.2		
CTGM	**Chitina Glacie**	**2.55**	**299**	Pn	**Pn**	**09 57 00.8**		**+0.6**
CTGM				Sn	**Sn**	**09 57 32.4**		**+0.6**
CTGM				Sg	**Sb**	**09 57 38.6**		**+2.5**
CTG	**Chitna Glacier** baz=115	**2.55**	**299**	P	**Pn**	**09 57 00.4**		**+0.1**
CTG	baz=115			Sb	**Sb**	**09 57 37.6**		**+1.4**
S32K	**Killisnoo**	**2.62**	**153**		**Pn**	**09 56 59.4**		**-1.6**
S32K	comp=E,356nm,0.8s			IAML		09 57 45.6		
S32K	comp=N,324nm,0.8s			IAML		09 57 47.4		
S32K	**Killisnoo** baz=335	**2.62**	**153**	P	**Pn**	**09 56 59.2**		**-1.8**
S32K	baz=335			Sb	**Sb**	**09 57 38.5**		**+0.6**
M31M	**Drury Creek, Y**	**2.65**	**25**		**Pn**	**09 57 02.9**		**

comp=N,248nm,1.2s
PTPK Patty Peak 3.14 298 Pn Pn 09 57 09.1 +0.6
PTPK Patty Peak 3.14 298 Pn Pn 09 57 09.2 +0.8
PTPK Sg Sg 09 57 57.8 -1.1
BVCY Beaver Creek 3.28 324 Pn Pn 09 57 10.3 +0.2
BVCY Beaver Creek 3.28 324 P Pn 09 57 10.7 +0.5
baz=141
BVCY Beaver Creek 3.28 324 Pn Pn 09 57 11.3 +1.1
L29M L29M 3.37 349 Pn Pn 09 57 12.3 +0.9
L29M L29M 3.37 349 P Pn 09 57 12.2 +0.8
baz=168,SNR=440
L29M L29M 3.37 349 Pn Pn 09 57 12.3 +0.9
L29M Sg Sg 09 58 05.2 -0.8
S34M Telegraph Cree 3.49 121 Pn Pn 09 57 13.2 +0.2
S34M Telegraph Cree 3.49 121 P Pn 09 57 13.2 +0.2
baz=305,SNR=214
S34M Telegraph Cree 3.49 121 Pn Pn 09 57 13.2 +0.2
S34M Sg Sb 09 58 06.6 +3.6
BERG Berg Lake 3.53 282 Pn 09 57 14.5 +1.0
BERG IAML 09 58 06.8
comp=E,345nm,0.9s
M27K Edge Creek, AK 3.56 318 Pn Pn 09 57 15.1 +1.0
M27K IAML 09 58 22.6
comp=E,144nm,0.8s
M27K Edge Creek, AK 3.56 318 Pn Pn 09 57 14.8 +0.7
VRDI Verde Repeater 3.60 296 Pn Pn 09 57 15.5 +0.7
DLBC Dease Lake 3.73 109 Pn Pn 09 57 16.5 +0.1
DLBC IAML 09 58 19.8
comp=N,345nm,0.7s
DLBC IAML 09 58 20.4
comp=E,279nm,0.6s
DLBC Dease Lake 3.73 109 P Pn 09 57 16.2 -0.2
baz=294,SNR=109
DLBC Dease Lake 3.73 109 Pn Pn 09 57 16.2 -0.2
DLBC Sn Sn 09 58 00.6 -0.2
DLBC Sg Sb 09 58 13.9 +3.9
MAYO Mayo, Yukon 3.81 6 Sg Sb 09 58 17.2 +4.9
GLB Gilahina Butte 3.84 298 Pn Pn 09 57 18.9 +1.0
KAIM Kayak Island 3.87 275 Pn Pn 09 57 19.0 +0.8
KAIM IAML 09 58 45.3
comp=E,123nm,1.1s
KAIM IAML 09 58 46.0
comp=N,136nm,1.5s
M26K Nabesna, AK 3.99 313 Pn 09 57 20.7 +0.8
M26K Nabesna, AK 3.99 313 P Pn 09 57 20.5 +0.6
baz=128
RAGM Ragged Mountai 4.01 282 Pn Pn 09 57 20.2 0.0
RAGM IAML 09 58 36.7
comp=E,211nm,0.8s
WTLY Watson Lake, Y 4.01 82 Sn Sn 09 58 07.1 -0.5
WTLY Sg Sb 09 58 23.2 +5.2
GOAT Goat Mountain 4.05 284 Pn 09 57 21.4 +0.6
K29M Barlow Dome 4.05 355 Pn 09 57 22.2 +1.3
K29M IAML 09 58 33.3
comp=E,213nm,1.2s
K29M IAML 09 58 38.0
comp=N,132nm,0.9s
K29M Barlow Dome 4.05 355 P Pn 09 57 22.4 +1.5
baz=175
K29M Barlow Dome 4.05 355 Pn Pn 09 57 22.1 +1.2
K29M Sn Sn 09 58 08.3 -0.5
K29M Sg Sg 09 58 25.9 -2.2
BCAR Beaver Creek A 4.06 326 Pn 09 57 21.6 +0.8
BMRM Bremner River 4.06 290 Pn 09 57 21.3 +0.3
BMRM Bremner River 4.06 290 P Pn 09 57 21.2 +0.3
baz=103
L27K Beaver Creek, 4.07 325 Pn 09 57 22.7 +1.8
L27K Beaver Creek, 4.07 325 P Pn 09 57 22.3 +1.4
baz=141
L27K Beaver Creek, 4.07 325 Pn Pn 09 57 22.4 +1.4
WRAK Wrangell Islan 4.13 144 Pn 09 57 20.5 -1.4
WRAK Wrangell Islan 4.13 144 P Pn 09 57 20.4 -1.4
baz=327
WRAK Wrangell Islan 4.13 144 Pn Pn 09 57 20.4 -1.4
WRAK Sn Sn 09 58 08.7 -1.9
WRAK Sg Sb 09 58 25.8 +4.3
U33K Whale Pass 4.19 151 Pn 09 57 21.4 -1.1
U33K IAML 09 58 35.4
comp=E,160nm,1.4s
U33K IAML 09 58 38.1
comp=N,126nm,1.2s
U33K Whale Pass 4.19 151 P Pn 09 57 21.6 -1.0
baz=334
WASW Wrangell South 4.20 303 Pn 09 57 24.9 +1.9
N25K Chitina, Valde 4.25 298 Pn 09 57 24.5 +0.9
N25K Chitina, Valde 4.25 298 P Pn 09 57 24.5 +0.9
baz=112
DAWY Dawson 4.44 345 Pn Pn 09 57 27.0 +0.9
DAWY Dawson 4.44 345 P Pn 09 57 26.9 +0.8
baz=163,SNR=28
DAWY Dawson 4.44 345 Pn Pn 09 57 27.0 +0.9
DAWY Sg Sg 09 58 37.3 -3.1
T35M Bob Quinn 4.45 127 Pn Pn 09 57 26.9 +0.7
T35M Bob Quinn 4.45 127 P Pn 09 57 26.7 +0.5
baz=312
T35M Bob Quinn 4.45 127 Pn Pn 09 57 26.5 +0.2
T35M Sn Sn 09 58 16.2 -2.2
T35M Sg Sg 09 58 37.1 -3.6
L26K Log Cabin Wild 4.51 318 Pn 09 57 28.6 +1.5
L26K IAML 09 58 59.1
comp=E,80nm,0.6s
L26K IAML 09 59 14.7
comp=N,75nm,0.4s
L26K Log Cabin Wild 4.51 318 P Pn 09 57 28.6 +1.5
baz=133
EYAK Cordova Ski Ar 4.55 283 P Pn 09 57 28.7 +1.1
baz=96
MENT Mentasta 4.58 316 Pn 09 57 29.8 +1.7
MENT IAML 09 58 59.4
comp=E,64nm,1.0s
DIV Divide 4.65 290 Pn 09 57 29.9 +0.8
DIV Divide 4.65 290 Pn Pn 09 57 30.5 +1.4
J29N Klondike Camp 4.70 352 Pn 09 57 31.6 +1.8
J29N IAML 09 58 54.6
comp=N,686nm,0.6s
J29N IAML 09 58 55.1
comp=E,592nm,0.6s
CRAG Craig 4.78 154 Pn Pn 09 57 29.8 -0.9
CRAG IAML 09 58 53.0
comp=N,90nm,0.7s
CRAG IAML 09 58 54.1
comp=E,106nm,0.8s
CRAG Craig 4.78 154 P Pn 09 57 29.6 -1.1
CRAG Craig 4.78 154 P Pn 09 57 29.4 -1.3
baz=337
J30M Hart River 4.78 2 Pn Pn 09 57 32.4 +1.5
J30M Hart River 4.78 2 P Pn 09 57 32.6 +1.8
baz=183
J30M Hart River 4.78 2 Pn Pn 09 57 32.4 +1.5
J30M Sg Sg 09 58 48.0 -3.3
KLU Klutina 4.81 294 Pn 09 57 31.9 +0.6
KLU IAML 09 58 52.8
comp=N,58nm,0.7s
KLU IAML 09 58 52.8
comp=E,55nm,0.9s
KLU Klutina 4.81 294 P Pn 09 57 31.8 +0.6
baz=107
HARP HAARP 4.83 306 P Pn 09 57 33.2 +1.8
baz=119
HIN Hinchinbrook I 4.91 281 Pn 09 57 34.0 +1.4
HIN IAML 09 58 49.3
comp=E,75nm,1.2s
HIN IAML 09 59 18.3
comp=N,86nm,1.5s
K27K Chicken 4.92 332 Pn Pn 09 57 34.0 +1.3
K27K IAML 09 59 01.4
comp=E,62nm,1.3s
K27K IAML 09 59 32.5
comp=N,57nm,1.3s
K27K Chicken 4.92 332 Pn Pn 09 57 33.9 +1.3
K27K Sg Sg 09 58 53.8 -1.9
FID Port Fidalgo 4.93 285 Pn Pn 09 57 35.1 +2.3
M24K Tolsona, Glenn 5.13 301 Pn 09 57 37.2 +1.5
M24K IAML 09 59 17.2
comp=N,59nm,1.9s
M24K IAML 09 59 17.4
comp=E,75nm,1.7s
M24K Tolsona, Glenn 5.13 301 P Pn 09 57 37.0 +1.3
baz=113
V35K Ketchikan 5.28 146 Pn Pn 09 57 37.4 -0.2
V35K IAML 09 59 08.6
comp=N,72nm,0.7s
V35K IAML 09 59 10.5
comp=E,71nm,0.9s
V35K Ketchikan 5.28 146 P Pn 09 57 37.4 -0.2
baz=330
U35K Hyder 5.31 135 Pn Pn 09 57 38.6 +0.6
U35K Hyder 5.31 135 P Pn 09 57 38.3 +0.3
baz=320
P23K Montague Islan 5.37 277 Pn 09 57 39.8 +1.0
P23K Montague Islan 5.37 277 P Pn 09 57 39.5 +0.7
baz=88
EGAK Eagle 5.38 339 Pn 09 57 40.4 +1.4
EGAK Eagle 5.38 339 P Pn 09 57 40.1 +1.1
baz=156,SNR=83
EGAK Eagle 5.38 339 Pn Pn 09 57 40.1 +1.1
EGAK Sg Sg 09 59 07.3 -3.3
SCRK Sand Creek 5.39 324 Pn Pn 09 57 40.1 +0.9
SCRK Sand Creek 5.39 324 P Pn 09 57 39.7 +0.5
baz=138,SNR=7.1
I30M Mount Dempster 5.43 2 Pn Pn 09 57 41.3 +1.5
I30M Mount Dempster 5.43 2 P Pn 09 57 41.5 +1.8
baz=182
I30M Mount Dempster 5.43 2 Pn Pn 09 57 40.4 +0.6
I30M Sg Sg 09 59 07.0 -5.0
RIDG Independent Ri 5.50 319 Pn Pn 09 57 41.5 +0.9
RIDG Independent Ri 5.50 319 P Pn 09 57 42.0 +1.4
baz=132
SCM Sheep Creek Mo 5.55 296 Pn 09 57 42.2 +0.7
SCM Sheep Creek Mo 5.55 296 P Pn 09 57 43.1 +1.7
baz=107
I29M Ogilvie Camp, 5.61 353 Pn Pn 09 57 44.2 +2.1
I29M Ogilvie Camp, 5.61 353 Sg Sg 09 59 13.6 -4.3
J26L Joseph Creek 5.68 329 Pn Pn 09 57 44.2 +1.0
J26L Joseph Creek 5.68 329 P Pn 09 57 44.1 +0.9
baz=143
I28M Miner Creek 5.84 347 Pn Pn 09 57 46.9 +1.6
I28M Miner Creek 5.84 347 P Pn 09 57 46.2 +0.8
baz=164
I28M Miner Creek 5.84 347 Pn Pn 09 57 46.6 +1.2
I28M Sg Sg 09 59 21.9 -3.3
LIB Langara Island 5.93 159 Pn Pn 09 57 46.1 -0.4
TOAD Toad River Com 5.97 94 Pn Pn 09 57 47.2 0.0
TOAD Sn Sn 09 58 53.1 -2.9
TOAD Sg Sg 09 59 24.1 -5.5
KNK Knik Glacier 5.98 291 Pn Pn 09 57 48.2 +0.9
KNK Knik Glacier 5.98 291 P Pn 09 57 49.0 +1.8
baz=101
WAT6 Susitna Watana 5.99 302 Pn 09 57 48.8 +1.3
WAT6 Susitna Watana 5.99 302 P Pn 09 57 48.9 +1.3
baz=113
SML Sawmill 6.01 294 Pn 09 57 49.0 +1.4
SML Sawmill 6.01 294 P Pn 09 57 49.0 +1.4
baz=104
DHY Denali Highway 6.05 307 Pn Pn 09 57 50.1 +1.8
H31M Peel River 6.11 9 Pn Pn 09 57 50.4 +1.4
H31M Peel River 6.11 9 P Pn 09 57 50.5 +1.5
baz=192
H31M Peel River 6.11 9 Pn Pn 09 57 49.9 +0.9
H31M Sn Sn 09 58 58.3 -1.0
H31M Sg Sg 09 59 28.2 -5.7
I27K Kandik River 6.22 341 P Pn 09 57 51.4 +0.8
baz=157
I27K Kandik River 6.22 341 Pn Pn 09 57 51.7 +1.2
NDB Naden 6.24 159 Pn Pn 09 57 50.7 -0.1
I26K Coal Creek Min 6.25 335 Pn Pn 09 57 52.7 +1.8
I26K Coal Creek Min 6.25 335 P Pn 09 57 51.7 +0.8
baz=149
J25K Salcha River, 6.27 324 Pn 09 57 51.3 0.0
J25K Salcha River, 6.27 324 P Pn 09 57 51.2 0.0
baz=136
GHO Glory Hole Cre 6.27 293 Pn 09 57 52.7 +1.4
PMR Palmer 6.33 292 Pn 09 57 53.3 +1.3
PMR Palmer 6.33 292 P Pn 09 57 53.4 +1.4
baz=101
KOTAN Kotaneelee Air 6.38 82 P Pn 09 57 54.4 +1.7
baz=272
SEW Seward 6.39 278 Pn Pn 09 57 53.9 +1.2
SEW Seward 6.39 278 P Pn 09 57 53.3 +0.6
baz=87
WAT1 Susitna Watana 6.43 303 P Pn 09 57 54.6 +1.2
baz=113
H29M Whitestone 6.47 354 P Pn 09 57 54.1 +0.2
baz=173
H29M Whitestone 6.47 354 Pn Pn 09 57 55.0 +1.1
H29M Sg Sg 09 59 39.2 -6.2
O22K Cooper Landing 6.51 281 Pn Pn 09 57 56.0 +1.5
O22K Cooper Landing 6.51 281 P Pn 09 57 55.8 +1.3
baz=90
NBC1 NorthernBC 1 6.54 86 Pn Pn 09 57 55.2 +0.3
NBC1 Sn Sn 09 59 06.4 -3.5
NBC1 Sg Sg 09 59 41.1 -6.6
RUBB Prince Rupert 6.55 144 Pn Pn 09 57 55.0 0.0
RUBB Prince Rupert 6.55 144 Pn Pn 09 57 55.1 +0.1
RUBB Sn Sn 09 59 05.7 -4.3
RC01 Rabbit Creek A 6.55 287 Pn 09 57 56.3 +1.3
RC01 Rabbit Creek A 6.55 287 P Pn 09 57 56.1 +1.0
baz=96
WAT7 Susitna Watana 6.56 303 Pn Pn 09 57 57.0 +1.7
EPYK Eagle Plains 6.58 0 Pn Pn 09 57 58.0 +2.5
EPYK Eagle Plains 6.58 0 P Pn 09 57 57.2 +1.8
baz=180
EPYK Eagle Plains 6.58 0 Pn Pn 09 57 56.6 +1.2
EPYK Sg Sg 09 59 42.2 -6.7
HDA Harding Lake 6.63 318 Pn Pn 09 57 56.6 +0.4
FLDN Fort Liard 6.67 81 Pn 09 57 58.2 +1.6
FLDN Fort Liard 6.67 81 Pn Pn 09 57 57.5 +0.8
FLDN Sn Sn 09 59 11.9 -1.1
SLKM Skilak Lake 6.76 282 Pn 09 57 58.3 +0.3
FIS Fire Island 6.79 287 Pn Pn 09 57 57.7 -0.6
H27K Steamboat Moun 6.79 343 P Pn 09 57 59.8 +1.5
baz=159
H27K Steamboat Moun 6.79 343 Pn Pn 09 57 59.8 +1.5
H27K Sn Sn 09 59 14.1 -2.0
H27K Sg Sg 09 59 51.5 -4.2
RND Reindeer 6.80 307 Pn Pn 09 58 01.8 +3.3
IL31 6.85 321 Pn Pn 09 57 59.0 -0.1
ILAR Eielson Array 6.85 321 Pn Pn 09 57 58.4 -0.8
ILAR Eielson Array 6.85 321 Pn Pn 09 57 59.4 +0.2
comp=E,0.2nm,0.3s,baz=137,slow=14,SNR=16
ILAR Sn Sn 09 59 14.7 -2.8
comp=E,0.5nm,0.3s,baz=134,slow=14,SNR=6.1
ILAR Lg Lg 09 59 57.4
comp=E,1.0nm,0.3s,baz=126,slow=27,SNR=6.2
comp=E,0.4nm,0.5s
MCK McKinley 6.98 309 P Pn 09 58 02.7 +1.7
baz=119
PRP Porcupine Dome 7.00 329 Pn 09 58 03.1 +1.9
PRP Porcupine Dome 7.00 329 P Pn 09 58 03.3 +2.0
baz=141
DIB Dawson Inlet, 7.04 159 Pn Pn 09 58 01.5 -0.3
CUT Chulitna 7.04 297 Pn 09 58 02.7 +0.9
GRNB Grenville Isla 7.05 145 Pn Pn 09 58 01.6 -0.3
GRNB Sn Sn 09 59 19.2 -3.2
BRSE Bradley Lake S 7.06 275 P Pn 09 58 03.4 +1.3
baz=84
G29M Pine Creek 7.14 356 Pn Pn 09 58 04.1 +0.9
G29M Sg Sg 10 00 02.6 -4.5
G30M tAoh Zraii Nji 7.19 2 Pn Pn 09 58 04.9 +1.0
G30M tAoh Zraii Nji 7.19 2 P Pn 09 58 04.8 +0.9
baz=182,SNR=6.2
G30M tAoh Zraii Nji 7.19 2 Pn Pn 09 58 05.0 +1.2
G30M Sn Sn 09 59 24.0 -2.0
G30M Sg Sg 10 00 03.8 -4.9
WRGLY Wrigley 7.21 56 Pn 09 58 04.7 +0.6
WRGLY Wrigley 7.21 56 P Pn 09 58 05.0 +0.9
baz=248
G31M Satah River 7.22 8 Pn Pn 09 58 06.5 +2.4
G31M Satah River 7.22 8 P Pn 09 58 05.3 +1.2
baz=190,SNR=22
G31M Satah River 7.22 8 Pn Pn 09 58 05.3 +1.2
G31M Sn Sn 09 59 25.4 -1.0
G31M Sg Sg 10 00 03.8 -5.6
FNSB Fort Nelson 7.25 92 Pn Pn 09 58 04.9 +0.3
FNSB Sn Sn 09 59 24.6 -2.7
FNSB Sg Sg 10 00 03.6 -6.8
KITB Kitimat 7.26 139 Pn Pn 09 58 05.0 +0.2
KITB Sg Sg 10 00 05.6 -5.4
CNPM China Poot 7.34 274 Pn 09 58 07.1 +1.2
G27K Doyon Strip 7.35 345 P Pn 09 58 07.4 +1.3
baz=160
G27K Doyon Strip 7.35 345 Pn Pn 09 58 07.2 +1.2
G27K Sg Sg 10 00 09.3 -4.4
TRF Thorofare Moun 7.40 305 Pn 09 58 08.3 +1.5
TRF Thorofare Moun 7.40 305 P Pn 09 58 08.1 +1.2
baz=114
BNKB Banks Island 7.52 147 Pn Pn 09 58 08.6 +0.2
SKT Skwentna 7.53 293 Pn Pn 09 58 10.5 +2.0
SKT Skwentna 7.53 293 P Pn 09 58 10.1 +1.7
baz=100
HOM Homer 7.53 275 Pn Pn 09 58 10.9 +2.5
HOM Homer 7.53 275 P Pn 09 58 09.9 +1.4
baz=82
NBC5 NorthernBC 5 7.69 101 Pn Pn 09 58 11.0 +0.3
NBC5 Sg Sg 10 00 18.2 -6.4
KTH Kantishna Hill 7.70 305 Pn Pn 09 58 12.8 +1.9
GRIB Gribbell Islan 7.73 144 Pn Pn 09 58 11.7 +0.4
N20K Mount Spurr 7.75 287 P Pn 09 58 12.2 +0.6
baz=94
F31M Tsiigehtchic 7.77 9 Pn 09 58 13.4 +1.7
F31M Tsiigehtchic 7.77 9 P Pn 09 58 14.1 +2.5
baz=191
F31M Tsiigehtchic 7.77 9 Pn Pn 09 58 13.1 +1.5
FYU Fort Yukon 7.77 334 Pn Pn 09 58 12.4 +0.7
G26K Porcupine Rive 7.82 339 P Pn 09 58 14.5 +2.1
baz=153
F30M Barrier River 7.83 3 P Pn 09 58 14.4 +1.8
baz=184
F30M Barrier River 7.83 3 Pn Pn 09 58 14.1 +1.5
F30M Sn Sn 09 59 39.2 -2.5
F28M Old Crow 7.95 351 Pn Pn 09 58 16.9 +2.7
F28M Old Crow 7.95 351 P Pn 09 58 17.0 +2.8
baz=169
F28M Old Crow 7.95 351 Pn Pn 09 58 15.4 +1.3
BPAW Bear Paw Mtn. 7.96 309 Pn 09 58 16.0 +1.6
BPAW Bear Paw Mtn. 7.96 309 P Pn 09 58 15.9 +1.6
baz=116
O20K Slope Mountain 7.97 279 P Pn 09 58 15.7 +1.1
baz=85
NBC6 NorthernBC 6 8.01 92 Pn Pn 09 58 16.0 +0.9
NBC6 Sn Sn 09 59 42.1 -3.9
NBC6 Sg Sg 10 00 27.5 -7.3
RSO Redoubt South 8.01 282 Pn 09 58 15.3 0.0
PPLA Purkeypile 8.03 299 P Pn 09 58 17.2 +1.7
baz=106
SYI Shuyak Island 8.12 268 Pn Pn 09 58 18.0 +1.5
Q20K Shuyak Island 8.12 268 P Pn 09 58 17.0 +0.4
baz=75
NBC3 NorthernBC 3 8.13 84 Pn Pn 09 58 17.4 +0.7
NBC3 Sn Sn 09 59 46.0 -3.0
NBC3 Sg Sg 10 00 30.1 -8.5
G25K Bearman Lake 8.13 333 P Pn 09 58 18.0 +1.3
baz=145
CAST Castle Rocks 8.14 303 Pn Pn 09 58 18.0 +1.1
CAST Castle Rocks 8.14 303 P Pn 09 58 17.6 +0.7
baz=110
HG4B Hotspring 8.16 155 Pn Pn 09 58 17.0 0.0
HG4B Hotspring 8.16 155 Pn Pn 09 58 16.9 -0.2
M20K Styx River 8.26 292 P Pn 09 58 20.0 +1.5
baz=97
MLY Manley 8.32 315 P Pn 09 58 20.3 +1.0
baz=123
P19K Oil Pt 8.33 276 Pn Pn 09 58 21.9 +2.4
P19K Oil Pt 8.33 276 P Pn 09 58 20.7 +1.3
baz=82
BMAR Burnt Mountain 8.39 339 Pn Pn 09 58 21.6 +1.3
CHUM Lake Minchumin 8.40 306 P Pn 09 58 21.8 +1.5
baz=112
G24K Hadweenzic Riv 8.42 330 Pn Pn 09 58 21.8 +1.2
G24K Hadweenzic Riv 8.42 330 P Pn 09 58 23.0 +2.4
baz=140
KDAK Kodiak Island 8.47 263 Pn Pn 09 58 22.0 +0.7
KDAK Kodiak Island 8.47 263 P Pn 09 58 21.7 +0.4
baz=70
F26K Sheenjek River 8.55 341 P Pn 09 58 24.0 +1.5
baz=154
E29M Blow River 8.62 357 Pn Pn 09 58 23.4 0.0
E29M Blow River 8.62 357 P Pn 09 58 25.7 +2.4
baz=176
E29M Blow River 8.62 357 Pn Pn 09 58 25.0 +1.6
FSJB Fort St James 8.64 123 Pn Pn 09 58 24.6 +0.9
INK Inuvik 8.64 8 Pn Pn 09 58 24.4 +0.8
INK Inuvik 8.64 8 P Pn 09 58 25.4 +1.8
baz=191
INK Inuvik 8.64 8 Pn Pn 09 58 25.3 +1.8
INK Sn Sn 09 59 56.3 -5.0
E27K Coleen River 8.66 348 Pn 09 58 24.3 +0.3
E27K Coleen River 8.66 348 P Pn 09 58 25.7 +1.7
baz=164
E27K Coleen River 8.66 348 Pn Pn 09 58 24.6 +0.7
E27K Sg Sg 10 00 49.0 -6.6
Q19K Cape Douglas, 8.67 271 Pn Pn 09 58 25.5 +1.3
Q19K Cape Douglas, 8.67 271 P Pn 09 58 25.5 +1.3
baz=77
L20K Farewell, AK 8.70 295 P Pn 09 58 25.2 +0.8
baz=100
O19K Port Alsworth 8.81 280 Pn Pn 09 58 26.0 0.0
I21K Tanana 8.85 314 Pn Pn 09 58 27.6 +1.1
N19K Bonanza Creek 8.86 284 P Pn 09 58 27.3 +0.6
baz=89
E28M Babbage River 8.90 353 Pn Pn 09 58 28.1 +0.8
E28M Sn Sn 10 00 02.4 -5.5
K20K Telida 8.98 301 P Pn 09 58 28.9 +0.6
baz=106
OHAK Old Harbor 9.03 260 P Pn 09 58 29.0 -0.1
baz=66
L19K White Mountain 9.10 293 Pn Pn 09 58 30.5 +0.5
L19K White Mountain 9.10 293 P Pn 09 58 30.6 +0.5
baz=97
F24K Squaw Lake 9.16 332 P Pn 09 58 31.8 +1.0
baz=142
E25K Arctic Village 9.18 339 Pn Pn 09 58 30.9 -0.1
E25K Arctic Village 9.18 339 P Pn 09 58 32.2 +1.1
baz=151
J20K Nowinta River 9.26 306 Pn Pn 09 58 33.1 +1.0
J20K Nowinta River 9.26 306 P Pn 09 58 31.9 -0.3
baz=110
SVW2 Sparrevohn 9.39 286 Pn Pn 09 58 35.4 +1.5
H21K Melozitna Rive 9.39 315 P Pn 09 58 35.8 +1.9
baz=121
R18K Karluk 9.48 264 P Pn 09 58 35.0 -0.2
baz=69
M18K Stony River 9.51 288 P Pn 09 58 35.9 +0.3
baz=92
COLD Coldfoot 9.53 327 Pn Pn 09 58 35.6 -0.3
COLD Coldfoot 9.53 327 P Pn 09 58 37.1 +1.3
baz=135
COLD Coldfoot 9.53 327 Pn Pn 09 58 37.2 +1.3
COLD Sn Sn 10 00 19.6 -3.7
N18K Kilae Creek 9.55 283 P Pn 09 58 36.3 +0.1
baz=87
TTA Tatalina 9.74 297 Pn Pn 09 58 38.5 -0.4
J19K Poorman 9.82 303 P Pn 09 58 39.7 -0.1
baz=107
IMAR Indian Mountai 9.89 316 Pn Pn 09 58 43.5 +2.7
Q17K Contact Creek 9.98 269 P Pn 09 58 43.1 +1.0
baz=73
E23K Chandalar 9.99 331 P Pn 09 58 45.0 +2.7
baz=140
P17K Kvichak River 10.02 275 P Pn 09 58 43.5 +0.9
baz=78
H20K Anotleneega Mo 10.07 312 P Pn 09 58 45.2 +1.9
baz=116
N17K Nushagak Hills 10.20 283 Pn Pn 09 58 45.0 -0.1
N17K Nushagak Hills 10.20 283 P Pn 09 58 45.2 +0.2
baz=85
M17K Holitna River 10.28 288 P Pn 09 58 46.8 +0.7
baz=90
D25K Kavik River 10.38 341 P Pn 09 58 48.6 +1.1
baz=152
K17K Iditarod 10.75 295 P Pn 09 58 52.3 -0.3
baz=96
C36M Paulatuk 10.97 24 P Pn 09 58 56.1 +0.6
baz=216
C36M Paulatuk 10.97 24 Pn Pn 09 58 55.5 0.0
C36M Sn Sn 10 00 53.1 -5.5
YKA Yellowknife Ar 11.01 66 Pn Pn 09 58 54.1 -1.9
YKA Yellowknife Ar 11.01 66 Pn Pn 09 58 55.5 -0.6
comp=E,0.4nm,0.3s,baz=265,slow=13,SNR=16
YKA Sn Sn 10 00 56.2 -3.3
comp=E,0.2nm,0.3s,baz=262,slow=14,SNR=4.2
YKA Lg Lg 10 01 59.2
comp=E,0.1nm,0.3s,baz=262,slow=28,SNR=5.4
comp=E,1.3nm,0.6s
A36M Sachs Harbour 13.05 16 Pn Pn 09 59 24.9 +1.0
A36M Sachs Harbour 13.05 16 Pn Pn 09 59 24.8 +1.0
EDM Edmonton 14.45 107 Pn Pn 09 59 42.6 -0.6
PDAR Pinedale Array 23.82 124 P P 10 01 34.0 +1.8
comp=E,0.5nm,0.7s,baz=336,slow=3.3,SNR=4.5
comp=E,0.5nm,0.7s
NVAR Mina Array Bea 24.41 143 P P 10 01 40.1 +2.5
comp=E,1.1nm,0.5s,baz=335,slow=6.7,SNR=4.9
comp=E,1.1nm,0.5s

ULM	**Lac du Bonnet**	**24.92**	**94**	LR	LR	10 12 39.9
	comp=E,63nm,20.5s,baz=37,slow=39					
TXAR	**Lajitas Array**	**37.79**	**129**	P	**P**	**10 03 38.3 +3.0**
	comp=E,0.1nm,0.4s,baz=325,slow=7.7,SNR=0.9					
	comp=E,0.1nm,0.4s					
KURBB	**Kurchatov Arra**	**66.26**	**336**	P	**P**	**10 07 06.9 +0.1**
	comp=E,0.1nm,0.2s,baz=23,slow=6.2,SNR=2.0					
	comp=E,0.1nm,0.2s					

UPP ***19*** *10:01:22.2±0.1, 65°.58N×21°.94E, h0km, ML2.7, Suspected explosion*
DNK ***19*** *10:01:22.9±0.8, 65°.57N×21°.95E, h0km, ML2.7(UPP), Explosion*
HEL ***19*** *10:01:22.8±0.2, 65°.59N×21°.90E, h0km, ML1.2, Explosion*

ISC 19 10:01:22.1±0.8, 65°.57N±0°.02×21°.95E±0°.02, h0km, n34, σ0s70/48, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJUU	**Sjulsmark**	**0.16**	**245**	P	**Pg**	**10 01 25.4**	**+0.3**
SJUU				S	**Sg**	**10 01 27.6**	**+0.4**
SJUU	**Sjulsmark**	**0.16**	**245**	P	**Pg**	**10 01 25.4**	**+0.3**
SJUU				S	**Sg**	**10 01 27.6**	**+0.4**
KALU	**Kalix**	**0.65**	**63**	P	**Pg**	**10 01 34.4**	**-0.1**
KALU	**Kalix**	**0.65**	**63**	PG	**Pg**	**10 01 34.6**	**+0.1**
KALU				SG	**Sg**	**10 01 43.0**	**+0.1**
KALU	**Kalix**	**0.65**	**63**	P	**Pg**	**10 01 34.4**	**-0.1**
HARU	**Harads**	**0.71**	**326**	P	**Pg**	**10 01 35.6**	**-0.2**
HARU	**Harads**	**0.71**	**326**	P	**Pg**	**10 01 35.6**	**-0.2**
LILU	**Lilltraesk**	**0.93**	**253**	P	**Pg**	**10 01 39.5**	**-0.3**
LILU	**Lilltraesk**	**0.93**	**253**	P	**Pg**	**10 01 39.5**	**-0.3**
BURU	**Burvik**	**1.02**	**194**	P	**Pg**	**10 01 41.6**	**-0.1**
BURU	**Burvik**	**1.02**	**194**	PB	**Pg**	**10 01 41.7**	**-0.1**
	baz=16						
BURU				SB	**Sg**	**10 01 55.1**	**+0.2**
BURU	**Burvik**	**1.02**	**194**	P	**Pg**	**10 01 41.6**	**-0.1**
TOF	**Tornio**	**1.10**	**61**	PG	**Pg**	**10 01 42.9**	**-0.3**
TOF				MSG		10 01 56.8	
	comp=Z,0.8nm,0.2s						
TOF				SB	**Sg**	**10 01 57.2**	**-0.3**
ODEU	**Stanfors**	**1.28**	**205**	P	**Pg**	**10 01 46.2**	**-0.5**
ODEU	**Stanfors**	**1.28**	**205**	P	**Pg**	**10 01 46.2**	**-0.5**
OBF8	**Ulkokalla**	**1.40**	**152**	PG	**Pn**	**10 01 47.9**	**-1.0**
OBF8				MSG		10 02 05.6	
	comp=Z,2.9nm,0.2s						
OBF8				SG	**Sb**	**10 02 07.2**	**-0.3**
OBF0	**Syolatti, Pyha**	**1.45**	**137**	PG	**Pn**	**10 01 49.0**	**-0.6**
OBF0				MSG		10 02 07.1	
	comp=Z,3.2nm,0.2s						
OBF0				SN	**Sn**	**10 02 11.6**	**+2.3**
SVAU	**Svanoeiden**	**1.48**	**224**	P	**Pn**	**10 01 49.7**	**-0.3**
SVAU	**Svanoeiden**	**1.48**	**224**	P	**Pn**	**10 01 49.7**	**-0.3**
OBF4	**Vikkela, Lumij**	**1.53**	**118**	PG	**Pn**	**10 01 50.8**	**+0.1**
OBF4				MSG		10 02 09.5	
	comp=Z,2.3nm,0.2s						
OBF4				SN	**Sg**	**10 02 11.5**	**+0.2**
DUNU	**Dundret**	**1.65**	**341**	P	**Pn**	**10 01 52.6**	**+0.2**
DUNU				S	**Sg**	**10 02 15.1**	**0.0**
DUNU	**Dundret**	**1.65**	**341**	P	**Pn**	**10 01 52.6**	**+0.2**
DUNU				S	**Sg**	**10 02 15.1**	**0.0**
OUF	**Merijarvi**	**1.69**	**134**	PG	**Pb**	**10 01 53.5**	**-0.6**
	baz=317						
OUF				MSG		10 02 14.1	
	comp=Z,2.5nm,0.2s						
OUF				SN	**Sg**	**10 02 16.7**	**+0.3**
OUL	**Oulu**	**1.73**	**105**	PG	**Pb**	**10 01 54.3**	**-0.4**
OUL				SN	**Sg**	**10 02 18.3**	**+0.7**
UMAU	**Umeaa**	**1.78**	**198**	P	**Pb**	**10 01 55.0**	**-0.6**
UMAU	**Umeaa**	**1.78**	**198**	PG	**Pb**	**10 01 54.9**	**-0.6**
UMAU				SG	**Sb**	**10 02 18.3**	**-0.2**
UMAU	**Umeaa**	**1.78**	**198**	P	**Pb**	**10 01 55.0**	**-0.6**
RNF	**Rovaniemi**	**1.96**	**56**	PG	**Pb**	**10 01 57.8**	**-0.7**
RNF				SG	**Sg**	**10 02 24.3**	**-0.6**
LANU	**Lannavaara**	**2.48**	**0**	PB	**Pn**	**10 02 05.0**	**+1.2**
VAF	**Ylistaro**	**2.56**	**173**	MSG		10 02 38.7	
	comp=Z,0.7nm,0.2s						
VAF				SG	**Sb**	**10 02 41.0**	**+0.2**
SGF	**Sodankyl**	**2.62**	**42**	SB	**Sb**	**10 02 41.4**	**-1.2**
HEF	**Hetta**	**2.92**	**13**	MSG		10 02 48.6	
	comp=Z,0.3nm,0.2s						
HEF				SG	**Sb**	**10 02 52.4**	**+1.1**
OLKF	**Oulanka, Finla**	**3.14**	**73**	SG	**Sb**	**10 02 59.3**	**+1.7**
KTK1	**Kautokeino**	**3.49**	**8**	PN	**Pn**	**10 02 15.8**	**-1.8**

SJA 19 10:03:29.0±0.6, 24°.14S×67°.06W, h207km±5km, ML3.5, MW3.4, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.54**	**113**	*e*P	Pn	10 04 04.2	+0.4
FSA	**Cafayete**	**2.20**	**154**	*e*P	Pn	10 04 10.3	0.0
LVC	**Limon Verde**	**2.28**	**311**	*e*P	Pn	10 04 12.1	+0.8
LVC				*e*S	S	10 04 43.8	+0.1
PB15	**IPOC Station P**	**2.39**	**292**	*e*P	Pn	10 04 13.3	+0.9
PB15				*e*S	S	10 04 45.1	-0.5
YJA	**Yavi**	**2.42**	**36**	*e*P	Pn	10 04 14.1	+1.2
YJA				*e*S	S	10 04 47.0	+0.4
GO02	**Mina Guanaco**	**2.52**	**245**	*e*P	Pn	10 04 14.7	+0.8
GO02				*e*S	S	10 04 48.1	-0.2
PB06	**IPOC Station P**	**2.71**	**301**	*e*P	Pn	10 04 16.6	+0.7
PB06				*e*S	S	10 04 51.5	-0.3
PB06				IAML		10 04 54.5	
	comp=Z,103nm,0.3s						
AHML	**Horco Molle**	**3.07**	**150**	*e*P	Pn	10 04 20.3	+0.5
PB09	**IPOC Station P**	**3.07**	**319**	*e*P	Pn	10 04 21.6	+1.5
PB09				*e*S	S	10 05 00.2	+0.7
PB09				IAML		10 05 01.3	
	comp=Z,67nm,0.2s						
PB14	**IPOC Station P**	**3.08**	**260**	*e*P	Pn	10 04 20.7	+0.4
PB14				*e*S	S	10 04 58.2	-1.6
PB14				IAML		10 05 00.4	
	comp=Z,48nm,0.2s						
PB05	**IPOC Station P**	**3.15**	**293**	*e*P	Pn	10 04 21.4	+0.5
PB05				*e*S	S	10 05 00.1	-0.9
PB04	**IPOC Station P**	**3.36**	**302**	*e*P	Pn	10 04 24.4	+0.9
PB04				*e*S	S	10 05 04.4	-1.1
PB04				IAML		10 05 07.7	
	comp=Z,84nm,0.3s						
PB07	**IPOC Station P**	**3.54**	**312**	*e*P	Pn	10 04 26.0	+0.4
PB07				*e*S	S	10 05 07.5	-1.9
PB07				IAML		10 05 12.0	
	comp=Z,118nm,0.3s						
AC01	**Pan de Azucar**	**3.78**	**237**	*e*P	Pn	10 04 27.9	-0.4
AC01				*e*S	S	10 05 11.7	-2.8
AC01				IAML		10 05 14.4	
	comp=Z,28nm,0.8s						
PB01	**IPOC Station P**	**3.81**	**323**	*e*P	Pn	10 04 29.2	+0.4
PB01				*e*S	S	10 05 13.7	-1.5
PB01				IAML		10 05 15.3	
	comp=Z,48nm,0.2s						
PB02	**IPOC Station P**	**3.83**	**316**	*e*P	Pn	10 04 29.9	+0.7
PB02				*e*S	S	10 05 14.6	-1.2
PB02				IAML		10 05 21.3	
	comp=Z,88nm,0.4s						
GUSE	**Guasayan**	**4.24**	**152**	*e*P	Pn	10 04 35.3	+1.3
PATCX	**Punta Patache**	**4.36**	**319**	*e*P	Pn	10 04 36.4	+0.7
PATCX				*e*S	S	10 05 25.9	-1.8
GO03	**Copiap**	**4.47**	**219**	*e*P	Pn	10 04 36.5	-0.5
GO03				*e*S	S	10 05 27.7	-2.5
ACLC	**CERRO LA CRUZ**	**5.27**	**179**	*e*P	Pn	10 04 47.8	+0.6
AC04	**Llanos de Chal**	**5.42**	**221**	*e*P	Pn	10 04 47.8	-1.1
AC04				*e*S	S	10 05 49.2	-2.7
AC04				IAML		10 05 55.2	
	comp=Z,15nm,2.9s						

NAO ***19*** *10:09:33.6, 35°.08N×24°.47E, h33km, mb4.2*
IDC ***19*** *10:10:05.9±1.3, 37°.56N×23°.85E, h131km±11km, mb3.8/23, mbtmp4.2/32, Error ellipse: s-maj=11.5km s-min=10.1km az=0.0*
NEIC ***19*** *10:10:06.9±1.7, 37°.56N±0°.07×23°.81E±0°.08, h134km±7km, mb4.4/103, Error ellipse: s-maj=10.9km s-min=8.3km az=210.0*
ATH ***19*** *10:10:07.0, 37°.51N×23°.78E, h137km±1km, ML3.9/16, Error ellipse: s-maj=2.4km s-min=1.7km az=194.0*
PDG ***19*** *10:10:07.7±0.8, 37°.52N×23°.80E, h124km±2km, ML4.4/12, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
MED_RC ***19*** *10:10:07.0±0.7, 37°.48N×23°.98E, h126km±14km, MW4.4/8, Moment Tensor Solution.Mantle waves: s8,c8; Duration:*

1s0 Moment tensor: Scale 10^15Nm; Mrr3.61±.74; Mθθ-1.97±.89; Mϕϕ-1.64±.73; Mrθ1.91±.42; Mrϕ4.73±.76; Mθϕ0.23±.75; Best double couple: M=5.78000×10^15 NP1:ϕs347.00000°, δ52.00000°, λ47.00000°. NP2: ϕs104.00000°, δ62.00000°, λ142.00000°. Principal axes: T 4.8800, Plg52.0000°, Azm322.0000°; N 1.8100, Plg37.0000°, Azm128.0000°; P -6.6900, Plg7.0000°, Azm223.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
ISK ***19*** *10:10:07.8, 37°.55N×23°.83E, h27km, ML3.4/12*
THE ***19*** *10:10:08.5, 37°.48N×23°.79E, h124km±1km, ML3.8/5, Error ellipse: s-maj=2.2km s-min=0.8km az=19.0*

ISC 19 10:10:06.5±0.5, 37°.48N±0°.04×23°.79E±0°.04, h138km±4km, n363, σ1s32/400, mb4.3/76, 25C-11D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATHU	**Athens Univers**	**0.48**	**360**	P	**Pn**	**10 10 26.8**	**+0.4**
ATHU				S	**Sn**	**10 10 40.4**	**-1.2**
	2µm,0.7s						
ATHU	**Athens Univers**	**0.48**	**360**	P	**Pn**	**10 10 26.9**	**+0.5**
ATHU				S	**Sn**	**10 10 40.4**	**-1.2**
ATHU				AML	AML	10 10 41.2	
	comp=E,3753µm,0.7s						
ATHU				AML	AML	10 10 41.4	
	comp=N,4425µm,0.8s						
KRND	**KRANIDI**	**0.52**	**259**	P	**Pn**	**10 10 27.0**	**+0.5**
KRND	**KRANIDI**	**0.52**	**259**	P	**Pn**	**10 10 27.1**	**+0.5**
KRND				S	**Sn**	**10 10 41.6**	**-0.1**
KRND				AML	AML	10 10 42.1	
	comp=N,56395µm,0.4s						
KRND				AML	AML	10 10 42.5	
	comp=E,27652µm,0.4s						
EPID	**Epidavros**	**0.55**	**284**	P	**Pn**	**10 10 27.1**	**+0.3**
EPID	**Epidavros**	**0.55**	**284**	P	**Pn**	**10 10 27.2**	**+0.4**
EPID				S	**Sn**	**10 10 41.5**	**-0.6**
VILL	**Villia**	**0.78**	**331**	P	**Pn**	**10 10 28.9**	**+0.5**
VILL				S	**Sn**	**10 10 44.0**	**-1.0**
	comp=E,4µm,0.8s						
LOUT	**Loutraki**	**0.82**	**308**	P	**Pn**	**10 10 29.1**	**+0.5**
LOUT				S	**Sn**	**10 10 44.5**	**-0.9**
	comp=E,3µm,0.7s						
LOUT	**Loutraki**	**0.82**	**308**	P	**Pn**	**10 10 29.2**	**+0.5**
VIL2	**Platees**	**0.84**	**331**	P	**Pn**	**10 10 28.9**	**+0.1**
VIL2				S	**Sn**	**10 10 44.3**	**-1.5**
VIL2				AML	AML	10 10 45.2	
	comp=E,8010µm,0.8s						
VIL2				AML	AML	10 10 45.7	
	comp=N,5430µm,0.7s						
THAL	**Thalero**	**1.05**	**302**	P	**Pn**	**10 10 31.1**	**+0.6**
THAL				S	**Sn**	**10 10 48.3**	**-0.6**
	comp=N,10µm,0.4s						
THAL	**Thalero**	**1.05**	**302**	P	**Pn**	**10 10 31.2**	**+0.6**
THAL				AML	AML	10 10 52.4	
	comp=E,23796µm,0.5s						
THAL				AML	AML	10 10 56.9	
	comp=N,12374µm,0.4s						
GUR	**Goura**	**1.23**	**292**	P	**Pn**	**10 10 32.9**	**+0.5**
GUR	**Goura**	**1.23**	**292**	P	**Pn**	**10 10 33.0**	**+0.5**
GUR				S	**Sn**	**10 10 51.8**	**-0.5**
GUR				AML	AML	10 10 54.5	
	comp=E,21389µm,0.5s						
GUR				AML	AML	10 10 57.6	
	comp=N,14966µm,0.4s						
KLMT	**Kalamata**	**1.44**	**254**	P	**Pn**	**10 10 35.9**	**+1.4**
ALIK	**Aliki, Aigiali**	**1.54**	**301**	P	**Pn**	**10 10 37.4**	**+1.9**
AXAR	**Agios Charalam**	**1.56**	**326**	P	**Pn**	**10 10 36.7**	**+0.9**
AXAR				S	**Sn**	**10 10 58.3**	**0.0**
	comp=N,2µm,0.6s						
AXAR	**Agios Charalam**	**1.56**	**326**	P	**Pn**	**10 10 36.7**	**+0.9**
AXAR				AML	AML	10 11 07.7	
	comp=N,3044µm,0.7s						
AXAR				AML	AML	10 11 11.4	
	comp=E,3959µm,0.5s						
THR5	**Thira Island,**	**1.64**	**130**	P	**Pn**	**10 10 37.5**	**+0.8**
CMBO	**Columbo, Santo**	**1.64**	**127**	P	**Pn**	**10 10 37.6**	**+0.9**
CMBO	**Columbo, Santo**	**1.64**	**127**	P	**Pn**	**10 10 37.7**	**+1.0**
THR3	**Thira Island,**	**1.68**	**129**	P	**Pn**	**10 10 38.2**	**+1.1**
THR9	**Santorini-Faro**	**1.69**	**131**	P	**Pn**	**10 10 38.1**	**+0.9**
THR6	**Thira Island,**	**1.71**	**130**	P	**Pn**	**10 10 38.5**	**+1.0**
THR8	**Santorini-Mono**	**1.73**	**128**	P	**Pn**	**10 10 38.3**	**+0.6**
PYL	**PYLOS**	**1.73**	**251**	P	**Pn**	**10 10 38.3**	**+0.6**
PYL	**PYLOS**	**1.73**	**251**	P	**Pn**	**10 10 38.4**	**+0.6**
PYL				S	**Sn**	**10 11 01.7**	**+0.1**
PYL				AML	AML	10 11 03.1	
	comp=N,13629µm,0.4s						
PYL				AML	AML	10 11 03.8	
	comp=E,15152µm,0.3s						
EFP	**Efpalio**	**1.76**	**303**	P	**Pn**	**10 10 39.3**	**+1.2**
EFP	**Efpalio**	**1.76**	**303**	P	**Pn**	**10 10 38.9**	**+0.8**
EFP				AML	AML	10 11 07.1	
	comp=N,1730µm,0.6s						
EFP				AML	AML	10 11 11.6	
	comp=E,1265µm,0.4s						
ANX	**Ano Chora**	**1.84**	**308**	P	**Pn**	**10 10 39.7**	**+0.5**
ANX				AML	AML	10 11 09.0	
	comp=E,1761µm,0.4s						
ANX				AML	AML	10 11 15.7	
	comp=N,1907µm,0.5s						
RODP	**Rodopos**	**1.92**	**181**	Pn	**Pn**	**10 10 40.4**	**+0.4**
RODP				Sn	**Sn**	**10 11 04.2**	**-1.3**
RODP	**Rodopos**	**1.92**	**181**	P	**Pn**	**10 10 40.3**	**+0.3**
AGG	**Agios Georgios**	**1.92**	**324**	Pn	**Pn**	**10 10 39.2**	**-0.8**
AGG	**Agios Georgios**	**1.92**	**324**		**Pn**	**10 10 40.7**	**+0.7**
AGG				Sn	**Sn**	**10 11 05.0**	**-0.6**
AGG	**Agios Georgios**	**1.92**	**324**	P	**Pn**	**10 10 40.6**	**+0.7**
AGG	**Agios Georgios**	**1.92**	**324**	P	**Pn**	**10 10 40.7**	**+0.7**
XOR	**Xorichti**	**1.94**	**346**	P	**Pn**	**10 10 40.5**	**+0.3**
XOR	**Xorichti**	**1.94**	**346**	P	**Pn**	**10 10 40.5**	**+0.3**
XOR				AML	AML	10 11 07.0	
	comp=N,1351µm,0.9s						
XOR				AML	AML	10 11 10.4	
	comp=E,599µm,1.0s						
MAKR	**Makrakomi, Fth**	**2.01**	**320**	P	**Pn**	**10 10 41.9**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.01**	**320**	P	**Pn**	**10 10 41.9**	**+0.9**
MAKR				AML	AML	10 11 09.3	
	comp=E,2004µm,1.2s						
MAKR				AML	AML	10 11 11.5	
	comp=N,1959µm,0.4s						
CHOS	**Chios island**	**2.01**	**63**	Pn	**Pn**	**10 10 39.9**	**-1.2**
CHOS	**Chios island**	**2.01**	**63**	P	**Pn**	**10 10 41.8**	**+0.8**
CHOS	**Chios island**	**2.01**	**63**	P	**Pn**	**10 10 41.9**	**+0.8**
CHOS				AML	AML	10 11 08.0	
	comp=N,826µm,0.9s						
CHOS				AML	AML	10 11 08.9	
	comp=E,1573µm,1.3s						
PVO	**Paravola**	**2.11**	**303**	P	**Pn**	**10 10 44.4**	**+2.2**
PVO	**Paravola**	**2.11**	**303**	P	**Pn**	**10 10 43.9**	**+1.7**
LTHK	**Lithakia**	**2.35**	**276**	P	**Pn**	**10 10 45.3**	**+0.1**
LTHK	**Lithakia**	**2.35**	**276**	P	**Pn**	**10 10 45.6**	**+0.5**
LTHK				AML	AML	10 11 15.0	
	comp=N,2644µm,0.5s						
LTHK				AML	AML	10 11 19.5	
	comp=E,3410µm,0.2s						
SIGR	**SIGRI**	**2.37**	**43**	Pn	**Pn**	**10 10 45.0**	**-0.4**
SIGR	**SIGRI**	**2.37**	**43**	P	**Pn**	**10 10 48.6**	**+3.2**
URLA	**Izmir**	**2.39**	**68**	Pn	**Pn**	**10 10 45.5**	**-0.2**
PAIG	**Paliouri**	**2.44**	**358**	Pn	**Pn**	**10 10 46.3**	**0.0**
PAIG	**Paliouri**	**2.44**	**358**	P	**Pn**	**10 10 46.3**	**0.0**
EVGI	**Lefkada island**	**2.72**	**296**	P	**Pn**	**10 10 50.4**	**+0.6**
EVGI	**Lefkada island**	**2.72**	**296**	P	**Pn**	**10 10 50.1**	**+0.4**
FSK	**Fiskardo**	**2.73**	**292**	P	**Pn**	**10 10 49.8**	**0.0**
BLCB	**Balcova**	**2.73**	**70**	Pn	**Pn**	**10 10 50.6**	**+0.7**
NYDR	**Nydri-Lefkada**	**2.73**	**298**	P	**Pn**	**10 10 50.4**	**+0.5**
GCAM	**G?zelcaml?**	**2.75**	**84**	Pn	**Pn**	**10 10 50.8**	**+0.7**
LKD2	**Lefkada island**	**2.79**	**299**	P	**Pn**	**10 10 51.7**	**+1.0**
DRAG	**Dragano-Lefkad**	**2.80**	**296**	P	**Pn**	**10 10 51.7**	**+0.8**
TSLK	**Tsoukalades, L**	**2.81**	**300**	P	**Pn**	**10 10 51.8**	**+0.9**
TSLK	**Tsoukalades, L**	**2.81**	**300**	P	**Pn**	**10 10 51.9**	**+1.0**
OUR	**Ouranopolis**	**2.85**	**3**	Pn	**Pn**	**10 10 51.8**	**+0.3**
OUR	**Ouranopolis**	**2.85**	**3**	P	**Pn**	**10 10 52.0**	**+0.5**
OUR	**Ouranopolis**	**2.85**	**3**	P	**Pn**	**10 10 51.9**	**+0.5**
RFT7	**Candarli**	**2.88**	**58**	Pn	**Pn**	**10 10 51.9**	**+0.1**
DKL	**Dikili**	**2.92**	**56**	Pn	**Pn**	**10 10 52.9**	**+0.5**
KPRO	**Kipourio**	**3.11**	**323**	P	**Pn**	**10 10 55.5**	**+0.6**
KPRO	**Kipourio**	**3.11**	**323**	P	**Pn**	**10 10 55.4**	**+0.6**
KPRO				AML	AML	10 11 35.4	
	comp=E,1015µm,0.4s						
KPRO				AML	AML	10 11 40.1	
	comp=N,802µm,0.5s						
HORT	**Hortiatis**	**3.16**	**350**	Pn	**Pn**	**10 10 56.2**	**+0.7**
HORT	**Hortiatis**	**3.16**	**350**	P	**Pn**	**10 10 55.8**	**+0.3**
HORT	**Hortiatis**	**3.16**	**350**	P	**Pn**	**10 10 55.9**	**+0.4**
HORT				AML	AML	10 11 34.0	
	comp=E,258µm,1.1s						
HORT				AML	AML	10 11 34.9	
	comp=N,237µm,0.9s						
GADA	**Gvkgeada**	**3.17**	**31**	Pn	**Pn**	**10 10 55.5**	**0.0**
KARP	**Karpathos**	**3.33**	**124**	Pn	**Pn**	**10 10 58.0**	**+0.2**
KARP	**Karpathos**	**3.33**	**124**	P	**Pn**	**10 10 58.4**	**+0.6**
KOKK	**Kokkinochori,**	**3.34**	**3**	P	**Pn**	**10 10 58.1**	**+0.4**
KOKK	**Kokkinochori,**	**3.34**	**3**	P	**Pn**	**10 10 58.1**	**+0.4**
COMU	**Canakkale**	**3.35**	**38**	Pn	**Pn**	**10 10 58.6**	**+0.7**
SOH	**Sokhos**	**3.35**	**354**	P	**Pn**	**10 10 59.1**	**+1.1**
KAVA	**Kavala**	**3.56**	**9**	P	**Pn**	**10 11 00.7**	**+0.2**
KAVA	**Kavala**	**3.56**	**9**	P	**Pn**	**10 11 00.7**	**+0.2**
NEST	**Nestorio**	**3.62**	**325**	P	**Pn**	**10 11 02.3**	**+0.8**
NEST				AML	AML	10 11 46.0	
	comp=E,564µm,0.5s						
NEST				AML	AML	10 11 47.4	
	comp=N,729µm,0.8s						
GRG	**Griva**	**3.63**	**343**	P	**Pn**	**10 11 01.6**	**0.0**
GRG	**Griva**	**3.63**	**343**	P	**Pn**	**10 11 02.0**	**+0.3**
ARG	**Arkhangelos**	**3.70**	**109**	Pn	**Pn**	**10 11 02.6**	**+0.1**
KNT	**Kendrikon**	**3.74**	**350**	P	**Pn**	**10 11 04.3**	**+1.3**
KNT	**Kendrikon**	**3.74**	**350**	P	**Pn**	**10 11 04.2**	**+1.3**
FNA	**Florina**	**3.79**	**331**	Pn	**Pn**	**10 11 03.9**	**+0.2**
FNA	**Florina**	**3.79**	**331**	P	**Pn**	**10 11 03.8**	**0.0**
ALN	**Alexandroupoli**	**3.84**	**27**		**Pn**	**10 11 04.1**	**-0.1**
ALN	**Alexandroupoli**	**3.84**	**27**	P	**Pn**	**10 11 04.1**	**-0.1**
KEK	**Kerkira**	**3.84**	**307**	Pn	**Pn**	**10 11 02.5**	**-1.8**
BALB	**Balikesir**	**3.87**	**55**	Pn	**Pn**	**10 11 06.0**	**+1.4**
RDO	**Rodhopi**	**3.91**	**20**		**Pn**	**10 11 05.5**	**+0.4**
KBN	**Korca**	**3.91**	**324**	Pn	**Pn**	**10 11 01.6**	**-3.6**
MMB	**Musomishta**	**4.06**	**360**	P	**Pn**	**10 11 07.9**	**+0.7**
RZN	**Rozhen**	**4.27**	**10**	P	**Pn**	**10 11 10.6**	**+0.4**
OHR	**Ohrid**	**4.30**	**328**	*i* P	Pn	10 11 14.6	+4.1
KDZ	**Kurdzhali**	**4.32**	**16**	P	**Pn**	**10 11 10.7**	**+0.2**
PEHC	**Pehcevo**	**4.35**	**351**	*i* P	**Pn**	**10 11 11.8**	**+0.8**
KKB	**Krupnik**	**4.38**	**354**	P	**Pn**	**10 11 12.0**	**+0.5**
PLD	**Plovdiv**	**4.72**	**9**	P	**Pn**	**10 11 16.0**	**+0.1**
DIM	**Dimitrovgrad**	**4.76**	**16**	P	**Pn**	**10 11 16.0**	**-0.5**
SKO	**Skopje**	**4.84**	**339**	*i* P	**Pn**	**10 11 17.7**	**+0.3**
SCTE	**Santa Cesarea**	**4.89**	**304**	Pn	**Pn**	**10 11 18.5**	**+0.2**
TIR	**Tirane**	**4.91**	**323**	Pn	**Pn**	**10 11 16.5**	**-1.9**
ELL	**Elmali**	**4.95**	**97**	Pn	**Pn**	**10 11 18.5**	**-0.6**
PLNA	**Plana**	**5.00**	**357**	P	**Pn**	**10 11 19.8**	**+0.1**
PGB	**Panagyurishte**	**5.04**	**3**	P	**Pn**	**10 11 20.0**	**-0.2**
VTS	**Vitosha**	**5.15**	**355**	P	**Pn**	**10 11 22.0**	**+0.2**
PUK	**Puka**	**5.45**	**328**		**Pn**	**10 11 25.3**	**-0.5**
ELND	**Elena**	**5.67**	**16**	⇓P	**Pn**	**10 11 28.5**	**-0.1**
ULC	**Ulcinj**	**5.68**	**323**	⇓*i* Pn	**Pn**	**10 11 29.3**	**+0.5**
ULC				*i* Sn	**Sn**	**10 12 28.8**	**-4.2**
TIP	**Timpagrande**	**5.78**	**289**	⇑P	**Pn**	**10 11 29.1**	**-1.0**
TIP	**Timpagrande**	**5.78**	**289**		**Pn**	**10 11 29.7**	**-0.4**
MPEP	**Malo Peshtene**	**5.87**	**360**	P	**Pn**	**10 11 31.0**	**-0.2**
DRME	**Dracevica, Mon**	**5.88**	**324**	⇑*i* Pn	**Pn**	**10 11 30.0**	**-1.4**
DRME				*i* Sn	**Sn**	**10 12 35.1**	**-2.7**
PVY	**Plav**	**5.89**	**331**	⇑*i* Pn	**Pn**	**10 11 32.7**	**+1.0**
PVY				*i* Sn	**Sn**	**10 12 35.2**	**-3.0**
PLVB	**Pleven**	**5.94**	**6**	⇑P	**Pn**	**10 11 32.2**	**+0.1**
BUM	**Brajici-Budva**	**6.11**	**324**	⇑*i* Pn	**Pn**	**10 11 35.2**	**+1.1**
BUM				*i* Sn	**Sn**	**10 12 40.4**	**-2.9**
IVA	**Berane**	**6.15**	**332**	⇑*i* Pn	**Pn**	**10 11 36.1**	**+1.0**
IVA				*i* Sn	**Sn**	**10 12 41.4**	**-3.0**
BLKB	**Belogradchik**	**6.19**	**353**	⇓P	**Pn**	**10 11 35.8**	**+0.1**
LOZB	**Loznitsa**	**6.26**	**19**	⇑P	**Pn**	**10 11 36.6**	**+0.1**
KOME	**Kolasin**	**6.28**	**330**	⇓*i* Pn	**Pn**	**10 11 36.3**	**-0.6**
KOME				*i* Sn	**Sn**	**10 12 44.3**	**-3.2**
CEME	**Cevo**	**6.29**	**325**	⇓*i* Pn	**Pn**	**10 11 35.0**	**-1.9**
CEME				*i* Sn	**Sn**	**10 12 44.5**	**-3.1**
CEL	**Celeste**	**6.29**	**280**		**Pn**	**10 11 36.4**	**-0.6**
BOVS	**Bovan**	**6.35**	**346**	⇑P	**Pn**	**10 11 37.8**	**+0.1**
MATE	**Matera**	**6.35**	**302**	⇓P	**Pn**	**10 11 36.7**	**-1.0**
HCY	**Herceg Novi**	**6.41**	**322**	⇓*i* Pn	**Pn**	**10 11 38.8**	**+0.3**
HCY				*i* Sn	**Sn**	**10 12 45.0**	**-5.5**
RAZG	**Razgrad**	**6.42**	**18**	⇑P	**Pn**	**10

comp=N,0.9nm,0.3s
KIEV Kiev 13.77 15 Pn Pn 10 13 14.2 -1.5
AKASG Malin Array Be 13.78 15 Pn Pn 10 13 14.7 -1.1
AKASG Malin Array Be 13.78 15 P Pn 10 13 14.2 -1.6
comp=N,3.7nm,0.8s,baz=202,slow=12,SNR=12
AKASG S Sn 10 15 54.3 +6.3
comp=N,2.6nm,0.8s,baz=199,slow=22,SNR=6.1
AKBB Malin Array Si 13.78 15 Pn 10 13 14.5 -1.4
KHC Kasperske Hory 13.80 331 Pn Pn 10 13 15.5 -0.6
RETA Reutte 13.85 320 *i* Pn **Pn 10 13 18.7 +1.8**
comp=N,1.3nm,0.4s
TUE Stuetta 13.98 315 Pn Pn 10 13 17.2 -1.5
DAVA Damuels 14.18 318 *i* Pn **P 10 13 25.3 +0.8**
comp=N,12nm,0.9s
BRG Berggiesshubel 15.12 335 *eP* **P 10 13 35.6 +1.0**
BRG Amp 10 13 36.3
comp=Z,5.5nm,0.7s
CLL Collm 15.80 334 *i* Px Px 10 13 44.1
comp=Z,7.0nm,0.8s
GNI Garni 16.55 74 P 10 13 50.0 -0.7
GNI IAmb IAmb 10 13 60.0
comp=Z,14nm,1.2s
WLF Walferdange 17.60 319 P P 10 14 01.1 -0.8
WLF IAmb IAmb 10 14 16.0
comp=Z,28nm,1.4s
BSD Bornholm Skovb 18.64 344 *i* P **P 10 14 12.0 -1.3**
BSD IAmb IAmb 10 14 15.6
comp=Z,15nm,1.0s
CLF Chambon-Foret 18.94 311 P 10 14 16.3 -0.3
CLF IAmb IAmb 10 14 26.1
comp=Z,27nm,1.1s
LUNU Lund 19.46 342 *i* P **P 10 14 21.1 -1.1**
BLEU Blekinge 19.58 347 *i* P **P 10 14 21.1 -2.3**
BJUU Bjuv 19.96 342 *i* P **P 10 14 26.8 -0.8**
DEL Delary 20.13 344 *i* P **P 10 14 27.6 -1.8**
FABU Falkenberg 20.87 343 *i* P **P 10 14 36.5 -0.8**
ONAU Onsala 21.42 342 *i* P **P 10 14 43.7 +0.5**
BORU Boraas 21.44 344 *i* P **P 10 14 42.2 -1.2**
ESBB Sonseca Array 21.77 284 P P 10 14 47.7 +0.5
ESBB IAmb IAmb 10 14 50.3
comp=Z,12nm,0.8s
ESDC Sonseca Array 21.77 284 P P 10 14 46.6 -0.7
ESDC IAmb IAmb 10 14 50.5
comp=Z,15nm,1.4s
ESDC Sonseca Array 21.77 284 P P 10 14 47.2 0.0
comp=Z,11nn,0.8s,baz=78,slow=10,SNR=41
comp=Z,11nn,0.8s
PAB San Pablo 22.08 284 P P 10 14 49.7 -0.7
PAB IAmb IAmb 10 14 53.0
comp=Z,12nm,0.7s
STRU Stroemstad 23.07 343 *i* P **P 10 14 57.6 -1.9**
HFS Hagfors 23.57 347 P P 10 15 03.3 -0.9
comp=Z,4.3nm,0.4s,baz=146,slow=11,SNR=34
comp=Z,4.3nm,0.4s
OSL Oslo 23.98 344 *eP* **P 10 15 07.8 -0.1**
KONO Kongsberg 23.99 342 *eP* **P 10 15 07.5 -0.4**
FINES FINESS Array B 24.03 3 P P 10 15 06.6 -1.7
FINES FINESS Array B 24.03 3 P P 10 15 07.5 -0.8
comp=Z,1.2nm,0.3s,baz=172,slow=10,SNR=26
FINES PcP **PcP 10 18 46.1 0.0**
comp=Z,0.9nm,0.3s,baz=156,slow=1.4,SNR=7.0
comp=Z,1.2nm,0.3s
NC602 NORSAR Array S 24.53 345 P P 10 15 12.4 -0.5
NC602 IAmb IAmb 10 15 14.4
comp=Z,16nm,0.9s
NC602 NORSAR Array S 24.53 345 *eP* **P 10 15 12.6 -0.3**
BLS5 Blasjo 24.63 339 *eP* **P 10 15 13.9 +0.1**
PESTR Estremoz 24.65 283 P P 10 15 14.5 +0.3
PESTR IAmb IAmb 10 15 38.9
comp=Z,35nm,1.5s
NAO01 NORSAR Array S 24.77 345 P P 10 15 13.9 -1.1
NAO01 IAmb IAmb 10 15 18.6
comp=Z,18nm,1.2s
NC405 NORSAR Array S 24.85 346 P P 10 15 15.6 -0.2
NC405 IAmb IAmb 10 15 30.7
comp=Z,10.0nm,1.2s
NB201 NORSAR Array S 24.87 346 P P 10 15 15.6 -0.4
NB201 IAmb IAmb 10 15 16.7
comp=Z,24nm,1.3s
NB2 NORSAR Subarra 24.88 345 P P 10 15 14.9 -1.2
comp=Z,2.7nm,0.7s,baz=156,slow=9.3
NOA NORSAR Array B 24.88 345 P P 10 15 15.1 -1.0
comp=Z,5.1nm,0.9s,baz=151,slow=10,SNR=26
comp=Z,5.1nm,0.9s
NBO00 NORSAR Array S 24.96 345 P P 10 15 16.4 -0.4
NBO00 IAmb IAmb 10 15 16.8
comp=Z,30nm,1.4s
ODD1 Odda 24.99 339 *eP* **P 10 15 18.4 +1.2**
NC204 NORSAR Array S 25.18 345 P P 10 15 18.4 -0.4
NC204 IAmb IAmb 10 15 32.5
comp=Z,10nm,1.1s
SKAR Skarslia 25.21 342 *eP* **P 10 15 19.1 0.0**
EKA Eskdalemuir Ar 25.52 323 P P 10 15 22.0 +0.1
comp=Z,6.1nm,0.4s,baz=124,slow=9.8,SNR=30
comp=Z,6.1nm,0.4s
ESK Eskdalemuir 25.53 323 P P 10 15 22.2 +0.2
EKB Eskdalemuir 25.53 323 P P 10 15 22.3 +0.3
ASK Askoy 25.87 339 *eP* **P 10 15 26.7 +1.7**
DOMB Dombas 26.23 344 *eP* **P 10 15 28.7 +0.5**
FOO Floro 26.83 340 *eP* **P 10 15 33.7 +0.2**
ABKAR Akbulak array 28.53 54 P P 10 15 48.9 0.0
TOA0 Torodi Ar. Sif 31.24 225 P P 10 16 14.8 +1.7
TORD Torodi Ar. Bea 31.24 225 P P 10 16 15.1 +2.0
TORD Torodi Ar. Bea 31.24 225 P P 10 16 14.8 +1.6
comp=Z,1.1nm,0.5s,baz=29,slow=8.8,SNR=12
TORD PcP **PcP 10 19 05.0 +0.7**
comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=1.8
comp=Z,1.1nm,0.5s
ARCES ARCESS Array B 32.13 1 PcP PcP 10 19 05.5 -0.4
comp=Z,0.7nm,0.3s,baz=188,slow=3.2,SNR=16
WSAR Wadi Sarin 33.04 105 P P 10 16 28.8 -0.1
comp=Z,2.6nm,0.7s,baz=317,slow=13,SNR=4.5
comp=Z,2.6nm,0.7s
BVAR Borovoye Array 35.61 49 P P 10 16 50.5 0.0
comp=Z,0.6nm,0.5s,baz=289,slow=4.4,SNR=3.3
BVAR PcP **PcP 10 19 16.4 +0.2**
comp=Z,0.6nm,0.5s,baz=263,slow=2.5,SNR=1.7
BVAR ScP **ScP 10 22 48.6 -0.5**
comp=Z,0.4nm,0.6s,baz=270,slow=1.4,SNR=2.1
comp=Z,0.6nm,0.5s
KKAR Karatay Array 35.71 66 P P 10 16 51.7 0.0
DBIC Dimbokro 40.23 227 P P 10 17 30.8 +1.1
DBIC IAmb IAmb 10 17 53.7
comp=Z,4.9nm,0.9s
DBIC Dimbokro 40.23 227 P P 10 17 30.2 +0.5
comp=Z,2.3nm,0.7s,baz=3.6,slow=7.5,SNR=2.3
comp=Z,2.3nm,0.7s
KURBB Kurchatov Arra 40.57 53 P P 10 17 31.3 -0.9
comp=Z,2.1nm,0.4s,baz=276,slow=8.7,SNR=20
KURBB PcP **PcP 10 19 31.6 0.0**
comp=Z,1.2nm,0.7s,baz=272,slow=4.0,SNR=8.1
KURBB ScP **ScP 10 23 07.4 -0.6**
comp=Z,0.1nm,0.5s,baz=273,slow=5.0,SNR=5.4
comp=Z,2.1nm,0.4s
KURK Kurchatov 40.62 53 P P 10 17 32.3 -0.3
SPITS Spitsbergen Ar 40.93 358 P P 10 17 34.3 -0.5
comp=Z,9.5nm,0.9s,baz=188,slow=8.7,SNR=6.5
SPITS PcP **PcP 10 19 32.4 +0.1**
comp=Z,2.0nm,0.4s,baz=162,slow=5.6,SNR=11
comp=Z,9.5nm,0.9s
MK31 Makanchi Array 43.47 58 P P 10 17 55.2 -0.5
MKAR Makanchi Array 43.47 58 P P 10 17 55.2 -0.5
comp=Z,2.5nm,0.4s,baz=272,slow=8.2,SNR=47
MKAR PcP **PcP 10 19 41.0 -0.4**
comp=Z,1.0nm,0.7s,baz=276,slow=4.5,SNR=4.1
MKAR ScP **ScP 10 23 19.1 -0.7**
comp=Z,0.7nm,0.6s,baz=283,slow=3.0,SNR=7.7
comp=Z,2.5nm,0.4s
ZAA0 Zalesovo Array 44.24 48 P P 10 18 01.1 -0.6
ZAA0 IAmb IAmb 10 18 01.5
comp=Z,3.4nm,0.5s
ZALV Zalesovo Beam 44.24 48 P P 10 18 01.1 -0.7
ZALV Zalesovo Beam 44.24 48 P P 10 18 01.3 -0.5
comp=Z,3.6nm,0.4s,baz=264,slow=9.4,SNR=15
comp=Z,3.6nm,0.4s
ICESG Greenland Ices 46.11 334 *i* P **P 10 18 16.8 +0.1**
ICESG IAmb IAmb 10 18 19.0
comp=Z,7.7nm,0.6s
NRIK Noril'sk 46.27 26 P P 10 18 17.9 +0.4
NRIK Noril'sk 46.27 26 P P 10 18 17.7 +0.1
comp=Z,2.0nm,0.4s,baz=242,slow=6.1,SNR=4.2
comp=Z,2.0nm,0.4s
SUMG Summit 46.42 338 P P 10 18 19.9 +0.7
SUMG Summit 46.42 338 *i* P **P 10 18 20.0 +0.9**
SUMG IAmb IAmb 10 18 20.4
comp=Z,5.1nm,0.7s
WMQ Urumqi 47.83 61 *eP* **P 10 18 31.3 +1.2**
WMQ pmax pmax
comp=Z,21nm,0.6s
DY2G Dye2 48.40 330 *i* P **P 10 18 35.4 +1.0**
DY2G IAmb IAmb 10 18 36.1
comp=Z,11nm,0.6s
SFJD Kangerlussuaq 50.12 330 P P 10 18 47.4 +0.3
ILULI Ilulissat 50.21 333 P P 10 18 48.3 +0.6
EUNU Eureka 56.71 349 P P 10 19 36.0 +0.9
EUNU IAmb IAmb 10 19 50.5
comp=Z,9.8nm,1.5s
DRLN Deer Lake 57.54 310 P P 10 19 42.3 +1.0
SONM Songino Array 58.89 51 P P 10 19 50.5 -0.4
comp=Z,0.4nm,0.5s,baz=280,slow=7.1,SNR=3.8
SONM ScP **ScP 10 24 25.8 -0.4**
comp=Z,0.6nm,0.5s,baz=259,slow=2.9,SNR=2.6
comp=Z,0.4nm,0.5s
SCHQ Schefferville 60.71 318 P P 10 20 03.8 +0.7
SCHQ Schefferville 60.71 318 P P 10 20 03.5 +0.5
comp=Z,8.6nm,0.4s,baz=70,slow=4.8,SNR=53
comp=Z,8.6nm,0.4s
GBN Guysborough 61.58 307 P P 10 20 10.4 +1.4
HAL Halifax 63.24 307 P P 10 20 21.3 +1.3
LMN Caledonia Moun 63.45 309 P P 10 20 22.7 +1.2
BATG Bathurst New B 63.56 310 P P 10 20 23.6 +1.4
PQI Presque Isle 65.03 311 P P 10 20 33.2 +1.5
GGN Saint George 65.06 309 P P 10 20 33.0 +1.1
HHC Hu-ho-hao-te 65.28 57 *eP* **P 10 20 33.6 0.0**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,180nm,4.9s
PZH PanZhiHua 65.31 75 P P 10 20 34.3 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.5s
D62A Allapoint, All 65.45 311 P P 10 20 36.1 +1.6
BOSA Boshof 65.76 179 P P 10 20 38.3 +1.7
comp=Z,2.0nm,0.8s,baz=355,slow=11,SNR=1.7
comp=Z,2.0nm,0.8s
E62A Clayton Lake 65.96 311 P P 10 20 39.1 +1.4
LMQ La Malbaie 65.98 312 P P 10 20 39.0 +1.1
F63A Nahmakanta, Br 66.16 310 P P 10 20 40.2 +1.2
CMAR Chiang Mai Arr 67.41 84 P P 10 20 47.3 -0.1
comp=Z,0.7nm,0.3s,baz=311,slow=5.9,SNR=1.7
comp=Z,0.7nm,0.3s
A36M Sachs Harbour 68.68 350 P P 10 20 55.0 +0.7
A36M IAmb IAmb 10 20 55.6
comp=Z,4.2nm,0.7s
TRQ Mont Tremblant 69.15 313 P P 10 20 59.8 +1.9
TRQ IAmb IAmb 10 21 00.0
comp=Z,4.6nm,0.7s
C36M Paulatuk 70.88 348 P P 10 21 08.3 +0.4
C36M IAmb IAmb 10 21 08.6
comp=Z,8.9nm,1.2s
FCC Fort Churchill 71.14 331 P P 10 21 10.0 +0.4
SADO Sadowa 72.63 313 P P 10 21 19.5 +0.7
C23K Itkillik River 72.92 358 P P 10 21 21.1 +1.1
INK Inuvik 73.17 351 P P 10 21 21.2 -0.3
B21K Ikpikpuk River 73.20 359 P P 10 21 22.0 +0.3
E28M Babbage River 73.50 354 P P 10 21 24.1 +0.6
E29M Blow River 73.56 353 P P 10 21 24.3 +0.5
F31M Tsiigehtchic 74.02 351 P P 10 21 26.2 -0.3
F31M IAmb IAmb 10 21 27.3
comp=Z,4.7nm,0.5s
C18K Utukok River 74.12 2 P P 10 21 27.6 +0.4
D19K Kuna River 74.33 1 P P 10 21 28.9 +0.5
C16K Lisburne Hills 74.34 4 P P 10 21 28.6 +0.3
F28M Old Crow 74.50 354 P P 10 21 29.4 +0.1
G31M Satah River 74.58 351 P P 10 21 29.1 -0.6
E22K Anaktuvuk Pass 74.65 358 P P 10 21 29.7 -0.5
E22K IAmb IAmb 10 21 49.5
comp=Z,7.1nm,1.4s
G30M tAoh Zrail Nji 74.75 352 P P 10 21 30.9 +0.2
G30M IAmb IAmb 10 21 36.4
comp=Z,8.8nm,1.4s
YKA Yellowknife Ar 74.90 341 P P 10 21 31.7 +0.1
YKA Yellowknife Ar 74.90 341 P P 10 21 31.6 -0.1
comp=Z,1.4nm,0.6s,baz=30,slow=5.3,SNR=56
comp=Z,1.4nm,0.6s
YKAB2 New Yellowknif 74.96 341 P P 10 21 31.9 -0.1
E19K Redstone River 75.38 0 P P 10 21 34.6 +0.3
E19K IAmb IAmb 10 21 35.1
comp=Z,2.5nm,0.6s
EPYK Eagle Plains 75.39 352 P P 10 21 34.5 0.0
EPYK IAmb IAmb 10 21 35.7
comp=Z,6.0nm,1.3s
G27K Doyon Strip 75.44 354 P P 10 21 35.6 +0.8
E43A Lone Tree Farm 76.01 318 P P 10 21 39.2 +0.9
Q56A Snyder Ridge, 76.05 309 P P 10 21 40.7 +2.0
WRGLY Wrigley 76.28 345 P P 10 21 40.4 +0.9
WRGLY IAmb IAmb 10 21 43.3
comp=Z,7.5nm,1.2s
FFC Flin Flon 77.06 331 P P 10 21 44.3 +0.2
MDM Murphy Dome 77.70 357 P P 10 21 47.6 +0.1
ULM Lac du Bonnet 77.77 325 P P 10 21 48.1 0.0
comp=Z,1.4nm,0.6s,baz=35,slow=8.8,SNR=3.0
comp=Z,1.4nm,0.6s
ILAR Eielson Array 77.82 356 P P 10 21 48.3 +0.2
ILAR Eielson Array 77.82 356 P P 10 21 48.1 0.0
comp=Z,1.4nm,0.6s,baz=344,slow=3.7,SNR=12
comp=Z,0.4nm,0.5s
J26L Joseph Creek 77.86 354 P P 10 21 48.7 +0.2
DAWY Dawson 77.92 353 P P 10 21 49.8 +1.1
HDA Harding Lake 78.18 356 P P 10 21 50.0 -0.1
R53A Hurricane 78.20 309 P P 10 21 51.6 +0.9
R53A IAmb IAmb 10 22 18.3
comp=Z,17nm,1.5s
BCAR Beaver Creek A 79.13 353 P P 10 21 55.9 +0.5
KTH Kantishna Hill 79.22 358 P P 10 21 56.4 +0.5
KTH IAmb IAmb 10 22 21.9
comp=Z,10nm,1.4s
U54A Nelsons Funny 79.24 308 P P 10 21 56.1 -0.4
V55A Taylorsville 79.28 307 P P 10 21 56.7 0.0
V55A IAmb IAmb 10 22 10.5
comp=Z,7.3nm,1.3s
RND Reindeer 79.28 357 P P 10 21 56.1 -0.2
RND IAmb IAmb 10 22 19.0
comp=Z,7.2nm,1.5s
TRF Thorofare Moun 79.30 357 P P 10 21 55.8 -0.7
TRF IAmb IAmb 10 21 59.9
comp=Z,10nm,1.4s
L26K Log Cabin Wild 79.31 354 P P 10 21 57.0 +0.6
CAST Castle Rocks 79.39 358 P P 10 21 57.3 +0.6
CAST IAmb IAmb 10 22 22.0
comp=Z,7.6nm,1.4s
M29M Somme Creek 79.39 352 P P 10 21 57.3 +0.4
M29M IAmb IAmb 10 21 58.7
comp=Z,5.0nm,0.6s
DHY Denali Highway 79.53 356 P P 10 21 57.9 +0.2
DHY IAmb IAmb 10 21 59.5
comp=Z,4.5nm,0.9s
PPLA Purkeypile 79.91 358 P P 10 22 00.1 +0.3
T50A Nancy 80.80 310 P P 10 22 06.3 +1.6
T50A IAmb IAmb 10 22 07.0
comp=Z,6.6nm,0.9s
N25K Chitina, Valde 80.81 354 P P 10 22 05.0 +0.5
SKT Skwentna 80.81 358 P P 10 22 03.1 -1.3
R33M Jennings River 81.23 347 P P 10 22 08.5 +1.7
R33M IAmb IAmb 10 22 09.2
comp=Z,6.3nm,0.8s
SUA Susitna One 81.30 357 P P 10 22 07.6 +0.5
SUA IAmb IAmb 10 22 33.3
comp=Z,10nm,1.4s
P32M Atlin 81.50 349 P P 10 22 07.9 -0.3
P32M IAmb IAmb 10 22 22.5
comp=Z,7.3nm,1.4s
U49A Red Boiling Sp 81.70 310 P P 10 22 10.8 +1.3
U49A IAmb IAmb 10 22 11.5
comp=Z,5.5nm,0.8s
T47A Sharon Grove 82.19 311 P P 10 22 13.1 +1.0
T47A IAmb IAmb 10 22 13.9
comp=Z,6.8nm,0.8s
W50A Signal Mountai 82.27 309 P P 10 22 14.2 +1.6
W50A IAmb IAmb 10 22 15.0
comp=Z,6.2nm,0.9s
Y52A Lillburn 82.35 307 P P 10 22 14.2 +1.2
Y52A IAmb IAmb 10 22 33.3
comp=Z,16nm,1.4s
ECSD EROS Data Cent 82.78 321 P P 10 22 15.6 +0.5
ECSD IAmb IAmb 10 22 16.6
comp=Z,2.7nm,0.6s
WVT Waverly 83.20 311 P P 10 22 17.5 +0.2
WVT IAmb IAmb 10 22 25.8
comp=Z,6.2nm,1.3s
CCM Cathedral Cave 83.90 314 P P 10 22 21.4 +0.5
CCM IAmb IAmb 10 22 22.6
comp=Z,6.7nm,0.9s
PLAL Pickwick Lake 84.11 310 P P 10 22 21.4 -0.6
PLAL IAmb IAmb 10 22 37.1
comp=Z,4.7nm,1.4s
R40A Maddies Statio 84.32 315 P P 10 22 23.6 +0.6
R40A IAmb IAmb 10 22 24.3
comp=Z,5.9nm,1.1s
LRAL Lakeview Retre 84.74 308 P P 10 22 26.4 +1.2
LRAL IAmb IAmb 10 22 26.9
comp=Z,5.0nm,0.8s
S39A Bolivar 85.33 315 P P 10 22 28.9 +0.8
S39A IAmb IAmb 10 22 30.1
comp=Z,11nm,1.4s
EGMT Eagleton 85.34 331 P P 10 22 29.3 +1.2
EGMT IAmb IAmb 10 22 30.0
comp=Z,7.4nm,0.9s
Y45A Yeager Farm, C 85.76 310 P P 10 22 31.1 +0.9
OVMT Ovando 87.37 332 P P 10 22 36.6 -1.4
NEW Newport 87.81 335 P P 10 22 41.2 +1.2
NEW IAmb IAmb 10 22 41.2
comp=Z,4.8nm,0.7s
BPMT Black Pine Rid 88.06 332 P P 10 22 42.6 +1.2
LRM Limekiln Ridge 88.20 331 P P 10 22 42.5 +0.3
PHWY Pilot Hill 88.90 324 P P 10 22 44.1 -1.4
PDAR Pinedale Array 89.55 328 P P 10 22 48.3 -0.3
PDAR Pinedale Array 89.55 328 P P 10 22 47.4 -1.1
comp=Z,0.4nm,0.7s,baz=66,slow=3.6,SNR=4.2
comp=Z,0.4nm,0.7s
ISCO Idaho Springs 90.15 323 P P 10 22 52.0 +0.6
ISCO IAmb IAmb 10 22 52.1
comp=Z,4.0nm,1.2s
WMOK Wichita Mounta 90.51 316 P P 10 22 53.4 +0.5
WMOK IAmb IAmb 10 22 54.8
comp=Z,3.7nm,0.8s
TXAR Lajitas Array 97.30 316 P P 10 23 23.9 -0.3
comp=Z,0.3nm,0.8s,baz=68,slow=4.2,SNR=3.9
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 117.92 95 PKP PKPdf 10 28 36.4 -0.6
comp=Z,0.9nm,0.6s,baz=318,slow=1.9,SNR=7.9
ASAR Alice Springs 119.52 98 PKP PKiKP 10 28 39.6 -0.5
comp=Z,1.0nm,0.3s,baz=313,slow=1.5,SNR=23
QSPA South Pole Qui 127.33 180 PKP PKiKP 10 28 54.0 -0.3
comp=Z,2.0nm,0.9s,baz=265,slow=1.9,SNR=6.5

NEIC ***19*** *10:32:03.6±2.1,24.16S±0.06×67.2W±0.1,h187km±10km, mb4.2/10, Error ellipse: s-maj=16.2km s-min=9.3km az=97.0*
SJA ***19*** *10:32:03.0±0.7,24.05S×67.16W,h205km±5km, ML3.7, MW3.9*
IDC ***19*** *10:32:04.3±1.2,23.98S×67.01W,h174km±12km, mb3.4/5, mbtmp3.9/11, MS2.6/1, Error ellipse: s-maj=18.3km s-min=15.6km az=88.0*
GUC ***19*** *10:32:05.7±0.7,24.03S×67.47W,h214km±11km, ML3.9*
ISC 19 10:32:04.3±0.7, 24.11S±0.03×67.25W±0.04, h190km±7km, n99, σ1.259/135, mb3.7/5, 9C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.44**	**323**	Pn	**Pn**	**Pn**	**10 32 38.3**	**+1.4**
AF01				Sn	**Sn**	**Sn**	**10 33 04.2**	**+2.1**
SLA	**San Lorenzo**	**1.70**	**111**	*eP*	**Pn**	**Pn**	**10 32 39.3**	**+0.1**
LVC	**Limon Verde**	**2.14**	**314**	*eP*	**Pn**	**Pn**	**10 32 44.7**	**+0.8**
LVC				*eS*	**Sn**	**Sn**	**10 33 15.2**	**+0.6**
LVC				IAML			10 33 16.3	
	comp=Z,143nm,0.8s							
LVC	**Limon Verde**	**2.14**	**314**	P	**Pn**	**Pn**	**10 32 44.7**	**+0.8**
	comp=Z,49nm,0.6s,baz=157,slow=7.0,SNR=101							
LVC				S	**Sn**	**Sn**	**10 33 14.3**	**-0.4**
	comp=Z,134nm,0.5s,baz=202,slow=22,SNR=40							
LVC	**Limon Verde**	**2.14**	**314**	⇑*P*	**Pn**	**Pn**	**10 32 44.5**	**+0.6**
LVC				*eS*	**Sn**	**Sn**	**10 33 14.2**	**-0.4**
LVC				IAML			10 33 16.0	
	comp=Z,720nm,0.4s							
PB15	**IPOC Station P**	**2.23**	**293**		**Pn**	**Pn**	**10 32 46.0**	**+1.2**
PB15	**IPOC Station P**	**2.23**	**293**	*eP*	**Pn**	**Pn**	**10 32 45.8**	**+1.0**
PB15				*eS*	**Sn**	**Sn**	**10 33 16.8**	**+0.7**
PB15				IAML			10 33 20.0	
	comp=Z,643nm,0.1s							
PB15	**IPOC Station P**	**2.23**	**293**	⇑*P*	**Pn**	**Pn**	**10 32 46.0**	**+1.2**
PB15				*i* S	**Sn**	**Sn**	**10 33 16.1**	**0.0**
FSA	**Cafayete**	**2.30**	**150**	*eP*	**Pn**	**Pn**	**10 32 45.8**	**+0.3**
GO02	**Mina Guanaco**	**2.38**	**243**	Pn	**Pn**	**Pn**	**10 32 48.1**	**+1.6**
GO02	**Mina Guanaco**	**2.38**	**243**	*eP*	**Pn**	**Pn**	**10 32 48.0**	**+1.5**
GO02				*eS*	**Sn**	**Sn**	**10 33 21.0**	**+1.8**
GO02	**Mina Guanaco**	**2.38**	**243**	⇑*P*	**Pn**	**Pn**	**10 32 47.9**	**+1.5**
GO02				*eS*	**Sn**	**Sn**	**10 33 20.8**	**+1.5**
GO02				IAML			10 33 21.8	
	comp=N,384nm,0.7s							
YJA	**Yavi**	**2.50**	**40**	*eP*	**Pn**	**Pn**	**10 32 47.8**	**-0.3**
YJA				*eS*	**Sn**	**Sn**	**10 33 20.5**	**-1.6**
PB06	**IPOC Station P**	**2.55**	**303**		**Pn**	**Pn**	**10 32 49.2**	**+0.9**
PB06	**IPOC Station P**	**2.55**	**303**	*eP*	**Pn**	**Pn**	**10 32 49.2**	**+0.9**
PB06				*eS*	**Sn**	**Sn**	**10 33 23.1**	**+0.5**
PB06				IAML			10 33 26.7	
	comp=Z,203nm,0.3s							
PB06	**IPOC Station P**	**2.55**	**303**	⇑*P*	**Pn**	**Pn**	**10 32 49.3**	**+0.9**
PB06				*i* S	**Sn**	**Sn**	**10 33 22.0**	**-0.6**
PB06				IAML			10 33 24.0	
	comp=N,384nm,0.2s							
PB14	**IPOC Station P**	**2.92**	**259**	Pn	**Pn**	**Pn**	**10 32 53.7**	**+0.9**
PB14	**IPOC Station P**	**2.92**	**259**	*eP*	**Pn**	**Pn**	**10 32 53.8**	**+0.9**
PB14				*eS*	**Sn**	**Sn**	**10 33 30.9**	**+0.3**
PB14	**IPOC Station P**	**2.92**	**259**	⇑*P*	**Pn**	**Pn**	**10 32 53.8**	**+0.9**
PB14				*i* S	**Sn**	**Sn**	**10 33 29.9**	**-0.7**
PB09	**IPOC Station P**	**2.95**	**321**		**Pn**	**Pn**	**10 32 54.2**	**+1.2**
PB09	**IPOC Station P**	**2.95**	**321**	*eP*	**Pn**	**Pn**	**10 32 54.0**	**+1.0**
PB09				*eS*	**Sn**	**Sn**	**10 33 31.0**	**+0.1**
PB09				IAML			10 33 33.7	
	comp=Z,105nm,0.8s							
PB09	**IPOC Station P**	**2.95**	**321**	⇑*P*	**Pn**	**Pn**	**10 32 54.0**	**+1.0**
PB09				*i* S	**Sn**	**Sn**	**10 33 30.1**	**-0.9**
PB09				IAML			10 33 31.7	
	comp=N,172nm,0.7s							
PB05	**IPOC Station P**	**2.99**	**294**	Pn	**Pn**	**Pn**	**10 32 54.1**	**+0.7**
PB05	**IPOC Station P**	**2.99**	**294**	*eP*	**Pn**	**Pn**	**10 32 54.0**	**+0.6**
PB05				*eS*	**Sn**	**Sn**	**10 33 30.7**	**-1.0**
PB05				IAML			10 33 37.4	
	comp=Z,71nm,0.7s							
PB05	**IPOC Station P**	**2.99**	**294**	⇑*P*	**Pn**	**Pn**	**10 32 54.0**	**+0.6**
PB05				*i* S	**Sn**	**Sn**	**10 33 29.9**	**-1.8**
PB05				IAML			10 33 32.6	
	comp=E,136nm,0.7s							
AHML	**Horco Molle**	**3.18**	**147**	*eP*	**Pn**	**Pn**	**10 32 55.9**	**+0.3**
AHML				*eS*	**Sn**	**Sn**	**10 33 35.3**	**-0.4**
PB04	**IPOC Station P**	**3.20**	**303**		**Pn**	**Pn**	**10 32 56.4**	**+0.4**
PB04	**IPOC Station P**	**3.20**	**303**	*eP*	**Pn**	**Pn**	**10 32 56.9**	**+0.8**
PB04				*eS*	**Sn**	**Sn**	**10 33 35.6**	**-0.8**
PB04				IAML			10 33 39.6	
	comp=Z,221nm,0.7s							
PB04	**IPOC Station P**	**3.20**	**303**	*eP*	**Pn**	**Pn**	**10 32 56.1**	**0.0**
PB04				*i* S	**Sn**	**Sn**	**10 33 33.9**	**-2.5**
PB07	**IPOC Station P**	**3.40**	**314**		**Pn**	**Pn**	**10 32 58.7**	**+0.2**
PB07	**IPOC Station P**	**3.40**	**314**	*eP*	**Pn**	**Pn**	**10 32 58.6**	**+0.2**
PB07				*eS*	**Sn**	**Sn**	**10 33 39.2**	**-1.5**
PB07				IAML			10 33 39.9	
	comp=Z,166nm,0.4s							
PB07	**IPOC Station P**	**3.40**	**314**	⇑*P*	**Pn**	**Pn**	**10 32 58.7**	**+0.2**
PB07				*i* S	**Sn**	**Sn**	**10 33 38.3**	**-2.4**
AC01	**Pan de Azucar**	**3.65**	**236**		**Pn**	**Pn**	**10 33 01.6**	**+0.2**
AC01	**Pan de Azucar**	**3.65**	**236**	*eP*	**Pn**	**Pn**	**10 33 01.6**	**+0.2**
AC01				*eS*	**Sn**	**Sn**	**10 33 45.1**	**-1.0**
AC01				IAML			10 33 47.2	
	comp=Z,64nm,0.7s							
AC01	**Pan de Azucar**	**3.65**	**236**	⇑*P*	**Pn**	**Pn**	**10 33 01.6**	**+0.2**
AC01				*eS*	**Sn**	**Sn**	**10 33 44.8**	**-1.4**
PB01	**IPOC Station P**	**3.69**	**325**		**Pn**	**Pn**	**10 33 02.1**	**+0.1**
PB01	**IPOC Station P**	**3.69**	**325**	*eP*	**Pn**	**Pn**	**10 33 02.0**	**+0.1**
PB01				*eS*	**Sn**	**Sn**	**10 33 46.1**	**-1.0**
PB01				IAML			10 33 49.4	
	comp=Z,53nm,0.2s							
PB01	**IPOC Station P**	**3.69**	**325**	*eP*	**Pn**	**Pn**	**10 33 01.9**	**0.0**
PB01				*eS*	**Sn**	**Sn**	**10 33 44.0**	**-3.1**
PB02	**IPOC Station P**	**3.70**	**318**		**Pn**	**Pn**	**10 33 02.0**	**-0.1**
PB02	**IPOC Station P**	**3.70**	**318**	*eP*	**Pn**	**Pn**	**10 33 02.2**	**+0.1**
PB02				*eS*	**Sn**	**Sn**	**10 33 45.3**	**-2.0**
PB02				IAML			10 33 52.4	

	comp=Z,157nm,0.7s								
PB02	**IPOC Station P**	**3.70**	**318**	*eP*		**Pn**	**10 33 01.9**	**-0.3**
PB02				*eS*		**Sn**	**10 33 44.3**	**-3.1**
PATCX	**Punta Patache**	**4.24**	**320**	Pn		**Pn**	**10 33 08.4**	**-0.4**
PATCX	**Punta Patache**	**4.24**	**320**	*eP*		**Pn**	**10 33 08.5**	**-0.3**
PATCX	**Punta Patache**	**4.24**	**320**	*eP*		**Pn**	**10 33 08.0**	**-0.8**
PATCX				*eS*		**Sn**	**10 33 56.2**	**-3.3**
AC06	**Mina Casimiro**	**4.28**	**220**	Pn		**Pn**	**10 33 09.1**	**-0.1**
AC06	**Mina Casimiro**	**4.28**	**220**	*eP*		**Pn**	**10 33 09.1**	**-0.1**
PB08	**IPOC Station P**	**4.33**	**336**			**Pn**	**10 33 10.6**	**+0.3**
PB08	**IPOC Station P**	**4.33**	**336**	*eP*		**Pn**	**10 33 11.4**	**+1.1**
PB08				*eS*		**Sn**	**10 34 01.4**	**-0.6**
PB08				IAML			10 34 04.7	
	comp=Z,45nm,0.6s							
PB08	**IPOC Station P**	**4.33**	**336**	*eP*		**Pn**	**10 33 10.5**	**+0.3**
PB08				*eS*		**Sn**	**10 33 59.7**	**-2.3**
GO03	**Copiap**	**4.39**	**217**			**Pn**	**10 33 10.8**	**+0.1**
GO03	**Copiap**	**4.39**	**217**	*eP*		**Pn**	**10 33 10.8**	**+0.1**
GO03				*eS*		**Sn**	**10 34 02.3**	**-0.6**
GO03	**Copiap**	**4.39**	**217**	*eP*		**Pn**	**10 33 10.6**	**-0.1**
GO03				*eS*		**Sn**	**10 33 59.6**	**-3.4**
TA01	**Diego Aracena**	**4.45**	**322**	Pn		**Pn**	**10 33 11.6**	**+0.1**
TA01	**Diego Aracena**	**4.45**	**322**	*eP*		Pn	10 33 01.6	-10
TA01				*eP*			10 33 11.3	
TA01				IAML			10 34 23.2	
	comp=Z,41nm,0.6s							
HMBC	**Humberstone**	**4.53**	**327**	*eP*		**Pn**	**10 33 11.3**	**-1.4**
HMBC				*eS*		**Sn**	**10 34 03.1**	**-3.2**
HMBC	**Humberstone**	**4.53**	**327**	*eP*		**Pn**	**10 33 11.1**	**-1.6**
HMBC				*eS*		**Sn**	**10 34 00.5**	**-5.8**
GO01	**Chusmiza**	**4.78**	**337**			**Pn**	**10 33 16.7**	**+0.6**
PB11	**IPOC Station P**	**4.87**	**332**	Pn		**Pn**	**10 33 16.5**	**-0.5**
PB11	**IPOC Station P**	**4.87**	**332**	*eP*		**Pn**	**10 33 15.8**	**-1.2**
PB11				*eS*		**Sn**	**10 34 10.0**	**-4.2**
PB11				IAML			10 34 13.9	
	comp=Z,38nm,1.0s							
ACLC	**CERRO LA CRUZ**	**5.30**	**177**	*eP*		**Pn**	**10 33 23.7**	**+1.2**
AC04	**Llanos de Chal**	**5.33**	**219**			**Pn**	**10 33 21.8**	**-0.9**
AC04	**Llanos de Chal**	**5.33**	**219**	*eP*		**Pn**	**10 33 21.7**	**-1.0**
AC04				*eS*		**Sn**	**10 34 22.3**	**-2.3**
AC04				IAML			10 34 27.5	
	comp=Z,32nm,0.9s							
AC05	**El Transito**	**5.43**	**209**	Pn		**Pn**	**10 33 24.0**	**-0.2**
LCO	**Las Campanas**	**5.78**	**212**	Pn		**Pn**	**10 33 27.6**	**-1.2**
PB16	**IPOC Station P**	**6.12**	**339**			**Pn**	**10 33 33.1**	**-0.5**
PB12	**IPOC Station P**	**6.18**	**332**	Pn		**Pn**	**10 33 32.4**	**-1.5**
CO01	**Juntas del Tor**	**6.37**	**203**	Pn		**Pn**	**10 33 33.5**	**-3.0**
CO05	**La Serena**	**6.79**	**211**	Pn		**Pn**	**10 33 38.9**	**-2.8**
GO04	**Tololo Observa**	**6.82**	**207**	Pn		**Pn**	**10 33 39.8**	**-2.5**
CO03	**El Pedregal**	**7.37**	**204**	Pn		**Pn**	**10 33 48.4**	**-0.9**
CFA	**Coronel Fontan**	**7.52**	**186**	P		**Pn**	**10 33 52.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=338,slow=12,SNR=2.5							
CFA				S		**Sn**	**10 35 12.6**	**-3.5**
	comp=Z,1.9nm,0.4s,baz=38,slow=23,SNR=3.9							
CFA				LR		LR	10 37 09.9	
	comp=Z,39nm,19.1s,baz=90,slow=40							
CO06	**Fray Jorge**	**7.61**	**210**	Pn		**Pn**	**10 33 51.7**	**-0.8**
CO02	**Combarbal**	**7.81**	**204**	Pn		**Pn**	**10 33 52.5**	**-2.7**
LPAZ	**La Paz**	**7.83**	**354**	Pn		**Pn**	**10 33 54.0**	**-2.0**
SIV	**San Ignacio**	**9.94**	**37**	P		**Pn**	**10 34 19.9**	**-3.1**
	comp=Z,1.9nm,0.4s,baz=210,slow=13,SNR=13							
SIV				S		Sn	10 35 57.2	-17
	comp=Z,1.1nm,0.8s,baz=227,slow=18,SNR=2.4							
TRQA	**Tornquist**	**14.61**	**163**			**Pn**	**10 35 21.1**	**-1.1**
NNA	**Nana**	**15.11**	**321**	P		**P**	**10 35 29.9**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=149,slow=18,SNR=1.2							
SAML	**Samuel**	**15.57**	**15**			**P**	**10 35 32.8**	**-1.5**
GO06	**Curarrehue**	**15.84**	**192**	P		**P**	**10 35 35.2**	**-1.9**
GO06				IAmb		IAmb	10 35 40.7	
	comp=Z,6.8nm,1.1s							
PLCA	**Paso Flores**	**16.81**	**189**	P		**P**	**10 35 45.9**	**-1.9**
PLCA	**Paso Flores**	**16.81**	**189**	P		**Pn**	**10 35 50.1**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=92,slow=19,SNR=2.7							
LL01	**San Ignacio de**	**18.72**	**192**	P		**P**	**10 36 06.8**	**-1.7**
LL01				IAmb		IAmb	10 36 15.0	
	comp=Z,14nm,1.2s							
LL06	**Loncomilla**	**18.82**	**195**	P		**P**	**10 36 07.0**	**-2.5**
LL06				IAmb		IAmb	10 36 26.8	
	comp=Z,7.2nm,1.2s							
LL07	**Hotel Espejo d**	**19.37**	**194**	P		**P**	**10 36 13.8**	**-1.7**
LL02	**Futaleuf**	**19.41**	**190**	P		**P**	**10 36 14.7**	**-1.2**
LL02				IAmb		IAmb	10 36 21.9	
	comp=Z,10nm,0.9s							
BDFB	**Brasilia**	**19.94**	**69**	P		**P**	**10 36 21.5**	**-0.5**
BDFB	**Brasilia**	**19.94**	**69**	P		**P**	**10 36 21.2**	**-0.8**
	comp=Z,20nm,0.6s,baz=247,slow=12,SNR=26							
SNAA	**Sanae**	**59.32**	**161**	P		**P**	**10 41 44.3**	**-1.6**
SNAA				IAmb		IAmb	10 42 08.5	
	comp=Z,9.3nm,1.3s							
SNAA	**Sanae**	**59.32**	**161**	P		**P**	**10 41 48.0**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=349,slow=5.7,SNR=2.2							
	comp=Z,1.2nm,0.6s							
TXAR	**Lajitas Array**	**63.64**	**325**	P		**P**	**10 42 17.6**	**+2.3**
	comp=Z,0.2nm,0.8s,baz=150,slow=11,SNR=2.0							
	comp=Z,0.2nm,0.8s							
QSPA	**South Pole Qui**	**66.09**	**180**	P		**P**	**10 42 34.1**	**+3.2**
QSPA				IAmb		IAmb	10 42 41.3	
	comp=Z,6.6nm,1.4s							
QSPA	**South Pole Qui**	**66.09**	**180**	P		**P**	**10 42 34.0**	**+3.2**
	comp=Z,1.4nm,0.5s,baz=245,slow=0.7,SNR=14							
	comp=Z,1.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P		**P**	**10 43 35.7**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=270,slow=7.1,SNR=8.2							
	comp=Z,0.9nm,0.5s							
YKA	**Yellowknife Ar**	**94.15**	**340**	P		**P**	**10 45 02.9**	**+2.0**
	comp=Z,0.1nm,0.7s,baz=136,slow=4.7,SNR=3.7							
	comp=Z,0.1nm,0.7s							
ASAR	**Alice Springs**	**128.26**	**205**	PKP		**PKiKP**	**10 50 50.3**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=95,slow=1.1,SNR=4.9							
WRA	**Warramunga Arr**	**131.42**	**207**	PKP		**PKiKP**	**10 50 57.5**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=153,slow=1.8,SNR=5.4							
KSH	**Kashi**	**145.44**	**55**	PKPbc		P	10 51 11.6	+6.6
MKAR	**Makanchi Array**	**146.75**	**39**	PKPbc		**PKPab**	**10 51 23.2**	**-2.3**
	comp=Z,0.1nm,0.5s,baz=315,slow=2.7,SNR=1.7							
KLR	**Kul'dur**	**150.83**	**334**	PKPbc		**PKiKP**	**10 51 35.2**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=10,slow=5.4,SNR=3.7							

*NEIC **19** 10:41:47.1±2.2,29°.36N±0°.05×140°.8E±0°.2, h10km±1km, mb4.2/19, Error ellipse: s-maj=27.1km s-min=4.3km az=255.0*

*IDC **19** 10:41:51.5±2.7,29°.44N×140°.86E, h40km±28km, mb3.3/4, mbtmp3.5/6, ML3.9/1, MS2.9/3, Error ellipse: s-maj=46.9km s-min=14.4km az=76.0*

ISC 19 10:41:50.2±0.8, 29°.45N±0°.08×140°.8E±0°.2, h35km, n40, σ1§34/31, mb4.1/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**2.63**	**152**	Pn		Pn	10 42 26.8	-3.4
JCJ				Sn		**Sn**	**10 42 59.6**	**-1.4**
JCJ	**Chichijima**	**2.63**	**152**	P		**Pn**	**10 42 30.2**	**0.0**
	24nm,0.3s,baz=332,slow=16,SNR=13							
JCJ				S		**Sn**	**10 43 02.4**	**+1.4**
	127nm,0.2s,baz=287,slow=19,SNR=3.7							
	63nm,0.3s							
JHJ2	**Mitsune**	**3.75**	**347**	Pn		**Pn**	**10 42 44.2**	**-1.3**
JSG	**Sagara**	**5.67**	**338**	Pn		**Pn**	**10 43 10.5**	**-1.4**
MJAR	**Matsushiro Arr**	**7.41**	**344**	P		**Pn**	**10 43 37.8**	**+2.0**
	0.9nm,0.6s,baz=162,slow=12,SNR=1.9							
JMM	**Marumori**	**8.40**	**360**	Pn		**Pn**	**10 43 46.9**	**-2.5**
JNU	**Nakatsue**	**9.26**	**296**	LR		LR	10 46 34.8	
	comp=Z,51nm,19.1s,baz=102,slow=30							
JOW	**Kunigami**	**11.37**	**260**	LR		LR	10 48 09.1	
	comp=Z,57nm,18.8s,baz=148,slow=33							
TWG	**Pinlang**	**18.90**	**254**	P		**P**	**10 46 06.1**	**-1.7**
KLR	**Kul'dur**	**20.93**	**343**	P		Pn	10 46 30.5	-1.9
	1.1nm,0.6s,baz=158,slow=8.1,SNR=7.6							
	1.1nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**25.56**	**106**	T		T	11 14 20.9	
	baz=298							
H11N1	**WAKE ISLAND Hy**	**25.57**	**106**	T		T	11 14 23.9	
	baz=298							
H11N3	**WAKE ISLAND Hy**	**25.58**	**106**	T		T	11 14 20.9	
	baz=298							
CMAR	**Chiang Mai Arr**	**39.61**	**264**	LR		LR	11 07 41.2	
	comp=Z,22nm,18.2s,baz=320,slow=39							
WB0	**Warramunga Arr**	**49.32**	**188**	P		**P**	**10 50 36.3**	**+0.3**
WB2	**Warramunga Arr**	**49.49**	**188**	P		**P**	**10 50 37.3**	**0.0**
WRA	**Warramunga Arr**	**49.50**	**188**	P		**P**	**10 50 37.5**	**+0.2**
WRA	**Warramunga Arr**	**49.50**	**188**	P		**P**	**10 50 37.8**	**+0.5**
	0.4nm,0.5s,baz=7.2,slow=8.4,SNR=12							
	0.4nm,0.5s							
D19K	**Kuna River**	**52.40**	**24**	P		**P**	**10 50 59.0**	**+0.4**
D19K				IAmb		IAmb	10 51 08.6	
	comp=Z,5.0nm,1.4s							
J19K	**Poorman**	**52.40**	**30**	P		**P**	**10 50 59.3**	**+0.7**
E19K	**Redstone River**	**52.45**	**25**	P		**P**	**10 51 00.2**	**+1.1**
E19K				IAmb		IAmb	10 51 14.5	
	comp=Z,2.9nm,1.4s							
ASAR	**Alice Springs**	**53.22**	**188**	P		**P**	**10 51 06.2**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=360,slow=6.4,SNR=2.5							
	comp=Z,0.3nm,0.7s							
IMAR	**Indian Mountai**	**53.51**	**28**	P		**P**	**10 51 06.4**	**-0.5**
B21K	**Ikpikpuk River**	**53.89**	**23**	P		**P**	**10 51 10.4**	**+0.9**
B21K				IAmb		IAmb	10 51 10.9	
	comp=Z,1.2nm,0.7s							
E22K	**Anaktuvuk Pass**	**54.61**	**25**	P		**P**	**10 51 15.9**	**+1.1**
E22K				IAmb		IAmb	10 51 32.8	
	comp=Z,3.6nm,1.2s							
C23K	**Itkillik River**	**55.30**	**23**	P		**P**	**10 51 20.6**	**+0.8**
D24K	**Happy Valley**	**55.83**	**24**	P		**P**	**10 51 25.2**	**+1.6**
F24K	**Squaw Lake**	**56.01**	**26**	P		**P**	**10 51 26.9**	**+1.9**
F24K				IAmb		IAmb	10 51 33.4	
	comp=Z,1.3nm,0.7s							
ILAR	**Eielson Array**	**56.25**	**29**	P		**P**	**10 51 27.2**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=281,slow=9.1,SNR=4.6							
	comp=Z,0.8nm,1.0s							
E25K	**Arctic Village**	**56.93**	**25**	P		**P**	**10 51 33.5**	**+2.0**
E25K				IAmb		IAmb	10 51 44.5	
	comp=Z,2.7nm,1.5s							
BMAR	**Burnt Mountain**	**57.28**	**26**	P		**P**	**10 51 35.5**	**+1.5**
E28M	**Babbage River**	**59.17**	**25**	P		**P**	**10 51 48.1**	**+1.0**
E28M				IAmb		IAmb	10 51 55.7	
	comp=Z,2.1nm,1.1s							
I28M	**Miner Creek**	**59.18**	**29**	P		**P**	**10 51 48.5**	**+1.1**
I28M				IAmb		IAmb	10 52 12.1	
	comp=Z,3.1nm,1.4s							
K29M	**Barlow Dome**	**60.37**	**30**	P		**P**	**10 51 57.1**	**+1.6**
K29M				IAmb		IAmb	10 52 11.0	
	comp=Z,2.2nm,1.3s							
EPYK	**Eagle Plains**	**60.42**	**27**	P		**P**	**10 51 57.6**	**+1.8**
I30M	**Mount Dempster**	**60.69**	**29**	P		**P**	**10 51 59.5**	**+1.7**
I30M				IAmb		IAmb	10 52 14.8	
	comp=Z,5.5nm,1.5s							
G31M	**Satah River**	**61.32**	**27**	P		**P**	**10 52 01.6**	**-0.2**
G31M				IAmb		IAmb	10 52 16.0	
	comp=Z,5.8nm,1.4s							
H03N2	**Juan Fernandez**	**146.00**	**107**	T		T	13 45 04.4	
	baz=275							
H03N3	**Juan Fernandez**	**146.01**	**107**	T		T	13 45 09.0	
	baz=275							
H03N1	**Juan Fernandez**	**146.02**	**107**	T		T	13 45 07.6	
	baz=275							

*IDC **19** 10:44:10.4±0.9,29°.51N×140°.44E, h0km, mb3.5/8, mbtmp3.5/10, ML3.3/2, Error ellipse: s-maj=33.0km s-min=19.9km az=81.0*

ISC 19 10:44:17.2±0.7, 29°.4N±0°.1×140°.6E±0°.2, h57km, n13, σ1§79/12, mb3.4/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**2.73**	**149**	Pn		**Pn**	**10 44 56.9**	**-1.7**
	25nm,0.3s,baz=322,slow=19,SNR=1.2							
JCJ				Sn		**Sn**	**10 45 28.4**	**-2.0**
	38nm,0.3s,baz=300,slow=20,SNR=2.8							
	71nm,0.4s							
MJAR	**Matsushiro Arr**	**7.36**	**345**	Pn		**Pn**	**10 45 59.1**	**-2.8**
	0.1nm,0.3s,baz=159,slow=12,SNR=1.7							
	0.7nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**25.75**	**106**	T		T	11 16 49.9	
	baz=298,slow=75,SNR=25							
H11N1	**WAKE ISLAND Hy**	**25.75**	**106**	T		T	11 16 49.2	
	baz=298,slow=75,SNR=8.3							
H11N3	**WAKE ISLAND Hy**	**25.77**	**106**	T		T	11 16 51.1	
	baz=298,slow=75,SNR=29							
MKAR	**Makanchi Array**	**47.91**	**308**	P		**P**	**10 52 48.3**	**-1.4**
	0.1nm,0.5s,baz=88,slow=6.5,SNR=1.7							
	0.1nm,0.5s							
WRA	**Warramunga Arr**	**49.47**	**188**	P		**P**	**10 53 04.1**	**+2.3**
	0.5nm,0.7s,baz=1.9,slow=7.9,SNR=1.0							
WRA				PcP		**PcP**	**10 54 24.7**	**+1.4**
	0.4nm,0.6s,baz=5.1,slow=3.8,SNR=2.5							
	0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**50.41**	**313**	P		**P**	**10 53 08.5**	**-0.2**
	0.1nm,0.3s,baz=88,slow=7.5,SNR=1.8							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**53.19**	**188**	P		**P**	**10 53 30.3**	**+0.6**
	0.2nm,0.5s,baz=6.0,slow=6.5,SNR=1.2							
	0.2nm,0.5s							
ILAR	**Eielson Array**	**56.35**	**29**	P		**P**	**10 53 53.0**	**+1.0**
	0.3nm,0.7s,baz=281,slow=7.2,SNR=4.7							
	0.3nm,0.7s							
YKA	**Yellowknife Ar**	**70.75**	**28**	P		**P**	**10 55 28.5**	**+1.5**
	0.3nm,0.8s,baz=294,slow=6.4,SNR=3.8							
	0.3nm,0.8s							
FINES	**FINESS Array B**	**75.23**	**333**	P		**P**	**10 55 53.9**	**+0.4**
	1.8nm,0.9s,baz=51,slow=9.1,SNR=1.5							
	1.8nm,0.9s							
NVAR	**Mina Array Bea**	**80.17**	**51**	P		**P**	**10 56 22.8**	**+1.0**
	0.3nm,0.3s,baz=289,slow=8.5,SNR=1.4							
	0.3nm,0.3s							

*IDC **19** 10:48:12.1±0.4, 13°.7N±0°.1×144°.66E, h139km±4km, mb3.5/17, mbtmp3.9/17, MS3.1/1, Error ellipse: s-maj=18.8km s-min=15.3km az=85.0*

*NEIC **19** 10:48:12.4±1.4, 13°.7N±0°.1×144°.3E±0°.1, h136km±8km, mb4.2/59, Error ellipse: s-maj=20.1km s-min=16.6km az=107.0*

ISC 19 10:48:11.9±0.6, 13°.7N±0°.1×144°.3E±0°.1, h129km, n85, σ1§06/87, mb4.1/44, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**0.53**	**105**			**Pn**	**10 48 32.4**	**+1.4**
GUMO	**Guam**	**0.53**	**105**	P		**Pn**	**10 48 32.5**	**+1.5**
	2μm,0.3s,baz=225,slow=1.4,SNR=287							
GUMO				S		**Sn**	**10 48 46.9**	**+1.5**
	834nm,0.4s,baz=311,slow=19,SNR=28							
PATS	**Pohnpei**	**15.35**	**115**			**P**	**10 51 43.4**	**-0.1**
JOW	**Kunigami**	**19.90**	**313**	P		**P**	**10 52 29.5**	**-3.9**
JOW				IAmb		IAmb	10 52 42.3	
	comp=Z,21nm,1.1s							
JNU	**Nakatsue**	**22.88**	**330**	P		**P**	**10 53 02.1**	**-2.4**
JNU				IAmb		IAmb	10 53 06.7	
	comp=Z,12nm,1.1s							
JNU	**Nakatsue**	**22.88**	**330**	P		**P**	**10 53 05.6**	**+1.1**
	comp=Z,5.9nm,0.8s,baz=165,slow=3.6,SNR=2.6							
JNU				LR		LR	11 00 32.7	
	comp=Z,48nm,18.9s,baz=360,slow=32							
	comp=Z,5.9nm,0.8s							
MJAR	**Matsushiro Arr**	**23.38**	**347**	P		**P**	**10 53 08.3**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=170,slow=9.4,SNR=8.7							
	comp=Z,5.0nm,0.9s							
MAJO	**Matsushiro**	**23.38**	**347**	P		**P**	**10 53 09.2**	**+0.2**
MAJO				IAmb		IAmb	10 53 10.7	
	comp=Z,11nm,0.8s							
MJB9	**Matsu-Tunnel**	**23.38**	**347**	P		**P**	**10 53 10.2**	**+1.1**
MJB9				IAmb		IAmb	10 53 11.7	
	comp=Z,10nm,0.7s							
YULB	**Yu-li**	**23.84**	**297**	P		**P**	**10 53 13.9**	**+0.6**
KSRS	**Korea Array**	**27.80**	**331**	P		**P**	**10 53 49.2**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=143,slow=10.0,SNR=5.6							
	comp=Z,0.9nm,0.5s							
WB0	**Warramunga Arr**	**34.69**	**197**	P		**P**	**10 54 48.6**	**-0.8**
WR0	**Warramunga Arr**	**34.84**	**196**			**P**	**10 54 48.8**	**-1.9**
WB2	**Warramunga Arr**	**34.87**	**197**	P		**P**	**10 54 48.8**	**-2.2**
WB2				IAmb		IAmb	10 55 15.9	
	comp=Z,11nm,1.5s							
WRA	**Warramunga Arr**	**34.88**	**197**	P		**P**	**10 54 50.2**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=23,slow=9.3,SNR=2.4							
WRA				PcP		**PcP**	**10 57 20.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=28,slow=4.3,SNR=2.2							
	comp=Z,0.9nm,0.9s							
KLR	**Kul'dur**	**36.89**	**346**	P		**P**	**10 55 08.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=140,slow=8.8,SNR=5.5							
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**38.54**	**195**	P		**P**	**10 55 21.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=16,slow=12,SNR=6.3							
	comp=Z,0.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**43.79**	**282**	P		**P**	**10 56 07.3**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=94,slow=6.6,SNR=4.7							
	comp=Z,1.1nm,0.3s							
SONM	**Songino Array**	**46.33**	**325**	P		**P**	**10 56 26.1**	**+1.1**
SONM	**Songino Array**	**46.33**	**325**	P		**P**	**10 56 25.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=154,slow=7.9,SNR=4.6							
	comp=Z,0.4nm,0.7s							
MK31	**Makanchi Array**	**61.04**	**316**	P		**P**	**10 58 12.7**	**+0.7**
MKAR	**Makanchi Array**	**61.04**	**316**	P		**P**	**10 58 12.8**	**+0.8**
MKAR	**Makanchi Array**	**61.04**	**316**	P		**P**	**10 58 12.5**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=92,slow=8.7,SNR=25							
	comp=Z,0.9nm,0.3s							
MAKZ	**Makanchi**	**61.25**	**316**	P		**P**	**10 58 14.0**	**+0.5**
MAKZ				IAmb		IAmb	10 58 14.5	
	comp=Z,1.8nm,0.5s							
KURK	**Kurchatov**	**64.15**	**320**	P		**P**	**10 58 32.5**	**0.0**
KURK				IAmb		IAmb	10 58 32.6	
	comp=Z,1.6nm,0.5s							
KURBB	**Kurchatov Arra**	**64.19**	**320**	P		**P**	**10 58 32.7**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=103,slow=6.7,SNR=11							
	comp=Z,1.3nm,0.5s							
J19K	**Poorman**	**64.81**	**25**	P		**P**	**10 58 36.7**	**+0.1**
J19K				IAmb		IAmb	10 58 44.2	
	comp=Z,2.5nm,1.4s							
K20K	**Telida**	**65.23**	**26**	P		**P**	**10 58 39.6**	**+0.2**
K20K				IAmb		IAmb	10 58 52.9	
	comp=Z,5.3nm,1.4s							
CAST	**Castle Rocks**	**66.10**	**26**	P		**P**	**10 58 44.5**	**-0.4**
CAST				IAmb		IAmb	10 58 46.1	
	comp=Z,1.7nm,1.1s							
IMAR	**Indian Mountai**	**66.27**	**23**	P		**P**	**10 58 45.7**	**-0.3**
B21K	**Ikpikpuk River**	**67.32**	**19**	P		**P**	**10 58 52.3**	**-0.2**
SML	**Sawmill**	**67.33**	**28**	P		**P**	**10 58 52.3**	**-0.5**
E22K	**Anaktuvuk Pass**	**67.72**	**21**	P		**P**	**10 58 54.8**	**-0.3**
E22K				IAmb		IAmb	10 59 06.4	
	comp=Z,4.8nm,1.4s							
I23K	**Minto, Yukon-K**	**67.74**	**25**	P		**P**	**10 58 54.4**	**-0.8**
SCM	**Sheep Creek Mo**	**67.80**	**28**	P		**P**	**10 58 55.1**	**-0.7**
MDM	**Murphy Dome**	**68.15**	**25**	P		**P**	**10 58 58.8**	**+0.9**
MDM				IAmb		IAmb	10 59 26.6	
	comp=Z,3.2nm,1.2s							
ILAR	**Eielson Array**	**68.66**	**25**	P		**P**	**10 58 57.9**	**-3.1**
	comp=Z,0.6nm,0.5s,baz=248,slow=5.4,SNR=11							
	comp=Z,0.6nm,0.5s							
D24K	**Happy Valley**	**69.08**	**21**	P		**P**	**10 59 03.5**	**-0.1**
D24K				IAmb		IAmb	10 59 29.9	
	comp=Z,3.3nm,1.4s							
RIDG	**Independent Ri**	**69.31**	**27**	P		**P**	**10 59 04.4**	**-0.7**
RIDG				IAmb		IAmb	10 59 21.9	
	comp=Z,6.3nm,1.3s							
BVAR	**Borovoye Array**	**69.50**	**322**	P		**P**	**10 59 06.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=106,slow=7.3,SNR=4.7							
	comp=Z,0.8nm,0.5s							
VRDI	**Verde Repeater**	**69.51**	**29**	P		**P**	**10 59 05.8**	**-0.7**
D25K	**Kavik River**	**69.97**	**21**	P		**P**	**10 59 08.7**	**-0.4**
D25K				IAmb		IAmb	10 59 10.0	
	comp=Z,5.3nm,1.5s							
J26L	**Joseph Creek**	**70.01**	**26**	P		**P**	**10 59 09.6**	**+0.1**
J26L				IAmb		IAmb	10 59 34.1	
	comp=Z,3.4nm,1.4s							
BMAR	**Burnt Mountain**	**70.17**	**23**	P		**P**	**10 59 10.0**	**-0.3**
CTGM	**Chitina Glacie**	**70.49**	**30**	P		**P**	**10 59 13.4**	**+0.9**
CTGM				IAmb		IAmb	10 59 17.2	
	comp=Z,6.7nm,1.2s							
L27K	**Beaver Creek,**	**70.54**	**28**	P		**P**	**10 59 12.2**	**-0.4**
BCAR	**Beaver Creek A**	**70.56**	**28**	P		**P**	**10 59 11.8**	**-0.9**
E27K	**Coleen River**	**71.43**	**22**	P		**P**	**10 59 17.6**	**-0.3**
E27K				IAmb		IAmb	10 59 36.0	
	comp=Z,4.8nm,1.4s							
I28M	**Miner Creek**	**71.68**	**25**	P		**P**	**10 59 19.0**	**-0.5**
I28M				IAmb		IAmb	10 59 25.0	
	comp=Z,4.9nm,1.5s							
**DAW

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.79**	**123**	*eP*	**Pg**	**10 57 27.0**	**+1.2**
EE01				*eS*	**Sg**	**10 57 36.7**	**+0.7**
MEF	**Metsahovi**	**1.18**	**60**	*eP*	**Pb**	**10 57 34.7**	**+0.8**
MEF				*eS*	**Sg**	**10 57 49.8**	**+1.1**
MEF	**Metsahovi**	**1.18**	**60**	*eP*	**Pg**	**10 57 30.9**	**-2.4**
MEF	**Metsahovi**	**1.18**	**60**	*eP*	**Pb**	**10 57 34.7**	**+0.8**
MEF				*eS*	**Sg**	**10 57 49.8**	**+1.1**
MEF	**Metsahovi**	**1.18**	**60**	*eP*	**Pb**	**10 57 34.9**	**+0.9**
MEF				*eS*	**Sg**	**10 57 50.1**	**+1.5**
MEF	comp=Z,31nm,0.2s			AML	AML	10 57 50.3	
MEF	comp=N,28nm,0.3s			AML	AML	10 57 50.8	
MEF	comp=E,32nm,0.6s			AML	AML	10 57 59.8	
MTSE	**Matsula**	**1.20**	**140**	*eP*	**Pb**	**10 57 34.9**	**+0.7**
MTSE				*eS*	**Sg**	**10 57 50.4**	**+1.2**
MTSE	**Matsula**	**1.20**	**140**	*eP*	**Pg**	**10 57 31.6**	**-2.1**
MTSE	**Matsula**	**1.20**	**140**	*eP*	**Pb**	**10 57 34.9**	**+0.7**
MTSE				*eS*	**Sg**	**10 57 50.4**	**+1.2**
MTSE	**Matsula**	**1.20**	**140**	*eP*	**Pb**	**10 57 35.0**	**+0.7**
MTSE				*eS*	**Sb**	**10 57 50.8**	**+0.5**
AAL	**Aland**	**1.30**	**295**	P	**Pn**	**10 57 36.9**	**+0.9**
AAL				S	**Sb**	**10 57 53.6**	**+0.5**
AAL	**Aland**	**1.30**	**295**	*eP*	**Pn**	**10 57 36.9**	**+0.9**
AAL				*eS*	**Sn**	**10 57 54.5**	**+0.5**
AAL	**Aland**	**1.30**	**295**	P	**Pn**	**10 57 36.9**	**+0.9**
AAL				S	**Sb**	**10 57 53.6**	**+0.5**
HEL1	**Helsinki**	**1.39**	**66**	*eP*	**Pb**	**10 57 38.5**	**+1.1**
HEL1				*eS*	**Sg**	**10 57 56.2**	**+1.0**
HEL1	**Helsinki**	**1.39**	**66**	*eP*	**Pb**	**10 57 38.5**	**+1.1**
HEL1				*eS*	**Sg**	**10 57 56.2**	**+1.0**
RAF	**Rauma**	**1.41**	**349**	*eP*	**Pb**	**10 57 39.0**	**+1.2**
RAF				*eS*	**Sb**	**10 57 57.5**	**+1.1**
RAF	**Rauma**	**1.41**	**349**	*eP*	**Pb**	**10 57 40.7**	**+2.8**
RAF	**Rauma**	**1.41**	**349**	*eP*	**Pb**	**10 57 39.0**	**+1.2**
RAF				*eS*	**Sb**	**10 57 57.5**	**+1.1**
RAF	**Rauma**	**1.41**	**349**	*eP*	**Pb**	**10 57 39.1**	**+1.2**
RAF				*eS*	**Sb**	**10 57 57.5**	**+1.1**
RAF	comp=E,53nm,0.4s			AML	AML	10 57 58.4	
RAF	comp=N,32nm,0.7s			AML	AML	10 58 08.7	
RAF	comp=Z,39nm,0.6s			AML	AML	10 58 08.9	
NUR	**Nurmijrvi**	**1.45**	**52**	*eP*	**Pb**	**10 57 39.5**	**+1.0**
NUR				*eS*	**Sg**	**10 57 57.4**	**+0.3**
NUR	**Nurmijrvi**	**1.45**	**52**	*eP*	**Pb**	**10 57 39.5**	**+1.0**
NUR				*eS*	**Sg**	**10 57 57.4**	**+0.3**
EE08	**Sarghaua, Vand**	**1.79**	**122**	*eP*	**Pb**	**10 57 45.2**	**+0.9**
EE08				*eS*	**Sb**	**10 58 08.3**	**+1.0**
ARBE	**Arbavere**	**1.87**	**95**	*eP*	**Pb**	**10 57 46.4**	**+0.8**
ARBE				*eSG*	**Sg**	**10 58 11.2**	**+0.6**
ARBE	**Arbavere**	**1.87**	**95**	*eP*	**Pb**	**10 57 46.4**	**+0.8**
ARBE				*eSG*	**Sg**	**10 58 11.2**	**+0.6**
ARBE	**Arbavere**	**1.87**	**95**	*eP*	**Pb**	**10 57 46.5**	**+0.9**
ARBE				*eS*	**Sb**	**10 58 10.3**	**+0.9**
ARBE	comp=N,311nm,0.2s			AML	AML	10 58 14.7	
ARBE	comp=E,352nm,0.1s			AML	AML	10 58 16.0	
ARBE	comp=Z,115nm,0.4s			AML	AML	10 58 17.4	
NRTU	**Norrtaelje**	**1.88**	**273**	*eP*	**Pb**	**10 57 46.6**	**+0.7**
NRTU				*eS*	**Sg**	**10 58 11.7**	**+0.6**
NRTU	**Norrtaelje**	**1.88**	**273**	P	**Pb**	**10 57 46.7**	**+0.7**
NRTU	**Norrtaelje**	**1.88**	**273**	*eP*	**Pb**	**10 57 46.6**	**+0.7**
NRTU				*eS*	**Sg**	**10 58 11.7**	**+0.6**
NRTU	**Norrtaelje**	**1.88**	**273**	P	**Pb**	**10 57 46.7**	**+0.7**
PVF	**Pernaja**	**1.98**	**61**	*eP*	**Pb**	**10 57 48.5**	**+0.9**
PVF	**Pernaja**	**1.98**	**61**	*eP*	**Pb**	**10 57 48.5**	**+0.9**
PVF				*eS*	**Sb**	**10 58 13.4**	**+0.7**
PVF	comp=Z,58nm,0.2s			MSG		10 58 18.0	
SLIT	**Slitere, Latvi**	**2.02**	**181**	*eP*	**Pn**	**10 57 47.5**	**+1.6**
SLIT	**Slitere, Latvi**	**2.02**	**181**	*eP*	**Pb**	**10 57 48.5**	**+0.2**
SLIT				*eSG*	**Sg**	**10 58 15.8**	**+0.2**
SLIT	**Slitere, Latvi**	**2.02**	**181**	*eP*	**Pb**	**10 57 48.6**	**+0.4**
SLIT				*eS*	**Sg**	**10 58 16.0**	**+0.4**
SLIT	comp=N,243nm,0.3s			AML	AML	10 58 17.4	
SLIT	comp=E,291nm,0.2s			AML	AML	10 58 19.9	
SLIT	comp=Z,153nm,0.2s			AML	AML	10 58 20.9	
GRAU	**Graesoe**	**2.03**	**292**	P	**Pb**	**10 57 48.8**	**+0.4**
GRAU				S	**Sb**	**10 58 15.4**	**+1.2**
GRAU	**Graesoe**	**2.03**	**292**	P	**Pb**	**10 57 48.8**	**+0.4**
GRAU				S	**Sb**	**10 58 15.4**	**+1.2**
EE03	**Tooma soojaam,**	**2.16**	**109**	*ePB*	**Pb**	**10 57 51.3**	**+0.7**
EE03				*eSB*	**Sb**	**10 58 19.1**	**+1.1**
KPF	**Kankaanpaa**	**2.20**	**357**	*eP*	**Pb**	**10 57 52.5**	**+1.2**
KPF				*eSG*	**Sb**	**10 58 20.9**	**+1.9**
KPF	comp=Z,15nm,0.2s			MSG		10 58 23.2	
FORU	**Forsmark**	**2.22**	**291**	P	**Pb**	**10 57 52.4**	**+0.8**
FORU	**Forsmark**	**2.22**	**291**	P	**Pb**	**10 57 52.4**	**+0.8**
FLYU	**Flymyra**	**2.30**	**284**	P	**Pb**	**10 57 52.6**	**-0.3**
FLYU	**Flymyra**	**2.30**	**284**	P	**Pb**	**10 57 52.6**	**-0.3**
NYNU	**Nynaeshamn**	**2.31**	**256**	P	**Pb**	**10 57 53.3**	**+0.1**
NYNU	**Nynaeshamn**	**2.31**	**256**	P	**Pb**	**10 57 53.3**	**+0.1**
UPP	**Uppsala**	**2.40**	**277**	P	**Pb**	**10 57 55.0**	**+0.4**
UPP	**Uppsala**	**2.40**	**277**	P	**Pb**	**10 57 55.0**	**+0.4**
FIBU	**Brunna**	**2.54**	**278**	P	**Pb**	**10 57 56.1**	**-0.9**
FIBU	**Brunna**	**2.54**	**278**	P	**Pb**	**10 57 56.1**	**-0.9**
VSU	**Vasula**	**2.56**	**116**	*eP*	**Pn**	**10 57 50.6**	**-2.8**
VSU	**Vasula**	**2.56**	**116**	*eS*	**Sb**	**10 58 29.5**	**+0.1**
VSU	comp=E,87nm,0.4s			AML	AML	10 58 33.0	
VSU	comp=Z,60nm,0.4s			AML	AML	10 58 33.5	
VSU	comp=N,83nm,0.5s			AML	AML	10 58 35.9	
FIA0	**FINESS Array S**	**2.58**	**44**	MSN		10 58 33.1	
FINES	comp=Z,23nm,0.2s **FINESS Array B**	**2.58**	**44**	Pn	**Pb**	**10 57 57.2**	**-0.5**
FINES	comp=Z,1.9nm,0.3s,baz=229,slow=14,SNR=34 comp=Z,11nm,0.3s,baz=231,slow=23,SNR=46 comp=Z,3.6nm,0.3s			Lg	Lg	10 58 30.7	
FIA1	**FINESS Array S** comp=Z,18nm,0.2s	**2.58**	**44**	MSG		10 58 33.1	
BACU	**Backbrunna**	**2.66**	**277**	P	**Pb**	**10 57 58.0**	**-1.0**
BACU	**Backbrunna**	**2.66**	**277**	P	**Pb**	**10 57 58.0**	**-1.0**
OSTU	**Oestervaala**	**2.69**	**285**	P	**Pn**	**10 57 58.1**	**+3.0**
OSTU	**Oestervaala**	**2.69**	**285**	P	**Pn**	**10 57 58.1**	**+3.0**
VJF	**Virojoki** comp=Z,21nm,0.3s	**2.76**	**69**	MSG		10 58 40.4	
GOTU	**Gotland**	**2.78**	**227**	*eP*	**Pb**	**10 57 59.5**	**-1.6**
GOTU				*eSB*	**Sb**	**10 58 38.0**	**+2.2**
KEF	**Keuruu** comp=Z,13nm,0.2s	**2.82**	**25**	MSG		10 58 40.0	
KAF	**Kangasniemi** comp=Z,14nm,0.3s	**3.15**	**36**	MSG		10 58 47.7	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=91,slow=13,SNR=7.2	**4.38**	**280**	Pn	**Pn**	**10 58 21.1**	**+2.7**
HFS	comp=Z,1.6nm,0.3s,baz=94,slow=18,SNR=21			Pg	**Pb**	**10 58 30.4**	**+1.9**
HFS	comp=Z,0.6nm,0.3s,baz=93,slow=25,SNR=5.0			Sn	**Sn**	**10 59 10.6**	**+0.4**
HFS	comp=Z,1.3nm,0.3s,baz=93,slow=29,SNR=3.1 comp=Z,0.7nm,0.5s			Lg	Lg	10 59 27.3	
BLEU	**Blekinge**	**4.83**	**229**	*i* P	**Pn**	**10 58 25.9**	**+1.4**
BORU	**Boraas**	**5.39**	**252**	*i* P	**Pn**	**10 58 34.5**	**+2.3**
DEL	**Delary**	**5.51**	**238**	*i* P	**Pn**	**10 58 35.0**	**+1.2**
NB201	**NORSAR Array S**	**5.66**	**289**	*eP*	**Pn**	**10 58 38.1**	**+2.1**
NB201				*eS*	**Sn**	**10 59 42.8**	**+1.1**
NB201	comp=Z,3.0nm,0.3s			IAML		11 00 10.9	
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=18	**5.70**	**289**	Pn	**Pn**	**10 58 38.5**	**+1.9**
NOA	baz=91,slow=14,SNR=3.9			Sn	**Sn**	**10 59 41.3**	**-1.3**
NOA	comp=Z,0.1nm,0.3s,baz=99,slow=15,SNR=3.2 comp=Z,0.2nm,0.4s			Lg	Lg	11 00 07.8	
STRU	**Stroemstad**	**5.74**	**269**	*eP*	**Pn**	**10 58 39.6**	**+2.5**
STRU				*eS*	**Sn**	**10 59 42.2**	**-1.4**
TJOU	**Tjoern**	**5.79**	**258**	*i* P	**Pn**	**10 58 40.7**	**+3.0**
NAO01	**NORSAR Array S**	**5.83**	**287**	*eP*	**Pn**	**10 58 39.8**	**+1.5**
NAO01				*eS*	**Sn**	**10 59 45.9**	**+0.1**
NAO01	comp=Z,2.4nm,0.5s			IAML		11 00 24.7	
NC204	**NORSAR Array S**	**5.96**	**291**	*eP*	**Pn**	**10 58 41.4**	**+1.3**
BJUU	**Bjuv**	**6.13**	**238**	*i* P	**Pn**	**10 58 43.5**	**+1.2**
LUNU	**Lund**	**6.24**	**234**	*i* P	**Pn**	**10 58 45.8**	**+1.9**
TBLU	**Trondheim**	**6.82**	**307**	*i*		11 00 42.9	
DOMB	**Dombas**	**6.92**	**296**	*eP*	**Pn**	**10 58 54.2**	**+1.0**
DOMB				*eS*	**Sn**	**11 00 10.9**	**-1.7**
DOMB	comp=Z,2.1nm,0.4s			IAML		11 00 21.8	
SKAR	**Skarslia**	**7.08**	**284**	*eS*	**Sn**	**11 00 13.6**	**-3.1**
SKAR	comp=Z,1.6nm,0.4s			IAML		11 00 19.1	
SALU	**Saltoluokta**	**7.95**	**349**	*eP*	**Pn**	**10 59 08.9**	**+1.5**
FAUS	**Fauske**	**8.38**	**341**	*eP*	**Pn**	**10 59 15.0**	**+1.9**
FAUS	comp=Z,1.9nm,0.6s			IAML		11 00 54.2	
HEF	**Hetta**	**8.82**	**3**	*eP*	**Pn**	**10 59 20.2**	**+1.0**
KTK1	**Kautokeino**	**9.41**	**2**	*eP*	**Pn**	**10 59 28.2**	**+0.9**
KTK1				*eS*	**Sn**	**11 01 06.6**	**-7.1**
KTK1	comp=Z,1.3nm,0.6s			IAML		11 01 13.9	
ARA0	**ARCESS Array S**	**10.02**	**6**	*eP*	**Pn**	**10 59 37.2**	**+1.5**
ARCES	**ARCESS Array B** comp=Z,0.2nm,0.3s,baz=185,slow=14,SNR=18	**10.02**	**6**	Pn	**Pn**	**10 59 36.3**	**+0.6**
ARCES	comp=Z,0.1nm,0.3s,baz=192,slow=22,SNR=1.7			Sn	**Sn**	**11 01 22.3**	**-6.4**
ARCES	comp=Z,0.1nm,0.3s,baz=187,slow=30,SNR=1.9 comp=Z,0.7nm,0.4s			Lg	Lg	11 02 24.2	

*DNK **19** 11:11:31.8±2.9, 59°.62N×22°.42E, h0km±34km, ML3.2*
*HEL **19** 11:11:33.1±0.1, 59°.64N×22°.33E, h0km, ML2.2, Explosion*
*EST **19** 11:11:33.1, 59°.64N×22°.33E, h0km, ML2.2(HEL), Explosion*
*IDC **19** 11:11:34.9±2.3, 59°.82N×22°.46E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=32.9km s-min=6.9km az=157.0*
*LVSN **19** 11:11:34.1±4.8, 59°.65N×22°.36E, h0km±48km, ML2.2*
*UPP **19** 11:11:36.5±1.0, 59°.66N×21°.83E, h0km, ML2.2*

ISC 19 11:11:30.6±0.7, 59°.62N±0°.02×22°.28E±0°.02, h0km, n61, σ1§43/91, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.80**	**121**	*eP*	**Pg**	**11 11 46.5**	**+0.5**
EE01				*eS*	**Sg**	**11 11 57.2**	**+0.9**
MTSE	**Matsula**	**1.21**	**138**	*eP*	**Pg**	**11 11 54.0**	**+0.3**
MTSE	**Matsula**	**1.21**	**138**	*eP*	**Pn**	**11 11 55.0**	**+0.3**
MTSE	**Matsula**	**1.21**	**138**	*eP*	**Pg**	**11 11 53.9**	**+0.3**
MTSE				*eS*	**Sg**	**11 12 08.5**	**-0.8**
MEF	**Metsahovi**	**1.22**	**60**	*eP*	**Pg**	**11 11 53.6**	**-0.4**
MEF	**Metsahovi**	**1.22**	**60**	*eP*	**Pg**	**11 11 53.7**	**-0.4**
MEF				*eS*	**Sg**	**11 12 08.8**	**-1.1**
MEF	**Metsahovi**	**1.22**	**60**	*eP*	**Pg**	**11 11 53.8**	**-0.2**
MEF				*eS*	**Sg**	**11 12 09.0**	**-0.9**
MEF				*eS*	**Sb**	**11 12 09.3**	**-1.6**
MEF	comp=Z,19nm,0.5s			AML	AML	11 12 10.8	
MEF	comp=E,16nm,0.2s			AML	AML	11 12 11.3	
MEF	comp=N,16nm,0.1s			AML	AML	11 12 15.4	
AAL	**Aland**	**1.28**	**297**	P	**Pb**	**11 11 55.8**	**+0.2**
AAL				S	**Sn**	**11 12 14.2**	**+0.6**
AAL	**Aland**	**1.28**	**297**	*eP*	**Pb**	**11 11 55.8**	**+0.2**
AAL				*eS*	**Sn**	**11 12 14.0**	**+0.5**
AAL	**Aland**	**1.28**	**297**	P	**Pb**	**11 11 55.8**	**+0.2**
AAL				S	**Sn**	**11 12 14.2**	**+0.6**
HEL1	**Helsinki**	**1.43**	**66**	*eP*	**Pb**	**11 11 58.0**	**-0.1**
HEL1				*eS*	**Sg**	**11 12 16.2**	**-0.2**
RAF	**Rauma**	**1.43**	**350**	*eP*	**Pb**	**11 11 58.1**	**0.0**
RAF	**Rauma**	**1.43**	**350**	*eP*	**Pn**	**11 11 57.9**	**+0.1**
RAF				*eS*	**Sb**	**11 12 16.9**	**+0.1**
RAF	**Rauma**	**1.43**	**350**	*eP*	**Pb**	**11 11 58.0**	**0.0**
RAF				*eS*	**Sg**	**11 12 16.5**	**0.0**
RAF	comp=E,28nm,0.2s			AML	AML	11 12 25.4	
RAF	comp=N,18nm,0.7s			AML	AML	11 12 28.7	
RAF	comp=Z,26nm,0.7s			AML	AML	11 12 28.9	
NUR	**Nurmijrvi**	**1.49**	**52**	*eP*	**Pb**	**11 11 59.7**	**+0.6**
NUR				*eS*	**Sn**	**11 12 18.3**	**-0.3**
EE08	**Sarghaua, Vand**	**1.81**	**121**	*eP*	**Pb**	**11 12 04.1**	**-0.4**
EE08				*eS*	**Sg**	**11 12 28.5**	**-0.1**
NRTU	**Norrtaelje**	**1.85**	**273**	P	**Pb**	**11 12 05.7**	**+0.4**
NRTU				S	**Sg**	**11 12 30.4**	**+0.3**
NRTU	**Norrtaelje**	**1.85**	**273**	P	**Pb**	**11 12 05.7**	**+0.4**
NRTU				S	**Sg**	**11 12 30.4**	**+0.3**
ARBE	**Arbavere**	**1.90**	**94**	*eP*	**Pb**	**11 12 06.0**	**-0.1**
ARBE				*eSG*	**Sg**	**11 12 31.8**	**+0.2**
ARBE	**Arbavere**	**1.90**	**94**	*eP*	**Pg**	**11 12 07.1**	**+0.1**
ARBE				*eS*	**Sb**	**11 12 30.5**	**+0.2**
ARBE	comp=Z,53nm,0.2s			AML	AML	11 12 33.9	
ARBE	comp=E,183nm,0.2s			AML	AML	11 12 34.4	
ARBE	comp=N,213nm,0.1s			AML	AML	11 12 35.0	
SLIT	**Slitere, Latvi**	**2.00**	**180**	*eP*	**Pb**	**11 12 08.1**	**+0.3**
SLIT	**Slitere, Latvi**	**2.00**	**180**	*eP*	**Pb**	**11 12 07.7**	**-0.1**
SLIT				*eSG*	**Sg**	**11 12 35.7**	**+1.0**
SLIT	**Slitere, Latvi**	**2.00**	**180**	*eP*	**Pb**	**11 12 07.8**	**0.0**
SLIT				*eS*	**Sg**	**11 12 35.9**	**+1.2**
SLIT	comp=E,144nm,0.4s			AML	AML	11 12 40.0	
SLIT	comp=N,165nm,0.2s			AML	AML	11 12 40.3	
SLIT	comp=Z,103nm,0.3s			AML	AML	11 12 40.3	
GRAU	**Graesoe**	**2.01**	**292**	P	**Pb**	**11 12 08.6**	**+0.6**
GRAU				S	**Sg**	**11 12 35.3**	**+0.1**
GRAU	**Graesoe**	**2.01**	**292**	P	**Pb**	**11 12 08.6**	**+0.6**
GRAU				S	**Sg**	**11 12 35.3**	**+0.1**
PVF	**Pernaja**	**2.02**	**61**	*eP*	**Pb**	**11 12 07.6**	**-0.6**
PVF				*eSG*	**Sb**	**11 12 33.9**	**+0.1**
PVF	comp=Z,23nm,0.2s			MSG		11 12 40.0	
EE03	**Tooma soojaam,**	**2.19**	**108**	*eP*	**Pb**	**11 12 10.2**	**-0.7**
EE03				*eSB*	**Sb**	**11 12 38.4**	**-0.1**
FORU	**Forsmark**	**2.20**	**292**	P	**Pg**	**11 12 12.2**	**-0.5**
FORU	**Forsmark**	**2.20**	**292**	P	**Pg**	**11 12 12.2**	**-0.5**
KPF	**Kankaanpaa**	**2.22**	**357**	*eP*	**Pb**	**11 12 11.7**	**+0.1**
KPF				*eSG*	**Sg**	**11 12 40.8**	**-1.2**
KPF	comp=Z,9.0nm,0.1s			MSG		11 12 44.4	
NYNU	**Nynaeshamn**	**2.28**	**256**	P	**Pb**	**11 12 12.6**	**0.0**
NYNU	**Nynaeshamn**	**2.28**	**256**	P	**Pb**	**11 12 12.6**	**0.0**
FIBU	**Brunna**	**2.51**	**279**	P	**Pb**	**11 12 16.8**	**+0.3**
FIBU	**Brunna**	**2.51**	**279**	P	**Pb**	**11 12 16.8**	**+0.3**
VSU	**Vasula**	**2.58**	**115**	*eP*	**Pn**	**11 12 15.3**	**+1.8**
VSU	**Vasula**	**2.58**	**115**	AML	AML	11 12 54.9	
VSU	comp=E,39nm,0.2s			AML	AML	11 12 57.6	
VSU	comp=N,32nm,0.3s			AML	AML	11 13 00.3	
VSU	comp=Z,17nm,0.2s			AML	AML	11 13 00.3	
FIA0	**FINESS Array S**	**2.62**	**44**	*eP*	**Pb**	**11 12 17.1**	**-1.3**
FIA0				*eSB*	**Sb**	**11 12 50.5**	**-0.6**
FIA0	comp=Z,14nm,0.2s			MSG		11 12 54.0	
FINES	**FINESS Array B**	**2.62**	**44**	Pg	**Pb**	**11 12 17.2**	**-1.2**
FINES	comp=Z,1.0nm,0.3s,baz=228,slow=13,SNR=25 comp=Z,5.3nm,0.3s,baz=233,slow=23,SNR=31			Lg	Lg	11 12 49.5	
OSTU	**Oestervaala**	**2.66**	**285**	P	**Pb**	**11 12 17.5**	**-1.5**
OSTU	**Oestervaala**	**2.66**	**285**	P	**Pb**	**11 12 17.5**	**-1.5**
GOTU	**Gotland**	**2.74**	**227**	*eP*	**Pb**	**11 12 18.8**	**-1.6**
GOTU				*eSG*	**Sg**	**11 12 57.9**	**-0.7**
VJF	**Virojoki** comp=Z,9.2nm,0.2s	**2.80**	**69**	MSG		11 13 00.3	
KEF	**Keuruu** comp=Z,6.9nm,0.2s	**2.85**	**25**	MSG		11 13 00.4	
VIKU	**Vikbolandet**	**3.09**	**251**	P	**Pb**	**11 12 23.9**	**-2.5**
VIKU	**Vikbolandet**	**3.09**	**251**	P	**Pb**	**11 12 23.9**	**-2.5**
KAF	**Kangasniemi** comp=Z,6.9nm,0.2s	**3.18**	**37**	MSG		11 13 10.2	
VAF	**Ylistaro** comp=Z,3.5nm,0.2s	**3.44**	**3**	MSG		11 13 26.9	
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=106,slow=15,SNR=5.1	**4.36**	**280**	Pn	**Pn**	**11 12 41.9**	**+3.9**
HFS	comp=Z,0.5nm,0.3s,baz=93,slow=18,SNR=9.5			Pg	**Pb**	**11 12 50.6**	**+2.7**
HFS	comp=Z,0.2nm,0.3s,baz=86,slow=22,SNR=1.9			Sn	**Sn**	**11 13 30.1**	**+0.7**
HFS	comp=Z,1.0nm,0.3s,baz=84,slow=31,SNR=8.6 comp=Z,0.7nm,0.5s			Lg	Lg	11 13 48.2	
BLEU	**Blekinge**	**4.79**	**229**	*i* P	**Pn**	**11 12 46.8**	**+2.9**
BLEU				*i* S	**Sn**	**11 13 41.3**	**+1.3**
BORU	**Boraas**	**5.35**	**252**	*i* P	**Pn**	**11 12 53.8**	**+2.1**
BORU				*i* S	**Sn**	**11 13 55.2**	**+1.3**
DEL	**Delary**	**5.47**	**238**	*i* P	**Pn**	**11 12 55.2**	**+1.9**
DEL				*i* S	**Sn**	**11 13 56.6**	**-0.1**
NOA	**NORSAR Array B** baz=97,slow=11,SNR=6.9	**5.68**	**289**	Pn	**Pn**	**11 12 58.8**	**+2.6**
NOA	baz=100,slow=16,SNR=1.7			Sn	**Sn**	**11 14 02.0**	**0.0**
NOA	baz=212,slow=17,SNR=3.7 comp=Z,0.3nm,0.5s			Lg	Lg	11 14 24.3	
STRU	**Stroemstad**	**5.71**	**269**	*eS*	**Sn**	**11 14 00.6**	**-2.2**
TJOU	**Tjoern**	**5.76**	**259**	*eP*	**Pn**	**11 12 57.1**	**-0.1**
TJOU				*eS*	**Sn**	**11 14 02.8**	**-1.1**
ONAU	**Onsala**	**5.87**	**252**	*i* P	**Pn**	**11 13 00.5**	**+1.7**
BSD	**Bornholm Skovb**	**6.02**	**225**	*i* P	**Pn**	**11 13 02.1**	**+1.3**
BSD				*i* S	**Sn**	**11 14 09.2**	**-1.2**
BSD	comp=Z,12nm,0.9s			IAML		11 14 10.6	
BJUU	**Bjuv**	**6.09**	**238**	*i* P	**Pn**	**11 13 01.3**	**-0.4**
BJUU				*i* S	**Sn**	**11 14 12.0**	**+0.1**
LUNU	**Lund**	**6.20**	**234**	*i* S	**Sn**	**11 14 13.1**	**-1.7**
HOMB	**Homborsund**	**7.25**	**265**	*i* P	**Pn**	**11 13 16.0**	**-1.7**
SNART	**Snartemo**	**7.89**	**267**	*i* S	**Sn**	**11 14 48.1**	**-8.3**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=11 comp=Z,1.3nm,0.8s	**10.05**	**7**	Pn	**Pn**	**11 13 56.2**	**+0.2**

*DNK **19** 11:15:29.8±1.7, 59°.72N×22°.46E, h0km, ML2.5(UPP), Suspected explosion*
*HEL **19** 11:15:30.4±0.1, 59°.64N×22°.37E, h0km, ML2.3, Explosion*
*UPP **19** 11:15:30.9±1.4, 59°.74N×22°.26E, h0km, ML2.5*
*EST **19** 11:15:30.4, 59°.64N×22°.36E, h0km, ML2.3(HEL), Explosion*
*LVSN **19** 11:15:31.5±3.7, 59°.66N×22°.33E, h0km±29km, ML2.4*
*IDC **19** 11:15:31.5±1.7, 59°.80N×22°.35E, h0km, mbtmp2.8/4, ML2.1/4, Error ellipse: s-maj=21.8km s-min=6.4km az=160.0*

ISC 19 11:15:27.4±0.7, 59°.64N±0°.02×22°.36E±0°.02, h0km, n49, σ1§00/77, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.78**	**123**	*eP*	**Pg**	**11 15 43.7**	**-0.1**
EE01				*eS*	**Sb**	**11 15 54.1**	**-0.7**
MEF	**Metsahovi**	**1.18**	**60**	*eP*	**Pn**	**11 15 51.2**	**+0.1**
MEF	**Metsahovi**	**1.18**	**60**	*eP*	**Pn**	**11 15 51.3**	**+0.3**
MEF				*eS*	**Sb**	**11 16 06.5**	**+0.1**
MEF	**Metsahovi**	**1.18**	**60**	*eP*	**Pn**	**11 15 51.4**	**+0.3**
MEF				*eS*	**Sb**	**11 16 06.7**	**+0.3**
MEF	comp=Z,21nm,0.4s			AML	AML	11 16 07.5	
MEF	comp=N,26nm,0.1s			AML	AML	11 16 07.9	
MEF	comp=E,23nm,0.2s			AML	AML	11 16 08.0	
MTSE	**Matsula**	**1.20**	**140**	*eP*	**Pn**	**11 15 51.7**	**+0.4**
MTSE	**Matsula**	**1.20**	**140**	*eP*	**Pn**	**11 15 51.5**	**+0.3**
MTSE				*eS*	**Sb**	**11 16 07.2**	**+0.4**
MTSE	**Matsula**	**1.20**	**140**	*eP*	**Pn**	**11 15 51.6**	**+0.3**
MTSE				*eS*	**Sb**	**11 16 07.2**	**+0.4**
AAL	**Aland**	**1.31**	**295**	P	**Pn**	**11 15 53.4**	**+0.5**
AAL				S	**Sn**	**11 16 11.0**	**+0.1**
AAL	**Aland**	**1.31**	**295**	*eP*	**Pn**	**11 15 53.4**	**+0.5**
AAL				*eS*	**Sn**	**11 16 11.3**	**+0.3**
AAL	**Aland**	**1.31**	**295**	P	**Pn**	**11 15 53.4**	**+0.5**
AAL				S	**Sn**	**11 16 11.0**	**+0.1**
HEL1	**Helsinki**	**1.38**	**66**	*eP*	**Pb**	**11 15 54.8**	**+0.7**
HEL1				*eS*	**Sb**	**11 16 12.4**	**+0.2**
RAF	**Rauma**	**1.42**	**348**	*eP*	**Pb**	**11 15 55.3**	**+0.7**
RAF	**Rauma**	**1.42**	**348**	*eP*	**Pb**	**11 15 55.5**	**+0.8**
RAF				*eS*	**Sn**	**11 16 14.3**	**+0.6**
RAF	**Rauma**	**1.42**	**348**	*eP*	**Pb**	**11 15 55.6**	**+1.0**
RAF				*eS*	**Sb**	**11 16 13.6**	**+0.3**
RAF	comp=E,40nm,0.1s			AML	AML	11 16 20.0	
RAF	comp=N,24nm,0.7s			AML	AML	11 16 25.2	
RAF	comp=Z,33nm,0.7s			AML	AML	11 16 25.5	
NUR	**Nurmijrvi**	**1.44**	**52**	*eP*	**Pb**	**11 15 55.9**	**+0.8**
NUR				*eS*	**Sn**	**11 16 14.7**	**+0.4**
EE08	**Sarghaua, Vand**	**1.78**	**122**	*eP*	**Pg**	**11 16 01.8**	**+0.2**
EE08				*eS*	**Sg**	**11 16 25.0**	**+0.8**
ARBE	**Arbavere**	**1.86**	**95**	*eP*	**Pg**	**11 16 03.0**	**0.0**
ARBE				*eSG*	**Sg**	**11 16 27.5**	**+0.4**
ARBE	**Arbavere**	**1

BACU	**Backbrunna**	**2.67**	**277**	P	**Pb**	**11 16 16.4**	**+0.4**
BACU				S	**Sb**	**11 16 48.2**	**-0.9**
VJF	**Virojoki**	**2.76**	**69**	MSG		11 16 55.1	
	comp=Z,10nm,0.2s						
GOTU	**Gotland**	**2.79**	**227**	*eP*	**Pb**	**11 16 16.4**	**-1.5**
GOTU				*eS*	**Sb**	**11 16 51.0**	**-1.6**
KAF	**Kangasniemi**	**3.14**	**36**	MSG		11 17 04.5	
	comp=Z,7.6nm,0.2s						
VAF	**Ylistaro**	**3.42**	**2**	MSG		11 17 24.6	
	comp=Z,4.0nm,0.2s						
HFS	**Hagfors**	**4.39**	**280**	Pn	**Pn**	**11 16 38.1**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=91,slow=14,SNR=5.4						
HFS				Pg	**Pb**	**11 16 46.8**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=88,slow=16,SNR=8.5						
HFS				Lg	Lg	11 17 44.8	
	comp=Z,1.2nm,0.3s,baz=94,slow=31,SNR=12						
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**5.71**	**289**	Pn	**Pn**	**11 16 55.7**	**+2.3**
	baz=90,slow=14,SNR=7.0						
NOA				Sn	**Sn**	**11 17 59.5**	**0.0**
	baz=98,slow=15,SNR=1.7						
NOA				Lg	Lg	11 18 26.1	
	baz=50,slow=16,SNR=2.4						
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**10.03**	**6**	Pn	**Pn**	**11 17 52.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=183,slow=13,SNR=11						
ARCES				Sn	**Sn**	**11 19 39.8**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=186,slow=24,SNR=1.7						
	comp=Z,0.7nm,0.5s						

*NOU **19** 11:32:42.5,43.62S×172.79E, h0km, MLv4.3/10, South Island, New Zealand*
*WEL **19** 11:32:44.9±0.5,44.5°S±2.2°×17.3°E±.°, h5km, M4.0/30, ML4.5/7, MLv4.0/30, Error ellipse: s-maj=0.0km s-min=0.0km az=78.3, confirmed*
*NEIC **19** 11:32:44.1±1.6,43.61S±0.04°×172.71E±0.06, h21km±9km, ML3.7/59, Error ellipse: s-maj=8.8km s-min=0.8km az=130.0*
*WEL **19** 11:32:44.9,43.58S×172.62E, h5km, ML4.0, Mw3.7, Moment Tensor Solution. s6 Moment tensor: Mrr-5.41; Mθθ44.70; Mϕϕ-39.30; Mrθ15.53; Mθϕ2.14; Mϕr1.49; Fault plane solution: NP1:φs45.00000°, δ77.00000°, λ170.00000°. NP2:φs137.00000°, δ80.00000°, λ13.00000°. Principal axes: T 49.2000, Plg16.0000°, Azm1.0000°; N -9.8100, Plg74.0000°, Azm173.0000°; P -39.3900, Plg2.0000°, Azm271.0000°; SOUTH ISLAND*

ISC 19 11:32:44.5±0.8, 43.60S±0.02×172.67E±0.03, h17km±6km, n151, σ1s08/164, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.11**	**186**	Pg	**Pg**	**11 32 47.9**	**-0.2**
MQZ				Sg	**Sg**	**11 32 50.1**	**-0.4**
MQZ	**McQueen's Vall**	**0.11**	**186**	P	**Pg**	**11 32 48.0**	**-0.2**
MQZ				S	**Sg**	**11 32 50.2**	**-0.4**
AKCZ	**Akaroa Harbour**	**0.33**	**148**	P	**Pb**	**11 32 52.3**	**+0.4**
AKCZ				S	**Sb**	**11 32 57.4**	**+0.5**
RACZ	**Rakaia**	**0.41**	**251**	P	**Pg**	**11 32 53.0**	**+0.2**
AMCZ	**Amberley**	**0.42**	**358**		**Pg**	**11 32 53.2**	**+0.1**
AMCZ				Sg	**Sg**	**11 32 59.4**	**+0.5**
AMCZ	**Amberley**	**0.42**	**358**	P	**Pg**	**11 32 53.2**	**+0.1**
OXZ	**Oxford**	**0.53**	**300**		**Pg**	**11 32 54.4**	**-0.8**
OXZ				Sg	**Sg**	**11 33 01.2**	**-1.1**
OXZ	**Oxford**	**0.53**	**300**	P	**Pg**	**11 32 54.5**	**-0.7**
OXZ				S	**Sg**	**11 33 01.5**	**-0.8**
GVZ	**Greta Valley S**	**0.68**	**23**		**Pb**	**11 32 58.5**	**+0.5**
GVZ					**Sb**	**11 33 08.7**	**+1.5**
GVZ	**Greta Valley S**	**0.68**	**23**	P	**Pb**	**11 32 58.4**	**+0.4**
GVZ				S	**Sb**	**11 33 08.6**	**+1.4**
WACZ	**Wakanui South**	**0.69**	**240**	P	**Pb**	**11 32 58.7**	**+0.5**
WACZ				S	**Sg**	**11 33 07.8**	**+0.5**
MHCZ	**Mount Hutt**	**0.80**	**274**	P	**Pg**	**11 32 60.0**	**-0.2**
LTZ	**Lake Taylor**	**0.87**	**340**		**Pg**	**11 33 01.2**	**-0.2**
LTZ				Sn	**Sg**	**11 33 12.9**	**+0.1**
LTZ	**Lake Taylor**	**0.87**	**340**	P	**Pg**	**11 33 01.1**	**-0.2**
LTZ				S	**Sg**	**11 33 12.7**	**-0.1**
ARCZ	**Arundel**	**1.14**	**252**	P	**Pg**	**11 33 05.3**	**-1.2**
RPZ	**Rata Peaks**	**1.18**	**264**		**Pg**	**11 33 05.7**	**-1.6**
RPZ				IAML		11 33 30.9	
	1μm,0.6s						
RPZ				IAML		11 33 31.7	
	1μm,0.9s						
RPZ	**Rata Peaks**	**1.18**	**264**	P	**Pg**	**11 33 05.9**	**-1.4**
RPZ	**Rata Peaks**	**1.18**	**264**	P	**Pg**	**11 33 05.9**	**-1.4**
INZ	**Inchbonnie**	**1.25**	**314**	Pn	**Pn**	**11 33 06.7**	**-0.6**
INZ				IAML		11 33 28.8	
	comp=N,2μm,0.7s						
INZ				IAML		11 33 30.0	
	comp=E,1μm,0.8s						
INZ	**Inchbonnie**	**1.25**	**314**	P	**Pn**	**11 33 06.8**	**-0.4**
INZ				S	**Sg**	**11 33 21.6**	**-3.3**
KHZ	**Kahutara**	**1.34**	**29**	Pn	**Pn**	**11 33 08.0**	**-0.4**
KHZ				IAML		11 33 35.3	
	comp=N,619nm,0.7s						
KHZ	**Kahutara**	**1.34**	**29**	P	Pn	11 33 01.0	-7.5
KHZ				P	**Pn**	**11 33 08.0**	**-0.4**
TMZ	**Timaru**	**1.44**	**236**	P	**Pn**	**11 33 09.6**	**-0.2**
TMZ				S	**Sb**	**11 33 30.1**	**+1.2**
WVZ	**Waitaha Valley**	**1.50**	**290**	P	**Pn**	**11 33 10.7**	**0.0**
THZ	**Tophouse**	**1.84**	**5**	Pn	**Pn**	**11 33 14.7**	**-0.8**
THZ				IAML		11 33 49.8	
	comp=E,353nm,0.9s						
THZ				IAML		11 33 57.5	
	comp=N,498nm,0.7s						
THZ	**Tophouse**	**1.84**	**5**	P	**Pn**	**11 33 15.1**	**-0.4**
DSZ	**Denniston Nort**	**1.96**	**341**	Pn	**Pn**	**11 33 16.6**	**-0.4**
DSZ				IAML		11 33 45.3	
	comp=E,732nm,0.7s						
DSZ				IAML		11 33 47.1	
	comp=N,900nm,0.5s						
DSZ	**Denniston Nort**	**1.96**	**341**	P	**Pn**	**11 33 16.8**	**-0.3**
LBZ	**Lake Benmore**	**1.96**	**245**	Pn	**Pn**	**11 33 17.1**	**+0.1**
LBZ				IAML		11 33 51.7	
	comp=E,514nm,0.6s						
LBZ				IAML		11 33 56.2	
	comp=N,493nm,0.9s						
LBZ	**Lake Benmore**	**1.96**	**245**	P	**Pn**	**11 33 17.2**	**+0.1**
ODZ	**Otahua Downs**	**2.05**	**224**	Pn	**Pn**	**11 33 18.2**	**-0.1**
ODZ	**Otahua Downs**	**2.05**	**224**	P	**Pn**	**11 33 18.3**	**+0.1**
ODZ	**Otahua Downs**	**2.05**	**224**	P	**Pn**	**11 33 18.1**	**-0.1**
FOZ	**Fox Glacier**	**2.08**	**271**		**Pn**	**11 33 19.8**	**+1.2**
FOZ				IAML		11 33 59.7	
	comp=N,358nm,0.7s						
FOZ				IAML		11 34 07.3	
	comp=E,271nm,1.0s						
FOZ	**Fox Glacier**	**2.08**	**271**	P	**Pn**	**11 33 19.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**2.08**	**26**	Pn	**Pn**	**11 33 18.3**	**-0.4**
BSWZ				IAML		11 34 13.7	
	comp=N,273nm,1.1s						
BSWZ	**Blackbirch Sta**	**2.08**	**26**	P	**Pn**	**11 33 18.5**	**-0.1**
CMWZ	**Cape Campbell**	**2.17**	**32**	Pn	**Pn**	**11 33 18.1**	**-1.8**
CMWZ				IAML		11 34 15.6	
	comp=E,386nm,1.2s						
CMWZ				IAML		11 34 22.6	
	comp=N,574nm,1.3s						
MRNZ	**Matariki Terra**	**2.20**	**2**	Pn	**Pn**	**11 33 20.2**	**-0.1**
MRNZ	**Matariki Terra**	**2.20**	**2**	P	**Pn**	**11 33 20.7**	**+0.5**
TUWZ	**Tuamarina**	**2.36**	**24**	Pn	**Pn**	**11 33 21.5**	**-1.0**
TUWZ	**Tuamarina**	**2.36**	**24**	P	**Pn**	**11 33 22.0**	**-0.5**
NNZ	**Nelson**	**2.44**	**13**	Pn	**Pn**	**11 33 21.9**	**-1.6**
NNZ	**Nelson**	**2.44**	**13**	P	**Pn**	**11 33 23.6**	**0.0**
TKNZ	**Takaka Hill**	**2.57**	**5**	Pn	**Pn**	**11 33 24.1**	**-1.3**
TKNZ	**Takaka Hill**	**2.57**	**5**	P	**Pn**	**11 33 26.1**	**+0.7**
TCW	**Tory Channel**	**2.67**	**27**	Pn	**Pn**	**11 33 25.0**	**-1.7**
TCW				IAML		11 34 01.1	
	comp=E,183nm,0.4s						
TCW	**Tory Channel**	**2.67**	**27**	P	**Pn**	**11 33 26.6**	**-0.1**
HHSZ	**Highcliff Hill**	**2.72**	**212**	P	**Pn**	**11 33 27.6**	**+0.1**
BHW	**Baring Head**	**2.73**	**37**	Pn	**Pn**	**11 33 26.0**	**-1.5**
BHW	**Baring Head**	**2.73**	**37**	P	**Pn**	**11 33 26.7**	**-0.8**
SNZO	**South Karori**	**2.74**	**34**	Pn	**Pn**	**11 33 26.7**	**-1.0**
SNZO	**South Karori**	**2.74**	**34**	P	**Pn**	**11 33 27.3**	**-0.3**
QRZ	**Quartz Range**	**2.77**	**358**	Pn	**Pn**	**11 33 27.0**	**-1.2**
QRZ				IAML		11 34 14.6	
	comp=E,202nm,0.8s						
QRZ				IAML		11 34 19.7	
	comp=N,167nm,0.7s						
QRZ	**Quartz Range**	**2.77**	**358**	P	**Pn**	**11 33 27.9**	**-0.3**
QRZ	**Quartz Range**	**2.77**	**358**	P	**Pn**	**11 33 27.8**	**-0.4**
PLWZ	**Palliser**	**2.78**	**44**	Pn	**Pn**	**11 33 26.3**	**-2.1**
PLWZ	**Palliser**	**2.78**	**44**	P	**Pn**	**11 33 27.4**	**-1.0**
WEL	**Wellington**	**2.79**	**35**	P	**Pn**	**11 33 27.8**	**-0.5**
JCZ	**Jackson Bay**	**2.85**	**259**	P	**Pn**	**11 33 29.8**	**+0.5**
JCZ	**Jackson Bay**	**2.85**	**259**	P	**Pn**	**11 33 29.4**	**+0.1**
WKZ	**Wanaka**	**2.90**	**244**	Pn	**Pn**	**11 33 29.5**	**-0.4**
WKZ				IAML		11 34 33.2	
	comp=E,392nm,0.6s						
WKZ	**Wanaka**	**2.90**	**244**	P	**Pn**	**11 33 29.7**	**-0.3**
EAZ	**Earnscleugh**	**2.91**	**235**	P	**Pn**	**11 33 29.9**	**-0.2**
DUWZ	**D'Urville Isla**	**2.94**	**19**	P	**Pn**	**11 33 30.6**	**0.0**
PAWZ	**Paruwai Farm**	**3.01**	**44**	P	**Pn**	**11 33 31.0**	**-0.5**
CAW	**Cannon Point**	**3.06**	**36**	P	**Pn**	**11 33 30.9**	**-1.2**
TRWZ	**Traveller**	**3.13**	**46**	P	**Pn**	**11 33 32.2**	**-0.9**
TUZ	**Tuapeka**	**3.20**	**222**	P	**Pn**	**11 33 34.1**	**+0.1**
KIW	**Kapiti Island**	**3.20**	**32**	P	**Pn**	**11 33 33.4**	**-0.7**
MTW	**Mount Morrison**	**3.22**	**42**	P	**Pn**	**11 33 33.0**	**-1.2**
OGWZ	**Otaki Gorge**	**3.34**	**35**	P	**Pn**	**11 33 35.0**	**-1.0**
TMWZ	**Te Maipa**	**3.45**	**45**	P	**Pn**	**11 33 37.6**	**+0.1**
MSZ	**Milford Sound**	**3.58**	**251**	P	**Pn**	**11 33 38.9**	**-0.4**
MRZ	**Mangatainoka R**	**3.65**	**37**	Pn	**Pn**	**11 33 38.3**	**-1.9**
MRZ				IAML		11 34 23.8	
	comp=N,94nm,0.3s						
MRZ	**Mangatainoka R**	**3.65**	**37**	P	**Pn**	**11 33 39.0**	**-1.2**
MLZ	**Mavora Lakes**	**3.71**	**240**	Pn	**Pn**	**11 33 40.5**	**-0.5**
MLZ				IAML		11 34 52.7	
	comp=E,240nm,1.1s						
MLZ				IAML		11 34 53.5	
	comp=N,208nm,0.6s						
MLZ	**Mavora Lakes**	**3.71**	**240**	P	**Pn**	**11 33 40.6**	**-0.4**
SYZ	**Scrubby Hill**	**3.86**	**219**	P	**Pn**	**11 33 43.6**	**+0.6**
SYZ	**Scrubby Hill**	**3.86**	**219**	P	**Pn**	**11 33 43.7**	**+0.6**
PRWZ	**Pori Road**	**3.91**	**40**	P	**Pn**	**11 33 43.7**	**0.0**
BFZ	**Birch Farm**	**3.94**	**44**	Pn	**Pn**	**11 33 42.7**	**-1.6**
BFZ				IAML		11 34 29.8	
	comp=E,62nm,0.4s						
BFZ				IAML		11 34 53.6	
	comp=N,73nm,2.7s						
BFZ	**Birch Farm**	**3.94**	**44**	P	**Pn**	**11 33 43.0**	**-1.3**
BFZ	**Birch Farm**	**3.94**	**44**	P	**Pn**	**11 33 42.8**	**-1.5**
POWZ	**Post Office Ro**	**3.95**	**37**	P	**Pn**	**11 33 44.0**	**-0.4**
WHZ	**Wether Hill Ro**	**4.07**	**234**	Pn	**Pn**	**11 33 44.0**	**-2.1**
WHZ				IAML		11 35 11.0	
	comp=N,175nm,1.4s						
WHZ	**Wether Hill Ro**	**4.07**	**234**	P	**Pn**	**11 33 44.8**	**-1.2**
DVHZ	**Dannevirke**	**4.20**	**40**	P	**Pn**	**11 33 46.6**	**-1.3**
WAZ	**Wanganui**	**4.21**	**25**	P	**Pn**	**11 33 49.7**	**+1.7**
ANWZ	**Angora Road**	**4.23**	**43**	P	**Pn**	**11 33 47.3**	**-0.8**
NMEZ	**Namu Road**	**4.28**	**13**	P	**Pn**	**11 33 51.0**	**+2.2**
TSZ	**Takapari Road**	**4.31**	**36**	P	**Pn**	**11 33 47.7**	**-1.6**
DCZ	**Deep Cove**	**4.36**	**243**	Pn	**Pn**	**11 33 47.5**	**-2.5**
DCZ				IAML		11 35 14.8	
	comp=N,101nm,0.9s						
DCZ				IAML		11 35 19.9	
	comp=E,100nm,0.7s						
DCZ	**Deep Cove**	**4.36**	**243**	P	**Pn**	**11 33 50.1**	**+0.1**
KHEZ	**Kahui Hut**	**4.42**	**14**	P	**Pn**	**11 33 51.7**	**+0.9**
KHEZ	**Kahui Hut**	**4.42**	**14**	P	**Pn**	**11 33 52.4**	**+1.6**
NBEZ	**Newall Road No**	**4.42**	**12**	P	**Pn**	**11 33 51.7**	**+0.9**
PRHZ	**Porangahau**	**4.45**	**43**	P	**Pn**	**11 33 50.7**	**-0.6**
NEZ	**North Egmont**	**4.45**	**14**	P	**Pn**	**11 33 52.5**	**+1.1**
PKE	**Pukeiti**	**4.51**	**13**	P	**Pn**	**11 33 53.1**	**+1.0**
WPHZ	**Waipukurau**	**4.52**	**40**	P	**Pn**	**11 33 51.7**	**-0.5**
PNHZ	**Pukenui**	**4.53**	**37**	P	**Pn**	**11 33 51.2**	**-1.1**
DREZ	**Durham Road**	**4.55**	**15**	P	**Pn**	**11 33 53.5**	**+0.9**
APZ	**The Paps**	**4.62**	**224**	P	**Pn**	**11 33 54.0**	**+0.3**
VRZ	**Vera Road**	**4.74**	**20**	P	**Pn**	**11 33 56.0**	**+0.8**
PXZ	**Pawanui**	**4.75**	**43**	P	**Pn**	**11 33 54.8**	**-0.4**
MOVZ	**Moawhango**	**4.78**	**30**	P	**Pn**	**11 33 56.5**	**+0.6**
WNVZ	**Wahianoa**	**4.80**	**28**	P	**Pn**	**11 33 56.6**	**+0.4**
TRVZ	**Turoa**	**4.81**	**28**	P	**Pn**	**11 33 56.8**	**+0.5**
KRHZ	**Kereru**	**4.83**	**36**	P	**Pn**	**11 33 54.8**	**-1.7**
BHHZ	**Black Hill Sta**	**4.83**	**33**	P	**Pn**	**11 33 56.2**	**-0.3**
MAVZ	**Matarangi**	**4.84**	**28**	P	**Pn**	**11 33 57.9**	**+1.0**
KAHZ	**Kahuranaki**	**4.94**	**41**	P	**Pn**	**11 33 56.8**	**-1.1**
NGZ	**Ngauruhoe**	**4.94**	**28**	P	**Pn**	**11 33 58.5**	**+0.4**
SNVZ	**South Ngauruho**	**4.94**	**28**	P	**Pn**	**11 33 58.9**	**+0.7**
OTVZ	**Oturere**	**4.97**	**28**	P	**Pn**	**11 33 58.3**	**-0.3**
PYZ	**Puysegur Point**	**4.97**	**237**	Pn	**Pn**	**11 33 55.9**	**-2.5**
PYZ	**Puysegur Point**	**4.97**	**237**	P	**Pn**	**11 34 00.1**	**+1.7**
PYZ	**Puysegur Point**	**4.97**	**237**	P	**Pn**	**11 34 00.3**	**+1.9**
NNVZ	**North Ngauruho**	**4.98**	**27**	P	**Pn**	**11 33 59.1**	**+0.4**
WTVZ	**West Tongariro**	**4.99**	**27**	P	**Pn**	**11 33 58.6**	**-0.2**
ETVZ	**East Tongariro**	**5.01**	**28**	P	**Pn**	**11 34 00.1**	**+1.0**
KRVZ	**Karewarewa**	**5.02**	**27**	P	**Pn**	**11 33 59.9**	**+0.6**
TMVZ	**Te Maari**	**5.03**	**28**	P	**Pn**	**11 33 59.6**	**+0.4**
KWHZ	**Kaweka Forest**	**5.03**	**35**	P	**Pn**	**11 33 59.0**	**-0.3**
NTVZ	**North Tongarir**	**5.03**	**26**	P	**Pn**	**11 33 59.9**	**+0.6**
MCHZ	**McNeill Hill**	**5.13**	**37**	P	**Pn**	**11 34 01.4**	**+0.8**
BKZ	**Black Stump Fm**	**5.28**	**34**	Pn	**Pn**	**11 34 01.5**	**-1.2**
BKZ				IAML		11 36 55.2	
	comp=N,32nm,4.1s						
HIZ	**Hauiti**	**5.34**	**19**	Pn	**Pn**	**11 34 02.9**	**-0.6**
HIZ				IAML		11 35 28.0	
	comp=E,61nm,2.1s						
HIZ				IAML		11 35 37.4	
	comp=N,67nm,2.4s						
HIZ	**Hauiti**	**5.34**	**19**	P	**Pn**	**11 34 03.2**	**-0.3**
HIZ	**Hauiti**	**5.34**	**19**	P	**Pn**	**11 34 03.2**	**-0.3**
ARHZ	**Aropaoanui**	**5.42**	**38**	P	**Pn**	**11 34 04.5**	**+0.1**
MRHZ	**Matea Rd**	**5.53**	**32**	P	**Pn**	**11 34 04.8**	**-1.4**
TLZ	**Tolley Road**	**5.69**	**23**	P	**Pn**	**11 34 07.9**	**-0.5**
KNZ	**Kokohu**	**5.92**	**41**	P	**Pn**	**11 34 09.7**	**-1.8**
RTZ	**Ruatahuna**	**5.95**	**35**	Pn	**Pn**	**11 34 09.4**	**-2.4**
SNGZ	**Shannon Statio**	**5.96**	**38**	P	**Pn**	**11 34 10.0**	**-2.0**
TOZ	**Tahuroa Road**	**6.24**	**21**	Pn	**Pn**	**11 34 13.3**	**-2.5**
TOZ	**Tahuroa Road**	**6.24**	**21**	P	**Pn**	**11 34 14.4**	**-1.4**
URZ	**Urewera**	**6.30**	**34**	P	**Pn**	**11 34 14.3**	**-2.4**
MWZ	**Matawai**	**6.42**	**37**	P	**Pn**	**11 34 15.8**	**-2.5**
TWGZ	**Tauwhareparae**	**6.75**	**38**	P	**Pn**	**11 34 22.3**	**-0.5**
MKAZ	**Moumakai**	**6.76**	**17**	P	**Pn**	**11 34 22.7**	**-0.2**
RUGZ	**Raukumara Rang**	**6.79**	**36**	P	**Pn**	**11 34 21.5**	**-2.0**
ETAZ	**East Tamaki Re**	**6.86**	**15**	P	**Pn**	**11 34 24.2**	**-0.1**
MYRZ	**Mayor Island**	**6.87**	**25**	P	**Pn**	**11 34 24.4**	**-0.2**
PUZ	**Puketiti**	**6.96**	**39**	P	**Pn**	**11 34 23.7**	**-2.0**
HAZ	**Te Kaha**	**7.01**	**35**	P	**Pn**	**11 34 24.7**	**-1.6**
PKGZ	**Pakihiroa**	**7.03**	**38**	P	**Pn**	**11 34 25.6**	**-1.0**
WIAZ	**Waiheke Island**	**7.05**	**16**	P	**Pn**	**11 34 26.9**	**-0.1**
WMGZ	**Waiomatatini S**	**7.23**	**39**	P	**Pn**	**11 34 27.7**	**-1.7**

*KRNET **19** 11:49:22.0±0.1, 40.46N×73.45E, h19km, mb2.8*
*KNET **19** 11:49:25.4±0.4, 40.65N×73.44E, h20km±2km, ml2.5, Error ellipse: s-maj=4.5km s-min=3.0km az=90.0*
*SOME **19** 11:49:25.4, 40.72N×73.50E, h5km*
*NNC **19** 11:49:26.7±1.3, 40.70N×73.54E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=8.9km s-min=6.1km az=11.0*

ISC 19 11:49:23.4±1.1, 40.42N±0.03×73.37E±0.03, h8km±10km, n64, σ1s50/107, 47C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.42**	**165**	⇑*iP*	**Pg**	**11 49 30.9**	**-0.7**
	baz=75						
SFK				⇑*iS*	**Sg**	**11 49 37.2**	**0.0**
	baz=75						
OHH	**Osh**	**0.45**	**283**	⇑*iP*	**Pg**	**11 49 32.0**	**-0.2**
	baz=77						
OHH				⇑*iS*	**Sb**	**11 49 39.1**	**-1.6**
	baz=77						
ARSB	**Arslanbob**	**0.95**	**342**	⇑*eP*	**Pg**	**11 49 39.5**	**-2.1**
	baz=38						
ARSB				⇑*eS*	**Sg**	**11 49 52.1**	**-1.8**
	baz=38						
DRK	**Kamyk**	**1.53**	**232**	⇑*eP*	**Pn**	**11 49 51.3**	**0.0**
	baz=33						
DRK				⇑*eS*	**Sg**	**11 50 12.8**	**+0.3**
	baz=33						
ARLS	**Aral**	**1.61**	**26**	⇑*iP*	**Pn**	**11 49 50.3**	**-2.0**
	baz=25						
ARLS				⇑*iS*	**Sn**	**11 50 10.6**	**-2.7**
	baz=25						
AML	**Almayashu**	**1.73**	**8**	⇑P	**Pn**	**11 49 53.1**	**-1.0**
	22nm,0.1s,SNR=92						
AML				⇑S	**Sn**	**11 50 14.0**	**-2.5**
	239nm,0.4s						
AML	**Almayashu**	**1.73**	**8**	⇑Pn	**Pn**	**11 49 53.1**	**-1.0**
	0.5nm,0.3s						
AML				⇓Sn	**Sn**	**11 50 16.2**	**-0.3**
	8.7nm,0.5s						
AML	**Almayashu**	**1.73**	**8**	⇑*iP*	**Pn**	**11 49 52.7**	**-1.4**
	baz=6.0						
AML				⇑*iS*	**Sn**	**11 50 15.0**	**-1.5**
	baz=6.0						
ARK	**Arkit**	**1.74**	**323**	⇑*iP*	**Pn**	**11 49 53.7**	**-0.3**
	baz=21						
ARK				⇑*iS*	**Sb**	**11 50 16.8**	**-0.8**
	baz=21						
BTK	**Batken**	**1.98**	**260**	⇑*iP*	**Pn**	**11 49 58.1**	**+0.8**
	baz=59						
BTK				⇑*iS*	**Sb**	**11 50 24.3**	**-0.4**
	baz=59						
UCH	**Uchtor**	**2.00**	**25**	⇑P	**Pn**	**11 49 57.5**	**-0.4**
	9.2nm,0.3s,SNR=17						
UCH				⇓S	**Sn**	**11 50 23.6**	**+0.2**
	47nm,0.3s						
UCH	**Uchtor**	**2.00**	**25**	⇑*iP*	**Pn**	**11 49 56.7**	**-1.2**
	baz=24						
UCH				⇑*iS*	**Sn**	**11 50 22.0**	**-1.4**
	baz=24						
TRKS	**Terek-Say**	**2.02**	**304**	⇑*iP*	**Pn**	**11 49 57.4**	**-0.5**
	baz=1.0						
TRKS				⇑*iS*	**Sn**	**11 50 23.1**	**-0.3**
	baz=1.0						
KZA	**Kyzart**	**2.18**	**40**	⇓P	**Pn**	**11 50 00.6**	**+0.3**
	5.9nm,0.2s,SNR=10						
KZA				⇑S	**Sn**	**11 50 28.5**	**+0.7**
	21nm,0.4s						
KZA	**Kyzart**	**2.18**	**40**	⇑*eP*	**Pn**	**11 49 59.0**	**-1.3**
	baz=39						
KZA				⇑*iS*	**Sn**	**11 50 26.1**	**-1.7**
	baz=39						
NRN	**Naryn**	**2.24**	**62**	⇓*iP*	**Pn**	**11 49 59.5**	**-1.5**
	baz=63						
NRN				⇓*iS*	**Sn**	**11 50 26.6**	**-2.4**
	baz=63						
EKS2	**Erkin-Say**	**2.26**	**8**	⇓P	**Pn**	**11 50 01.2**	**0.0**
	3.9nm,0.2s,SNR=7.6						
EKS2				⇓S	**Sn**	**11 50 29.5**	**+0.2**
	18nm,0.2s						
EKS2	**Erkin-Say**	**2.26**	**8**	⇓*iP*	**Pn**	**11 50 00.4**	**-0.8**
	baz=6.0						
EKS2				⇓*iS*	**Sn**	**11 50 28.2**	**-1.1**
	baz=6.0						
MRKS	**Merke**	**2.32**	**357**	Pg	**Pn**	**11 50 03.8**	**+1.8**
	10nm,0.2s						
MRKS				Lg	Lg	11 50 31.7	
	48nm,0.2s						
MRKS	**Merke**	**2.32**	**357**	*eP*	**Pn**	**11 50 03.8**	**+1.8**
	10nm,0.2s						
MRKS				*eS*	**Sn**	**11 50 31.7**	**+0.8**
	48nm,0.2s						
AAK	**Ala-Archa**	**2.37**	**21**	⇑P	**Pn**	**11 50 03.4**	**+0.7**
	8.2nm,0.2s,SNR=6.4						
AAK				⇑S	**Sn**	**11 50 32.6**	**+0.5**
	25nm,0.3s						
AAK	**Ala-Archa**	**2.37**	**21**	⇑*iP*	**Pn**	**11 50 01.7**	**-1.0**
	baz=20						
AAK				⇑*iS*	**Sn**	**11 50 30.7**	**-1.4**
	baz=20						
KBK	**Karagaybulak**	**2.53**	**27**	⇓P	**Pn**	**11 50 05.5**	**+0.6**
	19nm,0.4s,SNR=17						
KBK				⇑S	**Sn**	**11 50 36.9**	**+0.9**
	62nm,0.5s						
KBK	**Karagaybulak**	**2.53**	**27**	⇑*iP*	**Pn**	**11 50 04.1**	**-0.8**
	baz=27						
KBK				⇑*iS*	**Sn**	**11 50 34.6**	**-1.4**
	baz=27						
FRU1	**Bishkek**	**2.57**	**21**	⇓*iP*	**Pn**	**11 50 04.5**	**-0.9**
	baz=20						
FRU1				⇓*iS*	**Sn**	**11 50 35.6**	**-1.2**
	baz=20						
CHMS	**Chumysh**	**2.78**	**21**	⇓*iP*	**Pn**	**11 50 07.2**	**-1.0**
	baz=21						
CHMS				⇓*iS*	**Sn**	**11 50 40.1**	**-1.8**
	baz=21						
ULHL	**Ulahol**	**2.83**	**49**	⇑P	**Pn**	**11 50 09.8**	**+0.7**
	6.7nm,0.2s,SNR=13						
ULHL	**Ulahol**	**2.83**	**49**	⇓*iP*	**Pn**	**11 50 08.2**	**-0.9**
	baz=49						
ULHL				⇓*iS*	**Sn**	**11 50 41.7**	**-1.8**
	ba

KTBS				Lg	Lg	11 51 27.2	
	12nm,0.5s						
KTBS	**Karatobe**	**4.11**	**36**	*e*P	**Pb**	**11 50 36.4**	**+0.3**
	2.3nm,0.4s						
KTBS				*e*S	**Sb**	**11 51 27.2**	**+1.4**
	12nm,0.5s						
KUU	**Kurty**	**4.11**	**32**	Pg	**Pb**	**11 50 36.9**	**+0.9**
	4.5nm,0.5s						
KUU				Lg	Lg	11 51 28.2	
	4.9nm,0.5s						
KUU	**Kurty**	**4.11**	**32**	*e*P	**Pb**	**11 50 36.9**	**+0.9**
	4.5nm,0.5s						
KUU				*e*S	**Sb**	**11 51 28.2**	**+2.4**
	4.9nm,0.5s						
SATY	**Saty**	**4.60**	**53**	Pg	**Pb**	**11 50 45.1**	**+0.7**
	2.2nm,0.3s						
SATY				Lg	Lg	11 51 43.1	
	8.4nm,0.5s						
SATY	**Saty**	**4.60**	**53**	*e*P	**Pb**	**11 50 45.8**	**+1.4**
	2.0nm,0.3s						
SATY				*e*S	**Sb**	**11 51 43.3**	**+3.3**
	8.4nm,0.5s						
BTLS	**Baital**	**4.64**	**6**	Pg	**Pb**	**11 50 45.8**	**+0.8**
	1.5nm,0.3s						
BTLS				Lg	Lg	11 51 43.4	
	3.4nm,0.3s						
BTLS	**Baital**	**4.64**	**6**	*e*P	**Pb**	**11 50 45.8**	**+0.8**
	1.5nm,0.3s						
BTLS				*e*S	**Sb**	**11 51 43.4**	**+2.3**
	3.4nm,0.3s						
KPKS	**Kokpek**	**5.00**	**51**	Pg	**Pb**	**11 50 53.3**	**+2.1**
	1.8nm,0.3s						
KPKS				Lg	Lg	11 51 56.3	
	6.0nm,0.5s						
KPKS	**Kokpek**	**5.00**	**51**	*e*P	**Pb**	**11 50 53.3**	**+2.1**
	1.8nm,0.3s						
KPKS				*e*S	**Sb**	**11 51 56.3**	**+4.8**
	6.0nm,0.5s						
ARXS	**Arharly**	**5.03**	**40**	Pg	**Pb**	**11 50 53.9**	**+2.2**
	2.8nm,0.5s						
ARXS				Lg	Lg	11 51 57.3	
	7.3nm,0.6s						
ARXS	**Arharly**	**5.03**	**40**	*e*P	**Pb**	**11 50 53.9**	**+2.2**
	2.8nm,0.5s						
ARXS				*e*S	**Sb**	**11 51 57.3**	**+5.0**
	7.3nm,0.6s						
PDGK	**Podgornoye**	**5.42**	**56**	Pg	**Pb**	**11 51 00.2**	**+2.0**
	0.9nm,0.4s						
PDGK				Lg	Lg	11 52 08.1	
	2.1nm,0.8s						

BJI ***19*** *11:59:57.6±0.0, 43°.60N×146°.45E, h80km, mb4.5/39, mB5.0/20, Ms4.5/6, Ms7 4.2/3*
MOS ***19*** *11:59:58.9±0.9, 43°.60N×146°.36E, h90km, mb5.0/58, Error ellipse: s-maj=6.2km s-min=4.3km az=113.0*
MOS Felt (II) at Goryachiy Plyazh, Malokuril'skoye, Mendeleyevo, Yuzhno-Kuril'sk.
SKHL ***19*** *11:59:59.2±0.4, 43°.50N×146°.50E, h90km±9km, mb5.4/12, mbv5.1/3, msh5.2/3, msha6.0/8*
BGR ***19*** *12:00:00.1, 44°.29N×144°.55E, h88km, mb4.7*
NIED ***19*** *12:00:00.7, 43°.53N×146°.38E, h81km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.62; $M_{\theta\theta}$3.38; $M_{\phi\phi}$ -1.76; $M_{r\theta}$4.30; $M_{\theta\phi}$-2.35; $M_{r\phi}$2.01; Fault plane solution: $M_0$6.05000×10^{15} NP1: ϕ_s253.00000°, δ80.00000°, λ-125.00000°. NP2: ϕ_s149.00000°, δ36.00000°, λ-16.00000°.*
JMA ***19*** *12:00:00.7±0.2, 43°.5N±0.6×14°.6E±°, h81km±1km, MD4.7/40, MW4.5/40, NEAR KUNASHIRI ISLAND*
JMA Felt II J1 at NEAR KUNASHIRI ISLAND .
NEIC ***19*** *12:00:01.6±1.6, 43°.65N±0°.06×146°.3E±0°.1, h93km±6km, mb4.9/219, Error ellipse: s-maj=11.2km s-min=8.5km az=99.0*
IDC ***19*** *12:00:02.3±1.6, 43°.71N×146°.31E, h102km±13km, mb4.3/29, mbtmp4.6/33, MS3.5/22, Error ellipse: s-maj=12.1km s-min=10.5km az=142.0*
ISC 19 11:59:59.9±0.4, 43°.61N±0°.04×146°.44E±0°.03, h86km±2km, h86km:pP-P, n901, σ1s22/915, mb4.9/223, 40C-31D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.39**	**48**	⇓*i*	PN	**Pn**	**12 00 13.8**	**+0.4**
SHO				*i*	S	**Sn**	**12 00 23.5**	**+0.2**
SHO					pmax	pmax		
	comp=N,2μm,0.3s							
SHO					pmax	pmax		
	comp=E,3μm,0.3s							
SHO					pmax	pmax		
	comp=Z,7μm,0.3s							
SHO					smax	smax		
	comp=N,26μm,0.2s							
SHO					smax	smax		
	comp=E,55μm,0.3s							
SHO	**Shikotan**	**0.39**	**48**	*i*	P	**Pn**	**12 00 13.7**	**+0.4**
SHO					AMB	AMB	12 00 14.0	
	comp=E,7μm,0.4s							
SHO					*e*S	**Sn**	**12 00 23.7**	**+0.4**
SHO					A	A	12 00 24.1	
	comp=E,63μm,0.5s							
SHO					A	A	12 00 24.1	
	comp=E,75μm,0.5s							
NEM2	**Nemuro 2**	**0.56**	**244**	⇓	P	**Pn**	**12 00 14.6**	**-0.1**
NEM2				⇓	*e*S	**Sn**	**12 00 24.7**	**-1.0**
NEM2	**Nemuro 2**	**0.56**	**244**		A	A	12 00 14.6	
	comp=E,67nm,0.3s,comp=N,210nm,0.4s							
NMR	**Nemuro--Hokkai**	**0.57**	**245**	⇓*i*	PN	**Pn**	**12 00 14.7**	**-0.1**
NMR				*i*	S	**Sn**	**12 00 24.6**	**-1.2**
NMR	**Nemuro--Hokkai**	**0.57**	**245**	*i*	P	**Pn**	**12 00 14.7**	**-0.1**
NMR				*i*	S	**Sn**	**12 00 24.9**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**0.59**	**316**	*d*	PN	**Pn**	**12 00 15.0**	**-0.1**
YUK				*i*	S	**Sn**	**12 00 25.7**	**-0.6**
YUK					pmax	pmax		
	comp=Z,19μm,0.2s							
YUK					pmax	pmax		
	comp=N,3μm,0.1s							
YUK					smax	smax		
	comp=N,18μm,0.2s							
YUK					smax	smax		
	comp=E,39μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**0.59**	**316**	*i*	P	**Pn**	**12 00 14.9**	**-0.1**
YUK					AMB	AMB	12 00 15.8	
	comp=E,20μm,0.4s							
YUK				*i*	S	**Sn**	**12 00 25.9**	**-0.4**
YUK					A	A	12 00 28.5	
	comp=E,37μm,0.5s							
YUK					A	A	12 00 28.5	
	comp=E,44μm,0.5s							
RUSJ	**Misakicho**	**0.99**	**300**	⇓*i*	PN	**Pn**	**12 00 20.0**	**+0.8**
RUSJ					*e*S	**Sn**	**12 00 35.0**	**+1.4**
JRA	**Rausu**	**1.01**	**289**	⇓	P	**Pn**	**12 00 19.9**	**+0.6**
JRA				⇓	*e*S	**Sn**	**12 00 35.0**	**+1.1**
JRA	**Rausu**	**1.01**	**289**		A	A	12 00 19.9	
	comp=E,41nm,1.5s,comp=N,43nm,1.5s							
JNSB	**Nemuroshibetsu**	**1.05**	**280**	⇓	P	**Pn**	**12 00 20.5**	**+0.6**
JNSB				⇓	*e*S	**Sn**	**12 00 35.5**	**+0.6**
JNSB	**Nemuroshibetsu**	**1.05**	**280**		A	A	12 00 20.5	
	comp=E,57nm,1.4s,comp=N,59nm,1.9s							
JKHN	**Kushirohamanak**	**1.07**	**241**	*e*	P	**Pn**	**12 00 20.2**	**+0.1**
JKHN				*e*	S	**Sn**	**12 00 34.5**	**-0.7**
JKHN	**Kushirohamanak**	**1.07**	**241**		A	A	12 00 20.2	
	comp=E,32nm,0.6s,comp=N,83nm,1.5s							
JNK	**Nakash**	**1.25**	**269**	⇓	P	**Pn**	**12 00 22.1**	**-0.1**
JNK				⇓	*e*S	**Sn**	**12 00 37.7**	**-1.4**
JNK	**Nakash**	**1.25**	**269**		A	A	12 00 22.1	
	comp=E,9.0nm,1.2s,comp=N,11nm,1.2s							
AKK	**Akkeshi**	**1.30**	**244**	*e*	P	**Pn**	**12 00 22.7**	**-0.3**
JAK	**Akkeshi**	**1.41**	**245**		P	**Pn**	**12 00 24.1**	**-0.1**
JAK					*e*S	**Sn**	**12 00 41.4**	**-1.3**
JAK	**Akkeshi**	**1.41**	**245**		A	A	12 00 24.1	
	comp=E,33nm,0.8s,comp=N,48nm,1.1s							
JTKR	**Abashiri--Toko**	**1.87**	**282**	⇓	P	**Pn**	**12 00 31.0**	**+0.8**
JTKR				⇓	*e*S	**Sn**	**12 00 53.2**	**+0.1**
KUR	**Kuril'sk**	**1.92**	**32**	*c*	PN	**Pn**	**12 00 32.6**	**+1.7**
KUR				*i*	S	**Sn**	**12 00 56.6**	**+2.2**
KUR					pmax	pmax		
	comp=E,743nm,0.5s							
KUR					pmax	pmax		
	comp=Z,4μm,0.5s							
KUR					pmax	pmax		
	comp=N,679nm,0.3s							
KUR					smax	smax		
	comp=N,13μm,1.0s							
KUR					smax	smax		
	comp=E,9μm,1.0s							
KUR					smax	smax		
	comp=N,6μm,0.3s							
KUR					smax	smax		
	comp=E,4μm,0.3s							
KUR	**Kuril'sk**	**1.92**	**32**	*i*	P	**Pn**	**12 00 32.6**	**+1.7**
KUR					AMB	AMB	12 00 33.2	
	comp=E,4μm,0.5s							
KUR				*i*	S	**Sn**	**12 00 56.6**	**+2.2**
KUR					A	A	12 00 57.2	
	comp=E,13μm,3.0s							
KUR					A	A	12 00 57.2	
	comp=E,9μm,3.0s							
KUR					A	A	12 00 57.6	
	comp=E,6μm,0.3s							
KUR					A	A	12 00 57.6	
	comp=E,4μm,0.3s							
JAR	**Ashorobuto**	**1.97**	**262**	⇓	P	**Pn**	**12 00 32.2**	**+0.7**
JAR				⇓	*e*S	**Sn**	**12 00 55.3**	**-0.2**
JAR	**Ashorobuto**	**1.97**	**262**		A	A	12 00 32.2	
	comp=E,15nm,0.4s,comp=N,20nm,0.5s							
JOB	**Onbets**	**2.03**	**251**		P	**Pn**	**12 00 32.8**	**+0.5**
JOB					*e*S	**Sn**	**12 00 56.3**	**-0.7**
JOB	**Onbets**	**2.03**	**251**		A	A	12 00 32.8	
	comp=E,25nm,0.9s,comp=N,24nm,0.7s							
JMP	**Maruseppu**	**2.26**	**281**	⇓	P	**Pn**	**12 00 36.4**	**+0.9**
JMP	**Maruseppu**	**2.26**	**281**		A	A	12 00 36.4	
	comp=E,5.0nm,1.2s,comp=N,2.0nm,1.1s							
JCH	**Churui**	**2.46**	**247**		P	**Pn**	**12 00 38.0**	**-0.1**
JCH					*e*S	**Sn**	**12 01 05.3**	**-2.0**
JCH	**Churui**	**2.46**	**247**		A	A	12 00 38.0	
	comp=E,5.0nm,0.8s,comp=N,10.0nm,0.9s							
JKA	**Kamikawa-asahi**	**2.82**	**282**		Pn	**Pn**	**12 00 44.3**	**+1.4**
JKA					Sn	**Sn**	**12 01 17.0**	**+1.0**
JKA	**Kamikawa-asahi**	**2.82**	**282**	*e*	P	**Pn**	**12 00 44.4**	**+1.5**
ASAJ	**Asahikawa**	**2.82**	**282**		P	**Pn**	**12 00 44.4**	**+1.5**
	comp=N,532nm,0.5s,baz=101,slow=8.1,SNR=1257							
ASAJ					S	**Sn**	**12 01 17.6**	**+1.5**
	comp=N,266nm,0.5s,baz=318,slow=23,SNR=7.5							
ERM	**Erimo**	**2.89**	**238**			**Pn**	**12 00 45.7**	**+1.9**
ERM					Sn	**Sn**	**12 01 17.3**	**-0.3**
ERM	**Erimo**	**2.89**	**238**		P	**Pn**	**12 00 45.7**	**+1.9**
ERM	**Erimo**	**2.89**	**238**	*c*	PN	**Pn**	**12 00 45.2**	**+1.4**
JEM	**Erimo**	**2.89**	**238**		P	**Pn**	**12 00 45.7**	**+1.9**
JIAM	**Iburiatsuma**	**3.45**	**255**		A	A	12 00 52.4	
	comp=E,5.0nm,3.4s,comp=N,6.0nm,3.4s							
YSS	**Yuzh-Sakhalins**	**4.23**	**323**		Pn	**Pn**	**12 01 01.4**	**-0.6**
YSS					Sn	**Sn**	**12 01 49.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.23**	**323**		P	**Pn**	**12 01 04.1**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.23**	**323**	*e*	PN	**Pn**	**12 01 03.1**	**+1.1**
YSS					*e*S	**Sn**	**12 01 49.7**	**-0.5**
YSS					pmax	pmax		
	comp=Z,80nm,1.0s							
YSS					pmax	pmax		
	comp=Z,200nm,3.9s							
YSS					smax	smax		
	comp=N,310nm,1.2s							
YSS					smax	smax		
	comp=E,510nm,1.0s							
YSS					MLR	MLR		
	comp=Z,400nm,14.0s							
YSS	**Yuzh-Sakhalins**	**4.23**	**323**	*e*	P	**Pn**	**12 01 03.1**	**+1.1**
YSS					AMB	AMB	12 01 07.5	
	comp=Z,200nm,4.0s							
YSS					AMB	AMB	12 01 09.0	
	comp=Z,60nm,0.5s							
YSS					*e*S	**Sn**	**12 01 53.2**	**+3.0**
YSS					A	A	12 01 54.9	
	comp=Z,350nm,0.7s							
YSS					A	A	12 01 54.9	
	comp=Z,300nm,0.7s							
JAHD	**Aomorihigashid**	**4.44**	**240**		A	A	12 01 05.9	
	comp=E,7.0nm,0.7s,comp=N,9.0nm,1.4s							
JTM	**Tenmabayashi**	**4.88**	**237**		Pn	**Pn**	**12 01 10.1**	**-0.7**
JTM	**Tenmabayashi**	**4.88**	**237**		P	**Pn**	**12 01 10.8**	**-0.1**
UGL	**Uglegorsk**	**6.25**	**333**	*e*	PN	**Pn**	**12 01 31.2**	**+1.8**
UGL					*e*S	**Sn**	**12 02 39.5**	**+0.2**
UGL					pmax	pmax		
	comp=Z,500nm,1.3s							
UGL					pmax	pmax		
	comp=N,86nm,1.0s							
UGL					pmax	pmax		
	comp=Z,212nm,1.0s							
UGL					pmax	pmax		
	comp=E,128nm,0.6s							
UGL					smax	smax		
	comp=N,500nm,5.0s							
UGL					smax	smax		
	comp=E,900nm,3.5s							
UGL					smax	smax		
	comp=E,235nm,0.8s							
UGL					smax	smax		
	comp=N,199nm,1.2s							
UGL	**Uglegorsk**	**6.25**	**333**	*e*	P	**Pn**	**12 01 30.0**	**+0.6**
UGL					AMB	AMB	12 01 32.5	
	comp=N,500nm,2.0s							
UGL					AMB	AMB	12 01 33.0	
	comp=N,90nm,0.8s							
UGL					*e*S	**Sn**	**12 02 41.6**	**+2.3**
UGL					A	A	12 02 48.0	
	comp=N,200nm,4.0s							
UGL					A	A	12 02 48.0	
	comp=N,900nm,4.0s							
UGL					A	A	12 02 54.0	
	comp=N,150nm,0.7s							
UGL					A	A	12 02 54.0	
	comp=N,160nm,0.7s							
JMM	**Marumori**	**7.16**	**219**		Pn	**Pn**	**12 01 40.0**	**-1.9**
TYV	**Tymovskoe**	**7.70**	**342**	*e*	PN	**Pn**	**12 01 50.8**	**+1.7**
TYV					*e*S	**Sn**	**12 03 15.5**	**+0.9**
TYV					pmax	pmax		
	comp=Z,58nm,1.0s							
TYV					pmax	pmax		
	comp=Z,200nm,3.2s							
TYV					smax	smax		
	comp=N,37nm,1.2s							
TYV					smax	smax		
	comp=E,37nm,1.2s							
TYV					smax	smax		
	comp=N,600nm,5.6s							
TYV					smax	smax		
	comp=E,700nm,5.6s							
TYV	**Tymovskoe**	**7.70**	**342**	*e*	P	**Pn**	**12 01 51.7**	**+2.6**
TYV					AMB	AMB	12 01 51.9	
	comp=E,60nm,0.6s							
TYV					AMB	AMB	12 01 55.9	
	comp=E,200nm,4.0s							
TYV					*e*S	**Sn**	**12 03 15.5**	**+0.9**
TYV					A	A	12 03 17.5	
	comp=E,40nm,0.7s							
TYV					A	A	12 03 17.5	
	comp=E,40nm,0.7s							
TYV					A	A	12 03 22.2	
	comp=E,600nm,6.0s							
TYV					A	A	12 03 22.2	
	comp=E,700nm,6.0s							
JSD	**Sado**	**8.33**	**231**		Pn	**Pn**	**12 01 58.3**	**+0.4**
MJB9	**Matsu-Tunnel**	**9.46**	**225**			**Pn**	**12 02 13.2**	**-0.1**
MAJO	**Matsushiro**	**9.46**	**225**		Pn	**Pn**	**12 02 12.2**	**-1.1**
MAJO	**Matsushiro**	**9.46**	**225**		P	**Pn**	**12 02 12.6**	**-0.7**
MAJO	**Matsushiro**	**9.46**	**225**	*c*	PN	**Pn**	**12 02 12.0**	**-1.3**
MJAR	**Matsushiro Arr**	**9.46**	**225**		P	**Pn**	**12 02 12.2**	**-1.1**
	comp=E,22nm,0.6s,baz=29,slow=13,SNR=55							
MJAR					S	**Sn**	**12 04 02.7**	**+4.8**
	comp=E,2.3nm,0.3s,baz=283,slow=28,SNR=1.0							
SKR	**Severo-Kuril's**	**9.67**	**40**	*e*	P	**Pn**	**12 02 15.4**	**-0.5**
SKR					AMB	AMB	12 02 23.5	
	comp=E,90nm,0.6s							
SKR					*e*S	**Sn**	**12 03 58.2**	**-4.4**
SKR					A	A	12 04 07.2	
	comp=E,70nm,0.6s							
SKR					A	A	12 04 07.2	
	comp=E,60nm,0.6s							
GRNR	**Gornyy**	**9.88**	**320**	⇓*i*	PN	**Pn**	**12 02 20.6**	**+1.7**
GRNR					pmax	pmax		
	comp=N,10.0nm,0.8s							
GRNR					pmax	pmax		
	comp=Z,10.0nm,0.7s							
GRNR					MLR	MLR		
	comp=Z,230nm,15.0s							
GRNR	**Gornyy**	**9.88**	**320**	*e*	P	**Pn**	**12 02 20.6**	**+1.7**
GRNR					AMB	AMB	12 02 22.4	
	comp=Z,10.0nm,0.7s							
OKH	**Okha**	**10.21**	**348**	*de*	PN	**Pn**	**12 02 27.7**	**+4.3**
OKH					*e*S	**Sn**	**12 04 18.2**	**+2.3**
OKH					pmax	pmax		
	comp=Z,100nm,6.8s							
OKH					MLR	MLR		
	comp=N,300nm,15.0s							
OKH	**Okha**	**10.21**	**348**	*e*	P	**Pn**	**12 02 24.3**	**+0.9**
OKH					AMB	AMB	12 02 25.4	
	comp=N,50nm,0.4s							
OKH					*e*S	**Sn**	**12 04 16.2**	**+0.3**
OKH					A	A	12 04 17.6	
	comp=N,30nm,0.4s							
OKH					A	A	12 04 17.6	
	comp=N,60nm,0.4s							
NKL	**Nikolayevsk**	**10.28**	**340**	*e*	P	**Pn**	**12 02 24.5**	**+0.2**
NKL					AMB	AMB	12 02 26.2	
	comp=N,30nm,0.8s							
NKL					*e*S	**Sn**	**12 04 16.9**	**-0.7**
USA0B	**Ussuriysk Arra**	**10.45**	**278**		Pn	**Pn**	**12 02 24.8**	**-1.8**
USA0B	**Ussuriysk Arra**	**10.45**	**278**	*e*	PN	**Pn**	**12 02 24.7**	**-1.9**
USRK	**Ussuriysk Ar.**	**10.45**	**278**		Pn	**Pn**	**12 02 26.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**10.45**	**278**		P	**Pn**	**12 02 27.3**	**+0.6**
	comp=N,0.8nm,0.6s,baz=251,slow=7.8,SNR=1.6							
USRK					LR	LR	12 06 41.8	
	comp=N,51nm,20.2s,baz=33,slow=39							
PAU	**Pauzhetka**	**10.53**	**38**	*e*	P	**Pn**	**12 02 27.5**	**-0.2**
PAU					AMB	AMB	12 02 30.3	
	comp=N,90nm,0.5s							
PAU					*e*S	**Sn**	**12 04 18.9**	**-4.7**
PAU					A	A	12 04 24.0	
	comp=N,40nm,0.3s							
PAU					A	A	12 04 24.0	
	comp=N,50nm,0.3s							
JGF	**Kuroka**	**10.62**	**224**		Pn	**Pn**	**12 02 28.2**	**-1.0**
INU	**Inuyama**	**10.99**	**225**		Pn	**Pn**	**12 02 33.6**	**-0.5**
INU	**Inuyama**	**10.99**	**225**		P	**Pn**	**12 02 34.2**	**0.0**
KLR	**Kul'dur**	**11.58**	**304**	*e*	PN	**Pn**	**12 02 41.0**	**-1.0**
KLR					pmax	pmax		
	comp=Z,6.0nm,1.4s							
KLR	**Kul'dur**	**11.58**	**304**		P	**Pn**	**12 02 43.9**	**+1.8**
	comp=Z,1.7nm,0.6s,baz=113,slow=17,SNR=11							
KLR					LR	LR	12 07 15.8	
	comp=Z,69nm,21.5s,baz=120,slow=38							
KLR	**Kul'dur**	**11.58**	**304**	*e*	P	**Pn**	**12 02 41.0**	**-1.0**
JHJ2	**Mitsune**	**11.69**	**209**		Pn	**Pn**	**12 02 43.5**	**-0.1**
JHJ	**Hachijo jima 2**	**11.70**	**209**		LR	LR	12 07 13.6	
	comp=Z,140nm,18.6s,baz=102,slow=37							
PEA0B	**Petropavlovsk-**	**12.09**	**34**			**Pn**	**12 02 49.6**	**+0.8**
PEA0B	**Petropavlovsk-**	**12.09**	**34**	*c*	PN	**Pn**	**12 02 49.3**	**+0.5**
PETK	**Petropavlovsk-**	**12.09**	**34**		Pn	**Pn**	**12 02 47.9**	**-0.9**
PETK	**Petropavlovsk-**	**12.09**	**34**		PN	**Pn**	**12 02 47.9**	**-0.9**
PETK	**Petropavlovsk-**	**12.09**	**34**		P	**Pn**	**12 02 47.3**	**-1.5**
	comp=Z,6.6nm,0.7s,baz=42,slow=20,SNR=35							
MDJ	**Mudanjiang**	**12.15**	**281**		P	**Pn**	**12 02 50.5**	**+0.7**
MDJ					pmax	pmax		
	comp=Z,8.0nm,1.0s							
MDJ					pmax	pmax		
	comp=Z,150nm,4.8s							
PET	**Petropavlovsk**	**12.43**	**36**	*e*	PN	**Pn**	**12 02 52.5**	**-0.9**
PET	**Petropavlovsk**	**12.43**	**36**	*e*	P	**Pn**	**12 02 52.8**	**-0.6**
BNX	**BinXian**	**13.71**	**286**	⇑	P	**Pn**	**12 03 08.6**	**-1.8**
BNX					pmax	pmax		
	comp=Z,6.0nm,0.9s							
BNX					pmax	pmax		
	comp=Z,230nm,6.0s							
JMN	**Monobe**	**13.90**	**229**		Pn	**Pn**	**12 03 11.2**	**-1.8**
KSRS	**Korea Array**	**15.35**	**253**		P	**Pn**	**12 03 30.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=140,slow=17,SNR=2.0							
KSAR	**Wonju Array Be**	**15.38**	**253**		Pn	**Pn**	**12 03 32.0**	**+0.1**
KSAR	**Wonju Array Be**	**15.38**	**253**		P	**Pn**	**12 03 32.1**	**+0.1**
JNU	**Nakatsue**	**16.05**	**234**		LR	LR	12 10 07.4	
	comp=Z,56nm,19.8s,baz=40,slow=38							
MA2	**Magadan**	**16.21**	**8**		Pn	**Pn**	**12 03 41.9**	**-0.2**
MA2	**Magadan**	**16.21**	**8**	*d*	P	**Pn**	**12 03 41.4**	**-0.8**
MA2					pmax	pmax		
	comp=Z,23nm,0.8s							
MA2	**Magadan**	**16.21**	**8**		P	**Pn**	**12 03 41.3**	**-0.8**
	comp=Z,22nm,0.8s,baz=194,slow=9.7,SNR=20							
MA2					LR	LR	12 10 01.3	
	comp=Z,57nm,19.1s,baz=186,slow=37							
TJN	**Taejon**	**16.28**	**250**		Pn	**Pn**	**12 03 41.6**	**-1.7**
TJN	**Taejon**	**16.28**	**250**		P	**Pn**	**12 03 41.6**	**-1.7**
JCJ	**Chichijima**	**16.83**	**193**		Pn	**Pn**	**12 03 49.0**	**-1.1**
JCJ	**Chichijima**	**16.83**	**193**		P	**Pn**	**12 03 47.4**	**-2.8**
	comp=Z,36nm,0.5s,baz=259,slow=19,SNR=1.3							
SEY	**Seymchan**	**19.67**	**8**	*c*	*e*P	**P**	**12 04 19.5**	**-2.1**
SEY					pmax	pmax		
	comp=Z,5.0nm,0.6s							
SEY	**Seymchan**	**19.67**	**8**		P	**P**	**12 04 20.0**	**-1.6**
	comp=Z,19nm,0.9s,baz=189,slow=8.3,SNR=51							
SHEM	**Shemya Is, Ala**	**20.47**	**54**		P	**P**	**12 04 31.7**	**+1.2**
	comp=Z,118nm,0.9s,baz=281,slow=1.1,SNR=6.7							
	comp=Z,118nm,0.9s							
YAK	**Yakutsk**	**20.93**	**338**		P	**P**	**12 04 33.5**	**-1.7**
YAK	**Yakutsk**	**20.93**	**338**	*e*	P	**P**	**12 04 30.9**	**-4.3**
YAK				*e**	PP	**pP**	**12 04 55.6**	**+3.5**
YAK				*e*	S	**S**	**12 08 19.5**	**-3.9**
YAK					pmax	pmax		
	comp=Z,12nm,0.6s							
YAK					smax	smax		
	comp=E,114nm,3.6s							
YAK	**Yakutsk**	**20.93**	**338**		P	**P**	**12 04 30.3**	**-4.9**
	comp=E,1.2nm,0.5s,baz=139,slow=9.0,SNR=4.2							
JOW	**Kunigami**	**22.29**	**227**		LR	LR	12 13 52.4	
	comp=E,44nm,18.1s,baz=163,slow=37							
AMKA	**Amchitka**	**23.37**	**59**		P	**P**	**12 05 02.1**	**+1.4**
NJ2	**Nanjing**	**24.54**	**251**	*e*	P	**P**	**12 05 12.1**	**+0.7**
NJ2					pmax	pmax		
	comp=E,7.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**25.86**	**276**	*e*	P	**P**	**12 05 22.0**	**-1.4**
HHC					pmax	pmax		
	comp=E,17nm,0.7s							
HHC					pmax	pmax		
	comp=E,120nm,5.1s							
BILL	**Bilibino**	**26.64**	**17**	⇑*i*	P	**P**	**12 05 27.4**	**-2.7**
BILL					pmax	pmax		
	comp=Z,6.0nm,1.1s							
BTO	**Baotou**	**27.05**	**276**	*e*	P	**P**	**12 05 36.8**	**+2.7**
BTO					pP	**pP**	**12 05 54.1**	**+0.4**
BTO					sP	**sP**	**12 06 03.8**	**+0.1**
BTO					S	**S**	**12 10 11.0**	**+5.3**
BTO					pmax	pmax		
	comp=Z,26nm,0.6s							
BTO					pmax	pmax		
	comp=Z,350nm,5.2s							
BTO					LR	LR		
	comp=Z

K13K	**Kusilvak Mount**	**33.76**	**40**	P	**P**	**12 06 34.9**	**+1.9**
K13K	**Kusilvak Mount** baz=260	**33.76**	**40**	P	**P**	**12 06 33.6**	**+0.7**
F14K	**Arctic Creek** baz=253	**33.86**	**33**	P	**P**	**12 06 34.5**	**+0.7**
ANM	**Nome**	**34.00**	**35**	P	**P**	**12 06 36.3**	**+1.3**
ANM	**Nome**	**34.00**	**35**	P	**P**	**12 06 36.3**	**+1.3**
ANM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ANM	**Nome** baz=256	**34.00**	**35**	P	**P**	**12 06 36.1**	**+1.1**
M13K	**Dall Lake**	**34.17**	**43**	P	**P**	**12 06 38.9**	**+2.5**
M13K	**Dall Lake** baz=264	**34.17**	**43**	P	**P**	**12 06 37.5**	**+1.0**
J14K	**Nanvaranak Lak**	**34.41**	**39**	P	**P**	**12 06 39.8**	**+1.3**
J14K				IAmb	IAmb	12 06 40.8	
	comp=Z,17nm,0.7s						
J14K	**Nanvaranak Lak** baz=260,SNR=5.3	**34.41**	**39**	P	**P**	**12 06 39.8**	**+1.3**
F15K	**North Star Dit**	**34.59**	**33**	P	**P**	**12 06 41.6**	**+1.5**
F15K	**North Star Dit** baz=255	**34.59**	**33**	P	**P**	**12 06 41.3**	**+1.2**
L14K	**Kuka Creek**	**34.60**	**41**	P	**P**	**12 06 41.0**	**+0.8**
L14K				IAmb	IAmb	12 06 43.2	
	comp=Z,24nm,0.8s						
L14K	**Kuka Creek** baz=263	**34.60**	**41**	P	**P**	**12 06 41.9**	**+1.7**
G15K	**Niukluk** baz=256	**34.66**	**35**	P	**P**	**12 06 42.1**	**+1.4**
GTA	**Gaotai**	**34.81**	**279**	*e*P	P	12 06 47.8	+5.4
GTA				pP	pP	12 07 04.0	+1.6
GTA				sP	sP	12 07 10.5	-1.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
M14K	**Bethel**	**34.89**	**42**	P	**P**	**12 06 44.7**	**+2.1**
M14K	**Bethel** baz=265,SNR=5.0	**34.89**	**42**	P	**P**	**12 06 44.2**	**+1.6**
N14K	**Kuskokwak Cree** baz=266	**34.95**	**44**	P	**P**	**12 06 45.0**	**+1.8**
C16K	**Lisburne Hills**	**35.11**	**29**	P	**P**	**12 06 43.8**	**-0.6**
C16K				IAmb	IAmb	12 06 46.2	
	comp=Z,7.4nm,0.7s						
C16K	**Lisburne Hills** baz=250	**35.11**	**29**	P	**P**	**12 06 44.4**	**0.0**
O14K	**Tigyukauivet M** baz=267	**35.13**	**45**	P	**P**	**12 06 45.6**	**+0.9**
L15K	**Ungalak Mounta** baz=264	**35.21**	**41**	P	**P**	**12 06 46.4**	**+0.9**
K15K	**Wolf Creek Mou**	**35.27**	**40**	P	**P**	**12 06 48.3**	**+2.4**
K15K				IAmb	IAmb	12 06 48.5	
	comp=Z,11nm,0.8s						
K15K	**Wolf Creek Mou** baz=263	**35.27**	**40**	P	**P**	**12 06 46.8**	**+0.9**
H16K	**Elim** baz=259,SNR=9.4	**35.33**	**36**	P	**P**	**12 06 47.1**	**+0.7**
G16K	**Koyuk River**	**35.44**	**34**	P	**P**	**12 06 48.3**	**+1.0**
G16K				IAmb	IAmb	12 06 50.8	
	comp=Z,7.8nm,0.7s						
G16K	**Koyuk River** baz=258,SNR=8.3	**35.44**	**34**	P	**P**	**12 06 48.1**	**+0.7**
M15K	**Kasigluk River** baz=266,SNR=7.8	**35.51**	**42**	P	**P**	**12 06 49.0**	**+1.1**
SDPT	**Sand Point**	**35.58**	**52**	P	**P**	**12 06 48.5**	**-0.1**
N15K	**Kwethluk River** baz=267	**35.77**	**43**	P	**P**	**12 06 51.8**	**+1.6**
J16K	**Anvik River**	**35.82**	**38**	P	**P**	**12 06 51.4**	**+0.8**
J16K	**Anvik River** baz=262	**35.82**	**38**	P	**P**	**12 06 52.0**	**+1.3**
I17K	**Unalakleet** baz=261	**35.87**	**37**	P	**P**	**12 06 52.4**	**+1.4**
CD2	**Chengdu**	**35.88**	**264**	*e*P	**P**	**12 06 50.0**	**-1.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
C17K	**DeLong Mountai** baz=253,SNR=20	**35.93**	**29**	P	**P**	**12 06 51.4**	**-0.2**
E17K	**Hotham Inlet** baz=256,SNR=14	**36.04**	**32**	P	**P**	**12 06 52.8**	**+0.3**
F17K	**Baldwin Pennin**	**36.12**	**33**	P	**P**	**12 06 54.1**	**+1.1**
F17K				IAmb	IAmb	12 06 54.8	
	comp=Z,7.4nm,0.7s						
F17K	**Baldwin Pennin** baz=257	**36.12**	**33**	P	**P**	**12 06 53.6**	**+0.5**
G17K	**Kiwalik Mounta** baz=259,SNR=11	**36.16**	**34**	P	**P**	**12 06 54.8**	**+1.3**
L16K	**Owhat River**	**36.17**	**41**	P	**P**	**12 06 55.0**	**+1.3**
L16K				IAmb	IAmb	12 06 56.0	
	comp=Z,21nm,0.8s						
L16K	**Owhat River** baz=266,SNR=11	**36.17**	**41**	P	**P**	**12 06 54.7**	**+1.0**
H17K	**Granite Mounta**	**36.37**	**35**	P	**P**	**12 06 57.3**	**+2.0**
H17K				IAmb	IAmb	12 06 57.7	
	comp=Z,12nm,0.8s						
H17K	**Granite Mounta** baz=261	**36.37**	**35**	P	**P**	**12 06 56.8**	**+1.5**
M16K	**Timber Creek**	**36.37**	**42**	P	**P**	**12 06 57.6**	**+2.2**
M16K	**Timber Creek** baz=267,SNR=7.1	**36.37**	**42**	P	**P**	**12 06 57.1**	**+1.7**
N16K	**Nishlik Lake** baz=268	**36.44**	**43**	P	**P**	**12 06 57.9**	**+1.9**
E18K	**Tukpahlearik C**	**36.59**	**31**	P	**P**	**12 06 57.5**	**+0.3**
E18K	**Tukpahlearik C** baz=257	**36.59**	**31**	P	**P**	**12 06 57.8**	**+0.7**
B18K	**Kokolik River** baz=253,SNR=9.1	**36.67**	**28**	P	**P**	**12 06 58.2**	**+0.4**
C18K	**Utukok River** baz=254	**36.68**	**29**	P	**P**	**12 06 58.1**	**+0.1**
O16K	**Kokwok River B**	**36.76**	**44**	P	**P**	**12 06 59.3**	**+0.7**
O16K				IAmb	IAmb	12 07 15.4	
	comp=Z,36nm,1.8s						
O16K	**Kokwok River B** baz=270	**36.76**	**44**	P	**P**	**12 07 00.7**	**+2.0**
L17K	**Donlin** baz=266	**36.76**	**40**	P	**P**	**12 07 00.4**	**+1.8**
K17K	**Iditarod**	**36.80**	**39**	P	**P**	**12 07 01.3**	**+2.3**
K17K	**Iditarod** baz=265	**36.80**	**39**	P	**P**	**12 07 00.4**	**+1.4**
G18K	**Tagagawik**	**37.05**	**34**	P	**P**	**12 07 01.4**	**+0.3**
G18K				IAmb	IAmb	12 07 03.6	
	comp=Z,31nm,1.1s						
G18K	**Tagagawik** baz=261	**37.05**	**34**	P	**P**	**12 07 02.1**	**+1.0**
H18K	**Honhosa River**	**37.05**	**35**	P	**P**	**12 07 02.3**	**+1.1**
H18K	**Honhosa River** baz=262	**37.05**	**35**	P	**P**	**12 07 02.3**	**+1.1**
M17K	**Holitna River** baz=268	**37.13**	**41**	P	**P**	**12 07 03.3**	**+1.5**
A19K	**Wainwright** baz=253	**37.17**	**27**	P	**P**	**12 07 02.8**	**+0.8**
N17K	**Nushagak Hills** baz=269	**37.22**	**43**	P	**P**	**12 07 04.7**	**+2.1**
O17K	**Koliganek Bris** baz=270,SNR=8.6	**37.26**	**44**	P	**P**	**12 07 05.0**	**+2.0**
C19K	**Lookout Ridge**	**37.36**	**29**	P	**P**	**12 07 03.6**	**-0.2**
C19K	**Lookout Ridge** baz=256	**37.36**	**29**	P	**P**	**12 07 04.2**	**+0.5**
Q16K	**King Salmon** baz=272	**37.51**	**46**	P	**P**	**12 07 06.5**	**+1.5**
L18K	**Granite Mounta**	**37.52**	**40**	P	**P**	**12 07 07.5**	**+2.4**
L18K				IAmb	IAmb	12 07 08.2	
	comp=Z,37nm,1.2s						
L18K	**Granite Mounta** baz=267	**37.52**	**40**	P	**P**	**12 07 06.9**	**+1.8**
F19K	**Shaleruckik Mo** baz=260	**37.55**	**32**	P	**P**	**12 07 05.9**	**+0.6**
J18K	**Innoko River**	**37.58**	**38**	P	**P**	**12 07 07.0**	**+1.4**
J18K				IAmb	IAmb	12 07 08.0	
	comp=Z,17nm,0.8s						
J18K	**Innoko River** baz=266	**37.58**	**38**	P	**P**	**12 07 06.4**	**+0.8**
P17K	**Kvichak River** baz=272	**37.61**	**45**	P	**P**	**12 07 07.5**	**+1.7**
GCSA	**Galena City Sc** baz=264,SNR=11	**37.63**	**36**	P	**P**	**12 07 06.4**	**+0.5**
G19K	**Purcell Mounta**	**37.72**	**34**	P	**P**	**12 07 07.3**	**+0.6**
G19K				IAmb	IAmb	12 07 09.6	
	comp=Z,11nm,0.7s						
G19K	**Purcell Mounta** baz=262	**37.72**	**34**	P	**P**	**12 07 07.5**	**+0.8**
D19K	**Kuna River** baz=258	**37.74**	**30**	P	**P**	**12 07 07.3**	**+0.4**
N18K	**Kilae Creek**	**37.86**	**43**	P	**P**	**12 07 10.2**	**+2.1**
N18K				IAmb	IAmb	12 07 11.3	
	comp=Z,17nm,0.7s						
N18K	**Kilae Creek** baz=270	**37.86**	**43**	P	**P**	**12 07 09.9**	**+1.8**
TTA	**Tatalina**	**37.87**	**39**		**P**	**12 07 08.5**	**+0.4**
TTA				IAmb	IAmb	12 07 10.6	
	comp=Z,15nm,0.8s						
TTA	**Tatalina**	**37.87**	**39**	P	**P**	**12 07 08.5**	**+0.4**
TTA				pmax	pmax		
	comp=Z,15nm,0.8s						
TTA	**Tatalina** baz=267,SNR=13	**37.87**	**39**	P	**P**	**12 07 09.3**	**+1.2**
E19K	**Redstone River**	**37.87**	**32**	P	**P**	**12 07 08.4**	**+0.5**
E19K				IAmb	IAmb	12 07 12.2	
	comp=Z,13nm,0.8s						
E19K	**Redstone River** baz=260,SNR=18	**37.87**	**32**	P	**P**	**12 07 08.4**	**+0.5**
H19K	**Roundabout Mou**	**37.90**	**35**	P	**P**	**12 07 09.7**	**+1.5**
H19K	**Roundabout Mou** baz=263	**37.90**	**35**	P	**P**	**12 07 09.3**	**+1.2**
M18K	**Stony River** baz=269	**37.90**	**41**	P	**P**	**12 07 09.7**	**+1.4**
Q17K	**Contact Creek** baz=273	**37.93**	**47**	P	**P**	**12 07 09.6**	**+0.8**
SVW2	**Sparrevohn**	**38.02**	**42**	P	**P**	**12 07 11.1**	**+1.8**
SVW2				IAmb	IAmb	12 07 12.3	
	comp=Z,12nm,0.6s						
J19K	**Poorman**	**38.10**	**37**	P	**P**	**12 07 11.0**	**+1.0**
J19K	**Poorman** baz=266	**38.10**	**37**	P	**P**	**12 07 10.9**	**+0.9**
O18K	**Koktuh Hills**	**38.22**	**44**	P	**P**	**12 07 12.8**	**+1.8**
O18K				IAmb	IAmb	12 07 58.5	
	comp=Z,27nm,1.4s						
O18K	**Koktuh Hills** baz=272	**38.22**	**44**	P	**P**	**12 07 12.1**	**+1.1**
P18K	**Big Mountain,** baz=272	**38.22**	**45**	P	**P**	**12 07 12.3**	**+1.2**
D20K	**Etivluk River** baz=259	**38.33**	**30**	P	**P**	**12 07 12.3**	**+0.5**
L19K	**White Mountain**	**38.38**	**40**	P	**P**	**12 07 13.7**	**+1.4**
L19K				IAmb	IAmb	12 07 15.0	
	comp=Z,32nm,1.6s						
L19K	**White Mountain** baz=269	**38.38**	**40**	P	**P**	**12 07 13.9**	**+1.5**
F20K	**Avaraart Lake** baz=262	**38.38**	**32**	P	**P**	**12 07 12.8**	**+0.5**
E20K	**Nigu River** baz=260	**38.40**	**30**	P	**P**	**12 07 13.1**	**+0.7**
H20K	**Anotleneega Mo** baz=265	**38.54**	**35**	P	**P**	**12 07 15.0**	**+1.3**
N19K	**Bonanza Creek**	**38.55**	**42**	P	**P**	**12 07 15.7**	**+1.7**
N19K	**Bonanza Creek** baz=271	**38.55**	**42**	P	**P**	**12 07 15.6**	**+1.7**
O19K	**Port Alsworth**	**38.65**	**43**	P	**P**	**12 07 16.2**	**+1.7**
O19K				IAmb	IAmb	12 08 32.7	
	comp=Z,67nm,2.0s						
O19K	**Port Alsworth** baz=272	**38.65**	**43**	P	**P**	**12 07 16.1**	**+1.5**
I20K	**Naaghedeneel**	**38.66**	**36**	P	**P**	**12 07 15.1**	**+0.5**
I20K				IAmb	IAmb	12 07 17.3	
	comp=Z,22nm,1.1s						
I20K	**Naaghedeneel** baz=266	**38.66**	**36**	P	**P**	**12 07 16.3**	**+1.7**
R18K	**Karluk** baz=275	**38.75**	**48**	P	**P**	**12 07 15.9**	**+0.5**
J20K	**Nowinta River**	**38.76**	**37**	P	**P**	**12 07 17.1**	**+1.6**
J20K	**Nowinta River** baz=267	**38.76**	**37**	P	**P**	**12 07 16.8**	**+1.3**
K20K	**Telida**	**38.76**	**38**	P	**P**	**12 07 16.6**	**+1.0**
K20K				IAmb	IAmb	12 07 18.2	
	comp=Z,15nm,0.8s						
K20K	**Telida** baz=268	**38.76**	**38**	P	**P**	**12 07 16.7**	**+1.2**
L20K	**Farewell, AK** baz=270,SNR=5.3	**38.83**	**40**	P	**P**	**12 07 18.2**	**+2.1**
A21K	**Barrow** baz=256,SNR=5.8	**38.90**	**25**	P	**P**	**12 07 16.8**	**+0.3**
SII	**Sitkinak Islan** baz=277	**39.00**	**49**	P	**P**	**12 07 18.8**	**+1.2**
IMAR	**Indian Mountai**	**39.05**	**34**	P	**P**	**12 07 18.2**	**+0.3**
C21K	**Knifeblade Rid** baz=260,SNR=19	**39.06**	**29**	P	**P**	**12 07 18.3**	**+0.3**
Q19K	**Cape Douglas,**	**39.06**	**45**	P	**P**	**12 07 19.2**	**+1.1**
Q19K	**Cape Douglas,** baz=274	**39.06**	**45**	P	**P**	**12 07 18.6**	**+0.5**
NRIK	**Noril'sk**	**39.12**	**331**	P	**P**	**12 07 15.3**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=90,slow=8.1,SNR=2.3						
M20K	**Styx River**	**39.19**	**41**	P	**P**	**12 07 21.1**	**+1.9**
M20K				IAmb	IAmb	12 07 22.3	
	comp=Z,11nm,0.7s						
M20K	**Styx River** baz=271	**39.19**	**41**	P	**P**	**12 07 20.5**	**+1.3**
B21K	**Ikpikpuk River** baz=260	**39.20**	**28**	P	**P**	**12 07 19.6**	**+0.6**
G21K	**Allakaket**	**39.20**	**33**	P	**P**	**12 07 20.5**	**+1.4**
G21K				IAmb	IAmb	12 07 22.5	
	comp=Z,18nm,0.9s						
G21K	**Allakaket** baz=265	**39.20**	**33**	P	**P**	**12 07 20.3**	**+1.2**
P19K	**Oil Pt**	**39.23**	**44**	P	**P**	**12 07 20.9**	**+1.4**
P19K				IAmb	IAmb	12 07 36.9	
	comp=Z,23nm,0.9s						
P19K	**Oil Pt** baz=274	**39.23**	**44**	P	**P**	**12 07 20.4**	**+1.0**
E21K	**Killik River** baz=262	**39.24**	**30**	P	**P**	**12 07 19.9**	**+0.4**
F21K	**Alatna River** baz=264	**39.27**	**32**	P	**P**	**12 07 20.0**	**+0.2**
A22K	**Sinclair Lake** baz=258	**39.34**	**26**	P	**P**	**12 07 20.4**	**+0.2**
OHAK	**Old Harbor**	**39.41**	**48**	P	**P**	**12 07 23.1**	**+2.2**
OHAK	**Old Harbor** baz=277	**39.41**	**48**	P	**P**	**12 07 21.9**	**+1.0**
H21K	**Melozitna Rive**	**39.42**	**35**	P	**P**	**12 07 22.2**	**+1.3**
H21K				IAmb	IAmb	12 07 23.0	
	comp=Z,9.7nm,0.6s						
H21K	**Melozitna Rive** baz=267	**39.42**	**35**	P	**P**	**12 07 22.1**	**+1.1**
RSO	**Redoubt South**	**39.42**	**43**	P	**P**	**12 07 23.1**	**+1.9**
O20K	**Slope Mountain** baz=274	**39.50**	**44**	P	**P**	**12 07 23.2**	**+1.4**
CHUM	**Lake Minchumin** baz=269,SNR=12	**39.56**	**38**	P	**P**	**12 07 23.9**	**+1.8**
PPLA	**Purkeypile** baz=271	**39.61**	**39**	P	**P**	**12 07 24.5**	**+1.7**
N20K	**Mount Spurr** baz=273,SNR=6.9	**39.65**	**42**	P	**P**	**12 07 25.0**	**+2.0**
CAST	**Castle Rocks**	**39.66**	**38**		**P**	**12 07 24.7**	**+1.7**
CAST	**Castle Rocks** baz=270,SNR=32	**39.66**	**38**	P	**P**	**12 07 24.4**	**+1.4**
B22K	**Teshekpuk Lake**	**39.72**	**27**	P	**P**	**12 07 22.8**	**-0.6**
B22K				IAmb	IAmb	12 07 25.0	
	comp=Z,11nm,0.6s						
B22K	**Teshekpuk Lake** baz=260	**39.72**	**27**	P	**P**	**12 07 23.6**	**+0.3**
KDAK	**Kodiak Island**	**39.72**	**47**	P	**P**	**12 07 24.5**	**+1.0**
KDAK				IAmb	IAmb	12 07 25.3	
	comp=Z,27nm,0.9s						
KDAK	**Kodiak Island**	**39.72**	**47**	P	**P**	**12 07 24.5**	**+1.0**
KDAK				pmax	pmax		
	comp=Z,27nm,1.0s						
KDAK	**Kodiak Island** baz=276	**39.72**	**47**	P	**P**	**12 07 24.4**	**+0.8**
KDAK	**Kodiak Island**	**39.72**	**47**	P	**P**	**12 07 24.3**	**+0.8**
I21K	**Tanana**	**39.74**	**36**	P	**P**	**12 07 25.3**	**+1.7**
I21K				IAmb	IAmb	12 07 26.1	
	comp=Z,16nm,1.0s						
I21K	**Tanana** baz=268,SNR=11	**39.74**	**36**	P	**P**	**12 07 24.8**	**+1.2**
Q20K	**Shuyak Island** baz=276	**39.74**	**46**	P	**P**	**12 07 24.1**	**+0.5**
SYI	**Shuyak Island**	**39.74**	**46**	P	**P**	**12 07 24.1**	**+0.4**
GOMU	**GeErMu**	**39.74**	**277**	P	**P**	**12 07 25.3**	**+0.8**
GOMU				pmax	pmax		
	comp=Z,18nm,0.8s						
D22K	**Ayikyak River**	**39.76**	**30**	P	**P**	**12 07 24.1**	**+0.3**
D22K				IAmb	IAmb	12 07 26.6	
	comp=Z,9.7nm,0.6s						
D22K	**Ayikyak River** baz=263	**39.76**	**30**	P	**P**	**12 07 24.1**	**+0.3**
PZH	**PanZhiHua**	**39.85**	**260**	P	**P**	**12 07 25.0**	**-0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,5.5s						
SKT	**Skwentna**	**39.94**	**41**	P	**P**	**12 07 26.6**	**+1.3**
SKT	**Skwentna** baz=272	**39.94**	**41**	P	**P**	**12 07 26.3**	**+0.9**
E22K	**Anaktuvuk Pass**	**40.00**	**31**	P	**P**	**12 07 26.4**	**+0.5**
E22K				IAmb	IAmb	12 07 28.8	
	comp=Z,17nm,0.6s						
E22K	**Anaktuvuk Pass** baz=265	**40.00**	**31**	P	**P**	**12 07 26.5**	**+0.7**
H22K	**Ishtalitna Cre** baz=268	**40.02**	**34**	P	**P**	**12 07 26.5**	**+0.5**
G22K	**Bettles** baz=266	**40.02**	**33**	P	**P**	**12 07 26.5**	**+0.6**
DGZ	**Jazzator, Alta**	**40.04**	**300**	*i* P	**P**	**12 07 25.9**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BPAW	**Bear Paw Mtn.**	**40.15**	**37**	P	**P**	**12 07 28.5**	**+1.5**
BPAW				IAmb	IAmb	12 07 31.3	
	comp=Z,11nm,0.6s						
BPAW	**Bear Paw Mtn.** baz=270,SNR=14	**40.15**	**37**	P	**P**	**12 07 28.5**	**+1.5**
KTH	**Kantishna Hill**	**40.18**	**38**	P	**P**	**12 07 28.5**	**+1.1**
MLY	**Manley**	**40.26**	**36**	P	**P**	**12 07 29.3**	**+1.4**
MLY				IAmb	IAmb	12 07 30.5	
	comp=Z,12nm,0.9s						
MLY	**Manley** baz=269,SNR=12	**40.26**	**36**	P	**P**	**12 07 29.5**	**+1.5**
SUA	**Susitna One**	**40.34**	**41**		**P**	**12 07 29.6**	**+0.8**
SUA				IAmb	IAmb	12 07 33.2	
	comp=Z,14nm,0.8s						
SUA	**Susitna One** baz=274,SNR=12	**40.34**	**41**	P	**P**	**12 07 29.7**	**+0.9**
BRLK	**Bradley Lake**	**40.40**	**44**	P	**P**	**12 07 29.0**	**-0.2**
BRLK				IAmb	IAmb	12 07 30.6	
	comp=Z,48nm,1.6s						
TRF	**Thorofare Moun**	**40.47**	**38**		**P**	**12 07 31.1**	**+1.3**
TRF				IAmb	IAmb	12 07 32.6	
	comp=Z,13nm,1.0s						
TRF	**Thorofare Moun** baz=272,SNR=7.5	**40.47**	**38**	P	**P**	**12 07 31.6**	**+1.7**
BRSE	**Bradley Lake S** baz=276	**40.48**	**44**	P	**P**	**12 07 31.2**	**+1.4**
CUT	**Chulitna** baz=273	**40.51**	**40**	P	**P**	**12 07 30.9**	**+0.9**
COLD	**Coldfoot** baz=267,SNR=12	**40.55**	**32**	P	**P**	**12 07 30.9**	**+0.6**
G23K	**Bananza Creek** baz=268	**40.59**	**33**	P	**P**	**12 07 31.6**	**+0.8**
C23K	**Itkillik River**	**40.61**	**28**	P	**P**	**12 07 30.4**	**-0.3**
C23K				IAmb	IAmb	12 07 33.2	
	comp=Z,19nm,0.9s						
C23K	**Itkillik River** baz=264	**40.61**	**28**	P	**P**	**12 07 30.9**	**+0.2**
ZAA0	**Zalesovo Array**	**40.67**	**307**	P	**P**	**12 07 29.9**	**-1.5**
ZALV	**Zalesovo Beam**	**40.67**	**307**	P	**P**	**12 07 29.2**	**-2.2**
ZALV	**Zalesovo Beam**	**40.67**	**307**	P	**P**	**12 07 29.5**	**-1.9**
	comp=Z,3.2nm,0.6s,baz=69,slow=8.1,SNR=14						
ZALV				PcP	**PcP**	**12 09 31.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=80,slow=2.9,SNR=4.0						
	comp=Z,3.2nm,0.6s						
E23K	**Chandalar** baz=267	**40.82**	**31**	P	**P**	**12 07 33.2**	**+0.6**
I23K	**Minto, Yukon-K**	**40.84**	**36**	P	**P**	**12 07 33.9**	**+1.2**
I23K				IAmb	IAmb	12 07 35.1	
	comp=Z,15nm,0.7s						
I23K	**Minto, Yukon-K** baz=270,SNR=15	**40.84**	**36**	P	**P**	**12 07 33.7**	**+1.0**
RC01	**Rabbit Creek A**	**40.85**	**42**	IAmb	IAmb	12 07 35.1	
	comp=Z,12nm,0.7s						
RC01	**Rabbit Creek A** baz=275,SNR=5.7	**40.85**	**42**	P	**P**	**12 07 33.6**	**+0.7**
O22K	**Cooper Landing** baz=276	**40.91**	**43**	P	**P**	**12 07 34.3**	**+1.0**
NEA2	**Nenana**	**40.98**	**36**	P	**P**	**12 07 35.1**	**+1.3**
NEA2	**Nenana** baz=271,SNR=38	**40.98**	**36**	P	**P**	**12 07 34.9**	**+1.1**
MCK	**McKinley** baz=272,SNR=14	**41.06**	**38**	P	**P**	**12 07 35.6**	**+1.0**
SEW	**Seward** baz=276	**41.09**	**43**	P	**P**	**12 07 35.4**	**+0.6**
PMR	**Palmer**	**41.10**	**41**	P	**P**	**12 07 34.9**	**0.0**
PMR	**Palmer**	**41.10**	**41**	P	**P**	**12 07 34.9**	**0.0**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PMR	**Palmer** baz=275	**41.10**	**41**	P	**P**	**12 07 36.0**	**+1.2**
RND	**Reindeer**	**41.11**	**38**		**P**	**12 07 35.8**	**+0.8**
RND				IAmb	IAmb	12 07 36.6	
	comp=Z,19nm,0.7s						
RND	**Reindeer**	**41.11**	**38**	P	**P**	**12 07 35.8**	**+0.8**
RND				pmax	pmax		
	comp=Z,19nm,0.7s						
D24K	**Happy Valley**	**41.17**	**29**	P	**P**	**12 07 35.7**	**+0.3**
D24K				IAmb	IAmb	12 07 38.5	
	comp=Z,17nm,0.7s						
D24K	**Happy Valley** baz=266	**41.17**	**29**	P	**P**	**12 07 35.7**	**+0.3**
GHO	**Glory Hole Cre**	**41.19**	**41**	P	**P**	**12 07 37.0**	**+1.3**
GHO				IAmb	IAmb	12 07 37.6	
	comp=Z,18nm,0.8s						
C24K	**Franklin Bluff** baz=266	**41.26**	**29**	P	**P**	**12 07 36.0**	**0.0**
WAT1	**Susitna Watana** baz=274	**41.28**	**39**	P	**P**	**12 07 37.1**	**+0.7**
MDM	**Murphy Dome**	**41.33**	**36**	IAmb	IAmb	12 07 39.0	
	comp=Z,24nm,0.8s						
KNK	**Knik Glacier**	**41.44**	**41**	IAmb	IAmb	12 07 40.4	
	comp=Z,16nm,0.8s						
KNK	**Knik Glacier** baz=276,SNR=7.9	**41.44**	**41**	P	**P**	**12 07 38.6**	**+0.9**
F24K	**Squaw Lake** baz=269	**41.45**	**32**	P	**P**	**12 07 38.3**	**+0.6**
H24K	**Noodor Dome**	**41.45**	**35**	P	**P**	**12 07 39.4**	**+1.6**
H24K				IAmb	IAmb	12 07 40.4	
	comp=Z,20nm,0.7s						
H24K	**Noodor Dome** baz=271,SNR=24	**41.45**	**35**	P	**P**	**12 07 39.0**	**+1.3**
SML	**Sawmill**	**41.46**	**41**		**P**	**12 07 38.6**	**+0.7**
SML	**Sawmill** baz=275,SNR=12	**41.46**	**41**	P	**P**	**12 07 39.2**	**+1.3**
COLA	**College**	**41.49**	**36**	P	**P**	**12 07 38.9**	**+0.9**
COLA	**College**	**41.49**	**36**	P	**P**	**12 07 38.9**	**+0.9**
COLA				pmax	pmax		
	comp=Z,29nm,0.5s						
COLA	**College** baz=272	**41.49**	**36**	P	**P**	**12 07 39.3**	**+1.3**
COLA	**College**	**41.49**	**36**	⇑P	**P**	**12 07 39.4**	**+1.4**
COLA				pP	**pP**	**12 07 59.0**	**+0.7**
COLA				sP	**sP**	**12 08 08.8**	**+0.6**
CCB	**Clear Creek Bu**	**41.52**	**36**		**P**	**12 07 39.4**	**+1.2**
CCB				IAmb	IAmb	12 07 40.4	
	comp=Z,28nm,1.6s						
G24K	**Hadweenzic Riv** baz=270	**41.61**	**33**	P	**P**	**12 07 40.4**	**+1.4**
POKR	**Poker Plat Res**	**41.66**	**36**	P	**P**	**12 07 41.4**	**+2.0**
POKR	**Poker Plat Res** baz=272,SNR=23	**41.66**	**36**	P	**P**	**12 07 40.6**	**+1.2**
WMQ	**Urumqi**	**41.66**	**291**	*e*P	**P**	**12 07 38.3**	**-1.5**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WAT6	**Susitna Watana** baz=275,SNR=7.9	**41.67**	**39**	P	**P**	**12 07 40.6**	**+0.8**
M23K	**Glacier View** baz=276,SNR=7.8	**41.75**	**41**	P	**P**	**12 07 41.7**	**+1.4**
DHY	**Denali Highway**	**41.80**	**39**	P	**P**	**12 07 41.6**	**+0.8**
DHY				IAmb	IAmb	12 07 42.5	
	comp=Z,16nm,0.6s						
DHY	**Denali Highway** baz=275,SNR=15	**41.80**	**39**	P	**P**	**12 07 41.7**	**+1.0**
HDA	**Harding Lake** baz=274,SNR=19	**41.90**	**37**	P	**P**	**12 07 42.2**	**+0.8**
IL31		**41.91**	**36**	P	**P**	**12 07 42.1**	**+0.7**
IL31				IAmb	IAmb	12 07 44.3	
	comp=Z,16nm,0.7s						
ILAR	**Eielson Array**	**41.91**	**36**	P	**P**	**12 07 42.2**	**+0.8**
ILAR	**Eielson Array**	**41.91**	**36**	P	**P**	**12 07 42.2**	**+0.8**
ILAR	**Eielson Array**	**41.91**	**36**	P	**P**	**12 07 42.0**	**+0.6**
	comp=Z,11nm,0.6s,baz=252,slow=4.6,SNR=163						
	comp=Z,11nm,0.6s						
SCM	**Sheep Creek Mo**	**41.94**	**41**	P	**P**	**12 07 43.4**	**+1.6**
SCM				IAmb	IAmb	12 07 44.0	
	comp=Z,

E25K Arctic Village 42.34 31 P P 12 07 45.8 +0.9
baz=271,SNR=6.7
PRP Porcupine Dome 42.44 35 P P 12 07 46.8 +1.0
PRP Porcupine Dome 42.44 35 P P 12 07 46.9 +1.0
baz=274,SNR=36
M24K Tolsona, Glenn 42.45 40 P P 12 07 47.7 +1.8
baz=277,SNR=6.5
K24K Donnelly Dome 42.46 37 P P 12 07 46.7 +0.7
baz=275,SNR=15
FYU Fort Yukon 42.51 33 P P 12 07 47.6 +1.3
FYU IAmb IAmb 12 07 49.9
comp=Z,20nm,0.7s
J25K Salcha River, 42.57 36 P P 12 07 46.9 +0.1
baz=275
C26K Camden Bay 42.58 28 P P 12 07 48.0 +1.2
baz=269
KLU Klutina 42.64 41 IAmb IAmb 12 07 49.9
comp=Z,18nm,0.6s
KLU Klutina 42.64 41 P P 12 07 49.0 +1.4
baz=278,SNR=14
PAX Paxson 42.68 39 P P 12 07 49.9 +2.1
baz=276,SNR=6.8
BMAR Burnt Mountain 42.73 32 P P 12 07 49.7 +1.6
RIDG Independent Ri 42.88 38 P P 12 07 50.1 +0.7
RIDG IAmb IAmb 12 07 51.0
comp=Z,13nm,0.6s
RIDG Independent Ri 42.88 38 P P 12 07 50.0 +0.7
baz=276,SNR=8.3
F26K Sheenjek River 42.88 32 P P 12 07 50.8 +1.5
baz=272,SNR=20
HARP HAARP 42.89 40 P P 12 07 50.9 +1.5
baz=277,SNR=7.7
G26K Porcupine Rive 43.06 33 P P 12 07 52.5 +1.7
baz=274
SCRK Sand Creek 43.23 37 P P 12 07 52.7 +0.4
SCRK IAmb IAmb 12 07 53.7
comp=Z,17nm,0.8s
SCRK Sand Creek 43.23 37 P P 12 07 52.8 +0.6
baz=276,SNR=26
N25K Chitina, Valde 43.25 41 P P 12 07 53.8 +1.3
baz=278
BMRM Bremner River 43.35 42 P P 12 07 54.8 +1.6
baz=279,SNR=5.0
J26L Joseph Creek 43.35 36 P P 12 07 53.6 +0.4
baz=276
I26K Coal Creek Min 43.45 35 P P 12 07 54.6 +0.7
baz=276
MENT Mentasta 43.48 39 P P 12 07 55.3 +1.1
MENT IAmb IAmb 12 07 59.9
comp=Z,8,8nm,0.5s
KAIM Kayak Island 43.61 43 P P 12 07 54.6 -0.6
baz=280
L26K Log Cabin Wild 43.63 38 P P 12 07 57.1 +1.7
L26K IAmb IAmb 12 07 58.2
comp=Z,16nm,0.7s
L26K Log Cabin Wild 43.63 38 P P 12 07 56.9 +1.5
baz=278,SNR=16
GLB Gilahina Butte 43.65 41 P P 12 07 57.0 +1.4
E27K Coleen River 43.82 31 P P 12 07 57.5 +0.6
baz=274
VRDI Verde Repeater 43.86 41 P P 12 07 58.3 +0.8
M26K Nabesna, AK 43.88 39 P P 12 07 58.9 +1.4
baz=279
G27K Doyon Strip 43.91 33 P P 12 07 59.4 +1.8
baz=276
H27K Steamboat Moun 44.02 34 P P 12 08 00.0 +1.5
baz=276
I27K Kandik River 44.05 35 P P 12 08 00.4 +1.6
baz=277
K27K Chicken 44.06 37 P P 12 08 00.4 +1.6
baz=278
MK31 Makanchi Array 44.19 297 P P 12 07 59.6 -0.5
MK31 IAmb IAmb 12 08 01.0
comp=Z,12nm,0.7s
MK31 Makanchi Array 44.19 297 *i* P P 12 07 59.7 -0.4
MK31 pmax pmax
comp=Z,16nm,0.7s
MKAR Makanchi Array 44.19 297 P P 12 07 59.9 -0.2
comp=Z,12nm,0.7s,baz=79,slow=8.7,SNR=111
MKAR LR LR 12 27 16.3
comp=Z,68nm,18.7s,baz=52,slow=37
comp=Z,12nm,0.7s
L27K Beaver Creek, 44.31 38 P P 12 08 02.4 +1.5
baz=279
BCAR Beaver Creek A 44.33 38 P P 12 08 03.0 +2.0
EGAK Eagle 44.35 36 P P 12 08 01.8 +0.7
EGAK IAmb IAmb 12 08 03.5
comp=Z,19nm,0.8s
EGAK Eagle 44.35 36 P P 12 08 01.9 +0.8
baz=278,SNR=24
MAKZ Makanchi 44.39 298 P P 12 08 01.6 -0.1
MAKZ IAmb IAmb 12 08 02.6
comp=Z,14nm,0.8s
MAKZ Makanchi 44.39 298 P P 12 08 01.6 -0.1
MAKZ pmax pmax
comp=Z,14nm,0.8s
MAKZ Makanchi 44.39 298 P P 12 08 01.5 -0.2
MAKZ pP pP 12 08 23.2 +0.9
M27K Edge Creek, AK 44.40 39 P P 12 08 03.2 +1.4
baz=280
F28M Old Crow 44.52 32 P P 12 08 04.3 +1.9
F28M IAmb IAmb 12 08 05.2
comp=Z,17nm,0.7s
F28M Old Crow 44.52 32 P P 12 08 04.3 +1.9
baz=276,SNR=27
E28M Babbage River 44.55 30 P P 12 08 03.8 +1.2
baz=276
BARN Barnard Glacie 44.74 41 IAmb IAmb 12 08 07.7
comp=Z,10nm,0.7s
I28M Miner Creek 44.77 35 IAmb IAmb 12 08 07.1
comp=Z,28nm,0.8s
I28M Miner Creek 44.77 35 P P 12 08 06.1 +1.5
baz=278,SNR=44
BVCY Beaver Creek 44.86 39 P P 12 08 06.4 +1.2
baz=281,SNR=11
CTG Chitna Glacier 44.91 41 P P 12 08 07.4 +1.5
baz=282
LOGN Logan Glacier 45.10 41 P P 12 08 08.5 +1.1
YUK3 Moose Creek 45.17 40 P P 12 08 09.1 +1.2
baz=282
E29M Blow River 45.17 30 P P 12 08 08.8 +1.3
baz=277
KURK Kurchatov 45.18 304 P P 12 08 06.8 -1.0
KURK IAmb IAmb 12 08 08.0
comp=Z,14nm,0.6s
KURK Kurchatov 45.18 304 *ce* P P 12 08 06.7 -1.1
KURK pmax pmax
comp=Z,9,0nm,0.6s
KURK Kurchatov 45.18 304 *e* P P 12 08 06.7 -1.1
KURK Kurchatov 45.18 304 P P 12 08 06.9 -1.0
DAWY Dawson 45.22 37 P P 12 08 09.4 +1.3
DAWY IAmb IAmb 12 08 13.5
comp=Z,23nm,1.7s
DAWY Dawson 45.22 37 P P 12 08 09.3 +1.3
baz=280
KURBB Kurchatov Arra 45.26 304 P P 12 08 07.7 -0.8
comp=Z,10nm,0.6s,baz=71,slow=8.7,SNR=63
comp=Z,10nm,0.6s
H29M Whitestone 45.29 33 P P 12 08 10.6 +2.1
baz=279
G29M Pine Creek 45.32 32 P P 12 08 10.3 +1.5
baz=279,SNR=30
I29M Ogilvie Camp, 45.45 35 P P 12 08 10.9 +1.1
baz=280,SNR=39
J29N Klondike Camp 45.65 36 IAmb IAmb 12 08 15.8
comp=Z,5.9nm,0.6s
J29N Klondike Camp 45.65 36 P P 12 08 13.2 +1.7
baz=281
EPYK Eagle Plains 45.92 33 P P 12 08 15.3 +1.7
EPYK Eagle Plains 45.92 33 P P 12 08 14.9 +1.4
baz=280,SNR=27
M29M Somme Creek 45.95 39 P P 12 08 15.3 +1.4
baz=282
L29M L29M 45.96 38 P P 12 08 15.8 +1.9
baz=282
G30M tAoh Zraii Nji 46.01 32 P P 12 08 15.8 +1.6
baz=280
F30M Barrier River 46.07 31 P P 12 08 16.3 +1.6
baz=280
K29M Barlow Dome 46.07 37 IAmb IAmb 12 08 17.7
comp=Z,16nm,1.2s
K29M Barlow Dome 46.07 37 P P 12 08 16.5 +1.6
baz=282
YUK4 Talbot Arm 46.11 40 P P 12 08 16.4 +1.1
baz=283
I30M Mount Dempster 46.28 35 P P 12 08 18.0 +1.5
I30M Mount Dempster 46.28 35 P P 12 08 18.2 +1.7
baz=282,SNR=44
J30M Hart River 46.43 36 P P 12 08 19.2 +1.6
J30M Hart River 46.43 36 P P 12 08 19.5 +1.8
baz=282,SNR=9.5
M30M Minto, Yukon 46.67 38 P P 12 08 21.7 +2.2
M30M Minto, Yukon 46.67 38 P P 12 08 21.9 +2.3
baz=284,SNR=8.5
HYT Haines Junctio 46.77 41 P P 12 08 22.8 +2.4
HYT IAmb IAmb 12 08 24.9
comp=Z,28nm,0.8s
HYT Haines Junctio 46.77 41 P P 12 08 22.8 +2.4
baz=285,SNR=21
G31M Satah River 46.78 32 P P 12 08 21.3 +1.2
G31M Satah River 46.78 32 P P 12 08 21.6 +1.4
baz=282,SNR=24
INK Inuvik 46.78 30 P P 12 08 20.7 +0.5
INK IAmb IAmb 12 08 22.7
comp=Z,9.5nm,0.6s
INK Inuvik 46.78 30 P P 12 08 20.7 +0.5
INK pmax pmax
comp=Z,10.0nm,0.6s
INK Inuvik 46.78 30 P P 12 08 21.0 +0.8
baz=281,SNR=16
INK Inuvik 46.78 30 LR LR 12 28 17.9
comp=Z,32nm,21.6s,baz=180,slow=36
N30M Aishikik Lake 46.81 40 P P 12 08 22.3 +1.7
baz=284
MAYO Mayo, Yukon 46.83 37 P P 12 08 23.0 +2.3
MAYO IAmb IAmb 12 08 23.6
comp=Z,17nm,0.6s
MAYO Mayo, Yukon 46.83 37 P P 12 08 23.2 +2.5
baz=284,SNR=6.4
F31M Tsiigehtchic 46.87 31 P P 12 08 22.1 +1.2
F31M IAmb IAmb 12 08 23.4
comp=Z,24nm,0.8s
F31M Tsiigehtchic 46.87 31 P P 12 08 22.2 +1.4
baz=282,SNR=17
P29M Windy Craggy 46.97 42 P P 12 08 24.7 +2.8
baz=286,SNR=14
H31M Peel River 46.98 34 P P 12 08 23.5 +1.7
baz=283
CMAR Chiang Mai Arr 46.99 253 P P 12 08 22.6 +0.2
comp=Z,0.3nm,0.3s,baz=34,slow=6.6,SNR=2.0
P30M Million Dollar 47.22 42 P P 12 08 26.6 +2.8
baz=286
TDK Taldyqorghan 47.38 297 *eP* P 12 08 25.1 -0.1
TDK pmax pmax
comp=Z,9.0nm,0.5s
TDK Taldyqorghan 47.38 297 *eP* P 12 08 25.1 -0.1
comp=Z,8.7nm,0.5s,baz=296
N31M Braeburn, Yuko 47.41 40 IAmb IAmb 12 08 29.1
comp=Z,10.0nm,0.8s
N31M Braeburn, Yuko 47.41 40 P P 12 08 28.1 +2.9
baz=286,SNR=5.9
SHLS Shalkode 47.44 294 *eP* P 12 08 23.7 -2.2
SHLS pmax pmax
comp=Z,3.0nm,0.3s
SHLS Shalkode 47.44 294 *eP* P 12 08 23.7 -2.2
comp=Z,3.1nm,0.3s,baz=294
O30N Mendenhall 47.46 41 P P 12 08 27.9 +2.3
baz=286
UZB Uzynbulak 47.74 294 *eP* P 12 08 27.7 -0.5
UZB Uzynbulak 47.74 294 *eP* P 12 08 27.7 -0.5
comp=Z,3.6nm,0.5s,baz=294
KPKS Kokpek 47.83 295 *eP* P 12 08 29.0 +0.2
KPKS Kokpek 47.83 295 *eP* P 12 08 29.0 +0.2
comp=Z,4.0nm,0.6s,baz=294
M31M Drury Creek, Y 47.85 38 P P 12 08 30.5 +1.9
M31M Drury Creek, Y 47.85 38 P P 12 08 30.8 +2.2
baz=286,SNR=6.4
WHY Whitehorse 48.06 40 P P 12 08 32.5 +2.2
WHY Whitehorse 48.06 40 P P 12 08 32.1 +1.7
baz=287
ZHN Zhinishke 48.12 294 *eP* P 12 08 31.2 +0.2
ZHN Zhinishke 48.12 294 *eP* P 12 08 31.3 +0.2
baz=294
SATY Saty 48.18 294 *eP* P 12 08 31.7 +0.1
SATY Saty 48.18 294 *eP* P 12 08 31.8 +0.1
baz=294
SKAG Skagway 48.20 42 P P 12 08 32.6 +1.3
baz=288
FARO Faro, Yukon 48.31 38 P P 12 08 33.9 +1.7
FARO Faro, Yukon 48.31 38 P P 12 08 34.2 +2.0
baz=287,SNR=8.6
R31K City Hall, Gus 48.31 44 P P 12 08 34.0 +1.8
baz=288
WUS Wushi 48.45 292 P P 12 08 34.0 +0.3
WUS pP pP 12 08 54.1 -0.5
A36M Sachs Harbour 48.71 24 P P 12 08 35.3 +0.3
A36M IAmb IAmb 12 08 37.1
comp=Z,17nm,1.2s
A36M Sachs Harbour 48.71 24 P P 12 08 36.1 +1.1
baz=285,SNR=6.6
N32M Quiet Lake 48.75 40 P P 12 08 36.5 +0.9
baz=288
CHKK Chushkaly 48.78 296 *eP* P 12 08 35.7 -0.3
CHKK Chushkaly 48.78 296 *eP* P 12 08 35.8 -0.3
baz=296
P32M Atlin 48.94 42 P P 12 08 38.8 +1.8
baz=289
R32K Eaglecrest 48.97 43 P P 12 08 39.4 +2.2
baz=289
MDOK Medeo 49.03 295 *eP* P 12 08 38.5 +0.4
MDOK *eS* S 12 15 36.4 +0.1
MDOK Medeo 49.03 295 *eP* P 12 08 38.6 +0.4
baz=295
MDOK *eS* S 12 15 36.5 +0.1
baz=295
JIS Juneau Island 49.04 43 IAmb IAmb 12 08 46.1
comp=Z,22nm,1.3s
AAA Alma-Ata 49.10 295 *eP* P 12 08 38.5 0.0
AAA Alma-Ata 49.10 295 *eP* P 12 08 38.6 0.0
baz=295
AAA Alma-Ata 49.10 295 *eP* P 12 08 38.5 0.0
TNSS Tian-Shan 49.16 295 *eP* P 12 08 39.7 +0.3
TNSS Tian-Shan 49.16 295 *eP* P 12 08 39.8 +0.3
baz=295
TARG Taragay, Kyrgy 49.17 293 P P 12 08 39.5 0.0
TARG Taragay, Kyrgy 49.17 293 P P 12 08 39.5 0.0
P33M Teslin, Yukon 49.17 41 P P 12 08 41.0 +2.2
P33M IAmb IAmb 12 08 42.6
comp=Z,11nm,1.0s
P33M Teslin, Yukon 49.17 41 P P 12 08 41.2 +2.3
baz=289,SNR=6.5
KUU Kurty 49.18 296 *eP* P 12 08 38.6 -0.5
KUU pmax pmax
comp=Z,6.0nm,0.6s
KUU Kurty 49.18 296 *eP* P 12 08 38.6 -0.5
comp=Z,5.7nm,0.6s,baz=296
BVA0 Borovoye Array 49.19 309 *i* P P 12 08 38.0 -1.0
BVAR Borovoye Array 49.19 309 P P 12 08 38.3 -0.7
comp=Z,4.0nm,0.4s,baz=72,slow=9.2,SNR=18
comp=Z,4.0nm,0.4s
BRVK Borovoye 49.24 309 P P 12 08 39.3 0.0
BRVK Borovoye 49.24 309 *ce* P P 12 08 38.0 -1.3
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 49.24 309 P P 12 08 38.9 -0.5
C36M Paulatuk 49.84 28 P P 12 08 44.3 +0.6
C36M Paulatuk 49.84 28 P P 12 08 44.3 +0.6
baz=288,SNR=8.9
Q32M Nakina River 49.85 42 P P 12 08 46.5 +2.4
baz=290
ULHL Ulahol 49.98 294 P P 12 08 46.1 +0.8
SNR=5.2
BOOM Boomskoye usch 50.06 295 P P 12 08 46.1 +0.1
BOOM IAmb IAmb 12 08 48.8
comp=Z,13nm,0.7s
BOOM Boomskoye usch 50.06 295 P P 12 08 46.1 +0.1
BOOM pmax pmax
comp=Z,13nm,0.7s
TKM2 Tokmak 2 50.10 295 P P 12 08 46.9 +0.6
SNR=16
TKM2 Tokmak 2 50.10 295 *i* P P 12 08 46.1 -0.2
TKM2 pmax pmax
comp=Z,12nm,0.9s
BTLS Baital 50.17 298 *eP* P 12 08 46.3 -0.2
BTLS Baital 50.17 298 *eP* P 12 08 46.3 -0.2
baz=298
R33M Jennings River 50.33 41 P P 12 08 49.7 +2.0
baz=291
SGDS Sogindy 50.49 296 *eP* P 12 08 49.3 +0.2
SGDS pmax pmax
comp=Z,3.0nm,0.5s
SGDS Sogindy 50.49 296 *eP* P 12 08 49.3 +0.2
comp=Z,3.1nm,0.5s,baz=296
KBK Karagaybulak 50.64 295 P P 12 08 50.8 +0.5
SNR=13
USP Ospenovka 50.66 296 P P 12 08 50.7 +0.4
SNR=18
KZA Kyzart 50.71 294 P P 12 08 52.2 +1.1
SNR=12
S34M Telegraph Cree 50.78 43 P P 12 08 53.1 +2.2
baz=292
AAK Ala-Archa 50.95 295 P P 12 08 53.0 +0.3
SNR=7.6
AAK Ala-Archa 50.95 295 P P 12 08 52.4 -0.3
AAK IAmb IAmb 12 08 54.5
comp=Z,8.3nm,1.0s
AAK Ala-Archa 50.95 295 *ce* P P 12 08 52.5 -0.1
AAK pmax pmax
comp=Z,15nm,1.7s
AAK Ala-Archa 50.95 295 LR LR 12 29 58.9
comp=Z,49nm,20.9s,baz=341,slow=35
AAK Ala-Archa 50.95 295 *eP* P 12 08 52.5 -0.1
AAK Ala-Archa 50.95 295 P P 12 08 52.7 0.0
WTLY Watson Lake, Y 51.09 40 P P 12 08 55.1 +1.8
WTLY Watson Lake, Y 51.09 40 P P 12 08 55.3 +2.0
baz=292
DLBC Dease Lake 51.13 42 P P 12 08 56.1 +2.4
DLBC IAmb IAmb 12 09 24.0
comp=Z,13nm,1.4s
DLBC Dease Lake 51.13 42 P P 12 08 56.0 +2.4
baz=292
EKS2 Erkin-Say 51.41 296 P P 12 08 56.4 +0.4
SNR=12
KSH Kashi 51.43 291 P P 12 09 00.4 +4.2
KSH pmax pmax
comp=Z,3.0nm,0.5s
T35M Bob Quinn 51.58 44 P P 12 08 59.1 +2.2
T35M Bob Quinn 51.58 44 P P 12 08 59.4 +2.5
baz=293
AML Almayashu 51.71 295 P P 12 08 59.3 +0.7
SNR=8.9
AML Almayashu 51.71 295 *i* P P 12 08 58.7 +0.1
WRGLY Wrigley 52.25 35 P P 12 09 02.9 +1.1
WRGLY Wrigley 52.25 35 P P 12 09 03.4 +1.6
baz=293
SVE Sverdlovsk 52.89 317 *eP* P 12 09 07.0 +0.4
DZA Taraz 52.89 297 *eP* P 12 09 07.0 +0.1
DZA pmax pmax
comp=Z,6.0nm,0.5s
DZA Taraz 52.89 297 *eP* P 12 09 07.0 +0.1
comp=Z,6.4nm,0.5s,baz=297
KOTAN Kotaneelee Air 53.27 39 P P 12 09 10.7 +1.4
baz=295
KK31 Karatay Array 53.32 298 P P 12 09 09.7 -0.4
KK31 IAmb IAmb 12 09 11.9
comp=Z,11nm,0.7s
KK31 Karatay Array 53.32 298 *i* P P 12 09 09.9 -0.1
KKAR Karatay Array 53.32 298 P P 12 09 10.0 0.0
KKAR Karatay Array 53.32 298 P P 12 09 10.0 0.0
ARU Arti 54.09 317 P P 12 09 14.4 -1.0
ARU IAmb IAmb 12 09 15.4
comp=Z,6.4nm,0.7s
ARU Arti 54.09 317 *di* P P 12 09 14.1 -1.3
ARU S S 12 16 46.5 +1.4
ARU SS SS 12 20 26.5 -0.5
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 54.09 317 LR LR 12 34 48.9
comp=Z,33nm,19.1s,baz=37,slow=39
ARU Arti 54.09 317 P P 12 09 14.9 -0.5
HNR Honiara 54.20 163 P P 12 09 15.6 -1.0
HNR Honiara 54.20 163 P P 12 09 15.6 -1.0
HNR pmax pmax
comp=Z,82nm,0.6s
HNR Honiara 54.20 163 LR LR 12 28 42.9
comp=Z,320nm,20.2s,baz=268,slow=32
CHM Chimkent 54.28 297 *eP* P 12 09 16.9 -0.2
CHM pmax pmax
comp=Z,4.0nm,0.5s
CHM Chimkent 54.28 297 *eP* P 12 09 17.0 -0.2
comp=Z,4.4nm,0.5s,baz=297
BTK Batken 54.62 294 P P 12 09 18.9 -0.6
BTK Batken 54.62 294 P P 12 09 19.0 -0.6
BTK pmax pmax
comp=Z,4.0nm,0.7s
SPA0 Spitsbergen Ar 54.82 349 *eP* P 12 09 18.4 -2.0
SPITS Spitsbergen Ar 54.82 349 P P 12 09 18.2 -2.2
comp=Z,2.5nm,0.6s,baz=63,slow=9.5,SNR=6.5
comp=Z,2.5nm,0.6s
RES Resolute Bay 55.25 16 P P 12 09 22.8 -0.7
RES Resolute Bay 55.25 16 P P 12 09 22.8 -0.7
RES pmax pmax
comp=Z,36nm,0.6s
YKA Yellowknife Ar 56.20 33 P P 12 09 31.2 +0.7
YKA Yellowknife Ar 56.20 33 P P 12 09 31.4 +0.9
comp=Z,5.4nm,0.8s,baz=300,slow=7.0,SNR=70
comp=Z,5.4nm,0.8s
YKAB2 New Yellowknif 56.24 34 P P 12 09 31.6 +0.9
NIL Nilore 56.33 286 P P 12 09 32.0 +0.1
NIL IAmb IAmb 12 09 33.3
comp=Z,15nm,0.7s
NIL Nilore 56.33 286 P P 12 09 32.0 +0.1
NIL pmax pmax
comp=Z,15nm,0.7s
NIL Nilore 56.33 286 P P 12 09 32.6 +0.7
NIL pP pP 12 09 54.5 +1.1
SIMJ Simiganj 56.54 294 P P 12 09 33.2 -0.2
SIMJ IAmb IAmb 12 09 34.1
comp=Z,12nm,0.7s
SIMJ Simiganj 56.54 294 P P 12 09 33.0 -0.4
AB31 Akbulak array 56.75 309 *i* P P 12 09 34.3 -0.3
ABKAR Akbulak array 56.75 309 P P 12 09 34.3 -0.3
AKTO Aktyubinsk 57.23 311 P P 12 09 37.5 -0.5
AKTO Aktyubinsk 57.23 311 LR LR 12 34 21.0
comp=Z,72nm,18.6s,baz=200,slow=36
KIRV Kirov 57.38 322 LR LR 12 37 23.8
comp=Z,62nm,18.2s,baz=355,slow=39
NEEM North Greenlan 58.73 4 *i* P P 12 09 46.7 -1.7
NEEM IAmb IAmb 12 09 48.3
comp=Z,21nm,0.9s
KBL Kabul 58.75 290 P P 12 09 48.2 -0.9
KBL IAmb IAmb 12 09 48.9
comp=Z,6.7nm,0.7s
KBL Kabul 58.75 290 P P 12 09 48.2 -0.9
KBL pmax pmax
comp=Z,7.0nm,0.7s
ARA0 ARCESS Array S 59.20 339 *eP* P 12 09 50.6 -0.8
ARCES ARCESS Array B 59.20 339 P P 12 09 50.3 -1.1
comp=Z,3.0nm,0.7s,baz=40,slow=7.3,SNR=16
comp=Z,3.0nm,0.7s
KTK1 Kautokeino 60.14 340 *eP* P 12 09 56.9 -0.9
KLMR Klimovskoe 60.27 327 *eP* P 12 09 56.8 -2.1
KLMR pmax pmax
comp=Z,24nm,1.6s
JETT Jettan, Norway 60.44 341 *eP* P 12 09 59.3 -0.6
TRO Tromso 60.73 341 *eP* P 12 10 01.4 -0.4
EDM Edmonton 61.85 42 P P 12 10 11.2 +1.5
EDM Edmonton 61.85 42 P P 12 10 11.2 +1.5
EDM pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 62.81 48 P P 12 10 17.2 +1.0
baz=306
UPNV Upernavik 62.85 7 *i* P P 12 10 13.2 -2.8
UPNV IAmb IAmb 12 10 15.7
comp=Z,17nm,0.8s
STEI Steigen 62.90 341 *eP* P 12 10 14.2 -2.2
LOF Lofoten 63.13 342 *eP* P 12 10 18.3 +0.4
FAUS Fauske 63.32 341 *eP* P 12 10 18.1 -1.1
HRA Herat 63.44 293 P P 12 10 21.3 +0.5
GEYT Alibeck 64.05 298 P P 12 10 24.6 +0.1
GEYT IAmb IAmb 12 10 25.2
comp=Z,6.4nm,0.6s
GEYT Alibeck 64.05 298 P P 12 10 24.6 +0.1
GEYT pmax pmax
comp=Z,6.0nm,0.6s
GEYT Alibeck 64.05 298 P P 12 10 24.1 -0.5
comp=Z,4.3nm,0.5s,baz=35,slow=3.5,SNR=8.0
GEYT LR LR 12 40 23.4
comp=Z,80nm,18.0s,baz=270,slow=38
comp=Z,4.3nm,0.5s
GYA0B ALIBECK ARRAY 64.05 298 P P 12 10 24.8 +0.2
SUMG Summit 64.07 2 P P 12 10 24.6 +0.1
SUMG Summit 64.07 2 P P 12 10 24.6 +0.1
SUMG pmax pmax
comp=Z,38nm,0.9s
SUMG Summit 64.07 2 *i* P P 12 10 24.0 -0.5
SUMG IAmb IAmb 12 10 25.6
comp=Z,40nm,0.9s

WR0 Warramunga Arr 64.19 192 P **P** **12 10 26.2 +0.7**
WR0 lAmb lAmb 12 10 26.5
comp=Z,14nm,1.1s

WRAB Tennant Creek 64.20 193 P **P** **12 10 25.9 +0.4**
WRAB lAmb lAmb 12 11 00.2
comp=Z,9.9nm,0.9s

WRAB Tennant Creek 64.20 193 P **P** **12 10 25.9 +0.4**
WRAB pmax pmax
comp=Z,10.0nm,1.0s

WRA Warramunga Arr 64.21 193 P **P** **12 10 25.3 -0.3**
WRA Warramunga Arr 64.21 193 *i* P **P** **12 10 26.2 +0.6**
WRA pmax pmax
comp=Z,3.0nm,0.4s

WRA Warramunga Arr 64.21 193 P **P** **12 10 25.9 +0.3**
comp=Z,2.8nm,0.5s,baz=8.1,slow=6.7,SNR=35
comp=Z,2.8nm,0.5s

MOR8 Moi Rana 64.50 340 *e*P **P** **12 10 25.1 -1.8**
KONS Konsvik 64.55 341 *e*P **P** **12 10 28.1 +0.9**
FIA1 FINESS Array S 64.76 333 P **P** **12 10 27.9 -0.8**
FINES FINESS Array B 64.76 333 P **P** **12 10 27.4 -1.4**
FINES FINESS Array B 64.76 333 *i* P **P** **12 10 28.1 -0.6**
FINES pmax pmax
comp=Z,8.0nm,0.6s

FINES FINESS Array B 64.76 333 P **P** **12 10 27.6 -1.1**
comp=Z,8.4nm,0.6s,baz=46,slow=8.2,SNR=19
comp=Z,8.4nm,0.6s

OBN Obninsk 65.12 323⇑ *e*P **P** **12 10 30.0 -1.1**
OBN *e* 12 11 05.4
OBN *e* 12 12 54.2
OBN pmax pmax
comp=Z,11nm,0.9s

UMMG Uummannaq 65.23 7 *i* P **P** **12 10 30.7 -0.9**
VRH Novokhopyorsk 65.28 318 *e*P **P** **12 10 28.5 -3.7**
VRH pmax pmax
comp=Z,20nm,1.1s

PLID Pearl Lake 65.33 51 P **P** **12 10 34.9 +1.8**
LPSR Galich'ya Gora 65.71 320 *e*P **P** **12 10 32.1 -2.9**
LPSR pmax pmax
comp=Z,20nm,0.8s

OVMT Ovando 65.76 47 P **P** **12 10 36.5 +0.8**
SCO Scoresbysund 65.91 356 *i* P **P** **12 10 33.6 -2.4**
BPMT Black Pine Rid 65.91 48 P **P** **12 10 38.3 +1.6**
FFC Flin Flon 66.12 36 P **P** **12 10 37.7 +0.1**
FFC Flin Flon 66.12 36 P **P** **12 10 37.7 +0.1**
FFC pmax pmax
comp=Z,7.0nm,1.0s

FFC Flin Flon 66.12 36 P **P** **12 10 38.4 +0.8**
FFC pP **pP** **12 10 59.9 +0.3**
FFC PcP **sP** **12 11 08.6 -0.4**
LYMT Lyon Mountain 66.20 47 P **P** **12 10 39.8 +1.2**
FCC Fort Churchill 66.40 30 P **P** **12 10 39.8 +0.5**
FCC lAmb lAmb 12 10 41.9
comp=Z,7.6nm,0.7s

FCC Fort Churchill 66.40 30 P **P** **12 10 39.8 +0.5**
FCC pmax pmax
comp=Z,8.0nm,0.7s

VSR Storozhevoye 66.50 319 *e*P **P** **12 10 38.4 -1.7**
VSR pmax pmax
comp=Z,9.0nm,0.4s

VORD Divnogorie 66.61 319 *e*P P 12 10 35.9 -4.8
VORD pmax pmax
comp=Z,9.0nm,0.4s

ILULI Ilulissat 66.75 7 P **P** **12 10 41.3 -0.1**
ILULI lAmb lAmb 12 10 42.4
comp=Z,33nm,1.1s

ILULI Ilulissat 66.75 7 P **P** **12 10 41.3 -0.1**
ILULI pmax pmax
comp=Z,33nm,1.1s

ILULI Ilulissat 66.75 7 *i* P **P** **12 10 39.2 -2.1**
EGMT Eagleton 66.86 45 P **P** **12 10 43.7 +1.1**
EGMT Eagleton 66.86 45 P **P** **12 10 43.6 +1.1**
baz=310
HLID Hailey 67.17 51 P **P** **12 10 45.7 +1.0**
baz=309
BOZ Bozeman (W) 67.42 48 P **P** **12 10 47.4 +1.2**
BOZ Bozeman (W) 67.42 48 P **P** **12 10 47.4 +1.2**
BOZ pmax pmax
comp=Z,6.0nm,0.8s

BOZ Bozeman (W) 67.42 48 P **P** **12 10 47.8 +1.5**
baz=310
ICESG Greenland Ices 67.53 2 *i* P **P** **12 10 45.6 -1.1**
ICESG lAmb lAmb 12 10 47.8
comp=Z,56nm,1.0s

AS31 Alice Springs 67.93 192 P **P** **12 10 49.7 +0.3**
ASAR Alice Springs 67.93 192 P **P** **12 10 50.1 +0.8**
ASAR Alice Springs 67.93 192 P **P** **12 10 50.3 +1.0**
comp=Z,7.8nm,0.7s,baz=9.7,slow=5.6,SNR=117
comp=Z,7.8nm,0.7s

NVAR Mina Array Bea 68.09 57 P **P** **12 10 52.4 +1.7**
NVAR Mina Array Bea 68.09 57 P **P** **12 10 51.6 +0.9**
comp=Z,1.4nm,0.7s,baz=271,slow=6.1,SNR=7.1
comp=Z,1.4nm,0.7s

SOEG Soedalen 68.50 359 *i* P **P** **12 10 51.5 -0.9**
SEKA Sheki 68.71 307 P **P** **12 10 54.1 -0.2**
SFJD Kangerlussuaq 68.96 7 P **P** **12 10 56.4 +1.2**
SFJD lAmb lAmb 12 12 34.8
comp=Z,43nm,1.8s

SFJD Kangerlussuaq 68.96 7 P **P** **12 10 56.4 +1.2**
SFJD pmax pmax
comp=Z,43nm,1.8s

SFJD Kangerlussuaq 68.96 7 *i* P **P** **12 10 53.9 -1.3**
SFJD Kangerlussuaq 68.96 7 P **P** **12 10 55.6 +0.4**
RLMT Red Lodge 69.00 47 P **P** **12 10 57.7 +1.6**
RLMT Red Lodge 69.00 47 P **P** **12 10 56.1 -0.1**
baz=311
MNGR Mingechevir, A 69.05 307 P **P** **12 10 56.6 +0.3**
MNK Minsk 69.16 327 *i* P **P** **12 10 57.2 +0.5**
MNK *i* *PP **pP** **12 11 16.8 -2.0**
MNK *i* *PP **PcP** **12 11 18.0 -2.0**
MNK *i* 12 13 30.3
MNK *i* PPP PPP 12 15 11.5
MNK *i* S **S** **12 19 56.3 +1.0**
MNK *i* *SS **sS** **12 20 33.7 +1.9**
MNK *i* SS **SS** **12 24 25.4 +3.4**
MNK pmax pmax
comp=E,13nm,1.3s

MNK pmax pmax
comp=Z,37nm,0.9s

MNK pmax pmax
comp=N,14nm,0.8s

MNK MLR MLR
comp=Z,92nm,12.0s

VES Vestal, Richgr 69.23 60 P **P** **12 10 58.4 +0.9**
baz=309
DOMB Dombas 69.25 340 *e*P **P** **12 10 57.4 +0.2**
PSA00 Pilbara Seismi 69.31 206 P **P** **12 10 58.8 +0.8**
PSA00 lAmb lAmb 12 11 07.6
comp=Z,34nm,1.5s

NC405 NORSAR Array S 69.35 338 P **P** **12 10 57.8 0.0**
NC405 lAmb lAmb 12 10 58.4
comp=Z,23nm,0.7s

LKRN Lenkeran, Azer 69.37 304 P **P** **12 10 58.7 +0.4**
NC204 NORSAR Array S 69.47 339 P **P** **12 10 58.4 -0.2**
NC204 lAmb lAmb 12 10 59.2
comp=Z,16nm,0.7s

KIV Kislovodsk 69.47 311 ⇓P **P** **12 11 00.3 +1.4**
KIV Kislovodsk 69.47 311 P **P** **12 11 00.2 +1.3**
KIV Kislovodsk 69.47 311 *e*P **P** **12 10 59.6 +0.6**
KIV pmax pmax
comp=Z,49nm,1.0s

KIV Kislovodsk 69.47 311 P **P** **12 10 60.0 +1.0**
KBZ Khabaz 69.50 311 *ce*P **P** **12 10 58.6 -0.4**
KBZ pmax pmax
comp=Z,21nm,0.8s

KBZ Khabaz 69.50 311 P **P** **12 10 59.8 +0.8**
comp=Z,21nm,0.8s,baz=78,slow=3.6,SNR=34
KBZ LR LR 12 46 14.8
comp=Z,56nm,18.1s,baz=34,slow=40
comp=Z,21nm,0.8s

KBZ Khabaz 69.50 311 *e*P **P** **12 10 58.6 -0.4**
NB201 NORSAR Array S 69.52 339 P **P** **12 10 58.6 -0.3**
NB201 lAmb lAmb 12 10 59.7
comp=Z,22nm,0.8s

LAO LASA Array 69.54 45 P **P** **12 10 59.2 -0.1**
baz=312
NB2 NORSAR Subarra 69.55 339 P **P** **12 10 58.4 -0.6**
comp=Z,8.9nm,0.5s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.55 339 P **P** **12 10 58.4 -0.6**
baz=32,slow=6.5
NOA NORSAR Array B 69.55 339 P **P** **12 10 58.9 -0.1**
comp=Z,12nm,0.7s,baz=33,slow=6.2,SNR=42
NOA LR LR 12 44 39.1
comp=Z,21nm,19.3s,baz=320,slow=39
comp=Z,12nm,0.7s

ZEI Tsey 69.56 310 *e*P **P** **12 10 59.0 -0.7**
ZEI pmax pmax
comp=Z,15nm,0.9s

GRAC Grapevine Rang 69.57 58 P **P** **12 10 59.5 -0.1**
GRAC lAmb lAmb 12 11 09.0
comp=Z,8.3nm,0.6s

GANJ Ganja 69.58 307 P **P** **12 11 00.1 +0.5**
HFS Hagfors 69.62 337 P **P** **12 10 59.1 -0.3**
comp=Z,17nm,0.5s,baz=48,slow=6.6,SNR=100
comp=Z,17nm,0.5s

AKN Aaknes 69.63 341 *e*P **P** **12 11 02.5 +3.0**
NBO00 NORSAR Array S 69.67 339 P **P** **12 10 59.2 -0.6**
NC602 NORSAR Array S 69.71 338 *e*P **P** **12 10 59.5 -0.6**
NORES NORESS Array B 69.71 338 P **P** **12 10 59.8 -0.2**
NAO01 NORSAR Array S 69.80 339 P **P** **12 11 00.3 -0.3**
DY2G Dye2 69.81 5 *i* P **P** **12 10 60.0 -0.9**
DY2G lAmb lAmb 12 11 01.7
comp=Z,32nm,0.9s

PABE Paberze 69.92 329 P **P** **12 11 01.6 +0.3**
PABE Paberze 69.92 329 *e*P **P** **12 11 01.6 +0.3**
ONI Oni 69.94 310 P **P** **12 11 03.0 +1.1**
ONI lAmb lAmb 12 11 04.0
comp=Z,12nm,0.8s

ONI Oni 69.94 310 P **P** **12 11 02.0 +0.1**
ONI pmax pmax
comp=Z,12nm,0.8s

FURC Furnace Creek, 70.22 58 P **P** **12 11 04.0 +0.5**
baz=310
PBUR Paburge 70.26 331 *e*P **P** **12 11 03.8 +0.4**
BW06 Boulder Array 70.39 49 P **P** **12 11 04.1 -0.7**
BW06 Boulder Array 70.39 49 P **P** **12 11 05.3 +0.5**
baz=312
PD31 Pinedale Array 70.39 49 P **P** **12 11 04.6 -0.2**
PDAR Pinedale Array 70.39 49 P **P** **12 11 05.0 +0.2**
PDAR Pinedale Array 70.39 49 P **P** **12 11 05.8 +1.0**
comp=Z,0.9nm,0.7s,baz=26,slow=1.5,SNR=10
comp=Z,0.9nm,0.7s

EDW2 Edwards Air Fo 70.53 60 P **P** **12 11 05.4 -0.2**
baz=310
SKAR Skarslia 70.61 340 *e*P **P** **12 11 06.2 +0.7**
HYA Hoyanger 70.70 341 *e*P **P** **12 11 06.5 +0.5**
GSC Goldstone, Bar 71.00 59 P **P** **12 11 09.4 +0.9**
baz=310
NAX Nakhchivan 71.02 306 P **P** **12 11 08.7 +0.2**
SUE Sulen 71.14 341 *e*P **P** **12 11 08.8 +0.2**
BFSC Mount Baldy Ra 71.15 61 P **P** **12 11 08.8 -0.7**
baz=310
AKASG Malin Array Be 71.38 323 P **P** **12 11 10.3 0.0**
AKASG Malin Array Be 71.38 323 P **P** **12 11 10.3 0.0**
AKASG pmax pmax
comp=Z,5.0nm,0.9s

AKASG Malin Array Be 71.38 323 P **P** **12 11 10.0 -0.4**
comp=Z,9.5nm,0.6s,baz=38,slow=6.0,SNR=52
comp=Z,9.5nm,0.6s

AKBB Malin Array Si 71.38 323 P **P** **12 11 09.9 -0.5**
AKBB lAmb lAmb 12 11 10.8
comp=Z,17nm,0.8s

AKBB Malin Array Si 71.38 323 *i* P **P** **12 11 08.6 -1.7**
AKBB pmax pmax
comp=Z,19nm,0.8s

KIEV Kiev 71.40 323 ⇓P **P** **12 11 10.3 -0.1**
KIEV Kiev 71.40 323 P **P** **12 11 09.9 -0.5**
KIEV lAmb lAmb 12 11 10.8
comp=Z,16nm,0.8s

KIEV Kiev 71.40 323 P **P** **12 11 09.9 -0.5**
KIEV pmax pmax
comp=Z,16nm,0.8s

KIEV Kiev 71.40 323 P **P** **12 11 10.1 -0.3**
KIEV pP **pP** **12 11 31.8 -0.8**
BORG Borgarnes 71.56 354 P **P** **12 11 12.8 +1.6**
BER Bergen 71.59 341 *e*P **P** **12 11 12.2 +0.8**
NUUK Nuuk 71.60 8 *i* P **P** **12 11 11.1 -0.3**
ODD1 Odda 71.69 340 *e*P **P** **12 11 12.5 +0.4**
MURC Murrieta 71.86 61 P **P** **12 11 13.8 +0.2**
baz=311
ULM Lac du Bonnet 71.92 37 P **P** **12 11 14.6 +1.0**
comp=Z,1.0nm,0.4s,baz=310,slow=9.3,SNR=4.2
comp=Z,1.0nm,0.4s

GMRC Granite Mounta 72.05 59 P **P** **12 11 14.8 -0.1**
baz=311
K22A Casper 72.12 48 P **P** **12 11 14.8 -0.3**
baz=313
BLS5 Blasjo 72.16 340 *e*P **P** **12 11 15.1 +0.2**
PFO Pinyon Flats O 72.32 60 P **P** **12 11 16.2 -0.3**
baz=311
KMY Karmoy 72.65 340 *e*P **P** **12 11 18.2 +0.5**
O20A White River Ci 72.89 51 P **P** **12 11 20.6 +0.8**
baz=313
SNART Snartemo 72.92 339 *e*P **P** **12 11 19.9 +0.6**
BSD Bornholm Skovb 73.39 333 *i* P **P** **12 11 21.4 -0.7**
BSD lAmb lAmb 12 11 22.5
comp=Z,17nm,0.6s

SORM Soroca 73.67 322 ⇑P **P** **12 11 23.9 0.0**
SORM Soroca 73.67 322 ⇑P **P** **12 11 23.9 0.0**
KWP Kalwaria Pacla 74.93 326 P **P** **12 11 32.3 +1.0**
KWP Kalwaria Pacla 74.93 326 P **P** **12 11 32.3 +1.0**
KWP pmax pmax
comp=Z,31nm,0.7s

STKA Stephens Creek 75.25 184 P **P** **12 11 34.5 +1.4**
STKA Stephens Creek 75.25 184 P **P** **12 11 34.6 +1.5**
comp=Z,3.3nm,0.6s,baz=349,slow=6.8,SNR=6.7
comp=Z,3.3nm,0.6s

S22A 4UR Ranch, Cre 75.33 52 P **P** **12 11 33.9 -0.3**
baz=314
BUR08 Bucovina Ar. S 75.42 323 P **P** **12 11 34.7 +0.4**
BUR08 lAmb lAmb 12 11 35.5
comp=Z,13nm,0.6s

BURAR Bucovina Array 75.44 323 ⇓P **P** **12 11 35.0 +0.6**
BURAR Bucovina Array 75.44 323 P **P** **12 11 34.8 +0.4**
BURAR lAmb lAmb 12 11 35.8
comp=Z,12nm,0.8s

BURAR Bucovina Array 75.44 323 ⇓P **P** **12 11 35.0 +0.6**
EYMN Ely 75.55 36 P **P** **12 11 35.4 +0.5**
EYMN lAmb lAmb 12 12 08.9
comp=Z,22nm,1.7s

OJC Ojcow 75.62 328 *e*P **P** **12 11 35.8 +0.5**
OJC Ojcow 75.62 328 P **P** **12 11 35.6 +0.4**
OJC lAmb lAmb 12 11 36.7
comp=Z,22nm,1.0s

OJC Ojcow 75.62 328 P **P** **12 11 35.6 +0.4**
OJC pmax pmax
comp=Z,22nm,1.0s

TESR Tescani 75.65 322 ⇑P **P** **12 11 36.1 +0.6**
KOLS Kolonicke sedl 75.66 326 *e*P **P** **12 11 36.4 +0.9**
KOLS pmax pmax
comp=Z,11nm,0.8s

KOLS Kolonicke sedl 75.66 326 *e*P **P** **12 11 36.4 +0.9**
STHS Stebnicka Huta 75.69 327 *e*P **P** **12 11 35.9 +0.2**
STHS pmax pmax
comp=Z,12nm,0.9s

STHS Stebnicka Huta 75.69 327 *e*P **P** **12 11 35.9 +0.2**
BSEG Bad Segeberg 75.83 335 *e*P **P** **12 11 36.7 +0.4**
comp=Z,11nm,0.8s,baz=32,slow=5.6

TUDR 75.88 321 ⇑P **P** **12 11 38.7 +2.0**
CFR Carcaliu 75.98 320 ⇑P **P** **12 11 37.9 +0.6**
CFR Carcaliu 75.98 320 ⇑P **P** **12 11 37.9 +0.6**
CRVS Cervenica-Dubn 76.01 326 *e*P **P** **12 11 38.0 +0.5**
CRVS pmax pmax
comp=Z,97nm,2.4s

CRVS Cervenica-Dubn 76.01 326 *e*P **P** **12 11 38.0 +0.5**
NIE Niedzica 76.07 327 P **P** **12 11 39.3 +1.5**
TPGR Topolog 76.08 320 ⇓P **P** **12 11 38.4 +0.5**
VRI Vrincioaia 76.11 321 ⇑P **P** **12 11 38.3 +0.2**
VRI Vrincioaia 76.11 321 ⇑P **P** **12 11 38.3 +0.2**
TURR Turia 76.28 322 ⇓P **P** **12 11 39.6 +0.5**
COVR Voineasa-Covas 76.36 322 ⇑P **P** **12 11 39.8 +0.2**
ECSD EROS Data Cent 76.42 42 P **P** **12 11 39.9 0.0**
ECSD EROS Data Cent 76.42 42 P **P** **12 11 39.6 -0.2**
baz=318
LANS Liptovska Anna 76.61 327 *e*P **P** **12 11 42.2 +1.3**
LANS pmax pmax
comp=Z,8.0nm,0.9s

LANS Liptovska Anna 76.61 327 *e*P **P** **12 11 42.2 +1.3**
DOPR Dopca 76.63 322 ⇑P **P** **12 11 42.4 +1.4**
CHVC Chvalec 76.73 330 *e*P **P** **12 11 42.7 +1.2**
CHVC Chvalec 76.73 330 *e*P **P** **12 11 42.7 +1.2**
MLR Muntele Rosu 76.75 321 ⇑P **P** **12 11 42.1 +0.2**
MLR Muntele Rosu 76.75 321 P **P** **12 11 42.0 +0.2**
MLR Muntele Rosu 76.75 321 ⇑P **P** **12 11 42.1 +0.2**
MLR Muntele Rosu 76.75 321 LR LR 12 50 09.7
comp=Z,61nm,18.7s,baz=12,slow=39

ISR Istrita 76.76 321 ⇓P **P** **12 11 43.1 +1.3**
ISR Istrita 76.76 321 ⇓P **P** **12 11 43.1 +1.3**
DPC Dobruska-Polom 76.83 330 *e*P **P** **12 11 42.8 +0.7**
DPC Dobruska-Polom 76.83 330 *e*P **P** **12 11 42.8 +0.7**

MORC Moravsky Berou 76.84 329 ⇓P **P** **12 11 42.6 +0.4**
MORC Moravsky Berou 76.84 329 P **P** **12 11 42.6 +0.4**
MORC Moravsky Berou 76.84 329 *e*P **P** **12 11 42.5 +0.4**
MORC Moravsky Berou 76.84 329 ⇓P **P** **12 11 42.6 +0.4**
KRLC Kraliky 76.88 329 *e*P **P** **12 11 43.0 +0.6**
KRLC Kraliky 76.88 329 *e*P **P** **12 11 43.0 +0.6**
FLTG Flechtingen 76.92 334 *e*P **P** **12 11 42.6 +0.1**
comp=Z,9.0nm,0.8s,baz=32,slow=5.6

VOIR 77.19 322 ⇑P **P** **12 11 45.4 +1.1**
VOIR 77.19 322 ⇑P **P** **12 11 45.4 +1.1**
CLL Collm 77.20 332 P **P** **12 11 44.1 -0.1**
CLL lAmb lAmb 12 11 44.8
comp=Z,17nm,0.8s

CLL Collm 77.20 332⇑ *i*P **P** **12 11 44.0 -0.1**
CLL *e*PP **pP** **12 12 07.0 +0.5**
CLL pmax pmax
comp=Z,20nm,0.8s

CLL Collm 77.20 332⇑ *i*P **P** **12 11 44.0 -0.1**
comp=Z,20nm,0.8s

CLL *e*pP **pP** **12 12 07.0 +0.5**
CLL Collm 77.20 332 *e*P **P** **12 11 44.2 +0.1**
comp=Z,13nm,0.8s,baz=32,slow=5.6
BRG Berggieshubel 77.24 331 *e*P **P** **12 11 44.6 +0.3**
comp=Z,3.8nm,0.7s,baz=32,slow=5.6
BR131 Keskin Array S 77.26 313 P **P** **12 11 45.1 +0.3**
BR131 Keskin Array S 77.26 313 *i* P **P** **12 11 44.6 -0.3**
BRTR Keskin Array B 77.26 313 P **P** **12 11 45.2 +0.3**
BRTR Keskin Array B 77.26 313 *i* P **P** **12 11 45.5 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.6s

BRTR Keskin Array B 77.26 313 P **P** **12 11 45.5 +0.6**
comp=Z,2.4nm,0.6s,baz=76,slow=3.5,SNR=11
comp=Z,2.4nm,0.6s

VYHS Vyhne 77.39 327 *e*P **P** **12 11 46.0 +0.8**
VYHS pmax pmax
comp=Z,11nm,1.4s

VYHS Vyhne 77.39 327 *e*P **P** **12 11 46.0 +0.8**
PSZ Piszkesteto 77.43 326 ⇑P **P** **12 11 46.0 +0.4**
PSZ Piszkesteto 77.43 326 P **P** **12 11 46.2 +0.6**
PSZ Piszkesteto 77.43 326 ⇑P **P** **12 11 46.0 +0.4**
ARR Arges 77.43 322 ⇑P **P** **12 11 46.4 +0.8**
JAVC Velka Javorina 77.54 328 *e*P **P** **12 11 47.6 +1.5**
VRAC Vranov 77.58 329 *e*P **P** **12 11 47.0 +0.7**
VRAC Vranov 77.58 329 LR LR 12 47 35.9
comp=Z,72nm,18.1s,baz=24,slow=37

CLZ Clausthal 77.61 334 *e*P **P** **12 11 46.4 0.0**
comp=Z,11nm,0.7s,baz=32,slow=5.6
HSKC Hora Svate Kat 77.64 332 *e*P **P** **12 11 47.0 +0.4**
GOPC GO Pecny, Ondr 77.74 330 *e*P **P** **12 11 47.6 +0.4**
GOPC GO Pecny, Ondr 77.74 330 *e*P **P** **12 11 47.6 +0.4**
PRU Pruhonice 77.77 331 *e*P **P** **12 11 47.9 +0.6**
PRU Pruhonice 77.77 331 *e*P **P** **12 11 47.9 +0.6**
KRUC Moravsky 77.86 329 *e*P **P** **12 11 48.2 +0.4**
SCHQ Schefferville 77.92 19 P **P** **12 11 48.6 +0.5**
SCHQ Schefferville 77.92 19 P **P** **12 11 48.7 +0.6**
comp=Z,3.7nm,0.5s,baz=327,slow=4.8,SNR=18
comp=Z,3.7nm,0.5s

GTTG Gottingen 78.00 334 *e*P **P** **12 11 49.0 +0.5**
comp=Z,8.9nm,0.8s,baz=32,slow=5.6
MODS Modra-Piesok 78.09 328 *e*P **P** **12 11 51.0 +1.9**
MODS pmax pmax
comp=Z,13nm,0.9s

MODS Modra-Piesok 78.09 328 *e*P **P** **12 11 51.0 +1.9**
EKA Eskdalemuir Ar 78.11 343 P **P** **12 11 49.4 +0.3**
comp=Z,2.5nm,0.3s,baz=24,slow=5.3,SNR=39
comp=Z,2.5nm,0.3s

TANN Tannenbergstha 78.14 332 *e*P **P** **12 11 49.2 -0.2**
comp=Z,3.0nm,0.8s,baz=32,slow=5.6
SURR Surduc 78.22 324 ⇑P **P** **12 11 50.3 +0.4**
GZR Gura Zlata 78.23 323 ⇑P **P** **12 11 50.5 +0.5**
GZR Gura Zlata 78.23 323 ⇑P **P** **12 11 50.5 +0.5**
MOX Moxa 78.23 333 *e*P **P** **12 11 49.8 0.0**
comp=Z,3.2nm,0.7s,baz=32,slow=5.6
UBBA Unterbreizbach 78.61 334 *e*P **P** **12 11 52.0 +0.2**
comp=Z,2.9nm,0.6s,baz=32,slow=5.6
MANZ Manzenberg 78.62 332 *e*P **P** **12 11 52.1 0.0**
comp=Z,0.8nm,0.7s,baz=32,slow=5.6
MANZ epP **pP** **12 12 15.0 +0.5**
ROTZ Rotzenmuhle 78.77 332 *e*P **P** **12 11 53.0 +0.2**
comp=Z,0.8nm,0.7s,baz=32,slow=5.6
KASTN Kahler Asten 78.78 335 *e*P **P** **12 11 53.2 +0.3**
comp=Z,7.2nm,0.8s,baz=32,slow=5.6
KASTN epP **pP** **12 12 16.1 +0.6**
CKRC Cesky Krumlov 78.83 330 *e*P **P** **12 11 53.3 +0.1**
CKRC Cesky Krumlov 78.83 330 *e*P **P** **12 11 53.3 +0.1**
KHC Kasperske Hory 78.83 331 P **P** **12 11 53.8 +0.5**
KHC lAmb lAmb 12 11 54.3
comp=Z,8.8nm,0.6s

KHC Kasperske Hory 78.83 331 *ce*P **P** **12 11 52.1 -1.1**
KHC pmax pmax
comp=Z,18nm,0.8s

KHC Kasperske Hory 78.83 331 *e*P **P** **12 11 53.9 +0.7**
BUG Bochum-Univer 78.93 335 *e*P **P** **12 11 54.2 +0.6**
comp=Z,9.2nm,0.8s,baz=32,slow=5.6
CONA Conrad Observa 78.99 329 *i* P **P** **12 11 55.1 +0.9**
comp=Z,5.8nm,0.8s
RONA Rosalia, Austr 79.02 328 *i* P **P** **12 11 54.5 +0.2**
comp=Z,5.5nm,0.7s
GEC2 GERESS Array S 79.03 330 *e*P **P** **12 11 54.3 -0.1**
comp=Z,1.9nm,0.7s,baz=32,slow=5.6
GERES GERESS Array B 79.03 330 P **P** **12 11 54.6 +0.2**
GERES GERESS Array B 79.03 330 P **P** **12 11 54.6 +0.2**
GERES GERESS Array B 79.03 330 P **P** **12 11 54.5 +0.1**
comp=Z,2.3nm,0.6s,baz=45,slow=4.0,SNR=5.1
GERES LR LR 12 51 15.7
comp=Z,43nm,18.4s,baz=264,slow=39
comp=Z,2.3nm,0.6s

N35A Tabor 79.05 43 P **P** **12 11 54.1 -0.4**
N35A lAmb lAmb 12 11 54.7
comp=Z,15nm,1.1s

WET Wettzell 79.07 331 P **P** **12 11 54.3 -0.2**
WET pmax pmax
comp=Z,10.0nm,1.1s

WET Wettzell 79.07 331 *e*P **P** **12 11 54.4 -0.1**
comp=Z,5.8nm,0.9s,baz=32,slow=5.6
GRA1 Grafenberg Arr 79.17 332 P **P** **12 11 55.5 +0.5**
GRA1 lAmb lAmb 12 11 57.0
comp=Z,14nm,0.8s

GRF Grafenberg Arr 79.17 332 P **P** **12 11 55.6 +0.5**
GRF pmax pmax
comp=Z,14nm,0.8s

GRF Grafenberg Arr 79.17 332 *e*P **P** **12 11 55.5 +0.5**
comp=Z,13nm,0.9s,baz=32,slow=5.6
GRFO Grafenberg 79.17 332 P **P** **12 11 55.4 +0.4**
GRFO lAmb lAmb 12 11 57.0
comp=Z,13nm,0.8s

GRFO Grafenberg 79.17 332 P **P** **12 11 55.4 +0.4**
GRFO pmax pmax
comp=Z,13nm,0.8s

TNS Taunus Mts 79.62 334 *e*P **P** **12 11 58.1 +0.5**
comp=Z,5.8nm,0.8s,baz=32,slow=5.6
BIOA Bad Ischl, Aus 80.02 330 *e*P **P** **12 12 00.3 +0.6**
comp=Z,2.4nm,0.5s

RDO Rodhopi 80.28 319 P **P** **12 12 02.1 +0.9**
RDO lAmb lAmb 12 12 02.9
comp=Z,11nm,0.8s

SOKA Soboth 80.35 328 *i* P **P** **12 12 01.8 +0.2**
comp=Z,4.6nm,0.6s
LESA Schwarzleotal 80.59 330 *e*P **P** **12 12 03.4 +0.5**
comp=Z,4.6nm,0.6s
KBA Koelnbreinsper 80.64 330 *i* P **P** **12 12 03.8 +0.5**
comp=Z,12nm,0.9s
OBKA Obir 80.67 329 *i* P **P** **12 12 03.9 +0.6**
comp=Z,6.3nm,1.1s

TOO Toolangi 80.81 181 P **P** **12 12 05.9 +2.2**
TOO lAmb lAmb 12 15 01.1
comp=Z,32nm,1.6s

TOO Toolangi 80.81 181 P **P** **12 12 05.9 +2.2**
TOO pmax pmax
comp=Z,32nm,1.6s

MYKA Terra Mystica 80.91 329 *i* P **P** **12 12 04.7 +0.2**
comp=Z,11nm,1.2s
WATA Walderalm 81.06 331 *i* P **P** **12 12 05.8 +0.4**
comp=Z,5.6nm,0.4s
PRED Cave del Predi 81.10 329 P **P** **12 12 05.5 -0.1**
PRED lAmb lAmb 12 13 51.9
comp=Z,25nm,1.7s

WTTA Wattenberg 81.10 331 *i* P **P** **12 12 06.2 +0.5**
comp=Z,4.8nm,0.5s
MMAI Mount Meron Ar 81.16 307 P **P** **12 12 07.3 +1.2**
comp=Z,7.7nm,0.6s,baz=25,slow=4.1,SNR=4.8
comp=Z,7.7nm,0.6s

RETA Reutte 81.22 331 *i* P **P** **12 12 06.6 +0.4**
comp=Z,2.7nm,0.5s
MOTA Moosalm 81.22 331 *i* P **P** **12 12 06.6 +0.3**
comp=Z,10.0nm,0.8s

SQTA	**Sankt Quirin**	**81.29**	**331**	*i* P		**P**	**12 12 07.1**	**+0.4**
	comp=Z,4.2nm,0.6s								
STAL	**STALIGIAL**	**81.57**	**330**	P		**P**	**12 12 06.8**	**-1.2**
STAL				IAmb		IAmb	12 13 40.2		
	comp=Z,52nm,1.9s								
FETA	**Feichten**	**81.63**	**331**	*e*P		**P**	**12 12 08.3**	**-0.2**
	comp=Z,6.5nm,1.2s								
DAVA	**Damuels**	**81.70**	**332**	*i* P		**P**	**12 12 09.2**	**+0.4**
	comp=Z,7.9nm,0.8s								
ECH	**Echery**	**81.79**	**334**	P		**P**	**12 12 09.2**	**+0.2**
ECH				IAmb		IAmb	12 12 58.4		
	comp=Z,48nm,2.0s								
ECH	**Echery**	**81.79**	**334**	P		**P**	**12 12 09.3**	**+0.2**
ECH				pmax		pmax			
	comp=Z,48nm,2.0s								
FUORN	**Ofenpass-Fuorn**	**82.14**	**331**	P		**P**	**12 12 11.7**	**+0.4**
FUORN				IAmb		IAmb	12 12 20.0		
	comp=Z,34nm,1.9s								
PUK	**Puka**	**82.16**	**323**	P		**P**	**12 12 11.6**	**+0.3**
TUE	**Stuetta**	**82.58**	**332**	P		**P**	**12 12 14.1**	**+0.6**
LDAQ	**Lac Daran**	**82.96**	**24**	P		**P**	**12 12 15.6**	**+0.3**
LDAQ				IAmb		IAmb	12 14 28.5		
	comp=Z,49nm,1.9s								
TX31	**Lajitas Ar. Si**	**83.16**	**56**	P		**P**	**12 12 17.6**	**+0.9**
TXAR	**Lajitas Array**	**83.16**	**56**	P		**P**	**12 12 17.3**	**+0.6**
TXAR	**Lajitas Array**	**83.16**	**56**	P		**P**	**12 12 17.3**	**+0.6**
TXAR	**Lajitas Array**	**83.16**	**56**	P		**P**	**12 12 17.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=303,slow=3.1,SNR=12								
	comp=Z,1.0nm,0.7s								
CCM	**Cathedral Cave**	**83.38**	**42**	P		**P**	**12 12 17.2**	**-0.3**
	baz=322								
LMQ	**La Malbaie**	**83.61**	**24**	P		**P**	**12 12 19.1**	**+0.5**
FDMO	**Fiordimonte**	**84.16**	**328**	P		**P**	**12 12 21.9**	**+0.4**
FDMO				IAmb		IAmb	12 12 29.2		
	comp=Z,35nm,1.6s								
NRCA	**Norcia**	**84.32**	**327**	P		**P**	**12 12 22.2**	**-0.1**
PPT	**Papeete**	**84.39**	**121**	LR		LR	12 45 34.9		
	comp=Z,39nm,19.1s,baz=354,slow=32								
D62A	**Allapoint, All**	**84.40**	**23**	P		**P**	**12 12 23.1**	**+0.6**
PPT2	**Papeete2**	**84.41**	**121**	*e*LR		LR	12 39 00.5		
	comp=Z,86nm,32.5s								
PPT2				*e*LR		LR	12 39 00.7		
	comp=Z,71nm,26.0s								
E62A	**Clayton Lake**	**84.68**	**24**	P		**P**	**12 12 24.8**	**+0.8**
BATG	**Bathurst New B**	**85.06**	**22**	P		**P**	**12 12 26.8**	**+1.0**
NCB	**Newcomb**	**85.54**	**28**	P		**P**	**12 12 29.5**	**+1.1**
H62A	**Milan**	**86.02**	**26**	P		**P**	**12 12 32.0**	**+1.3**
WVT	**Waverly**	**86.56**	**41**	P		**P**	**12 12 33.5**	**+0.1**
	baz=324								
LMN	**Caledonia Moun**	**86.70**	**21**	P		**P**	**12 12 34.9**	**+0.9**
OXF	**Oxford**	**87.08**	**43**	P		**P**	**12 12 35.9**	**-0.1**
	baz=323								
TBI	**Tubuai**	**88.81**	**124**	*e*LR		LR	12 41 16.0		
	comp=Z,533nm,39.5s								
TBI				*e*LR		LR	12 41 16.9		
	comp=Z,706nm,27.8s								
ESDC	**Sonseca Array**	**92.89**	**338**	P		**P**	**12 13 03.0**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=11,slow=4.0,SNR=5.5								
	comp=Z,0.9nm,0.6s								
QSPA	**South Pole Qui**	**133.34**	**180**	PKP		**PKiKP**	**12 19 05.8**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=268,slow=0.3,SNR=3.1								
H03N2	**Juan Fernandez**	**143.48**	**89**	T		T	14 58 54.2		
	baz=304,slow=77,SNR=3.4								
H03N3	**Juan Fernandez**	**143.50**	**90**	T		T	14 59 02.0		
	baz=304,slow=77,SNR=4.4								
H03N1	**Juan Fernandez**	**143.50**	**89**	T		T	14 58 56.2		
	baz=304,slow=77,SNR=4.7								
TROLL	**Troll, Antarti**	**146.69**	**199**	⇑PKPbc		**PKPbc**	**12 19 31.1**	**+0.5**
	comp=Z,196nm,0.7s								
SNAA	**Sanae**	**148.16**	**198**	⇑PKPbc		**PKPbc**	**12 19 34.8**	**+0.3**
SNAA	**Sanae**	**148.16**	**198**	PKPbc		**PKPbc**	**12 19 33.4**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=68,slow=5.4,SNR=3.5								
VNA2	**Neumayer--Watz**	**149.70**	**197**	⇑PKPbc		**PKiKP**	**12 19 39.4**	**+0.1**
	baz=339,slow=22								
CFA	**Coronel Fontan**	**150.24**	**78**	PKPbc		**PKPbc**	**12 19 40.8**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=293,slow=6.7,SNR=2.1								
PLCA	**Paso Flores**	**152.58**	**97**	PKPbc		**PKPbc**	**12 19 45.1**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=344,slow=7.4,SNR=5.5								

*EST **19** 12:08:33.4±0.1,59°.27N×27°.66E, h0km, ML1.8(HEL), Explosion*
*LVSN **19** 12:08:34.5±3.8,59°.31N×28°.15E, h0km±265km, ML2.2*
HEL 19 12:08:32.2±0.4, 59°.27N×27°.80E, h0km, ML1.9, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE03	**Tooma soojaam,**	**0.89**	**244**	*e*P	Pg	12 08 47.8	-1.4
EE03				*e*SB	Sg	12 08 59.8	-0.8
VSU	**Vasula**	**0.98**	**215**	*e*P	Pg	12 08 50.1	-0.9
VJF	**Virojoki**	**1.28**	**354**	*e*P	Pg	12 08 56.2	-0.4
VJF				*e*SB	Sg	12 09 13.0	-0.1
VJF				MSG		12 09 19.3	
	comp=Z,6.1nm,0.1s						
EE08	**Sarghaua, Vand**	**1.47**	**246**	*e*P	Pn	12 08 58.8	-1.1
EE08				*e*SB	Sg	12 09 16.7	-2.5
PVF	**Pernaja**	**1.61**	**323**	*e*P	Pn	12 09 01.2	-0.6
PVF				MSG		12 09 20.4	
	comp=Z,7.0nm,0.2s						
PVF				*e*SB	Sn	12 09 21.8	-1.4
HEL1	**Helsinki**	**1.74**	**303**	*e*SN	Sn	12 09 25.7	-0.6
HEL1				MSG		12 09 29.6	
	comp=Z,5.5nm,0.1s						
MEF	**Metsahovi**	**1.97**	**300**	*e*PG	Pn	12 09 07.3	+0.6
MEF				*e*SN	Sn	12 09 31.7	-0.4
MEF				MSG		12 09 35.5	
	comp=Z,7.1nm,0.1s						
MEF	**Metsahovi**	**1.97**	**300**	*e*P	Pn	12 09 07.5	+0.8
MEF				*e*S	Sn	12 09 31.7	-0.4
MEF				AML	AML	12 09 36.2	
	comp=N,30nm,0.4s						
MEF				AML	AML	12 09 36.5	
	comp=Z,12nm,0.4s						
MEF				AML	AML	12 09 37.6	
	comp=E,12nm,0.4s						
NUR	**Nurmijrvi**	**2.02**	**309**	*e*PG	Pb	12 09 08.6	-1.1
NUR				*e*SG	Sn	12 09 33.8	+0.5
NUR				MSG		12 09 36.6	
	comp=Z,4.6nm,0.1s						
MTSE	**Matsula**	**2.14**	**257**	*e*PG	Pb	12 09 10.6	-1.2
MTSE				*e*SG	Sn	12 09 37.4	+1.1
MTSE	**Matsula**	**2.14**	**257**	*e*P	Pn	12 09 10.3	+1.2
MTSE				*e*S	Sn	12 09 36.7	+0.4
EE01	**Perakula, Nova**	**2.15**	**270**	*e*PB	Pn	12 09 09.9	+0.7
EE01				*e*SB	Sn	12 09 36.7	+0.1
RUF	**Ruokolahti**	**2.23**	**14**	*e*P	Pb	12 09 12.3	-1.1
RUF				MSG		12 09 38.3	
	comp=Z,3.3nm,0.2s						
RUF				*e*SG	Sg	12 09 42.7	-1.1
FIA0	**FINESS Array S**	**2.34**	**339**	*e*P	Pn	12 09 12.8	+0.9
FIA0				MSG		12 09 41.4	
	comp=Z,5.9nm,0.2s						
FIA0				*e*SG	Sb	12 09 44.1	-0.5
FIA1	**FINESS Array S**	**2.34**	**339**	*e*PB	Pn	12 09 13.5	+1.6
KAF	**Kangasniemi**	**2.94**	**346**	*e*PG	Pb	12 09 25.3	-0.2
KAF				MSG		12 09 58.7	
	comp=Z,3.9nm,0.2s						
SLIT	**Slitere, Latvi**	**3.33**	**243**	*e*S	Sn	12 10 07.5	+1.8
SLIT				AML	AML	12 10 20.0	
	comp=Z,45nm,0.4s						
SLIT				AML	AML	12 10 23.2	
	comp=N,56nm,0.4s						
SLIT				AML	AML	12 10 23.9	
	comp=E,71nm,0.5s						
RAF	**Rauma**	**3.49**	**303**	*e*P	**P**	**12 10 40.1**	**+0.4**
RAF	**Rauma**	**3.49**	**303**	*e*P	Pn	12 09 29.3	+1.6
RAF	**Rauma**	**3.49**	**303**	*e*P	Pn	12 09 29.9	+2.3
RAF				*e*S	Sn	12 10 10.1	+0.4
RAF				AML	AML	12 10 23.1	
	comp=N,5.3nm,0.4s						
RAF				AML	AML	12 10 27.6	
	comp=E,4.3nm,0.4s						
RAF				AML	AML	12 10 40.3	
	comp=Z,8.4nm,0.5s						
JOF	**Joensuu**	**4.03**	**23**	*e*P	Pn	12 09 37.6	+2.5

*SJA **19** 12:12:58.9±0.6,27°.97S×66°.56W, h189km±3km, ML4.2, MW3.9*
*NEIC **19** 12:12:59.1±2.4,27°.96S±0°.05×66°.5W±0°.1, h157km±10km, mb4.3/18, Error ellipse: s-maj=13.9km s-min=7.0km az=94.0*

*IDC **19** 12:13:00.3±0.8,27°.92S×66°.42W, h166km±7km, mb3.5/8, mbtmp4.0/13, MS3.6/1, Error ellipse: s-maj=19.5km s-min=14.7km az=114.0*
*VAO **19** 12:13:01.1±0.5,28°.05S×67°.05W, h235km, mb4.0*
ISC 19 12:13:00.0±0.5, 27°.94S±0°.03×66°.62W±0°.03, h176km±5km, n162, σ1ₚ23/196, mb4.1/9, 4C-2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TINO	**Tinogasta**	**0.84**	**262**	*e*P	Pn	**12 13 27.4**	**+1.0**
CYA	**Choya**	**0.88**	**125**	*e*P	Pn	**12 13 27.1**	**+0.6**
CYA				*e*S	Sn	**12 13 47.0**	**0.0**
CYA	**Choya**	**0.88**	**125**	⇑*i*P	Pn	**12 13 27.2**	**+0.6**
CYA				*e*S	Sn	**12 13 45.8**	**-1.2**
ACLC	**CERRO LA CRUZ**	**1.50**	**191**	*e*P	Pn	**12 13 32.4**	**+0.5**
ACLC				*e*S	Sn	**12 13 56.7**	**+0.1**
ACLC				IAML		12 13 58.2	
	comp=Z,741nm,0.5s						
GUSE	**Guasayan**	**1.57**	**88**	*e*P	Pn	**12 13 32.6**	**+0.2**
VCA	**Vinchina**	**1.60**	**240**	*e*P	Pn	**12 13 33.8**	**+1.0**
VCA				*e*S	Sn	**12 13 58.5**	**+0.2**
VCA				IAML		12 14 03.7	
	comp=Z,2μm,0.4s						
VCA	**Vinchina**	**1.60**	**240**	⇑*i*P	Pn	**12 13 33.8**	**+1.0**
VCA				*e*S	Sn	**12 13 59.3**	**+1.0**
VCA				IAML		12 14 01.2	
	comp=E,3μm,0.3s						
AHML	**Horco Molle**	**1.63**	**45**	*e*P	Pn	**12 13 33.4**	**+0.5**
AHML				*e*S	Sn	**12 13 58.1**	**-0.3**
AHML	**Horco Molle**	**1.63**	**45**	⇓*i*P	Pn	**12 13 33.5**	**+0.5**
AHML				*e*S	Sn	**12 13 57.5**	**-0.9**
FSA	**Cafayete**	**1.91**	**18**	*e*P	Pn	**12 13 36.7**	**+0.6**
AGUA	**GUANDACOL**	**2.25**	**226**	*e*P	Pn	**12 13 40.2**	**+0.6**
AGUA				*e*S	Sn	**12 14 11.3**	**+0.8**
AGUA				IAML		12 14 14.1	
	comp=Z,851nm,0.5s						
AVFE	**Valle Fertil**	**2.80**	**195**	*e*P	Pn	**12 13 46.0**	**-0.2**
AVFE				*e*S	Sn	**12 14 20.3**	**-1.9**
AVFE				IAML		12 14 21.0	
	comp=Z,457nm,0.4s						
ACDV	**Cuesta del Vie**	**3.12**	**224**	*e*P	Pn	**12 13 50.8**	**+0.8**
ACDV				*e*S	Sn	**12 14 29.9**	**+0.8**
ACDV				IAML		12 14 30.3	
	comp=Z,368nm,0.6s						
ACHE	**Chepes**	**3.21**	**181**	*e*P	Pn	**12 13 51.4**	**+0.2**
ACHE				*e*S	Sn	**12 14 29.0**	**-2.1**
GO03	**Copiap**	**3.22**	**275**		Pn	**12 13 51.7**	**+0.4**
GO03				Sn	Sn	**12 14 29.6**	**-1.5**
GO03	**Copiap**	**3.22**	**275**	*e*P	Pn	**12 13 50.0**	**-1.2**
GO03				*e*S	Sn	**12 14 30.0**	**-1.1**
GO03	**Copiap**	**3.22**	**275**	⇑*i*P	Pn	**12 13 51.7**	**+0.4**
GO03				*e*S	Sn	**12 14 29.7**	**-1.5**
AROD	**Rodeo**	**3.34**	**228**	*e*P	Pn	**12 13 53.8**	**+0.8**
AROD				*e*S	Sn	**12 14 34.8**	**+0.5**
AC05	**El Transito**	**3.34**	**254**	Pn	Pn	**12 13 53.6**	**+0.9**
AC06	**Mina Casimiro**	**3.36**	**279**		Pn	**12 13 53.1**	**+0.1**
AC06				Sn	Sn	**12 14 32.2**	**-2.1**
AC06	**Mina Casimiro**	**3.36**	**279**	*e*P	Pn	**12 13 53.2**	**+0.2**
AC06				*e*S	Sn	**12 14 32.9**	**-1.3**
AC06				IAML		12 14 36.3	
	comp=N,310nm,0.2s						
SLA	**San Lorenzo**	**3.36**	**18**	*e*P	Pn	**12 13 54.9**	**+1.7**
ACCO	**Cerro Coronel**	**3.39**	**218**	*e*P	Pn	**12 13 50.8**	**-2.8**
ACCO				*e*S	Sn	**12 14 33.7**	**-1.7**
ACCO				IAML		12 14 35.6	
	comp=Z,675nm,0.5s						
CO01	**Juntas del Tor**	**3.66**	**236**		Pn	**12 13 58.1**	**+1.3**
CO01	**Juntas del Tor**	**3.66**	**236**	*e*P	Pn	**12 13 58.1**	**+1.3**
CO01	**Juntas del Tor**	**3.66**	**236**	*e*P	Pn	**12 13 58.1**	**+1.3**
CO01				*e*S	Sn	**12 14 42.2**	**+1.0**
RTLL	**Cerro Villicun**	**3.74**	**205**	*e*P	Pn	**12 13 57.4**	**-0.3**
RTLL				IAML		12 14 43.0	
	comp=Z,253nm,0.3s						
RTLL	**Cerro Villicun**	**3.74**	**205**	⇓*i*P	Pn	**12 13 57.4**	**-0.3**
LCO	**Las Campanas**	**3.75**	**253**		Pn	**12 13 58.1**	**+0.1**
LCO	**Las Campanas**	**3.75**	**253**	*e*P	Pn	**12 13 58.1**	**+0.1**
LCO				*e*S	Sn	**12 14 42.5**	**-0.7**
LCO				IAML		12 14 43.4	
	comp=Z,1μm,0.4s						
LCO	**Las Campanas**	**3.75**	**253**	⇑*i*P	Pn	**12 13 58.0**	**-0.1**
LCO				*e*S	Sn	**12 14 41.9**	**-1.4**
TCA	**Tanti**	**3.81**	**153**	*e*P	Pn	**12 13 58.5**	**-0.2**
TCA				*e*S	Sn	**12 14 42.2**	**-2.4**
TCA				IAML		12 14 43.1	
	comp=Z,232nm,0.6s						
GO02	**Mina Guanaco**	**3.84**	**316**	*e*P	Pn	**12 14 00.8**	**+1.5**
GO02				*e*S	Sn	**12 14 46.4**	**+0.9**
GO02				IAML		12 14 48.5	
	comp=E,120nm,0.6s						
CFA	**Coronel Fontan**	**3.91**	**201**	P	Pn	**12 13 59.6**	**-0.2**
	comp=E,183nm,0.3s,baz=36,slow=15,SNR=709						
CFA				S	Sn	**12 14 43.4**	**-3.3**
	comp=E,296nm,0.3s,baz=25,slow=16,SNR=37						
AC04	**Llanos de Chal**	**3.94**	**265**		Pn	**12 13 59.5**	**-0.7**
AC04	**Llanos de Chal**	**3.94**	**265**	*e*P	Pn	**12 13 59.8**	**-0.4**
AC04				*e*S	Sn	**12 14 44.9**	**-2.4**
AC04				IAML		12 14 49.8	
	comp=Z,150nm,0.4s						
AC01	**Pan de Azucar**	**3.97**	**296**	Pn	Pn	**12 14 00.9**	**+0.3**
AC01	**Pan de Azucar**	**3.97**	**296**	*e*P	Pn	**12 13 59.8**	**-0.9**
AC01				*e*S	Sn	**12 14 44.5**	**-3.5**
AC01				IAML		12 14 52.3	
	comp=E,137nm,0.2s						
RTCV	**Cerro Valdivia**	**4.25**	**203**	*e*P	Pn	**12 14 04.2**	**0.0**
RTCV				*e*S	Sn	**12 14 52.5**	**-2.0**
GO04	**Tololo Observa**	**4.28**	**238**		Pn	**12 14 04.6**	**-0.2**
GO04	**Tololo Observa**	**4.28**	**238**	*e*P	Pn	**12 14 04.7**	**-0.1**
GO04				*e*S	Sn	**12 14 55.0**	**-0.5**
GO04	**Tololo Observa**	**4.28**	**238**	*e*P	Pn	**12 14 04.3**	**-0.4**
CO05	**La Serena**	**4.50**	**243**	Pn	Pn	**12 14 06.6**	**-0.8**
CO03	**El Pedregal**	**4.57**	**230**	Pn	Pn	**12 14 08.4**	**-0.1**
CO03	**El Pedregal**	**4.57**	**230**	*e*P	Pn	**12 14 08.4**	**-0.1**
CO03				*e*S	Sn	**12 15 02.8**	**+0.8**
CO03				IAML		12 15 05.0	
	comp=Z,182nm,0.8s						
PB14	**IPOC Station P**	**4.74**	**313**	Pn	Pn	**12 14 11.2**	**+0.4**
PB14	**IPOC Station P**	**4.74**	**313**	*e*P	Pn	**12 14 11.4**	**+0.6**
CO02	**Combarbal**	**5.01**	**229**		Pn	**12 14 13.2**	**-0.9**
CO02	**Combarbal**	**5.01**	**229**	*e*P	Pn	**12 14 13.1**	**-1.0**
CO02				*e*S	Sn	**12 15 11.2**	**-1.0**
CO02				IAML		12 15 23.5	
	comp=Z,201nm,0.4s						
CO02	**Combarbal**	**5.01**	**229**	*i* P	Pn	**12 14 13.2**	**-0.9**
ASAL	**Salagasta**	**5.01**	**202**	*e*P	Pn	**12 14 13.9**	**-0.2**
ASAL				*e*S	Sn	**12 15 10.4**	**-1.9**
ASAL				IAML		12 15 12.6	
	comp=Z,164nm,0.8s						
CO06	**Fray Jorge**	**5.15**	**237**	Pn	Pn	**12 14 14.1**	**-1.8**
AF01	**San Pedro de A**	**5.17**	**344**	Pn	Pn	**12 14 16.2**	**-0.2**
ARCO	**CERRO ARCO**	**5.27**	**202**	*e*P	Pn	**12 14 17.4**	**-0.2**
ARCO				*e*S	Sn	**12 15 14.6**	**-4.0**
ARCO				IAML		12 15 19.9	
	comp=Z,148nm,0.3s						
PB15	**IPOC Station P**	**5.37**	**331**		Pn	**12 14 19.2**	**+0.2**
LVC	**Limon Verde**	**5.70**	**338**	Pn	Pn	**12 14 24.6**	**+1.1**
LVC	**Limon Verde**	**5.70**	**338**	P	Pn	**12 14 24.1**	**+0.7**
	comp=Z,47nm,0.3s,baz=173,slow=8.5,SNR=101						
LVC				S	Sn	**12 15 27.5**	**-1.4**
	comp=Z,39nm,0.4s,baz=275,slow=21,SNR=17						
LVC	**Limon Verde**	**5.70**	**338**	*e*P	Pn	**12 14 24.6**	**+1.1**
PB06	**IPOC Station P**	**5.86**	**332**		Pn	**12 14 26.0**	**+0.6**
VA03	**San Esteban**	**5.88**	**214**		Pn	**12 14 25.5**	**0.0**
VA03	**San Esteban**	**5.88**	**214**	*e*P	Pn	**12 14 25.1**	**-0.4**
PB05	**IPOC Station P**	**6.01**	**327**	Pn	Pn	**12 14 27.6**	**+0.2**
VA06	**Catapilco**	**6.12**	**220**	Pn	Pn	**12 14 27.9**	**-0.7**
PEL	**Peldehue**	**6.25**	**213**		Pn	**12 14 29.9**	**-0.4**
ROC1	**El Roble**	**6.29**	**216**		Pn	**12 14 29.8**	**-1.2**
MT16	**CCHEN**	**6.42**	**211**	Pn	Pn	**12 14 32.6**	**+0.1**
PB04	**IPOC Station P**	**6.43**	**329**		Pn	**12 14 32.1**	**-0.9**
MT03	**Universidad Ad**	**6.46**	**210**		Pn	**12 14 32.8**	**-0.3**
MT05	**Renca**	**6.48**	**212**	Pn	Pn	**12 14 32.7**	**-0.7**
PB09	**IPOC Station P**	**6.57**	**338**		Pn	**12 14 35.3**	**+0.6**
MT02	**Curacav**	**6.57**	**215**	Pn	Pn	**12 14 34.5**	**0.0**
MT13	**San Alfonso**	**6.58**	**208**		Pn	**12 14 34.8**	**+0.1**
LMEL	**Las Melosas**	**6.64**	**207**		Pn	**12 14 35.5**	**-0.1**
PB07	**IPOC Station P**	**6.86**	**334**		Pn	**12 14 37.9**	**-0.7**
MT09	**Talagante**	**6.92**	**212**		Pn	**12 14 37.6**	**-1.6**
BO04	**La Punta**	**6.93**	**209**	Pn	Pn	**12 14 38.3**	**-1.0**
MT01	**Popeta**	**7.12**	**213**	Pn	Pn	**12 14 39.1**	**-2.5**
VA05	**Santo Domingo**	**7.13**	**216**	Pn	Pn	**12 14 39.6**	**-2.2**
PB02	**IPOC Station P**	**7.24**	**335**		Pn	**12 14 42.7**	**-0.7**
PB01	**IPOC Station P**	**7.35**	**339**		Pn	**12 14 43.7**	**-1.2**
BO01	**Tunca**	**7.48**	**210**	Pn	**Pn**	**12 14 43.8**	**-2.6**
BO02	**Sierra Bellavi**	**7.70**	**206**		**Pn**	**12 14 48.1**	**-1.3**
PATCX	**Punta Patache**	**7.79**	**335**		**Pn**	**12 14 49.3**	**-1.4**
TA01	**Diego Aracena**	**8.03**	**335**	Pn	**Pn**	**12 14 51.8**	**-1.9**
PB08	**IPOC Station P**	**8.10**	**343**		**Pn**	**12 14 53.3**	**-1.8**
TA02	**Huaiquique**	**8.28**	**336**		**Pn**	**12 14 55.0**	**-2.1**
CPUP	**Villa Florida**	**8.43**	**81**	P	**Pn**	**12 14 57.5**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=273,slow=18,SNR=1.3						
GO01	**Chusmiza**	**8.57**	**344**		**Pn**	**12 15 00.1**	**-1.2**
PB11	**IPOC Station P**	**8.61**	**341**	Pn	**Pn**	**12 14 58.8**	**-2.7**
PB12	**IPOC Station P**	**9.89**	**339**	Pn	**Pn**	**12 15 15.7**	**-2.7**
PB16	**IPOC Station P**	**9.93**	**344**		**Pn**	**12 15 18.5**	**-0.8**
BI05	**Punta Hualpn**	**10.38**	**211**	Pn	**Pn**	**12 15 22.2**	**-2.3**
TRQA	**Tornquist**	**10.81**	**160**	Pn	**Pn**	**12 15 28.6**	**-1.6**
ANTJ	**Antonio Joao (**	**11.30**	**61**	*e*P	**P**	**12 15 42.5**	**-1.0**
LPAZ	**La Paz**	**11.68**	**353**	Pn	**Pn**	**12 15 41.7**	**-0.5**
BDQN	**Bodoquena, MS**	**11.69**	**52**	*e*P	**P**	**12 15 47.0**	**-0.8**
FRBT	**Francisco Belt**	**12.25**	**84**	*e*P	**P**	**12 15 55.1**	**+1.0**
GO06	**Curarrehue**	**12.29**	**198**	Pn	**Pn**	**12 15 49.6**	**+0.3**
AQDB	**Aquidauana**	**12.43**	**56**	*e*P	**P**	**12 15 55.7**	**-0.3**
PANT	**Pantanal (Braz**	**12.79**	**48**	*e*P	**P**	**12 16 01.0**	**+1.0**
ITAB	**Concordia**	**12.87**	**90**	*e*P	**P**	**12 15 60.0**	**-0.9**
SIV	**San Ignacio**	**12.96**	**25**	P	**Pn**	**12 15 57.4**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=200,slow=13,SNR=8.1						
LR05	**Currie**	**13.04**	**199**	Pn	**Pn**	**12 15 57.6**	**-1.1**
PLCA	**Paso Flores**	**13.16**	**193**	Pn	**Pn**	**12 15 59.6**	**-0.7**
PLCA	**Paso Flores**	**13.16**	**193**	P	**Pn**	**12 16 00.6**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=17,slow=12,SNR=5.7						
PLCA	**Paso Flores**	**13.16**	**193**	*e*P	**Pn**	**12 15 58.4**	**-2.0**
TRCB	**Terra Rica**	**13.64**	**71**	*e*P	**P**	**12 16 11.4**	**+1.9**
RVDE	**Rio Verde (Bra**	**13.91**	**53**	*e*P	**P**	**12 16 13.4**	**+0.9**
CNLB	**Canela**	**13.92**	**99**	*e*P	**P**	**12 16 12.9**	**+0.3**
RPRD	**Ribas do Rio P**	**13.93**	**61**	*e*P	**P**	**12 16 14.4**	**+1.8**
PTLB	**Pontes e Lacer**	**14.24**	**31**	*e*P	**P**	**12 16 16.5**	**+0.4**
LDASE	**Londrina, Braz**	**14.69**	**76**	*e*P	**P**	**12 16 22.1**	**+0.9**
LL01	**San Ignacio de**	**15.15**	**197**	Pn	**Pn**	**12 16 23.3**	**-1.7**
LL01				IAmb	IAmb	12 16 27.9	
	comp=Z,8.7nm,0.8s						
SALV	**Santo Antonio**	**15.69**	**42**	*e*P	**P**	**12 16 32.8**	**+0.7**
LL02	**Futaleuf**	**15.79**	**194**	Pn	**Pn**	**12 16 30.4**	**-2.4**
LL07	**Hotel Espejo d**	**15.86**	**199**	Pn	**Pn**	**12 16 31.3**	**-2.4**
FRTB	**Fartura**	**16.05**	**77**	*e*P	**P**	**12 16 36.6**	**+0.5**
VILB	**Vilhena**	**16.08**	**23**		**P**	**12 16 34.6**	**-1.8**
VILB				IAmb	IAmb	12 16 37.5	
	comp=Z,11nm,0.6s						
VILB	**Vilhena**	**16.08**	**23**	*e*P	**Pn**	**12 16 36.9**	**+0.4**
ITRB	**Iturama**	**16.98**	**65**	*e*P	**Pn**	**12 16 47.2**	**-0.2**
AY01	**Puyuhuapi**	**17.14**	**195**	P	**Pn**	**12 16 48.8**	**-0.1**
AY01				IAmb	IAmb	12 16 49.8	
	comp=Z,7.1nm,0.7s						
PET01	**Itanhaem-SP**	**17.75**	**83**	*e*P	**Pn**	**12 16 55.3**	**-1.1**
ETMB	**Extrema**	**18.04**	**1**	P	**Pn**	**12 16 59.0**	**-0.9**
ETMB	**Extrema**	**18.04**	**1**	*e*P	**P**	**12 16 56.2**	**-1.8**
COYC	**Coyhaique**	**18.12**	**192**	P	**Pn**	**12 17 02.6**	**+2.0**
COYC				IAmb	IAmb	12 17 04.8	
	comp=Z,16nm,0.9s						
RCLB	**Rio Claro- Sao**	**18.13**	**77**	*e*P	**Pn**	**12 16 59.7**	**-1.3**
PDRB	**Porto dos Gac**	**18.71**	**32**	*e*P	**P**	**12 17 05.3**	**+0.1**
SAML	**Samuel**	**19.17**	**10**	P	**P**	**12 17 10.8**	**+0.5**
PARB	**Paraibuna**	**19.48**	**81**	*e*P	**P**	**12 17 13.5**	**-0.1**
IPMB	**Ipameri, GO**	**19.61**	**64**	*e*P	**P**	**12 17 15.6**	**+0.5**
PMNB	**Patos De Minas**	**20.75**	**68**	*e*P	**P**	**12 17 27.0**	**-0.3**
CZSB	**Cruzeiro do Su**	**20

Error ellipse: s-maj=0.0km s-min=0.0km az=113.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.42**	**41**	P	Pn	13 12 32.6	-3.2
GLKZ				S	S	13 13 19.4	-9.3
MXZ	**Matakaoa Point**	**4.89**	**185**	P	Pn	13 12 45.1	+3.6
MXZ				S	S	13 13 40.3	+1.2
HAZ	**Te Kaha**	**5.13**	**189**	P	Pn	13 12 46.3	+1.8
HAZ				S	S	13 13 49.2	+4.5
WMGZ	**Waiomatatini S**	**5.14**	**183**	P	Pn	13 12 44.4	-0.3
WMGZ				S	S	13 13 47.0	+2.1
RUGZ	**Raukumara Rang**	**5.35**	**189**	P	Pn	13 12 50.1	+2.6
RUGZ				S	S	13 13 51.4	+1.4
PUZ	**Puketiti**	**5.40**	**185**	P	Pn	13 12 49.9	+2.0
PUZ				S	S	13 13 51.7	+0.8
TWGZ	**Tauwhareparae**	**5.53**	**187**	P	Pn	13 12 54.1	+4.5
TWGZ				S	S	13 13 56.1	+2.3
MWZ	**Matawai**	**5.74**	**190**	P	Pn	13 12 54.6	+2.2
MWZ				S	S	13 14 00.5	+1.7
RIGZ	**Rimuhau**	**6.07**	**188**	P	Pn	13 12 57.8	+1.2
RIGZ				S	S	13 14 07.7	+1.1
SNGZ	**Shannon Statio**	**6.20**	**191**	P	Pn	13 12 59.8	+1.5
SNGZ				S	S	13 14 11.7	+2.1
NMHZ	**Naumai**	**6.60**	**194**	P	Pn	13 13 07.3	+3.8
NMHZ				S	S	13 14 22.7	+3.7
ARHZ	**Aropaoanui**	**6.73**	**192**	P	Pn	13 13 05.5	+0.4
ARHZ				S	S	13 14 23.1	+1.3
OTVZ	**Oturere**	**6.95**	**201**	S	S	13 14 30.2	+2.9
MCHZ	**McNeill Hill**	**6.96**	**194**	P	Pn	13 13 10.9	+2.9
MCHZ				S	S	13 14 29.7	+2.4
KWHZ	**Kaweka Forest**	**7.00**	**195**	P	Pn	13 13 11.0	+2.4
KWHZ				S	S	13 14 30.1	+1.7
BHHZ	**Black Hill Sta**	**7.15**	**197**	P	Pn	13 13 12.6	+2.1
BHHZ				S	S	13 14 31.4	-0.4
KAHZ	**Kahuranaki**	**7.27**	**192**	P	Pn	13 13 12.5	+0.5
PXZ	**Pawanui**	**7.50**	**191**	P	Pn	13 13 16.1	+1.2
PXZ				S	S	13 14 37.4	-2.6
PNHZ	**Pukenui**	**7.52**	**195**	P	Pn	13 13 16.4	+1.1
PNHZ				S	S	13 14 37.5	-3.0
LREZ	**Lake Rotokare**	**7.64**	**206**	P	Pn	13 13 23.7	+6.9
TSZ	**Takapari Road**	**7.71**	**196**	P	Pn	13 13 17.9	+0.1
TSZ				S	S	13 14 43.2	-1.9
PRHZ	**Porangahau**	**7.77**	**192**	P	Pn	13 13 19.5	+1.1
PRHZ				S	S	13 14 44.5	-1.8
ANWZ	**Angora Road**	**7.99**	**193**	P	Pn	13 13 21.9	+0.7
ANWZ				S	S	13 14 50.3	-1.2
BFZ	**Birch Farm**	**8.24**	**194**	P	Pn	13 13 24.9	+0.3
BFZ				S	S	13 14 54.2	-3.4
MRZ	**Mangatainoka R**	**8.37**	**197**	P	Pn	13 13 26.3	0.0
MRZ				S	S	13 14 54.9	-5.7
OGWZ	**Otaki Gorge**	**8.62**	**199**	P	Pn	13 13 29.1	-0.4
OGWZ				S	S	13 15 03.1	-3.5
TMWZ	**Te Maipa**	**8.73**	**195**	P	Pn	13 13 30.4	-0.5
TMWZ				S	S	13 15 03.0	-6.1
KIW	**Kapiti Island**	**8.74**	**200**	P	Pn	13 13 31.5	+0.5
KIW				S	S	13 15 05.8	-3.6
CAW	**Cannon Point**	**8.93**	**198**	P	Pn	13 13 32.5	-0.9
CAW				S	S	13 15 10.3	-3.5
TUWZ	**Tuamarina**	**9.55**	**203**	P	Pn	13 13 41.2	-0.3
TUWZ				S	S	13 15 24.6	-4.1
QRZ	**Quartz Range**	**9.55**	**210**	P	Pn	13 13 44.0	+2.5
QRZ				S	S	13 15 29.1	+0.4
NNZ	**Nelson**	**9.56**	**205**	P	Pn	13 13 42.1	+0.6
NNZ				S	S	13 15 25.9	-2.8
MRNZ	**Matariki Terra**	**9.95**	**207**	P	Pn	13 13 48.1	+1.5
MRNZ				S	S	13 15 35.2	-2.8
THZ	**Tophouse**	**10.21**	**206**	P	Pn	13 13 50.5	+0.6
THZ				S	S	13 15 41.4	-3.0
KHZ	**Kahutara**	**10.57**	**202**	P	Pn	13 13 53.5	-1.0
KHZ				S	S	13 15 47.8	-5.1

*SJA **19** 13:15:29.2±0.8, 23°.30S×69°.35W, h87km±5km, ML4.0, MW4.0*
*IDC **19** 13:15:30.7±0.8, 23°.31S×69°.31W, h81km±6km, mb3.4/5, mbtmp3.7/8, Error ellipse: s-maj=24.6km s-min=12.9km az=109.0*
*GUC **19** 13:15:30.3±0.8, 23°.33S×69°.37W, h81km±3km, ML4.1*
ISC 19 13:15:30.4±0.6, **23°.31S**±0°.03×**69°.33W**±0°.04, **h82**km±4km, **n37**, σ1§**69**/61, **mb3.8**/5, **3C-6D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.17**	**306**	*e*P	**Pn**	**13 15 44.1**	**+1.5**
PB15				*e*P	**Sn**	**13 15 51.7**	**+0.1**
PB15				*e*S	**Sn**	**13 15 51.7**	**+0.1**
PB15	**IPOC Station P**	**0.17**	**306**	⇓*i*P	**Pn**	**13 15 42.6**	**0.0**
PB15				*i*S	**Sn**	**13 15 51.6**	**+0.1**
PB06	**IPOC Station P**	**0.64**	**339**	*e*P	**Pn**	**13 15 46.1**	**+0.3**
PB06				*e*S	**Sn**	**13 15 57.9**	**+0.8**
PB06				IAML		13 15 58.5	
	comp=Z,6μm,0.3s						
PB06	**IPOC Station P**	**0.64**	**339**	⇑*i*P	**Pn**	**13 15 46.3**	**+0.5**
PB06				*e*S	**Sn**	**13 15 58.0**	**+0.8**
PB06				IAML		13 15 58.4	
	comp=E,19μm,0.1s						
LVC	**Limon Verde**	**0.79**	**29**	P	**Pn**	**13 15 48.4**	**+0.8**
	comp=E,629nm,0.3s,baz=180,slow=6.5,SNR=2226						
LVC				S	**Sn**	**13 16 01.6**	**+1.2**
	comp=E,820nm,0.2s,baz=277,slow=23,SNR=17						
LVC	**Limon Verde**	**0.79**	**29**	⇓*e*P	**Pn**	**13 15 48.3**	**+0.7**
LVC				*e*S	**Sn**	**13 16 01.3**	**+1.0**
LVC				IAML		13 16 02.0	
	comp=E,13μm,0.2s						
PB05	**IPOC Station P**	**0.93**	**299**	*e*P	**Pn**	**13 15 48.2**	**-0.6**
PB05				*e*S	**Sn**	**13 16 03.4**	**+0.8**
PB05				IAML		13 16 04.6	
	comp=Z,2μm,0.5s						
PB05	**IPOC Station P**	**0.93**	**299**	⇑*i*P	**Pn**	**13 15 49.0**	**+0.2**
PB05				*i*S	**Sn**	**13 16 03.2**	**+0.7**
AF01	**San Pedro de A**	**1.11**	**72**	⇓*i*P	**Pn**	**13 15 52.6**	**+1.4**
AF01				*i*S	**Sn**	**13 16 09.5**	**+2.7**
PB04	**IPOC Station P**	**1.23**	**322**	*e*P	**Pn**	**13 15 52.6**	**0.0**
PB04				*e*S	**Sn**	**13 16 11.3**	**+2.1**
PB04				IAML		13 16 19.2	
	comp=Z,2μm,0.4s						
PB04	**IPOC Station P**	**1.23**	**322**	⇑*e*P	**Pn**	**13 15 52.9**	**+0.3**
PB04				*e*S	**Sn**	**13 16 09.8**	**+0.7**
PB04				IAML		13 16 11.9	
	comp=N,4μm,0.4s						
PB14	**IPOC Station P**	**1.64**	**217**	*e*P	**Pn**	**13 15 57.5**	**-0.4**
PB14				*e*P		13 15 57.9	
PB14				*e*S	**Sn**	**13 16 19.9**	**+1.1**
PB14				IAML		13 16 21.6	
	comp=Z,1μm,0.4s						
PB14	**IPOC Station P**	**1.64**	**217**	*e*P	**Pn**	**13 15 57.9**	**-0.1**
PB07	**IPOC Station P**	**1.65**	**342**	*e*P	**Pn**	**13 15 58.2**	**+0.2**
PB07				*e*S	**Sn**	**13 16 18.4**	**-0.5**
PB07				IAML		13 16 33.7	
	comp=Z,1μm,0.4s						
PB07	**IPOC Station P**	**1.65**	**342**	⇓*e*P	**Pn**	**13 15 58.9**	**+0.8**
PB07				IAML		13 16 27.3	
	comp=E,2μm,0.8s						
GO02	**Mina Guanaco**	**1.86**	**187**	*e*P	**Pn**	**13 16 00.2**	**-0.7**
GO02				*e*S	**Sn**	**13 16 25.1**	**+1.1**
GO02				IAML		13 16 29.7	
	comp=Z,1μm,0.3s						
GO02	**Mina Guanaco**	**1.86**	**187**	⇓*e*P	**Pn**	**13 16 00.9**	**0.0**
GO02				*e*S	**Sn**	**13 16 25.1**	**+1.1**
GO02				IAML		13 16 30.9	
	comp=N,2μm,0.2s						
PB02	**IPOC Station P**	**2.04**	**345**	*e*P	**Pn**	**13 16 03.5**	**+0.4**
PB02				*e*S	**Sn**	**13 16 29.4**	**+1.4**
PB02				IAML		13 16 42.0	
	comp=Z,2μm,0.3s						
PB02	**IPOC Station P**	**2.04**	**345**	*e*P	**Pn**	**13 16 03.8**	**+0.7**
PB01	**IPOC Station P**	**2.26**	**356**	*e*P	**Pn**	**13 16 06.2**	**+0.3**
PB01				*e*S	Sn	13 16 14.9	-18
PB01				IAML		13 16 41.5	
	comp=Z,439nm,0.4s						
PB01	**IPOC Station P**	**2.26**	**356**	⇓*e*P	**Pn**	**13 16 06.8**	**+0.9**
PB01				IAML		13 16 40.4	
	comp=E,1μm,0.2s						
PATCX	**Punta Patache**	**2.59**	**343**	*e*P	**Pn**	**13 16 10.1**	**-0.2**
PATCX				*e*S	Sn	13 16 27.4	-14
PATCX				IAML		13 16 50.2	
	comp=Z,475nm,0.6s						
AC01	**Pan de Azucar**	**3.06**	**202**	*e*P	**Pn**	**13 16 14.8**	**-1.8**
AC01				*e*S	**Sn**	**13 16 59.5**	**+7.4**
AC01				IAML		13 17 01.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,597nm,0.3s						
PB08	**IPOC Station P**	**3.15**	**3**	*e*P	**Pn**	**13 16 18.8**	**+0.6**
YJA	**Yavi**	**3.69**	**73**	*e*P	**Pn**	**13 16 29.8**	**+4.2**
GO03	**Copiap**	**4.35**	**191**	*e*P	**Pn**	**13 16 32.7**	**-1.5**
GO03				*e*S	Sn	13 17 34.5	+11
GO03				IAML		13 17 44.1	
	comp=Z,248nm,0.3s						
AHML	**Horco Molle**	**5.01**	**135**	*e*P	**Pn**	**13 16 41.4**	**-1.8**
AHML				*e*S	**Sn**	**13 17 39.4**	**-0.4**
SIV	**San Ignacio**	**10.64**	**48**	P	**Pn**	**13 17 59.7**	**-0.4**
	comp=E,3.5nm,0.4s,baz=236,slow=16,SNR=16						
SIV				S	**Sn**	**13 19 50.9**	**-6.7**
	comp=E,1.0nm,0.3s,baz=315,slow=20,SNR=1.7						
CPUP	**Villa Florida**	**11.30**	**108**	P	**Pn**	**13 18 08.6**	**-0.4**
	comp=E,1.3nm,0.4s,baz=259,slow=10,SNR=3.6						
PLCA	**Paso Flores**	**17.41**	**183**	P	**P**	**13 19 28.4**	**+0.3**
	comp=E,0.9nm,0.8s,baz=12,slow=9.0,SNR=3.2						
TXAR	**Lajitas Array**	**61.89**	**326**	P	**P**	**13 25 41.6**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=165,slow=3.7,SNR=3.1						
	comp=Z,0.1nm,0.4s						
QSPA	**South Pole Qui**	**66.89**	**180**	P	**P**	**13 26 14.6**	**+0.8**
	comp=E,1.3nm,0.5s,baz=301,slow=0.8,SNR=20						
	comp=Z,1.3nm,0.5s						
PDAR	**Pinedale Array**	**75.48**	**331**	P	**P**	**13 27 05.8**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=139,slow=7.0,SNR=2.9						
	comp=Z,0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.33**	**70**	P	**P**	**13 27 21.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=270,slow=5.7,SNR=4.3						
TORD				pP	**pP**	**13 27 43.9**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=260,slow=4.8,SNR=15						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**92.75**	**341**	P	**P**	**13 28 33.6**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=139,slow=4.2,SNR=8.1						
YKA				pP	**pP**	**13 28 54.7**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=134,slow=5.3,SNR=2.0						
YKA				sP	**sP**	**13 29 04.6**	**0.0**
	comp=Z,0.3nm,0.8s,baz=145,slow=3.8,SNR=3.9						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**128.14**	**207**	PKP	**PKPdf**	**13 34 27.7**	**-0.2**
	comp=Z,0.3nm,1.0s,baz=127,slow=1.4,SNR=4.3						
MKAR	**Makanchi Array**	**147.31**	**37**	PKPbc	**PKPbc**	**13 35 05.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=330,slow=3.5,SNR=5.5						
MKAR				pPKPbc	**pPKPdf**	**13 35 26.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=337,slow=3.1,SNR=5.7						

*WEL **19** 13:29:40.3, 41°.5S×174°.5E±°, h37km±7km, M3.3/13, ML3.6/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0, confirmed*
*NOU **19** 13:29:40.2, 41°.07S×174°.61E, h49km, MLv3.5/8, Cook Strait, New Zealand*
ISC 19 13:29:40.7±1.3, **40°.99S**±0°.03×**174°.59E**±0°.03, **h46**km±8km, **n107**, σ1§**20**/116, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.28**	**63**	P	**Pn**	**13 29 48.5**	**-0.7**
KIW				S	**Sn**	**13 29 54.4**	**-0.9**
TCW	**Tory Channel**	**0.32**	**226**	P	**Pn**	**13 29 49.4**	**-0.3**
TCW				S	**Sn**	**13 29 55.8**	**-0.2**
WEL	**Wellington**	**0.33**	**155**	P	**Pn**	**13 29 49.9**	**+0.3**
WEL				S	**Sn**	**13 29 57.1**	**+1.0**
SNZO	**South Karori**	**0.33**	**165**	P	**Pn**	**13 29 50.3**	**+0.6**
CAW	**Cannon Point**	**0.38**	**108**	P	**Pn**	**13 29 50.4**	**+0.1**
BHW	**Baring Head**	**0.47**	**153**	P	**Pn**	**13 29 51.6**	**+0.3**
BHW				S	**Sn**	**13 30 00.2**	**+1.3**
OGWZ	**Otaki Gorge**	**0.47**	**69**	P	**Pn**	**13 29 51.0**	**-0.3**
DUWZ	**D'Urville Isla**	**0.54**	**290**	P	**Pn**	**13 29 51.2**	**-1.0**
DUWZ				S	**Sn**	**13 29 59.3**	**-1.1**
TUWZ	**Tuamarina**	**0.66**	**228**	P	**Pn**	**13 29 53.7**	**0.0**
TUWZ				S	**Sn**	**13 30 04.0**	**+1.0**
HOWZ	**Holdsworth Sta**	**0.71**	**83**	P	**Pn**	**13 29 54.3**	**-0.1**
HOWZ				S	**Sn**	**13 30 05.6**	**+1.3**
MTW	**Mount Morrison**	**0.71**	**104**	P	**Pn**	**13 29 54.3**	**-0.1**
PAWZ	**Paruwai Farm**	**0.75**	**122**	P	**Pn**	**13 29 54.9**	**0.0**
PAWZ				S	**Sn**	**13 30 07.6**	**+2.4**
PLWZ	**Palliser**	**0.77**	**139**	P	**Pn**	**13 29 55.2**	**0.0**
CMWZ	**Cape Campbell**	**0.81**	**200**	P	**Pn**	**13 29 58.2**	**+2.5**
MRZ	**Mangatainoka R**	**0.82**	**67**	P	**Pn**	**13 29 55.6**	**-0.3**
MRZ				S	**Sn**	**13 30 07.6**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.90**	**216**	P	**Pn**	**13 29 57.6**	**+0.6**
BSWZ				S	**Sn**	**13 30 10.7**	**+1.8**
TRWZ	**Traveller**	**0.93**	**117**	P	**Pn**	**13 29 57.0**	**-0.3**
NNZ	**Nelson**	**0.94**	**256**	P	**Pn**	**13 29 57.2**	**-0.3**
OHWZ	**Ohakea**	**0.96**	**36**	P	**Pn**	**13 29 57.6**	**0.0**
TMWZ	**Te Maipa**	**0.99**	**97**	P	**Pn**	**13 29 57.8**	**-0.5**
TIWZ	**Tintock**	**1.01**	**78**	P	**Pn**	**13 29 57.9**	**-0.5**
POWZ	**Post Office Ro**	**1.08**	**57**	P	**Pn**	**13 29 58.6**	**-0.8**
PRWZ	**Pori Road**	**1.14**	**68**	P	**Pn**	**13 29 59.6**	**-0.5**
CPWZ	**Castlepoint**	**1.23**	**87**	P	**Pn**	**13 30 01.1**	**-0.2**
TKNZ	**Takaka Hill**	**1.23**	**267**	P	**Pn**	**13 30 01.6**	**+0.2**
WAZ	**Wanganui**	**1.27**	**14**	P	**Pn**	**13 30 02.0**	**+0.1**
BFZ	**Birch Farm**	**1.29**	**77**	P	**Pn**	**13 30 01.4**	**-0.9**
BFZ	**Birch Farm**	**1.29**	**77**	P	**Pn**	**13 30 01.3**	**-0.9**
DVHZ	**Dannevirke**	**1.39**	**61**	P	**Pn**	**13 30 02.2**	**-1.3**
TSZ	**Takapari Road**	**1.40**	**49**	P	**Pn**	**13 30 02.8**	**-1.0**
MRNZ	**Matariki Terra**	**1.44**	**253**	P	**Pn**	**13 30 03.0**	**+0.7**
THZ	**Tophouse**	**1.48**	**238**	P	**Pn**	**13 30 05.1**	**+0.2**
ANWZ	**Angora Road**	**1.53**	**70**	P	**Pn**	**13 30 04.2**	**-1.3**
LREZ	**Lake Rotokare**	**1.53**	**355**	P	**Pn**	**13 30 05.5**	**-0.1**
QRZ	**Quartz Range**	**1.57**	**275**	P	**Pn**	**13 30 05.8**	**-0.2**
QRZ	**Quartz Range**	**1.57**	**275**	P	**Pn**	**13 30 05.9**	**-0.1**
KHZ	**Kahutara**	**1.63**	**208**	P	**Pn**	**13 30 07.1**	**+0.3**
PNHZ	**Pukenui**	**1.63**	**49**	P	**Pn**	**13 30 05.6**	**-1.3**
NMEZ	**Namu Road**	**1.66**	**341**	P	**Pn**	**13 30 07.5**	**+0.2**
PREZ	**Palmer Road**	**1.68**	**349**	P	**Pn**	**13 30 08.3**	**+0.7**
WPHZ	**Waipukurau**	**1.69**	**57**	P	**Pn**	**13 30 06.2**	**-1.5**
PRHZ	**Porangahau**	**1.72**	**66**	P	**Pn**	**13 30 06.8**	**-1.3**
MTVZ	**Mangateitei**	**1.74**	**23**	P	**Pn**	**13 30 08.8**	**+0.3**
KHEZ	**Kahui Hut**	**1.75**	**345**	P	**Pn**	**13 30 09.2**	**+0.6**
KHEZ	**Kahui Hut**	**1.75**	**345**	P	**Pn**	**13 30 08.7**	**+0.1**
NEZ	**North Egmont**	**1.76**	**347**	P	**Pn**	**13 30 09.1**	**+0.4**
PKVZ	**Pokaka**	**1.79**	**19**	P	**Pn**	**13 30 09.6**	**+0.4**
NBEZ	**Newall Road No**	**1.80**	**342**	P	**Pn**	**13 30 09.7**	**+0.4**
MOVZ	**Moawhango**	**1.81**	**30**	P	**Pn**	**13 30 09.1**	**-0.4**
DREZ	**Durham Road**	**1.82**	**351**	P	**Pn**	**13 30 09.8**	**+0.3**
WNVZ	**Wahianoa**	**1.83**	**25**	P	**Pn**	**13 30 09.8**	**0.0**
TRVZ	**Turoa**	**1.84**	**24**	P	**Pn**	**13 30 07.4**	**-2.6**
PKE	**Pukeiti**	**1.85**	**345**	P	**Pn**	**13 30 10.3**	**+0.3**
VRZ	**Vera Road**	**1.87**	**4**	P	**Pn**	**13 30 10.3**	**+0.2**
MAVZ	**Matarangi**	**1.87**	**24**	P	**Pn**	**13 30 11.5**	**+1.0**
BHHZ	**Black Hill Sta**	**1.88**	**38**	P	**Pn**	**13 30 09.7**	**-0.6**
FWVZ	**Far West T-bar**	**1.88**	**23**	P	**Pn**	**13 30 13.8**	**+3.3**
TUVZ	**Tukino**	**1.90**	**26**	P	**Pn**	**13 30 12.1**	**+1.3**
MHEZ	**Mangahewa**	**1.92**	**354**	P	**Pn**	**13 30 11.6**	**+0.7**
COVZ	**Chateau Observ**	**1.93**	**23**	P	**Pn**	**13 30 12.8**	**+1.7**
NGZ	**Ngauruhoe**	**1.97**	**24**	P	**Pn**	**13 30 11.8**	**+0.1**
SNVZ	**South Ngauruho**	**1.97**	**25**	P	**Pn**	**13 30 12.1**	**+0.4**
PXZ	**Pawanui**	**1.98**	**62**	P	**Pn**	**13 30 10.1**	**-1.6**
OTVZ	**Oturere**	**2.00**	**25**	P	**Pn**	**13 30 12.2**	**+0.1**
NNVZ	**North Ngauruho**	**2.02**	**23**	P	**Pn**	**13 30 12.9**	**+0.6**
WTVZ	**West Tongariro**	**2.02**	**23**	P	**Pn**	**13 30 12.5**	**+0.3**
TWVZ	**Taurewa**	**2.02**	**19**	P	**Pn**	**13 30 14.7**	**+2.3**
ETVZ	**East Tongariro**	**2.04**	**25**	P	**Pn**	**13 30 14.1**	**+1.5**
KRVZ	**Karewarewa**	**2.06**	**24**	P	**Pn**	**13 30 14.0**	**+1.1**
TMVZ	**Te Maari**	**2.06**	**25**	P	**Pn**	**13 30 14.7**	**+1.8**
NTVZ	**North Tongarir**	**2.06**	**24**	P	**Pn**	**13 30 13.3**	**+0.4**
KWHZ	**Kaweka Forest**	**2.10**	**43**	P	**Pn**	**13 30 16.7**	**+3.3**
KAHZ	**Kahuranaki**	**2.12**	**56**	P	**Pn**	**13 30 12.0**	**-1.6**
KATZ	**Kakaramea**	**2.18**	**23**	P	**Pn**	**13 30 15.9**	**+1.3**
DSZ	**Denniston Nort**	**2.23**	**249**	P	**Pn**	**13 30 15.0**	**-0.1**
MCHZ	**McNeill Hill**	**2.23**	**47**	P	**Pn**	**13 30 13.8**	**-1.3**
RITZ	**Rihia Road**	**2.23**	**26**	P	**Pn**	**13 30 18.5**	**+3.3**
GVZ	**Greta Valley S**	**2.29**	**210**	P	**Pn**	**13 30 15.4**	**-0.5**
RATZ	**Rangitukua**	**2.31**	**24**	P	**Pn**	**13 30 19.1**	**+2.9**
BKZ	**Black Stump Fm**	**2.33**	**39**	P	**Pn**	**13 30 18.0**	**+1.4**
BKZ	**Black Stump Fm**	**2.33**	**39**	P	**Pn**	**13 30 17.2**	**+0.6**
WATZ	**Wairara**	**2.44**	**22**	P	Pn	13 30 24.7	+6.6
HIZ	**Hauiti**	**2.48**	**5**	P	**Pn**	**13 30 18.7**	**+0.1**
HIZ	**Hauiti**	**2.48**	**5**	P	**Pn**	**13 30 18.8**	**+0.2**
LTZ	**Lake Taylor**	**2.49**	**223**	P	**Pn**	**13 30 18.3**	**-0.4**
MRHZ	**Matea Rd**	**2.57**	**34**	P	**Pn**	**13 30 17.9**	**-1.9**
TLZ	**Tolley Road**	**2.75**	**16**	P	**Pn**	**13 30 22.5**	**+0.1**
INZ	**Inchbonnie**	**2.92**	**232**	P	**Pn**	**13 30 23.9**	**-0.6**
OKCZ	**Okains Bay**	**2.96**	**202**	P	**Pn**	**13 30 24.2**	**-0.9**
OXZ	**Oxford**	**3.01**	**218**	P	**Pn**	**13 30 24.0**	**-1.8**
MUGZ	**Murupara**	**3.02**	**35**	P	**Pn**	**13 30 26.0**	**0.0**
MQZ	**McQueen's Vall**	**3.07**	**207**	P	**Pn**	**13 30 24.4**	**-2.2**
AKCZ	**Akaroa Harbour**	**3.14**	**203**	P	**Pn**	**13 30 26.6**	**-1.0**
MHCZ	**Mount Hutt**	**3.39**	**220**	P	**Pn**	**13 30 30.3**	**-0.8**
WVZ	**Waitaha Valley**	**3.55**	**233**	P	**Pn**	**13 30 32.4**	**-0.8**
WACZ	**Wakanui South**	**3.58**	**214**	P	**Pn**	**13 30 31.8**	**-1.9**
RPZ	**Rata Peaks**	**3.78**	**223**	P	**Pn**	**13 30 36.6**	**+0.2**
RPZ	**Rata Peaks**	**3.78**	**223**	P	**Pn**	**13 30 37.2**	**+0.8**
RUGZ	**Raukumara Rang**	**3.85**	**39**	P	**Pn**	**13 30 35.4**	**-2.0**
AWAZ	**Awhitu Peninsu**	**3.92**	**1**	P	**Pn**	**13 30 38.4**	**+0.1**
WIAZ	**Waiheke Island**	**4.21**	**6**	P	**Pn**	**13 30 42.2**	**-0.1**
RVAZ	**Riverhead Bore**	**4.21**	**360**	P	**Pn**	**13 30 42.2**	**-0.1**
TMZ	**Timaru**	**4.30**	**217**	P	**Pn**	**13 30 42.4**	**-1.2**
FOZ	**Fox Glacier**	**4.36**	**233**	P	**Pn**	**13 30 42.7**	**-1.6**
ODZ	**Otahua Downs**	**4.98**	**214**	P	**Pn**	**13 30 50.4**	**-2.4**
ODZ	**Otahua Downs**	**4.98**	**214**	P	**Pn**	**13 30 50.5**	**-2.4**
JCZ	**Jackson Bay**	**5.28**	**232**	P	**Pn**	**13 30 55.4**	**-1.7**

IDC 19 13:43:52.3±3.9, **6°.35S×149°.36E, h0km, mb3.4**/1, **mbtmp3.7**/3, **ML3.8**/1, **MS2.2**/1, **Error ellipse: s-maj=141.8km s-min=42.4km az=114.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**216**	Pn	Pn	13 44 53.2	+2.0
	25nm,0.3s,baz=356,slow=5.0,SNR=24						
PMG				Sn	Sn	13 45 31.6	-4.4
	7.0nm,0.3s,baz=355,slow=9.4,SNR=3.8						
PMG				LR	LR	13 46 12.6	
	comp=Z,32nm,20.6s,baz=317,slow=38						
WRA	**Warramunga Arr**	**19.89**	**226**	P	P	13 48 24.1	-1.4
	0.3nm,0.3s,baz=51,slow=11,SNR=8.4						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**22.74**	**219**	P	P	13 48 55.7	-0.6
	1.0nm,0.7s,baz=55,slow=9.3,SNR=13						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.45**	**284**	PKPbc	PKPbc	14 03 39.1	-0.2
	0.3nm,0.5s,baz=91,slow=4.3,SNR=5.5						

*ISK **19** 13:53:11.9, 38°.27N×38°.79E, h5km, ML4.0/29*
*AFAD **19** 13:53:12.8±0.0, 38°.29N×38°.82E, h9km±1km, MW4.1*
*IDC **19** 13:53:13.5±0.7, 38°.20N×38°.83E, h0km, mb3.9/14, mbtmp3.8/23, ML3.3/9, MS3.3/14, Error ellipse: s-maj=12.9km s-min=9.3km az=155.0*
*NEIC **19** 13:53:16.2±1.3, 38°.15N±0°.08×38°.83E±0°.07, h15km±7km, mb4.2/9, Error ellipse: s-maj=12.3km s-min=6.4km az=154.0*
ISC 19 13:53:14.4±1.1, **38°.25N**±0°.02×**38°.80E**±0°.02, **h6**km±8km, **n103**, σ1§**25**/119, **mb4.1**/18, **MS3.1**/7, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAYA	**Malatya/Merkez**	**0.30**	**285**	P	**Pg**	**13 53 19.3**	**-1.0**
MAYA				S	**Sg**	**13 53 24.3**	**-0.1**
MAYA				*i* AML	AML	13 53 25.0	
	comp=E,1μm,0.1s						
MAYA				*i* AML	AML	13 53 25.0	
	comp=N,2μm,0.2s						
MAYA				*i* AML	AML	13 53 25.0	
	comp=Z,1μm,0.3s						
NARI	**Adyaman-Kaht**	**0.36**	**185**	P	**Pg**	**13 53 21.2**	**-

ELBS				S	**Sn**	**13 53 57.8**	**+0.5**
ELBS				*i* AML	AML	13 54 02.0	
	comp=N,6μm,1.4s						
ELBS				*i* AML	AML	13 54 02.0	
	comp=E,4μm,0.6s						
ELBS				*i* AML	AML	13 54 03.0	
	comp=Z,3μm,0.8s						
GZT	**Gaziantep**	**1.32**	**228**	P	**Pn**	**13 53 38.6**	**-0.9**
GZT				S	**Sg**	**13 53 58.9**	**+2.0**
GZT				*i* AML	AML	13 54 02.0	
	comp=N,3μm,0.9s						
GZT				*i* AML	AML	13 54 03.0	
	comp=E,838nm,0.2s						
GZT				*i* AML	AML	13 54 08.0	
	comp=Z,1μm,0.9s						
SURC	**SANLIURFA_SURC**	**1.37**	**186**	P	**Pn**	**13 53 39.2**	**-0.9**
SURC				S	**Sg**	**13 53 59.2**	**+0.8**
SURC				*i* AML	AML	13 54 03.0	
	comp=E,2μm,0.9s						
SURC				*i* AML	AML	13 54 04.0	
	comp=N,2μm,1.2s						
SURC				*i* AML	AML	13 54 08.0	
	comp=Z,1μm,0.8s						
CUKAN	**kangal_SIVAS**	**1.49**	**316**	P	**Pn**	**13 53 40.0**	**-1.9**
CUKAN				S	**Sn**	**13 54 00.6**	**-1.2**
CUKAN				*i* AML	AML	13 54 08.0	
	comp=N,288nm,0.5s						
CUKAN				*i* AML	AML	13 54 11.0	
	comp=E,646nm,0.8s						
CUKAN				*i* AML	AML	13 54 23.0	
	comp=Z,266nm,1.1s						
NZIP	**Nizip/Gaziante**	**1.50**	**217**	P	**Pn**	**13 53 41.3**	**-0.6**
NZIP				S	**Sg**	**13 54 03.0**	**+0.6**
NZIP				*i* AML	AML	13 54 07.0	
	comp=E,1μm,0.9s						
NZIP				*i* AML	AML	13 54 39.0	
	comp=Z,910nm,1.4s						
ERZN	**Erzincan**	**1.52**	**28**	Pn	**Pn**	**13 53 40.1**	**-2.2**
KHMN	**Narli-Kahraman**	**1.56**	**237**	Pn	**Pn**	**13 53 42.1**	**-0.5**
KHMN				Sn	**Sb**	**13 54 03.9**	**+0.3**
KAHM	**Kahramanmaras,**	**1.61**	**244**	P	**Pn**	**13 53 42.6**	**-0.8**
KAHM				S	**Sg**	**13 54 07.7**	**+1.7**
KAHM				*i* AML	AML	13 54 12.0	
	comp=E,675nm,0.8s						
KAHM				*i* AML	AML	13 54 13.0	
	comp=N,402nm,0.7s						
KAHM				*i* AML	AML	13 54 16.0	
	comp=Z,352nm,0.9s						
EUZM	**Uzumlu**	**1.62**	**25**	P	**Pn**	**13 53 42.4**	**-1.2**
EUZM				S	**Sn**	**13 54 04.9**	**0.0**
EUZM				*i* AML	AML	13 54 08.0	
	comp=E,2μm,0.9s						
EUZM				*i* AML	AML	13 54 09.0	
	comp=Z,857nm,0.6s						
BNGB	**Bingl**	**1.65**	**63**	Pn	**Pn**	**13 53 43.4**	**-0.6**
GAZ	**Gaziantep**	**1.65**	**230**	Pn	**Pn**	**13 53 43.3**	**-0.7**
GAZ	**Gaziantep**	**1.65**	**230**		**Pn**	**13 53 43.1**	**-0.9**
KMRS	**Kahramanmaras**	**1.68**	**244**	Pn	**Pn**	**13 53 43.8**	**-0.5**
YEDI	**Yedisu-Bingol**	**1.81**	**48**	Pn	**Pn**	**13 53 45.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.89**	**92**	Pn	**Pn**	**13 53 45.9**	**-1.4**
KARO	**Karliova-Bingo**	**2.05**	**58**	Pn	**Pn**	**13 53 49.3**	**-0.4**
SVSK	**Karacayir**	**2.18**	**321**	Pn	**Pn**	**13 53 52.3**	**+1.1**
MUSM	**Mu-Merkez**	**2.18**	**77**	P	**Pn**	**13 53 50.3**	**-1.0**
MUSM				*i* AML	AML	13 54 31.0	
	comp=Z,460nm,1.9s						
MIDY	**Mardin/Midyat-**	**2.22**	**111**	P	**Pn**	**13 53 50.7**	**-1.2**
MIDY				*i* AML	AML	13 54 41.0	
	comp=Z,1μm,0.7s						
VRTB	**Varto-Mus**	**2.27**	**65**	Pn	**Pn**	**13 53 52.5**	**-0.1**
GUMT	**Gumushane**	**2.27**	**13**	Pn	**Pn**	**13 53 52.1**	**-0.5**
BAYT	**Aydıntepe-Bayb**	**2.38**	**25**	Pn	**Pn**	**13 53 53.8**	**-0.4**
RSDY	**Resadiye-TOKAT**	**2.43**	**332**	Pn	**Pn**	**13 53 54.5**	**-0.2**
KOZT	**Kozan**	**2.47**	**253**	Pn	**Pn**	**13 53 54.9**	**-0.3**
GURO	**Guroymak-BITLI**	**2.56**	**82**	Pn	**Pn**	**13 53 56.5**	**0.0**
GURO	**Guroymak-BITLI**	**2.56**	**82**		**Pn**	**13 53 55.5**	**-1.1**
ESPY	**Espiye-Giresun**	**2.67**	**359**	Pn	**Pn**	**13 53 57.8**	**-0.1**
TOKT	**Tokat**	**2.71**	**321**	Pn	**Pn**	**13 53 58.1**	**-0.5**
CEYT	**Ceyhan**	**2.72**	**244**	Pn	**Pn**	**13 53 58.6**	**0.0**
TAHT	**Tahtakopru-Hat**	**2.80**	**229**	Pn	**Pn**	**13 53 58.5**	**-1.2**
KOPR	**Koprukoy-ERZUR**	**2.95**	**53**	Pn	**Pn**	**13 54 01.9**	**0.0**
YOZ	**Yozgat**	**3.05**	**298**	Pn	**Pn**	**13 54 02.9**	**-0.4**
CMRD	**Camardi-Nigde**	**3.07**	**260**	Pn	**Pn**	**13 54 03.5**	**0.0**
MLAZ	**Malazgirt-MUS**	**3.07**	**72**	Pn	**Pn**	**13 54 03.9**	**+0.3**
AKDM	**Akdamar-Van**	**3.29**	**87**	Pn	**Pn**	**13 54 06.8**	**+0.2**
KARS	**Kars**	**4.08**	**53**		**Pn**	**13 54 16.9**	**-0.5**
BRTR	**Keskin Array B**	**4.28**	**292**		**Pn**	**13 54 22.5**	**+2.3**
BRTR	**Keskin Array B**	**4.28**	**292**	Pn	**Pn**	**13 54 21.6**	**+1.3**
	1.7nm,0.3s,baz=117,slow=13,SNR=59						
BRTR				Lg	Lg	13 55 31.0	
	0.2nm,0.3s,baz=125,slow=26,SNR=4.1						
BRTR				LR	LR	13 56 16.5	
	comp=Z,742nm,19.0s,baz=118,slow=42						
	17nm,0.6s						
BR131	**Keskin Array S**	**4.28**	**292**		**Pn**	**13 54 21.6**	**+1.3**
ANTO	**Ankara**	**4.95**	**291**		**Pn**	**13 54 30.4**	**+1.1**
GNI	**Garni**	**4.99**	**66**		**Pn**	**13 54 31.6**	**+1.6**
GNI	**Garni**	**4.99**	**66**	Pn	**Pn**	**13 54 31.1**	**+1.1**
	1.3nm,0.3s,baz=249,slow=3.6,SNR=4.4						
	3.6nm,0.3s						
CSS	**Mathiatis**	**5.49**	**235**	Pn	**Pn**	**13 54 35.4**	**-1.3**
ONI	**Oni**	**5.61**	**38**		**Pn**	**13 54 39.9**	**+1.6**
MMAI	**Mount Meron Ar**	**5.91**	**209**	Pn	**Pn**	**13 54 43.2**	**+0.7**
	5.1nm,0.3s,baz=36,slow=18,SNR=18						
MMAI				Lg	Lg	13 56 21.0	
	1.7nm,0.3s,baz=84,slow=28,SNR=1.6						
MMAI				LR	LR	13 57 09.3	
	comp=Z,242nm,19.7s,baz=336,slow=40						
	2.0nm,0.3s						
ASF	**Jabal al Asfar**	**6.26**	**195**	Pn	**Pn**	**13 54 47.8**	**+0.4**
	0.6nm,0.3s,baz=115,slow=1.6,SNR=3.8						
ASF				Lg	Lg	13 56 31.8	
	0.6nm,0.3s,baz=91,slow=15,SNR=2.0						
	4.2nm,0.5s						
KBZ	**Khabaz**	**6.29**	**28**	Pn	**Pn**	**13 54 49.4**	**+1.7**
	0.2nm,0.3s,baz=200,slow=12,SNR=1.5						
KBZ				LR	LR	13 57 41.8	
	comp=Z,258nm,18.2s,baz=214,slow=42						
	0.8nm,0.5s						
EIL	**Elat**	**9.13**	**202**	Pn	**Pn**	**13 55 26.8**	**+0.1**
	0.1nm,0.3s,baz=19,slow=18,SNR=1.5						
EIL				Lg	Lg	13 58 03.2	
	0.2nm,0.3s,baz=189,slow=23,SNR=1.2						
EIL				LR	LR	13 59 23.6	
	comp=Z,206nm,19.7s,baz=64,slow=41						
	13nm,1.1s						
MLR	**Muntele Rosu**	**12.00**	**311**	LR	LR	14 01 57.9	
	comp=Z,90nm,19.6s,baz=188,slow=44						
AKASG	**Malin Array Be**	**14.19**	**334**	Pn	**Pn**	**13 56 37.2**	**+1.5**
	0.2nm,0.3s,baz=141,slow=12,SNR=1.8						
	0.1nm,0.2s						
GEYT	**Alibeck**	**15.22**	**85**	Pn	**Pn**	**13 56 49.3**	**-0.5**
	0.2nm,0.3s,baz=284,slow=12,SNR=1.5						
	0.9nm,0.6s						
VYHS	**Vyhne**	**17.71**	**312**	*e*P	**P**	**13 57 25.9**	**+3.4**
AKTO	**Aktyubinsk**	**18.30**	**42**	P	**Pn**	**13 57 29.6**	**+0.8**
	0.1nm,0.3s,baz=233,slow=10,SNR=12						
AKTO				LR	LR	14 05 43.7	
	comp=Z,56nm,20.4s,baz=214,slow=41						
	4.8nm,0.8s						
VRAC	**Vranov**	**19.40**	**312**	LR	LR	14 07 23.0	
	comp=Z,54nm,18.9s,baz=113,slow=44						
GEC2	**GERESS Array S**	**20.96**	**308**	P	**P**	**13 57 59.8**	**+1.7**
GERES	**GERESS Array B**	**20.96**	**308**	P	**P**	**13 57 58.3**	**+0.2**
GERES	**GERESS Array B**	**20.96**	**308**	P	**P**	**13 57 59.3**	**+1.2**
	2.0nm,0.7s,baz=164,slow=11,SNR=4.3						
GERES				LR	LR	14 07 42.3	
	comp=Z,53nm,20.0s,baz=256,slow=41						
	2.0nm,0.7s						
KIRV	**Kirov**	**21.49**	**15**	P	**P**	**13 58 04.7**	**+1.2**
	5.8nm,0.5s,baz=212,slow=16,SNR=4.2						
	5.8nm,0.5s						
CTI	**Castel Tesino**	**21.51**	**300**	P	**P**	**13 58 04.6**	**+0.6**
CTI				IAmb	IAmb	13 58 07.5	
	comp=Z,8.5nm,1.0s						
BRG	**Berggiesshubel**	**21.63**	**314**	*e*P	**P**	**13 58 06.9**	**+1.8**
BRG				Amp		13 58 10.9	
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**22.45**	**29**		**P**	**13 58 13.2**	**-0.7**
ARU				IAmb	IAmb	13 58 15.3	
	comp=Z,6.6nm,0.8s						
ARU	**Arti**	**22.45**	**29**	LR	LR	14 09 12.6	
	comp=Z,32nm,21.6s,baz=245,slow=43						
KEST	**Kesra**	**23.62**	**273**	P	**P**	**13 58 26.9**	**+0.6**
	comp=Z,9.9nm,1.1s,baz=2.1,slow=6.5,SNR=4.9						
	comp=Z,9.9nm,1.1s						
KK31	**Karatay Array**	**24.45**	**68**	P	**P**	**13 58 34.3**	**+0.3**
KK31				IAmb	IAmb	13 58 36.9	
	comp=Z,8.9nm,1.2s						
KKAR	**Karatay Array**	**24.45**	**68**	P	**P**	**13 58 34.3**	**+0.3**
KKAR				IAmb	IAmb	13 58 36.9	
	comp=Z,8.9nm,1.2s						
KKAR	**Karatay Array**	**24.45**	**68**	P	**P**	**13 58 33.7**	**-0.2**
FINES	**FINESS Array B**	**24.54**	**345**	P	**P**	**13 58 36.2**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=149,slow=8.9,SNR=6.1						
	comp=Z,1.8nm,0.7s						
BVAR	**Borovoye Array**	**26.31**	**46**	P	**P**	**13 58 51.3**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=253,slow=4.5,SNR=6.2						
BVAR				LR	LR	14 10 16.5	
	comp=Z,58nm,19.1s,baz=259,slow=39						
	comp=Z,1.4nm,0.8s						
HFS	**Hagfors**	**27.06**	**332**	LR	LR	14 10 42.3	
	comp=Z,84nm,19.3s,baz=230,slow=39						
AAK	**Ala-Archa**	**27.39**	**69**	LR	LR	14 11 45.3	
	comp=Z,48nm,18.5s,baz=297,slow=41						
KURBB	**Kurchatov Arra**	**30.58**	**53**	P	**P**	**13 59 29.6**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=267,slow=9.0,SNR=12						
	comp=Z,1.4nm,0.6s						
MAKZ	**Makanchi**	**32.60**	**61**	P	**P**	**13 59 46.6**	**0.0**
MK31	**Makanchi Array**	**32.82**	**61**	P	**P**	**13 59 49.0**	**+0.4**
MK31				IAmb	IAmb	13 59 50.0	
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**32.82**	**61**	P	**P**	**13 59 49.1**	**+0.6**
MKAR	**Makanchi Array**	**32.82**	**61**	P	**P**	**13 59 49.4**	**+0.8**
	comp=Z,4.3nm,0.9s,baz=272,slow=7.5,SNR=31						
	comp=Z,4.3nm,0.9s						
ESDC	**Sonseca Array**	**33.05**	**286**	P	**P**	**13 59 50.0**	**-0.7**
	comp=Z,1.2nm,1.0s,baz=74,slow=9.5,SNR=4.9						
	comp=Z,1.2nm,1.0s						
ZALV	**Zalesovo Beam**	**34.87**	**48**	P	**P**	**14 00 06.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=249,slow=11,SNR=2.7						
	comp=Z,0.4nm,0.3s						
NRIK	**Noril'sk**	**40.48**	**24**	P	**P**	**14 00 55.4**	**+1.8**
NRIK	**Noril'sk**	**40.48**	**24**	P	**P**	**14 00 54.5**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=218,slow=0.3,SNR=4.5						
	comp=Z,1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**41.32**	**243**	P	**P**	**14 01 00.3**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=22,slow=7.5,SNR=4.9						
	comp=Z,0.8nm,0.9s						
SONM	**Songino Array**	**48.87**	**56**	LR	LR	14 25 03.0	
	comp=Z,178nm,18.3s,baz=238,slow=39						
CMAR	**Chng Mai Arr**	**55.52**	**93**	P	**P**	**14 02 49.0**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=286,slow=7.0,SNR=5.4						
	comp=Z,0.4nm,0.3s						
KSRS	**Korea Array**	**67.49**	**59**	P	**P**	**14 04 11.2**	**0.0**
	comp=Z,1.8nm,0.9s,baz=299,slow=5.4,SNR=5.6						
KSRS				LR	LR	14 36 54.3	
	comp=Z,39nm,19.3s,baz=320,slow=39						
	comp=Z,1.8nm,0.9s						
YKA	**Yellowknife Ar**	**77.34**	**348**	P	**P**	**14 05 08.0**	**-1.5**
	comp=Z,0.2nm,0.8s,baz=27,slow=5.6,SNR=1.8						
	comp=Z,0.2nm,0.8s						

DJA 19 14:13:24.6±0.8, 11°S±7°×11°9E±°, h10km, M3.8/7, mb4.0/2, MLv3.6/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**2.20**	**67**	P	Pn	14 13 59.7	-1.5
BASI				S	Sb	14 14 30.2	-1.5
PLAI	**Plampang**	**2.35**	**342**	P	Pn	14 14 03.7	+0.3
PLAI				S	Sn	14 14 33.4	+1.0
TWSI	**Taliwang, Sumb**	**2.83**	**325**	P	Pn	14 14 10.6	+0.7
TWSI				S	Sn	14 14 43.4	-0.7
EDFI	**Ende, Flores**	**3.89**	**54**	P	Pn	14 14 24.6	0.0
SRBI	**Singaraja**	**4.42**	**312**	P	Pn	14 14 32.8	+1.1
JAGI	**Jajag, Banyuwa**	**5.03**	**301**	P	Pn	14 14 39.3	-0.8
	40nm,1.0s,0.2nm						
BKSI	**Bulukumba**	**5.94**	**16**	P	Pn	14 14 54.1	+1.5

AFAD 19 14:17:06.9±0.0, 38°.29N×38°.82E, h7km±2km, MW3.6
ISK 19 14:17:06.2, 38°.28N×38°.78E, h5km, ML3.6/15

ISC 19 14:17:06.6±1.6, 38°.28N±0°.02×38°.81E±0°.02, h4km±13km, n29, σ0°.79/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAYA	**Malatya/Merkez**	**0.31**	**278**	P	**Pb**	**14 17 13.6**	**-1.1**
MAYA				S	**Sb**	**14 17 18.2**	**-1.9**
MAYA				*i* AML	AML	14 17 19.0	
	comp=N,2μm,0.3s						
MAYA				*i* AML	AML	14 17 19.0	
	comp=E,1μm,0.2s						
NARI	**Adyaman-Kaht**	**0.40**	**186**	P	**Pb**	**14 17 15.6**	**-0.6**
NARI				*i* AML	AML	14 17 21.0	
	comp=E,2μm,0.3s						
NARI				S	**Sb**	**14 17 21.3**	**-1.4**
NARI				*i* AML	AML	14 17 24.0	
	comp=N,3μm,0.7s						
AZEY	**Adyaman-Merk**	**0.65**	**224**	P	**Pb**	**14 17 20.6**	**+0.1**
AZEY				S	**Sb**	**14 17 30.1**	**+0.2**
AZEY				*i* AML	AML	14 17 34.0	
	comp=E,1μm,0.6s						
AZEY				*i* AML	AML	14 17 35.0	
	comp=N,2μm,0.8s						
HANM	**anlurfa/Hi**	**0.70**	**176**	P	**Pb**	**14 17 21.4**	**0.0**
HANM				S	**Sb**	**14 17 30.9**	**-0.5**
HANM				*i* AML	AML	14 17 35.0	
	comp=E,5μm,0.3s						
HANM				*i* AML	AML	14 17 36.0	
	comp=N,5μm,0.5s						
URFA	**Urfa**	**0.84**	**180**	Pg	**Pb**	**14 17 23.4**	**-0.3**
URFA				Sg	**Sb**	**14 17 35.9**	**+0.5**
KOVA	**Elazig, Kovanc**	**0.89**	**61**	P	**Pg**	**14 17 23.7**	**0.0**
KOVA				S	**Sn**	**14 17 39.2**	**-0.2**
KOVA				*i* AML	AML	14 17 43.0	
	comp=N,692nm,0.7s						
KOVA				*i* AML	AML	14 17 46.0	
	comp=E,556nm,0.8s						
ARPR	**Arapgir-MALATY**	**0.89**	**335**	Pg	**Pb**	**14 17 24.6**	**-0.1**
ARPR				Sg	**Sb**	**14 17 37.8**	**+0.8**
ATAB	**Bozova**	**0.91**	**207**	P	**Pb**	**14 17 25.1**	**+0.2**
ATAB				S	**Sb**	**14 17 37.7**	**+0.4**
ATAB				*i* AML	AML	14 17 42.0	
	comp=E,2μm,0.5s						
ATAB				*i* AML	AML	14 17 42.0	
	comp=N,1μm,0.2s						
TNCL	**Tunceli-Merkez**	**1.01**	**34**	P	**Pg**	**14 17 25.7**	**-0.3**
TNCL				S	**Sb**	**14 17 39.8**	**-0.5**
TNCL				*i* AML	AML	14 17 42.0	
	comp=E,1μm,0.6s						
TNCL				*i* AML	AML	14 17 42.0	
	comp=N,1μm,0.5s						
KEMA	**Kemaliye**	**1.02**	**346**	P	**Pg**	**14 17 26.2**	**+0.2**
KEMA				S	**Sb**	**14 17 40.6**	**+0.1**
KEMA				*i* AML	AML	14 17 42.0	
	comp=N,1μm,0.5s						
KEMA				*i* AML	AML	14 17 43.0	
	comp=E,2μm,0.4s						
DARE	**Darende-Malaty**	**1.08**	**286**	Pg	**Pb**	**14 17 27.5**	**-0.4**
DARE				Sg	**Sn**	**14 17 43.2**	**-0.9**
DIYA	**Diyarbakir**	**1.09**	**109**	P	**Pn**	**14 17 28.4**	**-0.3**
DIYA				S	**Sb**	**14 17 42.3**	**-0.3**
DIYA				*i* AML	AML	14 17 47.0	
	comp=E,1μm,0.5s						
DIYA				*i* AML	AML	14 17 50.0	
	comp=N,1μm,0.5s						
DYBB	**Diyarbakir**	**1.10**	**107**	Pn	**Pn**	**14 17 28.6**	**-0.1**
ILIC	**ilic-Erzincan**	**1.18**	**351**	Pn	**Pb**	**14 17 29.5**	**-0.2**
HANI	**Diyarbakir_Han**	**1.25**	**83**	P	**Pn**	**14 17 30.8**	**-0.1**
HANI				S	**Sn**	**14 17 47.9**	**-0.4**
HANI				*i* AML	AML	14 17 49.0	
	comp=E,605nm,0.6s						
HANI				*i* AML	AML	14 17 52.0	
	comp=N,353nm,0.3s						
ERZN	**Erzincan**	**1.48**	**28**	Pn	**Pg**	**14 17 34.9**	**-0.1**
EUZM	**Uzumlu**	**1.58**	**26**	P	**Pb**	**14 17 36.2**	**-0.3**
EUZM				S	**Sb**	**14 17 56.8**	**-0.1**
EUZM				*i* AML	AML	14 18 01.0	
	comp=N,355nm,0.5s						
EUZM				*i* AML	AML	14 18 02.0	
	comp=E,383nm,0.5s						
KHMN	**Narli-Kahraman**	**1.58**	**236**	Pn	**Pb**	**14 17 36.1**	**-0.3**
BNGB	**Bingl**	**1.62**	**64**	Pn	**Pb**	**14 17 37.4**	**+0.3**
GAZ	**Gaziantep**	**1.69**	**229**	Pn	**Pb**	**14 17 37.6**	**-0.6**
KMRS	**Kahramanmaras**	**1.70**	**243**	Pn	**Pb**	**14 17 37.6**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.88**	**93**	Pn	**Pn**	**14 17 40.1**	**+0.6**
KARO	**Karliova-Bingo**	**2.03**	**59**	Pn	**Pb**	**14 17 43.3**	**-0.8**
SVSK	**Karacayir**	**2.16**	**320**	Pn	**Pb**	**14 17 44.9**	**-1.3**
BAYT	**Aydıntepe-Bayb**	**2.35**	**26**	Pn	**Pn**	**14 17 47.5**	**+1.4**
KOZT	**Kozan**	**2.50**	**252**	Pn	**Pn**	**14 17 49.2**	**+1.3**
GURO	**Guroymak-BITLI**	**2.54**	**83**	Pn	**Pn**	**14 17 50.4**	**+1.7**
TAHT	**Tahtakopru-Hat**	**2.83**	**229**	Pn	**Pn**	**14 17 53.9**	**+1.4**
CMRD	**Camardi-Nigde**	**3.08**	**260**	Pn	**Pn**	**14 17 57.5**	**+1.4**

IDC 19 14:25:14.9±3.4, 1°.31S×135°.25E, h0km, mb3.2/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=149.3km s-min=29.5km az=79.0
DJA 19 14:25:41.2±0.6, 2°.5S±5°×13°.2E±°, h140km±11km, M3.4/5, mb4.2/1, mB6.4/1, MLv3.0/5, Mw(mB)6.2/1

ISC 19 14:25:19.7±1.8, 1.6S±0°.1×134°.1E±0°.1, h10km, n8, σ0§31/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.09**	**191**	P	**Pb**	**14 25 57.6**	**0.0**
FAKI	**Fak Fak**	**2.27**	**235**	P	**Pg**	**14 26 03.1**	**-0.1**
SIJI	**Sorong**	**2.92**	**284**	P	**Pb**	**14 26 11.7**	**-0.3**
SWI	**Sorong**	**2.93**	**284**	P	**Pb**	**14 26 12.5**	**+0.4**
GENI	**Genyem**	**6.14**	**99**	P	Pg	14 27 38.6	+21
WRA	**Warramunga Arr**	**18.23**	**179**	P	**Pn**	**14 29 33.4**	**+0.3**
	0.2nm,0.3s,baz=1.6,slow=12,SNR=7.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**21.94**	**180**	P	**P**	**14 30 13.6**	**0.0**
	0.6nm,0.4s,baz=6.4,slow=12,SNR=23						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**66.14**	**324**	P	**P**	**14 36 07.2**	**-0.2**
	0.1nm,0.6s,baz=116,slow=7.2,SNR=1.9						
	0.1nm,0.6s						

IDC 19 14:41:16.4±1.1, 36°.53N×76°.80E, h0km, mb3.5/7, mbtmp3.5/13, ML3.3/5, MS3.5/1, Error ellipse: s-maj=24.6km s-min=16.6km az=70.0
NEIC 19 14:41:17.9±1.9, 36°.43N±0°.08×76°.9E±0°.1, h10km±2km, mb4.1/5, Error ellipse: s-maj=16.1km s-min=13.4km az=108.0
NNC 19 14:41:17.5±1.6, 36°.64N×77°.04E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=12.0km s-min=10.3km az=107.0

ISC 19 14:41:20.5±0.8, 36°.55N±0°.05×76°.84E±0°.08, h10km, n58, σ1§34/42, mb3.6/8, 6C-2D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**4.12**	**227**	Pn	**Pn**	**14 42 23.4**	**-0.2**
JMU	**Jammu**	**4.14**	**203**	*e*S	**Sn**	**14 43 12.3**	**0.0**
THN	**Thein Dam**	**4.21**	**193**	*e*P	Pn	14 42 23.2	-1.5
THN				*e*S	**Sn**	**14 43 15.2**	**+1.3**
DHRM	**DHARAMSHALA**	**4.31**	**186**	*e*P	**Pn**	**14 42 26.9**	**+0.6**
DHRM				*e*S	**Sn**	**14 43 19.3**	**+2.6**
NRN	**Naryn**	**4.92**	**353**	Pn	Pn	14 42 33.6	-1.2
BHK	**Bhakra**	**5.13**	**184**	*ex*	x	14 42 51.3	
BHK				*ex*	x	14 43 45.0	
TARG	**Taragay, Kyrgy**	**5.23**	**8**		**Pn**	**14 42 40.2**	**+1.1**
SMLA	**Simla**	**5.41**	**177**	*e*P	**Pn**	**14 42 41.0**	**-0.2**
SMLA				*e*S	**Sn**	**14 43 42.6**	**-1.0**
ARSB	**Arslanbob**	**5.64**	**329**		**Pn**	**14 42 44.1**	**-0.4**
BTK	**Batken**	**5.89**	**308**	Pn	Pn	14 42 44.9	-3.0
AML	**Almayashu**	**6.08**	**337**	⇑Pg	**Pb**	**14 43 08.7**	**+1.9**
	0.9nm,0.7s						
AML				⇑Lg	Lg	14 44 32.0	
	2.7nm,0.8s						
AAK	**Ala-Archa**	**6.35**	**344**	Pn	**Pn**	**14 42 55.7**	**+1.5**
AAK	**Ala-Archa**	**6.35**	**344**	Pn	**Pn**	**14 42 54.6**	**+0.4**
	1.1nm,0.3s,baz=104,slow=6.1,SNR=10						
AAK				Pg	**Pb**	**14 43 10.5**	**-0.6**
	2.5nm,0.3s,baz=171,slow=15,SNR=22						
AAK				Sn	**Sn**	**14 44 08.1**	**+1.3**
	0.6nm,0.3s,baz=188,slow=20,SNR=1.6						
AAK				Lg	Lg	14 44 38.4	
	1.1nm,0.3s,baz=8.5,slow=19,SNR=4.1						
	1.2nm,0.3s						
TKM2	**Tokmak 2**	**6.44**	**352**	⇑Pg	**Pb**	**14 43 13.0**	**+0.3**
	6.0nm,0.4s						
TKM2				⇑Lg	Lg	14 44 40.0	
	16nm,0.8s						
TNSS	**Tian-Shan**	**6.48**	**1**	Pg	**Pb**	**14 43 14.2**	**+0.6**
	7.4nm,0.8s						
TNSS				Lg	Lg	14 44 40.6	
	11nm,0.6s						
KST	**Kastek**	**6.52**	**354**	Pg	**Pb**	**14 43 14.4**	**+0.3**
	4.8nm,0.7s						
KST				Lg	Lg	14 44 41.1	
	7.6nm,0.8s						
SIMJ	**Simiganj**	**6.56**	**291**	Pn	Pn	14 42 54.8	-2.4
MTBS	**Maitube**	**6.58**	**357**	Pg	**Pb**	**14 43 16.1**	**+1.0**
	4.9nm,0.6s						
MTBS				Lg	Lg	14 44 44.3	
	13nm,0.4s						
MDOK	**Medeo**	**6.61**	**1**	Pg	**Pb**	**14 43 16.4**	**+0.8**
	4.9nm,0.5s						
MDOK				Pg	Pg	14 43 18.8	-8.2

BRVK				IAmb	IAmb	14 45 27.0	
	comp=Z,2.8nm,0.7s						
ABKAR	**Akbulak array**	**17.68**	**321**	P	**Pn**	**14 45 25.6**	**-1.1**
ABKAR	**Akbulak array**	**17.68**	**321**	P	**Pn**	**14 45 25.2**	**-1.5**
ABKAR				IAmb	IAmb	14 45 31.0	
	comp=Z,1.8nm,1.1s						
ZALV	**Zalesovo Beam**	**18.26**	**15**	P	**Pn**	**14 45 32.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=3.8						
	comp=Z,0.5nm,0.4s						
AKTO	**Aktyubinsk**	**19.40**	**322**	P	**P**	**14 45 44.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=4.6						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**24.48**	**53**	P	**P**	**14 46 39.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=250,slow=9.7,SNR=2.8						
	comp=Z,0.3nm,0.5s						
GNI	**Garni**	**25.35**	**288**	P	**P**	**14 46 46.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**26.52**	**127**	P	P	14 46 55.2	-3.1
	comp=Z,0.4nm,0.4s,baz=301,slow=12,SNR=6.9						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**40.12**	**325**	P	P	14 48 53.0	-3.0
FINES	**FINESS Array B**	**40.12**	**325**	P	P	14 48 54.4	-1.6
	comp=Z,0.8nm,0.5s,baz=109,slow=9.4,SNR=10						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**45.94**	**322**	P	P	14 49 40.2	-3.1
	comp=Z,2.0nm,0.8s,baz=107,slow=9.7,SNR=1.5						
	comp=Z,2.0nm,0.8s						
NC405	**NORSAR Array S**	**46.94**	**323**	P	P	14 49 47.3	-3.8
NC405				IAmb	IAmb	14 50 14.0	
	comp=Z,15nm,1.2s						
NB2	**NORSAR Subarra**	**47.18**	**323**	P	**P**	**14 49 53.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**47.18**	**323**	P	P	14 49 49.3	-3.7
	comp=Z,0.4nm,0.5s,baz=92,slow=7.6,SNR=2.3						
	comp=Z,0.4nm,0.5s						
SEY	**Seymchan**	**51.74**	**34**	LR	LR	15 13 57.0	
	comp=Z,44nm,19.8s,baz=320,slow=38						
TORD	**Torodi Ar. Bea**	**70.42**	**272**	P	P	14 52 33.1	-2.1
	comp=Z,0.2nm,0.5s,baz=45,slow=6.7,SNR=1.5						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**80.87**	**5**	P	P	14 53 31.4	-2.9
	comp=Z,0.1nm,0.6s,baz=348,slow=5.5,SNR=1.5						
	comp=Z,0.1nm,0.6s						

*IDC **19** 14:52:23.5±1.9, 8°.95S×67°.22E, h0km, mb3.7/6, mbtmp3.7/6, MS3.5/12, Error ellipse: s-maj=58.5km s-min=32.3km az=61.0*

ISC 19 14:52:25.5±1.9, 9°.0S±0°.3×67°.1E±0°.4, h18km, n23, σ0s83/9, mb3.8/6, MS3.5/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**21.12**	**40**	LR	LR	15 03 19.3	
	comp=Z,70nm,18.8s,baz=322,slow=31						
KMBO	**Kilima Mbogo**	**30.69**	**283**	LR	LR	15 08 07.1	
	comp=Z,59nm,21.2s,baz=86,slow=31						
LSZ	**Lusaka**	**38.48**	**257**	LR	LR	15 12 51.2	
	comp=Z,81nm,20.0s,baz=342,slow=32						
H04N2	**CROZET ISLANDS**	**39.27**	**197**	T	T	15 42 03.4	
	baz=20						
H04N1	**CROZET ISLANDS**	**39.28**	**197**	T	T	15 41 52.1	
	baz=20						
H04N3	**CROZET ISLANDS**	**39.29**	**197**	T	T	15 41 51.6	
	baz=20						
CMAR	**Chiang Mai Arr**	**41.64**	**49**	P	**P**	**15 00 13.9**	**+0.7**
	0.8nm,0.4s,baz=235,slow=9.9,SNR=6.0						
	0.8nm,0.4s						
LBTB	**Lobatse**	**42.53**	**243**	LR	LR	15 16 14.3	
	comp=Z,37nm,18.7s,baz=108,slow=34						
TSUM	**Tsumeb**	**48.91**	**252**	LR	LR	15 20 04.3	
	comp=Z,67nm,18.1s,baz=335,slow=34						
H01W3	**Cape Leeuwin H**	**50.08**	**128**	T	T	15 54 52.0	
	baz=290,slow=75,SNR=21						
H01W2	**Cape Leeuwin H**	**50.08**	**128**	T	T	15 54 48.5	
	baz=290,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**50.10**	**128**	T	T	15 54 52.6	
	baz=290,slow=75,SNR=18						
KAPI	**Kappang**	**52.40**	**89**	LR	LR	15 22 42.0	
	comp=Z,24nm,19.0s,baz=248,slow=35						
MKAR	**Makanchi Array**	**57.19**	**12**	P	**P**	**15 02 10.7**	**-0.7**
	0.4nm,0.7s,baz=197,slow=7.5,SNR=5.5						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**60.21**	**8**	P	**P**	**15 02 32.6**	**+0.2**
	0.7nm,0.9s,baz=208,slow=7.4,SNR=3.7						
KURBB				LR	LR	15 26 33.7	
	comp=Z,58nm,18.5s,baz=171,slow=34						
	0.7nm,0.9s						
BVAR	**Borovoye Array**	**61.85**	**2**	P	**P**	**15 02 42.5**	**-1.0**
	0.5nm,0.5s,baz=178,slow=7.2,SNR=3.7						
BVAR				LR	LR	15 29 19.1	
	comp=Z,36nm,18.8s,baz=261,slow=36						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**65.27**	**112**	P	**P**	**15 03 06.2**	**-0.6**
	0.5nm,0.6s,baz=282,slow=6.0,SNR=10						
ASAR				LR	LR	15 27 03.2	
	comp=Z,38nm,21.4s,baz=253,slow=32						
	0.5nm,0.6s						
SONM	**Songino Array**	**66.42**	**28**	P	**P**	**15 03 13.9**	**+0.1**
	1.2nm,0.9s,baz=210,slow=7.5,SNR=3.4						
SONM				LR	LR	15 31 20.4	
	comp=Z,40nm,18.4s,baz=188,slow=35						
	1.2nm,0.9s						
CTA	**Charters Tower**	**76.86**	**109**	LR	LR	15 38 45.0	
	comp=Z,22nm,18.2s,baz=264,slow=36						
MDT	**Midelt**	**79.77**	**306**	LR	LR	15 39 33.7	
	comp=Z,87nm,18.6s,baz=350,slow=35						
YKA	**Yellowknife Ar**	**126.60**	**1**	PKP	**PKiKP**	**15 11 29.0**	**+1.1**
	0.2nm,0.8s,baz=332,slow=2.5,SNR=2.5						
PDAR	**Pinedale Array**	**146.24**	**356**	PKPbc	**PKPab**	**15 12 06.9**	**+0.7**
	0.4nm,0.9s,baz=70,slow=3.0,SNR=2.3						
NVAR	**Mina Array Bea**	**150.31**	**9**	PKPbc	**PKiKP**	**15 12 17.2**	**-0.1**
	0.4nm,0.7s,baz=354,slow=4.5,SNR=1.4						

*IDC **19** 14:56:11.2±1.5, 26°.64N×126°.92E, h0km, mb3.6/5, mbtmp3.6/5, MS3.7/1, Error ellipse: s-maj=46.2km s-min=31.2km az=66.0*

*JMA **19** 14:56:30.0±0.3, 27°.2N×12°.6E±°, h129km±2km, MV3.6/21, NW OFF OKINAWAJIMA IS*

ISC 19 14:56:28.3±0.8, 26°.60N±0°.09×126°.36E±0°.07, h147km±9km, n33, σ1s54/49, mb3.2/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.47**	**126**	*i* P	**Pn**	**14 56 49.4**	**+0.2**
JKE				S	**Sn**	**14 57 03.2**	**-1.8**
JAGN	**Aguni-jima**	**0.79**	**91**	*i* P	**Pn**	**14 56 51.7**	**+0.6**
JAGN				S	**Sn**	**14 57 07.2**	**-1.2**
JJT3	**Tamagusuku3**	**1.36**	**109**	P	**Pn**	**14 56 57.9**	**+1.7**
JJT3				S	**Sn**	**14 57 18.2**	**+0.8**
JNTH	**Nagotoyohara**	**1.49**	**93**	*i* P	**Pn**	**14 56 58.9**	**+1.4**
JNTH				S	**Sn**	**14 57 18.3**	**-1.6**
JIH	**Iheya**	**1.50**	**73**	P	**Pn**	**14 56 58.9**	**+1.4**
JIH				S	**Sn**	**14 57 19.0**	**-1.0**
JOW	**Kunigami**	**1.73**	**82**	P	**Pn**	**14 57 01.3**	**+1.2**
JOW	**Kunigami**	**1.73**	**82**	*i* P	**Pn**	**14 57 01.4**	**+1.2**
JOW				S	**Sn**	**14 57 23.5**	**-1.0**
JYRO	**Yoronjima**	**1.92**	**77**	*i* P	**Pn**	**14 57 03.5**	**+1.3**
JYRO				S	**Sn**	**14 57 26.7**	**-1.6**
JIKM	**Ikemajima**	**1.95**	**211**	P	**Pn**	**14 57 03.6**	**+1.0**
JIKM				S	**Sn**	**14 57 28.3**	**-0.7**
JMJ	**Miyako jima 2**	**2.02**	**209**	P	**Pn**	**14 57 05.3**	**+1.8**
JOGS	**Gusukube**	**2.03**	**205**	P	**Pn**	**14 57 04.9**	**+1.3**
JOGS				S	**Sn**	**14 57 30.7**	**+0.1**
JIRB	**Irabujima**	**2.06**	**211**	P	**Pn**	**14 57 04.6**	**+0.6**
JIRB				S	**Sn**	**14 57 30.4**	**-1.0**
JMJ2	**Miyako jima3**	**2.07**	**207**	P	**Pn**	**14 57 05.2**	**+1.1**
JMJ2				*e*S	**Sn**	**14 57 31.5**	**-0.1**
JOKE	**Okinoerabujima**	**2.12**	**69**	*i* P	**Pn**	**14 57 05.5**	**+1.0**
JOKE				S	**Sn**	**14 57 30.9**	**-1.6**
JTJ	**Tarama**	**2.46**	**218**	P	**Pn**	**14 57 09.1**	**+0.4**
JTJ				S	**Sn**	**14 57 38.5**	**-1.5**
JTK	**Tokunoshima**	**2.59**	**62**	*i* P	**Pn**	**14 57 11.3**	**+0.9**
JTK				*e*S	**Sn**	**14 57 41.3**	**-1.6**
JISG	**Ishigakijimahi**	**2.73**	**223**	*i* P	**Pn**	**14 57 12.6**	**+0.5**
JISG				S	**Sn**	**14 57 44.1**	**-1.8**
JAMN	**Amaminishikomi**	**2.99**	**56**	*i* P	**Pn**	**14 57 16.0**	**+0.7**
JAMN				S	**Sn**	**14 57 49.8**	**-2.0**
JIJ	**Ishigaki jima**	**3.00**	**222**	*i* P	**Pn**	**14 57 15.5**	**0.0**
JIJ				S	**Sn**	**14 57 48.9**	**-3.0**
YOJ	**Yonaguni jima**	**3.70**	**236**	P	**Pn**	**14 57 25.9**	**+1.4**
YHNB	**Yeheng**	**4.89**	**248**	P	**Pn**	**14 57 42.7**	**+2.4**
NACB	**Ninganchiao**	**4.94**	**242**	P	**Pn**	**14 57 40.9**	**0.0**
YULB	**Yu-li**	**5.59**	**236**	P	**Pn**	**14 57 48.4**	**-1.2**
SSLB	**Suanglung**	**5.64**	**241**	P	**Pn**	**14 57 50.4**	**+0.2**
TPUB	**Ta-pu**	**6.15**	**239**	P	**Pn**	**14 57 57.9**	**+0.9**
JNU	**Nakatsue**	**7.59**	**30**	P	**Pn**	**14 58 19.0**	**+2.8**
JMN	**Monobe**	**9.63**	**41**	P	**Pn**	**14 58 42.8**	**-0.6**
PETK	**Petropavlovsk-**	**35.28**	**33**	P	**P**	**15 03 04.9**	**-3.9**
	7.0nm,1.1s,baz=226,slow=9.9,SNR=2.4						
	7.0nm,1.1s						
MKAR	**Makanchi Array**	**40.04**	**312**	P	**P**	**15 03 50.8**	**+1.9**
	0.3nm,0.5s,baz=100,slow=9.9,SNR=7.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**43.43**	**317**	P	**P**	**15 04 18.3**	**+2.0**
	0.2nm,0.6s,baz=106,slow=9.2,SNR=2.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**50.51**	**171**	P	**P**	**15 05 10.9**	**-0.6**
	0.2nm,0.9s,baz=354,slow=8.7,SNR=1.8						
	0.2nm,0.9s						
GEYT	**Alibeck**	**57.65**	**300**	LR	LR	15 33 15.1	
	comp=Z,63nm,20.0s,baz=148,slow=38						
FINES	**FINESS Array B**	**71.71**	**330**	P	**P**	**15 07 36.2**	**+2.3**
	1.3nm,0.8s,baz=62,slow=4.5,SNR=3.7						
	1.3nm,0.8s						

TEH 19 15:09:20.9, 30°.77N×57°.28E, h8km±40km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.26**	**181**	Pg	Pg	15 09 26.7	+0.5
ZRDN	**Zarand Kerman**	**0.67**	**288**	Pg	Pb	15 09 34.8	-0.1
KHGB	**Koh Gabri**	**0.79**	**241**	Pg	Pg	15 09 36.0	-0.1
TVBK	**TV Kerman**	**0.90**	**210**	Pg	Pb	15 09 38.8	-0.1
CHMN	**Cheshme madani**	**0.93**	**166**	Pg	Pg	15 09 38.7	-0.1
NGRK	**Negar Kerman**	**1.22**	**203**	Pg	Pn	15 09 44.8	+0.2
NGRK				Sg	Sn	15 10 01.6	+0.2
IBAF	**Bafgh**	**1.68**	**300**	Pg	Pg	15 09 53.0	-0.1
KBAM	**BAM**	**1.92**	**148**	Pn	Pb	15 09 56.6	+0.3
BSRN	**Basiran**	**1.98**	**53**	Pn	Pb	15 09 56.5	-0.8
IKOO	**Kooshah**	**2.21**	**41**	Pn	Pb	15 10 00.1	-1.2
TPRV	**Parvadeh(Tabas**	**2.31**	**348**	Pn	Pb	15 10 01.0	+1.6
IMEH	**Meriz**	**2.37**	**286**	Pn	Pb	15 10 02.6	-1.4
NHDN	**Nehbandan**	**2.46**	**75**	Pn	Pb	15 10 03.5	-2.0
TKDS	**Koohdasht(Taba**	**2.84**	**357**	Pn	Pn	15 10 08.6	+1.9
AFRZ	**Afriz**	**3.03**	**29**	Pn	Pn	15 10 11.4	+2.0
TNSJ	**Nastanj**	**3.24**	**350**	Pn	Pn	15 10 13.9	+1.8
ZHDN	**Zahedan**	**3.35**	**113**	Pn	Pn	15 10 16.4	+2.6
SHRT	**Shahrakht**	**3.84**	**41**	Pn	Pn	15 10 22.2	+1.7
ANAR	**Anarak**	**3.86**	**310**	Pn	Pn	15 10 23.5	+2.7
TBJM	**Torbat-e-JAM**	**5.17**	**29**	Pn	Pn	15 10 41.2	+2.4

IDC 19 15:22:25.0±25.0, 23°.05N×11°.79W, h0km, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=298.7km s-min=133.6km az=145.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I11CV	**MAIO ISLAND IN**	**13.26**	**236**	I	I	16 46 00.0	
	0.1nm,0.6s,baz=52,slow=310,SNR=3.4						
TORD	**Torodi Ar. Bea**	**16.15**	**125**	Pn	Pn	15 26 14.6	+1.0
	baz=314,slow=13,SNR=2.3						
	0.3nm,0.6s						
DBIC	**Dimbokro**	**17.60**	**157**	P	Pn	15 26 31.1	-0.7
	0.2nm,0.3s,baz=328,slow=14,SNR=1.9						
	1.1nm,0.6s						

*IDC **19** 15:42:37.5±5.2, 24°.99S×179°.83E, h456km±52km, mb3.4/9, mbtmp4.3/10, Error ellipse: s-maj=36.6km s-min=16.7km az=59.0*

*NEIC **19** 15:42:38.5±2.4, 25°.0S±0°.1×179°.8W±0°.2, h500km±16km, mb4.5/28, Error ellipse: s-maj=24.8km s-min=16.7km az=117.0*

*NOU **19** 15:42:42.6, 25°.03S×179°.83W, h563km, mb4.4/12, South of Fiji Islands*

ISC 19 15:42:39.8±0.6, 25°.12S±0°.08×179°.9W±0°.1, h500km, n92, σ1s89/92, mb4.0/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.46**	**158**	P	**P**	**15 43 58.4**	**-3.5**
TAVE	**Taveuni**	**8.37**	**360**	P	**P**	**15 44 43.8**	**+3.6**
DGTI	**Dingotuki**	**8.79**	**357**	P	**P**	**15 44 47.5**	**+3.0**
NIUE	**Niue**	**10.99**	**59**	P	**P**	**15 45 03.1**	**-4.6**
OUZ	**Omahuta**	**11.55**	**208**	P	**P**	**15 45 17.1**	**+3.7**
MXZ	**Matakaoa Point**	**12.50**	**187**	P	**P**	**15 45 24.7**	**+1.2**
MXZ	**Matakaoa Point**	**12.50**	**187**	P	**P**	**15 45 26.9**	**+3.4**
MXZ	**Matakaoa Point**	**12.50**	**187**	P	**P**	**15 45 27.1**	**+3.6**
WMGZ	**Waiomatatini S**	**12.74**	**186**	P	**P**	**15 45 29.2**	**+3.1**
HAZ	**Te Kaha**	**12.76**	**189**	P	**P**	**15 45 27.6**	**+1.4**
RUGZ	**Raukumara Rang**	**12.98**	**189**	P	**P**	**15 45 30.9**	**+2.2**
PUZ	**Puketiti**	**13.01**	**187**	P	**P**	**15 45 32.6**	**+3.7**
TOZ	**Tahuroa Road**	**13.18**	**196**	P	**P**	**15 45 32.4**	**+1.7**
KMRZ	**Kaimai**	**13.18**	**195**	P	**P**	**15 45 34.6**	**+3.9**
URZ	**Urewera**	**13.35**	**190**	P	**P**	**15 45 31.4**	**-1.0**
	30nm,0.6s,baz=98,slow=2.5,SNR=30						
URZ				S	**S**	**15 47 53.8**	**-1.0**
	6.6nm,0.8s,baz=136,slow=16,SNR=2.8						
URZ	**Urewera**	**13.35**	**190**	P	**P**	**15 45 31.9**	**-0.5**
MWZ	**Matawai**	**13.36**	**189**	P	**P**	**15 45 33.7**	**+1.1**
CNGZ	**Carnagh Statio**	**13.42**	**187**	P	**P**	**15 45 36.1**	**+2.8**
AFI	**Afiamalu**	**13.49**	**36**	P	**P**	**15 45 34.1**	**-0.3**
MUGZ	**Murupara**	**13.62**	**191**	P	**P**	**15 45 36.9**	**+1.5**
RIGZ	**Rimuhau**	**13.69**	**188**	P	**P**	**15 45 39.1**	**+3.0**
RTZ	**Ruatahuna**	**13.72**	**191**	P	**P**	**15 45 37.2**	**+0.8**
TLZ	**Tolley Road**	**13.74**	**195**	P	P	15 45 41.6	+5.0
SNGZ	**Shannon Statio**	**13.82**	**189**	P	**P**	**15 45 39.4**	**+1.9**
MTHZ	**Maungataniwha**	**13.97**	**191**	P	**P**	**15 45 40.2**	**+1.1**
RAHZ	**Arahi**	**14.00**	**190**	P	**P**	**15 45 40.4**	**+1.0**
KNZ	**Kokohu**	**14.02**	**188**	P	**P**	**15 45 39.8**	**+0.3**
MRHZ	**Matea Rd**	**14.03**	**192**	P	**P**	**15 45 40.7**	**+1.0**
HIZ	**Hauiti**	**14.09**	**197**	P	**P**	**15 45 42.0**	**+1.7**
HIZ	**Hauiti**	**14.09**	**197**	P	**P**	**15 45 43.3**	**+3.1**
RITZ	**Rihia Road**	**14.28**	**194**	P	**P**	**15 45 44.2**	**+1.8**
BKZ	**Black Stump Fm**	**14.34**	**192**	P	**P**	**15 45 43.7**	**+0.7**
BKZ	**Black Stump Fm**	**14.34**	**192**	P	**P**	**15 45 46.6**	**+3.6**
BFZ	**Birch Farm**	**15.86**	**191**	P	**P**	**15 45 58.8**	**+0.1**
MRZ	**Mangatainoka R**	**15.96**	**193**	P	**P**	**15 45 57.4**	**-2.4**
MRZ				IAmb	IAmb	15 46 03.6	
	comp=Z,12nm,0.6s						
SNZO	**South Karori**	**16.77**	**194**	P	**P**	**15 46 05.9**	**-2.3**
SNZO	**South Karori**	**16.77**	**194**	P	**P**	**15 46 09.3**	**+1.1**
TCW	**Tory Channel**	**16.77**	**196**	P	**P**	**15 46 06.7**	**-1.6**
BHW	**Baring Head**	**16.83**	**194**	P	**P**	**15 46 08.3**	**-0.5**
PLWZ	**Palliser**	**16.90**	**193**	P	**P**	**15 46 08.2**	**-1.4**
QRZ	**Quartz Range**	**16.90**	**200**	P	**P**	**15 46 10.1**	**+0.4**
QRZ	**Quartz Range**	**16.90**	**200**	P	**P**	**15 46 10.0**	**+0.4**
TKNZ	**Takaka Hill**	**16.96**	**199**	P	**P**	**15 46 09.1**	**-1.2**
NNZ	**Nelson**	**17.01**	**198**	P	**P**	**15 46 09.7**	**-1.0**
NNZ				IAmb	IAmb	15 46 14.7	
	comp=Z,28nm,1.2s						
TUWZ	**Tuamarina**	**17.06**	**196**	P	**P**	**15 46 10.8**	**-0.3**
BSWZ	**Blackbirch Sta**	**17.35**	**196**	P	**P**	**15 46 12.3**	**-1.6**
MRNZ	**Matariki Terra**	**17.36**	**199**	P	**P**	**15 46 12.7**	**-1.3**
THZ	**Tophouse**	**17.65**	**198**	P	**P**	**15 46 16.0**	**-0.8**
THZ				IAmb	IAmb	15 46 20.5	
	comp=Z,13nm,0.6s						
DSZ	**Denniston Nort**	**17.97**	**201**	P	**P**	**15 46 18.4**	**-1.4**
DSZ				IAmb	IAmb	15 46 21.2	
	comp=Z,17nm,0.6s						
KHZ	**Kahutara**	**18.09**	**196**	P	**P**	**15 46 20.6**	**-0.1**
KHZ	**Kahutara**	**18.09**	**196**	P	**P**	**15 46 21.2**	**+0.4**
GVZ	**Greta Valley S**	**18.74**	**196**	P	**P**	**15 46 25.4**	**-1.3**
LTZ	**Lake Taylor**	**18.77**	**198**	P	**P**	**15 46 25.6**	**-1.5**
LTZ				IAmb	IAmb	15 46 28.6	
	comp=Z,15nm,0.6s						
INZ	**Inchbonnie**	**18.97**	**200**	P	**P**	**15 46 27.4**	**-1.3**
INZ				IAmb	IAmb	15 46 33.0	
	comp=Z,15nm,0.8s						
OXZ	**Oxford**	**19.34**	**198**	P	**P**	**15 46 32.5**	**+0.3**
RPZ	**Rata Peaks**	**19.98**	**200**	P	**P**	**15 46 38.1**	**0.0**
RPZ				IAmb	IAmb	15 46 42.6	
	comp=Z,8.1nm,0.9s						
RPZ	**Rata Peaks**	**19.98**	**200**	P	**P**	**15 46 38.4**	**+0.3**
RPZ	**Rata Peaks**	**19.98**	**200**	P	**P**	**15 46 38.2**	**+0.1**
	comp=Z,9.1nm,0.5s,baz=18,slow=4.8,SNR=11						
	comp=Z,9.1nm,0.5s						
FOZ	**Fox Glacier**	**20.22**	**202**	P	**P**	**15 46 39.9**	**-0.3**
FOZ				IAmb	IAmb	15 46 45.2	
	comp=Z,8.4nm,1.0s						
JCZ	**Jackson Bay**	**21.05**	**203**	P	**P**	**15 46 48.3**	**+0.4**
WHZ	**Wether Hill Ro**	**22.93**	**202**	P	**P**	**15 47 04.8**	**+0.1**
WHZ				IAmb	IAmb	15 47 22.0	
	comp=Z,10.0nm,1.0s						
CTAO	**Charters Tower**	**31.64**	**272**	P	P	**15 48 19.9**	**-1.6**
CTAO				IAmb	IAmb	15 48 21.0	
	comp=Z,12nm,0.6s						
STKA	**Stephens Creek**	**34.41**	**250**	P	**P**	**15 48 43.8**	**-1.1**
PMG	**Port Moresby**	**35.04**	**291**	P	**P**	**15 48 48.1**	**-2.1**
PMG				IAmb	IAmb	15 49 04.1	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**36.46**	**281**	P	**P**	**15 49 00.9**	**-1.1**
COEN				IAmb	IAmb	15 49 02.4	
	comp=Z,7.5nm,0.8s						
AS31	**Alice Springs**	**41.98**	**262**	P	**P**	**15 49 45.7**	**-1.1**
ASAR	**Alice Springs**	**41.99**	**262**	P	**P**	**15 49 44.6**	**-2.2**
ASAR	**Alice Springs**	**41.99**	**262**	P	**P**	**15 49 45.4**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=92,slow=6.3,SNR=14						
ASAR				PcP	**PcP**	**15 51 31.5**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=88,slow=4.8,SNR=2.3						
	comp=Z,3.4nm,1.0s						
WR0	**Warramunga Arr**	**42.29**	**267**	P	**P**	**15 49 45.9**	**-3.3**
WB2	**Warramunga Arr**	**42.47**	**267**	P	**P**	**15 49 47.9**	**-2.6**
WB0	**Warramunga Arr**	**42.47**	**268**	P	**P**	**15 49 48.6**	**-2.0**
WB0				IAmb	IAmb	15 49 49.4	
	comp=Z,8.4nm,0.8s						
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**15 49 47.6**	**-3.0**
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**15 49 48.8**	**-1.9**
	comp=Z,2.9nm,0.5s,baz=101,slow=8.2,SNR=51						
	comp=Z,2.9nm,0.5s						
KNRA	**Kununurra**	**48.83**	**271**	P	**P**	**15 50 37.2**	**-2.0**
KNRA				IAmb	IAmb	15 50 38.7	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.88**	**267**	P	**P**	**15 50 52.0**	**-2.4**
VNDA	**Vanda**	**53.18**	**185**	P	**P**	**15 51 12.8**	**+2.9**
	comp=Z,1.4nm,0.8s,baz=24,slow=8.8,SNR=2.2						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**64.97**	**180**	P	**P**	**15 52 29.5**	**0.0**
QSPA	**South Pole Qui**	**64.97**	**180**	P	**P**	**15 52 32.0**	**+2.5**
	comp=Z,1.3nm,0.6s,baz=346,slow=0.6,SNR=17						
	comp=Z,1.3nm,0.6s						
MJAR	**Matsushiro Arr**	**72.98**	**326**	P	**P**	**15 53 18.1**	**0.0**
	comp=Z,2.0nm,0.8s,baz=160,slow=5.7,SNR=5.6						
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**79.27**	**320**	P	**P**	**15 53 53.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=124,slow=5.9,SNR=5.8						
	comp=Z,1.2nm,0.7s						
PETK	**Petropavlovsk-**	**80.31**	**346**	P	**P**	**15 53 58.9**	**+0.9**
	comp=Z,4.3nm,1.0s,baz=131,slow=5.2,SNR=1.7						
	comp=Z,4.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P	**P**	**15 54 47.4**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=155,slow=4.5,SNR=6.5						
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**116.22**	**316**	PKP	**PKiKP**	**16 00 26.2**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=79,slow=2.0,SNR=4.2						
BVAR	**Borovoye Array**	**121.44**	**318**	PKP	**PKiKP**	**16 00 36.5**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=144,slow=1.8,SNR=4.9						
ARCES	**ARCESS Array B**	**133.11**	**348**	PKP	**PKiKP**	**16 00 59.3**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=54,slow=1.6,SNR=4.2						
NB2	**NORSAR Subarra**	**143.30**	**351**	PKP	**PKPdf**	**16 01 15.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.30**	**351**	PKhKP	PKPpre	16 01 13.8	
	comp=Z,1.7nm,0.8s,baz=22,slow=3.9,SNR=7.0						
HFS	**Hagfors**	**143.77**	**349**	PKP	**PKPdf**	**16 01 16.9**	**-0.1**
	comp=Z,6.0nm,0.4s,baz=70,slow=4.7,SNR=46						
AKASG	**Malin Array Be**	**146.06**	**326**	PKPbc	**PKPbc**	**16 01 23.5**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=43,slow=4.2,SNR=8.3						
MMAI	**Mount Meron Ar**	**148.31**	**293**	PKPbc	**PKiKP**	**16 01 30.4**	**-0.6**
	comp=Z,2.1nm,0

CUAYA				*i*	AML	AML	16 08 07.0		
	comp=E,612nm,0.7s								
YENC	**ankr-Yen**	**1.50**	**275**	P		**Pb**	**16 07 43.5**	**0.0**	
YENC				S		**Sg**	**16 08 03.8**	**+0.7**	
YENC				*i*	AML	AML	16 08 06.0		
	comp=E,2µm,0.5s								
YENC				*i*	AML	AML	16 08 07.0		
	comp=N,2µm,0.4s								
KOZK	**Kozakli-Nevseh**	**1.53**	**208**	Pn		**Pg**	**16 07 44.2**	**0.0**	
DELI	**KIRIKKALE**	**1.55**	**249**	P		**Pn**	**16 07 43.9**	**+0.2**	
DELI				S		**Sn**	**16 08 02.9**	**-1.6**	
DELI				*i*	AML	AML	16 08 07.0		
	comp=N,393nm,0.4s								
PRSB	**Persembe-Ordu**	**1.59**	**69**	Pn		**Pg**	**16 07 45.1**	**-0.2**	
CUZAR	**Zara_SIVAS**	**1.65**	**113**	P		**Pg**	**16 07 46.4**	**0.0**	
GUNE	**Kayseri**	**1.66**	**185**	P		**Pg**	**16 07 47.2**	**+0.5**	
MCUR	**KIREHR**	**1.71**	**216**	P		**Pn**	**16 07 46.1**	**+0.2**	
KMON	**Kastamonu**	**1.73**	**299**	Pn		**Pb**	**16 07 47.4**	**-0.2**	
AKPI	**Kirsehir/Akpin**	**1.75**	**233**	P		**Pn**	**16 07 46.4**	**0.0**	
BR131	**Keskin Array S**	**1.86**	**244**	Pn		**Pb**	**16 07 48.8**	**-0.9**	
KESK	**Krkkale-Ke**	**1.94**	**242**	P		**Pn**	**16 07 50.0**	**+0.9**	
PELI	**Kastamonı-Ara**	**2.03**	**292**	P		**Pb**	**16 07 51.4**	**-1.2**	
YAYX	**Yaylak**	**2.23**	**224**	Pn		**Pn**	**16 07 54.2**	**+1.1**	
ESPY	**Espiye-Giresun**	**2.25**	**80**	Pn		**Pn**	**16 07 54.3**	**+1.1**	
SERE	**Sereflikochisa**	**2.37**	**228**	Pn		**Pb**	**16 07 56.7**	**-1.6**	
DARE	**Darende-Malaty**	**2.37**	**146**	Pn		**Pn**	**16 07 56.3**	**+1.3**	
AFSR	**Afar-Bala (An**	**2.38**	**243**	Pn		**Pb**	**16 07 56.9**	**-1.6**	
ILIC	**ilic-Erzincan**	**2.39**	**117**	Pn		**Pn**	**16 07 56.6**	**+1.3**	
LOD	**Lodumlu**	**2.42**	**255**	Pn		**Pn**	**16 07 57.3**	**+1.6**	
ELBS	**KAHRAMANMARAS**	**2.46**	**155**	P		**Pb**	**16 07 58.2**	**-1.7**	
BSIR	**Belisirma, Guz**	**2.57**	**208**	P		**Pn**	**16 07 59.0**	**+1.3**	
KKUL	**Konya-Kulu**	**2.62**	**239**	P		**Pn**	**16 07 59.8**	**+1.3**	
CBEY	**Konya-Cihanbey**	**2.99**	**232**	P		**Pb**	**16 08 10.3**	**+1.3**	
KIBS	**BOLU**	**3.02**	**269**	P		**Pb**	**16 08 07.0**	**-2.5**	
YAL	**Yalta**	**4.11**	**343**	*e*P		**Pn**	**16 08 19.6**	**+0.8**	
YAL				Pm			16 08 21.3		
	comp=Z,9.0nm,0.2s								
YAL				*i*	S	**Sn**	**16 09 08.3**	**+0.9**	
YAL				Sm			16 09 12.0		
	comp=N,6.0nm,0.2s								
YAL				Sm			16 09 12.0		
	comp=E,12nm,0.3s								
SEV	**Sevastopol'**	**4.28**	**339**	*e*P		**Pn**	**16 08 21.9**	**+0.8**	
SEV				Pm			16 08 24.5		
	comp=Z,2.0nm,0.3s								
SEV				*e*S		**Sn**	**16 09 12.6**	**+0.9**	
SEV				Sm			16 09 17.7		
	comp=N,5.0nm,0.3s								
SEV				Sm			16 09 17.7		
	comp=E,2.0nm,0.4s								
SUDU	**Sudak**	**4.37**	**352**	*e*P		**Pn**	**16 08 22.7**	**+0.4**	
SUDU				Pm			16 08 27.9		
	comp=Z,9.0nm,0.4s								
SUDU				*e*S		**Sn**	**16 09 14.2**	**+0.4**	
SUDU				Sm			16 09 18.9		
	comp=N,24nm,0.4s								
SUDU				Sm			16 09 18.9		
	comp=E,8.0nm,0.3s								

*AEIC **19** 16:14:19.5±1.9, 67°02N±0°03×141°86W±0°07, h18km±4km, ML3.4, ML3.5/136(NEIC), ML3.5(OTT), Error ellipse: s-maj=4.2km s-min=3.9km az=117.0*

*PGC **19** 16:14:20.6±0.0, 67°04N×141°68W, h1km, ML3.3, ML3.6/17, 315km west of Fort McPherson, Nt Northern Alaska*

*NEIC **19** 16:14:20.3±2.0, 67°06N±0°02×141°80W±0°08, h9km±6km, Error ellipse: s-maj=4.4km s-min=2.7km az=105.0*

ISC 19 16:14:20.0±0.9, 67°03N±0°01×141°75W±0°01, h11km±7km**, n347,σ1§43/415, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
G27K	**Doyon Strip**	**0.22**	**170**		**Pg**		**16 14 24.4**	**-0.2**
G27K					**Sg**		**16 14 28.0**	**+0.1**
G27K	**Doyon Strip**	**0.22**	**170**	IAML			16 14 28.2	
	comp=E,6µm,0.4s							
G27K				IAML			16 14 28.6	
	comp=N,6µm,0.3s							
G27K	**Doyon Strip**	**0.22**	**170**	P	**Pg**		**16 14 24.5**	**-0.2**
	baz=340							
G27K				S	**Sg**		**16 14 27.6**	**-0.2**
	baz=340							
G27K	**Doyon Strip**	**0.22**	**170**	P	**Pg**		**16 14 24.5**	**-0.2**
G27K				S	**Sg**		**16 14 27.9**	**+0.1**
G26K	**Porcupine Rive**	**0.80**	**265**		**Pg**		**16 14 34.4**	**-1.1**
G26K	**Porcupine Rive**	**0.80**	**265**	P	**Pg**		**16 14 34.3**	**-1.2**
	baz=83							
G26K				S	**Sg**		**16 14 45.4**	**-0.6**
	baz=83							
H27K	**Steamboat Moun**	**0.81**	**174**		**Pg**		**16 14 35.0**	**-0.6**
H27K					**Sg**		**16 14 45.9**	**-0.2**
H27K	**Steamboat Moun**	**0.81**	**174**	P	**Pg**		**16 14 35.0**	**-0.6**
	baz=351							
H27K				S	**Sg**		**16 14 46.3**	**+0.2**
	baz=351							
H27K	**Steamboat Moun**	**0.81**	**174**	P	**Pg**		**16 14 35.0**	**-0.6**
H27K				S	**Sg**		**16 14 45.8**	**-0.2**
F28M	**Old Crow**	**0.94**	**50**		**Pg**		**16 14 37.1**	**-0.9**
F28M	**Old Crow**	**0.94**	**50**		**Sg**		**16 14 48.6**	**-1.5**
F28M	**Old Crow**	**0.94**	**50**	P	**Pg**		**16 14 37.1**	**-0.9**
	baz=234,SNR=418							
F28M				S	**Sb**		**16 14 50.6**	**-0.1**
	baz=234							
F28M	**Old Crow**	**0.94**	**50**	P	**Pg**		**16 14 36.9**	**-1.1**
F28M				S	**Sg**		**16 14 49.5**	**-0.7**
F26K	**Sheenjek River**	**1.14**	**307**		**Pb**		**16 14 41.8**	**0.0**
F26K					**Sb**		**16 14 57.1**	**+0.4**
F26K	**Sheenjek River**	**1.14**	**307**	P	**Pg**		**16 14 41.4**	**-0.6**
	baz=126,SNR=1000							
F26K				S	**Sg**		**16 14 56.4**	**-0.4**
	baz=126							
E27K	**Coleen River**	**1.16**	**3**		**Pb**		**16 14 42.3**	**+0.1**
E27K	**Coleen River**	**1.16**	**3**	P	**Pb**		**16 14 42.2**	**+0.1**
	baz=185							
E27K				S	**Sb**		**16 14 57.3**	**+0.1**
	baz=185							
E27K	**Coleen River**	**1.16**	**3**	P	**Pb**		**16 14 42.2**	**+0.1**
E27K				S	**Sg**		**16 14 55.7**	**-1.8**
BMAR	**Burnt Mountain**	**1.17**	**291**	Pn	**Pg**		**16 14 41.9**	**-0.7**
I27K	**Kandik River**	**1.43**	**178**		**Pb**		**16 14 46.7**	**0.0**
I27K					**Sg**		**16 15 04.7**	**-1.4**
I27K	**Kandik River**	**1.43**	**178**	P	**Pb**		**16 14 46.6**	**-0.2**
	baz=356,SNR=1000							
I27K				S	**Sn**		**16 15 05.7**	**+0.9**
	baz=356							
I27K	**Kandik River**	**1.43**	**178**	P	**Pb**		**16 14 46.7**	**0.0**
I27K				S	**Sg**		**16 15 04.6**	**-1.4**
FYU	**Fort Yukon**	**1.46**	**253**	Pn	**Pn**		**16 14 45.8**	**-0.4**
FYU				IAML			16 15 08.2	
	comp=N,737nm,1.2s							
FYU	**Fort Yukon**	**1.46**	**253**		**Sn**		**16 15 06.3**	**+1.1**
G29M	**Pine Creek**	**1.47**	**93**		**Pg**		**16 14 48.1**	**-0.1**
G29M	**Pine Creek**	**1.47**	**93**	IAML			16 15 22.2	
	comp=N,587nm,1.1s							
G29M	**Pine Creek**	**1.47**	**93**	P	**Pn**		**16 14 47.1**	**+0.7**
	baz=276							
G29M				S	**Sg**		**16 15 08.4**	**+1.1**
	baz=276							
G29M	**Pine Creek**	**1.47**	**93**	P	**Pn**		**16 14 47.0**	**+0.5**
G29M				S	**Sb**		**16 15 06.1**	**0.0**
H29M	**Whitestone**	**1.57**	**120**		**Pg**		**16 14 49.5**	**-0.7**
H29M	**Whitestone**	**1.57**	**120**	P	**Pg**		**16 14 49.6**	**-0.5**
	baz=302							
H29M				S	**Sg**		**16 15 11.2**	**+0.6**
	baz=302							
F25K	**Christian Rive**	**1.61**	**292**		**Pn**		**16 14 48.6**	**+0.1**
F25K					**Sn**		**16 15 10.1**	**+0.8**
F25K	**Christian Rive**	**1.61**	**292**	P	**Pn**		**16 14 48.2**	**-0.2**
	baz=109,SNR=826							
F25K				S	**Sn**		**16 15 10.0**	**+0.8**
	baz=109							
G25K	**Bearman Lake**	**1.74**	**263**		**Pn**		**16 14 50.0**	**-0.1**
G25K	**Bearman Lake**	**1.74**	**263**	P	**Pn**		**16 14 49.6**	**-0.4**
	baz=79							
G25K				Sb	**Sb**		**16 15 13.7**	**+0.1**
	baz=79							
I28M	**Miner Creek**	**1.75**	**154**		**Pb**		**16 14 51.6**	**-0.6**
I28M				IAML			16 15 18.9	
	comp=E,455nm,1.3s							
I28M	**Miner Creek**	**1.75**	**154**		**Sg**		**16 15 15.6**	**-0.6**
I28M	**Miner Creek**	**1.75**	**154**	P	**Pb**		**16 14 51.5**	**-0.6**
	baz=335,SNR=991							
I28M				S	**Sg**		**16 15 15.3**	**-0.9**
	baz=335							
I28M	**Miner Creek**	**1.75**	**154**	Pn	**Pb**		**16 14 51.5**	**-0.6**
I28M				Sn	**Sn**		**16 15 13.4**	**+0.7**
E28M	**Babbage River**	**1.79**	**27**		**Pn**		**16 14 51.2**	**+0.3**
E28M	**Babbage River**	**1.79**	**27**	IAML			16 15 21.4	
	comp=E,324nm,0.8s							
E28M				IAML			16 15 23.8	
	comp=N,388nm,1.1s							
E28M	**Babbage River**	**1.79**	**27**	P	**Pn**		**16 14 51.2**	**+0.3**
	baz=210							
E28M				Sb	**Sg**		**16 15 17.1**	**-0.5**
	baz=210							
I26K	**Coal Creek Min**	**1.82**	**199**		**Pn**		**16 14 51.6**	**+0.4**
I26K	**Coal Creek Min**	**1.82**	**199**	P	**Pn**		**16 14 51.7**	**+0.4**
	baz=16							
I26K				Sb	**Sg**		**16 15 18.4**	**0.0**
	baz=16							
E25K	**Arctic Village**	**1.83**	**309**	Pn	**Pn**		**16 14 51.5**	**+0.1**
E25K				IAML			16 15 20.5	
	comp=E,558nm,0.6s							
E25K				IAML			16 15 21.1	
	comp=N,533nm,0.5s							
E25K	**Arctic Village**	**1.83**	**309**	P	**Pn**		**16 14 51.1**	**-0.3**
	baz=126,SNR=458							
E25K				S	**Sb**		**16 15 16.4**	**0.0**
	baz=126							
E29M	**Blow River**	**2.01**	**45**		**Pn**		**16 14 54.3**	**+0.5**
E29M	**Blow River**	**2.01**	**45**	P	**Pn**		**16 14 54.4**	**+0.5**
	baz=230							
E29M	**Blow River**	**2.01**	**45**	Pn	**Pn**		**16 14 54.3**	**+0.5**
EPYK	**Eagle Plains**	**2.11**	**106**	Pg	**Pn**		**16 14 56.9**	**+1.6**
EPYK	**Eagle Plains**	**2.11**	**106**		**Pb**		**16 14 58.0**	**-0.2**
EPYK	**Eagle Plains**	**2.11**	**106**	P	**Pn**		**16 14 56.1**	**+0.9**
	baz=290,SNR=7.4							
EPYK				S	**Sb**		**16 15 24.1**	**-0.2**
	baz=290							
EPYK	**Eagle Plains**	**2.11**	**106**	Pn	**Pn**		**16 14 56.2**	**+1.0**
EPYK				Pg	**Pb**		**16 14 58.0**	**-0.2**
EPYK				Sn	**Sn**		**16 15 22.8**	**+1.4**
EPYK				Sg	**Sg**		**16 15 26.4**	**-1.3**
PRP	**Porcupine Dome**	**2.15**	**227**		**Pn**		**16 14 55.8**	**-0.1**
PRP	**Porcupine Dome**	**2.15**	**227**	P	**Pn**		**16 14 55.8**	**-0.1**
	baz=43							
PRP				Sb	**Sg**		**16 15 27.6**	**-1.5**
	baz=43							
G30M	**tAoh Zraii Nji**	**2.17**	**89**	Pn	**Pn**		**16 14 57.1**	**+1.0**
G30M					**Sn**		**16 14 24.5**	**+1.5**
G30M	**tAoh Zraii Nji**	**2.17**	**89**	IAML			16 15 30.9	
	comp=E,296nm,0.5s							
G30M	**tAoh Zraii Nji**	**2.17**	**89**	P	**Pn**		**16 14 57.2**	**+1.1**
	baz=274							
G30M	**tAoh Zraii Nji**	**2.17**	**89**	Pn	**Pn**		**16 14 57.1**	**+1.0**
G30M				Sn	**Sn**		**16 15 23.6**	**+0.6**
I29M	**Ogilvie Camp,**	**2.18**	**139**	Pn	**Pn**		**16 14 57.5**	**+1.3**
I29M	**Ogilvie Camp,**	**2.18**	**139**	P	**Pn**		**16 14 57.4**	**+1.1**
	baz=321,SNR=28							
I29M				S	**Sn**		**16 15 25.4**	**+2.2**
	baz=321							
I29M	**Ogilvie Camp,**	**2.18**	**139**	Pn	**Pn**		**16 14 57.4**	**+1.1**
I29M				Sn	**Sn**		**16 15 24.1**	**+0.9**
I29M				Sg	**Sg**		**16 15 28.7**	**-1.3**
D27M	**Malcolm River**	**2.24**	**7**		**Pn**		**16 14 57.8**	**+0.6**
D27M	**Malcolm River**	**2.24**	**7**	P	**Pn**		**16 14 57.8**	**+0.6**
	baz=189							
EGAK	**Eagle**	**2.27**	**174**		**Pn**		**16 14 58.2**	**+0.8**
EGAK				IAML			16 15 32.8	
	comp=E,234nm,0.7s							
EGAK				IAML			16 15 35.7	
	comp=E,336nm,0.8s							
EGAK	**Eagle**	**2.27**	**174**	P	**Pn**		**16 14 58.2**	**+0.8**
	baz=353,SNR=92							
EGAK				S	**Sn**		**16 15 27.2**	**+1.8**
	baz=353							
EGAK	**Eagle**	**2.27**	**174**	Pn	**Pn**		**16 14 58.2**	**+0.8**
EGAK				Sn	**Sn**		**16 15 26.3**	**+0.9**
G24K	**Hadweenzic Riv**	**2.29**	**264**		**Pn**		**16 14 57.5**	**-0.2**
G24K	**Hadweenzic Riv**	**2.29**	**264**	IAML			16 15 38.1	
	comp=E,234nm,0.7s							
G24K				IAML			16 15 38.8	
	comp=N,304nm,0.8s							
G24K	**Hadweenzic Riv**	**2.29**	**264**	P	**Pn**		**16 14 57.3**	**-0.3**
	baz=79							
F30M	**Barrier River**	**2.38**	**73**		**Pn**		**16 15 00.7**	**+1.7**
F30M	**Barrier River**	**2.38**	**73**	P	**Pn**		**16 15 00.3**	**+1.3**
	baz=259							
F24K	**Squaw Lake**	**2.43**	**284**		**Pn**		**16 14 59.6**	**-0.1**
F24K	**Squaw Lake**	**2.43**	**284**	IAML			16 15 37.8	
	comp=N,317nm,0.4s							
F24K				IAML			16 15 38.8	
	comp=E,274nm,0.7s							
F24K	**Squaw Lake**	**2.43**	**284**	P	**Pn**		**16 14 59.4**	**-0.3**
	baz=99							
D28M	**Stokes Point**	**2.57**	**25**	Pn	**Pn**		**16 15 02.6**	**+1.2**
D28M	**Stokes Point**	**2.57**	**25**	P	**Pn**		**16 15 02.8**	**+1.3**
	baz=208							
D28M	**Stokes Point**	**2.57**	**25**	Pn	**Pn**		**16 15 02.7**	**+1.2**
D28M				Sn	**Sn**		**16 15 32.9**	**+0.2**
J26L	**Joseph Creek**	**2.65**	**197**		**Pn**		**16 15 03.4**	**+0.8**
J26L	**Joseph Creek**	**2.65**	**197**	P	**Pn**		**16 15 03.6**	**+0.9**
	baz=15							
H24K	**Noodor Dome**	**2.74**	**247**		**Pn**		**16 15 03.3**	**-0.6**
H24K	**Noodor Dome**	**2.74**	**247**	IAML			16 15 48.7	
	comp=N,161nm,0.5s							
H24K				IAML			16 15 54.9	
	comp=E,143nm,0.8s							
H24K	**Noodor Dome**	**2.74**	**247**	P	**Pn**		**16 15 03.1**	**-0.8**
	baz=61							
E24K	**Your Creek**	**2.79**	**295**		**Pn**		**16 15 04.9**	**+0.3**
E24K	**Your Creek**	**2.79**	**295**	IAML			16 15 54.0	
	comp=N,158nm,0.6s							
E24K	**Your Creek**	**2.79**	**295**	P	**Pn**		**16 15 05.5**	**+0.9**
	baz=109							
I30M	**Mount Dempster**	**2.84**	**127**		**Pn**		**16 15 06.5**	**+1.2**
I30M				IAML			16 15 51.2	
	comp=E,124nm,0.5s							
I30M				IAML			16 15 53.4	
	comp=N,178nm,0.5s							
I30M	**Mount Dempster**	**2.84**	**127**	P	**Pn**		**16 15 06.5**	**+1.2**
	baz=312,SNR=257							
I30M				Sb	**Sg**		**16 15 48.8**	**-2.3**
	baz=312							
I30M	**Mount Dempster**	**2.84**	**127**	Pn	**Pn**		**16 15 05.6**	**+0.2**
I30M				Sn	**Sn**		**16 15 39.8**	**+0.2**
I30M				Sg	**Sb**		**16 15 48.3**	**+2.8**
J25K	**Salcha River,**	**2.85**	**213**		**Pn**		**16 15 05.8**	**+0.4**
J25K				IAML			16 15 55.5	
	comp=N,122nm,0.7s							
J25K				IAML			16 15 56.8	
	comp=E,135nm,0.6s							
J25K	**Salcha River,**	**2.85**	**213**	P	**Pn**		**16 15 05.8**	**+0.4**
	baz=29							
J25K				Sb	**Sb**		**16 15 47.4**	**+1.7**
	baz=29							
D25K	**Kavik River**	**2.88**	**325**		**Pn**		**16 15 06.2**	**+0.4**
D25K	**Kavik River**	**2.88**	**325**	P	**Pn**		**16 15 06.6**	**+0.8**
	baz=142							
G31M	**Satah River**	**2.94**	**89**		**Pn**		**16 15 07.4**	**+0.7**
G31M				IAML			16 15 59.6	
	comp=E,192nm,0.6s							
G31M				IAML			16 16 01.1	
	comp=N,156nm,1.3s							
G31M	**Satah River**	**2.94**	**89**	P	**Pn**		**16 15 07.3**	**+0.7**
	baz=276,SNR=71							
G31M				Sb	**Sb**		**16 15 50.5**	**+2.2**
	baz=276							
G31M	**Satah River**	**2.94**	**89**	Pn	**Pn**		**16 15 07.3**	**+0.7**
G31M				Sn	**Sn**		**16 15 41.7**	**-0.2**
G31M				Sg	**Sb**		**16 15 50.5**	**+2.2**
J29N	**Klondike Camp**	**2.97**	**149**		**Pn**		**16 15 07.8**	**+0.7**
J29N	**Klondike Camp**	**2.97**	**149**	IAML			16 16 07.3	
	comp=N,423nm,0.6s							
J29N				IAML			16 16 09.4	
	comp=E,595nm,0.6s							
J29N	**Klondike Camp**	**2.97**	**149**	P	**Pn**		**16 15 08.9**	**+1.8**
	baz=332							
J29N				S	**Sn**		**16 15 44.9**	**+2.2**
	baz=332							
POKR	**Poker Plat Res**	**3.01**	**233**		**Pn**		**16 15 07.5**	**0.0**
POKR				IAML			16 16 00.7	
	comp=E,113nm,0.7s							
POKR				IAML			16 16 01.6	
	comp=N,124nm,0.8s							
POKR	**Poker Plat Res**	**3.01**	**233**	P	**Pn**		**16 15 07.6**	**0.0**
	baz=47							
POKR				Sb	**Sb**		**16 15 52.6**	**+2.4**
	baz=47							
K27K	**Chicken**	**3.02**	**183**	Pn	**Pn**		**16 15 08.9**	**+1.2**
K27K	**Chicken**	**3.02**	**183**	P	**Pn**		**16 15 08.6**	**+1.0**
	baz=1.6							
K27K				Sb	**Sb**		**16 15 53.5**	**+3.0**
	baz=1.6							
K27K	**Chicken**	**3.02**	**183**	Pn	**Pn**		**16 15 08.5**	**+0.8**
IL31		**3.10**	**225**		**Pn**		**16 15 08.7**	**0.0**
ILAR	**Eielson Array**	**3.10**	**225**		**Pn**		**16 15 08.7**	**-0.1**
C26K	**Camden Bay**	**3.13**	**340**		**Pn**		**16 15 09.7**	**+0.5**
DAWY	**Dawson**	**3.13**	**161**		**Pn**		**16 15 10.9**	**+1.6**
DAWY				IAML			16 16 04.7	
	comp=N,149nm,0.7s							
DAWY				IAML			16 16 05.2	
	comp=E,138nm,0.8s							
DAWY	**Dawson**	**3.13**	**161**	Pn	**Pn**		**16 15 09.9**	**+0.5**
DAWY	**Dawson**	**3.13**	**161**	P	**Pn**		**16 15 10.4**	**+1.1**
	baz=342,SNR=11							
DAWY				S	**Sn**		**16 15 48.5**	**+1.7**
	baz=342							
DAWY	**Dawson**	**3.13**	**161**	Pn	**Pn**		**16 15 09.9**	**+0.5**
DAWY				Sn	**Sn**		**16 15 48.3**	**+1.6**
F31M	**Tsiigehtchic**	**3.14**	**79**		**Pn**		**16 15 11.0**	**+1.6**
F31M				IAML			16 16 02.9	
	comp=E,100nm,0.8s							
F31M				IAML			16 16 06.7	
	comp=N,103nm,2.4s							
F31M	**Tsiigehtchic**	**3.14**	**79**	P	**Pn**		**16 15 10.1**	**+0.7**
	baz=266							
F31M				Sb	**Sg**		**16 15 58.1**	**-2.7**
	baz=266							
F31M	**Tsiigehtchic**	**3.14**	**79**	Pn	**Pn**		**16 15 10.3**	**+1.0**
F31M				Sn	**Sn**		**16 15 45.8**	**-1.0**
F31M				Sg	**Sb**		**16 15 57.4**	**+3.4**
E23K	**Chandalar**	**3.19**	**293**		**Pn**		**16 15 10.7**	**+0.6**
E23K	**Chandalar**	**3.19**	**293**	P	**Pn**		**16 15 10.3**	**+0.2**
	baz=106							
SCRK	**Sand Creek**	**3.20**	**198**		**Pn**		**16 15 11.7**	**+1.4**
SCRK				IAML			16 16 07.7	
	comp=N,97nm,0.7s							
SCRK				IAML			16 16 07.8	
	comp=E,120nm,1.1s							
SCRK	**Sand Creek**	**3.20**	**198**	P	**Pn**		**16 15 11.8**	**+1.5**
	baz=15,SNR=227							
SCRK				Sb	**Sb**		**16 15 58.9**	**+2.9**
	baz=15							
H31M	**Peel River**	**3.22**	**109**	Pn	**Pn**		**16 15 11.0**	**+0.5**
H31M	**Peel River**	**3.22**	**109**	IAML			16 16 06.7	
	comp=E,143nm,1.5s							
H31M				IAML			16 16 07.8	
	comp=N,116nm,0.7s							
H31M	**Peel River**	**3.22**	**109**	P	**Pn**		**16 15 11.6**	**+1.0**
	baz=296							
H31M	**Peel River**	**3.22**	**109**	Pn	**Pn**		**16 15 11.0**	**+0.5**
H31M				Sg	**Sb**		**16 15 59.3**	**+2.9**
G23K	**Bananza Creek**	**3.28**	**268**		**Pn**		**16 15 11.4**	**+0.1**
G23K	**Bananza Creek**	**3.28**	**268**	IAML			16 16 07.0	
	comp=N,142nm,0.7s							
G23K				IAML			16 16 09.1	
	comp=E,100nm,0.9s							
G23K	**Bananza Creek**	**3.28**	**268**	P	**Pn**		**16 15 11.4**	**+0.1**
	baz=81							
COLA	**College**	**3.30**	**232**		**Pn**		**16 15 11.8**	**+0.2**
COLA	**College**	**3.30**	**232**	P	**Pn**		**16 15 11.8**	**+0.2**
	baz=46							
COLD	**Coldfoot**	**3.31**	**277**		**Pn**		**16 15 12.1**	**+0.4**
COLD	**Coldfoot**	**3.31**	**277**	Pn	**Pn**		**16 15 13.2**	**+1.5**
COLD	**Coldfoot**	**3.31**	**277**	P	**Pn**		**16 15 11.6**	**0.0**
	baz=90							
COLD	**Coldfoot**	**3.31**	**277**	Pn	**Pn**		**16 15 13.2**	**+1.5**
COLD				Sn	**Sn**		**16 15 50.8**	**-0.1**
J30M	**Hart River**	**3.32**	**135**		**Pn**		**16 15 13.0**	**+1.0**
J30M	**Hart River**	**3.32**	**135**	IAML			16 16 15.7	
	comp=E,102nm,0.6s							
J30M	**Hart River**	**3.32**	**135**	P	**Pn**		**16 15 13.8**	**+1.8**
	baz=320							
J30M	**Hart River**	**3.32**	**135**	Pn	**Pn**		**16 15 13.3**	**+1.3**
J30M				Sn	**Sn**		**16 15 50.8**	**-0.7**
J30M				Sg	**Sg**		**16 16 03.9**	**-2.8**
MDM	**Murphy Dome**	**3.37**	**235**		**Pn**		**16 15 12.2**	**-0.3**
INK	**Inuvik**	**3.39**	**64**	Pn	**Pn**		**16 15 14.5**	**+1.7**
INK	**Inuvik**	**3.39**	**64**	Pn	**Pn**		**16 15 13.1**	**+0.4**
INK	**Inuvik**	**3.39**	**64**	P	**Pn**		**16 15 13.9**	**+1.1**
	baz=252,SNR=12							
INK				S	**Sn**		**16 15 54.6**	**+1.7**
	baz=252							
INK	**Inuvik**	**3.39**	**64**	Pn	**Pn**		**16 15 13.4**	**+0.7**
INK				Sn	**Sn**		**16 15 53.1**	**+0.1**
HDA	**Harding Lake**	**3.40**	**222**		**Pn**		**16 15 12.9**	**0.0**
HDA				IAML			16 16 15.7	
	comp=E,121nm,0.7s							
HDA	**Harding Lake**	**3.40**	**222**	P	**Pn**		**16 15 13.2**	**+0.3**
	baz=36							
HDA				Sb	**Sg**		**16 16 05.2**	**-3.7**
	baz=36							
HDA				Sb	**Sg**		**16 16 05.2**	**-3.7**
	baz=36							
D24K	**Happy Valley**	**3.40**	**312**	IAML			16 16 14.8	
	comp=E,94nm,0.6s							
D24K				IAML			16 16 25.9	
	comp=N,84nm,0.9s							
D24K	**Happy Valley**	**3.40**	**312**	P	**Pn**		**16 15 13.8**	**+0.9**
	baz=126							
CCB	**Clear Creek Bu**	**3.45**	**229**		**Pn**		**16 15 13.0**	**-0.7**
RIDG	**Independent Ri**	**3.55**	**203**		**Pn**	

L29M	**L29M** comp=N,71nm,0.8s	**4.22 157**	IAML		16 16 42.8	
L29M	**L29M** baz=340	**4.22 157**	P	**Pn**	**16 15 25.7 +1.4**	
L29M	**L29M**	**4.22 157**	Pn	**Pn**	**16 15 25.1 +0.8**	
MAYO	**Mayo, Yukon**	**4.23 142**	Sn	**Sn**	**16 16 13.5 -0.2**	
BWN	**Browne**	**4.30 232**		**Pn**	**16 15 24.1 -1.1**	
C23K	**Itkillik River**	**4.32 315**		**Pn**	**16 15 26.4 +0.9**	
C23K	**Itkillik River** comp=E,60nm,1.5s	**4.32 315**	IAML		16 16 42.0	
C23K	comp=N,56nm,0.8s		IAML		16 16 43.2	
C23K	**Itkillik River** baz=127	**4.32 315**	P	**Pn**	**16 15 27.1 +1.6**	
PAX	**Paxson**	**4.37 203**		**Pn**	**16 15 27.7 +1.4**	
PAX	**Paxson** baz=19	**4.37 203**	P	**Pn**	**16 15 27.9 +1.6**	
MCK	**McKinley** baz=39	**4.47 226**	P	**Pn**	**16 15 27.9 +0.3**	
I21K	**Tanana**	**4.56 251**		**Pn**	**16 15 29.2 +0.4**	
I21K	comp=N,46nm,1.0s		IAML		16 16 48.2	
I21K	comp=E,35nm,0.8s		IAML		16 16 53.4	
I21K	**Tanana** baz=61	**4.56 251**	P	**Pn**	**16 15 29.2 +0.4**	
F21K	**Alatna River** comp=E,46nm,0.7s	**4.58 278**	IAML		16 16 48.5	
F21K	comp=N,55nm,0.7s		IAML		16 16 50.4	
F21K	**Alatna River** baz=87	**4.58 278**	P	**Pn**	**16 15 30.5 +1.3**	
DHY	**Denali Highway**	**4.63 214**		**Pn**	**16 15 31.4 +1.5**	
DHY	comp=N,53nm,0.9s		IAML		16 16 54.7	
DHY	comp=E,39nm,1.3s		IAML		16 16 56.3	
DHY	**Denali Highway** baz=28	**4.63 214**	P	**Pn**	**16 15 31.3 +1.3**	
DHY	baz=28		S	**Sn**	**16 16 25.5 +1.8**	
BVCY	**Beaver Creek**	**4.65 175**		**Pn**	**16 15 31.2 +1.0**	
BVCY	**Beaver Creek** baz=355,SNR=18	**4.65 175**	P	**Pn**	**16 15 31.1 +1.0**	
BVCY	**Beaver Creek**	**4.65 175**	Pn	**Pn**	**16 15 31.7 +1.5**	
BVCY			Sn	**Sn**	**16 16 22.6 -1.4**	
H21K	**Melozitna Rive**	**4.66 258**		**Pn**	**16 15 31.4 +1.1**	
H21K	comp=N,38nm,1.0s		IAML		16 16 54.5	
H21K	comp=E,37nm,0.5s		IAML		16 16 55.0	
H21K	**Melozitna Rive** baz=68	**4.66 258**	P	**Pn**	**16 15 30.0 -0.2**	
M26K	**Nabesna, AK**	**4.68 187**		**Pn**	**16 15 32.3 +1.7**	
M26K	**Nabesna, AK** comp=E,44nm,0.7s	**4.68 187**	IAML		16 17 01.2	
M26K	**Nabesna, AK** baz=5.5	**4.68 187**	P	**Pn**	**16 15 32.5 +1.9**	
G21K	**Allakaket**	**4.68 269**	Pn	**Pn**	**16 15 30.9 +0.3**	
G21K	**Allakaket** baz=78	**4.68 269**	P	**Pn**	**16 15 30.4 -0.1**	
M27K	**Edge Creek, AK**	**4.69 181**		**Pn**	**16 15 31.8 +1.0**	
M27K	**Edge Creek, AK**	**4.69 181**	Pn	**Pn**	**16 15 32.0 +1.2**	
M27K	**Edge Creek, AK** baz=0.1	**4.69 181**	P	**Pn**	**16 15 32.2 +1.4**	
M27K	**Edge Creek, AK**	**4.69 181**	Pn	**Pn**	**16 15 32.0 +1.2**	
M27K			Sg	**Sg**	**16 16 45.9 -4.6**	
RND	**Reindeer**	**4.71 223**	Pn	**Pn**	**16 15 31.6 +0.6**	
M29M	**Somme Creek**	**4.81 161**		**Pn**	**16 15 34.1 +1.7**	
M29M	comp=E,42nm,0.7s		IAML		16 16 55.9	
M29M	comp=N,29nm,0.9s		IAML		16 17 00.6	
M29M	**Somme Creek** baz=344,SNR=56	**4.81 161**	P	**Pn**	**16 15 33.8 +1.4**	
M29M	**Somme Creek**	**4.81 161**	Pn	**Pn**	**16 15 33.7 +1.2**	
M29M			Sn	**Sn**	**16 16 27.2 -1.0**	
BPAW	**Bear Paw Mtn.**	**4.83 237**	Pn	**Pn**	**16 15 31.8 -0.7**	
BPAW	comp=N,27nm,0.8s		IAML		16 17 02.4	
BPAW	**Bear Paw Mtn.** baz=48	**4.83 237**	P	**Pn**	**16 15 31.9 -0.7**	
HARP	**HAARP**	**4.87 199**		**Pn**	**16 15 35.2 +2.0**	
HARP	**HAARP** baz=15	**4.87 199**	P	**Pn**	**16 15 34.9 +1.8**	
IMAR	**Indian Mountai**	**4.92 263**		**Pn**	**16 15 35.1 +1.4**	
M30M	**Minto, Yukon**	**4.95 152**		**Pn**	**16 15 35.1 +0.9**	
M30M	comp=N,31nm,1.1s		IAML		16 17 11.4	
M30M	comp=E,34nm,1.0s		IAML		16 17 13.2	
M30M	**Minto, Yukon**	**4.95 152**	Pn	**Pn**	**16 15 35.3 +1.1**	
M30M	**Minto, Yukon** baz=336	**4.95 152**	P	**Pn**	**16 15 35.1 +0.9**	
M30M	**Minto, Yukon**	**4.95 152**	Pn	**Pn**	**16 15 35.3 +1.1**	
M30M			Sn	**Sn**	**16 16 31.2 -0.1**	
TRF	**Thorofare Moun**	**5.08 229**		**Pn**	**16 15 36.3 +0.2**	
TRF	comp=E,33nm,2.1s		IAML		16 17 02.6	
TRF	comp=N,38nm,1.9s		IAML		16 17 11.3	
TRF	**Thorofare Moun** baz=41	**5.08 229**	P	**Pn**	**16 15 36.2 +0.1**	
WAT1	**Susitna Watana** baz=31	**5.11 218**	P	**Pn**	**16 15 37.0 +0.5**	
WAT6	**Susitna Watana** baz=27	**5.14 213**	P	**Pn**	**16 15 38.4 +1.3**	
WAT7	**Susitna Watana**	**5.18 219**		**Pn**	**16 15 38.0 +0.5**	
KTH	**Kantishna Hill**	**5.19 232**		**Pn**	**16 15 37.2 -0.4**	
KTH	comp=N,29nm,1.2s		IAML		16 17 15.9	
KTH	comp=E,26nm,1.7s		IAML		16 17 17.3	
YUK2	**White River**	**5.28 175**		**Pn**	**16 15 40.1 +1.3**	
YUK2	**White River**	**5.28 175**	Pn	**Pn**	**16 15 40.4 +1.6**	
M24K	**Tolsona, Glenn**	**5.30 203**		**Pn**	**16 15 41.4 +2.4**	
M24K	**Tolsona, Glenn** baz=19	**5.30 203**	P	**Pn**	**16 15 39.8 +0.8**	
YUK3	**Moose Creek**	**5.30 173**		**Pn**	**16 15 40.6 +1.3**	
YUK3	**Moose Creek** baz=354,SNR=58	**5.30 173**	P	**Pn**	**16 15 40.5 +1.3**	
YUK3	**Moose Creek**	**5.30 173**	Pn	**Pn**	**16 15 40.6 +1.3**	
C21K	**Knifeblade Rid** baz=108	**5.33 300**	P	**Pn**	**16 15 39.4 +0.1**	
B22K	**Teshekpuk Lake**	**5.40 313**		**Pn**	**16 15 40.9 +0.6**	
B22K	**Teshekpuk Lake** baz=123	**5.40 313**	P	**Pn**	**16 15 40.9 +0.6**	
CHUM	**Lake Minchumin** baz=49	**5.42 239**	P	**Pn**	**16 15 40.5 -0.1**	
B21K	**Ikpikpuk River**	**5.43 304**		**Pn**	**16 15 41.4 +0.7**	
B21K	**Ikpikpuk River** baz=113	**5.43 304**	P	**Pn**	**16 15 41.3 +0.6**	
F20K	**Avaraart Lake** baz=84	**5.47 277**	P	**Pn**	**16 15 42.3 +1.0**	
H20K	**Anotleneega Mo**	**5.52 260**		**Pn**	**16 15 42.2 +0.2**	
H20K	**Anotleneega Mo** baz=68	**5.52 260**	P	**Pn**	**16 15 42.3 +0.2**	
N25K	**Chitina, Valde**	**5.58 194**		**Pn**	**16 15 42.5 -0.5**	
N25K	**Chitina, Valde** baz=11	**5.58 194**	P	**Pn**	**16 15 42.8 -0.1**	
E20K	**Nigu River** baz=96	**5.65 289**	P	**Pn**	**16 15 45.6 +1.8**	
CAST	**Castle Rocks**	**5.65 235**		**Pn**	**16 15 43.4 -0.5**	
CAST	**Castle Rocks** baz=45	**5.65 235**	P	**Pn**	**16 15 43.8 -0.1**	
GLB	**Gilahina Butte**	**5.68 190**	Pn	**Pn**	**16 15 46.2 +1.9**	
SCM	**Sheep Creek Mo**	**5.75 207**	Pn	**Pn**	**16 15 47.6 +2.4**	
SCM	**Sheep Creek Mo** baz=22	**5.75 207**	P	**Pn**	**16 15 47.1 +1.9**	
M31M	**Drury Creek, Y**	**5.78 143**	Pn	**Pn**	**16 15 46.7 +1.1**	
M31M	**Drury Creek, Y** baz=330	**5.78 143**	P	**Pn**	**16 15 48.1 +2.4**	
M31M	**Drury Creek, Y**	**5.78 143**	Pn	**Pn**	**16 15 46.8 +1.1**	
M31M			Sn	**Sn**	**16 16 50.1 -1.8**	
YUK8	**Steele Glacier** baz=352,SNR=13	**5.83 171**	P	**Pn**	**16 15 47.8 +1.2**	
YUK8	**Steele Glacier**	**5.83 171**	Pn	**Pn**	**16 15 48.1 +1.5**	
KLU	**Klutina**	**5.85 200**		**Pn**	**16 15 48.8 +2.2**	
KLU	**Klutina** baz=16	**5.85 200**	P	**Pn**	**16 15 48.2 +1.6**	
M23K	**Glacier View** baz=23	**5.86 209**	P	**Pn**	**16 15 49.1 +2.4**	
YUK4	**Talbot Arm** baz=347,SNR=42	**5.87 165**	P	**Pn**	**16 15 47.4 +0.4**	
YUK4	**Talbot Arm**	**5.87 165**	Pn	**Pn**	**16 15 47.4 +0.4**	
VRDI	**Verde Repeater**	**5.87 188**	Pn	**Pn**	**16 15 49.1 +2.0**	
PTPK	**Patty Peak**	**5.87 183**	Pn	**Pn**	**16 15 49.2 +2.1**	
J20K	**Nowinta River**	**5.88 247**		**Pn**	**16 15 46.4 -0.6**	
J20K	**Nowinta River** baz=55	**5.88 247**	P	**Pn**	**16 15 46.8 -0.2**	
CUT	**Chulitna**	**5.90 222**	Pn	**Pn**	**16 15 47.7 +0.4**	
CUT	**Chulitna** baz=34	**5.90 222**	P	**Pn**	**16 15 48.1 +0.9**	
N30M	**Aishikik Lake**	**5.95 158**		**Pn**	**16 15 49.5 +1.5**	
N30M	**Aishikik Lake** baz=342	**5.95 158**	P	**Pn**	**16 15 49.5 +1.5**	
N30M	**Aishikik Lake**	**5.95 158**	Pn	**Pn**	**16 15 49.4 +1.5**	
N30M			Sn	**Sn**	**16 16 53.6 -2.4**	
SML	**Sawmill**	**5.96 212**		**Pn**	**16 15 50.5 +2.4**	
SML	**Sawmill** baz=25	**5.96 212**	P	**Pn**	**16 15 49.6 +1.4**	
FARO	**Faro, Yukon**	**6.02 139**	Pn	**Pn**	**16 15 50.4 +1.5**	
FARO	**Faro, Yukon** baz=327	**6.02 139**	P	**Pn**	**16 15 51.6 +2.7**	
FARO	**Faro, Yukon**	**6.02 139**	Pn	**Pn**	**16 15 50.1 +1.2**	
FARO			Sn	**Sn**	**16 16 55.2 -2.5**	
E19K	**Redstone River** baz=87	**6.02 281**	P	**Pn**	**16 15 48.8 -0.1**	
PPLA	**Purkeypile**	**6.07 232**		**Pn**	**16 15 49.0 -0.6**	
PPLA	**Purkeypile** baz=42	**6.07 232**	P	**Pn**	**16 15 49.8 +0.2**	
CTG	**Chitna Glacier** baz=358	**6.09 178**	P	**Pn**	**16 15 51.8 +1.8**	
CTGM	**Chitina Glacie**	**6.09 178**		**Pn**	**16 15 52.0 +1.9**	
CTGM	**Chitina Glacie**	**6.09 178**	Pn	**Pn**	**16 15 51.4 +1.4**	
CTGM			Sg	**Sg**	**16 17 30.6 -4.8**	
H19K	**Roundabout Mou**	**6.12 263**		**Pn**	**16 15 50.2 0.0**	
H19K	**Roundabout Mou** baz=69	**6.12 263**	P	**Pn**	**16 15 49.5 -0.7**	
GHO	**Glory Hole Cre**	**6.12 214**	Pn	**Pn**	**16 15 50.0 -0.4**	
KIAG	**Kiagna River**	**6.14 183**	Pn	**Pn**	**16 15 52.0 +1.4**	
N31M	**Braeburn, Yuko** baz=337	**6.14 152**	P	**Pn**	**16 15 52.3 +1.7**	
N31M	**Braeburn, Yuko**	**6.14 152**	Pn	**Pn**	**16 15 52.0 +1.4**	
YUK5	**Granite Creek**	**6.16 162**		**Pn**	**16 15 52.8 +1.8**	
YUK5	**Granite Creek**	**6.16 162**	Pn	**Pn**	**16 15 52.8 +1.8**	
YUK5			Sg	**Sg**	**16 17 32.4 -5.2**	
G19K	**Purcell Mounta**	**6.18 269**	Pn	**Pn**	**16 15 50.6 -0.5**	
G19K	**Purcell Mounta** baz=75	**6.18 269**	P	**Pn**	**16 15 51.8 +0.8**	
A22K	**Sinclair Lake** baz=124	**6.19 316**	P	**Pn**	**16 15 50.5 -0.7**	
BMRM	**Bremner River** baz=10.0	**6.21 193**	P	**Pn**	**16 15 53.7 +2.1**	
LOGN	**Logan Glacier**	**6.24 177**	Pn	**Pn**	**16 15 53.8 +1.8**	
LOGN			Sg	**Sg**	**16 17 35.0 -5.0**	
YUK6	**Outpost Mounta** baz=347,SNR=40	**6.29 165**	P	**Pn**	**16 15 54.3 +1.5**	
YUK6	**Outpost Mounta**	**6.29 165**	Pn	**Pn**	**16 15 54.4 +1.6**	
YUK6			Sn	**Sn**	**16 17 04.2 -0.4**	
YUK6			Sg	**Sg**	**16 17 34.8 -6.9**	
KNK	**Knik Glacier**	**6.35 211**		**Pn**	**16 15 54.7 +1.2**	
KNK	**Knik Glacier** baz=24	**6.35 211**	P	**Pn**	**16 15 54.5 +1.0**	
K20K	**Telida** baz=49	**6.36 240**	P	**Pn**	**16 15 54.3 +0.8**	
D19K	**Kuna River**	**6.38 291**	Pn	**Pn**	**16 15 55.4 +1.5**	
D19K	**Kuna River** baz=96	**6.38 291**	P	**Pn**	**16 15 55.0 +1.2**	
B20K	**Meade River**	**6.39 305**		**Pn**	**16 15 54.6 +0.6**	
B20K	**Meade River** baz=111	**6.39 305**	P	**Pn**	**16 15 54.2 +0.2**	
HYT	**Haines Junctio**	**6.50 161**		**Pn**	**16 15 57.3 +1.7**	
HYT	**Haines Junctio** baz=345,SNR=11	**6.50 161**	P	**Pn**	**16 15 57.3 +1.7**	
HYT	**Haines Junctio**	**6.50 161**	Pn	**Pn**	**16 15 57.4 +1.7**	
HYT			Sn	**Sn**	**16 17 08.3 -1.4**	
HYT			Sg	**Sg**	**16 17 42.2 -6.3**	
J19K	**Poorman**	**6.52 249**	Pn	**Pn**	**16 15 55.2 -0.5**	
J19K	**Poorman** baz=56	**6.52 249**	P	**Pn**	**16 15 55.8 +0.1**	
SKT	**Skwentna**	**6.59 224**	Pn	**Pn**	**16 15 57.5 +0.8**	
SKT	**Skwentna** baz=35	**6.59 224**	P	**Pn**	**16 15 57.5 +0.8**	
BARK	**Barkley Ridge**	**6.66 183**		**Pn**	**16 15 59.8 +2.0**	
YUK7	**Dusty Glacier**	**6.72 165**		**Pn**	**16 15 59.3 +0.6**	
YUK7	**Dusty Glacier**	**6.72 165**	Pn	**Pn**	**16 16 00.2 +1.6**	
O30N	**Mendenhall**	**6.76 156**		**Pn**	**16 16 00.1 +1.1**	
O30N	**Mendenhall** baz=340	**6.76 156**	P	**Pn**	**16 16 00.3 +1.2**	
SUA	**Susitna One**	**6.82 219**		**Pn**	**16 16 01.7 +1.8**	
SUA	**Susitna One** baz=31	**6.82 219**	P	**Pn**	**16 16 00.9 +0.9**	
O29M	**Mount Kennedy**	**6.90 167**	Pn	**Pn**	**16 16 03.0 +2.0**	
O29M	**Mount Kennedy** baz=349,SNR=8.1	**6.90 167**	P	**Pn**	**16 16 03.1 +2.0**	
O29M	**Mount Kennedy**	**6.90 167**	Pn	**Pn**	**16 16 02.4 +1.3**	
L20K	**Farewell, AK** baz=27	**6.90 234**	P	**Pn**	**16 16 01.1 0.0**	
RC01	**Rabbit Creek A** baz=27	**6.91 214**	P	**Pn**	**16 16 03.1 +2.0**	
C36M	**Paulatuk**	**6.98 63**		**Pn**	**16 15 59.1 -2.8**	
C36M	**Paulatuk** baz=259,SNR=15	**6.98 63**	P	**Pn**	**16 16 01.9 0.0**	
C36M	**Paulatuk**	**6.98 63**	Pn	**Pn**	**16 16 02.0 +0.1**	
C36M			Sn	**Sn**	**16 17 17.3 -3.8**	
C19K	**Lookout Ridge** baz=99	**6.99 295**	P	**Pn**	**16 16 03.2 +1.0**	
N32M	**Quiet Lake** baz=331	**7.01 143**	P	**Pn**	**16 16 04.0 +1.5**	
N32M	**Quiet Lake**	**7.01 143**	Pn	**Pn**	**16 16 04.3 +1.7**	
WHY	**Whitehorse** baz=337	**7.07 151**	P	**Pn**	**16 16 04.8 +1.4**	
WHY	**Whitehorse**	**7.07 151**	Pn	**Pn**	**16 16 04.0 +0.6**	
J18K	**Innoko River**	**7.22 247**	Pn	**Pn**	**16 16 05.0 -0.3**	
P30M	**Million Dollar**	**7.25 161**	Pn	**Pn**	**16 16 06.7 +0.8**	
TTA	**Tatalina**	**7.30 242**	Pn	**Pn**	**16 16 04.0 -2.6**	
C18K	**Utukok River**	**7.52 291**		**Pn**	**16 16 10.7 +1.2**	
C18K	**Utukok River** baz=93	**7.52 291**	P	**Pn**	**16 16 10.8 +1.3**	
A36M	**Sachs Harbour**	**7.61 42**	Pn	**Pn**	**16 16 10.4 -0.2**	
A36M	**Sachs Harbour** baz=238	**7.61 42**	P	**Pn**	**16 16 10.4 -0.2**	
A36M	**Sachs Harbour**	**7.61 42**	Pn	**Pn**	**16 16 10.5 -0.2**	
A36M			Sn	**Sn**	**16 17 31.8 -4.9**	
A19K	**Wainwright** baz=105	**7.73 303**	P	**Pn**	**16 16 13.4 +1.2**	
G17K	**Kiwalik Mounta** baz=70	**7.77 267**	P	**Pn**	**16 16 14.8 +1.9**	
P33M	**Teslin, Yukon**	**7.91 146**	Pn	**Pn**	**16 16 16.0 +1.2**	
C17K	**DeLong Mountai** baz=90	**8.24 290**	P	**Pn**	**16 16 19.2 -0.2**	
P32M	**Atlin**	**8.29 150**	Pn	**Pn**	**16 16 22.0 +1.9**	
WRGLY	**Wrigley**	**8.58 108**	Pn	**Pn**	**16 16 26.2 +2.2**	
WRGLY	**Wrigley** baz=304	**8.58 108**	P	**Pn**	**16 16 24.8 +0.8**	
J16K	**Anvik River**	**8.76 253**	Pn	**Pn**	**16 16 26.4 -0.1**	
C16K	**Lisburne Hills**	**9.05 289**		**Pn**	**16 16 29.6 -0.7**	
C16K	**Lisburne Hills** baz=87	**9.05 289**	P	**Pn**	**16 16 31.1 +0.7**	
S34M	**Telegraph Cree**	**10.36 147**	Pn	**Pn**	**16 16 50.3 +1.9**	

*BGR **19** 16:17:35.7,24˚.22N×113˚.33W,h10km,mb5.1,Ms6.6*

*NEIC **19** 16:17:42.6,26˚.58N×111˚.11W,h14km,Moment Tensor Solution. Duration: 7s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.25; $M_{\theta\theta}$-3.07; $M_{\phi\phi}$3.32; $M_{r\theta}$0.48; $M_{\theta\phi}$-0.70; $M_{\phi r}$0.68; Fault plane solution: $M_0$3.38000×10^{18} NP1: ϕ_s218.61000°,δ89.30000°,λ-14.27000°. NP2: ϕ_s308.79000°,δ75.74000°,λ-179.28000°. Principal axes: T 3.5020, Plg10.0000°, Azm265.0000°; N -0.2505, Plg76.0000°, Azm36.0000°; P -3.2515, Plg11.0000°, Azm173.0000°;*

*NEIC **19** 16:17:42.6,26˚.68N×111˚.11W,h14km*

*BJI **19** 16:17:43.0-0.0,26˚.73N×111˚.03W,h5km,mb5.3/18, mB6.2/42,Ms6.5/51,Ms7 6.3/50*

*IDC **19** 16:17:43.8±0.5,26˚.69N×110˚.90W,h0km,mb5.1/32, mbtmp5.1/39,ML4.3/8,MS6.2/77,Error ellipse: s-maj=14.2km s-min=9.5km az=52.0*

*NEIC **19** 16:17:44.7±3.0,26˚.69N±0˚.06×111˚.08W±0˚.06,h10km±1km, mb5.7/546,Ms_20 6.2/457,Mww6.3/79,Md6.3/116(MEX), Error ellipse: s-maj=11.0km s-min=6.9km az=220.0*

*IPGP **19** 16:17:44.0,26˚.63N×110˚.98W,h6km,Mw6.3,Fault plane solution: NP1:ϕ_s133.00000°,δ81.00000°,λ-170.00000°. NP2:ϕ_s41.00000°,δ80.00000°,λ-9.00000°.*

*MOS **19** 16:17:44.2±1.2,26˚.80N×110˚.82W,h9km,mb5.8/68, MS6.2/31,Error ellipse: s-maj=6.2km s-min=4.0km az=95.2*

*MEX **19** 16:17:45.2±1.2,26˚.67N×111˚.08W,h16km±13km,MD6.3, Mw6.3*

*GCMT **19** 16:17:47.7±0.1,26˚.78N×111˚.06W,h17km,MW6.3/164, Moment Tensor Solution. s160,c363; s164,c624; Duration: 3s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.20±.01; $M_{\theta\theta}$-3.04±.01; $M_{\phi\phi}$3.24±.02; $M_{r\theta}$-0.10±.04; $M_{\theta\phi}$-0.61±.01; $M_{\phi r}$-0.46±.04; Best double couple: $M_0$3.23100×10^{18} NP1:ϕ_s220.00000°,δ87.00000°, λ7.00000°. NP2:ϕ_s129.00000°,δ83.00000°,λ177.00000°. Principal axes: T 3.3560, Plg7.0000°, Azm85.0000°; N -0.2510, Plg82.0000°, Azm243.0000°; P -3.1060, Plg3.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 19 16:17:44.8±0.2,26˚.62N±0˚.02×110˚.95W±0˚.02,h10km, n2064,σ2s25/2257,mb5.7/366,MS6.2/354,56C-56D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**1.28**	**3**	*eP*	**Pb**	**16 18 04.2**		**-4.7**
GUYB				*eS*	**Sb**	**16 18 18.4**		**-6.9**
SRIG	**Santa Rosalia**	**1.35**	**301**	Pn	Pn	16 18 03.5		-6.2
SRIG					**Sb**	**16 18 21.6**		**-5.9**
SRIG	**Santa Rosalia**	**1.35**	**301**	*eP*	Pn	16 18 04.0		-5.7
SRIG				*eS*	Sb	16 18 17.8		-10
TSIG	**Topolobambo**	**1.99**	**120**		**Pn**	**16 18 15.8**		**-2.7**
TSIG					**Sn**	**16 18 40.5**		**-3.0**
TSIG	**Topolobambo**	**1.99**	**120**	*eP*	**Pn**	**16 18 15.8**		**-2.7**
TSIG				*i* S	**Sn**	**16 18 40.5**		**-3.0**
CSIG	**Choix**	**2.31**	**84**		**Pn**	**16 18 20.3**		**-2.7**
CSIG					**Sn**	**16 18 49.4**		**-2.1**
CSIG	**Choix**	**2.31**	**84**	*eP*	**Pn**	**16 18 20.3**		**-2.7**
CSIG				*i* S	**Sn**	**16 18 49.4**		**-2.1**
HSIG		**2.39**	**360**	Pn	**Pn**	**16 18 19.8**		**-4.2**
HSIG		**2.39**	**360**	⇓P	**Pn**	**16 18 20.0**		**-4.1**
HSIG		**2.39**	**360**	*eP*	**Pn**	**16 18 20.5**		**-3.6**
LPIG	**La Paz**	**2.57**	**167**		**Pn**	**16 18 24.4**		**-2.1**
LPIG	**La Paz** 139nm,0.3s,baz=336,slow=4.1,SNR=159	**2.57**	**167**	Pn	**Pn**	**16 18 24.6**		**-1.9**
LPIG	869nm,0.3s,baz=160,slow=21,SNR=6.6			Lg	Lg	16 19 06.0		
LPIG	comp=Z,537µm,19.3s,baz=336,slow=44			LR	LR	16 19 39.5		
LPIG	**La Paz**	**2.57**	**167**	*eP*	**Pn**	**16 18 24.4**		**-2.1**
SLBS	**Sierra La Lagu**	**3.06**	**163**	Pn	**Pn**	**16 18 31.3**		**-2.0**
SLBS	**Sierra La Lagu**	**3.06**	**163**	⇓P	**Pn**	**16 18 31.6**		**-1.7**
SLBS	**Sierra La Lagu**	**3.06**	**163**	*eP*	**Pn**	**16 18 32.2**		**-1.1**
SLBS				*eS*	**Sb**	**16 19 19.5**		**+2.7**
BAHB	**Baha de los**	**3.28**	**316**	*eP*	Pn	16 18 31.1		-5.1
BAHB				*eS*	**Sn**	**16 19 11.6**		**-3.6**
SSIG	**Sanalona**	**3.87**	**117**		**Pn**	**16 18 42.0**		**-2.4**
SSIG	**Sanalona**	**3.87**	**117**	*eP*	**Pn**	**16 18 42.0**		**-2.4**
LAPR	**La Primavera**	**4.05**	**343**	*eP*	**Pn**	**16 18 44.2**		**-2.6**
LAPR				*i* S	**Sg**	**16 19 51.6**		**-3.3**
CGIG		**4.55**	**34**		**Pn**	**16 18 54.0**		**0.0**
CGIG		**4.55**	**34**	*eP*	**Pn**	**16 18 54.0**		**0.0**
HPIG		**4.73**	**85**	Pn	**Pn**	**16 18 54.8**		**-1.5**
HPIG		**4.73**	**85**	⇑P	**Pn**	**16 18 54.9**		**-1.5**
HPIG		**4.73**	**85**	*eP*	**Pn**	**16 18 54.9**		**-1.5**
HPIG				*eP*	Pb	16 18 55.0		-13
319A	**Douglas**	**4.96**	**17**		**Pn**	**16 18 57.4**		**-2.1**
BCIG	**La Boquilla**	**5.02**	**78**		**Pn**	**16 18 59.3**		**-0.9**
BCIG	**La Boquilla**	**5.02**	**78**	*eP*	**Pn**	**16 18 59.3**		**-0.9**
BCIG				*eS*	**Sg**	**16 20 20.9**		**-5.0**
PDIG	**Papasquiaro**	**5.24**	**106**		**Pn**	**16 19 04.2**		**+0.8**
PDIG	**Papasquiaro**	**5.24**	**106**	*eP*	**Pn**	**16 19 04.2**		**+0.8**
MAIG	**Mazatlaan**	**5.34**	**129**		**Pn**	**16 19 07.4**		**+2.8**
MAIG	**Mazatlaan**	**5.34**	**129**	*eP*	**Pn**	**16 19 07.4**		**+2.8**
PIX	**Pinacate**	**5.39**	**337**		**Pn**	**16 19 01.5**		**-3.8**
214A	**Organ Pipe Nat**	**5.56**	**343**	Pn	**Pn**	**16 19 03.9**		**-3.8**
214A	**Organ Pipe Nat** baz=164,SNR=205	**5.56**	**343**	P	**Pn**	**16 19 05.0**		**-2.7**
214A	baz=164			S	Sb	16 20 18.0		-11
SFX	**San Felipe**	**5.58**	**323**	Pn	**Pn**	**16 19 03.9**		**-3.9**
SFX	**San Felipe**	**5.58**	**323**	*eP*	**Pn**	**16 19 05.2**		**-2.6**
TUC	**Tucson**	**5.67**	**1**	Pn	**Pn**	**16 19 06.3**		**-2.9**
TUC	**Tucson**	**5.67**	**1**	P	**Pn**	**16 19 06.3**		**-2.9**
TUC	**Tucson** baz=183	**5.67**	**1**	P	**Pn**	**16 19 07.5**		**-1.8**
TUC	baz=183			S	**Sn**	**16 20 16.6**		**+2.1**
TUC	**Tucson**	**5.67**	**1**	⇓P	**Pn**	**16 19 06.9**		**-2.3**
TUC	**Tucson**	**5.67**	**1**	*i* P	**Pn**	**16 19 07.2**		**-2.0**
TUC				*eS*	**Sg**	**16 20 47.4**		**+0.5**
SPIG	**San Pedro Mart**	**5.93**	**319**	*i* P	**Pn**	**16 19 09.2**		**-3.8**
DUN6	**Lazy B Ranch**	**6.13**	**15**		**Pn**	**16 19 13.4**		**-2.1**
VTX	**Valle De La Tr**	**6.37**	**319**		**Pn**	**16 19 19.8**		**+1.0**
KIDD	**KIDD Seismic O** baz=219	**6.43**	**36**	S	**Sn**	**16 20 39.9**		**+6.6**
121A	**Cookes Peak, D**	**6.50**	**24**	Pn	**Pn**	**16 19 19.4**		**-1.4**
121A	**Cookes Peak, D** baz=207,SNR=182	**6.50**	**24**	P	**Pn**	**16 19 19.0**		**-1.7**
121A	**Cookes Peak, D** baz=207,SNR=182	**6.50**	**24**	P	**Pn**	**16 19 19.6**		**-1.2**
121A	baz=207			S	**Sn**	**16 20 40.1**		**+5.0**
113A	**Mohawk Valley,**	**6.60**	**339**		**Pn**	**16 19 19.6**		**-2.2**
VHRN	**Van Horn**	**6.68**	**50**	Pn	**Pn**	**16 19 23.1**		**0.0**
GUVIX	**Guadalupe Vict**	**6.71**	**329**	Pn	**Pn**	**16 19 19.1**		**-4.3**
MBIG	**Mexicali**	**6.85**	**328**	*eP*	**Pn**	**16 19 24.8**		**-0.6**
ESJX	**Sierra Juarez**	**6.92**	**322**		**Pn**	**16 19 24.8**		**-1.7**
TX31	**Lajitas Ar. Si**	**6.98**	**66**	Pn	**Pn**	**16 19 25.8**		**-1.4**
TX31	**Lajitas Ar. Si** baz=250,SNR=187	**6.98**	**66**	P	**Pn**	**16 19 26.0**		**-1.3**
TXAR	**Lajitas Array**	**6.98**	**66**		**Pn**	**16 19 25.3**		**-1.9**
TXAR	**Lajitas Array** 7.0nm,0.3s,baz=243,slow=12,SNR=318	**6.98**	**66**	Pn	**Pn**	**16 19 26.0**		**-1.2**
T

PDMCI baz=160,SNR=97 S Sn 16 21 11.9 -3.1
CRNM Carthage 8.16 25 Pn Pn 16 19 42.8 -0.8
Y22D IRIS PASSCAL I 8.20 24 Pn Pn 16 19 43.8 -0.2
Y22D IRIS PASSCAL I 8.20 24 P Pn 16 19 44.0 0.0
baz=207
Y22F Passcal Instru 8.20 24 P Pn 16 19 44.2 +0.2
baz=207
Y22F S Sn 16 21 13.5 -3.4
baz=207
109C Camp Elliot, M 8.23 321 Pn Pn 16 19 43.2 -1.0
109C Camp Elliot, M 8.23 321 P Pn 16 19 42.5 -1.7
baz=138,SNR=12
109C S Sn 16 21 20.0 +2.7
baz=138
LENM Lemitar 8.27 24 Pn Pn 16 19 41.0 -3.9
BMNM Bear Mountains 8.27 22 Pn Pn 16 19 43.1 -1.9
IRM Iron Mountain 8.34 335 P Pn 16 19 44.8 -1.0
baz=154,SNR=118
IRM S Sn 16 21 15.0 -5.1
baz=154
BNM Barren Site 8.38 25 Pn Pn 16 19 45.5 -1.1
TPFO Pinon Flats 8.44 327 P Pn 16 19 46.1 -1.2
baz=145,SNR=44
TPFO S Sn 16 21 20.3 -2.4
baz=145
PFO Pinyon Flats O 8.45 327 Pn Pn 16 19 45.8 -1.5
PFO Pinyon Flats O 8.45 327 *d iP* **Pn 16 19 47.6 +0.3**
PFO pmax pmax
comp=Z,765nm,1.5s
PFO Pinyon Flats O 8.45 327 P Pn 16 19 45.8 -1.5
baz=145,SNR=42
PFO S Sn 16 21 28.3 +5.5
baz=145
PFO Pinyon Flats O 8.45 327 Pn Pn 16 19 48.1 +0.7
comp=Z,0.9nm,0.3s,baz=147,slow=11,SNR=39
PFO Lg Lg 16 22 09.0
comp=Z,2.2nm,0.3s,baz=227,slow=21,SNR=1.8
PFO LR LR 16 22 42.5
comp=Z,152µm,19.5s,baz=147,slow=36
comp=Z,62nm,1.0s
SAND Sanderson 8.46 65 Pn 16 19 46.8 -0.7
CLN7 Carlsbad 7 8.48 45 Pn Pn 16 19 47.0 -0.8
MCIG Muzquiz 8.51 79 Pn 16 19 47.7 -0.5
MCIG Muzquiz 8.51 79 *eP* **Pn 16 19 47.7 -0.5**
ZAIG Zacatecas 8.53 115 Pn 16 19 49.3 +0.7
ZAIG Zacatecas 8.53 115 ⇑P Pn 16 19 50.9 +2.2
ZAIG Zacatecas 8.53 115 *eP* **Pn 16 19 50.1 +1.4**
W18A Petrified Fore 8.54 7 Pn Pn 16 19 47.8 -0.8
W18A Petrified Fore 8.54 7 P Pn 16 19 48.4 -0.3
baz=188,SNR=99
W18A S Sn 16 21 25.5 +0.4
baz=188
BELC Belle Mtn. Jos 8.55 331 P Pn 16 19 47.9 -1.0
baz=149,SNR=82
BELC S 16 21 38.8
baz=149
MNHN Monahans 8.57 55 Pn 16 19 48.1 -1.0
NEE2 Needles Airpor 8.71 340 P Pn 16 19 49.8 -1.1
baz=159,SNR=41
NEE2 S Sn 16 21 31.0 +1.7
baz=159
MURC Murrieta 8.81 324 P Pn 16 19 52.8 +0.5
baz=141,SNR=23
MURC S Sn 16 21 35.6 +3.9
baz=141
W13A Hualapai Mount 8.82 344 Pn Pn 16 19 51.8 -0.8
CPRX Cap Rock 8.86 42 Pn Pn 16 19 53.0 -0.1
WUAZ Wupatki 8.88 358 Pn Pn 16 19 52.8 -0.5
WUAZ Wupatki 8.88 358 P Pn 16 19 53.2 -0.1
baz=178,SNR=209
WUAZ S Sn 16 21 37.8 +4.4
baz=178
WUAZ Wupatki 8.88 358 ⇓P Pn 16 19 53.0 -0.3
CJM Chamela 8.93 141 *eP* **Pn 16 19 56.9 +3.0**
AAIG Aguscalientes 9.08 119 Pn 16 19 56.9 +0.7
AAIG Aguscalientes 9.08 119 *eP* **Pn 16 19 56.9 +0.7**
GMRC Granite Mounta 9.09 335 P Pn 16 19 55.3 -0.9
baz=153,SNR=91
GMRC S Sn 16 21 42.6 +3.9
baz=153
ODSA Odessa 9.15 51 Pn Pn 16 19 56.0 -1.0
ANMO Albuquerque 9.15 24 Pn Pn 16 19 56.5 -0.6
ANMO Albuquerque 9.15 24 *d iP* **Pn 16 19 58.0 +0.9**
ANMO pmax pmax
comp=Z,195nm,1.4s
ANMO Albuquerque 9.15 24 P Pn 16 19 57.8 +0.7
baz=207
ANMO S Sn 16 21 42.7 +2.4
baz=207
ANMO Albuquerque 9.15 24 P Pn 16 19 57.5 +0.5
baz=207
ANMO S Sn 16 21 38.1 -2.1
baz=207
ANMO Albuquerque 9.15 24 ⇑P Pn 16 19 57.6 +0.5
ANMO Albuquerque 9.15 24 Pn Pn 16 19 57.4 +0.4
comp=Z,1.1nm,0.3s,baz=301,slow=12,SNR=77
ANMO Lg Lg 16 22 27.4
comp=Z,1.5nm,0.3s,baz=239,slow=12,SNR=3.2
ANMO LR LR 16 23 02.5
comp=Z,146µm,21.9s,baz=294,slow=35
comp=Z,74nm,0.9s
BBRC Big Bear Solar 9.20 327 P Pn 16 19 58.7 +0.9
baz=145
BBRC S Sn 16 21 46.5 +5.1
baz=145
CIHU Emiliano Zapat 9.29 141 *eP* Pn 16 19 51.2 -7.7
CIHU *eS* **Sn 16 21 45.6 +2.1**
CIS Catalina Islan 9.36 318 P Pn 16 19 58.9 -0.9
baz=135,SNR=7.6
CIS S Sn 16 21 46.7 +1.6
baz=135
HEC Hector,Ludlow 9.40 332 P Pn 16 20 00.5 0.0
baz=150,SNR=122
HEC S Sn 16 21 59.9 +14
baz=150
FMP Fort Macarthur 9.51 320 P Pn 16 20 01.9 +0.1
baz=137
FMP S Sn 16 21 52.0 +3.3
baz=137
BFSC Mount Baldy Ra 9.55 324 P Pn 16 20 02.9 +0.4
baz=142,SNR=50
BFSC S Sn 16 21 53.6 +3.6
baz=142
OZNA Ozona 9.62 61 Pn Pn 16 20 04.2 +0.7
MNIG Monterrey 9.63 94 Pn 16 20 03.0 -0.6
MNIG Monterrey 9.63 94 *eP* **Pn 16 20 03.0 -0.6**
CEGR Campo Tres 9.71 136 *eP* Pn 16 20 11.1 +6.3
CEGR *eS* Sn 16 22 11.2 +17
RRX Edison Barstow 9.73 329 P Pn 16 20 05.5 +0.6
baz=147,SNR=15
RRX S Sn 16 22 06.6 +12
baz=147
SOMAC Volcano de Col 9.76 135 *eP* **Pn 16 20 08.1 +2.5**
SOMAC *eS* Sn 16 22 16.1 +21
TUQ Turquoise Moun 9.77 335 P Pn 16 20 05.7 +0.2
baz=154,SNR=62
TUQ S Sn 16 22 09.3 +14
baz=154
PASC Pasadena Art C 9.78 322 Pn Pn 16 20 03.6 -1.9
JUBC Volcan de Coli 9.80 135 *eP* Pn 16 20 11.6 +5.5
JUBC *eS* Sn 16 22 16.1 +20
MNGA Volcan de Coli 9.80 135 *eP* Pn 16 20 11.8 +5.7
MNGA *eS* Sn 16 22 12.0 +15
EZ5V 9.81 135 Pn Pn 16 20 12.1 +5.9
EZ5V 9.81 135 *eP* Pn 16 20 12.1 +5.9
EZ5V *eS* Sn 16 22 11.4 +15
DECC Green Verdugo 9.92 322 P Pn 16 20 07.6 +0.1
baz=139,SNR=25
DECC S Sn 16 21 58.3 -0.7
baz=139
SNCC San Nicolas Is 9.95 314 P Pn 16 20 07.5 -0.3
baz=130
SNCC S Sn 16 21 59.6 +0.1
baz=130
COIG Colima 9.97 136 *i P* Pn 16 20 15.1 +6.7
COIG *eS* Sn 16 22 17.1 +17
GSC Goldstone, Bar 10.01 331 Pn 16 20 08.1 -0.6
GSC Goldstone, Bar 10.01 331 P Pn 16 20 08.1 -0.6
GSC Goldstone, Bar 10.01 331 P Pn 16 20 08.9 +0.2
baz=149,SNR=56
GSC S Sn 16 22 04.5 +3.3
baz=149
SGCY Sterling City 10.06 56 Pn 16 20 10.5 +1.0
WTNK Soaring Height 10.15 341 Pn Pn 16 20 09.0 -1.7

MSTX Muleshoe 10.17 42 P Pn 16 20 12.7 +1.7
baz=227,SNR=44
MSTX S Sn 16 22 04.8 -0.4
baz=227
MSTX Muleshoe 10.17 42 P Pn 16 20 13.5 +2.5
baz=227
MSTX S Sn 16 22 05.1 -0.1
baz=227
EDW2 Edwards Air Fo 10.22 325 P Pn 16 20 13.4 +1.8
baz=142,SNR=83
EDW2 S Sn 16 22 10.6 +4.3
baz=142
SHOC Shoshone, Teco 10.31 335 P Pn 16 20 13.3 +0.5
baz=153
SHOC S Sn 16 22 24.7 +16
baz=153
833A Chaparral WMA, 10.40 78 P Pn 16 20 14.4 +0.4
baz=264,SNR=17
833A Chaparral WMA, 10.40 78 P Pn 16 20 16.0 +2.0
baz=264,SNR=17
833A S Sn 16 22 26.7 +16
baz=264
OSI Osito Audit: C 10.41 322 P Pn 16 20 14.3 +0.1
baz=138,SNR=28
OSI S Sn 16 22 15.2 +4.3
baz=138
CCAC Calif City Air 10.45 326 Pn Pn 16 20 14.6 -0.1
LNIG Linares 10.49 97 *eP* **Pn 16 20 15.3 0.0**
SCZ2 Santa Cruz Isl 10.50 316 P Pn 16 20 15.5 0.0
baz=133
SCZ2 S Sn 16 22 15.4 +2.2
baz=133
JCT Junction City 10.52 66 Pn Pn 16 20 17.4 +1.6
JCT Junction City 10.52 66 P Pn 16 20 17.4 +1.6
JCT Junction City 10.52 66 P Pn 16 20 16.1 +0.4
baz=252,SNR=19
JCT Junction City 10.52 66 P Pn 16 20 17.8 +2.0
baz=252,SNR=19
JCT S Sn 16 22 26.1 +12
baz=252
JCT Junction City 10.52 66 ⇑P Pn 16 20 15.4 -0.4
LRMC Laurel Mtn Rad 10.55 328 P Pn 16 20 15.9 -0.2
baz=146,SNR=30
LRMC S Sn 16 22 22.8 +8.3
baz=146
IGIG Irapuato, Guan 10.57 122 Pn 16 20 17.6 +1.0
IGIG Irapuato, Guan 10.57 122 *eP* **Pn 16 20 17.6 +1.0**
SN05 Snyder 5 10.74 52 Pn Pn 16 20 19.0 +0.3
MVCO Mesa Verde 10.76 11 P Pn 16 20 20.6 +1.4
baz=193,SNR=204
MVCO S Sn 16 22 20.8 +0.9
baz=193
MVCO Mesa Verde 10.76 11 ⇓P Pn 16 20 20.2 +1.0
ARVC Arvin 10.85 323 P Pn 16 20 22.0 +1.8
baz=140,SNR=145
ARVC S Sn 16 22 21.6 -0.1
baz=140
SBC Santa Barbara 10.85 318 P Pn 16 20 21.1 +0.8
baz=134
SBC S Sn 16 22 25.6 +3.9
baz=134
MMIG Aquila 10.87 138 Pn 16 20 22.9 +2.5
MMIG Aquila 10.87 138 *eP* **Pn 16 20 22.9 +2.5**
MPMC Manual Prospec 10.94 331 P Pn 16 20 22.6 +1.0
baz=148
MPMC S Sn 16 22 33.3 +9.1
baz=148
HBVL Hebbronville 10.97 85 Pn Pn 16 20 22.2 +0.3
BCW Bitter Crk WRg 11.03 321 Pn Pn 16 20 21.5 -1.2
FURC Furnace Creek, 11.04 334 P Pn 16 20 24.0 +1.3
baz=152,SNR=45
FURC S Sn 16 22 40.0 +14
baz=152
RPIG Rio Verde 11.05 113 Pn 16 20 24.9 +1.8
RPIG Rio Verde 11.05 113 *eP* **Pn 16 20 24.9 +1.8**
RPIG *eS* Sn 16 22 54.2 +27
ISA Isabella, Lake 11.08 326 P Pn 16 20 25.2 +1.8
baz=143,SNR=124
ISA S Sn 16 22 32.0 +4.6
baz=143
SZCU Shurtz Canyon 11.09 351 Pn Pn 16 20 22.4 -1.3
PKM Mcpherson Peak 11.22 319 P Pn 16 20 27.0 +1.6
baz=135,SNR=53
PKM S Sn 16 22 36.1 +5.0
baz=135
TPNV Topopah Spring 11.24 338 P Pn 16 20 28.1 +2.4
baz=156,SNR=106
TPNV S Sn 16 22 36.5 +5.1
baz=156
TPNV Topopah Spring 11.24 338 ⇑P Pn 16 20 27.1 +1.4
GTIG Gomez Farias 11.26 106 Pn 16 20 27.6 +1.7
GTIG Gomez Farias 11.26 106 *eP* **Pn 16 20 27.6 +1.7**
JRQG Juriquilla Cam 11.28 119 Pn Pn 16 20 28.4 +2.1
HMU Henry Mountain 11.29 1 Pn Pn 16 20 24.9 -1.5
MOIG Morelia 11.32 126 Pn Pn 16 20 28.8 +1.8
MOIG Morelia 11.32 126 *eP* **Pn 16 20 30.2 +3.3**
EF01 Eagle Ford 01 11.39 74 Pn Pn 16 20 27.5 -0.2
AMTX Amarillo 11.46 42 P Pn 16 20 27.3 -1.2
baz=227
AMTX S Sn 16 22 37.5 +0.8
baz=227
AMTX Amarillo 11.46 42 S Sn 16 22 36.0 -0.6
baz=227
AMTX Amarillo 11.46 42 ⇑P Pn 16 20 29.9 +1.4
ABTX Abilene, Hawle 11.51 56 P Pn 16 20 29.6 +0.4
baz=242,SNR=63
ABTX S Sn 16 22 39.8 +2.0
baz=242
ABTX Abilene, Hawle 11.51 56 P Pn 16 20 30.7 +1.5
baz=242,SNR=63
ABTX S Sn 16 22 35.8 -2.1
baz=242
CWC Cottonwood Cre 11.52 330 P Pn 16 20 31.7 +2.1
baz=147
CWC S Sn 16 22 44.8 +6.4
baz=147
VES Vestal, Richgr 11.53 325 P Pn 16 20 31.6 +2.2
baz=141,SNR=472
VES S Sn 16 22 44.1 +5.8
baz=141
S22A 4UR Ranch, Cre 11.63 16 P Pn 16 20 33.5 +2.4
baz=199,SNR=114
S22A S Sn 16 22 48.1 +6.9
baz=199
SMMC Simmler 11.63 320 P Pn 16 20 32.4 +1.5
baz=136,SNR=118
SMMC S Sn 16 22 43.3 +2.4
baz=136
GRAC Grapevine Rang 11.69 334 P Pn 16 20 33.9 +2.1
baz=151,SNR=128
GRAC S Sn 16 22 45.4 +3.0
baz=151
S11A Rachel 11.72 341 Pn Pn 16 20 31.8 -0.4
735A Kenedy 11.85 76 Pn 16 20 31.4 -2.5
735A Kenedy 11.85 76 P Pn 16 20 34.1 +0.3
baz=263
T25A Trinidad 11.86 26 P Pn 16 20 37.1 +2.9
baz=210,SNR=26
T25A S Sn 16 22 52.2 +5.4
baz=210
GMN Gold Mountain 11.92 335 Pn Pn 16 20 34.1 -0.9
SDCO Great Sand Dun 12.01 21 P Pn 16 20 39.5 +3.2
baz=205,SNR=81
SDCO S Sn 16 22 59.3 +8.8
baz=205
SDCO Great Sand Dun 12.01 21 P Pn 16 20 40.1 +3.8
baz=205,SNR=81
SDCO S Sn 16 22 58.8 +8.3
baz=205
SDCO Great Sand Dun 12.01 21 ⇑P Pn 16 20 39.1 +2.8
TCRU Three Creeks R 12.02 354 Pn Pn 16 20 36.4 0.0
RTBA Rita Blanca 12.03 34 Pn Pn 16 20 34.2 -2.2
VOG Valley Oaks Go 12.05 325 P Pn 16 20 38.5 +1.9
baz=142,SNR=6.5
VOG S Sn 16 22 53.1 +2.0
baz=142
TIN Tinemaha, Big 12.10 331 P Pn 16 20 40.0 +2.6
baz=148,SNR=63
TIN S Sn 16 22 56.5 +4.1
baz=148
ACIG Acambay 12.12 121 Pn 16 20 41.2 +3.4
ACIG Acambay 12.12 121 *eP* **Pn 16 20 41.2 +3.4**
MZP Montezuma Peak 12.32 335 Pn Pn 16 20 38.7 -1.7
R11B Troy Canyon, C 12.33 343 P Pn 16 20 42.7 +2.1
baz=161,SNR=975
435B Jarrell 12.44 67 P Pn 16 20 42.3 +0.4
baz=254
435B S Sn 16 22 58.7 -1.9
baz=254
435B Jarrell 12.44 67 P Pn 16 20 47.7 +5.7
baz=254
435B S Sn 16 22 56.9 -3.8
baz=254
ZIIG Zihuatanejo 12.55 134 Pn 16 20 45.7 +2.3
ZIIG Zihuatanejo 12.55 134 *eP* **Pn 16 20 45.7 +2.3**
CTUV Llano Grande 12.59 111 *i P* **Pn 16 20 44.4 +0.4**
DEIG Demacu 12.61 117 *eP* **Pn 16 20 46.4 +1.9**
DHIG Demacu 12.61 117 Pn 16 20 46.4 +1.9
TOVM TOLUCA 12.69 123 Pn 16 20 49.2 +3.5
TOVM TOLUCA 12.69 123 *eP* **Pn 16 20 49.2 +3.5**
AZVM Cuida Lopez Ma 12.81 121 Pn 16 20 50.5 +3.2
AZVM Cuida Lopez Ma 12.81 121 *eP* **Pn 16 20 50.5 +3.2**
ZUVM ZUMPANGO 12.83 119 Pn 16 20 50.1 +2.5
ZUVM ZUMPANGO 12.83 119 *eP* **Pn 16 20 50.1 +2.5**
ARIG Puente Sto Nin 12.83 128 Pn 16 20 50.9 +3.5
ARIG Puente Sto Nin 12.83 128 *eP* **Pn 16 20 50.9 +3.5**
MLAC Mammoth, Mammol 12.85 331 P Pn 16 20 51.4 +3.7
baz=147,SNR=29
INVM La Marquesa 12.90 122 *eP* **Pn 16 20 51.4 +2.8**
WHTX Lake Whitney, 12.93 62 P Pn 16 20 48.1 -0.5
baz=249,SNR=25
WHTX S Sn 16 23 08.8 -3.8
baz=249
WHTX Lake Whitney, 12.93 62 P Pn 16 20 49.2 +0.6
baz=249,SNR=25
WHTX S Sn 16 23 09.7 -2.9
baz=249
PTVM Pico Tres Padr 12.94 120 Pn 16 20 51.4 +2.4
PTVM Pico Tres Padr 12.94 120 *eP* **Pn 16 20 51.4 +2.4**
CJVM Cuajimalpa 12.94 122 *eP* **Pn 16 20 53.5 +4.4**
SMCO Snowmass 12.96 14 ⇓P Pn 16 20 51.4 +2.0
AOVM Tlapan 12.96 122 *eP* Pn 16 20 44.2 -5.4
UNM Universidad Na 13.04 121 Pn Pn 16 20 53.1 +2.8
UNM Universidad Na 13.04 121 P Pn 16 20 53.2 +2.8
UNM Universidad Na 13.04 121 *eP* **Pn 16 20 52.2 +1.8**
PBVM Pinon 13.04 121 Pn 16 20 53.2 +3.0
PBVM Pinon 13.04 121 *eP* **Pn 16 20 53.2 +3.0**
VTVM Tizayuca 13.10 119 Pn 16 20 53.5 +2.2
VTVM Tizayuca 13.10 119 *eP* **Pn 16 20 53.5 +2.2**
TLVM San Miguel Top 13.13 122 *eP* **Pn 16 20 56.2 +4.5**
XCVM Xochimilco 13.13 122 *eP* **Pn 16 20 55.7 +4.1**
THVM De Xico 13.21 121 *eP* **Pn 16 20 56.9 +4.2**
WMOK Wichita Mounta 13.22 49 Pn Pn 16 20 52.2 -0.5
WMOK Wichita Mounta 13.22 49 P Pn 16 20 52.2 -0.5
WMOK Wichita Mounta 13.22 49 P Pn 16 20 52.7 +0.1
baz=236,SNR=30
WMOK S Sn 16 23 16.9 -2.9
baz=236
WMOK Wichita Mounta 13.22 49 P Pn 16 20 53.0 +0.4
baz=236,SNR=30
WMOK S Sn 16 23 15.3 -4.5
baz=236
WMOK Wichita Mounta 13.22 49 ⇑P Pn 16 20 52.4 -0.2
FW06 Azle 13.23 58 Pn 16 20 51.8 -1.0
Q24A Divide 13.23 20 P Pn 16 20 56.1 +3.0
baz=204,SNR=60
Q24A S Sn 16 23 25.9 +5.4
baz=204
MPVM San Francisco 13.24 121 ⇑ *eP* **Pn 16 20 57.8 +4.6**
NVAR Mina Array Bea 13.30 334 Pn Pn 16 20 56.4 +2.5
comp=Z,0.7nm,0.3s,baz=157,slow=13,SNR=179
NVAR Lg Lg 16 24 43.3
comp=Z,0.1nm,0.3s,baz=128,slow=20,SNR=1.8
NVAR LR LR 16 25 36.5
comp=Z,56µm,19.5s,baz=152,slow=36
PLIG Platanillo 13.37 125 Pn 16 20 58.5 +3.7
PLIG Platanillo 13.37 125 *i P* **Pn 16 20 58.5 +3.7**
YAIG Yautepec 13.40 123 Pn 16 20 58.7 +3.5
YAIG Yautepec 13.40 123 *eP* **Pn 16 20 58.7 +3.5**
SAO San Andreas Ge 13.49 321 Pn Pn 16 20 55.9 -0.3
SAO San Andreas Ge 13.49 321 P Pn 16 20 55.9 -0.3
SAO San Andreas Ge 13.49 321 ⇓P Pn 16 20 57.1 +0.9
MEIG Mezcala 13.59 127 Pn 16 20 59.0 +1.3
MEIG Mezcala 13.59 127 *eP* **Pn 16 20 59.0 +1.3**
PPIG Popocatepetl 13.61 121 Pn 16 21 01.8 +3.3
PPM Popocatepetl 13.61 121 *eP* **Pn 16 21 01.8 +3.3**
Z35A Perchaven, San 13.62 57 P Pn 16 20 58.0 0.0
baz=245,SNR=9.1
DUG Dugway, Tooele 13.63 354 P Pn 16 21 01.1 +2.9
baz=174,SNR=511
DUG S Sn 16 23 35.9 +6.0
baz=174
DUG Dugway, Tooele 13.63 354 ⇑P Pn 16 21 00.9 +2.6
O20A White River Ci 13.67 9 P Pn 16 21 01.1 +2.2
baz=191,SNR=135
HKT Hockley 13.72 73 *c iP* **Pn 16 20 57.9 -1.5**
HKT pmax pmax
comp=Z,353nm,1.7s
HKT Hockley 13.72 73 ⇑P Pn 16 20 58.6 -0.8
CAIG El Cayaco 13.74 132 Pn 16 21 01.3 +1.6
CAIG El Cayaco 13.74 132 *eP* **Pn 16 21 01.3 +1.6**
X34A Smith Ranch, M 13.80 52 Pn 16 21 01.1 +0.5
ISCO Idaho Springs 13.88 17 Pn Pn 16 21 02.3 +0.5
ISCO Idaho Springs 13.88 17 P Pn 16 21 02.3 +0.5
ISCO Idaho Springs 13.88 17 P Pn 16 21 04.5 +2.7
baz=201,SNR=31
ISCO S Sn 16 23 44.1 +7.9
baz=201
ISCO Idaho Springs 13.88 17 P P 16 21 05.5 -4.7
baz=201,SNR=31
ISCO S Sn 16 23 41.1 +5.0
baz=201
ISCO Idaho Springs 13.88 17 ⇑P Pn 16 21 03.9 +2.0
BSUT Blindstream Ca 13.88 1 Pn Pn 16 21 02.3 +0.4
U32A Winter Ranch, 14.08 43 S Sn 16 23 44.5 +3.9
baz=230
DAIG Los Arroyos 14.18 130 Pn 16 21 06.9 +1.2
DAIG Los Arroyos 14.18 130 *eP* **Pn 16 21 06.9 +1.2**
KSCO Kaye Shedlock' 14.19 27 P Pn 16 21 05.6 -0.3
baz=212
KSCO S Sn 16 23 49.0 +5.5
baz=212
KSCO Kaye Shedlock' 14.19 27 S Sn 16 23 49.2 +5.7
baz=212
237A Washetta, Mont 14.25 64 P Pn 16 21 06.3 -0.3
baz=252,SNR=19
237A S Sn 16 23 51.3 +6.5
baz=252
BGU Big Grassy Mou 14.37 354 P P 16 21 12.0 -3.5
PNTR Pine Nut 14.39 332 P P 16 21 12.0 -3.9
ELK Elko 14.53 347 P P 16 21 13.6 -3.8
ELK Elko 14.53 347 ⇓P Pn 16 21 12.2 +1.5
ELK Elko 14.53 347 Pn Pn 16 21 12.3 +1.5
comp=Z,0.9nm,0.3s,baz=173,slow=11,SNR=165
ELK Lg Lg 16 25 20.0
comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=2.1
ELK LR LR 16 26 59.0
comp=Z,242µm,18.1s,baz=166,slow=38
comp=Z,195nm,1.2s
TLIG Tlapa 14.58 126 Pn Pn 16 21 10.7 -0.7
TLIG Tlapa 14.58 126 ⇑P Pn 16 21 14.1 +2.7
TLIG Tlapa 14.58 126 *eP* **Pn 16 21 13.0 +1.6**
FTIG Fresnillo de T 14.68 124 Pn 16 21 10.4 -2.4
FTIG Fresnillo de T 14.68 124 *eP* **Pn 16 21 10.4 -2.4**
SPUT South Promonto 14.71 356 P P 16 21 14.6 -4.6
OK029 Liberty Lake 14.72 48 Pn Pn 16 21 10.6 -2.5
BMN Battle Mountai 14.73 341 P P 16 21 15.5 -4.0
BMN Battle Mountai 14.73 341 P P 16 21 15.5 -4.0
CRIG Cruz Grande 14.73 130 Pn 16 21 15.4 +2.1
CRIG Cruz Grande 14.73 130 *eP* **Pn 16 21 15.4 +2.1**
MGIG Malinaltepec 14.75 127 Pn 16 21 13.9 +0.3
MGIG Malinaltepec 14.75 127 *i P* **Pn 16 21 13.9 +0.3**
MPK Martis Peak 14.75 331 P P 16 21 15.8 -4.1
CROK Carrier 14.79 45 Pn Pn 16 21 11.8 -2.3
N23A Red Feather La 14.83 15 Pn Pn 16 21 13.3 -1.5
N23A Red Feather La 14.83 15 P P 16 21 17.5 -3.2
baz=198,SNR=53
N23A S Sn 16 24 05.8 +6.5
baz=198
JAUV Jalcomulco 14.88 116 *eP* **Pn 16 21 17.6 +2.2**
AFDM Forest Hills D 14.89 328 P P 16 21 17.1 -4.2
HWUT Hardware Ranch 14.96 358 P 16 21 18.5 -3.6
HWUT Hardware Ranch 14.96 358 ⇓P P 16 21 17.9 -4.1
TPIG Tehuac#an 14.96 120 Pn 16 21 18.6 +2.0
TPIG Tehuac#an 14.96 120 *eP* **Pn 16 21 18.6 +2.0**
BRIGG Briggsdale 14.97 20 Pn 16 21 14.7 -1.9
HLIG Huajuapan de L 14.98 123 Pn 16 21 17.8 +1.0
HLIG Huajuapan de L 14.98 123 *eP* **Pn 16 21 17.8 +1.0**
LVIG Laguna Verde 15.01 114 *eP* **Pn 16 21 15.1 -2.0**

GC02	**Grant County #**	**15.08**	**44**	Pn	**Pn**	**16 21 15.7**	**-2.3**
KAN14	**Manchester OK**	**15.09**	**44**	Pn	**Pn**	**16 21 13.9**	**-4.1**
KAN14				IAmb	IAmb	16 21 24.2	
	comp=Z,283nm,0.8s						
NATX	**Nacogdoches**	**15.11**	**66**	Pn	**Pn**	**16 21 14.2**	**-4.2**
NATX	**Nacogdoches**	**15.11**	**66**	P	**Pn**	**16 21 15.6**	**-2.8**
	baz=255						
NATX				S	**Sn**	**16 24 05.4**	**-0.5**
	baz=255						
NATX	**Nacogdoches**	**15.11**	**66**	P	**Pn**	**16 21 14.7**	**-3.7**
	baz=255						
NATX				S	**Sn**	**16 24 09.2**	**+3.3**
	baz=255						
HVU	**Hansel Valley**	**15.20**	**355**		**Pn**	**16 21 15.9**	**-3.7**
HVU	**Hansel Valley**	**15.20**	**355**	P	**Pn**	**16 21 15.9**	**-3.7**
HVU				pmax	pmax		
	comp=Z,1µm,1.6s						
OK033	**Mehan**	**15.20**	**48**	Pn	**Pn**	**16 21 16.8**	**-2.8**
KAN05	**Bluff City Nor**	**15.24**	**43**	Pn	**Pn**	**16 21 15.4**	**-4.6**
KAN17	**Caldwell West**	**15.26**	**44**	Pn	**Pn**	**16 21 17.3**	**-3.1**
OK052	**Battle Ridge R**	**15.26**	**49**		**Pn**	**16 21 17.1**	**-3.3**
OK052				IAmb	IAmb	16 21 27.2	
	comp=Z,251nm,1.0s						
MCCM	**Marconi Confer**	**15.27**	**322**	⇓P	**Pn**	**16 21 19.0**	**-1.4**
Z38A	**Mt. Pleasant**	**15.33**	**61**	Pn	**Pn**	**16 21 18.3**	**-2.9**
Z38A				IAmb	IAmb	16 21 25.9	
	comp=Z,440nm,1.6s						
Z38A	**Mt. Pleasant**	**15.33**	**61**	P	**Pn**	**16 21 20.6**	**-0.6**
	baz=249,SNR=12						
Z38A				S	**S**	**16 24 18.9**	**-8.7**
	baz=249						
PHWY	**Pilot Hill**	**15.33**	**16**		**Pn**	**16 21 18.8**	**-2.8**
TXIG	**Tlaxiaco**	**15.36**	**125**		**Pn**	**16 21 19.1**	**-2.9**
TXIG	**Tlaxiaco**	**15.36**	**125**	*eP*	**Pn**	**16 21 19.1**	**-2.9**
CBKS	**Cedar Bluff**	**15.37**	**35**		**Pn**	**16 21 19.6**	**-2.2**
CBKS	**Cedar Bluff**	**15.37**	**35**	P	**Pn**	**16 21 19.7**	**-2.2**
CBKS				pmax	pmax		
	comp=Z,95nm,1.1s						
CBKS	**Cedar Bluff**	**15.37**	**35**	P	**Pn**	**16 21 21.8**	**-0.1**
	baz=222,SNR=12						
CBKS				S	**Sn**	**16 24 13.0**	**+0.8**
	baz=222						
CBKS	**Cedar Bluff**	**15.37**	**35**	P	**Pn**	**16 21 21.8**	**-0.1**
	baz=222,SNR=12						
CBKS				S	**Sn**	**16 24 15.4**	**+3.2**
	baz=222						
CBKS	**Cedar Bluff**	**15.37**	**35**	⇓P	**P**	**16 21 24.8**	**-1.8**
TOIG	**Toxpalan**	**15.38**	**121**		**Pn**	**16 21 22.2**	**+0.1**
TOIG	**Toxpalan**	**15.38**	**121**	*eP*	**Pn**	**16 21 22.2**	**+0.1**
DEOK	**Depew**	**15.39**	**50**	Pn	**Pn**	**16 21 19.3**	**-2.7**
OK048	**Pawnee Station**	**15.41**	**47**	Pn	**Pn**	**16 21 19.0**	**-3.3**
QUOK	**Quay**	**15.43**	**48**	Pn	**Pn**	**16 21 17.0**	**-5.5**
R32A	**Long Quarter,**	**15.63**	**38**	Pn	**Pn**	**16 21 23.5**	**-1.7**
R32A	**Long Quarter,**	**15.63**	**38**	S	**Sn**	**16 24 16.5**	**-2.0**
	baz=225						
PNIG	**Pinotepa**	**15.67**	**128**		**Pn**	**16 21 26.6**	**+0.8**
PNIG	**Pinotepa**	**15.67**	**128**	*eP*	**Pn**	**16 21 26.6**	**+0.8**
YOIG	**Yosondua**	**15.78**	**125**		**Pn**	**16 21 28.9**	**+1.5**
YOIG	**Yosondua**	**15.78**	**125**	*eP*	**Pn**	**16 21 28.9**	**+1.5**
TUL3	**Leonard**	**15.91**	**51**	Pn	**Pn**	**16 21 25.9**	**-2.9**
TUL3	**Leonard**	**15.91**	**51**	P	**Pn**	**16 21 27.4**	**-1.4**
	baz=239,SNR=14						
TUL3				S	**Sn**	**16 24 23.2**	**-2.0**
	baz=239						
TUL3	**Leonard**	**15.91**	**51**	P	**Pn**	**16 21 28.3**	**-0.5**
	baz=239,SNR=14						
T35A	**Sooner Cattle**	**15.98**	**47**	Pn	**Pn**	**16 21 25.2**	**-4.6**
T35B	**Sooner Cattle**	**15.98**	**47**	P	**Pn**	**16 21 23.1**	**-6.7**
	baz=234						
T35B				S	**Sn**	**16 24 26.0**	**-1.1**
	baz=234						
OGNE	**Ogallala**	**16.08**	**25**		**Pn**	**16 21 28.9**	**-2.2**
OGNE	**Ogallala**	**16.08**	**25**	P	**Pn**	**16 21 31.0**	**-0.1**
	baz=210,SNR=34						
OGNE				S	**Sn**	**16 24 30.9**	**+1.5**
	baz=210						
OGNE	**Ogallala**	**16.08**	**25**	P	**Pn**	**16 21 30.2**	**-0.9**
	baz=210						
OGNE				S	**Sn**	**16 24 31.5**	**+2.1**
	baz=210						
OGNE	**Ogallala**	**16.08**	**25**	⇓P	**Pn**	**16 21 30.9**	**-0.2**
AHID	**Auburn Hatcher**	**16.11**	**360**		**Pn**	**16 21 29.6**	**-1.9**
AHID	**Auburn Hatcher**	**16.11**	**360**	⇓P	**Pn**	**16 21 31.6**	**+0.1**
441A	**DeRidder**	**16.11**	**71**	P	**Pn**	**16 21 29.2**	**-2.2**
	baz=260						
441A				S	**S**	**16 24 48.9**	**+5.2**
	baz=260						
BW06	**Boulder Array**	**16.15**	**4**	Pn	**Pn**	**16 21 27.6**	**-4.5**
BW06				IAmb	IAmb	16 21 38.7	
	comp=Z,652nm,1.6s						
BW06	**Boulder Array**	**16.15**	**4**	P	**Pn**	**16 21 31.9**	**-0.2**
	baz=185,SNR=143						
BW06				S	**Sn**	**16 24 35.2**	**+3.8**
	baz=185						
BW06	**Boulder Array**	**16.15**	**4**	⇓P	**Pn**	**16 21 31.7**	**-0.4**
PD31	**Pinedale Array**	**16.15**	**4**	Pn	**Pn**	**16 21 29.7**	**-2.4**
PDAR	**Pinedale Array**	**16.15**	**4**	Pn	**Pn**	**16 21 30.0**	**-2.1**
PDAR	**Pinedale Array**	**16.15**	**4**	Pn	**P**	**16 21 33.8**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=178,slow=11,SNR=94						
PDAR				Lg	Lg	16 26 05.1	
	comp=Z,0.1nm,0.3s,baz=203,slow=31,SNR=1.7						
	comp=Z,74nm,0.9s						
OXIG	**Oaxaca**	**16.25**	**123**	P	**Pn**	**16 21 35.0**	**+1.6**
VHO	**Vista Hermosa**	**16.25**	**123**	*eP*	**Pn**	**16 21 35.0**	**+1.6**
K22A	**Casper**	**16.40**	**12**	Pn	**Pn**	**16 21 34.0**	**-1.2**
K22A	**Casper**	**16.40**	**12**	P	**P**	**16 21 35.8**	**-2.2**
	baz=195,SNR=78						
K22A				S	**Sn**	**16 24 40.4**	**+3.1**
	baz=195						
K22A	**Casper**	**16.40**	**12**	P	**P**	**16 21 37.6**	**-0.5**
	baz=195,SNR=78						
K22A				S	**Sn**	**16 24 40.2**	**+2.9**
	baz=195						
RLO	**Rose Lookout**	**16.57**	**51**	IAmb	IAmb	16 21 45.6	
	comp=Z,124nm,0.9s						
NEUV	**Arroyo Zacate**	**16.58**	**119**	*eP*	**Pn**	**16 21 37.5**	**0.0**
PEIG	**Puerto Escondi**	**16.63**	**127**		**Pn**	**16 21 39.1**	**+1.0**
PEIG	**Puerto Escondi**	**16.63**	**127**	*eP*	**Pn**	**16 21 39.1**	**+1.0**
PMUV	**Sontecomapan**	**16.66**	**116**	*eP*	**Pn**	**16 21 40.2**	**+1.5**
TPAW	**Teton Pass**	**16.83**	**360**	IAmb	IAmb	16 21 46.7	
	comp=Z,794nm,1.4s						
WVOR	**Wild Horse Val**	**16.99**	**340**	IAmb	IAmb	16 21 46.9	
	comp=Z,691nm,1.3s						
WVOR	**Wild Horse Val**	**16.99**	**340**	P	**P**	**16 21 44.2**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,472nm,2.2s						
WVOR	**Wild Horse Val**	**16.99**	**340**	⇓P	**P**	**16 21 44.1**	**-0.4**
MOOW	**Moose Ponds**	**17.09**	**0**	IAmb	IAmb	16 21 49.5	
	comp=Z,1µm,1.7s						
HLID	**Hailey**	**17.14**	**351**	P	**P**	**16 21 46.9**	**+0.6**
	baz=170,SNR=104						
HLID	**Hailey**	**17.14**	**351**	⇓P	**P**	**16 21 46.2**	**0.0**
U38A	**Gravette**	**17.16**	**51**		**Pn**	**16 21 43.7**	**-1.0**
U38A	**Gravette**	**17.16**	**51**	P	**Pn**	**16 21 44.6**	**-0.1**
	baz=240,SNR=68						
U38A				S	**Sn**	**16 24 54.6**	**-1.0**
	baz=240						
KMRM	**Mail Ridge**	**17.22**	**325**	P	**Pn**	**16 21 44.4**	**-1.2**
IMW	**Indian Meadow**	**17.24**	**0**	IAmb	IAmb	16 21 52.4	
	comp=Z,2µm,1.7s						
KSU1	**Kansas State U**	**17.29**	**40**		**P**	**16 21 46.2**	**-1.5**
KSU1	**Kansas State U**	**17.29**	**40**	P	**P**	**16 21 46.2**	**-1.5**
	baz=229,SNR=18						
KSU1				S	**Sn**	**16 24 58.2**	**-0.5**
	baz=229						
KSU1	**Kansas State U**	**17.29**	**40**	P	**P**	**16 21 47.5**	**-0.3**
	baz=229,SNR=18						
KSU1				S	**Sn**	**16 25 01.7**	**+2.9**
	baz=229						
KSU1	**Kansas State U**	**17.29**	**40**	⇑P	**P**	**16 21 46.5**	**-1.3**
HHAR	**Hobbs**	**17.39**	**52**	IAmb	IAmb	16 21 55.3	
	comp=Z,1µm,1.7s						
HHAR	**Hobbs**	**17.39**	**52**	S	**Sn**	**16 25 00.2**	**-1.1**
	baz=242						
FLWY	**Flagg Ranch**	**17.43**	**1**	IAmb	IAmb	16 21 54.6	
	comp=Z,1µm,1.4s						
X40A	**Basin Creek Fa**	**17.44**	**59**		**Pn**	**16 21 46.5**	**-1.7**
X40A	**Basin Creek Fa**	**17.44**	**59**	P	**Pn**	**16 21 47.1**	**-1.2**
	baz=248,SNR=28						
X40A				P	**Pn**	**16 21 47.1**	**-1.2**
	baz=248,SNR=28						
X40A				S	**Sn**	**16 25 01.1**	**-1.4**
	baz=248						
X40A				S	**Sn**	**16 25 01.1**	**-1.4**
	baz=248						
TUIG	**Tuzandepetl**	**17.50**	**116**	*eP*	**Pn**	**16 21 50.0**	**+1.0**
HUIG	**Huatulco**	**17.53**	**125**	P	**P**	**16 21 51.9**	**+1.4**
HUIG	**Huatulco**	**17.53**	**125**	*eP*	**P**	**16 21 51.9**	**+1.4**
YPP	**Pitchstone Pla**	**17.61**	**0**	IAmb	IAmb	16 21 59.2	
	comp=Z,623nm,1.4s						
CMIG	**Matias Romero**	**17.65**	**119**	P	**Pn**	**16 21 51.4**	**+0.5**
CMIG	**Matias Romero**	**17.65**	**119**	P	**P**	**16 21 53.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=301,slow=9.3,SNR=19						
CMIG				Lg	Lg	16 27 08.8	
	baz=15,slow=20						
CMIG				LR	LR	16 28 06.6	
	comp=Z,107µm,18.1s,baz=278,slow=35						
	comp=Z,106nm,1.0s						
CMIG	**Matias Romero**	**17.65**	**119**	*eP*	**Pn**	**16 21 51.4**	**+0.5**
KHMM	**Horse Mountain**	**17.72**	**327**		**Pn**	**16 21 47.9**	**-4.0**
H17A	**Grant Village**	**17.74**	**1**	P	**P**	**16 21 54.1**	**+1.1**
	baz=182,SNR=69						
H17A				S	**S**	**16 25 17.3**	**+0.1**
	baz=182						
J08A	**Circle Bar Ran**	**17.79**	**342**	IAmb	IAmb	16 21 57.4	
	comp=Z,1µm,1.8s						
JCC	**Jacoby Creek,**	**17.83**	**326**	P	**P**	**16 21 52.6**	**-1.1**
YBH	**Yreka Blue Hor**	**17.92**	**330**	P	**P**	**16 21 54.3**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=4.9,SNR=26						
YBH				LR	LR	16 28 24.6	
	comp=Z,71µm,20.4s,baz=180,slow=36						
	comp=Z,37nm,1.0s						
N33B	**J Bar K, Exete**	**17.98**	**35**	S	**Sn**	**16 25 14.4**	**-1.0**
	baz=223						
N33A	**J Bar K, Exete**	**17.98**	**35**	Pn	**Pn**	**16 21 53.5**	**-1.4**
K05A	**Summer Lake**	**18.01**	**336**	IAmb	IAmb	16 21 59.5	
	comp=Z,2µm,2.0s						
143A	**Socs Landing,**	**18.02**	**66**	P	**P**	**16 21 55.9**	**0.0**
	baz=256,SNR=19						
143A				S	**S**	**16 25 22.4**	**-0.2**
	baz=256						
CCAR	**Cane Creek**	**18.07**	**62**	Pn	**Pn**	**16 21 54.2**	**-1.8**
CCAR				IAmb	IAmb	16 21 59.2	
	comp=Z,2µm,1.9s						
CCAR	**Cane Creek**	**18.07**	**62**	P	**P**	**16 21 55.7**	**-0.7**
	baz=252,SNR=17						
CCAR				S	**S**	**16 25 23.8**	**+0.2**
	baz=252						
KRPM	**Rodgers**	**18.08**	**327**	IAmb	IAmb	16 22 00.2	
	comp=Z,1µm,1.4s						
UXUV	**UXUV**	**18.11**	**117**	*eP*	**Pn**	**16 21 56.9**	**+0.4**
BGNE	**Belgrade**	**18.14**	**32**	P	**P**	**16 21 56.9**	**-0.2**
	baz=220						
BGNE				S	**Sn**	**16 25 19.5**	**+0.2**
	baz=220						
WHAR	**Wooly Hollow**	**18.17**	**57**	Pn	**Pn**	**16 21 55.4**	**-1.7**
WHAR				IAmb	IAmb	16 22 05.5	
	comp=Z,816nm,1.3s						
U40A	**Yellville**	**18.20**	**53**	P	**P**	**16 21 57.1**	**-0.8**
	baz=243,SNR=105						
U40A				P	**P**	**16 21 57.1**	**-0.8**
	baz=243,SNR=105						
U40A				S	**Sn**	**16 25 10.2**	**-11**
	baz=243						
U40A				S	**Sn**	**16 25 10.2**	**-11**
	baz=243						
RSSD	**Black Hills**	**18.34**	**16**		**Pn**	**16 21 55.1**	**-4.3**
RSSD	**Black Hills**	**18.34**	**16**	P	**Pn**	**16 21 55.1**	**-4.3**
RSSD				pmax	pmax		
	comp=Z,314nm,1.1s						
RSSD	**Black Hills**	**18.34**	**16**	P	**P**	**16 21 59.2**	**-0.2**
	baz=200						
RSSD				S	**S**	**16 25 27.3**	**-1.9**
	baz=200						
RSSD	**Black Hills**	**18.34**	**16**	P	**P**	**16 22 00.5**	**+1.0**
	baz=200,SNR=137						
RSSD				S	**Sn**	**16 25 24.6**	**+0.3**
	baz=200						
RSSD	**Black Hills**	**18.34**	**16**	⇓P	**P**	**16 21 59.3**	**-0.2**
K30B	**Basset**	**18.50**	**27**	P	**Pn**	**16 22 03.3**	**+2.1**
	baz=214,SNR=12						
K30B				S	**S**	**16 25 29.9**	**-2.4**
	baz=214						
RLMT	**Red Lodge**	**18.51**	**4**	P	**Pn**	**16 22 02.5**	**+0.9**
	baz=185,SNR=178						
RLMT				S	**S**	**16 25 32.0**	**-0.8**
	baz=185						
RLMT	**Red Lodge**	**18.51**	**4**	⇑P	**Pn**	**16 22 02.2**	**+0.6**
S39A	**Bolivar**	**18.53**	**49**	P	**Pn**	**16 22 00.8**	**-0.7**
S39A	**Bolivar**	**18.53**	**49**	P	**Pn**	**16 22 01.0**	**-0.6**
	baz=239,SNR=48						
S39A				S	**Sn**	**16 25 23.1**	**-5.6**
	baz=239						
FCAR	**Ozark Folk Cen**	**18.53**	**56**	P	**P**	**16 22 00.1**	**-1.4**
VBMS	**Vicksburg**	**18.64**	**68**	IAmb	IAmb	16 22 04.5	
	comp=Z,602nm,1.5s						
VBMS	**Vicksburg**	**18.64**	**68**	P	**Pn**	**16 22 02.7**	**-0.2**
	baz=258,SNR=6.2						
VBMS				S	**S**	**16 25 41.9**	**+6.7**
	baz=258						
VBMS	**Vicksburg**	**18.64**	**68**	P	**P**	**16 22 02.3**	**-0.4**
	baz=258						
VBMS				S	**S**	**16 25 43.4**	**+8.2**
	baz=258						
I07A	**Izee**	**18.75**	**341**	IAmb	IAmb	16 22 09.4	
	comp=Z,1µm,1.8s						
PLID	**Pearl Lake**	**18.87**	**349**	IAmb	IAmb	16 22 10.2	
	comp=Z,536nm,1.6s						
BMO	**Blue Mountains**	**18.90**	**346**	⇓P	**Pn**	**16 22 06.2**	**0.0**
BMO	**Blue Mountains**	**18.90**	**346**	⇓P	**Pn**	**16 22 06.2**	**0.0**
BOZ	**Bozeman (W)**	**18.95**	**359**	⇓P	**Pn**	**16 22 07.6**	**+0.8**
BOZ	**Bozeman (W)**	**18.95**	**359**	P	**Pn**	**16 22 08.0**	**+1.2**
	baz=179,SNR=221						
BOZ				S	**S**	**16 25 49.5**	**+8.0**
	baz=179						
BOZ	**Bozeman (W)**	**18.95**	**359**	⇓P	**Pn**	**16 22 07.6**	**+0.8**
PINE	**Pine Mountain**	**18.95**	**337**	IAmb	IAmb	16 22 11.9	
	comp=Z,1µm,1.4s						
N35A	**Tabor**	**19.03**	**38**	P	**P**	**16 22 03.3**	**-3.6**
	baz=227						
N35A				S	**Sn**	**16 25 38.6**	**-2.1**
	baz=227						
TGIG		**19.22**	**117**	P	**Pn**	**16 22 10.6**	**+0.5**
TGIG		**19.22**	**117**	*i* P	**Pn**	**16 22 10.6**	**+0.5**
LCAR	**Lake Charles**	**19.32**	**56**	P	**P**	**16 22 08.7**	**-1.5**
LCAR	**Lake Charles**	**19.32**	**56**	P	**Pn**	**16 22 10.6**	**-0.6**
	baz=247,SNR=36						
LCAR				S	**Sn**	**16 25 42.5**	**-5.4**
	baz=247						
346A	**Big Creek Wild**	**19.37**	**71**	IAmb	IAmb	16 22 20.8	
	comp=Z,1µm,1.9s						
346A	**Big Creek Wild**	**19.37**	**71**	P	**P**	**16 22 10.7**	**0.0**
	baz=262						
346A				S	**Sn**	**16 25 47.6**	**-1.6**
	baz=262						
L34A	**Svendsen Farm,**	**19.43**	**34**		**P**	**16 22 10.8**	**-0.5**
L34A	**Svendsen Farm,**	**19.43**	**34**	P	**Pn**	**16 22 14.2**	**+1.7**
	baz=223						
L34A				S	**Sn**	**16 25 47.3**	**-3.2**
	baz=223						
P38A	**Dawn**	**19.47**	**44**	P	**Pn**	**16 22 12.1**	**-0.9**
	baz=234,SNR=15						
P38A				S	**Sn**	**16 25 49.6**	**-1.9**
	baz=234						
HBAR	**Harrisburg**	**19.50**	**58**	P	**Pn**	**16 22 12.5**	**-0.8**
	baz=249						
HBAR				S	**S**	**16 25 53.9**	**+1.6**
	baz=249						
R40A	**Maddies Statio**	**19.55**	**49**	IAmb	IAmb	16 22 26.1	
	comp=Z,383nm,1.4s						
R40A	**Maddies Statio**	**19.55**	**49**	P	**Pn**	**16 22 13.3**	**-0.6**
	baz=239,SNR=44						
R40A				S	**Sn**	**16 25 48.1**	**-5.3**
	baz=239						
KEBM	**Edson Butte**	**19.55**	**329**	IAmb	IAmb	16 22 18.3	
	comp=Z,391nm,1.0s						
SCIG	**Sabancuy**	**19.73**	**109**	*eP*	**Pn**	**16 22 16.0**	**-0.2**
PCIG		**19.75**	**120**	P	**P**	**16 22 09.7**	**-5.3**
PCIG		**19.75**	**120**	*eP*	**P**	**16 22 09.7**	**-5.3**
Y45A	**Yeager Farm, C**	**19.83**	**64**		**P**	**16 22 14.7**	**-1.0**
Y45A				IAmb	IAmb	16 22 29.5	
	comp=Z,910nm,1.4s						
Y45A	**Yeager Farm, C**	**19.83**	**64**	P	**Pn**	**16 22 16.1**	**-1.2**
	baz=255						
Y45A				S	**Sn**	**16 26 01.7**	**+1.5**
	baz=255						
146A	**Union**	**19.93**	**67**	IAmb	IAmb	16 22 26.5	
	comp=Z,621nm,1.2s						
146A	**Union**	**19.93**	**67**	P	**Pn**	**16 22 18.9**	**+0.4**
	baz=258,SNR=10						
146A				S	**Sn**	**16 26 03.6**	**+0.9**
	baz=258						
F10A	**Beach Ranch, E**	**19.95**	**347**	IAmb	IAmb	16 22 26.5	
	comp=Z,634nm,1.1s						
OXF	**Oxford**	**20.12**	**62**	IAmb	IAmb	16 22 29.1	
	comp=Z,429nm,1.1s						
OXF	**Oxford**	**20.12**	**62**	⇑P	**P**	**16 22 19.2**	**+0.4**
OXF	**Oxford**	**20.12**	**62**	P	Pn	16 22 19.8	-0.9
	baz=253,SNR=22						
OXF				S	**S**	**16 26 02.7**	**-2.1**
	baz=253						
OXF	**Oxford**	**20.12**	**62**	P	Pn	16 22 20.0	-0.7
	baz=253,SNR=22						
OXF				S	Sn	16 26 06.4	-0.7
	baz=253						
OXF	**Oxford**	**20.12**	**62**	⇑P	**P**	**16 22 19.2**	**+0.4**
CCM	**Cathedral Cave**	**20.13**	**51**	P	**P**	**16 22 18.4**	**-0.5**
CCM	**Cathedral Cave**	**20.13**	**51**	P	**P**	**16 22 18.5**	**-0.5**
CCM				pmax	pmax		
	comp=Z,93nm,0.9s						
CCM				MLR	MLR		
	comp=Z,181µm,18.0s						
CCM	**Cathedral Cave**	**20.13**	**51**	P	**P**	**16 22 18.9**	**-0.1**
	baz=242						
CCM				S	**S**	**16 26 01.6**	**-3.5**
	baz=242						
CCM	**Cathedral Cave**	**20.13**	**51**	P	Pn	16 22 19.5	-1.3
	baz=242,SNR=36						
CCM				S	**S**	**16 26 02.4**	**-2.7**
	baz=242						
CCM	**Cathedral Cave**	**20.13**	**51**	⇑P	Pn	16 22 19.3	-1.6
H04A	**Detroit Lake**	**20.17**	**336**	P	Pn	16 22 18.9	-2.4
MYIG	**Mrida**	**20.20**	**102**	*i* P	Pn	16 22 21.1	-0.5
SUSD	**Miller**	**20.25**	**25**	IAmb	IAmb	16 22 29.9	
	comp=Z,506nm,0.9s						
SUSD	**Miller**	**20.25**	**25**	P	Pn	16 22 21.0	-1.1
	baz=213,SNR=12						
SUSD				S	Sn	16 26 07.0	-3.0
	baz=213						
SUSD	**Miller**	**20.25**	**25**	P	Pn	16 22 20.5	-1.7
	baz=213						
SUSD				S	Sn	16 26 08.4	-1.7
	baz=213						
CCIG	**Comitan**	**20.28**	**117**	IAmb	IAmb	16 22 34.4	
	comp=Z,986nm,1.8s						
CCIG	**Comitan**	**20.28**	**117**	⇑P	Pn	16 22 23.7	+0.8
CCIG	**Comitan**	**20.28**	**117**	*eP*	Pn	16 22 22.6	-0.3
MSO	**Missoula**	**20.31**	**354**		**P**	**16 22 19.9**	**-1.0**
MSO				IAmb	IAmb	16 22 27.9	
	comp=Z,601nm,1.1s						
MSO				IAMs_20	IAMs_20	16 30 55.7	
	comp=Z,110µm,18.0s						
MSO	**Missoula**	**20.31**	**354**	P	Pn	16 22 22.1	-0.8
	baz=173,SNR=219						
MSO				S	Sn	16 26 11.7	0.0
	baz=173						
MSO	**Missoula**	**20.31**	**354**	⇓P	Pn	16 22 21.6	-1.4
P40A	**Paris**	**20.36**	**46**	P	**P**	**16 22 18.0**	**-3.4**
P40A				IAmb	IAmb	16 22 30.3	
	comp=Z,243nm,0.9s						
P40A	**Paris**	**20.36**	**46**	P	Pn	16 22 22.5	-1.0
	baz=237,SNR=30						
P40A				S	**S**	**16 26 09.5**	**0.0**
	baz=237						
N38A	**Joes South For**	**20.36**	**42**	IAmb	IAmb	16 22 33.9	
	comp=Z,567nm,1.5s						
N38A	**Joes South For**	**20.36**	**42**	P	Pn	16 22 21.6	-1.9
	baz=232						
N38A				S	**S**	**16 26 09.6**	**-0.1**
	baz=232						
LAO	**LASA Array**	**20.38**	**9**	P	**P**	**16 22 21.2**	**-0.4**
LAO				IAMs_20	IAMs_20	16 30 17.0	
	comp=Z,106µm,18.0s						
LAO	**LASA Array**	**20.38**	**9**	P	Pn	16 22 22.3	-1.4
	baz=193,SNR=174						
LAO				S	Sn	16 26 11.8	-1.4
	baz=193						
LAO	**LASA Array**	**20.38**	**9**	P	Pn	16 22 23.5	-0.2
	baz=193,SNR=174						
LAO				S	Sn	16 26 12.9	-0.4
	baz=193						
LAO	**LASA Array**	**20.38**	**9**	⇓P	Pn	16 22 22.1	-1.7
COR	**Corvallis**	**20.51**	**334**	IAMs_20	IAMs_20	16 31 24.7	
	comp=Z,98µm,18.0s						
COR	**Corvallis**	**20.51**	**334**	IAmb	IAmb	16 22 33.4	
	comp=Z,443nm,1.2s						
COR	**Corvallis**	**20.51**	**334**	P	Pn	16 22 25.5	+0.4
COR				pmax	pmax		
	comp=Z,325nm,1.2s						
COR	**Corvallis**	**20.51**	**334**	⇑P	Pn	16 22 25.7	+0.5
F07A	**Phinny Hill Vi**	**20.53**	**342**	IAmb	IAmb	16 22 28.3	
	comp=Z,263nm,1.0s						
HOOD	**Mount Hood Mea**	**20.54**	**338**	IAmb	IAmb	16 22 36.7	
	comp=Z,548nm,1.1s						
LNXT	**Lenox**	**20.58**	**57**	P	**P**	**16 22 23.5**	**-0.4**
	baz=249						
LNXT				S	Sn	16 26 16.4	-1.8
	baz=249						
ECSD	**EROS Data Cent**	**20.66**	**31**	P	**P**	**16 22 22.4**	**-2.3**
ECSD				IAmb	IAmb	16 22 39.0	
	comp=Z,556nm,1.5s						
ECSD	**EROS Data Cent**	**20.66**	**31**	P	Pn	16 22 25.6	-1.3
	baz=219,SNR=39						
ECSD				S	Sn	16 26 17.5	-2.5
	baz=219						
ECSD	**EROS Data Cent**	**20.66**	**31**	P	Pn	16 22 25.7	-1.2
	baz=219,SNR=39						
ECSD				S	**S**	**16 26 15.5**	**+0.1**
	baz=219						
ECSD	**EROS Data Cent**	**20.66**	**31**	⇓P	Pn	16 22 25.7	-1.2
E09A	**Wood Farm, Sta**	**20.66**	**346**	P	**P**	**16 22 24.1**	**-0.6**
E09A				IAmb	IAmb	16 22 32.6	
	comp=Z,723nm,1.2s						
E08A	**Dider Farm, El**	**20.85**	**344**	P	**P**	**16 22 25.3**	**-1.4**
E08A				IAmb	IAmb	16 22 34.7

BRAL Brewton 21.39 72 P P 16 22 31.4 -1.2
baz=264
BRAL S Sn 16 26 35.8 -2.0
baz=264
E28A Huff 21.51 20 P P 16 22 35.1 +1.2
baz=206,SNR=51
E28A S S 16 26 33.2 +0.8
baz=206
T45B Paducah 21.55 56 P P 16 22 33.2 -1.1
baz=248
T45B S S 16 26 34.5 +1.3
baz=248
T45A Paducah 21.55 56 P P 16 22 34.0 -0.3
T45A IAmb IAmb 16 22 52.9
comp=Z,209nm,0.7s
LRAL Lakeview Retre 21.71 67 P P 16 22 36.5 +0.4
LRAL IAMs_20 IAMs_20 16 30 53.7
comp=Z,86µm,21.0s
LRAL Lakeview Retre 21.71 67 P P 16 22 36.6 +0.5
baz=259,SNR=46
LRAL S S 16 26 38.7 +2.2
baz=259
LRAL Lakeview Retre 21.71 67 P P 16 22 36.7 +0.6
baz=259,SNR=46
LRAL S S 16 26 38.9 +2.4
baz=259
LRAL Lakeview Retre 21.71 67 ⇑P P 16 22 36.6 +0.5
TEIG Tepich 21.74 102 P P 16 22 36.7 +0.3
TEIG Tepich 21.74 102 ⇑P P 16 22 37.6 +1.2
TEIG Tepich 21.74 102 LR LR 16 32 12.7
comp=Z,433µm,20.4s,baz=76,slow=40
N41A Harden Midland 21.77 45 IAmb IAmb 16 22 47.2
comp=Z,478nm,1.1s
N41A Harden Midland 21.77 45 P P 16 22 36.9 +0.2
baz=236,SNR=71
N41A S S 16 26 37.7 +0.2
baz=236
K38A Parkersburg 21.82 38 IAmb IAmb 16 22 48.6
comp=Z,502nm,1.1s
K38A Parkersburg 21.82 38 P P 16 22 37.9 +0.7
baz=229,SNR=28
K38A S S 16 26 40.2 +1.8
baz=229
WVT Waverly 21.85 59 P P 16 22 37.5 -0.1
WVT Waverly 21.85 59 P P 16 22 37.5 -0.1
WVT pmax pmax
comp=Z,1µm,1.7s
WVT MLR MLR
comp=Z,225µm,21.0s
WVT Waverly 21.85 59 P P 16 22 38.1 +0.6
baz=251
WVT S S 16 26 42.9 +3.8
baz=251
WVT Waverly 21.85 59 P P 16 22 38.3 +0.8
baz=251,SNR=39
WVT S S 16 26 42.3 +3.2
baz=251
LON Longmire 21.86 340 P P 16 22 37.6 0.0
LON Longmire 21.86 340 P P 16 22 37.6 0.0
LON pmax pmax
comp=Z,804nm,1.0s
C09A Chrisman Ranch 21.91 347 IAmb IAmb 16 22 49.2
comp=Z,193nm,0.9s
LTY Liberty 21.98 342 IAmb IAmb 16 22 50.5
comp=Z,482nm,1.4s
X48A Hartselle 21.98 63 P P 16 22 38.1 -0.9
X48A IAmb IAmb 16 22 52.0
comp=Z,555nm,1.4s
X48A Hartselle 21.98 63 P P 16 22 38.9 -0.1
baz=256,SNR=43
X48A S S 16 26 42.1 +0.5
baz=256
Q44A Meyer Farm, Va 22.07 51 IAmb IAmb 16 22 57.9
comp=Z,432nm,0.9s
Q44A Meyer Farm, Va 22.07 51 P P 16 22 41.4 +1.5
baz=243,SNR=43
Q44A S S 16 26 45.1 +1.8
baz=243
P43A Skaggs, Pawnee 22.08 49 IAmb IAmb 16 22 57.5
comp=Z,600nm,1.4s
P43A Skaggs, Pawnee 22.08 49 P P 16 22 39.7 -0.3
baz=241
P43A S S 16 26 44.4 +1.0
baz=241
NEW Newport 22.14 349 P P 16 22 37.5 -3.1
NEW IAmb IAmb 16 22 49.0
comp=Z,397nm,1.1s
NEW Newport 22.14 349 IAMs_20 IAMs_20 16 31 30.5
comp=Z,127µm,18.0s
NEW Newport 22.14 349 P P 16 22 40.1 -0.5
baz=166,SNR=120
NEW S S 16 26 47.5 +2.9
baz=166
NEW Newport 22.14 349 ⇓P P 16 22 40.2 -0.4
NEW Newport 22.14 349 P P 16 22 40.1 -0.5
comp=Z,146nm,0.8s,baz=171,slow=12,SNR=81
NEW Lg Lg 16 29 26.5
comp=Z,0.1nm,0.3s,baz=100,slow=16,SNR=1.3
NEW LR LR 16 31 40.3
comp=Z,112µm,18.6s,baz=179,slow=38
comp=Z,146nm,0.8s
250A Grady 22.15 70 P P 16 22 40.7 -0.2
250A IAmb IAmb 16 23 01.3
comp=Z,726nm,1.8s
250A Grady 22.15 70 P P 16 22 41.8 +1.0
baz=263,SNR=12
250A S S 16 26 48.5 +3.5
baz=263
L40A Anamosa 22.34 41 P P 16 22 41.3 -1.4
L40A IAmb IAmb 16 22 50.9
comp=Z,277nm,1.0s
L40A Anamosa 22.34 41 P P 16 22 43.3 +0.5
baz=233,SNR=50
L40A S S 16 26 49.1 +0.8
baz=233
Y49A Blount Mountai 22.36 65 IAmb IAmb 16 22 49.7
comp=Z,202nm,0.9s
Y49A Blount Mountai 22.36 65 P P 16 22 43.0 -0.1
baz=258,SNR=32
Y49A S S 16 26 51.5 +2.6
baz=258
I37B Waseca 22.42 35 S S 16 26 51.6 +1.8
baz=225
DGMT Dagmar 22.44 12 IAMs_20 IAMs_20 16 31 46.8
comp=Z,105µm,20.0s
DGMT Dagmar 22.44 12 P P 16 22 44.0 +0.1
baz=196,SNR=36
DGMT S Sn 16 26 55.5 -7.3
baz=196
DGMT Dagmar 22.44 12 P P 16 22 44.4 +0.6
baz=196,SNR=36
DGMT S S 16 26 54.2 +4.0
baz=196
DGMT Dagmar 22.44 12 ⇓P P 16 22 43.9 0.0
451A Vernon 22.46 74 P P 16 22 44.4 +0.2
baz=266
451A S S 16 26 56.0 +5.2
baz=266
F33A 5 Mile Ranch, 22.46 28 IAmb IAmb 16 22 54.7
comp=Z,500nm,1.6s
F33A 5 Mile Ranch, 22.46 28 P P 16 22 44.0 -0.1
baz=217,SNR=21
F33A S S 16 26 49.8 -0.8
baz=217
V48A Smith Brothers 22.51 60 P P 16 22 44.3 -0.3
baz=253,SNR=11
V48A S S 16 26 53.1 +1.5
baz=253
T47A Sharon Grove 22.69 57 IAmb IAmb 16 23 03.6
comp=Z,331nm,1.1s
T47A Sharon Grove 22.69 57 P P 16 22 47.3 +0.8
baz=250,SNR=37
T47A S S 16 26 55.8 +0.9
baz=250
HDIL Hopedale 22.69 47 IAmb IAmb 16 23 03.9
comp=Z,289nm,0.8s
HDIL IAMs_20 IAMs_20 16 31 13.7
comp=Z,65µm,21.0s
HDIL Hopedale 22.69 47 P P 16 22 46.4 -0.1
baz=239
HDIL S S 16 26 54.6 -0.3
baz=239
HDIL Hopedale 22.69 47 P P 16 22 46.6 0.0
baz=239
HDIL S S 16 26 54.7 -0.1
baz=239
HDIL Hopedale 22.69 47 ⇑P P 16 22 46.5 0.0
MDND Maddock 22.98 20 P P 16 22 48.1 -1.4
baz=207,SNR=20
MDND S S 16 26 59.6 -0.1
baz=207
MDND Maddock 22.98 20 P P 16 22 49.4 -0.2
baz=207,SNR=20
MDND S S 16 27 00.3 +0.4
baz=207
CLTN Cedars of Leba 22.99 60 IAmb IAmb 16 23 04.3
comp=Z,151nm,1.0s
O44A Mansfield 23.04 48 IAmb IAmb 16 22 59.0
comp=Z,244nm,0.9s
O44A Mansfield 23.04 48 P P 16 22 50.3 +0.1
baz=241,SNR=7.2
O44A S S 16 27 00.3 -0.6
baz=241
SWET Sewanee 23.06 62 P P 16 22 48.7 -1.8
SWET IAmb IAmb 16 23 06.9
comp=Z,166nm,1.0s
NLWA Neilton Lookou 23.10 337 P P 16 22 50.3 -0.5
NLWA Neilton Lookou 23.10 337 ⇑P P 16 22 51.6 +0.8
FPAL Fort Paine 23.15 64 P P 16 22 49.9 -1.6
FPAL IAmb IAmb 16 23 03.7
comp=Z,171nm,0.8s
352A Blakely 23.23 72 P P 16 22 52.2 0.0
baz=265,SNR=11
352A S S 16 27 05.7 +1.3
baz=265
L42A Oliver, Polo 23.24 43 P P 16 22 49.0 -3.3
L42A IAmb IAmb 16 23 11.2
comp=Z,357nm,1.3s
L42A Oliver, Polo 23.24 43 P P 16 22 51.7 -0.5
baz=236,SNR=14
L42A S S 16 27 03.6 -0.7
baz=236
D32A Dogwood Acres, 23.24 25 IAmb IAmb 16 23 10.7
comp=Z,172nm,1.0s
D32B Dogwood Acres, 23.24 25 P P 16 22 51.8 -0.3
baz=213
D32B S S 16 27 04.2 -0.1
baz=213
Z51A Franklin 23.27 67 IAmb IAmb 16 23 09.6
comp=Z,205nm,1.2s
Z51A Franklin 23.27 67 P P 16 22 52.2 -0.3
baz=260
Z51A S S 16 27 07.2 +2.2
baz=260
B06A Marblemount 23.36 342 IAmb IAmb 16 22 58.0
comp=Z,212nm,0.9s
JFWS Jewell Farm 23.43 41 IAMs_20 IAMs_20 16 31 06.8
comp=Z,76µm,21.0s
JFWS Jewell Farm 23.43 41 IAmb IAmb 16 23 12.3
comp=Z,165nm,0.9s
JFWS Jewell Farm 23.43 41 P P 16 22 53.1 -1.0
baz=233,SNR=21
JFWS S S 16 27 07.1 -0.3
baz=233
JFWS Jewell Farm 23.43 41 P P 16 22 53.8 -0.3
baz=233,SNR=21
JFWS S S 16 27 06.7 -0.6
baz=233
JFWS Jewell Farm 23.43 41 ⇑P P 16 22 54.0 -0.1
U49A Red Boiling Sp 23.54 59 IAmb IAmb 16 23 16.6
comp=Z,328nm,1.6s
U49A Red Boiling Sp 23.54 59 P P 16 22 55.1 -0.2
baz=253,SNR=26
U49A S S 16 27 11.2 +1.9
baz=253
152A Waverly Hall 23.55 69 IAmb IAmb 16 23 21.3
comp=Z,415nm,1.5s
152A Waverly Hall 23.55 69 P P 16 22 55.2 -0.1
baz=262,SNR=32
152A S S 16 27 13.2 +3.7
baz=262
MTO3 Montecristo 23.55 117 IAmb IAmb 16 23 05.7
comp=Z,211nm,1.4s
W50A Signal Mountai 23.55 62 P P 16 22 53.9 -1.5
W50A IAmb IAmb 16 23 08.9
comp=Z,219nm,0.9s
W50A Signal Mountai 23.55 62 P P 16 22 55.0 -0.4
baz=256,SNR=60
W50A S S 16 27 09.4 -0.2
baz=256
SPMN Marine on St. 23.58 33 P P 16 22 56.0 +0.4
baz=224,SNR=14
SPMN S S 16 27 10.7 +0.9
baz=224
SPMN Marine on St. 23.58 33 P P 16 22 56.3 +0.8
baz=224,SNR=14
SPMN S S 16 27 08.3 -1.4
baz=224
P46A Rosedale 23.65 51 P P 16 22 56.5 +0.2
baz=244,SNR=15
P46A S S 16 27 13.4 +2.4
baz=244
F36A Milaca 23.70 31 IAmb IAmb 16 23 06.7
comp=Z,379nm,1.4s
F36A IAMs_20 IAMs_20 16 31 59.3
comp=Z,66µm,18.0s
F36A Milaca 23.70 31 P P 16 22 57.8 +1.0
baz=222,SNR=61
F36A S S 16 27 12.1 +0.4
baz=222
WCI Wyandotte Cave 23.74 55 P P 16 22 57.0 -0.2
WCI IAmb IAmb 16 23 12.1
comp=Z,206nm,1.0s
WCI Wyandotte Cave 23.74 55 P P 16 22 57.0 -0.2
WCI pmax pmax
comp=Z,206nm,1.0s
WCI MLR MLR
comp=Z,200µm,18.0s
WCI Wyandotte Cave 23.74 55 P P 16 22 57.5 +0.3
baz=248
WCI S S 16 27 12.0 -0.5
baz=248
WCI Wyandotte Cave 23.74 55 P P 16 22 56.6 -0.6
baz=248,SNR=7.1
WCI S S 16 27 13.4 +1.0
baz=248
WCI Wyandotte Cave 23.74 55 ⇑P P 16 22 57.2 +0.1
X51A Calhoun 23.77 64 IAmb IAmb 16 23 17.6
comp=Z,266nm,1.1s
X51A Calhoun 23.77 64 P P 16 22 57.1 -0.4
baz=258,SNR=31
X51A P P 16 22 57.1 -0.4
baz=258,SNR=31
X51A S S 16 27 14.8 +1.8
baz=258
X51A S S 16 27 14.8 +1.8
baz=258
I40A Norwalk 23.82 38 P P 16 22 57.7 -0.3
baz=231,SNR=6.0
I40A S S 16 27 11.3 -2.4
baz=231
M44A Midewin, Midew 23.93 46 IAmb IAmb 16 23 24.4
comp=Z,326nm,1.4s
M44A Midewin, Midew 23.93 46 P P 16 22 58.2 -0.8
baz=239
M44A S S 16 27 14.5 -0.9
baz=239
SNET Serv Nac Est T 24.06 118 IAMs_20 IAMs_20 16 31 29.4
comp=Z,62µm,20.0s
SFIN Lafayette 24.07 49 P P 16 22 60.0 -0.3
baz=243,SNR=44
SFIN S S 16 27 18.4 +0.7
baz=243
SFIN Lafayette 24.07 49 P P 16 23 00.4 +0.1
baz=243,SNR=44
SFIN S S 16 27 17.2 -0.4
baz=243
CPCT Cooper Cave 24.24 62 P P 16 23 00.8 -1.1
CPCT IAmb IAmb 16 23 27.2
comp=Z,562nm,1.9s
HQIL Hanson Quary C 24.27 46 IAmb IAmb 16 23 09.9
comp=Z,162nm,1.0s
HQIL IAMs_20 IAMs_20 16 31 55.3
comp=Z,67µm,21.0s
Y52A Lilburn 24.28 66 IAmb IAmb 16 23 27.4
comp=Z,230nm,1.1s
Y52A Lilburn 24.28 66 P P 16 23 02.1 -0.2
baz=260,SNR=14
Y52A P P 16 23 02.1 -0.2
baz=260,SNR=14
Y52A S S 16 27 16.4 -4.7
baz=260
Y52A S S 16 27 16.4 -4.7
baz=260
TIGA Tifton 24.37 72 P P 16 23 03.1 0.0
baz=266,SNR=7.4
TIGA S S 16 27 23.7 +1.1
baz=266
TIGA Tifton 24.37 72 P P 16 23 02.9 -0.2
baz=266,SNR=7.4
TIGA S S 16 27 26.8 +4.2
baz=266
T50A Nancy 24.42 58 P P 16 23 02.6 -0.9
baz=253
T50A P P 16 23 02.6 -0.9
baz=253
T50A S S 16 27 20.4 -3.0
baz=253
T50A S S 16 27 20.4 -3.0
baz=253
L44A Lake County Fo 24.43 45 IAmb IAmb 16 23 20.6
comp=Z,191nm,1.1s
L44A IAMs_20 IAMs_20 16 32 17.5
comp=Z,64µm,18.0s
L44A Lake County Fo 24.43 45 P P 16 23 03.1 -0.5
baz=238
L44A S S 16 27 23.7 +0.3
baz=238
L44A Lake County Fo 24.43 45 P P 16 23 03.0 -0.5
baz=238
L44A S S 16 27 21.7 -1.7
baz=238
K43A Burlington 24.45 43 IAmb IAmb 16 23 25.7
comp=Z,144nm,1.1s
K43A Burlington 24.45 43 P P 16 23 02.7 -1.1
baz=236
K43A S S 16 27 22.3 -1.5
baz=236
V51A Loudon 24.46 62 IAmb IAmb 16 23 21.1
comp=Z,137nm,1.1s
V51A Loudon 24.46 62 P P 16 23 03.6 -0.3
baz=256,SNR=14
V51A S S 16 27 25.7 +1.7
baz=256
R49A Shelbyville 24.58 55 IAmb IAmb 16 23 30.7
comp=Z,265nm,1.2s
R49A Shelbyville 24.58 55 P P 16 23 05.2 +0.1
baz=250,SNR=21
R49A P P 16 23 05.2 +0.1
baz=250,SNR=21
R49A S S 16 27 27.6 +1.6
baz=250
R49A S S 16 27 27.6 +1.6
baz=250
W52A Murphy 24.63 63 P P 16 23 06.1 +0.6
baz=258
W52A S S 16 27 28.8 +1.9
baz=258
AGMN Agassiz Nation 24.64 25 P P 16 23 05.6 +0.1
AGMN IAmb IAmb 16 23 26.9
comp=Z,156nm,1.1s
AGMN IAMs_20 IAMs_20 16 33 10.9
comp=Z,70µm,20.0s
AGMN Agassiz Nation 24.64 25 P P 16 23 05.5 +0.1
baz=214,SNR=52
AGMN S S 16 27 27.8 +1.0
baz=214
AGMN Agassiz Nation 24.64 25 P P 16 23 05.5 +0.1
baz=214,SNR=52
AGMN S S 16 27 22.3 -4.5
baz=214
AGMN Agassiz Nation 24.64 25 ⇑P P 16 23 05.2 -0.2
GOGA Godfrey 24.69 67 P P 16 23 05.7 -0.3
GOGA pmax pmax
comp=Z,109nm,1.1s
GOGA Godfrey 24.69 67 P P 16 23 05.8 -0.3
baz=262,SNR=9.1
GOGA S S 16 27 30.0 +2.2
baz=262
GOGA Godfrey 24.69 67 P P 16 23 05.7 -0.3
baz=262,SNR=9.1
GOGA S S 16 27 27.4 -0.4
baz=262
GOGA Godfrey 24.69 67 ⇑P P 16 23 05.5 -0.5
I42A Draeger Farm, 24.79 40 P P 16 23 04.2 -2.6
I42A IAmb IAmb 16 23 15.7
comp=Z,138nm,0.9s
I42A Draeger Farm, 24.79 40 P P 16 23 06.2 -0.7
baz=234,SNR=15
I42A S S 16 27 28.5 -0.8
baz=234
P48A Milroy 24.84 53 P P 16 23 06.5 -0.8
baz=247
P48A P P 16 23 06.5 -0.8
baz=247
P48A S S 16 27 30.3 +0.3
baz=247
P48A S S 16 27 30.3 +0.3
baz=247
TKL Tuckaleechee C 24.88 62 P P 16 23 07.0 -0.8
baz=257,SNR=39
TKL S S 16 27 32.6 +1.7
baz=257
TKL Tuckaleechee C 24.88 62 P P 16 23 07.2 -0.5
comp=Z,56nm,0.9s,baz=224,slow=8.7,SNR=46
TKL Lg Lg 16 30 40.8
comp=Z,0.1nm,0.3s,baz=27,slow=5.4,SNR=6.7
TKL LR LR 16 33 25.9
comp=Z,91µm,18.1s,baz=246,slow=38
comp=Z,56nm,0.9s
154A Montrose 24.89 69 IAmb IAmb 16 23 29.1
comp=Z,333nm,1.3s
154A Montrose 24.89 69 P P 16 23 07.3 -0.5
baz=264
154A S S 16 27 34.6 +3.5
baz=264
G40A Rib Lake 24.94 36 IAmb IAmb 16 23 16.6
comp=Z,167nm,1.2s
G40A Rib Lake 24.94 36 P P 16 23 08.8 +0.6
baz=229,SNR=22
G40A S S 16 27 32.9 +1.2
baz=229
V52A Sevierville 25.06 62 P P 16 23 09.4 0.0
baz=256,SNR=20
V52A S S 16 27 33.5 -0.3
baz=256
E38A The Farm, Brul 25.18 33 S S 16 27 36.6 +1.2
baz=225
R50A Paris 25.20 56 IAmb IAmb 16 23 41.9
comp=Z,161nm,1.1s
R50A Paris 25.20 56 P P 16 23 10.9 +0.2
baz=251,SNR=17
R50A P P 16 23 10.9 +0.2
baz=251,SNR=17
R50A S S 16 27 37.1 +1.1
baz=251
R50A S S 16 27 37.1 +1.1
baz=251
N47A Urbana 25.25 49 IAmb IAmb 16 23 24.7
comp=Z,175nm,0.9s
N47A Urbana 25.25 49 P P 16 23 10.2 -0.8
baz=244,SNR=12
N47A P P 16 23 10.2 -0.8
baz=244,SNR=12
N47A S S 16 27 34.8 -1.8
baz=244
N47A S S 16 27 34.8 -1.8
baz=244
TZTN Tazewell 25.27 60 IAmb IAmb 16 23 42.5
comp=Z,410nm,1.6s
TZTN IAMs_20 IAMs_20 16 33 19.2
comp=Z,110µm,19.0s
TZTN Tazewell 25.27 60 P P 16 23 12.0 +0.7
baz=255,SNR=9.6
TZTN S S 16 27 37.3 +0.1
baz=255
TZTN Tazewell 25.27 60 P P 16 23 09.8 -1.6
baz=255,SNR=9.6
TZTN S S 16 27 37.7 +0.5
baz=255
TZTN Tazewell 25.27 60 ⇑P P 16 23 11.1 -0.3
O48B Farmland 25.35 51 IAmb IAmb 16 23 32.9
comp=Z,113nm,0.9s
O48B Farmland 25.35 51 P P 16 23 11.5 -0.4
baz=246,SNR=8.6
O48B S S 16 27 37.4 -0.9
baz=246
O48B Farmland 25.35 51 P P 16 23 11.8 -0.2
baz=246,SNR=8.6
O48B S S 16 27 37.3 -0.9
baz=246
255A Hazlehurst 25.35 71 P P 16 23 10.4 -1.7
baz=266

255A					S	S	16 27 42.6	+4.2		
	baz=266									
P49A	**Miami Univ. Ec**	**25.37**	**53**		P	P	**16 23 12.0**	**-0.2**		
	baz=248									
P49A					S	S	**16 27 40.9**	**+2.3**		
	baz=248									
P49A	**Miami Univ. Ec**	**25.37**	**53**		P	P	**16 23 11.6**	**-0.5**		
	baz=248									
P49A					S	S	**16 27 38.2**	**-0.4**		
	baz=248									
L46A	**Eue Claire**	**25.38**	**46**		IAmb	IAmb	16 23 30.8			
	comp=Z,246nm,1.0s									
L46A	**Eue Claire**	**25.38**	**46**		S	S	**16 27 38.7**	**+0.1**		
	baz=241									
L46A					S	S	**16 27 38.7**	**+0.1**		
	baz=241									
BG3	**Lake Jocassee**	**25.41**	**64**		IAmb	IAmb	16 23 44.0			
	comp=Z,127nm,1.1s									
CASEE	**Lake Jocassee**	**25.41**	**64**		P	P	**16 23 11.0**	**-1.5**		
	baz=259,SNR=19									
CASEE					S	S	**16 27 40.0**	**+0.7**		
	baz=259									
TGUH	**Tegucigalpa,Un**	**25.42**	**115**		IAMs_20	IAMs_20	16 32 20.8			
	comp=Z,76µm,22.0s									
B35A	**Bob, Littlefor**	**25.53**	**27**		P	P	**16 23 13.7**	**+0.2**		
	baz=218,SNR=17									
B35A					S	S	**16 27 38.3**	**-2.6**		
	baz=218									
S51A	**Beattyville**	**25.55**	**58**		IAmb	IAmb	16 23 43.0			
	comp=Z,115nm,0.8s									
S51A	**Beattyville**	**25.55**	**58**		P	P	**16 23 13.6**	**-0.2**		
	baz=253,SNR=24									
S51A					P	P	**16 23 13.6**	**-0.2**		
	baz=253,SNR=24									
S51A					S	S	**16 27 41.7**	**+0.2**		
	baz=253									
S51A					S	S	**16 27 41.7**	**+0.2**		
	baz=253									
SOR	**Soroa**	**25.64**	**92**		IAmb	IAmb	16 23 48.1			
	comp=Z,418nm,1.7s									
SOR	**Soroa**	**25.64**	**92**		P	P	**16 23 15.7**	**+0.9**		
SOR					pmax	pmax				
	comp=Z,137nm,1.9s									
V53A	**Saluda**	**25.64**	**63**		IAmb	IAmb	16 23 34.3			
	comp=Z,117nm,0.9s									
V53A	**Saluda**	**25.64**	**63**		P	P	**16 23 14.9**	**+0.2**		
	baz=256,SNR=26									
V53A					P	P	**16 23 14.9**	**+0.2**		
	baz=258,SNR=26									
V53A					S	S	**16 27 44.1**	**+1.0**		
	baz=258									
V53A					S	S	**16 27 44.1**	**+1.0**		
	baz=258									
456A	**Hilliard**	**25.67**	**74**		P	P	**16 23 13.6**	**-1.3**		
	baz=268									
456A					S	S	**16 27 44.7**	**+1.2**		
	baz=268									
H43A	**Windswept, Lux**	**25.80**	**40**		P	P	**16 23 14.3**	**-1.7**		
H43A					IAmb	IAmb	16 23 30.6			
	comp=Z,325nm,1.6s									
HODGE	**Hodges**	**25.82**	**66**		IAmb	IAmb	16 23 43.7			
	comp=Z,174nm,1.3s									
HODGE	**Hodges**	**25.82**	**66**		P	P	**16 23 15.0**	**-1.2**		
	baz=261,SNR=14									
HODGE					S	S	**16 27 47.9**	**+2.2**		
	baz=261									
O49A	**Covington**	**25.89**	**52**		IAmb	IAmb	16 23 45.6			
	comp=Z,129nm,1.0s									
O49A	**Covington**	**25.89**	**52**		P	P	**16 23 16.5**	**-0.4**		
	baz=247,SNR=8.3									
O49A					P	P	**16 23 16.5**	**-0.4**		
	baz=247,SNR=8.3									
O49A					S	S	**16 27 46.8**	**-0.1**		
	baz=247									
O49A					S	S	**16 27 46.8**	**-0.1**		
	baz=247									
Q51A	**Peebles**	**26.18**	**55**		IAmb	IAmb	16 23 54.0			
	comp=Z,140nm,0.9s									
Q51A	**Peebles**	**26.18**	**55**		P	P	**16 23 18.8**	**-0.7**		
	baz=250,SNR=15									
Q51A					P	P	**16 23 18.8**	**-0.7**		
	baz=250,SNR=15									
Q51A					S	S	**16 27 55.4**	**+4.0**		
	baz=250									
Q51A					S	S	**16 27 55.4**	**+4.0**		
	baz=250									
EYMN	**Ely**	**26.18**	**30**		P	P	**16 23 18.4**	**-1.0**		
EYMN					IAmb	IAmb	16 23 30.9			
	comp=Z,171nm,1.1s									
EYMN	**Ely**	**26.18**	**30**		IAMs_20	IAMs_20	16 32 12.9			
	comp=Z,47µm,20.0s									
EYMN	**Ely**	**26.18**	**30**		P	P	**16 23 19.1**	**-0.3**		
	baz=223,SNR=24									
EYMN					S	S	**16 27 49.1**	**-2.2**		
	baz=223									
EYMN	**Ely**	**26.18**	**30**		P	P	**16 23 19.5**	**+0.1**		
	baz=223,SNR=24									
EYMN					S	S	**16 27 45.7**	**-5.6**		
	baz=223									
EYMN	**Ely**	**26.18**	**30**	⇓	P	P	**16 23 19.9**	**+0.4**		
DWPF	**Disney Wildern**	**26.23**	**80**		P	P	**16 23 20.4**	**+0.4**		
	baz=274									
DWPF					S	S	**16 27 55.3**	**+3.0**		
	baz=274									
DWPF	**Disney Wildern**	**26.23**	**80**		S	S	**16 27 51.3**	**-1.0**		
	baz=274									
HAW	**Hawthorne Fire**	**26.23**	**68**		P	P	**16 23 20.2**	**+0.2**		
	baz=263									
HAW					S	S	**16 27 50.9**	**-1.4**		
	baz=263									
PAULI	**Pauline**	**26.28**	**65**		P	P	**16 23 19.9**	**-0.5**		
	baz=260									
PAULI					S	S	**16 27 57.4**	**+4.4**		
	baz=260									
ULM	**Lac du Bonnet**	**26.28**	**22**		IAmb	IAmb	16 23 32.8			
	comp=Z,432nm,1.6s									
ULM	**Lac du Bonnet**	**26.28**	**22**	⇓	P	P	**16 23 19.6**	**-0.7**		
ULM	**Lac du Bonnet**	**26.28**	**22**		P	P	**16 23 19.3**	**-1.0**		
	comp=Z,54nm,1.0s,baz=215,slow=9.6,SNR=43									
ULM					S	S	**16 27 50.8**	**-2.0**		
	comp=Z,6.6nm,1.1s,baz=114,slow=20,SNR=1.4									
ULM					Lg	Lg	16 31 24.8			
	comp=Z,0.2nm,0.3s,baz=120,slow=20,SNR=2.5									
ULM					LR	LR	16 32 27.6			
	comp=Z,18µm,21.3s,baz=209,slow=34									
	comp=Z,54nm,1.0s									
N49A	**Columbus Grove**	**26.30**	**50**		IAmb	IAmb	16 23 42.1			
	comp=Z,244nm,1.4s									
N49A	**Columbus Grove**	**26.30**	**50**		P	P	**16 23 19.7**	**-0.9**		
	baz=246,SNR=12									
N49A					P	P	**16 23 19.7**	**-0.9**		
	baz=246,SNR=12									
N49A					S	S	**16 27 54.7**	**+1.4**		
	baz=246									
N49A					S	S	**16 27 54.7**	**+1.4**		
	baz=246									
CRIN	**San Cristobal**	**26.36**	**117**	*e*	P	P	**16 23 25.0**	**+3.6**		
F42A	**Maple Grove Fa**	**26.37**	**38**		S	S	**16 27 53.5**	**-0.8**		
	baz=232									
I45A	**Fountain**	**26.46**	**43**		S	S	**16 27 57.7**	**+2.0**		
	baz=237									
I45A					S	S	**16 27 57.7**	**+2.0**		
	baz=237									
P51A	**Williamsport**	**26.54**	**54**		IAmb	IAmb	16 23 50.5			
	comp=Z,131nm,1.0s									
P51A	**Williamsport**	**26.54**	**54**		P	P	**16 23 22.3**	**-0.5**		
	baz=250,SNR=7.4									
P51A					P	P	**16 23 22.3**	**-0.5**		
	baz=250,SNR=7.4									
P51A					S	S	**16 28 02.6**	**+5.4**		
	baz=250									
P51A					S	S	**16 28 02.6**	**+5.4**		
	baz=250									
L48A	**N Adams**	**26.57**	**48**		IAmb	IAmb	16 23 48.7			
	comp=Z,140nm,1.0s									
L48A	**N Adams**	**26.57**	**48**		P	P	**16 23 22.3**	**-0.7**		
	baz=244,SNR=10									
L48A					P	P	**16 23 22.3**	**-0.7**		
	baz=244,SNR=10									
L48A					S	S	**16 27 59.0**	**+1.5**		
	baz=244									
L48A					S	S	**16 27 59.0**	**+1.5**		
	baz=244									
257A	**Skidaway Islan**	**26.59**	**71**		S	S	**16 28 02.5**	**+4.6**		
	baz=266									
U54A	**Nelsons Funny**	**26.62**	**61**		IAmb	IAmb	16 23 52.5			
	comp=Z,148nm,1.1s									
U54A	**Nelsons Funny**	**26.62**	**61**		P	P	**16 23 22.7**	**-0.8**		
	baz=257									
U54A					P	P	**16 23 22.7**	**-0.8**		
	baz=257									
U54A					S	S	**16 27 59.4**	**+0.8**		
	baz=257									
U54A					S	S	**16 27 59.4**	**+0.8**		
	baz=257									
JSC	**Jenkinsville**	**26.64**	**66**		S	S	**16 27 59.2**	**+0.4**		
	baz=262									
KMSC	**Kings Mountain**	**26.72**	**64**		P	P	**16 23 23.9**	**-0.5**		
	baz=260									
KMSC					S	S	**16 28 01.1**	**+1.1**		
	baz=260									
KMSC	**Kings Mountain**	**26.72**	**64**		S	S	**16 27 58.4**	**-1.7**		
	baz=260									
ACSO	**Alum Creek Sta**	**26.87**	**53**		IAmb	IAmb	16 23 54.5			
	comp=Z,133nm,1.0s									
ACSO					IAMs_20	IAMs_20	16 33 29.9			
	comp=Z,105µm,21.0s									
ACSO	**Alum Creek Sta**	**26.87**	**53**		P	P	**16 23 26.0**	**+0.3**		
	baz=248,SNR=8.0									
ACSO					S	S	**16 28 04.3**	**+2.1**		
	baz=248									
ACSO	**Alum Creek Sta**	**26.87**	**53**		P	P	**16 23 25.6**	**-0.1**		
	baz=248,SNR=8.0									
ACSO					S	S	**16 28 04.4**	**+2.1**		
	baz=248									
ACSO	**Alum Creek Sta**	**26.87**	**53**	⇑	P	P	**16 23 25.8**	**+0.1**		
J47A	**Sunmer**	**26.93**	**45**		S	S	**16 27 59.6**	**-3.5**		
	baz=241									
J47A					S	S	**16 27 59.6**	**-3.5**		
	baz=241									
Q52A	**Bidwell**	**26.95**	**56**		IAmb	IAmb	16 24 01.8			
	comp=Z,129nm,1.0s									
Q52A	**Bidwell**	**26.95**	**56**		P	P	**16 23 26.2**	**-0.2**		
	baz=252,SNR=9.0									
Q52A					P	P	**16 23 26.2**	**-0.2**		
	baz=252,SNR=9.0									
Q52A					S	S	**16 28 01.3**	**-2.3**		
	baz=252									
Q52A					S	S	**16 28 01.3**	**-2.3**		
	baz=252									
V55A	**Taylorsville**	**26.95**	**63**		IAmb	IAmb	16 23 55.5			
	comp=Z,187nm,1.3s									
V55A	**Taylorsville**	**26.95**	**63**		P	P	**16 23 26.6**	**+0.1**		
	baz=259,SNR=14									
V55A					P	P	**16 23 26.6**	**+0.1**		
	baz=259,SNR=14									
V55A					S	S	**16 28 03.5**	**-0.2**		
	baz=259									
V55A					S	S	**16 28 03.5**	**-0.2**		
	baz=259									
D41A	**Chassel**	**26.98**	**35**		IAmb	IAmb	16 23 37.9			
	comp=Z,147nm,1.0s									
D41A	**Chassel**	**26.98**	**35**		S	S	**16 28 05.5**	**+1.6**		
	baz=229									
R53A	**Hurricane**	**26.99**	**57**		P	P	**16 23 26.5**	**-0.3**		
	baz=253,SNR=10									
R53A					P	P	**16 23 26.5**	**-0.3**		
	baz=253,SNR=10									
R53A					S	S	**16 28 02.0**	**-2.3**		
	baz=253									
R53A					S	S	**16 28 02.0**	**-2.3**		
	baz=253									
AAM	**Ann Arbor**	**27.25**	**48**		P	P	**16 23 28.9**	**-0.2**		
	baz=244									
AAM					S	S	**16 28 09.9**	**+1.8**		
	baz=244									
P52A	**Corning**	**27.27**	**54**		P	P	**16 23 28.5**	**-0.8**		
	baz=251,SNR=6.4									
P52A					S	S	**16 28 09.4**	**+0.8**		
	baz=251									
M50A	**Fremont**	**27.28**	**50**		IAmb	IAmb	16 24 01.2			
	comp=Z,264nm,1.3s									
M50A	**Fremont**	**27.28**	**50**		P	P	**16 23 29.0**	**-0.4**		
	baz=246									
M50A					P	P	**16 23 29.0**	**-0.4**		
	baz=246									
M50A					S	S	**16 28 08.4**	**-0.3**		
	baz=246									
M50A					S	S	**16 28 08.4**	**-0.3**		
	baz=246									
S54A	**Dingess, Beckl**	**27.33**	**59**		IAmb	IAmb	16 24 03.1			
	comp=Z,376nm,1.8s									
S54A	**Dingess, Beckl**	**27.33**	**59**		S	S	**16 28 10.4**	**+0.7**		
	baz=255									
S54A					S	S	**16 28 10.4**	**+0.7**		
	baz=255									
G45A	**Suttons Bay**	**27.36**	**41**		S	S	**16 28 08.4**	**-1.4**		
	baz=237									
G45A					S	S	**16 28 08.4**	**-1.4**		
	baz=237									
E43A	**Lone Tree Farm**	**27.38**	**38**		IAmb	IAmb	16 23 49.4			
	comp=Z,135nm,1.2s									
E43A	**Lone Tree Farm**	**27.38**	**38**		P	P	**16 23 29.9**	**-0.3**		
	baz=232,SNR=15									
E43A					S	S	**16 28 10.9**	**+0.8**		
	baz=232									
NHSC	**New Hope**	**27.39**	**69**		IAMs_20	IAMs_20	16 34 07.1			
	comp=Z,66µm,18.0s									
NHSC	**New Hope**	**27.39**	**69**		P	P	**16 23 30.3**	**-0.1**		
	baz=265									
NHSC					S	S	**16 28 10.5**	**-0.1**		
	baz=265									
NHSC	**New Hope**	**27.39**	**69**		S	S	**16 28 15.1**	**+4.5**		
	baz=265									
BOAB	**BOACO BROADBA**	**27.61**	**116**		P	P	**16 23 32.3**	**-0.2**		
O52A	**Adamsville**	**27.65**	**54**		P	P	**16 23 32.0**	**-0.7**		
	baz=250,SNR=8.8									
O52A					P	P	**16 23 32.0**	**-0.7**		
	baz=250,SNR=8.8									
O52A					S	S	**16 28 14.0**	**-0.6**		
	baz=250									
O52A					S	S	**16 28 14.0**	**-0.6**		
	baz=250									
U56A	**King**	**27.71**	**62**		IAmb	IAmb	16 23 54.7			
	comp=Z,278nm,1.8s									
P53A	**Whipple**	**27.76**	**55**		IAmb	IAmb	16 23 57.4			
	comp=Z,209nm,1.4s									
P53A	**Whipple**	**27.76**	**55**		P	P	**16 23 33.6**	**-0.1**		
	baz=252,SNR=5.6									
P53A					P	P	**16 23 33.6**	**-0.1**		
	baz=252,SNR=5.6									
P53A					S	S	**16 28 16.9**	**+0.5**		
	baz=252									
P53A					S	S	**16 28 16.9**	**+0.5**		
	baz=252									
W57A	**Gilead**	**27.81**	**65**		IAmb	IAmb	16 24 16.2			
	comp=Z,213nm,1.6s									
W57A	**Gilead**	**27.81**	**65**		S	S	**16 28 16.1**	**-1.0**		
	baz=261									
W57A					S	S	**16 28 16.1**	**-1.0**		
	baz=261									
BRLDA	**Berland Lookou**	**27.86**	**352**		IAmb	IAmb	16 23 39.1			
	comp=Z,230nm,1.0s									
GLMI	**Grayling**	**27.86**	**42**		IAMs_20	IAMs_20	16 33 29.3			
	comp=Z,63µm,22.0s									
GLMI	**Grayling**	**27.86**	**42**		P	P	**16 23 35.0**	**+0.4**		
	baz=238									
GLMI					S	S	**16 28 19.5**	**+1.6**		
	baz=238									
BLA	**Blacksburg**	**27.87**	**60**		IAmb	IAmb	16 24 09.5			
	comp=Z,117nm,1.1s									
BLA					IAMs_20	IAMs_20	16 35 02.9			
	comp=Z,105µm,22.0s									
BLA	**Blacksburg**	**27.87**	**60**		P	P	**16 23 34.6**	**-0.2**		
	baz=257									
BLA					S	S	**16 28 20.1**	**+1.9**		
	baz=257									
BLA	**Blacksburg**	**27.87**	**60**		P	P	**16 23 34.3**	**-0.5**		
	baz=257									
BLA					S	S	16 28 28.5	+10		
	baz=257									
Q54A	**Coxs Mills**	**28.02**	**56**		IAmb	IAmb	16 23 49.5			
	comp=Z,92nm,1.1s									
Q54A	**Coxs Mills**	**28.02**	**56**		P	P	**16 23 35.0**	**-1.0**		
	baz=253,SNR=7.1									
Q54A					P	P	**16 23 35.0**	**-1.0**		
	baz=253,SNR=7.1									
Q54A					S	S	**16 28 23.8**	**+3.3**		
	baz=253									
Q54A					S	S	**16 28 23.8**	**+3.3**		
	baz=253									
K50A	**Casco**	**28.14**	**48**		S	S	**16 28 24.2**	**+1.9**		
	baz=244									
K50A					S	S	**16 28 24.2**	**+1.9**		
	baz=244									
O53A	**New Philadelph**	**28.14**	**54**		IAmb	IAmb	16 23 49.7			
	comp=Z,116nm,1.1s									
O53A	**New Philadelph**	**28.14**	**54**		P	P	**16 23 36.1**	**-1.0**		
	baz=250,SNR=14									
O53A					S	S	**16 28 23.3**	**+0.9**		
	baz=250									
ACON	**Acoyapa**	**28.27**	**116**	*e*	P	P	**16 23 38.6**	**+0.1**		
R55A	**Marlinton**	**28.36**	**58**		IAmb	IAmb	16 24 08.1			
	comp=Z,171nm,1.3s									
R55A	**Marlinton**	**28.36**	**58**		P	P	**16 23 39.1**	**-0.2**		
	baz=255,SNR=8.8									
R55A					P	P	**16 23 39.1**	**-0.2**		
	baz=255,SNR=8.8									
R55A					S	S	16 28 16.5	-10		
	baz=255									
R55A					S	S	16 28 16.5	-10		
	baz=255									
M52A	**Chesterland**	**28.50**	**51**		IAmb	IAmb	16 23 58.5			
	comp=Z,132nm,1.1s									
M52A	**Chesterland**	**28.50**	**51**		P	P	**16 23 40.0**	**-0.3**		
	baz=248,SNR=6.6									
M52A					P	P	**16 23 40.0**	**-0.3**		
	baz=248,SNR=6.6									
M52A					S	S	**16 28 27.0**	**-1.0**		
	baz=248									
M52A					S	S	**16 28 27.0**	**-1.0**		
	baz=248									
I49A	**Point Hope**	**28.54**	**45**		IAmb	IAmb	16 23 47.3			
	comp=Z,132nm,0.9s									
I49A	**Point Hope**	**28.54**	**45**		P	P	**16 23 40.6**	**0.0**		
	baz=242									
I49A					P	P	**16 23 40.6**	**0.0**		
	baz=242									
I49A					S	S	**16 28 30.0**	**+1.5**		
	baz=242									
I49A					S	S	**16 28 30.0**	**+1.5**		
	baz=242									
N53A	**Lisbon**	**28.60**	**53**		P	P	**16 23 40.5**	**-0.7**		
	baz=250,SNR=7.5									
N53A					P	P	**16 23 40.5**	**-0.7**		
	baz=250,SNR=7.5									
N53A					S	S	**16 28 29.4**	**-0.2**		
	baz=250									
N53A					S	S	**16 28 29.4**	**-0.2**		
	baz=250									
BBB	**Bella Bella**	**28.62**	**338**		P	P	**16 23 39.9**	**-1.4**		
	comp=Z,26nm,0.9s,baz=207,slow=6.8,SNR=2.6									
BBB					LR	LR	16 34 51.2			
	comp=Z,60µm,21.2s,baz=166,slow=36									
	comp=Z,26nm,0.9s									
O54A	**Avella**	**28.72**	**54**		IAmb	IAmb	16 24 28.2			
	comp=Z,275nm,1.6s									
O54A	**Avella**	**28.72**	**54**		P	P	**16 23 41.9**	**-0.4**		
	baz=252,SNR=8.8									
O54A					P	P	**16 23 41.9**	**-0.4**		
	baz=252,SNR=8.8									
O54A					S	S	**16 28 30.4**	**-1.1**		
	baz=252									
O54A					S	S	**16 28 30.4**	**-1.1**		
	baz=252									
T57A	**Hurt**	**28.73**	**61**		IAmb	IAmb	16 24 11.1			
	comp=Z,117nm,1.4s									
T57A	**Hurt**	**28.73**	**61**		P	P	**16 23 42.3**	**-0.1**		
	baz=258,SNR=6.0									
T57A					P	P	**16 23 42.3**	**-0.1**		
	baz=258,SNR=6.0									
T57A					S	S	**16 28 34.7**	**+3.0**		
	baz=258									
T57A					S	S	**16 28 34.7**	**+3.0**		
	baz=258									
FFC	**Flin Flon**	**28.84**	**11**		P	P	**16 23 41.8**	**-1.4**		
FFC					IAmb	IAmb	16 23 55.1			
	comp=Z,320nm,1.6s									
FFC					IAMs_20	IAMs_20	16 35 11.2			
	comp=Z,52µm,18.0s									
FFC	**Flin Flon**	**28.84**	**11**		P	P	**16 23 41.8**	**-1.4**		
FFC					pmax	pmax				
	comp=Z,320nm,1.6s									
FFC					MLR	MLR				
	comp=Z,52µm,18.0s									
FFC	**Flin Flon**	**28.84**	**11**	⇑	P	P	**16 23 42.8**	**-0.4**		
E46A	**Sault Ste Mari**	**28.88**	**40**		S	S	**16 28 31.2**	**-2.7**		
	baz=236									
M53A	**WI Miller and**	**28.94**	**52**		P	P	**16 23 43.4**	**-0.8**		
	baz=249									
M53A					S	S	**16 28 33.7**	**-1.2**		
	baz=249									
MCWV	**Mont Chateau**	**28.95**	**55**		P	P	**16 23 43.7**	**-0.7**		
	baz=253,SNR=7.3									
MCWV					S	S	**16 28 35.1**	**0.0**		
	baz=253									
MCWV	**Mont Chateau**	**28.95**	**55**		P	P	**16 23 44.1**	**-0.3**		
	baz=253,SNR=7.3									
MCWV					S	S	**16 28 35.1**	**0.0**		
	baz=253									
ORTG	**Ortega, Santa**	**28.99**	**119**		IAmb	IAmb	16 23 53.8			
	comp=Z,360nm,1.8s									
W59A	**Clinton**	**29.06**	**65**		S	S	**16 28 40.7**	**+3.8**		
	baz=262									
UPAO	**U. Pittsburgh**	**29.08**	**54**		P	P	**16 23 45.7**	**+0.2**		
	baz=251									
UPAO					S	S	**16 28 35.5**	**-1.6**		
	baz=251									
Y60A	**Bolivia**	**29.11**	**67**		S	S	**16 28 42.2**	**+4.6**		
	baz=264									
Y60A					S	S	**16 28 42.2**	**+4.6**		
	baz=264									
S57A	**Dark Hollow, R**	**29.13**	**60**		S	S	**16 28 38.6**	**+0.6**		
	baz=257									
S57A					S	S	**16 28 38.6**	**+0.6**		
	baz=257									
PAMR	**Moraine State**	**29.17**	**53**		P	P	**16 23 45.5**	**-0.8**		
	baz=250									
Q56A	**Snyder Ridge,**	**29.27**	**57**		S	S	**16 28 37.2**	**-3.0**		
	baz=255									
Q56A					S	S	**16 28 37.2**	**-3.0**		
	baz=255									
ALLY	**Alegheny Colle**	**29.39**	**51**		S	S	**16 28 39.0**	**-2.9**		
	baz=249									
JTS	**Las Juntas de**	**29.43**	**119**	*i*	P	P	**16 23 49.9**	**+1.1**		
JTS	**Las Juntas de**	**29.43**	**119**		LR	LR	16 35 23.9			
	comp=Z,32µm,19.9s,baz=306,slow=36									
CNNC	**Cliffs of the**	**29.52**	**65**		P	P	**16 23 49.2**	**-0.2**		
	baz=262									
CNNC					S	S	**16 28 45.5**	**+1.4**		
	baz=262									
ERPA	**Erie**	**29.66**	**51**		P	P	**16 23 48.7**	**-1.9**		
	baz=249									
ERPA					S	S	**16 28 46.2**	**-0.1**		
	baz=249									
ERPA	**Erie**	**29.66**	**51**		S	S	**16 28 43.4**	**-2.9**		
	baz=249									
PAOC	**Oil Creek Stat**	**29.66**	**52**		P	P	**16 23 50.0**	**-0.6**		
	baz=250									
PAOC					S	S	**16 28 44.9**	**-1.4**		
	baz=250									
U59A	**Littleton**	**29.77**	**63**		S	S	**16 28 50.3**	**+2.4**		
	baz=261									
U59A					S	S	**16 28 50.3**	**+2.4**		
	baz=261									
R58B	**Mineral**	**30.01**	**60**		S	S	**16 28 51.7**	**0.0**		
	baz=258									
R58B					S	S	**16 28 51.7**	**0.0**		
	baz=258									
JACO	**JACO, Garabito**	**30.04**	**119**		IAmb	IAmb	16 24 16.6			
	comp=Z,248nm,1.7s									
PABK	**Blue Knob Stat**	**30.06**	**55**		S	S	**16 28 52.2**	**-0.4**		
	baz=253									
T59A	**Double "B" Far**	**30.06**	**62**		S	S	**16 28 50.3**	**-2.3**		
	baz=260									
T59A					S	S	**16 28 50.3**	**-2.3**		
	baz=260									
HDC	**Heredia**	**30.26**	**118**	*e*	P	P	**16 23 55.9

M55A S S 16 28 54.7 -1.6
baz=251
CBN Corbin Frederi 30.45 59 P P 16 23 55.8 -1.8
baz=258
CBN S S 16 28 57.7 -0.9
baz=258
SSPA Standing Stone 30.67 54 P P 16 23 58.8 -0.7
SSPA IAmb IAmb 16 24 12.0
comp=Z,145nm,1.3s
SSPA Standing Stone 30.67 54 IAMs_20 IAMs_20 16 35 48.4
comp=Z,79µm,22.0s
SSPA Standing Stone 30.67 54 P P 16 23 59.1 -0.5
baz=253
SSPA S S 16 29 01.7 -0.4
baz=253
SSPA Standing Stone 30.67 54 P P 16 23 58.9 -0.7
baz=253,SNR=10
SSPA S S 16 29 01.0 -1.1
baz=253
SSPA Standing Stone 30.67 54 ⇑P P 16 23 59.1 -0.5
WVNY West Valley, N 30.73 51 IAmb IAmb 16 24 13.1
comp=Z,115nm,0.9s
WVNY West Valley, N 30.73 51 P P 16 23 59.7 -0.4
baz=250,SNR=14
WVNY S S 16 29 02.7 -0.3
baz=250
SDMD Soldier's Deli 31.12 57 S S 16 29 10.3 +1.1
baz=256
SADO Sadowa 31.27 46 P P 16 24 03.2 -1.6
SADO Sadowa 31.27 46 LR LR 16 37 04.3
comp=Z,76µm,19.4s,baz=259,slow=37
L56A Greenwood 31.37 52 P P 16 24 05.3 -0.4
baz=251,SNR=9.2
L56A P P 16 24 05.3 -0.4
baz=251,SNR=9.2
L56A S S 16 29 14.8 +1.7
baz=251
L56A S S 16 29 14.8 +1.7
baz=251
M57A Sunshine Farm, 31.43 53 IAmb IAmb 16 24 32.2
comp=Z,75nm,0.9s
M57A Sunshine Farm, 31.43 53 P P 16 24 06.1 -0.1
baz=253,SNR=8.5
M57A P P 16 24 06.1 -0.1
baz=253,SNR=8.5
M57A S S 16 29 13.8 -0.2
baz=253
M57A S S 16 29 13.8 -0.2
baz=253
J55A Hilton 31.57 50 S S 16 29 16.2 +0.1
baz=249
J55A S S 16 29 16.2 +0.1
baz=249
N58A Sunbury 31.58 55 P P 16 24 04.2 -3.4
N58A Sunbury 31.58 55 P P 16 24 06.8 -0.8
baz=254
N58A P P 16 24 06.8 -0.8
baz=254
N58A S S 16 29 15.9 -0.5
baz=254
N58A S S 16 29 15.9 -0.5
baz=254
GEDE Greenville 32.12 57 P P 16 24 11.3 -1.0
baz=257
GEDE S S 16 29 28.2 +3.5
baz=257
PSWB Penn State Wil 32.22 54 S S 16 29 26.8 +0.5
baz=254
J56A Wolcott 32.23 50 IAmb IAmb 16 24 26.4
comp=Z,86nm,0.9s
J56A Wolcott 32.23 50 S S 16 29 25.4 -1.0
baz=250
J56A S S 16 29 25.4 -1.0
baz=250
PSUB Penn St. - Bra 32.29 57 S S 16 29 27.0 -0.3
baz=257
K57A Scipio Center 32.29 51 IAmb IAmb 16 24 31.8
comp=Z,182nm,1.5s
K57A Scipio Center 32.29 51 S S 16 29 25.5 -1.8
baz=252
U35K Hyder 32.37 340 IAMs_20 IAMs_20 16 36 49.7
comp=Z,37µm,21.0s
U35K Hyder 32.37 340 P P 16 24 14.5 +0.2
baz=147
U35K S S 16 29 30.7 +2.5
baz=147
V35K Ketchikan 32.40 338 P P 16 24 14.0 -0.5
baz=144
V35K S S 16 29 30.9 +2.3
baz=144
BINY Binghamton 32.50 52 IAmb IAmb 16 24 28.4
comp=Z,114nm,1.1s
BINY Binghamton 32.50 52 P P 16 24 14.7 -0.9
baz=253
BINY S S 16 29 30.5 -0.2
baz=253
BINY Binghamton 32.50 52 ⇓P P 16 24 15.9 +0.2
LUPA Lehigh Univers 32.51 56 IAmb IAmb 16 24 34.2
comp=Z,114nm,1.2s
J57A Williamstown 32.87 50 IAmb IAmb 16 24 36.8
comp=Z,75nm,0.9s
J57A Williamstown 32.87 50 P P 16 24 17.7 -1.1
baz=251
J57A P P 16 24 17.7 -1.1
baz=251
J57A S S 16 29 39.4 +3.0
baz=251
J57A S S 16 29 39.4 +3.0
baz=251
PANJ Princeton 32.95 56 S S 16 29 40.0 +2.4
baz=257
CRAG Craig 33.03 337 IAmb IAmb 16 24 30.2
comp=Z,241nm,1.4s
CRAG Craig 33.03 337 P P 16 24 21.8 +1.8
CRAG Craig 33.03 337 P P 16 24 19.1 -0.9
baz=142
CRAG S S 16 29 41.1 +2.7
baz=142
CRAG Craig 33.03 337 ⇓P P 16 24 22.3 +2.3
BRNJ Basking Ridge 33.12 56 S S 16 29 45.4 +5.1
baz=256
L59A Walton 33.17 53 IAmb IAmb 16 24 34.9
comp=Z,122nm,0.9s
L59A Walton 33.17 53 P P 16 24 20.5 -1.1
baz=254,SNR=15
L59A P P 16 24 20.5 -1.1
baz=254,SNR=15
L59A S S 16 29 40.4 -0.7
baz=254
L59A S S 16 29 40.4 -0.7
baz=254
ODNJ Ogdensburg 33.19 55 S S 16 29 43.3 +1.9
baz=256
WCNY West Carthage 33.29 49 S S 16 29 43.4 +0.5
baz=251
T35M Bob Quinn 33.33 341 IAmb IAmb 16 24 33.2
comp=Z,117nm,1.6s
T35M IAMs_20 IAMs_20 16 37 24.1
comp=Z,38µm,20.0s
T35M Bob Quinn 33.33 341 P P 16 24 22.2 -0.6
baz=148
T35M S S 16 29 44.5 +1.2
baz=148
J58A Remsen 33.34 51 P P 16 24 20.9 -2.1
J58A Remsen 33.34 51 S S 16 29 46.2 +2.4
baz=252
J58A S S 16 29 46.2 +2.4
baz=252
GTBY Guantanamo Bay 33.51 94 IAMs_20 IAMs_20 16 39 13.9
comp=Z,34µm,21.0s
WRAK Wrangell Islan 33.52 338 IAMs_20 IAMs_20 16 37 04.2
comp=Z,37µm,21.0s
WRAK Wrangell Islan 33.52 338 P P 16 24 23.4 -0.9
baz=144,SNR=10
WRAK S S 16 29 49.4 +3.3
baz=144
WRAK Wrangell Islan 33.52 338 ⇑P P 16 24 26.5 +2.2
U33K Whale Pass 33.54 338 P P 16 24 22.4 -2.0
baz=143
U33K S S 16 29 49.6 +3.2
baz=143
PAYG Puerto Ayora 33.66 140 P P 16 24 22.1 -3.9
PAYG IAmb IAmb 16 24 34.5
comp=Z,158nm,1.2s
FOR Fordham 33.67 56 S S 16 29 52.8 +4.0
baz=257
PAL Palisades 33.68 55 P P 16 24 23.2 -2.7
PAL IAmb IAmb 16 24 44.3
comp=Z,113nm,1.4s
PAL Palisades 33.68 55 P P 16 24 23.3 -2.7
PAL pmax pmax
comp=Z,113nm,1.4s
PAL Palisades 33.68 55 P P 16 24 25.2 -0.8
baz=257
PAL S S 16 29 50.5 +1.5
baz=257
PAL Palisades 33.68 55 P P 16 24 25.5 -0.5
baz=257
PAL S S 16 29 51.8 +2.8
baz=257
NPNY Mohonk Preserv 33.70 54 P P 16 24 25.5 -0.5
baz=255
NPNY S S 16 29 52.6 +3.4
baz=255
BRNY Black Rk. Fore 33.71 55 P P 16 24 25.2 -1.0
baz=256
BRNY S S 16 29 51.2 +1.8
baz=256
HCNY Howe Caverns 33.77 52 S S 16 29 55.2 +4.9
baz=254
J59A Piesco 33.92 51 S S 16 29 52.3 -0.4
baz=252
J59A S S 16 29 52.3 -0.4
baz=252
GAC Glen Almond 34.02 47 ⇓P P 16 24 29.1 +0.3
T33K Petersburg 34.04 338 P P 16 24 26.6 -2.2
baz=143
T33K S S 16 29 58.4 +4.3
baz=143
FCC Fort Churchill 34.23 16 P P 16 24 28.4 -2.0
FCC Fort Churchill 34.23 16 P P 16 24 28.4 -2.0
FCC pmax pmax
comp=Z,212nm,1.1s
LONY Lake Ozonia 34.23 49 P P 16 24 27.8 -3.0
baz=251
LONY S S 16 30 00.1 +2.7
baz=251
NCB Newcomb 34.27 50 P P 16 24 28.7 -2.3
NCB Newcomb 34.27 50 S S 16 30 01.4 +3.4
baz=252
TRY Troy 34.30 52 S S 16 29 58.6 +0.2
baz=254
S34M Telegraph Cree 34.38 341 IAMs_20 IAMs_20 16 38 36.9
comp=Z,42µm,18.0s
S34M Telegraph Cree 34.38 341 P P 16 24 33.0 +1.2
baz=147,SNR=8.3
S34M S S 16 30 02.7 +3.4
baz=147
CACAO El Cacao, Vera 34.42 118 eP P 16 24 33.1 +0.5
ACCN Adirondack Com 34.48 51 S S 16 30 00.5 -0.7
baz=254
DLBC Dease Lake 34.51 342 P P 16 24 34.4 +1.4
baz=149,SNR=32
DLBC S S 16 30 06.1 +4.5
baz=149
DLBC Dease Lake 34.51 342 P P 16 24 33.8 +0.8
comp=Z,43nm,1.0s,baz=156,slow=6.6,SNR=56
DLBC LR LR 16 38 52.7
comp=Z,89µm,20.1s,baz=159,slow=37
comp=Z,43nm,1.0s
UPA Univ. de Panam 34.52 115 eP P 16 24 36.6 +3.1
KOTAN Kotaneelee Air 34.69 348 P P 16 24 35.1 +0.7
baz=159,SNR=43
KOTAN S S 16 30 07.3 +3.1
baz=159
FLDN Fort Liard 34.69 349 P P 16 24 33.8 -0.6
baz=160
FLDN S S 16 30 06.8 +2.7
baz=160
TRQ Mont Tremblant 34.81 46 IAmb IAmb 16 24 54.4
comp=Z,120nm,1.2s
L61B Northampton 34.92 53 P P 16 24 35.5 -1.2
baz=256
L61B S S 16 30 10.5 +2.3
baz=256
L61B Northampton 34.92 53 S S 16 30 04.8 -3.4
baz=256
FRNY Flat Rock 34.97 49 S S 16 30 10.9 +2.1
baz=252
SIT Sitka 35.04 337 P P 16 24 39.6 +2.1
SIT Sitka 35.04 337 P P 16 24 38.1 +0.6
baz=140
SIT S S 16 30 15.0 +5.5
baz=140
S32K Killisnoo 35.10 338 P P 16 24 36.4 -1.6
S32K IAmb IAmb 16 24 47.7
comp=Z,110nm,1.4s
S32K IAMs_20 IAMs_20 16 38 35.9
comp=Z,26µm,18.0s
S32K Killisnoo 35.10 338 P P 16 24 39.0 +1.0
baz=142,SNR=15
S32K S S 16 30 12.9 +2.4
baz=142
QUA2 Belchertown 35.12 54 P P 16 24 36.4 -2.0
QUA2 IAmb IAmb 16 24 52.1
comp=Z,93nm,1.0s
M63A Gales Ferry 35.14 55 S S 16 30 11.2 -0.3
baz=258
M63A S S 16 30 11.2 -0.3
baz=258
J61A Chester 35.25 52 S S 16 30 15.9 +2.8
baz=255
J61A S S 16 30 15.9 +2.8
baz=255
K62A Royalston 35.30 53 S S 16 30 14.8 +0.9
baz=256
K62A S S 16 30 14.8 +0.9
baz=256
HNH Hanover 35.53 51 IAMs_20 IAMs_20 16 38 25.7
comp=Z,74µm,22.0s
Q32M Nakina River 35.58 341 IAmb IAmb 16 25 01.7
comp=Z,215nm,1.7s
Q32M IAMs_20 IAMs_20 16 39 47.8
comp=Z,41µm,20.0s
Q32M Nakina River 35.58 341 P P 16 24 43.2 +0.8
baz=146,SNR=9.4
R33M Jennings River 35.58 342 IAMs_20 IAMs_20 16 38 52.7
comp=Z,59µm,22.0s
R33M Jennings River 35.58 342 P P 16 24 42.9 +0.5
baz=148
R33M S S 16 30 24.1 +5.9
baz=148
WTLY Watson Lake, Y 35.66 345 IAmb IAmb 16 24 51.8
comp=Z,166nm,1.3s
WTLY Watson Lake, Y 35.66 345 P P 16 24 43.2 +0.3
baz=152,SNR=24
WTLY S S 16 30 23.5 +4.3
baz=152
JIS Juneau Island 35.67 339 IAmb IAmb 16 24 53.6
comp=Z,257nm,1.5s
JIS IAMs_20 IAMs_20 16 40 11.1
comp=Z,48µm,18.0s
JIS Juneau Island 35.67 339 P P 16 24 45.2 +2.3
R32K Eaglecrest 35.72 339 P P 16 24 40.5 -2.8
R32K IAmb IAmb 16 24 54.1
comp=Z,157nm,1.4s
R32K IAMs_20 IAMs_20 16 40 12.2
comp=Z,44µm,19.0s
R32K Eaglecrest 35.72 339 P P 16 24 44.3 +1.0
baz=142,SNR=12
R32K S S 16 30 27.0 +7.0
baz=142
HRV Adam Dziewonsk 35.74 53 P P 16 24 43.3 -0.5
baz=257
HRV S S 16 30 21.9 +1.2
baz=257
HRV Adam Dziewonsk 35.74 53 ⇓P P 16 24 44.2 +0.5
LBNH Lisbon 35.93 50 P P 16 24 45.6 +0.2
baz=254
LBNH S S 16 30 24.8 +1.3
baz=254
LBNH Lisbon 35.93 50 S S 16 30 27.1 +3.5
baz=254
YKA Yellowknife Ar 35.95 357 P P 16 24 44.7 -0.6
comp=Z,15nm,0.8s,baz=184,slow=8.3,SNR=143
YKA PcP PcP 16 27 13.1 +1.2
comp=Z,3.9nm,1.0s,baz=167,slow=2.3,SNR=3.3
YKA LR LR 16 39 48.9
comp=Z,70µm,21.3s,baz=189,slow=37
comp=Z,15nm,0.8s
S31K Pelican 36.05 337 P P 16 24 46.7 +0.6
baz=140
S31K S S 16 30 30.7 +5.7
baz=140
L64A Middleborough 36.14 55 S S 16 30 27.0 +0.2
baz=258
L64A S S 16 30 27.0 +0.2
baz=258
M65A Busby, Falmout 36.20 55 P P 16 24 47.9 +0.2
baz=259
M65A S S 16 30 30.3 +2.5
baz=259
R31K City Hall, Gus 36.23 338 P P 16 24 46.3 -1.4
baz=141
R31K S S 16 30 31.3 +3.6
baz=141
I62A Tamworth 36.24 51 S S 16 30 34.3 +6.0
baz=255
I62A S S 16 30 34.3 +6.0
baz=255
UNH University of 36.38 53 S S 16 30 31.7 +1.3
baz=257
P32M Atlin 36.52 341 IAmb IAmb 16 25 01.2
comp=Z,147nm,1.1s
P32M IAMs_20 IAMs_20 16 40 17.7
comp=Z,52µm,19.0s
P32M Atlin 36.52 341 P P 16 24 50.5 +0.2
baz=145,SNR=24
P32M S S 16 30 37.4 +5.0
baz=145
H62A Milan 36.55 50 S S 16 30 33.9 +0.8
baz=254
H62A S S 16 30 33.9 +0.8
baz=254
P33M Teslin, Yukon 36.78 342 IAmb IAmb 16 25 01.5
comp=Z,131nm,1.4s
P33M IAMs_20 IAMs_20 16 40 36.3
comp=Z,45µm,20.0s
P33M Teslin, Yukon 36.78 342 P P 16 24 52.1 -0.4
baz=146,SNR=14
P33M S S 16 30 40.9 +4.6
baz=146
I63A Otisfield 36.81 51 S S 16 30 39.2 +2.2
baz=256
I63A S S 16 30 39.2 +2.2
baz=256
SKAG Skagway 36.91 339 IAmb IAmb 16 25 03.9
comp=Z,152nm,1.5s
SKAG Skagway 36.91 339 P P 16 24 55.4 +1.9
SKAG Skagway 36.91 339 P P 16 24 53.0 -0.5
baz=142,SNR=11
SKAG S S 16 30 42.9 +4.7
baz=142
SKAG Skagway 36.91 339 ⇑P P 16 24 55.6 +2.1
PTAC Punta Ardita, 36.97 116 eP P 16 24 54.1 -0.5
G62A West of Eustis 37.15 49 S S 16 30 39.8 -2.5
baz=254
G62A S S 16 30 39.8 -2.5
baz=254
SDDR Presa de Saban 37.23 93 ⇑P P 16 24 57.1 +0.4
SDDR Presa de Saban 37.23 93 eP P 16 24 58.3 +1.5
PLBC Pleasant Camp 37.24 339 P P 16 24 56.7 +0.4
baz=141
PLBC S S 16 30 49.2 +6.0
baz=141
WRGLY Wrigley 37.52 351 P P 16 24 58.8 +0.2
baz=162
WRGLY S S 16 30 51.3 +3.9
baz=162
APAC Apartado, Choc 37.55 113 eP P 16 25 01.3 +1.9
N32M Quiet Lake 37.64 343 IAMs_20 IAMs_20 16 40 05.0
comp=Z,55µm,20.0s
N32M Quiet Lake 37.64 343 P P 16 25 00.1 +0.4
baz=147
N32M S S 16 30 53.0 +3.7
baz=147
SJCC San Jacinto, C 37.65 109 IAmb IAmb 16 25 08.0
comp=Z,219nm,1.3s
SJCC San Jacinto, C 37.65 109 eP P 16 24 58.8 -1.5
WHY Whitehorse 37.74 341 IAmb IAmb 16 25 10.9
comp=Z,214nm,1.6s
WHY Whitehorse 37.74 341 P P 16 25 01.5 +0.8
baz=144,SNR=12
WHY S S 16 30 56.1 +5.1
baz=144
P29M Windy Craggy 37.83 338 IAmb IAmb 16 25 18.7
comp=Z,197nm,1.6s
P29M IAMs_20 IAMs_20 16 41 03.0
comp=Z,24µm,18.0s
P29M Windy Craggy 37.83 338 P P 16 25 01.5 +0.1
baz=139
P29M S S 16 30 55.9 +3.7
baz=139
SMRC Santa Marta, M 37.83 107 eP P 16 25 05.7 +3.9
P30M Million Dollar 37.95 339 P P 16 25 03.6 +1.2
baz=141,SNR=20
P30M S S 16 30 59.1 +5.1
baz=141
PKME Peaks-Kenny Pk 38.01 50 IAMs_20 IAMs_20 16 40 07.2
comp=Z,61µm,20.0s
PKME Peaks-Kenny Pk 38.01 50 P P 16 25 02.9 -0.1
baz=255
PKME S S 16 30 57.1 +1.9
baz=255
O30N Mendenhall 38.18 340 IAmb IAmb 16 25 14.9
comp=Z,140nm,1.4s
O30N Mendenhall 38.18 340 P P 16 25 05.0 +0.7
baz=142,SNR=19
O30N S S 16 31 02.5 +4.9
baz=142
E62A Clayton Lake 38.23 47 S S 16 30 60.0 +1.4
baz=253
E62A S S 16 30 60.0 +1.4
baz=253
F63A Nahmakanta, Br 38.25 49 P P 16 25 02.1 -2.9
F63A Nahmakanta, Br 38.25 49 S S 16 31 01.7 +2.7
baz=255
F63A S S 16 31 01.7 +2.7
baz=255
DBBC Dabeiba 38.34 114 eP P 16 25 09.9 +3.7
PNL Peninsula 38.42 337 P P 16 25 08.4 +2.1
PNL Peninsula 38.42 337 P P 16 25 06.6 +0.3
baz=137,SNR=11
PNL S S 16 31 04.4 +3.3
baz=137
ARGC Ariguani, Magd 38.45 109 eP P 16 25 07.2 0.0
UREC San Jos de Ur 38.49 113 eP P 16 25 08.3 +0.9
FARO Faro, Yukon 38.61 343 P P 16 25 08.6 +0.7
baz=147,SNR=11
FARO S S 16 31 07.0 +3.0
baz=147
O29M Mount Kennedy 38.61 338 IAmb IAmb 16 25 18.4
comp=Z,156nm,1.4s
O29M Mount Kennedy 38.61 338 P P 16 25 09.1 +1.1
baz=138,SNR=27
HYT Haines Junctio 38.66 339 IAmb IAmb 16 25 19.3
comp=Z,220nm,1.8s
HYT Haines Junctio 38.66 339 P P 16 25 09.4 +0.9
baz=140,SNR=14
HYT S S 16 31 08.7 +3.7
baz=140
N31M Braeburn, Yuko 38.66 341 IAmb IAmb 16 25 18.6
comp=Z,212nm,1.5s
N31M IAMs_20 IAMs_20 16 42 02.2
comp=Z,45µm,18.0s
N31M Braeburn, Yuko 38.66 341 P P 16 25 09.2 +0.9
baz=143,SNR=42
N31M S S 16 31 08.3 +3.5
baz=143
D62A Allapoint, All 38.67 47 S S 16 31 07.9 +2.7
baz=253
D62A S S 16 31 07.9 +2.7
baz=253
BCPM Bancas Point 38.71 337 IAmb IAmb 16 25 19.3
comp=Z,218nm,1.4s
F64A Sherman 38.80 49 S S 16 31 07.8 +0.6
baz=255
F64A S S 16 31 07.8 +0.6
baz=255
M31M Drury Creek, Y 38.86 343 IAmb IAmb 16 25 20.3
comp=Z,222nm,1.7s
M31M Drury Creek, Y 38.86 343 P P 16 25 11.1 +1.1
baz=146,SNR=17
M31M S S 16 31 12.1 +4.4
baz=146
E63A Oxbow 38.90 48 S S 16 31 13.8 +5.1
baz=255
E63A S S 16 31 13.8 +5.1
baz=255
YUK6 Outpost Mounta 39.02 339 P P 16 25 13.1 +1.5
baz=139,SNR=14
YUK6 S S 16 31 14.8 +4.1
baz=139
N30M Aishikik Lake 39.03 340 IAmb IAmb 16 25 22.2

comp=Z,210nm,1.5s
N30M IAMs_20 IAMs_20 16 42 10.8
comp=Z,44µm,18.0s
N30M Aishikik Lake 39.03 340 P **P** **16 25 12.6 +1.2**
baz=141
N30M S **S** **16 31 13.5 +3.1**
baz=141
PINM Pinnacle 39.03 337 P **P** **16 25 12.1 +0.6**
baz=136,SNR=9.1
PINM S **S** **16 31 13.5 +3.0**
baz=136
CRJC Cerrejon, Guaj 39.05 106 *e*P **P** **16 25 11.0 -1.1**
CBOC Ciudad Bolivar 39.16 116 *e*P **P** **16 25 14.1 +0.9**
ZARC Zaragoza, Cauc 39.19 112 *e*P **P** **16 25 13.1 -0.2**
PQI Presque Isle 39.24 48 IAMs_20 IAMs_20 16 41 10.5
comp=Z,52µm,19.0s
LL6C La Loma 6 Bece 39.34 108 *e*P **P** **16 25 14.7 +0.1**
YUK4 Talbot Arm 39.42 339 P **P** **16 25 16.9 +2.0**
baz=140,SNR=24
YUK4 S **S** **16 31 18.8 +2.3**
baz=140
URIC Uribia, Colomb 39.49 104 IAmb IAmb 16 25 25.7
comp=Z,194nm,1.5s
URIC Uribia, Colomb 39.49 104 *e*P **P** **16 25 15.7 -0.1**
PLMC San Jos del P 39.51 117 *e*P **P** **16 25 16.2 +0.2**
TUMC Tumaco 39.55 123 *e*P P 16 25 22.1 +5.8
YUK8 Steele Glacier 39.73 339 P **P** **16 25 19.4 +1.8**
baz=138,SNR=43
YUK8 S **S** **16 31 26.0 +4.6**
baz=138
M30M Minto, Yukon 39.82 342 IAmb IAmb 16 25 28.3
comp=Z,243nm,1.8s
M30M Minto, Yukon 39.82 342 P **P** **16 25 16.5 -1.5**
baz=143,SNR=43
M30M S **S** **16 31 22.8 +0.5**
baz=143
SNH Sunshine Point 40.01 336 IAMs_20 IAMs_20 16 43 55.7
comp=Z,26µm,19.0s
CTGM Chitina Glacie 40.03 337 IAmb IAmb 16 25 30.9
comp=Z,196nm,1.5s
CTGM IAMs_20 IAMs_20 16 43 55.1
comp=Z,25µm,18.0s
CTG Chitna Glacier 40.03 337 P **P** **16 25 20.1 +0.3**
baz=135
PTBC PUERTO BERRIO, 40.05 113 *e*P **P** **16 25 19.9 -0.5**
GUY2C Guyana, Caldas 40.06 116 *e*P **P** **16 25 22.1 +1.0**
OCAC Ocana 40.07 110 *e*P **P** **16 25 21.0 +0.2**
M29M Somme Creek 40.20 341 P **P** **16 25 22.7 +1.4**
baz=140,SNR=58
JAMC Jamundi, Valle 40.23 119 *e*P **P** **16 25 20.5 -1.7**
YUK3 Moose Creek 40.32 339 P **P** **16 25 23.2 +0.8**
baz=137,SNR=28
YUK3 S **S** **16 31 35.7 +5.6**
baz=137
MAYO Mayo, Yukon 40.40 343 P **P** **16 25 23.5 +0.7**
baz=145
MAYO S **S** **16 31 34.2 +3.4**
baz=145
BBSR BB Station 40.42 71 IAMs_20 IAMs_20 16 43 40.1
comp=Z,28µm,18.0s
KAIM Kayak Island 40.44 335 P **P** **16 25 23.2 0.0**
baz=131
KAIM S **S** **16 31 37.5 +6.1**
baz=131
BERG Berg Lake 40.48 336 IAmb IAmb 16 25 34.6
comp=Z,281nm,1.3s
BERG IAMs_20 IAMs_20 16 42 09.9
comp=Z,23µm,18.0s
BBAC Balboa, Cauca 40.54 121 *e*P **P** **16 25 26.6 +1.9**
L29M L29M 40.62 341 IAmb IAmb 16 25 40.2
comp=Z,128nm,1.1s
L29M IAMs_20 IAMs_20 16 42 45.0
comp=Z,24µm,20.0s
L29M L29M 40.62 341 P **P** **16 25 24.9 +0.3**
baz=141,SNR=50
L29M S **S** **16 31 37.8 +3.6**
baz=141
BATG Bathurst New B 40.69 47 P **P** **16 25 24.7 -0.7**
OTAV Otavalo 40.81 125 P **P** **16 25 29.2 +2.0**
OTAV pmax pmax
comp=Z,99nm,1.6s
OTAV Otavalo 40.81 125 ⇑P **P** **16 25 29.0 +1.8**
OTAV Otavalo 40.81 125 *e*P **P** **16 25 28.4 +1.1**
OTAV Otavalo 40.81 125 *e*P **P** **16 25 26.9 -0.4**
RAGM Ragged Mountai 40.84 335 IAMs_20 IAMs_20 16 45 18.4
comp=Z,37µm,18.0s
Q23K Middleton Isla 40.89 333 P **P** **16 25 28.1 +1.3**
baz=128
Q23K S **S** **16 31 42.5 +4.4**
baz=128
BVCY Beaver Creek 40.92 339 P **P** **16 25 28.3 +1.1**
baz=137,SNR=21
BVCY S **S** **16 31 42.4 +3.8**
baz=137
ORTC Ortega, Tolima 40.93 117 *e*P **P** **16 25 28.4 +0.6**
VRDI Verde Repeater 40.95 337 P **P** **16 25 27.0 -0.5**
VRDI IAmb IAmb 16 25 38.4
comp=Z,257nm,1.6s
GCUF Volcan Galeras 40.98 122 *e*P **P** **16 25 30.0 +1.3**
K29M Barlow Dome 41.03 342 IAMs_20 IAMs_20 16 42 13.8
comp=Z,25µm,21.0s
K29M Barlow Dome 41.03 342 P **P** **16 25 29.0 +0.9**
baz=143,SNR=57
K29M S **S** **16 31 42.0 +1.6**
baz=143
BARC Barichara 41.07 112 *e*P **P** **16 25 30.3 +1.1**
ROSC El Rosal 41.13 115 P **P** **16 25 31.5 +1.7**
comp=Z,19nm,0.7s,baz=316,slow=8.2,SNR=13
ROSC LR LR 16 44 46.3
comp=Z,24µm,19.0s,baz=336,slow=40
comp=Z,19nm,0.7s
ROSC El Rosal 41.13 115 *e*P **P** **16 25 31.6 +1.7**
PRSN Puerto Rico Se 41.18 92 P **P** **16 25 28.2 -1.6**
BMRM Bremner River 41.19 336 P **P** **16 25 30.6 +1.2**
baz=131,SNR=18
BMRM S **S** **16 31 45.5 +2.7**
baz=131
M27K Edge Creek, AK 41.20 339 IAmb IAmb 16 25 40.8
comp=Z,275nm,1.5s
M27K IAMs_20 IAMs_20 16 42 34.3
comp=Z,28µm,20.0s
M27K Edge Creek, AK 41.20 339 P **P** **16 25 31.3 +1.7**
baz=136
M27K S **S** **16 31 44.3 +1.2**
baz=136
GLB Gilahina Butte 41.22 337 P **P** **16 25 29.0 -0.6**
GLB IAmb IAmb 16 25 40.7
comp=Z,256nm,1.4s
J30M Hart River 41.31 344 IAmb IAmb 16 25 41.1
comp=Z,402nm,1.9s
J30M IAMs_20 IAMs_20 16 43 20.2
comp=Z,43µm,18.0s
J30M Hart River 41.31 344 P **P** **16 25 31.9 +1.5**
baz=145
J30M S **S** **16 31 48.7 +4.2**
baz=145
HLP Hilina Pali 41.33 269 IAMs_20 IAMs_20 16 37 34.1
comp=Z,44µm,21.0s
PRAC Prado 41.34 117 *e*P **P** **16 25 32.1 +1.0**
EYAK Cordova Ski Ar 41.35 335 P **P** **16 25 33.2 +2.6**
EYAK Cordova Ski Ar 41.35 335 P **P** **16 25 31.9 +1.3**
baz=130,SNR=13
EYAK S **S** **16 31 47.6 +2.7**
baz=130
BONI La Bonita 41.35 124 *e*P **P** **16 25 33.1 +1.7**
MLPR Magueyes Islan 41.36 93 P **P** **16 25 29.7 -1.5**
POHA Pohakuloa 41.39 270 IAMs_20 IAMs_20 16 37 45.7
comp=Z,38µm,20.0s
AOPR Arecibo Observ 41.49 92 P **P** **16 25 30.6 -1.8**
MWH Moku'aweowe 41.53 270 P **P** **16 25 31.1 -2.2**
MWH IAmb IAmb 16 25 35.6
comp=Z,203nm,0.9s
HIN Hinchinbrook I 41.54 334 P **P** **16 25 31.4 -0.9**
M26K Nabesna, AK 41.60 338 IAmb IAmb 16 25 55.4
comp=Z,116nm,1.1s
M26K Nabesna, AK 41.60 338 P **P** **16 25 33.7 +0.9**
baz=134
M26K S **S** **16 31 52.4 +3.6**
baz=134
N25K Chitina, Valde 41.61 336 P **P** **16 25 32.0 -0.8**
N25K IAmb IAmb 16 25 44.3
comp=Z,400nm,1.6s
N25K Chitina, Valde 41.61 336 P **P** **16 25 34.5 +1.6**
baz=132,SNR=36
N25K S **S** **16 31 52.0 +3.0**
baz=132
P23K Montague Islan 41.66 333 P **P** **16 25 33.7 +0.5**
baz=127
P23K S **S** **16 31 53.2 +3.7**
baz=127
BCAR Beaver Creek A 41.69 339 P **P** **16 25 32.5 -0.9**
L27K Beaver Creek, 41.70 339 IAMs_20 IAMs_20 16 43 20.3
comp=Z,32µm,21.0s
L27K Beaver Creek, 41.70 339 P **P** **16 25 34.6 +1.1**
baz=136,SNR=20
L27K S **S** **16 31 53.6 +3.5**
baz=136
J29N Klondike Camp 41.70 343 IAmb IAmb 16 25 44.2
comp=Z,142nm,1.6s
J29N IAMs_20 IAMs_20 16 46 00.5
comp=Z,30µm,19.0s
J29N Klondike Camp 41.70 343 P **P** **16 25 34.5 +1.0**
baz=142,SNR=11
J29N S **S** **16 31 52.8 +2.6**
baz=142
DAWY Dawson 41.72 342 P **P** **16 25 32.6 -1.1**
DAWY IAmb IAmb 16 25 44.9
comp=Z,211nm,1.2s
DAWY Dawson 41.72 342 P **P** **16 25 33.9 +0.2**
baz=140,SNR=60
DAWY S **S** **16 31 53.4 +2.9**
baz=140
OBIP Obispado Ponce 41.72 92 P **P** **16 25 32.5 -1.8**
OBIP IAmb IAmb 16 26 09.1
comp=Z,269nm,1.7s
FID Port Fidalgo 41.76 335 P **P** **16 25 31.2 -2.7**
FID IAMs_20 IAMs_20 16 46 02.5
comp=Z,23µm,18.0s
KHLU Kahalu`u 41.76 270 P **P** **16 25 32.2 -2.5**
PIAT Ana Tenorio 41.79 126 *e*P **P** **16 25 35.2 +0.1**
GARC Garzon, Huila 41.79 120 *e*P **P** **16 25 35.8 +0.7**
I30M Mount Dempster 41.85 344 IAMs_20 IAMs_20 16 45 45.5
comp=Z,44µm,18.0s
I30M Mount Dempster 41.85 344 P **P** **16 25 35.5 +0.7**
baz=145,SNR=51
H31M Peel River 41.87 346 IAmb IAmb 16 25 49.8
comp=Z,124nm,1.1s
H31M Peel River 41.87 346 P **P** **16 25 34.7 -0.2**
baz=148
KLU Klutina 42.02 336 P **P** **16 25 34.4 -1.8**
KLU IAmb IAmb 16 25 47.3
comp=Z,153nm,1.4s
KLU IAMs_20 IAMs_20 16 45 15.7
comp=Z,20µm,19.0s
KLU Klutina 42.02 336 P **P** **16 25 37.9 +1.7**
baz=130,SNR=14
KLU S **S** **16 31 58.8 +3.8**
baz=130
SDV Santo Domingo 42.02 107 P **P** **16 25 35.9 -1.0**
SDV IAmb IAmb 16 25 46.0
comp=Z,149nm,0.9s
SDV IAMs_20 IAMs_20 16 44 51.5
comp=Z,22µm,19.0s
SDV Santo Domingo 42.02 107 LR LR 16 45 01.6
comp=Z,19µm,18.7s,baz=298,slow=39
SDV Santo Domingo 42.02 107 *e*P **P** **16 25 36.8 -0.1**
SDV Santo Domingo 42.02 107 *e*P **P** **16 25 37.0 +0.1**
COHC Cochancay 42.10 128 *e*P **P** **16 25 35.4 -1.9**
SJG San Juan 42.11 92 P **P** **16 25 35.9 -1.5**
SJG IAmb IAmb 16 25 46.3
comp=Z,101nm,1.0s
SJG San Juan 42.11 92 P **P** **16 25 35.9 -1.5**
SJG pmax pmax
comp=Z,101nm,1.0s
SJG MLR MLR
comp=Z,18µm,21.0s
SJG San Juan 42.11 92 LR LR 16 44 11.4
comp=Z,16µm,21.3s,baz=292,slow=38
SJG San Juan 42.11 92 *e*P **P** **16 25 35.8 -1.6**
L26K Log Cabin Wild 42.16 339 IAmb IAmb 16 25 48.0
comp=Z,274nm,1.8s
L26K IAMs_20 IAMs_20 16 43 42.5
comp=Z,24µm,20.0s
L26K Log Cabin Wild 42.16 339 P **P** **16 25 36.9 -0.4**
baz=135,SNR=53
L26K S **S** **16 31 59.6 +2.6**
baz=135
IGPR InterUniversit 42.20 92 IAmb IAmb 16 26 14.0
comp=Z,209nm,1.5s
MENT Mentasta 42.22 338 P **P** **16 25 39.6 +1.8**
TAMC Tame, Arauca 42.31 111 *e*P **P** **16 25 39.5 +0.4**
HARP HAARP 42.34 337 P **P** **16 25 40.2 +1.5**
baz=132,SNR=21
HARP S **S** **16 32 03.7 +4.1**
baz=132
HUMP Col San Antoni 42.37 92 P **P** **16 25 36.9 -2.5**
I29M Ogilvie Camp, 42.45 343 P **P** **16 25 36.6 -2.9**
I29M IAmb IAmb 16 25 49.4
comp=Z,136nm,1.2s
I29M IAMs_20 IAMs_20 16 44 27.2
comp=Z,52µm,19.0s
I29M Ogilvie Camp, 42.45 343 P **P** **16 25 39.7 +0.1**
baz=143,SNR=26
I29M S **S** **16 32 02.8 +1.7**
baz=143
K27K Chicken 42.48 340 P **P** **16 25 41.4 +1.5**
baz=137
K27K S **S** **16 32 06.6 +5.0**
baz=137
M24K Tolsona, Glenn 42.51 336 P **P** **16 25 41.7 +1.6**
baz=130,SNR=12
M24K S **S** **16 32 07.2 +5.1**
baz=130
SEW Seward 42.55 333 P **P** **16 25 41.0 +0.5**
baz=125,SNR=19
SEW S **S** **16 32 06.7 +4.0**
baz=125
SCHQ Schefferville 42.66 36 IAmb IAmb 16 26 01.0
comp=Z,301nm,1.4s
SCHQ Schefferville 42.66 36 P **P** **16 25 41.2 -0.3**
comp=Z,29nm,1.1s,baz=253,slow=8.3,SNR=19
comp=Z,29nm,1.1s
KDAK Kodiak Island 42.72 328 *i*P **P** **16 25 41.3 -0.5**
KDAK pmax pmax
comp=Z,522nm,1.3s
KDAK Kodiak Island 42.72 328 P **P** **16 25 42.8 +1.0**
baz=119
KDAK S **S** **16 32 08.4 +3.2**
baz=119
KDAK Kodiak Island 42.72 328 ⇓P **P** **16 25 43.2 +1.4**
KDAK Kodiak Island 42.72 328 LR LR 16 40 43.4
comp=Z,25µm,19.7s,baz=147,slow=32
SCM Sheep Creek Mo 42.75 336 P **P** **16 25 41.1 -1.1**
SCM Sheep Creek Mo 42.75 336 P **P** **16 25 41.1 -1.1**
SCM pmax pmax
comp=Z,514nm,1.8s
SCM MLR MLR
comp=Z,17µm,19.0s
SCM Sheep Creek Mo 42.75 336 P **P** **16 25 43.3 +1.2**
baz=129,SNR=14
SCM S **S** **16 32 10.5 +4.7**
baz=129
EGAK Eagle 42.76 341 P **P** **16 25 41.0 -1.1**
EGAK IAmb IAmb 16 25 52.5
comp=Z,142nm,1.4s
EGAK IAMs_20 IAMs_20 16 43 30.6
comp=Z,32µm,20.0s
EGAK Eagle 42.76 341 P **P** **16 25 42.2 +0.1**
baz=139,SNR=44
EGAK S **S** **16 32 09.4 +3.6**
baz=139
EGAK Eagle 42.76 341 ⇓P **P** **16 25 41.9 -0.2**
OHAK Old Harbor 42.79 327 P **P** **16 25 44.4 +2.0**
OHAK Old Harbor 42.79 327 P **P** **16 25 42.6 +0.2**
baz=118,SNR=19
OHAK S **S** **16 32 08.5 +2.3**
baz=118
G31M Satah River 42.81 347 P **P** **16 25 43.0 +0.6**
G31M IAMs_20 IAMs_20 16 45 04.9
comp=Z,46µm,19.0s
G31M Satah River 42.81 347 P **P** **16 25 43.1 +0.7**
baz=149,SNR=54
G31M S **S** **16 32 08.5 +2.2**
baz=149
PAX Paxson 42.83 338 P **P** **16 25 43.1 +0.3**
baz=132,SNR=13
PAX S **S** **16 32 09.8 +2.9**
baz=132
M23K Glacier View 42.88 335 P **P** **16 25 44.2 +1.0**
baz=128,SNR=14
M23K S **S** **16 32 08.9 +1.3**
baz=128
EPYK Eagle Plains 42.88 345 P **P** **16 25 43.0 -0.1**
baz=145,SNR=7.5
EPYK S **S** **16 32 09.4 +2.0**
baz=145
O22K Cooper Landing 42.88 333 P **P** **16 25 39.3 -3.8**
O22K IAmb IAmb 16 26 02.7
comp=Z,229nm,1.1s
O22K Cooper Landing 42.88 333 P **P** **16 25 43.8 +0.7**
baz=125
O22K S **S** **16 32 11.5 +4.0**
baz=125
BRSE Bradley Lake S 42.89 332 P **P** **16 25 43.9 +0.6**
baz=123,SNR=36
BRSE S **S** **16 32 12.1 +4.2**
baz=123
KNK Knik Glacier 42.92 335 P **P** **16 25 44.3 +0.8**
baz=127,SNR=58
KNK S **S** **16 32 11.9 +3.7**
baz=127
SII Sitkinak Islan 42.93 326 P **P** **16 25 41.6 -1.9**
SII IAmb IAmb 16 25 54.2
comp=Z,353nm,1.3s
SII Sitkinak Islan 42.93 326 P **P** **16 25 45.9 +2.3**
SII Sitkinak Islan 42.93 326 P **P** **16 25 44.1 +0.5**
baz=116,SNR=8.6
SII S **S** **16 32 13.6 +5.2**
baz=116
I28M Miner Creek 42.94 343 IAMs_20 IAMs_20 16 43 58.2
comp=Z,22µm,20.0s
I28M Miner Creek 42.94 343 P **P** **16 25 42.9 -0.7**
baz=141,SNR=35
I28M S **S** **16 32 11.7 +3.2**
baz=141
BRLK Bradley Lake 42.97 332 P **P** **16 25 41.7 -2.2**
BRLK IAmb IAmb 16 25 52.8
comp=Z,250nm,1.1s
MCRA Macar, Loja 42.99 131 P **P** **16 25 41.5 -3.1**
MCRA Macar, Loja 42.99 131 *e*P **P** **16 25 44.8 +0.2**
CNPM China Poot 42.99 331 P **P** **16 25 42.6 -1.4**
CNPM IAmb IAmb 16 25 54.8
comp=Z,390nm,1.4s
SCRK Sand Creek 43.03 339 P **P** **16 25 43.4 -1.1**
SCRK IAmb IAmb 16 25 58.1
comp=Z,370nm,2.0s
SCRK IAMs_20 IAMs_20 16 44 44.6
comp=Z,44µm,22.0s
SCRK Sand Creek 43.03 339 P **P** **16 25 45.7 +1.2**
baz=134,SNR=40
SCRK S **S** **16 32 12.8 +2.9**
baz=134
SYI Shuyak Island 43.03 329 P **P** **16 25 41.0 -3.3**
SYI IAmb IAmb 16 25 53.5
comp=Z,246nm,1.4s
Q20K Shuyak Island 43.03 329 P **P** **16 25 43.9 -0.5**
baz=120
Q20K S **S** **16 32 13.2 +3.4**
baz=120
SML Sawmill 43.11 335 P **P** **16 25 44.1 -1.0**
SML IAmb IAmb 16 25 56.0
comp=Z,181nm,1.2s
SML Sawmill 43.11 335 P **P** **16 25 46.0 +0.9**
baz=128,SNR=37
SML S **S** **16 32 13.9 +2.8**
baz=128
KIP Kipapa 43.12 274 IAMs_20 IAMs_20 16 38 50.5
comp=Z,46µm,20.0s
RIDG Independent Ri 43.14 339 IAMs_20 IAMs_20 16 43 56.5
comp=Z,28µm,19.0s
RIDG Independent Ri 43.14 339 P **P** **16 25 46.3 +1.1**
baz=133,SNR=27
RIDG S **S** **16 32 13.7 +2.3**
baz=133
H29M Whitestone 43.15 344 IAMs_20 IAMs_20 16 44 25.7
comp=Z,30µm,18.0s
H29M Whitestone 43.15 344 P **P** **16 25 44.6 -0.6**
baz=143
F31M Tsiigehtchic 43.15 347 P **P** **16 25 44.0 -1.2**
F31M IAmb IAmb 16 25 54.2
comp=Z,190nm,1.1s
F31M Tsiigehtchic 43.15 347 P **P** **16 25 44.3 -0.9**
baz=150,SNR=37
F31M S **S** **16 32 13.0 +1.7**
baz=150
RC01 Rabbit Creek A 43.23 334 IAmb IAmb 16 26 06.2
comp=Z,270nm,1.3s
RC01 Rabbit Creek A 43.23 334 P **P** **16 25 45.9 -0.1**
baz=125,SNR=17
RC01 S **S** **16 32 16.6 +3.9**
baz=125
HOM Homer 43.24 331 P **P** **16 25 44.2 -1.8**
HOM Homer 43.24 331 P **P** **16 25 47.4 +1.4**
baz=122
HOM S **S** **16 32 17.1 +4.3**
baz=122
J26L Joseph Creek 43.27 340 IAmb IAmb 16 25 58.6
comp=Z,113nm,1.0s
J26L IAMs_20 IAMs_20 16 43 55.0
comp=Z,31µm,20.0s
J26L Joseph Creek 43.27 340 P **P** **16 25 45.5 -0.8**
baz=136
PTGC Puerto Gaitan, 43.27 114 *e*P **P** **16 25 50.6 +3.7**
G30M tAoh Zraii Nji 43.27 346 P **P** **16 25 45.6 -0.6**
baz=146
G30M S **S** **16 32 17.0 +3.8**
baz=146
PMR Palmer 43.29 334 IAmb IAmb 16 25 56.9
comp=Z,344nm,1.5s
PMR Palmer 43.29 334 P **P** **16 25 47.9 +1.5**
PMR Palmer 43.29 334 P **P** **16 25 46.7 +0.4**
baz=126,SNR=20
PMR S **S** **16 32 17.1 +3.6**
baz=126
GHO Glory Hole Cre 43.32 335 P **P** **16 25 47.0 +0.3**
CHIR Chirikof Islan 43.35 325 IAMs_20 IAMs_20 16 41 01.5
comp=Z,20µm,19.0s
CHIR Chirikof Islan 43.35 325 P **P** **16 25 47.5 +0.5**
baz=114
CHIR S **S** **16 32 17.4 +2.9**
baz=114
WAT6 Susitna Watana 43.37 336 P **P** **16 25 47.8 +0.5**
baz=129,SNR=50
WAT6 S **S** **16 32 19.1 +4.0**
baz=129
GBN Guysborough 43.41 51 P **P** **16 25 46.8 -0.8**
GBN IAmb IAmb 16 26 27.1
comp=Z,93nm,1.0s
C36M Paulatuk 43.45 353 P **P** **16 25 46.8 -0.7**
C36M Paulatuk 43.45 353 P **P** **16 25 47.1 -0.4**
baz=163,SNR=12
C36M S **S** **16 32 19.0 +3.4**
baz=163
K24K Donnelly Dome 43.49 338 P **P** **16 25 49.3 +1.2**
baz=132,SNR=40
K24K S **S** **16 32 19.2 +2.6**
baz=132
R18K Karluk 43.51 327 P **P** **16 25 49.1 +0.9**
baz=117
I27K Kandik River 43.51 342 P **P** **16 25 49.2 +0.9**
baz=139,SNR=18
I27K S **S** **16 32 18.5 +1.7**
baz=139
DHY Denali Highway 43.56 337 P **P** **16 25 49.6 +0.9**
baz=130,SNR=14
DHY S **S** **16 32 22.3 +4.6**
baz=130
PTLC Puerto Leguiza 43.60 121 *e*P **P** **16 25 52.7 +3.2**
G29M Pine Creek 43.62 345 IAmb IAmb 16 26 02.6
comp=Z,83nm,0.9s
G29M IAMs_20 IAMs_20 16 45 44.3
comp=Z,46µm,20.0s
G29M Pine Creek 43.62 345 P **P** **16 25 49.5 +0.4**
baz=144
CAPN Captain Cook N 43.63 333 IAMs_20 IAMs_20 16 40 33.1
comp=Z,21µm,21.0s
CAPN Captain Cook N 43.63 333 P **P** **16 25 50.3 +1.2**
baz=123
CAPN S **S** **16 32 21.5 +3.1**
baz=123
F30M Barrier River 43.71 347 P **P** **16 25 50.2 +0.5**
baz=147
I26K Coal Creek Min 43.73 341 IAMs_20 IAMs_20 16 44 10.0
comp=Z,36µm,19.0s
I26K Coal Creek Min 43.73 341 P **P** **16 25 50.6 +0.7**
baz=137
Q19K Cape Douglas, 43.76 329 P **P** **16 25 50.5 +0.2**
baz=119
Q19K S **S** **16 32 21.7 +1.1**
baz=119
WAT1 Susitna Watana 43.82 336 P **P** **16 25 51.4 +0.7**

baz=128
WAT1 S **S** **16 32 24.9 +3.5**

baz=128
SUA Susitna One 43.85 334 P **P** **16 25 52.0 +0.9**
SUA Susitna One 43.85 334 P **P** **16 25 52.3 +1.3**
baz=124,SNR=47
SUA S **S** **16 32 25.1 +3.1**

baz=124
INK Inuvik 43.86 348 P **P** **16 25 50.9 0.0**
INK IAmb IAmb 16 25 59.8

comp=Z,246nm,1.4s
INK Inuvik 43.86 348 P **P** **16 25 50.9 0.0**
INK pmax pmax

comp=Z,246nm,1.5s
INK Inuvik 43.86 348 P **P** **16 25 50.9 0.0**
baz=150,SNR=38
INK S **S** **16 32 26.6 +5.0**

baz=150
INK Inuvik 43.86 348 ⇓P **P** **16 25 51.2 +0.4**
INK Inuvik 43.86 348 LR LR 16 46 03.7
comp=Z,64µm,20.2s,baz=158,slow=39
O20K Slope Mountain 43.88 331 P **P** **16 25 52.0 +0.7**
baz=121,SNR=20
O20K S **S** **16 32 24.0 +1.6**

baz=121
J25K Salcha River, 43.91 339 IAMs_20 IAMs_20 16 44 04.9
comp=Z,29µm,20.0s
J25K Salcha River, 43.91 339 P **P** **16 25 52.1 +0.7**
baz=133,SNR=45
P19K Oil Pt 43.93 330 P **P** **16 25 50.4 -1.2**
P19K Oil Pt 43.93 330 P **P** **16 25 52.7 +1.1**
baz=120,SNR=8.2
P19K S **S** **16 32 26.1 +3.1**

baz=120
H27K Steamboat Moun 43.96 343 P **P** **16 25 52.4 +0.6**
baz=139
H27K S **S** **16 32 25.6 +2.3**

baz=139
CUT Chulitna 44.20 335 P **P** **16 25 54.1 +0.3**
baz=126,SNR=22
CUT S **S** **16 32 29.7 +2.9**

baz=126
BAUV El Baul 44.22 105 P **P** **16 25 53.6 -0.9**
BAUV El Baul 44.22 105 *e*P **P** **16 25 52.0 -2.5**
HDA Harding Lake 44.28 339 P **P** **16 25 54.5 +0.2**
HDA IAmb IAmb 16 26 22.0

comp=Z,129nm,1.5s
HDA IAMs_20 IAMs_20 16 44 46.5

comp=Z,29µm,20.0s
HDA Harding Lake 44.28 339 P **P** **16 25 54.2 -0.2**
baz=131,SNR=13
HDA S **S** **16 32 29.9 +2.0**

baz=131
HDA S **S** **16 32 29.9 +2.0**

baz=131
RND Reindeer 44.29 337 P **P** **16 25 55.1 +0.6**
RND IAmb IAmb 16 26 12.9

comp=Z,94nm,1.0s
RND IAMs_20 IAMs_20 16 44 19.7

comp=Z,25µm,19.0s
RND Reindeer 44.29 337 P **P** **16 25 55.1 +0.6**
RND pmax pmax

comp=Z,94nm,1.0s
RND MLR MLR

comp=Z,25µm,19.0s
N20K Mount Spurr 44.29 333 P **P** **16 25 55.5 +0.9**
baz=122,SNR=49
N20K S **S** **16 32 30.8 +2.5**

baz=122
G27K Doyon Strip 44.44 343 IAMs_20 IAMs_20 16 44 21.7
comp=Z,31µm,19.0s
G27K Doyon Strip 44.44 343 P **P** **16 25 55.3 -0.3**
baz=139
SKT Skwentna 44.45 334 P **P** **16 25 56.3 +0.5**
SKT IAmb IAmb 16 26 06.8

comp=Z,201nm,1.2s
SKT Skwentna 44.45 334 P **P** **16 25 56.7 +0.9**
baz=124,SNR=56
SKT S **S** **16 32 32.1 +1.6**

baz=124
IL31 44.50 339 P **P** **16 25 53.6 -2.4**
ILAR Eielson Array 44.50 339 P **P** **16 25 56.7 +0.6**
comp=Z,39nm,0.8s,baz=148,slow=6.5,SNR=200
ILAR LR LR 16 45 24.3
comp=Z,23µm,18.1s,baz=126,slow=37
comp=Z,39nm,0.8s
Q17K Contact Creek 44.50 328 P **P** **16 25 56.7 +0.4**
baz=116,SNR=40
Q17K S **S** **16 32 31.1 -0.4**

baz=116
MCK McKinley 44.52 337 P **P** **16 25 56.6 +0.3**
baz=128,SNR=25
MCK S **S** **16 32 34.0 +2.5**

baz=128
PRP Porcupine Dome 44.58 340 P **P** **16 25 57.8 +0.8**
PRP IAmb IAmb 16 26 07.5

comp=Z,159nm,1.2s
PRP IAMs_20 IAMs_20 16 44 46.6

comp=Z,28µm,19.0s
PRP Porcupine Dome 44.58 340 P **P** **16 25 57.7 +0.8**
baz=134,SNR=66
PRP S **S** **16 32 33.6 +1.1**

baz=134
F28M Old Crow 44.62 345 P **P** **16 25 57.1 +0.1**
F28M IAmb IAmb 16 26 10.8

comp=Z,96nm,0.9s
F28M IAMs_20 IAMs_20 16 46 26.6

comp=Z,42µm,21.0s
F28M Old Crow 44.62 345 P **P** **16 25 57.3 +0.3**
baz=142,SNR=92
F28M S **S** **16 32 34.4 +1.6**

baz=142
O19K Port Alsworth 44.67 331 P **P** **16 25 57.6 +0.2**
O19K IAMs_20 IAMs_20 16 42 19.6

comp=Z,20µm,19.0s
O19K Port Alsworth 44.67 331 P **P** **16 25 58.1 +0.6**
baz=119,SNR=26
O19K S **S** **16 32 34.7 +1.0**

baz=119
WRH Wood River Hil 44.70 338 P **P** **16 25 55.4 -2.2**
P18K Big Mountain, 44.70 329 P **P** **16 25 56.0 -1.8**
P18K Big Mountain, 44.70 329 P **P** **16 25 57.8 0.0**
baz=118,SNR=19
P18K S **S** **16 32 35.3 +1.1**

baz=118
CCB Clear Creek Bu 44.71 338 P **P** **16 25 58.0 +0.2**
CCB IAMs_20 IAMs_20 16 47 33.0

comp=Z,39µm,19.0s
E29M Blow River 44.80 346 IAmb IAmb 16 26 18.8
comp=Z,137nm,1.1s
E29M IAMs_20 IAMs_20 16 45 16.5

comp=Z,25µm,22.0s
E29M Blow River 44.80 346 P **P** **16 25 58.6 +0.1**
baz=145
TRF Thorofare Moun 44.83 336 P **P** **16 25 59.2 +0.2**
TRF Thorofare Moun 44.83 336 P **P** **16 25 59.8 +0.8**
baz=127,SNR=48
TRF S **S** **16 32 35.6 -0.7**

baz=127
COLA College 44.88 339 P **P** **16 25 57.7 -1.4**
COLA IAmb IAmb 16 26 10.5

comp=Z,91nm,1.0s
COLA College 44.88 339 IAMs_20 IAMs_20 16 45 06.4
comp=Z,23µm,19.0s
COLA College 44.88 339 P **P** **16 26 00.7 +1.6**
COLA College 44.88 339 P **P** **16 25 57.7 -1.4**
COLA pmax pmax

comp=Z,91nm,1.0s
COLA MLR MLR

comp=Z,23µm,19.0s
COLA College 44.88 339 P **P** **16 25 58.6 -0.5**
baz=131
COLA S **S** **16 32 37.3 +0.8**

baz=131
COLA College 44.88 339 ⇓P **P** **16 25 58.9 -0.2**
SABA Saba 44.88 91 IAMs_20 IAMs_20 16 45 25.1
comp=Z,18µm,18.0s
SMRT St. Maarten 44.88 91 IAMs_20 IAMs_20 16 46 23.2
comp=Z,20µm,20.0s
POKR Poker Plat Res 44.90 339 P **P** **16 25 59.1 -0.2**
POKR IAmb IAmb 16 26 22.7

comp=Z,120nm,1.1s
POKR IAMs_20 IAMs_20 16 44 57.0

comp=Z,37µm,21.0s
POKR Poker Plat Res 44.90 339 P **P** **16 26 00.9 +1.6**
baz=131,SNR=35
POKR S **S** **16 32 37.9 +1.0**

baz=131
O18K Koktuh Hills 44.90 330 P **P** **16 26 00.3 +0.9**
O18K IAMs_20 IAMs_20 16 42 15.7

comp=Z,20µm,20.0s
O18K Koktuh Hills 44.90 330 P **P** **16 25 59.8 +0.4**
baz=118,SNR=40
O18K S **S** **16 32 39.6 +2.5**

baz=118
BWN Browne 44.97 337 P **P** **16 26 00.3 +0.4**
BWN IAMs_20 IAMs_20 16 45 18.4

comp=Z,26µm,20.0s
CHGN Chignik 44.98 324 P **P** **16 25 58.4 -1.7**
CHGN Chignik 44.98 324 P **P** **16 26 00.2 +0.1**
baz=111
CHGN S **S** **16 32 38.9 +0.6**

baz=111
M20K Styx River 45.03 333 P **P** **16 26 01.0 +0.5**
R16K Pilot Point 45.03 326 P **P** **16 26 00.4 0.0**
baz=113
R16K S **S** **16 32 42.4 +3.4**

baz=113
Q16K King Salmon 45.04 328 P **P** **16 26 01.4 +1.0**
baz=115,SNR=20
Q16K S **S** **16 32 41.6 +2.5**

baz=115
N19K Bonanza Creek 45.05 332 P **P** **16 26 00.9 +0.3**
N19K Bonanza Creek 45.05 332 P **P** **16 26 01.1 +0.5**
baz=120
N19K S **S** **16 32 41.2 +1.9**

baz=120
MDM Murphy Dome 45.05 339 P **P** **16 26 00.5 -0.1**
MDM IAMs_20 IAMs_20 16 47 49.1

comp=Z,31µm,19.0s
NEA2 Nenana 45.10 338 IAMs_20 IAMs_20 16 45 49.2
comp=Z,21µm,19.0s
NEA2 Nenana 45.10 338 P **P** **16 26 01.2 +0.3**
baz=129,SNR=44
NEA2 S **S** **16 32 42.2 +2.3**

baz=129
G26K Porcupine Rive 45.10 342 P **P** **16 26 02.0 +1.1**
baz=137
CHNA Chernabura Isl 45.11 322 P **P** **16 26 00.2 -0.8**
baz=109
CHNA S **S** **16 32 41.6 +1.5**

baz=109
KTH Kantishna Hill 45.12 336 P **P** **16 26 01.2 +0.1**
KTH IAmb IAmb 16 26 11.8

comp=Z,147nm,1.0s
KTH IAMs_20 IAMs_20 16 45 23.6

comp=Z,19µm,18.0s
P17K Kvichak River 45.16 329 P **P** **16 26 02.1 +0.6**
baz=116,SNR=21
P17K S **S** **16 32 42.1 +1.3**

baz=116
PPLA Purkeypile 45.21 335 P **P** **16 26 02.8 +0.8**
baz=124,SNR=55
PPLA S **S** **16 32 43.5 +1.7**

baz=124
FYU Fort Yukon 45.23 341 P **P** **16 26 02.6 +0.8**
FYU IAMs_20 IAMs_20 16 47 38.8

comp=Z,27µm,20.0s
TAOE Nuku Hiva Isla 45.24 223 *e*P P 16 26 13.0 +10
comp=Z,708nm,25.1s
TAOE *e*S **S** **16 32 51.8 +8.7**

comp=Z,1µm,23.5s
E28M Babbage River 45.33 346 IAmb IAmb 16 26 13.8
comp=Z,157nm,1.1s
E28M IAMs_20 IAMs_20 16 44 42.5

comp=Z,41µm,20.0s
E28M Babbage River 45.33 346 P **P** **16 26 03.5 +0.8**
baz=143
BPAW Bear Paw Mtn. 45.46 337 P **P** **16 26 03.1 -0.7**
BPAW IAmb IAmb 16 26 14.5

comp=Z,166nm,1.1s
BPAW Bear Paw Mtn. 45.46 337 P **P** **16 26 03.9 +0.1**
baz=126,SNR=67
BPAW S **S** **16 32 46.3 +1.2**

baz=126
CAST Castle Rocks 45.47 335 P **P** **16 26 03.6 -0.3**
CAST Castle Rocks 45.47 335 P **P** **16 26 03.2 -0.7**
baz=124,SNR=46
CAST S **S** **16 32 45.0 -0.2**

baz=124
E27K Coleen River 45.48 344 IAmb IAmb 16 26 15.4
comp=Z,160nm,1.1s
E27K IAMs_20 IAMs_20 16 46 56.3

comp=Z,43µm,19.0s
E27K Coleen River 45.48 344 P **P** **16 26 04.2 +0.4**
baz=140
H24K Noodor Dome 45.52 340 IAmb IAmb 16 26 27.9
comp=Z,117nm,1.2s
H24K Noodor Dome 45.52 340 P **P** **16 26 04.7 +0.5**
baz=131
H24K S **S** **16 32 48.6 +2.6**

baz=131
I23K Minto, Yukon-K 45.55 338 P **P** **16 26 04.6 +0.2**
I23K IAmb IAmb 16 26 32.7
comp=Z,123nm,1.1s
I23K IAMs_20 IAMs_20 16 45 20.0

comp=Z,22µm,19.0s
I23K Minto, Yukon-K 45.55 338 P **P** **16 26 05.1 +0.7**
baz=129,SNR=36
I23K S **S** **16 32 47.9 +1.7**

baz=129
N18K Kilae Creek 45.59 331 IAMs_20 IAMs_20 16 42 47.9
comp=Z,19µm,20.0s
N18K Kilae Creek 45.59 331 P **P** **16 26 05.2 +0.4**
baz=118
N18K S **S** **16 32 48.2 +1.1**

baz=118
G25K Bearman Lake 45.62 341 P **P** **16 26 05.0 +0.1**
baz=134
G25K S **S** **16 32 52.0 +4.8**

baz=134
L20K Farewell, AK 45.64 334 P **P** **16 26 05.3 0.0**
baz=122
SVW2 Sparrevohn 45.65 331 P **P** **16 26 06.1 +0.8**
BMAR Burnt Mountain 45.67 343 P **P** **16 26 06.0 +0.6**
O17K Koliganek Bris 45.72 329 P **P** **16 26 06.8 +1.0**
baz=116,SNR=59
O17K S **S** **16 32 52.2 +3.4**

baz=116
F26K Sheenjek River 45.74 343 P **P** **16 26 07.7 +1.6**
baz=137,SNR=75
F26K S **S** **16 32 50.8 +1.7**

baz=137
D28M Stokes Point 45.75 347 P **P** **16 26 06.0 +0.2**
baz=145
D28M S **S** **16 32 53.5 +4.6**

baz=145
SDPT Sand Point 45.76 323 P **P** **16 26 07.3 +1.1**
SDPT Sand Point 45.76 323 P **P** **16 26 06.5 +0.3**
baz=108
SDPT S **S** **16 32 52.5 +3.0**

baz=108
CHUM Lake Minchumin 45.81 336 P **P** **16 26 06.9 +0.4**
baz=125,SNR=17
CHUM S **S** **16 32 53.1 +3.0**

baz=125
P16K Nushagak River 45.82 328 P **P** **16 26 07.0 +0.4**
baz=114,SNR=20
L19K White Mountain 45.88 333 P **P** **16 26 08.3 +1.1**
baz=120
L19K S **S** **16 32 53.6 +2.3**

baz=120
MLY Manley 45.93 338 P **P** **16 26 07.4 -0.1**
MLY IAmb IAmb 16 26 20.9

comp=Z,79nm,0.9s
MLY Manley 45.93 338 P **P** **16 26 07.9 +0.3**
baz=127,SNR=76
MLY S **S** **16 32 53.6 +1.6**

baz=127
M18K Stony River 45.94 332 P **P** **16 26 07.3 -0.3**
baz=119,SNR=40
M18K S **S** **16 32 54.0 +2.0**

baz=119
G24K Hadweenzic Riv 45.97 341 IAmb IAmb 16 26 30.5
comp=Z,158nm,1.5s
G24K IAMs_20 IAMs_20 16 43 44.4

comp=Z,24µm,21.0s
G24K Hadweenzic Riv 45.97 341 P **P** **16 26 08.1 +0.3**
baz=132
ATAH Atahualpa 46.07 132 LR LR 16 43 10.5
comp=Z,9µm,21.0s,baz=328,slow=33
F25K Christian River 46.07 342 P **P** **16 26 09.1 +0.5**
baz=135
N17K Nushagak Hills 46.09 330 IAMs_20 IAMs_20 16 43 03.1

comp=Z,20µm,20.0s
N17K Nushagak Hills 46.09 330 P **P** **16 26 09.1 +0.4**
baz=116,SNR=53
N17K S **S** **16 32 56.1 +1.9**

baz=116
A36M Sachs Harbour 46.10 354 P **P** **16 26 08.6 0.0**
A36M IAmb IAmb 16 26 16.1

comp=Z,118nm,0.9s
A36M Sachs Harbour 46.10 354 P **P** **16 26 08.5 -0.1**
baz=162,SNR=116
A36M S **S** **16 32 56.3 +2.4**

baz=162
O16K Kokwok River B 46.10 329 P **P** **16 26 09.6 +0.7**
O16K Kokwok River B 46.10 329 P **P** **16 26 09.7 +0.8**
baz=114,SNR=47
O16K S **S** **16 32 56.6 +2.2**

baz=114
MBFL Flemmings, Mon 46.10 92 *e*P **P** **16 26 12.5 +3.0**
MBFL Flemmings, Mon 46.10 92 *e*S **S** **16 34 54.6 +4.0**
FRB Frobisher Bay 46.12 25 P **P** **16 26 10.3 +1.4**
FRB pmax pmax

comp=Z,73nm,1.6s
FRB Frobisher Bay 46.12 25 ⇓P **P** **16 26 09.7 +0.8**
FRB Frobisher Bay 46.12 25 LR LR 16 44 27.4
comp=Z,32µm,19.2s,baz=238,slow=35
D27M Malcolm River 46.16 346 IAmb IAmb 16 26 12.3
comp=Z,76nm,0.8s
D27M Malcolm River 46.16 346 P **P** **16 26 09.9 +0.7**
baz=142
K20K Telida 46.18 335 P **P** **16 26 09.4 -0.1**
K20K Telida 46.18 335 P **P** **16 26 09.9 +0.4**
baz=122
K20K S **S** **16 32 55.9 +0.4**

baz=122
ANBD Bethesda, Anti 46.40 91 *e*P P 16 26 06.9 -4.8
E25K Arctic Village 46.43 343 P **P** **16 26 12.4 +1.0**
E25K IAmb IAmb 16 26 21.2

comp=Z,145nm,1.4s
E25K Arctic Village 46.43 343 P **P** **16 26 12.3 +0.9**
baz=136,SNR=37
E25K S **S** **16 33 03.7 +4.8**

baz=136
I21K Tanana 46.45 338 P **P** **16 26 11.8 +0.4**
I21K IAMs_20 IAMs_20 16 46 30.8
comp=Z,22µm,18.0s
I21K Tanana 46.45 338 P **P** **16 26 12.2 +0.7**
baz=126,SNR=46
I21K S **S** **16 32 59.8 +0.6**

baz=126
M17K Holitna River 46.59 331 P **P** **16 26 12.6 -0.1**
M17K IAMs_20 IAMs_20 16 43 30.3
comp=Z,20µm,19.0s
M17K Holitna River 46.59 331 P **P** **16 26 12.0 -0.7**
baz=117
M17K S **S** **16 33 01.3 0.0**

baz=117
PCRV Puerto La Cruz 46.61 102 LR LR 16 46 38.4
comp=Z,12µm,21.6s,slow=37
F24K Squaw Lake 46.64 341 IAMs_20 IAMs_20 16 47 16.1
comp=Z,26µm,18.0s
F24K Squaw Lake 46.64 341 P **P** **16 26 14.1 +1.0**
baz=132
J20K Nowinta River 46.65 336 P **P** **16 26 12.8 -0.3**
J20K Nowinta River 46.65 336 P **P** **16 26 13.2 +0.1**
baz=123,SNR=47
J20K S **S** **16 33 03.2 +1.0**

baz=123
L18K Granite Mounta 46.65 333 P **P** **16 26 13.6 +0.4**
L18K Granite Mounta 46.65 333 P **P** **16 26 13.2 0.0**
baz=118
L18K S **S** **16 33 03.6 +1.4**

baz=118
H22K Ishtalitna Cre 46.67 339 P **P** **16 26 13.4 +0.1**
baz=127,SNR=49
H22K S **S** **16 33 04.7 +2.2**

baz=127
GDHS Morne Mazeau, 46.67 92 IAMs_20 IAMs_20 16 48 04.8
comp=Z,28µm,21.0s
TTA Tatalina 46.72 334 P **P** **16 26 13.6 -0.2**
TTA IAmb IAmb 16 26 22.5

comp=Z,187nm,1.5s
TTA Tatalina 46.72 334 P **P** **16 26 14.1 +0.3**
TTA Tatalina 46.72 334 P **P** **16 26 13.6 -0.2**
TTA pmax pmax

comp=Z,187nm,1.5s
TTA Tatalina 46.72 334 P **P** **16 26 14.0 +0.3**
baz=120,SNR=31
TTA S **S** **16 33 04.6 +1.2**

baz=120
TTA Tatalina 46.72 334 ⇑P **P** **16 26 13.7 -0.2**
G23K Bananza Creek 46.75 340 P **P** **16 26 14.8 +0.8**
G23K IAMs_20 IAMs_20 16 47 06.8

comp=Z,33µm,19.0s
G23K Bananza Creek 46.75 340 P **P** **16 26 14.7 +0.8**
baz=129
G23K S **S** **16 33 07.0 +3.5**

baz=129
O15K Ungalikthiuk R 46.75 328 P **P** **16 26 13.9 -0.1**
baz=112
O15K S **S** **16 33 05.2 +1.5**

baz=112
N16K Nishlik Lake 46.77 330 P **P** **16 26 14.9 +0.7**
baz=115
N16K S **S** **16 33 07.2 +3.1**

baz=115
ABD La Joyeuse, An 46.85 92 *e*P **P** **16 26 12.9 -2.4**
CBE Ff, Capester 46.89 93 IAMs_20 IAMs_20 16 48 21.6
comp=Z,24µm,21.0s
CBE Ff, Capester 46.89 93 *e*P **P** **16 26 14.4 -1.3**
H21K Melozitna Rive 47.01 338 P **P** **16 26 16.1 +0.2**
H21K IAMs_20 IAMs_20 16 45 42.6

comp=Z,18µm,18.0s
H21K Melozitna Rive 47.01 338 P **P** **16 26 16.4 +0.5**
baz=125,SNR=60
H21K S **S** **16 33 09.5 +2.3**

baz=125
M16K Timber Creek 47.09 330 IAMs_20 IAMs_20 16 43 34.5
comp=Z,20µm,20.0s
M16K Timber Creek 47.09 330 P **P** **16 26 16.6 0.0**
baz=115,SNR=65
M16K S **S** **16 33 10.5 +2.0**

baz=115
J19K Poorman 47.10 335 P **P** **16 26 17.1 +0.4**
baz=121
J19K S **S** **16 33 08.5 -0.2**

baz=121
I20K Naaghedeneel 47.11 336 IAMs_20 IAMs_20 16 48 24.2
comp=Z,29µm,18.0s
I20K Naaghedeneel 47.11 336 P **P** **16 26 15.4 -1.3**
baz=123
COLD Coldfoot 47.13 340 P **P** **16 26 18.3 +1.5**
baz=130,SNR=21
COLD S **S** **16 33 12.2 +3.3**

baz=130
E24K Your Creek 47.19 342 IAmb IAmb 16 26 40.5
comp=Z,164nm,1.6s
E24K IAMs_20 IAMs_20 16 47 31.4

comp=Z,26µm,19.0s
E24K Your Creek 47.19 342 P **P** **16 26 18.0 +0.6**
baz=132
MAGL Barre de l'ile 47.23 93 IAMs_20 IAMs_20 16 47 57.5
comp=Z,20µm,21.0s
FALS False Pass 47.24 321 P **P** **16 26 19.2 +1.4**
FALS False Pass 47.24 321 P **P** **16 26 16.2 -1.6**
baz=105
FALS S **S** **16 33 12.5 +1.7**

baz=105
N15K Kwethluk River 47.26 329 P **P** **16 26 18.6 +0.6**
N15K IAMs_20 IAMs_20 16 43 18.9

comp=Z,20µm,20.0s
N15K Kwethluk River 47.26 329 P **P** **16 26 18.0 +0.1**
baz=113
N15K S **S** **16 33 12.2 +1.3**

baz=113
J18K Innoko River 47.26 334 P **P** **16 26 17.8 -0.1**
J18K Innoko River 47.26 334 P **P** **16 26 18.2 +0.3**
baz=119,SNR=64
J18K S **S** **16 33 11.9 +0.9**

baz=119
L17K Donlin 47.28 332 P **P** **16 26 17.9 -0.2**
baz=116
L17K S **S** **16 33 11.6 +0.3**

baz=116
G22K Bettles 47.34 340 P **P** **16 26 18.4 0.0**
baz=128
O14K Tigyukauivet M 47.47 328 P **P** **16 26 18.8 -0.8**
baz=111,SNR=5.5

O14K S **S** **16 33 14.3 +0.5**
baz=111
D25K Kavik River **47.49 344** IAmb IAmb 16 26 30.2
comp=Z,102nm,1.2s
D25K Kavik River **47.49 344** P **P** **16 26 20.3 +0.7**
baz=135
E23K Chandalar **47.49 341** P **P** **16 26 20.7 +0.9**
baz=131
IMAR Indian Mountai **47.51 338** P **P** **16 26 19.2 -0.6**
K17K Iditarod **47.55 333** P **P** **16 26 18.9 -1.3**
baz=117,SNR=35
K17K S **S** **16 33 13.6 -1.3**
baz=117
C26K Camden Bay **47.57 345** P **P** **16 26 20.9 +0.7**
baz=138
C26K S **S** **16 33 19.3 +4.2**
baz=138
L16K Owhat River **47.60 331** P **P** **16 26 20.9 +0.3**
L16K Owhat River **47.60 331** P **P** **16 26 20.6 0.0**
baz=115,SNR=59
L16K S **S** **16 33 15.4 -0.4**
baz=115
H20K Anotleneega Mo **47.63 337** P **P** **16 26 20.6 -0.1**
baz=123,SNR=106
H20K S **S** **16 33 18.0 +1.9**
baz=123
M15K Kasigluk River **47.73 330** P **P** **16 26 21.3 -0.3**
baz=113,SNR=29
M15K S **S** **16 33 21.0 +3.4**
baz=113
G21K Allakaket **47.73 339** P **P** **16 26 21.8 +0.2**
G21K IAmb IAmb 16 26 44.7
comp=Z,58nm,1.1s
G21K IAMs_20 IAMs_20 16 45 40.9
comp=Z,25µm,18.0s
G21K Allakaket **47.73 339** P **P** **16 26 21.7 +0.1**
baz=125
G21K S **S** **16 33 20.9 +3.3**
baz=125
SVN Savane Anatole **47.74 94** IAMs_20 IAMs_20 16 48 52.4
comp=Z,17µm,20.0s
FDF Fort de France **47.80 94** P **P** **16 26 25.1 +2.3**
FDF pmax pmax
comp=Z,135nm,1.0s
FDF Fort de France **47.80 94** *e*P **P** **16 26 21.1 -1.7**
F22K John River **47.90 340** P **P** **16 26 24.2 +1.3**
baz=128
N14K Kuskokwak Cree **47.91 328** P **P** **16 26 21.2 -1.7**
baz=111
N14K S **S** **16 33 22.1 +2.1**
baz=111
BIM Bigot **47.95 94** *e*P **P** **16 26 23.0 -1.0**
GCSA Galena City Sc **47.96 335** P **P** **16 26 23.4 +0.1**
baz=120,SNR=17
GCSA S **S** **16 33 22.6 +1.9**
baz=120
D24K Happy Valley **48.01 343** IAmb IAmb 16 26 47.5
comp=Z,80nm,1.1s
D24K Happy Valley **48.01 343** P **P** **16 26 24.1 +0.5**
baz=132
D24K S **S** **16 33 26.0 +4.7**
baz=132
ILAM Ilet Lapin Mar **48.03 94** IAMs_20 IAMs_20 16 47 36.9
comp=Z,16µm,18.0s
ILAM Ilet Lapin Mar **48.03 94** *e*P **P** **16 26 22.6 -1.9**
F21K Alatna River **48.14 339** P **P** **16 26 25.4 +0.6**
F21K IAmb IAmb 16 26 42.2
comp=Z,80nm,1.1s
F21K IAMs_20 IAMs_20 16 49 06.6
comp=Z,32µm,18.0s
F21K Alatna River **48.14 339** P **P** **16 26 24.8 +0.1**
baz=126
F21K S **S** **16 33 27.0 +3.7**
baz=126
MPOM Morne Pois Mar **48.17 94** *e*P **P** **16 26 23.7 -1.9**
E22K Anaktuvuk Pass **48.18 341** P **P** **16 26 25.2 +0.2**
E22K IAmb IAmb 16 26 48.8
comp=Z,87nm,1.2s
E22K IAMs_20 IAMs_20 16 46 17.7
comp=Z,22µm,20.0s
E22K Anaktuvuk Pass **48.18 341** P **P** **16 26 25.7 +0.6**
baz=128
E22K S **S** **16 33 25.2 +1.3**
baz=128
H19K Roundabout Mou **48.20 337** IAmb IAmb 16 26 47.5
comp=Z,78nm,1.1s
H19K IAMs_20 IAMs_20 16 48 23.2
comp=Z,21µm,20.0s
H19K Roundabout Mou **48.20 337** P **P** **16 26 25.4 +0.3**
baz=121
SLBI Saint Lucia, B **48.23 95** *e*P **P** **16 26 23.3 -2.7**
SVB Belmont **48.28 96** *e*P **P** **16 26 23.7 -2.8**
M14K Bethel **48.33 329** P **P** **16 26 26.1 -0.1**
M14K IAMs_20 IAMs_20 16 44 13.4
comp=Z,18µm,20.0s
M14K Bethel **48.33 329** P **P** **16 26 26.0 -0.2**
baz=112,SNR=38
M14K S **S** **16 33 29.8 +3.8**
baz=112
C24K Franklin Bluff **48.36 343** P **P** **16 26 27.0 +0.7**
baz=133
GRHS Sauteurs **48.36 97** *e*P P 16 26 16.1 -11
GRGR Grenville **48.39 97** *e*P P 16 26 13.8 -14
GCMP Grenada, Carri **48.45 97** *e*P P **16 26 23.6 -4.1**
L15K Ungalak Mounta **48.47 331** P **P** **16 26 27.1 -0.2**
baz=113,SNR=27
L15K S **S** **16 33 30.4 +2.4**
baz=113
H18K Honhosa River **48.71 336** P **P** **16 26 28.0 -1.1**
baz=119,SNR=23
H18K S **S** **16 33 32.3 +0.9**
baz=119
K15K Wolf Creek Mou **48.73 331** P **P** **16 26 29.1 -0.1**
K15K IAmb IAmb 16 26 44.0
comp=Z,114nm,1.1s
K15K Wolf Creek Mou **48.73 331** P **P** **16 26 29.8 +0.5**
baz=113,SNR=22
K15K S **S** **16 33 35.5 +3.8**
baz=113
J16K Anvik River **48.74 333** IAmb IAmb 16 26 33.3
comp=Z,66nm,0.8s
J16K Anvik River **48.74 333** P **P** **16 26 28.9 -0.5**
baz=115,SNR=46
J16K S **S** **16 33 32.7 +0.9**
baz=115
G19K Purcell Mounta **48.74 337** P **P** **16 26 29.0 -0.3**
G19K IAmb IAmb 16 26 36.9
comp=Z,117nm,1.4s
G19K Purcell Mounta **48.74 337** P **P** **16 26 28.5 -0.9**
baz=121,SNR=39
G19K S **S** **16 33 33.1 +1.2**
baz=121
F20K Avaraart Lake **48.76 338** IAmb IAmb 16 26 52.0
comp=Z,198nm,1.8s
F20K IAMs_20 IAMs_20 16 46 59.1
comp=Z,23µm,19.0s
F20K Avaraart Lake **48.76 338** P **P** **16 26 28.7 -0.8**
baz=123
UNV Unalaska Valle **48.78 319** P **P** **16 26 32.2 +2.5**
UNV Unalaska Valle **48.78 319** P **P** **16 26 29.0 -0.8**
baz=101,SNR=10
UNV S **S** **16 33 34.0 +1.5**
baz=101
RES Resolute Bay **48.83 6** P **P** **16 26 27.8 -2.1**
RES IAmb IAmb 16 26 49.3
comp=Z,107nm,1.4s
RES Resolute Bay **48.83 6** P **P** **16 26 27.8 -2.1**
RES pmax pmax
comp=Z,107nm,1.4s
RES Resolute Bay **48.83 6** LR LR 16 46 58.4
comp=Z,27µm,19.7s,baz=202,slow=36
M13K Dall Lake **48.86 329** P **P** **16 26 29.7 -0.6**
baz=110
L14K Kuka Creek **48.88 330** IAMs_20 IAMs_20 16 44 40.7
comp=Z,18µm,21.0s
L14K Kuka Creek **48.88 330** P **P** **16 26 30.4 0.0**
baz=111,SNR=18
L14K S **S** **16 33 37.1 +3.4**
baz=111
D22K Ayikyak River **48.89 341** P **P** **16 26 31.5 +1.0**
D22K IAmb IAmb 16 26 41.2
comp=Z,73nm,1.1s
D22K IAMs_20 IAMs_20 16 49 15.6
comp=Z,35µm,18.0s
D22K Ayikyak River **48.89 341** P **P** **16 26 30.4 -0.1**
baz=128
C23K Itkillik River **48.93 343** IAmb IAmb 16 26 41.0
comp=Z,161nm,1.6s
C23K IAMs_20 IAMs_20 16 47 17.5
comp=Z,25µm,21.0s
C23K Itkillik River **48.93 343** P **P** **16 26 30.9 +0.2**
baz=131
C23K S **S** **16 33 38.9 +4.5**
baz=131
E21K Killik River **49.01 340** IAmb IAmb 16 26 54.8
comp=Z,91nm,1.2s
E21K IAMs_20 IAMs_20 16 45 04.6
comp=Z,33µm,22.0s
E21K Killik River **49.01 340** P **P** **16 26 32.3 +0.9**
baz=126
I17K Unalakleet **49.03 333** P **P** **16 26 32.2 +0.6**
I17K Unalakleet **49.03 333** P **P** **16 26 31.8 +0.2**
baz=115
G18K Tagagawik **49.18 336** P **P** **16 26 33.0 +0.3**
G18K IAMs_20 IAMs_20 16 49 29.9
comp=Z,23µm,18.0s
G18K Tagagawik **49.18 336** P **P** **16 26 31.4 -1.3**
baz=119,SNR=17
G18K S **S** **16 33 42.1 +4.2**
baz=119
H17K Granite Mounta **49.19 335** P **P** **16 26 33.3 +0.5**
H17K Granite Mounta **49.19 335** P **P** **16 26 33.0 +0.2**
baz=117
TRN Trinidad (W) **49.24 99** *e*P **P** **16 26 07.9 -2.6**
F19K Shaleruckik Mo **49.34 338** P **P** **16 26 33.8 0.0**
F19K IAmb IAmb 16 26 36.1
comp=Z,103nm,0.9s
F19K IAMs_20 IAMs_20 16 48 54.2
comp=Z,25µm,19.0s
F19K Shaleruckik Mo **49.34 338** P **P** **16 26 33.6 -0.3**
baz=121,SNR=93
F19K S **S** **16 33 44.6 +4.6**
baz=121
E19K Redstone River **49.48 338** P **P** **16 26 35.6 +0.6**
E19K IAmb IAmb 16 26 57.6
comp=Z,115nm,1.1s
E19K IAMs_20 IAMs_20 16 47 22.0
comp=Z,22µm,19.0s
E19K Redstone River **49.48 338** P **P** **16 26 35.5 +0.6**
baz=122
E20K Nigu River **49.58 340** P **P** **16 26 36.0 +0.2**
baz=124
E20K S **S** **16 33 46.5 +2.9**
baz=124
C21K Knifeblade Rid **49.67 341** P **P** **16 26 36.6 +0.3**
baz=126
G17K Kiwalik Mounta **49.72 335** P **P** **16 26 37.3 +0.5**
baz=117,SNR=75
G17K S **S** **16 33 49.9 +4.3**
baz=117
J14K Nanvaranak Lak **49.77 331** P **P** **16 26 37.0 -0.2**
baz=112,SNR=23
J14K S **S** **16 33 50.1 +3.9**
baz=112
BBGH Gun Hill **49.84 95** IAMs_20 IAMs_20 16 50 50.7
comp=Z,20µm,21.0s
BBGH Gun Hill **49.84 95** *e*P **P** **16 26 34.8 -3.7**
B21K Ikpikpuk River **49.89 342** IAmb IAmb 16 26 52.3
comp=Z,70nm,1.1s
B21K Ikpikpuk River **49.89 342** P **P** **16 26 38.7 +0.7**
baz=126
D20K Etivluk River **49.96 340** P **P** **16 26 38.5 -0.1**
baz=123
H16K Elim **49.96 334** P **P** **16 26 38.6 0.0**
baz=114,SNR=73
H16K S **S** **16 33 52.9 +4.0**
baz=114
K13K Kusilvak Mount **49.96 330** IAMs_20 IAMs_20 16 45 25.5
comp=Z,18µm,21.0s
K13K Kusilvak Mount **49.96 330** P **P** **16 26 38.8 +0.1**
baz=110
B22K Teshekpuk Lake **50.00 343** IAmb IAmb 16 26 50.0
comp=Z,136nm,1.1s
B22K IAMs_20 IAMs_20 16 48 00.7
comp=Z,23µm,19.0s
B22K Teshekpuk Lake **50.00 343** P **P** **16 26 38.8 0.0**
baz=128
NIKH Nikolski High **50.02 318** P **P** **16 26 38.6 -0.7**
baz=98
NIKH S **S** **16 33 51.0 +1.0**
baz=98
M11K Mekoryuk **50.19 328** P **P** **16 26 40.4 -0.1**
baz=107
M11K S **S** **16 33 56.4 +4.2**
baz=107
D19K Kuna River **50.31 339** P **P** **16 26 40.0 -1.3**
D19K IAmb IAmb 16 27 04.2
comp=Z,189nm,1.2s
D19K IAMs_20 IAMs_20 16 50 36.8
comp=Z,36µm,18.0s
D19K Kuna River **50.31 339** P **P** **16 26 40.8 -0.5**
baz=122
D19K S **S** **16 33 55.6 +1.8**
baz=122
G16K Koyuk River **50.32 335** P **P** **16 26 42.0 +0.7**
G16K IAmb IAmb 16 26 50.6
comp=Z,128nm,1.2s
G16K IAMs_20 IAMs_20 16 50 15.1
comp=Z,27µm,20.0s
G16K Koyuk River **50.32 335** P **P** **16 26 41.8 +0.4**
baz=115
G16K S **S** **16 33 59.6 +5.7**
baz=115
F17K Baldwin Pennin **50.37 336** P **P** **16 26 41.4 -0.3**
F17K IAmb IAmb 16 27 05.1
comp=Z,107nm,1.1s
F17K Baldwin Pennin **50.37 336** P **P** **16 26 42.1 +0.4**
baz=117
F17K S **S** **16 33 58.2 +3.7**
baz=117
CZSB Cruzeiro do Su **50.41 127** P **P** **16 26 42.8 0.0**
CZSB IAmb IAmb 16 26 54.1
comp=Z,124nm,0.8s
CZSB Cruzeiro do Su **50.41 127** *e*P **P** **16 26 44.5 +1.7**
CZSB Cruzeiro do Su **50.41 127** *e*P **P** **16 26 43.9 +1.2**
NNA Nana **50.70 135** *ce*P **P** **16 26 45.6 +0.7**
NNA pmax pmax
comp=Z,147nm,1.5s
NNA Nana **50.70 135** LR LR 16 46 09.6
comp=Z,7µm,20.1s,baz=328,slow=34
G15K Niukluk **50.81 334** P **P** **16 26 46.1 +1.0**
baz=113
G15K S **S** **16 34 05.5 +4.8**
baz=113
A22K Sinclair Lake **50.81 343** P **P** **16 26 45.7 +0.7**
baz=127
XMAS Kiritimati **50.83 249** IAMs_20 IAMs_20 16 42 52.9
comp=Z,31µm,20.0s
B20K Meade River **50.84 341** IAmb IAmb 16 26 56.5
comp=Z,133nm,1.1s
B20K Meade River **50.84 341** P **P** **16 26 45.1 -0.1**
baz=124
E17K Hotham Inlet **50.86 337** P **P** **16 26 45.9 +0.5**
baz=117,SNR=59
E17K S **S** **16 34 07.2 +5.9**
baz=117
P08K Saint George I **51.01 323** P **P** **16 26 46.3 -0.4**
baz=101
C19K Lookout Ridge **51.08 340** IAmb IAmb 16 27 09.9
comp=Z,220nm,1.6s
C19K Lookout Ridge **51.08 340** P **P** **16 26 46.4 -0.7**
baz=120
ANM Nome **51.18 333** P **P** **16 26 48.5 +0.6**
ANM Nome **51.18 333** P **P** **16 26 48.5 +0.6**
ANM pmax pmax
comp=Z,304nm,1.6s
ANM MLR MLR
comp=Z,15µm,20.0s
ANM Nome **51.18 333** P **P** **16 26 47.3 -0.6**
baz=111,SNR=39
F15K North Star Dit **51.32 335** IAmb IAmb 16 26 58.3
comp=Z,145nm,1.4s
F15K IAMs_20 IAMs_20 16 50 54.5
comp=Z,25µm,22.0s
F15K North Star Dit **51.32 335** P **P** **16 26 49.8 +0.9**
baz=113,SNR=50
C18K Utukok River **51.37 339** IAmb IAmb 16 27 11.3
comp=Z,228nm,1.6s
C18K IAMs_20 IAMs_20 16 48 45.9
comp=Z,26µm,20.0s
C18K Utukok River **51.37 339** P **P** **16 26 48.7 -0.6**
baz=118
A21K Barrow **51.43 343** P **P** **16 26 49.0 -0.6**
baz=125
SPIA Saint Paul Isl **51.49 323** P **P** **16 26 49.0 -1.3**
baz=100
F14K Arctic Creek **51.88 334** P **P** **16 26 53.1 -0.1**
baz=111
B18K Kokolik River **51.90 340** P **P** **16 26 52.5 -0.7**
baz=118
C17K DeLong Mountai **51.94 338** P **P** **16 26 53.3 -0.2**
baz=116
A19K Wainwright **52.08 341** P **P** **16 26 54.4 -0.1**
baz=120
TNA Tin City **52.54 334** P **P** **16 26 57.4 -0.6**
baz=109,SNR=26
C16K Lisburne Hills **52.58 338** IAMs_20 IAMs_20 16 51 00.9
comp=Z,20µm,21.0s
C16K Lisburne Hills **52.58 338** P **P** **16 26 58.1 -0.2**
baz=114,SNR=34
RPN Rapa Nui **53.46 178** LR LR 16 44 30.4
comp=Z,30µm,20.4s,baz=357,slow=30
GAMB Gambell **53.59 331** P **P** **16 27 06.0 +0.3**
baz=104,SNR=7.4
GAMB Gambell **53.59 331** ⇑P **P** **16 27 04.4 -1.3**
TEFE Tefe **53.84 117** *e*P **P** **16 27 08.0 -0.2**
BOAV Boa Vista **53.96 108** P **P** **16 27 08.9 -0.3**
BOAV Boa Vista **53.96 108** *e*P **P** **16 27 08.2 -1.0**
BOAV Boa Vista **53.96 108** *e*P **P** **16 27 08.9 -0.3**
SFJD Kangerlussuaq **54.27 25** P **P** **16 27 10.7 0.0**
SFJD Kangerlussuaq **54.27 25** P **P** **16 27 10.7 0.0**
SFJD pmax pmax
comp=Z,298nm,1.7s
SFJD MLR MLR
comp=Z,47µm,18.0s
SFJD Kangerlussuaq **54.27 25** ⇓P P 16 27 14.6 +4.0
SFJD Kangerlussuaq **54.27 25** LR LR 16 49 47.8
comp=Z,35µm,20.6s,baz=246,slow=36
GSTR Great Sitkin T **54.33 316** P **P** **16 27 10.7 -0.7**
ADK Adak **54.71 316** P **P** **16 27 14.6 +0.6**
ADK IAmb IAmb 16 27 22.4
comp=Z,121nm,1.0s
ADK Adak **54.71 316** P **P** **16 27 14.7 +0.6**
ADK Adak **54.71 316** P **P** **16 27 14.6 +0.6**
ADK pmax pmax
comp=Z,121nm,1.0s
ADK MLR MLR
comp=Z,11µm,20.0s
ILULI Ilulissat **54.77 22** IAMs_20 IAMs_20 16 48 46.2
comp=Z,24µm,19.0s
PMOR Pomariorio Ree **54.78 225** *e*P **P** **16 27 15.8 +0.8**
comp=Z,5µm,37.4s
VAH Vaihoa **54.79 225** *e*P **P** **16 27 16.7 +1.7**
comp=Z,124nm,1.3s
JOHN Johnston Islan **54.93 272** IAMs_20 IAMs_20 16 43 44.5
comp=Z,33µm,21.0s
ETMB Extrema **56.55 124** P **P** **16 27 25.9 -1.8**
ETMB IAmb IAmb 16 27 33.0
comp=Z,103nm,1.3s
ETMB Extrema **56.55 124** *e*P **P** **16 27 26.2 -1.5**
MACA Manacapuru-AM **56.84 113** P **P** **16 27 28.9 -0.9**
MACA Manacapuru-AM **56.84 113** *e*P **P** **16 27 29.8 -0.1**
TIAR Tiarei **57.61 225** *e*P P 16 27 42.5 +7.3
comp=Z,1.9nm,0.8s
TVO Taravao **57.72 224** *e*P P 16 27 40.8 +4.7
comp=Z,33nm,1.0s
PPT Papeete **57.76 225** LR LR 16 47 00.6
comp=Z,13µm,19.1s,baz=40,slow=30
PPTF Pamatai, Papee **57.77 225** IAMs_20 IAMs_20 16 46 59.8
comp=Z,17µm,18.0s
PPT2 Papeete2 **57.78 225** *e*P **P** **16 27 31.9 -4.6**
comp=Z,250nm,21.5s
PPT2 *e*S S 16 35 47.0 +11
comp=Z,4µm,25.5s
PPT2 *e*LQ LQ 16 42 07.4
comp=Z,22µm,23.5s
PPT2 *e*LQ LQ 16 42 20.5
comp=Z,11µm,22.8s
PPT2 *e*LR LR 16 44 22.3
comp=Z,32µm,24.0s
PPT2 *e*LR LR 16 44 30.8
comp=Z,26µm,25.5s
PAE Paea **57.84 225** *e*P P 16 27 45.4 +8.6
comp=Z,41nm,1.2s
SAML Samuel **58.29 121** P **P** **16 27 38.2 -1.9**
SAML Samuel **58.29 121** P **P** **16 27 38.2 -1.9**
SAML pmax pmax
comp=Z,49nm,1.1s
SAML MLR MLR
comp=Z,9µm,20.0s
SAML Samuel **58.29 121** *e*P **P** **16 27 38.4 -1.7**
MIDW Midway **58.29 288** IAMs_20 IAMs_20 16 46 03.0
comp=Z,22µm,20.0s
MDP Montagnes des **59.48 100** LR LR 16 56 46.0
comp=Z,5µm,19.1s,baz=282,slow=39
LPAZ La Paz **59.57 131** P **P** **16 27 47.9 -1.8**
LPAZ La Paz **59.57 131** P **P** **16 27 47.9 -1.8**
SUMG Summit **59.60 19** IAmb IAmb 16 28 07.4
comp=Z,82nm,1.1s
SUMG Summit **59.60 19** *i* P **P** **16 27 48.0 -0.9**
TA02 Huaiquique **61.15 136** P **P** **16 27 58.9 -0.7**
GO01 Chusmiza **61.30 134** IAmb IAmb 16 28 18.8
comp=Z,60nm,1.1s
TA01 Diego Aracena **61.33 136** P **P** **16 28 02.0 +1.2**
MALB Monte Alegre **61.50 108** *e*P **P** **16 28 01.5 -0.7**
PATCX Punta Patache **61.54 136** P **P** **16 28 00.5 -1.9**
ITTB Itaituba **61.60 111** *e*P **P** **16 28 02.1 -0.8**
PB08 IPOC Station P **61.67 135** P **P** **16 28 00.7 -3.0**
PB08 IPOC Station P **61.67 135** P **P** **16 28 04.1 +0.5**
TBI Tubuai **62.09 220** *e*P **P** **16 28 03.1 -2.8**
comp=Z,2µm,27.5s
TBI *e*S **S** **16 36 26.9 -4.1**
comp=Z,4µm,25.8s
TBI *e*LQ LQ 16 43 46.6
comp=Z,187µm,36.5s
TBI *e*LQ LQ 16 44 04.6
comp=Z,126µm,34.2s
TBI *e*LR LR 16 46 31.9
comp=Z,77µm,26.2s
TBI *e*LR LR 16 46 35.2
comp=Z,16µm,24.8s
MCPB Macapa, AP **62.63 105** *e*P **P** **16 28 08.6 -1.2**
BILL Bilibino **62.92 335** P **P** **16 28 10.2 -0.7**
BILL IAMs_20 IAMs_20 16 59 59.2
comp=Z,13µm,18.0s
BILL Bilibino **62.92 335** *i* P **P** **16 28 10.6 -0.3**
BILL pmax pmax
comp=Z,205nm,1.3s
VILB Vilhena **63.07 122** P **P** **16 28 13.9 +1.2**
VILB Vilhena **63.07 122** *e*P **P** **16 28 12.4 -0.3**
NPGB Novo Progresso **63.40 114** *e*P **P** **16 28 14.2 -0.7**
LVC Limon Verde **63.64 136** P **P** **16 28 16.6 -0.1**
LVC Limon Verde **63.64 136** P **P** **16 28 16.6 -0.1**
LVC pmax pmax
comp=Z,188nm,1.8s
LVC Limon Verde **63.64 136** LR LR 16 52 46.5
comp=Z,3µm,21.0s,baz=325,slow=33
LVC Limon Verde **63.64 136** *e*P **P** **16 28 16.3 -0.4**
PB15 IPOC Station P **63.74 137** P **P** **16 28 16.6 -0.6**
PB15 IAmb IAmb 16 28 27.5
comp=Z,72nm,1.3s
PB14 IPOC Station P **64.25 139** P **P** **16 28 22.4 +1.7**
SIV San Ignacio **64.35 125** LR LR 16 56 43.5
comp=Z,8µm,20.6s,baz=331,slow=36
CLDB Colider **65.23 117** *e*P **P** **16 28 27.1 +0.1**
PTLB Pontes e Lacer **65.43 124** P **P** **16 28 27.9 -0.3**
PTLB IAmb IAmb 16 28 36.9
comp=Z,99nm,1.3s
PTLB Pontes e Lacer **65.43 124** *e*P **P** **16 28 28.0 -0.1**
BBSD Serra de San D **65.46 126** *e*P **P** **16 28 27.2 -1.1**
H07N1 FLORES T-PHASE **66.08 56** *e*S **S** **16 37 14.6 -5.9**
H07S1 FLORES T-PHASE **66.10 57** *e*P P 16 28 39.4 +7.1
comp=Z,97nm,1.0s
H07S1 *e*S **S** **16 37 18.4 -2.3**
BORG Borgarnes **66.10 28** IAMs_20 IAMs_20 16 55 11.5
comp=Z,17µm,18.0s
AC06 Mina Casimiro **66.37 141** P **P** **16 28 34.6 +0.6**
AC06 IAmb IAmb 16 28 43.5
comp=Z,67nm,1.1s
BBRB Robore, Bolivi **66.75 126** *e*P **P** **16 28 35.7 -0.9**
H03N2 Juan Fernandez **67.03 151** T T 17 41 46.5
baz=331,slow=78,SNR=179
H03N1 Juan Fernandez **67.04 151** T T 17 41 47.9
baz=331,slow=78,SNR=163
H03N3 Juan Fernandez **67.05 151** T T 17 41 43.5
baz=331,slow=78,SNR=93
RAR Rarotonga **67.07 230** IAMs_20 IAMs_20 16 50 15.4
comp=Z,19µm,21.0s
RAR Rarotonga **67.07 230** LR LR 16 51 15.5
comp=Z,16µm,18.6s,baz=42,slow=30
LCO Las Campanas **67.45 142** P **P** **16 28 41.2 +0.1**

LCO IAmb IAmb 16 28 49.5
comp=Z,123nm,1.5s
LCO Las Campanas 67.45 142 P **P** **16 28 41.2 +0.1**
LCO pmax pmax
comp=Z,123nm,1.5s
LCO MLR MLR
comp=Z,7µm,19.0s
CO05 La Serena 67.87 143 P **P** **16 28 42.7 -0.7**
PCED Cedros 68.18 57 *e*P P 16 28 58.2 +13
comp=Z,131nm,0.8s
PCED *e*S S 16 37 17.6 -28
CALA Caldeira 68.19 57 *e*S S 16 37 57.2 +11
SALV Santo Antonio 68.31 122 *e*P **P** **16 28 46.6 +0.1**
PICO Pico 68.42 57 *e*P **P** **16 28 48.9 +1.8**
comp=Z,58nm,1.2s
PICO *e*S **S** **16 37 54.3 +5.4**
PGRA Graciosa 68.60 56 *e*P P 16 28 54.0 +5.9
comp=Z,142nm,1.4s
PGRA *e*S S 16 37 59.8 +9.0
JMIC Jan Mayen 69.03 20 LR LR 16 58 05.2
comp=Z,22µm,18.7s,baz=302,slow=35
PAGU Agualva, Azore 69.27 56 *e*P **P** **16 28 56.2 +3.9**
comp=Z,104nm,1.4s
PAGU *e*S **S** **16 38 03.1 +4.3**
PET Petropavlovsk 69.43 320 P **P** **16 28 51.5 -1.4**
PET Petropavlovsk 69.43 320 P **P** **16 28 55.6 +2.7**
PET Petropavlovsk 69.43 320 *e*P **P** **16 28 53.4 +0.5**
PET *e*S **S** **16 37 57.7 -2.4**
PET *e* 16 38 59.1
PET *e*SS **SS** **16 42 35.2 +8.5**
PET pmax pmax
comp=Z,87nm,1.0s
PET MLR MLR
comp=Z,5µm,17.0s
SNDB Serra Nova Dou 69.47 116 *e*P **P** **16 28 54.2 +0.4**
SEY Seymchan 69.59 331 *ce*P **P** **16 28 54.5 +0.7**
SEY pmax pmax
comp=Z,61nm,1.0s
SEY Seymchan 69.59 331 LR LR 16 57 42.9
comp=Z,12µm,19.5s,baz=75,slow=34
KBS Kingsbay 69.92 10 P **P** **16 28 52.3 -3.3**
KBS IAmb IAmb 16 29 09.0
comp=Z,71nm,1.3s
KBS Kingsbay 69.92 10 P **P** **16 28 52.3 -3.3**
KBS pmax pmax
comp=Z,71nm,1.3s
PEA0B Petropavlovsk- 69.95 320 P **P** **16 28 55.5 -0.7**
PEA0B Petropavlovsk- 69.95 320 *ce*P **P** **16 28 58.1 +1.9**
PETK Petropavlovsk- 69.95 320 P **P** **16 28 53.7 -2.6**
PETK Petropavlovsk- 69.95 320 P **P** **16 28 55.9 -0.3**
comp=Z,94nm,1.0s,baz=77,slow=11,SNR=32
PETK LR LR 16 53 18.2
comp=Z,4µm,21.3s,baz=80,slow=30
comp=Z,94nm,1.0s
PP1B Ponte de Pedra 69.96 123 *e*P **P** **16 28 56.9 +0.1**
BDQN Bodoquena, MS 70.35 126 *e*P **P** **16 28 59.2 +0.1**
MURT Porto Murtinho 70.50 128 *e*P **P** **16 29 00.1 +0.2**
PEL Peldehue 70.69 145 P **P** **16 29 04.1 +3.1**
PEL pmax pmax
comp=Z,108nm,1.7s
RVDE Rio Verde (Bra 70.79 124 *e*P **P** **16 29 01.8 0.0**
CFA Coronel Fontan 70.80 142 LR LR 16 55 46.0
comp=Z,4µm,19.1s,slow=32
CMLA Cha da Macela 70.83 57 *e*S S 16 38 26.7 +10
PCALD Caldeiras da R 70.84 57 *e*P P 16 28 46.4 -16
comp=Z,164nm,1.4s
MT05 Renca 70.86 145 P **P** **16 29 00.3 -1.7**
PGRON Lagoa das Cont 70.94 57 *e*P P 16 28 54.0 -8.6
comp=Z,58nm,1.7s
SPITS Spitsbergen Ar 71.08 10 P **P** **16 29 03.2 +0.5**
comp=Z,10nm,0.9s,baz=15,slow=7.9,SNR=2.3
SPITS LR LR 17 01 02.3
comp=Z,27µm,19.1s,baz=276,slow=37
comp=Z,10nm,0.9s
BART Pico Bartolome 71.09 57 *e*S SKiKP 16 38 32.5 -13
AQDB Aquidauana 71.13 126 IAmb IAmb 16 29 13.1
comp=Z,55nm,1.0s
AQDB Aquidauana 71.13 126 *e*P **P** **16 29 03.7 -0.1**
PSMN Pico do Norte, 71.42 57 *e*P **P** **16 29 02.4 -3.1**
comp=Z,16nm,0.4s
PSMN *e*S S 16 38 34.0 +10
MA2 Magadan 71.46 328 P **P** **16 29 05.7 +0.4**
MA2 Magadan 71.46 328 P **P** **16 29 06.7 +1.4**
MA2 Magadan 71.46 328 *ce*P **P** **16 29 05.9 +0.6**
MA2 pmax pmax
comp=Z,127nm,1.7s
BO01 Tunca 71.48 146 P **P** **16 29 06.2 +0.5**
AFI Afiamalu 71.50 243 IAMs_20 IAMs_20 16 53 36.1
comp=Z,21µm,20.0s
SKR Severo-Kuril's 71.66 318 *e*P **P** **16 29 02.9 -3.7**
SKR *e*PPP PPP 16 33 32.0
SKR *e*S **S** **16 38 33.5 +7.3**
SKR pmax pmax
comp=Z,800nm,9.1s
SKR MLR MLR
comp=Z,4µm,18.0s
TICA Tres Isletas 71.76 133 *e*P **P** **16 29 10.1 +2.6**
ANTJ Antonio Joao (71.87 127 *e*P **P** **16 29 08.5 +0.2**
ESFA Espinillo Form 72.05 131 *e*P **P** **16 29 09.4 +0.1**
C2SB Chapadao do Su 72.21 122 *e*P **P** **16 29 10.8 +0.5**
ML02 Panimavida 72.41 147 P **P** **16 29 08.1 -3.1**
RPRD Ribas do Rio P 72.60 124 *e*P **P** **16 29 12.8 +0.2**
TIXI Tiksi 73.73 343 P **P** **16 29 17.4 -1.2**
TIXI Tiksi 73.73 343 IAMs_20 IAMs_20 17 04 49.1
comp=Z,11µm,20.0s
TIXI Tiksi 73.73 343 *ce*P **P** **16 29 17.4 -1.2**
TIXI pmax pmax
comp=Z,60nm,1.0s
TIXI MLR MLR
comp=Z,10µm,20.0s
TIXI Tiksi 73.73 343 LR LR 17 05 40.6
comp=Z,479nm,19.6s,baz=85,slow=39
CPUP Villa Florida 73.74 131 P **P** **16 29 19.1 -0.1**
CPUP Villa Florida 73.74 131 P **P** **16 29 19.6 +0.4**
comp=Z,17nm,0.8s,baz=318,slow=6.7,SNR=13
CPUP LR LR 17 01 01.1
comp=Z,4µm,20.2s,baz=334,slow=35
comp=Z,17nm,0.8s
CPUP Villa Florida 73.74 131 *e*P **P** **16 29 19.2 -0.1**
BDFB Brasilia 74.15 117 P **P** **16 29 19.0 -3.0**
BDFB IAmb IAmb 16 29 31.7
comp=Z,86nm,1.4s
BDFB Brasilia 74.15 117 P **P** **16 29 22.4 +0.4**
comp=Z,5.8nm,0.7s,baz=309,slow=5.3,SNR=6.2
BDFB LR LR 17 05 04.3
comp=Z,8µm,19.1s,baz=304,slow=38
comp=Z,5.8nm,0.7s
ITRB Iturama 74.64 122 *e*P **P** **16 29 24.9 +0.2**
TRCB Terra Rica 74.80 126 *e*P **P** **16 29 25.7 +0.1**
MCR1 Marechal Candi 74.82 128 *e*P **P** **16 29 26.1 +0.5**
SDBA SAO DESIDERIO 74.93 112 *e*P **P** **16 29 26.6 0.0**
WAKE Wake Island 75.04 284 IAMs_20 IAMs_20 16 53 50.9
comp=Z,16µm,21.0s
PCMB Pacaembu 75.09 124 *e*P **P** **16 29 27.4 +0.1**
IPMB Ipameri, GO 75.31 119 *e*P **P** **16 29 28.6 0.0**
GO06 Curarrehue 75.45 149 P **P** **16 29 29.6 +0.5**
GO06 IAmb IAmb 16 29 37.3
comp=Z,134nm,1.5s
LR05 Currie 75.74 150 P **P** **16 29 30.4 -0.1**
LDASE Londrina, Braz 76.27 125 *e*P **P** **16 29 34.7 +0.7**
PTGB Pitanga 76.38 127 *e*P **P** **16 29 35.6 +0.9**
ITQB Itaqui 76.41 133 P **P** **16 29 33.5 -1.2**
ITQB Itaqui 76.41 133 *e*P **P** **16 29 34.7 +0.1**
FRBT Francisco Belt 76.45 128 *e*P **P** **16 29 35.4 +0.4**
CRSM Crissiumal (Br 76.73 130 *e*P **P** **16 29 36.9 +0.4**
PLCA Paso Flores 76.80 150 P **P** **16 29 35.1 -1.6**
PLCA Paso Flores 76.80 150 P **P** **16 29 37.4 +0.7**
comp=Z,22nm,1.0s,baz=329,slow=7.1,SNR=28
PLCA LR LR 16 56 54.5
comp=Z,16µm,18.6s,baz=330,slow=31
comp=Z,22nm,1.0s
PLCA Paso Flores 76.80 150 *e*P **P** **16 29 36.7 0.0**
JANB Januaria 76.82 114 *e*P **P** **16 29 35.0 -2.3**
BB19B Bebedouro 76.83 122 *e*P **P** **16 29 38.1 +0.9**
TARA Tarawa 77.00 265 IAMs_20 IAMs_20 16 57 32.6
comp=Z,15µm,21.0s
PMNB Patos De Minas 77.01 118 *e*P **P** **16 29 38.3 -0.1**
UNIS Unistalda (Bra 77.04 132 *e*P **P** **16 29 38.4 +0.2**
FRTB Fartura 77.38 124 *e*P **P** **16 29 40.4 +0.1**
RODS Rosario do Sul 77.79 133 *e*P **P** **16 29 42.9 +0.5**
ITAB Concordia 77.89 129 *e*P **P** **16 29 43.7 +0.8**
EKA Eskdalemuir Ar 77.91 34 P **P** **16 29 42.7 0.0**
comp=Z,8.5nm,1.0s,baz=305,slow=5.8,SNR=6.4
comp=Z,8.5nm,1.0s
LL02 Futaleuf 78.22 152 P **P** **16 29 44.4 -0.1**

ALGR Alto Alegre (B 78.25 131 *e*P **P** **16 29 46.9 +1.9**
RCLB Rio Claro- Sao 78.36 122 *e*P **P** **16 29 46.6 +0.8**
PMOZ Porto Moniz, M 78.98 59 *e*S **SKSac** **16 40 03.5 -1.9**
PMOZ Porto Moniz, M 78.98 59 *e*LR LR 16 55 27.5
comp=Z,12µm,18.0s
CPSB Cacapava Do Su 78.99 132 *e*P **P** **16 29 49.3 +0.3**
TRQA Tornquist 79.03 143 IAMs_20 IAMs_20 17 00 09.3
comp=Z,8µm,19.0s
TRQA Tornquist 79.03 143 *e*P **P** **16 29 49.7 +0.6**
DIAM Diamantina, MG 79.08 117 *e*P **P** **16 29 49.9 0.0**
ARCES ARCESS Array B 79.11 14 P **P** **16 29 49.9 +0.8**
ARCES IAmb IAmb 16 30 14.5
comp=Z,115nm,1.7s
ARCES ARCESS Array B 79.11 14 P **P** **16 29 49.9 +0.8**
ARCES pmax pmax
comp=Z,115nm,1.7s
ARCES ARCESS Array B 79.11 14 P **P** **16 29 49.2 +0.1**
comp=Z,5.6nm,0.9s,baz=330,slow=4.6,SNR=7.9
ARCES LR LR 17 06 09.1
comp=Z,21µm,19.7s,baz=323,slow=37
comp=Z,5.6nm,0.9s
SPB Sao Paulo 79.11 123 *e*P **P** **16 29 50.2 +0.4**
PMAR Madeira 79.24 59 *e*P **P** **16 29 51.9 +1.1**
comp=Z,572nm,1.9s
KEV Kevo 79.26 14 IAMs_20 IAMs_20 17 10 34.4
comp=Z,14µm,19.0s
YAK Yakutsk 79.28 335 IAMs_20 IAMs_20 17 04 31.5
comp=Z,9µm,21.0s
YAK Yakutsk 79.28 335 *e*P **P** **16 29 51.1 +1.0**
YAK *e* 16 32 51.5
YAK *e*S **S** **16 39 51.6 +1.4**
YAK *e* 16 40 34.0
YAK *e*SS **SS** **16 44 52.4 -3.5**
YAK pmax pmax
comp=Z,224nm,1.1s
YAK pmax pmax
comp=N,55nm,1.3s
YAK pmax pmax
comp=E,80nm,1.3s
YAK pmax pmax
comp=Z,235nm,4.2s
YAK pmax pmax
comp=N,106nm,3.0s
YAK pmax pmax
comp=E,219nm,3.5s
YAK smax smax
comp=N,3µm,10.5s
YAK smax smax
comp=E,1µm,6.1s
YAK Yakutsk 79.28 335 LR LR 17 07 53.5
comp=E,250nm,18.5s,baz=45,slow=38
NKL Nikolayevsk 79.29 324 *e*P **P** **16 29 48.6 -1.8**
NKL *e* 16 32 47.4
NKL *e*S **S** **16 39 52.2 +1.5**
NKL *e*SS **SS** **16 44 57.9 +1.4**
NKL pmax pmax
comp=N,112nm,1.2s
NKL pmax pmax
comp=E,115nm,1.3s
NKL pmax pmax
comp=Z,487nm,1.3s
NKL smax smax
comp=E,195nm,3.9s
NKL smax smax
comp=N,816nm,7.2s
NKL MLR MLR
comp=E,4µm,10.0s
RCBR Riachuelo 79.34 102 IAMs_20 IAMs_20 17 05 32.7
comp=Z,10µm,21.0s
RCBR Riachuelo 79.34 102 LR LR 17 05 44.2
comp=Z,8µm,21.7s,baz=302,slow=36
RCBR Riachuelo 79.34 102 *e*P **P** **16 29 51.7 +0.3**
TYV Tymovskoe 79.36 322 *e*P **P** **16 29 54.2 +3.4**
TYV *e*S **S** **16 39 54.5 +3.0**
TYV pmax pmax
comp=Z,163nm,1.4s
TYV pmax pmax
comp=Z,1µm,4.7s
TYV smax smax
comp=N,4µm,9.8s
TYV smax smax
comp=E,2µm,9.8s
PET01 Itanhaem-SP 79.63 124 *e*P **P** **16 29 52.8 +0.2**
DGTI Dogotuki 79.67 246 P **P** **16 29 55.7 +2.7**
BSCB Bom Sucesso 79.68 120 *e*P **P** **16 29 53.7 +0.6**
PLTB Pedras Altas 79.75 133 *e*P **P** **16 29 53.4 +0.2**
CNLB Canela 80.05 130 *e*P **P** **16 29 55.4 +0.4**
COYC Coyhaique 80.07 153 IAMs_20 IAMs_20 16 57 36.6
comp=Z,8µm,20.0s
PARB Paraibuna 80.33 122 *e*P **P** **16 29 57.2 +0.6**
UGL Uglegorsk 80.57 320 *e*P P 16 30 02.4 +5.0
UGL *e*S **S** **16 40 06.4 +2.1**
UGL pmax pmax
comp=Z,100nm,1.9s
UGL pmax pmax
comp=Z,1µm,6.0s
UGL smax smax
comp=E,3µm,7.0s
YUK Yuzh-Kuril'sk 80.72 315 *e*P P 16 30 02.2 +3.9
YUK *e* 16 33 05.3
YUK *e*S S 16 39 56.8 -9.2
YUK *e*SS **SS** **16 45 14.2 -4.1**
YUK SSS SSS 16 48 47.1
YUK pmax pmax
comp=Z,727nm,1.3s
YUK pmax pmax
comp=E,339nm,1.1s
YUK pmax pmax
comp=N,187nm,1.0s
NBO00 NORSAR Array S 80.79 25 P **P** **16 29 57.8 -0.5**
NBO00 IAmb IAmb 16 30 28.9
comp=Z,104nm,1.5s
NB2 NORSAR Subarra 80.94 25 P **P** **16 30 01.0 +1.7**
NB2 pmax pmax
comp=Z,243nm,2.0s
NB2 NORSAR Subarra 80.94 25 P **P** **16 30 00.2 +0.9**
comp=Z,467nm,2.5s,baz=312,slow=5.9
NB2 NORSAR Subarra 80.94 25 P **P** **16 30 00.2 +0.9**
baz=312,slow=5.9
NOA NORSAR Array B 80.94 25 P **P** **16 30 00.0 +0.8**
comp=Z,11nm,1.0s,baz=310,slow=5.4,SNR=10.0
NOA LR LR 17 06 22.3
comp=Z,11µm,19.5s,baz=310,slow=36
comp=Z,11nm,1.0s
NAO01 NORSAR Array S 80.95 25 P **P** **16 29 57.4 -1.8**
NAO01 IAmb IAmb 16 30 29.9
comp=Z,159nm,1.6s
SACV Santiago Islan 81.11 78 IAMs_20 IAMs_20 17 05 38.9
comp=Z,10µm,20.0s
KONO Kongsberg 81.20 26 P **P** **16 30 00.4 -0.2**
KONO IAmb IAmb 16 30 30.8
comp=Z,189nm,1.6s
KONO Kongsberg 81.20 26 *i* P **P** **16 30 02.8 +2.2**
KONO pmax pmax
comp=Z,105nm,1.4s
KONO MLR MLR
comp=Z,18µm,17.0s
YSS Yuzh-Sakhalins 81.22 318 P **P** **16 30 01.5 +0.6**
YSS IAMs_20 IAMs_20 17 12 48.7
comp=Z,7µm,18.0s
YSS Yuzh-Sakhalins 81.22 318 P **P** **16 30 03.0 +2.1**
YSS Yuzh-Sakhalins 81.22 318 *e*P **P** **16 30 01.7 +0.8**
YSS *e*S **S** **16 40 13.1 +1.9**
YSS *e* 16 40 23.8
YSS *e*SS **SS** **16 45 32.2 +6.5**
YSS pmax pmax
comp=Z,150nm,1.2s
YSS pmax pmax
comp=Z,2µm,3.6s
YSS pmax pmax
comp=N,300nm,4.0s
YSS pmax pmax
comp=E,500nm,3.8s
YSS smax smax
comp=N,3µm,9.4s
SJMB Sao Joao De Ma 81.29 116 *e*P **P** **16 30 02.7 +1.0**
GUA01 Guaratinga, BA 81.31 113 *e*P **P** **16 30 02.3 +0.5**
PGAV Gavieira, Arco 81.35 47 *e*S **SKSac** **16 40 17.8 -3.8**
PGAV *e*SS SS 16 45 45.5 +17
PGAV Gavieira, Arco 81.35 47 *e*LR LR 16 57 12.2
comp=N,41µm,18.0s
POLO Lamas de Olo 81.94 48 *e*P **P** **16 30 07.0 +2.0**
comp=N,36nm,1.6s
POLO Lamas de Olo 81.94 48 *e*S **SKSac** **16 40 23.0 -2.6**
POLO *e*SS **SS** **16 45 45.2 +8.2**
PVRL Vila Real 82.04 48 *e*P **P** **16 30 06.9 +1.4**

comp=N,83nm,1.0s
PMAFR Mafra 82.07 50 *e*S **SKSac** **16 40 26.9 +0.5**
PMAFR *e*SS SS 16 45 52.2 +13
COI Coimbra 82.08 49 *e*S **SKSac** **16 40 24.6 -1.7**
COI *e*SS SS 16 45 53.4 +15
PCAS Casmilo, Conde 82.09 49 *e*P **P** **16 30 08.3 +2.6**
comp=N,89nm,1.7s
PCAS Casmilo, Conde 82.09 49 *e*S **SKSac** **16 40 24.6 -1.9**
PCAS *e*SS **SS** **16 45 44.2 +5.1**
DUB01 Friburgo-RJ 82.14 119 *e*P **P** **16 30 06.5 +0.3**
PVIS Viseu 82.19 48 *e*P **P** **16 30 07.5 +1.2**
RIB01 Linhares ES 82.24 116 *e*P **P** **16 30 06.5 -0.2**
LIS Lisbon 82.27 51 *e*P **P** **16 30 05.0 -1.6**
LIS *e*S **S** **16 40 21.8 -0.5**
LIS Lisbon 82.27 51 *e*P **P** **16 30 05.0 -1.6**
LIS *e*S **S** **16 40 21.9 -0.5**
LIS IAMs_20 IAMs_20 17 04 11.2
comp=Z,49µm,23.9s
APA Apatity 82.39 13 ‖ *e*P P 16 30 14.0 +7.3
APA *i* 16 33 18.0
APA *i* PPP PPP 16 35 09.0
APA *i* PS **PnS** **16 41 17.0 +5.7**
APA pmax pmax
comp=Z,16nm,1.0s
PBRG Braganca 82.43 47 *e*S **SKSac** **16 40 29.7 +0.9**
HFS Hagfors 82.46 25 P **P** **16 30 07.9 +0.7**
comp=Z,21nm,1.0s,baz=333,slow=2.3,SNR=14
HFS LR LR 17 06 15.0
comp=Z,15µm,19.6s,baz=306,slow=35
comp=Z,21nm,1.0s
PACT Alcochete 82.47 50 *e*P **P** **16 30 10.2 +2.5**
MVO Moncorvo 82.55 48 *e*P **P** **16 30 10.9 +2.7**
comp=Z,164nm,2.0s
MVO Moncorvo 82.55 48 *e*S **SKSac** **16 40 30.8 +1.1**
MVO *e*SS **SS** **16 45 55.0 +9.0**
MVO Moncorvo 82.55 48 *e*LR LR 16 57 55.2
comp=Z,32µm,18.0s
MTE Manteigas 82.57 49 *e*P **P** **16 30 10.9 +2.6**
comp=Z,98nm,1.6s
MTE Manteigas 82.57 49 *e*S **SKSac** **16 40 31.6 +1.8**
MTE *e*SS SS 16 45 58.8 +12
MTE Manteigas 82.57 49 *e*LR LR 16 57 28.9
comp=Z,15µm,20.0s
MTE Manteigas 82.57 49 IAMs_20 IAMs_20 17 01 00.2
comp=Z,20µm,22.0s
ALF01 Guarapari-ES 82.66 117 *e*P **P** **16 30 09.1 +0.3**
OUL Oulu 82.70 17 P **P** **16 30 11.1 +2.8**
OUL pmax pmax
comp=Z,44nm,1.4s
ASAJ Asahikawa 82.73 316 P **P** **16 30 09.3 +0.4**
comp=Z,46nm,0.9s,baz=307,slow=3.0,SNR=17
ASAJ LR LR 17 03 31.6
comp=Z,3µm,19.7s,baz=73,slow=33
comp=Z,46nm,0.9s
PMTG Montargil 82.74 50 *e*S **SKSac** **16 40 30.1 -0.8**
PMTG *e*SS **SS** **16 45 56.5 +7.7**
GRNR Gornyy 82.79 324 ⇑ *i*P **P** **16 30 10.3 +1.2**
GRNR *e* 16 30 15.2
GRNR *e*S **S** **16 40 33.1 +5.8**
GRNR pmax pmax
comp=E,7.0nm,0.8s
GRNR pmax pmax
comp=N,4.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR smax smax
comp=E,2.0nm,1.1s
PCBR Castelo Branco 82.89 49 *e*P **P** **16 30 11.8 +2.0**
comp=E,101nm,1.7s
ABR01 Abrolhos, BA 82.93 114 *e*P **P** **16 30 10.5 +0.3**
PNCL Nicolau / Gran 82.99 51 *e*P **P** **16 30 13.2 +2.8**
comp=E,94nm,1.7s
PNCL Nicolau / Gran 82.99 51 *e*S **SKSac** **16 40 34.7 +2.2**
PNCL *e*SS **SS** **16 46 00.3 +7.9**
PNCL Nicolau / Gran 82.99 51 P **P** **16 30 13.1 +2.8**
MUD Monsted U'grnd 83.03 29 *i* P **P** **16 30 12.0 +1.8**
PTEO Sao Teotonio 83.12 51 *e*P **P** **16 30 12.7 +1.6**
PMRV Marv??o 83.14 49 *e*P **P** **16 30 13.3 +2.1**
comp=E,146nm,1.7s
PMRV Marv??o 83.14 49 *e*S **SKSac** **16 40 35.6 +2.1**
PMRV *e*SS **SS** **16 45 59.9 +5.2**
PMRV Marv??o 83.14 49 *e*LR LR 16 57 21.8
comp=E,28µm,20.0s
EVO Evora 83.14 50 *e*P **P** **16 30 12.3 +1.1**
comp=E,50nm,2.0s
EVO Evora 83.14 50 P **P** **16 30 12.9 +1.7**
PESTR Estremoz 83.28 50 *e*P **P** **16 30 13.7 +1.8**
comp=E,123nm,1.7s
PESTR Estremoz 83.28 50 *e*S **SKSac** **16 40 36.7 +2.3**
PESTR *e*SS **SS** **16 46 02.2 +5.5**
PESTR Estremoz 83.28 50 P **P** **16 30 13.9 +2.0**
MORF Marmelete 83.28 52 *e*P **P** **16 30 13.6 +1.6**
comp=E,117nm,1.4s
MORF Marmelete 83.28 52 *e*S **SKSac** **16 40 35.9 +1.3**
MORF *e*SS **SS** **16 46 01.8 +4.8**
MORF Marmelete 83.28 52 *e*P **P** **16 30 10.4 -1.6**
MORF *e* 16 40 31.7
MORF Marmelete 83.28 52 *e*P **P** **16 30 10.4 -1.6**
MORF *e*SKSac **S** **16 40 31.8 -1.1**
MORF IAMs_20 IAMs_20 17 02 51.5
comp=Z,31µm,22.9s
MESJ Messejana 83.33 51 *e*P **P** **16 30 15.3 +3.1**
comp=Z,117nm,1.8s
MESJ Messejana 83.33 51 *e*P **P** **16 30 10.7 -1.5**
MESJ *e* 16 40 31.9
MESJ Messejana 83.33 51 *e*P **P** **16 30 10.8 -1.5**
MESJ *e*SKSac **S** **16 40 31.9 -1.3**
MESJ IAMs_20 IAMs_20 17 02 42.0
comp=Z,38µm,25.9s
NRIK Noril'sk 83.38 353 *ce*P **P** **16 30 11.2 -0.6**
NRIK pmax pmax
comp=Z,56nm,1.3s
NRIK MLR MLR
comp=Z,18µm,17.0s
NRIK Noril'sk 83.38 353 P **P** **16 30 11.8 0.0**
comp=Z,13nm,1.0s,baz=33,slow=4.7,SNR=18
NRIK LR LR 17 09 08.7
comp=Z,20µm,18.9s,baz=27,slow=37
comp=Z,13nm,1.0s
JEM Erimo 83.43 314 P **P** **16 30 15.5 +2.9**
ERM Erimo 83.43 314 P **P** **16 30 11.5 -1.0**
ERM Erimo 83.43 314 P **P** **16 30 15.5 +2.9**
ERM Erimo 83.43 314 *ce*P **P** **16 30 13.9 +1.3**
ERM pmax pmax
comp=Z,294nm,1.0s
ERM MLR MLR
comp=Z,2µm,19.0s
PBEJ Beja 83.49 51 *e*P **P** **16 30 17.1 +4.1**
comp=Z,76nm,2.0s
PCVE Castro Verde 83.56 51 *e*P **P** **16 30 15.7 +2.4**
comp=Z,167nm,1.9s
PCVE Castro Verde 83.56 51 *e*S **SKSac** **16 40 36.9 +0.6**
PCVE *e*SS **SS** **16 46 06.7 +5.8**
PCVE Castro Verde 83.56 51 P **P** **16 30 15.6 +2.2**
EBAD Badajoz 83.72 50 P **P** **16 30 13.1 -1.0**
PBDV Barranco-do-Ve 83.82 51 *e*S **S** **16 40 43.3 +5.1**
PBDV *e*SS **SS** **16 46 09.2 +4.3**
PVAQ Vaqueiros 83.89 51 *e*S **S** **16 40 44.2 +5.3**
PVAQ *e*SS **SS** **16 46 12.1 +6.2**
PVAQ Vaqueiros 83.89 51 *e*LR LR 16 59 23.4
comp=Z,4µm,20.0s
PVAQ Vaqueiros 83.89 51 P **P** **16 30 16.7 +1.6**
PBAR Barrancos 83.99 50 *e*P **P** **16 30 17.3 +1.8**
comp=Z,106nm,1.9s
PBAR Barrancos 83.99 50 *e*S **S** **16 40 43.4 +3.6**
PBAR *e*SS **SS** **16 46 14.7 +7.4**
PBAR Barrancos 83.99 50 P **P** **16 30 19.7 +4.2**
EGRO El Granado 83.99 51 P **P** **16 30 13.9 -1.7**
MFF Saint Martin d 84.05 40 P **P** **16 30 19.7 +4.0**
EMIN Mina Concepcio 84.44 51 P **P** **16 30 22.4 +4.5**
RAF Rauma 84.63 21 *e*P **P** **16 30 18.7 +0.4**
BMRD Maredsous 84.67 35 *d*P **P** **16 30 19.6 +0.8**
comp=Z,35nm,1.2s
DOU Dourbes 84.70 36 *d*P **P** **16 30 21.5 +2.6**
comp=Z,25nm,1.3s
ARNO Arenosillo 84.72 51 P **P** **16 30 17.6 -1.7**
BGES Gesves 84.79 35 *d*P **P** **16 30 22.4 +3.0**
comp=Z,24nm,1.2s
RAO Raoul Island 84.87 234 IAMs_20 IAMs_20 16 59 09.6
comp=Z,8µm,20.0s
RAO Raoul Island 84.87 234 LR LR 17 03 16.0
comp=Z,7µm,18.2s,baz=56,slow=32
BCLA Clavier 84.88 35 *d*P **P** **16 30 22.8 +3.0**
BSTI Sart Tilman 84.92 35 *d*P P 16 30 25.2 +5.3

comp=Z,9,8nm,1.1s
RCHB Rochefort 85.00 35 *d*P **P 16 30 21.3 +0.9**
comp=Z,22nm,1.1s
DEL Delary 85.00 27 *i* P **P 16 30 20.0 -0.3**
MEM Membach 85.13 35 P **P 16 30 23.8 +2.8**
MEM pmax pmax
comp=Z,45nm,1.2s
MEM Membach 85.13 35 *d*P **P 16 30 21.2 +0.1**
PAB San Pablo 85.13 48 P **P 16 30 20.4 -1.0**
PAB lAmb lAmb 16 30 37.2
comp=Z,44nm,1.3s
PAB San Pablo 85.13 48 P **P 16 30 20.4 -1.0**
PAB pmax pmax
comp=Z,44nm,1.3s
PAB MLR MLR
comp=Z,20µm,18.0s
BSEG Bad Segeberg 85.14 30 P **P 16 30 24.6 +3.6**
BSEG pmax pmax
comp=Z,52nm,1.2s
BSEG Bad Segeberg 85.14 30 *e*P **P 16 30 22.5 +1.5**
comp=Z,27nm,0.9s,baz=311,slow=4.6
ECAB El Cabril 85.15 50 P **P 16 30 24.3 +2.8**
BTNL Ternell 85.20 35 *d*P **P 16 30 24.9 +3.5**
comp=Z,16nm,1.0s
BUG Bochum--Univer 85.26 34 *e*P **P 16 30 23.5 +1.9**
comp=Z,21nm,1.2s,baz=311,slow=4.6
ESDC Sonseca Array 85.32 48 lAmb lAmb 16 30 31.9
comp=Z,62nm,1.9s
ESDC Sonseca Array 85.32 48 P **P 16 30 23.1 +0.7**
comp=Z,3.2nm,0.9s,baz=315,slow=6.2,SNR=6.8
ESDC LR LR 17 07 49.9
comp=Z,20µm,18.0s,baz=294,slow=35
comp=Z,3.2nm,0.9s
JTM Tenmabayashi 85.41 314 P **P 16 30 25.1 +2.5**
SFS San Fernando 85.41 51 P **P 16 30 23.8 +1.1**
UCM Universidad Co 85.47 47 P **P 16 30 26.6 +3.6**
ZEA Zeya 85.51 330 *e*P **P 16 30 23.0 +0.1**
ZEA *e*S **S 16 40 56.2 +1.8**
ZEA pmax pmax
comp=Z,600nm,5.9s
ZEA pmax pmax
comp=E,10.0nm,1.6s
ZEA pmax pmax
comp=N,10.0nm,1.7s
ZEA pmax pmax
comp=Z,50nm,1.4s
ZEA smax smax
comp=E,1µm,13.0s
ZEA smax smax
comp=N,4µm,16.0s
FIA1 FINESS Array S 85.63 19 P **P 16 30 22.4 -0.9**
FINES FINESS Array B 85.63 19 P **P 16 30 21.6 -1.8**
FINES FINESS Array B 85.63 19 P **P 16 30 24.1 +0.7**
comp=N,7.8nm,0.8s,baz=326,slow=2.0,SNR=8.8
FINES LR LR 17 10 15.0
comp=N,21µm,18.6s,baz=322,slow=37
comp=N,7.8nm,0.8s
WLF Walferdange 85.77 35 P P 16 30 29.0 +4.7
WLF pmax pmax
comp=Z,70nm,1.1s
WLF Walferdange 85.77 35 *d*P **P 16 30 26.3 +2.0**
WLF Walferdange 85.77 35 *e*P **P 16 30 26.0 +1.7**
comp=Z,19nm,0.9s,baz=311,slow=4.6
TEY Ternei 85.88 319 *e*P **P 16 30 23.5 -1.4**
TEY *e* 16 40 53.7
LOR Lormes 85.95 38 P **P 16 30 27.0 +1.7**
LOR pmax pmax
comp=Z,48nm,1.2s
NRDL Niedersach Rie 85.97 32 *e*P **P 16 30 26.4 +1.3**
comp=Z,18nm,1.0s,baz=311,slow=4.6
KASTN Kahler Asten 85.97 33 *e*P **P 16 30 27.2 +1.9**
comp=Z,7.8nm,1.0s,baz=311,slow=4.6
RGN Rugen 86.07 29 lAMs_20 lAMs_20 17 09 14.2
comp=Z,15µm,18.0s
MEF Metsahovi 86.09 21 *e*P **P 16 30 26.1 +0.5**
AVE Averroes 86.10 55 P **P 16 30 28.6 +2.4**
KLR Kul'dur 86.14 324 *ce*P **P 16 30 27.2 +1.1**
KLR pmax pmax
comp=Z,32nm,1.3s
KLR Kul'dur 86.14 324 P **P 16 30 26.8 +0.7**
comp=Z,5.8nm,0.9s,baz=40,slow=5.1,SNR=8.4
comp=Z,5.8nm,0.9s
ASSE Asse, Remlinge 86.47 32 *e*P **P 16 30 29.5 +2.0**
baz=311,slow=4.6
EMAL Malaga-Limoner 86.49 50 P P 16 30 33.4 +5.3
GTTG Gottingen 86.51 32 *e*P **P 16 30 29.5 +1.6**
baz=311,slow=4.6
CLZ Clausthal 86.51 32 *e*P **P 16 30 29.6 +1.7**
comp=Z,10nm,0.9s,baz=311,slow=4.6
TNS Taunus Mts 86.60 34 P **P 16 30 28.9 +0.5**
TNS pmax pmax
comp=Z,17nm,1.2s
TNS Taunus Mts 86.60 34 *e*P **P 16 30 29.6 +1.1**
comp=Z,9.4nm,0.9s,baz=311,slow=4.6
FLTG Flechtingen 86.60 31 *e*P **P 16 30 29.7 +1.4**
baz=311,slow=4.6
UBBA Unterbreizbach 86.99 33 *e*P **P 16 30 31.9 +1.8**
baz=311,slow=4.6
MTSE Matsula 87.06 22 *e*P **P 16 30 30.7 +0.3**
JMM Marumori 87.11 311 P **P 16 30 33.6 +2.5**
PVLZ Pæen de 87.39 52 P **P 16 30 36.7 +4.2**
SSB Saint Sauveur 87.50 40 lAMs_20 lAMs_20 17 04 40.5
comp=Z,16µm,21.0s
IFR Ifrane 87.65 54 P **P 16 30 38.1 +4.1**
HEH HeiHe 87.69 327 *e*P **P 16 30 32.3 -1.4**
HEH pP **pP 16 30 35.4 -1.1**
HEH S **S 16 41 14.8 -0.9**
HEH sS **ScS 16 41 21.0 -1.5**
HEH SS **SS 16 47 01.5 +0.7**
HEH pmax pmax
comp=Z,21nm,1.4s
HEH pmax pmax
comp=Z,1µm,5.6s
HEH LR LR
comp=Z,11µm,15.6s
HEH LR LR
comp=Z,8µm,14.4s
HEH LR LR
comp=Z,20µm,16.2s
BOD Bodaibo 87.86 338 *e*P **P 16 30 34.4 +0.1**
BOD pmax pmax
comp=Z,91nm,1.7s
MOX Moxa 87.88 32 P **P 16 30 33.3 -1.3**
MOX pmax pmax
comp=Z,13nm,1.5s
MOX Moxa 87.88 32 *e*P **P 16 30 35.9 +1.3**
comp=Z,5.7nm,0.9s,baz=311,slow=4.6
MOX *e*L L 17 08 17.1
comp=Z,23µm,19.9s
CLL Collm 88.10 31 *e*P **P 16 30 36.0 +0.4**
CLL *e*S **S 16 41 20.0 +0.4**
CLL MLR MLR
comp=Z,29µm,17.9s
CLL Collm 88.10 31 *e*P **P 16 30 36.7 +1.2**
comp=Z,5.5nm,1.0s,baz=311,slow=4.6
VSU Vasula 88.21 21 *e*P **P 16 30 36.2 +0.3**
GRF Grafenberg Arr 88.32 33 P **P 16 30 40.5 +3.8**
GRF pmax pmax
comp=Z,32nm,1.4s
GRF Grafenberg Arr 88.32 33 *e*P **P 16 30 38.0 +1.3**
comp=Z,7.0nm,0.9s,baz=311,slow=4.6
GRF *e*L L 17 09 07.2
comp=Z,25µm,20.5s
MDT Midelt 88.38 54 LR LR 17 08 33.4
comp=Z,18µm,18.8s,baz=322,slow=34
TANN Tannenbergstha 88.44 32 *e*P **P 16 30 38.1 +0.8**
baz=311,slow=4.6
MANZ Manzenberg 88.56 33 *e*P **P 16 30 38.7 +0.8**
baz=311,slow=4.6
ROTZ Rotzenmuhle 88.75 33 *e*P **P 16 30 39.7 +1.0**
baz=311,slow=4.6
HSKC Hora Svate Kat 88.77 32 *e*P **P 16 30 42.4 +3.6**
HSKC AMS AMS 17 13 30.0
comp=Z,22µm,16.3s
BRG Berggiesshubel 88.83 31 *e*P P 16 30 44.8 +5.7
BRG Amp 16 30 53.4
comp=Z,16nm,1.2s
BRG Berggiesshubel 88.83 31 *e*P P 16 30 44.7 +5.6
BRG S S 16 41 15.0 -12
BRG pmax pmax
comp=Z,16nm,1.2s
BRG MLR MLR
comp=Z,21µm,16.5s
BRG MLR MLR
comp=N,7µm,20.2s
USHA Ushuaia 88.95 157 LR LR 17 03 06.9

comp=N,8µm,19.6s,baz=339,slow=31
USRK Ussuriysk Ar. 89.05 320 P **P 16 30 40.1 -0.1**
USRK Ussuriysk Ar. 89.05 320 P **P 16 30 40.9 +0.7**
comp=N,13nm,0.9s,baz=55,slow=4.3,SNR=18
USRK LR LR 17 06 33.4
comp=N,3µm,21.6s,baz=41,slow=33
comp=N,13nm,0.9s
RICC Richard 89.13 31 AMS AMS 17 14 00.0
comp=N,18µm,18.6s
DAVA Damuels 89.19 36 *ep*P pP 16 30 42.8 -1.1
comp=N,8.9nm,1.1s
PVCC Panska Ves 89.36 31 P **P 16 30 43.4 +1.9**
PVCC pmax pmax
comp=Z,15nm,1.2s
PVCC Panska Ves 89.36 31 AMS AMS 17 13 20.0
comp=Z,16µm,15.9s
WET Wettzell 89.49 33 *e*P **P 16 30 43.1 +0.9**
baz=311,slow=4.6
DAVOX Davos/Dischmat 89.51 36 LR LR 17 09 47.5
comp=Z,31µm,18.2s,baz=300,slow=35
RETA Reutte 89.52 35 *ep*P **P 16 30 42.8 +0.4**
comp=Z,7.8nm,1.5s
MJAR Matsushiro Arr 89.56 311 P **P 16 30 43.9 +1.1**
comp=Z,3.3nm,0.9s,baz=25,slow=2.2,SNR=10
MJAR LR LR 17 04 53.9
comp=Z,11µm,20.2s,baz=63,slow=32
comp=Z,3.3nm,0.9s
MAJO Matsushiro 89.56 311 lAMs_20 lAMs_20 17 05 10.8
comp=Z,10µm,20.0s
MAJO Matsushiro 89.56 311 P **P 16 30 45.5 +2.7**
MAJO Matsushiro 89.56 311 *i* P **P 16 30 43.9 +1.1**
MAJO pmax pmax
comp=Z,68nm,1.8s
MAJO MLR MLR
comp=Z,4µm,19.0s
KLMR Klimovskoe 89.58 14 *e*P **P 16 30 42.7 +0.4**
KLMR *e* 16 34 10.5
KLMR S **SKSac 16 41 11.7 -0.9**
KLMR SS **SS 16 47 23.5 -4.0**
KLMR pmax pmax
comp=Z,79nm,1.6s
KLMR MLR MLR
comp=Z,17µm,18.0s
PABE Paberze 89.60 24 *e*P **P 16 30 43.0 +0.5**
PRA Prague 89.61 32 *e*S **S 16 41 37.9 +4.1**
PRA AMS AMS 17 14 00.0
comp=Z,25µm,16.6s
PRU Pruhonice 89.72 32 P **P 16 30 46.4 +3.2**
PRU Pruhonice 89.72 32 *e*S **S 16 41 38.7 +3.8**
PRU AMS AMS 17 14 00.0
comp=Z,23µm,16.6s
MOTA Moosalm 89.79 35 *ep*P **P 16 30 42.8 -1.0**
comp=Z,18nm,1.2s
FETA Feichten 89.80 36 *e*P **P 16 30 40.8 -3.1**
comp=Z,22nm,1.7s
KHC Kasperske Hory 89.84 33 *e*S **S 16 41 42.1 +5.9**
KHC AMS AMS 17 12 50.0
comp=Z,27µm,17.7s
GOPC GO Pecny, Ondr 89.88 32 AMS AMS 17 14 10.0
comp=Z,23µm,17.0s
SQTA Sankt Quirin 89.92 35 *ep*P pP 16 30 45.3 -1.9
comp=Z,17nm,1.5s
ZVC Zvikov 89.93 32 AMS AMS 17 12 50.0
comp=Z,27µm,16.7s
CHVC Chvalec 90.00 31 AMS AMS 17 15 20.0
comp=Z,19µm,15.4s
WATA Walderalm 90.04 35 *ep*P pP 16 30 46.3 -1.5
comp=Z,14nm,1.6s
UPC Upice 90.04 31 *e*S **S 16 41 43.7 +5.8**
UPC AMS AMS 17 15 20.0
comp=Z,19µm,16.3s
GEC2 GERESS Array S 90.09 33 *e*P **P 16 30 46.4 +1.3**
baz=311,slow=4.6
GERES GERESS Array B 90.09 33 P **P 16 30 45.5 +0.4**
comp=Z,0.4nm,0.4s,baz=316,slow=6.8,SNR=4.2
GERES PP **PP 16 34 16.8 -0.9**
comp=Z,0.7nm,0.7s,baz=310,slow=14,SNR=2.3
GERES LR LR 17 10 43.9
comp=Z,23µm,19.9s,baz=296,slow=35
comp=Z,0.4nm,0.4s
OSTC Ostas 90.10 31 *e*S **S 16 41 41.2 +2.8**
OSTC AMS AMS 17 15 40.0
comp=Z,19µm,15.4s
WTTA Wattenberg 90.11 35 *ep*P pP 16 30 46.6 -1.6
comp=Z,12nm,1.2s
MDJ Mudanjiang 90.14 322 P **P 16 30 43.3 -2.0**
MDJ pP sP 16 30 50.9 +1.7
MDJ sP pP 16 30 52.5 +4.3
MDJ pmax pmax
comp=Z,11nm,1.6s
MDJ pmax pmax
comp=Z,640nm,7.7s
MDJ LR LR
comp=Z,6µm,15.4s
MDJ LR LR
comp=Z,8µm,17.4s
MDJ LR LR
comp=Z,8µm,14.9s
DPC Dobruska-Polom 90.29 31 *e*P **P 16 30 46.7 +0.7**
DPC MLR MLR
comp=Z,17µm,18.4s
DPC Dobruska-Polom 90.29 31 *e*P **P 16 30 46.7 +0.7**
DPC AMS AMS 17 11 10.0
comp=Z,17µm,18.4s
JHJ Hachijo jima 2 90.32 308 LR LR 17 10 16.2
comp=Z,3µm,18.0s,baz=63,slow=35
CKRC Cesky Krumlov 90.41 33 *e*S **S 16 41 46.2 +4.8**
CKRC AMS AMS 17 10 20.0
comp=Z,24µm,18.3s
LESA Schwarzleotal 90.54 34 *ep*P pP 16 30 49.3 -0.7
comp=Z,3.8nm,1.0s
BNX BinXian 90.62 323 ||P **P 16 30 49.4 +1.9**
BNX pP **sP 16 30 53.0 +1.6**
BNX sP **pP 16 30 54.5 +4.2**
BNX PP **PP 16 34 23.6 +1.7**
BNX S **S 16 41 44.6 +1.2**
BNX pmax pmax
comp=Z,48nm,1.4s
BNX pmax pmax
comp=Z,530nm,4.3s
BNX LR LR
comp=Z,3µm,14.1s
BNX LR LR
comp=Z,6µm,17.9s
BNX LR LR
comp=Z,8µm,16.3s
TREC Trest 90.64 32 AMS AMS 17 16 50.0
comp=Z,23µm,15.4s
KRLC Kraliky 90.69 31 *e*P **P 16 30 50.8 +2.9**
KRLC Kraliky 90.69 31 *e*P **P 16 30 50.8 +2.9**
KRLC *e*S **S 16 41 50.4 +6.4**
BIOA Bad Ischl, Aus 90.84 34 *ep*P **pP 16 30 50.9 -0.5**
comp=Z,11nm,1.5s
BIOA *e*PP **PP 16 34 18.8 -4.8**
comp=Z,10nm,1.5s
MOA Molln 91.05 33 *ep*P pP 16 30 50.9 -1.4
comp=Z,12nm,1.8s
KBA Koelnbreinsper 91.11 34 *ep*P **P 16 30 50.6 +0.6**
comp=Z,11nm,1.1s
KBA *e*PP **PP 16 34 24.9 -1.0**
comp=Z,15nm,1.1s
VRAC Vranov 91.15 31 *e*P **P 16 30 51.3 +1.4**
VRAC Vranov 91.15 31 LR LR 17 13 03.7
comp=Z,15µm,20.0s,baz=299,slow=36
KRUC Moravsky 91.23 32 *e*P **P 16 30 51.8 +1.5**
MORC Moravsky Berou 91.25 31 *e*P **P 16 30 54.0 +3.5**
MORC Moravsky Berou 91.25 31 P **P 16 30 53.4 +2.9**
MORC pmax pmax
comp=Z,11nm,2.6s
OKC Ostrava-Krasne 91.48 30 *e*S **S 16 41 57.1 +6.0**
OKC AMS AMS 17 15 30.0
comp=Z,19µm,15.4s
MYKA Terra Mystica 91.56 35 *i* pP **P 16 30 51.4 -0.6**
comp=Z,3.5nm,1.0s
JCJ Chichijima 91.70 301 LR LR 17 03 29.5
comp=Z,11µm,21.9s,baz=62,slow=30
CONA Conrad Observa 91.77 33 *i* pP **P 16 30 53.2 +0.3**
comp=Z,9.4nm,1.9s
CONA *e*PP **PP 16 34 29.2 -1.8**
comp=Z,9.5nm,1.8s
MNK Minsk 91.78 23 *i* P **P 16 30 51.0 -1.7**
MNK *i* 16 34 28.6
MNK *i* PPP PPP 16 36 27.3
MNK *i* S **SKSac 16 41 22.8 -2.7**
MNK *i* SS **SS 16 47 59.7 +0.2**
MNK *i* SSS SSS 16 51 37.7

MNK pmax pmax
comp=E,10.0nm,1.2s
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=Z,20nm,1.0s
MNK MLR MLR
comp=N,16µm,17.0s
MNK MLR MLR
comp=Z,19µm,22.0s
MNK MLR MLR
comp=E,3µm,20.0s
GORS Gorjuse 91.95 35 *e*S S 16 42 05.3 +10
JAVC Velka Javorina 91.97 31 *e*P **P 16 30 54.6 +0.8**
HIA Hailar 91.99 330 lAMs_20 lAMs_20 17 18 22.7
comp=Z,9µm,18.0s
HIA Hailar 91.99 330 P **P 16 30 55.8 +1.9**
MXZ Matakaoa Point 92.06 229 lAMs_20 lAMs_20 17 01 43.2
comp=Z,11µm,22.0s
ARSA Arzberg 92.08 33 *ep*P **P 16 30 53.6 -0.7**
comp=Z,4.5nm,1.2s
ARSA *e*PP **PP 16 34 29.7 -3.6**
comp=Z,16nm,2.1s
OBKA Obir 92.10 34 *e*PP **PP 16 34 32.6 -1.1**
comp=Z,12nm,1.3s
MODS Modra-Piesok 92.13 32 *e*P P 16 30 59.2 +4.7
MODS Modra-Piesok 92.13 32 *e*P P 16 30 59.2 +4.7
RONA Rosalia, Austr 92.14 33 *i* pP **pP 16 30 56.1 -1.3**
comp=Z,7.0nm,1.6s
RONA *e*PP **PP 16 34 32.9 -1.0**
comp=Z,7.5nm,1.6s
LIFNC LIFOU 92.17 248 lAMs_20 lAMs_20 17 03 09.5
comp=Z,11µm,22.0s
SOKA Soboth 92.23 34 *ep*P **P 16 30 55.5 +0.4**
comp=Z,7.7nm,1.1s
SOKA *e*PP **PP 16 34 33.0 -1.7**
comp=Z,8.4nm,1.5s
CTZ Chatham Island 92.28 221 lAMs_20 lAMs_20 17 05 43.7
comp=Z,11µm,19.0s
CIT Chita 92.53 334 *e*P **P 16 30 57.6 +1.3**
CIT pmax pmax
comp=Z,118nm,3.2s
LANS Liptovska Anna 92.57 30 *e*P P 16 31 01.5 +4.9
LANS Liptovska Anna 92.57 30 *e*P P 16 31 01.5 +4.9
VYHS Vyhne 92.77 31 *e*P **P 16 31 00.6 +3.2**
VYHS Vyhne 92.77 31 *e*P **P 16 31 00.6 +3.2**
CN2 Changchun 92.94 323 *e*P P 16 31 05.3 +7.0
CN2 *e*PP PP 16 34 49.4 +9.2
CN2 Changchun 92.94 323 *e*S **S 16 42 06.4 +2.0**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,480nm,4.0s
CN2 LR LR
comp=N,2µm,16.0s
CN2 LR LR
comp=E,3µm,16.0s
CN2 LR LR
comp=Z,3µm,17.0s
STHS Stebnicka Huta 93.16 29 *e*P **P 16 31 03.2 +4.0**
STHS Stebnicka Huta 93.16 29 *e*P **P 16 31 03.2 +4.0**
URZ Urewera 93.23 229 LR LR 17 03 26.0
comp=Z,15µm,21.9s,baz=142,slow=29
OUENC Ouen Island, N 93.25 247 P P 16 31 04.7 +4.7
HNR Honiara 93.37 261 LR LR 17 05 01.7
comp=Z,379µm,20.7s,baz=69,slow=30
DZM Mont Dzumac 93.42 247 *e*P **P 16 30 59.0 -1.9**
comp=Z,254nm,26.1s
DZM Mont Dzumac 93.42 247 *e*PP **PP 16 34 42.3 -3.1**
comp=Z,351nm,25.1s
DZM Mont Dzumac 93.42 247 LR LR 17 06 56.9
comp=Z,13µm,18.4s,baz=70,slow=32
RTZ Ruatahuna 93.50 228 lAMs_20 lAMs_20 17 03 03.4
comp=Z,11µm,22.0s
KIRV Kirov 93.55 10 *i* P **P 16 31 00.5 -0.3**
KIRV Kirov 93.55 10 LR LR 17 18 01.2
comp=Z,15µm,18.0s,baz=342,slow=39
CRVS Cervenica-Dubn 93.64 29 *e*P P 16 31 12.1 +11
MOS Moscow 93.70 17 *e*P **P 16 30 59.1 -2.4**
MOS *e* 16 41 30.6
MOS *e*S **S 16 42 06.3 -4.2**
MOS *e*PS **PS 16 43 22.3 -2.3**
MOS pmax pmax
comp=Z,32nm,0.7s
MOS MLR MLR
comp=N,28µm,18.0s
MOS MLR MLR
comp=Z,30µm,18.0s
VSL Villasalto 93.86 42 lAMs_20 lAMs_20 17 17 09.2
comp=Z,12µm,18.0s
OBN Obninsk 93.96 18⇑ *e*P **P 16 31 04.2 +1.5**
OBN *i* SS SS 16 48 38.9 +8.3
OBN *i* SSS SSS 16 52 19.4
OBN pmax pmax
comp=Z,73nm,1.9s
OBN MLR MLR
comp=Z,33µm,19.0s
OBN Obninsk 93.96 18 LR LR 17 13 37.1
comp=Z,34µm,19.3s,baz=332,slow=36
KOLS Kolonicke sedl 93.97 29 *e*P **P 16 31 06.9 +3.9**
KOLS *e* 16 31 13.7
KOLS Kolonicke sedl 93.97 29 *e*P **P 16 31 06.8 +3.8**
KOLS *e* 16 31 13.6
LVV L'vov 94.03 27 *e*P **P 16 31 02.5 -0.7**
LVV *e* 16 34 52.1
LVV *e*S **S 16 42 06.6 -7.2**
LVV *e*SS **SS 16 48 37.2 +5.1**
LVV MLR MLR
comp=Z,9µm,20.0s
TOZ Tahuroa Road 94.05 230 lAMs_20 lAMs_20 17 05 05.8
comp=Z,7µm,20.0s
JMN Monobe 94.08 311 P **P 16 31 06.6 +2.8**
BKZ Black Stump Fm 94.12 228 lAMs_20 lAMs_20 17 06 52.6
comp=Z,10µm,20.0s
OUZ Omahuta 94.12 233 lAMs_20 lAMs_20 17 06 48.3
comp=Z,8µm,19.0s
BFZ Birch Farm 95.06 227 lAMs_20 lAMs_20 17 05 27.5
comp=Z,12µm,20.0s
AKASG Malin Array Be 95.35 24 P **P 16 31 08.7 -0.5**
comp=Z,5.7nm,1.0s,baz=311,slow=3.8,SNR=13
AKASG PP **PP 16 34 56.9 -1.8**
comp=Z,0.2nm,0.3s,baz=321,slow=6.6,SNR=2.4
AKASG LR LR 17 13 47.8
comp=Z,13µm,20.1s,baz=321,slow=35
comp=Z,5.7nm,1.0s
KIEV Kiev 95.35 24 P **P 16 31 04.9 -4.3**
KIEV lAmb lAmb 16 31 26.7
comp=Z,37nm,1.6s
KIEV Kiev 95.35 24 P **P 16 31 04.9 -4.3**
KIEV pmax pmax
comp=Z,37nm,1.6s
KIEV MLR MLR
comp=Z,18µm,20.0s
MRZ Mangatainoka R 95.48 227 lAMs_20 lAMs_20 17 06 58.8
comp=Z,12µm,19.0s
IRK Irkutsk 95.64 339 *e*P **P 16 31 11.5 +1.0**
IRK pmax pmax
comp=Z,328nm,1.7s
KSRS Korea Array 95.65 317 P **P 16 31 12.8 +2.0**
comp=Z,9.9nm,1.1s,baz=63,slow=4.5,SNR=20
KSRS LR LR 17 07 41.9
comp=Z,3µm,21.9s,baz=50,slow=31
comp=Z,9.9nm,1.1s
KS19 Wonju Array Si 95.65 317 P **P 16 31 07.8 -3.1**
KSAR Wonju Array Be 95.68 317 P **P 16 31 07.4 -3.6**
KSAR Wonju Array Be 95.68 317 P **P 16 31 07.4 -3.6**
BZS Buzias 96.17 31 P **P 16 31 14.1 +1.0**
BZS pmax pmax
comp=Z,8.0nm,1.7s
KEST Kesra 96.22 45 P P 16 31 08.7 -4.9
KEST lAmb lAmb 16 31 28.7
comp=Z,53nm,1.5s
KEST Kesra 96.22 45 P **P 16 31 14.3 +0.7**
comp=Z,8.4nm,1.0s,baz=270,slow=3.0,SNR=5.9
KEST LR LR 17 12 57.3
comp=Z,19µm,20.6s,baz=262,slow=34
comp=Z,8.4nm,1.0s
GUMO Guam 96.27 288 LR LR 17 05 54.2
comp=Z,16µm,21.9s,baz=60,slow=30
BHW Baring Head 96.32 227 lAMs_20 lAMs_20 17 05 57.0
comp=Z,7µm,19.0s
SNZO South Karori 96.38 227 lAMs_20 lAMs_20 17 06 47.6
comp=Z,9µm,20.0s
INCN Inchon 96.42 317 P **P 16 31 17.2 +2.8**
JNU Nakatsue 96.45 312 P **P 16 31 18.0 +3.3**
JNU Nakatsue 96.45 312 P **P 16 31 15.3 +0.7**

comp=Z,6.8nm,0.9s,baz=54,slow=19,SNR=2.5
JNU LR LR 17 07 11.9
comp=Z,4μm,21.9s,baz=60,slow=31
comp=Z,6.8nm,0.9s
SVE Sverdlovsk 96.58 5 *eP* **P 16 31 17.9 +3.2**
SVE *e* 16 35 08.6
SVE *eS* **SKSac 16 41 54.1 +2.6**
SVE *e* 16 42 32.5
SVE *e* 16 43 56.2
SVE *eSS* **SS 16 49 04.1 -3.5**
SVE *eSSS* SSS 16 52 50.1
SVE pmax pmax
comp=Z,30nm,1.6s
TJN Taejon 96.68 316 P **P 16 31 16.3 +0.7**
ARU Arti 96.80 6 P **P 16 31 14.4 -1.3**
ARU IAmb IAmb 16 31 28.5
comp=Z,59nm,1.5s
ARU Arti 96.80 6*c iP* **P 16 31 14.6 -1.1**
ARU 16 35 08.3
ARU S **SKSac 16 41 51.2 -1.5**
ARU SP **SP 16 43 55.6 -1.2**
ARU pmax pmax
comp=Z,25nm,2.3s
ARU Arti 96.80 6 LR LR 17 18 52.0
comp=Z,15μm,20.5s,baz=334,slow=38
LPSR Galich'ya Gora 96.84 18 *eP* **P 16 31 14.8 -1.1**
LPSR pmax pmax
comp=Z,20nm,1.2s
LPSR MLR MLR
comp=Z,29μm,17.0s
NNZ Nelson 97.21 227 IAMs_20 IAMs_20 17 05 18.4
comp=Z,10μm,22.0s
ZAK Zakamensk 97.56 339 *eP* Pdif 16 31 21.0 +1.6
ZAK *e* 16 35 22.5
ZAK pmax pmax
comp=Z,17nm,1.5s
ZAK pmax pmax
comp=Z,7.0nm,1.6s
QRZ Quartz Range 97.58 228 IAMs_20 IAMs_20 17 12 30.3
comp=Z,11μm,18.0s
XLT XiLinHaoTe 97.65 328 *eP* Pdif 16 31 22.4 +2.4
XLT pP sP 16 31 27.3 +3.5
XLT PP **PP 16 35 21.1 +4.3**
XLT SKS **SKSac 16 41 59.9 +2.1**
XLT S **ScS 16 42 44.5 -1.3**
XLT sS sS 16 42 51.3 +1.0
XLT SS **SS 16 49 23.3 -0.6**
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,340nm,6.6s
XLT LR LR
comp=Z,5μm,21.2s
XLT LR LR
comp=Z,5μm,23.7s
THZ Tophouse 97.78 227 IAMs_20 IAMs_20 17 05 47.6
comp=Z,11μm,22.0s
PMSA Palmer Station 98.08 162 LR LR 17 05 23.0
comp=Z,3μm,21.1s,baz=324,slow=29
VSR Storozhevoye 98.14 18 *eP* Pdif 16 31 21.7 -0.2
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR MLR MLR
comp=Z,26μm,17.0s
VAE Valguarnera 98.17 41 LR LR 17 16 28.3
comp=Z,11μm,18.3s,baz=12,slow=36
MLR Muntele Rosu 98.22 29 LR LR 17 17 54.4
comp=Z,17μm,18.6s,baz=300,slow=37
GVZ Greta Valley S 98.27 226 IAMs_20 IAMs_20 17 06 24.7
comp=Z,12μm,20.0s
ULN Ulaanbaatar 98.37 335 IAMs_20 IAMs_20 17 22 41.3
comp=Z,6μm,20.0s
ULN Ulaanbaatar 98.37 335*d iP* Pdif 16 31 24.1 +0.9
ULN pmax pmax
comp=Z,20nm,1.0s
ULN MLR MLR
comp=Z,5μm,20.0s
DL2 Dalian 98.38 321 P Pdif 16 31 24.0 +0.8
DL2 PP PP 16 35 29.3 +6.9
DL2 SKS **SKSac 16 42 05.8 +4.4**
DL2 S **S 16 42 49.1 -2.6**
DL2 pmax pmax
comp=Z,200nm,6.7s
DL2 LR LR
comp=Z,4μm,17.6s
DL2 LR LR
comp=Z,5μm,20.5s
DL2 LR LR
comp=Z,8μm,16.8s
CEL Celeste 98.50 40 IAMs_20 IAMs_20 17 19 41.4
comp=Z,9μm,18.0s
DSZ Denniston Nort 98.50 228 IAMs_20 IAMs_20 17 09 19.6
comp=Z,6μm,19.0s
ZAA0 Zalesovo Array 98.61 351 P **P 16 31 20.7 -3.2**
ZALV Zalesovo Beam 98.61 351 P **P 16 31 21.2 -2.7**
ZALV Zalesovo Beam 98.61 351 P Pdif 16 31 24.5 +0.6
comp=Z,0.6nm,0.4s,baz=28,slow=6.5,SNR=4.1
ZALV PP **PP 16 35 18.4 -5.1**
comp=Z,2.0nm,1.0s,baz=10,slow=8.9,SNR=2.2
ZALV LR LR 17 18 49.9
comp=Z,8μm,21.2s,baz=7.5,slow=37
comp=Z,0.6nm,0.4s
SONM Songino Array 98.64 336 P Pdif 16 31 25.4 +1.0
SONM IAmb IAmb 16 31 32.4
comp=Z,19nm,1.2s
SONM Songino Array 98.64 336 P Pdif 16 31 25.4 +1.1
comp=Z,8.1nm,1.0s,baz=24,slow=3.9,SNR=24
SONM PP **PP 16 35 22.4 -1.8**
comp=Z,1.8nm,1.3s,baz=46,slow=4.2,SNR=1.6
SONM LR LR 17 19 58.7
comp=Z,6μm,18.3s,baz=28,slow=38
comp=Z,8.1nm,1.0s
LTZ Lake Taylor 98.68 226 IAMs_20 IAMs_20 17 11 29.4
comp=Z,11μm,18.0s
MQZ McQueen's Vall 98.87 226 IAMs_20 IAMs_20 17 05 59.0
comp=Z,11μm,21.0s
OXZ Oxford 99.09 226 IAMs_20 IAMs_20 17 06 38.2
comp=Z,12μm,21.0s
BELG Belogornoye 99.12 13 *i* P **Pdif 16 31 27.4 +1.2**
BELG pmax pmax
comp=Z,5.0nm,1.5s
BELG MLR MLR
comp=Z,4μm,18.0s
BELG Belogornoye 99.12 13 LR LR 17 17 22.8
comp=Z,24μm,19.1s,baz=336,slow=36
RPZ Rata Peaks 99.90 226 IAMs_20 IAMs_20 17 09 42.8
comp=Z,12μm,19.0s
RPZ Rata Peaks 99.90 226 LR LR 17 10 31.2
comp=Z,11μm,18.2s,baz=56,slow=32
BJT Baijiatuau 100.51 325 IAMs_20 IAMs_20 17 25 01.2
comp=Z,6μm,18.0s
FOZ Fox Glacier 100.62 227 IAMs_20 IAMs_20 17 07 00.3
comp=Z,12μm,22.0s
BVAR Borovoye Array 100.69 359 P **Pdif 16 31 33.9 +0.7**
comp=Z,1.7nm,0.8s,baz=353,slow=3.3,SNR=5.2
BVAR PP **PP 16 35 38.1 -1.1**
comp=Z,2.8nm,1.0s,baz=356,slow=5.8,SNR=3.2
BVAR PKKPbc **PKKPbc 16 47 46.1 -1.8**
comp=Z,0.6nm,0.7s,baz=297,slow=8.2,SNR=4.2
ODZ Otahua Downs 100.77 225 IAMs_20 IAMs_20 17 06 47.2
comp=Z,13μm,21.0s
TAM Tamanrasset 101.34 57 IAMs_20 IAMs_20 17 13 55.4
comp=Z,13μm,21.0s
WKZ Wanaka 101.71 226 IAMs_20 IAMs_20 17 08 29.1
comp=Z,14μm,22.0s
HHC Hu-ho-hao-te 102.14 328 ⇑P **Pdif 16 31 35.8 -4.2**
HHC PP **PP 16 35 47.8 -3.1**
HHC SKS **SKSac 16 42 23.0 +2.9**
HHC S SKKSac 16 43 15.1 +17
HHC sS sS 16 43 25.3 -3.0
HHC SS **SS 16 50 21.6 -4.9**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,310nm,4.9s
HHC LR LR
comp=Z,13μm,18.2s
HHC LR LR
comp=Z,22μm,17.0s
MLZ Mavora Lakes 102.51 225 IAMs_20 IAMs_20 17 08 54.4
comp=Z,14μm,22.0s
KURK Kurchatov 102.54 354 P **Pdif 16 31 42.0 +0.5**
KURBB Kurchatov Arra 102.64 354 P **Pdif 16 31 42.0 +0.1**
comp=Z,0.6nm,0.6s,baz=1.2,slow=4.8,SNR=6.1
KURBB PP PP 16 35 46.1 -7.9
comp=Z,2.9nm,0.9s,baz=2.4,slow=6.4,SNR=4.4

BTO Baotou 103.05 329 *eP* **Pdif 16 31 44.1 0.0**
BTO PP **PP 16 35 57.8 +0.1**
BTO SKS **SKSac 16 42 24.6 +0.3**
BTO pmax pmax
comp=Z,11nm,0.8s
BTO pmax pmax
comp=Z,480nm,6.1s
BTO LR LR
comp=Z,7μm,21.4s
BTO LR LR
comp=Z,9μm,19.4s
BTO LR LR
comp=Z,10μm,22.4s
DCZ Deep Cove 103.17 226 IAMs_20 IAMs_20 17 11 08.9
comp=Z,7μm,20.0s
ANN Anapa 103.28 23 *i* P **Pdif 16 31 37.0 -7.9**
ANN *i* 16 36 00.2
ANN *e* 16 42 20.8
ANN pmax pmax
comp=Z,143nm,1.5s
ANN pmax pmax
comp=Z,50nm,0.8s
TORD Torodi Ar. Bea 103.59 68 Pdiff **Pdif 16 31 49.8 +3.0**
comp=Z,1.1nm,0.9s,baz=335,slow=6.6,SNR=5.0
TORD PP **PP 16 36 01.0 -1.8**
comp=Z,0.9nm,1.0s,baz=336,slow=3.2,SNR=1.8
TORD PKKPbc **PKKPdf 16 47 42.6 -4.1**
comp=Z,1.1nm,1.0s,baz=90,slow=4.4,SNR=4.1
NJ2 Nanjing 104.79 318 *e*Pdif **Pdif 16 31 46.1 -5.8**
NJ2 PP **PP 16 36 09.4 -1.5**
NJ2 Nanjing 104.79 318 SS SS 16 50 57.3 -6.1
NJ2 AMB AMB
comp=Z,510nm,5.4s
NJ2 LR LR
comp=N,5μm,17.0s
NJ2 LR LR
comp=E,5μm,16.6s
NJ2 LR LR
comp=Z,7μm,18.4s
GOF Gofitskoye 104.82 19*c e*P **Pdif 16 31 59.2 +7.5**
MKAR Makanchi Array 105.96 351 Pdiff **Pdif 16 31 57.8 +1.0**
comp=Z,1.2nm,1.0s,baz=24,slow=4.1,SNR=4.8
MKAR PP **PP 16 36 17.0 -1.8**
comp=Z,0.8nm,0.9s,baz=17,slow=6.0,SNR=1.6
MKAR PKKPbc **PKKPbc 16 47 32.2 -0.1**
comp=Z,1.0nm,0.9s,baz=188,slow=3.7,SNR=4.4
BRTR Keskin Array B 106.20 28 PP **PP 16 36 21.1 0.0**
comp=Z,0.9nm,0.8s,baz=0.0,slow=4.3,SNR=1.9
BRTR PKKPab **PKKPab 16 47 52.6 +2.5**
comp=Z,3.1nm,1.1s,baz=90,slow=1.2,SNR=4.7
LYN LuoYang 106.57 324 *e*Pdif **Pdif 16 31 59.6 -0.1**
LYN S 16 43 58.6
LYN SS **SS 16 51 31.8 +4.5**
LYN AMB AMB
comp=Z,580nm,4.7s
LYN LR LR
comp=Z,15μm,18.2s
LYN LR LR
comp=Z,6μm,19.9s
LYN LR LR
comp=Z,19μm,20.3s
KARP Karpathos 106.59 35 IAMs_20 IAMs_20 17 20 11.9
comp=Z,11μm,21.0s
WMQ Urumqi 107.85 346 *e*Pdif **Pdif 16 32 04.0 -1.3**
WMQ SS SS 16 51 49.3 +5.5
WMQ AMB AMB
comp=Z,570nm,8.9s
WMQ LR LR
comp=Z,10μm,17.3s
WMQ LR LR
comp=Z,7μm,14.9s
WMQ LR LR
comp=Z,6μm,18.7s
TATO Taipei 107.95 311 IAMs_20 IAMs_20 17 16 36.7
comp=Z,6μm,22.0s
MAK Makhachkala 107.97 16 *i* P **Pdif 16 32 04.1 -1.7**
MAK *e* 16 36 36.6
MAK *e* 16 42 46.1
MAK *eSS* SS 16 51 44.9 -0.5
MAK *eSSS* SSS 16 55 47.5
MAK MLR MLR
comp=E,10μm,18.0s
MAK MLR MLR
comp=N,28μm,18.0s
MAK MLR MLR
comp=Z,15μm,18.0s
YHNB Yeheng 108.23 311 IAMs_20 IAMs_20 17 25 22.2
comp=Z,5μm,20.0s
NACB Ninganchiao 108.41 310 IAMs_20 IAMs_20 17 20 45.1
comp=Z,6μm,20.0s
WHN Wuhan 108.54 320 PP PKiKP 16 36 30.9 +17
WHN SKS **SKSac 16 42 49.4 +0.5**
WHN S SKKSac 16 44 17.5 +34
WHN Wuhan 108.54 320 SS SS 16 51 47.6 -6.6
WHN LR LR
comp=N,20μm,15.7s
WHN LR LR
comp=E,9μm,16.8s
WHN LR LR
comp=Z,20μm,16.4s
XAN Xi'an 108.80 326 SS SS 16 51 48.8 -8.8
XAN AMB AMB
comp=Z,730nm,8.6s
XAN LR LR
comp=N,13μm,21.0s
XAN LR LR
comp=E,6μm,16.1s
XAN LR LR
comp=Z,17μm,19.1s
SSLB Suanglung 109.10 310 IAMs_20 IAMs_20 17 24 54.5
comp=Z,5μm,20.0s
LZH Lanzhou 109.52 331 SS SS 16 52 11.4 +4.1
LZH LR LR
comp=N,6μm,19.6s
LZH LR LR
comp=E,4μm,18.6s
LZH LR LR
comp=Z,10μm,21.3s
TPUB Ta-pu 109.65 310 IAMs_20 IAMs_20 17 16 41.9
comp=Z,5μm,21.0s
CTAO Charters Tower 109.79 257 IAMs_20 IAMs_20 17 16 28.0
comp=Z,9μm,19.0s
QZH Quanzhou 109.91 313 *e*Pdif **Pdif 16 32 12.6 -2.1**
QZH PP **PP 16 36 48.3 -0.3**
QZH SKS **SKSdf 16 43 20.3 -9.1**
QZH SS **SS 16 52 16.5 +3.4**
QZH AMB AMB
comp=Z,530nm,5.9s
QZH LR LR
comp=Z,3μm,20.3s
QZH LR LR
comp=Z,6μm,18.4s
QZH LR LR
comp=Z,8μm,18.0s
CSS Mathiatis 110.04 31 IAMs_20 IAMs_20 17 25 40.8
comp=Z,7μm,21.0s
KNMB Chin-men Tao 110.37 312 IAMs_20 IAMs_20 17 18 13.7
comp=Z,5μm,22.0s
CNSH ChangSha 111.12 319 ⇑PKP PKiKP 16 36 26.9 +7.8
CNSH PP **PP 16 36 59.8 +2.7**
CNSH SKS 16 44 39.3
CNSH ChangSha 111.12 319 SS SS 16 52 29.3 +0.3
CNSH AMB AMB
comp=Z,510nm,4.9s
CNSH LR LR
comp=N,4μm,17.4s
CNSH LR LR
comp=E,2μm,16.9s
CNSH LR LR
comp=Z,4μm,14.9s
CD2 Chengdu 113.88 328 PKP **PKiKP 16 36 21.1 -3.3**
CD2 SS SS 16 53 06.0 +0.8
CD2 AMB AMB
comp=Z,670nm,6.0s
CD2 LR LR
comp=Z,5μm,15.6s
CD2 LR LR
comp=Z,9μm,18.0s
CD2 LR LR
comp=Z,8μm,19.2s
GHAJ Ghor Haditha 114.12 31 IAMs_20 IAMs_20 17 22 18.8
comp=Z,6μm,22.0s
SBA Scott Base 114.21 193 IAMs_20 IAMs_20 17 14 40.0
comp=Z,6μm,20.0s
GULI GuiLin 114.79 319 ⇓PKP PKPdf 16 36 26.4 +0.1
GULI SS SS 16 53 14.0 -3.8
GULI LR LR
comp=Z,1μm,14.4s
GULI LR LR
comp=Z,900nm,15.1s
GULI LR LR
comp=Z,2μm,14.4s
GEYT Alibeck 114.98 10 PP **PP 16 37 23.8 -0.1**
comp=Z,1.0nm,0.7s,baz=338,slow=6.2,SNR=1.9
VNDA Vanda 115.18 194 PKKPbc PKKPbc 16 47 00.4 -2.4
comp=Z,0.9nm,0.8s,baz=142,slow=13,SNR=1.3
GYA Guiyang 115.99 323 ⇑PKP **PKiKP 16 36 26.8 -1.9**
GYA PP **PP 16 37 29.9 -2.0**
GYA AMB AMB
comp=Z,430nm,7.4s
GYA LR LR
comp=Z,2μm,17.0s
GYA LR LR
comp=Z,4μm,21.3s
GYA LR LR
comp=Z,4μm,24.3s
QSPA South Pole Qui 116.48 180 IAMs_20 IAMs_20 17 17 17.3
comp=Z,8μm,20.0s
QSPA South Pole Qui 116.48 180 PKP **PKiKP 16 36 28.3 +0.1**
comp=Z,4.4nm,0.9s,baz=196,slow=0.5,SNR=7.9
QSPA PP **PP 16 37 34.1 -1.3**
comp=Z,2.2nm,1.1s,baz=31,slow=3.3,SNR=1.4
QSPA PKKPbc **PKKPab 16 46 56.1 -2.7**
comp=Z,1.3nm,1.0s,baz=250,slow=6.3,SNR=2.2
TNTI Ternate 117.66 286 IAMs_20 IAMs_20 17 17 28.1
comp=Z,9μm,21.0s
SAUI Saumlaki 118.32 275 IAMs_20 IAMs_20 17 24 40.4
comp=Z,10μm,20.0s
PZH PanZhiHua 118.51 327 PKP **PKiKP 16 36 35.8 +2.2**
PZH PP **PP 16 37 52.0 +2.7**
PZH SS SS 16 54 06.1 0.0
PZH AMB AMB
comp=Z,530nm,5.9s
PZH LR LR
comp=Z,4μm,17.3s
PZH LR LR
comp=Z,5μm,19.0s
PZH LR LR
comp=Z,6μm,17.3s
KMI Kunming 119.15 325 ⇑PKP PKiKP 16 36 43.5 +8.5
KMI PP **PP 16 37 57.8 +3.9**
KMI SKP 16 40 09.5
KMI SKS **SKSac 16 43 36.9 +5.9**
KMI Kunming 119.15 325 SS SS 16 54 18.1 +3.4
KMI AMB AMB
comp=Z,260nm,5.8s
KMI LR LR
comp=N,4μm,20.9s
KMI LR LR
comp=E,6μm,19.0s
KMI LR LR
comp=Z,7μm,19.1s
QIZ Qiongzhong 119.78 315 PKP **PKPdf 16 36 31.6 -4.4**
QIZ SS SS 16 54 17.8 -5.3
QIZ LR LR
comp=Z,5μm,16.7s
QIZ LR LR
comp=Z,4μm,17.2s
QIZ LR LR
comp=Z,6μm,16.1s
QIZ Qiongzhong 119.78 315 IAMs_20 IAMs_20 17 38 40.0
comp=Z,7μm,18.0s
LSA Lhasa 120.13 338 IAMs_20 IAMs_20 17 31 41.5
comp=Z,6μm,20.0s
WRA Warramunga Arr 120.21 261 PKPdf **PKiKP 16 36 37.6 +0.8**
WRA Warramunga Arr 120.21 261 PKIKP **PKiKP 16 36 37.6 +0.8**
WRA Warramunga Arr 120.21 261 PKP **PKiKP 16 36 36.5 -0.3**
comp=Z,1.4nm,0.7s,baz=64,slow=2.1,SNR=12
WRA PKKPbc **PKKPbc 16 46 43.1 -0.4**
comp=Z,1.1nm,0.9s,baz=272,slow=2.3,SNR=2.7
SANI Sanana 120.26 284 PP PP 16 38 00.5 -2.1
SNAA Sanae 120.72 160 PKP **PKiKP 16 36 36.4 0.0**
comp=Z,1.2nm,0.8s,baz=257,slow=2.2,SNR=1.3
TNCH TengChong 121.30 329 *e*PKP **PKPdf 16 36 34.1 -4.9**
TNCH sPKP 16 36 40.1
TNCH PP **PP 16 38 06.9 -1.6**
TNCH SKS **SKSac 16 43 43.4 +5.0**
TNCH SKKS SKKSac 16 44 58.3 -12
TNCH AMB AMB
comp=Z,530nm,6.7s
TNCH LR LR
comp=Z,2μm,25.2s
TNCH LR LR
comp=Z,3μm,21.3s
TNCH LR LR
comp=Z,6μm,25.6s
AS01 Alice Springs 121.74 258 P **PKPdf 16 36 39.2 -0.4**
AS01 Alice Springs 121.74 258 P **PKiKP 16 36 43.8 +4.0**
ASAR Alice Springs 121.78 258 PKP **PKPdf 16 36 39.3 -0.4**
comp=Z,1.6nm,0.8s,baz=75,slow=2.1,SNR=15
ASAR PKKPbc **PKKPab 16 46 37.7 -0.5**
comp=Z,3.0nm,0.9s,baz=243,slow=4.0,SNR=14
LUWI Luwuk 122.53 287 IAMs_20 IAMs_20 17 22 22.1
comp=Z,5μm,22.0s
LUWI Luwuk 122.53 287 PP PP 16 38 20.8 +2.8
KKM Kota Kinabalu 123.97 298 IAMs_20 IAMs_20 17 23 07.3
comp=Z,8μm,21.0s
MND Mandalay 125.01 329 P **PKiKP 16 36 49.1 +2.8**
SOEI Soe 125.34 277 PP PP 16 38 34.3 -2.9
DLV T Lat 125.80 310 IAMs_20 IAMs_20 17 43 41.9
comp=Z,6μm,19.0s
CHTO Chiang Mai 126.32 324 IAMs_20 IAMs_20 17 39 00.8
comp=Z,7μm,19.0s
CHTO Chiang Mai 126.32 324 P **PKiKP 16 36 51.1 +2.1**
CHTO Chiang Mai 126.32 324 P **PKiKP 16 36 50.3 +1.3**
CMAR Chiang Mai Arr 126.62 324 PKP **PKiKP 16 36 49.9 +0.3**
comp=Z,1.5nm,0.9s,baz=243,slow=0.7,SNR=12
CMAR PP **PP 16 38 45.9 +1.7**
comp=Z,1.2nm,0.9s,baz=345,slow=1.0,SNR=1.3
MMRI Maumere 126.65 279 IAMs_20 IAMs_20 17 22 44.4
comp=Z,5μm,21.0s
BKB Balikpapan 127.62 291 IAMs_20 IAMs_20 17 30 35.4
comp=Z,5μm,20.0s
ELIB Princess Elisa 128.20 164 *d*PKP **PKiKP 16 36 57.0 +5.8**
CASY Casey 132.76 201 IAMs_20 IAMs_20 17 28 06.9
comp=Z,5μm,20.0s
WIN Windhoek 132.84 97 IAMs_20 IAMs_20 17 31 08.1
comp=Z,7μm,21.0s
JAGI Jajag, Banyuwa 133.66 284 IAMs_20 IAMs_20 17 30 17.2
comp=Z,3μm,22.0s
ATD Arta Tunnel 134.32 37 IAMs_20 IAMs_20 17 43 34.9
comp=Z,6μm,20.0s
MBAR Mbarara 134.99 61 IAMs_20 IAMs_20 17 34 59.2
comp=Z,8μm,21.0s
SMRI Semarang 136.13 289 IAMs_20 IAMs_20 17 28 53.6
comp=Z,5μm,21.0s
UGM Wanagama 136.50 288 IAMs_20 IAMs_20 17 29 20.5
comp=Z,4μm,21.0s
LHMI Lhok Sumawe 138.38 315 IAMs_20 IAMs_20 17 47 42.8
comp=Z,4μm,21.0s
MAW Mawson 138.82 176 PKP **PKPdf 16 37 11.0 +0.6**
comp=Z,9.7nm,1.0s,baz=195,slow=12,SNR=3.3
BKNI Bangkinang 139.18 306 IAMs_20 IAMs_20 17 52 52.8
comp=Z,4μm,19.0s
BKNI Bangkinang 139.18 306 PP PP 16 40 05.2 -0.1
KMBO Kilima Mbogo 140.30 56 PKPdf **PKPdf 16 37 09.8 -5.4**
KMBO Kilima Mbogo 140.30 56 PKP **PKPdf 16 37 14.6 -0.6**
comp=Z,3.5nm,0.8s,baz=113,slow=1.5,SNR=4.5
LSZ Lusaka 140.36 82 PKPdf **PKPdf 16 37 13.3 -1.7**
LSZ Lusaka 140.36 82 PKIKP **PKPdf 16 37 13.3 -1.7**
LSZ MLR MLR
comp=Z,8μm,20.0s
GSI Gunungsitoli 140.92 311 IAMs_20 IAMs_20 17 51 26.5
comp=Z,4μm,20.0s
BOSA Boshof 141.30 103 PKhKP PKPpre 16 37 12.9
comp=Z,6.0nm,1.0s,baz=329,slow=2.3,SNR=4.0
CRZF Crozet Islands 155.98 150 IAMs_20 IAMs_20 18 02 57.0
comp=Z,4μm,19.0s

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*JMA **19** 16:22:06.4±0.2,33°N±3°×13°E±°, h403km, MV3.0/52, FAR S OFF TOKAI DISTRICT*
*IDC **19** 16:22:16.5±1.7, 34.32N×138.61E, h419km±30km, mb2.7/3, mbtmp3.4/5, Error ellipse: s-maj=77.6km s-min=25.6km az=54.0*
ISC 19 16:22:05.6±2.8, 32.9N±0.3°×138.6E±0.2, h400km, n17, σ1.9 66/17, mb3.0/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO4	**TONANKAI O.B.S**	**1.46**	**322**	P	**Pn**	**16 22 58.4**	**+0.3**
TTO5	**TONANKAI O.B.S**	**1.58**	**332**	P	**Pn**	**16 22 59.4**	**+0.5**

TTO2	TONANKAI O.B.S	1.60	304	P	Pn	16 22 59.3	+0.5
JIZS	Izushimoda	1.87	6	P	Pn	16 23 02.0	+1.3
JKKG	Kakegawa	2.00	344	P	Pn	16 23 01.9	+0.6
KTJ3	Kamata3	2.10	10	*e*P	Pn	16 23 03.9	+1.8
KTJ3				*e*S	S	16 23 44.9	-3.0
HMMJ	Hamamatsu 2	2.13	340	*e*P	Pn	16 23 02.3	0.0
JAA	Atsumi	2.16	326	*e*P	Pn	16 23 01.9	-0.5
JIE	Ise	2.21	314	P	Pn	16 23 02.0	-0.8
JIE				S	S	16 23 47.1	-2.0
JSSY	Shinshiroyabe	2.25	336	P	Pn	16 23 03.0	0.0
JMMH	Miemihama	2.38	294	P	Pn	16 23 03.1	-0.8
JKN2	Miekihoku	2.40	306	*e*P	Pn	16 23 03.2	-0.8
MJAR	Matsushiro Arr 1.9nm,0.5s,baz=174,slow=11,SNR=11	3.69	355	P	Pn	16 23 15.4	+0.7
KSRS	Korea Array	9.88	301	P	Pn	16 24 26.1	+4.0
SONM	1.3nm,0.8s,baz=108,slow=12,SNR=5.0 Songino Array 0.3nm,0.4s,baz=106,slow=9.2,SNR=1.9	28.51	311	P	P	16 27 27.3	+1.1
WRA	0.3nm,0.4s Warramunga Arr 0.3nm,0.3s,baz=360,slow=7.5,SNR=13	52.66	185	P	P	16 31 00.1	+19
ASAR	0.3nm,0.3s Alice Springs 0.3nm,0.5s,baz=10.0,slow=8.9,SNR=6.3	56.39	185	P	P	16 31 26.9	+20
	0.3nm,0.5s						

MEX ***19*** *16:28:33.6±0.4,26.62N×111.04W,h16km±427km, MD4.2*
IDC ***19*** *16:28:34.6±1.2,26.84N×110.91W,h0km,mb4.0/5, mbtmp3.9/9,ML3.8/4,Error ellipse: s-maj=21.0km s-min=14.7km az=72.0*

ISC 19 16:28:36.5±1.0,26.96N±0.06×110.9W±0.1,h10km,n13, σ1§63/13,mb4.1/5,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUYB	Guaymas	0.94	4	*e*P		Pg	16 28 52.8	-1.9
GUYB				*e*S		Sg	16 29 06.5	-0.4
SRIG	Santa Rosalia	1.21	288	*i* P		Pn	16 28 53.0	-6.6
SRIG				*e*S		Sb	16 29 08.2	-7.1
HSIG		2.06	360	*e*P		Pn	16 29 09.3	-1.8
HSIG				*e*S		Sn	16 29 34.9	-2.0
LPIG	La Paz 14nm,0.3s,baz=152,slow=4.3,SNR=2.6	2.90	168	Pn		Pn	16 29 20.7	-2.1
LPIG				Lg		Lg	16 30 02.4	
	17nm,0.3s,baz=250,slow=11,SNR=4.3							
TXAR	34nm,0.4s Lajitas Array 0.4nm,0.3s,baz=234,slow=14,SNR=14	6.84	68	Pn		Pn	16 30 17.7	+0.6
TXAR				Lg		Lg	16 32 10.6	
	0.5nm,0.3s,baz=256,slow=18,SNR=1.6							
ANMO	0.7nm,0.3s Albuquerque 0.1nm,0.3s,baz=154,slow=15,SNR=2.2	8.84	25	Lg		Lg	16 33 15.3	
NVAR	Mina Array Bea 0.1nm,0.3s,baz=151,slow=10,SNR=4.2	13.01	333	Pn		Pn	16 31 44.3	+2.7
PDAR	2.8nm,1.0s Pinedale Array 0.1nm,0.3s,baz=166,slow=7.5,SNR=3.9	15.81	4	Pn		P	16 32 23.1	-0.3
NEW	4.7nm,1.1s Newport 6.9nm,0.8s,baz=167,slow=14,SNR=5.6	21.81	349	P		P	16 33 29.8	+0.9
ULM	6.9nm,0.8s Lac du Bonnet 12nm,1.1s,baz=256,slow=12,SNR=4.9	25.97	22	P		P	16 34 09.6	+0.4
DLBC	12nm,1.1s Dease Lake 2.3nm,0.8s,baz=209,slow=6.8,SNR=4.3	34.19	342	P		P	16 35 23.6	+1.6
YKA	2.3nm,0.8s Yellowknife Ar 0.8nm,0.8s,baz=184,slow=8.4,SNR=5.1	35.62	357	P		P	16 35 34.2	0.0
ILAR	0.8nm,0.8s Eielson Array 1.0nm,0.8s,baz=151,slow=8.0,SNR=11	44.19	339	P		P	16 36 45.8	+0.4
	1.0nm,0.8s							

IDC ***19*** *16:30:23.8±0.9,18.56N×62.18W,h0km,mb3.8/7, mbtmp3.9/9,ML3.8/2,Error ellipse: s-maj=30.4km s-min=16.1km az=67.0*
TRN ***19*** *16:30:23.7,18.70N×62.23W,h15km,MD4.5*
NEIC ***19*** *16:30:29.2±1.6,18.6N±0.1×62.31W±0.09,h43km±13km, mb4.3/2,Error ellipse: s-maj=17.7km s-min=10.7km az=207.0*

ISC 19 16:30:27.9±0.8,18.58N±0.07×62.33W±0.06,h26km,n56, σ1§22/57,mb4.0/7,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	0.88	234			Pn	16 30 44.4	-0.3
SABA	Saba	1.29	223			Pn	16 30 51.2	+0.9
ANBD	Bethesda, Anti	1.61	161	*e*P		Pn	16 30 54.2	-0.5
MBFL	Flemmings, Mon	1.82	177	*e*P		Pn	16 30 58.9	+1.3
MBFL				*e*S		Sn	16 31 22.6	+2.8
ABD	La Joyeuse, An	2.24	159			Pn	16 31 03.4	+0.2
ABD	La Joyeuse, An	2.24	159	*e*P		Pn	16 31 03.5	+0.2
ABD				*e*S		Sn	16 31 32.8	+2.7
GDHS	Morne Mazeau,	2.35	167			Pn	16 31 05.3	+0.3
GDSD	La Dsirade Is	2.55	152	Pn		Pn	16 31 07.2	-0.5
H05N1	Guadeloupe/Mar	2.55	151	Pn		Pn	16 31 07.2	-0.5
H05N1				Sn		Sn	16 31 37.2	-0.8
CBE	Ff, Capester	2.58	165			Pn	16 31 08.7	+0.5
CBE	Ff, Capester	2.58	165	*e*P		Pn	16 31 08.6	+0.4
CBE				*e*S		Sn	16 31 42.1	+3.4
MAGL	Barre de l'ile	2.79	159	Pn		Pn	16 31 10.8	-0.3
GCPR	Guaynabo City	3.58	266			Pn	16 31 22.1	+0.3
IGPR	InterUniversit	3.64	261			Pn	16 31 23.9	+1.2
SJG	San Juan	3.66	263			Pn	16 31 24.3	+1.4
SJG	San Juan 17nm,0.3s,baz=92,slow=11,SNR=18	3.66	263	Pn		Pn	16 31 24.1	+1.1
SJG					Sn	Sn	16 32 05.4	+0.1
	14nm,0.3s,baz=150,slow=23,SNR=5.8							
SJG	52nm,0.5s San Juan	3.66	263	*e*P		Pn	16 31 23.6	+0.7
SVN	Savane Anatole	3.88	163			Pn	16 31 25.6	-0.3
SVN	Savane Anatole	3.88	163	*e*P		Pn	16 31 26.4	+0.4
SVN	Savane Anatole	3.88	163	*e*S		Sn	16 32 12.5	+1.8
FDF	Fort de France	3.98	163			Pn	16 31 28.2	+0.8
FDF	Fort de France	3.98	163	*e*P		Pn	16 31 29.1	+1.6
EMPR	Esperanza - Ma	3.99	269	Pn		Pn	16 31 27.6	+0.2
CELP	Cerrillos	4.07	264			Pn	16 31 29.9	+1.3
OBIP	Obispado Ponce	4.10	263			Pn	16 31 29.7	+0.7
AOPR	Arecibo Observ	4.21	268	Pn		Pn	16 31 30.9	+0.4
AOPR	Arecibo Observ	4.21	268	*e*P		Pn	16 31 31.0	+0.5
AOPR	Arecibo Observ	4.21	268	*e*S		Sn	16 32 21.1	+2.2
BIM	Bigot	4.21	163	*e*P		Pn	16 31 31.2	+0.7
MPOM	Morne Pois Mar	4.34	161			Pn	16 31 33.1	+0.8
MPOM	Morne Pois Mar	4.34	161	*e*P		Pn	16 31 32.6	+0.3
MPOM	Morne Pois Mar	4.34	161	*e*S		Sn	16 32 23.0	+0.9
H05S1	Guadeloupe/Mar	4.37	161	Pn		Pn	16 31 31.0	-1.6
H05S1				Sn		Sn	16 32 20.1	-2.6
MLPR	Magueyes Islan	4.53	263	Pn		Pn	16 31 34.2	-0.6
CRPR	Cabo Rojo, PR	4.58	264			Pn	16 31 36.4	+0.8
SLBI	Saint Lucia, B	4.71	164	*e*P		Pn	16 31 37.1	-0.2
SVB	Belmont	5.37	169	*e*P		Pn	16 31 46.8	+0.3
SDDR	Presa de Saban	8.50	274	Pn		Pn	16 32 29.1	-0.4
SDDR	Presa de Saban	8.50	274	*e*P		Pn	16 32 29.6	+0.1
SDDR	Presa de Saban	8.50	274	*e*S		Sn	16 34 02.0	-2.6
PCRV	Puerto La Cruz 0.5nm,0.3s,baz=329,slow=5.9,SNR=2.2	8.64	195	Pn		Pn	16 32 29.6	-1.9
BAUV	3.0nm,0.4s El Baul	11.07	211	Pn		Pn	16 33 04.6	0.0
SJCC	San Jacinto, C	15.15	237	P		P	16 34 05.0	-0.3
SJCC				IAmb		IAmb	16 34 07.7	
	comp=Z,47nm,0.9s							
BOAV	Boa Vista	16.18	174	P		P	16 34 15.2	-1.5
BOAV				IAmb		IAmb	16 34 32.9	
	comp=Z,12nm,1.3s							
TXAR	Lajitas Array comp=Z,0.5nm,0.6s,baz=114,slow=9.0,SNR=4.3	39.09	294	P		P	16 37 54.2	+0.9
	comp=Z,0.5nm,0.6s							
PDAR	Pinedale Array comp=Z,3.5nm,0.9s,baz=111,slow=8.1,SNR=12	46.49	312	P		P	16 38 54.5	+1.2
	comp=Z,3.5nm,0.9s							
NVAR	Mina Array Bea comp=Z,0.5nm,0.6s,baz=84,slow=8.3,SNR=2.1	52.21	305	P		P	16 39 37.8	+0.8
	comp=Z,0.5nm,0.6s							
H10N3	ASCENSION HYDR baz=299,slow=76,SNR=58	53.98	115	T		T	17 38 02.1	
H10N2	ASCENSION HYDR baz=299,slow=76,SNR=54	53.98	115	T		T	17 38 02.5	
H10N1	ASCENSION HYDR baz=299,slow=76,SNR=59	54.00	115	T		T	17 38 06.7	
H10S3	ASCENSION HYDR	54.39	116	T		T	17 38 33.2	
	baz=293,slow=74,SNR=101							
H10S2	ASCENSION HYDR baz=287,slow=74,SNR=70	54.41	116	T		T	17 38 34.7	
YKA	Yellowknife Ar comp=Z,1.3nm,0.9s,baz=106,slow=7.3,SNR=8.8	56.64	334	P		P	16 40 08.5	-0.1
	comp=Z,1.3nm,0.9s							
PLCA	Paso Flores comp=Z,1.8nm,1.0s,baz=43,slow=1.5,SNR=3.7	59.50	187	P		P	16 40 27.7	-1.2
	comp=Z,1.8nm,1.0s							
NOA	NORSAR Array B comp=Z,1.2nm,0.8s,baz=266,slow=6.5,SNR=3.3	65.96	31	P		P	16 41 11.3	-0.4
	comp=Z,1.2nm,0.8s							
ILAR	Eielson Array comp=Z,0.7nm,0.8s,baz=110,slow=4.0,SNR=7.8	71.06	333	P		P	16 41 43.8	+0.3
	comp=Z,0.7nm,0.8s							

IDC 19 16:31:04.1±9.2,54.31S×159.72E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=399.8km s-min=113.6km az=67.0,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs 1.0nm,0.7s,baz=156,slow=7.4,SNR=5.8	36.18	317	P		P	16 38 07.9	-0.4
	1.0nm,0.7s							
H01W1	Cape Leeuwin H baz=136,slow=75,SNR=2947	36.99	283	T		T	17 16 51.8	
H01W2	Cape Leeuwin H baz=136,slow=75,SNR=3026	37.00	283	T		T	17 16 52.2	
H01W3	Cape Leeuwin H baz=136,slow=75,SNR=2712	37.01	283	T		T	17 16 53.1	
WRA	Warramunga Arr 0.7nm,0.7s,baz=157,slow=7.1,SNR=6.6	39.39	321	P		P	16 38 35.4	0.0
	0.7nm,0.7s							
H04S2	CROZET ISLANDS baz=140,slow=75,SNR=20	62.21	228	T		T	17 48 56.4	
H04S1	CROZET ISLANDS baz=140,slow=75,SNR=21	62.21	228	T		T	17 48 56.2	
H04S3	CROZET ISLANDS baz=140,slow=75,SNR=20	62.23	228	T		T	17 48 55.2	
H03S2	Juan Fernandez baz=208,slow=74,SNR=45	78.74	134	T		T	18 10 29.9	
H03S1	Juan Fernandez baz=208,slow=74,SNR=48	78.74	134	T		T	18 10 31.5	
H03S3	Juan Fernandez baz=208,slow=74,SNR=49	78.75	134	T		T	18 10 34.1	
H08S2	Diego Garcia H baz=144,slow=76,SNR=88	82.23	268	T		T	18 13 15.0	
H08S1	Diego Garcia H baz=144,slow=76,SNR=46	82.24	268	T		T	18 13 15.3	
H08S3	Diego Garcia H baz=144,slow=76,SNR=157	82.25	268	T		T	18 13 18.0	
CMAR	Chiang Mai Arr 0.3nm,0.5s,baz=164,slow=5.2,SNR=2.3	89.05	304	P		P	16 44 01.1	+0.2
	0.3nm,0.5s							

SJA ***19*** *16:37:57.6±0.6,20.73S×69.26W,h115km±2km, ML3.9, MW4.0*
GUC ***19*** *16:37:59.6±0.7,20.77S×69.20W,h109km±3km, ML3.8*

ISC 19 16:37:57.8±1.4,20.74S±0.03×69.28W±0.05,h122km±7km, n36,σ1§22/69,2C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.36	213	*e*P		Pn	16 38 15.1	-0.3
PB01				*e*S		Sn	16 38 27.5	-1.2
PB01				IAML			16 38 27.8	
	comp=Z,5μm,0.2s							
PB01	IPOC Station P	0.36	213	*e*P		Pn	16 38 15.1	-0.3
PB01				*e*S		Sn	16 38 27.1	-1.5
PB08	IPOC Station P	0.60	11	*e*P		Pn	16 38 16.9	-0.2
PB08				*e*S		Sn	16 38 31.0	-0.6
PB08				IAML			16 38 31.2	
	comp=Z,3μm,0.2s							
PB08	IPOC Station P	0.60	11	*e*P		Pn	16 38 17.1	0.0
PB08				*e*S		Sn	16 38 30.8	-0.8
PB08				IAML			16 38 31.4	
	comp=E,9μm,0.2s							
PB02	IPOC Station P	0.82	225	*e*P		Pn	16 38 18.3	-0.1
PB02				*e*S		Sn	16 38 34.1	0.0
PB02				IAML			16 38 36.3	
	comp=Z,4μm,0.2s							
PB02	IPOC Station P	0.82	225	*e*P		Pn	16 38 19.0	+0.6
PB02				*e*S		Sn	16 38 33.8	-0.3
PB02				IAML			16 38 38.7	
	comp=E,4μm,0.3s							
PATCX	Punta Patache	0.82	264	*e*P		Pn	16 38 18.6	+0.2
PATCX				*e*P			16 38 19.1	
PATCX				*e*S		Sn	16 38 33.8	-0.2
PATCX				IAML			16 38 36.2	
	comp=Z,1μm,0.7s							
PATCX	Punta Patache	0.82	264	*e*P		Pn	16 38 19.3	+0.9
PATCX				*e*S		Sn	16 38 34.6	+0.5
PATCX				IAML			16 38 37.8	
	comp=E,2μm,0.5s							
TA01	Diego Aracena	0.86	281	*e*P		Pn	16 38 19.1	+0.4
TA01	Diego Aracena	0.86	281	*e*P		Pn	16 38 19.3	+0.7
TA01				*e*S		Sn	16 38 34.8	+0.4
TA01				IAML			16 38 35.6	
	comp=E,2μm,0.3s							
TA02	Huaiquique	0.92	300	*e*P		Pn	16 38 19.6	+0.4
TA02				*e*S		Sn	16 38 36.5	+1.1
TA02				IAML			16 38 38.8	
	comp=Z,1μm,0.1s							
TA02	Huaiquique	0.92	300	*e*P		Pn	16 38 20.0	+0.8
TA02				*e*S		Sn	16 38 36.0	+0.6
TA02				IAML			16 38 37.8	
	comp=N,4μm,0.1s							
PB11	IPOC Station P	1.03	340	*e*P		Pn	16 38 20.4	0.0
PB11				*e*S		Sn	16 38 38.4	+0.8
PB11				IAML			16 38 39.2	
	comp=Z,2μm,0.3s							
PB11	IPOC Station P	1.03	340	*e*P		Pn	16 38 21.2	+0.7
PB11				*e*S		Sn	16 38 38.2	+0.5
PB11				IAML			16 38 39.1	
	comp=N,5μm,0.4s							
PB09	IPOC Station P	1.06	178	*e*P		Pn	16 38 21.0	+0.3
PB09				*e*S		Sn	16 38 38.4	+0.3
PB09				IAML			16 38 38.8	
	comp=Z,2μm,0.5s							
PB09	IPOC Station P	1.06	178	*i* P		Pn	16 38 21.0	+0.3
PB09				*i* S		Sn	16 38 37.2	-0.9
PB09				IAML			16 38 39.8	
	comp=E,2μm,0.4s							
GO01	Chusmiza	1.06	4	*e*P		Pn	16 38 21.8	+0.7
GO01				*e*S		Sn	16 38 39.0	+0.2
GO01				IAML			16 38 40.2	
	comp=E,6μm,0.3s							
PB07	IPOC Station P	1.14	210	*e*P		Pn	16 38 21.8	+0.3
PB07				*e*S		Sn	16 38 40.0	+0.4
PB07				IAML			16 38 41.0	
	comp=Z,1μm,0.3s							
PB07	IPOC Station P	1.14	210	*e*P		Pn	16 38 22.1	+0.5
PB07				*e*S		Sn	16 38 39.0	-0.6
PB07				IAML			16 38 40.5	
	comp=N,1μm,0.3s							
PB04	IPOC Station P	1.79	207	*e*P		Pn	16 38 29.5	+0.6
PB04				*e*S		Sn	16 38 53.3	+0.7
PB04	IPOC Station P	1.79	207	*e*P		Pn	16 38 29.5	+0.6
PB04				*e*S		Sn	16 38 51.5	-1.1
LVC	Limon Verde	1.90	170	*e*P		Pn	16 38 31.0	+0.6
LVC				*e*S		Sn	16 38 55.9	+0.6
LVC	Limon Verde	1.90	170	*e*P		Pn	16 38 31.1	+0.6
LVC				*e*S		Sn	16 38 55.1	-0.3
LVC				IAML			16 38 57.0	
	comp=N,2μm,0.3s							
PB06	IPOC Station P	1.98	188	*e*P		Pn	16 38 31.7	+0.5
PB06				*e*S		Sn	16 38 56.8	0.0
PB06				IAML			16 39 03.1	
	comp=Z,369nm,0.3s							
PB06	IPOC Station P	1.98	188	*e*P		Pn	16 38 31.6	+0.3
PB06				*e*S		Sn	16 38 54.7	-2.1
PB05	IPOC Station P	2.28	202	*e*P		Pn	16 38 35.3	+0.4
PB05				*e*S		Sn	16 39 02.8	-0.6
PB05	IPOC Station P	2.28	202	*e*P		Pn	16 38 35.3	+0.4
PB05				*e*S		Sn	16 38 59.1	-4.3
PB12	IPOC Station P	2.33	335	*e*P		Pn	16 38 36.1	+0.5
PB12				*e*S		Sn	16 39 05.8	+1.2
PB12	IPOC Station P	2.33	335	*i* P		Pn	16 38 36.1	+0.5
PB12				*e*S		Sn	16 39 01.4	-3.1
PB12				IAML			16 39 07.3	
	comp=E,308nm,0.6s							
PB16	IPOC Station P	2.40	355	*e*P		Pn	16 38 38.5	+1.6
PB16				*e*S		Sn	16 39 02.3	-4.5
PB16	IPOC Station P	2.40	355	*i* P		Pn	16 38 38.8	+1.9
PB15	IPOC Station P	2.47	184	*e*P		Pn	16 38 38.1	+0.7
PB15				*e*S		Sn	16 39 08.8	+0.9
PB15				IAML			16 39 12.6	
	comp=Z,1μm,0.1s							
AP01	Chacalluta	2.56	337	*e*P		Pn	16 38 38.9	+0.5
AP01				*e*S		Sn	16 39 07.2	-2.4
AP01				IAML			16 39 35.0	
	comp=Z,277nm,0.3s							
YJA	Yavi	3.79	113	*e*P		Pn	16 38 56.3	+1.3
PB14	IPOC Station P	4.01	195	*e*P		Pn	16 38 59.3	+1.5
PB14				*e*S		Sn	16 39 41.7	-2.6
GO02	Mina Guanaco	4.42	184	*e*P		Pn	16 39 03.1	-0.1
GO02				*e*S		Sn	16 39 53.9	-0.1

IDC ***19*** *16:38:33.9±1.2,25.74N×128.55E,h0km,mb3.4/4, mbtmp3.4/5,ML3.3/1,Error ellipse: s-maj=62.7km s-min=17.4km az=77.0*
JMA ***19*** *16:38:37.8±0.3,26.1N×12.9E±, h57km,MV3.4/13, NEAR OKINAWAJIMA ISLAND*

ISC 19 16:38:36.3±1.7,25.78N±0.06×128.68E±0.04,h22km±14km, n18,σ1§60/30,mb3.5/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.88	294	P		Pb	16 38 52.8	-0.2
JJT3				*e*S		Sb	16 39 04.4	+0.2
JNTH	Nagotoyohara	0.94	321	P		Pn	16 38 53.2	-1.0
JNTH				*e*S		Sb	16 39 04.9	-1.0
JOW	Kunigami	1.11	341	P		Pn	16 38 56.2	-0.2
JOW				*e*S		Sn	16 39 09.0	-2.1
JOW	Kunigami 160nm,0.3s,baz=144,slow=20,SNR=1083	1.11	341	Pn		Pn	16 38 56.2	-0.2
JOW				Sn		Sn	16 39 09.1	-2.1
	194nm,0.3s,baz=145,slow=24,SNR=16							
JYRO	Yoronjima	1.25	351	P		Pn	16 38 58.3	-0.2
JYRO				*e*S		Sn	16 39 12.8	-1.9
JIH	Iheya	1.40	333	P		Pn	16 39 00.6	+0.1
JIH				*i* S		Sn	16 39 16.9	-1.4
JAGN	Aguni-jima	1.52	302	P		Pn	16 39 01.7	-0.4
JAGN				S		Sn	16 39 19.2	-1.9
JOKE	Okinoerabujima	1.58	357	P		Pn	16 39 03.1	+0.2
JOKE				*e*S		Sn	16 39 21.1	-1.6
JKE	Kume jima 2	1.78	288	P		Pn	16 39 04.8	-1.0
JKE				S		Sn	16 39 25.0	-2.7
JTK	Tokunoshima	2.01	7	P		Pn	16 39 09.3	+0.4
JTK				*e*S		Sn	16 39 32.1	-1.3
JMZ	Minamidaito 2	2.30	88	P		Pn	16 39 12.2	-0.6
JMZ				*e*S		Sn	16 39 37.6	-2.9
JKDJ	Kitadaitoujima	2.37	85	P		Pn	16 39 13.4	-0.4
JKDJ				S		Sn	16 39 39.8	-2.3
JNU	Nakatsue 0.4nm,0.3s,baz=164,slow=7.4,SNR=4.5	7.56	14	Pn		Pn	16 40 26.3	+1.1
JNU				Sn		Sn	16 41 47.1	-3.2
	0.2nm,0.3s,baz=192,slow=20,SNR=2.4							
NJ2	2.9nm,0.7s Nanjing	10.63	308	SKS		Sn	16 43 15.4	+10
SONM	Songino Array 0.4nm,0.4s,baz=140,slow=9.7,SNR=4.2	28.14	327	P		P	16 44 29.4	+2.5
	0.4nm,0.4s							
MKAR	Makanchi Array 0.1nm,0.4s,baz=98,slow=9.8,SNR=4.2	42.13	312	P		P	16 46 26.7	-0.2
	0.1nm,0.4s							
WRA	Warramunga Arr 0.7nm,0.8s,baz=349,slow=8.0,SNR=8.6	45.78	173	P		P	16 46 56.9	+0.5
	0.7nm,0.8s							
ASAR	Alice Springs 0.2nm,0.5s,baz=1.7,slow=15,SNR=7.3	49.42	174	P		P	16 47 25.5	+0.9
	0.2nm,0.5s							

IDC ***19*** *16:40:11.7±4.5,26.94N×110.96W,h0km,mb3.1/1, mbtmp3.0/4,ML3.5/3,Error ellipse: s-maj=63.9km s-min=21.5km az=8.0*
MEX ***19*** *16:40:11.6±0.3,26.56N×110.88W,h17km±999km, MD4.1*

ISC 19 16:40:12.5±1.7,26.9N±0.1×111.02W±0.07,h10km,n7, σ1§40/10,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUYB	Guaymas	1.02	7	*i* P		Pb	16 40 31.9	-0.4
GUYB				*e*S		Sg	16 40 45.4	0.0
SRIG	Santa Rosalia	1.17	292	*i* P		Pn	16 40 33.3	-1.6
SRIG				*i* S		Sb	16 40 50.2	+0.2
HSIG		2.13	2	*e*P		Pn	16 40 48.3	+0.2
HSIG				*e*S		Sn	16 41 13.0	-1.6
TXAR	Lajitas Array 0.1nm,0.3s,baz=237,slow=13,SNR=9.6	6.94	68	Pn		Pn	16 41 53.4	-1.0
TXAR				Lg		Lg	16 43 50.0	
	0.3nm,0.3s,baz=246,slow=28,SNR=2.4							
NVAR	0.4nm,0.5s Mina Array Bea 0.1nm,0.3s,baz=159,slow=10,SNR=2.0	13.04	334	Pn		Pn	16 43 19.0	+1.0
	0.1nm,0.3s							
PDAR	Pinedale Array 0.1nm,0.3s,baz=145,slow=3.3,SNR=1.9	15.89	4	Pn		P	16 43 59.0	-1.2
	0.2nm,0.4s							
ILAR	Eielson Array 0.3nm,0.9s,baz=132,slow=6.2,SNR=1.9	44.23	339	P		P	16 48 23.9	+2.2
	0.3nm,0.9s							

NEIC ***19*** *16:48:28.0±3.0,26.61N±0.06×111.13W±0.09,h10km±1km, mb4.5/87,Md4.7/13(MEX),Error ellipse: s-maj=14.9km s-min=8.6km az=241.0*
IDC ***19*** *16:48:30.1±0.8,26.74N×110.80W,h0km,mb4.3/9, mbtmp4.3/15,ML3.7/6,Error ellipse: s-maj=16.8km s-min=13.6km az=50.0*
MEX ***19*** *16:48:32.0±0.4,26.68N×110.88W,h12km±245km,MD4.7*

ISC 19 16:48:30.0±0.5,26.67N±0.05×110.83W±0.04,h10km, n384,σ1§95/376,mb4.5/30,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUYB	Guaymas	1.23	358	*e*P		Pn	16 48 51.0	-2.2
GUYB				*e*S		Sb	16 49 05.7	-3.4
SRIG	Santa Rosalia	1.41	298			Pn	16 48 51.1	-4.7
SRIG	Santa Rosalia	1.41	298	*e*P		Pn	16 48 53.0	-2.7
SRIG				*e*S		Sb	16 49 10.1	-4.5
HSIG		2.34	358	Pn		Pn	16 49 07.1	-1.5
HSIG		2.34	358	*e*

SWSC **Sam W. Stewart** 7.60 327 P Pn 16 50 21.3 +0.5
baz=146
X16A **Lo Mia Camp, P** 7.74 356 Pn 16 50 23.1 +0.2
X18A **Snowflake** 7.87 5 Pn 16 50 26.5 +1.8
MONP2 **Monument Peak** 7.88 323 P Pn 16 50 25.1 +0.3
baz=142
BC3 **Big Chuckawall** 8.03 331 P Pn 16 50 29.8 +3.0
baz=151
PDMCI **Parker Dam,Lak** 8.13 340 P Pn 16 50 30.9 +2.8
baz=160
IRM **Iron Mountain** 8.34 335 P Pn 16 50 32.7 +1.7
baz=154
SAND **Sanderson** 8.35 65 Pn Pn 16 50 33.6 +2.5
TPFO **Pinon Flats** 8.45 326 P Pn 16 50 34.2 +1.6
baz=145
MNHN **Monahans** 8.46 55 Pn 16 50 35.6 +2.9
PFO **Pinyon Flats O** 8.46 326 P Pn 16 50 34.8 +2.0
baz=145
PFO **Pinyon Flats O** 8.46 326 Pn Pn 16 50 33.4 +0.7
0.2nm,0.3s,baz=93,slow=6.8,SNR=1.9
1.1nm,0.4s
W18A **Petrified Fore** 8.48 6 P Pn 16 50 36.0 +3.0
baz=188
BELC **Belle Mtn. Jos** 8.56 330 P Pn 16 50 36.3 +2.2
baz=149
WUAZ **Wupatki** 8.83 357 Pn Pn 16 50 38.1 +0.2
WUAZ **Wupatki** 8.83 357 P Pn 16 50 40.8 +2.9
baz=178
MURC **Murrieta** 8.83 323 P Pn 16 50 38.8 +1.0
baz=141
ANMO **Albuquerque** 9.07 23 P Pn 16 50 45.7 +4.6
baz=206
ANMO **Albuquerque** 9.07 23 Pn Pn 16 50 44.7 +3.5
0.1nm,0.3s,baz=293,slow=12,SNR=5.1
ANMO Lg Lg 16 53 14.0
0.1nm,0.3s,baz=296,slow=10,SNR=3.5
GMRC **Granite Mounta** 9.09 334 P Pn 16 50 42.9 +1.5
baz=153
HEC **Hector,Ludlow** 9.41 331 P Pn 16 50 47.5 +1.8
baz=150
DRIO **Del Rio** 9.43 71 Pn Pn 16 50 47.4 +1.4
U15A **North Rim** 9.81 353 Pn Pn 16 50 53.9 +2.6
GSC **Goldstone, Bar** 10.01 331 P Pn 16 50 56.4 +2.3
baz=149
MSTX **Muleshoe** 10.07 42 P Pn 16 50 58.7 +3.9
baz=226
833A **Chaparral WMA,** 10.29 78 P Pn 16 51 00.9 +3.2
baz=263
POST **Post** 10.30 50 Pn Pn 16 51 01.3 +3.3
JCT **Junction City** 10.41 66 P Pn 16 51 02.9 +3.5
baz=251
KNB **Kanab** 10.46 351 Pn Pn 16 51 03.0 +2.9
MVCO **Mesa Verde** 10.70 10 Pn Pn 16 51 06.9 +3.4
MVCO **Mesa Verde** 10.70 10 P Pn 16 51 07.6 +4.1
baz=192,SNR=8.1
ARVC **Arvin** 10.87 323 P Pn 16 51 08.7 +3.1
baz=140
MPMC **Manual Prospec** 10.95 330 P Pn 16 51 11.0 +4.1
baz=148
DKNS **Dickens** 11.05 48 Pn 16 51 11.9 +3.7
BCW **Bitter Crk WRg** 11.06 320 Pn 16 51 11.4 +3.1
ISA **Isabella, Lake** 11.10 326 Pn Pn 16 51 11.0 +2.2
ISA **Isabella, Lake** 11.10 326 P Pn 16 51 12.3 +3.5
baz=143,SNR=8.5
TPNV **Topopah Spring** 11.23 337 Pn Pn 16 51 12.1 +1.3
TPNV **Topopah Spring** 11.23 337 P Pn 16 51 14.4 +3.6
baz=156
PKM **Mcpherson Peak** 11.25 319 P Pn 16 51 14.8 +3.7
baz=136
BRDY **Brady** 11.33 63 Pn Pn 16 51 14.8 +2.7
AMTX **Amarillo** 11.35 42 Pn 16 51 12.8 +0.5
ABTX **Abilene, Hawle** 11.40 56 Pn Pn 16 51 13.9 +1.0
ABTX **Abilene, Hawle** 11.40 56 P Pn 16 51 17.1 +4.2
baz=242,SNR=9.3
APMT **Aspermont** 11.41 52 Pn 16 51 14.0 +0.9
CWC **Cottonwood Cre** 11.53 329 P Pn 16 51 18.1 +3.2
baz=147
VES **Vestal, Richgr** 11.55 324 P Pn 16 51 17.7 +2.8
baz=141,SNR=14
S22A **4UR Ranch, Cre** 11.55 16 P Pn 16 51 20.4 +5.2
baz=199
SMMC **Simmler** 11.66 320 P Pn 16 51 18.8 +2.3
baz=136
GRAC **Grapevine Rang** 11.70 333 P Pn 16 51 18.1 +1.1
baz=151
S11A **Rachel** 11.71 340 Pn 16 51 19.3 +2.1
T25A **Trinidad** 11.77 26 P Pn 16 51 20.5 +2.3
baz=210
GMN **Gold Mountain** 11.92 334 Pn Pn 16 51 22.7 +2.5
SDCO **Great Sand Dun** 11.93 21 P Pn 16 51 24.8 +4.4
baz=204
Q16A **Castle Valley** 12.22 359 Pn 16 51 26.8 +2.5
MZP **Montezuma Peak** 12.31 335 Pn 16 51 26.5 +0.8
R11B **Troy Canyon, C** 12.31 342 Pn Pn 16 51 29.4 +3.8
R11B **Troy Canyon, C** 12.31 342 P Pn 16 51 29.9 +4.3
baz=161,SNR=33
SMWD **Samnorwood** 12.38 45 Pn 16 51 28.3 +1.9
SRU **San Rafael Swe** 12.41 1 Pn Pn 16 51 26.3 -0.6
PLPT **Palo Pinto** 12.48 58 Pn Pn 16 51 27.7 +0.1
TPH **Tonopah** 12.59 336 Pn 16 51 33.2 +4.0
SPR3 **Spring Creek 3** 12.64 347 Pn Pn 16 51 34.6 +4.4
P17A **Butcher Ranch,** 12.77 0 Pn 16 51 33.7 +1.9
WTFS **Witchita Falls** 12.82 54 Pn Pn 16 51 34.3 +2.1
WMOK **Wichita Mounta** 13.11 49 Pn Pn 16 51 37.8 +1.5
WMOK **Wichita Mounta** 13.11 49 P Pn 16 51 39.2 +2.8
baz=236
Q24A **Divide** 13.15 20 P Pn 16 51 41.3 +4.1
baz=204
NV11 **Mina Array Sit** 13.25 334 Pn 16 51 41.1 +2.8
NLU **North Lily Min** 13.29 356 Pn Pn 16 51 40.7 +1.7
NVAR **Mina Array Bea** 13.31 334 Pn 16 51 41.1 +2.0
NVAR **Mina Array Bea** 13.31 334 Pn Pn 16 51 43.2 +4.0
0.1nm,0.3s,baz=154,slow=9.7,SNR=16
10nm,1.3s
RYN **Ryan** 13.56 333 Pn 16 51 44.4 +1.8
DUG **Dugway, Tooele** 13.59 354 Pn Pn 16 51 46.1 +3.2
DUG **Dugway, Tooele** 13.59 354 P P 16 51 47.9 -4.1
baz=173,SNR=13
O20A **White River Ci** 13.60 8 Pn Pn 16 51 46.9 +3.7
O20A **White River Ci** 13.60 8 P Pn 16 51 47.4 +4.2
baz=191
ISCO **Idaho Springs** 13.80 17 P P 16 51 52.8 -1.8
baz=201
PNTR **Pine Nut** 14.40 332 Pn Pn 16 51 50.7 -3.4
ELK **Elko** 14.51 347 Pn Pn 16 51 57.0 +1.5
ELK **Elko** 14.51 347 Pn P 16 51 59.2 -3.1
0.1nm,0.3s,baz=179,slow=9.8,SNR=8.6
4.8nm,1.1s
TLIG **Tlapa** 14.53 126 P P 16 52 01.7 -0.8
W35A **Tecumseh** 14.65 51 Pn Pn 16 51 58.9 +1.5
SPUT **South Promonto** 14.66 355 P P 16 52 01.7 -2.3
BMN **Battle Mountai** 14.72 340 Pn 16 52 01.0 +2.7
OK032 **Salt Plains WL** 14.73 44 Pn 16 51 59.6 +1.1
N23A **Red Feather La** 14.76 15 Pn 16 51 58.8 -0.2
N23A **Red Feather La** 14.76 15 P P 16 52 03.9 -1.2
baz=198
PAHR **Pah Rah Range** 14.83 333 Pn Pn 16 51 57.3 -2.6
HWUT **Hardware Ranch** 14.91 358 P P 16 52 05.0 -1.8
KAN14 **Manchester OK** 14.98 44 Pn 16 52 00.9 -0.9
OK033 **Mehan** 15.09 48 Pn Pn 16 52 05.1 +1.8
OK033 IAmb IAmb 16 52 31.2
comp=Z,24nm,1.0s
OK052 **Battle Ridge R** 15.16 49 P P 16 52 07.7 -1.6
OK052 IAmb IAmb 16 52 17.1
comp=Z,32nm,1.0s
HVU **Hansel Valley** 15.16 354 Pn 16 52 05.0 +0.7
PHWY **Pilot Hill** 15.26 16 P Pn 16 52 07.6 +1.9
PHWY IAmb IAmb 16 52 11.1
comp=Z,28nm,1.4s
DEOK **Depew** 15.28 50 Pn Pn 16 52 04.2 -1.6
DEOK IAmb IAmb 16 52 31.4
comp=Z,23nm,0.9s
OK048 **Pawnee Station** 15.30 47 Pn Pn 16 52 05.8 -0.3
OK048 IAmb IAmb 16 52 31.0
comp=Z,43nm,1.4s
QUOK **Quay** 15.32 48 Pn Pn 16 52 06.0 -0.3
QUOK IAmb IAmb 16 52 14.6
comp=Z,24nm,1.0s
ORV **Oroville** 15.64 328 P Pn 16 52 09.2 -1.2
ORV IAmb IAmb 16 52 21.0
comp=Z,29nm,1.4s
TUL3 **Leonard** 15.80 51 Pn Pn 16 52 11.5 -1.1
TUL3 **Leonard** 15.80 51 P Pn 16 52 14.9 +2.3
baz=239
AHID **Auburn Hatcher** 16.06 359 Pn 16 52 15.2 -1.0

BW06 **Boulder Array** 16.09 3 Pn Pn 16 52 14.0 -2.6
BW06 **Boulder Array** 16.09 3 P P 16 52 19.1 -0.8
baz=185,SNR=7.0
PD31 **Pinedale Array** 16.09 3 Pn 16 52 14.8 -1.8
PDAR **Pinedale Array** 16.09 3 Pn Pn 16 52 14.6 -2.0
PDAR **Pinedale Array** 16.09 3 Pn P 16 52 19.3 -0.6
comp=Z,0.1nm,0.3s,baz=168,slow=10.0,SNR=16
PDAR Lg Lg 16 56 54.0
comp=Z,0.1nm,0.3s,baz=177,slow=21,SNR=1.4
comp=Z,4.9nm,1.0s
K22A **Casper** 16.33 11 Pn Pn 16 52 17.6 -1.9
K22A **Casper** 16.33 11 P P 16 52 23.3 +0.8
baz=194
TPAW **Teton Pass** 16.78 360 IAmb IAmb 16 52 39.6
comp=Z,50nm,1.3s
U38A **Gravette** 17.05 51 Pn 16 52 29.5 +1.0
U38A IAmb IAmb 16 52 35.5
comp=Z,36nm,1.1s
HLID **Hailey** 17.11 351 P P 16 52 31.9 +0.9
baz=170
IMW **Indian Meadow** 17.19 360 IAmb IAmb 16 52 38.3
comp=Z,53nm,1.4s
MFID **Camas Ranch** 17.20 348 IAmb IAmb 16 52 49.7
comp=Z,45nm,1.5s
HHAR **Hobbs** 17.28 52 Pn Pn 16 52 30.8 -0.7
HHAR IAmb IAmb 16 52 38.4
comp=Z,34nm,0.9s
X40A **Basin Creek Fa** 17.33 59 P P 16 52 34.5 +1.0
FLWY **Flagg Ranch** 17.38 0 IAmb IAmb 16 52 51.6
comp=Z,67nm,1.5s
CMIG **Matias Romero** 17.59 120 P P 16 52 37.7 +1.4
comp=Z,0.3nm,0.3s,baz=313,slow=9.8,SNR=11
comp=Z,24nm,1.0s
H17A **Grant Village** 17.69 1 P P 16 52 40.1 +2.5
baz=181
J08A **Circle Bar Ran** 17.77 341 P Pn 16 52 36.9 -0.7
143A **Socs Landing,** 17.91 66 Pn Pn 16 52 38.0 -1.2
143A IAmb IAmb 16 52 49.6
comp=Z,78nm,1.4s
WHAR **Wooly Hollow** 18.05 57 IAmb IAmb 16 52 49.3
comp=Z,79nm,1.5s
YHH **Holmes Hill** 18.08 360 Pn 16 52 38.8 -2.8
RSSD **Black Hills** 18.26 16 P Pn 16 52 43.7 0.0
RSSD **Black Hills** 18.26 16 P P 16 52 46.3 +2.4
baz=200
K30B **Basset** 18.41 27 P P 16 52 43.8 -1.5
K30B IAmb IAmb 16 52 56.3
comp=Z,45nm,1.2s
FCAR **Ozark Folk Cen** 18.42 56 P P 16 52 44.3 -1.1
S39A **Bolivar** 18.42 49 P 16 52 42.9 -2.6
RLMT **Red Lodge** 18.46 4 P Pn 16 52 48.2 +2.1
baz=185,SNR=7.7
VBMS **Vicksburg** 18.53 68 P P 16 52 46.2 -0.5
VBMS **Vicksburg** 18.53 68 P Pn 16 52 47.6 +0.8
baz=258
J05D **Fort Rock, OR** 18.61 336 P Pn 16 52 48.4 +0.5
J05D IAmb IAmb 16 52 57.9
comp=Z,66nm,1.4s
BOZ **Bozeman (W)** 18.90 358 P Pn 16 52 53.4 +2.0
baz=178,SNR=9.5
LCAR **Lake Charles** 19.21 56 P P 16 52 52.3 -1.8
BPMT **Black Pine Rid** 19.84 355 P P 16 52 59.3 -1.9
F10A **Beach Ranch, E** 19.93 347 IAmb IAmb 16 53 06.3
comp=Z,32nm,1.2s
OXF **Oxford** 20.01 62 P P 16 53 00.1 -2.8
OXF IAmb IAmb 16 53 10.0
comp=Z,30nm,0.9s
OXF **Oxford** 20.01 62 P P 16 53 02.4 -0.4
baz=253
CCM **Cathedral Cave** 20.02 51 P Pn 16 53 04.5 -0.3
baz=241
P40A **Paris** 20.25 46 IAmb IAmb 16 53 15.1
comp=Z,22nm,0.9s
MSO **Missoula** 20.27 354 P Pn 16 53 07.8 +0.1
baz=173
LAO **LASA Array** 20.31 9 P P 16 53 06.4 +0.3
LAO **LASA Array** 20.31 9 P Pn 16 53 08.2 0.0
baz=192,SNR=6.3
OVMT **Ovando** 20.43 356 P P 16 53 08.5 +1.0
HOOD **Mount Hood Mea** 20.53 338 P P 16 53 04.5 -4.1
ECSD **EROS Data Cent** 20.56 30 P Pn 16 53 10.9 -0.2
ECSD **EROS Data Cent** 20.56 30 P Pn 16 53 11.0 0.0
baz=219
E09A **Wood Farm, Sta** 20.64 346 P P 16 53 10.4 +0.8
E09A IAmb IAmb 16 53 13.1
comp=Z,52nm,1.5s
HAWA **Hanford** 20.86 343 P P 16 53 10.0 -2.0
HAWA IAmb IAmb 16 53 24.0
comp=Z,36nm,1.3s
PLAL **Pickwick Lake** 21.20 61 P P 16 53 15.4 -0.3
PLAL IAmb IAmb 16 53 33.5
comp=Z,19nm,1.0s
S44A **Carbondale** 21.27 54 P P 16 53 14.8 -1.6
S44A IAmb IAmb 16 53 36.9
comp=Z,29nm,1.1s
D08A **Wollman Farm,** 21.33 345 P P 16 53 17.8 +0.7
EGMT **Eagleton** 21.34 2 P P 16 53 18.3 +1.1
EGMT IAmb IAmb 16 53 43.6
comp=Z,32nm,1.1s
EGMT **Eagleton** 21.34 2 P P 16 53 17.6 +0.4
baz=183,SNR=7.7
LRAL **Lakeview Retre** 21.60 67 P P 16 53 20.1 +0.1
LRAL IAmb IAmb 16 54 01.7
comp=Z,31nm,1.5s
LRAL **Lakeview Retre** 21.60 67 P P 16 53 20.8 +0.7
baz=259
TEIG **Tepich** 21.65 102 P P 16 53 19.6 -1.1
WVT **Waverly** 21.74 59 P P 16 53 19.8 -1.8
WVT IAmb IAmb 16 53 39.3
comp=Z,19nm,0.9s
WVT **Waverly** 21.74 59 P P 16 53 23.0 +1.4
baz=251
X48A **Hartselle** 21.87 63 P P 16 53 22.6 -0.3
X48A IAmb IAmb 16 53 30.4
comp=Z,23nm,1.1s
C09A **Chrisman Ranch** 21.89 346 P P 16 53 22.6 -0.5
C09A IAmb IAmb 16 53 58.9
comp=Z,26nm,1.4s
NEW **Newport** 22.11 349 IAmb IAmb 16 53 34.9
comp=Z,18nm,1.1s
NEW **Newport** 22.11 349 P P 16 53 27.6 +2.1
baz=166
NEW **Newport** 22.11 349 P P 16 53 27.0 +1.5
comp=Z,3.3nm,0.9s,baz=168,slow=11,SNR=7.1
comp=Z,6.3nm,0.9s
CLTN **Cedars of Leba** 22.88 60 IAmb IAmb 16 53 49.3
comp=Z,16nm,1.0s
152A **Waverly Hall** 23.43 69 P P 16 53 37.9 -1.6
152A IAmb IAmb 16 53 56.4
comp=Z,18nm,0.9s
W50A **Signal Mountai** 23.44 63 P P 16 53 39.5 0.0
W50A IAmb IAmb 16 53 55.9
comp=Z,18nm,0.9s
SFIN **Lafayette** 23.96 49 P P 16 53 44.9 +0.4
baz=242
AGMN **Agassiz Nation** 24.56 25 P P 16 53 51.9 +2.0
AGMN IAmb IAmb 16 54 23.8
comp=Z,16nm,1.1s
AGMN **Agassiz Nation** 24.56 25 P P 16 53 51.1 +1.2
baz=214
V52A **Sevierville** 24.95 62 P P 16 53 54.5 +0.9
V52A IAmb IAmb 16 54 24.0
comp=Z,24nm,1.4s
ULM **Lac du Bonnet** 26.20 22 P P 16 54 06.4 +1.7
comp=Z,11nm,0.8s,baz=204,slow=9.9,SNR=14
comp=Z,11nm,0.8s
FCC **Fort Churchill** 34.15 16 P P 16 55 16.0 +1.0
DLBC **Dease Lake** 34.49 342 P P 16 55 19.5 +1.4
baz=149
KOTAN **Kotaneelee Air** 34.66 348 P P 16 55 20.9 +1.4
baz=159
R33M **Jennings River** 35.57 342 P P 16 55 28.7 +1.3
baz=148
YKA **Yellowknife Ar** 35.91 357 P P 16 55 30.4 +0.3
comp=Z,0.7nm,0.9s,baz=180,slow=8.3,SNR=11
YKA PcP PcP 16 57 58.8 +1.8
comp=Z,0.9nm,1.0s,baz=168,slow=3.0,SNR=5.7
comp=Z,0.7nm,0.9s
P32M **Atlin** 36.51 341 P P 16 55 36.6 +1.2
baz=145
P29M **Windy Craggy** 37.82 338 P P 16 55 48.0 +1.6
baz=139
YUK8 **Steele Glacier** 39.73 339 P P 16 56 03.2 +0.5
baz=138
M30M **Minto, Yukon** 39.81 342 P P 16 56 03.5 +0.3
baz=143

M29M **Somme Creek** 40.19 340 P P 16 56 06.6 +0.2
baz=140
YUK3 **Moose Creek** 40.31 339 P P 16 56 07.8 +0.3
baz=137
KAIM **Kayak Island** 40.44 335 P P 16 56 08.6 +0.3
baz=131
L29M **L29M** 40.61 341 P P 16 56 11.4 +1.7
OTAV **Otavalo** 40.76 125 P P 16 56 11.3 -0.7
OTAV IAmb IAmb 16 56 20.1
comp=Z,12nm,1.1s
Q23K **Middleton Isla** 40.89 333 P P 16 56 10.7 -1.3
baz=128
K29M **Barlow Dome** 41.02 342 P P 16 56 12.6 -0.6
baz=143
J30M **Hart River** 41.29 344 P P 16 56 17.6 +2.1
baz=145
M26K **Nabesna, AK** 41.60 338 P P 16 56 19.6 +1.7
baz=135
N25K **Chitina, Valde** 41.61 336 P P 16 56 20.5 +2.4
baz=132
DAWY **Dawson** 41.71 342 P P 16 56 20.5 +1.7
DAWY IAmb IAmb 16 56 27.6
comp=Z,14nm,1.3s
DAWY **Dawson** 41.71 342 P P 16 56 20.9 +2.1
baz=140
I30M **Mount Dempster** 41.83 344 P P 16 56 21.4 +1.6
baz=145
H31M **Peel River** 41.85 346 P P 16 56 19.8 0.0
baz=148
SDV **Santo Domingo** 41.94 107 P P 16 56 20.4 -1.1
SDV IAmb IAmb 16 56 28.4
comp=Z,11nm,0.8s
L26K **Log Cabin Wild** 42.15 339 P P 16 56 23.8 +1.5
baz=135
I29M **Ogilvie Camp,** 42.43 343 P P 16 56 24.1 -0.5
baz=143
K27K **Chicken** 42.47 340 P P 16 56 23.6 -1.3
K27K IAmb IAmb 16 56 28.7
comp=Z,13nm,1.4s
K27K **Chicken** 42.47 340 P P 16 56 25.4 +0.5
baz=137
SCHQ **Schefferville** 42.56 36 P P 16 56 26.9 +1.1
comp=Z,4.8nm,0.7s,baz=240,slow=16,SNR=2.8
comp=Z,4.8nm,0.7s
EGAK **Eagle** 42.75 341 P P 16 56 29.3 +2.1
baz=139
SCM **Sheep Creek Mo** 42.75 335 P P 16 56 26.7 -0.6
baz=129
G31M **Satah River** 42.78 347 P P 16 56 27.8 +0.4
baz=149
EPYK **Eagle Plains** 42.86 345 P P 16 56 28.9 +0.8
baz=145
M23K **Glacier View** 42.88 335 P P 16 56 28.8 +0.5
baz=128
BRSE **Bradley Lake S** 42.90 331 P P 16 56 29.9 +1.4
baz=123
I28M **Miner Creek** 42.92 343 P P 16 56 29.1 +0.4
baz=141
KNK **Knik Glacier** 42.92 334 P P 16 56 31.0 +2.3
baz=127
MCRA **Macar, Loja** 42.95 131 P P 16 56 30.8 +1.4
SCRK **Sand Creek** 43.02 339 P P 16 56 31.2 +1.6
baz=135
Q20K **Shuyak Island** 43.04 329 P P 16 56 29.4 -0.2
baz=120
BOSC **San Juan Bosco** 43.07 129 P P 16 56 31.4 +0.8
SML **Sawmill** 43.11 335 P P 16 56 29.9 -0.4
baz=128
F31M **Tsiigehtchic** 43.12 347 P P 16 56 30.7 +0.6
baz=150
H29M **Whitestone** 43.13 344 P P 16 56 30.4 +0.1
baz=143
RIDG **Independent Ri** 43.13 339 P P 16 56 29.4 -1.0
baz=133
G30M **tAoh Zraii Nji** 43.25 346 P P 16 56 33.7 +2.4
baz=146
J26L **Joseph Creek** 43.26 340 P P 16 56 32.9 +1.4
baz=136
PMR **Palmer** 43.29 334 P P 16 56 32.9 +1.3
baz=126
WAT6 **Susitna Watana** 43.37 336 P P 16 56 33.6 +1.1
baz=129
C36M **Palautuk** 43.41 353 P P 16 56 35.2 +2.7
baz=163
K24K **Donnelly Dome** 43.48 338 P P 16 56 34.6 +1.4
baz=132
I27K **Kandik River** 43.50 342 P P 16 56 33.5 +0.2
baz=139
DHY **Denali Highway** 43.55 337 P P 16 56 35.3 +1.4
baz=130
F30M **Barrier River** 43.68 346 P P 16 56 35.9 +1.2
baz=147
I26K **Coal Creek Min** 43.72 341 P P 16 56 35.1 +0.1
baz=137
Q19K **Cape Douglas,** 43.77 329 P P 16 56 33.1 -2.5
baz=119
WAT1 **Susitna Watana** 43.82 336 P P 16 56 32.6 -3.3
baz=128
INK **Inuvik** 43.83 348 P P 16 56 36.8 +1.0
baz=150
SUA **Susitna One** 43.85 334 P P 16 56 38.2 +1.9
baz=124
J25K **Salcha River,** 43.90 339 P P 16 56 38.7 +2.1
baz=133
H27K **Steamboat Moun** 43.95 343 P P 16 56 38.4 +1.5
baz=139
BAUV **El Baul** 44.13 105 P P 16 56 36.8 -2.2
N20K **Mount Spurr** 44.30 333 P P 16 56 41.2 +1.3
baz=122
SKT **Skwentna** 44.45 334 P P 16 56 42.1 +1.2
baz=124
ILAR **Eielson Array** 44.49 339 P P 16 56 43.4 +2.1
comp=Z,3.3nm,1.1s,baz=151,slow=5.9,SNR=18
comp=Z,3.3nm,1.1s
MCK **McKinley** 44.51 337 P P 16 56 43.3 +1.8
baz=128
Q17K **Contact Creek** 44.51 328 P P 16 56 41.1 -0.5
baz=116
PRP **Porcupine Dome** 44.57 340 P P 16 56 44.1 +2.1
baz=134
F28M **Old Crow** 44.60 345 P P 16 56 44.1 +2.1
F28M **Old Crow** 44.60 345 P P 16 56 44.2 +2.1
baz=142
E29M **Blow River** 44.78 346 P P 16 56 42.4 -1.0
E29M IAmb IAmb 16 56 52.3
comp=Z,9.8nm,1.2s
E29M **Blow River** 44.78 346 P P 16 56 44.4 +0.9
baz=145
TRF **Thorofare Moun** 44.82 336 P P 16 56 46.5 +2.4
baz=127
POKR **Poker Plat Res** 44.89 339 P P 16 56 46.1 +1.6
baz=131
Q18K **Koktuh Hills** 44.91 330 P P 16 56 41.4 -3.3
CHGN **Chignik** 45.00 324 P P 16 56 46.1 +0.8
baz=111
M20K **Styx River** 45.03 333 P P 16 56 42.3 -3.4
M20K **Styx River** 45.03 333 P P 16 56 47.3 +1.6
baz=122
N19K **Bonanza Creek** 45.05 331 P P 16 56 47.6 +1.8
baz=120
Q16K **King Salmon** 45.05 328 P P 16 56 47.0 +1.3
baz=115
G26K **Porcupine Rive** 45.09 342 P P 16 56 47.6 +1.7
baz=137
NEA2 **Nenana** 45.09 338 P P 16 56 47.9 +1.8
baz=129
P17K **Kvichak River** 45.18 329 P P 16 56 46.7 -0.1
baz=116
PPLA **Purkeypile** 45.21 335 P P 16 56 47.9 +0.8
baz=124
E28M **Babbage River** 45.31 346 P P 16 56 46.6 -1.1
E28M **Babbage River** 45.31 346 P P 16 56 48.8 +1.1
baz=143
E27K **Coleen River** 45.46 344 P P 16 56 50.6 +1.7
baz=140
BPAW **Bear Paw Mtn.** 45.46 337 P P 16 56 47.1 -1.9
BPAW **Bear Paw Mtn.** 45.46 337 P P 16 56 48.2 -0.8
baz=126,SNR=5.1
CAST **Castle Rocks** 45.47 335 P P 16 56 49.7 +0.6
baz=124
H24K **Noodor Dome** 45.51 340 P P 16 56 50.4 +1.0
baz=131
I23K **Minto, Yukon-K** 45.54 338 P P 16 56 49.8 +0.3
baz=129
N18K **Kilae Creek** 45.60 331 P P 16 56 49.2 -0.9
N18K **Kilae Creek** 45.60 331 P P 16 56 50.0 -0.1
baz=118
G25K **Bearman Lake** 45.60 341 P P 16 56 51.7 +1.7

baz=134
L20K Farewell, AK 45.65 334 P **P** **16 56 52.6 +2.2**
baz=122
F26K Sheenjek River 45.73 343 P **P** **16 56 52.5 +1.4**
baz=137
O17K Koliganek Bris 45.73 329 P **P** **16 56 53.7 +2.6**
baz=116
L19K White Mountain 45.88 333 P **P** **16 56 53.7 +1.3**
baz=120
MLY Manley 45.93 338 P **P** **16 56 51.1 -1.6**
MLY IAmb IAmb 16 56 57.4
comp=Z,5.9nm,1.1s
MLY Manley 45.93 338 P **P** **16 56 53.4 +0.7**
baz=127
M18K Stony River 45.95 332 P **P** **16 56 53.4 +0.5**
baz=119
G24K Hadweenzic Riv 45.96 341 P **P** **16 56 53.7 +0.8**
baz=132
F25K Christian Rive 46.05 342 P **P** **16 56 55.6 +1.9**
baz=135
A36M Sachs Harbour 46.06 354 P **P** **16 56 55.9 +2.3**
baz=162
N17K Nushagak Hills 46.10 330 P **P** **16 56 55.3 +1.3**
baz=116
O16K Kokwok River B 46.11 329 P **P** **16 56 56.1 +2.0**
baz=115
D27M Malcolm River 46.13 346 P **P** **16 56 56.0 +1.7**
baz=142
K20K Telida 46.18 335 P **P** **16 56 56.9 +2.2**
baz=122
E25K Arctic Village 46.41 343 P **P** **16 56 58.6 +2.2**
baz=136
I21K Tanana 46.44 337 P **P** **16 56 59.5 +2.9**
baz=126
M17K Holitna River 46.59 331 P **P** **16 56 59.2 +1.3**
baz=117
F24K Squaw Lake 46.63 341 P **P** **16 56 59.9 +1.8**
baz=132
J20K Nowinta River 46.65 336 P **P** **16 56 56.1 -2.2**
J20K IAmb IAmb 16 57 06.4
comp=Z,5.9nm,1.0s
J20K Nowinta River 46.65 336 P **P** **16 56 58.9 +0.6**
baz=123
L18K Granite Mounta 46.66 332 P **P** **16 56 59.1 +0.7**
baz=118
H22K Ishtalitna Cre 46.66 338 P **P** **16 56 59.4 +1.0**
baz=127
TTA Tatalina 46.72 334 P **P** **16 56 57.0 -2.0**
baz=120
G23K Bananza Creek 46.73 340 P **P** **16 57 00.3 +1.2**
baz=129
O15K Ungalikthiuk R 46.76 328 P **P** **16 56 57.3 -1.9**
baz=112
N16K Nishlik Lake 46.78 330 P **P** **16 57 00.6 +1.2**
baz=115
H21K Melozitna Rive 47.00 338 P **P** **16 57 03.0 +2.0**
baz=125
M16K Timber Creek 47.10 330 P **P** **16 57 03.6 +1.7**
baz=115
J19K Poorman 47.10 335 P **P** **16 56 59.3 -2.5**
J19K IAmb IAmb 16 57 10.0
comp=Z,7.7nm,1.1s
J19K Poorman 47.10 335 P **P** **16 57 03.8 +1.9**
baz=121
COLD Coldfoot 47.12 340 P **P** **16 57 05.1 +3.2**
baz=130
E24K Your Creek 47.17 342 P **P** **16 57 04.2 +1.8**
baz=132
J18K Innoko River 47.26 334 P **P** **16 57 00.7 -2.4**
J18K Innoko River 47.26 334 P **P** **16 57 05.0 +1.8**
baz=119
FALS False Pass 47.27 321 P **P** **16 57 03.9 +0.7**
baz=105
N15K Kwethluk River 47.27 329 P **P** **16 57 05.6 +2.4**
baz=113
L17K Donlin 47.29 332 P **P** **16 57 04.6 +1.3**
baz=116
D25K Kavik River 47.47 344 P **P** **16 57 06.3 +1.6**
baz=135
E23K Chandalar 47.48 341 P **P** **16 57 07.0 +2.2**
baz=131
IMAR Indian Mountai 47.51 338 P **P** **16 57 03.0 -2.0**
L16K Owhat River 47.61 331 P **P** **16 57 04.3 -1.5**
baz=115
H20K Anotleneega Mo 47.62 337 P **P** **16 57 05.7 -0.2**
baz=123
M15K Kasigluk River 47.74 329 P **P** **16 57 08.0 +1.2**
baz=113
F22K John River 47.89 340 P **P** **16 57 09.2 +1.2**
baz=128
E22K Anaktuvuk Pass 48.17 341 P **P** **16 57 10.5 +0.4**
baz=128
K15K Wolf Creek Mou 48.73 331 P **P** **16 57 14.0 -0.5**
baz=113
G19K Purcell Munta 48.74 337 P **P** **16 57 15.6 +1.1**
baz=121
J16K Anvik River 48.74 333 P **P** **16 57 15.3 +0.7**
baz=115
M13K Dall Lake 48.87 328 P **P** **16 57 14.9 -0.6**
baz=110
G18K Tagagawik 49.17 336 P **P** **16 57 18.0 +0.2**
baz=119
H17K Granite Mounta 49.19 335 P **P** **16 57 19.4 +1.5**
baz=117
F19K Shaleruckik Mo 49.33 338 P **P** **16 57 15.6 -3.4**
F19K Shaleruckik Mo 49.33 338 P **P** **16 57 21.5 +2.5**
baz=121
E19K Redstone River 49.47 338 P **P** **16 57 22.0 +1.8**
baz=122
E20K Nigu River 49.57 340 P **P** **16 57 22.2 +1.3**
baz=124
C21K Knifeblade Rid 49.65 341 P **P** **16 57 22.0 +0.5**
baz=126
G17K Kiwalik Mounta 49.72 335 P **P** **16 57 23.6 +1.5**
baz=117
J14K Nanvaranak Lak 49.77 331 P **P** **16 57 23.9 +1.4**
baz=112
B21K Ikpikpuk River 49.88 342 P **P** **16 57 24.2 +1.1**
baz=126
H16K Elim 49.96 334 P **P** **16 57 25.9 +2.0**
baz=114
K13K Kusilvak Mount 49.97 330 P **P** **16 57 25.0 +1.0**
baz=110
B22K Teshekpuk Lake 49.98 343 P **P** **16 57 24.8 +0.9**
baz=128
D19K Kuna River 50.30 339 P **P** **16 57 27.5 +1.1**
baz=122
G16K Koyuk River 50.32 335 P **P** **16 57 28.6 +2.1**
baz=115
G15K Niuluk 50.81 334 P **P** **16 57 30.8 +0.6**
baz=113
B20K Meade River 50.82 341 P **P** **16 57 30.6 +0.3**
baz=124
E17K Hotham Inlet 50.85 337 P **P** **16 57 31.1 +0.6**
baz=117
ANM Nome 51.18 333 P **P** **16 57 33.5 +0.4**
baz=111
F15K North Star Dit 51.32 335 P **P** **16 57 35.2 +1.1**
baz=119
C18K Utukok River 51.36 339 P **P** **16 57 35.9 +1.5**
baz=118
F14K Arctic Creek 51.88 334 P **P** **16 57 39.4 +1.1**
baz=111
B18K Kokolik River 51.89 340 P **P** **16 57 39.6 +1.3**
baz=118
C17K DeLong Mountai 51.93 338 P **P** **16 57 39.9 +1.3**
baz=116
TNA Tin City 52.54 334 P **P** **16 57 45.2 +2.1**
baz=109
C16K Lisburne Hills 52.57 338 P **P** **16 57 41.9 -1.4**
baz=114
BOAV Boa Vista 53.88 108 P **P** **16 57 52.4 -1.4**
PETK Petropavlovsk- 69.98 320 P **P** **16 59 42.3 +0.7**
comp=Z,16nm,1.0s,baz=98,slow=8.9,SNR=5.4
comp=Z,16nm,1.0s
CPUP Villa Florida 73.70 131 P **P** **17 00 05.5 +1.2**
comp=Z,3.1nm,0.7s,baz=356,slow=11,SNR=3.2
comp=Z,3.1nm,0.7s
TIXI Tiksi 73.71 343 P **P** **17 00 03.5 -0.2**
comp=Z,0.1nm,0.3s,baz=17,slow=16,SNR=1.8
PLCA Paso Flores 76.79 150 P **P** **17 00 20.4 -1.4**
PLCA Paso Flores 76.79 150 P **P** **17 00 24.0 +2.2**
comp=Z,4.8nm,0.8s,baz=312,slow=9.2,SNR=5.5
comp=Z,4.8nm,0.8s
ARCES ARCESS Array B 79.03 14 P **P** **17 00 36.0 +2.1**
comp=Z,1.6nm,0.7s,baz=343,slow=5.6,SNR=1.3
comp=Z,1.6nm,0.7s
HHC Hu-ho-hao-te 102.15 328 *e*P **Pdif** **17 02 22.8 -2.5**
HHC pmax pmax
comp=Z,27nm,0.5s
HHC pmax pmax
comp=Z,560nm,6.1s
WRA Warramunga Arr 120.32 262 PKP **PKiKP** **17 07 24.2 +2.0**
comp=Z,1.2nm,0.8s,baz=55,slow=1.4,SNR=5.5
ASAR Alice Springs 121.89 258 PKP **PKiKP** **17 07 26.7 +1.5**
comp=Z,0.3nm,0.7s,baz=88,slow=2.2,SNR=7.3
CMAR Chiang Mai Arr 126.64 324 PKP **PKiKP** **17 07 36.9 +2.1**
comp=Z,0.3nm,0.6s,baz=304,slow=1.6,SNR=2.6

*IDC **19** 16:52:36.3±1.1, 84.65N×1.33E, h0km, mb3.6/15, mbtmp3.7/18, ML3.9/3, Error ellipse: s-maj=24.2km s-min=16.7km az=85.0*
*NEIC **19** 16:52:37.9±2.7, 84.5N±0.1×1.3E±0.8, h10km±2km, mb4.3/16, Error ellipse: s-maj=23.2km s-min=3.1km az=32.0*
*BER **19** 16:52:40.7±2.7, 84.57N×3.79E, h10km, mb(Pn)4.0, ML3.6(NAO), Confirmed Earthquake*
*KOLA **19** 16:52:42.9, 84.57N×16.31E, h0km, ML2.6, Error ellipse: s-maj=322.8km s-min=64.1km az=80.0, Arctic Ocean, Gakkel ridge*
*FCIAR **19** 16:52:44.0, 84.62N×6.96E, h10km, station ZFI2 has station magnitude of 3.80 station OMEGA has station magnitude of 3.80*

ISC 19 16:52:38.0±0.6, 84.48N±0.06×2.47E±0.07, h10km, n69, σ2s17/84, mb3.8/22, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.74**	**161**	Pn	**Pn**	**16 54 03.5**	**+0.5**
KBS				Sn	**Sn**	**16 55 05.7**	**-3.1**
KBS	**Kingsbay**	**5.74**	**161**	Pn	**Pn**	**16 54 03.4**	**+0.4**
KBS	**Kingsbay**	**5.74**	**161**	P	**Pn**	**16 54 03.4**	**+0.4**
KBS				S	**Sn**	**16 55 06.1**	**-2.7**
KBS	**Kingsbay**	**5.74**	**161**	*e*P	**Pn**	**16 54 03.8**	**+0.8**
KBS				*e*S	**Sn**	**16 55 05.3**	**-3.5**
KBS				IAML		16 55 09.6	
	comp=Z,11nm,0.4s						
KBS	**Kingsbay**	**5.74**	**161**	*e*P	**Pn**	**16 54 03.4**	**+0.4**
KBS				*e*S	**Sn**	**16 55 04.4**	**-4.4**
ZFI2	**Zemlya Franca-**	**6.62**	**99**	*e*P	**Pn**	**16 54 13.2**	**-1.9**
ZFI2				*e*S	Sn	16 55 19.5	-11
	comp=Z,39nm,1.8s						
BRBB	**Barentsburg B**	**6.64**	**159**	Pn	**Pn**	**16 54 16.9**	**+1.5**
BRBB				Sn	**Sn**	**16 55 27.6**	**-3.4**
BRBB	**Barentsburg B**	**6.64**	**159**	P	**Pn**	**16 54 16.2**	**+0.8**
BRBB				S	**Sn**	**16 55 27.6**	**-3.4**
BRBB	**Barentsburg B**	**6.64**	**159**	*e*P	**Pn**	**16 54 15.9**	**+0.6**
BRBB				*e*S	**Sn**	**16 55 26.9**	**-4.0**
SPA0	**Spitsbergen Ar**	**6.64**	**155**	Pn	**Pn**	**16 54 16.5**	**+1.1**
	baz=6.3,slow=8.6						
SPA0	**Spitsbergen Ar**	**6.64**	**155**	Pn	**Pn**	**16 54 16.5**	**+1.1**
	baz=6.3,slow=8.6						
SPA0				*e*S	**Sn**	**16 55 26.1**	**-4.9**
SPA0				IAML		16 55 42.5	
	comp=Z,4.3nm,0.9s						
SPA0	**Spitsbergen Ar**	**6.64**	**155**	*e*P	**Pn**	**16 54 15.9**	**+0.6**
SPA0				*e*S	**Sn**	**16 55 26.5**	**-4.5**
SPITS	**Spitsbergen Ar**	**6.64**	**155**	P	**Pn**	**16 54 15.5**	**+0.1**
SPITS				S	**Sn**	**16 55 26.0**	**-5.0**
SPITS	**Spitsbergen Ar**	**6.64**	**155**	Pn	**Pn**	**16 54 16.0**	**+0.6**
	baz=5.2,slow=10						
SPITS				Sn	**Sn**	**16 55 26.0**	**-5.0**
	baz=26,slow=17						
	comp=Z,2.3nm,0.3s						
SPB2	**Spitsbergen Ar**	**6.64**	**155**	Pn	**Pn**	**16 54 16.6**	**+1.1**
OMEGA	**Omega**	**6.65**	**99**	*e*P	**Pn**	**16 54 13.8**	**-1.7**
OMEGA				S	Sn	16 55 20.6	-11
	comp=Z,36nm,2.2s						
BRBA	**Barentsburg A**	**6.68**	**159**	Pn	**Pn**	**16 54 17.4**	**+1.5**
BRBA				Sn	**Sn**	**16 55 29.0**	**-2.8**
BRBA	**Barentsburg A**	**6.68**	**159**	*e*P	**Pn**	**16 54 17.1**	**+1.2**
BRBA				*e*S	**Sn**	**16 55 27.8**	**-4.0**
BRBA				IAML		16 55 37.1	
	comp=Z,7.1nm,0.5s						
HSPB	**Hornsund (broa**	**7.77**	**158**	Pn	**Pn**	**16 54 33.2**	**+2.4**
HSPB	**Hornsund (broa**	**7.77**	**158**	P	**Pn**	**16 54 32.6**	**+1.8**
HSPB	**Hornsund (broa**	**7.77**	**158**	*e*P	**Pn**	**16 54 31.7**	**+0.9**
HSPB				*e*S	**Sn**	**16 55 53.6**	**-5.1**
HSPB				IAML		16 55 59.1	
	comp=Z,4.0nm,0.4s						
EUNU	**Eureka**	**11.34**	**298**		**Pn**	**16 55 18.5**	**-1.3**
SUMG	**Summit**	**13.81**	**236**		**Pn**	**16 55 53.7**	**0.0**
SUMG	**Summit**	**13.81**	**236**	*i* P	**Pn**	**16 55 53.0**	**-0.7**
KEV	**Kevo**	**15.48**	**147**	P	**Pn**	**16 56 17.3**	**+1.4**
KEV	**Kevo**	**15.48**	**147**	P	**Pn**	**16 56 17.3**	**+1.4**
ARA0	**ARCESS Array S**	**15.62**	**149**	P	**Pn**	**16 56 17.9**	**+0.1**
	baz=353,slow=11						
ARA0	**ARCESS Array S**	**15.62**	**149**	P	**Pn**	**16 56 17.9**	**+0.1**
	baz=353,slow=11						
ARCES	**ARCESS Array B**	**15.62**	**149**	Pn	**Pn**	**16 56 20.0**	**+2.2**
ARCES	**ARCESS Array B**	**15.62**	**149**	Pn	**Pn**	**16 56 17.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=356,slow=9.8,SNR=16						
ARCES				Sn	Sn	16 59 00.1	-11
	comp=Z,0.1nm,0.3s,baz=359,slow=22,SNR=1.6						
	comp=Z,3.6nm,0.7s						
RES	**Resolute Bay**	**17.02**	**296**	Pn	**Pn**	**16 56 32.3**	**-3.2**
RES	**Resolute Bay**	**17.02**	**296**	Pn	**Pn**	**16 56 32.0**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=36,slow=12,SNR=6.7						
	comp=Z,1.2nm,0.4s						
APA0	**Apatity Array**	**17.96**	**141**	P	**Pn**	**16 56 47.0**	**-0.2**
	baz=7.3,slow=10						
APA0	**Apatity Array**	**17.96**	**141**	P	**Pn**	**16 56 47.0**	**-0.2**
	baz=7.3,slow=10						
NRIK	**Noril'sk**	**21.02**	**80**	P	**P**	**16 57 20.7**	**-0.4**
NRIK	**Noril'sk**	**21.02**	**80**	P	**P**	**16 57 20.8**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=350,slow=6.6,SNR=1.9						
	comp=Z,0.9nm,0.3s						
TIXI	**Tiksi**	**22.20**	**42**	P	**P**	**16 57 36.4**	**+2.6**
TIXI				IAmb	IAmb	16 57 45.6	
	comp=Z,17nm,1.4s						
TIXI	**Tiksi**	**22.20**	**42**	P	**P**	**16 57 34.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=7.5,SNR=5.0						
	comp=Z,0.1nm,0.3s						
NC204	**NORSAR Array S**	**23.40**	**170**	P	**P**	**16 57 46.4**	**-0.2**
NOA	**NORSAR Array B**	**23.65**	**169**	P	**P**	**16 57 49.7**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=356,slow=8.5,SNR=3.0						
	comp=Z,0.9nm,0.8s						
FIA0	**FINESS Array S**	**23.72**	**151**	P	**P**	**16 57 52.6**	**+3.0**
FIA0	**FINESS Array S**	**23.72**	**151**	P	**P**	**16 57 52.6**	**+3.0**
FINES	**FINESS Array B**	**23.72**	**151**	P	**P**	**16 57 52.6**	**+3.0**
FINES	**FINESS Array B**	**23.72**	**151**	P	**P**	**16 57 51.4**	**+1.8**
	comp=Z,2.7nm,1.1s,baz=352,slow=12,SNR=5.0						
	comp=Z,2.7nm,1.1s						
HFS	**Hagfors**	**24.61**	**166**	P	**P**	**16 57 59.5**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=21,slow=9.3,SNR=3.0						
	comp=Z,2.4nm,0.8s						
KLMR	**Klimovskoe**	**25.08**	**136**	P	**P**	**16 58 03.3**	**+1.3**
B20K	**Meade River**	**25.39**	**344**	P	**P**	**16 58 03.0**	**-1.8**
B20K				IAmb	IAmb	16 58 16.6	
	comp=Z,8.4nm,1.2s						
D25K	**Kavik River**	**25.71**	**335**	P	**P**	**16 58 08.9**	**+1.1**
D25K				IAmb	IAmb	16 58 10.3	
	comp=Z,8.3nm,1.1s						
E28M	**Babbage River**	**26.12**	**329**	P	**P**	**16 58 09.7**	**-1.7**
E29M	**Blow River**	**26.25**	**328**	P	**P**	**16 58 12.1**	**-0.5**
C18K	**Utukok River**	**26.86**	**347**	P	**P**	**16 58 17.6**	**-0.5**
C18K				IAmb	IAmb	16 58 27.5	
	comp=Z,10nm,1.4s						
E25K	**Arctic Village**	**26.88**	**334**	P	**P**	**16 58 18.2**	**-0.1**
D19K	**Kuna River**	**26.94**	**344**	P	**P**	**16 58 20.8**	**+2.0**
F28M	**Old Crow**	**27.12**	**329**	P	**P**	**16 58 21.6**	**+1.1**
F28M				IAmb	IAmb	16 58 23.1	
	comp=Z,7.4nm,1.1s						
G31M	**Satah River**	**27.51**	**324**	P	**P**	**16 58 21.8**	**-2.1**
G31M				IAmb	IAmb	16 58 34.7	
	comp=Z,7.0nm,1.1s						
H29M	**Whitestone**	**28.43**	**327**	P	**P**	**16 58 29.8**	**-2.4**
I30M	**Mount Dempster**	**29.32**	**326**	P	**P**	**16 58 39.8**	**-0.4**
I30M				IAmb	IAmb	16 59 15.8	
	comp=Z,8.7nm,1.5s						
J30M	**Hart River**	**29.96**	**325**	P	**P**	**16 58 44.5**	**-1.4**
J30M				IAmb	IAmb	16 58 56.8	
	comp=Z,6.4nm,1.3s						
ILAR	**Eielson Array**	**30.28**	**334**	P	**P**	**16 58 46.8**	**-1.7**
	comp=Z,1.4nm,1.2s,baz=354,slow=6.9,SNR=5.2						
	comp=Z,1.4nm,1.2s						
YKA	**Yellowknife Ar**	**30.56**	**306**	ScP	**ScP**	**17 05 31.0**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=353,slow=2.7,SNR=1.8						
AKASG	**Malin Array Be**	**34.60**	**150**	P	**P**	**16 59 28.2**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=350,slow=8.7,SNR=3.6						
	comp=Z,0.6nm,0.6s						
BVAR Borovoye Array 35.39 105 P **P** **16 59 34.2 +0.9**
comp=Z,0.2nm,0.5s,baz=339,slow=7.7,SNR=1.7
comp=Z,0.2nm,0.5s
ZALV Zalesovo Beam 35.86 90 P **P** **16 59 38.7 +1.5**
comp=Z,0.5nm,0.6s,baz=347,slow=5.9,SNR=2.4
comp=Z,0.5nm,0.6s
GERES GERESS Array B 35.91 167 P **P** **16 59 40.5 +2.6**
comp=Z,1.3nm,1.0s,baz=1.1,slow=5.0,SNR=2.0
comp=Z,1.3nm,1.0s
KURBB Kurchatov Arra 38.55 97 P **P** **17 00 01.1 +1.0**
comp=Z,0.4nm,0.3s,baz=352,slow=7.4,SNR=4.8
comp=Z,0.4nm,0.3s
MKAR Makanchi Array 42.70 94 P **P** **17 00 33.9 -0.6**
comp=Z,0.5nm,0.7s,baz=352,slow=7.4,SNR=5.5
MKAR PcP **PcP** **17 02 25.9 0.0**
comp=Z,0.2nm,0.8s,baz=2.5,slow=3.3,SNR=1.3
comp=Z,0.5nm,0.7s
SONM Songino Array 43.96 70 P **P** **17 00 45.1 +0.3**
comp=Z,0.5nm,0.8s,baz=352,slow=9.0,SNR=3.9
comp=Z,0.5nm,0.8s
BRTR Keskin Array B 45.78 146 P **P** **17 01 00.2 +0.9**
comp=Z,1.1nm,0.8s,baz=359,slow=5.8,SNR=2.1
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 72.37 82 P **P** **17 04 04.2 +0.5**
comp=Z,1.7nm,1.0s,baz=348,slow=7.0,SNR=12
comp=Z,1.7nm,1.0s

*IDC **19** 16:52:39.2±3.5, 3.01N×31.36W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=111.5km s-min=32.7km az=176.0*

ISC 19 16:52:41.3±3.1, 3.0N±0.7×31.3W±0.2, h12km, n11, σ0s81/5, mb3.8/5, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**19.96**	**123**	T	T	17 18 05.3	
	baz=302,slow=75,SNR=43						
H10N2	**ASCENSION HYDR**	**19.97**	**123**	T	T	17 18 05.6	
	baz=302,slow=75,SNR=47						
H10N1	**ASCENSION HYDR**	**19.98**	**123**	T	T	17 18 06.8	
	baz=302,slow=75,SNR=52						
H10S3	**ASCENSION HYDR**	**20.44**	**126**	T	T	17 18 43.0	
	baz=303,slow=74,SNR=14						
H10S2	**ASCENSION HYDR**	**20.46**	**126**	T	T	17 18 44.4	
	baz=277,slow=74,SNR=10.0						
TORD	**Torodi Ar. Bea**	**34.16**	**71**	P	**P**	**16 59 26.6**	**-0.1**
	1.9nm,0.9s,baz=264,slow=5.2,SNR=5.8						
	1.9nm,0.9s						
ESDC	**Sonseca Array**	**44.13**	**31**	P	**P**	**17 00 50.0**	**+0.2**
	1.6nm,1.1s,baz=229,slow=9.0,SNR=4.5						
	1.6nm,1.1s						
AKASG	**Malin Array Be**	**69.35**	**36**	P	**P**	**17 03 49.0**	**+0.2**
	1.2nm,0.8s,baz=247,slow=7.2,SNR=5.8						
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**73.13**	**300**	P	**P**	**17 04 12.9**	**+0.6**
	0.6nm,0.9s,baz=99,slow=5.6,SNR=3.1						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**84.22**	**332**	P	**P**	**17 05 11.5**	**-0.9**
	0.4nm,0.9s,baz=83,slow=5.1,SNR=4.3						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**97.89**	**337**	P	Pdif	17 06 16.2	-0.6
	0.5nm,1.0s,baz=69,slow=3.0,SNR=3.0						
	0.5nm,1.0s						

*IDC **19** 16:56:20.6±1.4, 9.25S×150.24E, h0km, mb3.5/3, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=34.3km s-min=20.6km az=153.0*

ISC 19 16:56:25.4±1.2, 9.4S±0.1×150.2E±0.2, h35km, n8, σ0s65/8, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.03**	**270**	Pn	**Pn**	**16 57 10.7**	**-0.2**
	9.6nm,0.4s,baz=90,slow=6.1,SNR=16						
PMG				Lg	Lg	16 57 56.9	
	10nm,0.3s,baz=135,slow=11,SNR=3.5						
KRVT	**Keravat (AS076**	**5.38**	**19**	Sn	**Sn**	**16 58 45.0**	**+0.9**
	baz=270,slow=20						
CTA	**Charters Tower**	**11.28**	**199**	Pn	**Pn**	**16 59 04.3**	**0.0**
	0.2nm,0.3s,baz=25,slow=17,SNR=1.1						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**18.57**	**234**	P	**Pn**	**17 00 40.3**	**+0.2**
	0.1nm,0.3s,baz=57,slow=11,SNR=3.9						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**21.07**	**226**	P	**P**	**17 01 07.8**	**+0.9**
	1.4nm,0.9s,baz=58,slow=11,SNR=9.9						
	1.4nm,0.9s						
SONM	**Songino Array**	**68.94**	**330**	P	**P**	**17 07 26.7**	**-0.4**
	0.6nm,0.9s,baz=128,slow=7.2,SNR=2.6						
	0.6nm,0.9s						
ILAR	**Eielson Array**	**87.37**	**22**	P	**P**	**17 09 08.0**	**-0.6**
	0.4nm,0.7s,baz=244,slow=4.6,SNR=5.5						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.93**	**280**	PKPbc	**PKiKP**	**17 16 11.9**	**-0.1**
	0.5nm,0.5s,baz=70,slow=3.2,SNR=3.4						

*IDC **19** 17:05:26.8±1.8, 26.68N×110.86W, h0km, mb3.3/1, mbtmp3.3/6, ML3.4/5, Error ellipse: s-maj=25.1km s-min=17.9km az=13.0*
*MEX **19** 17:05:28.6±0.4, 26.68N×110.93W, h10km, MD4.1*

ISC 19 17:05:26.9±1.0, 26.67N±0.06×110.97W±0.06, h10km, n13, σ2s24/16, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
GUYB	**Guaymas**	**1.23**	**4**	*i* P	**Pn**	**17 05 47.9**	**-2.2**
GUYB				*e*S	**Sb**	**17 06 06.0**	**-0.1**
SRIG	**Santa Rosalia**	**1.31**	**300**	*i* P	**Pn**	**17 05 49.4**	**-1.7**
SRIG				*i* S	**Sb**	**17 06 06.1**	**-2.3**
TSIG	**Topolobambo**	**2.04**	**121**	*e*P	**Pg**	**17 06 04.0**	**-1.9**
CSIG	**Choix**	**2.33**	**85**	*e*P	**Pg**	**17 06 09.7**	**-1.8**
HSIG		**2.34**	**0**	*e*P	**Pn**	**17 06 04.5**	**-1.0**
HSIG				*e*S	**Sn**	**17 06 30.4**	**-3.9**
LPIG	**La Paz**	**2.62**	**167**	Pn	**Pn**	**17 06 09.3**	**0.0**
	2.9nm,0.3s,baz=53,slow=2.6,SNR=1.2						
LPIG				Lg	Lg	17 06 46.2	
	16nm,0.3s,baz=266,slow=0.3,SNR=2.6						
	12nm,0.3s						
LAPR	**La Primavera**	**4.00**	**343**	*e*P	**Pn**	**17 06 26.8**	**-1.5**
TXAR	**Lajitas Array**	**6.98**	**66**	Pn	**Pn**	**17 07 10.2**	**+0.9**
	0.1nm,0.3s,baz=242,slow=14,SNR=11						
TXAR				Sn	**Sn**	**17 08 29.2**	**+0.3**
	0.2nm,0.3s,baz=152,slow=35,SNR=1.2						
TXAR				Lg	Lg	17 09 03.0	
	0.2nm,0.3s,baz=249,slow=32,SNR=2.5						
	0.6nm,0.5s						
PFO	**Pinyon Flats O**	**8.39**	**327**	Pn	**Pn**	**17 07 31.5**	**+2.8**
	0.1nm,0.3s,baz=236,slow=5.8,SNR=1.8						
	1.3nm,0.4s						
ANMO	**Albuquerque**	**9.12**	**24**	Lg	Lg	17 10 11.9	
	0.1nm,0.3s,baz=24,slow=14,SNR=1.6						
NVAR	**Mina Array Bea**	**13.25**	**334**	Pn	**Pn**	**17 08 38.9**	**+3.6**
	0.1nm,0.3s,baz=138,slow=14,SNR=4.8						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**16.10**	**4**	Pn	**P**	**17 09 16.1**	**-0.8**
	baz=188,slow=11,SNR=3.7						
	0.8nm,1.0s						
ILAR	**Eielson Array**	**44.44**	**339**	P	**P**	**17 13 40.0**	**+2.3**
	0.4nm,0.8s,baz=126,slow=8.2,SNR=4.4						
	0.4nm,0.8s						

*NEIC **19** 17:25:59.4±1.3, 19.41N±0.06×154.74W±0.08, h24km±11km, Error ellipse: s-maj=12.9km s-min=7.4km az=122.0*

HVO 19 17:26:02.5±1.0, 19.47N±0.02×154.89W±0.03, h2km±4km, ML2.5/17, ML2.5/50(NEIC), Error ellipse: s-maj=4.8km s-min=2.6km az=123.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.01**	**3**			Pg	17 26 04.0	+1.0
JOKA	**Jonika Flow**	**0.11**	**250**			Pg	17 26 05.3	+0.5
JCUZ	**Jacuzzi**	**0.22**	**246**	Pg		Pg	17 26 07.3	+0.6
NPOC	**North of Pu'u**	**0.22**	**249**	Pg		Pg	17 26 07.2	+0.4
STCH	**Steam Cracks**	**0.24**	**249**			Pg	17 26 07.6	+0.5
KNHH	**Kane Nui o Ham**	**0.28**	**251**			Pg	17 26 08.4	+0.5
PUH	**Pauahi**	**0.32**	**252**			Pg	17 26 08.7	0.0
PUH				IAML			17 26 20.0	
	comp=N,535nm,0.7s						
HATHI	**Halema'uma'u T**	**0.35**	**262**			Sb	17 26 16.7	-1.0
HATHI	**Halema'uma'u T**	**0.35**	**262**			Pg	17 26 09.4	+0.1
HATHI				IAML			17 26 17.2	

comp=E,495nm,0.7s
HATHI IAML 17 26 20.1
comp=N,364nm,0.4s
BYL Byron's Ledge 0.35 260 Pg Pg 17 26 09.8 +0.4
BYL IAML 17 26 18.7
comp=N,373nm,0.5s
SBLHI Steaming Bluff 0.36 263 Pg 17 26 09.5 0.0
SBLHI IAML 17 26 22.1
comp=N,375nm,0.5s
KKO Keanakako`i 0.36 258 Pg Pg 17 26 09.8 +0.3
KKO IAML 17 26 21.4
comp=N,391nm,0.9s
RSD Rainshed 0.37 269 Pg 17 26 10.2 +0.6
RSD IAML 17 26 17.6
comp=N,868nm,0.2s
RSD IAML 17 26 21.9
comp=E,848nm,0.4s
UWB Uwekahuna B 0.37 263 Pg 17 26 10.3 +0.6
RIM Rim 0.37 258 Pg Pg 17 26 10.4 +0.7
RIM IAML 17 26 21.1
comp=N,384nm,1.1s
RIM IAML 17 26 22.2
comp=E,362nm,0.7s
OBL Observatory Le 0.38 262 Pg Pg 17 26 10.5 +0.7
OBL IAML 17 26 22.5
comp=E,765nm,0.6s
OBL IAML 17 26 22.9
comp=N,788nm,0.4s
UWE Uwekahuna 0.38 262 Sb 17 26 18.1 -0.4
UWE Uwekahuna 0.38 262 Pg 17 26 09.8 -0.1
UWE IAML 17 26 22.6
comp=E,731nm,0.4s
UWE IAML 17 26 23.1
comp=N,528nm,0.5s
SDHHI Sand Hill 0.39 258 Pg Pg 17 26 09.7 -0.3
SDHHI IAML 17 26 18.2
comp=N,458nm,1.3s
SDHHI IAML 17 26 22.1
comp=E,465nm,1.1s
WRMHI West Rim 0.39 260 Pg Pg 17 26 10.5 +0.4
WRMHI IAML 17 26 21.9
comp=E,869nm,0.5s
WRMHI IAML 17 26 22.5
comp=N,540nm,0.6s
HLP Hilina Pali 0.43 246 Pg 17 26 10.8 -0.1
HLP IAML 17 26 13.3
comp=N,480nm,3.6s
HLP IAML 17 26 13.9
comp=E,595nm,2.7s
MLH Mauna Loa 0.47 273 Pg 17 26 12.0 +0.5
MLH Sg 17 26 18.3 +0.6
MLH IAML 17 26 23.5
comp=N,548nm,0.5s
MLH IAML 17 26 26.8
comp=E,444nm,1.4s
HTC Hot Caves 0.53 244 Pg 17 26 13.0 +0.3
AIN Ainahou 0.55 260 Pg 17 26 13.3 +0.3
AIN IAML 17 26 30.3
comp=E,313nm,0.6s
HMH Humu`ula Sheep 0.57 283 Pg 17 26 13.6 +0.1
MLOA Mauna Loa Obse 0.65 276 Pg Pg 17 26 15.1 +0.1
MLOA IAML 17 26 32.3
comp=E,340nm,2.9s
MLOA IAML 17 26 36.9
comp=N,339nm,2.8s
MWH Moku`aweowe 0.67 271 Pg 17 26 14.6 -0.7
POHA Pohakuloa 0.67 295 Pg Pg 17 26 15.4 0.0
ALEP Alea Permanent 0.71 276 Pg 17 26 16.1 -0.2
KHU Kahuku 0.72 252 Pg 17 26 15.3 -1.0
KHU IAML 17 26 35.7
comp=E,327nm,2.9s
HUH Hualalai 0.92 283 Pg 17 26 19.4 -0.7
KHLU Kahalu`u 0.95 277 Pg 17 26 18.3 -2.5

*AFAD **19** 17:30:27.1±0.0,35°.00N×26°.56E, h5km±3km, ML2.9*
*IDC **19** 17:30:28.8±1.6,35°.05N×26°.64E, h0km, mb3.7/4, mbtmp3.6/5, ML2.4/1, Error ellipse: s-maj=219.1km s-min=25.7km az=141.0*
*ATH **19** 17:30:29.7,34°.93N×26°.70E, h15km±2km, ML3.3/6, Manual Solution by A.Fokaefs This location: 2020/05/06 07:57:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **19** 17:30:31.2,35°.04N×26°.64E, h1km±2km, ML2.9/4, Error ellipse: s-maj=8.2km s-min=1.2km az=156.0*
*ISK **19** 17:30:31.1,35°.06N×26°.65E, h8km, ML3.2/14*
ISC 19 17:30:29.8±1.4,**35°.05N**±0°.06×**26°.64E**±0°.03,**h3**km±11km, **n57**,σ1§**04**/71,**mb3.6**/4,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.35**	**280**	Pg	**Pb**	**17 30 38.6**	**-0.2**
ZKR				Sg	**Sb**	**17 30 44.3**	**-0.4**
ZKR	**Zakros**	**0.35**	**280**	P	**Pb**	**17 30 38.5**	**-0.2**
ZKR				S	**Sb**	**17 30 44.1**	**-0.6**
	4µm,0.5s						
ZKR	**Zakros**	**0.35**	**280**	P	**Pb**	**17 30 38.5**	**-0.2**
ZKR				S	**Sb**	**17 30 44.5**	**-0.2**
SIT2	**Siteia**	**0.46**	**289**	P	**Pb**	**17 30 40.6**	**0.0**
SIT2				S	**Sb**	**17 30 48.2**	**+0.3**
KARP	**Karpathos**	**0.65**	**41**	Pg	**Pb**	**17 30 44.0**	**+0.1**
KARP				Sg	**Sb**	**17 30 53.0**	**-0.1**
KARP	**Karpathos**	**0.65**	**41**	P	**Pb**	**17 30 44.0**	**+0.1**
KARP				S	**Sb**	**17 30 54.4**	**+1.0**
	4µm,0.3s						
KARP	**Karpathos**	**0.65**	**41**	P	**Pb**	**17 30 43.9**	**+0.1**
KARP				S	**Sb**	**17 30 54.0**	**+0.6**
FRMA	**Ierapetra Chan**	**0.74**	**267**	P	**Pg**	**17 30 43.5**	**-0.6**
FRMA				S	**Sg**	**17 30 53.1**	**-0.7**
	682nm,0.5s						
FRMA	**Ierapetra Chan**	**0.74**	**267**	P	**Pg**	**17 30 43.5**	**-0.6**
FRMA				S	**Sg**	**17 30 53.3**	**-0.5**
HRKL	**Herakleio**	**1.29**	**282**	Pn	**Pb**	**17 30 56.1**	**+1.4**
HRKL				Sn	**Sn**	**17 31 14.2**	**+1.8**
RGE1	**Gennadi, Rhode**	**1.43**	**47**	P	**Pg**	**17 30 57.7**	**+0.3**
IDI	**Anoyia**	**1.45**	**280**	Pn	**Pg**	**17 30 58.4**	**+0.7**
IDI	**Anoyia**	**1.45**	**280**	P	**Pg**	**17 30 58.3**	**+0.6**
IDI				S	**Sg**	**17 31 18.2**	**+1.7**
	210nm,0.5s						
IDI	**Anoyia**	**1.45**	**280**	P	**Pg**	**17 30 58.1**	**+0.5**
THR6	**Thira Island,**	**1.65**	**323**	P	**Pb**	**17 31 00.8**	**0.0**
THR8	**Santorini-Mono**	**1.65**	**325**	P	**Pb**	**17 31 00.1**	**-0.8**
ARG	**Arkhangelos**	**1.68**	**46**	Pn	**Pb**	**17 31 01.5**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.69**	**323**	P	**Pn**	**17 31 00.5**	**+0.3**
THR3	**Thira Island,**	**1.69**	**324**	P	**Pb**	**17 31 01.1**	**-0.4**
CMBO	**Columbo, Santo**	**1.73**	**325**	P	**Pn**	**17 31 01.3**	**+0.4**
YAZI	**Mula-Datşa-**	**1.75**	**22**	P	**Pn**	**17 31 01.4**	**+0.3**
DAT	**Datca**	**1.84**	**24**	Pn	**Pb**	**17 31 03.7**	**-0.4**
DAT				Sn	**Sb**	**17 31 27.7**	**+0.1**
DAT	**Datca**	**1.84**	**24**	P	**Pb**	**17 31 03.8**	**-0.4**
DAT				*i* AML	AML	17 31 35.0	
	comp=N,71nm,0.6s						
DAT				*i* AML	AML	17 31 35.0	
	comp=E,75nm,0.6s						
GVD	**Gavdhos**	**2.11**	**265**	Pn	**Pb**	**17 31 08.2**	**-0.5**
BDRM	**Kayabasi**	**2.11**	**18**	P	**Pn**	**17 31 06.2**	**+0.1**
TURN	**Turunc**	**2.16**	**37**	Pn	**Pb**	**17 31 08.5**	**-1.0**
TURN	**Turunc**	**2.16**	**37**	P	**Pn**	**17 31 06.3**	**-0.3**
TURN				S	**Sb**	**17 31 36.2**	**-0.4**
APE	**Apeiranthos**	**2.20**	**336**	Pn	**Pb**	**17 31 09.1**	**-1.3**
APE	**Apeiranthos**	**2.20**	**336**	P	**Pn**	**17 31 07.6**	**+0.2**
APE	**Apeiranthos**	**2.20**	**336**	P	**Pn**	**17 31 07.8**	**+0.4**
IMMV	**Iera Moni Meta**	**2.21**	**281**	Pn	**Pb**	**17 31 09.3**	**-1.2**
DALY	**Dalyan (Mula)**	**2.40**	**42**	Pn	**Pn**	**17 31 11.6**	**+1.6**
MLSB	**Milas**	**2.42**	**22**	Pn	**Pb**	**17 31 12.2**	**-1.8**
YER	**Yerkesik**	**2.47**	**32**	Pn	**Pn**	**17 31 12.5**	**+1.5**
IZZE	**Mula-Seydike**	**2.52**	**56**	P	**Pn**	**17 31 11.1**	**-0.6**
FETY	**Fethiye**	**2.54**	**51**	Pn	**Pn**	**17 31 13.1**	**+1.2**
FETY	**Fethiye**	**2.54**	**51**	P	**Pn**	**17 31 13.5**	**+1.5**
KSL	**Kastellorizon**	**2.64**	**65**	P	**Pn**	**17 31 12.0**	**-1.3**
GCAM	**G?zelcaml?**	**2.69**	**10**	Pn	**Pn**	**17 31 15.7**	**+1.8**
GCAM	**G?zelcaml?**	**2.69**	**10**	P	**Pn**	**17 31 13.2**	**-0.7**
AKAS	**Kas**	**2.69**	**63**	Pn	**Pn**	**17 31 15.7**	**+1.6**
AKAS	**Kas**	**2.69**	**63**	P	**Pn**	**17 31 14.3**	**+0.2**
AKAS				*i* AML	AML	17 32 20.0	
	comp=N,108nm,1.3s						
AKAS				*i* AML	AML	17 32 28.0	
	comp=E,63nm,1.2s						
CAME	**Cameli-Denizli**	**2.87**	**48**	Pn	**Pn**	**17 31 18.2**	**+1.6**
KNIK	**Mula-Seydike**	**2.98**	**52**	P	**Pn**	**17 31 18.3**	**+0.2**
CAEL	**Denizli, Camel**	**3.00**	**46**	P	**Pn**	**17 31 19.6**	**+1.3**
CAEL				*i* AML	AML	17 32 23.0	
	comp=E,70nm,0.9s						
CAEL				*i* AML	AML	17 32 44.0	
	comp=N,96nm,1.6s						
GMLD	**Gumuldur**	**3.03**	**4**	Pn	**Pn**	**17 31 20.6**	**+2.0**
TAVA	**DENIZLI_Tavas**	**3.03**	**37**	P	**Pn**	**17 31 18.8**	**0.0**
TAVA				S	**Sb**	**17 31 59.2**	**-2.6**
TAVA				*i* AML	AML	17 32 19.0	
	comp=E,24nm,0.6s						
ESEN	**Aydn-Nazilli**	**3.07**	**26**	P	**Pn**	**17 31 21.2**	**+2.0**
DNIZ	**Denizli-Tavas-**	**3.22**	**36**	P	**Pn**	**17 31 22.8**	**+1.5**
DNIZ				*i* AML	AML	17 32 15.0	
	comp=N,52nm,0.5s						
DNIZ				*i* AML	AML	17 32 30.0	
	comp=E,68nm,0.4s						
GOLH	**Golhisar**	**3.22**	**46**	P	**Pn**	**17 31 22.2**	**+0.9**
GOLH				*i* AML	AML	17 32 22.0	
	comp=E,45nm,1.0s						
GOLH				*i* AML	AML	17 32 24.0	
	comp=N,22nm,0.6s						
IZMR	**zmir-demi**	**3.25**	**19**	P	**Pn**	**17 31 21.8**	**+0.1**
KIRA	**zmir-Kiraz**	**3.44**	**24**	P	**Pn**	**17 31 24.3**	**-0.2**
BRTR	**Keskin Array B**	**7.26**	**48**	Pn	**Pn**	**17 32 19.9**	**+2.9**
	0.1nm,0.3s,baz=229,slow=14,SNR=1.9 0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**31.36**	**232**	P	**P**	**17 36 51.5**	**-0.4**
	0.4nm,0.5s,baz=38,slow=9.5,SNR=2.6 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**40.25**	**51**	P	**P**	**17 38 07.1**	**-0.6**
	0.8nm,0.6s,baz=277,slow=8.9,SNR=8.4 0.8nm,0.6s						
MKAR	**Makanchi Array**	**42.82**	**57**	P	**P**	**17 38 28.6**	**-0.4**
	0.5nm,0.5s,baz=272,slow=8.6,SNR=9.1 0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**44.20**	**46**	P	**P**	**17 38 38.5**	**-1.5**
	0.8nm,0.4s,baz=264,slow=9.9,SNR=5.6 0.8nm,0.4s						

*VIE **19** 17:32:00.9±0.2,47°.29N×10°.71E, h8km±3km, mb1.5/8, ml2.3/16, Error ellipse: s-maj=1.2km s-min=0.9km az=177.0 5 km NNW of Imst*
*BGR **19** 17:32:01.9±0.4,47°.31N×10°.74E, h5km, ML2.0/9, Error ellipse: s-maj=7.8km s-min=3.3km az=0.0*
*BUG **19** 17:32:02.1±0.7,47°.29N×10°.70E, h8km±3km, MD3.5/7, ML2.9/13*
*PRU **19** 17:32:02.3,47°.39N×10°.70E, h1km, Imst*
ISC 19 17:32:01.5±1.0,**47°.30N**±0°.03×**10°.70E**±0°.02,**h5**km±9km, **n42**,σ0§**79**/70,**Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RETA	**Reutte**	**0.19**	**12**	*e*Pg	**Pg**	**17 32 04.9**	**-0.4**
	10nm,0.1s,SNR=62						
RETA				*i* Sg	**Sg**	**17 32 07.8**	**-0.1**
	256nm,0.2s						
MOTA	**Moosalm**	**0.28**	**80**	*e*Pg	**Pg**	**17 32 06.3**	**-0.6**
	14nm,0.1s,SNR=43						
MOTA				*i* Sg	**Sg**	**17 32 10.5**	**-0.1**
	81nm,0.1s						
FETA	**Feichten**	**0.28**	**176**	*i* Pg	**Pg**	**17 32 06.7**	**-0.2**
	6.8nm,0.0s,SNR=62						
FETA				*i* Sg	**Sg**	**17 32 10.9**	**+0.3**
	33nm,0.1s						
OBER	**Oberstdorf**	**0.30**	**291**	*e*Pg	**Pg**	**17 32 06.9**	**-0.4**
PART	**Garmisch-Parte**	**0.34**	**54**	*e*Pg	**Pg**	**17 32 07.4**	**-0.7**
SQTA	**Sankt Quirin**	**0.35**	**103**	*i* Pg	**Pg**	**17 32 07.9**	**-0.4**
	18nm,0.1s,SNR=56						
SQTA				*i* Sg	**Sg**	**17 32 13.0**	**0.0**
	15nm,0.1s						
UBR	**Ueberruh**	**0.56**	**314**	*e*Pg	**Pg**	**17 32 12.5**	**+0.3**
UBR				*e*Sg	**Sb**	**17 32 21.2**	**-0.9**
DAVA	**Damuels**	**0.56**	**269**	*e*Pg	**Pg**	**17 32 11.7**	**-0.5**
	3.4nm,0.1s,SNR=9.4						
DAVA				*i* Sg	**Sg**	**17 32 19.0**	**-0.5**
	40nm,0.2s						
DAVA	**Damuels**	**0.56**	**269**	*e*Pg	**Pg**	**17 32 11.7**	**-0.5**
WATA	**Walderalm**	**0.60**	**86**	*i* Pg	**Pg**	**17 32 11.7**	**-1.2**
	1.7nm,0.1s						
WATA				*e*Sg	**Sg**	**17 32 20.5**	**-0.2**
	29nm,0.2s						
WTTA	**Wattenberg**	**0.64**	**93**	*e*Pg	**Pg**	**17 32 13.1**	**-0.6**
	2.7nm,0.1s,SNR=7.9						
WTTA				*i* Sg	**Sg**	**17 32 22.7**	**+0.7**
	11nm,0.2s,SNR=7.7						
WTTA	**Wattenberg**	**0.64**	**93**	*e*Pg	**Pg**	**17 32 13.1**	**-0.6**
A107C	**Memmingen - Ei**	**0.80**	**335**	Pg	**Pg**	**17 32 17.0**	**+0.2**
A107C				Sg	**Sb**	**17 32 28.7**	**-0.3**
PLONS	**Plons/SG**	**0.94**	**255**	*e*Pg	**Pn**	**17 32 21.8**	**+0.4**
FUR	**Furstenfeldbru**	**0.95**	**24**	Pg	**Pb**	**17 32 20.7**	**+0.2**
FUR				Sg	**Sb**	**17 32 33.2**	**-0.2**
A104A	**Biberach, Staf**	**1.02**	**319**	Pg	**Pg**	**17 32 21.5**	**+0.5**
A104A				Sg	**Sb**	**17 32 35.5**	**+0.2**
A104C	**Biberach, Ahle**	**1.09**	**320**	Sg	**Sn**	**17 32 38.4**	**-0.5**
A108A	**Ulm, Ringingen**	**1.20**	**331**	Pg	**Pb**	**17 32 24.4**	**-0.4**
A108A				Sg	**Sn**	**17 32 41.3**	**-0.4**
WILA	**Wila**	**1.23**	**276**	*e*Pg	**Pb**	**17 32 25.5**	**+0.4**
WILA				*e*Sg	**Sb**	**17 32 41.8**	**+0.5**
A102A	**Sigmaringen, J**	**1.32**	**310**	Pg	**Pn**	**17 32 26.6**	**0.0**
A102A				Sg	**Sn**	**17 32 44.9**	**+0.3**
LESA	**Schwarzleotal**	**1.35**	**84**	*e*Pg	**Pn**	**17 32 27.3**	**+0.3**
	2.3nm,0.2s						
LESA				*e*Sg	**Sn**	**17 32 46.4**	**+1.0**
	11nm,0.2s						
ABTA	**Abfaltersbach**	**1.36**	**113**	*i* Pg	**Pn**	**17 32 26.3**	**-0.9**
	1.1nm,0.1s						
ABTA				*e*Sg	**Sb**	**17 32 45.1**	**0.0**
	4.5nm,0.2s						
A109A	**Bad Urach, See**	**1.42**	**324**	Pn	**Pn**	**17 32 28.1**	**+0.1**
A109A				Sn	**Sg**	**17 32 47.9**	**+0.8**
NORI	**Noerdlinger Ri**	**1.42**	**358**	*e*Pg	**Pn**	**17 32 28.4**	**+0.4**
SLE	**Schleitheim**	**1.57**	**288**	*e*Pn	**Pb**	**17 32 31.4**	**+0.4**
SLE				*e*Sg	**Sg**	**17 32 52.1**	**+0.3**
A106B	**Goeppingen, Ma**	**1.60**	**336**	Pn	**Pb**	**17 32 31.1**	**+0.7**
A106B				Sn	**Sb**	**17 32 52.3**	**+0.3**
A100A	**Rottenburg, We**	**1.66**	**315**	Pn	**Pb**	**17 32 32.8**	**+0.2**
A100A				Sn	**Sb**	**17 32 54.5**	**+0.6**
A101B	**Rottweil, Deis**	**1.67**	**300**	Pn	**Pb**	**17 32 33.0**	**+0.3**
A101B				Sn	**Sn**	**17 32 51.2**	**-2.1**
SULZ	**Cheisacher**	**1.77**	**278**	*e*Sg	**Sg**	**17 32 58.4**	**-0.1**
KBA	**Koelnbreinsper**	**1.82**	**96**	*e*Pg	**Pb**	**17 32 35.8**	**+0.5**
	2.8nm,0.3s						
KBA				*e*Sg	**Sg**	**17 33 01.2**	**+1.4**
	8.9nm,0.3s						
KBA	**Koelnbreinsper**	**1.82**	**96**	*e*Pg	**Pb**	**17 32 35.9**	**+0.6**
BFO	**Black Forest**	**1.90**	**304**	Pn	**Pn**	**17 32 34.0**	**-0.6**
BFO				*e*Pg	**Pg**	**17 32 37.8**	**-0.1**
BFO				Sn	**Sn**	**17 32 56.6**	**-2.4**
BIOA	**Bad Ischl, Aus**	**2.03**	**78**	*e*Pg	**Pb**	**17 32 39.6**	**+0.7**
	2.2nm,0.2s						
BIOA				*e*Sg	**Sg**	**17 33 07.8**	**+1.1**
	15nm,0.3s						
BALST	**Balsthal**	**2.05**	**272**	*e*Sg	**Sb**	**17 33 06.6**	**+1.6**
MYKA	**Terra Mystica**	**2.12**	**107**	*e*Sg	**Sg**	**17 33 10.4**	**+0.8**
	2.6nm,0.3s						
WET	**Wettzell**	**2.35**	**37**	*e*Pn	**Pn**	**17 32 40.0**	**-0.8**
MOA	**Molln**	**2.48**	**76**	Pn	**Pn**	**17 32 42.9**	**+0.4**
	0.3nm,0.1s						
MOA				*e*Sg	**Sg**	**17 33 20.4**	**-0.5**
	4.7nm,0.2s						
KHC	**Kasperske Hory**	**2.66**	**45**	*e*PG	**Pb**	**17 32 49.3**	**-0.3**
KHC				*e*SN	**Sn**	**17 33 16.9**	**-0.7**
KHC				*e*SG	**Sb**	**17 33 24.4**	**+1.9**
CKRC	**Cesky Krumlov**	**2.86**	**57**	*e*SG	**Sg**	**17 33 32.0**	**-1.3**
TNS	**Taunus Mts**	**3.28**	**334**	Pn	**Pn**	**17 32 53.3**	**-0.3**
CONA	**Conrad Observa**	**3.55**	**78**	*e*Sg	**Sg**	**17 33 55.3**	**-0.1**
	0.5nm,0.1s						
CLL	**Collm**	**4.29**	**20**	*e*Sg	**Sg**	**17 34 21.0**	**+2.0**

IDC 19 17:33:06.4±2.5,**20°.99S**×**176°.95W**,**h0**km,**mb3.6**/4, **mbtmp3.6**/4,**Error ellipse: s-maj=153.7km s-min=30.3km az=155.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.37**	**257**	P	P	17 41 27.6	+0.6
	1.2nm,0.5s,baz=90,slow=9.2,SNR=41 1.2nm,0.5s						
WRA	**Warramunga Arr**	**45.51**	**262**	P	P	17 41 26.5	-1.6
	0.2nm,0.6s,baz=97,slow=7.6,SNR=5.6 0.2nm,0.6s						
TXAR	**Lajitas Array**	**86.49**	**57**	P	P	17 45 50.3	-1.3
	0.5nm,0.9s,baz=238,slow=7.0,SNR=3.8 0.5nm,0.9s						
ILAR	**Eielson Array**	**88.58**	**12**	P	P	17 46 01.8	+1.2
	0.5nm,1.1s,baz=224,slow=7.1,SNR=1.4 0.5nm,1.1s						
FINES	**FINESS Array B**	**136.51**	**344**	PKP	PKiKP	17 52 31.0	-0.6
	1.1nm,0.7s,baz=54,slow=3.3,SNR=5.4						

*STR **19** 17:39:38.8±1.6,46°.N±7°×1°.4E±1°.2, h5km, MLv4.4/27, Error ellipse: s-maj=0.0km s-min=0.0km az=93.5, preliminary*
*BEO **19** 17:39:41.6±2.2,46°.66N×12°.43E, h69km±5km, ML3.6/10*
*VIE **19** 17:39:42.7±0.1,46°.43N×13°.04E, h14km, mb3.4/21, ml4.1/21, Error ellipse: s-maj=1.1km s-min=0.7km az=13.0 3 km NE of Tolmezzo*
*IDC **19** 17:39:43.3±2.1,46°.44N×13°.00E, h0km, mbtmp3.5/7, ML3.3/6, Error ellipse: s-maj=23.0km s-min=12.3km az=158.0*
*ROM **19** 17:39:43.5±0.1,46°.420N±0°.004×13°.056E±0°.006, h9km, ML3.9/87, Error ellipse: s-maj=0.5km s-min=0.3km az=21.0*
*RHSSO **19** 17:39:44.6±0.6,46°.47N×13°.11E, h10km±2km, ML3.8/17*
*LDG **19** 17:39:45.2±0.2,46°.42N×13°.03E, h9km, Ml3.7/33, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*BGR **19** 17:39:45.9±0.4,46°.48N×13°.04E, h5km, ML3.8/20, Error ellipse: s-maj=10.0km s-min=4.4km az=2.0*
*PRU **19** 17:39:45.8,46°.52N×13°.07E, h10km*
*BNS **19** 17:39:51.3±0.7,46°.83N×13°.20E, h30km, ML3.8*
ISC 19 17:39:43.6±0.6,**46°.43N**±0°.01×**13°.04E**±0°.01,**h16**km±3km, **n359**,σ1§**63**/486,**14C-42D**,**Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSE	**Fusea**	**0.03**	**239**	⇑*e*Pg	**Pg**	**17 39 45.7**	**-0.8**
FUSE				*e*Sg	**Sg**	**17 39 47.2**	**-1.2**
FUSE	**Fusea**	**0.03**	**239**	⇑P	**Pg**	**17 39 45.7**	**-0.8**
FUSE				S	**Sg**	**17 39 47.2**	**-1.2**
CLUD	**Cludinico**	**0.11**	**283**	⇓*e*Pg	**Pg**	**17 39 46.6**	**-0.7**
CLUD				*e*Sg	**Sg**	**17 39 48.7**	**-0.9**
CLUD	**Cludinico**	**0.11**	**283**	⇓P	**Pg**	**17 39 46.6**	**-0.7**
CLUD				S	**Sg**	**17 39 48.8**	**-0.9**
CLUD				AML	AML		
	comp=E,51050µm,0.4s						
CLUD				AML	AML		
	comp=E,51950µm,0.4s						
CLUD				AML	AML		
	comp=N,39750µm,0.4s						
CLUD				AML	AML		
	comp=E,51950µm,1.6s						
CLUD				AML	AML		
	comp=E,51050µm,1.6s						
CLUD				AML	AML		
	comp=N,40000µm,0.4s						
CLUD				AML	AML		
	comp=E,51023µm,0.4s						
CLUD				AML	AML		
	comp=E,51926µm,0.4s						
CLUD				AML	AML		
	comp=N,39953µm,0.4s						
CLUD				AML	AML		
	comp=N,39709µm,0.4s						
BOO	**Bordano**	**0.12**	**160**	⇑*e*Pg	**Pg**	**17 39 46.7**	**-0.5**
BOO				*e*Sg	**Sg**	**17 39 49.1**	**-0.5**
BOO	**Bordano**	**0.12**	**160**	⇑P	**Pg**	**17 39 46.7**	**-0.5**
BOO				S	**Sg**	**17 39 49.1**	**-0.5**
ZOU	**Zoufplan**	**0.13**	**339**	⇓*e*Pg	**Pg**	**17 39 47.2**	**-0.4**
ZOU				*e*Sg	**Sg**	**17 39 49.6**	**-0.7**
ZOU	**Zoufplan**	**0.13**	**339**	⇓P	**Pg**	**17 39 47.2**	**-0.4**
ZOU				S	**Sg**	**17 39 49.9**	**-0.4**
ZOU				AML	AML		
	comp=E,97000µm,1.3s						
ZOU				AML	AML		
	comp=N,73650µm,1.1s						
ZOU				AML	AML		
	comp=N,73650µm,1.1s						
ZOU				AML	AML		
	comp=E,96450µm,1.3s						
ZOU				AML	AML		
	comp=N,73650µm,0.9s						
ZOU				AML	AML		
	comp=N,73650µm,0.9s						
ZOU				AML	AML		
	comp=E,79205µm,0.2s						
ZOU				AML	AML		
	comp=N,79903µm,0.2s						
ZOU				AML	AML		
	comp=N,69751µm,0.2s						
ZOU				AML	AML		
	comp=N,70812µm,0.5s						
PLRO	**Paularo**	**0.14**	**32**	⇑*e*Pg	**Pg**	**17 39 47.3**	**-0.4**
PLRO				*e*Sg	**Sg**	**17 39 50.0**	**-0.3**
PLRO	**Paularo**	**0.14**	**32**	⇑P	**Pg**	**17 39 47.3**	**-0.4**
PLRO				S	**Sg**	**17 39 50.0**	**-0.3**
GEPF	**Gemona**	**0.17**	**157**	⇑P	**Pg**	**17 39 47.4**	**-0.5**
GEPF				S	**Sg**	**17 39 50.5**	**-0.2**
GEPF				AML	AML		
	comp=E,31900µm,0.4s						
GEPF				AML	AML		
	comp=N,63750µm,0.6s						
GEPF				AML	AML		
	comp=N,62067µm,0.3s						
GEPF				AML	AML		
	comp=E,31895µm,0.4s						
MPRI	**Monte Prat**	**0.19**	**191**	⇑*e*Pg	**Pg**	**17 39 47.8**	**-0.5**
MPRI				*e*Sg	**Sg**	**17 39 51.1**	**-0.3**
MPRI	**Monte Prat**	**0.19**	**191**	⇑P	**Pg**	**17 39 47.8**	**-0.5**
MPRI				S	**Sg**	**17 39 51.2**	**-0.3**
MPRI				AML	AML		
	comp=N,60100µm,0.5s						
MPRI				AML	AML		
	comp=E,37550µm,0.3s						
MPRI				AML	AML		
	comp=E,47900µm,0.3s						
MPRI				AML	AML		
	comp=N,46550µm,0.6s						
MPRI				AML	AML		
	comp=E,30912µm,0.1s						
MPRI				AML	AML		
	comp=E,39678µm,0.2s						
MPRI				AML	AML		
	comp=N,58980µm,0.4s						
MPRI				AML	AML		
	comp=N,46042µm,0.4s						
PTCC	**Patocco-Chiusa**	**0.22**	**97**	⇑P	**Pg**	**17 39 48.4**	**-0.3**
PTCC				S	**Sg**	**17 39 52.1**	**+0.1**
PTCC				AML	AML		
	comp=E,60300µm,0.4s						
PTCC				AML	AML		
	comp=N,97600µm,0.3s						
PTCC				AML	AML		
	comp=N,97564µm,0.3s						
BUA	**Buia**	**0.22**	**165**	⇑*e*Pg	**Pg**	**17 39 48.2**	**-0.5**
BUA				*e*Sg	**Sg**	**17 39 51.9**	**-0.2**
BAD	**Bernadia**	**0.24**	**144**	⇓*e*Pg	**Pg**	**17 39 48.5**	**-0.4**
BAD				*e*Sg	**Sg**	**17 39 52.8**	**+0.1**
BAD	**Bernadia**	**0.24**	**144**	P	**Pg**	**17 39 48.6**	**-0.4**
BAD				S	**Sg**	**17 39 52.6**	**0.0**
VINO	**Villanova**	**0.24**	**137**	⇓*e*Pg	**Pg**	**17 39 48.5**	**-0.5**
VINO				*e*Sg	**Sg**	**17 39 52.7**	**0.0**
VINO	**Villanova**	**0.24**	**137**	P	**Pg**	**17 39 48.5**	**-0.5**
VINO				S	**Sg**	**17 39 52.9**	**+0.2**
VINO				AML	AML		
	comp=E,52100µm,0.2s						
VINO				AML	AML		
	comp=N,31250µm,0.7s						
VINO				AML	AML		
	comp=E,52102µm,0.2s						
VINO				AML	AML		
	comp=N,30371µm,0.4s						
CSMI

STAL AML AML
comp=N,28498µm,0.2s
STAL AML AML
comp=E,23984µm,0.2s
STAL AML AML
comp=N,26078µm,0.2s
STAL AML AML
comp=E,17500µm,0.2s
ACOM Acomizza, Ital 0.34 70⇑ *e*Pg **Pg 17 39 50.8 -0.1**
ACOM *e*Sg **Sg 17 39 56.1 +0.3**
ACOM Acomizza, Ital 0.34 70 P **Pg 17 39 50.9 -0.1**
ACOM S **Sg 17 39 56.7 +0.8**
ACOM AML AML
comp=N,92300µm,0.5s
ACOM AML AML
comp=N,91800µm,0.5s
ACOM AML AML
comp=E,96700µm,0.3s
ACOM AML AML
comp=E,95500µm,0.3s
ACOM AML AML
comp=E,95500µm,1.7s
ACOM AML AML
comp=E,96700µm,1.7s
ACOM AML AML
comp=E,96659µm,0.3s
ACOM AML AML
comp=E,95276µm,0.3s
ACOM AML AML
comp=N,92300µm,0.5s
ACOM AML AML
comp=N,91795µm,0.5s
PRED Cave del Predi 0.36 88⇓ *e*Pg **Pg 17 39 50.7 -0.4**
PRED *e*Sg **Sg 17 39 56.2 0.0**
PRED Cave del Predi 0.36 88 ⇓P **Pg 17 39 50.7 -0.4**
PRED S **Sg 17 39 56.5 +0.3**
ROBS Robic 0.37 120⇓ *i* Pg **Pg 17 39 50.5 -0.8**
ROBS *e*Sg **Sg 17 39 56.1 -0.4**
COLI Coloredo 0.38 142⇑ *e*Pg **Pg 17 39 50.8 -0.6**
COLI *e*Sg **Sg 17 39 57.2 +0.6**
MLNI Malnisio 0.41 227 *e*Pg **Pg 17 39 51.4 -0.6**
CIMO Cimolais 0.43 254⇓ *e*Pg **Pg 17 39 51.4 -1.0**
CIMO *e*Sg **Sg 17 39 57.8 -0.5**
CIMO Cimolais 0.43 254 P **Pg 17 39 51.2 -1.2**
CIMO S **Sg 17 39 57.6 -0.8**
CIMO AML AML
comp=E,5230µm,1.1s
CIMO AML AML
comp=N,9655µm,0.5s
CIMO AML AML
comp=E,5230µm,1.1s
CIMO AML AML
comp=N,9680µm,0.4s
CIMO AML AML
comp=N,9660µm,0.5s
CIMO AML AML
comp=E,5230µm,0.9s
CIMO AML AML
comp=E,5230µm,0.9s
MYKA Terra Mystica 0.46 64 *i* Pg **Pg 17 39 52.7 -0.1**
comp=E,150nm,0.2s,SNR=162
MYKA *e*Sg **Sg 17 39 59.3 +0.2**
comp=E,959nm,0.2s
ABTA Abfaltersbach 0.48 311 *e*Pg **Pg 17 39 53.0 -0.3**
comp=E,190nm,0.1s,SNR=379
ABTA *e*Sg **Sg 17 39 59.5 -0.3**
comp=E,2µm,0.2s
DRE Drenchia 0.49 122⇓ *e*Pg **Pg 17 39 52.5 -0.9**
DRE *e*Sg **Sg 17 40 00.5 +0.5**
DRE Drenchia 0.49 122 P **Pg 17 39 52.5 -0.9**
DRE S **Sg 17 40 00.5 +0.5**
TLI Talmassons 0.51 175 *e*Pg **Pg 17 39 53.4 -0.3**
CADS Cadrg 0.52 113 *i* Pg **Pg 17 39 52.9 -1.1**
CADS IAML 17 40 03.6
comp=Z,2µm,0.1s
APGO Alpago 0.55 240 *e*Pg **Pg 17 39 53.8 -0.7**
POLC Polcenigo 0.55 223 P **Pg 17 39 54.3 -0.2**
POLC AML AML
comp=E,9960µm,0.9s
POLC AML AML
comp=N,11605µm,0.9s
POLC AML AML
comp=E,9960µm,1.1s
POLC AML AML
comp=N,11601µm,0.9s
POLC AML AML
comp=E,8592µm,0.4s
SABO M.te Sabotino 0.59 139 *e*Pg **Pg 17 39 54.6 -0.7**
SABO *e*Sg **Sg 17 40 04.3 +1.0**
SABO M.te Sabotino 0.59 139 P **Pg 17 39 54.7 -0.6**
SABO S **Sg 17 40 03.5 +0.2**
SABO AML AML
comp=E,18150µm,0.7s
SABO AML AML
comp=N,17550µm,0.7s
SABO AML AML
comp=N,63250µm,0.7s
SABO AML AML
comp=E,76750µm,0.5s
SABO AML AML
comp=E,18150µm,1.3s
SABO AML AML
comp=E,76759µm,0.5s
SABO AML AML
comp=E,18139µm,0.7s
SABO AML AML
comp=N,17575µm,0.7s
SABO AML AML
comp=N,63212µm,0.7s
CAE Caneva 0.60 225⇓ *e*Pg **Pg 17 39 54.8 -0.7**
CAE *e*Sg **Sg 17 40 04.6 +1.2**
CAE Caneva 0.60 225 P **Pg 17 39 54.7 -0.7**
CAE S **Sg 17 40 03.4 0.0**
FRE8 Fregona 0.63 229 P **Pg 17 39 55.5 -0.5**
GORS Gorjuse 0.67 99 *i* Pg **Pg 17 39 55.6 -1.1**
GORS *i* 17 39 56.2
GORS *e*Sg **Sg 17 40 06.4 +0.8**
GORS IAML 17 40 08.5
comp=Z,1µm,0.1s
KBA Koelnbreinsper 0.68 18 *i* Pg **Pg 17 39 57.0 0.0**
comp=Z,49nm,0.2s,SNR=90
KBA *e*Sg **Sg 17 40 06.1 +0.1**
comp=Z,1µm,0.2s
KBA Koelnbreinsper 0.68 18 *e*Pg **Pg 17 39 57.0 0.0**
AGOR Agordo 0.70 258 *e*Pg **Pg 17 39 57.1 -0.3**
AGOR Agordo 0.70 258 P **Pg 17 39 57.0 -0.4**
AGOR S **Sg 17 40 07.0 +0.3**
AGOR AML AML
comp=E,10145µm,0.8s
AGOR AML AML
comp=N,11700µm,1.5s
AGOR AML AML
comp=N,14850µm,0.4s
AGOR AML AML
comp=E,7980µm,0.8s
AGOR AML AML
comp=N,14850µm,0.4s
AGOR AML AML
comp=E,7980µm,1.2s
AGOR AML AML
comp=E,10145µm,1.2s
AGOR AML AML
comp=E,7752µm,0.4s
AGOR AML AML
comp=N,11700µm,0.5s
AGOR AML AML
comp=N,14863µm,0.4s
AGOR AML AML
comp=E,10128µm,0.5s
VOJS Vojsko 0.71 124 *i* Pg **Pg 17 39 56.0 -1.5**
VOJS *i* 17 39 56.4
VOJS *i* 17 39 56.8
VOJS IAML 17 40 11.3
comp=Z,2µm,0.3s
FAU Forcella Aurin 0.76 255 *e*Pg **Pg 17 39 57.6 -0.9**
VARN Col Varnada, M 0.79 236 *e*Pg **Pg 17 39 57.7 -1.3**
VARN Col Varnada, M 0.79 236 P **Pg 17 39 58.0 -0.9**
VARN AML AML
comp=E,6780µm,0.5s
VARN AML AML
comp=E,6690µm,0.5s
VARN AML AML
comp=N,5035µm,0.5s
VARN AML AML
comp=E,6775µm,0.5s
VARN AML AML
comp=N,5090µm,0.5s
VARN AML AML
comp=E,6599µm,0.5s
VARN AML AML
comp=E,6646µm,0.5s
VARN AML AML
comp=N,5035µm,0.5s
VARN AML AML
comp=N,5091µm,0.5s
ED06 Collalto TV 0.82 226 *e*Pg **Pg 17 39 59.1 -0.3**
A301A Isiata (VE) 0.86 200 P **Pg 17 40 01.0 +0.6**
TRI Trieste 0.88 145 *e*Pg **Pg 17 39 58.0 -2.7**
TRI Trieste 0.88 145 P **Pg 17 40 00.4 -0.3**
TRI AML AML
comp=E,3845µm,0.7s
TRI AML AML
comp=N,1815µm,0.7s
TRI AML AML
comp=N,1815µm,1.3s
TRI AML AML
comp=E,3845µm,1.3s
TRI AML AML
comp=N,1533µm,0.4s
TRI AML AML
comp=E,3811µm,0.4s
JAVS Javornik 0.89 127 *i* Pg **Pg 17 39 59.1 -1.9**
JAVS *e*Sg **Sg 17 40 13.4 +0.7**
JAVS IAML 17 40 19.2
comp=Z,913nm,0.4s
CRND Cornuda 0.90 229 P **Pg 17 40 01.2 +0.2**
MTLO Montello 0.90 227 *e*Pg **Pg 17 40 00.7 -0.5**
CRNS Crni Vrh 0.92 112 *i* Pg **Pg 17 39 59.6 -1.8**
CRNS IAML 17 40 22.1
comp=Z,443nm,0.2s
BRES Bressanone 0.94 287 AML AML
comp=E,4720µm,0.3s
BRES AML AML
comp=N,3665µm,0.9s
MOZS Mozjanca 0.98 98 *e*Pg **Pg 17 40 01.5 -1.1**
MOZS IAML 17 40 23.6
comp=Z,372nm,0.3s
ASOL Asolo 1.01 232 P **Pg 17 40 03.5 +0.3**
CGRP Cima Grappa 1.02 238 P **Pg 17 40 02.4 -1.1**
CGRP AML AML
comp=E,5270µm,0.4s
CGRP AML AML
comp=N,4585µm,0.7s
CGRP AML AML
comp=E,5340µm,0.4s
CGRP AML AML
comp=N,4620µm,0.7s
CGRP AML AML
comp=N,4585µm,0.7s
CGRP AML AML
comp=N,4622µm,0.7s
CGRP AML AML
comp=E,5342µm,0.4s
CGRP AML AML
comp=E,5268µm,0.5s
LESA Schwarzleotal 1.02 346 *i* Pg **Pg 17 40 03.2 -0.3**
comp=E,236nm,0.2s
LESA *e*Sg **Sg 17 40 16.7 -0.2**
comp=E,827nm,0.2s
ZIAN Ziano 1.04 262 ⇓P **Pg 17 40 03.2 -0.5**
CTI Castel Tesino 1.04 249 P **Pg 17 40 03.5 -0.2**
CTI AML AML
comp=E,10030µm,0.3s
CTI AML AML
comp=N,7745µm,0.5s
CTI AML AML
comp=E,10039µm,0.3s
CTI AML AML
comp=N,7313µm,0.3s
OBKA Obir 1.04 85 *e*Pg **Pg 17 40 03.0 -0.8**
comp=N,124nm,0.3s,SNR=72
OBKA Sg **Sg 17 40 18.0 +0.5**
comp=N,1µm,0.3s
OBKA Obir 1.04 85 *e*Pg **Pg 17 40 02.8 -1.0**
OBKA Obir 1.04 85 ⇓*i* Pg **Pg 17 40 02.7 -1.1**
OBKA *e*Sg **Sg 17 40 16.4 -1.1**
GBAS Gorenja Brezov 1.09 117 *e*Pg **Pb 17 40 02.2 -1.9**
GBAS *i* 17 40 05.5
GBAS *e*Sg **Sb 17 40 20.5 +2.3**
A302A Resana (TV) 1.09 223 P **Pb 17 40 05.5 +1.4**
LJU Ljubljana 1.10 110 *i* Pg **Pb 17 40 04.0 -0.3**
LJU *i* 17 40 05.8
LJU *e*Sg **Sg 17 40 20.2 +0.9**
LJU IAML 17 40 26.6
comp=Z,509nm,0.2s
LJU Ljubljana 1.10 110 AML AML
comp=N,25350µm,1.0s
LJU AML AML
comp=E,21050µm,0.8s
SKDS Skadanscina 1.11 142 *i* Pg **Pb 17 40 03.0 -1.6**
SKDS *i* 17 40 05.4
SKDS *i* 17 40 05.8
SKDS *e*Sg **Sb 17 40 19.6 +0.7**
SKDS Skadanscina 1.11 142 *e*Pg **Pb 17 40 05.3 +0.8**
SKDS *e*Sg **Sb 17 40 20.0 +1.2**
VENL Venezia Lido 1.12 205 P **Pb 17 40 05.8 +1.3**
CEY Cerknica 1.19 125 *i* Pg **Pb 17 40 04.5 -1.3**
CEY *i* 17 40 07.5
CEY *e*Sg **Sb 17 40 22.8 +1.9**
CEY IAML 17 40 25.8
comp=Z,2µm,0.5s
CEY Cerknica 1.19 125 *e*Pg **Pb 17 40 05.7 -0.1**
CEY *e*Sg **Sb 17 40 21.8 +0.9**
BOSI Bolzano 1.19 274 P **Pb 17 40 06.3 +0.5**
BOSI AML AML
comp=E,9210µm,1.2s
BOSI AML AML
comp=N,14150µm,0.5s
BOSI AML AML
comp=N,14150µm,1.5s
BOSI AML AML
comp=E,9210µm,0.8s
BOSI AML AML
comp=N,14147µm,0.5s
BOSI AML AML
comp=E,8802µm,0.6s
VNDS Vrh nad Dolski 1.20 105 *i* Pg **Pb 17 40 05.4 -0.6**
VNDS *i* 17 40 06.2
VNDS *i* 17 40 07.0
VNDS IAML 17 40 26.6
comp=Z,495nm,0.2s
A303A Lido-Pellestri 1.20 205 P **Pn 17 40 05.5 -0.2**
ROSI Rosskopf 1.23 294 P **Pb 17 40 06.3 -0.3**
ROSI AML AML
comp=N,3180µm,0.5s
ROSI AML AML
comp=E,4095µm,0.5s
ROSI AML AML
comp=E,4094µm,0.5s
ROSI AML AML
comp=N,3181µm,0.5s
PANI Panarotta 1.25 253 ⇓P **Pn 17 40 07.2 +0.7**
WTTA Wattenberg 1.27 311 *e*Pg **Pn 17 40 07.5 +0.5**
comp=N,356nm,0.3s,SNR=116
WTTA *e*Sg **Sb 17 40 23.9 +0.3**
comp=N,1µm,0.4s
WTTA Wattenberg 1.27 311 P **Pn 17 40 07.3 +0.3**
WTTA AML AML
comp=N,2480µm,0.3s
WTTA AML AML
comp=E,3570µm,0.6s
WTTA AML AML
comp=E,3571µm,0.6s
WTTA AML AML
comp=N,2481µm,0.3s
WTTA Wattenberg 1.27 311 *e*Pn **Pn 17 40 07.4 +0.5**
KNDS Knezji Dol 1.30 134 *i* Pg **Pn 17 40 06.5 -0.7**
KNDS *i* 17 40 08.9
KNDS *e*Sg **Sg 17 40 27.8 +2.2**
BIOA Bad Ischl, Aus 1.32 18 *e*Pg **Pb 17 40 08.9 +0.7**
comp=N,128nm,0.3s,SNR=119
BIOA *e*Sg **Sn 17 40 27.5 +2.6**
comp=N,739nm,0.4s
WATA Walderalm 1.35 313 *e*Pg **Pn 17 40 08.8 +0.8**
comp=N,213nm,0.5s,SNR=101
WATA *e*Sg **Sb 17 40 26.2 +0.4**
comp=N,263nm,0.2s
ZAVS Zavodnje 1.37 89 *i* Pn **Pn 17 40 08.9 +0.8**
ZAVS IAML 17 40 33.6
comp=Z,720nm,0.2s
OZOL Ozolo 1.38 270 ⇓P **Pn 17 40 09.4 +1.1**
SOKA Soboth 1.40 79 *e*Pg **Pn 17 40 09.2 +0.7**
comp=Z,129nm,0.4s,SNR=111
SOKA *e*Sg **Sg 17 40 28.8 +0.2**
comp=Z,340nm,0.3s
DOSS Dosso del Somm 1.40 248 P **Pn 17 40 09.8 +1.1**
DOSS AML AML
comp=E,7350µm,0.4s
DOSS AML AML
comp=N,8915µm,1.2s
DOSS AML AML
comp=E,9060µm,1.2s
DOSS AML AML
comp=N,7680µm,0.4s
DOSS AML AML
comp=E,9060µm,0.8s
DOSS AML AML
comp=N,8915µm,0.8s
DOSS AML AML
comp=E,7348µm,0.4s
DOSS AML AML
comp=N,7679µm,0.4s
DOSS AML AML
comp=E,8107µm,0.4s
DOSS AML AML
comp=N,7953µm,0.4s
PDKS Podkum 1.41 105 *i* Pn **Pn 17 40 09.2 +0.6**
PDKS *i* 17 40 10.7
PDKS IAML 17 40 40.5
comp=Z,420nm,0.4s
TEOL Teolo 1.44 222 P **Pn 17 40 10.0 +0.9**
TEOL AML AML
comp=N,7795µm,0.6s
TEOL AML AML
comp=N,7795µm,1.4s
TEOL AML AML
comp=E,11575µm,0.6s
TEOL AML AML
comp=N,7793µm,0.6s
TEOL AML AML
comp=E,11583µm,0.6s
PERS Pernice 1.45 81 *i* Pn **Pn 17 40 09.9 +0.8**
PERS IAML 17 40 34.1
comp=Z,539nm,0.3s
ZOVE Zovencedo 1.46 229 P **Pn 17 40 10.0 +0.7**
SQTA Sankt Quirin 1.49 303 *e*Pg **Pn 17 40 11.2 +1.4**
comp=Z,133nm,0.2s,SNR=140
SQTA *e*Sg **Sn 17 40 30.4 +1.4**
comp=Z,380nm,0.4s
GAGG Gaggia 1.49 257 P **Pn 17 40 10.0 +0.2**
GAGG AML AML
comp=N,5525µm,1.1s
GAGG AML AML
comp=E,5390µm,1.0s
GAGG AML AML
comp=N,5525µm,0.9s
GAGG AML AML
comp=E,5390µm,1.0s
GAGG AML AML
comp=N,4855µm,0.4s
GAGG AML AML
comp=E,5090µm,0.6s
GAGG AML AML
comp=N,5101µm,0.3s
GAGG AML AML
comp=E,5038µm,0.3s
GAGG AML AML
comp=N,4853µm,0.4s
GAGG AML AML
comp=E,5090µm,0.6s
GBRS Gornja Briga 1.53 126 *e*Pn **Pn 17 40 11.2 +1.0**
GBRS *i* 17 40 12.3
GBRS *i* Sn **Sb 17 40 33.3 +2.7**
GBRS *i* Sg **Sg 17 40 34.7 +1.9**
LUSI Trento, Gardas 1.53 253 P **Pn 17 40 11.8 +1.4**
LUSI AML AML
comp=E,3840µm,0.7s
LUSI AML AML
comp=N,6650µm,0.4s
LUSI AML AML
comp=E,3840µm,1.3s
LUSI AML AML
comp=E,3787µm,0.4s
LUSI AML AML
comp=N,6652µm,0.4s
ROVR Rover Verones 1.58 241 P **Pn 17 40 12.2 +1.0**
ROVR AML AML
comp=N,7225µm,0.3s
ROVR AML AML
comp=E,3890µm,1.0s
ROVR AML AML
comp=E,1470µm,1.0s
ROVR AML AML
comp=N,2910µm,0.3s
ROVR AML AML
comp=E,1165µm,0.5s
ROVR AML AML
comp=E,2893µm,0.3s
ROVR AML AML
comp=N,7222µm,0.3s
ROVR AML AML
comp=N,2909µm,0.3s
TREG Tregnago 1.60 236 P **Pn 17 40 13.1 +1.9**
BRJN Brijuni 1.60 162 P **Pn 17 40 11.9 +0.6**
VARA Varagna 1.61 249 P **Pn 17 40 12.9 +1.4**
VARA AML AML
comp=E,7530µm,0.5s
VARA AML AML
comp=N,6595µm,0.3s
VARA AML AML
comp=E,7534µm,0.5s
VARA AML AML
comp=N,6594µm,0.3s
MOTA Moosalm 1.61 305 *e*Pg **Pn 17 40 13.5 +1.9**
comp=N,295nm,0.5s,SNR=125
MOTA *e*Sg **Sb 17 40 35.2 +1.9**
comp=N,126nm,0.2s
CARE Lago del Cares 1.62 271 ⇑P **Pn 17 40 13.7 +1.9**
MOA Molln 1.65 30 *e*Pg **Pb 17 40 14.5 +0.9**
comp=N,42nm,0.2s,SNR=40
MOA *e*Sg **Sg 17 40 36.9 +0.3**
comp=N,406nm,0.4s
MOA Molln 1.65 30 *e*Pg **Pb 17 40 14.5 +0.9**
MOA *e*Sg **Sg 17 40 36.6 -0.1**
MOA *e*Sg **Sg 17 40 37.0 +0.3**
MOA Molln 1.65 30 *e*Pn **Pb 17 40 14.5 +0.9**
LEGS Legarje 1.65 106 *i* Pn **Pn 17 40 12.9 +0.9**
LEGS *e*Sn **Sb 17 40 35.8 +1.5**
LEGS *e*Sg **Sg 17 40 39.3 +2.5**
MBAL Monte Baldo - 1.69 245 P **Pn 17 40 13.5 +1.0**
FETA Feichten 1.70 291 *e*Pg **Pn 17 40 14.7 +2.0**
comp=N,147nm,0.3s,SNR=122
FETA *e*Sg **Sb 17 40 37.9 +2.1**
comp=N,287nm,0.5s
PART Garmisch-Parte 1.70 310 *e*Pn **Pb 17 40 16.0 +1.5**
GROS Grobnik 1.70 88 *i* Pn **Pn 17 40 13.8 +1.1**
GROS IAML 17 40 46.3
comp=Z,347nm,0.4s
DOBS Dobrina 1.71 99 *i* Pn **Pn 17 40 13.4 +0.6**
DOBS IAML 17 40 46.5
comp=Z,84nm,0.2s
BALD Monte Baldo 1.72 245 P **Pn 17 40 14.8 +1.7**
OPPE Oppeano 1.72 230 P **Pn 17 40 15.4 +2.5**
MOSI Grossmontoni 1.73 277 P **Pn 17 40 15.8 +2.6**
MOSI AML AML
comp=E,7205µm,0.9s
MOSI AML AML
comp=N,9885µm,0.4s
MOSI AML AML
comp=E,7205µm,1.1s
RONC Roncone 1.74 256 P **Pn 17 40 15.1 +1.7**
CESS Cesta pri Krsk 1.74 104 *e*Pn **Pn 17 40 13.9 +0.7**
CESS *e*Sn **Sb 17 40 38.9 +2.0**
CESS IAML 17 40 47.2
comp=Z,424nm,0.3s
CRES Cresnjev 1.79 109 *i* Pn **Pn 17 40 14.6 +0.8**
CRES IAML 17 40 45.2
comp=Z,261nm,0.3s
CRES Cresnjev 1.79 109 *e*Pn **Pn 17 40 14.5 +0.7**
CRES *e*Sn **Sn 17 40 36.9 +0.7**
MABI Malga Bissina 1.79 259 AML AML
comp=N,1760µm,1.0s
MABI AML AML
comp=E,1660µm,1.6s
MABI AML AML
comp=N,1760µm,1.0s
MABI AML AML
comp=E,1660µm,0.4s

BOJS	**Bojanci**	**1.80**	**120**	*i* Pn	**Pn**	**17 40 15.3**	**+1.3**
BOJS				IAML		17 40 44.1	
	comp=Z,360nm,0.3s						
BOJS	**Bojanci**	**1.80**	**120**	AML	AML		
	comp=N,3450μm,1.4s						
BOJS				AML	AML		
	comp=E,3670μm,0.5s						
BOJS				AML	AML		
	comp=N,3450μm,0.6s						
BOJS	**Bojanci**	**1.80**	**120** ⇓	*i* Pn	**Pn**	**17 40 15.3**	**+1.3**
BOJS				*e*Sn	**Sn**	**17 40 38.4**	**+1.9**
MAGA	**Magasa**	**1.80**	**250**	P	**Pn**	**17 40 14.9**	**+0.8**
MAGA				AML	AML		
	comp=N,5880μm,0.5s						
MAGA				AML	AML		
	comp=E,14050μm,0.6s						
MAGA				AML	AML		
	comp=N,5880μm,0.5s						
MAGA				AML	AML		
	comp=E,14050μm,0.6s						
GOLS	**Golise**	**1.84**	**102**	*i* Pn	**Pn**	**17 40 15.3**	**+0.7**
GOLS				*i*		17 40 18.1	
BRMO	**Bormio**	**1.85**	**272**	P	**Pn**	**17 40 16.5**	**+1.7**
BRMO				AML	AML		
	comp=E,1440μm,0.9s						
BRMO				AML	AML		
	comp=N,2000μm,0.9s						
BRMO				AML	AML		
	comp=N,2000μm,1.1s						
BRMO				AML	AML		
	comp=E,1440μm,1.1s						
BRMO				AML	AML		
	comp=N,2003μm,0.9s						
BRMO				AML	AML		
	comp=E,1441μm,0.9s						
SERM	**Sermide**	**1.88**	**221**	AML	AML		
	comp=E,972μm,1.3s						
SERM				AML	AML		
	comp=E,972μm,0.7s						
SERM				AML	AML		
	comp=N,1220μm,0.5s						
SERM				AML	AML		
	comp=E,1745μm,0.9s						
SERM				AML	AML		
	comp=N,1820μm,0.5s						
SERM				AML	AML		
	comp=N,1220μm,1.5s						
RETA	**Reutte**	**1.89**	**305**	*e*Pg	**Pb**	**17 40 18.6**	**+0.9**
	comp=N,206nm,0.4s,SNR=99						
RETA				*e*Sg	**Sg**	**17 40 44.5**	**+0.2**
	comp=N,366nm,0.4s						
ARSA	**Arzberg**	**1.89**	**63**	*e*Pg	**Pn**	**17 40 17.1**	**+1.8**
	comp=N,64nm,0.3s,SNR=56						
ARSA				*e*Sg	**Sg**	**17 40 44.7**	**+0.3**
	comp=N,120nm,0.4s						
ARSA	**Arzberg**	**1.89**	**63**	P	**Pn**	**17 40 16.7**	**+1.4**
ARSA				AML	AML		
	comp=E,420μm,0.8s						
ARSA				AML	AML		
	comp=E,420μm,0.8s						
ARSA				AML	AML		
	comp=N,524μm,1.4s						
ARSA	**Arzberg**	**1.89**	**63**	*e*Pn	**Pn**	**17 40 17.0**	**+1.8**
ARSA	**Arzberg**	**1.89**	**63**	*e*Pn	**Pn**	**17 40 16.0**	**+0.7**
ARSA				*e*Sn	**Sn**	**17 40 39.2**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**1.93**	**277**	AML	AML		
	comp=E,1495μm,0.5s						
FUORN				AML	AML		
	comp=N,1945μm,0.5s						
FUORN				AML	AML		
	comp=N,1945μm,1.5s						
SALO	**Salr**	**1.93**	**246**	P	**Pn**	**17 40 17.3**	**+1.4**
SALO				AML	AML		
	comp=E,2755μm,1.0s						
SALO				AML	AML		
	comp=N,2550μm,0.8s						
SALO				AML	AML		
	comp=E,2805μm,1.0s						
SALO				AML	AML		
	comp=N,2500μm,0.8s						
SALO				AML	AML		
	comp=E,2758μm,1.0s						
SALO				AML	AML		
	comp=E,2803μm,1.0s						
SALO				AML	AML		
	comp=N,2548μm,0.8s						
SALO				AML	AML		
	comp=N,2501μm,0.8s						
BERNI	**Berninapass**	**2.09**	**271**	AML	AML		
	comp=N,934μm,0.6s						
BERNI				AML	AML		
	comp=E,743μm,0.9s						
BERNI				AML	AML		
	comp=N,934μm,1.4s						
BERNI				AML	AML		
	comp=E,743μm,1.1s						
FUR	**Furstenfeldbru**	**2.11**	**326**	*e*Pn	**Pn**	**17 40 20.9**	**+2.6**
FUR				*e*Sg	**Sg**	**17 40 51.6**	**+0.1**
OBER	**Oberstdorf**	**2.12**	**298**	*e*Pn	**Pb**	**17 40 22.0**	**+0.2**
ZONE	**Zone**	**2.14**	**253**	AML	AML		
	comp=N,2055μm,0.4s						
ZONE				AML	AML		
	comp=E,343μm,1.2s						
ZONE				AML	AML		
	comp=N,502μm,0.4s						
ZONE				AML	AML		
	comp=E,1445μm,0.6s						
ZONE				AML	AML		
	comp=E,343μm,0.8s						
DAVOX	**Davos/Dischmat**	**2.21**	**280**	AML	AML		
	comp=E,948μm,0.5s						
DAVOX				AML	AML		
	comp=N,1225μm,0.5s						
DAVOX	**Davos/Dischmat**	**2.21**	**280**	Pn	**Pn**	**17 40 23.0**	**+3.2**
	comp=N,72nm,0.3s,baz=101,slow=12,SNR=218						
DAVOX				Lg	Lg	17 40 50.8	
	comp=N,53nm,0.3s,baz=192,slow=19,SNR=11						
	comp=N,156nm,0.3s						
KOGS	**Kog**	**2.22**	**88**	*i* Pn	**Pn**	**17 40 20.5**	**+0.7**
KOGS				*i*		17 40 25.6	
KOGS				IAML		17 41 03.7	
	comp=Z,268nm,0.5s						
KOGS	**Kog**	**2.22**	**88**	AML	AML		
	comp=E,8135μm,1.0s						
KOGS				AML	AML		
	comp=N,7390μm,1.2s						
KOGS				AML	AML		
	comp=N,7390μm,0.8s						
BRSN	**Barisano**	**2.25**	**198**	AML	AML		
	comp=E,1245μm,0.7s						
BRSN				AML	AML		
	comp=E,1410μm,0.9s						
BRSN				AML	AML		
	comp=N,1165μm,0.7s						
BRSN				AML	AML		
	comp=N,1165μm,1.3s						
BRSN				AML	AML		
	comp=N,1135μm,0.5s						
IMOL	**Imola, Italy**	**2.27**	**204**	AML	AML		
	comp=E,907μm,1.1s						
IMOL				AML	AML		
	comp=N,756μm,0.9s						
IMOL				AML	AML		
	comp=N,756μm,1.1s						
DAVA	**Damuels**	**2.33**	**293**	*e*Pn	**Pn**	**17 40 24.7**	**+3.2**
	comp=N,124nm,0.4s,SNR=68						
DAVA				*e*Sg	**Sg**	**17 40 58.6**	**0.0**
	comp=N,587nm,0.5s						
DAVA	**Damuels**	**2.33**	**293**	*e*Pn	**Pn**	**17 40 24.7**	**+3.2**
DAVA				*e*Sg	**Sg**	**17 40 58.3**	**-0.3**
UBR	**Ueberruh**	**2.36**	**303**	*e*Pn	**Pn**	**17 40 24.9**	**+3.1**
ORZI	**Orzinuovi**	**2.40**	**246**	AML	AML		
	comp=N,3340μm,1.3s						
ORZI				AML	AML		
	comp=E,2695μm,1.3s						
ORZI				AML	AML		
	comp=E,2695μm,0.7s						
ORZI				AML	AML		
	comp=N,3340μm,0.7s						
MDI	**Monti di Nese**	**2.41**	**255**	AML	AML		
	comp=E,882μm,0.9s						
MDI				AML	AML		
	comp=N,1810μm,0.7s						
MDI				AML	AML		
	comp=E,946μm,0.7s						
MDI				AML	AML		
	comp=N,1820μm,0.7s						
MDI				AML	AML		
	comp=N,1810μm,1.3s						
MDI				AML	AML		
	comp=N,1820μm,1.3s						
MDI				AML	AML		
	comp=E,946μm,1.3s						
CONA	**Conrad Observa**	**2.44**	**51**	*e*Pn	**Pn**	**17 40 24.9**	**+2.1**
	comp=E,32nm,0.3s,SNR=41						
CONA				Sn	**Sn**	**17 40 52.4**	**0.0**
	comp=E,54nm,0.4s						
GEC2	**GERESS Array S**	**2.46**	**10**	*e*Pn	**Pn**	**17 40 24.9**	**+1.8**
GERES	**GERESS Array B**	**2.46**	**10**	Pn	**Pn**	**17 40 25.1**	**+2.0**
	comp=E,16nm,0.3s,baz=188,slow=14,SNR=210						
GERES				Sn	**Sb**	**17 40 56.5**	**-1.0**
	comp=E,30nm,0.3s,baz=189,slow=24,SNR=6.3						
GERES				Lg	Lg	17 41 01.3	
	comp=E,67nm,0.3s,baz=193,slow=29,SNR=11						
	comp=E,42nm,0.4s						
LMD	**Lutirano**	**2.54**	**202**	AML	AML		
	comp=E,318μm,0.5s						
LMD				AML	AML		
	comp=E,318μm,1.5s						
LMD				AML	AML		
	comp=N,371μm,0.9s						
CKRC	**Cesky Krumlov**	**2.54**	**19**	*e*PN	**Pn**	**17 40 26.1**	**+1.9**
TUE	**Stuetta**	**2.56**	**272**	AML	AML		
	comp=E,520μm,0.6s						
TUE				AML	AML		
	comp=E,614μm,0.6s						
TUE				AML	AML		
	comp=N,626μm,0.5s						
TUE				AML	AML		
	comp=N,516μm,0.7s						
RONA	**Rosalia, Austr**	**2.56**	**59**	*e*Pn	**Pn**	**17 40 26.3**	**+1.8**
	comp=N,29nm,0.2s,SNR=21						
RONA				*e*Sn	**Sn**	**17 40 56.5**	**+1.2**
	comp=N,65nm,0.4s						
BEHE	**Becsehely**	**2.58**	**88**	*e*Pn	**Pn**	**17 40 25.4**	**+0.7**
BEHE				*e*Sn	**Sn**	**17 40 56.8**	**+1.0**
PLONS	**Plons/SG**	**2.59**	**285**	*e*Pn	**Pn**	**17 40 28.3**	**+3.3**
CPGN	**Carpegna, Ital**	**2.68**	**191**	AML	AML		
	comp=N,379μm,1.4s						
CPGN				AML	AML		
	comp=N,379μm,0.6s						
CPGN				AML	AML		
	comp=N,381μm,0.7s						
CPGN				AML	AML		
	comp=E,384μm,0.7s						
CPGN				AML	AML		
	comp=E,341μm,0.5s						
WET	**Wettzell**	**2.72**	**358**	*e*Pn	**Pn**	**17 40 28.1**	**+1.5**
KHC	**Kasperske Hory**	**2.73**	**7**	*e*PN	**Pn**	**17 40 28.7**	**+1.9**
KHC				*e*SN	**Sn**	**17 41 00.8**	**+1.4**
KHC				*e*SG	**Sg**	**17 41 09.8**	**-1.4**
	comp=E,360nm,0.6s						
FSSB	**Fossombrone**	**2.75**	**184**	AML	AML		
	comp=E,705μm,0.4s						
FSSB				AML	AML		
	comp=N,878μm,0.4s						
FSSB				AML	AML		
	comp=E,705μm,1.6s						
MOCL	**Monte Cuccoli**	**2.76**	**209**	AML	AML		
	comp=N,188μm,0.5s						
MOCL				AML	AML		
	comp=E,290μm,0.7s						
NORI	**Noerdlinger Ri**	**2.81**	**325**	*e*Pn	**Pn**	**17 40 29.6**	**+1.6**
PIEI	**Pieia**	**2.92**	**187**	AML	AML		
	comp=E,340μm,0.4s						
PIEI				AML	AML		
	comp=N,236μm,0.9s						
PIEI				AML	AML		
	comp=N,236μm,1.1s						
PRIJ	**Prijedor**	**2.96**	**118**	*e*Sn	**Sn**	**17 41 07.0**	**+2.0**
WILA	**Wila**	**3.00**	**291**	*e*Pn	**Pn**	**17 40 33.1**	**+2.5**
WILA				*e*Sg	**Sg**	**17 41 18.6**	**-1.4**
CARD	**Cardoso**	**3.01**	**218**	AML	AML		
	comp=E,217μm,1.3s						
CARD				AML	AML		
	comp=E,217μm,0.7s						
CARD				AML	AML		
	comp=N,338μm,0.8s						
FUSIO	**Fusio**	**3.03**	**272**	AML	AML		
	comp=E,572μm,1.1s						
FUSIO				AML	AML		
	comp=N,442μm,0.7s						
FUSIO				AML	AML		
	comp=E,572μm,0.9s						
A051A	**Mrakovica**	**3.06**	**116**	*e*Pn	**Pn**	**17 40 31.8**	**+0.5**
A051A				*e*Sn	**Sn**	**17 41 09.0**	**+1.4**
EL6	**Elcito**	**3.10**	**179**	AML	AML		
	comp=N,582μm,1.4s						
EL6				AML	AML		
	comp=E,458μm,0.4s						
EL6				AML	AML		
	comp=N,582μm,0.6s						
EL6				AML	AML		
	comp=E,458μm,1.6s						
ZVC	**Zvikov**	**3.11**	**14**	*e*PN	**Pn**	**17 40 34.1**	**+2.1**
ZVC				*e*SG	**Sg**	**17 41 21.9**	**-1.5**
A050A	**Klekovaca**	**3.13**	**127**	*e*Pn	**Pn**	**17 40 34.0**	**+1.6**
A050A				*e*Sn	**Sn**	**17 41 11.0**	**+1.4**
GUT	**Gutenstein**	**3.14**	**303**	P	**Pn**	**17 40 34.6**	**+2.2**
FOSV	**Fossato di Vic**	**3.14**	**184**	AML	AML		
	comp=E,250μm,0.9s						
FOSV				AML	AML		
	comp=N,188μm,1.1s						
ZUR	**Degenried**	**3.20**	**289**	P	**Pn**	**17 40 36.0**	**+2.8**
GORR	**Gorreto**	**3.21**	**237**	P	**Pn**	**17 40 35.1**	**+1.7**
GORR	**Gorreto**	**3.21**	**237**	S	**Sn**	**17 41 14.0**	**+2.7**
BNALP	**Bannalp**	**3.21**	**280**	AML	AML		
	comp=E,280μm,0.7s						
BNALP				AML	AML		
	comp=E,280μm,1.3s						
BNALP				AML	AML		
	comp=N,336μm,0.8s						
PII	**Pisa**	**3.24**	**214**	AML	AML		
	comp=E,273μm,0.7s						
PII				AML	AML		
	comp=N,278μm,1.1s						
PII				AML	AML		
	comp=N,278μm,0.9s						
ZST	**Bratislava**	**3.28**	**56**	*e*PN	**Pn**	**17 40 35.7**	**+1.4**
ZST				*e*PG	**Pg**	**17 40 45.8**	**-0.6**
ZST				*e*SG	**Sg**	**17 41 27.6**	**-1.3**
SARZ	**Sarezzano**	**3.29**	**243**	AML	AML		
	comp=E,972μm,0.6s						
SARZ				AML	AML		
	comp=N,930μm,1.0s						
SARZ				AML	AML		
	comp=N,931μm,1.0s						
SARZ				AML	AML		
	comp=E,928μm,0.6s						
TREC	**Trest**	**3.30**	**29**	*e*PN	**Pn**	**17 40 36.8**	**+2.1**
TREC				*e*SG	**Sg**	**17 41 27.3**	**-2.4**
	comp=E,83nm,0.3s						
BLY	**Banja Luka**	**3.36**	**119**	*e*Pn	**Pn**	**17 40 36.7**	**+1.3**
BLY				*e*Sn	**Sn**	**17 41 15.0**	**0.0**
BLY	**Banja Luka**	**3.36**	**119**	*e*Pn	**Pn**	**17 40 36.9**	**+1.5**
BLY				*e*Sn	**Sn**	**17 41 15.5**	**+0.5**
SLE	**Schleitheim**	**3.38**	**295**	P	**Pn**	**17 40 37.9**	**+2.1**
SLE	**Schleitheim**	**3.38**	**295**	*e*Pn	**Pn**	**17 40 37.9**	**+2.1**
SLE				*e*Sg	**Sg**	**17 41 30.3**	**-1.9**
ROTZ	**Rotzenmuhle**	**3.38**	**351**	*e*Pn	**Pn**	**17 40 36.7**	**+0.9**
CESI	**CESI - Serrava**	**3.43**	**182**	AML	AML		
	comp=E,249μm,1.0s						
CESI				AML	AML		
	comp=N,251μm,0.8s						
KRUC	**Moravsky**	**3.47**	**39**	*e*PN	**Pn**	**17 40 37.9**	**+0.9**
KRUC				*e*SG	**Sg**	**17 41 32.5**	**-2.5**
MODS	**Modra-Piesok**	**3.47**	**54**	*e*PN	**Pn**	**17 40 38.5**	**+1.5**
MODS				*e*PG	**Pg**	**17 40 49.0**	**-1.1**
MODS				*e*SG	**Sg**	**17 41 32.4**	**-2.6**
GRF	**Grafenberg Arr**	**3.48**	**340**	*e*Pn	**Pn**	**17 40 38.0**	**+0.9**
MGRS	**Mrkonjic Grad**	**3.49**	**124** ⇓	*i* Pn	**Pn**	**17 40 38.4**	**+1.2**
MGRS				*e*Sn	**Sn**	**17 41 19.3**	**+1.1**
STU	**Stuttgart**	**3.50**	**313**	*e*Pn	**Pn**	**17 40 39.3**	**+1.9**
SULZ	**Cheisacher**	**3.55**	**290**	P	**Pn**	**17 40 40.2**	**+2.1**
SULZ	**Cheisacher**	**3.55**	**290**	*e*Pn	**Pn**	**17 40 40.2**	**+2.1**
SULZ				*e*Sg	**Sg**	**17 41 35.5**	**-2.0**
NRCA	**Norcia**	**3.60**	**179**	AML	AML		
	comp=E,204μm,0.7s						
NRCA				AML	AML		
	comp=N,166μm,0.8s						
MANZ	**Manzenberg**	**3.61**	**350**	*e*Pn	**Pn**	**17 40 39.8**	**+0.9**
EMBD	**Embd, Matterta**	**3.62**	**268**	P	**Pn**	**17 40 41.3**	**+2.2**
T1214	**Arquata del Tr**	**3.67**	**178**	AML	AML		
	comp=N,272μm,1.0s						
T1214				AML	AML		
	comp=E,260μm,0.9s						
T1214				AML	AML		
	comp=N,321μm,1.0s						
T1214				AML	AML		
	comp=E,268μm,1.0s						
T1214				AML	AML		
	comp=E,268μm,1.0s						
T1214				AML	AML		
	comp=E,260μm,1.1s						
GOPC	**GO Pecny, Ondr**	**3.67**	**18**	*e*PN	**Pn**	**17 40 41.5**	**+1.7**
MTRA	**Matera**	**3.68**	**176**	AML	AML		
	comp=E,328μm,0.5s						
MTRA				AML	AML		
	comp=N,266μm,1.0s						
MTRA				AML	AML		
	comp=E,312μm,0.5s						
MTRA				AML	AML		
	comp=N,218μm,0.5s						
MTRA				AML	AML		
	comp=N,266μm,1.0s						
PCP	**Piancastagn**	**3.69**	**241**	AML	AML		
	comp=E,278μm,0.6s						
PCP				AML	AML		
	comp=N,262μm,0.7s						
PCP				AML	AML		
	comp=E,278μm,1.4s						
PRU	**Pruhonice**	**3.70**	**15**	*e*PN	**Pn**	**17 40 42.0**	**+1.9**
PRU				*e*SG	**Sg**	**17 41 40.2**	**-2.1**
	comp=E,141nm,0.5s						
BFO	**Black Forest**	**3.72**	**302**	*e*Pn	**Pn**	**17 40 42.5**	**+2.1**
BFO				*e*Sn	**Sn**	**17 41 25.8**	**+1.8**
FELD	**Feldberg im Sc**	**3.73**	**295**	P	**Pn**	**17 40 42.5**	**+1.8**
VRAC	**Vranov**	**3.74**	**38**	*e*PN	**Pn**	**17 40 41.6**	**+0.9**
VRAC				*e*SG	**Sg**	**17 41 39.3**	**-4.4**
VRAC	**Vranov**	**3.74**	**38**	Pn	**Pn**	**17 40 42.3**	**+1.6**
	comp=E,1.9nm,0.3s,baz=225,slow=15,SNR=10						
VRAC				Sn	**Sn**	**17 41 24.1**	**-0.3**
	comp=E,3.0nm,0.3s,baz=282,slow=20,SNR=5.2						
VRAC				Lg	Lg	17 41 38.6	
	comp=E,10nm,0.3s,baz=150,slow=20,SNR=7.8						
	comp=E,3.3nm,0.3s						
PRA	**Prague**	**3.76**	**14**	*e*SG	**Sg**	**17 41 42.7**	**-1.5**
	comp=E,233nm,0.6s						
BALST	**Balsthal**	**3.78**	**286**	P	**Pn**	**17 40 43.5**	**+2.2**
BALST	**Balsthal**	**3.78**	**286**	*e*Pn	**Pn**	**17 40 43.3**	**+2.1**
KIZ	**Kirchzarten**	**3.81**	**295**	P	**Pn**	**17 40 43.2**	**+1.5**
NKC	**Novy Kostel**	**3.83**	**354**	*e*PN	**Pn**	**17 40 43.8**	**+1.9**
NKC				*e*SG	**Sg**	**17 41 44.4**	**-2.0**
	comp=E,190nm,0.5s						
ENDD	**Endenburg**	**3.85**	**291**	P	**Pn**	**17 40 44.1**	**+2.0**
SRO	**Srobarova**	**3.85**	**67**	*e*PN	**Pn**	**17 40 43.4**	**+1.2**
MORH	**Mrgy, Hungar**	**3.89**	**91**	*e*Pn	**Pn**	**17 40 43.9**	**+1.2**
MORH				*e*Sn	**Sn**	**17 41 28.1**	**+0.2**
OPP	**Oppenau**	**3.89**	**304**	P	**Pn**	**17 40 44.9**	**+2.2**
JAVC	**Velka Javorina**	**3.96**	**50**	*e*PN	**Pn**	**17 40 45.8**	**+2.1**
BABA	**Baden-Baden-Ne**	**4.00**	**307**	P	**Pn**	**17 40 45.8**	**+1.6**
BOURR	**Bourrignon**	**4.10**	**286**	P	**Pn**	**17 40 47.6**	**+1.9**
RICC	**Richard**	**4.17**	**9**	*e*SG	**Sg**	**17 41 55.0**	**-2.6**
	comp=E,128nm,0.7s						
HSKC	**Hora Svate Kat**	**4.19**	**3**	*e*PN	**Pn**	**17 40 48.0**	**+1.2**
AIGLE	**Aigle**	**4.21**	**271**	P	**Pn**	**17 40 49.7**	**+2.4**
WALT	**Westhalten**	**4.22**	**293**	P	**Pn**	**17 40 49.1**	**+1.9**
GBOS	**Grotte di Boss**	**4.27**	**241**	P	**Pn**	**17 40 49.6**	**+1.6**
MOF	**Molkenrain**	**4.28**	**292**	P	**Pn**	**17 40 50.1**	**+1.9**
MOX	**Moxa**	**4.32**	**348**	*e*Pn	**Pn**	**17 40 49.4**	**+0.7**
MOX				*e*Sn	**Sn**	**17 41 38.3**	**-0.4**
WLS	**Welschbruch**	**4.34**	**299**	P	**Pn**	**17 40 50.8**	**+1.8**
WLS				S	**Sn**	**17 41 41.7**	**+2.4**
BHB	**Bricherasio**	**4.35**	**251**	P	**Pn**	**17 40 50.0**	**+0.9**
OGSI	**Sixt**	**4.38**	**267**	P	**Pn**	**17 40 52.4**	**+2.9**
ECH	**Echery**	**4.38**	**296**	P	**Pn**	**17 40 51.2**	**+1.6**
CDF	**Champ du Feu**	**4.39**	**299**	*e*Pn	**Pn**	**17 40 50.9**	**+1.3**
CDF				*e*Sn	**Sn**	**17 41 40.7**	**+0.3**
	comp=E,19nm,0.3s						
LEMB	**Lembach**	**4.42**	**308**	P	**Pn**	**17 40 50.9**	**+1.0**
KRLC	**Kraliky**	**4.42**	**33**	*e*PN	**Pn**	**17 40 51.8**	**+1.8**
VYHS	**Vyhne**	**4.44**	**60**	*e*PN	**Pn**	**17 40 50.8**	**+0.5**
VYHS				*e*SN	**Sn**	**17 41 41.4**	**-0.2**
HINF	**Hinteralfeld**	**4.45**	**290**	*e*Pn	**Pn**	**17 40 52.2**	**+1.8**
HINF				*e*Sn	**Sn**	**17 41 41.5**	**-0.3**
	comp=E,95nm,0.3s						
CHMF	**Charmoille**	**4.46**	**283**	P	**Pn**	**17 40 52.3**	**+1.6**
BRG	**Berggiesshubel**	**4.49**	**7**	Pn	**Pn**	**17 40 52.0**	**+1.1**
BRG				Amp		17 40 54.2	
	comp=Z,15nm,0.3s						
BRG	**Berggiesshubel**	**4.49**	**7**	Pg	**Pg**	**17 41 10.2**	**+0.7**
BRG				Sn	**Sn**	**17 41 42.9**	**+0.2**
BRG				Sg	**Sg**	**17 42 05.2**	**-2.3**
BRG				Amp		17 42 13.1	
	comp=Z,86nm,0.6s						
LPG	**La Plagne**	**4.49**	**260**	*e*Pn	**Pn**	**17 40 53.7**	**+2.5**
LPG				*e*Sn	**Sn**	**17 41 41.3**	**-1.9**
	comp=Z,55nm,0.6s						
DPC	**Dobruska-Polom**	**4.49**	**28**	*e*PN	**Pn**	**17 40 52.9**	**+1.9**
LPL	**La Plagne**	**4.49**	**261**	*e*Pn	**Pn**	**17 40 53.5**	**+2.3**
LPL				*e*Sn	**Sn**	**17 41 46.2**	**+2.9**
	comp=Z,45nm,0.6s						
MORC	**Moravsky Berou**	**4.50**	**40**	*e*PN	**Pn**	**17 40 51.9**	**+0.7**
MORC				*e*SG	**Sg**	**17 42 07.1**	**-1.1**
RSL	**Roselend**	**4.53**	**263**	P	**Pn**	**17 40 55.5**	**+3.9**
CIEL	**Dossenheim-sur**	**4.53**	**304**	P	**Pn**	**17 40 53.4**	**+1.9**
UPC	**Upice**	**4.53**	**25**	*e*PN	**Pn**	**17 40 53.8**	**+2.3**
RONF	**Ronchamp**	**4.55**	**289**	P	**Pn**	**17 40 53.3**	**+1.5**
SAOF	**Saorge**	**4.58**	**240**	P	**Pn**	**17 40 53.5**	**+1.2**
STV	**Sant Anna di V**	**4.58**	**244**	P	**Pn**	**17 40 54.1**	**+1.7**
CHVC	**Chvalec**	**4.62**	**25**	*e*PN	**Pn**	**17 40 53.8**	**+1.1**
RRL	**Rocca Remolon**	**4.63**	**253**	P	**Pn**	**17 40 53.4**	**+0.2**
GIMEL	**St. Georges /**	**4.68**	**274**	P	**Pn**	**17 40 56.2**	**+2.4**
MBDF	**Montbardon**	**4.72**	**251**	*e*Pn	**Pn**	**17 40 54.3**	**0.0**
MBDF				*e*Sn	**Sn**	**17 41 47.1**	**-1.7**
	comp=Z,41nm,0.6s						
SBF	**Sospel**	**4.72**	**239**	*e*Pn	**Pn**	**17 40 55.4**	**+1.1**
SBF				*e*Sn	**Sn**	**17 41 47.4**	**-1.4**
	comp=Z,46nm,0.4s						
BOUC	**Bouclans**	**4.73**	**282**	P	**Pn**	**17 40 56.1**	**+1.8**
BOUC				S	**Sn**	**17 41 51.0**	**+2.3**
NEVS	**Nevesinje**	**4.77**	**129**	*e*Pn	**Pn**	**17 40 56.5**	**+1.6**
HAPS	**Han Pijesak,Bl**	**4.79**	**117**	*e*Pn	**Pn**	**17 40 57.0**	**+1.9**
HAPS	**Han Pijesak,Bl**	**4.79**	**117**	*e*Pn	**Pn**	**17 40 55.9**	**+0.8**
CABF	**La Chapelle**	**4.80**	**275**	*e*Pn	**Pn**	**17 40 57.4**	**+2.0**
CABF				*e*Sn	**Sn**	**17 41 50.2**	**-0.5**
	comp=Z,32nm,0.5s						
HAU	**Haudompre**	**4.83**	**291**	*e*Pn	**Pn**	**17 40 57.3**	**+1.7**
HAU				*e*Sn	**Sn**	**17 41 51.2**	**0.0**
	comp=Z,114nm,0.5s						
PGF	**Pioggiola**	**4.84**	**218**	*e*Pn	**Pn**	**17 40 56.8**	**+0.9**
PGF				*e*Sn	**Sn**	**17 41 49.4**	**-2.3**
	comp=Z,17nm,0.4s						
STON	**Ston**	**4.87**	**135**	*e*Pn	**Pn**	**17 40 56.8**	**+0.7**
STON				*e*Sn	**Sn**	**17 41 51.9**	**-0.2**
STON	**Ston**	**4.87**	**135**	*e*Pn	**Pn**	**17 40 56.9**	**+0.8**
TNS	**Taunus Mts**	**4.88**	**323**	*e*Pn	**Pn**	**17 40 58.2**	**+1.8**
CLL	**Collm**	**4.88**	**360**	*e*Pn	**Pn**	**17 40 58.0**	**+1.7**
	comp=Z,47nm,0.4s						
CLL				*e*Pg	**Pg**	**17 41 18.0**	**+1.0**
CLL				*e*Sn	**Sn**	**17 41 53.0**	**+0.6**
CLL				*ex*	x	17 42 08.0	
CLL				*e*Sg	**Sg**	**17 42 17.0**	**-3.2**
	comp=Z,93nm,0.7s						
FRGS	**Fruska Gora**	**4.90**	**103**	*e*Pn	**Pn**	**17 40 56.9**	**+0.3**
FRGS				*e*Sn	**Sn**	**17 41 52.8**	**-0.2**
FRGS	**Fruska Gora**	**4.90**	**103**	*e*Pn	**Pn**	**17 40 57.0**	**+0.3**
FRGS				*e*Sn	**Sn**	**17 41 52.4**	**-0.6**
TEKS	**Tekeris**	**4.93**	**110**	*e*Pn	**Pn**	**17 40 57.6**	**+0.5**
TEKS	**Tekeris**

KOE				*e*Sn		**Sn**	**17 42 00.9 -2.8**
	comp=Z,84nm,0.6s						
BGG	**Burgeitz**	**5.36 317**		*e*Pn		**Pn**	**17 41 04.7 +1.8**
PAGF	**Fort de Pagny**	**5.39 296**		*e*Pn		**Pn**	**17 41 05.7 +2.3**
	baz=112						
PAGF				*e*Sn		**Sn**	**17 42 04.6 -0.6**
	comp=Z,14nm,0.3s						
DIVS	**Divibare**	**5.43 113**		*e*Pn		**Pn**	**17 41 05.3 +1.3**
DIVS				*e*Sn		**Sn**	**17 42 05.8 -0.4**
KECS	**Kecovo**	**5.45 65**		*e*PN		**Pn**	**17 41 05.5 +1.4**
KECS				*e*SN		**Sn**	**17 42 04.7 -1.8**
LMR	**La Mourre**	**5.58 239**		*e*Pn		**Pn**	**17 41 06.1 +0.2**
LMR	**La Mourre**	**5.58 239**		*e*P		**Pn**	**17 41 10.2 +4.3**
LMR				*e*Sn		**Sn**	**17 42 07.0 -2.7**
	comp=Z,12nm,0.3s						
WLF	**Walferdange**	**5.64 308**		*d*P		**Pn**	**17 41 10.3 +3.5**
WLF	**Walferdange**	**5.64 308**		P		**Pn**	**17 41 10.2 +3.5**
WLF	**Walferdange**	**5.64 308**		*e*Pn		**Pn**	**17 41 10.3 +3.5**
SFTF	**Sexfontaines**	**5.72 291**		*e*Pn		**Pn**	**17 41 10.0 +2.1**
	baz=107						
SFTF				*e*Sn		**Sn**	**17 42 12.6 -0.7**
	comp=Z,15nm,0.3s						
IVAS	**Ivanjica**	**5.79 117**		*e*Pn		**Pn**	**17 41 10.2 +1.3**
IVAS	**Ivanjica**	**5.79 117**		*e*Pn		**Pn**	**17 41 10.3 +1.3**
MEZF	**Maizieres J'vi**	**5.80 294**		*e*Pn		**Pn**	**17 41 12.0 +3.0**
	baz=109						
MEZF				*e*Sn		**Sn**	**17 42 13.0 -2.1**
	comp=Z,13nm,0.5s						
SMRF	**Simiane la Rot**	**5.82 248**		*e*Pn		**Pn**	**17 41 11.0 +1.7**
SMRF				*e*Sn		**Sn**	**17 42 13.6 -2.1**
	comp=Z,9.4nm,0.5s						
SJES	**Sjenica**	**5.86 120**		*e*Pn		**Pn**	**17 41 11.6 +1.7**
SJES	**Sjenica**	**5.86 120**		*e*Pn		**Pn**	**17 41 10.6 +0.7**
STB	**Steinbach**	**5.86 318**		*e*Pn		**Pn**	**17 41 12.0 +2.3**
HOBG	**Hohbusch**	**5.92 322**		*e*Pn		**Pn**	**17 41 12.7 +2.2**
GRUS	**Gruza**	**5.99 112**		*e*Pn		**Pn**	**17 41 13.4 +1.8**
GRUS				*e*Sn		**Sn**	**17 42 18.2 -1.6**
VIVF	**Saint-Julien-l**	**6.08 258**		*e*Pn		**Pn**	**17 41 14.7 +1.9**
VIVF	**Saint-Julien-l**	**6.08 258**		*e*P		Pn	17 41 17.8 +5.0
VIVF				*e*Sn		**Sn**	**17 42 20.3 -1.7**
	comp=Z,19nm,0.5s						
BHOU	**Houvegnez**	**6.11 313**		*d*P		**Pn**	**17 41 16.0 +2.8**
BHOU				*d*S		**Sn**	**17 42 22.8 0.0**
DRME	**Dracevica, Mon**	**6.12 132**		*e*Pn		**Pn**	**17 41 14.3 +1.0**
DRME				*e*Sn		**Sn**	**17 42 21.9 -1.0**
KLL	**Kalltalsperre**	**6.14 316**		*e*Pn		**Pn**	**17 41 16.6 +2.9**
DREG	**Dreilaegerbach**	**6.19 316**		*e*Pn		**Pn**	**17 41 17.2 +2.9**
BTNL	**Ternell**	**6.19 315**		*d*P		**Pn**	**17 41 17.2 +2.8**
BTNL				*d*S		**Sn**	**17 42 25.5 +0.7**
CRVS	**Cervenica-Dubn**	**6.20 63**		*e*PN		**Pn**	**17 41 16.5 +2.0**
MEM	**Membach**	**6.27 314**		*d*P		**Pn**	**17 41 18.2 +2.8**
MEM				*d*S		**Sn**	**17 42 27.2 +0.6**
SMF	**Signal de Mont**	**6.35 275**		*e*Pn		**Pn**	**17 41 17.5 +0.9**
SMF				*e*Sn		**Sn**	**17 42 27.8 -0.9**
	comp=Z,11nm,0.3s						
LAUG	**Laupendahl**	**6.36 323**		*e*Pn		**Pn**	**17 41 18.6 +2.1**
LOR	**Lormes**	**6.36 281**		*e*Pn		**Pn**	**17 41 17.5 +0.9**
	baz=98						
LOR				*e*Sn		**Sn**	**17 42 27.9 -0.9**
	comp=Z,11nm,0.4s						
RCHB	**Rochefort**	**6.41 308**		*d*P		**Pn**	**17 41 20.4 +3.1**
RCHB				*d*S		**Sn**	**17 42 31.2 +1.2**
BSTI	**Sart Tilman**	**6.47 313**		*d*P		**Pn**	**17 41 21.6 +3.4**
BSTI				*d*S		**Sn**	**17 42 32.8 +1.1**
BCLA	**Clavier**	**6.51 311**		*d*P		**Pn**	**17 41 22.1 +3.3**
BCLA				*d*S		**Sn**	**17 42 32.0 -0.7**
BCLA				*d*SnSn		**SnSn**	**17 42 44.3 +0.4**
BEBN	**Eben Emael**	**6.55 315**		*d*P		**Pn**	**17 41 22.6 +3.4**
BEBN				*d*S		**Sn**	**17 42 36.1 +2.6**
SELS	**Selova**	**6.58 116**		*e*Pn		**Pn**	**17 41 21.2 +1.5**
SSF	**Saint Saulge**	**6.58 279**		*e*Pn		**Pn**	**17 41 20.9 +1.2**
SSF				*e*Sn		**Sn**	**17 42 31.9 -2.5**
	comp=Z,11nm,0.4s						
GIVF	**Givet**	**6.60 307**		*e*Pn		**Pn**	**17 41 23.3 +3.4**
BGES	**Gesves**	**6.61 310**		*d*P		**Pn**	**17 41 23.4 +3.4**
	comp=Z,26nm,0.6s						
BGES				*d*S		**Sn**	**17 42 35.6 +0.6**
AVF	**Avril sur Loir**	**6.69 277**		*e*Pn		**Pn**	**17 41 21.9 +0.8**
AVF				*e*Sn		**Sn**	**17 42 35.6 -1.3**
	comp=Z,9.1nm,0.4s						
KOLS	**Kolonicke sedl**	**6.71 65**		*e*PN		**Pn**	**17 41 22.9 +1.4**
DOU	**Dourbes**	**6.72 306**		*d*P		**Pn**	**17 41 25.2 +3.6**
DOU				*d*S		**Sn**	**17 42 40.1 +2.3**
DOU	**Dourbes**	**6.72 306**		P		**Pn**	**17 41 25.1 +3.4**
BMRD	**Maredsous**	**6.74 308**		*d*P		**Pn**	**17 41 25.4 +3.6**
BMRD				*d*S		**Sn**	**17 42 41.1 +3.0**
BOVS	**Bovan**	**6.74 111**		*e*Pn		**Pn**	**17 41 22.3 +0.4**
LASF	**Ste Croix**	**6.90 253**		*e*Pn		**Pn**	**17 41 24.6 +0.5**
LASF				*e*Sn		**Sn**	**17 42 38.4 -3.8**
	comp=Z,9.4nm,0.4s						
BAIF	**Baives**	**6.92 305**		*e*Pn		**Pn**	**17 41 27.4 +3.0**
CFF	**Clermont-Ferra**	**6.94 268**		P		Pn	17 41 29.6 +5.0
ZAGS	**Zajecar**	**7.01 109**		*e*Pn		**Pn**	**17 41 26.4 +0.9**
BGF	**Bois d'Agland**	**7.04 275**		*e*Pn		**Pn**	**17 41 27.3 +1.3**
BGF				*e*Sn		**Sn**	**17 42 43.7 -2.0**
	comp=Z,49nm,0.4s						
HYF	**Humbligny**	**7.18 280**		*e*Pn		**Pn**	**17 41 29.2 +1.2**
BARS	**Barje**	**7.23 117**		*e*Pn		**Pn**	**17 41 30.0 +1.4**
BARS				*e*Sn		**Sn**	**17 42 47.0 -3.3**
TCF	**Toulx Ste Croi**	**7.50 273**		*e*Pn		**Pn**	**17 41 33.5 +1.2**
TCF				*e*Sn		**Sn**	**17 42 54.2 -2.8**
	comp=Z,9.4nm,0.3s						
ZAPS	**Zavoj**	**7.51 111**		*e*Pn		**Pn**	**17 41 33.7 +1.2**
PRVS	**Prvonek**	**7.56 118**		*e*Pn		**Pn**	**17 41 34.2 +1.1**
CAF	**Calviac**	**7.84 263**		*e*Pn		**Pn**	**17 41 38.5 +1.6**
CAF				*e*Sn		**Sn**	**17 43 02.1 -3.2**
	comp=Z,4.8nm,0.4s						
RJF	**Les Rejaudoux**	**8.12 266**		*e*Pn		**Pn**	**17 41 41.8 +0.9**
RJF				*e*Sn		**Sn**	**17 43 08.7 -3.6**
	comp=Z,7.4nm,0.4s						
MTLF	**Montolieu**	**8.28 252**		*e*Pn		**Pn**	**17 41 42.6 -0.5**
MTLF				*e*Sn		**Sn**	**17 43 12.6 -3.7**
	comp=Z,5.2nm,0.5s						
LFF	**La Frestale**	**8.74 265**		*e*Pn		**Pn**	**17 41 51.4 +2.1**
LFF	**La Frestale**	**8.74 265**		*e*Pn		Pn	17 41 55.3 +6.0
MFF	**Saint Martin d**	**9.10 276**		*e*Pn		**Pn**	**17 41 55.1 +0.9**
MFF				*e*Sn		**Sn**	**17 43 33.5 -2.7**
	comp=Z,4.4nm,0.4s						
LDF	**La Druitiere**	**9.17 288**		*e*Pn		**Pn**	**17 41 57.1 +1.9**
FLN	**La Foliniere**	**9.43 289**		*e*Pn		**Pn**	**17 42 00.6 +1.8**
	baz=102						
FLN				*e*Sn		**Sn**	**17 43 41.8 -2.6**
	comp=Z,9.4nm,0.5s						
GRR	**Gorron**	**9.63 287**		*e*Pn		**Pn**	**17 42 02.7 +1.3**
ETSF	**Etsaut**	**10.31 255**		*e*P		Pn	17 42 17.6 +6.7
SJPF	**Ste Jean**	**10.67 257**		*e*Pn		**Pn**	**17 42 16.0 +0.2**
SGMF	**Saint Gilles**	**10.74 285**		*e*Pn		**Pn**	**17 42 17.8 +1.1**
SGMF				*e*Sn		**Sn**	**17 44 12.3 -4.3**
	comp=Z,2.9nm,0.3s						
QUIF	**Quistinic**	**11.14 284**		*e*Pn		**Pn**	**17 42 23.1 +1.0**
QUIF				*e*Sn		**Sn**	**17 44 21.4 -4.8**
	comp=Z,1.7nm,0.2s						
ROSF	**Rostrenen**	**11.23 286**		*e*Pn		**Pn**	**17 42 25.0 +1.7**
ROSF				*e*Sn		**Sn**	**17 44 24.0 -4.4**
	comp=Z,5.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**13.54 317**		Pn		**Pn**	**17 42 54.5 -0.3**
	comp=Z,0.9nm,0.4s,baz=127,slow=13,SNR=12						
ESDC	**Sonseca Array**	**14.14 248**		Pn		**Pn**	**17 43 04.5 +1.3**
	comp=Z,0.1nm,0.3s,baz=54,slow=12,SNR=1.7						
	comp=Z,0.7nm,1.0s						
NOA	**NORSAR Array B**	**14.68 356**		Pn		**Pn**	**17 43 09.6 -0.8**
	baz=176,slow=11,SNR=2.4						
	comp=Z,0.6nm,0.8s						
FINES	**FINESS Array B**	**16.83 22**		Pn		**Pn**	**17 43 38.6 +0.3**
	comp=Z,0.1nm,0.3s,baz=220,slow=8.7,SNR=7.2						
	comp=Z,0.6nm,0.6s						

NEIC ***19*** *17:44:25.2±2.2, 15°.96S±0°.04×74°.76W±0°.07, h10km±1km, mb4.6/37, Error ellipse: s-maj=11.7km s-min=7.4km az=101.0*

GUC ***19*** *17:44:26.4±0.4, 15°.91S×74°.76W, h38km±3km, ML4.1*

IDC ***19*** *17:44:29.5±0.7, 15°.77S×74°.64W, h45km±6km, mb4.1/12, mbtmp4.4/14, ML4.3/2, Error ellipse: s-maj=21.5km s-min=10.7km az=62.0*

VAO ***19*** *17:44:30.5±1.3, 15°.83S×74°.34W, h31km±10km, mb4.8*

ISC 19 17:44:29.1±0.4, **15°.88S**±0°.05×**74°.61W**±0°.07, **h49**km, **n147, s145/143, mb4.5/17, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.43**	**330**	Pn		**Pn**	**17 45 31.2**	**-2.8**
NNA	**Nana**	**4.43**	**330**	P		**Pn**	**17 45 34.0**	**+0.1**
	15nm,0.3s,baz=134,slow=10,SNR=13							
NNA					S	**Sn**	**17 46 23.0**	**-1.3**
	143nm,0.3s,baz=271,slow=21,SNR=5.2							
	30nm,0.3s							
AP01	**Chacalluta**	**4.78**	**122**			**Pn**	**17 45 36.8**	**-1.8**
AP01					Sn	**Sn**	**17 46 30.8**	**-1.9**
AP01	**Chacalluta**	**4.78**	**122**	*i* P		**Pn**	**17 45 41.1**	**+2.5**
PB12	**IPOC Station P**	**4.91**	**124**			**Pn**	**17 45 40.0**	**-0.5**
PB12					Sn	**Sn**	**17 46 32.9**	**-3.4**
PB12	**IPOC Station P**	**4.91**	**124**	*i* P		**Pn**	**17 45 40.9**	**+0.3**
PB18	**Visviri**	**5.20**	**110**			**Pn**	**17 45 47.7**	**+2.8**
PB18	**Visviri**	**5.20**	**110**	*i* P		**Pn**	**17 45 48.9**	**+4.0**
PB16	**IPOC Station P**	**5.46**	**117**			**Pn**	**17 45 49.7**	**+1.2**
PB16					Sn	**Sn**	**17 46 49.1**	**-1.2**
PB16	**IPOC Station P**	**5.46**	**117**	*i* P		**Pn**	**17 45 50.1**	**+1.7**
PB11	**IPOC Station P**	**6.10**	**130**	Pn		**Pn**	**17 45 56.6**	**-0.3**
TA02	**Huaiquique**	**6.10**	**136**			**Pn**	**17 45 54.9**	**-1.9**
LPAZ	**La Paz**	**6.24**	**95**	Pn		**Pn**	**17 46 01.2**	**+1.9**
TA01	**Diego Aracena**	**6.28**	**139**	Pn		**Pn**	**17 45 58.9**	**-0.3**
TA01	**Diego Aracena**	**6.28**	**139**	*i* P		**Pn**	**17 45 58.9**	**-0.3**
GO01	**Chusmiza**	**6.39**	**127**			**Pn**	**17 46 01.3**	**+0.1**
GO01	**Chusmiza**	**6.39**	**127**	*i* P		**Pn**	**17 46 02.0**	**+0.8**
PATCX	**Punta Patache**	**6.49**	**140**			**Pn**	**17 46 01.5**	**-0.6**
PB08	**IPOC Station P**	**6.70**	**130**			**Pn**	**17 46 05.0**	**-0.4**
PB02	**IPOC Station P**	**7.02**	**141**			**Pn**	**17 46 08.7**	**-0.7**
PB01	**IPOC Station P**	**7.07**	**137**			**Pn**	**17 46 09.0**	**-0.3**
PB07	**IPOC Station P**	**7.34**	**143**			**Pn**	**17 46 13.1**	**-0.8**
PB04	**IPOC Station P**	**7.68**	**147**			**Pn**	**17 46 17.8**	**-0.8**
PB09	**IPOC Station P**	**7.78**	**140**			**Pn**	**17 46 20.2**	**+0.2**
PB05	**IPOC Station P**	**8.09**	**150**	Pn		**Pn**	**17 46 22.3**	**-1.8**
PB06	**IPOC Station P**	**8.29**	**146**			**Pn**	**17 46 26.4**	**-0.6**
CZSB	**Cruzeiro do Su**	**8.31**	**13**	Pn		**Pn**	**17 46 27.2**	**+0.2**
CZSB	**Cruzeiro do Su**	**8.31**	**13**	*e*P		**Pn**	**17 46 27.2**	**+0.2**
LVC	**Limon Verde**	**8.59**	**142**	Pn		**Pn**	**17 46 30.7**	**-0.6**
LVC	**Limon Verde**	**8.59**	**142**	P		**Pn**	**17 46 32.1**	**+0.9**
	5.7nm,0.3s,baz=319,slow=11,SNR=30							
LVC					S	**Sn**	**17 48 01.5**	**-5.5**
	27nm,0.7s,baz=292,slow=19,SNR=2.6							
	14nm,0.3s							
LVC	**Limon Verde**	**8.59**	**142**	*e*P		**Pn**	**17 46 32.2**	**+0.9**
PB15	**IPOC Station P**	**8.75**	**147**			**Pn**	**17 46 32.8**	**-0.6**
ATAH	**Atahualpa**	**9.45**	**336**	P		**Pn**	**17 46 45.1**	**+2.1**
	2.0nm,0.5s,baz=194,slow=4.2,SNR=1.7							
PB14	**IPOC Station P**	**9.56**	**156**	Pn		**Pn**	**17 46 42.3**	**-2.1**
ETMB	**Extrema**	**10.16**	**55**	Pn		**Pn**	**17 46 52.7**	**+0.2**
ETMB	**Extrema**	**10.16**	**55**	*e*P		**Pn**	**17 46 52.5**	**+0.1**
GO02	**Mina Guanaco**	**10.36**	**154**	Pn		**Pn**	**17 46 54.8**	**-0.7**
AC01	**Pan de Azucar**	**10.88**	**161**			**Pn**	**17 47 00.3**	**-2.0**
AC06	**Mina Casimiro**	**12.09**	**162**	Pn		**Pn**	**17 47 16.9**	**-1.8**
GO03	**Copiap**	**12.35**	**162**			**Pn**	**17 47 19.7**	**-2.6**
TBTG	**Tabatinga, AM**	**12.50**	**22**	*e*P		**Pn**	**17 47 24.1**	**-0.3**
MCRA	**Macar, Loja**	**12.58**	**335**	Pn		**Pn**	**17 47 26.5**	**+0.8**
SIV	**San Ignacio**	**13.02**	**92**	P		**Pn**	**17 47 29.6**	**-2.0**
	2.5nm,0.3s,baz=282,slow=12,SNR=15							
SAML	**Samuel**	**13.11**	**60**	Pn		Pn	17 47 28.9	-3.9
SAML	**Samuel**	**13.11**	**60**	*e*P		**Pn**	**17 47 31.5**	**-1.2**
BOSC	**San Juan Bosco**	**13.21**	**343**	Pn		**Pn**	**17 47 32.9**	**-1.4**
ARNL	**Arenillas**	**13.38**	**336**	Pn		**Pn**	**17 47 32.5**	**-3.9**
BBSD	**Serra de San D**	**13.49**	**98**	*e*P		**Pn**	**17 47 35.7**	**-2.3**
LCO	**Las Campanas**	**13.56**	**165**	Pn		**Pn**	**17 47 36.1**	**-3.0**
COHC	**Cochancay**	**14.09**	**341**			**Pn**	**17 47 46.5**	**+0.4**
CO05	**La Serena**	**14.32**	**168**			**Pn**	**17 47 47.4**	**-1.6**
GO04	**Tololo Observa**	**14.65**	**167**			**Pn**	**17 47 51.6**	**-2.2**
PTLB	**Pontes e Lacer**	**14.91**	**90**			**Pn**	**17 47 59.0**	**+2.1**
BBLB	**La Banda, Boli**	**15.35**	**103**	*e*P		**Pn**	**17 47 60.0**	**-2.7**
SLOR	**San Lorenzo -**	**15.53**	**345**	P		**Pn**	**17 48 06.6**	**+1.1**
SLOR					IAmb	IAmb	17 48 28.1	
	comp=Z,21nm,0.8s							
CO02	**Combarbal**	**15.61**	**168**	P		**Pn**	**17 48 05.5**	**-0.6**
CO02					IAmb	IAmb	17 48 12.9	
	comp=Z,47nm,0.9s							
TEFE	**Tefe**	**15.73**	**40**	*e*P		**Pn**	**17 48 07.6**	**+0.1**
OTAV	**Otavalo**	**16.45**	**346**	P		**P**	**17 48 18.5**	**-0.8**
CFA	**Coronel Fontan**	**16.70**	**161**	P		**P**	**17 48 21.4**	**-0.1**
VA03	**San Esteban**	**17.21**	**168**	P		**Pn**	**17 48 26.5**	**+0.3**
VA03					IAmb	IAmb	17 48 31.9	
	comp=Z,36nm,1.0s							
VA01	**Torpederas**	**17.28**	**172**	P		**P**	**17 48 27.4**	**-0.5**
VA01					IAmb	IAmb	17 48 33.0	
	comp=Z,39nm,0.8s							
ROC1	**El Roble**	**17.33**	**170**	P		**Pn**	**17 48 27.6**	**-0.3**
ROC1					IAmb	IAmb	17 48 42.7	
	comp=Z,29nm,0.8s							
PEL	**Peldehue**	**17.55**	**169**	P		**Pn**	**17 48 30.1**	**-0.2**
PEL					IAmb	IAmb	17 48 35.5	
	comp=Z,57nm,1.1s							
MT02	**Curacav**	**17.59**	**170**	P		**Pn**	**17 48 30.7**	**-0.1**
H03N1	**Juan Fernandez**	**17.92**	**192**	T		T	18 07 14.6	
	baz=14,slow=74,SNR=3181							
H03N2	**Juan Fernandez**	**17.92**	**192**	T		T	18 07 14.6	
	baz=14,slow=74,SNR=2249							
H03N3	**Juan Fernandez**	**17.93**	**192**	T		T	18 07 13.9	
	baz=14,slow=74,SNR=3604							
MT09	**Talagante**	**18.12**	**170**	P		**Pn**	**17 48 38.4**	**+1.0**
MT09					IAmb	IAmb	17 48 57.6	
	comp=Z,64nm,1.5s							
MT01	**Popeta**	**18.16**	**171**			**Pn**	**17 48 38.8**	**+1.0**
MT01					IAmb	IAmb	17 48 42.1	
	comp=Z,35nm,0.9s							
MT13	**San Alfonso**	**18.21**	**168**	P		**P**	**17 48 38.2**	**-0.1**
MT13					IAmb	IAmb	17 48 44.1	
	comp=Z,40nm,0.9s							
LMEL	**Las Melosas**	**18.33**	**168**	P		**P**	**17 48 38.2**	**-1.4**
LMEL					IAmb	IAmb	17 48 43.9	
	comp=Z,53nm,1.2s							
BO04	**La Punta**	**18.39**	**169**	P		**P**	**17 48 38.6**	**-1.6**
BO04					IAmb	IAmb	17 49 00.4	
	comp=Z,44nm,1.3s							
AQDB	**Aquidauana**	**18.54**	**107**			**P**	**17 48 40.7**	**-1.1**
AQDB	**Aquidauana**	**18.54**	**107**	*e*P		**P**	**17 48 40.0**	**-1.8**
ANTJ	**Antonio Joao (**	**18.61**	**112**	*e*P		**P**	**17 48 44.0**	**+1.3**
MACA	**Manacapuru-AM**	**18.64**	**49**	P		**P**	**17 48 41.8**	**-1.2**
MACA	**Manacapuru-AM**	**18.64**	**49**	*e*P		**P**	**17 48 43.0**	**0.0**
PP1B	**Ponte de Pedra**	**18.97**	**98**	*e*P		**P**	**17 48 46.1**	**-0.5**
RVDE	**Rio Verde (Bra**	**19.02**	**102**	*e*P		**P**	**17 48 46.6**	**+1.4**
BO02	**Sierra Bellavi**	**19.15**	**170**	P		**Pn**	**17 48 49.9**	**+0.2**
NPGB	**Novo Progresso**	**20.79**	**67**	*e*P		**P**	**17 49 05.5**	**-1.0**
ITQB	**Itaqui**	**21.49**	**133**	P		**P**	**17 49 14.7**	**+0.9**
ITQB					IAmb	IAmb	17 49 17.3	
	comp=Z,22nm,1.0s							
ITQB	**Itaqui**	**21.49**	**133**	*e*P		**P**	**17 49 16.4**	**+2.6**
ITTB	**Itaituba**	**21.79**	**60**	*e*P		**P**	**17 49 16.9**	**-0.3**
ARAG	**Araguaiana, MT**	**21.94**	**93**	*e*P		**P**	**17 49 18.8**	**0.0**
FRBT	**Francisco Belt**	**22.46**	**120**	*e*P		**P**	**17 49 26.6**	**+2.3**
PTGB	**Pitanga**	**22.87**	**116**	*e*P		**P**	**17 49 29.2**	**+0.5**
RODS	**Rosario do Sul**	**22.89**	**132**	*e*P		**P**	**17 49 30.0**	**+1.3**
SNDB	**Serra Nova Dou**	**22.95**	**83**	*e*P		**P**	**17 49 28.9**	**-0.6**
LDASE	**Londrina, Braz**	**23.33**	**112**	*e*P		**P**	**17 49 33.7**	**+0.4**
ITRB	**Iturama**	**23.39**	**103**	*e*P		**P**	**17 49 35.4**	**+1.5**
ITAB	**Concordia**	**23.72**	**122**	P		**P**	**17 49 37.6**	**+0.8**
ITAB	**Concordia**	**23.72**	**122**	*e*P		**P**	**17 49 38.3**	**+1.5**
GO06	**Curarrehue**	**23.78**	**174**	P		**P**	**17 49 38.0**	**+0.7**
GO06					IAmb	IAmb	17 49 40.8	
	comp=Z,17nm,1.2s							
CPSB	**Cacapava Do Su**	**24.19**	**130**	*e*P		**P**	**17 49 42.4**	**+1.3**
LR05	**Currie**	**24.37**	**175**	P		**P**	**17 49 42.8**	**+0.2**
MALB	**Monte Alegre**	**24.42**	**57**	*e*P		**P**	**17 49 43.8**	**+0.5**
FRTB	**Fartura**	**24.71**	**111**	*e*P		**P**	**17 49 47.9**	**+1.9**
TRQA	**Tornquist**	**24.74**	**156**	P		**P**	**17 49 46.6**	**+0.5**
PLTB	**Pedras Altas**	**24.82**	**133**	P		**P**	**17 49 47.0**	**+0.2**
SDV	**Santo Domingo**	**24.92**	**9**	P		**P**	**17 49 48.3**	**+0.3**
SDV					IAmb	IAmb	17 50 00.2	
	comp=Z,19nm,1.1s							
SDV	**Santo Domingo**	**24.92**	**9**	*e*P		**P**	**17 49 50.9**	**+2.9**
PLCA	**Paso Flores**	**25.02**	**173**	P		**P**	**17 49 49.4**	**+0.8**
PLCA					IAmb	IAmb	17 49 52.5	
	comp=Z,16nm,0.9s							
PLCA	**Paso Flores**	**25.02**	**173**	P		**P**	**17 49 50.0**	**+1.4**
	comp=Z,9.8nm,0.8s,baz=347,slow=11,SNR=23							
	comp=Z,9.8nm,0.8s							
PLCA	**Paso Flores**	**25.02**	**173**	*e*P		**P**	**17 49 49.9**	**+1.3**
IPMB	**Ipameri, GO**	**25.33**	**99**	*e*P		**P**	**17 49 52.5**	**+0.8**
BDFB	**Brasilia**	**25.59**	**93**	P		**P**	**17 49 55.1**	**+1.0**
BDFB	**Brasilia**	**25.59**	**93**	P		**P**	**17 49 55.5**	**+1.4**
	comp=Z,10nm,0.6s,baz=272,slow=9.2,SNR=12							
	comp=Z,10nm,0.6s							
BDFB	**Brasilia**	**25.59**	**93**	*e*P		**P**	**17 49 55.7**	**+1.6**
CNLB	**Canela**	**25.62**	**126**	*e*P		**P**	**17 49 55.4**	**+1.2**
DIAM	**Diamantina, MG**	**29.65**	**99**	*e*P		**P**	**17 50 31.7**	**+1.2**
RIB01	**Linhares ES**	**32.76**	**101**	*e*P		**P**	**17 50 58.4**	**+0.7**
NAN01	**Guarapari, ES**	**33.03**	**98**	*e*P		**P**	**17 51 01.2**	**+1.1**
GUA01	**Guaratinga, BA**	**33.40**	**96**	*e*P		**P**	**17 51 04.7**	**+1.4**
TX31	**Lajitas Ar. Si**	**52.99**	**328**	P		**P**	**17 53 40.1**	**-1.1**
TXAR	**Lajitas Array**	**52.99**	**328**	P		**P**	**17 53 41.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=146,slow=8.1,SNR=6.2							
TXAR					pP	**pP**	**17 53 52.0**	**-2.5**
	comp=Z,3.1nm,0.9s,baz=144,slow=8.6,SNR=15							
	comp=Z,0.5nm,0.6s							
SDCO	**Great Sand Dun**	**60.73**	**332**			**P**	**17 54 36.0**	**-0.1**
SDCO					IAmb	IAmb	17 54 49.3	
	comp=Z,3.9nm,0.8s							
ECSD	**EROS Data Cent**	**62.65**	**342**	P		**P**	**17 54 47.8**	**-0.8**
DUG	**Dugway, Tooele**	**66.14**	**329**	P		**P**	**17 55 10.0**	**-1.6**
DUG					IAmb	IAmb	17 55 29.8	
	comp=Z,6.1nm,1.2s							
R11B	**Troy Canyon, C**	**66.22**	**326**	P		**P**	**17 55 11.4**	**-0.8**
PDAR	**Pinedale Array**	**66.61**	**333**	P		**P**	**17 55 14.3**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=124,slow=5.7,SNR=2.8							
	comp=Z,0.3nm,0.6s							
ULM	**Lac du Bonnet**	**68.45**	**346**	P		**P**	**17 55 24.8**	**-1.0**
	comp=Z,3.0nm,0.5s,baz=198,slow=1.8,SNR=7.4							
	comp=Z,3.0nm,0.5s							
SNAA	**Sanae**	**69.32**	**161**	P		**P**	**17 55 32.5**	**+1.4**
	comp=Z,5.1nm,0.8s,baz=282,slow=9.1,SNR=12							
	comp=Z,5.1nm,0.8s							
DBIC	**Dimbokro**	**72.58**	**78**	P		**P**	**17 55 52.2**	**+0.4**
	comp=Z,9.3nm,0.7s,baz=246,slow=6.0,SNR=14							
	comp=Z,9.3nm,0.7s							
QSPA	**South Pole Qui**	**74.28**	**180**	P		**P**	**17 56 03.0**	**+1.9**
	comp=Z,3.2nm,0.5s,baz=229,slow=0.5,SNR=31							
	comp=Z,3.2nm,0.5s							
TOA0	**Torodi Ar. Sit**	**80.76**	**74**	P		**P**	**17 56 38.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**80.76**	**74**	P		**P**	**17 56 39.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**80.76**	**74**	P		**P**	**17 56 39.0**	**+1.0**
	comp=Z,21nm,0.7s,baz=264,slow=5.0,SNR=98							
	comp=Z,21nm,0.7s							
VNDA	**Vanda**	**81.39

PETK	Petropavlovsk-	72.51	344	P		P		18 02 18.1	0.0
	comp=Z,1.7nm,0.7s,baz=136,slow=9.1,SNR=6.5								
	comp=Z,1.7nm,0.7s								
QSPA	South Pole Qui	73.92	180	P		P		18 02 27.9	+1.6
	comp=Z,0.8nm,0.5s,baz=358,slow=5.3,SNR=3.5								
	comp=Z,0.8nm,0.5s								
NVAR	Mina Array Bea	76.75	43	P		P		18 02 43.9	+1.1
	comp=Z,0.9nm,0.7s,baz=223,slow=7.6,SNR=5.6								
	comp=Z,0.9nm,0.7s								
M16K	Timber Creek	78.13	9	P		P		18 02 51.4	+1.8
L18K	Granite Mounta	79.61	9	P		P		18 02 59.8	+2.3
L18K				IAmb		IAmb		18 03 02.3	
	comp=Z,6.7nm,1.4s								
K20K	Telida	81.10	10	P		P		18 03 06.8	+1.4
K20K				IAmb		IAmb		18 03 09.2	
	comp=Z,11nm,1.5s								
RND	Reindeer	82.10	12	P		P		18 03 11.9	+1.2
TXAR	Lajitas Array	83.34	57	P		P		18 03 19.0	+1.2
	comp=Z,0.6nm,0.9s,baz=265,slow=6.2,SNR=2.6								
	comp=Z,0.6nm,0.9s								
HDA	Harding Lake	83.38	12	P		P		18 03 17.4	+0.4
HDA				IAmb		IAmb		18 03 18.6	
	comp=Z,3.3nm,0.8s								
CCB	Clear Creek Bu	83.42	12	P		P		18 03 16.7	-0.5
CCB				IAmb		IAmb		18 03 18.5	
	comp=Z,3.2nm,0.6s								
IMAR	Indian Mountai	83.60	9	P		P		18 03 19.4	+1.3
ILAR	Eielson Array	83.72	12	P		P		18 03 19.1	+0.4
ILAR	Eielson Array	83.72	12	P		P		18 03 19.2	+0.5
	comp=Z,0.8nm,0.6s,baz=216,slow=5.2,SNR=25								
	comp=Z,0.8nm,0.6s								
J25K	Salcha River,	83.89	13	P		P		18 03 20.6	+0.9
ARCES	ARCESS Array B	124.91	351	PKP		PKPdf		18 09 47.4	+0.7
	comp=Z,5.8nm,1.1s,baz=2.9,slow=4.9,SNR=4.9								

IDC 19 18:02:09.5±6.2, 5.86S×154.79E, h182km±44km, mb3.1/4, mbtmp3.6/4, Error ellipse: s-maj=70.0km s-min=22.5km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.15	299	P	Pn	18 03 00.5	+0.4
	baz=163,slow=19						
KRVT				S	Sn	18 03 39.8	+0.2
	baz=108,slow=20						
WRA	Warramunga Arr	24.31	233	P	P	18 07 10.7	+0.2
	0.4nm,0.4s,baz=59,slow=10,SNR=11						
	0.4nm,0.4s						
ASAR	Alice Springs	26.79	226	P	P	18 07 32.1	-0.6
	0.6nm,1.0s,baz=55,slow=9.4,SNR=6.3						
	0.6nm,1.0s						
PETK	Petropavlovsk-	58.79	2	P	P	18 11 47.8	-0.6
	2.2nm,0.8s,baz=185,slow=8.5,SNR=1.6						
	2.2nm,0.8s						
MKAR	Makanchi Array	82.42	319	P	P	18 14 12.1	+0.8
	0.2nm,0.6s,baz=94,slow=5.9,SNR=2.5						
	0.2nm,0.6s						

IDC 19 18:02:20.4±1.6, 33.46N×45.87E, h0km, mb3.6/5, mbtmp3.6/5, MS4.1/1, Error ellipse: s-maj=60.7km s-min=28.1km az=152.0
TEH 19 18:02:24.3, 33.91N×45.79E, h12km±32km, ML3.5
ISN 19 18:02:24.1±0.9, 33.87N×45.60E, h8km±4km, ML3.4
ISC 19 18:02:24.0±0.8, 33.91N±0.04×45.67E±0.05, h10km, n26, σ1°23/27, mb3.6/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.60	353	Pg	Pg	18 02 36.3	+0.6
IBDR	Badra	0.82	165	*e*Pg	Pg	18 02 40.0	+0.1
IBDR				*e*Sg	Sg	18 02 51.0	+0.4
IGHG	Ghaleghazi	0.86	60	Pg	Pg	18 02 39.1	-1.5
IDHR	Dehrash	0.99	37	Pg	Pg	18 02 42.7	-0.4
BHD	Baghdad	1.25	240	*e*Pg	Pn	18 02 47.0	-0.6
BHD				*e*Sg	Sb	18 03 03.0	-0.9
BHD				AML	AML	18 03 10.9	
	comp=E,1μm,0.6s						
ILIN	Lien	1.47	46	Pg	Pn	18 02 51.5	+0.6
IKOM	Komasi	1.55	79	Pg	Pn	18 02 52.6	+0.8
IKFM	Kafar-mosalman	1.85	101	Pg	Pn	18 02 58.0	+2.1
RAFI	Al-Rafai	2.21	170	*e*Pn	Pn	18 03 02.0	+1.3
RAFI				*e*Sn	Sn	18 03 31.0	+2.9
RAFI				AML	AML	18 03 31.9	
	comp=E,355nm,0.1s						
RAFI				AML	AML	18 03 32.7	
	comp=N,246nm,0.5s						
HSAM	Samen	2.45	82	Pn	Pn	18 03 04.7	+0.4
MAHB	Mahabad	2.86	1	Pn	Pn	18 03 11.9	+2.1
IRAZ	Razeghan	3.81	66	Pn	Pn	18 03 23.3	+0.3
IPIR	Pirpir	4.54	104	Pn	Pn	18 03 33.1	+0.1
IQOM	Qom	4.56	77	Pn	Pn	18 03 32.8	-0.6
QAMS	Qamsar	4.77	90	Pn	Pn	18 03 36.7	+0.5
IKLH	Kolahrood	4.96	95	Pn	Pn	18 03 39.2	+0.3
GRM	Germi	5.21	19	Pn	Pn	18 03 43.8	+1.6
KRSH	Karshahi	5.37	88	Pn	Pn	18 03 44.8	+0.4
ISFB	Sefidab	5.47	83	Pn	Pn	18 03 45.8	+0.2
IZEF	Zefreh	5.66	98	Pn	Pn	18 03 48.2	-0.2
EIL	Elat	10.05	248	LR	LR	18 09 27.1	
	comp=N,1μm,19.1s,baz=122,slow=42						
BVAR	Borovoye Array	25.99	35	P	P	18 07 58.1	+1.2
	comp=N,0.4nm,0.5s,baz=234,slow=10,SNR=3.9						
	comp=N,0.4nm,0.5s						
MKAR	Makanchi Array	30.45	54	P	P	18 08 36.2	-0.5
	comp=N,0.6nm,0.4s,baz=254,slow=10,SNR=21						
	comp=N,0.6nm,0.4s						
ZALV	Zalesovo Beam	33.99	42	P	P	18 09 06.1	-1.6
	comp=N,0.3nm,0.3s,baz=262,slow=10.0,SNR=2.2						
	comp=N,0.3nm,0.3s						
TORD	Torodi Ar. Bea	44.89	253	P	P	18 10 37.1	-1.9
	comp=N,0.2nm,0.4s,baz=62,slow=6.8,SNR=1.3						
	comp=N,0.2nm,0.4s						
CMAR	Chiang Mai Arr	49.70	94	P	P	18 11 12.8	-3.6
	comp=N,0.4nm,0.6s,baz=294,slow=9.5,SNR=4.2						
	comp=N,0.4nm,0.6s						

IDC 19 18:05:14.8±2.3, 26.10S×178.94E, h531km±25km, mb3.4/10, mbtmp4.3/12, Error ellipse: s-maj=18.3km s-min=16.1km az=18.0
NEIC 19 18:05:14.7±1.5, 26.2S±0.1×179.1E±0.2, h532km±9km, mb4.5/23, Error ellipse: s-maj=22.6km s-min=18.2km az=78.0
ISC 19 18:05:15.6±0.5, 26.22S±0.07×179.03E±0.09, h550km, n72, σ1°22/79, mb4.3/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.06	139	P	P	18 06 38.3	+0.5
GLKZ				S	S	18 07 44.5	-0.5
OUZ	Omahuta	10.12	206	P	P	18 07 37.2	+2.6
WCZ	Waipu Caves	10.49	201	P	P	18 07 41.3	+2.9
KUZ	Kuaotunu	10.87	194	P	P	18 07 44.3	+2.0
WIAZ	Waiheke Island	11.05	197	P	P	18 07 52.5	+8.2
PINNC	Pines Island,	11.15	286	P	P	18 07 44.9	-0.6
MXZ	Matakaoa Point	11.33	183	P	P	18 07 45.4	-1.7
HAZ	Te Kaha	11.55	185	P	P	18 07 49.8	+0.4
OUENC	Ouen Island, N	11.74	286	P	P	18 07 51.0	-0.6
LIFNC	LIFOU	12.10	294	P	P	18 07 54.0	-1.2
URZ	Urewera	12.12	187	P	P	18 07 53.6	-1.6
	24nm,0.6s,baz=99,slow=2.8,SNR=15						
URZ				S	S	18 10 03.2	-3.3
	8.3nm,0.5s,baz=258,slow=21,SNR=8.0						
DZM	Mont Dzumac	12.21	287	P	P	18 07 55.7	-0.8
DZM	Mont Dzumac	12.21	287	P	P	18 07 55.1	-1.4
	9.3nm,0.5s,baz=151,slow=6.9,SNR=13						
RTZ	Ruatahuna	12.48	187	P	P	18 07 59.1	0.0
BKZ	Black Stump Fm	13.09	189	P	P	18 08 04.9	-0.4
BFZ	Birch Farm	14.61	188	P	P	18 08 18.2	-2.7
KOUNC	Koumac, New Ca	14.66	290	P	P	18 08 19.3	-2.4
TCW	Tory Channel	15.46	194	P	P	18 08 29.0	-0.6
TCW				S	S	18 11 07.1	-1.7
QRZ	Quartz Range	15.54	199	P	P	18 08 30.7	+0.2
QRZ				IAmb	IAmb	18 08 59.3	
	comp=Z,42nm,1.5s						
QRZ	Quartz Range	15.54	199	P	P	18 08 31.5	+1.1
NNZ	Nelson	15.68	196	P	P	18 08 31.5	-0.3
MRNZ	Matariki Terra	16.01	197	P	P	18 08 33.9	-1.1
MRNZ	Matariki Terra	16.01	197	P	P	18 08 35.5	+0.5
MRNZ				S	S	18 11 18.4	+0.5
THZ	Tophouse	16.31	197	P	P	18 08 38.0	+0.1
THZ				S	S	18 11 22.8	-0.2
DSZ	Denniston Nort	16.60	199	P	P	18 08 41.3	+0.7
DSZ				S	S	18 11 31.3	+3.6
KHZ	Kahutara	16.78	194	P	P	18 08 41.2	-0.9
KHZ				IAmb	IAmb	18 09 17.0	
	comp=Z,20nm,1.2s						
KHZ	Kahutara	16.78	194	P	P	18 08 41.7	-0.4
KHZ				S	S	18 11 30.2	-0.2
GVZ	Greta Valley S	17.42	195	P	P	18 08 48.2	+0.2
LTZ	Lake Taylor	17.43	197	P	P	18 08 48.9	+0.8
LTZ				S	S	18 11 42.4	+1.1
FOZ	Fox Glacier	18.84	201	P	P	18 09 00.3	-0.6
FOZ				IAmb	IAmb	18 09 31.2	
	comp=Z,35nm,1.4s						
EIDS	Eidsvold	25.17	266	P	P	18 09 58.0	0.0
EIDS				IAmb	IAmb	18 09 59.0	
	comp=Z,7.4nm,0.7s						
CAN	Canberra	27.27	243	P	P	18 10 17.3	+0.9
CAN				IAmb	IAmb	18 10 17.4	
	comp=Z,22nm,1.5s						
TOO	Toolangi	30.49	240	P	P	18 10 44.4	+0.1
TOO				IAmb	IAmb	18 11 08.5	
	comp=Z,20nm,1.4s						
CTA	Charters Tower	30.70	275	P	P	18 10 46.4	+0.1
	comp=Z,8.8nm,0.4s,baz=95,slow=10,SNR=32						
	comp=Z,6.8nm,0.4s						
CTAO	Charters Tower	30.70	275	P	P	18 10 46.1	-0.2
CTAO				IAmb	IAmb	18 11 08.3	
	comp=Z,22nm,1.4s						
STKA	Stephens Creek	33.10	251	P	P	18 11 06.8	+0.3
STKA	Stephens Creek	33.10	251	P	P	18 11 06.5	0.0
	comp=Z,2.1nm,0.5s,baz=94,slow=12,SNR=6.7						
	comp=Z,2.1nm,0.5s						
COEN	Coen	35.70	283	P	P	18 11 28.7	+0.2
COEN				IAmb	IAmb	18 12 11.1	
	comp=Z,16nm,1.2s						
BBOO	Buckleboo	37.77	250	P	P	18 11 45.1	-0.2
AS31	Alice Springs	40.85	263	P	P	18 12 09.9	-0.3
ASAR	Alice Springs	40.85	263	P	P	18 12 09.7	-0.5
ASAR	Alice Springs	40.85	263	P	P	18 12 10.1	-0.1
	comp=Z,3.5nm,0.4s,baz=91,slow=7.9,SNR=239						
ASAR				S	S	18 17 41.9	-0.4
	comp=Z,0.5nm,1.1s,baz=128,slow=13,SNR=2.2						
	comp=Z,3.5nm,0.4s						
WB2	Warramunga Arr	41.42	269	P	P	18 12 14.1	-0.7
WB2				IAmb	IAmb	18 12 14.8	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	41.43	269	P	P	18 12 13.9	-1.0
	comp=Z,3.3nm,0.4s,baz=102,slow=7.8,SNR=66						
	comp=Z,3.3nm,0.4s						
WB0	Warramunga Arr	41.44	269	P	P	18 12 14.2	-0.7
WB0				IAmb	IAmb	18 12 55.9	
	comp=Z,14nm,1.4s						
FORT	Forrest	44.72	252	P	P	18 12 39.5	-0.9
KNRA	Kununurra	47.85	272	P	P	18 13 04.0	-0.1
KNRA				IAmb	IAmb	18 13 04.9	
	comp=Z,16nm,1.1s						
FITZ	Fitzroy Crossi	49.82	268	P	P	18 13 17.4	-1.3
MORW	Morawa	55.29	252	P	P	18 13 56.8	-0.9
MORW				IAmb	IAmb	18 14 15.4	
	comp=Z,24nm,1.4s						
QSPA	South Pole Qui	63.88	180	P	P	18 14 56.5	+2.1
QSPA	South Pole Qui	63.88	180	P	P	18 14 56.4	+2.1
	comp=Z,3.3nm,0.9s,baz=314,slow=0.6,SNR=13						
	comp=Z,3.3nm,0.9s						
ADK	Adak	77.85	3	P	P	18 16 16.1	-0.2
KSRS	Korea Array	79.47	321	P	P	18 16 25.8	+0.6
	comp=Z,0.8nm,0.6s,baz=144,slow=5.6,SNR=2.6						
	comp=Z,0.8nm,0.6s						
PEA0B	Petropavlovsk-	81.15	347	P	P	18 16 34.5	+0.8
PETK	Petropavlovsk-	81.15	347	P	P	18 16 34.4	+0.8
PETK	Petropavlovsk-	81.15	347	P	P	18 16 33.8	+0.2
	comp=Z,6.8nm,1.0s,baz=120,slow=6.8,SNR=7.3						
	comp=Z,6.8nm,1.0s						
USA0B	Usuriysk Arra	82.24	328	P	P	18 16 42.0	+2.6
USRK	Ussuriysk Ar.	82.24	328	P	P	18 16 40.1	+0.7
	comp=Z,1.0nm,0.6s,baz=104,slow=9.2,SNR=2.1						
	comp=Z,1.0nm,0.6s						
GSI	Gunungsitoli	82.91	275	P	P	18 16 44.2	+0.7
GSI				IAmb	IAmb	18 16 57.3	
	comp=Z,20nm,1.4s						
O18K	Koktuh Hills	88.34	13	P	P	18 17 08.3	-0.2
TXAR	Lajitas Array	92.39	58	P	P	18 17 29.7	+1.6
	comp=Z,0.2nm,0.6s,baz=206,slow=3.9,SNR=2.4						
	comp=Z,0.2nm,0.6s						
ILAR	Eielson Array	94.48	14	P	P	18 17 35.0	-1.6
	comp=Z,0.3nm,0.8s,baz=210,slow=7.1,SNR=1.9						
	comp=Z,0.3nm,0.8s						
BVAR	Borovoye Array	121.58	318	PKP	PKiKP	18 23 06.6	-0.2
	comp=Z,0.8nm,0.5s,baz=144,slow=1.3,SNR=9.6						
FINES	FINESS Array B	140.33	340	PKhKP	PKPpre	18 23 34.4	
	comp=Z,1.6nm,0.8s,baz=67,slow=4.6,SNR=9.6						
NB2	NORSAR Subarra	144.21	350	PKP	PKPdf	18 23 48.2	-0.4
	comp=Z,4.2nm,1.0s,baz=17,slow=2.6						
NOA	NORSAR Array B	144.21	350	PKP	PKPdf	18 23 47.9	-0.7
	comp=Z,0.5nm,0.4s,baz=54,slow=6.1,SNR=10						
HFS	Hagfors	144.62	347	PKP	PKPab	18 23 49.1	-1.1
	comp=Z,3.5nm,0.3s,baz=64,slow=3.4,SNR=45						
AKASG	Malin Array Be	146.39	325	PKPbc	PKPbc	18 23 54.6	-0.3
	comp=Z,0.6nm,0.3s,baz=44,slow=3.7,SNR=10						
MMAI	Mount Meron Ar	147.78	291	PKPbc	PKiKP	18 24 00.9	+0.2
	comp=Z,1.8nm,0.4s,baz=66,slow=8.4,SNR=4.7						
BRTR	Keskin Array B	148.20	304	PKPbc	PKiKP	18 24 00.3	-1.1
	comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=1.8						
EKA	Eskdalemuir Ar	150.87	3	PKPbc	PKiKP	18 24 05.9	-0.3
	comp=Z,0.9nm,0.5s,baz=353,slow=2.9,SNR=7.9						
TORD	Torodi Ar. Bea	166.76	191	PKPab	PKPab	18 25 27.2	+1.6
	comp=Z,0.5nm,0.6s,baz=135,slow=4.2,SNR=2.9						

IDC 19 18:09:01.8±25.0, 22.06S×69.40E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=835.5km s-min=43.8km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	14.63	12	T	T	18 27 38.5	
	baz=193,slow=76,SNR=19						
H08S2	Diego Garcia H	14.64	12	T	T	18 27 39.4	
	baz=193,slow=76,SNR=28						
H08S3	Diego Garcia H	14.65	12	T	T	18 27 43.0	
	baz=193,slow=76,SNR=39						
H04N2	CROZET ISLANDS	27.99	207	T	T	18 44 08.2	
	baz=37,slow=75,SNR=87						
H04N1	CROZET ISLANDS	28.00	207	T	T	18 44 07.8	
	baz=37,slow=75,SNR=83						
H04N3	CROZET ISLANDS	28.01	207	T	T	18 44 03.4	
	baz=37,slow=75,SNR=73						
ASAR	Alice Springs	58.99	105	P	P	18 19 03.7	0.0
	0.4nm,0.8s,baz=260,slow=6.6,SNR=4.7						
	0.4nm,0.8s						
WRA	Warramunga Arr	60.25	101	P	P	18 19 12.4	0.0
	0.5nm,0.7s,baz=254,slow=7.5,SNR=2.0						
	0.5nm,0.7s						
MKAR	Makanchi Array	69.51	9	P	P	18 20 12.1	0.0
	0.3nm,0.6s,baz=190,slow=4.6,SNR=4.3						
	0.3nm,0.6s						

IDC 19 18:15:00.8±3.4, 47.33N×93.01W, h0km, mbtmp3.2/2, ML0.7/1, Error ellipse: s-maj=41.0km s-min=16.5km az=87.0
NEIC 19 18:15:01.5±2.5, 47.41N±0.03×93.07W±0.05, h0km±2km, mb_Lg2.9/17, ML2.7/6, Error ellipse: s-maj=6.2km s-min=3.7km az=296.0
ISC 19 18:14:59.9±0.8, 47.39N±0.03×93.14W±0.05, h0km, n28, σ1°49/24, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B35A	Bob, Littlefor	1.05	338		Pn	18 15 22.6	+0.7
B35A				IAML		18 15 41.1	
	comp=E,159nm,0.6s						
B35A				IAML		18 15 42.1	
	comp=N,181nm,1.2s						
EYMN	Ely	1.25	63		Pb	18 15 24.8	+0.5
EYMN				IAML		18 15 47.5	
	comp=N,144nm,1.8s						
E38A	The Farm, Brul	1.34	125		Pb	18 15 27.9	+2.0
E38A				IAML		18 15 50.4	
	comp=N,267nm,0.5s						
F36A	Milaca	1.55	190		Pg	18 15 31.5	+2.0
F36A				IAmb_Lg		18 15 54.7	
	comp=Z,58nm,0.9s						
AGMN	Agassiz Nation	2.05	297		Pg	18 15 38.4	-0.7
SPMN	Marine on St.	2.17	174		Pb	18 15 39.1	-1.0
F33A	5 Mile Ranch,	2.67	236		Pn	18 15 45.2	+1.1
G40A	Rib Lake	2.94	135		Pn	18 15 47.7	-0.2
D41A	Chassel	3.14	94	Pn	Pn	18 15 49.9	-0.6
I37A	Lemond, Waseca	3.38	183		Sg	18 16 49.2	+0.9
ULM	Lac du Bonnet	3.39	329		Pn	18 15 54.5	+0.5
ULM	Lac du Bonnet	3.39	329	Pn	Pn	18 15 56.0	+2.1
	comp=Z,0.1nm,0.3s,baz=154,slow=9.7,SNR=1.4						
ULM				Pg	Pg	18 16 03.7	-1.1
	comp=Z,0.3nm,0.3s,baz=147,slow=16,SNR=5.3						
ULM				Sn	Sn	18 16 35.6	+0.7
	comp=Z,0.6nm,0.3s,baz=135,slow=17,SNR=5.1						
ULM				Lg	Lg	18 16 47.4	
	comp=Z,2.1nm,0.3s,baz=193,slow=9.3,SNR=27						
I10CA	LAC DU BONNET	3.40	327	I	I	18 37 30.0	
	baz=139,slow=334,SNR=2.9						
F42A	Maple Grove Fa	3.82	113	IAmb_Lg		18 17 05.0	
	comp=Z,35nm,1.2s						
I40A	Norwalk	3.92	152		Pn	18 15 59.3	-2.0
I40A				IAmb_Lg		18 17 12.1	
	comp=Z,22nm,1.1s						
ECSD	EROS Data Cent	4.39	215	Pn	Pn	18 16 06.4	-1.5
ECSD				IAmb_Lg		18 17 23.1	
	comp=Z,24nm,0.9s						
MDND	Maddock	4.39	278	IAmb_Lg		18 17 28.4	
	comp=Z,18nm,0.7s						
I42A	Draeger Farm,	4.58	138		Pn	18 16 08.0	-2.5
K38A	Parkersburg	4.75	177		Sg	18 17 33.0	+0.7
JFWS	Jewell Farm	4.92	154	Pn	Pn	18 16 15.1	0.0
L40A	Anamosa	5.50	165		Pn	18 16 22.3	-0.7
K43A	Burlington	5.79	142		Pn	18 16 25.0	-2.0
L34A	Svendsen Farm,	5.89	204	IAmb_Lg		18 18 19.2	
	comp=Z,27nm,0.8s						
L42A	Oliver, Polo	5.92	154		Pn	18 16 25.8	-3.1
L42A				IAmb_Lg		18 18 08.1	
	comp=Z,26nm,0.8s						
SFIN	Lafayette	8.25	146	IAmb_Lg		18 19 23.1	
	comp=Z,18nm,0.9s						
R40A	Maddies Statio	9.11	176	IAmb_Lg		18 19 53.1	
	comp=Z,7.8nm,0.8s						
PDAR	Pinedale Array	12.48	254	Pn	Pn	18 17 58.0	-1.0
	comp=Z,0.7nm,0.8s,baz=78,slow=12,SNR=5.7						
YKA	Yellowknife Ar	19.37	329	P	P	18 19 27.0	+0.1
	comp=Z,0.2nm,0.3s,baz=131,slow=12,SNR=10						

CATAC 19 18:15:59.2±0.4, 13.01N×89.52W, h26km±3km, ML3.8
SNET 19 18:16:00.3±1.1, 13.09N×89.54W, h34km, ML3.7
GCG 19 18:16:00.8±0.8, 13.10N×89.66W, h86km±109km, MD3.8
ISC 19 18:15:56.9±1.4, 12.96N±0.05×89.52W±0.03, h13km±10km, n68, σ0°77/104, 1C-15D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.56	20	⇓*i*P	Pn	18 16 10.4	-0.2
LALI				*e*S	Sn	18 16 18.2	-1.5
LALI	Alcalda de L	0.56	20	*i*P	Pn	18 16 10.2	-0.4
LALI				IAML		18 16 10.6	
	comp=Z,1μm,1.0s						
LALI				*i*S	Sn	18 16 18.7	-1.1
JAYA	Jayaque - finc	0.69	6	⇓*e*P	Pb	18 16 12.0	+1.1
JAYA				*e*S	Sn	18 16 22.1	-1.3
JAYA	Jayaque - finc	0.69	6	*i*P	Pb	18 16 11.9	+0.9
JAYA				*i*S	Sn	18 16 23.2	-0.1
JAYA				IAML		18 16 25.9	
	comp=Z,10μm,1.0s						
PANCS	Alcalda de	0.72	27	*i*P	Pn	18 16 12.5	-0.5
PANCS				*i*S	Sn	18 16 22.8	-1.2
PANCS				IAML		18 16 25.8	
	comp=Z,4μm,1.0s						
ITCA	Escuela Especi	0.74	18	*i*P	Pn	18 16 13.1	-0.2
ITCA				*i*S	Sn	18 16 23.8	-0.8
ITCA				IAML		18 16 26.6	
	comp=Z,5μm,1.0s						
MAGS	Ministerio de	0.75	18	*i*P	Pn	18 16 13.1	-0.3
MAGS				*i*S	Sn	18 16 24.2	-0.6
MAGS				IAML		18 16 28.2	
	comp=Z,2μm,1.0s						
LOMA	Loma Larga	0.76	27	⇓*e*P	Pn	18 16 13.4	-0.2
LOMA	Loma Larga	0.76	27	*i*P	Pn	18 16 13.2	-0.3
LOMA				*i*S	Sn	18 16 24.4	-0.5
LOMA				IAML		18 16 28.1	
	comp=Z,2μm,1.0s						
PMON	Piamonte	0.77	15	*i*P	Pb	18 16 13.2	+0.9
PMON				*i*S	Sn	18 16 25.5	+0.3
PMON				IAML		18 16 29.1	
	comp=Z,4μm,1.0s						
SNET	Serv Nac Est T	0.77	21	*e*P	Pn	18 16 13.4	-0.3
SNET	Serv Nac Est T	0.77	21	*i*P	Pn	18 16 13.3	-0.3
SNET				*i*S	Sn	18 16 24.2	-1.0
SNET				IAML		18 16 29.7	
	comp=Z,4μm,1.0s						
SEMO	Seminario San	0.79	21	*i*P	Pb	18 16 13.5	+0.9
SEMO				*i*S	Sn	18 16 25.3	-0.4
SEMO				IAML		18 16 33.1	
	comp=Z,7μm,1.0s						
LFRS	El Faro	0.79	34	⇓*i*P	Pn	18 16 14.1	+0.1
UTEC	Universidad Te	0.80	23	*i*P	Pn	18 16 13.7	-0.3
UTEC				IAML		18 16 14.0	
	comp=Z,2μm,1.0s						
UTEC				*i*S	Sb	18 16 24.4	+0.9
UEES	Universidad Ev	0.80	20	*e*P	Pn	18 16 13.8	-0.2
UEES	Universidad Ev	0.80	20	*i*P	Pn	18 16 13.8	-0.2
UEES				*i*S	Sn	18 16 25.2	-0.7
UEES				IAML		18 16 25.9	
	comp=Z,3μm,1.0s						
BOQS	Boqueron	0.80	17	*e*P	Pn	18 16 14.1	-0.1
BOQS				*e*S	Sn	18 16 25.7	-0.4
SJTE	Alcalda de S	0.82	38	⇓*i*P	Pn	18 16 14.2	-0.1
SJTE				*e*S	Sn	18 16 26.0	-0.4
SJTE	Alcalda de S	0.82	38	*i*P	Pn	18 16 14.1	-0.2
SJTE				*i*S	Sn	18 16 26.1	-

SCLA	**Alcaldia de Sa**	**1.06**	**46**	*eP*		**Pn**	**18 16 18.2**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.09**	**346**	*eP*		**Pg**	**18 16 17.8**	**-0.1**
COEB	**Comit de Eme**	**1.10**	**61**	*eP*		**Pn**	**18 16 18.6**	**+0.3**
TECA	**Tecapa**	**1.12**	**62**	*eP*		**Pn**	**18 16 18.9**	**+0.3**
PQSS	**Presa 15 de Se**	**1.14**	**55**	*iP*		**Pn**	**18 16 19.1**	**+0.4**
PQSS	**Presa 15 de Se**	**1.14**	**55**	*i*	P	**Pg**	**18 16 18.9**	**-0.1**
PQSS					IAML		18 16 19.4	
	comp=Z,1μm,1.0s							
PQSS				*i*	S	**Sb**	**18 16 33.9**	**+0.5**
PACA	**Pacayal**	**1.27**	**67**	*eP*		**Pg**	**18 16 21.4**	**-0.1**
PACA	**Pacayal**	**1.27**	**67**	*iP*		**Pg**	**18 16 21.3**	**-0.1**
PACA				*i*	S	**Sn**	**18 16 38.4**	**+0.8**
PACA					IAML		18 16 44.3	
	comp=Z,8μm,1.0s							
JUCU	**Jucuarɲn**	**1.27**	**77**	*eP*		**Pg**	**18 16 21.6**	**+0.2**
MTO3	**Montecristo**	**1.44**	**6**	*eP*		**Pn**	**18 16 23.4**	**+0.5**
MTO3	**Montecristo**	**1.44**	**6**	*iP*		**Pn**	**18 16 23.4**	**+0.5**
MTO3				*i*	S	**Sb**	**18 16 39.9**	**-2.1**
MTO3					IAML		18 17 03.8	
	comp=Z,370nm,1.0s							
CAHU	**Cacacuatique**	**1.51**	**58**	*eP*		**Pn**	**18 16 24.8**	**+0.9**
ESQI	**Esquipulas**	**1.60**	**6**	*iP*		**Pb**	**18 16 26.4**	**0.0**
ESQI					IAML		18 16 26.7	
	comp=Z,480nm,1.0s							
LCND	**La Caada**	**1.62**	**78**	*eP*		**Pn**	**18 16 26.0**	**+0.7**
LCND	**La Caada**	**1.62**	**78**	*iP*		**Sn**	**18 16 25.8**	**+0.5**
LCND				*i*	S	**Sn**	**18 16 46.6**	**+0.4**
LCND					IAML		18 16 50.0	
	comp=Z,640nm,1.0s							
CNCH	**Conchagua**	**1.67**	**79**	*eP*		**Pn**	**18 16 27.0**	**+0.9**
CNCH	**Conchagua**	**1.67**	**79**	*iP*		**Pn**	**18 16 26.2**	**+0.1**
CNCH				*i*	S	**Sn**	**18 16 47.3**	**-0.2**
CNCH					IAML		18 16 54.9	
	comp=Z,1μm,1.0s							
PCG	**Pacaya**	**1.77**	**323**	*iP*		**Pn**	**18 16 28.7**	**+1.2**
NBG	**Las Nubes**	**1.80**	**334**	*iP*		**Pn**	**18 16 29.0**	**+1.0**
NBG				*i*	S	**Sn**	**18 16 49.4**	**-1.5**
FUG	**Fuego 3**	**1.96**	**319**	*iP*		**Pn**	**18 16 29.9**	**-0.2**
FUG				*i*	S	**Sn**	**18 16 55.7**	**+1.1**
STG3	**Santiaguito 3,**	**2.64**	**311**	*iP*		**Pn**	**18 16 40.0**	**+0.5**
STG3				*i*	S	**Sn**	**18 17 10.4**	**-1.2**
MOMN	**Momotombo**	**2.96**	**100**	*iP*		**Pn**	**18 16 44.4**	**+0.6**
MOMN				*i*	S	**Sn**	**18 17 16.5**	**-2.7**
MOMN					IAML		18 17 22.9	
	comp=Z,5.3nm,1.0s							
COPN	**Copaltepe**	**2.96**	**105**	*iP*		**Pn**	**18 16 45.5**	**+1.7**
COPN					IAML		18 17 20.0	
	comp=Z,180nm,1.0s							
LIMN	**Finca el Limon**	**3.08**	**88**	*iP*		**Pn**	**18 16 46.5**	**+1.1**
LIMN				*i*	S	**Sn**	**18 17 22.4**	**+0.2**
LIMN					IAML		18 17 28.4	
	comp=Z,56nm,1.0s							
NANN	**Nandasmo**	**3.47**	**107**	*iP*		**Pb**	**18 16 55.8**	**-2.6**
NANN					IAML		18 17 06.9	
	comp=Z,4μm,1.0s							
SAJU	**San Juanillo,**	**4.71**	**127**	*iP*		**Pn**	**18 17 09.4**	**+1.5**
SAJU					IAML		18 17 32.2	
	comp=Z,72nm,1.0s							

IDC 19 18:32:14.9±11.0, **7°.04S**×**130°.55E, h454**km±173km, **mb2.4/1, mbtmp3.2/3, Error ellipse: s-maj=87.4km s-min=84.3km az=38.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.35**	**164**	P	P	18 35 08.1	-0.3
	0.2nm,0.3s,baz=345,slow=12,SNR=5.9						
WRA				S	S	18 37 30.4	-1.2
	1.3nm,1.0s,baz=338,slow=21,SNR=10						
ASAR	**Alice Springs**	**16.85**	**169**	P	P	18 35 46.5	+0.9
	0.3nm,0.5s,baz=348,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**68.56**	**327**	P	P	18 42 31.0	-0.1
	0.1nm,0.5s,baz=116,slow=6.6,SNR=1.9						
	0.1nm,0.5s						

*JMA **19** 18:35:16.8±0.0, 36°.8N±0°.1×140°.6E±0°.2, h7km, MV3.0/20, NORTHERN IBARAKI PREF*
*IDC **19** 18:35:17.5±2.7, 36°.72N×140°.50E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=43.4km s-min=27.7km az=39.0*
ISC 19 18:35:15.8±1.1, **36°.82N**±0°.05×**140°.61E**±0°.05, **h12**km±10km, **n18**, σ0**°74**/19, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**190**	*iP*	**Pg**	**18 35 20.7**	**+0.4**
JHO				S	**Sg**	**18 35 23.4**	**0.0**
JFFD	**Fukushimafurud**	**0.28**	**351**	*iP*	**Pb**	**18 35 22.6**	**-0.1**
JFFD				S	**Sb**	**18 35 26.6**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.32**	**27**	*iP*	**Pb**	**18 35 23.6**	**+0.1**
ONAJ				S	**Sb**	**18 35 28.7**	**0.0**
JSB	**Shiboa**	**0.58**	**286**	*iP*	**Pb**	**18 35 28.3**	**+0.5**
JSB				S	**Sb**	**18 35 36.2**	**+0.2**
JFK	**Kawauchi**	**0.59**	**21**	*iP*	**Pn**	**18 35 28.3**	**-1.7**
JFK				S	**Sb**	**18 35 36.7**	**+0.4**
JYT	**Yasato**	**0.68**	**210**	*iP*	**Pb**	**18 35 29.1**	**-0.3**
JYT				S	**Sg**	**18 35 37.8**	**-0.1**
JOTO	**OTAMA OYAMA**	**0.78**	**343**	*iP*	**Pn**	**18 35 31.9**	**-0.6**
JOTO				S	**Sb**	**18 35 42.2**	**+0.5**
JFY	**Yanaizu**	**0.94**	**309**	P	**Pn**	**18 35 34.8**	**+0.1**
JAG	**Ashikaga**	**1.01**	**248**	*iP*	**Pb**	**18 35 34.7**	**-0.5**
MJAR	**Matsushiro Arr**	**1.95**	**263**	Pn	**Pb**	**18 35 50.1**	**-1.1**
	1.7nm,0.3s,baz=86,slow=15,SNR=98						
MJAR				Sn	**Sb**	**18 36 15.1**	**-0.5**
	1.7nm,0.3s,baz=82,slow=28,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**28.59**	**119**	T	T	19 10 59.5	
	baz=313,slow=75,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**28.60**	**119**	T	T	19 11 01.1	
	baz=313,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	19 11 00.7	
	baz=313,slow=75,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**29.29**	**121**	T	T	19 11 49.7	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**29.29**	**121**	T	T	19 11 49.7	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	19 11 50.9	
	baz=313						
WRA	**Warramunga Arr**	**56.76**	**187**	P	**P**	**18 45 00.8**	**+1.2**
	0.2nm,0.5s,baz=2.4,slow=7.5,SNR=1.2						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**60.49**	**187**	P	P	18 45 30.0	+4.5
	0.3nm,0.8s,baz=12,slow=9.5,SNR=2.0						
	0.3nm,0.8s						

*IDC **19** 18:46:47.8±0.8, 9°.74N×145°.58E, h0km, mb4.2/18, mbtmp4.2/19, ML4.4/1, Error ellipse: s-maj=27.1km s-min=16.1km az=92.0*
*NEIC **19** 18:46:49.7±1.2, 9°.80N±0°.08×145°.6E±0°.1, h10km±1km, mb4.5/41, Error ellipse: s-maj=21.8km s-min=13.0km az=74.0*
ISC 19 18:46:49.5±0.5, **9°.84N**±0°.07×**145°.6E**±0°.1, **h10**km, **n75**, σ0**°94**/69, **mb4.5**/37, **Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.79**	**349**	Pn	**Pn**	**18 47 48.1**	**+0.2**
GUMO				Sn	**Sn**	**18 48 28.8**	**-3.8**
GUMO	**Guam**	**3.79**	**349**	Pn	**Pn**	**18 47 48.6**	**+0.7**
	28nm,0.3s,baz=170,slow=17,SNR=19						
GUMO				Sn	**Sn**	**18 48 30.5**	**-2.1**
	114nm,0.3s,baz=162,slow=20,SNR=16						
	64nm,0.3s						
PATS	**Pohnpei**	**12.94**	**102**	Pn	**Pn**	**18 49 52.9**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**22.18**	**65**	T	T	19 15 27.7	
	baz=248,slow=75,SNR=45						
H11S2	**WAKE ISLAND Hy**	**22.19**	**65**	T	T	19 15 29.1	
	baz=248,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**22.19**	**65**	T	T	19 15 28.9	
	baz=248,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**22.79**	**62**	T	T	19 16 15.7	
	baz=246,slow=75,SNR=56						
H11N2	**WAKE ISLAND Hy**	**22.80**	**62**	T	T	19 16 16.3	
	baz=246,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**22.81**	**62**	T	T	19 16 17.2	
	baz=246,slow=75,SNR=66						
JOW	**Kunigami**	**23.52**	**318**	P	**P**	**18 52 01.1**	**+1.3**
MTN	**Manton Dam**	**26.72**	**213**	P	**P**	**18 52 28.0**	**-1.3**
MTN				IAmb	IAmb	18 52 30.7	
	comp=Z,18nm,1.2s						
JNU	**Nakatsue**	**26.84**	**332**	P	**P**	**18 52 30.4**	**+0.1**
SSLB	**Suanglung**	**27.29**	**304**	P	**P**	**18 52 34.4**	**-0.1**
MJAR	**Matsushiro Arr**	**27.41**	**347**	P	**P**	**18 52 37.8**	**+2.5**
	comp=Z,6.2nm,1.1s,baz=170,slow=10.0,SNR=6.5						
	comp=Z,6.2nm,1.1s						
MAJO	**Matsushiro**	**27.41**	**347**	P	**P**	**18 52 36.7**	**+1.4**
MAJO				IAmb	IAmb	18 52 53.4	
	comp=Z,22nm,1.4s						
MJB9	**Matsu-Tunnel**	**27.41**	**347**	P	**P**	**18 52 36.2**	**+0.8**
MJB9				IAmb	IAmb	18 52 54.4	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**31.59**	**200**	P	**P**	**18 53 11.5**	**-1.1**
WRAB				IAmb	IAmb	18 53 14.2	
	comp=Z,8.9nm,1.2s						
WB2	**Warramunga Arr**	**31.60**	**200**	P	P	18 53 11.4	-1.2
WB2				IAmb	IAmb	18 53 12.2	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**31.60**	**200**	P	P	18 53 11.0	-1.7
	comp=Z,1.6nm,0.7s,baz=29,slow=9.9,SNR=8.0						
WRA				PcP	**PcP**	**18 56 04.9**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=14,slow=2.7,SNR=1.5						
	comp=Z,1.6nm,0.7s						
KSRS	**Korea Array**	**31.77**	**333**	P	**P**	**18 53 14.0**	**0.0**
	comp=Z,3.8nm,0.9s,baz=148,slow=9.0,SNR=12						
	comp=Z,3.8nm,0.9s						
AS31	**Alice Springs**	**35.21**	**199**	P	**P**	**18 53 43.5**	**-0.6**
ASAR	**Alice Springs**	**35.21**	**199**	P	P	18 53 42.8	-1.4
ASAR	**Alice Springs**	**35.21**	**199**	P	**P**	**18 53 43.2**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=28,slow=7.1,SNR=22						
ASAR				PcP	**PcP**	**18 56 14.8**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=43,slow=1.9,SNR=1.2						
	comp=Z,0.9nm,0.6s						
STKA	**Stephens Creek**	**41.66**	**185**	P	**P**	**18 54 37.1**	**-1.1**
BBOO	**Buckleboo**	**43.38**	**192**	P	**P**	**18 54 51.1**	**-1.1**
FORT	**Forrest**	**43.76**	**202**	P	P	18 54 54.0	-1.2
CAN	**Canberra**	**45.03**	**176**	P	**P**	**18 55 07.5**	**+2.0**
CM31	**Chiang Mai Arr**	**45.92**	**286**	P	**P**	**18 55 13.8**	**+1.0**
CM31				IAmb	IAmb	18 55 15.2	
	comp=Z,6.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**45.92**	**286**	P	**P**	**18 55 13.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**45.92**	**286**	P	**P**	**18 55 13.8**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=88,slow=6.0,SNR=34						
CMAR				PcP	**PcP**	**18 56 50.7**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=129,slow=1.3,SNR=1.5						
	comp=Z,4.1nm,0.8s						
CHTO	**Chiang Mai**	**45.95**	**287**	P	**P**	**18 55 13.3**	**+0.2**
CHTO				IAmb	IAmb	18 55 34.2	
	comp=Z,6.2nm,1.5s						
ULN	**Ulaanbaatar**	**49.86**	**327**	P	**P**	**18 55 43.7**	**+0.5**
SONM	**Songino Array**	**50.20**	**326**	P	**P**	**18 55 46.8**	**+1.1**
SONM				PcP	**PcP**	**18 57 05.0**	**+0.2**
SONM	**Songino Array**	**50.20**	**326**	P	**P**	**18 55 46.7**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=145,slow=8.7,SNR=18						
SONM				PcP	**PcP**	**18 57 05.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=158,slow=4.6,SNR=1.9						
	comp=Z,2.1nm,0.7s						
MK31	**Makanchi Array**	**64.68**	**317**	P	**P**	**18 57 27.9**	**+0.2**
MK31				IAmb	IAmb	18 57 29.4	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**64.68**	**317**	P	**P**	**18 57 27.3**	**-0.5**
MKAR	**Makanchi Array**	**64.68**	**317**	P	**P**	**18 57 28.0**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=98,slow=7.5,SNR=21						
	comp=Z,2.3nm,0.8s						
MAKZ	**Makanchi**	**64.89**	**317**	P	**P**	**18 57 29.2**	**0.0**
ZALV	**Zalesovo Beam**	**65.07**	**325**	P	**P**	**18 57 30.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=116,slow=6.8,SNR=5.8						
	comp=Z,1.1nm,0.7s						
KURK	**Kurchatov**	**67.90**	**321**	P	**P**	**18 57 47.7**	**-0.6**
KURBB	**Kurchatov Arra**	**67.94**	**321**	P	**P**	**18 57 48.2**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=104,slow=6.2,SNR=12						
	comp=Z,2.8nm,0.6s						
C18K	**Utukok River**	**68.03**	**18**	P	**P**	**18 57 50.3**	**+1.4**
C18K				IAmb	IAmb	18 57 56.7	
	comp=Z,4.4nm,1.5s						
NRN	**Naryn**	**68.26**	**311**	P	**P**	**18 57 50.6**	**-0.5**
NRN				IAmb	IAmb	18 57 51.6	
	comp=Z,3.4nm,1.2s						
D19K	**Kuna River**	**68.93**	**19**	P	**P**	**18 57 54.6**	**+0.2**
D19K				IAmb	IAmb	18 58 20.4	
	comp=Z,4.1nm,1.3s						
AAK	**Ala-Archa**	**69.50**	**312**	P	P	18 57 57.2	-1.4
NRIK	**Noril'sk**	**69.88**	**341**	P	**P**	**18 58 00.2**	**0.0**
	comp=Z,2.7nm,0.7s,baz=120,slow=9.3,SNR=6.4						
	comp=Z,2.7nm,0.7s						
ARSB	**Arslanbob**	**70.51**	**310**	P	**P**	**18 58 04.7**	**-0.1**
ILAR	**Eielson Array**	**71.65**	**25**	P	**P**	**18 58 10.2**	**-0.9**
ILAR	**Eielson Array**	**71.65**	**25**	P	**P**	**18 58 11.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=242,slow=3.6,SNR=5.5						
	comp=Z,0.5nm,0.8s						
KK31	**Karatay Array**	**72.45**	**312**	P	**P**	**18 58 16.4**	**0.0**
KK31				IAmb	IAmb	18 58 17.6	
	comp=Z,3.4nm,0.8s						
KKAR	**Karatay Array**	**72.45**	**312**	P	**P**	**18 58 16.3**	**-0.1**
KKAR	**Karatay Array**	**72.45**	**312**	P	**P**	**18 58 16.1**	**-0.3**
KKAR				IAmb	IAmb	18 58 17.6	
	comp=Z,3.4nm,0.8s						
BMAR	**Burnt Mountain**	**73.27**	**22**	P	**P**	**18 58 22.0**	**+1.2**
BVAR	**Borovoye Array**	**73.30**	**322**	P	**P**	**18 58 21.3**	**+0.1**
	comp=Z,4.4nm,0.4s,baz=104,slow=7.6,SNR=54						
	comp=Z,4.4nm,0.4s						
BRVK	**Borovoye**	**73.36**	**322**	P	**P**	**18 58 21.8**	**+0.3**
BRVK				IAmb	IAmb	18 58 22.9	
	comp=Z,9.6nm,1.3s						
SIMJ	**Simiganj**	**73.45**	**307**	P	P	18 58 21.4	-1.2
SIMJ				IAmb	IAmb	18 58 23.6	
	comp=Z,4.0nm,0.9s						
E28M	**Babbage River**	**75.39**	**21**	P	**P**	**18 58 33.5**	**+0.5**
E28M				IAmb	IAmb	18 59 11.4	
	comp=Z,5.0nm,1.4s						
H29M	**Whitestone**	**75.43**	**24**	P	**P**	**18 58 32.9**	**-0.5**
H29M				IAmb	IAmb	18 58 33.5	
	comp=Z,5.0nm,1.4s						
K29M	**Barlow Dome**	**75.45**	**26**	P	**P**	**18 58 33.5**	**-0.1**
J30M	**Hart River**	**76.05**	**26**	P	**P**	**18 58 36.6**	**-0.5**
I30M	**Mount Dempster**	**76.11**	**25**	P	**P**	**18 58 36.8**	**-0.6**
INK	**Inuvik**	**77.55**	**22**	P	**P**	**18 58 46.5**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=0.3,slow=10,SNR=3.6						
	comp=Z,1.1nm,0.8s						
HRA	**Herat**	**79.05**	**303**	P	**P**	**18 58 54.0**	**-0.6**
HRA				IAmb	IAmb	18 58 55.6	
	comp=Z,4.9nm,0.8s						
ABKAR	**Akbulak array**	**79.78**	**318**	P	**P**	**18 58 57.5**	**-0.5**
ABKAR	**Akbulak array**	**79.78**	**318**	P	**P**	**18 58 57.4**	**-0.5**
ABKAR				IAmb	IAmb	18 59 02.2	
	comp=Z,1.8nm,0.9s						
BBB	**Bella Bella**	**80.04**	**39**	P	**P**	**18 58 58.5**	**-0.7**
GEYT	**Alibeck**	**82.05**	**307**	P	**P**	**18 59 09.9**	**-0.5**
GEYT				IAmb	IAmb	18 59 13.2	
	comp=Z,4.6nm,0.9s						
GEYT	**Alibeck**	**82.05**	**307**	P	**P**	**18 59 10.8**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=87,slow=6.2,SNR=9.1						
	comp=Z,2.9nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**82.05**	**307**	P	**P**	**18 59 09.6**	**-0.8**
GYA0B				IAmb	IAmb	18 59 13.2	
	comp=Z,5.0nm,1.1s						
YKA	**Yellowknife Ar**	**85.84**	**27**	P	**P**	**18 59 29.9**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=291,slow=5.5,SNR=5.3						
	comp=Z,0.5nm,0.9s						
VNDA	**Vanda**	**87.71**	**177**	P	**P**	**18 59 37.9**	**0.0**
NVAR	**Mina Array Bea**	**88.70**	**51**	P	**P**	**18 59 44.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=328,slow=3.2,SNR=2.4						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**90.84**	**342**	P	**P**	**18 59 53.2**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=45,slow=5.3,SNR=4.6						
	comp=Z,2.3nm,0.8s						
FINES	**FINESS Array B**	**94.83**	**335**	P	P	19 00 10.1	-1.3
	comp=Z,0.7nm,0.7s,baz=43,slow=6.3,SNR=3.6						
	comp=Z,0.7nm,0.7s						
DBIC	**Dimbokro**	**146.29**	**298**	PKPbc	**PKPdf**	**19 06 30.9**	**+0.5**
	comp=Z,7.1nm,0.7s,baz=54,slow=3.6,SNR=10						

*IDC **19** 18:50:11.5±3.8, 54°.68N×161°.77W, h0km, mb3.7/9, mbtmp3.7/10, ML3.1/1, Error ellipse: s-maj=100.2km s-min=21.2km az=163.0*
*AEIC **19** 18:50:15.7±2.7, 54°.38N±0°.03×161°.50W±0°.08, h30km±6km, Error ellipse: s-maj=7.2km s-min=3.9km az=119.0*
*NEIC **19** 18:50:16.1±2.3, 54°.43N±0°.06×161°.51W±0°.08, h57km±15km, mb3.4/8, ML3.5/14, ML3.3(AEIC), Error ellipse: s-maj=9.6km s-min=5.5km az=154.0*
ISC 19 18:50:14.0±1.4, **54°.32N**±0°.07×**161°.43W**±0°.03, **h31**km±10km, **n163**, σ1**°30**/163, **mb3.8**/9, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.93**	**328**		**Pn**	**18 50 30.6**	**-0.3**
PS4A	**Pavlof South-4**	**1.06**	**347**		**Pn**	**18 50 33.1**	**+0.4**
PVV	**Pavlof Volcano**	**1.08**	**349**		**Pn**	**18 50 33.4**	**+0.4**
PVV					**Sn**	**18 50 47.1**	**+0.3**
PS1A	**Pavlof South-1**	**1.12**	**351**		**Pn**	**18 50 34.1**	**+0.6**
PS1A					**Sb**	**18 50 49.0**	**0.0**
PN7A	**Pavlof North-7**	**1.16**	**344**		**Pb**	**18 50 35.5**	**0.0**
SDPT	**Sand Point**	**1.17**	**28**		**Pb**	**18 50 35.3**	**-0.3**
SDPT				IAML		18 50 52.4	
	comp=E,1μm,0.4s						
SDPT	**Sand Point**	**1.17**	**28**		**Sb**	**18 50 50.9**	**+0.4**
SDPT	**Sand Point**	**1.17**	**28**	P	**Pb**	**18 50 35.5**	**-0.1**
SDPT	**Sand Point**	**1.17**	**28**	P	**Pb**	**18 50 35.4**	**-0.3**
	baz=210						
SDPT				S	**Sb**	**18 50 50.8**	**+0.4**
	baz=210						
CNBA	**Chernabura Isl**	**1.19**	**64**		**Pb**	**18 50 35.6**	**-0.3**
CHNA	**Chernabura Isl**	**1.19**	**64**	P	**Pb**	**18 50 35.6**	**-0.3**
	baz=248						
FALS	**False Pass**	**1.27**	**296**		**Pn**	**18 50 36.2**	**+0.6**
FALS	**False Pass**	**1.27**	**296**		**Sn**	**18 50 52.5**	**+0.8**
FALS	**False Pass**	**1.27**	**296**	P	**Pn**	**18 50 36.6**	**+1.0**
FALS	**False Pass**	**1.27**	**296**	P	**Pn**	**18 50 36.5**	**+0.9**
	baz=113						
FALS				S	**Sn**	**18 50 52.5**	**+0.8**
	baz=113						
BRPK	**Brown Peak**	**1.39**	**285**		**Pb**	**18 50 38.6**	**-0.6**
ISLZ	**Isanotski Laza**	**1.39**	**288**		**Pb**	**18 50 38.5**	**+1.2**
ISLZ					**Sn**	**18 50 55.6**	**+1.0**
ISNN	**Isanotski Nort**	**1.46**	**292**		**Pb**	**18 50 40.1**	**-0.4**
SSLS	**Shishaldin Sou**	**1.55**	**286**		**Pb**	**18 50 41.5**	**-0.5**
SSLN	**Shishaldin Nor**	**1.57**	**289**		**Pb**	**18 50 41.7**	**-0.7**
WEBT	**Westdahl Beart**	**1.96**	**279**		**Pb**	**18 50 47.4**	**-1.5**
WEBT					**Sn**	**18 51 10.7**	**+2.1**
WECS	**Westdahl Cape**	**1.97**	**278**		**Pb**	**18 50 47.8**	**-1.3**
AKSA	**Akutan Strait**	**2.51**	**268**		**Pn**	**18 50 55.2**	**+2.6**
AKUT	**Akutan**	**2.55**	**268**	Pn	**Pn**	**18 50 54.6**	**+1.4**
AKUT				IAML		18 51 38.4	
	comp=N,134nm,0.6s						
CHGN	**Chignik**	**2.63**	**40**		**Pn**	**18 50 56.2**	**+1.9**
CHGN				IAML		18 51 33.1	
	comp=E,183nm,0.9s						
CHGN				IAML		18 51 33.8	
	comp=N,103nm,0.7s						
CHGN	**Chignik**	**2.63**	**40**	P	**Pn**	**18 50 56.5**	**+2.3**
	baz=223						
AKBBA	**Akutan Broad B**	**2.65**	**267**		**Pn**	**18 50 56.4**	**+1.9**
AKV	**Akutan Volcano**	**2.67**	**268**		**Pn**	**18 50 57.2**	**+2.4**
LVA	**Lava Point**	**2.71**	**268**		**Pn**	**18 50 57.6**	**+2.2**
UNV	**Unalaska Valle**	**3.02**	**263**		**Pn**	**18 51 01.3**	**+1.7**
UNV	**Unalaska Valle**	**3.02**	**263**	P	**Pn**	**18 51 02.1**	**+2.4**
UNV	**Unalaska Valle**	**3.02**	**263**	P	**Pn**	**18 51 01.6**	**+2.0**
	baz=78						
MNAT	**Makushin Natee**	**3.12**	**264**		**Pn**	**18 51 03.1**	**+2.0**
MSW	**Makushin Switc**	**3.17**	**265**		**Pn**	**18 51 03.6**	**+1.9**
MGOD	**Makushin Gods**	**3.25**	**263**		**Pn**	**18 51 04.8**	**+2.0**
MAPS	**Pakushin South**	**3.29**	**263**		**Pn**	**18 51 05.2**	**+1.9**
CHIR	**Chirikof Islan**	**3.66**	**63**		**Pn**	**18 51 10.4**	**+1.9**
CHIR				IAML		18 52 16.0	
	comp=E,115nm,1.8s						
CHIR				IAML		18 52 37.9	
	comp=N,127nm,2.2s						
CHIR	**Chirikof Islan**	**3.66**	**63**	P	**Pn**	**18 51 10.5**	**+2.1**
	baz=249						
NIKH	**Nikolski High**	**4.62**	**256**		**Pn**	**18 51 22.9**	**+1.3**
NIKH	**Nikolski High**	**4.62**	**256**	P	Pn	18 51 26.6	±5.0
NIKH	**Nikolski High**	**4.62**	**256**	P	**Pn**	**18 51 23.1**	**+1.5**
	baz=69						
SII	**Sitkinak Islan**	**4.70**	**59**		**Pn**	**18 51 24.7**	**+2.0**
SII	**Sitkinak Islan**	**4.70**	**59**	P	**Pn**	**18 51 25.4**	**+2.7**
SII	**Sitkinak Islan**	**4.70**	**59**	P	**Pn**	**18 51 24.7**	**+2.0**
	baz=245						
O14K	**Tigyukauivet M**	**4.95**	**1**		**Pn**	**18 51 27.4**	**+1.3**
O14K				IAML		18 52 29.6	
	comp=N,35nm,3.6s						
O14K				IAML		18 53 35.3	
	comp=E,31nm,2.7s						
O14K	**Tigyukauivet M**	**4.95**	**1**	P	**Pn**	**18 51 27.8**	**+1.7**
	baz=181						
O15K	**Ungalikthiuk R**	**4.95**	**10**		**Pn**	**18 51 27.6**	**+1.5**
O15K	**Ungalikthiuk R**	**4.95**	**10**	P	**

KLU	Klutina	10.92	43	Pn	Pn	18 52 48.5	+0.5
G16K	Koyuk River	11.12	358	Pn	Pn	18 52 52.3	+1.7
RND	Reindeer	11.17	30	Pn	Pn	18 52 50.6	-0.8
M24K	Tolsona, Glenn	11.18	40	Pn	Pn	18 52 51.2	-0.4
DHY	Denali Highway	11.39	34	Pn	Pn	18 52 53.3	-1.2
H19K	Roundabout Mou	11.51	10	Pn	Pn	18 52 56.0	0.0
N25K	Chitina, Valde	11.51	44	Pn	Pn	18 52 56.4	+0.3
F15K	North Star Dit	11.54	353	Pn	Pn	18 52 55.0	-1.3
GLB	Gilahina Butte	11.76	46	Pn	Pn	18 52 57.9	-1.5
VRDI	Verde Repeater	11.80	47	Pn	Pn	18 52 59.8	-0.4
H21K	Melozitna Rive	12.15	17	Pn	Pn	18 53 05.0	+0.3
HDA	Harding Lake	12.49	30	Pn	Pn	18 53 07.2	-2.1
M26K	Nabesna, AK	12.58	43	Pn	Pn	18 53 10.9	+0.3
CTGM	Chitina Glacie	12.62	50	Pn	Pn	18 53 11.9	+0.6
RIDG	Independent Ri	12.69	35	Pn	Pn	18 53 11.5	-0.6
F20K	Avaraart Lake	13.06	10	Pn	Pn	18 53 19.0	+1.8
L27K	Beaver Creek,	13.38	41	Pn	Pn	18 53 21.7	+0.1
BCAR	Beaver Creek A	13.40	41	Pn	Pn	18 53 22.1	+0.2
O29M	Mount Kennedy	13.68	55	Pn	Pn	18 53 26.6	+0.9
C16K	Lisburne Hills	14.12	354	P	Pn	18 53 34.2	+2.7
D19K	Kuna River	14.31	5		Pn	18 53 32.5	-1.7
C18K	Utukok River	14.38	0		Pn	18 53 33.3	-1.8
M29M	Somme Creek	14.46	47	Pn	Pn	18 53 35.3	-1.1
K29M	Barlow Dome	15.46	42	Pn	Pn	18 53 50.0	+0.4
				IAmb	IAmb	18 54 16.5	
	comp=Z,2.3nm,0.9s						
B20K	Meade River	15.87	5	Pn	Pn	18 53 54.1	-0.6
B20K				IAmb	IAmb	18 54 00.6	
	comp=Z,2.5nm,0.9s						
C23K	Itkillik River	16.33	13	Pn	Pn	18 53 58.2	-2.4
H29M	Whitestone	16.39	34	Pn	Pn	18 53 59.6	-1.8
H29M				IAmb	IAmb	18 54 05.0	
	comp=Z,3.7nm,1.4s						
I30M	Mount Dempster	16.55	39		Pn	18 54 03.7	+0.2
I30M				IAmb	IAmb	18 54 19.1	
	comp=Z,3.6nm,0.8s						
G30M	tAoh Zraii Nji	17.53	34		Pn	18 54 14.6	-1.2
G31M	Satah River	18.15	35		Pn	18 54 21.4	-1.8
PEA0B	Petropavlovsk-	23.98	284	P	P	18 55 25.5	+0.1
PETK	Petropavlovsk-	23.98	284	P	P	18 55 25.1	-0.3
	comp=Z,3.5nm,0.6s,baz=79,slow=13,SNR=43						
	comp=Z,3.5nm,0.6s						
YKA	Yellowknife Ar	25.33	52	P	P	18 55 38.6	+1.1
	comp=Z,0.1nm,0.5s,baz=273,slow=9.0,SNR=2.5						
	comp=Z,0.1nm,0.5s						
H11N2	WAKE ISLAND Hy	42.13	228	T	T	19 42 50.2	
	baz=27,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	42.13	227	T	T	19 42 59.7	
	baz=27,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	42.14	228	T	T	19 42 54.6	
	baz=27,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	43.29	227	T	T	19 44 17.4	
	baz=26,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	43.31	227	T	T	19 44 18.7	
	baz=26,slow=76,SNR=6.6						
H11S3	WAKE ISLAND Hy	43.31	227	T	T	19 44 21.0	
	baz=26,slow=76,SNR=6.6						
SONM	Songino Array	54.27	304	P	P	18 59 36.5	-0.4
	comp=Z,0.5nm,0.8s,baz=44,slow=6.6,SNR=3.7						
	comp=Z,0.5nm,0.8s						
FINES	FINESS Array B	64.43	356	P	P	19 00 46.4	-0.2
	comp=Z,2.7nm,1.1s,baz=33,slow=7.3,SNR=4.4						
	comp=Z,2.7nm,1.1s						
BVAR	Borovoye Array	64.72	328	P	P	19 00 48.9	+0.2
	comp=Z,0.9nm,0.7s,baz=46,slow=8.3,SNR=3.7						
	comp=Z,0.9nm,0.7s						
MKAR	Makanchi Array	65.75	317	P	P	19 00 54.8	-0.7
	comp=Z,0.1nm,0.4s,baz=12,slow=7.5,SNR=1.4						
	comp=Z,0.1nm,0.4s						
HFS	Hagfors	65.83	3	P	P	19 00 55.9	+0.1
	comp=Z,0.5nm,0.5s,baz=23,slow=7.8,SNR=1.1						
	comp=Z,0.5nm,0.5s						
AKASG	Malin Array Be	74.97	353	P	P	19 01 51.0	-0.7
	comp=Z,0.5nm,0.5s,baz=11,slow=6.9,SNR=2.8						
	comp=Z,0.5nm,0.5s						
CMAR	Chiang Mai Arr	80.67	288	P	P	19 02 24.6	+0.6
	comp=Z,0.3nm,0.3s,baz=12,slow=4.6,SNR=2.1						
	comp=Z,0.3nm,0.3s						

*IDC **19** 18:59:12.3±3.7,35°.76N×70°.52E,h0km,mb3.7/3, mbtmp3.7/6,ML3.1/3,MS4.6/1,Error ellipse: s-maj=112.2km s-min=27.5km az=90.0*
*NNC **19** 18:59:38.3±3.3,36°.83N×70°.69E,h182km±49km,mb2.7, mpv3.5,Error ellipse: s-maj=31.6km s-min=26.0km az=9.0*

ISC 19 18:59:36.1±1.5,36°.7N±0°.1×70°.9E±0°.2,h200km,n18, σ1§34/19,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.90	21	P	Pn	19 01 02.9	+0.5
	SNR=38						
AML	Almayashu	5.90	21	⇑P	Pn	19 01 03.0	+0.7
	1.1nm,0.6s						
AML				⇑S	Sn	19 02 09.5	-1.0
	6.0nm,0.6s						
UCH	Uchtor	6.25	26	P	Pn	19 01 07.6	+0.6
	SNR=6.9						
EKS2	Erkin-Say	6.42	20	P	Pn	19 01 09.6	+0.9
	SNR=12						
KK31	Karatay Array	6.45	358	P	Pn	19 01 08.9	-0.2
	2.8nm,0.4s,baz=60,slow=22,SNR=15						
KK31				⇓S	Sn	19 02 20.2	-2.7
	8.1nm,0.3s,baz=32,slow=63,SNR=7.1						
USP	Ospenovka	7.18	22	P	Pn	19 01 18.9	+0.4
	SNR=5.4						
TKM2	Tokmak 2	7.25	29	P	Pn	19 01 20.7	+1.0
	SNR=5.5						
TKM2	Tokmak 2	7.25	29	⇓P	Pn	19 01 20.0	+0.4
	1.5nm,0.4s						
TKM2				⇑S	Sn	19 02 42.7	+0.7
	4.5nm,0.8s						
MKAR	Makanchi Array	13.24	37	Pn	Pn	19 02 34.6	-1.9
	0.1nm,0.3s,baz=220,slow=11,SNR=3.8						
	0.3nm,0.7s						
AB31	Akbulak array	14.90	331	⇓P	P	19 02 58.5	+0.9
	0.9nm,0.5s,baz=142,slow=12,SNR=25						
KURBB	Kurchatov Arra	15.02	19	Pn	Pn	19 02 56.1	-2.2
	0.1nm,0.3s,baz=205,slow=12,SNR=1.6						
	0.5nm,0.2s						
BVAR	Borovoye Array	16.38	359	P	Pn	19 03 15.2	+0.5
	0.1nm,0.3s,baz=186,slow=12,SNR=17						
	1.0nm,0.4s						
AKTO	Aktyubinsk	16.59	330	⇑P	P	19 03 16.2	-0.1
	3.0nm,0.9s						
ZALV	Zalesovo Beam	19.83	25	P	P	19 03 52.6	+1.3
	1.3nm,0.3s,baz=217,slow=10,SNR=9.2						
	1.3nm,0.3s						
TIXI	Tiksi	45.68	22	LR	LR	19 28 21.6	
	comp=Z,8.8nm,18.8s,baz=72,slow=38						
ILAR	Eielson Array	74.67	16	LR	LR	19 50 12.0	
	comp=Z,302nm,18.1s,baz=112,slow=40						
WRA	Warramunga Arr	82.17	122	P	P	19 11 35.5	+0.8
	0.6nm,0.8s,baz=317,slow=6.0,SNR=2.0						
	0.6nm,0.8s						
ASAR	Alice Springs	84.44	125	P	P	19 11 44.1	-2.2
	0.3nm,0.8s,baz=312,slow=4.7,SNR=2.2						
	0.3nm,0.8s						

*NEIC **19** 19:11:31.5±2.5,9°.4N±0°.1×125°.45E±0°.05,h10km±1km, mb4.4/15,Error ellipse: s-maj=17.6km s-min=8.7km az=0.0*
*IDC **19** 19:11:44.2±3.2,9°.59N×126°.42E,h130km±28km,mb3.6/14, mbtmp4.0/15,MS3.1/1,Error ellipse: s-maj=44.4km s-min=14.5km az=65.0*

ISC 19 19:11:46.0±0.7,9°.41N±0°.07×126°.2E±0°.2,h150km,n41, σ1§91/33,mb3.9/19,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	2.40	194	P	Pn	19 12 25.9	0.0
	122nm,0.3s,baz=26,slow=3.1,SNR=1.4						
DAV				S	Sn	19 13 00.1	+3.4
	161nm,0.3s,baz=107,slow=19,SNR=2.3						
DAV				LR	LR	19 13 30.1	
	comp=Z,395nm,19.8s,baz=338,slow=40						
BKB	Balikpapan	14.06	222	Pn	Pn	19 14 40.3	-18
TPUB	Ta-pu	14.80	340		Pn	19 14 55.5	-13
SBUM	Sibu	15.50	244	Pn	Pn	19 15 03.6	-13
SOEI	Soe	19.13	186	P	P	19 15 51.7	-6.1
SOEI				IAmb	IAmb	19 16 31.2	
	comp=Z,19nm,1.0s						
KNRA	Kununurra	25.05	174	P	P	19 16 54.5	-2.1
FITZ	Fitzroy Crossi	27.34	181	P	P	19 17 15.2	-1.9
CMAR	Chiang Mai Arr	27.89	292	P	P	19 17 23.2	+1.2
	comp=Z,0.8nm,0.8s,baz=97,slow=8.0,SNR=6.7						
	comp=Z,0.8nm,0.8s						
WB0	Warramunga Arr	30.10	164	P	P	19 17 42.5	+1.0
WB0				IAmb	IAmb	19 18 25.1	
	comp=Z,12nm,1.2s						
WRAB	Tennant Creek	30.25	165	P	P	19 17 44.5	+1.6
WRAB				IAmb	IAmb	19 18 05.5	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	30.25	165	P	P	19 17 42.0	-0.9
	comp=Z,0.6nm,0.8s,baz=347,slow=10,SNR=1.6						
	comp=Z,0.6nm,0.8s						
ASAR	Alice Springs	33.73	167	P	P	19 18 14.2	+0.9
	comp=Z,0.2nm,0.4s,baz=350,slow=7.1,SNR=10						
ASAR				PcP	PcP	19 20 51.2	+1.6
	comp=Z,0.7nm,1.0s,baz=350,slow=2.5,SNR=1.0						
	comp=Z,0.2nm,0.4s						
HNR	Honiara	38.48	118	P	P	19 18 58.6	+4.8
MORW	Morawa	39.48	194	P	P	19 18 58.8	-3.1
MORW				IAmb	IAmb	19 19 05.9	
	comp=Z,25nm,1.4s						
FORT	Forrest	40.00	177	P	P	19 19 07.0	+0.8
H11S3	WAKE ISLAND Hy	40.26	73	T	T	20 02 06.3	
	baz=262,slow=73,SNR=8.8						
H11S1	WAKE ISLAND Hy	40.27	73	T	T	20 02 07.4	
	baz=262,slow=73,SNR=5.7						
H11S2	WAKE ISLAND Hy	40.28	73	T	T	20 02 08.2	
	baz=262,slow=73,SNR=4.7						
H11N1	WAKE ISLAND Hy	40.62	71	T	T	20 02 34.0	
	baz=264,slow=74,SNR=5.6						
H11N2	WAKE ISLAND Hy	40.63	71	T	T	20 02 31.5	
	baz=264,slow=74,SNR=3.7						
H11N3	WAKE ISLAND Hy	40.64	71	T	T	20 02 39.4	
	baz=264,slow=74,SNR=5.6						
SONM	Songino Array	41.79	340	P	P	19 19 18.8	-2.0
SONM	Songino Array	41.79	340	P	P	19 19 20.2	-0.7
	comp=Z,0.9nm,0.5s,baz=156,slow=10,SNR=8.5						
	comp=Z,0.9nm,0.5s						
NWAO	Narrogin (SRO)	42.95	191	P	P	19 19 29.4	-0.8
NWAO	Narrogin (SRO)	42.95	191	P	P	19 19 28.4	-1.8
NWAO				IAmb	IAmb	19 19 58.2	
	comp=Z,26nm,1.2s						
BBOO	Buckleboo	43.03	168	P	P	19 19 32.3	+1.5
STKA	Stephens Creek	43.62	161	P	P	19 19 37.3	+1.7
MK31	Makanchi Array	52.66	323	P	P	19 20 42.1	-2.7
MK31				IAmb	IAmb	19 20 45.7	
	comp=Z,1.7nm,1.0s						
MKAR	Makanchi Array	52.66	323	P	P	19 20 43.0	-1.8
MKAR	Makanchi Array	52.66	323	P	P	19 20 44.5	-0.3
	comp=Z,1.2nm,0.8s,baz=121,slow=8.7,SNR=13						
	comp=Z,1.2nm,0.8s						
ZALV	Zalesovo Beam	55.34	332	P	P	19 21 03.4	-0.7
	comp=Z,0.3nm,0.3s,baz=119,slow=9.3,SNR=4.0						
	comp=Z,0.3nm,0.3s						
KURK	Kurchatov	56.72	326		P	19 21 13.1	-0.9
KURK				IAmb	IAmb	19 21 19.0	
	comp=Z,2.6nm,0.8s						
KURBB	Kurchatov Arra	56.73	326	P	P	19 21 13.1	-0.9
	comp=Z,0.7nm,0.5s,baz=128,slow=6.9,SNR=8.1						
	comp=Z,0.7nm,0.5s						
BVAR	Borovoye Array	62.32	326	P	P	19 21 52.8	+0.5
	comp=Z,0.9nm,0.7s,baz=120,slow=8.8,SNR=4.2						
	comp=Z,0.9nm,0.7s						
NRIK	Noril'sk	64.82	346	P	P	19 22 08.5	+0.1
	comp=Z,1.2nm,0.3s,baz=146,slow=8.8,SNR=4.0						
	comp=Z,1.2nm,0.3s						
GEYT	Alibeck	66.99	307	P	P	19 22 24.8	+1.9
	comp=Z,1.4nm,0.7s,baz=47,slow=8.5,SNR=3.5						
	comp=Z,1.4nm,0.7s						
ARCES	ARCESS Array B	84.97	340	P	P	19 24 04.9	+0.8
	comp=Z,2.8nm,0.8s,baz=64,slow=2.8,SNR=4.1						
	comp=Z,2.8nm,0.8s						
FINES	FINESS Array B	86.60	332	P	P	19 24 13.3	+1.0
	comp=Z,2.1nm,0.8s,baz=90,slow=2.5,SNR=8.7						
	comp=Z,2.1nm,0.8s						
HFS	Hagfors	92.77	332	P	P	19 24 40.9	-0.2
	comp=Z,5.7nm,1.2s,baz=71,slow=14,SNR=1.8						
	comp=Z,5.7nm,1.2s						
YKA	Yellowknife Ar	94.58	24	P	P	19 24 50.2	+0.8
	comp=Z,0.2nm,0.6s,baz=299,slow=4.5,SNR=2.4						
	comp=Z,0.2nm,0.6s						
PLCA	Paso Flores	145.45	157	PKPbc	PKPab	19 31 06.6	-0.7
	comp=Z,2.4nm,1.1s,baz=239,slow=5.9,SNR=1.4						

*IDC **19** 19:18:06.3±1.6,59°.05S×151°.75E,h0km,mb4.4/6, mbtmp4.3/7,ML3.7/1,MS4.1/26,Error ellipse: s-maj=103.0km s-min=17.3km az=79.0*
*NEIC **19** 19:18:09.2±1.4,59°.42S±0°.10×149°.4E±0°.2,h10km±1km, mb4.7/40,Error ellipse: s-maj=20.9km s-min=15.2km az=115.0*

ISC 19 19:18:09.3±0.4,59°.39S±0°.07×149°.43E±0°.10,h10km,n105, σ1§42/72,mb4.6/23,MS4.1/26,2D,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	Macquarie Isla	7.15	51	Pn	Pn	19 19 53.1	-0.7
TAU	Tasmania Unive	16.55	355		P	19 22 04.0	+0.1
TAU				IAmb	IAmb	19 22 14.1	
	comp=Z,69nm,1.1s						
TAU	Tasmania Unive	16.55	355	P	P	19 22 05.5	+1.7
MOO	Moorlands	17.03	354	P	P	19 22 12.5	+3.4
WHZ	Wether Hill Ro	17.49	48		Pn	19 22 12.5	-0.5
WHZ				IAmb	IAmb	19 22 53.6	
	comp=Z,70nm,1.5s						
MLZ	Mavora Lakes	18.00	47	P	Pn	19 22 18.9	-0.5
VNDA	Vanda	18.69	172	P	P	19 22 24.9	-2.3
VNDA	Vanda	18.69	172	P	Pn	19 22 27.7	+0.2
	comp=Z,0.2nm,0.3s,baz=342,slow=8.6,SNR=14						
VNDA				LR	LR	19 29 04.3	
	comp=Z,876nm,18.7s,baz=348,slow=35						
	comp=Z,4.0nm,0.7s						
CASY	Casey	18.77	232	P	P	19 22 26.5	-1.6
LBZ	Lake Benmore	19.61	49	P	P	19 22 35.1	-2.4
RPZ	Rata Peaks	20.52	50	LR	LR	19 29 30.6	
	comp=Z,604nm,18.3s,baz=204,slow=35						
INZ	Inchbonnie	21.51	49	P	P	19 22 58.0	0.0
INZ				IAmb	IAmb	19 23 06.3	
	comp=Z,38nm,1.2s						
LTZ	Lake Taylor	21.78	50	P	P	19 23 01.3	+0.3
LTZ				IAmb	IAmb	19 23 25.9	
	comp=Z,40nm,1.5s						
TOO	Toolangi	21.98	352	P	P	19 23 03.1	-0.1
TOO				IAmb	IAmb	19 23 10.5	
	comp=Z,30nm,1.1s						
TOO	Toolangi	21.98	352	P	P	19 23 06.3	+3.1
BRAT	Ballarat	22.14	348	P	P	19 23 07.8	+2.9
QRZ	Quartz Range	23.55	48	P	P	19 23 20.3	+0.7
QRZ				IAmb	IAmb	19 23 22.6	
	comp=Z,40nm,1.3s						
BHW	Baring Head	23.98	53	P	P	19 23 23.6	0.0
BHW				IAmb	IAmb	19 23 26.9	
	comp=Z,17nm,0.9s						
CAN	Canberra	24.08	359	P	P	19 23 24.6	-0.1
CAN				IAmb	IAmb	19 23 28.5	
	comp=Z,27nm,1.2s						
CNB	Canberra Magne	24.09	360	P	P	19 23 27.0	+2.2
MRZ	Mangatainoka R	24.90	53	P	P	19 23 32.9	+0.9
YNG	Young	25.11	358	P	P	19 23 35.7	+1.7
URZ	Urewera	27.56	52	LR	LR	19 34 18.2	
	comp=Z,495nm,18.2s,baz=300,slow=37						
CMSA	Cobar Meteorol	27.97	353	P	P	19 24 02.3	+2.5
STKA	Stephens Creek	28.02	346	P	P	19 23 58.4	-1.8
	comp=Z,4.0nm,0.8s,baz=126,slow=14,SNR=2.2						
	comp=Z,4.0nm,0.8s						
BBOO	Buckleboo	28.04	336	P	P	19 24 01.4	+0.9
AULRC	Lightning Ridg	29.97	357	P	P	19 24 20.4	+2.8
QSPA	South Pole Qui	30.71	180	P	P	19 24 25.5	+1.4
	comp=Z,1.6nm,0.3s,baz=346,slow=5.3,SNR=8.3						
QSPA				LR	LR	19 36 29.7	
	comp=Z,492nm,20.4s,baz=8.0,slow=36						
	comp=Z,1.6nm,0.3s						
FORT	Forrest	32.05	324	P	P	19 24 35.0	-0.9
H01W1	Cape Leeuwin H	33.62	301	T	T	20 00 28.6	
	baz=146,slow=74,SNR=51						
H01W2	Cape Leeuwin H	33.63	301	T	T	20 00 21.8	
	baz=146,slow=74,SNR=46						
H01W3	Cape Leeuwin H	33.64	301	T	T	20 00 22.7	
	baz=146,slow=74,SNR=49						
NWAO	Narrogin (SRO)	34.00	307	LR	LR	19 35 15.5	
	comp=Z,376nm,20.4s,baz=115,slow=30						
EIDS	Eidsvold	34.02	3	P	P	19 24 52.4	-0.8
EIDS				IAmb	IAmb	19 24 56.7	
	comp=Z,15nm,1.1s						
MAW	Mawson	36.36	220	LR	LR	19 39 54.1	
	comp=Z,260nm,18.3s,baz=98,slow=35						
ASAR	Alice Springs	37.34	336	P	P	19 25 21.3	-0.4
ASAR	Alice Springs	37.34	336	P	P	19 25 21.9	+0.2
	comp=Z,5.8nm,0.8s,baz=164,slow=9.6,SNR=60						
ASAR				PcP	PcP	19 27 39.0	-1.7
	comp=Z,0.5nm,0.7s,baz=138,slow=3.1,SNR=4.2						
ASAR				LR	LR	19 38 22.4	
	comp=Z,206nm,20.3s,baz=185,slow=32						
	comp=Z,5.8nm,0.8s						
AS31	Alice Springs	37.34	336	P	P	19 25 21.3	-0.4
RAO	Raoul Island	37.42	51	LR	LR	19 38 35.6	
	comp=Z,411nm,21.1s,baz=126,slow=34						
DZM	Mont Dzumac	39.21	25	P	P	19 25 39.1	+1.6
DZM				IAmb	IAmb	19 25 48.3	
	comp=Z,15nm,1.1s						
DZM	Mont Dzumac	39.21	25	LR	LR	19 37 46.6	
	comp=Z,400nm,20.6s,baz=162,slow=31						
CTA	Charters Tower	39.32	355	LR	LR	19 40 08.7	
	comp=Z,316nm,18.8s,baz=182,slow=34						
CTAO	Charters Tower	39.32	355	P	P	19 25 38.2	-0.2
MARNC	Mare, Loyalty	40.14	27	P	P	19 25 45.6	+0.4
KOUNC	Koumac, New Ca	40.24	22	P	P	19 25 46.9	+1.0
WR0	Warramunga Arr	40.82	338	P	P	19 25 50.8	0.0
WR0				IAmb	IAmb	19 26 00.5	
	comp=Z,22nm,1.2s						
WB2	Warramunga Arr	40.87	338	P	P	19 25 50.9	-0.4
WB2				IAmb	IAmb	19 25 54.0	
	comp=Z,15nm,0.9s						
WRA	Warramunga Arr	40.88	338	P	P	19 25 51.3	0.0
WRA	Warramunga Arr	40.88	338	P	P	19 25 50.6	-0.6
	comp=Z,11nm,1.0s,baz=166,slow=7.1,SNR=28						
	comp=Z,11nm,1.0s						
WRAB	Tennant Creek	40.88	338	P	P	19 25 51.1	-0.3
WRAB				IAmb	IAmb	19 25 56.6	
	comp=Z,14nm,1.0s						
WB0	Warramunga Arr	41.04	338	P	P	19 25 52.4	-0.3
WB0				IAmb	IAmb	19 25 54.7	
	comp=Z,13nm,1.1s						
BELA	Belgrano 2	42.96	179	P	P	19 26 07.6	-0.1
PSA00	Pilbara Seismi	43.26	318	P	P	19 26 10.4	-0.3
PSA00	Pilbara Seismi	43.26	318	P	P	19 26 10.3	-0.4
PSA00				IAmb	IAmb	19 26 19.2	
	comp=Z,15nm,1.1s						
GIRL	Giralia	44.34	310	P	P	19 26 18.7	-0.7
PAF	Port-aux-Franc	44.55	246	P	P	19 26 19.8	-1.0
FITZ	Fitzroy Crossi	44.71	327	P	P	19 26 21.6	-0.7
KNRA	Kununurra	46.22	332	P	P	19 26 33.0	-1.2
TROLL	Troll, Antarti	46.89	193	⇓P	P	19 26 41.0	+1.8
	comp=Z,196nm,0.7s						
SNAA	Sanae	47.80	191	P	P	19 26 46.5	+0.3
SNAA				IAmb	IAmb	19 26 57.9	
	comp=Z,7.6nm,1.2s						
SNAA	Sanae	47.80	191	⇓P	P	19 26 48.5	+2.3
SNAA	Sanae	47.80	191	⇓P	P	19 26 48.0	+1.8
	comp=Z,3.4nm,0.9s,baz=177,slow=5.1,SNR=4.5						
SNAA				LR	LR	19 47 06.1	
	comp=Z,224nm,20.2s,baz=168,slow=36						
	comp=Z,3.4nm,0.9s						
MTN	Manton Dam	48.42	336	P	P	19 26 50.4	-1.1
PMG	Port Moresby	49.91	357	LR	LR	19 45 45.7	
	comp=Z,219nm,19.0s,baz=165,slow=33						
HNR	Honiara	50.48	14	LR	LR	19 44 28.4	
	comp=Z,3μm,18.7s,baz=106,slow=32						
RAR	Rarotonga	52.35	66	LR	LR	19 46 11.2	
	comp=Z,71nm,19.6s,baz=179,slow=33						
H04S2	CROZET ISLANDS	54.63	237	T	T	20 27 25.9	
	baz=140,slow=75,SNR=14						
H04S1	CROZET ISLANDS	54.63	237	T	T	20 27 28.9	
	baz=140,slow=75,SNR=16						
H04S3	CROZET ISLANDS	54.65	237	T	T	20 27 29.3	
	baz=140,slow=75,SNR=13						
FAKI	Fak Fak	57.88	340	P	P	19 27 59.9	-1.3
KAPI	Kappang	58.83	325	LR	LR	19 50 55.6	
	comp=Z,192nm,22.0s,baz=174,slow=33						
LEM	Lembang	61.30	311	LR	LR	19 50 37.1	
	comp=Z,88nm,21.5s,baz=204,slow=32						
PLCA	Paso Flores	74.90	150	LR	LR	19 55 23.9	
	comp=Z,94nm,20.6s,baz=34,slow=30						
H08S2	Diego Garcia H	76.81	277	T	T	20 54 25.0	
	baz=148,slow=76,SNR=17						
H08S1	Diego Carcia H	76.82	277	T	T	20 54 20.0	
	baz=148,slow=76,SNR=13						
H08S3	Diego Garcia H	76.83	277	T	T	20 54 19.0	
	baz=148,slow=76,SNR=34						
H03S1	Juan Fernandez	78.86	141	T	T	20 58 06.3	
	baz=200						
H03S2	Juan Fernandez	78.86	141	T	T	20 58 00.7	
	baz=200						
H03S3	Juan Fernandez	78.88	141	T	T	20 57 51.8	
	baz=200						
SUR	Sutherland	79.18	222	LR	LR	20 02 04.8	
	comp=Z,54nm,20.8s,baz=186,slow=33						
BOSA	Boshof	80.99	227	P	P	19 30 22.8	-1.3
BOSA				IAmb	IAmb	19 30 37.8	
	comp=Z,12nm,1.2s						
BOSA	Boshof	80.99	227	LR	LR	20 02 19.4	
	comp=Z,52nm,19.9s,baz=190,slow=32						
UBPT	Khong Chiam	82.50	317	P	P	19 30 32.0	+0.2
LBTB	Lobatse	84.10	229	LR	LR	20 01 38.8	
	comp=Z,95nm,19.7s,baz=199,slow=31						
CFA	Coronel Fontan	84.12	148	LR	LR	20 03 32.3	
	comp=Z,49nm,20.3s,baz=202,slow=32						
PALK	Pallekele	85.63	292	LR	LR	20 03 35.3	
	comp=Z,53nm,18.8s,baz=

comp=Z,181nm,18.6s,baz=300,slow=32
TOZ Tahuroa Road 24.49 202 P **P** **19 42 14.5 +0.2**
TOZ IAmb IAmb 19 42 42.8
comp=Z,38nm,1.7s
QRZ Quartz Range 28.31 203 P **P** **19 42 48.4 -0.2**
FOZ Fox Glacier 31.67 204 P **P** **19 43 16.9 -1.4**
WB0 Warramunga Arr 50.04 257 P **P** **19 45 48.5 -1.4**
WB0 IAmb IAmb 19 45 54.5
comp=Z,23nm,1.6s
WB0 PcP **PcP** **19 47 09.7 +0.2**
WRAB Tennant Creek 50.07 257 P **P** **19 45 48.4 -1.8**
WRA Warramunga Arr 50.08 257 P **P** **19 45 48.5 -1.8**
comp=Z,0.6nm,0.5s,baz=92,slow=7.0,SNR=16
comp=Z,0.6nm,0.5s
AS31 Alice Springs 50.35 252 P **P** **19 45 50.7 -1.6**
ASAR Alice Springs 50.35 252 P **P** **19 45 50.2 -2.1**
ASAR Alice Springs 50.35 252 P **P** **19 45 50.5 -1.9**
comp=Z,1.3nm,0.4s,baz=89,slow=7.8,SNR=46
comp=Z,1.3nm,0.4s
NVAR Mina Array Bea 74.11 42 P **P** **19 48 34.0 +2.6**
comp=Z,0.3nm,0.4s,baz=239,slow=8.1,SNR=3.8
comp=Z,0.3nm,0.4s
QSPA South Pole Qui 74.74 180 P **P** **19 48 36.8 +2.2**
comp=Z,1.4nm,0.2s,baz=54,slow=6.6,SNR=4.8
comp=Z,1.4nm,0.2s
ILAR Eielson Array 82.31 11 P **P** **19 49 16.9 +1.0**
comp=Z,0.4nm,0.8s,baz=228,slow=7.0,SNR=5.5
comp=Z,0.4nm,0.8s
BRTR Keskin Array B 146.22 321 PKPbc **PKPab** **19 56 35.7 -0.6**
comp=Z,1.0nm,0.8s,baz=63,slow=3.3,SNR=3.6

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*UCR **19** 19:50:34.5±0.6, 10.°64N×84.°98W, h1km±2km, MW3.6*
*CATAC **19** 19:50:35.5±0.4, 10.°64N×84.°99W, h7km±3km, ML2.6*
ISC 19 19:50:35.6±1.0, 10.°62N±0.°03×84.°96W±0.°02, h12km±9km, n26, σ1.09/37, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUI	**Cuipilapa**	**0.20**	**280**	*e*P	**Pg**	**19 50 39.6**	**-0.5**
CAMAV	**Centro de Prod**	**0.24**	**289**	*e*P	**Pg**	**19 50 40.1**	**-0.6**
COLC	**Colonia**	**0.24**	**280**	*e*P	**Pg**	**19 50 40.3**	**-0.5**
VERA	**Finca Concepci**	**0.25**	**22**	*e*P	**Pg**	**19 50 40.5**	**-0.3**
VERA				*e*S	**Sg**	**19 50 45.3**	**+1.0**
ARE1	**Arenal 1**	**0.29**	**124**	*e*P	**Pb**	**19 50 42.4**	**-0.3**
VACR	**Volcan Arenal**	**0.32**	**118**	*e*P	**Pb**	**19 50 43.0**	**-0.3**
VACR				*e*S	**Sb**	**19 50 49.3**	**+0.9**
VACR	**Volcan Arenal**	**0.32**	**118**	*i* P	**Pb**	**19 50 42.8**	**-0.5**
VACR				*i* S	**Sb**	**19 50 49.5**	**+1.1**
VACR				IAML		19 50 51.6	
	comp=Z,1μm,1.0s						
JTS	**Las Juntas de**	**0.33**	**178**	*e*P	**Pg**	**19 50 42.2**	**-0.1**
SOCE	**Pocosol**	**0.41**	**125**	*e*P	**Pg**	**19 50 44.1**	**+0.2**
SOCE	**Pocosol**	**0.41**	**125**	*i* P	**Pg**	**19 50 44.1**	**+0.2**
SOCE				IAML		19 50 53.5	
	comp=Z,970nm,1.0s						
PLVR	**Palo Verde**	**0.47**	**235**	*e*P	**Pg**	**19 50 44.7**	**-0.2**
PLVR				*e*S	**Sb**	**19 50 52.0**	**-0.9**
ORTG	**Ortega, Santa**	**0.55**	**242**	*i* P	**Pg**	**19 50 45.9**	**-0.6**
ORTG				*i* S	**Sb**	**19 50 54.3**	**-0.9**
ORTG				IAML		19 50 54.5	
	comp=Z,190nm,1.0s						
CPMI	**Catarata Coope**	**0.66**	**121**	*i* P	**Pb**	**19 50 49.0**	**-0.3**
CPMI				IAML		19 51 03.5	
	comp=Z,270nm,1.0s						
NYURE	**Nandayure**	**0.69**	**205**	*e*P	**Pb**	**19 50 49.4**	**-0.1**
NYURE				*e*S	**Sb**	**19 50 59.8**	**+0.8**
LAFE	**Finca La Fe, P**	**0.81**	**176**	*i* P	**Pg**	**19 50 50.9**	**-0.4**
LAFE				IAML		19 50 51.2	
	comp=Z,1.8nm,1.0s						
LAFE				*i* S	**Sb**	**19 51 02.9**	**+0.3**
TCS1	**Tacares**	**0.87**	**131**	*i* P	**Pg**	**19 50 47.7**	**-4.8**
INDI	**Punta indio, G**	**0.92**	**215**	*i* P	**Pg**	**19 50 53.0**	**-0.4**
INDI				*i* S	**Sb**	**19 51 06.9**	**+1.2**
INDI				IAML		19 51 12.9	
	comp=Z,130nm,1.0s						
SAJU	**San Juanillo,**	**0.92**	**233**	*i* P	**Pg**	**19 50 52.5**	**-0.9**
SAJU				IAML		19 50 55.2	
	comp=Z,150nm,1.0s						
SAJU				*i* S	**Sb**	**19 51 06.8**	**+1.1**
JACO	**JACO, Garabito**	**1.00**	**163**	*i* P	**Pg**	**19 50 54.0**	**-0.9**
JACO				*i* S	**Sb**	**19 51 08.5**	**+0.5**
JACO				IAML		19 51 09.8	
	comp=Z,82nm,1.0s						
CBL1	**Cabuya**	**1.03**	**187**	*e*P	**Pg**	**19 50 54.9**	**-0.7**
LCR2	**La Lucha 2**	**1.29**	**133**	*i* P	**Pg**	**19 51 00.2**	**-0.2**
LCR2				*i* S	**Sg**	**19 51 17.3**	**+0.1**
LCR2				IAML		19 51 22.3	
	comp=Z,88nm,1.0s						
ACON	**Acoyapa**	**1.35**	**351**	*e*P	**Pn**	**19 50 59.5**	**-0.9**
CDM	**Cerro de Muert**	**1.59**	**132**	*i* P	**Pn**	**19 51 04.1**	**+0.1**
CDM				IAML		19 51 08.8	
	comp=Z,44nm,1.0s						
CDM				*i* S	**Sn**	**19 51 26.2**	**+1.5**
BUS1	**Rivas**	**1.60**	**131**	*e*P	**Pn**	**19 51 04.2**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.94**	**339**	*i* P	**Pn**	**19 51 08.7**	**+0.2**
BOAB				IAML		19 51 46.8	
	comp=Z,65nm,1.0s						
HUEN		**2.08**	**325**	*i* P	Pn	19 51 02.8	-7.5

IDC 19 19:51:16.9±2.1, 4.°30N×126.°75E, h0km, mb3.5/4, mbtmp3.5/4, MS3.5/2, Error ellipse: s-maj=188.8km s-min=23.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.21**	**163**	P	P	19 56 43.6	-1.0
	1.0nm,0.7s,baz=343,slow=10,SNR=5.6						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**28.65**	**166**	P	P	19 57 16.8	+1.2
	0.2nm,0.4s,baz=340,slow=11,SNR=2.2						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**40.01**	**6**	LR	LR	20 14 19.1	
	comp=Z,65nm,21.2s,baz=33,slow=34						
MKAR	**Makanchi Array**	**57.11**	**325**	P	P	20 01 05.6	+0.4
	0.2nm,0.5s,baz=118,slow=8.4,SNR=5.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**61.28**	**327**	P	P	20 01 33.5	-0.5
	0.3nm,0.5s,baz=128,slow=6.3,SNR=3.3						
	0.3nm,0.5s						
NOA	**NORSAR Array B**	**98.29**	**334**	LR	LR	20 51 50.2	
	comp=Z,21nm,19.6s,baz=270,slow=37						

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*IDC **19** 19:55:50.9±1.6, 1.°22N×97.°04E, h0km, mb4.1/10, mbtmp4.1/11, ML4.2/1, Error ellipse: s-maj=50.1km s-min=20.6km az=56.0*
*NEIC **19** 19:55:55.7±1.7, 1.°34N±0.°08×96.°99E±0.°07, h29km±6km, mb4.3/28, Error ellipse: s-maj=13.8km s-min=7.0km az=220.0*
*DJA **19** 19:55:56.1±0.8, 1.°N±4.°×97.°7E±.°, h28km±6km, M4.3/11, mb4.6/2, MLv4.2/11*
ISC 19 19:55:55.4±0.6, 1.°38N±0.°06×97.°07E±0.°06, h28km, n71, σ1.°07/62, mb4.3/24, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.52**	**98**	Pn	**Pn**	**19 56 06.8**	**-0.1**
GSI					**Sn**	**19 56 16.5**	**+1.7**
GSI	**Gunungsitoli**	**0.52**	**98**	P	**Pn**	**19 56 07.5**	**+0.6**
GSI				S	**Sn**	**19 56 16.8**	**+2.0**
SNSI	**Sinabang, Aceh**	**1.26**	**324**	P	**Pn**	**19 56 17.1**	**-0.2**
PBSI	**Pulau Batu**	**1.87**	**139**	P	**Pn**	**19 56 26.5**	**+0.9**
KCSI	**Kotacane, Aceh**	**2.25**	**18**	P	**Pn**	**19 56 31.4**	**+0.6**
RPSI	**Rantau Prapat**	**2.27**	**55**		**Pn**	**19 56 31.2**	**+0.1**
MLSI	**Meulaboh, Aceh**	**2.95**	**347**	P	**Pn**	**19 56 41.9**	**+1.5**
SISI	**Saibi**	**3.36**	**143**	P	**Pn**	**19 56 46.7**	**+0.6**
LHMI	**Lhok Sumawe**	**3.83**	**358**		**Pn**	**19 56 50.5**	**-2.1**
LHMI	**Lhok Sumawe**	**3.83**	**358**	P	**Pn**	**19 56 54.7**	**+2.1**
PDSI	**Padang**	**4.09**	**124**	P	**Pn**	**19 56 57.2**	**+1.1**
BKNI	**Bangkinang**	**4.11**	**105**		**Pn**	**19 56 55.5**	**-0.9**
BKNI	**Bangkinang**	**4.11**	**105**	P	**Pn**	**19 56 55.9**	**-0.5**
KULM	**Kulim**	**5.28**	**43**	Pn	**Pn**	**19 57 12.6**	**0.0**
KULM	**Kulim**	**5.28**	**43**	P	**Pn**	**19 57 13.9**	**+1.3**
	27nm,0.9s,0.1nm						
SKLT	**Songkhla**	**6.76**	**32**	P	**Pn**	**19 57 33.6**	**+0.7**
MYKOM	**Kota Tinggi**	**6.79**	**86**	Pn	**Pn**	**19 57 32.7**	**-0.6**
UBPT	**Khong Chiam**	**16.11**	**31**		**P**	**19 59 42.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.07**	**6**	P	**Pn**	**19 59 51.8**	**-0.6**
	0.3nm,0.3s,baz=201,slow=11,SNR=11						
	1.3nm,0.6s						
CRAI	**Chiangrai**	**19.01**	**10**	P	**P**	**20 00 15.3**	**+0.1**
KKM	**Kota Kinabalu**	**19.66**	**76**	P	**P**	**20 00 21.0**	**-1.4**
SLVN	**Son La**	**20.93**	**18**	P	**P**	**20 00 36.0**	**-0.1**
SLVN				IAmb	IAmb	20 00 38.8	
	comp=Z,13nm,0.9s						
TOLI2	**Tolitoli**	**23.71**	**90**	P	**P**	**20 01 04.4**	**-1.0**
TOLI2				IAmb	IAmb	20 01 13.0	
	comp=Z,5.8nm,0.7s						
SHL	**Shillong**	**24.56**	**349**	P	**P**	**20 01 12.7**	**-0.6**
PZH	**PanZhiHua**	**25.39**	**10**	P	**P**	**20 01 23.6**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,6.3s						
LUWI	**Luwuk**	**25.82**	**95**	P	**P**	**20 01 23.9**	**-0.7**
H08S2	**Diego Garcia H**	**26.10**	**250**	T	T	20 28 32.5	
	baz=71,slow=76,SNR=205						
H08S3	**Diego Garcia H**	**26.10**	**250**	T	T	20 28 31.8	
	baz=71,slow=76,SNR=414						
H08S1	**Diego Carcia H**	**26.11**	**250**	T	T	20 28 35.8	
	baz=71,slow=76,SNR=104						
ENH	**Enshi**	**31.07**	**21**	P	**P**	**20 02 10.1**	**-1.2**
YULB	**Yu-li**	**32.11**	**45**	P	**P**	**20 02 21.2**	**+0.6**
GTA	**Gaotai**	**37.94**	**3**	*e*P	**P**	**20 03 11.3**	**+0.6**
GTA				sP	sP	20 03 23.9	+1.7
GTA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
H01W3	**Cape Leeuwin H**	**39.46**	**158**	T	T	20 45 01.0	
	baz=333						
H01W2	**Cape Leeuwin H**	**39.47**	**158**	T	T	20 45 05.8	
	baz=333						
H01W1	**Cape Leeuwin H**	**39.47**	**158**	T	T	20 45 02.7	
	baz=333						
HHC	**Hu-ho-hao-te**	**41.43**	**17**	*e*P	**P**	**20 03 42.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,4.5s						
WB0	**Warramunga Arr**	**42.21**	**122**	P	**P**	**20 03 45.5**	**-0.9**
WB0				IAmb	IAmb	20 03 47.7	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**42.24**	**122**	P	**P**	**20 03 44.0**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=304,slow=8.9,SNR=2.0						
	comp=Z,0.7nm,0.7s						
WRAB	**Tennant Creek**	**42.25**	**122**	P	**P**	**20 03 46.4**	**-0.2**
WRAB				IAmb	IAmb	20 04 18.1	
	comp=Z,6.6nm,1.1s						
WB2	**Warramunga Arr**	**42.25**	**122**	P	**P**	**20 03 46.4**	**-0.3**
WB2				IAmb	IAmb	20 03 52.0	
	comp=Z,11nm,1.4s						
WMQ	**Urumqi**	**43.08**	**350**	*e*P	**P**	**20 03 52.9**	**-0.2**
WMQ				pP	pP	20 04 00.3	-1.1
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
ASAR	**Alice Springs**	**43.61**	**127**	P	**P**	**20 03 57.7**	**0.0**
	comp=Z,0.8nm,0.9s,baz=302,slow=7.2,SNR=5.8						
	comp=Z,0.8nm,0.9s						
INCN	**Inchon**	**45.08**	**34**	P	**P**	**20 04 08.4**	**-0.8**
SIMJ	**Simiganj**	**45.12**	**329**	P	**P**	**20 04 10.2**	**+0.5**
SIMJ				IAmb	IAmb	20 04 22.2	
	comp=Z,2.6nm,0.9s						
BTK	**Batken**	**45.29**	**331**	P	**P**	**20 04 10.1**	**-0.9**
BTK				IAmb	IAmb	20 04 40.5	
	comp=Z,3.6nm,1.1s						
ARSB	**Arslanbob**	**45.32**	**334**	P	**P**	**20 04 11.0**	**-0.2**
KSRS	**Korea Array**	**45.78**	**35**	P	**P**	**20 04 15.3**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=217,slow=9.5,SNR=7.2						
	comp=Z,2.6nm,0.9s						
SONM	**Songino Array**	**46.98**	**9**	P	**P**	**20 04 24.2**	**0.0**
SONM				IAmb	IAmb	20 04 26.8	
	comp=Z,3.9nm,1.2s						
SONM				PcP	**PcP**	**20 05 57.1**	**+0.9**
SONM	**Songino Array**	**46.98**	**9**	P	**P**	**20 04 25.0**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=193,slow=8.3,SNR=17						
	comp=Z,1.9nm,0.8s						
MK31	**Makanchi Array**	**47.04**	**346**	P	**P**	**20 04 24.5**	**0.0**
MK31				IAmb	IAmb	20 04 26.8	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**47.04**	**346**	P	**P**	**20 04 24.3**	**-0.2**
MKAR	**Makanchi Array**	**47.04**	**346**	P	**P**	**20 04 25.9**	**+1.3**
	comp=Z,3.0nm,0.9s,baz=162,slow=7.8,SNR=20						
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**47.13**	**346**	P	**P**	**20 04 25.9**	**+0.7**
MAKZ				IAmb	IAmb	20 04 44.1	
	comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**51.53**	**345**	P	**P**	**20 04 59.5**	**+0.8**
	comp=Z,1.7nm,0.2s,baz=162,slow=7.0,SNR=2.5						
	comp=Z,1.7nm,0.2s						
USRK	**Ussuriysk Ar.**	**52.69**	**31**	P	**P**	**20 05 07.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**52.69**	**31**	P	**P**	**20 05 08.3**	**+0.9**
	comp=Z,6.1nm,0.9s,baz=226,slow=4.2,SNR=6.7						
	comp=Z,6.1nm,0.9s						
ZAA0	**Zalesovo Array**	**53.36**	**351**	P	**P**	**20 05 12.8**	**+0.5**
ZAA0				IAmb	IAmb	20 05 14.1	
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**53.36**	**351**	P	**P**	**20 05 12.6**	**+0.4**
ZALV	**Zalesovo Beam**	**53.36**	**351**	P	**P**	**20 05 13.1**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=186,slow=6.5,SNR=16						
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**56.04**	**341**	P	**P**	**20 05 31.9**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=157,slow=8.0,SNR=8.3						
	comp=Z,1.3nm,0.8s						
ABKAR	**Akbulak array**	**57.30**	**332**	P	**P**	**20 05 40.6**	**-0.1**
ABKAR				IAmb	IAmb	20 05 42.1	
	comp=Z,2.8nm,0.9s						
H04N2	**CROZET ISLANDS**	**61.84**	**214**	T	T	21 13 08.3	
	baz=54,slow=75,SNR=204						
H04N1	**CROZET ISLANDS**	**61.85**	**214**	T	T	21 13 08.9	
	baz=54,slow=75,SNR=227						
H04N3	**CROZET ISLANDS**	**61.86**	**214**	T	T	21 13 08.6	
	baz=54,slow=75,SNR=227						
H04S1	**CROZET ISLANDS**	**62.18**	**213**	T	T	21 13 35.1	
	baz=53,slow=76,SNR=11						
H04S3	**CROZET ISLANDS**	**62.20**	**213**	T	T	21 13 33.7	
	baz=53,slow=76,SNR=18						
H04S2	**CROZET ISLANDS**	**62.20**	**213**	T	T	21 13 40.0	
	baz=53,slow=76,SNR=8.3						
YAK	**Yakutsk**	**65.29**	**16**	P	**P**	**20 06 33.8**	**-0.7**
BURAR	**Bucovina Array**	**76.80**	**319**	P	**P**	**20 07 44.8**	**0.0**
FINES	**FINESS Array B**	**79.78**	**333**	P	**P**	**20 07 59.9**	**-1.0**
FINES	**FINESS Array B**	**79.78**	**333**	P	**P**	**20 08 01.2**	**+0.3**
	comp=Z,3.7nm,1.1s,baz=79,slow=8.6,SNR=2.4						
	comp=Z,3.7nm,1.1s						

IDC 19 19:59:21.5±3.6, 15.°20N×84.°32W, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=160.5km s-min=65.8km az=36.0, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**22.72**	**312**	P	P	20 04 24.8	-0.4
	0.1nm,0.5s,baz=128,slow=12,SNR=2.1						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**64.78**	**335**	P	P	20 10 02.2	+0.5
	0.5nm,0.9s,baz=127,slow=5.8,SNR=5.3						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**143.07**	**251**	PKP	PKPdf	20 18 58.8	+0.5
	0.4nm,0.8s,baz=103,slow=4.1,SNR=0.9						
CMAR	**Chiang Mai Arr**	**146.40**	**354**	PKPbc	PKPdf	20 19 03.7	-0.4
	0.8nm,0.3s,baz=355,slow=5.4,SNR=4.6						

ZUR 19 20:22:20.9, 46.°34N×7.°52E, h4km±1km, MLh1.2/10, 5C, Error ellipse: s-maj=2585.6km s-min=636.1km az=60.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIEB	**Ecole de Borzu**	**0.04**	**169**	↑P*e*	Pg	20 22 22.1	+0.2
SIEB				S*e*	Sg	20 22 23.0	+0.3
STSW2	**Zeuzier, Staus**	**0.06**	**277**	↑P*e*	Pg	20 22 22.5	+0.2
STSW2				S*e*	Sg	20 22 23.6	+0.2
SAYF2	**Ayent-Fortunoz**	**0.09**	**236**	↑P*e*	Pg	20 22 22.9	+0.2
LKBD2	**Leukerbad 2**	**0.09**	**66**	↑P*e*	Pg	20 22 23.1	+0.2
LKBD2				S*e*	Sg	20 22 24.6	+0.4
SGAK	**Gampel Kirche,**	**0.15**	**98**	S*e*	Sg	20 22 26.5	+0.6
LAUCH	**Lauchernalp**	**0.19**	**65**	↑P*e*	Pg	20 22 24.9	+0.3
LAUCH				S*e*	Sg	20 22 27.7	+0.5
EMBD	**Embd, Matterta**	**0.25**	**119**	S*e*	Sg	20 22 29.1	+0.3

LDG 19 20:22:51.9±0.0, 45.°74N×7.°27E, h0km, Md2.0/2, Error ellipse: s-maj=6.4km s-min=0.7km az=147.0, Landslide, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPG	**La Plagne**	**0.44**	**236**	*e*P*e*	Pg	20 23 00.8	+0.5
LPG				*e*S*e*	Sg	20 23 06.8	+0.9
	4.0nm,0.3s						
LPL	**La Plagne**	**0.44**	**239**	*e*P*e*	Pg	20 23 00.8	+0.5
LPL				*e*S*e*	Sg	20 23 06.8	+0.9
	3.3nm,0.3s						

IDC 19 20:26:04.0±8.4, 5.°48S×150.°69E, h91km±59km, mb3.1/2, mbtmp3.6/3, ML1.9/1, Error ellipse: s-maj=118.8km s-min=55.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.25**	**222**	P	Pn	20 27 19.8	-0.2
	2.7nm,0.3s,baz=33,slow=7.0,SNR=7.3						
PMG				S	Sn	20 28 20.4	+1.3
	20nm,0.4s,baz=218,slow=16,SNR=8.1						
	6.1nm,0.3s						
WRA	**Warramunga Arr**	**21.44**	**226**	P	P	20 30 44.5	-0.5
	1.1nm,0.7s,baz=51,slow=10,SNR=6.8						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**24.26**	**220**	P	P	20 31 12.6	-0.2
	0.6nm,0.5s,baz=58,slow=8.7,SNR=12						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc	PKPbc	20 45 41.0	-0.3
	1.5nm,0.8s,baz=65,slow=3.3,SNR=9.3						

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*IDC **19** 20:38:14.8±2.4, 60.°91N×30.°54W, h0km, mb3.5/6, mbtmp3.5/6, MS3.3/1, Error ellipse: s-maj=75.6km s-min=24.5km az=175.0*
ISC 19 20:38:16.3±2.2, 60.°9N±0.°5×30.°5W±0.°2, h10km, n7, σ0.°85/6, mb3.5/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HFS	**Hagfors**	**21.48**	**72**	LR	LR	20 50 43.6	
	comp=Z,74nm,18.2s,baz=260,slow=35						
YKA	**Yellowknife Ar**	**37.24**	**310**	P	**P**	**20 45 26.6**	**-0.9**
	0.4nm,0.7s,baz=56,slow=9.1,SNR=5.5						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**45.95**	**328**	P	**P**	**20 46 39.4**	**+0.6**
	0.3nm,0.9s,baz=30,slow=7.4,SNR=2.6						
	0.3nm,0.9s						
AKTO	**Aktyubinsk**	**47.27**	**60**	P	**P**	**20 46 48.8**	**-0.5**
	2.2nm,0.7s,baz=336,slow=5.8,SNR=7.7						
	2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**55.20**	**47**	P	**P**	**20 47 49.5**	**+0.8**
	0.3nm,0.6s,baz=328,slow=6.8,SNR=2.9						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**56.70**	**271**	P	**P**	**20 48 00.1**	**+0.3**
	0.6nm,1.0s,baz=38,slow=6.3,SNR=4.0						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**59.76**	**47**	P	**P**	**20 48 20.8**	**-0.2**
	0.5nm,0.8s,baz=320,slow=6.1,SNR=5.6						
	0.5nm,0.8s						

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*WEL **19** 21:00:15.9±0.3, 42.°S±2.°×17.°5E±.°, h12km, M3.2/30, ML3.4/33, MLv3.2/30, Error ellipse: s-maj=0.0km s-min=0.0km az=130.3, confirmed*
*NOU **19** 21:00:17.7, 42.°49S×174.°86E, h31km, MLv3.8/9, Off E. Coast of S. Island, N.Z.*
ISC 19 21:00:15.7±1.2, 42.°52S±0.°03×174.°91E±0.°03, h29km±12km, n104, σ1.°74/122, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEKS	**Kekerengu Vall**	**0.89**	**309**	P	**Pb**	**21 00 32.7**	**+0.1**
KEKS				S	**Sn**	**21 00 44.8**	**+0.6**
WDFS	**Ward Fire Stat**	**0.90**	**320**	P	**Pb**	**21 00 32.8**	**+0.2**
KIKS	**Kaikoura**	**0.91**	**275**	P	**Pn**	**21 00 33.4**	**+0.8**
CMWZ	**Cape Campbell**	**0.93**	**326**	P	**Pb**	**21 00 33.1**	**0.0**
PLWZ	**Palliser**	**0.98**	**15**	P	**Pn**	**21 00 35.0**	**+1.4**
PLWZ				S	**Sb**	**21 00 47.0**	**+0.3**
KHZ	**Kahutara**	**1.02**	**275**	P	**Pb**	**21 00 35.4**	**+0.7**
KHZ	**Kahutara**	**1.02**	**275**	P	**Pb**	**21 00 34.9**	**+0.2**
KHZ				S	**Sb**	**21 00 47.3**	**-0.5**
BHW	**Baring Head**	**1.11**	**358**	P	**Pb**	**21 00 36.4**	**+0.2**
BHW				S	**Sb**	**21 00 48.2**	**-2.0**
BSWZ	**Blackbirch Sta**	**1.11**	**316**	P	**Pn**	**21 00 35.9**	**+0.6**
BSWZ				S	**Sb**	**21 00 49.4**	**-1.0**
MSWZ	**Moikau Station**	**1.13**	**13**	S	**Sb**	**21 00 49.4**	**-1.5**
SEAW	**Seatoun School**	**1.19**	**357**	S	**Sn**	**21 00 49.1**	**-2.5**
WNAS	**Wellington Int**	**1.19**	**356**	S	**Sn**	**21 00 48.8**	**-2.8**
PAWZ	**Paruwai Farm**	**1.20**	**19**	P	**Pb**	**21 00 37.9**	**+0.2**
PAWZ				S	**Sn**	**21 00 51.2**	**-0.6**
MISS	**Wellington Mir**	**1.20**	**357**	S	**Sn**	**21 00 50.6**	**-1.3**
SNZO	**South Karori**	**1.21**	**353**	P	**Pb**	**21 00 38.0**	**0.0**
WEL	**Wellington**	**1.23**	**355**	P	**Pb**	**21 00 38.2**	**-0.2**
WEL				S	**Sn**	**21 00 51.2**	**-1.5**
TRWZ	**Traveller**	**1.26**	**28**	P	**Pb**	**21 00 39.2**	**+0.4**
TRWZ				S	**Sb**	**21 00 54.6**	**0.0**
TUWZ	**Tuamarina**	**1.30**	**326**	P	**Pn**	**21 00 38.6**	**+0.6**
TUWZ				S	**Sn**	**21 00 52.6**	**-1.7**
TCW	**Tory Channel**	**1.39**	**340**	P	**Pn**	**21 00 39.9**	**+0.8**
TCW				S	**Sn**	**21 00 54.3**	**-2.2**
CAW	**Cannon Point**	**1.41**	**5**	P	**Pb**	**21 00 41.0**	**-0.4**
CAW				S	**Sn**	**21 00 55.7**	**-1.4**
MTW	**Mount Morrison**	**1.43**	**18**	P	**Pn**	**21 00 41.0**	**+1.3**
MTW				S	**Sn**	**21 00 56.5**	**-1.0**
GVZ	**Greta Valley S**	**1.45**	**251**	P	**Pn**	**21 00 41.0**	**+0.9**
TMWZ	**Te Maipa**	**1.59**	**28**

TMVZ	Te Maari	3.45	10	P		Pn	21 01 10.4	+2.8
KRVZ	Karewarewa	3.46	9	P		Pn	21 01 11.0	+3.2
NTVZ	North Tongariro	3.46	10	P		Pn	21 01 10.4	+2.7
BKZ	Black Stump Fm	3.56	20	P		Pn	21 01 10.4	+1.4
BKZ	Black Stump Fm	3.56	20	P		Pn	21 01 10.4	+1.4
ARHZ	Aropaoanui	3.61	27	P		Pn	21 01 11.1	+1.4
MRHZ	Matea Rd	3.85	18	P		Pn	21 01 14.7	+1.6
FOZ	Fox Glacier	3.87	253	P		Pn	21 01 16.0	+2.7
LBZ	Lake Benmore	3.92	240	P		Pn	21 01 15.5	+1.6
MTHZ	Maungataniwha	3.94	22	P		Pn	21 01 15.0	+0.7
ODZ	Otahua Downs	3.99	229	P		Pn	21 01 16.5	+1.6
ODZ	Otahua Downs	3.99	229	P		Pn	21 01 16.3	+1.4
RTZ	Ruatahuna	4.20	23	P		Pn	21 01 19.4	+1.5
TLZ	Tolley Road	4.21	7	P		Pn	21 01 20.8	+2.9
MUGZ	Murupara	4.28	20	P		Pn	21 01 19.7	+0.9
HHSZ	Highcliff Hill	4.58	221	P		Pn	21 01 24.8	+1.8
MWZ	Matawai	4.63	26	P		Pn	21 01 23.3	-0.4
JCZ	Jackson Bay	4.73	249	P		Pn	21 01 26.9	+1.7
JCZ	Jackson Bay	4.73	249	P		Pn	21 01 27.3	+2.1
EAZ	Earnscleugh	4.88	234	P		Pn	21 01 28.3	+1.3
RUGZ	Raukumara Rang	5.01	26	P		Pn	21 01 28.8	-0.3
TUZ	Tuapeka	5.12	226	P		Pn	21 01 32.3	+1.9
MKAZ	Moumakai	5.41	2	P		Pn	21 01 34.6	+0.2
AWAZ	Awhitu Peninsu	5.45	358	P		Pn	21 01 37.8	+2.8
WIAZ	Waiheke Island	5.72	2	P		Pn	21 01 42.3	+3.6
CTZ	Chatham Island	6.32	104	P		Pn	21 01 49.2	+2.3
CTZ	Chatham Island	6.32	104	P		Pn	21 01 49.7	+2.8
CTZ				S		Sn	21 02 56.3	-1.8

IDC ***19*** *21:14:27.8±1.9, 1.86N×126.09E, h0km, mb3.9/4, mbtmp3.9/4, MS2.6/1, Error ellipse: s-maj=202.9km s-min=21.8km az=66.0*
NEIC ***19*** *21:14:29.0±1.6, 2.00N±0.08×126.45E±0.07, h10km±1km, mb4.2/12, Error ellipse: s-maj=17.5km s-min=6.4km az=39.0*
DJA ***19*** *21:14:32.1±0.6, 2.1N±5×12.7E±°, h93km±11km, M3.8/9, mb4.2/2, mB5.4/1, MLv3.7/9, Mw(mB)4.8/1*
ISC 19 21:14:33.4±0.7,**1.90N**±0.06×**126.53E**±0.06,**h47**km,**n29,**
σ1§**42/29,mb4.0/9,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.41**	**143**	Pn	**Pn**	**21 14 55.6**	**-1.0**
TNTI				Sn	**Sn**	**21 15 16.1**	**+2.2**
TNTI	**Ternate**	**1.41**	**143**	P	**Pn**	**21 14 58.0**	**+1.4**
TNTI				S	**Sn**	**21 15 14.1**	**+0.1**
SGSI	**Sangihe**	**2.03**	**331**	P	**Pn**	**21 15 05.3**	**+0.1**
LBMI	**Labuha**	**2.71**	**159**	P	**Pn**	**21 15 14.0**	**-0.5**
KMSI	**Cibinong**	**2.87**	**243**	P	**Pn**	**21 15 19.9**	**+3.3**
GTOI	**Gorontalo**	**3.73**	**250**	P	Pn	21 15 35.6	+7.1
SANI	**Sanana**	**3.96**	**188**	P	**Pn**	**21 15 30.7**	**-1.0**
LUWI	**Luwuk**	**4.76**	**232**	Pn	**Pn**	**21 15 40.0**	**-2.7**
LUWI				Sn	**Sn**	**21 16 35.2**	**-1.4**
LUWI	**Luwuk**	**4.76**	**232**	P	**Pn**	**21 15 44.3**	**+1.7**
	21nm,0.5s,4µm0.4nm						
MRSI	**Marisa**	**4.80**	**253**	P	Pn	21 15 46.5	+3.3
DAV	**Davao City (W)**	**5.22**	**350**	LR	LR	21 18 15.2	
	comp=Z,61nm,18.9s,baz=68,slow=44						
KNRA	**Kununurra**	**17.61**	**173**	Pn	**Pn**	**21 18 33.6**	**-1.9**
KNRA				IAmb	IAmb	21 19 00.5	
	comp=Z,22nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.89**	**182**		**Pn**	**21 19 02.6**	**-0.5**
WB0	**Warramunga Arr**	**22.88**	**161**	P	**P**	**21 19 33.7**	**+0.5**
WB0				IAmb	IAmb	21 19 42.4	
	comp=Z,7.1nm,1.1s						
WRAB	**Tennant Creek**	**23.02**	**161**	P	**P**	**21 19 35.2**	**+0.6**
WRAB				IAmb	IAmb	21 19 52.1	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**23.02**	**161**	P	**P**	**21 19 35.4**	**+0.8**
WRA	**Warramunga Arr**	**23.02**	**161**	P	**P**	**21 19 35.2**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=338,slow=11,SNR=6.4 comp=Z,1.7nm,0.3s						
WB2	**Warramunga Arr**	**23.03**	**161**	P	**P**	**21 19 36.3**	**+1.6**
WR0	**Warramunga Arr**	**23.11**	**160**	P	**P**	**21 19 36.1**	**+0.6**
ASAR	**Alice Springs**	**26.41**	**165**	P	**P**	**21 20 08.3**	**+2.4**
ASAR	**Alice Springs**	**26.41**	**165**	P	**P**	**21 20 07.7**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=347,slow=12,SNR=6.3 comp=Z,0.4nm,0.5s						
TOO	**Toolangi**	**43.03**	**158**	P	**P**	**21 22 29.0**	**+0.4**
MKAR	**Makanchi Array**	**58.94**	**326**	P	**P**	**21 24 27.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=125,slow=7.7,SNR=9.0 comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.16**	**328**	P	**P**	**21 24 56.0**	**-0.5**
	comp=Z,1.6nm,0.2s,baz=132,slow=6.1,SNR=4.3 comp=Z,1.6nm,0.2s						
KURK	**Kurchatov**	**63.17**	**328**	P	**P**	**21 24 56.7**	**+0.2**
KURK				IAmb	IAmb	21 24 57.0	
	comp=Z,2.3nm,1.1s						
ABKAR	**Akbulak array**	**73.43**	**321**	P	**P**	**21 25 59.8**	**-0.9**
G16K	**Koyuk River**	**80.48**	**24**	P	**P**	**21 26 39.2**	**-0.9**
G16K				IAmb	IAmb	21 27 01.2	
	comp=Z,3.5nm,1.3s						
C18K	**Utukok River**	**81.83**	**21**	P	**P**	**21 26 46.9**	**-0.4**
C18K				IAmb	IAmb	21 27 08.2	
	comp=Z,3.8nm,1.5s						
J18K	**Innoko River**	**82.40**	**26**	P	**P**	**21 26 51.1**	**+0.8**

IDC ***19*** *21:17:44.0±2.1, 1.97N×126.53E, h0km, mb3.4/3, mbtmp3.4/3, MS2.5/1, Error ellipse: s-maj=171.4km s-min=26.6km az=66.0*
DJA ***19*** *21:17:51.0±0.7, 2.7N±3×12.6E±°, h77km±19km, M3.3/7, MLv3.3/7*
ISC 19 21:17:51.1±1.1,**1.79N**±0.07×**126.44E**±0.09,**h47**km,**n10,**
σ1§**10/10,mb3.3/3,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.37**	**137**	P	**Pn**	**21 18 15.5**	**+1.7**
SGSI	**Sangihe**	**2.10**	**334**	P	**Pn**	**21 18 23.8**	**+0.1**
SGSI				S	**Sn**	**21 18 49.4**	**+0.8**
LBMI	**Labuha**	**2.63**	**156**	P	**Pn**	**21 18 30.6**	**-0.5**
KMSI	**Cibinong**	**2.73**	**244**	P	**Pn**	**21 18 33.3**	**+0.8**
GTOI	**Gorontalo**	**3.61**	**252**	P	**Pn**	**21 18 45.5**	**+0.9**
SANI	**Sanana**	**3.84**	**187**	P	**Pn**	**21 18 47.0**	**-0.7**
WRA	**Warramunga Arr**	**22.94**	**161**	P	**P**	**21 22 51.2**	**-0.3**
	1.1nm,0.5s,baz=340,slow=11,SNR=16 1.1nm,0.5s						
ASAR	**Alice Springs**	**26.32**	**164**	P	**P**	**21 23 23.6**	**+0.9**
	0.2nm,0.4s,baz=345,slow=12,SNR=4.2 0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.64**	**303**	LR	LR	21 37 42.6	
	comp=Z,7.8nm,18.9s,baz=300,slow=38						
MKAR	**Makanchi Array**	**58.98**	**326**	P	**P**	**21 27 44.6**	**-1.3**
	0.1nm,0.4s,baz=115,slow=7.0,SNR=4.4 0.1nm,0.4s						

PRE ***19*** *21:45:24.4±1.6, 28.64S×20.38E, h5km, ML3.5*
ISC 19 21:45:24.8±0.8,**28.60S**±0.04×**20.43E**±0.04,**h10**km,**n36,**
σ2§**01/72,4C-10D,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEIM	**Keimoes**	**0.49**	**102**	⇑*i*P	**Pb**	**21 45 35.4**	**-0.1**
KEIM				*e*S	**Sg**	**21 45 41.9**	**+1.2**
KEIM				IAML		21 45 43.7	
	comp=Z,1µm,0.4s						
UPI	**Upington**	**0.77**	**72**	⇑*i*P	**Pn**	**21 45 41.5**	**-0.2**
UPI				*e*S	**Sb**	**21 45 51.9**	**+1.1**
UPI				IAML		21 45 53.3	
	comp=Z,884nm,0.1s						
ARMS	**Ukamas**	**0.82**	**313**	*i*P	**Pn**	**21 45 42.6**	**0.0**
ARMS				*i*S	**Sn**	**21 45 54.0**	**-0.8**
PKA	**Prieska**	**2.30**	**118**	⇓*i*P	**Pn**	**21 46 04.2**	**+1.3**
PKA				*e*S	**Sb**	**21 46 33.5**	**-1.5**
PKA				IAML		21 46 35.7	
	comp=Z,540nm,0.2s						
KOMG	**Komaggas**	**2.83**	**244**	⇑*i*P	**Pn**	**21 46 11.3**	**+1.2**
KOMG				*e*S	**Sn**	**21 46 45.3**	**+0.9**
KOMG				IAML		21 46 55.6	
	comp=Z,234nm,0.4s						
CVNA	**Calvinia**	**2.93**	**191**	⇑*i*P	**Pn**	**21 46 11.6**	**+0.1**
CVNA				*e*S	**Sn**	**21 46 47.6**	**+0.8**
CVNA				IAML		21 46 56.1	
	comp=Z,554nm,0.3s						
FRAZ	**Fraserburg**	**3.42**	**166**	⇓*i*P	**Pn**	**21 46 17.9**	**-0.4**
FRAZ				*e*S	**Sn**	**21 46 59.1**	**+0.1**
FRAZ				IAML		21 47 11.5	
	comp=Z,270nm,0.5s						
SUR	**Sutherland**	**3.78**	**175**	⇓*i*P	**Pn**	**21 46 23.6**	**+0.3**
SUR				*e*S	**Sn**	**21 47 08.0**	**0.0**
SUR				IAML		21 47 22.2	
	comp=Z,317nm,0.5s						
BRAK	**Brakfontein**	**3.82**	**147**	⇓*i*P	**Pn**	**21 46 22.8**	**-1.0**
BRAK				*e*S	**Sn**	**21 47 09.6**	**+0.8**
BRAK				IAML		21 47 23.2	
	comp=Z,177nm,0.6s						
GRAN	**Grantham**	**3.98**	**158**	*i*P	**Pn**	**21 46 25.2**	**-0.8**
GRAN				*e*S	**Sn**	**21 47 12.4**	**-0.3**
GRAN				IAML		21 47 36.1	
	comp=Z,166nm,0.4s						
BOSA	**Boshof**	**4.25**	**91**	*e*P	**Pn**	**21 46 31.7**	**+2.1**
BOSA				*e*S	**Sn**	**21 47 20.1**	**+0.8**
BOSA				IAML		21 47 39.7	
	comp=Z,165nm,0.3s						
BFON	**Badfontein, M**	**4.26**	**139**	⇓*i*P	**Pn**	**21 46 29.1**	**-0.7**
BFON				*e*S	**Sn**	**21 47 20.1**	**+0.5**
BFON				IAML		21 47 39.6	
	comp=Z,202nm,0.4s						
SWZ	**Schweizer**	**4.57**	**73**	*e*P	**Pn**	**21 46 37.0**	**+3.0**
SWZ				*e*S	**Sn**	**21 47 28.6**	**+1.4**
SWZ				IAML		21 47 56.3	
	comp=Z,78nm,0.5s						
MATJ	**Matjiesfontein**	**4.65**	**178**	*e*P	**Pn**	**21 46 36.0**	**+0.9**
MATJ				*e*S	**Sn**	**21 47 27.0**	**-2.2**
MATJ				IAML		21 47 47.2	
	comp=Z,306nm,0.4s						
ROOI	**Rooidraai Farm**	**4.72**	**146**	⇓*i*P	**Pn**	**21 46 35.5**	**-0.7**
ROOI				*e*S	**Sn**	**21 47 30.3**	**-0.8**
ROOI				IAML		21 47 59.3	
	comp=Z,107nm,0.5s						
HVD	**Gariep Dam**	**4.84**	**116**	⇓*i*P	**Pn**	**21 46 39.8**	**+1.9**
HVD				*e*S	**Sn**	**21 47 33.6**	**-0.6**
HVD				IAML		21 48 01.3	
	comp=Z,125nm,0.6s						
GRAF	**Camdeboo Natio**	**5.07**	**137**	*i*P	**Pn**	**21 46 41.0**	**+0.1**
GRAF				*e*S	**Sn**	**21 47 40.1**	**+0.4**
GRAF				IAML		21 48 09.8	
	comp=Z,174nm,0.4s						
LBTB	**Lobatse**	**5.84**	**53**	⇓*i*P	**Pn**	**21 46 53.9**	**+2.3**
LBTB				*e*S	**Sn**	**21 47 58.0**	**-0.6**
LBTB				IAML		21 48 31.2	
	comp=Z,51nm,0.3s						
SOE	**Somerset East**	**6.03**	**134**	*e*P	**Pn**	**21 46 54.4**	**+0.3**
SOE				*e*S	**Sn**	**21 48 02.6**	**-0.6**
SOE				IAML		21 48 34.4	
	comp=Z,75nm,0.4s						
MRCO	**Marico , North**	**6.17**	**61**	*e*P	**Pn**	**21 46 58.1**	**+2.0**
MRCO				*e*S	**Sn**	**21 48 05.6**	**-1.3**
MRCO				IAML		21 48 45.5	
	comp=Z,58nm,0.3s						
PRYS	**Parys**	**6.37**	**76**	⇓*i*P	**Pn**	**21 47 01.0**	**+2.2**
PRYS				*e*S	**Sn**	**21 48 10.9**	**-0.8**
PRYS				IAML		21 48 48.9	
	comp=Z,67nm,0.4s						
SNKL	**Senekal, Frees**	**6.48**	**89**	⇓*i*P	**Pn**	**21 47 02.2**	**+1.8**
SNKL				*e*S	**Sn**	**21 48 12.6**	**-1.8**
SNKL				IAML		21 48 52.6	
	comp=Z,121nm,0.5s						
WDLM	**Western Deep L**	**6.58**	**72**	*e*P	**Pn**	**21 47 04.2**	**+2.4**
WDLM				*e*S	**Sn**	**21 48 16.1**	**-0.9**
WDLM				IAML		21 48 51.5	
	comp=Z,133nm,0.5s						
WIN	**Windhoek**	**6.72**	**333**	*i*P	**Pb**	**21 47 26.4**	**+4.6**
WIN				*i*S	**Sb**	**21 48 36.2**	**-6.0**
GRHM	**Grahamstown, E**	**6.91**	**134**	*e*P	**Pn**	**21 47 07.0**	**+0.8**
GRHM				*e*S	**Sn**	**21 48 23.5**	**-1.5**
GRHM				IAML		21 49 09.8	
	comp=Z,38nm,0.9s						
HRAO	**HartRAO**	**7.00**	**69**	*e*P	**Pn**	**21 47 10.6**	**+3.0**
HRAO				*e*S	**Sn**	**21 48 25.8**	**-1.6**
TSWA	**Tswaing Meteor**	**7.53**	**67**	*e*P	**Pn**	**21 47 18.0**	**+3.3**
TSWA				*e*S	**Sn**	**21 48 39.8**	**-0.4**
TSWA				IAML		21 49 24.8	
	comp=Z,38nm,0.5s						
SLR	**Silverton**	**7.56**	**70**	*e*P	**Pn**	**21 47 17.7**	**+2.5**
SLR				*e*S	**Sn**	**21 48 39.0**	**-2.1**
KSTD	**Kokstad**	**7.99**	**107**	*e*P	**Pn**	**21 47 22.4**	**+1.3**
KSTD				*e*S	**Sn**	**21 48 49.3**	**-2.3**
KSTD				IAML		21 49 38.4	
	comp=Z,15nm,0.4s						
NWCL	**Newcastle**	**8.40**	**86**	*e*P	**Pn**	**21 47 29.2**	**+2.5**
NWCL				*e*S	**Sn**	**21 48 59.6**	**-2.1**
NWCL				IAML		21 49 54.4	
	comp=Z,49nm,0.6s						
TSUM	**Tsumeb**	**9.71**	**344**	*e*P	**Pn**	**21 47 45.1**	**+0.3**
TSUM				*e*S	**Sn**	**21 49 29.7**	**-4.4**
TSUM				IAML		21 50 30.6	
	comp=Z,9.2nm,0.5s						
PILG	**Pilgrimsrest,**	**9.89**	**71**	*e*P	**Pn**	**21 47 49.3**	**+2.1**
PILG				*e*S	**Sn**	**21 49 35.1**	**-3.4**
PILG				IAML		21 50 34.7	
	comp=Z,33nm,0.6s						
HOED	**Hoedspruit, Li**	**10.29**	**68**	*e*P	**Pn**	**21 47 54.7**	**+2.0**
HOED				*e*S	**Sn**	**21 49 45.8**	**-2.3**
HOED				IAML		21 50 47.7	
	comp=Z,20nm,0.7s						
MPHEP	**Siloam, Limpop**	**10.46**	**59**	*i*P	**Pn**	**21 47 56.7**	**+1.7**
MPHEP				*e*S	**Sn**	**21 49 48.7**	**-3.6**
MPHEP				IAML		21 50 58.1	
	comp=Z,22nm,0.5s						
MUSN	**Musina, Limpop**	**10.59**	**56**	*e*P	**Pn**	**21 47 58.6**	**+1.9**
MUSN				*e*S	**Sn**	**21 49 52.1**	**-3.4**
MUSN				IAML		21 51 04.6	
	comp=Z,12nm,0.6s						
MOPA	**Mopani**	**11.09**	**65**	*e*P	**Pn**	**21 48 05.7**	**+2.2**
MOPA				*e*S	**Sn**	**21 50 03.3**	**-4.3**
MOPA				IAML		21 51 14.1	
	comp=Z,27nm,0.6s						

ISN ***19*** *21:46:21.9±1.1, 33.77N×45.72E, h11km±5km, ML2.7*
TEH ***19*** *21:46:22.1, 33.78N×45.71E, h10km±181km, ML2.7*
ISC 19 21:46:23.1±1.0,**33.77N**±0.04×**45.68E**±0.06,**h10**km,**n9,**
σ1§**00/12,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.69**	**163**	*e*Pg	**Pg**	**21 46 35.0**	**-1.5**
IBDR				*e*Sg	**Sg**	**21 46 45.0**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.73**	**354**	Pg	**Pg**	**21 46 36.3**	**-1.0**
IGHG	**Ghaleghazi**	**0.92**	**53**	Pg	**Pg**	**21 46 40.3**	**-0.6**
IDHR	**Dehrash**	**1.09**	**32**	Pg	**Pg**	**21 46 43.1**	**-1.0**
BHD	**Baghdad**	**1.20**	**246**	*e*Pg	**Pb**	**21 46 46.0**	**+0.2**
BHD				*e*Sg	**Sb**	**21 47 02.0**	**+0.6**
ILIN	**Lien**	**1.56**	**42**	Pg	**Pn**	**21 46 51.3**	**+0.2**
IKOM	**Komasi**	**1.57**	**75**	Pg	**Pn**	**21 46 51.2**	**0.0**
IKFM	**Kafar-mosalman**	**1.82**	**97**	Pg	**Pn**	**21 46 55.5**	**+1.0**
RAFI	**Al-Rafai**	**2.08**	**170**	*e*Pn	**Pn**	**21 46 58.0**	**0.0**
RAFI				*e*Sn	**Sn**	**21 47 25.5**	**+1.6**
RAFI				AML	AML	21 47 30.9	
	comp=E,65nm,0.3s						
RAFI				AML	AML	21 47 31.6	
	comp=N,73nm,0.5s						

NEIC ***19*** *22:05:47.6±0.7, 23.7S±0.2×177.5W±0.1, h82km±10km, mb4.4/24, Error ellipse: s-maj=24.4km s-min=17.3km az=155.0*
IDC ***19*** *22:06:28.6±21.0, 22.95S×179.20W, h412km±185km, mb3.5/4, mbtmp4.3/4, Error ellipse: s-maj=160.2km s-min=51.1km az=117.0*
ISC 19 22:05:48.5±0.7,**23.7S**±0.1×**177.5W**±0.1,**h100**km,**n33,**
σ1§**13/35,mb4.3/13,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.41**	**58**		**Pn**	**22 07 46.4**	**-1.2**
HIZ	**Hauiti**	**16.12**	**202**		**P**	**22 09 30.8**	**+0.2**
HIZ				IAmb	IAmb	22 09 42.2	
	comp=Z,23nm,1.1s						
KOUNC	**Koumac, New Ca**	**17.20**	**277**	Pn	**Pn**	**22 09 39.6**	**-3.1**
KOUNC				IAmb	IAmb	22 09 50.6	
	comp=Z,30nm,1.1s						
BHW	**Baring Head**	**18.76**	**198**	P	**Pn**	**22 10 00.3**	**-0.9**
BHW				IAmb	IAmb	22 10 09.5	
	comp=Z,32nm,1.2s						
PLWZ	**Palliser**	**18.80**	**197**	P	**P**	**22 09 59.2**	**-0.9**
QRZ	**Quartz Range**	**19.00**	**204**	P	**P**	**22 10 00.7**	**-1.6**
ARMA	**Armidale**	**28.25**	**250**	P	**P**	**22 11 32.9**	**+0.4**
EIDS	**Eidsvold**	**28.62**	**260**	P	**P**	**22 11 35.8**	**+0.1**
CTAO	**Charters Tower**	**33.80**	**269**	P	**P**	**22 12 23.6**	**+2.3**
STKA	**Stephens Creek**	**36.94**	**248**	P	**P**	**22 12 49.0**	**+0.9**
STKA	**Stephens Creek**	**36.94**	**248**	P	**P**	**22 12 49.9**	**+1.9**
	comp=Z,1.6nm,0.5s,baz=84,slow=9.6,SNR=3.4 comp=Z,1.6nm,0.5s						
BBOO	**Buckleboo**	**41.64**	**247**	P	**P**	**22 13 27.3**	**+0.2**
AS31	**Alice Springs**	**44.35**	**260**	P	**P**	**22 13 48.9**	**-0.2**
ASAR	**Alice Springs**	**44.35**	**260**	P	**P**	**22 13 49.9**	**+0.8**
ASAR	**Alice Springs**	**44.35**	**260**	P	**P**	**22 13 49.3**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=91,slow=6.3,SNR=25						
ASAR				PcP	**PcP**	**22 15 30.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=109,slow=3.9,SNR=4.3 comp=Z,2.4nm,0.8s						
WR0	**Warramunga Arr**	**44.55**	**265**	P	**P**	**22 13 50.6**	**-0.1**
WR0				IAmb	IAmb	22 13 53.0	
	comp=Z,3.1nm,0.8s						
WB2	**Warramunga Arr**	**44.72**	**265**	P	**P**	**22 13 51.6**	**-0.5**
WB2				IAmb	IAmb	22 13 53.0	
	comp=Z,5.9nm,0.8s						
WRAB	**Tennant Creek**	**44.73**	**265**	P	**P**	**22 13 51.8**	**-0.3**
WRAB				IAmb	IAmb	22 14 04.8	
	comp=Z,7.9nm,1.1s						
WB0	**Warramunga Arr**	**44.73**	**265**	P	**P**	**22 13 51.9**	**-0.3**
WRA	**Warramunga Arr**	**44.73**	**265**	P	**P**	**22 13 51.8**	**-0.4**
WRA	**Warramunga Arr**	**44.73**	**265**	P	**P**	**22 13 52.0**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=96,slow=8.3,SNR=31						
WRA				PcP	**PcP**	**22 15 32.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=98,slow=3.3,SNR=5.4 comp=Z,4.2nm,0.8s						
FORT	**Forrest**	**48.54**	**249**	P	**P**	**22 14 21.7**	**0.0**
VNDA	**Vanda**	**54.75**	**185**	P	**P**	**22 15 08.7**	**+1.4**
VNDA				IAmb	IAmb	22 15 20.2	
	comp=Z,3.7nm,1.1s						
K20K	**Telida**	**88.74**	**10**	P	**P**	**22 18 31.9**	**+1.5**
N25K	**Chitina, Valde**	**89.06**	**15**	P	**P**	**22 18 33.0**	**+0.9**
N25K				IAmb	IAmb	22 18 35.5	
	comp=Z,2.4nm,0.8s						
J19K	**Poorman**	**89.10**	**9**	P	**P**	**22 18 33.1**	**+1.1**
J19K				IAmb	IAmb	22 18 37.5	
	comp=Z,1.9nm,1.1s						
CAST	**Castle Rocks**	**89.14**	**11**	P	**P**	**22 18 32.7**	**+0.5**
CAST				IAmb	IAmb	22 18 41.5	
	comp=Z,2.9nm,0.9s						
BARN	**Barnard Glacie**	**89.32**	**17**	P	**P**	**22 18 34.6**	**+1.2**
CTGM	**Chitina Glacie**	**89.33**	**17**	P	**P**	**22 18 34.5**	**+1.1**
CTGM				IAmb	IAmb	22 18 34.9	
	comp=Z,2.7nm,1.0s						
H17K	**Granite Mounta**	**89.42**	**7**	P	**P**	**22 18 33.9**	**+0.4**
TRF	**Thorofare Moun**	**89.49**	**12**	P	**P**	**22 18 35.0**	**+0.9**
TRF				IAmb	IAmb	22 18 43.6	
	comp=Z,2.8nm,0.8s						
SEY	**Seymchan**	**89.62**	**347**	P	**P**	**22 18 35.2**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=122,slow=5.8,SNR=10 comp=Z,4.3nm,0.8s						
AKASG	**Malin Array Be**	**146.05**	**329**	PKP	**PKPab**	**22 25 16.0**	**-1.4**
	comp=Z,4.5nm,0.5s,baz=42,slow=4.3,SNR=12						

NAO ***19*** *22:17:34.7, 31.67N×48.19E, h33km, mb4.0*
BJI ***19*** *22:17:53.0±0.0, 33.50N×45.70E, h10km, mb4.8/68, mB5.1/39, Ms4.6/39, Ms7 4.4/39*
MOS ***19*** *22:17:54.1±2.1, 33.67N×45.68E, h12km, mb5.0/86, Error ellipse: s-maj=4.0km s-min=2.7km az=111.2*
IDC ***19*** *22:17:55.1±0.5, 33.78N×45.71E, h0km, mb4.7/32, mbtmp4.7/41, ML3.8/8, MS4.1/65, Error ellipse: s-maj=10.6km s-min=8.9km az=163.0*
NEIC ***19*** *22:17:55.9±1.7, 33.72N±0.05×45.71E±0.08, h10km±1km, mb5.0/245, Error ellipse: s-maj=11.2km s-min=7.7km az=95.0*
ISN ***19*** *22:17:55.2±1.1, 33.73N×45.59E, h8km±5km, ML5.1*
GII ***19*** *22:17:56.7±0.4, 33.54N×45.69E, h10km, Mws5.2, confirmed*
TEH ***19*** *22:17:56.0, 33.71N×45.70E, h9km±74km, ML5.0*
AFAD ***19*** *22:17:56.1±0.0, 33.71N×45.25E, h3km±4km, MW5.0*
THR ***19*** *22:17:56.7±0.8, 33.70N×45.67E, h15km, ML4.8*
DSN ***19*** *22:17:57.7±0.5, 33.46N×45.40E, h40km, mb5.5/4, Error ellipse: s-maj=15.3km s-min=4.8km az=55.0*
OMAN ***19*** *22:17:58.4±0.1, 33.19N×45.64E, h10km, mb4.6/42, ms3.8/2, Error ellipse: s-maj=4.5km s-min=1.4km az=20.0*
GCMT ***19*** *22:17:58.9±0.2, 33.81N±0.02×45.47E±0.02, h12km, MW5.0/109, Moment Tension Solution. s39,c46; s109,c162; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.33±.09; Mθθ-0.71±.10; Mφφ-2.62±.08; Mrθ 1.22±.33; Mθφ 1.77±.07; Mrφ-0.68±.30; Best double couple: Ms3.77900×10^16 NP1:φs138.00000°, δ56.00000°, λ76.00000°. NP2:φs341.00000°, δ37.00000°, λ109.00000°. Principal axes: T 3.6760, Plg75.0000°, Azm7.0000°; N 0.2070, Plg11.0000°, Azm146.0000°; P -3.8830, Plg10.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 22:17:55.8±0.2,**33.71N**±0.02×**45.66E**±0.02,**h10**km,**n1271,**
σ1§**83**/1311,**mb4.9**/289,**MS4.1**/72,**42C-28D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.64**	**159**	*e*Pg	**Pg**	**22 18 08.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**22 18 18.3**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.80**	**356**	Pg	**Pg**	**22 18 10.9**	**-0.3**
KGS1				Sg	**Sb**	**22 18 23.1**	**+0.5**

GEVA S Sn 22 20 12.3 +2.0
GEVA i AML AML 22 20 29.0
comp=N,442nm,1.1s
MIDY Mardin/Midyat- 5.07 318 P Pn 22 19 12.6 +0.7
MIDY S Sg 22 20 35.4 -3.2
MIDY i AML AML 22 20 49.0
comp=N,4µm,1.2s
AKDM Akdamar-Van 5.09 336 eP Pn 22 19 12.2 -0.2
OZAP Van, Ozalp-Mer 5.12 345 P Pn 22 19 14.8 +2.0
TVAN Van 5.14 340 P Pn 22 19 13.2 +0.1
TVAN S Sn 22 20 12.3 -0.3
IVRN Varamin 5.18 74 Pn Pn 22 19 14.8 +1.4
VANB Van 5.21 340 eP Pn 22 19 13.1 -0.8
KLST Kelardasht - M 5.23 56 Pn Pn 22 19 16.0 +1.6
MARD Mardin 5.37 313 P Pn 22 19 17.5 +1.5
KRSH Karshahi 5.39 85 Pn Pn 22 19 17.9 +1.3
GRMI Germi 5.40 19 ePn Pn 22 19 18.9 +2.4
GRMI Germi 5.40 19 Pn Pn 22 19 18.5 +2.0
NAX Nakhchivan 5.45 359 P Pn 22 19 21.7 +4.4
BTMN Batman 5.49 321 P Pn 22 19 23.6 +5.8
ISFB Sefidab 5.50 82 Pn Pn 22 19 19.2 +1.3
BLIS Bitlis-Merkez 5.50 330 P Pn 22 19 18.1 +0.1
VMUR Van-Muradiye 5.53 343 P Pn 22 19 20.8 +2.4
DAMV Damavand 5.54 68 ePn Pn 22 19 21.2 +2.6
MZPU Pul - Mazandar 5.55 59 Pn Pn 22 19 21.4 +2.6
IDMV Damavand 5.57 69 Pn Pn 22 19 20.3 +1.3
LKRN Lenkeran, Azer 5.59 26 P Pn 22 19 21.9 +2.9
ADCV BITLIS_Adilcev 5.61 336 P Pn 22 19 21.9 +2.4
ADCV S Sn 22 20 26.6 +2.4
ADCV i AML AML 22 21 11.0
comp=N,290nm,0.9s
IZEF Zefreh 5.64 96 Pn Pn 22 19 20.5 +0.5
GURO Guroymak-BITLI 5.65 330 eP Pn 22 19 19.3 -0.7
GURO Guroymak-BITLI 5.65 330 Pn Pn 22 19 20.8 +0.7
GURO Sg Sg 22 21 07.5 +10
MAZI Mazidag 5.66 313 eP Pn 22 19 20.3 +0.2
MAKU Maku 5.69 352 ePn Pn 22 19 23.1 +2.5
MAKU Maku 5.69 352 Pn Pn 22 19 22.8 +2.2
SVAN Silvan-Diyarba 5.72 322 eP Pn 22 19 20.5 -0.4
SVAN Silvan-Diyarba 5.72 322 P Pn 22 19 23.7 +2.8
SVAN S Sg 22 20 56.2 -3.3
SVAN i AML AML 22 21 36.0
comp=N,555nm,1.7s
IRAM Ramesheh 5.97 107 Pn Pn 22 19 25.2 +0.7
MLAZ Malazgirt-MUS 5.97 336 eP Pn 22 19 25.1 +0.7
MUSM Mu-Merkez 6.02 327 P Pn 22 19 23.6 -1.5
DYDN Diyadin 6.03 345 P Pb 22 19 34.5 -6.6
IPRN Peran 6.03 63 Pn Pn 22 19 26.7 +1.5
NASN Na'in 6.05 97 ePn Pn 22 19 28.0 +2.2
DORK Agr/Tutak/Do 6.12 339 P Pn 22 19 29.6 +3.1
IFIR Firoozkooh 6.15 70 Pn Pn 22 19 28.8 +1.7
DYBB Diyarbakir 6.17 315 eP Pn 22 19 27.6 +0.6
AGRB Hanur-Agry 6.23 341 eP Pn 22 19 29.5 +1.4
ILAS Lasjerd 6.25 72 Pn Pn 22 19 30.0 +1.7
IGDI IGDIR 6.28 349 P Pn 22 19 29.6 +1.1
HANI Diyarbakir_Han 6.34 319 P Pn 22 19 31.8 +2.4
TASB TASBURUN-IGDIR 6.36 350 eP Pn 22 19 33.1 +3.4
KOTA Agri, Merkez-K 6.39 343 P Pn 22 19 33.5 +3.2
VRTB Varto-Mus 6.41 329 eP Pn 22 19 30.4 0.0
VRTB Varto-Mus 6.41 329 P Pn 22 19 32.3 +1.9
SLHN Bingol, Solhan 6.43 326 P Pn 22 19 30.2 -0.6
SANL SANLIURFA_Merk 6.45 304 P Pn 22 19 39.2 +8.4
GNI Garni 6.47 354 Pn 22 19 31.5 +0.2
GNI Garni 6.47 354 i P Pn 22 19 31.8 +0.5
GNI Garni 6.47 354 Pn Pn 22 19 35.3 +4.1
comp=N,2.5nm,0.3s,baz=354,slow=0.6,SNR=11
GNI Lg Lg 22 21 18.9
comp=N,1.0nm,0.3s,baz=264,slow=19,SNR=1.7
GNI LR LR 22 22 37.8
comp=N,834nm,19.0s,baz=122,slow=44
GNI Garni 6.47 354 P Pb 22 19 41.0 -7.6
GNI S Sb 22 21 02.5 +5.5
SURC SANLIURFA_SURC 6.57 301 P Pn 22 19 32.9 +0.3
SURC S Sg 22 21 19.2 -7.6
SURC i AML AML 22 21 35.0
comp=N,2µm,1.4s
SURC i AML AML 22 21 42.0
comp=N,4µm,2.2s
BNGB Bingl 6.63 324 eP Pn 22 19 32.9 -0.5
HANM anlurfa/Hi 6.74 307 P Pn 22 19 40.9 +6.0
ANAR Anarak 6.76 92 Pn Pn 22 19 36.1 +0.9
AHBU AHRAM 6.82 134 Pn Pn 22 19 38.3 +2.3
KOVA Elazig, Kovanc 6.87 318 P Pn 22 19 43.3 +6.6
KOVA S Sg 22 21 28.1 -8.2
GANJ Ganja 6.94 4 P Pn 22 19 42.6 +5.0
ECAT Cat-ERZURUM 6.99 329 P Pn 22 19 42.8 +4.4
EKONA Konakl - Erz 7.02 331 P Pn 22 19 41.1 +2.0
ATAB Bozova 7.08 304 P Pn 22 19 39.5 0.0
SHI Shiraz 7.11 123 Pn Pn 22 19 40.6 +0.5
MNGR Mingechevir, A 7.14 9 P Pn 22 19 44.2 +3.9
EAK Akyaka 7.15 347 P Pn 22 19 43.3 +2.7
DSBU Dashti - Bushe 7.17 137 Pn Pn 22 19 43.1 +2.2
KARS Kars 7.21 344 Pn Pn 22 19 41.1 -0.2
KARS Kars 7.21 344 P Pn 22 19 41.1 -0.2
TNCL Tunceli-Merkez 7.31 319 P Pn 22 19 40.6 -2.2
MAYA Malatya/Merkez 7.45 310 P Pn 22 19 45.0 +0.2
MAYA S Sg 22 21 51.0 -4.0
MAYA i AML AML 22 22 11.0
comp=N,427nm,1.1s
ICHK Chekchek 7.49 99 Pn Pn 22 19 46.2 +0.8
ASF Jabal al Asfar 7.53 261 Pn Pn 22 19 46.8 +1.1
comp=N,3.8nm,0.3s,baz=243,slow=24,SNR=45
ASF Lg Lg 22 21 55.6
comp=N,9.3nm,0.3s,baz=152,slow=22,SNR=1.9
ASF LR LR 22 23 48.1
comp=N,2µm,19.2s,baz=139,slow=47
comp=N,9.1nm,0.3s
KOPT Kop Dagi 7.53 328 P Pn 22 19 53.1 +7.2
GZT Gaziantep 7.54 301 P Pn 22 19 47.1 +1.2
SEKA Sheki 7.58 9 P Pn 22 19 50.4 +3.9
YZKH Yazd 7.61 98 ePn Pn 22 19 48.0 +1.1
KRIK Erzurum-spir 7.62 332 P Pn 22 19 58.1 +11
AKCA Adyaman/G¶l 7.66 304 P Pn 22 19 49.3 +1.8
EUZM Uzumlu 7.66 323 P Pn 22 19 55.6 +8.0
GAZ Gaziantep 7.71 299 22 19 48.2 0.0
BAYB BAYBURT 7.83 328 P Pn 22 19 54.8 +4.7
RHAN Hatay/Reyhanl 7.86 291 P Pn 22 19 50.7 +0.5
AKH Akhalkalaki 7.88 348 Pn Pn 22 19 49.1 -1.5
AKH Akhalkalaki 7.88 348 P Pn 22 19 49.1 -1.5
IMEH Mehriz 7.90 105 Pn Pn 22 19 51.9 +0.9
ZKTA Zakatala 7.95 5 P Pn 22 19 55.6 +4.1
HCB Kahramanmara 8.00 299 P Pn 22 19 49.0 -3.2
KHMR Kahramanmara 8.00 299 P Pn 22 19 53.1 +0.9
KAMA Osmaniye 8.12 298 P Pn 22 19 54.8 +1.0
EPOS Posof 8.12 344 P Pn 22 19 58.6 +4.7
HSUJ Al Zarqa 8.12 261 P Pg 22 20 41.2 +10
IZDR Rize 8.15 332 P Pn 22 19 57.2 +3.0
QIR1 Qir 8.20 128 Pn Pn 22 19 55.2 +0.2
NATI Neve Ativ 8.30 270 P Pg 22 20 39.2 +4.4
SHMJ Saham 8.35 266 P Pg 22 20 42.4 +6.7
GEM Giv'at Ha'Em 8.37 269 P Pg 22 20 40.9 +4.8
GEM Giv'at Ha'Em 8.37 269 P Pn 22 19 57.8 +0.6
SWQJ Swaqa 8.48 256 P Pg 22 20 46.3 +8.2
JHRM Jahrom 8.54 125 Pn Pn 22 19 59.6 -0.1
BALJ Balqa 8.58 262 P Pg 22 20 47.2 +7.1
QRNJ Al-Qirein 8.58 264 P Pg 22 20 45.8 +5.7
MMAI Mount Meron Ar 8.61 268 Pn Pn 22 20 01.9 +1.3
comp=N,2.4nm,0.3s,baz=83,slow=16,SNR=7.2
MMAI Lg Lg 22 22 29.8
comp=N,12nm,0.3s,baz=135,slow=17,SNR=3.6
MMAI LR LR 22 24 12.6
comp=N,2µm,19.3s,baz=52,slow=44
comp=N,3.9nm,0.7s
HMDT Nahal Hemdat 8.64 263 P Pg 22 20 47.4 +6.2
HMDT Nahal Hemdat 8.64 263 P Pn 22 20 01.8 +0.9
CUKAN kangal_SIVAS 8.65 313 P Pn 22 20 02.5 +1.3
UJAP Al Uja 8.76 261 P Pg 22 20 49.8 +6.3
SAKB Bahrain 8.79 150 P Pn 22 20 04.4 +1.4
SAKB S Sn 22 21 35.0 -7.1
HNTI Hanita 8.79 269 P Pg 22 20 45.8 +1.6
BLGI Bet Lehem HaGe 8.83 267 P Pg 22 20 47.8 +3.0
KARJ KARJ 8.85 256 P Pg 22 20 48.0 +2.8
GHAJ Ghor Haditha 8.86 257 Pn 22 20 03.5 -0.4
GHAJ Ghor Haditha 8.86 257 P Pg 22 20 52.4 +7.0
GHAJ Ghor Haditha 8.86 257 P Pn 22 20 04.5 +0.7
DSI Dead Sea 8.93 259 P Pg 22 20 52.7 +5.9
DSI Dead Sea 8.93 259 P Pn 22 20 05.8 +0.9
LISJ El Lisan 8.95 257 P Pg 22 20 54.2 +7.1
ONI Oni 9.03 350 Pn 22 20 06.9 +0.5
ONI Oni 9.03 350 P Pn 22 20 06.9 +0.5
LMD1 Lamerd 9.06 132 Pn Pn 22 20 06.2 -0.6

CUAYA Sivas-Altinyay 9.07 310 P Pn 22 20 05.2 -1.7
SHMA Al-Shehemyia 9.08 148 P Pn 22 20 07.4 +0.4
SHMA S Sn 22 21 46.8 -2.5
TNSJ Nastanj 9.11 85 Pn Pn 22 20 08.6 +1.1
ZEI Tsey 9.17 352 eP Pn 22 20 13.5 +5.2
ZEI pmax pmax
comp=Z,27nm,1.3s
TPRV Parvadeh(Tabas 9.24 91 Pn Pn 22 20 10.2 +0.9
MAK Makhachkala 9.35 8c iP Pn 22 20 08.3 -2.3
MAK eS Sn 22 21 54.8 -0.9
MAK pmax pmax
comp=Z,202nm,1.3s
MAK MLR MLR
comp=Z,2µm,16.0s
MRVT Maraveh tapeh 9.35 62 Pn Pn 22 20 12.2 +1.5
GROC Groznyy 9.48 1 eP Pn 22 20 14.7 +2.3
GROC eS Sn 22 22 04.1 +5.2
GROC pmax pmax
comp=Z,46nm,1.0s
GROC MLR MLR
comp=Z,128nm,6.0s
TABS Tabas 9.55 87 ePn Pn 22 20 15.3 +1.8
TKDS Koohdasht(Taba 9.55 87 Pn Pn 22 20 14.8 +1.2
LAR1 LAR 9.62 126 Pn Pn 22 20 14.0 -0.4
HRFI Mount Harif 9.75 251 S Sn 22 22 06.5 +0.8
HRFI Mount Harif 9.75 251 P Pn 22 20 16.9 +0.8
NCK Nalchik 9.90 351 i P Pn 22 20 18.7 +0.5
KZIT Kziot 9.94 257 P Pn 22 20 20.1 +1.4
MBRI Mt Berech 9.95 250 P Pn 22 20 19.6 +0.6
KRMI Paran Flat 9.96 252 P Pn 22 20 19.6 +0.5
EIL Elat 9.97 249 Pn Pn 22 20 20.4 +1.2
comp=Z,1.4nm,0.3s,baz=74,slow=4.1,SNR=24
EIL Lg Lg 22 23 13.3
comp=Z,4.7nm,0.3s,baz=60,slow=14,SNR=4.1
EIL LR LR 22 25 06.8
comp=Z,2µm,19.7s,baz=58,slow=43
comp=Z,6.7nm,0.4s
EIL Elat 9.97 249 P Pn 22 20 19.6 +0.3
SMRA Abu-Samra 10.00 152 P Pn 22 20 20.1 +0.4
SMRA S Sn 22 22 03.8 -8.1
SBZV Sabzevar 10.15 71 Pn Pn 22 20 23.9 +2.1
TRNA Turayna 10.17 150 P Pn 22 20 22.3 +0.4
SNR=13
TRNA S Sn 22 22 05.8 -10
KBZ Khabaz 10.23 349ceP Pn 22 20 22.6 -0.1
KBZ pmax pmax
comp=Z,18nm,1.4s
KBZ Khabaz 10.23 349 Pn Pn 22 20 26.1 +3.4
comp=Z,0.2nm,0.3s,baz=172,slow=6.1,SNR=6.6
KBZ LR LR 22 25 07.4
comp=Z,879nm,21.4s,baz=153,slow=42
comp=Z,6.1nm,1.0s
BJRD Bojnurd 10.35 64 ePn Pn 22 20 27.0 +2.6
KRM1 Kerman Provinc 10.35 105 Pn Pn 22 20 25.0 +0.4
KVAR Kislovodsk Arr 10.49 348 Pn Pn 22 20 30.3 +4.0
baz=79,slow=19
KVAR LR LR 22 24 10.0
comp=Z,2µm,18.1s,baz=86,slow=36
comp=Z,5.4nm,1.0s
KIV Kislovodsk 10.49 348 Pn Pn 22 20 27.1 +0.8
KIV Kislovodsk 10.49 348 eP Pn 22 20 27.3 +1.0
KIV eS Sn 22 22 26.4 +2.5
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,509nm,13.0s
KIV Kislovodsk 10.49 348 P Pn 22 20 36.9 +11
KIV S Sn 22 22 39.8 +16
SOC Sochi 10.89 337 eP Pn 22 20 27.3 -4.5
SOC eSS Sn 22 22 42.9 +9.2
SOC MLR MLR
comp=Z,1µm,14.0s
GEYT Alibeck 10.95 64 Pn Pn 22 20 32.6 0.0
GEYT Alibeck 10.95 64 P Pn 22 20 32.6 0.0
GEYT Alibeck 10.95 64 Pn Pn 22 20 35.4 +2.8
comp=Z,0.6nm,0.3s,baz=254,slow=10,SNR=15
GEYT LR LR 22 25 20.1
comp=Z,3µm,20.1s,baz=276,slow=41
GYA0 ALIBECK ARRAY 10.95 64 P Pn 22 20 31.6 -1.0
GYA0B ALIBECK ARRAY 10.95 64 Pn Pn 22 20 31.6 -1.0
SLWR Sila 10.96 150 P Pn 22 20 33.1 +0.3
SLWR S Sn 22 22 28.0 -7.4
ITEG Tejag 10.98 91 Pn Pn 22 20 33.9 +0.6
GENO Geno 11.02 122 Pn Pn 22 20 32.5 -1.3
AFRZ Afriz 11.14 88 Pn Pn 22 20 36.3 +0.9
IEMG Emamgholi 11.21 67 Pn Pn 22 20 38.8 +2.5
IBND Bandar-abas 11.26 121 Pn Pn 22 20 36.4 -0.4
BRTR Keskin Array B 11.36 305 Pn Pn 22 20 42.1 +3.8
BRTR Keskin Array B 11.36 305 P Pn 22 20 42.1 +3.8
BRTR Keskin Array B 11.36 305 Pn Pn 22 20 42.8 +4.5
comp=Z,0.1nm,0.3s,baz=108,slow=12,SNR=11
BRTR LR LR 22 26 08.4
comp=Z,831nm,21.4s,baz=116,slow=44
comp=Z,3.6nm,0.9s
BR131 Keskin Array S 11.36 305 Pn Pn 22 20 40.9 +2.6
BR131 Keskin Array S 11.36 305 P Pn 22 20 40.9 +2.6
BR131 Keskin Array S 11.36 305 P Pn 22 20 45.8 +7.5
BSRN Basiran 11.46 95 Pn Pn 22 20 39.8 +0.1
GOF Gofitskoye 11.51 351ceP Pn 22 20 53.5 +13
GHWR Ruwais 11.58 145 P Pn 22 20 42.4 +1.1
GHWR S Sn 22 22 45.7 -5.0
IKRD Kardeh 11.73 71 Pn Pn 22 20 45.4 +1.9
KHNJ Kahnooj 11.83 116 Pn Pn 22 20 44.8 0.0
KBAM BAM 11.84 109 Pn Pn 22 20 45.5 +0.7
SHME Shamm 11.87 127 i P Pn 22 20 43.9 -1.3
SNR=13
SHME Shamm 11.87 127 P Pn 22 20 44.8 -0.3
SNR=19
SHME P 22 20 44.9
SNR=31
SHME S Sn 22 22 51.9 -5.7
SNR=9.8
UMQ Umm Al-Quwin 11.92 131 P Pn 22 20 48.9 +3.1
UMQ S Sn 22 22 55.5 -3.4
ANTO Ankara 12.00 304 Pn 22 20 48.4 +1.4
ANTO Ankara 12.00 304 P Pn 22 20 48.4 +1.4
BR231 Keskin MP Arra 12.00 304 Pn Pn 22 20 47.7 +0.6
BANOM Banah 12.06 127 P Pn 22 20 47.9 +0.1
BANOM S Sn 22 22 56.7 -5.7
SHRT Shahrakht 12.19 86 Pn Pn 22 20 50.7 +1.1
TBJM Torbat-e-JAM 12.20 79 Pn Pn 22 20 51.2 +1.3
AJN Ajban 12.22 136 i P Pn 22 20 49.7 -0.3
SNR=11
AJN Ajban 12.22 136 P Pn 22 20 50.8 +0.8
SNR=11
AJN P 22 20 51.0
SNR=9.1
MZWR Madinat Zayed 12.25 142 P Pn 22 20 50.9 +0.5
MZWR S Sn 22 22 59.6 -7.5
NAZ Nazwa, Dubai 12.31 132 i P Pn 22 20 50.5 -0.7
SNR=14
NAZ Nazwa, Dubai 12.31 132 P Pn 22 20 51.4 +0.3
SNR=14
NAZ S Sn 22 23 00.7 -7.7
MASF Masafi 12.35 130 P Pn 22 20 51.3 -0.5
SNR=49
MASF S Sn 22 23 03.5 -5.9
SNR=12
MSFE Esma-Masafi 12.35 130 i P Pn 22 20 50.9 -1.0
SNR=49
ASUD Al Ashush, Dub 12.37 135 i P Pn 22 20 52.0 -0.1
SNR=19
ASUD Al Ashush, Dub 12.37 135 P Pn 22 20 52.7 +0.6
SNR=19
ASUD S Sn 22 23 03.5 -6.6
FAQ Al Faqa, Dubai 12.44 133 i P Pn 22 20 52.6 -0.5
SNR=9.4
FAQ Al Faqa, Dubai 12.44 133 P Pn 22 20 52.9 -0.1
SNR=9.1
FAQ S Sn 22 23 06.0 -5.7
MDH Madha 12.48 129 i P Pn 22 20 52.8 -0.8
SNR=24
MDH Madha 12.48 129 P Pn 22 20 53.0 -0.6
SNR=24
MDH S Sn 22 23 06.9 -5.9
SNR=7.8
MZR Muzera 12.69 145 P Pn 22 20 57.9 +1.5
MZR S Sn 22 23 11.4 -6.4
HATD Hatta, Dubai 12.72 131 i P Pn 22 20 55.6 -1.1
SNR=19
HATD Hatta, Dubai 12.72 131 P Pn 22 20 56.0 -0.8
SNR=19
HATD P Pn 22 20 56.0 -0.8
SNR=19

HATD S Sn 22 23 13.7 -4.8
SNR=11
HATD S Sn 22 23 13.7 -4.8
SNR=11
ANN Anapa 12.77 333 eP Pn 22 20 52.5 -4.9
ANN eSS Sn 22 23 26.5 +7.0
ANN pmax pmax
comp=Z,59nm,0.9s
ANN MLR MLR
comp=N,2µm,13.0s
ANN MLR MLR
comp=Z,1µm,12.0s
ANN MLR MLR
comp=E,2µm,10.0s
ASHO Ashiyiah 12.77 132 i P Pn 22 20 56.3 -1.3
SNR=38
ASHO Ashiyiah 12.77 132 P Pn 22 20 56.5 -1.1
SNR=18
ASHO P Pn 22 20 56.5 -1.1
SNR=18
ASHO S Sn 22 23 11.2 -8.8
ASHO S Sn 22 23 11.2 -8.8
ISP Isparta 12.96 293 Pn Pn 22 21 03.1 +2.9
ISP Isparta 12.96 293 P Pn 22 21 03.1 +2.9
ALNE Al Ain 13.05 135 i P Pn 22 21 00.7 -0.8
SNR=46
ALNE Al Ain 13.05 135 P Pn 22 21 01.1 -0.4
SNR=46
ALNE S Sn 22 23 19.9 -6.9
JASK Jask - Hormozg 13.16 123 P Pn 22 21 01.6 -1.3
SNR=12
JASK S Sn 22 23 21.6 -7.7
ELL Elmali 13.23 288 Pn Pn 22 21 04.1 +0.2
ELL Elmali 13.23 288 P Pn 22 21 04.1 +0.2
MDUB Mudurnu 13.37 304 Pn Pn 22 21 05.1 -0.6
SOHO SOHO 13.47 132 i P Pn 22 21 05.2 -1.8
SNR=14
SOHO SOHO 13.47 132 P Pn 22 21 06.1 -1.0
SOHO S Sn 22 23 29.2 -7.6
ZHDN Zahedan 13.61 104 Pn Pn 22 21 10.4 +1.3
HRA Herat 13.77 83 Pn Pn 22 21 11.5 +0.2
UMZA Um Al Zommool 13.78 140 P Pn 22 21 10.3 -1.0
UMZA S Sn 22 23 36.1 -8.3
ARQ Araqi 14.06 135 P Pn 22 21 13.9 -1.2
SNR=34
ARQ S Sn 22 23 44.5 -6.8
SIM Simferopol' 14.33 325 eP P 22 21 25.4 -0.5
SIM pmax pmax
comp=Z,50nm,1.3s
BSY Bisya 14.91 134 P Pn 22 21 24.6 -2.2
SNR=46
BSY S Sn 22 24 05.5 -6.6
BIDO Bidbid 14.91 130 P Pn 22 21 25.3 -1.5
BIDO S Sn 22 24 06.2 -5.9
SMDO Samad 15.20 131 P Pn 22 21 28.4 -2.3
SNR=25
SMDO S Sn 22 24 11.8 -7.4
KARP Karpathos 15.34 282 Pn 22 21 33.2 +0.7
KARP IAmb IAmb 22 21 45.6
comp=Z,78nm,0.9s
BALB Balikesir 15.44 298 P 22 21 37.4 -0.8
WSAR Wadi Sarin 15.44 129 Pn Pn 22 21 31.6 -2.2
comp=Z,4.5nm,0.3s,baz=323,slow=8.7,SNR=43
WSAR Sn Sn 22 24 15.4 -10
comp=Z,3.1nm,0.3s,baz=178,slow=24,SNR=2.9
WSAR LR LR 22 28 31.6
comp=Z,1µm,19.1s,baz=357,slow=41
WSAR Wadi Sarin 15.44 129 P Pn 22 21 31.3 -2.5
SNR=19
WSAR S Sn 22 24 16.9 -8.0
JMDO Jabal Madar 15.74 133 P Pn 22 21 35.6 -2.2
SNR=14
JMDO S Sn 22 24 25.6 -6.6
WBK Wadi Bani Khal 16.11 130 P Pn 22 21 41.1 -1.4
MHTO MHTO 16.72 136 P Pn 22 21 47.7 -2.5
SNR=29
APE Apeiranthos 16.75 287 i P Pn 22 21 48.0 -2.6
DOK Doka 16.83 151 P Pn 22 21 49.0 -2.7
SNR=37
DOK S Sn 22 24 50.0 -8.7
MFTR Murfatlar 16.97 313 ⇑P P 22 21 56.6 +1.5
TIRR Tirgusor 17.13 314 ⇓P P 22 21 57.1 +0.3
TIRR Tirgusor 17.13 314 Pn Pn 22 21 54.4 -0.8
TIRR Tirgusor 17.13 314 P Pn 22 21 54.4 -0.8
TIRR pmax pmax
comp=Z,71nm,0.9s
ALN Alexandroupoli 17.16 300 Pn 22 21 56.0 +0.4
ALN Alexandroupoli 17.16 300 P Pn 22 21 56.0 +0.4
ALN pmax pmax
comp=Z,52nm,1.2s
IDI Anoyia 17.20 281 P P 22 21 59.9 +2.1
IDI Anoyia 17.20 281 LR LR 22 30 51.5
comp=Z,300nm,21.9s,baz=88,slow=45
NEF NEVSHA 17.24 309 P P 22 22 00.4 +2.2
DQM DQM 17.32 139 P Pn 22 21 56.1 -1.7
SNR=8.6
WHFO Wadi Hawf 17.32 153 P Pn 22 21 55.2 -2.8
SNR=18
WHFO S Sn 22 25 01.3 -10
TPGR Topolog 17.34 315 ⇓P P 22 22 00.1 +0.8
TLBR Topalu 17.39 314 ⇑P P 22 22 01.1 +1.3
HARR Harsova 17.54 314 ⇓P P 22 22 02.2 +0.7
HARR Harsova 17.54 314 P P 22 22 02.2 +0.7
RDO Rodhopi 17.60 301 22 22 01.1 -0.1
CFR Carcaliu 17.69 315 ⇑P P 22 22 03.8 +0.6
CFR Carcaliu 17.69 315 P P 22 22 03.7 +0.6
VRH Novokhopyorsk 17.72 352 eP Pn 22 22 02.3 -0.2
VRH eS Sn 22 25 20.9 +1.1
VRH pmax pmax
comp=Z,44nm,1.7s
VORD Divnogorie 17.86 347 eP Pn 22 22 02.7 -1.6
VORD pmax pmax
comp=Z,20nm,0.6s
RBK Rabkut 17.87 152 P Pn 22 22 02.1 -2.5
DMTO DMTO 17.97 150 P Pn 22 22 03.0 -2.9
SNR=56
SHAO Shalim 17.99 148 i P Pn 22 22 03.7 -2.5
SNR=20
SHAO Shalim 17.99 148 P Pn 22 22 04.0 -2.2
SNR=25
ELND Elena 18.02 306 ⇑P P 22 22 08.1 +1.4
VSR Storozhevoye 18.12 347 eP Pn 22 22 06.4 -1.1
VSR pmax pmax
comp=Z,30nm,0.7s
RZN Rozhen 18.35 302 P P 22 22 11.8 +1.2
KIS Kishinev 18.41 321 eP Pn 22 22 12.0 +0.9
KIS eL L 22 32 55.0
KIS LRM MLR 22 34 24.0
comp=Z,400nm,11.5s
KIS Kishinev 18.41 321 eP Pn 22 22 12.0 +0.9
PLD Plovdiv 18.49 303 P Pn 22 22 15.2 +3.1
PLD pmax pmax
comp=Z,61nm,1.4s
VORR Voronezh 18.55 347 eP P 22 22 11.3 -1.3
VORR eS Sn 22 25 38.9 -1.1
VORR pmax pmax
comp=Z,64nm,1.6s
PAIG Paliouri 18.64 296 P Pn 22 22 16.6 +2.7
PAIG pmax pmax
comp=Z,41nm,0.9s
PANC Panciu 18.65 316 ⇑P Pn 22 22 15.0 +0.9
BELG Belogornoye 18.73 4 i P P 22 22 13.1 -1.4
BELG pmax pmax
comp=Z,13nm,0.7s
BELG Belogornoye 18.73 4 P P 22 22 13.3 -1.1
comp=Z,68nm,0.7s,baz=282,slow=1.0,SNR=20
BELG LR LR 22 31 50.2
comp=Z,390nm,18.4s,baz=148,slow=45
BISRR Bisoca 18.73 315 ⇑P Pn 22 22 16.6 +1.5
VLI Veliai 18.80 286 P P 22 22 14.9 -0.6
AB31 Akbulak array 18.81 30⇑eP P 22 22 15.8 +0.4
AB31 pmax pmax
comp=Z,21nm,0.6s
ABKAR Akbulak array 18.81 30 P 22 22 14.6 -0.8
ABKAR Akbulak array 18.81 30 P P 22 22 15.5 +0.1
VRI Vrincioaia 18.89 316 ⇓P Pn 22 22 17.8 +0.7
VRI Vrincioaia 18.89 316 P Pn 22 22 17.7 +0.7
NEHR Nehoiu 18.91 314 ⇓P Pn 22 22 18.1 +0.8
PLOR Plostina 18.93 315 ⇑P Pn 22 22 18.6 +1.0
PLOR Plostina 18.93 315 P Pn 22 22 18.5 +1.0
COPA Copaceanca 18.96 309 ⇓P P 22 22 17.9 +0.7
MMB Musomishta 19.00 301 P Pn 22 22 19.5 +1.1
AKTO Aktyubinsk 19.02 25 P P 22 22 18.1 +0.4
comp=Z,1.8nm,0.3s,baz=210,slow=9.2,SNR=29

AKTO LR LR 22 31 06.7
comp=Z,366nm,19.8s,baz=13,slow=42
comp=Z,12nm,0.6s
PGB Panagyurishte 19.02 304 P **Pn** **22 22 20.6 +2.1**
PLVB Pleven 19.04 307 ⇓P **Pn** **22 22 19.6 +0.8**
MLR Muntele Rosu 19.16 314 ⇑P **P** **22 22 20.6 +1.2**
MLR Muntele Rosu 19.16 314 P **P** **22 22 19.1 -0.4**
MLR Muntele Rosu 19.16 314 P **P** **22 22 19.1 -0.4**
MLR pmax pmax
comp=Z,16nm,0.7s
MLR Muntele Rosu 19.16 314 P **Pn** **22 22 21.2 +0.9**
comp=Z,7.4nm,0.6s,baz=49,slow=3.0,SNR=18
COVR Voineasa-Covas 19.19 315 ⇓P **Pn** **22 22 21.3 +0.7**
TESR Tescani 19.30 317 ⇓P **P** **22 22 21.6 +0.7**
THE Thessaloniki 19.33 297 P **Pn** **22 22 22.9 +0.6**
THE pmax pmax
comp=Z,44nm,1.2s
KBL Kabul 19.37 81 P **P** **22 22 22.3 +0.3**
KBL IAmb IAmb 22 22 26.5
comp=Z,146nm,1.2s
KBL Kabul 19.37 81 P **P** **22 22 22.3 +0.3**
KBL pmax pmax
comp=Z,146nm,1.3s
KBL Kabul 19.37 81 P **Pn** **22 22 24.5 +1.4**
SORM Soroca 19.40 323 ⇓P **P** **22 22 21.3 -0.5**
SORM Soroca 19.40 323 P **P** **22 22 21.3 -0.5**
TURR Turia 19.41 315 ⇑P **Pn** **22 22 24.0 +0.7**
KBU Kabul Universi 19.45 81 P **P** **22 22 23.5 +0.7**
SIMJ Simiganj 19.46 69 P **P** **22 22 22.4 -0.4**
LPSR Galich'ya Gora 19.49 348 *e*P **P** **22 22 21.6 -1.3**
LPSR pmax pmax
comp=Z,240nm,0.8s
AGG Agios Georgios 19.50 292 P **P** **22 22 23.4 +0.3**
AGG IAmb IAmb 22 22 33.8
comp=Z,50nm,0.9s
AGG Agios Georgios 19.50 292 P **P** **22 22 23.5 +0.3**
AGG Agios Georgios 19.50 292 P **P** **22 22 23.4 +0.3**
AGG pmax pmax
comp=Z,50nm,0.9s
KNT Kendrikon 19.51 299 P **P** **22 22 20.2 -3.0**
KNT Kendrikon 19.51 299 P **P** **22 22 24.2 +1.0**
KNT pmax pmax
comp=Z,16nm,0.8s
KKB Krupnik 19.54 301 P **P** **22 22 24.7 +1.2**
OZUR 19.57 315 ⇓P **Pn** **22 22 25.4 +0.2**
MPEP Malo Peshtene 19.62 306 P **Pn** **22 22 26.2 +0.5**
BOSR Bodos 19.63 315 ⇓P **P** **22 22 26.0 +1.5**
MAKR Makrakomi, Fth 19.66 292 P **P** **22 22 25.2 +0.4**
VOIR 19.68 313 ⇓P **Pn** **22 22 27.3 +0.8**
VOIR 19.68 313 P **Pn** **22 22 26.8 +0.3**
PEHC Pehcevo 19.68 301 *i* P **P** **22 22 26.5 +1.3**
DOPR Dopca 19.74 314 ⇓P **Pn** **22 22 27.6 +0.4**
ANX Ano Chora 19.76 291 P **P** **22 22 26.8 +0.7**
GRG Griva 19.83 298 P **P** **22 22 27.8 +1.1**
GRG pmax pmax
comp=Z,35nm,1.1s
THL Klokotos Trika 19.83 294 P **P** **22 22 25.2 -1.5**
EVR Evrytania 19.89 292 P **P** **22 22 28.5 +1.0**
ARR Arges 19.90 312 ⇓P **Pn** **22 22 29.6 +0.5**
PVO Paravola 20.07 291 P **P** **22 22 29.7 +0.4**
MDB Medias 20.43 314 ⇓P **P** **22 22 34.5 +1.2**
MDB Medias 20.43 314 P **P** **22 22 34.4 +1.2**
LOT Lotru 20.48 311 ⇓P **P** **22 22 35.2 +1.4**
FNA Florina 20.54 297 P **P** **22 22 34.5 -0.1**
FNA Florina 20.54 297 P **P** **22 22 34.9 +0.4**
FNA Florina 20.54 297 P **P** **22 22 34.5 -0.1**
FNA pmax pmax
comp=Z,29nm,0.6s
CHM Chimkent 20.68 58 *e*P **P** **22 22 35.9 0.0**
CHM pmax pmax
comp=Z,44nm,0.9s
CHM Chimkent 20.68 58 *e*P **P** **22 22 36.0 0.0**
comp=Z,44nm,0.9s,baz=58
NYDR Nydri-Lefkada 20.73 291 P **P** **22 22 36.3 -0.1**
BURAR Bucovina Array 20.73 318 ⇑P **P** **22 22 37.4 +0.8**
BURAR Bucovina Array 20.73 318 P **P** **22 22 36.1 -0.5**
BURAR Bucovina Array 20.73 318 P **P** **22 22 36.1 -0.5**
BURAR pmax pmax
comp=Z,22nm,0.7s
EVGI Lefkada island 20.75 291 P **P** **22 22 35.3 -1.4**
BUR08 Bucovina Ar. S 20.76 318 **P** **22 22 35.9 -1.0**
VLS Valsamata 20.76 290 P **P** **22 22 37.0 +0.2**
SKO Skopje 20.78 300 *i* P Pn 22 22 39.3 -0.2
AKASG Malin Array Be 20.81 330 P **P** **22 22 34.9 -2.3**
AKASG Malin Array Be 20.81 330 P **P** **22 22 36.9 -0.3**
comp=Z,17nm,0.6s,baz=139,slow=9.9,SNR=144
AKASG LR LR 22 33 32.6
comp=Z,325nm,19.0s,baz=33,slow=45
comp=Z,17nm,0.6s
AKBB Malin Array Si 20.81 330 P **P** **22 22 36.0 -1.2**
AKBB IAmb IAmb 22 22 41.9
comp=Z,46nm,0.6s
AKBB Malin Array Si 20.81 330 *i* P **P** **22 22 35.0 -2.2**
AKBB pmax pmax
comp=Z,37nm,0.6s
KIEV Kiev 20.82 330 P **P** **22 22 36.5 -0.8**
KIEV IAmb IAmb 22 22 41.9
comp=Z,40nm,0.7s
KIEV Kiev 20.82 330 P **P** **22 22 36.5 -0.8**
KIEV pmax pmax
comp=Z,40nm,0.7s
KIEV Kiev 20.82 330 P **P** **22 22 36.5 -0.8**
ARCR ARCALIA 20.93 316 ⇓P **P** **22 22 40.2 +1.6**
DMLN Damoulianata-K 20.93 290 P **P** **22 22 39.8 +1.1**
DJES Djerdap 20.94 308 P **P** **22 22 39.1 +0.4**
KBN Korca 20.95 296 P **P** **22 22 40.1 +1.1**
KBN IAmb IAmb 22 22 48.2
comp=Z,71nm,0.9s
KBN Korca 20.95 296 P **P** **22 22 40.1 +1.1**
KBN pmax pmax
comp=Z,71nm,0.9s
LSK Leskovik 21.00 295 P **P** **22 22 40.1 +0.6**
OHR Ohrid 21.04 298 P **P** **22 22 44.8 +4.9**
OHR pmax pmax
comp=Z,65nm,1.3s
OHR Ohrid 21.04 298 *i* P **P** **22 22 44.2 +4.3**
BTK Batken 21.06 65 P **P** **22 22 40.7 +0.6**
BTK IAmb IAmb 22 22 50.5
comp=Z,132nm,1.4s
BTK Batken 21.06 65 P **P** **22 22 40.7 +0.6**
BTK pmax pmax
comp=Z,132nm,1.5s
HORU Horodok 21.07 323 P **P** **22 22 39.2 -0.8**
HERR Herculane 21.09 309 ⇓P **P** **22 22 41.7 +1.3**
IGT Igoumenitsa 21.11 293 P **P** **22 22 39.6 -1.0**
IGT Igoumenitsa 21.11 293 P **P** **22 22 40.0 -0.6**
IGT pmax pmax
comp=Z,108nm,0.7s
CJR Cluj-Napoca 21.19 314 ⇑P **P** **22 22 42.7 +1.2**
CJR Cluj-Napoca 21.19 314 P **P** **22 22 42.6 +1.2**
DEV Deva 21.21 312 ⇑P **P** **22 22 42.1 +0.4**
DEV Deva 21.21 312 P **P** **22 22 42.0 +0.4**
KSV Kosov 21.22 320 P **P** **22 22 41.1 -0.6**
MARR Marisel-Cluj 21.45 314 ⇑P **P** **22 22 45.4 +1.1**
MDVR Moldovita 21.51 308 ⇑P **P** **22 22 46.0 +1.1**
KEK Kerkira 21.54 294 P **P** **22 22 43.9 -1.4**
KK31 Karatay Array 21.55 57 P **P** **22 22 45.0 -0.3**
KK31 Karatay Array 21.55 57 P **P** **22 22 45.0 -0.3**
KK31 pmax pmax
comp=Z,34nm,1.0s
KKAR Karatay Array 21.55 57 P **P** **22 22 45.4 +0.1**
KKAR Karatay Array 21.55 57 P **P** **22 22 45.2 -0.1**
KKAR Karatay Array 21.55 57 P **P** **22 22 45.2 -0.1**
BMR Baia Mare 21.74 316 ⇑P **P** **22 22 48.6 +1.3**
BMR Baia Mare 21.74 316 P **P** **22 22 48.6 +1.3**
DRGR 21.76 314 ⇑P **P** **22 22 48.4 +0.9**
DRGR 21.76 314 P **P** **22 22 48.4 +0.9**
TIR Tirane 21.78 298 P **P** **22 22 48.1 +0.3**
TIR IAmb IAmb 22 22 57.0
comp=Z,66nm,0.9s
TIR Tirane 21.78 298 P **P** **22 22 48.1 +0.3**
TIR pmax pmax
comp=Z,66nm,0.9s
MESR Meseseni 21.79 315 ⇓P **P** **22 22 48.6 +0.8**
BZS Buzias 21.91 310 ⇓P **P** **22 22 49.7 +0.6**
BZS Buzias 21.91 310 P **P** **22 22 49.7 +0.6**
PUK Puka 21.92 300 P **P** **22 22 49.0 -0.3**
PUK IAmb IAmb 22 22 55.3
comp=Z,40nm,0.6s
DZA Taraz 22.06 58 *e*P **P** **22 22 51.7 +0.9**
DZA pmax pmax
comp=Z,25nm,1.1s
DZA Taraz 22.06 58 *e*P **P** **22 22 51.7 +0.9**
comp=Z,24nm,1.1s,baz=58
SIRR Siria 22.16 312 ⇑P **P** **22 22 53.1 +1.3**
SJES Sjenica 22.18 303 *e*P **P** **22 22 51.9 -0.3**
ATD Arta Tunnel 22.23 187 P **P** **22 22 56.0 +3.2**
comp=Z,0.6nm,0.9s,baz=38,slow=4.4,SNR=4.6
ATD LR LR 22 31 54.2
comp=Z,15nm,18.6s,baz=360,slow=38
ATD Arta Tunnel 22.23 187 *e*P **P** **22 22 49.3 -3.5**
ATD *e*S **S** **22 27 01.8 +4.2**
TRSU Trosnyk 22.27 317 P **P** **22 22 56.7 +3.8**
OBN Obninsk 22.33 346 P **P** **22 22 51.7 -1.8**
OBN IAmb IAmb 22 23 06.6
comp=Z,102nm,1.5s
OBN Obninsk 22.33 346 *d* P **P** **22 22 52.0 -1.4**
OBN *e* 22 23 20.0
OBN *e*SS Sn 22 27 46.4 +36
OBN pmax pmax
comp=Z,93nm,2.5s
OBN MLR MLR
comp=Z,353nm,17.0s
OBN Obninsk 22.33 346 P **P** **22 22 53.0 -0.4**
comp=Z,17nm,0.4s,baz=159,slow=14,SNR=9.1
OBN S **S** **22 26 54.8 -3.9**
comp=Z,16nm,0.8s,baz=297,slow=22,SNR=12
OBN LR LR 22 32 39.7
comp=Z,312nm,19.3s,baz=158,slow=40
comp=Z,17nm,0.4s
MORS Morshin 22.33 320 P **P** **22 22 54.3 +0.7**
DRME Dracevica, Mon 22.46 300 *e*P **P** **22 22 55.9 +0.8**
LVV L'vov 22.66 322 *e*P **P** **22 22 56.7 -0.5**
LVV *e* 22 23 30.9
LVV *e*S **S** **22 26 58.1 -7.1**
LVV *e*SS **SnSn** **22 27 41.5 +6.8**
LVV MLR MLR
comp=Z,300nm,15.0s
RUDO Rudo 22.70 304 *e*P **P** **22 22 54.5 -3.2**
MOS Moscow 22.72 348 *e*P **P** **22 22 54.1 -3.6**
MOS *e*PPP PPP 22 23 28.0
MOS *e*S **S** **22 27 00.0 -6.1**
MOS *e*SSS SSS 22 27 46.0
MOS pmax pmax
comp=Z,72nm,0.9s
BBLS Lazići 22.75 304 *e*P **P** **22 22 55.8 -2.5**
ARSB Arslanbob 22.90 63 P **P** **22 23 00.6 +0.7**
ARSB Arslanbob 22.90 63 P **P** **22 23 00.6 +0.7**
ARSB pmax pmax
comp=Z,26nm,1.3s
FRGS Fruska Gora 22.91 308 ⇑P **P** **22 22 60.0 +0.2**
FRGS Fruska Gora 22.91 308 *e*P **P** **22 22 59.3 -0.5**
UPM Unac-Piva 22.91 302 *e*P **P** **22 23 00.9 +0.8**
NIL Nilore 22.94 82 P **P** **22 22 59.8 -0.4**
NIL Nilore 22.94 82 P **P** **22 22 59.8 -0.4**
NIL pmax pmax
comp=Z,94nm,1.0s
HCY Herceg Novi 23.02 300 *e*P **P** **22 23 01.5 +0.5**
BRY Bratogost 23.10 301 *e*P **P** **22 23 01.1 -0.8**
KOLS Kolonicke sedl 23.10 318 *e*P **P** **22 23 03.4 +1.6**
KOLS pmax pmax
comp=Z,21nm,0.7s
KOLS Kolonicke sedl 23.10 318 *e*P **P** **22 23 03.4 +1.6**
HAPS Han Pijesak,Bl 23.13 304 *e*P **P** **22 23 00.4 -1.8**
TREB Trebinje 23.19 301 *e*P **P** **22 23 00.6 -2.1**
KWP Kalwaria Pacla 23.25 320 P **P** **22 23 02.7 -0.6**
KWP Kalwaria Pacla 23.25 320 P **P** **22 23 02.7 -0.6**
KWP pmax pmax
comp=Z,24nm,0.8s
NEVS Nevesinje 23.51 302 *e*P **P** **22 23 03.8 -2.2**
CRVS Cervenica-Dubn 23.54 317 *e*P **P** **22 23 06.8 +0.6**
CRVS pmax pmax
comp=Z,33nm,1.2s
CRVS Cervenica-Dubn 23.54 317 *e*P **P** **22 23 06.8 +0.6**
STON Ston 23.69 301 *e*P **P** **22 23 06.4 -1.2**
TIP Timpagrande 23.83 292 P **P** **22 23 07.6 -1.6**
TIP IAmb IAmb 22 23 15.7
comp=Z,30nm,0.6s
KECS Kecovo 23.89 316 *e*P **P** **22 23 11.6 +2.0**
KECS pmax pmax
comp=Z,29nm,0.7s
KECS Kecovo 23.89 316 *e*P **P** **22 23 11.6 +2.0**
PSZ Piszkesteto 23.98 314 P **P** **22 23 09.8 -0.7**
PSZ Piszkesteto 23.98 314 P **P** **22 23 09.8 -0.7**
PSZ pmax pmax
comp=Z,23nm,1.1s
MATE Matera 24.02 295 ⇓P **P** **22 23 10.6 -0.2**
MORH Mrgy, Hungar 24.05 309 ⇑P **P** **22 23 11.7 +0.7**
MNK Minsk 24.26 334 *i* P **P** **22 23 09.9 -3.0**
comp=E,10.0nm,0.9s
MNK *i* P **P** **22 23 09.9 -3.0**
comp=N,27nm,0.9s
MNK *i* P **P** **22 23 09.9 -3.0**
comp=Z,60nm,0.8s,baz=142
MNK *i* PP sP 22 23 39.4 +22
MNK *i* PPP PPP 22 23 47.3
MNK *i* S **S** **22 27 29.6 -1.8**
MNK *i* SS **SnSn** **22 28 13.4 -0.3**
MNK *i* SSS SSS 22 28 26.9
MNK *i* LQ LQ 22 30 39.6
MNK *i* LR LR 22 32 32.8
MNK *i* LRM MLR 22 33 53.3
comp=Z,191nm,12.3s
MNK Minsk 24.26 334 *i* P **P** **22 23 09.9 -3.0**
MNK *i* PPP PPP 22 23 47.2
MNK *i* S **S** **22 27 29.5 -1.8**
MNK *i* SSS SSS 22 28 26.8
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=N,27nm,0.9s
MNK pmax pmax
comp=Z,60nm,0.8s
MNK MLR MLR
comp=Z,191nm,12.0s
AAK Ala-Archa 24.26 60 P **P** **22 23 15.2 +1.9**
AAK Ala-Archa 24.26 60 *i* P **P** **22 23 14.3 +1.0**
AAK pmax pmax
comp=Z,12nm,1.1s
AAK Ala-Archa 24.26 60 LR LR 22 34 16.2
comp=Z,706nm,20.2s,baz=287,slow=40
BUD Budapest 24.32 312 P **P** **22 23 14.5 +1.0**
BUD pmax pmax
comp=Z,42nm,0.7s
ARU Arti 24.39 17 P **P** **22 23 13.1 -1.0**
ARU IAmb IAmb 22 23 23.5
comp=Z,26nm,0.8s
ARU Arti 24.39 17 *c* *i* P **P** **22 23 14.4 +0.3**
ARU 22 23 43.1
ARU S **S** **22 27 38.2 +4.7**
ARU SS **SnSn** **22 28 23.0 +6.1**
ARU pmax pmax
comp=Z,57nm,1.8s
FRU1 Bishkek 24.39 60 P **P** **22 23 13.1 -1.3**
FRU1 Bishkek 24.39 60 P **P** **22 23 13.1 -1.3**
FRU1 pmax pmax
comp=Z,17nm,1.1s
CEL Celeste 24.46 289 P **P** **22 23 14.9 0.0**
NIE Niedzica 24.46 318 P **P** **22 23 14.2 -0.7**
NIE pmax pmax
comp=Z,7.0nm,1.9s
MGRS Mrkonjic Grad 24.51 304 *e*P **P** **22 23 15.1 -0.3**
SGDS Sogindy 24.54 58 *e*P **P** **22 23 15.7 0.0**
SGDS pmax pmax
comp=Z,21nm,1.4s
SGDS Sogindy 24.54 58 *e*P **P** **22 23 15.8 0.0**
comp=Z,20nm,1.4s,baz=58
BLY Banja Luka 24.54 305 *e*P **P** **22 23 14.7 -0.9**
BTLS Baital 24.56 54 *e*P **P** **22 23 15.9 +0.2**
BTLS pmax pmax
comp=Z,18nm,0.7s
BTLS Baital 24.56 54 *e*P **P** **22 23 16.0 +0.2**
comp=Z,18nm,0.7s,baz=54
CUC Castrocucco 24.62 293 P **P** **22 23 15.9 -0.5**
LANS Liptovska Anna 24.80 316 *e*P **P** **22 23 19.6 +1.6**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 24.80 316 *e*P **P** **22 23 19.6 +1.6**
A051A Mrakovica 24.80 306 *e*P **P** **22 23 17.6 -0.5**
SRO Srobarova 24.89 313 *e*P **P** **22 23 20.1 +1.4**
SRO pmax pmax
comp=Z,26nm,1.2s
SRO Srobarova 24.89 313 *e*P **P** **22 23 20.0 +1.4**
A050A Klekovaca 24.91 304 *e*P **P** **22 23 18.1 -0.9**
KSH Kashi 24.94 68 P **P** **22 23 18.6 -0.8**
KSH sP sP 22 23 24.4 +0.6
KSH S **S** **22 27 39.4 -3.6**
KSH pmax pmax
comp=Z,25nm,0.7s
KSH pmax pmax
comp=Z,360nm,7.6s
KSH LR LR
comp=Z,950nm,9.6s
KSH LR LR
comp=Z,980nm,10.7s
KSH LR LR
comp=Z,2µm,24.7s
NACGM Naroch 24.98 334 *e*P **P** **22 23 20.1 +0.7**
comp=E,2µm,1.0s
KIRV Kirov 25.01 5 *c* *e*P **P** **22 23 19.8 +0.2**
KIRV Kirov 25.01 5 P **P** **22 23 19.6 0.0**
comp=E,61nm,0.5s,baz=201,slow=8.6,SNR=26
KIRV LR LR 22 34 15.6
comp=E,362nm,20.6s,baz=186,slow=39
comp=E,61nm,0.5s
OJC Ojcow 25.15 319 P **P** **22 23 20.9 -0.1**
OJC Ojcow 25.15 319 P **P** **22 23 20.9 -0.1**
OJC pmax pmax
comp=Z,15nm,0.8s
NRN Naryn 25.16 63 P **P** **22 23 22.3 +0.7**
NRN Naryn 25.16 63 P **P** **22 23 22.3 +0.7**
NRN pmax pmax
comp=Z,33nm,0.7s
SVE Sverdlovsk 25.29 19 *d* *e*P **P** **22 23 23.2 +1.0**
SVE pmax pmax
comp=Z,36nm,0.9s
FURI Furi 25.52 196 P **P** **22 23 26.4 +1.4**
FURI IAmb IAmb 22 23 40.0
comp=Z,21nm,0.8s
VAE Valguarnera 25.63 287 P **P** **22 23 28.4 +2.8**
comp=Z,27nm,0.9s,baz=170,slow=6.4,SNR=8.3
comp=Z,27nm,0.9s
RAFF Raffo Rosso 25.67 287 P **P** **22 23 27.5 +1.5**
PAOL Paolisi 25.68 296 P **P** **22 23 25.4 -0.5**
PAOL IAmb IAmb 22 23 36.9
comp=Z,37nm,1.0s
KOGS Kog 25.69 308 *e*P **P** **22 23 26.8 +0.9**
PTJ Puntijarka 25.70 307 P **P** **22 23 30.6 +4.4**
JAVC Velka Javorina 25.72 314 *e*P **P** **22 23 27.4 +1.1**
ISAL Salakas 25.73 334 *e*P **P** **22 23 27.5 +1.3**
MODS Modra-Piesok 25.75 313 *e*P **P** **22 23 27.2 +0.6**
MODS Modra-Piesok 25.75 313 *e*P **P** **22 23 27.2 +0.6**
ZST Bratislava 25.79 313 *e*P **P** **22 23 27.5 +0.7**
ZST Bratislava 25.79 313 *e*P **P** **22 23 27.5 +0.7**
KUU Kurty 25.85 58 *e*P **P** **22 23 27.6 +0.2**
KUU pmax pmax
comp=Z,28nm,1.1s
KUU Kurty 25.85 58 *e*P **P** **22 23 27.7 +0.2**
comp=Z,28nm,1.1s,baz=58
MAUC Maruska 25.85 316 *e*P **P** **22 23 28.6 +1.1**
OKC Ostrava-Krasne 25.89 317 *e*P **P** **22 23 27.2 -0.5**
OKC Ostrava-Krasne 25.89 317 *e*P **P** **22 23 27.2 -0.5**
SOP Sopron 25.93 311 P **P** **22 23 29.4 +1.3**
SOP pmax pmax
comp=Z,36nm,1.0s
CRES Cresnjev 26.02 307 *e*P **P** **22 23 29.0 0.0**
BOJS Bojanci 26.07 306 *e*P **P** **22 23 29.1 -0.3**
RONA Rosalia, Austr 26.10 311 *e*P **P** **22 23 30.7 +1.0**
comp=Z,19nm,1.0s
TNSS Tian-Shan 26.11 60 *e*P **P** **22 23 30.6 +0.3**
TNSS Tian-Shan 26.11 60 *e*P **P** **22 23 30.6 +0.3**
baz=60
BRVK Borovoye 26.12 35 P **P** **22 23 30.2 +0.4**
BRVK IAmb IAmb 22 23 33.4
comp=Z,22nm,1.0s
BRVK Borovoye 26.12 35 *c* *e*P **P** **22 23 29.3 -0.5**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 26.12 35 P **P** **22 23 31.2 +1.4**
BVAR Borovoye Array 26.16 35 P **P** **22 23 30.8 +0.6**
comp=Z,13nm,0.5s,baz=227,slow=7.6,SNR=53
BVAR PcP **PcP** **22 26 58.0 +0.9**
comp=Z,3.5nm,0.5s,baz=202,slow=2.4,SNR=8.9
BVAR ScP **ScP** **22 30 39.8 +3.0**
comp=Z,0.6nm,0.7s,baz=129,slow=1.9,SNR=4.3
BVAR LR LR 22 36 32.2
comp=Z,335nm,20.2s,baz=229,slow=43
comp=Z,13nm,0.5s
MDOK Medeo 26.20 60 *e*P **P** **22 23 31.6 +0.7**
MDOK *e*S **S** **22 28 05.3 +2.3**
MDOK Medeo 26.20 60 *e*P **P** **22 23 31.6 +0.7**
baz=60
MDOK *e*S **S** **22 28 05.4 +2.3**
baz=60
MORC Moravsky Berou 26.20 316 ⇓P **P** **22 23 31.4 +0.8**
MORC Moravsky Berou 26.20 316 P **P** **22 23 30.3 -0.4**
MORC Moravsky Berou 26.20 316 *e*P **P** **22 23 30.3 -0.4**
MORC Moravsky Berou 26.20 316 P **P** **22 23 30.3 -0.4**
MORC pmax pmax
comp=Z,13nm,1.0s
INTR Introdacqua 26.29 298 P **P** **22 23 30.2 -1.4**
CHKK Chushkaly 26.30 58 *e*P **P** **22 23 32.2 +0.7**
CHKK Chushkaly 26.30 58 *e*P **P** **22 23 32.2 +0.7**
baz=58
ARSA Arzberg 26.43 310 *i* P **P** **22 23 33.4 +0.7**
comp=Z,4.3nm,0.6s
ARSA *i* PcP **PcP** **22 27 01.4 +3.5**
comp=Z,8.7nm,1.5s
CONA Conrad Observa 26.45 311 *e*P **P** **22 23 33.8 +0.8**
comp=Z,12nm,0.7s,SNR=11
CONA *e*PcP **PcP** **22 26 58.2 +0.2**
comp=Z,11nm,1.8s
PERS Pernice 26.49 308 *i* P **P** **22 23 34.2 +0.9**
PABE Paberze 26.50 332 P **P** **22 23 32.3 -0.9**
PABE Paberze 26.50 332 *e*P **P** **22 23 33.3 +0.2**
VRAC Vranov 26.55 315 ⇓P **P** **22 23 34.5 +0.7**
VRAC Vranov 26.55 315 *e*P **P** **22 23 34.1 +0.3**
VRAC Vranov 26.55 315 P **P** **22 23 34.2 +0.3**
comp=Z,5.7nm,0.8s,baz=117,slow=8.6,SNR=8.9
VRAC LR LR 22 35 15.5
comp=Z,264nm,18.3s,baz=130,slow=39
comp=Z,5.7nm,0.8s
SOKA Soboth 26.56 308 *e* pP **P** **22 23 36.1 +2.2**
comp=Z,5.6nm,0.6s,SNR=6.3
SOKA *e*PcP **PcP** **22 26 59.0 +0.8**
comp=Z,4.5nm,0.7s
KRUC Moravsky 26.57 314 *e*P **P** **22 23 34.0 +0.1**
KRUC Moravsky 26.57 314 P **P** **22 23 34.4 +0.5**
KRUC pmax pmax
comp=Z,15nm,1.3s
CLTB Caltabellotta 26.58 288 P **P** **22 23 33.9 -0.3**
CEY Cerknica 26.69 306 *e*P **P** **22 23 33.2 -1.9**
LJU Ljubljana 26.70 307 P **P** **22 23 37.9 +2.7**
LJU pmax pmax
comp=Z,138nm,1.3s
CAMP Campotosto 26.73 299 P **P** **22 23 36.6 +1.0**
CAMP IAmb IAmb 22 23 41.9
comp=Z,30nm,0.9s
KRLC Kraliky 26.78 316 P **P** **22 23 39.7 +3.8**
KRLC pmax pmax
comp=Z,11nm,1.3s
OBKA Obir 26.82 308 *e*P **P** **22 23 39.6 +3.2**
comp=Z,40nm,1.4s,SNR=6.2
OBKA Obir 26.82 308 *e*P **P** **22 23 38.4 +2.0**
VSVD Vaisvydziai 26.86 333 *e*P **P** **22 23 37.0 +0.6**
NRCA Norcia 26.99 299 P **P** **22 23 38.5 +0.6**
NRCA IAmb IAmb 22 23 44.0
comp=Z,22nm,0.8s
PRZ Przheval'sk 27.08 62 P **P** **22 23 37.9 -0.9**
PRZ Przheval'sk 27.08 62 P **P** **22 23 37.9 -0.9**
DPC Dobruska-Polom 27.17 317 *e*P **P** **22 23 39.6 +0.3**
DPC Dobruska-Polom 27.17 317 *e*P **P** **22 23 39.6 +0.3**
SATY Saty 27.17 60 *e*S **S** **22 28 21.8 +3.6**
baz=60
ZHN Zhinishke 27.20 60 *e*P **P** **22 23 40.3 +0.5**
ZHN Zhinishke 27.20 60 *e*P **P** **22 23 40.3 +0.5**
baz=60
SABO M.te Sabotino 27.31 306 P **P** **22 23 39.7 -1.0**
SABO IAmb IAmb 22 23 52.9
comp=Z,79nm,1.5s
OSTC Ostas 27.32 317 *e*P **P** **22 23 41.0 +0.3**
OSTC Ostas 27.32 317 *e*P **P** **22 23 41.0 +0.3**
CESX Cesi 27.35 299 P **P** **22 23 38.7 -2.3**
CESX IAmb IAmb 22 23 48.9
comp=Z,31nm,1.1s
KSP Ksiaz 27.41 318 P **P** **22 23 42.3 +0.9**
KSP pmax pmax
comp=Z,13nm,1.1s
UPC Upice 27.41 317 *e*P **P** **22 23 41.9 +0.4**
UPC Upice 27.41 317 *e*P **P** **22 23 41.9 +0.4**
CHVC Chvalec 27.43 317 *e*P **P** **22 23 41.9 +0.3**
CHVC Chvalec 27.43 317 *e*P **P** **22 23 41.9 +0.3**

MOA Molln 27.43 310 *e*P **P** **22 23 42.8 +1.1**
comp=Z,9.2nm,0.7s
MOA *e*PcP **PcP** **22 27 01.7 +1.4**
comp=Z,4.0nm,0.9s
KPKS Kokpek 27.43 59 *e*P **P** **22 23 42.1 +0.2**
KPKS Kokpek 27.43 59 *e*P **P** **22 23 42.2 +0.3**
baz=59
KLMR Klimovskoe 27.45 353 *e*P **P** **22 23 39.4 -2.3**
KLMR pmax pmax
comp=Z,21nm,0.6s
KLMR MLR MLR
comp=Z,548nm,12.0s
PRED Cave del Predi 27.46 307 P **P** **22 23 40.4 -1.6**
PRED IAmb IAmb 22 23 48.1
comp=Z,15nm,0.7s
MYKA Terra Mystica 27.46 308 *e*pP **P** **22 23 44.0 +1.9**
comp=Z,12nm,0.6s,SNR=8.0
TDK Taldyqorghan 27.54 56 *e*P **P** **22 23 42.9 +0.2**
TDK pmax pmax
comp=Z,14nm,0.4s
TDK Taldyqorghan 27.54 56 *e*P **P** **22 23 42.9 +0.2**
comp=Z,14nm,0.4s,baz=56
PBUR Paburge 27.68 331 *e*P **P** **22 23 44.5 +0.7**
CKRC Cesky Krumlov 27.74 312 *e*P **P** **22 23 45.1 +0.6**
CKRC Cesky Krumlov 27.74 312 *e*P **P** **22 23 45.1 +0.6**
BIOA Bad Ischl, Aus 27.78 310 *i* P **P** **22 23 45.5 +0.7**
comp=Z,8.0nm,0.4s
BIOA *i* PcP **PcP** **22 27 01.6 +0.5**
comp=Z,4.8nm,0.9s
KBA Koelnbreinsper 27.78 308 *i* P **P** **22 23 45.8 +0.7**
comp=Z,10.0nm,0.6s
KBA *i* PcP **PcP** **22 27 01.8 +0.5**
comp=Z,11nm,1.7s
VSU Vasula 27.82 339 *ce*P **P** **22 23 44.3 -0.7**
VSU pmax pmax
comp=Z,24nm,1.3s
VSU Vasula 27.82 339 *e*P **P** **22 23 45.7 +0.7**
GOPC GO Pecny, Ondr 27.88 315 *e*P **P** **22 23 48.7 +3.0**
GOPC GO Pecny, Ondr 27.88 315 *e*P **P** **22 23 48.7 +3.0**
CLUD Cludinico 27.91 307 P **P** **22 23 47.0 +0.9**
CLUD PcP **PcP** **22 27 02.3 +0.9**
SHLS Shalkode 27.95 60 *e*P **P** **22 23 49.9 +3.4**
SHLS pmax pmax
comp=Z,16nm,1.5s
SHLS Shalkode 27.95 60 *e*P **P** **22 23 49.9 +3.4**
comp=Z,16nm,1.5s,baz=60
STAL STALIGIAL 27.98 306 P **P** **22 23 47.5 +0.9**
ZVC Zvikov 28.04 314 *e*P **P** **22 23 47.1 -0.1**
PRU Pruhonice 28.05 315 *e*P **P** **22 23 49.4 +2.2**
PRU Pruhonice 28.05 315 *e*P **P** **22 23 49.4 +2.2**
GEC2 GERESS Array S 28.13 312 P **P** **22 23 48.3 +0.3**
GERES GERESS Array B 28.13 312 P **P** **22 23 47.3 -0.7**
GERES GERESS Array B 28.13 312 P **P** **22 23 47.3 -0.7**
GERES GERESS Array B 28.13 312 P **P** **22 23 48.0 0.0**
comp=Z,0.8nm,0.4s,baz=114,slow=8.7,SNR=7.8
GERES PcP **PcP** **22 27 02.8 +0.8**
comp=Z,1.7nm,0.7s,baz=147,slow=2.7,SNR=4.7
GERES LR LR 22 37 57.3
comp=Z,268nm,20.6s,baz=142,slow=43
comp=Z,0.8nm,0.4s
ABTA Abfaltersbach 28.24 307 *e*P **P** **22 23 50.0 +1.0**
comp=Z,6.9nm,0.9s
ABTA *i* PcP **PcP** **22 27 02.3 0.0**
comp=Z,5.8nm,1.1s
PVCC Panska Ves 28.25 316 *e*P **P** **22 23 53.1 +4.1**
PVCC Panska Ves 28.25 316 *e*P **P** **22 23 53.1 +4.1**
KHC Kasperske Hory 28.30 313 P **P** **22 23 48.5 -1.1**
KHC Kasperske Hory 28.30 313 *i* P **P** **22 23 46.8 -2.7**
KHC pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 28.30 313 *e*P **P** **22 23 49.7 +0.2**
LESA Schwarzleotal 28.32 309 *e*P **P** **22 23 50.0 +0.2**
comp=Z,9.1nm,0.6s
LESA *e*PcP **PcP** **22 27 03.4 +0.9**
comp=Z,4.5nm,0.5s
OSSC Osservatorio P 28.45 300 P **P** **22 23 49.8 -1.0**
TEOL Teolo 28.48 304 P **P** **22 23 51.9 +0.9**
TEOL IAmb IAmb 22 23 57.2
comp=Z,32nm,1.1s
CTI Castel Tesino 28.64 306 P **P** **22 23 50.3 -2.4**
CTI IAmb IAmb 22 23 57.4
comp=Z,12nm,0.7s
CTI Castel Tesino 28.64 306 P **P** **22 23 50.3 -2.4**
CTI pmax pmax
comp=Z,13nm,0.7s
SLIT Slitere, Latvi 28.68 334 *e*P **P** **22 23 53.0 +0.3**
BRG Berggiesshubel 28.76 316 *e*P **P** **22 23 53.1 -0.5**
BRG Amp 22 23 59.1
comp=Z,3.3nm,1.0s
BRG Berggiesshubel 28.76 316 *e*P **P** **22 23 53.0 -0.5**
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG MLR MLR
comp=E,698nm,20.9s
BRG MLR MLR
comp=Z,1μm,20.0s
BRG MLR MLR
comp=N,272nm,20.0s
ZCCA Zocca 28.77 302 P **P** **22 23 55.4 +1.7**
WTTA Wattenberg 28.95 308 *e*P **P** **22 23 55.7 +0.3**
comp=N,6.0nm,0.4s,SNR=13
MTSE Matsula 28.96 336 *e*P **P** **22 23 55.4 +0.3**
WATA Walderalm 29.01 308 *i* P **P** **22 23 54.6 -1.4**
WATA *e*PcP **PcP** **22 27 03.4 -0.9**
comp=N,7.9nm,0.9s
VLC Villacollemand 29.16 301 P **P** **22 23 59.0 +1.9**
SQTA Sankt Quirin 29.22 308 *i* P **P** **22 23 57.8 0.0**
comp=N,14nm,0.4s,SNR=28
SQTA *i* PcP **PcP** **22 27 06.0 +1.2**
comp=N,5.4nm,0.7s
MOTA Moosalm 29.32 308 *i* P **P** **22 23 58.5 -0.3**
comp=N,11nm,0.6s,SNR=18
MOTA *i* PcP **PcP** **22 27 05.9 +0.8**
comp=N,4.7nm,0.8s
KURBB Kurchatov Arra 29.33 45 P **P** **22 23 59.9 +1.3**
comp=N,9.8nm,0.7s,baz=252,slow=9.0,SNR=74
KURBB PcP **PcP** **22 27 05.7 +0.9**
comp=N,2.5nm,0.6s,baz=244,slow=3.2,SNR=9.3
KURBB LR LR 22 37 53.0
comp=N,497nm,20.0s,baz=78,slow=41
comp=N,9.8nm,0.7s
KURK Kurchatov 29.42 45 P **P** **22 24 00.2 +0.8**
KURK Kurchatov 29.42 45 *ce*P **P** **22 23 59.1 -0.2**
KURK pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 29.48 317 P **P** **22 23 59.2 -0.7**
CLL Collm 29.48 317 P **P** **22 23 59.2 -0.7**
CLL pmax pmax
comp=Z,6.0nm,0.9s
FETA Feichten 29.49 307 *e*P **P** **22 24 00.5 +0.2**
comp=Z,8.4nm,0.7s,SNR=8.8
FETA *i* PcP **PcP** **22 27 07.5 +2.0**
comp=Z,13nm,1.0s
VSL Villasalto 29.56 292 P **P** **22 23 59.5 -1.3**
VSL IAmb IAmb 22 24 06.7
comp=Z,18nm,0.7s
RETA Reutte 29.59 308 *e*P **P** **22 24 00.5 -0.4**
comp=Z,7.6nm,0.4s,SNR=15
RETA *e*PcP **PcP** **22 27 06.2 +0.6**
comp=Z,7.5nm,1.5s
FUORN Ofenpass-Fuorn 29.71 306 P **P** **22 24 02.4 +0.1**
KEST Kesra 29.81 284 P **P** **22 24 03.6 +0.5**
KEST IAmb IAmb 22 24 15.1
comp=Z,21nm,1.2s
KEST Kesra 29.81 284 P **P** **22 24 05.6 +2.5**
comp=Z,6.5nm,0.8s,baz=36,slow=7.1,SNR=8.9
KEST LR LR 22 38 31.8
comp=Z,208nm,19.9s,baz=353,slow=42
comp=Z,6.5nm,0.8s
GRA1 Grafenberg Arr 29.94 313 P **P** **22 24 03.5 -0.6**
GRF Grafenberg Arr 29.94 313 P **P** **22 24 03.5 -0.6**
GRF pmax pmax
comp=Z,14nm,1.0s
GRF Grafenberg Arr 29.94 313 *e*P **P** **22 24 04.3 +0.2**
comp=Z,5.3nm,0.6s,baz=119,slow=9.4
GRFO Grafenberg 29.94 313 P **P** **22 24 03.7 -0.3**
GRFO Grafenberg 29.94 313 P **P** **22 24 03.7 -0.3**
GRFO pmax pmax
comp=Z,17nm,1.1s
MEF Metsahovi 29.95 339 *e*P **P** **22 24 03.9 0.0**
DAVOX Davos/Dischmat 30.00 307 P **P** **22 24 05.1 +0.3**
comp=Z,3.5nm,0.5s,baz=106,slow=3.9,SNR=14
DAVOX LR LR 22 37 27.9
comp=Z,244nm,19.0s,baz=98,slow=39
comp=Z,3.5nm,0.5s

DAVA Damuels 30.12 308 *e*P **P** **22 24 05.6 -0.1**
comp=Z,22nm,0.5s
DAVA *e*PcP **PcP** **22 27 09.2 +2.0**
comp=Z,5.9nm,0.8s
SEM Semipalatinsk 30.27 46 *e*P **P** **22 24 07.3 +0.1**
SEM pmax pmax
comp=Z,22nm,2.1s
SEM Semipalatinsk 30.27 46 *e*P **P** **22 24 07.4 +0.1**
comp=Z,22nm,2.1s,baz=46
TUE Stuetta 30.29 306 P **P** **22 24 07.3 0.0**
MAKZ Makanchi 30.36 54 P **P** **22 24 08.5 +0.7**
MAKZ IAmb IAmb 22 24 11.0
comp=Z,31nm,1.4s
MAKZ Makanchi 30.36 54 P **P** **22 24 08.5 +0.7**
MAKZ pmax pmax
comp=Z,31nm,1.4s
FINES FINESS Array B 30.48 341 P **P** **22 24 08.6 0.0**
comp=Z,2.6nm,0.6s,baz=145,slow=10,SNR=20
FINES LR LR 22 36 59.6
comp=Z,298nm,18.8s,baz=140,slow=38
comp=Z,2.6nm,0.6s
FIA1 FINESS Array S 30.48 341 P **P** **22 24 09.4 +0.8**
FIA1 IAmb IAmb 22 24 13.2
comp=Z,40nm,1.4s
BLEU Blekinge 30.50 327 *e*P **P** **22 24 08.9 +0.1**
MK31 Makanchi Array 30.57 54 P **P** **22 24 09.9 +0.3**
MK31 IAmb IAmb 22 24 12.7
comp=Z,17nm,0.9s
MK31 Makanchi Array 30.57 54 P **P** **22 24 09.9 +0.3**
MK31 pmax pmax
comp=Z,17nm,0.9s
MKAR Makanchi Array 30.57 54 P **P** **22 24 10.1 +0.5**
MKAR Makanchi Array 30.57 54 P **P** **22 24 10.1 +0.5**
MKAR Makanchi Array 30.57 54 P **P** **22 24 10.8 +1.2**
comp=Z,14nm,0.4s,baz=254,slow=9.5,SNR=460
MKAR LR LR 22 38 57.2
comp=Z,345nm,19.2s,baz=263,slow=41
comp=Z,14nm,0.4s
RAF Rauma 31.39 338 *e*P **P** **22 24 16.2 -0.4**
DEL Delary 31.49 326 *i* P **P** **22 24 17.0 -0.5**
LODK Lodwar 31.63 200 P **P** **22 24 19.7 +0.4**
BNI Bardonecchia 31.90 302 P **P** **22 24 21.1 -0.4**
BNI Bardonecchia 31.90 302 P **P** **22 24 21.1 -0.4**
BNI pmax pmax
comp=Z,59nm,1.0s
BORU Boraas 32.63 327 *e*P **P** **22 24 27.9 +0.4**
MAHO Mahon 33.49 293 P **P** **22 24 35.6 +0.3**
HYB Hyderabad 33.63 111 *e*P **P** **22 24 37.5 +0.7**
HFS Hagfors 33.68 331 P **P** **22 24 36.8 +0.2**
comp=Z,16nm,0.4s,baz=131,slow=10,SNR=177
HFS LR LR 22 41 09.4
comp=Z,271nm,18.6s,baz=130,slow=42
comp=Z,16nm,0.4s
MUD Monsted U'grnd 33.74 324 *i* P **P** **22 24 38.0 +0.7**
WMQ Urumqi 33.97 60 *e*P **P** **22 24 41.3 +1.8**
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ pmax pmax
comp=Z,130nm,5.1s
WMQ LR LR
comp=Z,680nm,20.7s
WMQ LR LR
comp=Z,360nm,23.9s
ZAA0 Zalesovo Array 34.14 42 P **P** **22 24 40.5 -0.3**
ZAA0 IAmb IAmb 22 24 43.6
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 34.14 42 P **P** **22 24 40.5 -0.3**
ZALV Zalesovo Beam 34.14 42 P **P** **22 24 41.3 +0.5**
comp=Z,12nm,0.5s,baz=258,slow=8.5,SNR=59
ZALV LR LR 22 41 17.4
comp=Z,364nm,19.2s,baz=247,slow=41
comp=Z,12nm,0.5s
DGZ Jazzator, Alta 34.53 50 *c i*P **P** **22 24 45.1 +0.7**
DGZ pmax pmax
comp=Z,20nm,0.8s
OSL Oslo 34.78 330 *e*P **P** **22 24 46.2 0.0**
OSL IAmb IAmb 22 24 47.1
comp=Z,17nm,1.0s
NC602 NORSAR Array S 34.90 331 *e*P **P** **22 24 46.9 -0.3**
NORES NORESS Array B 34.90 331 P **P** **22 24 46.9 -0.3**
KONO Kongsberg 35.11 329 *e*P **P** **22 24 49.4 +0.4**
NB2 NORSAR Subarra 35.20 331 P **P** **22 24 49.2 -0.7**
NB2 NORSAR Subarra 35.20 331 P **P** **22 24 49.3 -0.7**
comp=Z,12nm,0.5s,baz=124,slow=8.6
NB2 NORSAR Subarra 35.20 331 P **P** **22 24 49.3 -0.7**
baz=124,slow=8.6
NOA NORSAR Array B 35.20 331 P **P** **22 24 49.4 -0.5**
comp=Z,2.4nm,0.7s,baz=178,slow=15,SNR=12
NOA PcP **PcP** **22 27 21.0 +0.3**
comp=Z,2.0nm,0.8s,baz=102,slow=3.9,SNR=3.9
NOA LR LR 22 40 46.7
comp=Z,228nm,20.7s,baz=145,slow=39
comp=Z,2.4nm,0.7s
KMBO Kilima Mbogo 35.55 195 LR LR 22 38 36.3
comp=Z,386nm,19.4s,baz=60,slow=35
EIBI Ibiza 35.81 292 P **P** **22 24 56.1 +0.7**
SKAR Skarslia 36.20 330 *e*P **P** **22 24 58.9 +0.4**
SKAR IAmb IAmb 22 25 01.8
comp=Z,16nm,1.3s
BLS5 Blasjo 36.39 327 *e*P **P** **22 25 00.2 +0.1**
DOMB Dombas 36.62 332 IAmb IAmb 22 25 02.0
comp=Z,76nm,1.9s
DOMB *e*P **P** **22 25 02.2 +0.1**
TAM Tamanrasset 36.79 263 P **P** **22 25 05.8 +1.7**
TAM IAmb IAmb 22 25 16.8
comp=Z,27nm,1.3s
TAM Tamanrasset 36.79 263 P **P** **22 25 05.8 +1.7**
TAM pmax pmax
comp=Z,27nm,1.3s
TBLU Trondheim 36.86 334 *e*P **P** **22 25 04.5 +0.5**
MBAR Mbarara 36.91 205 P **P** **22 25 06.8 +1.7**
MBAR Mbarara 36.91 205 P **P** **22 25 06.8 +1.7**
MBAR pmax pmax
comp=Z,4.0nm,1.0s
NSS Namsos 37.06 337 *e*P **P** **22 25 05.3 -0.4**
BER Bergen 37.34 328 IAmb IAmb 22 25 09.0
comp=Z,87nm,1.2s
MOR8 Moi Rana 37.40 340 *e*P **P** **22 25 08.6 0.0**
MOR8 IAmb IAmb 22 25 14.9
comp=Z,34nm,1.4s
MOL Molde 37.50 332 *e*P **P** **22 25 09.8 +0.3**
AKN Aaknes 37.51 331 *e*P **P** **22 25 10.1 +0.5**
ECHE Chera 37.54 293 P **P** **22 25 10.6 +0.5**
KTK1 Kautokeino 37.54 347 *e*P **P** **22 25 09.8 0.0**
KTK1 IAmb IAmb 22 25 15.6
comp=Z,36nm,1.2s
VADS Vadso 37.55 351 *e*P **P** **22 25 10.3 +0.5**
VADS IAmb IAmb 22 25 12.8
comp=Z,244nm,1.9s
ARA0 ARCESS Array S 37.59 349 *e*P **P** **22 25 10.6 +0.3**
ARA0 IAmb IAmb 22 25 26.9
comp=Z,1μm,3.0s
ARCES ARCESS Array B 37.59 349 P **P** **22 25 10.2 0.0**
comp=Z,10nm,1.1s,baz=148,slow=9.5,SNR=18
ARCES LR LR 22 42 52.7
comp=Z,306nm,18.1s,baz=156,slow=40
comp=Z,10nm,1.1s
STOK Stokkvaagen 37.93 339 *e*P **P** **22 25 13.3 +0.2**
KONS Konsvik 38.02 339 *e*P **P** **22 25 13.8 +0.1**
FOO Floro 38.03 330 *e*P **P** **22 25 14.1 +0.1**
FAUS Fauske 38.04 341 *e*P **P** **22 25 14.7 +0.7**
ETOB Tobarra 38.10 291 P **P** **22 25 16.1 +1.1**
STEI Steigen 38.45 342 *e*P **P** **22 25 17.3 -0.1**
STEI IAmb IAmb 22 25 19.0
comp=Z,78nm,1.6s
JETT Jettan, Norway 38.55 346 *e*P **P** **22 25 18.9 +0.6**
LSA Lhasa 38.67 83 P **P** **22 25 19.3 -1.0**
LSA IAmb IAmb 22 25 22.9
comp=Z,33nm,1.2s
LSA Lhasa 38.67 83 P **P** **22 25 19.3 -1.0**
LSA pmax pmax
comp=Z,33nm,1.2s
LSA Lhasa 38.67 83 P **P** **22 25 20.0 -0.3**
ENIJ Nijar 38.86 289 P **P** **22 25 21.6 +0.3**
HAMF Hammerfest 38.87 349 *e*P **P** **22 25 21.6 +0.7**
HAMF IAmb IAmb 22 25 22.6
comp=Z,61nm,1.4s
TRO Tromso 38.91 345 *e*P **P** **22 25 21.1 -0.2**
UCM Universidad Co 39.20 294 P **P** **22 25 23.9 -0.3**
ESBB Sonseca Array 39.82 293 P **P** **22 25 29.8 +0.5**
ESDC Sonseca Array 39.82 293 P **P** **22 25 28.1 -1.3**
ESDC Sonseca Array 39.82 293 P **P** **22 25 29.9 +0.5**
comp=Z,14nm,1.1s,baz=78,slow=8.2,SNR=28
ESDC PcP **PcP** **22 27 36.5 +1.2**
comp=Z,1.1nm,0.7s,baz=49,slow=3.2,SNR=6.2
comp=Z,14nm,1.1s
EKA Eskdalemuir Ar 39.92 318 P **P** **22 25 29.8 0.0**
comp=Z,6.8nm,0.8s,baz=102,slow=8.6,SNR=15
EKA PcP **PcP** **22 27 36.4 +1.2**
comp=Z,1.5nm,0.7s,baz=120,slow=5.4,SNR=3.5
comp=Z,6.8nm,0.8s
ELGU Los Guajares, 40.00 289 P **P** **22 25 28.6 -2.3**
GOMU GeErMu 40.02 72 P **P** **22 25 32.5 +1.1**
GOMU pP sP 22 25 39.0 +3.2
GOMU sP pP 22 25 41.4 +6.8
GOMU pmax pmax
comp=Z,20nm,0.9s
PAB San Pablo 40.14 293 P **P** **22 25 31.9 -0.1**
PAB San Pablo 40.14 293 P **P** **22 25 31.9 -0.1**
PAB pmax pmax
comp=Z,24nm,1.4s
EGOR Sierra Gorda, 40.34 289 P **P** **22 25 33.9 +0.1**
EADA Adamuz 40.52 291 P **P** **22 25 35.7 +0.6**
EMAL Malaga-Limoner 40.66 289 P **P** **22 25 35.8 -0.4**
PBRG Braganca 41.66 297 *e*P **P** **22 25 45.5 +1.0**
comp=Z,40nm,1.7s
MVO Moncorvo 41.95 296 *e*P **P** **22 25 47.9 +1.0**
comp=Z,55nm,1.1s
PBAR Barrancos 42.43 292 *e*P **P** **22 25 51.3 +0.5**
comp=Z,60nm,1.2s
MTE Manteigas 42.45 295 *e*P **P** **22 25 52.0 +1.0**
comp=Z,50nm,1.4s
MTE Manteigas 42.45 295 P **P** **22 25 50.6 -0.4**
MTE IAmb IAmb 22 26 01.7
comp=Z,37nm,1.2s
PVRL Vila Real 42.45 296 *e*P **P** **22 25 52.0 +1.0**
comp=Z,51nm,1.1s
PCBR Castelo Branco 42.48 294 *e*P **P** **22 25 52.2 +1.0**
comp=Z,59nm,1.0s
PMRV Marv??o 42.48 294 *e*P **P** **22 25 52.0 +0.8**
comp=Z,42nm,1.2s
POLO Lamas de Olo 42.50 296 *e*P **P** **22 25 52.2 +0.8**
comp=Z,27nm,1.0s
NRIK Noril'sk 42.55 21 P **P** **22 25 51.0 -0.3**
NRIK IAmb IAmb 22 25 57.7
comp=Z,25nm,1.0s
NRIK Noril'sk 42.55 21 *ce*P **P** **22 25 52.6 +1.3**
NRIK pmax pmax
comp=Z,30nm,1.0s
NRIK Noril'sk 42.55 21 P **P** **22 25 52.6 +1.3**
comp=Z,19nm,0.9s,baz=232,slow=5.2,SNR=25
NRIK LR LR 22 47 38.3
comp=Z,358nm,18.4s,baz=222,slow=42
comp=Z,19nm,0.9s
PVIS Viseu 42.66 296 *e*P **P** **22 25 53.8 +1.1**
PESTR Estremoz 42.73 293 *e*P **P** **22 25 53.9 +0.7**
comp=Z,29nm,1.2s
PESTR Estremoz 42.73 293 P **P** **22 25 53.0 -0.3**
PESTR IAmb IAmb 22 25 54.4
comp=Z,20nm,0.7s
PGAV Gavieira, Arco 42.78 297 *e*P **P** **22 25 55.0 +1.3**
comp=Z,69nm,1.1s
PBEJ Beja 43.10 292 *e*P **P** **22 25 57.2 +1.0**
comp=Z,54nm,1.7s
PVAQ Vaqueiros 43.11 291 *e*P **P** **22 25 57.1 +0.8**
EVO Evora 43.12 292 *e*P **P** **22 25 57.9 +1.6**
comp=Z,31nm,1.8s
COI Coimbra 43.13 295 *e*P **P** **22 25 58.0 +1.6**
comp=Z,55nm,0.7s
COI Coimbra 43.13 295 P **P** **22 25 55.2 -1.2**
COI Coimbra 43.13 295 P **P** **22 25 55.2 -1.2**
COI pmax pmax
comp=Z,36nm,0.7s
PTO Porto 43.13 296 *e*P **P** **22 25 58.0 +1.6**
comp=Z,53nm,1.7s
PMTG Montargil 43.18 293 *e*P **P** **22 25 57.8 +1.0**
comp=Z,23nm,1.1s
PCAS Casmilo, Conde 43.22 295 *e*P **P** **22 25 58.4 +1.2**
PCVE Castro Verde 43.31 291 *e*P **P** **22 25 58.6 +0.7**
comp=Z,31nm,1.8s
MOY Mondy 43.32 48 *e*P **P** **22 25 59.9 +1.9**
MOY pmax pmax
comp=Z,29nm,2.1s
GTA Gaotai 43.32 66 P **P** **22 25 59.3 +1.1**
GTA sP sP 22 26 07.4 +4.8
GTA pmax pmax
comp=Z,13nm,1.0s
GTA LR LR
comp=Z,190nm,14.9s
GTA LR LR
comp=Z,140nm,14.5s
GTA LR LR
comp=Z,230nm,15.6s
MESJ Messejana 43.41 291 *e*P **P** **22 25 59.4 +0.7**
comp=Z,55nm,1.7s
MESJ Messejana 43.41 291 P **P** **22 25 57.5 -1.2**
MESJ IAmb IAmb 22 26 04.4
comp=Z,27nm,1.2s
MESJ Messejana 43.41 291 P **P** **22 25 57.5 -1.2**
MESJ pmax pmax
comp=Z,27nm,1.2s
MESJ Messejana 43.41 291 *e*P **P** **22 25 58.9 +0.2**
MESJ IAmb IAmb 22 26 03.6
comp=Z,18nm,1.0s
PNCL Nicolau / Gran 43.59 292 *e*P **P** **22 26 01.3 +1.1**
comp=Z,34nm,1.7s
PACT Alcochete 43.70 293 *e*P **P** **22 26 02.5 +1.5**
MORF Marmelete 43.85 291 P **P** **22 26 04.2 +1.9**
MORF Marmelete 43.85 291 P **P** **22 26 04.2 +1.9**
MORF pmax pmax
comp=Z,50nm,1.4s
PTEO Sao Teotonio 43.86 291 *e*P **P** **22 26 03.3 +1.0**
PMAFR Mafra 44.01 293 *e*P **P** **22 26 05.0 +1.4**
comp=Z,156nm,1.8s
ZAK Zakamensk 44.75 50 *e*P **P** **22 26 10.2 +0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
TOA0 Torodi Ar. Sit 44.82 254 P **P** **22 26 10.3 0.0**
TOA0 Torodi Ar. Sit 44.82 254 P **P** **22 26 11.1 +0.8**
SNR=6.5
TOA0 P **P** **22 26 11.1 +0.8**
SNR=9.2
TORD Torodi Ar. Bea 44.82 254 P **P** **22 26 09.5 -0.7**
TORD Torodi Ar. Bea 44.82 254 P **P** **22 26 11.1 +0.8**
comp=Z,5.2nm,0.6s,baz=62,slow=6.3,SNR=68
TORD LR LR 22 47 15.2
comp=Z,215nm,18.9s,baz=60,slow=39
comp=Z,5.2nm,0.6s
IRK Irkutsk 45.36 48 *e*P **P** **22 26 14.6 +0.4**
IRK pmax pmax
comp=Z,39nm,1.1s
SPB2 Spitsbergen Ar 46.33 352 P **P** **22 26 20.5 -1.0**
SPA0 Spitsbergen Ar 46.33 352 *e*P **P** **22 26 21.9 +0.5**
SPA0 IAmb IAmb 22 26 22.6
comp=Z,47nm,0.9s
SPITS Spitsbergen Ar 46.33 352 P **P** **22 26 22.0 +0.5**
comp=Z,8.2nm,0.4s,baz=145,slow=12,SNR=49
comp=Z,8.2nm,0.4s
TNCH TengChong 46.45 86 *e*P **P** **22 26 23.6 +0.3**
TNCH pP pP 22 26 27.0 +0.5
TNCH S **S** **22 33 11.3 -0.2**
TNCH SS **SS** **22 36 28.9 -8.3**
TNCH pmax pmax
comp=Z,12nm,0.4s
TNCH pmax pmax
comp=Z,120nm,5.2s
TNCH LR LR
comp=Z,270nm,16.5s
TNCH LR LR
comp=Z,140nm,15.5s
TNCH LR LR
comp=Z,260nm,19.1s
SONM Songino Array 46.94 54 P **P** **22 26 26.3 -0.5**
SONM Songino Array 46.94 54 P **P** **22 26 26.3 -0.5**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 46.94 54 P **P** **22 26 27.9 +1.1**
comp=Z,3.2nm,0.6s,baz=279,slow=11,SNR=25
SONM PcP **PcP** **22 27 59.2 -0.1**
comp=Z,1.2nm,0.7s,baz=248,slow=3.6,SNR=3.1
SONM LR LR 22 49 01.5
comp=Z,242nm,19.0s,baz=230,slow=40
comp=Z,3.2nm,0.6s
JMIC Jan Mayen 47.01 339 LR LR 22 46 12.1
comp=Z,191nm,20.0s,baz=81,slow=36
LZH Lanzhou 47.16 70 ↑P **P** **22 26 29.8 +1.1**
LZH sP sP 22 26 37.3 +4.1
LZH pmax pmax
comp=Z,29nm,1.5s
LZH LR LR
comp=Z,340nm,13.7s

LZH LR LR
comp=Z,280nm,13.1s
LZH LR LR
comp=Z,350nm,14.8s
ULN Ulaanbaatar 47.38 53 P **P** **22 26 31.0 +0.8**
ULN Ulaanbaatar 47.38 53*c i*P **P** **22 26 30.8 +0.6**
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 47.38 53 P **P** **22 26 31.2 +0.9**
ULN Ulaanbaatar 47.38 53 P **P** **22 26 30.4 +0.2**
comp=Z,120nm,1.0s,comp=Z,1µm
PZH PanZhiHua 48.55 83 P **P** **22 26 40.1 +0.6**
PZH S **S** **22 33 43.5 +2.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,170nm,5.5s
PZH LR LR
comp=Z,270nm,17.9s
PZH LR LR
comp=Z,240nm,18.2s
PZH LR LR
comp=Z,310nm,20.8s
CD2 Chengdu 48.62 77*e*P **P** **22 26 38.0 -2.0**
CHTO Chiang Mai 49.52 93 P **P** **22 26 46.4 -0.5**
CHTO Chiang Mai 49.52 93 P **P** **22 26 46.4 -0.5**
CHTO pmax pmax
comp=Z,17nm,0.7s
CHTO Chiang Mai 49.52 93 P **P** **22 26 47.4 +0.5**
comp=Z,25nm,1.0s
CM31 Chiang Mai Arr 49.69 94 P **P** **22 26 48.1 -0.1**
CM31 IAmb IAmb 22 26 49.5
comp=Z,26nm,1.2s
CM31 Chiang Mai Arr 49.69 94 P **P** **22 26 48.1 -0.1**
SNR=6.1
CMAR Chiang Mai Arr 49.69 94 P **P** **22 26 47.9 -0.3**
CMAR Chiang Mai Arr 49.69 94 P **P** **22 26 47.9 -0.3**
CMAR Chiang Mai Arr 49.69 94 P **P** **22 26 48.1 -0.1**
comp=Z,8.7nm,0.7s,baz=296,slow=8.3,SNR=47
CMAR PcP **PcP** **22 28 10.3 +0.8**
comp=Z,3.9nm,0.9s,baz=299,slow=5.0,SNR=5.0
comp=Z,8.7nm,0.7s
KMI Kunming 49.91 84 ⇑P **P** **22 26 49.8 -0.3**
KMI PcS **PcS** **22 32 08.5 +0.8**
KMI S **S** **22 34 06.9 +6.2**
KMI pmax pmax
comp=Z,12nm,0.8s
KMI LR LR
comp=Z,210nm,14.6s
KMI LR LR
comp=Z,220nm,13.8s
KMI LR LR
comp=Z,290nm,25.1s
CRAI Chiangrai 50.05 91 P **P** **22 26 50.2 -0.8**
CRAI IAmb IAmb 22 26 51.4
comp=Z,8.2nm,0.6s
LSZ Lusaka 51.49 202 P **P** **22 27 01.0 -0.8**
LSZ Lusaka 51.49 202 P **P** **22 27 01.0 -0.8**
LSZ pmax pmax
comp=Z,8.0nm,1.1s
LSZ Lusaka 51.49 202 LR LR 22 51 45.3
comp=Z,134nm,19.0s,baz=36,slow=39
XAN Xi'an 51.74 71 ⇑P **P** **22 27 03.6 0.0**
XAN pP pP 22 27 07.9 +1.1
XAN S **S** **22 34 26.8 +1.4**
XAN pmax pmax
comp=Z,57nm,0.9s
XAN pmax pmax
comp=Z,220nm,4.6s
XAN LR LR
comp=Z,250nm,9.4s
XAN LR LR
comp=Z,400nm,10.4s
XAN LR LR
comp=Z,430nm,17.2s
HHC Hu-ho-hao-te 51.82 62*e*P **P** **22 27 04.3 +0.1**
HHC sP sP 22 27 10.6 +2.0
HHC *e*S **S** **22 34 27.8 +1.3**
HHC sS sS 22 34 39.8 +7.7
HHC SS **SS** **22 38 04.8 +1.9**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,170nm,6.1s
HHC LR LR
comp=Z,330nm,13.5s
HHC LR LR
comp=Z,540nm,12.9s
HHC LR LR
comp=Z,480nm,12.4s
OPO Ambohidratompo 52.01 178 LR LR 22 48 17.1
comp=Z,164nm,20.1s,baz=185,slow=35
SLVN Son La 52.49 88 P **P** **22 27 08.8 -0.6**
SLVN IAmb IAmb 22 27 10.7
comp=Z,30nm,1.4s
KRI Karoi 52.54 199*e*P **P** **22 27 10.9 +1.3**
GYA Guiyang 52.62 81 ⇓P **P** **22 27 10.0 -0.3**
GYA pmax pmax
comp=Z,15nm,0.6s
ENH Enshi 53.47 75 P **P** **22 27 15.2 -1.3**
ENH IAmb IAmb 22 27 29.4
comp=Z,16nm,1.0s
DBIC Dimbokro 53.83 252 P **P** **22 27 19.8 +0.7**
comp=Z,7.4nm,0.8s,baz=32,slow=7.7,SNR=8.7
DBIC LR LR 22 53 05.5
comp=Z,328nm,18.1s,baz=34,slow=39
comp=Z,7.4nm,0.8s
KIC Kosan Boka 53.92 251⇑*e*P **P** **22 27 20.4 +0.5**
comp=Z,31nm,0.8s
TIC Toumodi 53.97 252⇑*i*P **P** **22 27 20.6 +0.4**
comp=Z,7.4nm,0.7s
LIC Lamto 54.23 251⇑*i*P **P** **22 27 22.7 +0.6**
comp=Z,38nm,0.7s
XLT XiLinHaoTe 54.29 57*e*P **P** **22 27 22.8 +0.5**
XLT pmax pmax
comp=Z,11nm,0.9s
XLT pmax pmax
comp=Z,100nm,5.8s
XLT LR LR
comp=Z,26nm,15.5s
XLT LR LR
comp=Z,250nm,14.1s
XLT LR LR
comp=Z,310nm,10.6s
LYN LuoYang 54.35 69*e*P **P** **22 27 23.6 +0.9**
LYN pmax pmax
comp=Z,38nm,0.6s
BJI Beijing 55.43 62 P **P** **22 27 30.8 +0.4**
BJI pP **pP** **22 27 33.8 +0.1**
BJI sP **sP** **22 27 36.6 +1.7**
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI pmax pmax
comp=Z,120nm,5.3s
BJI LR LR
comp=Z,230nm,15.8s
BJI LR LR
comp=Z,100nm,12.5s
BJI LR LR
comp=Z,78nm,17.1s
BJT Baijiatuau 55.43 62 P **P** **22 27 29.3 -1.2**
BJT Baijiatuau 55.43 62 P **P** **22 27 29.3 -1.2**
BJT pmax pmax
comp=Z,5.0nm,0.8s
HIA Hailar 55.45 50 P **P** **22 27 30.6 +0.1**
HIA IAmb IAmb 22 27 32.2
comp=Z,14nm,1.2s
HIA Hailar 55.45 50*i*P **P** **22 27 28.6 -1.9**
HIA pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 56.27 22 P **P** **22 27 35.7 -0.4**
TIXI IAmb IAmb 22 27 39.1
comp=Z,17nm,0.9s
TIXI Tiksi 56.27 22*ce*P **P** **22 27 36.7 +0.7**
TIXI pmax pmax
comp=Z,21nm,1.0s
TIXI Tiksi 56.27 22 LR LR 22 55 48.8
comp=Z,14nm,18.9s,baz=289,slow=40
SUMG Summit 56.46 339 P **P** **22 27 37.7 -0.1**
SUMG Summit 56.46 339 P **P** **22 27 37.7 -0.1**
SUMG Summit 56.46 339*i*P **P** **22 27 37.0 -0.9**
KCSI Kotacane, Aceh 57.00 110 P **P** **22 27 44.6 +2.6**
comp=Z,179nm,0.5s,comp=Z,4µm
WHN Wuhan 57.27 73 P **P** **22 27 44.8 +1.1**
WHN pP **sP** **22 27 54.1 +5.9**
WHN pmax pmax
comp=Z,36nm,0.9s
TIA Tai'an 57.37 66 P **P** **22 27 44.4 0.0**
TIA pmax pmax
comp=Z,7.0nm,0.8s
MUSN Musina, Limpop 57.69 197*e*P **P** **22 27 48.4 +1.7**
MUSN IAmb IAmb 22 27 49.6
comp=Z,13nm,0.9s
YAK Yakutsk 58.12 34*ce*P **P** **22 27 48.5 -0.7**
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK Yakutsk 58.12 34 LR LR 22 56 49.4
comp=Z,16nm,18.5s,baz=270,slow=40
MPHEP Siloam, Limpop 58.20 197*e*P **P** **22 27 51.2 +0.9**
MPHEP IAmb IAmb 22 27 57.6
comp=Z,8.8nm,0.9s
KULM Kulim 58.21 106 P **P** **22 27 49.8 -0.8**
GSI Gunungsitoli 58.23 112 P **P** **22 27 49.5 -1.2**
GSI Gunungsitoli 58.23 112 P **P** **22 27 52.8 +2.1**
comp=Z,23nm,0.7s
PSI Prapat 58.34 110 P **P** **22 27 50.7 -0.9**
PSI pmax pmax
comp=Z,11nm,1.1s
RPSI Rantau Prapat 58.41 110 P **P** **22 27 50.7 -1.2**
RPSI IAmb IAmb 22 28 05.2
comp=Z,11nm,1.1s
MOPA Mopani 58.51 195*e*P **P** **22 27 54.3 +2.0**
ZEA Zeya 58.88 43*e*P P 22 27 46.5 -8.2
ZEA pmax pmax
comp=Z,10.0nm,0.9s
TSUM Tsumeb 59.04 211 P **P** **22 27 56.2 -0.1**
TSUM IAmb IAmb 22 28 05.1
comp=Z,9.1nm,1.0s
TSUM Tsumeb 59.04 211*e*P **P** **22 27 57.2 +0.9**
TSUM Tsumeb 59.04 211 LR LR 22 54 44.7
comp=Z,349nm,18.0s,baz=7.5,slow=37
HOED Hoedspruit, Li 59.48 196*e*P **P** **22 28 01.0 +1.9**
HOED IAmb IAmb 22 28 01.6
comp=Z,14nm,0.9s
LEPH Lephalale, Lim 59.72 199*e*P **P** **22 28 02.3 +1.4**
LEPH IAmb IAmb 22 28 04.7
comp=Z,4.9nm,0.8s
HEH HeiHe 59.98 47*e*P **P** **22 28 00.6 -1.7**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,160nm,5.8s
HEH LR LR
comp=Z,190nm,17.1s
HEH LR LR
comp=Z,330nm,16.7s
HEH LR LR
comp=Z,420nm,10.6s
PILG Pilgrimsrest, 60.03 196*e*P **P** **22 28 05.0 +1.9**
PILG IAmb IAmb 22 28 08.6
comp=Z,18nm,1.0s
NJ2 Nanjing 60.23 69*e*P **P** **22 28 04.1 -0.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
DULL Dullstroom, Mp 60.57 196*e*P **P** **22 28 08.9 +2.1**
DULL IAmb IAmb 22 28 13.6
comp=Z,10nm,1.0s
CN2 Changchun 60.79 55*e*P **P** **22 28 07.3 -0.7**
CN2 *e*S **S** **22 36 18.3 -6.9**
CN2 LR LR
comp=Z,140nm,12.0s
CN2 LR LR
comp=Z,250nm,12.0s
CN2 LR LR
comp=Z,360nm,12.0s
RUST Rust De Winter 60.85 198*e*P **P** **22 28 10.3 +1.7**
NHAM Northam, North 60.86 199*e*P **P** **22 28 09.9 +1.3**
NHAM IAmb IAmb 22 28 14.6
comp=Z,8.7nm,0.9s
TSWA Tswaing Meteor 61.14 198*e*P **P** **22 28 11.2 +0.6**
NYAT Nyati, Northwe 61.22 199*e*P **P** **22 28 13.5 +2.5**
NYAT IAmb IAmb 22 28 14.0
comp=Z,12nm,0.9s
SLR Silverton 61.38 198*e*P **P** **22 28 14.0 +1.8**
BNX BinXian 61.43 52 ⇓P **P** **22 28 08.8 -3.5**
BNX pmax pmax
comp=Z,8.0nm,1.4s
BNX pmax pmax
comp=Z,100nm,4.9s
LBTB Lobatse 61.44 201 P **P** **22 28 12.9 +0.3**
LBTB IAmb IAmb 22 28 16.0
comp=Z,15nm,1.0s
LBTB Lobatse 61.44 201 P **P** **22 28 12.9 +0.3**
LBTB pmax pmax
comp=Z,15nm,1.0s
LBTB Lobatse 61.44 201*e*P **P** **22 28 14.0 +1.4**
LBTB IAmb IAmb 22 28 15.8
comp=Z,13nm,0.9s
LBTB Lobatse 61.44 201 LR LR 22 53 55.3
comp=Z,226nm,18.3s,baz=25,slow=35
BKNI Bangkinang 61.53 111 P **P** **22 28 11.9 -1.4**
PDSI Padang 61.85 112 P **P** **22 28 14.8 -0.8**
comp=Z,21nm,1.0s
KSR Koster 61.86 199*e*P **P** **22 28 17.6 +2.1**
KSR IAmb IAmb 22 28 22.7
comp=Z,7.3nm,0.8s
WIN Windhoek 62.23 210 P **P** **22 28 16.5 -1.5**
WIN IAmb IAmb 22 28 25.0
comp=Z,11nm,0.9s
WIN Windhoek 62.23 210 P **P** **22 28 16.5 -1.5**
WIN pmax pmax
comp=Z,11nm,0.9s
PRYS Parys 62.76 198*e*P **P** **22 28 23.2 +1.8**
PRYS IAmb IAmb 22 28 27.5
comp=Z,3.8nm,0.8s
NWCL Newcastle 62.92 196*e*P **P** **22 28 23.6 +1.2**
NWCL IAmb IAmb 22 28 30.4
comp=Z,90nm,2.1s
KLR Kul'dur 62.97 47*ce*P **P** **22 28 22.1 -0.5**
KLR pmax pmax
comp=Z,14nm,2.5s
KLR Kul'dur 62.97 47 LR LR 22 57 29.8
comp=Z,144nm,21.7s,baz=289,slow=38
MDJ Mudanjiang 63.28 53 P **P** **22 28 24.6 -0.1**
MDJ pmax pmax
comp=Z,6.0nm,2.0s
MDJ pmax pmax
comp=Z,150nm,4.0s
KRJI Kerinci 63.37 112 P **P** **22 28 25.6 -0.2**
comp=Z,87nm,0.8s
SWZ Schweizer 63.56 200*e*P **P** **22 28 27.7 +0.9**
SNKL Senekal, Frees 63.94 198*e*P **P** **22 28 30.4 +1.1**
SNKL IAmb IAmb 22 28 34.4
comp=Z,264nm,2.2s
KSAR Wonju Array Be 64.90 61 P **P** **22 28 34.0 -1.4**
KSAR Wonju Array Be 64.90 61 P **P** **22 28 34.0 -1.4**
KSRS Korea Array 64.92 61 P **P** **22 28 34.9 -0.7**
comp=Z,3.6nm,0.5s,baz=286,slow=6.4,SNR=14
comp=Z,3.6nm,0.5s
BOSA Boshof 64.93 200 P **P** **22 28 35.8 +0.1**
BOSA IAmb IAmb 22 28 38.2
comp=Z,11nm,0.8s
BOSA Boshof 64.93 200 P **P** **22 28 35.8 +0.1**
BOSA pmax pmax
comp=Z,11nm,0.8s
BOSA Boshof 64.93 200*e*P **P** **22 28 37.2 +1.5**
BOSA IAmb IAmb 22 28 48.3
comp=Z,358nm,3.1s
BOSA Boshof 64.93 200 P **P** **22 28 37.4 +1.7**
comp=Z,10nm,0.8s,baz=32,slow=6.5,SNR=14
BOSA LR LR 22 58 14.3
comp=Z,159nm,18.7s,baz=22,slow=37
comp=Z,10nm,0.8s
USA0B Ussuriysk Arra 65.03 52*i*P **P** **22 28 34.7 -1.5**
USRK Ussuriysk Ar. 65.03 52 P **P** **22 28 35.1 -1.1**
USRK Ussuriysk Ar. 65.03 52 P **P** **22 28 35.1 -1.1**
USRK Ussuriysk Ar. 65.03 52 P **P** **22 28 35.2 -1.0**
comp=Z,3.3nm,0.5s,baz=291,slow=4.8,SNR=13
USRK LR LR 23 01 30.2
comp=Z,268nm,18.7s,baz=290,slow=40
comp=Z,3.3nm,0.5s
SEY Seymchan 67.57 28*ce*P **P** **22 28 52.1 0.0**
SEY pmax pmax
comp=Z,14nm,1.0s
SEY Seymchan 67.57 28 LR LR 23 04 04.5
comp=Z,186nm,18.3s,baz=324,slow=41
KSM Kuching 68.23 103 P **P** **22 28 55.5 -1.5**
KSM Kuching 68.23 103 P **P** **22 28 57.2 +0.2**
comp=Z,19nm,1.1s
MA2 Magadan 68.59 32 LR LR 23 03 16.4
comp=Z,86nm,18.2s,baz=298,slow=40
RES Resolute Bay 68.81 350 P **P** **22 28 59.8 +0.1**
RES pmax pmax
comp=Z,3.0nm,1.1s
ROOI Rooidraai Farm 69.07 200*e*P **P** **22 29 04.0 +2.1**
ROOI IAmb IAmb 22 29 04.9
comp=Z,26nm,1.0s
SBUM Sibu 69.22 101 P **P** **22 29 00.9 -2.3**
SBUM IAmb IAmb 22 29 05.6
comp=Z,10nm,1.3s
SBUM Sibu 69.22 101 P **P** **22 29 03.5 +0.3**
comp=Z,5.8nm,1.3s
BILL Bilibino 69.38 20 P **P** **22 29 02.2 -1.1**
BILL Bilibino 69.38 20*i* P **P** **22 29 03.8 +0.4**
BILL pmax pmax
comp=Z,23nm,1.0s
SUR Sutherland 69.78 202 LR LR 22 59 38.0
comp=Z,284nm,19.5s,baz=20,slow=36
JOW Kunigami 69.89 71 LR LR 23 05 17.7
comp=Z,180nm,18.1s,baz=288,slow=41
FRB Frobisher Bay 69.95 334 LR LR 23 02 26.2
comp=Z,108nm,18.0s,baz=22,slow=38
ASAJ Asahikawa 71.90 49 LR LR 23 06 34.5
comp=Z,121nm,18.5s,baz=318,slow=41
MJAR Matsushiro Arr 72.68 57 LR LR 23 05 19.5
comp=Z,81nm,19.5s,baz=300,slow=39
A21K Barrow 74.07 7 P **P** **22 29 33.0 +1.5**
baz=341
A36M Sachs Harbour 74.40 357 P **P** **22 29 33.8 +0.3**
A36M Sachs Harbour 74.40 357 P **P** **22 29 34.3 +0.9**
baz=7.8,SNR=35
A22K Sinclair Lake 74.54 7 P **P** **22 29 35.7 +1.5**
baz=342
SCHQ Schefferville 74.57 326 P **P** **22 29 34.4 -0.3**
SCHQ Schefferville 74.57 326 P **P** **22 29 35.1 +0.4**
comp=Z,9.3nm,0.6s,baz=44,slow=5.4,SNR=31
SCHQ LR LR 23 03 49.7
comp=Z,142nm,18.0s,baz=50,slow=37
comp=Z,9.3nm,0.6s
A19K Wainwright 74.59 9 P **P** **22 29 36.2 +1.7**
baz=337
B20K Meade River 75.26 8 P **P** **22 29 40.0 +1.5**
baz=340
B18K Kokolik River 75.27 10 P **P** **22 29 40.6 +2.1**
baz=337
B22K Teshekpuk Lake 75.33 7 P **P** **22 29 39.6 +0.8**
B22K IAmb IAmb 22 29 45.3
comp=Z,17nm,0.9s
B22K Teshekpuk Lake 75.33 7 P **P** **22 29 40.2 +1.3**
baz=344
PETK Petropavlovsk- 75.39 35 LR LR 23 06 08.0
comp=Z,144nm,18.2s,baz=302,slow=38
C16K Lisburne Hills 75.72 11 P **P** **22 29 41.3 +0.2**
C16K IAmb IAmb 22 29 46.9
comp=Z,10.0nm,1.0s
C16K Lisburne Hills 75.72 11 P **P** **22 29 41.9 +0.8**
baz=334
C19K Lookout Ridge 75.81 9 P **P** **22 29 41.8 +0.1**
C19K IAmb IAmb 22 29 49.8
comp=Z,7.1nm,0.7s
C19K Lookout Ridge 75.81 9 P **P** **22 29 42.5 +0.9**
baz=338
C17K DeLong Mountai 75.88 11 P **P** **22 29 43.2 +1.1**
baz=336
B21K Ikpikpuk River 75.91 7 P **P** **22 29 42.1 0.0**
B21K IAmb IAmb 22 29 44.8
comp=Z,12nm,0.8s
B21K Ikpikpuk River 75.91 7 P **P** **22 29 43.9 +1.8**
baz=343
C18K Utukok River 76.01 10 P **P** **22 29 42.9 0.0**
C18K Utukok River 76.01 10 P **P** **22 29 44.3 +1.4**
baz=337
C23K Itkillik River 76.07 6 P **P** **22 29 43.6 +0.5**
C23K IAmb IAmb 22 29 50.0
comp=Z,14nm,0.9s
C23K Itkillik River 76.07 6 P **P** **22 29 44.6 +1.5**
baz=346
C21K Knifeblade Rid 76.33 7 P **P** **22 29 46.2 +1.6**
baz=342
C24K Franklin Bluff 76.34 5 P **P** **22 29 46.1 +1.5**
baz=348
D20K Etivluk River 76.55 8 P **P** **22 29 47.1 +1.2**
baz=341
D19K Kuna River 76.57 9 P **P** **22 29 47.3 +1.3**
baz=340
D22K Ayikyak River 76.81 7 P **P** **22 29 47.6 +0.2**
D22K IAmb IAmb 22 29 54.0
comp=Z,12nm,0.8s
D22K Ayikyak River 76.81 7 P **P** **22 29 48.9 +1.6**
baz=344
D24K Happy Valley 76.88 5 P **P** **22 29 47.7 0.0**
D24K IAmb IAmb 22 29 54.0
comp=Z,12nm,1.2s
D24K Happy Valley 76.88 5 P **P** **22 29 49.2 +1.5**
baz=348
D25K Kavik River 76.89 4 P **P** **22 29 48.3 +0.4**
D25K IAmb IAmb 22 29 54.2
comp=Z,9.5nm,0.8s
D25K Kavik River 76.89 4 P **P** **22 29 48.7 +0.9**
baz=350
C36M Paulatuk 76.97 356 P **P** **22 29 47.0 -1.1**
C36M Paulatuk 76.97 356 P **P** **22 29 48.0 -0.1**
baz=8.7,SNR=10
E20K Nigu River 77.03 8 P **P** **22 29 49.7 +1.0**
baz=341
E21K Killik River 77.11 7 P **P** **22 29 50.0 +1.0**
baz=343
D28M Stokes Point 77.21 2 P **P** **22 29 51.0 +1.4**
baz=356
D27M Malcolm River 77.23 2 P **P** **22 29 49.5 -0.3**
D27M Malcolm River 77.23 2 P **P** **22 29 51.0 +1.2**
baz=354
E18K Tukpahlearik C 77.24 10 P **P** **22 29 50.9 +1.1**
baz=338
E17K Hotham Inlet 77.37 11 P **P** **22 29 51.4 +0.9**
baz=337
E19K Redstone River 77.67 9 P **P** **22 29 52.3 +0.1**
E19K Redstone River 77.67 9 P **P** **22 29 53.5 +1.3**
baz=341
TNA Tin City 77.67 14 P **P** **22 29 53.1 +0.9**
baz=332
DAV Davao City (W) 77.74 90 LR LR 23 09 14.1
comp=Z,66nm,18.3s,baz=339,slow=40
E23K Chandalar 77.89 6 P **P** **22 29 55.0 +1.5**
baz=347
E28M Babbage River 77.92 2 P **P** **22 29 54.0 +0.5**
E28M IAmb IAmb 22 30 00.0
comp=Z,10nm,0.9s
E28M Babbage River 77.92 2 P **P** **22 29 54.7 +1.1**
baz=356
E24K Your Creek 77.97 5 P **P** **22 29 54.0 +0.1**
E24K Your Creek 77.97 5 P **P** **22 29 55.2 +1.3**
baz=348
F17K Baldwin Pennin 78.05 11 P **P** **22 29 54.0 -0.3**
F17K IAmb IAmb 22 29 56.3
comp=Z,9.6nm,0.7s
F17K Baldwin Pennin 78.05 11 P **P** **22 29 54.9 +0.7**
baz=337
F14K Arctic Creek 78.06 13 P **P** **22 29 55.2 +0.9**
baz=333
E25K Arctic Village 78.13 4 P **P** **22 29 54.7 0.0**
E25K IAmb IAmb 22 30 01.1
comp=Z,11nm,0.9s
E25K Arctic Village 78.13 4 P **P** **22 29 55.8 +1.1**
baz=350
F15K North Star Dit 78.16 12 P **P** **22 29 55.8 +0.9**
F15K IAmb IAmb 22 30 00.6
comp=Z,13nm,1.1s
F15K North Star Dit 78.16 12 P **P** **22 29 55.9 +0.9**
baz=334
E29M Blow River 78.17 1 P **P** **22 29 55.4 +0.5**
E29M Blow River 78.17 1 P **P** **22 29 56.0 +1.0**
baz=357
F19K Shaleruckik Mo 78.19 9 P **P** **22 29 55.2 +0.2**
F19K IAmb IAmb 22 30 00.6
comp=Z,18nm,1.1s
F19K Shaleruckik Mo 78.19 9 P **P** **22 29 55.7 +0.7**
baz=340,SNR=7.7
F22K John River 78.19 7 P **P** **22 29 57.0 +1.9**
baz=345
F20K Avaraart Lake 78.24 8 P **P** **22 29 55.1 -0.3**
F20K IAmb IAmb 22 30 01.4
comp=Z,8.1nm,0.8s
F20K Avaraart Lake 78.24 8 P **P** **22 29 56.6 +1.3**
baz=342,SNR=12
E27K Coleen River 78.27 3 P **P** **22 29 56.4 +0.9**
E27K IAmb IAmb 22 30 02.0
comp=Z,12nm,0.9s

E27K	Coleen River	78.27	3	P	P	22 29 57.0	+1.4		baz=354
INK	Inuvik	78.29	360	P	P	22 29 55.4	-0.2		
INK	Inuvik	78.29	360	P	P	22 29 55.4	-0.2		
INK				pmax	pmax				comp=Z,4.0nm,0.8s
INK	Inuvik	78.29	360	P	P	22 29 56.6	+1.1		baz=0.7
F21K	Alatna River	78.33	7	P	P	22 29 57.0	+1.1		
F21K				IAmb	IAmb	22 30 02.4			comp=Z,15nm,0.9s
F21K	Alatna River	78.33	7	P	P	22 29 57.3	+1.4		baz=344
GAMB	Gambell	78.43	16	P	P	22 29 55.5	-0.8		
GAMB				IAmb	IAmb	22 29 58.1			comp=Z,10nm,0.9s
GAMB	Gambell	78.43	16	P	P	22 29 57.2	+0.8		baz=329
F24K	Squaw Lake	78.56	5	P	P	22 29 57.1	-0.1		
F24K	Squaw Lake	78.56	5	P	P	22 29 58.8	+1.6		baz=348
F26K	Sheenjek River	78.64	4	P	P	22 29 59.4	+1.9		baz=352
F25K	Christian Rive	78.65	4	P	P	22 29 59.4	+1.7		baz=350
COLD	Coldfoot	78.66	6	P	P	22 29 57.3	-0.3		
COLD				IAmb	IAmb	22 30 04.1			comp=Z,13nm,1.0s
COLD	Coldfoot	78.66	6	P	P	22 29 59.0	+1.3		baz=346
G22K	Bettles	78.83	7	P	P	22 29 59.6	+1.0		baz=345
G16K	Koyuk River	78.84	12	P	P	22 29 58.6	-0.1		
G16K				IAmb	IAmb	22 30 01.1			comp=Z,13nm,0.9s
G16K	Koyuk River	78.84	12	P	P	22 30 00.1	+1.5		baz=336,SNR=9.1
BMAR	Burnt Mountain	78.88	4	P	P	22 29 59.0	+0.1		
F28M	Old Crow	78.90	2	P	P	22 29 58.5	-0.5		
F28M	Old Crow	78.90	2	P	P	22 29 60.0	+1.0		baz=355,SNR=6.6
G15K	Niukluk	78.91	12	P	P	22 30 00.1	+1.0		baz=335
G19K	Purcell Mounta	78.93	9	P	P	22 29 59.6	+0.4		
G19K	Purcell Mounta	78.93	9	P	P	22 30 00.6	+1.4		baz=341,SNR=22
G18K	Tagagawik	78.95	10	P	P	22 29 58.9	-0.3		
G18K	Tagagawik	78.95	10	P	P	22 30 00.3	+1.1		baz=340
LMN	Caledonia Moun	78.97	318	P	P	22 30 00.0	+0.3		
LMN				IAmb	IAmb	22 30 10.8			comp=Z,19nm,1.5s
F30M	Barrier River	78.99	1	P	P	22 30 00.3	+0.9		baz=359
G21K	Allakaket	79.01	8	P	P	22 29 58.8	-0.8		
G21K				IAmb	IAmb	22 30 05.7			comp=Z,14nm,0.9s
G21K	Allakaket	79.01	8	P	P	22 30 00.8	+1.2		baz=344
G17K	Kiwalik Mounta	79.02	11	P	P	22 30 00.7	+1.1		baz=338
ANM	Nome	79.06	13	P	P	22 29 59.5	-0.4		
ANM				IAmb	IAmb	22 30 06.3			comp=Z,17nm,1.0s
ANM	Nome	79.06	13	P	P	22 29 59.5	-0.4		
ANM				pmax	pmax				comp=Z,17nm,1.0s
ANM	Nome	79.06	13	P	P	22 30 01.5	+1.6		baz=334,SNR=9.1
F31M	Tsiigehtchic	79.16	360	P	P	22 30 00.4	0.0		
F31M				IAmb	IAmb	22 30 02.0			comp=Z,14nm,0.7s
F31M	Tsiigehtchic	79.16	360	P	P	22 30 01.2	+0.8		baz=0.5,SNR=8.8
G23K	Bananza Creek	79.18	6	P	P	22 30 01.2	+0.6		
G23K				IAmb	IAmb	22 30 06.5			comp=Z,15nm,1.4s
G23K	Bananza Creek	79.18	6	P	P	22 30 01.7	+1.2		baz=347
G26K	Porcupine Rive	79.40	4	P	P	22 30 03.4	+1.7		baz=352
G24K	Hadweenzic Riv	79.40	5	P	P	22 30 03.4	+1.6		baz=349
G25K	Bearman Lake	79.44	5	P	P	22 30 03.5	+1.6		baz=350
IMAR	Indian Mountai	79.50	8	P	P	22 30 02.9	+0.7		
H16K	Elim	79.56	12	P	P	22 30 03.7	+1.1		baz=337,SNR=6.9
H19K	Roundabout Mou	79.60	9	P	P	22 30 01.5	-1.3		
H19K				IAmb	IAmb	22 30 09.2			comp=Z,12nm,1.0s
H19K	Roundabout Mou	79.60	9	P	P	22 30 04.1	+1.3		baz=341
G30M	tAoh Zraii Nji	79.61	1	P	P	22 30 02.4	-0.6		
G30M				IAmb	IAmb	22 30 08.6			comp=Z,13nm,0.8s
G30M	tAoh Zraii Nji	79.61	1	P	P	22 30 03.8	+0.8		baz=358
G27K	Doyon Strip	79.64	3	P	P	22 30 04.0	+0.9		
G27K	Doyon Strip	79.64	3	P	P	22 30 04.6	+1.5		baz=354
KAPI	Kappang	79.65	103	LR	LR	23 09 52.6			comp=Z,61nm,18.4s,baz=305,slow=39
G29M	Pine Creek	79.65	1	P	P	22 30 02.6	-0.6		
G29M				IAmb	IAmb	22 30 09.1			comp=Z,16nm,1.1s
G29M	Pine Creek	79.65	1	P	P	22 30 04.2	+1.1		baz=357
H17K	Granite Mounta	79.66	11	P	P	22 30 03.3	+0.1		
H17K				IAmb	IAmb	22 30 09.0			comp=Z,14nm,1.0s
H17K	Granite Mounta	79.66	11	P	P	22 30 04.1	+0.9		baz=338
G31M	Satah River	79.68	360	P	P	22 30 03.2	0.0		
G31M				IAmb	IAmb	22 30 04.8			comp=Z,14nm,0.8s
G31M	Satah River	79.68	360	P	P	22 30 03.6	+0.4		baz=0.0,SNR=14
H18K	Honhosa River	79.69	10	P	P	22 30 04.2	+0.9		
H18K				IAmb	IAmb	22 30 05.6			comp=Z,15nm,1.1s
H18K	Honhosa River	79.69	10	P	P	22 30 04.5	+1.2		baz=340
FYU	Fort Yukon	79.69	4	P	P	22 30 03.3	0.0		
H20K	Anotleneega Mo	79.83	9	P	P	22 30 05.5	+1.4		baz=343
H22K	Ishtalitna Cre	79.84	7	P	P	22 30 06.7	+2.5		baz=346,SNR=10
H21K	Melozitna Rive	79.92	8	P	P	22 30 04.8	+0.2		
H21K				IAmb	IAmb	22 30 11.4			comp=Z,20nm,0.9s
H21K	Melozitna Rive	79.92	8	P	P	22 30 06.2	+1.6		baz=344,SNR=16
PQI	Presque Isle	80.21	320	P	P	22 30 05.1	-1.4		
H24K	Noodor Dome	80.22	6	P	P	22 30 05.4	-0.9		
H24K				IAmb	IAmb	22 30 12.3			comp=Z,16nm,1.4s
H24K	Noodor Dome	80.22	6	P	P	22 30 07.7	+1.5		baz=349
EPYK	Eagle Plains	80.22	1	P	P	22 30 03.7	-2.5		
EPYK				IAmb	IAmb	22 30 11.8			comp=Z,13nm,0.8s
EPYK	Eagle Plains	80.22	1	P	P	22 30 06.9	+0.7		baz=358
H27K	Steamboat Moun	80.22	3	P	P	22 30 08.1	+1.9		baz=354,SNR=8.2
GCSA	Galena City Sc	80.28	10	P	P	22 30 08.6	+2.1		baz=341
H29M	Whitestone	80.34	2	P	P	22 30 06.1	-0.8		
H29M	Whitestone	80.34	2	P	P	22 30 07.7	+0.9		baz=357
JCJ	Chichijima	80.45	64	LR	LR	23 10 04.9			comp=Z,53nm,18.6s,baz=338,slow=39
I21K	Tanana	80.47	7	P	P	22 30 07.5	0.0		
I21K				IAmb	IAmb	22 30 14.3			comp=Z,15nm,0.9s
I21K	Tanana	80.47	7	P	P	22 30 09.4	+1.9		baz=345,SNR=10.0
D62A	Allapoint, All	80.50	321	P	P	22 30 08.3	+0.3		
D62A				IAmb	IAmb	22 30 14.0			comp=Z,18nm,0.9s
I17K	Unalakleet	80.51	11	P	P	22 30 07.4	-0.3		
I17K				IAmb	IAmb	22 30 14.3			comp=Z,13nm,1.1s
I17K	Unalakleet	80.51	11	P	P	22 30 09.7	+1.9		baz=338,SNR=5.6
I20K	Naaghedeneel	80.55	9	P	P	22 30 09.9	+1.9		baz=343
PRP	Porcupine Dome	80.71	5	P	P	22 30 10.7	+1.7		baz=350
MLY	Manley	80.75	7	P	P	22 30 09.7	+0.6		
MLY	Manley	80.75	7	P	P	22 30 10.7	+1.6		baz=346,SNR=8.6
I23K	Minto, Yukon-K	80.77	6	P	P	22 30 10.7	+1.6		baz=347
I27K	Kandik River	80.85	3	P	P	22 30 11.4	+1.8		baz=354
F64A	Sherman	80.90	320	P	P	22 30 11.5	+1.3		
F64A				IAmb	IAmb	22 30 16.7			comp=Z,20nm,1.1s
POKR	Poker Plat Res	80.97	6	P	P	22 30 09.9	-0.3		
POKR				IAmb	IAmb	22 30 16.3			comp=Z,18nm,1.1s
POKR	Poker Plat Res	80.97	6	P	P	22 30 11.9	+1.7		baz=349
J14K	Nanvaranak Lak	81.05	13	P	P	22 30 10.8	+0.2		
J14K				IAmb	IAmb	22 30 13.6			comp=Z,20nm,1.0s
J14K	Nanvaranak Lak	81.05	13	P	P	22 30 12.2	+1.5		baz=336
MDM	Murphy Dome	81.05	6	P	P	22 30 11.3	+0.6		
I26K	Coal Creek Min	81.07	4	P	P	22 30 10.7	0.0		
I26K				IAmb	IAmb	22 30 16.9			comp=Z,11nm,1.1s
I26K	Coal Creek Min	81.07	4	P	P	22 30 12.0	+1.3		baz=352
I28M	Miner Creek	81.07	2	P	P	22 30 08.0	-2.9		
I28M	Miner Creek	81.07	2	P	P	22 30 11.8	+0.9		baz=355
J16K	Anvik River	81.09	12	P	P	22 30 10.0	-0.8		
J16K				IAmb	IAmb	22 30 17.3			comp=Z,16nm,1.0s
J16K	Anvik River	81.09	12	P	P	22 30 12.3	+1.4		baz=338
COLA	College	81.17	6	P	P	22 30 11.9	+0.7		
COLA				IAmb	IAmb	22 30 17.4			comp=Z,19nm,0.9s
COLA	College	81.17	6	P	P	22 30 12.0	+0.7		
COLA				pmax	pmax				comp=Z,19nm,1.0s
COLA	College	81.17	6	P	P	22 30 12.6	+1.3		baz=349
J19K	Poorman	81.17	9	P	P	22 30 11.0	-0.3		
J19K				IAmb	IAmb	22 30 18.0			comp=Z,18nm,1.1s
J19K	Poorman	81.17	9	P	P	22 30 12.6	+1.3		baz=342
J20K	Nowinta River	81.19	9	P	P	22 30 10.6	-0.8		
J20K				IAmb	IAmb	22 30 18.1			comp=Z,14nm,1.0s
J20K	Nowinta River	81.19	9	P	P	22 30 13.0	+1.6		baz=343,SNR=8.5
I29M	Ogilvie Camp,	81.20	2	P	P	22 30 10.9	-0.6		
I29M	Ogilvie Camp,	81.20	2	P	P	22 30 12.4	+0.9		baz=357
NEA2	Nenana	81.34	6	P	P	22 30 11.9	-0.3		
NEA2				IAmb	IAmb	22 30 42.2			comp=Z,12nm,1.2s
NEA2	Nenana	81.34	6	P	P	22 30 13.2	+1.0		baz=348
IL31		81.35	5	P	P	22 30 11.2	-1.0		
ILAR	Eielson Array	81.35	5	P	P	22 30 11.2	-1.1		
ILAR	Eielson Array	81.35	5	P	P	22 30 11.2	-1.1		
ILAR	Eielson Array	81.35	5	P	P	22 30 13.1	+0.8		
ILAR				LR	LR	23 11 46.8			comp=Z,3.5nm,0.9s,baz=329,slow=4.2,SNR=28 comp=Z,39nm,18.3s,baz=340,slow=40 comp=Z,3.5nm,0.9s
I30M	Mount Dempster	81.38	1	P	P	22 30 12.8	+0.3		
I30M				IAmb	IAmb	22 30 18.4			comp=Z,12nm,0.9s
I30M	Mount Dempster	81.38	1	P	P	22 30 13.4	+0.8		baz=358
CCB	Clear Creek Bu	81.40	6	P	P	22 30 12.2	-0.3		
CCB				IAmb	IAmb	22 30 17.5			comp=Z,14nm,1.4s
J18K	Innoko River	81.53	10	P	P	22 30 12.4	-0.9		
J18K				IAmb	IAmb	22 30 15.2			comp=Z,18nm,1.4s
J18K	Innoko River	81.53	10	P	P	22 30 14.5	+1.2		baz=341
K13K	Kusilvak Mount	81.58	14	P	P	22 30 14.5	+1.0		baz=335
J25K	Salcha River,	81.62	5	P	P	22 30 12.4	-1.4		
J25K				IAmb	IAmb	22 30 20.2			comp=Z,20nm,1.4s
J25K	Salcha River,	81.62	5	P	P	22 30 15.1	+1.3		baz=351
BPAW	Bear Paw Mtn.	81.63	7	P	P	22 30 13.2	-0.6		
BPAW				IAmb	IAmb	22 30 19.8			comp=Z,22nm,1.2s
BPAW	Bear Paw Mtn.	81.63	7	P	P	22 30 15.4	+1.6		baz=346,SNR=11
EGAK	Eagle	81.69	3	P	P	22 30 14.2	+0.2		
EGAK				IAmb	IAmb	22 30 30.2			comp=Z,10.0nm,1.0s
EGAK	Eagle	81.69	3	P	P	22 30 15.3	+1.3		baz=354
CHUM	Lake Minchumin	81.69	8	P	P	22 30 15.6	+1.6		baz=345,SNR=8.5
HDA	Harding Lake	81.70	5	P	P	22 30 13.3	-0.8		
HDA				IAmb	IAmb	22 30 14.9			comp=Z,12nm,1.2s
HDA	Harding Lake	81.70	5	P	P	22 30 15.2	+1.1		baz=349,SNR=6.8
PKME	Peaks-Kenny Pk	81.79	320	P	P	22 30 16.5	+1.6		baz=50
J26L	Joseph Creek	81.84	4	P	P	22 30 14.8	-0.2		
J26L	Joseph Creek	81.84	4	P	P	22 30 15.9	+0.9		baz=352,SNR=6.7
K15K	Wolf Creek Mou	81.85	12	P	P	22 30 16.5	+1.6		baz=337
FCC	Fort Churchill	81.96	340	P	P	22 30 15.5	0.0		
FCC	Fort Churchill	81.96	340	P	P	22 30 15.5	0.0		
FCC				pmax	pmax				comp=Z,7.0nm,1.1s
K20K	Telida	81.99	9	P	P	22 30 15.8	+0.1		
K20K				IAmb	IAmb	22 30 22.2			comp=Z,15nm,0.9s
K20K	Telida	81.99	9	P	P	22 30 17.5	+1.8		baz=344
K17K	Iditarod	82.00	11	P	P	22 30 14.8	-0.8		
K17K	Iditarod	82.00	11	P	P	22 30 17.4	+1.7		baz=340
J30M	Hart River	82.03	1	P	P	22 30 15.5	-0.5		
J30M				IAmb	IAmb	22 30 22.3			comp=Z,9.5nm,0.9s
J30M	Hart River	82.03	1	P	P	22 30 17.4	+1.3		baz=358
J29N	Klondike Camp	82.12	2	P	P	22 30 15.8	-0.6		
J29N				IAmb	IAmb	22 30 38.1			comp=Z,10nm,1.1s
J29N	Klondike Camp	82.12	2	P	P	22 30 17.8	+1.4		baz=357
TTA	Tatalina	82.14	10	P	P	22 30 15.1	-1.4		
TTA				IAmb	IAmb	22 30 23.8			comp=Z,16nm,1.4s
TTA	Tatalina	82.14	10	P	P	22 30 15.1	-1.4		
TTA				pmax	pmax				comp=Z,16nm,1.4s
TTA	Tatalina	82.14	10	P	P	22 30 17.7	+1.1		baz=342
KTH	Kantishna Hill	82.17	7	P	P	22 30 15.5	-1.2		
KTH				IAmb	IAmb	22 30 25.8			comp=Z,10nm,0.9s
CAST	Castle Rocks	82.17	8	P	P	22 30 16.5	-0.1		
CAST				IAmb	IAmb	22 30 22.8			comp=Z,19nm,1.1s
CAST	Castle Rocks	82.17	8	P	P	22 30 18.3	+1.6		baz=345,SNR=12
MCK	McKinley	82.19	6	P	P	22 30 18.1	+1.3		baz=348
TRF	Thorofare Moun	82.34	7	P	P	22 30 16.4	-1.3		
TRF	Thorofare Moun	82.34	7	P	P	22 30 18.8	+1.2		baz=347
SCRK	Sand Creek	82.34	4	P	P	22 30 17.9	+0.2		
SCRK				IAmb	IAmb	22 30 24.2			comp=Z,15nm,1.0s
SCRK	Sand Creek	82.34	4	P	P	22 30 19.2	+1.6		baz=352,SNR=12
K24K	Donnelly Dome	82.39	5	P	P	22 30 19.5	+1.7		baz=350,SNR=12
K27K	Chicken	82.40	3	P	P	22 30 17.4	-0.3		
K27K				IAmb	IAmb	22 30 24.2			comp=Z,9.9nm,1.1s
K27K	Chicken	82.40	3	P	P	22 30 19.4	+1.6		baz=354
L15K	Ungalak Mounta	82.42	13	P	P	22 30 19.2	+1.3		baz=337
DAWY	Dawson	82.47	2	P	P	22 30 18.1	-0.1		
DAWY	Dawson	82.47	2	P	P	22 30 19.4	+1.2		baz=356
L14K	Kuka Creek	82.51	13	P	P	22 30 19.9	+1.5		baz=336
RIDG	Independent Ri	82.52	5	P	P	22 30 16.9	-1.6		
RIDG				IAmb	IAmb	22 30 24.7			comp=Z,18nm,1.1s
RIDG	Independent Ri	82.52	5	P	P	22 30 19.9	+1.4		baz=351,SNR=6.7
RND	Reindeer	82.52	7	P	P	22 30 17.6	-0.9		
RND				IAmb	IAmb	22 30 23.7			comp=Z,12nm,1.1s
RND	Reindeer	82.52	7	P	P	22 30 17.6	-0.9		
RND				pmax	pmax				comp=Z,12nm,1.1s
L17K	Donlin	82.55	11	P	P	22 30 20.3	+1.7		baz=340
PPLA	Purkeypile	82.67	8	P	P	22 30 20.9	+1.5		baz=345
L18K	Granite Mounta	82.71	10	P	P	22 30 20.8	+1.4		baz=341
K29M	Barlow Dome	82.74	1	P	P	22 30 19.8	0.0		
K29M				IAmb	IAmb	22 30 25.9			comp=Z,7.2nm,0.9s
K29M	Barlow Dome	82.74	1	P	P	22 30 21.4	+1.7		baz=357
L16K	Owhat River	82.75	12	P	P	22 30 21.2	+1.6		baz=339
YKA	Yellowknife Ar	82.82	351	P	P	22 30 20.2	+0.2		
YKA	Yellowknife Ar	82.82	351	eP	P	22 30 20.5	+0.5		
YKA				pmax	pmax				comp=Z,1.0nm,0.5s
YKA	Yellowknife Ar	82.82	351	P	P	22 30 20.4	+0.5		comp=Z,2.8nm,0.7s,baz=20,slow=9.0,SNR=34 comp=Z,2.8nm,0.7s
L20K	Farewell, AK	82.86	9	P	P	22 30 21.9	+1.6		baz=344
SHEM	Shemya Is, Ala	82.91	29	LR	LR	23 12 31.1			comp=Z,85nm,19.7s,baz=86,slow=40
SMY	Shemya	82.91	29	P	P	22 30 18.6	-2.0		
SMY	Shemya	82.91	29	P	P	22 30 18.6	-2.0		
DHY	Denali Highway	82.98	6	P	P	22 30 20.5	-0.5		
DHY				IAmb	IAmb	22 30 32.8			comp=Z,14nm,1.4s
DHY	Denali Highway	82.98	6	P	P	22 30 21.7	+0.7		baz=349
WRGLY	Wrigley	83.00	355	P	P	22 30 20.9	0.0		
WRGLY	Wrigley	83.00	355	P	P	22 30 22.3	+1.4		baz=9.1
L19K	White Mountain	83.01	10	P	P	22 30 19.4	-1.6		
L19K				IAmb	IAmb	22 30 25.2			comp=Z,11nm,1.1s
L19K	White Mountain	83.01	10	P	P	22 30 22.5	+1.4		baz=343
MAYO	Mayo, Yukon	83.02	1	P	P	22 30 22.6	+1.6		baz=359
WAT1	Susitna Watana	83.12	7	P	P	22 30 22.8	+1.2		baz=348
M14K	Bethel	83.19	13	P	P	22 30 23.3	+1.4		baz=337
M13K	Dall Lake	83.23	14	P	P	22 30 23.8	+1.7		baz=336
PAX	Paxson	83.24	5	P	P	22 30 23.8	+1.5		baz=351
L26K	Log Cabin Wild	83.33	4	P	P	22 30 22.8	+0.1		
L26K				IAmb	IAmb	22 30 28.8			comp=Z,14nm,1.4s
L26K	Log Cabin Wild	83.33	4	P	P	22 30 24.2	+1.5		baz=352
CUT	Chulitna	83.36	7	P	P	22 30 24.5	+1.7		baz=347
BCAR	Beaver Creek A	83.37	3	P	P	22 30 23.7	+0.8		
L27K	Beaver Creek,	83.37	3	P	P	22 30 22.8	-0.1		
L27K	Beaver Creek,	83.37	3	P	P	22 30 24.7	+1.8		baz=354
M17K	Holitna River	83.38	11	P	P	22 30 23.0	+0.1		
M17K	Holitna River	83.38	11	P	P	22 30 24.8	+1.9		baz=341
MENT	Mentasta	83.39	4	P	P	22 30 23.1	+0.1		
WAT6	Susitna Watana	83.44	6	P	P	22 30 24.3	+0.9		baz=349,SNR=6.1
L29M	L29M	83.47	2	P	P	22 30 21.3	-2.1		
L29M				IAmb	IAmb	22 30 30.6			comp=Z,8.7nm,1.1s
L29M	L29M	83.47	2	P	P	22 30 25.4	+2.0		baz=357
M15K	Kasigluk River	83.48	13	P	P	22 30 24.9	+1.5		baz=338
M20K	Styx River	83.53	9	P	P	22 30 25.6	+1.8		baz=344
M18K	Stony River	83.54	10	P	P	22 30 25.6	+1.9		baz=342
SKT	Skwentna	83.63	8	P	P	22 30 23.1	-1.1		
SKT				IAmb	IAmb	22 30 26.4			comp=Z,11nm,0.9s
SKT	Skwentna	83.63	8	P	P	22 30 26.0	+1.8		baz=346
HARP	HAARP	83.83	5	P	P	22 30 27.2	+2.0		baz=351
SVW2	Sparrevohn	83.95	10	P	P	22 30 24.6	-1.2		
SVW2				IAmb	IAmb	22 30 28.2			comp=Z,18nm,1.3s
M26K	Nabesna, AK	83.97	4	P	P	22 30 25.1	-0.9		
M26K				IAmb	IAmb	22 30 32.7			comp=Z,7.2nm,1.1s
M26K	Nabesna, AK	83.97	4	P	P	22 30 28.2	+2.2		baz=353
VLDQ	Val d'Or	83.98	326	P	P	22 30 25.1	-1.2		
N14K	Kuskokwak Cree	84.01	13	P	P	22 30 28.6	+2.5		baz=337
M30M	Minto, Yukon	84.03	1	P	P	22 30 28.7	+2.4		baz=358
M24K	Tolsona, Glenn	84.04	6	P	P	22 30 26.2	-0.2		
M24K	Tolsona, Glenn	84.04	6	P	P	22 30 27.9	+1.5		baz=350
BVCY	Beaver Creek	84.07	3	P	P	22 30 28.0	+1.5		baz=354
M27K	Edge Creek, AK	84.07	4	P	P	22 30 25.6	-1.0		
M27K				IAmb	IAmb	22 30 34.6			comp=Z,12nm,1.1s
M27K	Edge Creek, AK	84.07	4	P	P	22 30 28.0	+1.4		baz=354
N15K	Kwethluk River	84.08	13	P	P	22 30 25.9	-0.7		
N15K	Kwethluk River	84.08	13	P	P	22 30 28.1	+1.5		baz=339
GHO	Glory Hole Cre	84.12	7	P	P	22 30 25.9	-0.9		
M29M	Somme Creek	84.12	2	P	P	22 30 27.1	+0.2		
M29M	Somme Creek	84.12	2	P	P	22 30 28.5	+1.7		baz=356
SML	Sawmill	84.14	7	P	P	22 30 26.2	-0.7		
SML	Sawmill	84.14	7	P	P	22 30 26.2	-0.7		
SML				pmax	pmax				comp=Z,16nm,1.0s
SML	Sawmill	84.14	7	P	P	22 30 28.5	+1.6		baz=348
SCM	Sheep Creek Mo	84.21	6	P	P	22 30 28.5	+1.2		baz=349
M23K	Glacier View	84.22	6	P	P	22 30 28.6	+1.4		baz=349
SUA	Susitna One	84.23	8	P	P	22 30 26.6	-0.8		
SUA	Susitna One	84.23	8	P	P	22 30 28.9	+1.5		baz=346,SNR=8.6
N17K	Nushagak Hills	84.25	11	P	P	22 30 29.1	+1.8		baz=341
PMR	Palmer	84.28	7	P	P	22 30 25.7	-1.8		
PMR				IAmb	IAmb	22 30 34.0			comp=Z,12nm,1.0s
PMR	Palmer	84.28	7	P	P	22 30 25.7	-1.8		
PMR				pmax	pmax				comp=Z,12nm,1.0s
PMR	Palmer	84.28	7	P	P	22 30 29.4	+1.9		baz=348
N18K	Kilae Creek	84.30	10	P	P	22 30 29.4	+1.7		baz=342
N19K	Bonanza Creek	84.38	10	P	P	22 30 28.4	+0.2		
N19K	Bonanza Creek	84.38	10	P	P	22 30 29.6	+1.4		baz=343
FARO	Faro, Yukon	84.39	360	P	P	22 30 26.5	-1.6		

FARO				IAmb	IAmb	22 30 34.6	
	comp=Z,13nm,1.2s						
FARO	**Faro, Yukon**	**84.39**	**360**	P	**P**	**22 30 29.1**	**+1.0**
	baz=0.8						
M31M	**Drury Creek, Y**	**84.42**	**0**	P	**P**	**22 30 28.9**	**+0.6**
M31M				IAmb	IAmb	22 30 34.5	
	comp=Z,12nm,1.1s						
M31M	**Drury Creek, Y**	**84.42**	**0**	P	**P**	**22 30 29.8**	**+1.5**
	baz=360						
KNK	**Knik Glacier**	**84.52**	**7**	P	**P**	**22 30 29.1**	**+0.3**
KNK	**Knik Glacier**	**84.52**	**7**	P	**P**	**22 30 30.3**	**+1.5**
	baz=348						
KLU	**Klutina**	**84.67**	**6**	P	**P**	**22 30 30.0**	**+0.4**
KLU	**Klutina**	**84.67**	**6**	P	**P**	**22 30 31.0**	**+1.4**
	baz=350						
RC01	**Rabbit Creek A**	**84.70**	**7**	P	**P**	**22 30 29.3**	**-0.4**
RC01	**Rabbit Creek A**	**84.70**	**7**	P	**P**	**22 30 31.5**	**+1.8**
	baz=347						
YUK3	**Moose Creek**	**84.72**	**3**	P	**P**	**22 30 31.9**	**+1.9**
	baz=355						
RSO	**Redoubt South**	**84.95**	**9**	P	**P**	**22 30 31.5**	**+0.3**
TGTN	**Hyland Airport**	**84.97**	**357**	P	**P**	**22 30 33.4**	**+2.3**
	baz=5.0						
O17K	**Koliganek Bris**	**84.97**	**11**	P	**P**	**22 30 33.2**	**+2.1**
	baz=341						
O16K	**Kokwok River B**	**84.98**	**12**	P	**P**	**22 30 33.2**	**+2.1**
	baz=340						
LONY	**Lake Ozonia**	**85.02**	**322**	P	**P**	**22 30 32.9**	**+1.3**
	baz=46						
N31M	**Braeburn, Yuko**	**85.14**	**1**	P	**P**	**22 30 32.6**	**+0.7**
	baz=359						
N30M	**Aishikik Lake**	**85.14**	**1**	P	**P**	**22 30 32.9**	**+0.9**
	baz=358						
YUK4	**Talbot Arm**	**85.22**	**2**	P	**P**	**22 30 33.5**	**+1.0**
	baz=356						
CTG	**Chitna Glacier**	**85.49**	**3**	P	**P**	**22 30 35.5**	**+1.7**
	baz=354						
P16K	**Nushagak River**	**85.53**	**12**	P	**P**	**22 30 35.0**	**+1.2**
	baz=340						
P17K	**Kvichak River**	**85.63**	**11**	P	**P**	**22 30 36.6**	**+2.2**
	baz=342						
LOGN	**Logan Glacier**	**85.65**	**3**	P	**P**	**22 30 35.3**	**+0.7**
SEW	**Seward**	**85.70**	**8**	P	**P**	**22 30 35.2**	**+0.6**
	baz=347						
HYT	**Haines Junctio**	**85.77**	**2**	P	**P**	**22 30 35.9**	**+0.7**
HYT				IAmb	IAmb	22 31 01.4	
	comp=Z,22nm,1.5s						
HYT	**Haines Junctio**	**85.77**	**2**	P	**P**	**22 30 36.9**	**+1.7**
	baz=357						
O30N	**Mendenhall**	**85.85**	**1**	P	**P**	**22 30 36.8**	**+1.3**
	baz=358						
WHY	**Whitehorse**	**85.97**	**0**	P	**P**	**22 30 37.5**	**+1.3**
	baz=360						
Q16K	**King Salmon**	**86.09**	**11**	P	**P**	**22 30 38.4**	**+1.8**
	baz=342						
KOTAN	**Kotaneelee Air**	**86.12**	**355**	P	**P**	**22 30 38.7**	**+1.9**
	baz=8.5						
RCBR	**Riachuelo**	**86.22**	**260**	LR	LR	23 08 42.5	
	comp=Z,106nm,21.1s,baz=74,slow=35						
O29M	**Mount Kennedy**	**86.27**	**2**	P	**P**	**22 30 39.5**	**+1.8**
	baz=356						
Q19K	**Cape Douglas,**	**86.31**	**10**	P	**P**	**22 30 39.8**	**+2.0**
	baz=344						
P33M	**Teslin, Yukon**	**86.41**	**359**	P	**P**	**22 30 39.6**	**+1.2**
	baz=1.2						
Q20K	**Shuyak Island**	**86.80**	**9**	P	**P**	**22 30 40.8**	**+0.7**
	baz=345						
HILA	**High Level**	**86.95**	**351**	P	**P**	**22 30 39.5**	**-1.3**
R33M	**Jennings River**	**87.20**	**358**	P	**P**	**22 30 43.2**	**+1.0**
	baz=2.8						
SADO	**Sadowa**	**87.20**	**324**	LR	LR	23 11 02.5	
	comp=Z,79nm,18.3s,baz=90,slow=37						
KDAK	**Kodiak Island**	**87.57**	**10**	P	**P**	**22 30 46.0**	**+2.2**
	baz=345						
KDAK	**Kodiak Island**	**87.57**	**10**	LR	LR	23 15 59.9	
	comp=Z,79nm,18.1s,baz=11,slow=40						
FFC	**Flin Flon**	**87.62**	**342**	P	**P**	**22 30 43.8**	**-0.4**
FFC				IAmb	IAmb	22 30 49.2	
	comp=Z,7.8nm,0.9s						
FFC	**Flin Flon**	**87.62**	**342**	P	**P**	**22 30 43.8**	**-0.4**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
Q32M	**Nakina River**	**87.66**	**359**	P	**P**	**22 30 45.8**	**+1.3**
	baz=1.7						
S14K	**Fog Glacier**	**87.82**	**14**	P	**P**	**22 30 46.0**	**+0.8**
	baz=339						
OHAK	**Old Harbor**	**88.01**	**10**	P	**P**	**22 30 47.9**	**+2.0**
	baz=344						
DLBC	**Dease Lake**	**88.13**	**358**	P	**P**	**22 30 47.9**	**+1.2**
	baz=3.5						
DLBC	**Dease Lake**	**88.13**	**358**	LR	LR	23 16 38.2	
	comp=Z,73nm,18.8s,baz=328,slow=40						
R32K	**Eaglecrest**	**88.36**	**0**	P	**P**	**22 30 49.4**	**+1.7**
	baz=360						
SII	**Sitkinak Islan**	**88.51**	**11**	P	**P**	**22 30 48.0**	**-0.4**
	baz=344						
S34M	**Telegraph Cree**	**88.69**	**358**	P	**P**	**22 30 51.5**	**+2.4**
	baz=2.6						
SSPA	**Standing Stone**	**89.55**	**321**	P	**P**	**22 30 54.6**	**+1.0**
	baz=44						
ERPA	**Erie**	**89.56**	**323**	P	**P**	**22 30 54.0**	**+0.4**
	baz=42						
ULM	**Lac du Bonnet**	**89.74**	**336**	P	**P**	**22 30 54.4**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=43,slow=7.2,SNR=4.2						
ULM				LR	LR	23 12 42.8	
	comp=Z,87nm,19.0s,baz=74,slow=37						
	comp=Z,1.9nm,0.7s						
GUMO	**Guam**	**90.04**	**74**	LR	LR	23 15 45.6	
	comp=Z,38nm,19.3s,baz=88,slow=39						
EYMN	**Ely**	**90.11**	**333**	P	**P**	**22 30 56.2**	**+0.1**
	baz=34						
WRAK	**Wrangell Islan**	**90.21**	**359**	P	**P**	**22 30 55.5**	**-0.7**
	baz=1.8						
M53A	**WI Miller and**	**90.41**	**323**	P	**P**	**22 30 57.6**	**0.0**
	baz=42						
E38A	**The Farm, Brul**	**91.24**	**332**	P	**P**	**22 31 00.6**	**-0.7**
O53A	**New Philadelph**	**91.56**	**322**	P	**P**	**22 31 03.5**	**+0.6**
	baz=42						
G40A	**Rib Lake**	**91.79**	**331**	P	P	22 30 59.8	-4.2
ACSO	**Alum Creek Sta**	**92.47**	**323**	P	**P**	**22 31 07.1**	**-0.1**
	baz=40						
P52A	**Corning**	**92.49**	**322**	P	**P**	**22 31 06.5**	**-0.8**
P52A	**Corning**	**92.49**	**322**	P	**P**	**22 31 07.6**	**+0.3**
	baz=41						
N49A	**Columbus Grove**	**92.54**	**324**	P	**P**	**22 31 05.7**	**-1.8**
SPMN	**Marine on St.**	**92.87**	**332**	P	**P**	**22 31 09.6**	**+0.7**
	baz=34						
O49A	**Covington**	**93.17**	**324**	P	**P**	**22 31 09.6**	**-0.8**
O48B	**Farmland**	**93.52**	**325**	P	**P**	**22 31 08.5**	**-3.5**
O48B	**Farmland**	**93.52**	**325**	P	**P**	**22 31 12.7**	**+0.7**
	baz=39						
MDP	**Montagnes des**	**94.08**	**279**	LR	LR	23 15 36.8	
	comp=Z,48nm,19.9s,baz=102,slow=37						
E28A	**Huff**	**94.52**	**337**	P	**P**	**22 31 15.4**	**-1.0**
ECSD	**EROS Data Cent**	**95.59**	**334**	P	**P**	**22 31 22.0**	**+0.6**
	baz=31						
TKL	**Tuckaleechee C**	**96.35**	**321**	LR	LR	23 17 17.8	
	comp=Z,62nm,18.4s,baz=36,slow=37						
SJG	**San Juan**	**97.12**	**297**	LR	LR	23 13 53.4	
	comp=Z,39nm,20.4s,baz=74,slow=35						
CCM	**Cathedral Cave**	**98.13**	**327**	P	**P**	**22 31 33.1**	**+0.1**
	baz=35						
WRA	**Warramunga Arr**	**99.74**	**107**	P	**Pdif**	**22 31 39.9**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=317,slow=4.0,SNR=21						
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**101.36**	**111**	P	**Pdif**	**22 31 47.0**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=303,slow=4.6,SNR=8.2						
W18A	**Petrified Fore**	**107.75**	**339**	P	**PKiKP**	**22 36 22.7**	**-1.2**
	baz=21						
QSPA	**South Pole Qui**	**123.55**	**180**	PKP	**PKPdf**	**22 36 53.4**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=257,slow=1.8,SNR=5.2						
DZM	**Mont Dzumac**	**127.02**	**94**	eLR	LR	23 16 56.7	
	comp=Z,144nm,26.2s						
DZM	**Mont Dzumac**	**127.02**	**94**	PKP	**PKiKP**	**22 37 01.6**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=238,slow=19,SNR=1.9						
PLCA	**Paso Flores**	**129.71**	**242**	PKP	**PKiKP**	**22 37 06.4**	**+0.4**
	comp=Z,3.0nm,1.1s,baz=176,slow=0.4,SNR=3.5						
PPT2	**Papeete2**	**158.91**	**44**	eLR	LR	23 31 36.6	
	comp=Z,132nm,28.2s						
PPT2				eLR	LR	23 31 37.3	
	comp=Z,147nm,26.5s						
TBI	**Tubuai**	**163.19**	**56**	eLR	LR	23 33 25.5	
	comp=Z,1μm,39.2s						

*NEIC **19**22:18:10.8±1.4,6.6°S±0.08°×151.28°E±0.09,h10km±1km, mb4.6/26,Error ellipse: s-maj=16.7km s-min=11.2km az=124.0*

*IDC **19**22:18:10.2±0.6,6.66°S×151.01°E,h0km,mb4.3/16, mbtmp4.3/16,MS3.6/6,Error ellipse: s-maj=24.4km s-min=13.7km az=98.0*

ISC 19 22:18:11.9±0.5,6.74°S±0.06°×151.16°E±0.08,h10km,n68, σ1°43/60,mb4.5/22,MS3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.57**	**20**	Pn		**Pn**	**Pn**	**22 18 54.0**	**+0.3**
	baz=232,slow=19								
KRVT				Sn		Sn	**Sn**	**22 19 25.1**	**0.0**
	baz=253,slow=19								
RABL	**Rabaul**	**2.73**	**22**	Pn		Pn	Pn	22 18 50.8	-5.1
RABL	**Rabaul**	**2.73**	**22**	P		**Pn**	**Pn**	**22 18 57.8**	**+2.0**
KAVG	**Kavieng**	**4.15**	**355**	P		**Pn**	**Pn**	**22 19 18.6**	**+3.2**
PMG	**Port Moresby**	**4.76**	**236**	P		**Pn**	**Pn**	**22 19 27.1**	**+3.3**
PMG	**Port Moresby**	**4.76**	**236**	P		**Pn**	**Pn**	**22 19 27.2**	**+3.4**
PMG	**Port Moresby**	**4.76**	**236**	Pn		**Pn**	**Pn**	**22 19 25.2**	**+1.4**
	6.8nm,0.3s,baz=48,slow=9.2,SNR=15								
PMG				Sn		Sn	**Sn**	**22 20 19.8**	**+0.7**
	10nm,0.3s,baz=140,slow=20,SNR=10								
HNR	**Honiara**	**9.10**	**108**	LR		LR		22 22 48.3	
	comp=Z,1μm,20.0s,baz=220,slow=30								
COEN	**Coen**	**10.63**	**227**	Pn		**Pn**	**Pn**	**22 20 44.4**	**0.0**
CTA	**Charters Tower**	**14.09**	**199**	LR		LR		22 26 17.3	
	comp=Z,114nm,21.0s,baz=42,slow=34								
QIS	**Mount Isa**	**17.72**	**218**	P		**Pn**	**Pn**	**22 22 19.5**	**+0.5**
EIDS	**Eidsvold**	**18.52**	**180**	P		**P**	**P**	**22 22 27.1**	**-1.5**
KOUNC	**Koumac, New Ca**	**18.72**	**138**	P		**P**	**P**	**22 22 29.4**	**-1.4**
FAKI	**Fak Fak**	**19.22**	**280**	P		**P**	**P**	**22 22 35.5**	**-0.8**
FAKI				IAmb		IAmb	IAmb	22 22 53.0	
	comp=Z,53nm,1.3s								
MTN	**Manton Dam**	**20.63**	**251**	P		**P**	**P**	**22 22 51.4**	**-0.4**
MTN				IAmb		IAmb	IAmb	22 23 14.9	
	comp=Z,18nm,0.9s								
WB0	**Warramunga Arr**	**20.80**	**230**	P		**P**	**P**	**22 22 53.1**	**-0.5**
WB0				IAmb		IAmb	IAmb	22 22 54.0	
	comp=Z,21nm,0.8s								
WR0	**Warramunga Arr**	**20.80**	**229**	P		**P**	**P**	**22 22 52.8**	**-0.8**
WR0				IAmb		IAmb	IAmb	22 22 54.0	
	comp=Z,23nm,0.9s								
QLP	**Quilpie**	**20.80**	**198**	P		**P**	**P**	**22 22 54.1**	**+0.6**
WRAB	**Tennant Creek**	**20.93**	**230**	P		**P**	**P**	**22 22 54.2**	**-0.8**
WRAB				IAmb		IAmb	IAmb	22 22 55.2	
	comp=Z,20nm,0.8s								
WB2	**Warramunga Arr**	**20.93**	**230**	P		**P**	**P**	**22 22 54.1**	**-1.0**
WB2				IAmb		IAmb	IAmb	22 22 55.4	
	comp=Z,19nm,0.8s								
WRA	**Warramunga Arr**	**20.94**	**230**	P		**P**	**P**	**22 22 53.5**	**-1.7**
WRA	**Warramunga Arr**	**20.94**	**230**	P		**P**	**P**	**22 22 54.6**	**-0.6**
	comp=Z,15nm,0.7s,baz=54,slow=10,SNR=41								
	comp=Z,15nm,0.7s								
DZM	**Mont Dzumac**	**21.21**	**137**				**P**	**22 22 57.9**	**-0.2**
DZM				IAmb		IAmb	IAmb	22 23 16.2	
	comp=Z,39nm,1.5s								
DZM	**Mont Dzumac**	**21.21**	**137**	P		**P**	**P**	**22 23 00.2**	**+2.1**
	comp=Z,8.6nm,0.9s,baz=341,slow=19,SNR=6.5								
DZM				LR		LR		22 30 15.0	
	comp=Z,237nm,18.1s,baz=238,slow=34								
	comp=Z,8.6nm,0.9s								
INKA	**Innaminka**	**23.10**	**204**	P		**P**	**P**	**22 23 18.9**	**+0.8**
AS31	**Alice Springs**	**23.62**	**223**	P		**P**	**P**	**22 23 23.0**	**-0.4**
ASAR	**Alice Springs**	**23.62**	**223**	P		**P**	**P**	**22 23 22.7**	**-0.7**
ASAR	**Alice Springs**	**23.62**	**223**	P		**P**	**P**	**22 23 23.2**	**-0.2**
	comp=Z,22nm,0.9s,baz=57,slow=8.7,SNR=100								
	comp=Z,22nm,0.9s								
OOD	**Oodnadatta**	**25.56**	**213**	P		**P**	**P**	**22 23 41.0**	**-0.2**
LCRK	**Leigh Creek**	**26.53**	**206**	P		**P**	**P**	**22 23 50.0**	**+0.1**
STKA	**Stephens Creek**	**26.55**	**198**	P		**P**	**P**	**22 23 49.5**	**-0.6**
STKA	**Stephens Creek**	**26.55**	**198**	P		**P**	**P**	**22 23 49.8**	**-0.3**
STKA	**Stephens Creek**	**26.55**	**198**	P		**P**	**P**	**22 23 49.6**	**-0.5**
	comp=Z,16nm,0.8s,baz=18,slow=10,SNR=17								
	comp=Z,16nm,0.8s								
FITZ	**Fitzroy Crossi**	**27.31**	**243**				**P**	**22 23 55.7**	**-1.4**
FITZ				IAmb		IAmb	IAmb	22 23 57.1	
	comp=Z,5.3nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P		**P**	**P**	**22 23 56.5**	**-0.6**
WRKA	**Warakurna**	**28.45**	**228**	P		**P**	**P**	**22 24 06.2**	**-1.1**
FORT	**Forrest**	**32.26**	**219**	P		**P**	**P**	**22 24 40.0**	**-0.8**
PSA00	**Pilbara Seismi**	**33.65**	**241**	P		**P**	**P**	**22 24 52.3**	**-0.8**
PSA00				IAmb		IAmb	IAmb	22 24 53.6	
	comp=Z,16nm,1.4s								
JCJ	**Chichijima**	**34.74**	**346**	LR		LR		22 37 20.8	
	comp=Z,62nm,21.1s,baz=86,slow=33								
JAGI	**Jajag, Banyuwa**	**36.71**	**265**	P		**P**	**P**	**22 25 18.6**	**-1.0**
MEEK	**Meekatharra**	**36.74**	**234**	P		**P**	**P**	**22 25 19.1**	**-0.6**
GIRL	**Giralia**	**38.91**	**242**	P		**P**	**P**	**22 25 38.2**	**+0.1**
URZ	**Urewera**	**39.20**	**147**	LR		LR		22 38 49.8	
	comp=Z,67nm,21.6s,baz=123,slow=32								
NIUE	**Niue**	**39.76**	**112**	P		P		22 25 42.6	-2.7
MORW	**Morawa**	**39.86**	**232**	P		**P**	**P**	**22 25 45.1**	**-0.9**
MORW				IAmb		IAmb	IAmb	22 25 46.5	
	comp=Z,38nm,1.4s								
LTZ	**Lake Taylor**	**40.44**	**156**	P		P	**P**	**22 25 50.1**	**-0.6**
LTZ				IAmb		IAmb	IAmb	22 26 07.5	
	comp=Z,26nm,1.4s								
KHZ	**Kahutara**	**40.67**	**154**	P		P	P	22 25 50.4	-2.1
RPZ	**Rata Peaks**	**40.76**	**158**	LR		LR	LR	22 41 52.5	
	comp=Z,107nm,18.4s,baz=300,slow=35								
KSRS	**Korea Array**	**49.03**	**335**	P		P	**P**	**22 26 58.1**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=163,slow=8.2,SNR=4.4								
	comp=Z,0.9nm,0.6s								
PETK	**Petropavlovsk-**	**59.88**	**5**	P		P	**P**	**22 28 17.1**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=189,slow=5.4,SNR=1.0								
	comp=Z,1.4nm,0.8s								
SONM	**Songino Array**	**67.11**	**329**	P		P	**P**	**22 29 05.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=137,slow=7.2,SNR=4.0								
	comp=Z,1.0nm,0.6s								
VNDA	**Vanda**	**70.97**	**178**	P		P	**P**	**22 29 30.0**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=332,slow=6.6,SNR=18								
	comp=Z,3.4nm,0.6s								
M20K	**Styx River**	**80.66**	**23**	P		P	**P**	**22 30 24.9**	**0.0**
M20K				IAmb		IAmb	IAmb	22 30 28.3	
	comp=Z,5.5nm,0.9s								
MK31	**Makanchi Array**	**80.72**	**320**	P		P	P	22 30 23.9	-1.6
MKAR	**Makanchi Array**	**80.72**	**320**	P		P	**P**	**22 30 24.3**	**-1.2**
MKAR	**Makanchi Array**	**80.72**	**320**	P		P	**P**	**22 30 25.1**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=97,slow=6.2,SNR=3.6								
	comp=Z,0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**81.86**	**327**	P		P	P	22 30 29.3	-2.0
	comp=Z,0.7nm,0.5s,baz=110,slow=6.3,SNR=3.6								
	comp=Z,0.7nm,0.5s								
QSPA	**South Pole Qui**	**83.23**	**180**	P		P	**P**	**22 30 38.4**	**-0.2**
QSPA	**South Pole Qui**	**83.23**	**180**	P		P	**P**	**22 30 38.9**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=342,slow=1.6,SNR=25								
	comp=Z,1.0nm,0.8s								
KURBB	**Kurchatov Arra**	**84.32**	**322**	P		P	**P**	**22 30 43.8**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=108,slow=4.1,SNR=7.5								
	comp=Z,1.2nm,0.8s								
ILAR	**Eielson Array**	**84.56**	**22**	P		P	**P**	**22 30 44.0**	**-1.1**
	comp=Z,3.1nm,1.0s,baz=243,slow=4.7,SNR=11								
	comp=Z,3.1nm,1.0s								
KK31	**Karatay Array**	**87.78**	**314**	P		P	**P**	**22 31 00.4**	**-1.1**
KK31				IAmb		IAmb	IAmb	22 31 01.8	
	comp=Z,7.8nm,1.4s								
KKAR	**Karatay Array**	**87.78**	**314**	P		P	**P**	**22 31 00.4**	**-1.1**
KKAR				IAmb		IAmb	IAmb	22 31 01.8	
	comp=Z,7.7nm,1.4s								
BVAR	**Borovoye Array**	**89.81**	**323**	P		P	**P**	**22 31 09.7**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=104,slow=6.3,SNR=3.5								
	comp=Z,1.0nm,0.8s								
NVAR	**Mina Array Bea**	**94.56**	**52**	P		P	**P**	**22 31 33.9**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=263,slow=6.3,SNR=8.6								
	comp=Z,1.2nm,0.7s								
YKA	**Yellowknife Ar**	**97.90**	**28**	P		P	**P**	**22 31 47.5**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=271,slow=4.9,SNR=4.4								
	comp=Z,0.6nm,0.9s								
TORD	**Torodi Ar. Bea**	**149.28**	**284**	PKPbc		**PKPdf**	**PKPdf**	**22 38 01.1**	**+3.3**
	comp=Z,2.1nm,0.7s,baz=52,slow=3.6,SNR=12								
BDFB	**Brasília**	**150.76**	**140**	PKPbc		**PKPdf**	**PKPdf**	**22 38 05.8**	**+5.6**
	comp=Z,6.4nm,0.7s,baz=202,slow=0.8,SNR=11								

*GUC **19**22:22:01.8±0.4,23.75°S×67.30°W,h248km±6km,ML3.8*
*IDC **19**22:22:02.1±3.7,23.56°S×66.60°W,h200km±43km,mb3.0/1, mbtmp3.6/3,Error ellipse: s-maj=68.5km s-min=29.5km az=94.0*

ISC 19 22:22:01.6±1.1,23.8°S±0.1°×66.8°W±0.1,h200km,n17, σ1°04/26,1C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.29**	**300**	P		P	**Pn**	**22 22 44.7**	**+1.1**
	28nm,0.3s,baz=129,slow=6.1,SNR=127								
LVC				S			**Sn**	**22 23 17.7**	**+1.5**
	65nm,0.5s,baz=270,slow=20,SNR=24								
LVC	**Limon Verde**	**2.29**	**300**	i P			**Pn**	**22 22 44.6**	**+1.1**
LVC				*e*S			**Sn**	**22 23 17.7**	**+1.5**
LVC				IAML				22 23 18.5	
	252nm,0.3s								
PB15	**IPOC Station P**	**2.55**	**282**	*i* P			**Pn**	**22 22 46.7**	**+0.4**
PB15				*e*S			**Sn**	**22 23 20.6**	**-0.4**
PB06	**IPOC Station P**	**2.79**	**292**	*i* P			**Pn**	**22 22 49.6**	**+0.6**
PB06				*e*S			**Sn**	**22 23 25.3**	**-0.6**
PB06				IAML				22 23 26.8	
	comp=N,297nm,0.3s								
PB09	**IPOC Station P**	**3.01**	**310**	*e*P			**Pn**	**22 22 52.9**	**+1.3**
PB09				*e*S			**Sn**	**22 23 31.3**	**+0.7**
PB09				IAML				22 23 35.2	
	comp=N,75nm,0.2s								
PB04	**IPOC Station P**	**3.43**	**294**	*e*P			**Pn**	**22 22 56.5**	**-0.1**
PB04				*e*S			**Sn**	**22 23 37.9**	**-1.6**
PB04				IAML				22 23 40.4	
	comp=N,171nm,0.4s								
PB07	**IPOC Station P**	**3.53**	**304**	*i* P			**Pn**	**22 22 58.1**	**+0.3**
PB07				*e*S			**Sn**	**22 23 41.0**	**-0.7**
PB01	**IPOC Station P**	**3.70**	**316**	*e*P			**Pn**	**22 23 00.5**	**+0.7**
PB01				*e*S			**Sn**	**22 23 45.7**	**+0.3**
PB02	**IPOC Station P**	**3.79**	**309**	*e*P			**Pn**	**22 23 01.1**	**+0.2**
PB02				*e*S			**Sn**	**22 23 46.3**	**-1.0**
PB08	**IPOC Station P**	**4.24**	**328**	*i* P			**Pn**	**22 23 08.4**	**+1.7**
PATCX	**Punta Patache**	**4.30**	**312**	*e*P			**Pn**	**22 23 07.2**	**0.0**
PATCX				*e*S			**Sn**	**22 23 57.8**	**-0.9**
TA01	**Diego Aracena**	**4.49**	**314**	*e*P			**Pn**	**22 23 10.2**	**+0.6**
PLCA	**Paso Flores**	**17.22**	**190**	P			**Pn**	**22 25 52.1**	**+1.7**
	comp=N,1.3nm,0.8s,baz=2.4,slow=13,SNR=3.9								
TORD	**Torodi Ar. Bea**	**76.28**	**69**	P			**P**	**22 33 27.4**	**-1.3**
	comp=N,0.3nm,0.6s,baz=256,slow=5.5,SNR=2.1								
	comp=N,0.3nm,0.6s								
ASAR	**Alice Springs**	**128.76**	**205**	PKhKP		PKPpre		22 40 34.2	
	comp=N,1.1nm,0.8s,baz=69,slow=1.6,SNR=6.9								
WRA	**Warramunga Arr**	**131.93**	**207**	PKP		**PKPdf**		**22 40 51.0**	**-0.9**
	comp=N,0.4nm,0.7s,baz=153,slow=2.0,SNR=4.5								
MKAR	**Makanchi Array**	**146.20**	**39**	PKPbc		**PKPbc**		**22 41 17.9**	**-0.5**
	comp=N,0.6nm,0.6s,baz=299,slow=3.3,SNR=6.1								

KRSZO 19 22:22:21.9±1.2,47.99N×19.30E,h5km,M1.3/5,Error ellipse: s-maj=6.0km s-min=4.7km az=9.0,Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
A270A	**Szokolya**	**0.24**	**232**	Pg		Pg	Pg	22 22 26.8	+0.2
A270A				Lg		Lg	Lg	22 22 31.1	
A336A	**Medovarce**	**0.31**	**321**	Pg		Pg	Pg	22 22 28.9	+0.9
A336A				Lg		Lg	Lg	22 22 33.3	
PSZ	**Piszkesteto**	**0.41**	**100**	Pg		Pg	Pg	22 22 30.7	+0.8
PSZ				Lg		Lg	Lg	22 22 37.1	
VYHS	**Vyhne**	**0.59**	**329**	Pg		Pg	Pg	22 22 33.4	+0.1
VYHS				Lg		Lg	Lg	22 22 41.4	
VYHS	**Vyhne**	**0.59**	**329**	eSG		Sg	Pg	22 22 41.7	+0.8
KECS	**Kecovo**	**0.94**	**58**	Pn		Pn	Pg	22 22 40.9	+0.3
KECS				Lg		Lg	Lg	22 22 54.6	

*IDC **19**22:26:32.1±2.2,6.61°S×154.43°E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=51.2km s-min=29.0km az=90.0*

ISC 19 22:26:38.3±2.0,6.5S±0.1°×154.5E±0.2°,h48km,n6,σ1°34/7, mb3.6/3,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.27**	**311**	Pn		**Pn**	**Pn**	**22 27 25.9**	**-1.2**
	baz=163,slow=19								
KRVT				Sn		Sn	**Sn**	**22 28 05.8**	**+1.0**
	baz=253,slow=19								
PMG	**Port Moresby**	**7.82**	**248**	Pn		Pn	**Pn**	**22 28 29.

	comp=E,200nm,9.0s								
QIZ					LR	LR			
	comp=Z,300nm,16.9s								
KSRS	**Korea Array**	**49.12**	**335**		P	**P**	**22 36 37.7**	**+0.8**	
	comp=Z,0.8nm,0.6s,baz=159,slow=7.4,SNR=2.1								
	comp=Z,0.8nm,0.6s								
NJ2	**Nanjing**	**49.46**	**323**		*e*P	**P**	**22 36 38.5**	**-1.1**	
NJ2					pmax	pmax			
	comp=Z,5.0nm,0.5s								
MDJ	**Mudanjiang**	**54.78**	**341**		P	**P**	**22 37 18.1**	**-0.8**	
MDJ					pmax	pmax			
	comp=Z,5.0nm,1.2s								
MDJ					pmax	pmax			
	comp=Z,130nm,6.9s								
CMAR	**Chiang Mai Arr**	**57.35**	**297**		P	**P**	**22 37 37.2**	**-0.6**	
	comp=Z,0.3nm,0.3s,baz=108,slow=5.0,SNR=2.0								
	comp=Z,0.3nm,0.3s								
PZH	**PanZhiHua**	**58.28**	**307**		P	**P**	**22 37 46.8**	**+2.4**	
PZH					pmax	pmax			
	comp=Z,10.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**59.80**	**326**		*e*P	**P**	**22 37 55.4**	**+0.9**	
HHC					pmax	pmax			
	comp=Z,15nm,0.5s								
HHC					pmax	pmax			
	comp=Z,220nm,4.5s								
PETK	**Petropavlovsk-**	**59.94**	**4**		P	**P**	**22 37 54.1**	**-1.1**	
	comp=Z,2.1nm,0.8s,baz=153,slow=5.8,SNR=4.1								
	comp=Z,2.1nm,0.8s								
HEH	**HeiHe**	**60.47**	**343**		*e*P	P	22 37 44.8	-14	
SONM	**Songino Array**	**67.21**	**329**		P	**P**	**22 38 43.1**	**-0.4**	
	comp=Z,1.2nm,0.7s,baz=141,slow=6.0,SNR=7.8								
	comp=Z,1.2nm,0.7s								
VNDA	**Vanda**	**70.90**	**178**		P	**P**	**22 39 07.4**	**+1.7**	
	comp=Z,3.4nm,0.6s,baz=331,slow=7.3,SNR=16								
	comp=Z,3.4nm,0.6s								
MKAR	**Makanchi Array**	**80.82**	**319**		P	**P**	**22 40 03.1**	**+0.2**	
	comp=Z,0.7nm,0.8s,baz=108,slow=5.6,SNR=4.4								
	comp=Z,0.7nm,0.8s								
ZALV	**Zalesovo Beam**	**81.96**	**327**		P	**P**	**22 40 08.2**	**-0.5**	
	comp=Z,1.5nm,0.7s,baz=108,slow=5.2,SNR=7.7								
	comp=Z,1.5nm,0.7s								
KSH	**Kashi**	**83.06**	**311**		P	**P**	**22 40 16.1**	**+1.1**	
KSH					pmax	pmax			
	comp=Z,3.0nm,1.0s								
QSPA	**South Pole Qui**	**83.16**	**180**		P	**P**	**22 40 16.5**	**+1.5**	
	comp=Z,8.6nm,0.7s,baz=331,slow=1.2,SNR=22								
	comp=Z,8.6nm,0.7s								
MLY	**Manley**	**83.31**	**21**		P	**P**	**22 40 15.5**	**-0.1**	
MLY					IAmb	IAmb	22 40 18.6		
	comp=Z,4.4nm,1.1s								
KURBB	**Kurchatov Arra**	**84.42**	**322**		P	**P**	**22 40 21.6**	**+0.1**	
	comp=Z,1.3nm,0.9s,baz=115,slow=3.7,SNR=9.7								
	comp=Z,1.3nm,0.9s								
IL31		**84.59**	**22**		P	**P**	**22 40 17.9**	**-4.2**	
IL31					IAmb	IAmb	22 40 35.7		
	comp=Z,3.2nm,0.8s								
ILAR	**Eielson Array**	**84.59**	**22**		P	P	22 40 15.9	-6.2	
ILAR	**Eielson Array**	**84.59**	**22**		P	**P**	**22 40 21.7**	**-0.4**	
	comp=Z,1.4nm,0.8s,baz=254,slow=4.9,SNR=18								
	comp=Z,1.4nm,0.8s								
RIDG	**Independent Ri**	**84.91**	**24**		P	**P**	**22 40 20.4**	**-3.4**	
RIDG					IAmb	IAmb	22 40 29.3		
	comp=Z,7.2nm,1.2s								
AAK	**Ala-Archa**	**84.92**	**314**		P	**P**	**22 40 23.1**	**-1.3**	
AAK					IAmb	IAmb	22 40 27.6		
	comp=Z,3.7nm,1.0s								
HYT	**Haines Junctio**	**86.92**	**28**			P	22 40 28.7	-5.2	
BVAR	**Borovoye Array**	**89.91**	**323**		P	**P**	**22 40 46.9**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=102,slow=6.2,SNR=5.0								
	comp=Z,0.8nm,0.7s								
NVAR	**Mina Array Bea**	**94.54**	**52**		P	**P**	**22 41 11.7**	**+1.6**	
	comp=Z,1.3nm,0.9s,baz=239,slow=7.6,SNR=5.0								
	comp=Z,1.3nm,0.9s								
YKA	**Yellowknife Ar**	**97.92**	**28**		P	Pdif	22 41 25.4	+0.8	
	comp=Z,0.3nm,0.6s,baz=272,slow=4.9,SNR=9.3								
	comp=Z,0.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**149.37**	**284**		PKPbc	**PKPbc**	**22 47 38.6**	**-0.4**	
	comp=Z,1.7nm,0.7s,baz=62,slow=3.0,SNR=8.1								
BDFB	**Brasilia**	**150.66**	**140**		PKPbc	**PKiKP**	**22 47 43.2**	**+0.3**	
	comp=Z,4.6nm,0.7s,baz=181,slow=3.5,SNR=8.3								

ISN ***19*** *22:33:25.0±0.4, 33.°71N×45.°43E, h6km±2km, ML3.1*
TEH ***19*** *22:33:28.3, 33.°76N×45.°62E, h9km±40km, ML3.1*
ISC 19 22:33:25.5±0.9**, 33.°70N**±0.°04×**45.°38E**±0.°05**, h13km, n15,**
σ1s81/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBDR	**Badra**	**0.75**	**141**	*e*Pg		**Pg**	**22 33 39.0**	**-0.8**
IBDR				*e*Sg		**Sb**	**22 33 49.5**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.83**	**12**	Pg		**Pn**	**22 33 42.5**	**-0.2**
BHD	**Baghdad**	**0.94**	**243**	*e*Pg		**Pn**	**22 33 44.0**	**-0.1**
BHD				*e*Sg		**Sn**	**22 33 57.5**	**+0.2**
BHD				AML		AML	22 34 19.4	
	comp=E,531nm,0.2s							
IGHG	**Ghaleghazi**	**1.18**	**57**	Pg		**Pg**	**22 33 47.5**	**-0.5**
IDHR	**Dehrash**	**1.30**	**40**	Pg		**Pg**	**22 33 50.2**	**-0.2**
ILIN	**Lien**	**1.79**	**47**	Pg		**Pg**	**22 33 58.7**	**-1.0**
IKOM	**Komasi**	**1.84**	**74**	Pg		**Pg**	**22 33 59.6**	**-1.0**
IKOM				Sg		**Sg**	**22 34 23.1**	**-1.3**
RAFI	**Al-Rafai**	**2.06**	**162**	*e*Pn		**Pb**	**22 34 02.0**	**-0.6**
RAFI				*e*Sn		**Sb**	**22 34 29.0**	**+0.8**
RAFI				AML		AML	22 34 38.0	
	comp=E,171nm,0.4s							
RAFI				AML		AML	22 34 38.2	
	comp=N,190nm,0.4s							
IKFM	**Kafar-mosalman**	**2.07**	**94**	Pn		**Pb**	**22 34 02.3**	**-0.4**
SDS1	**Sardasht. Az.**	**2.45**	**2**	Pn		**Pb**	**22 34 09.9**	**+0.6**
HSAM	**Samen**	**2.73**	**78**	Pn		**Pb**	**22 34 11.0**	**-3.2**
MAHB	**Mahabad**	**3.08**	**5**	Pn		**Pb**	**22 34 18.3**	**-1.7**
ISHB	**Shabestar**	**4.58**	**2**	Pn		**Pn**	**22 34 38.0**	**+3.5**
IKLH	**Kolahrood**	**5.20**	**92**	Pn		**Pn**	**22 34 45.8**	**+2.9**
IRAM	**Rameshe**h	**6.20**	**106**	Pn		**Pn**	**22 35 00.2**	**+3.5**

WEL 19 22:34:42.5, 38.°S±7.°×**17.°6E**±.°**, h107km**±16**km, M2.3/30, MLv2.3/30, Error ellipse: s-maj=0.0km s-min=0.0km az=114.2, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RRRZ	**Republican Roa**	**0.21**	**170**	P		Pn	22 34 58.8	+1.1
MUGZ	**Murupara**	**0.42**	**145**	P		Pn	22 34 59.3	+0.7
URZ	**Urewera**	**0.52**	**104**	P		Pn	22 34 59.4	+0.2
RTZ	**Ruatahuna**	**0.63**	**140**	P		Pn	22 35 00.9	+0.7
MRHZ	**Matea Rd**	**0.70**	**183**	P		Pn	22 35 01.6	+0.9
MTHZ	**Maungataniwha**	**0.78**	**158**	P		Pn	22 35 02.2	+0.8
RAGZ	**Rawiri**	**0.83**	**116**	P		Pn	22 35 02.3	+0.4
MWZ	**Matawai**	**0.86**	**104**	P		Pn	22 35 02.0	-0.1
TOZ	**Tahuroa Road**	**0.86**	**297**	P		Pn	22 35 02.2	+0.1
RAHZ	**Arahi**	**0.92**	**148**	P		Pn	22 35 03.8	+1.0
SNGZ	**Shannon Statio**	**0.94**	**134**	P		Pn	22 35 03.6	+0.6
RITZ	**Rihia Road**	**0.97**	**209**	P		Pn	22 35 04.3	+1.0
RUGZ	**Raukumara Rang**	**0.97**	**81**	P		Pn	22 35 01.8	-1.5
NMHZ	**Naumai**	**1.00**	**165**	P		Pn	22 35 05.0	+1.4
BKZ	**Black Stump Fm**	**1.03**	**179**	P		Pn	22 35 04.2	+0.2
HAZ	**Te Kaha**	**1.11**	**71**	P		Pn	22 35 03.0	-1.6
ETVZ	**East Tongariro**	**1.17**	**210**	P		Pn	22 35 05.9	+0.4
RIGZ	**Rimuhau**	**1.17**	**120**	P		Pn	22 35 05.5	+0.2
TWGZ	**Tauwhareparae**	**1.20**	**93**	P		Pn	22 35 05.5	-0.1
ARHZ	**Aropaoanui**	**1.20**	**160**	P		Pn	22 35 06.2	+0.5
OTVZ	**Oturere**	**1.21**	**211**	P		Pn	22 35 06.5	+0.6
SNVZ	**South Ngauruho**	**1.24**	**211**	P		Pn	22 35 06.9	+0.6
TWVZ	**Taurewa**	**1.24**	**220**	P		Pn	22 35 06.4	+0.2
NGZ	**Ngauruhoe**	**1.24**	**213**	P		Pn	22 35 06.8	+0.5
KWHZ	**Kaweka Forest**	**1.29**	**181**	P		Pn	22 35 07.1	+0.3
TUVZ	**Tukino**	**1.30**	**209**	P		Pn	22 35 07.3	+0.3
MCHZ	**McNeill Hill**	**1.32**	**172**	P		Pn	22 35 07.6	+0.5
PRGZ	**Paritu Road**	**1.36**	**126**	P		Pn	22 35 07.3	-0.3
TRVZ	**Turoa**	**1.37**	**211**	P		Pn	22 35 08.0	+0.2
WNVZ	**Wahianoa**	**1.37**	**209**	P		Pn	22 35 07.9	0.0
MOVZ	**Moawhango**	**1.39**	**203**	P		Pn	22 35 07.5	-0.5
BHHZ	**Black Hill Sta**	**1.39**	**193**	P		Pn	22 35 07.7	-0.3
CNGZ	**Carnagh Statio**	**1.41**	**105**	P		Pn	22 35 08.0	-0.1
PUZ	**Puketiti**	**1.41**	**88**	P		Pn	22 35 06.7	-1.5
MKAZ	**Moumakai**	**1.46**	**314**	P		Pn	22 35 07.6	-1.1
KRHZ	**Kereru**	**1.51**	**183**	P		Pn	22 35 08.9	-0.4
MHGZ	**Mahia Peninsul**	**1.52**	**133**	P		Pn	22 35 09.2	-0.2
WMGZ	**Waiomatatini S**	**1.57**	**79**	P		Pn	22 35 08.6	-1.4
CKHZ	**Cape Kidnapper**	**1.60**	**163**	P		Pn	22 35 10.3	-0.1
KAHZ	**Kahuranaki**	**1.69**	**169**	P		Pn	22 35 11.2	-0.3
WIAZ	**Waiheke Island**	**1.71**	**321**	P		Pn	22 35 10.0	-1.7
PNHZ	**Pukenui**	**1.79**	**187**	P		Pn	22 35 11.6	-1.2
AWAZ	**Awhitu Peninsu**	**1.80**	**306**	P		Pn	22 35 09.9	-2.9
PXZ	**Pawanui**	**1.92**	**171**	P		Pn	22 35 13.4	-1.0
TSZ	**Takapari Road**	**1.96**	**191**	P		Pn	22 35 13.6	-1.4
PRHZ	**Porangahau**	**2.14**	**177**	P		Pn	22 35 15.8	-1.4
MRZ	**Mangatainoka R**	**2.62**	**195**	P		Pn	22 35 20.7	-2.7
HOWZ	**Holdsworth Sta**	**2.86**	**195**	P		Pn	22 35 23.3	-3.3
OGWZ	**Otaki Gorge**	**2.86**	**200**	P		Pn	22 35 23.6	-3.0
MTW	**Mount Morrison**	**3.11**	**194**	P		Pn	22 35 26.1	-3.8

IDC ***19*** *22:42:25.2±1.2, 13.°07N×50.°55E, h0km, mb3.7/11, mbtmp3.6/12, ML2.6/1, MS3.3/3, Error ellipse: s-maj=30.7km s-min=24.2km az=153.0*
OMAN ***19*** *22:42:29.1±0.3, 14.°09N×50.°19E, h10km, mb4.1/5, ml3.4/2, Error ellipse: s-maj=19.2km s-min=2.9km az=322.0*
ISC 19 22:42:29.8±0.9**, 13.°7N**±0.°1×**50.°42E**±0.°09**, h21km, n28,**
σ2s29/39, mb3.8/11, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABTO	**Aybut**	**4.59**	**37**	P		**Pn**	**22 43 37.1**	**-1.0**
	SNR=64							
ABTO				S		**Sn**	**22 44 29.0**	**-1.8**
RBK	**Rabkut**	**5.27**	**43**	P		**Pn**	**22 43 47.0**	**-0.4**
	SNR=6.1							
RBK				S		**Sn**	**22 44 46.6**	**-1.0**
WHFO	**Wadi Hawf**	**5.31**	**37**	P		**Pn**	**22 43 47.0**	**-0.9**
	SNR=23							
WHFO				S		**Sn**	**22 44 45.3**	**-3.3**
DMTO	**DMTO**	**5.93**	**47**	P		**Pn**	**22 43 55.7**	**-0.7**
	SNR=35							
DMTO				S		**Sn**	**22 45 02.5**	**-1.2**
DOK	**Doka**	**6.07**	**35**	P		**Pn**	**22 43 57.7**	**-0.7**
	SNR=8.5							
DOK				S		**Sn**	**22 45 05.3**	**-1.9**
SHAO	**Shalim**	**6.61**	**49**	P		**Pn**	**22 44 05.2**	**-0.7**
	SNR=13							
SHAO				S		**Sn**	**22 45 18.7**	**-2.0**
ATD	**Arta Tunnel**	**7.70**	**255**	Pn		**Pn**	**22 44 19.3**	**-1.5**
	0.1nm,0.3s,baz=350,slow=5.4,SNR=25							
	0.2nm,0.3s							
ATD	**Arta Tunnel**	**7.70**	**255**	P		**Pn**	**22 44 19.7**	**-1.1**
	SNR=16							
ATD				S		**Sn**	**22 45 45.4**	**-2.0**
UMZA	**Um Al Zommool**	**10.05**	**26**	P		**Pn**	**22 44 52.2**	**-0.8**
UMZA				S		**Sn**	**22 46 42.2**	**-3.0**
MHTO	**MHTO**	**10.23**	**44**	P		**Pn**	**22 44 54.3**	**-1.2**
MHTO				S		**Sn**	**22 46 47.9**	**-1.7**
BSY	**Bisya**	**11.08**	**35**	P		**Pn**	**22 45 05.9**	**-1.2**
BSY				S		**Sn**	**22 47 08.1**	**-2.3**
JMDO	**Jabal Madar**	**11.31**	**39**	P		**Pn**	**22 45 09.3**	**-1.0**
JMDO				S		**Sn**	**22 47 14.6**	**-1.7**
SMDO	**Samad**	**11.81**	**37**	P		**Pn**	**22 45 15.4**	**-1.7**
SMDO				S		**Sn**	**22 47 25.7**	**-2.7**
SOHO	**SOHO**	**11.90**	**28**	P		**Pn**	**22 45 17.0**	**-1.3**
SOHO				S		**Sn**	**22 47 24.0**	**-6.5**
JLN	**Jalan Bani Buh**	**12.00**	**44**	P		**Pn**	**22 45 19.8**	**+0.1**
WSAR	**Wadi Sarin**	**12.29**	**38**	LR		LR	22 49 53.5	
	comp=Z,129nm,18.1s,baz=52,slow=35							
GEYT	**Alibeck**	**25.11**	**14**	P		**P**	**22 47 56.9**	**+3.7**
	1.6nm,0.7s,baz=203,slow=14,SNR=4.0							
GEYT				LR		LR	22 58 24.7	
	comp=Z,57nm,18.5s,baz=180,slow=37							
	1.6nm,0.7s							
GNI	**Garni**	**26.84**	**350**	LR		LR	23 00 45.5	
	comp=Z,64nm,21.8s,baz=352,slow=40							
BVAR	**Borovoye Array**	**42.34**	**18**	P		**P**	**22 50 25.0**	**+2.7**
	0.3nm,0.6s,baz=190,slow=7.3,SNR=2.5							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**42.45**	**33**	P		**P**	**22 50 25.2**	**+2.0**
	0.2nm,0.5s,baz=225,slow=6.6,SNR=5.9							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**43.34**	**26**	P		**P**	**22 50 32.9**	**+2.5**
	0.3nm,0.6s,baz=225,slow=7.9,SNR=3.0							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**47.34**	**275**	P		**P**	**22 51 02.2**	**-0.4**
	0.3nm,0.7s,baz=83,slow=6.7,SNR=2.5							
	0.3nm,0.7s							
ZALV	**Zalesovo Beam**	**48.42**	**27**	P		**P**	**22 51 12.7**	**+2.3**
	0.9nm,0.5s,baz=222,slow=8.3,SNR=5.8							
	0.9nm,0.5s							
FINES	**FINESS Array B**	**50.83**	**345**	P		**P**	**22 51 32.0**	**+3.4**
	1.8nm,1.0s,baz=143,slow=9.9,SNR=1.6							
	1.8nm,1.0s							
HFS	**Hagfors**	**53.61**	**338**	P		**P**	**22 51 51.8**	**+2.5**
	1.8nm,0.8s,baz=184,slow=17,SNR=1.2							
	1.8nm,0.8s							
SONM	**Songino Array**	**57.31**	**42**	P		**P**	**22 52 18.1**	**+1.8**
	0.2nm,0.6s,baz=212,slow=5.1,SNR=1.8							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**89.01**	**111**	P		**P**	**22 55 21.0**	**-2.8**
	0.9nm,0.8s,baz=303,slow=3.3,SNR=4.3							
	0.9nm,0.8s							
ASAR	**Alice Springs**	**89.58**	**114**	P		**P**	**22 55 23.4**	**-3.0**
	0.7nm,0.8s,baz=250,slow=3.6,SNR=4.3							
	0.7nm,0.8s							

TEH ***19*** *22:45:47.2, 33.°71N×45.°47E, h19km±85km, ML3.1*
ISN ***19*** *22:45:48.7±0.5, 33.°75N×45.°48E, h14km±2km, ML3.3*
ISC 19 22:45:47.9±1.0**, 33.°73N**±0.°04×**45.°46E**±0.°05**, h13km, n10,**
σ0s61/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBDR	**Badra**	**0.73**	**147**	*e*Pg		**Pn**	**22 46 03.0**	**-0.9**
IBDR				*e*Sg		**Sb**	**22 46 13.0**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.78**	**8**	Pg		**Pb**	**22 46 02.9**	**-0.5**
BHD	**Baghdad**	**1.01**	**243**	*e*Pg		**Pn**	**22 46 08.0**	**+0.2**
BHD				*e*Sg		**Sn**	**22 46 22.0**	**+0.2**
BHD				AML		AML	22 46 33.0	
	comp=E,752nm,0.5s							
IDHR	**Dehrash**	**1.23**	**38**	Pg		**Pg**	**22 46 11.3**	**-0.4**
ILIN	**Lien**	**1.72**	**46**	Pg		**Pb**	**22 46 19.1**	**-0.4**
IKOM	**Komasi**	**1.76**	**75**	Pg		**Pb**	**22 46 19.7**	**-0.4**
IKFM	**Kafar-mosalman**	**2.00**	**95**	Pn		**Pn**	**22 46 21.9**	**+0.5**
RAFI	**Al-Rafai**	**2.08**	**164**	*e*Pn		**Pb**	**22 46 25.0**	**-0.4**
RAFI				*e*Sn		**Sb**	**22 46 52.0**	**+0.9**
SDS1	**Sardasht. Az.**	**2.41**	**0**	Pn		**Pn**	**22 46 27.5**	**+0.3**
HSAM	**Samen**	**2.65**	**79**	Pn		**Pn**	**22 46 31.3**	**+0.7**

TEH ***19*** *23:10:18.3, 33.°70N×45.°63E, h10km, ML2.9*
ISN ***19*** *23:10:18.1±1.0, 33.°68N×45.°63E, h11km±5km, ML2.8*
ISC 19 23:10:18.7±1.1**, 33.°69N**±0.°04×**45.°59E**±0.°06**, h13km, n6,**
σ0s84/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBDR	**Badra**	**0.64**	**153**	*e*Pg		**Pg**	**23 10 30.5**	**-0.7**
IBDR				*e*Sg		**Sg**	**23 10 39.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.82**	**0**	Pg		**Pg**	**23 10 33.3**	**-1.2**
BHD	**Baghdad**	**1.09**	**248**	*e*Pg		**Pn**	**23 10 40.0**	**+0.4**
BHD				*e*Sg		**Sn**	**23 10 55.0**	**+0.5**
BHD				AML		AML	23 11 03.3	
	comp=E,561nm,0.6s							
IDHR	**Dehrash**	**1.21**	**33**	Pg		**Pg**	**23 10 42.1**	**+0.1**
IKOM	**Komasi**	**1.67**	**73**	Pg		**Pg**	**23 10 49.7**	**-1.1**
IKOM				Sg		**Sg**	**23 11 13.2**	**+0.7**
RAFI	**Al-Rafai**	**2.01**	**167**	*e*Pn		**Pn**	**23 10 53.0**	**+0.8**
RAFI				*e*Sn		**Sb**	**23 11 20.0**	**+0.1**
RAFI				AML		AML	23 11 43.2	
	comp=N,74nm,0.4s							
RAFI				AML		AML	23 11 49.4	
	comp=E,72nm,0.5s							

ISN ***19*** *23:16:08.7±0.8, 33.°55N×45.°62E, h11km±3km, ML3.8*
TEH ***19*** *23:16:09.6, 33.°60N×45.°75E, h6km±905km, ML3.8*
IDC ***19*** *23:16:10.6±0.8, 33.°73N×45.°70E, h0km, mb3.7/11, mbtmp3.7/16, ML3.4/5, MS3.2/3, Error ellipse: s-maj=19.1km s-min=14.1km az=149.0*
ISC 19 23:16:11.4±0.5**, 33.°55N**±0.°03×**45.°66E**±0.°04**, h13km, n43,**
σ1s48/45, mb3.6/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBDR	**Badra**	**0.50**	**153**	*e*Pg		**Pg**	**23 16 19.0**	**-2.1**
IBDR				*e*Sg		**Sg**	**23 16 26.0**	**-1.8**
IBDR				AML		AML	23 16 51.1	
	comp=N,4μm,0.6s							
IBDR				AML		AML	23 16 58.5	
	comp=E,2μm,0.4s							
KGS1	**Ghasr-e-Shirin**	**0.95**	**357**	Pg		**Pg**	**23 16 27.6**	**-2.1**
IGHG	**Ghaleghazi**	**1.08**	**44**	Pg		**Pb**	**23 16 30.0**	**-2.1**
BHD	**Baghdad**	**1.11**	**256**	*e*Pg		**Pb**	**23 16 29.5**	**-2.8**
BHD				*e*Sg		**Sb**	**23 16 44.0**	**-2.7**
BHD				AML		AML	23 16 57.2	
	comp=E,6μm,0.5s							
IDHR	**Dehrash**	**1.29**	**28**	Pg		**Pn**	**23 16 33.6**	**-1.7**
IKOM	**Komasi**	**1.66**	**68**	Pg		**Pn**	**23 16 40.9**	**+0.6**
ILIN	**Lien**	**1.74**	**38**	Pg		**Pn**	**23 16 41.6**	**+0.1**
IKFM	**Kafar-mosalman**	**1.83**	**90**	Pg		**Pn**	**23 16 44.1**	**+1.6**
RAFI	**Al-Rafai**	**1.86**	**168**	*e*Pn		**Pn**	**23 16 42.0**	**-1.0**
RAFI				*e*Sn		**Sn**	**23 17 07.5**	**+1.1**
RAFI				AML		AML	23 17 17.5	
	comp=E,1μm,0.4s							
RAFI				AML		AML	23 17 21.8	
	comp=N,1μm,0.4s							
IALM	**Almabolaq**	**2.45**	**57**	Pn		**Pn**	**23 16 51.5**	**+0.1**
HSAM	**Samen**	**2.54**	**74**	Pn		**Pn**	**23 16 53.2**	**+0.7**
SDS1	**Sardasht. Az.**	**2.59**	**357**	Pn		**Pn**	**23 16 54.6**	**+1.4**
MAHB	**Mahabad**	**3.21**	**1**	Pn		**Pn**	**23 17 03.1**	**+1.5**
IHSH	**Hashtrud**	**3.97**	**19**	Pn		**Pn**	**23 17 12.5**	**+0.3**
IRAZ	**Razeghan**	**3.98**	**61**	Pn		**Pn**	**23 17 13.0**	**+0.7**
QSDN	**Sirdan**	**4.12**	**43**	Pn		**Pn**	**23 17 14.6**	**+0.3**
IPIR	**Pirpir**	**4.48**	**100**	Pn		**Pn**	**23 17 20.1**	**+0.9**
ZNGN	**Zangian**	**4.60**	**107**	Pn		**Pn**	**23 17 22.1**	**+1.1**
IKLH	**Kolahrood**	**4.96**	**91**	Pn		**Pn**	**23 17 27.4**	**+1.7**
IMRD	**Marand**	**5.15**	**0**	Pn		**Pn**	**23 17 29.1**	**+0.8**
KLST	**Kelardasht - M**	**5.33**	**55**	Pn		**Pn**	**23 17 31.1**	**+0.2**
KRSH	**Karshahi**	**5.41**	**84**	Pn		**Pn**	**23 17 32.8**	**+0.9**
IGAR	**Gharneh**	**5.49**	**100**	Pn		**Pn**	**23 17 35.2**	**+2.2**
IZEF	**Zefreh**	**5.63**	**95**	Pn		**Pn**	**23 17 36.4**	**+1.3**
IRAM	**Rameshe**h	**5.93**	**105**	Pn		**Pn**	**23 17 40.5**	**+1.4**
GNI	**Garni**	**6.62**	**354**	Pn		**Pn**	**23 17 50.5**	**+2.0**
	comp=N,0.1nm,0.3s,baz=150,slow=20,SNR=1.9							
GNI				Lg		Lg	23 19 36.2	
	baz=250,slow=18,SNR=1.0							
GNI				LR		LR	23 20 32.1	
	comp=N,87nm,19.3s,baz=242,slow=40							
	comp=N,2.6nm,0.8s							
ASF	**Jabal al Far**	**7.50**	**262**	Pn		**Pn**	**23 18 03.4**	**+2.9**
	comp=N,0.2nm,0.3s,baz=233,slow=20,SNR=2.7							
ASF				Lg		Lg	23 20 10.9	
	comp=N,0.8nm,0.3s,baz=147,slow=22,SNR=2.7							
	comp=N,4.1nm,0.8s							
EIL	**Elat**	**9.91**	**250**	Pn		**Pn**	**23 18 35.7**	**+2.1**
	comp=N,0.2nm,0.3s,baz=214,slow=10.0,SNR=2.1							
EIL				Lg		Lg	23 21 31.4	
	comp=N,0.1nm,0.3s,baz=58,slow=13,SNR=2.1							
EIL				LR		LR	23 23 27.8	
	comp=N,76nm,18.1s,baz=44,slow=44							
	comp=N,6.3nm,1.1s							
WSAR	**Wadi Sarin**	**15.34**	**129**	Pn		**Pn**	**23 19 46.7**	**-1.0**
	comp=N,0.7nm,0.3s,baz=349,slow=9.3,SNR=9.6							
AKTO	**Aktyubinsk**	**19.16**	**25**	P		**P**	**23 20 33.1**	**-1.3**
	comp=N,0.2nm,0.3s,baz=226,slow=11,SNR=4.6							
	comp=N,1.7nm,0.7s							
MLR	**Muntele Rosu**	**19.27**	**314**	P		**P**	**23 20 36.5**	**+0.8**
	comp=N,0.1nm,0.3s,baz=124,slow=15,SNR=1.7							
	comp=N,0.7nm,0.5s							
AKASG	**Malin Array Be**	**20.95**	**330**	P		**P**	**23 20 52.9**	**-0.9**
	comp=N,0.6nm,0.5s,baz=138,slow=9.7,SNR=9.2							
	comp=

IGHG	**Ghaleghazi**	**1.26**	**53**	Pg		**Pb**	**23 41 40.2**	**0.0**
IDHR	**Dehrash**	**1.41**	**37**	Pg		**Pb**	**23 41 42.8**	**0.0**
IDHR				Sg		**Sb**	**23 42 01.0**	**+0.3**
IKOM	**Komasi**	**1.89**	**71**	Pg		**Pb**	**23 41 50.5**	**-0.4**
IKOM				Sg		**Sb**	**23 42 14.6**	**+0.1**

*SDD **19** 23:43:16.3±1.8, 19°.26N×69°.82W, h100km±15km, MD3.0, ML2.8, MW3.2*

*OSPL **19** 23:43:17.9±1.8, 19°.29N×69°.82W, h89km±10km, ML2.6*

ISC 19 23:43:16.6±1.8, **19°.28N**±0°.07×**69°.86W**±0°.04, **h87**km±11km, **n13**, σ**0**°**66**/23, **6C-7D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.10**	**356**	*i* P		**Pn**	**23 43 28.9**	**-0.1**
LONA1				*e*S		**Sn**	**23 43 39.2**	**+1.0**
LONA1				IAML			23 43 42.4	
	comp=Z,704nm,0.7s							
DR08	**Loma La Naviza**	**0.35**	**207**	↓*e*P		**Pn**	**23 43 30.0**	**-0.2**
DR08				↑*e*S		**Sn**	**23 43 39.9**	**-0.2**
DR08				IAML			23 43 41.6	
	comp=N,2μm,0.1s							
SMDR	**Samana, DR**	**0.63**	**89**	↑*e*P		**Pn**	**23 43 31.6**	**-0.6**
SMDR				↓*e*S		**Sn**	**23 43 44.3**	**+0.4**
SMDR				IAML			23 43 45.1	
	comp=N,75nm,0.5s							
HATOM	**Hato Mayor del**	**0.66**	**137**	↓*e*P		**Pn**	**23 43 32.4**	**-0.1**
HATOM				↑*e*S		**Sn**	**23 43 44.1**	**-0.4**
HATOM				IAML			23 43 45.1	
	comp=N,200nm,0.2s							
SDD	**Santo Domingo**	**0.81**	**184**	↑*e*Sg		**Sn**	**23 43 46.6**	**-0.5**
SDD				IAML			23 43 46.9	
	comp=N,35nm,0.3s							
SDD	**Santo Domingo**	**0.81**	**184**	*i* P		**Pn**	**23 43 34.9**	**+0.8**
SDD				*e*S		**Sn**	**23 43 46.6**	**-0.5**
SC01	**Santiago de lo**	**0.84**	**281**	*i* P		**Pn**	**23 43 34.4**	**+0.1**
SC01				*e*S		**Sn**	**23 43 48.8**	**+1.3**
SC01				IAML			23 43 51.0	
	comp=Z,80nm,0.6s							
ABDR	**Alto Bandera**	**0.86**	**238**	↓*e*P		**Pn**	**23 43 33.7**	**-1.3**
ABDR				↑*e*Sg		**Sn**	**23 43 48.7**	**0.0**
ABDR				IAML			23 43 50.7	
	comp=N,185nm,0.2s							
LUDR	**Luperon**	**1.20**	**301**	↓*e*P		**Pn**	**23 43 37.7**	**-0.9**
LUDR				↓*e*Sg		**Sn**	**23 43 54.8**	**-0.2**
LUDR				IAML			23 43 57.6	
	comp=N,369nm,0.3s							
SDDR	**Presa de Saban**	**1.38**	**258**	↑*e*P		**Pn**	**23 43 40.9**	**0.0**
SDDR				↓*e*Sg		**Sn**	**23 43 59.7**	**+0.6**
SDDR				IAML			23 44 02.2	
	comp=N,74nm,0.2s							
SDDR	**Presa de Saban**	**1.38**	**258**	*i* P		**Pn**	**23 43 40.8**	**0.0**
SDDR				*e*S		**Sn**	**23 43 59.8**	**+0.6**
SDDR				IAML			23 44 01.2	
	comp=Z,58nm,0.6s							
AGPR	**Aguadilla, PR**	**2.72**	**107**	*i* P		**Pn**	**23 43 58.0**	**-0.4**
AGPR				IAML			23 44 30.4	
	comp=Z,34nm,0.7s							
CRPR	**Cabo Rojo, PR**	**2.89**	**115**	*i* P		**Pn**	**23 44 01.2**	**+0.6**
CRPR				IAML			23 44 38.3	
	comp=Z,20nm,1.1s							

IDC 19 23:51:28.6±2.9, **6°.55S×128°.58E, h0**km, **mb3.6**/1, **mbtmp3.2**/3, **ML2.9**/2, **MS3.3**/1, **Error ellipse: s-maj=313.3km s-min=31.7km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.44**	**158**	Pn		Pn	23 54 54.0	-0.5
	0.1nm,0.3s,baz=334,slow=13,SNR=0.8							
WRA				Sn		Sn	23 57 22.9	-13
	0.4nm,0.3s,baz=334,slow=22,SNR=7.3							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**17.77**	**164**	P		Pn	23 55 37.8	+0.2
	baz=346,slow=11,SNR=2.6							
	0.5nm,0.9s							
SONM	**Songino Array**	**57.58**	**342**	LR		LR	00 29 23.1	
	comp=Z,27nm,19.1s,baz=28,slow=40							
MKAR	**Makanchi Array**	**67.08**	**327**	P		P	00 02 24.0	0.0
	0.3nm,0.4s,baz=120,slow=6.1,SNR=10							
	0.3nm,0.4s							

*IDC **19** 23:55:05.3±0.9, 64°.15N×149°.16W, h127km±6km, mb4.4/34, mbtmp4.8/37, MS3.3/8, Error ellipse: s-maj=13.9km s-min=8.5km az=37.0*

*NEIC **19** 23:55:05.2±2.1, 63°.997N±0°.007×149°.02W±0°.07, h130km±3km, Error ellipse: s-maj=4.9km s-min=0.3km az=101.0*

*AEIC **19** 23:55:05.3±2.1, 63°.98N±0°.03×148°.99W±0°.08, h129km±3km, ML4.6, mb4.8/419(NEIC), ML4.7/216(NEIC), Mwr4.6/41(SLM), Error ellipse: s-maj=4.9km s-min=4.8km az=127.0*

*NEIC **19** 23:55:05, 63°.97N×148°.99W, h136km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.07; $M_{\theta\theta}$0.85; $M_{\phi\phi}$-0.92; $M_{r\theta}$0.31; $M_{r\phi}$0.19; $M_{\theta\phi}$0.29; Fault plane solution: M_o1.00000×10^{16} NP1:φ$_s$130.00000°, δ65.00000°, λ5.00000°. NP2:φ$_s$38.00000°, δ85.00000°, λ155.00000°. Principal axes: T 1.0005, Plg21.00000°, Azm351.0000°; N 0.0000, Plg65.0000°, Azm208.0000°; P -1.0005, Plg14.0000°, Azm87.0000°;*

ISC 19 23:55:04.9±0.5, **64°.02N**±0°.02×**149°.00W**±0°.02, **h129**km±4km, **n1231**, σ**9°97**/1370, **mb4.8**/268, **21C-23D, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BWN	**Browne**	**0.26**	**308**			**Pn**	**23 55 23.4**	**+0.7**
BWN				Sn		**Sn**	**23 55 36.5**	**+0.2**
BWN				IAML			23 55 37.2	
	comp=E,22μm,1.0s							
BWN				IAML			23 55 40.2	
	comp=N,15μm,1.0s							
MCK	**McKinley**	**0.28**	**174**			**Pn**	**23 55 23.5**	**+0.6**
MCK	**McKinley**	**0.28**	**174**			**Sn**	**23 55 36.7**	**+0.2**
MCK	**McKinley**	**0.28**	**174**	P		**Pn**	**23 55 23.4**	**+0.5**
	baz=354,SNR=1000							
MCK				S		**Sn**	**23 55 37.0**	**+0.5**
	baz=354							
NEA2	**Nenana**	**0.58**	**357**			**Pn**	**23 55 24.8**	**+0.5**
NEA2				Sn		**Sn**	**23 55 39.2**	**+0.2**
NEA2				IAML			23 55 39.7	
	comp=E,9μm,1.1s							
NEA2	**Nenana**	**0.58**	**357**	P		**Pn**	**23 55 24.8**	**+0.5**
	baz=177,SNR=492							
NEA2				S		**Sn**	**23 55 39.3**	**+0.2**
	baz=177							
WRH	**Wood River Hil**	**0.61**	**41**			**Pn**	**23 55 25.1**	**+0.6**
WRH				Sn		**Sn**	**23 55 39.8**	**+0.5**
RND	**Reindeer**	**0.61**	**174**			**Pn**	**23 55 24.9**	**+0.2**
RND				Sn		**Sn**	**23 55 38.9**	**-0.7**
RND				IAML			23 55 40.3	
	comp=N,15μm,0.8s							
RND				IAML			23 55 40.3	
	comp=E,12μm,0.7s							
TRF	**Thorofare Moun**	**0.81**	**226**			**Pn**	**23 55 26.7**	**+0.5**
TRF				Sn		**Sn**	**23 55 41.7**	**-0.6**
TRF				IAML			23 55 42.8	
	comp=E,9μm,0.7s							
TRF				IAML			23 55 48.8	
	comp=N,12μm,1.1s							
TRF	**Thorofare Moun**	**0.81**	**226**	P		**Pn**	**23 55 26.7**	**+0.5**
	baz=47,SNR=1000							
TRF				S		**Sn**	**23 55 41.7**	**-0.6**
	baz=47							
CCB	**Clear Creek Bu**	**0.82**	**39**			**Pn**	**23 55 26.6**	**+0.5**
CCB				Sn		**Sn**	**23 55 42.0**	**-0.2**
CCB				IAML			23 55 42.8	
	comp=N,7μm,0.8s							
BPAW	**Bear Paw Mtn.**	**0.88**	**276**			**Pn**	**23 55 27.1**	**+0.5**
BPAW				Sn		**Sn**	**23 55 42.7**	**-0.4**
BPAW				IAML			23 55 43.5	
	comp=E,9μm,0.7s							
BPAW				IAML			23 55 43.5	
	comp=N,9μm,0.6s							
BPAW	**Bear Paw Mtn.**	**0.88**	**276**	P		**Pn**	**23 55 27.1**	**+0.5**
	baz=97,SNR=1000							
BPAW				S		**Sn**	**23 55 42.7**	**-0.4**
	baz=97							
KTH	**Kantishna Hill**	**0.97**	**242**			**Pn**	**23 55 27.9**	**+0.4**
KTH						Sn	**23 55 44.5**	**-0.1**
KTH						IAML	23 55 45.2	
	comp=E,15μm,0.9s							
HDA	**Harding Lake**	**0.98**	**65**			**Pn**	**23 55 27.9**	**+0.5**
HDA						Sn	**23 55 44.9**	**+0.2**
HDA						IAML	23 55 46.5	
	comp=E,19μm,0.5s							
HDA	**Harding Lake**	**0.98**	**65**	P		**Pn**	**23 55 27.9**	**+0.5**
	baz=245,SNR=1000							
HDA				S		**Sn**	**23 55 45.2**	**+0.5**
	baz=245							
HDA				S		**Sn**	**23 55 45.2**	**+0.5**
	baz=245							
COLA	**College**	**1.00**	**30**			**Pn**	**23 55 28.1**	**+0.6**
COLA						Sn	**23 55 45.0**	**+0.2**
COLA						IAML	23 55 47.1	
	comp=E,8μm,0.6s							
COLA	**College**	**1.00**	**30**	P		**Pn**	**23 55 28.0**	**+0.4**
COLA	**College**	**1.00**	**30**	P		**Pn**	**23 55 28.2**	**+0.6**
	baz=209							
COLA				S		**Sn**	**23 55 45.4**	**+0.5**
	baz=209							
MDM	**Murphy Dome**	**1.00**	**19**			**Pn**	**23 55 28.3**	**+0.5**
MDM						Sn	**23 55 44.9**	**-0.3**
MDM						IAML	23 55 45.9	
	comp=N,5μm,0.9s							
I23K	**Minto, Yukon-K**	**1.15**	**352**			**Pn**	**23 55 29.7**	**+0.7**
I23K						Sn	**23 55 47.7**	**+0.2**
I23K						IAML	23 55 49.1	
	comp=E,5μm,1.1s							
I23K	**Minto, Yukon-K**	**1.15**	**352**	P		**Pn**	**23 55 29.8**	**+0.7**
	baz=172,SNR=1000							
I23K				S		**Sn**	**23 55 47.9**	**+0.3**
	baz=172							
WAT7	**Susitna Watana**	**1.19**	**177**			**Pn**	**23 55 29.4**	**-0.3**
DHY	**Denali Highway**	**1.19**	**142**			**Pn**	**23 55 30.1**	**+0.3**
DHY						Sn	**23 55 48.6**	**0.0**
DHY						IAML	23 55 49.8	
	comp=E,17μm,0.4s							
DHY	**Denali Highway**	**1.19**	**142**	P		**Pn**	**23 55 30.1**	**+0.3**
	baz=322,SNR=1000							
DHY				S		**Sn**	**23 55 48.6**	**0.0**
	baz=322							
IL31		**1.19**	**49**	Sn		**Sn**	**23 55 48.3**	**+0.1**
ILAR	**Eielson Array**	**1.19**	**49**	P		**Pn**	**23 55 29.6**	**+0.1**
	comp=E,864nm,0.4s,baz=232,slow=9.8							
ILAR				S		**Sn**	**23 55 48.1**	**-0.2**
	comp=E,898nm,0.7s,baz=239,slow=18,SNR=24							
WAT1	**Susitna Watana**	**1.21**	**170**	P		**Pn**	**23 55 29.6**	**-0.1**
	baz=350							
WAT1				S		**Sn**	**23 55 47.9**	**-0.8**
	baz=350							
MLY	**Manley**	**1.27**	**324**			**Pn**	**23 55 30.9**	**+0.5**
MLY				Sn		**Sn**	**23 55 49.7**	**-0.1**
MLY				IAML			23 55 50.2	
	comp=E,4μm,0.9s							
MLY	**Manley**	**1.27**	**324**	P		**Pn**	**23 55 30.9**	**+0.5**
	baz=144,SNR=1000							
MLY				S		**Sn**	**23 55 49.7**	**-0.1**
	baz=144							
POKR	**Poker Plat Res**	**1.30**	**31**			**Pn**	**23 55 31.1**	**+0.4**
POKR				Sn		**Sn**	**23 55 50.5**	**+0.1**
POKR	**Poker Plat Res**	**1.30**	**31**	P		**Pn**	**23 55 31.2**	**+0.6**
	baz=211,SNR=869							
POKR				S		**Sn**	**23 55 49.8**	**-0.5**
	baz=211							
K24K	**Donnelly Dome**	**1.44**	**97**			**Pn**	**23 55 32.6**	**+0.4**
K24K	**Donnelly Dome**	**1.44**	**97**	P		**Pn**	**23 55 32.8**	**+0.5**
	baz=278,SNR=844							
K24K				S		**Sn**	**23 55 53.3**	**+0.2**
	baz=278							
CHUM	**Lake Minchumin**	**1.47**	**266**			**Pn**	**23 55 33.0**	**+0.5**
CHUM						**Sn**	**23 55 53.6**	**0.0**
CHUM	**Lake Minchumin**	**1.47**	**266**	P		**Pn**	**23 55 33.0**	**+0.5**
	baz=85,SNR=1000							
CHUM				S		**Sn**	**23 55 53.5**	**-0.1**
	baz=85							
CAST	**Castle Rocks**	**1.50**	**248**	Pn		**Pn**	**23 55 32.9**	**+0.1**
CAST				Sn		**Sn**	**23 55 53.7**	**-0.5**
CAST				IAML			23 55 54.3	
	comp=E,6μm,0.6s							
CAST				IAML			23 55 54.4	
	comp=N,8μm,0.9s							
CAST	**Castle Rocks**	**1.50**	**248**	P		**Pn**	**23 55 33.0**	**+0.1**
	baz=66,SNR=1000							
CAST				S		**Sn**	**23 55 53.8**	**-0.4**
	baz=66							
WAT6	**Susitna Watana**	**1.55**	**158**			**Pn**	**23 55 33.6**	**0.0**
WAT6	**Susitna Watana**	**1.55**	**158**	P		**Pn**	**23 55 33.7**	**+0.1**
	baz=339,SNR=1000							
WAT6				S		**Sn**	**23 55 54.9**	**-0.5**
	baz=339							
J25K	**Salcha River,**	**1.69**	**68**	P		**Pn**	**23 55 35.5**	**+0.3**
	baz=250,SNR=1000							
J25K				S		**Sn**	**23 55 57.8**	**-0.4**
	baz=250							
CUT	**Chulitna**	**1.72**	**200**			**Pn**	**23 55 35.4**	**+0.1**
CUT				Sn		**Sn**	**23 55 58.4**	**-0.2**
CUT	**Chulitna**	**1.72**	**200**	P		**Pn**	**23 55 35.4**	**+0.1**
	baz=20,SNR=1000							
CUT				S		**Sn**	**23 55 58.1**	**-0.5**
	baz=20							
I21K	**Tanana**	**1.74**	**314**			**Pn**	**23 55 36.1**	**+0.6**
I21K				IAML			23 56 00.4	
	comp=N,4μm,0.8s							
I21K				IAML			23 56 00.4	
	comp=E,6μm,1.6s							
I21K	**Tanana**	**1.74**	**314**			**Sn**	**23 55 59.4**	**+0.3**
I21K	**Tanana**	**1.74**	**314**	P		**Pn**	**23 55 36.2**	**+0.7**
	baz=132							
I21K				S		**Sn**	**23 55 59.2**	**+0.1**
	baz=132							
PPLA	**Purkeypile**	**1.82**	**233**	P		**Pn**	**23 55 37.1**	**+0.4**
	baz=52,SNR=852							
PPLA				S		**Sn**	**23 56 00.4**	**-0.7**
	baz=52							
RIDG	**Independent Ri**	**1.86**	**97**			**Pn**	**23 55 37.3**	**+0.3**
RIDG				Sn		**Sn**	**23 56 01.3**	**-0.5**
RIDG				IAML			23 56 04.7	
	comp=N,9μm,0.8s							
RIDG	**Independent Ri**	**1.86**	**97**	P		**Pn**	**23 55 37.4**	**+0.3**
	baz=279,SNR=1000							
RIDG				S		**Sn**	**23 56 01.3**	**-0.5**
	baz=279							
H24K	**Noodor Dome**	**1.89**	**14**			**Pn**	**23 55 37.9**	**+0.4**
H24K	**Noodor Dome**	**1.89**	**14**	P		**Pn**	**23 55 38.1**	**+0.7**
	baz=195							
H24K				S		**Sn**	**23 56 01.6**	**-0.8**
	baz=195							
PAX	**Paxson**	**1.90**	**122**	P		**Pn**	**23 55 37.8**	**+0.2**
	baz=304,SNR=1000							
PRP	**Porcupine Dome**	**2.12**	**43**	Pn		**Pn**	**23 55 40.6**	**+0.3**
PRP				Sn		**Sn**	**23 56 06.5**	**-1.0**
PRP				IAML			23 56 08.4	
	comp=N,6μm,0.6s							
PRP				IAML			23 56 10.1	
	comp=E,3μm,0.7s							
PRP	**Porcupine Dome**	**2.12**	**43**	P		**Pn**	**23 55 40.7**	**+0.3**
	baz=225,SNR=1000							
PRP				S		**Sn**	**23 56 06.7**	**-0.8**
	baz=225							
H22K	**Ishtalitna Cre**	**2.14**	**333**			**Pn**	**23 55 41.1**	**+0.7**
H22K	**Ishtalitna Cre**	**2.14**	**333**	P		**Pn**	**23 55 41.1**	**+0.7**
	baz=151							
H22K				S		**Sn**	**23 56 07.5**	**-0.3**
	baz=151							
SCRK	**Sand Creek**	**2.21**	**89**	Pn		**Pn**	**23 55 41.5**	**+0.1**
SCRK				Sn		**Sn**	**23 56 08.7**	**-0.8**
SCRK				IAML			23 56 09.9	
	comp=E,5μm,1.1s							
SCRK				IAML			23 56 12.4	
	comp=N,4μm,0.6s							
SCRK	**Sand Creek**	**2.21**	**89**	P		**Pn**	**23 55 41.5**	**+0.1**
	baz=272,SNR=1000							
SCRK				S		**Sn**	**23 56 08.4**	**-1.1**
	baz=272							
SML	**Sawmill**	**2.24**	**172**	Pn		**Pn**	**23 55 41.6**	**-0.2**
SML				Sn		**Sn**	**23 56 10.8**	**+0.8**
SML	**Sawmill**	**2.24**	**172**	P		**Pn**	**23 55 41.6**	**-0.2**
	baz=352,SNR=1000							
GHO	**Glory Hole Cre**	**2.25**	**179**			**Pn**	**23 55 41.8**	**-0.1**
GHO				Sn		**Sn**	**23 56 11.8**	**+1.4**
J20K	**Nowinta River**	**2.27**	**276**			**Pn**	**23 55 42.4**	**+0.4**
J20K				IAML			23 56 11.9	
	comp=E,2μm,0.8s							
J20K	**Nowinta River**	**2.27**	**276**	P		**Pn**	**23 55 42.4**	**+0.4**
	baz=93							
J20K				S		**Sn**	**23 56 10.8**	**+0.3**
	baz=93							
M23K	**Glacier View**	**2.31**	**165**	P		**Pn**	**23 55 42.1**	**-0.4**
	baz=346,SNR=1000							
M24K	**Tolsona, Glenn**	**2.31**	**145**	Pn		**Pn**	**23 55 42.5**	**-0.1**
M24K				Sn		**Sn**	**23 56 12.8**	**+1.2**
M24K				IAML			23 56 13.7	
	comp=N,7μm,0.8s							
M24K	**Tolsona, Glenn**	**2.31**	**145**	P		**Pn**	**23 55 42.7**	**+0.1**
	baz=327,SNR=711							
M24K				S		**Sn**	**23 56 12.7**	**+1.1**
	baz=327							
H21K	**Melozitna Rive**	**2.32**	**317**			**Pn**	**23 55 43.0**	**+0.4**
H21K	**Melozitna Rive**	**2.32**	**317**	P		**Pn**	**23 55 43.1**	**+0.4**
	baz=134							
H21K				S		**Sn**	**23 56 11.0**	**-0.6**
	baz=134							
SCM	**Sheep Creek Mo**	**2.32**	**160**			**Pn**	**23 55 42.5**	**-0.3**
SCM				Sn		**Sn**	**23 56 12.1**	**+0.2**
SCM	**Sheep Creek Mo**	**2.32**	**160**	P		**Pn**	**23 55 42.5**	**-0.3**
	baz=341,SNR=1000							
SCM				S		**Sn**	**23 56 12.1**	**+0.2**
	baz=341							
SKT	**Skwentna**	**2.35**	**211**	Pn		**Pn**	**23 55 42.5**	**-0.5**
SKT				Sn		**Sn**	**23 56 11.8**	**-0.5**
SKT				IAML			23 56 17.0	
	comp=N,6μm,0.5s							
SKT				IAML			23 56 18.0	
	comp=E,7μm,0.5s							
SKT	**Skwentna**	**2.35**	**211**	P		**Pn**	**23 55 42.7**	**-0.3**
	baz=29,SNR=321							
K20K	**Telida**	**2.35**	**256**			**Pn**	**23 55 43.2**	**+0.1**
K20K	**Telida**	**2.35**	**256**	P		**Pn**	**23 55 43.3**	**+0.2**
	baz=72							
K20K				S		**Sn**	**23 56 11.9**	**-0.6**
	baz=72							
HARP	**HAARP**	**2.38**	**131**	P		**Pn**	**23 55 43.5**	**0.0**
	baz=314,SNR=609							
J26L	**Joseph Creek**	**2.42**	**76**			**Pn**	**23 55 44.4**	**+0.3**
J26L				IAML			23 56 15.6	
	comp=N,3μm,1.2s							
J26L				IAML			23 56 16.5	
	comp=E,5μm,0.9s							
J26L	**Joseph Creek**	**2.42**	**76**	P		**Pn**	**23 55 44.4**	**+0.3**
	baz=260							
J26L				S		**Sn**	**23 56 14.0**	**-0.2**
	baz=260							
PMR	**Palmer**	**2.43**	**181**	Pn		**Pn**	**23 55 43.9**	**-0.3**
PMR				Sn		**Sn**	**23 56 15.6**	**+1.4**
PMR				IAML			23 56 20.8	
	comp=N,6μm,0.5s							
PMR	**Palmer**	**2.43**	**181**	P		**Pn**	**23 55 43.8**	**-0.3**
	baz=1.5,SNR=1000							
I20K	**Naaghedeneel**	**2.50**	**291**	P		**Pn**	**23 55 45.7**	**+0.7**
	baz=107							
MENT	**Mentasta**	**2.60**	**112**			**Pn**	**23 55 46.1**	**-0.3**
MENT	**Mentasta**	**2.60**	**112**	P		**Pn**	**23 55 46.6**	**+0.3**
KNK	**Knik Glacier**	**2.62**	**174**			**Pn**	**23 55 46.5**	**-0.1**
KNK	**Knik Glacier**	**2.62**	**174**	P		**Pn**	**23 55 46.4**	**-0.2**
	baz=355,SNR=1000							
SUA	**Susitna One**	**2.68**	**198**	Pn		**Pn**	**23 55 47.9**	**+0.4**
SUA	**Susitna One**	**2.68**	**198**	P		**Pn**	**23 55 47.5**	**0.0**
	baz=17,SNR=1000							
L20K	**Farewell, AK**	**2.69**	**237**			**Pn**	**23 55 47.5**	**+0.1**
L20K	**Farewell, AK**	**2.69**	**237**	P		**Pn**	**23 55 47.6**	**+0.2**
	baz=54,SNR=1000							
L20K				S		**Sn**	**23 56 20.1**	**-0.2**
	baz=54							
L26K	**Log Cabin Wild**	**2.72**	**109**			**Pn**	**23 55 47.5**	**-0.3**
L26K				IAML			23 56 22.9	
	comp=E,4μm,0.8s							
L26K				IAML			23 56 28.7	
	comp=N,4μm,0.5s							
L26K	**Log Cabin Wild**	**2.72**	**109**	P		**Pn**	**23 55 47.5**	**-0.3**
	baz=293,SNR=936							
G23K	**Bananza Creek**	**2.74**	**351**	P		**Pn**	**23 55 48.6**	**+0.6**
	baz=171							
G23K				S		**Sn**	**23 56 21.0**	**-0.3**
	baz=171							
G24K	**Hadweenzic Riv**	**2.77**	**13**			**Pn**	**23 55 48.9**	**+0.5**
G24K	**Hadweenzic Riv**	**2.77**	**13**	IAML			23 56 24.1	
	comp=N,2μm,1.9s							
G24K				IAML			23 56 24.2	
	comp=E,1μm,1.4s							
G24K	**Hadweenzic Riv**	**2.77**	**13**	P		**Pn**	**23 55 48.9**	**+0.5**
	baz=194							
G24K				S		**Sn**	**23 56 21.5**	**-0.5**
	baz=194							
IMAR	**Indian Mountai**	**2.82**	**317**	Pn		**Pn**	**23 55 49.3**	**+0.2**
I26K	**Coal Creek Min**	**2.83**	**60**			**Pn**	**23 55 49.3**	**+0.1**
I26K				IAML			23 56 25.4	
	comp=N,4μm,1.0s							
I26K				IAML			23 56 27.4	
	comp=E,3μm,0.8s							
I26K	**Coal Creek Min**	**2.83**	**60**	P		**Pn**	**23 55 49.5**	**+0.3**
	baz=245							
I26K				S		**Sn**	**23 56 22.9**	**-0.4**
	baz=245							
M20K	**Styx River**	**2.85**	**223**			**Pn**	**23 55 49.2**	**-0.4**
M20K				IAML			23 56 29.4	
	comp=E,3μm,0.6s							
M20K				IAML			23 56 29.7	
	comp=N,2μm,0.9s							
M20K	**Styx River**	**2.85**	**223**	P		**Pn**	**23 55 49.2**	**-0.4**
	baz=40							
KLU	**Klutina**	**2.90**	**149**			**Pn**	**23 55 49.4**	**-0.8**
KLU				IAML			23 56 35.2	
	comp=E,3μm,0.5s							
KLU				IAML			23 56 37.9	
	comp=N,3μm,0.6s							
KLU	**Klutina**	**2.90**	**149**	P		**Pn**	**23 55 49.6**	**-0.6**
	baz=332,SNR=501							
J19K	**Poorman**	**2.92**	**273**			**Pn**	**23 55 50.6**	**+0.3**
J19K				IAML			23 56 26.2	
	comp=N,1μm,1.0s							
J19K	**Poorman**	**2.92**	**273**	P		**Pn**	**23 55 50.7**	**+0.4**
	baz=87,SNR=1000							
J19K				S		**Sn**	**23 56 25.0**	**-0.3**
	baz=87							
H20K	**Anotleneega Mo**	**2.92**	**303**			**Pn**	**23 55 50.5**	**+0.1**
H20K	**Anotleneega Mo**	**2.92**	**303**	P		**Pn**	**23 55 50.7**	**+0.3**
	baz=118,SNR=436							
H20K				S		**Sn**	**23 56 25.2**	**-0.4**
	baz=118							
FIS	**Fire Island**	**2.94**	**192**			**Pn**	**23 55 50.7**	**+0.2**
WAZA	**Wrangell Mount**	**2.94**	**129**			**Pn**	**23 55 50.7**	**-0.2**
WACK	**Wrangell Chich**	**2.95**	**132**			**Pn**	**23 55 50.6**	**-0.3**
RC01	**Rabbit Creek A**	**2.96**	**187**	Pn		**Pn**	**23 55 50.4**	**-0.4**
RC01	**Rabbit Creek A**	**2.96**	**187**	P		**Pn**	**23 55 50.5**	**-0.4**
	baz=6.5,SNR=1000							
FYU	**Fort Yukon**	**3.01**	**30**	Pn		**Pn**	**23 55 51.7**	**+0.3**
FYU				Sn		**

N25K	**Chitina, Valde**	**3.15**	**138**	P		**Pn**	**23 55 53.1**	**-0.4**
	baz=322,SNR=369								
SPCN	**Chakachatna No**	**3.16**	**209**			**Pn**	**23 55 53.8**	**+0.2**
M26K	**Nabesna, AK**	**3.17**	**118**			**Pn**	**23 55 53.1**	**-0.4**
M26K				IAML			23 56 37.5		
	comp=E,2µm,0.5s								
M26K				IAML			23 56 55.9		
	comp=N,2µm,0.6s								
M26K	**Nabesna, AK**	**3.17**	**118**	P		**Pn**	**23 55 53.4**	**-0.2**
	baz=303								
N20K	**Mount Spurr**	**3.19**	**209**	P		**Pn**	**23 55 53.7**	**-0.2**
	baz=27,SNR=183								
L19K	**White Mountain**	**3.23**	**238**	P		**Pn**	**23 55 54.4**	**-0.1**
	baz=53,SNR=668								
L19K				S		**Sn**	**23 56 31.5**	**-1.3**
	baz=53								
DIV	**Divide**	**3.26**	**151**			**Pn**	**23 55 53.4**	**-1.4**
COLD	**Coldfoot**	**3.27**	**352**	P		**Pn**	**23 55 55.4**	**+0.6**
	baz=171,SNR=717								
TTA	**Tatalina**	**3.33**	**254**	Pn		**Pn**	**23 55 55.5**	**-0.2**
TTA				IAML			23 56 34.6		
	comp=N,850nm,0.6s								
TTA	**Tatalina**	**3.33**	**254**	P		**Pn**	**23 55 55.6**	**-0.2**
TTA	**Tatalina**	**3.33**	**254**	P		**Pn**	**23 55 55.7**	**0.0**
	baz=68,SNR=1000								
TTA				S		**Sn**	**23 56 34.0**	**-1.1**
	baz=68								
L27K	**Beaver Creek,**	**3.35**	**103**	Pn		**Pn**	**23 55 55.1**	**-0.9**
L27K				IAML			23 56 37.0		
	comp=N,873nm,0.7s								
L27K	**Beaver Creek,**	**3.35**	**103**	P		**Pn**	**23 55 55.3**	**-0.7**
	baz=289,SNR=1000								
L27K				S		**Sn**	**23 56 32.8**	**-2.7**
	baz=289								
BCAR	**Beaver Creek A**	**3.37**	**103**	Pn		**Pn**	**23 55 55.4**	**-0.8**
CAPN	**Captain Cook N**	**3.41**	**198**			**Pn**	**23 55 58.4**	**+1.7**
CAPN	**Captain Cook N**	**3.41**	**198**	P		**Pn**	**23 55 58.4**	**+1.7**
	baz=16,SNR=61								
J18K	**Innoko River**	**3.47**	**264**	Pn		**Pn**	**23 55 57.8**	**+0.2**
J18K	**Innoko River**	**3.47**	**264**	P		**Pn**	**23 55 57.8**	**+0.2**
	baz=78,SNR=1000								
J18K				S		**Sn**	**23 56 37.7**	**-0.7**
	baz=78								
FID	**Port Fidalgo**	**3.48**	**159**			**Pn**	**23 55 57.1**	**-0.6**
EGAK	**Eagle**	**3.49**	**74**	Pn		**Pn**	**23 55 57.2**	**-0.5**
EGAK	**Eagle**	**3.49**	**74**	P		**Pn**	**23 55 57.4**	**-0.4**
	baz=260,SNR=1000								
EGAK				S		**Sn**	**23 56 38.5**	**-0.2**
	baz=260								
GCSA	**Galena City Sc**	**3.50**	**286**			**Pn**	**23 55 58.4**	**+0.6**
GCSA	**Galena City Sc**	**3.50**	**286**	P		**Pn**	**23 55 58.6**	**+0.7**
	baz=99								
GCSA				S		**Sn**	**23 56 39.0**	**+0.2**
	baz=99								
GLB	**Gilahina Butte**	**3.52**	**135**	Pn		**Pn**	**23 55 57.7**	**-0.5**
GLB				IAML			23 56 40.6		
	comp=N,1µm,0.9s								
GLB				IAML			23 56 56.9		
	comp=E,918nm,1.4s								
H19K	**Roundabout Mou**	**3.53**	**299**			**Pn**	**23 55 58.5**	**+0.2**
H19K	**Roundabout Mou**	**3.53**	**299**	P		**Pn**	**23 55 58.5**	**+0.2**
	baz=113,SNR=622								
H19K				S		**Sn**	**23 56 38.9**	**-0.7**
	baz=113								
I27K	**Kandik River**	**3.54**	**60**			**Pn**	**23 55 58.4**	**0.0**
I27K	**Kandik River**	**3.54**	**60**	P		**Pn**	**23 55 58.4**	**0.0**
	baz=246,SNR=1000								
I27K				S		**Sn**	**23 56 38.9**	**-1.0**
	baz=246								
F24K	**Squaw Lake**	**3.55**	**7**			**Pn**	**23 55 59.2**	**+0.7**
F24K	**Squaw Lake**	**3.55**	**7**	P		**Pn**	**23 55 59.2**	**+0.7**
	baz=188								
F24K				S		**Sn**	**23 56 40.2**	**+0.1**
	baz=188								
O22K	**Cooper Landing**	**3.56**	**186**			**Pn**	**23 55 58.4**	**-0.3**
O22K	**Cooper Landing**	**3.56**	**186**	P		**Pn**	**23 55 58.5**	**-0.2**
	baz=5.2,SNR=53								
M27K	**Edge Creek, AK**	**3.63**	**114**			**Pn**	**23 55 59.6**	**-0.2**
M27K				IAML			23 57 02.5		
	comp=N,1µm,1.1s								
M27K				IAML			23 57 07.8		
	comp=E,907nm,0.8s								
M27K	**Edge Creek, AK**	**3.63**	**114**	P		**Pn**	**23 55 59.8**	**0.0**
	baz=300,SNR=499								
G26K	**Porcupine Rive**	**3.66**	**34**			**Pn**	**23 56 00.0**	**+0.1**
G26K	**Porcupine Rive**	**3.66**	**34**	P		**Pn**	**23 56 00.0**	**+0.1**
	baz=218								
G26K				S		**Sn**	**23 56 41.3**	**-1.3**
	baz=218								
BMRM	**Bremner River**	**3.68**	**144**			**Pn**	**23 55 59.1**	**-1.2**
BMRM	**Bremner River**	**3.68**	**144**	P		**Pn**	**23 55 59.1**	**-1.2**
	baz=328,SNR=210								
BMRM				S		**Sn**	**23 56 40.8**	**-2.4**
	baz=328								
F21K	**Alatna River**	**3.72**	**332**			**Pn**	**23 56 01.1**	**+0.4**
F21K	**Alatna River**	**3.72**	**332**	P		**Pn**	**23 56 01.2**	**+0.5**
	baz=148								
F21K				S		**Sn**	**23 56 44.7**	**+0.6**
	baz=148								
F22K	**John River**	**3.74**	**341**			**Pn**	**23 56 01.5**	**+0.4**
F22K	**John River**	**3.74**	**341**	P		**Pn**	**23 56 01.8**	**+0.7**
	baz=158								
VRDI	**Verde Repeater**	**3.79**	**135**	Pn		**Pn**	**23 56 01.3**	**-0.7**
VRDI				IAML			23 56 47.7		
	comp=N,1µm,1.1s								
VRDI				IAML			23 57 08.3		
	comp=E,811nm,0.8s								
EYAK	**Cordova Ski Ar**	**3.80**	**155**			**Pn**	**23 56 00.9**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.80**	**155**	P		**Pn**	**23 56 01.2**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.80**	**155**	P		**Pn**	**23 56 01.1**	**-0.6**
	baz=338,SNR=108								
HIN	**Hinchinbrook I**	**3.81**	**161**			**Pn**	**23 56 01.3**	**-0.8**
F25K	**Christian Rive**	**3.85**	**20**			**Pn**	**23 56 02.8**	**+0.3**
F25K	**Christian Rive**	**3.85**	**20**	P		**Pn**	**23 56 03.0**	**+0.4**
	baz=202,SNR=1000								
F25K				S		**Sn**	**23 56 46.2**	**-1.1**
	baz=202								
H27K	**Steamboat Moun**	**3.86**	**52**			**Pn**	**23 56 02.5**	**-0.1**
H27K	**Steamboat Moun**	**3.86**	**52**	P		**Pn**	**23 56 02.7**	**0.0**
	baz=238								
H27K				S		**Sn**	**23 56 45.9**	**-1.7**
	baz=238								
RDJH	**Redoubt Jeurge**	**3.87**	**209**			**Pn**	**23 56 03.1**	**+0.2**
BMAR	**Burnt Mountain**	**3.88**	**26**	Pn		**Pn**	**23 56 03.1**	**+0.1**
L18K	**Granite Mounta**	**3.93**	**246**	Pn		**Pn**	**23 56 03.6**	**+0.1**
L18K				IAML			23 56 49.7		
	comp=E,914nm,1.4s								
L18K	**Granite Mounta**	**3.93**	**246**	P		**Pn**	**23 56 03.7**	**+0.1**
	baz=60								
L18K				S		**Sn**	**23 56 48.0**	**-1.0**
	baz=60								
SEW	**Seward**	**3.93**	**183**	P		**Pn**	**23 56 02.9**	**-0.7**
	baz=3.0,SNR=94								
RSO	**Redoubt South**	**3.97**	**208**			**Pn**	**23 56 04.1**	**-0.2**
RDSO	**Redoubt South**	**3.98**	**208**			**Pn**	**23 56 03.9**	**-0.5**
BVCY	**Beaver Creek**	**4.02**	**110**	P		**Pn**	**23 56 04.4**	**-0.4**
	baz=297,SNR=1000								
BVCY				S		**Sn**	**23 56 50.8**	**-0.5**
	baz=297								
M18K	**Stony River**	**4.03**	**234**			**Pn**	**23 56 04.4**	**-0.5**
M18K	**Stony River**	**4.03**	**234**	P		**Pn**	**23 56 04.6**	**-0.3**
	baz=48								
M18K				S		**Sn**	**23 56 51.0**	**-0.5**
	baz=48								
G19K	**Purcell Mounta**	**4.03**	**306**			**Pn**	**23 56 04.9**	**0.0**
G19K	**Purcell Mounta**	**4.03**	**306**	P		**Pn**	**23 56 04.9**	**0.0**
	baz=119								
G19K				S		**Sn**	**23 56 50.7**	**-0.9**
	baz=119								
E23K	**Chandalar**	**4.07**	**357**			**Pn**	**23 56 06.2**	**+0.8**
E23K	**Chandalar**	**4.07**	**357**	P		**Pn**	**23 56 06.3**	**+0.8**
	baz=176								
E24K	**Your Creek**	**4.08**	**3**			**Pn**	**23 56 06.3**	**+0.7**
E24K	**Your Creek**	**4.08**	**3**	P		**Pn**	**23 56 06.5**	**+0.9**
	baz=183								
E24K				S		**Sn**	**23 56 52.6**	**-0.2**
	baz=183								
N19K	**Bonanza Creek**	**4.10**	**221**			**Pn**	**23 56 05.6**	**-0.4**
N19K				IAML			23 56 46.5		
	comp=N,727nm,1.1s								
N19K				IAML			23 57 15.5		
	comp=E,743nm,0.9s								
N19K	**Bonanza Creek**	**4.10**	**221**	P		**Pn**	**23 56 05.7**	**-0.2**
	baz=36								
P23K	**Montague Islan**	**4.10**	**169**	P		**Pn**	**23 56 05.0**	**-0.9**
	baz=350,SNR=41								
F20K	**Avaraart Lake**	**4.13**	**320**			**Pn**	**23 56 07.0**	**+0.8**
F20K				IAML			23 56 55.6		
	comp=N,487nm,2.0s								
F20K	**Avaraart Lake**	**4.13**	**320**	P		**Pn**	**23 56 07.0**	**+0.8**
	baz=135								
F20K				S		**Sn**	**23 56 53.9**	**0.0**
	baz=135								
PTPK	**Patty Peak**	**4.14**	**130**			**Pn**	**23 56 06.9**	**+0.3**
I28M	**Miner Creek**	**4.14**	**66**	Pn		**Pn**	**23 56 06.3**	**-0.2**
I28M				IAML			23 56 55.5		
	comp=E,2µm,0.9s								
I28M				IAML			23 56 57.5		
	comp=N,1µm,0.9s								
I28M	**Miner Creek**	**4.14**	**66**	P		**Pn**	**23 56 06.5**	**0.0**
	baz=253,SNR=822								
I28M				S		**Sn**	**23 56 54.1**	**-0.2**
	baz=253								
G27K	**Doyon Strip**	**4.16**	**44**			**Pn**	**23 56 06.5**	**0.0**
G27K				IAML			23 56 55.2		
	comp=E,476nm,1.1s								
G27K	**Doyon Strip**	**4.16**	**44**	P		**Pn**	**23 56 06.6**	**0.0**
	baz=231								
G27K				S		**Sn**	**23 56 52.7**	**-1.8**
	baz=231								
RAGM	**Ragged Mountai**	**4.17**	**149**			**Pn**	**23 56 05.7**	**-1.1**
H18K	**Honhosa River**	**4.19**	**290**			**Pn**	**23 56 07.3**	**+0.3**
H18K	**Honhosa River**	**4.19**	**290**	P		**Pn**	**23 56 07.4**	**+0.3**
	baz=102								
H18K				S		**Sn**	**23 56 54.3**	**-1.1**
	baz=102								
F26K	**Sheenjek River**	**4.20**	**26**			**Pn**	**23 56 07.2**	**+0.2**
F26K	**Sheenjek River**	**4.20**	**26**	P		**Pn**	**23 56 07.3**	**+0.2**
	baz=210,SNR=573								
F26K				S		**Sn**	**23 56 53.9**	**-1.6**
	baz=210								
SVW2	**Sparrevohn**	**4.22**	**229**			**Pn**	**23 56 06.6**	**-0.9**
SVW2				IAML			23 57 26.4		
	comp=N,631nm,0.9s								
SVW2				IAML			23 57 29.6		
	comp=E,535nm,0.9s								
SVW2	**Sparrevohn**	**4.22**	**229**	P		**Pn**	**23 56 07.0**	**-0.5**
DAWY	**Dawson**	**4.23**	**85**	Pn		**Pn**	**23 56 07.0**	**-0.5**
DAWY	**Dawson**	**4.23**	**85**	P		**Pn**	**23 56 07.2**	**-0.3**
	baz=273,SNR=1000								
O20K	**Slope Mountain**	**4.30**	**205**			**Pn**	**23 56 08.6**	**0.0**
O20K	**Slope Mountain**	**4.30**	**205**	P		**Pn**	**23 56 08.3**	**-0.2**
	baz=22,SNR=35								
E25K	**Arctic Village**	**4.35**	**17**	Pn		**Pn**	**23 56 09.7**	**+0.5**
E25K				IAML			23 56 59.2		
	comp=N,382nm,1.3s								
E25K	**Arctic Village**	**4.35**	**17**	P		**Pn**	**23 56 09.6**	**+0.5**
	baz=200,SNR=1000								
E25K				S		**Sn**	**23 56 57.9**	**-1.3**
	baz=200								
BRLK	**Bradley Lake**	**4.36**	**193**			**Pn**	**23 56 08.7**	**-0.6**
BRSE	**Bradley Lake S**	**4.37**	**192**	P		**Pn**	**23 56 08.8**	**-0.7**
	baz=10,SNR=76								
K17K	**Iditarod**	**4.38**	**257**			**Pn**	**23 56 09.7**	**0.0**
K17K				IAML			23 57 32.5		
	comp=E,525nm,1.0s								
K17K				IAML			23 57 36.7		
	comp=N,385nm,1.0s								
K17K	**Iditarod**	**4.38**	**257**	P		**Pn**	**23 56 09.9**	**+0.2**
	baz=69								
BERG	**Berg Lake**	**4.40**	**143**			**Pn**	**23 56 09.2**	**-0.7**
YUK3	**Moose Creek**	**4.51**	**116**	P		**Pn**	**23 56 10.7**	**-0.7**
	baz=303,SNR=75								
YUK3				S		**Sn**	**23 57 02.6**	**-0.5**
	baz=303								
BARN	**Barnard Glacie**	**4.51**	**128**			**Pn**	**23 56 11.6**	**+0.1**
BARN				IAML			23 57 32.0		
	comp=E,502nm,1.0s								
BARN				IAML			23 57 32.3		
	comp=N,513nm,1.9s								
G18K	**Tagagawik**	**4.52**	**299**			**Pn**	**23 56 11.6**	**+0.3**
G18K	**Tagagawik**	**4.52**	**299**	P		**Pn**	**23 56 11.9**	**+0.6**
	baz=111								
G18K				S		**Sn**	**23 57 02.1**	**-0.9**
	baz=111								
HOM	**Homer**	**4.55**	**197**			**Pn**	**23 56 11.5**	**-0.3**
HOM	**Homer**	**4.55**	**197**	P		**Pn**	**23 56 11.5**	**-0.3**
	baz=15,SNR=32								
O19K	**Port Alsworth**	**4.58**	**215**			**Pn**	**23 56 11.6**	**-0.6**
O19K	**Port Alsworth**	**4.58**	**215**	P		**Pn**	**23 56 11.8**	**-0.3**
	baz=31,SNR=56								
F19K	**Shaleruckik Mo**	**4.63**	**312**			**Pn**	**23 56 13.0**	**+0.2**
F19K	**Shaleruckik Mo**	**4.63**	**312**	P		**Pn**	**23 56 13.1**	**+0.4**
	baz=124								
F19K				S		**Sn**	**23 57 04.2**	**-1.4**
	baz=124								
CNPM	**China Poot**	**4.63**	**194**	Pn		**Pn**	**23 56 12.1**	**-0.8**
L17K	**Dolin**	**4.63**	**250**	P		**Pn**	**23 56 12.8**	**-0.1**
	baz=62,SNR=185								
L17K				S		**Sn**	**23 57 04.3**	**-1.5**
	baz=62								
N18K	**Kilae Creek**	**4.64**	**227**			**Pn**	**23 56 12.2**	**-0.8**
N18K				IAML			23 57 31.1		
	comp=N,422nm,0.8s								
N18K				IAML			23 57 37.1		
	comp=E,429nm,0.8s								
N18K	**Kilae Creek**	**4.64**	**227**	P		**Pn**	**23 56 12.2**	**-0.8**
	baz=41,SNR=71								
KAIM	**Kayak Island**	**4.64**	**150**	Pn		**Pn**	**23 56 11.8**	**-1.2**
KAIM				IAML			23 57 41.2		
	comp=E,965nm,1.0s								
KAIM				IAML			23 57 43.4		
	comp=N,894nm,1.2s								
KAIM	**Kayak Island**	**4.64**	**150**	P		**Pn**	**23 56 11.8**	**-1.2**
	baz=334,SNR=11								
KAIM				S		**Sn**	**23 57 04.4**	**-1.5**
	baz=334								
M17K	**Holitna River**	**4.69**	**240**			**Pn**	**23 56 13.0**	**-0.7**
M17K				IAML			23 57 42.7		
	comp=E,839nm,0.9s								
M17K				IAML			23 57 54.1		
	comp=N,703nm,0.9s								
M17K	**Holitna River**	**4.69**	**240**	P		**Pn**	**23 56 12.9**	**-0.7**
	baz=53								
CTG	**Chitna Glacier**	**4.69**	**127**	P		**Pn**	**23 56 13.9**	**+0.1**
	baz=314								
CTGM	**Chitina Glacie**	**4.69**	**127**			**Pn**	**23 56 14.3**	**+0.5**
CTGM				IAML			23 57 42.8		
	comp=N,366nm,1.1s								
J29N	**Klondike Camp**	**4.73**	**80**	Pn		**Pn**	**23 56 14.1**	**-0.1**
J29N				IAML			23 57 11.0		
	comp=E,4µm,0.7s								
J29N				IAML			23 57 12.3		
	comp=N,4µm,0.6s								
J29N	**Klondike Camp**	**4.73**	**80**	P		**Pn**	**23 56 14.2**	**0.0**
	baz=269,SNR=708								
J29N				S		**Sn**	**23 57 08.1**	**-0.1**
	baz=269								
Q23K	**Middleton Isla**	**4.77**	**163**	Pn		**Pn**	**23 56 13.6**	**-1.1**
Q23K	**Middleton Isla**	**4.77**	**163**	P		**Pn**	**23 56 14.2**	**-0.5**
	baz=346,SNR=6.6								
MID	**Middleton Isla**	**4.77**	**163**	Pn		**Pn**	**23 56 14.4**	**-0.4**
MID	**Middleton Isla**	**4.77**	**163**	P		**Pn**	**23 56 14.2**	**-0.6**
I29M	**Ogilvie Camp,**	**4.79**	**69**	Pn		**Pn**	**23 56 14.6**	**-0.4**
I29M				IAML			23 57 09.3		
	comp=E,930nm,1.1s								
I29M				IAML			23 57 14.1		
	comp=N,515nm,0.8s								
I29M	**Ogilvie Camp,**	**4.79**	**69**	P		**Pn**	**23 56 14.4**	**-0.5**
	baz=258,SNR=208								
I29M				S		**Sn**	**23 57 08.6**	**-0.9**
	baz=258								
H17K	**Granite Mounta**	**4.81**	**286**			**Pn**	**23 56 15.5**	**+0.2**
H17K				IAML			23 57 12.0		
	comp=E,370nm,1.4s								
H17K	**Granite Mounta**	**4.81**	**286**	P		**Pn**	**23 56 15.8**	**+0.6**
	baz=97,SNR=295								
H17K				S		**Sn**	**23 57 09.7**	**-0.4**
	baz=97								
P19K	**Oil Pt**	**4.81**	**207**	Pn		**Pn**	**23 56 14.9**	**-0.4**
P19K	**Oil Pt**	**4.81**	**207**	P		**Pn**	**23 56 14.8**	**-0.6**
	baz=23,SNR=17								
SNH	**Sunshine Point**	**4.81**	**140**			**Pn**	**23 56 14.6**	**-0.8**
SNH				IAML			23 57 10.8		
	comp=E,937nm,0.9s								
SNH				IAML			23 57 11.0		
	comp=N,543nm,0.8s								
E19K	**Redstone River**	**4.84**	**319**			**Pn**	**23 56 16.9**	**+1.3**
E19K				IAML			23 57 12.1		
	comp=N,248nm,1.4s								
E19K				IAML			23 57 12.2		
	comp=E,360nm,1.4s								
E19K	**Redstone River**	**4.84**	**319**	P		**Pn**	**23 56 16.7**	**+1.0**
	baz=132								
E19K				S		**Sn**	**23 57 10.6**	**-0.2**
	baz=132								
E21K	**Killik River**	**4.88**	**338**			**Pn**	**23 56 17.2**	**+1.0**
E21K	**Killik River**	**4.88**	**338**	P		**Pn**	**23 56 17.2**	**+1.0**
	baz=154								
E21K				S		**Sn**	**23 57 13.4**	**+1.7**
	baz=154								
LOGN	**Logan Glacier**	**4.90**	**127**			**Pn**	**23 56 17.1**	**+0.4**
LOGN				IAML			23 57 25.0		
	comp=E,508nm,1.5s								
LOGN				IAML			23 57 27.2		
	comp=N,404nm,1.2s								
L29M	**L29M**	**4.94**	**96**	Pn		**Pn**	**23 56 16.5**	**-0.5**
L29M				IAML			23 57 30.1		
	comp=E,764nm,0.8s								
L29M				IAML			23 57 41.3		
	comp=N,678nm,0.7s								
L29M	**L29M**	**4.94**	**96**	P		**Pn**	**23 56 16.6**	**-0.5**
	baz=285,SNR=202								
H29M	**Whitestone**	**5.00**	**59**			**Pn**	**23 56 17.9**	**+0.1**
H29M				IAML			23 57 15.6		
	comp=N,518nm,1.7s								
H29M				IAML			23 57 31.6		
	comp=E,764nm,1.0s								
H29M	**Whitestone**	**5.00**	**59**	P		**Pn**	**23 56 17.7**	**-0.2**
	baz=248								
H29M				S		**Sn**	**23 57 14.3**	**-0.4**
	baz=248								
M29M	**Somme Creek**	**5.02**	**104**			**Pn**	**23 56 18.0**	**-0.2**
M29M				IAML			23 57 54.6		
	comp=E,345nm,0.9s								
M29M				IAML			23 57 58.7		
	comp=N,338nm,1.1s								
M29M	**Somme Creek**	**5.02**	**104**	P		**Pn**	**23 56 17.9**	**-0.3**
	baz=293,SNR=325								
M29M				S		**Sn**	**23 57 13.1**	**-2.1**
	baz=293								
YUK8	**Steele Glacier**	**5.06**	**119**	P		**Pn**	**23 56 19.1**	**+0.2**
	baz=306,SNR=126								
K29M	**Barlow Dome**	**5.07**	**87**	Pn		**Pn**	**23 56 18.6**	**-0.2**
K29M				IAML			23 57 51.0		
	comp=E,282nm,0.9s								
K29M				IAML			23 57 51.2		
	comp=N,314nm,1.1s								
K29M	**Barlow Dome**	**5.07**	**87**	P		**Pn**	**23 56 18.4**	**-0.4**
	baz=277,SNR=302								
O18K	**Koktuh Hills**	**5.10**	**218**	Pn		**Pn**	**23 56 19.0**	**-0.2**
O18K				IAML			23 57 53.5		
	comp=N,498nm,0.8s								
O18K				IAML			23 57 59.2		
	comp=E,296nm,0.8s								
O18K	**Koktuh Hills**	**5.10**	**218**	P		**Pn**	**23 56 18.8**	**-0.4**
	baz=33,SNR=39								
O18K				S		**Sn**	**23 57 15.2**	**-1.9**
	baz=33								
D22K	**Ayikyak River**	**5.10**	**345**			**Pn**	**23 56 20.4**	**+1.2**
D22K				IAML			23 57 47.1		
	comp=N,240nm,1.9s								
D22K				IAML			23 57 58.7		
	comp=E,249nm,1.8s								
D22K	**Ayikyak River**	**5.10**	**345**	P		**Pn**	**23 56 20.2**	**+1.0**
	baz=162								
AUL	**Augustine Lava**	**5.11**	**206**			**Pn**	**23 56 19.0**	**-0.2**
AUCH	**Augustine Cone**	**5.12**	**206**			**Pn**	**23 56 19.0**	**-0.6**
E27K	**Coleen River**	**5.16**	**32**			**Pn**	**23 56 20.1**	**+0.2**
E27K	**Coleen River**	**5.16**	**32**	P		**Pn**	**23 56 20.1**	**+0.2**
	baz=219								
I17K	**Unalakleet**	**5.16**	**274**	Pn		**Pn**	**23 56 20.7**	**+0.9**
I17K				IAML			23 57 21.4		
	comp=E,202nm,1.1s								
I17K	**Unalakleet**	**5.16**	**274**	P		**Pn**	**23 56 20.6**	**+0.8**
	baz=84,SNR=461								
I17K				S		**Sn**	**23 57 19.3**	**+1.0**
	baz=84								
E20K	**Nigu River**	**5.16**	**329**			**Pn**	**23 56 21.8**	**+1.8**
E20K	**Nigu River**	**5.16**	**329**	P		**Pn**	**23 56 21.9**	**+1.9**
	baz=142								
E20K				S		**Sn**	**23 57 19.5**	**+1.0**
	baz=142								
D24K	**Happy Valley**	**5.16**	**1**			**Pn**	**23 56 21.3**	**+1.4**
D24K	**Happy Valley**	**5.16**	**1**	P		**Pn**	**23 56 21.5**	**+1.6**
	baz=181								
D24K				S		**Sn**	**23 57 20.3**	**+1.9**
	baz=181								
N17K	**Nushagak Hills**	**5.18**	**231**	Pn		**Pn**	**23 56 19.5**	**-0.8**
N17K				IAML			23 58 05.6		
	comp=N,310nm,0.8s								
N17K				IAML			23 58 08.7		
	comp=E,297nm,1.1s								
N17K	**Nushagak Hills**	**5.18**	**231**	P		**Pn**	**23 56 19.7**	**-0.6**
	baz=44,SNR=59								
G17K	**Kiwalik Mounta**	**5.21**	**292**			**Pn**	**23 56 20.7**	**+0.2**
G17K	**Kiwalik Mounta**	**5.21**	**292**	P		**Pn**	**23 56 20.9**	**+0.3**
	baz=102,SNR=91								
G17K				S		**Sn**	**23 57 19.4**	**-0.1**
	baz=102								
F28M	**Old Crow**	**5.21**	**42**	Pn		**Pn**	**23 56 20.9**	**+0.3**
F28M				IAML			23 57 21.8		
	comp=E,254nm,1.6s								
F28M				IAML			23 57 42.2		
	comp=N,207nm,1.1s								
F28M	**Old Crow**	**5.21**	**42**	P		**Pn**	**23 56 20.6**	**0.0**
	baz=230,SNR=412								
F28M				S		**Sn**	**23 57 16.9**	**-2.6**
	baz=230								
J16K	**Anvik River**	**5.22**	**267**			**Pn**	**23 56 21.0**	**+0.3**
J16K	**Anvik River**	**5.22**	**267**	P		**Pn**	**23 56 21.0**	**+0.3**
	baz=77,SNR=294								
L16K	**Owhat River**	**5.32**	**249**	Pn		**Pn**	**23 56 22.3**	**+0.2**
L16K				IAML			23 57 35.1		
	comp=E,234nm,1.9s								
L16K	**Owhat River**	**5.32**	**249**	P		**Pn**	**23 56 22.1**	**-0.1**
	baz=60,SNR=293								
L16K				S		**Sn**	**23 57 20.9**	**-1.4**
	baz=60								
G29M	**Pine Creek**	**5.42**	**53**			**Pn**	**23

EPYK S Sn 23 57 29.3 -1.8
baz=251
PCA Pinnacle 5.69 130 Pn Pn 23 56 27.5 +0.4
PINM Pinnacle 5.69 130 P Pn 23 56 26.8 -0.3
baz=317,SNR=34
M30M Minto, Yukon 5.69 99 Pn Pn 23 56 26.1 -1.0
M30M Minto, Yukon 5.69 99 P Pn 23 56 26.2 -1.0
baz=290,SNR=96
F17K Baldwin Pennin 5.70 301 Pn 23 56 26.7 -0.3
F17K Baldwin Pennin 5.70 301 P Pn 23 56 27.7 +0.7
baz=110
F17K S Sn 23 57 31.5 +0.3
baz=110
O17K Koliganek Bris 5.72 226 Pn 23 56 26.7 -0.7
O17K Koliganek Bris 5.72 226 P Pn 23 56 26.8 -0.6
baz=39,SNR=27
C24K Franklin Bluff 5.73 1 Pn 23 56 28.6 +1.0
C24K Franklin Bluff 5.73 1 P Pn 23 56 28.6 +1.0
baz=181
C24K S Sn 23 57 33.2 +1.1
baz=181
N16K Nishlik Lake 5.78 237 Pn 23 56 27.7 -0.6
N16K Nishlik Lake 5.78 237 P Pn 23 56 27.7 -0.6
baz=48
H16K Elim 5.79 282 P Pn 23 56 28.6 +0.3
baz=91,SNR=106
D19K Kuna River 5.81 325 Pn 23 56 29.1 +0.5
D19K Kuna River 5.81 325 P Pn 23 56 29.5 +0.9
baz=137
D19K S Sn 23 57 34.7 +0.7
baz=137
YUK6 Outpost Mounta 5.81 117 Pn 23 56 28.7 -0.3
YUK6 Outpost Mounta 5.81 117 P Pn 23 56 28.3 -0.7
baz=306,SNR=29
MAYO Mayo, Yukon 5.82 88 Pn 23 56 28.5 -0.3
MAYO Mayo, Yukon 5.82 88 P Pn 23 56 28.5 -0.3
baz=280,SNR=21
E18K Tukpahlearik C 5.88 311 Pn Pn 23 56 30.5 +0.9
E18K Tukpahlearik C 5.88 311 P Pn 23 56 30.6 +1.1
baz=120
E18K S Sn 23 57 35.4 -0.2
baz=120
G16K Koyuk River 5.89 290 Pn 23 56 29.2 -0.4
G16K Koyuk River 5.89 290 P Pn 23 56 29.9 +0.3
baz=98
YUK5 Granite Creek 5.90 114 Pn 23 56 29.2 -0.9
K15K Wolf Creek Mou 5.93 259 Pn 23 56 30.5 +0.2
K15K Wolf Creek Mou 5.93 259 P Pn 23 56 30.6 +0.2
baz=68
E28M Babbage River 5.98 35 Pn 23 56 30.9 0.0
E28M Babbage River 5.98 35 P Pn 23 56 30.8 0.0
baz=224
E28M S Sn 23 57 37.9 -0.1
baz=224
P17K Kvichak River 6.00 220 Pn 23 56 31.1 0.0
P17K Kvichak River 6.00 220 P Pn 23 56 30.9 -0.2
baz=33,SNR=16
BCPM Bancas Point 6.00 128 Pn 23 56 30.7 -0.6
N30M Aishikik Lake 6.04 110 Pn 23 56 31.6 -0.3
N30M Aishikik Lake 6.04 110 P Pn 23 56 31.6 -0.3
baz=300,SNR=63
B21K Ikpikpuk River 6.05 341 Pn 23 56 32.1 +0.4
B21K Ikpikpuk River 6.05 341 P Pn 23 56 32.3 +0.5
baz=156
G30M tAoh Zraii Nji 6.09 55 Pn Pn 23 56 31.4 -1.0
G30M tAoh Zraii Nji 6.09 55 P Pn 23 56 31.4 -1.0
baz=246
G30M S Sn 23 57 38.2 -2.6
baz=246
KAHC Katmai Hardscr 6.11 211 Pn 23 56 31.9 -1.0
O29M Mount Kennedy 6.14 123 Pn 23 56 33.2 0.0
O29M Mount Kennedy 6.14 123 P Pn 23 56 33.2 0.0
baz=312,SNR=50
C26K Camden Bay 6.14 13 Pn 23 56 33.9 +0.9
C26K Camden Bay 6.14 13 P Pn 23 56 34.2 +1.2
baz=197
D27M Malcolm River 6.14 28 Pn 23 56 33.8 +0.7
D27M Malcolm River 6.14 28 P Pn 23 56 33.9 +0.8
baz=215
E17K Hotham Inlet 6.15 306 P Pn 23 56 33.8 +0.7
baz=114,SNR=42
YUK7 Dusty Glacier 6.16 120 Pn 23 56 33.5 0.0
L15K Ungalak Mounta 6.18 253 P Pn 23 56 33.5 -0.1
baz=63,SNR=79
O16K Kokwok River B 6.18 228 Pn Pn 23 56 32.7 -0.9
O16K Kokwok River B 6.18 228 P Pn 23 56 32.7 -0.9
baz=40,SNR=9.8
HYT Haines Junctio 6.22 116 Pn Pn 23 56 34.7 +0.3
HYT Haines Junctio 6.22 116 P Pn 23 56 34.1 -0.2
baz=306,SNR=46
E29M Blow River 6.28 41 Pn 23 56 35.1 +0.3
E29M Blow River 6.28 41 P Pn 23 56 35.2 +0.3
baz=231
PNL Peninsula 6.30 129 Pn 23 56 34.1 -1.1
PNL Peninsula 6.30 129 P Pn 23 56 34.4 -0.8
PNL Peninsula 6.30 129 P Pn 23 56 34.6 -0.7
baz=318
M15K Kasigluk River 6.38 244 Pn 23 56 36.0 -0.3
M15K Kasigluk River 6.38 244 P Pn 23 56 36.1 -0.2
baz=54,SNR=59
M15K S Sn 23 57 46.3 -1.4
baz=54
KVTA Katmai Vly 10 6.42 211 Pn 23 56 35.8 -1.1
N15K Kwethluk River 6.48 238 Pn Pn 23 56 37.2 -0.5
N15K Kwethluk River 6.48 238 P Pn 23 56 37.0 -0.7
baz=49,SNR=16
KDAK Kodiak Island 6.49 197 P Pn 23 56 36.4 -1.4
baz=14
KDAK Kodiak Island 6.49 197 P Pn 23 56 35.1 -2.7
comp=E,52nm,0.3s,baz=67,slow=6.8,SNR=81
KDAK S Sn 23 57 46.7 -3.8
comp=E,180nm,0.4s,baz=187,slow=16,SNR=9.5
Q16K King Salmon 6.50 218 P Pn 23 56 37.4 -0.4
baz=31
F30M Barrier River 6.51 51 Pn 23 56 37.7 -0.4
F30M Barrier River 6.51 51 P Pn 23 56 37.7 -0.4
baz=242
F30M S Sn 23 57 51.6 +0.7
baz=242
KCE Katmai Mt Cerb 6.52 210 Pn 23 56 37.9 -0.4
G15K Niukluk 6.57 285 Pn 23 56 38.8 0.0
G15K Niukluk 6.57 285 P Pn 23 56 39.1 +0.3
baz=92,SNR=192
ACHA Angle Creek He 6.58 211 Pn 23 56 37.8 -1.3
N31M Braeburn, Yuko 6.58 107 Pn 23 56 38.8 -0.2
N31M Braeburn, Yuko 6.58 107 P Pn 23 56 38.9 -0.1
baz=298,SNR=68
B22K Teshekpuk Lake 6.58 347 Pn 23 56 39.1 +0.2
B22K Teshekpuk Lake 6.58 347 P Pn 23 56 39.3 +0.4
baz=163
P16K Nushagak River 6.59 225 Pn 23 56 38.6 -0.5
P16K Nushagak River 6.59 225 P Pn 23 56 38.8 -0.3
baz=37
C19K Lookout Ridge 6.62 325 Pn 23 56 38.9 -0.6
C19K Lookout Ridge 6.62 325 P Pn 23 56 39.7 +0.1
baz=136
ANCK Angle Creek 6.63 211 Pn 23 56 38.6 -1.1
CNTC Contact Creek 6.66 213 Pn 23 56 39.1 -1.1
Q17K Contact Creek 6.66 213 P Pn 23 56 39.4 -0.8
baz=27,SNR=21
J14K Nanvaranak Lak 6.66 266 Pn Pn 23 56 40.1 0.0
J14K Nanvaranak Lak 6.66 266 P Pn 23 56 40.6 +0.5
baz=73,SNR=110
D28M Stokes Point 6.71 33 P Pn 23 56 42.0 +1.4
baz=222
D28M S Sn 23 57 57.0 +1.6
baz=222
C18K Utukok River 6.75 319 Pn 23 56 40.9 -0.4
C18K Utukok River 6.75 319 P Pn 23 56 41.9 +0.6
baz=128
C18K S Sn 23 57 57.7 +0.9
baz=128
G31M Satah River 6.79 58 Pn Pn 23 56 40.9 -0.8
G31M Satah River 6.79 58 P Pn 23 56 40.4 -1.3
baz=251,SNR=131
B20K Meade River 6.81 336 Pn 23 56 42.0 0.0
B20K Meade River 6.81 336 P Pn 23 56 41.7 -0.3
baz=148
O30N Mendenhall 6.82 113 Pn 23 56 41.9 -0.4
O30N Mendenhall 6.82 113 P Pn 23 56 41.9 -0.4
baz=304,SNR=64
L14K Kuka Creek 6.84 253 Pn Pn 23 56 42.8 +0.2
L14K Kuka Creek 6.84 253 P Pn 23 56 43.2 +0.7
baz=61,SNR=93
L14K S Sn 23 57 59.6 +0.8
baz=61

M14K Bethel 6.85 247 Pn Pn 23 56 42.6 -0.1
M14K Bethel 6.85 247 P Pn 23 56 43.0 +0.4
baz=56,SNR=75
P30M Million Dollar 6.87 119 P Pn 23 56 43.5 +0.5
baz=310
M31M Drury Creek, Y 6.87 99 Pn 23 56 43.1 +0.1
M31M Drury Creek, Y 6.87 99 P Pn 23 56 43.1 +0.1
baz=292,SNR=196
F15K North Star Dit 6.88 291 Pn Pn 23 56 43.6 +0.6
F15K North Star Dit 6.88 291 P Pn 23 56 43.5 +0.6
baz=97,SNR=50
P29M Windy Craggy 6.91 124 Pn 23 56 43.8 +0.3
P29M Windy Craggy 6.91 124 P Pn 23 56 43.7 +0.2
baz=314,SNR=26
R18K Karluk 7.00 205 P Pn 23 56 43.3 -1.3
baz=20
O15K Ungalikthiuk R 7.08 232 P Pn 23 56 45.2 -0.5
baz=42
OHAK Old Harbor 7.13 199 Pn 23 56 46.0 -0.5
OHAK Old Harbor 7.13 199 P Pn 23 56 44.7 -1.7
OHAK Old Harbor 7.13 199 P Pn 23 56 45.6 -0.9
baz=16
ANM Nome 7.14 282 Pn Pn 23 56 46.9 +0.3
ANM Nome 7.14 282 P Pn 23 56 47.1 +0.5
baz=87,SNR=140
F31M Tsiigehtchic 7.16 55 Pn Pn 23 56 44.9 -1.8
F31M Tsiigehtchic 7.16 55 P Pn 23 56 45.0 -1.8
baz=248,SNR=61
F31M S Sn 23 58 07.5 +1.1
baz=248
N14K Kuskokwak Cree 7.24 241 P Pn 23 56 47.0 -0.9
baz=50,SNR=12
C17K DeLong Mountai 7.26 314 P Pn 23 56 48.3 +0.2
baz=122,SNR=27
C17K S Sn 23 58 10.1 +1.3
baz=122
FARO Faro, Yukon 7.32 97 Pn 23 56 49.1 +0.1
FARO Faro, Yukon 7.32 97 P Pn 23 56 49.5 +0.5
baz=291,SNR=135
B18K Kokolik River 7.38 322 P Pn 23 56 49.8 +0.2
baz=131
B18K S Sn 23 58 11.5 -0.2
baz=131
A22K Sinclair Lake 7.38 345 P Pn 23 56 49.5 -0.1
baz=159
WHY Whitehorse 7.38 111 Pn Pn 23 56 49.9 0.0
WHY Whitehorse 7.38 111 P Pn 23 56 50.4 +0.5
baz=303,SNR=57
K13K Kusilvak Mount 7.43 261 Pn 23 56 49.7 -0.7
K13K Kusilvak Mount 7.43 261 P Pn 23 56 50.3 -0.1
baz=67
O14K Tigyukauivet M 7.54 236 Pn 23 56 51.3 -0.6
O14K Tigyukauivet M 7.54 236 P Pn 23 56 51.0 -0.9
baz=46,SNR=7.3
F14K Arctic Creek 7.55 289 P Pn 23 56 52.8 +0.8
baz=94,SNR=48
INK Inuvik 7.59 49 P Pn 23 56 52.0 -0.5
baz=243,SNR=110
INK Inuvik 7.59 49 P Pn 23 56 52.5 0.0
comp=E,103nm,0.7s,baz=235,slow=16,SNR=192
INK S Sn 23 58 14.7 -2.2
comp=E,95nm,0.9s,baz=317,slow=7.1,SNR=8.4
INK LR LR 23 59 49.5
comp=E,105nm,19.9s,baz=71,slow=38
M13K Dall Lake 7.61 248 Pn Pn 23 56 52.3 -0.6
M13K Dall Lake 7.61 248 P Pn 23 56 53.2 +0.4
baz=56,SNR=24
R16K Pilot Point 7.70 217 P Pn 23 56 52.8 -1.3
baz=30
A19K Wainwright 7.78 328 P Pn 23 56 54.9 -0.1
baz=137
A19K S Sn 23 58 21.1 -0.3
baz=137
C16K Lisburne Hills 7.87 310 Pn 23 56 56.1 -0.1
C16K Lisburne Hills 7.87 310 P Pn 23 56 56.5 +0.3
baz=115
C16K S Sn 23 58 23.4 -0.2
baz=115
A21K Barrow 7.88 342 P Pn 23 56 56.0 -0.4
baz=155,SNR=50
A21K S Sn 23 58 22.2 -1.7
baz=155
N32M Quiet Lake 7.88 104 Pn 23 56 56.7 +0.1
N32M Quiet Lake 7.88 104 P Pn 23 56 56.6 0.0
baz=298
SII Sitkinak Islan 7.91 201 Pn Pn 23 56 55.4 -1.5
SII Sitkinak Islan 7.91 201 P Pn 23 56 56.2 -0.7
SII Sitkinak Islan 7.91 201 P Pn 23 56 55.8 -1.1
baz=17
SKAG Skagway 7.93 119 Pn Pn 23 56 56.4 -0.7
SKAG Skagway 7.93 119 P Pn 23 57 00.2 +3.1
SKAG Skagway 7.93 119 P Pn 23 56 57.6 +0.4
baz=311
TNA Tin City 8.22 289 Pn 23 57 00.2 -0.8
TNA Tin City 8.22 289 P Pn 23 57 01.9 +0.9
baz=92,SNR=22
P32M Atlin 8.48 115 Pn Pn 23 57 04.5 -0.1
P32M Atlin 8.48 115 P Pn 23 57 04.8 +0.2
baz=308,SNR=13
P33M Teslin, Yukon 8.48 109 Pn Pn 23 57 03.5 -1.2
P33M Teslin, Yukon 8.48 109 P Pn 23 57 04.8 +0.1
baz=303,SNR=62
S31K Pelican 8.67 129 Pn Pn 23 57 07.0 0.0
S31K Pelican 8.67 129 P Pn 23 57 06.8 -0.2
baz=320
BESE Bessie Mountai 8.71 122 Pn Pn 23 57 06.4 -1.3
M11K Mekoryuk 8.81 253 Pn 23 57 10.6 +1.6
M11K Mekoryuk 8.81 253 P Pn 23 57 09.9 +0.9
baz=58,SNR=25
CHIR Chirikof Islan 8.86 205 Pn Pn 23 57 08.6 -1.1
CHGN Chignik 9.04 215 Pn Pn 23 57 11.3 -0.7
CHGN Chignik 9.04 215 P Pn 23 57 11.7 -0.4
baz=27
R32K Eaglecrest 9.05 123 Pn 23 57 11.7 -0.6
R32K Eaglecrest 9.05 123 P Pn 23 57 11.6 -0.6
baz=315,SNR=5.3
JIS Juneau Island 9.10 123 Pn 23 57 12.8 0.0
Q32M Nakina River 9.45 115 Pn 23 57 17.3 -0.6
Q32M Nakina River 9.45 115 P Pn 23 57 17.9 +0.1
baz=309,SNR=9.8
S32K Killisnoo 9.62 126 Pn Pn 23 57 18.2 -1.7
S32K Killisnoo 9.62 126 P Pn 23 57 20.0 +0.1
baz=319
SIT Sitka 9.68 130 Pn Pn 23 57 21.1 +0.4
SIT Sitka 9.68 130 P Pn 23 57 21.1 +0.4
SIT Sitka 9.68 130 P Pn 23 57 20.8 +0.1
baz=322
R33M Jennings River 9.72 110 Pn 23 57 20.6 -0.7
R33M Jennings River 9.72 110 P Pn 23 57 21.7 +0.4
baz=306
TGTN Hyland Airport 9.81 95 Pn 23 57 21.9 -0.5
TGTN Hyland Airport 9.81 95 P Pn 23 57 22.4 0.0
baz=294,SNR=54
GAMB Gambell 9.99 279 P Pn 23 57 26.1 +1.3
baz=73,SNR=31
WTLY Wasson Lake, Y 10.23 103 P Pn 23 57 28.3 +0.2
baz=301
SDPT Sand Point 10.43 219 Pn Pn 23 57 29.6 -1.1
S34M Telegraph Cree 10.60 117 Pn Pn 23 57 33.3 +0.3
S34M Telegraph Cree 10.60 117 P Pn 23 57 33.6 +0.7
baz=313,SNR=15
CNBA Chernabura Isl 10.66 215 Pn Pn 23 57 33.6 -0.3
DLBC Dease Lake 10.69 113 Pn Pn 23 57 34.8 +0.5
DLBC Dease Lake 10.69 113 P Pn 23 57 34.7 +0.5
baz=309,SNR=12
DLBC Dease Lake 10.69 113 P Pn 23 57 34.6 +0.3
comp=E,20nm,0.9s,baz=307,slow=12,SNR=34
DLBC LR LR 00 02 00.4
comp=E,186nm,19.0s,baz=274,slow=38
C36M Paulatuk 11.17 51 Pn 23 57 38.2 -2.2
C36M Paulatuk 11.17 51 P Pn 23 57 38.4 -2.0
baz=253,SNR=46
U33K Whale Pass 11.18 128 Pn Pn 23 57 43.5 +2.9
U33K Whale Pass 11.18 128 P Pn 23 57 41.2 +0.5
baz=322
WRAK Wrangell Islan 11.22 125 Pn Pn 23 57 41.4 +0.2
WRAK Wrangell Islan 11.22 125 P Pn 23 57 41.6 +0.4
baz=319
WRGLY Wrigley 11.36 82 Pn 23 57 44.3 +1.3
WRGLY Wrigley 11.36 82 P Pn 23 57 42.2 -0.8
baz=285,SNR=49
T35M Bob Quinn 11.59 119 Pn Pn 23 57 47.3 +1.2
T35M Bob Quinn 11.59 119 P Pn 23 57 48.0 +1.9
baz=315,SNR=20
CRAG Craig 11.69 130 Pn Pn 23 57 49.8 +2.3
CRAG Craig 11.69 130 P Pn 23 57 50.2 +2.8

A36M Sachs Harbour 11.87 38 Pn Pn 23 57 47.5 -2.1
A36M Sachs Harbour 11.87 38 P Pn 23 57 48.0 -1.6
baz=240,SNR=18
KOTAN Kotaneelee Air 12.28 97 P Pn 23 57 54.7 -0.5
baz=299,SNR=32
V35K Ketchikan 12.32 127 Pn Pn 23 57 57.0 +1.3
U35K Hyder 12.45 122 Pn Pn 23 57 53.5 -3.9
FLDN Fort Liard 12.48 96 Pn 23 57 58.2 +0.5
FLDN Fort Liard 12.48 96 P Pn 23 57 58.0 +0.3
baz=298
UNV Unalaska Valle 13.56 229 P P 23 58 15.2 -1.1
DIB Dawson Inlet, 13.79 134 Pn Pn 23 58 14.4 -0.1
GRNB Grenville Isla 14.09 127 P P 23 58 24.4 +2.3
YKA Yellowknife Ar 15.45 80 Pn Pn 23 58 34.2 -1.2
YKA Yellowknife Ar 15.45 80 P Pn 23 58 33.9 -1.5
comp=E,18nm,0.7s,baz=291,slow=13,SNR=132
YKA ScP ScP 00 06 50.4 -0.8
comp=E,1.0nm,0.9s,baz=297,slow=1.6,SNR=4.4
BBB Bella Bella 16.09 128 P P 23 58 45.4 +1.2
BBB IAmb IAmb 23 58 47.3
comp=Z,76nm,1.2s
BBB Bella Bella 16.09 128 P P 23 58 45.5 +1.3
comp=Z,35nm,1.0s,baz=310,slow=6.9,SNR=3.5
BBB LR LR 00 04 13.6
comp=Z,232nm,18.5s,baz=338,slow=34
HILA High Level 16.18 95 Pn Pn 23 58 43.8 -0.7
ATKA Atka Island 17.65 240 P P 23 59 01.4 0.0
ATKA IAmb IAmb 23 59 12.2
comp=Z,40nm,0.9s
BILL Bilibino 18.28 302 P 23 59 08.9 +0.7
BRLDA Berland Lookou 18.83 107 P P 23 59 15.5 +1.1
ADK Adak 18.86 243 P P 23 59 14.5 -0.2
ADK IAmb IAmb 23 59 27.3
comp=Z,47nm,1.2s
CLRS Cowichan Lake 20.30 127 P Pn 23 59 32.9 -0.6
CLRS IAmb IAmb 23 59 35.0
comp=Z,66nm,1.4s
PGC Sidney 20.69 126 P P 23 59 36.1 +1.8
PGC IAmb IAmb 23 59 37.5
comp=Z,45nm,0.9s
C03A Quillayute Air 20.90 129 P P 23 59 37.0 +0.5
RES Resolute Bay 20.92 37 P P 23 59 36.7 +0.2
RES Resolute Bay 20.92 37 P P 23 59 36.3 -0.3
comp=Z,15nm,0.7s,baz=248,slow=13,SNR=30
RES S S 00 03 19.3 -2.7
comp=Z,1.8nm,0.7s,baz=327,slow=23,SNR=1.7
comp=Z,15nm,0.7s
EDM Edmonton 21.16 104 P P 23 59 39.5 +0.1
B06A Marblemount 21.51 123 P P 23 59 42.4 -0.8
B06A IAmb IAmb 23 59 46.3
comp=Z,56nm,1.2s
NLWA Neilton Lookou 21.62 128 P P 23 59 46.9 +2.6
NLWA IAmb IAmb 23 59 49.4
comp=Z,95nm,1.4s
B08A Colville Reser 22.45 120 P P 23 59 52.6 -0.3
LTY Liberty 22.87 124 P P 23 59 58.3 +1.4
LON Longmire 22.89 126 P P 23 59 59.3 +2.2
F03A Seaside 22.99 130 P P 00 00 00.3 +2.3
C09A Chrisman Ranch 23.32 120 P P 00 00 02.9 +1.9
F04A Amboy 23.38 128 P P 00 00 03.6 +2.0
F04A IAmb IAmb 00 00 04.4
comp=Z,32nm,0.7s
NEW Newport 23.38 117 P P 00 00 03.4 +1.7
NEW Newport 23.38 117 P P 00 00 03.5 +1.8
baz=324,SNR=11
NEW Newport 23.38 117 LR LR 00 09 23.0
comp=Z,109nm,20.2s,baz=312,slow=36
HEBO Mount Hebo 23.56 131 P P 00 00 05.5 +2.2
MXC Moxie City 23.58 124 P P 00 00 05.2 +1.8
MXC IAmb IAmb 00 00 07.5
comp=Z,20nm,0.6s
D08A Wollman Farm, 23.69 121 P P 00 00 05.6 +1.2
D08A IAmb IAmb 00 00 06.3
comp=Z,14nm,0.6s
G03D McMinnville, O 23.72 130 P P 00 00 06.3 +1.6
E07A Sunnyside 23.76 123 P P 00 00 06.9 +1.8
E07A IAmb IAmb 00 00 09.6
comp=Z,18nm,0.8s
F07A Phinny Hill Vi 24.30 124 P P 00 00 12.5 +2.7
G05A Wamic 24.36 127 P P 00 00 13.7 +3.2
G05A IAmb IAmb 00 00 13.7
comp=Z,55nm,1.5s
E09A Wood Farm, Sta 24.43 121 P P 00 00 12.4 +1.3
E09A IAmb IAmb 00 00 15.4
comp=Z,24nm,1.0s
H04D Lebanon 24.50 130 P P 00 00 13.3 +1.5
H04D IAmb IAmb 00 00 16.8
comp=Z,54nm,1.0s
H04A Detroit Lake 24.55 129 P P 00 00 13.6 +1.3
H04A IAmb IAmb 00 00 18.4
comp=Z,33nm,1.3s
G06A Carlson Farm, 24.61 126 P P 00 00 14.4 +1.6
BUCK Buck Mountain 24.71 131 P P 00 00 16.0 +2.3
I03D Drain, OR 25.04 132 P P 00 00 18.7 +2.1
FFC Flin Flon 25.11 89 P P 00 00 17.8 +0.6
FFC IAmb IAmb 00 00 20.8
comp=Z,26nm,0.8s
G08A Pilot Rock 25.17 124 P P 00 00 19.3 +1.4
F10A Beach Ranch, E 25.23 121 P P 00 00 19.8 +1.3
I04A Tendick Farm, 25.26 131 P P 00 00 20.2 +1.5
I04A IAmb IAmb 00 00 35.7
comp=Z,37nm,1.5s
DBO Dodson Butte 25.59 133 P P 00 00 23.8 +2.1
DBO IAmb IAmb 00 00 39.6
comp=Z,34nm,1.4s
PINE Pine Mountain 25.76 128 P P 00 00 25.6 +2.2
MSO Missoula 25.81 115 P P 00 00 25.1 +1.4
MSO Missoula 25.81 115 P P 00 00 24.2 +0.5
baz=324
K02D Willamette Mer 25.83 134 P P 00 00 26.1 +2.2
K02D IAmb IAmb 00 00 42.5
comp=Z,56nm,1.5s
I07A Izee 26.01 126 P P 00 00 26.8 +1.2
FCC Fort Churchill 26.08 76 P P 00 00 26.4 +0.6
J05D Fort Rock, OR 26.11 129 P P 00 00 28.5 +2.0
J05D IAmb IAmb 00 00 29.7
comp=Z,14nm,0.8s
HUMO Hull Mountain 26.14 133 P P 00 00 29.0 +2.4
BMO Blue Mountains 26.15 122 P P 00 00 28.2 +1.4
LYMT Lyon Mountain 26.36 113 P P 00 00 30.2 +1.4
PLID Pearl Lake 26.45 120 P P 00 00 31.0 +1.4
EGMT Eagleton 26.57 108 P P 00 00 31.6 +1.1
EGMT Eagleton 26.57 108 P P 00 00 31.8 +1.3
baz=322,SNR=36
L04D Klamath Falls 26.70 132 P P 00 00 33.7 +1.9
L04D IAmb IAmb 00 00 47.5
comp=Z,26nm,1.3s
K05A Summer Lake 26.72 129 P P 00 00 34.3 +2.3
YBH Yreka Blue Hor 27.01 133 P P 00 00 37.2 +2.7
J08A Circle Bar Ran 27.01 125 P P 00 00 36.6 +2.0
LRM Limekiln Ridge 27.23 114 P P 00 00 38.0 +1.4
BOZ Bozeman (W) 27.74 114 P P 00 00 42.1 +1.1
BOZ Bozeman (W) 27.74 114 P P 00 00 42.5 +1.4
baz=325,SNR=11
WVOR Wild Horse Val 27.76 127 P P 00 00 42.8 +1.5
MCMT McKenzie Canyo 27.89 116 P P 00 00 44.8 +2.3
MFID Camas Ranch 27.93 122 P P 00 00 43.8 +1.0
HLID Hailey 28.34 120 P P 00 00 48.1 +1.6
HLID Hailey 28.34 120 P P 00 00 48.4 +1.9
baz=328,SNR=18
DGMT Dagmar 28.59 101 P P 00 00 49.7 +1.3
DGMT IAmb IAmb 00 00 51.1
comp=Z,18nm,0.7s
DGMT Dagmar 28.59 101 P P 00 00 49.6 +1.3
baz=320,SNR=5.5
YHH Holmes Hill 28.72 114 P P 00 00 52.6 +2.7
PETK Petropavlovsk- 28.96 273 LR LR 00 12 03.3
comp=Z,32nm,21.0s,baz=60,slow=35
RLMT Red Lodge 29.09 111 P P 00 00 55.1 +2.0
RLMT IAmb IAmb 00 00 56.0
comp=Z,12nm,0.6s
RLMT Red Lodge 29.09 111 P P 00 00 54.2 +1.1
baz=325,SNR=14
LAO LASA Array 29.10 106 P P 00 00 54.9 +1.9
LAO LASA Array 29.10 106 P P 00 00 54.8 +1.8
baz=322,SNR=24
H17A Grant Village 29.15 114 P P 00 00 56.9 +3.1
baz=326
FLWY Flagg Ranch 29.36 114 P P 00 00 58.5 +3.0
FLWY IAmb IAmb 00 00 59.7
comp=Z,24nm,1.1s
IMW Indian Meadow 29.42 115 P P 00 00 59.1 +3.0
IMW IAmb IAmb 00 01 00.0
comp=Z,25nm,0.8s

TIXI **Tiksi** 29.47 320 P P 00 00 55.0 -0.9
comp=Z,0.3nm,0.6s,baz=85,slow=8.9,SNR=9.0
MOOW **Moose Ponds** 29.62 115 P P 00 01 00.3 +2.5
LOHW **Long Hollow** 29.79 115 P P 00 01 02.1 +2.7
LOHW IAmb IAmb 00 01 03.0
comp=Z,14nm,0.8s
REDW **Red Top Meadow** 29.90 115 P P 00 01 02.9 +2.6
PAHR **Pah Rah Range** 29.93 130 P P 00 01 02.1 +1.6
AFDM **Forest Hills D** 30.09 133 P P 00 01 03.3 +1.5
EMB **Emerald Bay** 30.35 132 P P 00 01 05.4 +1.1
NEEM **North Greenlan** 30.38 25 *i* P P 00 01 02.8 -1.4
NEEM IAmb IAmb 00 01 05.5
comp=Z,72nm,1.3s
PNTR **Pine Nut** 30.41 131 P P 00 01 06.4 +1.6
PNTR IAmb IAmb 00 01 07.6
comp=Z,11nm,0.8s
ELK **Elko** 30.46 124 P P 00 01 07.7 +2.4
HVU **Hansel Valley** 30.49 119 P P 00 01 07.9 +2.4
YERR **Yerington** 30.62 131 P P 00 01 08.1 +1.4
ULM **Lac du Bonnet** 30.91 91 P P 00 01 08.9 +0.2
ULM **Lac du Bonnet** 30.91 91 P P 00 01 09.7 +0.9
comp=Z,31nm,0.8s,baz=315,slow=8.5,SNR=66
comp=Z,31nm,0.8s
BW06 **Boulder Array** 30.92 114 P P 00 01 11.3 +2.1
BW06 IAmb IAmb 00 01 12.4
comp=Z,20nm,0.8s
BW06 **Boulder Array** 30.92 114 P P 00 01 10.9 +1.6
baz=327,SNR=30
PD31 **Pinedale Array** 30.92 114 P P 00 01 11.4 +2.1
PD31 IAmb IAmb 00 01 12.4
comp=Z,18nm,0.8s
PDAR **Pinedale Array** 30.92 114 P P 00 01 11.4 +2.1
PDAR **Pinedale Array** 30.92 114 P P 00 01 11.3 +2.0
comp=Z,23nm,0.9s,baz=329,slow=5.5,SNR=111
PDAR PcP PcP 00 04 02.5 0.0
comp=Z,1.0nm,0.6s,baz=140,slow=1.6,SNR=4.1
PDAR ScP ScP 00 07 32.9 +0.2
comp=Z,0.9nm,0.7s,baz=77,slow=0.9,SNR=7.5
comp=Z,23nm,0.9s
KVN **Kaiserville** 30.95 129 P P 00 01 10.0 +0.5
WAKR **Walker** 30.99 131 P P 00 01 10.8 +0.9
WAKR IAmb IAmb 00 01 13.0
comp=Z,10nm,0.8s
MDND **Maddock** 31.06 98 P P 00 01 10.7 +0.5
MDND **Maddock** 31.06 98 P P 00 01 10.9 +0.7
baz=320
CMB **Columbia Colle** 31.11 133 P P 00 01 12.3 +1.5
HWUT **Hardware Ranch** 31.11 118 P P 00 01 10.0 -0.9
BGU **Big Grassy Mou** 31.13 121 P P 00 01 11.4 +0.4
RYN **Ryan** 31.19 130 P P 00 01 12.1 +0.5
NVAR **Mina Array Bea** 31.44 130 P P 00 01 15.3 +1.4
NVAR **Mina Array Bea** 31.44 130 P P 00 01 16.1 +2.3
comp=Z,9.6nm,0.7s,baz=323,slow=7.9,SNR=71
NVAR PcP PcP 00 04 05.4 +1.5
comp=Z,0.5nm,0.7s,baz=257,slow=2.4,SNR=1.8
comp=Z,9.6nm,0.7s
NV11 **Mina Array Sit** 31.49 130 P P 00 01 15.2 +1.0
NV11 IAmb IAmb 00 01 17.4
comp=Z,12nm,0.8s
LHV **Little Huntoon** 31.53 130 P P 00 01 14.8 +0.5
LHV IAmb IAmb 00 01 18.0
comp=Z,10nm,0.9s
E28A **Huff** 31.56 100 P P 00 01 15.6 +0.9
TCUT **Toone Canyon** 31.59 118 P P 00 01 14.7 -0.5
TCUT IAmb IAmb 00 01 18.2
comp=Z,12nm,0.7s
UPNV **Upernavik** 31.74 34 *i* P P 00 01 15.8 -0.1
UPNV IAmb IAmb 00 01 17.8
comp=Z,22nm,0.6s
CTU **Camp Tracy** 31.82 119 P P 00 01 16.0 -1.2
DUG **Dugway, Tooele** 31.85 121 P P 00 01 17.2 -0.2
DUG **Dugway, Tooele** 31.85 121 P P 00 01 18.3 +1.0
baz=330,SNR=6.4
MDPB **Devils Postpil** 31.90 131 P P 00 01 18.6 +0.6
MDPB IAmb IAmb 00 01 21.2
comp=Z,9.3nm,0.7s
RSSD **Black Hills** 32.08 107 P P 00 01 20.3 +0.9
RSSD IAmb IAmb 00 01 21.9
comp=Z,22nm,0.8s
RSSD **Black Hills** 32.08 107 P P 00 01 21.0 +1.5
baz=324
Q12A **Willow Creek R** 32.11 125 P P 00 01 19.7 0.0
TPH **Tonopah** 32.13 129 P P 00 01 20.1 +0.2
K22A **Casper** 32.25 111 P P 00 01 20.3 -0.6
K22A IAmb IAmb 00 01 22.7
comp=Z,8.9nm,0.7s
K22A **Casper** 32.25 111 P P 00 01 21.9 +1.0
baz=326
SPR3 **Spring Creek 3** 32.33 124 P P 00 01 21.6 -0.1
NLU **North Lily Min** 32.34 120 P P 00 01 21.5 -0.2
NLU IAmb IAmb 00 01 24.7
comp=Z,16nm,1.1s
BSUT **Blindstream Ca** 32.34 118 P P 00 01 22.5 +0.6
BSUT IAmb IAmb 00 01 25.6
comp=Z,19nm,1.0s
AGMN **Agassiz Nation** 32.36 93 P P 00 01 20.9 -0.7
AGMN **Agassiz Nation** 32.36 93 P P 00 01 21.5 0.0
baz=319,SNR=15
MZP **Montezuma Peak** 32.41 129 P P 00 01 21.8 -0.6
MPU **Maple Canyon** 32.45 120 P P 00 01 22.5 -0.2
R11B **Troy Canyon, C** 32.45 126 P P 00 01 23.2 +0.5
R11B IAmb IAmb 00 01 25.1
comp=Z,6.6nm,0.7s
R11B **Troy Canyon, C** 32.45 126 P P 00 01 23.9 +1.2
baz=333,SNR=14
D32A **Dogwood Acres,** 32.73 96 P P 00 01 24.4 -0.5
RDMU **Red Mountain** 32.77 117 P P 00 01 26.3 +0.8
RDMU IAmb IAmb 00 01 29.2
comp=Z,26nm,1.1s
GMN **Gold Mountain** 32.81 129 P P 00 01 26.3 +0.4
GRAC **Grapevine Rang** 33.05 130 P P 00 01 28.4 +0.6
GRAC **Grapevine Rang** 33.05 130 P P 00 01 30.4 +2.7
baz=335
B35A **Bob, Littlefor** 33.25 91 P P 00 01 28.9 -0.4
B35A IAmb IAmb 00 01 30.2
comp=Z,16nm,0.6s
P17A **Butcher Ranch,** 33.26 119 P P 00 01 29.8 +0.1
CWC **Cottonwood Cre** 33.31 131 P P 00 01 32.5 +2.3
baz=336
TPNV **Topopah Spring** 33.48 128 P P 00 01 33.0 +1.5
baz=334
WCT **Wildcat Mounta** 33.49 129 P P 00 01 31.9 +0.4
VES **Vestal, Richgr** 33.53 133 P P 00 01 33.5 +1.6
baz=337
MSU **Marysvale** 33.56 122 P P 00 01 34.3 +1.9
Q16A **Castle Valley** 33.58 120 P P 00 01 33.8 +1.3
Q16A IAmb IAmb 00 01 35.9
comp=Z,21nm,0.9s
SRU **San Rafael Swe** 33.66 119 P P 00 01 33.2 +0.1
SRU IAmb IAmb 00 01 36.4
comp=Z,30nm,1.2s
O20A **White River Ci** 33.67 115 P P 00 01 34.1 +0.8
O20A **White River Ci** 33.67 115 P P 00 01 34.6 +1.3
baz=329
ISA **Isabella, Lake** 33.89 132 P P 00 01 36.3 +1.2
baz=336
N23A **Red Feather La** 33.95 112 P P 00 01 36.6 +0.7
N23A IAmb IAmb 00 01 38.5
comp=Z,13nm,1.0s
N23A **Red Feather La** 33.95 112 P P 00 01 36.5 +0.7
baz=328,SNR=5.9
MTPU **Mount Pierson** 33.97 122 P P 00 01 36.6 +0.6
MTPU IAmb IAmb 00 01 39.8
comp=Z,12nm,0.8s
SUSD **Miller** 34.00 101 P P 00 01 36.3 +0.4
SUSD **Miller** 34.00 101 P P 00 01 36.0 +0.2
baz=323
UMMG **Uummannaq** 34.01 36 *i* P P 00 01 36.4 +0.9
UMMG IAmb IAmb 00 01 38.0
comp=Z,32nm,0.9s
GWY **Greenwater Val** 34.02 129 P P 00 01 35.8 -0.5
F33A **5 Mile Ranch,** 34.05 97 P P 00 01 36.4 +0.1
F33A IAmb IAmb 00 01 37.5
comp=Z,9.4nm,0.7s
PKM **Mcpherson Peak** 34.17 134 P P 00 01 39.7 +2.0
baz=338
SHPR **Sheep Range** 34.25 127 P P 00 01 38.8 +0.5
ARVC **Arvin** 34.27 133 P P 00 01 39.9 +1.7
baz=337
LRMC **Laurel Mtn Rad** 34.32 131 P P 00 01 40.9 +2.1
baz=336
SHOC **Shoshone, Teco** 34.41 129 P P 00 01 41.9 +2.4
baz=335
PKCU **Pink Cliffs** 34.45 123 P P 00 01 41.5 +1.3
PKCU IAmb IAmb 00 01 43.7
comp=Z,13nm,0.8s
EYMN **Ely** 34.55 90 P P 00 01 40.6 +0.1
EYMN **Ely** 34.55 90 P P 00 01 41.4 +0.9
baz=319,SNR=17
HMU **Henry Mountain** 34.60 120 P P 00 01 41.4 0.0
KNB **Kanab** 34.64 124 P P 00 01 42.1 +0.5
KNB IAmb IAmb 00 01 44.6
comp=Z,10nm,0.7s
PV21 **Cone Mtn., Par** 34.74 118 P P 00 01 42.8 +0.3
PV21 IAmb IAmb 00 01 45.1
comp=Z,8.3nm,0.8s
GSC **Goldstone, Bar** 34.78 130 P P 00 01 43.8 +1.1
GSC IAmb IAmb 00 01 45.5
comp=Z,12nm,0.6s
GSC **Goldstone, Bar** 34.78 130 P P 00 01 43.8 +1.1
baz=336,SNR=11
PV23 **Carpenter Ridg** 34.82 118 P P 00 01 42.8 -0.5
PV23 IAmb IAmb 00 01 45.9
comp=Z,21nm,1.1s
PV22 **Blue Mesa, Par** 34.83 118 P P 00 01 44.4 +1.0
BRIGG **Briggsdale** 34.88 111 P P 00 01 43.6 0.0
BRIGG IAmb IAmb 00 01 46.0
comp=Z,8.3nm,0.7s
PV04 **Paradox Valley** 34.91 118 P P 00 01 44.9 +1.0
PV04 IAmb IAmb 00 01 46.2
comp=Z,9.0nm,0.8s
PV20 **West Nyswonger** 34.93 118 P P 00 01 45.2 +1.1
PV20 IAmb IAmb 00 01 47.6
comp=Z,17nm,1.4s
TUQ **Turquoise Moun** 34.95 129 P P 00 01 46.1 +1.8
baz=335,SNR=7.3
PV07 **Paradox Valley** 34.97 117 P P 00 01 44.7 +0.2
PV07 IAmb IAmb 00 01 46.9
comp=Z,16nm,0.9s
PV16 **Nyswonger Mesa** 34.98 118 P P 00 01 45.9 +1.3
PV16 IAmb IAmb 00 01 46.6
comp=Z,6.8nm,0.7s
PV17 **East Wray Mesa** 34.99 118 P P 00 01 46.1 +1.4
PV17 IAmb IAmb 00 01 48.8
comp=Z,9.7nm,0.8s
PV11 **David Mesa, Pa** 35.01 118 P P 00 01 46.6 +1.8
PV11 IAmb IAmb 00 01 47.6
comp=Z,30nm,1.4s
ISCO **Idaho Springs** 35.02 113 P P 00 01 46.2 +1.2
ISCO IAmb IAmb 00 01 47.9
comp=Z,12nm,1.0s
ISCO **Idaho Springs** 35.02 113 P P 00 01 46.4 +1.4
baz=328,SNR=12
PV18 **Skein Mesa, Pa** 35.04 118 P P 00 01 45.1 +0.1
PV03 **Paradox Valley** 35.05 118 P P 00 01 46.4 +1.2
V12A **Nelson** 35.06 127 P P 00 01 46.3 +1.1
V12A IAmb IAmb 00 01 48.7
comp=Z,12nm,0.8s
RRX **Edison Barstow** 35.10 131 P P 00 01 47.6 +2.2
baz=336
PV05 **Paradox Valley** 35.11 118 P P 00 01 45.4 -0.3
PV05 IAmb IAmb 00 01 48.3
comp=Z,9.9nm,0.8s
PV15 **Paradox Valley** 35.12 117 P P 00 01 47.0 +1.2
PV15 IAmb IAmb 00 01 48.2
comp=Z,19nm,0.8s
K30B **Basset** 35.14 103 P P 00 01 45.8 +0.1
PV02 **Paradox Valley** 35.14 118 P P 00 01 46.9 +0.9
PV02 IAmb IAmb 00 01 48.2
comp=Z,8.2nm,0.8s
F36A **Milaca** 35.25 94 P P 00 01 47.5 +1.0
PV01 **Paradox Valley** 35.27 118 P P 00 01 47.8 +0.8
PV01 IAmb IAmb 00 01 49.8
comp=Z,18nm,0.9s
U15A **North Rim** 35.35 124 P P 00 01 48.8 +0.9
HEC **Hector,Ludlow** 35.37 130 P P 00 01 49.1 +1.4
baz=336
BFSC **Mount Baldy Ra** 35.46 132 P P 00 01 50.6 +2.0
baz=337
OGNE **Ogallala** 35.53 108 P P 00 01 48.2 -0.9
OGNE IAmb IAmb 00 01 51.7
comp=Z,23nm,0.8s
OGNE **Ogallala** 35.53 108 P P 00 01 49.9 +0.7
baz=326
E38A **The Farm, Brul** 35.54 91 P P 00 01 49.5 +0.5
E38A IAmb IAmb 00 01 50.3
comp=Z,18nm,0.8s
ECSD **EROS Data Cent** 35.58 99 P P 00 01 49.4 0.0
ECSD IAmb IAmb 00 01 50.8
comp=Z,14nm,0.7s
ECSD **EROS Data Cent** 35.58 99 P P 00 01 50.0 +0.6
baz=323,SNR=15
GMRC **Granite Mounta** 35.63 129 P P 00 01 51.6 +1.5
baz=336,SNR=5.2
SNCC **San Nicolas Is** 35.78 135 P P 00 01 52.1 +0.9
baz=338
Q24A **Divide** 35.91 113 P P 00 01 53.1 +0.5
Q24A **Divide** 35.91 113 P P 00 01 53.2 +0.5
baz=329,SNR=7.3
SUMG **Summit** 35.96 29 P P 00 01 53.8 +1.0
SUMG **Summit** 35.96 29 *i* P P 00 01 52.7 -0.1
SUMG IAmb IAmb 00 01 54.8
comp=Z,31nm,0.6s
W13A **Hualapai Mount** 35.97 127 P P 00 01 53.5 +0.5
W13A IAmb IAmb 00 01 56.1
comp=Z,11nm,0.8s
SPMN **Marine on St.** 36.06 94 P P 00 01 54.5 +1.0
SPMN **Marine on St.** 36.06 94 P P 00 01 54.8 +1.3
baz=322,SNR=14
ELS **Elsinore Mount** 36.08 132 P P 00 01 55.3 +1.4
MVCO **Mesa Verde** 36.10 118 P P 00 01 54.8 +0.6
MVCO **Mesa Verde** 36.10 118 P P 00 01 55.3 +1.2
baz=331,SNR=6.6
MURC **Murrieta** 36.20 132 P P 00 01 56.2 +1.3
baz=337
BELC **Belle Mtn. Jos** 36.23 130 P P 00 01 56.7 +1.5
baz=336
S22A **4UR Ranch, Cre** 36.29 116 P P 00 01 57.5 +1.7
S22A **4UR Ranch, Cre** 36.29 116 P P 00 01 57.5 +1.7
baz=330,SNR=9.3
IRM **Iron Mountain** 36.38 129 P P 00 01 58.5 +2.2
baz=336
PFO **Pinyon Flats O** 36.43 131 P P 00 01 58.0 +1.1
WUAZ **Wupatki** 36.50 123 P P 00 01 59.7 +2.2
WUAZ **Wupatki** 36.50 123 P P 00 01 59.2 +1.7
baz=333,SNR=14
D41A **Chassel** 36.51 88 P P 00 01 58.9 +1.7
D41A IAmb IAmb 00 02 06.8
comp=Z,19nm,1.1s
PDMCI **Parker Dam,Lak** 36.60 127 P P 00 01 59.7 +1.6
baz=335
BC3 **Big Chuckawall** 36.73 130 P P 00 02 01.3 +1.9
baz=336
I37A **Lemond, Waseca** 36.76 96 P P 00 02 00.3 +0.9
BGNE **Belgrade** 36.80 103 P P 00 02 00.8 +1.0
BGNE **Belgrade** 36.80 103 P P 00 02 00.2 +0.4
baz=325
SDCO **Great Sand Dun** 36.82 114 P P 00 02 02.3 +1.9
SDCO IAmb IAmb 00 02 03.3
comp=Z,9.3nm,0.8s
SDCO **Great Sand Dun** 36.82 114 P P 00 02 01.5 +1.2
baz=330,SNR=24
SFJD **Kangerlussuaq** 36.84 40 P P 00 02 01.9 +2.0
SFJD IAmb IAmb 00 02 07.0
comp=Z,11nm,1.0s
SFJD **Kangerlussuaq** 36.84 40 *e*P P 00 02 00.1 +0.3
SFJD IAmb IAmb 00 02 01.8
comp=Z,6.3nm,0.5s
109C **Camp Elliot, M** 36.88 132 P P 00 02 02.7 +2.2
baz=337
KSCO **Kaye Shedlock'** 36.91 110 P P 00 02 01.8 +1.0
KSCO **Kaye Shedlock'** 36.91 110 P P 00 02 01.9 +1.0
baz=328
BLYC **Blythe** 36.96 128 P P 00 02 02.0 +0.7
BLYC IAmb IAmb 00 02 04.4
comp=Z,27nm,1.4s
MONP2 **Monument Peak** 37.10 131 P P 00 02 04.4 +1.7
baz=337,SNR=7.3
L34A **Svendsen Farm,** 37.11 101 P P 00 02 03.0 +0.6
G40A **Rib Lake** 37.17 92 P P 00 02 02.8 -0.2
SWSC **Sam W. Stewart** 37.26 130 P P 00 02 05.5 +1.7
baz=337
Y14A **Wickenburg** 37.33 126 P P 00 02 06.0 +1.6
Y14A IAmb IAmb 00 02 07.5
comp=Z,16nm,0.7s
IKP **In-Ko-Pah, Jac** 37.43 131 P P 00 02 07.0 +1.7
baz=337
X16A **Lo Mia Camp, P** 37.46 124 P P 00 02 08.4 +2.8
X16A IAmb IAmb 00 02 09.1
comp=Z,12nm,0.8s
W18A **Petrified Fore** 37.47 121 P P 00 02 06.9 +1.2
baz=333
YUH **Yuha Desert** 37.49 131 P P 00 02 06.9 +1.2
CBX **Cerro Bola** 37.56 132 P P 00 02 08.7 +2.2
F42A **Maple Grove Fa** 37.70 89 P P 00 02 07.5 +0.2
E43A **Lone Tree Farm** 37.73 88 P P 00 02 08.5 +0.9
E43A IAmb IAmb 00 02 09.3
comp=Z,16nm,0.8s
SPB5 **Spitsbergen Ar** 37.76 5 P P 00 02 07.1 -0.4
SPA1 **Spitsbergen Ar** 37.76 5 P P 00 02 07.7 +0.2
SPB4 **Spitsbergen Ar** 37.76 5 P P 00 02 07.6 +0.1
SPB1 **Spitsbergen Ar** 37.76 5 P P 00 02 08.1 +0.6
SPA0 **Spitsbergen Ar** 37.76 5 P P 00 02 07.5 0.0
SPA0 **Spitsbergen Ar** 37.76 5 *e*P P 00 02 07.8 +0.3
SPA3 **Spitsbergen Ar** 37.76 5 P P 00 02 07.5 0.0
SPITS **Spitsbergen Ar** 37.76 5 P P 00 02 07.7 +0.2
comp=Z,14nm,0.7s,baz=19,slow=5.5,SNR=33
comp=Z,14nm,0.7s
SPA2 **Spitsbergen Ar** 37.76 5 P P 00 02 07.8 +0.3
SPB3 **Spitsbergen Ar** 37.77 5 P P 00 02 07.8 +0.2
SPB3 IAmb IAmb 00 02 09.1
comp=Z,30nm,1.1s
SPB2 **Spitsbergen Ar** 37.77 5 P P 00 02 07.8 +0.3
SPB2 IAmb IAmb 00 02 08.4
comp=Z,26nm,0.9s
X18A **Snowflake** 37.91 122 P P 00 02 11.6 +2.2
X18A IAmb IAmb 00 02 12.7
comp=Z,12nm,0.7s
ESJX **Sierra Juarez** 38.08 131 P P 00 02 12.4 +1.6
I40A **Norwalk** 38.08 93 P P 00 02 11.4 +0.9
113A **Mohawk Valley,** 38.12 128 P P 00 02 10.7 -0.2
K38A **Parkersburg** 38.13 97 P P 00 02 10.7 -0.2
ICESG **Greenland Ices** 38.23 33 *i* P P 00 02 11.6 -0.3
ICESG IAmb IAmb 00 02 13.8
comp=Z,41nm,0.7s
CBKS **Cedar Bluff** 38.28 107 P P 00 02 13.4 +1.1
CBKS IAmb IAmb 00 02 15.8
comp=Z,22nm,0.8s
CBKS **Cedar Bluff** 38.28 107 P P 00 02 12.8 +0.4
baz=327
N35A **Tabor** 38.33 101 P P 00 02 14.1 +1.5
SCIA **State Center** 38.53 98 P P 00 02 14.2 -0.1
baz=324
I42A **Draeger Farm,** 38.83 92 P P 00 02 17.5 +0.8
I42A IAmb IAmb 00 02 33.3
comp=Z,34nm,1.2s
H43A **Windswept, Lux** 38.87 90 P P 00 02 18.1 +0.9
ANMO **Albuquerque** 38.87 118 P P 00 02 19.2 +1.8
ANMO **Albuquerque** 38.87 118 P P 00 02 19.1 +1.6
baz=332
E46A **Sault Ste Mari** 38.92 85 P P 00 02 18.0 +0.5
E46A IAmb IAmb 00 02 18.0
comp=Z,20nm,1.0s
JFWS **Jewell Farm** 39.02 94 P P 00 02 18.9 +0.6
JFWS **Jewell Farm** 39.02 94 P P 00 02 18.6 +0.3
baz=323,SNR=9.0
R32A **Long Quarter,** 39.04 106 P P 00 02 19.5 +0.8
RTBA **Rita Blanca** 39.06 112 P P 00 02 20.5 +1.6
RTBA IAmb IAmb 00 02 21.4
comp=Z,20nm,1.1s
214A **Organ Pipe Nat** 39.19 127 P P 00 02 21.8 +1.9
214A IAmb IAmb 00 02 22.7
comp=Z,9.1nm,0.6s
214A **Organ Pipe Nat** 39.19 127 P P 00 02 21.1 +1.2
baz=336,SNR=6.9
L40A **Anamosa** 39.27 96 P P 00 02 21.1 +0.6
PIX **Pinacate** 39.32 128 P P 00 02 22.7 +1.7
LENM **Lemitar** 39.36 119 P P 00 02 25.2 +3.7
KSU1 **Kansas State U** 39.37 104 P P 00 02 22.2 +0.8
KSU1 **Kansas State U** 39.37 104 P P 00 02 22.2 +0.8
baz=327,SNR=27
N38A **Joes South For** 39.43 99 P P 00 02 22.2 +0.4
BNM **Barren Site** 39.51 119 P P 00 02 24.9 +2.1
TUC **Tucson** 39.59 125 P P 00 02 25.2 +1.8
TUC **Tucson** 39.59 125 P P 00 02 25.1 +1.8
baz=335
SCHQ **Schefferville** 39.92 63 P P 00 02 26.4 +0.7
SCHQ IAmb IAmb 00 02 26.8
comp=Z,17nm,0.9s
SCHQ **Schefferville** 39.92 63 P P 00 02 26.2 +0.5
comp=Z,11nm,0.7s,baz=312,slow=7.6,SNR=19
SCHQ LR LR 00 18 52.4
comp=Z,78nm,18.6s,baz=101,slow=36
comp=Z,11nm,0.7s
L42A **Oliver, Polo** 40.01 94 P P 00 02 26.6 0.0
L42A IAmb IAmb 00 02 27.6
comp=Z,25nm,1.2s
K43A **Burlington** 40.03 92 P P 00 02 27.4 +0.7
P38A **Dawn** 40.26 100 P P 00 02 29.4 +0.7
121A **Cookes Peak, D** 40.50 121 P P 00 02 33.6 +2.6
121A IAmb IAmb 00 02 34.4
comp=Z,9.9nm,0.7s
121A **Cookes Peak, D** 40.50 121 P P 00 02 33.5 +2.6
baz=334,SNR=11
KAN01 **Argonia South** 40.52 106 P P 00 02 32.0 +1.1
N41A **Harden Midland** 40.54 97 P P 00 02 31.5 +0.6
VLDQ **Val d'Or** 40.56 78 P P 00 02 29.3 -1.7
L44A **Lake County Fo** 40.64 92 P P 00 02 31.6 -0.1
baz=324
ELIS **Ellis County** 40.75 109 P P 00 02 34.0 +1.2
AMTX **Amarillo** 40.83 112 P P 00 02 34.8 +1.2
AMTX IAmb IAmb 00 02 35.7
comp=Z,22nm,0.8s
AMTX **Amarillo** 40.83 112 P P 00 02 34.8 +1.2
baz=330
SOEG **Soedalen** 40.84 30 *i* P P 00 02 32.5 -0.6
SOEG IAmb IAmb 00 02 35.0
comp=Z,50nm,0.7s
319A **Douglas** 40.98 124 P P 00 02 37.2 +2.4
319A IAmb IAmb 00 02 38.2
comp=Z,13nm,0.8s
P40A **Paris** 40.98 99 P P 00 02 35.3 +0.7
NRIK **Noril'sk** 41.14 333 P P 00 02 35.5 0.0
comp=Z,7.2nm,0.8s,baz=49,slow=7.8,SNR=7.9
comp=Z,7.2nm,0.8s
MSTX **Muleshoe** 41.19 114 P P 00 02 37.9 +1.4
MSTX IAmb IAmb 00 02 38.9
comp=Z,26nm,0.8s
MSTX **Muleshoe** 41.19 114 P P 00 02 37.3 +0.8
baz=331,SNR=10
M44A **Midewin, Midew** 41.22 93 P P 00 02 36.6 +0.1
M44A IAmb IAmb 00 02 37.7
comp=Z,26nm,0.8s
T35A **Sooner Cattle** 41.25 105 P P 00 02 37.2 +0.4
T35A IAmb IAmb 00 02 39.8
comp=Z,16nm,0.8s
HDIL **Hopedale** 41.34 95 P P 00 02 38.0 +0.5
HDIL **Hopedale** 41.34 95 P P 00 02 37.5 0.0
baz=325
ANGG **Ammassalik, Gr** 41.40 36 *i* P P 00 02 37.8 +0.2
ANGG IAmb IAmb 00 02 39.1
comp=Z,28nm,0.6s
OK051 **E0350 and S346** 41.46 106 P P 00 02 39.2 +0.7
OK048 **Pawnee Station** 41.49 106 P P 00 02 41.0 +2.2
OK052 **Battle Ridge R** 41.91 106 P P 00 02 42.5 +0.3
OK052 IAmb IAmb 00 02 43.4
comp=Z,24nm,1.2s
R40A **Maddies Statio** 41.91 100 P P 00 02 42.4 +0.2
R40A IAmb IAmb 00 02 42.9
comp=Z,16nm,1.2s
S39A **Bolivar** 41.96 102 P P 00 02 43.0 +0.4
P43A **Skaggs, Pawnee** 41.99 96 P P 00 02 42.2 -0.7
P43A IAmb IAmb 00 02 43.8
comp=Z,13nm,0.8s
O44A **Mansfield** 42.04 95 P P 00 02 42.3 -0.9
O44A IAmb IAmb 00 02 44.0
comp=Z,15nm,0.7s
GDL2 **Guadalupe Moun** 42.11 117 P P 00 02 45.6 +1.6
CLN7 **Carlsbad 7** 42.14 117 P P 00 02 45.9 +1.6
WMOK **Wichita Mounta** 42.15 109 P P 00 02 44.8 +0.6
WMOK IAmb IAmb 00 02 46.2
comp=Z,20nm,1.1s
WMOK **Wichita Mounta** 42.15 109 P P 00 02 44.9 +0.6
baz=330,SNR=6.1
MNTX **Cornudas Mount** 42.16 119 P P 00 02 45.8 +1.5
baz=333,SNR=6.6
DEOK **Depew** 42.16 106 P P 00 02 44.8 +0.5
DEOK IAmb IAmb 00 02 45.5
comp=Z,10nm,0.7s
DKNS **Dickens** 42.20 113 P P 00 02 45.2 +0.5
DKNS IAmb IAmb 00 02 46.3
comp=Z,16nm,0.7s
FNO **Franklin** 42.28 108 P P 00 02 45.4 +0.1
FNO IAmb IAmb 00 02 46.8
comp=Z,38nm,1.4s
L48A **N Adams** 42.36 90 P P 00 02 45.9 +0.1

TUL3 Leonard 42.41 105 P P 00 02 45.2 -1.0
TUL3 IAmb IAmb 00 02 47.6
comp=Z,26nm,1.3s
TUL3 Leonard 42.41 105 P P 00 02 46.2 0.0
baz=328
SFIN Lafayette 42.45 93 P P 00 02 46.5 0.0
baz=325
POST Post 42.49 114 P P 00 02 47.5 +0.5
POST IAmb IAmb 00 02 48.9
comp=Z,24nm,0.8s
HSIG 42.52 127 P P 00 02 47.7 +0.5
HSIG IAmb IAmb 00 02 50.2
comp=Z,11nm,0.9s
RLO Rose Lookout 42.52 104 P 00 02 46.5 -0.6
RLO IAmb IAmb 00 02 48.0
comp=Z,21nm,0.7s
CCM Cathedral Cave 42.55 99 P P 00 02 46.4 -1.0
CCM IAmb IAmb 00 02 48.0
comp=Z,11nm,0.8s
CCM Cathedral Cave 42.55 99 P P 00 02 46.9 -0.5
baz=327
U38A Gravette 42.56 104 P P 00 02 46.6 -0.8
U38A IAmb IAmb 00 02 47.9
comp=Z,14nm,0.7s
W35A Tecumseh 42.59 107 P P 00 02 47.4 -0.3
W35A IAmb IAmb 00 02 48.6
comp=Z,13nm,0.5s
N47A Urbana 42.66 92 P P 00 02 47.1 -1.1
X34A Smith Ranch, M 42.66 109 P P 00 02 47.8 -0.6
X34A IAmb IAmb 00 02 51.1
comp=Z,19nm,1.5s
APMT Aspermont 42.82 112 P P 00 02 49.2 -0.4
APMT IAmb IAmb 00 02 50.9
comp=Z,15nm,1.2s
Q44A Meyer Farm, Va 42.82 96 P P 00 02 49.1 -0.4
Q44A IAmb IAmb 00 02 50.6
comp=Z,21nm,0.8s
HHAR Hobbs 42.88 103 P P 00 02 49.5 -0.6
ODSA Odessa 42.90 115 P P 00 02 51.3 +1.0
ODSA IAmb IAmb 00 02 52.4
comp=Z,20nm,0.8s
KLR Kul'dur 42.96 289 LR LR 00 21 19.9
comp=Z,28nm,18.5s,baz=48,slow=37
P46A Rosedale 43.03 94 P P 00 02 50.5 -0.7
WTFS Witchita Falls 43.12 110 P P 00 02 52.9 +0.9
WTFS IAmb IAmb 00 02 53.7
comp=Z,19nm,0.7s
VHRN Van Horn 43.12 119 P P 00 02 53.6 +1.3
VHRN IAmb IAmb 00 02 55.7
comp=Z,16nm,0.8s
N49A Columbus Grove 43.30 90 P P 00 02 52.9 -0.4
N49A IAmb IAmb 00 02 54.3
comp=Z,20nm,0.7s
O48B Farmland 43.41 92 P P 00 02 53.4 -0.9
O48B Farmland 43.41 92 P P 00 02 53.9 -0.3
baz=325,SNR=12
MNHN Monahans 43.50 116 P P 00 02 55.4 +0.2
SRIG Santa Rosalia 43.63 129 P P 00 02 57.6 +1.5
SRIG IAmb IAmb 00 02 59.1
comp=Z,19nm,0.8s
ABTX Abilene, Hawle 43.63 112 P P 00 02 55.7 -0.4
SGCY Sterling City 43.65 114 P P 00 02 56.6 +0.3
SGCY IAmb IAmb 00 02 58.1
comp=Z,30nm,1.0s
S44A Carbondale 43.72 98 P P 00 02 56.1 -0.7
O49A Covington 43.83 91 P P 00 02 57.0 -0.6
O49A IAmb IAmb 00 02 58.2
comp=Z,21nm,0.7s
WBO Williamsburg 43.92 79 P P 00 02 57.3 -1.0
WBO IAmb IAmb 00 02 58.3
comp=Z,22nm,1.2s
HEH HeiHe 43.95 293 *eP* P 00 02 56.0 -2.4
HEH pmax pmax
comp=Z,4.0nm,0.7s
FCAR Ozark Folk Cen 43.99 102 P P 00 02 58.2 -0.8
PLPT Palo Pinto 44.01 110 P P 00 02 59.3 +0.1
PLPT IAmb IAmb 00 03 00.6
comp=Z,21nm,0.7s
ALPN Alpine 44.01 118 P P 00 02 60.0 +0.6
ALPN IAmb IAmb 00 03 02.8
comp=Z,9.5nm,0.7s
N51A Ashland 44.09 89 P P 00 02 59.4 -0.4
N51A IAmb IAmb 00 03 00.8
comp=Z,21nm,0.7s
LCAR Lake Charles 44.26 101 P P 00 03 00.3 -0.7
ACSO Alum Creek Sta 44.39 90 P P 00 03 01.9 -0.1
ACSO Alum Creek Sta 44.39 90 P P 00 03 01.8 -0.3
baz=325,SNR=11
M53A WI Miller and 44.42 87 P P 00 03 01.2 -1.1
M53A IAmb IAmb 00 03 03.6
comp=Z,30nm,0.9s
M53A WI Miller and 44.42 87 P P 00 03 02.7 +0.3
baz=324,SNR=5.2
ALLY Alegheny Colle 44.48 86 P P 00 03 02.2 -0.6
OZNA Ozona 44.52 115 P P 00 03 03.3 0.0
OZNA IAmb IAmb 00 03 05.1
comp=Z,16nm,0.7s
LONY Lake Ozonia 44.53 79 P P 00 03 02.5 -0.6
baz=323
WCI Wyandotte Cave 44.58 94 P P 00 03 02.4 -1.2
WCI IAmb IAmb 00 03 04.0
comp=Z,18nm,0.6s
WCI Wyandotte Cave 44.58 94 P P 00 03 03.0 -0.6
baz=326
FW14 Alvarado 44.84 109 P P 00 03 06.3 +0.6
N53A Lisbon 44.86 87 P P 00 03 06.1 +0.3
N53A IAmb IAmb 00 03 06.9
comp=Z,25nm,0.7s
X40A Basin Creek Fa 44.88 103 P P 00 03 06.0 0.0
TX31 Lajitas Ar. Si 44.93 118 P P 00 03 08.3 +1.7
TX31 IAmb IAmb 00 03 09.1
comp=Z,11nm,0.7s
TXAR Lajitas Array 44.93 118 P P 00 03 08.0 +1.4
TXAR Lajitas Array 44.93 118 P P 00 03 08.5 +1.9
comp=Z,11nm,0.7s,baz=329,slow=6.8,SNR=87
comp=Z,11nm,0.7s
SAND Sanderson 44.98 116 P P 00 03 07.2 +0.2
SAND IAmb IAmb 00 03 09.3
comp=Z,18nm,0.8s
O52A Adamsville 44.99 89 P P 00 03 05.9 -0.9
O52A IAmb IAmb 00 03 07.6
comp=Z,12nm,0.8s
Z38A Mt. Pleasant 45.02 107 P P 00 03 08.5 +1.4
Z38A IAmb IAmb 00 03 09.8
comp=Z,12nm,0.9s
BRDY Brady 45.06 112 P P 00 03 07.6 +0.1
WHTX Lake Whitney, 45.08 110 P P 00 03 07.8 +0.1
baz=331
O53A New Philadelph 45.15 88 P P 00 03 07.5 -0.6
O53A IAmb IAmb 00 03 16.0
comp=Z,20nm,1.4s
O53A New Philadelph 45.15 88 P P 00 03 08.0 -0.1
baz=325
Q51A Peebles 45.22 91 P P 00 03 08.0 -0.7
M55A Ridgway 45.23 85 P P 00 03 08.7 -0.1
M55A IAmb IAmb 00 03 09.6
comp=Z,30nm,1.3s
P52A Corning 45.25 89 P P 00 03 08.5 -0.4
P52A IAmb IAmb 00 03 09.5
comp=Z,9.9nm,0.8s
P52A Corning 45.25 89 P P 00 03 08.4 -0.4
baz=325
T47A Sharon Grove 45.25 96 P P 00 03 09.2 +0.3
T47A IAmb IAmb 00 03 10.1
comp=Z,21nm,0.9s
R50A Paris 45.40 92 P P 00 03 09.4 -0.7
JCT Junction City 45.45 113 P P 00 03 11.1 +0.5
JCT IAmb IAmb 00 03 12.5
comp=Z,21nm,0.7s
JCT Junction City 45.45 113 P P 00 03 11.3 +0.7
baz=332,SNR=6.7
HAMF Hammerfest 45.52 3 *eP* P 00 03 10.7 +0.1
O54A Avella 45.57 87 P P 00 03 11.9 +0.5
WVT Waverly 45.66 97 P P 00 03 12.6 +0.5
WVT IAmb IAmb 00 03 13.6
comp=Z,22nm,0.9s
WVT Waverly 45.66 97 P P 00 03 12.3 +0.2
baz=327
PQI Presque Isle 45.69 72 P P 00 03 12.5 +0.2
P53A Whipple 45.70 89 P P 00 03 11.6 -0.9
P53A IAmb IAmb 00 03 13.1
comp=Z,11nm,0.7s
Q52A Bidwell 45.74 90 P P 00 03 12.1 -0.6
237A Washetta, Mont 45.76 108 P P 00 03 13.7 +0.7
BINY Binghamton 45.86 82 P P 00 03 13.3 -0.4
baz=324
DRIO Del Rio 46.05 115 P P 00 03 15.1 -0.2
DRIO IAmb IAmb 00 03 17.1
comp=Z,22nm,0.6s
435B Jarrell 46.08 111 P P 00 03 16.0 +0.4
baz=332
VADS Vadso 46.13 1 *eP* P 00 03 15.9 +0.5
VADS IAmb IAmb 00 03 17.0
comp=Z,52nm,0.5s
T50A Nancy 46.22 94 P P 00 03 16.3 -0.2
T50A IAmb IAmb 00 03 17.8
comp=Z,18nm,0.6s
U49A Red Boiling Sp 46.23 95 P P 00 03 17.0 +0.4
MCWV Mont Chateau 46.24 87 P P 00 03 16.0 -0.6
MCWV IAmb IAmb 00 03 17.7
comp=Z,16nm,0.7s
MCWV Mont Chateau 46.24 87 P P 00 03 16.9 +0.3
baz=325
S51A Beattyville 46.25 92 P P 00 03 16.8 0.0
S51A IAmb IAmb 00 03 17.4
comp=Z,12nm,0.7s
PKME Peaks-Kenny Pk 46.28 74 P P 00 03 16.6 -0.2
baz=323
L59A Walton 46.28 81 P P 00 03 17.4 +0.4
SSPA Standing Stone 46.30 85 P P 00 03 16.4 -0.7
baz=325
HPIG 46.33 122 P P 00 03 18.5 +0.7
HPIG IAmb IAmb 00 03 20.6
comp=Z,16nm,1.0s
OXF Oxford 46.33 100 P P 00 03 17.7 +0.2
OXF Oxford 46.33 100 P P 00 03 18.1 +0.6
baz=328,SNR=16
CLTN Cedars of Leba 46.34 96 P P 00 03 17.5 0.0
CLTN IAmb IAmb 00 03 19.1
comp=Z,25nm,1.1s
Q54A Coxs Mills 46.36 89 P P 00 03 16.7 -0.9
Q54A IAmb IAmb 00 03 18.3
comp=Z,12nm,0.9s
TRO Tromso 46.36 6 *eP* P 00 03 18.0 +0.8
TRO IAmb IAmb 00 03 18.8
comp=Z,24nm,0.8s
R53A Hurricane 46.40 90 P P 00 03 17.3 -0.7
V48A Smith Brothers 46.42 97 P P 00 03 17.7 -0.5
V48A IAmb IAmb 00 03 19.7
comp=Z,20nm,1.1s
HNDO Hondo 46.49 114 P P 00 03 19.7 +1.0
JETT Jettan, Norway 46.50 5 *eP* P 00 03 19.0 +0.6
JETT IAmb IAmb 00 03 20.0
comp=Z,44nm,0.8s
PLAL Pickwick Lake 46.52 98 P P 00 03 18.9 0.0
PLAL IAmb IAmb 00 03 20.3
comp=Z,18nm,0.9s
ARA0 ARCESS Array S 46.67 3 *eP* P 00 03 19.4 -0.3
ARA0 IAmb IAmb 00 03 20.4
comp=Z,33nm,1.0s
ARCES ARCESS Array B 46.67 3 P P 00 03 19.3 -0.4
ARCES IAmb IAmb 00 03 20.1
comp=Z,21nm,0.8s
ARCES ARCESS Array B 46.67 3 P P 00 03 19.5 -0.2
comp=Z,17nm,0.8s,baz=360,slow=8.4,SNR=34
comp=Z,17nm,0.8s
Y45A Yeager Farm, C 46.83 101 P P 00 03 22.0 +0.7
USRK Usuriysk Ar. 46.83 285 P P 00 03 20.8 -0.4
comp=Z,1.2nm,0.5s,baz=50,slow=7.6,SNR=4.9
comp=Z,1.2nm,0.5s
143A Socs Landing, 47.02 103 P P 00 03 24.0 +1.2
KTK1 Kautokeino 47.14 4 *eP* P 00 03 23.1 -0.2
TZTN Tazewell 47.19 93 P P 00 03 24.1 +0.1
TZTN IAmb IAmb 00 03 25.2
comp=Z,18nm,0.7s
TZTN Tazewell 47.19 93 P P 00 03 24.2 +0.1
baz=327,SNR=7.5
EF01 Eagle Ford 01 47.21 113 P P 00 03 25.6 +1.3
R55A Marlinton 47.25 89 P P 00 03 24.9 +0.3
SWET Sewanee 47.25 96 P P 00 03 24.4 -0.3
SWET IAmb IAmb 00 03 25.4
comp=Z,29nm,1.4s
X48A Hartselle 47.41 98 P P 00 03 25.6 -0.2
X48A IAmb IAmb 00 03 27.0
comp=Z,21nm,0.9s
LUPA Lehigh Univers 47.43 83 P P 00 03 25.6 -0.3
LUPA IAmb IAmb 00 03 26.2
comp=Z,17nm,0.9s
V51A Loudon 47.45 94 P P 00 03 26.2 0.0
V51A IAmb IAmb 00 03 27.1
comp=Z,10nm,0.5s
MDJ Mudanjiang 47.52 287 P P 00 03 24.8 -1.7
MDJ Mudanjiang 47.52 287 P P 00 03 26.6 +0.1
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,150nm,4.9s
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,150nm,4.9s
LOF Lofoten 47.55 9 *eP* P 00 03 27.6 +1.2
PAL Palisades 47.74 81 P P 00 03 27.9 -0.3
baz=325
V52A Sevierville 47.75 94 P P 00 03 28.9 +0.5
V52A IAmb IAmb 00 03 29.1
comp=Z,8.4nm,0.6s
HIA Hailar 47.78 298 P P 00 03 29.1 +0.6
HIA IAmb IAmb 00 03 29.4
comp=Z,9.3nm,0.8s
VBMS Vicksburg 47.81 103 P P 00 03 29.9 +0.9
baz=330
TKL Tuckaleechee C 47.83 94 P P 00 03 29.5 +0.5
TKL IAmb IAmb 00 03 29.6
comp=Z,12nm,0.6s
STEI Steigen 47.86 8 *eP* P 00 03 28.6 -0.2
DRLN Deer Lake 47.88 62 P P 00 03 29.7 +0.5
DRLN IAmb IAmb 00 03 34.5
comp=Z,40nm,1.4s
FPAL Fort Paine 47.97 96 P P 00 03 30.6 +0.5
U54A Nelsons Funny 47.97 92 P P 00 03 30.7 +0.5
U54A IAmb IAmb 00 03 31.4
comp=Z,20nm,0.8s
BLA Blacksburg 48.01 90 P P 00 03 30.8 +0.4
BLA IAmb IAmb 00 03 31.4
comp=Z,16nm,0.6s
BLA Blacksburg 48.01 90 P P 00 03 30.3 -0.2
baz=327,SNR=5.3
146A Union 48.09 101 P P 00 03 32.3 +1.3
Y49A Blount Mountai 48.19 98 P P 00 03 32.6 +0.7
V53A Saluda 48.24 93 P P 00 03 32.8 +0.5
V53A IAmb IAmb 00 03 33.4
comp=Z,16nm,0.6s
X51A Calhoun 48.27 96 P P 00 03 33.0 +0.6
X51A IAmb IAmb 00 03 33.1
comp=Z,13nm,0.5s
FAUS Fauske 48.41 8 *eP* P 00 03 33.2 +0.2
FAUS IAmb IAmb 00 03 33.6
comp=Z,23nm,0.8s
R58B Mineral 48.50 87 P P 00 03 34.6 +0.5
CBN Corbin Frederi 48.52 86 P P 00 03 34.4 +0.1
baz=326
LRAL Lakeview Retre 48.64 99 P P 00 03 35.6 +0.3
LRAL Lakeview Retre 48.64 99 P P 00 03 35.4 +0.1
baz=329
T57A Hurt 48.70 89 P P 00 03 35.9 +0.2
T57A IAmb IAmb 00 03 36.5
comp=Z,11nm,0.7s
BG3 Lake Jocassee 48.76 94 P P 00 03 37.0 +0.9
BG3 IAmb IAmb 00 03 37.4
comp=Z,14nm,1.3s
V55A Taylorsville 48.79 91 P P 00 03 36.8 +0.3
V55A IAmb IAmb 00 03 37.5
comp=Z,9.9nm,0.6s
KONS Konsvik 49.13 9 *eP* P 00 03 39.0 +0.4
HAL Halifax 49.17 70 P P 00 03 39.3 +0.1
HAL IAmb IAmb 00 03 39.5
comp=Z,17nm,0.8s
Z51A Franklin 49.20 97 P P 00 03 40.0 +0.5
Z51A IAmb IAmb 00 03 40.6
comp=Z,18nm,0.8s
Y52A Lilburn 49.22 95 P P 00 03 40.6 +1.0
KMSC Kings Mountain 49.34 92 P P 00 03 40.2 -0.4
KMSC Kings Mountain 49.34 92 P P 00 03 40.6 0.0
baz=328
PAULI Pauline 49.40 93 P P 00 03 41.3 +0.3
PAULI IAmb IAmb 00 03 41.9
comp=Z,18nm,0.6s
MOR8 Moi Rana 49.55 9 *eP* P 00 03 40.8 -1.0
HODGE Hodges 49.70 94 P P 00 03 43.5 +0.2
HODGE IAmb IAmb 00 03 44.3
comp=Z,16nm,0.6s
250A Grady 49.86 99 P P 00 03 45.2 +0.7
GOGA Godfrey 49.86 95 P P 00 03 43.6 -1.0
GOGA Godfrey 49.86 95 P P 00 03 44.6 +0.1
baz=328
U59A Littleton 49.88 88 P P 00 03 45.3 +0.7
U59A IAmb IAmb 00 03 46.1
comp=Z,14nm,0.9s
W57A Gilead 49.92 91 P P 00 03 45.0 0.0
W57A IAmb IAmb 00 03 45.7
comp=Z,9.4nm,0.7s
152A Waverly Hall 49.95 97 P P 00 03 45.5 +0.3
152A IAmb IAmb 00 03 46.2
comp=Z,18nm,0.7s
BIRD Birdtown, Kers 50.14 92 P P 00 03 46.7 +0.1
BIRD IAmb IAmb 00 03 47.2
comp=Z,10nm,0.8s
BRAL Brewton 50.21 100 P P 00 03 48.2 +1.0
BRAL Brewton 50.21 100 P P 00 03 48.0 +0.8
baz=330
352A Blakely 50.87 98 P P 00 03 52.1 -0.1
352A IAmb IAmb 00 03 53.0
comp=Z,18nm,0.9s
451A Vernon 51.26 99 P P 00 03 55.8 +0.8
TIGA Tifton 51.49 97 P P 00 03 56.7 -0.1
baz=329
255A Hazlehurst 51.56 95 P P 00 03 58.0 +0.7
255A IAmb IAmb 00 03 58.4
comp=Z,14nm,0.7s
NHSC New Hope 51.57 92 P P 00 03 57.8 +0.6
baz=328
Y60A Bolivia 51.67 90 P P 00 03 57.9 -0.2
553A Crawfordville 52.20 98 P P 00 04 02.7 +0.7
AKN Aaknes 52.84 14 *eP* P 00 04 06.9 +0.6
DOMB Dombas 53.19 13 *eP* P 00 04 09.5 +0.6
ULN Ulaanbaatar 53.69 306 P P 00 04 12.5 -0.4
ULN IAmb IAmb 00 04 14.2
comp=Z,6.7nm,0.8s
656A Willston 53.73 97 P P 00 04 13.8 +0.5
SONM Songino Array 53.95 306 P P 00 04 15.4 +0.6
SONM IAmb IAmb 00 04 16.5
comp=Z,7.8nm,0.8s
SONM Songino Array 53.95 306 P P 00 04 15.5 +0.7
comp=Z,6.3nm,0.8s,baz=17,slow=6.1,SNR=46
comp=Z,6.3nm,0.8s
KSRS Korea Array 54.13 283 P P 00 04 16.3 +0.3
comp=Z,1.7nm,0.7s,baz=25,slow=7.2,SNR=3.9
comp=Z,1.7nm,0.7s
NBO00 NORSAR Array S 54.34 12 P P 00 04 15.9 -1.4
NC405 NORSAR Array S 54.34 11 P P 00 04 16.6 -0.7
NC405 IAmb IAmb 00 04 18.4
comp=Z,15nm,0.8s
NB201 NORSAR Array S 54.37 12 P P 00 04 15.9 -1.7
NB2 NORSAR Subarra 54.37 12 P P 00 04 17.0 -0.5
comp=Z,15nm,1.0s,baz=351,slow=7.4
NB2 NORSAR Subarra 54.37 12 P P 00 04 17.0 -0.5
baz=351,slow=7.4
NOA NORSAR Array B 54.37 12 P P 00 04 17.1 -0.5
comp=Z,6.6nm,0.9s,baz=350,slow=7.2,SNR=19
comp=Z,6.6nm,0.9s
NAO01 NORSAR Array S 54.54 12 P P 00 04 18.1 -0.6
NAO01 IAmb IAmb 00 04 36.4
comp=Z,9.5nm,1.2s
FIA1 FINESS Array S 54.80 3 P P 00 04 19.9 -0.6
FINES FINESS Array B 54.80 3 P P 00 04 20.3 -0.3
FINES FINESS Array B 54.80 3 P P 00 04 20.0 -0.5
comp=Z,20nm,0.7s,baz=3.8,slow=8.3,SNR=61
comp=Z,20nm,0.7s
RAF Rauma 55.08 5 *eP* P 00 04 22.2 -0.4
ZAA0 Zalesovo Array 55.22 324 P P 00 04 22.9 -0.8
ZAA0 IAmb IAmb 00 04 23.6
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 55.22 324 P P 00 04 22.9 -0.8
ZALV Zalesovo Beam 55.22 324 P P 00 04 22.6 -1.1
comp=Z,3.7nm,0.3s,baz=17,slow=6.7,SNR=46
comp=Z,3.7nm,0.3s
HFS Hagfors 55.48 10 P P 00 04 24.9 -0.5
comp=Z,8.7nm,0.7s,baz=38,slow=5.6,SNR=26
comp=Z,8.7nm,0.7s
KONO Kongsberg 55.59 13 *eP* P 00 04 27.5 +1.3
KIRV Kirov 56.92 349 P P 00 04 35.2 -0.5
comp=Z,22nm,0.8s,baz=28,slow=4.1,SNR=7.5
comp=Z,22nm,0.8s
MTSE Matsula 57.47 4 *eP* P 00 04 39.7 +0.2
VSU Vasula 57.80 3 *eP* P 00 04 41.9 +0.1
BORU Boraas 57.88 11 *i* P P 00 04 40.3 -2.1
HHC Hu-ho-hao-te 57.98 298 *eP* P 00 04 44.9 +1.3
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.6s
ARU Arti 58.03 342 P P 00 04 43.3 -0.2
ARU Arti 58.03 342 P P 00 04 43.2 -0.2
comp=Z,16nm,0.3s,baz=12,slow=3.2,SNR=49
comp=Z,16nm,0.3s
ONAU Onsala 58.03 12 *i* P P 00 04 40.9 -2.6
EKB Eskdalemuir 58.09 22 P P 00 04 44.0 0.0
EKB IAmb IAmb 00 04 45.2
comp=Z,18nm,0.9s
EKA Eskdalemuir Ar 58.10 22 P P 00 04 44.1 +0.1
comp=Z,3.8nm,0.5s,baz=335,slow=5.7,SNR=25
comp=Z,3.8nm,0.5s
ESK Eskdalemuir 58.11 22 P P 00 04 45.2 +1.2
FABU Falkenberg 58.50 12 *i* P P 00 04 45.1 -1.6
SLIT Slitere, Latvi 58.50 5 *eP* P 00 04 46.5 -0.2
DEL Delary 59.12 11 *i* P P 00 04 50.0 -1.0
TEIG Tepich 59.28 108 P P 00 04 51.5 -1.1
BRVK Borovoye 59.34 334 P P 00 04 51.6 -1.0
BVAR Borovoye Array 59.35 334 P P 00 04 52.2 -0.5
comp=Z,13nm,0.7s,baz=45,slow=6.5,SNR=54
comp=Z,13nm,0.7s
BLEU Blekinge 59.44 10 *i* P P 00 04 52.8 -0.4
SEM Semipalatinsk 59.61 326 *eP* P 00 04 53.0 -1.7
baz=326
HNS HongShan 59.70 294 ⇑P P 00 04 55.5 +0.2
HNS pmax pmax
comp=Z,15nm,1.2s
KURK Kurchatov 59.72 327 P P 00 04 54.6 -0.7
KURK IAmb IAmb 00 04 55.2
comp=Z,10.0nm,0.9s
KURBB Kurchatov Arra 59.83 327 P P 00 04 55.0 -1.0
comp=Z,4.8nm,0.6s,baz=28,slow=7.1,SNR=42
comp=Z,4.8nm,0.6s
PBUR Paburge 60.09 6 *eP* P 00 04 57.7 +0.1
VSVD Vaisvydziai 60.21 5 *eP* P 00 04 58.7 +0.2
ISAL Salakas 60.69 3 *eP* P 00 05 03.2 +1.5
PABE Paberze 60.69 5 P P 00 05 01.9 +0.2
PABE Paberze 60.69 5 *eP* P 00 05 02.2 +0.5
ZSN Zaisan 61.12 321 *eP* P 00 05 04.4 -0.5
comp=Z,11nm,0.7s,baz=322
OBN Obninsk 61.13 356 P P 00 05 04.9 +0.2
MK31 Makanchi Array 62.42 323 P P 00 05 12.2 -1.3
MKAR Makanchi Array 62.42 323 P P 00 05 12.1 -1.4
MKAR Makanchi Array 62.42 323 P P 00 05 12.0 -1.6
comp=Z,6.3nm,0.7s,baz=48,slow=6.9,SNR=78
comp=Z,6.3nm,0.7s
MAKZ Makanchi 62.49 323 P P 00 05 12.3 -1.7
MAKZ IAmb IAmb 00 05 13.6
comp=Z,10nm,0.8s
GKP Gorka Klasztor 62.56 9 *eP* P 00 05 14.8 +0.5
BELG Belogornoye 63.21 349 P P 00 05 18.1 -0.4
comp=Z,82nm,0.9s,baz=315,slow=3.2,SNR=27
comp=Z,82nm,0.9s
WMQ Urumqi 63.62 318 *eP* P 00 05 21.6 0.0
WMQ pP pP 00 05 54.0 +1.2
WMQ pmax pmax
comp=Z,19nm,0.9s
GTA Gaotai 63.62 306 P P 00 05 21.5 -0.2
GTA pP PcP 00 05 55.8 -1.1
GTA pmax pmax
comp=Z,15nm,1.0s
AKTO Aktyubinsk 63.95 341 P P 00 05 23.0 -0.5
comp=Z,11nm,0.3s,baz=19,slow=5.4,SNR=46
comp=Z,11nm,0.3s
MTO3 Montecristo 64.05 112 P P 00 05 25.5 +0.7
MTO3 IAmb IAmb 00 05 25.7
comp=Z,7.4nm,0.8s
CLL Collm 64.16 12 *i* P P 00 05 25.3 +0.4
comp=Z,9.0nm,0.8s
BRG Berggiesshubel 64.68 12 *eP* P 00 05 29.0 +0.7
BRG Amp 00 05 30.1
comp=Z,10.0nm,1.1s
ABKAR Akbulak array 64.81 339 P P 00 05 29.1 -0.1
ABKAR Akbulak array 64.81 339 P P 00 05 28.7 -0.5
HSKC Hora Svate Kat 64.89 12 *eP* P 00 05 30.1 +0.4

XAN Xi'an 64.93 296 ⇓P P 00 05 29.3 -1.0
XAN pmax pmax
comp=Z,6.0nm,0.8s
PVCC Panska Ves 65.07 11 *e*P P 00 05 31.6 +0.8
LZH Lanzhou 65.09 301 ⇑P P 00 05 31.4 0.0
LZH pP PcP 00 06 04.3 +1.2
LZH sP sP 00 06 15.3 -1.5
LZH pmax pmax
comp=Z,23nm,1.4s
TDK Taldyqorghan 65.09 325 *e*P P 00 05 30.5 -0.6
comp=Z,12nm,0.6s,baz=325
CHVC Chvalec 65.14 10 *e*P P 00 05 32.2 +0.9
NKC Novy Kostel 65.17 13 *e*P P 00 05 32.0 +0.5
OSTC Ostas 65.18 10 *e*P P 00 05 32.2 +0.6
UPC Upice 65.22 10 *e*P P 00 05 32.5 +0.7
DPC Dobruska-Polom 65.40 10 *e*P P 00 05 33.6 +0.6
GRF Grafenberg Arr 65.58 14 *e*P P 00 05 35.7 +1.6
comp=Z,4.9nm,0.9s,baz=351,slow=5.9
AKASG Malin Array Be 65.62 1 P P 00 05 33.9 -0.4
AKASG Malin Array Be 65.62 1 P P 00 05 33.7 -0.6
comp=Z,9.0nm,0.4s,baz=359,slow=6.2,SNR=50
comp=Z,9.0nm,0.4s
AKBB Malin Array Si 65.62 1 P P 00 05 33.9 -0.4
KIEV Kiev 65.62 1 ⇑P P 00 05 33.7 -0.6
KIEV Kiev 65.62 1 P P 00 05 34.1 -0.2
AK05 Malin Array Si 65.70 1 P P 00 05 34.1 -0.8
KRLC Kraliky 65.71 10 *e*P P 00 05 35.5 +0.5
KRLC *ex* x 00 05 43.9
MORC Moravsky Berou 66.06 10 ⇓P P 00 05 37.3 0.0
MORC Moravsky Berou 66.06 10 P P 00 05 38.0 +0.7
MORC IAmb IAmb 00 05 39.1
comp=Z,13nm,1.4s
MORC Moravsky Berou 66.06 10 *e*P P 00 05 37.5 +0.2
BTLS Baital 66.12 328 *e*P P 00 05 36.9 -0.7
baz=328
KHC Kasperske Hory 66.37 12 P P 00 05 40.3 +1.0
KHC Kasperske Hory 66.37 12 *e*P P 00 05 40.1 +0.9
VRAC Vranov 66.45 10 ⇑P P 00 05 40.8 +1.1
VRAC Vranov 66.45 10 *e*P P 00 05 40.4 +0.7
KPKS Kokpek 66.45 324 *e*P P 00 05 39.4 -0.6
baz=324
MAUC Maruska 66.49 9 *e*P P 00 05 39.9 -0.1
KWP Kalwaria Pacla 66.51 6 P P 00 05 41.0 +1.0
KWP IAmb IAmb 00 05 41.5
comp=Z,15nm,0.8s
CHKK Chushkaly 66.52 325 *e*P P 00 05 38.9 -1.4
baz=325
SHLS Shalkode 66.54 323 *e*P P 00 05 39.5 -1.1
comp=Z,11nm,0.6s,baz=323
KUU Kurty 66.65 326 *e*P P 00 05 39.5 -1.5
baz=326
GEC2 GERESS Array S 66.66 12 P P 00 05 41.5 +0.3
GERES GERESS Array B 66.66 12 P P 00 05 42.1 +1.0
GERES GERESS Array B 66.66 12 P P 00 05 42.0 +0.8
comp=Z,1.7nm,0.5s,baz=6.1,slow=7.1,SNR=12
comp=Z,1.7nm,0.5s
UZB Uzynbulak 66.67 324 *e*P P 00 05 40.5 -0.9
baz=324
KRUC Moravsky 66.68 10 *e*P P 00 05 41.4 +0.2
CKRC Cesky Krumlov 66.75 12 *e*P P 00 05 41.8 +0.2
MATN Matagalpa 66.79 109 P P 00 05 42.5 +0.1
MATN IAmb IAmb 00 05 43.5
comp=Z,16nm,0.8s
ZHN Zhinishke 66.80 324 *e*P P 00 05 41.3 -0.9
baz=324
SATY Saty 66.91 324 *e*P P 00 05 42.1 -0.7
baz=324
JAVC Velka Javorina 66.98 10 *e*P P 00 05 44.6 +1.5
AAA Alma-Ata 67.15 325 *e*P P 00 05 43.5 -0.8
baz=325
MDOK Medeo 67.16 325 *e*P P 00 05 43.5 -1.0
baz=325
TNSS Tian-Shan 67.30 325 *e*P P 00 05 44.7 -1.0
baz=325
SGDS Sogindy 67.48 327 *e*P P 00 05 45.8 -0.6
baz=327
USP Ospenovka 67.68 327 P P 00 05 47.3 -0.3
SNR=12
TKM2 Tokmak 2 67.75 326 P P 00 05 48.0 -0.2
SNR=15
CONA Conrad Observa 67.77 11 *i*P P 00 05 49.3 +1.2
comp=Z,23nm,1.5s
BIOA Bad Ischl, Aus 67.80 13 *i*P P 00 05 49.0 +0.7
comp=Z,3.1nm,0.6s
CHMS Chumysh 67.88 327 P P 00 05 48.7 -0.1
SNR=9.8
MOTA Moosalm 67.88 14 *i*P P 00 05 50.4 +1.4
comp=Z,3.8nm,0.8s
WATA Walderalm 67.94 14 *i*P P 00 05 50.2 +0.9
comp=Z,13nm,1.1s
LESA Schwarzleotal 67.97 13 *i*P P 00 05 50.4 +0.9
comp=Z,5.8nm,0.7s
SQTA Sankt Quirin 68.02 14 *e*P P 00 05 50.8 +1.1
comp=Z,16nm,1.3s
WTTA Wattenberg 68.02 14 *e*P P 00 05 50.4 +0.6
comp=Z,26nm,1.5s,SNR=5.9
RONA Rosalia, Austr 68.03 11 *i*P P 00 05 51.0 +1.2
comp=Z,9.3nm,1.1s
PSZ Piszkesteto 68.07 8 ⇑P P 00 05 49.9 -0.1
PSZ Piszkesteto 68.07 8 P P 00 05 50.0 0.0
PSZ IAmb IAmb 00 05 52.5
comp=Z,13nm,1.0s
FRU1 Bishkek 68.08 327 P P 00 05 50.4 +0.2
KBK Karagaybulak 68.15 327 P P 00 05 50.7 0.0
SNR=13
FETA Feichten 68.16 15 *e*P P 00 05 51.8 +1.1
comp=Z,7.2nm,1.3s
SORM Soroca 68.17 2 ⇓P P 00 05 50.1 -0.5
GOMU GeErMu 68.25 309 P P 00 05 51.9 +0.2
GOMU pP PcP 00 05 55.5 -21
GOMU sP pP 00 05 57.0 -26
GOMU pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 68.28 327 P P 00 05 51.4 -0.1
SNR=11
AAK Ala-Archa 68.28 327 P P 00 05 51.2 -0.3
AAK IAmb IAmb 00 05 52.2
comp=Z,9.9nm,0.8s
AAK Ala-Archa 68.28 327 P P 00 05 51.2 -0.3
comp=Z,7.2nm,0.7s,baz=114,slow=1.5,SNR=34
comp=Z,7.2nm,0.7s
TARG Taragay, Kyrgy 68.31 324 P P 00 05 51.5 -0.5
KBA Koelnbreinsper 68.38 13 *i*P P 00 05 53.5 +1.4
comp=Z,17nm,0.8s
EKS2 Erkin-Say 68.43 327 P P 00 05 52.4 0.0
SNR=27
BMR Baia Mare 68.50 5 ⇑P P 00 05 53.4 +0.8
TUE Stuetta 68.54 16 P P 00 05 54.0 +0.8
TUE IAmb IAmb 00 05 55.4
comp=Z,9.2nm,0.7s
BUR08 Bucovina Ar. S 68.59 4 P P 00 05 53.4 +0.1
BUR08 IAmb IAmb 00 05 54.5
comp=Z,11nm,0.5s
BURAR Bucovina Array 68.62 4 ⇓P P 00 05 53.6 +0.1
BURAR Bucovina Array 68.62 4 P P 00 05 53.6 +0.1
BURAR IAmb IAmb 00 05 55.0
comp=Z,14nm,0.6s
ABTA Abfaltersbach 68.62 14 *e*P P 00 05 54.7 +1.2
comp=Z,4.8nm,1.2s,SNR=4.4
KZA Kyzart 68.62 326 P P 00 05 54.1 +0.1
SNR=5.2
KK31 Karatay Array 68.76 330 P P 00 05 53.8 -0.5
KK31 IAmb IAmb 00 05 54.4
comp=Z,9.1nm,0.9s
KKAR Karatay Array 68.76 330 P P 00 05 53.6 -0.7
KKAR IAmb IAmb 00 05 54.4
comp=Z,9.1nm,0.9s
KKAR Karatay Array 68.76 330 P P 00 05 53.1 -1.2
DZA Taraz 68.78 329 *e*P P 00 05 53.6 -0.8
baz=329
MYKA Terra Mystica 68.85 13 *i*P P 00 05 56.1 +1.2
comp=Z,5.3nm,0.7s
PRAR RASCA 68.90 3 ⇓P P 00 05 53.4 -1.7
SOKA Soboth 68.93 12 *i*P P 00 05 56.7 +1.3
comp=Z,10nm,1.6s
AML Almayashu 68.95 327 P P 00 05 56.2 +0.2
SNR=14
NRN Naryn 69.05 325 P P 00 05 56.1 -0.4
OBKA Obir 69.06 12 *e*P P 00 05 57.2 +1.1
comp=Z,22nm,0.9s,SNR=12
ARCR ARCALIA 69.12 5 ⇑P P 00 05 57.6 +1.2
KIS Kishinev 69.32 2 *e*P P 00 05 57.0 -0.6
comp=Z,15nm,0.6s
DRGR 69.34 6 ⇑P P 00 05 57.6 -0.3
MILM Milestii Mici 69.40 2 ⇓*i*P P 00 05 57.0 -1.1
comp=Z,60nm,0.8s
MILM Milestii Mici 69.40 2 ⇓P P 00 05 57.2 -0.9
MARR Marisel-Cluj 69.48 6 ⇓P P 00 05 58.2 -0.6
MORH Mrgy, Hungar 69.68 9 ⇓P P 00 06 00.1 +0.3
CHM Chimkent 69.70 330 *e*P P 00 05 59.2 -0.9
comp=Z,6.3nm,0.8s,baz=330
PURM Purcari 69.80 1 ⇓P P 00 06 00.3 -0.3
SIRR Siria 69.81 7 ⇓P P 00 06 00.7 0.0
ARSB Arslanbob 69.89 328 P P 00 06 00.5 -0.9
TEOL Teolo 69.91 14 P P 00 06 00.6 -0.7
TEOL IAmb IAmb 00 06 03.0
comp=Z,15nm,0.8s
OZUR 70.16 4 ⇑P P 00 06 02.9 0.0
TURR Turia 70.20 4 ⇑P P 00 06 04.3 +1.1
GHRR 70.23 3 ⇓P P 00 06 03.2 0.0
DOPR Dopca 70.27 4 ⇓P P 00 06 04.3 +0.7
SURR Surduc 70.35 7 ⇑P P 00 06 04.8 +0.8
VRI Vrincioaia 70.41 3 ⇑P P 00 06 04.5 +0.1
COVR Voineasa-Covas 70.42 4 ⇓P P 00 06 06.2 +1.7
PLOR Plostina 70.42 3 ⇓P P 00 06 04.8 +0.4
BZS Buzias 70.46 7 ⇓P P 00 06 04.1 -0.6
BISRR Bisoca 70.73 3 ⇑P P 00 06 06.5 +0.1
LOT Lotru 70.73 5 ⇓P P 00 06 06.7 +0.2
MLR Muntele Rosu 70.77 4 ⇑P P 00 06 08.3 +1.7
MLR Muntele Rosu 70.77 4 P P 00 06 07.3 +0.6
VOIR 70.79 4 ⇑P P 00 06 07.8 +1.1
FRGS Fruska Gora 70.81 8 ⇑P P 00 06 06.7 -0.2
ARR Arges 70.85 5 ⇓P P 00 06 07.4 +0.3
KSH Kashi 70.86 325 P P 00 06 09.8 +2.5
KSH pmax pmax
comp=Z,9.0nm,0.7s
CFR Carcaliu 71.13 2 ⇓P P 00 06 08.6 -0.1
HERR Herculane 71.24 6 ⇑P P 00 06 10.0 +0.6
MDVR Moldovita 71.30 7 ⇑P P 00 06 10.1 +0.3
TPGR Topolog 71.45 2 ⇑P P 00 06 10.7 0.0
BTK Batken 71.59 329 P P 00 06 10.8 -0.9
BTK IAmb IAmb 00 06 12.2
comp=Z,20nm,1.1s
HARR Harsova 71.61 2 ⇓P P 00 06 11.6 0.0
HUMR Humele 71.70 5 ⇓P P 00 06 11.9 -0.2
MFTR Murfatlar 72.13 2 ⇓P P 00 06 14.9 +0.2
KBZ Khabaz 72.19 351 P P 00 06 15.4 +0.4
comp=Z,9.8nm,0.9s,baz=310,slow=4.5,SNR=10.0
comp=Z,9.8nm,0.9s
BOVS Bovan 72.44 7 ⇓P P 00 06 16.1 -0.5
BLKB Belogradchik 72.50 6 ⇑P P 00 06 16.0 -1.0
ESDC Sonseca Array 73.01 28 P P 00 06 19.9 -0.2
ESDC Sonseca Array 73.01 28 P P 00 06 20.4 +0.4
comp=Z,3.2nm,0.9s,baz=345,slow=5.8,SNR=15
comp=Z,3.2nm,0.9s
ELND Elena 73.32 4 ⇑P P 00 06 20.5 -1.3
SIMJ Simiganj 73.34 330 P P 00 06 21.2 -1.0
SIMJ IAmb IAmb 00 06 22.5
comp=Z,25nm,1.0s
SKO Skopje 74.08 7 *i*P P 00 06 27.4 +1.2
PEHC Pehcevo 74.35 6 *i*P P 00 06 27.6 -0.3
STIP Stip 74.40 7 *i*P P 00 06 27.6 -0.4
PZH PanZhiHua 74.44 299 P P 00 06 28.0 -0.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,140nm,5.7s
OHR Ohrid 74.90 8 *i*P P 00 06 25.5 -5.5
FNA Florina 75.27 8 P P 00 06 32.7 -0.4
GNI Garni 75.61 349 P P 00 06 36.0 +0.8
GNI IAmb IAmb 00 06 37.4
comp=Z,21nm,1.1s
GEYT Alibeck 76.14 338 P P 00 06 37.9 -0.2
GEYT IAmb IAmb 00 06 39.4
comp=Z,16nm,1.1s
GEYT Alibeck 76.14 338 P P 00 06 38.4 +0.3
comp=Z,8.4nm,0.9s,baz=316,slow=4.1,SNR=17
comp=Z,8.4nm,0.9s
GYA0B ALIBECK ARRAY 76.14 338 P P 00 06 37.9 -0.2
GYA0B IAmb IAmb 00 06 39.3
comp=Z,17nm,1.2s
BR131 Keskin Array S 76.58 358 P P 00 06 40.7 0.0
BRTR Keskin Array B 76.58 358 P P 00 06 40.3 -0.4
BRTR Keskin Array B 76.58 358 P P 00 06 40.9 +0.1
comp=Z,3.1nm,0.8s,baz=4.8,slow=3.4,SNR=11
comp=Z,3.1nm,0.8s
NIL Nilore 77.11 325 P P 00 06 43.0 -0.6
NIL IAmb IAmb 00 06 44.2
comp=Z,39nm,1.2s
KBL Kabul 77.27 329 P P 00 06 42.9 -1.8
KBL IAmb IAmb 00 06 44.1
comp=Z,23nm,1.4s
SLVN Son La 78.23 294 P P 00 06 48.1 -1.9
MARD Mardin 78.71 352 P P 00 06 51.9 -0.7
HRA Herat 78.86 334 P P 00 06 53.4 -0.1
HRA IAmb IAmb 00 06 54.8
comp=Z,20nm,1.4s
ROSC El Rosal 78.98 102 P P 00 06 56.2 +1.6
comp=Z,11nm,0.6s,baz=315,slow=20,SNR=4.3
comp=Z,11nm,0.6s
GAZ Gaziantep 79.03 355 P P 00 06 55.0 +0.8
GAZ IAmb IAmb 00 06 56.1
comp=Z,11nm,0.8s
KEST Kesra 79.11 18 P P 00 06 55.2 +0.5
KEST IAmb IAmb 00 06 57.1
comp=Z,8.4nm,0.8s
KEST Kesra 79.11 18 P P 00 06 55.2 +0.5
comp=Z,11nm,0.9s,baz=318,slow=3.7,SNR=11
comp=Z,11nm,0.9s
CRAI Chiangrai 80.63 297 P P 00 07 01.2 -1.7
CMAR Chiang Mai Arr 82.79 298 P P 00 07 13.2 -1.1
CMAR Chiang Mai Arr 82.79 298 P P 00 07 14.1 -0.3
comp=Z,1.3nm,0.3s,baz=3.5,slow=5.9,SNR=15
CMAR LR LR 00 46 46.1
comp=Z,11nm,18.4s,baz=85,slow=38
comp=Z,1.3nm,0.3s
COHC Cochancay 83.45 109 P P 00 07 16.4 -1.3
BOSC San Juan Bosco 84.39 109 P P 00 07 22.4 -0.3
PLCA Paso Flores 121.10 120 PKP **PKPdf** 00 13 41.1 0.0
comp=Z,1.1nm,0.8s,baz=52,slow=6.6,SNR=3.5
BOSA Boshof 144.40 9 PKP **PKPab** 00 14 22.9 -0.7
comp=Z,7.9nm,0.6s,baz=359,slow=3.0,SNR=28
VNDA Vanda 144.44 196 PKP PKPbc 00 14 22.9 +0.4
comp=Z,1.5nm,0.9s,baz=46,slow=4.7,SNR=2.1

*IDC **20** 00:23:37.4±1.0,5°.4**3**N×125°.8**2**E,h0km,mb3.4/7, mbtmp3.4/7,Error ellipse: s-maj=63.9km s-min=17.3km az=74.0*
ISC 20 00:23:39.0±1.1,5°.4N±0°.1×125°.7E±0°.4,h10km,n8,σ1s02/9, mb3.5/7,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.62**	**355**	Pn	**Pb**	**00 24 08.2**	**-0.9**
DAV	55nm,0.3s,baz=51,slow=2.0,SNR=5.4			Sn	**Sg**	**00 24 32.2**	**+0.8**
	66nm,0.3s,baz=293,slow=23,SNR=10						
DAV				LR	LR	00 25 03.7	
	comp=Z,353nm,18.8s,baz=170,slow=52						
WRA	**Warramunga Arr**	**26.61**	**162**	P	**P**	**00 29 17.1**	**-0.8**
	0.3nm,0.5s,baz=345,slow=10,SNR=5.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**30.01**	**165**	P	**P**	**00 29 48.8**	**+0.5**
	0.3nm,0.6s,baz=340,slow=6.5,SNR=4.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.59**	**325**	P	**P**	**00 33 14.2**	**-0.7**
	0.1nm,0.3s,baz=116,slow=7.6,SNR=4.9						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**58.62**	**333**	P	**P**	**00 33 37.9**	**+1.7**
	0.2nm,0.4s,baz=131,slow=4.4,SNR=1.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**59.77**	**327**	P	**P**	**00 33 44.3**	**+0.1**
	0.1nm,0.3s,baz=128,slow=5.9,SNR=1.5						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**65.35**	**327**	P	**P**	**00 34 20.8**	**-0.7**
	0.3nm,0.6s,baz=132,slow=2.1,SNR=4.0						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**84.00**	**25**	P	**P**	**00 36 09.5**	**+0.1**
	0.6nm,1.0s,baz=266,slow=6.3,SNR=2.8						
	0.6nm,1.0s						

IDC 20 00:33:40.6±2.1,5°.82S×150°.55E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=138.8km s-min=29.8km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.11**	**227**	P	P	00 38 27.4	+0.3
	1.0nm,1.0s,baz=51,slow=10,SNR=3.2						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**23.91**	**220**	P	P	00 38 55.5	-1.0
	0.3nm,0.6s,baz=56,slow=8.3,SNR=6.7						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.95**	**22**	P	P	00 46 12.7	+0.3
	0.4nm,0.8s,baz=242,slow=5.8,SNR=5.6						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.46**	**286**	PKPbc	PKPbc	00 53 30.2	-0.2
	0.3nm,0.7s,baz=68,slow=6.0,SNR=2.1						

*IDC **20** 00:36:50.6±0.9,32°.2**3**N×104°.5**9**E,h0km,mb3.7/13, mbtmp3.7/14,ML4.0/1,MS3.3/3,Error ellipse: s-maj=38.3km s-min=17.6km az=56.0*
ISC 20 00:36:52.7±1.0,32°.2N±0°.2×104°.5E±0°.2,h15km,n16, σ0s92/14,mb3.8/13,MS3.2/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**15.71**	**5**	Pn	**Pn**	**00 40 34.2**	**+0.6**
	0.6nm,0.3s,baz=182,slow=14,SNR=3.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**22.43**	**317**	P	**P**	**00 41 52.1**	**+1.1**
	0.9nm,0.8s,baz=117,slow=11,SNR=11						
MKAR				LR	LR	00 51 28.9	
	comp=Z,48nm,20.0s,baz=226,slow=39						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**25.93**	**333**	P	**P**	**00 42 24.4**	**+0.2**
	2.0nm,0.5s,baz=127,slow=10,SNR=13						
	2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**26.62**	**321**	P	**P**	**00 42 30.6**	**+0.2**
	0.5nm,0.6s,baz=131,slow=8.9,SNR=8.2						
	0.5nm,0.6s						
JHJ	**Hachijo jima 2**	**29.61**	**79**	LR	LR	00 55 54.3	
	comp=Z,109nm,20.7s,baz=224,slow=39						
BVAR	**Borovoye Array**	**32.19**	**320**	LR	LR	00 56 10.0	
	comp=Z,44nm,18.8s,baz=286,slow=36						
NRIK	**Noril'sk**	**38.44**	**350**	P	**P**	**00 44 14.1**	**+0.6**
	1.3nm,0.5s,baz=160,slow=4.4,SNR=4.7						
	1.3nm,0.5s						
ARCES	**ARCESS Array B**	**56.44**	**336**	P	**P**	**00 46 33.5**	**0.0**
	0.9nm,0.5s,baz=69,slow=8.0,SNR=5.4						
	0.9nm,0.5s						
BRTR	**Keskin Array B**	**56.54**	**299**	P	**P**	**00 46 34.5**	**-0.3**
	0.4nm,0.7s,baz=75,slow=7.6,SNR=2.2						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**56.89**	**326**	P	**P**	**00 46 36.8**	**+0.1**
	0.7nm,0.6s,baz=92,slow=7.0,SNR=3.8						
	0.7nm,0.6s						
AKASG	**Malin Array Be**	**56.93**	**313**	P	**P**	**00 46 36.3**	**-0.8**
	0.4nm,0.4s,baz=68,slow=8.0,SNR=5.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**59.16**	**147**	P	**P**	**00 46 52.1**	**-1.0**
	0.7nm,0.6s,baz=339,slow=7.4,SNR=3.9						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**62.22**	**149**	P	**P**	**00 47 16.0**	**+2.1**
	0.3nm,0.6s,baz=336,slow=6.8,SNR=6.6						
	0.3nm,0.6s						
HFS	**Hagfors**	**63.09**	**326**	P	**P**	**00 47 18.8**	**-0.5**
	2.7nm,0.9s,baz=91,slow=7.2,SNR=1.4						
	2.7nm,0.9s						
ILAR	**Eielson Array**	**68.72**	**26**	P	**P**	**00 47 54.6**	**-0.8**
	0.4nm,0.9s,baz=284,slow=3.9,SNR=4.6						
	0.4nm,0.9s						
YKA	**Yellowknife Ar**	**80.56**	**17**	P	**P**	**00 49 03.8**	**-0.4**
	0.2nm,0.7s,baz=330,slow=5.0,SNR=5.6						
	0.2nm,0.7s						

IDC 20 00:39:05.5±6.6,3°.41S×149°.86E,h0km,mb3.5/4, mbtmp3.5/4,MS3.0/2,Error ellipse: s-maj=207.6km s-min=30.4km az=102.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.34**	**221**	P	P	00 44 04.7	-0.5
	2.3nm,0.9s,baz=47,slow=11,SNR=8.4						
	2.3nm,0.9s						
ASAR	**Alice Springs**	**25.36**	**216**	P	P	00 44 35.1	+0.6
	0.9nm,0.8s,baz=45,slow=9.2,SNR=3.2						
	0.9nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.36**	**37**	T	T	01 14 22.5	
	baz=220,slow=76,SNR=51						
H11S2	**WAKE ISLAND Hy**	**27.37**	**37**	T	T	01 14 17.9	
	baz=220,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**27.38**	**37**	T	T	01 14 18.4	
	baz=220,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.43**	**35**	T	T	01 15 41.8	
	baz=219,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.45**	**35**	T	T	01 15 53.1	
	baz=219,slow=75,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**28.45**	**35**	T	T	01 15 38.9	
	baz=219,slow=75,SNR=15						
STKA	**Stephens Creek**	**29.36**	**194**	LR	LR	00 57 47.4	
	comp=Z,58nm,18.6s,baz=20,slow=38						
JCJ	**Chichijima**	**31.22**	**347**	LR	LR	00 56 15.7	
	comp=Z,13nm,20.8s,baz=28,slow=33						
SONM	**Songino Array**	**63.61**	**329**	P	P	00 49 38.4	0.0
	0.2nm,0.4s,baz=120,slow=5.2,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**77.37**	**319**	P	P	00 51 02.4	0.0
	0.2nm,0.9s,baz=97,slow=6.0,SNR=1.7						
	0.2nm,0.9s						

*IDC **20** 01:10:07.9±2.3,37°.**3**2N×141°.**6**4E,h0km,mb3.4/3, mbtmp3.3/4,ML2.6/1,Error ellipse: s-maj=43.1km s-min=34.8km az=64.0*
*JMA **20** 01:10:10.9±0.2,37°.3N±0°.3×141°.4E±0°.8,h22km±1km, MV3.3/40,E OFF FUKUSHIMA PREF*
ISC 20 01:10:09.7±2.5,37°.29N±0°.05×141°.5E±0°.1,h10km±13km, n22,σ0s64/20,mb3.5/3,11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**280**	⇓*i*P	**Pg**	**01 10 19.7**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.57**	**251**	⇓*i*P	**Pg**	**01 10 21.3**	**+0.5**
ONAJ				⇓*e*S	**Sg**	**01 10 28.6**	**+0.3**
JMST	**Minamisoumatoc**	**0.64**	**313**	⇓P	**Pg**	**01 10 22.4**	**+0.3**
JMST				⇓eS	**Sg**	**01 10 30.0**	**-0.5**
JFFD	**Fukushimafurud**	**0.76**	**255**	⇓*i*P	**Pg**	**01 10 24.5**	**+0.3**
JFFD				⇓*e*S	**Sg**	**01 10 33.9**	**-0.3**
JMM	**Marumori**	**0.79**	**317**	⇓*i*P	**Pg**	**01 10 24.8**	**-0.1**
JMM				⇓*e*S	**Sg**	**01 10 35.2**	**-0.2**
JOTO	**OTAMA OYAMA**	**0.95**	**287**	*i* P	**Pg**	**01 10 28.0**	**+0.1**
JOTO				S	**Sg**	**01 10 40.9**	**+0.6**
JHO	**Hitachi**	**0.99**	**227**	P	**Pb**	**01 10 27.7**	**-1.2**
JIO	**Ouri**	**1.17**	**355**	P	**Pb**	**01 10 31.1**	**-0.9**
JOU	**Okura**	**1.25**	**329**	⇓*i*P	**Pb**	**01 10 33.2**	**-0.3**
JOU				⇓S	**Sg**	**01 10 50.1**	**+0.1**
MJAR	**Matsushiro Arr**	**2.72**	**255**	Pn	**Pn**	**01 10 54.5**	**+1.0**
	0.9nm,0.3s,baz=72,slow=16,SNR=2.6						
MJAR				Sn	**Sb**	**01 11 30.7**	**-1.3**
	0.5nm,0.3s,baz=204,slow=18,SNR=4.7						
	3.8nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	01 45 34.5	
	baz=314,slow=75,SNR=80						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	01 45 35.5	
	baz=314,slow=75,SNR=145						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	01 45 37.1	
	baz=314,slow=75,SNR=98						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	01 46 29.6	
	baz=316,slow=76,SNR=138						
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	01 46 29.9	
	baz=316,slow=76,SNR=104						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	01 46 30.1	
	baz=316,slow=76,SNR=93						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**01 18 17.7**	**+0.3**
	0.3nm,0.7s,baz=73,slow=6.7,SNR=3.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.89**	**308**	P	**P**	**01 18 32.4**	**+0.3**
	0.4nm,0.7s,baz=80,slow=7.9,SNR=4.7						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.32**	**188**	P	**P**	**01 19 57.9**	**+0.1**
	0.6nm,0.9s,baz=5.1,slow=7.7,SNR=1.8						
	0.6nm,0.9s						
H03N2	**Juan Fernandez**	**147.00**	**96**	T	T	04 14 06.7	
	baz=292,slow=76,SNR=17						
H03N3	**Juan Fernandez**	**147.01**	**96**	T	T	04 14 07.9	
	baz=292,slow=76,SNR=17						
H03N1	**Juan Fernandez**	**147.01**	**96**	T	T	04 14 08.1	
	baz=292,slow=76,SNR=22						

*BJI **20** 01:14:25.6±0.0,26°.34N×89°.87E,h5km,mb4.4/46, mB4.8/21,ML4.8/1,Ms4.3/39,Ms7.3/41*
*IDC **20** 01:14:25.1±0.7,26°.12N×89°.61E,h0km,mb4.1/26,*

mbtmp4.1/27, ML4.7/1, MS3.7/41, Error ellipse: s-maj=22.8km s-min=11.9km az=48.0
MOS 20 01:14:25.0±1.0, 26°.05N×89°.71E, h12km, mb4.8/45, Error ellipse: s-maj=8.7km s-min=3.9km az=121.5
NDI 20 01:14:27.1±4.3, 26°.25N×89°.88E, h10km±16km, mb4.4, mb4.5(NEIC)
NEIC 20 01:14:27.3±1.6, 26°.13N±0°.07×89°.88E±0°.06, h11km±4km, mb4.5/53, Error ellipse: s-maj=11.7km s-min=6.7km az=210.0
ISC 20 01:14:29.9±0.3, 26°.07N±0°.04×89°.77E±0°.03, h32km, n301, σ1.76/303, mb4.5/95, MS3.8/48, 21C-20D,
India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHUB	DHUBRI	0.21	102	ePg	Pn	01 14 43.5	+6.7
DHUB				i Sg	Sn	01 14 47.3	+6.1
SLGI	Shiliguri	1.36	298	ePg	Pb	01 14 54.6	-0.2
SLGI				i Sg	Sb	01 15 13.1	+1.2
GTK	Tadong	1.63	320	ex	x	01 15 19.3	
SHL	Shillong	1.97	104		Pn	01 14 59.7	-1.5
SHL				Sn	Sn	01 15 22.1	-2.9
SHL	Shillong	1.97	104	P	Pn	01 14 59.7	-1.5
SHL						01 15 22.1	
SHL	Shillong	1.97	104	eP	Pn	01 14 59.8	-1.5
SHL				i x	x	01 15 02.3	
AGT	Agartala	2.56	148	ex	x	01 15 18.8	
TEZP	TEZPUR	2.78	78	eP	Pn	01 15 14.6	+2.5
TEZP				eS	Sn	01 15 44.4	-0.2
SILR	SILCHAR	3.03	114	eP	Pn	01 15 17.1	+1.5
LSA	Lhasa	3.82	18	Pn	Pn	01 15 27.2	+0.2
LSA	Lhasa	3.82	18	P	Pn	01 15 27.2	+0.2
KOHI	KOHIMA	3.93	94	eP	Pn	01 15 28.1	0.0
IMP	Imphal	3.97	107	eP	Pn	01 15 29.5	+0.8
BOK	Bokaro	4.19	238	eP	Pn	01 15 34.0	+2.4
BOK				i x	x	01 15 47.1	
MOKO	MOKOCHONG	4.28	86	eP	Pn	01 15 31.7	-1.2
MOKO				eS	Sn	01 16 19.4	-2.3
SAIH	SAIHA	4.62	140	eP	Pn	01 15 39.5	+1.9
SAIH				i x	x	01 15 45.8	
VAR	Varanasi	6.14	264	ex	x	01 15 32.0	
VAR				eS	Sn	01 17 09.2	+1.7
MND	Mandalay	7.07	123	Pn	Pn	01 16 10.4	-0.7
TNCH	TengChong	7.97	96	eP	Pn	01 16 25.9	+2.2
TNCH				pP	Pn	01 16 27.9	+4.2
TNCH				S	Sn	01 17 57.3	+4.3
TNCH				LR	LR		
	comp=Z,520nm,7.8s						
LGTI	Lohaghat	9.08	294	eP	Pn	01 16 40.2	+1.5
LGTI				eS	Sn	01 18 19.5	-0.3
PTH	Pithoragarh	9.14	294	eP	Pn	01 16 40.5	+0.7
PTH				eS	Sn	01 18 19.1	-2.5
PZH	PanZhiHua	10.76	85	P	Pn	01 17 06.6	+4.7
PZH				S	Sn	01 19 04.1	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
PZH				LR	LR		
	comp=N,1μm,15.7s						
PZH				LR	LR		
	comp=E,770nm,16.7s						
PZH				LR	LR		
	comp=Z,720nm,13.7s						
GOMU	GeErMu	10.98	22	P	Pn	01 17 04.4	-0.7
GOMU				pP		01 17 08.9	
GOMU				sP		01 17 10.3	
GOMU				S	Sn	01 19 06.4	-0.7
GOMU				pmax	pmax		
	comp=Z,11nm,0.9s						
GOMU				LR	LR		
	comp=N,810nm,9.8s						
GOMU				LR	LR		
	comp=E,640nm,7.8s						
GOMU				LR	LR		
	comp=Z,1μm,10.8s						
CHTO	Chiang Mai	11.14	129	Pn	Pn	01 17 06.1	-0.9
CHTO	Chiang Mai	11.14	129	P	Pn	01 17 06.1	-0.9
CHTO	Chiang Mai	11.14	129	P	Pn	01 17 06.9	-0.1
	11nm,1.1s						
DDI	Dehra Dun	11.16	295	eP	Pn	01 17 07.4	0.0
DDI				IAmb	IAmb	01 17 09.1	
	comp=Z,73nm,0.5s						
CRAI	Chiangrai	11.35	119		Pn	01 17 08.9	-1.0
CM31	Chiang Mai Arr	11.38	130	Pn	Pn	01 17 09.0	-1.3
CMAR	Chiang Mai Arr	11.38	130	Pn	Pn	01 17 08.5	-1.8
CMAR	Chiang Mai Arr	11.38	130	Pn	Pn	01 17 10.0	-0.3
	comp=Z,1.6nm,0.3s,baz=312,slow=13,SNR=20						
CMAR				Sn	Sn	01 19 25.4	+9.1
	baz=19,slow=14						
CMAR				LR	LR	01 23 02.1	
	comp=Z,296nm,18.6s,baz=315,slow=45						
	comp=Z,2.6nm,0.3s						
KMI	Kunming	11.75	92	⇑P	Pn	01 17 14.9	-0.6
KMI				S	Sn	01 19 28.9	+3.2
KMI				pmax	pmax		
	comp=Z,24nm,1.0s						
KMI				LR	LR		
	comp=Z,910nm,12.7s						
KMI				LR	LR		
	comp=Z,470nm,14.7s						
KMI				LR	LR		
	comp=Z,750nm,16.2s						
SMLA	Simla	12.16	297	eP	Pn	01 17 18.6	-2.4
SMLA				IAmb	IAmb	01 17 21.6	
	comp=Z,46nm,0.5s						
VJD	Vijayawada	12.74	224	eP	Pn	01 17 30.5	+1.6
VJD				eS	Sn	01 19 49.5	-0.2
DGPR	DIGLIPUR	13.16	166	eP	Pn	01 17 33.3	-1.4
DGPR				i x	x	01 17 36.1	
DHRM	DHARAMSHALA	13.28	301	eP	Pn	01 17 34.4	-2.0
DHRM				i x	x	01 17 40.5	
HYB	Hyderabad	13.51	233	eP	Pn	01 17 38.5	-0.9
HYB				e		01 20 03.6	
HYB				eS	Sn	01 20 12.0	+3.6
HYB				IVMs_BB	IVMs_BB	01 22 30.1	
	comp=Z,762nm,3.4s						
SLVN	Son La	13.78	107	Pn	Pn	01 17 39.8	-3.4
PBA	Port Blair	14.61	168	Pn	Pn	01 17 53.4	-0.9
LZH	Lanzhou	15.64	47	⇑P	Pn	01 18 04.3	-3.9
LZH				sP	P	01 18 11.3	-0.7
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				LR	LR		
	comp=Z,750nm,10.7s						
LZH				LR	LR		
	comp=Z,960nm,9.6s						
LZH				LR	LR		
	comp=Z,310nm,11.7s						
GTA	Gaotai	15.75	30	eP	Pn	01 18 04.6	-4.9
GTA				sP	P	01 18 12.5	-0.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				LR	LR		
	comp=Z,360nm,11.3s						
GTA				LR	LR		
	comp=Z,330nm,12.7s						
GTA				LR	LR		
	comp=Z,460nm,12.7s						
NIL	Nilore	16.19	302	Pn	Pn	01 18 11.4	-3.6
NIL	Nilore	16.19	302	P	Pn	01 18 11.4	-3.6
NIL				pmax	pmax		
	comp=Z,80nm,0.7s						
POO	Poona	16.52	246	eP	P	01 18 21.0	-0.7
POO				IAmb	IAmb	01 18 24.6	
	comp=Z,11nm,0.5s						
KSH	Kashi	17.70	323	P	Pn	01 18 30.3	-3.7
KSH				pP	P	01 18 35.1	+0.4
KSH				sP	pP	01 18 40.8	-2.4
KSH				S	Sn	01 21 37.0	-13
KSH				pmax	pmax		
	comp=Z,35nm,1.0s						
KSH				LR	LR		
	comp=Z,590nm,18.6s						
KSH				LR	LR		
	comp=Z,970nm,15.5s						
KSH				LR	LR		
	comp=Z,230nm,13.1s						
WMQ	Urumqi	17.79	355	eP	Pn	01 18 34.3	-0.8
WMQ				pP	pP	01 18 40.5	-3.6
WMQ				S	Sn	01 21 53.6	+1.1
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=Z,640nm,13.7s						
WMQ				LR	LR		
	comp=Z,1μm,17.1s						
WMQ				LR	LR		
	comp=Z,220nm,17.1s						
ENH	Enshi	17.88	72		Pn	01 18 33.8	-2.5
ENH				IAmb	IAmb	01 18 55.3	
	comp=Z,38nm,0.8s						
UBPT	Khong Chiam	18.18	123		Pn	01 18 37.5	-2.4
GOA	Goa	18.23	238	IAmb	IAmb	01 22 17.1	
	comp=Z,20nm,0.6s						
XAN	Xi'an	18.37	60	⇓P	Pn	01 18 44.3	+2.1
XAN				pP	pP	01 18 47.5	-3.0
XAN				sP	sP	01 18 50.8	-3.8
XAN				S	Sn	01 22 07.4	+0.9
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,180nm,4.7s						
XAN				LR	LR		
	comp=Z,1μm,11.4s						
XAN				LR	LR		
	comp=Z,440nm,12.2s						
XAN				LR	LR		
	comp=Z,610nm,9.8s						
TARG	Taragay, Kyrgy	18.48	331	P	P	01 18 41.9	-1.7
TARG				IAmb	IAmb	01 19 02.0	
	comp=Z,24nm,0.9s						
TARG	Taragay, Kyrgy	18.48	331	P	P	01 18 41.9	-1.7
TARG				pmax	pmax		
	comp=Z,24nm,0.9s						
SHLS	Shalkode	19.02	336	eP	P	01 18 47.4	-1.7
SHLS				pmax	pmax		
	comp=Z,23nm,2.0s						
NRN	Naryn	19.09	327		P	01 18 50.5	+0.3
NRN	Naryn	19.09	327	P	P	01 18 50.5	+0.3
NRN				pmax	pmax		
	comp=Z,12nm,1.0s						
KPKS	Kokpek	19.57	335	eP	Pn	01 18 55.9	-0.7
KPKS				pmax	pmax		
	comp=Z,16nm,1.8s						
KBL	Kabul	19.76	300		P	01 18 56.7	-0.8
KBL				IAmb	IAmb	01 19 12.6	
	comp=Z,20nm,0.8s						
KBL	Kabul	19.76	300	P	P	01 18 56.7	-0.8
KBL				pmax	pmax		
	comp=Z,20nm,0.8s						
QIZ	Qiongzhong	19.81	107	P	P	01 18 57.5	-0.4
QIZ				S	S	01 22 39.4	0.0
QIZ				pmax	pmax		
	comp=Z,16nm,1.2s						
QIZ				LR	LR		
	comp=Z,270nm,17.1s						
QIZ				LR	LR		
	comp=Z,250nm,13.5s						
QIZ				LR	LR		
	comp=Z,170nm,5.0s						
KZA	Kyzart	19.95	327	P	Pn	01 19 02.9	+1.5
	SNR=8.0						
MDOK	Medeo	19.97	332	P	P	01 19 00.4	+0.8
OHH	Osh	20.18	320	P	P	01 19 02.7	+0.8
OHH				pmax	pmax		
	comp=Z,29nm,1.3s						
TKM2	Tokmak 2	20.42	329	P	P	01 19 05.6	+1.0
	SNR=14						
TKM2	Tokmak 2	20.42	329	i P	P	01 19 05.0	+0.4
TKM2				pmax	pmax		
	comp=Z,20nm,0.7s						
UCH	Uchtor	20.42	326	P	Pn	01 19 06.3	-0.8
	SNR=16						
KBK	Karagaybulak	20.53	327	P	P	01 19 05.4	-0.3
	SNR=16						
ARXS	Arharly	20.53	335	eP	P	01 19 05.2	-0.4
PALK	Pallekele	20.59	206	LR	LR	01 27 27.0	
	comp=Z,78nm,20.1s,baz=167,slow=38						
ARSB	Arslanbob	20.60	322	P	P	01 19 05.8	-0.7
ARSB	Arslanbob	20.60	322	P	P	01 19 05.8	-0.7
ARSB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AAK	Ala-Archa	20.73	327	P	Pn	01 19 09.7	-0.7
	SNR=10.0						
AAK	Ala-Archa	20.73	327		P	01 19 07.9	0.0
AAK				IAmb	IAmb	01 19 24.4	
	comp=Z,14nm,0.8s						
AAK	Ala-Archa	20.73	327	⇑eP	P	01 19 08.0	0.0
AAK				pmax	pmax		
	comp=Z,17nm,1.2s						
AAK	Ala-Archa	20.73	327	P	P	01 19 05.4	-2.5
	comp=Z,8.6nm,1.1s,baz=164,slow=14,SNR=7.3						
AAK				S	S	01 22 58.0	+0.2
	comp=Z,1.2nm,0.6s,baz=31,slow=13,SNR=1.6						
AAK				LR	LR	01 27 09.4	
	comp=Z,238nm,18.5s,baz=136,slow=37						
	comp=Z,8.6nm,1.1s						
AML	Almayashu	20.77	325	P	P	01 19 09.3	+0.7
	SNR=13						
AML	Almayashu	20.77	325	i P	P	01 19 08.9	+0.3
AML				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FRU1	Bishkek	20.80	327	P	P	01 19 07.2	-1.3
FRU1				IAmb	IAmb	01 19 15.6	
	comp=Z,29nm,1.1s						
FRU1	Bishkek	20.80	327	P	P	01 19 07.2	-1.3
FRU1				pmax	pmax		
	comp=Z,29nm,1.1s						
BTK	Batken	21.08	316	P	P	01 19 10.7	-0.9
BTK	Batken	21.08	316	P	P	01 19 10.7	-0.9
BTK				pmax	pmax		
	comp=Z,56nm,1.0s						
EKS2	Erkin-Say	21.11	326	P	P	01 19 13.8	+1.8
	SNR=13						
USP	Ospenovka	21.20	328	P	P	01 19 13.6	+0.8
	SNR=6.8						
SGDS	Sogindy	21.28	328	eP	P	01 19 13.7	0.0
SGDS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LYN	LuoYang	21.31	61	eP	P	01 19 19.9	+5.9
LYN				S	S	01 23 11.3	+2.2
LYN				pmax	pmax		
	comp=Z,23nm,1.0s						
LYN				pmax	pmax		
	comp=Z,17μm,5.1s						
LYN				LR	LR		
	comp=N,930nm,18.6s						
LYN				LR	LR		
	comp=E,410nm,12.4s						
LYN				LR	LR		
	comp=Z,570nm,15.1s						
ARK	Arkit	21.48	321	P	P	01 19 16.7	+0.8
ARK				pmax	pmax		
	comp=Z,73nm,0.8s						
SIMJ	Simiganj	21.51	311	P	P	01 19 15.6	-0.6
SIMJ				IAmb	IAmb	01 19 33.8	
	comp=Z,31nm,0.8s						
MK31	Makanchi Array	21.52	346	i P	P	01 19 15.0	-1.2
MK31				pmax	pmax		
	comp=Z,12nm,0.5s						
MKAR	Makanchi Array	21.52	346	P	P	01 19 15.0	-1.2
MKAR	Makanchi Array	21.52	346	P	P	01 19 15.0	-1.2
	comp=Z,7.6nm,0.8s,baz=151,slow=12,SNR=40						
MKAR				S	S	01 23 06.9	-6.2
	comp=Z,0.4nm,0.7s,baz=82,slow=31,SNR=1.2						
MKAR				LR	LR	01 29 05.9	
	comp=Z,134nm,18.9s,baz=166,slow=41						
	comp=Z,7.6nm,0.8s						
MAKZ	Makanchi	21.61	345	P	P	01 19 16.0	-1.1
MAKZ	Makanchi	21.61	345	P	P	01 19 16.0	-1.1
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TRKS	Terek-Say	21.78	320	P	P	01 19 19.0	-0.2
TRKS				pmax	pmax		
	comp=Z,48nm,1.0s						
BTO	Baotou	22.21	44	eP	P	01 19 24.8	+1.1
BTO				pP	pP	01 19 28.9	-3.4
BTO				sP	sP	01 19 31.8	-4.6
BTO				PP	PnPn	01 19 50.8	+4.2
BTO				pmax	pmax		
	comp=Z,26nm,1.1s						
BTO				pmax	pmax		
	comp=Z,170nm,3.8s						
BTO				LR	LR		
	comp=Z,850nm,13.1s						
BTO				LR	LR		
	comp=Z,500nm,10.0s						
BTO				LR	LR		
	comp=Z,470nm,10.0s						
KK31	Karatay Array	23.15	322	P	P	01 19 32.9	-0.6
KK31				IAmb	IAmb	01 20 02.3	
	comp=Z,16nm,1.1s						
KK31	Karatay Array	23.15	322	P	P	01 19 32.9	-0.6
KK31				pmax	pmax		
	comp=Z,16nm,1.1s						
KKAR	Karatay Array	23.15	322	P	P	01 19 32.2	-1.2
KKAR	Karatay Array	23.15	322	P	P	01 19 32.3	-1.2
HHC	Hu-ho-hao-te	23.32	45	eP	P	01 19 34.0	-1.3
HHC				pP	pP	01 19 39.8	-4.4
HHC				eS	S	01 23 46.8	+0.9
HHC				sS	pS	01 23 50.4	-4.9
HHC				SS	SnSn	01 24 23.3	+1.4
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,3.7s						
HHC				LR	LR		
	comp=Z,600nm,12.4s						
HHC				LR	LR		
	comp=Z,600nm,10.4s						
HHC				LR	LR		
	comp=Z,440nm,10.6s						
DGZ	Jazzator, Alta	23.66	356	i P	P	01 19 38.8	+0.2
DGZ				pmax	pmax		
	comp=Z,18nm,1.3s						
HNS	HongShan	23.96	56	⇑P	P	01 19 47.8	+6.5
HNS				S	Sn	01 24 10.0	-11
HNS				pmax	pmax		
	comp=Z,14nm,0.8s						
HNS				LR	LR		
	comp=N,770nm,17.6s						
HNS				LR	LR		
	comp=E,380nm,16.5s						
HNS				LR	LR		
	comp=Z,240nm,11.8s						
HRA	Herat	25.13	296	P	P	01 19 52.3	0.0
SONM	Songino Array	25.36	27	P	P	01 19 53.2	-1.0
SONM				IAmb	IAmb	01 20 14.0	
	comp=Z,15nm,0.8s						
SONM	Songino Array	25.36	27	P	P	01 19 53.2	-1.0
SONM				pmax	pmax		
	comp=Z,15nm,0.8s						
SONM	Songino Array	25.36	27	P	P	01 19 54.1	0.0
	comp=Z,4.2nm,0.9s,baz=212,slow=10,SNR=21						
	comp=Z,4.2nm,0.9s						
ULN	Ulaanbaatar	25.66	28	P	P	01 19 55.8	-1.1
ULN	Ulaanbaatar	25.66	28	P	P	01 19 55.8	-1.1
ULN				pmax	pmax		
	comp=Z,26nm,1.2s						
ULN	Ulaanbaatar	25.66	28	P	P	01 19 56.4	-0.5
	comp=Z,72nm,1.0s						
GSI	Gunungsitoli	25.74	162	P	P	01 19 58.4	+0.7
GSI				IAmb	IAmb	01 20 08.8	
	comp=Z,11nm,0.8s						
KURBB	Kurchatov Arra	25.99	344	P	P	01 19 59.2	-0.5
	comp=Z,4.8nm,0.8s,baz=162,slow=8.8,SNR=37						
KURBB				LR	LR	01 31 42.9	
	comp=Z,114nm,21.3s,baz=168,slow=40						
	comp=Z,4.8nm,0.8s						
KURK	Kurchatov	26.06	344	P	P	01 19 59.6	-0.6
KURK				IAmb	IAmb	01 20 20.8	
	comp=Z,15nm,0.9s						
KURK	Kurchatov	26.06	344	i P	P	01 19 59.1	-1.1
KURK				pmax	pmax		
	comp=Z,12nm,0.8s						
NJ2	Nanjing	26.07	70	eP	P	01 20 00.4	-0.2
NJ2				pP	pP	01 20 02.9	-6.9
NJ2				sP	sP	01 20 05.3	-8.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,150nm,3.6s						
ZAK	Zakamensk	26.41	20	eP	P	01 20 03.4	-0.2
ZAK				pmax	pmax		
	comp=Z,12nm,1.0s						
XLT	XiLinHaoTe	27.77	43	eP	P	01 20 22.0	+6.1
XLT				pP	pP	01 20 26.3	+1.1
XLT				sP	sP	01 20 29.0	-0.1
XLT				PP	PP	01 21 10.6	-8.3
XLT				sS	sS	01 25 13.4	+1.5
XLT				SS	SnSn	01 26 18.8	+8.2
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,6.0s						
XLT				LR	LR		
	comp=N,49nm,16.2s						
XLT				LR	LR		
	comp=E,380nm,19.1s						
XLT				LR	LR		
	comp=Z,240nm,16.2s						
ZAA0	Zalesovo Array	28.09	354	P	P	01 20 17.9	-0.5
ZAA0				IAmb	IAmb	01 20 36.5	
	comp=Z,6.2nm,0.8s						
ZALV	Zalesovo Beam	28.09	354	P	P	01 20 17.8	-0.7
ZALV	Zalesovo Beam	28.09	354	P	P	01 20 18.1	-0.4
	comp=Z,0.9nm,0.4s,baz=174,slow=9.1,SNR=4.6						
ZALV				LR	LR	01 31 25.6	
	comp=Z,151nm,21.8s,baz=169,slow=36						
	comp=Z,0.9nm,0.4s						
WSAR	Wadi Sarin	28.40	271	LR	LR	01 31 39.8	
	comp=Z,137nm,19.4s,baz=48,slow=37						
GEYT	Alibeck	29.19	302	P	P	01 20 29.0	+0.5
GEYT	Alibeck	29.19	302	P	P	01 20 29.0	+0.5
GEYT				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GEYT	Alibeck	29.19	302	P	P	01 20 28.1	-0.5
	comp=Z,1.5nm,0.8s,baz=41,slow=46,SNR=4.1						
	comp=Z,1.5nm,0.8s						
GYA0B	ALIBECK ARRAY	29.19	302	P	P	01 20 28.8	+0.3
BVAR	Borovoye Array	30.59	337	P	P	01 20 40.2	-0.5
	comp=Z,0.4nm,0.5s,baz=144,slow=11,SNR=4.5						
BVAR				LR	LR	01 33 13.9	
	comp=Z,86nm,19.4s,baz=143,slow=37						
	comp=Z,0.4nm,0.5s						
BRVK	Borovoye	30.66	337	P	P	01 20 42.3	+1.1
BRVK	Borovoye	30.66	337	i P	P	01 20 39.0	-2.2
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SBUM	Sibu	31.89	134	P	P	01 20 53.6	+1.2
SBUM				IAmb	IAmb	01 21 04.1	
	comp=Z,7.4nm,1.0s						
AB31	Akbulak array	32.71	323	i P	P	01 20 59.6	+0.3
ABKAR	Akbulak array	32.71	323	P	P	01 20 59.3	0.0
KSRS	Korea Array	34.16	61	P	P	01 21 13.1	+1.0
	comp=Z,0.7nm,0.4s,baz=258,slow=9.0,SNR=2.3						
	comp=Z,0.7nm,0.4s						
AKTO	Aktyubinsk	34.40	323	LR	LR	01 37 10.1	
	comp=Z,87nm,19.7s,baz=98,slow=40						
BNX	BinXian	35.83	47	⇑P	P	01 21 25.9	-0.5
BNX				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,130nm,4.3s						
SVE	Sverdlovsk	37.16	334	eP	P	01 21 37.9	+0.3
SVE				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HEH	HeiHe	37.60	40	eP	P	01 21 41.5	+0.1
HEH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	Arti	37.74	332	P	P	01 21 42.6	0.0
ARU	Arti	37.74	332	d iP	P	01 21 42.3	-0.2
ARU						01 23 10.5	
ARU				S	S	01 27 35.6	+4.8
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	Arti	37.74	332	LR	LR	01 39 02.6	
	comp=Z,105nm,21.1s,baz=120,slow=39						
ZEA	Zeya	39.15	35	eP	P	01 21 54.9	+0.5
ZEA				pmax	pmax		
	comp=E,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
GROC	Groznyy	39.52	307	eP	P	01 21 58.4	+0.8
KLR	Kul'dur	39.80	43	i P	P	01 21 59.8	-0.1
KLR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KLR	Kul'dur	39.80	43	LR	LR	01 40 20.4	
	comp=Z,122nm,18.2s,baz=248,slow=39						
ZEI	Tsey	40.81	306	eP	P	01 22 07.9	-0.7
ZEI				pmax	pmax		
	comp=Z,12nm,1.0s						

AKH	**Akhalkalaki**	**40.92**	**304**	P	**P**	**01 22 10.7**	**+1.2**
AKH	**Akhalkalaki**	**40.92**	**304**	P	**P**	**01 22 10.7**	**+1.2**
AKH				pmax	pmax		
	comp=Z,41nm,0.9s						
BELG	**Belogornoye**	**41.06**	**321**	*e*P	**P**	**01 22 10.3**	**+0.1**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	**Belogornoye**	**41.06**	**321**	LR	LR	01 40 04.3	
	comp=Z,116nm,18.5s,baz=103,slow=38						
NCK	**Nalchik**	**41.15**	**307**	*i* P	**P**	**01 22 11.5**	**+0.3**
NCK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KBZ	**Khabaz**	**41.69**	**307**	*ce*P	**P**	**01 22 14.2**	**-1.3**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	**Khabaz**	**41.69**	**307**	P	**P**	**01 22 15.1**	**-0.4**
	comp=Z,4.5nm,1.0s,baz=72,slow=13,SNR=3.4						
KBZ				LR	LR	01 42 30.9	
	comp=Z,93nm,19.6s,baz=78,slow=41						
	comp=Z,4.5nm,1.0s						
KIV	**Kislovodsk**	**41.87**	**308**	*e*P	**P**	**01 22 16.7**	**-0.5**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,65nm,16.0s						
MAJO	**Matsushiro**	**42.30**	**64**	*i* P	**P**	**01 22 22.3**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MJAR	**Matsushiro Arr**	**42.30**	**64**	P	**P**	**01 22 24.5**	**+3.7**
	comp=Z,1.7nm,0.8s,baz=283,slow=8.7,SNR=2.7						
MJAR				LR	LR	01 39 44.5	
	comp=Z,54nm,20.9s,baz=232,slow=36						
KAPI	**Kappang**	**42.42**	**132**	LR	LR	01 43 20.1	
	comp=Z,41nm,18.3s,baz=282,slow=41						
KIRV	**Kirov**	**43.00**	**330**	*ce*P	**P**	**01 22 25.3**	**-0.7**
KIRV	**Kirov**	**43.00**	**330**	LR	LR	01 40 38.5	
	comp=Z,109nm,19.9s,baz=139,slow=37						
NRIK	**Noril'sk**	**43.32**	**359**	*i* P	**P**	**01 22 28.1**	**-0.3**
NRIK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NRIK	**Noril'sk**	**43.32**	**359**	P	**P**	**01 22 27.0**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=143,slow=7.4,SNR=2.4						
NRIK				LR	LR	01 41 55.5	
	comp=Z,142nm,18.8s,baz=178,slow=38						
	comp=Z,1.4nm,0.4s						
VRH	**Novokhopyorsk**	**44.11**	**318**	*e*P	**P**	**01 22 33.3**	**-1.7**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YAK	**Yakutsk**	**44.71**	**25**	*i* P	**P**	**01 22 39.2**	**-0.5**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VSR	**Storozhevoye**	**45.67**	**317**	*e*P	**P**	**01 22 44.1**	**-3.3**
VSR				pmax	pmax		
	comp=Z,9.0nm,1.6s						
ASAJ	**Asahikawa**	**46.01**	**53**	LR	LR	01 42 09.3	
	comp=Z,86nm,18.7s,baz=174,slow=36						
LPSR	**Galich'ya Gora**	**46.15**	**319**	*e*P	P	01 22 40.4	-11
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**46.43**	**49**	*e*P	**P**	**01 22 55.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
MMAI	**Mount Meron Ar**	**47.37**	**292**	LR	LR	01 45 02.3	
	comp=Z,70nm,18.5s,baz=60,slow=39						
OBN	**Obninsk**	**48.14**	**322**	⇓*e*P	**P**	**01 23 06.1**	**-0.6**
OBN				pmax	pmax		
	comp=Z,34nm,2.5s						
EIL	**Elat**	**48.22**	**287**	LR	LR	01 45 13.7	
	comp=Z,78nm,19.6s,baz=88,slow=38						
BRTR	**Keskin Array B**	**48.33**	**301**	P	**P**	**01 23 05.7**	**-2.9**
	comp=Z,0.2nm,0.4s,baz=118,slow=11,SNR=1.6						
BRTR				LR	LR	01 47 21.9	
	comp=Z,62nm,20.6s,baz=112,slow=41						
	comp=Z,0.2nm,0.4s						
KLMR	**Klimovskoe**	**48.50**	**330**	*e*P	P	01 23 03.3	-6.1
KLMR				*e*		01 24 31.7	
KLMR				pmax	pmax		
	comp=Z,22nm,1.5s						
TIXI	**Tiksi**	**50.53**	**15**	P	**P**	**01 23 23.5**	**-1.2**
TIXI				IAmb	IAmb	01 23 36.6	
	comp=Z,6.4nm,0.7s						
TIXI	**Tiksi**	**50.53**	**15**	*i* P	**P**	**01 23 25.6**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PURM	**Purcari**	**51.12**	**310**	⇓P	**P**	**01 23 29.5**	**0.0**
ELL	**Elmali**	**51.46**	**297**	P	**P**	**01 23 31.7**	**-0.7**
ELL	**Elmali**	**51.46**	**297**	P	**P**	**01 23 31.7**	**-0.7**
ELL				pmax	pmax		
	comp=Z,65nm,1.3s						
AKASG	**Malin Array Be**	**51.79**	**315**	P	**P**	**01 23 33.1**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=78,slow=7.0,SNR=12						
AKASG				LR	LR	01 47 44.2	
	comp=Z,122nm,19.1s,baz=31,slow=39						
	comp=Z,0.3nm,0.3s						
AKBB	**Malin Array Si**	**51.79**	**315**	P	**P**	**01 23 33.4**	**-1.1**
AKBB				IAmb	IAmb	01 23 34.7	
	comp=Z,6.8nm,0.9s						
AKBB	**Malin Array Si**	**51.79**	**315**	*i* P	**P**	**01 23 33.0**	**-1.5**
AKBB				pmax	pmax		
	comp=Z,23nm,2.8s						
KIEV	**Kiev**	**51.80**	**315**	⇑P	**P**	**01 23 34.1**	**-0.4**
KIEV	**Kiev**	**51.80**	**315**	P	**P**	**01 23 33.6**	**-1.0**
KIEV				IAmb	IAmb	01 23 34.7	
	comp=Z,5.7nm,0.9s						
KIEV	**Kiev**	**51.80**	**315**	P	**P**	**01 23 34.1**	**-0.4**
MILM	**Milestii Mici**	**51.86**	**310**	⇑*i* P	**P**	**01 23 34.6**	**-0.5**
	comp=Z,30nm,1.0s						
MILM	**Milestii Mici**	**51.86**	**310**	⇓P	**P**	**01 23 34.8**	**-0.3**
MILM	**Milestii Mici**	**51.86**	**310**	⇓P	**P**	**01 23 34.8**	**-0.3**
SORM	**Soroca**	**52.21**	**312**	⇑P	**P**	**01 23 36.9**	**-0.8**
SORM	**Soroca**	**52.21**	**312**	⇑P	**P**	**01 23 36.9**	**-0.8**
CFR	**Carcaliu**	**52.32**	**308**	⇓P	**P**	**01 23 39.1**	**+0.6**
CFR	**Carcaliu**	**52.32**	**308**	⇓P	**P**	**01 23 39.1**	**+0.6**
MNK	**Minsk**	**52.97**	**320**	*i* P	**P**	**01 23 42.3**	**-0.9**
	comp=E,4.0nm,0.9s						
MNK				*i* P	**P**	**01 23 42.3**	**-0.9**
	comp=N,8.0nm,1.0s						
MNK				*i* P	**P**	**01 23 42.3**	**-0.9**
	comp=Z,7.0nm,0.8s,baz=96						
MNK				*i* PP	**PP**	**01 25 41.9**	**-1.0**
MNK				*i* PPP	PPP	01 26 46.0	
MNK				*i* S	**S**	**01 31 11.9**	**+1.5**
MNK				*i* SS	**SS**	**01 34 52.2**	**+2.8**
MNK				*i* SSS	SSS	01 36 35.6	
MNK				*i* LQ	LQ	01 42 52.0	
MNK				*i* LR	LR	01 46 55.0	
MNK				*i* LRM	MLR	01 49 57.4	
	comp=E,35nm,14.8s						
MNK				*i* LRM	MLR	01 50 05.1	
	comp=Z,128nm,17.4s						
MNK				*i* LRM	MLR	01 50 13.5	
	comp=N,60nm,14.8s						
MNK	**Minsk**	**52.97**	**320**	*i* P	**P**	**01 23 42.3**	**-0.9**
MNK				*i*		01 24 51.2	
MNK				*i*		01 25 41.8	
MNK				*i* PPP	PPP	01 26 46.0	
MNK				*i* S	**S**	**01 31 11.9**	**+1.5**
MNK				*i*		01 33 32.1	
MNK				*i* SS	**SS**	**01 34 52.2**	**+2.8**
MNK				*i* SSS	SSS	01 36 35.6	
MNK				pmax	pmax		
	comp=N,8.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.9s						
MNK				MLR	MLR		
	comp=E,35nm,15.0s						
MNK				MLR	MLR		
	comp=Z,128nm,17.0s						
MNK				MLR	MLR		
	comp=N,60nm,15.0s						
MA2	**Magadan**	**53.27**	**34**	LR	LR	01 48 22.0	
	comp=N,85nm,18.5s,baz=292,slow=38						
VRI	**Vrincioaia**	**53.30**	**309**	⇓P	**P**	**01 23 47.1**	**+1.3**
VRI	**Vrincioaia**	**53.30**	**309**	⇓P	**P**	**01 23 47.1**	**+1.3**
TESR	**Tescani**	**53.35**	**310**	⇑P	**P**	**01 23 46.4**	**+0.2**
PLOR	**Plostina**	**53.36**	**309**	⇑P	**P**	**01 23 47.9**	**+1.6**
PLOR	**Plostina**	**53.36**	**309**	⇑P	**P**	**01 23 47.9**	**+1.6**
TURR	**Turia**	**53.80**	**309**	⇑P	**P**	**01 23 50.4**	**+0.9**
MLR	**Muntele Rosu**	**53.86**	**309**	⇓P	**P**	**01 23 51.7**	**+1.6**
MLR	**Muntele Rosu**	**53.86**	**309**	P	**P**	**01 23 49.5**	**-0.6**
MLR	**Muntele Rosu**	**53.86**	**309**	P	**P**	**01 23 49.5**	**-0.6**
MLR				pmax	pmax		
	comp=Z,17nm,0.9s						
MLR	**Muntele Rosu**	**53.86**	**309**	LR	LR	01 50 55.2	
	comp=Z,58nm,18.6s,baz=39,slow=41						
VSU	**Vasula**	**54.11**	**325**	*ce*P	**P**	**01 23 49.1**	**-2.4**
VSU				pmax	pmax		
	comp=Z,38nm,2.5s						
VSU	**Vasula**	**54.11**	**325**	*e*P	**P**	**01 23 51.5**	**0.0**
DOPR	**Dopca**	**54.23**	**309**	⇑P	**P**	**01 23 53.6**	**+0.9**
BURAR	**Bucovina Array**	**54.31**	**311**	⇓P	**P**	**01 23 53.7**	**+0.4**
BURAR	**Bucovina Array**	**54.31**	**311**	P	**P**	**01 23 52.9**	**-0.4**
BURAR	**Bucovina Array**	**54.31**	**311**	⇓P	**P**	**01 23 53.7**	**+0.4**
BUR08	**Bucovina Ar. S**	**54.33**	**311**	P	**P**	**01 23 52.7**	**-0.7**
VOIR		**54.49**	**309**	⇓P	**P**	**01 23 54.9**	**+0.3**
VOIR		**54.49**	**309**	⇓P	**P**	**01 23 54.9**	**+0.3**
SEY	**Seymchan**	**54.70**	**30**	*i* P	**P**	**01 23 58.3**	**+2.6**
SEY				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARR	**Arges**	**54.79**	**308**	⇑P	**P**	**01 23 56.7**	**-0.1**
FIA1	**FINESS Array S**	**54.91**	**328**	P	**P**	**01 23 56.5**	**-0.7**
FINES	**FINESS Array B**	**54.91**	**328**	P	**P**	**01 23 56.7**	**-0.5**
FINES	**FINESS Array B**	**54.91**	**328**	*i* P	**P**	**01 23 57.2**	**0.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**54.91**	**328**	P	**P**	**01 23 56.2**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=108,slow=8.9,SNR=17						
FINES				LR	LR	01 47 32.6	
	comp=Z,137nm,20.4s,baz=100,slow=36						
	comp=Z,3.4nm,0.7s						
PABE	**Paberze**	**55.31**	**321**	P	**P**	**01 23 59.8**	**-0.3**
PABE	**Paberze**	**55.31**	**321**	*e*P	**P**	**01 24 00.4**	**+0.3**
MEF	**Metsahovi**	**55.54**	**327**	*e*P	**P**	**01 24 01.9**	**+0.1**
MTSE	**Matsula**	**55.66**	**325**	*e*P	**P**	**01 24 02.8**	**+0.2**
IDI	**Anoyia**	**55.68**	**296**	LR	LR	01 51 07.5	
	comp=Z,37nm,19.9s,baz=116,slow=40						
MARR	**Marisel-Cluj**	**55.78**	**310**	⇓P	**P**	**01 24 04.6**	**+0.7**
KWP	**Kalwaria Pacla**	**55.95**	**314**	P	**P**	**01 24 05.3**	**+0.4**
KWP				pmax	pmax		
	comp=Z,16nm,0.9s						
DRGR		**56.05**	**310**	⇓P	**P**	**01 24 06.6**	**+0.8**
DRGR		**56.05**	**310**	⇓P	**P**	**01 24 06.6**	**+0.8**
PETK	**Petropavlovsk-**	**56.47**	**42**	LR	LR	01 49 35.5	
	comp=Z,97nm,20.1s,baz=265,slow=37						
SURR	**Surduc**	**56.52**	**309**	⇑P	**P**	**01 24 10.3**	**+1.2**
ARCES	**ARCESS Array B**	**56.87**	**338**	P	**P**	**01 24 10.5**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=97,slow=7.4,SNR=6.2						
ARCES				LR	LR	01 52 53.9	
	comp=Z,67nm,19.1s,baz=155,slow=41						
	comp=Z,3.1nm,0.8s						
BZS	**Buzias**	**56.89**	**309**	⇓P	**P**	**01 24 11.9**	**+0.2**
BZS	**Buzias**	**56.89**	**309**	⇓P	**P**	**01 24 11.9**	**+0.2**
MDVR	**Moldovita**	**56.89**	**308**	⇑P	**P**	**01 24 12.4**	**+0.6**
RAF	**Rauma**	**56.92**	**327**	*e*P	**P**	**01 24 11.4**	**-0.2**
AGG	**Agios Georgios**	**57.12**	**301**	P	**P**	**01 24 10.8**	**-2.7**
AGG				IAmb	IAmb	01 24 40.1	
	comp=Z,6.5nm,1.0s						
AGG	**Agios Georgios**	**57.12**	**301**	P	**P**	**01 24 10.8**	**-2.7**
AGG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KECS	**Kecovo**	**57.45**	**312**	*e*P	**P**	**01 24 16.1**	**+0.5**
KECS	**Kecovo**	**57.45**	**312**	*e*P	**P**	**01 24 16.1**	**+0.5**
NIE	**Niedzica**	**57.52**	**314**	P	**P**	**01 24 17.5**	**+1.4**
NIE				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VYHS	**Vyhne**	**58.55**	**313**	*e*P	**P**	**01 24 24.0**	**+0.7**
VYHS	**Vyhne**	**58.55**	**313**	*e*P	**P**	**01 24 24.0**	**+0.7**
MORH	**Mrgy, Hungar**	**58.90**	**310**	⇑P	**P**	**01 24 26.1**	**+0.4**
SRO	**Srobarova**	**58.96**	**312**	*e*P	**P**	**01 24 27.3**	**+1.1**
SRO	**Srobarova**	**58.96**	**312**	*e*P	**P**	**01 24 27.2**	**+1.1**
MODS	**Modra-Piesok**	**59.59**	**312**	*e*P	**P**	**01 24 31.4**	**+0.8**
MODS	**Modra-Piesok**	**59.59**	**312**	*e*P	**P**	**01 24 31.4**	**+0.8**
VRAC	**Vranov**	**59.94**	**314**	P	**P**	**01 24 32.9**	**-0.1**
VRAC				pmax	pmax		
	comp=Z,10.0nm,3.0s						
VRAC	**Vranov**	**59.94**	**314**	LR	LR	01 54 26.5	
	comp=Z,65nm,20.4s,baz=78,slow=40						
RONA	**Rosalia, Austr**	**60.32**	**312**	*e*P	**P**	**01 24 36.6**	**+1.0**
	comp=Z,4.8nm,1.4s						
CONA	**Conrad Observa**	**60.59**	**312**	*e*P	**P**	**01 24 37.8**	**+0.3**
	comp=Z,7.6nm,1.3s						
HFS	**Hagfors**	**60.88**	**326**	P	**P**	**01 24 38.1**	**-1.0**
	comp=Z,5.4nm,0.4s,baz=94,slow=7.7,SNR=37						
HFS				LR	LR	01 53 23.8	
	comp=Z,106nm,18.1s,baz=82,slow=38						
	comp=Z,5.4nm,0.4s						
BILL	**Bilibino**	**61.06**	**25**	*i* P	**P**	**01 24 39.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**61.27**	**347**	P	**P**	**01 24 41.5**	**-0.1**
	comp=Z,7.0nm,0.9s,baz=122,slow=15,SNR=1.3						
SPITS				LR	LR	01 54 12.9	
	comp=Z,85nm,19.6s,baz=107,slow=39						
	comp=Z,7.0nm,0.9s						
SOKA	**Soboth**	**61.31**	**311**	*i* P	**P**	**01 24 42.7**	**+0.2**
	comp=Z,6.7nm,1.2s						
MOA	**Molln**	**61.66**	**312**	*e*P	**P**	**01 24 44.6**	**-0.1**
	comp=Z,8.0nm,1.2s						
NC405	**NORSAR Array S**	**61.80**	**327**	P	**P**	**01 24 45.0**	**-0.4**
GEC2	**GERESS Array S**	**61.89**	**313**	P	**P**	**01 24 46.2**	**-0.1**
GEC2				IAmb	IAmb	01 24 56.5	
	comp=Z,4.1nm,0.8s						
GERES	**GERESS Array B**	**61.89**	**313**	P	**P**	**01 24 46.3**	**0.0**
GERES	**GERESS Array B**	**61.89**	**313**	P	**P**	**01 24 46.3**	**0.0**
GERES	**GERESS Array B**	**61.89**	**313**	P	**P**	**01 24 45.2**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=82,slow=7.0,SNR=11						
	comp=Z,2.5nm,0.7s						
NORES	**NORESS Array B**	**61.91**	**327**	P	**P**	**01 24 45.5**	**-0.6**
KHC	**Kasperske Hory**	**61.93**	**314**	*i* P	**P**	**01 24 45.1**	**-1.4**
KHC				pmax	pmax		
	comp=Z,45nm,4.0s						
CLL	**Collm**	**62.00**	**316**	*e*P	**P**	**01 24 48.0**	**+1.1**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	**62.00**	**316**	*e*P	**P**	**01 24 48.0**	**+1.1**
	comp=Z,7.0nm,1.2s						
NB2	**NORSAR Subarra**	**62.05**	**327**	P	**P**	**01 24 46.4**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=90,slow=6.5						
NOA	**NORSAR Array B**	**62.05**	**327**	P	**P**	**01 24 45.4**	**-1.7**
	comp=Z,2.9nm,0.7s,baz=87,slow=6.7,SNR=11						
NOA				LR	LR	01 51 45.1	
	comp=Z,101nm,20.2s,baz=85,slow=36						
	comp=Z,2.9nm,0.7s						
LESA	**Schwarzleotal**	**62.79**	**312**	*i* P	**P**	**01 24 52.0**	**-0.3**
	comp=Z,3.0nm,0.6s						
WB0	**Warramunga Arr**	**62.87**	**132**	P	**P**	**01 24 52.8**	**-0.3**
WRA	**Warramunga Arr**	**62.96**	**132**	P	**P**	**01 24 54.0**	**+0.3**
WRA	**Warramunga Arr**	**62.96**	**132**	*i* P	**P**	**01 24 54.9**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**62.96**	**132**	P	**P**	**01 24 54.2**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=323,slow=7.0,SNR=15						
	comp=Z,1.0nm,0.5s						
WTTA	**Wattenberg**	**63.51**	**312**	*i* P	**P**	**01 24 56.5**	**-0.8**
	comp=Z,8.6nm,1.0s						
SQTA	**Sankt Quirin**	**63.81**	**312**	*i* P	**P**	**01 24 58.5**	**-0.7**
	comp=Z,4.2nm,0.5s						
NWAO	**Narrogin (SRO)**	**64.23**	**154**	LR	LR	01 53 26.4	
	comp=Z,29nm,21.5s,baz=212,slow=36						
FUORN	**Ofenpass-Fuorn**	**64.56**	**311**	P	**P**	**01 25 03.2**	**-1.0**
FUORN				IAmb	IAmb	01 25 14.4	
	comp=Z,6.5nm,1.4s						
AS31	**Alice Springs**	**65.33**	**135**	P	**P**	**01 25 09.2**	**+0.1**
ASAR	**Alice Springs**	**65.33**	**135**	P	**P**	**01 25 08.7**	**-0.5**
ASAR	**Alice Springs**	**65.33**	**135**	P	**P**	**01 25 08.7**	**-0.5**
ASAR	**Alice Springs**	**65.33**	**135**	P	**P**	**01 25 10.0**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=316,slow=6.4,SNR=18						
	comp=Z,1.0nm,0.6s						
JMIC	**Jan Mayen**	**68.25**	**340**	LR	LR	01 56 02.0	
	comp=Z,36nm,18.5s,baz=172,slow=37						
EKA	**Eskdalemuir Ar**	**70.58**	**323**	P	**P**	**01 25 41.5**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=81,slow=4.6,SNR=3.9						
	comp=Z,3.8nm,0.9s						
C16K	**Lisburne Hills**	**71.36**	**22**	P	**P**	**01 25 46.5**	**+0.2**
C16K				IAmb	IAmb	01 25 56.1	
	comp=Z,3.2nm,0.9s						
C18K	**Utukok River**	**72.59**	**21**	P	**P**	**01 25 54.3**	**+0.6**
C18K				IAmb	IAmb	01 26 18.6	
	comp=Z,3.9nm,1.1s						
LSZ	**Lusaka**	**72.62**	**243**	LR	LR	01 54 55.9	
	comp=Z,60nm,19.5s,baz=110,slow=34						
STKA	**Stephens Creek**	**75.92**	**136**	LR	LR	02 07 31.4	
	comp=Z,49nm,20.7s,baz=29,slow=42						
IMAR	**Indian Mountai**	**76.43**	**22**	P	**P**	**01 26 16.5**	**+0.5**
ESDC	**Sonseca Array**	**76.54**	**308**	P	**P**	**01 26 17.1**	**-0.1**
	comp=Z,1.5nm,1.1s,baz=39,slow=4.2,SNR=5.0						
	comp=Z,1.5nm,1.1s						
H21K	**Melozitna Rive**	**76.94**	**22**	P	**P**	**01 26 19.8**	**+0.9**
H21K				IAmb	IAmb	01 26 28.8	
	comp=Z,4.0nm,0.8s						
BMAR	**Burnt Mountain**	**78.42**	**19**	P	**P**	**01 26 27.8**	**+0.7**
CAST	**Castle Rocks**	**78.50**	**24**	P	**P**	**01 26 27.9**	**+0.3**
MDM	**Murphy Dome**	**78.90**	**22**	P	**P**	**01 26 29.7**	**-0.1**
ILAR	**Eielson Array**	**79.46**	**21**	P	**P**	**01 26 32.4**	**-0.4**
	comp=Z,0.3nm,1.0s,baz=306,slow=5.1,SNR=1.9						
ILAR				LR	LR	02 07 53.7	
	comp=Z,76nm,18.3s,baz=314,slow=40						
	comp=Z,0.3nm,1.0s						
SKT	**Skwentna**	**79.56**	**25**	P	**P**	**01 26 33.5**	**+0.1**
SKT				IAmb	IAmb	01 26 43.1	
	comp=Z,5.9nm,0.7s						
LBTB	**Lobatse**	**80.11**	**236**	P	**P**	**01 26 37.7**	**+0.7**
LBTB				IAmb	IAmb	01 26 39.3	
	comp=Z,3.9nm,0.8s						
LBTB	**Lobatse**	**80.11**	**236**	P	**P**	**01 26 37.7**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SCRK	**Sand Creek**	**80.93**	**21**	P	**P**	**01 26 40.1**	**-0.8**
SCRK				IAmb	IAmb	01 26 53.5	
	comp=Z,3.2nm,0.8s						
KDAK	**Kodiak Island**	**81.64**	**29**	LR	LR	02 06 08.9	
	comp=Z,194nm,20.4s,baz=300,slow=38						
BCAR	**Beaver Creek A**	**82.28**	**21**	P	**P**	**01 26 48.0**	**0.0**
BOSA	**Boshof**	**82.41**	**233**	LR	LR	01 58 52.7	
	comp=Z,50nm,20.8s,baz=189,slow=32						
SFJD	**Kangerlussuaq**	**82.56**	**345**	LR	LR	02 09 30.4	
	comp=Z,36nm,18.4s,baz=144,slow=40						
TOA0	**Torodi Ar. Sit**	**82.63**	**281**	P	**P**	**01 26 50.1**	**-0.5**
TOA0				IAmb	IAmb	01 27 13.0	
	comp=Z,5.0nm,1.5s						
TORD	**Torodi Ar. Bea**	**82.63**	**281**	P	**P**	**01 26 50.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.63**	**281**	P	**P**	**01 26 50.5**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=48,slow=6.4,SNR=4.4						
	comp=Z,0.7nm,0.9s						
YKA	**Yellowknife Ar**	**89.62**	**11**	P	**P**	**01 27 25.9**	**+1.8**
	comp=Z,0.4nm,0.9s,baz=327,slow=4.3,SNR=2.8						
	comp=Z,0.4nm,0.9s						
DBIC	**Dimbokro**	**91.24**	**278**	P	**P**	**01 27 33.7**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=84,slow=9.2,SNR=1.9						
	comp=Z,1.1nm,0.5s						
SCHQ	**Schefferville**	**96.96**	**347**	LR	LR	02 19 47.6	
	comp=Z,35nm,18.8s,baz=42,slow=40						

TRN 20 01:15:27.4, 16.26N×61.18W, h60km, MD4.2, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.33**	**198**	*e*P	Pn	01 15 39.6	+1.9
ABD	**La Joyeuse, An**	**0.36**	**305**	*e*P	Pn	01 15 39.6	+1.6
ABD				*e*S	Sn	01 15 47.7	+2.0
CBE	**Ff, Capester**	**0.46**	**245**	*e*P	Pn	01 15 40.6	+1.8
CBE				*e*S	Sn	01 15 50.0	+2.8
TDBA	**Terre de Bas,**	**0.60**	**227**	*e*P	Pn	01 15 42.0	+1.6
ANBD	**Bethesda, Anti**	**0.96**	**324**	*e*P	Pn	01 15 46.2	+1.3
ANBD				*e*S	Sn	01 15 59.0	+1.1
MBFL	**Flemmings, Mon**	**1.10**	**296**	*e*P	Pn	01 15 48.4	+1.6
MBFL				*e*S	Sn	01 16 03.1	+1.9
SVN	**Savane Anatole**	**1.41**	**180**	*e*P	Pn	01 15 52.5	+1.6
BAMF	**Morne Balai**	**1.44**	**179**	*e*P	Pn	01 15 52.7	+1.4
PCM	**Pelee Case Pet**	**1.44**	**181**	*e*P	Pn	01 15 52.5	+1.2
CXM	**Morne La Croix**	**1.44**	**180**	*e*P	Pn	01 15 53.2	+1.8
GBMF	**Grand Be**	**1.46**	**179**	*e*P	Pn	01 15 52.7	+1.1
PML	**Morne Lenard**	**1.47**	**180**	*e*P	Pn	01 15 53.3	+1.5
ILAM	**Ilet Lapin Mar**	**1.51**	**169**	*e*P	Pn	01 15 53.6	+1.4
ILAM				*e*S	Sn	01 16 12.0	+1.2
FDF	**Fort de France**	**1.52**	**179**	*e*P	Pn	01 15 53.6	+1.2
FDF				*e*S	Sn	01 16 12.3	+1.1
ZAM	**Aeronautique**	**1.69**	**175**	*e*P	Pn	01 15 55.6	+1.0
LPMF	**Morne Lapointe**	**1.69**	**173**	*e*P	Pn	01 15 55.5	+0.9
MVM	**Montagne Vaucl**	**1.72**	**171**	*e*P	Pn	01 15 56.6	+1.6
TRMF	**Trois Ilets**	**1.72**	**176**	*e*P	Pn	01 15 56.5	+1.4
BIM	**Bigot**	**1.74**	**177**	*e*P	Pn	01 15 57.4	+2.0
BIM				*e*S	Sn	01 16 17.8	+1.3
MPOM	**Morne Pois Mar**	**1.83**	**170**	*e*P	Pn	01 15 58.3	+1.7
MPOM				*e*S	Sn	01 16 21.1	+2.4
SLBI	**Saint Lucia, B**	**2.23**	**175**	*e*P	Pn	01 16 04.4	+2.3
SLBI				*e*S	Sn	01 16 29.8	+1.3
SVB	**

*IDC **20** 01:46:49.8±2.2, 40.41S×175.26E, h46km±19km, mb3.9/2, mbtmp3.9/4, ML3.3/2, MS3.0/2, Error ellipse: s-maj=36.1km s-min=15.7km az=138.0*
*NEIC **20** 01:46:51.0±1.2, 40.57S±0.03×175.25E±0.06, h52km±11km, mb4.2/6, Error ellipse: s-maj=8.3km s-min=1.1km az=125.0*
*NOU **20** 01:46:50.5, 40.60S×175.27E, h67km, MLv4.2/15, North Island, New Zealand*
*WEL **20** 01:46:50.9±0.4, 41°S±3°×17°5E±°, h27km±4km, M4.3/13, ML4.7/13, MLv4.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=115.4, confirmed*

ISC 20 01:46:50.3±0.7, 40.55S±0.03×175.23E±0.03, h47km±5km, n198, σ1§21/214, mb4.1/7, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOCS	**Levin Horowhen**	**0.08**	**152**	**P**	**Pn**		**Pn**	**01 46 57.0**	**-0.6**
HOCS				S	Sn		Sn	01 47 02.7	-0.1
FXBS	**Foxton Beach S**	**0.09**	**358**	**P**	**Pn**		**Pn**	**01 46 57.0**	**-0.7**
FXBS				S	Sn		Sn	01 47 02.7	-0.1
OTKS	**Otaki School**	**0.21**	**198**	**P**	**Pn**		**Pn**	**01 46 58.0**	**-0.4**
OTKS				S	Sn		Sn	01 47 04.1	+0.1
OGWZ	**Otaki Gorge**	**0.27**	**190**	**P**	**Pn**		**Pn**	**01 46 59.9**	**+1.1**
OGWZ				S	Sn		Sn	01 47 06.4	+1.5
MRZ	**Mangatainoka R**	**0.29**	**113**	Pn	**Pn**		**Pn**	**01 47 00.1**	**+1.1**
MRZ				Sn	Sn		Sn	01 47 06.3	+1.1
MRZ	**Mangatainoka R**	**0.29**	**113**	**P**	**Pn**		**Pn**	**01 47 00.1**	**+1.1**
MRZ				S	Sn		Sn	01 47 06.5	+1.3
PNMS	**Monrad Interme**	**0.34**	**56**	**P**	**Pn**		**Pn**	**01 46 59.3**	**-0.1**
OHWZ	**Ohakea**	**0.35**	**11**	**P**	**Pn**		**Pn**	**01 47 00.3**	**+0.7**
OHWZ				S	Sn		Sn	01 47 07.3	+1.2
PNBS	**Palmerston Nor**	**0.35**	**55**	**P**	**Pn**		**Pn**	**01 46 59.2**	**-0.4**
EKTS	**Eketahuna Scho**	**0.38**	**105**	**P**	**Pn**		**Pn**	**01 46 59.8**	**-0.1**
EKTS				S	Sn		Sn	01 47 07.6	+0.8
PNRS	**Palmerston Nor**	**0.38**	**55**	**P**	**Pn**		**Pn**	**01 46 59.4**	**-0.5**
KIW	**Kapiti Island**	**0.39**	**218**	**P**	**Pn**		**Pn**	**01 47 00.9**	**+0.8**
KIW				S	Sn		Sn	01 47 07.6	+0.5
HOWZ	**Holdsworth Sta**	**0.41**	**148**	**P**	**Pn**		**Pn**	**01 47 01.7**	**+1.4**
HOWZ				S	Sn		Sn	01 47 09.8	+2.4
FAHS	**Feilding Agric**	**0.43**	**38**	**P**	**Pn**		**Pn**	**01 47 00.1**	**-0.3**
FAHS				S	Sn		Sn	01 47 08.4	+0.8
POWZ	**Post Office Ro**	**0.44**	**69**	**P**	**Pn**		**Pn**	**01 47 01.6**	**+1.0**
POWZ				S	Sn		Sn	01 47 09.3	+1.3
TIWZ	**Tintock**	**0.55**	**115**	**P**	**Pn**		**Pn**	**01 47 03.5**	**+1.6**
TIWZ				S	Sn		Sn	01 47 13.5	+3.1
PRWZ	**Pori Road**	**0.56**	**91**	**P**	**Pn**		**Pn**	**01 47 03.8**	**+1.6**
CAW	**Cannon Point**	**0.57**	**192**	**P**	**Pn**		**Pn**	**01 47 03.7**	**+1.5**
CAW				S	Sn		Sn	01 47 12.9	+2.1
MTW	**Mount Morrison**	**0.64**	**161**	**P**	**Pn**		**Pn**	**01 47 04.5**	**+1.4**
BFZ	**Birch Farm**	**0.79**	**100**	Pn	**Pn**		**Pn**	**01 47 06.1**	**+1.1**
BFZ				Sn	Sn		Sn	01 47 17.7	+1.9
BFZ	**Birch Farm**	**0.79**	**100**	**P**	**Pn**		**Pn**	**01 47 06.3**	**+1.3**
WAZ	**Wanganui**	**0.82**	**347**	**P**	**Pn**		**Pn**	**01 47 06.7**	**+1.2**
SNZO	**South Karori**	**0.86**	**207**	Pn	**Pn**		**Pn**	**01 47 07.4**	**+1.5**
SNZO				Sn	Sn		Sn	01 47 19.1	+1.7
SNZO	**South Karori**	**0.86**	**207**	**P**	**Pn**		**Pn**	**01 47 07.5**	**+1.5**
MSWZ	**Moikau Station**	**0.86**	**179**					**01 47 07.1**	**+1.0**
MSWZ				Sn	Sn		Sn	01 47 19.0	+1.3
BHW	**Baring Head**	**0.90**	**197**	Pn	**Pn**		**Pn**	**01 47 07.8**	**+1.2**
TCW	**Tory Channel**	**0.98**	**227**					**01 47 08.9**	**+1.3**
TCW	**Tory Channel**	**0.98**	**227**	**P**	**Pn**		**Pn**	**01 47 09.0**	**+1.3**
PLWZ	**Palliser**	**1.02**	**179**	Pn	**Pn**		**Pn**	**01 47 08.9**	**+0.7**
DUWZ	**D'Urville Isla**	**1.03**	**255**	**P**	**Pn**		**Pn**	**01 47 09.1**	**+0.8**
MTVZ	**Mangateitei**	**1.18**	**9**	**P**	**Pn**		**Pn**	**01 47 11.7**	**+1.3**
MOVZ	**Moawhango**	**1.21**	**20**	**P**	**Pn**		**Pn**	**01 47 11.9**	**+1.0**
WNVZ	**Wahianoa**	**1.25**	**13**	**P**	**Pn**		**Pn**	**01 47 12.8**	**+1.3**
LREZ	**Lake Rotokare**	**1.26**	**329**	**P**	**Pn**		**Pn**	**01 47 13.0**	**+1.6**
PKVZ	**Pokaka**	**1.26**	**4**	**P**	**Pn**		**Pn**	**01 47 12.8**	**+1.2**
TRVZ	**Turoa**	**1.27**	**11**	**P**	**Pn**		**Pn**	**01 47 13.2**	**+1.4**
WHVZ	**Whangaehu Hut**	**1.30**	**12**	**P**	**Pn**		**Pn**	**01 47 13.6**	**+1.5**
MAVZ	**Matarangi**	**1.31**	**11**	**P**	**Pn**		**Pn**	**01 47 13.7**	**+1.3**
TUWZ	**Tuamarina**	**1.31**	**228**					**01 47 13.0**	**+0.9**
TUWZ	**Tuamarina**	**1.31**	**228**	**P**	**Pn**		**Pn**	**01 47 13.2**	**+1.1**
FWVZ	**Far West T-bar**	**1.32**	**11**	**P**	**Pn**		**Pn**	**01 47 13.8**	**+1.4**
TUVZ	**Tukino**	**1.32**	**14**	**P**	**Pn**		**Pn**	**01 47 14.0**	**+1.6**
PXZ	**Pawanui**	**1.35**	**68**	**P**	**Pn**		**Pn**	**01 47 13.5**	**+0.8**
COVZ	**Chateau Observ**	**1.37**	**10**	**P**	**Pn**		**Pn**	**01 47 14.5**	**+1.5**
SNVZ	**South Ngauruho**	**1.40**	**13**	**P**	**Pn**		**Pn**	**01 47 15.1**	**+1.6**
NGZ	**Ngauruhoe**	**1.40**	**12**	**P**	**Pn**		**Pn**	**01 47 15.1**	**+1.6**
CMWZ	**Cape Campbell**	**1.42**	**212**					**01 47 14.4**	**+0.7**
CMWZ	**Cape Campbell**	**1.42**	**212**	**P**	**Pn**		**Pn**	**01 47 15.4**	**+1.7**
OTVZ	**Oturere**	**1.43**	**14**	**P**	**Pn**		**Pn**	**01 47 15.4**	**+1.5**
NNVZ	**North Ngauruho**	**1.45**	**12**	**P**	**Pn**		**Pn**	**01 47 15.9**	**+1.7**
KWHZ	**Kaweka Forest**	**1.45**	**40**	**P**	**Pn**		**Pn**	**01 47 14.8**	**+0.7**
WTVZ	**West Tongariro**	**1.46**	**11**	**P**	**Pn**		**Pn**	**01 47 15.8**	**+1.5**
ETVZ	**East Tongariro**	**1.46**	**15**	**P**	**Pn**		**Pn**	**01 47 15.9**	**+1.5**
PREZ	**Palmer Road**	**1.46**	**325**	**P**	**Pn**		**Pn**	**01 47 16.0**	**+1.8**
VRZ	**Vera Road**	**1.47**	**346**	**P**	**Pn**		**Pn**	**01 47 15.5**	**+1.2**
KAHZ	**Kahuranaki**	**1.47**	**60**	**P**	**Pn**		**Pn**	**01 47 15.2**	**+0.8**
TMVZ	**Te Maari**	**1.48**	**14**	**P**	**Pn**		**Pn**	**01 47 16.1**	**+1.6**
TWVZ	**Taurewa**	**1.49**	**6**	**P**	**Pn**		**Pn**	**01 47 15.7**	**+1.1**
KRVZ	**Karewarewa**	**1.49**	**15**	**P**	**Pn**		**Pn**	**01 47 16.5**	**+1.8**
NTVZ	**North Tongarir**	**1.49**	**13**	**P**	**Pn**		**Pn**	**01 47 16.4**	**+1.6**
NMEZ	**Namu Road**	**1.54**	**317**	**P**	**Pn**		**Pn**	**01 47 17.3**	**+2.0**
NEZ	**North Egmont**	**1.55**	**325**	**P**	**Pn**		**Pn**	**01 47 17.2**	**+1.7**
BSWZ	**Blackbirch Sta**	**1.55**	**221**					**01 47 16.1**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.55**	**221**	**P**	**Pn**		**Pn**	**01 47 16.4**	**+0.9**
NNZ	**Nelson**	**1.55**	**244**					**01 47 16.4**	**+0.9**
NNZ	**Nelson**	**1.55**	**244**	**P**	**Pn**		**Pn**	**01 47 16.3**	**+0.9**
KHEZ	**Kahui Hut**	**1.56**	**323**	**P**	**Pn**		**Pn**	**01 47 17.7**	**+2.0**
KHEZ	**Kahui Hut**	**1.56**	**323**	**P**	**Pn**		**Pn**	**01 47 17.5**	**+1.8**
DREZ	**Durham Road**	**1.57**	**329**	**P**	**Pn**		**Pn**	**01 47 17.6**	**+1.9**
MCHZ	**McNeill Hill**	**1.58**	**46**	**P**	**Pn**		**Pn**	**01 47 16.6**	**+0.8**
KATZ	**Kakaramea**	**1.61**	**13**	**P**	**Pn**		**Pn**	**01 47 18.0**	**+1.6**
MHEZ	**Mangahewa**	**1.63**	**334**	**P**	**Pn**		**Pn**	**01 47 18.6**	**+2.1**
RITZ	**Rihia Road**	**1.64**	**17**	**P**	**Pn**		**Pn**	**01 47 18.2**	**+1.5**
NBEZ	**Newall Road No**	**1.65**	**320**	**P**	**Pn**		**Pn**	**01 47 18.7**	**+1.8**
PKE	**Pukeiti**	**1.66**	**324**	**P**	**Pn**		**Pn**	**01 47 18.7**	**+1.8**
CKHZ	**Cape Kidnapper**	**1.67**	**58**	**P**	**Pn**		**Pn**	**01 47 17.7**	**+0.6**
BKZ	**Black Stump Fm**	**1.69**	**36**					**01 47 17.8**	**+0.4**
BKZ	**Black Stump Fm**	**1.69**	**36**	**P**	**Pn**		**Pn**	**01 47 18.2**	**+0.8**
BKZ	**Black Stump Fm**	**1.69**	**36**	**P**	**Pn**		**Pn**	**01 47 18.0**	**+0.6**
RATZ	**Rangitukua**	**1.73**	**14**	**P**	**Pn**		**Pn**	**01 47 19.2**	**+1.2**
HATZ	**Hinemaiaia**	**1.79**	**22**	**P**	**Pn**		**Pn**	**01 47 20.5**	**+1.8**
TKNZ	**Takaka Hill**	**1.79**	**254**					**01 47 19.5**	**+0.8**
TKNZ	**Takaka Hill**	**1.79**	**254**	**P**	**Pn**		**Pn**	**01 47 19.6**	**+0.9**
ARHZ	**Aropaoanui**	**1.87**	**47**	**P**	**Pn**		**Pn**	**01 47 19.9**	**+0.1**
WATZ	**Wairara**	**1.88**	**12**	**P**	**Pn**		**Pn**	**01 47 21.1**	**+1.1**
NMHZ	**Naumai**	**1.89**	**40**	**P**	**Pn**		**Pn**	**01 47 20.7**	**+0.6**
MRHZ	**Matea Rd**	**1.94**	**29**	**P**	**Pn**		**Pn**	**01 47 21.2**	**+0.3**
HIZ	**Hauiti**	**2.06**	**352**					**01 47 23.6**	**+1.3**
HIZ	**Hauiti**	**2.06**	**352**	**P**	**Pn**		**Pn**	**01 47 23.8**	**+1.5**
HIZ	**Hauiti**	**2.06**	**352**	**P**	**Pn**		**Pn**	**01 47 23.7**	**+1.3**
MRNZ	**Matariki Terra**	**2.06**	**245**	Pn	**Pn**		**Pn**	**01 47 23.2**	**+0.9**
MRNZ	**Matariki Terra**	**2.06**	**245**	**P**	**Pn**		**Pn**	**01 47 23.5**	**+1.1**
QRZ	**Quartz Range**	**2.07**	**261**					**01 47 23.0**	**+0.4**
QRZ	**Quartz Range**	**2.07**	**261**	**P**	**Pn**		**Pn**	**01 47 22.8**	**+0.2**
QRZ	**Quartz Range**	**2.07**	**261**	**P**	**Pn**		**Pn**	**01 47 22.9**	**+0.4**
MTHZ	**Maungataniwha**	**2.10**	**37**	**P**	**Pn**		**Pn**	**01 47 23.1**	**+0.1**
KUTZ	**Kaahu Road**	**2.11**	**13**	**P**	**Pn**		**Pn**	**01 47 26.0**	**+2.9**
THZ	**Tophouse**	**2.13**	**235**	Pn	**Pn**		**Pn**	**01 47 23.8**	**+0.3**
THZ	**Tophouse**	**2.13**	**235**	**P**	**Pn**		**Pn**	**01 47 23.9**	**+0.4**
WHHZ	**Waihua**	**2.13**	**47**	**P**	**Pn**		**Pn**	**01 47 23.8**	**+0.4**
WPRZ	**Whakapapatarin**	**2.15**	**20**	**P**	**Pn**		**Pn**	**01 47 24.3**	**+0.6**
ALRZ	**Allen Road**	**2.16**	**24**	**P**	**Pn**		**Pn**	**01 47 24.1**	**+0.3**
RAHZ	**Arahi**	**2.17**	**42**	**P**	**Pn**		**Pn**	**01 47 24.0**	**0.0**
TLZ	**Tolley Road**	**2.23**	**6**	**P**	**Pn**		**Pn**	**01 47 25.6**	**+0.8**
PRRZ	**Plateau Road**	**2.24**	**24**	**P**	**Pn**		**Pn**	**01 47 25.1**	**+0.3**
KHZ	**Kahutara**	**2.26**	**214**	Pn	**Pn**		**Pn**	**01 47 25.4**	**+0.3**
KHZ	**Kahutara**	**2.26**	**214**	**P**	**Pn**		**Pn**	**01 47 25.8**	**+0.7**
KHZ	**Kahutara**	**2.26**	**214**	**P**	**Pn**		**Pn**	**01 47 25.4**	**+0.3**
GRRZ	**Galatos Road**	**2.30**	**18**	**P**	**Pn**		**Pn**	**01 47 26.7**	**+1.0**
HRRZ	**Handcock Road**	**2.31**	**21**	**P**	**Pn**		**Pn**	**01 47 26.7**	**+0.9**
RTZ	**Ruatahuna**	**2.36**	**36**	Pn	**Pn**		**Pn**	**01 47 26.4**	**-0.2**
RTZ	**Ruatahuna**	**2.36**	**36**	**P**	**Pn**		**Pn**	**01 47 26.4**	**-0.2**
HSRZ	**Hossack Road**	**2.37**	**20**	**P**	**Pn**		**Pn**	01 47 32.6	+6.0
MUGZ	**Murupara**	**2.39**	**30**	**P**	**Pn**		**Pn**	**01 47 26.3**	**-0.6**
SNGZ	**Shannon Statio**	**2.40**	**43**	**P**	**Pn**		**Pn**	**01 47 26.6**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.49**	**57**	**P**	**Pn**		**Pn**	**01 47 27.8**	**-0.5**
TARZ	**Mount Tarawera**	**2.51**	**24**	**P**	**Pn**		**Pn**	**01 47 29.2**	**+0.5**
OMRZ	**Omania**	**2.60**	**20**	**P**	Pn		**Pn**	01 47 36.5	+6.7
PRGZ	**Paritu Road**	**2.61**	**52**	**P**	**Pn**		**Pn**	**01 47 29.0**	**-1.0**
KARZ	**Kaharoa**	**2.65**	**18**	**P**	Pn		**Pn**	01 47 37.3	+6.9
RIGZ	**Rimuhau**	**2.69**	**48**	**P**	**Pn**		**Pn**	**01 47 30.1**	**-0.9**
LIRZ	**Lichensteins R**	**2.70**	**20**	**P**	**Pn**		**Pn**	**01 47 30.3**	**-0.9**
EDRZ	**Edgecumbe**	**2.71**	**26**	**P**	**Pn**		**Pn**	**01 47 31.0**	**-0.3**
URZ	**Urewera**	**2.71**	**33**	**P**	**Pn**		**Pn**	**01 47 30.6**	**-0.8**
URZ	**Urewera**	**2.71**	**33**	**P**	**Pn**		**Pn**	**01 47 30.4**	**-1.0**
	7.1nm,0.3s,baz=296,slow=7.0,SNR=63								
URZ				S	Sn		Sn	01 47 59.7	-3.2
	115nm,0.5s,baz=242,slow=3.7,SNR=9.5 14nm,0.3s								
URZ	**Urewera**	**2.71**	**33**	**P**	**Pn**		**Pn**	**01 47 30.3**	**-1.0**
TOZ	**Tahuroa Road**	**2.82**	**4**				**Pn**	**01 47 33.6**	**+0.8**
TOZ	**Tahuroa Road**	**2.82**	**4**	**P**	**Pn**		**Pn**	**01 47 33.7**	**+0.8**
MWZ	**Matawai**	**2.84**	**40**	**P**	**Pn**		**Pn**	**01 47 32.3**	**-0.9**
DSZ	**Denniston Nort**	**2.85**	**244**				**Pn**	**01 47 33.2**	**-0.1**
DSZ	**Denniston Nort**	**2.85**	**244**	**P**	**Pn**		**Pn**	**01 47 33.0**	**-0.2**
OHRZ	**Ohinepanea**	**2.89**	**21**	**P**	**Pn**		**Pn**	**01 47 33.8**	**0.0**
GVZ	**Greta Valley S**	**2.92**	**213**				**Pn**	**01 47 34.1**	**-0.1**
GVZ	**Greta Valley S**	**2.92**	**213**	**P**	**Pn**		**Pn**	**01 47 34.1**	**-0.1**
TGRZ	**Tauranga**	**2.93**	**16**	**P**	**Pn**		**Pn**	**01 47 35.1**	**+0.7**
LTZ	**Lake Taylor**	**3.14**	**224**	Pn	**Pn**		**Pn**	**01 47 37.0**	**-0.4**
LTZ	**Lake Taylor**	**3.14**	**224**	**P**	**Pn**		**Pn**	**01 47 36.9**	**-0.4**
TWGZ	**Tauwhareparae**	**3.19**	**43**	**P**	**Pn**		**Pn**	**01 47 37.5**	**-0.4**
RUGZ	**Raukumara Rang**	**3.21**	**37**	**P**	**Pn**		**Pn**	**01 47 37.2**	**-1.1**
AMCZ	**Amberley**	**3.25**	**215**	Pn	**Pn**		**Pn**	**01 47 37.9**	**-0.9**
AMCZ	**Amberley**	**3.25**	**215**	**P**	**Pn**		**Pn**	**01 47 38.9**	**+0.1**
PUZ	**Puketiti**	**3.41**	**44**	**P**	**Pn**		**Pn**	**01 47 39.4**	**-1.6**
HAZ	**Te Kaha**	**3.42**	**36**	**P**	**Pn**		**Pn**	**01 47 39.3**	**-1.8**
MKAZ	**Moumakai**	**3.44**	**359**	**P**	**Pn**		**Pn**	**01 47 42.3**	**+0.9**
PKGZ	**Pakihiroa**	**3.46**	**41**	**P**	**Pn**		**Pn**	**01 47 40.8**	**-0.8**
AWAZ	**Awhitu Peninsu**	**3.51**	**352**	**P**	**Pn**		**Pn**	**01 47 44.0**	**+1.7**
OKCZ	**Okains Bay**	**3.56**	**206**	**P**	**Pn**		**Pn**	**01 47 41.9**	**-1.1**
INZ	**Inchbonnie**	**3.57**	**231**				**Pn**	**01 47 42.5**	**-0.7**
INZ	**Inchbonnie**	**3.57**	**231**	**P**	**Pn**		**Pn**	**01 47 42.6**	**-0.6**
ETAZ	**East Tamaki Re**	**3.60**	**356**	**P**	**Pn**		**Pn**	**01 47 44.6**	**+1.1**
WTAZ	**Waiatarua**	**3.65**	**352**	**P**	**Pn**		**Pn**	**01 47 45.6**	**+1.3**
OXZ	**Oxford**	**3.66**	**220**	**P**	**Pn**		**Pn**	**01 47 42.8**	**-1.5**
WMGZ	**Waiomatatini S**	**3.68**	**43**	**P**	**Pn**		**Pn**	**01 47 43.0**	**-1.7**
MQZ	**McQueen's Vall**	**3.69**	**210**	**P**	**Pn**		**Pn**	**01 47 42.9**	**-1.9**
AKCZ	**Akaroa Harbour**	**3.74**	**207**	**P**	**Pn**		**Pn**	**01 47 44.4**	**-1.1**
WIAZ	**Waiheke Island**	**3.75**	**359**	**P**	**Pn**		**Pn**	**01 47 46.7**	**+1.1**
MBAZ	**Motutapu North**	**3.78**	**356**	**P**	**Pn**		**Pn**	**01 47 47.2**	**+1.1**
RVAZ	**Riverhead Bore**	**3.81**	**352**	**P**	**Pn**		**Pn**	**01 47 48.4**	**+2.1**
KUZ	**Kuaotunu**	**3.82**	**6**	**P**	**Pn**		**Pn**	**01 47 47.7**	**+1.2**
KUZ	**Kuaotunu**	**3.82**	**6**	**P**	**Pn**		**Pn**	**01 47 46.8**	**+0.3**
MXZ	**Matakaoa Point**	**3.83**	**40**	Pn	**Pn**		**Pn**	**01 47 45.4**	**-1.2**
MXZ	**Matakaoa Point**	**3.83**	**40**	**P**	**Pn**		**Pn**	**01 47 47.3**	**+0.7**
RACZ	**Rakaia**	**3.92**	**215**	**P**	**Pn**		**Pn**	**01 47 48.3**	**+0.4**
ABAZ	**Army Bay**	**3.96**	**355**	**P**	**Pn**		**Pn**	**01 47 49.8**	**+1.4**
MHCZ	**Mount Hutt**	**4.04**	**221**	**P**	**Pn**		**Pn**	**01 47 49.2**	**-0.4**
WVZ	**Waitaha Valley**	**4.20**	**232**	**P**	**Pn**		**Pn**	**01 47 52.4**	**+0.6**
WACZ	**Wakanui South**	**4.22**	**215**	**P**	**Pn**		**Pn**	**01 47 50.7**	**-1.4**
RPZ	**Rata Peaks**	**4.43**	**223**	**P**	**Pn**		**Pn**	**01 47 55.2**	**+0.2**
RPZ	**Rata Peaks**	**4.43**	**223**	**P**	**Pn**		**Pn**	**01 47 55.1**	**+0.1**
	1.0nm,0.3s,baz=71,slow=0.8,SNR=5.6								
RPZ				S	Sn		Sn	01 48 41.6	-3.6
	51nm,0.4s,baz=308,slow=21,SNR=14								
RPZ				LR	LR			01 50 08.8	
	comp=Z,143nm,20.5s,baz=14,slow=44 4.4nm,0.5s								
ARCZ	**Arundel**	**4.54**	**220**	**P**	**Pn**		**Pn**	**01 47 55.8**	**-0.6**
TMZ	**Timaru**	**4.94**	**218**	**P**	**Pn**		**Pn**	**01 48 01.0**	**-0.9**
FOZ	**Fox Glacier**	**5.01**	**232**	**P**	**Pn**		**Pn**	**01 48 01.1**	**-1.8**
LBZ	**Lake Benmore**	**5.35**	**223**	**P**	**Pn**		**Pn**	**01 48 07.3**	**-0.3**
OUZ	**Omahuta**	**5.47**	**346**	**P**	**Pn**		**Pn**	**01 48 10.5**	**+1.2**
OUZ	**Omahuta**	**5.47**	**346**	**P**	**Pn**		**Pn**	**01 48 11.3**	**+2.0**
JCZ	**Jackson Bay**	**5.93**	**231**	**P**	**Pn**		**Pn**	**01 48 14.5**	**-1.1**
JCZ	**Jackson Bay**	**5.93**	**231**	**P**	**Pn**		**Pn**	**01 48 14.1**	**-1.6**
CTZ	**Chatham Island**	**6.84**	**120**				**Pn**	**01 48 27.7**	**-0.3**
CTZ	**Chatham Island**	**6.84**	**120**	**P**	**Pn**		**Pn**	**01 48 28.0**	**0.0**
CTZ	**Chatham Island**	**6.84**	**120**	**P**	**Pn**		**Pn**	**01 48 28.0**	**0.0**
SYZ	**Scrubby Hill**	**7.44**	**214**	**P**	**Pn**		**Pn**	**01 48 36.1**	**-0.1**
CTA	**Charters Tower**	**32.04**	**301**	LR	LR			02 05 23.2	
	comp=Z,39nm,19.8s,baz=114,slow=35								
BBOO	**Buckleboo**	**32.14**	**271**	**P**	**P**			**01 53 12.9**	**-0.5**
AS31	**Alice Springs**	**38.45**	**283**	**P**	**P**			**01 54 07.4**	**-0.3**
AS31				IAmb	IAmb			01 54 07.8	
	comp=Z,0.9nm,0.5s								
ASAR	**Alice Springs**	**38.45**	**283**	**P**	**P**			**01 54 07.1**	**-0.6**
ASAR	**Alice Springs**	**38.45**	**283**	**P**	**P**			**01 54 07.5**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=120,slow=6.6,SNR=36								
ASAR				PcP	**PcP**			**01 56 18.4**	**-1.7**
	comp=Z,0.6nm,1.0s,baz=119,slow=3.6,SNR=3.2 comp=Z,1.4nm,0.5s								
WR0	**Warramunga Arr**	**40.25**	**288**	**P**	**P**			**01 54 22.4**	**-0.2**
WR0				IAmb	IAmb			01 54 32.0	
	comp=Z,7.9nm,1.3s								
WRA	**Warramunga Arr**	**40.40**	**288**		**P**			**01 54 23.7**	**-0.3**
WRA	**Warramunga Arr**	**40.40**	**288**	**P**	**P**			**01 54 23.2**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=126,slow=8.1,SNR=29 comp=Z,1.9nm,0.5s								
CASY	**Casey**	**43.61**	**212**	**P**	**P**			**01 54 50.3**	**+0.8**
CASY				IAmb	IAmb			01 54 52.3	
	comp=Z,8.0nm,1.1s								
FITZ	**Fitzroy Crossi**	**47.95**	**283**	**P**	**P**			**01 55 23.8**	**-0.5**
FITZ				IAmb	IAmb			01 55 44.6	
	comp=Z,2.5nm,1.2s								
HHC	**Hu-ho-hao-te**	**99.53**	**316**	*eP*	**Pdif**			**02 00 28.6**	**+0.5**
HHC				pmax	pmax				
	comp=Z,12nm,0.7s								
HHC				pmax	pmax				
	comp=Z,160nm,5.9s								
YKA	**Yellowknife Ar**	**116.97**	**29**	PKP	**PKPdf**			**02 05 28.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=270,slow=1.8,SNR=8.6								
ARCES	**ARCESS Array B**	**146.89**	**341**	PKPbc	**PKPdf**			**02 06 25.1**	**+0.8**
	comp=Z,6.2nm,1.1s,baz=14,slow=2.5,SNR=22								
BRTR	**Keskin Array B**	**150.78**	**281**	PKPbc	**PKPdf**			**02 06 35.4**	**+3.7**
	comp=Z,0.4nm,0.6s,baz=196,slow=4.0,SNR=2.8								
FINES	**FINESS Array B**	**151.92**	**328**	PKPbc	**PKPbc**			**02 06 37.2**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=32,slow=3.6,SNR=6.0								
TORD	**Torodi Ar. Bea**	**152.12**	**194**	PKPbc	**PKPbc**			**02 06 41.3**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=156,slow=3.1,SNR=28								
HFS	**Hagfors**	**157.28**	**336**	PKPab	**PKPab**			**02 07 10.1**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=52,slow=7.9,SNR=2.3								

IDC 20 01:46:58.2±15.0, 11.05S×165.91E, h119km±156km, mb3.2/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=106.3km s-min=36.0km az=155.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.97**	**177**	P	Pn		Pn	01 49 31.8	0.0
	0.8nm,0.3s,baz=40,slow=12,SNR=7.9								
DZM				S	Sn		Sn	01 51 33.1	+0.4
	6.3nm,1.0s,baz=76,slow=23,SNR=2.0 2.0nm,0.4s								
H11S2	**WAKE ISLAND Hy**	**29.37**	**2**	T	T			02 23 10.4	
	baz=181,slow=76,SNR=5.3								
H11S3	**WAKE ISLAND Hy**	**29.37**	**2**	T	T			02 23 12.0	
	baz=181,slow=76,SNR=4.8								
H11S1	**WAKE ISLAND Hy**	**29.39**	**2**	T	T			02 23 11.7	
	baz=181,slow=76,SNR=5.6								
WRA	**Warramunga Arr**	**31.63**	**250**	P	P			01 53 10.1	-0.1
	0.5nm,0.5s,baz=81,slow=8.9,SNR=5.0 0.5nm,0.5s								
ASAR	**Alice Springs**	**32.93**	**243**	P	P			01 53 21.6	0.0
	0.6nm,0.7s,baz=63,slow=10,SNR=6.7 0.6nm,0.7s								
ILAR	**Eielson Array**	**83.47**	**18**	P	P			01 59 12.1	0.0
	0.3nm,1.0s,baz=238,slow=5.2,SNR=1.5 0.3nm,1.0s								

*ISN **20** 01:52:47.2±1.1, 33.78N×45.60E, h12km±4km, ML2.7*
*TEH **20** 01:52:48.8, 33.79N×45.60E, h12km±999km, ML2.6*

ISC 20 01:52:49.1±1.0, 33.78N±0.04×45.59E±0.06, h10km, n8, σ0§60/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.72**	**0**	Pg	**Pg**		**Pg**	**01 53 02.6**	**-0.5**
IBDR	**Badra**	**0.73**	**157**	*e*Pg	**Pg**		**Pg**	**01 53 02.0**	**-1.2**
IBDR				*e*Sg	**Sg**		**Sg**	**01 53 13.0**	**+0.2**
IGHG	**Ghaleghazi**	**0.98**	**56**	Pg	**Pg**		**Pg**	**01 53 07.7**	**-0.4**
BHD	**Baghdad**	**1.13**	**243**	*e*Pg	**Pn**		**Pn**	**01 53 11.0**	**0.0**
BHD				*e*Sg	**Sn**		**Sn**	**01 53 27.0**	**+0.5**
IDHR

TOA0 IAmb IAmb 02 05 51.8
comp=Z,4.6nm,1.4s
TORD Torodi Ar. Bea 65.75 269 P **P** **02 05 30.8 0.0**
TORD Torodi Ar. Bea 65.75 269 P **P** **02 05 30.4 -0.4**
comp=Z,0.4nm,0.5s,baz=53,slow=6.4,SNR=14
comp=Z,0.4nm,0.5s
IMAR Indian Mountai 72.13 18 P **P** **02 06 11.0 +1.7**
BMAR Burnt Mountain 72.90 14 P **P** **02 06 16.9 +3.0**
CAST Castle Rocks 74.64 19 P **P** **02 06 26.2 +2.2**
CAST IAmb IAmb 02 06 38.2
comp=Z,5.0nm,1.4s
LBTB Lobatse 74.72 222 P **P** **02 06 25.4 +0.3**
LBTB IAmb IAmb 02 06 27.9
comp=Z,11nm,1.4s
DBIC Dimbokro 74.73 267 P **P** **02 06 25.2 -0.1**
DBIC Dimbokro 74.73 267 P **P** **02 06 24.6 -0.6**
comp=Z,2.2nm,0.7s,baz=203,slow=6.1,SNR=2.4
comp=Z,2.2nm,0.7s
ILAR Eielson Array 74.74 16 P **P** **02 06 26.4 +1.8**
comp=Z,0.5nm,0.9s,baz=324,slow=4.5,SNR=5.0
comp=Z,0.5nm,0.9s
I28M Miner Creek 75.53 13 P **P** **02 06 31.4 +2.3**
YKA Yellowknife Ar 81.21 3 P **P** **02 07 02.5 +2.3**
comp=Z,0.4nm,0.5s,baz=349,slow=5.6,SNR=24
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 81.98 122 P **P** **02 07 01.9 -3.0**
comp=Z,0.8nm,0.5s,baz=326,slow=4.9,SNR=16
comp=Z,0.8nm,0.5s
ASAR Alice Springs 84.25 125 P **P** **02 07 16.4 -0.1**
comp=Z,1.3nm,0.6s,baz=312,slow=4.8,SNR=21
comp=Z,1.3nm,0.6s

IDC 20 01:59:19.4±6.4, 6°62S×147°92E, h116km±58km, mb2.9/1, mbtmp3.5/3, Error ellipse: s-maj=120.9km s-min=54.8km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.87**	**195**	P	Pn	02 00 04.9	+1.1
	75nm,0.8s,baz=360,slow=9.2,SNR=20						
PMG				S	Sn	02 00 38.1	0.0
	22nm,0.3s,baz=356,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**18.69**	**224**	P	P	02 03 28.4	-0.3
	0.4nm,0.3s,baz=49,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.65**	**217**	P	P	02 04 01.5	+0.8
	0.5nm,0.5s,baz=51,slow=8.3,SNR=21						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.12**	**284**	PKPbc	PKPdf	02 18 45.6	-0.4
	0.2nm,0.4s,baz=93,slow=5.9,SNR=2.0						

IDC 20 01:59:48.8±3.0, 32°96S×178°08W, h0km, mb3.9/2, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=71.4km s-min=35.7km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.58**	**215**	Pn	Pn	02 01 27.2	+0.4
	1.4nm,0.3s,baz=349,slow=3.7,SNR=15						
URZ				Sn	Sn	02 02 41.4	-1.1
	1.6nm,0.3s,baz=235,slow=20,SNR=7.4						
	2.7nm,0.3s						
ASAR	**Alice Springs**	**42.97**	**270**	P	P	02 07 50.0	+0.1
	0.7nm,0.5s,baz=114,slow=7.7,SNR=9.6						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.19**	**275**	P	P	02 07 59.5	-0.2
	1.3nm,0.5s,baz=115,slow=7.8,SNR=12						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**147.50**	**339**	PKPbc	PKPbc	02 19 33.1	-0.9
	0.7nm,0.6s,baz=47,slow=3.9,SNR=8.1						

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*SKHL **20** 02:01:24.6±0.6, 44°50N×149°10E, h53km±5km, mb4.4/3*
*MOS **20** 02:01:24.1±1.6, 44°36N×149°19E, h43km, mb4.0/1, Error ellipse: s-maj=18.0km s-min=12.7km az=161.8*
*IDC **20** 02:01:34.8±3.6, 45°01N×148°46E, h137km±30km, mb3.0/4, mbtmp3.5/7, Error ellipse: s-maj=68.4km s-min=21.6km az=154.0*

ISC 20 02:01:25.0±2.3, 44°51N±0°08×149°0E±0°1, h55km±22km, n25, σ1°45/25, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.09**	**312**	*e*PN	**Pn**	**02 01 43.4**	**-0.5**
KUR				*i* S	**Sn**	**02 01 57.9**	**-0.2**
KUR				pmax	pmax		
	comp=Z,293nm,0.5s						
KUR				pmax	pmax		
	comp=E,128nm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=E,756nm,0.5s						
KUR	**Kuril'sk**	**1.09**	**312**	*e*P	**Pn**	**02 01 43.5**	**-0.5**
KUR				AMB	AMB	02 01 45.1	
	comp=E,230nm,0.4s						
KUR				*i* S	**Sn**	**02 01 57.9**	**-0.2**
KUR				A	A	02 02 04.6	
	comp=E,1μm,0.6s						
KUR				A	A	02 02 04.6	
	comp=E,1μm,0.6s						
SHO	**Shikotan**	**1.69**	**249**	*e*PN	**Pn**	**02 01 53.2**	**+1.0**
SHO				*e*S	**Sn**	**02 02 12.4**	**-0.3**
SHO				pmax	pmax		
	comp=Z,33nm,0.3s						
SHO				pmax	pmax		
	comp=N,16nm,0.2s						
SHO				smax	smax		
	comp=N,197nm,0.4s						
SHO				smax	smax		
	comp=E,226nm,0.4s						
SHO	**Shikotan**	**1.69**	**249**	*e*P	**Pn**	**02 01 51.7**	**-0.5**
SHO				AMB	AMB	02 01 55.6	
	comp=E,40nm,0.3s						
SHO				*e*S	**Sn**	**02 02 11.4**	**-1.3**
SHO				A	A	02 02 15.6	
	comp=E,200nm,0.3s						
SHO				A	A	02 02 15.6	
	comp=E,230nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.31**	**259**	PN	**Pn**	**02 02 00.5**	**-0.1**
YUK				*e*S	**Sn**	**02 02 31.1**	**+3.3**
YUK				smax	smax		
	comp=N,346nm,0.2s						
YUK				smax	smax		
	comp=E,166nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.31**	**259**	*e*P	**Pn**	**02 02 00.4**	**-0.1**
YUK				AMB	AMB	02 02 02.0	
	comp=E,170nm,0.5s						
YUK				*e*S	**Sn**	**02 02 27.4**	**-0.4**
YUK				A	A	02 02 31.8	
	comp=E,230nm,0.6s						
YUK				A	A	02 02 31.8	
	comp=E,250nm,0.6s						
NMR	**Nemuro--Hokkai**	**2.63**	**245**	*e*PN	**Pn**	**02 02 04.9**	**-0.1**
NMR				*e*S	**Sn**	**02 02 34.7**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.63**	**245**	*e*P	**Pn**	**02 02 04.9**	**-0.1**
NMR				*e*S	**Sn**	**02 02 34.9**	**-0.7**
RUSJ	**Misakicho**	**2.73**	**263**	*e*PN	**Pn**	**02 02 07.5**	**+1.2**
RUSJ				*e*S	**Sn**	**02 02 39.4**	**+1.3**
AKK	**Akkeshi**	**3.37**	**245**	*e*P	**Pn**	**02 02 14.1**	**-1.0**
ASAJ	**Asahikawa**	**4.62**	**267**	P	Pn	02 02 38.9	+6.7
	comp=E,2.9nm,0.3s,baz=101,slow=16,SNR=2.0						
YSS	**Yuzh-Sakhalins**	**5.01**	**301**	*e*PN	Pn	02 02 43.0	+5.4
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YSS	**Yuzh-Sakhalins**	**5.01**	**301**	*e*P	**Pn**	**02 02 38.5**	**+0.9**
PETK	**Petropavlovsk-**	**10.33**	**31**	P	Pn	02 03 55.2	+4.8
	comp=Z,2.0nm,0.8s,baz=203,slow=7.6,SNR=5.4						
KSRS	**Korea Array**	**17.39**	**253**	P	**P**	**02 05 26.9**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=54,slow=17,SNR=1.9						
H11N2	**WAKE ISLAND Hy 28.85**	**143**		T	T	02 38 10.4	
	baz=334,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy 28.87**	**143**		T	T	02 38 11.4	
	baz=334,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy 28.87**	**143**		T	T	02 38 09.4	
	baz=334,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy 29.86**	**145**		T	T	02 39 26.9	
	baz=335,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy 29.87**	**145**		T	T	02 39 26.1	
	baz=335,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy 29.88**	**145**		T	T	02 39 25.7	
	baz=335,slow=76,SNR=20						
ILAR	**Eielson Array**	**40.08**	**37**	P	**P**	**02 08 55.1**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=268,slow=8.4,SNR=4.1						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**45.42**	**298**	P	**P**	**02 09 34.3**	**-3.8**
	comp=Z,0.6nm,1.0s,baz=68,slow=3.9,SNR=3.7						
	comp=Z,0.6nm,1.0s						
YKA	**Yellowknife Ar**	**54.42**	**35**	P	**P**	**02 10 47.2**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=298,slow=7.0,SNR=4.1						
	comp=Z,0.2nm,0.7s						
TXAR	**Lajitas Array**	**81.11**	**58**	P	**P**	**02 13 34.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=287,slow=3.7,SNR=7.1						
	comp=Z,0.3nm,0.5s						

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*IDC **20** 02:05:03.6±1.1, 32°43N×135°55E, h0km, mb3.7/8, mbtmp3.7/10, ML3.2/2, MS2.5/1, Error ellipse: s-maj=33.0km s-min=20.4km az=69.0*
*JMA **20** 02:05:06.2±0.1, 32°6N±0°5×135°7E±0°5, h38km±4km, MV3.7/38, S OFF KII PENINSULA*
*NIED **20** 02:05:06.2, 32°55N×135°72E, h38km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.30; Mθθ0.43; Mϕϕ-2.73; Mrθ1.97; Mθϕ-0.43; Mϕr-0.13; Fault plane solution: M0 3.18000×10^14 NP1:ϕs36.00000°, δ55.00000°, λ131.00000°. NP2:ϕs160.00000°, δ52.00000°, λ47.00000°.*

ISC 20 02:05:06.9±3.1, 32°60N±0°07×135°66E±0°05, h23km±21km, n25, σ1°02/39, mb3.7/8, 2D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWKM	**Wakayamakushim**	**0.86**	**5**	*i* P	**Pn**	**02 05 22.8**	**-0.8**
JWKM				S	**Sb**	**02 05 33.9**	**-0.2**
JTNC	**Tanabenakahech**	**1.22**	**358**	*i* P	**Pn**	**02 05 28.3**	**-0.4**
JTNC				S	**Sn**	**02 05 43.1**	**-1.4**
JMMH	**Miemihama**	**1.26**	**14**	*i* P	**Pn**	**02 05 28.5**	**-0.7**
JMMH				S	**Sn**	**02 05 43.6**	**-1.7**
JWM	**Minabe**	**1.28**	**348**	*i* P	**Pn**	**02 05 29.4**	**0.0**
JWM				S	**Sn**	**02 05 44.7**	**-1.1**
TTO1	**TONANKAI O.B.S**	**1.39**	**42**	P	**Pn**	**02 05 30.1**	**-0.6**
TTO1				S	**Sn**	**02 05 47.8**	**-0.4**
JAI	**Aioi**	**1.57**	**320**	||*i* P	**Pn**	**02 05 33.5**	**+0.1**
JAI				||S	**Sn**	**02 05 51.6**	**-1.4**
TTO2	**TONANKAI O.B.S**	**1.61**	**45**	P	**Pn**	**02 05 33.3**	**-0.5**
TTO2				S	**Sn**	**02 05 53.8**	**0.0**
JWY	**Kouya**	**1.62**	**358**	P	**Pn**	**02 05 34.3**	**+0.1**
JWY				S	**Sn**	**02 05 53.3**	**-1.2**
JKN2	**Miekihoku**	**1.72**	**17**	*i* P	**Pn**	**02 05 35.2**	**-0.3**
JKN2				S	**Sn**	**02 05 55.2**	**-1.5**
JMN	**Monobe**	**1.87**	**308**	P	**Pn**	**02 05 38.0**	**+0.3**
JMN				S	**Sn**	**02 05 59.7**	**-0.9**
JAWN	**Awajishima-nag**	**1.99**	**342**	*i* P	**Pn**	**02 05 40.1**	**+0.9**
JAWN				S	**Sn**	**02 06 03.2**	**-0.2**
JIE	**Ise**	**1.99**	**26**	P	**Pn**	**02 05 39.0**	**-0.2**
JIE				S	**Sn**	**02 06 01.3**	**-2.2**
JHE	**Heguri**	**2.05**	**1**	*i* P	**Pn**	**02 05 40.7**	**+0.6**
JHE				S	**Sn**	**02 06 04.6**	**-0.4**
JNU	**Nakatsue**	**4.06**	**279**	Pn	**Pn**	**02 06 07.4**	**-0.3**
	4.8nm,0.3s,baz=140,slow=14,SNR=33						
JNU				Sn	**Sn**	**02 06 53.7**	**-0.9**
	2.4nm,0.3s,baz=342,slow=2.0,SNR=1.6						
	11nm,0.3s						
MJAR	**Matsushiro Arr**	**4.46**	**27**	Pn	**Pn**	**02 06 16.1**	**+2.9**
	0.2nm,0.3s,baz=208,slow=12,SNR=8.6						
MJAR				Sn	**Sn**	**02 07 04.4**	**-0.1**
	0.2nm,0.3s,baz=224,slow=32,SNR=2.7						
	3.2nm,0.5s						
JOW	**Kunigami**	**8.62**	**230**	LR	LR	02 09 30.3	
	comp=Z,34nm,19.3s,baz=170,slow=32						
SONM	**Songino Array**	**26.83**	**313**	P	**P**	**02 10 47.2**	**+1.4**
	0.5nm,0.6s,baz=123,slow=8.6,SNR=3.2						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**41.62**	**316**	PcP	**PcP**	**02 14 49.6**	**-0.2**
	0.3nm,0.4s,baz=83,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**42.64**	**306**	P	**P**	**02 13 01.4**	**-0.3**
	0.2nm,0.6s,baz=87,slow=11,SNR=1.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**50.17**	**314**	P	**P**	**02 14 01.5**	**+0.9**
	0.8nm,0.6s,baz=68,slow=8.1,SNR=4.1						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**52.26**	**182**	P	**P**	**02 14 15.3**	**-1.2**
	0.8nm,0.8s,baz=357,slow=8.0,SNR=5.2						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**55.97**	**182**	P	**P**	**02 14 43.0**	**-0.7**
	0.3nm,0.6s,baz=21,slow=5.7,SNR=6.8						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**70.47**	**331**	P	**P**	**02 16 20.0**	**+0.7**
	0.7nm,0.5s,baz=56,slow=5.2,SNR=10						
	0.7nm,0.5s						
AKASG	**Malin Array Be**	**74.82**	**321**	P	**P**	**02 16 45.4**	**0.0**
	0.3nm,0.2s,baz=51,slow=5.5,SNR=4.2						
	0.3nm,0.2s						
BRTR	**Keskin Array B**	**78.13**	**310**	P	**P**	**02 17 04.7**	**+0.2**
	0.7nm,0.8s,baz=83,slow=6.0,SNR=3.6						
	0.7nm,0.8s						

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*ISN **20** 02:05:48.3±1.2, 33°65N×45°60E, h10km±5km, ML3.5*
*IDC **20** 02:05:50.0±1.9, 33°76N×45°52E, h0km, mb3.7/7, mbtmp3.8/7, Error ellipse: s-maj=55.9km s-min=24.8km az=158.0*
*TEH **20** 02:05:51.0, 33°73N×45°64E, h9km±52km, ML3.6*

ISC 20 02:05:50.5±0.7, 33°63N±0°03×45°56E±0°04, h13km, n32, σ1°41/36, mb3.7/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.60**	**149**	*e*Pg	**Pg**	**02 06 01.0**	**-1.3**
IBDR				*e*Sg	**Sg**	**02 06 09.5**	**-0.7**
IBDR				AML	AML	02 06 21.0	
	comp=N,2μm,0.5s						
IBDR				AML	AML	02 06 23.4	
	comp=E,1μm,0.2s						
KGS1	**Ghasr-e-Shirin**	**0.88**	**2**	Pg	**Pg**	**02 06 06.1**	**-1.4**
BHD	**Baghdad**	**1.05**	**251**	*e*Pg	**Pn**	**02 06 11.0**	**+0.1**
BHD				*e*Sg	**Sn**	**02 06 26.5**	**+1.2**
BHD				AML	AML	02 06 39.3	
	comp=E,2μm,0.7s						
IGHG	**Ghaleghazi**	**1.10**	**50**	Pg	**Pb**	**02 06 10.1**	**-1.4**
IGHG				Sg	**Sb**	**02 06 24.3**	**-1.5**
IDHR	**Dehrash**	**1.27**	**32**	Pg	**Pn**	**02 06 13.2**	**-1.1**
IKOM	**Komasi**	**1.71**	**71**	Pg	**Pn**	**02 06 22.1**	**+1.8**
ILIN	**Lien**	**1.74**	**42**	Pg	**Pn**	**02 06 21.7**	**+1.1**
IKFM	**Kafar-mosalman**	**1.91**	**92**	Pn	**Pb**	**02 06 25.1**	**-0.2**
RAFI	**Al-Rafai**	**1.95**	**166**	*e*Pn	**Pn**	**02 06 24.0**	**+0.6**
RAFI				*e*Sn	**Sg**	**02 06 52.0**	**-1.4**
RAFI				AML	AML	02 07 12.7	
	comp=E,555nm,0.7s						
RAFI				AML	AML	02 07 14.1	
	comp=N,574nm,0.4s						
SDS1	**Sardasht. Az.**	**2.52**	**359**	Pn	**Pn**	**02 06 33.2**	**+1.8**
HSAM	**Samen**	**2.60**	**76**	Pn	**Pn**	**02 06 33.5**	**+1.0**
MAHB	**Mahabad**	**3.14**	**2**	Pn	**Pn**	**02 06 41.2**	**+1.4**
HAGD	**Aghdareh**	**3.20**	**67**	Pn	**Pn**	**02 06 42.5**	**+1.7**
IHSH	**Hashtrud**	**3.93**	**20**	Pn	**Pn**	**02 06 51.2**	**+0.4**
QSDN	**Sirdan**	**4.13**	**45**	Pn	**Pn**	**02 06 54.4**	**+0.9**
ISHB	**Shabestar**	**4.65**	**1**	Pn	**Pn**	**02 07 01.5**	**+0.8**
IHRS	**Heris**	**4.84**	**14**	Pn	**Pn**	**02 07 04.6**	**+1.4**
QAMS	**Qamsar**	**4.87**	**87**	Pn	**Pn**	**02 07 05.0**	**+1.2**
IKLH	**Kolahrood**	**5.04**	**92**	Pn	**Pn**	**02 07 08.5**	**+2.4**
IVRN	**Varamin**	**5.29**	**73**	Pn	**Pn**	**02 07 11.2**	**+2.0**
KRSH	**Karshahi**	**5.49**	**85**	Pn	**Pn**	**02 07 13.4**	**+1.3**
GRMI	**Germi**	**5.51**	**19**	Pn	**Pn**	**02 07 13.7**	**+1.4**
IDMV	**Damavand**	**5.68**	**68**	Pn	**Pn**	**02 07 15.4**	**+0.4**
IRAM	**Ramesheh**	**6.03**	**106**	Pn	**Pn**	**02 07 21.6**	**+2.0**
WSAR	**Wadi Sarin**	**15.46**	**129**	Pn	**Pn**	**02 09 25.9**	**-2.4**
	comp=N,0.3nm,0.3s,baz=316,slow=6.5,SNR=1.8						
AKASG	**Malin Array Be**	**20.84**	**330**	P	**P**	**02 10 31.1**	**-0.8**
	comp=N,0.6nm,0.5s,baz=139,slow=9.9,SNR=5.5						
	comp=N,0.6nm,0.5s						
BVAR	**Borovoye Array**	**26.28**	**35**	P	**P**	**02 11 27.8**	**+2.3**
	comp=N,1.0nm,0.5s,baz=228,slow=9.2,SNR=7.3						
	comp=N,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**29.45**	**45**	P	**P**	**02 11 54.7**	**+0.9**
	comp=N,0.9nm,0.2s,baz=252,slow=8.8,SNR=1.4						
	comp=N,0.9nm,0.2s						
MKAR	**Makanchi Array**	**30.69**	**54**	P	**P**	**02 12 05.7**	**+0.8**
	comp=N,1.2nm,0.5s,baz=250,slow=10,SNR=35						
	comp=N,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**34.27**	**42**	P	**P**	**02 12 35.3**	**-0.8**
	comp=N,0.6nm,0.6s,baz=234,slow=8.7,SNR=2.7						
	comp=N,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**44.72**	**254**	P	**P**	**02 14 05.3**	**+1.6**
	comp=N,0.6nm,0.7s,baz=56,slow=6.9,SNR=3.8						
	comp=N,0.6nm,0.7s						
SONM	**Songino Array**	**47.06**	**53**	P	**P**	**02 14 22.5**	**+0.5**
	comp=N,0.2nm,0.4s,baz=270,slow=7.2,SNR=1.8						
	comp=N,0.2nm,0.4s						

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*NEIC **20** 02:10:49.1±0.7, 20°08N±0°03×156°03W±0°04, h48km±6km, Error ellipse: s-maj=5.9km s-min=3.7km az=69.0*

HVO 20 02:10:51.2±0.6, 20°09N±0°03×156°01W±0°04, h40km±6km, Md2.4/20, ML2.7/52(NEIC), Error ellipse: s-maj=6.2km s-min=3.6km az=64.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHA	**Mahukona**	**0.14**	**46**		Pn	02 10 57.6	-0.5
MHA					Sn	02 11 02.7	-0.2
KKH	**Kailua Kona**	**0.43**	**181**		Pn	02 11 00.1	-0.9
HUH	**Hualalai**	**0.44**	**158**		Pn	02 11 00.3	-1.1
HUH					Sn	02 11 06.1	-2.4
HUH				IAML		02 11 09.0	
	comp=E,492nm,0.1s						
HUH				IAML		02 11 14.0	
	comp=N,661nm,0.4s						
KHLU	**Kahalu`u**	**0.51**	**167**		Pn	02 11 00.6	-1.6
KHLU					Sn	02 11 07.7	-2.1
KHLU				IAML		02 11 07.9	
	comp=E,540nm,0.2s						
KHLU				IAML		02 11 08.2	
	comp=N,536nm,0.1s						
POHA	**Pohakuloa**	**0.56**	**126**		Pn	02 11 01.5	-1.5
POHA					Sn	02 11 09.2	-2.1
POHA	**Pohakuloa**	**0.56**	**126**	IAML		02 11 09.4	
	comp=N,662nm,0.3s						
POHA				IAML		02 11 09.8	
	comp=N,690nm,0.1s						
CPH	**Captain Cook**	**0.60**	**172**		Pn	02 11 01.9	-1.5
ALEP	**Alea Permanent**	**0.65**	**147**		Pn	02 11 02.1	-2.2
MLOA	**Mauna Loa Obse**	**0.69**	**143**		Pn	02 11 03.4	-1.5
MLOA				IAML		02 11 12.8	
	comp=N,208nm,0.3s						
HMH	**Humu'ula Sheep**	**0.69**	**134**		Pn	02 11 03.4	-1.4
HMH					Sn	02 11 12.7	-1.9
MWH	**Moku'aweowe**	**0.72**	**147**		Pn	02 11 03.5	-1.9
MWH					Sn	02 11 12.8	-2.7
MWH				IAML		02 11 21.1	
	comp=N,244nm,0.8s						
MWH				IAML		02 11 23.1	
	comp=E,286nm,0.8s						
MLH	**Mauna Loa**	**0.84**	**135**		Pn	02 11 05.1	-1.7
MLH				IAML		02 11 15.8	
	comp=E,176nm,0.2s						
MLH				IAML		02 11 16.1	
	comp=N,217nm,1.1s						
AIN	**Ainahou**	**0.88**	**144**		Pn	02 11 05.7	-1.7
AIN				IAML		02 11 18.1	
	comp=E,256nm,0.7s						
KHLH	**Kahului Airpor**	**0.89**	**334**		Pn	02 11 05.9	-1.4
KHLH					Sn	02 11 16.8	-2.3
KHU	**Kahuku**	**0.92**	**156**		Pn	02 11 06.0	-1.9
KHU					Sn	02 11 17.0	-3.0
KHU				IAML		02 11 18.6	
	comp=E,170nm,1.1s						
RSD	**Rainshed**	**0.93**	**132**		Pn	02 11 06.2	-1.7
RSD					Sn	02 11 17.5	-2.7
RSD				IAML		02 11 17.7	
	comp=N,305nm,0.3s						
RSD				IAML		02 11 17.8	
	comp=E,199nm,0.1s						
UWE	**Uwekahuna**	**0.95**	**134**		Pn	02 11 06.3	-1.9
UWE					Sn	02 11 17.6	-3.0
UWE				IAML		02 11 36.1	
	comp=N,314nm,1.2s						
WRMHI	**West Rim**	**0.95**	**135**		Pn	02 11 06.3	-2.0
UWB	**Uwekahuna B**	**0.96**	**134**		Pn	02 11 06.1	-2.1
OBL	**Observatory Le**	**0.96**	**134**		Pn	02 11 06.2	-2.1
SBLHI	**Steaming Bluff**	**0.96**	**133**		Pn	02 11 06.2	-2.1
SBLHI				IAML		02 11 45.0	
	comp=E,141nm,0.7s						
NPH	**North Pit**	**0.96**	**134**		Pn	02 11 06.2	-2.2
HATHI	**Halema'uma'u T**	**0.97**	**133**		Pn	02 11 06.3	-2.1
HATHI				IAML		02 11 21.2	
	comp=N,178nm,1.1s						
HATHI				IAML		02 11 46.7	
	comp=E,208nm,1.1s						
SDHHI	**Sand Hill**	**0.97**	**136**	Pn	Pn	02 11 06.3	-2.1
SDHHI				IAML		02 11 22.4	
	comp=N,243nm,1.1s						
BYL	**Byron's Ledge**	**0.98**	**133**		Pn	02 11 06.4	-2.1
BYL				IAML		02 11 38.3	
	comp=N,174nm,1.2s						
RIM	**Rim**	**0.98**	**135**		Pn	02 11 06.5	-2.1
RIM				IAML		02 11 20.8	
	comp=E,167nm,1.1s						
RIM				IAML		02 11 36.6	
	comp=N,289nm,1.2s						
KKO	**Keanakako`i**	**0.98**	**134**		Pn	02 11 06.5	-2.1
KKO				IAML		02 11 26.9	
	comp=N,308nm,1.2s						
KKO				IAML		02 11 34.7	
	comp=E,209nm,1.1s						
HTC	**Hot Caves**	**1.03**	**146**		Pn	02 11 07.4	-1.8
HLP	**Hilina Pali**	**1.03**	**140**		Pn	02 11 07.4	-1.8
HLP					Sn	02 11 19.4	-3.1
HLP				IAML		02 11 20.9	
	comp=E,227nm,1.1s						
PUH	**Pauahi**	**1.03**	**133**		Pn	02 11 07.0	-2.3
PUH				IAML		02 11 28.6	
	comp=N,136nm,1.2s						
KNHH	**Kane Nui o Ham**	**1.06**	**132**		Pn	02 11 07.7	-2.1
STCH	**Steam Cracks**	**1.09**	**130**		Pn	02 11 07.9	-2.1
STCH					Sn	02 11 20.4	-3.6
STCH				IAML		02 11 20.7	
	comp=E,267nm,0.1s						
JOKA	**Jonika Flow**	**1.15**	**124**		Pn	02 11 08.7	-2.1
JOKA					Sn	02 11 22.3	-3.1
KPA	**Kalaupapa**	**1.42**	**320**		Pn	02 11 12.1	-2.5
WMR	**Waimanalo Ridg**	**1.99**	**308**		Pn	02 11 19.9	-2.4
DHH	**Diamond Head**	**2.04**	**305**		Pn	02 11 21.1	-2.0
HON	**Honolulu**	**2.23**	**304**		Pn	02 11 23.2	-2.5
KEKH	**Kekaha**	**3.94**	**299**	Pn	Pn	02 11 46.2	-2.9

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*IDC **20** 02:18:16.8±1.3, 1°30N×126°74E, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/1, Error ellipse: s-maj=138.0km s-min=19.3km az=68.0*
*DJA **20** 02:18:33.1±0.4, 1°N±3°×12°7E±°, h10km, M3.9/7, MLv3.9/7*

**ISC 20 02:18:29.6±1.0, 1°23N±0°08×126°82E±0°07, h100km, n14,

ISC 20 02:21:11.7±1.9, 13°93N±0°10×90°50W±0°05, h104km±14km, n32, σ0°68/43, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.47**	**347**	*i* P	**Pn**	**02 21 28.4**	**+0.3**
FUG	**Fuego 3**	**0.61**	**327**	*e*P	**Pn**	**02 21 28.9**	**-0.1**
NBG	**Las Nubes**	**0.67**	**13**	*i* P	**Pn**	**02 21 30.3**	**+0.8**
GUNB	**GUNB**	**0.68**	**13**	*i* P	**Pn**	**02 21 28.7**	**-1.0**
GUNB				IAML		02 21 29.2	
	comp=Z,620nm,1.0s						
GUNB				*i* S	**Sn**	**02 21 42.8**	**-0.3**
NUBE	**Las Nubes**	**0.70**	**92**	*e*P	**Pn**	**02 21 29.1**	**-0.5**
NUBE				*e*S	**Sn**	**02 21 43.1**	**-0.1**
NUBE				IAML		02 21 43.8	
	comp=Z,337nm,0.3s						
NUBE	**Las Nubes**	**0.70**	**92**	*i* P	**Pn**	**02 21 29.0**	**-0.6**
NUBE				*i* S	**Sn**	**02 21 43.2**	**0.0**
NUBE				IAML		02 21 44.6	
	comp=Z,750nm,1.0s						
LOAL	**Lomas de Alarc**	**0.70**	**84**	*i* P	**Pn**	**02 21 29.3**	**-0.3**
LOAL				*i* S	**Sn**	**02 21 44.0**	**+1.0**
LOAL				IAML		02 22 11.2	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.70**	**82**	*e*P	**Pn**	**02 21 29.2**	**-0.4**
SLOZ				*e*S	**Sn**	**02 21 43.7**	**+0.7**
JAMO	**Monjas**	**0.82**	**47**	*i* P	**Pn**	**02 21 30.4**	**-0.3**
JAMO				IAML		02 21 31.0	
	comp=Z,1μm,1.0s						
CEVE	**Cerro Verde**	**0.86**	**97**	*e*P	**Pn**	**02 21 30.9**	**-0.2**
CEVE				*e*S	**Sn**	**02 21 47.6**	**+1.7**
CEVE				IAML		02 21 48.6	
	comp=Z,1μm,0.2s						
CEVE	**Cerro Verde**	**0.86**	**97**	*i* P	**Pn**	**02 21 31.0**	**-0.2**
CEVE				IAML		02 21 48.1	
	comp=Z,2μm,1.0s						
SNJE	**San Jose**	**0.87**	**94**	*e*P	**Pn**	**02 21 30.8**	**-0.5**
UNIC	**Universidad Ca**	**0.93**	**87**	*i* P	**Pn**	**02 21 31.0**	**-0.7**
UNIC				IAML		02 21 31.5	
	comp=Z,670nm,1.0s						
JAYA	**Jayaque - finc**	**1.06**	**105**	*e*P	**Pn**	**02 21 32.7**	**-0.5**
JAYA				*e*S	**Sn**	**02 21 48.7**	**-0.7**
JAYA				IAML		02 21 52.2	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**1.06**	**105**	*i* P	**Pn**	**02 21 32.7**	**-0.5**
JAYA				IAML		02 21 55.1	
	comp=Z,4μm,1.0s						
SULM	**Suchitepequez,**	**1.10**	**290**	*i* P	**Pn**	**02 21 34.2**	**+0.7**
SULM				*i* S	**Sn**	**02 21 48.3**	**-1.6**
PMON	**Piamonte**	**1.17**	**100**	*i* P	**Pn**	**02 21 34.4**	**0.0**
PMON				IAML		02 22 00.2	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.20**	**67**	*i* P	**Pn**	**02 21 34.1**	**-0.7**
MTO3				IAML		02 21 34.5	
	comp=Z,350nm,1.0s						
LALI	**Alcalda de L**	**1.23**	**111**	*e*P	**Pn**	**02 21 34.5**	**-0.4**
LALI				IAML		02 21 55.6	
	comp=Z,261nm,0.2s						
LALI	**Alcalda de L**	**1.23**	**111**	*i* P	**Pn**	**02 21 34.8**	**-0.1**
LALI				IAML		02 21 55.3	
	comp=Z,290nm,1.0s						
SOKI	**Kika Raxquin**	**1.25**	**315**	*i* P	**Pn**	**02 21 35.6**	**0.0**
SOKI				IAML		02 22 00.1	
	comp=Z,510nm,1.0s						
ESQI	**Esquipulas**	**1.29**	**61**	*i* P	**Pn**	**02 21 35.5**	**-0.2**
ESQI				IAML		02 21 35.9	
	comp=Z,350nm,1.0s						
STG3	**Santiaguito 3,**	**1.30**	**307**	*i* P	**Pn**	**02 21 35.8**	**-0.1**
STG3				*e*S	**Sn**	**02 21 55.1**	**+0.9**
RTAL	**Retalhuleu**	**1.30**	**297**	*i* P	**Pn**	**02 21 35.5**	**-0.3**
RTAL				IAML		02 22 05.4	
	comp=Z,690nm,1.0s						
LOMA	**Loma Larga**	**1.32**	**102**	*i* P	**Pn**	**02 21 38.1**	**+1.9**
LOMA				IAML		02 22 00.2	
	comp=Z,1μm,1.0s						
SJTE	**Alcalda de S**	**1.48**	**102**	*e*P	**Pn**	**02 21 37.9**	**-0.2**
SJTE				*e*S	**Sn**	**02 21 58.1**	**0.0**
SJTE				IAML		02 22 02.2	
	comp=Z,255nm,0.2s						
PAVA	**Las Pavas**	**1.53**	**98**	*e*P	**Pn**	**02 21 38.5**	**-0.2**
PAVA	**Las Pavas**	**1.53**	**98**	*i* P	**Pn**	**02 21 38.5**	**-0.2**
PAVA				IAML		02 21 39.0	
	comp=Z,1μm,1.0s						
COEG	**Centro de Coper**	**1.60**	**101**	*e*P	**Pn**	**02 21 39.4**	**-0.1**
COEG				IAML		02 22 12.1	
	comp=Z,236nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.74**	**97**	*e*P	**Pn**	**02 21 40.9**	**-0.2**
SARH	**Santa Rosa de**	**1.89**	**63**	*i* P	**Pn**	**02 21 43.2**	**+0.2**
COEB	**Comit de Eme**	**1.96**	**102**	*e*P	**Pn**	**02 21 43.8**	**-0.2**
COEB				*e*S	**Sn**	**02 22 08.7**	**0.0**

*SJA **20** 02:25:59.3±0.6, 35°.53S×70°.44W, h201km±7km, ML3.5, MW3.1*
*GUC **20** 02:26:00.7±0.7, 35°.53S×70°.62W, h178km±4km, ML3.1*
ISC 20 02:25:56.7±2.8, 35°.7S±0°.1×70°.46W±0°.10, h193km±13km, n36, σ1°80/63, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BO02	**Sierra Bellavi**	**0.92**	**343**	⇑*i*P	**Pn**	**02 26 25.3**	**0.0**
BO02				*i* S	**Sn**	**02 26 46.1**	**-1.3**
BO02				IAML		02 26 52.5	
	comp=N,170nm,0.3s						
GO05	**Huala**	**1.37**	**298**	*e*P	**Pn**	**02 26 29.4**	**+0.8**
GO05				*i* S	**Sn**	**02 26 51.5**	**-1.9**
GO05				IAML		02 26 53.1	
	comp=E,84nm,0.2s						
BO01	**Tunca**	**1.38**	**338**	⇑*i*P	**Pn**	**02 26 29.2**	**+0.5**
BO01				*i* S	**Sn**	**02 26 51.4**	**-2.1**
BO01				IAML		02 26 53.1	
	comp=N,85nm,0.2s						
BO04	**La Punta**	**1.69**	**356**	⇑*i*P	**Pn**	**02 26 32.3**	**+0.8**
BO04				*i* S	**Sn**	**02 26 57.8**	**-0.8**
BO04				IAML		02 26 59.0	
	comp=E,66nm,0.2s						
BO03	**Pichilemu**	**1.70**	**313**	*e*P	**Pn**	**02 26 33.2**	**+1.5**
BO03				*i* S	**Sn**	**02 26 58.1**	**-0.7**
BO03				IAML		02 27 00.3	
	comp=N,116nm,0.1s						
LMEL	**Las Melosas**	**1.83**	**7**	*e*P	**Pn**	**02 26 34.6**	**+1.5**
LMEL				*i* S	**Sn**	**02 27 04.8**	**+3.3**
LMEL				IAML		02 27 08.2	
	comp=N,110nm,0.1s						
MT01	**Popeta**	**1.92**	**340**	⇑*i*P	**Pn**	**02 26 34.6**	**+0.7**
MT01				*i* S	**Sn**	**02 27 00.6**	**-2.1**
MT01				IAML		02 27 01.8	
	comp=E,115nm,0.1s						
MT13	**San Alfonso**	**1.93**	**4**	*e*P	**Pn**	**02 26 36.0**	**+1.8**
MT13				*i* S	**Sn**	**02 27 03.5**	**+0.3**
MT13				IAML		02 27 08.2	
	comp=N,52nm,0.3s						
MT12	**Pirque**	**1.94**	**358**	*e*P	**Pn**	**02 26 35.4**	**+1.3**
MT12				*i* S	**Sn**	**02 27 01.6**	**-1.6**
MT12				IAML		02 27 04.9	
	comp=E,61nm,0.2s						
MT09	**Talagante**	**1.94**	**347**	⇑*i*P	**Pn**	**02 26 35.4**	**+1.1**
MT09				*i* S	**Sn**	**02 27 01.8**	**-1.6**
MT09				IAML		02 27 03.3	
	comp=E,355nm,0.1s						
MT15	**Las Vizcachas**	**2.07**	**359**	*e*P	**Pn**	**02 26 37.2**	**+1.7**
MT15				*i* S	**Sn**	**02 27 04.5**	**-1.2**
MT15				IAML		02 27 06.5	
	comp=E,173nm,0.3s						
MT03	**Universidad Ad**	**2.18**	**359**	*e*P	**Pn**	**02 26 38.2**	**+1.5**
MT03				*i* S	**Sn**	**02 27 06.8**	**-1.0**
MT03				IAML		02 27 08.7	
	comp=E,163nm,0.2s						
VA05	**Santo Domingo**	**2.23**	**334**	*e*P	**Pn**	**02 26 38.5**	**+1.5**
VA05				*i* S	**Sn**	**02 27 07.1**	**-1.4**
VA05				IAML		02 27 09.6	
	comp=N,358nm,0.2s						
MT14	**Cerro Cal¡n**	**2.27**	**358**	⇑*i*P	**Pn**	**02 26 39.4**	**+1.6**
MT14				*e*S	**Sn**	**02 27 08.1**	**-1.5**
MT14				IAML		02 27 11.7	
	comp=N,67nm,0.2s						
MT05	**Renca**	**2.29**	**354**	*e*P	**Pn**	**02 26 39.3**	**+1.4**
MT05				*e*S	**Sn**	**02 27 09.3**	**-0.6**
MT05				IAML		02 27 11.0	
	comp=N,185nm,0.1s						
MT10	**Hacienda Santa**	**2.40**	**358**	⇓*i*P	**Pn**	**02 26 40.8**	**+1.6**
MT10				*e*S	**Sn**	**02 27 10.8**	**-1.4**
MT10				IAML		02 27 13.1	
	comp=E,54nm,0.3s						
PEL	**Peldehue**	**2.53**	**356**	*e*P	**Pn**	**02 26 42.6**	**+2.0**
PEL				*e*S	**Sn**	**02 27 14.7**	**-0.1**
PEL	**Peldehue**	**2.53**	**356**	*e*P	**Pn**	**02 26 42.0**	**+1.5**
PEL				*i* S	**Sn**	**02 27 13.7**	**-1.0**
PEL				IAML		02 27 14.8	
	comp=E,76nm,0.2s						
ROC1	**El Roble**	**2.73**	**350**	*e*P	**Pn**	**02 26 44.8**	**+1.7**
ROC1				*e*S	**Sn**	**02 27 19.2**	**0.0**
ROCH	**El Roble**	**2.73**	**350**	*e*P	**Pn**	**02 26 44.4**	**+1.3**
ROCH				*e*S	**Sn**	**02 27 18.0**	**-1.3**
ROCH				IAML		02 27 23.2	
	comp=N,72nm,0.4s						
VA03	**San Esteban**	**2.90**	**358**	*e*P	**Pn**	**02 26 46.9**	**+1.9**
VA03				*e*S	**Sn**	**02 27 22.1**	**-0.5**
VA03	**San Esteban**	**2.90**	**358**	*e*P	**Pn**	**02 26 46.8**	**+1.8**
VA03				*i* S	**Sn**	**02 27 22.3**	**-0.3**
VA03				IAML		02 27 25.1	
	comp=E,117nm,0.1s						
AAGR	**Agrelo**	**2.91**	**28**	*e*P	**Pn**	**02 26 46.9**	**+1.9**
ASAL	**Salagasta**	**3.36**	**24**	*e*P	**Pn**	**02 26 52.8**	**+2.4**
AUSP	**Uspallata**	**3.56**	**15**	*e*P	**Pn**	**02 26 55.5**	**+2.5**
RTLS	**Leoncito**	**3.98**	**14**	*e*P	**Pn**	**02 27 00.8**	**+2.5**
RTLS				*e*S	**Sn**	**02 27 46.0**	**-0.7**
RTCV	**Cerro Valdivia**	**4.12**	**23**	*e*P	**Pn**	**02 27 01.6**	**+1.8**
RTCV				*e*S	**Sn**	**02 27 47.6**	**-1.8**
RTLL	**Cerro Villicun**	**4.64**	**21**	*e*P	**Pn**	**02 27 08.0**	**+1.6**
RTLL				*e*S	Sn	02 27 41.2	-20
RTLL				IAML		02 27 43.0	
	comp=Z,90nm,0.1s						
ACCO	**Cerro Coronel**	**5.21**	**13**	*e*P	**Pn**	**02 27 16.0**	**+2.0**
ACCO				*e*S	**Sn**	**02 28 12.5**	**-2.1**
ACCO				IAML		02 28 16.5	
	comp=Z,12nm,2.7s						
ACHE	**Chepes**	**5.51**	**36**	*e*P	Pn	02 26 59.9	-18
AROD	**Rodeo**	**5.55**	**9**	*e*P	**Pn**	**02 27 20.9**	**+2.5**
AROD				*e*S	**Sn**	**02 28 20.3**	**-2.5**
AVFE	**Valle Fertil**	**5.60**	**28**	*e*P	**Pn**	**02 27 19.3**	**+0.6**
ACDV	**Cuesta del Vie**	**5.60**	**12**	*e*S	Sn	02 28 31.4	+7.7
ACDV				IAML		02 28 46.8	
	comp=Z,25nm,0.3s						
AGUA	**GUANDACOL**	**6.39**	**16**	*e*P	**Pn**	**02 27 30.2**	**+1.1**
AGUA				*e*S	**Sn**	**02 28 37.7**	**-4.3**
ACLC	**CERRO LA CRUZ**	**6.90**	**26**	*e*P	**Pn**	**02 27 36.5**	**+0.7**
ACLC				*e*S	**Sn**	**02 28 49.3**	**-4.9**
ACLC				IAML		02 29 46.3	
	comp=Z,5.9nm,3.8s						
VCA	**Vinchina**	**7.18**	**16**	*e*P	**Pn**	**02 27 41.1**	**+1.7**
VCA				*e*S	**Sn**	**02 28 59.3**	**-1.4**
VCA				IAML		02 29 10.0	
	comp=Z,9.2nm,3.9s						

IDC 20 02:38:30.4±4.0, 6°.40S×150°.59E, h0km, mb3.1/3, mbtmp3.2/3, MS3.9/1, Error ellipse: s-maj=129.7km s-min=34.5km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.74**	**228**	P	P	02 43 13.2	+0.3
	0.7nm,0.8s,baz=54,slow=11,SNR=1.2						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**23.49**	**221**	P	P	02 43 41.7	-0.5
	0.4nm,0.7s,baz=55,slow=9.1,SNR=5.8						
	0.4nm,0.7s						
RAO	**Raoul Island**	**37.40**	**131**	LR	LR	02 58 13.4	
	comp=Z,172nm,18.8s,baz=118,slow=32						
SONM	**Songino Array**	**66.53**	**329**	P	P	02 49 22.4	0.0
	0.2nm,0.5s,baz=123,slow=7.0,SNR=1.5						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	PKPbc	02 58 20.3	-0.4
	0.2nm,0.7s,baz=57,slow=1.5,SNR=1.4						

*IDC **20** 02:56:23.0±1.4, 26°.67N×110°.83W, h0km, mb3.5/1, mbtmp3.3/6, ML3.3/4, MS3.3/10, Error ellipse: s-maj=20.6km s-min=14.1km az=89.0*
*MEX **20** 02:56:26.6±0.3, 26°.64N×110°.89W, h7km±8km, MD4.3*
ISC 20 02:56:23.1±0.8, 26°.54N±0°.04×111°.00W±0°.04, h10km, n31, σ2°42/35, MS3.5/4, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.35**	**305**	*e*P	**Pn**	**02 56 47.0**	**-0.9**
SRIG				*e*S	**Sg**	**02 57 06.7**	**+0.2**
GUYB	**Guaymas**	**1.35**	**5**	*e*P	**Pn**	**02 56 46.3**	**-1.7**
GUYB				*i* S	Sb	02 56 51.5	-14
TSIG	**Topolobambo**	**2.00**	**118**	*e*P	**Pn**	**02 56 56.6**	**-0.3**
TSIG				*e*S	**Sn**	**02 57 20.1**	**-1.9**
CSIG	**Choix**	**2.37**	**82**	*e*P	**Pn**	**02 57 01.2**	**-0.8**
CSIG				*e*S	**Sn**	**02 57 28.3**	**-2.9**
HSIG		**2.47**	**1**	*e*P	**Pn**	**02 57 02.6**	**-0.8**
LPIG	**La Paz**	**2.51**	**165**	Pn	**Pn**	**02 57 04.9**	**+1.0**
	13nm,0.3s,baz=58,slow=9.3,SNR=6.2						
LPIG				Sn	**Sn**	**02 57 36.1**	**+1.5**
	18nm,0.3s,baz=355,slow=19,SNR=1.9						
LPIG				Lg	Lg	02 57 46.4	
	19nm,0.3s,baz=252,slow=7.8,SNR=3.5						
LPIG				LR	LR	02 58 14.4	
	comp=Z,322nm,19.8s,baz=326,slow=43						
	57nm,0.4s						
SLBS	**Sierra La Lagu**	**3.00**	**161**	*e*P	**Pn**	**02 57 12.9**	**+2.1**
SLBS				*e*S	**Sn**	**02 57 47.3**	**+0.4**
BAHB	**Baha de los**	**3.30**	**317**	*e*P	**Pb**	**02 57 20.8**	**-0.8**
SSIG	**Sanalona**	**3.88**	**115**	*e*P	**Pb**	**02 57 31.5**	**-0.2**
SSIG				*e*		02 58 18.1	
LAPR	**La Primavera**	**4.11**	**344**	*e*P	**Pn**	**02 57 26.9**	**+0.9**
LAPR				*i* S	**Sg**	**02 58 41.1**	**+6.0**
CGIG		**4.65**	**34**	*e*P	**Pn**	**02 57 35.5**	**+2.0**
CGIG				*e*S	**Sn**	**02 58 25.7**	**-2.0**
HPIG		**4.79**	**84**	*e*P	**Pn**	**02 57 35.6**	**+0.1**
HPIG				*e*S	**Sn**	**02 58 30.8**	**-0.4**
BCIG	**La Boquilla**	**5.08**	**77**	*e*P	**Pn**	**02 57 40.0**	**+0.5**
BCIG				*e*S	**Sn**	**02 58 40.5**	**+2.1**
214A	**Organ Pipe Nat**	**5.62**	**344**	*e*P	**Pn**	**02 57 47.5**	**+0.7**
214A				*e*S	**Sb**	**02 59 09.8**	**+1.0**
SPIG	**San Pedro Mart**	**5.96**	**320**	*e*P	Pn	02 57 58.6	+7.0
121A	**Cookes Peak, D**	**6.59**	**24**	*e*P	**Pn**	**02 58 01.7**	**+1.4**
121A				*e*S	**Sn**	**02 59 11.7**	**-3.9**
TXAR	**Lajitas Array**	**7.06**	**65**	Pn	**Pn**	**02 58 06.0**	**-0.5**
	0.4nm,0.3s,baz=240,slow=13,SNR=33						
TXAR				Sn	**Sn**	**02 59 23.7**	**-3.3**
	0.7nm,0.3s,baz=233,slow=18,SNR=4.1						
TXAR				Lg	Lg	02 59 59.4	
	1.3nm,0.3s,baz=235,slow=30,SNR=2.1						
TXAR				LR	LR	03 01 00.9	
	comp=Z,181nm,19.5s,baz=248,slow=40						
	1.5nm,0.6s						
MNTX	**Cornudas Mount**	**7.11**	**42**	*e*P	**Pn**	**02 58 07.9**	**+0.7**
MNTX				*e*S	**Sn**	**02 59 35.8**	**+7.7**
PFO	**Pinyon Flats O**	**8.48**	**327**	LR	LR	03 01 12.7	
	comp=Z,116nm,19.9s,baz=154,slow=34						
ANMO	**Albuquerque**	**9.24**	**24**	Pn	**Pn**	**02 58 35.2**	**-1.4**
	baz=197,slow=11,SNR=1.4						
ANMO				Lg	Lg	03 01 09.5	
	0.1nm,0.3s,baz=66,slow=13,SNR=2.0						
ANMO				LR	LR	03 02 26.2	
	comp=Z,98nm,21.5s,baz=291,slow=40						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**13.35**	**334**	Pn	**P**	**02 59 39.1**	**-3.5**
	baz=156,slow=16						
ELK	**Elko**	**14.59**	**347**	Pn	**P**	**02 59 53.8**	**-2.6**
	0.1nm,0.3s,baz=168,slow=9.3,SNR=3.7						
ELK				Lg	Lg	03 03 52.9	
	baz=155,slow=14,SNR=2.5						
ELK				LR	LR	03 05 20.5	
	comp=Z,122nm,20.5s,baz=174,slow=37						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**16.23**	**4**	Pn	**Pn**	**03 00 12.6**	**+1.2**
	0.5nm,0.8s,baz=173,slow=8.7,SNR=3.2						
PDAR				LR	LR	03 06 42.1	
	comp=Z,126nm,21.0s,baz=158,slow=38						
TEIG	**Tepich**	**21.77**	**102**	LR	LR	03 09 30.7	
	comp=Z,339nm,21.1s,baz=334,slow=36						
NEW	**Newport**	**22.21**	**349**	LR	LR	03 10 31.8	
	comp=Z,116nm,18.9s,baz=156,slow=38						
TKL	**Tuckaleechee C**	**24.96**	**62**	LR	LR	03 10 49.5	
	comp=Z,64nm,19.4s,baz=204,slow=35						
ILAR	**Eielson Array**	**44.55**	**339**	P	**P**	**03 04 35.9**	**+1.0**
	0.4nm,0.6s,baz=146,slow=7.4,SNR=7.3						
	0.4nm,0.6s						
H03N2	**Juan Fernandez**	**66.99**	**151**	T	T	04 20 15.5	
	baz=331,slow=78,SNR=4.2						
H03N1	**Juan Fernandez**	**67.00**	**151**	T	T	04 20 19.5	
	baz=331,slow=78,SNR=4.7						
H03N3	**Juan Fernandez**	**67.00**	**151**	T	T	04 20 17.7	
	baz=331,slow=78,SNR=5.2						
CFA	**Coronel Fontan**	**70.77**	**142**	LR	LR	03 34 22.5	
	comp=Z,37nm,18.1s,baz=144,slow=32						

*IDC **20** 02:56:32.8±1.8, 51°.88N×167°.77W, h0km, mb3.9/12, mbtmp3.9/14, ML3.4/2, MS3.8/4, Error ellipse: s-maj=45.5km s-min=19.4km az=167.0*
*NEIC **20** 02:56:37.9±2.2, 52°.21N±0°.05×168°.23W±0°.06, h10km±1km, mb3.7/25, ML3.6/8, ML3.2(AEIC), Error ellipse: s-maj=9.1km s-min=6.6km az=185.0*
*AEIC **20** 02:56:39.4±1.8, 52°.17N±0°.08×168°.19W±0°.07, h26km±6km, Error ellipse: s-maj=11.6km s-min=5.9km az=171.0*
ISC 20 02:56:39.9±0.9, 52°.10N±0°.10×168°.13W±0°.06, h36km±2km, n99, σ1°09/95, mb3.9/13, MS3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.98**	**333**		**Pn**	**02 56 55.5**	**-1.5**
NIKH	**Nikolski High**	**0.98**	**333**		**Sn**	**02 57 07.7**	**-2.0**
NIKH	**Nikolski High**	**0.98**	**333**	P	**Pn**	**02 56 55.4**	**-1.6**
CLCO	**Concord Point,**	**1.20**	**306**		**Pn**	**02 56 58.8**	**-1.2**
CLCO					**Sn**	**02 57 15.0**	**+0.1**
CLES	**Cleveland East**	**1.30**	**304**		**Pn**	**02 57 00.2**	**-1.3**
CLES				IAML		02 57 21.4	
	comp=E,1μm,0.6s						
CLES				IAML		02 57 23.9	
	comp=N,1μm,0.4s						
OKFG	**Magazine Ridge**	**1.32**	**6**		**Pn**	**02 57 01.3**	**-0.4**
OKFG					**Sn**	**02 57 19.1**	**+1.1**
OKWR	**Okmok West Rim**	**1.34**	**358**		**Pn**	**02 57 01.8**	**-0.3**
OKER	**Okmok East Rim**	**1.36**	**2**		**Pn**	**02 57 02.1**	**-0.2**
OKRE	**Okmok R'deer P**	**1.42**	**359**		**Pn**	**02 57 03.0**	**-0.1**
MAPS	**Pakushin South**	**1.85**	**22**		**Pn**	**02 57 08.8**	**-0.3**
MGOD	**Makushin Gods**	**1.86**	**24**		**Pn**	**02 57 09.1**	**0.0**
MNAT	**Makushin Natee**	**1.99**	**25**		**Pn**	**02 57 10.9**	**0.0**
MSW	**Makushin Switc**	**1.99**	**24**		**Pn**	**02 57 11.1**	**+0.2**
MSW					**Sn**	**02 57 33.8**	**-0.8**
UNV	**Unalaska Valle**	**2.00**	**29**		**Pn**	**02 57 11.1**	**0.0**
UNV	**Unalaska Valle**	**2.00**	**29**	P	**Pn**	**02 57 11.1**	**0.0**
ZRO	**Akutan Zero**	**2.38**	**32**		**Pn**	**02 57 17.1**	**+0.8**
AKRB	**Akutan Reef Bi**	**2.38**	**31**		**Pn**	**02 57 17.5**	**+1.2**
AKRB					**Sn**	**02 57 46.5**	**+2.3**
AKV	**Akutan Volcano**	**2.41**	**32**		**Pn**	**02 57 17.7**	**+0.9**
AKUT	**Akutan**	**2.48**	**34**	Pn	**Pn**	**02 57 18.0**	**+0.3**
AKUT	**Akutan**	**2.48**	**34**	P	**Pn**	**02 57 18.6**	**+0.9**
AKSA	**Akutan Strait**	**2.51**	**35**		**Pn**	**02 57 17.9**	**-0.2**
AKSA					**Sn**	**02 57 48.2**	**+0.9**
KOFP	**Korovin Flat P**	**3.68**	**275**		**Pn**	**02 57 35.4**	**+1.3**
ATKA	**Atka Island**	**3.74**	**274**		**Pn**	**02 57 35.1**	**+0.1**
ATKA				IAML		02 58 25.7	
	comp=N,82nm,3.6s						
ATKA				IAML		02 58 31.4	
	comp=E,80nm,4.1s						
ATKA	**Atka Island**	**3.74**	**274**	P	**Pn**	**02 57 35.8**	**+0.9**
GSTR	**Great Sitkin T**	**4.89**	**273**	Pn	**Pn**	**02 57 51.1**	**+0.3**
GSMY	**Great Sitkin M**	**4.89**	**272**		**Pn**	**02 57 51.6**	**+0.8**
GSCK	**Great Sitkin C**	**4.96**	**272**		**Pn**	**02 57 52.7**	**+1.0**
ADK	**Adak**	**5.29**	**271**	Pn	**Pn**	**02 57 56.5**	**+0.2**
ADK	**Adak**	**5.29**	**271**	P	**Pn**	**02 57 57.0**	**+0.7**
KIWB	**Kanaga Island**	**5.58**	**271**	Pn	**Pn**	**02 58 00.6**	**+0.3**
SDPT	**Sand Point**	**5.58**	**51**	Pn	**Pn**	**02 58 01.1**	**+0.8**
CHGN	**Chignik**	**7.08**	**50**	Pn	**Pn**	**02 58 22.5**	**+1.7**
CEPE	**Semis' Perret**	**7.54**	**274**		**Pn**	**02 58 28.7**	**+1.5**
AMKA	**Amchitka**	**7.84**	**270**		**Pn**	**02 58 31.7**	**+0.5**
OHAK	**Old Harbor**	**10.00**	**53**	Pn	**Pn**	**02 59 01.0**	**+0.2**
KDAK	**Kodiak Island**	**10.59**	**51**	Pn	**Pn**	**02 59 08.8**	**0.0**
KDAK	**Kodiak Island**	**10.59**	**51**	Pn	**Pn**	**02 59 08.3**	**-0.5**
	comp=E,0.7nm,0.3s,baz=196,slow=4.0,SNR=30						
KDAK					**Sn**	**03 01 02.1**	**-3.8**
	comp=E,0.1nm,0.3s,baz=190,slow=14,SNR=1.4						
	comp=E,2.1nm,0.3s						
SYI	**Shuyak Island**	**11.06**	**48**	Pn	**Pn**	**02 59 15.8**	**+0.5**
K17K	**Iditarod**	**11.87**	**22**	Pn	**Pn**	**02 59 24.9**	**+1.4**
M20K	**Styx River**	**12.73**	**34**	Pn	**Pn**	**02 59 39.6**	**+1.5**
SUA	**Susitna One**	**13.32**	**38**	Pn	**Pn**	**02 59 46.7**	**+0.5**
RC01	**Rabbit Creek A**	**13.51**	**41**	Pn	**Pn**	**02 59 47.1**	**-1.5**
GHO	**Glory Hole Cre**	**14.21**	**40**	Pn	**Pn**	**02 59 56.9**	**-1.5**
HIN	**Hinchinbrook I**	**14.55**	**47**	Pn	**Pn**	**03 00 01.3**	**-1.6**
KLU	**Klutina**	**15.29**	**43**	Pn	**Pn**	**03 00 10.8**	**-2.1**
M24K	**Tolsona, Glenn**	**15.49**	**41**	Pn	**Pn**	**03 00 14.2**	**-1.2**
I21K	**Tanana**	**15.50**	**26**	Pn	**Pn**	**03 00 16.7**	**+1.3**
I21K				IAmb	IAmb	03 00 21.7	
	comp=Z,4.5nm,0.9s						
H21K	**Melozitna Rive**	**15.66**	**24**		**P**	**03 00 20.8**

KURBB	**Kurchatov Arra**	**63.19**	**319**	P		**P**	03 07 04.5	**+0.7**
	comp=Z,0.5nm,0.7s,baz=45,slow=7.7,SNR=5.7							
	comp=Z,0.5nm,0.7s							
BVAR	**Borovoye Array**	**64.36**	**325**	P		**P**	03 07 11.4	**-0.1**
	comp=Z,1.6nm,0.7s,baz=35,slow=5.3,SNR=5.5							
	comp=Z,1.6nm,0.7s							
MKAR	**Makanchi Array**	**64.54**	**314**	P		**P**	03 07 12.6	**-0.2**
MKAR	**Makanchi Array**	**64.54**	**314**	P		**P**	03 07 12.9	**0.0**
	comp=Z,0.6nm,0.7s,baz=52,slow=6.4,SNR=6.7							
	comp=Z,0.6nm,0.7s							
FIA1	**FINESS Array S**	**66.24**	**353**	P		**P**	03 07 23.6	**+0.1**
FINES	**FINESS Array B**	**66.24**	**353**	P		**P**	03 07 23.7	**+0.2**
FINES	**FINESS Array B**	**66.24**	**353**	P		**P**	03 07 24.0	**+0.5**
	comp=Z,1.6nm,0.6s,baz=18,slow=10,SNR=14							
	comp=Z,1.6nm,0.6s							
HFS	**Hagfors**	**68.11**	**359**	P		**P**	03 07 36.2	**+0.8**
	comp=Z,1.4nm,0.5s,baz=0.0,slow=3.0,SNR=8.9							
	comp=Z,1.4nm,0.5s							
ABKAR	**Akbulak array**	**71.06**	**329**	P		**P**	03 07 54.6	**+0.9**
ABKAR	**Akbulak array**	**71.06**	**329**	P		**P**	03 07 54.5	**+0.7**
ABKAR				IAmb		IAmb	03 07 55.5	
	comp=Z,1.7nm,0.6s							
KK31	**Karatay Array**	**72.50**	**319**	P		**P**	03 08 02.7	**+0.2**
KK31				IAmb		IAmb	03 08 04.2	
	comp=Z,1.1nm,0.8s							
KKAR	**Karatay Array**	**72.50**	**319**	P		**P**	03 08 02.1	**-0.5**
AKASG	**Malin Array Be**	**76.52**	**349**	P		**P**	03 08 26.2	**+0.5**
	comp=Z,0.9nm,0.4s,baz=17,slow=6.8,SNR=7.2							
	comp=Z,0.9nm,0.4s							
DZM	**Mont Dzumac**	**77.13**	**204**	LR		LR	03 42 34.3	
	comp=Z,88nm,18.7s,baz=202,slow=36							
ASAR	**Alice Springs**	**90.81**	**231**	LR		LR	03 45 22.3	
	comp=Z,30nm,20.4s,baz=157,slow=32							
MDT	**Midelt**	**94.22**	**14**	LR		LR	03 55 47.5	
	comp=Z,42nm,18.6s,baz=253,slow=38							

IDC 20 03:00:50.4±1.2, 2°30N×123°74E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=81.9km s-min=20.7km az=70.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.43**	**155**	P		P	03 06 10.6	-0.4
	0.4nm,0.4s,baz=338,slow=11,SNR=7.4							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**27.64**	**160**	P		P	03 06 40.6	+0.6
	0.5nm,0.5s,baz=353,slow=7.8,SNR=16							
	0.5nm,0.5s							
KSRS	**Korea Array**	**35.20**	**6**	P		P	03 07 48.1	+1.7
	1.9nm,0.8s,baz=175,slow=8.8,SNR=3.7							
	1.9nm,0.8s							
MKAR	**Makanchi Array**	**57.08**	**327**	P		P	03 10 37.3	-1.3
	0.3nm,0.4s,baz=140,slow=5.6,SNR=2.5							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**61.38**	**329**	P		P	03 11 07.2	-1.0
	0.3nm,0.4s,baz=127,slow=7.5,SNR=2.1							
	0.3nm,0.4s							

*IDC **20** 03:20:08.2±1.0, 40°42S×175°28E, h0km, mb3.8/2, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=35.4km s-min=17.9km az=133.0*
*NOU **20** 03:20:15.2, 40°61S×175°28E, h74km, MLv4.1/14, North Island, New Zealand*
*WEL **20** 03:20:16.1±0.3, 41°S±2°×17°5E±°, h29km±3km, M4.0/30, ML4.3/30, MLv4.0/30, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1, confirmed*

ISC 20 03:20:16.0±0.8, 40°56S±0°03×175°24E±0°03, h54km±5km, n156, σ1°24/172, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OGWZ	**Otaki Gorge**	**0.27**	**192**	P		**Pn**	**03 20 25.0**	**-0.3**
OGWZ				S		**Sn**	**03 20 31.2**	**-0.7**
MRZ	**Mangatainoka R**	**0.28**	**112**	P		**Pn**	**03 20 25.2**	**-0.2**
MRZ				S		**Sn**	**03 20 31.3**	**-0.7**
OHWZ	**Ohakea**	**0.35**	**9**	P		**Pn**	**03 20 25.3**	**-0.7**
OHWZ				S		**Sn**	**03 20 32.4**	**-0.8**
KIW	**Kapiti Island**	**0.40**	**220**	P		**Pn**	**03 20 25.9**	**-0.5**
KIW				S		**Sn**	**03 20 32.6**	**-1.3**
HOWZ	**Holdsworth Sta**	**0.40**	**149**	P		**Pn**	**03 20 26.7**	**+0.3**
HOWZ				S		**Sn**	**03 20 34.8**	**+0.8**
POWZ	**Post Office Ro**	**0.43**	**68**	P		**Pn**	**03 20 26.6**	**-0.2**
POWZ				S		**Sn**	**03 20 34.1**	**-0.5**
CAW	**Cannon Point**	**0.57**	**194**	P		**Pn**	**03 20 28.8**	**+0.4**
CAW				S		**Sn**	**03 20 38.2**	**+1.0**
MTW	**Mount Morrison**	**0.63**	**162**	P		**Pn**	**03 20 29.6**	**+0.5**
TMWZ	**Te Maipa**	**0.74**	**138**	P		**Pn**	**03 20 31.0**	**+0.6**
TMWZ				S		**Sn**	**03 20 44.0**	**+3.1**
TSZ	**Takapari Road**	**0.74**	**48**	P		**Pn**	**03 20 30.8**	**+0.3**
BFZ	**Birch Farm**	**0.77**	**100**	P		**Pn**	**03 20 31.2**	**+0.3**
CPWZ	**Castlepoint**	**0.81**	**116**	P		**Pn**	**03 20 32.3**	**+1.0**
WEL	**Wellington**	**0.81**	**206**	P		**Pn**	**03 20 32.1**	**+0.7**
WEL				S		**Sn**	**03 20 43.5**	**+0.9**
WAZ	**Wanganui**	**0.82**	**346**	P		**Pn**	**03 20 31.7**	**+0.1**
WAZ				S		**Sn**	**03 20 42.9**	**0.0**
PAWZ	**Paruwai Farm**	**0.83**	**170**	P		**Pn**	**03 20 32.0**	**+0.3**
SNZO	**South Karori**	**0.86**	**208**	P		**Pn**	**03 20 32.7**	**+0.8**
MSWZ	**Moikau Station**	**0.86**	**180**	P		**Pn**	**03 20 33.3**	**+1.3**
MSWZ				S		**Sn**	**03 20 44.2**	**+0.5**
BHW	**Baring Head**	**0.90**	**198**	P		**Pn**	**03 20 32.9**	**+0.4**
BHW				S		**Sn**	**03 20 44.4**	**-0.2**
TRWZ	**Traveller**	**0.91**	**158**	P		**Pn**	**03 20 32.9**	**+0.3**
ANWZ	**Angora Road**	**0.94**	**84**	P		**Pn**	**03 20 33.4**	**+0.4**
ANWZ				S		**Sn**	**03 20 46.9**	**+1.2**
PNHZ	**Pukenui**	**0.97**	**49**	P		**Pn**	**03 20 33.8**	**+0.3**
TCW	**Tory Channel**	**0.98**	**228**	P		**Pn**	**03 20 34.0**	**+0.4**
TCW				S		**Sn**	**03 20 47.0**	**+0.4**
PLWZ	**Palliser**	**1.01**	**180**	P		**Pn**	**03 20 34.1**	**+0.1**
PLWZ				S		**Sn**	**03 20 47.4**	**+0.1**
DUWZ	**D'Urville Isla**	**1.03**	**256**	P		**Pn**	**03 20 34.2**	**-0.2**
WPHZ	**Waipukurau**	**1.04**	**62**	P		**Pn**	**03 20 34.6**	**+0.3**
PRHZ	**Porangahau**	**1.10**	**75**	P		**Pn**	**03 20 35.4**	**+0.2**
MTVZ	**Mangateitei**	**1.18**	**9**	P		**Pn**	**03 20 36.8**	**+0.4**
MOVZ	**Moawhango**	**1.21**	**19**	P		**Pn**	**03 20 36.9**	**+0.1**
BHHZ	**Black Hill Sta**	**1.24**	**31**	P		**Pn**	**03 20 37.4**	**+0.3**
KRHZ	**Kereru**	**1.26**	**44**	P		**Pn**	**03 20 37.3**	**0.0**
WNVZ	**Wahianoa**	**1.26**	**13**	P		**Pn**	**03 20 37.8**	**+0.4**
PKVZ	**Pokaka**	**1.27**	**4**	P		**Pn**	**03 20 37.8**	**+0.3**
LREZ	**Lake Rotokare**	**1.27**	**329**	P		**Pn**	**03 20 38.0**	**+0.6**
TRVZ	**Turoa**	**1.28**	**11**	P		**Pn**	**03 20 38.3**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.30**	**12**	P		**Pn**	**03 20 38.6**	**+0.6**
MAVZ	**Matarangi**	**1.31**	**11**	P		**Pn**	**03 20 38.7**	**+0.4**
TUWZ	**Tuamarina**	**1.31**	**228**	P		**Pn**	**03 20 38.2**	**+0.2**
FWVZ	**Far West T-bar**	**1.32**	**10**	P		**Pn**	**03 20 38.9**	**+0.5**
TUVZ	**Tukino**	**1.33**	**14**	P		**Pn**	**03 20 39.1**	**+0.7**
PXZ	**Pawanui**	**1.34**	**68**	P		**Pn**	**03 20 38.5**	**+0.1**
COVZ	**Chateau Observ**	**1.38**	**10**	P		**Pn**	**03 20 39.6**	**+0.6**
SNVZ	**South Ngauruho**	**1.40**	**13**	P		**Pn**	**03 20 40.1**	**+0.7**
NGZ	**Ngauruhoe**	**1.41**	**11**	P		**Pn**	**03 20 40.2**	**+0.8**
CMWZ	**Cape Campbell**	**1.42**	**213**	P		**Pn**	**03 20 40.4**	**+0.9**
OTVZ	**Oturere**	**1.43**	**13**	P		**Pn**	**03 20 40.5**	**+0.8**
KWHZ	**Kaweka Forest**	**1.45**	**39**	P		**Pn**	**03 20 39.9**	**-0.1**
NNVZ	**North Ngauruho**	**1.45**	**11**	P		**Pn**	**03 20 40.9**	**+0.9**
ETVZ	**East Tongariro**	**1.46**	**14**	P		**Pn**	**03 20 40.9**	**+0.7**
WTVZ	**West Tongariro**	**1.46**	**11**	P		**Pn**	**03 20 40.9**	**+0.7**
KAHZ	**Kahuranaki**	**1.47**	**59**	P		**Pn**	**03 20 40.1**	**0.0**
PREZ	**Palmer Road**	**1.47**	**325**	P		**Pn**	**03 20 41.3**	**+0.8**
VRZ	**Vera Road**	**1.48**	**345**	P		**Pn**	**03 20 40.5**	**+0.3**
TMVZ	**Te Maari**	**1.48**	**14**	P		**Pn**	**03 20 41.1**	**+0.7**
KRVZ	**Karewarewa**	**1.49**	**12**	P		**Pn**	**03 20 41.4**	**+0.8**
TWVZ	**Taurewa**	**1.49**	**6**	P		**Pn**	**03 20 41.0**	**+0.4**
NTVZ	**North Tongariro**	**1.49**	**13**	P		**Pn**	**03 20 41.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.55**	**221**	P		**Pn**	**03 20 41.3**	**+0.1**
NMEZ	**Namu Road**	**1.55**	**317**	P		**Pn**	**03 20 42.4**	**+1.1**
NEZ	**North Egmont**	**1.56**	**325**	P		**Pn**	**03 20 42.2**	**+0.8**
NNZ	**Nelson**	**1.56**	**244**	P		**Pn**	**03 20 41.3**	**0.0**
MCHZ	**McNeill Hill**	**1.57**	**46**	P		**Pn**	**03 20 41.7**	**+0.1**
KHEZ	**Kahui Hut**	**1.58**	**323**	P		**Pn**	**03 20 42.7**	**+1.0**
KHEZ	**Kahui Hut**	**1.58**	**323**	P		**Pn**	**03 20 42.5**	**+0.8**
DREZ	**Durham Road**	**1.58**	**329**	P		**Pn**	**03 20 42.7**	**+1.0**
KATZ	**Kakaramea**	**1.62**	**13**	P		**Pn**	**03 20 43.0**	**+0.7**
MHEZ	**Mangahewa**	**1.64**	**334**	P		**Pn**	**03 20 43.7**	**+1.2**
RITZ	**Rihia Road**	**1.65**	**17**	P		**Pn**	**03 20 43.2**	**+0.6**
NBEZ	**Newall Road No**	**1.67**	**320**	P		**Pn**	**03 20 43.7**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.67**	**58**	P		**Pn**	**03 20 42.9**	**0.0**
PKE	**Pukeiti**	**1.67**	**324**	P		**Pn**	**03 20 43.8**	**+0.8**
BKZ	**Black Stump Fm**	**1.69**	**35**	P		**Pn**	**03 20 43.1**	**-0.1**
BKZ	**Black Stump Fm**	**1.69**	**35**	P		**Pn**	**03 20 43.0**	**-0.2**
RATZ	**Rangitukua**	**1.74**	**14**	P		**Pn**	**03 20 45.3**	**+1.5**
HATZ	**Hinemaiaia**	**1.79**	**22**	P		**Pn**	**03 20 46.4**	**+1.9**
TKNZ	**Takaka Hill**	**1.80**	**254**	P		**Pn**	**03 20 44.6**	**0.0**
ARHZ	**Aropaoanui**	**1.87**	**47**	P		**Pn**	**03 20 45.3**	**-0.2**
WATZ	**Wairara**	**1.89**	**12**	P		**Pn**	**03 20 46.3**	**+0.4**
NMHZ	**Naumai**	**1.89**	**40**	P		**Pn**	**03 20 45.7**	**-0.3**
MRHZ	**Matea Rd**	**1.94**	**28**	P		**Pn**	**03 20 46.2**	**-0.5**
MRNZ	**Matariki Terra**	**2.06**	**245**	P		**Pn**	**03 20 48.5**	**+0.3**
HIZ	**Hauiti**	**2.06**	**352**	P		**Pn**	**03 20 48.8**	**+0.6**
HIZ	**Hauiti**	**2.06**	**352**	P		**Pn**	**03 20 48.8**	**+0.6**
QRZ	**Quartz Range**	**2.08**	**262**	P		**Pn**	**03 20 48.2**	**-0.3**
QRZ	**Quartz Range**	**2.08**	**262**	P		**Pn**	**03 20 48.1**	**-0.4**
MTHZ	**Maungataniwha**	**2.10**	**36**	P		**Pn**	**03 20 48.1**	**-0.7**
KUTZ	**Kaahu Road**	**2.11**	**12**	P		**Pn**	**03 20 51.1**	**+2.2**
THZ	**Tophouse**	**2.14**	**235**	P		**Pn**	**03 20 48.9**	**-0.4**
WPRZ	**Whakapapatarin**	**2.15**	**20**	P		**Pn**	**03 20 49.4**	**-0.1**
ALRZ	**Allen Road**	**2.17**	**23**	P		**Pn**	**03 20 49.1**	**-0.6**
RAHZ	**Arahi**	**2.17**	**42**	P		**Pn**	**03 20 49.0**	**-0.7**
TLZ	**Tolley Road**	**2.24**	**6**	P		**Pn**	**03 20 50.7**	**0.0**
PRRZ	**Plateau Road**	**2.24**	**24**	P		**Pn**	**03 20 50.1**	**-0.6**
KHZ	**Kahutara**	**2.26**	**214**	P		**Pn**	**03 20 50.3**	**-0.5**
KHZ	**Kahutara**	**2.26**	**214**	P		**Pn**	**03 20 50.4**	**-0.5**
GRRZ	**Galatos Road**	**2.30**	**17**	P		Pn	03 20 57.4	+5.8
HRRZ	**Handcock Road**	**2.31**	**21**	P		**Pn**	**03 20 53.5**	**+1.9**
RTZ	**Ruatahuna**	**2.36**	**35**	P		**Pn**	**03 20 51.5**	**-0.9**
MUGZ	**Murupara**	**2.39**	**30**	P		**Pn**	**03 20 51.3**	**-1.4**
SNGZ	**Shannon Statio**	**2.40**	**43**	P		**Pn**	**03 20 51.7**	**-1.2**
KNZ	**Kokohu**	**2.42**	**51**	P		**Pn**	**03 20 51.7**	**-1.4**
MHGZ	**Mahia Peninsul**	**2.48**	**56**	P		**Pn**	**03 20 53.0**	**-1.0**
TARZ	**Mount Tarawera**	**2.52**	**23**	P		**Pn**	**03 20 53.1**	**-1.5**
OMRZ	**Omania**	**2.60**	**20**	P		Pn	03 21 01.5	+5.9
PRGZ	**Paritu Road**	**2.61**	**52**	P		**Pn**	**03 20 54.0**	**-1.7**
RIGZ	**Rimuhau**	**2.68**	**47**	P		**Pn**	**03 20 55.3**	**-1.5**
URZ	**Urewera**	**2.71**	**33**	P		**Pn**	**03 20 55.4**	**-1.7**
URZ	**Urewera**	**2.71**	**33**	Pn		**Pn**	**03 20 52.9**	**-4.2**
	4.4nm,0.3s,baz=329,slow=3.6,SNR=39							
URZ				Sn		**Sn**	**03 21 23.5**	**-5.2**
	12nm,0.3s,baz=249,slow=4.2,SNR=7.3							
	8.4nm,0.3s							
URZ	**Urewera**	**2.71**	**33**	P		**Pn**	**03 20 55.3**	**-1.7**
TOZ	**Tahuroa Road**	**2.83**	**4**	P		**Pn**	**03 20 58.7**	**0.0**
MWZ	**Matawai**	**2.84**	**39**	P		**Pn**	**03 20 57.3**	**-1.6**
DSZ	**Denniston Hort**	**2.85**	**244**	P		**Pn**	**03 20 58.3**	**-0.8**
GVZ	**Greta Valley S**	**2.92**	**214**	P		**Pn**	**03 20 58.9**	**-1.1**
TGRZ	**Tauranga**	**2.93**	**16**	P		**Pn**	**03 21 02.6**	**+2.5**
CNGZ	**Carnagh Statio**	**3.09**	**49**	P		**Pn**	**03 21 00.8**	**-1.4**
LTZ	**Lake Taylor**	**3.15**	**224**	P		**Pn**	**03 21 02.0**	**-1.0**
TWGZ	**Tauwhareparae**	**3.19**	**43**	P		**Pn**	**03 21 02.5**	**-1.1**
RUGZ	**Raukumara Rang**	**3.20**	**37**	P		**Pn**	**03 21 02.2**	**-1.8**
AMCZ	**Amberley**	**3.25**	**216**	P		**Pn**	**03 21 03.0**	**-1.5**
PUZ	**Puketiti**	**3.41**	**44**	P		**Pn**	**03 21 04.4**	**-2.3**
MKAZ	**Moumakai**	**3.45**	**359**	P		**Pn**	**03 21 07.7**	**+0.5**
PKGZ	**Pakihiroa**	**3.46**	**40**	P		**Pn**	**03 21 06.1**	**-1.3**
AWAZ	**Awhitu Peninsu**	**3.52**	**352**	P		**Pn**	**03 21 09.1**	**+1.0**
OKCZ	**Okains Bay**	**3.56**	**206**	P		**Pn**	**03 21 06.9**	**-1.8**
INZ	**Inchbonnie**	**3.58**	**232**	P		**Pn**	**03 21 07.6**	**-1.3**
ETAZ	**East Tamaki Re**	**3.61**	**356**	P		**Pn**	**03 21 09.9**	**+0.6**
OXZ	**Oxford**	**3.66**	**220**	P		**Pn**	**03 21 07.7**	**-2.4**
WTAZ	**Waiatarua**	**3.66**	**352**	P		**Pn**	**03 21 11.6**	**+1.6**
WMGZ	**Waiomatatini S**	**3.68**	**43**	P		**Pn**	**03 21 08.0**	**-2.4**
MQZ	**McQueen's Vall**	**3.69**	**211**	P		**Pn**	**03 21 07.9**	**-2.6**
AKCZ	**Akaroa Harbour**	**3.74**	**207**	P		**Pn**	**03 21 09.4**	**-1.7**
WIAZ	**Waiheke Island**	**3.76**	**359**	P		**Pn**	**03 21 11.9**	**+0.4**
MBAZ	**Motutapu North**	**3.79**	**356**	P		**Pn**	**03 21 12.3**	**+0.4**
KUZ	**Kuaotunu**	**3.82**	**6**	P		**Pn**	**03 21 13.0**	**+0.7**
KUZ	**Kuaotunu**	**3.82**	**6**	P		**Pn**	**03 21 13.7**	**+1.4**
MHCZ	**Mount Hutt**	**4.04**	**221**	P		**Pn**	**03 21 12.9**	**-2.4**
WACZ	**Wakanui South**	**4.22**	**216**	P		**Pn**	**03 21 15.2**	**-2.5**
RPZ	**Rata Peaks**	**4.43**	**223**	P		**Pn**	**03 21 20.2**	**-0.5**
RPZ	**Rata Peaks**	**4.43**	**223**	Pn		**Pn**	**03 21 20.0**	**-0.7**
	1.1nm,0.3s,baz=268,slow=2.9,SNR=6.9							
RPZ				Sn		**Sn**	**03 22 08.1**	**-2.9**
	8.2nm,0.3s,baz=315,slow=21,SNR=13							
RPZ				Lg		Lg	03 22 30.7	
	1.2nm,0.3s,baz=21,slow=8.1,SNR=6.6							
	6.3nm,0.7s							
RPZ	**Rata Peaks**	**4.43**	**223**	P		**Pn**	**03 21 19.9**	**-0.8**
ARCZ	**Arundel**	**4.54**	**220**	P		**Pn**	**03 21 20.2**	**-1.9**
TMZ	**Timaru**	**4.94**	**218**	P		**Pn**	**03 21 25.2**	**-2.5**
FOZ	**Fox Glacier**	**5.02**	**232**	P		**Pn**	**03 21 26.6**	**-2.0**
OUZ	**Omahuta**	**5.49**	**346**	P		**Pn**	**03 21 35.1**	**0.0**
OUZ	**Omahuta**	**5.49**	**346**	P		**Pn**	**03 21 36.4**	**+1.3**
ODZ	**Otahua Downs**	**5.62**	**216**	P		**Pn**	**03 21 35.0**	**-1.9**
JCZ	**Jackson Bay**	**5.94**	**232**	P		**Pn**	**03 21 39.3**	**-2.1**
JCZ	**Jackson Bay**	**5.94**	**232**	P		**Pn**	**03 21 39.2**	**-2.2**
CTZ	**Chatham Island**	**6.83**	**120**	P		**Pn**	**03 21 52.8**	**-0.7**
CTZ	**Chatham Island**	**6.83**	**120**	P		**Pn**	**03 21 53.1**	**-0.4**
ASAR	**Alice Springs**	**38.46**	**283**	P		**P**	**03 27 32.0**	**-0.8**
	0.6nm,0.5s,baz=122,slow=6.7,SNR=16							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**40.42**	**288**	P		**P**	**03 27 48.6**	**-0.4**
	1.1nm,0.5s,baz=126,slow=8.1,SNR=11							
	1.1nm,0.5s							
YKA	**Yellowknife Ar**	**116.97**	**29**	PKP		**PKPdf**	**03 38 52.9**	**-0.6**
	0.2nm,0.7s,baz=258,slow=1.5,SNR=4.6							
ARCES	**ARCESS Array B**	**146.90**	**341**	PKPbc		**PKPdf**	**03 39 49.7**	**+0.6**
	1.5nm,0.7s,baz=49,slow=1.9,SNR=11							
BRTR	**Keskin Array B**	**150.79**	**281**	PKPbc		**PKPdf**	**03 40 00.3**	**+3.8**
	0.2nm,0.3s,baz=93,slow=3.2,SNR=1.7							
FINES	**FINESS Array B**	**151.93**	**328**	PKPbc		**PKPbc**	**03 40 02.6**	**-1.3**
	0.9nm,0.8s,baz=106,slow=6.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**152.11**	**194**	PKPbc		**PKPbc**	**03 40 06.2**	**+0.5**
	0.4nm,0.4s,baz=140,slow=2.1,SNR=13							
TORD				PKPab		**PKPab**	**03 40 17.1**	**+1.8**
	0.3nm,0.4s,baz=164,slow=3.6,SNR=2.0							

*ISK **20** 04:08:43.8, 37°00N×27°47E, h3km, ML2.4/13*
*AFAD **20** 04:08:44.1±0.0, 36°95N×27°45E, h10km±1km, ML2.4*
*ATH **20** 04:08:45.2, 36°95N×27°44E, h17km±2km, ML2.5/4, Error ellipse: s-maj=3.1km s-min=1.0km az=246.0*
*THE **20** 04:08:45.0, 36°97N×27°46E, h12km±1km, ML2.7/5, Error ellipse: s-maj=1.4km s-min=0.8km az=244.0*

ISC 20 04:08:44.5±0.8, 36°97N±0°02×27°45E±0°02, h13km±6km, n43, σ0°66/67, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BDRM	**Kayabasi**	**0.10**	**360**	P		**Pg**	**04 08 47.0**	**-0.5**
YKAV	**Yalikavak-Bodr**	**0.20**	**320**	Pg		**Pg**	**04 08 48.5**	**-0.5**
YKAV				Sg		**Sg**	**04 08 52.1**	**0.0**
DAT	**Datca**	**0.26**	**156**	Pg		**Pg**	**04 08 50.1**	**0.0**
DAT				Sg		**Sb**	**04 08 55.1**	**-0.5**
DAT	**Datca**	**0.26**	**156**	P		**Pg**	**04 08 50.1**	**0.0**
DAT				S		**Sg**	**04 08 54.3**	**+0.5**
DAT	**Datca**	**0.26**	**156**	P		**Pg**	**04 08 49.0**	**-1.1**
DATC	**Datca-Mugla**	**0.27**	**140**	Pg		**Pg**	**04 08 50.4**	**+0.2**
DATC				Sg		**Sb**	**04 08 55.2**	**-0.6**
YAZI	**Mula-Dat§a-**	**0.29**	**179**	P		**Pg**	**04 08 50.2**	**-0.3**
KLNA	**Kalymnos**	**0.38**	**268**	P		**Pg**	**04 08 52.6**	**+0.5**
KLNA				S		**Sg**	**04 08 58.1**	**+0.9**
KLNA				AML		AML	04 09 00.2	
	comp=E,1281μm,0.2s							
KLNA				AML		AML	04 09 03.2	
	comp=N,1188μm,0.3s							
MLSB	**Milas**	**0.42**	**39**	Pg		**Pg**	**04 08 52.4**	**-0.5**
MLSB				Sg		**Sg**	**04 08 58.3**	**-0.3**
NISR	**Nisiros**	**0.44**	**216**	P		**Pg**	**04 08 53.5**	**+0.3**
NISR				S		**Sb**	**04 09 01.3**	**+0.7**
	comp=N,1μm,0.2s							
NISR	**Nisiros**	**0.44**	**216**	P		**Pg**	**04 08 53.6**	**+0.4**
NISR				S		**Sg**	**04 08 60.0**	**+0.9**
NISR				AML		AML	04 09 01.6	
	comp=E,3346μm,0.2s							
NISR				AML		AML	04 09 03.5	
	comp=N,1078μm,0.2s							
DIDI	**Didim-Aydin**	**0.44**	**338**	Pg		**Pg**	**04 08 52.8**	**-0.4**
DDIM	**Aydin, Didim**	**0.51**	**342**	P		**Pg**	**04 08 54.8**	**+0.2**
TURN	**Turunc**	**0.67**	**107**	P		**Pg**	**04 08 57.1**	**-0.5**
TURN				S		**Sg**	**04 09 06.5**	**+0.1**
TURN				AML		AML	04 09 08.0	
	comp=N,313nm,0.2s							
TURN				AML		AML	04 09 08.0	
	comp=N,302nm,0.2s							
YER	**Yerkesik**	**0.69**	**76**	Pg		**Pg**	**04 08 57.5**	**-0.5**
YER	**Yerkesik**	**0.69**	**76**	P		**Pg**	**04 08 57.8**	**-0.2**
YER				S		**Sb**	**04 09 08.8**	**+0.8**
GCAM	**G?zelcaml?**	**0.75**	**347**	P		**Pg**	**04 08 58.7**	**-0.4**
MULA	**Mugla, Merkez-**	**0.76**	**67**	P		**Pg**	**04 08 58.9**	**-0.3**
SMG	**Samos**	**0.88**	**327**	P		**Pg**	**04 09 01.3**	**-0.3**
SMG				S		**Sb**	**04 09 14.2**	**+0.7**
	comp=N,460nm,0.4s							
SMG	**Samos**	**0.88**	**327**	P		**Pg**	**04 09 01.5**	**-0.1**
SMG				S		**Sg**	**04 09 13.7**	**+0.5**
SMG				AML		AML	04 09 16.4	
	comp=E,1275μm,0.4s							
SMG				AML		AML	04 09 17.6	
	comp=N,563μm,0.3s							
ARG	**Arkhangelos**	**0.93**	**144**	Pg		**Pg**	**04 09 02.3**	**-0.2**
ARG				Sg		**Sb**	**04 09 15.9**	**+1.1**
ARG	**Arkhangelos**	**0.93**	**144**	P		**Pg**	**04 09 02.0**	**-0.4**
ARG				S		**Sn**	**04 09 16.1**	**-0.4**
	comp=N,285nm,0.4s							
ARG	**Arkhangelos**	**0.93**	**144**	P		**Pg**	**04 09 02.1**	**-0.4**
ARG				S		**Sg**	**04 09 14.8**	**+0.2**
ARG				AML		AML	04 09 17.1	
	comp=E,672μm,0.5s							
ARG				AML		AML	04 09 19.6	
	comp=N,517μm,0.3s							
DALY	**Dalyan (Mula)**	**0.98**	**99**	Pg		**Pb**	**04 09 03.0**	**-0.4**
ESEN	**Aydn-Nazilli**	**1.10**	**41**	P		**Pb**	**04 09 04.4**	**-0.9**
ESEN				S		**Sb**	**04 09 18.6**	**-1.0**
ESEN				*i* AML		AML	04 09 25.0	
	comp=N,64nm,0.5s							
ESEN				*i* AML		AML	04 09 25.0	
	comp=N,73nm,0.8s							
DGB	**zmir**	**1.17**	**338**	P		**Pb**	**04 09 05.5**	**-1.1**
IZMR	**zmir-demi**	**1.23**	**19**	P		**Pn**	**04 09 06.9**	**-0.6**
IZMR				S		**Sb**	**04 09 23.9**	**+0.4**
IZMR				*i* AML		AML	04 09 26.0	
	comp=N,58nm,0.5s							
TAVA	**DENIZLI_Tavas**	**1.27**	**67**	P		**Pg**	**04 09 09.0**	**0.0**
TAVA				S		**Sg**	**04 09 25.7**	**+0.1**
FETY	**Fethiye**	**1.36**	**104**	Pn		**Pb**	**04 09 10.2**	**+0.4**
DNIZ	**Denizli-Tavas-**	**1.43**	**62**	P		**Pb**	**04 09 11.4**	**+0.3**
DNIZ				S		**Sb**	**04 09 29.9**	**+0.6**
DNIZ				*i* AML		AML	04 09 35.0	
	comp=N,65nm,0.4s							
KARP	**Karpathos**	**1.44**	**189**	P		**Pn**	**04 09 09.4**	**-0.9**
KARP				S		**Sn**	**04 09 27.9**	**-1.2**
	comp=N,40nm,0.4s							
KARP	**Karpathos**	**1.44**	**189**	P		**Pn**	**04 09 09.6**	**-0.7**
KARP				S		**Sn**	**04 09 27.0**	**-2.1**
KIRA	**zmir-Kiraz**	**1.44**	**31**	P		**Pn**	**04 09 11.2**	**+0.8**
KIRA				S		**Sn**	**04 09 29.6**	**+0.2**
KIRA				*i* AML		AML	04 09 37.0	
	comp=N,32nm,0.5s							
BLCB	**Balcova**	**1.45**	**347**

comp=Z,68nm,21.4s,baz=267,slow=29
AKASG **Malin Array Be** 137.42 333 PKP **PKiKP** 04 32 45.0 +0.3
0.2nm,0.4s,baz=65,slow=0.4,SNR=2.2
EKA **Eskdalemuir Ar** 139.71 3 PKP **PKPdf** 04 32 45.4 -1.5
1.8nm,0.8s,baz=260,slow=2.7,SNR=1.7

*LDG **20** 04:15:23.2±0.1, 43.09N×0.36W, h7km, Md2.2/4, Ml2.5/11, Error ellipse: s-maj=1.3km s-min=1.0km az=145.0*
*STR **20** 04:15:23.9±0.3, 43°N±3″×±°, h6km, MLv1.9/11, Error ellipse: s-maj=0.0km s-min=0.0km az=21.4, preliminary*
*MDD **20** 04:15:23.6±0.2, 43.08N×0.36W, h10km, mb_Lg2.3/10, Error ellipse: s-maj=2.1km s-min=1.5km az=7.0*
ISC 20 04:15:23.6±0.8, 43.08N±0.02×0.35W±0.02, h15km±6km, n42, σ1$61/81, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.22**	**85**	Pg	**Pg**	**04 15 27.9**	**-0.7**
PYLO				Sg	**Sg**	**04 15 32.0**	**0.0**
ETSF	**Etsaut**	**0.24**	**221**	*e*Pg	**Pg**	**04 15 28.3**	**-0.6**
ETSF				*e*Sg	**Sg**	**04 15 31.2**	**-1.3**
37nm,0.2s							
ATE	**Arette**	**0.26**	**272**	Pg	**Pg**	**04 15 28.3**	**-0.9**
ATE				Sg	**Sg**	**04 15 31.9**	**-1.1**
VIEF	**Viey**	**0.34**	**125**	Pg	**Pg**	**04 15 30.1**	**-0.5**
VIEF				Sg	**Sg**	**04 15 34.8**	**-0.5**
CANF	**Canfranc**	**0.34**	**202**	Pg	**Pg**	**04 15 30.1**	**-0.6**
CANF				Sg	**Sg**	**04 15 35.1**	**-0.3**
URDF	**Urds**	**0.40**	**334**	Pg	**Pg**	**04 15 31.4**	**-0.3**
URDF				Sg	**Sg**	**04 15 37.1**	**-0.1**
EPF	**Esparros**	**0.51**	**95**	*e*Pg	**Pg**	**04 15 33.1**	**-0.6**
EPF				*e*Sg	**Sg**	**04 15 40.5**	**0.0**
14nm,0.2s							
ECHI	**Chisagues Biel**	**0.57**	**136**	Pg	**Pg**	**04 15 34.5**	**-0.6**
ECHI				Sg	**Sg**	**04 15 41.5**	**-1.2**
ECHI				*i* Vmb_Lg		04 15 43.6	
ECHI	**Chisagues Biel**	**0.57**	**136**	Pg	**Pg**	**04 15 34.4**	**-0.6**
ECHI	**Chisagues Biel**	**0.57**	**136**	Sg	**Sg**	**04 15 42.3**	**-0.4**
SJPF	**Ste Jean**	**0.64**	**273**	*e*Pg	**Pg**	**04 15 34.8**	**-1.4**
SJPF				*e*Sg	**Sg**	**04 15 44.0**	**-0.8**
11nm,0.2s							
OSSF	**Osses**	**0.69**	**285**	Pg	**Pg**	**04 15 36.2**	**-0.9**
OSSF				Sg	**Sg**	**04 15 46.0**	**-0.3**
EORO	**Oroz-Betelu**	**0.73**	**256**	Pg	**Pg**	**04 15 36.7**	**-1.1**
EORO				Sg	**Sg**	**04 15 46.7**	**-0.8**
EORO				*i* Vmb_Lg		04 15 49.1	
TERF	**Tercis-les-Bai**	**0.82**	**317**	Pg	**Pg**	**04 15 39.4**	**-0.1**
TERF				Sg	**Sg**	**04 15 50.6**	**+0.2**
EALK	**Alkurruntz**	**0.86**	**280**	Pg	**Pg**	**04 15 39.4**	**-0.9**
EALK				Sg	**Sg**	**04 15 50.8**	**-0.8**
EALK				*i* Vmb_Lg		04 15 54.4	
EALK	**Alkurruntz**	**0.86**	**280**	Pg	**Pg**	**04 15 39.8**	**-0.5**
EALK	**Alkurruntz**	**0.86**	**280**	Sg	**Sg**	**04 15 51.4**	**-0.3**
EARA	**Aranguren**	**0.95**	**252**	Pg	**Pg**	**04 15 41.7**	**-0.4**
EARA				Sg	**Sg**	**04 15 54.3**	**-0.3**
EARA				*i* Vmb_Lg		04 16 03.0	
MLS	**Moulis**	**1.06**	**96**	Pg	**Pg**	**04 15 44.0**	**-0.2**
MLS				Sg	**Sb**	**04 15 58.5**	**+1.1**
SALF	**Salau**	**1.17**	**105**	Pg	**Pg**	**04 15 45.5**	**-0.7**
SALF				Sg	**Sg**	**04 16 01.5**	**0.0**
ESAC	**San Caprasio**	**1.36**	**184**	Pg	**Pn**	**04 15 48.1**	**0.0**
ESAC				Sg	**Sg**	**04 16 07.2**	**-0.2**
ESAC				*i* Vmb_Lg		04 16 10.3	
PAND	**Andorre**	**1.50**	**111**	Pn	**Pn**	**04 15 51.4**	**+1.3**
PAND				Sn	**Sb**	**04 16 11.6**	**+1.5**
MONQ	**Montcuq**	**1.71**	**40**	Pn	**Pn**	**04 15 54.1**	**+1.3**
MONQ				Sn	**Sb**	**04 16 16.9**	**+1.0**
EMIR	**Miracle**	**1.81**	**129**	Pg	**Pn**	**04 15 55.9**	**+1.7**
EMIR				Sg	**Sg**	**04 16 21.2**	**-0.6**
EMIR				*i* Vmb_Lg		04 16 24.5	
FNEB	**Nbias**	**1.81**	**95**	Pn	**Pn**	**04 15 55.5**	**+1.2**
FNEB				Sn	**Sb**	**04 16 19.7**	**+0.8**
CARF	**Carcanieres**	**1.84**	**101**	Pn	**Pn**	**04 15 55.4**	**+0.7**
CARF				Sn	**Sn**	**04 16 19.7**	**+2.0**
LRVF	**chteau la Riv**	**1.87**	**1**	Pn	**Pn**	**04 15 55.6**	**+0.6**
LRVF				Sn	**Sn**	**04 16 20.2**	**+1.9**
MTLF	**Montolieu**	**1.89**	**81**	*e*Pg	**Pb**	**04 15 58.8**	**+1.0**
MTLF				*e*Sg	**Sb**	**04 16 22.9**	**+1.6**
6.4nm,0.3s							
MTLF	**Montolieu**	**1.89**	**81**	Pn	**Pn**	**04 15 56.0**	**+0.6**
MTLF				Sn	**Sn**	**04 16 21.4**	**+2.5**
VALC	**Valcebollere**	**1.89**	**111**	Pn	**Pn**	**04 15 56.1**	**+0.6**
LFF	**La Frestale**	**2.02**	**23**	*e*Pg	**Pb**	**04 16 00.3**	**+0.3**
LFF				*e*Sg	**Sg**	**04 16 27.8**	**-0.8**
11nm,0.3s							
EPOB	**Poblet**	**2.02**	**148**	Pn	**Pn**	**04 15 56.2**	**-1.0**
EPOB				Pg	**Pb**	**04 15 59.5**	**-0.6**
EPOB				Sn	**Sn**	**04 16 21.0**	**-1.3**
EPOB				Sg	**Sg**	**04 16 27.9**	**-0.8**
EPOB				*i* Vmb_Lg		04 16 31.4	
ERTA	**Horta de San J**	**2.18**	**166**	Pn	**Pn**	**04 15 58.0**	**-1.3**
ERTA				Sn	**Sn**	**04 16 23.7**	**-2.3**
ERTA				Sg	**Sg**	**04 16 32.7**	**-1.0**
ERTA				*i* Vmb_Lg		04 16 37.0	
EJON	**La Jonquera**	**2.46**	**104**	Pn	**Pn**	**04 16 03.3**	**+0.1**
EJON				Sn	**Sn**	**04 16 30.7**	**-2.4**
EJON				Sg	**Sg**	**04 16 42.6**	**-0.2**
EJON				*i* Vmb_Lg		04 16 46.3	
CAF	**Calviac**	**2.54**	**42**	*e*Pg	**Pb**	**04 16 10.0**	**+1.2**
CAF				*e*Sg	**Sg**	**04 16 43.3**	**-1.9**
2.8nm,0.2s							
RJF	**Les Rejaudoux**	**2.60**	**30**	*e*Sg	**Sb**	**04 16 44.4**	**+2.8**
4.9nm,0.3s							
LASF	**Ste Croix**	**3.21**	**70**	*e*Pg	**Pb**	**04 16 21.9**	**+1.5**
LASF				*e*Sg	**Sg**	**04 17 04.0**	**-2.8**
2.1nm,0.4s							
MFF	**Saint Martin d**	**3.53**	**2**	*e*Pg	**Pb**	**04 16 28.0**	**+2.3**
MFF				*e*Sg	**Sg**	**04 17 13.4**	**-3.4**
0.9nm,0.2s							
TCF	**Toulx Ste Croi**	**3.69**	**29**	*e*Sn	**Sn**	**04 17 00.1**	**-3.2**
TCF				*e*Sg	**Sg**	**04 17 18.3**	**-3.8**
1.5nm,0.2s							
BGF	**Bois d'Agland**	**4.16**	**32**	*e*Pg	**Pb**	**04 16 40.0**	**+3.6**
BGF				*e*Sg	**Sg**	**04 17 32.8**	**-4.2**
3.4nm,0.3s							
AVF	**Avril sur Loir**	**4.55**	**34**	*e*Pg	**Pg**	**04 16 47.9**	**-2.7**
AVF				*e*Sg	**Sg**	**04 17 45.6**	**-3.9**
1.1nm,0.4s							
SSF	**Saint Saulge**	**4.83**	**33**	*e*Sg	**Sg**	**04 17 54.7**	**-3.8**
1.3nm,0.3s							

*SJA **20** 04:17:08.5±0.8, 33.08S×72.00W, h21km±3km, ML3.5, MW3.8*
*GUC **20** 04:17:09.1±0.7, 33.08S×72.14W, h24km±22km, ML3.4*
ISC 20 04:17:08.2±1.6, 33.09S±0.03×72.14W±0.06, h23km±13km, n31, σ0$71/60, 6C-12D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.42**	**81**	⇓*i*P	**Pb**	**04 17 17.1**	**+0.1**
VA05	**Santo Domingo**	**0.72**	**142**	*e*P	**Pb**	**04 17 22.4**	**+0.3**
VA05				*i* S	**Sn**	**04 17 32.5**	**-0.7**
VA05				IAML		04 17 34.6	
comp=E,2μm,0.6s							
MT02	**Curacav**	**0.86**	**102**	⇓*i*P	**Pb**	**04 17 24.3**	**-0.2**
MT02				*i* S	**Sn**	**04 17 36.5**	**-0.2**
VA06	**Catapilco**	**0.89**	**54**	⇓*i*P	**Pb**	**04 17 24.8**	**-0.1**
VA06				*i* S	**Sn**	**04 17 36.6**	**-0.7**
VA06				IAML		04 17 40.9	
comp=N,3μm,0.5s							
ROC1	**El Roble**	**0.95**	**83**	*i* P	**Pb**	**04 17 25.8**	**-0.5**
ROC1				*i* S	**Sb**	**04 17 37.3**	**-1.3**
ROCH	**El Roble**	**0.96**	**83**	⇓*i*P	**Pb**	**04 17 26.0**	**-0.3**
ROCH				*i* S	**Sn**	**04 17 38.7**	**-0.8**
ROCH				IAML		04 17 46.9	
comp=N,1μm,0.4s							
MT01	**Popeta**	**1.07**	**136**	⇑*i*P	**Pn**	**04 17 27.9**	**+0.1**
MT01				*i* S	**Sn**	**04 17 42.3**	**+0.2**
MT01				IAML		04 17 44.0	
comp=N,1μm,0.4s							
MT09	**Talagante**	**1.18**	**126**	⇓*i*P	**Pb**	**04 17 29.8**	**-0.3**
MT09				*i* S	**Sn**	**04 17 45.5**	**+0.6**
MT09				IAML		04 17 46.7	
comp=N,1μm,0.2s							
MT05	**Renca**	**1.21**	**105**	*i* P	**Pn**	**04 17 29.8**	**-0.1**
MT05				*i* S	**Sn**	**04 17 45.5**	**-0.1**
MT05				IAML		04 17 51.7	
comp=Z,658nm,1.1s							
MT05	**Renca**	**1.21**	**105**	*e*P	**Pb**	**04 17 30.5**	**-0.1**
MT05				*i* S	**Sn**	**04 17 47.7**	**+2.1**
MT05				IAML		04 17 51.0	
comp=E,927nm,0.4s							
PEL	**Peldehue**	**1.22**	**93**	*i* P	**Pn**	**04 17 29.9**	**-0.1**
PEL				*i* S	**Sn**	**04 17 45.4**	**-0.4**
PEL	**Peldehue**	**1.22**	**93**	⇓*i*P	**Pb**	**04 17 30.6**	**-0.2**
PEL				*i* S	**Sn**	**04 17 46.8**	**+0.9**
PEL				IAML		04 17 51.8	
comp=E,1μm,0.7s							
MT10	**Hacienda Santa**	**1.36**	**98**	⇓*i*P	**Pb**	**04 17 32.9**	**-0.2**
MT10				*i* S	**Sb**	**04 17 50.7**	**+0.6**
MT10				IAML		04 17 58.9	
comp=N,2μm,0.6s							
VA03	**San Esteban**	**1.38**	**77**	*i* P	**Pn**	**04 17 31.8**	**-0.3**
VA03				*i* S	**Sb**	**04 17 50.2**	**-0.4**
VA03				IAML		04 17 57.9	
comp=Z,838nm,0.7s							
VA03	**San Esteban**	**1.38**	**77**	⇑*i*P	**Pb**	**04 17 32.6**	**-0.8**
VA03				*i* S	**Sb**	**04 17 50.9**	**+0.3**
VA03				IAML		04 17 56.3	
comp=N,922nm,0.2s							
MT14	**Cerro Calan**	**1.38**	**103**	⇓*i*P	**Pb**	**04 17 33.2**	**-0.2**
MT14				*i* S	**Sb**	**04 17 51.5**	**+0.9**
MT14				IAML		04 17 57.4	
comp=N,2μm,0.6s							
MT16	**CCHEN**	**1.40**	**104**	⇓*i*P	**Pb**	**04 17 33.5**	**-0.2**
MT16				*i* S	**Sb**	**04 17 51.2**	**+0.1**
MT16				IAML		04 17 57.5	
comp=N,588nm,0.5s							
BO03	**Pichilemu**	**1.41**	**174**	*e*P	**Pn**	**04 17 32.9**	**+0.4**
BO03				*i* S	**Sn**	**04 17 50.0**	**-0.3**
MT03	**Universidad Ad**	**1.43**	**107**	*i* P	**Pb**	**04 17 33.4**	**-0.8**
MT03				*i* S	**Sb**	**04 17 51.8**	**-0.1**
MT03				IAML		04 18 01.2	
comp=Z,745nm,0.8s							
MT03	**Universidad Ad**	**1.43**	**107**	⇓*i*P	**Pb**	**04 17 33.8**	**-0.4**
MT03				*i* S	**Sb**	**04 17 52.4**	**+0.4**
MT03				IAML		04 18 01.8	
comp=E,2μm,0.7s							
MT15	**Las Vizcachas**	**1.46**	**111**	⇓*i*P	**Pb**	**04 17 34.4**	**-0.4**
MT15				*i* S	**Sb**	**04 17 53.1**	**+0.1**
MT15				IAML		04 18 00.1	
comp=E,2μm,0.8s							
MT12	**Pirque**	**1.48**	**116**	⇓*i*P	**Pb**	**04 17 34.6**	**-0.5**
MT12				*i* S	**Sb**	**04 17 53.3**	**-0.1**
MT12				IAML		04 18 07.1	
comp=N,2μm,0.7s							
BO04	**La Punta**	**1.56**	**125**	⇑*i*P	**Pb**	**04 17 35.7**	**-0.9**
BO04				*i* S	**Sb**	**04 17 55.8**	**-0.1**
BO04				IAML		04 18 09.0	
comp=N,461nm,0.7s							
BO01	**Tunca**	**1.57**	**146**	*i* P	**Pb**	**04 17 36.5**	**-0.1**
BO01				*i* S	**Sb**	**04 17 57.2**	**+1.2**
BO01	**Tunca**	**1.57**	**146**	*e*P	**Pn**	**04 17 35.3**	**+0.6**
MT13	**San Alfonso**	**1.68**	**113**	⇑*i*P	**Pb**	**04 17 38.0**	**-0.6**
MT13				*i* S	**Sb**	**04 17 59.8**	**+0.3**
MT13				IAML		04 18 06.4	
comp=N,993nm,0.3s							
MT04	**Ro Olivares**	**1.71**	**101**	⇑*i*P	**Pb**	**04 17 38.4**	**-0.8**
MT04				*i* S	**Sb**	**04 18 00.6**	**+0.3**
MT04				IAML		04 18 04.2	
comp=N,682nm,0.6s							
LMEL	**Las Melosas**	**1.79**	**116**	⇑*i*P	**Pb**	**04 17 39.7**	**-0.7**
LMEL				*i* S	**Sb**	**04 18 04.2**	**+1.7**
LMEL				IAML		04 18 08.9	
comp=N,575nm,0.2s							
GO05	**Huala**	**1.92**	**175**	*e*P	**Pn**	**04 17 40.2**	**+0.6**
GO05				*i* S	**Sn**	**04 18 02.3**	**-0.8**
BO02	**Sierra Bellavi**	**2.04**	**147**	*i* P	**Pb**	**04 17 43.2**	**-1.5**
BO02				*i* S	**Sb**	**04 18 08.8**	**-0.9**
BO02				IAML		04 18 21.6	
comp=Z,380nm,1.0s							
CO02	**Combarbal**	**2.12**	**28**	*i* P	**Pn**	**04 17 44.0**	**+1.7**
CO02				*i* S	**Sb**	**04 18 11.0**	**-0.9**
CO02				IAML		04 18 21.2	
comp=Z,665nm,0.9s							

IDC 20 04:42:27.3±1.7, 32.82S×178.74W, h0km, mb3.8/3, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=51.9km s-min=29.0km az=136.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.39**	**211**	Pn	Pn	04 44 02.8	+0.1
2.0nm,0.3s,baz=337,slow=3.3,SNR=6.8							
URZ				Sn	Sn	04 45 15.8	-0.7
4.0nm,0.3s,baz=308,slow=17,SNR=6.4							
3.6nm,0.3s							
ASAR	**Alice Springs**	**42.41**	**270**	P	P	04 50 24.4	+0.6
0.4nm,0.5s,baz=109,slow=7.8,SNR=6.5							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**43.62**	**275**	P	P	04 50 33.6	0.0
1.0nm,0.4s,baz=115,slow=7.7,SNR=17							
1.0nm,0.4s							
NVAR	**Mina Array Bea**	**90.44**	**43**	P	P	04 55 32.1	+1.2
0.1nm,0.3s,baz=205,slow=3.9,SNR=3.6							
0.1nm,0.3s							
FINES	**FINESS Array B**	**147.17**	**338**	PKPbc	PKPdf	05 02 09.3	-0.1
1.6nm,0.7s,baz=45,slow=4.9,SNR=12							

*MEX **20** 04:42:46.4±1.9, 14.64N×92.25W, h98km±13km, MD3.8*
*GCG **20** 04:42:47.6±0.4, 14.52N×92.26W, h65km±5km, MD3.4*
ISC 20 04:42:46.4±1.5, 14.65N±0.07×92.28W±0.05, h87km±9km, n20, σ1$27/39, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.25**	**3**	*e*P	**Pn**	**04 43 00.0**	**+0.8**
THIG				*i* S	**Sn**	**04 43 08.8**	**+1.1**
PATR	**El Naranjo**	**0.46**	**5**	*i* P	**Pn**	**04 43 00.5**	**-0.3**
PATR				*e*S	**Sn**	**04 43 11.5**	**0.0**
CHUJ	**Union Juarez**	**0.47**	**20**	*e*P	**Pn**	**04 43 00.7**	**-0.1**
CHUJ				*i* S	**Sn**	**04 43 10.9**	**-0.6**
PAVE	**Pavencul**	**0.55**	**10**	*e*P	**Pn**	**04 43 01.5**	**+0.1**
PAVE				*i* S	**Sn**	**04 43 13.2**	**+0.5**
SMSP	**San Marcos**	**0.58**	**56**	*i* P	**Pn**	**04 43 01.6**	**-0.2**
SMSP				*e*S	**Sn**	**04 43 13.1**	**-0.1**
RTAL	**Retalhuleu**	**0.58**	**103**	*e*P	**Pn**	**04 43 01.2**	**-0.3**
RTAL				*i* S	**Sn**	**04 43 12.3**	**-0.4**
STG3	**Santiaguito 3,**	**0.69**	**85**	*i* P	**Pn**	**04 43 02.7**	**0.0**
STG3				*i* S	**Sn**	**04 43 14.7**	**-0.1**
SULM	**Suchitepequez,**	**0.77**	**117**	*i* P	**Pn**	**04 43 04.2**	**+0.9**
SULM				*i* S	**Sn**	**04 43 13.6**	**-2.4**
HUEH	**Huehuetenango**	**1.00**	**48**	*e*P	**Pn**	**04 43 05.4**	**-0.7**
HUEH				*i* S	**Sn**	**04 43 19.6**	**-1.2**
PCIG		**1.39**	**319**	*e*P	**Pn**	**04 43 11.4**	**+0.9**
PCIG				*i* S	**Sn**	**04 43 28.1**	**-0.7**
FUG	**Fuego 3**	**1.40**	**98**	*i* P	**Pn**	**04 43 11.5**	**+0.6**
FUG				*i* S	**Sn**	**04 43 29.8**	**+0.3**
CCIG	**Comitan**	**1.63**	**5**	*i* P	**Pn**	**04 43 14.2**	**+0.4**
CCIG				*e*S	**Sn**	**04 43 34.6**	**+0.1**
PCG	**Pacaya**	**1.64**	**99**	*i* S	**Sn**	**04 43 36.2**	**+1.3**
CARR	**Arriaga**	**2.24**	**315**	*i* P	**Pn**	**04 43 20.6**	**-1.0**
CARR				*e*S	**Sn**	**04 43 51.0**	**+2.5**
TGIG		**2.27**	**339**	*i* P	**Pn**	**04 43 21.4**	**-0.7**
TGIG				*e*S	**Sn**	**04 43 48.2**	**-1.2**
NILT	**Santiago Nilte**	**2.95**	**310**	*i* P	**Pn**	**04 43 33.3**	**+2.1**
NILT				*e*S	**Sn**	**04 44 06.9**	**+1.3**
UXUV	**UXUV**	**3.20**	**326**	*i* P	**Pn**	**04 43 35.2**	**+0.6**
UXUV				*e*S	**Sn**	**04 44 10.6**	**-1.1**
CMIG	**Matias Romero**	**3.49**	**314**	*e*P	**Pn**	**04 43 39.6**	**+1.2**
CMIG				*e*S	**Sn**	**04 44 17.5**	**-1.2**
HUIG	**Huatulco**	**3.86**	**287**	*e*P	**Pn**	**04 43 43.8**	**+0.3**
HUIG				*i* S	**Sn**	**04 44 23.2**	**-4.6**
NEUV	**Arroyo Zacate**	**4.55**	**312**	*i* P	**Pn**	**04 43 53.7**	**+0.8**
NEUV				*e*S	**Sn**	**04 44 44.5**	**-0.1**

*IDC **20** 04:46:13.4±1.5, 26.94N×110.95W, h0km, mb3.6/3, mbtmp3.5/9, ML3.7/4, MS3.6/17, Error ellipse: s-maj=20.4km s-min=16.9km az=30.0*
*MEX **20** 04:46:14.0±0.3, 26.64N×110.90W, h16km±246km, MD4.1*
ISC 20 04:46:11.6±2.7, 26.70N±0.07×111.02W±0.06, h3km±23km, n27, σ2$31/22, mb3.5/3, MS3.6/14, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUYB	**Guaymas**	**1.20**	**6**	*e*P	**Pn**	**04 46 32.9**	**-2.3**
GUYB				*e*S	**Sb**	**04 46 47.8**	**-3.0**
SRIG	**Santa Rosalia**	**1.25**	**300**	*i* P	**Pn**	**04 46 34.8**	**-1.1**
SRIG				*i* S	**Sn**	**04 46 51.0**	**-2.2**
TSIG	**Topolobambo**	**2.09**	**121**	*e*P	**Pb**	**04 46 48.5**	**-1.6**
TSIG				*e*S	**Sg**	**04 47 16.8**	**-2.0**
HSIG		**2.31**	**2**	*e*P	**Pn**	**04 46 49.6**	**-0.8**
HSIG				*e*S	**Sn**	**04 47 16.8**	**-2.6**
LPIG	**La Paz**	**2.67**	**166**	Pn	**Pb**	**04 47 01.1**	**+1.2**
25nm,0.3s,baz=210,slow=7.8,SNR=6.2							
LPIG				Sn	**Sg**	**04 47 36.4**	**-0.9**
18nm,0.3s,baz=167,slow=23,SNR=6.4							
LPIG				LR	LR	04 47 57.2	
comp=Z,776nm,19.4s,baz=344,slow=36							
62nm,0.3s							
LAPR	**La Primavera**	**3.95**	**344**	*e*P	**Pn**	**04 47 13.0**	**-0.1**
LAPR				*e*S	Sg	04 48 33.5	+15
CGIG		**4.53**	**36**	*e*P	**Pn**	**04 47 22.6**	**+1.4**
CGIG				*e*S	**Sb**	**04 48 32.2**	**+5.5**
TXAR	**Lajitas Array**	**7.01**	**66**	Pn	**Pn**	**04 47 55.7**	**+0.5**
0.3nm,0.3s,baz=238,slow=13,SNR=25							
TXAR				Sn	**Sn**	**04 49 12.5**	**-3.0**
0.2nm,0.3s,baz=245,slow=12,SNR=1.5							
TXAR				Lg	Lg	04 49 50.8	
0.6nm,0.3s,baz=251,slow=30,SNR=4.0							
TXAR				LR	LR	04 50 04.9	
comp=Z,21nm,20.6s,baz=248,slow=34							
0.7nm,0.4s							
ANMO	**Albuquerque**	**9.10**	**24**	Pn	**Pn**	**04 48 24.0**	**-0.1**
0.9nm,0.9s,baz=288,slow=11,SNR=8.2							
ANMO				Lg	Lg	04 51 04.2	
0.1nm,0.3s,baz=53,slow=21,SNR=4.1							
ANMO				LR	LR	04 51 30.1	
comp=Z,209nm,20.7s,baz=290,slow=36							
NVAR	**Mina Array Bea**	**13.20**	**334**	Pn	**Pn**	**04 49 23.6**	**+3.5**
0.1nm,0.3s,baz=159,slow=8.7,SNR=7.4							
NVAR				LR	LR	04 54 24.0	
comp=Z,82nm,20.4s,baz=98,slow=38							
1.1nm,0.9s							
ELK	**Elko**	**14.44**	**347**	Pn	**Pn**	**04 49 39.0**	**+2.0**
1.9nm,1.0s,baz=178,slow=12,SNR=4.0							
PDAR	**Pinedale Array**	**16.07**	**4**	Pn	**Pn**	**04 49 59.3**	**+0.6**
0.1nm,0.3s,baz=171,slow=10,SNR=7.4							
1.3nm,1.0s							
NEW	**Newport**	**22.05**	**349**	LR	LR	05 00 08.7	
comp=Z,198nm,18.1s,baz=184,slow=38							
TKL	**Tuckaleechee C**	**24.90**	**62**	LR	LR	05 02 07.3	
comp=Z,78nm,18.6s,baz=260,slow=39							
ULM	**Lac du Bonnet**	**26.23**	**22**	P	**P**	**04 51 48.9**	**+1.3**
2.2nm,0.8s,baz=221,slow=4.7,SNR=3.4							
2.2nm,0.8s							
BBB	**Bella Bella**	**28.52**	**338**	LR	LR	05 03 59.7	
comp=Z,138nm,19.1s,baz=148,slow=38							
SADO	**Sadowa**	**31.26**	**46**	LR	LR	05 05 48.8	
comp=Z,87nm,20.1s,baz=90,slow=38							
DLBC	**Dease Lake**	**34.41**	**342**	LR	LR	05 07 55.1	
comp=Z,201nm,20.4s,baz=118,slow=38							
YKA	**Yellowknife Ar**	**35.87**	**357**	P	**P**	**04 53 11.9**	**-0.4**
0.3nm,0.8s,baz=184,slow=8.0,SNR=5.9							
YKA				LR	LR	05 08 36.6	
comp=Z,203nm,20.0s,baz=328,slow=38							
0.3nm,0.8s							
SJG	**San Juan**	**42.18**	**92**	LR	LR	05 14 13.9	
comp=Z,39nm,18.9s,baz=224,slow=40							
INK	**Inuvik**	**43.77**	**348**	LR	LR	05 13 32.0	
comp=Z,92nm,18.3s,baz=196,slow=38							
ILAR	**Eielson Array**	**44.40**	**339**	P	**P**	**04 54 23.1**	**0.0**
0.7nm,0.9s,baz=154,slow=6.3,SNR=6.8							
ILAR				LR	LR	05 14 26.1	
comp=Z,95nm,18.9s,baz=134,slow=38							
0.7nm,0.9s							
FRB	**Frobisher Bay**	**46.07**	**25**	LR	LR	05 13 02.6	
comp=Z,60nm,18.3s,baz=213,slow=35							
PCRV	**Puerto La Cruz**	**46.69**	**102**	LR	LR	05 14 42.6	
comp=Z,59nm,19.9s,slow=37							
RES	**Resolute Bay**	**48.76**	**6**	LR	LR	05 17 49.4	
comp=Z,54nm,18.4s,baz=3.5,slow=39							
RPN	**Rapa Nui**	**53.54**	**178**	LR	LR	05 12 56.1	
comp=Z,74nm,18.9s,baz=43,slow=30							
JMIC	**Jan Mayen**	**68.98**	**20**	LR	LR	05 28 51.3	
comp=Z,48nm,18.9s,baz=227,slow=37							

*IDC **20** 04:48:16.6±1.0, 31.17N×140.07E, h0km, mb3.6/11, mbtmp3.5/12, ML2.7/1, Error ellipse: s-maj=27.4km s-min=17.9km az=90.0*
ISC 20 04:48:21.8±0.9, 31.16N±0.09×140.1E±0.2, h35km, n22, σ1$65/15, mb3.6/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.97**	**353**	Pn	**Pn**	**04 48 51.0**	**-1.7**
13nm,0.3s,baz=239,slow=20,SNR=1.6							
JHJ				Sn	**Sn**	**04 49 15.4**	**-0.8**
20nm,0.3s,baz=236,slow=23,SNR=2.3							
MJAR	**Matsushiro Arr**	**5.59**	**344**	Pn	**Pn**	**04 49 41.1**	**-1.4**
0.2nm,0.3s,baz=145,slow=14,SNR=12							
MJAR				Sn	**Sn**	**04 50 49.1**	**+3.6**
baz=142,slow=13		

KAN12					Sg	Sg	05 25 14.2	+0.5
KAN12					IAML		05 25 16.0	
	comp=N,3μm,0.4s							
KS21	**Milan North St**	**0.19**	**69**			Pg	05 25 13.5	+0.2
KS21					Sg	Sg	05 25 16.1	+0.3
KAN10	**Anthony SW Sta**	**0.20**	**241**			Pg	05 25 13.7	+0.3
KAN10					Sg	Sg	05 25 16.5	+0.6
KAN17	**Caldwell West**	**0.20**	**152**			Pg	05 25 13.8	+0.3
KAN09	**Caldwell North**	**0.23**	**111**			Pg	05 25 14.2	+0.3
KAN09					IAML		05 25 20.3	
	comp=E,2μm,0.3s							
KAN09					IAML		05 25 21.0	
	comp=N,2μm,0.2s							
KAN14	**Manchester OK**	**0.27**	**194**		Pg	Pg	05 25 15.1	+0.3
KAN14					IAML		05 25 19.3	
	comp=E,2μm,0.2s							
KAN14					IAML		05 25 19.3	
	comp=N,1μm,0.1s							
GC02	**Grant County #**	**0.37**	**177**			Pg	05 25 16.8	+0.2
GC02						Sg	05 25 22.1	+0.6
KAN13	**South Haven SW**	**0.38**	**122**			Pg	05 25 17.1	+0.1
KAN13						Sg	05 25 22.6	+0.6
KAN13					IAML		05 25 24.5	
	comp=N,965nm,0.2s							
KAN13					IAML		05 25 29.5	
	comp=E,878nm,0.3s							
OK032	**Salt Plains WL**	**0.49**	**212**		Pg	Pg	05 25 19.2	+0.2
OK032						Sg	05 25 26.1	+0.7
OK032					IAML		05 25 30.0	
	comp=E,497nm,0.3s							
OK032					IAML		05 25 31.7	
	comp=E,486nm,0.2s							
BLOK	**Blackwell**	**0.70**	**130**			Pg	05 25 22.9	-0.1
BLOK					IAML		05 25 36.0	
	comp=E,541nm,0.2s							
BLOK					IAML		05 25 36.5	
	comp=N,540nm,0.2s							
OK038	**West end E0370**	**1.01**	**223**			Pg	05 25 28.7	-0.3
OK048	**Pawnee Station**	**1.10**	**136**			Pg	05 25 30.2	-0.5
T35A	**Sooner Cattle**	**1.14**	**105**	Pg	Pg	Pg	05 25 30.9	-0.5
T35A					IAML		05 25 50.8	
	comp=E,147nm,0.3s							
U32A	**Winter Ranch,**	**1.23**	**227**			Pg	05 25 32.4	-0.7
U32A					IAML		05 25 55.5	
	comp=N,115nm,0.1s							
U32A					IAML		05 25 56.3	
	comp=E,146nm,0.1s							
R32A	**Long Quarter,**	**1.37**	**332**			Pn	05 25 35.0	-0.5
OK033	**Mehan**	**1.40**	**147**			Pn	05 25 35.5	-0.4
QUOK	**Quay**	**1.41**	**138**			Pn	05 25 35.7	-0.3
OK052	**Battle Ridge R**	**1.50**	**144**			Pn	05 25 37.3	0.0
FNO	**Franklin**	**2.00**	**169**	IAmb_Lg			05 26 18.1	
	comp=Z,18nm,0.7s							
TUL3	**Leonard**	**2.13**	**127**	IAmb_Lg			05 26 20.4	
	comp=Z,30nm,0.8s							
RLO	**Rose Lookout**	**2.53**	**114**	IAmb_Lg			05 26 33.4	
	comp=Z,15nm,0.7s							
N35A	**Tabor**	**4.03**	**25**	IAmb_Lg			05 27 27.0	
	comp=Z,12nm,0.7s							
WHAR	**Wooly Hollow**	**4.91**	**111**	IAmb_Lg			05 27 57.0	
	comp=Z,8.4nm,0.9s							
F36A	**Milaca**	**9.23**	**19**	IAmb_Lg			05 30 27.8	
	comp=Z,3.6nm,1.3s							

*MDD **20** 05:36:50.2±0.6,36°.24N×9°.91W,h27km±7km,mb_Lg3.4/29, Error ellipse: s-maj=6.2km s-min=3.1km az=72.0*
*SFS **20** 05:36:51.1,36°.24N×9°.86W,h55km,ML3.5/14,ML3.6/14, MLv3.4/14*
*INMG **20** 05:36:52.5±1.2,36°.25N×9°.81W,h37km,ML2.8,Error ellipse: s-maj=4.1km s-min=2.1km az=79.0*
*IGIL **20** 05:36:52.4,36°.25N×9°.80W,h32km,ML2.8*

ISC 20 05:36:50.0±1.6,36°27N±0°.05×9°80W±0°.07,h35km,n70,σ1§60/133,6C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.39**	**41**	*e*P		**Pn**	**05 37 14.5**	**+1.6**
MORF				*e*S		**Sn**	**05 37 30.8**	**+0.8**
MORF				A		A	05 37 32.1	
	149nm,0.2s							
MORF	**Marmelete**	**1.39**	**41**	*e*P		**Pn**	**05 37 14.5**	**+1.6**
MORF				*e*S		**Sn**	**05 37 30.6**	**+0.6**
MORF				IAML			05 37 32.0	
	comp=N,186nm,0.3s							
PTEO	**Sao Teotonio**	**1.54**	**34**	*e*P		**Pn**	**05 37 16.6**	**+1.6**
PTEO				*e*S		**Sn**	**05 37 34.5**	**+0.7**
PTEO				A		A	05 37 35.6	
	comp=N,55nm,0.1s							
PBDV	**Barranco-do-Ve**	**1.79**	**56**	*e*P		**Pn**	**05 37 20.2**	**+1.8**
PBDV				*e*S		**Sn**	**05 37 40.3**	**+0.4**
PBDV				A		A	05 37 41.8	
	comp=N,22nm,0.2s							
PCVE	**Castro Verde**	**1.96**	**45**	*i*P		**Pn**	**05 37 22.6**	**+1.9**
PCVE				*e*S		**Sn**	**05 37 45.0**	**+0.8**
PCVE				A		A	05 37 46.4	
	comp=N,21nm,0.4s							
PCVE	**Castro Verde**	**1.96**	**45**	Pn		**Pn**	**05 37 22.6**	**+1.9**
PCVE				Sn		**Sn**	**05 37 44.4**	**+0.3**
MESJ	**Messejana**	**2.02**	**38**	*e*P		**Pn**	**05 37 23.1**	**+1.6**
MESJ				*e*S		**Sn**	**05 37 45.6**	**+0.1**
MESJ				A		A	05 37 48.8	
	comp=N,36nm,0.2s							
MESJ	**Messejana**	**2.02**	**38**	*e*P		**Pn**	**05 37 23.1**	**+1.6**
MESJ				*e*S		**Sn**	**05 37 45.6**	**+0.1**
MESJ				IAML			05 37 48.1	
	comp=N,35nm,0.1s							
PVAQ	**Vaqueiros**	**2.02**	**55**	*e*P		**Pn**	**05 37 23.4**	**+1.8**
PVAQ				*e*S		**Sn**	**05 37 45.7**	**+0.1**
PVAQ	**Vaqueiros**	**2.02**	**55**	Pn		**Pn**	**05 37 23.3**	**+1.8**
PNCL	**Nicolau / Gran**	**2.10**	**28**	*e*P		**Pn**	**05 37 24.0**	**+1.3**
PNCL				*e*S		**Sn**	**05 37 47.6**	**0.0**
PNCL				A		A	05 37 49.8	
	comp=N,46nm,0.1s							
PNCL	**Nicolau / Gran**	**2.10**	**28**	Pn		**Pn**	**05 37 24.0**	**+1.3**
PNCL				Sn		**Sn**	**05 37 47.4**	**-0.2**
EGRO	**El Granado**	**2.25**	**55**	Pn		**Pn**	**05 37 26.2**	**+1.6**
EGRO				Sn		**Sn**	**05 37 51.0**	**-0.1**
EGRO	**El Granado**	**2.25**	**55**	P		**Pn**	**05 37 26.2**	**+1.6**
EGRO				S		**Sn**	**05 37 51.2**	**0.0**
EGRO				*i* Vmb_Lg			05 37 53.1	
PBEJ	**Beja**	**2.34**	**41**	*e*P		**Pn**	**05 37 27.4**	**+1.4**
PBEJ				*e*S		**Sn**	**05 37 53.5**	**0.0**
PBEJ				A		A	05 37 55.8	
	comp=N,22nm,0.3s							
LIS	**Lisbon**	**2.50**	**12**	*e*S		**Sn**	**05 37 57.8**	**+0.3**
LIS				A		A	05 38 01.1	
	comp=N,86nm,0.3s							
LIS	**Lisbon**	**2.50**	**12**	*e*S		**Sn**	**05 37 57.2**	**-0.2**
LIS				IAML			05 37 58.4	
	comp=N,57nm,0.1s							
ARNO	**Arenosillo**	**2.60**	**70**	Sn		**Sn**	**05 37 60.0**	**+0.1**
PACT	**Alcochete**	**2.61**	**17**	*e*P		**Pn**	**05 37 31.5**	**+1.8**
PACT				*e*S		**Sn**	**05 38 01.0**	**+0.8**
PACT				A		A	05 38 05.7	
	comp=N,32nm,0.2s							
EVO	**Evora**	**2.67**	**32**	*e*P		**Pn**	**05 37 31.8**	**+1.2**
EVO				*e*S		**Sn**	**05 38 01.1**	**-0.6**
EVO				A		A	05 38 03.0	
	comp=N,48nm,0.1s							
EVO	**Evora**	**2.67**	**32**	Pn		**Pn**	**05 37 31.7**	**+1.2**
EVO				Sn		**Sn**	**05 38 00.8**	**-0.9**
PMAFR	**Mafra**	**2.72**	**9**	*e*P		**Pn**	**05 37 32.4**	**+1.2**
PMAFR				*e*S		**Sn**	**05 38 02.7**	**-0.1**
PMAFR				A		A	05 38 05.3	
	comp=N,111nm,0.2s							
PMAFR	**Mafra**	**2.72**	**9**	Pn		**Pn**	**05 37 32.3**	**+1.2**
PMAFR				Sn		**Sn**	**05 38 02.3**	**-0.5**
PBAR	**Barrancos**	**2.91**	**48**	*e*P		**Pn**	**05 37 35.1**	**+1.2**
PBAR				*e*S		**Sn**	**05 38 07.3**	**-0.3**
PBAR				A		A	05 38 09.5	
	comp=N,11nm,0.2s							
PBAR	**Barrancos**	**2.91**	**48**	Pn		**Pn**	**05 37 35.1**	**+1.2**
PBAR				Sn		**Sn**	**05 38 07.0**	**-0.6**
EMIN	**Mina Concepcio**	**2.92**	**58**	Pn		**Pn**	**05 37 35.0**	**+1.1**
EMIN				Sn		**Sn**	**05 38 06.8**	**-0.9**
EMIN	**Mina Concepcio**	**2.92**	**58**	P		**Pn**	**05 37 35.2**	**+1.3**
EMIN				S		**Sn**	**05 38 07.9**	**+0.2**
EMIN				*i* Vmb_Lg			05 38 09.1	
PMTG	**Montargil**	**3.06**	**24**	*e*P		**Pn**	**05 37 37.2**	**+1.3**
PMTG				*e*S		**Sn**	**05 38 10.7**	**-0.7**
PMTG				A		A	05 38 12.7	
	comp=N,22nm,0.2s							
PESTR	**Estremoz**	**3.13**	**33**	*e*P		**Pn**	**05 37 38.0**	**+1.1**
PESTR				*e*S		**Sn**	**05 38 12.6**	**-0.5**
PESTR				A		A	05 38 14.1	
	comp=N,12nm,0.5s							
PESTR	**Estremoz**	**3.13**	**33**	Pn		**Pn**	**05 37 37.5**	**+0.6**
PESTR				Sn		**Sn**	**05 38 11.8**	**-1.3**
ESPR	**Espera**	**3.23**	**78**	Pn		**Pn**	**05 37 40.0**	**+1.9**
ESPR				Sn		**Sn**	**05 38 14.9**	**-0.6**
ESPR	**Espera**	**3.23**	**78**	P		**Pn**	**05 37 40.1**	**+1.9**
ESPR				S		**Sn**	**05 38 15.3**	**-0.2**
ESPR				*i* Vmb_Lg			05 38 18.2	
EBAD	**Badajoz**	**3.33**	**41**	Pn		**Pn**	**05 37 40.6**	**+1.0**
EBAD				Sn		**Sn**	**05 38 16.5**	**-1.4**
EBAD	**Badajoz**	**3.33**	**41**	P		**Pn**	**05 37 40.6**	**+1.0**
EBAD				S		**Sn**	**05 38 16.9**	**-1.0**
EBAD				*i* Vmb_Lg			05 38 21.5	
PSBE	**So Bento**	**3.34**	**13**	*e*P		**Pn**	**05 37 41.0**	**+1.3**
PSBE				*e*S		**Sn**	**05 38 17.7**	**-0.5**
PSBE				A		A	05 38 21.6	
	comp=N,22nm,0.2s							
EJIF	**Jimena Fronter**	**3.50**	**86**	P		**Pn**	**05 37 42.3**	**+0.4**
EJIF				S		**Sn**	**05 38 23.7**	**+1.6**
AVE	**Averroes**	**3.55**	**146**	Pn		**Pn**	**05 37 43.6**	**+0.9**
AVE				Sn		**Sn**	**05 38 21.4**	**-2.0**
PMRV	**Marv??o**	**3.69**	**30**	*e*P		**Pn**	**05 37 45.6**	**+1.1**
PMRV				*e*S		**Sn**	**05 38 25.4**	**-1.4**
PMRV				A		A	05 38 26.8	
	comp=N,25nm,0.2s							
PCAS	**Casmilo, Conde**	**3.92**	**15**	*e*P		**Pn**	**05 37 48.9**	**+1.2**
PCAS				*e*S		**Sn**	**05 38 31.5**	**-0.9**
PCAS				A		A	05 38 36.1	
	comp=N,12nm,0.3s							
ECAB	**El Cabril**	**3.94**	**61**	Pn		**Pn**	**05 37 49.2**	**+1.3**
ECAB				Sn		**Sn**	**05 38 31.1**	**-1.8**
ECAB	**El Cabril**	**3.94**	**61**	P		**Pn**	**05 37 48.9**	**+1.0**
ECAB				S		**Sn**	**05 38 31.6**	**-1.4**
ECAB				*i* Vmb_Lg			05 38 34.9	
PCBR	**Castelo Branco**	**4.01**	**26**	*e*P		**Pn**	**05 37 51.0**	**+2.1**
PCBR				*e*S		**Sn**	**05 38 33.4**	**-1.3**
PCBR				A		A	05 38 35.7	
	comp=N,10nm,0.3s							
EMIJ	**Mijas**	**4.07**	**84**	Pn		**Pn**	**05 37 51.5**	**+1.8**
COI	**Coimbra**	**4.09**	**15**	*e*S		**Sn**	**05 38 36.5**	**0.0**
MTE	**Manteigas**	**4.49**	**23**	*e*P		**Pn**	**05 37 57.0**	**+1.4**
MTE				*e*S		**Sn**	**05 38 45.2**	**-1.5**
MTE				A		A	05 38 47.6	
	comp=N,14nm,0.3s							
EADA	**Adamuz**	**4.58**	**64**	Pn		**Pn**	**05 37 58.0**	**+1.2**
EADA				Sn		**Sn**	**05 38 47.0**	**-1.8**
EADA	**Adamuz**	**4.58**	**64**	P		**Pn**	**05 37 57.9**	**+1.2**
EADA				S		**Sn**	**05 38 47.3**	**-1.5**
EADA				*i* Vmb_Lg			05 38 50.6	
EGOR	**Sierra Gorda,**	**4.65**	**78**	P		**Pn**	**05 37 58.9**	**+1.1**
EGOR				S		**Sn**	**05 38 50.7**	**0.0**
EGOR				*i* Vmb_Lg			05 38 57.4	
PVIS	**Viseu**	**4.69**	**18**	*e*P		**Pn**	**05 37 59.3**	**+1.0**
PVIS				*e*S		**Sn**	**05 38 49.8**	**-1.7**
PVIS				A		A	05 38 53.0	
	comp=N,9.8nm,0.1s							
IFR	**Ifrane**	**4.72**	**124**	Pn		**Pn**	**05 37 58.8**	**0.0**
IFR				Sn		**Sn**	**05 38 47.2**	**-5.2**
EPLA	**Plasencia**	**4.79**	**37**	P		**Pn**	**05 38 00.7**	**+1.0**
EPLA				S		**Sn**	**05 38 51.9**	**-2.1**
EPLA				*i* Vmb_Lg			05 38 54.3	
PTO	**Porto**	**4.96**	**11**	*e*S		**Sn**	**05 38 55.7**	**-2.2**
PTO				A		A	05 38 58.9	
	comp=N,24nm,0.3s							
ELGU	**Los Guajares,**	**5.00**	**81**	P		**Pn**	**05 38 04.8**	**+2.1**
ELGU				S		**Sn**	**05 38 59.0**	**-0.3**
ELGU				*i* Vmb_Lg			05 39 08.9	
PVRL	**Vila Real**	**5.26**	**17**	*e*P		**Pn**	**05 38 07.8**	**+1.7**
PVRL				*e*S		**Sn**	**05 39 02.7**	**-2.9**
PVRL				A		A	05 39 07.1	
	comp=N,15nm,0.3s							
POLO	**Lamas de Olo**	**5.34**	**16**	*e*P		**Pn**	**05 38 08.0**	**+0.8**
POLO				*e*S		**Sn**	**05 39 05.2**	**-2.3**
POLO				A		A	05 39 07.9	
	comp=N,3.6nm,0.5s							
MVO	**Moncorvo**	**5.35**	**23**	*e*P		**Pn**	**05 38 08.5**	**+1.1**
MVO				*e*S		**Sn**	**05 39 05.5**	**-2.3**
MVO				A		A	05 39 09.0	
	comp=N,7.6nm,0.5s							
PAB	**San Pablo**	**5.41**	**51**	P		**Pn**	**05 38 08.9**	**+0.6**
PAB				S		**Sn**	**05 39 06.2**	**-3.2**
PAB				*i* Vmb_Lg			05 39 10.8	
EQES	**Quesada**	**5.60**	**72**	P		**Pn**	**05 38 11.3**	**+0.4**
EQES				S		**Sn**	**05 39 12.0**	**-1.9**
EQES				*i* Vmb_Lg			05 39 15.2	
PCAB	**Cabril**	**5.61**	**14**	*e*P		**Pn**	**05 38 12.0**	**+1.1**
PCAB				*e*S		**Sn**	**05 39 11.3**	**-2.8**
PCAB				A		A	05 39 14.5	
	comp=N,11nm,0.2s							
EJUZ	**Juzbado, Salam**	**5.70**	**31**	P		**Pn**	**05 38 13.3**	**+1.0**
EJUZ				S		**Sn**	**05 39 14.6**	**-1.9**
TIO	**Tiouine**	**5.73**	**158**	Pn		**Pn**	**05 38 13.1**	**+0.4**
TIO				Sn		**Sn**	**05 39 13.0**	**-4.2**
ESDC	**Sonseca Array**	**5.73**	**52**	P		**Pn**	**05 38 13.8**	**+1.2**
ESDC				S		**Sn**	**05 39 14.0**	**-3.1**
ELOB	**Lobios**	**5.76**	**13**	P		**Pn**	**05 38 13.8**	**+0.8**
ELOB				S		**Sn**	**05 39 14.1**	**-3.7**
ELOB				*i* Vmb_Lg			05 39 19.2	
PGAV	**Gavieira, Arco**	**5.81**	**11**	*e*P		**Pn**	**05 38 14.7**	**+0.9**
PGAV				*e*S		**Sn**	**05 39 15.7**	**-3.6**
PGAV				A		A	05 39 19.8	
	comp=N,7.9nm,0.2s							
PBRG	**Braganca**	**6.02**	**22**	*e*P		**Pn**	**05 38 18.1**	**+1.5**
PBRG				*e*S		**Sn**	**05 39 22.3**	**-2.0**
PBRG				A		A	05 39 23.2	
	comp=N,3.7nm,0.4s							
GUD	**Guadarrama**	**6.22**	**44**	P		**Pn**	**05 38 20.5**	**+1.1**
GUD				S		**Sn**	**05 39 26.9**	**-2.5**
GUD				*i* Vmb_Lg			05 39 30.5	
UCM	**Universidad Co**	**6.55**	**50**	Pn		**Pn**	**05 38 25.3**	**+1.5**
UCM				Sn		**Sn**	**05 39 34.4**	**-2.8**
EAGO	**Agolada(Pontev**	**6.66**	**11**	P		**Pn**	**05 38 25.9**	**+0.5**
EAGO				S		**Sn**	**05 39 36.1**	**-3.9**
EAGO				*i* Vmb_Lg			05 39 41.4	
ETOB	**Tobarra**	**6.98**	**68**	P		**Pn**	**05 38 30.7**	**+0.9**
ETOB				S		**Sn**	**05 39 44.6**	**-3.3**
ETOB				*i* Vmb_Lg			05 40 29.8	
EMOS	**Mosqueruela**	**8.39**	**58**	P		**Pn**	**05 38 51.2**	**+1.9**
EMOS				S		**Sn**	**05 40 22.5**	**-0.4**
EMOS				*i* Vmb_Lg			05 40 57.3	

IDC 20 05:40:55.2±5.7,25°.47S×112°.66W,h0km,mb3.5/3, mbtmp3.5/3,MS3.3/3,Error ellipse: s-maj=469.2km s-min=114.4km az=101.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**36.34**	**75**	LR		LR	05 58 47.8	
	comp=Z,22nm,19.6s,baz=274,slow=30							
ATAH	**Atahualpa**	**37.43**	**67**	LR		LR	05 58 20.3	
	comp=Z,55nm,19.0s,baz=337,slow=28							
CMIG	**Matias Romero**	**45.70**	**24**	LR		LR	06 04 40.6	
	comp=Z,38nm,19.4s,baz=150,slow=31							
NVAR	**Mina Array Bea**	**63.78**	**355**	P		P	05 51 29.2	0.0
	0.3nm,0.7s,baz=188,slow=9.1,SNR=2.0							
	0.3nm,0.7s							
PDAR	**Pinedale Array**	**67.95**	**2**	P		P	05 51 56.9	+0.8
	0.5nm,0.7s,baz=174,slow=6.7,SNR=4.5							
	0.5nm,0.7s							
YKA	**Yellowknife Ar**	**87.67**	**359**	P		P	05 53 43.7	-1.4
	0.4nm,0.8s,baz=175,slow=5.1,SNR=6.7							
	0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**148.72**	**340**	PKPbc		PKPbc	06 00 44.1	0.0
	1.2nm,0.6s,baz=36,slow=3.6,SNR=3.5							

*IDC **20** 05:51:25.9±0.4,44°.65N×149°.22E,h0km,mb4.7/29, mbtmp4.6/34,ML4.5/4,MS4.0/67,Error ellipse: s-maj=12.8km s-min=11.2km az=134.0*
*BGR **20** 05:51:27.7,43°.84N×149°.66E,h33km,mb5.2*
*JMA **20** 05:51:28.9±1.1,45°.N±4°.×14°.9E±°,h30km,MD5.1/13, MW5.0/13,SE OFF ETOROFU*
*NIED **20** 05:51:28.9,44°.76N×149°.40E,h30km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.66; Mθθ-0.13; Mφφ-1.53; Mrθ0.62; Mφθ-0.85; Mφr1.35; Fault plane solution: M0 2.32000×10^16 NP1:φs25.00000°, δ65.00000°,λ90.00000°. NP2:φs206.00000°,δ25.00000°, λ91.00000°.*
*BJI **20** 05:51:28.4±0.0,44°.51N×149°.48E,h40km,mb5.0/76, mB5.0/43,Ms4.5/60,Ms7 4.4/61*
*SKHL **20** 05:51:30.6±0.6,44°.60N×149°.40E,h48km±2km,mb5.4/9, mbv5.1/2,ms4.5/8*
*MOS **20** 05:51:30.5±1.0,44°.59N×149°.20E,h42km,mb5.3/79,Error ellipse: s-maj=5.7km s-min=3.8km az=121.6*
*NEIC **20** 05:51:32.8±1.2,44°.59N±0°.09×149°.2E±0°.1,h45km±7km, mb5.0/98,Error ellipse: s-maj=14.8km s-min=10.3km az=134.0*
*GCMT **20** 05:51:32.8±0.4,44°.76N±0°.03×149°.42E±0°.04,h29km±1km, MW5.0/62,Moment Tensor Solution. s34,c37; s62,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.69±.20; Mθθ-1.51±.15; Mφφ-1.18±.13; Mrθ0.60±.22; Mφθ-2.08±.10; Mφr1.44±.17; Best double couple: M0 3.45800×10^16 NP1:φs34.00000°,δ59.00000°,λ74.00000°. NP2: φs243.00000°,δ35.00000°,λ115.00000°. Principal axes: T 3.1690, Plg71.0000°, Azm266.0000°; N 0.5790, Plg14.0000°, Azm42.0000°; P -3.7480, Plg13.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 05:51:32.2±0.3,44°.62N±0°.04×149°.26E±0°.03,h46km±2km, h46km:pP-P,n1150,σ1§24/1193,mb5.1/250,MS4.2/88, 51C-56D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.17**	**302**	*d* iPN		**Pn**	**05 51 51.3**	**-0.8**
KUR				*i* S		**Sn**	**05 52 05.9**	**-0.9**
KUR				pmax		pmax		
	comp=Z,9μm,0.5s							
KUR				pmax		pmax		
	comp=E,922nm,0.7s							
KUR				pmax		pmax		
	comp=N,3μm,0.6s							
KUR				smax		smax		
	comp=N,33μm,1.5s							
KUR				smax		smax		
	comp=E,23μm,2.4s							
KUR				smax		smax		
	comp=N,10μm,0.6s							
KUR				smax		smax		
	comp=E,6μm,0.4s							
KUR	**Kuril'sk**	**1.17**	**302**	*i* P		**Pn**	**05 51 51.6**	**-0.5**
KUR				AMB		AMB	05 51 52.1	
	comp=E,9μm,0.5s							
KUR				*i* S		**Sn**	**05 52 06.5**	**-0.3**
KUR				A		A	05 52 11.2	
	comp=E,33μm,2.4s							
KUR				A		A	05 52 11.2	
	comp=E,23μm,2.4s							
KUR				A		A	05 52 12.9	
	comp=E,11μm,0.6s							
KUR				A		A	05 52 12.9	
	comp=E,6μm,0.6s							
KUR				AMS		AMS	05 52 39.7	
	comp=E,19μm,11.0s							
KUR				AMS		AMS	05 52 39.7	
	comp=E,16μm,11.0s							
KUR				AMS		AMS	05 52 39.7	
	comp=E,21μm,11.0s							
SHO	**Shikotan**	**1.90**	**248**	*e*PN		**Pn**	**05 52 00.2**	**-1.9**
SHO				*e*S		**Sn**	**05 52 22.7**	**-2.2**
SHO				pmax		pmax		
	comp=Z,743nm,0.4s							
SHO				pmax		pmax		
	comp=N,339nm,0.3s							
SHO				pmax		pmax		
	comp=E,395nm,0.5s							
SHO				smax		smax		
	comp=E,4μm,0.7s							
SHO				smax		smax		
	comp=N,2μm,0.4s							
SHO	**Shikotan**	**1.90**	**248**	*e*P		**Pn**	**05 52 00.3**	**-1.9**
SHO				AMB		AMB	05 52 07.4	
	comp=N,750nm,0.3s							
SHO				*e*S		**Sn**	**05 52 23.0**	**-1.9**
SHO				A		A	05 52 32.2	
	comp=N,4μm,0.5s							
SHO				A		A	05 52 32.2	
	comp=N,6μm,0.5s							
SHO				AMS		AMS	05 52 46.0	
	comp=N,11μm,13.0s							
SHO				AMS		AMS	05 52 46.0	
	comp=N,9μm,13.0s							
SHO				AMS		AMS	05 52 46.0	
	comp=N,6μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**2.51**	**258**	*e*PN		**Pn**	**05 52 09.7**	**-0.8**
YUK				*e*S		**Sn**	**05 52 40.9**	**+1.1**
YUK				pmax		pmax		
	comp=Z,1μm,0.3s							
YUK				pmax		pmax		
	comp=E,348nm,0.1s							
YUK				pmax		pmax		
	comp=N,83nm,0.2s							
YUK				smax		smax		
	comp=N,5μm,0.5s							
YUK				smax		smax		
	comp=E,2μm,0.3s							
YUK				MLR		MLR		
	comp=Z,3μm,12.0s							
YUK				MLR		MLR		
	comp=E,4μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**2.51**	**258**	*e*P		**Pn**	**05 52 09.7**	**-0.8**
YUK				AMB		AMB	05 52 14.0	
	comp=E,1μm,0.3s							
YUK				*e*S		**Sn**	**05 52 39.1**	**-0.7**
YUK				A		A	05 52 51.9	
	comp=E,5μm,0.5s							
YUK				A		A	05 52 51.9	
	comp=E,2μm,0.5s							
YUK				AMS		AMS	05 53 17.0	
	comp=E,10μm,14.0s							
YUK				AMS		AMS	05 53 17.0	
	comp=E,9μm,14.0s							
NEM2	**Nemuro 2**	**2.83**	**245**	*e*P		**Pn**	**05 52 13.1**	**-1.9**
NEM2				*e*S		**Sn**	**05 52 45.2**	**-2.5**
NEM2	**Nemuro 2**	**2.83**	**245**	A		A	05 52 13.1	
	comp=E,5.0nm,4.3s,comp=N,4.0nm,2.6s							
NMR	**Nemuro--Hokkai**	**2.84**	**245**	*e*PN		**Pn**	**05 52 13.0**	**-2.0**
NMR				*e*S		**Sn**	**05 52 44.9**	**-3.1**
NMR	**Nemuro--Hokkai**	**2.84**	**245**	*e*P		**Pn**	**05 52 13.0**	**-2.0**
NMR				*e*S		**Sn**	**05 52 44.9**	**-3.1**
RUSJ	**Misakicho**	**2.93**	**261**	*e*PN		**Pn**	**05 52 16.9**	**+0.7**
RUSJ				*e*S		**Sn**	**05 52 52.6**	**+2.5**
JRA	**Rausu**	**3.05**	**259**	*e*P		**Pn

YSS	**Yuzh-Sakhalins**	**5.12**	**299**	*e*P		**Pn**	**05 52 47.4**	**+1.2**
YSS					AMB	AMB	05 52 49.3	
	comp=Z,300nm,4.5s							
YSS					AMB	AMB	05 52 49.7	
	comp=Z,130nm,0.6s							
YSS				*e*S		**Sn**	**05 53 44.8**	**+0.9**
YSS					A	A	05 53 51.3	
	comp=Z,140nm,0.5s							
YSS					A	A	05 53 51.3	
	comp=Z,140nm,0.5s							
YSS					AMS	AMS	05 54 46.0	
	comp=Z,1μm,17.0s							
YSS					AMS	AMS	05 54 46.0	
	comp=Z,2μm,17.0s							
YSS					AMS	AMS	05 54 46.0	
	comp=Z,4μm,17.0s							
JEM	**Erimo**	**5.16**	**242**	P		**Pn**	**05 52 48.0**	**+1.2**
JEM	**Erimo**	**5.16**	**242**	A		A	05 52 45.4	
	comp=E,4.0nm,1.1s,comp=N,8.0nm,1.2s							
ERM	**Erimo**	**5.16**	**242**	Pn		**Pn**	**05 52 47.1**	**+0.3**
ERM	**Erimo**	**5.16**	**242**	P		**Pn**	**05 52 47.6**	**+0.8**
ERM	**Erimo**	**5.16**	**242**	*ce*PN		**Pn**	**05 52 47.2**	**+0.3**
ERM					pmax	pmax		
	comp=Z,515nm,1.3s							
JWK2	**Keihoku**	**5.27**	**280**	*e*P		**Pn**	**05 52 51.2**	**+2.8**
JNBK	**Urakawa-nobuka**	**5.29**	**246**	*e*P		**Pn**	**05 52 47.5**	**-1.1**
JNBK	**Urakawa-nobuka**	**5.29**	**246**	A		A	05 52 47.5	
	comp=E,30nm,1.3s,comp=N,14nm,1.0s							
JSHD	**Hidakashinhida**	**5.41**	**248**	A		A	05 52 48.8	
	comp=E,16nm,1.1s,comp=N,12nm,2.7s							
JIAM	**Iburiatsuma**	**5.69**	**252**	A		A	05 52 52.5	
	comp=E,9.0nm,3.0s,comp=N,11nm,1.2s							
JISS	**Ishikarishitsu**	**5.82**	**259**	A		A	05 52 54.0	
	comp=E,10.0nm,1.7s,comp=N,9.0nm,2.5s							
JRBN	**Rebuntou**	**5.87**	**281**	*e*P		**Pn**	**05 52 58.6**	**+2.1**
JEW	**Eniwo**	**5.94**	**255**	A		A	05 52 55.8	
	comp=E,8.0nm,7.1s,comp=N,4.0nm,6.4s							
UGL	**Uglegorsk**	**6.65**	**315**	*e*PN		**Pn**	**05 53 07.6**	**+0.4**
UGL					pmax	pmax		
	comp=Z,81nm,0.8s							
UGL					MLR	MLR		
	comp=N,3μm,11.0s							
UGL					MLR	MLR		
	comp=E,1μm,8.0s							
UGL	**Uglegorsk**	**6.65**	**315**	*e*P		**Pn**	**05 53 09.0**	**+1.8**
UGL					AMB	AMB	05 53 10.7	
	comp=E,80nm,0.8s							
UGL				*e*S		**Sn**	**05 54 21.3**	**-0.3**
UGL					A	A	05 54 24.1	
	comp=E,110nm,0.6s							
UGL					A	A	05 54 24.1	
	comp=E,120nm,0.6s							
UGL					AMS	AMS	05 55 49.0	
	comp=E,3μm,11.0s							
UGL					AMS	AMS	05 55 49.0	
	comp=E,2μm,11.0s							
UGL					AMS	AMS	05 55 49.0	
	comp=E,4μm,11.0s							
JAHD	**Aomorihigashid**	**6.71**	**243**	A		A	05 53 06.6	
	comp=E,6.0nm,1.4s,comp=N,9.0nm,1.6s							
JOT	**Ohata**	**6.84**	**245**	A		A	05 53 08.2	
	comp=E,2.0nm,2.0s,comp=N,3.0nm,2.6s							
JTM	**Tenmabayashi**	**7.15**	**240**	Pn		**Pn**	**05 53 12.1**	**-2.0**
JTM	**Tenmabayashi**	**7.15**	**240**	P		**Pn**	**05 53 13.2**	**-0.9**
SKR	**Severo-Kuril's**	**7.63**	**35**	*ce*PN		**Pn**	**05 53 20.0**	**-0.6**
SKR	**Severo-Kuril's**	**7.63**	**35**	*e*P		**Pn**	**05 53 20.0**	**-0.6**
SKR					AMB	AMB	05 53 33.9	
	comp=N,200nm,0.7s							
TYV	**Tymovskoe**	**7.67**	**327**	*e*PN		**Pn**	**05 53 23.5**	**+2.3**
TYV					pmax	pmax		
	comp=Z,200nm,2.6s							
TYV					pmax	pmax		
	comp=Z,53nm,0.9s							
TYV	**Tymovskoe**	**7.67**	**327**	*e*P		**Pn**	**05 53 22.7**	**+1.5**
TYV					AMB	AMB	05 53 29.4	
	comp=Z,50nm,0.9s							
TYV				*e*S		**Sn**	**05 54 46.2**	**-0.4**
TYV					AMS	AMS	05 56 22.6	
	comp=Z,2μm,16.0s							
TYV					AMS	AMS	05 56 22.6	
	comp=Z,2μm,16.0s							
TYV					AMS	AMS	05 56 22.6	
	comp=Z,2μm,16.0s							
PAU	**Pauzhetka**	**8.51**	**34**	*e*P		**Pn**	**05 53 33.1**	**+0.4**
PAU					AMB	AMB	05 53 44.2	
	comp=Z,80nm,0.4s							
PAU				*e*S		**Sn**	**05 55 05.5**	**-1.8**
TEY	**Ternei**	**9.01**	**277**	*e*PN		**Pn**	**05 53 40.8**	**+1.2**
TEY					pmax	pmax		
	comp=E,100nm,1.0s							
TEY					pmax	pmax		
	comp=Z,100nm,1.0s							
TEY	**Ternei**	**9.01**	**277**	*e*P		**Pn**	**05 53 40.8**	**+1.2**
JMM	**Marumori**	**9.28**	**226**	Pn		**Pn**	**05 53 41.0**	**-2.3**
OKH	**Okha**	**9.85**	**337**	*e*P		**Pn**	**05 53 52.8**	**+1.8**
OKH				*e*S		**Sn**	**05 55 39.7**	**-0.4**
OKH					AMS	AMS	05 58 16.4	
	comp=Z,700nm,18.0s							
OKH					AMS	AMS	05 58 16.4	
	comp=Z,500nm,18.0s							
OKH					AMS	AMS	05 58 16.4	
	comp=Z,700nm,18.0s							
PEA0B	**Petropavlovsk-**	**10.14**	**30**	Pn		**Pn**	**05 53 56.7**	**+1.6**
PEA0B	**Petropavlovsk-**	**10.14**	**30**	*ce*PN		**Pn**	**05 53 52.8**	**-2.3**
PETK	**Petropavlovsk-**	**10.14**	**30**	Pn		**Pn**	**05 53 56.0**	**+0.9**
PETK	**Petropavlovsk-**	**10.14**	**30**	PN		**Pn**	**05 53 56.0**	**+0.9**
PETK	**Petropavlovsk-**	**10.14**	**30**	Pn		**Pn**	**05 53 55.1**	**0.0**
	comp=Z,0.9nm,0.3s,baz=107,slow=35,SNR=5.1							
PETK					Sn	**Sn**	**05 55 52.5**	**+5.2**
	comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=1.4							
NKL	**Nikolayevsk**	**10.23**	**330**	*e*PN		Pn	05 54 03.6	+7.4
NKL					pmax	pmax		
	comp=E,112nm,1.4s							
NKL					pmax	pmax		
	comp=N,113nm,1.0s							
NKL					pmax	pmax		
	comp=Z,128nm,1.5s							
NKL					MLR	MLR		
	comp=N,3μm,17.0s							
NKL					MLR	MLR		
	comp=E,7μm,20.0s							
NKL					MLR	MLR		
	comp=Z,5μm,20.0s							
NKL	**Nikolayevsk**	**10.23**	**330**	*e*P		**Pn**	**05 53 57.6**	**+1.4**
NKL					AMB	AMB	05 54 04.6	
	comp=Z,130nm,2.0s							
NKL				*e*S		**Sn**	**05 55 47.3**	**-2.1**
GRNR	**Gornyy**	**10.61**	**310**	⇓*i*PN		**Pn**	**05 54 04.8**	**+3.3**
GRNR					pmax	pmax		
	comp=Z,5.0nm,0.7s							
GRNR					MLR	MLR		
	comp=N,400nm,15.0s							
GRNR					MLR	MLR		
	comp=E,520nm,15.0s							
GRNR	**Gornyy**	**10.61**	**310**	*e*P		**Pn**	**05 54 04.8**	**+3.3**
MJB9	**Matsu-Tunnel**	**11.64**	**230**	Pn		**Pn**	**05 54 13.8**	**-1.9**
MAJO	**Matsushiro**	**11.64**	**230**	Pn		**Pn**	**05 54 13.2**	**-2.4**
MAJO	**Matsushiro**	**11.64**	**230**	P		**Pn**	**05 54 13.6**	**-2.1**
MAJO	**Matsushiro**	**11.64**	**230**	*i* PN		**Pn**	**05 54 11.8**	**-3.9**
MJAR	**Matsushiro Arr**	**11.64**	**230**	PN		**Pn**	**05 54 13.0**	**-2.7**
MJAR	**Matsushiro Arr**	**11.64**	**230**	Pn		**Pn**	**05 54 13.0**	**-2.7**
	comp=E,8.2nm,0.9s,baz=29,slow=13,SNR=16							
MJAR					Sn	**Sn**	**05 56 22.9**	**-1.4**
	comp=E,0.1nm,0.3s,baz=308,slow=42,SNR=1.3							
USA0B	**Ussuriysk Arra**	**12.37**	**274**			**Pn**	**05 54 25.8**	**+0.3**
USA0B	**Ussuriysk Arra**	**12.37**	**274**	*i* PN		**Pn**	**05 54 25.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**12.37**	**274**	Pn		**Pn**	**05 54 25.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**12.37**	**274**	PN		**Pn**	**05 54 25.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**12.37**	**274**	Pn		**Pn**	**05 54 26.5**	**+1.1**
	comp=E,1.5nm,0.3s,baz=87,slow=13,SNR=30							
USRK					Sn	**Sn**	**05 56 39.8**	**-1.9**
	comp=E,0.4nm,0.3s,baz=230,slow=45,SNR=2.5							
USRK					LR	LR	05 59 20.9	
	comp=E,1μm,18.8s,baz=90,slow=38							
KLR	**Kul'dur**	**12.82**	**297**	*i* PN		**Pn**	**05 54 32.4**	**+0.7**
KLR	**Kul'dur**	**12.82**	**297**	Pn		**Pn**	**05 54 35.2**	**+3.5**
	comp=E,0.4nm,0.3s,baz=103,slow=14,SNR=46							
KLR					LR	LR	05 59 51.9	
	comp=E,1μm,18.4s,baz=120,slow=40							
KLR	**Kul'dur**	**12.82**	**297**	*e*P		**Pn**	**05 54 31.0**	**-0.7**
JHJ	**Hachijo jima 2**	**13.64**	**216**	LR		LR	05 59 23.8	
	comp=E,129nm,21.9s,baz=74,slow=35							
MDJ	**Mudanjiang**	**14.01**	**277**	P		**Pn**	**05 54 48.3**	**+0.3**
MDJ				pP		P	05 54 57.0	+2.3
MDJ				sP			05 55 03.4	
MDJ				S		**Sn**	**05 57 24.8**	**+2.9**
MDJ				sS		S	05 57 36.6	-5.0
MDJ				ScP		**ScP**	**06 03 37.3**	**+1.8**
MDJ				PcS		**PcS**	**06 03 42.9**	**+2.4**
MDJ				pmax		pmax		
	comp=E,37nm,1.0s							
MDJ				pmax		pmax		
	comp=E,170nm,3.5s							
MDJ				LR		LR		
	comp=E,640nm,16.3s							
MDJ				LR		LR		
	comp=E,1μm,16.1s							
MDJ				LR		LR		
	comp=E,2μm,16.5s							
MDJ	**Mudanjiang**	**14.01**	**277**	Pn		**Pn**	**05 54 48.0**	**+0.1**
MDJ	**Mudanjiang**	**14.01**	**277**	P		**Pn**	**05 54 49.4**	**+1.4**
MA2	**Magadan**	**15.01**	**3**			**Pn**	**05 55 02.2**	**+1.1**
MA2	**Magadan**	**15.01**	**3**	P		**P**	**05 55 04.6**	**-1.1**
MA2	**Magadan**	**15.01**	**3**	*ce*P		**Pn**	**05 55 01.9**	**+0.9**
MA2					pmax	pmax		
	comp=Z,37nm,1.7s							
MA2	**Magadan**	**15.01**	**3**	Pn		**Pn**	**05 55 00.7**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=180,slow=15,SNR=8.2							
MA2					LR	LR	06 00 24.2	
	comp=Z,511nm,21.3s,baz=189,slow=36							
	comp=Z,8.2nm,0.6s							
BNX	**BinXian**	**15.45**	**282**	⇑P		**Pn**	**05 55 08.1**	**+1.2**
BNX					pmax	pmax		
	comp=Z,27nm,0.9s							
BNX					pmax	pmax		
	comp=Z,190nm,4.3s							
HEH	**HeiHe**	**15.80**	**299**	*e*P		**P**	**05 55 13.4**	**-1.1**
HEH				S		**Sn**	**05 58 07.4**	**+2.2**
HEH					pmax	pmax		
	comp=Z,52nm,0.8s							
HEH					pmax	pmax		
	comp=Z,300nm,5.4s							
HEH					LR	LR		
	comp=Z,440nm,16.0s							
HEH					LR	LR		
	comp=Z,1μm,16.4s							
HEH					LR	LR		
	comp=Z,2μm,17.0s							
ZEA	**Zeya**	**16.98**	**310**	*e*P		**P**	**05 55 27.7**	**+0.1**
ZEA					pmax	pmax		
	comp=E,30nm,0.8s							
ZEA					pmax	pmax		
	comp=N,30nm,0.6s							
ZEA					pmax	pmax		
	comp=Z,50nm,0.8s							
ZEA	**Zeya**	**16.98**	**310**	*e*P		**Pn**	**05 55 25.0**	**-1.2**
CN2	**Changchun**	**17.09**	**276**	*e*P		**P**	**05 55 28.3**	**-0.5**
CN2				*es*P		sP	05 55 43.0	-2.3
CN2				*e*S		**Sn**	**05 58 34.4**	**-2.1**
CN2					pmax	pmax		
	comp=Z,20nm,0.6s							
CN2					pmax	pmax		
	comp=Z,100nm,5.0s							
CN2					LR	LR		
	comp=Z,300nm,12.0s							
CN2					LR	LR		
	comp=Z,300nm,12.0s							
CN2					LR	LR		
	comp=Z,400nm,13.0s							
KSRS	**Korea Array**	**17.59**	**253**	P		**Pn**	**05 55 31.6**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=67,slow=11,SNR=27							
KSRS					LR	LR	06 02 36.7	
	comp=Z,894nm,18.4s,baz=60,slow=38							
	comp=Z,8.8nm,0.8s							
KS19	**Wonju Array Si**	**17.61**	**254**	P		**Pn**	**05 55 32.9**	**-1.2**
KSAR	**Wonju Array Be**	**17.62**	**253**	P		**Pn**	**05 55 33.2**	**-1.0**
KSAR	**Wonju Array Be**	**17.62**	**253**	P		**Pn**	**05 55 33.3**	**-1.0**
SHEM	**Shemya Is, Ala**	**18.23**	**55**	LR		LR	06 01 32.8	
	comp=Z,334nm,21.8s,baz=144,slow=33							
JNU	**Nakatsue**	**18.30**	**237**	P		**P**	**05 55 41.8**	**-0.6**
JNU	**Nakatsue**	**18.30**	**237**	P		**P**	**05 55 42.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=328,slow=0.5,SNR=5.9							
JNU					LR	LR	06 03 10.9	
	comp=Z,397nm,21.6s,baz=40,slow=38							
	comp=Z,16nm,1.0s							
SEY	**Seymchan**	**18.44**	**5**	*ce*P		**P**	**05 55 43.3**	**-0.2**
SEY					pmax	pmax		
	comp=Z,47nm,1.7s							
SEY	**Seymchan**	**18.44**	**5**	P		**P**	**05 55 43.5**	**0.0**
	comp=Z,1.0nm,0.3s,baz=196,slow=11,SNR=27							
SEY					LR	LR	06 03 23.2	
	comp=Z,510nm,18.7s,baz=182,slow=39							
	comp=Z,13nm,0.7s							
INCN	**Inchon**	**18.46**	**255**	P		**P**	**05 55 44.0**	**-0.1**
INCN	**Inchon**	**18.46**	**255**	P		**P**	**05 55 44.0**	**-0.1**
INCN					pmax	pmax		
	comp=Z,25nm,0.8s							
INCN	**Inchon**	**18.46**	**255**	P		**Pn**	**05 55 44.7**	**+0.1**
INCN	**Inchon**	**18.46**	**255**	*e*P		**P**	**05 55 44.0**	**-0.1**
TJN	**Taejon**	**18.54**	**251**	P		**P**	**05 55 44.0**	**-0.8**
TJN	**Taejon**	**18.54**	**251**	P		**Pn**	**05 55 47.1**	**+1.7**
TJN	**Taejon**	**18.54**	**251**	*i* P		**P**	**05 55 44.1**	**-0.8**
SNY	**Shenyang**	**18.90**	**271**	⇑P		**P**	**05 55 49.0**	**+0.2**
SNY					S	**Sn**	**05 59 13.6**	**-6.7**
SNY					pmax	pmax		
	comp=Z,12nm,0.7s							
SNY					pmax	pmax		
	comp=Z,100nm,1.5s							
SNY					LR	LR		
	comp=Z,360nm,16.8s							
SNY					LR	LR		
	comp=Z,510nm,17.8s							
SNY					LR	LR		
	comp=Z,740nm,18.6s							
YAK	**Yakutsk**	**20.85**	**334**	P		**P**	**05 56 08.6**	**-1.1**
YAK	**Yakutsk**	**20.85**	**334**	*e*P		**P**	**05 56 08.5**	**-1.2**
YAK				*e**PP		**pP**	**05 56 20.5**	**-0.1**
YAK				*e*			05 56 27.8	
YAK				*e*S		**S**	**05 59 57.5**	**-1.9**
YAK				*e**SS		**sS**	**06 00 13.9**	**-1.9**
YAK				*e*SS		**SnSn**	**06 00 35.9**	**+14**
YAK				*e*			06 07 32.1	
YAK					pmax	pmax		
	comp=Z,59nm,1.1s							
YAK					pmax	pmax		
	comp=N,18nm,1.2s							
YAK					pmax	pmax		
	comp=E,11nm,1.2s							
YAK					pmax	pmax		
	comp=Z,77nm,0.9s							
YAK					pmax	pmax		
	comp=N,57nm,1.6s							
YAK					pmax	pmax		
	comp=E,55nm,1.9s							
YAK					smax	smax		
	comp=E,107nm,3.8s							
YAK					smax	smax		
	comp=N,93nm,2.2s							
YAK	**Yakutsk**	**20.85**	**334**	P		**P**	**05 56 09.1**	**-0.6**
	comp=N,2.1nm,0.5s,baz=334,slow=1.3,SNR=14							
YAK					LR	LR	06 04 41.1	
	comp=N,31nm,19.0s,baz=123,slow=38							
XLT	**XiLinHaoTe**	**23.69**	**280**	*e*P		**P**	**05 56 39.0**	**-0.7**
XLT				pP		pP	05 56 48.8	-2.6
XLT				sP		sP	05 56 54.5	-2.4
XLT				PP		**PnPn**	**05 57 09.5**	**+1.0**
XLT				S		**S**	**06 00 50.0**	**-1.3**
XLT				sS		sS	06 01 05.3	-4.8
XLT				SS		**SnSn**	**06 01 43.6**	**+12**
XLT				pmax		pmax		
	comp=N,30nm,1.2s							
XLT				pmax		pmax		
	comp=N,120nm,5.1s							
XLT				LR		LR		
	comp=N,75nm,16.2s							
XLT				LR		LR		
	comp=N,650nm,14.9s							
XLT				LR		LR		
	comp=N,750nm,13.2s							
JOW	**Kunigami**	**24.49**	**231**	P		**P**	**05 56 47.1**	**+0.1**
JOW				IAmb		IAmb	05 56 49.1	
	comp=Z,79nm,1.0s							
JOW	**Kunigami**	**24.49**	**231**	P		**P**	**05 56 48.8**	**+1.8**
BJI	**Beijing**	**24.78**	**271**	P		**P**	**05 56 49.3**	**-0.3**
BJI				sP		**sP**	**05 57 05.9**	**-0.9**
BJI				S		**S**	**06 01 10.9**	**+2.2**
BJI				sS		**sS**	**06 01 27.6**	**+0.1**
BJI				pmax		pmax		
	comp=Z,14nm,0.8s							
BJI				pmax		pmax		
	comp=Z,120nm,4.3s							
BJI				LR		LR		
	comp=Z,150nm,14.8s							
BJI				LR		LR		
	comp=Z,260nm,19.7s							
BJI				LR		LR		
	comp=Z,400nm,18.4s							
BJT	**Baijiatuau**	**24.80**	**271**	P		**P**	**05 56 50.7**	**+1.0**
BJT	**Baijiatuau**	**24.80**	**271**	P		**P**	**05 56 49.6**	**-0.1**
BJT					pmax	pmax		
	comp=Z,32nm,0.9s							
BILL	**Bilibino**	**25.11**	**15**	P		**P**	**05 56 51.1**	**-1.2**
BILL	**Bilibino**	**25.11**	**15**	*i* P		**P**	**05 56 49.8**	**-2.5**
BILL					pmax	pmax		
	comp=Z,9.0nm,1.0s							
BOD	**Bodaibo**	**25.39**	**314**	*e*P		**P**	**05 56 52.0**	**-2.9**
BOD					pmax	pmax		
	comp=Z,19nm,2.0s							
TIA	**Tai'an**	**25.74**	**262**	⇑P		**P**	**05 56 58.0**	**-0.3**
TIA					pmax	pmax		
	comp=Z,27nm,1.1s							
TIA					LR	LR		
	comp=Z,160nm,16.2s							
TIA					LR	LR		
	comp=Z,220nm,20.6s							
TIA					LR	LR		
	comp=Z,330nm,20.6s							
SSE	**Sheshan**	**25.81**	**248**	P		**P**	**05 56 59.3**	**+0.4**
SSE				S		**S**	**06 01 26.4**	**+1.3**
SSE					pmax	pmax		
	comp=Z,12nm,0.7s							
SSE					pmax	pmax		
	comp=Z,120nm,6.9s							
SSE					LR	LR		
	comp=Z,150nm,19.2s							
SSE					LR	LR		
	comp=Z,220nm,19.2s							
NJ2	**Nanjing**	**26.79**	**253**	*e*P		**P**	**05 57 07.3**	**-0.5**
NJ2				pP		**pP**	**05 57 17.8**	**-1.7**
NJ2				sP		**sP**	**05 57 25.8**	**+1.0**
NJ2					pmax	pmax		
	comp=Z,17nm,0.9s							
NJ2					pmax	pmax		
	comp=Z,140nm,3.5s							
NJ2					LR	LR		
	comp=Z,480nm,17.5s							
NJ2					LR	LR		
	comp=Z,700nm,19.0s							
NJ2					LR	LR		
	comp=Z,970nm,18.5s							
HNS	**HongShan**	**26.91**	**267**	⇑P		**P**	**05 57 08.9**	**+0.1**
HNS				S		**S**	**06 01 44.5**	**+2.1**
HNS					pmax	pmax		
	comp=Z,50nm,1.1s							
HNS					LR	LR		
	comp=Z,530nm,21.1s							
HNS					LR	LR		
	comp=Z,310nm,17.3s							
HHC	**Hu-ho-hao-te**	**27.78**	**276**	⇑P		**P**	**05 57 17.3**	**+0.5**
HHC				pP		pP	05 57 28.0	-0.6
HHC				S		**S**	**06 01 57.1**	**+0.7**
HHC				sS		sS	06 02 13.5	-1.8
HHC					pmax	pmax		
	comp=Z,57nm,0.9s							
HHC					pmax	pmax		
	comp=Z,370nm,4.1s							
HHC					LR	LR		
	comp=Z,390nm,15.7s							
HHC					LR	LR		
	comp=Z,1μm,16.2s							
HHC					LR	LR		
	comp=Z,2μm,16.0s							
SPIA	**Saint Paul Isl**	**28.01**	**49**	P		**P**	**05 57 19.6**	**+1.2**
	baz=261							
P08K	**Saint George I**	**28.30**	**50**	P		**P**	**05 57 21.6**	**+0.5**
	baz=263							
NIKH	**Nikolski High**	**28.47**	**58**	P		**P**	**05 57 24.4**	**+1.7**
	baz=270							
H11N2	**WAKE ISLAND Hy**	**28.83**	**144**	T		T	06 28 16.6	
	baz=334,slow=76,SNR=1460							
TIXI	**Tiksi**	**28.84**	**347**	P		**P**	**05 57 23.0**	**-2.7**
TIXI				IAmb		IAmb	05 57 24.1	
	comp=Z,13nm,0.6s							
TIXI	**Tiksi**	**28.84**	**347**	*ce*P		**P**	**05 57 23.1**	**-2.6**
TIXI					pmax	pmax		
	comp=Z,11nm,0.6s							
TIXI	**Tiksi**	**28.84**	**347**	LR		LR	06 09 13.4	
	comp=Z,13nm,21.1s,baz=175,slow=37							
H11N1	**WAKE ISLAND Hy**	**28.85**	**144**	T		T	06 28 14.0	
	baz=334,slow=76,SNR=336							
H11N3	**WAKE ISLAND Hy**	**28.85**	**144**	T		T	06 28 11.4	
	baz=334,slow=76,SNR=1446							
BTO	**Baotou**	**28.96**	**276**	*e*P		**P**	**05 57 29.5**	**+2.2**
BTO				pP		**pP**	**05 57 41.4**	**+2.2**
BTO				sP		**sP**	**05 57 46.9**	**+2.4**
BTO				PP		**PnPn**	**05 58 19.3**	**-1.2**
BTO				S		**S**	**06 02 20.3**	**+5.3**
BTO				pmax		pmax		
	comp=Z,38nm,0.8s							
BTO				pmax		pmax		
	comp=Z,320nm,8.9s							
BTO				LR		LR		
	comp=Z,790nm,13.6s							
BTO				LR		LR		
	comp=Z,1μm,15.0s							
BTO				LR		LR		
	comp=Z,2μm,15.9s							
ULN	**Ulaanbaatar**	**29.11**	**292**	P		**P**	**05 57 28.7**	**+0.1**
ULN	**Ulaanbaatar**	**29.11**	**292**	*i* P		**P**	**05 57 28.6**	**0.0**
ULN					pmax	pmax		
	comp=Z,10.0nm,0.9s							
ULN	**Ulaanbaatar**	**29.11**	**292**	P		**P**	**05 57 29.2**	**+0.6**
ULN				P		**P**	**05 57 29.2**	**+0.6**
ULN	**Ulaanbaatar**	**29.11**	**292**	*e*P		**P**	**05 57 28.6**	**0.0**
ULN	**Ulaanbaatar**	**29.11**	**292**	P		**P**	**05 57 29.1**	**+0.5**
	comp=Z,48nm,1.1s							
GAMB	**Gambell**	**29.12**	**35**	P		**P**	**05 57 28.9**	**+0.6**
	baz=248							
SONM	**Songino Array**	**29.55**	**292**	P		**P**	**05 57 32.2**	**-0.3**
SONM	**Songino Array**	**29.55**	**292**	P		**P**	**05 57 32.9**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=80,slow=7.9,SNR=40							
SONM				PcP		**PcP**	**06 00 36.2**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=40,slow=8.0,SNR=2.4							
SONM					LR	LR	06 10 33.8	
	comp=Z,725nm,18.1s,baz=73,slow=39							
	comp=Z,5.7nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**29.84**	**145**	T		T	06 29 31.5	
	baz=335,slow=76,SNR=1225							
H11S3	**WAKE ISLAND Hy**	**29.85**	**145**	T		T	06 29 27.3	
	baz=335,slow=76,SNR=1143							
H11S2	**WAKE ISLAND Hy**	**29.86**	**145**	T		T	06 29 31.8	
	baz=335,slow=76,SNR=453							
LYN	**LuoYang**	**29.86**	**263**	⇓P		**P**	**05 57 35.8**	**+0.6**
LYN				pP		pP	05 57 44.8	-2.4
LYN				S		**S**	**06 02 30.0**	**+1.0**
LYN					pmax	pmax		
	comp=Z,20nm,0.8s							
LYN					pmax	pmax		
	comp=Z,270nm,4.3s							
LYN					LR	LR		
	comp=Z,330nm,15.5s							
LYN					LR	LR		
	comp=Z,440nm,15.5s							
LYN					LR	LR		
	comp=Z,730nm,19.2s							
UNV	**Unalaska Valle**	**29.88**	**56**	P		**P**	**05 57 35.6**	**+0.6**
	baz=270				

baz=251
ANM Nome 32.00 35 P P 05 57 55.1 +1.4
ANM IAmb IAmb 05 57 55.9
comp=Z,26nm,1.6s
ANM Nome 32.00 35 P P 05 57 55.1 +1.4
ANM pmax pmax
comp=Z,26nm,1.6s
ANM Nome 32.00 35 P P 05 57 55.5 +1.8
baz=254,SNR=7.0
M13K Dall Lake 32.04 44 P P 05 57 53.7 -0.3
baz=262
J14K Nanvaranak Lak 32.34 39 P P 05 57 56.9 +0.3
baz=258
L14K Kuka Creek 32.50 42 P P 05 57 59.6 +1.6
L14K IAmb IAmb 05 58 16.5
comp=Z,22nm,1.1s
L14K Kuka Creek 32.50 42 P P 05 57 58.5 +0.5
baz=261
F15K North Star Dit 32.63 34 P P 05 58 00.4 +1.2
baz=253
XAN Xi'an 32.65 265 ⇑P P 05 57 59.4 -0.4
XAN pP pP 05 58 09.8 -2.0
XAN pmax pmax
comp=Z,23nm,0.8s
XAN pmax pmax
comp=Z,110nm,4.2s
XAN LR LR
comp=Z,440nm,18.0s
XAN LR LR
comp=Z,430nm,15.8s
XAN LR LR
comp=Z,550nm,20.4s
G15K Niukluk 32.67 35 P P 05 58 00.6 +1.1
baz=254
M14K Bethel 32.77 43 P P 05 58 01.9 +1.5
M14K IAmb IAmb 05 58 18.6
comp=Z,25nm,1.1s
M14K Bethel 32.77 43 P P 05 58 01.5 +1.1
baz=263
N14K Kuskokwak Cree 32.81 45 P P 05 58 01.0 +0.2
baz=264
O14K Tigyukauivet M 32.97 46 P P 05 58 02.9 +0.8
baz=266
L15K Ungalak Mounta 33.11 41 P P 05 58 04.2 +0.7
baz=262
K15K Wolf Creek Mou 33.18 40 P P 05 58 04.0 -0.1
baz=261
C16K Lisburne Hills 33.24 29 P P 05 58 04.5 +0.1
C16K IAmb IAmb 05 58 07.0
comp=Z,12nm,0.8s
C16K Lisburne Hills 33.24 29 P P 05 58 04.6 +0.1
baz=248,SNR=14
H16K Elim 33.32 36 P P 05 58 05.4 +0.2
baz=257,SNR=9.0
SDPT Sand Point 33.35 53 P P 05 58 05.8 +0.3
baz=273
M15K Kasigluk River 33.38 43 P P 05 58 06.5 +0.7
baz=264
G16K Koyuk River 33.46 35 P P 05 58 06.5 +0.1
G16K Koyuk River 33.46 35 P P 05 58 07.4 +1.0
baz=256
N15K Kwethluk River 33.63 44 P P 05 58 08.2 +0.2
baz=266
O15K Ungalikthiuk R 33.70 46 P P 05 58 08.3 -0.3
baz=267
J16K Anvik River 33.77 39 P P 05 58 10.4 +1.3
baz=260
I17K Unalakleet 33.83 38 P P 05 58 10.7 +1.0
I17K IAmb IAmb 05 58 14.2
comp=Z,40nm,1.9s
I17K Unalakleet 33.83 38 P P 05 58 10.0 +0.4
baz=260
CHNA Chernabura Isl 33.89 54 P P 05 58 10.8 +0.6
baz=274
C17K DeLong Mountai 34.06 29 P P 05 58 12.1 +0.4
baz=250
L16K Owhat River 34.07 42 P P 05 58 12.2 +0.5
L16K IAmb IAmb 05 58 15.6
comp=Z,14nm,1.1s
L16K Owhat River 34.07 42 P P 05 58 12.6 +0.8
baz=264
E17K Hotham Inlet 34.12 32 P P 05 58 13.1 +1.0
baz=254,SNR=21
F17K Baldwin Pennin 34.16 33 P P 05 58 13.3 +0.8
F17K IAmb IAmb 05 58 16.7
comp=Z,24nm,0.8s
F17K Baldwin Pennin 34.16 33 P P 05 58 13.2 +0.8
baz=255
G17K Kiwalik Mounta 34.17 35 P P 05 58 13.4 +0.8
baz=257
M16K Timber Creek 34.25 43 P P 05 58 13.5 +0.1
baz=265
N16K Nishlik Lake 34.31 44 P P 05 58 12.4 -1.4
baz=266
ENH Enshi 34.32 259 P P 05 58 14.1 -0.2
comp=Z,39nm,0.6s
H17K Granite Mounta 34.36 36 P P 05 58 12.8 -1.5
baz=259
CHGN Chignik 34.46 51 P P 05 58 14.0 -1.2
baz=273
P16K Nushagak River 34.64 46 P P 05 58 17.8 +1.0
baz=269
E18K Tukpahlearik C 34.67 31 P P 05 58 18.0 +1.1
baz=254
L17K Donlin 34.67 41 P P 05 58 17.8 +0.9
baz=264
K17K Iditarod 34.73 40 P P 05 58 18.1 +0.6
baz=264
C18K Utukok River 34.81 29 P P 05 58 18.4 +0.2
baz=252
F18K Selawik 34.82 33 P P 05 58 18.7 +0.5
baz=257
B18K Kokolik River 34.83 28 P P 05 58 18.8 +0.6
baz=251
M17K Holitna River 35.01 42 P P 05 58 21.1 +1.2
baz=266
H18K Honhosa River 35.05 36 P P 05 58 21.0 +0.8
H18K IAmb IAmb 05 58 24.3
comp=Z,24nm,0.9s
H18K Honhosa River 35.05 36 P P 05 58 21.5 +1.3
baz=260,SNR=11
G18K Tagagawik 35.07 34 P P 05 58 21.4 +1.1
G18K IAmb IAmb 05 58 22.3
comp=Z,26nm,1.1s
G18K Tagagawik 35.07 34 P P 05 58 21.4 +1.1
baz=259,SNR=17
N17K Nushagak Hills 35.09 44 P P 05 58 22.2 +1.6
N17K IAmb IAmb 05 58 38.5
comp=Z,23nm,1.2s
N17K Nushagak Hills 35.09 44 P P 05 58 22.0 +1.4
baz=268
O17K Koliganek Bris 35.11 45 P P 05 58 21.4 +0.6
baz=269
LZH Lanzhou 35.26 272 ⇑P P 05 58 23.1 +0.5
LZH sP sP 05 58 39.3 -0.7
LZH pmax pmax
comp=Z,140nm,1.6s
LZH LR LR
comp=Z,240nm,12.7s
LZH LR LR
comp=Z,350nm,12.7s
LZH LR LR
comp=Z,480nm,14.8s
A19K Wainwright 35.35 27 P P 05 58 23.5 +0.8
baz=250
L18K Granite Mounta 35.43 41 P P 05 58 24.7 +1.2
L18K IAmb IAmb 05 58 42.2
comp=Z,31nm,1.1s
L18K Granite Mounta 35.43 41 P P 05 58 23.7 +0.3
baz=266
C19K Lookout Ridge 35.50 29 P P 05 58 24.9 +0.8
baz=253
J18K Innoko River 35.52 39 P P 05 58 24.9 +0.6
J18K IAmb IAmb 05 58 26.2
comp=Z,17nm,1.1s
J18K Innoko River 35.52 39 P P 05 58 24.8 +0.5
baz=264
F19K Shaleruckik Mo 35.60 33 P P 05 58 25.5 +0.6
baz=258
GCSA Galena City Sc 35.61 37 P P 05 58 25.7 +0.8
baz=262
N18K Kilae Creek 35.73 44 P P 05 58 27.0 +0.8
baz=269
G19K Purcell Mounta 35.74 34 P P 05 58 26.4 +0.3
baz=260
M18K Stony River 35.79 42 P P 05 58 27.1 +0.5
baz=268
TTA Tatalina 35.79 40 P P 05 58 27.7 +1.0
TTA pmax pmax
comp=Z,21nm,1.1s
TTA Tatalina 35.79 40 P P 05 58 27.9 +1.2
baz=266,SNR=11
D19K Kuna River 35.85 30 P P 05 58 27.2 +0.1
baz=256
H19K Roundabout Mou 35.90 35 P P 05 58 28.1 +0.6
baz=262
E19K Redstone River 35.94 32 P P 05 58 28.8 +1.0
baz=258,SNR=34
CHIR Chirikof Islan 36.06 52 P P 05 58 29.0 0.0
baz=276
J19K Poorman 36.06 38 P P 05 58 29.5 +0.6
baz=264
P18K Big Mountain, 36.06 46 P P 05 58 29.3 +0.3
baz=271
O18K Koktuh Hills 36.07 45 P P 05 58 29.2 +0.2
baz=270
L19K White Mountain 36.28 41 P P 05 58 31.0 +0.2
baz=268
N19K Bonanza Creek 36.43 43 P P 05 58 32.2 0.0
baz=270
F20K Avaraart Lake 36.44 33 P P 05 58 31.9 -0.1
baz=260
D20K Etivluk River 36.44 30 P P 05 58 32.3 +0.2
baz=257
E20K Nigu River 36.49 31 P P 05 58 33.0 +0.4
baz=258
H20K Anotleneega Mo 36.54 35 P P 05 58 34.2 +1.2
baz=263
B20K Meade River 36.57 28 P P 05 58 34.1 +1.0
baz=255
GTA Gaotai 36.65 280 P P 05 58 34.9 +0.5
GTA pP pP 05 58 45.9 -0.3
GTA PcP **PcP 06 00 57.8 +1.3**
GTA pmax pmax
comp=Z,42nm,0.9s
GTA LR LR
comp=Z,240nm,14.9s
GTA LR LR
comp=Z,470nm,16.0s
GTA LR LR
comp=Z,440nm,15.6s
K20K Telida 36.70 39 P P 05 58 35.5 +1.1
baz=267
J20K Nowinta River 36.72 38 P P 05 58 35.4 +0.9
baz=266
L20K Farewell, AK 36.75 41 P P 05 58 35.2 +0.4
baz=268
SII Sitkinak Islan 36.79 50 P P 05 58 36.2 +1.0
baz=276
GULI GuiLin 36.82 252 P P 05 58 30.3 -5.5
Q19K Cape Douglas, 36.90 46 P P 05 58 36.0 -0.1
baz=273
IMAR Indian Mountai 37.07 35 P P 05 58 38.5 +1.1
P19K Oil Pt 37.07 45 P P 05 58 37.4 -0.2
baz=272
M20K Styx River 37.09 42 P P 05 58 39.3 +1.6
M20K IAmb IAmb 05 58 56.5
comp=Z,22nm,1.0s
M20K Styx River 37.09 42 P P 05 58 38.1 +0.3
baz=270,SNR=6.7
A21K Barrow 37.10 26 P P 05 58 38.0 +0.3
baz=254,SNR=14
C21K Knifeblade Rid 37.18 29 P P 05 58 39.0 +0.7
baz=258
OHAK Old Harbor 37.21 49 P P 05 58 39.4 +0.7
baz=276
G21K Allakaket 37.23 34 P P 05 58 39.6 +0.8
baz=263
F21K Alatna River 37.33 33 P P 05 58 40.8 +1.2
F21K IAmb IAmb 05 58 44.5
comp=Z,13nm,0.9s
F21K Alatna River 37.33 33 P P 05 58 41.0 +1.3
baz=262
E21K Killik River 37.33 31 P P 05 58 40.7 +1.0
baz=260
B21K Ikpikpuk River 37.34 29 P P 05 58 40.0 +0.4
baz=258
O20K Slope Mountain 37.36 45 P P 05 58 40.9 +0.8
baz=272
H21K Melozitna River 37.42 35 P P 05 58 41.2 +0.7
baz=265
CHUM Lake Minchumin 37.51 38 P P 05 58 41.6 +0.4
baz=268,SNR=6.9
N20K Mount Spurr 37.53 43 P P 05 58 42.3 +0.8
baz=271,SNR=5.5
A22K Sinclair Lake 37.53 26 P P 05 58 41.5 +0.2
baz=256
KDAK Kodiak Island 37.54 48 P P 05 58 41.8 +0.3
baz=275
KDAK Kodiak Island 37.54 48 P P 05 58 41.4 -0.1
PPLA Purkeypile 37.54 40 P P 05 58 43.1 +1.5
baz=269,SNR=7.7
Q20K Shuyak Island 37.57 47 P P 05 58 41.8 +0.1
baz=274
CAST Castle Rocks 37.60 39 P P 05 58 43.0 +1.0
CAST IAmb IAmb 05 58 44.5
comp=Z,17nm,0.9s
CAST Castle Rocks 37.60 39 P P 05 58 42.8 +0.8
baz=268,SNR=13
I21K Tanana 37.73 36 P P 05 58 44.0 +1.0
I21K IAmb IAmb 05 58 44.9
comp=Z,13nm,0.7s
I21K Tanana 37.73 36 P P 05 58 43.8 +0.8
baz=266,SNR=14
SKT Skwentna 37.84 41 P P 05 58 45.3 +1.2
SKT Skwentna 37.84 41 P P 05 58 44.2 +0.1
baz=271
F22K John River 37.87 32 P P 05 58 44.7 +0.5
baz=263
D22K Ayikyak River 37.87 30 P P 05 58 45.3 +1.1
baz=261
B22K Teekpuk Lake 37.89 28 P P 05 58 45.4 +1.1
baz=258
CD2 Chengdu 38.00 265 P P 05 58 44.5 -1.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
H22K Ishtalitna Cre 38.03 35 P P 05 58 46.0 +0.5
baz=266
G22K Bettles 38.06 33 P P 05 58 46.9 +1.1
baz=264
BPAW Bear Paw Mtn. 38.10 38 P P 05 58 47.2 +1.0
BPAW IAmb IAmb 05 59 04.0
comp=Z,13nm,1.0s
BPAW Bear Paw Mtn. 38.10 38 P P 05 58 46.8 +0.6
baz=269,SNR=5.4
KTH Kantishna Hill 38.12 39 P P 05 58 47.1 +0.6
SUA Susitna One 38.23 42 P P 05 58 47.6 +0.2
SUA IAmb IAmb 05 59 07.7
comp=Z,11nm,1.0s
SUA Susitna One 38.23 42 P P 05 58 47.5 0.0
baz=272
MLY Manley 38.24 36 P P 05 58 47.6 +0.2
baz=268,SNR=17
BRSE Bradley Lake S 38.33 45 P P 05 58 48.3 +0.1
baz=274
TRF Thorofare Moun 38.41 39 P P 05 58 49.5 +0.5
baz=270
CUT Chulitna 38.43 41 P P 05 58 49.5 +0.5
baz=271
COLD Coldfoot 38.60 33 P P 05 58 50.8 +0.5
baz=265,SNR=15
D23K Nanushuk River 38.60 30 P P 05 58 50.6 +0.3
baz=263
GYA Guiyang 38.61 257 ⇓P P 05 58 50.9 -0.1
GYA S S 06 04 43.5 -0.7
GYA pmax pmax
comp=Z,31nm,1.0s
GYA pmax pmax
comp=Z,74nm,3.5s
GYA LR LR
comp=Z,200nm,14.6s
GYA LR LR
comp=Z,120nm,12.8s
GYA LR LR
comp=Z,220nm,23.2s
G23K Bananza Creek 38.63 34 P P 05 58 51.0 +0.3
baz=266
RC01 Rabbit Creek A 38.73 43 P P 05 58 52.2 +0.7
baz=274
O22K Cooper Landing 38.78 44 P P 05 58 52.8 +0.8
baz=274
I23K Minto, Yukon-K 38.83 36 P P 05 58 52.9 +0.6
baz=269,SNR=6.9
E23K Chandalar 38.89 32 P P 05 58 53.2 +0.3
baz=265
NEA2 Nenana 38.95 37 P P 05 58 53.6 +0.3
baz=270,SNR=11
SEW Seward 38.95 44 P P 05 58 54.0 +0.7
baz=275
PMR Palmer 39.00 42 P P 05 58 55.2 +1.5
PMR Palmer 39.00 42 P P 05 58 54.3 +0.6
baz=273
MCK McKinley 39.01 39 P P 05 58 54.9 +1.0
baz=271,SNR=6.0
WAT1 Susitna Watana 39.21 40 P P 05 58 56.0 +0.5
baz=272
NRIK Noril'sk 39.23 330 *ce* **P P 05 58 52.5 -3.1**
NRIK pmax pmax
comp=Z,7.0nm,1.3s
NRIK Noril'sk 39.23 330 P P 05 58 53.4 -2.2
comp=Z,1.8nm,0.5s,baz=93,slow=9.9,SNR=4.1
NRIK LR LR 06 15 49.0
comp=Z,326nm,20.9s,baz=106,slow=37
comp=Z,1.8nm,0.5s
D24K Happy Valley 39.29 30 P P 05 58 56.9 +0.8
baz=264
KNK Knik Glacier 39.33 42 P P 05 58 56.9 +0.3
baz=274,SNR=8.7
SML Sawmill 39.36 42 P P 05 58 57.1 +0.3
baz=274,SNR=14
C24K Franklin Bluff 39.39 29 P P 05 58 56.7 -0.2
baz=264
H24K Noodor Dome 39.46 35 P P 05 58 57.7 0.0
baz=269
COLA College 39.47 37 P P 05 58 59.0 +1.4
COLA College 39.47 37 P P 05 58 58.8 +1.2
COLA pmax pmax
comp=Z,31nm,0.9s
COLA College 39.47 37 P P 05 58 58.4 +0.8
baz=270
COLA College 39.47 37 P P 05 58 58.5 +0.9
COLA pP **pP 05 59 10.3 +0.9**
COLA sP **sP 05 59 15.3 +0.7**
F24K Squaw Lake 39.51 33 P P 05 58 58.4 +0.4
baz=267
WAT6 Susitna Watana 39.59 40 P P 05 58 58.9 0.0
baz=273
G24K Hadweenzic Riv 39.64 34 P P 05 58 59.5 +0.4
baz=269
POKR Poker Plat Res 39.64 36 P P 05 58 60.0 +0.9
baz=270,SNR=11
M23K Glacier View 39.65 42 P P 05 58 59.7 +0.5
baz=274
DHY Denali Highway 39.73 40 P P 05 59 00.8 +0.8
baz=273,SNR=7.0
SCM Sheep Creek Mo 39.84 41 P P 05 59 01.6 +0.8
baz=275
HDA Harding Lake 39.87 37 P P 05 59 00.7 -0.2
HDA IAmb IAmb 05 59 18.2
comp=Z,34nm,1.3s
HDA Harding Lake 39.87 37 P P 05 59 01.2 +0.3
baz=272,SNR=10
IL31 39.88 37 P P 05 59 01.1 +0.1
IL31 IAmb IAmb 05 59 19.8
comp=Z,15nm,1.1s
ILAR Eielson Array 39.88 37 P P 05 59 01.4 +0.3
ILAR Eielson Array 39.88 37 P P 05 59 01.4 +0.3
ILAR Eielson Array 39.88 37 P P 05 59 01.3 +0.2
comp=Z,9.9nm,1.0s,baz=269,slow=8.7,SNR=55
comp=Z,9.9nm,1.0s
P23K Montague Islan 39.98 44 P P 05 59 02.6 +0.7
baz=277
D25K Kavik River 40.17 30 P P 05 59 04.3 +0.8
baz=266
G25K Bearman Lake 40.19 34 P P 05 59 04.8 +1.3
baz=270
M24K Tolsona, Glenn 40.36 41 P P 05 59 06.0 +0.9
baz=275
F25K Christian Rive 40.37 32 P P 05 59 06.6 +1.4
baz=269
K24K Donnelly Dome 40.41 38 P P 05 59 06.0 +0.5
baz=274,SNR=14
E25K Arctic Village 40.41 32 P P 05 59 07.0 +1.5
E25K IAmb IAmb 05 59 08.2
comp=Z,34nm,1.6s
E25K Arctic Village 40.41 32 P P 05 59 06.5 +1.1
baz=269,SNR=11
PRP Porcupine Dome 40.44 36 P P 05 59 07.0 +1.2
PRP IAmb IAmb 05 59 23.9
comp=Z,19nm,1.0s
PRP Porcupine Dome 40.44 36 P P 05 59 07.0 +1.2
baz=272,SNR=16
KLU Klutina 40.54 42 P P 05 59 07.5 +0.9
KLU IAmb IAmb 05 59 25.2
comp=Z,24nm,1.1s
KLU Klutina 40.54 42 P P 05 59 08.1 +1.4
baz=276,SNR=7.3
J25K Salcha River, 40.54 37 P P 05 59 06.8 +0.2
baz=273
Q23K Middleton Isla 40.58 45 P P 05 59 07.2 +0.3
baz=278
PAX Paxson 40.61 40 P P 05 59 07.9 +0.7
baz=275,SNR=6.1
C26K Camden Bay 40.72 29 P P 05 59 08.3 +0.4
baz=267
EYAK Cordova Ski Ar 40.73 43 P P 05 59 08.9 +0.8
baz=277
BMAR Burnt Mountain 40.78 33 P P 05 59 09.9 +1.4
HARP HAARP 40.80 40 P P 05 59 09.4 +0.7
baz=276
RIDG Independent Ri 40.83 38 P P 05 59 09.5 +0.6
baz=274,SNR=7.1
F26K Sheenjek River 40.95 32 P P 05 59 10.8 +0.9
baz=270
G26K Porcupine Rive 41.10 33 P P 05 59 12.1 +1.0
baz=272
N25K Chitina, Valde 41.15 42 P P 05 59 12.8 +1.1
baz=277
SCRK Sand Creek 41.19 38 P P 05 59 12.4 +0.4
baz=275,SNR=12
BMRM Bremner River 41.23 43 P P 05 59 13.2 +0.9
baz=278
DGZ Jazzator, Alta 41.30 300 *i* **P P 05 59 12.3 -0.8**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
J26L Joseph Creek 41.33 37 P P 05 59 13.7 +0.6
baz=275
I26K Coal Creek Min 41.44 36 P P 05 59 13.5 -0.4
baz=274
KAIM Kayak Island 41.48 44 P P 05 59 14.6 +0.4
baz=279
QIZ Qiongzhong 41.52 245 P P 05 59 14.3 -0.7
QIZ S S 06 05 27.3 -0.2
QIZ LR LR
comp=Z,320nm,17.3s
QIZ LR LR
comp=Z,290nm,17.2s
L26K Log Cabin Wild 41.56 39 P P 05 59 15.6 +0.6
baz=276,SNR=12
GOMU GeErMu 41.63 278 P P 05 59 16.6 +0.3
GOMU pmax pmax
comp=Z,37nm,0.8s
GOMU LR LR
comp=Z,610nm,17.8s
GOMU LR LR
comp=Z,580nm,17.2s
GOMU LR LR
comp=Z,1μm,17.2s
ZALV Zalesovo Beam 41.69 307 P P 05 59 15.2 -0.9
ZALV Zalesovo Beam 41.69 307 *i* **P P 05 59 15.5 -0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 41.69 307 P P 05 59 15.4 -0.6
comp=Z,2.7nm,0.7s,baz=78,slow=5.8,SNR=10.0
ZALV PcP **PcP 06 01 12.3 +0.4**
comp=Z,6.0nm,0.7s,baz=87,slow=2.8,SNR=12
ZALV LR LR 06 17 41.0
comp=Z,325nm,20.0s,baz=78,slow=38
comp=Z,2.7nm,0.7s
VRDI Verde Repeater 41.75 42 P P 05 59 17.5 +0.8
M26K Nabesna, AK 41.80 40 P P 05 59 17.7 +0.7
baz=278
E27K Coleen River 41.90 32 P P 05 59 19.0 +1.3
E27K Coleen River 41.90 32 P P 05 59 18.4 +0.8
baz=272
G27K Doyon Strip 41.95 34 P P 05 59 18.6 +0.5
baz=274
K27K Chicken 42.02 38 P P 05 59 19.1 +0.5
K27K IAmb IAmb 05 59 37.0
comp=Z,35nm,0.9s
K27K Chicken 42.02 38 P P 05 59 19.3 +0.7

baz=276
PZH PanZhiHua 42.02 261 P **P** **05 59 19.1 -0.2**
PZH pP **pP** **05 59 29.8 -1.3**
PZH S **S** **06 05 37.1 +1.9**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.9s
PZH LR LR
comp=Z,240nm,17.0s
PZH LR LR
comp=Z,240nm,15.8s
PZH LR LR
comp=Z,250nm,15.7s
H27K Steamboat Moun 42.04 34 P **P** **05 59 19.6 +0.8**
baz=274
D27M Malcolm River 42.09 30 P **P** **05 59 20.1 +0.8**
baz=272
KMI Kunming 42.19 258 ⇑P **P** **05 59 21.0 +0.3**
KMI S **S** **06 05 41.5 +3.7**
KMI pmax pmax
comp=Z,33nm,1.0s
KMI LR LR
comp=Z,240nm,17.5s
KMI LR LR
comp=Z,190nm,19.0s
KMI LR LR
comp=Z,220nm,16.6s
L27K Beaver Creek, 42.25 39 P **P** **05 59 21.3 +0.7**
L27K lAmb lAmb 05 59 34.9
comp=Z,16nm,0.8s
L27K Beaver Creek, 42.25 39 P **P** **05 59 21.9 +1.3**
baz=278
M27K Edge Creek, AK 42.32 40 P **P** **05 59 22.1 +0.7**
baz=278
EGAK Eagle 42.33 37 P **P** **05 59 21.5 +0.3**
EGAK lAmb lAmb 05 59 38.7
comp=Z,21nm,1.1s
EGAK Eagle 42.33 37 P **P** **05 59 21.3 +0.1**
baz=276,SNR=13
F28M Old Crow 42.58 32 P **P** **05 59 24.1 +0.9**
baz=274,SNR=14
BARN Barnard Glacie 42.63 42 P **P** **05 59 24.7 +0.7**
E28M Babbage River 42.64 31 P **P** **05 59 24.7 +1.0**
baz=274
I28M Miner Creek 42.77 36 P **P** **05 59 25.9 +1.0**
baz=277
BVCY Beaver Creek 42.78 40 P **P** **05 59 26.1 +1.2**
baz=279,SNR=7.7
CTG Chitna Glacier 42.81 42 P **P** **05 59 26.4 +1.2**
baz=280
CTGM Chitina Glacie 42.81 42 P **P** **05 59 26.4 +1.1**
D28M Stokes Point 42.88 30 P **P** **05 59 26.7 +1.2**
baz=274
YUK3 Moose Creek 43.08 41 P **P** **05 59 28.5 +1.0**
baz=280
DAWY Dawson 43.19 38 P **P** **05 59 28.8 +0.7**
DAWY Dawson 43.19 38 P **P** **05 59 29.3 +1.2**
baz=279
WMQ Urumqi 43.19 292 *e*P **P** **05 59 29.1 +0.6**
WMQ pP pP 05 59 40.0 -0.8
WMQ pmax pmax
comp=Z,29nm,1.3s
WMQ LR LR
comp=Z,500nm,13.9s
WMQ LR LR
comp=Z,420nm,15.7s
WMQ LR LR
comp=Z,410nm,15.7s
E29M Blow River 43.26 31 P **P** **05 59 29.4 +0.8**
baz=275
H29M Whitestone 43.31 34 P **P** **05 59 30.1 +0.9**
H29M lAmb lAmb 05 59 47.9
comp=Z,26nm,1.2s
H29M Whitestone 43.31 34 P **P** **05 59 29.9 +0.8**
baz=277
G29M Pine Creek 43.37 33 P **P** **05 59 30.5 +1.0**
baz=277
I29M Ogilvie Camp, 43.46 36 P **P** **05 59 31.6 +1.3**
I29M lAmb lAmb 05 59 48.5
comp=Z,30nm,1.1s
I29M Ogilvie Camp, 43.46 36 P **P** **05 59 31.9 +1.6**
baz=278,SNR=16
YUK8 Steele Glacier 43.50 42 P **P** **05 59 32.3 +1.4**
baz=281
PINM Pinnacle 43.50 43 P **P** **05 59 32.2 +1.4**
baz=282
J29N Klondike Camp 43.63 37 P **P** **05 59 33.1 +1.4**
baz=279
M29M Somme Creek 43.88 40 P **P** **05 59 35.1 +1.3**
baz=281
L29M L29M 43.90 39 P **P** **05 59 35.8 +1.8**
baz=281
EPYK Eagle Plains 43.95 34 P **P** **05 59 35.1 +0.8**
baz=278,SNR=17
YUK4 Talbot Arm 44.01 41 P **P** **05 59 35.9 +0.8**
baz=282
PNL Peninsula 44.02 44 P **P** **05 59 36.5 +1.6**
baz=283
K29M Barlow Dome 44.04 38 P **P** **05 59 36.0 +0.9**
K29M Barlow Dome 44.04 38 P **P** **05 59 36.6 +1.5**
baz=280
G30M tAoh Zraii Nji 44.06 33 P **P** **05 59 36.5 +1.3**
G30M lAmb lAmb 05 59 37.2
comp=Z,63nm,1.6s
G30M tAoh Zraii Nji 44.06 33 P **P** **05 59 36.5 +1.3**
baz=278
F30M Barrier River 44.14 32 P **P** **05 59 37.2 +1.4**
baz=278
O29M Mount Kennedy 44.27 43 P **P** **05 59 38.8 +1.7**
baz=283
I30M Mount Dempster 44.28 36 P **P** **05 59 38.5 +1.5**
baz=280
J30M Hart River 44.41 36 P **P** **05 59 39.5 +1.4**
baz=281,SNR=10
M30M Minto, Yukon 44.61 39 P **P** **05 59 41.0 +1.4**
baz=282,SNR=5.3
HYT Haines Junctio 44.67 42 P **P** **05 59 41.7 +1.5**
baz=284,SNR=15
N30M Aishikik Lake 44.72 41 P **P** **05 59 42.4 +1.9**
baz=283
G31M Satah River 44.83 33 P **P** **05 59 42.4 +1.2**
baz=280,SNR=12
P29M Windy Craggy 44.84 44 P **P** **05 59 42.8 +1.3**
baz=284
INK Inuvik 44.88 31 P **P** **05 59 42.2 +0.6**
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 44.88 31 P **P** **05 59 42.9 +1.3**
baz=279,SNR=16
INK Inuvik 44.88 31 LR LR 06 19 59.3
comp=Z,162nm,19.0s,baz=186,slow=38
F31M Tsiigehtchic 44.94 32 P **P** **05 59 43.2 +1.2**
baz=280,SNR=14
P30M Million Dollar 45.10 43 P **P** **05 59 44.6 +1.0**
baz=285
N31M Braeburn, Yuko 45.32 41 P **P** **05 59 46.2 +0.9**
baz=284
O30N Mendenhall 45.35 42 P **P** **05 59 46.2 +0.7**
baz=285
MK31 Makanchi Array 45.53 298 *i* P **P** **05 59 44.7 -2.4**
MKAR Makanchi Array 45.53 298 P **P** **05 59 46.8 -0.3**
MKAR Makanchi Array 45.53 298 P **P** **05 59 47.0 -0.1**
comp=Z,13nm,0.8s,baz=71,slow=8.1,SNR=116
MKAR PcP **PcP** **06 01 25.3 +0.2**
comp=Z,2.7nm,0.7s,baz=66,slow=3.7,SNR=2.8
MKAR LR LR 06 20 00.7
comp=Z,729nm,19.4s,baz=70,slow=38
comp=Z,13nm,0.8s
MAKZ Makanchi 45.72 298 P **P** **05 59 48.5 -0.1**
MAKZ pP **pP** **05 59 59.5 -1.5**
M31M Drury Creek, Y 45.78 39 P **P** **05 59 49.6 +0.7**
baz=284
WHY Whitehorse 45.96 42 P **P** **05 59 51.2 +0.8**
baz=286
S31K Pelican 46.05 46 P **P** **05 59 52.3 +1.3**
baz=287
FARO Faro, Yukon 46.25 39 P **P** **05 59 53.3 +0.8**
baz=285
KURK Kurchatov 46.30 304 *i* P **P** **05 59 51.0 -2.1**
KURK pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 46.30 304 P **P** **05 59 51.1 -1.9**
KURK P **P** **05 59 51.1 -1.9**
KURBB Kurchatov Arra 46.39 304 P **P** **05 59 53.2 -0.6**
comp=Z,5.9nm,0.5s,baz=70,slow=8.3,SNR=27
KURBB PcP **PcP** **06 01 28.4 +0.4**
comp=Z,4.1nm,0.7s,baz=72,slow=3.4,SNR=9.1
KURBB LR LR 06 20 20.0
comp=Z,194nm,18.0s,baz=168,slow=37
comp=Z,5.9nm,0.5s
NONG Nongkai 46.63 251 P **P** **05 59 57.0 +1.0**
N32M Quiet Lake 46.67 41 P **P** **05 59 57.2 +1.3**
baz=286
P32M Atlin 46.82 43 P **P** **05 59 57.8 +0.7**
baz=287
R32K Eaglecrest 46.83 45 P **P** **05 59 58.3 +1.3**
baz=288
A36M Sachs Harbour 46.94 25 P **P** **05 59 58.8 +1.1**
baz=283,SNR=22
CRAI Chiangrai 47.03 255 P **P** **05 59 59.5 +0.4**
CRAI lAmb lAmb 06 00 00.8
comp=Z,17nm,0.9s
S32K Killisnoo 47.05 46 P **P** **05 59 60.0 +1.2**
baz=289
P33M Teslin, Yukon 47.07 42 P **P** **06 00 00.3 +1.2**
P33M lAmb lAmb 06 00 18.1
comp=Z,13nm,1.0s
P33M Teslin, Yukon 47.07 42 P **P** **06 00 00.8 +1.8**
baz=288,SNR=10
LSA Lhasa 47.68 272 P **P** **06 00 06.2 +1.5**
LSA pmax pmax
comp=Z,10.0nm,0.8s
C36M Paulatuk 47.99 28 P **P** **06 00 06.8 +0.9**
baz=286,SNR=19
SIJI Sorong 48.04 205 P **P** **06 00 07.6 +0.6**
comp=Z,25nm,1.3s
R33M Jennings River 48.21 42 P **P** **06 00 09.2 +1.2**
R33M lAmb lAmb 06 00 26.7
comp=Z,12nm,1.2s
R33M Jennings River 48.21 42 P **P** **06 00 09.7 +1.7**
baz=290
U33K Whale Pass 48.27 47 P **P** **06 00 09.7 +1.5**
baz=291
CRAG Craig 48.50 48 P **P** **06 00 11.7 +1.7**
baz=291
S34M Telegraph Cree 48.64 44 P **P** **06 00 13.3 +2.1**
baz=291
TDK Taldyqorghan 48.74 297 *e*P **P** **06 00 12.0 -0.1**
TDK Taldyqorghan 48.74 297 *e*P **P** **06 00 12.0 -0.1**
baz=297
TGTN Hyland Airport 48.76 39 P **P** **06 00 13.7 +1.7**
baz=290
SHLS Shalkode 48.89 294 *e*P **P** **06 00 11.0 -2.4**
SHLS pmax pmax
comp=Z,9.0nm,0.8s
SHLS Shalkode 48.89 294 *e*P **P** **06 00 11.0 -2.4**
comp=Z,8.9nm,0.8s,baz=294
CHTO Chiang Mai 48.98 255 P **P** **06 00 13.9 -0.3**
CHTO lAmb lAmb 06 00 15.6
comp=Z,17nm,0.9s
CHTO Chiang Mai 48.98 255 P **P** **06 00 14.7 +0.5**
comp=Z,11nm,1.0s
CHTO Chiang Mai 48.98 255 P **P** **06 00 13.9 -0.3**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 48.98 255 P **P** **06 00 14.3 +0.1**
CHTO P **P** **06 00 14.3 +0.1**
CHTO Chiang Mai 48.98 255 P **P** **06 00 14.8 +0.5**
CHTO pP **pP** **06 00 27.0 +0.6**
CHTO Chiang Mai 48.98 255 P **P** **06 00 14.9 +0.7**
comp=Z,19nm,1.0s
WTLY Watson Lake, Y 49.00 41 P **P** **06 00 16.0 +2.1**
baz=290
DLBC Dease Lake 49.01 43 P **P** **06 00 15.7 +1.7**
baz=291
UZB Uzunbulak 49.18 294 *e*P **P** **06 00 15.6 -0.1**
UZB pmax pmax
comp=Z,7.0nm,0.7s
UZB Uzunbulak 49.18 294 *e*P **P** **06 00 15.7 0.0**
comp=Z,7.1nm,0.7s,baz=294
CMAR Chiang Mai Arr 49.23 255 P **P** **06 00 16.1 0.0**
CMAR Chiang Mai Arr 49.23 255 P **P** **06 00 16.1 0.0**
CMAR Chiang Mai Arr 49.23 255 P **P** **06 00 16.8 +0.6**
comp=Z,5.1nm,0.6s,baz=38,slow=7.3,SNR=26
CMAR PcP **PcP** **06 01 39.1 +0.4**
comp=Z,1.6nm,0.5s,baz=60,slow=5.5,SNR=1.2
CMAR LR LR 06 23 14.0
comp=Z,338nm,18.2s,baz=50,slow=39
comp=Z,5.1nm,0.6s
KPKS Kokpek 49.25 295 *e*P **P** **06 00 16.2 0.0**
KPKS pmax pmax
comp=Z,13nm,0.8s
KPKS Kokpek 49.25 295 *e*P **P** **06 00 16.2 0.0**
comp=Z,13nm,0.8s,baz=295
T35M Bob Quinn 49.43 45 P **P** **06 00 18.9 +1.7**
baz=292
ARXS Arharly 49.46 296 *e*P **P** **06 00 17.2 -0.5**
ZHN Zhinishke 49.55 295 *e*P **P** **06 00 18.5 0.0**
ZHN pmax pmax
comp=Z,8.0nm,0.8s
ZHN Zhinishke 49.55 295 *e*P **P** **06 00 18.5 0.0**
comp=Z,8.3nm,0.8s,baz=295
GTOI Gorontalo 49.60 216 P **P** **06 00 18.6 -0.3**
comp=Z,7.4nm,1.5s
SHL Shillong 49.60 267 P **P** **06 00 18.2 -0.9**
SHL Shillong 49.60 267 P **P** **06 00 18.2 -0.9**
SHL pmax pmax
comp=Z,31nm,1.0s
SHL Shillong 49.60 267 P **P** **06 00 18.8 -0.3**
SNR=10
SATY Saty 49.62 295 *e*P **P** **06 00 19.2 +0.2**
SATY pmax pmax
comp=Z,7.0nm,0.7s
SATY Saty 49.62 295 *e*P **P** **06 00 19.2 +0.2**
comp=Z,7.5nm,0.7s,baz=295
WUS Wushi 49.97 292 P **P** **06 00 22.3 +0.7**
BVA0 Borovoye Array 50.12 309 *i* P **P** **06 00 21.7 -0.8**
BVAR Borovoye Array 50.12 309 P **P** **06 00 22.6 +0.1**
comp=Z,5.3nm,0.8s,baz=66,slow=8.3,SNR=19
BVAR PcP **PcP** **06 01 41.9 +0.4**
comp=Z,3.9nm,0.7s,baz=57,slow=5.5,SNR=5.0
BVAR LR LR 06 23 12.6
comp=Z,301nm,19.3s,baz=70,slow=38
comp=Z,5.3nm,0.8s
CHKK Chushkaly 50.17 296 *e*P **P** **06 00 22.7 -0.3**
CHKK Chushkaly 50.17 296 *e*P **P** **06 00 22.7 -0.3**
baz=296
BRVK Borovoye 50.17 310 P **P** **06 00 22.6 -0.3**
BRVK lAmb lAmb 06 00 23.8
comp=Z,9.8nm,1.1s
BRVK Borovoye 50.17 310 *i* P **P** **06 00 21.2 -1.7**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 50.17 310 P **P** **06 00 22.4 -0.4**
BRVK P **P** **06 00 22.4 -0.4**
BRVK Borovoye 50.17 310 P **P** **06 00 22.8 -0.1**
WRGLY Wrigley 50.25 36 P **P** **06 00 24.8 +1.5**
baz=292,SNR=6.5
MDOK Medeo 50.45 295 *e*P **P** **06 00 25.4 +0.1**
MDOK Medeo 50.45 295 *e*P **P** **06 00 25.4 +0.1**
baz=295
AAA Alma-Ata 50.51 295 *e*P **P** **06 00 25.9 +0.2**
AAA Alma-Ata 50.51 295 *e*P **P** **06 00 25.1 -0.6**
baz=295
AAA Alma-Ata 50.51 295 *e*P **P** **06 00 25.9 +0.2**
KUU Kurty 50.56 297 *e*P **P** **06 00 24.7 -1.3**
KUU pmax pmax
comp=Z,17nm,0.9s
KUU Kurty 50.56 297 *e*P **P** **06 00 24.8 -1.3**
comp=Z,17nm,0.9s,baz=296
TARG Taragay, Kyrgy 50.64 293 P **P** **06 00 28.4 +1.3**
TARG pmax pmax
comp=Z,19nm,1.1s
SANI Sanana 50.90 211 P **P** **06 00 28.2 -0.5**
SANI Sanana 50.90 211 P **P** **06 00 27.8 -0.9**
comp=Z,46nm,1.0s
ULHL Ulahol 51.41 295 P **P** **06 00 33.6 +1.0**
SNR=18
BOOM Boomskoye usch 51.49 295 P **P** **06 00 33.9 +0.7**
BOOM Boomskoye usch 51.49 295 P **P** **06 00 33.9 +0.7**
BOOM pmax pmax
comp=Z,31nm,0.8s
TKM2 Tokmak 2 51.50 296 P **P** **06 00 33.8 +0.5**
SNR=17
TKM2 Tokmak 2 51.50 296 P **P** **06 00 33.6 +0.3**
SGDS Sogindy 51.86 297 *e*P **P** **06 00 35.8 0.0**
SGDS pmax pmax
comp=Z,9.0nm,0.8s
SGDS Sogindy 51.86 297 *e*P **P** **06 00 35.8 0.0**
comp=Z,8.9nm,0.8s,baz=297
NRN Naryn 51.97 294 P **P** **06 00 37.0 +0.1**
NRN Naryn 51.97 294 P **P** **06 00 37.0 +0.1**
NRN pmax pmax
comp=Z,7.0nm,0.9s
USP Ospenovka 52.04 297 P **P** **06 00 38.0 +0.9**
SNR=22
KBK Karagaybulak 52.05 296 P **P** **06 00 38.0 +0.7**
SNR=15
ALE Alert 52.12 5 P **P** **06 00 35.6 -1.5**
KZA Kyzart 52.14 295 P **P** **06 00 39.7 +1.4**
SNR=24
AAK Ala-Archa 52.35 296 P **P** **06 00 39.9 +0.3**
SNR=12
AAK Ala-Archa 52.35 296 *i* P **P** **06 00 37.5 -2.0**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 52.35 296 LR LR 06 24 22.9
comp=Z,154nm,18.7s,baz=64,slow=38
AAK Ala-Archa 52.35 296 P **P** **06 00 39.8 +0.3**
AAK P **P** **06 00 39.8 +0.3**
AAK Ala-Archa 52.35 296 P **P** **06 00 39.9 +0.3**
BBB Bella Bella 52.55 50 LR LR 06 24 20.7
comp=Z,70nm,18.8s,baz=244,slow=38
EKS2 Erkin-Say 52.80 296 P **P** **06 00 43.5 +0.6**
SNR=12
ARLS Aral 52.84 295 P **P** **06 00 44.2 +1.0**
KSH Kashi 52.95 292 P **P** **06 00 48.3 +4.3**
KSH sP sP 06 01 07.8 +5.8
KSH pmax pmax
comp=Z,23nm,0.9s
KSH LR LR
comp=Z,500nm,16.2s
KSH LR LR
comp=Z,430nm,16.8s
KSH LR LR
comp=Z,540nm,19.2s
AML Almayashu 53.11 296 P **P** **06 00 46.4 +0.9**
SNR=15
AML Almayashu 53.11 296 P **P** **06 00 45.6 +0.1**
SVE Sverdlovsk 53.55 317‖ *e*P **P** **06 00 47.1 -0.8**
SVE pmax pmax
comp=Z,14nm,0.6s
SVE MLR MLR
comp=Z,548nm,18.0s
RES Resolute Bay 53.69 17 P **P** **06 00 49.2 +0.5**
RES pmax pmax
comp=Z,43nm,1.0s
RES Resolute Bay 53.69 17 LR LR 06 26 33.0
comp=Z,159nm,19.0s,baz=14,slow=39
PMG Port Moresby 53.81 183 LR LR 06 25 18.1
comp=Z,17nm,18.5s,baz=345,slow=38
ARSB Arslanbob 53.98 295 P **P** **06 00 52.4 +0.8**
ARSB Arslanbob 53.98 295 P **P** **06 00 52.4 +0.8**
SPA0 Spitsbergen Ar 54.22 349 *e*P **P** **06 00 50.7 -1.9**
SPITS Spitsbergen Ar 54.22 349 P **P** **06 00 50.9 -1.7**
comp=Z,2.3nm,0.6s,baz=57,slow=9.2,SNR=8.1
comp=Z,2.3nm,0.6s
YKA Yellowknife Ar 54.23 35 P **P** **06 00 53.5 +0.7**
comp=Z,6.7nm,0.8s,baz=299,slow=7.2,SNR=71
YKA LR LR 06 26 05.2
comp=Z,62nm,18.7s,baz=269,slow=38
comp=Z,6.7nm,0.8s
DZA Taraz 54.24 298 *e*P **P** **06 00 53.4 +0.2**
DZA pmax pmax
comp=Z,13nm,0.8s
DZA Taraz 54.24 298 *e*P **P** **06 00 53.5 +0.2**
comp=Z,12nm,0.8s,baz=298
ARK Arkit 54.39 296 P **P** **06 00 55.1 +0.6**
KK31 Karatay Array 54.65 298 P **P** **06 00 56.1 -0.1**
KK31 lAmb lAmb 06 00 57.1
comp=Z,16nm,1.1s
KK31 Karatay Array 54.65 298 *i* P **P** **06 00 55.8 -0.4**
HNR Honiara 54.66 167 LR LR 06 21 48.8
comp=Z,2µm,20.9s,baz=343,slow=33
ARU Arti 54.75 317*c i*P **P** **06 00 54.4 -2.3**
ARU *PP **pP** **06 01 06.0 -3.5**
ARU S **S** **06 08 32.4 -1.2**
ARU SS **SS** **06 12 11.6 -4.8**
ARU pmax pmax
comp=Z,13nm,0.7s
ARU MLR MLR
comp=Z,455nm,18.0s
ARU Arti 54.75 317 LR LR 06 26 43.9
comp=Z,445nm,18.3s,baz=50,slow=39
ARU Arti 54.75 317 P **P** **06 00 56.6 -0.1**
KSM Kuching 55.04 230 P **P** **06 01 01.1 +1.8**
comp=Z,18nm,1.1s
TRKS Terek-Say 55.06 296 P **P** **06 00 59.9 +0.5**
NEEM North Greenlan 57.55 5 *i* P **P** **06 01 15.3 -1.4**
NEEM lAmb lAmb 06 01 16.8
comp=Z,13nm,0.8s
AB31 Akbulak array 57.70 309 *i* P **P** **06 01 17.6 -0.2**
ABKAR Akbulak array 57.70 309 P **P** **06 01 18.2 +0.3**
ABKAR lAmb lAmb 06 01 18.7
comp=Z,13nm,0.8s
KIRV Kirov 57.84 322 *i* P **P** **06 01 17.2 -1.4**
KIRV Kirov 57.84 322 LR LR 06 28 27.9
comp=Z,302nm,19.5s,baz=51,slow=38
SIMJ Simiganj 57.99 294 P **P** **06 01 19.8 -0.4**
SIMJ Simiganj 57.99 294 P **P** **06 01 20.1 -0.1**
SIMJ pP **pP** **06 01 32.3 -0.6**
SIMJ sP **sP** **06 01 37.2 -0.9**
NIL Nilore 57.99 287 P **P** **06 01 21.5 +1.3**
NIL Nilore 57.99 287 P **P** **06 01 21.5 +1.3**
NIL pmax pmax
comp=Z,82nm,1.1s
NIL Nilore 57.99 287 P **P** **06 01 20.9 +0.8**
NIL Nilore 57.99 287 P **P** **06 01 21.0 +0.9**
NIL pP **pP** **06 01 32.7 -0.2**
NIL sP **sP** **06 01 38.1 0.0**
AKTO Aktyubinsk 58.11 311 P **P** **06 01 20.9 +0.2**
AKTO Aktyubinsk 58.11 311 LR LR 06 28 29.1
comp=Z,356nm,18.5s,baz=56,slow=38
APA Apatity 58.20 336‖ *i*P **P** **06 01 24.0 +2.9**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,1µm,13.0s
ARA0 ARCESS Array S 58.95 340 *e*P **P** **06 01 25.2 -1.1**
ARCES ARCESS Array B 58.95 340 P **P** **06 01 24.1 -2.1**
comp=Z,3.1nm,0.8s,baz=50,slow=8.5,SNR=9.4
ARCES PcP **PcP** **06 02 15.1 +0.1**
comp=Z,1.4nm,0.6s,baz=37,slow=6.2,SNR=4.1
ARCES LR LR 06 32 10.3
comp=Z,113nm,18.2s,baz=44,slow=42
comp=Z,3.1nm,0.8s
EDM Edmonton 59.73 44 P **P** **06 01 32.2 +0.3**
EDM Edmonton 59.73 44 P **P** **06 01 32.2 +0.3**
EDM pmax pmax
comp=Z,55nm,1.5s
KTK1 Kautokeino 59.89 340 *e*P **P** **06 01 31.8 -1.0**
JETT Jettan, Norway 60.13 342 *e*P **P** **06 01 33.7 -0.7**
KBL Kabul 60.31 291 P **P** **06 01 36.0 -0.5**
KBL pmax pmax
comp=Z,43nm,1.0s
KBL Kabul 60.31 291 P **P** **06 01 36.0 -0.5**
SNR=23
TRO Tromso 60.40 342 *e*P **P** **06 01 34.3 -1.9**
KLMR Klimovskoe 60.51 328 *e*P **P** **06 01 33.8 -3.3**
KLMR pmax pmax
comp=Z,35nm,1.1s
NEW Newport 60.61 50 P **P** **06 01 38.8 +0.7**
baz=305
NEW Newport 60.61 50 LR LR 06 28 30.2
comp=Z,42nm,20.0s,baz=304,slow=37
YBH Yreka Blue Hor 61.14 59 LR LR 06 23 51.8
comp=Z,75nm,21.7s,baz=302,slow=32
UPNV Upernavik 61.57 8 *i* P **P** **06 01 42.4 -1.6**
UPNV lAmb lAmb 06 01 44.4
comp=Z,19nm,0.7s
BELG Belogornoye 62.30 317 *e*P **P** **06 01 46.9 -2.4**
BELG pmax pmax
comp=Z,4.0nm,0.7s
BELG Belogornoye 62.30 317 LR LR 06 31 17.3
comp=Z,299nm,18.9s,baz=47,slow=38
STEI Steigen 62.58 342 *e*P **P** **06 01 49.8 -1.1**
LOF Lofoten 62.77 343 *e*P **P** **06 01 51.2 -1.0**
SUMG Summit 62.98 3 P **P** **06 01 53.8 -0.2**
SUMG Summit 62.98 3 P **P** **06 01 53.8 -0.2**
SUMG pmax pmax
comp=Z,46nm,1.7s
SUMG Summit 62.98 3 *i* P **P** **06 01 53.0 -1.0**
SUMG lAmb lAmb 06 01 55.9
comp=Z,6.7nm,0.8s
FAUS Fauske 63.02 342 *e*P **P** **06 01 52.4 -1.4**
PLID Pearl Lake 63.11 52 P **P** **06 01 55.6 +0.5**
PLID lAmb lAmb 06 02 17.5

comp=Z,8.5nm,1.1s
MSO Missoula 63.20 50 P P 06 01 56.0 +0.5
MSO IAmb IAmb 06 02 14.1
comp=Z,8.8nm,0.9s
MSO Missoula 63.20 50 P P 06 01 56.3 +0.8
baz=308,SNR=7.8
JMIC Jan Mayen 63.60 352 LR LR 06 29 00.1
comp=Z,45nm,19.4s,baz=104,slow=36
BPMT Black Pine Rid 63.71 50 P P 06 01 60.0 +0.9
FFC Flin Flon 64.09 38 P P 06 02 02.0 +0.9
MOR8 Moi Rana 64.21 341 *eP* **P 06 01 59.4 -2.4**
HYB Hyderabad 64.31 269 *eP* **P 06 02 02.3 -0.9**
CTA Charters Tower 64.45 183 LR LR 06 27 15.1
comp=Z,41nm,21.6s,baz=72,slow=33
FCC Fort Churchill 64.50 31 P P 06 02 03.9 +0.2
FCC IAmb IAmb 06 02 04.9
comp=Z,10nm,0.8s
FCC Fort Churchill 64.50 31 P P 06 02 03.9 +0.2
FCC pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 64.64 324 *eP* **P 06 02 04.1 -0.5**
EGMT Eagleton 64.69 47 P P 06 02 06.2 +0.9
baz=309,SNR=7.4
FINES FINESS Array B 64.78 334 P P 06 02 04.6 -0.9
comp=Z,8.7nm,0.6s,baz=35,slow=7.9,SNR=34
FINES LR LR 06 32 24.3
comp=Z,155nm,19.8s,baz=41,slow=38
comp=Z,8.7nm,0.6s
HLID Hailey 64.94 53 P P 06 02 08.5 +1.3
baz=308
BOZ Bozeman (W) 65.22 50 P P 06 02 09.3 +0.4
BOZ IAmb IAmb 06 02 23.8
comp=Z,57nm,2.0s
BOZ Bozeman (W) 65.22 50 P P 06 02 09.3 +0.4
BOZ pmax pmax
comp=Z,57nm,2.0s
BOZ Bozeman (W) 65.22 50 P P 06 02 09.9 +1.0
baz=309,SNR=11
GEYT Alibeck 65.34 300 P P 06 02 09.5 -0.1
GEYT Alibeck 65.34 300 P P 06 02 10.0 +0.4
comp=Z,16nm,0.7s,baz=46,slow=4.3,SNR=31
comp=Z,16nm,0.7s
OBN Obninsk 65.50 324 ⇑ *iP* **P 06 02 09.5 -0.8**
OBN *e* 06 02 18.2
OBN *eS* **S 06 10 52.8 +1.4**
OBN pmax pmax
comp=Z,40nm,1.1s
OBN Obninsk 65.50 324 *eP* **P 06 02 09.5 -0.8**
KVN Kaiserville 65.57 59 P P 06 02 12.5 +1.2
KVN pmax pmax
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 65.68 195 P P 06 02 10.5 -1.3
WRA Warramunga Arr 65.68 195 P P 06 02 11.4 -0.4
comp=Z,5.3nm,0.8s,baz=15,slow=6.8,SNR=17
comp=Z,5.3nm,0.8s
NVAR Mina Array Bea 65.83 59 P P 06 02 13.9 +0.9
comp=Z,1.8nm,0.7s,baz=296,slow=6.6,SNR=16
NVAR LR LR 06 32 52.9
comp=Z,34nm,18.1s,baz=274,slow=38
comp=Z,1.8nm,0.7s
VRH Novokhopyorsk 65.88 319 *eP* **P 06 02 11.8 -1.0**
VRH pmax pmax
comp=Z,40nm,0.7s
NSS Namsos 66.15 341 *eP* **P 06 02 13.4 -0.9**
LPSR Galich'ya Gora 66.21 321 *eP* **P 06 02 13.6 -1.3**
LPSR pmax pmax
comp=Z,40nm,0.8s
ELK Elko 66.22 56 LR LR 06 26 44.8
comp=Z,72nm,22.0s,baz=317,slow=32
ICESG Greenland Ices 66.42 3 *iP* **P 06 02 15.3 -1.1**
ICESG IAmb IAmb 06 02 17.5
comp=Z,16nm,0.7s
H17A Grant Village 66.56 50 P P 06 02 19.2 +1.6
baz=310,SNR=6.4
VORR Voronezh 66.72 320 *eP* **P 06 02 16.8 -1.4**
VORR pmax pmax
comp=Z,18nm,1.3s
RLMT Red Lodge 66.81 49 P P 06 02 20.6 +1.5
baz=310,SNR=5.9
VSU Vasula 66.82 331 *iP* **P 06 02 17.0 -1.6**
VSU pmax pmax
comp=Z,19nm,1.0s
TPAW Teton Pass 66.94 51 P P 06 02 21.3 +1.2
TPAW IAmb IAmb 06 02 39.1
comp=Z,21nm,1.4s
VSR Storozhevoye 67.05 320 *eP* **P 06 02 19.0 -1.3**
VSR pmax pmax
comp=Z,30nm,0.6s
REDW Red Top Meadow 67.08 51 P P 06 02 21.9 +1.0
VORD Divnogorie 67.17 320 *eP* **P 06 02 20.6 -0.4**
VORD pmax pmax
comp=Z,30nm,0.7s
DGMT Dagmar 67.22 44 P P 06 02 22.5 +1.0
baz=312,SNR=8.3
DGMT Dagmar 67.22 44 P P 06 02 22.1 +0.6
baz=312
LAO LASA Array 67.39 46 P P 06 02 24.2 +1.6
baz=312
LAO LASA Array 67.39 46 P P 06 02 23.8 +1.2
baz=312
ISA Isabella, Lake 67.46 62 P P 06 02 24.7 +1.5
baz=310
R11B Troy Canyon, C 67.53 58 P P 06 02 23.8 0.0
R11B Troy Canyon, C 67.53 58 P P 06 02 24.3 +0.5
baz=310
TBLU Trondheim 67.64 341 *eP* **P 06 02 23.0 -0.8**
SFJD Kangerlussuaq 67.68 8 P P 06 02 24.2 +0.2
SFJD IAmb IAmb 06 02 24.9
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 67.68 8 P P 06 02 24.2 +0.2
SFJD pmax pmax
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 67.68 8 LR LR 06 33 59.7
comp=Z,110nm,19.9s,baz=342,slow=38
SFJD Kangerlussuaq 67.68 8 *iP* **P 06 02 22.7 -1.3**
SFJD IAmb IAmb 06 02 25.5
comp=Z,13nm,0.8s
SFJD Kangerlussuaq 67.68 8 P P 06 02 24.2 +0.2
FRB Frobisher Bay 67.91 17 LR LR 06 35 32.6
comp=Z,143nm,18.8s,baz=317,slow=39
FURC Furnace Creek, 67.95 60 P P 06 02 28.3 +2.1
baz=310
DUG Dugway, Tooele 68.00 55 P P 06 02 28.1 +1.4
DUG pmax pmax
comp=Z,8.0nm,1.6s
DUG Dugway, Tooele 68.00 55 P P 06 02 28.0 +1.4
baz=310,SNR=5.7
TPNV Topopah Spring 68.02 59 P P 06 02 27.7 +0.8
baz=310
BW06 Boulder Array 68.18 51 P P 06 02 28.5 +0.6
baz=311
PD31 Pinedale Array 68.18 51 P P 06 02 28.1 +0.3
PDAR Pinedale Array 68.18 51 P P 06 02 28.2 +0.3
comp=Z,1.6nm,0.7s,baz=272,slow=2.1,SNR=18
PDAR LR LR 06 28 23.5
comp=Z,33nm,21.8s,baz=324,slow=32
comp=Z,1.6nm,0.7s
DZM Mont Dzumac 68.20 163 LR LR 06 25 05.1
comp=Z,114nm,21.3s,baz=12,slow=30
EDW2 Edwards Air Fo 68.26 62 P P 06 02 28.5 +0.3
baz=310
MAK Makhachkala 68.38 309 *eP* **P 06 02 25.9 -2.8**
MAK *e*PP* **pP 06 02 41.7 0.0**
MAK *e*SP* **sP 06 02 48.3 +1.5**
MAK *e* 06 04 56.1
MAK *ePPP* PPP 06 06 34.9
MAK *eS* **S 06 11 21.4 -5.1**
MAK *e*SS* **sS 06 11 50.0 +1.5**
MAK pmax pmax
comp=Z,287nm,1.6s
MAK MLR MLR
comp=Z,134nm,14.0s
DY2G Dye2 68.60 7 *iP* **P 06 02 28.8 -1.2**
DY2G IAmb IAmb 06 02 31.4
comp=Z,13nm,0.7s
GSC Goldstone, Bar 68.73 61 P P 06 02 32.8 +1.5
baz=310
DOMB Dombas 68.97 341 *eP* **P 06 02 31.6 -0.6**
DOMB IAmb IAmb 06 02 33.0
comp=Z,25nm,1.2s
NC405 NORSAR Array S 69.14 339 P P 06 02 32.5 -0.8
GROC Groznyy 69.15 310 *eP* **P 06 02 33.6 0.0**
GROC *e* 06 02 56.8
GROC *e* 06 05 05.8
GROC pmax pmax
comp=Z,17nm,0.6s

TUQ Turquoise Moun 69.20 61 P P 06 02 35.6 +1.4
baz=311
NB2 NORSAR Subarra 69.33 340 P P 06 02 33.6 -0.8
comp=Z,18nm,0.7s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.33 340 P P 06 02 33.6 -0.8
baz=31,slow=6.5
NOA NORSAR Array B 69.33 340 P P 06 02 33.7 -0.7
comp=Z,12nm,0.6s,baz=32,slow=6.6,SNR=74
NOA LR LR 06 38 54.3
comp=Z,93nm,18.2s,baz=25,slow=41
comp=Z,12nm,0.6s
GOF Gofitskoye 69.36 313 *ceP* **P 06 02 35.9 +1.0**
AS31 Alice Springs 69.39 195 P P 06 02 35.7 +0.5
ASAR Alice Springs 69.39 195 P P 06 02 35.7 +0.5
comp=Z,4.0nm,0.8s,baz=14,slow=5.9,SNR=30
ASAR PKP2ab **P'P'df** **06 30 44.0 +5.7**
comp=Z,1.6nm,1.1s,baz=188,slow=3.7,SNR=5.8
ASAR LR LR 06 31 12.0
comp=Z,23nm,20.7s,baz=28,slow=34
comp=Z,4.0nm,0.8s
MNK Minsk 69.41 328 *iP* **P 06 02 31.8 -3.2**
MNK *i *PP* **pP 06 02 46.0 -2.1**
MNK *i* 06 02 54.8
MNK *i* 06 05 05.3
MNK *iPPP* PPP 06 06 46.4
MNK *iS* **S 06 11 35.4 -3.0**
MNK *i *SS* **sS 06 11 59.8 -0.6**
MNK *i* 06 12 28.4
MNK *iSS* **SS 06 16 04.1 -0.9**
MNK *iSSS* SSS 06 19 18.1
MNK pmax pmax
comp=N,35nm,0.9s
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=Z,59nm,0.9s
MNK MLR MLR
comp=Z,301nm,18.0s
MNK MLR MLR
comp=N,249nm,19.0s
MNK MLR MLR
comp=E,64nm,18.0s
HFS Hagfors 69.46 338 *iP* **P 06 02 34.5 -0.8**
comp=E,18nm,0.6s,baz=53,slow=5.7,SNR=78
HFS LR LR 06 35 40.6
comp=E,139nm,21.4s,baz=34,slow=38
comp=E,18nm,0.6s
NC602 NORSAR Array S 69.51 339 *eP* **P 06 02 34.8 -0.7**
NC602 IAmb IAmb 06 02 36.2
comp=Z,18nm,1.0s
NORES NORESS Array B 69.51 339 P P 06 02 34.5 -1.0
RDMU Red Mountain 69.62 53 P P 06 02 37.5 +0.7
RDMU IAmb IAmb 06 02 52.4
comp=Z,14nm,0.8s
PALK Pallekele 69.70 260 LR LR 06 36 44.2
comp=Z,108nm,18.6s,baz=152,slow=39
SEKA Sheki 69.71 308 P P 06 02 37.9 +0.7
ZKTA Zakatala 69.74 309 P P 06 02 38.3 +1.0
GMRC Granite Mounta 69.79 61 P P 06 02 38.9 +1.1
baz=311
LCMT Little Creek M 69.81 58 P P 06 02 39.2 +1.3
MDND Maddock 69.88 42 P P 06 02 38.9 +0.9
baz=315
MDND Maddock 69.88 42 P P 06 02 39.5 +1.5
baz=315
ULM Lac du Bonnet 69.88 38 P P 06 02 38.2 +0.2
comp=Z,4.1nm,0.5s,baz=319,slow=6.6,SNR=14
comp=Z,4.1nm,0.5s
K22A Casper 69.93 50 P P 06 02 39.0 +0.4
baz=313
K22A Casper 69.93 50 P P 06 02 39.0 +0.4
baz=313
ANGG Ammassalik, Gr 69.97 3 *iP* **P 06 02 36.9 -1.4**
ANGG IAmb IAmb 06 02 38.9
comp=Z,12nm,0.9s
ISOG Isortoq, Green 69.98 4 *iP* **P 06 02 37.9 -0.4**
ISOG IAmb IAmb 06 02 39.1
comp=Z,14nm,0.6s
PFO Pinyon Flats O 70.05 62 P P 06 02 40.3 +0.9
baz=311
PFO Pinyon Flats O 70.05 62 LR LR 06 30 27.8
comp=Z,64nm,19.6s,baz=262,slow=33
TPFO Pinon Flats 70.05 62 P P 06 02 40.4 +0.9
baz=311
MNGR Mingechevir, A 70.06 308 P P 06 02 40.4 +1.2
PABE Paberze 70.07 330 P P 06 02 39.2 +0.2
109C Camp Elliot, M 70.11 63 P P 06 02 39.8 +0.2
baz=311
NCK Nalchik 70.14 312 *iP* **P 06 02 37.8 -1.9**
NCK pmax pmax
comp=Z,33nm,0.9s
RSSD Black Hills 70.25 47 P P 06 02 41.1 +0.4
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 70.25 47 P P 06 02 41.0 +0.3
baz=314
RSSD Black Hills 70.25 47 P P 06 02 40.7 +0.1
baz=314
RSSD Black Hills 70.25 47 P P 06 02 40.8 +0.1
RSSD pP **pP 06 02 52.7 -0.3**
NUUK Nuuk 70.28 10 *eP* **P 06 02 40.3 +0.2**
NUUK *iP* **P 06 02 40.3 +0.2**
NUUK IAmb IAmb 06 02 42.8
comp=Z,16nm,1.0s
KIV Kislovodsk 70.30 313 ⇓ **P 06 02 42.4 +1.6**
KIV Kislovodsk 70.30 313 P P 06 02 41.7 +0.9
KIV Kislovodsk 70.30 313 *eP* **P 06 02 39.4 -1.4**
KIV pmax pmax
comp=Z,108nm,1.0s
KIV MLR MLR
comp=Z,317nm,18.0s
KIV Kislovodsk 70.30 313 P P 06 02 42.0 +1.1
KIV Kislovodsk 70.30 313 *eP* **P 06 02 39.4 -1.4**
KIV Kislovodsk 70.30 313 P P 06 02 41.9 +1.1
KIV sP **sP 06 02 59.0 +0.4**
SKAR Skarslia 70.34 341 *eP* **P 06 02 40.2 -0.5**
KBZ Khabaz 70.35 312 P P 06 02 42.1 +1.2
comp=Z,45nm,0.8s,baz=48,slow=4.5,SNR=79
KBZ LR LR 06 38 01.6
comp=Z,519nm,18.9s,baz=50,slow=40
HYA Hoyanger 70.40 342 *eP* **P 06 02 41.0 +0.1**
OSL Oslo 70.41 339 *eP* **P 06 02 41.9 +0.9**
ZEI Tsey 70.46 311 *eP* **P 06 02 41.2 -0.7**
ZEI pmax pmax
comp=Z,32nm,1.0s
LKRN Lenkeran, Azer 70.47 305 P P 06 02 42.9 +1.1
IRM Iron Mountain 70.52 61 P P 06 02 42.6 +0.4
baz=311
GANJ Ganja 70.58 308 P P 06 02 43.3 +0.8
BC3 Big Chuckawall 70.65 62 P P 06 02 43.2 +0.1
baz=311
O20A White River Ci 70.67 52 P P 06 02 43.8 +0.5
baz=312
SUE Sulen 70.80 343 *eP* **P 06 02 41.8 -1.6**
ONI Oni 70.83 311 P P 06 02 45.3 +1.3
ONI Oni 70.83 311 P P 06 02 45.3 +1.3
ONI pmax pmax
comp=Z,37nm,0.9s
KONO Kongsberg 70.94 340 *eP* **P 06 02 44.5 +0.3**
PDMCI Parker Dam,Lak 71.05 60 P P 06 02 46.3 +0.9
baz=312
BER Bergen 71.28 342 *eP* **P 06 02 46.5 +0.2**
BER IAmb IAmb 06 02 57.5
comp=Z,76nm,1.4s
AGMN Agassiz Nation 71.31 40 P P 06 02 46.8 +0.1
baz=317
AGMN Agassiz Nation 71.31 40 P P 06 02 46.8 +0.1
baz=317
NGCH Negor - Chabah 71.38 287 P P 06 02 47.2 -0.3
ODD1 Odda 71.42 341 *eP* **P 06 02 47.4 +0.2**
N23A Red Feather La 71.44 51 P P 06 02 49.4 +1.4
baz=313
AKASG Malin Array Be 71.77 325 P P 06 02 49.5 +0.1
AKASG Malin Array Be 71.77 325 *iP* **P 06 02 49.2 -0.1**
AKASG pmax pmax
comp=Z,30nm,0.7s
AKASG Malin Array Be 71.77 325 P P 06 02 49.3 -0.1
comp=Z,29nm,0.7s,baz=36,slow=6.0,SNR=117
AKASG LR LR 06 37 17.2
comp=Z,221nm,18.7s,baz=30,slow=38
comp=Z,29nm,0.7s
KIEV Kiev 71.78 325 ⇓ **P 06 02 48.8 -0.6**
KIEV Kiev 71.78 325 P P 06 02 49.8 +0.3
KIEV Kiev 71.78 325 P P 06 02 49.8 +0.3
KIEV pmax pmax
comp=Z,38nm,0.8s

KIEV Kiev 71.78 325 P P 06 02 49.3 -0.1
GNI Garni 71.80 309 LR LR 06 37 44.9
comp=Z,107nm,18.3s,baz=42,slow=39
GNI Garni 71.80 309 P P 06 02 52.2 +2.2
GNI Garni 71.80 309 P P 06 02 51.9 +1.9
BLS5 Blasjo 71.89 341 *eP* **P 06 02 49.1 -1.0**
BLS5 IAmb IAmb 06 02 52.3
comp=Z,128nm,1.8s
SMCO Snowmass 72.04 53 P P 06 02 52.2 +0.4
NAX Nakhchivan 72.04 307 P P 06 02 52.4 +1.0
B35A Bob, Littlefor 72.22 39 P P 06 02 51.9 -0.3
baz=318
ISCO Idaho Springs 72.38 51 P P 06 02 55.0 +1.3
ISCO IAmb IAmb 06 03 12.5
comp=Z,38nm,1.9s
ISCO Idaho Springs 72.38 51 P P 06 02 55.0 +1.3
ISCO pmax pmax
comp=Z,38nm,2.0s
ISCO Idaho Springs 72.38 51 P P 06 02 54.3 +0.6
baz=314
MVCO Mesa Verde 72.50 55 P P 06 02 55.1 +0.7
baz=313
BCA Borcka 72.61 311 ⇓ **P P 06 02 55.3 +0.6**
X16A Lo Mia Camp, P 72.63 59 P P 06 02 56.0 +0.9
SNART Snartemo 72.68 340 *eP* **P 06 02 54.9 +0.1**
LRW Lerwick 72.83 345 *eP* **P 06 02 56.3 +0.8**
F33A 5 Mile Ranch, 72.90 42 P P 06 02 56.5 +0.2
baz=317
S22A 4UR Ranch, Cre 73.10 54 P P 06 02 58.8 +0.8
baz=314
Q24A Divide 73.21 52 P P 06 02 59.4 +0.7
baz=314
BSD Bornholm Skovb 73.37 335 *iP* **P 06 02 58.8 0.0**
BSD IAmb IAmb 06 02 60.0
comp=Z,25nm,0.6s
214A Organ Pipe Nat 73.44 61 P P 06 03 01.0 +1.2
baz=313
EYMN Ely 73.52 38 P P 06 02 59.4 -0.6
baz=320
OGNE Ogallala 73.53 48 P P 06 03 00.8 +0.6
baz=315
OGNE Ogallala 73.53 48 P P 06 03 01.7 +1.5
baz=315
K30B Basset 73.56 46 P P 06 03 00.9 +0.6
baz=316
MUD Monsted U'grnd 73.85 338 *iP* **P 06 03 01.0 -0.6**
MUD IAmb IAmb 06 03 02.9
comp=Z,11nm,0.6s
SDCO Great Sand Dun 73.86 53 P P 06 03 03.1 +0.6
baz=314
SIM Simferopol' 73.90 318 *eP* **P 06 03 01.7 -0.4**
SIM S **SKiKP 06 12 25.7 -0.9**
SIM pmax pmax
comp=Z,57nm,0.8s
SORM Soroca 74.10 323 ⇓ **P P 06 03 03.3 +0.1**
SORM Soroca 74.10 323 ⇓ **P P 06 03 03.3 +0.1**
SHME Shamm 74.29 291 P P 06 03 04.7 0.0
ECSD EROS Data Cent 74.30 43 P P 06 03 04.9 +0.4
baz=318,SNR=12
ECSD EROS Data Cent 74.30 43 P P 06 03 03.9 -0.6
baz=318
TUC Tucson 74.46 60 P P 06 03 05.7 -0.1
TUC pmax pmax
comp=Z,7.0nm,2.8s
TUC Tucson 74.46 60 P P 06 03 06.4 +0.6
baz=313
WSAR Wadi Sarin 74.49 287 LR LR 06 40 47.3
comp=Z,145nm,18.6s,baz=51,slow=40
WSAR Wadi Sarin 74.49 287 P P 06 03 04.1 -1.9
E38A The Farm, Brul 74.52 39 P P 06 03 05.4 -0.4
E38A IAmb IAmb 06 03 06.3
comp=Z,17nm,0.8s
E38A The Farm, Brul 74.52 39 P P 06 03 05.5 -0.2
baz=320
LVV L'vov 74.55 327 *eP* **P 06 03 06.4 +0.6**
KSCO Kaye Shedlock' 74.58 50 P P 06 03 06.9 +0.5
baz=315
BIDO Bidbid 74.65 288 P P 06 03 07.2 +0.4
WBK Wadi Bani Khal 74.68 287 P P 06 03 08.5 +1.4
JLN Jalan Bani Buh 74.69 286 P P 06 03 08.3 +1.2
SNR=6.6
MDH Madha 74.69 290 P P 06 03 08.2 +1.1
MASF Masafi 74.73 291 P P 06 03 08.0 +0.6
KIS Kishinev 74.77 322 *eP* **P 06 03 07.0 -0.2**
KIS *eL* L 06 36 44.0
KIS LRM MLR 06 38 07.0
comp=Z,200nm,22.0s
MILM Milestii Mici 74.84 322 ⇑ *iP* **P 06 03 07.2 -0.3**
comp=Z,50nm,0.6s
MILM *eL* L 06 37 00.0
MILM LRM MLR 06 38 29.0
comp=Z,500nm,17.0s
MILM Milestii Mici 74.84 322 ⇑ **P P 06 03 07.2 -0.3**
MILM Milestii Mici 74.84 322 ⇑ **P P 06 03 07.2 -0.3**
T25A Trinidad 74.91 53 P P 06 03 08.4 -0.1
baz=315
SPMN Marine on St. 75.00 40 P P 06 03 08.6 +0.1
baz=319
SPMN Marine on St. 75.00 40 P P 06 03 08.8 +0.2
baz=319
SMDO Samad 75.01 288 P P 06 03 10.2 +1.1
HATD Hatta, Dubai 75.12 290 P P 06 03 10.3 +0.7
SNR=6.2
KWP Kalwaria Pacla 75.21 327 *eP* **P 06 03 10.6 +0.9**
KWP Kalwaria Pacla 75.21 327 P P 06 03 10.9 +1.2
KWP pmax pmax
comp=Z,105nm,1.4s
ANMO Albuquerque 75.26 55 P P 06 03 11.6 +1.1
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 75.26 55 P P 06 03 10.8 +0.4
baz=314
ANMO Albuquerque 75.26 55 P P 06 03 10.7 +0.2
baz=314
ANMO Albuquerque 75.26 55 LR LR 06 33 11.7
comp=Z,50nm,21.7s,baz=54,slow=33
ASHO Ashiyiah 75.26 290 P P 06 03 10.4 -0.1
SOHO SOHO 75.31 289 P P 06 03 10.8 +0.1
JMDO Jabal Madar 75.43 287 P P 06 03 11.6 +0.2
SNR=5.3
FAQ Al Faqa, Dubai 75.53 290 P P 06 03 12.2 +0.2
I37B Waseca 75.63 41 P P 06 03 11.9 -0.3
baz=319
BSEG Bad Segeberg 75.75 336 P P 06 03 12.8 +0.1
BSEG pmax pmax
comp=Z,28nm,1.4s
BSEG Bad Segeberg 75.75 336 *eP* **P 06 03 13.1 +0.4**
comp=Z,24nm,0.9s,baz=29,slow=5.4
ASUD Al Ashush, Dub 75.79 291 P P 06 03 10.4 +0.6
BSY Bisya 75.80 288 P P 06 03 14.3 +0.8
BUR08 Bucovina Ar. S 75.80 325 P P 06 03 13.6 +0.3
BUR08 IAmb IAmb 06 03 14.7
comp=Z,24nm,0.8s
BURAR Bucovina Array 75.82 325 ⇑ **P P 06 03 13.8 +0.5**
BURAR Bucovina Array 75.82 325 P P 06 03 14.1 +0.7
BURAR Bucovina Array 75.82 325 ⇑ **P P 06 03 13.8 +0.5**
OJC Ojcow 75.82 329 *eP* **P 06 03 13.9 +0.7**
OJC Ojcow 75.82 329 P P 06 03 13.6 +0.4
OJC Ojcow 75.82 329 P P 06 03 13.6 +0.4
OJC pmax pmax
comp=Z,47nm,0.9s
ARQ Araqi 75.86 289 P P 06 03 14.1 +0.2
ALNE Al Ain 75.89 290 P P 06 03 14.5 +0.5
KOLS Kolonicke sedl 75.94 327 *eP* **P 06 03 15.1 +1.2**
KOLS pmax pmax
comp=Z,29nm,0.8s
KOLS Kolonicke sedl 75.94 327 *eP* **P 06 03 15.1 +1.2**
STHS Stebnicka Huta 75.94 328 *eP* **P 06 03 14.8 +0.9**
STHS pmax pmax
comp=Z,28nm,0.9s
STHS Stebnicka Huta 75.94 328 *eP* **P 06 03 14.8 +0.9**
RUE Ruedersdorf 75.97 334 *eP* **P 06 03 14.4 +0.5**
comp=Z,50nm,1.0s,baz=29,slow=5.4
VLDR Vladesti 75.99 322 ⇓ **P P 06 03 15.2 +1.0**
TESR Tescani 76.09 323 ⇑ **P P 06 03 15.2 +0.4**
GHRR 76.11 322 ⇓ **P P 06 03 16.6 +1.7**
121A Cookes Peak, D 76.15 58 P P 06 03 16.2 +0.7
baz=314
121A Cookes Peak, D 76.15 58 P P 06 03 17.2 +1.7
baz=314
SCTR Scanteiesti 76.16 322 ⇑ **P P 06 03 15.3 +0.2**
TLCR 76.17 321 ⇑ **P P 06 03 15.7 +0.5**
TLCR 76.17 321 ⇑ **P P 06 03 15.7 +0.5**
KPL Plockton 76.26 346 *eP* **P 06 03 15.8 +0.3**
KPL IAmb IAmb 06 03 16.7

comp=Z,59nm,0.7s
CRVS Cervenica-Dubn 76.28 328 *e*P **P** **06 03 16.9 +1.1**
CRVS pmax pmax
comp=Z,31nm,1.0s
CRVS Cervenica-Dubn 76.28 328 *e*P **P** **06 03 16.9 +1.1**
SCHQ Schefferville 76.28 21 P **P** **06 03 16.2 +0.5**
SCHQ LR LR 06 40 04.4
comp=Z,4.6nm,0.8s,baz=330,slow=5.3,SNR=7.3
comp=Z,135nm,20.4s,baz=334,slow=38
comp=Z,4.6nm,0.8s
CBKS Cedar Bluff 76.29 49 P **P** **06 03 15.0 -1.1**
baz=317
NIE Niedzica 76.30 328 *e*P **P** **06 03 17.2 +1.3**
NIE Niedzica 76.30 328 P **P** **06 03 17.1 +1.2**
NIE pmax pmax
comp=Z,22nm,1.1s
NEGRR Negrea 76.32 322 ⇓P **P** **06 03 16.7 +0.7**
PANC Panciu 76.38 322 ⇓P **P** **06 03 18.1 +1.7**
STKA Stephens Creek 76.45 187 P **P** **06 03 18.0 +1.3**
comp=Z,2.0nm,0.6s,baz=343,slow=3.0,SNR=4.5
STKA LR LR 06 38 46.7
comp=Z,48nm,19.3s,baz=25,slow=37
comp=Z,2.0nm,0.6s
MHTO MHTO 76.46 286 P **P** **06 03 18.0 +0.8**
SNR=8.7
BMR Baia Mare 76.47 326 P **P** **06 03 16.3 -0.6**
BMR pmax pmax
comp=Z,30nm,1.3s
CFR Carcaliu 76.48 321 ⇓P **P** **06 03 17.7 +0.7**
CFR Carcaliu 76.48 321 ⇓P **P** **06 03 17.7 +0.7**
ODBI Odobesti 76.50 322 ⇓P **P** **06 03 19.0 +1.9**
KSP Ksiaz 76.54 332 *e*P **P** **06 03 18.0 +0.7**
KSP Ksiaz 76.54 332 P **P** **06 03 18.1 +0.8**
KSP pmax pmax
comp=Z,40nm,1.2s
VRI Vrincioaia 76.56 323 ⇓P **P** **06 03 18.7 +1.2**
VRI Vrincioaia 76.56 323 ⇓P **P** **06 03 18.7 +1.2**
TPGR Topolog 76.61 321 ⇓P **P** **06 03 18.1 +0.4**
PLOR Plostina 76.61 323 ⇓P **P** **06 03 18.9 +1.1**
PLOR Plostina 76.61 323 ⇓P **P** **06 03 18.9 +1.1**
TURR Turia 76.72 323 ⇓P **P** **06 03 19.4 +1.0**
OKC Ostrava-Krasne 76.74 330 *e*P **P** **06 03 19.4 +1.0**
OKC Ostrava-Krasne 76.74 330 *e*P **P** **06 03 19.4 +1.0**
OZUR 76.78 323 ⇑P **P** **06 03 20.4 +1.6**
COVR Voineasa-Covas 76.80 323 ⇓P **P** **06 03 20.1 +1.2**
OSTC Ostas 76.81 331 *e*P **P** **06 03 19.6 +0.8**
OSTC Ostas 76.81 331 *e*P **P** **06 03 19.6 +0.8**
BISRR Bisoca 76.82 323 ⇑P **P** **06 03 20.5 +1.4**
LANS Liptovska Anna 76.83 329 *e*P **P** **06 03 20.5 +1.5**
LANS pmax pmax
comp=Z,29nm,0.9s
LANS Liptovska Anna 76.83 329 *e*P **P** **06 03 20.5 +1.5**
CHVC Chvalec 76.84 332 *e*P **P** **06 03 19.9 +0.9**
CHVC Chvalec 76.84 332 *e*P **P** **06 03 19.9 +0.9**
FLTG Flechtingen 76.89 335 *e*P **P** **06 03 19.3 +0.2**
comp=Z,36nm,0.9s,baz=29,slow=5.4
TIRR Tirgusor 76.92 321 ⇓P **P** **06 03 19.9 +0.5**
TIRR Tirgusor 76.92 321 ⇓P **P** **06 03 19.9 +0.5**
UPC Upice 76.92 331 *e*P **P** **06 03 20.2 +0.8**
UPC Upice 76.92 331 *e*P **P** **06 03 20.2 +0.8**
DPC Dobruska-Polom 76.95 331 *e*P **P** **06 03 20.6 +1.0**
DPC Dobruska-Polom 76.95 331 *e*P **P** **06 03 20.6 +1.0**
HARR Harsova 76.95 321 ⇑P **P** **06 03 20.7 +1.1**
HARR Harsova 76.95 321 ⇑P **P** **06 03 20.7 +1.1**
KECS Kecovo 77.00 328 *e*P **P** **06 03 21.1 +1.2**
KECS Kecovo 77.00 328 *e*P **P** **06 03 21.1 +1.2**
MORC Moravsky Berou 77.00 330 ⇓P **P** **06 03 21.1 +1.1**
MORC Moravsky Berou 77.00 330 *e*P **P** **06 03 20.6 +0.7**
MORC Moravsky Berou 77.00 330 ⇓P **P** **06 03 21.1 +1.1**
KRLC Kraliky 77.02 331 *e*P **P** **06 03 20.9 +0.9**
KRLC Kraliky 77.02 331 *e*P **P** **06 03 20.9 +0.9**
DOPR Dopca 77.06 324 ⇓P **P** **06 03 21.6 +1.3**
NRDL Niedersach Rie 77.08 336 *e*P **P** **06 03 20.3 +0.1**
comp=Z,20nm,1.0s,baz=29,slow=5.4
RETH Rethem/Aller, 77.08 336 *e*P **P** **06 03 20.5 +0.4**
comp=Z,28nm,1.0s,baz=29,slow=5.4
MESR Meseneti 77.12 326 ⇓P **P** **06 03 21.9 +1.4**
MFTR Murfatlar 77.13 321 ⇓P **P** **06 03 21.7 +1.0**
MLR Muntele Rosu 77.19 323 ⇑P **P** **06 03 22.2 +1.0**
MLR Muntele Rosu 77.19 323 P **P** **06 03 22.5 +1.3**
MLR IAmb IAmb 06 03 23.7
comp=Z,20nm,0.8s
MLR Muntele Rosu 77.19 323 ⇑P **P** **06 03 22.2 +1.0**
MLR Muntele Rosu 77.19 323 LR LR 06 40 33.4
comp=Z,146nm,18.4s,baz=54,slow=38
CJR Cluj-Napoca 77.21 325 ⇑P **P** **06 03 22.9 +1.8**
CJR Cluj-Napoca 77.21 325 ⇑P **P** **06 03 22.9 +1.8**
CLL Collm 77.23 334 P **P** **06 03 21.1 0.0**
CLL Collm 77.23 334 *i* P **P** **06 03 21.3 +0.2**
CLL *e**PP **pP** **06 03 35.0 +0.7**
CLL pmax pmax
comp=Z,59nm,0.8s
CLL Collm 77.23 334 *i* P **P** **06 03 21.3 +0.2**
comp=Z,59nm,0.8s
CLL *ex* x 06 03 25.0
CLL *ex* x 06 03 31.0
CLL *ep*P **pP** **06 03 35.0 +0.7**
CLL *e*PP **PP** **06 06 19.0 +4.3**
CLL *e*SS SS 06 18 18.0 +14
CLL AMS AMS 06 41 00.0
comp=Z,200nm,18.4s
CLL Collm 77.23 334 *e*P **P** **06 03 21.1 0.0**
comp=Z,50nm,0.8s,baz=29,slow=5.4
ISR Istrita 77.23 322 ⇓P **P** **06 03 22.8 +1.5**
ISR Istrita 77.23 322 ⇓P **P** **06 03 22.8 +1.5**
LAWE Loch Awe, Argy 77.25 346 *e*P **P** **06 03 21.5 +0.4**
LAWE IAmb IAmb 06 03 22.6
comp=Z,34nm,0.8s
MAUC Maruska 77.25 330 *e*P **P** **06 03 22.4 +1.1**
BRG Berggiesshubel 77.30 333 *i* P **P** **06 03 22.1 +0.5**
BRG Amp 06 03 22.9
comp=Z,20nm,1.0s
BRG Berggiesshubel 77.30 333 *i* P **P** **06 03 22.0 +0.5**
BRG 06 03 37.3
BRG pmax pmax
comp=Z,20nm,1.0s
BRG Berggiesshubel 77.30 333 *e*P **P** **06 03 21.8 +0.3**
comp=Z,20nm,1.0s,baz=29,slow=5.4
SCIA State Center 77.32 43 P **P** **06 03 21.4 -0.4**
baz=320
PVCC Panska Ves 77.39 332 *e*P **P** **06 03 22.9 +0.9**
PVCC Panska Ves 77.39 332 *e*P **P** **06 03 22.9 +0.9**
MARR Marisel-Cluj 77.43 325 ⇑P **P** **06 03 23.0 +0.5**
ICOR Ion Corvin 77.46 321 ⇓P **P** **06 03 24.1 +1.6**
DRGR 77.50 326 ⇑P **P** **06 03 23.5 +0.7**
DRGR 77.50 326 ⇑P **P** **06 03 23.5 +0.7**
PGBU Glenifferbraes 77.51 345 *e*P **P** **06 03 23.1 +0.6**
PGBU IAmb IAmb 06 03 23.9
comp=Z,65nm,1.0s
RICC Richard 77.53 333 *e*P **P** **06 03 24.1 +1.3**
CLZ Clausthal 77.57 335 *e*P **P** **06 03 23.8 +0.7**
comp=Z,44nm,1.0s,baz=29,slow=5.4
VYHS Vyhne 77.61 329 *e*P **P** **06 03 24.2 +0.9**
VYHS pmax pmax
comp=Z,49nm,1.4s
VYHS Vyhne 77.61 329 *e*P **P** **06 03 24.2 +0.9**
VOIR 77.62 323 ⇓P **P** **06 03 24.4 +0.9**
VOIR 77.62 323 ⇓P **P** **06 03 24.4 +0.9**
PSZ Piszkesteto 77.69 328 ⇑P **P** **06 03 24.8 +1.0**
PSZ Piszkesteto 77.69 328 ⇑P **P** **06 03 24.8 +1.0**
HSKC Hora Svate Kat 77.69 333 *e*P **P** **06 03 24.1 +0.3**
NEUB Neuenburg 77.70 334 *e*P **P** **06 03 24.1 +0.4**
comp=Z,45nm,1.0s,baz=29,slow=5.4
SULR 77.70 322 ⇓P **P** **06 03 24.2 +0.4**
EKA Eskdalemuir Ar 77.71 344 P **P** **06 03 24.4 +0.6**
comp=Z,14nm,0.7s,baz=11,slow=4.7,SNR=35
comp=Z,14nm,0.7s
JAVC Velka Javorina 77.73 330 *e*P **P** **06 03 25.7 +1.7**
KSU1 Kansas State U 77.73 47 P **P** **06 03 23.4 -0.8**
baz=318
VRAC Vranov 77.73 330 ⇓P **P** **06 03 25.5 +1.5**
VRAC Vranov 77.73 330 *e*P **P** **06 03 24.6 +0.6**
VRAC Vranov 77.73 330 ⇓P **P** **06 03 25.5 +1.5**
VRAC Vranov 77.73 330 LR LR 06 40 26.0
comp=Z,131nm,19.3s,baz=31,slow=38
ESK Eskdalemuir 77.74 344 *e*P **P** **06 03 24.1 +0.2**
ESK IAmb IAmb 06 03 25.5
comp=Z,30nm,1.0s
GOPC GO Pecny, Ondr 77.84 332 *e*P **P** **06 03 25.6 +1.0**
GOPC GO Pecny, Ondr 77.84 332 *e*P **P** **06 03 25.6 +1.0**
ARR Arges 77.85 324 ⇑P **P** **06 03 26.4 +1.6**
PRU Pruhonice 77.86 332 *e*P **P** **06 03 25.5 +0.9**
PRU Pruhonice 77.86 332 *e*P **P** **06 03 25.5 +0.9**

IBBN Ibbenburen 77.92 337 *e*P **P** **06 03 25.3 +0.4**
comp=Z,34nm,0.9s,baz=29,slow=5.4
JFWS Jewell Farm 77.95 40 P **P** **06 03 24.6 -0.7**
baz=321
GTTG Gottingen 77.95 335 *e*P **P** **06 03 25.9 +0.8**
comp=Z,38nm,1.0s,baz=29,slow=5.4
KRUC Moravsky 78.01 330 *e*P **P** **06 03 26.3 +0.8**
KRUC Moravsky 78.01 330 P **P** **06 03 26.5 +1.0**
BR131 Keskin Array S 78.03 315 P **P** **06 03 26.5 +0.5**
SNR=5.6
BRTR Keskin Array B 78.03 315 P **P** **06 03 26.0 0.0**
BRTR Keskin Array B 78.03 315 P **P** **06 03 26.6 +0.6**
comp=Z,7.9nm,0.8s,baz=88,slow=3.1,SNR=27
BRTR LR LR 06 43 17.2
comp=Z,112nm,19.2s,baz=68,slow=40
comp=Z,7.9nm,0.8s
SMOL Smolenice 78.10 330 *e*P **P** **06 03 27.6 +1.6**
SMOL pmax pmax
comp=Z,29nm,1.3s
TREC Trest 78.13 331 *e*P **P** **06 03 26.6 +0.4**
TREC Trest 78.13 331 *e*P **P** **06 03 26.6 +0.4**
DEV Deva 78.16 325 P **P** **06 03 25.9 -0.5**
TANN Tannenbergstha 78.17 333 *e*P **P** **06 03 25.6 -0.9**
comp=Z,13nm,1.1s,baz=29,slow=5.4
MNTX Cornudas Mount 78.18 57 P **P** **06 03 27.4 +0.6**
baz=315
MNTX Cornudas Mount 78.18 57 P **P** **06 03 27.4 +0.6**
baz=315
PLN Plauen 78.21 334 *e*P **P** **06 03 27.0 +0.5**
comp=Z,22nm,1.1s,baz=29,slow=5.4
MOX Moxa 78.24 334 P **P** **06 03 27.6 +0.8**
MOX pmax pmax
comp=Z,25nm,1.2s
MOX Moxa 78.24 334 *e*P **P** **06 03 27.1 +0.3**
comp=Z,33nm,1.2s,baz=29,slow=5.4
MODS Modra-Piesok 78.28 330 *e*P **P** **06 03 28.3 +1.3**
MODS pmax pmax
comp=Z,88nm,1.1s
MODS Modra-Piesok 78.28 330 *e*P **P** **06 03 28.3 +1.3**
NKC Novy Kostel 78.33 333 P **P** **06 03 27.6 +0.3**
ANTO Ankara 78.35 315 P **P** **06 03 28.5 +0.9**
ANTO pmax pmax
comp=Z,47nm,0.7s
ANTO Ankara 78.35 315 P **P** **06 03 28.2 +0.6**
SIRR Siria 78.35 326 ⇓P **P** **06 03 27.2 -0.3**
SRO Srobarova 78.37 329 *e*P **P** **06 03 29.1 +1.6**
SRO pmax pmax
comp=Z,48nm,1.1s
SRO Srobarova 78.37 329 *e*P **P** **06 03 29.1 +1.6**
BUD Budapest 78.38 328 P **P** **06 03 28.7 +1.2**
BUD pmax pmax
comp=Z,41nm,1.3s
ZVC Zvikov 78.45 332 *e*P **P** **06 03 28.7 +0.8**
RAZG Razgrad 78.47 321 ⇓P **P** **06 03 29.2 +1.0**
ZST Bratislava 78.49 330 *e*P **P** **06 03 29.6 +1.4**
ZST pmax pmax
comp=Z,82nm,1.2s
ZST Bratislava 78.49 330 *e*P **P** **06 03 29.6 +1.4**
CLGH Cloghs, Cushen 78.49 346 *e*P **P** **06 03 28.9 +0.9**
CLGH IAmb IAmb 06 03 29.3
comp=Z,51nm,0.9s
SURR Surduc 78.58 325 ⇓P **P** **06 03 29.0 +0.2**
UBBA Unterbreizbach 78.58 335 *e*P **P** **06 03 28.8 +0.3**
comp=Z,16nm,1.0s,baz=29,slow=5.4
MANZ Manberg 78.66 333 *e*P **P** **06 03 29.4 +0.3**
comp=Z,4.3nm,1.0s,baz=29,slow=5.4
HPK Haverah Park 78.70 343 *e*P **P** **06 03 29.8 +0.6**
HPK IAmb IAmb 06 03 30.7
comp=Z,69nm,1.0s
KASTN Kahler Asten 78.71 336 *e*P **P** **06 03 29.7 +0.4**
comp=Z,17nm,0.9s,baz=29,slow=5.4
ROTZ Rotzenmuhle 78.82 333 *e*P **P** **06 03 30.1 +0.1**
comp=Z,6.3nm,1.0s,baz=29,slow=5.4
BUG Bochum--Univer 78.83 337 P **P** **06 03 30.3 +0.4**
BUG pmax pmax
comp=Z,32nm,1.4s
BUG Bochum--Univer 78.83 337 *e*P **P** **06 03 30.2 +0.2**
comp=Z,28nm,1.0s,baz=29,slow=5.4
BZS Buzias 78.90 326 ⇓P **P** **06 03 30.8 +0.3**
BZS Buzias 78.90 326 ⇓P **P** **06 03 30.8 +0.3**
GLMI Grayling 78.92 36 P **P** **06 03 30.8 +0.2**
baz=324
KHC Kasperske Hory 78.92 332 P **P** **06 03 31.0 +0.5**
KHC Kasperske Hory 78.92 332 *e*P **P** **06 03 31.3 +0.7**
KHC Kasperske Hory 78.92 332 *e*P **P** **06 03 31.3 +0.7**
CKRC Cesky Krumlov 78.94 332 *e*P **P** **06 03 30.8 +0.1**
CKRC Cesky Krumlov 78.94 332 *e*P **P** **06 03 30.8 +0.1**
IOMK Kirk Michael 79.00 345 *e*P **P** **06 03 30.8 0.0**
IOMK IAmb IAmb 06 03 31.5
comp=Z,143nm,1.1s
VHRN Van Horn 79.06 58 P **P** **06 03 32.2 +0.4**
SOP Sopron 79.12 330 P **P** **06 03 33.3 +1.7**
SOP pmax pmax
comp=Z,54nm,1.2s
GEC2 GERESS Array S 79.12 332 *e*P **P** **06 03 31.7 0.0**
comp=Z,13nm,0.8s,baz=29,slow=5.4
GERES GERESS Array B 79.12 332 P **P** **06 03 32.3 +0.6**
comp=Z,6.2nm,0.5s,baz=56,slow=5.0,SNR=19
GERES LR LR 06 42 50.2
comp=Z,179nm,18.8s,baz=58,slow=39
comp=Z,6.2nm,0.5s
WET Wettzell 79.14 333 P **P** **06 03 32.6 +0.8**
WET pmax pmax
comp=Z,46nm,1.1s
WET Wettzell 79.14 333 *e*P **P** **06 03 32.4 +0.6**
comp=Z,39nm,1.0s,baz=29,slow=5.4
CONA Conrad Observa 79.16 330 *i* P **P** **06 03 33.1 +1.1**
comp=Z,26nm,0.8s,SNR=17
HERR Herculane 79.17 325 ⇓P **P** **06 03 32.2 +0.2**
GRF Grafenberg Arr 79.20 334 P **P** **06 03 33.0 +0.9**
GRF pmax pmax
comp=Z,69nm,1.2s
GRF Grafenberg Arr 79.20 334 *e*P **P** **06 03 32.5 +0.4**
comp=Z,51nm,0.9s,baz=29,slow=5.4
GRF *e*L L 06 47 27.4
comp=Z,269nm,19.2s
GRFO Grafenberg 79.20 334 P **P** **06 03 33.0 +1.0**
GRFO pmax pmax
comp=Z,69nm,1.2s
RONA Rosalia, Austr 79.20 330 *i* P **P** **06 03 33.3 +1.2**
comp=Z,36nm,0.9s,SNR=13
LBWR Ladybower, Pea 79.24 343 *e*P **P** **06 03 33.0 +0.8**
LBWR IAmb IAmb 06 03 33.7
comp=Z,74nm,0.8s
GRB1 Grafenberg Arr 79.32 333 P **P** **06 03 34.0 +1.3**
GRB1 pmax pmax
comp=Z,48nm,1.2s
PLVB Pleven 79.44 322 ⇓P **P** **06 03 34.1 +0.6**
MDVR Moldovita 79.55 325 ⇓P **P** **06 03 34.2 +0.1**
TNS Taunus Mts 79.58 336 P **P** **06 03 33.9 -0.3**
TNS pmax pmax
comp=Z,31nm,1.1s
TNS Taunus Mts 79.58 336 *e*P **P** **06 03 33.8 -0.4**
comp=Z,19nm,0.9s,baz=29,slow=5.4
MORH Mrgy, Hungar 79.58 328 ⇑P **P** **06 03 33.7 -0.4**
L44A Lake County Fo 79.60 39 P **P** **06 03 34.6 +0.3**
baz=322
AHRW Bad Neuenahr-A 79.69 337 *e*P **P** **06 03 34.9 +0.3**
comp=Z,30nm,1.1s,baz=29,slow=5.4
CWF Chernwood Fore 79.77 342 *e*P **P** **06 03 35.6 +0.6**
MOA Molln 79.79 331 *i* P **P** **06 03 35.8 +0.5**
comp=Z,12nm,0.9s
ARSA Arzberg 79.86 330 *i* P **P** **06 03 36.4 +0.7**
comp=Z,23nm,1.4s,SNR=7.7
MEM Membach 79.93 337 P **P** **06 03 36.0 0.0**
MEM Membach 79.93 337 *d*P **P** **06 03 36.2 +0.2**
comp=Z,23nm,1.1s
FRGS Fruska Gora 80.00 326 ⇓P **P** **06 03 37.1 +0.6**
FRGS Fruska Gora 80.00 326 *e*P **P** **06 03 36.0 -0.5**
BSTI Sart Tilman 80.07 337 *d*P **P** **06 03 38.1 +1.4**
BLKB Belogradchik 80.09 324 ⇑P **P** **06 03 37.7 +0.6**
BIOA Bad Ischl, Aus 80.14 331 *e*P **P** **06 03 37.9 +0.6**
comp=Z,35nm,1.0s,SNR=11
BHOU Houvegnez 80.16 337 *d*P **P** **06 03 37.9 +0.6**
LLW Llanuwchllyn 80.16 344 *e*P **P** **06 03 37.5 +0.4**
HDIL Hopedale 80.24 41 P **P** **06 03 37.8 0.0**
baz=322
BCLA Clavier 80.29 338 *d*P **P** **06 03 38.2 +0.3**
comp=Z,16nm,1.2s
BGES Gesves 80.38 338 *d*P **P** **06 03 39.1 +0.7**
comp=Z,16nm,1.1s
LPIG La Paz 80.44 66 LR LR 06 31 06.1
comp=Z,70nm,20.8s,baz=301,slow=30
S39A Bolivar 80.48 46 P **P** **06 03 38.0 -1.2**
baz=320

BOVS Bovan 80.49 324 ⇑P **P** **06 03 38.6 -0.5**
FUR Furstenfeldbru 80.52 333 P **P** **06 03 40.1 +0.9**
FUR pmax pmax
comp=Z,55nm,1.2s
SOKA Soboth 80.52 330 *i* P **P** **06 03 39.5 +0.1**
comp=Z,40nm,1.0s,SNR=22
PERS Pernice 80.53 330 *i* P **P** **06 03 39.6 +0.3**
GROS Grobnik 80.54 330 *i* P **P** **06 03 39.5 +0.1**
BMRD Maredsous 80.54 338 *d*P **P** **06 03 39.5 +0.2**
comp=Z,24nm,1.1s
TUL3 Leonard 80.55 48 P **P** **06 03 40.1 +0.5**
baz=319
RCHB Rochefort 80.55 337 *d*P **P** **06 03 38.6 -0.7**
comp=Z,17nm,1.2s
R40A Maddies Statio 80.55 45 P **P** **06 03 39.1 -0.4**
baz=321
TEKS Tekeris 80.62 326 *e*P **P** **06 03 39.4 -0.4**
STU Stuttgart 80.64 335 P **P** **06 03 39.4 -0.4**
STU pmax pmax
comp=Z,36nm,1.1s
LESA Schwarzleotal 80.70 332 *i* P **P** **06 03 41.1 +0.9**
comp=Z,36nm,0.9s
DOK Doka 80.70 287 P **P** **06 03 40.3 -0.3**
DMTO DMTO 80.76 286 P **P** **06 03 40.0 -1.0**
KBA Koelnbreinsper 80.77 331 *e*P **P** **06 03 41.7 +0.9**
comp=Z,50nm,0.7s,SNR=21
KBA Koelnbreinsper 80.77 331 P **P** **06 03 42.1 +1.3**
KBA pmax pmax
comp=Z,83nm,0.8s
DOU Dourbes 80.78 338 *d*P **P** **06 03 40.2 -0.3**
comp=Z,9.2nm,1.1s
MCH1 Michaelchurch 80.83 343 *e*P **P** **06 03 41.7 +0.9**
MCH1 IAmb IAmb 06 03 42.7
comp=Z,56nm,1.1s
OBKA Obir 80.84 330 *i* P **P** **06 03 41.1 0.0**
comp=Z,9.3nm,0.6s
OBKA Obir 80.84 330 *e*P **P** **06 03 38.0 -3.1**
ABTX Abilene, Hawle 80.87 53 P **P** **06 03 41.6 +0.2**
baz=318
TX31 Lajitas Ar. Si 80.90 58 P **P** **06 03 42.3 +0.6**
baz=316
TXAR Lajitas Array 80.90 58 P **P** **06 03 42.1 +0.4**
comp=Z,3.8nm,0.6s,baz=302,slow=3.8,SNR=65
TXAR LR LR 06 40 35.3
comp=Z,22nm,18.6s,baz=314,slow=36
comp=Z,3.8nm,0.6s
MONM Monmouth 80.94 343 *e*P **P** **06 03 42.3 +1.0**
MONM IAmb IAmb 06 03 42.8
comp=Z,96nm,1.1s
GCIS Gornji Cirnik 81.00 329 *i* P **P** **06 03 41.8 0.0**
MYKA Terra Mystica 81.05 331 *i* P **P** **06 03 42.1 -0.1**
comp=Z,19nm,1.0s
WOL Wolverton 81.09 342 *e*P **P** **06 03 42.6 +0.4**
CRES Cresnjev 81.10 329 *e*P **P** **06 03 41.5 -0.9**
WATA Walderalm 81.14 332 *e*P **P** **06 03 43.5 +0.8**
comp=Z,29nm,0.6s,SNR=16
SADO Sadowa 81.16 33 LR LR 06 44 44.4
comp=Z,65nm,18.5s,baz=98,slow=39
WTTA Wattenberg 81.19 332 *i* P **P** **06 03 43.9 +0.9**
comp=Z,43nm,0.7s,SNR=15
WTTA Wattenberg 81.19 332 P **P** **06 03 43.9 +0.9**
WTTA pmax pmax
comp=Z,66nm,1.2s
HAPS Han Pijesak,Bl 81.23 326 *e*P **P** **06 03 43.2 0.0**
BBLS Lazići 81.24 326 *e*P **P** **06 03 43.1 -0.1**
CCM Cathedral Cave 81.25 44 P **P** **06 03 44.0 +0.7**
baz=321
A051A Mrakovica 81.25 328 *e*P **P** **06 03 42.6 -0.6**
RETA Reutte 81.28 333 *i* P **P** **06 03 44.0 +0.7**
comp=Z,38nm,1.3s,SNR=8.7
MOTA Moosalm 81.29 333 *i* P **P** **06 03 43.8 +0.3**
comp=Z,62nm,1.1s,SNR=16
BFO Black Forest 81.30 335 P **P** **06 03 43.7 +0.3**
BFO pmax pmax
comp=Z,21nm,1.4s
BFO Black Forest 81.30 335 *e*P **P** **06 03 42.4 -0.9**
comp=Z,19nm,1.0s,baz=29,slow=5.4
ABTA Abfaltersbach 81.34 332 *i* P **P** **06 03 43.8 +0.1**
comp=Z,11nm,0.7s
SQTA Sankt Quirin 81.36 333 *e*P **P** **06 03 44.6 +0.7**
comp=Z,36nm,0.8s,SNR=11
BLY Banja Luka 81.37 328 *e*P **P** **06 03 43.3 -0.5**
AAM Ann Arbor 81.37 37 P **P** **06 03 44.5 +0.6**
baz=325
SFIN Lafayette 81.40 40 P **P** **06 03 44.4 +0.4**
baz=323
RBK Rabkut 81.42 286 P **P** **06 03 43.5 -1.1**
WHFO Wadi Hawf 81.43 287 P **P** **06 03 44.1 -0.5**
BOJS Bojanci 81.45 329 *e*P **P** **06 03 42.1 -2.1**
RUDO Rudo 81.46 326 *e*P **P** **06 03 43.9 -0.4**
PEHC Pehcevo 81.49 322 *i* P **P** **06 03 45.7 +1.1**
SJES Sjenica 81.51 325 *e*P **P** **06 03 45.1 +0.4**
CEY Cerknica 81.54 330 *e*P **P** **06 03 43.8 -0.9**
N47A Urbana 81.64 39 P **P** **06 03 44.4 -0.9**
baz=324
N47A P P **06 03 44.4 -0.9**
baz=324
MGRS Mrkonjic Grad 81.69 328 *e*P **P** **06 03 46.2 +0.7**
FETA Feichten 81.70 333 *e*P **P** **06 03 46.3 +0.6**
comp=Z,24nm,1.0s,SNR=8.2
DAVA Damuels 81.74 333 *e*P **P** **06 03 46.1 +0.2**
comp=Z,33nm,0.9s,SNR=7.4
U40A Yellville 81.75 46 P **P** **06 03 45.6 -0.3**
baz=320
U40A P P **06 03 45.6 -0.3**
baz=320
A050A Klekovaca 81.84 328 *e*P **P** **06 03 44.8 -1.6**
SKDS Skadanscina 81.86 330 *e*P P 06 03 40.9 -5.5
P46A Rosedale 81.96 41 P **P** **06 03 47.2 +0.2**
baz=323
SKO Skopje 81.96 323 *i* P **P** **06 03 48.1 +1.1**
KNT Kendrikon 81.99 322 P **P** **06 03 47.3 +0.1**
MMAI Mount Meron Ar 82.13 309 P **P** **06 03 48.9 +0.7**
comp=Z,14nm,0.6s,baz=50,slow=6.6,SNR=20
comp=Z,14nm,0.6s
ABTO Aybut 82.15 286 P **P** **06 03 48.1 -0.3**
DAVOX Davos/Dischmat 82.19 333 LR LR 06 45 48.6
comp=Z,91nm,18.4s,baz=64,slow=40
JCT Junction City 82.36 54 P **P** **06 03 49.6 +0.3**
baz=318
GRG Griva 82.38 322 P **P** **06 03 49.7 +0.5**
O48B Farmland 82.38 39 P **P** **06 03 49.7 +0.5**
baz=324
S44A Carbondale 82.51 43 P **P** **06 03 49.7 -0.2**
baz=322
PAIG Paliouri 82.65 321 P **P** **06 03 51.0 +0.4**
DRME Dracevica, Mon 82.72 325 *e*P **P** **06 03 49.6 -1.4**
E62A Clayton Lake 82.91 26 P **P** **06 03 51.1 -0.7**
baz=333
E62A P P **06 03 51.1 -0.7**
baz=333
OHR Ohrid 82.94 323 *i* P **P** **06 03 53.0 +0.8**
ERPA Erie 83.05 35 P **P** **06 03 52.3 -0.4**
baz=327
P49A Miami Univ. Ec 83.16 39 P **P** **06 03 53.7 +0.4**
baz=325
PPT Papeete 83.19 123 LR LR 06 32 53.7
comp=Z,77nm,20.9s,baz=326,slow=30
PPT2 Papeete2 83.20 123 *e*LR LR 06 29 49.1
comp=Z,223nm,24.5s
PPT2 *e*LR LR 06 29 57.5
comp=Z,187nm,26.0s
M53A WI Miller and 83.34 35 P **P** **06 03 54.5 +0.3**
baz=327
KBN Korca 83.35 323 P **P** **06 03 54.7 +0.4**
ACSO Alum Creek Sta 83.36 38 P **P** **06 03 54.2 -0.1**
baz=326
WCI Wyandotte Cave 83.50 41 P **P** **06 03 55.4 +0.4**
baz=324
WCI Wyandotte Cave 83.50 41 P **P** **06 03 54.3 -0.7**
baz=324
LOR Lormes 83.56 337 P **P** **06 03 55.3 +0.1**
PAMR Moraine State 84.00 35 P **P** **06 03 57.4 -0.2**
baz=327
M55A Ridgway 84.09 34 P **P** **06 03 58.4 +0.4**
baz=328
M55A P P **06 03 58.4 +0.4**
baz=328
O53A New Philadelph 84.11 36 P **P** **06 03 58.3 +0.2**
baz=326
T47A Sharon Grove 84.11 42 P **P** **06 03 58.8 +0.7**
baz=323
PKME Peaks-Kenny Pk 84.19 26 P **P** **06 03 58.3 -0.1**
baz=334
Q51A Peebles 84.19 38 P **P** **06 03 59.1 +0.5**
baz=325

Q51A				P		**P**	**06 03 59.1**	**+0.5**
	baz=325								
H62A	**Milan**	**84.20**	**28**	P		**P**	**06 03 58.6**	**+0.1**
	baz=332								
H62A				P		**P**	**06 03 58.6**	**+0.1**
	baz=332								
P52A	**Corning**	**84.22**	**37**	P		**P**	**06 03 58.7**	**0.0**
	baz=326								
LBNH	**Lisbon**	**84.24**	**28**	P		**P**	**06 03 58.4**	**-0.3**
	baz=332								
WVT	**Waverly**	**84.44**	**43**	P		**P**	**06 04 00.5**	**+0.6**
WVT				pmax		pmax			
	comp=Z,7.0nm,0.9s								
WVT	**Waverly**	**84.44**	**43**	P		**P**	**06 04 00.2**	**+0.3**
	baz=323								
BINY	**Binghamton**	**84.56**	**32**	P		**P**	**06 03 59.8**	**-0.5**
	baz=330								
M57A	**Sunshine Farm,**	**84.85**	**33**	P		**P**	**06 04 01.7**	**-0.2**
	baz=329								
M57A				P		**P**	**06 04 01.7**	**-0.2**
	baz=329								
I63A	**Otisfield**	**84.86**	**28**	P		**P**	**06 04 02.3**	**+0.6**
	baz=333								
I63A				P		**P**	**06 04 02.3**	**+0.6**
	baz=333								
EIL	**Elat**	**84.90**	**307**	LR		LR	06 47 29.5		
	comp=Z,142nm,19.4s,baz=31,slow=40								
U49A	**Red Boiling Sp**	**85.12**	**42**	P		**P**	**06 04 03.0**	**-0.2**
	baz=324								
T50A	**Nancy**	**85.15**	**41**	P		**P**	**06 04 03.2**	**-0.3**
	baz=325								
T50A				P		**P**	**06 04 03.2**	**-0.3**
	baz=325								
SSPA	**Standing Stone**	**85.15**	**34**	P		**P**	**06 04 02.8**	**-0.6**
	baz=328								
MCWV	**Mont Chateau**	**85.18**	**36**	P		**P**	**06 04 03.0**	**-0.5**
	baz=327								
Y45A	**Yeager Farm, C**	**85.38**	**46**	P		**P**	**06 04 05.2**	**+0.6**
	baz=322								
HRV	**Adam Dziewonsk**	**85.89**	**29**	P		**P**	**06 04 07.0**	**0.0**
	baz=332								
R55A	**Marlinton**	**86.21**	**37**	P		**P**	**06 04 08.9**	**+0.1**
	baz=327								
R55A				P		**P**	**06 04 08.9**	**+0.1**
	baz=327								
URZ	**Urewera**	**86.25**	**158**	LR		LR	06 35 46.3		
	comp=Z,46nm,21.9s,baz=121,slow=31								
V51A	**Loudon**	**86.37**	**41**	P		**P**	**06 04 10.2**	**+0.7**
	baz=325								
TKL	**Tuckaleechee C**	**86.76**	**41**	LR		LR	06 42 44.7		
	comp=Z,64nm,21.9s,baz=346,slow=36								
BLA	**Blacksburg**	**86.98**	**38**	P		**P**	**06 04 12.0**	**-0.5**
	baz=327								
LRAL	**Lakeview Retre**	**87.33**	**44**	P		**P**	**06 04 13.8**	**-0.4**
	baz=324								
CASEE	**Lake Jocassee**	**87.69**	**40**	P		**P**	**06 04 16.3**	**+0.3**
	baz=326								
KMSC	**Kings Mountain**	**88.30**	**39**	P		**P**	**06 04 18.3**	**-0.5**
	baz=327								
250A	**Grady**	**88.54**	**44**	P		**P**	**06 04 21.0**	**+1.0**
	baz=324								
GOGA	**Godfrey**	**88.74**	**42**	P		**P**	**06 04 20.4**	**-0.5**
	baz=326								
RPZ	**Rata Peaks**	**90.07**	**164**	LR		LR	06 38 55.9		
	comp=Z,124nm,20.3s,baz=0.5,slow=32								
KEST	**Kesra**	**92.15**	**328**	LR		LR	06 49 57.6		
	comp=Z,170nm,18.7s,baz=285,slow=38								
ESDC	**Sonseca Array**	**92.69**	**340**	P		**P**	**06 04 39.1**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=19,slow=4.2,SNR=11								
	comp=Z,1.5nm,0.8s								
ATD	**Arta Tunnel**	**93.37**	**290**	LR		LR	06 52 20.3		
	comp=Z,5.1nm,18.4s,baz=102,slow=39								
CMIG	**Matias Romero**	**95.36**	**60**	LR		LR	06 46 13.6		
	comp=Z,39nm,18.3s,baz=304,slow=34								
MDT	**Midelt**	**99.34**	**338**	LR		LR	06 57 48.7		
	comp=Z,63nm,18.4s,baz=26,slow=40								
TORD	**Torodi Ar. Bea**	**115.40**	**325**	PKP		**PKiKP**	**06 10 07.7**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=34,slow=2.4,SNR=2.8								
QSPA	**South Pole Qui**	**134.36**	**180**	PKP		**PKiKP**	**06 10 44.7**	**-0.5**
	comp=Z,2.3nm,1.0s,baz=317,slow=0.7,SNR=5.6								
FSA	**Cafayete**	**146.18**	**69**	*e*P		**PKPab**	**06 11 08.1**	**-0.3**
VCA	**Vinchina**	**146.36**	**75**	*e*P		**PKPbc**	**06 11 07.8**	**-0.3**
TINO	**Tinogasta**	**146.38**	**73**	*e*P		**PKPab**	**06 11 09.6**	**+0.5**
AGUA	**GUANDACOL**	**146.62**	**76**	*e*P		**PKiKP**	**06 11 13.5**	**+1.9**
RTLS	**Leoncito**	**147.41**	**80**	*e*P		**PKPbc**	**06 11 11.5**	**+0.3**
AUSP	**Uspallata**	**147.58**	**81**	*e*P		**PKPbc**	**06 11 12.4**	**+0.7**
BDFB	**Brasilia**	**147.62**	**32**	PKPbc		**PKPbc**	**06 11 12.4**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=351,slow=3.8,SNR=10								
ACLC	**CERRO LA CRUZ**	**147.65**	**74**	*e*P		**PKPdf**	**06 11 09.6**	**+0.6**
CYA	**Choya**	**147.82**	**72**	*e*P		**PKPbc**	**06 11 11.8**	**-0.3**
CYA				*e*P		**PKiKP**	**06 11 12.3**	**-1.7**
AVFE	**Valle Fertil**	**148.04**	**77**	*e*P		**PKPbc**	**06 11 12.0**	**-0.6**
ASAL	**Salagasta**	**148.18**	**81**	*e*P		**PKPbc**	**06 11 12.9**	**0.0**
TROLL	**Troll, Antarti**	**148.31**	**199**	⇑PKPbc		**PKPbc**	**06 11 12.5**	**+0.3**
	comp=Z,444nm,0.8s								
AAGR	**Agrelo**	**148.45**	**82**	*i* P		**PKPbc**	**06 11 14.1**	**+0.4**
SNAA	**Sanae**	**149.74**	**197**	⇑PKPbc		**PKPbc**	**06 11 15.2**	**-0.4**
	comp=Z,146nm,1.0s								
SNAA	**Sanae**	**149.74**	**197**	PKPbc		**PKPbc**	**06 11 15.2**	**-0.4**
	comp=Z,7.6nm,1.0s,baz=129,slow=6.5,SNR=4.7								
PLCA	**Paso Flores**	**150.68**	**97**	PKPbc		**PKPbc**	**06 11 18.5**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=248,slow=4.1,SNR=7.9								
VNA2	**Neumayer--Watz**	**151.24**	**196**	⇑PKPbc		**PKPbc**	**06 11 18.8**	**-0.4**
	comp=Z,12nm,0.6s,baz=110,slow=2.0								
VNA3	**Neumayer Olymp**	**151.40**	**194**	⇑PKPbc		**PKPbc**	**06 11 19.4**	**-0.1**
	comp=Z,6.7nm,0.7s								
VNA1	**Neumayer--Stat**	**151.63**	**196**	⇑PKPbc		**PKPbc**	**06 11 19.8**	**-0.2**
	comp=Z,28nm,1.1s								
CPUP	**Villa Florida**	**151.87**	**58**	PKPbc		**PKPbc**	**06 11 21.6**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=42,slow=3.8,SNR=2.1								
CPUP				PKPab		**sPKPdf**	**06 11 32.3**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=358,slow=6.8,SNR=4.7								

AUST 20 05:57:42.8±4.3, 30°45S×152°88E, h0km, Error ellipse: s-maj=35.5km s-min=21.4km az=44.0, Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**1.08**	**271**	P	Pg	05 58 03.8	+0.3
	baz=1.1						
ARMA				S	Sb	05 58 19.3	+0.1
	baz=1.1						
ARMA	**Armidale**	**1.08**	**271**	P	Pg	05 58 03.8	+0.3
	baz=0.5						
ARMA				S	Sg	05 58 05.4	-12
	baz=0.5						
AUPHS	**Peel High Scho**	**1.83**	**249**	P	Pn	05 58 13.2	-2.4
	baz=1.4						
AUPHS				S	Sn	05 58 39.9	+0.4
	baz=1.4						
MGCD	**Mangrove Creek**	**3.14**	**208**	P	Pn	05 58 34.9	+1.4
	baz=3.1						
MGCD				S	Sn	05 59 13.1	+1.4
	baz=3.1						
MGCD	**Mangrove Creek**	**3.14**	**208**	del		05 58 38.1	
	baz=3.2						
MGCD				del		05 59 15.4	
	baz=3.2						
AULRC	**Lightning Ridg**	**4.38**	**282**	P	Pn	05 58 51.1	+0.6
	baz=3.6						
AULRC				S	Sn	05 59 32.0	-10
	baz=3.6						

*IDC **20** 06:05:41.0±1.2, 18°.27N×96°.10E, h0km, mb4.0/7, mbtmp4.0/7, ML3.2/1, MS3.1/2, Error ellipse: s-maj=29.3km s-min=15.8km az=30.0*

ISC 20 06:05:46.5±1.4, 18°.3N±0°.2×96°.2E±0°.2, h35km, n9, σ0s67/8, mb4.1/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**2.60**	**87**	Pn	**Pn**	**06 06 26.3**	**+0.2**
	1.0nm,0.3s,baz=264,slow=15,SNR=6.9						
CMAR				Lg	Lg	06 07 07.2	
	40nm,0.3s,baz=259,slow=31,SNR=14						
CMAR				LR	LR	06 07 41.5	
	comp=Z,89nm,21.2s,baz=255,slow=44						
MKAR	**Makanchi Array**	**30.61**	**341**	P	**P**	**06 11 57.1**	**-0.2**
	0.7nm,0.5s,baz=149,slow=9.3,SNR=9.5						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**35.16**	**340**	P	**P**	**06 12 36.3**	**-0.6**
	1.6nm,0.2s,baz=152,slow=8.5,SNR=2.9						
	1.6nm,0.2s						
ZALV	**Zalesovo Beam**	**36.62**	**349**	P	**P**	**06 12 48.9**	**-0.5**
	1.9nm,0.8s,baz=170,slow=9.0,SNR=8.5						
WRA	**Warramunga Arr**	**53.35**	**134**	P	**P**	**06 15 02.9**	**+0.1**
	0.9nm,0.7s,baz=322,slow=7.4,SNR=3.9						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**55.65**	**137**	P	**P**	**06 15 18.9**	**-0.5**
	0.6nm,0.8s,baz=318,slow=7.9,SNR=7.6						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**66.23**	**339**	P	**P**	**06 16 30.3**	**-0.3**
	2.2nm,0.9s,baz=84,slow=8.3,SNR=1.3						
	2.2nm,0.9s						
HFS	**Hagfors**	**70.57**	**328**	P	**P**	**06 16 59.0**	**+1.1**
	1.6nm,0.7s,baz=105,slow=11,SNR=2.1						
	1.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**90.12**	**284**	LR	LR	07 04 11.9	
	comp=Z,34nm,19.9s,baz=334,slow=39						

*IDC **20** 07:03:09.1±6.8, 33°.94N×142°.30E, h0km, mb3.4/3, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=111.3km s-min=47.9km az=117.0*
*JMA **20** 07:03:13.5±0.6, 34°.N±2'×14°.2E±°, h20km±3km, MV2.8/22, FAR SE OFF BOSO PEN*

ISC 20 07:03:16.0±2.5, 34°.11N±0°.09×141°.8E±0°.2, h21km, n9, σ0s93/11, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.86**	**309**	P	**Pn**	**07 03 30.7**	**-1.6**
BSO3	**Boso 3**	**1.26**	**303**	P	**Pn**	**07 03 37.5**	**-0.6**
BSO4	**Boso 4**	**1.48**	**307**	*e*P	**Pn**	**07 03 41.4**	**+0.1**
JKUC	**kamogawauchiur**	**1.68**	**309**	*e*P	**Pn**	**07 03 43.5**	**-0.5**
JKUC				*e*S	**Sn**	**07 04 04.9**	**0.0**
JHJ	**Hachijo jima 2**	**1.94**	**240**	Pn	**Pn**	**07 03 47.4**	**-0.4**
	24nm,0.3s,baz=61,slow=19,SNR=5.1						
JHJ				Sn	**Sn**	**07 04 11.8**	**+0.2**
	32nm,0.3s,baz=74,slow=23,SNR=2.0						
	74nm,0.3s						
MJAR	**Matsushiro Arr**	**3.80**	**311**	Pn	**Pn**	**07 04 14.3**	**+1.0**
	0.3nm,0.3s,baz=129,slow=13,SNR=7.4						
	2.2nm,0.4s						
SONM	**Songino Array**	**29.75**	**308**	P	**P**	**07 09 22.1**	**+1.2**
	0.1nm,0.3s,baz=101,slow=7.5,SNR=2.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**45.98**	**305**	P	**P**	**07 11 37.3**	**-0.3**
	0.2nm,0.5s,baz=83,slow=8.7,SNR=2.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**48.08**	**310**	P	**P**	**07 11 52.8**	**-1.0**
	0.5nm,0.8s,baz=85,slow=7.3,SNR=4.1						
	0.5nm,0.8s						

*IDC **20** 07:11:04.8±2.0, 1°.44N×126°.89E, h0km, mb3.6/4, mbtmp3.6/4, MS2.8/1, Error ellipse: s-maj=187.5km s-min=22.8km az=66.0*
*DJA **20** 07:11:23.0±0.9, 1°.N±5'×12°.7E±°, h104km±33km, M3.7/6, MLv3.7/6*

ISC 20 07:11:17.8±1.4, 1°.42N±0°.10×127°.1E±0°.1, h103km, n9, σ3s10/11, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.08**	**169**	P	**Pn**	**07 11 54.2**	**+2.6**
LBMI				S	**Sn**	**07 12 22.1**	**+4.7**
SANI	**Sanana**	**3.62**	**198**	P	**Pn**	**07 12 12.9**	**+0.9**
SANI				S	**Sn**	**07 12 49.5**	**-4.4**
GTOI	**Gorontalo**	**4.17**	**259**	P	Pn	07 12 22.7	+3.4
GTOI				S	**Sn**	**07 13 10.3**	**+3.3**
NLAI	**Namlea**	**4.63**	**180**	P	**Pn**	**07 12 27.5**	**+2.0**
NLAI				S	**Sn**	**07 13 16.4**	**-1.8**
WRA	**Warramunga Arr**	**22.39**	**162**	P	**P**	**07 16 05.8**	**-2.1**
	1.4nm,0.4s,baz=340,slow=11,SNR=16						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**25.80**	**166**	P	**P**	**07 16 38.4**	**-1.1**
	0.2nm,0.3s,baz=344,slow=11,SNR=5.8						
	0.2nm,0.3s						
ASAJ	**Asahikawa**	**44.69**	**16**	LR	LR	07 37 26.5	
	comp=Z,10.0nm,18.9s,baz=320,slow=35						
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**07 21 10.9**	**-0.4**
	0.6nm,0.8s,baz=123,slow=8.0,SNR=4.0						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**63.88**	**328**	P	**P**	**07 21 37.4**	**-2.0**
	0.2nm,0.3s,baz=138,slow=6.7,SNR=1.8						
	0.2nm,0.3s						

*ISN **20** 07:23:53.4±1.2, 33°.91N×45°.82E, h6km±7km, ML2.8*
*TEH **20** 07:23:57.2, 33°.92N×45°.81E, h19km±72km, ML2.9*

ISC 20 07:23:56.4±1.0, 33°.83N±0°.04×45°.74E±0°.05, h10km, n11, σ1s19/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.68**	**349**	Pg	**Pb**	**07 24 10.5**	**0.0**
IBDR	**Badra**	**0.74**	**168**	*e*Pg	**Pg**	**07 24 09.0**	**-1.7**
IBDR				*e*Sg	**Sg**	**07 24 20.0**	**-0.3**
IBDR				AML	AML	07 24 23.5	
	comp=E,357nm,0.2s						
IBDR				AML	AML	07 24 35.7	
	comp=N,394nm,0.7s						
IGHG	**Ghaleghazi**	**0.85**	**54**	Pg	**Pb**	**07 24 13.2**	**-0.2**
IDHR	**Dehrash**	**1.02**	**32**	Pg	**Pn**	**07 24 15.8**	**-1.1**
BHD	**Baghdad**	**1.27**	**244**	*e*Pg	**Pn**	**07 24 20.0**	**-0.2**
BHD				*e*Sg	**Sb**	**07 24 38.0**	**+1.2**
ILIN	**Lien**	**1.48**	**43**	Pg	**Pg**	**07 24 24.6**	**-0.3**
IKOM	**Komasi**	**1.51**	**76**	Pg	**Pg**	**07 24 25.5**	**+0.1**
IKFM	**Kafar-mosalman**	**1.78**	**99**	Pg	**Pb**	**07 24 29.5**	**+0.3**
RAFI	**Al-Rafai**	**2.13**	**171**	*e*Pn	**Pn**	**07 24 31.5**	**-0.5**
RAFI				*e*Sn	**Sn**	**07 25 01.0**	**+2.5**
IALM	**Almabolaq**	**2.25**	**62**	Pn	**Pb**	**07 24 35.9**	**-1.5**
HSAM	**Samen**	**2.41**	**80**	Pn	**Pn**	**07 24 36.9**	**+0.8**

*ISK **20** 07:27:59.8, 39°.73N×43°.62E, h5km, ML2.6/17*
*AFAD **20** 07:28:00.1±0.0, 39°.76N×43°.59E, h7km±3km, ML2.3*

ISC 20 07:28:00.2±1.0, 39°.77N±0°.02×43°.59E±0°.02, h7km±9km, n31, σ1s24/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.24**	**162**	P	**Pg**	**07 28 05.1**	**0.0**
DYDN				S	**Sg**	**07 28 09.3**	**+0.9**
DYDN				*i* AML	AML	07 28 10.0	
	comp=Z,2µm,0.2s						
KOTA	**Agri, Merkez-K**	**0.30**	**276**	P	**Pg**	**07 28 06.0**	**-0.1**
KOTA				S	**Sg**	**07 28 11.6**	**+1.4**
KOTA				*i* AML	AML	07 28 12.0	
	comp=Z,416nm,0.4s						
IGDI	**IGDIR**	**0.39**	**76**	P	**Pg**	**07 28 07.7**	**-0.1**
IGDI				S	**Sg**	**07 28 13.5**	**+0.6**
IGDI				*i* AML	AML	07 28 14.0	
	comp=Z,586nm,0.4s						
AGRB	**Hanur-Agry**	**0.50**	**247**	Pg	**Pg**	**07 28 09.8**	**-0.2**
AGRB				Sg	**Sg**	**07 28 17.5**	**+0.9**
TASB	**TASBURUN-IGDIR**	**0.54**	**67**	Pg	**Pg**	**07 28 10.7**	**0.0**
TASB				Sg	**Sb**	**07 28 18.8**	**-1.3**
DIGO	**Kars**	**0.66**	**345**	P	**Pg**	**07 28 13.3**	**+0.2**
DIGO				S	**Sn**	**07 28 27.6**	**+0.5**
DIGO				*i* AML	AML	07 28 34.0	
	comp=Z,114nm,0.3s						
DORK	**Agr/Tutak/Do**	**0.74**	**239**	P	**Pg**	**07 28 14.0**	**-0.4**
DORK				S	**Sg**	**07 28 24.4**	**+0.4**
DORK				*i* AML	AML	07 28 27.0	
	comp=Z,405nm,0.4s						
ERCV	**ERCIS-VAN**	**0.78**	**195**	Pg	**Pg**	**07 28 14.5**	**-0.7**
VMUR	**Van-Muradiye**	**0.78**	**181**	P	**Pg**	**07 28 15.0**	**-0.3**
VMUR				S	**Sn**	**07 28 28.6**	**-1.3**
VMUR				*i* AML	AML	07 28 37.0	
	comp=Z,115nm,0.5s						
EATA	**Eleskirt**	**0.85**	**276**	P	**Pg**	**07 28 16.4**	**-0.3**
EATA				S	**Sb**	**07 28 29.7**	**+0.4**
EATA				*i* AML	AML	07 28 38.0	
	comp=Z,84nm,0.5s						
EAK	**Akyaka**	**0.91**	**1**	P	**Pb**	**07 28 19.2**	**+0.7**
EAK				*i* AML	AML	07 28 44.0	
	comp=Z,156nm,1.2s						
KARS	**Kars**	**0.94**	**335**	Pg	**Pb**	**07 28 19.1**	**+0.2**
BOZK	**Kars-Merkez-Bo**	**0.94**	**330**	P	**Pb**	**07 28 19.2**	**+0.2**
BOZK				S	**Sg**	**07 28 28.2**	**-2.4**
BOZK				*i* AML	AML	07 28 47.0	
	comp=Z,49nm,0.6s						
MLAZ	**Malazgirt-MUS**	**1.02**	**232**	Pg	**Pb**	**07 28 19.8**	**-0.6**
ADCV	**BITLIS_Adilcev**	**1.18**	**215**	P	**Pb**	**07 28 22.5**	**-0.5**
ADCV				S	**Sn**	**07 28 39.9**	**+0.3**
ADCV				*i* AML	AML	07 28 52.0	
	comp=Z,53nm,1.3s						
VANB	**Van**	**1.19**	**188**	Pn	**Pn**	**07 28 23.8**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.23**	**310**	Pn	**Pn**	**07 28 24.7**	**+0.6**
TVAN	**Van**	**1.25**	**187**	P	**Pn**	**07 28 25.4**	**+1.1**
TVAN				S	**Sn**	**07 28 42.2**	**+0.7**
TVAN				*i* AML	AML	07 28 54.0	
	comp=Z,25nm,0.4s						
EKAR	**Karacoban**	**1.29**	**247**	P	**Pb**	**07 28 25.7**	**+0.8**
EKAR				S	**Sn**	**07 28 42.1**	**-0.4**
EKAR				*i* AML	AML	07 29 00.0	
	comp=Z,111nm,0.7s						
GOLE	**Ardahan-G¶le**	**1.30**	**325**	P	**Pg**	**07 28 25.7**	**+0.5**
GOLE				S	**Sg**	**07 28 36.4**	**-5.9**
GOLE				*i* AML	AML	07 28 53.0	
	comp=Z,26nm,0.7s						
HOMI	**Horasan**	**1.32**	**282**	S	**Sn**	**07 28 43.8**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**1.35**	**280**	Pn	**Pg**	**07 28 26.3**	**+0.1**
AKDM	**Akdamar-Van**	**1.52**	**198**	Pn	**Pg**	**07 28 28.6**	**-0.8**
AKH	**Akhalkalaki**	**1.64**	**357**	Pn	**Pb**	**07 28 30.8**	**0.0**
GURO	**Guroymak-BITLI**	**1.72**	**225**	Pn	**Pb**	**07 28 31.3**	**-0.9**
VRTB	**Varto-Mus**	**1.76**	**250**	Pn	**Pb**	**07 28 32.1**	**-0.9**
BCA	**Borcka**	**2.24**	**319**	Pn	**Pn**	**07 28 39.5**	**+1.7**
YEDI	**Yedisu-Bingol**	**2.38**	**263**	Pn	**Pn**	**07 28 41.2**	**+1.4**
BNGB	**Bingl**	**2.39**	**252**	Pn	**Pn**	**07 28 41.0**	**+1.1**
SVAN	**Silvan-Diyarba**	**2.47**	**230**	Pn	**Pn**	**07 28 42.1**	**+1.2**
CUKT	**Cukurca**	**2.52**	**180**	Pn	**Pn**	**07 28 41.9**	**+0.2**

*RHSSO **20** 07:29:18.6±0.5, 42°.59N×19°.97E, h3km±1km, ML2.9/14*
*PDG **20** 07:29:19.7±0.1, 42°.60N×19°.85E, h6km, MD3.1/6, ML3.0/12, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **20** 07:29:20.6±0.3, 42°.67N×19°.88E, h8km±2km, ML2.6/17*

ISC 20 07:29:19.8±0.9, 42°.63N±0°.02×19°.87E±0°.02, h7km±7km, n77, σ1s04/135, 16C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.08**	**117**	⇑*i*Pg	**Pg**	**07 29 21.6**	**-0.2**
PVY				*i* Sg	**Sg**	**07 29 23.2**	**+0.1**
IVA	**Berane**	**0.24**	**4**	⇓*i*Pg	**Pg**	**07 29 24.9**	**+0.3**
IVA				*i* Sg	**Sg**	**07 29 28.8**	**+0.9**
KOME	**Kolasin**	**0.34**	**311**	⇑*i*Pg	**Pg**	**07 29 26.4**	**-0.1**
KOME				*i* Sg	**Sg**	**07 29 31.7**	**+0.7**
SJES	**Sjenica**	**0.64**	**7**	*e*Pg	**Pg**	**07 29 32.0**	**-0.1**
SJES				*e*Sg	**Sg**	**07 29 40.8**	**+0.4**
SJES	**Sjenica**	**0.64**	**7**	*e*Pg	**Pg**	**07 29 30.9**	**-1.2**
SJES				*e*Sg	**Sg**	**07 29 40.4**	**0.0**
DRME	**Dracevica, Mon**	**0.67**	**229**	⇓*i*Pg	**Pg**	**07 29 31.4**	**-1.3**
DRME				*i* Sg	**Sg**	**07 29 41.8**	**+0.4**
DRME	**Dracevica, Mon**	**0.67**	**229**	*e*Pg	**Pg**	**07 29 31.2**	**-1.5**
DRME				*e*Sg	**Sg**	**07 29 40.9**	**-0.5**
NKME	**Niksic**	**0.69**	**282**	⇑*i*Pg	**Pg**	**07 29 32.2**	**-0.8**
NKME				*i* Sg	**Sg**	**07 29 42.6**	**+0.6**
CEME	**Cevo**	**0.71**	**264**	⇑*i*Pg	**Pg**	**07 29 32.0**	**-1.4**
CEME				*i* Sg	**Sg**	**07 29 43.1**	**+0.5**
PLE	**Pljevlja**	**0.78**	**334**	⇓*i*Pg	**Pg**	**07 29 34.0**	**-0.9**
PLE				*i* Sg	**Sg**	**07 29 46.1**	**+1.0**
BUM	**Brajici-Budva**	**0.79**	**246**	⇓*i*Pg	**Pg**	**07 29 34.1**	**-0.9**
BUM				*i* Sg	**Sg**	**07 29 45.7**	**+0.4**
ULC	**Ulcinj**	**0.81**	**215**	⇑*i*Pg	**Pg**	**07 29 34.4**	**-0.9**
ULC				*i* Sg	**Sg**	**07 29 46.1**	**-1.3**
UPM	**Unac-Piva**	**0.91**	**309**	⇑*i*Pg	**Pg**	**07 29 36.7**	**-0.6**
UPM				*i* Sg	**Sb**	**07 29 50.1**	**+0.6**
UPM	**Unac-Piva**	**0.91**	**309**	⇑*i*Pg	**Pg**	**07 29 36.6**	**-0.7**
UPM				*e*Sg	**Sg**	**07 29 50.2**	**+1.1**
IVAS	**Ivanjica**	**0.97**	**12**	*e*Pg	**Pg**	**07 29 37.4**	**-1.0**
IVAS				*e*Sg	**Sg**	**07 29 50.6**	**-0.4**
BRY	**Bratogost**	**1.02**	**286**	⇑*i*Pg	**Pg**	**07 29 38.1**	**-1.2**
BRY				*i* Sg	**Sb**	**07 29 54.0**	**+0.6**
BRY	**Bratogost**	**1.02**	**286**	⇑*i*Pg	**Pg**	**07 29 38.4**	**-0.9**
BRY				*e*Sg	**Sb**	**07 29 54.1**	**+0.6**
HCY	**Herceg Novi**	**1.03**	**260**	⇓*i*Pg	**Pg**	**07 29 38.6**	**-1.0**
HCY				*i* Sg	**Sb**	**07 29 54.0**	**+0.2**
HCY	**Herceg Novi**	**1.03**	**260**	*e*Pg	**Pg**	**07 29 38.8**	**-0.8**
HCY				*e*Sg	**Sb**	**07 29 54.0**	**+0.2**
RUDO	**Rudo**	**1.05**	**340**	⇓*i*Pg	**Pg**	**07 29 38.0**	**-2.0**
RUDO				*e*Sg	**Sg**	**07 29 53.9**	**+0.2**
KLINJ	**Klinje**	**1.09**	**300**	*e*Pg	**Pg**	**07 29 39.7**	**-0.9**
KLINJ				*e*Sg	**Sg**	**07 29 55.5**	**+0.8**
SELS	**Selova**	**1.09**	**57**	*e*Pg	**Pg**	**07 29 39.6**	**-1.1**
SELS				*e*Sg	**Sg**	**07 29 53.8**	**-1.1**
TREB	**Trebinje**	**1.12**	**275**	*e*Pg	**Pg**	**07 29 40.0**	**-1.4**
TREB				*e*Sg	**Sg**	**07 29 56.0**	**+0.1**
TREB	**Trebinje**	**1.12**	**275**	⇑*i*Pg	**Pg**	**07 29 39.9**	**-1.4**
TREB				*e*Sg	**Sg**	**07 29 56.4**	**+0.5**
DBRK

FRGS	**Fruska Gora**	**2.53**	**359**	*e*Pn		**Pn**	**07 30 01.8**	**+0.5**
FRGS	**Fruska Gora**	**2.53**	**359**	*e*Pn		**Pn**	**07 30 00.9**	**-0.4**
FRGS				*e*Sn		**Sn**	**07 30 32.8**	**+0.4**
MDVR	**Moldovita**	**2.53**	**31**	⇓P		**Pn**	**07 30 02.3**	**+0.8**
MDVR				⇓S		**Sb**	**07 30 37.1**	**0.0**
MGRS	**Mrkonjic Grad**	**2.70**	**312**	*e*Pn		**Pn**	**07 30 04.5**	**+0.8**
MGRS				*e*Sn		**Sn**	**07 30 38.4**	**+1.7**
BLY	**Banja Luka**	**2.88**	**318**	*e*Pn		**Pn**	**07 30 06.3**	**+0.2**
BLY				*e*Sn		**Sn**	**07 30 42.4**	**+1.4**
HERR	**Herculane**	**2.91**	**38**	⇓P		**Pn**	**07 30 06.7**	**+0.1**
A050A	**Klekovaca**	**3.05**	**308**	*e*Pn		**Pn**	**07 30 08.9**	**+0.3**
A050A				*e*Sn		**Sn**	**07 30 46.4**	**+1.0**
A051A	**Mrakovica**	**3.20**	**319**	*e*Pn		**Pn**	**07 30 10.6**	**-0.1**
A051A				*e*Sn		**Sn**	**07 30 49.6**	**+0.5**
BZS	**Buzias**	**3.24**	**22**	⇑P		**Pn**	**07 30 11.7**	**+0.6**
BZS	**Buzias**	**3.24**	**22**	*e*Pn		**Pn**	**07 30 11.2**	**+0.1**
SURR	**Surduc**	**3.52**	**27**	⇑P		**Pn**	**07 30 15.3**	**+0.4**
SURR				⇓S		**Sn**	**07 31 01.5**	**+4.7**
SIRR	**Siria**	**3.86**	**19**	⇓P		**Pn**	**07 30 19.9**	**+0.4**
BOJS	**Bojanci**	**4.39**	**312**	*e*Pn		**Pn**	**07 30 26.4**	**-0.6**
BOJS				*e*Sn		**Sn**	**07 31 18.0**	**-0.4**
CRES	**Cresnjev**	**4.50**	**317**	*e*Pn		**Pn**	**07 30 28.5**	**+0.1**
CRES				*e*Sn		**Sn**	**07 31 20.4**	**-0.6**
DRGR		**4.63**	**25**	⇑P		**Pn**	**07 30 30.9**	**+0.6**
CEY	**Cerknica**	**5.00**	**310**	*e*Pn		**Pn**	**07 30 34.9**	**-0.4**
CEY				*e*Sn		**Sn**	**07 31 32.4**	**-0.9**
SKDS	**Skadanscina**	**5.13**	**307**	*e*Sn		**Sn**	**07 31 35.4**	**-1.1**
SOKA	**Soboth**	**5.32**	**321**	*e*Pn		**Pn**	**07 30 41.3**	**+1.6**
	1.9nm,0.5s							
OBKA	**Obir**	**5.43**	**317**	*e*Pn		**Pn**	**07 30 43.1**	**+1.9**
	1.3nm,0.3s							
ARSA	**Arzberg**	**5.55**	**328**	*i* Pn		**Pn**	**07 30 44.2**	**+1.3**
	0.2nm,0.2s							
ARSA				*i* Sn		**Sn**	**07 31 45.0**	**-2.0**
	2.9nm,0.6s							
KBA	**Koelnbreinsper**	**6.42**	**316**	*e*Pn		**Pn**	**07 30 57.6**	**+2.6**
	0.9nm,0.3s							
MOA	**Molln**	**6.55**	**325**	*e*Pn		**Pn**	**07 30 59.0**	**+2.5**
	0.8nm,0.3s							
MOA				*i* Sn		**Sn**	**07 32 10.7**	**-0.8**
	1.6nm,0.3s							
LESA	**Schwarzleotal**	**6.99**	**316**	*e*Pn		**Pn**	**07 31 04.0**	**+1.3**
	1.8nm,0.5s							

IDC 20 07:36:22.3±7.2, 32°25S×179°21E, h551km±101km, mb2.4/2, mbtmp3.5/3, Error ellipse: s-maj=140.8km s-min=39.5km az=6.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.24**	**195**	P	P	07 38 04.2	+1.2
	8.0nm,0.4s,baz=29,slow=22,SNR=28						
URZ				S	S	07 39 24.6	-0.8
	2.6nm,0.3s,baz=227,slow=12,SNR=1.7						
ASAR	**Alice Springs**	**40.68**	**270**	P	P	07 43 15.2	-0.2
	0.1nm,0.3s,baz=105,slow=7.3,SNR=1.7						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**41.84**	**276**	P	P	07 43 24.0	-0.6
	0.3nm,0.3s,baz=111,slow=8.0,SNR=5.6						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**145.99**	**337**	PKPbc	PKPbc	07 54 59.1	-0.7
	1.5nm,0.4s,baz=40,slow=4.8,SNR=19						

*NOU **20** 07:40:23.0,21".22S×169".09E, h0km, MLv4.6/7, Southeast of Loyalty Islands*
*IDC **20** 07:40:26.4±0.9,21".36S×168".75E, h0km, mb4.3/9, mbtmp4.3/10, ML4.3/1, MS3.6/6, Error ellipse: s-maj=30.3km s-min=20.0km az=151.0*
*NEIC **20** 07:40:29.6±1.5,21".29S±0".06×168".57E±0".03, h10km±1km, mb4.5/21, Error ellipse: s-maj=11.1km s-min=4.4km az=159.0*
ISC 20 07:40:29.3±0.6, 21°29S±0'07"×168°56E±0'08, h10km, n73, σ2°16/77, mb4.5/18, MS3.5/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**1.34**	**292**		**Pn**	**07 40 52.0**	**-2.0**
PINNC	**Pines Island,**	**1.67**	**218**		**Pn**	**07 40 58.4**	**-0.2**
PINNC	**Pines Island,**	**1.67**	**218**	P	**Pn**	**07 40 58.8**	**+0.2**
YATNC	**Mamie plateau,**	**1.73**	**244**	P	**Pn**	**07 40 59.6**	**+0.2**
OUENC	**Ouen Island, N**	**1.95**	**235**		**Pn**	**07 41 03.7**	**+1.3**
OUENC	**Ouen Island, N**	**1.95**	**235**	P	**Pn**	**07 41 03.7**	**+1.3**
DZM	**Mont Dzumac**	**2.12**	**248**		**Pn**	**07 41 06.0**	**+1.2**
DZM	**Mont Dzumac**	**2.12**	**248**	P	**Pn**	**07 41 06.1**	**+1.2**
DZM	**Mont Dzumac**	**2.12**	**248**	Pn	**Pn**	**07 41 05.8**	**+1.0**
	76nm,0.3s,baz=102,slow=15,SNR=1847						
DZM				Sn	**Sn**	**07 41 33.1**	**+1.8**
	171nm,0.3s,baz=167,slow=22,SNR=8.7						
DZM				LR	LR	07 41 33.9	
	comp=Z,483nm,19.5s,baz=346,slow=30						
	254nm,0.4s						
ONTNC	**Ouen Toro**	**2.20**	**242**		**Pn**	**07 41 06.9**	**+1.0**
ONTNC	**Ouen Toro**	**2.20**	**242**	P	**Pb**	**07 41 08.1**	**-1.1**
NOUC	**Port Laguerre**	**2.25**	**249**	P	**Pb**	**07 41 08.8**	**-1.2**
KOUNC	**Koumac, New Ca**	**4.06**	**280**		**Pn**	**07 41 32.4**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.06**	**280**	P	**Pn**	**07 41 32.9**	**+1.4**
EIDS	**Eidsvold**	**16.56**	**252**	Pn	**Pn**	**07 44 21.3**	**-0.4**
ARMA	**Armidale**	**17.72**	**236**	P	**Pn**	**07 44 35.6**	**-0.7**
RTZ	**Ruatahuna**	**18.72**	**159**	P	**P**	**07 44 48.3**	**+0.2**
BFZ	**Birch Farm**	**20.40**	**163**	P	**P**	**07 45 05.5**	**-0.9**
BFZ				IAmb	IAmb	07 45 41.3	
	comp=Z,43nm,1.2s						
THZ	**Tophouse**	**20.73**	**171**	P	**P**	**07 45 10.2**	**+0.1**
THZ				IAmb	IAmb	07 45 12.1	
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**20.90**	**269**	P	Pn	07 45 14.4	-0.1
	comp=Z,6.5nm,0.9s,baz=88,slow=10,SNR=5.1						
CTA				LR	LR	07 52 42.3	
	comp=Z,170nm,18.7s,baz=89,slow=35						
	comp=Z,6.5nm,0.9s						
INZ	**Inchbonnie**	**21.50**	**174**	P	**P**	**07 45 19.1**	**+0.9**
INZ				IAmb	IAmb	07 45 23.0	
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**26.25**	**241**	P	**P**	**07 46 05.3**	**+0.5**
STKA	**Stephens Creek**	**26.25**	**241**	P	**P**	**07 46 05.1**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=82,slow=8.5,SNR=9.2						
STKA				LR	LR	07 56 22.4	
	comp=Z,127nm,19.1s,baz=29,slow=36						
	comp=Z,3.4nm,0.8s						
WR0	**Warramunga Arr**	**31.83**	**266**	P	**P**	**07 46 54.0**	**-0.6**
WR0				IAmb	IAmb	07 47 04.7	
	comp=Z,5.8nm,0.9s						
WRA	**Warramunga Arr**	**32.02**	**266**	P	**P**	**07 46 55.5**	**-0.7**
WRA	**Warramunga Arr**	**32.02**	**266**	P	**P**	**07 46 55.1**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=98,slow=8.3,SNR=12						
	comp=Z,1.8nm,0.6s						
AS31	**Alice Springs**	**32.06**	**259**	P	**P**	**07 46 55.9**	**-0.7**
AS31				IAmb	IAmb	07 46 57.1	
	comp=Z,3.6nm,0.7s						
ASAR	**Alice Springs**	**32.06**	**259**	P	**P**	**07 46 56.1**	**-0.6**
ASAR	**Alice Springs**	**32.06**	**259**	P	**P**	**07 46 56.4**	**-0.3**
	comp=Z,10nm,0.7s,baz=82,slow=9.3,SNR=121						
ASAR				PcP	**PcP**	**07 49 43.0**	**-3.2**
	comp=Z,0.6nm,0.8s,baz=104,slow=3.5,SNR=3.2						
ASAR				LR	LR	07 59 04.5	
	comp=Z,90nm,19.2s,baz=114,slow=35						
	comp=Z,10nm,0.7s						
MTN	**Manton Dam**	**36.68**	**277**	P	**P**	**07 47 36.0**	**-0.6**
MTN				IAmb	IAmb	07 47 47.3	
	comp=Z,20nm,1.5s						
FORT	**Forrest**	**37.43**	**247**	P	**P**	**07 47 41.8**	**-1.0**
KNRA	**Kununurra**	**38.08**	**272**	P	**P**	**07 47 48.2**	**-0.3**
KNRA				IAmb	IAmb	07 47 59.0	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.45**	**267**	P	**P**	**07 48 07.9**	**-0.4**
FITZ				IAmb	IAmb	07 48 20.0	
	comp=Z,4.1nm,0.8s						
PSA00	**Pilbara Seismi**	**45.20**	**260**	P	**P**	**07 48 45.6**	**-1.2**
PSA00				IAmb	IAmb	07 48 48.4	
	comp=Z,11nm,1.2s						
NWAO	**Narrogin (SRO)**	**46.73**	**244**	P	**P**	**07 48 58.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.73**	**244**	LR	LR	08 08 21.3	
	comp=Z,135nm,19.0s,baz=0.0,slow=36						
TOLI2	**Tolitoli**	**51.71**	**289**	P	**P**	**07 49 36.6**	**-0.5**
CASY	**Casey**	**58.00**	**204**	P	**P**	**07 50 21.3**	**-0.5**
CASY				IAmb	IAmb	07 50 21.9	
	comp=Z,9.8nm,0.9s						
QSPA	**South Pole Qui**	**68.77**	**180**	P	**P**	**07 51 32.6**	**-0.8**
QSPA	**South Pole Qui**	**68.77**	**180**	P	**P**	**07 51 31.8**	**-1.5**
	comp=Z,4.2nm,0.9s,baz=352,slow=4.3,SNR=10						
	comp=Z,4.2nm,0.9s						
USA0B	**Ussuriysk Arra**	**73.27**	**333**	P	**P**	**07 52 02.9**	**+2.2**
USRK	**Ussuriysk Ar.**	**73.27**	**333**	P	**P**	**07 52 01.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**73.27**	**333**	P	**P**	**07 52 00.1**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=160,slow=8.8,SNR=3.6						
	comp=Z,3.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**78.77**	**295**	P	**P**	**07 52 32.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**78.77**	**295**	P	**P**	**07 52 33.2**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=131,slow=4.9,SNR=1.1						
	comp=Z,0.7nm,0.3s						
CHTO	**Chiang Mai**	**78.93**	**295**	P	**P**	**07 52 32.8**	**-0.7**
CHTO				IAmb	IAmb	07 52 46.1	
	comp=Z,7.1nm,1.1s						
SONM	**Songino Array**	**88.48**	**323**	P	**P**	**07 53 20.9**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=131,slow=5.4,SNR=10.0						
	comp=Z,1.8nm,0.9s						
YBH	**Yreka Blue Hor**	**89.21**	**44**	LR	LR	08 25 44.8	
	comp=Z,24nm,18.9s,baz=7.5,slow=30						
NVAR	**Mina Array Bea**	**90.63**	**49**	P	**P**	**07 53 31.1**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=212,slow=8.4,SNR=4.1						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**92.37**	**18**	P	P	07 53 33.8	-5.8
	comp=Z,0.3nm,0.8s,baz=227,slow=6.1,SNR=1.3						
AKASG	**Malin Array Be**	**136.76**	**323**	PKP	**PKPdf**	**07 59 51.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=69,slow=1.3,SNR=1.7						
BRG	**Berggiesshubel**	**144.40**	**332**	Amp		08 00 03.9	
	comp=Z,4.6nm,0.9s						
BRG	**Berggiesshubel**	**144.40**	**332**	Amp		08 00 16.6	
	comp=Z,4.6nm,0.9s						
BRG	**Berggiesshubel**	**144.40**	**332**	*e*P	**PKPab**	**08 00 03.2**	**-0.5**
BRG	**Berggiesshubel**	**144.40**	**332**	P	**PKiKP**	**08 00 15.6**	**+6.3**
HSKC	**Hora Svate Kat**	**144.82**	**332**	*e*PKP	**PKPab**	**08 00 04.4**	**-1.0**
HSKC				*ex*	x	08 00 17.4	
ZVC	**Zvikov**	**145.32**	**330**	*e*PKP	**PKPbc**	**08 00 06.4**	**-0.7**
EKA	**Eskdalemuir Ar**	**145.45**	**352**	PKPbc	**PKPbc**	**08 00 05.6**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=355,slow=2.6,SNR=6.5						
RONA	**Rosalia, Austr**	**145.46**	**326**	*i* PKP	**PKPbc**	**08 00 07.4**	**-0.2**
	comp=Z,16nm,1.3s						
RONA				*i* PKiKP	PKiKP	08 00 20.3	+8.7
	comp=Z,9.0nm,1.1s						
CONA	**Conrad Observa**	**145.54**	**327**	*i* PKP	**PKPdf**	**08 00 07.8**	**0.0**
	comp=Z,9.1nm,0.8s						
CONA				*i* PKiKP	PKiKP	08 00 19.8	+8.0
	comp=Z,9.3nm,1.3s						
CKRC	**Cesky Krumlov**	**145.70**	**329**	*e*PKP	**PKPdf**	**08 00 07.7**	**-0.3**
CKRC				*ex*	x	08 00 19.6	
KHC	**Kasperske Hory**	**145.82**	**330**	*e*PKP	**PKPdf**	**08 00 08.1**	**-0.1**
KHC				*ex*	x	08 00 20.1	
GERES	**GERESS Array B**	**145.97**	**330**	PKPbc	**PKPdf**	**08 00 08.3**	**-0.2**
	comp=Z,6.4nm,0.8s,baz=35,slow=3.6,SNR=13						
SOKA	**Soboth**	**146.78**	**326**	*e*PKP	**PKPdf**	**08 00 10.7**	**+0.7**
	comp=Z,3.7nm,1.0s						
KBA	**Koelnbreinsper**	**147.37**	**328**	*e*PKP	**PKPdf**	**08 00 11.7**	**+0.7**
	comp=Z,6.8nm,1.1s						
KBA				*e*PKiKP	**sPKPab**	**08 00 24.7**	**+6.2**
	comp=Z,8.7nm,1.3s						
LESA	**Schwarzleotal**	**147.46**	**329**	*i* PKP	**PKPdf**	**08 00 12.4**	**+1.3**
	comp=Z,4.7nm,0.6s						
LESA				*i* PKiKP	**sPKPab**	**08 00 25.1**	**+6.3**
	comp=Z,3.6nm,0.6s						
ABTA	**Abfaltersbach**	**148.01**	**328**	*e*PKP	**PKPdf**	**08 00 13.5**	**+1.4**
	comp=Z,3.9nm,0.7s,SNR=4.3						
ABTA				*i* PKP	**sPKPab**	**08 00 26.2**	**+5.2**
	comp=Z,9.1nm,1.4s						
WATA	**Walderalm**	**148.04**	**330**	*i* PKP	**PKPdf**	**08 00 14.0**	**+1.8**
	comp=Z,7.4nm,1.2s						
WATA				*i* PKP	**sPKPab**	**08 00 26.9**	**+5.7**
	comp=Z,6.6nm,1.2s						
WTTA	**Wattenberg**	**148.07**	**330**	*i* PKP	**PKPbc**	**08 00 14.2**	**-1.2**
	comp=Z,9.3nm,1.1s						
WTTA				*e*PKP	**sPKPab**	**08 00 27.2**	**+5.9**
	comp=Z,11nm,1.1s						
MOTA	**Moosalm**	**148.26**	**330**	*e*PKP	**PKPbc**	**08 00 14.6**	**-1.3**
	comp=Z,7.0nm,0.8s						
MOTA				*i* PKP	**sPKPab**	**08 00 26.6**	**+4.5**
	comp=Z,7.0nm,0.8s						
SQTA	**Sankt Quirin**	**148.30**	**330**	*e*PKP	**PKPbc**	**08 00 14.9**	**-1.0**
	comp=Z,5.9nm,0.8s						
SQTA				*i* PKP	**sPKPab**	**08 00 26.9**	**+4.8**
	comp=Z,7.4nm,0.8s						
FETA	**Feichten**	**148.67**	**330**	*i* PKP	**PKPbc**	**08 00 16.0**	**-0.9**
	comp=Z,6.8nm,1.0s						
FETA				*i* PKP	**sPKPab**	**08 00 27.9**	**+4.2**
	comp=Z,11nm,1.0s						
DAVA	**Damuels**	**148.86**	**331**	*i* PKiKP	**PKPbc**	**08 00 17.0**	**-0.4**
	comp=Z,8.1nm,1.0s						

*IDC **20** 07:48:08.9±3.7, 40".14N×140".69E, h0km, mb4.0/4, mbtmp4.0/5, ML2.6/1, MS3.5/1, Error ellipse: s-maj=83.5km s-min=37.4km az=97.0*
*JMA **20** 07:48:23.1±0.1, 39".2N±0".5×140".4E±0".7, h148km±1km, MV3.0/40, SOUTHERN AKITA PREF*
ISC 20 07:48:22.7±1.0, 39°21N±0'06×140°43E±0'08, h151km±7km, n27, σ0°34/29, mb3.9/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.24**	**40**	*i* P	**Pn**	**07 48 43.5**	**+0.4**
JRG				S	**Sn**	**07 48 58.9**	**+0.1**
JYK	**Kaneyama**	**0.30**	**191**	*i* P	**Pn**	**07 48 43.4**	**+0.1**
JYK				S	**Sn**	**07 48 58.6**	**-0.3**
JMK	**Ichinoseki**	**0.67**	**112**	*i* P	**Pn**	**07 48 45.1**	**+0.1**
JMK				*e*S	**Sn**	**07 49 01.6**	**-0.4**
JOM	**Ohasama**	**0.72**	**68**	*i* P	**Pn**	**07 48 45.9**	**+0.5**
JOM				S	**Sn**	**07 49 02.6**	**0.0**
JYA	**Atsumi**	**0.83**	**223**	P	**Pn**	**07 48 46.2**	**0.0**
JYA				S	**Sn**	**07 49 03.8**	**-0.3**
JOU	**Okura**	**0.86**	**168**	*i* P	**Pn**	**07 48 46.6**	**+0.2**
JAH	**Hinai**	**0.99**	**9**	P	**Pn**	**07 48 47.7**	**+0.3**
JAH				S	**Sn**	**07 49 06.4**	**0.0**
JYS	**Shirataka**	**1.03**	**196**	S	**Sn**	**07 49 07.5**	**+0.5**
JIO	**Ouri**	**1.04**	**136**	*i* P	**Pn**	**07 48 47.4**	**-0.4**
JAW	**Awa shima**	**1.19**	**231**	*e*P	**Pn**	**07 48 49.2**	**0.0**
JANG	**Nango**	**1.43**	**35**	*i* P	**Pn**	**07 48 51.9**	**+0.3**
JANG				S	**Sn**	**07 49 13.3**	**-0.5**
JNS	**Sasagawa**	**1.64**	**213**	*e*P	**Pn**	**07 48 54.1**	**+0.3**
JNS				*e*S	**Sn**	**07 49 17.3**	**-0.3**
JOTO	**OTAMA OYAMA**	**1.65**	**183**	P	**Pn**	**07 48 54.2**	**+0.2**
JOTO				*e*S	**Sn**	**07 49 18.6**	**+0.7**
JSD	**Sado**	**2.06**	**236**	P	**Pn**	**07 48 58.5**	**0.0**
JOT	**Ohata**	**2.22**	**12**	P	**Pn**	**07 49 00.8**	**+0.5**
MJAR	**Matsushiro Arr**	**3.19**	**214**	Pn	**Pn**	**07 49 12.9**	**+0.4**
	0.4nm,0.3s,baz=29,slow=13,SNR=18						
	6.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.95**	**123**	T	T	08 25 15.2	
	baz=318,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**29.96**	**123**	T	T	08 25 15.3	
	baz=318,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**29.97**	**123**	T	T	08 25 23.4	
	baz=318,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**30.71**	**125**	T	T	08 26 14.4	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**30.71**	**125**	T	T	08 26 15.9	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**30.73**	**125**	T	T	08 26 16.1	
	baz=318						
ZALV	**Zalesovo Beam**	**39.90**	**310**	P	**P**	**07 55 41.1**	**-0.3**
	0.5nm,0.4s,baz=98,slow=7.7,SNR=2.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**42.34**	**300**	P	**P**	**07 56 01.4**	**-0.1**
	0.8nm,0.7s,baz=86,slow=10.0,SNR=6.9						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**44.07**	**306**	P	**P**	**07 56 15.3**	**-0.1**
	2.3nm,0.4s,baz=82,slow=8.2,SNR=13						
	2.3nm,0.4s						
KRVT	**Keravat (AS076**	**44.60**	**163**	LR	LR	08 14 54.1	
	comp=Z,57nm,19.0s,baz=97,slow=35						
HFS	**Hagfors**	**71.79**	**335**	P	**P**	**07 59 28.2**	**-0.1**
	3.8nm,1.0s,baz=54,slow=7.3,SNR=6.1						
	3.8nm,1.0s						

*MEX **20** 08:40:13.7±1.1, 19°.48N×104°.32W, h30km±22km, MD4.4*
*IDC **20** 08:40:18.5±3.2, 20°.08N×103°.55W, h0km, mb2.6/2, mbtmp3.1/5, ML3.2/3, MS3.1/3, Error ellipse: s-maj=53.4km s-min=22.6km az=45.0*
ISC 20 08:40:10.8±1.8, 19°42N±0°07×104°38W±0°05, h2km±15km, n18, σ1°94/27, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIHU	**Emiliano Zapat**	**0.37**	**246**	*i* P	**Pn**	**08 40 21.3**	**-1.9**
CIHU				*i* S	**Sb**	**08 40 28.3**	**+1.9**
CEGR	**Campo Tres**	**0.49**	**93**	*i* P	**Pb**	**08 40 20.5**	**-1.7**
CEGR				*i* S	**Sg**	**08 40 27.2**	**+0.6**
COMA	**Comala**	**0.59**	**99**	*i* P	**Pb**	**08 40 22.4**	**-1.5**
COMA				*e*S	**Sg**	**08 40 30.4**	**+0.7**
CJM	**Chamela**	**0.64**	**278**	*i* P	**Pn**	**08 40 24.9**	**-1.9**
CJM				*i* S	**Sn**	**08 40 34.2**	**-3.3**
COIG	**Colima**	**0.69**	**110**	*i* P	**Pb**	**08 40 24.2**	**-1.4**
COIG				*i* S	**Sg**	**08 40 33.5**	**+0.5**
SOMAC	**Volcano de Col**	**0.71**	**81**	*i* P	**Pg**	**08 40 24.4**	**0.0**
SOMAC				*i* S	**Sg**	**08 40 33.8**	**+0.1**
MNGA	**Volcan de Coli**	**0.71**	**86**	*i* P	**Pb**	**08 40 24.6**	**-1.5**
MNGA				*i* S	**Sg**	**08 40 34.3**	**+0.5**
EZ5V		**0.73**	**85**	*i* P	**Pb**	**08 40 24.8**	**-1.6**
EZ5V				*i* S	**Sg**	**08 40 34.9**	**+0.5**
JUBC	**Volcan de Coli**	**0.77**	**82**	*i* P	**Pb**	**08 40 25.5**	**-1.5**
JUBC				*i* S	**Sg**	**08 40 35.4**	**0.0**
MMIG	**Aquila**	**1.49**	**139**	*i* P	**Pn**	**08 40 37.6**	**-0.9**
MMIG				*i* S	**Sn**	**08 40 57.4**	**-1.1**
ANIG	**Ahuacatlan**	**1.64**	**355**	*e*P	**Pn**	**08 40 38.4**	**-2.3**
ZIIG	**Zihuatanejo**	**3.30**	**123**	*e*P	**Pn**	**08 41 03.0**	**-0.5**
LPIG	**La Paz**	**7.22**	**311**	LR	LR	08 44 25.8	
	comp=Z,157nm,20.9s,baz=140,slow=33						
CMIG	**Matias Romero**	**9.31**	**103**	Pn	**Pn**	**08 42 27.2**	**+1.0**
	0.4nm,0.3s,baz=292,slow=11,SNR=9.5						
CMIG				Lg	Lg	08 44 53.1	
	0.4nm,0.3s,baz=267,slow=17,SNR=3.9						
CMIG				LR	LR	08 46 06.7	
	comp=Z,128nm,18.2s,baz=282,slow=40						
	4.9nm,0.7s						
TXAR	**Lajitas Array**	**9.89**	**4**	Pn	**Pn**	**08 42 35.1**	**+0.9**
	0.1nm,0.3s,baz=183,slow=14,SNR=5.5						
TXAR				Lg	Lg	08 45 07.4	
	baz=176,slow=18,SNR=2.4						
	1.2nm,0.8s						
ANMO	**Albuquerque**	**15.58**	**354**	Pn	**P**	**08 43 53.9**	**-2.3**
	0.1nm,0.3s,baz=265,slow=12,SNR=1.6						
ANMO				LR	LR	08 49 33.1	
	comp=Z,60nm,20.3s,baz=234,slow=37						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**22.48**	**330**	P	**P**	**08 45 16.2**	**+4.5**
	0.1nm,0.3s,baz=155,slow=8.8,SNR=2.0						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**23.69**	**350**	P	**P**	**08 45 27.8**	**+3.7**
	0.1nm,0.4s,baz=147,slow=12,SNR=1.4						
	0.1nm,0.4s						

IDC 20 08:43:47.5±24.0, 46°.54N×152°.82E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=562.0km s-min=65.1km az=156.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S1	**WAKE ISLAND Hy**	**30.21**	**153**	T	T	09 23 00.9	
	baz=341,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**30.22**	**153**	T	T	09 23 03.0	
	baz=341,slow=76,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**30.23**	**153**	T	T	09 23 04.8	
	baz=341,slow=76,SNR=6.1						
MKAR	**Makanchi Array**	**46.86**	**297**	P	P	08 52 19.4	+0.3
	0.4nm,0.7s,baz=61,slow=7.5,SNR=4.2						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**47.41**	**304**	P	P	08 52 22.9	-0.3
	0.6nm,0.8s,baz=71,slow=8.6,SNR=4.3						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**64.14**	**335**	P	P	08 54 23.0	-0.1
	1.8nm,0.7s,baz=49,slow=9.4,SNR=9.8						
	1.8nm,0.7s						
NB2	**NORSAR Subarra**	**68.36**	**341**	P	P	08 54 50.4	+0.1
	comp=Z,0.6nm,0.6s,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.36**	**341**	P	P	08 54 50.6	+0.4
	comp=Z,0.9nm,0.6s,baz=28,slow=6.2,SNR=4.9						
	comp=Z,0.9nm,0.6s						
HFS	**Hagfors**	**68.58**	**339**	P	P	08 54 51.7	+0.1
	comp=Z,1.0nm,0.4s,baz=36,slow=5.5,SNR=12						
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.61**	**326**	P	P	08 55 09.8	-0.5
	comp=Z,0.6nm,0.4s,baz=34,slow=6.5,SNR=4.3	

FORT	**Forrest**	**37.52**	**230**	P	**P**	**08 50 58.1**	**+0.2**
KAPI	**Kappang**	**41.12**	**273**	LR	LR	09 09 35.1	
	comp=Z,17nm,18.3s,baz=92,slow=38						
PSA00	**Pilbara Seismi**	**41.46**	**248**	P	**P**	**08 51 30.1**	**-0.8**
PSA00				IAmb	IAmb	08 51 48.4	
	comp=Z,16nm,1.2s						
MORW	**Morawa**	**46.56**	**238**	P	**P**	**08 52 11.2**	**-0.6**
NWAO	**Narrogin (SRO)**	**46.79**	**233**	P	**P**	**08 52 12.9**	**-0.6**
ERM	**Erimo**	**53.41**	**343**	P	**P**	**08 53 03.1**	**-0.2**
ASAJ	**Asahikawa**	**55.51**	**344**	LR	LR	09 14 23.6	
	comp=Z,27nm,21.2s,baz=318,slow=33						
SONM	**Songino Array**	**74.36**	**325**	P	**P**	**08 55 22.6**	**+1.3**
SONM				IAmb	IAmb	08 55 23.8	
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**74.36**	**325**	P	**P**	**08 55 22.8**	**+1.5**
	comp=Z,3.5nm,0.7s,baz=145,slow=5.6,SNR=14						
	comp=Z,3.5nm,0.7s						
QSPA	**South Pole Qui**	**80.92**	**180**	P	**P**	**08 55 57.2**	**-0.4**
QSPA	**South Pole Qui**	**80.92**	**180**	P	**P**	**08 55 57.2**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=329,slow=4.8,SNR=2.2						
	comp=Z,1.5nm,1.0s						
IMAR	**Indian Mountai**	**81.86**	**17**	P	**P**	**08 56 02.1**	**-0.2**
E19K	**Redstone River**	**81.98**	**15**	P	**P**	**08 56 02.9**	**0.0**
E19K				IAmb	IAmb	08 56 15.9	
	comp=Z,4.5nm,1.1s						
MLY	**Manley**	**82.11**	**19**	P	**P**	**08 56 04.7**	**+1.0**
MLY				IAmb	IAmb	08 56 16.6	
	comp=Z,3.3nm,1.2s						
ILAR	**Eielson Array**	**83.20**	**20**	P	**P**	**08 56 10.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=252,slow=5.7,SNR=4.1						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**95.39**	**28**	P	**P**	**08 57 08.9**	**+1.5**
	comp=Z,0.2nm,0.9s,baz=256,slow=5.0,SNR=2.9						
	comp=Z,0.2nm,0.9s						

JMA ***20*** *08:51:56.1±0.3, 44°N×2°×14°8E±°, h0km, MV3.8/28, SE OFF ETOROFU*
SKHL ***20*** *08:51:59.2±0.1, 44.°10N×148.°20E, h38km±4km, mb4.3/3*
ISC 20 08:51:54.6±2.9**, 44°06N**±0°09×**148°3E**±0°1**, h1**km±13km**,**
n17,σ1§**05**/26**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.10**	**261**	*e*P		**Pg**	**08 52 16.2**	**+0.6**
SHO					AMB	AMB	08 52 17.6	
	30nm,0.2s							
SHO					*e*S	**Sg**	**08 52 29.0**	**-0.8**
SHO					A	A	08 52 32.4	
	300nm,0.3s							
SHO					A	A	08 52 32.4	
	450nm,0.3s							
KUR	**Kuril'sk**	**1.22**	**345**	*i* P		**Pg**	**08 52 18.3**	**+0.2**
KUR					AMB	AMB	08 52 18.9	
	120nm,0.4s							
KUR					*e*S	**Sg**	**08 52 32.6**	**-1.3**
KUR					A	A	08 52 36.4	
	320nm,0.4s							
KUR					A	A	08 52 36.4	
	190nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.78**	**270**	*e*P		Pn	08 52 26.1	-0.3
YUK					AMB	AMB	08 52 29.3	
	260nm,0.4s							
YUK					*e*S	Sn	08 52 45.9	-3.7
YUK					A	A	08 52 51.9	
	430nm,0.3s							
YUK					A	A	08 52 51.9	
	170nm,0.3s							
NEM2	**Nemuro 2**	**2.00**	**251**	*e*P		**Pn**	**08 52 28.9**	**-0.6**
NEM2				*e*S		**Sn**	**08 52 52.8**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.00**	**251**	*e*P		Pn	08 52 28.8	-0.8
NMR				*e*S		Sn	08 52 50.8	-4.4
JRA	**Rausu**	**2.31**	**268**	*e*P		**Pn**	**08 52 34.5**	**+0.7**
JRA				*e*S		**Sn**	**08 53 02.4**	**-0.5**
JNSB	**Nemuroshibetsu**	**2.42**	**264**	*e*P		**Pn**	**08 52 35.7**	**+0.4**
JNSB				*e*S		**Sn**	**08 53 04.8**	**-0.7**
JNK	**Nakash**	**2.65**	**261**	*e*P		**Pn**	**08 52 38.7**	**+0.2**
JNK				*e*S		**Sn**	**08 53 10.6**	**-0.6**
AKK	**Akkeshi**	**2.74**	**249**	*e*P		**Pn**	**08 52 40.6**	**+1.0**
JAK	**Akkeshi**	**2.84**	**249**	*e*P		**Pn**	**08 52 40.9**	**-0.3**
JAK				*e*S		**Sn**	**08 53 14.4**	**-1.5**
JTKR	**Abashiri--Toko**	**3.19**	**270**	*e*P		**Pn**	**08 52 47.7**	**+1.9**
JAR	**Ashorobuto**	**3.39**	**259**	*e*P		**Pn**	**08 52 50.0**	**+1.4**
JAR				*e*S		**Sn**	**08 53 30.4**	**+0.9**
JOB	**Onbets**	**3.47**	**252**	*e*P		**Pn**	**08 52 50.6**	**+1.0**
JOB				*e*S		**Sn**	**08 53 31.1**	**-0.2**
JCH	**Churui**	**3.90**	**250**	*e*P		**Pn**	**08 52 56.9**	**+1.3**
JCH				*e*S		**Sn**	**08 53 41.9**	**0.0**
JNBK	**Urakawa-nobuka**	**4.45**	**248**	*e*P		**Pn**	**08 53 04.2**	**+1.1**
JNBK				*e*S		**Sn**	**08 53 55.9**	**+0.4**
JOT	**Ohata**	**5.99**	**246**	*e*P		**Pn**	**08 53 25.2**	**+0.9**
JANG	**Nango**	**6.25**	**236**	*e*P		**Pn**	**08 53 27.5**	**-0.5**

IDC ***20*** *08:53:03.2±1.5, 42.°70N×80.°04E, h0km, mb3.6/4, mbtmp3.5/9, ML2.9/5, MS2.7/1, Error ellipse: s-maj=24.0km s-min=11.2km az=153.0*
SOME ***20*** *08:53:06.9, 42.°93N×79.°85E, h10km*
MOS ***20*** *08:53:06.3±1.0, 42.°90N×80.°05E, h13km, mb4.3/6, Error ellipse: s-maj=5.5km s-min=4.8km az=168.2*
NNC ***20*** *08:53:07.3±0.9, 42.°93N×79.°90E, h3km±3km, mb4.1, mpv3.9, Error ellipse: s-maj=6.5km s-min=3.0km az=148.0*
KRNET ***20*** *08:53:07.8±0.1, 42.°92N×79.°91E, h24km, mb3.8*
ISC 20 08:53:06.3±1.2**, 43°00N**±0°03×**79°99E**±0°03**, h7**km±7km**,**
n167,σ1§**51**/271**, mb4.0**/10**, 46C-31D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.42**	**293**	P		**Pg**	**08 53 13.6**	**-1.0**
	7μm,0.2s							
SHLS				S		**Sg**	**08 53 18.5**	**-1.6**
	4μm,0.2s							
SHLS	**Shalkode**	**0.42**	**293**	*d* i PG		**Pg**	**08 53 13.5**	**-1.0**
SHLS				*e*S		**Sg**	**08 53 18.5**	**-1.6**
SHLS	**Shalkode**	**0.42**	**293**	⇓ *i* P		**Pg**	**08 53 13.6**	**-1.0**
	baz=349							
SHLS				*e*S		**Sg**	**08 53 18.6**	**-1.6**
	baz=349							
SHLS	**Shalkode**	**0.42**	**293**	*e*P		**Pg**	**08 53 13.6**	**-1.0**
	7μm,0.2s							
SHLS				*e*S		**Sg**	**08 53 18.5**	**-1.6**
	4μm,0.2s							
SHLS	**Shalkode**	**0.42**	**293**	*e*P		**Pg**	**08 53 13.6**	**-1.0**
	baz=55							
SHLS				*e*S		**Sg**	**08 53 18.5**	**-1.6**
	baz=55							
PDGK	**Podgornoye**	**0.49**	**312**	P		**Pb**	**08 53 17.7**	**+0.3**
	115nm,0.1s							
PDGK				S		**Sb**	**08 53 25.2**	**+0.2**
	984nm,0.2s							
KTMS	**Ketmen**	**0.52**	**30**	P		**Pn**	**08 53 19.2**	**-1.1**
	351nm,0.3s							
KTMS				S		**Sn**	**08 53 27.9**	**-1.6**
	562nm,0.2s							
KTMS	**Ketmen**	**0.52**	**30**	*e*P		**Pn**	**08 53 19.2**	**-1.1**
	351nm,0.3s							
KTMS				*e*S		**Sn**	**08 53 27.9**	**-1.6**
	562nm,0.2s							
KTMS	**Ketmen**	**0.52**	**30**	*e*P		**Pn**	**08 53 19.2**	**-1.1**
	baz=32							
KTMS				*e*S		**Sn**	**08 53 27.9**	**-1.6**
	baz=32							
UZB	**Uzynbulak**	**0.73**	**282**	P		**Pg**	**08 53 20.6**	**+0.3**
	88nm,0.1s							
UZB				S		**Sg**	**08 53 30.3**	**+0.5**
	753nm,0.1s							
UZB	**Uzynbulak**	**0.73**	**282**	*i* PG		**Pg**	**08 53 20.5**	**+0.2**
UZB				*e*S		**Sg**	**08 53 30.3**	**+0.5**
UZB	**Uzynbulak**	**0.73**	**282**	*i* P		**Pg**	**08 53 20.6**	**+0.3**
	baz=284							
UZB				*e*S		**Sg**	**08 53 30.4**	**+0.5**
	baz=284							
UZB	**Uzynbulak**	**0.73**	**282**	*e*P		**Pg**	**08 53 20.6**	**+0.3**
	88nm,0.1s							
UZB				*e*S		**Sg**	**08 53 30.3**	**+0.5**
	753nm,0.1s							
UZB	**Uzynbulak**	**0.73**	**282**	*e*P		**Pg**	**08 53 20.6**	**+0.3**
	baz=89							
UZB				*e*S		**Sg**	**08 53 30.2**	**+0.5**
	baz=89							
KPKS	**Kokpek**	**1.06**	**297**	P		**Pb**	**08 53 26.9**	**-0.3**
KPKS				S		**Sb**	**08 53 41.2**	**-0.1**
	2μm,0.3s							
KPKS	**Kokpek**	**1.06**	**297**	*c i* PG		**Pb**	**08 53 26.9**	**-0.3**
KPKS	**Kokpek**	**1.06**	**297**	⇑ *i* P		**Pb**	**08 53 26.9**	**-0.3**
	baz=297							
KPKS	**Kokpek**	**1.06**	**297**	*e*P		**Pb**	**08 53 26.9**	**-0.3**
	193nm,0.1s							
KPKS				*e*S		**Sb**	**08 53 41.2**	**-0.1**
	2μm,0.2s							
KPKS	**Kokpek**	**1.06**	**297**	*e*P		**Pb**	**08 53 26.9**	**-0.3**
	baz=2.0							
KPKS				*e*S		**Sb**	**08 53 41.2**	**-0.1**
	baz=2.0							
ZHN	**Zhinishke**	**1.15**	**279**	P		**Pg**	**08 53 27.9**	**-0.6**
	41nm,0.3s							
ZHN				S		**Sg**	**08 53 42.9**	**-0.5**
	619nm,0.2s							
ZHN	**Zhinishke**	**1.15**	**279**	*e* PG		**Pg**	**08 53 27.1**	**-1.3**
ZHN				*e*S		**Sg**	**08 53 42.9**	**-0.5**
ZHN	**Zhinishke**	**1.15**	**279**	*e*P		**Pg**	**08 53 27.2**	**-1.3**
	baz=280							
ZHN				*e*S		**Sg**	**08 53 42.9**	**-0.5**
	baz=280							
ZHN	**Zhinishke**	**1.15**	**279**	*e*P		**Pg**	**08 53 27.9**	**-0.6**
	41nm,0.3s							
ZHN				*e*S		**Sg**	**08 53 42.9**	**-0.5**
	619nm,0.2s							
ZHN	**Zhinishke**	**1.15**	**279**	*e*P		**Pg**	**08 53 27.9**	**-0.6**
	baz=83							
ZHN				*e*S		**Sg**	**08 53 42.9**	**-0.5**
	baz=83							
SATY	**Saty**	**1.16**	**274**	P		**Pg**	**08 53 28.0**	**-0.7**
	18nm,0.1s							
SATY				S		**Sg**	**08 53 43.5**	**-0.3**
	712nm,0.1s							
SATY	**Saty**	**1.16**	**274**	*c i* PG		**Pg**	**08 53 27.9**	**-0.7**
SATY				*e*S		**Sg**	**08 53 43.2**	**-0.6**
SATY	**Saty**	**1.16**	**274**	*e*P		**Pg**	**08 53 27.9**	**-0.7**
	18nm,0.1s							
SATY				*e*S		**Sg**	**08 53 43.5**	**-0.3**
	830nm,0.1s							
SATY	**Saty**	**1.16**	**274**	*e*P		**Pg**	**08 53 28.0**	**-0.7**
	baz=78							
SATY				*e*S		**Sg**	**08 53 43.6**	**-0.3**
	baz=78							
PRZ	**Przheval'sk**	**1.28**	**247**	*i* PG		**Pg**	**08 53 29.9**	**-1.0**
PRZ				*i* S		**Sg**	**08 53 46.1**	**-1.4**
PRZ	**Przheval'sk**	**1.28**	**247**	⇑ *i* P		**Pg**	**08 53 29.9**	**-1.0**
	baz=50							
PRZ				⇑ *i* S		**Sg**	**08 53 46.1**	**-1.4**
	baz=50							
DJR	**Jarkent**	**1.34**	**354**	P		**Pb**	**08 53 33.4**	**+1.5**
	205nm,0.2s							
DJR				S		**Sn**	**08 53 52.7**	**+3.0**
	995nm,0.4s							
DJR	**Jarkent**	**1.34**	**354**	*e*P		**Pb**	**08 53 33.4**	**+1.5**
	205nm,0.2s							
DJR				*e*S		**Sn**	**08 53 52.7**	**+3.0**
	995nm,0.4s							
KURS	**Kuram**	**1.42**	**291**	P		**Pn**	**08 53 33.0**	**+0.4**
	50nm,0.4s							
KURS				S		**Sb**	**08 53 51.9**	**+0.4**
	137nm,0.5s							
KURS	**Kuram**	**1.42**	**291**	*e*P		**Pn**	**08 53 33.0**	**+0.4**
	50nm,0.4s							
KURS				*e*S		**Sb**	**08 53 51.9**	**+0.4**
	137nm,0.5s							
KURS	**Kuram**	**1.42**	**291**	*e*P		**Pn**	**08 53 33.0**	**+0.4**
	baz=95							
KURS				*e*S		**Sb**	**08 53 51.9**	**+0.4**
	baz=95							
KNOS	**Konyrlen**	**1.48**	**337**	P		**Pb**	**08 53 35.5**	**+1.2**
	237nm,0.3s							
KNOS				S		**Sn**	**08 53 56.0**	**+2.7**
	387nm,0.4s							
BLB	**Baldybastay**	**1.56**	**316**	P		**Pg**	**08 53 36.2**	**0.0**
	305nm,0.3s							
BLB				S		**Sg**	**08 53 57.4**	**+1.0**
	311nm,0.3s							
ANVS	**Anan'yevo**	**1.72**	**264**	⇓ *i* PN		**Pn**	**08 53 37.9**	**+1.0**
ANVS				*i* S		**Sn**	**08 53 59.9**	**+0.7**
ANVS	**Anan'yevo**	**1.72**	**264**	⇓ *i* P		**Pn**	**08 53 37.9**	**+1.0**
	baz=66							
ANVS				⇓ *i* S		**Sn**	**08 53 59.9**	**+0.7**
	baz=66							
ARXS	**Arharly**	**1.99**	**308**	Pg		**Pb**	**08 53 43.2**	**+0.3**
	46nm,0.2s							
ARXS				Lg		Lg	08 54 09.4	
	501nm,0.3s							
ARXS	**Arharly**	**1.99**	**308**	*i* PN		**Pb**	**08 53 42.1**	**-0.8**
ARXS	**Arharly**	**1.99**	**308**	*e*P		**Pb**	**08 53 43.2**	**+0.3**
	46nm,0.2s							
ARXS				*e*S		**Sg**	**08 54 09.4**	**-0.8**
	501nm,0.3s							
TARG	**Taragay, Kyrgy**	**2.06**	**233**	*i* PN		**Pn**	**08 53 42.4**	**+0.7**
TARG				*i* S		**Sn**	**08 54 07.3**	**-0.5**
TARG	**Taragay, Kyrgy**	**2.06**	**233**	⇑ *i* P		**Pn**	**08 53 42.4**	**+0.7**
	baz=33							
TARG				⇑ *i* S		**Sn**	**08 54 07.3**	**-0.5**
	baz=33							
KOTS	**Kotyrbulak**	**2.12**	**277**	Pg		**Pb**	**08 53 45.6**	**+0.4**
	163nm,0.4s							
KOTS				Lg		Lg	08 54 13.5	
	1μm,0.5s							
KOTS	**Kotyrbulak**	**2.12**	**277**	*e*P		**Pb**	**08 53 45.6**	**+0.4**
	162nm,0.2s							
KOTS				*e*S		**Sg**	**08 54 13.4**	**-1.1**
	1μm,0.5s							
MDOK	**Medeo**	**2.16**	**275**	⇑ Pn		**Pb**	**08 53 44.8**	**-1.0**
	32nm,0.5s							
MDOK				Pg		**Pb**	**08 53 45.2**	**-0.7**
	50nm,0.3s							
MDOK				Lg		Lg	08 54 12.9	
	179nm,0.9s							
MDOK				⇓ Sn		**Sb**	**08 54 13.5**	**+0.5**
	244nm,0.6s							
MDOK	**Medeo**	**2.16**	**275**	*i* PN		**Pb**	**08 53 44.9**	**-1.0**
MDOK	**Medeo**	**2.16**	**275**	*i* Pb		**Pb**	**08 53 44.9**	**-1.0**
	baz=276							
MDOK	**Medeo**	**2.16**	**275**	*e*P		**Pb**	**08 53 45.2**	**-0.7**
	50nm,0.3s							
MDOK				*e*S		**Sb**	**08 54 12.8**	**-0.1**
	179nm,0.9s							
TNSS	**Tian-Shan**	**2.23**	**272**	Pg		**Pb**	**08 53 47.2**	**-0.1**
	67nm,0.3s							
TNSS				Lg		Lg	08 54 16.4	
	226nm,0.2s							
TNSS	**Tian-Shan**	**2.23**	**272**	*e*P		**Pb**	**08 53 47.2**	**-0.1**
	67nm,0.2s							
TNSS				*e*S		**Sb**	**08 54 16.4**	**+1.1**
	253nm,0.2s							
KDJ	**Kajisay**	**2.25**	**248**	*i* PN		**Pn**	**08 53 45.0**	**+0.9**
KDJ				*i* S		**Sn**	**08 54 11.9**	**-0.3**
KDJ	**Kajisay**	**2.25**	**248**	⇑ *i* P		**Pn**	**08 53 45.0**	**+0.9**
	baz=49							
KDJ				⇑ *i* S		**Sn**	**08 54 11.9**	**-0.3**
	baz=49							
AAA	**Alma-Ata**	**2.26**	**276**	*e*PN		**Pn**	**08 53 43.7**	**-0.5**
AAA	**Alma-Ata**	**2.26**	**276**	*e*Pn		**Pn**	**08 53 43.8**	**-0.5**
	baz=277							
TDK	**Taldyqorghan**	**2.31**	**331**	Pg		**Pg**	**08 53 49.4**	**-1.2**
	64nm,0.5s							
TDK				Lg		Lg	08 54 20.2	
	520nm,0.5s							
TDK	**Taldyqorghan**	**2.31**	**331**	*de* PN		**Pn**	**08 53 46.1**	**+1.3**
TDK	**Taldyqorghan**	**2.31**	**331**	⇓ *e* Pn		**Pn**	**08 53 46.2**	**+1.3**
	baz=332							
TDK	**Taldyqorghan**	**2.31**	**331**	*e*P		**Pg**	**08 53 49.4**	**-1.2**
	64nm,0.5s							
TDK				*e*S		**Sg**	**08 54 20.2**	**-0.3**
	520nm,0.5s							
KAPS	**Kapalarasan**	**2.33**	**349**	Pg		**Pb**	**08 53 49.0**	**+0.3**
	25nm,0.2s							
KAPS				Lg		Lg	08 54 19.8	
	126nm,0.6s							
KAPS	**Kapalarasan**	**2.33**	**349**	*e*P		**Pb**	**08 53 49.0**	**+0.3**
	25nm,0.1s							
KAPS				*e*S		**Sg**	**08 54 19.8**	**-1.5**
	126nm,0.3s							
CHKK	**Chushkaly**	**2.35**	**292**	Pg		**Pb**	**08 53 48.8**	**-0.2**
	6.1nm,0.2s							
CHKK				Lg		Lg	08 54 18.9	
	272nm,0.4s							
CHKK	**Chushkaly**	**2.35**	**292**	*e*PN		**Pn**	**08 53 44.9**	**-0.4**
CHKK	**Chushkaly**	**2.35**	**292**	*e*Pn		**Pn**	**08 53 45.0**	**-0.4**
	baz=293							
CHKK	**Chushkaly**	**2.35**	**292**	*e*P		**Pb**	**08 53 48.8**	**-0.2**
	6.1nm,0.2s							
CHKK				*e*S		**Sb**	**08 54 18.9**	**+0.7**
	272nm,0.4s							
IZV	**Izvestkoviy**	**2.48**	**272**	Pg		**Pb**	**08 53 51.4**	**+0.1**
	23nm,0.2s							
IZV				Lg		Lg	08 54 23.7	
	984nm,0.6s							
IZV	**Izvestkoviy**	**2.48**	**272**	*e*P		**Pb**	**08 53 51.4**	**+0.1**
	23nm,0.2s							
IZV				*e*S		**Sb**	**08 54 23.7**	**+1.7**
	995nm,0.4s							
KTBS	**Karatobe**	**2.52**	**288**	Pg		**Pb**	**08 53 50.9**	**-1.0**
	19nm,0.3s							
KTBS				Lg		Lg	08 54 22.7	
	2.7nm,0.3s							
KTBS	**Karatobe**	**2.52**	**288**	*e*P		**Pb**	**08 53 50.9**	**-1.0**
	19nm,0.3s							
KTBS				*e*S		**Sb**	**08 54 22.7**	**-0.4**
	511nm,0.2s							
MTBS	**Maitube**	**2.61**	**274**	Pg		**Pb**	**08 53 53.1**	**-0.5**
	23nm,0.4s							
MTBS				Lg		Lg	08 54 26.8	
	321nm,0.4s							
MTBS	**Maitube**	**2.61**	**274**	*e*P		**Pb**	**08 53 53.1**	**-0.5**
	24nm,0.3s							
MTBS				*e*S		**Sb**	**08 54 26.8**	**+0.9**
	321nm,0.4s							
KUU	**Kurty**	**2.81**	**290**	Pg		**Pb**	**08 53 56.3**	**-0.5**
	6.8nm,0.2s							
KUU				Lg		Lg	08 54 32.0	
	93nm,0.2s							
KUU	**Kurty**	**2.81**	**290**	*e* PN		**Pn**	**08 53 51.3**	**-0.3**
KUU	**Kurty**	**2.81**	**290**	*e* Pn		**Pn**	**08 53 51.3**	**-0.3**
	baz=290							
KUU	**Kurty**	**2.81**	**290**	*e*P		**Pb**	**08 53 56.3**	**-0.5**
	6.8nm,0.2s							
KUU				*e*S		**Sb**	**08 54 32.0**	**+0.6**
	93nm,0.2s							
ULHL	**Ulahol**	**2.87**	**256**	⇓ *i* PN		**Pn**	**08 53 53.6**	**+0.9**
ULHL				*i* S		**Sn**	**08 54 27.5**	**0.0**
ULHL	**Ulahol**	**2.87**	**256**	⇓ *i* P		**Pn**	**08 53 53.6**	**+0.9**
	baz=57							
ULHL				⇓ *i* S		**Sn**	**08 54 27.5**	**0.0**
	baz=57							
KST	**Kastek**	**2.96**	**272**	Pg		**Pb**	**08 53 58.7**	**-0.7**
	20nm,0.4s							
KST				Lg		Lg	08 54 36.1	
	204nm,0.8s							
KST	**Kastek**	**2.96**	**272**	*e*P		**Pb**	**08 53 58.7**	**-0.7**
	20nm,0.4s							
KST				*e*S		**Sb**	**08 54 36.1**	**+0.4**
	207nm,0.5s							
DGS	**Degeres**	**3.10**	**276**	Pg		**Pb**	**08 54 02.1**	**+0.2**
	18nm,0.4s							
DGS				Lg		Lg	08 54 41.8	
	205nm,0.5s							
DGS	**Degeres**	**3.10**	**276**	*e*P		**Pb**	**08 54 02.1**	**+0.2**
	18nm,0.3s							
DGS				*e*S		**Sb**	**08 54 41.8**	**+2.0**
	205nm,0.3s							
KRBS	**Karabastau**	**3.23**	**284**	Pg		**Pb**	**08 54 03.2**	**-0.7**
	25nm,0.4s							
KRBS				Lg		Lg	08 54 44.3	
	86nm,0.2s							
KRBS	**Karabastau**	**3.23**	**284**	*e*P		**Pb**	**08 54 03.2**	**-0.7**
	25nm,0.4s							
KRBS				*e*S		**Sb**	**08 54 44.3**	**+0.8**
	86nm,0.2s							
TKM2	**Tokmak 2**	**3.23**	**270**	⇑ Pg		**Pg**	**08 54 08.4**	**+0.2**
	14nm,0.5s							
TKM2				⇑ Lg		Lg	08 54 47.8	
	96nm,0.6s							
TKM2	**Tokmak 2**	**3.23**	**270**	*i* PN		**Pn**	**08 53 59.3**	**+1.7**
TKM2				*i* S		**Sn**	**08 54 36.8**	**+0.4**
TKM2	**Tokmak 2**	**3.23**	**270**	⇑ *i* P		**Pn**	**08 53 59.3**	**+1.7**
	baz=71							
TKM2				⇑ *i* S		**Sn**	**08 54 36.8**	**+0.4**
	baz=71							
NRN	**Naryn**	**3.35**	**244**	*i* PN		**Pn**	**08 54 00.8**	**+1.4**
NRN				*i* S		**Sn**	**08 54 39.0**	**-0.6**
NRN	**Naryn**	**3.35**	**244**	⇑ *i* P		**Pn**	**08 54 00.8**	**+1.4**
	baz=44							
NRN				⇑ *i* S		**Sn**	**08 54 39.0**	**-0.6**
	baz=44							
KZA	**Kyzart**	**3.62**	**257**	*i* PN		**Pn**	**08 54 04.4**	**+1.2**
KZA				*i* S		**Sn**	**08 54 46.0**	**-0.4**
KZA	**Kyzart**	**3.62**	**257**	⇑ *i* P		**Pn**	**08 54 04.4**	**+1.2**
	baz=58							
KZA				⇑ *i* S		**Sn**	**08 54 46.0**	**-0.4**
	baz=58							
KBK	**Karagaybulak**	**3.73**	**266**	*i* PN		**Pn**	**08 54 06.1**	**+1.7**
KBK				*i* S		**Sn**	**08 54 48.3**	**-0.3**
KBK	**Karagaybulak**	**3.73**	**266**	⇑ *i* P		**Pn**	**08 54 06.1**	**+1.7**
	baz=68							
KBK				⇑ *i* S		**Sn**	**08 54 48.3**	**-0.3**
	baz=68							
CHMS	**Chumysh**	**3.84**	**272**	⇑ Pg		**Pg**	**08 54 18.1**	**-1.9**
	3.0nm,0.3s							
CHMS				⇑ Lg		Lg	08 55 07.0	
	29nm,0.7s							
CHMS	**Chumysh**	**3.84**	**272**	*i* PN		**Pn**	**08 54 07.7**	**+1.8**
CHMS				*i* S		**Sn**	**08 54 51.4**	**+0.1**
CHMS	**Chumysh**	**3.84**	**272**	⇑ *i* P		**Pn**	**08 54 07.7**	**+1.8**
	baz=73							
CHMS				⇑ *i* S		**Sn**	**08 54 51.4**	**+0.1**
	baz=73							
FRU1	**Bishkek**	**3.94**	**269**	*i* PN		**Pn**	**08 54 08.9**	**+1.6**
FRU1				*i* S		**Sn**	**08 54 53.6**	**-0.2**
FRU1	**Bishkek**	**3.94**	**269**	⇑ *i* P		**Pn**	**08 54 08.9**	**+1.6**
	baz=70							
FRU1				⇑ *i* S		**Sn**	**08 54 53.6**	**-0.2**
	baz=70							
SGDS	**Sogindy**	**3.94**	**278**	Pg		**Pb**	**08 54 17.6**	**+1.4**
	10nm,0.6s							
SGDS				Lg		Lg	08 55 08.2	
	48nm,0.6s							
SGDS	**Sogindy**	**3.94**	**278**	*e* PN		**Pb**	**08 54 16.2**	**0.0**
SGDS	**Sogindy**	**3.94**	**278**	*e* Pb		**Pb**	**08 54 16.3**	**0.0**
	baz=279							
USP	**Ospenovka**	**4.03**	**276**	⇓

ARLS				⇑*i*S		**Sn**	**08 55 02.7**	**-1.2**
	baz=57								
EKS2	**Erkin-Say**	**4.58**	**268**	⇓*i*PN		**Pn**	**08 54 17.9**	**+1.7**
EKS2				*i* S		**Sn**	**08 55 09.1**	**-0.6**
EKS2	**Erkin-Say**	**4.58**	**268**	⇓*i*P		**Pn**	**08 54 17.9**	**+1.7**
	baz=69								
EKS2				⇓*i*S		**Sn**	**08 55 09.1**	**-0.6**
	baz=69								
KSH	**Kashi**	**4.61**	**222**	Pn		**Pg**	**08 54 32.6**	**-2.1**
KSH				Sn		**Sg**	**08 55 42.0**	**+7.6**
KSH				pmax	pmax				
	comp=Z,11nm,0.7s								
KSH				smax	smax				
	comp=N,40nm,0.9s								
KSH				smax	smax				
	comp=E,24nm,0.9s								
AML	**Almayashu**	**4.73**	**262**	⇑Pg		**Pg**	**08 54 35.1**	**-1.9**
	comp=E,0.4nm,0.4s								
AML				Lg		Lg	08 55 35.4		
	comp=E,11nm,0.8s								
AML	**Almayashu**	**4.73**	**262**	*i* PN		**Pn**	**08 54 20.1**	**+1.7**
AML				*i* S		**Sn**	**08 55 12.6**	**-1.1**
AML	**Almayashu**	**4.73**	**262**	⇑*i*P		**Pn**	**08 54 20.1**	**+1.7**
	baz=62								
AML				⇑*i*S		**Sn**	**08 55 12.6**	**-1.1**
	baz=62								
MRKS	**Merke**	**4.98**	**269**	Pg		**Pb**	**08 54 35.1**	**+1.2**
	comp=E,3.5nm,0.6s								
MRKS				Lg		Lg	08 55 38.8		
	comp=E,28nm,0.4s								
MRKS	**Merke**	**4.98**	**269**	*e*P		**Pb**	**08 54 35.1**	**+1.2**
	comp=E,3.3nm,0.3s								
MRKS				*e*S		**Sb**	**08 55 38.8**	**+4.8**
	comp=E,28nm,0.3s								
ZSN	**Zaisan**	**5.63**	**36**	*e*P		**Pg**	**08 54 50.7**	**-3.4**
	comp=E,6.1nm,0.3s								
ZSN				*e*S		**Sg**	**08 56 05.1**	**-1.9**
	comp=E,22nm,0.5s								
SFK	**Sufi-Kurgan**	**5.71**	**241**	*i* PN		**Pn**	**08 54 32.8**	**+1.1**
SFK	**Sufi-Kurgan**	**5.71**	**241**	⇑*i*P		**Pn**	**08 54 32.8**	**+1.1**
	baz=41								
SFK				⇑*i*S		**Sn**	**08 55 34.8**	**-2.8**
	baz=41								
ARK	**Arkit**	**6.06**	**261**	*i* PN		**Pn**	**08 54 37.8**	**+1.3**
ARK	**Arkit**	**6.06**	**261**	⇑*i*P		**Pn**	**08 54 37.8**	**+1.3**
	baz=62								
ARK				⇑*i*S		**Sn**	**08 55 43.9**	**-2.3**
	baz=62								
DZA	**Taraz**	**6.36**	**272**	*e*PN		**Pn**	**08 54 39.9**	**-0.5**
DZA				*e*			08 55 03.3		
DZA	**Taraz**	**6.36**	**272**	*e*Pn		**Pn**	**08 54 40.0**	**-0.5**
	baz=272								
DZA				*e*Pg		**Pg**	**08 55 03.3**	**-4.8**
	baz=272								
TRKS	**Terek-Say**	**6.73**	**260**	*i* PN		**Pn**	**08 54 47.1**	**+1.4**
TRKS	**Terek-Say**	**6.73**	**260**	⇑*i*P		**Pn**	**08 54 47.1**	**+1.4**
	baz=60								
TRKS				⇑*i*S		**Sn**	**08 55 59.5**	**-3.1**
	baz=60								
KK31	**Karatay Array**	**6.95**	**274**	⇑Pg		Pb	08 55 12.8	+5.5
	comp=E,0.9nm,0.5s,baz=86,slow=15,SNR=17								
KK31				⇓⇓Lg		Lg	08 56 44.6		
	comp=E,7.6nm,0.7s,baz=90,slow=25,SNR=7.0								
KK31	**Karatay Array**	**6.95**	**274**	P*		Pb	08 55 12.8	+5.5
KKAR	**Karatay Array**	**6.95**	**274**	⇓*i*PN		**Pn**	**08 54 50.4**	**+1.9**
KKAR	**Karatay Array**	**6.95**	**274**	⇓*i*P		**Pn**	**08 54 50.4**	**+1.9**
	baz=75								
KKAR				⇓*i*S		**Sn**	**08 56 05.1**	**-2.7**
	baz=75								
SEM	**Semipalatinsk**	**7.42**	**1**	*e*P		**Pn**	**08 54 56.2**	**+1.1**
SEM	**Semipalatinsk**	**7.42**	**1**	*e*Pn		**Pn**	**08 54 56.3**	**+1.1**
	baz=1.6								
BTK	**Batken**	**7.48**	**250**	⇓*i*P		**Pn**	**08 54 57.3**	**+1.4**
BTK				*i* S		**Sn**	**08 56 17.0**	**-4.1**
BTK	**Batken**	**7.48**	**250**	⇓*i*P		**Pn**	**08 54 57.3**	**+1.4**
	baz=50								
BTK				⇓*i*S		**Sn**	**08 56 17.0**	**-4.1**
	baz=50								
KURBB	**Kurchatov Arra**	**7.69**	**353**	⇓Pn		**Pn**	**08 54 59.9**	**+1.2**
	comp=E,0.7nm,0.3s								
KURBB				⇓⇓Lg		Lg	08 57 13.7		
	comp=E,64nm,0.9s								
KURBB	**Kurchatov Arra**	**7.69**	**353**	P		**Pn**	**08 54 59.9**	**+1.2**
KURBB	**Kurchatov Arra**	**7.69**	**353**	Pn		**Pn**	**08 55 01.2**	**+2.5**
	comp=E,0.1nm,0.3s,baz=181,slow=12,SNR=12								
KURBB				Lg		Lg	08 57 10.8		
	comp=E,0.5nm,0.3s,baz=179,slow=28,SNR=5.8								
KURBB				LR		LR	08 57 58.1		
	comp=E,47nm,19.5s,baz=172,slow=37								
KURK	**Kurchatov**	**7.78**	**354**	⇓Pn		**Pn**	**08 55 01.4**	**+1.5**
	comp=E,0.9nm,0.4s								
KURK				⇑⇑Lg		Lg	08 57 14.5		
	comp=E,19nm,0.6s								
KURK	**Kurchatov**	**7.78**	**354**	*i* P		**Pn**	**08 55 01.2**	**+1.3**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.2s								
DGZ	**Jazzator, Alta**	**8.45**	**35**	*i* P		**Pn**	**08 55 11.4**	**+2.2**
DGZ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
BRZS	**Berezniki**	**8.61**	**327**	*e*P		**Pn**	**08 55 10.9**	**-0.4**
BRZS	**Berezniki**	**8.61**	**327**	*e*Pn		**Pn**	**08 55 11.0**	**-0.4**
	baz=327								
ZALV	**Zalesovo Beam**	**11.41**	**15**	Pn		**Pn**	**08 55 52.0**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=12,SNR=4.6								
ZALV				Sn		**Sn**	**08 57 53.8**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=208,slow=24,SNR=9.5								
ZALV				Lg		Lg	08 59 06.3		
	baz=199,slow=25								
	comp=Z,0.8nm,0.5s								
BVAR	**Borovoye Array**	**11.90**	**331**	Pn		**Pn**	**08 55 56.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=15,SNR=5.5								
BVAR				Lg		Lg	08 59 23.1		
	comp=Z,0.1nm,0.3s,baz=132,slow=26,SNR=6.6								
	comp=Z,0.6nm,0.4s								
SONM	**Songino Array**	**19.11**	**66**	P		**P**	**08 57 29.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=262,slow=9.8,SNR=2.0								
ARU	**Arti**	**19.20**	**322**	*d* iP		**Pn**	**08 57 32.3**	**+1.0**
ARU				pmax	pmax				
	comp=Z,5.0nm,1.4s								
ULN	**Ulaanbaatar**	**19.56**	**66**	*i* P		**P**	**08 57 35.5**	**+0.8**
ULN				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BELG	**Belogornoye**	**23.55**	**305**	*i* P		**P**	**08 58 17.0**	**0.0**
BELG				pmax	pmax				
	comp=Z,1.0nm,1.1s								
XLT	**XiLinHaoTe**	**26.09**	**76**	*e*P		**P**	**08 58 38.6**	**-2.0**
XLT				sP		sP	08 58 53.4	+8.9
XLT				PP		**PnPn**	**08 59 15.8**	**-2.7**
XLT				pmax	pmax				
	comp=Z,8.0nm,0.5s								
XLT				pmax	pmax				
	comp=Z,110nm,4.0s								
NRIK	**Noril'sk**	**26.70**	**6**	*i* P		**P**	**08 58 47.7**	**+2.0**
NRIK				pmax	pmax				
	comp=Z,5.0nm,1.6s								
KIV	**Kislovodsk**	**26.94**	**285**	*e*P		**P**	**08 58 48.6**	**+0.3**
KIV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
HIA	**Hailar**	**28.00**	**63**	*i* P		**P**	**08 58 58.4**	**+0.7**
HIA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
MNK	**Minsk**	**35.44**	**307**	*i* P		**P**	**09 00 01.6**	**-1.2**
	comp=E,11nm,0.8s								
MNK				*i* P		**P**	**09 00 01.6**	**-1.2**
	comp=N,36nm,0.8s								
MNK				*i* P		**P**	**09 00 01.6**	**-1.2**
	comp=Z,22nm,0.8s,baz=87								
MNK				*i* PP		**PnPn**	**09 01 20.8**	**-0.4**
MNK				*i* PPP		PPP	09 01 34.2		
MNK				*i* S		**S**	**09 05 36.0**	**-1.7**
MNK				*i* SS		**SnSn**	**09 07 57.7**	**+1.3**
MNK				*i* SSS		SSS	09 08 14.2		
MNK				*i* LR		LR	09 14 18.0		
MNK				*i* LRM		MLR	09 15 43.7		
MNK				*i* LRM		MLR	09 15 55.4		
MNK				*i* LRM		MLR	09 16 05.0		
MNK	**Minsk**	**35.44**	**307**	*i* P		**P**	**09 00 01.6**	**-1.2**
MNK				*i*			09 01 20.7		
MNK				*i* S		**S**	**09 05 36.0**	**-1.7**
MNK				*i* SS		**SnSn**	**09 07 57.7**	**+1.3**
MNK				*i*			09 10 19.4		
MNK				pmax	pmax				
	comp=Z,22nm,0.8s								
MNK				pmax	pmax				
	comp=E,11nm,0.9s								
KLR	**Kul'dur**	**35.82**	**62**	*i* P		**P**	**09 00 08.5**	**+2.3**
KLR				pmax	pmax				
	comp=Z,11nm,2.9s								
BILL	**Bilibino**	**49.65**	**30**	*i* P		**P**	**09 02 00.3**	**+2.3**
BILL				pmax	pmax				
	comp=Z,15nm,3.8s								
INK	**Inuvik**	**66.21**	**13**	P		**P**	**09 03 54.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=341,slow=8.9,SNR=6.5								
	comp=Z,0.6nm,0.5s								
ILAR	**Eielson Array**	**66.48**	**20**	*e*P		**P**	**09 03 56.2**	**+0.1**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**66.48**	**20**	P		**P**	**09 03 55.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=296,slow=4.6,SNR=5.8								
	comp=Z,0.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**72.63**	**272**	P		**P**	**09 04 32.1**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=48,slow=4.5,SNR=2.6								
	comp=Z,0.3nm,0.5s								
YKA	**Yellowknife Ar**	**74.21**	**7**	P		**P**	**09 04 42.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=343,slow=6.0,SNR=12								
	comp=Z,0.4nm,0.7s								

IDC 20 08:59:45.8±8.1, 26°.81S×27°.95E, h0km, mbtmp2.3/1, ML2.2/1, Error ellipse: s-maj=69.4km s-min=50.1km az=142.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**2.99**	**232**	Pn	Pn	09 00 35.8	+1.2
	0.2nm,0.3s,baz=40,slow=13,SNR=1.5						
BOSA				Pg	Pg	09 00 43.7	+0.5
	0.2nm,0.3s,baz=49,slow=14,SNR=4.0						
BOSA				Lg	Lg	09 01 19.3	
	0.4nm,0.3s,baz=334,slow=16,SNR=6.4						
	0.7nm,0.6s						
I47ZA	**BOSHOF INFRASO**	**3.01**	**233**	I	I	09 25 00.0	
	0.1nm,0.5s,baz=54,slow=312,SNR=1.9						
I35NA	**TSUMEB INFRASO**	**12.19**	**306**	I	I	10 15 30.0	
	baz=124,slow=333,SNR=0.4						

TUN 20 09:20:11.0, 35°.34N×10°.64E, h12km±3km, MD2.6, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTHT	**Jabal bu Thady**	**0.36**	**234**	*i* P	Pb	09 20 20.2	+0.9
BKLT	**Bekalta**	**0.40**	**47**	*i* P	Pn	09 20 22.3	-0.3
BKLT	**Bekalta**	**0.40**	**47**	*i* P	Pn	09 20 22.2	-0.4
HANT	**Hania**	**0.54**	**336**	*i* P	Pn	09 20 25.4	+1.0
HANT	**Hania**	**0.54**	**336**	*i* P	Pn	09 20 25.6	+1.1
TROT	**Trozza**	**0.87**	**285**	*i* P	Pn	09 20 32.3	+3.1
TROT	**Trozza**	**0.87**	**285**	*i* P	Pn	09 20 32.4	+3.2
BERT	**Berda**	**1.73**	**231**	*i* P	Pg	09 20 45.1	+0.9
BERT	**Berda**	**1.73**	**231**	*i* P	Pg	09 20 45.2	+1.0
SGNT	**Sidi Gnaou**	**1.79**	**201**	*i* P	Pb	09 20 44.5	+0.7
SGNT	**Sidi Gnaou**	**1.79**	**201**	*i* P	Pb	09 20 44.6	+0.8

*IDC **20** 09:21:47.0±3.6, 20°.72S×178°.86W, h622km±43km, mb3.2/12, mbtmp4.2/13, Error ellipse: s-maj=20.0km s-min=16.3km az=83.0*

ISC 20 09:21:48.7±0.6, 20°.7S±0°.1×178°.9W±0°.2, h645km, n21, σ1s40/21, mb3.7/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.82**	**190**	P	**P**	**09 25 19.0**	**-1.5**
	7.4nm,0.5s,baz=211,slow=23,SNR=12						
URZ				S	**S**	**09 28 08.2**	**-4.0**
	5.4nm,0.9s,baz=234,slow=19,SNR=1.7						
STKA	**Stephens Creek**	**36.92**	**244**	P	**P**	**09 28 05.9**	**+0.2**
	1.9nm,0.6s,baz=77,slow=8.5,SNR=5.5						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**43.64**	**257**	P	**P**	**09 28 59.6**	**+0.7**
	2.5nm,0.8s,baz=97,slow=7.7,SNR=36						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**43.72**	**262**	P	**P**	**09 28 59.7**	**+0.1**
	0.5nm,0.3s,baz=96,slow=7.6,SNR=18						
	0.5nm,0.3s						
VNDA	**Vanda**	**57.62**	**185**	P	**P**	**09 30 40.6**	**+1.8**
	2.3nm,1.0s,baz=41,slow=7.1,SNR=1.8						
	2.3nm,1.0s						
QSPA	**South Pole Qui**	**69.35**	**180**	P	**P**	**09 31 55.4**	**+2.0**
	3.0nm,0.6s,baz=29,slow=0.4,SNR=9.8						
	3.0nm,0.6s						
PETK	**Petropavlovsk-**	**76.27**	**346**	P	**P**	**09 32 31.3**	**-1.4**
	4.6nm,0.9s,baz=169,slow=2.9,SNR=2.5						
	4.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**78.67**	**326**	P	**P**	**09 32 47.2**	**+1.3**
	1.7nm,0.6s,baz=153,slow=1.6,SNR=3.4						
	1.7nm,0.6s						
NVAR	**Mina Array Bea**	**81.77**	**44**	P	**P**	**09 33 02.6**	**+0.3**
	1.3nm,0.7s,baz=220,slow=8.8,SNR=10.0						
	1.3nm,0.7s						
TXAR	**Lajitas Array**	**87.89**	**58**	P	**P**	**09 33 33.1**	**+1.1**
	1.1nm,0.9s,baz=218,slow=5.8,SNR=10						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**88.72**	**13**	P	**P**	**09 33 33.5**	**-1.3**
	1.4nm,0.8s,baz=222,slow=5.5,SNR=22						
	1.4nm,0.8s						
PDAR	**Pinedale Array**	**89.71**	**44**	P	**P**	**09 33 40.2**	**0.0**
	0.9nm,0.6s,baz=223,slow=4.3,SNR=11						
	0.9nm,0.6s						
YKA	**Yellowknife Ar**	**97.07**	**25**	P	**P**	**09 34 11.5**	**-1.4**
	0.2nm,0.7s,baz=245,slow=4.6,SNR=4.5						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**118.70**	**320**	PKP	**PKPdf**	**09 39 24.8**	**-0.1**
	0.7nm,0.4s,baz=104,slow=3.8,SNR=4.9						
ARCES	**ARCESS Array B**	**128.98**	**349**	PKP	**PKPdf**	**09 39 44.3**	**+0.2**
	3.3nm,0.9s,baz=46,slow=2.6,SNR=4.3						
FINES	**FINESS Array B**	**135.74**	**343**	PKP	**PKiKP**	**09 39 57.9**	**-0.9**
	2.9nm,1.0s,baz=48,slow=2.1,SNR=5.0						
AKASG	**Malin Array Be**	**142.78**	**330**	PKhKP	PKPpre	09 40 07.3	
	2.0nm,0.4s,baz=43,slow=4.3,SNR=15						
EKA	**Eskdalemuir Ar**	**145.29**	**4**	PKPbc	**PKPbc**	**09 40 15.8**	**+0.1**
	1.3nm,0.7s,baz=336,slow=3.1,SNR=4.1						
BRTR	**Keskin Array B**	**146.35**	**312**	PKPbc	**PKPbc**	**09 40 19.6**	**+0.3**
	0.7nm,0.5s,baz=93,slow=4.5,SNR=3.5						
MMAI	**Mount Meron Ar**	**147.18**	**299**	PKPbc	**PKiKP**	**09 40 23.3**	**0.0**
	2.2nm,0.6s,baz=75,slow=6.6,SNR=2.7						
GERES	**GERESS Array B**	**150.17**	**343**	PKPbc	**PKPbc**	**09 40 28.3**	**-0.1**
	1.3nm,0.7s,baz=30,slow=4.5,SNR=2.9						

*IDC **20** 09:24:06.8±1.3, 6°.01N×127°.15E, h0km, mb3.7/6, mbtmp3.7/6, MS2.7/1, Error ellipse: s-maj=63.4km s-min=18.9km az=57.0*

ISC 20 09:24:13.5±1.2, 5°.9N±0°.3×127°.1E±0°.3, h50km, n8, σ1s34/8, mb3.5/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.84**	**308**	Pn	**Pn**	**09 24 40.9**	**-1.8**
	114nm,0.3s,baz=95,slow=4.7,SNR=7.5						
DAV				Sn	**Sn**	**09 25 06.7**	**+1.8**
	40nm,0.3s,baz=227,slow=22,SNR=13						
WRA	**Warramunga Arr**	**26.70**	**165**	P	**P**	**09 29 48.9**	**+0.7**
	0.8nm,0.8s,baz=343,slow=10,SNR=3.2						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.10**	**297**	LR	LR	09 43 28.3	
	comp=Z,13nm,18.4s,baz=190,slow=38						
ASAR	**Alice Springs**	**30.17**	**167**	P	**P**	**09 30 19.0**	**-0.1**
	0.5nm,0.8s,baz=343,slow=6.4,SNR=5.4						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**55.95**	**324**	P	**P**	**09 33 46.0**	**-0.7**
	0.1nm,0.3s,baz=113,slow=8.0,SNR=4.6						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**60.08**	**327**	P	**P**	**09 34 15.2**	**-0.2**
	0.4nm,0.4s,baz=132,slow=6.6,SNR=2.2						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**65.66**	**326**	P	**P**	**09 34 53.8**	**+1.2**
	0.2nm,0.3s,baz=106,slow=9.1,SNR=2.0						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**90.05**	**332**	P	**P**	**09 37 07.9**	**+0.2**
	1.2nm,0.8s,baz=61,slow=6.5,SNR=4.0						
	1.2nm,0.8s						

*NOU **20** 09:36:40.8, 41°.46S×173°.05E, h105km, MLv3.6/9, South Island, New Zealand*
*WEL **20** 09:36:41.1±0.8, 41°.5±5°.1×17°.3E±1°, h101km±6km, M3.1/18, ML3.4/9, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=156.2, confirmed*

ISC 20 09:36:39.8±1.5, 41°.46S±0°.04×173°.15E±0°.04, h121km±8km, n67, σ1s02/76, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNZ	**Nelson**	**0.30**	**35**	P	**Pn**	**09 36 57.0**	**+0.1**
MRNZ	**Matariki Terra**	**0.30**	**282**	P	**Pn**	**09 36 57.2**	**+0.3**
MRNZ				S	**Sn**	**09 37 09.4**	**-0.4**
THZ	**Tophouse**	**0.35**	**211**	P	**Pn**	**09 36 57.9**	**+0.7**
THZ				S	**Sn**	**09 37 10.1**	**-0.2**
TKNZ	**Takaka Hill**	**0.45**	**341**	P	**Pn**	**09 36 57.5**	**-0.1**
TKNZ				S	**Sn**	**09 37 09.6**	**-1.5**
TUWZ	**Tuamarina**	**0.60**	**87**	P	**Pn**	**09 36 59.2**	**+0.7**
TUWZ				S	**Sn**	**09 37 11.9**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.60**	**115**	P	**Pn**	**09 36 59.2**	**+0.8**
BSWZ				S	**Sn**	**09 37 12.6**	**0.0**
QRZ	**Quartz Range**	**0.79**	**323**	P	**Pn**	**09 37 00.0**	**0.0**
QRZ	**Quartz Range**	**0.79**	**323**	P	**Pn**	**09 37 00.1**	**0.0**
QRZ				S	**Sn**	**09 37 13.7**	**-1.6**
CMWZ	**Cape Campbell**	**0.85**	**110**	P	**Pn**	**09 37 01.4**	**+1.0**
CMWZ				S	**Sn**	**09 37 17.5**	**+1.4**
DUWZ	**D'Urville Isla**	**0.88**	**42**	P	**Pn**	**09 37 01.5**	**+0.6**
DUWZ				S	**Sn**	**09 37 16.5**	**-0.2**
TCW	**Tory Channel**	**0.88**	**74**	P	**Pn**	**09 37 01.2**	**+0.4**
TCW				S	**Sn**	**09 37 15.5**	**-1.2**
KHZ	**Kahutara**	**1.00**	**163**	P	**Pn**	**09 37 02.7**	**+0.9**
KHZ	**Kahutara**	**1.00**	**163**	P	**Pn**	**09 37 02.9**	**+1.1**
DSZ	**Denniston Nort**	**1.05**	**254**	P	**Pn**	**09 37 02.7**	**+0.3**
SNZO	**South Karori**	**1.18**	**83**	P	**Pn**	**09 37 03.7**	**0.0**
WEL	**Wellington**	**1.23**	**82**	P	**Pn**	**09 37 04.3**	**+0.1**
BHW	**Baring Head**	**1.29**	**88**	P	**Pn**	**09 37 04.8**	**-0.1**
KIW	**Kapiti Island**	**1.46**	**66**	P	**Pn**	**09 37 06.8**	**0.0**
LTZ	**Lake Taylor**	**1.47**	**206**	P	**Pn**	**09 37 07.9**	**+0.9**
CAW	**Cannon Point**	**1.49**	**77**	P	**Pn**	**09 37 06.9**	**-0.2**
GVZ	**Greta Valley S**	**1.51**	**183**	P	**Pn**	**09 37 08.5**	**+1.1**
PLWZ	**Palliser**	**1.58**	**95**	P	**Pn**	**09 37 08.1**	**-0.2**
OGWZ	**Otaki Gorge**	**1.66**	**68**	P	**Pn**	**09 37 08.8**	**-0.3**
PAWZ	**Paruwai Farm**	**1.71**	**88**	P	**Pn**	**09 37 09.4**	**-0.4**
AMCZ	**Amberley**	**1.75**	**192**	P	**Pn**	**09 37 11.2**	**+0.9**
INZ	**Inchbonnie**	**1.79**	**225**	P	**Pn**	**09 37 11.4**	**+0.8**
MTW	**Mount Morrison**	**1.80**	**81**	P	**Pn**	**09 37 10.2**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.87**	**73**	P	**Pn**	**09 37 11.3**	**-0.4**
TRWZ	**Traveller**	**1.91**	**89**	P	**Pn**	**09 37 12.2**	**+0.1**
MRZ	**Mangatainoka R**	**2.00**	**67**	P	**Pn**	**09 37 12.6**	**-0.7**
OXZ	**Oxford**	**2.04**	**203**	P	**Pn**	**09 37 13.9**	**+0.2**
TMWZ	**Te Maipa**	**2.10**	**81**	P	**Pn**	**09 37 13.9**	**-0.5**
TIWZ	**Tintock**	**2.18**	**73**	P	**Pn**	**09 37 14.9**	**-0.6**
WAZ	**Wanganui**	**2.21**	**40**	P	**Pn**	**09 37 16.8**	**+1.0**
PREZ	**Palmer Road**	**2.25**	**20**	P	**Pn**	**09 37 17.7**	**+1.2**
NBEZ	**Newall Road No**	**2.26**	**14**	P	**Pn**	**09 37 16.2**	**-0.3**
OKCZ	**Okains Bay**	**2.26**	**182**	P	**Pn**	**09 37 17.2**	**+0.7**
KHEZ	**Kahui Hut**	**2.26**	**17**	P	**Pn**	**09 37 17.4**	**+0.7**
KHEZ	**Kahui Hut**	**2.26**	**17**	P	**Pn**	**09 37 17.8**	**+1.1**
MQZ	**McQueen's Vall**	**2.27**	**189**	P	**Pn**	**09 37 16.5**	**-0.1**
PRWZ	**Pori Road**	**2.32**	**68**	P	**Pn**	**09 37 16.6**	**-0.7**
PKE	**Pukeiti**	**2.35**	**16**	P	**Pn**	**09 37 19.0**	**+1.2**
RACZ	**Rakaia**	**2.38**	**198**	P	**Pn**	**09 37 18.3**	**+0.3**
WVZ	**Waitaha Valley**	**2.41**	**227**	P	**Pn**	**09 37 18.5**	**+0.1**
AKCZ	**Akaroa Harbour**	**2.42**	**184**	P	**Pn**	**09 37 18.9**	**+0.4**
BFZ	**Birch Farm**	**2.47**	**73**	P	**Pn**	**09 37 16.8**	**-2.3**
DVHZ	**Dannevirke**	**2.56**	**64**	P	**Pn**	**09 37 20.0**	**-0.4**
VRZ	**Vera Road**	**2.64**	**28**	P	**Pn**	**09 37 22.0**	**+0.6**
WACZ	**Wakanui South**	**2.66**	**201**	P	**Pn**	**09 37 22.0**	**+0.4**
RPZ	**Rata Peaks**	**2.73**	**214**	P	**Pn**	**09 37 22.7**	**+0.1**
RPZ	**Rata Peaks**	**2.73**	**214**	P	**Pn**	**09 37 22.3**	**-0.3**
ARCZ	**Arundel**	**2.88**	**210**	P	**Pn**	**09 37 24.2**	**-0.3**
NGZ	**Ngauruhoe**	**2.95**	**40**	P	**Pn**	**09 37 30.2**	**+4.6**
OTVZ	**Oturere**	**3.00**	**41**	P	**Pn**	**09 37 27.6**	**+1.4**
FOZ	**Fox Glacier**	**3.22**	**229**	P	**Pn**	**09 37 28.7**	**-0.2**
HIZ	**Hauiti**	**3.22**	**25**	P	**Pn**	**09 37 29.5**	**+0.5**
HIZ	**Hauiti**	**3.22**	**25**	P	**Pn**	**09 37 29.1**	**+0.1**
KAHZ	**Kahuranaki**	**3.29**	**61**	P	**Pn**	**09 37 29.7**	**-0.2**
TMZ	**Timaru**	**3.32**	**208**	P	**Pn**	**09 37 30.2**	**0.0**
TLZ	**Tolley Road**	**3.63**	**31**	P	**Pn**	**09 37 34.8**	**+0.4**
ODZ	**Otahua Downs**	**4.02**	**206**	P	**Pn**	**09 37 39.9**	**+0.4**
ODZ	**Otahua Downs**	**4.02**	**206**	P	**Pn**	**09 37 39.7**	**+0.1**
JCZ	**Jackson Bay**	**4.14**	**229**	P	**Pn**	**09 37 40.8**	**-0.5**
JCZ	**Jackson Bay**

GMN	**Gold Mountain**	**84.09**	**45**	P		**P**		**10 13 30.9**	**+0.8**
GMN				IAmb		IAmb		10 13 32.8	
	comp=Z,6.0nm,0.9s								
TPH	**Tonopah**	**84.57**	**44**			pwP		10 15 13.4	-2.1
TXAR	**Lajitas Array**	**89.72**	**58**	P		P		10 14 02.2	+5.3
	comp=Z,0.3nm,0.7s,baz=216,slow=4.5,SNR=5.3								
	comp=Z,0.3nm,0.7s								
CMAR	**Chiang Mai Arr**	**90.06**	**290**	P		**P**		**10 14 01.4**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=134,slow=3.9,SNR=4.1								
	comp=Z,0.6nm,0.3s								
I20K	**Naaghedeneel**	**90.20**	**10**			pP		10 15 42.2	+2.5
MMAI	**Mount Meron Ar**	**148.19**	**295**	PKPbc		**PKiKP**		**10 20 43.6**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=60,slow=5.7,SNR=4.8								

*NEIC **20** 10:06:47.4±1.0,23.97N±0.06×94.69E±0.09,h87km±7km, mb4.2/22,Error ellipse: s-maj=12.3km s-min=7.9km az=59.0*
*IDC **20** 10:06:48.3±3.6,23.70N×94.37E,h108km±34km,mb3.7/13, mbtmp4.0/14,MS2.9/2,Error ellipse: s-maj=42.4km s-min=12.4km az=57.0*
*NDI **20** 10:06:48.9±3.8,24.03N×94.30E,h112km±30km,ML4.3, MW4.1,mb4.2(NEIC)*
ISC 20 10:06:47.3±0.6,23.88N±0.05×94.53E±0.05,h96km,n58, σ1§29/62,mb4.1/27,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.09**	**331**	*e*Pg		**Pn**		**10 07 08.6**	**0.0**
IMP				*e*S		**Sn**		**10 07 23.5**	**-1.0**
AZL	**Aizawl**	**1.69**	**266**	*e*Pg		**Pn**		**10 07 15.7**	**-0.3**
AZL				AMP				10 07 36.4	
	comp=Z,2μm,0.2s								
AZL				*i* Sg		**Sn**		**10 07 37.1**	**-0.6**
AZL				AMP				10 07 37.1	
	comp=N,9μm,0.1s								
SILR	**SILCHAR**	**1.81**	**300**	*e*S		**Sn**		**10 07 36.9**	**-3.3**
KOHI	**KOHIMA**	**1.87**	**348**	*e*P		**Pn**		**10 07 18.4**	**+0.2**
SAIH	**SAIHA**	**1.98**	**226**	*e*P		**Pn**		**10 07 20.2**	**+0.5**
SAIH				*e*S		**Sn**		**10 07 44.4**	**0.0**
MND	**Mandalay**	**2.36**	**142**	Pn		**Pn**		**10 07 23.7**	**-0.8**
SHL	**Shillong**	**2.94**	**305**			**Pn**		**10 07 31.9**	**-0.5**
SHL	**Shillong**	**2.94**	**305**	*e*P		**Pn**		**10 07 31.7**	**-0.6**
SHL				*e*S		**Sn**		**10 08 02.6**	**-4.3**
SHL				IAML				10 08 05.2	
	comp=N,2μm,0.2s								
SHL				IAML				10 08 06.5	
	comp=E,2μm,0.1s								
TEZP	**TEZPUR**	**3.14**	**330**	*e*P		**Pn**		**10 07 33.8**	**-1.1**
TEZP				*e*S		Sn		10 08 02.2	-9.4
ZIRO	**ZIRO**	**3.68**	**351**	*e*P		**Pn**		**10 07 43.6**	**+1.3**
ZIRO				*e*S		**Sn**		**10 08 20.7**	**-4.2**
CHTO	**Chiang Mai**	**6.50**	**140**	Pn		**Pn**		**10 08 19.7**	**-0.8**
CRAI	**Chiangrai**	**6.52**	**123**	Pn		**Pn**		**10 08 19.8**	**-0.9**
LSA	**Lhasa**	**6.54**	**333**	Pn		**Pn**		**10 08 20.8**	**-0.5**
CM31	**Chiang Mai Arr**	**6.79**	**142**	Pn		**Pn**		**10 08 22.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**6.79**	**142**	Pn		**Pn**		**10 08 22.6**	**-1.8**
CMAR	**Chiang Mai Arr**	**6.79**	**142**	P		**Pn**		**10 08 24.6**	**+0.3**
	comp=E,1.6nm,0.6s,baz=317,slow=13,SNR=10								
CMAR				LR		LR		10 11 57.8	
	comp=E,11nm,18.5s,baz=320,slow=46								
PZH	**PanZhiHua**	**7.03**	**67**	P		**Pn**		**10 08 28.6**	**+0.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
PZH				pmax		pmax			
	comp=Z,110nm,5.4s								
KULM	**Kulim**	**19.40**	**161**	P		**Pn**		**10 11 06.8**	**-1.2**
WMQ	**Urumqi**	**20.67**	**346**	*e*P		**P**		**10 11 21.3**	**+1.8**
NIL	**Nilore**	**21.01**	**302**	P		**P**		**10 11 23.4**	**+0.2**
NIL				IAmb		IAmb		10 11 28.4	
	comp=Z,8.0nm,0.8s								
KSH	**Kashi**	**22.12**	**319**	P		**P**		**10 11 36.5**	**+1.4**
KSH				pmax		pmax			
	comp=Z,6.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**22.14**	**36**	*e*P		**P**		**10 11 35.9**	**+0.6**
HHC				pmax		pmax			
	comp=Z,11nm,0.7s								
HHC				pmax		pmax			
	comp=Z,200nm,4.5s								
TARG	**Taragay, Kyrgy**	**22.61**	**326**	P		**P**		**10 11 40.8**	**+0.3**
BOOM	**Boomskoye usch**	**24.12**	**325**	P		**P**		**10 11 56.7**	**+2.3**
BOOM				IAmb		IAmb		10 11 58.0	
	comp=Z,7.0nm,0.8s								
KBL	**Kabul**	**24.59**	**301**	P		**P**		**10 12 00.2**	**+1.5**
KBL				IAmb		IAmb		10 12 01.5	
	comp=Z,4.8nm,0.6s								
MK31	**Makanchi Array**	**24.89**	**340**	P		**P**		**10 12 01.8**	**+0.6**
MK31				IAmb		IAmb		10 12 03.3	
	comp=Z,6.9nm,0.6s								
MKAR	**Makanchi Array**	**24.89**	**340**	P		**P**		**10 12 01.9**	**+0.8**
MKAR	**Makanchi Array**	**24.89**	**340**	P		**P**		**10 12 02.6**	**+1.5**
	comp=Z,8.1nm,0.5s,baz=146,slow=9.6,SNR=125								
	comp=Z,8.1nm,0.5s								
MAKZ	**Makanchi**	**25.00**	**339**	P		**P**		**10 12 02.5**	**+0.4**
MAKZ				IAmb		IAmb		10 12 04.2	
	comp=Z,5.1nm,0.5s								
AAK	**Ala-Archa**	**25.00**	**323**	P		**P**		**10 12 02.6**	**+0.2**
AAK				IAmb		IAmb		10 12 33.8	
	comp=Z,3.8nm,0.6s								
BTK	**Batken**	**25.67**	**315**	P		**P**		**10 12 10.2**	**+1.9**
BTK				IAmb		IAmb		10 12 11.1	
	comp=Z,6.0nm,0.7s								
SONM	**Songino Array**	**25.70**	**19**	P		**P**		**10 12 07.9**	**-0.7**
SONM	**Songino Array**	**25.70**	**19**	P		**P**		**10 12 10.1**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=200,slow=10,SNR=2.4								
	comp=Z,0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**29.45**	**339**	P		**P**		**10 12 42.6**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=151,slow=8.7,SNR=8.7								
	comp=Z,0.7nm,0.3s								
KURK	**Kurchatov**	**29.50**	**339**	P		**P**		**10 12 43.1**	**+0.8**
ZALV	**Zalesovo Beam**	**30.90**	**349**	P		**P**		**10 12 55.5**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=166,slow=8.2,SNR=3.0								
	comp=Z,0.6nm,0.3s								
GEYT	**Alibeck**	**34.01**	**303**	P		**P**		**10 13 23.0**	**+0.9**
GEYT				IAmb		IAmb		10 13 41.6	
	comp=Z,2.7nm,1.0s								
GYA0B	**ALIBECK ARRAY**	**34.01**	**303**	P		**P**		**10 13 23.0**	**+0.9**
GYA0B				IAmb		IAmb		10 13 42.2	
	comp=Z,4.2nm,1.1s								
BVAR	**Borovoye Array**	**34.37**	**334**	P		**P**		**10 13 25.7**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=140,slow=12,SNR=14								
	comp=Z,2.6nm,0.5s								
BRVK	**Borovoye**	**34.44**	**334**	P		**P**		**10 13 25.4**	**-0.1**
BRVK				IAmb		IAmb		10 13 35.4	
	comp=Z,2.5nm,0.7s								
ABKAR	**Akbulak array**	**37.07**	**322**	P		**P**		**10 13 48.7**	**+0.6**
JAGI	**Jajag, Banyuwa**	**37.43**	**147**	P		**P**		**10 13 50.6**	**-0.9**
ARU	**Arti**	**41.73**	**331**	P		**P**		**10 14 27.6**	**+0.9**
ARU				IAmb		IAmb		10 14 28.2	
	comp=Z,4.2nm,0.8s								
KNRA	**Kununurra**	**51.62**	**136**	P		**P**		**10 15 43.8**	**-0.4**
BRTR	**Keskin Array B**	**53.16**	**303**	P		**P**		**10 15 56.9**	**+1.3**
BRTR	**Keskin Array B**	**53.16**	**303**	P		**P**		**10 15 55.1**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=134,slow=6.4,SNR=4.7								
	comp=Z,0.6nm,0.5s								
AKASG	**Malin Array Be**	**56.37**	**316**	P		**P**		**10 16 17.7**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=82,slow=6.3,SNR=5.3								
	comp=Z,0.4nm,0.4s								
WB0	**Warramunga Arr**	**58.23**	**135**	P		**P**		**10 16 31.5**	**-0.5**
WRA	**Warramunga Arr**	**58.33**	**135**	P		**P**		**10 16 32.1**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=322,slow=7.4,SNR=14								
	comp=Z,2.2nm,0.6s								
WB2	**Warramunga Arr**	**58.34**	**135**	P		**P**		**10 16 32.5**	**-0.2**
FINES	**FINESS Array B**	**59.03**	**329**	P		**P**		**10 16 37.5**	**+0.6**
FINES	**FINESS Array B**	**59.03**	**329**	P		**P**		**10 16 37.2**	**+0.3**
	comp=Z,3.3nm,1.1s,baz=104,slow=10,SNR=6.5								
	comp=Z,3.3nm,1.1s								
ARCES	**ARCESS Array B**	**60.52**	**338**	P		**P**		**10 16 47.5**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=98,slow=6.0,SNR=6.5								
	comp=Z,2.2nm,0.9s								
AS31	**Alice Springs**	**60.78**	**138**	P		**P**		**10 16 49.5**	**0.0**
AS31				IAmb		IAmb		10 16 49.7	
	comp=Z,1.2nm,0.6s								
ASAR	**Alice Springs**	**60.78**	**138**	P		**P**		**10 16 48.9**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=322,slow=6.9,SNR=44								
	comp=Z,2.0nm,0.5s								
HFS	**Hagfors**	**65.07**	**327**	P		**P**		**10 17 17.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=94,slow=4.9,SNR=6.7								
	comp=Z,0.9nm,0.4s								
EKA	**Eskdalemuir Ar**	**74.91**	**324**	P		**P**		**10 18 17.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=90,slow=9.2,SNR=3.6								
	comp=Z,1.1nm,0.8s								
RES	**Resolute Bay**	**81.48**	**3**	LR		LR		10 58 38.9	
	comp=Z,46nm,18.3s,baz=17,slow=38								

*IDC **20** 10:36:37.9±1.3,2.36N×128.22E,h0km,mb3.6/7, mbtmp3.7/7,MS2.6/1,Error ellipse: s-maj=94.5km s-min=18.6km az=66.0*
ISC 20 10:36:44.8±1.3,2.3N±0.3×128.2E±0.5,h51km,n8,σ0§81/7, mb3.9/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.14**	**229**	LR		**P**		**10 41 33.8**	
	comp=Z,31nm,20.9s,baz=240,slow=37								
WRA	**Warramunga Arr**	**22.93**	**165**	P		**P**		**10 41 43.8**	**-0.9**
	0.5nm,0.7s,baz=342,slow=10,SNR=1.9								
	0.5nm,0.7s								
ASAR	**Alice Springs**	**26.42**	**168**	P		**P**		**10 42 16.5**	**-0.4**
	0.3nm,0.8s,baz=356,slow=7.6,SNR=1.4								
	0.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**32.84**	**301**	P		**P**		**10 43 14.2**	**+0.2**
	0.5nm,0.3s,baz=108,slow=6.0,SNR=1.7								
	0.5nm,0.3s								
STKA	**Stephens Creek**	**36.31**	**161**	P		**P**		**10 43 44.5**	**+0.8**
	2.7nm,1.0s,baz=336,slow=12,SNR=2.3								
	2.7nm,1.0s								
SONM	**Songino Array**	**49.10**	**341**	P		**P**		**10 45 27.6**	**+0.2**
	0.8nm,0.9s,baz=150,slow=8.2,SNR=5.7								
	0.8nm,0.9s								
MKAR	**Makanchi Array**	**59.54**	**325**	P		**P**		**10 46 43.1**	**0.0**
	0.8nm,0.5s,baz=117,slow=8.8,SNR=10								
	0.8nm,0.5s								
KURBB	**Kurchatov Arra**	**63.71**	**327**	P		**P**		**10 47 10.2**	**-0.9**
	0.8nm,0.6s,baz=129,slow=6.1,SNR=5.9								
	0.8nm,0.6s								

*IDC **20** 10:38:29.9±1.4,24.03S×66.70W,h170km±19km,mb3.5/2, mbtmp3.9/7,Error ellipse: s-maj=23.5km s-min=15.3km az=123.0*
*SJA **20** 10:38:29.6±0.7,24.08S×66.97W,h214km±7km,ML3.9, MW3.7*
*NEIC **20** 10:38:30.9±1.0,24.11S±0.02×67.1W±0.1,h218km±13km, mb4.2/5,Error ellipse: s-maj=18.9km s-min=2.2km az=94.0*
*GUC **20** 10:38:32.4±0.7,24.04S×67.55W,h232km±13km,ML4.1*
ISC 20 10:38:30.7±0.7,24.07S±0.04×67.03W±0.05,h209km±7km, n68,σ1§29/95,mb4.0/4,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.53**	**316**	Pn		**Pn**		**10 39 06.3**	**+0.5**
AF01	**San Pedro de A**	**1.53**	**316**	*e*P		**Pn**		**10 39 07.4**	**+1.7**
AF01				*e*S		**S**		**10 39 33.5**	**+0.8**
AF01				IAML				10 39 37.8	
	comp=E,277nm,0.1s								
SLA	**San Lorenzo**	**1.54**	**115**	*e*P		**Pn**		**10 39 05.2**	**-0.5**
FSA	**Cafayete**	**2.25**	**155**	*e*P		**Pn**		**10 39 11.7**	**-0.9**
LVC	**Limon Verde**	**2.25**	**310**			**Pn**		**10 39 13.4**	**+0.5**
LVC				Sn		**S**		**10 39 45.4**	**+0.1**
LVC	**Limon Verde**	**2.25**	**310**	*e*P		**Pn**		**10 39 13.6**	**+0.8**
LVC				*e*S		**S**		**10 39 45.8**	**+0.5**
LVC	**Limon Verde**	**2.25**	**310**	P		**Pn**		**10 39 13.7**	**+0.8**
	comp=E,12nm,0.3s,baz=122,slow=7.0,SNR=161								
LVC				S		**S**		**10 39 44.7**	**-0.6**
	comp=E,57nm,0.3s,baz=281,slow=21,SNR=61								
YJA	**Yavi**	**2.34**	**37**	*e*P		**Pn**		**10 39 14.0**	**0.0**
YJA				*e*S		**S**		**10 39 46.6**	**-0.6**
PB15	**IPOC Station P**	**2.39**	**290**			**Pn**		**10 39 14.8**	**+0.6**
PB15				Sn		**S**		**10 39 46.9**	**-0.8**
PB15	**IPOC Station P**	**2.39**	**290**	*e*P		**Pn**		**10 39 14.9**	**+0.6**
PB15				*e*S		**S**		**10 39 47.6**	**0.0**
PB15	**IPOC Station P**	**2.39**	**290**	*i* P		**Pn**		**10 39 15.0**	**+0.8**
PB15				*e*S		**S**		**10 39 46.9**	**-0.8**
PB15				IAML				10 39 52.4	
	comp=E,2μm,0.3s								
GO02	**Mina Guanaco**	**2.57**	**244**			**Pn**		**10 39 16.6**	**+0.4**
GO02				Sn		**S**		**10 39 51.4**	**+0.1**
GO02	**Mina Guanaco**	**2.57**	**244**	*e*P		**Pn**		**10 39 16.6**	**+0.5**
GO02				*e*S		**S**		**10 39 51.5**	**+0.2**
GO02	**Mina Guanaco**	**2.57**	**244**	*e*P		**Pn**		**10 39 16.8**	**+0.5**
GO02				*e*S		**S**		**10 39 51.0**	**-0.2**
GO02				IAML				10 39 53.2	
	comp=N,533nm,0.3s								
PB06	**IPOC Station P**	**2.70**	**300**			**Pn**		**10 39 18.1**	**+0.6**
PB06	**IPOC Station P**	**2.70**	**300**	*e*P		**Pn**		**10 39 18.1**	**+0.6**
PB06				*e*S		**S**		**10 39 53.3**	**-0.3**
PB06				IAML				10 39 55.8	
	comp=Z,398nm,0.3s								
PB06	**IPOC Station P**	**2.70**	**300**	*i* P		**Pn**		**10 39 18.4**	**+0.9**
PB06				*e*S		**S**		**10 39 52.8**	**-0.8**
PB06				IAML				10 39 54.8	
	comp=N,754nm,0.2s								
PB09	**IPOC Station P**	**3.04**	**318**			**Pn**		**10 39 22.7**	**+1.3**
PB09	**IPOC Station P**	**3.04**	**318**	*e*P		**Pn**		**10 39 22.7**	**+1.3**
PB09				*e*S		**S**		**10 40 02.0**	**+1.3**
PB09				IAML				10 40 06.8	
	comp=Z,129nm,0.2s								
PB09	**IPOC Station P**	**3.04**	**318**	*e*P		**Pn**		**10 39 23.0**	**+1.5**
PB09				*e*S		**S**		**10 40 01.2**	**+0.5**
PB09				IAML				10 40 04.6	
	comp=N,125nm,0.3s								
AHML	**Horco Molle**	**3.11**	**151**	*e*P		**Pn**		**10 39 22.5**	**+0.4**
PB14	**IPOC Station P**	**3.12**	**259**			**Pn**		**10 39 22.5**	**0.0**
PB14	**IPOC Station P**	**3.12**	**259**	*e*P		**Pn**		**10 39 22.7**	**+0.1**
PB14				*e*S		**S**		**10 40 02.2**	**-0.4**
PB14				IAML				10 40 03.4	
	comp=Z,104nm,0.2s								
PB05	**IPOC Station P**	**3.15**	**292**			**Pn**		**10 39 23.2**	**+0.5**
PB05	**IPOC Station P**	**3.15**	**292**	*e*P		**Pn**		**10 39 23.0**	**+0.3**
PB05				*e*S		**S**		**10 40 01.8**	**-1.1**
PB05				IAML				10 40 06.0	
	comp=Z,113nm,0.3s								
PB05	**IPOC Station P**	**3.15**	**292**	*e*P		**Pn**		**10 39 23.2**	**+0.5**
PB05				*e*S		**S**		**10 40 00.8**	**-2.1**
PB05				IAML				10 40 07.3	
	comp=N,168nm,0.4s								
PB04	**IPOC Station P**	**3.34**	**300**			**Pn**		**10 39 25.5**	**+0.4**
PB04	**IPOC Station P**	**3.34**	**300**	*e*P		**Pn**		**10 39 25.5**	**+0.4**
PB04				*e*S		**S**		**10 40 06.2**	**-1.0**
PB04				IAML				10 40 12.8	
	comp=Z,221nm,0.2s								
PB04	**IPOC Station P**	**3.34**	**300**	*e*P		**Pn**		**10 39 25.5**	**+0.4**
PB04				*e*S		**S**		**10 40 05.5**	**-1.7**
PB04				IAML				10 40 09.2	
	comp=N,311nm,0.2s								
PB07	**IPOC Station P**	**3.51**	**311**			**Pn**		**10 39 27.4**	**+0.3**
PB07	**IPOC Station P**	**3.51**	**311**	*e*P		**Pn**		**10 39 27.3**	**+0.3**
PB07				*e*S		**S**		**10 40 09.2**	**-1.6**
PB07				IAML				10 40 11.1	
	comp=Z,173nm,0.1s								
PB07	**IPOC Station P**	**3.51**	**311**	*e*P		**Pn**		**10 39 27.7**	**+0.6**
PB07				*e*S		**S**		**10 40 08.6**	**-2.2**
PB01	**IPOC Station P**	**3.77**	**323**			**Pn**		**10 39 30.6**	**+0.5**
PB02	**IPOC Station P**	**3.80**	**315**			**Pn**		**10 39 31.0**	**+0.5**
PB02	**IPOC Station P**	**3.80**	**315**	*e*P		**Pn**		**10 39 31.7**	**+1.2**
PB02				*e*S		**S**		**10 40 15.5**	**-1.6**
AC01	**Pan de Azucar**	**3.84**	**237**			**Pn**		**10 39 30.2**	**-0.6**
AC01	**Pan de Azucar**	**3.84**	**237**	*e*P		**Pn**		**10 39 30.1**	**-0.7**
AC01				*e*S		**S**		**10 40 15.1**	**-2.6**
PATCX	**Punta Patache**	**4.33**	**318**			**Pn**		**10 39 37.7**	**+0.7**
PATCX	**Punta Patache**	**4.33**	**318**	*e*P		**Pn**		**10 39 38.5**	**+1.5**
PB08	**IPOC Station P**	**4.37**	**333**			**Pn**		**10 39 38.9**	**+1.1**
AC06	**Mina Casimiro**	**4.44**	**222**			**Pn**		**10 39 37.4**	**-0.8**
CYA	**Choya**	**4.50**	**166**	*e*P		**Pn**		**10 39 39.7**	**+0.8**
TA01	**Diego Aracena**	**4.54**	**319**			**Pn**		**10 39 39.5**	**0.0**
GO03	**Copiap**	**4.54**	**219**			**Pn**		**10 39 39.0**	**-0.6**
HMBC	**Humberstone**	**4.61**	**324**	*e*P		**Pn**		**10 39 39.8**	**-0.7**
HMBC				*e*S		**S**		**10 40 32.5**	**-2.6**
VCA	**Vinchina**	**4.77**	**192**	*e*P		**Pn**		**10 39 44.5**	**+2.0**
VCA				*e*S		**S**		**10 40 42.9**	**+4.0**
VCA				IAML				10 41 16.0	
	comp=Z,93nm,0.2s								
GO01	**Chusmiza**	**4.81**	**335**			**Pn**		**10 39 44.2**	**+0.8**
PB11	**IPOC Station P**	**4.93**	**330**			**Pn**		**10 39 44.2**	**-0.3**
PB11	**IPOC Station P**	**4.93**	**330**	*e*P		**Pn**		**10 39 43.9**	**-0.7**
PB11				*e*S		**S**		**10 40 44.4**	**+1.8**
PB11				IAML				10 40 44.7	
	comp=Z,66nm,0.2s								
PB16	**IPOC Station P**	**6.15**	**338**			**Pn**		**10 40 01.6**	**+1.0**
PB12	**IPOC Station P**	**6.23**	**330**			**Pn**		**10 40 00.7**	**-0.5**
PB18	**Visviri**	**6.84**	**340**	Pn		**Pn**		**10 40 12.8**	**+3.3**
CFA	**Coronel Fontan**	**7.58**	**188**	P		**Pn**		**10 40 17.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=1.5,slow=11,SNR=24								
LPAZ	**La Paz**	**7.81**	**352**			**Pn**		**10 40 21.8**	**-0.3**
VA06	**Catapilco**	**9.26**	**203**	Pn		**Pn**		**10 40 36.2**	**-3.9**
SIV	**San Ignacio**	**9.79**	**36**	P		**Pn**		**10 40 44.8**	**-2.4**
	comp=Z,1.9nm,0.5s,baz=233,slow=9.7,SNR=5.3								
SIV				S		S		10 42 26.3	-11
	comp=Z,0.8nm,0.6s,baz=231,slow=15,SNR=2.2								
TRCB	**Terra Rica**	**13.28**	**87**			**P**		**10 41 33.0**	**-1.1**
TRQA	**Tornquist**	**14.60**	**164**			**Pn**		**10 41 46.4**	**-1.2**
SAML	**Samuel**	**15.48**	**14**			**Pn**		**10 41 57.8**	**-0.6**
GO06	**Curarrehue**	**15.92**	**193**	P		**P**		**10 42 01.9**	**-1.3**
GO06				IAmb		IAmb		10 42 07.7	
	comp=Z,4.4nm,0.9s								
PLCA	**Paso Flores**	**16.88**	**189**	P		**Pn**		**10 42 16.4**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=5.1,slow=13,SNR=4.2								
BDFB	**Brasilia**	**19.74**	**68**	P		**P**		**10 42 45.5**	**+0.6**
BDFB	**Brasilia**	**19.74**	**68**	P		**P**		**10 42 45.7**	**+0.8**
	comp=Z,10nm,0.7s,baz=240,slow=11,SNR=14								
MACA	**Manacapuru-AM**	**21.67**	**17**	P		**P**		**10 43 04.7**	**-0.4**
MACA				IAmb		IAmb		10 43 33.7	
	comp=Z,11nm,1.0s								
ROSC	**El Rosal**	**29.60**	**345**	P		**P**		**10 44 14.8**	**-2.0**
ROSC				IAmb		IAmb		10 44 16.9	
	comp=Z,12nm,1.1s								
QSPA	**South Pole Qui**	**66.14**	**180**	P		**P**		**10 48 59.1**	**+3.7**
	comp=Z,0.8nm,0.5s,baz=182,slow=1.6,SNR=11								
	comp=Z,0.8nm,0.5s								
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P		**P**		**10 50 00.0**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=259,slow=5.1,SNR=11								
	comp=Z,0.7nm,0.4s								
MKAR	**Makanchi Array**	**146.59**	**40**	PKPbc		**PKPab**		**10 57 50.4**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=311,slow=2.5,SNR=5.8								

*SOME **20** 10:44:03.9,40.13N×77.90E,h15km*
*KRNET **20** 10:44:04.2±0.1,40.16N×77.88E,mb3.2*
*NNC **20** 10:44:06.2±1.0,40.22N×77.93E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=6.6km s-min=4.9km az=157.0*
ISC 20 10:44:07.1±1.8,40.24N±0.08×77.80E±0.04,h10km,n75, σ1§80/112,17C-17D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.49**	**0**	⇑*i*P		**Pn**		**10 44 34.0**	**-0.3**
	baz=58								
TARG				⇑*i*S		**Sg**		**10 44 55.5**	**+0.4**
	baz=58								
NRN	**Naryn**	**1.81**	**312**	⇓*i*P		**Pb**		**10 44 39.7**	**-0.9**
	baz=12								
NRN				⇓*i*S		**Sg**		**10 45 06.4**	**+0.9**
	baz=12								
KDJ	**Kajisay**	**1.95**	**346**	⇓*e*P		**Pb**		**10 44 41.8**	**-1.0**
	baz=46								
KDJ				⇓*i*S		**Sg**		**10 45 09.4**	**-0.3**
	baz=46								
PRZ	**Przheval'sk**	**2.29**	**11**	⇑*e*P		**Pb**		**10 44 46.7**	**-1.9**
	baz=9.0								
PRZ				⇑*e*S		**Sb**		**10 45 17.5**	**+0.5**
	baz=9.0								
ULHL	**Ulahol**	**2.32**	**330**	P		**Pb**		**10 44 49.2**	**-0.1**
	SNR=19								
ULHL	**Ulahol**	**2.32**	**330**	⇓*i*P		**Pb**		**10 44 47.5**	**-1.8**
	baz=30								
ULHL				⇓*i*S		**Sb**		**10 45 18.7**	**+0.6**
	baz=30								
ANVS	**Anan'yevo**	**2.54**	**358**	⇑*e*P		**Pb**		**10 44 50.4**	**-2.6**
	baz=57								
ANVS				⇑*e*S		**Sb**		**10 45 23.8**	**-0.6**
	baz=57								
KZA	**Kyzart**	**2.66**	**314**	P		**Pb**		**10 44 54.9**	**-0.3**
	SNR=27								
KZA	**Kyzart**	**2.66**	**314**	⇓*e*P		**Pn**		**10 44 52.2**	**+1.7**
	baz=15								
KZA				⇓*i*

	31nm,0.4s								
SHLS					*e*S		**Sg**	**10 45 49.3**	**+0.4**
	33nm,0.4s								
UCH	**Uchtor**	**3.18**	**310**		P		**Pb**	**10 45 01.3**	**-2.6**
	SNR=14								
UCH	**Uchtor**	**3.18**	**310**	⇑	*i*P		**Pn**	**10 44 59.3**	**+1.7**
	baz=10.0								
UCH				⇑	*i*S		**Sb**	**10 45 39.5**	**-3.4**
	baz=10.0								
KBK	**Karagaybulak**	**3.23**	**319**		P		**Pb**	**10 45 06.0**	**+1.3**
	SNR=11								
KBK	**Karagaybulak**	**3.23**	**319**	⇓	*i*P		**Pn**	**10 44 59.9**	**+1.8**
	baz=20								
KBK				⇓	*i*S		**Sb**	**10 45 40.5**	**-3.6**
	baz=20								
KURS	**Kuram**	**3.26**	**5**		Pg		**Pb**	**10 45 05.8**	**+0.7**
	7.2nm,0.5s								
KURS					Lg		Lg	10 45 50.1	
	32nm,0.8s								
KURS	**Kuram**	**3.26**	**5**		*e*P		**Pb**	**10 45 05.8**	**+0.7**
	7.2nm,0.5s								
KURS					*e*S		**Sg**	**10 45 50.1**	**-1.7**
	32nm,0.8s								
KPKS	**Kokpek**	**3.29**	**11**		Pg		**Pb**	**10 45 06.6**	**+0.9**
	18nm,0.4s								
KPKS					Lg		Lg	10 45 51.6	
	63nm,0.4s								
KPKS	**Kokpek**	**3.29**	**11**		*e*P		**Pb**	**10 45 06.6**	**+0.9**
	18nm,0.4s								
KPKS					*e*S		**Sg**	**10 45 51.6**	**-1.3**
	63nm,0.4s								
PDGK	**Podgornoye**	**3.33**	**22**		Pg		**Pb**	**10 45 06.4**	**-0.1**
	5.6nm,0.3s								
PDGK					Lg		Lg	10 45 50.6	
	16nm,0.7s								
DGS	**Degeres**	**3.36**	**334**		Pg		**Pb**	**10 45 08.3**	**+1.4**
	16nm,0.5s								
DGS					Lg		Lg	10 45 54.7	
	28nm,0.6s								
DGS	**Degeres**	**3.36**	**334**		*e*P		**Pb**	**10 45 08.3**	**+1.4**
	16nm,0.5s								
DGS					*e*S		**Sg**	**10 45 54.7**	**-0.4**
	28nm,0.6s								
AAK	**Ala-Archa**	**3.45**	**315**		P		**Pb**	**10 45 10.3**	**+1.9**
	SNR=11								
AAK	**Ala-Archa**	**3.45**	**315**	⇓	*i*P		**Pn**	**10 45 02.9**	**+1.8**
	baz=15								
AAK				⇓	*i*S		**Sn**	**10 45 45.9**	**+3.8**
	baz=15								
KTBS	**Karatobe**	**3.57**	**347**		Pg		**Pb**	**10 45 11.6**	**+1.2**
	5.8nm,0.5s								
KTBS					Lg		Lg	10 46 00.8	
	62nm,0.7s								
KTBS	**Karatobe**	**3.57**	**347**		*e*P		**Pb**	**10 45 11.6**	**+1.2**
	5.8nm,0.5s								
KTBS					*e*S		**Sg**	**10 46 00.8**	**-1.0**
	62nm,0.7s								
CHMS	**Chumysh**	**3.58**	**321**		P		**Pb**	**10 45 12.5**	**+1.9**
	SNR=7.0								
CHMS	**Chumysh**	**3.58**	**321**	⇓	Pg		**Pb**	**10 45 11.5**	**+0.9**
	4.0nm,0.4s								
CHMS				⇑	Lg		Lg	10 46 00.7	
	13nm,0.8s								
AML	**Almayashu**	**3.63**	**303**		P		**Pb**	**10 45 07.7**	**-3.9**
	SNR=7.3								
AML	**Almayashu**	**3.63**	**303**		Pn		**Pn**	**10 45 07.0**	**+3.2**
	0.2nm,0.4s								
AML					Lg		Lg	10 46 05.0	
	1.7nm,0.6s								
AML	**Almayashu**	**3.63**	**303**	⇑	*i*P		**Pn**	**10 45 05.3**	**+1.5**
	baz=3.0								
AML				⇑	*i*S		**Sn**	**10 45 50.4**	**+3.6**
	baz=3.0								
CHKK	**Chushkaly**	**3.66**	**351**		Pg		**Pb**	**10 45 13.3**	**+1.4**
	3.2nm,0.3s								
CHKK					Lg		Lg	10 46 03.9	
	41nm,0.5s								
CHKK	**Chushkaly**	**3.66**	**351**		*e*P		**Pb**	**10 45 13.3**	**+1.4**
	3.2nm,0.3s								
CHKK					*e*S		**Sg**	**10 46 03.9**	**-0.8**
	41nm,0.5s								
KTMS	**Ketmen**	**3.73**	**30**		Pg		**Pb**	**10 45 12.5**	**-0.6**
	4.6nm,0.6s								
KTMS					Lg		Lg	10 46 01.7	
	7.4nm,0.5s								
KTMS	**Ketmen**	**3.73**	**30**		*e*P		**Pb**	**10 45 12.5**	**-0.6**
	4.6nm,0.6s								
KTMS					*e*S		**Sb**	**10 46 01.7**	**+3.2**
	7.4nm,0.5s								
KRBS	**Karabastau**	**3.80**	**336**		Pg		**Pb**	**10 45 15.8**	**+1.5**
	6.5nm,0.4s								
KRBS					Lg		Lg	10 46 07.3	
	18nm,0.5s								
KRBS	**Karabastau**	**3.80**	**336**		*e*P		**Pb**	**10 45 15.8**	**+1.5**
	6.5nm,0.4s								
KRBS					*e*S		**Sg**	**10 46 07.3**	**-1.9**
	18nm,0.5s								
KUU	**Kurty**	**3.81**	**344**		Pg		**Pb**	**10 45 15.7**	**+1.3**
	4.7nm,0.3s								
KUU					Lg		Lg	10 46 07.1	
	46nm,0.8s								
KUU	**Kurty**	**3.81**	**344**		*e*P		**Pb**	**10 45 15.7**	**+1.3**
	4.7nm,0.3s								
KUU					*e*S		**Sg**	**10 46 07.1**	**-2.3**
	46nm,0.8s								
EKS2	**Erkin-Say**	**3.87**	**310**	⇑	*i*P		**Pn**	**10 45 08.7**	**+1.8**
	baz=10.0								
EKS2				⇑	*i*S		**Sn**	**10 45 55.9**	**+3.4**
	baz=10.0								
BLB	**Baldybastay**	**3.89**	**7**		Pg		**Pb**	**10 45 16.9**	**+1.1**
	5.7nm,0.4s								
BLB					Lg		Lg	10 46 09.7	
	21nm,0.6s								
USP	**Ospenovka**	**3.90**	**322**		P		**Pb**	**10 45 17.5**	**+1.4**
	SNR=26								
ARXS	**Arharly**	**3.97**	**0**		Pg		**Pb**	**10 45 18.6**	**+1.3**
	3.1nm,0.4s								
ARXS					Lg		Lg	10 46 12.7	
	35nm,0.6s								
ARXS	**Arharly**	**3.97**	**0**		*e*P		**Pb**	**10 45 18.6**	**+1.3**
	3.1nm,0.4s								
ARXS					*e*S		**Sg**	**10 46 12.7**	**-1.9**
	35nm,0.6s								
SGDS	**Sogindy**	**3.99**	**325**		Pg		**Pg**	**10 45 21.4**	**-2.2**
	6.3nm,0.5s								
SGDS					Lg		Lg	10 46 17.0	
	10.0nm,0.5s								
KNOS	**Konyrlen**	**4.24**	**13**		Pg		**Pb**	**10 45 23.6**	**+1.7**
	11nm,0.5s								
KNOS					Lg		Lg	10 46 20.8	
	9.1nm,0.7s								
MRKS	**Merke**	**4.25**	**308**		Pg		**Pb**	**10 45 24.7**	**+2.7**
	3.5nm,0.5s								
MRKS					Lg		Lg	10 46 22.5	
	7.0nm,0.6s								
MRKS	**Merke**	**4.25**	**308**		*e*P		**Pb**	**10 45 24.7**	**+2.7**
	3.5nm,0.5s								
MRKS					*e*S		**Sg**	**10 46 22.5**	**-1.1**
	7.0nm,0.6s								
DJR	**Jarkent**	**4.35**	**19**		Pg		**Pb**	**10 45 25.7**	**+2.0**
	2.7nm,0.4s								
DJR					Lg		Lg	10 46 24.6	
	13nm,0.5s								
DJR	**Jarkent**	**4.35**	**19**		*e*P		**Pb**	**10 45 25.7**	**+2.0**
	2.7nm,0.4s								
DJR					*e*S		**Sg**	**10 46 24.6**	**-2.1**
	13nm,0.5s								
KAPS	**Kapalarasan**	**5.17**	**12**		Pg		**Pg**	**10 45 42.3**	**-3.8**
	2.2nm,0.3s								
KAPS					Lg		Lg	10 46 52.9	
	8.2nm,0.5s								
KAPS	**Kapalarasan**	**5.17**	**12**		*e*P		**Pg**	**10 45 42.3**	**-3.8**
	2.2nm,0.3s								
KAPS					*e*S		**Sg**	**10 46 52.9**	**-0.2**
	8.2nm,0.5s								
KK31	**Karatay Array**	**6.16**	**300**	⇓	Pg		**Pg**	**10 46 01.4**	**-3.7**
	0.2nm,0.3s,baz=131,slow=14,SNR=4.8								
KK31				⇑	Lg		Lg	10 47 26.5	
	1.9nm,0.8s,baz=141,slow=30,SNR=3.8								

DJA 20 11:00:16.2±0.4, 7°S±3°×12°9E±°, h209km±12km, M4.1/9, mb3.9/7, mB4.7/3, MLv4.2/9, Mw(mB)3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.97**	**111**	P		Pn	11 00 54.8	-0.2
FAKI	**Fak Fak**	**5.14**	**33**	P		Pn	11 01 32.4	-0.3
	26nm,1.3s,1μm0.2nm							
SOEI	**Soe**	**5.69**	**244**	P		Pn	11 01 39.7	-0.1
	30nm,0.8s,0.2nm							
SANI	**Sanana**	**6.23**	**326**	P		Pn	11 01 46.4	-0.2
	8.7nm,0.9s,0.1nm							
SIJI	**Sorong**	**6.61**	**16**	P		Pn	11 01 51.9	+0.3
SWI	**Sorong**	**6.62**	**16**	P		Pn	11 01 51.5	-0.1
	16nm,0.7s,0.1nm							
EDFI	**Ende, Flores**	**7.82**	**259**	P		Pn	11 02 07.9	+0.6
	8.7nm,1.0s,0.0nm							
GTOI	**Gorontalo**	**10.15**	**320**	P		Pn	11 02 39.5	+2.2
	10nm,0.9s							
PLAI	**Plampang**	**11.66**	**262**	P		Pn	11 02 56.8	+0.1

*BJI **20** 11:31:09.1±0.0, 28°.64S×72°.53W, h10km, mB5.3/1, Ms5.3/1, Ms7 5.0/3*

*SJA **20** 11:31:10.1±0.8, 28°.84S×72°.14W, h40km±11km, ML5.6, MW5.2*

*NEIC **20** 11:31:11.2, 29°.02S×72°.11W, h40km, Moment Tensor Solution. Duration: 2±2 Moment tensor: Scale 10^16 Nm; Mrr=1.72; Mθθ=5.57; Mφφ=-3.85; Mrθ=-0.32; Mθφ=2.24; Mφr=-4.15; Fault plane solution: M0=6.78000×10^16 NP1:φ=37.08000°, δ=73.32000°, λ=-145.21000°. NP2:φ=295.81000°, δ=56.87000°, λ=-20.04000°. Principal axes: T 6.3027, Plg=11.0000°, Azm=163.0000°; N 0.9600, Plg=52.0000°, Azm=60.0000°; P -7.2626, Plg=36.0000°, Azm=261.0000°;*

*NEIC **20** 11:31:11.2, 28°.92S×71°.99W, h10km*

*NEIC **20** 11:31:11.2, 28°.92S×71°.99W, h40km*

*VAO **20** 11:31:12.8±1.1, 28°.99S×71°.80W, h22km±7km, mb5.1*

*MOS **20** 11:31:13.7±1.3, 28°.86S×71°.71W, h39km, mb5.4/16, Error ellipse: s-maj=12.6km s-min=7.3km az=102.2*

*NEIC **20** 11:31:14.7±2.1, 28°.92S±0°.04×71°.91W±0°.06, h35km±4km, mb5.2/76, Mwr5.1/103, Mww5.2/13, Error ellipse: s-maj=8.1km s-min=5.1km az=96.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=1.34; Mθθ=2.84; Mφφ=-4.18; Mrθ=-1.37; Mθφ=2.55; Mφr=-3.66; Fault plane solution: M0=5.95000×10^16 NP1:φ=201.16000°, δ=82.05000°, λ=135.34000°. NP2:φ=298.94000°, δ=45.88000°, λ=11.11000°. Principal axes: T 5.4887, Plg=36.0000°, Azm=150.0000°; N 0.8389, Plg=45.0000°, Azm=13.0000°; P -6.3276, Plg=23.0000°, Azm=258.0000°;*

*GUC **20** 11:31:14.1±0.6, 28°.99S×71°.65W, h55km±2km, ML5.2*

*IDC **20** 11:31:14.4±2.9, 28°.92S×71°.70W, h35km±22km, mb4.6/12, mbtmp4.8/16, ML5.1/4, MS4.3/43, Error ellipse: s-maj=15.6km s-min=13.3km az=88.0*

*GCMT **20** 11:31:17.7±0.2, 28°.98S±0°.01×72°.10W±0°.01, h39km, MW5.2/107, Moment Tensor Solution. s68,c88; s107,c163; Duration: 1±0 Moment tensor: Scale 10^16 Nm; Mrr=0.86±.20; Mθθ=5.23±.14; Mφφ=-4.37±.18; Mrθ=0.06±.12; Mθφ=4.01±.12; Mφr=-4.02±.18; Best double couple: M0=7.42600×10^16 NP1:φ=28.00000°, δ=78.00000°, λ=-151.00000°. NP2:φ=291.00000°, δ=62.00000°, λ=-13.00000°. Principal axes: T 6.9430, Plg=11.0000°, Azm=157.0000°; N 0.9640, Plg=59.0000°, Azm=48.0000°; P -7.9090, Plg=29.0000°, Azm=253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 11:31:15.2±0.4, 28°.93S±0°.02×71°.92W±0°.04, h45km±3km, h45km:pP-P, n550, σ1=66/568, mb5.2/57, MS4.4/40, 30C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AC04	**Llanos de Chal**	**1.04**	**46**	Pn		**Pn**	**11 31 32.1**	**-1.3**
AC04						**Sn**	**11 31 44.9**	**-1.9**
AC04	**Llanos de Chal**	**1.04**	**46**	*e*P		**Pn**	**11 31 31.6**	**-1.8**
AC04				*e*S		**Sn**	**11 31 45.3**	**-1.6**
AC04				IAML			11 31 45.8	
	comp=Z,163μm,0.2s							
AC04	**Llanos de Chal**	**1.04**	**46**	⇓*e*P		**Pn**	**11 31 31.9**	**-1.6**
AC04				*e*S		**Sn**	**11 31 44.9**	**-1.9**
LCO	**Las Campanas**	**1.07**	**94**			**Pn**	**11 31 32.8**	**-1.3**
LCO						**Sn**	**11 31 46.4**	**-1.6**
LCO	**Las Campanas**	**1.07**	**94**	*e*P		**Pn**	**11 31 32.8**	**-1.3**
LCO	**Las Campanas**	**1.07**	**94**	*e*P		**Pn**	**11 31 32.8**	**-1.3**
LCO				*e*P		**Pn**	**11 31 32.8**	**-1.3**
LCO				*e*S		**Sn**	**11 31 46.8**	**-1.2**
LCO				IAML			11 31 49.4	
	comp=Z,141μm,0.4s							
LCO	**Las Campanas**	**1.07**	**94**	*e*P		**Pn**	**11 31 31.6**	**-2.5**
LCO				*e*S		**Sn**	**11 31 44.9**	**-3.1**
CO05	**La Serena**	**1.15**	**149**			**Pn**	**11 31 33.1**	**-1.8**
CO05	**La Serena**	**1.15**	**149**	⇑ *i*P		**Pn**	**11 31 33.0**	**-1.8**
CO05				*e*S		**Sn**	**11 31 47.1**	**-2.4**
CO05				IAML			11 31 50.6	
	comp=E,99μm,0.4s							
AC05	**El Transito**	**1.45**	**87**			**Pn**	**11 31 38.1**	**-1.0**
AC05						**Sn**	**11 31 55.9**	**-1.1**
GO04	**Tololo Observa**	**1.57**	**142**			**Pn**	**11 31 39.5**	**-1.5**
GO04						**Sn**	**11 31 59.0**	**-1.3**
GO04	**Tololo Observa**	**1.57**	**142**	*e*P		**Pn**	**11 31 39.7**	**-1.3**
GO04				*e*S		**Sn**	**11 31 59.3**	**-1.0**
GO04	**Tololo Observa**	**1.57**	**142**	*e*P		**Pn**	**11 31 39.3**	**-1.6**
GO04				*i* S		**Sn**	**11 31 58.6**	**-1.7**
CO06	**Fray Jorge**	**1.75**	**172**	⇑ *i*P		**Pn**	**11 31 41.1**	**-2.0**
CO06				*i* S		**Sn**	**11 32 00.5**	**-3.8**
CO06				IAML			11 32 02.2	
	comp=E,22μm,0.4s							
CO01	**Juntas del Tor**	**1.90**	**124**			**Pn**	**11 31 45.3**	**-0.2**
CO01	**Juntas del Tor**	**1.90**	**124**	*e*P		**Pn**	**11 31 45.1**	**-0.4**
CO01				*e*S		**Sn**	**11 32 01.8**	**-6.6**
CO01				IAML			11 32 09.3	
	comp=Z,46μm,0.3s							
CO01	**Juntas del Tor**	**1.90**	**124**	*e*P		**Pn**	**11 31 45.1**	**-0.4**
CO01				*e*S		**Sn**	**11 32 07.5**	**-0.9**
CO01				IAML			11 32 09.6	
	comp=E,36μm,0.3s							
GO03	**Copiap**	**2.00**	**48**			**Pn**	**11 31 46.0**	**-0.7**
GO03	**Copiap**	**2.00**	**48**	*e*P		**Pn**	**11 31 45.7**	**-0.9**
GO03				*e*S		**Sn**	**11 32 09.9**	**-0.6**
GO03	**Copiap**	**2.00**	**48**	⇓*i*P		**Pn**	**11 31 45.8**	**-0.8**
GO03				*e*S		**Sn**	**11 32 09.3**	**-1.1**
GO03				IAML			11 32 10.6	
	comp=N,51μm,0.3s							
AC06	**Mina Casimiro**	**2.09**	**42**	Pn		**Pn**	**11 31 47.6**	**-0.3**
AC06	**Mina Casimiro**	**2.09**	**42**	*e*P		**Pn**	**11 31 47.2**	**-0.7**
AC06				*i* S		**Sn**	**11 32 12.0**	**-0.7**
AC06				IAML			11 32 13.8	
	comp=Z,20μm,0.5s							
CO03	**El Pedregal**	**2.18**	**151**			**Pn**	**11 31 47.7**	**-1.5**
CO03	**El Pedregal**	**2.18**	**151**	*e*P		**Pn**	**11 31 47.6**	**-1.5**
CO03				*e*S		**Sn**	**11 32 13.2**	**-1.8**
CO03				IAML			11 32 24.5	
	comp=Z,15μm,0.9s							
CO03	**El Pedregal**	**2.18**	**151**	⇑ *i*P		**Pn**	**11 31 47.8**	**-1.3**
CO03				*e*S		**Sn**	**11 32 12.2**	**-2.7**
CO03				IAML			11 32 22.7	
	comp=E,25μm,0.4s							
CO02	**Combarbal**	**2.40**	**161**			**Pn**	**11 31 51.0**	**-1.2**
CO02	**Combarbal**	**2.40**	**161**	*e*P		**Pn**	**11 31 45.3**	**-6.9**
CO02				*e*P		**Pn**	**11 31 50.9**	**-1.3**
CO02				*e*S		**Sn**	**11 32 18.8**	**-1.6**
CO02				IAML			11 32 28.3	
	comp=Z,21μm,0.4s							
CO02	**Combarbal**	**2.40**	**161**	⇑ *i*P		**Pn**	**11 31 51.1**	**-1.1**
CO02				*e*S		**Sn**	**11 32 17.7**	**-2.7**
AROD	**Rodeo**	**2.46**	**121**	*e*P		**Pn**	**11 31 54.3**	**+1.1**
ACDV	**Cuesta del Vie**	**2.73**	**117**	*e*P		**Pn**	**11 31 58.5**	**+1.7**
ACDV				IAML			11 32 46.0	
	comp=Z,11μm,0.6s							
ACCO	**Cerro Coronel**	**2.98**	**124**	*e*P		**Pn**	**11 32 02.2**	**+1.9**
AC01	**Pan de Azucar**	**3.01**	**23**			**Pn**	**11 31 58.4**	**-2.2**
AC01	**Pan de Azucar**	**3.01**	**23**	*e*P		**Pn**	**11 31 58.2**	**-2.2**
AC01				*e*S		**Sn**	**11 32 32.8**	**-2.6**
AC01	**Pan de Azucar**	**3.01**	**23**	*e*P		**Pn**	**11 31 58.4**	**-2.2**
AC01				*i* S		**Sn**	**11 32 32.2**	**-3.2**
AC01				IAML			11 32 33.5	
	comp=N,11μm,0.1s							
AGUA	**GUANDACOL**	**3.05**	**101**	*e*P		**Pn**	11 31 49.1	-12
AGUA				IAML			11 32 59.1	
	comp=Z,13μm,1.6s							
DOCA	**Reserva Natura**	**3.18**	**130**	*e*P		Pn	11 31 49.3	-14
DOCA				*e*S		**Sn**	**11 32 43.7**	**+3.7**
DOCA				IAML			11 33 06.8	
	comp=Z,28μm,1.8s							
VCA	**Vinchina**	**3.27**	**87**	*e*P		**Pn**	**11 32 07.0**	**+3.0**
VCA				*e*S		**Sn**	**11 32 47.1**	**+5.3**
VCA				IAML			11 33 08.5	
	comp=Z,12μm,0.6s							
VCA	**Vinchina**	**3.27**	**87**	*e*P		**Pn**	**11 32 07.1**	**+3.0**
RTLS	**Leoncito**	**3.65**	**142**	*e*P		**Pn**	**11 32 10.8**	**+1.4**
RTLS				IAML			11 33 14.0	
	comp=Z,17μm,1.1s							
VA06	**Catapilco**	**3.66**	**172**			**Pn**	**11 32 07.6**	**-1.7**
VA06	**Catapilco**	**3.66**	**172**	⇑ *i*P		**Pn**	**11 32 07.7**	**-1.7**
VA06				*e*S		**Sn**	**11 32 46.8**	**-4.3**
RTLL	**Cerro Villicun**	**3.82**	**129**	*e*P		**Pn**	**11 32 12.6**	**+0.9**
SJA	**San Juan**	**3.89**	**132**	*e*P		**Pn**	**11 32 14.0**	**+1.4**
SJA				IAML			11 33 24.2	
	comp=Z,4μm,0.8s							
VA03	**San Esteban**	**4.00**	**163**			**Pn**	**11 32 13.5**	**-0.6**
VA03	**San Esteban**	**4.00**	**163**	*e*P		**Pn**	**11 32 13.0**	**-1.1**
VA03				IAML			11 33 25.1	
	comp=Z,4μm,0.3s							
VA03	**San Esteban**	**4.00**	**163**	⇑ *i*P		**Pn**	**11 32 13.3**	**-0.7**
VA03				*i* S		**Sn**	**11 32 58.5**	**-1.1**
VA01	**Torpederas**	**4.08**	**177**	Pn		**Pn**	**11 32 12.7**	**-2.4**
VA01	**Torpederas**	**4.08**	**177**	*e*P		**Pn**	**11 32 12.5**	**-2.6**
VA01	**Torpederas**	**4.08**	**177**	*e*P		**Pn**	**11 32 12.7**	**-2.4**
VA01				*i* S		**Sn**	**11 32 56.6**	**-5.0**
ROCH	**El Roble**	**4.10**	**169**	⇑ *i*P		**Pn**	**11 32 14.2**	**-1.4**
ROCH				⇑ *i*P		**Pn**	**11 32 14.3**	**-1.4**
ROCH				*e*S		**Sn**	**11 33 00.2**	**-2.3**
ROCH				*i* S		**Sn**	**11 33 00.3**	**-2.1**
ROC1	**El Roble**	**4.10**	**169**			**Pn**	**11 32 13.6**	**-2.1**
RTCV	**Cerro Valdivia**	**4.13**	**136**	*e*P		**Pn**	**11 32 17.8**	**+1.9**
CFA	**Coronel Fontan**	**4.15**	**131**	Pn		**Pn**	**11 32 17.1**	**+0.9**
	comp=Z,455nm,0.3s,baz=310,slow=12,SNR=1963							
CFA				Sn		**Sn**	**11 33 02.5**	**-0.9**
	comp=Z,272nm,0.3s,baz=280,slow=8.5,SNR=3.5							
CFA				Lg		Lg	11 33 20.9	
	comp=Z,760nm,0.3s,baz=72,slow=9.7,SNR=5.8							
CFA				LR		LR	11 34 06.7	
	comp=Z,9μm,19.8s,baz=302,slow=43							
AVFE	**Valle Fertil**	**4.25**	**115**	*e*P		**Pn**	**11 32 18.6**	**+1.1**
AVFE				*e*S		**Sn**	**11 33 01.8**	**-4.1**
AVFE				*e*S		**Sn**	**11 33 07.1**	**+1.3**
AVFE				IAML			11 33 25.2	
	comp=Z,11μm,0.6s							
GO02	**Mina Guanaco**	**4.29**	**29**	Pn		**Pn**	**11 32 16.9**	**-1.4**
GO02	**Mina Guanaco**	**4.29**	**29**	*e*P		**Pn**	**11 32 17.1**	**-1.3**
GO02				*e*S		**Sn**	**11 33 06.8**	**-0.5**
GO02	**Mina Guanaco**	**4.29**	**29**	⇑ *i*P		**Pn**	**11 32 16.8**	**-1.5**
GO02				*e*S		**Sn**	**11 33 05.2**	**-2.1**
PEL	**Peldehue**	**4.33**	**166**			**Pn**	**11 32 17.5**	**-1.1**
PEL	**Peldehue**	**4.33**	**166**	P		**Pn**	**11 32 17.5**	**-1.1**
PEL	**Peldehue**	**4.33**	**166**	⇑ *i*P		**Pn**	**11 32 17.5**	**-1.1**
PEL				*i* S		**Sn**	**11 33 05.6**	**-2.2**
MT02	**Curacav**	**4.36**	**171**			**Pn**	**11 32 17.0**	**-2.1**
MT02	**Curacav**	**4.36**	**171**	*e*P		**Pn**	**11 32 16.2**	**-2.8**
MT02	**Curacav**	**4.36**	**171**	⇑ *i*P		**Pn**	**11 32 16.9**	**-2.1**
ACLC	**CERRO LA CRUZ**	**4.37**	**98**	*e*P		**Pn**	**11 32 20.2**	**+0.9**
ACLC				*e*S		**Sn**	**11 33 15.1**	**+6.0**
ACLC				IAML			11 33 32.3	
	comp=Z,9μm,1.0s							
MT10	**Hacienda Santa**	**4.49**	**165**	⇑ *i*P		**Pn**	**11 32 20.0**	**-0.8**
PB14	**IPOC Station P**	**4.50**	**18**	Pn		**Pn**	**11 32 18.0**	**-3.2**
PB14	**IPOC Station P**	**4.50**	**18**	*e*P		**Pn**	**11 32 18.3**	**-3.0**
PB14	**IPOC Station P**	**4.50**	**18**	*e*P		**Pn**	**11 32 18.2**	**-3.0**
PB14				*e*S		**Sn**	**11 33 07.3**	**-5.1**
ASAL	**Salagasta**	**4.51**	**145**	*e*P		**Pn**	**11 32 22.0**	**+0.9**
MT05	**Renca**	**4.56**	**167**			**Pn**	**11 32 20.6**	**-1.2**
MT05	**Renca**	**4.56**	**167**	*e*P		**Pn**	**11 32 20.6**	**-1.2**
MT05				IAML			11 33 47.4	
	comp=Z,5μm,1.1s							
MT05	**Renca**	**4.56**	**167**	⇑ *i*P		**Pn**	**11 32 20.6**	**-1.2**
MT14	**Cerro Cal¡n**	**4.60**	**165**	*e*P		**Pn**	**11 32 21.4**	**-1.0**
MT16	**CCHEN**	**4.64**	**165**			**Pn**	**11 32 22.1**	**-0.7**
ARCO	**CERRO ARCO**	**4.67**	**147**	*e*P		**Pn**	**11 32 25.3**	**+1.9**
ARCO				*e*S		Sn	11 33 24.5	+8.2
ARCO				IAML			11 33 40.5	
	comp=Z,3μm,1.0s							
MT03	**Universidad Ad**	**4.70**	**165**			**Pn**	**11 32 23.0**	**-0.8**
MT03	**Universidad Ad**	**4.70**	**165**	⇑ *i*P		**Pn**	**11 32 22.9**	**-0.9**
MT04	**Ro Olivares**	**4.71**	**162**	⇑ *i*P		**Pn**	**11 32 24.7**	**+0.7**
VA05	**Santo Domingo**	**4.72**	**177**			**Pn**	**11 32 21.2**	**-2.6**
VA05	**Santo Domingo**	**4.72**	**177**	*e*P		**Pn**	**11 32 21.4**	**-2.5**
MT15	**Las Vizcachas**	**4.81**	**166**	⇑ *i*P		**Pn**	**11 32 24.1**	**-1.0**
MT09	**Talagante**	**4.89**	**171**	⇑ *i*P		**Pn**	**11 32 25.0**	**-1.4**
MT12	**Pirque**	**4.93**	**167**	⇑ *i*P		**Pn**	**11 32 25.7**	**-1.1**
MT01	**Popeta**	**4.95**	**174**	⇑ *i*P		**Pn**	**11 32 25.1**	**-1.9**
MT13	**San Alfonso**	**5.00**	**164**	⇑ *i*P		**Pn**	**11 32 27.3**	**-0.5**
LMEL	**Las Melosas**	**5.11**	**164**			**Pn**	**11 32 29.3**	**-0.2**
LMEL	**Las Melosas**	**5.11**	**164**	⇑ *i*P		**Pn**	**11 32 29.3**	**-0.2**
BO04	**La Punta**	**5

AQDB **Aquidauana** 16.96 64 *e*P Pn 11 35 06.6 -2.8
FRBT **Francisco Belt** 17.00 84 *e*P Pn 11 35 08.3 -1.5
PANT **Pantanal (Braz** 17.12 58 *e*P Pn 11 35 10.4 -1.0
NNA **Nana** 17.48 344 P Pn 11 35 14.4 -1.5
NNA **Nana** 17.48 344 *i* P Pn 11 35 15.7 -0.1
NNA pmax pmax
comp=Z,77nm,1.1s
NNA **Nana** 17.48 344 P Pn 11 35 15.3 -0.5
comp=Z,2.9nm,0.3s,baz=191,slow=14,SNR=8.2
NNA LR LR 11 40 23.6
comp=Z,1µm,21.6s,baz=162,slow=31
comp=Z,9.4nm,0.7s
ITAB **Concordia** 17.55 89 P P 11 35 17.3 +0.1
ITAB **Concordia** 17.55 89 *e*P P 11 35 16.3 -0.9
AY02 **Valle Explorad** 17.55 183 P Pn 11 35 16.0 -0.5
AY02 IAmb IAmb 11 35 18.7
comp=Z,284nm,1.1s
VBST **Vila Bela da S** 18.08 40 *e*P Pn 11 35 21.9 -1.3
PTGB **Pitanga** 18.21 81 *e*P Pn 11 35 23.0 -1.9
AY03 **Cochrane** 18.30 181 P Pn 11 35 25.1 -0.5
AY03 IAmb IAmb 11 35 28.2
comp=Z,176nm,1.3s
RVDE **Rio Verde (Bra** 18.36 61 *e*P P 11 35 23.8 -2.5
TRCB **Terra Rica** 18.39 75 P Pn 11 35 26.7 -0.4
TRCB IAmb IAmb 11 35 28.4
comp=Z,140nm,0.7s
TRCB **Terra Rica** 18.39 75 *e*P Pn 11 35 27.0 0.0
CNLB **Canela** 18.41 96 *e*P Pn 11 35 26.5 -0.8
RPRD **Ribas do Rio P** 18.55 67 *e*P P 11 35 27.7 -0.6
POCN **Pocone** 18.58 52 *e*P Pn 11 35 29.4 +0.1
PTET **Porto Estrela** 19.18 48 *e*P Pn 11 35 35.5 -1.0
PP1B **Ponte de Pedra** 19.27 58 *e*P P 11 35 34.8 -1.5
LDASE **Londrina, Braz** 19.46 78 *e*P P 11 35 35.8 -2.6
ETMB **Extrema** 19.76 17 P P 11 35 42.0 +0.5
ETMB **Extrema** 19.76 17 *e*P Pn 11 35 42.6 -0.7
SALV **Santo Antonio** 19.80 53 *e*P P 11 35 41.7 -0.3
TER01 **Tubaro-SC** 19.99 94 *e*P P 11 35 42.4 -1.6
PCMB **Pacaembu** 20.04 73 *e*P P 11 35 43.9 -0.7
C2SB **Chapadao do Su** 20.15 64 *e*P Pn 11 35 46.3 -1.6
FRTB **Fartura** 20.82 80 *e*P P 11 35 52.8 -0.2
NBRS **Nobres** 20.86 49 *e*P Pn 11 35 54.5 -2.0
CZSB **Cruzeiro do Su** 21.11 358 P P 11 35 56.9 +0.8
CZSB **Cruzeiro do Su** 21.11 358 *e*P P 11 35 57.8 +1.7
SAML **Samuel** 21.51 24 P P 11 36 00.3 -0.2
SAML **Samuel** 21.51 24 P P 11 36 00.3 -0.2
SAML pmax pmax
comp=Z,50nm,0.9s
SAML **Samuel** 21.51 24 *e*P P 11 36 00.6 +0.1
ITRB **Iturama** 21.66 70 *e*P P 11 36 00.9 -1.2
DVLD **Doverlandia** 21.90 60 *e*P P 11 36 03.5 -1.2
GO09 **Cerro Castillo** 22.31 181 P P 11 36 09.3 +0.4
GO09 IAmb IAmb 11 36 12.2
comp=Z,123nm,1.1s
PDRB **Porto dos Gac** 22.32 43 *e*P P 11 36 08.0 -1.2
PET01 **Itanhaem-SP** 22.50 84 *e*P P 11 36 09.3 -1.8
ATAH **Atahualpa** 22.53 343 LR LR 11 43 21.9
comp=Z,751nm,20.3s,baz=212,slow=32
SPB **Sao Paulo** 22.58 82 P P 11 36 12.2 +0.3
SPB **Sao Paulo** 22.58 82 *e*P P 11 36 11.8 -0.1
ARAG **Araguaiana, MT** 22.74 59 *e*P P 11 36 13.4 -0.3
RCLB **Rio Claro- Sao** 22.90 79 *e*P P 11 36 14.2 -1.1
PARB **Paraibuna** 24.23 83 *e*P P 11 36 26.3 -1.8
IPMB **Ipameri, GO** 24.28 69 *e*P P 11 36 27.1 -1.5
TBTG **Tabatinga, AM** 24.69 5 *e*P P 11 36 32.6 +0.5
EFI **East Falkland** 24.97 159 *i* P P 11 36 35.0 +0.6
EFI pmax pmax
comp=Z,77nm,1.1s
PMNB **Patos De Minas** 25.47 72 *e*P P 11 36 38.5 -0.9
SNDB **Serra Nova Dou** 25.58 53 *e*P P 11 36 39.7 -0.6
BDFB **Brasilia** 25.71 64 P P 11 36 40.5 -1.1
BDFB IAmb IAmb 11 36 53.2
comp=Z,100nm,1.3s
BDFB **Brasilia** 25.71 64 P P 11 36 40.6 -1.1
comp=Z,22nm,0.7s,baz=237,slow=9.0,SNR=36
BDFB S S 11 41 04.5 -3.0
comp=Z,2.5nm,0.7s,baz=166,slow=24,SNR=1.1
BDFB LR LR 11 47 49.2
comp=Z,600nm,21.0s,baz=225,slow=39
comp=Z,22nm,0.7s
BDFB **Brasilia** 25.71 64 *e*P P 11 36 40.9 -0.7
MAN01 **Angra dos Reis** 25.83 83 *e*P P 11 36 41.6 -1.0
TEFE **Tefe** 26.22 17 *e*P P 11 36 46.4 +0.4
BOSC **San Juan Bosco** 26.39 345 P P 11 36 48.1 +0.3
MACA **Manacapuru-AM** 27.77 25 *e*P P 11 36 59.9 -0.1
DIAM **Diamantina, MG** 27.90 74 *e*P P 11 37 01.0 -0.4
ITTB **Itaituba** 28.86 35 *e*P P 11 37 08.2 -1.5
ALF01 **Guarapari-ES** 29.44 81 *e*P P 11 37 14.3 -0.5
SJMB **Sao Joao De Ma** 29.83 77 *e*P P 11 37 17.7 -0.6
SMTB **Santa Maria do** 30.35 54 *e*P P 11 37 23.1 +0.1
NAN01 **Guarapari, ES** 31.11 76 *e*P P 11 37 28.9 -0.8
MALB **Monte Alegre** 31.79 36 *e*P P 11 37 33.4 -1.5
GUA01 **Guaratinga, BA** 31.96 74 *e*P P 11 37 36.4 -0.7
CMC01 **Camacan, BA** 32.79 73 *e*P P 11 37 43.3 -1.1
RPN **Rapa Nui** 32.99 264 LR LR 11 47 17.0
comp=Z,1µm,20.3s,baz=96,slow=29
BOAV **Boa Vista** 33.01 21 *e*P P 11 37 46.3 0.0
NBIT **Itapeh - BA** 33.07 72 *e*P P 11 37 46.7 -0.2
GDU01 **Guandu, BA** 33.58 70 *e*P P 11 37 50.6 -0.7
NBPN **Ponto Novo - B** 34.67 65 *e*P P 11 37 59.8 -1.0
TMAB **Tom-Au,PA,Br** 34.82 45 *e*P P 11 38 01.8 -0.2
HOPE **Hope Point** 36.03 145 P P 11 38 11.9 -0.1
HOPE **Hope Point** 36.03 145 P P 11 38 11.9 -0.1
HOPE pmax pmax
comp=Z,83nm,1.1s
HOPE **Hope Point** 36.03 145 P P 11 38 11.2 -0.8
PMSA **Palmer Station** 36.20 174 LR LR 11 52 02.3
comp=Z,486nm,21.1s,baz=332,slow=34
NBTA **Tacaratu-PE** 37.38 65 *e*P P 11 38 22.8 -1.2
NBPS **Pedro II - PI** 37.83 56 *e*P P 11 38 27.1 -0.7
BAUV **El Baul** 37.84 6 P P 11 38 27.4 -0.4
NBMA **Muriti-CE** 37.89 62 *e*P P 11 38 28.3 0.0
NBPB **Pedra_Branca-C** 38.43 59 *e*P P 11 38 32.6 -0.3
MDP **Montagnes des** 38.59 32 LR LR 11 55 52.4
comp=Z,702nm,19.4s,baz=208,slow=38
NBLV **Livramento - P** 39.34 64 *e*P P 11 38 39.8 -0.7
NBCL **Cascavel-CE** 40.26 59 *e*P P 11 38 48.1 0.0
JTS **Las Juntas de** 40.98 340 *i* P P 11 38 55.1 +1.2
JTS **Las Juntas de** 40.98 340 LR LR 11 52 37.0
comp=Z,163nm,19.4s,baz=144,slow=31
RCBR **Riachuelo** 41.07 63 LR LR 11 57 01.1
comp=Z,370nm,19.0s,baz=236,slow=38
CMIG **Matias Romero** 50.85 331 LR LR 11 56 54.5
comp=Z,271nm,21.2s,baz=164,slow=30
TEIG **Tepich** 51.36 340 LR LR 11 59 15.8
comp=Z,802nm,22.0s,baz=6.5,slow=33
TEIG **Tepich** 51.36 340 P P 11 40 17.4 +1.9
TEIG pP pP 11 40 29.5 +2.8
TEIG sP pwP 11 40 34.6 +2.8
VNA3 **Neumayer Olymp** 54.02 159 ⇑P P 11 40 35.0 +0.4
comp=Z,13nm,0.5s
VNA2 **Neumayer--Watz** 54.66 159 ⇑P P 11 40 39.2 +0.1
comp=Z,13nm,0.5s,baz=286,slow=7.0
SNAA **Sanae** 56.25 159 P P 11 40 49.7 -1.0
SNAA IAmb IAmb 11 40 51.4
comp=Z,28nm,0.8s
SNAA **Sanae** 56.25 159 *i* P P 11 40 50.3 -0.4
SNAA pmax pmax
comp=Z,35nm,1.1s
SNAA **Sanae** 56.25 159 ⇑P P 11 40 50.2 -0.5
comp=Z,349nm,0.5s
SNAA **Sanae** 56.25 159 P P 11 40 50.3 -0.4
comp=Z,22nm,0.8s,baz=276,slow=7.4,SNR=47
SNAA LR LR 12 05 20.1
comp=Z,328nm,19.2s,baz=344,slow=36
comp=Z,22nm,0.8s
TROLL **Troll, Antarti** 57.96 159 ⇑P P 11 41 03.1 +0.2
comp=Z,736nm,0.8s
NVL **N'lazarevskaya** 60.94 158 *e*P P 11 41 20.9 -2.3
NVL pmax pmax
comp=Z,50nm,1.4s
QSPA **South Pole Qui** 61.29 180 P P 11 41 25.7 -0.1
QSPA IAmb IAmb 11 41 27.4
comp=Z,18nm,0.8s
QSPA **South Pole Qui** 61.29 180 P P 11 41 26.3 +0.4
comp=Z,16nm,0.9s,baz=167,slow=0.7,SNR=56
comp=Z,16nm,0.9s
QSPA **South Pole Qui** 61.29 180 P P 11 41 26.3 +0.4
QSPA pP pP 11 41 38.7 +1.3
QSPA sP sP 11 41 44.9 +2.9
NHSC **New Hope** 62.20 352 P P 11 41 34.1 +2.0
baz=172
735A **Kenedy** 62.57 334 P P 11 41 37.5 +2.8
baz=155

833A **Chaparral WMA,** 62.71 333 P P 11 41 36.2 +0.6
833A **Chaparral WMA,** 62.71 333 P P 11 41 36.8 +1.2
baz=153,SNR=11
833A **Chaparral WMA,** 62.71 333 P P 11 41 37.5 +1.9
baz=153,SNR=11
HKT **Hockley** 62.85 337 *i* P P 11 41 35.6 -0.8
HKT pmax pmax
comp=Z,7.0nm,1.2s
GOGA **Godfrey** 62.96 349 P P 11 41 39.4 +2.2
baz=169
LRAL **Lakeview Retre** 63.27 346 P P 11 41 41.3 +2.1
baz=165
VBMS **Vicksburg** 63.33 342 P P 11 41 39.9 +0.2
VBMS **Vicksburg** 63.33 342 P P 11 41 40.9 +1.2
baz=162
HNDO **Hondo** 63.74 333 P P 11 41 43.9 +1.5
143A **Socs Landing,** 64.03 342 P P 11 41 46.4 +2.1
baz=161
NATX **Nacogdoches** 64.12 339 P P 11 41 46.0 +1.2
baz=158
DRIO **Del Rio** 64.18 332 P P 11 41 45.9 +0.6
DRIO IAmb IAmb 11 42 07.2
comp=Z,56nm,1.9s
LPIG **La Paz** 64.38 321 LR LR 12 03 56.4
comp=Z,137nm,20.8s,baz=155,slow=30
ELIB **Princess Elisa** 64.39 160 *d*P P 11 41 45.6 -0.8
comp=Z,8.2nm,0.5s
X48A **Hartselle** 64.64 346 P P 11 41 48.2 0.0
X48A IAmb IAmb 11 42 08.7
comp=Z,18nm,0.8s
237A **Washetta, Mont** 64.72 338 P P 11 41 50.2 +1.4
JCT **Junction City** 64.79 333 P P 11 41 50.3 +1.0
JCT **Junction City** 64.79 333 P P 11 41 50.3 +1.0
JCT pmax pmax
comp=Z,141nm,1.8s
JCT **Junction City** 64.79 333 P P 11 41 50.5 +1.2
baz=153,SNR=8.2
JCT **Junction City** 64.79 333 P P 11 41 51.1 +1.8
baz=153,SNR=8.2
W50A **Signal Mountai** 65.03 348 P P 11 41 50.1 -0.7
W50A IAmb IAmb 11 42 10.8
comp=Z,22nm,1.0s
BRDY **Brady** 65.20 335 P P 11 41 52.5 +0.6
BRDY IAmb IAmb 11 41 54.3
comp=Z,22nm,1.1s
OXF **Oxford** 65.23 344 P P 11 41 52.4 +0.4
OXF pmax pmax
comp=Z,34nm,0.9s
OXF **Oxford** 65.23 344 P P 11 41 53.0 +1.0
baz=163
SAND **Sanderson** 65.27 331 P P 11 41 52.7 +0.2
SAND IAmb IAmb 11 41 55.5
comp=Z,28nm,1.0s
WHTX **Lake Whitney,** 65.27 336 P P 11 41 53.6 +1.3
baz=156
V52A **Sevierville** 65.36 350 P P 11 41 53.1 +0.2
V52A IAmb IAmb 11 42 13.1
comp=Z,14nm,0.8s
PLAL **Pickwick Lake** 65.38 345 P P 11 41 53.1 +0.1
TX31 **Lajitas Ar. Si** 65.40 330 P P 11 41 55.0 +1.5
TX31 **Lajitas Ar. Si** 65.40 330 P P 11 41 54.9 +1.5
baz=150,SNR=21
TXAR **Lajitas Array** 65.40 330 P P 11 41 54.1 +0.7
TXAR **Lajitas Array** 65.40 330 P P 11 41 54.9 +1.5
comp=Z,5.5nm,0.7s,baz=156,slow=9.2,SNR=80
TXAR LR LR 12 06 11.4
comp=Z,113nm,20.6s,baz=131,slow=32
comp=Z,5.5nm,0.7s
WLAR **White Oak Lake** 65.44 341 P P 11 41 53.7 +0.3
OZNA **Ozona** 65.71 333 P P 11 41 55.8 +0.5
OZNA IAmb IAmb 11 41 57.8
comp=Z,20nm,0.9s
TZTN **Tazewell** 66.04 350 P P 11 41 59.4 +2.1
baz=169
CLTN **Cedars of Leba** 66.09 347 P P 11 41 57.5 0.0
BLA **Blacksburg** 66.28 353 P P 11 42 00.1 +1.2
baz=172
ALPN **Alpine** 66.28 330 P P 11 41 59.0 -0.1
PLPT **Palo Pinto** 66.32 336 P P 11 41 58.9 -0.2
PLPT IAmb IAmb 11 42 20.1
comp=Z,17nm,1.0s
Z35A **Perchaven, San** 66.42 337 P P 11 41 59.9 +0.2
WVT **Waverly** 66.43 346 P P 11 42 00.0 +0.3
WVT **Waverly** 66.43 346 P P 11 42 00.4 +0.7
baz=165
WVT **Waverly** 66.43 346 P P 11 41 59.6 -0.1
WVT pP pP 11 42 11.8 +0.5
WVT sP pwP 11 42 18.3 +1.6
SGCY **Sterling City** 66.58 333 P P 11 42 01.3 +0.4
SGCY IAmb IAmb 11 42 03.1
comp=Z,27nm,1.1s
ABTX **Abilene, Hawle** 66.64 335 P P 11 42 02.0 +0.8
baz=154,SNR=6.4
ABTX **Abilene, Hawle** 66.64 335 P P 11 42 02.5 +1.3
baz=154,SNR=6.4
WHAR **Wooly Hollow** 66.71 342 P P 11 42 01.5 0.0
MNHN **Monahans** 66.74 331 P P 11 42 02.4 +0.4
MNHN IAmb IAmb 11 42 04.5
comp=Z,20nm,0.9s
T47A **Sharon Grove** 67.11 347 P P 11 42 03.3 -0.8
T47A IAmb IAmb 11 42 24.6
comp=Z,25nm,0.8s
T47A **Sharon Grove** 67.11 347 P P 11 42 05.1 +1.1
baz=166
LCAR **Lake Charles** 67.15 343 P P 11 42 04.5 +0.3
LCAR IAmb IAmb 11 42 25.0
comp=Z,21nm,0.9s
LCAR **Lake Charles** 67.15 343 P P 11 42 04.6 +0.3
baz=162,SNR=10
VHRN **Van Horn** 67.23 329 P P 11 42 05.1 -0.1
PBMO **Poplar Bluff** 67.64 344 P P 11 42 07.7 +0.4
baz=163,SNR=6.6
U40A **Yellville** 67.86 342 P P 11 42 09.2 +0.4
baz=160,SNR=7.9
U40A P P 11 42 09.2 +0.4
baz=160,SNR=7.9
HHAR **Hobbs** 68.10 341 P P 11 42 11.0 +0.7
HHAR IAmb IAmb 11 42 31.5
comp=Z,24nm,1.1s
WCI **Wyandotte Cave** 68.15 348 P P 11 42 11.8 +1.3
baz=166
MNTX **Cornudas Mount** 68.18 330 P P 11 42 11.4 +0.5
baz=149,SNR=20
MNTX **Cornudas Mount** 68.18 330 P P 11 42 11.1 +0.1
baz=149,SNR=20
WMOK **Wichita Mounta** 68.22 336 P P 11 42 12.0 +0.8
baz=155
S44A **Carbondale** 68.24 345 P P 11 42 11.2 +0.1
S44A **Carbondale** 68.24 345 P P 11 42 11.6 +0.5
baz=164,SNR=6.6
SIUC **Southern Illin** 68.25 345 P P 11 42 11.8 +0.6
TUL3 **Leonard** 68.31 339 P P 11 42 11.7 +0.1
baz=158,SNR=5.2
TUL3 **Leonard** 68.31 339 P P 11 42 11.8 +0.2
baz=158,SNR=5.2
MCWV **Mont Chateau** 68.64 353 P P 11 42 14.8 +1.1
baz=173
FVM **French Village** 68.79 344 P P 11 42 15.3 +0.7
baz=163,SNR=8.3
P52A **Corning** 68.88 352 P P 11 42 16.5 +1.5
baz=170
MSTX **Muleshoe** 69.04 333 P P 11 42 17.0 +0.6
MSTX IAmb IAmb 11 42 19.0
comp=Z,27nm,0.9s
MSTX **Muleshoe** 69.04 333 P P 11 42 16.7 +0.3
baz=151,SNR=10
MSTX **Muleshoe** 69.04 333 P P 11 42 17.2 +0.8
baz=151,SNR=10
CCM **Cathedral Cave** 69.05 344 P P 11 42 16.7 +0.5
baz=162
CCM **Cathedral Cave** 69.05 344 P P 11 42 16.8 +0.6
baz=162,SNR=11
CCM **Cathedral Cave** 69.05 344 P P 11 42 16.6 +0.5
CCM pP pP 11 42 29.2 +1.3
CCM sP pwP 11 42 35.9 +2.6
VNDA **Vanda** 69.08 191 P P 11 42 17.2 +1.2
comp=Z,3.8nm,1.2s,baz=90,slow=4.0,SNR=1.8
comp=Z,3.8nm,1.2s
P49A **Miami Univ. Ec** 69.15 349 P P 11 42 17.3 +0.5
baz=168
S39A **Bolivar** 69.24 342 P P 11 42 17.5 +0.1
S39A IAmb IAmb 11 42 39.2
comp=Z,26nm,1.1s
S39A **Bolivar** 69.24 342 P P 11 42 17.9 +0.5
baz=160,SNR=8.5
O53A **New Philadelph** 69.37 352 P P 11 42 19.0 +0.9
baz=171
AMTX **Amarillo** 69.42 334 P P 11 42 19.2 +0.5
AMTX IAmb IAmb 11 42 21.0
comp=Z,36nm,1.4s
AMTX **Amarillo** 69.42 334 P P 11 42 19.4 +0.7
baz=152
SSPA **Standing Stone** 69.44 355 P P 11 42 20.0 +1.4
baz=174
R40A **Maddies Statio** 69.53 343 P P 11 42 19.7 +0.5
baz=161,SNR=11
121A **Cookes Peak, D** 69.97 328 P P 11 42 23.3 +1.0
baz=147,SNR=7.4
121A **Cookes Peak, D** 69.97 328 P P 11 42 24.2 +2.0
baz=147,SNR=7.4
P43A **Skaggs, Pawnee** 70.17 346 P P 11 42 23.6 +0.6
SFIN **Lafayette** 70.39 348 P P 11 42 25.5 +1.2
baz=166
N49A **Columbus Grove** 70.43 350 P P 11 42 24.7 +0.1
N49A IAmb IAmb 11 42 41.6
comp=Z,26nm,0.8s
P40A **Paris** 70.65 344 P P 11 42 26.7 +0.7
baz=161,SNR=13
BINY **Binghamton** 70.88 357 P P 11 42 29.2 +1.9
baz=176
HDIL **Hopedale** 70.99 346 P P 11 42 28.7 +0.7
baz=164
L61B **Northampton** 71.03 359 P P 11 42 29.6 +1.4
baz=179
HRV **Adam Dziewonsk** 71.09 0 P P 11 42 30.1 +1.5
baz=180
ERPA **Erie** 71.09 354 P P 11 42 30.3 +1.6
baz=172
TUC **Tucson** 71.22 326 P P 11 42 31.8 +2.0
TUC **Tucson** 71.22 326 P P 11 42 30.7 +1.0
baz=145
TUC **Tucson** 71.22 326 P P 11 42 31.9 +2.2
TUC sP PcP 11 42 51.0 +1.6
ANMO **Albuquerque** 71.41 331 *i* P P 11 42 31.0 0.0
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO **Albuquerque** 71.41 331 P P 11 42 32.2 +1.2
baz=148
ANMO **Albuquerque** 71.41 331 P P 11 42 32.7 +1.7
baz=148,SNR=7.6
ANMO **Albuquerque** 71.41 331 LR LR 12 09 48.7
comp=Z,285nm,20.2s,baz=243,slow=32
ANMO **Albuquerque** 71.41 331 P P 11 42 32.5 +1.5
ANMO sP PcP 11 42 51.6 +1.2
214A **Organ Pipe Nat** 71.95 324 P P 11 42 35.1 +0.9
baz=143,SNR=7.0
CBKS **Cedar Bluff** 72.23 337 P P 11 42 36.7 +1.0
baz=155
L44A **Lake County Fo** 72.28 348 P P 11 42 37.4 +1.7
baz=165
T25A **Trinidad** 72.45 333 P P 11 42 38.8 +1.6
baz=150,SNR=7.6
L40A **Anamosa** 72.86 345 P P 11 42 39.6 +0.4
L40A IAmb IAmb 11 42 47.0
comp=Z,34nm,0.9s
L40A **Anamosa** 72.86 345 P P 11 42 39.4 +0.2
baz=162,SNR=7.4
W18A **Petrified Fore** 73.02 328 P P 11 42 42.0 +1.4
W18A IAmb IAmb 11 43 04.0
comp=Z,32nm,1.1s
W18A **Petrified Fore** 73.02 328 P P 11 42 42.5 +1.9
baz=146,SNR=10.0
LIC **Lamto** 73.13 73⇑ *e*P P 11 42 41.0 -0.5
comp=Z,18nm,0.8s
X16A **Lo Mia Camp, P** 73.25 327 P P 11 42 43.8 +1.8
TIC **Toumodi** 73.36 72⇑ *e*P P 11 42 42.7 -0.2
comp=Z,14nm,0.7s
SDCO **Great Sand Dun** 73.41 333 P P 11 42 44.9 +1.9
baz=150,SNR=9.2
SDCO **Great Sand Dun** 73.41 333 P P 11 42 44.5 +1.5
baz=150,SNR=9.2
KSCO **Kaye Shedlock'** 73.42 335 P P 11 42 44.8 +1.9
baz=152,SNR=5.8
KSCO **Kaye Shedlock'** 73.42 335 P P 11 42 44.7 +1.9
baz=152,SNR=5.8
KIC **Kosan Boka** 73.45 73⇑ *e*P P 11 42 40.0 -3.4
comp=Z,51nm,0.8s
JFWS **Jewell Farm** 73.46 346 P P 11 42 44.6 +1.8
baz=163
DBIC **Dimbokro** 73.52 73 P P 11 42 43.8 +0.1
comp=Z,16nm,0.7s,baz=221,slow=5.7,SNR=22
DBIC LR LR 12 14 09.9
comp=Z,167nm,18.6s,baz=216,slow=35
comp=Z,16nm,0.7s
PKME **Peaks-Kenny Pk** 73.88 2 P P 11 42 47.4 +2.3
baz=182
S22A **4UR Ranch, Cre** 73.95 332 P P 11 42 47.2 +1.1
baz=149
BGNE **Belgrade** 74.08 340 P P 11 42 48.0 +1.5
baz=156
WUAZ **Wupatki** 74.11 327 P P 11 42 48.4 +1.4
baz=145,SNR=6.9
MVCO **Mesa Verde** 74.21 330 P P 11 42 49.3 +1.7
baz=147,SNR=8.7
SWSC **Sam W. Stewart** 74.29 323 P P 11 42 49.2 +1.3
baz=141
Q24A **Divide** 74.32 334 P P 11 42 49.7 +1.4
baz=150,SNR=11
PDMCI **Parker Dam,Lak** 74.49 325 P P 11 42 50.7 +1.8
baz=142
BC3 **Big Chuckawall** 74.66 323 P P 11 42 52.0 +1.9
baz=141
IRM **Iron Mountain** 74.89 324 P P 11 42 53.4 +2.0
baz=142
PFO **Pinyon Flats O** 75.16 323 *i* P P 11 42 53.1 +0.1
PFO pmax pmax
comp=Z,18nm,1.2s
PFO **Pinyon Flats O** 75.16 323 P P 11 42 55.2 +2.2
baz=141
PFO **Pinyon Flats O** 75.16 323 LR LR 12 10 04.0
comp=Z,150nm,18.2s,baz=160,slow=31
BELC **Belle Mtn. Jos** 75.21 323 P P 11 42 54.6 +1.3
baz=141
ISCO **Idaho Springs** 75.23 334 P P 11 42 55.2 +1.7
ISCO **Idaho Springs** 75.23 334 P P 11 42 55.6 +2.1
baz=150,SNR=7.6
ISCO **Idaho Springs** 75.23 334 P P 11 42 55.0 +1.5
baz=150,SNR=7.6
MURC **Murrieta** 75.54 322 P P 11 42 57.3 +2.2
baz=140
GMRC **Granite Mounta** 75.64 324 P P 11 42 57.2 +1.4
baz=141,SNR=7.2
K30B **Basset** 75.68 339 P P 11 42 56.8 +1.1
K30B IAmb IAmb 11 43 15.2
comp=Z,41nm,1.1s
K30B **Basset** 75.68 339 P P 11 42 56.8 +1.1
baz=155,SNR=7.2
ECSD **EROS Data Cent** 75.78 342 P P 11 42 56.5 +0.3
ECSD IAmb IAmb 11 43 14.7
comp=Z,21nm,1.1s
ECSD **EROS Data Cent** 75.78 342 P P 11 42 57.4 +1.3
baz=158,SNR=15
ECSD **EROS Data Cent** 75.78 342 P P 11 42 56.8 +0.6
baz=158,SNR=15
HEC **Hector,Ludlow** 76.03 324 P P 11 42 58.7 +0.8
baz=141
CIS **Catalina Islan** 76.05 321 P P 11 42 58.6 +0.5
baz=139
BFSC **Mount Baldy Ra** 76.28 322 P P 11 43 00.6 +1.1
baz=140
TUQ **Turquoise Moun** 76.29 324 P P 11 43 00.2 +0.8
baz=141
N23A **Red Feather La** 76.30 334 P P 11 43 00.1 +0.6
baz=150
RRX **Edison Barstow** 76.41 323 P P 11 43 00.3 +0.3
baz=140
O20A **White River Ci** 76.56 332 P P 11 43 02.2 +1.3
baz=148,SNR=11
GSC **Goldstone, Bar** 76.64 324 P P 11 43 02.7 +1.3
baz=141
EDW2 **Edwards Air Fo** 76.94 323 P P 11 43 04.4 +1.4
baz=140
F36A **Milaca** 76.98 345 P P 11 43 03.0 +0.1
baz=161,SNR=5.8
OSI **Osito Audit: C** 77.13 322 P P 11 43 05.3 +1.1
baz=139
SUR **Sutherland** 77.22 120 LR LR 12 12 49.7
comp=Z,308nm,20.3s,baz=232,slow=32
LRMC **Laurel Mtn Rad** 77.23 323 P P 11 43 06.2 +1.4
baz=140
FURC **Furnace Creek,** 77.57 324 P P 11 43 08.7 +2.3
baz=141
MPMC **Manual Prospec** 77.57 324 P P 11 43 08.1 +1.4
baz=140

ARVC	Arvin	77.58	322	P	P	11 43 08.5 +2.0
	baz=139					
TPNV	Topopah Spring	77.63	325	P	P	11 43 08.8 +1.8
	baz=141,SNR=5.4					
ISA	Isabella, Lake	77.79	323	P	P	11 43 09.6 +1.8
	baz=140,SNR=6.6					
PKM	Mcpherson Peak	77.93	321	P	P	11 43 10.3 +1.5
	baz=138					
MAW	Mawson	78.00	164	LR	LR	12 19 39.5
	comp=Z,293nm,18.4s,baz=231,slow=37					
K22A	Casper	78.03	335	P	P	11 43 10.6 +1.5
	baz=150,SNR=12					
K22A	Casper	78.03	335	P	P	11 43 10.9 +1.8
	baz=150,SNR=12					
CWC	Cottonwood Cre	78.17	324	P	P	11 43 11.1 +1.1
	baz=140					
GRAC	Grapevine Rang	78.23	324	P	P	11 43 11.4 +1.2
	baz=140					
RAR	Rarotonga	78.24	252	LR	LR	12 08 50.1
	comp=Z,238nm,21.7s,baz=144,slow=29					
VES	Vestal, Richgr	78.25	323	P	P	11 43 11.6 +1.4
	baz=139,SNR=6.8					
SMMC	Simmler	78.35	322	P	P	11 43 11.5 +0.7
	baz=138					
R11B	Troy Canyon, C	78.39	326	P	P	11 43 12.6 +1.4
	baz=142,SNR=9.3					
RSSD	Black Hills	78.42	337	P	P	11 43 12.9 +1.6
RSSD	Black Hills	78.42	337	P	P	11 43 12.7 +1.4
	baz=152					
RSSD	Black Hills	78.42	337	P	P	11 43 12.6 +1.3
	baz=152,SNR=8.0					
DUG	Dugway, Tooele	78.57	329	P	P	11 43 13.5 +1.3
	baz=144					
WIN	Windhoek	78.61	109	P	P	11 43 13.6 +0.6
TPH	Tonopah	78.99	325	P	P	11 43 15.4 +0.9
TPH	Tonopah	78.99	325	P	P	11 43 15.4 +0.9
TPH				pmax	pmax	
	comp=Z,56nm,1.1s					
HWUT	Hardware Ranch	79.18	331	P	P	11 43 16.8 +1.3
HWUT				IAmb	IAmb	11 43 17.8
	comp=Z,22nm,0.8s					
BW06	Boulder Array	79.31	333	P	P	11 43 16.7 +0.4
BW06	Boulder Array	79.31	333	P	P	11 43 17.0 +0.8
	baz=147,SNR=9.8					
PD31	Pinedale Array	79.31	333	P	P	11 43 17.1 +0.8
PDAR	Pinedale Array	79.31	333	P	P	11 43 16.6 +0.3
PDAR	Pinedale Array	79.31	333	P	P	11 43 17.1 +0.8
	comp=Z,2.3nm,0.6s,baz=128,slow=5.2,SNR=23					
PDAR				LR	LR	12 15 36.8
	comp=Z,144nm,18.9s,baz=164,slow=34					
	comp=Z,2.3nm,0.6s					
NVAR	Mina Array Bea	79.81	325	P	P	11 43 20.0 +1.0
	comp=Z,2.2nm,0.7s,baz=161,slow=6.1,SNR=15					
NVAR				LR	LR	12 12 39.3
	comp=Z,113nm,20.9s,baz=98,slow=31					
	comp=Z,2.2nm,0.7s					
AGMN	Agassiz Nation	79.82	344	P	P	11 43 18.8 +0.2
	baz=159					
ELK	Elko	80.12	328	LR	LR	12 15 06.9
	comp=Z,251nm,19.1s,baz=145,slow=33					
MDND	Maddock	80.38	341	P	P	11 43 22.6 +1.0
	baz=156					
MDND	Maddock	80.38	341	P	P	11 43 23.4 +1.8
	baz=156					
TSUM	Tsumeb	80.53	107	LR	LR	12 16 47.6
	comp=Z,293nm,18.1s,baz=246,slow=34					
H17A	Grant Village	81.08	333	P	P	11 43 27.5 +1.8
	baz=146					
RLMT	Red Lodge	81.17	334	P	P	11 43 27.6 +1.4
	baz=148,SNR=7.0					
LAO	LASA Array	81.41	337	P	P	11 43 28.9 +1.7
	baz=150					
LAO	LASA Array	81.41	337	P	P	11 43 28.4 +1.2
	baz=150					
ULM	Lac du Bonnet	81.65	345	P	P	11 43 27.7 -0.6
ULM	Lac du Bonnet	81.65	345	P	P	11 43 28.1 -0.2
	comp=Z,13nm,1.1s,baz=159,slow=3.9,SNR=9.5					
	comp=Z,13nm,1.1s					
HLID	Hailey	81.99	330	P	P	11 43 31.6 +1.1
	baz=143,SNR=14					
DGMT	Dagmar	82.30	339	P	P	11 43 32.4 +0.6
DGMT				IAmb	IAmb	11 43 40.9
	comp=Z,31nm,0.9s					
DGMT	Dagmar	82.30	339	P	P	11 43 32.8 +1.0
	baz=152,SNR=7.7					
DGMT	Dagmar	82.30	339	P	P	11 43 33.1 +1.3
	baz=152,SNR=7.7					
BOSA	Boshof	82.36	118	P	P	11 43 32.5 -0.4
	comp=Z,14nm,0.9s,baz=253,slow=4.4,SNR=15					
BOSA				LR	LR	12 14 37.5
	comp=Z,301nm,21.7s,baz=217,slow=32					
	comp=Z,14nm,0.9s					
TOA0	Torodi Ar. Sit	82.41	71	P	P	11 43 32.4 -0.8
TOA0				IAmb	IAmb	11 43 34.0
	comp=Z,18nm,0.9s					
TORD	Torodi Ar. Bea	82.41	71	P	P	11 43 32.2 -0.9
TORD	Torodi Ar. Bea	82.41	71	P	P	11 43 33.0 -0.1
	comp=Z,12nm,0.8s,baz=275,slow=4.5,SNR=62					
TORD				LR	LR	12 17 23.0
	comp=Z,237nm,21.8s,baz=205,slow=34					
	comp=Z,12nm,0.8s					
BOZ	Bozeman (W)	82.49	333	P	P	11 43 34.2 +1.2
	baz=146					
SCHQ	Schefferville	83.54	3	LR	LR	12 22 35.2
	comp=Z,46nm,20.6s,baz=220,slow=37					
EGMT	Eagleton	83.80	336	P	P	11 43 40.5 +0.8
	baz=147					
PLID	Pearl Lake	83.89	330	P	P	11 43 40.6 +0.2
LBTB	Lobatse	84.36	115	P	P	11 43 42.7 -0.5
LBTB				IAmb	IAmb	11 43 43.8
	comp=Z,20nm,0.8s					
LBTB	Lobatse	84.36	115	P	P	11 43 42.7 -0.5
LBTB				pmax	pmax	
	comp=Z,20nm,0.9s					
LBTB	Lobatse	84.36	115	LR	LR	12 16 18.7
	comp=Z,350nm,22.0s,baz=238,slow=32					
MSO	Missoula	84.42	332	P	P	11 43 43.6 +0.8
	baz=144					
YBH	Yreka Blue Hor	84.52	324	LR	LR	12 15 08.4
	comp=Z,129nm,22.0s,baz=154,slow=31					
PINE	Pine Mountain	85.16	327	P	P	11 43 47.8 +1.1
PINE				IAmb	IAmb	11 43 49.7
	comp=Z,14nm,0.9s					
NEW	Newport	86.87	332	P	P	11 43 55.7 +0.8
	baz=142					
NEW	Newport	86.87	332	LR	LR	12 19 36.6
	comp=Z,193nm,19.6s,baz=136,slow=33					
URZ	Urewera	87.14	227	LR	LR	12 14 50.2
	comp=Z,217nm,19.2s,baz=303,slow=30					
LTZ	Lake Taylor	87.43	222	P	P	11 43 59.9 +1.8
RPZ	Rata Peaks	87.56	220	P	P	11 43 59.1 +0.5
RPZ	Rata Peaks	87.56	220	LR	LR	12 14 25.0
	comp=Z,106nm,19.7s,baz=123,slow=30					
TOZ	Tahuroa Road	88.48	227	P	P	11 44 03.8 +0.7
TOZ				IAmb	IAmb	11 44 05.0
	comp=Z,20nm,1.2s					
MDT	Midelt	88.56	51	LR	LR	12 22 48.0
	comp=Z,203nm,20.3s,baz=242,slow=35					
FCC	Fort Churchill	89.30	349	P	P	11 44 05.3 -0.7
FCC				IAmb	IAmb	11 44 27.2
	comp=Z,22nm,1.2s					
FCC	Fort Churchill	89.30	349	P	P	11 44 05.4 -0.7
FCC				pmax	pmax	
	comp=Z,22nm,1.3s					
EDM	Edmonton	89.39	337	P	P	11 44 05.8 -0.9
EDM				IAmb	IAmb	11 44 07.3
	comp=Z,15nm,1.1s					
EDM	Edmonton	89.39	337	P	P	11 44 05.8 -0.9
EDM				pmax	pmax	
	comp=Z,15nm,1.1s					
LSZ	Lusaka	91.29	108	LR	LR	12 21 48.7
	comp=Z,230nm,18.9s,baz=252,slow=33					
FRB	Frobisher Bay	92.40	2	LR	LR	12 28 14.1
	comp=Z,83nm,20.6s,baz=186,slow=37					
BBB	Bella Bella	94.53	329	LR	LR	12 23 48.7
	comp=Z,82nm,18.1s,baz=157,slow=33					
SFJD	Kangerlussuaq	96.98	8	LR	LR	12 29 42.4
	comp=Z,38nm,19.5s,baz=180,slow=36					
YKA	Yellowknife Ar	97.30	341	P	P	11 44 42.6 -0.3
	comp=Z,1.1nm,1.0s,baz=138,slow=4.6,SNR=11					
	comp=Z,1.1nm,1.0s					
DLBC	Dease Lake	99.54	333	LR	LR	12 28 03.9
	comp=Z,104nm,18.9s,baz=115,slow=34					
KEST	Kesra	99.88	55	LR	LR	12 32 07.0
	comp=Z,487nm,20.2s,baz=187,slow=37					
WTLY	Watson Lake, Y	100.18	335	P	Pdif	11 44 57.2 +1.3
	baz=132					
WRGLY	Wrigley	100.50	339	P	Pdif	11 44 58.3 +1.2
	baz=136					
R32K	Eaglecrest	101.27	331	P	Pdif	11 45 01.2 +0.4
	baz=128					
P32M	Atlin	101.75	333	P	Pdif	11 45 03.6 +0.7
	baz=128					
P33M	Teslin, Yukon	101.78	334	P	Pdif	11 45 03.6 +0.5
	baz=129					
SKAG	Skagway	102.32	332	P	Pdif	11 45 06.5 +1.2
	baz=127					
N32M	Quiet Lake	102.47	334	P	Pdif	11 45 06.7 +0.7
	baz=128					
FARO	Faro, Yukon	103.23	335	P	Pdif	11 45 10.2 +0.8
	baz=128					
O30N	Mendenhall	103.41	333	P	Pdif	11 45 11.1 +0.8
	baz=126					
P29M	Windy Craggy	103.42	332	P	Pdif	11 45 11.4 +1.0
	baz=125					
HYT	Haines Junctio	104.01	333	P	Pdif	11 45 13.7 +0.7
	baz=125					
N30M	Aishikik Lake	104.20	333	P	Pdif	11 45 14.5 +0.7
	baz=125					
YUK4	Talbot Arm	104.76	333	P	Pdif	11 45 17.0 +0.5
	baz=124					
M29M	Somme Creek	105.30	334	P	PKiKP	11 49 33.6 +1.1
	baz=124					
CTG	Chitna Glacier	105.65	332	P	PKiKP	11 49 34.1 +0.9
	baz=122					
J30M	Hart River	105.71	336	P	PKiKP	11 49 33.9 +0.7
	baz=125					
G31M	Satah River	106.38	339	P	PKiKP	11 49 35.6 +1.5
	baz=126					
KAIM	Kayak Island	106.44	330	P	PKiKP	11 49 35.8 +1.3
	baz=119					
F31M	Tsiigehtchic	106.52	339	P	PKiKP	11 49 36.4 +2.1
	baz=126					
DAWY	Dawson	106.53	335	P	PKiKP	11 49 36.1 +1.5
	baz=122					
MNK	Minsk	118.56	41	*i* PKiKP	PKPdf	11 49 55.8 -1.8
MNK				*i*		11 51 13.4
MNK				*i* PPP	PPP	11 53 44.0
MNK				*i*		11 57 07.9
MNK				*i* SS	SS	12 07 33.1 +3.0
MNK				*i* SSS	SSS	12 11 56.4
MNK				pmax	pmax	
	comp=E,7.0nm,0.9s					
MNK				pmax	pmax	
	comp=Z,6.0nm,0.6s					
MNK				pmax	pmax	
	comp=N,16nm,0.7s					
MNK				MLR	MLR	
	comp=Z,60nm,14.0s					
MNK				MLR	MLR	
	comp=N,107nm,17.0s					
MNK				MLR	MLR	
	comp=E,33nm,17.0s					
AKASG	Malin Array Be	118.63	45	PKP	PKiKP	11 49 58.0 +0.1
	comp=E,0.2nm,0.3s,baz=269,slow=2.4,SNR=1.4					
ASAR	Alice Springs	122.09	208	PKP	PKPdf	11 50 04.9 -0.7
	comp=E,2.0nm,0.5s,baz=128,slow=1.6,SNR=56					
OBN	Obninsk	123.62	41	*e*PKiKP	PKiKP	11 50 08.6 +1.0
OBN				*e*		11 51 49.1
OBN				pmax	pmax	
	comp=Z,4.0nm,0.9s					
OBN				MLR	MLR	
	comp=Z,92nm,17.0s					
WRA	Warramunga Arr	125.19	211	PKPdf	PKPdf	11 50 10.7 -0.9
WRA	Warramunga Arr	125.19	211	PKP	PKPdf	11 50 11.4 -0.2
	comp=Z,4.4nm,0.5s,baz=158,slow=1.7,SNR=58					
KLMR	Klimovskoe	125.21	34	*e*PKiKP	PKiKP	11 50 14.1 +3.5
KLMR				pmax	pmax	
	comp=Z,18nm,1.4s					
H11S2	WAKE ISLAND Hyd	125.79	273	T	T	14 09 11.6
	baz=115,slow=76,SNR=257					
H11S1	WAKE ISLAND Hyd	125.80	273	T	T	14 09 10.4
	baz=115,slow=76,SNR=116					
H11S3	WAKE ISLAND Hyd	125.81	273	T	T	14 09 10.4
	baz=115,slow=76,SNR=11					
H11N3	WAKE ISLAND Hyd	126.07	274	T	T	14 09 28.0
	baz=113,slow=75,SNR=7.0					
H11N1	WAKE ISLAND Hyd	126.09	274	T	T	14 09 29.1
	baz=113,slow=75,SNR=117					
H11N2	WAKE ISLAND Hyd	126.09	274	T	T	14 09 31.5
	baz=113,slow=75,SNR=148					
KIV	Kislovodsk	126.62	55	*i* PKiKP	PKiKP	11 50 14.8 +0.7
KIV				pmax	pmax	
	comp=Z,7.0nm,1.1s					
KIV				MLR	MLR	
	comp=Z,56nm,23.0s					
BILL	Bilibino	128.30	336	*i* PKiKP	PKPdf	11 50 15.0 -0.9
BILL				pmax	pmax	
	comp=Z,3.0nm,1.0s					
KIRV	Kirov	130.45	36	*ce*P	Pdif	11 47 14.7 +4.3
SEY	Seymchan	135.64	333	*i* PKiKP	PKPdf	11 50 29.9 0.0
SEY				pmax	pmax	
	comp=Z,2.0nm,0.9s					
ARU	Arti	135.75	37	*i* PKiKP	PKPdf	11 50 30.7 +0.4
ARU						11 53 07.0
ARU				SS	SS	12 11 01.1 -2.7
BRVK	Borovoye	143.30	38	*i* PKiKP	PKPdf	11 50 43.9 -0.3
BRVK				pmax	pmax	
	comp=Z,2.0nm,1.0s					
BVAR	Borovoye Array	143.38	38	PKP	PKPbc	11 50 42.1 +0.5
	baz=316,slow=4.0,SNR=1.6					
YAK	Yakutsk	143.97	343	*i* PKiKP	PKPab	11 50 42.3 -0.1
YAK				pmax	pmax	
	comp=Z,15nm,1.0s					
YAK	Yakutsk	143.97	343	PKP	PKPbc	11 50 43.2 +0.2
	comp=Z,0.3nm,0.3s,baz=318,slow=1.6,SNR=6.7					
SIMJ	Simiganj	146.33	63		PKPdf	11 50 50.7 +0.6
KK31	Karatay Array	146.78	55		PKPbc	11 50 52.3 -0.1
KK31	Karatay Array	146.78	55	PKP2	PKPbc	11 50 52.3 -0.1
KKAR	Karatay Array	146.78	55		PKPbc	11 50 51.7 -0.7
KKAR	Karatay Array	146.78	55		PKPbc	11 50 52.1 -0.3
KKAR	Karatay Array	146.78	55	PKP2	PKPbc	11 50 52.1 -0.3
YSS	Yuzh-Sakhalins	147.61	313	*e*PKP2	PKPbc	11 50 55.1 +0.6
YSS				pmax	pmax	
	comp=Z,20nm,1.1s					
ASAJ	Asahikawa	148.66	308	PKPbc	PKPbc	11 50 56.9 -0.5
	comp=Z,6.4nm,0.9s,baz=310,slow=32,SNR=3.5					
KURK	Kurchatov	148.95	37	*i* PKiKP	PKPdf	11 50 54.4 +0.6
KURK				pmax	pmax	
	comp=Z,12nm,0.9s					
KURBB	Kurchatov Arra	148.95	38	PKPbc	PKPbc	11 50 58.5 +0.6
	comp=Z,1.3nm,0.4s,baz=303,slow=3.2,SNR=22					
ZAA0	Zalesovo Array	149.80	28	PKPdf	PKPdf	11 50 55.3 +0.2
ZAA0				PKPab	PKPab	11 51 05.6 +0.3
ZALV	Zalesovo Beam	149.80	28	PKPdf	PKPdf	11 50 55.6 +0.5
ZALV				PKPbc	PKiKP	11 51 01.1 +0.3
ZALV				PKPab	pPKPdf	11 51 06.5 -1.1
ZALV	Zalesovo Beam	149.80	28	PKP	PKPdf	11 50 55.0 -0.1
	comp=Z,7.4nm,0.7s,baz=262,slow=2.6,SNR=20					
ZALV				PKPbc	PKPbc	11 51 00.3 +0.5
	comp=Z,7.4nm,0.7s,baz=312,slow=3.3,SNR=20					
HYB	Hyderabad	150.62	106	*e*PKPdf	PKPdf	11 50 55.9 -1.6
HYB				*e*PKiKP	PKPbc	11 51 03.1 +0.1
BOD	Bodaibo	150.83	353	*e*PKiKP	PKPbc	11 51 01.4 -0.8
BOD				pmax	pmax	
	comp=Z,21nm,1.8s					
ZEA	Zeya	151.53	336	*e*PKiKP	PKiKP	11 51 05.1 +0.7
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.2s					
KSH	Kashi	151.57	60	PKPbc	PKiKP	11 51 05.4 +0.2
MK31	Makanchi Array	153.12	41	PKPdf	PKPdf	11 50 59.1 -1.3
MK31				PKPbc	PKPbc	11 51 07.7 -0.2
MK31				PKPbc	pPKPbc	11 51 21.2 +0.9
MK31	Makanchi Array	153.12	41	PKIKP	PKPdf	11 50 59.1 -1.3
MK31						11 51 07.7
MKAR	Makanchi Array	153.12	41	PKP	PKPdf	11 51 00.2 -0.2
	comp=Z,0.5nm,0.8s,baz=326,slow=1.7,SNR=4.1					
MKAR				PKPbc	PKPbc	11 51 08.0 +0.2
	comp=Z,2.1nm,0.7s,baz=318,slow=2.1,SNR=18					
MJAR	Matsushiro Arr	153.62	295	PKPbc	PKPbc	11 51 08.6 -0.6
	comp=Z,1.5nm,0.8s,baz=133,slow=26,SNR=4.4					
MJAR				PKPab	PKPab	11 51 22.9 +0.9
	comp=Z,5.5nm,0.9s,baz=104,slow=2.5,SNR=8.5					
HEH	HeiHe	154.16	331	*e*PKPbc	PKPdf	11 50 58.8 -2.9
WMQ	Urumqi	157.95	42	*e*PKP	PKPdf	11 51 07.9 +0.8
ZAK	Zakamensk	158.27	8	*e*PKiKP	PKPdf	11 51 07.9 +0.6
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.4s					
CN2	Changchun	159.67	322	*e*PKP	PKPdf	11 51 09.8 +0.8
SONM	Songino Array	161.08	4	PKP	PKPdf	11 51 11.1 +0.5
	comp=Z,0.8nm,1.0s,baz=280,slow=3.3,SNR=4.7					
XLT	XiLinHaoTe	163.75	339	*e*PKP	PKPdf	11 51 14.3 +1.0
CMAR	Chiang Mai Arr	166.64	139	PKP	PKPdf	11 51 15.9 -0.5
	comp=Z,0.3nm,0.4s,baz=316,slow=2.5,SNR=1.4					
GTA	Gaotai	167.52	31	*e*PKP	PKPdf	11 51 17.8 +1.2
GTA				PP	PP	11 56 09.3 -1.1
HHC	Hu-ho-hao-te	167.78	347	*e*PKP	PKPdf	11 51 12.8 -3.9
BTO	Baotou	168.25	353	*e*PKP	PKPdf	11 51 12.1 -5.0
BTO				LR	LR	
	comp=Z,280nm,15.5s					
BTO				LR	LR	
	comp=Z,220nm,9.8s					
NJ2	Nanjing	170.20	291	*e*PKP	PKPdf	11 51 19.4 +1.0
PZH	PanZhiHua	173.88	112	PKP	PKPdf	11 51 18.8 -1.6
XAN	Xi'an	174.86	352	PKP	PKPdf	11 51 27.8 +7.4
CD2	Chengdu	175.76	61	PKP	PKPdf	11 51 21.0 +0.3

IDC **20** *11:37:04.3±0.5,28°.03N×140°.13E,h401km±7km,mb3.3/19, mbtmp4.1/21,Error ellipse: s-maj=17.0km s-min=10.0km az=74.0*

JMA **20** *11:37:06.6±0.2,28°.N±1°×14°.0E±°,h426km,MV3.5/24,W OFF OGASAWARA*

ISC 20 11:37:05.1±0.5,28°.10N±0°.06×140°.14E±0°.08,h400km,n36, σ2503/49,mb3.7/19,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.07	118	P		P	Pn	11 38 04.7	+3.1
CBIJ						*e*S	S	11 38 50.6	+3.5
JCJ	Chichijima	2.07	118	P		P	Pn	11 38 00.7	-0.9
	227nm,0.3s,baz=301,slow=24,SNR=124								
JCJ						S	S	11 38 46.0	-1.1
	204nm,0.3s,baz=264,slow=23,SNR=10								
JHH2	Haha-jima-NKT2	2.33	128	P		P	Pn	11 38 06.8	+3.6
JHH2						*e*S	S	11 38 54.2	+4.1
BSO1	Boso 1	6.58	6	*e*S		S	S	11 40 04.9	+1.3
BSO3	Boso 3	6.69	3	*e*S		S	S	11 40 06.8	+0.3
BSO4	Boso 4	6.87	1	*e*S		S	S	11 40 11.5	+1.0
JNY	Yasuok	7.49	346	*e*P		P	P	11 38 57.5	+2.8
JTO	Tosashimizu	7.91	309	P		P	Pn	11 39 01.9	+2.9
JRY	Ryogami san	7.96	353	*e*P		P	P	11 39 01.3	+1.3
JAG	Ashikaga	8.32	356	*e*P		P	P	11 39 04.2	+0.3
JAG				*e*S		S	S	11 40 37.1	-3.8
JHO	Hitachi	8.50	2	*e*P		P	P	11 39 07.6	+1.8
JHO				*e*S		S	S	11 40 42.5	-2.0
JSJ	Shimokoshiki	9.72	294	*e*P		P	P	11 39 22.5	+3.0
JOW	Kunigami	10.61	266	P		P	P	11 39 31.1	+1.6
JOW	Kunigami	10.61	266	P		P	P	11 39 30.5	+1.1
	19nm,0.6s,baz=118,slow=15,SNR=7.5								
JOW						S	S	11 41 28.8	+0.2
	6.7nm,0.7s,baz=285,slow=16,SNR=1.4								
USRK	Ussuriysk Ar.	17.35	340	P		P	P	11 40 46.5	+4.1
	5.2nm,0.6s,baz=179,slow=9.9,SNR=10								
KLR	Kul'dur	22.07	345	P		P	P	11 41 29.1	+1.0
	3.0nm,0.5s,baz=165,slow=7.0,SNR=17								
	3.0nm,0.5s								
SONM	Songino Array	32.74	316	P		P	P	11 43 02.0	-0.5
	0.4nm,0.5s,baz=130,slow=11,SNR=4.8								
	0.4nm,0.5s								
CMAR	Chiang Mai Arr	38.88	265	P		P	P	11 43 52.4	-1.8
	0.6nm,0.3s,baz=57,slow=9.8,SNR=1.9								
	0.6nm,0.3s								
ZALV	Zalesovo Beam	47.54	319	P		P	P	11 45 01.6	-0.4
	0.4nm,0.3s,baz=100,slow=8.1,SNR=3.8								
ZALV						PcP	pP	11 46 23.0	+2.8
	1.0nm,0.5s,baz=113,slow=3.8,SNR=5.5								
	0.4nm,0.3s								
WRA	Warramunga Arr	48.09	187	P		P	P	11 45 05.0	-1.5
	1.3nm,0.6s,baz=1.9,slow=7.7,SNR=15								
WRA						PcP	pP	11 46 26.6	+1.5
	1.1nm,0.5s,baz=359,slow=3.8,SNR=10								
WRA						ScP	ScP	11 49 38.8	-3.7
	0.5nm,0.8s,baz=353,slow=4.4,SNR=2.5								
	1.3nm,0.6s								
MKAR	Makanchi Array	48.44	309	P		P	P	11 45 08.0	-0.9
	0.4nm,0.7s,baz=85,slow=10.0,SNR=4.3								
MKAR						PcP	pP	11 46 26.7	-0.8
	0.6nm,0.5s,baz=75,slow=4.8,SNR=6.3								
MKAR						ScP	ScP	11 49 40.1	-3.7
	0.3nm,0.7s,baz=86,slow=1.9,SNR=3.0								
	0.4nm,0.7s								
KURBB	Kurchatov Arra	51.04	314	P		P	P	11 45 26.9	-1.2
	0.9nm,0.5s,baz=89,slow=7.8,SNR=13								
KURBB						PcP	PcP	11 46 35.8	-1.7
	0.2nm,0.4s,baz=93,slow=4.0,SNR=4.9								
	0.9nm,0.5s								
NRIK	Noril'sk	51.06	339	P		P	P	11 45 27.6	-0.3
	2.8nm,0.4s,baz=128,slow=8.8,SNR=8.1								
	2.8nm,0.4s								
ASAR	Alice Springs	51.81	187	P		P	P	11 45 33.1	-1.0
	0.3nm,0.5s,baz=0.3,slow=4.7,SNR=14								
ASAR						PcP	PcP	11 46 40.0	-0.7
	0.8nm,0.7s,baz=1.0,slow=4.5,SNR=6.6								
	0.3nm,0.5s								
BVAR	Borovoye Array	56.08	317	P		P	P	11 46 03.5	-0.7
	5.0nm,0.5s,baz=87,slow=7.9,SNR=26								
BVAR						PcP	PcP	11 46 55.2	-1.7
	1.2nm,0.7s,baz=84,slow=5.5,SNR=2.0								
	5.0nm,0.5s								
ARCES	ARCESS Array B	72.00	340	P		P	P	11 47 46.1	0.0
	2.4nm,0.6s,baz=41,slow=5.0,SNR=14								
	2.4nm,0.6s								
YKA	Yellowknife Ar	72.12	28	P		P	P	11 47 47.3	+0.3
	0.3nm,0.5s,baz=335,slow=5.7,SNR=8.7								
	0.3nm,0.5s								
KBZ	Khabaz	76.00	312	P		P	P	11 48 09.1	-0.4
	4.1nm,0.7s,baz=100,slow=4.6,SNR=9.5								
	4.1nm,0.7s								
FINES	FINESS Array B	76.24	333	P		P	P	11 48 09.8	-0.7
	3.8nm,0.5s,baz=70,slow=5.3,SNR=56								
	3.8nm,0.5s								
AKASG	Malin Array Be	80.73	323	P		P	P	11 48 33.6	-1.3
	1.1nm,0.4s,baz=52,slow=5.4,SNR=11								
	1.1nm,0.4s								
HFS	Hagfors	81.78	336	P		P	P	11 48 38.9	-1.3
	1.9nm,0.3s,baz=126,slow=2.6,SNR=33								
	1.9nm,0.3s								
NB2	NORSAR Subarra	82.00	338	P		P	P	11 48 40.0	-1.4
	comp=Z,0.7nm,0.5s,baz=47,slow=4.6								
NOA	NORSAR Array B	82.00	338	P		P	P	11 48 40.3	-1.1
	comp=Z,1.3nm,0.5s,baz

PALBU	**Albufeira**	0.35	144	⇓*i*Pg		**Pg**	**11 42 47.5**	**+0.1**
PALBU				*e*Sg		**Sg**	**11 42 52.3**	**+0.1**
PALBU				A		A	11 42 53.6	
	comp=E,3µm,0.3s							
PCVE	**Castro Verde**	0.45	56	⇑*i*Pg		**Pg**	**11 42 49.5**	**+0.3**
PCVE				*e*Sg		**Sg**	**11 42 55.3**	**+0.1**
PCVE				A		A	11 42 56.1	
	comp=E,424nm,0.1s							
PCVE	**Castro Verde**	0.45	56	Pg		**Pg**	**11 42 49.5**	**+0.3**
PCVE				Sg		**Sg**	**11 42 55.2**	**+0.1**
PBDV	**Barranco-do-Ve**	0.48	107	⇑*i*Pg		**Pg**	**11 42 49.7**	**0.0**
PBDV				*e*Sg		**Sg**	**11 42 56.3**	**+0.1**
PBDV				A		A	11 42 59.1	
	comp=E,2µm,0.2s							
MESJ	**Messejana**	0.51	27	⇑*i*Pg		**Pg**	**11 42 50.6**	**+0.3**
MESJ				*e*Sg		**Sg**	**11 42 57.1**	**-0.1**
MESJ				A		A	11 43 01.7	
	comp=E,486nm,0.3s							
MESJ	**Messejana**	0.51	27	*e*P		**Pg**	**11 42 50.5**	**+0.3**
MESJ				*e*S		**Sg**	**11 42 57.0**	**-0.1**
MESJ				IAML			11 42 58.3	
	comp=E,286nm,0.1s							
PSVI	**Cabo S. Vicent**	0.53	227	*e*Sg		**Sg**	**11 42 56.1**	**-1.6**
PFARO	**Faro**	0.59	127	*e*P		**Pg**	**11 42 51.8**	**+0.1**
PFARO				*e*S		**Sg**	**11 43 00.5**	**+1.0**
PFARO				A		A	11 43 01.2	
	comp=E,2µm,0.7s							
PVAQ	**Vaqueiros**	0.63	88	*e*P		**Pg**	**11 42 52.4**	**-0.1**
PVAQ				*e*S		**Sg**	**11 43 00.7**	**-0.2**
PVAQ	**Vaqueiros**	0.63	88	Pg		**Pg**	**11 42 52.4**	**-0.1**
PVAQ				Sg		**Sg**	**11 43 00.2**	**-0.7**
PVAQ	**Vaqueiros**	0.63	88	P		**Pg**	**11 42 52.0**	**-0.5**
PVAQ	**Vaqueiros**	0.63	88	S		**Sb**	**11 43 03.2**	**+1.5**
PVAQ	**Vaqueiros**	0.63	88	P		**Pg**	**11 42 52.0**	**-0.5**
PVAQ	**Vaqueiros**	0.63	88	P		**Pg**	**11 42 52.0**	**-0.5**
PVAQ	**Vaqueiros**	0.63	88	P		**Pg**	**11 42 52.8**	**+0.2**
PVAQ	**Vaqueiros**	0.63	88	P		**Pg**	**11 42 52.8**	**+0.2**
PNCL	**Nicolau / Gran**	0.73	359	*e*P		**Pg**	**11 42 54.2**	**-0.2**
PNCL				*e*S		**Sg**	**11 43 03.6**	**-0.4**
PNCL				A		A	11 43 05.5	
	comp=E,400nm,0.1s							
PNCL	**Nicolau / Gran**	0.73	359	Pg		**Pg**	**11 42 54.1**	**-0.2**
PNCL				Sg		**Sg**	**11 43 02.8**	**-1.2**
PTAV	**Tavira**	0.73	110	*e*P		**Pg**	**11 42 53.9**	**-0.5**
PTAV				*e*S		**Sg**	**11 43 04.4**	**+0.4**
PBEJ	**Beja**	0.82	38	*e*P		**Pg**	**11 42 56.2**	**+0.1**
PBEJ				*e*S		**Sg**	**11 43 07.1**	**+0.2**
PBEJ				A		A	11 43 09.5	
	comp=E,347nm,0.4s							
EGRO	**El Granado**	0.83	79	Pg		**Pg**	**11 42 56.0**	**-0.3**
EGRO				Sg		**Sg**	**11 43 07.0**	**-0.2**
EGRO	**El Granado**	0.83	79	Pg		**Pg**	**11 42 56.0**	**-0.3**
EGRO				Sg		**Sg**	**11 43 07.9**	**+0.7**
EGRO				*i* Vmb_Lg			11 43 09.9	
EVO	**Evora**	1.21	19	*e*P		**Pg**	**11 43 02.1**	**-1.5**
EVO				*e*S		**Sg**	**11 43 19.1**	**-0.3**
EVO				A		A	11 43 22.6	
	comp=E,318nm,0.1s							
EVO	**Evora**	1.21	19	Pn		**Pg**	**11 43 02.1**	**-1.5**
EVO				Sn		**Sg**	**11 43 17.7**	**-1.7**
PACT	**Alcochete**	1.41	350	*e*Pn		**Pn**	**11 43 05.6**	**+0.2**
PACT	**Alcochete**	1.41	350	*e*Pg		**Pn**	**11 43 07.2**	**+1.8**
PACT				*e*Sg		**Sg**	**11 43 26.1**	**+0.5**
PACT				A		A	11 43 30.7	
	comp=E,351nm,0.2s							
PBAR	**Barrancos**	1.41	55	*e*Pn		**Pn**	**11 43 04.8**	**-0.7**
PBAR				*e*Sn		**Sb**	**11 43 23.0**	**-1.1**
PBAR				*e*Sg		**Sn**	**11 43 25.1**	**+1.3**
PBAR				A		A	11 43 27.5	
	comp=E,284nm,0.3s							
PBAR	**Barrancos**	1.41	55	Pn		**Pn**	**11 43 04.8**	**-0.7**
PBAR				Sn		**Sb**	**11 43 24.3**	**+0.2**
LIS	**Lisbon**	1.43	339	*e*Pg		**Pg**	**11 43 08.5**	**+0.9**
LIS				*e*Sn		**Sb**	**11 43 24.9**	**+0.3**
LIS				A		A	11 43 30.0	
	comp=E,415nm,0.2s							
INMG	**Instituto de M**	1.47	341	*e*Pn		**Pn**	**11 43 08.0**	**+1.7**
INMG				Sg		**Sg**	**11 43 28.4**	**+0.7**
INMG				A		A	11 43 31.3	
	comp=E,428nm,0.4s							
EMIN	**Mina Concepcio**	1.51	75	Pn		**Pn**	**11 43 06.1**	**-0.7**
EMIN				Sn		**Sn**	**11 43 27.2**	**+1.0**
EMIN	**Mina Concepcio**	1.51	75	Pn		**Pn**	**11 43 06.2**	**-0.7**
EMIN				Sn		**Sn**	**11 43 27.3**	**+1.0**
EMIN				*i* Vmb_Lg			11 43 31.5	
PBEN	**Benavente**	1.58	351	*e*Sg		**Sg**	**11 43 32.1**	**+1.0**
PCASC	**Cascais**	1.59	331	*e*Sg		**Sb**	**11 43 30.9**	**+1.6**
PVFX	**Vila Franca de**	1.61	347	*e*Sg		**Sb**	**11 43 31.2**	**+1.2**
PESTR	**Estremoz**	1.65	26	*e*Pn		**Pn**	**11 43 07.9**	**-0.9**
PESTR	**Estremoz**	1.65	26	*e*Pg		**Pb**	**11 43 11.2**	**+0.7**
PESTR				*e*Sn		**Sn**	**11 43 27.6**	**-2.2**
PESTR				*e*Sg		**Sb**	**11 43 31.9**	**+0.8**
PESTR				A		A	11 43 36.6	
	comp=E,105nm,0.4s							
PESTR	**Estremoz**	1.65	26	Pn		**Pn**	**11 43 07.9**	**-0.9**
PESTR				Sn		**Sn**	**11 43 30.5**	**+0.6**
PESTR	**Estremoz**	1.65	26	P		**Pb**	**11 43 11.1**	**+0.7**
PESTR	**Estremoz**	1.65	26	S		**Sg**	**11 43 35.7**	**+2.4**
PESTR	**Estremoz**	1.65	26	P		**Pb**	**11 43 11.1**	**+0.7**
PESTR	**Estremoz**	1.65	26	P		**Pb**	**11 43 11.1**	**+0.7**
PESTR	**Estremoz**	1.65	26	P		**Pg**	**11 43 15.0**	**+3.1**
PESTR	**Estremoz**	1.65	26	S		**Sg**	**11 43 35.7**	**+2.4**
PESTR	**Estremoz**	1.65	26	P		**Pg**	**11 43 15.0**	**+3.1**
PESTR	**Estremoz**	1.65	26	S		**Sg**	**11 43 35.7**	**+2.4**
PMAFR	**Mafra**	1.68	339	*e*Pn		**Pn**	**11 43 09.1**	**-0.2**
PMAFR	**Mafra**	1.68	339	*e*Pg		**Pb**	**11 43 12.1**	**+1.1**
PMAFR				*e*Sn		**Sn**	**11 43 29.7**	**-1.0**
PMAFR				*e*Sg		**Sb**	**11 43 33.5**	**+1.4**
PMAFR				A		A	11 43 36.1	
	comp=E,307nm,0.2s							
PMAFR	**Mafra**	1.68	339	Pn		**Pn**	**11 43 09.1**	**-0.2**
PMAFR				Sn		**Sn**	**11 43 31.8**	**+1.2**
PMTG	**Montargil**	1.70	7	*e*Pn		**Pn**	**11 43 08.9**	**-0.6**
PMTG	**Montargil**	1.70	7	*e*Pg		**Pg**	**11 43 13.4**	**+0.6**
PMTG				*e*Sg		**Sb**	**11 43 34.2**	**+1.7**
PMTG				A		A	11 43 36.1	
	comp=E,203nm,0.1s							
EBAD	**Badajoz**	1.81	40	Pn		**Pn**	**11 43 10.1**	**-0.9**
EBAD				Sn		**Sn**	**11 43 35.2**	**+1.5**
EBAD	**Badajoz**	1.81	40	Pn		**Pn**	**11 43 10.5**	**-0.4**
EBAD				Sn		**Sb**	**11 43 36.7**	**+1.1**
EBAD				*i* Vmb_Lg			11 43 40.1	
PSANT	**Santarm**	1.86	356	*e*Pg		**Pb**	**11 43 15.3**	**+1.3**
PSANT				*e*Sg		**Sb**	**11 43 38.7**	**+1.5**
PCDRA	**Caldas da Rain**	2.08	346	*e*Sg		**Sb**	**11 43 45.4**	**+1.9**
PSBE	**So Bento**	2.14	354	*e*Pn		**Pn**	**11 43 12.4**	**-0.2**
PSBE	**So Bento**	2.14	354	*e*Pg		**Pb**	**11 43 20.7**	**+1.9**
PSBE				*e*Sn		**Sn**	**11 43 42.4**	**+0.5**
PSBE				*e*Sg		**Sb**	**11 43 47.3**	**+2.1**
PSBE				A		A	11 43 53.5	
	comp=E,109nm,0.4s							
ESPR	**Espera**	2.18	103	Pn		**Pn**	**11 43 16.2**	**+0.2**
ESPR				Sn		**Sn**	**11 43 42.9**	**0.0**
ESPR	**Espera**	2.18	103	Pn		**Pn**	**11 43 16.3**	**+0.3**
ESPR				Pg		**Pb**	**11 43 19.1**	**-0.3**
ESPR				Sn		**Sn**	**11 43 44.6**	**+1.7**
ESPR				Sg		**Sg**	**11 43 52.0**	**+1.7**
ESPR				*i* Vmb_Lg			11 43 56.5	
PMRV	**Marv??o**	2.22	23⇑	*e*Pn		**Pn**	**11 43 16.1**	**-0.6**
PMRV	**Marv??o**	2.22	23	*e*Pg		**Pg**	**11 43 25.0**	**+2.2**
PMRV				*e*Sn		**Sn**	**11 43 40.1**	**-3.9**
PMRV				*e*Sg		**Sb**	**11 43 48.7**	**+1.1**
PMRV				A		A	11 43 59.4	
	comp=E,131nm,0.5s							
ECAB	**El Cabril**	2.54	73	Pn		**Pn**	**11 43 21.0**	**-0.2**
ECAB				Sn		**Sn**	**11 43 49.5**	**-2.4**
ECAB	**El Cabril**	2.54	73	Pn		**Pn**	**11 43 20.9**	**-0.2**
ECAB				Sn		**Sn**	**11 43 52.0**	**+0.1**
ECAB				Sg		**Sg**	**11 44 01.9**	**-0.1**
ECAB				*i* Vmb_Lg			11 44 05.9	
PCBR	**Castelo Branco**	2.58	18	*e*Pn		**Pn**	**11 43 21.3**	**-0.3**
PCBR				*e*Sn		**Sn**	**11 43 51.7**	**-1.1**
PCBR				*e*Sg		**Sb**	**11 44 01.0**	**+3.1**
PCBR				A		A	11 44 05.5	
	comp=E,55nm,0.5s							
EJIF	**Jimena Fronter**	2.61	110	Pn		**Pn**	**11 43 22.4**	**+0.4**
EJIF				Sn		**Sn**	**11 43 54.9**	**+1.5**
PCAS	**Casmilo, Conde**	2.67	0	*e*Pn		**Pn**	**11 43 22.4**	**-0.4**
PCAS	**Casmilo, Conde**	2.67	0	*e*Pg		**Pb**	**11 43 30.2**	**+2.5**
PCAS				*e*Sn		**Sn**	**11 43 53.1**	**-1.8**
PCAS				*e*Sg		**Sg**	**11 44 04.7**	**-1.2**
PCAS				A		A	11 44 06.9	
	comp=E,61nm,0.5s							
COI	**Coimbra**	2.82	1	*e*Pn		**Pn**	**11 43 24.9**	**0.0**
COI	**Coimbra**	2.82	1	*e*Pg		**Pg**	**11 43 36.6**	**+2.3**
COI				*e*Sn		**Sn**	**11 43 58.3**	**-0.4**
COI				*e*Sg		**Sg**	**11 44 09.3**	**-1.6**
COI				A		A	11 44 11.7	
	comp=E,74nm,0.2s							
CEU	**Ceuta**	2.92	119	Pn		**Pn**	**11 43 27.7**	**+1.4**
SMIR	**Smir Dam**	3.04	123	P		**Pn**	**11 43 28.3**	**+0.4**
SMIR	**Smir Dam**	3.04	123	P		**Pn**	**11 43 28.2**	**+0.3**
SMIR	**Smir Dam**	3.04	123	P		**Pn**	**11 43 28.2**	**+0.3**
SMIR	**Smir Dam**	3.04	123	P		**Pn**	**11 43 28.2**	**+0.3**
SMIR	**Smir Dam**	3.04	123	P		**Pn**	**11 43 28.2**	**+0.3**
EMIJ	**Mijas**	3.10	104	Pn		**Pn**	**11 43 28.8**	**0.0**
EMIJ	**Mijas**	3.10	104	Pn		**Pn**	**11 43 29.2**	**+0.4**
EMIJ				Sn		**Sn**	**11 44 07.3**	**+1.6**
MTE	**Manteigas**	3.10	14	*e*Pn		**Pn**	**11 43 28.3**	**-0.6**
MTE				*e*Sn		**Sn**	**11 44 03.9**	**-1.9**
MTE				*e*Sg		**Sb**	**11 44 17.0**	**+4.0**
MTE				A		A	11 44 23.8	
	comp=E,114nm,0.6s							
EADA	**Adamuz**	3.21	75	Pn		**Pn**	**11 43 29.6**	**-0.7**
EADA				Sn		**Sn**	**11 44 06.3**	**-2.1**
EADA	**Adamuz**	3.21	75	Pn		**Pn**	**11 43 29.8**	**-0.5**
EADA				Sn		**Sn**	**11 44 08.8**	**+0.4**
EADA				Sg		**Sg**	**11 44 22.3**	**-1.1**
EADA				*i* Vmb_Lg			11 44 27.6	
EPLA	**Plasencia**	3.28	35	Pn		**Pn**	**11 43 30.6**	**-0.7**
EPLA				Sn		**Sn**	**11 44 07.3**	**-2.8**
EPLA				Sg		**Sg**	**11 44 24.6**	**-1.1**
EPLA				*i* Vmb_Lg			11 44 28.8	
RSA	**Sarsar**	3.31	138	P		**Pn**	**11 43 29.4**	**-2.3**
RSA	**Sarsar**	3.31	138	S		**Sn**	**11 44 08.0**	**-2.8**
EMAL	**Malaga-Limoner**	3.32	100	Pn		**Pn**	**11 43 32.7**	**+0.9**
EMAL				Sn		**Sn**	**11 44 11.3**	**+0.3**
PVIS	**Viseu**	3.36	8	*e*Pn		**Pn**	**11 43 31.7**	**-0.7**
PVIS				*e*Sn		**Sn**	**11 44 10.3**	**-1.8**
PVIS				*e*Sg		**Sg**	**11 44 26.0**	**-2.2**
PVIS				A		A	11 44 31.7	
	comp=E,45nm,0.3s							
CHEFC	**Chefchaouen**	3.42	131	P		**Pn**	**11 43 33.4**	**+0.1**
CHEFC	**Chefchaouen**	3.42	131	P		**Pn**	**11 43 35.0**	**+1.8**
CHEFC	**Chefchaouen**	3.42	131	P		**Pn**	**11 43 35.0**	**+1.8**
CHEFC	**Chefchaouen**	3.42	131	P		**Pn**	**11 43 35.0**	**+1.8**
CHEFC	**Chefchaouen**	3.42	131	P		**Pn**	**11 43 35.0**	**+1.8**
EGOR	**Sierra Gorda,**	3.52	93	Pn		**Pn**	**11 43 34.6**	**-0.1**
EGOR	**Sierra Gorda,**	3.52	93	Pn		**Pn**	**11 43 34.8**	**+0.1**
EGOR				Sn		**Sn**	**11 44 16.6**	**+0.4**
EGOR				Sg		**Sg**	**11 44 34.8**	**+1.5**
EGOR				*i* Vmb_Lg			11 44 45.1	
PTO	**Porto**	3.75	359	*e*Pn		**Pn**	**11 43 37.4**	**-0.3**
PTO				*e*Sn		**Sn**	**11 44 18.2**	**-3.4**
PAB	**San Pablo**	3.91	55	Pn		**Pn**	**11 43 39.4**	**-0.6**
PAB				Sn		**Sn**	**11 44 24.1**	**-1.7**
PAB				Sg		**Sg**	**11 44 45.4**	**-0.5**
PAB				*i* Vmb_Lg			11 44 48.0	
PAB	**San Pablo**	3.91	55	P		**Pn**	**11 43 39.6**	**-0.4**
PAB	**San Pablo**	3.91	55	P		**Pn**	**11 43 39.6**	**-0.4**
PAB	**San Pablo**	3.91	55	P		**Pn**	**11 43 39.2**	**-0.8**
PAB	**San Pablo**	3.91	55	P		**Pn**	**11 43 39.2**	**-0.8**
ELGU	**Los Guajares,**	3.94	96	Pn		**Pn**	**11 43 41.3**	**+1.1**
ELGU	**Los Guajares,**	3.94	96	Pn		**Pn**	**11 43 41.6**	**+1.4**
ELGU				Sn		**Sn**	**11 44 28.8**	**+2.5**
ELGU				*i* Vmb_Lg			11 44 55.0	
PVRL	**Vila Real**	3.94	9	*e*Pn		**Pn**	**11 43 39.5**	**-0.8**
PVRL				*e*Sn		**Sn**	**11 44 23.1**	**-3.2**
PVRL				A		A	11 44 26.0	
	comp=E,28nm,0.1s							
PVRL				*e*Sg		**Sg**	**11 44 44.3**	**-2.3**
MVO	**Moncorvo**	3.95	16	*e*Pn		**Pn**	**11 43 39.7**	**-0.7**
MVO				*e*Sn		**Sn**	**11 44 24.0**	**-2.6**
MVO				*e*Sg		**Sg**	**11 44 48.3**	**+1.4**
MVO				A		A	11 45 00.7	
	comp=E,34nm,0.6s							
POLO	**Lamas de Olo**	4.02	8	*e*Pn		**Pn**	**11 43 40.9**	**-0.6**
POLO				*e*Sn		**Sn**	**11 44 25.2**	**-3.3**
POLO				*e*Sg		**Sg**	**11 44 46.7**	**-2.7**
POLO				A		A	11 44 56.2	
	comp=E,12nm,0.6s							
EQTA	**Presa de Quent**	4.04	91	Pn		**Pn**	**11 43 42.0**	**+0.2**
EQUE	**Quentar**	4.04	91	Pn		**Pn**	**11 43 42.3**	**+0.5**
EQUE				Sn		**Sn**	**11 44 29.0**	**0.0**
EQUE				Sg		**Sg**	**11 44 51.8**	**+1.7**
EQUE				*i* Vmb_Lg			11 44 59.3	
AVE	**Averroes**	4.17	167	Pn		**Pn**	**11 43 42.7**	**-0.8**
AVE				Sn		**Sn**	**11 44 28.7**	**-3.4**
ZHG	**ZHG**	4.21	158	P		**Pn**	**11 43 43.7**	**-0.5**
ZHG	**ZHG**	4.21	158	S		**Sn**	**11 44 27.2**	**-6.0**
ESDC	**Sonseca Array**	4.24	56	Pn		**Pn**	**11 43 43.9**	**-0.5**
ESDC				Sn		**Sn**	**11 44 31.5**	**-2.1**
ESDC				Sg		**Sg**	**11 44 55.3**	**-0.9**
ESDC				*i* Vmb_Lg			11 45 02.3	
PALE	**Palemas**	4.28	119	P		**Pn**	**11 43 43.4**	**-1.5**
PCAB	**Cabril**	4.34	5	*e*Pn		**Pn**	**11 43 45.4**	**-0.4**
PCAB				*e*Sn		**Sn**	**11 44 32.5**	**-3.7**
PCAB				*e*Sg		**Sg**	**11 44 57.1**	**-2.4**
PCAB				A		A	11 44 58.0	
	comp=E,24nm,0.6s							
EQES	**Quesada**	4.34	83	Pn		**Pn**	**11 43 45.2**	**-0.6**
EQES				Sn		**Sn**	**11 44 35.6**	**-0.7**
EQES				*i* Vmb_Lg			11 45 04.9	
ELOB	**Lobios**	4.49	4	Pn		**Pn**	**11 43 47.3**	**-0.7**
ELOB				Sn		**Sn**	**11 44 36.0**	**-4.0**
ELOB				*i* Vmb_Lg			11 44 39.0	
EBER	**Berja**	4.51	94	Pn		**Pn**	**11 43 49.0**	**+0.6**
EBER	**Berja**	4.51	94	Pn		**Pn**	**11 43 49.1**	**+0.8**
EBER				Sn		**Sn**	**11 44 40.8**	**0.0**
PGAV	**Gavieira, Arco**	4.58	2	*e*Pn		**Pn**	**11 43 48.6**	**-0.6**
PGAV				*e*Sn		**Sn**	**11 44 38.2**	**-4.0**
PGAV				*e*Sg		**Sg**	**11 45 05.1**	**-2.2**
PGAV				A		A	11 45 15.5	
	comp=E,17nm,0.6s							
PBRG	**Braganca**	4.62	17	*e*Pn		**Pn**	**11 43 49.1**	**-0.6**
PBRG				*e*Sn		**Sn**	**11 44 39.5**	**-3.7**
PBRG				*e*Sg		**Sg**	**11 45 07.6**	**-1.0**
PBRG				A		A	11 45 16.6	
	comp=E,19nm,0.5s							
GUD	**Guadarrama**	4.70	45	Pn		**Pn**	**11 43 50.3**	**-0.6**
GUD				Sn		**Sn**	**11 44 42.5**	**-2.8**
GUD				*i* Vmb_Lg			11 45 17.6	
AKLM	**AKL**	4.74	126	P		Pn	11 43 47.7	-3.6
AKLM	**AKL**	4.74	126	S		**Sn**	**11 44 40.7**	**-5.3**
IFR	**Ifrane**	4.74	143	Pn		**Pn**	**11 43 50.5**	**-1.0**
IFR				Sn		**Sn**	**11 44 42.1**	**-4.3**
ECAL	**Calabor**	4.75	16	Pn		**Pn**	**11 43 50.4**	**-1.2**
ECAL	**Calabor**	4.75	16	Pn		**Pn**	**11 43 51.0**	**-0.5**
ECAL				Sn		**Sn**	**11 44 44.5**	**-1.9**
SRHM	**Skhour des Reh**	4.93	174	P		**Pn**	**11 43 54.2**	**+0.3**
SRHM	**Skhour des Reh**	4.93	174	S		**Sn**	**11 44 52.6**	**+1.8**
GOG	**Mont Gurugu**	4.95	114	P		**Pn**	**11 43 53.6**	**-0.6**
UCM	**Universidad Co**	5.04	53	Pn		**Pn**	**11 43 55.2**	**-0.3**
UCM				Sn		**Sn**	**11 44 50.7**	**-2.8**
EAGO	**Agolada(Pontev**	5.42	3	Pn		**Pn**	**11 43 59.9**	**-0.7**
EAGO				Sn		**Sn**	**11 44 57.9**	**-5.0**
MD31	**MD31**	5.45	145	P		**Pn**	**11 43 59.6**	**-1.6**
MD31	**MD31**	5.45	145	S		**Sn**	**11 44 58.0**	**-5.8**
TAF	**Taforalt**	5.56	116	P		**Pn**	**11 44 02.1**	**-0.5**
MDT	**Midelt**	5.57	144	P		**Pn**	**11 44 01.1**	**-1.6**
MDT	**Midelt**	5.57	144	S		**Sn**	**11 45 01.5**	**-5.1**
ETOB	**Tobarra**	5.64	75	Pn		**Pn**	**11 44 02.2**	**-1.5**
ETOB	**Tobarra**	5.64	75	Pn		**Pn**	**11 44 02.4**	**-1.3**
ETOB				Sn		**Sn**	**11 45 05.6**	**-2.7**
ETOB				Sg		**Sg**	**11 45 41.2**	**0.0**
ETOB				*i* Vmb_Lg			11 45 45.1	
E1002	**Yechar (Murcia**	5.65	81	Pn		**Pn**	**11 44 03.5**	**-0.2**
JBK	**JBK**	5.70	120	P		**Pn**	**11 44 03.6**	**-1.1**
JBK	**JBK**	5.70	120	P		**Pn**	**11 44 05.0**	**+0.3**
JBK	**JBK**	5.70	120	P		**Pn**	**11 44 05.0**	**+0.3**
EMUR	**La Murta**	5.79	83	Pn		**Pn**	**11 44 05.2**	**-0.5**
EMUR	**La Murta**	5.79	83	Pn		**Pn**	**11 44 04.9**	**-0.8**
EMUR				Sn		**Sn**	**11 45 09.8**	**-2.1**
CART	**Cartagena**	5.97	86	Pn		**Pn**	**11 44 06.6**	**-1.6**
CART	**Cartagena**	5.97	86	P		**Pn**	**11 44 07.3**	**-0.9**
EPON	**Pontenova**	6.03	9	Pn		**Pn**	**11 44 07.7**	**-1.2**
OUK	**Oukaimeden**	6.18	175	P		Pn	11 44 08.1	-3.4
TIO	**Tiouine**	6.52	171	Pn		**Pn**	**11 44 15.9**	**0.0**
TIO				Sn		**Sn**	**11 45 24.4**	**-5.8**
TTIG	**Tnine Tigouga,**	6.82	180	P		Pn	11 44 15.5	-4.5
EMOS	**Mosqueruela**	6.94	62	Pn		**Pn**	**11 44 23.2**	**+1.6**
SJPF	**Ste Jean**	7.98	42	*e*Pn		**Pn**	**11 44 35.4**	**-0.4**
SJPF				*e*Sn		**Sn**	**11 45 59.4**	**-6.5**
	comp=E,3.2nm,0.4s							
ETSF	**Etsaut**	8.21	45	*e*Pn		**Pn**	**11 44 38.9**	**0.0**
ETSF				*e*Sn		**Sn**	**11 46 06.3**	**-5.2**
	comp=E,1.9nm,0.3s							
EPF	**Esparros**	8.81	47	*e*Pn		**Pn**	**11 44 45.6**	**-1.6**
EPF				*e*Sn		**Sn**	**11 46 20.3**	**-5.9**
	comp=E,1.6nm,0.3s							
MFF	**Saint Martin d**	11.11	31	*e*Pn		**Pn**	**11 45 16.7**	**-1.9**

MOS ***20*** *11:47:48.8±1.8,21°.82S×179°.83W,h540km,mb5.0/21, Error ellipse: s-maj=11.0km s-min=9.4km az=123.6*
BJI ***20*** *11:47:48.0±0.0,21°.92S×179°.05W,h579km,mb5.0/59, mB5.1/28*
BGR ***20*** *11:47:48.3,22°.33S×179°.31W,h571km*
NEIC ***20*** *11:47:50.2±1.7,22°.11S±0°.10×179°.5W±0°.1,h580km±6km, mb5.0/66, Error ellipse: s-maj=15.0km s-min=13.2km az=145.0*
IDC ***20*** *11:47:51.0±0.5,22°.08S×179°.52W,h590km±5km,mb4.1/26, mbtmp5.0/29,Error ellipse: s-maj=9.3km s-min=8.4km az=113.0*
NOU ***20*** *11:47:51.1,22°.10S×179°.47W,h591km,ML4.8/115,South of Fiji Islands*
GCMT ***20*** *11:47:53.2±0.5,22°.27S±0°.06×179°.45W±0°.06, h594km±4km,MW5.4/45,Moment Tensor Solution. s45,c48; Duration: 1ŝ2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.20±.07; Mθθ-0.44±.12; Mϕϕ0.63±.11; Mrθ-0.19±.12; Mθϕ-0.64±.10; Mϕr-1.29±.09; Best double couple: M₀1.54400×10¹⁷ NP1:ϕ₁12.00000°,δ85.00000°, λ-59.00000°. NP2:ϕ₂110.00000°,δ31.00000°, λ-171.00000°. Principal axes: T 1.6540, Plg33.0000°, Azm76.0000°; N -0.2200, Plg31.0000°, Azm189.0000°; P -1.4340, Plg42.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 20 11:47:51.3±0.3,22°.15S±0°.04×179°.44W±0°.04, h601km±3km,h602km:pP-P,n967,σ1ŝ22/1051,mb5.0/131, 75C-55D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**5.43**	**355**	P	**P**	**11 49 28.0**	**+0.1**
DGTI	**Dogotuki**	**5.87**	**352**	P	**P**	**11 49 30.9**	**-0.7**
YSA	**Yasawairara**	**6.11**	**332**	P	**P**	**11 49 33.0**	**-0.6**
RAO	**Raoul Island**	**7.20**	**169**	P	**P**	**11 49 41.8**	**-1.3**
RAO	**Raoul Island**	**7.20**	**169**	P	**P**	**11 49 42.0**	**-1.1**
	875nm,0.4s,baz=101,slow=23,SNR=8.5						
RAO				S	**S**	**11 51 12.1**	**-2.6**
	802nm,0.7s,baz=99,slow=22,SNR=1.8						
GLKZ	**Green Lake**	**7.21**	**169**	P	**P**	**11 49 41.4**	**-1.8**
GLKZ				S	**S**	**11 51 12.7**	**-2.1

RAR Rarotonga 18.30 91 P **P** **11 51 30.9 +1.2**
RAR Rarotonga 18.30 91 P **P** **11 51 29.4 -0.3**
43nm,0.8s,baz=214,slow=7.4,SNR=4.0
QRZ Quartz Range 19.82 198 P **P** **11 51 44.2 +1.0**
LTZ Lake Taylor 21.70 197 P **P** **11 51 58.8 -1.4**
INZ Inchbonnie 21.88 198 P **P** **11 52 01.6 -0.1**
OXZ Oxford 22.27 197 P **P** **11 52 03.4 -1.8**
RPZ Rata Peaks 22.90 198 P **P** **11 52 10.5 -0.3**
3.7nm,0.7s,baz=120,slow=9.5,SNR=2.4
3.7nm,0.7s
TARA Tarawa 24.52 341 P **P** **11 52 24.6 -0.9**
EIDS Eidsvold 27.14 257 P **P** **11 52 48.3 -0.1**
baz=27,SNR=16
EIDS Eidsvold 27.14 257 P **P** **11 52 48.7 +0.3**
EIDS Eidsvold 27.14 257 P **P** **11 52 48.3 -0.1**
ARMA Armidale 27.16 246 P **P** **11 52 49.6 +1.0**
baz=27,SNR=47
ARMA Armidale 27.16 246 P **P** **11 52 49.6 +1.0**
ARMA Armidale 27.16 246 P **P** **11 52 49.6 +1.0**
AUPHS Peel High Scho 27.91 245 P **P** **11 52 55.6 +0.5**
MGCD Mangrove Creek 28.22 241 P **P** **11 52 59.2 +1.5**
baz=28,SNR=6.9
MGCD Mangrove Creek 28.22 241 P **P** **11 52 59.1 +1.5**
PPT2 Papeete2 28.42 86 *es*S sS 11 59 59.5 -3.7
505nm,26.8s
PPT Papeete 28.43 86 P **P** **11 52 60.0 +0.3**
69nm,0.8s,baz=44,slow=5.6,SNR=7.0
69nm,0.8s
SYDH Sydney Hard Ro 28.66 240 P **P** **11 53 03.1 +1.6**
AULRC Lightning Ridg 30.15 249 P **P** **11 53 15.7 +1.4**
CNB Canberra Magne 30.20 237 P **P** **11 53 16.0 +1.2**
baz=30,SNR=38
CNB Canberra Magne 30.20 237 P **P** **11 53 16.0 +1.2**
CAN Canberra 30.49 238 P **P** **11 53 18.2 +1.0**
CAN IAmb IAmb 11 53 19.1
comp=Z,41nm,0.9s
CAN Canberra 30.49 238 P **P** **11 53 18.2 +1.0**
CAN Canberra 30.49 238 P **P** **11 53 18.2 +1.0**
CAN pmax pmax
comp=Z,41nm,0.9s
CAN Canberra 30.49 238 P **P** **11 53 18.0 +0.8**
CAN pP **pP** **11 54 56.5 +4.7**
YNG Young 30.68 240 P **P** **11 53 19.6 +0.7**
TV1H Townsville Har 31.68 269 P **P** **11 53 27.2 -0.3**
CTA Charters Tower 32.03 267 P **P** **11 53 30.3 -0.3**
CTA Charters Tower 32.03 267 P **P** **11 53 30.2 -0.3**
CTA pmax pmax
comp=Z,111nm,0.9s
CTA Charters Tower 32.03 267 PcP **PcP** **11 56 01.3 -0.2**
comp=Z,11nm,0.9s,baz=132,slow=4.9,SNR=4.0
CTA S **S** **11 58 00.8 -0.6**
comp=Z,7.5nm,1.2s,baz=283,slow=9.6,SNR=3.2
CTA ScP **ScP** **11 58 50.5 +1.7**
comp=Z,14nm,1.1s,baz=106,slow=5.9,SNR=4.5
XMAS Kiritimati 32.24 45 P **P** **11 53 32.5 +0.2**
XMAS Kiritimati 32.24 45 P **P** **11 53 32.8 +0.5**
XMAS Kiritimati 32.24 45 P **P** **11 53 33.0 +0.7**
CMSA Cobar Meteorol 32.37 246 P **P** **11 53 33.4 +0.2**
baz=32,SNR=96
CMSA Cobar Meteorol 32.37 246 P **P** **11 53 33.2 0.0**
QLP Quilpie 33.31 255 P **P** **11 53 41.0 -0.2**
baz=33,SNR=33
QLP Quilpie 33.31 255 P **P** **11 53 41.0 -0.2**
TOO Toolangi 33.85 235 P **P** **11 53 46.0 +0.4**
baz=34,SNR=28
TOO Toolangi 33.85 235 P **P** **11 53 46.1 +0.5**
TOO IAmb IAmb 11 53 47.1
comp=Z,36nm,0.8s
TOO Toolangi 33.85 235 P **P** **11 53 46.1 +0.5**
TOO Toolangi 33.85 235 P **P** **11 53 46.1 +0.5**
TOO pmax pmax
comp=Z,36nm,0.8s
CORO Coronation Par 34.01 228 P **P** **11 53 49.0 +2.2**
comp=Z,30nm,1.0s
MTSU Mount Surprise 34.21 270 P **P** **11 53 48.7 -0.1**
baz=34,SNR=52
MTSU Mount Surprise 34.21 270 P **P** **11 53 48.8 -0.1**
PMG Port Moresby 34.46 286 P **P** **11 53 49.9 -1.0**
PMG Port Moresby 34.46 286 P **P** **11 53 50.8 -0.1**
PMG Port Moresby 34.46 286 P **P** **11 53 49.9 -1.0**
PMG pmax pmax
comp=Z,183nm,0.9s
PMG Port Moresby 34.46 286 P **P** **11 53 50.6 -0.3**
KAVG Kavieng 34.83 300 P **P** **11 53 54.0 0.0**
comp=Z,6µm,0.9s
BRAT Ballarat 35.03 236 P **P** **11 53 56.6 +1.3**
STKA Stephens Creek 35.88 246 P **P** **11 54 02.7 +0.3**
baz=36,SNR=94
STKA Stephens Creek 35.88 246 P **P** **11 54 02.9 +0.5**
STKA Stephens Creek 35.88 246 P **P** **11 54 02.9 +0.5**
comp=Z,13nm,1.0s
STKA Stephens Creek 35.88 246 *i*P **P** **11 54 02.3 -0.1**
STKA Stephens Creek 35.88 246 P **P** **11 54 02.6 +0.3**
comp=Z,30nm,0.5s,baz=94,slow=11,SNR=83
STKA S **S** **11 58 59.2 +0.2**
comp=Z,1.0nm,0.6s,baz=299,slow=21,SNR=1.1
comp=Z,30nm,0.5s
PATS Pohnpei 36.13 320 P **P** **11 54 04.7 0.0**
COEN Coen 36.39 276 P **P** **11 54 07.3 +0.5**
COEN IAmb IAmb 11 54 08.2
comp=Z,80nm,1.1s
COEN Coen 36.39 276 P **P** **11 54 06.9 0.0**
INKA Innaminka 36.41 253 P **P** **11 54 07.7 +0.8**
ARPS Mount Arapiles 36.47 238 P **P** **11 54 07.3 +0.1**
baz=36,SNR=5.8
ARPS Mount Arapiles 36.47 238 P **P** **11 54 07.3 +0.1**
MANU Manus Island 37.95 297 P **P** **11 54 19.1 -0.4**
MANU Manus Island 37.95 297 P **P** **11 54 19.2 -0.4**
comp=Z,121nm,1.4s
QIS Mount Isa 38.10 265 P **P** **11 54 20.0 -0.7**
baz=38,SNR=14
QIS Mount Isa 38.10 265 P **P** **11 54 20.0 -0.7**
HTT Hallett 38.28 244 P **P** **11 54 21.9 -0.1**
baz=38,SNR=18
HTT Hallett 38.28 244 P **P** **11 54 22.1 0.0**
LCRK Leigh Creek 38.67 249 P **P** **11 54 25.4 +0.2**
WHYH Whyalla 39.37 245 P **P** **11 54 31.0 +0.3**
TAOE Nuku Hiva Isla 39.97 77 P **P** **11 54 36.0 +0.1**
TAOE Nuku Hiva Isla 39.97 77 P **P** **11 54 36.8 +0.9**
TAOE Nuku Hiva Isla 39.97 77 P **P** **11 54 36.7 +0.9**
BBOO Buckleboo 40.62 245 P **P** **11 54 40.6 -0.2**
baz=41,SNR=24
BBOO Buckleboo 40.62 245 P **P** **11 54 40.6 -0.2**
BBOO IAmb IAmb 11 54 41.4
comp=Z,58nm,0.9s
BBOO Buckleboo 40.62 245 P **P** **11 54 40.4 -0.3**
OOD Oodnadatta 40.89 253 P **P** **11 54 43.7 +0.8**
MULG Mulgathing 42.26 249 P **P** **11 54 53.5 -0.1**
AS01 Alice Springs 42.81 259 P **P** **11 54 57.7 -0.4**
AS31 Alice Springs 42.86 259 P **P** **11 54 58.0 -0.5**
AS31 IAmb IAmb 11 54 59.4
comp=Z,25nm,0.6s
ASAR Alice Springs 42.86 259 P **P** **11 54 57.7 -0.7**
ASAR Alice Springs 42.86 259 P **P** **11 54 57.7 -0.7**
ASAR Alice Springs 42.86 259 P **P** **11 54 57.9 -0.5**
comp=Z,98nm,0.8s,baz=100,slow=8.1,SNR=592
ASAR PcP **PcP** **11 56 35.6 +0.2**
comp=Z,11nm,0.8s,baz=100,slow=4.4,SNR=7.4
ASAR ScP **ScP** **11 59 32.5 +2.6**
comp=Z,3.3nm,1.0s,baz=116,slow=4.5,SNR=5.6
ASAR S **S** **12 00 38.1 -2.7**
comp=Z,16nm,1.0s,baz=95,slow=15,SNR=28
ASAR ScS **ScS** **12 03 54.4 +2.0**
comp=Z,1.6nm,1.0s,baz=104,slow=7.2,SNR=4.9
comp=Z,98nm,0.8s
WR0 Warramunga Arr 42.88 264 P **P** **11 54 57.6 -1.0**
WR0 IAmb IAmb 11 54 58.7
comp=Z,62nm,1.1s
WB0 Warramunga Arr 43.05 264 P **P** **11 54 59.0 -1.0**
WB2 Warramunga Arr 43.06 264 P **P** **11 54 58.9 -1.1**
WRA Warramunga Arr 43.07 264 P **P** **11 54 59.3 -0.8**
WRA Warramunga Arr 43.07 264 P **P** **11 54 59.3 -0.8**
WRA pmax pmax
comp=Z,13nm,0.9s
WRA Warramunga Arr 43.07 264 P **P** **11 54 59.2 -0.8**
comp=Z,85nm,0.7s,baz=97,slow=7.7,SNR=267
WRA PcP **PcP** **11 56 36.5 +0.3**
comp=Z,11nm,1.0s,baz=97,slow=3.6,SNR=6.6
WRA ScP **ScP** **11 59 33.6 +2.7**
comp=Z,10nm,1.0s,baz=100,slow=4.2,SNR=15
WRA S **S** **12 00 37.6 -6.3**
comp=Z,4.6nm,0.9s,baz=98,slow=15,SNR=7.5
comp=Z,85nm,0.7s
GENI Genyem 43.76 291 P **P** **11 55 05.4 -0.1**
comp=Z,238nm,1.0s

GENI Genyem 43.76 291 P **P** **11 55 05.2 -0.3**
comp=Z,238nm,0.9s,comp=Z,3µm
KDU Kakadu 46.67 273 P **P** **11 55 26.7 -0.9**
baz=47,SNR=93
KDU Kakadu 46.67 273 P **P** **11 55 26.9 -0.7**
FORT Forrest 47.42 248 P **P** **11 55 32.3 -0.7**
baz=47,SNR=25
FORT Forrest 47.42 248 P **P** **11 55 32.5 -0.5**
FORT Forrest 47.42 248 P **P** **11 55 32.5 -0.5**
WRKA Warakurna 47.74 256 P **P** **11 55 35.0 -0.5**
baz=48,SNR=330
WRKA Warakurna 47.74 256 P **P** **11 55 35.2 -0.4**
MTN Manton Dam 47.87 273 P **P** **11 55 35.4 -1.1**
baz=48,SNR=34
MTN Manton Dam 47.87 273 P **P** **11 55 35.4 -1.1**
MTN IAmb IAmb 11 55 36.3
comp=Z,61nm,0.8s
MTN Manton Dam 47.87 273 P **P** **11 55 35.6 -0.9**
KNRA Kununurra 49.24 268 P **P** **11 55 46.1 -0.5**
baz=49,SNR=56
KNRA Kununurra 49.24 268 P **P** **11 55 46.0 -0.6**
KNRA Kununurra 49.24 268 P **P** **11 55 46.2 -0.5**
FAKI Fak Fak 50.60 285 P **P** **11 55 56.3 -0.3**
FAKI IAmb IAmb 11 55 56.9
comp=Z,111nm,1.0s
FAKI Fak Fak 50.60 285 P **P** **11 55 56.0 -0.6**
FAKI Fak Fak 50.60 285 P **P** **11 55 55.5 -1.1**
comp=Z,121nm,1.2s,comp=Z,1µm
DRV Dumont d'Urvil 51.36 199 P **P** **11 56 01.5 +0.4**
FITZ Fitzroy Crossi 51.50 264 P **P** **11 56 02.9 -0.2**
baz=51,SNR=40
FITZ Fitzroy Crossi 51.50 264 P **P** **11 56 02.9 -0.2**
FITZ Fitzroy Crossi 51.50 264 P **P** **11 56 03.0 -0.1**
BNDI Bandanaira 52.03 282 P **P** **11 56 06.7 -0.2**
BNDI Bandanaira 52.03 282 P **P** **11 56 06.2 -0.7**
comp=Z,394nm,1.1s,comp=Z,26µm
SIJI Sorong 52.40 287 P **P** **11 56 09.3 -0.3**
comp=Z,485nm,0.9s,comp=Z,4µm
SWI Sorong 52.41 287 P **P** **11 56 09.2 -0.4**
comp=Z,713nm,0.9s,comp=Z,6µm
KMBL Kambalda 52.67 247 P **P** **11 56 11.0 -0.3**
baz=53,SNR=6.9
KMBL Kambalda 52.67 247 P **P** **11 56 11.1 -0.2**
NLAI Namlea 55.10 282 P **P** **11 56 27.6 -0.9**
comp=Z,68nm,1.1s
SOEI Soe 55.23 273 P **P** **11 56 30.7 +1.1**
SOEI Soe 55.23 273 P **P** **11 56 30.8 +1.1**
SOEI Soe 55.23 273 P **P** **11 56 30.5 +0.9**
comp=Z,381nm,1.1s,comp=Z,3µm
LBMI Labuha 55.86 285 P **P** **11 56 33.7 -0.1**
comp=Z,228nm,1.0s,comp=Z,2µm
PSA00 Pilbara Seismi 56.00 258 P **P** **11 56 33.9 -0.8**
PSA00 IAmb IAmb 11 56 35.1
comp=Z,80nm,0.8s
PSA00 Pilbara Seismi 56.00 258 P **P** **11 56 34.2 -0.5**
MEEK Meekatharra 56.12 252 P **P** **11 56 34.5 -0.9**
baz=56,SNR=11
MEEK Meekatharra 56.12 252 P **P** **11 56 34.6 -0.9**
KLBR Kellerberrin 56.15 246 P **P** **11 56 35.3 -0.3**
baz=56,SNR=18
KLBR Kellerberrin 56.15 246 P **P** **11 56 35.2 -0.3**
VNDA Vanda 56.16 185 P **P** **11 56 36.8 +2.0**
VNDA Vanda 56.16 185 P **P** **11 56 36.8 +2.0**
VNDA pmax pmax
comp=Z,33nm,1.9s
VNDA Vanda 56.16 185 P **P** **11 56 36.8 +2.0**
comp=Z,4.0nm,0.7s,baz=358,slow=6.6,SNR=16
VNDA PcP **PcP** **11 57 24.4 +0.7**
comp=Z,2.9nm,0.8s,baz=31,slow=2.3,SNR=2.4
comp=Z,4.0nm,0.7s
VNDA Vanda 56.16 185 P **P** **11 56 36.9 +2.0**
VNDA PcP **PcP** **11 57 24.6 +1.0**
NWAO Narrogin (SRO) 56.44 244 P **P** **11 56 37.5 -0.1**
baz=56,SNR=11
NWAO P **P** **11 56 37.5 -0.1**
baz=56,SNR=11
NWAO Narrogin (SRO) 56.44 244 P **P** **11 56 37.2 -0.3**
NWAO IAmb IAmb 11 56 38.4
comp=Z,130nm,1.1s
NWAO Narrogin (SRO) 56.44 244 P **P** **11 56 37.4 -0.1**
NWAO Narrogin (SRO) 56.44 244 P **P** **11 56 37.2 -0.3**
NWAO pmax pmax
comp=Z,130nm,1.1s
RKGY Rocky Gully 56.48 242 P **P** **11 56 38.1 +0.3**
baz=56,SNR=5.3
SANI Sanana 56.61 283 P **P** **11 56 39.3 +0.4**
SANI Sanana 56.61 283 P **P** **11 56 37.7 -1.2**
comp=Z,89nm,1.0s,comp=Z,1µm
TNTI Ternate 56.61 286 P **P** **11 56 38.6 -0.3**
TNTI IAmb IAmb 11 56 39.6
comp=Z,150nm,1.0s
TNTI Ternate 56.61 286 P **P** **11 56 38.9 0.0**
TNTI Ternate 56.61 286 P **P** **11 56 38.6 -0.3**
BLDU Ballidu 57.17 247 P **P** **11 56 42.0 -0.5**
baz=57,SNR=48
BLDU Ballidu 57.17 247 P **P** **11 56 42.0 -0.5**
MUN Mundaring 57.41 245 P **P** **11 56 44.0 -0.2**
baz=57,SNR=6.6
MUN Mundaring 57.41 245 P **P** **11 56 44.2 0.0**
MMRI Maumere 57.50 274 P **P** **11 56 43.9 -1.1**
EDFI Ende, Flores 57.97 273 P **P** **11 56 47.5 -0.8**
comp=Z,144nm,0.9s,comp=Z,1µm
MORW Morawa 57.97 249 P **P** **11 56 47.5 -0.5**
baz=58,SNR=13
MORW Morawa 57.97 249 P **P** **11 56 47.1 -0.9**
MORW IAmb IAmb 11 56 48.6
comp=Z,54nm,0.9s
MORW Morawa 57.97 249 P **P** **11 56 47.6 -0.4**
BASI Baing, Sumba 58.49 271 P **P** **11 56 51.8 +0.1**
comp=Z,255nm,1.2s,comp=Z,2µm
LUWI Luwuk 59.94 282 P **P** **11 57 01.1 -0.3**
LUWI IAmb IAmb 11 57 02.4
comp=Z,167nm,1.0s
LUWI Luwuk 59.94 282 P **P** **11 57 01.5 +0.2**
LUWI Luwuk 59.94 282 P **P** **11 57 01.3 0.0**
comp=Z,182nm,1.1s,comp=Z,2µm
CCD Concordia, Ant 60.54 194 P **P** **11 57 05.8 +1.0**
CCD pP **pP** **11 59 04.8 +4.7**
GIRL Giralia 60.83 256 P **P** **11 57 07.2 +0.1**
baz=61,SNR=4.3
GIRL Giralia 60.83 256 P **P** **11 57 07.2 +0.1**
KAPI Kappang 61.12 277 P **P** **11 57 08.5 -0.5**
comp=Z,17nm,0.7s,baz=156,slow=7.4,SNR=4.0
comp=Z,17nm,0.7s
DAV Davao City (W) 61.17 292 P **P** **11 57 09.0 -0.4**
comp=Z,147nm,0.5s,baz=150,slow=4.4,SNR=5.6
DBNI Kabupaten Domp 61.18 272 P **P** **11 57 08.2 -1.3**
comp=Z,152nm,0.7s
PLAI Plampang 61.56 272 P **P** **11 57 11.5 -0.5**
PLAI Plampang 61.56 272 P **P** **11 57 11.4 -0.5**
comp=Z,201nm,1.0s,comp=Z,2µm
TTSI Tana Toraja 61.82 279 P **P** **11 57 14.1 +0.5**
comp=Z,32nm,1.1s
CASY Casey 61.90 206 P **P** **11 57 13.7 +0.5**
CASY Casey 61.90 206 P **P** **11 57 13.5 +0.2**
CASY pP **pP** **11 59 14.9 +6.0**
TWSI Taliwang, Sumb 62.42 272 P **P** **11 57 17.1 -0.4**
comp=Z,163nm,1.0s,comp=Z,2µm
TOLI2 Tolitoli 62.66 283 P **P** **11 57 18.4 -0.6**
TOLI2 IAmb IAmb 11 57 19.2
comp=Z,73nm,1.0s
TOLI2 Tolitoli 62.66 283 P **P** **11 57 18.8 -0.2**
MPSI Mapaga 63.13 282 P **P** **11 57 21.1 -0.9**
comp=Z,100nm,0.9s,comp=Z,938nm
SRBI Singaraja 64.20 272 P **P** **11 57 28.1 -0.7**
comp=Z,148nm,1.1s,comp=Z,1µm
BYJI Banyuwangi 64.95 271 P **P** **11 57 33.2 -0.3**
comp=Z,168nm,1.0s
JAGI Jajag, Banyuwa 65.05 271 P **P** **11 57 32.6 -1.6**
JAGI IAmb IAmb 11 57 33.7
comp=Z,100nm,0.9s
JAGI Jajag, Banyuwa 65.05 271 P **P** **11 57 33.0 -1.2**
JAGI Jajag, Banyuwa 65.05 271 P **P** **11 57 32.9 -1.2**
comp=Z,128nm,0.9s
ABJI Asem Bagus 65.21 272 P **P** **11 57 34.7 -0.5**
comp=Z,110nm,1.2s
BLJI Banyuglugur 65.82 271 P **P** **11 57 38.4 -0.6**
comp=Z,125nm,1.0s
GRJI Gresik 67.14 272 P **P** **11 57 47.1 0.0**
comp=Z,417nm,1.1s
SJI Sawahan 67.51 271 P **P** **11 57 49.6 +0.1**
comp=Z,108nm,1.1s
QSPA South Pole Qui 67.92 180 P **P** **11 57 52.4 +1.3**
QSPA IAmb IAmb 11 57 53.5
comp=Z,18nm,0.8s
QSPA South Pole Qui 67.92 180 P **P** **11 57 52.6 +1.4**
comp=Z,21nm,0.8s,baz=15,slow=1.1,SNR=122
QSPA pP **pP** **11 59 51.9 +1.4**
comp=Z,21nm,1.2s,baz=47,slow=2.9,SNR=7.5
comp=Z,21nm,0.8s
QSPA South Pole Qui 67.92 180 P **P** **11 57 52.4 +1.3**
QSPA pP **pP** **11 59 53.3 +2.7**
UGM Wanagama 68.61 270 P **P** **11 57 55.7 -0.4**
KKM Kota Kinabalu 68.90 286 P **P** **11 57 57.2 -0.7**
KKM IAmb IAmb 11 57 58.9
comp=Z,38nm,0.8s
KKM Kota Kinabalu 68.90 286 P **P** **11 57 58.0 +0.1**
KKM Kota Kinabalu 68.90 286 P **P** **11 57 57.7 -0.2**
comp=Z,60nm,0.9s,comp=Z,680nm
JOW Kunigami 70.22 311 P **P** **11 58 05.6 +0.3**
JOW IAmb IAmb 11 58 07.1
comp=Z,78nm,0.8s
JOW Kunigami 70.22 311 P **P** **11 58 05.8 +0.5**
JOW Kunigami 70.22 311 P **P** **11 58 05.3 0.0**
comp=Z,66nm,0.8s,baz=123,slow=15,SNR=15
comp=Z,66nm,0.8s
KPJI Karang Pucung 70.28 270 P **P** **11 58 05.8 -0.2**
comp=Z,75nm,0.8s
INU Inuyama 70.53 323 P **P** **11 58 07.9 +1.0**
comp=Z,31nm,2.2s
INU Inuyama 70.53 323 P **P** **11 58 07.0 +0.1**
MJAR Matsushiro Arr 70.76 325 P **P** **11 58 08.0 -0.3**
comp=Z,24nm,0.8s,baz=158,slow=5.5,SNR=58
comp=Z,24nm,0.8s
MAJO Matsushiro 70.76 325 P **P** **11 58 08.0 -0.3**
MAJO IAmb IAmb 11 58 09.2
comp=Z,33nm,0.8s
MAJO Matsushiro 70.76 325 P **P** **11 58 08.4 +0.1**
MAJO Matsushiro 70.76 325 P **P** **11 58 08.0 -0.3**
MAJO pmax pmax
comp=Z,33nm,0.8s
MAJO Matsushiro 70.76 325 P **P** **11 58 08.2 -0.1**
MJB9 Matsu-Tunnel 70.77 325 P **P** **11 58 09.1 +0.7**
MJB9 IAmb IAmb 11 58 10.1
comp=Z,33nm,0.8s
SBUM Sibu 70.98 281 P **P** **11 58 09.6 -0.5**
SBUM Sibu 70.98 281 P **P** **11 58 09.9 -0.2**
comp=Z,13nm,1.2s
JMN Monobe 71.17 320 P **P** **11 58 11.4 +0.7**
JMN IAmb IAmb 11 58 12.7
comp=Z,49nm,1.0s
JMN Monobe 71.17 320 P **P** **11 58 11.5 +0.7**
BBJI Bungbulang 71.43 269 P **P** **11 58 12.1 -0.7**
BBJI Bungbulang 71.43 269 P **P** **11 58 11.5 -1.3**
comp=Z,114nm,0.9s,comp=Z,2µm
LEM Lembang 71.68 270 P **P** **11 58 14.6 +0.2**
LEM pmax pmax
comp=Z,182nm,1.0s
CNJI Cibinong 71.96 269 P **P** **11 58 14.7 -1.1**
comp=Z,69nm,1.1s
KSM Kuching 72.33 279 P **P** **11 58 18.2 +0.3**
KSM Kuching 72.33 279 P **P** **11 58 17.7 -0.2**
comp=Z,114nm,0.9s,comp=Z,1µm
JNU Nakatsue 72.57 318 P **P** **11 58 19.2 +0.3**
JNU IAmb IAmb 11 58 20.1
comp=Z,45nm,1.0s
JNU Nakatsue 72.57 318 P **P** **11 58 19.1 +0.2**
DBJI Dramaga 72.58 270 P **P** **11 58 19.3 -0.1**
comp=Z,163nm,1.4s,comp=Z,9µm
TWGBT Beinan 73.15 304 P **P** **11 58 21.1 -1.3**
YULB Yu-li 73.30 304 P **P** **11 58 22.1 -1.2**
NACB Ninganchiao 73.51 305 P **P** **11 58 23.8 -0.6**
TPUB Ta-pu 73.76 304 P **P** **11 58 24.8 -1.1**
SSLB Suanglung 73.78 305 P **P** **11 58 24.5 -1.5**
SSLB IAmb IAmb 11 58 25.8
comp=Z,85nm,0.9s
SSLB Suanglung 73.78 305 P **P** **11 58 25.1 -0.9**
YHNB Yeheng 73.95 306 P **P** **11 58 26.9 -0.1**
YHNB IAmb IAmb 11 58 27.7
comp=Z,101nm,1.1s
YHNB Yeheng 73.95 306 P **P** **11 58 27.2 +0.2**
TATO Taipei 74.04 306 P **P** **11 58 26.8 -0.5**
ATKA Atka Island 74.18 3 P **P** **11 58 27.3 -0.1**
ATKA IAmb IAmb 11 58 28.0
comp=Z,67nm,0.9s
ATKA Atka Island 74.18 3 P **P** **11 58 27.0 -0.5**
JKA Kamikawa-asahi 74.55 333 P **P** **11 58 30.9 +1.1**
JKA IAmb IAmb 11 58 32.7
comp=Z,42nm,0.9s
ASAJ Asahikawa 74.55 333 P **P** **11 58 30.9 +1.1**
ASAJ pmax pmax
comp=Z,42nm,0.9s
NIKH Nikolski High 75.37 7 P **P** **11 58 34.8 +0.7**
baz=190
QZH Quanzhou 76.22 304 ⇓*i*P **P** **11 58 40.1 +0.7**
QZH pmax pmax
comp=Z,67nm,1.2s
YSS Yuzh-Sakhalins 76.78 334 P **P** **11 58 43.4 +1.4**
YSS Yuzh-Sakhalins 76.78 334 *e*P **P** **11 58 43.2 +1.2**
YSS pmax pmax
comp=Z,40nm,0.9s
TJN Taejon 76.89 318 P **P** **11 58 42.4 -0.4**
TJN Taejon 76.89 318 P **P** **11 58 44.3 +1.4**
comp=Z,136nm,1.1s
TJN Taejon 76.89 318 *ce*P **P** **11 58 44.3 +1.4**
PET Petropavlovsk 77.25 347 *i*P **P** **11 58 44.3 -0.1**
PET pmax pmax
comp=Z,31nm,1.0s
KSRS Korea Array 77.25 320 P **P** **11 58 45.5 +0.7**
comp=Z,9.1nm,0.9s,baz=138,slow=5.9,SNR=28
comp=Z,9.1nm,0.9s
KSAR Wonju Array Be 77.27 320 P **P** **11 58 45.2 +0.3**
KSAR Wonju Array Be 77.27 320 P **P** **11 58 45.2 +0.3**
KS19 Wonju Array Si 77.31 320 P **P** **11 58 45.4 +0.2**
PEA0B Petropavlovsk- 77.53 346 P **P** **11 58 46.3 +0.3**
PEA0B IAmb IAmb 11 58 47.2
comp=Z,66nm,0.9s
PEA0B Petropavlovsk- 77.53 346 *ce*P **P** **11 58 46.2 +0.3**
PETK Petropavlovsk- 77.53 346 P **P** **11 58 45.6 -0.4**
PETK Petropavlovsk- 77.53 346 P **P** **11 58 45.6 -0.4**
PETK Petropavlovsk- 77.53 346 P **P** **11 58 45.9 -0.1**
comp=Z,49nm,0.8s,baz=147,slow=3.7,SNR=38
comp=Z,49nm,0.8s
INCN Inchon 78.05 319 P **P** **11 58 50.6 +1.4**
BELA Belgrano 2 78.10 173 P **P** **11 58 49.0 +0.2**
MYKOM Kota Tinggi 78.38 277 P **P** **11 58 51.4 -0.1**
comp=Z,40nm,1.4s
MSHR Mys Shultsa 78.88 325 *i*P **P** **11 58 54.7 +1.3**
MSHR pmax pmax
comp=Z,25nm,0.9s
MAW Mawson 79.56 200 P **P** **11 58 57.4 +0.8**
comp=Z,7.3nm,0.7s,baz=280,slow=21,SNR=2.5
comp=Z,7.3nm,0.7s
USA0B Ussuriysk Arra 79.59 327 P **P** **11 58 58.2 +1.1**
USA0B IAmb IAmb 11 58 59.4
comp=Z,45nm,1.1s
USA0B Ussuriysk Arra 79.59 327 *i*P **P** **11 58 58.4 +1.3**
USRK Ussuriysk Ar. 79.59 327 P **P** **11 58 58.1 +1.0**
USRK Ussuriysk Ar. 79.59 327 P **P** **11 58 58.1 +1.0**
USRK Ussuriysk Ar. 79.59 327 P **P** **11 58 58.0 +0.9**
comp=Z,25nm,0.9s,baz=128,slow=3.4,SNR=30
comp=Z,25nm,0.9s
NJ2 Nanjing 79.91 311 ⇓P **P** **11 58 59.0 -0.1**
NJ2 pP **pP** **12 01 03.5 -0.2**
NJ2 sP **sP** **12 02 04.4 +0.3**
NJ2 pmax pmax
comp=Z,35nm,1.0s
NJ2 pmax pmax
comp=Z,29nm,3.5s
TYV Tymovskoe 80.01 337 *e*P **P** **11 59 00.1 +1.0**
TYV pmax pmax
comp=Z,300nm,3.4s
TYV pmax pmax
comp=Z,54nm,1.0s
PKM Mcpherson Peak 80.10 46 P **P** **11 58 59.8 -0.5**
baz=234
PDSI Padang 80.48 273 P **P** **11 59 01.6 -0.9**
comp=Z,25nm,1.5s,comp=Z,7µm
109C Camp Elliot, M 80.82 49 P **P** **11 59 03.1 -0.6**
baz=236
MDJ Mudanjiang 81.11 326 P **P** **11 59 06.4 +1.4**
MDJ pP pP 12 01 08.9 -1.3
MDJ sP sP 12 02 10.5 -0.1
MDJ S **S** **12 08 29.1 +3.1**
MDJ pmax pmax
comp=Z,48nm,1.0s
MDJ pmax pmax
comp=Z,310nm,3.7s
MDJ Mudanjiang 81.11 326 P **P** **11 59 04.4 -0.6**
MDJ IAmb IAmb 11 59 07.1
comp=Z,37nm,0.9s

MDJ **Mudanjiang** 81.11 326 P P 11 59 06.2 +1.2
comp=Z,51nm,1.2s
VES **Vestal, Richgr** 81.14 46 P P 11 59 05.4 +0.1
baz=235
MURC **Murrieta** 81.15 48 P P 11 59 05.2 -0.3
baz=236
BFSC **Mount Baldy Ra** 81.19 48 P P 11 59 05.3 -0.5
baz=236
SII **Sitkinak Islan** 81.26 14 P P 11 59 06.1 +0.6
baz=204
MONP2 **Monument Peak** 81.30 49 P P 11 59 05.9 -0.6
baz=237
EDW2 **Edwards Air Fo** 81.32 47 P P 11 59 06.3 0.0
baz=235
IKP **In-Ko-Pah, Jac** 81.39 50 P P 11 59 06.0 -0.8
baz=237
ISA **Isabella, Lake** 81.44 46 P P 11 59 07.1 +0.1
baz=235,SNR=6.4
SLBS **Sierra La Lagu** 81.49 60 P P 11 59 08.1 +0.6
CMB **Columbia Colle** 81.58 43 P P 11 59 08.0 +0.4
CMB **Columbia Colle** 81.58 43 P P 11 59 08.0 +0.4
CMB pmax pmax
comp=Z,10.0nm,1.0s
SWSC **Sam W. Stewart** 81.77 50 P P 11 59 08.2 -0.4
baz=237
OHAK **Old Harbor** 82.06 14 P P 11 59 10.1 +0.7
baz=204
R18K **Karluk** 82.12 13 P P 11 59 10.5 +0.8
baz=203
CWC **Cottonwood Cre** 82.15 46 P P 11 59 10.3 -0.3
baz=235
BELC **Belle Mtn. Jos** 82.20 49 P P 11 59 10.7 -0.3
baz=237
OMMB **Old Mammoth Mi** 82.22 44 P P 11 59 11.6 +0.4
MPMC **Manual Prospec** 82.33 46 P P 11 59 11.4 -0.2
baz=236
WHN **Wuhan** 82.36 307 P P 11 59 11.9 +0.3
WHN pmax pmax
comp=Z,48nm,0.7s
GSC **Goldstone, Bar** 82.36 47 P P 11 59 11.7 0.0
baz=236
GRNR **Gornyy** 82.37 334⇑ *i*P P 11 59 12.2 +1.0
GRNR pmax pmax
comp=N,7.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=Z,130nm,15.0s
BC3 **Big Chuckawall** 82.39 49 P P 11 59 12.4 +0.5
baz=237
HEC **Hector,Ludlow** 82.42 48 P P 11 59 11.9 -0.1
baz=236
Q17K **Contact Creek** 82.48 12 P P 11 59 11.8 +0.1
baz=202
O15K **Ungalikthiuk R** 82.63 10 P P 11 59 13.5 +1.2
baz=198
KULM **Kulim** 82.68 279 P P 11 59 13.8 +0.1
comp=Z,47nm,1.2s
Q16K **King Salmon** 82.71 12 P P 11 59 13.1 +0.4
baz=201
CN2 **Changchun** 82.80 323 ⇓P P 11 59 14.1 +0.6
CN2 *e*S S 12 08 48.1 +5.2
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
P16K **Nushagak River** 82.80 11 P P 11 59 14.1 +1.0
baz=200
GMRC **Granite Mounta** 82.86 48 P P 11 59 14.2 -0.1
baz=237
IRM **Iron Mountain** 82.88 49 P P 11 59 14.7 +0.5
baz=237
GRAC **Grapevine Rang** 82.94 45 P P 11 59 14.5 0.0
baz=236
M11K **Mekoryuk** 82.94 7 P P 11 59 15.1 +1.3
baz=192
FURC **Furnace Creek,** 82.97 46 P P 11 59 15.0 +0.5
baz=236
BNX **BinXian** 83.01 326 ⇓P P 11 59 14.8 +0.3
BNX pmax pmax
comp=Z,64nm,0.9s
BNX pmax pmax
comp=Z,120nm,4.3s
TUQ **Turquoise Moun** 83.04 47 P P 11 59 15.0 -0.2
baz=237,SNR=5.5
N14K **Kuskokwak Cree** 83.06 9 P P 11 59 14.9 +0.5
baz=196,SNR=6.6
NVAR **Mina Array Bea** 83.14 44 P P 11 59 16.6 +0.9
comp=Z,6.3nm,0.9s,baz=224,slow=8.7,SNR=28
NVAR pP pP 12 01 22.3 +0.2
comp=Z,1.2nm,0.8s,baz=222,slow=8.0,SNR=3.0
NVAR PKPPKP P'P'df 12 25 40.0 +3.7
comp=Z,1.2nm,1.1s,baz=22,slow=2.9,SNR=4.7
comp=Z,6.3nm,0.9s
PAHR **Pah Rah Range** 83.20 42 P P 11 59 16.2 +0.4
P17K **Kvichak River** 83.24 12 P P 11 59 16.1 +0.8
baz=201
KLR **Kul'dur** 83.28 330 *ce*P P 11 59 16.7 +0.9
KLR pmax pmax
comp=Z,29nm,1.7s
M13K **Dall Lake** 83.31 8 P P 11 59 16.5 +0.9
baz=195
PSI **Prapat** 83.31 276 P P 11 59 16.2 -0.8
comp=Z,38nm,1.2s
214A **Organ Pipe Nat** 83.39 52 P P 11 59 16.6 -0.2
baz=239
TIA **Tai'an** 83.41 313 ⇓P P 11 59 17.6 +0.8
TIA pmax pmax
comp=Z,40nm,1.0s
N15K **Kwethluk River** 83.53 10 P P 11 59 17.6 +0.8
baz=198,SNR=8.2
TPNV **Topopah Spring** 83.65 46 P P 11 59 18.2 +0.1
baz=236
PDMCI **Parker Dam,Lak** 83.66 49 P P 11 59 18.0 0.0
baz=238
M15K **Kasigluk River** 83.94 9 P P 11 59 18.8 0.0
baz=197
GSI **Gunungsitoli** 83.99 274 P P 11 59 21.4 +1.2
GSI **Gunungsitoli** 83.99 274 P P 11 59 21.0 +0.8
comp=Z,87nm,1.2s
N16K **Nishlik Lake** 84.03 10 P P 11 59 20.2 +0.9
baz=199
O18K **Koktuh Hills** 84.08 12 P P 11 59 19.8 +0.2
baz=202
SHPR **Sheep Range** 84.14 47 P P 11 59 20.9 +0.3
L14K **Kuka Creek** 84.29 8 P P 11 59 20.9 +0.5
baz=196
N17K **Nushagak Hills** 84.35 11 P P 11 59 20.8 0.0
baz=201
M16K **Timber Creek** 84.52 10 P P 11 59 21.6 -0.1
baz=199
O19K **Port Alsworth** 84.57 12 P P 11 59 22.0 +0.1
baz=203,SNR=5.0
N18K **Kilae Creek** 84.72 11 P P 11 59 22.6 -0.1
baz=202
L15K **Ungalak Mounta** 84.78 8 P P 11 59 22.8 -0.1
baz=197
ELIB **Princess Elisa** 84.85 187 *d*P P 11 59 22.7 -0.8
comp=Z,16nm,0.8s
ELIB *dp*P pwP 12 01 32.7 -1.0
R11B **Troy Canyon, C** 84.86 45 P P 11 59 23.2 -0.8
baz=237
BRSE **Bradley Lake S** 84.92 14 P P 11 59 24.8 +1.1
baz=206
SRIT **Nakonsritamara** 84.93 281 P P 11 59 26.4 +1.7
comp=Z,75nm,1.1s
MA2 **Magadan** 85.02 345 P P 11 59 24.0 -0.1
MA2 **Magadan** 85.02 345 *ce*P P 11 59 24.3 +0.2
MA2 pmax pmax
comp=Z,31nm,0.9s
MA2 **Magadan** 85.02 345 P P 11 59 22.6 -1.5
comp=Z,26nm,0.8s,baz=162,slow=5.3,SNR=14
comp=Z,26nm,0.8s
TUC **Tucson** 85.05 52 P P 11 59 27.1 +2.1
TUC **Tucson** 85.05 52 P P 11 59 26.1 +1.1
baz=240
L16K **Owhat River** 85.10 9 P P 11 59 25.2 +0.8
baz=198
N19K **Bonanza Creek** 85.11 12 P P 11 59 24.0 -0.6
N19K **Bonanza Creek** 85.11 12 P P 11 59 24.4 -0.2
baz=203
SURA **Surathani** 85.13 282 P P 11 59 27.6 +2.0
M17K **Holitna River** 85.13 10 P P 11 59 25.0 +0.5
baz=200
K15K **Wolf Creek Mou** 85.36 8 P P 11 59 25.7 0.0
baz=197
M18K **Stony River** 85.49 11 P P 11 59 26.2 -0.1
baz=202
NONG **Nongkai** 85.61 291 P P 11 59 29.2 +1.4
NAYO **Nakonayok** 85.66 287 P P 11 59 28.7 +0.6
L17K **Donlin** 85.68 10 P P 11 59 27.9 +0.7
baz=200
HNS **HongShan** 85.68 313 ⇑P P 11 59 28.5 +0.7
HNS pmax pmax
comp=Z,31nm,1.0s
CAPN **Captain Cook N** 85.75 13 P P 11 59 28.1 +0.6
baz=206
LYN **LuoYang** 85.77 310 ⇑P P 11 59 29.9 +1.7
LYN pmax pmax
comp=Z,50nm,0.9s
LYN pmax pmax
comp=Z,260nm,5.1s
O22K **Cooper Landing** 85.81 14 P P 11 59 28.0 +0.2
baz=207
GAMB **Gambell** 85.86 3 P P 11 59 27.8 -0.1
baz=187
ENH **Enshi** 85.87 305 P P 11 59 29.8 +0.9
comp=Z,89nm,1.0s
N20K **Mount Spurr** 85.92 13 P P 11 59 28.1 -0.4
baz=205
P23K **Montague Islan** 85.94 16 P P 11 59 28.3 -0.2
baz=210
HEH **HeiHe** 86.02 329 *e*P P 11 59 29.3 +0.3
HEH sP **sP** 12 02 33.4 -2.9
HEH S **S** 12 09 17.8 +4.2
HEH pmax pmax
comp=Z,42nm,0.6s
HEH pmax pmax
comp=Z,80nm,4.2s
L18K **Granite Mounta** 86.02 10 P P 11 59 28.9 +0.1
baz=201
TROLL **Troll, Antarti** 86.08 181 ⇑P P 11 59 28.3 -1.0
comp=Z,526nm,0.5s
BJT **Baijiatuau** 86.12 316 P P 11 59 29.4 -0.4
BJT IAmb IAmb 11 59 31.1
comp=Z,18nm,0.8s
BJT **Baijiatuau** 86.12 316 P P 11 59 30.8 +1.0
comp=Z,36nm,1.2s
BJT **Baijiatuau** 86.12 316 P P 11 59 29.4 -0.4
BJT pmax pmax
comp=Z,18nm,0.8s
BJI **Beijing** 86.13 316 P P 11 59 30.8 +1.0
BJI pmax pmax
comp=Z,13nm,0.9s
BJI pmax pmax
comp=Z,120nm,4.4s
L19K **White Mountain** 86.31 11 P P 11 59 30.6 +0.4
baz=203
RC01 **Rabbit Creek A** 86.35 14 P P 11 59 30.2 -0.2
baz=207,SNR=6.3
M20K **Styx River** 86.36 12 P P 11 59 30.2 -0.3
baz=204
SNAA **Sanae** 86.40 179 ⇑P P 11 59 29.7 -1.0
comp=Z,53nm,0.5s
SNAA **Sanae** 86.40 179 P P 11 59 30.1 -0.6
comp=Z,2.2nm,0.5s,baz=190,slow=13,SNR=8.2
SNAA pP pP 12 01 38.8 -0.1
comp=Z,4.7nm,0.9s,baz=181,slow=14,SNR=3.5
comp=Z,2.2nm,0.5s
J16K **Anvik River** 86.44 8 P P 11 59 30.8 +0.1
baz=197
SUA **Susitna One** 86.47 13 P P 11 59 31.1 0.0
baz=206,SNR=8.8
VNA3 **Neumayer Olymp** 86.58 177 ⇑P P 11 59 30.9 -0.7
comp=Z,9.6nm,0.7s
L20K **Farewell, AK** 86.76 12 P P 11 59 32.2 -0.1
baz=204
SKT **Skwentna** 86.77 13 P P 11 59 31.5 -0.9
baz=206
TTA **Tatalina** 86.80 10 P P 11 59 33.0 +0.5
TTA **Tatalina** 86.80 10 P P 11 59 32.2 -0.4
baz=202,SNR=5.1
EYAK **Cordova Ski Ar** 86.83 16 P P 11 59 32.4 -0.2
baz=211
KNK **Knik Glacier** 86.93 14 P P 11 59 32.7 -0.5
baz=208,SNR=9.4
PMR **Palmer** 86.93 14 P P 11 59 33.2 +0.1
PMR **Palmer** 86.93 14 P P 11 59 32.6 -0.5
baz=208,SNR=7.4
I17K **Unalakleet** 87.00 8 P P 11 59 33.4 0.0
baz=197
VNA2 **Neumayer--Watz** 87.01 177 ⇑P P 11 59 32.4 -1.1
comp=Z,10nm,0.6s,baz=178,slow=2.8
ANM **Nome** 87.12 6 P P 11 59 33.6 -0.3
baz=193
GHO **Glory Hole Cre** 87.14 14 P P 11 59 34.6 +0.4
GHO IAmb IAmb 11 59 35.3
comp=Z,44nm,0.8s
J18K **Innoko River** 87.19 10 P P 11 59 34.7 +0.4
baz=201
SML **Sawmill** 87.30 14 P P 11 59 35.2 +0.3
baz=209
121A **Cookes Peak, D** 87.37 53 P P 11 59 35.7 -0.4
baz=242
121A **Cookes Peak, D** 87.37 53 P P 11 59 37.7 +1.6
baz=242
CUT **Chulitna** 87.41 13 P P 11 59 35.4 +0.1
baz=207,SNR=6.4
M23K **Glacier View** 87.43 14 P P 11 59 35.0 -0.5
baz=209
PPLA **Purkeypile** 87.46 12 P P 11 59 34.6 -1.2
baz=205
BMRM **Bremner River** 87.48 16 P P 11 59 35.4 -0.4
baz=212
H16K **Elim** 87.53 7 P P 11 59 35.7 -0.1
baz=196
K20K **Telida** 87.53 11 P P 11 59 35.5 -0.4
baz=203
S31K **Pelican** 87.54 21 P P 11 59 35.6 -0.4
baz=219
SCM **Sheep Creek Mo** 87.56 15 P P 11 59 36.4 +0.3
baz=210,SNR=11
KLU **Klutina** 87.60 15 P P 11 59 36.4 0.0
baz=211
SRDT **SRDT** 87.63 286 P P 11 59 39.6 +2.2
comp=Z,53nm,1.0s
SRDT **SRDT** 87.63 286 P P 11 59 39.4 +2.0
comp=Z,131nm,1.0s,comp=Z,8µm
DUG **Dugway, Tooele** 87.67 45 P P 11 59 36.3 -0.9
baz=238
G15K **Niukluk** 87.68 6 P P 11 59 36.8 +0.3
baz=194
SEY **Seymchan** 87.68 348 *ce*P P 11 59 36.4 -0.1
SEY pmax pmax
comp=Z,27nm,1.0s
SEY **Seymchan** 87.68 348 P P 11 59 36.8 +0.2
comp=Z,26nm,1.0s,baz=142,slow=5.0,SNR=35
comp=Z,26nm,1.0s
S32K **Killisnoo** 87.73 22 P P 11 59 36.6 -0.3
baz=211
WRAK **Wrangell Islan** 87.76 24 P P 11 59 36.5 -0.5
baz=223
J19K **Poorman** 87.86 10 P P 11 59 36.9 -0.5
baz=202
PNL **Peninsula** 87.87 19 P P 11 59 37.1 -0.4
baz=217
TNA **Tin City** 87.88 5 P P 11 59 37.5 +0.1
baz=191
F14K **Arctic Creek** 87.92 5 P P 11 59 37.8 +0.1
baz=192
CAST **Castle Rocks** 87.96 12 P P 11 59 36.4 -1.5
baz=205,SNR=22
PINM **Pinnacle** 87.96 18 P P 11 59 37.8 -0.3
baz=216
N25K **Chitina, Valde** 88.03 16 P P 11 59 39.0 +0.6
N25K IAmb IAmb 11 59 39.9
comp=Z,13nm,0.8s
N25K **Chitina, Valde** 88.03 16 P P 11 59 37.7 -0.7
baz=212,SNR=8.4
M24K **Tolsona, Glenn** 88.07 15 P P 11 59 38.1 -0.4
baz=211
XAN **Xi'an** 88.07 308 ⇓P P 11 59 40.3 +1.1
XAN pmax pmax
comp=Z,65nm,0.9s
XAN pmax pmax
comp=Z,100nm,4.1s
H17K **Granite Mounta** 88.11 8 P P 11 59 38.4 -0.1
baz=198
WAT6 **Susitna Watana** 88.12 14 P P 11 59 38.0 -0.9
baz=209,SNR=11
WAT1 **Susitna Watana** 88.16 14 P P 11 59 38.3 -0.6
baz=208
G16K **Koyuk River** 88.25 7 P P 11 59 39.0 -0.1
baz=196
J20K **Nowinta River** 88.28 11 P P 11 59 39.4 +0.1
baz=203
XLT **XiLinHaoTe** 88.30 319 *e*P P 11 59 40.3 +0.3
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,140nm,4.0s
F15K **North Star Dit** 88.31 6 P P 11 59 39.5 +0.1
baz=194
TRF **Thorofare Moun** 88.34 13 P P 11 59 39.1 -0.8
baz=207,SNR=28
P29M **Windy Craggy** 88.35 20 P P 11 59 39.4 -0.5
baz=218
CTG **Chitna Glacier** 88.36 18 P P 11 59 39.6 -0.3
baz=215
GCSA **Galena City Sc** 88.36 9 P P 11 59 39.5 -0.1
baz=201,SNR=8.3
ZEA **Zeya** 88.43 332 *e*P P 11 59 41.0 +0.8
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
HLID **Hailey** 88.45 41 P P 11 59 40.8 -0.1
baz=237,SNR=6.5
G17K **Kiwalik Mounta** 88.56 8 P P 11 59 41.4 +0.9
baz=197
HARP **HAARP** 88.57 15 P P 11 59 41.4 +0.7
baz=212
DHY **Denali Highway** 88.63 14 P P 11 59 40.8 -0.4
baz=210
Y22A **Socorro** 88.64 52 P P 11 59 43.7 +1.7
baz=242
I20K **Naaghedeneel** 88.79 10 P P 11 59 41.4 -0.2
baz=203
MNTX **Cornudas Mount** 88.80 55 P P 11 59 41.5 -1.0
baz=243
MNTX **Cornudas Mount** 88.80 55 P P 11 59 44.0 +1.4
baz=243
MCK **McKinley** 88.87 13 P P 11 59 41.9 -0.3
baz=208,SNR=8.8
KMI **Kunming** 88.91 298 ⇓P P 11 59 44.9 +1.4
KMI pmax pmax
comp=Z,20nm,1.3s
P30M **Million Dollar** 88.98 20 P P 11 59 42.9 +0.2
baz=219
YUK8 **Steele Glacier** 89.06 18 P P 11 59 43.8 +0.4
baz=216,SNR=6.0
TX31 **Lajitas Ar. Si** 89.07 58 P P 11 59 45.7 +1.7
baz=244
TXAR **Lajitas Array** 89.07 58 P P 11 59 46.0 +2.0
comp=Z,7.4nm,1.0s,baz=219,slow=4.6,SNR=44
TXAR pP pP 12 01 53.5 +0.8
comp=Z,0.9nm,0.9s,baz=218,slow=5.7,SNR=3.3
TXAR PKKPbc PKKPbc 12 17 19.0 +0.7
comp=Z,0.3nm,0.6s,baz=77,slow=5.6,SNR=4.3
comp=Z,7.4nm,1.0s
MVCO **Mesa Verde** 89.09 49 P P 11 59 43.0 -1.1
baz=241
PLCA **Paso Flores** 89.10 134 P P 11 59 45.7 +1.7
comp=Z,3.5nm,0.7s,baz=235,slow=6.0,SNR=11
PLCA pP pP 12 01 52.7 -0.1
comp=Z,3.0nm,1.0s,baz=258,slow=10,SNR=3.1
comp=Z,3.5nm,0.7s
M26K **Nabesna, AK** 89.11 16 P P 11 59 43.7 +0.4
M26K **Nabesna, AK** 89.11 16 P P 11 59 43.9 +0.6
baz=213
H19K **Roundabout Mou** 89.16 9 P P 11 59 44.5 +1.2
baz=201
G18K **Tagagawik** 89.19 8 P P 11 59 43.7 +0.2
baz=199
YUK6 **Outpost Mounta** 89.20 19 P P 11 59 43.8 -0.1
baz=218
HIA **Hailar** 89.27 325 *i*P P 11 59 44.3 0.0
HIA pmax pmax
comp=Z,8.0nm,1.0s
YUK3 **Moose Creek** 89.27 17 P P 11 59 43.8 -0.4
baz=216,SNR=9.7
S34M **Telegraph Cree** 89.31 23 P P 11 59 44.2 0.0
baz=224
M27K **Edge Creek, AK** 89.36 17 P P 11 59 44.7 +0.1
baz=214
HYT **Haines Junctio** 89.36 19 P P 11 59 44.1 -0.5
baz=218
H20K **Anotleneega Mo** 89.37 10 P P 11 59 44.8 +0.4
baz=203
F17K **Baldwin Pennin** 89.39 7 P P 11 59 45.3 +0.9
baz=197
CMAR **Chiang Mai Arr** 89.41 290 P P 11 59 46.9 +1.2
CMAR **Chiang Mai Arr** 89.41 290 *ce*P P 11 59 47.4 +1.7
CMAR pmax pmax
comp=Z,36nm,0.9s
CMAR **Chiang Mai Arr** 89.41 290 P P 11 59 47.4 +1.7
comp=Z,34nm,0.9s,baz=132,slow=3.2,SNR=152
CMAR pP pP 12 01 53.4 -0.7
comp=Z,1.8nm,0.7s,baz=129,slow=2.9,SNR=3.1
comp=Z,34nm,0.9s
YUK4 **Talbot Arm** 89.44 18 P P 11 59 45.5 +0.5
baz=217
ANMO **Albuquerque** 89.48 52 *i*P P 11 59 46.4 +0.5
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO **Albuquerque** 89.48 52 P P 11 59 44.8 -1.0
baz=242
ANMO **Albuquerque** 89.48 52 P P 11 59 46.9 +1.0
baz=242
L26K **Log Cabin Wild** 89.54 16 P P 11 59 45.0 -0.3
baz=213
CHTO **Chiang Mai** 89.55 290 P P 11 59 47.9 +1.5
CHTO **Chiang Mai** 89.55 290 P P 11 59 47.8 +1.5
CHTO **Chiang Mai** 89.55 290 P P 11 59 47.9 +1.5
CHTO pmax pmax
comp=Z,55nm,0.9s
CHTO **Chiang Mai** 89.55 290 P P 11 59 47.2 +0.9
HHC **Hu-ho-hao-te** 89.55 315 ⇓P P 11 59 47.3 +1.3
HHC pmax pmax
comp=Z,57nm,0.8s
HHC pmax pmax
comp=Z,260nm,5.7s
I21K **Tanana** 89.58 11 P P 11 59 44.9 -0.4
baz=205
NEA2 **Nenana** 89.61 13 P P 11 59 44.6 -0.9
baz=208
K24K **Donnelly Dome** 89.63 14 P P 11 59 45.7 +0.1
baz=211,SNR=5.2
G19K **Purcell Mounta** 89.64 9 P P 11 59 45.1 -0.5
baz=201
Q32M **Nakina River** 89.66 22 P P 11 59 45.2 -1.0
baz=223
MLY **Manley** 89.67 12 P P 11 59 45.1 -0.7
MLY **Manley** 89.67 12 P P 11 59 45.1 -0.7
baz=206
BVCY **Beaver Creek** 89.68 17 P P 11 59 45.7 -0.2
baz=215,SNR=6.2
O30N **Mendenhall** 89.76 20 P P 11 59 46.2 -0.2
baz=220
RIDG **Independent Ri** 89.79 15 P P 11 59 45.8 -0.7
baz=212
H21K **Melozitna Rive** 89.87 11 P P 11 59 46.9 +0.2
baz=205
HDA **Harding Lake** 89.89 13 P P 11 59 47.0 +0.1
baz=210
CCB **Clear Creek Bu** 89.92 13 P P 11 59 46.4 -0.5
CCB IAmb IAmb 11 59 47.4
comp=Z,12nm,1.1s
E17K **Hotham Inlet** 89.94 7 P P 11 59 46.6 -0.4
baz=196
L27K **Beaver Creek,** 89.96 16 P P 11 59 46.9 -0.3
baz=214
BCAR **Beaver Creek A** 89.97 16 P P 11 59 48.1 +0.9
N30M **Aishikik Lake** 89.99 19 P P 11 59 46.9 -0.5
baz=219
IMAR **Indian Mountai** 90.01 10 P P 11 59 47.5 +0.2
I23K **Minto, Yukon-K** 90.04 12 P P 11 59 46.3 -1.2
baz=208
WHY **Whitehorse** 90.05 20 P P 11 59 46.6 -1.2
baz=221
COLA **College** 90.11 13 P P 11 59 47.8 +0.1
COLA **College** 90.11 13 P P 11 59 47.4 -0.3
baz=209
SCRK **Sand Creek** 90.19 15 P P 11 59 48.1 -0.3
baz=212,SNR=5.7
F19K **Shaleruckik Mo** 90.20 8 P P 11 59 48.7 +0.5
baz=200
ILAR **Eielson Array** 90.22 13 P P 11 59 47.7 -0.6
comp=Z,2.5nm,0.8s,baz=215,slow=5.1,SNR=21
comp=Z,2.5nm,0.8s
PZH **PanZhiHua** 90.30 298 P P 11 59 50.5 +0.7

PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.1s
H22K **Ishtalitna Cre** **90.33** **11** P **P** **11 59 49.0 +0.1**
baz=206
M29M **Somme Creek** **90.37** **18** P **P** **11 59 49.1 -0.1**
baz=217
E18K **Tukpahlearik C** **90.40** **7** P **P** **11 59 49.5 +0.4**
baz=197
D17K **Noatak River** **90.40** **6** P **P** **11 59 49.3 +0.2**
baz=195
POKR **Poker Plat Res** **90.41** **13** P **P** **11 59 49.6 +0.4**
baz=209
N31M **Braeburn, Yuko** **90.41** **19** P **P** **11 59 49.4 +0.1**
baz=220
J25K **Salcha River,** **90.41** **14** P **P** **11 59 49.7 +0.4**
baz=211
BTO **Baotou** **90.45** **314** *e*P **P** **11 59 52.3 +2.2**
BTO S **S** **12 09 50.3 -4.6**
BTO SS **SS** **12 16 20.5 +5.2**
BTO pmax pmax
comp=Z,49nm,1.2s
BTO pmax pmax
comp=Z,310nm,5.1s
S22A **4UR Ranch, Cre** **90.51** **49** P **P** **11 59 50.2 -0.5**
baz=242
G21K **Allakaket** **90.54** **10** P **P** **11 59 50.0 +0.2**
baz=204
BILL **Bilibino** **90.54** **355** *i* P **P** **11 59 50.0 +0.3**
BILL pmax pmax
comp=Z,16nm,0.9s
CD2 **Chengdu** **90.56** **303** P **P** **11 59 51.0 +0.2**
O20A **White River Ci** **90.67** **47** P **P** **11 59 50.5 -0.8**
baz=241
F20K **Avaraart Lake** **90.69** **9** P **P** **11 59 50.8 +0.4**
baz=202
K27K **Chicken** **90.70** **15** P **P** **11 59 51.1 +0.5**
baz=214
J26L **Joseph Creek** **90.73** **15** P **P** **11 59 50.5 -0.3**
baz=213
C16K **Lisburne Hills** **90.75** **5** P **P** **11 59 50.9 +0.2**
baz=193
E19K **Redstone River** **90.86** **8** P **P** **11 59 51.2 0.0**
baz=200
H24K **Noodor Dome** **90.95** **12** P **P** **11 59 51.4 -0.3**
baz=209
M30M **Minto, Yukon** **90.95** **18** P **P** **11 59 51.9 +0.1**
baz=219
L29M **L29M** **90.99** **17** P **P** **11 59 52.8 +0.8**
L29M IAmb IAmb 11 59 54.0
comp=Z,7.8nm,0.9s
L29M **L29M** **90.99** **17** P **P** **11 59 52.0 +0.1**
baz=218
BW06 **Boulder Array** **91.08** **44** P **P** **11 59 52.9 -0.3**
baz=240
PDAR **Pinedale Array** **91.08** **44** P **P** **11 59 53.8 +0.6**
comp=Z,2.3nm,0.9s,baz=211,slow=2.9,SNR=16
PDAR pP **pP** **12 02 02.5 +0.4**
comp=Z,0.3nm,0.6s,baz=198,slow=4.7,SNR=1.7
comp=Z,2.3nm,0.9s
C17K **DeLong Mountai** **91.15** **6** P **P** **11 59 53.3 +0.8**
baz=195
PRP **Porcupine Dome** **91.16** **13** P **P** **11 59 53.4 +0.6**
baz=211
BOZ **Bozeman (W)** **91.21** **41** P **P** **11 59 53.3 -0.3**
baz=239
G22K **Bettles** **91.24** **11** P **P** **11 59 53.4 +0.5**
baz=206
H17A **Grant Village** **91.25** **42** P **P** **11 59 53.9 0.0**
baz=240
G23K **Bananza Creek** **91.31** **11** P **P** **11 59 54.1 +0.7**
baz=207
M31M **Drury Creek, Y** **91.38** **19** P **P** **11 59 54.1 +0.3**
baz=221
DAWY **Dawson** **91.41** **16** P **P** **11 59 54.6 +0.7**
baz=217,SNR=5.4
SDCO **Great Sand Dun** **91.44** **50** P **P** **11 59 54.1 -0.9**
baz=243
SDCO **Great Sand Dun** **91.44** **50** P **P** **11 59 55.8 +0.8**
baz=243
I26K **Coal Creek Min** **91.51** **14** P **P** **11 59 54.3 +0.1**
baz=213
C18K **Utukok River** **91.51** **7** P **P** **11 59 54.1 -0.2**
baz=197
EGAK **Eagle** **91.54** **15** P **P** **11 59 54.9 +0.4**
baz=215,SNR=5.1
D19K **Kuna River** **91.72** **8** P **P** **11 59 55.5 +0.3**
baz=200
WTLY **Watson Lake, Y** **91.72** **23** P **P** **11 59 55.4 0.0**
baz=226
K29M **Barlow Dome** **91.74** **17** P **P** **11 59 55.6 +0.1**
baz=218
COLD **Coldfoot** **91.74** **11** P **P** **11 59 56.3 +1.1**
baz=207
E20K **Nigu River** **91.75** **8** P **P** **11 59 55.8 +0.4**
baz=202
MSTX **Muleshoe** **91.77** **54** P **P** **11 59 57.6 +1.3**
baz=244
G24K **Hadweenzic Riv** **91.78** **12** P **P** **11 59 56.2 +0.7**
baz=209
T25A **Trinidad** **91.95** **51** P **P** **11 59 56.9 -0.4**
baz=244
MAYO **Mayo, Yukon** **92.00** **18** P **P** **11 59 57.0 +0.4**
baz=220
J29N **Klondike Camp** **92.03** **17** P **P** **11 59 57.7 +0.9**
baz=218
833A **Chaparral WMA,** **92.04** **60** P **P** **11 59 57.2 -0.4**
baz=246
833A **Chaparral WMA,** **92.04** **60** P **P** **11 59 59.1 +1.5**
baz=246
G25K **Bearman Lake** **92.11** **13** P **P** **11 59 58.0 +1.1**
baz=211
I27K **Kandik River** **92.11** **15** P **P** **11 59 58.3 +1.2**
baz=215
D20K **Etivluk River** **92.12** **8** P **P** **11 59 57.3 +0.3**
baz=201
C19K **Lookout Ridge** **92.13** **7** P **P** **11 59 57.5 +0.4**
baz=198
B18K **Kokolik River** **92.14** **6** P **P** **11 59 57.8 +0.8**
baz=196
E22K **Anaktuvuk Pass** **92.29** **10** P **P** **11 59 58.5 +0.7**
baz=206
I28M **Miner Creek** **92.39** **15** P **P** **11 59 58.7 +0.2**
baz=216
RLMT **Red Lodge** **92.42** **42** P **P** **11 59 58.9 -0.2**
baz=241
F24K **Squaw Lake** **92.42** **12** P **P** **11 59 59.1 +0.7**
baz=209
N23A **Red Feather La** **92.57** **47** P **P** **11 59 59.3 -0.8**
baz=243
E23K **Chandalar** **92.59** **11** P **P** **11 59 59.4 +0.2**
baz=208
JCT **Junction City** **92.59** **58** P **P** **11 59 59.6 -0.6**
baz=246
H27K **Steamboat Moun** **92.65** **14** P **P** **12 00 00.1 +0.5**
baz=215
LZH **Lanzhou** **92.71** **308** ⇓P **P** **12 00 01.8 +1.1**
LZH pmax pmax
comp=Z,31nm,1.5s
G26K **Porcupine Rive** **92.75** **13** P **P** **12 00 00.6 +0.7**
baz=213
C21K **Knifeblade Rid** **92.78** **9** P **P** **12 00 00.7 +0.7**
baz=203
D22K **Ayikyak River** **92.83** **9** P **P** **12 00 00.8 +0.5**
baz=205
A19K **Wainwright** **93.02** **6** P **P** **12 00 01.2 +0.1**
baz=197
G27K **Doyon Strip** **93.10** **14** P **P** **12 00 01.9 +0.3**
baz=215
I30M **Mount Dempster** **93.13** **17** P **P** **12 00 02.0 +0.1**
baz=219
YAK **Yakutsk** **93.14** **339** *ce*P **P** **12 00 01.6 -0.2**
YAK pmax pmax
comp=Z,32nm,0.8s
YAK **Yakutsk** **93.14** **339** P **P** **12 00 01.4 -0.3**
comp=Z,1.6nm,0.7s,baz=38,slow=1.4,SNR=13
comp=Z,1.6nm,0.7s
B21K **Ikpikpuk River** **93.23** **8** P **P** **12 00 02.7 +0.7**
baz=203
B20K **Meade River** **93.27** **8** P **P** **12 00 03.0 +0.8**
baz=201
F26K **Sheenjek River** **93.31** **13** P **P** **12 00 02.9 +0.4**
baz=212
E25K **Arctic Village** **93.39** **12** P **P** **12 00 03.5 +0.6**
baz=211
H29M **Whitestone** **93.40** **15** P **P** **12 00 03.8 +0.9**
baz=218

KOTAN **Kotaneelee Air** **93.50** **24** P **P** **12 00 04.3 +0.8**
baz=230
EPYK **Eagle Plains** **93.93** **16** P **P** **12 00 05.9 +0.6**
baz=219
KSCO **Kaye Shedlock'** **94.03** **50** P **P** **12 00 06.5 -0.1**
baz=245
G29M **Pine Creek** **94.03** **15** P **P** **12 00 06.3 +0.5**
baz=218
F28M **Old Crow** **94.16** **14** P **P** **12 00 07.3 +0.9**
baz=216
C24K **Franklin Bluff** **94.22** **10** P **P** **12 00 06.9 +0.4**
baz=208
E27K **Coleen River** **94.25** **13** P **P** **12 00 07.2 +0.4**
baz=215
D25K **Kavik River** **94.27** **11** P **P** **12 00 07.9 +1.1**
baz=210
435B **Jarrell** **94.47** **59** P **P** **12 00 08.3 -0.3**
baz=247
G30M **tAoh Zraii Nji** **94.53** **16** P **P** **12 00 08.5 +0.4**
baz=220
G31M **Satah River** **94.98** **16** P **P** **12 00 09.7 -0.3**
baz=221
E28M **Babbage River** **95.04** **14** P **P** **12 00 10.2 -0.1**
baz=217
E29M **Blow River** **95.23** **14** P **P** **12 00 10.4 -0.8**
baz=218
F31M **Tsiigehtchic** **95.51** **16** P **P** **12 00 11.5 -0.9**
baz=222
ULN **Ulaanbaatar** **95.74** **320** *i* P **P** **12 00 14.0 -0.1**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN **Ulaanbaatar** **95.74** **320** P P 12 00 21.0 +6.9
SONM **Songino Array** **96.12** **319** P **P** **12 00 15.0 -0.8**
comp=Z,1.5nm,1.1s,baz=124,slow=4.2,SNR=6.5
SONM PP **PP** **12 04 15.9 -3.8**
comp=Z,1.9nm,1.1s,baz=113,slow=7.5,SNR=6.3
comp=Z,1.5nm,1.1s
INK **Inuvik** **96.21** **16** P **P** **12 00 15.5 -0.1**
baz=222
GTA **Gaotai** **96.98** **310** P **P** **12 00 20.4 +0.5**
GTA PP **PP** **12 04 23.6 -2.8**
GTA pmax pmax
comp=Z,5.0nm,1.3s
TUL3 **Leonard** **97.80** **55** P Pdif 12 00 22.9 -0.5
baz=248
YKA **Yellowknife Ar** **98.57** **25** P Pdif 12 00 26.0 -0.2
comp=Z,0.4nm,0.9s,baz=243,slow=4.2,SNR=5.9
YKA pP pP 12 02 36.0 -0.7
comp=Z,0.1nm,0.7s,baz=230,slow=3.8,SNR=1.3
comp=Z,0.4nm,0.9s
TIXI **Tiksi** **100.00** **345** PP **PP** **12 04 43.6 -4.3**
comp=Z,0.1nm,0.2s,baz=137,slow=4.4,SNR=5.3
ZALV **Zalesovo Beam** **110.93** **321** PKiKP **PKiKP** **12 05 15.6 -1.3**
comp=Z,1.9nm,0.5s,baz=167,slow=1.2,SNR=10
ZALV PP **PP** **12 06 08.9 +1.4**
comp=Z,1.9nm,1.0s,baz=64,slow=6.6,SNR=4.2
MK31 **Makanchi Array** **111.35** **313** *c i* PKiKP **PKiKP** **12 05 16.9 -1.1**
MKAR **Makanchi Array** **111.35** **313** *c i* PKiKP **PKiKP** **12 05 17.0 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR **Makanchi Array** **111.35** **313** Pdiff **Pdif** **12 01 22.9 -0.5**
comp=Z,0.4nm,0.6s,baz=106,slow=5.5,SNR=4.4
MKAR PKiKP **PKiKP** **12 05 17.0 -1.0**
comp=Z,1.3nm,0.5s,baz=157,slow=0.9,SNR=25
MKAR PKKPbc **PKKPbc** **12 16 14.5 -1.4**
comp=Z,0.4nm,0.5s,baz=272,slow=3.3,SNR=5.3
MKAR PKKPab **PKKPab** **12 16 27.0 +1.0**
comp=Z,0.3nm,0.7s,baz=270,slow=3.6,SNR=4.6
NRIK **Noril'sk** **111.58** **338** PP **PP** **12 06 08.0 -3.7**
comp=Z,1.2nm,0.3s,baz=101,slow=3.7,SNR=3.9
KURK **Kurchatov** **114.29** **317** *c i* PKiKP PKPdf 12 05 22.7 -0.7
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURBB **Kurchatov Arra** **114.34** **317** PKP PKPdf 12 05 22.4 -1.0
comp=Z,2.0nm,0.5s,baz=101,slow=1.9,SNR=16
KURBB PP **PP** **12 06 29.9 -1.5**
comp=Z,1.2nm,0.8s,baz=97,slow=6.5,SNR=6.1
KURBB SKiKP **SKiKP** **12 08 03.3 +0.5**
comp=Z,0.8nm,0.7s,baz=100,slow=2.0,SNR=4.1
BOOM **Boomskoye usch** **115.18** **308** PKPdf **PKPdf** **12 05 24.3 -1.3**
BOOM **Boomskoye usch** **115.18** **308** PKIKP **PKPdf** **12 05 24.3 -1.3**
AAK **Ala-Archa** **116.25** **308** *c i* PKiKP **PKPdf** **12 05 27.7 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.3s
KKAR **Karatay Array** **119.21** **308** PKPdf **PKPdf** **12 05 32.4 -0.8**
KKAR **Karatay Array** **119.21** **308** PKIKP **PKPdf** **12 05 32.4 -0.8**
BDFB **Brasilia** **119.37** **124** PKKPbc PKKPbc 12 15 46.7 -1.9
comp=Z,1.2nm,0.4s,baz=113,slow=6.7,SNR=3.4
BVAR **Borovoye Array** **119.47** **319** PKP **PKPdf** **12 05 32.7 -0.7**
comp=Z,6.4nm,0.3s,baz=115,slow=2.7,SNR=32
BVAR PP **PP** **12 07 05.6 -0.8**
comp=Z,2.4nm,0.8s,baz=93,slow=7.9,SNR=5.8
BVAR SKiKP **SKiKP** **12 08 13.7 +0.8**
comp=Z,2.4nm,0.9s,baz=64,slow=3.4,SNR=4.2
BRVK **Borovoye** **119.53** **319** PKPdf **PKPdf** **12 05 32.5 -0.9**
BRVK **Borovoye** **119.53** **319** *c i* PKiKP **PKPdf** **12 05 32.3 -1.1**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
SPITS **Spitsbergen Ar** **123.42** **356** PKP **PKPdf** **12 05 39.8 -0.5**
comp=Z,11nm,0.7s,baz=111,slow=4.6,SNR=15
SVE **Sverdlovsk** **124.57** **325** *e*PKiKP **PKPdf** **12 05 42.5 -0.5**
SVE pmax pmax
comp=Z,12nm,0.9s
ARU **Arti** **125.78** **324** PKPdf **PKPdf** **12 05 45.2 -0.1**
ARU **Arti** **125.78** **324** *i* PKiKP **PKPdf** **12 05 45.5 +0.2**
ARU 12 07 46.5
ARU 12 12 01.8
ARU SS SS 12 24 02.0 -1.0
ABKAR **Akbulak array** **126.34** **316** PKPdf **PKPdf** **12 05 46.2 -0.4**
ABKAR **Akbulak array** **126.34** **316** PKPdf **PKPdf** **12 05 46.5 -0.1**
GEYT **Alibeck** **128.52** **301** PKP **PKPdf** **12 05 51.4 +0.2**
comp=Z,5.7nm,0.8s,baz=204,slow=3.3,SNR=11
GEYT PP **PP** **12 08 03.6 -3.0**
comp=Z,1.8nm,0.4s,baz=77,slow=7.8,SNR=6.6
GEYT SKPbc SKPdf 12 08 17.0 -13
comp=Z,3.8nm,0.8s,baz=54,slow=7.5,SNR=7.4
KIRV **Kirov** **129.71** **329** *c i* PKiKP **PKiKP** **12 05 53.5 0.0**
ARCES **ARCESS Array B** **130.28** **349** PKhKP PKPpre 12 05 38.2
comp=Z,2.2nm,0.8s,baz=123,slow=7.3
ARCES PKP **PKPdf** **12 05 53.0 -0.6**
comp=Z,5.7nm,0.6s,baz=46,slow=1.3,SNR=28
ARCES SKPbc **SKPab** **12 08 23.5 +1.5**
comp=Z,14nm,0.9s,baz=101,slow=1.8,SNR=8.4
KLMR **Klimovskoe** **132.83** **335** *e*PKiKP **PKPdf** **12 05 57.6 -0.9**
KLMR pmax pmax
comp=Z,18nm,1.4s
BELG **Belogornoye** **133.10** **322** *i* PKiKP **PKPdf** **12 05 58.9 -0.4**
BELG pmax pmax
comp=Z,3.0nm,0.9s
BELG **Belogornoye** **133.10** **322** PKP **PKPdf** **12 05 58.8 -0.4**
comp=Z,21nm,0.8s,baz=216,slow=2.6,SNR=9.8
BELG SKPbc **SKPbc** **12 08 33.0 +1.1**
comp=Z,53nm,0.9s,baz=36,slow=0.5,SNR=20
FINES **FINESS Array B** **136.95** **342** PKhKP PKPpre 12 05 53.5
comp=Z,1.9nm,0.6s,baz=53,slow=3.3,SNR=12
FINES PKP **PKPdf** **12 06 05.7 -0.5**
comp=Z,5.2nm,0.7s,baz=64,slow=4.4,SNR=10
FINES SKPbc **SKPbc** **12 08 44.6 +1.1**
comp=Z,4.8nm,0.9s,baz=33,slow=4.5,SNR=7.0
KMBO **Kilima Mbogo** **137.38** **242** *i* PKiKP **PKiKP** **12 06 10.4 -0.5**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO **Kilima Mbogo** **137.38** **242** PKP **PKPdf** **12 06 06.8 -2.0**
comp=Z,2.8nm,0.8s,baz=71,slow=19,SNR=2.4
KMBO SKPbc **SKPbc** **12 08 46.3 -0.3**
comp=Z,1.5nm,0.3s,baz=140,slow=1.5,SNR=5.8
OBN **Obninsk** **137.54** **330** ⇓*i* PKiKP **PKPdf** **12 06 06.0 -1.4**
OBN *e* 12 09 04.6
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN **Obninsk** **137.54** **330** SKPbc **SKPbc** **12 08 46.4 +1.1**
comp=Z,10nm,0.3s,baz=207,slow=3.6,SNR=5.5
MEF **Metsahovi** **138.43** **342** *e*P **PKPdf** **12 06 04.3 -4.6**
ZEI **Tsey** **138.60** **310** *e*PKHKP PKPpre 12 06 01.7
ZEI *e* 12 06 10.1
ZEI pmax pmax
comp=Z,5.0nm,1.5s
GNI **Garni** **138.62** **306** PKP **PKPdf** **12 06 10.0 -0.2**
comp=Z,4.2nm,0.4s,baz=298,slow=13,SNR=1.8
KBZ **Khabaz** **139.03** **312** *i* PKiKP **PKPdf** **12 06 11.6 +1.1**
KBZ **Khabaz** **139.03** **312** PKhKP PKPpre 12 06 02.6
comp=Z,2.3nm,0.9s,baz=230,slow=7.9,SNR=2.6
KBZ PKP **PKPdf** **12 06 10.7 +0.2**
comp=Z,3.0nm,0.9s,baz=37,slow=20,SNR=3.3
KBZ PP **PP** **12 09 11.1 -0.7**
comp=Z,4.4nm,1.0s,baz=174,slow=6.7,SNR=5.0
KVAR **Kislovodsk Arr** **139.10** **312** PKP **PKPdf** **12 06 11.0 +0.1**
comp=Z,2.4nm,0.3s,baz=23,slow=6.0,SNR=1.9
KIV **Kislovodsk** **139.10** **312** *e*PKIKP **PKiKP** **12 06 12.4 -0.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
NB2 **NORSAR Subarra** **140.44** **352** PKP **PKPdf** **12 06 06.5 -6.2**
comp=Z,1.3nm,0.6s,baz=16,slow=3.2
NB2 SKPa **SKPbc** **12 08 54.9 +1.8**
comp=Z,1.9nm,1.0s,baz=13,slow=2.6
NOA **NORSAR Array B** **140.44** **352** PKhKP PKPpre 12 06 05.8
comp=Z,3.3nm,0.8s,baz=16,slow=4.4,SNR=8.6
NOA PKP **PKPdf** **12 06 13.0 +0.3**
comp=Z,0.6nm,0.5s,baz=13,slow=3.7,SNR=4.1
NOA SKPbc **SKiKP** **12 08 54.3 -0.9**
comp=Z,4.1nm,1.0s,baz=16,slow=4.1,SNR=6.1
HFS **Hagfors** **140.93** **350** PKhKP PKPpre 12 06 07.6
comp=Z,7.5nm,0.5s,baz=64,slow=3.1,SNR=69
HFS SKPbc **SKPbc** **12 08 55.3 +1.0**
comp=Z,6.9nm,0.8s,baz=316,slow=4.1,SNR=7.6
MNK **Minsk** **141.71** **334** *i* PKHKP PKPpre 12 06 14.7
MNK *i* 12 09 27.2
MNK *i* 12 12 29.8
MNK *i* PPP PPP 12 12 41.1
MNK *i* SS SS 12 27 14.4 +2.8
MNK *i* SSS SSS 12 32 43.8
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=N,16nm,0.7s
MNK pmax pmax
comp=E,5.0nm,0.7s
ANN **Anapa** **142.30** **316** *i* PKHKP PKPpre 12 06 14.0
ANN pmax pmax
comp=Z,196nm,1.2s
STRU **Stroemstad** **142.38** **351** *i* P **PKPdf** **12 06 12.2 -3.9**
PABE **Paberze** **142.40** **338** *e*P **PKPdf** **12 06 13.7 -2.5**
PBUR **Paburge** **142.65** **340** *e*P **PKPdf** **12 06 14.3 -2.3**
MBAR **Mbarara** **142.89** **236** *c i* PKHKP PKPpre 12 06 17.6
MBAR pmax pmax
comp=Z,66nm,1.3s
TJOU **Tjoern** **143.27** **350** *i* P PKPab 12 06 14.4 -1.6
BORU **Boraas** **143.46** **349** *i* P PKPab 12 06 15.1 -1.7
HOMB **Homborsund** **143.47** **353** *i* P PKPab 12 06 15.4 -1.3
SNART **Snartemo** **143.53** **354** *i* P PKPab 12 06 16.1 -1.0
AKASG **Malin Array Be** **143.77** **329** PKP PKPbc 12 06 17.3 -0.7
comp=Z,15nm,0.4s,baz=40,slow=4.2,SNR=160
AKASG SKPbc **SKiKP** **12 09 02.7 +0.3**
comp=Z,6.3nm,0.9s,baz=43,slow=2.2,SNR=12
AKBB **Malin Array Si** **143.77** **329** PKPbc 12 06 17.4 -0.6
AKBB **Malin Array Si** **143.77** **329** *i* PKHKP PKPpre 12 06 16.8
KIEV **Kiev** **143.78** **329** ⇑P PKPbc 12 06 16.9 -1.1
KIEV **Kiev** **143.78** **329** PKPbc 12 06 17.3 -0.8
KIEV **Kiev** **143.78** **329** PKHKP PKPpre 12 06 17.3
ONAU **Onsala** **143.83** **350** *i* P PKPbc 12 06 16.5 -1.5
FABU **Falkenberg** **144.07** **349** *i* P PKPbc 12 06 16.8 -1.9
BLEU **Blekinge** **144.07** **346** *i* P PKPbc 12 06 16.7 -2.1
DEL **Delary** **144.34** **347** *i* P **PKPdf** **12 06 16.0 -1.6**
DEL *i* P **PKPdf** **12 06 18.0 -1.6**
SIM **Simferopol'** **144.35** **318** *i* PKHKP PKPpre 12 06 20.1
SIM *e* 12 06 22.6
SIM pmax pmax
comp=Z,51nm,0.7s
KLNR **Kaliningrad** **144.38** **340** *i* PKHKP PKPpre 12 06 20.0
KLNR pmax pmax
comp=Z,191nm,1.1s
MCD **Coleburn Disti** **144.50** **4** *e*P **PKPdf** **12 06 19.4 -0.4**
KPL **Plockton** **144.56** **6** *e*P **PKPdf** **12 06 20.1 +0.2**
BJUU **Bjuv** **144.88** **348** *i* P **PKPdf** **12 06 19.9 -0.6**
GAZ **Gaziantep** **145.05** **304** PKPdf **PKPbc** **12 06 22.1 -0.4**
MUD **Monsted U'grnd** **145.15** **352** *i* P **PKPdf** **12 06 21.4 +0.5**
DRUM **Mains of Drumt** **145.21** **3** *e*P **PKPbc** **12 06 22.0 -0.2**
LUNU **Lund** **145.21** **347** *i* P **PKPdf** **12 06 15.0 -6.1**
LUNU *i* P **PKPbc** **12 06 20.6 -1.7**
BSD **Bornholm Skovb** **145.37** **345** *i* P **PKPdf** **12 06 21.1 -0.2**
LAWE **Loch Awe, Argy** **145.65** **6** *e*P **PKPbc** **12 06 23.3 -0.2**
SORM **Soroca** **145.87** **326** ⇑P **PKPbc** **12 06 24.0 -0.4**
SORM **Soroca** **145.87** **326** ⇑PKIKP **PKPbc** **12 06 24.0 -0.4**
HORU **Horodok** **146.10** **329** PKHKP PKPpre 12 06 24.2
KIS **Kishinev** **146.33** **324** ⇓*e*P **PKPbc** **12 06 25.5 -0.2**
comp=Z,50nm,0.5s
MILM **Milestii Mici** **146.38** **324** ⇓*i* PKP **PKPbc** **12 06 25.4 -0.5**
comp=Z,80nm,1.1s
MILM **Milestii Mici** **146.38** **324** ⇑P **PKPbc** **12 06 25.3 -0.5**
MILM **Milestii Mici** **146.38** **324** ⇑PKIKP **PKPbc** **12 06 25.3 -0.5**
EKA **Eskdalemuir Ar** **146.75** **4** PKPbc **PKPbc** **12 06 26.2 -0.3**
comp=Z,9.3nm,0.7s,baz=330,slow=2.2,SNR=26
ESK **Eskdalemuir** **146.76** **4** *e*P **PKPbc** **12 06 25.8 -0.8**
LVV **L'vov** **146.77** **332** *e*PKIKP **PKPbc** **12 06 26.6 -0.2**
LVV *e* 12 12 34.9
NEWG **New Galloway** **146.89** **5** *e*P **PKPbc** **12 06 26.4 -0.5**
BR131 **Keskin Array S** **146.90** **310** *i* PKHKP PKPpre 12 06 25.2
BRTR **Keskin Array B** **146.90** **310** PKPbc **PKPbc** **12 06 27.4 -0.3**
comp=Z,13nm,0.7s,baz=134,slow=4.2,SNR=65
GAL1 **Galloway** **147.09** **6** *e*P **PKPbc** **12 06 26.5 -0.9**
EDMD **Edmundbyers** **147.31** **3** *e*P **PKPbc** **12 06 27.6 -0.5**
MORS **Morshin** **147.33** **331** PKIKP **PKPbc** **12 06 29.0 +0.7**
KSV **Kosov** **147.38** **329** PKIKP **PKPbc** **12 06 28.2 -0.3**
TLCR **147.41** **322** ⇑P **PKPbc** **12 06 28.5 -0.1**
TLCR **147.41** **322** PKIKP **PKPbc** **12 06 28.5 -0.1**
BSEG **Bad Segeberg** **147.41** **349** *e*PKPbc **PKPbc** **12 06 28.8 +0.4**
baz=19,slow=2.3
BSEG *e*PKPab **PKPab** **12 06 32.8 +0.4**
MMAI **Mount Meron Ar** **147.41** **297** PKPbc **PKPbc** **12 06 29.9 +0.8**
comp=Z,16nm,0.5s,baz=78,slow=7.8,SNR=57
MMAI PKPab **PKPab** **12 06 33.8 +0.5**
comp=Z,38nm,0.9s,baz=97,slow=3.4,SNR=14
VLDR **Vladesti** **147.44** **323** ⇓P **PKPbc** **12 06 29.1 +0.5**
ANTO **Ankara** **147.45** **310** ⇑P **PKPbc** **12 06 29.2 +0.2**
ANTO **Ankara** **147.45** **310** ⇑PKIKP **PKPbc** **12 06 29.2 +0.2**
KWP **Kalwaria Pacla** **147.47** **333** *e*PKP **PKPbc** **12 06 29.1 +0.4**
GIRR **Girov** **147.59** **326** ⇑P **PKPbc** **12 06 29.1 +0.1**
SCTR **Scanteiesti** **147.59** **323** ⇑P **PKPbc** **12 06 29.5 +0.5**
IOMK **Kirk Michael** **147.71** **6** *e*P **PKPbc** **12 06 28.7 -0.3**
BURAR **Bucovina Array** **147.79** **328** ⇑P **PKPbc** **12 06 30.2 +0.5**
BURAR **Bucovina Array** **147.79** **328** ⇑PKIKP **PKPbc** **12 06 30.2 +0.5**
TESR **Tescani** **147.80** **325** ⇑P **PKiKP** **12 06 30.6 -0.4**
CFR **Carcaliu** **147.81** **322** ⇓P **PKiKP** **12 06 30.6 -0.4**
CFR **Carcaliu** **147.81** **322** ⇓PKIKP **PKiKP** **12 06 30.6 -0.4**
TPGR **Topolog** **147.83** **321** ⇑P **PKiKP** **12 06 31.3 +0.2**
PANC **Panciu** **147.93** **324** ⇓P **PKiKP** **12 06 31.3 0.0**
RUE **Ruedersdorf** **148.06** **345** *e*P **PKPdf** **12 06 26.2 +0.3**
VRI **Vrincioaia** **148.17** **324** ⇓P **PKPbc** **12 06 30.6 0.0**
VRI **Vrincioaia** **148.17** **324** ⇓PKHKP PKPpre 12 06 30.6
OJC **Ojcow** **148.17** **336** *e*PKP **PKPbc** **12 06 30.7 +0.3**
KOLS **Kolonicke sedl** **148.19** **332** *e*PKHKP PKPpre 12 06 31.2
KOLS **Kolonicke sedl** **148.19** **332** *e*PKP **PKiKP** **12 06 31.2 -0.5**
HARR **Harsova** **148.21** **322** ⇓P **PKPbc** **12 06 30.8 +0.1**
HARR **Harsova** **148.21** **322** ⇓PKHKP PKPpre 12 06 30.8
PLOR **Plostina** **148.22** **324** ⇓P **PKPbc** **12 06 30.6 -0.1**
PLOR **Plostina** **148.22** **324** ⇓PKHKP PKPpre 12 06 30.6
MFTR **Murfatlar** **148.22** **320** ⇓P **PKPbc** **12 06 30.5 -0.2**
STHS **Stebnicka Huta** **148.25** **334** *e*PKHKP PKPpre 12 06 30.4
STHS **Stebnicka Huta** **148.25** **334** *e*PKP **PKPbc** **12 06 30.4 -0.2**
MANR **Mangalia** **148.32** **320** ⇓P **PKiKP** **12 06 32.3 +0.2**
BISRR **Bisoca** **148.38** **324** ⇑P **PKPbc** **12 06 31.5 +0.3**
UZH **Uzhgorod** **148.41** **332** PKHKP PKPpre 12 06 31.6
COVR **Voineasa-Covas** **148.46** **325** ⇑P **PKPbc** **12 06 30.9 -0.4**
OZUR **148.52** **325** ⇓P **PKPbc** **12 06 31.8 +0.3**
CRVS **Cervenica-Dubn** **148.56** **333** *e*PKHKP PKPpre 12 06 32.1
CRVS **Cervenica-Dubn** **148.56** **333** *e*PKP **PKiKP** **12 06 32.1 -0.4**
WPS **Cemaes, Angles** **148.56** **6** *e*P **PKPbc** **12 06 30.3 -0.9**
BOSR **Bodos** **148.60** **325** ⇓P **PKiKP** **12 06 32.3 -0.4**
NIE **Niedzica** **148.62** **335** *e*PKP **PKiKP** **12 06 32.7 +0.1**
CSS **Mathiatis** **148.66** **301** PKPdf **PKPdf** **12 06 27.7 +0.2**
CSS PKPbc **PKPbc** **12 06 31.6 -0.6**
WLF1 **Llynfaes** **148.68** **6** *e*P **PKPbc** **12 06 31.4 -0.1**
RETH **Rethem/Aller,** **148.73** **350** *e*PKPbc **PKPbc** **12 06 31.8 +0.2**
baz=19,slow=2.3
ISR **Istrita** **148.74** **323** ⇑P **PKiKP** **12 06 33.7 +0.7**
ISR **Istrita** **148.74** **323** ⇑PKHKP PKPpre 12 06 33.7
FLTG **Flechtingen** **148.77** **347** *e*PKPbc **PKPbc** **12 06 31.8 0.0**
baz=19,slow=2.3
FLTG *e*PKPab **PKPab** **12 06 38.1 0.0**
DOPR **Dopca** **148.81** **326** ⇓P **PKiKP** **12 06 32.8 -0.3**
MLR **Muntele Rosu** **148.83** **324** ⇓P **PKPbc** **12 06 31.8 -0.6**
MLR **Muntele Rosu** **148.83** **324** PKPdf **PKPdf** **12 06 26.7 -0.9**
MLR PKPbc **PKPbc** **12 06 32.2 -0.1**
MLR **Muntele Rosu** **148.83** **324** PKIKP **PKPdf** **12 06 26.7 -0.9**
MLR 12 06 32.3
MLR **Muntele Rosu** **148.83** **324** PKPbc **PKPbc** **12 06 32.1 -0.3**
comp=Z,17nm,0.8s,baz=31,slow=2.8,SNR=17
MLR PKPab **PKPab** **12 06 38.0 -0.7**
comp=Z,12nm,0.8s,baz=339,slow=22,SNR=9.5

NRDL	**Niedersach Rie**	**148.83**	**349**	*e*PKPbc	**PKPbc**	12 06 32.1	**+0.3**
	baz=19,slow=2.3							
KSP	**Ksiaz**	**148.83**	**341**	*e*PKP	**PKiKP**	**12 06 32.9**	**-0.1**
ASSE	**Asse, Remlinge**	**149.07**	**348**	*e*PKPbc	**PKiKP**	**12 06 32.9**	**-0.4**
	baz=19,slow=2.3							
OKC	**Ostrava-Krasne**	**149.08**	**338**	*e*PKHKP	PKPpre	12 06 33.1		
OKC	**Ostrava-Krasne**	**149.08**	**338**⇑	*e*PKP	**PKiKP**	**12 06 33.1**	**-0.4**
OSTC	**Ostas**	**149.11**	**340**	*e*PKHKP	PKPpre	12 06 33.5		
OSTC	**Ostas**	**149.11**	**340**⇑	*e*PKP	**PKiKP**	**12 06 33.5**	**-0.1**
CHVC	**Chvalec**	**149.13**	**341**	*e*PKHKP	PKPpre	12 06 33.3		
CHVC				*e*		12 06 40.4		
CHVC	**Chvalec**	**149.13**	**341**⇑	*e*PKP	**PKiKP**	**12 06 33.3**	**-0.3**
CHVC				*e*PKPAB	**PKPab**	**12 06 40.4**	**+0.7**
LANS	**Liptovska Anna**	**149.16**	**335**	*e*PKHKP	PKPpre	12 06 34.3		
LANS	**Liptovska Anna**	**149.16**	**335**	*e*PKP	**PKiKP**	**12 06 34.3**	**+0.6**
FOEL	**Foel Wylfa**	**149.18**	**4**	*e*P	**PKPbc**	**12 06 32.6**	**-0.2**
CJR	**Cluj-Napoca**	**149.21**	**328**	⇑P	**PKPbc**	**12 06 33.1**	**0.0**
CJR	**Cluj-Napoca**	**149.21**	**328**	⇑PKHKP	PKPpre	12 06 33.1		
UPC	**Upice**	**149.21**	**341**	*e*PKHKP	PKPpre	12 06 33.5		
UPC	**Upice**	**149.21**	**341**⇑	*e*PKP	**PKiKP**	**12 06 33.5**	**-0.3**
DPC	**Dobruska-Polom**	**149.25**	**340**	*e*PKHKP	PKPpre	12 06 34.0		
DPC	**Dobruska-Polom**	**149.25**	**340**⇑	*e*PKP	**PKiKP**	**12 06 34.0**	**+0.1**
KECS	**Kecovo**	**149.29**	**334**	*e*PKHKP	PKPpre	12 06 34.3		
KECS				*e*		12 06 41.2		
KECS	**Kecovo**	**149.29**	**334**	*e*PKP	**PKiKP**	**12 06 34.3**	**+0.3**
KECS				*e*		12 06 41.2		
CLL	**Collm**	**149.33**	**345**⇓	*i*PKHKP	PKPpre	12 06 33.6		
CLL				*i*		12 06 40.5		
CLL				pmax	pmax			
	comp=Z,71nm,0.9s							
CLL				pmax	pmax			
	comp=Z,43nm,0.9s							
CLL	**Collm**	**149.33**	**345**⇓	*i*PKPbc	**PKiKP**	**12 06 33.6**	**-0.3**
	comp=Z,71nm,0.9s							
CLL				⇑*i*PKPab	**PKPab**	**12 06 40.5**	**+0.1**
	comp=Z,43nm,0.9s							
CLL				*e*(pPKPab)		12 08 53.0		
CLL				*ex*	x	12 09 14.0		
CLL				AMS	AMS	12 34 00.0		
	comp=Z,200nm,19.8s							
CLL	**Collm**	**149.33**	**345**	*e*PKPbc	**PKPbc**	**12 06 33.5**	**+0.3**
	baz=19,slow=2.3							
CLL				*e*PKPab	**PKPab**	**12 06 40.4**	**+0.1**
VOIR		**149.34**	**325**	⇓P	**PKPbc**	**12 06 33.0**	**-0.5**
VOIR		**149.34**	**325**	⇓PKHKP	PKPpre	12 06 33.0		
KRLC	**Kraliky**	**149.34**	**339**	*e*PKHKP	PKPpre	12 06 34.0		
KRLC	**Kraliky**	**149.34**	**339**⇑	*e*PKP	**PKiKP**	**12 06 34.0**	**-0.1**
MORC	**Moravsky Berou**	**149.34**	**338**	⇑P	**PKPbc**	**12 06 33.7**	**+0.4**
MORC	**Moravsky Berou**	**149.34**	**338**	*e*PKP	**PKPbc**	**12 06 33.7**	**+0.4**
MORC	**Moravsky Berou**	**149.34**	**338**	⇑PKHKP	PKPpre	12 06 33.7		
CLZ	**Clausthal**	**149.40**	**348**	*e*PKPbc	**PKiKP**	**12 06 34.0**	**-0.2**
	baz=19,slow=2.3							
MARR	**Marisel-Cluj**	**149.47**	**329**	⇑P	**PKiKP**	**12 06 35.1**	**+0.6**
BRG	**Berggiesshubel**	**149.48**	**343**⇓	*i*PKP	**PKiKP**	**12 06 34.2**	**-0.1**
BRG				Amp		12 06 34.7		
	comp=Z,47nm,0.8s							
BRG	**Berggiesshubel**	**149.48**	**343**	P	**PKPab**	**12 06 41.9**	**+0.9**
BRG				Amp		12 06 42.3		
	comp=Z,15nm,0.9s							
BRG				pPKP	**pPKPab**	**12 08 58.5**	**+6.0**
BRG				Amp		12 09 01.4		
	comp=Z,10nm,1.2s							
BRG	**Berggiesshubel**	**149.48**	**343**⇓	*i*PKHKP	PKPpre	12 06 34.1		
BRG						12 06 41.9		
BRG				pmax	pmax			
	comp=Z,47nm,0.8s							
BRG				pmax	pmax			
	comp=Z,15nm,0.9s							
BRG	**Berggiesshubel**	**149.48**	**343**	*e*PKPbc	**PKiKP**	**12 06 34.1**	**-0.1**
	baz=19,slow=2.3							
DRGR		**149.58**	**329**	⇓P	**PKPbc**	**12 06 34.0**	**0.0**
DRGR		**149.58**	**329**	⇓PKHKP	PKPpre	12 06 34.0		
MAUC	**Maruska**	**149.59**	**337**⇑	*e*PKP	**PKiKP**	**12 06 34.9**	**+0.3**
ARR	**Arges**	**149.61**	**325**	⇑P	**PKiKP**	**12 06 35.5**	**+0.7**
NEUB	**Neuenburg**	**149.71**	**346**	*e*PKPbc	**PKiKP**	**12 06 34.7**	**-0.1**
	baz=19,slow=2.3							
NEUB				*e*PKPab	**PKPab**	**12 06 42.3**	**+0.3**
RICC	**Richard**	**149.74**	**343**⇑	*e*PKP	**PKiKP**	**12 06 34.9**	**+0.1**
RICC				*e*PKPAB	**PKPab**	**12 06 43.5**	**+1.3**
GTTG	**Gottingen**	**149.76**	**348**	*e*PKPbc	**PKiKP**	**12 06 34.7**	**-0.1**
	baz=19,slow=2.3							
LOZB	**Loznitsa**	**149.77**	**321**	⇑P	**PKPbc**	**12 06 34.2**	**-0.2**
HSKC	**Hora Svate Kat**	**149.86**	**344**⇑	*e*PKP	**PKiKP**	**12 06 34.9**	**-0.2**
VYHS	**Vyhne**	**149.94**	**335**	*e*PKHKP	PKPpre	12 06 35.1		
VYHS				*e*		12 06 43.9		
VYHS	**Vyhne**	**149.94**	**335**	*e*PKP	**PKiKP**	**12 06 35.1**	**-0.2**
VYHS				*e*		12 06 43.8		
HUMR	**Humele**	**149.97**	**324**	⇑P	**PKPbc**	**12 06 34.3**	**-0.6**
LOT	**Lotru**	**150.00**	**326**	⇑P	**PKPbc**	**12 06 34.2**	**-1.0**
VRAC	**Vranov**	**150.07**	**339**	⇑P	**PKPbc**	**12 06 35.3**	**+0.1**
VRAC	**Vranov**	**150.07**	**339**	*e*PKP	**PKPbc**	**12 06 35.3**	**+0.3**
VRAC	**Vranov**	**150.07**	**339**	PKPbc	**PKPbc**	**12 06 35.2**	**+0.1**
	comp=Z,12nm,0.9s,baz=326,slow=0.9,SNR=11							
VRAC				PKPab	**PKPab**	**12 06 44.2**	**+0.6**
	comp=Z,13nm,1.0s,baz=45,slow=4.3,SNR=7.7							
PRA	**Prague**	**150.07**	**342**	*e*PKHKP	PKPpre	12 06 35.5		
PRA	**Prague**	**150.07**	**342**⇑	*e*PKP	**PKiKP**	**12 06 35.5**	**0.0**
JAVC	**Velka Javorina**	**150.07**	**337**	*e*PKP	**PKiKP**	**12 06 36.7**	**+1.0**
MCH1	**Michaelchurch**	**150.08**	**4**	*e*P	**PKPbc**	**12 06 33.9**	**-1.0**
GOPC	**GO Pecny, Ondr**	**150.11**	**341**	*e*PKHKP	PKPpre	12 06 35.6		
GOPC				*e*		12 06 44.2		
GOPC	**GO Pecny, Ondr**	**150.11**	**341**⇑	*e*PKP	**PKiKP**	**12 06 35.6**	**0.0**
GOPC				*e*PKPAB	**PKPab**	**12 06 44.2**	**+0.4**
PRU	**Pruhonice**	**150.11**	**342**	*e*PKHKP	PKPpre	12 06 35.4		
PRU				*e*		12 06 43.9		
PRU	**Pruhonice**	**150.11**	**342**⇑	*e*PKP	**PKiKP**	**12 06 35.4**	**-0.2**
PRU				*e*PKPAB	**PKPab**	**12 06 43.9**	**+0.1**
DEV	**Deva**	**150.14**	**328**	⇓P	**PKPbc**	**12 06 35.5**	**+0.3**
DEV	**Deva**	**150.14**	**328**	⇓PKHKP	PKPpre	12 06 35.5		
MONM	**Monmouth**	**150.25**	**4**	*e*P	**PKPbc**	**12 06 34.9**	**-0.4**
MOX	**Moxa**	**150.27**	**346**	*e*PKPbc	**PKPbc**	**12 06 35.6**	**+0.2**
	baz=19,slow=2.3							
TANN	**Tannenbergstha**	**150.28**	**345**	*e*PKPbc	**PKiKP**	**12 06 35.9**	**-0.1**
	baz=19,slow=2.3							
TANN				*e*PKPab	**PKPab**	**12 06 44.9**	**+0.3**
PLN	**Plauen**	**150.29**	**345**	*e*PKPbc	**PKiKP**	**12 06 35.8**	**-0.2**
	baz=19,slow=2.3							
KRUC	**Moravsky**	**150.35**	**339**	*e*PKP	**PKiKP**	**12 06 35.9**	**-0.2**
KASTN	**Kahler Asten**	**150.36**	**350**	*e*PKPbc	**PKPbc**	**12 06 35.8**	**+0.2**
	baz=19,slow=2.3							
UBBA	**Unterbreizbach**	**150.45**	**348**	*e*PKPbc	**PKPbc**	**12 06 35.9**	**+0.2**
	baz=19,slow=2.3							
ELND	**Elena**	**150.45**	**320**	⇑P	**PKPbc**	**12 06 36.3**	**+0.2**
NKC	**Novy Kostel**	**150.46**	**344**	*e*PKIKP	**PKiKP**	**12 06 36.2**	**-0.2**
NKC				*e*		12 06 45.6		
NKC	**Novy Kostel**	**150.46**	**344**⇑	*e*PKP	**PKiKP**	**12 06 36.2**	**-0.2**
NKC				*e*PKPAB	**PKPab**	**12 06 45.6**	**+0.4**
SIRR	**Siria**	**150.46**	**330**	⇓P	**PKPbc**	**12 06 36.5**	**0.0**
GZR	**Gura Zlata**	**150.55**	**327**	⇑P	**PKPbc**	**12 06 35.7**	**-0.6**
GZR	**Gura Zlata**	**150.55**	**327**	⇑PKIKP	**PKPbc**	**12 06 35.7**	**-0.6**
SURR	**Surduc**	**150.61**	**328**	⇑P	**PKPbc**	**12 06 36.2**	**-0.2**
SRO	**Srobarova**	**150.70**	**335**	*e*PKIKP	**PKiKP**	**12 06 37.2**	**+0.3**
SRO				*e*		12 06 47.2		
SRO	**Srobarova**	**150.70**	**335**	*e*PKP	**PKiKP**	**12 06 37.2**	**+0.3**
SRO				*e*		12 06 47.2		
ZVC	**Zvikov**	**150.71**	**342**⇑	*e*PKP	**PKiKP**	**12 06 36.8**	**-0.1**
ELL	**Elmali**	**150.74**	**306**		**PKPbc**	**12 06 37.0**	**-0.1**
ELL	**Elmali**	**150.74**	**306**	PKIKP	**PKPbc**	**12 06 37.0**	**-0.1**
MANZ	**Manzenberg**	**150.77**	**345**	*e*PKPbc	**PKiKP**	**12 06 37.0**	**0.0**
	baz=19,slow=2.3							
ZST	**Bratislava**	**150.84**	**337**	*e*PKP	**PKPab**	**12 06 48.5**	**+1.7**
WOL	**Wolverton**	**150.86**	**2**	*e*P	**PKPbc**	**12 06 36.3**	**-0.4**
PLVB	**Pleven**	**150.90**	**322**	⇓P	**PKPbc**	**12 06 37.0**	**-0.1**
ROTZ	**Rotzenmuhle**	**150.95**	**344**	*e*PKPbc	**PKPbc**	**12 06 37.1**	**+0.1**
	baz=19,slow=2.3							
ROTZ				*e*PKPab	**PKPab**	**12 06 47.7**	**+0.5**
BZS	**Buzias**	**150.96**	**329**	⇑P	**PKPbc**	**12 06 36.8**	**-0.3**
BZS	**Buzias**	**150.96**	**329**	⇑PKIKP	**PKPbc**	**12 06 36.8**	**-0.3**
HERR	**Herculane**	**151.09**	**327**	⇑P	**PKPbc**	**12 06 36.9**	**-0.5**
KHC	**Kasperske Hory**	**151.16**	**342**		**PKPbc**	**12 06 37.6**	**0.0**
KHC				PKPab	**PKPab**	**12 06 49.2**	**+0.9**
KHC	**Kasperske Hory**	**151.16**	**342**	PKIKP	**PKPbc**	**12 06 37.6**	**0.0**
KHC						12 06 49.2		
KHC	**Kasperske Hory**	**151.16**	**342**⇑	*e*PKP	**PKiKP**	**12 06 37.9**	**0.0**
KHC				*e*PKPAB	**PKPab**	**12 06 48.9**	**+0.7**
GRA3	**Grafenberg Arr**	**151.16**	**345**	*e*PKPab	**PKPab**	**12 06 48.9**	**+0.7**
CKRC	**Cesky Krumlov**	**151.22**	**341**	*e*PKIKP	**PKiKP**	**12 06 38.0**	**0.0**
CKRC	**Cesky Krumlov**	**151.22**	**341**⇑	*e*PKP	**PKiKP**	**12 06 38.0**	**0.0**
GRF	**Grafenberg Arr**	**151.25**	**346**	*e*PKPab	**PKPab**	**12 06 49.3**	**+0.7**
GRA2	**Grafenberg Arr**	**151.25**	**345**	*e*PKPbc	**PKPbc**	**12 06 37.9**	**+0.1**
	baz=19,slow=2.3							
GRA2				*e*PKPab	**PKPab**	**12 06 49.2**	**+0.6**

MEM	**Membach**	**151.28**	**353**	*d*PKiKP	**PKPbc**	**12 06 37.7**	**0.0**
MEM				*d*PKP	**PKPab**	**12 06 48.6**	**0.0**
BTNL	**Ternell**	**151.29**	**353**	*d*PKiKP	**PKPbc**	**12 06 37.8**	**0.0**
TNS	**Taunus Mts**	**151.31**	**349**	*e*PKPbc	**PKiKP**	**12 06 38.3**	**+0.1**
	baz=19,slow=2.3							
TNS				*e*PKPab	**PKPab**	**12 06 48.8**	**0.0**
WET	**Wettzell**	**151.34**	**343**	*e*PKPab	**PKPab**	**12 06 49.6**	**+0.6**
SBD	**Saint Breward**	**151.34**	**7**	*e*P	**PKPbc**	**12 06 37.6**	**-0.2**
BSTI	**Sart Tilman**	**151.35**	**353**	*d*PKiKP	**PKPbc**	**12 06 37.6**	**-0.2**
GEC2	**GERESS Array S**	**151.38**	**342**	*e*PKPbc	**PKPbc**	**12 06 38.2**	**0.0**
	baz=19,slow=2.3							
GERES	**GERESS Array B**	**151.38**	**342**	PKP	**PKPdf**	**12 06 30.9**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=5.7,slow=1.3,SNR=3.6							
GERES				PKPbc	**PKPbc**	**12 06 38.1**	**0.0**
	comp=Z,4.5nm,0.5s,baz=20,slow=4.3,SNR=21							
GERES				PKPab	**PKPab**	**12 06 48.9**	**-0.3**
	comp=Z,7.7nm,0.9s,baz=28,slow=6.0,SNR=8.8							
GRB1	**Grafenberg Arr**	**151.43**	**345**	*e*PKPbc	**PKiKP**	**12 06 38.3**	**-0.1**
	baz=19,slow=2.3							
GRB3	**Grafenberg Arr**	**151.44**	**345**	*e*PKPbc	**PKiKP**	**12 06 38.4**	**0.0**
	baz=19,slow=2.3							
GRB3				*e*PKPab	**PKPab**	**12 06 49.8**	**+0.5**
CONA	**Conrad Observa**	**151.50**	**338**	*i* PKP	**PKPbc**	**12 06 38.5**	**+0.1**
	comp=Z,11nm,0.7s,SNR=7.7							
CONA				*i* PKP	**PKPab**	**12 06 50.7**	**+0.9**
	comp=Z,9.8nm,0.8s							
MDVR	**Moldovita**	**151.51**	**327**	⇑P	**PKPbc**	**12 06 37.5**	**-1.0**
GRB2	**Grafenberg Arr**	**151.54**	**345**	*e*PKPbc	**PKiKP**	**12 06 38.7**	**0.0**
	baz=19,slow=2.3							
GRB2				*e*PKPab	**PKPab**	**12 06 50.1**	**+0.3**
BCLA	**Clavier**	**151.54**	**354**	*d*PKP	**PKPab**	**12 06 49.2**	**-0.5**
RONA	**Rosalia, Austr**	**151.54**	**337**	*e*PKP	**PKPbc**	**12 06 38.5**	**0.0**
	comp=Z,14nm,0.5s,SNR=16							
RONA				*i* PKP	**PKPab**	**12 06 50.9**	**+0.9**
	comp=Z,5.0nm,0.7s							
GRB5	**Grafenberg Arr**	**151.68**	**345**	*e*PKPbc	**PKiKP**	**12 06 38.9**	**0.0**
	baz=19,slow=2.3							
BMRD	**Maredsous**	**151.71**	**354**	*d*PKiKP	**PKPbc**	**12 06 38.8**	**+0.1**
BMRD				*d*PKP	**PKPab**	**12 06 49.8**	**-0.7**
GRC4	**Grafenberg Arr**	**151.74**	**345**	*e*PKPab	**PKPab**	**12 06 51.0**	**+0.3**
RCHB	**Rochefort**	**151.81**	**354**	*d*PKiKP	**PKiKP**	**12 06 39.1**	**0.0**
BLKB	**Belogradchik**	**151.82**	**325**	⇓P	**PKPbc**	**12 06 38.2**	**-1.0**
GRC1	**Grafenberg Arr**	**151.83**	**345**	*e*PKPbc	**PKPbc**	**12 06 39.1**	**+0.1**
	baz=19,slow=2.3							
GRC1				*e*PKPab	**PKPab**	**12 06 51.3**	**+0.3**
MORH	**Mrgy, Hungar**	**151.85**	**333**	⇓P	**PKPbc**	**12 06 38.6**	**-0.5**
GRC3	**Grafenberg Arr**	**151.91**	**344**	*e*PKPab	**PKPab**	**12 06 51.7**	**+0.3**
DOU	**Dourbes**	**151.93**	**354**	*d*PKiKP	**PKiKP**	**12 06 39.6**	**+0.2**
GRC2	**Grafenberg Arr**	**151.99**	**345**	*e*PKPab	**PKPab**	**12 06 51.9**	**+0.2**
MOA	**Molln**	**152.10**	**340**	*i* PKP	**PKPbc**	**12 06 39.3**	**-0.4**
	comp=Z,2.4nm,0.5s							
MOA				*e*PKP	**PKPab**	**12 06 53.1**	**+0.8**
	comp=Z,7.5nm,0.9s							
FRGS	**Fruska Gora**	**152.15**	**330**	⇓P	**PKPbc**	**12 06 39.6**	**-0.3**
WLF	**Walferdange**	**152.19**	**352**	*d*PKiKP	**PKiKP**	**12 06 40.7**	**+0.8**
ARSA	**Arzberg**	**152.20**	**338**	*i* PKP	**PKPbc**	**12 06 39.7**	**-0.2**
	comp=Z,1.1nm,0.5s							
ARSA				*i* PKP	**PKPab**	**12 06 53.2**	**+0.5**
	comp=Z,3.4nm,0.7s							
BOVS	**Bovan**	**152.32**	**326**	⇑P	**PKPbc**	**12 06 39.3**	**-0.9**
BIOA	**Bad Ischl, Aus**	**152.43**	**341**	*i* PKP	**PKPbc**	**12 06 40.0**	**-0.4**
	comp=Z,2.1nm,0.4s							
BIOA				*i* PKP	**PKPab**	**12 06 54.5**	**+0.8**
	comp=Z,14nm,0.7s,SNR=6.3							
SOKA	**Soboth**	**152.87**	**338**	*i* PKP	**PKPbc**	**12 06 40.8**	**-0.6**
	comp=Z,1.7nm,0.5s							
SOKA				*i* PKP	**PKPab**	**12 06 55.8**	**+0.1**
	comp=Z,4.6nm,0.8s							
LESA	**Schwarzleotal**	**152.96**	**342**	*i* PKP	**PKPdf**	**12 06 33.5**	**-0.3**
	comp=Z,0.9nm,0.3s							
LESA				*i* PKP	**PKPbc**	**12 06 41.5**	**-0.1**
	comp=Z,3.2nm,0.5s							
LESA				*i* PKP	**PKPab**	**12 06 56.6**	**+0.6**
	comp=Z,4.3nm,0.6s							
KBA	**Koelnbreinsper**	**153.07**	**340**	*i* PKP	**PKPbc**	**12 06 40.9**	**-1.1**
	comp=Z,2.8nm,0.4s							
KBA				*i* PKP	**PKPab**	**12 06 57.5**	**+0.9**
	comp=Z,4.2nm,0.5s							
BFO	**Black Forest**	**153.15**	**348**	*e*PKPab	**PKPab**	**12 06 56.5**	**-0.2**
OBKA	**Obir**	**153.18**	**338**	*i* PKP	**PKPbc**	**12 06 41.4**	**-0.7**
	comp=Z,1.8nm,0.5s							
OBKA				*i* PKP	**PKPab**	**12 06 56.7**	**-0.3**
	comp=Z,7.3nm,0.8s							
GCIS	**Gornji Cirnik**	**153.34**	**336**	*i* PKPdf	**PKPdf**	**12 06 34.3**	**+0.1**
GCIS				*i* PKPbc	**PKPbc**	**12 06 42.4**	**0.0**
GCIS				*e*PKPab	**PKPab**	**12 06 57.9**	**+0.4**
WATA	**Walderalm**	**153.35**	**343**	*i* PKP	**PKPdf**	**12 06 33.7**	**-0.7**
	comp=Z,2.2nm,0.7s							
WATA				*i* PKP	**PKPbc**	**12 06 41.9**	**-0.6**
	comp=Z,3.6nm,0.4s							
WATA				*i* PKP	**PKPab**	**12 06 58.1**	**+0.4**
	comp=Z,11nm,0.9s							
MYKA	**Terra Mystica**	**153.38**	**340**	*i* PKP	**PKPbc**	**12 06 41.7**	**-0.8**
	comp=Z,2.8nm,0.5s							
MYKA				*i* PKP	**PKPab**	**12 06 57.4**	**-0.3**
	comp=Z,6.3nm,0.6s							
WTTA	**Wattenberg**	**153.40**	**343**	*i* PKP	**PKPdf**	**12 06 34.2**	**-0.3**
	comp=Z,1.6nm,0.5s							
WTTA				*e*PKP	**PKPbc**	**12 06 42.4**	**-0.3**
	comp=Z,6.5nm,0.4s,SNR=7.5							
WTTA				*e*PKP	**PKPab**	**12 06 58.6**	**+0.6**
	comp=Z,11nm,0.4s							
RETA	**Reutte**	**153.42**	**344**	*i* PKP	**PKPdf**	**12 06 34.4**	**0.0**
	comp=Z,16nm,2.0s							
RETA				*i* PKP	**PKPbc**	**12 06 42.6**	**0.0**
	comp=Z,6.2nm,0.9s							
RETA				*i* PKP	**PKPab**	**12 06 58.5**	**+0.5**
	comp=Z,17nm,0.9s							
MOTA	**Moosalm**	**153.47**	**344**	*i* PKP	**PKPdf**	**12 06 33.4**	**-1.1**
	comp=Z,1.8nm,0.6s							
MOTA				*i* PKP	**PKPbc**	**12 06 42.5**	**-0.3**
	comp=Z,1.7nm,0.5s							
MOTA				*i* PKP	**PKPab**	**12 06 58.6**	**+0.3**
	comp=Z,7.5nm,0.5s,SNR=5.8							
SQTA	**Sankt Quirin**	**153.55**	**344**	*i* PKP	**PKPdf**	**12 06 34.4**	**-0.3**
	comp=Z,1.5nm,0.4s							
SQTA				*i* PKP	**PKPbc**	**12 06 42.9**	**0.0**
	comp=Z,4.2nm,0.5s							
SQTA				*i* PKP	**PKPab**	**12 06 59.0**	**+0.4**
	comp=Z,8.4nm,0.7s							
LJU	**Ljubljana**	**153.59**	**338**	*i* PKPbc	**PKPbc**	**12 06 42.9**	**-0.1**
ABTA	**Abfaltersbach**	**153.62**	**341**	*e*PKP	**PKPdf**	**12 06 34.0**	**-0.7**
	comp=Z,3.5nm,0.8s,SNR=4.1							
ABTA				*i* PKP	**PKPbc**	**12 06 42.5**	**-0.5**
	comp=Z,5.1nm,0.5s							
ABTA				*i* PKP	**PKPab**	**12 06 58.5**	**-0.3**
	comp=Z,9.9nm,0.6s							
CRNS	**Crni Vrh**	**153.65**	**338**	*i* PKPbc	**PKPbc**	**12 06 42.6**	**-0.5**
DAVA	**Damuels**	**153.82**	**346**	*i* PKP	**PKPdf**	**12 06 35.1**	**0.0**
	comp=Z,4.6nm,0.9s							
DAVA				*i* PKP	**PKPab**	**12 06 59.7**	**-0.1**
	comp=Z,19nm,0.8s							
FETA	**Feichten**	**153.86**	**344**	*i* PKP	**PKPdf**	**12 06 34.7**	**-0.4**
	comp=Z,5.5nm,1.0s							
FETA				*i* PKP	**PKPab**	**12 07 00.3**	**+0.3**
	comp=Z,5.5nm,0.9s							
CEY	**Cerknica**	**153.89**	**338**	*i* PKPbc	**PKPbc**	**12 06 43.4**	**-0.2**
CEY				*i* PKPab	**PKPab**	**12 06 59.5**	**-0.5**
DAVOX	**Davos/Dischmat**	**154.30**	**345**	PKP	**PKPdf**	**12 06 35.6**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=18,slow=7.7,SNR=5.5							
DAVOX				PKPbc	**PKiKP**	**12 06 44.5**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=16,slow=19,SNR=7.5							
DAVOX				PKPab	**PKPab**	**12 07 02.3**	**+0.5**
	comp=Z,16nm,0.8s,baz=357,slow=3.2,SNR=16							
PGAV	**Gavieira, Arco**	**158.90**	**19**	*e*PKPdf	**PKPdf**	**12 06 43.5**	**+1.9**
MVO	**Moncorvo**	**159.99**	**17**	*e*PKPdf	**PKPdf**	**12 06 44.5**	**+1.6**
PCBR	**Castelo Branco**	**161.09**	**19**	*e*PKPdf	**PKPdf**	**12 06 44.6**	**+0.6**
ESDC	**Sonseca Array**	**162.11**	**11**	PKPab	**PKPab**	**12 07 36.1**	**+0.2**
	comp=Z,3.9nm,1.1s,baz=353,slow=4.3,SNR=11							
MESJ	**Messejana**	**162.63**	**24**	*e*PKPdf	**PKPdf**	**12 06 47.0**	**+1.4**
PCVE	**Castro Verde**	**162.88**	**24**	*e*PKPdf	**PKPdf**	**12 06 47.5**	**+1.7**
PBDV	**Barranco-do-Ve**	**163.26**	**24**	*e*PKPdf	**PKPdf**	**12 06 47.6**	**+1.4**
DBIC	**Dimbokro**	**163.74**	**160**	PKP	**PKPdf**	**12 06 46.0**	**-1.3**
	comp=Z,2.8nm,0.6s,baz=291,slow=4.4,SNR=3.5							
DBIC				PKPab	**PKPab**	**12 07 44.3**	**+0.8**
	comp=Z,4.4nm,0.6s,baz=230,slow=5.5,SNR=6.5							
KEST	**Kesra**	**164.45**	**332**	PKPab	**PKPab**	**12 07 46.6**	**+0.3**
	comp=Z,13nm,0.9s,baz=326,slow=7.4,SNR=4.5							
TORD	**Torodi Ar. Bea**	**170.98**	**187**	PKP	**PKPdf**	**12 06 51.4**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=2.2,slow=1.6,SNR=14							
TORD				PKPab	**PKPab**	**12 08 15.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=173,slow=2.4,SNR=14							
TORD				pPKP	**pPKPdf**	**12 09 11.7**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=203,slow=9.0,SNR=2.0							
TORD				PP	**PP**	**12 12 05.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=158,slow=7.0,SNR=2.8							

TEH ***20*** *12:12:37.5,36.24N×45.56E,h8km±35km,ML3.3*
ISN ***20*** *12:12:38.1±1.5,36.18N×45.48E,h25km,ML2.9*
ISC 20 12:12:37.3±1.1**,36°20N**±0.03**×45°48E**±0.06**,h9**km±9km,
n18,σ1§**63**/20**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDS1	**Sardasht. Az.**	**0.05**	**171**	Pg	**Pg**	**12 12 39.9**	**+0.5**
MAHB	**Mahabad**	**0.59**	**18**	Pg	**Pg**	**12 12 48.4**	**-0.5**
MAHB				Sg	**Sg**	**12 12 56.3**	**-0.4**
IKRK	**Kirkuk**	**1.22**	**229**	*e*Pg	**Pn**	**12 12 59.0**	**-1.7**
	baz=50						
IKRK				*e*Sg	**Sb**	**12 13 17.0**	**+0.4**
IKRK				AML	AML	12 13 23.6	
	comp=N,223nm,0.3s						
IKRK				AML	AML	12 13 23.8	
	comp=E,350nm,0.7s						
IAZR	**Azarshahr**	**1.53**	**15**	Pg	**Pb**	**12 13 05.4**	**-0.6**
IDHR	**Dehrash**	**1.67**	**153**	Pg	**Pb**	**12 13 08.5**	**0.0**
KGS1	**Ghasr-e-Shirin**	**1.70**	**177**	Pg	**Pg**	**12 13 11.2**	**+1.4**
ILIN	**Lien**	**1.76**	**136**	Pg	**Pg**	**12 13 11.0**	**-0.1**
IHSH	**Hashtrud**	**1.81**	**52**	Pg	**Pb**	**12 13 09.8**	**-1.1**
IGHG	**Ghaleghazi**	**2.07**	**154**	Pn	**Pg**	**12 13 17.0**	**-0.1**

JAYA					IAML			12 23 27.4	
	comp=Z,5μm,1.0s								
UNIC	**Universidad Ca**	**0.81**	**61**	*i* P		**Pn**		**12 23 12.7**	**-1.5**
UNIC					IAML			12 23 13.8	
	comp=Z,520nm,1.0s								
UNIC				*i* S		**Sn**		**12 23 25.2**	**+0.2**
PCG	**Pacaya**	**0.86**	**338**	*i* P		**Pn**		**12 23 15.1**	**0.0**
LALI	**Alcalda de L**	**0.93**	**96**	*e*P		**Pn**		**12 23 15.2**	**-0.6**
LALI	**Alcalda de L**	**0.93**	**96**	*i* P		**Pn**		**12 23 14.9**	**-0.9**
LALI					IAML			12 23 33.6	
	comp=Z,240nm,1.0s								
PMON	**Piamonte**	**0.94**	**82**	*i* P		**Pn**		**12 23 14.9**	**-1.2**
PMON					IAML			12 23 30.9	
	comp=Z,2μm,1.0s								
JAMO	**Monjas**	**0.98**	**23**	*i* P		**Pn**		**12 23 15.2**	**-1.4**
JAMO					IAML			12 23 15.6	
	comp=Z,1μm,1.0s								
NBG	**Las Nubes**	**0.99**	**356**	*i* P		**Pn**		**12 23 17.0**	**0.0**
NBG				*e*S		**Sb**		**12 23 33.7**	**+2.7**
PIC2	**El Picacho**	**1.00**	**81**	*e*P		**Pb**		**12 23 17.6**	**-0.6**
GUNB	**GUNB**	**1.00**	**356**	*i* P		**Pn**		**12 23 15.1**	**-2.0**
GUNB					IAML			12 23 15.6	
	comp=Z,820nm,1.0s								
UEES	**Universidad Ev**	**1.01**	**83**	*e*P		**Pn**		**12 23 16.4**	**-0.6**
UEES					IAML			12 23 32.9	
	comp=Z,722nm,0.3s								
FUG	**Fuego 3**	**1.02**	**327**	*i* P		**Pn**		**12 23 16.6**	**-0.6**
PANCS	**Alcalda de**	**1.06**	**89**	*i* P		**Pn**		**12 23 16.8**	**-0.9**
PANCS					IAML			12 23 34.5	
	comp=Z,3μm,1.0s								
LOMA	**Loma Larga**	**1.07**	**87**	*e*P		**Pn**		**12 23 17.0**	**-0.9**
LOMA	**Loma Larga**	**1.07**	**87**	*i* P		**Pn**		**12 23 17.1**	**-0.8**
LOMA					IAML			12 23 34.9	
	comp=Z,940nm,1.0s								
MTO3	**Montecristo**	**1.20**	**48**	*i* P		**Pn**		**12 23 17.7**	**-2.0**
MTO3					IAML			12 23 18.1	
	comp=Z,480nm,1.0s								
SJTE	**Alcalda de S**	**1.23**	**89**	*e*P		**Pn**		**12 23 19.0**	**-1.1**
SJTE					IAML			12 23 37.2	
	comp=Z,183nm,0.3s								
SJTE	**Alcalda de S**	**1.23**	**89**	*i* P		**Pn**		**12 23 18.8**	**-1.3**
SJTE					IAML			12 23 37.3	
	comp=Z,430nm,1.0s								
PAVA	**Las Pavas**	**1.30**	**84**	*e*P		**Pn**		**12 23 19.7**	**-1.4**
ESQI	**Esquipulas**	**1.32**	**43**	*i* P		**Pn**		**12 23 17.3**	**-4.0**
ESQI					IAML			12 23 38.2	
	comp=Z,350nm,1.0s								
COEG	**Centro de Oper**	**1.35**	**89**	*e*P		**Pn**		**12 23 21.6**	**-0.2**
COEG					IAML			12 23 46.6	
	comp=Z,424nm,0.3s								
TECO	**Alcaldia de Te**	**1.45**	**92**	*e*P		**Pn**		**12 23 22.1**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.51**	**86**	*e*P		**Pn**		**12 23 22.7**	**-1.1**
SOKI	**Kika Raxquin**	**1.64**	**318**	*i* P		**Pb**		**12 23 27.7**	**-1.4**
SOKI					IAML			12 23 52.9	
	comp=Z,390nm,1.0s								
PQSS	**Presa 15 de Se**	**1.67**	**89**	*e*P		**Pn**		**12 23 24.7**	**-1.3**
PQSS	**Presa 15 de Se**	**1.67**	**89**	*i* P		**Pn**		**12 23 24.5**	**-1.5**
PQSS					IAML			12 23 51.6	
	comp=Z,130nm,1.0s								
STG3	**Santiaguito 3,**	**1.68**	**312**	*i* P		**Pn**		**12 23 26.0**	**-0.3**
STG3				*e*S		**Sn**		**12 23 47.2**	**+0.4**
COEB	**Comit de Eme**	**1.70**	**93**	*e*P		**Pn**		**12 23 25.5**	**-1.0**
SARH	**Santa Rosa de**	**1.88**	**51**	*i* P		**Pn**		**12 23 27.4**	**-1.6**
LCND	**La Caada**	**2.34**	**97**	*e*P		**Pn**		**12 23 34.3**	**-0.9**
COMHN	**El Horno**	**2.77**	**72**	*i* PA				12 23 39.0	
NISHN	**Nisperales Com**	**3.17**	**46**	*i* P		**Pn**		**12 23 45.4**	**-1.4**
CRIN	**San Cristobal**	**3.26**	**105**	*i* P		**Pn**		**12 23 46.7**	**-1.3**
CRIN					IAML			12 23 50.3	
	comp=Z,330nm,1.0s								
MACN	**El Madrono**	**3.68**	**107**	*i* P		**Pn**		**12 23 53.9**	**+0.2**
MACN					IAML			12 23 55.6	
	comp=Z,89nm,1.0s								

*KRNET **20** 12:57:57.3±0.1, 40.63N×77.60E, h14km, mb2.5*
*SOME **20** 12:57:57.3, 40.63N×77.75E, h10km*
*NNC **20** 12:57:58.1±1.0, 40.63N×77.67E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=6.5km s-min=4.5km az=170.0

ISC 20 12:57:52.8±2.2, 40.47N±0.08×77.65E±0.04, h4km±14km, n59, σ1°05/93, 21C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.27**	**5**	⇓*i*P	**Pn**	**12 58 18.4**	**+0.8**
	baz=8.0						
TARG				⇓*i*S	**Sg**	**12 58 34.1**	**+0.6**
	baz=8.0						
NRN	**Naryn**	**1.58**	**308**	⇑*e*P	**Pg**	**12 58 25.0**	**+2.0**
	baz=3.0						
NRN				⇑*e*S	**Sg**	**12 58 44.9**	**+1.4**
	baz=3.0						
KDJ	**Kajisay**	**1.70**	**348**	⇑*e*P	**Pg**	**12 58 26.4**	**+1.1**
	baz=49						
KDJ				⇑*e*S	**Sb**	**12 58 47.4**	**+1.0**
	baz=49						
ULHL	**Ulahol**	**2.07**	**330**	⇓*i*P	**Pg**	**12 58 33.3**	**+0.9**
	baz=28						
ULHL				⇓*i*S	**Sg**	**12 58 59.5**	**+0.3**
	baz=28						
PRZ	**Przheval'sk**	**2.09**	**15**	⇓*e*P	**Pg**	**12 58 34.0**	**+1.1**
	baz=17						
PRZ				⇓*e*S	**Sg**	**12 59 00.4**	**+0.4**
	baz=17						
ANVS	**Anan'yevo**	**2.31**	**0**	⇓*i*P	**Pg**	**12 58 36.7**	**-0.4**
	baz=1.0						
ANVS				⇓*i*S	**Sb**	**12 59 05.4**	**+1.2**
	baz=1.0						
BOOM	**Boomskoye usch**	**2.39**	**328**	⇑*e*P	**Pg**	**12 58 38.0**	**-0.6**
	baz=27						
BOOM				⇑*i*S	**Sb**	**12 59 07.8**	**+1.4**
	baz=27						
KZA	**Kyzart**	**2.42**	**312**	⇑*i*P	**Pg**	**12 58 38.9**	**-0.2**
	baz=10.0						
KZA				⇑*i*S	**Sb**	**12 59 08.8**	**+1.4**
	baz=10.0						
TNSS	**Tian-Shan**	**2.62**	**349**	Pg	**Pg**	**12 58 43.7**	**+0.7**
	20nm,0.4s						
TNSS				Lg	Lg	12 59 16.7	
	12nm,0.7s						
TNSS	**Tian-Shan**	**2.62**	**349**	*e*P	**Pg**	**12 58 43.7**	**+0.7**
	20nm,0.4s						
TNSS				*e*S	**Sg**	**12 59 16.7**	**-0.3**
	12nm,0.7s						
SATY	**Saty**	**2.65**	**12**	Pg	**Pg**	**12 58 45.2**	**+1.6**
	4.6nm,0.3s						
SATY				Lg	Lg	12 59 19.3	
	31nm,0.7s						
SATY	**Saty**	**2.65**	**12**	*e*P	**Pg**	**12 58 44.5**	**+0.9**
	4.6nm,0.3s						
SATY				*e*S	**Sg**	**12 59 18.2**	**+0.2**
	31nm,0.7s						
IZV	**Izvestkoviy**	**2.68**	**344**	Pg	**Pg**	**12 58 45.1**	**+0.9**
	3.4nm,0.3s						
IZV				Lg	Lg	12 59 19.8	
	53nm,0.4s						
IZV	**Izvestkoviy**	**2.68**	**344**	*e*P	**Pg**	**12 58 45.1**	**+0.9**
	3.4nm,0.3s						
IZV				*e*S	**Sg**	**12 59 19.8**	**+0.9**
	53nm,0.4s						
MDOK	**Medeo**	**2.73**	**351**	Pg	**Pb**	**12 58 43.8**	**+1.5**
	5.5nm,0.4s						
MDOK				Pg	**Pg**	**12 58 45.6**	**+0.5**
	16nm,0.6s						
MDOK				Lg	Lg	12 59 20.4	
	23nm,0.5s						
MDOK				Lg	Lg	12 59 21.2	
	22nm,0.7s						
MDOK	**Medeo**	**2.73**	**351**	*e*P	**Pg**	**12 58 45.6**	**+0.5**
	16nm,0.6s						
MDOK				*e*S	**Sg**	**12 59 20.4**	**-0.1**
	23nm,0.5s						
KOTS	**Kotyrbulak**	**2.79**	**352**	Pg	**Pg**	**12 58 46.6**	**+0.3**
	9.9nm,0.4s						
KOTS				Lg	Lg	12 59 21.9	
	20nm,0.6s						
KOTS	**Kotyrbulak**	**2.79**	**352**	*e*P	**Pg**	**12 58 46.6**	**+0.3**
	9.9nm,0.4s						
KOTS				*e*S	**Sg**	**12 59 21.9**	**-0.7**
	20nm,0.6s						
MTBS	**Maitube**	**2.81**	**342**	Pg	**Pg**	**12 58 47.1**	**+0.5**
	6.2nm,0.3s						
MTBS				Lg	Lg	12 59 23.2	
	16nm,0.4s						
MTBS	**Maitube**	**2.81**	**342**	*e*P	**Pg**	**12 58 47.1**	**+0.5**
	6.2nm,0.3s						
MTBS				*e*S	**Sg**	**12 59 23.2**	**+0.1**
	16nm,0.4s						
KST	**Kastek**	**2.87**	**334**	Pg	**Pg**	**12 58 48.5**	**+0.8**
	2.9nm,0.2s						
KST				Lg	Lg	12 59 25.0	
	18nm,0.7s						
KST	**Kastek**	**2.87**	**334**	*e*P	**Pg**	**12 58 48.5**	**+0.8**
	2.9nm,0.2s						
KST				*e*S	**Sg**	**12 59 25.1**	**+0.2**
	18nm,0.7s						
ARLS	**Aral**	**2.87**	**300**	⇓*e*P	**Pb**	**12 58 44.9**	**+0.3**
	baz=97						
ARLS				⇓*e*S	**Sb**	**12 59 19.7**	**-0.4**
	baz=97						
UZB	**Uzynbulak**	**2.87**	**21**	Pg	**Pg**	**12 58 48.7**	**+0.9**
UZB				Lg	Lg	12 59 25.3	
UZB	**Uzynbulak**	**2.87**	**21**	*e*P	**Pg**	**12 58 46.9**	**-0.8**
UZB				*e*S	**Sb**	**12 59 22.4**	**+2.3**
TKM2	**Tokmak 2**	**2.89**	**329**	⇑Pg	**Pg**	**12 58 48.0**	**-0.2**
	0.4nm,0.3s						
TKM2				⇑Lg	Lg	12 59 25.9	
	1.3nm,0.5s						
TKM2	**Tokmak 2**	**2.89**	**329**	⇑*i*P	**Pb**	**12 58 45.0**	**0.0**
	baz=27						
TKM2				⇑*i*S	**Sb**	**12 59 19.7**	**-1.1**
	baz=27						
UCH	**Uchtor**	**2.94**	**308**	⇓*i*P	**Pb**	**12 58 45.8**	**-0.2**
	baz=5.0						
UCH				⇓*i*S	**Sb**	**12 59 20.8**	**-1.7**
	baz=5.0						
KBK	**Karagaybulak**	**2.98**	**318**	⇑*i*P	**Pb**	**12 58 46.2**	**-0.3**
	baz=16						
KBK				⇑*i*S	**Sb**	**12 59 22.2**	**-1.1**
	baz=16						
SHLS	**Shalkode**	**3.01**	**26**	Pg	**Pg**	**12 58 51.3**	**+0.8**
	5.1nm,0.3s						
SHLS				Lg	Lg	12 59 30.3	
	16nm,0.6s						
SHLS	**Shalkode**	**3.01**	**26**	*e*P	**Pg**	**12 58 51.3**	**+0.8**
	5.1nm,0.3s						
SHLS				*e*S	**Sg**	**12 59 30.3**	**+0.8**
	16nm,0.6s						
KURS	**Kuram**	**3.04**	**7**	Pg	**Pg**	**12 58 50.6**	**-0.5**
	4.5nm,0.5s						
KURS				Lg	Lg	12 59 28.8	
	4.4nm,0.9s						
KURS	**Kuram**	**3.04**	**7**	*e*P	**Pg**	**12 58 50.6**	**-0.5**
	4.5nm,0.5s						
KURS				*e*S	**Sg**	**12 59 28.8**	**-1.8**
	4.4nm,0.9s						
KPKS	**Kokpek**	**3.10**	**14**	Pg	**Pg**	**12 58 52.6**	**+0.6**
	4.1nm,0.4s						
KPKS				Lg	Lg	12 59 32.5	
	14nm,0.4s						
KPKS	**Kokpek**	**3.10**	**14**	*e*P	**Pg**	**12 58 51.8**	**-0.3**
	4.1nm,0.4s						
KPKS				*e*S	**Sg**	**12 59 31.0**	**-1.2**
	14nm,0.4s						
DGS	**Degeres**	**3.11**	**334**	Pg	**Pg**	**12 58 52.8**	**+0.5**
	3.3nm,0.4s						
DGS				Lg	Lg	12 59 33.2	
	16nm,0.5s						
DGS	**Degeres**	**3.11**	**334**	*e*P	**Pg**	**12 58 52.8**	**+0.5**
	3.3nm,0.4s						
DGS				*e*S	**Sg**	**12 59 33.2**	**+0.7**
	16nm,0.5s						
PDGK	**Podgornoye**	**3.17**	**25**	Pg	**Pg**	**12 58 53.7**	**+0.1**
	2.2nm,0.3s						
PDGK				Lg	Lg	12 59 34.0	
	18nm,0.8s						
AAK	**Ala-Archa**	**3.21**	**314**	⇑*i*P	**Pb**	**12 58 49.7**	**-0.7**
	baz=12						
AAK				⇑*i*S	**Sb**	**12 59 28.0**	**-1.9**
	baz=12						
KTBS	**Karatobe**	**3.32**	**348**	Pg	**Pg**	**12 58 56.4**	**0.0**
	6.4nm,0.4s						
KTBS				Lg	Lg	12 59 38.6	
	27nm,0.7s						
KTBS	**Karatobe**	**3.32**	**348**	*e*P	**Pg**	**12 58 56.4**	**0.0**
	6.4nm,0.4s						
KTBS				*e*S	**Sg**	**12 59 38.6**	**-0.8**
	27nm,0.7s						
CHMS	**Chumysh**	**3.33**	**320**	⇑Pg	**Pg**	**12 58 55.7**	**-0.8**
	0.8nm,0.3s						
CHMS				⇓Lg	Lg	12 59 39.1	
	2.4nm,0.6s						
AML	**Almayashu**	**3.41**	**300**	⇑Pg	**Pg**	**12 58 59.1**	**+1.0**
AML				⇑Lg	Lg	12 59 44.1	
	1.4nm,0.8s						
AML	**Almayashu**	**3.41**	**300**	⇑*i*P	**Pb**	**12 58 53.0**	**-0.9**
	baz=98						
AML				⇑*i*S	**Sb**	**12 59 33.7**	**-2.2**
	baz=98						
CHKK	**Chushkaly**	**3.42**	**352**	Pg	**Pg**	**12 58 57.6**	**-0.6**
	5.4nm,0.3s						
CHKK				Lg	Lg	12 59 41.4	
	13nm,0.4s						
CHKK	**Chushkaly**	**3.42**	**352**	*e*P	**Pg**	**12 58 57.6**	**-0.6**
	5.4nm,0.3s						
CHKK				*e*S	**Sg**	**12 59 41.4**	**-1.2**
	13nm,0.4s						
KRBS	**Karabastau**	**3.54**	**336**	Pg	**Pg**	**12 58 60.0**	**-0.7**
	2.5nm,0.3s						
KRBS				Lg	Lg	12 59 44.8	
	13nm,0.7s						
KRBS	**Karabastau**	**3.54**	**336**	*e*P	**Pg**	**12 58 60.0**	**-0.7**
	2.5nm,0.3s						
KRBS				*e*S	**Sg**	**12 59 44.8**	**-1.8**
	13nm,0.7s						
KUU	**Kurty**	**3.56**	**345**	Pg	**Pg**	**12 58 59.8**	**-1.2**
	3.0nm,0.4s						
KUU				Lg	Lg	12 59 44.6	
	12nm,0.6s						
KUU	**Kurty**	**3.56**	**345**	*e*P	**Pg**	**12 58 59.8**	**-1.2**
	3.0nm,0.4s						
KUU				*e*S	**Sg**	**12 59 44.6**	**-2.4**
	12nm,0.6s						
KTMS	**Ketmen**	**3.60**	**33**	Pg	**Pg**	**12 59 01.0**	**-0.6**
	1.5nm,0.4s						
KTMS				Lg	Lg	12 59 46.6	
	5.4nm,0.4s						
KTMS	**Ketmen**	**3.60**	**33**	*e*P	**Pg**	**12 59 01.0**	**-0.6**
	1.5nm,0.4s						
KTMS				*e*S	**Sg**	**12 59 46.5**	**-1.7**
	5.4nm,0.4s						
BLB	**Baldybastay**	**3.68**	**9**	Pg	**Pg**	**12 59 02.4**	**-0.8**
	2.4nm,0.2s						
BLB				Lg	Lg	12 59 49.1	
	4.7nm,0.3s						
SGDS	**Sogindy**	**3.73**	**324**	Pg	**Pg**	**12 59 04.6**	**+0.2**
	1.0nm,0.2s						
SGDS				Lg	Lg	12 59 52.6	
	3.7nm,0.6s						
ARXS	**Arharly**	**3.75**	**2**	Pg	**Pg**	**12 59 03.7**	**-0.9**
	3.5nm,0.5s						
ARXS				Lg	Lg	12 59 51.4	
	11nm,0.4s						
ARXS	**Arharly**	**3.75**	**2**	*e*P	**Pg**	**12 59 03.7**	**-0.9**
	3.5nm,0.5s						
ARXS				*e*S	**Sg**	**12 59 51.4**	**-1.7**
	11nm,0.4s						
KNOS	**Konyrlen**	**4.05**	**16**	Pg	**Pg**	**12 59 08.3**	**-2.1**
	1.2nm,0.5s						
KNOS				Lg	Lg	12 59 59.3	
	2.2nm,0.6s						
DJR	**Jarkent**	**4.18**	**22**	Pg	**Pg**	**12 59 11.5**	**-1.3**
	1.2nm,0.4s						
DJR				Lg	Lg	13 00 05.0	
	5.8nm,0.5s						
DJR	**Jarkent**	**4.18**	**22**	*e*P	**Pg**	**12 59 11.5**	**-1.3**
	1.2nm,0.4s						
DJR				*e*S	**Sg**	**13 00 05.0**	**-1.9**
	5.8nm,0.5s						

*TEH **20** 13:03:59.0, 33.76N×45.62E, h8km±63km, ML2.5*
*ISN **20** 13:03:59.5±0.6, 33.73N×45.63E, h25km, ML2.1*

ISC 20 13:03:56.2±2.3, 33.66N±0.07×45.5E±0.1, h13km, n8, σ0°85/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.67**	**146**	*e*Pg	**Pn**	**13 04 12.0**	**+0.7**
	baz=338						
IBDR				*e*Sg	**Sn**	**13 04 22.0**	**+0.3**
IBDR				AML	AML	13 04 45.6	
	comp=E,61nm,0.7s						
IBDR				AML	AML	13 04 48.5	
	comp=N,92nm,0.5s						
IGHG	**Ghaleghazi**	**1.12**	**53**	Pg	**Pg**	**13 04 18.1**	**+0.3**
IDHR	**Dehrash**	**1.28**	**36**	Pg	**Pg**	**13 04 20.8**	**-0.1**
ILIN	**Lien**	**1.75**	**44**	Pg	**Pg**	**13 04 29.6**	**-0.2**
IKOM	**Komasi**	**1.77**	**73**	Pg	**Pg**	**13 04 30.4**	**+0.3**
IKOM				Sg	**Sg**	**13 04 54.1**	**+1.1**
IKFM	**Kafar-mosalman**	**1.98**	**93**	Pn	**Pg**	**13 04 33.6**	**-0.6**
IALM	**Almabolaq**	**2.53**	**61**	Pn	**Pb**	**13 04 41.1**	**-0.4**
HSAM	**Samen**	**2.65**	**77**	Pn	**Pb**	**13 04 42.1**	**-1.6**

*DJA **20** 13:10:00.5±0.1, 7.5±2.2×12.9E±.°, h294km±3km, M4.6/37, mB5.0/21, mb4.7/37, MLv5.2/16, Mw(mB)4.4/21*
*NEIC **20** 13:10:00.4±1.9, 6.41S±0.07×128.49E±0.07, h301km±6km, mb4.5/60, Error ellipse: s-maj=10.4km s-min=9.7km az=113.0*
*IDC **20** 13:10:01.6±1.5, 6.44S×128.47E, h318km±15km, mb3.9/21, mbtmp4.6/25, Error ellipse: s-maj=14.0km s-min=9.1km az=64.0*

ISC 20 13:09:59.7±0.5, 6.46S±0.04×128.51E±0.05, h302km±5km, n195, σ1°37/207, mb4.4/72, 1C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.37**	**36**	P	**Pn**	**13 10 53.9**	**+4.1**
BNDI	**Bandanaira**	**2.37**	**36**	P	**Pn**	**13 10 50.7**	**+0.9**
KRAI	**Karang Ratu**	**3.12**	**358**	P	**Pn**	**13 11 00.1**	**+3.2**
SAUI	**Saumlaki**	**3.15**	**119**		**Pn**	**13 10 58.7**	**+1.6**
SAUI				Sn	**S**	**13 11 41.4**	**-1.6**
SAUI	**Saumlaki**	**3.15**	**119**	P	**Pn**	**13 10 59.1**	**+2.0**
SAUI	**Saumlaki**	**3.15**	**119**	P	**Pn**	**13 10 59.1**	**+2.0**
SAUI				S	**S**	**13 11 40.8**	**-2.2**
NLAI	**Namlea**	**3.50**	**336**	P	**Pn**	**13 11 04.7**	**+4.0**
SANI	**Sanana**	**5.05**	**330**	P	**Pn**	**13 11 20.0**	**+2.1**
	214nm,0.5s						
SANI	**Sanana**	**5.05**	**330**	P	**Pn**	**13 11 20.1**	**+2.1**
	211nm,0.5s,3μm0.9nm						
SANI				S	**S**	**13 12 20.1**	**-0.8**
	211nm,0.5s,3μm0.9nm						
FAKI	**Fak Fak**	**5.12**	**47**	Pn	**Pn**	**13 11 18.9**	**+0.1**
FAKI				Sn	**S**	**13 12 19.1**	**-3.3**
FAKI	**Fak Fak**	**5.12**	**47**	P	**Pn**	**13 11 19.1**	**+0.3**
	121nm,0.7s,4μm2.3nm						
FAKI				S	**S**	**13 12 20.7**	**-1.7**
	121nm,0.7s,4μm2.3nm						
SOEI	**Soe**	**5.33**	**232**		**Pn**	**13 11 20.9**	**-0.3**
SOEI	**Soe**	**5.33**	**232**	P	**Pn**	**13 11 21.2**	**-0.1**
	698nm,0.7s						
SOEI	**Soe**	**5.33**	**232**	P	**Pn**	**13 11 21.1**	**-0.1**
	695nm,0.7s,9μm13nm						
LBMI	**Labuha**	**5.87**	**350**	P	**Pn**	**13 11 29.6**	**+2.0**
	472nm,0.9s,5μm1.8nm						
BBSI	**Bau Bau**	**5.99**	**279**	P	**Pn**	**13 11 31.1**	**+2.1**
	321nm,1.0s,3μm1.0nm						
SIJI	**Sorong**	**6.20**	**26**	P	**Pn**	**13 11 31.6**	**+0.1**
SWI	**Sorong**	**6.20**	**26**	P	**Pn**	**13 11 31.7**	**+0.2**
	120nm,0.7s,5μm2.0nm						
MMRI	**Maumere**	**6.58**	**250**	Pn	**Pn**	**13 11 37.3**	**+1.1**
MMRI	**Maumere**	**6.58**	**250**	P	**Pn**	**13 11 37.2**	**+1.1**
	76nm,0.5s,2μm0.9nm						
MTN	**Manton Dam**	**6.85**	**158**		**Pn**	**13 11 39.5**	**+0.2**
MTN	**Manton Dam**	**6.85**	**158**	P	**Pn**	**13 11 39.6**	**+0.3**
EDFI	**Ende, Flores**	**7.13**	**251**	P	**Pn**	**13 11 42.7**	**-0.2**
	34nm,0.6s,1μm0.4nm						
KDU	**Kakadu**	**7.32**	**148**	P	**Pn**	**13 11 45.3**	**+0.3**
	90nm,0.5s						
LUWI	**Luwuk**	**7.86**	**313**	Pn	**Pn**	**13 11 51.7**	**+0.1**
LUWI	**Luwuk**	**7.86**	**313**	P	**Pn**	**13 11 54.0**	**+2.4**
	85nm,0.8s						
LUWI	**Luwuk**	**7.86**	**313**	P	**Pn**	**13 11 54.3**	**+2.7**
	85nm,0.8s,1μm0.3nm						
BKSI	**Bulukumba**	**8.42**	**277**	P	**Pn**	**13 11 59.6**	**+1.1**
	95nm,0.8s						
BASI	**Baing, Sumba**	**8.69**	**244**	P	**Pn**	**13 12 00.5**	**-1.3**
	81nm,0.6s,2μm						
KAPI	**Kappang**	**8.83**	**279**	Pn	**Pn**	**13 12 04.5**	**+0.9**
KAPI	**Kappang**	**8.83**	**279**	P	**Pn**	**13 12 04.3**	**+0.7**
	28nm,0.5s,baz=152,slow=6.4,SNR=10						
GTOI	**Gorontalo**	**8.94**	**322**	P	**P**	**13 12 09.7**	**+0.1**
	59nm,0.8s,572nm						
KNRA	**Kununurra**	**9.16**	**178**		**Pn**	**13 12 07.9**	**+0.3**
KNRA	**Kununurra**	**9.16**	**178**	P	**Pn**	**13 12 07.6**	**0.0**
	208nm,0.4s						
TTSI	**Tana Toraja**	**9.30**	**291**	P	**Pn**	**13 12 11.4**	**+2.1**
	50nm,0.9s						
MRSI	**Marisa**	**9.51**	**316**	P	**P**	**13 12 14.6**	**-1.4**
	69nm,0.8s,1μm						
MMSI	**Mamuju**	**10.28**	**291**	P	**Pn**	**13 12 22.8**	**+1.5**
	93nm,0.8s,846nm						
DBNI	**Kabupaten Domp**	**10.31**	**258**	P	**Pn**	**13 12 22.5**	**+0.7**
	50nm,0.6s						
SGSI	**Sangihe**	**10.51**	**343**	P	**P**	**13 12 26.3**	**-0.8**
	460nm,0.6s						
TOLI2	**Tolitoli**	**10.78**	**314**		**P**	**13 12 29.4**	**-0.7**
TOLI2	**Tolitoli**	**10.78**	**314**	P	**P**	**13 12 29.6**	**-0.4**
	41nm,0.7s						
PLAI	**Plampang**	**10.90**	**257**	P	**Pn**	**13 12 26.8**	**-2.1**
	98nm,0.9s						
PLAI	**Plampang**	**10.90**	**257**	P	**Pn**	**13 12 27.5**	**-1.4**
	100nm,0.9s,1μm						
MPSI	**Mapaga**	**10.93**	**308**	P	**P**	**13 12 32.4**	**+0.6**
	57nm,1.0s,570nm						
FITZ	**Fitzroy Crossi**	**11.90**	**193**	P	**Pn**	**13 12 40.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.90**	**193**	P	**Pn**	**13 12 39.7**	**-1.3**
	4.1nm,0.6s						
MMPI	**Merauke**	**11.94**	**100**	P	**P**	**13 12 44.2**	**+1.3**
	1μm,0.6s						
JAGI	**Jajag, Banyuwa**	**14.38**	**261**	P	**P**	**13 13 08.8**	**-1.1**
JAGI	**Jajag, Banyuwa**	**14.38**	**261**	P	**P**	**13 13 08.6**	**-1.3**
	28nm,1.0s						
JAGI	**Jajag, Banyuwa**	**14.38**	**261**	P	**P**	**13 13 08.6**	**-1.3**
WB0	**Warramunga Arr**	**14.41**	**157**	P	**Pn**	**13 13 11.2**	**+0.1**
KMMI	**Kalianget**	**14.46**	**267**	P	**Pn**	**13 13 14.2**	**+2.4**
	248nm,0.9s						
WRAB	**Tennant Creek**	**14.54**	**158**	P	**P**	**13 13 12.1**	**+0.4**
WRA	**Warramunga Arr**	**14.55**	**158**	P	**P**	**13 13 11.1**	**-0.6**
WRA	**Warramunga Arr**	**14.55**	**158**	P

KPJI	**Karang Pucung**	**19.46**	**266**	P	**P**	**13 14 05.5**	**+0.5**
	comp=Z,36nm,0.7s						
KSM	**Kuching**	**19.81**	**293**	P	**P**	**13 14 10.1**	**+1.4**
BBJI	**Bungbulang**	**20.73**	**266**	P	**P**	**13 14 17.5**	**-0.6**
	comp=Z,123nm,0.8s						
BBJI	**Bungbulang**	**20.73**	**266**	P	**P**	**13 14 17.5**	**-0.6**
	comp=Z,123nm,0.7s						
LEM	**Lembang**	**20.76**	**268**	P	**P**	**13 14 19.1**	**+0.6**
	comp=Z,46nm,0.8s,baz=60,slow=3.5,SNR=5.9						
	comp=Z,46nm,0.8s						
GIRL	**Giralia**	**21.17**	**219**	P	**P**	**13 14 21.8**	**-0.3**
CNJI	**Cibinong**	**21.24**	**266**	P	**P**	**13 14 22.0**	**-0.9**
	comp=Z,140nm,0.9s,comp=Z,1μm						
TV1H	**Townsville Har**	**21.87**	**127**	P	**P**	**13 14 30.7**	**+2.2**
	comp=Z,26nm,0.6s						
CTA	**Charters Tower**	**21.91**	**130**	P	**P**	**13 14 31.1**	**+2.2**
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**21.91**	**130**	P	**P**	**13 14 31.1**	**+2.2**
	comp=Z,6.5nm,0.6s,baz=310,slow=10.0,SNR=13						
	comp=Z,6.5nm,0.6s						
MEEK	**Meekatharra**	**22.17**	**204**	P	**P**	**13 14 31.0**	**-0.2**
	comp=Z,8.2nm,0.5s						
OOD	**Oodnadatta**	**22.28**	**163**	P	**P**	**13 14 32.7**	**+0.6**
	comp=Z,13nm,0.5s						
INKA	**Innaminka**	**24.14**	**153**	P	**P**	**13 14 50.7**	**+1.7**
	comp=Z,27nm,0.7s						
FORT	**Forrest**	**24.20**	**181**	P	**P**	**13 14 51.1**	**+1.7**
FORT				IAmb	IAmb	13 15 28.4	
	comp=Z,21nm,0.8s						
MULG	**Mulgathing**	**24.26**	**168**	P	**P**	**13 14 51.3**	**+1.2**
	comp=Z,21nm,1.6s						
QLP	**Quilpie**	**25.00**	**145**	P	**P**	**13 14 57.8**	**+1.1**
	comp=Z,18nm,1.1s						
MORW	**Morawa**	**25.39**	**206**	P	**P**	**13 15 00.2**	**+0.1**
MORW				IAmb	IAmb	13 15 43.8	
	comp=Z,19nm,1.3s						
MORW	**Morawa**	**25.39**	**206**	P	**P**	**13 15 00.3**	**+0.1**
	comp=Z,11nm,1.0s						
LCRK	**Leigh Creek**	**25.54**	**160**	P	**P**	**13 15 02.0**	**+0.4**
	comp=Z,17nm,1.3s						
BLDU	**Ballidu**	**26.46**	**203**	P	**P**	**13 15 09.5**	**-0.3**
	comp=Z,21nm,2.9s						
RK1H	**Rockhampton Ha**	**27.03**	**131**	P	**P**	**13 15 16.0**	**+1.1**
	comp=Z,20nm,0.6s						
BBOO	**Buckleboo**	**27.14**	**166**	P	**P**	**13 15 16.0**	**+0.2**
BBOO				IAmb	IAmb	13 15 31.2	
	comp=Z,26nm,1.5s						
BBOO	**Buckleboo**	**27.14**	**166**	P	**P**	**13 15 16.1**	**+0.3**
	comp=Z,16nm,1.9s						
STKA	**Stephens Creek**	**28.09**	**156**	P	**P**	**13 15 25.0**	**+0.8**
STKA	**Stephens Creek**	**28.09**	**156**	P	**P**	**13 15 25.0**	**+0.8**
	comp=Z,1.7nm,0.9s						
STKA	**Stephens Creek**	**28.09**	**156**	P	**P**	**13 15 24.8**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=343,slow=8.9,SNR=14						
	comp=Z,4.0nm,0.6s						
HTT	**Hallett**	**28.52**	**162**	P	**P**	**13 15 29.0**	**+0.9**
	comp=Z,9.7nm,1.5s						
CMSA	**Cobar Meteorol**	**29.68**	**149**	P	**P**	**13 15 39.4**	**+1.2**
	comp=Z,19nm,2.9s						
YULB	**Yu-li**	**30.50**	**347**	P	**P**	**13 15 45.2**	**-0.3**
YULB				IAmb	IAmb	13 15 46.0	
	comp=Z,32nm,1.5s						
TPUB	**Ta-pu**	**30.57**	**346**	P	**P**	**13 15 44.6**	**-1.5**
SSLB	**Suanglung**	**30.96**	**346**	P	**P**	**13 15 47.7**	**-1.8**
NACB	**Ninganchiao**	**31.19**	**348**	P	**P**	**13 15 48.4**	**-3.1**
YOJ	**Yonaguni jima**	**31.20**	**350**	P	**P**	**13 15 51.0**	**-0.6**
UBPT	**Khong Chiam**	**31.43**	**314**	P	**P**	**13 15 53.4**	**-0.3**
UBPT				IAmb	IAmb	13 16 37.2	
	comp=Z,15nm,1.3s						
YHNB	**Yeheng**	**31.71**	**348**	P	**P**	**13 15 53.6**	**-2.6**
ARMA	**Armidale**	**32.24**	**141**	P	**P**	**13 16 02.8**	**+2.0**
JOW	**Kunigami**	**33.10**	**360**	P	**P**	**13 16 08.1**	**+0.1**
JOW	**Kunigami**	**33.10**	**360**	P	**P**	**13 16 08.1**	**+0.1**
	comp=Z,33nm,0.8s,baz=188,slow=5.0,SNR=6.5						
	comp=Z,33nm,0.8s						
CAN	**Canberra**	**34.35**	**150**	P	**P**	**13 16 21.1**	**+2.3**
CAN				IAmb	IAmb	13 16 21.8	
	comp=Z,10nm,0.7s						
TOO	**Toolangi**	**34.61**	**156**	P	**P**	**13 16 23.1**	**+2.2**
TOO				IAmb	IAmb	13 16 55.4	
	comp=Z,26nm,1.4s						
CMAR	**Chiang Mai Arr**	**38.26**	**311**	P	**P**	**13 16 51.8**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=148,slow=7.9,SNR=6.7						
CMAR				PcP	**PcP**	**13 19 00.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=167,slow=2.8,SNR=5.3						
CMAR				ScP	**ScP**	**13 22 17.4**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=169,slow=3.7,SNR=10						
	comp=Z,1.2nm,0.7s						
WHN	**Wuhan**	**39.22**	**340**	P	**P**	**13 17 00.4**	**+0.9**
WHN				pmax	pmax		
	comp=Z,120nm,1.2s						
NJ2	**Nanjing**	**39.39**	**347**	*e*P	**P**	**13 17 02.3**	**+1.4**
NJ2				pP	**pwP**	**13 18 03.6**	**-2.2**
NJ2				sP	**PP**	**13 18 38.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,24nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,250nm,5.2s						
JNU	**Nakatsue**	**39.43**	**3**	P	**P**	**13 16 60.0**	**-1.2**
JNU				IAmb	IAmb	13 17 22.2	
	comp=Z,20nm,1.2s						
JNU	**Nakatsue**	**39.43**	**3**	P	**P**	**13 17 00.7**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=180,slow=1.0,SNR=2.1						
	comp=Z,4.2nm,0.8s						
KMI	**Kunming**	**40.18**	**322**	⇓P	**P**	**13 17 08.8**	**+1.1**
KMI				pmax	pmax		
	comp=Z,11nm,1.4s						
PZH	**PanZhiHua**	**41.80**	**323**	P	**P**	**13 17 20.9**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
LYN	**LuoYang**	**43.52**	**341**	⇑P	**P**	**13 17 34.5**	**+0.4**
LYN				pmax	pmax		
	comp=Z,23nm,0.9s						
LYN				pmax	pmax		
	comp=Z,140nm,7.1s						
KSAR	**Wonju Array Be**	**43.68**	**359**	P	**P**	**13 17 35.9**	**+0.6**
KSRS	**Korea Array**	**43.69**	**359**	P	**P**	**13 17 36.2**	**+0.8**
	comp=Z,5.6nm,0.8s,baz=178,slow=9.4,SNR=30						
	comp=Z,5.6nm,0.8s						
MJAR	**Matsushiro Arr**	**43.73**	**11**	P	**P**	**13 17 35.0**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=188,slow=9.3,SNR=14						
	comp=Z,4.9nm,0.7s						
KS19	**Wonju Array Si**	**43.74**	**359**	P	**P**	**13 17 36.0**	**+0.1**
KS19				IAmb	IAmb	13 17 59.8	
	comp=Z,29nm,1.5s						
XAN	**Xi'an**	**44.35**	**337**	⇓P	**P**	**13 17 40.0**	**-0.8**
XAN				pmax	pmax		
	comp=Z,30nm,0.7s						
HNS	**HongShan**	**45.50**	**345**	⇓P	**P**	**13 17 49.8**	**+0.2**
HNS				pmax	pmax		
	comp=Z,34nm,0.7s						
JMM	**Marumori**	**45.56**	**14**	P	**P**	**13 17 49.1**	**-1.1**
JMM				IAmb	IAmb	13 18 15.8	
	comp=Z,32nm,1.1s						
BJI	**Beijing**	**47.65**	**347**	P	**P**	**13 18 06.3**	**+0.1**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SHL	**Shillong**	**47.75**	**313**	P	**P**	**13 18 07.3**	**-0.2**
LZH	**Lanzhou**	**48.25**	**333**	⇓P	**P**	**13 18 11.9**	**+0.9**
LZH				sP	sP	13 19 50.1	+3.9
LZH				pmax	pmax		
	comp=Z,30nm,1.4s						
HHC	**Hu-ho-hao-te**	**49.59**	**343**	*e*P	**P**	**13 18 25.4**	**+4.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,5.3s						
USA0B	**Ussuriysk Arra**	**50.52**	**3**	P	**P**	**13 18 28.0**	**+0.3**
USA0B				IAmb	IAmb	13 18 50.8	
	comp=Z,27nm,1.5s						
USRK	**Ussuriysk Ar.**	**50.52**	**3**	P	**P**	**13 18 27.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**50.52**	**3**	P	**P**	**13 18 28.2**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=183,slow=6.9,SNR=11						
	comp=Z,5.7nm,0.6s						
LSA	**Lhasa**	**50.80**	**317**	P	**P**	**13 18 29.6**	**-1.1**
LSA				IAmb	IAmb	13 18 32.6	
	comp=Z,9.8nm,0.7s						
MDJ	**Mudanjiang**	**50.85**	**1**	P	**P**	**13 18 30.5**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,65nm,3.5s						
XLT	**XiLinHaoTe**	**51.37**	**349**	*e*P	**P**	**13 18 34.8**	**+0.6**
XLT				PcP	**pP**	**13 19 36.5**	**-0.1**
XLT				pP	PcP	13 19 44.3	+0.1
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
XLT				pmax	pmax		
	comp=Z,130nm,6.4s						
ASAJ	**Asahikawa**	**51.93**	**13**	P	**P**	**13 18 38.1**	**0.0**
	comp=Z,13nm,0.9s,baz=280,slow=14,SNR=2.1						
	comp=Z,13nm,0.9s						
WHZ	**Wether Hill Ro**	**51.97**	**146**	P	**P**	**13 18 39.2**	**+0.7**
WHZ				IAmb	IAmb	13 19 12.3	
	comp=Z,40nm,1.4s						
QRZ	**Quartz Range**	**52.04**	**138**	P	**P**	**13 18 37.8**	**-1.3**
RPZ	**Rata Peaks**	**52.56**	**142**	P	**P**	**13 18 43.5**	**+0.6**
RPZ				IAmb	IAmb	13 19 03.3	
	comp=Z,24nm,1.3s						
GTA	**Gaotai**	**52.80**	**332**	P	**P**	**13 18 45.4**	**+0.6**
GTA				pP	PcP	13 19 50.9	+1.1
GTA				pmax	pmax		
	comp=Z,14nm,1.0s						
KLR	**Kul'dur**	**55.53**	**3**	P	**P**	**13 19 04.2**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=212,slow=7.3,SNR=4.7						
KLR				PcP	**PcP**	**13 19 59.8**	**0.0**
	comp=Z,0.9nm,0.4s,baz=232,slow=4.5,SNR=3.0						
	comp=Z,1.7nm,0.8s						
HEH	**HeiHe**	**56.49**	**359**	*e*P	**P**	**13 19 10.8**	**+0.1**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,110nm,3.7s						
SONM	**Songino Array**	**57.48**	**342**	P	**P**	**13 19 18.2**	**+0.3**
SONM	**Songino Array**	**57.48**	**342**	P	**P**	**13 19 18.3**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=156,slow=7.1,SNR=26						
SONM				ScP	**ScP**	**13 23 35.3**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=174,slow=4.1,SNR=2.6						
	comp=Z,4.2nm,0.7s						
WMQ	**Urumqi**	**62.15**	**328**	*e*P	**P**	**13 19 50.5**	**+1.1**
WMQ				PcP	**PcP**	**13 20 28.4**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
PEA0B	**Petropavlovsk-**	**64.29**	**19**	P	**P**	**13 20 04.4**	**+1.3**
PETK	**Petropavlovsk-**	**64.29**	**19**	P	**P**	**13 20 03.4**	**+0.2**
PETK	**Petropavlovsk-**	**64.29**	**19**	P	**P**	**13 20 03.6**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=189,slow=4.9,SNR=16						
PETK				PcP	**PcP**	**13 20 34.1**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=166,slow=3.1,SNR=5.7						
	comp=Z,5.7nm,0.6s						
KSH	**Kashi**	**66.63**	**318**	P	**P**	**13 20 19.8**	**+1.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK31	**Makanchi Array**	**66.97**	**327**	P	**P**	**13 20 21.0**	**+0.6**
MK31				IAmb	IAmb	13 20 21.9	
	comp=Z,7.1nm,0.8s						
MKAR	**Makanchi Array**	**66.97**	**327**	P	**P**	**13 20 21.2**	**+0.8**
MKAR	**Makanchi Array**	**66.97**	**327**	P	**P**	**13 20 21.1**	**+0.6**
	comp=Z,5.1nm,0.5s,baz=122,slow=8.0,SNR=70						
MKAR				PcP	**PcP**	**13 20 45.6**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=118,slow=5.1,SNR=8.6						
	comp=Z,5.1nm,0.5s						
MAKZ	**Makanchi**	**67.15**	**327**	P	**P**	**13 20 21.8**	**+0.3**
MAKZ				IAmb	IAmb	13 20 22.9	
	comp=Z,6.8nm,0.8s						
BOOM	**Boomskoye usch**	**68.19**	**321**	P	**P**	**13 20 29.3**	**+1.0**
YAK	**Yakutsk**	**68.30**	**1**	P	**P**	**13 20 28.6**	**+0.4**
AAK	**Ala-Archa**	**69.18**	**320**	P	**P**	**13 20 34.4**	**+0.1**
ZAA0	**Zalesovo Array**	**70.45**	**334**	P	**P**	**13 20 41.4**	**-0.2**
ZAA0				IAmb	IAmb	13 20 42.1	
	comp=Z,8.4nm,0.8s						
ZALV	**Zalesovo Beam**	**70.45**	**334**	P	**P**	**13 20 41.2**	**-0.3**
	comp=Z,7.4nm,0.6s,baz=127,slow=5.5,SNR=39						
	comp=Z,7.4nm,0.6s						
KURBB	**Kurchatov Arra**	**71.29**	**329**	P	**P**	**13 20 47.0**	**+0.4**
	comp=Z,11nm,0.6s,baz=130,slow=5.0,SNR=146						
	comp=Z,11nm,0.6s						
KURK	**Kurchatov**	**71.30**	**329**	P	**P**	**13 20 47.2**	**+0.6**
KURK				IAmb	IAmb	13 20 48.0	
	comp=Z,15nm,1.0s						
KK31	**Karatay Array**	**71.97**	**319**	P	**P**	**13 20 51.2**	**+0.3**
KKAR	**Karatay Array**	**71.97**	**319**	P	**P**	**13 20 51.3**	**+0.4**
KKAR	**Karatay Array**	**71.97**	**319**	P	**P**	**13 20 51.5**	**+0.6**
KKAR				IAmb	IAmb	13 20 52.4	
	comp=Z,3.2nm,0.8s						
BVAR	**Borovoye Array**	**76.83**	**328**	P	**P**	**13 21 18.6**	**+0.2**
	comp=Z,3.8nm,0.5s,baz=123,slow=5.5,SNR=19						
	comp=Z,3.8nm,0.5s						
BRVK	**Borovoye**	**76.90**	**328**	P	**P**	**13 21 18.6**	**-0.2**
TIXI	**Tiksi**	**77.95**	**0**	P	**P**	**13 21 23.6**	**-0.7**
TIXI				IAmb	IAmb	13 21 24.9	
	comp=Z,6.6nm,0.6s						
GEYT	**Alibeck**	**78.74**	**311**	P	**P**	**13 21 29.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=106,slow=11,SNR=2.8						
	comp=Z,1.3nm,0.5s						
NRIK	**Noril'sk**	**80.69**	**346**	P	**P**	**13 21 39.7**	**+0.7**
NRIK				IAmb	IAmb	13 21 40.5	
	comp=Z,9.3nm,1.1s						
NRIK	**Noril'sk**	**80.69**	**346**	P	**P**	**13 21 39.2**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=146,slow=4.9,SNR=6.2						
	comp=Z,2.8nm,0.4s						
ABKAR	**Akbulak array**	**81.17**	**322**	P	**P**	**13 21 41.6**	**-0.4**
ABKAR				IAmb	IAmb	13 21 42.6	
	comp=Z,5.4nm,0.6s						
QSPA	**South Pole Qui**	**83.51**	**180**	P	**P**	**13 21 53.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=144,slow=2.6,SNR=7.7						
	comp=Z,0.5nm,0.5s						
ARU	**Arti**	**84.47**	**328**	P	**P**	**13 21 58.5**	**-0.1**
ARU				IAmb	IAmb	13 21 59.3	
	comp=Z,8.2nm,0.9s						
C19K	**Lookout Ridge**	**89.63**	**20**	IAmb	IAmb	13 22 24.5	
	comp=Z,6.2nm,0.8s						
E19K	**Redstone River**	**89.95**	**22**	IAmb	IAmb	13 22 25.6	
	comp=Z,3.8nm,0.7s						
B21K	**Ikpikpuk River**	**91.47**	**20**	IAmb	IAmb	13 22 32.4	
	comp=Z,4.5nm,0.6s						
ILAR	**Eielson Array**	**93.49**	**25**	P	**P**	**13 22 39.5**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=253,slow=4.5,SNR=7.5						
	comp=Z,0.8nm,0.8s						
K27K	**Chicken**	**95.50**	**26**	IAmb	IAmb	13 22 52.1	
	comp=Z,5.2nm,1.1s						
ARCES	**ARCESS Array B**	**100.56**	**340**	P	**Pdif**	**13 23 11.7**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=30,slow=2.9,SNR=5.2						
SPITS	**Spitsbergen Ar**	**100.76**	**349**	P	**Pdif**	**13 23 12.9**	**-0.6**
	comp=Z,8.2nm,1.0s,baz=89,slow=6.8,SNR=1.8						
FINES	**FINESS Array B**	**101.59**	**331**	P	**Pdif**	**13 23 15.6**	**-1.9**
	comp=Z,2.4nm,1.0s,baz=11,slow=3.0,SNR=1.6						
YKA	**Yellowknife Ar**	**107.92**	**26**	PKiKP	**PKiKP**	**13 27 50.8**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=297,slow=1.3,SNR=5.3						
PDAR	**Pinedale Array**	**117.56**	**45**	PKP	**PKPdf**	**13 28 09.2**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=181,slow=0.9,SNR=4.0						
EKA	**Eskdalemuir Ar**	**117.99**	**331**	PKP	**PKPdf**	**13 28 10.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=38,slow=3.6,SNR=1.1						
TXAR	**Lajitas Array**	**125.92**	**58**	PKP	**PKiKP**	**13 28 27.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=262,slow=1.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**127.25**	**282**	PKP	**PKPdf**	**13 28 28.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=48,slow=2.7,SNR=5.1						
GC02	**Grant County #**	**128.08**	**48**		PKPpre	13 28 17.4	

*IDC **20** 13:10:20.8±5.0, 36.°77N×142.°98E, h0km, mb3.6/4, mbtmp3.7/7, ML3.1/3, MS2.9/1, Error ellipse: s-maj=91.0km s-min=33.3km az=112.0*

*NIED **20** 13:10:30.1, 37.°25N×142.°15E, h35km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.21; $M_{\theta\theta}$0.47; $M_{\phi\phi}$-1.68; $M_{r\theta}$-0.29; $M_{\theta\phi}$0.41; $M_{\phi r}$2.64; Fault plane solution: $M_0$3.04000×10^{14} NP1: ϕ_s354.00000°, δ75.00000°, λ93.00000°. NP2: ϕ_s162.00000°, δ15.00000°, λ78.00000°.*

*JMA **20** 13:10:30.1±0.2, 37.°3N±0.°5×142.°2E±0.°9, h35km±4km, MV3.7/40, E OFF FUKUSHIMA PREF*

ISC 20 13:10:28.8±2.2, 37.°36N±0.°08×142.°11E±0.°08, h1km±11km**, n25, σ1°14/28, mb3.5/4, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.99**	**271**	*i* P	**Pg**	**13 10 48.2**	**+0.5**
JFK				S	**Sg**	**13 11 01.2**	**+0.7**
JMST	**Minamisoumatoc**	**1.04**	**291**	P	**Pb**	**13 10 49.5**	**-0.1**
JMST				*e*S	**Sb**	**13 11 03.4**	**-0.4**
JIKH	**Ishinomakikobu**	**1.08**	**332**	P	**Pn**	**13 10 50.3**	**-0.8**
JIKH				S	**Sb**	**13 11 05.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.08**	**257**	P	**Pg**	**13 10 49.0**	**-0.5**
ONAJ				*e*S	**Sg**	**13 11 03.0**	**-0.5**
JMM	**Marumori**	**1.16**	**296**	P	**Pn**	**13 10 51.5**	**-0.8**
JMM				*e*S	**Sb**	**13 11 07.1**	**-0.3**
JIO	**Ouri**	**1.25**	**331**	P	**Pn**	**13 10 53.1**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.43**	**279**	P	**Pn**	**13 10 55.8**	**-0.1**
JOTO				S	**Sn**	**13 11 14.3**	**-1.1**
JOU	**Okura**	**1.52**	**312**	P	**Pn**	**13 10 57.9**	**+0.7**
JOU				S	**Sn**	**13 11 18.2**	**+0.4**
JMK	**Ichinoseki**	**1.74**	**336**	P	**Pn**	**13 11 01.7**	**+1.5**
JYS	**Shirataka**	**1.83**	**299**	*e*S	**Sn**	**13 11 26.8**	**+1.4**
JFY	**Yanaizu**	**1.92**	**272**	*e*P	**Pn**	**13 11 02.8**	**+0.1**
JFY				*e*S	**Sn**	**13 11 27.1**	**-0.3**
JYK	**Kaneyama**	**2.08**	**319**	P	**Pn**	**13 11 05.9**	**+1.0**
MJAR	**Matsushiro Arr**	**3.23**	**257**	Pn	**Pn**	**13 11 21.4**	**+0.7**
	0.7nm,0.3s,baz=86,slow=9.7,SNR=31						
MJAR				Sn	**Sn**	**13 12 03.8**	**+4.0**
	0.6nm,0.3s,baz=80,slow=14,SNR=4.5						
MJAR				LR	LR	13 12 54.0	
	comp=Z,152nm,20.1s,baz=203,slow=40						
	9.0nm,0.5s						
JHJ	**Hachijo jima 2**	**4.64**	**205**	Pn	Pn	13 11 30.1	-10
	5.3nm,0.3s,baz=58,slow=15,SNR=1.5						
JHJ				Sn	Sn	13 12 20.7	-14
	8.8nm,0.3s,baz=63,slow=17,SNR=1.9						
	153nm,0.9s						
ASAJ	**Asahikawa**	**6.76**	**3**	Pn	**Pn**	**13 12 10.5**	**+1.3**
	0.3nm,0.3s,baz=316,slow=30,SNR=1.1						
ASAJ				Sn	**Sn**	**13 13 26.6**	**-0.2**
	0.3nm,0.3s,baz=287,slow=33,SNR=1.1						
	5.2nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.84**	**122**	T	T	13 45 10.2	
	baz=315,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**27.85**	**122**	T	T	13 45 11.4	
	baz=315,slow=75,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**27.86**	**122**	T	T	13 45 10.7	
	baz=315,slow=75,SNR=12						
SONM	**Songino Array**	**28.07**	**303**	P	**P**	**13 16 21.8**	**-0.1**
	0.4nm,0.5s,baz=88,slow=9.2,SNR=3.7						
	0.4nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**28.57**	**124**	T	T	13 46 05.1	
	baz=317,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.58**	**124**	T	T	13 46 05.8	
	baz=317,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	13 46 09.2	
	baz=317,slow=75,SNR=14						
ZALV	**Zalesovo Beam**	**42.11**	**312**	P	**P**	**13 18 20.9**	**-1.4**
	0.4nm,0.5s,baz=75,slow=11,SNR=2.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**44.42**	**302**	P	**P**	**13 18 40.6**	**-0.6**
	0.5nm,0.8s,baz=81,slow=8.9,SNR=3.5						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**46.24**	**308**	P	**P**	**13 18 54.5**	**-1.0**
	0.6nm,0.4s,baz=83,slow=8.4,SNR=7.9						
	0.6nm,0.4s						

*ISN **20** 13:10:50.8±1.7, 33.°77N×45.°55E, h10km±9km, ML3.1*
*TEH **20** 13:10:53.4, 33.°87N×45.°64E, h20km±138km, ML3.1*

ISC 20 13:10:53.0±1.0, 33.°80N±0.°04×45.°62E±0.°05, h10km**, n15, σ0°94/18, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.71**	**358**	Pg	**Pg**	**13 11 06.0**	**-0.8**
IBDR	**Badra**	**0.73**	**159**	*e*Pg	**Pg**	**13 11 06.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**13 11 16.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.95**	**56**	Pg	**Pb**	**13 11 11.1**	**-0.6**
IDHR	**Dehrash**	**1.10**	**35**	Pg	**Pg**	**13 11 13.2**	**-1.1**
BHD	**Baghdad**	**1.16**	**244**	*e*Pn	**Pn**	**13 11 15.0**	**-0.3**
BHD				*e*Sn	**Sn**	**13 11 33.0**	**+1.7**
BHD				AML	AML	13 11 45.5	
	comp=E,475nm,0.6s						
ILIN	**Lien**	**1.58**	**44**	Pg	**Pb**	**13 11 22.0**	**-0.4**
IKOM	**Komasi**	**1.61**	**76**	Pg	**Pb**	**13 11 22.9**	**-0.1**
IKFM	**Kafar-mosalman**	**1.87**	**98**	Pn	**Pn**	**13 11 25.9**	**+0.8**
RAFI	**Al-Rafai**	**2.11**	**169**	*e*Pn	**Pn**	**13 11 29.0**	**+0.7**
RAFI				*e*Sn	**Sb**	**13 11 58.5**	**+1.0**
IALM	**Almabolaq**	**2.36**	**63**	Pn	**Pn**	**13 11 33.4**	**+1.3**
HSAM	**Samen**	**2.51**	**80**	Pn	**Pn**	**13 11 34.3**	**+0.1**
HAGD	**Aghdareh**	**3.08**	**70**	Pn	**Pn**	**13 11 42.4**	**+0.4**
IRAZ	**Razeghan**	**3.90**	**64**	Pn	**Pn**	**13 11 54.6**	**+1.4**
QAMS	**Qamsar**	**4.81**	**89**	Pn	**Pn**	**13 12 05.5**	**-0.2**
IKLH	**Kolahrood**	**5.00**	**94**	Pn	**Pn**	**13 12 08.6**	**+0.3**

IDC 20 13:11:07.2±2.4, 23.°04N×94.°60E, h0km, mb3.7/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=99.2km s-min=25.0km az=56.0, Myanmar-India border region

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

	baz=320									
ENTT	**Nioudou**	**0.32**	**42**	*i* P		Pg		13 31 59.1	+0.4	
	baz=35									
NACB	**Ninganchiao**	**0.33**	**133**	P		Pg		13 31 59.3	+0.5	
	baz=133									
NACB				*e*S		Sg		13 32 04.4	+1.1	
	baz=133									
CHGB	**Renai**	**0.37**	**203**	⇑*i* P		Pg		13 31 59.8	+0.2	
	baz=211									
WHP	**Taichung City**	**0.37**	**251**	*e*P		Pb		13 32 00.4	-0.6	
	baz=243									
LIOB	**Emei**	**0.38**	**311**	*e*P		Pb		13 32 00.9	-0.1	
	baz=312									
LIOB				*e*S		Sb		13 32 05.9	-1.0	
	baz=312									
NSTT	**Nanjuang**	**0.38**	**308**	*e*P		Pb		13 32 00.6	-0.4	
	baz=309									
NSTT				*e*S		Sg		13 32 05.5	+0.8	
	baz=309									
LXIB	**Xiulin Townshi**	**0.39**	**168**	*e*P		Pb		13 32 01.1	-0.2	
	baz=173									
TWD	**Chiawan**	**0.40**	**143**	*e*P		Pg		13 32 00.6	+0.5	
	baz=133									
NWLT	**Wulai**	**0.41**	**23**	*e*P		Pg		13 32 00.3	+0.1	
	baz=22									
EWUT	**Wuta**	**0.41**	**84**	*e*P		Pg		13 32 00.6	+0.3	
	baz=94									
NDS	**Dongshan**	**0.42**	**57**	*e*P		Pg		13 32 00.6	+0.1	
	baz=69									
FUSB	**Fushanzhiwuyua**	**0.43**	**33**	P		Pg		13 32 00.4	-0.3	
	baz=26									
FUSB				S		Sg		13 32 06.5	+0.1	
	baz=26									
TWE	**Neicheng**	**0.44**	**44**	P		Pg		13 32 01.4	+0.5	
	baz=42									
WUSB	**Renai**	**0.45**	**205**	*e*P		Pg		13 32 01.1	0.0	
	baz=218									
OWD	**Renai**	**0.47**	**197**	*e*P		Pg		13 32 01.6	+0.2	
	baz=193									
WCS	**Beigang Elemen**	**0.51**	**228**	P		Pg		13 32 02.2	-0.1	
	baz=236									
WCS				*e*S		Sb		13 32 10.2	-0.6	
	baz=236									
WPL	**Puli Township**	**0.52**	**221**	*e*P		Pg		13 32 01.4	-0.8	
	baz=214									
ESL	**Shilin**	**0.59**	**171**	*e*P		Pn		13 32 05.9	-0.8	
	baz=161									

NEIC ***20*** *13:48:54.4±2.9, 26.64N±0.06×111.03W±0.05, h10km±1km, mb4.5/38, Md4.7/16(MEX), Error ellipse: s-maj=11.7km s-min=5.5km az=214.0*

IDC ***20*** *13:48:55.1±0.9, 26.66N×110.85W, h0km, mb3.9/5, mbtmp3.9/13, ML3.6/8, MS4.2/55, Error ellipse: s-maj=16.9km s-min=10.9km az=71.0*

GCMT ***20*** *13:48:56.4±0.3, 26.62N±0.02×111.01W±0.02, h17km±1km, MW4.9/102, Moment Tensor Solution. s26,c26; s102,c152; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.58±.12; Mθθ-2.59±.09; Mϕϕ3.17±.11; Mrθ-0.49±.26; Mθϕ-0.66±.08; Mrϕ0.22±.23; Best double couple: M☐3.01200×10¹⁶ NP1☐s129.00000°, δ85.00000°, λ-169.00000°. NP2☐s38.00000°, δ79.00000°, λ-6.00000°. Principal axes: T 3.2630, Plg4.0000°, Azm263.0000°; N -0.5020, Plg77.0000°, Azm155.0000°; P -2.7600, Plg12.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MEX ***20*** *13:48:57.3±0.7, 26.62N×111.01W, h15km, MD4.7*

ISC 20 13:48:53.0±2.9, 26.67N±0.06×111.05W±0.05, h2km±18km, n156, c2s05/113, mb4.5/22, MS4.3/49, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUYB	**Guaymas**	**1.24**	**7**	*i* P		**Pn**	**13 49 16.7**	**-0.6**
GUYB				*e*S		**Sb**	**13 49 31.0**	**-2.5**
SRIG	**Santa Rosalia**	**1.25**	**302**	Pn		**Pn**	**13 49 16.7**	**-0.7**
SRIG				Sn		**Sb**	**13 49 34.6**	**+0.7**
SRIG	**Santa Rosalia**	**1.25**	**302**	*e*P		**Pn**	**13 49 16.5**	**-0.9**
SRIG				*i* S		**Sb**	**13 49 33.4**	**-0.5**
TSIG	**Topolobambo**	**2.09**	**120**			**Pn**	**13 49 27.4**	**-1.6**
TSIG						**Sn**	**13 49 52.2**	**-3.4**
TSIG	**Topolobambo**	**2.09**	**120**	*e*P		**Pn**	**13 49 27.4**	**-1.6**
TSIG				*i* S		**Sn**	**13 49 52.2**	**-3.4**
HSIG		**2.35**	**2**	Pn		**Pn**	**13 49 32.9**	**+0.3**
HSIG		**2.35**	**2**	*e*P		**Pn**	**13 49 32.9**	**+0.3**
HSIG				*i* S		**Sg**	**13 50 08.9**	**+0.5**
LPIG	**La Paz**	**2.64**	**165**	Pn		**Pn**	**13 49 36.4**	**-0.2**
	30nm,0.3s,baz=213,slow=2.7,SNR=10							
LPIG				Sn		**Sn**	**13 50 07.9**	**-1.2**
	57nm,0.3s,baz=353,slow=14,SNR=8.6							
LPIG				Lg		Lg	13 50 18.4	
	99nm,0.3s,baz=210,slow=19,SNR=9.2							
LPIG				LR		LR	13 50 37.9	
	comp=Z,5μm,20.4s,baz=321,slow=40 85nm,0.3s							
SLBS	**Sierra La Lagu**	**3.13**	**161**			**Pn**	**13 49 43.7**	**+0.3**
SLBS	**Sierra La Lagu**	**3.13**	**161**	*e*P		**Pn**	**13 49 44.3**	**+0.9**
BAHB	**Baha de los**	**3.18**	**316**	*e*P		**Pb**	**13 49 48.8**	**-1.5**
NZIG	**Nacozari, Sono**	**3.92**	**19**			**Pn**	**13 49 56.4**	**+2.1**
NZIG	**Nacozari, Sono**	**3.92**	**19**	*e*P		**Pn**	**13 49 56.4**	**+2.1**
LAPR	**La Primavera**	**3.98**	**344**	*i* P		**Pn**	**13 49 56.9**	**+1.8**
HPIG		**4.81**	**86**	Pn		**Pn**	**13 50 06.7**	**0.0**
319A	**Douglas**	**4.94**	**18**			**Pn**	**13 50 09.2**	**+0.9**
BCIG	**La Boquilla**	**5.10**	**79**			**Pn**	**13 50 10.7**	**+0.2**
BCIG	**La Boquilla**	**5.10**	**79**	*e*P		**Pn**	**13 50 10.7**	**+0.2**
214A	**Organ Pipe Nat**	**5.49**	**344**			**Pn**	**13 50 17.9**	**+2.0**
TUC	**Tucson**	**5.63**	**2**			**Pn**	**13 50 19.6**	**+1.8**
TUC	**Tucson**	**5.63**	**2**			**Pn**	**13 50 19.9**	**+2.1**
TUC	**Tucson**	**5.63**	**2**	*e*P		**Pn**	**13 50 19.7**	**+1.9**
DUN6	**Lazy B Ranch**	**6.11**	**16**			**Pn**	**13 50 24.9**	**+1.4**
VTX	**Valle De La Tr**	**6.28**	**320**	Pn		**Pn**	**13 50 24.7**	**-2.0**
121A	**Cookes Peak, D**	**6.50**	**25**			**Pn**	**13 50 31.9**	**+2.1**
113A	**Mohawk Valley,**	**6.53**	**339**	Pn		**Pn**	**13 50 30.5**	**+0.5**
VHRN	**Van Horn**	**6.72**	**51**	Pn		**Pn**	**13 50 35.9**	**+3.1**
TX31	**Lajitas Ar. Si**	**7.04**	**66**			**Pn**	**13 50 37.9**	**+0.7**
TXAR	**Lajitas Array**	**7.04**	**66**			**Pn**	**13 50 37.5**	**+0.3**
TXAR	**Lajitas Array**	**7.04**	**66**	Pn		**Pn**	**13 50 37.8**	**+0.6**
	2.4nm,0.3s,baz=239,slow=13,SNR=89							
TXAR				Sn		**Sn**	**13 51 56.0**	**-2.0**
	2.9nm,0.3s,baz=228,slow=15,SNR=5.2							
TXAR				Lg		Lg	13 52 32.4	
	4.4nm,0.3s,baz=225,slow=16,SNR=3.5 4.0nm,0.4s							
Y14A	**Wickenburg**	**7.44**	**347**			**Pn**	**13 50 45.0**	**+2.3**
ALPN	**Alpine**	**7.49**	**59**	Pn		**Pn**	**13 50 45.3**	**+1.9**
BLYC	**Blythe**	**7.67**	**338**	Pn		**Pn**	**13 50 44.3**	**-1.5**
X16A	**Lo Mia Camp, P**	**7.74**	**358**			**Pn**	**13 50 49.9**	**+3.1**
PECS	**Pecos**	**7.84**	**52**	Pn		**Pn**	**13 50 50.7**	**+2.6**
X18A	**Snowflake**	**7.89**	**7**			**Pn**	**13 50 50.3**	**+1.3**
PFO	**Pinyon Flats O**	**8.36**	**327**	Pn		**Pn**	**13 50 59.8**	**+4.5**
	0.1nm,0.3s,baz=242,slow=13,SNR=3.0							
PFO				Lg		Lg	13 53 24.6	
	baz=119,slow=5.5,SNR=2.2							
PFO				LR		LR	13 53 55.8	
	comp=Z,1μm,20.6s,baz=152,slow=36 4.7nm,0.9s							
W18A	**Petrified Fore**	**8.50**	**7**			**Pn**	**13 51 00.9**	**+3.6**
SAND	**Sanderson**	**8.52**	**65**	Pn		**Pn**	**13 50 58.2**	**+0.8**
MNHN	**Monahans**	**8.62**	**55**			**Pn**	**13 51 00.8**	**+2.0**
WUAZ	**Wupatki**	**8.83**	**358**			**Pn**	**13 51 04.1**	**+2.3**
ANMO	**Albuquerque**	**9.15**	**24**			**Pn**	**13 51 10.3**	**+4.1**
ANMO	**Albuquerque**	**9.15**	**24**	Pn		**Pn**	**13 51 08.9**	**+2.7**
	0.2nm,0.3s,baz=293,slow=12,SNR=9.1							
ANMO				Lg		Lg	13 53 44.0	
	0.5nm,0.3s,baz=235,slow=22,SNR=2.1							
ANMO				LR		LR	13 54 13.8	
	comp=Z,1μm,21.3s,baz=292,slow=35 2.3nm,0.8s							
ODSA	**Odessa**	**9.19**	**52**	Pn		**Pn**	**13 51 08.4**	**+1.8**
DRIO	**Del Rio**	**9.61**	**71**	Pn		**Pn**	**13 51 12.4**	**0.0**
KNB	**Kanab**	**10.43**	**352**			**Pn**	**13 51 27.1**	**+3.3**
LCMT	**Little Creek M**	**10.48**	**350**			**Pn**	**13 51 27.4**	**+3.0**
MVCO	**Mesa Verde**	**10.73**	**11**			**Pn**	**13 51 30.2**	**+2.2**
HMU	**Henry Mountain**	**11.24**	**1**	Pn		**Pn**	**13 51 38.8**	**+3.9**
BRDY	**Brady**	**11.51**	**64**			**Pn**	**13 51 39.8**	**+1.5**
APMT	**Aspermont**	**11.56**	**52**			**Pn**	**13 51 40.4**	**+1.3**
R11B	**Troy Canyon, C**	**12.26**	**343**			**Pn**	**13 51 53.6**	**+4.8**
SPR3	**Spring Creek 3**	**12.60**	**348**			**Pn**	**13 51 57.3**	**+3.6**
WTFS	**Witchita Falls**	**12.97**	**54**			**Pn**	**13 51 59.1**	**+0.7**
NVAR	**Mina Array Bea**	**13.22**	**334**	Pn		**P**	**13 52 08.4**	**-3.8**
	baz=159,slow=10,SNR=10.0							
NVAR				LR		LR	13 56 49.4	
	comp=Z,452nm,18.5s,baz=136,slow=36 2.5nm,1.1s							
WMOK	**Wichita Mounta**	**13.26**	**50**			**Pn**	**13 52 04.4**	**+2.1**
ISCO	**Idaho Springs**	**13.86**	**18**	Pn		**Pn**	**13 52 08.6**	**-2.1**
ELK	**Elko**	**14.47**	**347**	Pn		**P**	**13 52 24.3**	**-1.7**
	0.1nm,0.3s,baz=184,slow=13,SNR=8.8							
ELK				LR		LR	13 58 02.9	
	comp=Z,1μm,19.0s,baz=164,slow=38 2.6nm,0.9s							
PDAR	**Pinedale Array**	**16.11**	**4**	P		**P**	**13 52 45.3**	**+1.1**
PDAR	**Pinedale Array**	**16.11**	**4**	Pn		**P**	**13 52 44.8**	**+0.6**
	0.1nm,0.3s,baz=168,slow=11,SNR=13							
PDAR				Lg		Lg	13 57 23.5	
	baz=170,slow=41,SNR=1.1							
PDAR				LR		LR	13 58 52.4	
	comp=Z,762nm,20.1s,baz=184,slow=37 1.6nm,0.8s							
CMIG	**Matias Romero**	**17.75**	**119**	P		**P**	**13 53 03.6**	**+1.3**
	0.3nm,0.3s,baz=309,slow=9.6,SNR=11 26nm,1.1s							
YBH	**Yreka Blue Hor**	**17.83**	**330**	LR		LR	13 59 14.4	
	comp=Z,704nm,20.6s,baz=184,slow=35							
YHH	**Holmes Hill**	**18.09**	**0**	Pn		**Pn**	**13 53 03.3**	**-2.3**
YHL	**Hebgen Lake**	**18.15**	**360**	Pn		**Pn**	**13 53 03.0**	**-3.4**
BOZ	**Bozeman (W)**	**18.90**	**359**			**P**	**13 53 09.4**	**-5.5**
LCAR	**Lake Charles**	**19.37**	**56**	P		P	13 53 11.8	-8.2
OXF	**Oxford**	**20.18**	**62**	P		**P**	**13 53 28.4**	**-0.4**
OXF				IAmb		IAmb	13 53 40.1	
	comp=Z,45nm,1.3s							
PBMO	**Poplar Bluff**	**20.19**	**55**	P		**P**	**13 53 29.5**	**+0.6**
MSO	**Missoula**	**20.26**	**354**	P		Pn	13 53 34.1	+2.5
P40A	**Paris**	**20.39**	**46**	P		Pn	13 53 35.6	+2.5
P40A				IAmb		IAmb	13 54 00.8	
	comp=Z,26nm,1.2s							
EGMT	**Eagleton**	**21.34**	**2**	P		**P**	**13 53 42.2**	**+0.7**
EGMT				IAmb		IAmb	13 54 01.8	
	comp=Z,16nm,1.1s							
LRAL	**Lakeview Retre**	**21.78**	**67**	P		**P**	**13 53 47.6**	**+1.5**
X48A	**Hartselle**	**22.04**	**64**	P		**P**	**13 53 50.8**	**+1.9**
NEW	**Newport**	**22.08**	**349**	P		**P**	**13 53 47.6**	**-1.7**
NEW	**Newport**	**22.08**	**349**	P		**P**	**13 53 53.4**	**+4.1**
	comp=Z,4.3nm,0.8s,baz=170,slow=11,SNR=8.9							
NEW				LR		LR	14 02 53.0	
	comp=Z,812nm,18.4s,baz=176,slow=38 comp=Z,4.3nm,0.8s							
Q44A	**Meyer Farm, Va**	**22.11**	**51**	P		**P**	**13 53 52.2**	**+2.5**
Q44A				IAmb		IAmb	13 53 59.3	
	comp=Z,29nm,1.1s							
152A	**Waverly Hall**	**23.61**	**69**	P		**P**	**13 54 04.8**	**-0.6**
152A				IAmb		IAmb	13 54 13.9	
	comp=Z,28nm,1.4s							
X51A	**Calhoun**	**23.83**	**64**	P		**P**	**13 54 04.1**	**-3.4**
TKL	**Tuckaleechee C**	**24.93**	**62**	LR		LR	14 04 26.2	
	comp=Z,594nm,21.9s,baz=266,slow=38							
ULM	**Lac du Bonnet**	**26.27**	**22**	P		**P**	**13 54 31.2**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=191,slow=13,SNR=3.5 comp=Z,1.2nm,0.5s							
BBB	**Bella Bella**	**28.55**	**338**	LR		LR	14 06 05.1	
	comp=Z,508nm,21.1s,baz=155,slow=36							
JTS	**Las Juntas de**	**29.53**	**119**	LR		LR	14 06 32.2	
	comp=Z,350nm,19.4s,baz=306,slow=36							
SADO	**Sadowa**	**31.30**	**46**	LR		LR	14 08 15.2	
	comp=Z,714nm,20.5s,baz=271,slow=37							
DLBC	**Dease Lake**	**34.44**	**342**	LR		LR	14 10 05.8	
	comp=Z,680nm,19.9s,baz=152,slow=37							
YKA	**Yellowknife Ar**	**35.90**	**357**	P		**P**	**13 55 56.2**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=181,slow=8.6,SNR=14							
YKA				LR		LR	14 11 00.8	
	comp=Z,566nm,19.3s,baz=153,slow=37 comp=Z,0.4nm,0.8s							
SJG	**San Juan**	**42.20**	**92**	LR		LR	14 15 39.7	
	comp=Z,153nm,21.2s,baz=288,slow=38							
SCHQ	**Schefferville**	**42.68**	**37**	LR		LR	14 14 14.9	
	comp=Z,165nm,19.4s,baz=251,slow=36							
INK	**Inuvik**	**43.80**	**348**	LR		LR	14 16 11.4	
	comp=Z,376nm,19.9s,baz=181,slow=37							
BAUV	**El Baul**	**44.32**	**105**	P		**P**	**13 57 05.3**	**+0.6**
IL31		**44.42**	**339**	P		**P**	**13 57 09.0**	**+4.1**
IL31				IAmb		IAmb	13 57 14.7	
	comp=Z,6.7nm,1.2s							
ILAR	**Eielson Array**	**44.42**	**339**	P		**P**	**13 57 07.5**	**+2.6**
	comp=Z,1.2nm,0.6s,baz=147,slow=7.0,SNR=25							
ILAR				LR		LR	14 16 45.8	
	comp=Z,198nm,18.8s,baz=120,slow=38 comp=Z,1.2nm,0.6s							
E29M	**Blow River**	**44.73**	**346**	P		**P**	**13 57 06.4**	**-1.0**
N19K	**Bonanza Creek**	**44.96**	**332**	P		**P**	**13 57 07.7**	**-1.7**
FYU	**Fort Yukon**	**45.16**	**342**	P		**P**	**13 57 10.0**	**-0.7**
FYU				IAmb		IAmb	13 57 18.1	
	comp=Z,11nm,1.4s							
E28M	**Babbage River**	**45.27**	**346**	P		**P**	**13 57 10.4**	**-1.2**
E28M				IAmb		IAmb	13 57 38.5	
	comp=Z,7.2nm,1.4s							
CAST	**Castle Rocks**	**45.39**	**335**	P		**P**	**13 57 12.9**	**+0.3**
CAST				IAmb		IAmb	13 57 17.7	
	comp=Z,7.3nm,1.4s							
I23K	**Minto, Yukon-K**	**45.47**	**338**	P		**P**	**13 57 12.0**	**-1.2**
I23K				IAmb		IAmb	13 57 37.2	
	comp=Z,7.1nm,1.4s							
BMAR	**Burnt Mountain**	**45.60**	**343**	P		**P**	**13 57 13.2**	**-1.1**
MLY	**Manley**	**45.86**	**338**	P		**P**	**13 57 17.5**	**+1.1**
MLY				IAmb		IAmb	13 57 45.7	
	comp=Z,9.1nm,1.4s							
N17K	**Nushagak Hills**	**46.01**	**330**	P		**P**	**13 57 17.2**	**-0.3**
A36M	**Sachs Harbour**	**46.04**	**354**	P		**P**	**13 57 19.1**	**+1.5**
A36M				IAmb		IAmb	13 57 53.8	
	comp=Z,5.7nm,1.1s							
D27M	**Malcolm River**	**46.09**	**346**	P		**P**	**13 57 17.3**	**-0.9**
D27M				IAmb		IAmb	13 57 28.4	
	comp=Z,3.3nm,0.8s							
FRB	**Frobisher Bay**	**46.11**	**25**	LR		LR	14 16 33.2	
	comp=Z,341nm,19.2s,baz=212,slow=36							
ATAH	**Atahualpa**	**46.16**	**132**	LR		LR	14 15 19.1	
	comp=Z,124nm,18.1s,baz=349,slow=34							
L18K	**Granite Mounta**	**46.57**	**333**	P		**P**	**13 57 21.4**	**-0.6**
PCRV	**Puerto La Cruz**	**46.70**	**102**	LR		LR	14 19 10.2	
	comp=Z,132nm,19.8s,slow=39							
DRLN	**Deer Lake**	**46.72**	**46**	P		**P**	**13 57 23.2**	**0.0**
H21K	**Melozitna Rive**	**46.93**	**338**	P		**P**	**13 57 25.3**	**+0.5**
H21K				IAmb		IAmb	13 58 03.7	
	comp=Z,6.1nm,1.4s							
J19K	**Poorman**	**47.03**	**335**	P		**P**	**13 57 24.3**	**-1.2**
J18K	**Innoko River**	**47.18**	**334**	P		**P**	**13 57 26.9**	**+0.2**
IMAR	**Indian Mountai**	**47.44**	**338**	P		**P**	**13 57 28.8**	**+0.1**
E22K	**Anaktuvuk Pass**	**48.11**	**341**	P		**P**	**13 57 32.0**	**-1.9**
E22K				IAmb		IAmb	13 57 44.5	
	comp=Z,6.2nm,1.5s							
J16K	**Anvik River**	**48.66**	**333**	P		**P**	**13 57 37.3**	**-0.9**
J16K				IAmb		IAmb	13 58 21.1	
	comp=Z,9.2nm,1.4s							
D22K	**Ayikyak River**	**48.82**	**341**	P		**P**	**13 57 39.8**	**+0.4**
D22K				IAmb		IAmb	13 58 17.3	
	comp=Z,5.8nm,1.3s							
H17K	**Granite Mounta**	**49.11**	**335**	P		**P**	**13 57 41.3**	**-0.4**
H17K				IAmb		IAmb	13 57 50.5	
	comp=Z,4.9nm,1.2s							
D19K	**Kuna River**	**50.23**	**339**	P		**P**	**13 57 51.9**	**+1.7**
D19K				IAmb		IAmb	13 58 01.6	
	comp=Z,8.6nm,1.4s							
NNA	**Nana**	**50.80**	**135**	LR		LR	14 15 56.2	
	comp=Z,75nm,20.5s,baz=325,slow=32							
RPN	**Rapa Nui**	**53.51**	**178**	LR		LR	14 16 05.9	
	comp=Z,178nm,18.8s,baz=343,slow=30							
BOAV	**Boa Vista**	**54.06**	**108**	P		**P**	**13 58 19.1**	**-0.2**
PPT	**Papeete**	**57.73**	**225**	LR		LR	14 18 12.8	
	comp=Z,118nm,19.9s,baz=358,slow=30							
MDP	**Montagnes des**	**59.57**	**100**	LR		LR	14 28 53.6	
	comp=Z,72nm,18.9s,baz=262,slow=40							
LVC	**Limon Verde**	**63.73**	**136**	LR		LR	14 20 34.0	
	comp=Z,53nm,20.2s,baz=340,slow=30							
RAR	**Rarotonga**	**67.03**	**230**	LR		LR	14 22 27.9	
	comp=Z,142nm,21.6s,baz=28,slow=30							
H03N2	**Juan Fernandez**	**67.11**	**151**	T		T	15 12 57.0	
	baz=331,slow=77,SNR=14							
H03N1	**Juan Fernandez**	**67.12**	**151**	T		T	15 12 56.7	
	baz=331,slow=77,SNR=12							
H03N3	**Juan Fernandez**	**67.13**	**151**	T		T	15 12 49.6	
	baz=331,slow=77,SNR=15							
JMIC	**Jan Mayen**	**69.02**	**20**	LR		LR	14 30 14.6	
	comp=Z,126nm,20.2s,baz=286,slow=36							
SPITS	**Spitsbergen Ar**	**71.05**	**10**	LR		LR	14 32 22.9	
	comp=Z,201nm,18.4s,baz=270,slow=37							
BDFB	**Brasília**	**74.25**	**117**	LR		LR	14 34 30.5	
	comp=Z,116nm,20.5s,baz=316,slow=37							
PLCA	**Paso Flores**	**76.88**	**150**	P		**P**	**14 00 49.2**	**+2.6**
	comp=Z,2.4nm,1.1s,baz=307,slow=5.1,SNR=2.4							
PLCA				LR		LR	14 27 42.6	
	comp=Z,154nm,19.8s,baz=346,slow=30 comp=Z,2.4nm,1.1s							
ARCES	**ARCESS Array B**	**79.08**	**14**	LR		LR	14 37 21.4	
	comp=Z,163nm,19.5s,baz=320,slow=37							
RCBR	**Riachuelo**	**79.44**	**102**	LR		LR	14 37 12.5	
	comp=Z,93nm,21.1s,baz=264,slow=36							
NOA	**NORSAR Array B**	**80.94**	**25**	LR		LR	14 37 32.9	
	comp=Z,82nm,19.1s,baz=110,slow=36							
NRIK	**Noril'sk**	**83.32**	**353**	LR		LR	14 40 21.2	
	comp=Z,157nm,18.8s,baz=350,slow=37							
RAO	**Raoul Island**	**84.83**	**234**	LR		LR	14 37 51.4	
	comp=Z,75nm,18.2s,baz=69,slow=35							
FINES	**FINESS Array B**	**85.62**	**19**	LR		LR	14 39 40.3	
	comp=Z,192nm,19.0s,baz=314,slow=36							
CLL	**Collm**	**88.11**	**31**	*e*P		**P**	**14 01 46.0**	**+0.9**
CLL				*i* x		x	14 01 53.7	
	comp=Z,8.0nm,0.8s							
CLL				AMS		AMS	14 44 00.0	
	comp=Z,200nm,18.0s							
MDT	**Midelt**	**88.42**	**54**	LR		LR	14 39 42.8	
	comp=Z,152nm,18.7s,baz=326,slow=34							
MJAR	**Matsushiro Arr**	**89.46**	**311**	LR		LR	14 35 56.6	
	comp=Z,119nm,18.9s,baz=67,slow=32							
DAVOX	**Davos/Dischmat**	**89.53**	**36**	LR		LR	14 40 58.3	
	comp=Z,275nm,18.5s,baz=281,slow=35							
GERES	**GERESS Array B**	**90.10**	**33**	LR		LR	14 43 03.5	
	comp=Z,180nm,19.5s,baz=298,slow=36							
VRAC	**Vranov**	**91.16**	**31**	LR		LR	14 44 44.6	
	comp=Z,143nm,18.1s,baz=300,slow=37							
JCJ	**Chichijima**	**91.60**	**301**	LR		LR	14 34 53.0	
	comp=Z,76nm,21.2s,baz=24,slow=30							
URZ	**Urewera**	**93.20**	**229**	LR		LR	14 37 51.6	
	comp=Z,105nm,18.5s,baz=121,slow=32							
DZM	**Mont Dzumac**	**93.36**	**247**	LR		LR	14 36 53.8	
	comp=Z,124nm,18.8s,baz=37,slow=31							
AKASG	**Malin Array Be**	**95.34**	**24**	LR		LR	14 44 59.4	
	comp=Z,123nm,19.6s,baz=329,slow=35							
GUMO	**Guam**	**96.17**	**288**	LR		LR	14 36 56.0	
	comp=Z,126nm,21.4s,baz=90,slow=30							
KEST	**Kesra**	**96.25**	**45**	LR		LR	14 45 42.3	
	comp=Z,144nm,19.0s,baz=294,slow=35							
JNU	**Nakatsue**	**96.35**	**312**	LR		LR	14 36 38.7	
	comp=Z,46nm,20.2s,baz=56,slow=30							
ARU	**Arti**	**96.77**	**6**	LR		LR	14 50 15.4	
	comp=Z,119nm,19.5s,baz=342,slow=38							
MLR	**Muntele Rosu**	**98.22**	**29**	LR		LR	14 49 04.7	
	comp=Z,137nm,18.8s,baz=298,slow=37							
ZALV	**Zalesovo Beam**	**98.56**	**351**	LR		LR	14 53 16.1	
	comp=Z,54nm,18.1s,baz=7.5,slow=39							
SONM	**Songino Array**	**98.56**	**336**	LR		LR	14 49 04.8	
	comp=Z,64nm,19.2s,baz=14,slow=37							
BELG	**Belogornoye**	**99.09**	**13**	LR		LR	14 48 24.7	
	comp=Z,170nm,18.1s,baz=322,slow=36							
RPZ	**Rata Peaks**	**99.87**	**226**	LR		LR	14 41 41.9	
	comp=Z,113nm,18.0s,baz=70,slow=32							
HHC	**Hu-ho-hao-te**	**102.05**	**328**	*e*P		**Pdif**	**14 02 49.6**	**+0.4**
HHC				pmax		pmax		
	comp=Z,35nm,1.1s							
HHC				pmax		pmax		
	comp=Z,630nm,3.9s							

IDC ***20*** *13:50:46.0±0.5, 43.66N×87.48E, h0km, mb4.7/31, mbtmp4.7/36, ML4.7/5, MS3.9/46, Error ellipse: s-maj=14.4km s-min=8.9km az=35.0*

MOS ***20*** *13:50:46.8±1.0, 43.64N×87.42E, h16km, mb5.4/72, Error ellipse: s-maj=4.9km s-min=2.9km az=33.9*

NEIC ***20*** *13:50:47.6±1.9, 43.64N±0.05×87.43E±0.08, h10km±1km, mb5.0/136, Error ellipse: s-maj=11.6km s-min=5.0km az=125.0*

NNC ***20*** *13:50:49.5±2.0, 43.59N×87.19E, h3km±9km, mb5.3, mpv5.2, Error ellipse: s-maj=13.8km s-min=8.3km az=120.0*

BJI ***20*** *13:50:50.6±0.0, 43.57N×87.41E, h24km, mb4.7/50, mB4.7/27, ML5.3/12, Ms4.5/52, Ms7 4.2/46*

ISC 20 13:50:50.3±0.5, 43.61N±0.04×87.36E±0.03, h30km±3km, n776, c1s53/789, mb5.0/223, MS3.9/66, 40C-51D, Northern Xinjiang

| Code | Station Name | Δ° | AZ°

BLB Lg Lg 13 54 09.3
comp=Z,1μm,0.7s
ZHN Zhinishke 6.52 269 Pg Pb 13 52 46.8 +3.8
ZHN Lg Lg 13 54 12.6
ZHN Zhinishke 6.52 269 *eP* **Pn 13 52 25.9 +1.7**
ZHN Zhinishke 6.52 269 *eP* **Pn 13 52 26.0 +1.7**
baz=268
SATY Saty 6.55 268 Pg Pb 13 52 48.1 +4.5
comp=Z,191nm,0.5s
SATY Lg Lg 13 54 15.3
comp=Z,826nm,0.9s
SATY Saty 6.55 268 *eP* **Pn 13 52 26.0 +1.3**
SATY Saty 6.55 268 *eP* **Pn 13 52 26.0 +1.3**
baz=268
TDK Taldyqorghan 6.57 285 Pg **Pb 13 52 47.0 +3.1**
comp=Z,395nm,0.5s
TDK Lg Lg 13 54 13.1
comp=Z,3μm,0.8s
TDK Taldyqorghan 6.57 285 *eP* **Pn 13 52 26.1 +1.2**
TDK Taldyqorghan 6.57 285 *eP* **Pn 13 52 26.2 +1.2**
baz=284
PRZ Przheval'sk 6.66 263 Pn **Pn 13 52 29.7 +3.4**
PRZ Przheval'sk 6.66 263 P **Pn 13 52 29.7 +3.4**
KURS Kuram 6.68 272 Pg **Pb 13 52 49.5 +3.9**
comp=Z,80nm,0.8s
KURS Lg Lg 13 54 19.1
comp=Z,779nm,0.8s
ARXS Arharly 6.91 278 Pg Pb 13 52 54.5 +4.8
ARXS Lg Lg 13 54 26.5
ARXS Arharly 6.91 278 *i P* **Pn 13 52 30.5 +0.9**
ANVS Anan'yevo 7.13 267 P **Pn 13 52 35.5 +2.8**
ANVS pmax pmax
comp=Z,311nm,0.6s
TARG Taragay, Kyrgy 7.29 258 Pn **Pn 13 52 36.9 +1.8**
TARG Taragay, Kyrgy 7.29 258 P **Pn 13 52 36.9 +1.8**
CHKK Chushkaly 7.52 275 *eP* **Pn 13 52 38.4 +0.6**
CHKK Chushkaly 7.52 275 *eP* **Pn 13 52 38.5 +0.6**
baz=275
MDOK Medeo 7.53 270 Pn **Pn 13 52 38.9 +0.8**
comp=Z,20nm,0.4s
MDOK Lg Lg 13 54 47.9
comp=Z,980nm,0.8s
MDOK Medeo 7.53 270 *eP* **Pn 13 52 39.2 +1.1**
MDOK Medeo 7.53 270 *eP* **Pn 13 52 39.2 +1.1**
baz=270
TNSS Tian-Shan 7.62 269 *eP* **Pn 13 52 40.8 +1.3**
TNSS Tian-Shan 7.62 269 *eP* **Pn 13 52 40.9 +1.3**
baz=269
KUU Kurty 7.99 276 *eP* **Pn 13 52 44.7 +0.4**
KUU Kurty 7.99 276 *eP* **Pn 13 52 44.7 +0.4**
baz=275
ULHL Ulahol 8.27 264 P **Pn 13 52 49.0 +0.7**
SNR=30
SEM Semipalatinsk 8.36 327 *eP* **Pn 13 52 48.7 -0.7**
SEM Semipalatinsk 8.36 327 *eP* **Pn 13 52 48.8 -0.7**
baz=327
BOOM Boomskoye usch 8.44 266 Pn 13 52 51.1 +0.5
BOOM Boomskoye usch 8.44 266 P **Pn 13 52 51.1 +0.5**
TKM2 Tokmak 2 8.61 269 P **Pn 13 52 54.0 +0.9**
SNR=59
TKM2 Tokmak 2 8.61 269 ⇓Pn **Pn 13 52 52.8 -0.3**
comp=Z,15nm,0.5s
TKM2 ⇓Lg Lg 13 55 17.6
comp=Z,250nm,0.6s
TKM2 Tokmak 2 8.61 269 *i P* **Pn 13 52 53.4 +0.3**
TKM2 pmax pmax
comp=Z,100nm,0.7s
NRN Naryn 8.67 259 Pn 13 52 55.0 +1.1
NRN Naryn 8.67 259 P **Pn 13 52 55.0 +1.1**
KZA Kyzart 9.03 264 P **Pn 13 53 00.4 +1.5**
SNR=29
KBK Karagaybulak 9.13 268 P **Pn 13 53 01.8 +1.7**
SNR=31
CHMS Chumysh 9.22 271 P **Pn 13 53 02.4 +1.3**
SNR=11
CHMS Chumysh 9.22 271 ⇓Pn **Pn 13 53 02.2 +1.1**
comp=Z,4.1nm,0.5s
CHMS ⇓Lg Lg 13 55 40.8
comp=Z,167nm,0.6s
CHMS Chumysh 9.22 271 P **Pn 13 53 02.2 +1.1**
KURBB Kurchatov Arra 9.24 322 ⇓Pn **Pn 13 53 00.5 -0.9**
comp=Z,44nm,0.5s
KURBB ⇓Lg Lg 13 55 45.7
comp=Z,980nm,0.8s
KURBB Kurchatov Arra 9.24 322 P **Pn 13 53 00.4 -0.9**
KURBB Kurchatov Arra 9.24 322 Pn **Pn 13 53 00.6 -0.9**
comp=Z,15nm,0.3s,baz=130,slow=13,SNR=956
KURBB Lg Lg 13 55 40.2
comp=Z,7.6nm,0.3s,baz=133,slow=26,SNR=4.4
KURBB LR LR 13 57 16.2
comp=Z,1μm,19.9s,baz=153,slow=42
comp=Z,88nm,0.4s
SGDS Sogindy 9.25 273 *eP* **Pn 13 53 02.8 +1.2**
SGDS Sogindy 9.25 273 *eP* **Pn 13 53 02.9 +1.2**
baz=273
KURK Kurchatov 9.27 323 ⇓Pn **Pn 13 53 00.9 -0.9**
comp=Z,47nm,0.4s
KURK ⇑Lg Lg 13 55 46.3
comp=Z,673nm,0.7s
KURK Kurchatov 9.27 323 Pn Pn 13 53 00.7 -1.1
KURK Kurchatov 9.27 323 P Pn 13 53 00.7 -1.1
FRU1 Bishkek 9.33 269 Pn Pn 13 53 01.8 -1.0
FRU1 Bishkek 9.33 269 P Pn 13 53 01.8 -1.0
GOMU GeErMu 9.36 140 P Pn 13 53 03.4 0.0
GOMU S Sn **13 54 41.3 -6.4**
GOMU pmax pmax
comp=Z,28nm,0.6s
GOMU LR LR
comp=Z,1μm,14.4s
GOMU LR LR
comp=Z,1μm,13.3s
GOMU LR LR
comp=Z,2μm,15.5s
USP Ospenovka 9.37 272 P **Pn 13 53 05.2 +2.0**
SNR=25
AAK Ala-Archa 9.46 269 P **Pn 13 53 05.8 +1.2**
SNR=16
AAK Ala-Archa 9.46 269 Pn **Pn 13 53 05.7 +1.2**
AAK Ala-Archa 9.46 269 *ce* **P Pn 13 53 05.4 +0.8**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 9.46 269 Pn **Pn 13 53 06.0 +1.4**
comp=Z,3.1nm,0.3s,baz=113,slow=8.0,SNR=41
AAK Lg Lg 13 55 46.9
comp=Z,3.9nm,0.3s,baz=300,slow=18,SNR=2.4
comp=Z,7.9nm,0.4s
KSH Kashi 9.46 248 P Pn 13 53 12.4 +7.8
KSH sP 13 53 20.5
KSH S Sn 13 55 04.8 +15
KSH pmax pmax
comp=Z,43nm,0.6s
KSH LR LR
comp=Z,3μm,4.1s
KSH LR LR
comp=Z,2μm,4.3s
KSH LR LR
comp=Z,2μm,11.0s
UCH Uchtor 9.53 266 P **Pn 13 53 07.5 +1.7**
SNR=21
BTLS Baital 9.65 283 *eP* **Pn 13 53 06.9 -0.2**
BTLS Baital 9.65 283 *eP* **Pn 13 53 06.9 -0.2**
baz=283
ARLS Aral 9.75 264 P **Pn 13 53 10.5 +1.9**
ARLS pmax pmax
comp=Z,66nm,0.7s
EKS2 Erkin-Say 9.98 269 P **Pn 13 53 12.5 +0.8**
SNR=22
AML Almayashu 10.14 266 P **Pn 13 53 16.8 +2.6**
SNR=7.8
AML Almayashu 10.14 266 Pn **Pn 13 53 15.8 +1.6**
comp=Z,1.6nm,0.5s
AML Lg Lg 13 56 08.3
comp=Z,66nm,1.1s
AML Almayashu 10.14 266 P **Pn 13 53 15.8 +1.6**
GTA Gaotai 10.24 110 *eP* **Pn 13 53 15.8 +0.6**
GTA pmax pmax
comp=Z,65nm,0.7s
GTA LR LR
comp=Z,2μm,4.5s
GTA LR LR
comp=Z,2μm,6.5s
GTA LR LR
comp=Z,2μm,10.9s
ZAA0 Zalesovo Array 10.48 352 Pn Pn 13 53 17.0 -1.4
ZALV Zalesovo Beam 10.48 352 Pn Pn 13 53 17.3 -1.1
comp=Z,15nm,0.3s,baz=172,slow=14,SNR=228

ZALV Sn **Sn 13 55 11.0 -3.6**
comp=Z,23nm,0.3s,baz=171,slow=28,SNR=8.4
ZALV Lg Lg 13 56 16.3
comp=Z,3.8nm,0.3s,baz=164,slow=23,SNR=1.7
ZALV LR LR 13 57 55.6
comp=Z,1μm,18.8s,baz=172,slow=41
comp=Z,39nm,0.4s
ARSB Arslanbob 10.87 263 Pn Pn 13 53 26.4 +2.5
ARSB Arslanbob 10.87 263 P Pn 13 53 26.4 +2.5
OHH Osh 11.27 259 P Pn 13 53 30.8 +1.6
OHH pmax pmax
comp=Z,21nm,0.7s
DZA Taraz 11.71 272 *eP* **Pn 13 53 37.2 +1.9**
DZA Taraz 11.71 272 *eP* **Pn 13 53 37.2 +1.9**
baz=272
BRZS Berezniki 11.90 307 *eP* **Pn 13 53 36.9 -0.9**
BRZS Berezniki 11.90 307 *eP* **Pn 13 53 37.0 -0.9**
baz=307
MOY Mondy 12.21 44 *eP* **P 13 53 54.3 0.0**
MOY *eS* **Sn 13 56 01.4 +4.2**
KK31 Karatay Array 12.28 273 ⇓Pn **Pn 13 53 45.0 +1.9**
comp=Z,7.1nm,0.5s,baz=75,slow=14,SNR=214
KK31 ⇑Lg Lg 13 57 18.8
comp=Z,73nm,0.8s,baz=71,slow=28,SNR=3.7
KK31 Karatay Array 12.28 273 Pn **Pn 13 53 44.0 +0.9**
KK31 Karatay Array 12.28 273 *i P* **Pn 13 53 44.6 +1.6**
KKAR Karatay Array 12.28 273 Pn 13 53 44.2 +1.2
KKAR Karatay Array 12.28 273 P **Pn 13 53 44.2 +1.2**
ZAK Zakamensk 12.79 52 *eP* **Pn 13 53 52.6 +2.5**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
BTK Batken 12.84 260 Pn 13 53 50.7 0.0
BTK Batken 12.84 260 P **Pn 13 53 50.7 0.0**
SONM Songino Array 13.95 66 Pn 13 54 07.7 +1.8
SONM Songino Array 13.95 66 P **Pn 13 54 07.7 +1.8**
SONM Songino Array 13.95 66 Pn **Pn 13 54 07.1 +1.2**
comp=Z,0.2nm,0.3s,baz=256,slow=13,SNR=19
SONM Lg Lg 13 58 04.8
comp=Z,0.6nm,0.3s,baz=265,slow=28,SNR=2.9
SONM LR LR 14 00 03.7
comp=Z,213nm,19.8s,baz=253,slow=40
LSA Lhasa 14.21 166 Pn Pn 13 54 08.4 -1.5
LSA Lhasa 14.21 166 P **Pn 13 54 08.4 -1.5**
IRK Irkutsk 14.22 47 *eP* **P 13 54 13.0 -3.5**
IRK pmax pmax
comp=Z,42nm,1.4s
ULN Ulaanbaatar 14.39 66 P Pn 13 54 13.3 +1.4
ULN Ulaanbaatar 14.39 66 *i P* **Pn 13 54 10.5 -1.4**
ULN pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 14.39 66 P **Pn 13 54 13.3 +1.4**
comp=Z,72nm,1.1s
BVA0 Borovoye Array 14.67 316 *i P* **Pn 13 54 13.0 -2.6**
BVAR Borovoye Array 14.67 316 Pn **Pn 13 54 13.4 -2.1**
comp=Z,1.0nm,0.3s,baz=123,slow=13,SNR=108
BVAR Sn **Sn 13 56 50.0 -7.0**
comp=Z,0.4nm,0.3s,baz=102,slow=18,SNR=1.8
BVAR Lg Lg 13 58 27.5
comp=Z,0.6nm,0.3s,baz=122,slow=25,SNR=2.7
comp=Z,22nm,0.4s
SIMJ Simiganj 14.68 257 Pn 13 54 15.3 -0.6
LZH Lanzhou 14.71 115 ⇑P **Pn 13 54 17.9 +1.6**
LZH sP P 13 54 26.8 +4.6
LZH pmax pmax
comp=Z,22nm,1.5s
LZH LR LR
comp=Z,1μm,10.3s
LZH LR LR
comp=Z,1μm,10.5s
LZH LR LR
comp=Z,1μm,10.3s
BRVK Borovoye 14.74 316 Pn 13 54 14.3 -2.2
BRVK Borovoye 14.74 316 *ce* **P Pn 13 54 14.3 -2.2**
BRVK pmax pmax
comp=Z,47nm,0.8s
NIL Nilore 14.83 233 Pn Pn 13 54 15.3 -2.5
NIL Nilore 14.83 233 P Pn 13 54 15.3 -2.5
KBL Kabul 16.83 244 P Pn 13 54 42.3 -1.6
KBL Kabul 16.83 244 P Pn 13 54 42.3 -1.6
KBL pmax pmax
comp=Z,41nm,0.8s
BTO Baotou 17.07 92 *eP* **Pn 13 54 46.0 -0.8**
BTO PP **sP 13 55 00.8 +0.2**
BTO S **Sn 13 57 54.5 -1.1**
BTO SS **SnSn 13 58 13.6 +4.9**
BTO pmax pmax
comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,290nm,6.0s
BTO LR LR
comp=Z,960nm,9.5s
BTO LR LR
comp=Z,890nm,6.6s
BTO LR LR
comp=Z,960nm,10.0s
HHC Hu-ho-hao-te 18.12 90 *eP* **P 13 55 00.8 +0.9**
HHC sP sP 13 55 10.3 -1.9
HHC PP **PnPn 13 55 16.4 +5.4**
HHC S **Sn 13 58 21.1 +0.1**
HHC SS **SnSn 13 58 38.4 +3.9**
HHC pmax pmax
comp=Z,59nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.9s
HHC LR LR
comp=Z,640nm,5.0s
HHC LR LR
comp=Z,540nm,7.1s
HHC LR LR
comp=Z,730nm,8.8s
CD2 Chengdu 18.15 129 P P 13 55 00.3 +0.1
CD2 S **Sn 13 58 23.8 +2.0**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,500nm,8.0s
CD2 LR LR
comp=Z,530nm,7.8s
SHL Shillong 18.38 167 P P 13 55 02.0 -0.8
SHL IAmb IAmb 13 55 13.1
comp=Z,143nm,1.6s
SHL Shillong 18.38 167 P P 13 55 02.0 -0.8
SHL pmax pmax
comp=Z,143nm,1.6s
XAN Xi'an 19.28 112 ⇑P **Pn 13 55 14.6 +0.9**
XAN pP pP 13 55 20.0 -1.0
XAN sP sP 13 55 24.9 -0.1
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN pmax pmax
comp=Z,96nm,4.4s
XAN LR LR
comp=Z,1μm,14.8s
XAN LR LR
comp=Z,600nm,15.5s
XAN LR LR
comp=Z,1μm,15.1s
AB31 Akbulak array 19.66 296 *eP* **P 13 55 16.5 -0.1**
ABKAR Akbulak array 19.66 296 P P 13 55 16.4 -0.1
ABKAR Akbulak array 19.66 296 P P 13 55 16.5 -0.1
TNCH TengChong 20.66 150 *eP* **P 13 55 21.4 -6.4**
TNCH pP Pn 13 55 30.5 +0.3
TNCH sP sP 13 55 38.8 -1.7
TNCH S S 13 59 01.8 -15
TNCH pmax pmax
comp=Z,80nm,0.5s
TNCH pmax pmax
comp=Z,180nm,3.6s
TNCH LR LR
comp=N,230nm,4.8s
TNCH LR LR
comp=E,210nm,6.0s
TNCH LR LR
comp=Z,270nm,9.4s
PZH PanZhiHua 20.68 141 P Pn 13 55 29.9 -0.5
PZH sP sP 13 55 40.9 +0.3
PZH PP **PnPn 13 55 49.1 +2.9**
PZH S **S 13 59 18.8 +1.3**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.3s
PZH LR LR
comp=Z,160nm,13.0s
PZH LR LR
comp=Z,290nm,13.9s
PZH LR LR
comp=Z,310nm,17.0s
XLT XiLinHaoTe 20.71 79 *eP* **P 13 55 24.3 -3.8**
XLT pP Pn 13 55 29.4 -1.2
XLT sP pP 13 55 32.3 -4.2
XLT PP **PnPn 13 55 46.1 -0.3**
XLT S S 13 59 00.4 -17
XLT sS Sn 13 59 23.4 +0.1
XLT SS **SnSn 13 59 35.8 -2.2**
XLT pmax pmax
comp=Z,28nm,0.9s
XLT pmax pmax
comp=Z,84nm,5.0s
XLT LR LR
comp=N,97nm,15.7s
XLT LR LR
comp=E,360nm,6.4s
XLT LR LR
comp=Z,300nm,16.2s
AKTO Aktyubinsk 21.04 299 *i P* **P 13 55 31.2 -0.4**
AKTO pmax pmax
comp=Z,24nm,0.6s
AKTO Aktyubinsk 21.04 299 P **P 13 55 31.6 0.0**
comp=Z,36nm,0.5s,baz=93,slow=8.2,SNR=60
AKTO S **S 13 59 22.1 -2.0**
comp=Z,5.7nm,0.8s,baz=354,slow=20,SNR=1.7
AKTO Lg Lg 14 01 55.3
comp=Z,0.3nm,0.3s,baz=268,slow=2.1,SNR=2.4
comp=Z,36nm,0.5s
LYN LuoYang 21.42 106 ⇑P **P 13 55 38.0 +2.3**
LYN sP sP 13 55 49.9 +1.7
LYN sS sS 13 59 47.9 +2.5
LYN pmax pmax
comp=Z,23nm,0.7s
LYN pmax pmax
comp=Z,140nm,5.8s
LYN LR LR
comp=Z,1μm,11.3s
LYN LR LR
comp=Z,1μm,13.7s
LYN LR LR
comp=Z,1μm,10.3s
SVE Sverdlovsk 21.44 317 *c i P* **P 13 55 36.1 +0.4**
SVE pmax pmax
comp=Z,236nm,0.8s
HRA Herat 21.52 253 P P 13 55 35.2 -1.8
HNS HongShan 21.64 97 ⇓P **P 13 55 40.3 +2.2**
HNS S Sn 13 59 41.6 -4.1
HNS pmax pmax
comp=Z,27nm,0.7s
HNS LR LR
comp=Z,320nm,13.2s
HNS LR LR
comp=Z,610nm,16.2s
HNS LR LR
comp=Z,680nm,16.5s
BJI Beijing 21.72 90 P P 13 55 37.9 -0.9
BJI Pn **sP 13 55 57.6 +6.3**
BJI S **S 13 59 31.8 -5.7**
BJI PcP **PcP 13 59 39.6 +0.8**
BJI Sn Sn 13 59 58.9 +11
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI LR LR
comp=Z,180nm,15.0s
BJI LR LR
comp=Z,160nm,16.2s
BJI LR LR
comp=Z,210nm,13.4s
BJT Baijiatuau 21.72 90 P P 13 55 38.2 -0.7
BJT Baijiatuau 21.72 90 P **P 13 55 38.2 -0.7**
BJT pmax pmax
comp=Z,14nm,0.7s
ENH Enshi 22.05 120 P P 13 55 42.3 -0.2
ARU Arti 22.32 315 P P 13 55 45.0 -0.1
ARU Arti 22.32 315 *c i P* **P 13 55 44.8 -0.3**
ARU PPP PPP 13 56 14.3
ARU S **S 13 59 51.8 +3.2**
ARU pmax pmax
comp=Z,187nm,0.7s
ARU MLR MLR
comp=Z,745nm,21.0s
KMI Kunming 22.32 141 ⇑P **P 13 55 47.3 +1.6**
KMI pmax pmax
comp=Z,32nm,1.0s
KMI LR LR
comp=Z,240nm,15.5s
KMI LR LR
comp=Z,240nm,12.9s
KMI LR LR
comp=Z,350nm,18.6s
GEYT Alibeck 22.80 266 P P 13 55 50.6 +0.1
GEYT IAmb IAmb 13 56 12.8
comp=Z,60nm,0.8s
GEYT Alibeck 22.80 266 P P 13 55 50.7 +0.3
comp=Z,15nm,0.7s,baz=85,slow=5.4,SNR=25
GEYT LR LR 14 05 54.2
comp=Z,440nm,18.6s,baz=68,slow=40
comp=Z,15nm,0.7s
GYA0 ALIBECK ARRAY 22.80 266 P P 13 55 51.5 +1.1
GYA0 pmax pmax
comp=Z,55nm,0.8s
GYA0B ALIBECK ARRAY 22.80 266 P P 13 55 51.5 +1.1
GYA0B IAmb IAmb 13 56 12.8
comp=Z,55nm,0.8s
HIA Hailar 22.91 64 P P 13 55 51.0 -0.5
HIA Hailar 22.91 64 P **P 13 55 51.0 -0.5**
HIA pmax pmax
comp=Z,18nm,1.0s
GYA Guiyang 23.20 131 ⇓P **P 13 55 56.3 +1.5**
GYA S **S 14 00 03.0 -1.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,71nm,3.5s
GYA LR LR
comp=Z,230nm,10.0s
GYA LR LR
comp=Z,160nm,11.0s
GYA LR LR
comp=Z,210nm,9.5s
WHN Wuhan 25.05 112 ⇑ *i P* **P 13 56 14.8 +3.0**
WHN pP **pP 13 56 19.3 -1.6**
WHN sP **sP 13 56 22.6 -2.2**
WHN pmax pmax
comp=Z,60nm,0.8s
WHN LR LR
comp=Z,1μm,8.6s
WHN LR LR
comp=Z,1μm,15.0s
WHN LR LR
comp=Z,2μm,16.0s
CNSH ChangSha 25.67 118 ⇑P **P 13 56 21.4 +3.9**
CNSH S **S 14 00 50.0 +6.0**
CNSH LR LR
comp=Z,430nm,11.4s
CNSH LR LR
comp=Z,320nm,14.0s
CNSH LR LR
comp=Z,560nm,15.3s
CRAI Chiangrai 25.73 151 P P 13 56 18.9 +0.9
CRAI IAmb IAmb 13 56 32.1
comp=Z,42nm,1.0s
NRIK Noril'sk 25.80 0 P **P 13 56 18.2 0.0**
NRIK Noril'sk 25.80 0 *de* **P P 13 56 18.7 +0.5**
NRIK pmax pmax
comp=Z,79nm,0.9s
NRIK Noril'sk 25.80 0 P **P 13 56 18.9 +0.7**
comp=Z,113nm,0.5s,baz=168,slow=6.7,SNR=167
NRIK LR LR 14 07 27.5
comp=Z,1μm,18.3s,baz=177,slow=39
GULI GuiLin 26.20 127 *eP* **P 13 56 28.9 +6.6**
GULI LR LR
comp=Z,260nm,20.1s
GULI LR LR
comp=Z,340nm,11.4s
GULI LR LR
comp=Z,300nm,18.4s
CHTO Chiang Mai 26.57 155 P **P 13 56 24.3 -1.4**
CHTO IAmb IAmb 13 56 37.5
comp=Z,29nm,0.9s
CHTO Chiang Mai 26.57 155 P **P 13 56 24.3 -1.4**
CHTO pmax pmax
comp=Z,29nm,1.0s
CHTO Chiang Mai 26.57 155 P **P 13 56 27.5 +1.8**

comp=Z,33nm,1.1s
CM31 Chiang Mai Arr 26.91 155 P **P** **13 56 27.2 -1.5**
CM31 IAmb IAmb 13 56 43.7
comp=Z,50nm,1.1s
CMAR Chiang Mai Arr 26.91 155 P **P** **13 56 25.8 -2.9**
CMAR Chiang Mai Arr 26.91 155 P **P** **13 56 30.6 +1.8**
comp=Z,4.1nm,0.9s,baz=335,slow=9.2,SNR=25
CMAR LR LR 14 08 22.2
comp=Z,154nm,19.2s,baz=335,slow=39
comp=Z,4.1nm,0.9s
HYB Hyderabad 27.16 199 *e*P **P** **13 56 31.6 +0.6**
NJ2 Nanjing 27.26 104 *e*P **P** **13 56 29.8 -2.0**
NJ2 sP **pP** **13 56 35.3 -5.7**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,240nm,4.2s
CN2 Changchun 27.38 76 *e*P **P** **13 56 31.1 -1.7**
CN2 *es*P pP 13 56 38.0 -3.9
CN2 *e*S **S** **14 01 07.0 -3.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=N,400nm,11.0s
CN2 LR LR
comp=E,200nm,11.0s
CN2 LR LR
comp=Z,400nm,12.0s
BELG Belogornoye 27.70 303 *d i*P **P** **13 56 35.9 +0.4**
BELG pmax pmax
comp=Z,21nm,1.0s
BELG Belogornoye 27.70 303 LR LR 14 08 11.7
comp=Z,96nm,19.0s,baz=225,slow=38
ZEA Zeya 27.88 55 *e*P **P** **13 56 44.1 +7.0**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,200nm,13.0s
MAK Makhachkala 28.83 283 *e*P **P** **13 56 41.7 -4.0**
MAK *e* 13 57 32.7
MAK *e*S **S** **14 01 29.8 -3.8**
MAK pmax pmax
comp=Z,39nm,0.3s
MAK MLR MLR
comp=Z,159nm,16.0s
LKRN Lenkeran, Azer 29.27 274 P **P** **13 56 51.3 +1.6**
SSE Sheshan 29.44 104 P **P** **13 56 50.6 -0.6**
SSE S **S** **14 01 42.4 -1.0**
SSE pmax pmax
comp=Z,5.0nm,0.7s
SSE pmax pmax
comp=Z,60nm,5.0s
SSE LR LR
comp=Z,260nm,18.7s
SSE LR LR
comp=Z,160nm,19.0s
SEKA Sheki 29.55 279 P **P** **13 56 53.9 +1.7**
MNGR Mingechevir, A 29.77 279 P **P** **13 56 57.0 +2.9**
ZKTA Zakatala 29.83 280 P **P** **13 56 56.9 +2.2**
GROC Groznyy 29.98 284 *e*P **P** **13 56 57.4 +1.5**
GROC *e* 13 57 55.5
GROC pmax pmax
comp=Z,53nm,1.4s
GANJ Ganja 30.36 279 P **P** **13 57 02.4 +3.0**
YAK Yakutsk 30.76 38 P **P** **13 57 01.4 -1.1**
YAK Yakutsk 30.76 38 *de*P **P** **13 57 02.5 -0.1**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK Yakutsk 30.76 38 LR LR 14 09 54.0
comp=Z,14nm,18.6s,baz=211,slow=37
KLR Kul'dur 30.76 64 *i*P **P** **13 57 03.5 +0.7**
KLR pmax pmax
comp=Z,16nm,3.0s
KLR Kul'dur 30.76 64 LR LR 14 10 54.1
comp=Z,215nm,19.0s,baz=274,slow=39
QIZ Qiongzhong 30.94 135 P **P** **13 57 04.3 -0.3**
QIZ PP **PP** **13 58 14.3 -0.4**
QIZ S **S** **14 02 10.6 +3.5**
QIZ LR LR
comp=Z,130nm,3.8s
KS19 Wonju Array Si 31.14 87 P **P** **13 57 06.6 +0.3**
KSAR Wonju Array Be 31.18 87 P **P** **13 57 05.6 -1.0**
KSAR Wonju Array Be 31.18 87 P **P** **13 57 05.6 -1.0**
WSAR Wadi Sarin 31.18 239 LR LR 14 12 38.0
comp=Z,224nm,20.8s,baz=48,slow=42
KSRS Korea Array 31.20 87 P **P** **13 57 07.5 +0.8**
comp=Z,2.9nm,0.7s,baz=290,slow=9.0,SNR=14
comp=Z,2.9nm,0.7s
VRH Novokhopyorsk 31.38 300 *e*P **P** **13 57 08.4 +0.3**
VRH pmax pmax
comp=Z,120nm,0.6s
ZEI Tsey 31.43 284 *e*P **P** **13 57 07.7 -1.2**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
GOF Gofitskoye 31.44 288 *ce*P **P** **13 57 10.8 +2.0**
NAX Nakhchivan 31.47 277 P **P** **13 57 11.5 +2.2**
GNI Garni 31.66 279 P **P** **13 57 11.9 +0.9**
GNI IAmb IAmb 13 57 19.4
comp=Z,26nm,0.9s
GNI Garni 31.66 279 P **P** **13 57 13.3 +2.2**
comp=Z,19nm,0.7s,baz=0.5,slow=6.0,SNR=7.7
comp=Z,19nm,0.7s
MSHR Mys Shultsa 31.73 76 *i*P **P** **13 57 11.6 +0.3**
MSHR pmax pmax
comp=Z,13nm,1.1s
ONI Oni 31.80 284 P **P** **13 57 12.3 +0.2**
ONI Oni 31.80 284 P **P** **13 57 12.3 +0.2**
ONI pmax pmax
comp=Z,33nm,0.7s
USRK Ussuriysk Ar. 31.86 73 LR LR 14 11 11.5
comp=Z,270nm,19.7s,baz=288,slow=39
KBZ Khabaz 31.87 286 *ce*P **P** **13 57 12.8 +0.3**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 31.87 286 P **P** **13 57 13.1 +0.6**
comp=Z,10nm,0.7s,baz=98,slow=4.2,SNR=27
comp=Z,10nm,0.7s
KIV Kislovodsk 31.96 286 P **P** **13 57 12.4 -1.0**
KIV IAmb IAmb 13 58 18.6
comp=Z,18nm,0.7s
KIV Kislovodsk 31.96 286 *e*P **P** **13 57 15.4 +1.9**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,55nm,15.0s
AKH Akhalkalaki 32.13 281 P **P** **13 57 14.5 -0.7**
AKH Akhalkalaki 32.13 281 P **P** **13 57 14.5 -0.7**
AKH pmax pmax
comp=Z,93nm,1.5s
VORR Voronezh 32.91 301 *e*P **P** **13 57 21.2 -0.4**
VORR pmax pmax
comp=Z,47nm,1.4s
VORD Divnogorie 32.92 300 *e*P **P** **13 57 21.3 -0.4**
VORD pmax pmax
comp=Z,50nm,0.8s
VSR Storozhevoye 32.98 301 *e*P **P** **13 57 21.1 -1.1**
VSR pmax pmax
comp=Z,50nm,0.5s
LPSR Galich'ya Gora 33.01 303 *e*P **P** **13 57 22.6 +0.2**
LPSR pmax pmax
comp=Z,150nm,0.8s
KLMR Klimovskoe 33.07 318 *e*P **P** **13 57 20.6 -2.3**
KLMR pmax pmax
comp=Z,102nm,1.2s
KLMR MLR MLR
comp=Z,550nm,17.0s
MOS Moscow 33.66 309 *e*P **P** **13 57 27.5 -0.6**
MOS *e* 13 58 36.7
MOS *e*S **S** **14 02 44.4 -4.4**
MOS pmax pmax
comp=Z,100nm,0.7s
MOS pmax pmax
comp=Z,137nm,1.1s
SOC Sochi 34.13 287 *e*P **P** **13 57 27.9 -4.4**
SOC *e*PPP PPP 13 58 55.0
SOC *e*S **S** **14 02 53.3 -3.0**
SOC *e*SS **SnSn** **14 05 08.1 +3.0**
SOC MLR MLR
comp=Z,135nm,19.0s
GURO Guroymak-BITLI 34.21 277 P **P** **13 57 32.1 -1.1**
OBN Obninsk 34.27 308 P **P** **13 57 31.9 -1.4**
OBN Obninsk 34.27 308 ⇓*i*P **P** **13 57 33.6 +0.2**
OBN *e* 13 58 49.6

OBN *e*S **S** **14 02 59.7 +1.4**
OBN pmax pmax
comp=Z,78nm,1.0s
OBN MLR MLR
comp=Z,218nm,20.0s
OBN Obninsk 34.27 308 P **P** **13 57 33.8 +0.4**
comp=Z,49nm,0.6s,baz=122,slow=4.1,SNR=16
OBN LR LR 14 12 37.2
comp=Z,224nm,19.7s,baz=114,slow=38
comp=Z,49nm,0.6s
TIXI Tiksi 34.49 22 P **P** **13 57 35.6 +0.6**
TIXI IAmb IAmb 13 57 36.2
comp=Z,21nm,1.4s
TIXI Tiksi 34.49 22 *ce*P **P** **13 57 35.3 +0.2**
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 34.49 22 LR LR 14 12 30.6
comp=Z,26nm,19.1s,baz=238,slow=38
JNU Nakatsue 35.33 92 P **P** **13 57 43.1 +0.3**
JNU Nakatsue 35.33 92 LR LR 14 13 30.0
comp=Z,211nm,20.0s,baz=302,slow=39
PALK Pallekele 36.66 191 P **P** **13 57 53.8 -0.5**
PALK Pallekele 36.66 191 P **P** **13 57 53.8 -0.5**
PALK pmax pmax
comp=Z,96nm,2.0s
PALK Pallekele 36.66 191 LR LR 14 13 57.4
comp=Z,127nm,20.1s,baz=114,slow=38
PALK Pallekele 36.66 191 P **P** **13 57 57.0 +2.7**
comp=Z,15nm,1.2s
JOW Kunigami 36.96 103 LR LR 14 14 03.8
comp=Z,157nm,19.0s,baz=36,slow=38
APA Apatity 36.99 329 ⇓*i*P P 13 57 50.8 -5.8
APA pmax pmax
comp=Z,12nm,0.7s
APA MLR MLR
comp=Z,1μm,15.0s
PUL Pulkovo 37.55 316 *ce*P **P** **13 58 02.8 +1.4**
PUL pmax pmax
comp=Z,176nm,0.7s
SIM Simferopol' 37.57 291 *e*P **P** **13 58 01.9 +0.1**
SIM *e* 13 59 29.6
SIM pmax pmax
comp=Z,74nm,0.8s
GAZ Gaziantep 38.25 278 P **P** **13 58 06.5 -1.2**
GAZ IAmb IAmb 13 58 10.8
comp=Z,18nm,0.9s
BNN Bunyan 38.52 281 P **P** **13 58 08.2 -1.8**
BNN IAmb IAmb 13 58 13.4
comp=Z,33nm,1.0s
VADS Vadso 38.97 333 *e*P **P** **13 58 13.8 +0.6**
MJAR Matsushiro Arr 39.03 83 P **P** **13 58 13.7 -0.5**
comp=Z,1.0nm,0.8s,baz=300,slow=10,SNR=3.7
MJAR LR LR 14 15 01.1
comp=Z,47nm,18.3s,baz=301,slow=37
comp=Z,1.0nm,0.8s
ASAJ Asahikawa 39.19 69 LR LR 14 15 34.2
comp=Z,247nm,18.1s,baz=154,slow=38
AKASG Malin Array Be 39.26 301 P **P** **13 58 15.8 -0.1**
AKASG IAmb IAmb 13 58 17.1
comp=Z,29nm,0.9s
AKASG Malin Array Be 39.26 301 P **P** **13 58 16.1 +0.2**
comp=Z,4.1nm,0.4s,baz=70,slow=8.9,SNR=42
comp=Z,4.1nm,0.4s
AKBB Malin Array Si 39.26 301 IAmb IAmb 13 58 17.2
comp=Z,34nm,1.0s
AKBB Malin Array Si 39.26 301 *i* P **P** **13 58 15.8 -0.1**
AKBB pmax pmax
comp=Z,36nm,1.0s
KIEV Kiev 39.27 301 ⇓P **P** **13 58 16.3 +0.3**
KIEV Kiev 39.27 301 P **P** **13 58 16.1 +0.1**
KIEV IAmb IAmb 13 58 17.2
comp=Z,28nm,0.9s
KIEV Kiev 39.27 301 P **P** **13 58 16.3 +0.3**
MNK Minsk 39.33 308 *i* P **P** **13 58 16.9 +0.4**
comp=E,13nm,0.9s
MNK *i* P **P** **13 58 16.9 +0.4**
comp=N,15nm,0.9s
MNK *i* P **P** **13 58 16.9 +0.4**
comp=Z,45nm,0.8s,baz=81
MNK *i* PP **PP** **13 59 47.1 +0.3**
MNK *i* PPP PPP 14 00 08.7
MNK *i* S **S** **14 04 18.5 +3.1**
MNK *i* SS **SnSn** **14 07 12.6 +1.9**
MNK *i* SSS SSS 14 07 30.9
MNK *i* LQ LQ 14 11 36.2
MNK *i* LR LR 14 14 35.6
MNK *i* LRM MLR 14 15 39.7
comp=E,83nm,20.0s
MNK *i* LRM MLR 14 15 48.7
comp=N,112nm,16.8s
MNK *i* LRM MLR 14 15 50.0
comp=Z,178nm,17.4s
MNK Minsk 39.33 308 *i* P **P** **13 58 16.8 +0.4**
MNK *i* 13 59 47.0
MNK *i* PPP PPP 14 00 08.7
MNK *i* 14 00 25.4
MNK *i* S **S** **14 04 18.4 +3.1**
MNK *i* SSS SSS 14 07 30.9
MNK *i* 14 08 25.8
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=E,13nm,0.9s
MNK pmax pmax
comp=Z,45nm,0.9s
MNK MLR MLR
comp=E,83nm,20.0s
MNK MLR MLR
comp=N,112nm,17.0s
MNK MLR MLR
comp=Z,178nm,17.0s
VSU Vasula 39.47 314 *ce*P **P** **13 58 18.5 +1.0**
VSU pmax pmax
comp=Z,60nm,0.6s
VSU Vasula 39.47 314 *e*P **P** **13 58 18.5 +1.0**
FIA1 FINESS Array S 39.60 319 P **P** **13 58 18.1 -0.5**
FINES FINESS Array B 39.60 319 P **P** **13 58 19.1 +0.5**
comp=Z,26nm,0.9s,baz=81,slow=8.1,SNR=86
FINES LR LR 14 15 47.1
comp=Z,406nm,19.3s,baz=98,slow=38
comp=Z,26nm,0.9s
OUL Oulu 39.68 324 P **P** **13 58 18.7 -0.5**
OUL pmax pmax
comp=Z,50nm,0.9s
KEV Kevo 39.70 332 P **P** **13 58 20.1 +0.8**
KEV IAmb IAmb 13 58 20.9
comp=Z,47nm,1.1s
KEV Kevo 39.70 332 P **P** **13 58 20.1 +0.8**
KEV pmax pmax
comp=Z,47nm,1.1s
BR131 Keskin Array S 39.74 283 P **P** **13 58 20.6 +0.4**
BR131 IAmb IAmb 13 58 23.1
comp=Z,16nm,0.7s
BR131 Keskin Array S 39.74 283 *i* P **P** **13 58 20.8 +0.6**
BRTR Keskin Array B 39.74 283 P **P** **13 58 20.9 +0.7**
BRTR Keskin Array B 39.74 283 P **P** **13 58 21.5 +1.3**
comp=Z,14nm,0.8s,baz=92,slow=7.1,SNR=52
comp=Z,14nm,0.8s
NACGM Naroch 39.90 308 *e*P **P** **13 58 22.0 +0.8**
comp=E,2μm,1.0s
ISAL Salakas 40.16 309 *e*P **P** **13 58 26.4 +3.1**
ARA0 ARCESS Array S 40.19 331 *e*P **P** **13 58 24.3 +0.8**
ARCES ARCESS Array B 40.19 331 P **P** **13 58 23.7 +0.2**
ARCES IAmb IAmb 13 58 48.8
comp=Z,78nm,1.8s
ARCES ARCESS Array B 40.19 331 P **P** **13 58 24.1 +0.7**
comp=Z,11nm,0.7s,baz=90,slow=7.7,SNR=43
ARCES LR LR 14 17 16.9
comp=Z,472nm,18.6s,baz=112,slow=40
comp=Z,11nm,0.7s
ANTO Ankara 40.27 284 P **P** **13 58 23.6 -1.0**
ANTO IAmb IAmb 13 58 27.1
comp=Z,22nm,0.8s
ANTO Ankara 40.27 284 P **P** **13 58 23.6 -1.0**
ANTO pmax pmax
comp=Z,22nm,0.9s
SORM Soroca 40.46 298 ⇑P **P** **13 58 26.2 +0.3**
SORM Soroca 40.46 298 P **P** **13 58 26.1 +0.3**
KIS Kishinev 40.49 296 *e*P **P** **13 58 26.4 +0.3**
comp=Z,80nm,0.7s
MEF Metsahovi 40.50 317 *e*P **P** **13 58 27.2 +1.1**
MILM Milestii Mici 40.52 296 ⇓*i*P **P** **13 58 26.3 0.0**
comp=Z,110nm,0.8s
MILM Milestii Mici 40.52 296 ⇑P **P** **13 58 26.9 +0.6**
MILM Milestii Mici 40.52 296 P **P** **13 58 26.9 +0.6**
MA2 Magadan 40.79 44 P **P** **13 58 27.9 -0.6**

MA2 Magadan 40.79 44 *ce*P **P** **13 58 29.8 +1.3**
MA2 pmax pmax
comp=Z,14nm,1.2s
MA2 Magadan 40.79 44 LR LR 14 16 14.5
comp=Z,99nm,19.8s,baz=143,slow=38
HAMF Hammerfest 40.94 333 *e*P **P** **13 58 30.0 +0.4**
KTK1 Kautokeino 40.94 330 *e*P **P** **13 58 30.0 +0.4**
KTK1 IAmb IAmb 13 58 32.2
comp=Z,14nm,0.8s
TLCR 41.06 293 ⇑P **P** **13 58 31.8 +0.9**
TLCR 41.06 293 P **P** **13 58 31.7 +0.9**
TGY Tagaytay City 41.10 125 LR LR 14 16 13.9
comp=Z,152nm,19.3s,baz=102,slow=37
MDUB Mudurnu 41.16 286 P **P** **13 58 31.3 -0.6**
SEY Seymchan 41.28 39 *ce*P **P** **13 58 31.8 -0.7**
SEY pmax pmax
comp=Z,4.0nm,1.2s
SEY Seymchan 41.28 39 LR LR 14 16 18.4
comp=Z,156nm,20.4s,baz=350,slow=37
VSVD Vaisvydziai 41.32 310 *e*P **P** **13 58 34.4 +1.6**
VLDR Vladesti 41.33 295 ⇓P **P** **13 58 34.4 +1.3**
PABE Paberze 41.38 310 P **P** **13 58 33.9 +0.5**
PABE Paberze 41.38 310 *e*P **P** **13 58 35.0 +1.6**
HORU Horodok 41.38 300 P **P** **13 58 34.5 +1.0**
TPGR Topolog 41.44 293 ⇓P **P** **13 58 34.6 +0.6**
MMAI Mount Meron Ar 41.51 273 P **P** **13 58 36.5 +1.7**
comp=Z,2.7nm,0.5s,baz=56,slow=10,SNR=7.1
MMAI LR LR 14 18 35.1
comp=Z,56nm,20.1s,baz=16,slow=40
comp=Z,2.7nm,0.5s
CFR Carcaliu 41.52 294 ⇑P **P** **13 58 35.5 +0.8**
CFR Carcaliu 41.52 294 P **P** **13 58 35.4 +0.8**
TIRR Tirgusor 41.58 292 P **P** **13 58 36.2 +1.1**
TIRR Tirgusor 41.58 292 P **P** **13 58 36.2 +1.1**
TIRR pmax pmax
comp=Z,210nm,1.4s
TUDR 41.69 294 ⇑P **P** **13 58 36.6 +0.6**
GHRR 41.71 295 ⇓P **P** **13 58 37.7 +1.5**
RAF Rauma 41.72 318 *e*P **P** **13 58 36.7 +0.6**
SNSI Sinabang, Aceh 41.79 166 P **P** **13 58 38.6 +1.5**
comp=Z,57nm,0.8s
HARR Harsova 41.82 293 ⇓P **P** **13 58 38.5 +1.3**
HARR Harsova 41.82 293 P **P** **13 58 38.4 +1.3**
SLIT Slitere, Latvi 41.92 313 *e*P **P** **13 58 37.9 +0.1**
PANC Panciu 41.94 295 ⇑P **P** **13 58 40.0 +1.9**
JETT Jettan, Norway 41.98 331 *e*P **P** **13 58 38.8 +0.6**
TESC Tescani 42.06 296 ⇑P **P** **13 58 40.1 +1.1**
PRAR RASCA 42.06 297 ⇑P **P** **13 58 39.5 +0.4**
ICOR Ion Corvin 42.11 292 ⇑P **P** **13 58 41.3 +1.8**
VRI Vrincioaia 42.22 295 ⇑P **P** **13 58 41.9 +1.4**
VRI Vrincioaia 42.22 295 P **P** **13 58 41.8 +1.4**
PLOR Plostina 42.27 295 ⇓P **P** **13 58 42.3 +1.3**
PLOR Plostina 42.27 295 P **P** **13 58 42.2 +1.3**
GHAJ Ghor Haditha 42.28 271 P **P** **13 58 40.0 -1.0**
PBUR Paburge 42.41 311 *e*P **P** **13 58 43.0 +1.2**
TRO Tromso 42.50 331 *e*P **P** **13 58 42.7 +0.4**
TRO IAmb IAmb 13 58 43.6
comp=Z,31nm,1.1s
KSV Kosov 42.51 299 P **P** **13 58 43.5 +0.8**
COVR Voineasa-Covas 42.57 295 ⇑P **P** **13 58 44.5 +1.3**
ISR Istrita 42.60 294 ⇓P **P** **13 58 45.8 +2.3**
ISR Istrita 42.60 294 P **P** **13 58 45.8 +2.3**
BURAR Bucovina Array 42.63 298 ⇓P **P** **13 58 44.7 +0.9**
BURAR Bucovina Array 42.63 298 P **P** **13 58 43.4 -0.4**
BUR Bucovina Array 42.63 298 P **P** **13 58 44.7 +0.9**
BUR08 Bucovina Ar. S 42.63 298 P **P** **13 58 44.6 +0.8**
LVV L'vov 42.71 301 *e*P **P** **13 58 45.2 +0.9**
LVV *e* 14 00 39.3
LVV MLR MLR
comp=Z,200nm,16.0s
ISP Isparta 42.75 282 P **P** **13 58 44.6 -0.3**
ISP IAmb IAmb 13 58 46.9
comp=Z,43nm,0.9s
ISP Isparta 42.75 282 P **P** **13 58 44.6 -0.3**
ISP pmax pmax
comp=Z,43nm,0.9s
OZUR 42.76 296 ⇑P **P** **13 58 45.7 +0.9**
MLR Muntele Rosu 42.86 295 ⇑P **P** **13 58 47.2 +1.4**
MLR Muntele Rosu 42.86 295 P **P** **13 58 45.6 -0.2**
MLR IAmb IAmb 13 58 50.8
comp=Z,15nm,0.7s
MLR Muntele Rosu 42.86 295 P **P** **13 58 47.5 +1.7**
comp=Z,18nm,0.8s,baz=167,slow=7.4,SNR=21
MLR LR LR 14 19 57.9
comp=Z,188nm,19.8s,baz=66,slow=41
comp=Z,18nm,0.8s
DOPR Dopca 43.06 296 ⇓P **P** **13 58 48.9 +1.6**
LOZB Loznitsa 43.20 292 ⇓P **P** **13 58 49.3 +0.9**
ARCR ARCALIA 43.36 298 ⇑P **P** **13 58 50.7 +1.1**
VOIR 43.47 295 ⇓P **P** **13 58 51.4 +0.7**
VOIR 43.47 295 P **P** **13 58 51.3 +0.7**
KWP Kalwaria Pacla 43.58 302 *e*P **P** **13 58 52.8 +1.4**
KWP Kalwaria Pacla 43.58 302 P **P** **13 58 52.3 +0.9**
KWP Kalwaria Pacla 43.58 302 P **P** **13 58 52.3 +0.9**
KWP pmax pmax
comp=Z,64nm,0.8s
EIL Elat 43.60 269 LR LR 14 20 12.7
comp=Z,101nm,18.9s,baz=65,slow=40
ELL Elmali 43.67 281 P **P** **13 58 53.3 +0.9**
ELL Elmali 43.67 281 P **P** **13 58 53.3 +0.9**
ELL pmax pmax
comp=Z,76nm,0.7s
KLNR Kaliningrad 43.69 309 *i* P **P** **13 58 52.8 +0.7**
KLNR pmax pmax
comp=Z,144nm,0.9s
BMR Baia Mare 43.71 299 P **P** **13 58 55.3 +2.9**
ARR Arges 43.77 295 ⇓P **P** **13 58 54.3 +1.3**
SPA0 Spitsbergen Ar 43.84 344 *e*P **P** **13 58 54.0 +1.0**
SPITS Spitsbergen Ar 43.84 344 P **P** **13 58 51.9 -1.2**
comp=Z,7.3nm,0.8s,baz=126,slow=11,SNR=2.0
comp=Z,7.3nm,0.8s
STEI Steigen 43.89 329 *e*P **P** **13 58 54.1 +0.5**
STEI IAmb IAmb 13 58 54.8
comp=Z,56nm,0.8s
TRSU Trosnyk 43.91 299 P **P** **13 58 54.5 +0.5**
FAUS Fauske 43.92 328 *e*P **P** **13 58 54.1 +0.3**
FAUS IAmb IAmb 13 58 55.1
comp=Z,66nm,0.8s
KOLS Kolonicke sedl 44.07 301 *e*P **P** **13 58 56.4 +1.1**
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 44.07 301 *e*P **P** **13 58 56.4 +1.1**
UZH Uzhgorod 44.16 300 P **P** **13 58 57.0 +1.0**
MARR Marisel-Cluj 44.29 297 ⇓P **P** **13 58 58.4 +1.2**
LOT Lotru 44.31 295 ⇓P **P** **13 58 58.2 +0.8**
MOR8 Moi Rana 44.38 326 *e*P **P** **13 58 57.2 -0.4**
MOR8 IAmb IAmb 13 58 57.6
comp=Z,38nm,0.7s
LOF Lofoten 44.51 329 *e*P **P** **13 58 58.8 +0.3**
LOF IAmb IAmb 13 58 59.1
comp=Z,80nm,1.0s
DRGR 44.52 298 ⇓P **P** **13 59 00.1 +1.1**
DRGR 44.52 298 P **P** **13 59 00.1 +1.1**
STHS Stebnicka Huta 44.56 302 *e*P **P** **13 58 59.6 +0.4**
STHS Stebnicka Huta 44.56 302 *e*P **P** **13 58 59.6 +0.4**
CRVS Cervenica-Dubn 44.59 301 *e*P **P** **13 59 00.0 +0.5**
CRVS pmax pmax
comp=Z,11nm,0.9s
CRVS Cervenica-Dubn 44.59 301 *e*P **P** **13 59 00.0 +0.5**
KONS Konsvik 44.87 327 *e*P **P** **13 59 01.8 +0.4**
KONS IAmb IAmb 13 59 02.8
comp=Z,25nm,1.0s
STOK Stokkvaagen 44.93 327 *e*P **P** **13 59 02.6 +0.7**
GZR Gura Zlata 44.98 296 ⇓P **P** **13 59 04.6 +2.0**
NIE Niedzica 45.14 302 *e*P **P** **13 59 05.7 +1.8**
NIE Niedzica 45.14 302 P **P** **13 59 05.5 +1.6**
OJC Ojcow 45.18 303 *e*P **P** **13 59 05.1 +0.9**
OJC Ojcow 45.18 303 P **P** **13 59 03.4 -0.8**
OJC ScP **ScP** **14 04 41.5 +7.2**
OJC Ojcow 45.18 303 P **P** **13 59 03.4 -0.8**
OJC pmax pmax
comp=Z,34nm,0.9s
SURR Surduc 45.27 297 ⇓P **P** **13 59 06.5 +1.6**
SIRR Siria 45.38 297 ⇑P **P** **13 59 07.4 +1.6**
HERR Herculane 45.41 295 ⇓P **P** **13 59 06.6 +0.7**
BZS Buzias 45.65 297 P **P** **13 59 09.4 +1.5**
NSS Namsos 45.66 324 *e*P **P** **13 59 07.8 +0.2**
BLEU Blekinge 45.67 312 *i* P **P** **13 59 07.0 -0.9**
BLKB Belogradchik 45.73 294 ⇑P **P** **13 59 09.5 +0.9**
LANS Liptovska Anna 45.74 302 *e*P **P** **13 59 10.6 +2.0**
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 45.74 302 *e*P **P** **13 59 10.6 +2.0**

HFS Hagfors 45.79 318 P **P** **13 59 09.2 +0.4**
comp=Z,21nm,0.7s,baz=93,slow=9.1,SNR=43
HFS LR LR 14 19 20.0
comp=Z,309nm,18.8s,baz=104,slow=37
comp=Z,21nm,0.7s
PSZ Piszkesteto 45.91 300 ⇑P **P** **13 59 11.7 +1.6**
PSZ Piszkesteto 45.91 300 P **P** **13 59 08.7 -1.3**
PSZ IAmb IAmb 13 59 13.7
comp=Z,12nm,0.9s
PSZ Piszkesteto 45.91 300 P **P** **13 59 11.6 +1.6**
MDVR Moldovita 45.91 295 ⇓P **P** **13 59 10.9 +0.9**
PETK Petropavlovsk- 45.92 52 LR LR 14 19 46.7
comp=Z,214nm,19.2s,baz=50,slow=38
VYHS Vyhne 46.36 301 *e*P **P** **13 59 15.1 +1.6**
VYHS pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 46.36 301 *e*P **P** **13 59 15.1 +1.6**
BILL Bilibino 46.42 31 *i* P **P** **13 59 14.3 +0.7**
BILL pmax pmax
comp=Z,3.0nm,1.1s
BSD Bornholm Skovb 46.49 311 *i* P **P** **13 59 13.2 -1.2**
BSD IAmb IAmb 13 59 15.0
comp=Z,32nm,0.9s
NC405 NORSAR Array S 46.51 320 P **P** **13 59 14.2 -0.2**
NC405 PcP **PcP** **14 00 46.4 -2.0**
SBUM Sibu 46.55 145 P **P** **13 59 15.3 0.0**
SBUM IAmb IAmb 13 59 28.6
comp=Z,9.3nm,0.8s
SBUM Sibu 46.55 145 P **P** **13 59 18.0 +2.7**
comp=Z,14nm,0.9s
DEL Delary 46.66 313 *i* P **P** **13 59 15.0 -0.7**
DEL *i* P **P** **13 59 15.0 -0.7**
TBLU Trondheim 46.66 323 *e*P **P** **13 59 15.1 -0.5**
KSM Kuching 46.67 148 P **P** **13 59 15.7 -0.4**
KSM IAmb IAmb 13 59 28.9
comp=Z,16nm,0.7s
KSM PcP **PcP** **14 00 46.6 -3.0**
KSM Kuching 46.67 148 P **P** **13 59 16.4 +0.2**
MAUC Maruska 46.67 303 *e*P **P** **13 59 17.3 +1.3**
NC602 NORSAR Array S 46.68 319 P **P** **13 59 15.6 -0.2**
NC602 NORSAR Array S 46.68 319 *e*P **P** **13 59 16.1 +0.3**
NC602 IAmb IAmb 13 59 16.8
comp=Z,65nm,0.9s
NORES NORESS Array B 46.68 319 P **P** **13 59 16.6 +0.8**
MORC Moravsky Berou 46.70 303 ⇑P **P** **13 59 17.5 +1.3**
MORC Moravsky Berou 46.70 303 P **P** **13 59 17.2 +1.1**
MORC IAmb IAmb 13 59 18.5
comp=Z,16nm,1.0s
MORC Moravsky Berou 46.70 303 *e*P **P** **13 59 17.3 +1.1**
MORC Moravsky Berou 46.70 303 P **P** **13 59 17.5 +1.3**
NB201 NORSAR Array S 46.72 320 P **P** **13 59 16.2 +0.1**
NB201 ScP **ScP** **14 04 40.8 +0.3**
NB2 NORSAR Subarra 46.76 320 P **P** **13 59 13.1 -3.4**
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 46.76 320 P **P** **13 59 16.3 -0.2**
comp=Z,28nm,0.8s,baz=73,slow=7.9
NOA NORSAR Array B 46.76 320 P **P** **13 59 16.7 +0.2**
comp=Z,24nm,0.9s,baz=74,slow=7.6,SNR=66
NOA LR LR 14 20 08.8
comp=Z,226nm,18.6s,baz=80,slow=38
comp=Z,24nm,0.9s
NC204 NORSAR Array S 46.91 320 P **P** **13 59 16.4 -1.2**
NC204 IAmb IAmb 13 59 18.9
comp=Z,22nm,0.9s
SRO Srobarova 46.94 301 *e*P **P** **13 59 19.7 +1.7**
SRO pmax pmax
comp=Z,14nm,0.8s
SRO Srobarova 46.94 301 *e*P **P** **13 59 19.7 +1.7**
JAVC Velka Javorina 46.95 302 *e*P **P** **13 59 20.4 +2.2**
NAO01 NORSAR Array S 46.96 319 P **P** **13 59 17.9 -0.1**
NAO01 PcP **PcP** **14 00 49.1 -0.9**
NBO00 NORSAR Array S 46.97 320 P **P** **13 59 18.0 -0.1**
NBO00 IAmb IAmb 13 59 18.8
comp=Z,17nm,0.8s
KRLC Kraliky 47.06 304 *e*P **P** **13 59 20.1 +1.1**
KRLC Kraliky 47.06 304 *e*P **P** **13 59 20.1 +1.1**
KSP Ksiaz 47.08 305 *e*P **P** **13 59 20.1 +1.1**
KSP Ksiaz 47.08 305 P **P** **13 59 20.2 +1.1**
FABU Falkenberg 47.11 314 *i* P **P** **13 59 19.2 0.0**
LUNU Lund 47.14 312 *i* P **P** **13 59 19.2 -0.2**
OSTC Ostas 47.23 305 *e*P **P** **13 59 21.8 +1.5**
OSTC Ostas 47.23 305 *e*P **P** **13 59 21.8 +1.5**
BJUU Bjuv 47.23 313 *i* P **P** **13 59 19.6 -0.5**
DPC Dobruska-Polom 47.24 304 *e*P **P** **13 59 21.8 +1.4**
DPC Dobruska-Polom 47.24 304 *e*P **P** **13 59 21.8 +1.4**
OSL Oslo 47.28 318 *e*P **P** **13 59 21.1 +0.6**
CHVC Chvalec 47.31 305 *e*P **P** **13 59 22.3 +1.4**
CHVC Chvalec 47.31 305 *e*P **P** **13 59 22.3 +1.4**
MORH Mrgy, Hungar 47.34 298 ⇓P **P** **13 59 21.8 +0.7**
UPC Upice 47.37 305 *e*P **P** **13 59 22.8 +1.5**
UPC Upice 47.37 305 *e*P **P** **13 59 22.8 +1.5**
MODS Modra-Piesok 47.37 302 *e*P **P** **13 59 23.4 +2.0**
MODS pmax pmax
comp=Z,35nm,1.4s
MODS Modra-Piesok 47.37 302 *e*P **P** **13 59 23.4 +2.0**
ONAU Onsala 47.41 315 *i* P **P** **13 59 21.0 -0.5**
VRAC Vranov 47.45 303 ⇑P **P** **13 59 22.9 +0.9**
VRAC Vranov 47.45 303 *e*P **P** **13 59 23.4 +1.4**
VRAC Vranov 47.45 303 P **P** **13 59 22.8 +0.9**
VRAC Vranov 47.45 303 LR LR 14 21 02.6
comp=Z,140nm,19.8s,baz=162,slow=38
DOMB Dombas 47.50 321 *e*P **P** **13 59 22.1 -0.1**
DOMB IAmb IAmb 13 59 23.1
comp=Z,26nm,0.7s
RGN Rugen 47.55 311 P **P** **13 59 22.1 -0.5**
ZST Bratislava 47.55 301 *e*P **P** **13 59 25.2 +2.5**
ZST Bratislava 47.55 301 *e*P **P** **13 59 25.2 +2.5**
KRUC Moravsky 47.66 303 *e*P **P** **13 59 24.9 +1.3**
KONO Kongsberg 47.91 318 *e*P **P** **13 59 25.9 +0.5**
IDI Anoyia 47.94 282 LR LR 14 22 52.8
comp=Z,33nm,18.8s,baz=92,slow=40
MOL Molde 48.04 322 *e*P **P** **13 59 26.9 +0.6**
SOP Sopron 48.08 301 P **P** **13 59 28.7 +1.8**
TREC Trest 48.13 303 *e*P **P** **13 59 29.2 +2.0**
TREC Trest 48.13 303 *e*P **P** **13 59 29.2 +2.0**
PVCC Panska Ves 48.22 305 *e*P **P** **13 59 29.6 +1.7**
PVCC Panska Ves 48.22 305 *e*P **P** **13 59 29.6 +1.7**
SKAR Skarslia 48.23 320 *e*P **P** **13 59 28.6 +0.7**
RONA Rosalia, Austr 48.24 301 *e*pP **P** **13 59 29.7 +1.5**
comp=Z,11nm,0.9s,SNR=5.1
GOPC GO Pecny, Ondr 48.32 304 *e*P **P** **13 59 30.2 +1.5**
GOPC GO Pecny, Ondr 48.32 304 *e*P **P** **13 59 30.2 +1.5**
AKN Aaknes 48.39 322 *e*P **P** **13 59 29.6 +0.5**
CONA Conrad Observa 48.42 302 *e*pP **P** **13 59 31.5 +1.9**
comp=Z,21nm,1.3s,SNR=11
PRU Pruhonice 48.44 304 *e*P **P** **13 59 30.7 +1.1**
PRU Pruhonice 48.44 304 *e*P **P** **13 59 30.7 +1.1**
BRG Berggiesshubel 48.46 306 *i* P **P** **13 59 30.8 +1.0**
BRG Amp 13 59 31.5
comp=Z,12nm,1.0s
BRG Berggiesshubel 48.46 306 *i* P **P** **13 59 30.8 +1.0**
BRG pmax pmax
comp=Z,12nm,1.0s
RICC Richard 48.49 305 *e*P **P** **13 59 31.5 +1.5**
CLL Collm 48.85 307 P **P** **13 59 33.2 +0.4**
CLL Collm 48.85 307 ⇓ *i*P **P** **13 59 33.7 +0.9**
CLL pmax pmax
comp=Z,34nm,0.7s
CLL Collm 48.85 307 ⇓ *i*P **P** **13 59 33.7 +0.9**
comp=Z,34nm,0.7s
CLL AMS AMS 14 17 00.0
comp=N,400nm,19.7s
CLL AMS AMS 14 17 00.0
comp=E,200nm,19.2s
CLL AMS AMS 14 21 00.0
comp=Z,200nm,19.4s
ZVC Zvikov 48.85 304 *e*P **P** **13 59 34.0 +1.2**
HSKC Hora Svate Kat 48.86 306 *e*P **P** **13 59 34.3 +1.4**
ARSA Arzberg 48.90 301 *i* pP **P** **13 59 34.1 +0.9**
comp=Z,4.4nm,0.8s
CKRC Cesky Krumlov 49.02 303 *e*P **P** **13 59 35.7 +1.6**
CKRC Cesky Krumlov 49.02 303 *e*P **P** **13 59 35.7 +1.6**
HYA Hoyanger 49.07 321 *e*P **P** **13 59 34.7 +0.5**
MUD Monsted U'grnd 49.14 314 *i* P **P** **13 59 34.6 -0.2**
MUD IAmb IAmb 13 59 36.4
comp=Z,33nm,0.8s
PTJ Puntijarka 49.17 299 P **P** **13 59 36.5 +1.1**
ODD1 Odda 49.26 319 *e*P **P** **13 59 35.7 -0.1**
KHC Kasperske Hory 49.34 304 P **P** **13 59 35.1 -1.5**
KHC Kasperske Hory 49.34 304 *e*P **P** **13 59 38.0 +1.4**
KHC Kasperske Hory 49.34 304 *e*P **P** **13 59 38.0 +1.4**
GEC2 GERESS Array S 49.38 303 P **P** **13 59 35.5 -1.5**
GEC2 IAmb IAmb 14 00 03.3
comp=Z,41nm,2.0s
GERES GERESS Array B 49.38 303 P **P** **13 59 36.3 -0.7**
GERES ScP **ScP** **14 04 53.9 +1.8**
GERES GERESS Array B 49.38 303 P **P** **13 59 38.0 +1.0**
comp=Z,3.1nm,0.7s,baz=56,slow=8.2,SNR=15
comp=Z,3.1nm,0.7s
PERS Pernice 49.40 300 *i* P **P** **13 59 38.0 +0.9**
DAV Davao City (W) 49.43 126 LR LR 14 22 20.6
comp=Z,129nm,18.7s,baz=346,slow=38
MOA Molln 49.44 302 *i* pP **P** **13 59 38.9 +1.5**
comp=Z,11nm,1.1s
SOKA Soboth 49.44 300 *e*pP **P** **13 59 38.2 +0.8**
comp=Z,11nm,0.9s,SNR=9.6
FOO Floro 49.45 321 *e*P **P** **13 59 37.4 +0.3**
SNART Snartemo 49.50 317 *e*P **P** **13 59 38.3 +0.8**
SNART Snartemo 49.50 317 *i* P **P** **13 59 37.5 0.0**
BLS5 Blasjo 49.50 318 *e*P **P** **13 59 38.0 +0.4**
BER Bergen 49.72 320 *e*P **P** **13 59 39.7 +0.5**
BER IAmb IAmb 13 59 40.7
comp=Z,71nm,1.1s
BOJS Bojanci 49.79 299 *i* P **P** **13 59 41.1 +1.1**
OBKA Obir 49.81 300 *i* pP **P** **13 59 41.4 +1.1**
comp=Z,11nm,0.8s
BIOA Bad Ischl, Aus 49.89 302 *e*pP **P** **13 59 42.1 +1.4**
comp=Z,9.3nm,1.0s
MYKA Terra Mystica 50.33 301 *e*P **P** **13 59 44.8 +0.6**
comp=Z,3.4nm,0.6s
PRED Cave del Predi 50.46 301 P **P** **13 59 44.8 -0.3**
GRA1 Grafenberg Arr 50.53 305 P **P** **13 59 46.3 +0.7**
GRF Grafenberg Arr 50.53 305 P **P** **13 59 46.3 +0.7**
GRF pmax pmax
comp=Z,28nm,0.8s
GRF Grafenberg Arr 50.53 305 *e*P **P** **13 59 47.5 +1.9**
comp=Z,17nm,0.9s,baz=66,slow=6.5
LESA Schwarzleotal 50.59 302 *e*pP **P** **13 59 47.5 +1.3**
comp=Z,21nm,0.8s
SABO M.te Sabotino 50.63 300 P **P** **13 59 44.6 -1.8**
SABO IAmb IAmb 13 59 47.4
comp=Z,15nm,0.8s
CLUD Cludinico 50.88 301 P **P** **13 59 48.0 -0.3**
ABTA Abfaltersbach 50.98 301 *i* P **P** **13 59 49.1 -0.1**
comp=Z,5.7nm,1.2s
WTTA Wattenberg 51.30 302 *i* pP **P** **13 59 52.7 +1.1**
comp=Z,32nm,0.7s,SNR=12
WATA Walderalm 51.30 302 *i* pP **P** **13 59 52.6 +1.0**
comp=Z,24nm,1.0s,SNR=7.4
SQTA Sankt Quirin 51.58 302 *i* pP **P** **13 59 54.6 +1.0**
comp=Z,29nm,0.8s,SNR=9.8
MOTA Moosalm 51.59 303 *i* pP **P** **13 59 54.7 +0.9**
comp=Z,17nm,0.8s,SNR=6.1
RETA Reute 51.74 303 *i* pP **P** **13 59 55.9 +1.1**
comp=Z,16nm,0.8s
CTI Castel Tesino 51.83 301 P **P** **13 59 54.2 -1.2**
CTI Castel Tesino 51.83 301 P **P** **13 59 54.2 -1.2**
CTI pmax pmax
comp=Z,8.0nm,0.8s
CUC Castrocucco 51.93 292 P **P** **13 59 56.8 +0.5**
CUC IAmb IAmb 13 59 58.5
comp=Z,24nm,0.9s
FETA Feichten 51.96 302 *e*pP **P** **13 59 57.4 +0.9**
comp=Z,18nm,0.8s,SNR=6.3
TEOL Teolo 52.12 300 P **P** **13 59 56.0 -1.6**
NRCA Norcia 52.36 297 P **P** **14 00 00.5 +1.0**
NRCA IAmb IAmb 14 00 01.6
comp=Z,21nm,1.0s
DAVA Damuels 52.36 303 *i* pP **P** **14 00 00.1 +0.6**
comp=Z,7.5nm,0.9s
FUORN Ofenpass-Fuorn 52.43 302 P **P** **14 00 00.2 +0.1**
FUORN IAmb IAmb 14 00 01.8
comp=Z,12nm,0.8s
DGAR Diego Garcia 52.55 199 P **P** **14 00 01.6 +0.7**
DGAR Diego Garcia 52.55 199 P **P** **14 00 01.6 +0.7**
DGAR pmax pmax
comp=Z,365nm,1.3s
CEL Celeste 52.73 290 P **P** **14 00 02.3 +0.1**
CEL IAmb IAmb 14 00 03.9
comp=Z,28nm,0.9s
BFO Black Forest 52.84 305 P **P** **14 00 03.2 +0.4**
BFO IAmb IAmb 14 00 04.5
comp=Z,17nm,0.7s
BFO PcP **PcP** **14 01 09.9 -1.8**
BFO Black Forest 52.84 305 P **P** **14 00 03.2 +0.4**
BTNL Tarnell 53.12 308 *d*P **P** **14 00 05.0 +0.2**
comp=Z,10nm,1.1s
MEM Membach 53.18 308 *d*P **P** **14 00 05.0 -0.2**
BHOU Houvegnez 53.29 308 *d*P **P** **14 00 07.7 +1.6**
CDF Champ du Feu 53.42 305 *e*P **P** **14 00 07.2 0.0**
CDF pmax pmax
comp=Z,17nm,0.9s
BSTI Sart Tilman 53.44 308 *d*P **P** **14 00 08.4 +1.3**
WLF Walferdange 53.52 307 *d*P **P** **14 00 09.3 +1.5**
ECH Echery 53.58 305 P **P** **14 00 07.6 -0.7**
ECH IAmb IAmb 14 00 09.8
comp=Z,16nm,0.8s
ECH Echery 53.58 305 P **P** **14 00 07.6 -0.7**
ECH pmax pmax
comp=Z,16nm,0.8s
BCLA Clavier 53.67 308 *d*P **P** **14 00 09.8 +1.0**
comp=Z,9.6nm,0.9s
BGES Gesves 53.80 308 *d*P **P** **14 00 10.9 +1.0**
HINF Hinteralfeld 53.95 305 *e*P **P** **14 00 10.9 -0.1**
HINF pmax pmax
comp=Z,7.0nm,0.8s
MSSA Maissana 53.96 300 P **P** **14 00 11.4 +0.2**
BMRD Maredsous 54.02 308 *d*P **P** **14 00 12.2 +0.8**
GIVF Givet 54.09 308 *e*P **P** **14 00 12.4 +0.5**
GIVF pmax pmax
comp=Z,17nm,0.8s
HAU Haudompre 54.16 305 *e*P **P** **14 00 12.6 0.0**
HAU pmax pmax
comp=Z,15nm,1.0s
DOU Dourbes 54.22 308 *d*P **P** **14 00 13.4 +0.6**
comp=Z,9.9nm,1.0s
DOU *d*PcP **PcP** **14 01 14.7 -2.2**
BAIF Baives 54.46 308 *e*P **P** **14 00 15.1 +0.5**
BAIF pmax pmax
comp=Z,21nm,0.8s
CABF La Chapelle 54.98 304 *e*P **P** **14 00 18.4 -0.2**
CABF pmax pmax
comp=Z,14nm,0.9s
LPG La Plagne 55.11 302 *e*P **P** **14 00 20.5 +0.7**
LPG pmax pmax
comp=Z,57nm,0.8s
LPL La Plagne 55.12 302 *e*P **P** **14 00 20.4 +0.6**
LPL pmax pmax
comp=Z,63nm,0.8s
PGF Pioggiola 55.16 298 *e*P **P** **14 00 21.4 +1.5**
PGF pmax pmax
comp=Z,153nm,1.6s
BNI Bardonecchia 55.38 302 P **P** **14 00 21.9 +0.3**
BNI IAmb IAmb 14 00 30.5
comp=Z,14nm,0.8s
BNI Bardonecchia 55.38 302 P **P** **14 00 21.9 +0.3**
BNI pmax pmax
comp=Z,14nm,0.8s
MBDF Montbardon 55.48 301 *e*P **P** **14 00 22.8 +0.5**
MBDF pmax pmax
comp=Z,23nm,0.8s
EKA Eskdalemuir Ar 55.92 316 P **P** **14 00 25.4 +0.2**
comp=Z,12nm,0.7s,baz=60,slow=6.3,SNR=52
comp=Z,12nm,0.7s
ESK Eskdalemuir 55.95 316 P **P** **14 00 25.4 +0.1**
ESK Eskdalemuir 55.95 316 P **P** **14 00 25.4 +0.1**
ESK pmax pmax
comp=Z,130nm,2.0s
LOR Lormes 55.99 305 *e*P **P** **14 00 25.1 -0.7**
LOR pmax pmax
comp=Z,17nm,0.7s
C16K Lisburne Hills 56.12 25 P **P** **14 00 26.9 +0.6**
C16K Lisburne Hills 56.12 25 P **P** **14 00 27.3 +1.1**
baz=303
A19K Wainwright 56.27 22 P **P** **14 00 28.9 +1.6**
baz=306
SMF Signal de Mont 56.31 305 *e*P **P** **14 00 27.8 -0.3**
SMF pmax pmax
comp=Z,29nm,0.8s
LMR La Mourre 56.34 300 *e*P **P** **14 00 29.1 +0.8**
LMR pmax pmax
comp=Z,129nm,2.2s
NEEM North Greenlan 56.51 350 *i* P **P** **14 00 29.2 -0.2**
NEEM IAmb IAmb 14 00 30.5
comp=Z,33nm,0.7s
KAPI Kappang 56.54 140 LR LR 14 28 39.5
comp=Z,48nm,18.1s,baz=295,slow=40
EUNU Eureka 56.54 359 P **P** **14 00 29.7 +0.4**
B18K Kokolik River 56.56 23 P **P** **14 00 31.1 +1.7**
baz=306
C17K DeLong Mountai 56.67 25 P **P** **14 00 31.6 +1.4**
baz=305
VIVF Saint-Julien-l 56.71 302 *e*P **P** **14 00 30.9 0.0**
VIVF pmax pmax
comp=Z,13nm,1.0s
BGF Bois d'Agland 56.95 305 *e*P **P** **14 00 32.3 -0.3**
BGF pmax pmax
comp=Z,15nm,0.8s
D17K Noatak River 57.15 25 P **P** **14 00 34.8 +1.2**
baz=305
C18K Utukok River 57.16 24 P **P** **14 00 32.6 -1.2**
C18K Utukok River 57.16 24 P **P** **14 00 34.7 +0.9**
baz=306
C19K Lookout Ridge 57.35 23 P **P** **14 00 36.3 +1.2**
baz=307
A22K Sinclair Lake 57.39 20 P **P** **14 00 36.2 +1.0**
baz=310
B20K Meade River 57.46 22 P **P** **14 00 36.9 +1.1**
B20K IAmb IAmb 14 01 20.7
comp=Z,11nm,0.7s
B20K Meade River 57.46 22 P **P** **14 00 37.1 +1.3**
baz=309
TCF Toulx Ste Croi 57.47 305 *e*P **P** **14 00 36.3 0.0**
TCF pmax pmax
comp=Z,28nm,0.7s
LDF La Druitiere 57.65 308 *e*P **P** **14 00 37.0 -0.4**
LDF pmax pmax
comp=Z,120nm,1.6s
FLN La Foliniere 57.76 309 *e*P **P** **14 00 37.9 -0.3**
FLN pmax pmax
comp=Z,21nm,0.9s
E17K Hotham Inlet 57.91 26 P **P** **14 00 40.2 +1.2**
baz=307
E18K Tukpahlearik C 58.08 25 P **P** **14 00 41.1 +0.9**
E18K Tukpahlearik C 58.08 25 P **P** **14 00 41.3 +1.1**
baz=308
D19K Kuna River 58.15 23 P **P** **14 00 41.6 +0.9**
baz=309
GRR Gorron 58.17 308 *e*P **P** **14 00 40.7 -0.4**
GRR pmax pmax
comp=Z,52nm,1.0s
SUMG Summit 58.18 343 *i* P **P** **14 00 41.9 +0.7**
SUMG IAmb IAmb 14 01 08.2
comp=Z,4.6nm,1.2s
B22K Teshekpuk Lake 58.22 20 P **P** **14 00 41.8 +0.7**
B22K IAmb IAmb 14 00 56.6
comp=Z,9.4nm,0.7s
B22K Teshekpuk Lake 58.22 20 P **P** **14 00 41.8 +0.7**
baz=312
B21K Ikpikpuk River 58.39 21 P **P** **14 00 42.1 -0.1**
B21K IAmb IAmb 14 00 44.1
comp=Z,9.6nm,0.8s
B21K Ikpikpuk River 58.39 21 P **P** **14 00 43.3 +1.1**
baz=311
RJF Les Rejaudoux 58.39 304 *e*P **P** **14 00 43.2 +0.5**
RJF pmax pmax
comp=Z,19nm,0.9s
D20K Etivluk River 58.44 23 P **P** **14 00 43.8 +1.1**
baz=310
F17K Baldwin Pennin 58.48 26 P **P** **14 00 43.7 +0.8**
F17K IAmb IAmb 14 00 45.6
comp=Z,16nm,1.1s
F17K Baldwin Pennin 58.48 26 P **P** **14 00 44.9 +2.0**
baz=308
KEST Kesra 58.51 291 P **P** **14 00 44.6 +0.8**
comp=Z,4.1nm,0.6s,baz=14,slow=9.3,SNR=2.5
comp=Z,4.1nm,0.6s
C21K Knifeblade Rid 58.65 22 P **P** **14 00 45.5 +1.4**
baz=311
MFF Saint Martin d 58.69 306 *e*P **P** **14 00 45.5 +0.7**
MFF pmax pmax
comp=Z,86nm,1.6s
G16K Koyuk River 58.75 27 P **P** **14 00 46.1 +1.2**
G16K Koyuk River 58.75 27 P **P** **14 00 46.3 +1.4**
baz=307
E20K Nigu River 58.85 23 P **P** **14 00 46.6 +0.9**
baz=310
MTLF Montolieu 59.01 302 *e*P **P** **14 00 47.3 +0.3**
MTLF pmax pmax
comp=Z,18nm,1.1s
E19K Redstone River 59.07 24 P **P** **14 00 47.2 +0.1**
E19K IAmb IAmb 14 01 18.3
comp=Z,7.7nm,0.8s
E19K Redstone River 59.07 24 P **P** **14 00 48.0 +0.9**
baz=310
SGMF Saint Gilles 59.20 309 *e*P **P** **14 00 49.0 +0.7**
SGMF pmax pmax
comp=Z,117nm,1.6s
D22K Ayikyak River 59.40 21 P **P** **14 00 50.6 +1.2**
baz=313
SOEG Soedalen 59.53 338 *i* P **P** **14 00 51.1 +0.9**
SOEG IAmb IAmb 14 00 52.6
comp=Z,7.2nm,1.1s
ROSF Rostrenen 59.56 309 *e*P **P** **14 00 51.3 +0.5**
ROSF pmax pmax
comp=Z,82nm,1.2s
G18K Tagagawik 59.64 26 P **P** **14 00 52.0 +0.9**
baz=310
F20K Avaraart Lake 59.78 24 P **P** **14 00 52.4 +0.4**
baz=311
C24K Franklin Bluff 59.82 20 P **P** **14 00 52.7 +0.6**
baz=316
H17K Granite Mounta 59.85 27 P **P** **14 00 53.5 +1.0**
H17K IAmb IAmb 14 00 54.8
comp=Z,9.9nm,1.0s
H17K Granite Mounta 59.85 27 P **P** **14 00 54.1 +1.7**
baz=309
G19K Purcell Mounta 59.97 25 P **P** **14 00 54.2 +0.9**
baz=311
E22K Anaktuvuk Pass 60.14 22 P **P** **14 00 54.7 +0.2**
E22K Anaktuvuk Pass 60.14 22 P **P** **14 00 55.4 +0.9**
baz=314
D24K Happy Valley 60.20 20 P **P** **14 00 55.5 +0.7**
baz=316
I17K Unalakleet 60.25 28 P **P** **14 00 57.0 +1.7**
baz=309
KIWB Kanaga Island 60.26 45 P **P** **14 00 52.9 -2.7**
F21K Alatna River 60.31 23 P **P** **14 00 54.1 -1.6**
F21K IAmb IAmb 14 01 23.1
comp=Z,18nm,1.4s
F22K John River 60.48 22 P **P** **14 00 57.9 +1.0**
baz=314
H19K Roundabout Mou 60.58 25 P **P** **14 00 58.9 +1.5**
baz=312
D25K Kavik River 60.67 19 P **P** **14 00 57.5 -0.6**
D25K Kavik River 60.67 19 P **P** **14 00 59.0 +0.9**
baz=318
E23K Chandalar 60.78 21 P **P** **14 00 59.8 +0.8**
baz=316
ICESG Greenland Ices 61.02 341 *i* P **P** **14 01 01.1 +0.2**
ICESG IAmb IAmb 14 01 02.3
comp=Z,35nm,1.4s
G22K Bettles 61.08 23 P **P** **14 01 01.3 +0.5**
baz=315
H20K Anotleneega Mo 61.08 25 P **P** **14 01 02.0 +1.1**
baz=313
IMAR Indian Mountai 61.09 24 P **P** **14 01 00.9 0.0**
UPNV Upernavik 61.17 348 *i* P **P** **14 01 01.1 -0.3**
UPNV IAmb IAmb 14 01 02.3
comp=Z,12nm,0.8s
COLD Coldfoot 61.22 22 P **P** **14 01 02.8 +1.0**
baz=316
H21K Melozitna Rive 61.60 24 P **P** **14 01 05.4 +1.0**
baz=314
F24K Squaw Lake 61.63 21 P **P** **14 01 05.1 +0.5**
F24K Squaw Lake 61.63 21 P **P** **14 01 05.6 +1.0**
baz=317
E25K Arctic Village 61.77 20 P **P** **14 01 05.2 -0.3**
E25K Arctic Village 61.77 20 P **P** **14 01 06.2 +0.7**
baz=319
K17K Iditarod 61.84 28 P **P** **14 01 06.6 +0.6**
K17K IAmb IAmb 14 01 21.4
comp=Z,11nm,0.8s
K17K Iditarod 61.84 28 P **P** **14 01 07.3 +1.2**
baz=311
J18K Innoko River 61.87 27 P **P** **14 01 07.4 +1.1**
baz=312
J19K Poorman 61.87 26 P **P** **14 01 07.3 +1.0**
J19K IAmb IAmb 14 02 17.3
comp=Z,19nm,1.4s
J19K Poorman 61.87 26 P **P** **14 01 08.0 +1.7**
baz=313
D27M Malcolm River 61.97 18 P **P** **14 01 08.1 +1.2**
baz=322

RES	**Resolute Bay**	**61.98**	**1**	P	**P**	**14 01 06.6**	**-0.2**
RES				IAmb	IAmb	14 03 06.8	
	comp=Z,5.2nm,0.5s						
RES	**Resolute Bay**	**61.98**	**1**	P	**P**	**14 01 06.6**	**-0.2**
RES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
F25K	**Christian Rive**	**62.15**	**20**	P	**P**	**14 01 09.5**	**+1.4**
	baz=319						
J20K	**Nowinta River**	**62.22**	**26**	P	**P**	**14 01 09.8**	**+1.3**
	baz=314						
L17K	**Donlin**	**62.22**	**29**	P	**P**	**14 01 10.6**	**+2.0**
	baz=312						
G24K	**Hadweenzic Riv**	**62.34**	**22**	P	**P**	**14 01 10.3**	**+0.9**
	baz=318						
A36M	**Sachs Harbour**	**62.43**	**11**	P	**P**	**14 01 09.4**	**-0.4**
A36M				IAmb	IAmb	14 01 11.4	
	comp=Z,14nm,0.8s						
A36M	**Sachs Harbour**	**62.43**	**11**	P	**P**	**14 01 10.6**	**+0.7**
	baz=334						
F26K	**Sheenjek River**	**62.44**	**20**	P	**P**	**14 01 10.9**	**+0.8**
	baz=320						
BMAR	**Burnt Mountain**	**62.54**	**20**	P	**P**	**14 01 10.8**	**+0.1**
MLY	**Manley**	**62.65**	**24**	P	**P**	**14 01 11.4**	**-0.1**
MLY				IAmb	IAmb	14 01 39.2	
	comp=Z,7.3nm,0.9s						
MLY	**Manley**	**62.65**	**24**	P	**P**	**14 01 12.6**	**+1.1**
	baz=316						
E27K	**Coleen River**	**62.66**	**19**	P	**P**	**14 01 12.1**	**+0.5**
E27K				IAmb	IAmb	14 01 26.0	
	comp=Z,7.5nm,0.8s						
E27K	**Coleen River**	**62.66**	**19**	P	**P**	**14 01 12.4**	**+0.9**
	baz=322						
E28M	**Babbage River**	**62.79**	**18**	P	**P**	**14 01 13.2**	**+0.8**
	baz=323						
G26K	**Porcupine Rive**	**63.11**	**20**	P	**P**	**14 01 15.9**	**+1.5**
	baz=321						
KMBO	**Kilima Mbogo**	**63.11**	**239**	LR	LR	14 29 41.8	
	comp=Z,89nm,18.7s,baz=86,slow=37						
ANGG	**Ammassalik, Gr**	**63.11**	**338**	*i* P	**P**	**14 01 13.4**	**-1.0**
ANGG				IAmb	IAmb	14 01 32.1	
	comp=Z,7.3nm,1.3s						
N16K	**Nishlik Lake**	**63.16**	**31**	P	**P**	**14 01 17.1**	**+2.1**
	baz=312						
E29M	**Blow River**	**63.32**	**17**	P	**P**	**14 01 17.1**	**+1.3**
	baz=325						
ILULI	**Ilulissat**	**63.39**	**345**	*i* P	**P**	**14 01 15.6**	**-0.6**
ILULI				IAmb	IAmb	14 01 17.2	
	comp=Z,39nm,0.8s						
CAST	**Castle Rocks**	**63.40**	**26**	P	**P**	**14 01 16.6**	**0.0**
CAST	**Castle Rocks**	**63.40**	**26**	P	**P**	**14 01 17.7**	**+1.2**
	baz=316						
MDM	**Murphy Dome**	**63.43**	**23**	P	**P**	**14 01 16.0**	**-0.7**
F28M	**Old Crow**	**63.52**	**18**	P	**P**	**14 01 16.8**	**-0.3**
F28M	**Old Crow**	**63.52**	**18**	P	**P**	**14 01 18.2**	**+1.1**
	baz=323						
POKR	**Poker Plat Res**	**63.54**	**23**	P	**P**	**14 01 18.5**	**+1.1**
	baz=318						
COLA	**College**	**63.60**	**23**	P	**P**	**14 01 18.6**	**+0.9**
	baz=316						
ILAR	**Eielson Array**	**63.95**	**23**	P	**P**	**14 01 19.7**	**-0.4**
ILAR	**Eielson Array**	**63.95**	**23**	P	**P**	**14 01 19.9**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=312,slow=5.3,SNR=28						
	comp=Z,1.9nm,0.8s						
INK	**Inuvik**	**64.29**	**16**	P	**P**	**14 01 22.9**	**+0.7**
	baz=328						
F30M	**Barrier River**	**64.42**	**17**	P	**P**	**14 01 24.2**	**+1.1**
	baz=327						
G29M	**Pine Creek**	**64.51**	**18**	P	**P**	**14 01 24.6**	**+0.9**
	baz=325						
I26K	**Coal Creek Min**	**64.55**	**21**	P	**P**	**14 01 24.7**	**+0.7**
	baz=322						
DY2G	**Dye2**	**64.64**	**341**	*i* P	**P**	**14 01 24.8**	**0.0**
DY2G				IAmb	IAmb	14 01 26.3	
	comp=Z,27nm,0.8s						
I27K	**Kandik River**	**64.71**	**20**	P	**P**	**14 01 26.4**	**+1.3**
	baz=323						
G30M	**tAoh Zraii Nji**	**64.85**	**17**	P	**P**	**14 01 25.7**	**-0.3**
G30M				IAmb	IAmb	14 01 54.3	
	comp=Z,34nm,1.8s						
ESBB	**Sonseca Array**	**64.91**	**302**	P	**P**	**14 01 25.6**	**-1.1**
ESBB				IAmb	IAmb	14 01 28.4	
	comp=Z,18nm,1.2s						
ESDC	**Sonseca Array**	**64.91**	**302**	P	**P**	**14 01 26.5**	**-0.3**
ESDC				IAmb	IAmb	14 01 28.4	
	comp=Z,14nm,1.1s						
ESDC	**Sonseca Array**	**64.91**	**302**	P	**P**	**14 01 27.2**	**+0.4**
	comp=Z,11nm,0.9s,baz=50,slow=6.8,SNR=41						
	comp=Z,11nm,0.9s						
F31M	**Tsiigehtchic**	**64.98**	**16**	P	**P**	**14 01 26.5**	**-0.2**
F31M				IAmb	IAmb	14 01 43.2	
	comp=Z,32nm,1.6s						
C36M	**Paulatuk**	**65.00**	**12**	P	**P**	**14 01 26.6**	**-0.1**
C36M	**Paulatuk**	**65.00**	**12**	P	**P**	**14 01 27.0**	**+0.3**
	baz=335						
H29M	**Whitestone**	**65.00**	**19**	P	**P**	**14 01 27.6**	**+0.7**
	baz=325						
J26L	**Joseph Creek**	**65.08**	**22**	P	**P**	**14 01 27.9**	**+0.3**
	baz=322						
DHY	**Denali Highway**	**65.10**	**24**	P	**P**	**14 01 28.0**	**+0.2**
	baz=319						
SFJD	**Kangerlussuaq**	**65.17**	**343**	P	**P**	**14 01 26.6**	**-1.3**
SFJD	**Kangerlussuaq**	**65.17**	**343**	P	**P**	**14 01 26.6**	**-1.3**
SFJD				pmax	pmax		
	comp=Z,28nm,0.8s						
SFJD	**Kangerlussuaq**	**65.17**	**343**	*i* P	**P**	**14 01 27.5**	**-0.5**
SFJD				IAmb	IAmb	14 01 28.9	
	comp=Z,25nm,0.7s						
PAB	**San Pablo**	**65.22**	**302**	P	**P**	**14 01 29.4**	**+0.5**
PAB				IAmb	IAmb	14 01 30.6	
	comp=Z,10nm,0.9s						
PAB	**San Pablo**	**65.22**	**302**	P	**P**	**14 01 29.4**	**+0.5**
PAB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EPYK	**Eagle Plains**	**65.25**	**18**	P	**P**	**14 01 28.5**	**-0.1**
EPYK				IAmb	IAmb	14 02 16.7	
	comp=Z,28nm,1.6s						
EPYK	**Eagle Plains**	**65.25**	**18**	P	**P**	**14 01 28.8**	**+0.2**
	baz=326						
I28M	**Miner Creek**	**65.25**	**20**	P	**P**	**14 01 28.8**	**+0.2**
I28M	**Miner Creek**	**65.25**	**20**	P	**P**	**14 01 28.9**	**+0.2**
	baz=324						
G31M	**Satah River**	**65.31**	**17**	P	**P**	**14 01 28.9**	**0.0**
G31M	**Satah River**	**65.31**	**17**	P	**P**	**14 01 29.2**	**+0.4**
	baz=328						
PBRG	**Braganca**	**65.32**	**305**	*e*P	**P**	**14 01 30.1**	**+0.7**
	comp=Z,41nm,1.8s						
RIDG	**Independent Ri**	**65.32**	**23**	P	**P**	**14 01 28.4**	**-0.7**
RIDG	**Independent Ri**	**65.32**	**23**	P	**P**	**14 01 29.0**	**-0.1**
	baz=321						
WAT6	**Susitna Watana**	**65.37**	**25**	P	**P**	**14 01 28.9**	**-0.6**
	baz=319						
SCRK	**Sand Creek**	**65.38**	**22**	P	**P**	**14 01 29.8**	**+0.3**
	baz=321						
EGAK	**Eagle**	**65.49**	**21**	P	**P**	**14 01 30.1**	**0.0**
EGAK				IAmb	IAmb	14 01 56.5	
	comp=Z,21nm,1.7s						
EGAK	**Eagle**	**65.49**	**21**	P	**P**	**14 01 30.6**	**+0.5**
	baz=323						
SML	**Sawmill**	**65.77**	**25**	P	**P**	**14 01 30.9**	**-1.2**
SML				IAmb	IAmb	14 01 45.7	
	comp=Z,14nm,0.8s						
SML	**Sawmill**	**65.77**	**25**	P	**P**	**14 01 30.8**	**-1.2**
SML				pmax	pmax		
	comp=Z,14nm,0.8s						
MVO	**Moncorvo**	**65.88**	**304**	*e*P	**P**	**14 01 33.9**	**+0.8**
	comp=Z,30nm,1.6s						
M23K	**Glacier View**	**65.97**	**25**	P	**P**	**14 01 33.4**	**+0.1**
	baz=319						
SCM	**Sheep Creek Mo**	**66.06**	**25**	P	**P**	**14 01 33.9**	**0.0**
	baz=320						
I30M	**Mount Dempster**	**66.29**	**19**	P	**P**	**14 01 35.5**	**+0.1**
	baz=327						
J29N	**Klondike Camp**	**66.49**	**20**	P	**P**	**14 01 37.4**	**+0.8**
	baz=326						
DAWY	**Dawson**	**66.52**	**20**	P	**P**	**14 01 35.5**	**-1.3**
DAWY				IAmb	IAmb	14 01 53.1	
	comp=Z,15nm,1.5s						
DAWY	**Dawson**	**66.52**	**20**	P	**P**	**14 01 37.0**	**+0.2**
	baz=325						
PVIS	**Viseu**	**66.67**	**304**	*e*P	**P**	**14 01 39.4**	**+1.3**
BCAR	**Beaver Creek A**	**66.70**	**22**	P	**P**	**14 01 37.5**	**-0.4**
J30M	**Hart River**	**66.84**	**19**	P	**P**	**14 01 39.1**	**+0.2**
	baz=327						
MBAR	**Mbarara**	**66.89**	**245**	P	**P**	**14 01 40.1**	**+0.1**
MBAR				IAmb	IAmb	14 02 50.7	
	comp=Z,9.5nm,0.7s						
MBAR	**Mbarara**	**66.89**	**245**	P	**P**	**14 01 40.1**	**+0.1**
MBAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PCBR	**Castelo Branco**	**66.96**	**304**	*e*P	**P**	**14 01 41.1**	**+1.2**
	comp=Z,26nm,1.6s						
N25K	**Chitina, Valde**	**67.06**	**24**	P	**P**	**14 01 38.6**	**-1.8**
N25K				IAmb	IAmb	14 01 55.2	
	comp=Z,8.9nm,0.8s						
N25K	**Chitina, Valde**	**67.06**	**24**	P	**P**	**14 01 41.0**	**+0.6**
	baz=322						
PMRV	**Marv??o**	**67.16**	**303**	*e*P	**P**	**14 01 42.1**	**+0.9**
	comp=Z,25nm,1.3s						
M27K	**Edge Creek, AK**	**67.25**	**23**	P	**P**	**14 01 43.1**	**+1.5**
	baz=323						
COI	**Coimbra**	**67.29**	**304**	*e*P	**P**	**14 01 43.7**	**+1.7**
	comp=Z,69nm,1.8s						
COI	**Coimbra**	**67.29**	**304**	P	**P**	**14 01 42.4**	**+0.4**
COI	**Coimbra**	**67.29**	**304**	P	**P**	**14 01 42.4**	**+0.4**
COI				pmax	pmax		
	comp=Z,34nm,0.9s						
KDAK	**Kodiak Island**	**67.33**	**30**	P	**P**	**14 01 41.2**	**-0.7**
KDAK	**Kodiak Island**	**67.33**	**30**	P	**P**	**14 01 41.2**	**-0.7**
KDAK				pmax	pmax		
	comp=Z,183nm,1.9s						
KDAK	**Kodiak Island**	**67.33**	**30**	LR	LR	14 31 46.9	
	comp=Z,164nm,19.1s,baz=326,slow=37						
PCAS	**Casmilo, Conde**	**67.44**	**304**	*e*P	**P**	**14 01 44.1**	**+1.1**
	comp=Z,39nm,1.8s						
PESTR	**Estremoz**	**67.63**	**303**	*e*P	**P**	**14 01 44.9**	**+0.7**
	comp=Z,26nm,1.5s						
L29M	**L29M**	**67.63**	**21**	P	**P**	**14 01 44.6**	**+0.7**
	baz=326						
PBAR	**Barrancos**	**67.72**	**302**	*e*P	**P**	**14 01 45.6**	**+0.8**
	comp=Z,24nm,1.5s						
EVO	**Evora**	**68.10**	**303**	*e*P	**P**	**14 01 47.0**	**-0.1**
	comp=Z,21nm,2.2s						
M29M	**Somme Creek**	**68.10**	**21**	P	**P**	**14 01 47.4**	**+0.5**
M29M	**Somme Creek**	**68.10**	**21**	P	**P**	**14 01 47.4**	**+0.5**
	baz=326						
MESJ	**Mesejana**	**68.66**	**302**	*e*P	**P**	**14 01 51.5**	**+0.9**
	comp=Z,22nm,1.5s						
PNCL	**Nicolau / Gran**	**68.67**	**303**	*e*P	**P**	**14 01 51.9**	**+1.2**
	comp=Z,32nm,1.5s						
M31M	**Drury Creek, Y**	**69.33**	**19**	P	**P**	**14 01 55.1**	**+0.6**
	baz=329						
HYT	**Haines Junctio**	**69.70**	**22**	P	**P**	**14 01 57.5**	**+0.6**
HYT				IAmb	IAmb	14 02 12.0	
	comp=Z,10.0nm,0.8s						
HYT	**Haines Junctio**	**69.70**	**22**	P	**P**	**14 01 57.9**	**+1.0**
	baz=327						
FRB	**Frobisher Bay**	**71.30**	**349**	LR	LR	14 36 08.1	
	comp=Z,130nm,20.1s,baz=309,slow=38						
WTLY	**Watson Lake, Y**	**72.47**	**18**	P	**P**	**14 02 14.1**	**+0.5**
	baz=333						
R33M	**Jennings River**	**72.60**	**19**	P	**P**	**14 02 15.6**	**+1.1**
	baz=332						
YKA	**Yellowknife Ar**	**72.78**	**10**	P	**P**	**14 02 14.9**	**-0.4**
YKA	**Yellowknife Ar**	**72.78**	**10**	P	**P**	**14 02 15.2**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=338,slow=6.0,SNR=51						
YKA				LR	LR	14 36 25.6	
	comp=Z,57nm,20.4s,baz=71,slow=38						
	comp=Z,3.4nm,0.8s						
WRA	**Warramunga Arr**	**76.52**	**135**	P	**P**	**14 02 37.5**	**+0.1**
WRA	**Warramunga Arr**	**76.52**	**135**	P	**P**	**14 02 38.5**	**+1.0**
	comp=Z,4.2nm,0.7s,baz=333,slow=5.6,SNR=17						
	comp=Z,4.2nm,0.7s						
WB2	**Warramunga Arr**	**76.52**	**135**	P	**P**	**14 02 38.4**	**+0.9**
WB2				IAmb	IAmb	14 02 58.3	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**76.63**	**135**	P	**P**	**14 02 38.4**	**+0.2**
WR0				IAmb	IAmb	14 02 49.7	
	comp=Z,10nm,1.1s						
TOA0	**Torodi Ar. Sit**	**77.95**	**277**	P	**P**	**14 02 45.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**77.95**	**277**	P	**P**	**14 02 45.6**	**-0.1**
TORD				IAmb	IAmb	14 04 39.7	
	comp=Z,8.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.95**	**277**	P	**P**	**14 02 45.7**	**0.0**
	comp=Z,4.9nm,0.6s,baz=37,slow=6.0,SNR=38						
	comp=Z,4.9nm,0.6s						
AS31	**Alice Springs**	**79.41**	**137**	P	**P**	**14 02 54.0**	**+0.5**
ASAR	**Alice Springs**	**79.41**	**137**	P	**P**	**14 02 54.2**	**+0.7**
ASAR	**Alice Springs**	**79.41**	**137**	P	**P**	**14 02 54.2**	**+0.7**
ASAR	**Alice Springs**	**79.41**	**137**	P	**P**	**14 02 53.4**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=332,slow=5.2,SNR=26						
	comp=Z,2.6nm,0.7s						
SCHQ	**Schefferville**	**79.50**	**345**	P	**P**	**14 02 52.2**	**-1.4**
SCHQ				IAmb	IAmb	14 02 54.5	
	comp=Z,37nm,1.7s						
SCHQ	**Schefferville**	**79.50**	**345**	P	**P**	**14 02 53.3**	**-0.4**
	comp=Z,6.2nm,0.9s,baz=9.1,slow=9.5,SNR=13						
	comp=Z,6.2nm,0.9s						
BBB	**Bella Bella**	**79.78**	**21**	LR	LR	14 44 22.1	
	comp=Z,85nm,18.7s,baz=358,slow=40						
FFC	**Flin Flon**	**81.72**	**5**	P	**P**	**14 03 04.9**	**-0.6**
FFC	**Flin Flon**	**81.72**	**5**	P	**P**	**14 03 04.9**	**-0.6**
FFC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CTA	**Charters Tower**	**83.22**	**126**	LR	LR	14 44 13.5	
	comp=Z,89nm,18.1s,baz=80,slow=39						
NEW	**Newport**	**86.01**	**16**	LR	LR	14 46 02.2	
	comp=Z,65nm,18.0s,baz=4.5,slow=39						
ULM	**Lac du Bonnet**	**86.48**	**2**	P	**P**	**14 03 28.3**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=172,slow=2.0,SNR=3.7						
ULM				LR	LR	14 46 13.6	
	comp=Z,62nm,19.5s,baz=349,slow=38						
	comp=Z,2.4nm,0.9s						
DBIC	**Dimbokro**	**87.05**	**276**	P	**P**	**14 03 32.2**	**-1.0**
	comp=Z,10nm,0.7s,baz=15,slow=6.3,SNR=15						
DBIC				LR	LR	14 47 57.9	
	comp=Z,168nm,18.7s,baz=320,slow=39						
	comp=Z,10nm,0.7s						
DGMT	**Dagmar**	**87.74**	**8**	P	**P**	**14 03 36.6**	**+0.6**
	baz=352						
PLID	**Pearl Lake**	**89.27**	**16**	P	**P**	**14 03 43.6**	**0.0**
PLID				IAmb	IAmb	14 04 13.1	
	comp=Z,6.9nm,0.9s						
STKA	**Stephens Creek**	**90.00**	**136**	P	**P**	**14 03 45.8**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=295,slow=2.1,SNR=5.4						
	comp=Z,2.6nm,0.7s						
YBH	**Yreka Blue Hor**	**90.84**	**22**	LR	LR	14 51 05.7	
	comp=Z,83nm,18.2s,baz=346,slow=40						
SADO	**Sadowa**	**91.19**	**350**	LR	LR	14 48 45.7	
	comp=Z,87nm,18.5s,baz=92,slow=38						
RSSD	**Black Hills**	**92.06**	**8**	P	**P**	**14 03 57.0**	**+0.4**
	baz=352						
PDAR	**Pinedale Array**	**92.68**	**12**	P	**P**	**14 03 59.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=24,slow=2.0,SNR=4.6						
PDAR				LR	LR	14 47 51.0	
	comp=Z,31nm,21.7s,baz=38,slow=37						
	comp=Z,0.4nm,0.7s						
ECSD	**EROS Data Cent**	**92.97**	**3**	P	**P**	**14 04 00.5**	**0.0**
	baz=357						
ELK	**Elko**	**93.59**	**17**	LR	LR	14 51 07.0	
	comp=Z,54nm,19.1s,baz=5.0,slow=39						
NVAR	**Mina Array Bea**	**95.09**	**20**	LR	LR	14 55 33.7	
	comp=Z,94nm,20.4s,baz=85,slow=41						
PPT2	**Papeete2**	**125.76**	**80**	*e*LR	LR	14 49 02.4	
	comp=Z,109nm,26.8s						
PPT2				*e*LR	LR	14 49 04.2	
	comp=Z,57nm,23.2s						
QSPA	**South Pole Qui**	**133.38**	**180**	PKP	**PKPdf**	**14 10 02.4**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=100,slow=1.1,SNR=5.4						
CPUP	**Villa Florida**	**146.63**	**289**	PKPbc	**PKPdf**	**14 10 27.1**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=35,slow=4.1,SNR=9.3						

*IDC **20** 14:14:38.3±2.1,6°.88S×129°.51E,h0km,mb3.5/1, mbtmp3.7/3,ML4.0/2,Error ellipse: s-maj=128.5km s-min=31.0km az=68.0*

*DJA **20** 14:14:52.4±0.3,7°.5S±3°×12°.9E±°,h186km±11km,M4.2/10, mb3.9/7,mB4.8/2,MLv4.3/10,Mw(mB)4.1/2*

ISC 20 14:14:53.4±0.8,**7°.38S**±0°.07×**129°.42E**±0°.08,**h150**km,**n22,** σ2°.**53**/23,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.96**	**108**	P	**Pn**	**14 15 29.4**	**+1.3**
SAUI	**Saumlaki**	**1.96**	**108**	P	**Pn**	**14 15 29.2**	**+1.1**
BNDI	**Bandanaira**	**2.88**	**10**	P	**Pn**	**14 15 39.2**	**0.0**
NLAI	**Namlea**	**4.71**	**331**	P	**Pn**	**14 16 02.3**	**-0.8**
FAKI	**Fak Fak**	**5.25**	**33**	P	**Pn**	**14 16 08.4**	**-1.8**
	18nm,0.9s,0.2nm						
SOEI	**Soe**	**5.62**	**245**	P	**Pn**	**14 16 15.4**	**+0.2**
SOEI	**Soe**	**5.62**	**245**	P	**Pn**	**14 16 15.7**	**+0.5**
	15nm,1.1s,0.3nm						
MTN	**Manton Dam**	**5.69**	**163**	P	**Pn**	**14 16 16.6**	**+0.6**
KDU	**Kakadu**	**6.07**	**151**	P	**Pn**	**14 16 21.3**	**+0.2**
SIJI	**Sorong**	**6.72**	**16**	P	**Pn**	**14 16 28.2**	**-1.6**
SWI	**Sorong**	**6.72**	**16**	P	**Pn**	**14 16 28.3**	**-1.5**
	12nm,0.9s,0.2nm						
EDFI	**Ende, Flores**	**7.78**	**259**	P	**Pn**	**14 16 44.7**	**+0.7**
	7.2nm,1.0s,0.1nm						
KNRA	**Kununurra**	**8.28**	**184**	P	**Pn**	**14 16 49.5**	**-1.0**
MMPI	**Merauke**	**10.91**	**96**	P	**Pn**	**14 17 23.7**	**-1.9**
WRA	**Warramunga Arr**	**13.37**	**160**	Pn	**Pn**	**14 17 55.2**	**-2.2**
	0.8nm,0.3s,baz=340,slow=11,SNR=22						
WRA				Sn	Sn	14 20 16.3	-9.3
	1.7nm,0.3s,baz=330,slow=22,SNR=10						
	1.3nm,0.5s						
COEN	**Coen**	**15.01**	**117**	P	**P**	**14 18 22.7**	**+2.8**
	15nm,2.5s						
ASAR	**Alice Springs**	**16.76**	**166**	P	**Pn**	**14 18 40.5**	**+1.0**
	0.6nm,0.3s,baz=334,slow=9.2,SNR=43						
ASAR				S	**S**	**14 21 37.0**	**-8.9**
	0.4nm,0.6s,baz=224,slow=14,SNR=1.7						
	1.3nm,0.6s						
AS01	**Alice Springs**	**16.77**	**165**	P	**Pn**	**14 18 40.2**	**+0.6**
WRKA	**Warakurna**	**17.60**	**183**	P	**Pn**	**14 18 50.3**	**+0.8**
OOD	**Oodnadatta**	**21.16**	**164**	P	**P**	**14 19 28.9**	**+2.1**
INKA	**Innaminka**	**22.92**	**153**	P	**P**	**14 19 47.7**	**+3.2**
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**	**14 25 38.5**	**+0.7**
	0.2nm,0.4s,baz=118,slow=7.2,SNR=9.1						
	0.2nm,0.4s						

*STR **20** 14:19:41.5±1.4,48°N±11°×±°,h5km,MLv3.1/4,Error ellipse: s-maj=0.0km s-min=0.0km az=144.1,preliminary*

*LDG **20** 14:19:41.6±0.1,48°.35N×2°.93W,h2km,Md3.0/2,Ml2.7/17, Error ellipse: s-maj=2.1km s-min=1.4km az=176.0*

ISC 20 14:19:41.1±0.9,**48°.30N**±0°.03×**2°.90W**±0°.02,**h17**km±6km, **n24,** σ1°.**57**/44,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGMF	**Saint Gilles**	**0.23**	**101**	*e*Pg	**Pg**	**14 19 47.2**	**+0.8**
SGMF				*e*Sg	**Sg**	**14 19 50.3**	**+0.3**
	60nm,0.3s						
ROSF	**Rostrenen**	**0.25**	**279**	*e*Pg	**Pg**	**14 19 46.0**	**-0.8**
ROSF				*e*Sg	**Sg**	**14 19 49.2**	**-1.4**
	494nm,0.1s						
ROSF	**Rostrenen**	**0.25**	**279**	Pg	**Pg**	**14 19 46.1**	**-0.8**
ROSF				Sg	**Sg**	**14 19 49.3**	**-1.4**
QUIF	**Quistinic**	**0.42**	**205**	*e*Pg	**Pb**	**14 19 50.9**	**+0.9**
QUIF				*e*Sg	**Sb**	**14 19 56.8**	**+0.8**
	28nm,0.2s						
JSA	**Saint Aubin**	**1.01**	**28**	Pg	**Pg**	**14 20 00.0**	**-0.7**
JSA				Sg	**Sg**	**14 20 12.8**	**-1.2**
CAMF	**Camaret-sur-Me**	**1.15**	**269**	Pg	**Pg**	**14 20 03.4**	**+0.1**
CAMF				Sg	**Sg**	**14 20 18.6**	**+0.3**
GRR	**Gorron**	**1.36**	**85**	*e*Pg	**Pb**	**14 20 08.0**	**+1.9**
GRR				*e*Sg	**Sn**	**14 20 25.6**	**+2.7**
	143nm,0.2s						
FLN	**La Foliniere**	**1.67**	**73**	*e*Pg	**Pg**	**14 20 12.6**	**-0.6**
FLN				*e*Sg	**Sg**	**14 20 34.0**	**-0.9**
	34nm,0.2s						
LDF	**La Druitiere**	**1.87**	**80**	*e*Pn	**Pn**	**14 20 13.7**	**+1.5**
LDF	**La Druitiere**	**1.87**	**80**	*e*Pg	**Pg**	**14 20 16.3**	**-0.7**
LDF				*e*Sg	**Sg**	**14 20 40.5**	**-0.8**
	14nm,0.2s						
DYA	**Yadsworthy**	**2.24**	**343**	Pn	**Pn**	**14 20 16.9**	**-0.5**
MFF	**Saint Martin d**	**2.52**	**131**	*e*Pg	**Pg**	**14 20 28.2**	**-1.2**
MFF				*e*Sg	**Sg**	**14 21 00.7**	**-1.4**
	3.8nm,0.3s						
TCF	**Toulx Ste Croi**	**4.01**	**118**	*e*Pn	**Pn**	**14 20 43.0**	**+1.3**
TCF				*e*Sg	**Sg**	**14 21 49.1**	**-0.8**
	1.0nm,0.2s						
LFF	**La Frestale**	**4.19**	**142**	*e*Pn	**Pn**	**14 20 45.6**	**+1.5**
LFF	**La Frestale**	**4.19**	**142**	*e*Pg	**Pg**	**14 21 00.2**	**-1.1**
LFF				*e*Sg	**Sg**	**14 21 54.4**	**-1.1**
	4.5nm,0.3s						
RJF	**Les Rejaudoux**	**4.26**	**133**	*e*Sg	**Sg**	**14 21 56.6**	**-1.2**
	1.7nm,0.2s						
AVF	**Avril sur Loir**	**4.49**	**107**	*e*Pn	**Pn**	**14 20 49.9**	**+1.6**
AVF				*e*Sn	**Sn**	**14 21 38.0**	**-2.1**
AVF				*e*Sg	**Sg**	**14 22 03.1**	**-2.1**
	0.9nm,0.2s						
SSF	**Saint Saulge**	**4.50**	**104**	*e*Pn	**Pn**	**14 20 49.4**	**+1.1**
SSF				*e*Sn	**Sn**	**14 21 38.2**	**-2.0**
SSF				*e*Sg	**Sg**	**14 22 03.2**	**-2.2**
	1.9nm,0.3s						
LOR	**Lormes**	**4.67**	**100**	*e*Sn	**Sn**	**14 21 42.8**	**-1.7**
LOR				*e*Sg	**Sg**	**14 22 08.7**	**-2.2**
	1.7nm,0.2s						
CAF	**Calviac**	**4.80**	**133**	*e*Pg	**Pg**	**14 21 11.4**	**-1.6**
CAF				*e*Sg	**Sg**	**14 22 14.6**	**-0.5**
	3.8nm,0.3s						
SJPF	**Ste Jean**	**5.32**	**167**	*e*Sn	**Sn**	**14 21 59.7**	**-0.7**
	0.9nm,0.3s						
ETSF	**Etsaut**	**5.64**	**162**	*e*Pn	**Pn**	**14 21 05.2**	**+1.1**
ETSF				*e*Sn	**Sn**	**14 22 06.4**	**-2.1**
	0.4nm,0.3s						
EPF	**Esparros**	**5.73**	**156**	*e*Pn	**Pn**	**14 21 05.2**	**-0.2**
EPF	**Espar

ASAR	**Alice Springs**	**20.86**	**201**	P	**P**	**14 41 09.5**	**-1.0**
ASAR	**Alice Springs**	**20.86**	**201**	P	**P**	**14 41 11.0**	**+0.5**
	comp=Z,14nm,0.6s,baz=35,slow=11,SNR=180						
ASAR				S	**S**	**14 44 55.6**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=24,slow=20,SNR=4.8						
	comp=Z,14nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.18**	**228**	P	**P**	**14 41 12.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.18**	**228**	P	**P**	**14 41 14.0**	**+0.1**
BKSI	**Bulukumba**	**21.91**	**266**	P	**P**	**14 41 21.6**	**-0.2**
	comp=Z,20nm,0.7s						
TOLI2	**Tolitoli**	**21.94**	**284**	P	**P**	**14 41 20.9**	**-1.2**
TOLI2	**Tolitoli**	**21.94**	**284**	P	**P**	**14 41 22.8**	**+0.7**
BASI	**Baing, Sumba**	**22.14**	**253**	P	**P**	**14 41 23.2**	**-0.9**
	comp=Z,115nm,1.1s						
QLP	**Quilpie**	**22.31**	**175**	P	**P**	**14 41 26.9**	**+1.1**
EIDS	**Eidsvold**	**22.71**	**159**	P	**P**	**14 41 30.7**	**+0.8**
EIDS				IAmb	IAmb	14 41 34.8	
	comp=Z,35nm,1.1s						
EIDS	**Eidsvold**	**22.71**	**159**	P	**P**	**14 41 32.0**	**+2.1**
INKA	**Innaminka**	**23.40**	**183**	P	**P**	**14 41 37.0**	**+0.6**
OOD	**Oodnadatta**	**24.20**	**194**	P	**P**	**14 41 43.8**	**+0.2**
WRKA	**Warakurna**	**24.56**	**211**	P	**P**	**14 41 47.5**	**+0.5**
PLAI	**Plampang**	**24.57**	**258**	P	**P**	**14 41 48.7**	**+1.5**
	comp=Z,21nm,1.6s						
LCRK	**Leigh Creek**	**26.32**	**188**	P	**P**	**14 42 03.1**	**+0.3**
MULG	**Mulgathing**	**26.98**	**195**	P	**P**	**14 42 08.9**	**+0.1**
CMSA	**Cobar Meteorol**	**27.36**	**173**	P	**P**	**14 42 14.1**	**+1.9**
STKA	**Stephens Creek**	**27.49**	**181**	P	**P**	**14 42 12.6**	**-0.7**
STKA	**Stephens Creek**	**27.49**	**181**	P	**P**	**14 42 13.3**	**0.0**
	comp=Z,3.5nm,0.8s,baz=354,slow=8.7,SNR=7.3						
	comp=Z,3.5nm,0.8s						
ARMA	**Armidale**	**27.55**	**162**	P	**P**	**14 42 14.4**	**+0.4**
ARMA				IAmb	IAmb	14 42 18.5	
	comp=Z,7.5nm,1.1s						
BBOO	**Buckleboo**	**28.97**	**191**	P	**P**	**14 42 26.6**	**+0.1**
BBOO				IAmb	IAmb	14 42 27.1	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**28.97**	**191**	P	**P**	**14 42 26.4**	**-0.1**
LIFNC	**LIFOU**	**29.47**	**126**	P	**P**	**14 42 30.6**	**-0.4**
FORT	**Forrest**	**29.52**	**205**	P	**P**	**14 42 33.2**	**+1.8**
YNG	**Young**	**30.47**	**170**	P	**P**	**14 42 41.7**	**+1.9**
CAN	**Canberra**	**31.58**	**169**	P	**P**	**14 42 49.5**	**0.0**
CAN	**Canberra**	**31.58**	**169**	P	**P**	**14 42 51.1**	**+1.6**
MEEK	**Meekatharra**	**31.62**	**223**	P	**P**	**14 42 50.6**	**+0.6**
TOO	**Toolangi**	**33.31**	**175**	P	**P**	**14 43 05.9**	**+1.2**
TOO				IAmb	IAmb	14 43 08.6	
	comp=Z,12nm,1.1s						
MORW	**Morawa**	**34.92**	**222**	P	**P**	**14 43 17.8**	**-0.8**
MORW				IAmb	IAmb	14 43 20.7	
	comp=Z,9.2nm,0.9s						
MORW	**Morawa**	**34.92**	**222**	P	**P**	**14 43 19.5**	**+0.9**
BLDU	**Ballidu**	**35.50**	**220**	P	**P**	**14 43 24.3**	**+0.7**
NWAO	**Narrogin (SRO)**	**36.79**	**216**	LR	LR	15 00 06.9	
	comp=Z,139nm,18.1s,baz=108,slow=38						
MAJO	**Matsushiro**	**40.74**	**355**	P	**P**	**14 44 05.3**	**-2.1**
NJ2	**Nanjing**	**42.32**	**330**	*e*P	**P**	**14 44 20.3**	**-0.1**
NJ2				pP	**pP**	**14 44 45.0**	**+0.1**
NJ2				sP	**sP**	**14 44 58.6**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,330nm,5.9s						
KSRS	**Korea Array**	**43.53**	**344**	P	**P**	**14 44 30.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=164,slow=8.0,SNR=4.4						
KSRS				sP	**pP**	**14 44 56.2**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=153,slow=8.2,SNR=2.5						
	comp=Z,0.8nm,0.7s						
RTZ	**Ruatahuna**	**46.65**	**142**	P	**P**	**14 44 55.7**	**+0.8**
RTZ				IAmb	IAmb	14 44 57.5	
	comp=Z,6.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**48.12**	**299**	P	**P**	**14 45 05.8**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=121,slow=6.8,SNR=7.8						
	comp=Z,0.7nm,0.6s						
XAN	**Xi'an**	**49.29**	**323**	P	**P**	**14 45 14.6**	**-0.6**
XAN				pP	pP	14 45 41.3	+0.9
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
XAN				pmax	pmax		
	comp=Z,200nm,5.3s						
PZH	**PanZhiHua**	**49.57**	**310**	P	**P**	**14 45 16.5**	**-1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
HHC	**Hu-ho-hao-te**	**52.86**	**331**	*e*P	**P**	**14 45 43.8**	**+1.9**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
XLT	**XiLinHaoTe**	**53.34**	**337**	*e*P	**P**	**14 45 48.5**	**+3.2**
XLT				pP	sP	14 46 18.6	-4.1
XLT				PcP	PcP	14 46 59.3	+7.8
XLT				PP	PP	14 47 55.4	+8.6
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,83nm,5.1s						
BTO	**Baotou**	**53.43**	**330**	*e*P	**P**	**14 45 49.3**	**+3.2**
BTO				pP	**sP**	**14 46 19.0**	**-4.4**
BTO				PP	**PP**	**14 47 53.8**	**+6.1**
BTO				S	**S**	**14 53 15.9**	**+5.4**
BTO	**Baotou**	**53.43**	**330**	SS	**SKiKP**	**14 56 46.8**	**-4.8**
BTO				pmax	pmax		
	comp=Z,14nm,0.9s						
BTO				pmax	pmax		
	comp=Z,240nm,4.0s						
BTO				LR	LR		
	comp=N,270nm,5.5s						
BTO				LR	LR		
	comp=E,240nm,5.8s						
BTO				LR	LR		
	comp=Z,170nm,5.1s						
LZH	**Lanzhou**	**53.75**	**322**	*e*P	**P**	**14 45 49.6**	**+1.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
GTA	**Gaotai**	**58.32**	**322**	*e*P	**P**	**14 46 21.5**	**+0.5**
GTA				pP	pP	14 46 50.6	+3.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**60.57**	**333**	P	**P**	**14 46 35.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=142,slow=5.4,SNR=2.3						
	comp=Z,0.2nm,0.3s						
SEY	**Seymchan**	**67.45**	**5**	P	**P**	**14 47 20.1**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=113,slow=4.5,SNR=2.3						
	comp=Z,1.3nm,0.8s						
WMQ	**Urumqi**	**68.31**	**321**	*e*P	**P**	**14 47 26.3**	**-0.5**
WMQ				PcP	**PcP**	**14 47 51.6**	**-0.1**
WMQ				sP	sP	14 48 09.1	+4.2
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
MKAR	**Makanchi Array**	**73.06**	**322**	P	**P**	**14 47 55.4**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=108,slow=7.4,SNR=37						
MKAR				sP	**pP**	**14 48 22.8**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=94,slow=8.8,SNR=5.3						
	comp=Z,2.8nm,0.7s						
VNDA	**Vanda**	**73.98**	**176**	P	**P**	**14 47 59.3**	**-1.0**
ZALV	**Zalesovo Beam**	**74.96**	**329**	P	**P**	**14 48 04.6**	**-1.8**
ZALV	**Zalesovo Beam**	**74.96**	**329**	P	**P**	**14 48 04.8**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=114,slow=6.3,SNR=8.5						
ZALV				sP	**pP**	**14 48 33.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=104,slow=6.3,SNR=3.0						
	comp=Z,1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**76.92**	**324**	P	**P**	**14 48 16.7**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=105,slow=5.6,SNR=5.1						
KURBB				sP	**pP**	**14 48 44.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=107,slow=18,SNR=2.1						
	comp=Z,0.8nm,0.8s						
MAW	**Mawson**	**81.98**	**202**	P	**P**	**14 48 43.9**	**-0.8**
MAW	**Mawson**	**81.98**	**202**	P	**P**	**14 48 45.9**	**+1.1**
	comp=Z,6.7nm,0.7s,baz=135,slow=9.1,SNR=4.1						
	comp=Z,6.7nm,0.7s						
NRIK	**Noril'sk**	**82.15**	**343**	P	**P**	**14 48 44.8**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=139,slow=9.3,SNR=1.6						
	comp=Z,1.6nm,0.4s						
BRLK	**Bradley Lake**	**82.33**	**28**	P	**P**	**14 48 43.5**	**-3.1**
BRLK				IAmb	IAmb	14 48 57.2	
	comp=Z,4.6nm,0.8s						
BVAR	**Borovoye Array**	**82.50**	**325**	P	**P**	**14 48 47.4**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=108,slow=6.7,SNR=16						
BVAR				pP	pP	14 49 06.5	-8.6
	comp=Z,1.4nm,0.5s,baz=110,slow=5.8,SNR=4.5						
BVAR				sP	sP	14 49 15.9	-11
	comp=Z,4.2nm,0.7s,baz=111,slow=8.1,SNR=7.8						
	comp=Z,3.3nm,0.6s						
RC01	**Rabbit Creek A**	**83.35**	**27**	P	**P**	**14 48 50.1**	**-1.8**
RC01				IAmb	IAmb	14 48 51.7	
	comp=Z,9.0nm,1.0s						
IMAR	**Indian Mountai**	**83.64**	**22**	P	**P**	**14 48 51.8**	**-1.5**
TRF	**Thorofare Moun**	**83.98**	**25**	P	**P**	**14 48 53.4**	**-1.9**
TRF				IAmb	IAmb	14 48 54.4	
	comp=Z,4.0nm,1.0s						
MLY	**Manley**	**84.40**	**23**	P	**P**	**14 48 55.9**	**-1.4**
I23K	**Minto, Yukon-K**	**84.98**	**23**	P	**P**	**14 48 58.3**	**-1.7**
M24K	**Tolsona, Glenn**	**85.29**	**27**	P	**P**	**14 49 00.6**	**-1.2**
M24K				IAmb	IAmb	14 49 06.7	
	comp=Z,2.7nm,0.9s						
QSPA	**South Pole Qui**	**85.71**	**180**	P	**P**	**14 49 03.4**	**-0.5**
QSPA				IAmb	IAmb	14 49 04.9	
	comp=Z,6.6nm,0.7s						
QSPA	**South Pole Qui**	**85.71**	**180**	P	**P**	**14 49 04.4**	**+0.5**
	comp=Z,6.7nm,0.8s,baz=301,slow=0.8,SNR=41						
	comp=Z,6.7nm,0.8s						
IL31		**85.84**	**24**	P	**P**	**14 49 00.9**	**-3.4**
IL31				IAmb	IAmb	14 49 02.9	
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	**14 49 02.0**	**-2.4**
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	**14 49 02.4**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=261,slow=4.7,SNR=27						
ILAR				sP	**pP**	**14 49 31.8**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=259,slow=4.5,SNR=9.1						
	comp=Z,1.9nm,0.7s						
BARN	**Barnard Glacie**	**87.08**	**28**	P	**P**	**14 49 09.0**	**-1.8**
BARN				IAmb	IAmb	14 49 11.3	
	comp=Z,5.2nm,0.7s						
BCAR	**Beaver Creek A**	**87.51**	**26**	P	**P**	**14 49 11.6**	**-1.0**
ABKAR	**Akbulak array**	**88.06**	**320**	P	**P**	**14 49 13.4**	**-2.0**
DAWY	**Dawson**	**88.78**	**26**	P	**P**	**14 49 17.9**	**-0.7**
DAWY				IAmb	IAmb	14 49 19.4	
	comp=Z,3.2nm,0.9s						
G31M	**Satah River**	**91.38**	**23**	P	**P**	**14 49 29.0**	**-1.5**
ELIB	**Princess Elisa**	**94.57**	**196**	*d*P	**P**	**14 49 47.0**	**+1.6**
	comp=Z,4.2nm,0.8s						
YKA	**Yellowknife Ar**	**99.89**	**27**	P	**Pdif**	**14 50 08.4**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=277,slow=4.4,SNR=2.6						
YKA				sP	**pP**	**14 50 37.8**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=288,slow=5.0,SNR=2.9						
	comp=Z,0.2nm,0.8s						
PLCA	**Paso Flores**	**126.19**	**149**	PKP	**PKiKP**	**14 55 28.6**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=266,slow=2.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**139.91**	**285**	PKhKP	PKPpre	14 55 43.0	
	comp=Z,0.4nm,0.5s,baz=74,slow=3.4,SNR=6.5						
TORD				PKP	**PKiKP**	**14 55 55.2**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=28,slow=3.3,SNR=4.9						
DBIC	**Dimbokro**	**147.01**	**276**	PKPbc	**PKPbc**	**14 56 08.2**	**-0.2**
	comp=Z,6.8nm,0.5s,baz=104,slow=3.2,SNR=12						

*AFAD **20** 14:47:44.9±0.0, 39.˚53N×26.˚16E, h4km±1km, ML2.1*
*THE **20** 14:47:45.6, 39.˚55N×26.˚15E, h17km±1km, ML2.2/5, Error ellipse: s-maj=3.0km s-min=1.2km az=238.0*
*ISK **20** 14:47:45.6, 39.˚54N×26.˚16E, h20km, ML2.5/16*
ISC 20 14:47:45.0±0.9, 39.˚54N±0.˚02×26.˚14E±0.˚03, h11km±7km, n31, σ0s67/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.04**	**186**	P	**Pg**	**14 47 46.1**	**-0.9**
PRK	**Paraskevi**	**0.31**	**161**	P	**Pg**	**14 47 51.5**	**+0.3**
PRK				S	**Sg**	**14 47 56.5**	**+1.1**
	1μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.37**	**57**	P	**Pg**	**14 47 52.6**	**+0.3**
BAYC				S	**Sg**	**14 47 57.6**	**+0.3**
BAYC				*i* AML	AML	14 47 58.0	
	comp=N,152nm,0.2s						
SIGR	**SIGRI**	**0.40**	**214**	Pg	**Pb**	**14 47 55.1**	**+1.0**
SIGR				Sg	**Sb**	**14 48 00.8**	**+0.6**
SIGR	**SIGRI**	**0.40**	**214**	P	**Pb**	**14 47 55.2**	**+1.1**
SIGR				S	**Sb**	**14 48 00.7**	**+0.6**
	312nm,0.4s						
CNKL	**anakkale-Mer**	**0.56**	**20**	P	**Pg**	**14 47 56.1**	**+0.3**
CNKL				S	**Sg**	**14 48 03.7**	**+0.5**
CNKL				*i* AML	AML	14 48 05.0	
	comp=E,159nm,0.3s						
COMU	**Canakkale**	**0.61**	**24**	Pg	**Pb**	**14 47 58.2**	**+0.4**
COMU				Sg	**Sb**	**14 48 07.1**	**+0.7**
BUHA	**Balikesir, Bur**	**0.72**	**93**	P	**Pb**	**14 47 59.1**	**-0.5**
BUHA				S	**Sg**	**14 48 09.2**	**+0.7**
DKL	**Dikili**	**0.76**	**128**	Pg	**Pg**	**14 48 00.6**	**+1.0**
DKL				Sg	**Sn**	**14 48 11.6**	**-1.4**
LIA	**Limnos Island**	**0.82**	**296**	P	**Pb**	**14 48 00.5**	**-0.8**
LIA				S	**Sb**	**14 48 12.1**	**-0.3**
	280nm,0.3s						
RFT7	**Candarli**	**0.84**	**134**	Pg	**Pn**	**14 48 02.2**	**-0.6**
RFT7				Sg	**Sn**	**14 48 14.2**	**-0.9**
CANM	**Can-anakkale**	**0.84**	**56**	Pg	**Pn**	**14 48 02.3**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.89**	**16**	Pg	**Pn**	**14 48 03.1**	**-0.3**
ZEDA	**zmir-Bergama**	**0.92**	**128**	P	**Pb**	**14 48 02.1**	**-0.9**
ZEDA				S	**Sg**	**14 48 15.7**	**+0.9**
ZEDA				*i* AML	AML	14 48 17.0	
	comp=N,99nm,0.4s						
ZEDA				*i* AML	AML	14 48 18.0	
	comp=E,64nm,0.3s						
FOCM	**Foa**	**0.94**	**151**	Pg	**Pg**	**14 48 03.9**	**+0.7**
LPK	**Lapseki**	**0.96**	**30**	Pg	**Pg**	**14 48 04.1**	**+0.7**
SMTH	**Samothraki Isl**	**1.04**	**333**	P	**Pb**	**14 48 04.5**	**-0.6**
SMTH				S	**Sb**	**14 48 18.6**	**-0.2**
	65nm,0.1s						
CHOS	**Chios island**	**1.16**	**183**	P	**Pn**	**14 48 05.9**	**-1.3**
CHOS				S	**Sb**	**14 48 21.7**	**-0.4**
	120nm,0.4s						
ERIK	**Erikli-Kesan**	**1.16**	**14**	Pn	**Pn**	**14 48 07.1**	**-0.1**
ENEZ	**Enez**	**1.19**	**0**	Pn	**Pn**	**14 48 07.6**	**-0.1**
KRBG	**Karabiga-Canak**	**1.23**	**46**	Pn	**Pn**	**14 48 07.9**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.23**	**97**	P	**Pg**	**14 48 09.2**	**+0.6**
STEP				S	**Sg**	**14 48 24.7**	**+0.1**
STEP				*i* AML	AML	14 48 30.0	
	comp=N,29nm,0.5s						
URLA	**Izmir**	**1.23**	**163**	Pn	**Pn**	**14 48 07.6**	**-0.6**
GONE	**Gonen-Balikesi**	**1.29**	**66**	Pn	**Pn**	**14 48 08.7**	**-0.3**
BALB	**Balikesir**	**1.34**	**85**	Pn	**Pn**	**14 48 09.3**	**-0.4**
ALN	**Alexandroupoli**	**1.36**	**357**	Pn	**Pn**	**14 48 10.0**	**+0.1**
ALN	**Alexandroupoli**	**1.36**	**357**	P	**Pn**	**14 48 09.9**	**+0.1**
BKES	**Balkesir-Mer**	**1.39**	**82**	P	**Pg**	**14 48 12.2**	**+0.5**
BKES				S	**Sg**	**14 48 30.3**	**+0.5**
BKES				*i* AML	AML	14 48 34.0	
	comp=E,25nm,0.5s						
RKY	**Sarkoy-Tekirda**	**1.39**	**34**	Pn	**Pn**	**14 48 10.3**	**-0.2**
EDC	**Edincik**	**1.55**	**58**	Pn	**Pn**	**14 48 12.3**	**-0.2**
SMG	**Samos**	**1.91**	**163**	P	**Pn**	**14 48 16.9**	**-0.6**
SMG				S	**Sn**	**14 48 41.5**	**0.0**

AUST 20 15:01:59.3±3.3, 33.˚47S×148.˚98E, h0km, Error ellipse: s-maj=36.6km s-min=11.3km az=137.0, Mining explosion., New South Wales

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YNG	**Young**	**0.96**	**210**	P	Pg	15 02 17.7	0.0
	baz=1.0						
YNG				S	Sg	15 02 30.9	+0.8
	baz=1.0						
MGCD	**Mangrove Creek**	**1.80**	**82**	P	Pn	15 02 31.4	-0.2
	baz=1.8						
MGCD				S	Sb	15 02 56.1	-0.3
	baz=1.8						
AUMTS	**Mt Stromlo**	**1.85**	**179**	P	Pn	15 02 32.3	0.0
	baz=1.8						
CNB	**Canberra Magne**	**1.87**	**170**	P	Pn	15 02 32.5	-0.1
	baz=1.9						
CNB				S	Sb	15 02 58.5	+0.2
	baz=1.9						

*ISN **20** 15:55:54.8±0.3, 33.˚89N×45.˚84E, h9km±1km, ML2.7*
*TEH **20** 15:56:00.4, 33.˚84N×45.˚75E, h18km±75km, ML2.8*
ISC 20 15:55:59.2±0.9, 33.˚77N±0.˚05×45.˚68E±0.˚05, h10km, n11, σ1s16/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.69**	**162**	*e*Pg	Pg	15 56 10.0	-2.5
IBDR				*e*Sg	**Sg**	**15 56 21.0**	**-0.5**
IBDR				AML	AML	15 56 32.9	
	comp=N,146nm,0.6s						
IBDR				AML	AML	15 56 35.6	
	comp=E,117nm,0.8s						
KGS1	**Ghasr-e-Shirin**	**0.74**	**354**	Pg	**Pb**	**15 56 14.2**	**-0.1**
IGHG	**Ghaleghazi**	**0.93**	**53**	Pg	**Pg**	**15 56 16.7**	**-0.5**
IDHR	**Dehrash**	**1.10**	**32**	Pg	**Pg**	**15 56 19.0**	**-1.4**
BHD	**Baghdad**	**1.19**	**246**	*e*Pg	**Pn**	**15 56 21.0**	**-0.9**
BHD				*e*Sg	**Sb**	**15 56 40.0**	**+2.7**
ILIN	**Lien**	**1.57**	**42**	Pg	**Pg**	**15 56 28.4**	**-0.9**
IKOM	**Komasi**	**1.58**	**75**	Pg	**Pb**	**15 56 28.1**	**-0.4**
IKOM				Sg	**Sg**	**15 56 50.6**	**+0.7**
IKFM	**Kafar-mosalman**	**1.83**	**97**	Pg	**Pb**	**15 56 32.5**	**-0.2**
RAFI	**Al-Rafai**	**2.07**	**170**	*e*Pn	**Pn**	**15 56 33.0**	**-1.0**
RAFI				*e*Sn	**Sn**	**15 57 01.0**	**+1.1**
RAFI				AML	AML	15 57 17.8	
	comp=N,148nm,0.3s						
RAFI				AML	AML	15 57 34.2	
	comp=E,195nm,0.3s						
HSAM	**Samen**	**2.47**	**79**	Pn	**Pn**	**15 56 40.3**	**+0.5**
HAGD	**Aghdareh**	**3.05**	**69**	Pn	**Pn**	**15 56 48.3**	**+0.5**

*IDC **20** 16:05:13.2±0.9, 18.˚17N×93.˚84E, h0km, mb3.8/16, mbtmp3.8/18, ML4.0/2, MS3.0/6, Error ellipse: s-maj=28.2km s-min=18.4km az=47.0*
ISC 20 16:05:18.3±0.8, 18.˚2N±0.˚1×93.˚92E±0.˚08, h35km, n27, σ0s77/19, mb3.8/16, MS3.1/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.78**	**86**	Pn	**Pn**	**16 06 29.4**	**+1.4**
	2.3nm,0.3s,baz=265,slow=15,SNR=88						
CMAR				Sn	**Sn**	**16 07 20.4**	**-1.9**
	1.2nm,0.3s,baz=267,slow=18,SNR=4.9						
CMAR				LR	LR	16 08 47.9	
	comp=Z,76nm,21.6s,baz=260,slow=44						
	9.3nm,0.5s						
PALK	**Pallekele**	**16.83**	**232**	Pn	**Pn**	**16 09 10.8**	**-0.6**
	0.3nm,0.3s,baz=196,slow=7.4,SNR=1.8						
PALK				Sn	Sn	16 12 02.1	-15
	0.3nm,0.3s,baz=86,slow=19,SNR=1.6						
PALK				LR	LR	16 15 35.2	
	comp=Z,40nm,18.8s,baz=194,slow=37						
	6.0nm,0.9s						
AAK	**Ala-Archa**	**29.43**	**330**	LR	LR	16 24 58.3	
	comp=Z,51nm,20.2s,baz=86,slow=40						
MKAR	**Makanchi Array**	**30.10**	**344**	P	**P**	**16 11 24.7**	**+0.1**
	0.9nm,0.5s,baz=161,slow=9.1,SNR=20						
	0.9nm,0.5s						
SONM	**Songino Array**	**31.29**	**16**	P	**P**	**16 11 35.5**	**+0.3**
	0.3nm,0.5s,baz=198,slow=11,SNR=2.3						
	0.3nm,0.5s						
H08S3	**Diego Garcia H**	**33.25**	**221**	T	T	16 46 40.0	
	baz=51						
H08S2	**Diego Garcia H**	**33.25**	**221**	T	T	16 46 30.1	
	baz=51,slow=74						
H08S1	**Diego Garcia H**	**33.27**	**221**	T	T	16 46 33.4	
	baz=51,slow=74						
KURBB	**Kurchatov Arra**	**34.62**	**343**	P	**P**	**16 12 04.0**	**0.0**
	1.4nm,0.6s,baz=155,slow=8.3,SNR=10						
	1.4nm,0.6s						
KSRS	**Korea Array**	**35.41**	**50**	LR	LR	16 28 27.6	
	comp=Z,14nm,18.8s,baz=90,slow=39						
ZALV	**Zalesovo Beam**	**36.38**	**351**	P	**P**	**16 12 19.1**	**0.0**
	2.5nm,0.6s,baz=171,slow=8.0,SNR=15						
ZALV				LR	LR	16 28 03.2	
	comp=Z,29nm,19.0s,baz=20,slow=38						
	2.5nm,0.6s						
GEYT	**Alibeck**	**36.91**	**310**	P	**P**	**16 12 24.4**	**+0.5**
	2.8nm,0.7s,baz=199,slow=8.8,SNR=5.6						
	2.8nm,0.7s						
BVAR	**Borovoye Array**	**39.31**	**338**	P	**P**	**16 12 44.7**	**+0.8**
	0.3nm,0.4s,baz=123,slow=13,SNR=2.4						
	0.3nm,0.4s						
AKTO	**Aktyubinsk**	**43.03**	**327**	LR	LR	16 33 21.2	
	comp=Z,39nm,18.9s,baz=222,slow=39						
WRA	**Warramunga Arr**	**54.85**	**132**	P	**P**	**16 14 45.4**	**-0.1**
	0.6nm,0.9s,baz=291,slow=12,SNR=1.6						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**57.04**	**135**	P	**P**	**16 15 02.1**	**+1.0**
	0.2nm,0.9s,baz=308,slow=8.0,SNR=1.2						
	0.2nm,0.9s						
AKASG	**Malin Array Be**	**60.14**	**318**	P	**P**	**16 15 21.6**	**-0.7**
	0.3nm,0.4s,baz=78,slow=6.8,SNR=6.2						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**63.62**	**330**	P	**P**	**16 15 45.1**	**-0.4**
	1.4nm,0.7s,baz=108,slow=6.2,SNR=9.1						
	1.4nm,0.7s						
HFS	**Hagfors**	**69.55**	**328**	P	**P**	**16 16 23.4**	**-0.1**
	2.1nm,0.8s,baz=104,slow=10,SNR=2.3						
	2.1nm,0.8s						
GERES	**GERESS Array B**	**70.15**	**316**	P	**P**	**16 16 27.8**	**+0.3**
	1.3nm,0.6s,baz=88,slow=6.3,SNR=6.7						
	1.3nm,0.6s						
NOA	**NORSAR Array B**	**70.75**	**329**	P	**P**	**16 16 30.6**	**-0.2**
	0.8nm,0.8s,baz=87,slow=5.5,SNR=1.8						
	0.8nm,0.8s						
H04N2	**CROZET ISLANDS**	**74.51**	**209**	T	T	17 38 10.8	
	baz=42,slow=75,SNR=40						
H04N1	**CROZET ISLANDS**	**74.51**	**209**	T	T	17 38 11.6	
	baz=42,slow=75,SNR=37						
H04N3	**CROZET

comp=N,0.5nm,0.8s,baz=104,slow=4.6,SNR=9.6
comp=N,0.5nm,0.8s
ESDC Sonseca Array 70.83 53 P **P 16 17 09.0 +1.4**
comp=N,1.3nm,0.8s,baz=278,slow=6.0,SNR=7.8
comp=N,1.3nm,0.8s
NOA NORSAR Array B 76.86 30 LR LR 16 49 51.2
comp=N,11nm,18.0s,baz=270,slow=34
ASAR Alice Springs 144.77 254 PKP **PKPab 16 25 25.0 -2.2**
comp=N,0.8nm,0.9s,baz=99,slow=3.6,SNR=9.3

IDC 20 16:09:21.6±8.1, 19.85S×176.84W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=352.5km s-min=42.8km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.73**	**256**	P	P	16 17 44.5	-0.5
	0.6nm,0.7s,baz=103,slow=8.2,SNR=9.0						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**45.77**	**261**	P	P	16 17 45.5	+0.2
	0.2nm,0.3s,baz=95,slow=8.1,SNR=5.7						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**87.45**	**12**	P	P	16 22 10.5	0.0
	0.6nm,1.1s,baz=225,slow=5.5,SNR=2.1						
	0.6nm,1.1s						

*ISK **20** 16:15:16.4, 36.90N×27.06E, h6km, ML2.6/13*
*ATH **20** 16:15:16.5, 36.85N×27.06E, h13km±1km, ML2.6/5, Error ellipse: s-maj=2.7km s-min=1.0km az=61.0*
*AFAD **20** 16:15:17.0±0.0, 36.88N×27.13E, h7km±2km, ML2.4*
*THE **20** 16:15:17.6, 36.92N×27.11E, h15km±1km, ML2.6/5, Error ellipse: s-maj=2.0km s-min=0.9km az=89.0*
ISC 20 16:15:16.4±0.8, 36.88N±0.02×27.07E±0.02, h13km±6km, n42, σ0§63/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLNA	**Kalymnos**	**0.11**	**313**	P	**Pg**	**16 15 19.9**	**+0.4**
KLNA				S	**Sg**	**16 15 21.8**	**+0.1**
KLNA				AML	AML	16 15 22.1	
	comp=N,57090µm,0.2s						
KLNA				AML	AML	16 15 22.5	
	comp=E,47236µm,0.2s						
BODT	**Bodrum**	**0.26**	**46**	Pg	**Pg**	**16 15 22.3**	**+0.4**
BODT				Sg	**Sb**	**16 15 26.3**	**-1.1**
BODT	**Bodrum**	**0.26**	**46**	P	**Pg**	**16 15 22.4**	**+0.5**
BODT				S	**Sb**	**16 15 26.4**	**-1.0**
NISR	**Nisiros**	**0.27**	**171**	P	**Pb**	**16 15 24.2**	**+1.1**
NISR	**Nisiros**	**0.27**	**171**	P	**Pg**	**16 15 20.7**	**-1.3**
NISR				S	**Sg**	**16 15 25.2**	**-0.7**
NIS1	**Nisyros Isl.**	**0.29**	**163**	P	**Pg**	**16 15 23.2**	**+0.8**
NIS1				S	**Sb**	**16 15 30.4**	**+2.2**
	comp=E,1µm,0.5s						
NIS1	**Nisyros Isl.**	**0.29**	**163**	P	**Pg**	**16 15 22.9**	**+0.5**
NIS1				S	**Sg**	**16 15 25.6**	**-0.9**
NIS1				AML	AML	16 15 31.9	
	comp=E,2406µm,0.3s						
NIS1				AML	AML	16 15 40.4	
	comp=N,2196µm,0.6s						
YKAV	**Yalikavak-Bodr**	**0.29**	**34**	Pg	**Pg**	**16 15 22.8**	**+0.3**
YKAV				Sg	**Sg**	**16 15 26.8**	**+0.3**
BDRM	**Kayabasi**	**0.35**	**58**	P	**Pg**	**16 15 23.7**	**+0.2**
BDRM				S	**Sg**	**16 15 27.9**	**-0.3**
YAZI	**Mula-Dat§a-**	**0.36**	**123**	P	**Pg**	**16 15 24.0**	**+0.3**
YAZI				S	**Sg**	**16 15 28.5**	**-0.1**
YAZI				*i* AML	AML	16 15 30.0	
	comp=N,407nm,0.4s						
YAZI				*i* AML	AML	16 15 30.0	
	comp=N,333nm,0.3s						
DAT	**Datca**	**0.43**	**111**	Pg	**Pg**	**16 15 25.5**	**+0.5**
DAT				Sg	**Sb**	**16 15 32.4**	**0.0**
DAT	**Datca**	**0.43**	**111**	P	**Pg**	**16 15 25.5**	**+0.5**
DAT	**Datca**	**0.43**	**111**	P	**Pg**	**16 15 25.5**	**+0.5**
DAT				S	**Sg**	**16 15 30.6**	**-0.2**
DAT				*i* AML	AML	16 15 32.0	
	comp=N,368nm,0.2s						
DAT				*i* AML	AML	16 15 35.0	
	comp=N,293nm,0.2s						
RFTAA	**Mazikoy-Bodrum**	**0.55**	**78**	Pg	**Pg**	**16 15 27.4**	**+0.2**
DDIM	**Aydin, Didim**	**0.59**	**13**	P	**Pg**	**16 15 28.4**	**+0.4**
DDIM				*i* AML	AML	16 15 40.0	
	comp=N,267nm,0.5s						
DDIM				*i* AML	AML	16 15 47.0	
	comp=N,203nm,0.6s						
MLSB	**Milas**	**0.70**	**54**	Pg	**Pb**	**16 15 30.6**	**+0.2**
GCAM	**G?zelcaml?**	**0.83**	**9**	Pg	**Pg**	**16 15 32.6**	**+0.2**
GCAM				Sg	**Sb**	**16 15 44.2**	**+0.6**
GCAM	**G?zelcaml?**	**0.83**	**9**	P	**Pg**	**16 15 32.5**	**+0.2**
GCAM				S	**Sb**	**16 15 43.6**	**0.0**
GCAM				*i* AML	AML	16 15 47.0	
	comp=N,164nm,0.4s						
GCAM				*i* AML	AML	16 15 49.0	
	comp=N,189nm,0.2s						
SMG	**Samos**	**0.85**	**347**	P	**Pg**	**16 15 33.0**	**+0.2**
SMG				S	**Sb**	**16 15 45.1**	**+0.9**
	comp=N,660nm,0.3s						
SMG	**Samos**	**0.85**	**347**	P	**Pg**	**16 15 32.9**	**+0.2**
SMG				S	**Sg**	**16 15 44.5**	**+0.6**
SMG				AML	AML	16 15 48.0	
	comp=E,1477µm,0.3s						
SMG				AML	AML	16 15 49.1	
	comp=N,1173µm,0.3s						
TURN	**Turunc**	**0.94**	**96**	Pg	**Pg**	**16 15 34.7**	**+0.1**
TURN	**Turunc**	**0.94**	**96**	P	**Pg**	**16 15 34.4**	**-0.2**
TURN				S	**Sb**	**16 15 47.2**	**+0.2**
TURN				*i* AML	AML	16 15 49.0	
	comp=N,136nm,0.3s						
TURN				*i* AML	AML	16 15 50.0	
	comp=N,177nm,0.5s						
YER	**Yerkesik**	**1.00**	**75**	Pg	**Pn**	**16 15 36.3**	**+0.1**
YER				Sg	**Sn**	**16 15 50.7**	**+0.5**
MULA	**Mugla, Merkez-**	**1.06**	**69**	P	**Pg**	**16 15 37.0**	**0.0**
MULA				*i* AML	AML	16 15 58.0	
	comp=N,78nm,0.5s						
ARG	**Arkhangelos**	**1.08**	**128**	Pn	**Pb**	**16 15 36.8**	**-0.1**
ARG	**Arkhangelos**	**1.08**	**128**	P	**Pb**	**16 15 36.9**	**0.0**
ARG				S	**Sg**	**16 15 51.3**	**+0.1**
	comp=N,180nm,0.4s						
ARG	**Arkhangelos**	**1.08**	**128**	P	**Pb**	**16 15 36.7**	**-0.1**
ARG				S	**Sb**	**16 15 50.2**	**-0.6**
ARG				AML	AML	16 15 55.6	
	comp=E,409µm,0.4s						
ARG				AML	AML	16 15 56.6	
	comp=N,311µm,0.3s						
DGB	**zmir**	**1.18**	**353**	P	**Pb**	**16 15 38.3**	**-0.3**
DGB				S	**Sb**	**16 15 53.1**	**-0.6**
DGB				*i* AML	AML	16 15 57.0	
	comp=N,54nm,0.6s						
APE	**Apeiranthos**	**1.25**	**279**	Pn	**Pn**	**16 15 38.9**	**-0.6**
APE	**Apeiranthos**	**1.25**	**279**	P	**Pn**	**16 15 39.2**	**-0.4**
APE				S	**Sb**	**16 15 56.0**	**+0.1**
	comp=N,128nm,0.4s						
APE	**Apeiranthos**	**1.25**	**279**	P	**Pn**	**16 15 39.0**	**-0.6**
APE				S	**Sb**	**16 15 54.6**	**-1.3**
APE				AML	AML	16 15 56.4	
	comp=N,301µm,0.4s						
APE				AML	AML	16 15 56.8	
	comp=E,207µm,0.4s						
DALY	**Dalyan (Mula)**	**1.27**	**92**	Pn	**Pg**	**16 15 41.1**	**+0.3**
KARP	**Karpathos**	**1.33**	**177**	P	**Pn**	**16 15 39.5**	**-1.2**
ESEN	**Aydn-Nazilli**	**1.37**	**48**	P	**Pb**	**16 15 42.3**	**+0.5**
ESEN				S	**Sn**	**16 15 59.3**	**+0.2**
THR8	**Santorini-Mono**	**1.37**	**250**	P	**Pn**	**16 15 42.3**	**+1.2**
SNT5	**Nea Kammeni, S**	**1.43**	**251**	P	**Pn**	**16 15 41.8**	**-0.2**
IZMR	**zmir-demi**	**1.43**	**29**	P	**Pg**	**16 15 44.5**	**+0.5**
IZMR				S	**Sb**	**16 16 01.4**	**+0.3**
URLA	**Izmir**	**1.52**	**346**	Pn	**Pb**	**16 15 44.7**	**+0.2**
FETY	**Fethiye**	**1.63**	**98**	Pn	**Pb**	**16 15 46.6**	**+0.2**
CHOS	**Chios Island**	**1.71**	**332**	P	**Pn**	**16 15 44.8**	**-1.1**
CAME	**Cameli-Denizli**	**1.79**	**87**	Pn	**Pb**	**16 15 48.9**	**-0.2**
APMY	**Acipayam-Deniz**	**1.87**	**71**	Pn	**Pb**	**16 15 50.1**	**-0.4**

*TEH **20** 16:24:26.7, 33.19N×46.10E, h10km±171km, ML2.6*
*ISN **20** 16:24:31.6±0.4, 33.20N×46.15E, h10km±2km, ML2.6*
ISC 20 16:24:30.2±1.0, 33.26N±0.04×46.21E±0.05, h10km, n8, σ1§03/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.28**	**237**	*e*Pg	**Pg**	**16 24 36.2**	**+0.3**
IBDR				*e*Sg	**Sg**	**16 24 39.0**	**-0.7**
IBDR					AML	AML	16 24 44.0
	comp=N,712nm,0.5s						
IBDR					AML	AML	16 24 44.2
	comp=E,522nm,0.4s						
IGHG	**Ghaleghazi**	**1.10**	**15**	Pg	**Pb**	**16 24 50.3**	**-1.2**
IGHG				Sg	**Sg**	**16 25 07.3**	**+1.5**
IKFM	**Kafar-mosalman**	**1.39**	**79**	Pg	**Pn**	**16 24 55.2**	**-0.5**
IKOM	**Komasi**	**1.41**	**50**	Pg	**Pn**	**16 24 56.5**	**+0.4**
IDHR	**Dehrash**	**1.44**	**6**	Pg	**Pn**	**16 24 55.7**	**-0.9**
BHD	**Baghdad**	**1.54**	**271**	*e*Pn	**Pg**	**16 25 00.0**	**+0.3**
BHD				*e*Sn	**Sg**	**16 25 21.0**	**+1.4**
BHD					AML	AML	16 25 27.3
	comp=E,185nm,0.3s						
RAFI	**Al-Rafai**	**1.54**	**183**	*e*Pn	**Pg**	**16 25 00.0**	**+0.2**
RAFI				*e*Sn	**Sg**	**16 25 21.0**	**+1.3**
ILIN	**Lien**	**1.76**	**20**	Pn	**Pn**	**16 25 01.8**	**+0.7**

*IDC **20** 16:27:35.9±1.2, 59.45S×27.86W, h0km, mb4.1/2, mbtmp4.1/3, ML4.2/1, Error ellipse: s-maj=70.4km s-min=39.3km az=85.0*
*NEIC **20** 16:27:36.8±2.4, 59.1S±0.1×26.65W±0.0, h10km±1km, mb4.4/22, Error ellipse: s-maj=23.8km s-min=6.7km az=187.0*
ISC 20 16:27:36.6±0.6, 59.0S±0.1×26.6W±0.1, h10km, n40, σ1§14/33, mb4.4/13, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.93**	**154**	P	**Pn**	**16 30 53.0**	**-0.7**
VNA3	**Neumayer Olymp**	**14.09**	**157**	P	**Pn**	**16 30 55.3**	**-0.7**
SNAA	**Sanae**	**15.91**	**152**	Pn	**Pn**	**16 31 20.6**	**+0.2**
SNAA	**Sanae**	**15.91**	**152**	P	**Pn**	**16 31 21.0**	**+0.6**
SNAA	**Sanae**	**15.91**	**152**	Pn	**Pn**	**16 31 20.2**	**-0.2**
	0.9nm,0.3s,baz=320,slow=19,SNR=3.4						
	1.9nm,0.3s						
TROLL	**Troll, Antarti**	**17.46**	**150**	⇑P	**P**	**16 31 42.7**	**+1.4**
	comp=E,348nm,0.9s						
TRQA	**Tornquist**	**30.88**	**297**	P	**P**	**16 33 54.5**	**+1.6**
QSPA	**South Pole Qui**	**31.21**	**180**	P	**P**	**16 33 55.3**	**-0.5**
GO06	**Curarrehue**	**34.26**	**284**	P	**P**	**16 34 22.1**	**-0.6**
GO06				IAmb	IAmb	16 34 34.9	
	comp=E,2.9nm,0.9s						
SPB	**Sao Paulo**	**38.37**	**328**	P	**P**	**16 34 57.5**	**-0.2**
MT09	**Talagante**	**38.60**	**291**	P	**P**	**16 35 01.4**	**+1.5**
MT09				IAmb	IAmb	16 35 26.7	
	comp=E,8.4nm,1.0s						
MT16	**CCHEN**	**38.66**	**292**	P	**P**	**16 34 57.7**	**-2.5**
CO02	**Combarbal**	**40.72**	**293**	P	**P**	**16 35 18.8**	**+1.4**
CO02				IAmb	IAmb	16 35 27.4	
	comp=E,6.6nm,0.9s						
CO01	**Juntas del Tor**	**41.32**	**295**	P	**P**	**16 35 22.6**	**+0.1**
CO01				IAmb	IAmb	16 35 26.6	
	comp=E,5.4nm,0.9s						
CO06	**Fray Jorge**	**41.47**	**293**	P	**P**	**16 35 24.2**	**+0.8**
CO06				IAmb	IAmb	16 35 44.0	
	comp=E,14nm,1.1s						
AC05	**El Transito**	**42.37**	**296**	P	**P**	**16 35 31.2**	**+0.3**
AC05				IAmb	IAmb	16 35 34.7	
	comp=E,7.6nm,0.8s						
GRHM	**Grahamstown, E**	**43.26**	**77**	P	**P**	**16 35 37.7**	**-0.4**
H04S2	**CROZET ISLANDS**	**46.11**	**111**	T	T	17 26 18.0	
	baz=224,slow=75						
H04S3	**CROZET ISLANDS**	**46.12**	**111**	T	T	17 26 20.1	
	baz=224,slow=75						
H04S1	**CROZET ISLANDS**	**46.13**	**111**	T	T	17 26 20.6	
	baz=224,slow=75						
BOSA	**Boshof**	**46.48**	**72**	P	**P**	**16 36 05.1**	**+1.2**
BOSA				IAmb	IAmb	16 36 27.1	
	comp=E,3.4nm,1.1s						
PB08	**IPOC Station P**	**49.39**	**303**	P	**P**	**16 36 26.5**	**-0.2**
PB08				IAmb	IAmb	16 36 39.5	
	comp=E,3.6nm,0.8s						
LBTB	**Lobatse**	**49.65**	**70**	P	**P**	**16 36 26.0**	**-2.4**
PTLB	**Pontes e Lacer**	**49.68**	**317**	P	**P**	**16 36 31.0**	**+2.5**
PTLB				IAmb	IAmb	16 36 32.4	
	comp=E,4.8nm,1.0s						
PB12	**IPOC Station P**	**51.25**	**303**	P	**P**	**16 36 38.5**	**-1.9**
PB12				IAmb	IAmb	16 36 46.1	
	comp=E,4.5nm,0.8s						
H10N1	**ASCENSION HYDR**	**51.90**	**15**	T	T	17 33 28.9	
	baz=189,slow=75,SNR=56						
H10N3	**ASCENSION HYDR**	**51.91**	**15**	T	T	17 33 28.7	
	baz=189,slow=75,SNR=238						
H10N2	**ASCENSION HYDR**	**51.92**	**15**	T	T	17 33 29.1	
	baz=189,slow=75,SNR=133						
VILB	**Vilhena**	**52.37**	**317**	P	**P**	**16 36 48.0**	**-0.8**
LPAZ	**La Paz**	**52.38**	**307**	P	**P**	**16 36 48.8**	**-0.8**
SAML	**Samuel**	**57.14**	**316**	P	**P**	**16 37 23.1**	**-0.2**
SAML				IAmb	IAmb	16 37 26.5	
	comp=E,7.2nm,0.9s						
ETMB	**Extrema**	**57.48**	**312**	P	**P**	**16 37 25.5**	**-0.2**
DBIC	**Dimbokro**	**67.77**	**23**	P	**P**	**16 38 34.5**	**+0.2**
COHC	**Cochancay**	**69.51**	**302**	P	**P**	**16 38 45.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**75.52**	**28**	P	P	16 39 26.0	+5.1
	comp=Z,1.8nm,0.5s,baz=203,slow=6.0,SNR=12						
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**96.05**	**162**	P	**P**	**16 41 04.3**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=180,slow=3.9,SNR=6.0						
	comp=Z,0.2nm,0.8s						
YKA	**Yellowknife Ar**	**138.56**	**315**	PKP	**PKPdf**	**16 47 01.1**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=126,slow=1.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**143.32**	**67**	PKP	**PKPdf**	**16 47 09.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=232,slow=2.5,SNR=3.9						
SONM	**Songino Array**	**150.47**	**91**	PKPbc	**PKiKP**	**16 47 29.5**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=208,slow=4.4,SNR=4.8						
ILAR	**Eielson Array**	**152.26**	**307**	PKPbc	**PKiKP**	**16 47 31.2**	**0.0**
	comp=Z,1.9nm,1.0s,baz=134,slow=1.8,SNR=11						

*IDC **20** 16:28:32.5±0.6, 44.81N×37.32E, h0km, mb3.4/9, mbtmp3.4/14, ML3.3/5, Error ellipse: s-maj=10.1km s-min=6.5km az=14.0*
*CFUSG **20** 16:28:36.5, 44.52N×37.16E, h0km, mb2.6/7, Black Sea district 5 Magtype MSH 2.8 from 6 stations*
*MOS **20** 16:28:37.1, 44.68N×37.34E, h35km, MPVA4.2, FELT I=III-IV MSK at Anapa, Novorossiysk*
*AFAD **20** 16:28:45.5±0.0, 44.03N×37.08E, h12km±3km, MW3.5*
ISC 20 16:28:37.3±1.0, 44.67N±0.04×37.33E±0.02, h34km±2km, n105, σ2§00/173, mb3.4/8, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANN	**Anapa**	**0.15**	**28**	*i* P	**Pb**	**16 28 44.4**	**+0.9**
ANN				*i* S	**Sb**	**16 28 49.1**	**+1.3**
ANN	**Anapa**	**0.15**	**28**	*i* Pg	**Pb**	**16 28 44.4**	**+0.9**
ANN				*i* Sg	**Sb**	**16 28 49.1**	**+1.3**
GELR	**Gelenjik**	**0.47**	**100**	*i* P	**Pn**	**16 28 48.4**	**+0.7**
GELR				*i* S	**Sn**	**16 28 56.1**	**+1.3**
GELR	**Gelenjik**	**0.47**	**100**	*i* Pg	**Pn**	**16 28 48.4**	**+0.7**
GELR				*i* Sg	**Sn**	**16 28 56.1**	**+1.3**
SPGR	**Shapsug**	**0.53**	**82**	*i* P	**Pn**	**16 28 48.7**	**+0.3**
SPGR				*i* S	**Sn**	**16 28 56.2**	**0.0**
SPGR	**Shapsug**	**0.53**	**82**	*i* Pg	**Pn**	**16 28 48.7**	**+0.3**
SPGR				*i* Sg	**Sn**	**16 28 56.2**	**0.0**
FEO	**Feodosiya**	**1.43**	**285**	*e*P	**Pn**	**16 29 00.5**	**-0.2**
FEO				*e*S	**Sn**	**16 29 19.2**	**+0.9**
FEO	**Feodosiya**	**1.43**	**285**	*e*Pg	**Pn**	**16 29 00.5**	**-0.2**
FEO				*e*Sg	**Sn**	**16 29 19.2**	**+0.9**
FEO	**Feodosiya**	**1.43**	**285**	*e*Pg	**Pn**	**16 29 00.5**	**-0.2**
FEO				Pgm		16 29 01.0	
	comp=Z,15nm,0.2s						
FEO				*e*Sg	**Sn**	**16 29 19.2**	**+0.9**
FEO				Sgm		16 29 21.0	
	comp=E,31nm,0.2s						
FEO				Sgm		16 29 26.1	
	comp=N,61nm,0.3s						
SUDU	**Sudak**	**1.68**	**279**	*e*P	**Pn**	**16 29 05.3**	**+1.2**
SUDU				*e*S	**Sn**	**16 29 26.3**	**+1.9**
SUDU	**Sudak**	**1.68**	**279**	*e*Pg	**Pn**	**16 29 05.3**	**+1.2**
SUDU				*e*Sg	**Sn**	**16 29 26.3**	**+1.9**
SUDU	**Sudak**	**1.68**	**279**	⇓*i*Pn	**Pn**	**16 29 05.3**	**+1.2**
SUDU				Pnm		16 29 05.9	
	comp=Z,36nm,0.3s						
SUDU				*i* Sn	**Sn**	**16 29 26.3**	**+1.9**
SUDU				Snm		16 29 27.9	
	comp=E,41nm,0.2s						
SUDU				Snm		16 29 28.3	
	comp=N,98nm,0.4s						
MRNR	**Maryino**	**1.70**	**115**	*i* P	**Pn**	**16 29 05.4**	**+0.8**
MRNR	**Maryino**	**1.70**	**115**	*e*Pg	**Pn**	**16 29 06.5**	**+1.9**
MRNR				*e*Sg	**Sn**	**16 29 26.2**	**+1.0**
SOC	**Sochi**	**2.03**	**121**	*e*P	**Pn**	**16 29 11.0**	**+2.0**
SOC				*i* S	**Sn**	**16 29 33.9**	**+0.7**
SOC	**Sochi**	**2.03**	**121**	*e*Pg	**Pn**	**16 29 11.0**	**+2.0**
SOC				*i* Sg	**Sn**	**16 29 33.9**	**+0.7**
ALU	**Alushta**	**2.09**	**271**	*e*P	**Pn**	**16 29 10.8**	**+1.0**
ALU				*e*S	**Sn**	**16 29 35.8**	**+1.2**
ALU	**Alushta**	**2.09**	**271**	*e*Pg	**Pn**	**16 29 10.8**	**+1.0**
ALU				*e*Sg	**Sn**	**16 29 35.8**	**+1.2**
ALU	**Alushta**	**2.09**	**271**	*e*Pn	**Pn**	**16 29 10.8**	**+1.0**
ALU				Pnm		16 29 13.5	
	comp=Z,12nm,0.3s						
ALU				*e*Sn	**Sn**	**16 29 35.8**	**+1.2**
ALU				Snm		16 29 37.8	
	comp=E,20nm,0.2s						
ALU				Snm		16 29 39.2	
	comp=N,11nm,0.2s						
GUZR	**Guzeripl'**	**2.11**	**108**	*i* P	**Pn**	**16 29 10.6**	**+0.4**
GUZR				*i* S	**Sn**	**16 29 38.1**	**+2.9**
GUZR				pmax	pmax		
	comp=Z,284nm,0.6s						
GUZR	**Guzeripl'**	**2.11**	**108**	*e*Pg	**Pn**	**16 29 10.4**	**+0.2**
GUZR				*e*Sg	**Sn**	**16 29 36.4**	**+1.2**
YAL	**Yalta**	**2.28**	**267**	*e*P	**Pn**	**16 29 14.4**	**+2.0**
YAL				*e*S	**Sn**	**16 29 41.5**	**+2.3**
YAL	**Yalta**	**2.28**	**267**	*e*Pn	**Pn**	**16 29 14.4**	**+2.0**
YAL				*e*Sn	**Sn**	**16 29 41.5**	**+2.3**
YAL	**Yalta**	**2.28**	**267**	*e*Pn	**Pn**	**16 29 14.4**	**+2.0**
YAL				Pnm		16 29 23.2	
	comp=Z,12nm,0.3s						
YAL				*e*Sn	**Sn**	**16 29 41.6**	**+2.3**
YAL				Snm		16 29 42.8	
	comp=E,54nm,0.3s						
YAL				Snm		16 29 43.9	
	comp=N,34nm,0.3s						
VSLR	**Vesyoloye**	**2.29**	**121**	*i* P	**Pn**	**16 29 13.8**	**+1.2**
VSLR				*i* S	**Sn**	**16 29 41.2**	**+1.6**
VSLR	**Vesyoloye**	**2.29**	**121**	*i* Pn	**Pn**	**16 29 13.8**	**+1.2**
VSLR				*i* Sn	**Sn**	**16 29 41.1**	**+1.6**
SIM	**Simferopol'**	**2.31**	**278**	*e*P	**Pn**	**16 29 14.9**	**+2.1**
SIM				*e*S	**Sn**	**16 29 42.7**	**+2.7**
SIM	**Simferopol'**	**2.31**	**278**	*e*Pn	**Pn**	**16 29 14.9**	**+2.1**
SIM				*e*Sn	**Sn**	**16 29 42.7**	**+2.7**
SIM	**Simferopol'**	**2.31**	**278**	*e*Pn	**Pn**	**16 29 14.9**	**+2.1**
SIM				Pnm		16 29 15.4	
	comp=Z,30nm,0.3s						
SIM				*e*Sn	**Sn**	**16 29 42.7**	**+2.7**
SIM				Snm		16 29 45.6	
	comp=E,28nm,0.3s						
SIM				Snm		16 29 46.8	
	comp=N,25nm,0.3s						
RPOR	**Krasnaya Polya**	**2.32**	**114**	*i* P	**Pn**	**16 29 14.1**	**+1.0**
RPOR	**Krasnaya Polya**	**2.32**	**114**	*e*Pn	**Pn**	**16 29 13.9**	**+0.9**
RPOR				*e*Sn	**Sn**	**16 29 40.6**	**+0.2**
LABN	**Labinsk**	**2.42**	**89**	*e*P	**Pn**	**16 29 16.0**	**+1.6**
LABN				*e*S	**Sn**	**16 29 44.6**	**+1.8**
LABN	**Labinsk**	**2.42**	**89**	*e*Pn	**Pn**	**16 29 16.0**	**+1.6**
LABN				*e*Sn	**Sn**	**16 29 44.6**	**+1.8**
ERBR	**Yeremizino-Bor**	**2.46**	**64**	*e*P	**Pn**	**16 29 15.9**	**+0.9**
ERBR				*e*		16 29 45.6	
ERBR	**Yeremizino-Bor**	**2.46**	**64**	*e*Pn	**Pn**	**16 29 16.1**	**+1.2**
ERBR				*e*Sn	**Sn**	**16 29 44.7**	**+0.8**
SEV	**Sevastopol'**	**2.62**	**269**	*e*Pn	**Pn**	**16 29 18.7**	**+1.6**
SEV				Pnm		16 29 20.8	
	comp=Z,3.0nm,0.2s						
SEV				*e*Sn	**Sn**	**16 29 49.3**	**+1.6**
SEV				Snm		16 29 52.1	
	comp=N,24nm,0.3s						
SEV				Snm		16 29 53.0	
	comp=E,13nm,0.2s						
ARXR	**Arkhyz**	**3.05**	**110**	*i* P	**Pn**	**16 29 24.4**	**+1.3**
ARXR				*i* S	**Sn**	**16 30 01.2**	**+2.7**
ARXR				pmax	pmax		
	comp=Z,27nm,1.3s						
ARXR	**Arkhyz**	**3.05**	**110**	*e*Pn	**Pn**	**16 29 24.8**	**+1.7**
ARXR				*e*Sn	**Sn**	**16 29 59.9**	**+1.4**
SINO	**SINOP_Merkez**	**3.07**	**211**	P	**Pn**	**16 29 25.4**	**+2.1**
SINO				S	**Sn**	**16 29 54.7**	**-4.1**
NVNR	**Nevinnomyssk**	**3.31**	**89**	*e*P	**Pn**	**16 29 26.0**	**-0.6**
NVNR				*e*S	**Sn**	**16 30 04.4**	**-0.3**
NVNR	**Nevinnomyssk**	**3.31**	**89**	*e*Pn	**Pn**	**16 29 26.0**	**-0.6**
NVNR				*e*Sn	**Sn**	**16 30 04.4**	**-0.3**
DOMR	**Dombai**	**3.39**	**112**	*e*P	**Pn**	**16 29 28.8**	**+0.9**
DOMR				*i* S	**Sn**	**16 30 08.0**	**+1.1**
DOMR	**Dombai**	**3.39**	**112**	*e*Pn	**Pn**	**16 29 28.8**	**+0.9**
DOMR				*i* Sn	**Sn**	**16 30 08.0**	**+1.1**
BOYA	**Sinop/Boyabat-**	**3.69**	**213**	P	**Pn**	**16 29 34.0**	**+2.2**
BOYA				S	**Sn**	**16 30 14.7**	**+0.7**
HAVZ	**Havza**	**3.78**	**199**	P	**Pn**	**16 29 32.0**	**-1.1**
HAVZ				S	**Sn**	**16 30 15.7**	**-0.8**
KIV	**Kislovodsk**	**3.91**	**99**	*e*P	**Pn**	**16 29 37.1**	**+2.2**
KIV				*e*S	**Sn**	**16 30 22.8**	**+3.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIV	**Kislovodsk**	**3.91**	**99**	*i* Pn	**Pn**	**16 29 39.0**	**+4.0**
KIV				*e*Sn	**Sn**	**16 30 19.7**	**+0.1**
KVAR	**Kislovodsk Arr**	**3.91**	**99**	Pn	**Pn**	**16 29 36.1**	**+1.0**
	baz=344,slow=20						
KVAR				Sn	**Sn**	**16 30 21.0**	**+1.2**
	baz=311,slow=11						
KVAR				Lg	Lg	16 30 38.8	
	baz=135,slow=19						

BRTR	**Keskin Array B**	**5.65**	**210**	Pn		**Pn**	**16 30 01.1**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=21,slow=12,SNR=28							
BRTR				Sn		**Sn**	**16 31 05.6**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=64,slow=19,SNR=5.4							
	comp=Z,0.9nm,0.3s							
AKPI	**Kirsehir/Akpin**	**5.72**	**207**	P		**Pn**	**16 30 02.8**	**+2.9**
KESK	**Krkkale-Ke**	**5.75**	**210**	P		**Pn**	**16 30 01.3**	**+1.0**
MCUR	**KIREHR**	**5.88**	**202**	P		**Pn**	**16 30 04.8**	**+2.6**
KAYN	**Sakarya, Kayna**	**6.33**	**237**	P		**Pn**	**16 30 07.2**	**-0.9**
KAYN				S		**Sn**	**16 31 13.4**	**-5.9**
MLR	**Muntele Rosu**	**8.10**	**280**	Pn		**Pn**	**16 30 32.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=204,slow=10.0,SNR=1.4							
MLR				Sn		**Sn**	**16 32 01.6**	**-1.3**
	baz=0.0,slow=20							
	comp=Z,0.8nm,0.4s							
AKASG	**Malin Array Be**	**8.14**	**321**	Pn		**Pn**	**16 30 30.4**	**-2.6**
	comp=Z,1.8nm,0.3s,baz=125,slow=10,SNR=11							
AKASG				Sn		**Sn**	**16 31 56.3**	**-7.4**
	comp=Z,1.5nm,0.3s,baz=133,slow=24,SNR=4.4							
	comp=Z,0.5nm,0.3s							
AKBB	**Malin Array Si**	**8.14**	**321**	*i* P		Pn	16 30 38.4	+5.5
BELG	**Belogornoye**	**10.30**	**38**	*i* P		**Pn**	**16 31 03.4**	**+0.9**
BELG				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BELG	**Belogornoye**	**10.30**	**38**	Sn		Sn	16 32 48.8	-7.9
	comp=Z,0.2nm,0.3s,baz=196,slow=19,SNR=1.5							
OBN	**Obninsk**	**10.47**	**358**	*e*P		**Pn**	**16 31 07.9**	**+3.1**
OBN				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KLNR	**Kaliningrad**	**14.86**	**318**	*i* P		**P**	**16 32 10.6**	**+0.6**
KLNR				pmax	pmax			
	comp=Z,31nm,1.2s							
AKTO	**Aktyubinsk**	**15.09**	**60**	Pn		**Pn**	**16 32 03.9**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=230,slow=7.9,SNR=2.3							
AKTO				Sn		Sn	16 34 38.1	-16
	comp=Z,0.3nm,0.3s,baz=89,slow=18,SNR=2.8							
ARU	**Arti**	**17.82**	**41**	*i* P		**P**	**16 32 45.8**	**+3.1**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**18.07**	**342**	*i* P		**P**	**16 32 48.9**	**+3.4**
FINES	**FINESS Array B**	**18.07**	**342**	P		**Pn**	**16 32 39.1**	**-6.2**
	comp=Z,1.6nm,0.8s,baz=157,slow=14,SNR=7.4							
HFS	**Hagfors**	**20.98**	**326**	P		**P**	**16 33 13.9**	**-3.4**
	comp=Z,1.5nm,0.8s,baz=125,slow=12,SNR=1.4							
	comp=Z,1.5nm,0.8s							
NOA	**NORSAR Array B**	**22.51**	**326**	P		**P**	**16 33 30.9**	**-2.7**
	comp=Z,0.4nm,0.7s,baz=118,slow=8.5,SNR=2.1							
	comp=Z,0.4nm,0.7s							
BVAR	**Borovoye Array**	**23.13**	**57**	P		**P**	**16 33 39.0**	**-1.2**
BVAR	**Borovoye Array**	**23.13**	**57**	P		**P**	**16 33 39.0**	**-1.2**
	comp=Z,0.2nm,0.3s							
	comp=Z,0.2nm,0.3s							
ARCES	**ARCESS Array B**	**25.65**	**350**	P		**P**	**16 34 01.8**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=163,slow=9.9,SNR=5.1							
	comp=Z,2.1nm,0.8s							
KURBB	**Kurchatov Arra**	**28.11**	**63**	P		**P**	**16 34 25.4**	**-0.2**
	comp=Z,0.3nm,0.2s,baz=276,slow=9.3,SNR=2.1							
	comp=Z,0.3nm,0.2s							
KURK	**Kurchatov**	**28.16**	**63**	P		**P**	**16 34 25.4**	**-0.7**
MKAR	**Makanchi Array**	**31.13**	**70**	P		**P**	**16 34 51.7**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=296,slow=9.6,SNR=3.1							
	comp=Z,0.3nm,0.8s							
ZALV	**Zalesovo Beam**	**31.77**	**56**	P		**P**	**16 34 56.1**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=266,slow=11,SNR=2.6							
	comp=Z,0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**43.67**	**235**	P		**P**	**16 36 39.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=32,slow=9.5,SNR=2.6							
	comp=Z,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**70.84**	**347**	P		**P**	**16 39 49.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=20,slow=6.3,SNR=7.7							
	comp=Z,0.5nm,0.7s							

TEH ***20*** *16:47:42.0, 30°.25N×50°.76E, h9km±4.3km, ML3.5*
IDC ***20*** *16:47:48.8±17.0, 31°.63N×50°.89E, h0km, mb3.6/5, mbtmp3.5/6, ML2.7/1, Error ellipse: s-maj=351.3km s-min=31.7km az=6.0*

ISC 20 16:47:42.8±1.0, 30°.21N±0°.08×50°.72E±0°.07, h22km, n24, σ1§85/25, mb3.7/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.56**	**314**	Pg	**Pb**	**16 47 52.7**	**-1.3**
ABEH				Sg	**Sb**	**16 48 01.8**	**+0.1**
KLNJ	**Kolanjah**	**1.09**	**43**	Pg	**Pn**	**16 48 01.7**	**-1.5**
AHBU	**AHRAM**	**1.43**	**160**	Pg	**Pb**	**16 48 10.0**	**+1.1**
SHI	**Shiraz**	**1.65**	**110**	Pg	**Pb**	**16 48 13.7**	**+1.0**
IBRJ	**Brojen**	**1.75**	**15**	Pg	**Pn**	**16 48 14.1**	**+1.9**
ZNGN	**Zangian**	**1.90**	**3**	Pn	**Pn**	**16 48 16.3**	**+2.0**
JHBN	**Jahan bin**	**2.01**	**359**	Pn	**Pn**	**16 48 17.5**	**+1.7**
IRAM	**Rameshеh**	**2.13**	**41**	Pn	**Pn**	**16 48 19.7**	**+2.3**
IGAR	**Gharneh**	**2.46**	**27**	Pn	**Pn**	**16 48 24.1**	**+2.3**
IPIR	**Pirpir**	**2.47**	**3**	Pn	**Pn**	**16 48 24.3**	**+2.2**
QIR1	**Qir**	**2.66**	**130**	Pn	**Pb**	**16 48 26.9**	**-3.0**
IZEF	**Zefreh**	**3.01**	**27**	Pn	**Pn**	**16 48 31.6**	**+2.2**
IKLH	**Kolahrood**	**3.18**	**13**	Pn	**Pn**	**16 48 33.9**	**+2.1**
QAMS	**Qamsar**	**3.56**	**9**	Pn	**Pn**	**16 48 39.2**	**+2.2**
KRSH	**Karshahi**	**3.93**	**17**	Pn	**Pn**	**16 48 44.0**	**+2.0**
ISFB	**Sefidab**	**4.32**	**17**	Pn	**Pn**	**16 48 48.7**	**+1.3**
HSAM	**Samen**	**4.38**	**336**	Pn	**Pn**	**16 48 49.5**	**+1.3**
IQOM	**Qom**	**4.63**	**4**	Pn	**Pn**	**16 48 53.0**	**+1.3**
BRTR	**Keskin Array B**	**16.89**	**309**	Pn	**Pn**	**16 51 39.7**	**+1.7**
	baz=131,slow=14,SNR=2.2						
	0.2nm,0.6s						
AKASG	**Malin Array Be**	**26.03**	**328**	P	**P**	**16 53 13.6**	**-0.7**
	0.9nm,0.5s,baz=123,slow=6.9,SNR=10.0						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**29.11**	**38**	P	**P**	**16 53 39.6**	**-2.2**
	0.2nm,0.3s,baz=233,slow=9.2,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**29.48**	**47**	P	**P**	**16 53 45.9**	**+0.7**
	0.1nm,0.5s,baz=244,slow=7.4,SNR=1.3						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**35.20**	**340**	P	**P**	**16 54 33.9**	**-1.2**
	0.6nm,0.5s,baz=142,slow=9.6,SNR=8.0						
	0.6nm,0.5s						
HFS	**Hagfors**	**38.80**	**331**	P	**P**	**16 55 04.6**	**-1.1**
	3.2nm,1.1s,baz=130,slow=10,SNR=6.2						
	3.2nm,1.1s						

IDC ***20*** *16:49:44.4±0.7, 29°.15N×142°.36E, h0km, mb3.9/16, mbtmp3.8/19, ML3.2/4, MS3.0/7, Error ellipse: s-maj=22.6km s-min=14.4km az=78.0*
NIED ***20*** *16:49:47.2, 29°.37N×142°.42E, h72km, MW4.1, Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁵Nm; Mrr1.03; Mθθ-0.11; Mφφ-0.92; Mrθ 0.78; Mθφ-0.47; Mrφ 0.84; Fault plane solution: M₀1.58000×10¹⁵ NP1:ϕs38.00000°, δ69.00000°, λ,101.00000°. NP2:ϕs190.00000°, δ24.00000°, λ65.00000°.*
JMA ***20*** *16:49:47.2±0.1, 29°.4N±0°.3×14°.2E±°, h72km, MV3.9/26, NEAR TORISHIMA IS*

ISC 20 16:49:48.3±0.6, 29°.28N±0°.05×142°.3E±0°.1, h24km, n37, σ1§74/37, mb3.9/16, MS3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.18**	**183**	P	**Pn**	**16 50 23.4**	**+0.3**
CBIJ				*e*S	**Sn**	**16 50 50.4**	**+1.1**
JCJ	**Chichijima**	**2.18**	**183**	Pn	**Pn**	**16 50 19.3**	**-3.7**
	7.4nm,0.3s,baz=268,slow=22,SNR=15						
JCJ				Sn	**Sn**	**16 50 44.1**	**-5.1**
	24nm,0.3s,baz=84,slow=23,SNR=7.0						
JHH2	**Haha-jima-NKT2**	**2.64**	**183**	S	**Sn**	**16 51 01.4**	**+0.8**
BSO1	**Boso 1**	**5.48**	**348**	P	**Pn**	**16 51 07.0**	**-0.8**
BSO3	**Boso 3**	**5.71**	**345**	*e*P	**Pn**	**16 51 10.7**	**-0.7**
JOD2	**Odawara 2**	**6.56**	**336**	P	**Pn**	**16 51 23.2**	**-0.1**
JHU	**Hanno**	**7.04**	**339**	*e*P	**Pn**	**16 51 28.9**	**-0.9**
JYT	**Yasato**	**7.16**	**346**	P	**Pn**	**16 51 30.3**	**-1.1**
JYT				S	**Sn**	**16 52 50.6**	**-1.3**
JRY	**Ryogami san**	**7.31**	**338**	P	**Pn**	**16 51 33.1**	**-0.5**
JRY				S	**Sn**	**16 52 52.9**	**-2.9**
JHO	**Hitachi**	**7.46**	**349**	P	**Pn**	**16 51 33.3**	**-2.2**
JAG	**Ashikaga**	**7.52**	**342**	P	**Pn**	**16 51 34.8**	**-1.6**
JAG				*e*S	**Sn**	**16 52 56.6**	**-4.3**
MJAR	**Matsushiro Arr**	**8.02**	**336**	Pn	**Pn**	**16 51 42.6**	**-0.7**
	0.3nm,0.3s,baz=162,slow=11,SNR=27						
MJAR				Sn	**Sn**	**16 53 12.7**	**-0.6**
	baz=162,slow=21,SNR=1.7						
	2.4nm,0.3s						
JNU	**Nakatsue**	**10.51**	**294**	LR	LR	16 56 10.7	
	comp=Z,60nm,18.9s,baz=142,slow=36						
JOW	**Kunigami**	**12.64**	**262**	LR	LR	16 57 30.8	
	comp=Z,37nm,18.8s,baz=128,slow=37						
KSRS	**Korea Array**	**14.52**	**308**	Pn	**Pn**	**16 53 14.5**	**+2.3**
	0.1nm,0.3s,baz=114,slow=11,SNR=1.9						
KSRS				LR	LR	16 58 35.1	
	comp=Z,46nm,19.2s,baz=120,slow=36						
	0.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**17.01**	**334**	P	**P**	**16 53 45.8**	**-0.5**
	0.2nm,0.3s,baz=161,slow=10,SNR=2.3						
	1.1nm,0.5s						
KLR	**Kul'dur**	**21.50**	**341**	P	**P**	**16 54 36.7**	**+1.5**
	1.3nm,0.6s,baz=221,slow=5.0,SNR=6.7						
	1.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**24.26**	**108**	T	T	17 20 36.8	
	baz=297						
H11N1	**WAKE ISLAND Hy**	**24.27**	**108**	T	T	17 20 27.0	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**24.28**	**108**	T	T	17 20 53.1	
	baz=297						
MA2	**Magadan**	**30.84**	**8**	LR	LR	17 08 15.6	
	comp=Z,12nm,21.9s,baz=129,slow=36						
SONM	**Songino Array**	**33.26**	**314**	P	**P**	**16 56 24.4**	**+0.6**
	0.9nm,0.6s,baz=111,slow=7.0,SNR=6.5						
SONM				LR	LR	17 10 52.9	
	comp=Z,34nm,19.4s,baz=180,slow=38						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.90**	**265**	P	**P**	**16 57 28.9**	**+0.1**
	0.5nm,0.8s,baz=58,slow=5.7,SNR=3.5						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**47.94**	**318**	P	**P**	**16 58 25.7**	**+1.1**
	0.6nm,0.4s,baz=90,slow=9.1,SNR=4.5						
ZALV				LR	LR	17 18 20.4	
	comp=Z,22nm,18.4s,baz=332,slow=36						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**49.20**	**308**	P	**P**	**16 58 35.0**	**+0.5**
	0.8nm,0.7s,baz=85,slow=10,SNR=11						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**49.54**	**190**	P	**P**	**16 58 34.8**	**-2.4**
	2.8nm,0.7s,baz=8.9,slow=7.7,SNR=14						
WRA				PcP	**PcP**	**16 59 59.1**	**+0.2**
	0.7nm,0.8s,baz=4.0,slow=3.9,SNR=1.7						
	2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**51.62**	**313**	P	**P**	**16 58 53.5**	**+0.9**
	2.9nm,0.5s,baz=91,slow=6.7,SNR=41						
	2.9nm,0.5s						
ASAR	**Alice Springs**	**53.26**	**190**	P	**P**	**16 59 05.0**	**-0.1**
	0.3nm,0.7s,baz=5.4,slow=5.7,SNR=10						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**55.75**	**29**	P	**P**	**16 59 22.4**	**-0.4**
	0.3nm,0.7s,baz=259,slow=5.6,SNR=4.6						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**56.53**	**316**	P	**P**	**16 59 28.8**	**+0.3**
	2.2nm,0.5s						
	2.2nm,0.5s						
ARU	**Arti**	**62.78**	**322**	P	**P**	**17 00 11.9**	**+0.4**
	1.5nm,0.4s,baz=87,slow=5.7,SNR=4.1						
	1.5nm,0.4s						
YKA	**Yellowknife Ar**	**70.17**	**29**	P	**P**	**17 00 59.2**	**+0.6**
	0.2nm,0.5s,baz=304,slow=6.5,SNR=4.0						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**76.05**	**334**	P	**P**	**17 01 34.0**	**+0.6**
	1.4nm,0.9s,baz=74,slow=10,SNR=4.2						
	1.4nm,0.9s						
NVAR	**Mina Array Bea**	**79.09**	**52**	P	**P**	**17 01 51.5**	**+0.4**
	0.8nm,0.7s,baz=292,slow=6.2,SNR=4.3						
	0.8nm,0.7s						
BRTR	**Keskin Array B**	**84.61**	**313**	P	**P**	**17 02 20.6**	**+0.6**
	1.2nm,0.9s,baz=134,slow=3.6,SNR=5.0						
	1.2nm,0.9s						
MMAI	**Mount Meron Ar**	**87.11**	**306**	LR	LR	17 47 04.9	
	comp=Z,32nm,19.2s,baz=153,slow=39						
TXAR	**Lajitas Array**	**94.21**	**53**	P	**P**	**17 03 07.2**	**+1.5**
	0.3nm,0.6s,baz=320,slow=3.0,SNR=4.9						
	0.3nm,0.6s						

IDC ***20*** *16:58:00.0±0.7, 3°.55S×28°.41E, h0km, mb3.9/17, mbtmp4.0/19, ML2.2/1, MS2.9/6, Error ellipse: s-maj=26.6km s-min=15.1km az=100.0*
NEIC ***20*** *16:58:01.7±1.4, 3°.57S±0°.09×28°.51E±0°.04, h10km±1km, mb4.3/12, Error ellipse: s-maj=15.2km s-min=5.5km az=165.0*

ISC 20 16:58:00.7±0.5, 3°.65S±0°.05×28°.59E±0°.07, h10km, n41, σ1§76/49, mb4.1/21, MS3.1/3, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**3.71**	**35**		**Pn**	**16 58 59.2**	**+1.0**
MBAR	**Mbarara**	**3.71**	**35**	*e*P	**Pn**	**16 58 59.9**	**+1.6**
MBAR				*e*S	**Sb**	**16 59 52.0**	**+0.4**
KMBO	**Kilima Mbogo**	**9.01**	**74**		**Pn**	**17 00 12.8**	**+1.7**
KMBO	**Kilima Mbogo**	**9.01**	**74**	Pn	**Pn**	**17 00 10.0**	**-1.1**
	3.1nm,0.3s,baz=229,slow=20,SNR=20						
KMBO				Sn	**Sn**	**17 01 48.2**	**-4.6**
	4.1nm,0.3s,baz=165,slow=23,SNR=6.8						
KMBO				Lg	Lg	17 02 39.5	
	2.8nm,0.3s,baz=166,slow=20,SNR=4.7						
KMBO				LR	LR	17 03 04.3	
	comp=Z,76nm,20.5s,baz=257,slow=33						
KMBO	**Kilima Mbogo**	**9.01**	**74**	*e*P	**Pn**	**17 00 12.7**	**+1.5**
KMBO				*e*P	**Pn**	**17 00 12.7**	**+1.5**
KMBO				*e*S	**Sn**	**17 01 51.6**	**-1.3**
KMBO				*e*S	**Sn**	**17 01 51.6**	**-1.3**
KMBO				IAML		17 02 48.0	
	comp=Z,87nm,0.6s						
KMBO				IAML		17 02 48.0	
	comp=Z,87nm,0.6s						
KMBO				IAML		17 03 03.9	
	77nm,0.7s						
KMBO				IAML		17 03 03.9	
	77nm,0.7s						
KIBK	**Kibwezi**	**9.53**	**82**		**Pn**	**17 00 19.4**	**+1.3**
LODK	**Lodwar**	**9.75**	**44**		**Pn**	**17 00 20.3**	**-0.9**
LODK	**Lodwar**	**9.75**	**44**	*e*P	**Pn**	**17 00 20.7**	**-0.6**
LODK				*e*P	**Pn**	**17 00 20.7**	**-0.6**
LODK				*e*S	**Sn**	**17 02 07.2**	**-3.8**
LODK				*e*S	**Sn**	**17 02 07.2**	**-3.8**
LODK				IAML		17 03 08.2	
	comp=E,102nm,0.6s						
LODK				IAML		17 03 08.2	
	comp=E,102nm,0.6s						
LODK				IAML		17 03 17.9	
	comp=N,96nm,0.6s						
LODK				IAML		17 03 17.9	
	comp=N,96nm,0.6s						
LSZ	**Lusaka**	**11.56**	**182**		**Pn**	**17 00 47.8**	**+1.7**
LSZ	**Lusaka**	**11.56**	**182**	Pn	**Pn**	**17 00 47.3**	**+1.3**
	comp=N,3.0nm,0.3s,baz=2.8,slow=12,SNR=5.4						
LSZ				Sn	**Sn**	**17 02 49.6**	**-5.7**
	comp=N,2.2nm,0.3s,baz=342,slow=20,SNR=1.9						
LSZ				Lg	Lg	17 03 59.7	
	comp=N,3.4nm,0.3s,baz=32,slow=10.0,SNR=4.9						
LSZ				LR	LR	17 05 44.9	
	comp=N,64nm,21.0s,baz=336,slow=40						
TSUM	**Tsumeb**	**18.83**	**214**	P	**P**	**17 02 21.5**	**+0.5**
TSUM	**Tsumeb**	**18.83**	**214**	P	**P**	**17 02 20.0**	**-0.9**
	comp=N,0.4nm,0.3s,baz=27,slow=9.6,SNR=7.2						
TSUM				S	Sn	17 05 39.5	-13
	comp=N,3.3nm,0.6s,baz=98,slow=19,SNR=2.0						
TSUM				Lg	Lg	17 07 45.2	
	comp=N,0.3nm,0.3s,baz=86,slow=20,SNR=5.3						
TSUM				LR	LR	17 08 48.4	
	comp=N,52nm,21.5s,baz=113,slow=34						
	comp=N,4.8nm,0.6s						
ATD	**Arta Tunnel**	**20.70**	**43**	LR	LR	17 10 49.1	
	comp=N,4.8nm,18.2s,baz=147,slow=37						
LBTB	**Lobatse**	**21.44**	**187**	P	**P**	**17 02 48.5**	**-0.8**
LBTB	**Lobatse**	**21.44**	**187**	P	**P**	**17 02 50.7**	**+1.5**
	comp=N,5.9nm,0.9s,baz=9.8,slow=10,SNR=5.6						
LBTB				LR	LR	17 11 38.1	
	comp=N,77nm,18.8s,baz=20,slow=38						
	comp=N,5.9nm,0.9s						
BOSA	**Boshof**	**25.03**	**187**	P	**P**	**17 03 26.8**	**+1.6**
BOSA	**Boshof**	**25.03**	**187**	P	**P**	**17 03 27.7**	**+2.5**
	comp=N,3.0nm,0.6s,baz=7.7,slow=9.7,SNR=9.0						
	comp=N,3.0nm,0.6s						
MSEY	**Mahe Island**	**26.84**	**93**	P	**P**	**17 03 41.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**31.49**	**302**	P	**P**	**17 04 21.3**	**-1.8**
	comp=N,0.7nm,0.6s,baz=110,slow=8.6,SNR=2.1						
TORD				LR	LR	17 17 14.2	
	comp=N,49nm,19.8s,baz=136,slow=37						
	comp=N,0.7nm,0.6s						
DBIC	**Dimbokro**	**34.93**	**287**	P	**P**	**17 04 50.6**	**-2.5**
DBIC				IAmb	IAmb	17 05 15.0	
	comp=Z,6.0nm,1.1s						
BR131	**Keskin Array S**	**43.41**	**6**	P	**P**	**17 06 04.7**	**+0.9**
BR131				IAmb	IAmb	17 06 08.6	
	comp=Z,3.8nm,0.9s						
BRTR	**Keskin Array B**	**43.41**	**6**	P	**P**	**17 06 04.0**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=173,slow=10,SNR=9.5						
	comp=Z,1.8nm,0.8s						

KBZ	**Khabaz**	**48.89**	**14**	P		**P**	**17 06 47.6**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=180,slow=6.9,SNR=4.2							
	comp=Z,2.3nm,0.8s							
ESDC	**Sonseca Array**	**52.48**	**328**	P		**P**	**17 07 13.9**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=137,slow=8.3,SNR=4.2							
	comp=Z,0.6nm,0.8s							
GERES	**GERESS Array B**	**53.87**	**348**	P		**P**	**17 07 24.0**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=176,slow=5.4,SNR=6.1							
	comp=Z,0.9nm,0.7s							
AKASG	**Malin Array Be**	**54.14**	**0**	P		**P**	**17 07 26.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=182,slow=6.8,SNR=2.2							
	comp=Z,0.1nm,0.3s							
EKA	**Eskdalemuir Ar**	**64.34**	**341**	P		**P**	**17 08 36.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=130,slow=7.7,SNR=1.8							
	comp=Z,0.9nm,0.8s							
ARU	**Arti**	**64.68**	**18**	P		**P**	**17 08 38.8**	**+0.1**
FINES	**FINESS Array B**	**64.94**	**359**	P		**P**	**17 08 40.5**	**+0.3**
	comp=Z,2.9nm,1.1s,baz=207,slow=5.8,SNR=2.2							
	comp=Z,2.9nm,1.1s							
NAO01	**NORSAR Array S**	**65.77**	**351**	P		**P**	**17 08 45.7**	**0.0**
NOA	**NORSAR Array B**	**65.90**	**351**	P		**P**	**17 08 46.6**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=164,slow=6.4,SNR=3.6							
	comp=Z,1.2nm,0.8s							
BVAR	**Borovoye Array**	**66.48**	**26**	P		**P**	**17 08 51.0**	**+0.6**
	comp=Z,1.7nm,0.7s							
	comp=Z,1.7nm,0.7s							
MAKZ	**Makanchi**	**68.72**	**36**	P		**P**	**17 09 05.0**	**+0.3**
MAKZ				IAmb	IAmb		17 09 07.1	
	comp=Z,1.9nm,1.0s							
KURBB	**Kurchatov Arra**	**68.88**	**32**	P		**P**	**17 09 06.9**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=240,slow=6.6,SNR=11							
	comp=Z,1.8nm,0.7s							
MK31	**Makanchi Array**	**68.90**	**36**	P		**P**	**17 09 06.6**	**+0.7**
MK31				IAmb	IAmb		17 09 07.5	
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**68.90**	**36**	P		**P**	**17 09 06.8**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=242,slow=5.6,SNR=14							
	comp=Z,1.5nm,0.8s							
KURK	**Kurchatov**	**68.98**	**31**	P		**P**	**17 09 05.8**	**-0.4**
KURK				IAmb	IAmb		17 09 08.3	
	comp=Z,2.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**72.62**	**69**	P		**P**	**17 09 30.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=280,slow=5.4,SNR=4.3							
	comp=Z,0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**73.92**	**31**	P		**P**	**17 09 35.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=258,slow=5.5,SNR=8.1							
	comp=Z,1.2nm,0.6s							
SONM	**Songino Array**	**84.53**	**41**	P		**P**	**17 10 36.4**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=238,slow=5.5,SNR=5.0							
	comp=Z,0.9nm,0.8s							
TXAR	**Lajitas Array**	**128.09**	**305**	PKP		**PKPdf**	**17 17 09.2**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=99,slow=5.9,SNR=3.7							

IDC 20 17:05:43.3±3.8, 12°.23N×125°.65E, h0km, mb3.6/4, mbtmp3.6/4, MS2.8/1, Error ellipse: s-maj=346.2km s-min=25.5km az=67.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**18.11**	**199**	LR	LR	17 18 11.6	
	comp=Z,28nm,18.0s,baz=342,slow=41						
ASAR	**Alice Springs**	**36.58**	**167**	P	P	17 12 51.2	-0.1
	0.4nm,0.8s,baz=347,slow=7.3,SNR=7.2						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**50.11**	**322**	P	P	17 14 40.1	-0.3
	0.7nm,0.8s,baz=123,slow=8.4,SNR=7.7						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**52.62**	**331**	P	P	17 14 58.6	-0.4
	0.5nm,0.5s,baz=127,slow=9.2,SNR=2.6						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**54.13**	**325**	P	P	17 15 10.4	+0.3
	0.9nm,0.8s,baz=124,slow=7.4,SNR=6.4						
	0.9nm,0.8s						

IDC ***20*** *17:08:38.0±0.7, 35°.37S×53°.89E, h0km, mb4.2/10, mbtmp4.2/11, ML3.6/1, MS3.6/20, Error ellipse: s-maj=26.4km s-min=18.1km az=26.0*
NEIC ***20*** *17:08:39.8±1.8, 35°.4S±0°.1×53°.85E±0°.05, h10km±1km, mb4.6/27, Error ellip

comp=Z,3.1nm,1.0s
DBIC Dimbokro 69.21 295 LR LR 17 48 33.9
comp=Z,40nm,18.0s,baz=216,slow=35
SHL Shillong 70.48 36 P **P** **17 19 54.0 -0.5**
SHL IAmb IAmb 17 19 55.6
comp=Z,6.6nm,1.0s
STKA Stephens Creek 70.71 116 LR LR 17 44 42.4
comp=Z,36nm,21.4s,baz=207,slow=31
WRA Warramunga Arr 71.18 101 P **P** **17 19 59.4 +0.6**
WRA Warramunga Arr 71.18 101 P **P** **17 19 59.2 +0.4**
comp=Z,7.6nm,1.0s,baz=236,slow=5.4,SNR=23
comp=Z,7.6nm,1.0s
WRAB Tennant Creek 71.19 101 P **P** **17 19 59.5 +0.7**
WRAB IAmb IAmb 17 20 00.5
comp=Z,7.3nm,0.8s
WB0 Warramunga Arr 71.31 101 P **P** **17 20 00.1 +0.5**
LSA Lhasa 73.64 33 P **P** **17 20 14.2 +0.6**
LSA IAmb IAmb 17 20 15.7
comp=Z,7.4nm,1.2s
GNI Garni 75.62 353 LR LR 17 51 56.9
comp=Z,47nm,20.1s,baz=170,slow=34
BR131 Keskin Array S 77.02 344 P **P** **17 20 31.9 -0.6**
BR131 IAmb IAmb 17 20 46.4
comp=Z,7.6nm,1.4s
BRTR Keskin Array B 77.02 344 P **P** **17 20 31.6 -0.8**
BRTR Keskin Array B 77.02 344 P **P** **17 20 32.2 -0.2**
comp=Z,1.5nm,0.9s,baz=170,slow=9.9,SNR=7.9
BRTR LR LR 17 51 26.0
comp=Z,31nm,20.7s,baz=136,slow=33
comp=Z,1.5nm,0.9s
USHA Ushuaia 77.44 210 LR LR 17 49 05.5
comp=Z,1μm,21.1s,baz=206,slow=31
KK31 Karatay Array 79.57 12 P **P** **17 20 47.0 +0.7**
KKAR Karatay Array 79.57 12 P **P** **17 20 47.0 +0.7**
KIV Kislovodsk 79.61 352 P **P** **17 20 46.6 +0.1**
KIV IAmb IAmb 17 21 23.6
comp=Z,8.3nm,1.0s
AAK Ala-Archa 79.89 15 P **P** **17 20 49.4 +1.1**
AAK IAmb IAmb 17 20 50.7
comp=Z,4.7nm,1.1s
PRZ Przheval'sk 80.67 18 P **P** **17 20 54.0 +1.5**
PRZ IAmb IAmb 17 20 55.2
comp=Z,13nm,1.2s
RPZ Rata Peaks 82.76 139 LR LR 17 53 58.9
comp=Z,44nm,18.1s,baz=222,slow=33
BLKB Belogradchik 83.60 338 ⇑P **P** **17 21 07.5 -0.1**
MLR Muntele Rosu 84.36 341 ⇓P **P** **17 21 12.0 +0.4**
ABKAR Akbulak array 84.43 4 P **P** **17 21 11.7 0.0**
ABKAR IAmb IAmb 17 21 13.7
comp=Z,4.9nm,1.2s
ABKAR Akbulak array 84.43 4 P **P** **17 21 11.6 -0.1**
VRI Vrincioaia 84.50 341 ⇑P **P** **17 21 12.5 +0.4**
PLOR Plostina 84.50 341 ⇓P **P** **17 21 12.8 +0.6**
VOIR 84.55 340 ⇑P **P** **17 21 12.8 +0.3**
MK31 Makanchi Array 85.69 19 P **P** **17 21 17.4 -0.7**
MKAR Makanchi Array 85.69 19 P **P** **17 21 17.6 -0.5**
MKAR Makanchi Array 85.69 19 P **P** **17 21 18.2 0.0**
comp=Z,0.6nm,0.9s,baz=224,slow=7.6,SNR=4.5
comp=Z,0.6nm,0.9s
BZS Buzias 85.72 338 ⇑P **P** **17 21 18.2 -0.1**
TRQA Tornquist 85.84 225 P **P** **17 21 19.0 -0.4**
MARR Marisel-Cluj 86.23 339 ⇑P **P** **17 21 22.2 +1.3**
DRGR 86.46 339 ⇑P **P** **17 21 23.0 +1.1**
MDT Midelt 87.19 314 LR LR 18 00 25.2
comp=Z,33nm,19.0s,baz=180,slow=36
KIEV Kiev 88.42 345 ⇑P **P** **17 21 30.8 -0.4**
AKASG Malin Array Be 88.42 345 P **P** **17 21 30.8 -0.4**
comp=Z,1.3nm,0.6s,baz=164,slow=4.3,SNR=8.5
comp=Z,1.3nm,0.6s
URZ Urewera 89.85 139 LR LR 17 55 07.3
comp=Z,50nm,20.0s,baz=301,slow=31
DAVOX Davos/Dischmat 90.83 331 LR LR 18 05 19.5
comp=Z,38nm,18.3s,baz=264,slow=37
DZM Mont Dzumac 94.34 121 LR LR 17 59 44.6
comp=Z,33nm,18.1s,baz=120,slow=32
ILAR Eielson Array 148.02 17 PKPbc **PKPbc** **17 28 23.9 -0.3**
comp=Z,4.0nm,0.8s,baz=314,slow=3.6,SNR=35
YKA Yellowknife Ar 151.91 349 PKPbc **PKiKP** **17 28 33.4 -0.6**
comp=Z,1.4nm,0.9s,baz=15,slow=2.2,SNR=17
TXAR Lajitas Array 160.11 259 PKP **PKPdf** **17 28 39.0 -0.2**
comp=Z,0.2nm,0.7s,baz=182,slow=3.4,SNR=4.4
PDAR Pinedale Array 165.17 305 PKP **PKPdf** **17 28 43.9 -0.1**
comp=Z,0.6nm,0.9s,baz=114,slow=3.7,SNR=4.2

*IDC **20** 17:14:18.5±3.0, 34.86S×54.70E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=113.2km s-min=35.8km az=46.0*
ISC 20 17:14:21.1±2.7, 34.8S±0.5×54.9E±0.5, h10km, n9, σ0s90/6, mb3.7/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N1	**CROZET ISLANDS**	**11.65**	**191**	T	T	17 28 24.5	
	baz=11,slow=75						
H04N2	**CROZET ISLANDS**	**11.65**	**191**	T	T	17 28 21.9	
	baz=11,slow=75						
H04N3	**CROZET ISLANDS**	**11.66**	**191**	T	T	17 28 20.9	
	baz=11,slow=75						
CMAR	**Chiang Mai Arr**	**67.46**	**46**	P	**P**	**17 25 17.2**	**0.0**
	0.7nm,1.0s,baz=219,slow=6.5,SNR=1.3						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**68.25**	**104**	P	**P**	**17 25 23.1**	**+0.7**
	0.3nm,0.6s,baz=233,slow=5.6,SNR=9.1						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**70.47**	**101**	P	**P**	**17 25 35.0**	**-1.1**
	1.0nm,0.7s,baz=234,slow=5.6,SNR=5.0						
	1.0nm,0.7s						
BRTR	**Keskin Array B**	**76.66**	**343**	P	**P**	**17 26 11.7**	**-0.4**
	0.2nm,0.4s,baz=156,slow=6.4,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**84.83**	**19**	P	**P**	**17 26 56.0**	**+0.5**
	0.2nm,0.8s,baz=200,slow=5.4,SNR=2.2						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**147.17**	**17**	PKPbc	**PKPdf**	**17 34 01.8**	**+0.4**
	0.8nm,0.8s,baz=316,slow=3.3,SNR=7.0						

*IDC **20** 17:27:59.9±1.3, 35.49N×141.52E, h0km, mb3.4/5, mbtmp3.3/6, ML2.1/1, Error ellipse: s-maj=35.0km s-min=23.8km az=55.0*
*JMA **20** 17:28:03.6±0.3, 35.8N±0.8×141.1E±, h19km±2km, MV3.4/31, E OFF BOSO PENINSULA*
ISC 20 17:28:03.6±1.1, 35.73N±0.07×141.51E±0.08, h25km, n23, σ1s26/16, mb3.3/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.84**	**287**	P	**Pb**	**17 28 18.8**	**-0.8**
JIHU				*e*S	**Sb**	**17 28 29.8**	**-0.6**
JSMT	**Sammumatsuo**	**0.87**	**265**	P	**Pb**	**17 28 19.4**	**-0.7**
JHYU	**Hitachinakayam**	**0.97**	**309**	*e*P	**Pb**	**17 28 20.9**	**-0.9**
JCN	**Nagara**	**1.11**	**254**	*e*P	**Pb**	**17 28 24.2**	**0.0**
BSO1	**Boso 1**	**1.16**	**202**	P	**Pb**	**17 28 24.7**	**+0.1**
JHO	**Hitachi**	**1.17**	**319**	P	**Pn**	**17 28 23.5**	**-0.9**
JYT	**Yasato**	**1.18**	**295**	P	**Pn**	**17 28 23.1**	**-1.5**
BSO3	**Boso 3**	**1.23**	**222**	P	**Pb**	**17 28 25.4**	**-0.8**
MJAR	**Matsushiro Arr**	**2.80**	**288**	Pn	**Pn**	**17 28 47.4**	**+0.6**
	0.3nm,0.3s,baz=98,slow=22,SNR=38						
MJAR				Sn	**Sn**	**17 29 22.2**	**+2.4**
	0.4nm,0.3s,baz=95,slow=25,SNR=4.4						
	1.8nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.43**	**119**	T	T	18 02 50.8	
	baz=311,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**27.44**	**119**	T	T	18 02 45.6	
	baz=311,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	18 02 51.9	
	baz=311,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	18 03 37.7	
	baz=313,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	18 03 34.7	
	baz=313,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	18 03 40.1	
	baz=313,slow=75,SNR=12						
MKAR	**Makanchi Array**	**44.89**	**303**	P	**P**	**17 36 16.6**	**+0.6**
	0.2nm,0.5s,baz=85,slow=8.2,SNR=4.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**46.88**	**309**	P	**P**	**17 36 33.0**	**+1.5**
	1.0nm,0.9s,baz=84,slow=8.0,SNR=6.3						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**50.56**	**32**	P	**P**	**17 37 01.0**	**+1.3**
	0.1nm,0.6s,baz=277,slow=6.5,SNR=2.1						
	0.1nm,0.6s						
WRA	**Warramunga Arr**	**55.78**	**188**	P	**P**	**17 37 37.1**	**-1.5**
	1.8nm,1.1s,baz=3.6,slow=7.7,SNR=2.0						
	1.8nm,1.1s						

ASAR	**Alice Springs**	**59.51**	**188**	P	**P**	**17 38 03.2**	**-1.6**
	0.2nm,0.8s,baz=355,slow=6.7,SNR=4.1						
	0.2nm,0.8s						
H03N2	**Juan Fernandez**	**146.78**	**98**	T	T	20 32 03.3	
	baz=290,slow=76,SNR=4.4						
H03N3	**Juan Fernandez**	**146.79**	**98**	T	T	20 32 07.2	
	baz=290,slow=76,SNR=5.3						
H03N1	**Juan Fernandez**	**146.80**	**98**	T	T	20 32 06.0	
	baz=290,slow=76,SNR=5.4						

*IDC **20** 17:38:10.5±1.1, 10.45N×122.12E, h0km, mb3.6/8, mbtmp3.6/8, MS3.3/5, Error ellipse: s-maj=73.0km s-min=18.4km az=63.0*
ISC 20 17:38:12.8±1.1, 10.5N±0.2×122.1E±0.4, h16km, n12, σ0s70/8, mb3.7/8, MS3.3/5, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.80**	**292**	P	**P**	**17 43 24.8**	**-0.3**
	0.2nm,0.3s,baz=227,slow=25,SNR=1.5						
	0.2nm,0.3s						
JCJ	**Chichijima**	**25.13**	**46**	LR	LR	17 52 29.9	
	comp=Z,41nm,20.6s,baz=33,slow=34						
WRA	**Warramunga Arr**	**32.51**	**158**	P	**P**	**17 44 42.8**	**-0.3**
	1.0nm,0.7s,baz=331,slow=11,SNR=5.7						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**35.81**	**161**	P	**P**	**17 45 12.2**	**+0.5**
	0.8nm,0.6s,baz=348,slow=7.0,SNR=23						
	0.8nm,0.6s						
SONM	**Songino Array**	**39.55**	**343**	P	**P**	**17 45 43.1**	**-0.1**
	0.4nm,0.8s,baz=171,slow=9.8,SNR=2.3						
	0.4nm,0.8s						
PALK	**Pallekele**	**41.03**	**269**	LR	LR	18 03 34.1	
	comp=Z,36nm,18.5s,baz=196,slow=37						
MKAR	**Makanchi Array**	**49.47**	**325**	P	**P**	**17 47 03.6**	**+1.3**
	0.7nm,1.0s,baz=108,slow=6.9,SNR=3.8						
MKAR				LR	LR	18 07 59.0	
	comp=Z,22nm,19.5s,baz=117,slow=36						
	0.7nm,1.0s						
AAK	**Ala-Archa**	**52.35**	**316**	LR	LR	18 11 51.8	
	comp=Z,54nm,18.7s,baz=78,slow=39						
KURBB	**Kurchatov Arra**	**53.65**	**327**	P	**P**	**17 47 33.7**	**+0.1**
	0.3nm,0.5s,baz=132,slow=5.5,SNR=3.1						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**59.23**	**326**	P	**P**	**17 48 13.6**	**+0.2**
	1.2nm,0.9s,baz=101,slow=7.7,SNR=5.4						
	1.2nm,0.9s						
AKTO	**Aktyubinsk**	**65.59**	**321**	LR	LR	18 19 41.9	
	comp=Z,48nm,20.1s,baz=348,slow=38						
FINES	**FINESS Array B**	**83.78**	**331**	P	**P**	**17 50 40.6**	**-0.6**
	0.7nm,0.8s,baz=35,slow=3.4,SNR=3.6						
	0.7nm,0.8s						

*SKHL **20** 18:03:37.7±0.0, 44.80N×145.30E, h33km±2km, mb4.4/3*
*JMA **20** 18:03:37.1±0.3, 44.8N±0.8×145.5E±, h23km±2km, MV3.3/36, SOUTHERN SEA OF OKHOTSK*
ISC 20 18:03:36.8±2.9, 44.82N±0.04×145.38E±0.04, h26km±26km, n17, σ0s81/25, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.85**	**156**	*i* P	**Pn**	**18 03 52.8**	**-0.4**
YUK				AMB	AMB	18 03 53.1	
	500nm,0.3s						
YUK				*e*S	**Sn**	**18 04 04.1**	**-0.7**
YUK				A	A	18 04 04.9	
	250nm,0.2s						
YUK				A	A	18 04 04.9	
	650nm,0.2s						
JRA	**Rausu**	**0.90**	**192**	*e*P	**Pn**	**18 03 54.0**	**+0.3**
JNSB	**Nemuroshibetsu**	**1.07**	**195**	*e*P	**Pn**	**18 03 56.6**	**+0.4**
JNK	**Nakash**	**1.32**	**201**	P	**Pn**	**18 03 59.8**	**+0.2**
JTKR	**Abashiri--Toko**	**1.35**	**232**	*e*P	**Pn**	**18 03 59.9**	**-0.1**
JTKR				*e*S	**Sn**	**18 04 16.3**	**-0.8**
SHO	**Shikotan**	**1.41**	**132**	*i* P	**Pn**	**18 04 01.2**	**+0.4**
SHO				AMB	AMB	18 04 01.7	
	130nm,0.3s						
SHO				*e*S	**Sn**	**18 04 18.6**	**+0.2**
SHO				A	A	18 04 20.2	
	480nm,0.3s						
SHO				A	A	18 04 20.2	
	960nm,0.3s						
NMR	**Nemuro--Hokkai**	**1.47**	**170**	*i* P	**Pn**	**18 04 02.0**	**+0.4**
NMR				*e*S	**Sn**	**18 04 19.8**	**-0.1**
NEM2	**Nemuro 2**	**1.47**	**170**	*e*P	**Pn**	**18 04 02.0**	**+0.3**
NEM2				*e*S	**Sn**	**18 04 20.5**	**+0.4**
JMP	**Maruseppu**	**1.66**	**242**	*e*P	**Pn**	**18 04 04.7**	**+0.4**
JKHN	**Kushirohamanak**	**1.74**	**185**	*e*P	**Pn**	**18 04 06.9**	**+1.6**
JKHN				*e*S	**Sb**	**18 04 28.8**	**-0.6**
KUR	**Kuril'sk**	**1.81**	**76**	*e*P	**Pn**	**18 04 07.0**	**+0.7**
KUR				AMB	AMB	18 04 13.9	
	50nm,0.3s						
KUR				*i* S	**Sn**	**18 04 27.6**	**-0.9**
KUR				A	A	18 04 30.7	
	180nm,0.3s						
KUR				A	A	18 04 30.7	
	140nm,0.3s						
AKK	**Akkeshi**	**1.84**	**192**	*e*P	**Pn**	**18 04 07.4**	**+0.7**
JAK	**Akkeshi**	**1.88**	**195**	*e*P	**Pn**	**18 04 08.2**	**+0.9**
JAR	**Ashorobuto**	**1.91**	**218**	*e*P	**Pn**	**18 04 08.4**	**+0.6**
JKK2	**Kamakawa 2**	**2.11**	**244**	*e*P	**Pn**	**18 04 11.6**	**+1.2**
ASAJ	**Asahikawa**	**2.11**	**252**	*e*P	**Pn**	**18 04 11.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**2.82**	**320**	*e*P	**Pn**	**18 04 21.3**	**+1.1**
YSS				*e*S	**Sn**	**18 04 51.7**	**-1.6**

*NEIC **20** 18:12:26.6±2.9, 15.37N±0.07×94.75W±0.01, h29km±11km, mb4.1/3, Md4.6/18(MEX), Error ellipse: s-maj=10.3km s-min=1.1km az=189.0*
*MEX **20** 18:12:28.3±1.2, 15.39N×94.74W, h16km±11km, MD4.6*
ISC 20 18:12:23.7±1.8, 15.41N±0.06×94.72W±0.04, h10km±13km, n29, σ1s89/39, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.39**	**285**		**Pn**	**18 12 49.6**	**+0.4**
HUIG					**Sn**	**18 13 04.6**	**-2.9**
HUIG	**Huatulco**	**1.39**	**285**	*e*P	**Pn**	**18 12 49.6**	**+0.4**
HUIG				*e*S	**Sn**	**18 13 04.6**	**-2.9**
PCIG		**1.48**	**78**		**Pg**	**18 12 51.5**	**-0.5**
PCIG					**Sb**	**18 13 08.3**	**-1.8**
PCIG		**1.48**	**78**	*e*P	**Pg**	**18 12 51.5**	**-0.5**
PCIG				*e*S	**Sb**	**18 13 08.3**	**-1.8**
CMIG	**Matias Romero**	**1.68**	**355**		**Pn**	**18 12 54.0**	**+0.7**
CMIG					**Sn**	**18 13 13.2**	**-1.6**
CMIG	**Matias Romero**	**1.68**	**355**	*e*P	**Pn**	**18 12 54.0**	**+0.7**
CMIG				*e*S	**Sn**	**18 13 13.2**	**-1.6**
UXUV	**UXUV**	**1.98**	**16**	*e*P	**Pb**	**18 12 59.2**	**-0.7**
UXUV				*e*S	**Sn**	**18 13 21.9**	**-0.2**
PATR	**El Naranjo**	**2.42**	**97**	*e*P	**Pn**	**18 13 05.0**	**+1.5**
PATR				*e*S	**Sn**	**18 13 32.2**	**-1.1**
PAVE	**Pavencul**	**2.46**	**95**	*e*P	**Pn**	**18 13 05.9**	**+1.7**
PAVE				*e*S	**Sn**	**18 13 34.0**	**-0.5**
CHUJ	**Union Juarez**	**2.54**	**97**	*e*P	**Pn**	**18 13 06.5**	**+1.2**
CHUJ				*e*S	**Sn**	**18 13 35.2**	**-1.2**
CCIG	**Comitan**	**2.63**	**70**		**Pb**	**18 13 09.9**	**-1.3**
CCIG	**Comitan**	**2.63**	**70**	*e*P	**Pb**	**18 13 10.6**	**-0.5**
RTAL	**Retalhuleu**	**3.05**	**106**		**Pn**	**18 13 13.9**	**+1.8**
HUEH	**Huehuetenango**	**3.10**	**91**		**Pn**	**18 13 16.1**	**+3.1**
PNIG	**Pinotepa**	**3.42**	**287**		**Pn**	**18 13 18.6**	**+1.4**
PNIG	**Pinotepa**	**3.42**	**287**	*i* P	**Pn**	**18 13 18.6**	**+1.4**
HLIG	**Huajuapan de L**	**3.81**	**310**		**Pn**	**18 13 26.1**	**+3.3**
HLIG	**Huajuapan de L**	**3.81**	**310**	*e*P	**Pn**	**18 13 26.1**	**+3.3**
FTIG	**Fresnillo de T**	**4.11**	**308**		**Pn**	**18 13 30.6**	**+3.8**
FTIG	**Fresnillo de T**	**4.11**	**308**	*e*P	**Pn**	**18 13 30.6**	**+3.8**
TLIG	**Tlapa**	**4.27**	**301**	Pn	**Pn**	**18 13 31.0**	**+2.1**
PETF	**Flores**	**4.90**	**72**		**Pn**	**18 13 37.8**	**+0.4**
MTO3	**Montecristo**	**5.28**	**100**		**Pn**	**18 13 43.3**	**+0.4**
TEIG	**Tepich**	**7.79**	**51**		**Pn**	**18 14 17.5**	**+0.4**
MATN	**Matagalpa**	**8.88**	**105**	Pn	**Pn**	**18 14 33.9**	**+1.6**
ORTG	**Ortega, Santa**	**10.33**	**118**	Pn	**Pn**	**18 14 53.5**	**+1.4**
OZNA	**Ozona**	**16.52**	**340**	P	**Pn**	**18 16 17.7**	**+2.0**
OZNA				IAmb	IAmb	18 16 33.5	
	comp=Z,16nm,0.7s						
WHTX	**Lake Whitney,**	**16.70**	**352**		**P**	**18 16 20.4**	**+0.2**
WHTX				IAmb	IAmb	18 16 39.5	
	comp=Z,18nm,1.1s						
RTBA	**Rita Blanca**	**22.13**	**343**	P	**P**	**18 17 20.1**	**+0.4**
RTBA				IAmb	IAmb	18 17 31.6	
	comp=Z,4.7nm,0.7s						

*NEIC **20** 18:13:15.8±1.2, 36.65N±0.02×99.22W±0.04, h5km±1km, Error ellipse: s-maj=5.4km s-min=2.8km az=296.0*
TUL 20 18:13:16±1.1, 36.64N±0.02×99.20W±0.03, h3km±2km, ML2.3, mb_Lg2.5/7(NEIC), ML2.3/12(NEIC), Error ellipse: s-maj=3.6km s-min=1.7km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.30**	**148**		Pg	18 13 22.2	+0.4
U32A				Sg	Sg	18 13 26.9	+1.2
U32A				IAML		18 13 27.2	
	comp=N,319nm,0.4s						
OK038	**West end E0370**	**0.40**	**113**		Pg	18 13 24.3	+0.6
OK038				Sg	Sg	18 13 29.9	+1.0
OK038				IAML		18 13 30.4	
	comp=N,336nm,0.3s						
OK035	**E0210 Rd and N**	**0.40**	**79**		Pg	18 13 23.7	0.0
OK035				Sg	Sg	18 13 30.1	+1.1
OK035				IAML		18 13 30.6	
	comp=N,299nm,0.2s						
ELIS	**Ellis County**	**0.59**	**197**		Pg	18 13 27.5	+0.1
ELIS				Sg	Sg	18 13 36.3	+1.1
ELIS				IAML		18 13 36.8	
	comp=E,182nm,0.2s						
OK032	**Salt Plains WL**	**0.81**	**78**		Pg	18 13 30.7	-0.9
OK032				Sg	Sg	18 13 42.8	+0.6
OK032				IAML		18 13 44.9	
	comp=E,123nm,0.2s						
OK032				IAML		18 13 45.5	
	comp=E,115nm,0.2s						
CROK	**Carrier**	**0.99**	**97**	Pg	Pg	18 13 34.8	-0.1
CROK				Sg	Sb	18 13 48.8	-0.4
KAN14	**Manchester OK**	**1.04**	**72**	Pg	Pb	18 13 36.4	-0.3
KAN14				Sg	Sg	18 13 49.7	+0.2
CSTR	**Hydro, Custer**	**1.07**	**157**	Pg	Pg	18 13 36.3	-0.2
CSTR				Sg	Sb	18 13 51.1	-0.4
GC02	**Grant County #**	**1.10**	**78**	Pg	Pg	18 13 36.7	-0.3
GC02				Sg	Sg	18 13 50.4	-0.9
KAN08	**Anthony NE Sta**	**1.15**	**59**	Pg	Pg	18 13 37.4	-0.6
KAN08				Sg	Sg	18 13 53.1	+0.2
KAN05	**Bluff City Nor**	**1.17**	**66**	Pg	Pb	18 13 38.7	-0.1
KAN05				Sg	Sg	18 13 53.7	+0.3
KAN12	**Harper NE Stat**	**1.17**	**55**	Pg	Pg	18 13 37.3	-1.1
KAN17	**Caldwell West**	**1.22**	**70**	Pg	Pg	18 13 38.7	-0.7
KAN06	**Argonia West S**	**1.24**	**60**	Pg	Pg	18 13 39.0	-0.7
KAN13	**South Haven SW**	**1.43**	**74**		Pn	18 13 41.5	-1.4
SMWD	**Samnorwood**	**1.75**	**209**		Pn	18 13 47.7	+0.4
R32A	**Long Quarter,**	**1.83**	**12**		Pn	18 13 49.2	+0.9
OK048	**Pawnee Station**	**1.83**	**96**	Pn	Pn	18 13 49.1	+0.7
OK033	**Mehan**	**1.92**	**107**	Pn	Pn	18 13 49.6	0.0
OK033				IAmb_Lg		18 14 16.0	
	comp=Z,8.0nm,1.2s						
WMOK	**Wichita Mounta**	**1.92**	**170**		Pn	18 13 50.5	+0.9
OK052	**Battle Ridge R**	**2.04**	**108**	Pn	Pn	18 13 50.1	-1.1
QUOK	**Quay**	**2.06**	**102**	Pn	Pn	18 13 51.1	-0.5
T35A	**Sooner Cattle**	**2.18**	**82**	Pn	Pn	18 13 53.4	+0.3
CBKS	**Cedar Bluff**	**2.22**	**349**	Pn	Pn	18 13 53.3	-0.4
W35A	**Tecumseh**	**2.40**	**127**	Pn	Pn	18 13 52.1	-4.0
AMTX	**Amarillo**	**2.67**	**230**	Pn	Pn	18 13 58.0	-2.0
RTBA	**Rita Blanca**	**2.86**	**267**	Pn	Pn	18 14 02.5	-0.1
KSU1	**Kansas State U**	**3.20**	**39**	Pn	Pn	18 14 06.3	-0.9
DKNS	**Dickens**	**3.28**	**206**		Pn	18 14 07.1	-1.2
APMT	**Aspermont**	**3.39**	**193**	Pn	Pn	18 14 09.8	0.0
RLO	**Rose Lookout**	**3.40**	**97**	IAmb_Lg		18 15 11.8	
	comp=Z,9.2nm,0.8s						
T25A	**Trinidad**	**4.21**	**278**	Pn	Pn	18 14 20.1	-1.1
FW14	**Alvarado**	**4.54**	**158**	IAmb_Lg		18 15 49.8	
	comp=Z,14nm,0.7s						
S39A	**Bolivar**	**4.81**	**76**	Pn	Pn	18 14 27.9	-1.4
OZNA	**Ozona**	**5.92**	**196**	IAmb_Lg		18 16 34.3	
	comp=Z,7.2nm,0.9s						
K30B	**Basset**	**6.04**	**357**	IAmb_Lg		18 16 29.2	
	comp=Z,16nm,1.3s						

NNC 20 18:14:29.4±7.8, 37.88N×72.17E, h0km, mb3.7, mpv3.3, 2C-3D, Error ellipse: s-maj=60.1km s-min=54.1km az=158.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.41**	**15**	P	Pn	18 15 39.0	+1.0
	SNR=39						
AML	**Almayashu**	**4.41**	**15**	⇑P	Pn	18 15 38.6	+0.6
	1.2nm,0.5s						
AML				S	Sn	18 16 32.4	+2.3
	6.5nm,0.7s						
UCH	**Uchtor**	**4.70**	**22**	P	Pn	18 15 42.6	+0.6
	SNR=13						
KZA	**Kyzart**	**4.81**	**28**	P	Pn	18 15 43.2	-0.4
	SNR=9.9						
EKS2	**Erkin-Say**	**4.93**	**14**	P	Pn	18 15 45.9	+0.9
	SNR=13						
AAK	**Ala-Archa**	**5.08**	**20**	P	Pn	18 15 47.7	+0.8
	SNR=13						
KK31	**Karatay Array**	**5.37**	**347**	⇓P	Pn	18 15 50.9	+0.1
	2.5nm,0.5s,baz=155,slow=11,SNR=85						
KK31				⇑S	Sn	18 16 53.4	+0.1
	4.5nm,0.5s,baz=184,slow=26,SNR=7.8						
USP	**Ospenovka**	**5.67**	**18**	P	Pn	18 15 54.7	-0.3
	SNR=7.4						
TKM2	**Tokmak 2**	**5.67**	**26**	P	Pn	18 15 55.1	-0.1
	SNR=6.0						
TKM2	**Tokmak 2**	**5.67**	**26**	⇓P	Pn	18 15 54.1	-1.1
	1.9nm,0.5s						
TKM2				⇓S	Sn	18 17 01.9	+0.7
	2.0nm,0.7s						

JMA 20 18:36:29.7±0.1, 26.9N±0.5×144.0E±0.2, h0km, MV4.4/11, NEAR CHICHIJIMA ISLAND, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.62**	**276**	*e*P	Pn	18 36 59.8	+0.2
CBIJ					Sb	18 37 21.5	-0.1
JHH2	**Haha-jima-NKT2**	**1.65**	**260**	*e*S	Sn	18 37 22.1	+0.2
**

comp=Z,148nm,0.9s
AC05 El Transito 2.62 38 *i* P **Pb** **18 51 42.5 -1.7**
ACCO Cerro Coronel 2.64 84 *e*P **Pb** **18 51 44.7 -0.1**
ACCO IAML 18 52 25.2
comp=Z,52nm,0.4s
AUSP Uspallata 2.66 120 *e*P **Pb** **18 51 45.8 +0.7**
ACDV Cuesta del Vie 2.68 75 *e*P **Pb** **18 51 43.1 -2.3**
ACDV IAML 18 53 01.8
comp=Z,47nm,0.3s
AC04 Llanos de Chal 2.85 19 *i* P **Pb** **18 51 47.1 -1.1**
RTLL Cerro Villicun 3.14 98 *e*S **Sb** **18 52 30.9 -0.4**
RTLL IAML 18 52 37.4
comp=Z,39nm,0.7s
ASAL Salagasta 3.25 122 *e*P **Pb** **18 51 54.6 -0.4**
ASAL *e*S **Sg** **18 52 40.1 -1.7**
ASAL IAML 18 52 45.4
comp=Z,45nm,1.5s
ARCO CERRO ARCO 3.31 126 *e*P **Pb** **18 51 57.0 +0.9**
ARCO IAML 18 52 46.3
comp=Z,29nm,0.5s
BO04 La Punta 3.31 158 *i* P **Pb** **18 51 54.0 -2.1**
AGUA GUANDACOL 3.44 66 *e*P **Pb** **18 51 57.1 -1.2**
AGUA IAML 18 52 50.6
comp=Z,47nm,0.4s
AAGR Agrelo 3.52 129 *e*P **Pb** **18 51 59.3 -0.4**
AAGR IAML 18 52 51.5
comp=Z,35nm,0.6s
GO03 Copiap 3.69 27 *e*P **Pb** **18 52 02.4 -0.2**
AVFE Valle Fertil 4.01 87 *e*P **Pn** **18 52 02.2 +3.6**
AVFE *e*S **Sb** **18 52 58.2 +1.8**
AVFE IAML 18 53 05.3
comp=Z,24nm,0.7s
VCA Vinchina 4.03 58 *e*P **Pb** **18 52 06.0 -2.3**
VCA *e*S **Sb** **18 53 00.7 +3.7**
VCA IAML 18 53 05.0
comp=Z,43nm,0.4s
ACLC CERRO LA CRUZ 4.71 73 *e*P **Pn** **18 52 12.1 +3.9**
ACLC IAML 18 53 13.6
comp=Z,30nm,1.0s
CYA Choya 6.01 67 *e*P Pn 18 52 33.0 +6.9
CYA IAML 18 53 59.9
comp=Z,6.4nm,1.1s

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*IDC **20** 19:11:56.7±1.0, 10°.28N×140°.21E, h0km, mb3.4/7, mbtmp3.4/7, ML4.3/1, Error ellipse: s-maj=30.4km s-min=21.0km az=112.0*
ISC 20 19:12:02.0±0.9, 10°.2N±0°.2×140°.2E±0°.1, h35km, n11, σ0s81/9, mb3.3/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.66**	**53**	Pn	**Pn**	**19 13 23.1**	**-0.5**
	8.7nm,0.3s,baz=14,slow=1.9,SNR=9.5						
GUMO				Sn	**Sn**	**19 14 28.4**	**+1.1**
	5.6nm,0.3s,baz=356,slow=19,SNR=1.4						
H11S3	**WAKE ISLAND Hy**	**26.91**	**69**	T	T	19 45 49.3	
	baz=254,slow=75						
H11S1	**WAKE ISLAND Hy**	**26.93**	**69**	T	T	19 45 48.4	
	baz=254,slow=75						
H11S2	**WAKE ISLAND Hy**	**26.93**	**69**	T	T	19 45 48.0	
	baz=254,slow=75						
WRA	**Warramunga Arr**	**30.54**	**191**	P	**P**	**19 18 12.5**	**+0.2**
	0.7nm,1.0s,baz=13,slow=9.8,SNR=5.9						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**34.25**	**190**	P	**P**	**19 18 44.7**	**-0.1**
	0.2nm,0.7s,baz=20,slow=12,SNR=7.1						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.72**	**286**	P	**P**	**19 19 40.7**	**+1.0**
	0.2nm,0.4s,baz=98,slow=6.5,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.82**	**318**	P	**P**	**19 22 10.5**	**-0.3**
	0.1nm,0.4s,baz=94,slow=8.7,SNR=2.4						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.30**	**322**	P	**P**	**19 22 33.1**	**-0.8**
	0.1nm,0.3s,baz=98,slow=7.9,SNR=1.9						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**73.53**	**25**	P	**P**	**19 23 30.3**	**-0.8**
	0.2nm,0.6s,baz=240,slow=5.9,SNR=4.4						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**87.90**	**27**	P	**P**	**19 24 48.3**	**+0.4**
	0.2nm,0.7s,baz=292,slow=6.1,SNR=2.1						
	0.2nm,0.7s						

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*TEH **20** 19:24:36.9, 35°.11N×45°.52E, h8km±57km, ML3.0*
*ISN **20** 19:24:37.1±1.2, 35°.14N×45°.25E, h8km±296km, ML3.1*
ISC 20 19:24:37.4±1.0, 35°.08N±0°.03×45°.56E±0°.05, h10km, n17, σ1s64/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.57**	**178**	Pg	**Pg**	**19 24 49.0**	**+0.5**
IDHR	**Dehrash**	**0.78**	**119**	Pg	**Pg**	**19 24 52.6**	**+0.2**
SDS1	**Sardasht. Az.**	**1.07**	**357**	Pg	**Pb**	**19 24 56.9**	**-1.2**
IGHG	**Ghaleghazi**	**1.12**	**132**	Pg	**Pn**	**19 24 59.8**	**+0.4**
ILIN	**Lien**	**1.16**	**98**	Pg	**Pg**	**19 25 00.4**	**+0.6**
MAHB	**Mahabad**	**1.69**	**4**	Pg	**Pg**	**19 25 08.8**	**-0.9**
IKOM	**Komasi**	**1.84**	**119**	Pn	**Pg**	**19 25 12.6**	**-0.2**
IBDR	**Badra**	**1.99**	**171**	*e*Pn	**Pg**	**19 25 16.0**	**+0.5**
IBDR				*e*Sn	**Sg**	**19 25 44.0**	**+2.7**
BHD	**Baghdad**	**2.05**	**209**	*e*Pn	**Pb**	**19 25 14.0**	**-0.7**
BHD				*e*Sn	**Sb**	**19 25 41.0**	**+0.7**
BHD				AML	AML	19 26 04.5	
	comp=E,196nm,0.5s						
IALM	**Almabolaq**	**2.15**	**95**	Pn	**Pb**	**19 25 16.5**	**-0.1**
IKFM	**Kafar-mosalman**	**2.45**	**129**	Pn	**Pb**	**19 25 20.7**	**-0.8**
IAZR	**Azarshahr**	**2.62**	**7**	Pn	**Pn**	**19 25 20.5**	**+0.6**
HSAM	**Samen**	**2.66**	**108**	Pn	**Pb**	**19 25 23.2**	**-2.0**
HAGD	**Aghdareh**	**2.95**	**94**	Pn	**Pb**	**19 25 28.2**	**-2.0**
ISRB	**Sarab**	**3.22**	**31**	Pn	**Pn**	**19 25 30.6**	**+2.3**
RAFI	**Al-Rafai**	**3.38**	**172**	*e*Pn	**Pb**	**19 25 34.0**	**-3.4**
RAFI				*e*Sn	**Sb**	**19 26 16.0**	**-2.5**
IHRS	**Heris**	**3.44**	**20**	Pn	**Pn**	**19 25 32.7**	**+1.4**

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*JMA **20** 19:28:50.2±0.2, 35°.6N±0°.6×141°.1E±°, h25km±1km, MV3.0/34, NEAR CHOSHI CITY*
*IDC **20** 19:29:01.6±1.8, 35°.09N×137°.64E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=43.4km s-min=27.8km az=99.0*
ISC 20 19:28:47.6±1.5, 35°.66N±0°.04×141°.18E±0°.09, h10km, n13, σ0s70/16, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.60**	**269**	*i* P	**Pb**	**19 29 00.2**	**+0.1**
JSMT				S	**Sb**	**19 29 08.0**	**-0.6**
JIHU	**Itakohorinouch**	**0.62**	**300**	P	**Pb**	**19 29 01.4**	**+1.0**
JIHU				S	**Sb**	**19 29 09.4**	**+0.3**
JCN	**Nagara**	**0.83**	**254**	P	**Pb**	**19 29 04.6**	**+0.5**
KTR	**Katsuura**	**0.87**	**235**	P	**Pg**	**19 29 05.2**	**+0.9**
BSO4	**Boso 4**	**0.96**	**226**	P	**Pg**	**19 29 06.0**	**+0.1**
JYT	**Yasato**	**0.98**	**306**	*i* P	**Pg**	**19 29 06.4**	**-0.1**
JYT				*e*S	**Sg**	**19 29 18.0**	**-1.3**
BSO1	**Boso 1**	**1.01**	**190**	*e*P	**Pb**	**19 29 07.0**	**+0.1**
BSO3	**Boso 3**	**1.01**	**213**	P	**Pg**	**19 29 07.1**	**0.0**
JHO	**Hitachi**	**1.07**	**333**	P	**Pg**	**19 29 08.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.56**	**291**	Pn	**Pn**	**19 29 30.0**	**+0.8**
	0.2nm,0.3s,baz=198,slow=7.8,SNR=14						
MJAR				Sn	**Sn**	**19 30 00.2**	**-0.3**
	0.3nm,0.3s,baz=315,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**44.70**	**303**	P	**P**	**19 36 59.6**	**-1.1**
	0.2nm,0.7s,baz=77,slow=8.1,SNR=2.2						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**46.71**	**309**	P	**P**	**19 37 16.4**	**0.0**
	0.2nm,0.5s,baz=79,slow=7.0,SNR=1.9						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**55.67**	**188**	P	P	19 38 33.4	+9.4
	0.2nm,0.4s,baz=1.2,slow=7.3,SNR=1.3						
	0.2nm,0.4s						

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*BJI **20** 19:43:45.0±0.0, 52°.16N×178°.31E, h115km, mb4.8/61, mB5.0/27*
*IDC **20** 19:43:46.9±1.1, 52°.08N×178°.45E, h116km±8km, mb4.1/34, mbtmp4.5/37, MS3.3/8, Error ellipse: s-maj=12.3km s-min=8.0km az=169.0*
*AEIC **20** 19:43:47.8±1.9, 51°.89N±0°.09×178°.31E±0°.09, h122km±4km, Error ellipse: s-maj=13.1km s-min=7.8km az=180.0*
*NEIC **20** 19:43:47.6±1.4, 52°.03N±0°.09×178°.41E±0°.09, h121km±5km, mb4.6/156, ML4.2(AEIC), Error ellipse: s-maj=13.3km s-min=7.9km az=180.0*
*MOS **20** 19:43:48.7±0.9, 52°.13N×178°.37E, h145km, mb4.5/50, Error ellipse: s-maj=6.9km s-min=5.6km az=134.8*
ISC 20 19:43:47.8±0.4, 51°.99N±0°.05×178°.45E±0°.03, h126km±3km, h127km:pP-P, n691, σ1s00/720, mb4.6/149, 12C-7D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.04**	**115**		**Pn**	**19 44 03.8**	**-1.2**
LSSA	**Little Sitkin**	**0.05**	**137**		**Pn**	**19 44 04.0**	**-1.1**
LSPA	**Little Sitkin**	**0.08**	**113**		**Pn**	**19 44 04.0**	**-1.0**
LSSE	**Little Sitkin**	**0.09**	**128**		**Pn**	**19 44 04.0**	**-1.0**
CETU	**Semis' Tuman**	**0.65**	**92**		**Pn**	**19 44 07.0**	**-0.4**
CEAP	**Semis' Anvil P**	**0.70**	**88**		**Pn**	**19 44 07.4**	**-0.3**
CEPE	**Semis' Perret**	**0.74**	**91**		**Pn**	**19 44 07.7**	**-0.3**
AMKA	**Amchitka**	**0.81**	**139**		**Pn**	**19 44 07.7**	**-0.9**
AMKA					**Sn**	**19 44 22.2**	**-2.1**
GASW	**Gareloi Southw**	**1.68**	**96**		**Pn**	**19 44 17.6**	**-0.1**
GALAA	**Gareloi Lava P**	**1.74**	**96**		**Pn**	**19 44 17.9**	**-0.4**
GAEA	**Gareloi East**	**1.75**	**96**		**Pn**	**19 44 18.4**	**-0.1**
TANO	**Tanaga North**	**2.12**	**91**		**Pn**	**19 44 23.1**	**+0.1**
TASE	**Tanaga Southea**	**2.18**	**93**		**Pn**	**19 44 23.6**	**-0.2**
TAFP	**Tanaga Falls P**	**2.21**	**91**		**Pn**	**19 44 23.7**	**-0.4**
TAFP					**Sn**	**19 44 52.4**	**+0.4**
KICM	**Kanaga Island**	**2.69**	**90**		**Pn**	**19 44 30.2**	**0.0**
KIWB	**Kanaga Island**	**2.73**	**91**		**Pn**	**19 44 30.0**	**-0.6**
KIRH	**Kanaga Island**	**2.76**	**90**		**Pn**	**19 44 30.8**	**-0.3**
SHEM	**Shemya Is, Ala**	**2.77**	**287**	P	**Pn**	**19 44 29.4**	**-1.8**
	376nm,0.3s,baz=34,slow=5.4,SNR=32						
SHEM				S	**Sn**	**19 45 02.8**	**-1.9**
	540nm,0.4s,baz=278,slow=19,SNR=17						
SHEM				LR	LR	19 45 35.4	
	comp=Z,571nm,20.4s,baz=322,slow=40						
ADK	**Adak**	**3.01**	**90**		**Pn**	**19 44 33.3**	**-1.0**
ADK	**Adak**	**3.01**	**90**		**Sn**	**19 45 09.7**	**-0.6**
ADK	**Adak**	**3.01**	**90**	P	**Pn**	**19 44 33.9**	**-0.5**
GSTR	**Great Sitkin T**	**3.39**	**86**		**Pn**	**19 44 39.0**	**-0.4**
GSMY	**Great Sitkin M**	**3.39**	**87**		**Pn**	**19 44 38.8**	**-0.6**
ATKA	**Atka Island**	**4.54**	**84**	Pn	**Pn**	**19 44 54.2**	**-0.3**
ATKA	**Atka Island**	**4.54**	**84**	P	**Pn**	**19 44 54.6**	**+0.1**
KOFP	**Korovin Flat P**	**4.60**	**83**		**Pn**	**19 44 55.6**	**+0.2**
CLES	**Cleveland East**	**7.18**	**79**	Pn	**Pn**	**19 45 31.1**	**+1.1**
NIKH	**Nikolski High**	**7.81**	**78**		**Pn**	**19 45 38.5**	**-0.1**
NIKH	**Nikolski High**	**7.81**	**78**	P	**Pn**	**19 45 39.4**	**+0.8**
	baz=268						
SPIA	**Saint Paul Isl**	**8.37**	**47**	P	**Pn**	**19 45 48.0**	**+2.0**
	baz=237						
P08K	**Saint George I**	**8.40**	**52**	P	**Pn**	**19 45 48.0**	**+1.6**
	baz=242						
UNV	**Unalaska Valle**	**9.28**	**73**	P	**Pn**	**19 45 59.0**	**+0.8**
	baz=265						
AKUT	**Akutan**	**9.74**	**71**	Pn	**Pn**	**19 46 03.9**	**-0.5**
TUMR	**Tumrok**	**11.35**	**294**	P	**Pn**	**19 46 23.0**	**-3.2**
KMNR	**Kamenistaya**	**11.39**	**296**	P	**Pn**	**19 46 25.9**	**-0.7**
KII	**Karymskiy**	**11.63**	**288**	P	**Pn**	**19 46 29.1**	**-0.7**
M11K	**Mekoryuk**	**11.96**	**39**	P	**Pn**	**19 46 36.0**	**+2.0**
	baz=232						
UGLR	**Uglovaya**	**12.00**	**284**	P	**Pn**	**19 46 34.6**	**-0.1**
SMAR	**Somma**	**12.01**	**284**	P	**Pn**	**19 46 34.1**	**-0.8**
AVH	**Avacha**	**12.05**	**284**	P	**Pn**	**19 46 35.9**	**+0.6**
KRX	**Arik**	**12.10**	**284**	P	**Pn**	**19 46 35.5**	**-0.5**
KOK	**Koryaka**	**12.11**	**284**	P	**Pn**	**19 46 35.9**	**-0.2**
PET	**Petropavlovsk**	**12.11**	**283**	Pn	**Pn**	**19 46 34.7**	**-1.3**
PET	**Petropavlovsk**	**12.11**	**283**	*i* P	**Pn**	**19 46 35.4**	**-0.6**
RUS	**Russkaya**	**12.24**	**280**	P	**Pn**	**19 46 38.3**	**+0.6**
MTVR	**Mutnovka**	**12.44**	**280**	P	**Pn**	**19 46 40.6**	**+0.2**
KRMR	**Karymshinskiy**	**12.44**	**282**	P	**Pn**	**19 46 40.8**	**+0.5**
GRL	**Gorelyy**	**12.49**	**281**	P	**Pn**	**19 46 42.2**	**+1.0**
KDTR	**Khodutka, Kamc**	**12.59**	**277**	P	**Pn**	**19 46 42.8**	**+0.6**
ASAK	**Asacha**	**12.62**	**280**	P	**Pn**	**19 46 44.2**	**+1.5**
PEA0B	**Petropavlovsk-**	**12.68**	**283**	Pn	**Pn**	**19 46 43.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**12.68**	**283**	*ce*P	**Pn**	**19 46 43.8**	**+0.4**
PETK	**Petropavlovsk-**	**12.68**	**283**	P	**Pn**	**19 46 42.8**	**-0.6**
	38nm,0.8s,baz=95,slow=16,SNR=71						
PETK				S	**Sn**	**19 48 56.1**	**-6.9**
	6.1nm,0.7s,baz=187,slow=29,SNR=3.7						
PETK				LR	LR	19 51 36.7	
	comp=Z,40nm,18.4s,baz=95,slow=37						
GAMB	**Gambell**	**12.90**	**20**	P	**Pn**	**19 46 48.3**	**+2.1**
	baz=208						
M13K	**Dall Lake**	**13.14**	**43**	Pn	**Pn**	**19 46 50.6**	**+1.2**
M13K	**Dall Lake**	**13.14**	**43**	P	**Pn**	**19 46 50.9**	**+1.6**
	baz=238						
CNBA	**Chernabura Isl**	**13.39**	**69**	Pn	**Pn**	**19 46 49.7**	**-2.9**
O14K	**Tigyukauivet M**	**13.53**	**50**	Pn	**Pn**	**19 46 55.3**	**+0.9**
O14K	**Tigyukauivet M**	**13.53**	**50**	P	**Pn**	**19 46 55.8**	**+1.4**
	baz=246						
N14K	**Kuskokwak Cree**	**13.63**	**47**	P	**Pn**	**19 46 54.8**	**-0.8**
	baz=243,SNR=9.9						
M14K	**Bethel**	**13.90**	**43**	Pn	**Pn**	**19 47 00.1**	**+1.0**
M14K	**Bethel**	**13.90**	**43**	P	**Pn**	**19 46 58.6**	**-0.6**
	baz=240,SNR=8.2						
L14K	**Kuka Creek**	**13.92**	**40**	Pn	**Pn**	**19 47 00.5**	**+1.1**
L14K	**Kuka Creek**	**13.92**	**40**	P	**Pn**	**19 46 59.3**	**0.0**
	baz=236,SNR=8.6						
O15K	**Ungalikthiuk R**	**14.19**	**51**	P	**Pn**	**19 47 02.4**	**-0.4**
	baz=249						
CHGN	**Chignik**	**14.20**	**63**	Pn	**Pn**	**19 47 02.1**	**-0.8**
M15K	**Kasiuk River**	**14.42**	**45**	P	**Pn**	**19 47 06.0**	**+0.2**
	baz=242						
J14K	**Nanvaranak Lak**	**14.44**	**35**	P	**Pn**	**19 47 06.0**	**+0.1**
	baz=230						
N15K	**Kwethluk River**	**14.45**	**47**		**P**	**19 47 07.8**	**-1.5**
N15K	**Kwethluk River**	**14.45**	**47**	P	**Pn**	**19 47 05.8**	**-0.4**
	baz=245,SNR=9.2						
L15K	**Ungalak Mounta**	**14.59**	**41**	P	**Pn**	**19 47 07.1**	**-0.7**
	baz=238						
K15K	**Wolf Creek Mou**	**14.91**	**38**	P	**Pn**	**19 47 11.3**	**-0.6**
	baz=236						
P16K	**Nushagak River**	**15.03**	**53**	P	**Pn**	**19 47 12.1**	**-1.3**
	baz=252						
ANM	**Nome**	**15.14**	**27**		**P**	**19 47 15.6**	**-1.2**
ANM	**Nome**	**15.14**	**27**	P	**P**	**19 47 15.6**	**-1.2**
ANM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ANM	**Nome**	**15.14**	**27**	P	**Pn**	**19 47 15.1**	**+0.4**
	baz=221						
O16K	**Kokwok River B**	**15.17**	**51**	P	**P**	**19 47 16.6**	**-0.6**
O16K				IAmb	IAmb	19 47 20.6	
	comp=Z,24nm,0.8s						
O16K	**Kokwok River B**	**15.17**	**51**	P	**Pn**	**19 47 14.1**	**-1.0**
	baz=250						
N16K	**Nishlik Lake**	**15.18**	**47**	P	**Pn**	**19 47 14.0**	**-1.2**
	baz=246						
TNA	**Tin City**	**15.28**	**22**	P	**Pn**	**19 47 16.8**	**+0.4**
	baz=214						
M16K	**Timber Creek**	**15.33**	**45**	P	**P**	**19 47 18.0**	**-1.0**
M16K				IAmb	IAmb	19 47 20.0	
	comp=Z,26nm,0.9s						
M16K	**Timber Creek**	**15.33**	**45**	P	**Pn**	**19 47 16.6**	**-0.4**
	baz=244,SNR=5.1						
L16K	**Owhat River**	**15.43**	**42**	P	**Pn**	**19 47 18.6**	**+0.4**
	baz=241,SNR=10						
F14K	**Arctic Creek**	**15.59**	**24**	P	**P**	**19 47 21.4**	**-0.4**
	baz=217						
Q16K	**King Salmon**	**15.60**	**55**	P	**Pn**	**19 47 20.8**	**+0.3**
	baz=256						
O17K	**Koliganek Bris**	**15.70**	**51**	P	**Pn**	**19 47 20.8**	**-0.9**
	baz=251						
CHIR	**Chirikof Islan**	**15.71**	**66**	Pn	**Pn**	**19 47 21.1**	**-0.8**
J16K	**Anvik River**	**15.84**	**36**	P	**Pn**	**19 47 23.4**	**+0.1**
	baz=234						
G15K	**Niukluk**	**15.84**	**28**	P	**Pn**	**19 47 22.9**	**-0.5**
	baz=223						
P17K	**Kvichak River**	**15.85**	**53**	P	**Pn**	**19 47 22.5**	**-1.0**
	baz=254,SNR=8.4						
Q17K	**Contact Creek**	**15.90**	**57**	P	**Pn**	**19 47 23.3**	**-0.9**
	baz=258						
N17K	**Nushagak Hills**	**15.92**	**48**	P	**Pn**	**19 47 23.1**	**-1.4**
	baz=248						
L17K	**Donlin**	**16.12**	**42**	P	**Pn**	**19 47 26.6**	**-0.3**
	baz=242						
H16K	**Elim**	**16.14**	**31**	P	**Pn**	**19 47 27.0**	**-0.1**
	baz=228						
M17K	**Holitna River**	**16.16**	**45**	P	**Pn**	**19 47 27.0**	**-0.3**
	baz=245,SNR=11						
I17K	**Unalakleet**	**16.16**	**34**	P	**P**	**19 47 27.7**	**-0.4**
	baz=232						
F15K	**North Star Dit**	**16.21**	**26**	P	**Pn**	**19 47 27.9**	**0.0**
F15K	**North Star Dit**	**16.21**	**26**	P	**P**	**19 47 28.9**	**+0.3**
	baz=220						
K17K	**Iditarod**	**16.40**	**40**	P	**P**	**19 47 30.9**	**+0.1**
	baz=240						
P18K	**Big Mountain,**	**16.50**	**53**		**Pn**	**19 47 31.3**	**-0.2**
P18K				IAmb	IAmb	19 47 35.1	
	comp=Z,39nm,0.8s						
P18K	**Big Mountain,**	**16.50**	**53**	P	**P**	**19 47 31.7**	**-0.2**
	baz=255						
R18K	**Karluk**	**16.53**	**60**	P	**P**	**19 47 32.0**	**-0.3**
	baz=262						
N18K	**Kilae Creek**	**16.57**	**48**	P	**P**	**19 47 34.5**	**+1.7**
N18K	**Kilae Creek**	**16.57**	**48**	P	**Pn**	**19 47 32.4**	**-0.1**
	baz=250,SNR=9.1						
G16K	**Koyuk River**	**16.62**	**29**	P	**P**	**19 47 34.4**	**+1.1**
G16K	**Koyuk River**	**16.62**	**29**	P	**P**	**19 47 33.5**	**+0.3**
	baz=225						
O18K	**Koktuh Hills**	**16.64**	**51**	P	**Pn**	**19 47 32.9**	**-0.4**
	baz=254						
L18K	**Granite Mounta**	**16.83**	**43**	P	**Pn**	**19 47 35.3**	**-0.2**
	baz=244						
M18K	**Stony River**	**16.90**	**46**	P	**Pn**	**19 47 36.3**	**-0.1**
	baz=248						
H17K	**Granite Mounta**	**17.09**	**32**	P	**P**	**19 47 38.1**	**-0.2**
	baz=231,SNR=5.4						
OHAK	**Old Harbor**	**17.11**	**61**	P	**P**	**19 47 36.2**	**-2.5**
OHAK				IAmb	IAmb	19 47 39.8	
	comp=Z,19nm,0.7s						
OHAK	**Old Harbor**	**17.11**	**61**	P	**P**	**19 47 37.3**	**-1.4**
	baz=264						
BILL	**Bilibino**	**17.15**	**344**	P	**P**	**19 47 38.9**	**-0.2**
BILL	**Bilibino**	**17.15**	**344**	*i* P	**Pn**	**19 47 40.1**	**+0.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
O19K	**Port Alsworth**	**17.16**	**51**	P	**P**	**19 47 38.8**	**-0.4**
	baz=254,SNR=23						
Q19K	**Cape Douglas,**	**17.18**	**55**	P	**P**	**19 47 39.3**	**-0.2**
Q19K	**Cape Douglas,**	**17.18**	**55**	P	**P**	**19 47 38.1**	**-1.4**
	baz=258						
G17K	**Kiwalik Mounta**	**17.22**	**30**	P	**Pn**	**19 47 40.3**	**+0.1**
	baz=228,SNR=6.1						
N19K	**Bonanza Creek**	**17.27**	**49**	P	**P**	**19 47 40.0**	**-0.5**
	baz=252,SNR=25						
J18K	**Unalakleet River**	**17.41**	**39**	P	**Pn**	**19 47 42.8**	**+0.3**
	baz=240						
TTA	**Tatalina**	**17.43**	**41**		**Pn**	**19 47 43.5**	**+0.6**
TTA				IAmb	IAmb	19 47 45.5	
	comp=Z,23nm,0.8s						
TTA	**Tatalina**	**17.43**	**41**	P	**Pn**	**19 47 43.9**	**+1.0**
TTA	**Tatalina**	**17.43**	**41**	P	**Pn**	**19 47 43.5**	**+0.6**
TTA				pmax	pmax		
	comp=Z,23nm,0.8s						
TTA	**Tatalina**	**17.43**	**41**	P	**Pn**	**19 47 42.6**	**-0.2**
	baz=243,SNR=10						
P19K	**Oil Pt**	**17.55**	**53**		**Pn**	**19 47 45.0**	**+0.8**
P19K	**Oil Pt**	**17.55**	**53**	P	**P**	**19 47 42.9**	**-0.6**
	baz=257,SNR=6.0						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**19 47 41.8**	**-1.8**
KDAK				IAmb	IAmb	19 47 45.4	
	comp=Z,58nm,1.1s						
KDAK	**Kodiak Island**	**17.55**	**59**	*i* P	**P**	**19 47 43.0**	**-0.5**
KDAK				pmax	pmax		
	comp=Z,55nm,1.0s						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**19 47 43.3**	**-0.2**
	baz=263						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**19 47 42.0**	**-1.5**
	comp=Z,30nm,0.6s,baz=141,slow=0.7,SNR=37						
KDAK				S	**S**	**19 50 50.7**	**-8.7**
	comp=Z,5.9nm,0.8s,baz=34,slow=15,SNR=1.7						
L19K	**White Mountain**	**17.59**	**44**	P	**P**	**19 47 44.1**	**+0.1**
	baz=247						
SEY	**Seymchan**	**17.65**	**318**	*i* P	**P**	**19 47 44.7**	**+0.2**
SEY				pmax	pmax		
	comp=Z,16nm,1.4s						
SEY	**Seymchan**	**17.65**	**318**	P	**P**	**19 47 44.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=133,slow=19,SNR=2.2						
F17K	**Baldwin Pennin**	**17.69**	**27**	P	**Pn**	**19 47 45.8**	**0.0**
	baz=225						
M19K	**Big River Lodg**	**17.69**	**45**	P	**Pn**	**19 47 45.6**	**-0.4**
	baz=248						
H18K	**Honhosa River**	**17.74**	**33**	P	**Pn**	**19 47 46.0**	**-0.4**
	baz=233						
Q20K	**Shuyak Island**	**17.77**	**57**	P	**P**	**19 47 45.3**	**-0.6**
	baz=261						
O20K	**Slope Mountain**	**17.95**	**52**	P	**P**	**19 47 48.0**	**0.0**
	baz=256,SNR=5.4						
RSO	**Redoubt South**	**17.98**	**51**	P	**Pn**	**19 47 50.4**	**+0.8**
E17K	**Hotham Inlet**	**18.00**	**25**	P	**Pn**	**19 47 49.0**	**-0.5**
	baz=223,SNR=11						
GCSA	**Galena City Sc**	**18.02**	**35**	P	**Pn**	**19 47 49.0**	**-0.7**
	baz=237						
J19K	**Poorman**	**18.09**	**38**	P	**P**	**19 47 49.5**	**+0.1**
	baz=241,SNR=7.3						
G18K	**Tagagawik**	**18.10**	**31**	P	**P**	**19 47 49.9**	**+0.5**
	baz=231						
C16K	**Lisburne Hills**	**18.11**	**20**	P	**Pn**	**19 47 51.0**	**+0.2**
	baz=214						
L20K	**Farewell, AK**	**18.13**	**44**	P	**P**	**19 47 49.3**	**-0.6**
	baz=247,SNR=12						
M20K	**Styx River**	**18.24**	**46**	P	**P**	**19 47 51.1**	**0.0**
	baz=250						
HOM	**Homer**	**18.34**	**54**	P	**Pn**	**19 47 53.1**	**-0.6**
HOM	**Homer**	**18.34**	**54**	P	**P**	**19 47 51.3**	**-0.8**
	baz=259						
K20K	**Telida**	**18.41**	**41**	P	**P**	**19 47 52.9**	**0.0**
	baz=245						
N20K	**Mount Spurr**	**18.44**	**49**	P	**P**	**

PMR **Palmer** 19.98 49 P **P** 19 48 09.5 -0.3
PMR **Palmer** 19.98 49 P **Pn** 19 48 11.3 -1.4
PMR **Palmer** 19.98 49 P **P** 19 48 09.5 -0.3
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR **Palmer** 19.98 49 P **P** 19 48 09.9 +0.1
baz=256
D19K **Kuna River** 20.00 25 P **P** 19 48 10.4 +0.4
baz=226
TRF **Thorofare Moun** 20.01 43 P **P** 19 48 11.1 +0.7
TRF IAmb IAmb 19 48 14.5
comp=Z,33nm,0.8s
TRF **Thorofare Moun** 20.01 43 P **P** 19 48 09.9 -0.5
baz=250,SNR=16
I21K **Tanana** 20.04 37 P **P** 19 48 11.4 +1.0
I21K IAmb IAmb 19 48 13.3
comp=Z,28nm,0.9s
I21K **Tanana** 20.04 37 P **P** 19 48 10.4 0.0
baz=243,SNR=21
C19K **Lookout Ridge** 20.06 23 P **P** 19 48 11.6 +0.8
baz=222
GHO **Glory Hole Cre** 20.12 48 P **P** 19 48 12.0 +0.5
GHO IAmb IAmb 19 48 14.4
comp=Z,25nm,0.7s
G21K **Allakaket** 20.16 33 P **P** 19 48 12.3 +0.5
baz=238
KNK **Knik Glacier** 20.25 49 P **P** 19 48 13.4 +0.6
KNK **Knik Glacier** 20.25 49 P **P** 19 48 12.2 -0.6
baz=257,SNR=15
E20K **Nigu River** 20.36 27 P **P** 19 48 14.1 +0.1
baz=230
SML **Sawmill** 20.40 48 P **P** 19 48 14.7 +0.3
SML **Sawmill** 20.40 48 P **P** 19 48 14.7 +0.3
SML pmax pmax
comp=Z,53nm,1.0s
SML **Sawmill** 20.40 48 P **P** 19 48 14.3 -0.2
baz=256,SNR=14
MLY **Manley** 20.45 38 P **P** 19 48 15.9 +1.0
MLY **Manley** 20.45 38 P **P** 19 48 14.5 -0.4
baz=245,SNR=17
P23K **Montague Islan** 20.51 54 P **P** 19 48 14.9 -0.6
baz=262
D20K **Etivluk River** 20.55 26 P **P** 19 48 16.1 +0.1
baz=228,SNR=9.5
F21K **Alatna River** 20.56 31 P **P** 19 48 16.0 0.0
baz=236
WAT1 **Susitna Watana** 20.57 45 P **P** 19 48 16.3 +0.1
baz=254
A19K **Wainwright** 20.57 20 P **P** 19 48 16.3 +0.2
baz=218
H22K **Ishtalitna Cre** 20.59 36 P **P** 19 48 16.2 -0.3
baz=242
M23K **Glacier View** 20.68 49 P **P** 19 48 16.8 -0.6
baz=257,SNR=18
MCK **McKinley** 20.68 43 P **P** 19 48 17.2 -0.2
baz=251,SNR=14
WAT6 **Susitna Watana** 20.86 46 P **P** 19 48 18.8 -0.7
baz=255,SNR=22
SCM **Sheep Creek Mo** 20.87 49 P **P** 19 48 19.6 +0.1
SCM IAmb IAmb 19 48 49.1
comp=Z,33nm,0.8s
SCM **Sheep Creek Mo** 20.87 49 P **P** 19 48 19.6 +0.1
SCM pmax pmax
comp=Z,33nm,0.8s
SCM **Sheep Creek Mo** 20.87 49 P **P** 19 48 18.9 -0.6
baz=258,SNR=12
NEA2 **Nenana** 20.93 40 P **P** 19 48 19.4 -0.7
baz=248,SNR=14
Q23K **Middleton Isla** 20.97 55 P **P** 19 48 19.6 -0.9
baz=265
HIN **Hinchinbrook I** 21.01 53 P **P** 19 48 20.6 -0.3
I23K **Minto, Yukon-K** 21.02 39 P **P** 19 48 21.1 +0.1
baz=247
G22K **Bettles** 21.05 33 P **P** 19 48 21.8 +0.5
baz=240
FID **Port Fidalgo** 21.07 52 P **P** 19 48 21.2 -0.4
FID IAmb IAmb 19 48 24.1
comp=Z,39nm,0.8s
F22K **John River** 21.14 32 P **P** 19 48 22.9 +0.6
baz=237
DHY **Denali Highway** 21.15 45 P **P** 19 48 22.6 0.0
DHY **Denali Highway** 21.15 45 P **P** 19 48 22.4 -0.2
baz=254,SNR=39
B20K **Meade River** 21.31 23 P **P** 19 48 24.5 +0.4
baz=225
C21K **Knifeblade Rid** 21.34 26 P **P** 19 48 24.9 +0.5
baz=230
MDM **Murphy Dome** 21.40 40 P **P** 19 48 25.9 +0.8
MDM IAmb IAmb 19 48 28.2
comp=Z,17nm,0.7s
EYAK **Cordova Ski Ar** 21.40 52 P **P** 19 48 27.0 +1.9
EYAK **Cordova Ski Ar** 21.40 52 P **P** 19 48 24.2 -0.9
baz=263
CCB **Clear Creek Bu** 21.45 41 P **P** 19 48 24.8 -0.8
G23K **Bananza Creek** 21.46 35 P **P** 19 48 25.7 0.0
baz=242
KLU **Klutina** 21.46 50 P **P** 19 48 25.4 -0.5
KLU IAmb IAmb 19 48 30.4
comp=Z,28nm,0.8s
KLU **Klutina** 21.46 50 P **P** 19 48 25.0 -0.8
baz=260,SNR=16
M24K **Tolsona, Glenn** 21.46 48 P **P** 19 48 25.7 -0.2
baz=258,SNR=14
COLA **College** 21.52 40 P **P** 19 48 27.4 +1.1
COLA **College** 21.52 40 P **P** 19 48 25.9 -0.4
baz=249
COLD **Coldfoot** 21.65 33 P **P** 19 48 27.6 -0.1
baz=241
B21K **Ikpikpuk River** 21.69 25 P **P** 19 48 28.1 0.0
baz=229
HDA **Harding Lake** 21.73 42 P **P** 19 48 28.8 +0.2
HDA **Harding Lake** 21.73 42 P **P** 19 48 28.0 -0.6
baz=252,SNR=9.5
D22K **Ayikyak River** 21.76 28 P **P** 19 48 28.5 -0.4
baz=234
POKR **Poker Plat Res** 21.77 40 P **P** 19 48 29.0 -0.1
POKR IAmb IAmb 19 48 30.8
comp=Z,20nm,0.8s
POKR **Poker Plat Res** 21.77 40 P **P** 19 48 28.5 -0.5
baz=249,SNR=9.9
H24K **Noodor Dome** 21.87 38 P **P** 19 48 29.4 -0.7
baz=247,SNR=12
IL31 21.87 41 P **P** 19 48 29.4 -0.6
ILAR **Eielson Array** 21.87 41 P **P** 19 48 29.3 -0.8
ILAR **Eielson Array** 21.87 41 P **P** 19 48 29.3 -0.8
ILAR **Eielson Array** 21.87 41 P **P** 19 48 28.6 -1.5
comp=Z,2.3nm,0.7s,baz=246,slow=8.4,SNR=32
ILAR PcP **PcP** 19 52 23.1 -1.0
comp=Z,0.3nm,0.6s,baz=270,slow=2.7,SNR=2.7
ILAR ScP **ScP** 19 55 47.9 -1.5
comp=Z,1.1nm,0.7s,baz=282,slow=3.6,SNR=10
ILAR LR LR 19 56 36.9
comp=Z,47nm,20.4s,baz=251,slow=35
comp=Z,2.3nm,0.7s
RAGM **Ragged Mountai** 21.91 53 P **P** 19 48 31.1 +0.5
PAX **Paxson** 21.97 46 P **P** 19 48 30.5 -0.7
baz=257,SNR=18
HARP **HAARP** 21.98 48 P **P** 19 48 30.6 -0.7
baz=259,SNR=5.0
KAIM **Kayak Island** 21.99 54 P **P** 19 48 31.4 0.0
KAIM **Kayak Island** 21.99 54 P **P** 19 48 30.3 -1.1
baz=266
BMRM **Bremner River** 22.01 51 P **P** 19 48 30.3 -1.3
baz=263,SNR=14
K24K **Donnelly Dome** 22.04 44 P **P** 19 48 31.0 -0.9
baz=254,SNR=9.4
N25K **Chitina, Valde** 22.10 50 P **P** 19 48 31.6 -1.0
baz=261,SNR=13
E23K **Chandalar** 22.26 32 P **P** 19 48 33.7 -0.4
baz=240
G24K **Hadweenzic Riv** 22.36 36 P **P** 19 48 34.7 -0.4
baz=246
BERG **Berg Lake** 22.39 53 P **P** 19 48 35.5 +0.1
D23K **Nanushuk River** 22.41 29 P **P** 19 48 35.5 0.0
baz=236
RIDG **Independent Ri** 22.42 44 P **P** 19 48 34.9 -0.9
RIDG **Independent Ri** 22.42 44 P **P** 19 48 34.5 -1.2
baz=256,SNR=5.7
J25K **Salcha River,** 22.44 42 P **P** 19 48 35.8 -0.1
baz=253
GLB **Gilahina Butte** 22.45 50 P **P** 19 48 36.1 +0.1
GLB IAmb IAmb 19 48 39.9
comp=Z,23nm,0.8s
B22K **Teshekpuk Lake** 22.47 25 P **P** 19 48 36.2 +0.2
baz=230
A22K **Sinclair Lake** 22.53 22 P **P** 19 48 36.8 +0.2
baz=226
F24K **Squaw Lake** 22.57 34 P **P** 19 48 36.7 -0.5
baz=243
VRDI **Verde Repeater** 22.60 51 P **P** 19 48 37.4 -0.3
VRDI IAmb IAmb 19 48 41.0
comp=Z,15nm,0.7s
PRP **Porcupine Dome** 22.66 40 P **P** 19 48 37.6 -0.5
PRP IAmb IAmb 19 48 40.2
comp=Z,13nm,0.6s
PRP **Porcupine Dome** 22.66 40 P **P** 19 48 37.5 -0.7
baz=251,SNR=16
MENT **Mentasta** 22.74 47 P **P** 19 48 39.6 +0.8
MENT IAmb IAmb 19 48 43.8
comp=Z,19nm,0.6s
MENT **Mentasta** 22.74 47 P **P** 19 48 40.7 +1.8
SNH **Sunshine Point** 22.80 54 P **P** 19 48 39.5 0.0
SNH IAmb IAmb 19 48 49.6
comp=Z,47nm,1.1s
SCRK **Sand Creek** 22.85 44 P **P** 19 48 39.0 -1.0
SCRK **Sand Creek** 22.85 44 P **P** 19 48 38.6 -1.4
baz=256,SNR=13
G25K **Bearman Lake** 22.89 36 P **P** 19 48 39.7 -0.5
baz=247
L26K **Log Cabin Wild** 22.93 46 P **P** 19 48 39.6 -1.0
baz=259,SNR=16
M26K **Nabesna, AK** 22.98 48 P **P** 19 48 40.0 -1.1
baz=261
D24K **Happy Valley** 23.07 30 P **P** 19 48 40.7 -1.2
baz=239
J26L **Joseph Creek** 23.16 43 P **P** 19 48 41.5 -1.4
baz=256
F25K **Christian Rive** 23.39 35 P **P** 19 48 44.3 -0.5
baz=246,SNR=20
C24K **Franklin Bluff** 23.41 28 P **P** 19 48 44.9 0.0
baz=238,SNR=6.2
BARN **Barnard Glacie** 23.45 52 P **P** 19 48 46.6 +0.9
M27K **Edge Creek, AK** 23.48 48 P **P** 19 48 45.2 -0.7
baz=262
I26K **Coal Creek Min** 23.54 41 P **P** 19 48 45.9 -0.3
baz=254
YSS **Yuzh-Sakhalins** 23.57 272 *e*P **P** 19 48 49.2 +2.5
CTG **Chitna Glacier** 23.59 52 P **P** 19 48 46.0 -0.9
baz=266
CTGM **Chitina Glacie** 23.60 52 P **P** 19 48 47.8 +0.8
CTGM IAmb IAmb 19 48 49.5
comp=Z,31nm,0.7s
L27K **Beaver Creek,** 23.61 47 P **P** 19 48 46.4 -0.5
baz=261,SNR=34
E25K **Arctic Village** 23.63 33 P **P** 19 48 47.0 0.0
baz=245
BCAR **Beaver Creek A** 23.63 47 P **P** 19 48 47.2 +0.1
K27K **Chicken** 23.68 44 P **P** 19 48 47.2 -0.3
baz=258
BMAR **Burnt Mountain** 23.70 35 P **P** 19 48 48.2 +0.6
LOGN **Logan Glacier** 23.75 52 P **P** 19 48 48.5 +0.2
G26K **Porcupine Rive** 23.81 37 P **P** 19 48 48.1 -0.5
baz=250
D25K **Kavik River** 23.91 30 P **P** 19 48 49.4 -0.2
baz=242
F26K **Sheenjek River** 23.95 35 P **P** 19 48 49.9 0.0
baz=248,SNR=25
BVCY **Beaver Creek** 23.96 48 P **P** 19 48 49.4 -0.7
baz=263,SNR=59
YUK3 **Moose Creek** 24.08 50 P **P** 19 48 50.6 -0.8
baz=265,SNR=63
PINM **Pinnacle** 24.09 54 P **P** 19 48 50.1 -1.2
baz=269,SNR=6.0
EGAK **Eagle** 24.23 43 P **P** 19 48 52.8 +0.4
EGAK **Eagle** 24.23 43 P **P** 19 48 51.9 -0.5
baz=258,SNR=46
I27K **Kandik River** 24.24 40 P **P** 19 48 52.4 -0.2
baz=255,SNR=6.7
YUK8 **Steele Glacier** 24.38 51 P **P** 19 48 53.3 -0.8
baz=267,SNR=26
H27K **Steamboat Moun** 24.44 39 P **P** 19 48 53.3 -1.1
baz=254
PNL **Peninsula** 24.52 55 P **P** 19 48 59.0 +3.9
PNL **Peninsula** 24.52 55 P **P** 19 48 54.2 -0.9
baz=271
G27K **Doyon Strip** 24.56 38 P **P** 19 48 55.6 +0.1
baz=253
DAWY **Dawson** 24.85 45 P **P** 19 48 58.8 +0.7
DAWY IAmb IAmb 19 49 01.8
comp=Z,26nm,0.8s
DAWY **Dawson** 24.85 45 P **P** 19 48 57.9 -0.3
baz=261,SNR=30
I28M **Miner Creek** 24.88 41 P **P** 19 48 58.3 -0.2
baz=258
YUK4 **Talbot Arm** 24.92 51 P **P** 19 48 59.8 +0.9
baz=268,SNR=73
O29M **Mount Kennedy** 24.93 54 P **P** 19 48 58.9 -0.1
baz=270,SNR=18
E27K **Coleen River** 25.03 35 P **P** 19 49 00.2 +0.5
baz=250
YUK6 **Outpost Mounta** 25.04 52 P **P** 19 48 60.0 -0.1
baz=269,SNR=11
M29M **Somme Creek** 25.07 49 P **P** 19 49 00.8 +0.6
baz=265
L29M **L29M** 25.29 47 P **P** 19 49 01.9 -0.2
baz=264,SNR=11
P29M **Windy Craggy** 25.36 55 P **P** 19 49 03.0 +0.2
baz=272
HYT **Haines Junctio** 25.46 52 P **P** 19 49 04.9 +1.1
HYT **Haines Junctio** 25.46 52 P **P** 19 49 04.3 +0.5
baz=270
F28M **Old Crow** 25.46 36 P **P** 19 49 03.8 +0.2
baz=253,SNR=8.9
I29M **Ogilvie Camp,** 25.53 42 P **P** 19 49 04.8 +0.5
baz=260
D27M **Malcolm River** 25.62 32 P **P** 19 49 05.3 +0.3
baz=249
K29M **Barlow Dome** 25.64 45 P **P** 19 49 04.5 -0.9
baz=263
N30M **Aishikik Lake** 25.67 51 P **P** 19 49 05.0 -0.6
baz=269
H29M **Whitestone** 25.68 40 P **P** 19 49 05.8 +0.2
baz=258
P30M **Million Dollar** 25.74 54 P **P** 19 49 06.8 +0.5
baz=272
M30M **Minto, Yukon** 25.86 48 P **P** 19 49 08.0 +0.7
baz=267,SNR=23
E28M **Babbage River** 25.89 34 P **P** 19 49 07.7 +0.3
baz=252
G29M **Pine Creek** 25.97 38 P **P** 19 49 08.6 +0.4
baz=257
O30N **Mendenhall** 26.16 53 P **P** 19 49 10.2 +0.2
baz=271
J30M **Hart River** 26.24 44 P **P** 19 49 12.1 +1.3
baz=263
S31K **Pelican** 26.27 59 P **P** 19 49 11.1 +0.2
baz=277
N31M **Braeburn, Yuko** 26.30 51 P **P** 19 49 11.0 -0.3
baz=270,SNR=6.9
I30M **Mount Dempster** 26.31 42 P **P** 19 49 11.8 +0.5
baz=262,SNR=10
EPYK **Eagle Plains** 26.36 40 P **P** 19 49 12.3 +0.6
baz=259,SNR=11
D28M **Stokes Point** 26.39 33 P **P** 19 49 12.7 +0.8
baz=251
E29M **Blow River** 26.40 35 P **P** 19 49 12.9 +0.9
baz=254
G30M **tAoh Zraii Nji** 26.68 39 P **P** 19 49 15.5 +0.9
baz=258
WHY **Whitehorse** 26.75 53 P **P** 19 49 16.0 +0.6
baz=272
SIT **Sitka** 26.88 61 P **P** 19 49 16.7 +0.3
baz=279
M31M **Drury Creek, Y** 26.96 49 P **P** 19 49 17.8 +0.7
baz=270,SNR=9.8
F30M **Barrier River** 26.98 37 P **P** 19 49 18.1 +0.9
baz=258
R32K **Eaglecrest** 27.14 58 P **P** 19 49 18.8 +0.1
baz=277
S32K **Killisnoo** 27.22 60 P **P** 19 49 20.2 +0.8
baz=279
P32M **Atlin** 27.41 55 P **P** 19 49 22.0 +0.8
baz=275
G31M **Satah River** 27.42 39 P **P** 19 49 22.0 +0.9
baz=261,SNR=6.9
FARO **Faro, Yukon** 27.45 49 P **P** 19 49 21.5 0.0
baz=271
N32M **Quiet Lake** 27.61 52 P **P** 19 49 23.3 +0.3
baz=273
F31M **Tsiigehtchic** 27.71 38 P **P** 19 49 24.8 +1.1
baz=260,SNR=7.9
YAK **Yakutsk** 27.72 310 P **P** 19 49 22.6 -1.3
YAK **Yakutsk** 27.72 310 *e*P **P** 19 49 21.6 -2.2
YAK *e**PP **pP** 19 49 51.1 +1.4
YAK *e* 19 50 13.1
YAK *e* 19 52 34.6
YAK *e*S **S** 19 53 54.7 -1.9
YAK *e**SS **sS** 19 54 47.4 +3.2
YAK pmax pmax
comp=Z,5.0nm,1.5s
YAK pmax pmax
comp=N,1.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK pmax pmax
comp=Z,121nm,5.3s
YAK pmax pmax
comp=N,83nm,3.3s
YAK pmax pmax
comp=E,176nm,5.3s
YAK smax smax
comp=E,163nm,4.5s
YAK smax smax
comp=N,137nm,4.5s
P33M **Teslin, Yukon** 27.80 54 P **P** 19 49 25.4 +0.7
baz=275
INK **Inuvik** 27.95 36 P **P** 19 49 26.4 +0.6
INK **Inuvik** 27.95 36 P **P** 19 49 26.4 +0.6
INK pmax pmax
comp=Z,5.0nm,0.9s
INK **Inuvik** 27.95 36 P **P** 19 49 26.6 +0.8
baz=259
Q32M **Nakina River** 28.21 56 P **P** 19 49 28.9 +0.3
baz=278
R33M **Jennings River** 28.82 55 P **P** 19 49 34.5 +0.7
baz=278,SNR=6.3
S34M **Telegraph Cree** 28.97 58 P **P** 19 49 36.4 +1.4
baz=280
TIXI **Tiksi** 29.26 330 *i* P **P** 19 49 36.3 -1.1
TIXI pmax pmax
comp=Z,8.0nm,2.5s
V35K **Ketchikan** 29.26 63 P **P** 19 49 38.2 +0.6
baz=285
KLR **Kul'dur** 29.37 283 *ce*P **P** 19 49 38.1 -0.5
KLR pmax pmax
comp=Z,13nm,0.9s
DLBC **Dease Lake** 29.45 57 P **P** 19 49 40.7 +1.4
DLBC **Dease Lake** 29.45 57 P **P** 19 49 39.8 +0.4
baz=280
T35M **Bob Quinn** 29.62 60 P **P** 19 49 42.1 +1.4
T35M IAmb IAmb 19 49 43.6
comp=Z,8.6nm,0.8s
T35M **Bob Quinn** 29.62 60 P **P** 19 49 41.3 +0.5
baz=283
TGTN **Hyland Airport** 29.89 50 P **P** 19 49 43.9 +0.7
baz=276
ZEA **Zeya** 30.42 294 *e*P **P** 19 49 47.1 -0.7
ZEA *e* 19 50 17.6
ZEA pmax pmax
comp=Z,10.0nm,0.9s
A36M **Sachs Harbour** 31.39 30 P **P** 19 49 57.8 +1.7
A36M **Sachs Harbour** 31.39 30 P **P** 19 49 57.5 +1.3
baz=261,SNR=15
C36M **Paulatuk** 31.49 35 P **P** 19 49 58.1 +1.1
C36M IAmb IAmb 19 49 58.9
comp=Z,9.3nm,0.8s
C36M **Paulatuk** 31.49 35 P **P** 19 49 58.4 +1.4
baz=267,SNR=7.2
USRK **Ussuriysk Ar.** 31.53 274 P **P** 19 49 57.2 -0.5
USRK PcP **PcP** 19 52 48.4 +1.1
USRK **Ussuriysk Ar.** 31.53 274 P **P** 19 49 57.2 -0.5
USRK **Ussuriysk Ar.** 31.53 274 P **P** 19 49 56.9 -0.8
comp=Z,7.5nm,0.7s,baz=57,slow=8.8,SNR=16
USRK PcP **PcP** 19 52 47.8 +0.6
comp=Z,3.6nm,0.6s,baz=71,slow=0.5,SNR=7.5
comp=Z,7.5nm,0.7s
USA0B **Ussuriysk Arra** 31.53 274 P **P** 19 49 57.3 -0.4
USA0B IAmb IAmb 19 50 02.0
comp=Z,29nm,1.5s
USA0B **Ussuriysk Arra** 31.53 274 P **P** 19 49 57.3 -0.4
USA0B pmax pmax
comp=Z,29nm,1.5s
HEH **HeiHe** 31.55 287 *e*P **P** 19 49 57.0 -0.8
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,120nm,3.9s
WRGLY **Wrigley** 31.93 47 P **P** 19 50 01.8 +0.8
baz=277,SNR=5.6
KOTAN **Kotaneelee Air** 32.15 52 P **P** 19 50 04.2 +1.3
baz=282,SNR=9.6
MJAR **Matsushiro Arr** 32.22 257 P **P** 19 50 03.6 -0.2
comp=Z,3.4nm,0.7s,baz=46,slow=7.5,SNR=18
MJAR PcP **PcP** 19 52 49.5 +0.3
comp=Z,1.0nm,0.6s,baz=69,slow=1.5,SNR=8.6
comp=Z,3.4nm,0.7s
MAJO **Matsushiro** 32.22 257 P **P** 19 50 04.6 +0.8
MAJO IAmb IAmb 19 50 05.7
comp=Z,11nm,0.9s
MAJO **Matsushiro** 32.22 257 P **P** 19 50 04.6 +0.8
MAJO pmax pmax
comp=Z,11nm,1.0s
MJB9 **Matsu-Tunnel** 32.22 257 P **P** 19 50 05.1 +1.2
MJB9 IAmb IAmb 19 50 06.6
comp=Z,11nm,0.9s
MDJ **Mudanjiang** 32.79 277 P **P** 19 50 08.4 -0.3
MDJ pP pP 19 50 37.4 +1.5
MDJ PcP **PcP** 19 52 48.3 -2.4
MDJ S **S** 19 55 18.0 +1.8
MDJ pmax pmax
comp=Z,7.0nm,1.5s
MDJ pmax pmax
comp=Z,110nm,3.9s
MSHR **Mys Shultsa** 32.91 272 *i* P **P** 19 50 08.7 -1.0
MSHR pmax pmax
comp=Z,24nm,1.3s
H11N2 **WAKE ISLAND Hy** 33.44 200 T T 20 25 35.1
baz=11,slow=76
H11N3 **WAKE ISLAND Hy** 33.45 200 T T 20 25 39.1
baz=11,slow=76
H11N1 **WAKE ISLAND Hy** 33.46 200 T T 20 25 49.4
baz=11,slow=76
BNX **BinXian** 33.57 280 ⇓P **P** 19 50 14.3 -1.1
BNX pmax pmax
comp=Z,24nm,0.6s
BNX pmax pmax
comp=Z,120nm,4.9s
H11S1 **WAKE ISLAND Hy** 34.67 200 T T 20 26 47.0
baz=10,slow=76
H11S3 **WAKE ISLAND Hy** 34.68 200 T T 20 27 05.0
baz=10,slow=76
H11S2 **WAKE ISLAND Hy** 34.69 200 T T 20 27 24.6
baz=10,slow=76
YKA **Yellowknife Ar** 36.05 47 P **P** 19 50 37.1 +0.6
YKA **Yellowknife Ar** 36.05 47 P **P** 19 50 37.4 +0.9
comp=Z,4.7nm,0.8s,baz=282,slow=8.4,SNR=54
YKA ScP **ScP** 19 56 32.5 -1.5
comp=Z,0.9nm,0.9s,baz=288,slow=3.2,SNR=8.9
comp=Z,4.7nm,0.8s
KSRS **Korea Array** 37.94 268 P **P** 19 50 53.7 +1.0
comp=Z,4.8nm,0.8s,baz=55,slow=9.1,SNR=15
KSRS PcP **PcP** 19 53 06.7 +0.7
comp=Z,2.3nm,0.8s,baz=57,slow=3.1,SNR=7.3
comp=Z,4.8nm,0.8s
KSAR **Wonju Array Be** 37.97 268 P **P** 19 50 53.4 +0.4
KSAR **Wonju Array Be** 37.97 268 P **P** 19 50 53.4 +0.4
LON **Longmire** 38.29 73 P **P** 19 50 56.8 +1.1
LON IAmb IAmb 19 51 01.2
comp=Z,13nm,1.4s
LON **Longmire** 38.29 73 P **P** 19 50 56.8 +1.1
LON pmax pmax
comp=Z,13nm,1.5s
TJN **Taejon** 38.97 267 *ce*P **P** 19 51 02.1 +0.7
JNU **Nakatsue** 38.97 260 P **P** 19 51 02.0 +0.5
JNU IAmb IAmb 19 51 04.0
comp=Z,17nm,1.0s
I03D **Drain, OR** 38.98 79 P **P** 19 51 02.7 +1.3
I03D IAmb IAmb 19 51 21.5
comp=Z,14nm,1.3s
H04A **Detroit Lake** 39.15 76 P **P** 19 51 03.0 +0.2
H04A IAmb IAmb 19 51 04.4
comp=Z,16nm,0.9s
HAWA **Hanford** 39.82 73 P **P** 19 51 08.4 +0.1
HAWA IAmb IAmb 19 51 09.6
comp=Z,11nm,0.8s
EDM **Edmonton** 40.00 60 P **P** 19 51 09.8 0.0
EDM **Edmonton** 40.00 60 P **P** 19 51 09.8 0.0
EDM pmax pmax
comp=Z,31nm,0.7s
NEW **Newport** 40.27 69 P **P** 19 51 11.3 -0.8

NEW IAmb IAmb 19 51 12.7
comp=Z,9.4nm,0.8s
NEW Newport 40.27 69 P **P** **19 51 11.3 -0.8**
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW Newport 40.27 69 P **P** **19 51 12.2 +0.1**
baz=300,SNR=7.7
KMPM Mount Pierce 40.38 83 P **P** **19 51 14.3 +1.2**
YBH Yreka Blue Hor 40.48 81 P **P** **19 51 15.4 +1.5**
YBH IAmb IAmb 19 51 16.7
comp=Z,7.9nm,0.8s
YBH Yreka Blue Hor 40.48 81 P **P** **19 51 15.4 +1.5**
YBH pmax pmax
comp=Z,8.0nm,0.9s
XLT XiLinHaoTe 41.38 284 *e*P **P** **19 51 21.0 -0.3**
XLT pP pP 19 51 47.8 -1.2
XLT sP sP 19 52 03.4 +0.4
XLT PP **PnPn** **19 53 04.8 -0.2**
XLT PcP **PcP** **19 53 15.8 -1.2**
XLT S **S** **19 57 25.6 -0.9**
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,79nm,4.0s
XLT LR LR
comp=Z,410nm,18.3s
XLT LR LR
comp=Z,500nm,16.6s
BMO Blue Mountains 41.97 73 P **P** **19 51 25.9 -0.2**
BMO Blue Mountains 41.97 73 P **P** **19 51 25.9 -0.2**
BMO pmax pmax
comp=Z,6.0nm,0.9s
ORV Oroville 42.51 82 P **P** **19 51 30.9 +0.5**
ORV IAmb IAmb 19 51 31.9
comp=Z,7.9nm,0.8s
ORV Oroville 42.51 82 P **P** **19 51 30.9 +0.5**
ORV pmax pmax
comp=Z,8.0nm,0.9s
MSO Missoula 42.85 69 P **P** **19 51 32.6 -0.6**
baz=303,SNR=7.3
NRIK Noril'sk 43.01 329 *ce*P **P** **19 51 34.9 +0.9**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
NRIK Noril'sk 43.01 329 P **P** **19 51 33.9 -0.2**
comp=Z,2.9nm,0.5s,baz=66,slow=7.1,SNR=7.3
comp=Z,2.9nm,0.5s
BPMT Black Pine Rid 43.35 69 P **P** **19 51 36.8 -0.6**
BJI Beijing 43.58 280 P **P** **19 51 40.3 +1.3**
BJI pmax pmax
comp=Z,5.0nm,0.9s
BJI pmax pmax
comp=Z,82nm,3.7s
BJT Baijiatuau 43.60 280 P **P** **19 51 39.6 +0.5**
BJT IAmb IAmb 19 51 42.1
comp=Z,8.3nm,0.9s
BJT Baijiatuau 43.60 280 P **P** **19 51 40.1 +1.0**
BJT Baijiatuau 43.60 280 P **P** **19 51 39.7 +0.5**
BJT pmax pmax
comp=Z,8.0nm,0.9s
CMB Columbia Colle 44.13 83 P **P** **19 51 44.4 +0.9**
CMB Columbia Colle 44.13 83 P **P** **19 51 44.4 +0.9**
CMB pmax pmax
comp=Z,10.0nm,1.3s
HLID Hailey 44.41 73 P **P** **19 51 45.4 -0.4**
baz=306,SNR=11
ULN Ulaanbaatar 44.45 294 P **P** **19 51 46.1 +0.1**
ULN Ulaanbaatar 44.45 294 P **P** **19 51 46.1 0.0**
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 44.45 294 P **P** **19 51 46.2 +0.1**
comp=Z,21nm,0.8s
BMN Battle Mountai 44.59 79 P **P** **19 51 47.5 +0.3**
BMN IAmb IAmb 19 51 48.7
comp=Z,6.8nm,0.6s
BMN Battle Mountai 44.59 79 P **P** **19 51 47.5 +0.3**
BMN pmax pmax
comp=Z,7.0nm,0.6s
EGMT Eagleton 44.59 65 P **P** **19 51 46.3 -0.8**
EGMT Eagleton 44.59 65 P **P** **19 51 46.7 -0.4**
baz=303,SNR=5.6
SONM Songino Array 44.84 295 P **P** **19 51 49.3 +0.2**
SONM Songino Array 44.84 295 P **P** **19 51 49.3 +0.2**
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 44.84 295 P **P** **19 51 48.8 -0.3**
comp=Z,3.6nm,0.6s,baz=62,slow=8.0,SNR=27
SONM PcP **PcP** **19 53 28.8 +0.2**
comp=Z,2.4nm,0.8s,baz=66,slow=2.7,SNR=8.0
SONM ScP **ScP** **19 57 09.7 +0.7**
comp=Z,2.3nm,0.9s,baz=35,slow=3.6,SNR=12
comp=Z,3.6nm,0.6s
BOZ Bozeman (W) 44.87 69 P **P** **19 51 48.9 -0.5**
BOZ IAmb IAmb 19 51 49.9
comp=Z,9.7nm,0.8s
BOZ Bozeman (W) 44.87 69 P **P** **19 51 48.9 -0.5**
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 44.87 69 P **P** **19 51 49.0 -0.5**
baz=305,SNR=15
NVAR Mina Array Bea 45.16 81 P **P** **19 51 52.4 +0.5**
NVAR Mina Array Bea 45.16 81 P **P** **19 51 52.2 +0.3**
comp=Z,4.0nm,0.5s,baz=296,slow=7.6,SNR=26
NVAR LR LR 20 10 03.1
comp=Z,48nm,19.3s,baz=268,slow=35
comp=Z,4.0nm,0.5s
ZAK Zakamensk 45.17 299 *e*P **P** **19 51 50.8 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
YHL Hebgen Lake 45.56 70 P **P** **19 51 54.5 -0.6**
YHL IAmb IAmb 19 51 56.1
comp=Z,8.9nm,0.9s
ELK Elko 45.59 77 P **P** **19 51 55.4 +0.1**
ELK Elko 45.59 77 P **P** **19 51 55.4 +0.1**
ELK pmax pmax
comp=Z,5.0nm,0.7s
ELK Elko 45.59 77 LR LR 20 09 01.4
comp=Z,62nm,18.4s,baz=336,slow=33
HHC Hu-ho-hao-te 45.88 284 *e*P **P** **19 51 58.4 +1.0**
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.8s
YFT Old Faithful 45.99 70 P **P** **19 51 59.1 +0.7**
YFT IAmb IAmb 19 52 00.4
comp=Z,9.7nm,0.8s
HNS HongShan 46.12 278 ⇓P **P** **19 52 00.3 +1.2**
HNS pmax pmax
comp=Z,20nm,0.8s
H17A Grant Village 46.17 70 P **P** **19 51 59.7 -0.2**
baz=306,SNR=5.6
FLWY Flagg Ranch 46.29 70 P **P** **19 52 01.0 +0.3**
FLWY IAmb IAmb 19 52 01.9
comp=Z,6.4nm,0.7s
HVU Hansel Valley 46.44 74 P **P** **19 52 01.9 +0.1**
HVU IAmb IAmb 19 52 02.9
comp=Z,6.8nm,0.7s
HVU Hansel Valley 46.44 74 P **P** **19 52 01.9 +0.1**
HVU pmax pmax
comp=Z,7.0nm,0.7s
RLMT Red Lodge 46.51 68 P **P** **19 52 01.7 -0.7**
RLMT IAmb IAmb 19 52 03.8
comp=Z,13nm,1.1s
RLMT Red Lodge 46.51 68 P **P** **19 52 02.3 0.0**
baz=306,SNR=7.7
PKM Mcpherson Peak 46.51 86 P **P** **19 52 02.1 -0.4**
baz=312
CWC Cottonwood Cre 46.57 83 P **P** **19 52 03.7 +0.9**
baz=311
ISA Isabella, Lake 46.83 85 P **P** **19 52 04.6 -0.2**
baz=311
R11B Troy Canyon, C 46.87 80 P **P** **19 52 05.6 +0.4**
baz=310,SNR=10
BTO Baotou 46.95 284 *e*P **P** **19 52 06.9 +1.1**
BTO pP **pwP** **19 52 35.3 +0.6**
BTO sP **sP** **19 52 50.5 +1.7**
BTO S **S** **19 58 49.8 +2.5**
BTO SS **SS** **20 02 07.9 -7.3**
BTO pmax pmax
comp=Z,40nm,0.9s
BTO pmax pmax
comp=Z,240nm,7.0s
BTO LR LR
comp=Z,1μm,22.8s
BTO LR LR
comp=Z,470nm,21.6s
BTO LR LR
comp=Z,1μm,15.8s
NJ2 Nanjing 47.10 269 ⇑P **P** **19 52 07.3 +0.5**
NJ2 pP **pP** **19 52 35.5 -0.3**
NJ2 sP **sP** **19 52 50.4 +0.5**
NJ2 pmax pmax
comp=Z,14nm,0.8s
NJ2 pmax pmax
comp=Z,120nm,5.7s
MPMC Manual Prospec 47.18 83 P **P** **19 52 08.3 +0.6**
baz=311
NEEM North Greenlan 47.23 13 *i*P **P** **19 52 07.6 -0.1**
NEEM IAmb IAmb 19 52 09.0
comp=Z,14nm,0.6s
FURC Furnace Creek, 47.30 83 P **P** **19 52 07.8 -0.5**
baz=311
LAO LASA Array 47.32 65 P **P** **19 52 07.6 -0.9**
baz=306
TPNV Topopah Spring 47.36 82 P **P** **19 52 09.5 +0.5**
TPNV IAmb IAmb 19 52 10.8
comp=Z,14nm,0.9s
TPNV Topopah Spring 47.36 82 P **P** **19 52 09.5 +0.5**
TPNV pmax pmax
comp=Z,14nm,0.9s
TPNV Topopah Spring 47.36 82 P **P** **19 52 10.1 +1.0**
baz=310,SNR=6.8
DUG Dugway, Tooele 47.39 76 P **P** **19 52 09.6 +0.4**
baz=309,SNR=8.2
DGMT Dagmar 47.41 62 P **P** **19 52 08.7 -0.5**
baz=305
LRMC Laurel Mtn Rad 47.44 84 P **P** **19 52 09.7 +0.1**
baz=311
BW06 Boulder Array 47.74 71 P **P** **19 52 11.8 -0.2**
baz=308,SNR=8.7
PD31 Pinedale Array 47.74 71 P **P** **19 52 11.4 -0.6**
PDAR Pinedale Array 47.74 71 P **P** **19 52 11.3 -0.7**
PDAR Pinedale Array 47.74 71 P **P** **19 52 11.6 -0.4**
comp=Z,4.8nm,0.8s,baz=308,slow=3.8,SNR=42
PDAR ScP **ScP** **19 57 20.4 -0.9**
comp=Z,0.6nm,0.9s,baz=329,slow=1.7,SNR=3.4
comp=Z,4.8nm,0.8s
GSC Goldstone, Bar 48.09 84 P **P** **19 52 15.7 +1.1**
baz=312,SNR=8.8
BFSC Mount Baldy Ra 48.27 85 P **P** **19 52 16.7 +0.7**
baz=312
BSUT Blindstream Ca 48.40 74 P **P** **19 52 17.4 +0.1**
TUQ Turquoise Moun 48.55 83 P **P** **19 52 18.9 +0.8**
baz=312
HEC Hector Ludlow 48.69 84 P **P** **19 52 19.6 +0.4**
baz=312
MURC Murrieta 48.98 86 P **P** **19 52 21.8 +0.5**
baz=313
GMRC Granite Mounta 49.14 83 P **P** **19 52 22.8 +0.1**
baz=312,SNR=6.4
LYN LuoYang 49.35 276 ⇑P **P** **19 52 25.3 +1.2**
LYN pmax pmax
comp=Z,45nm,0.8s
LYN pmax pmax
comp=Z,120nm,5.3s
TPFO Pinon Flats 49.44 85 P **P** **19 52 24.9 0.0**
baz=313
BELC Belle Mtn. Jos 49.45 84 P **P** **19 52 24.6 -0.5**
baz=312
K22A Casper 49.58 69 P **P** **19 52 25.5 -0.4**
baz=308
SPITS Spitsbergen Ar 49.63 355 P **P** **19 52 24.9 -0.8**
SPITS pmax pmax
comp=Z,48nm,1.5s
SPITS Spitsbergen Ar 49.63 355 P **P** **19 52 24.9 -0.8**
comp=Z,6.3nm,0.6s,baz=37,slow=5.7,SNR=46
comp=Z,6.3nm,0.6s
IRM Iron Mountain 49.87 84 P **P** **19 52 28.0 -0.1**
baz=312
UPNV Upernavik 49.95 18 *i*P **P** **19 52 28.2 +0.1**
UPNV IAmb IAmb 19 52 29.0
comp=Z,7.6nm,0.4s
BC3 Big Chuckawall 50.02 84 P **P** **19 52 28.8 -0.5**
baz=313
RSSD Black Hills 50.09 66 P **P** **19 52 29.0 -0.9**
baz=308
U15A North Rim 50.11 79 P **P** **19 52 30.1 -0.1**
U15A IAmb IAmb 19 52 32.0
comp=Z,8.9nm,1.0s
O20A White River Ci 50.15 73 P **P** **19 52 29.8 -0.6**
baz=310
CBX Cerro Bola 50.18 87 P **P** **19 52 31.8 +1.2**
MDND Maddock 50.27 60 P **P** **19 52 30.5 -0.3**
baz=307
IKP In-Ko-Pah, Jac 50.30 86 P **P** **19 52 31.2 -0.1**
baz=313
PDMCI Parker Dam,Lak 50.39 83 P **P** **19 52 31.6 -0.4**
baz=312
ULM Lac du Bonnet 50.77 56 P **P** **19 52 33.5 -1.0**
comp=Z,4.2nm,0.7s,baz=306,slow=8.1,SNR=8.4
comp=Z,4.2nm,0.7s
WHN Wuhan 50.92 271 ⇓P **P** **19 52 36.3 +0.4**
WHN pmax pmax
comp=Z,52nm,0.7s
WUAZ Wupatki 51.27 80 P **P** **19 52 38.3 -0.5**
baz=312
SSLB Suanglung 51.72 260 P **P** **19 52 41.8 -0.2**
YULB Yu-li 51.80 259 P **P** **19 52 42.4 -0.3**
XAN Xi'an 51.87 279 ⇓P **P** **19 52 43.1 0.0**
XAN pmax pmax
comp=Z,10.0nm,0.7s
MVCO Mesa Verde 51.89 76 P **P** **19 52 42.9 -0.6**
baz=311
ISCO Idaho Springs 51.91 72 P **P** **19 52 43.1 -0.6**
baz=310
AGMN Agassiz Nation 51.97 58 P **P** **19 52 42.7 -0.9**
baz=309
ZALV Zalesovo Beam 52.36 312 P **P** **19 52 45.2 -1.1**
ZALV PcP **PcP** **19 53 55.8 +0.3**
ZALV Zalesovo Beam 52.36 312 P **P** **19 52 45.2 -1.1**
ZALV 19 53 55.8
ZALV Zalesovo Beam 52.36 312 P **P** **19 52 45.1 -1.2**
comp=Z,0.8nm,0.5s,baz=29,slow=6.5,SNR=4.5
ZALV PcP **PcP** **19 53 55.6 0.0**
comp=Z,4.3nm,0.7s,baz=38,slow=3.6,SNR=15
ZALV ScP **ScP** **19 57 41.9 +1.3**
comp=Z,0.9nm,0.7s,baz=38,slow=5.6,SNR=4.4
comp=Z,0.8nm,0.5s
S22A 4UR Ranch, Cre 52.54 74 P **P** **19 52 48.1 -0.1**
baz=311
214A Organ Pipe Nat 52.80 84 P **P** **19 52 49.1 -0.9**
baz=314
SUMG Summit 53.10 13 P **P** **19 52 52.1 +0.1**
SUMG IAmb IAmb 19 52 53.9
comp=Z,6.4nm,0.9s
SUMG Summit 53.10 13 P **P** **19 52 52.1 +0.1**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 53.10 13 *i*P **P** **19 52 52.0 0.0**
SUMG IAmb IAmb 19 52 53.9
comp=Z,4.4nm,0.8s
SDCO Great Sand Dun 53.33 74 P **P** **19 52 51.9 -2.2**
baz=312
FRB Fobisher Bay 53.39 31 LR LR 20 20 45.1
comp=Z,34nm,18.3s,baz=344,slow=42
LZH Lanzhou 53.57 284 ⇓P **P** **19 52 56.6 +0.9**
LZH pP pP 19 53 23.8 -1.5
LZH pmax pmax
comp=Z,18nm,1.5s
GTA Gaotai 53.75 290 P **P** **19 52 57.4 +0.5**
GTA pmax pmax
comp=Z,13nm,0.9s
TUC Tucson 53.80 82 P **P** **19 52 57.4 +0.1**
baz=314
DGZ Jazzator, Alta 53.81 306 *i*P **P** **19 52 57.1 -0.1**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
ENH Enshi 54.11 275 P **P** **19 52 59.0 -0.5**
ENH Enshi 54.11 275 P **P** **19 52 59.4 -0.1**
T25A Trinidad 54.38 73 P **P** **19 53 01.8 +0.2**
T25A IAmb IAmb 19 53 03.7
comp=Z,10.0nm,1.1s
T25A Trinidad 54.38 73 P **P** **19 53 01.5 -0.1**
baz=312,SNR=5.1
EYMN Ely 54.45 56 P **P** **19 53 00.8 -1.0**
baz=311
ECSD EROS Data Cent 54.48 63 P **P** **19 53 01.0 -1.1**
ECSD EROS Data Cent 54.48 63 P **P** **19 53 00.6 -1.4**
baz=311
ANMO Albuquerque 54.63 77 *i*P **P** **19 53 01.8 -1.6**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 54.63 77 P **P** **19 53 03.1 -0.3**
baz=313
121A Cookes Peak, D 55.48 80 P **P** **19 53 09.3 -0.2**
baz=314
SPMN Marine on St. 55.56 59 P **P** **19 53 09.4 -0.3**
baz=312
CBKS Cedar Bluff 55.99 69 P **P** **19 53 12.8 -0.1**
baz=313
DY2G Dye2 57.09 20 *i*P **P** **19 53 20.1 -0.3**
DY2G IAmb IAmb 19 53 22.1
comp=Z,4.8nm,0.7s
ARCES ARCESS Array B 57.18 349 P **P** **19 53 20.1 -0.8**
comp=Z,7.6nm,1.2s,baz=32,slow=7.2,SNR=8.8
comp=Z,7.6nm,1.2s
KURK Kurchatov 57.35 312 P **P** **19 53 21.9 -0.3**
KURK IAmb IAmb 19 53 23.2
comp=Z,9.2nm,0.9s
KURK Kurchatov 57.35 312 *ce*P **P** **19 53 21.8 -0.5**
KURK pmax pmax
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 57.46 312 P **P** **19 53 22.8 -0.2**
comp=Z,7.4nm,0.6s,baz=42,slow=6.7,SNR=80
comp=Z,7.4nm,0.6s
MSTX Muleshoe 57.51 75 P **P** **19 53 23.3 -0.6**
baz=314
MNTX Cornudas Mount 57.52 79 P **P** **19 53 24.1 +0.3**
MNTX IAmb IAmb 19 53 25.5
comp=Z,5.6nm,0.8s
MNTX Cornudas Mount 57.52 79 P **P** **19 53 23.5 -0.3**
baz=315,SNR=6.4
SCIA State Center 57.56 62 P **P** **19 53 23.9 0.0**
baz=313
WMQ Urumqi 57.57 301 *e*P **P** **19 53 25.0 +1.0**
WMQ PcP **PcP** **19 54 17.0 +1.1**
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,990nm,13.9s
WMQ LR LR
comp=Z,620nm,15.3s
KSU1 Kansas State U 57.58 67 P **P** **19 53 23.3 -0.8**
baz=313
MK31 Makanchi Array 58.30 307 P **P** **19 53 28.5 -0.5**
MK31 Makanchi Array 58.30 307 *ce*P **P** **19 53 27.9 -1.2**
MKAR Makanchi Array 58.30 307 P **P** **19 53 28.4 -0.7**
comp=Z,3.7nm,0.6s,baz=49,slow=6.9,SNR=59
comp=Z,3.7nm,0.6s
VHRN Van Horn 58.40 79 P **P** **19 53 30.2 +0.1**
VHRN IAmb IAmb 19 53 31.7
comp=Z,4.1nm,0.8s
MAKZ Makanchi 58.45 307 P **P** **19 53 29.5 -0.6**
MAKZ IAmb IAmb 19 53 30.3
comp=Z,5.6nm,0.7s
MAKZ Makanchi 58.45 307 P **P** **19 53 29.5 -0.6**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
JFWS Jewell Farm 58.47 60 P **P** **19 53 29.4 -0.9**
baz=314
GYA Guiyang 58.57 274 ⇑P **P** **19 53 31.5 +0.2**
GYA pmax pmax
comp=Z,8.0nm,0.7s
GOMU GeErMu 58.83 290 P **P** **19 53 33.8 +0.5**
GOMU pmax pmax
comp=Z,10.0nm,0.7s
GOMU LR LR
comp=Z,710nm,13.4s
GOMU LR LR
comp=Z,560nm,15.3s
GOMU LR LR
comp=Z,970nm,16.9s
BVAR Borovoye Array 59.30 318 P **P** **19 53 36.0 +0.2**
BVAR Borovoye Array 59.30 318 P **P** **19 53 36.0 +0.2**
comp=Z,8.9nm,0.5s,baz=56,slow=6.7,SNR=89
BVAR ScP **ScP** **19 58 11.3 +0.2**
comp=Z,1.2nm,0.7s,baz=62,slow=3.7,SNR=4.9
comp=Z,8.9nm,0.5s
BRVK Borovoye 59.32 318 P **P** **19 53 36.1 +0.2**
BRVK Borovoye 59.32 318 *ce*P **P** **19 53 35.9 0.0**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
WMOK Wichita Mounta 59.34 72 P **P** **19 53 36.2 -0.1**
WMOK Wichita Mounta 59.34 72 P **P** **19 53 36.3 -0.1**
WMOK pmax pmax
comp=Z,3.0nm,0.8s
SVE Sverdlovsk 60.14 326 *e*P **P** **19 53 43.1 +1.6**
SVE pmax pmax
comp=Z,15nm,1.1s
W35A Tecumseh 60.17 70 P **P** **19 53 42.0 -0.1**
L44A Lake County Fo 60.23 59 P **P** **19 53 41.3 -1.0**
baz=315
TX31 Lajitas Ar. Si 60.24 80 P **P** **19 53 42.8 +0.1**
TX31 IAmb IAmb 19 53 43.5
comp=Z,4.1nm,0.7s
TXAR Lajitas Array 60.24 80 P **P** **19 53 42.7 0.0**
comp=Z,2.7nm,0.6s,baz=299,slow=4.7,SNR=40
TXAR ScP **ScP** **19 58 16.2 +0.4**
comp=Z,0.6nm,0.8s,baz=280,slow=2.5,SNR=4.3
comp=Z,2.7nm,0.6s
ABTX Abilene, Hawle 60.32 74 P **P** **19 53 43.1 -0.1**
baz=315
SCHQ Schefferville 60.57 37 P **P** **19 53 43.3 -1.2**
comp=Z,2.1nm,0.7s,baz=276,slow=6.7,SNR=3.7
comp=Z,2.1nm,0.7s
HDIL Hopedale 60.63 61 P **P** **19 53 44.4 -0.7**
baz=315
ARU Arti 61.17 327 P **P** **19 53 48.5 +0.1**
ARU Arti 61.17 327 *di*P **P** **19 53 49.1 +0.7**
ARU *PP **pwP** **19 54 19.7 -0.8**
ARU 19 56 03.9
ARU S **S** **20 02 01.9 +4.3**
ARU SS **SS** **20 06 04.3 +5.7**
ARU pmax pmax
comp=Z,23nm,0.9s
ARU Arti 61.17 327 P **P** **19 53 48.7 +0.3**
comp=Z,14nm,0.6s,baz=2.6,slow=2.1,SNR=31
comp=Z,14nm,0.6s
PZH PanZhiHua 61.56 277 P **P** **19 53 52.1 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.5s
JCT Junction City 61.75 76 P **P** **19 53 51.3 -1.5**
baz=316
WHTX Lake Whitney, 62.07 73 P **P** **19 53 54.7 -0.1**
baz=316
SADO Sadowa 62.81 51 LR LR 20 21 48.9
comp=Z,36nm,19.9s,baz=92,slow=36
O48B Farmland 63.05 59 P **P** **19 53 59.9 -1.4**
baz=317
GENI Genyem 63.28 224 P **P** **19 54 04.8 +1.8**
GENI Genyem 63.28 224 P **P** **19 54 04.6 +1.6**
comp=Z,46nm,0.7s
NATX Nacogdoches 63.88 71 P **P** **19 54 06.2 -0.6**
baz=317
TARG Taragay, Kyrgy 64.18 305 P **P** **19 54 09.2 0.0**
TARG Taragay, Kyrgy 64.18 305 P **P** **19 54 09.2 0.0**
TARG pmax pmax
comp=Z,3.0nm,0.7s
WVT Waverly 64.60 63 P **P** **19 54 10.9 -0.6**
baz=317
FINES FINESS Array B 64.79 346 P **P** **19 54 11.4 -0.9**
comp=Z,0.8nm,0.4s,baz=38,slow=7.3,SNR=14
comp=Z,0.8nm,0.4s
OXF Oxford 64.90 66 P **P** **19 54 12.6 -0.8**
baz=317
FRU1 Bishkek 64.95 308 P **P** **19 54 13.9 +0.2**
FRU1 IAmb IAmb 19 54 15.1
comp=Z,8.2nm,0.6s
FRU1 Bishkek 64.95 308 P **P** **19 54 13.9 +0.2**
FRU1 pmax pmax
comp=Z,8.0nm,0.6s
AAK Ala-Archa 65.15 308 P **P** **19 54 15.3 +0.2**
AAK IAmb IAmb 19 54 16.2
comp=Z,4.9nm,0.7s
AAK Ala-Archa 65.15 308 *ce*P **P** **19 54 15.7 +0.6**
AAK pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 65.15 308 P **P** **19 54 15.6 +0.5**
comp=Z,4.1nm,0.6s,baz=133,slow=3.7,SNR=27
comp=Z,4.1nm,0.6s
NRN Naryn 65.30 306 P **P** **19 54 16.5 +0.2**
NRN Naryn 65.30 306 P **P** **19 54 16.5 +0.2**
NRN pmax pmax
comp=Z,2.0nm,0.7s
LSA Lhasa 65.62 287 P **P** **19 54 19.1 +0.4**
LSA IAmb IAmb 19 54 21.2
comp=Z,9.3nm,0.7s

LSA	**Lhasa**	**65.62**	**287**	P	**P**	**19 54**	**19.1**	**+0.4**
LSA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
SWI	**Sorong**	**65.89**	**233**	P	**P**	**19 54**	**20.7**	**+0.7**
	comp=Z,70nm,0.8s							
SIJI	**Sorong**	**65.90**	**233**	P	**P**	**19 54**	**20.5**	**+0.5**
	comp=Z,62nm,0.8s							
AKTO	**Aktyubinsk**	**66.18**	**323**	P	**P**	**19 54**	**21.9**	**+0.5**
	comp=Z,14nm,0.6s,baz=47,slow=5.1,SNR=49							
	comp=Z,14nm,0.6s							
BINY	**Binghamton**	**66.25**	**51**	P	**P**	**19 54**	**20.8**	**-1.3**
	baz=320							
ABKAR	**Akbulak array**	**66.40**	**321**	P	**P**	**19 54**	**23.4**	**+0.5**
ABKAR				IAmb	IAmb	19 54	24.6	
	comp=Z,11nm,1.2s							
ABKAR	**Akbulak array**	**66.40**	**321**	P	**P**	**19 54**	**23.3**	**+0.5**
SSPA	**Standing Stone**	**66.50**	**54**	P	**P**	**19 54**	**22.6**	**-1.0**
	baz=319							
ALOT	**Alotau**	**66.56**	**210**	P	P	19 54	29.7	+5.5
KK31	**Karatay Array**	**66.70**	**311**	P	**P**	**19 54**	**25.0**	**+0.1**
KK31				IAmb	IAmb	19 54	26.0	
	comp=Z,5.1nm,0.7s							
KK31	**Karatay Array**	**66.70**	**311**	P	**P**	**19 54**	**25.0**	**+0.1**
KK31				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KKAR	**Karatay Array**	**66.70**	**311**	P	**P**	**19 54**	**24.9**	**0.0**
KKAR	**Karatay Array**	**66.70**	**311**	P	**P**	**19 54**	**24.9**	**0.0**
KSH	**Kashi**	**66.75**	**305**	P	**P**	**19 54**	**29.5**	**+4.1**
KSH				pmax	pmax			
	comp=Z,8.0nm,0.7s							
NB2	**NORSAR Subarra**	**66.86**	**353**	P	**P**	**19 54**	**28.8**	**+3.2**
NB2	**NORSAR Subarra**	**66.86**	**353**	P	**P**	**19 54**	**25.3**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=7.8,slow=6.5							
NOA	**NORSAR Array B**	**66.86**	**353**	P	**P**	**19 54**	**25.0**	**-0.6**
NOA	**NORSAR Array B**	**66.86**	**353**	P	**P**	**19 54**	**24.9**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=8.6,slow=6.0,SNR=6.7							
	comp=Z,1.4nm,0.9s							
ARSB	**Arslanbob**	**66.88**	**308**	P	**P**	**19 54**	**26.2**	**+0.1**
ARSB	**Arslanbob**	**66.88**	**308**	P	**P**	**19 54**	**26.3**	**+0.1**
ARSB				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CRAI	**Chiangrai**	**67.04**	**274**	P	**P**	**19 54**	**27.3**	**0.0**
CRAI				IAmb	IAmb	19 54	28.9	
	comp=Z,11nm,1.1s							
NORES	**NORESS Array B**	**67.14**	**353**	P	**P**	**19 54**	**29.2**	**+1.9**
TKL	**Tuckaleechee C**	**67.17**	**61**	LR	LR	20 22	15.1	
	comp=Z,37nm,21.7s,baz=357,slow=34							
FAKI	**Fak Fak**	**67.19**	**231**	P	**P**	**19 54**	**28.0**	**-0.3**
FAKI	**Fak Fak**	**67.19**	**231**	P	**P**	**19 54**	**29.0**	**+0.8**
	comp=Z,38nm,0.9s							
HFS	**Hagfors**	**67.56**	**352**	P	**P**	**19 54**	**29.0**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=321,slow=1.9,SNR=5.7							
	comp=Z,0.8nm,0.5s							
BLA	**Blacksburg**	**67.79**	**58**	P	**P**	**19 54**	**30.7**	**-1.2**
	baz=319							
SHL	**Shillong**	**68.24**	**284**	P	**P**	**19 54**	**34.4**	**-0.6**
SHL	**Shillong**	**68.24**	**284**	P	**P**	**19 54**	**34.4**	**-0.6**
SHL				pmax	pmax			
	comp=Z,29nm,1.2s							
MND	**Mandalay**	**68.32**	**278**	P	**P**	**19 54**	**35.1**	**-0.2**
KKM	**Kota Kinabalu**	**68.37**	**251**	P	**P**	**19 54**	**36.5**	**+0.7**
KKM				IAmb	IAmb	19 54	40.2	
	comp=Z,11nm,1.0s							
OBN	**Obninsk**	**68.67**	**338**	*e*P	**P**	**19 54**	**37.3**	**+0.4**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BTK	**Batken**	**68.90**	**308**	P	**P**	**19 54**	**38.9**	**+0.1**
BTK				IAmb	IAmb	19 54	41.8	
	comp=Z,7.6nm,0.8s							
BTK	**Batken**	**68.90**	**308**	P	**P**	**19 54**	**38.9**	**+0.1**
BTK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CHTO	**Chiang Mai**	**68.99**	**274**	P	**P**	**19 54**	**39.2**	**-0.3**
CHTO	**Chiang Mai**	**68.99**	**274**	P	**P**	**19 54**	**40.0**	**+0.5**
CHTO	**Chiang Mai**	**68.99**	**274**	P	**P**	**19 54**	**39.2**	**-0.3**
CHTO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CHTO	**Chiang Mai**	**68.99**	**274**	P	**P**	**19 54**	**39.6**	**+0.1**
	comp=Z,5.9nm,1.3s							
CM31	**Chiang Mai Arr**	**69.26**	**274**	P	**P**	**19 54**	**41.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**69.26**	**274**	P	**P**	**19 54**	**41.2**	**0.0**
	comp=Z,3.7nm,0.8s,baz=25,slow=6.9,SNR=28							
	comp=Z,3.7nm,0.8s							
LUWI	**Luwuk**	**70.46**	**241**	P	**P**	**19 54**	**47.6**	**-0.9**
LUWI	**Luwuk**	**70.46**	**241**	P	**P**	**19 54**	**48.0**	**-0.5**
	comp=Z,41nm,0.9s							
SIMJ	**Simiganj**	**70.87**	**309**	P	**P**	**19 54**	**50.8**	**-0.1**
MPSI	**Mapaga**	**70.90**	**245**	P	**P**	**19 54**	**51.4**	**+0.2**
	comp=Z,24nm,0.9s							
MNK	**Minsk**	**71.08**	**342**	*i* P	**P**	**19 54**	**50.8**	**-0.9**
MNK				*i* *PP	**pP**	**19 55**	**22.8**	**+0.5**
MNK				*i*		19 57	29.9	
MNK				*i* PPP	PPP	19 59	13.9	
MNK				*i* S	**S**	**20 03**	**57.5**	**0.0**
MNK				*i* SS	**SS**	**20 08**	**34.5**	**+2.6**
MNK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MNK				pmax	pmax			
	comp=E,5.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,4.0nm,0.6s							
COEN	**Coen**	**72.44**	**216**	P	**P**	**19 55**	**00.2**	**-0.1**
COEN				IAmb	IAmb	19 55	10.7	
	comp=Z,18nm,1.4s							
NIL	**Nilore**	**72.65**	**303**	P	**P**	**19 55**	**01.1**	**-0.4**
NIL				IAmb	IAmb	19 55	03.4	
	comp=Z,18nm,1.1s							
NIL	**Nilore**	**72.65**	**303**	P	**P**	**19 55**	**01.1**	**-0.4**
NIL				pmax	pmax			
	comp=Z,18nm,1.1s							
EKA	**Eskdalemuir Ar**	**73.04**	**1**	P	**P**	**19 55**	**02.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=2.3,slow=6.5,SNR=2.0							
	comp=Z,0.4nm,0.5s							
SBUM	**Sibu**	**73.60**	**252**	P	**P**	**19 55**	**07.8**	**+0.5**
SBUM	**Sibu**	**73.60**	**252**	P	**P**	**19 55**	**07.9**	**+0.7**
	comp=Z,4.9nm,1.0s							
TTSI	**Tana Toraja**	**73.74**	**243**	P	**P**	**19 55**	**08.2**	**+0.2**
	comp=Z,22nm,1.0s							
KBL	**Kabul**	**74.10**	**306**	P	**P**	**19 55**	**09.6**	**-0.6**
KBL				IAmb	IAmb	19 55	12.2	
	comp=Z,13nm,0.7s							
KBL	**Kabul**	**74.10**	**306**	P	**P**	**19 55**	**09.6**	**-0.6**
KBL				pmax	pmax			
	comp=Z,13nm,0.7s							
AKASG	**Malin Array Be**	**74.42**	**340**	P	**P**	**19 55**	**10.3**	**-1.2**
	comp=Z,2.5nm,0.5s,baz=21,slow=6.4,SNR=14							
	comp=Z,2.5nm,0.5s							
AKBB	**Malin Array Si**	**74.42**	**340**	*i* P	**P**	**19 55**	**11.5**	**0.0**
AKBB				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KSM	**Kuching**	**75.51**	**253**	P	**P**	**19 55**	**18.9**	**+0.6**
	comp=Z,19nm,0.8s							
MTN	**Manton Dam**	**76.39**	**228**	P	**P**	**19 55**	**23.1**	**-0.1**
GEYT	**Alibeck**	**76.46**	**315**	P	**P**	**19 55**	**23.6**	**+0.2**
GEYT				IAmb	IAmb	19 55	25.5	
	comp=Z,9.3nm,1.1s							
GEYT	**Alibeck**	**76.46**	**315**	P	**P**	**19 55**	**23.9**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=68,slow=8.2,SNR=8.4							
	comp=Z,4.1nm,0.9s							
KWP	**Kalwaria Pacla**	**76.67**	**344**	P	**P**	**19 55**	**24.9**	**+0.5**
KWP				IAmb	IAmb	19 55	27.0	
	comp=Z,6.7nm,0.7s							
KWP	**Kalwaria Pacla**	**76.67**	**344**	P	**P**	**19 55**	**24.9**	**+0.5**
KWP				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SOEI	**Soe**	**77.03**	**235**	P	**P**	**19 55**	**26.9**	**0.0**
KIV	**Kislovodsk**	**77.08**	**329**	P	**P**	**19 55**	**27.8**	**+0.9**
KIV				IAmb	IAmb	19 55	30.4	
	comp=Z,6.7nm,0.6s							
KIV	**Kislovodsk**	**77.08**	**329**	*e*P	**P**	**19 55**	**27.6**	**+0.7**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CTA	**Charters Tower**	**77.08**	**211**	P	**P**	**19 55**	**27.9**	**+0.9**
	comp=Z,8.6nm,0.9s,baz=8.1,slow=7.1,SNR=4.6							
	comp=Z,8.6nm,0.9s							
KBZ	**Khabaz**	**77.22**	**329**	*ce*P	**P**	**19 55**	**28.0**	**+0.5**
KBZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KBZ	**Khabaz**	**77.22**	**329**	P	**P**	**19 55**	**28.3**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=108,slow=4.8,SNR=8.0							
	comp=Z,3.2nm,0.8s							
KOLS	**Kolonicke sedl**	**77.42**	**344**	*e*P	**P**	**19 55**	**30.7**	**+2.1**
KOLS				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KOLS	**Kolonicke sedl**	**77.42**	**344**	*e*P	**P**	**19 55**	**30.7**	**+2.1**
EDFI	**Ende, Flores**	**77.51**	**238**	P	**P**	**19 55**	**27.7**	**-1.9**
	comp=Z,23nm,0.9s							
HRA	**Herat**	**77.53**	**311**	P	**P**	**19 55**	**30.5**	**+0.8**
HRA				IAmb	IAmb	19 55	31.2	
	comp=Z,6.1nm,0.6s							
ZEI	**Tsey**	**77.73**	**328**	*e*P	**P**	**19 55**	**31.2**	**+0.5**
ZEI				pmax	pmax			
	comp=Z,9.0nm,0.7s							
ONI	**Oni**	**78.05**	**328**	P	**P**	**19 55**	**32.5**	**+0.2**
ONI	**Oni**	**78.05**	**328**	P	**P**	**19 55**	**32.5**	**+0.2**
ONI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BUR08	**Bucovina Ar. S**	**78.14**	**342**	P	**P**	**19 55**	**32.8**	**+0.1**
KNRA	**Kununurra**	**79.96**	**228**	P	**P**	**19 55**	**42.9**	**+0.1**
KNRA				IAmb	IAmb	19 55	44.1	
	comp=Z,9.3nm,0.8s							
LHMI	**Lhok Sumawe**	**80.67**	**267**	P	**P**	**19 55**	**46.7**	**0.0**
WB0	**Warramunga Arr**	**81.12**	**222**	P	**P**	**19 55**	**48.8**	**-0.2**
WB0				IAmb	IAmb	19 55	49.9	
	comp=Z,8.8nm,0.7s							
WRA	**Warramunga Arr**	**81.30**	**221**	P	**P**	**19 55**	**49.5**	**-0.4**
WRA	**Warramunga Arr**	**81.30**	**221**	P	**P**	**19 55**	**49.9**	**0.0**
	comp=Z,8.1nm,0.6s,baz=34,slow=6.2,SNR=32							
	comp=Z,8.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**83.52**	**230**	P	**P**	**19 56**	**01.9**	**+0.5**
BRTR	**Keskin Array B**	**83.66**	**333**	P	**P**	**19 56**	**02.7**	**+0.5**
BRTR	**Keskin Array B**	**83.66**	**333**	P	**P**	**19 56**	**02.7**	**+0.5**
BRTR	**Keskin Array B**	**83.66**	**333**	P	**P**	**19 56**	**01.3**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=37,slow=2.9,SNR=6.9							
	comp=Z,0.9nm,0.5s							
AS31	**Alice Springs**	**84.81**	**220**	P	**P**	**19 56**	**08.2**	**+0.3**
ASAR	**Alice Springs**	**84.81**	**220**	P	**P**	**19 56**	**08.2**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=32,slow=4.6,SNR=10							
	comp=Z,4.6nm,0.8s							
ARMA	**Armidale**	**85.37**	**203**	P	**P**	**19 56**	**11.6**	**+1.1**
PSA00	**Pilbara Seismi**	**89.28**	**233**	P	**P**	**19 56**	**28.7**	**-0.7**
PSA00				IAmb	IAmb	19 56	36.9	
	comp=Z,12nm,1.4s							
TOZ	**Tahuroa Road**	**89.38**	**182**	P	**P**	**19 56**	**30.0**	**+0.5**
TOZ				IAmb	IAmb	19 56	32.3	
	comp=Z,3.1nm,0.7s							
STKA	**Stephens Creek**	**89.55**	**211**	P	**P**	**19 56**	**31.7**	**+1.3**
STKA	**Stephens Creek**	**89.55**	**211**	P	**P**	**19 56**	**31.7**	**+1.3**
STKA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
STKA	**Stephens Creek**	**89.55**	**211**	P	**P**	**19 56**	**31.1**	**+0.7**
	comp=Z,7.9nm,0.6s,baz=351,slow=6.9,SNR=30							
	comp=Z,7.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**115.07**	**357**	PKP	**PKiKP**	**20 02**	**13.1**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=352,slow=2.9,SNR=9.7							
PLCA	**Paso Flores**	**132.78**	**105**	PKP	**PKiKP**	**20 02**	**48.2**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=265,slow=4.2,SNR=6.4							
PLCA				SKPbc	**SKPbc**	**20 06**	**03.6**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=316,slow=4.2,SNR=6.5							
QSPA	**South Pole Qui**	**141.74**	**180**	PKhKP	PKPpre	20 02	58.2	
	comp=Z,4.9nm,0.7s,baz=177,slow=1.2,SNR=11							
MAW	**Mawson**	**145.91**	**218**	PKPbc	**PKPbc**	**20 03**	**10.9**	**-0.1**
	comp=Z,12nm,0.7s,baz=148,slow=2.2,SNR=7.6							
BOSA	**Boshof**	**149.28**	**309**	PKPbc	**PKPbc**	**20 03**	**21.8**	**+0.4**
	comp=Z,9.7nm,0.6s,baz=45,slow=1.9,SNR=41							
ELIB	**Princess Elisa**	**157.16**	**200**	*d*PKP	PKPdf	20 03	38.2	+11

WEL ***20*** *19:48:15.5±0.4, 44˚S±2˚×17˚3E±˚, h5km, M3.2/9, ML3.5/9, MLv3.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=44.6, confirmed*

NOU ***20*** *19:48:15.5, 43˚.53S×172˚.66E, h11km, MLv3.6/7, South Island, New Zealand*

ISC 20 19:48:15.4±0.9**, 43˚.56S**±0˚.03×**172˚.64E**±0˚.02**, h11**km±8km**, n42**, σ0**.9 75/52, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.14**	**176**	P	**Pg**	**19 48 18.6**	**-0.2**
MQZ				S	**Sg**	**19 48 20.6**	**-0.5**
OKCZ	**Okains Bay**	**0.34**	**118**	P	**Pg**	**19 48 22.8**	**+0.5**
OKCZ				S	**Sg**	**19 48 28.0**	**+1.1**
AKCZ	**Akaroa Harbour**	**0.37**	**148**	P	**Pg**	**19 48 22.9**	**+0.2**
AKCZ				S	**Sg**	**19 48 27.9**	**+0.3**
AMCZ	**Amberley**	**0.39**	**1**	P	**Pb**	**19 48 23.9**	**-0.4**
RACZ	**Rakaia**	**0.40**	**245**	P	**Pg**	**19 48 23.6**	**+0.3**
RACZ				S	**Sg**	**19 48 28.8**	**+0.2**
OXZ	**Oxford**	**0.50**	**298**	P	**Pg**	**19 48 25.1**	**-0.1**
OXZ				S	**Sg**	**19 48 32.2**	**+0.5**
GVZ	**Greta Valley S**	**0.66**	**26**	P	**Pb**	**19 48 29.2**	**+0.1**
GVZ				S	**Sb**	**19 48 39.4**	**+1.2**
WACZ	**Wakanui South**	**0.69**	**236**	P	**Pg**	**19 48 29.2**	**+0.4**
MHCZ	**Mount Hutt**	**0.78**	**272**	P	**Pg**	**19 48 30.6**	**+0.1**
MHCZ				S	**Sb**	**19 48 41.6**	**-0.1**
LTZ	**Lake Taylor**	**0.83**	**341**	P	**Pb**	**19 48 31.8**	**-0.1**
LTZ				S	**Sb**	**19 48 43.3**	**+0.3**
ARCZ	**Arundel**	**1.13**	**250**	P	**Pg**	**19 48 35.9**	**-1.2**
RPZ	**Rata Peaks**	**1.16**	**262**	P	**Pg**	**19 48 37.4**	**-0.4**
RPZ	**Rata Peaks**	**1.16**	**262**	P	**Pg**	**19 48 36.5**	**-1.3**
INZ	**Inchbonnie**	**1.21**	**313**	P	**Pb**	**19 48 38.4**	**0.0**
KHZ	**Kahutara**	**1.32**	**30**	P	**Pn**	**19 48 38.7**	**-1.1**
KHZ	**Kahutara**	**1.32**	**30**	P	**Pn**	**19 48 38.7**	**-1.1**
KHZ				S	**Sb**	**19 48 56.1**	**-1.1**
TMZ	**Timaru**	**1.44**	**235**	P	**Pn**	**19 48 40.8**	**-0.7**
TMZ				S	**Sn**	**19 49 00.8**	**+0.4**
WVZ	**Waitaha Valley**	**1.47**	**289**	P	**Pn**	**19 48 42.2**	**+0.3**
THZ	**Tophouse**	**1.81**	**6**	P	**Pn**	**19 48 45.8**	**-0.9**
DSZ	**Denniston Nort**	**1.92**	**341**	P	**Pn**	**19 48 47.5**	**-0.6**
LBZ	**Lake Benmore**	**1.95**	**244**	P	**Pb**	**19 48 51.1**	**0.0**
FOZ	**Fox Glacier**	**2.05**	**270**	P	**Pn**	**19 48 50.6**	**+0.7**
BSWZ	**Blackbirch Sta**	**2.06**	**27**	P	**Pn**	**19 48 49.3**	**-0.7**
ODZ	**Otahua Downs**	**2.06**	**223**	P	**Pn**	**19 48 49.0**	**-1.0**
MRNZ	**Matariki Terra**	**2.16**	**2**	P	**Pn**	**19 48 52.2**	**+0.8**
NNZ	**Nelson**	**2.41**	**13**	P	**Pn**	**19 48 55.3**	**+0.5**
QRZ	**Quartz Range**	**2.74**	**358**	P	**Pn**	**19 48 58.8**	**-0.5**
QRZ	**Quartz Range**	**2.74**	**358**	P	**Pn**	**19 48 58.8**	**-0.5**
JCZ	**Jackson Bay**	**2.84**	**258**	P	**Pn**	**19 49 00.7**	**-0.1**
JCZ	**Jackson Bay**	**2.84**	**258**	P	**Pn**	**19 49 00.9**	**+0.1**
EAZ	**Earnscleugh**	**2.91**	**234**	P	**Pn**	**19 49 01.6**	**-0.1**
CAW	**Cannon Point**	**3.04**	**37**	P	**Pn**	**19 49 02.2**	**-1.3**
TUZ	**Tuapeka**	**3.21**	**221**	P	**Pn**	**19 49 05.6**	**-0.2**
MRZ	**Mangatainoka R**	**3.63**	**38**	P	**Pn**	**19 49 10.4**	**-1.2**
MLZ	**Mavora Lakes**	**3.71**	**239**	P	**Pn**	**19 49 12.7**	**0.0**
SYZ	**Scrubby Hill**	**3.87**	**219**	P	**Pn**	**19 49 15.6**	**+0.7**
BFZ	**Birch Farm**	**3.93**	**44**	P	**Pn**	**19 49 15.1**	**-0.7**
BFZ	**Birch Farm**	**3.93**	**44**	P	**Pn**	**19 49 14.6**	**-1.1**
KHEZ	**Kahui Hut**	**4.39**	**14**	P	**Pn**	**19 49 21.8**	**-0.3**
PKE	**Pukeiti**	**4.48**	**14**	P	**Pn**	**19 49 25.4**	**+2.0**
WNVZ	**Wahianoa**	**4.78**	**29**	P	**Pn**	**19 49 28.1**	**+0.5**
MRHZ	**Matea Rd**	**5.52**	**32**	P	**Pn**	**19 49 38.4**	**+0.9**

NEIC ***20*** *19:56:02.5±1.4, 17˚.09N±0˚.07×120˚.05E±0˚.08, h22km±5km, mb5.0/130, Error ellipse: s-maj=10.9km s-min=9.7km az=95.0*

MOS ***20*** *19:56:04.9±0.9, 17˚.06N×120˚.10E, h22km, mb5.0/64, MS4.3/8, Error ellipse: s-maj=8.1km s-min=4.1km az=119.8*

BJI ***20*** *19:56:05.6±0.0, 17˚.45N×120˚.02E, h30km, mb4.5/69, mB4.8/41, ML4.3/2, Ms4.4/65, Ms7 4.4/61*

GCMT ***20*** *19:56:05.5±0.4, 17˚.32N±0˚.03×119˚.82E±0˚.03, h38km±1km, MW4.9/67, Moment Tensor Solution. s28,c32; s67,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.30±.23; Mθθ0.43±.14; Mϕϕ-2.74±.14; Mrθ-0.94±.18; Mθϕ-0.48±.08; Mϕr-1.60±.14; Best double couple: Mω3.17600×10¹⁶ NP1:ϕs352.00000°, δ30.00000°, λ62.00000°. NP2: ϕs203.00000°, δ60.00000°, λ105.00000°. Principal axes: T 3.0060, Plg68.0000°, Azm142.0000°; N 0.3350, Plg13.0000°, Azm16.0000°; P -3.3470, Plg17.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***20*** *19:56:08.9±1.5, 17˚.15N×120˚.21E, h82km±14km, mb4.2/34, mbtmp4.6/36, MS4.1/55 Error ellipse: s-maj=14.0km s-min=8.0km az=71.0*

DJA ***20*** *19:56:09.1±0.4, 17˚N±2˚×12˚0E±˚, h71km±6km, M5.0/31, mB5.5/7, mb4.9/31, MLv5.1/4, Mw(mB)5.0/7*

ISC 20 19:56:05.8±0.4**, 17˚.08N**±0˚.03×**120˚.11E**±0˚.04**, h49**km±3km**, h50**km**:pP-P, n674**, σ1**§47**/687**, mb4.8**/165**, MS4.2**/75**, 35C-25D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	**Santa**	**0.58**	**35**	P	**Pn**	**19 56 16.3**	**-1.7**
TGY	**Tagaytay City**	**3.06**	**165**	P	**Pn**	**19 56 55.4**	**+3.6**
	3μm,0.8s,baz=331,slow=2.4,SNR=77						
TGY				S	**Sn**	**19 57 34.6**	**+7.3**
	3μm,0.7s,baz=343,slow=8.2,SNR=3.4						
TGY				LR	LR	19 58 35.1	
	comp=Z,4μm,19.7s,baz=312,slow=47						
TWGBT	**Beinan**	**5.78**	**9**	P	**Pn**	**19 57 29.5**	**+0.4**
TWG	**Pinlang**	**5.79**	**9**		**Pn**	**19 57 27.2**	**-1.9**
TPUB	**Ta-pu**	**6.21**	**4**	Pn	**Pn**	**19 57 33.5**	**-1.5**
TPUB	**Ta-pu**	**6.21**	**4**	P	**Pn**	**19 57 34.4**	**-0.6**
YULB	**Yu-li**	**6.38**	**10**		**Pn**	**19 57 36.0**	**-1.3**
YULB	**Yu-li**	**6.38**	**10**	P	**Pn**	**19 57 36.8**	**-0.5**
SSLB	**Suanglung**	**6.72**	**7**	Pn	**Pn**	**19 57 41.2**	**-0.8**
SSLB	**Suanglung**	**6.72**	**7**	P	**Pn**	**19 57 41.9**	**-0.1**
NACB	**Ninganchiao**	**7.20**	**11**		**Pn**	**19 57 47.3**	**-1.1**
NACB	**Ninganchiao**	**7.20**	**11**	P	**Pn**	**19 57 48.8**	**+0.3**
KNMB	**Chin-men Tao**	**7.52**	**348**	Pn	Pn	19 57 48.3	-4.6
HKPS	**Hong Kong Po S**	**7.64**	**314**	Pn	Pn	19 57 49.0	-5.6
YHNB	**Yeheng**	**7.65**	**9**	Pn	**Pn**	**19 57 53.8**	**-0.9**
YHNB	**Yeheng**	**7.65**	**9**	P	**Pn**	**19 57 56.1**	**+1.4**
YOJ	**Yonaguni jima**	**7.83**	**20**	P	**Pn**	**19 57 59.0**	**+1.8**
TATO	**Taipei**	**7.96**	**9**	Pn	**Pn**	**19 57 57.5**	**-1.5**
QIZ	**Qiongzhong**	**9.96**	**283**	P	Pn	19 58 21.3	-5.0
QIZ				S	**Sn**	**20 00 18.8**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,40nm,0.7s						
QIZ				LR	LR		
	comp=N,510nm,17.1s						
QIZ				LR	LR		
	comp=E,1μm,18.8s						
QIZ				LR	LR		
	comp=Z,1μm,19.8s						
QIZ	**Qiongzhong**	**9.96**	**283**		Pn	19 58 21.5	-4.8
DAV	**Davao City (W)**	**11.29**	**151**	LR	LR	20 04 39.4	
	comp=Z,2μm,18.0s,baz=27,slow=45						
JOW	**Kunigami**	**12.31**	**37**	Pn	**Pn**	**19 58 57.9**	**-0.5**
JOW	**Kunigami**	**12.31**	**37**	P	**Pn**	**19 58 58.6**	**+0.2**
	comp=Z,10nm,0.5s,baz=222,slow=12,SNR=2.4						
JOW				LR	LR	20 03 34.4	
	comp=Z,642nm,21.9s,baz=208,slow=36						
DLV	**T Lat**	**12.35**	**247**	Pn	**Pn**	**19 58 57.4**	**-1.8**
DLV	**T Lat**	**12.35**	**247**	P	**Pn**	**19 58 59.0**	**-0.3**
JMZ	**Minamidaito 2**	**13.51**	**48**	Pn	**Pn**	**19 59 12.7**	**-2.1**
SSE	**Sheshan**	**13.99**	**4**	P	**Pn**	**19 59 18.5**	**-2.8**
SSE				S	**Sn**	**20 01 53.6**	**-1.5**
SSE				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SSE				pmax	pmax		
	comp=Z,60nm,4.4s						
SSE				LR	LR		
	comp=Z,230nm,20.1s						
SSE				LR	LR		
	comp=Z,220nm,18.9s						
UBPT	**Khong Chiam**	**14.18**	**265**	Pn	**Pn**	**19 59 21.5**	**-2.4**
SGSI	**Sangihe**	**14.33**	**158**	P	**P**	**19 59 32.6**	**+0.7**
	comp=Z,197nm,0.9s						
WHN	**Wuhan**	**14.40**	**340**	P	**P**	**19 59 34.5**	**+2.0**
WHN				S	**S**	**20 02 16.0**	**-6.9**
WHN				LR	LR		
	comp=N,4μm,16.2s						
WHN				LR	LR		
	comp=E,2μm,14.6s						
WHN				LR	LR		
	comp=Z,4μm,15.7s						
GYA	**Guiyang**	**15.58**	**309**	⇑P	**Pn**	**19 59 41.6**	**-0.7**
GYA				S	**Sn**	**20 02 36.8**	**+2.8**
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
GYA				LR	LR		
	comp=Z,650nm,15.2s						
GYA				LR	LR		
	comp=Z,850nm,15.0s						
GYA				LR	LR		
	comp=Z,1μm,15.7s						
ENH	**Enshi**	**16.33**	**325**	Pn	**Pn**	**19 59 48.6**	**-3.1**
SBUM	**Sibu**	**16.47**	**209**		**Pn**	**19 59 52.2**	**-1.5**
SBUM	**Sibu**	**16.47**	**209**	P	**P**	**19 59 55.6**	**-0.1**
	comp=Z,14nm,1.2s						
MRSI	**Marisa**	**16.59**	**174**	P	**P**

SANI Sanana 19.87 162 P **P** **20 00 31.9 -1.1**
SANI Sanana 19.87 162 P **P** **20 00 31.4 -1.6**
CM31 Chiang Mai Arr 20.20 277 P **P** **20 00 35.8 -0.9**
CMAR Chiang Mai Arr 20.20 277 P **P** **20 00 35.5 -1.2**
CMAR Chiang Mai Arr 20.20 277 *ce*P Pn 20 00 37.7 -1.2
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 20.20 277 P Pn 20 00 37.8 -1.1
comp=Z,8.4nm,0.8s,baz=94,slow=8.6,SNR=71
CMAR PcP **PcP** **20 04 50.0 +0.3**
comp=Z,1.6nm,0.7s,baz=62,slow=0.6,SNR=11
CMAR LR LR 20 08 21.1
comp=Z,404nm,20.2s,baz=95,slow=36
comp=Z,8.4nm,0.8s
CHTO Chiang Mai 20.21 278 P **P** **20 00 34.9 -1.9**
CHTO Chiang Mai 20.21 278 P **P** **20 00 34.9 -1.9**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 20.21 278 P **P** **20 00 37.1 +0.4**
comp=Z,10.0nm,1.0s
TJN Taejon 20.27 17 P **P** **20 00 36.4 -0.9**
TJN IAmb IAmb 20 00 38.6
comp=Z,111nm,0.9s
TJN Taejon 20.27 17 *ce*P **P** **20 00 36.3 -0.9**
CD2 Chengdu 20.28 316 *e*P **P** **20 00 37.5 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SRDT SRDT 20.38 265 P Pn 20 00 41.0 -0.1
SRDT SRDT 20.38 265 P Pn 20 00 42.4 +1.3
comp=Z,55nm,0.9s,comp=Z,5μm
PMSI Majene 20.48 183 P Pn 20 00 46.6 +4.4
comp=Z,193nm,0.9s
JMN Monobe 20.69 34 **P** **20 00 42.0 +0.2**
JMN IAmb IAmb 20 00 46.1
comp=Z,80nm,1.3s
JMN Monobe 20.69 34 P **P** **20 00 43.3 +1.5**
HNS HongShan 20.80 348 ⇓P **P** **20 00 44.1 +1.2**
HNS pmax pmax
comp=Z,16nm,0.9s
HNS LR LR
comp=Z,1μm,15.7s
HNS LR LR
comp=Z,340nm,15.5s
HNS LR LR
comp=Z,1μm,16.5s
SWI Sorong 20.94 147 P Pn 20 00 48.3 +0.6
SWI pmax pmax
comp=Z,35nm,1.1s
SWI Sorong 20.94 147 P Pn 20 00 50.2 +2.5
comp=Z,36nm,1.1s
SIJI Sorong 20.95 147 P Pn 20 00 48.8 +1.0
comp=Z,32nm,0.8s
NLAI Namlea 21.33 160 P **P** **20 00 53.5 +4.7**
comp=Z,36nm,0.6s
KSAR Wonju Array Be 21.41 17 P **P** **20 00 48.4 -1.1**
KSAR Wonju Array Be 21.41 17 P **P** **20 00 48.4 -1.1**
KSRS Korea Array 21.44 17 P **P** **20 00 48.8 -0.9**
comp=Z,19nm,0.7s,baz=202,slow=11,SNR=74
KSRS LR LR 20 09 42.4
comp=Z,360nm,20.1s,baz=200,slow=38
comp=Z,19nm,0.7s
KS19 Wonju Array Si 21.46 17 P **P** **20 00 48.8 -1.3**
KS19 IAmb IAmb 20 00 50.5
comp=Z,25nm,0.8s
TNCH TengChong 21.63 295 ⇓P **P** **20 00 52.4 +0.3**
TNCH pP pP 20 00 58.6 -4.3
TNCH sP pwP 20 01 04.3 -2.3
TNCH S **S** **20 04 44.9 -4.3**
TNCH sS Sn 20 04 54.6 -5.5
TNCH SS **SnSn** **20 05 23.8 +7.9**
TNCH pmax pmax
comp=Z,23nm,0.9s
TNCH pmax pmax
comp=Z,150nm,4.0s
TNCH LR LR
comp=Z,250nm,13.4s
TNCH LR LR
comp=Z,430nm,15.4s
TNCH LR LR
comp=Z,780nm,17.1s
KAPI Kappang 21.95 181 P **P** **20 00 54.6 -0.9**
KAPI IAmb IAmb 20 01 00.9
comp=Z,152nm,1.6s
KAPI Kappang 21.95 181 P **P** **20 00 54.6 -0.9**
KAPI pmax pmax
comp=Z,152nm,1.6s
KAPI Kappang 21.95 181 P **P** **20 00 56.2 +0.7**
comp=Z,23nm,0.8s,baz=305,slow=7.4,SNR=5.2
KAPI LR LR 20 11 09.4
comp=Z,222nm,19.7s,baz=7.5,slow=41
comp=Z,23nm,0.8s
MYKOM Kota Tinggi 22.05 228 P **P** **20 00 59.9 +3.3**
comp=Z,25nm,0.8s
KULM Kulim 22.37 241 P **P** **20 00 58.1 -1.9**
JCJ Chichijima 22.72 60 P **P** **20 01 02.1 -1.6**
JCJ Chichijima 22.72 60 P **P** **20 01 02.9 -0.8**
JCJ Chichijima 22.72 60 LR LR 20 08 44.9
comp=Z,144nm,19.7s,baz=237,slow=33
BJT Baijiatuan 23.11 352 P **P** **20 01 06.3 -1.1**
BJT Baijiatuan 23.11 352 P **P** **20 01 06.4 -1.1**
BJT pmax pmax
comp=Z,17nm,0.9s
MND Mandalay 23.13 286 P **P** **20 01 07.8 0.0**
BJI Beijing 23.14 352 P **P** **20 01 08.1 +0.4**
BJI sP **pP** **20 01 16.3 -2.8**
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI LR LR
comp=Z,270nm,15.7s
BJI LR LR
comp=Z,230nm,16.6s
BJI LR LR
comp=Z,370nm,15.7s
FAKI Fak Fak 23.20 148 P **P** **20 01 07.4 -1.2**
FAKI IAmb IAmb 20 01 09.9
comp=Z,42nm,1.1s
FAKI Fak Fak 23.20 148 P **P** **20 01 08.7 +0.1**
INU Inuyama 23.63 36 P **P** **20 01 11.2 -1.3**
INU IAmb IAmb 20 01 13.4
comp=Z,45nm,0.8s
INU Inuyama 23.63 36 P **P** **20 01 12.5 0.0**
LZH Lanzhou 23.81 326 ⇑P **P** **20 01 15.1 +0.7**
LZH pP pP 20 01 21.5 -5.0
LZH S **S** **20 05 26.8 0.0**
LZH sS sS 20 05 34.0 -13
LZH pmax pmax
comp=Z,16nm,1.5s
LZH LR LR
comp=Z,1μm,13.7s
LZH LR LR
comp=Z,820nm,14.1s
LZH LR LR
comp=Z,2μm,15.1s
JHJ Hachijo jima 2 23.86 44 LR LR 20 08 41.7
comp=Z,203nm,22.0s,baz=144,slow=32
HHC Hu-ho-hao-te 24.81 344 *e*P **P** **20 01 24.1 +0.7**
HHC pP pP 20 01 32.0 -3.9
HHC S **S** **20 05 45.4 +2.7**
HHC sS sS 20 05 56.4 -7.0
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.2s
HHC LR LR
comp=Z,1μm,16.2s
HHC LR LR
comp=Z,650nm,13.7s
HHC LR LR
comp=Z,2μm,15.3s
SNY Shenyang 24.85 6 ⇑P **P** **20 01 22.8 -0.7**
SNY pmax pmax
comp=Z,30nm,0.8s
SNY pmax pmax
comp=Z,180nm,3.8s
SNY LR LR
comp=Z,120nm,5.6s
SNY LR LR
comp=Z,130nm,4.3s
SNY LR LR
comp=Z,370nm,16.9s
BTO Baotou 25.02 342 *e*P **P** **20 01 26.9 +1.6**
BTO pP **pP** **20 01 38.1 +0.4**
BTO sP **sP** **20 01 42.8 -0.8**
BTO PP 20 02 05.6
BTO S **S** **20 05 49.1 +3.1**
BTO pmax pmax
comp=Z,15nm,0.9s
BTO pmax pmax
comp=Z,290nm,6.6s
BTO LR LR
comp=Z,1μm,17.6s
BTO LR LR
comp=Z,470nm,13.0s
BTO LR LR
comp=Z,1μm,15.9s
MAJO Matsushiro 25.15 36 P **P** **20 01 26.1 -0.3**
MAJO Matsushiro 25.15 36 *i*P **P** **20 01 26.3 -0.1**
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 25.15 36 P **P** **20 01 24.9 -1.5**
comp=Z,6.9nm,0.7s,baz=214,slow=9.3,SNR=36
MJAR PcP **PcP** **20 04 59.2 -0.3**
comp=Z,3.0nm,1.0s,baz=170,slow=2.0,SNR=5.6
comp=Z,6.9nm,0.7s
MJB9 Matsu-Tunnel 25.15 36 P **P** **20 01 26.8 +0.3**
PSI Prapat 25.18 238 P **P** **20 01 28.9 +1.9**
PSI Prapat 25.18 238 P **P** **20 01 26.7 -0.3**
PSI pmax pmax
comp=Z,15nm,1.0s
RPSI Rantau Prapat 25.25 238 P **P** **20 01 26.6 -0.8**
DBNI Kabupaten Domp 25.48 184 P **P** **20 01 33.0 +3.5**
comp=Z,38nm,0.7s,comp=Z,4μm
BLJI Banyuglugur 25.49 195 P **P** **20 01 32.3 +2.7**
comp=Z,79nm,0.9s
EDFI Ende, Flores 25.71 176 P **P** **20 01 34.2 +2.5**
comp=Z,41nm,1.0s
PLAI Plampang 25.84 185 P **P** **20 01 34.3 +1.5**
PLAI Plampang 25.84 185 P **P** **20 01 34.4 +1.6**
comp=Z,97nm,1.1s,comp=Z,998nm
JAGI Jajag, Banyuwa 26.06 194 P **P** **20 01 34.3 -0.5**
JAGI IAmb IAmb 20 01 53.5
comp=Z,89nm,1.4s
UGM Wanagama 26.58 202 **P** **20 01 39.1 -0.3**
LEM Lembang 26.77 208 LR LR 20 12 46.2
comp=Z,164nm,19.7s,baz=106,slow=37
XLT XiLinHaoTe 26.95 354 *e*P **P** **20 01 43.0 +0.3**
XLT pP pP 20 01 54.3 -0.9
XLT PP **PnPn** **20 02 31.0 +4.1**
XLT PcP **PcP** **20 05 05.3 +1.7**
XLT S **S** **20 06 19.8 +3.3**
XLT sS sS 20 06 30.4 -6.9
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT pmax pmax
comp=Z,76nm,3.5s
XLT LR LR
comp=Z,410nm,18.3s
XLT LR LR
comp=Z,500nm,16.2s
CN2 Changchun 27.02 9 *e*P **P** **20 01 42.5 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
JMM Marumori 27.55 37 P **P** **20 01 46.7 -1.3**
JMM Marumori 27.55 37 P **P** **20 01 46.7 -1.3**
SHL Shillong 27.57 293 P **P** **20 01 47.2 -1.4**
SHL IAmb IAmb 20 02 06.6
comp=Z,26nm,1.0s
SHL Shillong 27.57 293 P **P** **20 01 47.2 -1.4**
SHL pmax pmax
comp=Z,26nm,1.0s
GTA Gaotai 28.41 326 *e*P **P** **20 01 57.0 +1.1**
GTA pP pP 20 02 05.8 -2.5
GTA PcP **PcP** **20 05 08.3 +1.0**
GTA S **S** **20 06 42.8 +3.1**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=Z,570nm,17.1s
GTA LR LR
comp=Z,590nm,17.4s
GTA LR LR
comp=Z,920nm,18.2s
MDJ Mudanjiang 28.59 14 P **P** **20 01 59.8 +2.6**
MDJ pP pP 20 02 06.9 -2.8
MDJ sP sP 20 02 11.1 -4.4
MDJ PcP **PcP** **20 05 12.5 +5.1**
MDJ S **S** **20 06 47.1 +5.0**
MDJ ScP **SS** **20 08 48.8 +4.2**
MDJ PcS **PcS** **20 08 51.4 +1.6**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,140nm,3.5s
MDJ LR LR
comp=Z,400nm,14.4s
MDJ LR LR
comp=Z,200nm,14.5s
MDJ LR LR
comp=Z,430nm,14.0s
USA0B Ussuriysk Arra 28.84 18 *i*P **P** **20 01 59.1 -0.3**
USRK Ussuriysk Ar. 28.84 18 P **P** **20 01 57.5 -1.9**
USRK Ussuriysk Ar. 28.84 18 P **P** **20 01 57.5 -1.9**
USRK Ussuriysk Ar. 28.84 18 P **P** **20 01 58.0 -1.5**
comp=Z,4.8nm,0.8s,baz=204,slow=6.5,SNR=6.5
USRK LR LR 20 13 37.0
comp=Z,230nm,21.5s,baz=183,slow=36
comp=Z,4.8nm,0.8s
BNX BinXian 29.22 10 ⇓P **P** **20 01 58.3 -4.5**
BNX pmax pmax
comp=Z,5.0nm,0.9s
BNX pmax pmax
comp=Z,120nm,4.9s
LSA Lhasa 29.31 301 P **P** **20 02 02.6 -1.7**
LSA Lhasa 29.31 301 P **P** **20 02 02.6 -1.7**
LSA pmax pmax
comp=Z,11nm,1.0s
JTM Tenmabayashi 29.76 33 P **P** **20 02 06.2 -1.4**
ULN Ulaanbaatar 32.52 344 P **P** **20 02 31.3 -0.8**
ULN Ulaanbaatar 32.52 344 *i*P **P** **20 02 32.5 +0.4**
ULN pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 32.52 344 P **P** **20 02 33.3 +1.2**
comp=Z,24nm,2.2s
SONM Songino Array 32.68 343 P **P** **20 02 33.1 -0.3**
SONM Songino Array 32.68 343 P **P** **20 02 33.1 -0.3**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 32.68 343 P **P** **20 02 33.4 0.0**
comp=Z,2.5nm,0.6s,baz=163,slow=9.9,SNR=23
SONM PcP **PcP** **20 05 17.1 -1.2**
comp=Z,0.6nm,0.6s,baz=177,slow=1.7,SNR=2.9
SONM LR LR 20 16 38.4
comp=Z,349nm,18.2s,baz=172,slow=38
comp=Z,2.5nm,0.6s
ASAJ Asahikawa 32.97 30 LR LR 20 16 36.1
comp=Z,218nm,19.6s,baz=353,slow=37
KLR Kul'dur 33.44 14 *ce*P **P** **20 02 39.8 0.0**
KLR pmax pmax
comp=Z,33nm,1.3s
KLR Kul'dur 33.44 14 LR LR 20 16 58.8
comp=Z,341nm,20.0s,baz=198,slow=38
HEH HeiHe 33.61 8 *e*P **P** **20 02 41.6 +0.2**
HEH pmax pmax
comp=Z,14nm,1.3s
HEH pmax pmax
comp=Z,100nm,6.3s
HEH LR LR
comp=Z,380nm,15.9s
HEH LR LR
comp=Z,150nm,15.4s
HEH LR LR
comp=Z,580nm,15.6s
KNRA Kununurra 33.65 165 P **P** **20 02 41.3 -0.6**
KNRA IAmb IAmb 20 02 56.0
comp=Z,44nm,1.4s
YSS Yuzh-Sakhalins 35.18 27 *e*P **P** **20 02 56.2 +1.2**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,400nm,14.0s
FITZ Fitzroy Crossi 35.38 171 P **P** **20 02 55.5 -1.4**
ZAK Zakamensk 35.87 342 *e*P **P** **20 03 00.6 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
ZEA Zeya 37.01 7 *e*P **P** **20 03 11.4 +0.9**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
IRK Irkutsk 37.26 344 *e*P **P** **20 03 12.1 -0.5**
IRK pmax pmax
comp=Z,30nm,3.8s
RABL Rabaul 38.06 121 P **P** **20 03 18.0 -1.9**
WMQ Urumqi 38.20 321 *e*P **P** **20 03 24.5 +3.7**
WMQ sP pP 20 03 34.0 +0.4
WMQ PcS **PcS** **20 09 26.4 +2.8**
WMQ pmax pmax
comp=Z,10.0nm,1.3s
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,1μm,15.3s
WMQ LR LR
comp=Z,650nm,14.3s
TYV Tymovskoe 38.23 23 *e*P P 20 03 30.2 +9.4
TYV pmax pmax
comp=Z,100nm,2.9s
TYV pmax pmax
comp=Z,8.0nm,1.3s
COEN Coen 38.34 142 P **P** **20 03 20.0 -2.2**
PSA00 Pilbara Seismi 38.41 180 P **P** **20 03 21.6 -1.0**
PSA00 IAmb IAmb 20 03 23.5
comp=Z,13nm,0.9s
PSA00 Pilbara Seismi 38.41 180 P **P** **20 03 22.7 0.0**
WB0 Warramunga Arr 39.21 158 P **P** **20 03 28.2 -1.2**
WRA Warramunga Arr 39.35 159 P **P** **20 03 29.6 -1.0**
WRA Warramunga Arr 39.35 159 P **P** **20 03 29.6 -1.0**
WRA Warramunga Arr 39.35 159 P **P** **20 03 28.9 -1.7**
comp=Z,8.3nm,0.7s,baz=338,slow=9.3,SNR=26
WRA PcP **PcP** **20 05 38.9 +0.5**
comp=Z,2.9nm,0.8s,baz=341,slow=3.7,SNR=6.1
comp=Z,8.3nm,0.7s
HYB Hyderabad 39.63 277 *e*P **P** **20 03 32.2 -0.9**
PALK Pallekele 39.66 261 LR LR 20 18 47.8
comp=Z,211nm,20.5s,baz=158,slow=34
DGZ Jazzator, Alta 41.87 328 *e*P **P** **20 03 51.5 +0.3**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
QIS Mount Isa 42.01 152 P **P** **20 03 51.9 -0.6**
MTSU Mount Surprise 42.33 145 P **P** **20 03 54.7 -0.5**
WRKA Warakurna 42.61 169 P **P** **20 03 56.6 -0.8**
AS31 Alice Springs 42.68 161 P **P** **20 03 57.1 -0.9**
ASAR Alice Springs 42.68 161 P **P** **20 03 57.5 -0.4**
ASAR Alice Springs 42.68 161 P **P** **20 03 57.5 -0.4**
ASAR Alice Springs 42.68 161 P **P** **20 03 57.3 -0.6**
comp=Z,9.9nm,0.7s,baz=341,slow=6.8,SNR=42
ASAR PcP **PcP** **20 05 47.9 -1.3**
comp=Z,1.4nm,0.7s,baz=337,slow=2.8,SNR=2.4
comp=Z,9.9nm,0.7s
AS01 Alice Springs 42.69 161 P **P** **20 03 57.6 -0.4**
MK31 Makanchi Array 43.01 322 P **P** **20 03 59.1 -1.3**
MK31 IAmb IAmb 20 04 12.1
comp=Z,17nm,1.1s
MK31 Makanchi Array 43.01 322 *ce*P **P** **20 04 01.0 +0.5**
MKAR Makanchi Array 43.01 322 P **P** **20 03 60.0 -0.5**
MKAR Makanchi Array 43.01 322 P **P** **20 04 00.0 -0.5**
MKAR Makanchi Array 43.01 322 P **P** **20 04 00.7 +0.2**
comp=Z,4.0nm,0.8s,baz=121,slow=9.3,SNR=38
MKAR PcP **PcP** **20 05 49.7 -0.3**
comp=Z,5.0nm,0.7s,baz=94,slow=4.2,SNR=7.7
MKAR LR LR 20 23 11.8
comp=Z,437nm,19.0s,baz=106,slow=38
comp=Z,4.0nm,0.8s
SHLS Shalkode 43.12 316 *e*P **P** **20 03 59.6 -1.8**
SHLS pmax pmax
comp=Z,9.0nm,0.6s
SHLS Shalkode 43.12 316 *e*P **P** **20 03 59.6 -1.8**
comp=Z,9.4nm,0.6s,baz=316
MAKZ Makanchi 43.21 322 ⇓P **P** **20 04 01.8 -0.2**
UZB Uzynbulak 43.41 316 *e*P **P** **20 04 04.2 +0.4**
UZB pmax pmax
comp=Z,12nm,0.8s
UZB Uzynbulak 43.41 316 *e*P **P** **20 04 04.3 +0.4**
comp=Z,12nm,0.8s,baz=316
MEEK Meekatharra 43.48 182 P **P** **20 04 03.9 -0.4**
PRZ Przheval'sk 43.57 314 P **P** **20 04 04.5 -0.7**
PRZ IAmb IAmb 20 04 18.0
comp=Z,17nm,0.9s
PRZ Przheval'sk 43.57 314 P **P** **20 04 04.5 -0.7**
PRZ pmax pmax
comp=Z,17nm,0.9s
TARG Taragay, Kyrgy 43.70 313 P **P** **20 04 05.1 -1.4**
TARG Taragay, Kyrgy 43.70 313 P **P** **20 04 05.1 -1.4**
TARG pmax pmax
comp=Z,10.0nm,1.1s
KPKS Kokpek 43.76 316 *e*P **P** **20 04 06.9 +0.3**
KPKS Kokpek 43.76 316 *e*P **P** **20 04 07.0 +0.3**
baz=316
SATY Saty 43.78 315 *e*P **P** **20 04 07.1 +0.3**
SATY Saty 43.78 315 *e*P **P** **20 04 07.1 +0.3**
baz=315
ZHN Zhinishke 43.81 315 *e*P **P** **20 04 07.3 +0.3**
ZHN Zhinishke 43.81 315 *e*P **P** **20 04 07.4 +0.4**
baz=315
KSH Kashi 44.28 310 P **P** **20 04 13.9 +3.0**
KSH sP pP 20 04 23.4 0.0
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH LR LR
comp=Z,550nm,18.2s
KSH LR LR
comp=Z,380nm,14.8s
KSH LR LR
comp=Z,540nm,14.8s
TDK Taldyqorghan 44.58 318 *e*P **P** **20 04 13.5 +0.5**
TDK pmax pmax
comp=Z,12nm,0.8s
TDK Taldyqorghan 44.58 318 *e*P **P** **20 04 13.5 +0.5**
comp=Z,12nm,0.8s,baz=318
MDOK Medeo 44.74 315 *e*P **P** **20 04 14.7 +0.2**
MDOK Medeo 44.74 315 *e*P **P** **20 04 14.8 +0.2**
baz=315
NRN Naryn 44.86 312 P **P** **20 04 14.4 -1.3**
NRN IAmb IAmb 20 04 27.6
comp=Z,22nm,1.0s
NRN Naryn 44.86 312 P **P** **20 04 14.4 -1.3**
NRN pmax pmax
comp=Z,23nm,1.0s
CTA Charters Tower 44.98 144 P **P** **20 04 15.8 -0.7**
comp=Z,13nm,0.8s,baz=338,slow=13,SNR=12
CTA LR LR 20 22 52.9
comp=Z,113nm,21.5s,baz=317,slow=36
comp=Z,13nm,0.8s
CHKK Chushkaly 45.05 316 *e*P **P** **20 04 16.6 -0.2**
CHKK Chushkaly 45.05 316 *e*P **P** **20 04 16.6 -0.2**
baz=316
NIL Nilore 45.05 301 P **P** **20 04 15.7 -1.3**
NIL Nilore 45.05 301 P **P** **20 04 15.7 -1.3**
YAK Yakutsk 45.41 6 P **P** **20 04 17.6 -1.7**
YAK IAmb IAmb 20 04 20.6
comp=Z,27nm,0.8s
YAK Yakutsk 45.41 6 *e*P **P** **20 04 18.1 -1.2**
YAK *e**PP **pP** **20 04 34.4 +2.0**
YAK *e* 20 06 05.7
YAK *e*PPP PPP 20 06 46.6
YAK *e*S **S** **20 10 53.2 -3.6**
YAK *e**SS **sS** **20 11 23.4 +5.1**
YAK *e*SSS SSS 20 15 21.7
YAK pmax pmax
comp=Z,28nm,1.3s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,140nm,4.7s
YAK pmax pmax
comp=N,121nm,4.7s
YAK pmax pmax
comp=E,110nm,8.4s
YAK smax smax
comp=N,118nm,5.3s
YAK smax smax
comp=E,66nm,3.8s
YAK Yakutsk 45.41 6 LR LR 20 24 08.4
comp=E,5.7nm,19.6s,baz=210,slow=37
KUU Kurty 45.49 315 *e*P **P** **20 04 20.7 +0.4**
KUU pmax pmax
comp=Z,13nm,0.8s
KUU Kurty 45.49 315 *e*P **P** **20 04 20.7 +0.4**
comp=Z,13nm,0.8s,baz=315
ZAA0 Zalesovo Array 45.82 332 P **P** **20 04 22.0 -0.7**
ZALV Zalesovo Beam 45.82 332 P **P** **20 04 21.8 -0.9**
ZALV Zalesovo Beam 45.82 332 P **P** **20 04 22.2 -0.5**
comp=Z,3.8nm,0.7s,baz=123,slow=7.3,SNR=23

ZALV PcP **PcP** **20 05 58.4 -1.0**
comp=Z,2.9nm,0.6s,baz=112,slow=4.1,SNR=5.7
ZALV LR LR 20 24 20.5
comp=Z,220nm,18.4s,baz=121,slow=37
comp=Z,3.8nm,0.7s
MORW Morawa 46.04 185 P **P** **20 04 24.2 -0.5**
MORW IAmb IAmb 20 04 25.9
comp=Z,34nm,1.2s
MORW Morawa 46.04 185 P **P** **20 04 24.0 -0.7**
SEM Semipalatinsk 46.05 325 *eP* **P** **20 04 24.3 -0.5**
SEM Semipalatinsk 46.05 325 *eP* **P** **20 04 24.3 -0.5**
baz=325
AAK Ala-Archa 46.32 313 P **P** **20 04 25.9 -1.1**
AAK Ala-Archa 46.32 313 *ceP* **P** **20 04 28.6 +1.6**
AAK pmax pmax
comp=Z,5.0nm,1.7s
AAK Ala-Archa 46.32 313 P **P** **20 04 27.9 +0.9**
comp=Z,1.1nm,0.7s,baz=120,slow=7.1,SNR=4.7
AAK LR LR 20 25 17.4
comp=Z,420nm,19.9s,baz=86,slow=38
comp=Z,1.1nm,0.7s
PEA0B Petropavlovsk- 46.39 31 P **P** **20 04 26.5 -0.7**
PEA0B Petropavlovsk- 46.39 31 P **P** **20 04 26.5 -0.7**
PEA0B pmax pmax
comp=Z,86nm,1.5s
PETK Petropavlovsk- 46.39 31 P **P** **20 04 26.8 -0.4**
PETK Petropavlovsk- 46.39 31 P **P** **20 04 26.8 -0.4**
PETK Petropavlovsk- 46.39 31 P **P** **20 04 26.4 -0.8**
comp=Z,9.4nm,0.9s,baz=239,slow=3.9,SNR=5.7
PETK PcP **PcP** **20 06 00.2 -1.3**
comp=Z,5.2nm,0.8s,baz=232,slow=5.9,SNR=3.9
comp=Z,9.4nm,0.9s
SGDS Sogindy 46.49 314 *eP* **P** **20 04 28.7 +0.5**
SGDS Sogindy 46.49 314 *eP* **P** **20 04 28.8 +0.5**
baz=314
ARSB Arslanbob 46.99 311 P **P** **20 04 31.5 -0.8**
ARSB Arslanbob 46.99 311 P **P** **20 04 31.5 -0.8**
ARSB pmax pmax
comp=Z,2.0nm,0.8s
OOD Oodnadatta 47.09 161 P **P** **20 04 32.6 -0.3**
KURK Kurchatov 47.10 325 P **P** **20 04 31.9 -0.8**
KURK IAmb IAmb 20 04 44.0
comp=Z,15nm,0.7s
KURK Kurchatov 47.10 325 *ceP* **P** **20 04 32.6 -0.1**
KURK pmax pmax
comp=Z,19nm,1.3s
KURBB Kurchatov Arra 47.10 325 P **P** **20 04 33.0 +0.2**
comp=Z,6.3nm,0.6s,baz=122,slow=7.9,SNR=24
KURBB LR LR 20 26 58.1
comp=Z,148nm,18.2s,baz=164,slow=39
comp=Z,6.3nm,0.6s
HNR Honiara 47.38 121 LR LR 20 22 19.9
comp=Z,1µm,20.0s,baz=300,slow=33
BTLS Baital 47.44 316 *eP* **P** **20 04 35.5 0.0**
BTLS Baital 47.44 316 *eP* **P** **20 04 35.6 0.0**
baz=316
MA2 Magadan 47.94 20 P **P** **20 04 38.5 -0.6**
MA2 IAmb IAmb 20 04 40.0
comp=Z,31nm,1.1s
MA2 Magadan 47.94 20 *ceP* **P** **20 04 38.8 -0.3**
MA2 pmax pmax
comp=Z,26nm,1.7s
MA2 Magadan 47.94 20 LR LR 20 25 14.2
comp=Z,118nm,20.7s,baz=147,slow=36
FORT Forrest 48.19 171 P **P** **20 04 40.7 -0.7**
FORT Forrest 48.19 171 P **P** **20 04 41.0 -0.4**
KMBL Kambalda 48.20 178 P **P** **20 04 41.3 -0.1**
BTK Batken 48.25 309 P **P** **20 04 40.9 -1.1**
BTK IAmb IAmb 20 04 54.1
comp=Z,9.6nm,1.1s
BTK Batken 48.25 309 P **P** **20 04 40.9 -1.1**
BTK pmax pmax
comp=Z,10.0nm,1.1s
KLBR Kellerberrin 48.44 183 P **P** **20 04 43.4 +0.1**
DZA Taraz 48.61 313 *eP* **P** **20 04 44.9 +0.2**
DZA pmax pmax
comp=Z,7.0nm,0.7s
DZA Taraz 48.61 313 *eP* **P** **20 04 44.9 +0.2**
comp=Z,6.8nm,0.7s,baz=312
KBL Kabul 48.63 301 P **P** **20 04 43.4 -1.8**
KBL IAmb IAmb 20 04 56.9
comp=Z,16nm,1.1s
KBL Kabul 48.63 301 P **P** **20 04 43.4 -1.8**
KBL pmax pmax
comp=Z,16nm,1.2s
INKA Innaminka 48.84 155 P **P** **20 04 47.6 +1.2**
MULG Mulgathing 48.96 164 P **P** **20 04 47.4 0.0**
KK31 Karatay Array 49.25 313 P **P** **20 04 48.8 -0.8**
KK31 IAmb IAmb 20 05 00.6
comp=Z,12nm,0.8s
KK31 Karatay Array 49.25 313 P **P** **20 04 48.8 -0.8**
KK31 pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 49.25 313 P **P** **20 04 48.6 -0.9**
KKAR IAmb IAmb 20 05 00.6
comp=Z,12nm,0.8s
KKAR Karatay Array 49.25 313 P **P** **20 04 49.0 -0.6**
KKAR Karatay Array 49.25 313 P **P** **20 04 49.0 -0.6**
SIMJ Simiganj 49.32 307 P **P** **20 04 48.8 -1.5**
SIMJ IAmb IAmb 20 05 02.8
comp=Z,20nm,1.1s
CHM Chimkent 49.69 311 *eP* **P** **20 04 52.7 -0.2**
CHM Chimkent 49.69 311 *eP* **P** **20 04 52.8 -0.2**
baz=311
NWAO Narrogin (SRO) 49.80 183 P **P** **20 04 52.2 -1.5**
NWAO Narrogin (SRO) 49.80 183 P **P** **20 04 52.2 -1.5**
NWAO pmax pmax
comp=Z,85nm,0.9s
NWAO Narrogin (SRO) 49.80 183 LR LR 20 26 41.9
comp=Z,58nm,21.8s,baz=224,slow=37
BRZS Berezniki 50.16 322 *eP* **P** **20 04 56.3 0.0**
BRZS Berezniki 50.16 322 *eP* **P** **20 04 56.4 0.0**
baz=322
LCRK Leigh Creek 50.36 160 P **P** **20 04 58.4 +0.4**
SEY Seymchan 50.99 18 *ceP* **P** **20 05 02.5 +0.2**
SEY pmax pmax
comp=Z,10.0nm,0.7s
SEY Seymchan 50.99 18 LR LR 20 27 46.5
comp=Z,88nm,19.7s,baz=340,slow=37
EIDS Eidsvold 51.86 144 P **P** **20 05 07.9 -1.4**
BBOO Buckleboo 51.90 163 P **P** **20 05 08.4 -1.1**
BBOO IAmb IAmb 20 05 09.8
comp=Z,13nm,0.8s
BBOO Buckleboo 51.90 163 P **P** **20 05 09.2 -0.3**
BVAR Borovoye Array 52.69 325 P **P** **20 05 15.1 -0.1**
comp=Z,2.2nm,0.7s,baz=116,slow=9.4,SNR=15
BVAR PcP **PcP** **20 06 23.9 -0.6**
comp=Z,4.9nm,0.7s,baz=90,slow=2.9,SNR=7.7
BVAR LR LR 20 28 50.7
comp=Z,172nm,20.3s,baz=113,slow=37
comp=Z,2.2nm,0.7s
BRVK Borovoye 52.76 325 P **P** **20 05 15.6 -0.1**
BRVK IAmb IAmb 20 05 26.9
comp=Z,8.2nm,0.8s
BRVK Borovoye 52.76 325 *ceP* **P** **20 05 15.5 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
STKA Stephens Creek 52.86 157 P **P** **20 05 16.4 -0.2**
STKA Stephens Creek 52.86 157 P **P** **20 05 16.5 -0.1**
STKA Stephens Creek 52.86 157 P **P** **20 05 16.4 -0.2**
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 52.86 157 P **P** **20 05 16.2 -0.4**
comp=Z,12nm,0.9s,baz=328,slow=8.1,SNR=18
comp=Z,12nm,0.9s
HTT Hallett 53.34 160 P **P** **20 05 21.6 +1.4**
HRA Herat 54.21 300 P **P** **20 05 26.1 -0.8**
CMSA Cobar Meteorol 54.22 153 P **P** **20 05 26.9 +0.3**
TIXI Tiksi 54.81 3 P **P** **20 05 29.1 -1.3**
TIXI IAmb IAmb 20 05 30.1
comp=Z,9.7nm,0.8s
TIXI Tiksi 54.81 3 *ceP* **P** **20 05 29.0 -1.3**
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 54.81 3 LR LR 20 31 50.8
comp=Z,11nm,18.2s,baz=198,slow=39
NRIK Noril'sk 56.02 347 P **P** **20 05 38.7 -0.4**
NRIK IAmb IAmb 20 05 39.6
comp=Z,17nm,0.8s
NRIK Noril'sk 56.02 347 *ceP* **P** **20 05 38.2 -0.9**
NRIK pmax pmax
comp=Z,16nm,0.9s
NRIK Noril'sk 56.02 347 P **P** **20 05 38.7 -0.4**
comp=Z,15nm,0.7s,baz=128,slow=6.9,SNR=29
NRIK LR LR 20 31 18.2
comp=Z,424nm,18.0s,baz=146,slow=38
comp=Z,15nm,0.7s
ARMA Armidale 56.13 147 P **P** **20 05 40.0 -0.5**
ARMA IAmb IAmb 20 07 02.2
comp=Z,32nm,1.6s
WSAR Wadi Sarin 57.68 287 LR LR 20 33 19.2
comp=Z,37nm,19.2s,baz=48,slow=39
GEYT Alibeck 57.73 304 P **P** **20 05 51.7 -0.2**
GEYT Alibeck 57.73 304 P **P** **20 05 51.7 -0.2**
GEYT pmax pmax
comp=Z,30nm,0.9s
GEYT Alibeck 57.73 304 P **P** **20 05 52.0 +0.1**
comp=Z,9.5nm,1.0s,baz=134,slow=4.3,SNR=14
GEYT LR LR 20 34 04.2
comp=Z,316nm,18.0s,baz=56,slow=39
comp=Z,9.5nm,1.0s
ABKAR Akbulak array 57.84 318 P **P** **20 05 52.1 -0.3**
BILL Bilibino 58.70 19 P **P** **20 05 57.6 -0.3**
BILL Bilibino 58.70 19 *i P* **P** **20 05 58.0 0.0**
BILL pmax pmax
comp=Z,18nm,0.8s
CAN Canberra 58.88 153 P **P** **20 05 59.8 0.0**
CAN Canberra 58.88 153 P **P** **20 05 59.8 0.0**
CAN pmax pmax
comp=Z,94nm,2.0s
CNB Canberra Magne 59.04 152 P **P** **20 06 01.1 +0.2**
SVE Sverdlovsk 59.28 327 ⇓ *eP* **P** **20 06 02.5 +0.3**
SVE pmax pmax
comp=Z,21nm,1.3s
AKTO Aktyubinsk 59.29 319 P **P** **20 06 02.2 -0.2**
comp=Z,4.5nm,0.6s,baz=99,slow=7.5,SNR=13
AKTO LR LR 20 33 18.5
comp=Z,617nm,19.1s,baz=92,slow=38
comp=Z,4.5nm,0.6s
TOO Toolangi 59.38 157 P **P** **20 06 03.1 0.0**
TOO IAmb IAmb 20 06 54.1
comp=Z,32nm,1.4s
TOO Toolangi 59.38 157 P **P** **20 06 03.9 +0.8**
TOO Toolangi 59.38 157 P **P** **20 06 03.1 0.0**
TOO pmax pmax
comp=Z,32nm,1.4s
DZM Mont Dzumac 59.77 129 P **P** **20 06 06.2 +0.1**
DZM Mont Dzumac 59.77 129 P **P** **20 06 05.7 -0.5**
comp=Z,3.1nm,0.8s,baz=208,slow=12,SNR=3.6
comp=Z,3.1nm,0.8s
OUENC Ouen Island, N 60.27 129 P **P** **20 06 09.9 +0.4**
ARU Arti 60.27 326 P **P** **20 06 08.2 -0.8**
ARU IAmb IAmb 20 06 19.2
comp=Z,9.6nm,0.7s
ARU Arti 60.27 326 *c i P* **P** **20 06 08.3 -0.8**
ARU 20 06 51.0
ARU 20 08 22.2
ARU S **S** **20 14 24.9 +5.4**
ARU SS **SS** **20 18 20.0 +2.7**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU MLR MLR
comp=Z,248nm,16.0s
ARU Arti 60.27 326 P **P** **20 06 07.7 -1.4**
comp=Z,7.9nm,0.5s,baz=86,slow=2.3,SNR=18
ARU LR LR 20 33 51.3
comp=Z,186nm,18.8s,baz=84,slow=38
comp=Z,7.9nm,0.5s
KIRV Kirov 65.53 327 LR LR 20 37 34.4
comp=Z,349nm,18.2s,baz=90,slow=38
MAK Makhachkala 65.91 310 *eP* **P** **20 06 45.3 -1.4**
MAK *e* 20 09 13.0
MAK *eS* **S** **20 15 34.4 +4.0**
MAK *eSS* **SS** **20 19 50.0 +4.1**
MAK pmax pmax
comp=Z,43nm,0.6s
MAK MLR MLR
comp=Z,141nm,18.0s
BELG Belogornoye 65.98 320 *i P* **P** **20 06 46.4 -0.5**
BELG pmax pmax
comp=Z,4.0nm,1.0s
GROC Groznyy 67.16 310 *eP* **P** **20 06 52.8 -1.9**
GROC *e* 20 07 19.3
GROC *eS* **S** **20 15 47.4 +1.9**
GROC pmax pmax
comp=Z,17nm,1.0s
F14K Arctic Creek 67.78 26 P **P** **20 06 59.4 +1.2**
baz=262
ANM Nome 68.07 27 P **P** **20 07 00.5 +0.5**
ANM IAmb IAmb 20 07 18.4
comp=Z,11nm,1.4s
ANM Nome 68.07 27 P **P** **20 07 00.5 +0.5**
ANM pmax pmax
comp=Z,11nm,1.4s
GNI Garni 68.12 307 P **P** **20 07 01.3 +0.3**
GNI IAmb IAmb 20 07 13.2
comp=Z,30nm,1.4s
GNI Garni 68.12 307 *i* P **P** **20 07 01.2 +0.2**
GNI pmax pmax
comp=Z,8.0nm,1.1s
GNI Garni 68.12 307 LR LR 20 42 05.7
comp=Z,95nm,18.3s,baz=70,slow=40
F15K North Star Dit 68.50 25 P **P** **20 07 03.2 +0.5**
F15K IAmb IAmb 20 07 04.3
comp=Z,9.8nm,1.2s
F15K North Star Dit 68.50 25 P **P** **20 07 03.6 +0.9**
baz=264
C16K Lisburne Hills 68.55 23 P **P** **20 07 03.5 +0.6**
C16K IAmb IAmb 20 07 04.9
comp=Z,18nm,1.2s
C16K Lisburne Hills 68.55 23 P **P** **20 07 03.7 +0.8**
baz=262
ZEI Tsey 68.57 310 *eP* **P** **20 07 02.6 -1.2**
ZEI pmax pmax
comp=Z,16nm,0.9s
G15K Niukluk 68.68 26 P **P** **20 07 04.8 +1.0**
baz=265
ONI Oni 68.91 310 P **P** **20 07 06.3 +0.5**
ONI IAmb IAmb 20 07 18.6
comp=Z,13nm,0.7s
ONI Oni 68.91 310 P **P** **20 07 06.3 +0.5**
ONI pmax pmax
comp=Z,13nm,0.7s
AKH Akhalkalaki 68.97 308 P **P** **20 07 06.4 +0.1**
AKH Akhalkalaki 68.97 308 P **P** **20 07 06.4 +0.1**
AKH pmax pmax
comp=Z,59nm,0.8s
L14K Kuka Creek 69.04 30 P **P** **20 07 07.9 +1.8**
baz=267
KBZ Khabaz 69.24 311 *ceP* **P** **20 07 07.3 -0.3**
KBZ pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 69.24 311 P **P** **20 07 07.5 -0.1**
comp=Z,6.2nm,1.0s,baz=146,slow=5.1,SNR=9.2
KBZ LR LR 20 41 48.4
comp=Z,209nm,18.5s,baz=89,slow=40
comp=Z,6.2nm,1.0s
C17K DeLong Mountai 69.37 23 P **P** **20 07 08.9 +0.9**
baz=264
KIV Kislovodsk 69.37 311 ⇓ P **P** **20 07 09.2 +0.6**
KIV Kislovodsk 69.37 311 P **P** **20 07 08.1 -0.6**
KIV Kislovodsk 69.37 311 *eP* **P** **20 07 08.6 0.0**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,213nm,17.0s
H16K Elim 69.42 27 P **P** **20 07 09.3 +0.9**
baz=266
G16K Koyuk River 69.42 26 P **P** **20 07 09.5 +1.2**
baz=266
K15K Wolf Creek Mou 69.62 29 P **P** **20 07 10.7 +1.0**
VRH Novokhopyorsk 69.64 319 *eP* **P** **20 07 08.6 -1.4**
VRH pmax pmax
comp=Z,13nm,1.3s
E17K Hotham Inlet 69.76 24 P **P** **20 07 11.7 +1.3**
baz=266
F17K Baldwin Pennin 69.94 25 P **P** **20 07 12.0 +0.5**
F17K IAmb IAmb 20 07 58.2
comp=Z,6.8nm,0.8s
F17K Baldwin Pennin 69.94 25 P **P** **20 07 13.0 +1.4**
baz=267
B18K Kokolik River 69.95 22 P **P** **20 07 13.0 +1.4**
baz=265
C18K Utukok River 70.11 22 P **P** **20 07 12.6 0.0**
C18K IAmb IAmb 20 07 13.8
comp=Z,5.6nm,0.9s
C18K Utukok River 70.11 22 P **P** **20 07 13.4 +0.7**
baz=266
G17K Kiwalik Mounta 70.14 26 P **P** **20 07 13.8 +1.0**
baz=268
A19K Wainwright 70.27 21 P **P** **20 07 15.3 +1.8**
baz=266
GURO Guroymak-BITLI 70.36 305 P **P** **20 07 14.9 0.0**
GURO IAmb IAmb 20 07 27.0
comp=Z,18nm,0.9s
H17K Granite Mounta 70.43 26 P **P** **20 07 15.9 +1.3**
baz=268
KLMR Klimovskoe 70.67 329 *eP* P 20 07 10.7 -5.4
KLMR pmax pmax
comp=Z,43nm,1.6s
KLMR MLR MLR
comp=Z,360nm,14.0s
C19K Lookout Ridge 70.72 22 P **P** **20 07 17.7 +1.4**
baz=267
G18K Tagagawik 70.98 25 P **P** **20 07 18.6 +0.7**
baz=269
H18K Honhosa River 71.09 26 P **P** **20 07 18.8 +0.1**
baz=270
VORD Divnogorie 71.18 319 *eP* **P** **20 07 16.9 -2.5**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORR Voronezh 71.18 319 *eP* **P** **20 07 18.1 -1.3**
VORR pmax pmax
comp=Z,18nm,1.4s
D19K Kuna River 71.23 23 P **P** **20 07 20.3 +0.8**
baz=269
VSR Storozhevoye 71.24 319 *eP* **P** **20 07 17.4 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 71.29 320 *eP* **P** **20 07 18.0 -2.0**
LPSR pmax pmax
comp=Z,30nm,0.8s
MARD Mardin 71.50 304 P **P** **20 07 21.6 -0.2**
E19K Redstone River 71.56 24 P **P** **20 07 22.2 +0.8**
baz=270
B20K Meade River 71.60 21 P **P** **20 07 22.6 +1.0**
baz=269
G19K Purcell Mounta 71.62 25 P **P** **20 07 22.5 +0.7**
baz=271
D20K Etivluk River 71.78 22 P **P** **20 07 23.7 +0.9**
baz=270
H19K Roundabout Mou 71.89 26 P **P** **20 07 24.7 +1.3**
baz=271
E20K Nigu River 71.94 23 P **P** **20 07 24.6 +0.8**
baz=271
F20K Avaraart Lake 72.15 24 P **P** **20 07 25.5 +0.6**
baz=272
TTA Tatalina 72.17 29 P **P** **20 07 25.6 +0.3**
TTA IAmb IAmb 20 07 36.4
comp=Z,26nm,1.8s
TTA Tatalina 72.17 29 P **P** **20 07 25.6 +0.3**
TTA pmax pmax
comp=Z,26nm,1.8s
A22K Sinclair Lake 72.33 20 P **P** **20 07 26.8 +0.9**
baz=271
C21K Knifeblade Rid 72.44 22 P **P** **20 07 27.8 +1.1**
baz=272
B21K Ikpikpuk River 72.49 21 P **P** **20 07 28.0 +1.2**
baz=272
OBN Obninsk 72.50 323 P **P** **20 07 26.0 -1.2**
OBN Obninsk 72.50 323 *ceP* **P** **20 07 26.5 -0.7**
OBN *e* 20 10 07.2
OBN *eS* **SKiKP** **20 16 52.9 -5.1**
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,157nm,16.0s
H20K Anotleneega Mo 72.55 26 P **P** **20 07 28.3 +0.9**
baz=273
B22K Teshekpuk Lake 72.87 21 P **P** **20 07 29.9 +0.7**
baz=273
J20K Nowinta River 72.94 27 P **P** **20 07 31.0 +1.3**
baz=274
IMAR Indian Mountai 72.98 25 P **P** **20 07 30.3 +0.3**
M19K Big River Lodg 72.99 30 P **P** **20 07 30.6 +0.5**
baz=274
G21K Allakaket 73.05 25 P **P** **20 07 31.1 +0.7**
baz=274
D22K Ayikyak River 73.21 22 P **P** **20 07 32.2 +1.0**
baz=274
H21K Melozitna Rive 73.40 26 P **P** **20 07 33.7 +1.3**
baz=275
F22K John River 73.50 24 P **P** **20 07 34.6 +1.6**
baz=275
G22K Bettles 73.81 24 P **P** **20 07 35.2 +0.5**
baz=275
CAST Castle Rocks 73.91 28 P **P** **20 07 35.9 +0.4**
CAST IAmb IAmb 20 07 58.5
comp=Z,12nm,0.9s
CAST Castle Rocks 73.91 28 P **P** **20 07 36.2 +0.7**
baz=276
D23K Nanushuk River 73.92 22 P **P** **20 07 36.4 +1.0**
baz=276
H22K Ishtalitna Cre 73.96 25 P **P** **20 07 37.2 +1.5**
baz=276
COLD Coldfoot 74.29 24 P **P** **20 07 39.0 +1.5**
baz=277
MLY Manley 74.32 26 P **P** **20 07 38.2 +0.4**
MLY IAmb IAmb 20 08 00.9
comp=Z,7.0nm,0.8s
MLY Manley 74.32 26 P **P** **20 07 38.5 +0.7**
baz=277
BPAW Bear Paw Mtn. 74.32 27 P **P** **20 07 38.5 +0.6**
baz=277
SKT Skwentna 74.33 29 P **P** **20 07 38.6 +0.7**
baz=277
VADS Vadso 74.34 339 *eP* **P** **20 07 37.8 +0.1**
E23K Chandalar 74.41 23 P **P** **20 07 39.3 +0.9**
baz=277
G23K Bananza Creek 74.42 24 P **P** **20 07 39.3 +0.9**
baz=277
C24K Franklin Bluff 74.54 21 P **P** **20 07 39.6 +0.7**
baz=277
D24K Happy Valley 74.57 22 P **P** **20 07 39.8 +0.7**
baz=277
SUA Susitna One 74.76 30 P **P** **20 07 40.5 -0.1**
SUA IAmb IAmb 20 08 05.6
comp=Z,13nm,0.9s
SUA Susitna One 74.76 30 P **P** **20 07 41.2 +0.6**
baz=278
I23K Minto, Yukon-K 74.89 26 P **P** **20 07 42.5 +1.5**
baz=278
NEA2 Nenana 75.09 27 P **P** **20 07 43.0 +0.7**
baz=278
F24K Squaw Lake 75.14 23 P **P** **20 07 43.2 +0.7**
baz=279
KEV Kevo 75.19 339 P **P** **20 07 42.1 -0.6**
KEV Kevo 75.19 339 P **P** **20 07 42.1 -0.6**
KEV pmax pmax
comp=Z,101nm,1.7s
MCK McKinley 75.27 27 P **P** **20 07 43.4 +0.1**
baz=279
SIM Simferopol' 75.35 313 *eP* **P** **20 07 42.6 -1.5**
SIM *eS* **S** **20 17 20.3 +0.1**
SIM pmax pmax
comp=Z,44nm,1.3s
SIM smax smax
comp=E,2.0nm,16.0s
SIM MLR MLR
comp=Z,28nm,16.0s
QRZ Quartz Range 75.37 142 P **P** **20 07 45.0 +0.8**
MDM Murphy Dome 75.39 26 P **P** **20 07 44.1 +0.1**
MDM IAmb IAmb 20 08 07.3
comp=Z,8.2nm,0.9s
H24K Noodor Dome 75.39 25 P **P** **20 07 45.3 +1.3**
baz=279
D25K Kavik River 75.41 21 P **P** **20 07 44.5 +0.4**
baz=280
G24K Hadweenzic Riv 75.42 24 P **P** **20 07 45.0 +0.9**
baz=279
WAT1 Susitna Watana 75.58 28 P **P** **20 07 45.2 +0.1**
baz=279
POKR Poker Plat Res 75.69 26 P **P** **20 07 46.8 +1.1**
baz=280
ARA0 ARCESS Array S 75.75 339 *eP* **P** **20 07 45.6 -0.4**
ARCES ARCESS Array B 75.75 339 P **P** **20 07 44.8 -1.2**
ARCES IAmb IAmb 20 07 46.8
comp=Z,25nm,1.1s
ARCES ARCESS Array B 75.75 339 P **P** **20 07 44.8 -1.2**
ARCES pmax pmax
comp=Z,25nm,1.2s
ARCES ARCESS Array B 75.75 339 P **P** **20 07 45.1 -0.9**
comp=Z,12nm,0.9s,baz=70,slow=7.1,SNR=13
ARCES LR LR 20 46 38.1
comp=Z,137nm,18.1s,baz=74,slow=40
comp=Z,12nm,0.9s
KNK Knik Glacier 75.86 30 P **P** **20 07 46.5 -0.2**
KNK IAmb IAmb 20 08 51.8
comp=Z,20nm,1.3s

KNK **Knik Glacier** 75.86 30 P P 20 07 47.0 +0.3
baz=280
G25K **Bearman Lake** 75.95 24 P P 20 07 49.1 +2.0
baz=280
F25K **Christian Rive** 75.97 23 P P 20 07 48.4 +1.1
baz=281
ILAR **Eielson Array** 75.98 26 P P 20 07 46.3 -1.1
ILAR **Eielson Array** 75.98 26 P P 20 07 46.3 -1.1
ILAR **Eielson Array** 75.98 26 P P 20 07 45.9 -1.5
comp=Z,1.5nm,0.8s,baz=260,slow=5.1,SNR=15
comp=Z,1.5nm,0.8s
WAT6 **Susitna Watana** 75.99 28 P P 20 07 48.0 +0.3
baz=280
HDA **Harding Lake** 76.02 27 P P 20 07 47.0 -0.6
baz=280
DHY **Denali Highway** 76.07 28 P P 20 07 48.1 0.0
baz=280
M23K **Glacier View** 76.14 29 P P 20 07 47.9 -0.5
baz=280
SPB2 **Spitsbergen Ar** 76.19 348 P P 20 07 48.4 +0.1
SPA0 **Spitsbergen Ar** 76.19 348 *e*P P 20 07 48.7 +0.3
SPA0 IAmb IAmb 20 07 48.7
comp=Z,30nm,0.8s
SPITS **Spitsbergen Ar** 76.19 348 P P 20 07 48.3 0.0
SPITS pmax pmax
comp=Z,32nm,0.8s
SPITS **Spitsbergen Ar** 76.19 348 P P 20 07 48.0 -0.3
comp=Z,31nm,0.8s,baz=84,slow=8.7,SNR=38
SPITS LR LR 20 46 34.0
comp=Z,249nm,18.1s,baz=35,slow=40
comp=Z,31nm,0.8s
SCM **Sheep Creek Mo** 76.31 29 P P 20 07 48.6 -0.8
SCM **Sheep Creek Mo** 76.31 29 P P 20 07 48.6 -0.8
SCM pmax pmax
comp=Z,52nm,1.7s
SCM **Sheep Creek Mo** 76.31 29 P P 20 07 49.2 -0.2
baz=280
BMAR **Burnt Mountain** 76.41 23 P P 20 07 50.7 +0.9
PRP **Porcupine Dome** 76.41 25 P P 20 07 50.4 +0.4
baz=281
LTZ **Lake Taylor** 76.44 143 P P 20 07 51.5 +1.2
F26K **Sheenjek River** 76.52 23 P P 20 07 51.6 +1.2
baz=282
BRTR **Keskin Array B** 76.63 308 P P 20 07 50.9 -0.9
BRTR **Keskin Array B** 76.63 308 P P 20 07 50.9 -0.9
BRTR **Keskin Array B** 76.63 308 P P 20 07 50.6 -1.1
comp=Z,0.9nm,0.7s,baz=107,slow=4.1,SNR=5.8
BRTR LR LR 20 46 00.4
comp=Z,118nm,20.2s,baz=89,slow=39
comp=Z,0.9nm,0.7s
KTK1 **Kautokeino** 76.64 338 *e*P P 20 07 50.8 -0.3
KTK1 IAmb IAmb 20 07 55.7
comp=Z,473nm,3.2s
TCW **Tory Channel** 76.65 141 P P 20 07 51.0 -0.4
URZ **Urewera** 76.70 137 LR LR 20 46 09.2
comp=Z,54nm,18.0s,baz=123,slow=39
KBS **Kingsbay** 76.78 349 P P 20 07 51.2 -0.4
KBS **Kingsbay** 76.78 349 P P 20 07 51.2 -0.4
KBS pmax pmax
comp=Z,44nm,1.5s
KBS **Kingsbay** 76.78 349 *e*P P 20 07 51.6 0.0
KBS **Kingsbay** 76.78 349 *i* P P 20 07 50.0 -1.6
M24K **Tolsona, Glenn** 76.80 29 P P 20 07 52.7 +0.6
baz=281
G26K **Porcupine Rive** 76.81 24 P P 20 07 53.1 +1.2
baz=282
RIDG **Independent Ri** 77.06 27 P P 20 07 53.2 -0.3
RIDG **Independent Ri** 77.06 27 P P 20 07 54.0 +0.4
baz=282
FIA1 **FINESS Array S** 77.08 331 P P 20 07 52.8 -0.8
FINES **FINESS Array B** 77.08 331 P P 20 07 52.8 -0.8
FINES **FINESS Array B** 77.08 331 P P 20 07 52.8 -0.8
FINES **FINESS Array B** 77.08 331 P P 20 07 52.5 -1.1
comp=Z,8.8nm,0.7s,baz=49,slow=6.5,SNR=50
FINES LR LR 20 44 13.9
comp=Z,198nm,18.8s,baz=84,slow=37
comp=Z,8.8nm,0.7s
D27M **Malcolm River** 77.31 21 P P 20 07 55.8 +1.0
baz=284
E27K **Coleen River** 77.34 22 P P 20 07 55.9 +0.9
baz=284
VSU **Vasula** 77.37 327 *ce*P P 20 07 55.4 +0.2
VSU pmax pmax
comp=Z,35nm,1.3s
VSU **Vasula** 77.37 327 *e*P P 20 07 55.2 -0.1
SCRK **Sand Creek** 77.38 27 P P 20 07 55.7 +0.3
baz=283
I26K **Coal Creek Min** 77.42 25 P P 20 07 55.9 +0.4
baz=283
JETT **Jettan, Norway** 77.49 339 *e*P P 20 07 56.3 +0.5
AKASG **Malin Array Be** 77.53 319 P P 20 07 55.2 -1.2
comp=Z,3.2nm,0.7s,baz=64,slow=5.5,SNR=14
AKASG LR LR 20 45 25.4
comp=Z,113nm,20.3s,baz=57,slow=38
comp=Z,3.2nm,0.7s
AKBB **Malin Array Si** 77.53 319 P P 20 07 54.7 -1.7
AKBB IAmb IAmb 20 08 06.5
comp=Z,11nm,0.9s
AKBB **Malin Array Si** 77.53 319 P P 20 07 54.7 -1.7
AKBB pmax pmax
comp=Z,11nm,0.9s
KIEV **Kiev** 77.55 319 ⇑P P 20 07 55.3 -1.1
KIEV **Kiev** 77.55 319 P P 20 07 54.8 -1.7
KIEV IAmb IAmb 20 08 06.5
comp=Z,10nm,0.9s
KIEV **Kiev** 77.55 319 ⇑P P 20 07 55.3 -1.1
MNK **Minsk** 77.56 323 *i* P P 20 07 56.2 -0.2
MNK *i* 20 08 06.2
MNK *i* 20 10 50.8
MNK *i* PPP PPP 20 12 38.2
MNK *i* S S 20 17 48.3 +4.3
MNK *i* 20 18 14.5
MNK *i* SS SS 20 22 48.5 +4.9
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK MLR MLR
comp=N,136nm,17.0s
MNK MLR MLR
comp=Z,164nm,17.0s
MNK MLR MLR
comp=E,52nm,17.0s
N25K **Chitina, Valde** 77.63 29 P P 20 07 57.7 +0.9
baz=283
EIL **Elat** 77.64 297 LR LR 20 46 25.1
comp=E,91nm,20.6s,baz=67,slow=39
G27K **Doyon Strip** 77.66 24 P P 20 07 57.9 +1.1
baz=284
CSS **Mathiatis** 77.84 303 P P 20 07 57.7 -0.7
CSS IAmb IAmb 20 08 09.7
comp=Z,16nm,0.7s
H27K **Steamboat Moun** 77.85 24 P P 20 07 59.0 +1.0
baz=285
L26K **Log Cabin Wild** 77.88 28 P P 20 07 59.1 +1.0
baz=284
TRO **Tromso** 77.97 339 *e*P P 20 07 58.5 +0.1
E28M **Babbage River** 77.97 22 P P 20 07 59.1 +0.6
baz=286
I27K **Kandik River** 77.98 25 P P 20 07 59.9 +1.2
baz=285
GLB **Gilahina Butte** 78.04 29 P P 20 07 58.9 -0.1
F28M **Old Crow** 78.12 23 P P 20 08 00.3 +0.9
baz=286
MEF **Metsahovi** 78.15 329 *e*P P 20 07 59.6 0.0
M26K **Nabesna, AK** 78.18 28 P P 20 08 00.6 +0.8
baz=284
K27K **Chicken** 78.18 26 P P 20 08 00.8 +1.0
baz=285
EGAK **Eagle** 78.38 26 P P 20 08 00.4 -0.4
EGAK **Eagle** 78.38 26 P P 20 08 01.5 +0.8
baz=285
L27K **Beaver Creek,** 78.54 27 P P 20 08 03.0 +1.3
baz=285
BCAR **Beaver Creek A** 78.56 27 P P 20 08 02.9 +1.0
E29M **Blow River** 78.61 22 P P 20 08 02.5 +0.5
baz=287
SORM **Soroca** 78.64 317 ⇑P P 20 08 02.6 +0.1
SORM **Soroca** 78.64 317 ⇑P P 20 08 02.6 +0.1
I28M **Miner Creek** 78.69 25 P P 20 08 03.5 +0.9
baz=286
M27K **Edge Creek, AK** 78.70 28 P P 20 08 03.8 +1.0
baz=285
MTSE **Matsula** 78.80 328 *e*P P 20 08 03.0 -0.2

G29M **Pine Creek** 79.01 23 P P 20 08 05.0 +0.7
baz=288
H29M **Whitestone** 79.09 24 P P 20 08 05.3 +0.6
baz=287
BVCY **Beaver Creek** 79.14 28 P P 20 08 06.6 +1.5
baz=286
BARN **Barnard Glacie** 79.14 29 P P 20 08 05.8 +0.5
BARN IAmb IAmb 20 08 17.7
comp=Z,55nm,2.0s
RAF **Rauma** 79.20 331 *e*P P 20 08 04.8 -0.5
DAWY **Dawson** 79.31 26 P P 20 08 05.8 -0.2
DAWY **Dawson** 79.31 26 P P 20 08 06.6 +0.6
baz=287
CTG **Chitna Glacier** 79.32 29 P P 20 08 07.5 +1.3
baz=286
CTGM **Chitina Glacie** 79.32 29 P P 20 08 06.7 +0.5
CTGM IAmb IAmb 20 08 08.2
comp=Z,10nm,0.8s
TPGR **Topolog** 79.33 314 ⇓P P 20 08 06.8 +0.4
CFR **Carcaliu** 79.45 314 ⇓P P 20 08 05.9 -1.1
CFR **Carcaliu** 79.45 314 ⇓P P 20 08 05.9 -1.1
YUK3 **Moose Creek** 79.50 28 P P 20 08 08.7 +1.4
baz=286
PABE **Paberze** 79.52 325 P P 20 08 06.2 -1.0
PABE **Paberze** 79.52 325 *e*P P 20 08 07.1 -0.1
F30M **Barrier River** 79.61 22 P P 20 08 08.0 +0.5
baz=290
G30M **tAoh Zraii Nji** 79.66 23 P P 20 08 07.8 -0.1
baz=289
J29N **Klondike Camp** 79.69 26 P P 20 08 09.6 +1.5
baz=288
STEI **Steigen** 79.78 338 *e*P P 20 08 07.3 -1.0
STEI IAmb IAmb 20 08 08.7
comp=Z,22nm,1.0s
SLIT **Slitere, Latvi** 79.86 327 *e*P P 20 08 08.0 -1.0
FAUS **Fauske** 79.95 338 *e*P P 20 08 08.4 -0.9
FAUS IAmb IAmb 20 08 10.1
comp=Z,15nm,0.6s
YUK8 **Steele Glacier** 79.96 29 P P 20 08 11.8 +2.0
baz=287
ODBI **Odbesti** 80.05 315 ⇑P P 20 08 10.6 +0.3
GIRR **Girov** 80.13 316 ⇓P P 20 08 10.0 -0.7
L29M **L29M** 80.14 27 P P 20 08 11.8 +1.3
baz=288
TESR **Tescani** 80.14 316 ⇓P P 20 08 11.3 +0.6
K29M **Barlow Dome** 80.17 26 P P 20 08 11.9 +1.1
baz=289
INK **Inuvik** 80.17 21 P P 20 08 09.9 -0.5
INK IAmb IAmb 20 08 11.3
comp=Z,7.0nm,0.9s
INK **Inuvik** 80.17 21 P P 20 08 09.9 -0.5
INK pmax pmax
comp=Z,7.0nm,0.9s
INK **Inuvik** 80.17 21 P P 20 08 10.4 0.0
baz=291
I30M **Mount Dempster** 80.19 25 P P 20 08 11.3 +0.5
baz=289
M29M **Somme Creek** 80.20 28 P P 20 08 12.5 +1.6
baz=288
VRI **Vrincioaia** 80.25 315 ⇑P P 20 08 11.3 -0.1
VRI **Vrincioaia** 80.25 315 ⇑P P 20 08 11.3 -0.1
PLOR **Plostina** 80.31 315 ⇓P P 20 08 11.9 +0.2
PLOR **Plostina** 80.31 315 ⇓P P 20 08 11.9 +0.2
BISRR **Bisoca** 80.34 315 ⇑P P 20 08 12.2 +0.3
G31M **Satah River** 80.40 23 P P 20 08 11.5 -0.2
baz=291
F31M **Tsiigehtchic** 80.41 22 P P 20 08 11.5 -0.3
baz=291
J30M **Hart River** 80.42 25 P P 20 08 13.4 +1.3
baz=290
YUK4 **Talbot Arm** 80.46 29 P P 20 08 13.9 +1.4
baz=288
TURR **Turia** 80.68 315 ⇑P P 20 08 13.8 0.0
MOR8 **Moi Vrsana** 80.69 337 *e*P P 20 08 12.4 -1.0
BURAR **Bucovina Array** 80.81 317 ⇑P P 20 08 14.4 -0.1
BUR08 **Bucovina Ar. S** 80.81 317 P P 20 08 13.9 -0.6
BUR08 IAmb IAmb 20 08 15.3
comp=Z,7.0nm,0.9s
MLR **Muntele Rosu** 80.87 315 ⇓P P 20 08 14.3 -0.5
MLR **Muntele Rosu** 80.87 315 P P 20 08 14.4 -0.5
MLR IAmb IAmb 20 08 26.2
comp=Z,8.1nm,0.7s
MLR **Muntele Rosu** 80.87 315 P P 20 08 14.4 -0.5
MLR pmax pmax
comp=Z,8.0nm,0.7s
MLR **Muntele Rosu** 80.87 315 LR LR 20 48 14.1
comp=Z,245nm,21.0s,baz=64,slow=39
M30M **Minto, Yukon** 80.89 27 P P 20 08 15.9 +1.4
baz=289
N30M **Aishikik Lake** 81.13 28 P P 20 08 17.0 +1.2
baz=289
HYT **Haines Junctio** 81.15 29 P P 20 08 17.9 +1.8
baz=289
STOK **Stokkvaagen** 81.17 337 *e*P P 20 08 14.9 -0.9
STOK IAmb IAmb 20 08 16.0
comp=Z,52nm,1.3s
A36M **Sachs Harbour** 81.18 17 P P 20 08 15.8 0.0
baz=298
VOIR 81.50 315 ⇓P P 20 08 16.7 -1.5
VOIR 81.50 315 ⇓P P 20 08 16.7 -1.5
HUMR **Humele** 81.79 314 ⇓P P 20 08 18.6 -1.0
ARR **Arges** 81.80 315 ⇑P P 20 08 19.6 -0.1
O30N **Mendenhall** 81.82 29 P P 20 08 20.6 +1.1
baz=290
KWP **Kalwaria Pacla** 81.86 319 P P 20 08 19.1 -0.8
KWP **Kalwaria Pacla** 81.86 319 P P 20 08 19.1 -0.8
KWP pmax pmax
comp=Z,19nm,0.6s
M31M **Drury Creek, Y** 82.07 27 P P 20 08 21.3 +0.6
baz=292
NSS **Namsos** 82.28 336 *e*P P 20 08 20.5 -1.2
KOLS **Kolonicke sedl** 82.33 319 *e*P P 20 08 22.4 0.0
KOLS *e* 20 08 35.9
KOLS pmax pmax
comp=Z,3.0nm,0.7s
KOLS **Kolonicke sedl** 82.33 319 *e*P P 20 08 22.4 0.0
KOLS *e* 20 08 35.9
WHY **Whitehorse** 82.42 29 P P 20 08 23.4 +0.7
WHY IAmb IAmb 20 10 22.7
comp=Z,19nm,1.6s
WHY **Whitehorse** 82.42 29 P P 20 08 24.2 +1.5
baz=291
MESR **Meseseni** 82.42 317 ⇑P P 20 08 20.9 -1.9
MARR **Marisel-Cluj** 82.44 316 ⇓P P 20 08 23.4 +0.2
FARO **Faro, Yukon** 82.51 27 P P 20 08 23.7 +0.6
baz=292
DRGR 82.68 317 ⇓P P 20 08 24.3 0.0
DRGR 82.68 317 ⇓P P 20 08 24.3 0.0
C36M **Paulatuk** 82.81 19 P P 20 08 24.0 -0.4
C36M IAmb IAmb 20 08 24.6
comp=Z,6.3nm,0.8s
C36M **Paulatuk** 82.81 19 P P 20 08 24.3 -0.1
baz=300
CRVS **Cervenica-Dubn** 82.85 319 *e*P P 20 08 25.8 +0.7
CRVS pmax pmax
comp=Z,16nm,1.3s
CRVS **Cervenica-Dubn** 82.85 319 *e*P P 20 08 25.8 +0.7
CRVS *e* 20 08 37.7
N32M **Quiet Lake** 83.05 28 P P 20 08 27.1 +1.3
baz=293
HFS **Hagfors** 83.26 331 P P 20 08 26.1 -0.8
comp=Z,10.0nm,0.5s,baz=103,slow=4.7,SNR=55
HFS LR LR 20 47 55.3
comp=Z,221nm,18.2s,baz=66,slow=37
comp=Z,10.0nm,0.5s
SURR **Surduc** 83.38 316 ⇑P P 20 08 27.4 -0.4
OJC **Ojcow** 83.47 320 P P 20 08 27.3 -0.9
OJC IAmb IAmb 20 08 39.4
comp=Z,7.5nm,0.8s
OJC **Ojcow** 83.47 320 P P 20 08 27.3 -0.9
OJC pmax pmax
comp=Z,8.0nm,0.8s
TBLU **Trondheim** 83.49 335 *e*P P 20 08 26.9 -1.2
KMBO **Kilima Mbogo** 83.50 267 *i* P P 20 08 27.7 -1.6
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO **Kilima Mbogo** 83.50 267 P P 20 08 27.8 -1.5
comp=Z,1.1nm,0.3s,baz=45,slow=20,SNR=4.6
KMBO LR LR 20 40 47.8
comp=Z,64nm,20.9s,baz=90,slow=32
comp=Z,1.1nm,0.3s
BLKB **Belogradchik** 83.64 314 ⇓P P 20 08 29.2 -0.1
BZS **Buzias** 83.76 316 ⇑P P 20 08 29.0 -0.8
BZS **Buzias** 83.76 316 ⇑P P 20 08 29.0 -0.8
NC405 **NORSAR Array S** 83.77 332 P P 20 08 28.6 -1.0

MDVR **Moldovita** 83.95 315 ⇓P P 20 08 30.5 -0.3
NC602 **NORSAR Array S** 84.00 332 *e*P P 20 08 29.6 -1.1
NORES **NORESS Array B** 84.00 332 P P 20 08 31.5 +0.8
NB2 **NORSAR Subarra** 84.02 332 P P 20 08 29.6 -1.3
comp=Z,6.6nm,0.6s,baz=62,slow=5.3
NB2 **NORSAR Subarra** 84.02 332 P P 20 08 29.6 -1.3
baz=62,slow=5.3
NOA **NORSAR Array B** 84.02 332 P P 20 08 29.6 -1.3
comp=Z,4.7nm,0.6s,baz=65,slow=4.8,SNR=48
NOA LR LR 20 48 41.1
comp=Z,253nm,18.1s,baz=70,slow=38
comp=Z,4.7nm,0.6s
IDI **Anoyia** 84.45 305 LR LR 20 51 49.0
comp=Z,36nm,19.4s,baz=72,slow=40
DOMB **Dombas** 84.52 334 *e*P P 20 08 32.6 -0.7
VYHS **Vyhne** 84.63 319 *e*P P 20 08 34.8 +0.6
VYHS **Vyhne** 84.63 319 *e*P P 20 08 34.8 +0.6
VYHS *e* 20 08 44.8
OSL **Oslo** 84.70 332 *e*P P 20 08 34.1 -0.2
R33M **Jennings River** 84.72 29 P P 20 08 36.7 +2.2
baz=295
MOL **Molde** 84.91 335 *e*P P 20 08 35.2 0.0
MAUC **Maruska** 84.96 320 *e*P P 20 08 36.4 +0.5
MORC **Moravsky Berou** 84.99 321 P P 20 08 35.2 -0.8
MORC IAmb IAmb 20 08 36.9
comp=Z,8.5nm,1.3s
MORC **Moravsky Berou** 84.99 321 *e*P P 20 08 35.7 -0.3
MORC **Moravsky Berou** 84.99 321 P P 20 08 35.2 -0.8
MORC pmax pmax
comp=Z,9.0nm,1.3s
TGTN **Hyland Airport** 84.99 27 P P 20 08 37.1 +1.3
baz=297
FRGS **Fruska Gora** 85.11 316 ⇓P P 20 08 35.9 -0.8
JAVC **Velka Javorina** 85.23 320 *e*P P 20 08 38.2 +0.9
S34M **Telegraph Cree** 85.26 30 P P 20 08 39.1 +2.0
baz=295
AKN **Aaknes** 85.32 334 *e*P P 20 08 37.3 0.0
AKN IAmb IAmb 20 08 38.1
comp=Z,17nm,0.6s
KONO **Kongsberg** 85.34 331 *e*P P 20 08 37.0 -0.5
KRLC **Kraliky** 85.34 321 *e*P P 20 08 37.8 0.0
KRLC **Kraliky** 85.34 321 *e*P P 20 08 37.8 0.0
WTLY **Watson Lake, Y** 85.40 28 P P 20 08 39.2 +1.4
baz=297
JMIC **Jan Mayen** 85.41 345 LR LR 20 49 31.3
comp=Z,130nm,21.3s,baz=54,slow=38
SKAR **Skarslia** 85.46 333 *e*P P 20 08 38.6 +0.5
DPC **Dobruska-Polom** 85.52 321 *e*P P 20 08 39.0 +0.3
DPC **Dobruska-Polom** 85.52 321 *e*P P 20 08 39.0 +0.3
DPC *ex* x 20 08 49.5
MORH **Mrgy, Hungar** 85.53 317 ⇓P P 20 08 38.3 -0.4
NEEM **North Greenlan** 85.53 358 *i* P P 20 08 37.8 -0.7
NEEM IAmb IAmb 20 08 39.5
comp=Z,25nm,0.8s
DLBC **Dease Lake** 85.57 30 P P 20 08 40.6 +1.8
baz=296
UPC **Upice** 85.65 322 *e*P P 20 08 39.3 +0.1
UPC **Upice** 85.65 322 *e*P P 20 08 39.3 +0.1
UPC *ex* x 20 08 50.2
VRAC **Vranov** 85.73 320 ⇑P P 20 08 39.5 -0.2
VRAC **Vranov** 85.73 320 *e*P P 20 08 39.9 +0.2
VRAC **Vranov** 85.73 320 P P 20 08 39.5 -0.2
VRAC **Vranov** 85.73 320 LR LR 20 50 30.6
comp=Z,106nm,18.4s,baz=76,slow=38
RES **Resolute Bay** 85.80 9 P P 20 08 39.4 -0.1
RES IAmb IAmb 20 08 40.5
comp=Z,7.9nm,0.8s
RES **Resolute Bay** 85.80 9 P P 20 08 39.4 -0.1
RES pmax pmax
comp=Z,8.0nm,0.9s
RES **Resolute Bay** 85.80 9 LR LR 20 50 31.5
comp=Z,56nm,19.8s,baz=9.0,slow=38
KRUC **Moravsky** 85.95 320 *e*P P 20 08 40.6 -0.1
WRGLY **Wrigley** 86.14 24 P P 20 08 41.7 +0.4
WRGLY **Wrigley** 86.14 24 P P 20 08 42.7 +1.4
baz=301
RUE **Ruedersdorf** 86.19 324 *e*P P 20 08 41.7 -0.1
FOO **Floro** 86.41 334 *e*P P 20 08 42.1 -0.6
ODD1 **Odda** 86.56 332 *e*P P 20 08 43.1 -0.4
CONA **Conrad Observa** 86.69 319 *e*P P 20 08 44.9 +0.4
comp=Z,5.1nm,1.2s
CONA *es*P **pP** 20 08 55.0 -3.7
comp=Z,3.5nm,0.9s
BRG **Berggiesshubel** 86.73 322 *e*P P 20 08 44.5 -0.1
BRG Amp 20 08 45.3
comp=Z,5.2nm,0.9s
BRG **Berggiesshubel** 86.73 322 P P 20 08 54.3 +10
BRG Amp 20 08 56.4
comp=Z,3.5nm,0.9s
BRG **Berggiesshubel** 86.73 322 *e*P P 20 08 44.4 -0.1
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL **Collm** 87.10 323 *i* P P 20 08 45.7 -0.6
CLL **Collm** 87.10 323 *i* P P 20 08 45.7 -0.6
CLL *ep*P **pP** 20 08 56.0 -4.5
CLL *es*S SS 20 25 12.0 +6.9
CLL AMS AMS 20 50 00.0
comp=Z,100nm,21.1s
ZVC **Zvikov** 87.14 321 *e*P P 20 08 46.6 0.0
ZVC *ex* x 20 08 57.1
CKRC **Cesky Krumlov** 87.31 320 *e*P P 20 08 47.7 +0.3
CKRC **Cesky Krumlov** 87.31 320 *e*P P 20 08 47.7 +0.3
KMY **Karmoy** 87.51 332 *e*P P 20 08 48.5 +0.4
KHC **Kasperske Hory** 87.63 321 *e*P P 20 08 49.1 +0.1
KHC **Kasperske Hory** 87.63 321 *e*P P 20 08 49.1 +0.1
KHC *ex* x 20 08 59.6
GERES **GERESS Array B** 87.67 321 P P 20 08 48.4 -0.9
GERES **GERESS Array B** 87.67 321 P P 20 08 48.4 -0.9
GERES **GERESS Array B** 87.67 321 P P 20 08 48.8 -0.5
comp=Z,0.9nm,0.6s,baz=69,slow=4.4,SNR=6.0
GERES LR LR 20 52 37.4
comp=Z,153nm,18.7s,baz=81,slow=39
comp=Z,0.9nm,0.6s
MOA **Molln** 87.72 320 *e*P P 20 08 49.7 +0.3
comp=Z,6.6nm,1.0s
LESA **Schwarzleotal** 88.87 320 *e*P P 20 08 54.2 -0.8
comp=Z,5.4nm,1.1s
LESA *i* sP **pP** 20 09 04.9 -4.3
comp=Z,3.4nm,0.7s
ABTA **Abfaltersbach** 89.25 319 *i* P P 20 08 55.4 -1.3
comp=Z,3.2nm,0.7s
SUMG **Summit** 89.42 354 *i* P P 20 08 57.0 -0.4
WTTA **Wattenberg** 89.58 320 *i* P P 20 08 57.5 -0.9
comp=Z,6.7nm,0.6s
WTTA *i* sP **pP** 20 09 08.6 -4.1
comp=Z,4.9nm,0.5s
WATA **Walderalm** 89.59 320 *e*P P 20 08 58.1 -0.3
comp=Z,10.0nm,1.0s
WATA *i* sP **pP** 20 09 08.3 -4.3
comp=Z,3.8nm,0.5s
SQTA **Sankt Quirin** 89.86 320 *e*P P 20 08 58.9 -0.8
comp=Z,4.6nm,0.6s,SNR=4.4
SQTA *i* sP **pP** 20 09 09.8 -4.1
comp=Z,4.8nm,0.5s
MOTA **Moosalm** 89.88 320 *e*P P 20 08 58.9 -0.9
comp=Z,6.4nm,0.9s,SNR=5.4
MOTA *i* sP **pP** 20 09 09.6 -4.4
comp=Z,5.0nm,0.7s
YKA **Yellowknife Ar** 89.89 22 P P 20 08 58.7 -0.6
YKA **Yellowknife Ar** 89.89 22 *i* P P 20 08 59.7 +0.4
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA **Yellowknife Ar** 89.89 22 P P 20 08 59.2 -0.1
comp=Z,2.7nm,0.7s,baz=310,slow=4.6,SNR=63
comp=Z,2.7nm,0.7s
FETA **Feichten** 90.25 320 *i* P P 20 09 01.1 -0.4
comp=Z,5.3nm,0.9s
FETA *i* sP **pP** 20 09 11.8 -3.9
comp=Z,4.2nm,0.6s
UPNV **Upernavik** 90.32 359 *i* P P 20 08 56.9 -4.2
DAVA **Damuels** 90.65 320 *e*P P 20 09 03.5 +0.1
comp=Z,9.0nm,1.1s
DAVA *i* sP **pP** 20 09 13.7 -3.9
comp=Z,3.4nm,0.6s
FUORN **Ofenpass-Fuorn** 90.71 320 P P 20 09 03.3 -0.5
FUORN IAmb IAmb 20 09 14.6
comp=Z,7.5nm,1.0s
DAVOX **Davos/Dischmat** 90.88 320 LR LR 20 55 00.3
comp=Z,167nm,18.4s,baz=80,slow=39
BORG **Borgarnes** 93.28 344 LR LR 20 54 58.4
comp=Z,75nm,18.4s,baz=3.1,slow=38
EKA **Eskdalemuir Ar** 93.45 331 P P 20 09 15.3 -0.6
comp=Z,0.4nm,0.5s,baz=57,slow=3.1,SNR=3.8
comp=Z,0.4nm,0.5s
PPT **Papeete** 95.31 107 LR LR 20 48 57.6

comp=Z,36nm,18.2s,baz=2.5,slow=33
PPT2 Papeete2 95.32 107 *e*LR LR 20 39 49.1
comp=Z,120nm,25.8s
SFJD Kangerlussuaq 95.89 356 LR LR 20 54 39.2
comp=Z,51nm,20.1s,baz=78,slow=37
LSZ Lusaka 96.16 256 LR LR 20 50 37.5
comp=Z,86nm,18.4s,baz=112,slow=34
TBI Tubuai 96.99 112 *e*LR LR 20 40 57.3
comp=Z,800nm,34.8s
FRB Frobisher Bay 99.16 4 LR LR 20 58 35.3
comp=Z,46nm,19.7s,baz=10.0,slow=38
TXAR Lajitas Array 117.44 43 PKP **PKiKP 20 14 46.7 -0.1**
comp=Z,1.6nm,0.6s,baz=228,slow=0.8,SNR=21
DBIC Dimbokro 120.72 289 PKP **PKPdf 20 14 52.9 -0.4**
comp=Z,4.1nm,0.8s,baz=15,slow=1.5,SNR=5.4
WVT Waverly 120.85 26 P **PKiKP 20 14 53.4 +0.3**
baz=329
TZTN Tazewell 122.17 22 P **PKiKP 20 14 55.9 +0.1**
baz=333
TKL Tuckaleechee C 122.88 23 PKP **PKPdf 20 14 56.7 -0.3**
comp=Z,3.9nm,0.6s,baz=0.0,slow=13,SNR=10
LRAL Lakeview Retre 123.84 27 P **PKiKP 20 14 59.1 0.0**
baz=328
KMSC Kings Mountain 124.22 21 P **PKiKP 20 14 59.8 0.0**
baz=335
PLCA Paso Flores 154.69 161 PKPbc **PKPbc 20 16 01.1 -0.6**
comp=Z,2.3nm,0.9s,baz=205,slow=8.4,SNR=4.6

IDC 20 19:56:09.9±4.3, 29°60'N×70°76'E, *h*0km, mb3.5/3, mbtmp3.3/5, ML2.6/2, Error ellipse: s-maj=147.3km s-min=28.8km az=79.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.35**	**12**	Pn	Pn	19 59 19.9	-0.9
	baz=188,slow=7.1,SNR=1.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**19.37**	**24**	P	P	20 00 37.5	+0.4
	baz=211,slow=11,SNR=2.5						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**23.40**	**359**	P	P	20 01 20.3	0.0
	0.3nm,0.6s,baz=187,slow=11,SNR=2.4						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**78.58**	**121**	P	P	20 08 13.8	+0.1
	0.7nm,0.9s,baz=320,slow=5.0,SNR=5.1						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**80.53**	**124**	P	P	20 08 24.3	0.0
	0.4nm,0.7s,baz=309,slow=5.7,SNR=1.8						
	0.4nm,0.7s						

*IDC **20** 19:56:41.6±3.5, 4°.53S×144°.39E, h141km±40km, mb3.6/10, mbtmp4.0/12, Error ellipse: s-maj=33.6km s-min=21.9km az=108.0*
*NEIC **20** 19:56:42.5±0.9, 4°.50S±0°.09×144°.03E±0°.09, h132km±8km, mb4.2/22, Error ellipse: s-maj=13.3km s-min=11.5km az=133.0*
ISC 20 19:56:39.8±0.6, 4°.49S±0°.06×144°.02E±0°.09, h110km, n42, σ1ş12/42, mb4.0/17, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**4.12**	**54**		**Pn**	**19 57 43.9**	**+3.0**
PMG	**Port Moresby**	**5.79**	**148**	P	**Pn**	**19 58 03.8**	**+0.4**
	11nm,0.5s,baz=350,slow=6.4,SNR=9.4						
PMG				S	**Sn**	**19 59 05.6**	**-3.0**
	17nm,0.6s,baz=320,slow=22,SNR=5.9						
COEN	**Coen**	**9.45**	**185**	Pn	**Pn**	**19 58 56.0**	**+3.0**
FAKI	**Fak Fak**	**11.85**	**277**	Pn	**Pn**	**19 59 25.0**	**-0.4**
MTN	**Manton Dam**	**15.20**	**236**	Pn	**Pn**	**20 00 08.6**	**-0.2**
WB0	**Warramunga Arr**	**17.86**	**211**	P	**P**	**20 00 39.6**	**-0.9**
WB0				IAmb	IAmb	20 00 41.8	
	comp=Z,9.5nm,1.2s						
WR0	**Warramunga Arr**	**17.94**	**210**	P	**P**	**20 00 40.8**	**-0.7**
WR0				IAmb	IAmb	20 00 43.8	
	comp=Z,8.1nm,0.9s						
WRAB	**Tennant Creek**	**18.02**	**211**	P	**Pn**	**20 00 42.9**	**-0.4**
WRAB				IAmb	IAmb	20 00 44.5	
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**18.02**	**211**	P	**Pn**	**20 00 42.9**	**-0.5**
WB2				IAmb	IAmb	20 00 44.7	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**18.03**	**211**	P	**P**	**20 00 42.6**	**+0.1**
WRA	**Warramunga Arr**	**18.03**	**211**	P	**Pn**	**20 00 43.0**	**-0.4**
	comp=Z,4.1nm,0.5s,baz=32,slow=12,SNR=21						
KNRA	**Kununurra**	**18.68**	**232**	P	**P**	**20 00 50.0**	**+0.5**
SOEI	**Soe**	**20.29**	**254**	P	Pn	20 01 08.6	-1.5
AS31	**Alice Springs**	**21.42**	**206**	P	**P**	**20 01 19.4**	**+0.2**
ASAR	**Alice Springs**	**21.43**	**206**	P	**P**	**20 01 19.3**	**+0.1**
ASAR	**Alice Springs**	**21.43**	**206**	P	**P**	**20 01 19.6**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=32,slow=7.6,SNR=38						
	comp=Z,2.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**22.50**	**232**	P	**P**	**20 01 30.4**	**-0.1**
STKA	**Stephens Creek**	**27.34**	**185**	P	**P**	**20 02 14.5**	**0.0**
YHNB	**Yeheng**	**36.40**	**324**	P	**P**	**20 03 34.5**	**+0.5**
MJAR	**Matsushiro Arr**	**41.17**	**353**	P	**P**	**20 04 12.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=182,slow=6.3,SNR=2.5						
	comp=Z,0.6nm,0.5s						
MAJO	**Matsushiro**	**41.17**	**353**	P	**P**	**20 04 12.3**	**-1.3**
MAJO				IAmb	IAmb	20 04 13.3	
	comp=Z,19nm,1.5s						
KSRS	**Korea Array**	**44.34**	**342**	P	**P**	**20 04 39.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=160,slow=10,SNR=4.6						
	comp=Z,1.8nm,0.8s						
RTZ	**Ruatahuna**	**45.28**	**143**	P	**P**	**20 04 47.5**	**+0.8**
RTZ				IAmb	IAmb	20 04 49.3	
	comp=Z,5.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.93**	**299**	P	**P**	**20 05 23.8**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=121,slow=6.2,SNR=5.1						
	comp=Z,0.7nm,0.7s						
SONM	**Songino Array**	**61.67**	**332**	P	**P**	**20 06 46.2**	**-0.1**
SONM				IAmb	IAmb	20 07 07.9	
	comp=Z,2.4nm,1.4s						
SONM	**Songino Array**	**61.67**	**332**	P	**P**	**20 06 46.2**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=167,slow=8.7,SNR=2.3						
	comp=Z,0.5nm,0.7s						
MK31	**Makanchi Array**	**74.46**	**321**	P	**P**	**20 08 05.9**	**-0.2**
MKAR	**Makanchi Array**	**74.46**	**321**	P	**P**	**20 08 06.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=97,slow=8.2,SNR=10						
	comp=Z,0.5nm,0.3s						
ZAA0	**Zalesovo Array**	**76.17**	**328**	P	**P**	**20 08 14.9**	**-0.8**
ZAA0				IAmb	IAmb	20 08 15.6	
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**76.17**	**328**	P	**P**	**20 08 14.6**	**-1.2**
ZALV	**Zalesovo Beam**	**76.17**	**328**	P	**P**	**20 08 15.0**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=115,slow=5.7,SNR=5.8						
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**78.26**	**324**	P	**P**	**20 08 26.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=102,slow=5.4,SNR=1.8						
	comp=Z,0.2nm,0.4s						
H17K	**Granite Mounta**	**80.40**	**21**	P	**P**	**20 08 39.2**	**+0.4**
H17K				IAmb	IAmb	20 08 47.2	
	comp=Z,8.5nm,1.4s						
KKAR	**Karatay Array**	**81.12**	**315**	P	**P**	**20 08 42.9**	**-0.4**
G18K	**Tagagawik**	**81.36**	**20**	P	**P**	**20 08 44.0**	**0.0**
G18K				IAmb	IAmb	20 08 45.0	
	comp=Z,2.5nm,0.6s						
F20K	**Avaraart Lake**	**82.96**	**20**	P	**P**	**20 08 52.7**	**+0.4**
F20K				IAmb	IAmb	20 08 53.1	
	comp=Z,2.7nm,1.1s						
SML	**Sawmill**	**83.58**	**26**	P	**P**	**20 08 55.3**	**-0.3**
BVAR	**Borovoye Array**	**83.81**	**324**	P	**P**	**20 08 57.0**	**0.0**
	comp=Z,4.0nm,0.6s,baz=107,slow=7.0,SNR=16						
	comp=Z,4.0nm,0.6s						
ILAR	**Eielson Array**	**85.28**	**24**	P	**P**	**20 09 02.6**	**-1.4**
ILAR	**Eielson Array**	**85.28**	**24**	P	**P**	**20 09 00.9**	**-3.1**
	comp=Z,1.1nm,0.7s,baz=259,slow=4.4,SNR=6.1						
	comp=Z,1.1nm,0.7s						
QSPA	**South Pole Qui**	**85.47**	**180**	P	**P**	**20 09 05.0**	**-0.1**
QSPA				IAmb	IAmb	20 09 05.8	
	comp=Z,2.7nm,0.7s						
DBIC	**Dimbokro**	**148.96**	**275**	PKPbc	**PKPbc**	**20 16 15.6**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=82,slow=3.5,SNR=7.6						

*NOU **20** 20:05:56.7, 10°.32S×161°.59E, h0km, mb4.7/9, Solomon Islands*
*IDC **20** 20:06:00.9±2.2, 10°.49S×161°.43E, h72km±17km, mb3.8/15, mbtmp4.1/17, MS3.5/7, Error ellipse: s-maj=22.7km s-min=13.1km az=75.0*
*NEIC **20** 20:06:00.0±1.3, 10°.45S±0°.09×161°.4E±0°.1, h55km±8km, mb4.6/26, Error ellipse: s-maj=16.6km s-min=10.8km az=56.0*
ISC 20 20:05:59.9±0.5, 10°.45S±0°.06×161°.44E±0°.08, h61km, n71, σ1ş28/68, mb4.4/29, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.79**	**304**		**Pn**	**20 06 27.9**	**-0.5**
HNR				Sn	**Sn**	**20 06 49.6**	**-0.5**
HNR	**Honiara**	**1.79**	**304**	P	**Pn**	**20 06 29.2**	**+0.7**
HNR	**Honiara**	**1.79**	**304**	P	**Pn**	**20 06 28.4**	**-0.1**
	20μm,0.4s,baz=164,slow=7.9,SNR=140						
HNR				S	**Sn**	**20 06 52.5**	**+2.3**
	50μm,0.3s,baz=180,slow=20,SNR=9.1						
HNR				LR	LR	20 07 21.4	
	comp=Z,8μm,21.9s,baz=121,slow=45						
KOUNC	**Koumac, New Ca**	**10.41**	**165**	Pn	**Pn**	**20 08 24.6**	**-1.9**
KOUNC	**Koumac, New Ca**	**10.41**	**165**	P	**Pn**	**20 08 28.5**	**+2.0**
RABL	**Rabaul**	**11.10**	**303**		**Pn**	**20 08 32.9**	**-3.1**
KRVT	**Keravat (AS076**	**11.15**	**302**	P	**Pn**	**20 08 36.9**	**+0.3**
	baz=142,slow=19						
LIFNC	**LIFOU**	**11.69**	**152**	Pn	**Pn**	**20 08 43.1**	**-0.8**
LIFNC	**LIFOU**	**11.69**	**152**	P	**Pn**	**20 08 44.4**	**+0.5**
DZM	**Mont Dzumac**	**12.51**	**158**	P	**Pn**	**20 08 57.0**	**+1.7**
DZM	**Mont Dzumac**	**12.51**	**158**	P	**Pn**	**20 08 56.6**	**+1.3**
	6.4nm,0.5s,baz=344,slow=18,SNR=20						
DZM				S	**Sn**	**20 11 11.3**	**-1.8**
	2.5nm,0.6s,baz=193,slow=13,SNR=2.1						
YATNC	**Mamie plateau,**	**12.67**	**156**	P	**Pn**	**20 08 59.2**	**+1.8**
ONTNC	**Ouen Toro**	**12.73**	**158**	Pn	**Pn**	**20 08 58.3**	**+0.1**
OUENC	**Ouen Island, N**	**12.98**	**157**	Pn	**Pn**	**20 09 01.0**	**-0.6**
OUENC	**Ouen Island, N**	**12.98**	**157**	P	**Pn**	**20 09 04.1**	**+2.6**
PINNC	**Pines Island,**	**13.39**	**155**	Pn	**Pn**	**20 09 07.6**	**+0.4**
PMG	**Port Moresby**	**14.11**	**273**	LR	LR	20 14 27.9	
	comp=Z,161nm,18.9s,baz=35,slow=36						
PATS	**Pohnpei**	**17.45**	**350**		**Pn**	**20 09 58.9**	**-0.5**
CTA	**Charters Tower**	**17.49**	**235**	P	**P**	**20 10 01.1**	**+0.9**
	6.8nm,0.7s,baz=62,slow=11,SNR=9.2						
EIDS	**Eidsvold**	**17.80**	**212**		**P**	**20 10 05.1**	**+1.6**
COEN	**Coen**	**18.19**	**257**	P	**Pn**	**20 10 12.8**	**+4.4**
WB0	**Warramunga Arr**	**27.67**	**247**	P	**P**	**20 11 41.9**	**-0.5**
WRA	**Warramunga Arr**	**27.77**	**247**	P	**P**	**20 11 41.7**	**-1.5**
WRA	**Warramunga Arr**	**27.77**	**247**	P	**P**	**20 11 43.0**	**-0.3**
	2.9nm,0.8s,baz=75,slow=9.2,SNR=14						
	2.9nm,0.8s						
STKA	**Stephens Creek**	**28.13**	**218**	P	**P**	**20 11 45.2**	**-1.2**
STKA	**Stephens Creek**	**28.13**	**218**	P	**P**	**20 11 45.3**	**-1.0**
	1.5nm,0.9s,baz=42,slow=12,SNR=1.8						
	1.5nm,0.9s						
GUMO	**Guam**	**29.00**	**325**	LR	LR	20 23 07.9	
	comp=Z,65nm,18.7s,baz=116,slow=35						
ASAR	**Alice Springs**	**29.35**	**240**	P	**P**	**20 11 56.4**	**-0.9**
	0.7nm,0.5s,baz=64,slow=10,SNR=8.3						
	0.7nm,0.5s						
KNRA	**Kununurra**	**32.23**	**257**	P	**P**	**20 12 22.1**	**-0.7**
KNRA				IAmb	IAmb	20 12 23.8	
	comp=Z,11nm,0.7s						
BBOO	**Buckleboo**	**32.27**	**223**	P	**P**	**20 12 23.4**	**+0.5**
BBOO				IAmb	IAmb	20 12 33.0	
	comp=Z,17nm,1.2s						
FITZ	**Fitzroy Crossi**	**35.47**	**254**	P	**P**	**20 12 50.1**	**-0.7**
PSA00	**Pilbara Seismi**	**41.36**	**249**	P	**P**	**20 13 39.8**	**-0.5**
JAGI	**Jajag, Banyuwa**	**46.65**	**268**	P	**P**	**20 14 21.0**	**-1.8**
JOW	**Kunigami**	**49.09**	**320**	LR	LR	20 31 41.4	
	comp=Z,45nm,21.9s,baz=76,slow=31						
JMN	**Monobe**	**51.16**	**330**	P	**P**	**20 14 57.3**	**+0.3**
MJAR	**Matsushiro Arr**	**51.60**	**336**	P	**P**	**20 14 59.6**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=165,slow=8.7,SNR=8.0						
	comp=Z,1.2nm,0.7s						
MAJO	**Matsushiro**	**51.60**	**336**	P	**P**	**20 14 59.4**	**-0.9**
MAJO				IAmb	IAmb	20 15 17.3	
	comp=Z,9.2nm,1.2s						
SSLB	**Suanglung**	**52.19**	**311**	P	**P**	**20 15 04.4**	**-0.5**
JNU	**Nakatsue**	**52.21**	**327**	P	**P**	**20 15 04.4**	**-0.5**
KSRS	**Korea Array**	**57.08**	**328**	P	**P**	**20 15 39.7**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=151,slow=8.3,SNR=2.4						
KSRS				LR	LR	20 37 02.7	
	comp=Z,17nm,21.4s,baz=190,slow=33						
	comp=Z,1.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**60.60**	**336**	P	**P**	**20 16 04.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**60.60**	**336**	P	**P**	**20 16 04.0**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=154,slow=7.2,SNR=4.7						
	comp=Z,3.1nm,0.8s						
KLR	**Kul'dur**	**64.91**	**339**	LR	LR	20 43 11.4	
	comp=Z,26nm,21.1s,baz=152,slow=34						
HEH	**HeiHe**	**67.35**	**337**	P	**P**	**20 16 48.5**	**0.0**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,230nm,5.2s						
CMAR	**Chiang Mai Arr**	**68.01**	**295**	P	**P**	**20 16 53.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=106,slow=2.9,SNR=2.6						
	comp=Z,0.4nm,0.6s						
ULN	**Ulaanbaatar**	**75.38**	**326**	P	**P**	**20 17 37.5**	**+0.3**
ULN				IAmb	IAmb	20 17 40.2	
	comp=Z,5.5nm,1.2s						
SONM	**Songino Array**	**75.73**	**325**	P	**P**	**20 17 39.4**	**+0.2**
SONM	**Songino Array**	**75.73**	**325**	P	**P**	**20 17 39.8**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=138,slow=5.7,SNR=16						
	comp=Z,2.7nm,0.8s						
BILL	**Bilibino**	**78.36**	**2**	P	**P**	**20 17 54.0**	**+0.7**
BILL				IAmb	IAmb	20 17 56.1	
	comp=Z,4.8nm,0.9s						
L18K	**Granite Mounta**	**79.40**	**19**	P	**P**	**20 18 01.2**	**+2.1**
L18K				IAmb	IAmb	20 18 02.5	
	comp=Z,7.7nm,0.8s						
QSPA	**South Pole Qui**	**79.55**	**180**	P	**P**	**20 18 00.2**	**0.0**
QSPA				IAmb	IAmb	20 18 04.0	
	comp=Z,7.7nm,1.3s						
QSPA	**South Pole Qui**	**79.55**	**180**	P	**P**	**20 18 00.8**	**+0.6**
	comp=Z,2.8nm,1.1s,baz=4.9,slow=13,SNR=4.1						
	comp=Z,2.8nm,1.1s						
SUA	**Susitna One**	**80.84**	**21**	P	**P**	**20 18 08.3**	**+1.2**
SUA				IAmb	IAmb	20 18 24.4	
	comp=Z,17nm,1.3s						
CAST	**Castle Rocks**	**81.73**	**19**	P	**P**	**20 18 12.3**	**+0.7**
CAST				IAmb	IAmb	20 18 13.8	
	comp=Z,7.4nm,0.7s						
IMAR	**Indian Mountai**	**83.04**	**17**	P	**P**	**20 18 19.5**	**+1.1**
E19K	**Redstone River**	**83.19**	**15**	P	**P**	**20 18 20.6**	**+1.4**
E19K				IAmb	IAmb	20 18 22.0	
	comp=Z,3.9nm,0.8s						
MLY	**Manley**	**83.27**	**18**	P	**P**	**20 18 20.4**	**+0.7**
MLY				IAmb	IAmb	20 18 22.4	
	comp=Z,4.1nm,0.8s						
BARN	**Barnard Glacie**	**84.04**	**24**	P	**P**	**20 18 24.4**	**+0.6**
BARN				IAmb	IAmb	20 18 26.8	
	comp=Z,6.3nm,1.0s						
ILAR	**Eielson Array**	**84.34**	**20**	P	**P**	**20 18 25.5**	**+0.4**
ILAR	**Eielson Array**	**84.34**	**20**	P	**P**	**20 18 25.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=244,slow=4.5,SNR=17						
	comp=Z,0.9nm,0.5s						
BCAR	**Beaver Creek A**	**85.12**	**22**	P	**P**	**20 18 30.6**	**+1.5**
D22K	**Ayikyak River**	**85.40**	**15**	P	**P**	**20 18 31.5**	**+1.2**
D22K				IAmb	IAmb	20 18 33.5	
	comp=Z,3.4nm,0.7s						
EGAK	**Eagle**	**86.32**	**21**	P	**P**	**20 18 36.5**	**+1.6**
EGAK				IAmb	IAmb	20 18 50.4	
	comp=Z,5.8nm,1.1s						
BMAR	**Burnt Mountain**	**86.73**	**18**	P	**P**	**20 18 39.1**	**+2.2**
NVAR	**Mina Array Bea**	**88.90**	**51**	LR	LR	20 51 02.2	
	comp=Z,47nm,20.1s,baz=272,slow=30						
MKAR	**Makanchi Array**	**90.21**	**318**	P	**P**	**20 18 53.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=95,slow=7.0,SNR=9.2						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**90.62**	**325**	P	**P**	**20 18 54.0**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=99,slow=7.4,SNR=2.3						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**93.53**	**321**	P	**P**	**20 19 08.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=109,slow=3.4,SNR=6.2						
	comp=Z,0.3nm,0.3s						
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**	**20 19 22.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=260,slow=4.7,SNR=9.3						
	comp=Z,0.5nm,0.7s						
ANMO	**Albuquerque**	**97.61**	**56**	LR	LR	20 57 12.6	
	comp=Z,41nm,20.3s,baz=46,slow=32						
BVAR	**Borovoye Array**	**98.89**	**322**	P	**P**	**20 19 32.9**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=101,slow=7.5,SNR=3.7						
	comp=Z,0.8nm,0.9s						

*NEIC **20** 20:06:49.2±0.8, 19°.49N±0°.03×155°.17W±0°.02, h43km±1km, Error ellipse: s-maj=4.2km s-min=2.4km az=204.0*
HVO 20 20:06:50.2±0.8, 19°.50N±0°.03×155°.13W±0°.02, h40km±3km, ML2.7/24, ML2.9/36(NEIC), Error ellipse: s-maj=4.0km s-min=3.3km az=189.0, Hawaiian Islands

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

NPOC	**North of Pu'u**	**0.11**	**169**		Sn	20 07 01.1	-0.7
STCH	**Steam Cracks**	**0.12**	**176**		Pn	20 06 56.5	-0.6
STCH				IAML		20 07 01.5	
	comp=E,1μm,0.1s						
JCUZ	**Jacuzzi**	**0.12**	**166**		Pn	20 06 56.7	-0.4
JCUZ					Sn	20 07 01.2	-0.7
JCUZ	**Jacuzzi**	**0.12**	**166**	IAML		20 07 01.4	
	comp=N,889nm,0.2s						
JCUZ				IAML		20 07 01.5	
	comp=E,1μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.13**	**195**		Pn	20 06 56.6	-0.6
JOKA	**Jonika Flow**	**0.14**	**120**		Pn	20 06 56.6	-0.5
JOKA					Sn	20 07 01.4	-0.6
RSD	**Rainshed**	**0.14**	**253**		Pn	20 06 56.8	-0.5
RSD				IAML		20 07 02.3	
	comp=E,1μm,0.1s						
SBLHI	**Steaming Bluff**	**0.15**	**239**		Sn	20 07 01.0	-1.2
BYL	**Byron's Ledge**	**0.15**	**233**		Pn	20 06 56.5	-0.8
BYL					Sn	20 07 01.3	-0.9
BYL				IAML		20 07 01.5	
	comp=E,949nm,0.4s						
BYL				IAML		20 07 01.6	
	comp=N,1μm,0.4s						
PUH	**Pauahi**	**0.15**	**211**		Pn	20 06 56.7	-0.7
PUH				IAML		20 07 01.7	
	comp=E,867nm,0.2s						
PUH				IAML		20 07 02.5	
	comp=N,978nm,0.3s						
KKO	**Keanakako'i**	**0.16**	**230**		Sn	20 07 01.2	-1.2
OBL	**Observatory Le**	**0.17**	**239**		Pn	20 06 56.6	-0.8
OBL				IAML		20 07 02.6	
	comp=N,1μm,0.5s						
OBL				IAML		20 07 08.2	
	comp=E,970nm,0.7s						
NPH	**North Pit**	**0.17**	**237**		Sn	20 07 00.8	-1.6
RIM	**Rim**	**0.17**	**231**		Pn	20 06 56.6	-0.9
RIM					Sn	20 07 01.4	-1.1
WRMHI	**West Rim**	**0.18**	**238**		Sn	20 07 01.3	-1.4
SDHHI	**Sand Hill**	**0.19**	**233**		Sn	20 07 01.7	-1.0
MLH	**Mauna Loa**	**0.24**	**268**		Pn	20 06 57.4	-0.7
MLH				IAML		20 07 03.2	
	comp=N,1μm,0.3s						
HLP	**Hilina Pali**	**0.27**	**219**	Pn	Pn	20 06 57.5	-0.7
AIN	**Ainahou**	**0.33**	**247**		Pn	20 06 58.3	-0.8
AIN					Sn	20 07 04.1	-1.1
AIN				IAML		20 07 04.6	
	comp=E,1μm,0.2s						
HMH	**Humu'ula Sheep**	**0.34**	**287**		Sn	20 07 04.7	-1.0
HMH	**Humu'ula Sheep**	**0.34**	**287**		Pn	20 06 58.5	-0.8
HMH				IAML		20 07 04.8	
	comp=E,280nm,0.5s						
HMH				IAML		20 07 07.1	
	comp=N,229nm,0.8s						
HTC	**Hot Caves**	**0.36**	**223**		Pn	20 06 58.5	-0.8
MLOA	**Mauna Loa Obse**	**0.42**	**274**		Pn	20 06 59.2	-1.1
MLOA	**Mauna Loa Obse**	**0.42**	**274**		Sn	20 07 05.9	-1.5
MWH	**Moku'aweowe**	**0.44**	**268**		Pn	20 06 59.3	-1.4
POHA	**Pohakuloa**	**0.45**	**304**		Pn	20 06 59.2	-1.4
POHA				IAML		20 07 08.2	
	comp=N,996nm,0.1s						
POHA	**Pohakuloa**	**0.45**	**304**		Sn	20 07 05.7	-2.2
ALEP	**Alea Permanent**	**0.48**	**274**		Pn	20 06 59.7	-1.4
ALEP					Sn	20 07 06.8	-2.0
KHU	**Kahuku**	**0.52**	**241**		Pn	20 07 00.1	-1.4
KHU					Sn	20 07 07.0	-2.4
HUH	**Hualalai**	**0.69**	**285**		Pn	20 07 02.3	-1.4
HUH				IAML		20 07 13.8	
	comp=N,359nm,0.4s						
HUH				IAML		20 07 17.1	
	comp=E,401nm,0.3s						
KHLU	**Kahalu`u**	**0.72**	**277**		Pn	20 07 02.4	-1.7
KHLU					Sn	20 07 11.6	-2.5
KHLU				IAML		20 07 11.8	
	comp=N,484nm,0.2s						
HPAH	**Hawaii Prepara**	**0.75**	**315**	Pn	Pn	20 07 02.6	-1.8
HPAH				IAML		20 07 12.0	
	comp=E,316nm,0.3s						
HPAH				IAML		20 07 12.3	
	comp=N,333nm,0.2s						
MHA	**Mahukona**	**0.99**	**313**	Pn	Pn	20 07 05.9	-1.7

*CNRM **20** 20:14:08.3, 36°.46N×8°.60W, h2km, ML2.8*
*IGIL **20** 20:14:09.9, 36°.72N×8°.81W, h0km, ML2.1*
*SFS **20** 20:14:09.3, 36°.71N×8°.80W, h9km, ML2.7/10, ML2.7/10, MLv2.6/10*
*INMG **20** 20:14:09.4±1.8, 36°.69N×8°.80W, h4km, ML2.1, Error ellipse: s-maj=6.6km s-min=3.2km az=74.0*
*MDD **20** 20:14:11.2±0.9, 36°.76N×8°.70W, h12km, mb_Lg2.5/6, Error ellipse: s-maj=7.0km s-min=4.2km az=51.0*
ISC 20 20:14:06.9±1.2, 36°.61N±0°.03×8°.79W±0°.04, h11km±9km, n67, σ1ş31/114, 1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.52**	**357**	↓*i*Pg	**Pg**	**20 14 17.3**	**+0.3**
PFVI				*e*Sg	**Sg**	**20 14 23.1**	**-0.8**
PFVI				A	A	20 14 24.9	
	41nm,0.1s						
PFVI	**Vila Bisbo**	**0.52**	**357**	Pg	**Pg**	**20 14 17.3**	**+0.3**
PFVI				Sg	**Sg**

EMIN				Sn	Sn	20 15 06.2	-0.6	
EMIN				Sg	Sb	20 15 10.3	+0.8	
EMIN				*i* Vmb_Lg		20 15 17.0		
PBAR	**Barrancos**	**2.09**	**41**	*e*Pn	**Pn**	**20 14 43.2**	**+1.3**	
PBAR	**Barrancos**	**2.09**	**41**	*e*Pg	**Pg**	**20 14 49.0**	**+2.0**	
PBAR				*e*Sg	**Sb**	**20 15 12.5**	**+1.7**	
PBAR				A	A	20 15 14.3		
	comp=N,5.9nm,0.3s							
PBAR	**Barrancos**	**2.09**	**41**	Pn	**Pn**	**20 14 42.7**	**+0.8**	
PBAR				Sn	**Sn**	**20 15 07.9**	**0.0**	
PACT	**Alcochete**	**2.15**	**359**	*e*Pg	**Pg**	**20 14 49.1**	**+1.0**	
PACT				*e*Sg	**Sg**	**20 15 16.4**	**+0.4**	
PMAFR	**Mafra**	**2.37**	**351**	*e*Sn	**Sn**	**20 15 15.4**	**+0.7**	
ESPR	**Espera**	**2.37**	**83**	Pn	**Pn**	**20 14 46.8**	**+1.1**	
ESPR				Sn	**Sn**	**20 15 15.1**	**+0.3**	
ESPR	**Espera**	**2.37**	**83**	Pn	**Pn**	**20 14 47.0**	**+1.2**	
ESPR				Sn	**Sn**	**20 15 15.0**	**+0.2**	
ESPR				*i* Vmb_Lg		20 15 18.8		
ESPR				Sg	**Sg**	**20 15 20.9**	**-2.2**	
PESTR	**Estremoz**	**2.44**	**23**	*e*Pn	**Pb**	**20 14 49.3**	**-1.5**	
PESTR				*e*Sg	**Sg**	**20 15 23.6**	**-1.8**	
PESTR				A	A	20 15 25.5		
	comp=N,4.1nm,0.5s							
PESTR	**Estremoz**	**2.44**	**23**	P	**Pb**	**20 14 50.1**	**-0.7**	
PESTR	**Estremoz**	**2.44**	**23**	S	**Sg**	**20 15 23.8**	**-1.6**	
PMTG	**Montargil**	**2.49**	**10**	*e*Pn	**Pn**	**20 14 47.2**	**-0.2**	
PMTG	**Montargil**	**2.49**	**10**	*e*Pg	**Pg**	**20 14 53.8**	**-0.8**	
PMTG				*e*Sn	**Sn**	**20 15 16.6**	**-1.1**	
PMTG				*e*Sg	**Sb**	**20 15 24.5**	**+2.2**	
PMTG				A	A	20 15 28.4		
	comp=N,11nm,0.6s							
EBAD	**Badajoz**	**2.56**	**33**	Pn	**Pn**	**20 14 49.0**	**+0.7**	
EBAD	**Badajoz**	**2.56**	**33**	Pn	**Pn**	**20 14 49.1**	**+0.7**	
EBAD				Sn	**Sn**	**20 15 18.8**	**-0.7**	
EBAD				Sg	**Sb**	**20 15 25.1**	**+0.8**	
EBAD				*i* Vmb_Lg		20 15 30.5		
PSBE	**So Bento**	**2.90**	**360**	*e*Pn	**Pn**	**20 14 54.0**	**+1.1**	
PSBE	**So Bento**	**2.90**	**360**	*e*Pg	**Pg**	**20 15 01.6**	**-0.8**	
PSBE				*e*Sg	**Sb**	**20 15 36.4**	**+2.5**	
PSBE				A	A	20 15 39.0		
	comp=N,4.6nm,0.3s							
SMIR	**Smir Dam**	**2.92**	**108**	P	**Pn**	**20 14 53.1**	**-0.1**	
SMIR	**Smir Dam**	**2.92**	**108**	S	**Sn**	**20 15 26.5**	**-1.7**	
PMRV	**Marv??o**	**3.02**	**21**	*e*Pn	**Pn**	**20 14 54.2**	**-0.4**	
PMRV				*e*Sn	**Sn**	**20 15 29.0**	**-1.8**	
PMRV				*e*Sg	**Sb**	**20 15 39.4**	**+1.9**	
PMRV				A	A	20 15 42.7		
	comp=N,7.5nm,0.3s							
ECAB	**El Cabril**	**3.06**	**61**	Pn	**Pn**	**20 14 56.0**	**+0.8**	
ECAB				Sn	**Sn**	**20 15 30.1**	**-1.7**	
ECAB	**El Cabril**	**3.06**	**61**	Pn	**Pn**	**20 14 55.9**	**+0.7**	
ECAB				Sn	**Sn**	**20 15 29.8**	**-2.1**	
ECAB				Sg	**Sb**	**20 15 41.2**	**+2.5**	
ECAB				*i* Vmb_Lg		20 15 47.7		
CHEFC	**Chefchaouen**	**3.18**	**117**	P	**Pn**	**20 14 57.5**	**+0.5**	
CHEFC	**Chefchaouen**	**3.18**	**117**	S	**Sn**	**20 15 33.8**	**-1.1**	
PCBR	**Castelo Branco**	**3.38**	**17**	*e*Sn	**Sn**	**20 15 38.6**	**-1.1**	
PCBR				*e*Sg	**Sb**	**20 15 49.5**	**+1.5**	
PCAS	**Casmilo, Conde**	**3.44**	**4**	*e*Pn	**Pn**	**20 15 43.1**	**+2.7**	
PCAS				*e*Sn	**Sn**	**20 15 39.8**	**-1.4**	
PCAS				*e*Sg	**Sg**	**20 15 55.9**	**-1.5**	
PCAS				A	A	20 16 00.2		
	comp=N,3.8nm,0.7s							
ZHG	**ZHG**	**3.62**	**150**	P	**Pn**	**20 15 03.3**	**+0.3**	
ZHG	**ZHG**	**3.62**	**150**	S	**Sn**	**20 15 46.8**	**+1.1**	
EADA	**Adamuz**	**3.70**	**64**	Pn	**Pn**	**20 15 04.9**	**+1.0**	
EADA				Sn	**Sn**	**20 15 45.8**	**-1.8**	
EADA	**Adamuz**	**3.70**	**64**	Pn	**Pn**	**20 15 04.7**	**+0.7**	
EADA				Sn	**Sn**	**20 15 46.2**	**-1.4**	
EADA				Sg	**Sg**	**20 16 03.4**	**-2.2**	
EADA				*i* Vmb_Lg		20 16 11.1		
PVIS	**Viseu**	**4.16**	**9**	*e*Pn	**Pn**	**20 15 12.0**	**+1.7**	
PVIS				*e*Sn	**Sn**	**20 15 55.4**	**-3.5**	
AKLM	**AKL**	**4.54**	**116**	P	**Pn**	**20 15 14.5**	**-1.0**	
AKLM	**AKL**	**4.54**	**116**	S	**Sn**	**20 16 05.0**	**-3.3**	
POLO	**Lamas de Olo**	**4.82**	**9**	*e*Sn	**Sn**	**20 16 12.6**	**-2.6**	
GOG	**Mont Gurugu**	**4.91**	**105**	P	**Pn**	**20 15 21.4**	**+0.8**	
GOG	**Mont Gurugu**	**4.91**	**105**	S	**Sn**	**20 16 15.5**	**-2.0**	
MD31	**MD31**	**5.00**	**137**	P	**Pn**	**20 15 23.3**	**+1.4**	
MDT	**Midelt**	**5.12**	**137**	P	**Pn**	**20 15 25.1**	**+1.4**	
MDT	**Midelt**	**5.12**	**137**	S	**Sn**	**20 16 19.8**	**-3.1**	
OUK	**Oukaimeden**	**5.45**	**172**	P	**Pn**	**20 15 29.3**	**+1.0**	
OUK	**Oukaimeden**	**5.45**	**172**	S	**Sn**	**20 16 30.6**	**-0.6**	
OUZM	**OUZ**	**5.94**	**163**	P	**Pn**	**20 15 36.9**	**+2.0**	
OUZM	**OUZ**	**5.94**	**163**	S	**Sn**	**20 16 43.2**	**+0.2**	
TTIG	**Tnine Tigouga,**	**6.06**	**177**	P	**Pn**	**20 15 34.1**	**-2.4**	
TTIG	**Tnine Tigouga,**	**6.06**	**177**	S	**Sn**	**20 16 46.2**	**+0.3**	

ISK ***20*** *20:20:29.1, 35°.81N×30°.04E, h5km, ML3.5/29*
NIC ***20*** *20:20:31.0, 36°.23N×30°.18E, h3km±31km, Ml3. 1/9*
ATH ***20*** *20:20:31.7, 36°.06N×30°.13E, h8km±3km, ML3.3/3, Error ellipse: s-maj=6.3km s-min=0.8km az=16.0*
AFAD ***20*** *20:20:32.5±0.0, 36°.02N×30°.07E, h6km±5km, MW3.8*
NEIC ***20*** *20:20:34.2±1.2, 35°.92N±0°.06×30°.01E±0°.07, h44km±8km, mb4.0/14, Error ellipse: s-maj=8.8km s-min=8.0km az=193.0*
IDC ***20*** *20:20:36.4±2.2, 35°.90N×30°.24E, h57km±20km, mb3.6/11, mbtmp3.8/16, ML3.7/5, MS3.8/1, Error ellipse: s-maj=18.1km s-min=13.6km az=88.0*
THE ***20*** *20:20:37.9, 36°.05N×29°.62E, h2km±4km, ML2.9/2, Error ellipse: s-maj=9.3km s-min=0.9km az=106.0*

ISC 20 20:20:30.8±1.0, **35°.94N**±0°.03×**30°.08E**×0.02, **h14**km±7km, **n167**, σ1§**47**/202, **mb4.0**/17, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMR	**Demre-Antalya**	**0.32**	**335**	Pg	**Pg**	**20 20 37.7**	**+0.2**
AKUM	**Antalya-Kumluc**	**0.44**	**30**	P	**Pb**	**20 20 40.0**	**-0.3**
AKUM				S	**Sg**	**20 20 44.9**	**-0.5**
KSL	**Kastellorizon**	**0.45**	**297**	P	**Pg**	**20 20 39.9**	**+0.2**
KSL				S	**Sg**	**20 20 42.5**	**-3.3**
	8µm,0.5s						
KSL	**Kastellorizon**	**0.45**	**297**	P	**Pg**	**20 20 40.0**	**+0.3**
KSL				S	**Sb**	**20 20 49.3**	**+2.2**
KSL				AML	AML	20 20 52.5	
	21nm,0.5s						
KSL				AML	AML	20 20 53.3	
	11nm,0.5s						
KSL	**Kastellorizon**	**0.45**	**297**	P	**Pg**	**20 20 40.2**	**+0.5**
KSL				S	**Sb**	**20 20 46.9**	**-0.2**
KSL				AML	AML	20 20 52.9	
	comp=E,20972µm,0.5s						
KSL				AML	AML	20 20 53.7	
	comp=N,10710µm,0.5s						
AKAS	**Kas**	**0.48**	**307**	Pg	**Pg**	**20 20 40.5**	**+0.2**
AKAS				Sg	**Sb**	**20 20 49.6**	**+1.5**
AKAS	**Kas**	**0.48**	**307**	P	**Pg**	**20 20 40.6**	**+0.2**
AKAS				S	**Sg**	**20 20 46.7**	**0.0**
KEMT	**Kemer-ANTALYA**	**0.77**	**30**	Pg	**Pb**	**20 20 46.5**	**+0.6**
ELL	**Elmali**	**0.81**	**350**	Pg	**Pn**	**20 20 48.5**	**+0.5**
ELL	**Elmali**	**0.81**	**350**	Pn	**Pb**	**20 20 47.2**	**+0.3**
IZZE	**Mula-Seydike**	**0.85**	**306**	P	**Pb**	**20 20 48.2**	**+0.2**
IZZE				S	**Sn**	**20 21 00.3**	**-0.3**
KNIK	**Mula-Seydike**	**0.99**	**336**	P	**Pn**	**20 20 50.7**	**+0.3**
KNIK				S	**Sn**	**20 21 06.2**	**+1.9**
FETY	**Fethiye**	**1.06**	**311**	Pn	**Pn**	**20 20 51.9**	**+0.6**
FETY				Sn	**Sn**	**20 21 08.8**	**+2.9**
FETY	**Fethiye**	**1.06**	**311**	P	**Pn**	**20 20 52.9**	**+1.6**
ANTB	**Antalya**	**1.06**	**26**	Pn	**Pn**	**20 20 53.6**	**+2.3**
ANTB				Sn	**Sn**	**20 21 11.2**	**+5.3**
KORT	**Korkueli**	**1.08**	**12**	Pn	**Pg**	**20 20 50.8**	**-0.8**
KORT	**Korkueli**	**1.08**	**12**	P	**Pg**	**20 20 50.8**	**-0.8**
CAME	**Cameli-Denizli**	**1.18**	**328**	Pn	**Pn**	**20 20 54.7**	**+1.7**
CAEL	**Denizli, Camel**	**1.33**	**333**	P	**Pg**	**20 20 56.9**	**+0.6**
CAEL				S	**Sg**	**20 21 14.7**	**+1.1**
GOLH	**Golhisar**	**1.36**	**342**	P	**Pg**	**20 20 57.7**	**+0.8**
MNVG	**Manavgat-Antal**	**1.38**	**51**	Pn	**Pg**	**20 20 58.3**	**+1.1**
BUCA	**Burdur, Bucak-**	**1.44**	**16**	P	**Pg**	**20 20 59.6**	**+1.2**
BUCA				S	**Sg**	**20 21 18.8**	**+1.7**
DALY	**Dalyan (Mula)**	**1.44**	**308**	Pn	**Pg**	**20 20 58.4**	**-0.1**
DALY				Sn	**Sg**	**20 21 19.6**	**+2.3**
KEPZ	**Antalya-Kepez**	**1.56**	**52**	P	**Pg**	**20 21 00.6**	**-0.2**
KEPZ				S	**Sn**	**20 21 18.7**	**+0.4**
BCK	**Bucak**	**1.57**	**15**	Pn	**Pg**	**20 21 01.6**	**+0.6**
ARG	**Arkhangelos**	**1.60**	**280**	Pn	**Pn**	**20 20 59.7**	**+1.0**
ARG	**Arkhangelos**	**1.60**	**280**		**Pn**	**20 20 58.9**	**+0.1**
ARG	**Arkhangelos**	**1.60**	**280**	P	**Pn**	**20 21 00.4**	**+1.7**
ARG				S	**Sn**	**20 21 17.6**	**-1.6**
ARG	**Arkhangelos**	**1.60**	**280**	P	**Pb**	**20 21 00.8**	**+0.6**
ARG				S	**Sg**	**20 21 25.5**	**+3.1**
ARG				AML	AML	20 21 38.1	
	comp=N,1.0nm,1.1s						
ARG				AML	AML	20 21 41.7	
	comp=N,0.9nm,0.8s						
ARG	**Arkhangelos**	**1.60**	**280**	P	**Pn**	**20 21 00.2**	**+1.5**
ARG				AML	AML	20 21 42.3	
	comp=E,1036µm,0.9s						
ARG				AML	AML	20 21 43.4	
	comp=N,1256µm,1.2s						
APMY	**Acipayam-Deniz**	**1.65**	**338**	Pn	**Pg**	**20 21 02.4**	**-0.1**
TURN	**Turunc**	**1.70**	**300**	Pn	**Pb**	**20 21 01.9**	**+0.1**
TURN	**Turunc**	**1.70**	**300**	P	**Pn**	**20 21 01.4**	**+1.4**
BRDR	**BURDUR-Merkez**	**1.75**	**360**	P	**Pg**	**20 21 04.2**	**-0.2**
BRDR				S	**Sg**	**20 21 24.9**	**-2.2**
TAVA	**DENIZLI_Tavas**	**1.78**	**329**	P	**Pg**	**20 21 04.2**	**-0.9**
TAVA				S	**Sg**	**20 21 27.3**	**-0.9**
INCE	**Denizli-Bozkur**	**1.81**	**347**	P	**Pg**	**20 21 04.5**	**-1.0**
INCE				S	**Sg**	**20 21 28.1**	**-0.9**
GAZI	**Gazipasa**	**1.84**	**80**	Pn	**Pn**	**20 21 03.6**	**+1.6**
GAZI	**Gazipasa**	**1.84**	**80**	P	**Pn**	**20 21 03.6**	**+1.6**
GAZI				S	**Sn**	**20 21 23.4**	**-1.7**
YER	**Yerkesik**	**1.87**	**310**	Pn	**Pb**	**20 21 04.6**	**-0.2**
YER	**Yerkesik**	**1.87**	**310**	P	**Pb**	**20 21 04.9**	**+0.1**
YER				S	**Sn**	**20 21 25.0**	**-1.0**
DNIZ	**Denizli-Tavas-**	**1.88**	**334**	P	**Pg**	**20 21 05.9**	**-0.9**
DNIZ				S	**Sg**	**20 21 31.3**	**+0.2**
ISP	**Isparta**	**1.91**	**11**	Pn	**Pg**	**20 21 06.5**	**-1.0**
ISP	**Isparta**	**1.91**	**11**		**Pb**	**20 21 05.1**	**-0.4**
MULA	**Mugla, Merkez-**	**1.93**	**313**	P	**Pb**	**20 21 06.8**	**+1.0**
MULA				S	**Sb**	**20 21 28.6**	**-1.2**
BASM	**Basmaki-Afyon**	**1.97**	**359**	Pn	**Pb**	**20 21 06.9**	**+0.3**
SEDI	**Konya, Seydise**	**2.02**	**41**	P	**Pb**	**20 21 08.2**	**+0.8**
SEYD	**Seydisehir-KON**	**2.03**	**44**	Pn	**Pb**	**20 21 07.8**	**+0.2**
AKMS	**Akamas**	**2.06**	**116**	P	**Pn**	**20 21 07.5**	**+2.4**
AKMS				S	**Sn**	**20 21 30.5**	**-0.1**
AKMS				AML	AML	20 21 46.9	
	comp=N,0.2nm,0.5s						
AKMS				AML	AML	20 21 47.6	
	comp=N,0.3nm,0.6s						
AKMS	**Akamas**	**2.06**	**116**	P	**Pn**	**20 21 06.5**	**+1.4**
RFTAA	**Mazikoy-Bodrum**	**2.15**	**300**	Pn	**Pb**	**20 21 08.5**	**-1.1**
DAT	**Datca**	**2.16**	**292**	Pn	**Pn**	**20 21 08.0**	**+1.4**
DAT	**Datca**	**2.16**	**292**	P	**Pn**	**20 21 08.0**	**+1.4**
DAT	**Datca**	**2.16**	**292**	P	**Pn**	**20 21 07.6**	**+1.1**
HDMB	**Hadim**	**2.19**	**62**	Pn	**Pb**	**20 21 09.5**	**-0.9**
ALFC	**Alefka**	**2.20**	**110**	P	**Pn**	**20 21 08.6**	**+1.6**
ALFC				S	**Sn**	**20 21 31.4**	**-2.7**
ALFC				AML	AML	20 21 49.0	
	comp=N,0.2nm,0.6s						
ALFC				AML	AML	20 21 56.6	
	comp=N,0.3nm,0.6s						
ALFC	**Alefka**	**2.20**	**110**	P	**Pn**	**20 21 07.8**	**+0.8**
YAZI	**Mula-Dat§a-**	**2.24**	**290**	P	**Pn**	**20 21 08.2**	**+0.7**
MLSB	**Milas**	**2.29**	**307**	Pn	**Pb**	**20 21 10.7**	**-1.2**
KZIL	**AFYON_Kizioren**	**2.31**	**1**	P	**Pb**	**20 21 12.2**	**-0.2**
ESEN	**Aydn-Nazilli**	**2.31**	**324**	P	**Pb**	**20 21 11.5**	**-0.8**
NATA	**Nata**	**2.35**	**119**	P	**Pn**	**20 21 11.7**	**+2.7**
NATA				S	**Sb**	**20 21 42.5**	**+0.8**
NATA				AML	AML	20 22 08.9	
	comp=N,0.8nm,0.8s						
NATA				AML	AML	20 22 16.0	
	comp=N,1.1nm,0.8s						
NATA	**Nata**	**2.35**	**119**	P	**Pn**	**20 21 11.2**	**+2.2**
BDRM	**Kayabasi**	**2.40**	**299**	P	**Pn**	**20 21 10.6**	**+0.9**
KARP	**Karpathos**	**2.40**	**261**		**Pn**	**20 21 11.4**	**+1.7**
KARP	**Karpathos**	**2.40**	**261**	P	**Pn**	**20 21 11.7**	**+1.9**
KARP				S	**Sn**	**20 21 37.3**	**-1.8**
	comp=N,285nm,0.8s						
KARP	**Karpathos**	**2.40**	**261**	P	**Pn**	**20 21 11.5**	**+1.7**
KARP				AML	AML	20 21 45.7	
	comp=N,656µm,0.8s						
KARP				AML	AML	20 22 01.0	
	comp=E,370µm,0.5s						
LEF	**Lefka**	**2.44**	**109**	Pn	**Pn**	**20 21 10.8**	**+0.6**
PASA	**Karahalli, USA**	**2.45**	**349**	P	**Pn**	**20 21 12.0**	**+1.6**
PASA				S	**Sn**	**20 21 39.3**	**-0.9**
TROD	**Troodos**	**2.48**	**113**	P	**Pn**	**20 21 12.9**	**+1.3**
TROD				S	**Sb**	**20 21 48.1**	**+2.2**
TROD				AML	AML	20 22 04.3	
	comp=E,0.2nm,0.7s						
TROD				AML	AML	20 22 08.9	
	comp=E,0.2nm,0.8s						
TROD	**Troodos**	**2.48**	**113**	P	**Pn**	**20 21 12.0**	**+0.9**
BODT	**Bodrum**	**2.49**	**297**	Pn	**Pn**	**20 21 12.6**	**+1.6**
BODT	**Bodrum**	**2.49**	**297**	P	**Pn**	**20 21 12.5**	**+1.6**
YVAC	**Isparta, Yalva**	**2.50**	**21**	P	**Pb**	**20 21 15.5**	**-0.1**
YVAC				S	**Sn**	**20 21 42.8**	**+1.2**
DOGA	**KONYA_Doganhis**	**2.51**	**30**	P	**Pb**	**20 21 15.3**	**-0.4**
KIRA	**zmir-Kiraz**	**2.62**	**330**	P	**Pb**	**20 21 17.6**	**0.0**
SHUT	**Suhut-Afyon**	**2.63**	**8**	Pn	**Pb**	**20 21 16.1**	**-1.7**
KKBE	**Karaman, Kazim**	**2.63**	**60**	P	**Pb**	**20 21 16.4**	**-1.4**
KKBE				S	**Sn**	**20 21 45.3**	**+0.4**
KONT	**Konya--Tatoy**	**2.71**	**42**	Pn	**Pb**	**20 21 17.4**	**-1.7**
KONT	**Konya--Tatoy**	**2.71**	**42**	P	**Pb**	**20 21 17.9**	**-1.2**
BNAZ	**Uak-Banaz**	**2.74**	**357**	P	**Pb**	**20 21 18.7**	**-0.9**
KULA	**Kula-Manisa**	**2.80**	**337**	Pn	**Pb**	**20 21 18.5**	**-2.2**
GULN	**MERSIN_Gulnar**	**2.82**	**84**	P	**Pn**	**20 21 17.2**	**+1.8**
CSS	**Mathiatis**	**2.83**	**109**		**Pn**	**20 21 16.5**	**+0.9**
CSS	**Mathiatis**	**2.83**	**109**	P	**Pn**	**20 21 17.6**	**+1.9**
CSS				S	**Sb**	**20 21 57.7**	**+1.9**
CSS				AML	AML	20 22 16.8	
	comp=E,0.2nm,1.1s						
CSS				AML	AML	20 22 16.9	
	comp=E,0.1nm,0.8s						
CSS	**Mathiatis**	**2.83**	**109**	P	**Pn**	**20 21 18.5**	**+2.8**
CSS	**Mathiatis**	**2.83**	**109**	P	**Pn**	**20 21 16.2**	**+0.5**
ASGA	**Asgata**	**2.84**	**113**	P	**Pn**	**20 21 18.7**	**+3.0**
ASGA				S	**Sn**	**20 21 52.6**	**+2.9**
ASGA				AML	AML	20 22 18.1	
	comp=E,0.2nm,0.8s						
ASGA				AML	AML	20 22 19.5	
	comp=E,0.2nm,1.0s						
AFYO	**Afyonkarahisar**	**2.84**	**4**	P	**Pb**	**20 21 20.1**	**-1.3**
KURO	**Afyon-Bolvadin**	**2.87**	**14**	P	**Pb**	**20 21 20.1**	**-1.7**
USAK	**Uak-Merkez**	**2.89**	**343**	P	**Pn**	**20 21 17.5**	**+1.0**
UCKU	**Afyonkarahisar**	**2.90**	**21**	P	**Pb**	**20 21 20.2**	**-2.1**
LADK	**Ladik-KONYA**	**2.90**	**38**	Pn	**Pb**	**20 21 20.0**	**-2.4**
KDHN	**Kadinhani**	**3.04**	**32**	P	**Pn**	**20 21 21.4**	**+2.7**
MVOU	**Mavrovouni**	**3.05**	**107**	P	**Pn**	**20 21 19.4**	**+0.8**
MVOU				S	**Sb**	**20 22 00.7**	**-1.1**
MVOU				AML	AML	20 22 21.9	
	comp=E,0.1nm,0.8s						
MVOU				AML	AML	20 22 23.7	
	comp=E,0.2nm,0.6s						
MVOU	**Mavrovouni**	**3.05**	**107**	P	**Pn**	**20 21 19.1**	**+0.5**
SMG	**Samos**	**3.14**	**305**	P	**Pn**	**20 21 21.2**	**+1.3**
SMG	**Samos**	**3.14**	**305**	P	**Pn**	**20 21 21.1**	**+1.3**
ZKR	**Zakros**	**3.25**	**256**	P	**Pn**	**20 21 23.6**	**+2.1**
ZKR				S	**Sn**	**20 22 00.3**	**+0.3**
ZKR	**Zakros**	**3.25**	**256**	P	**Pn**	**20 21 23.4**	**+2.0**
KIZT	**Kizilcal**	**3.27**	**26**	Pn	**Pn**	**20 21 24.9**	**+3.2**
CHBY	**Cihanbeyli**	**3.46**	**40**	Pn	**Pn**	**20 21 27.9**	**+3.5**
THR3	**Thira Island,**	**3.81**	**278**	P	**Pn**	**20 21 31.0**	**+1.9**
SNT5	**Nea Kammeni, S**	**3.81**	**278**	P	**Pn**	**20 21 30.8**	**+1.6**
APE	**Apeiranthos**	**3.83**	**288**	P	**Pn**	**20 21 31.2**	**+1.8**
CHOS	**Chios island**	**4.03**	**308**	P	**Pn**	**20 21 33.6**	**+1.4**
BALB	**Balikesir**	**4.08**	**335**	Pn	**Pn**	**20 21 32.5**	**-0.2**
IDI	**Anoyia**	**4.28**	**263**	P	**Pn**	**20 21 37.0**	**+1.4**
IDI	**Anoyia**	**4.28**	**263**	P	**Pn**	**20 21 36.8**	**+1.2**
BR231	**Keskin MP Arra**	**4.44**	**28**	Pn	**Pn**	**20 21 38.4**	**+0.6**
ANTO	**Ankara**	**4.47**	**28**	Pn	**Pn**	**20 21 39.0**	**+0.8**
MDUB	**Mudurnu**	**4.61**	**11**		**Pn**	**20 21 42.1**	**+2.0**
BR131	**Keskin Array S**	**4.71**	**36**		**Pn**	**20 21 43.5**	**+1.9**
BRTR	**Keskin Array B**	**4.71**	**36**		**Pn**	**20 21 43.5**	**+1.9**
BRTR	**Keskin Array B**	**4.71**	**36**	P	**Pn**	**20 21 44.3**	**+2.7**
	comp=E,1.0nm,0.3s,baz=197,slow=15,SNR=36						
BRTR				S	**Sn**	**20 22 38.4**	**+2.2**
	comp=E,2.2nm,0.5s,baz=204,slow=24,SNR=3.4						
	comp=E,3.6nm,0.5s						
IMMV	**Iera Moni Meta**	**4.98**	**266**	P	**Pn**	**20 21 48.7**	**+3.5**
IMMV	**Iera Moni Meta**	**4.98**	**266**	P	**Pn**	**20 21 47.5**	**+2.3**
MMAI	**Mount Meron Ar**	**5.28**	**122**	P	**Pn**	**20 21 50.8**	**+1.4**
	comp=E,12nm,0.3s,baz=300,slow=12,SNR=72						
MMAI				S	**Sn**	**20 22 49.7**	**-0.4**
	comp=E,5.9nm,0.4s,baz=311,slow=23,SNR=7.0						
	comp=E,7.8nm,0.3s						
BNN	**Bunyan**	**5.43**	**56**	Pn	**Pn**	**20 21 54.0**	**+2.5**
SHMJ	**Saham**	**5.69**	**123**	P	**Pn**	**20 21 56.0**	**+1.0**
QRNJ	**Al-Qirein**	**5.81**	**127**	P	**Pn**	**20 21 58.9**	**+2.4**
VLI	**Veliai**	**5.81**	**280**	P	**Pn**	**20 21 58.6**	**+2.0**
HMDT	**Nahal Hemdat**	**5.83**	**128**	P	**Pn**	**20 21 58.5**	**+1.7**
ALN	**Alexandroupoli**	**5.87**	**329**	Pn	**Pn**	**20 21 58.8**	**+1.4**
BALJ	**Balqa**	**6.01**	**128**	P	**Pn**	**20 21 59.8**	**+0.4**
KZIT	**Kziot**	**6.19**	**143**	P	**Pn**	**20 22 01.2**	**-0.6**
GHAJ	**Ghor Haditha**	**6.51**	**134**	Pn	**Pn**	**20 22 06.4**	**+0.3**
KARJ	**KARJ**	**6.69**	**134**	P	Pn	20 21 59.2	-10
ASF	**Jabal al Asfar**	**6.79**	**122**	P	**Pn**	**20 22 12.1**	**+1.9**
	comp=E,0.5nm,0.3s,baz=243,slow=24,SNR=10						
	comp=E,1.5nm,0.4s						
MBRI	**Mt Berech**	**7.36**	**145**	P	**Pn**	**20 22 18.4**	**+0.5**
EIL	**Elat**	**7.48**	**145**	P	**Pn**	**20 22 20.6**	**+1.1**
	comp=E,1.7nm,0.3s,baz=349,slow=5.4,SNR=16						
	comp=E,4.0nm,0.3s						
EIL	**Elat**	**7.48**	**145**	P	**Pn**	**20 22 18.7**	**-0.8**
TIRR	**Tirgusor**	**8.60**	**352**	Pn	**Pn**	**20 22 37.7**	**+2.8**
TIP	**Timpagrande**	**11.05**	**291**	Pn	**Pn**	**20 23 08.2**	**-0.3**
CEL	**Celeste**	**11.56**	**286**	Pn	**Pn**	**20 23 13.9**	**-1.5**
CUC	**Castrocucco**	**11.96**	**294**	Pn	**Pn**	**20 23 21.5**	**+0.6**
RAFF	**Raffo Rosso**	**12.70**	**280**	Pn	**Pn**	**20 23 29.6**	**-1.3**
GERES	**GERESS Array B**	**17.63**	**322**	P	**P**	**20 24 38.9**	**+2.0**
	comp=E,0.1nm,0.3s,baz=152,slow=11,SNR=2.5						
	comp=E,0.2nm,0.3s						
BELG	**Belogornoye**	**20.62**	**32**	P	**P**	**20 25 09.8**	**+0.2**
	comp=E,11nm,0.8s,baz=167,slow=1.3,SNR=6.8						
	comp=E,11nm,0.8s						
GEYT	**Alibeck**	**22.47**	**77**	P	**P**	**20 25 29.4**	**-0.3**
GEYT	**Alibeck**	**22.47**	**77**	P	**P**	**20 25 29.2**	**-0.5**
	comp=E,1.0nm,0.5s,baz=278,slow=10.0,SNR=1.7						
	comp=E,1.0nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**22.47**	**77**	P	**P**	**20 25 29.1**	**-0.6**
ABKAR	**Akbulak array**	**25.51**	**49**	P	**P**	**20 25 58.7**	**+0.1**
ABKAR	**Akbulak array**	**25.51**	**49**	P	**P**	**20 25 58.5**	**-0.2**
ABKAR				IAmb	IAmb	20 25 59.5	
	comp=Z,3.6nm,0.7s						
FINES	**FINESS Array B**	**25.65**	**356**	P	**P**	**20 25 59.3**	**-0.5**
FINES	**FINESS Array B**	**25.65**	**356**	P	**P**	**20 26 01.5**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=156,slow=12,SNR=2.8						
	comp=Z,1.5nm,0.8s						
ARU	**Arti**	**28.10**	**34**	P	**P**	**20 26 21.7**	**-0.2**
ARU				IAmb	IAmb	20 26 22.4	
	comp=Z,2.8nm,0.9s						
KKAR	**Karatay Array**	**31.76**	**64**	P	**P**	**20 26 54.4**	**-0.2**
BRVK	**Borovoye**	**32.86**	**46**	P	**P**	**20 27 03.9**	**-0.2**
BRVK				IAmb	IAmb	20 27 05.2	
	comp=Z,2.4nm,0.9s						
BVAR	**Borovoye Array**	**32.91**	**46**	P	**P**	**20 27 05.0**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=243,sl

comp=E,700nm,0.3s
YUK Yuzh-Kuril'sk 2.11 269 *e*PN **Pn 20 47 40.9 +0.7**
YUK *e*S **Sn 20 48 07.0 +0.7**
YUK pmax pmax
comp=N,89nm,0.2s
YUK pmax pmax
comp=Z,796nm,0.2s
YUK pmax pmax
comp=E,108nm,0.1s
YUK smax smax
comp=N,939nm,0.5s
YUK smax smax
comp=E,1µm,0.4s
YUK Yuzh-Kuril'sk 2.11 269 *e*P **Pn 20 47 41.2 +1.0**
YUK AMB AMB 20 47 43.0
comp=E,300nm,0.3s
YUK *e*S **Sn 20 48 07.0 +0.7**
YUK A A 20 48 10.2
comp=E,900nm,0.5s
YUK A A 20 48 10.2
comp=E,1µm,0.5s
NEM2 Nemuro 2 2.33 252 *e*P **Pn 20 47 43.9 +0.8**
NEM2 *e*S **Sn 20 48 13.1 +1.4**
NMR Nemuro--Hokkai 2.33 253 *e*PN **Pn 20 47 43.9 +0.6**
NMR *e*S **Sn 20 48 12.4 +0.5**
NMR Nemuro--Hokkai 2.33 253 *e*P **Pn 20 47 43.9 +0.6**
NMR *e*S **Sn 20 48 12.4 +0.5**
RUSJ Misakicho 2.55 271 *e*PN **Pn 20 47 48.4 +2.2**
RUSJ *e*S **Sb 20 48 19.6 -2.4**
JRA Rausu 2.65 268 *e*P **Pn 20 47 49.7 +2.1**
JRA *e*S **Sn 20 48 22.2 +2.6**
JNK Nakash 2.99 261 *e*P **Pn 20 47 54.1 +1.8**
JNK *e*S **Sn 20 48 29.4 +1.3**
JAK Akkeshi 3.17 251 *e*P **Pn 20 47 56.7 +1.9**
JAK *e*S **Sn 20 48 35.0 +2.3**
JTKR Abashiri--Toko 3.52 269 *e*P **Pn 20 48 02.1 +2.5**
JAR Ashorobuto 3.73 259 *e*P **Pn 20 48 05.1 +2.7**
JOB Onbets 3.80 253 *e*P **Pn 20 48 05.6 +2.3**
JCH Churui 4.23 251 *e*P **Pn 20 48 11.9 +2.6**
JCH *e*S **Sn 20 49 00.2 +1.6**
JKA Kamikawa-asahi 4.45 272 Pn **Pn 20 48 15.8 +3.4**
JKA Kamikawa-asahi 4.45 272 *e*P **Pn 20 48 15.8 +3.4**
ASAJ Asahikawa 4.46 272 PN **Pn 20 48 15.8 +3.4**
ASAJ Asahikawa 4.46 272 Pn **Pn 20 48 13.8 +1.3**
comp=E,2.1nm,0.3s,baz=70,slow=16,SNR=4.1
ASAJ Sn **Sn 20 49 05.7 +1.4**
comp=E,2.5nm,0.3s,baz=116,slow=30,SNR=1.4
comp=E,6.2nm,0.4s
ERM Erimo 4.62 245 Pn **Pn 20 48 18.4 +3.7**
ERM Erimo 4.62 245 *i* PN **Pn 20 48 18.9 +4.2**
JNBK Urakawa-nobuka 4.77 250 *e*P **Pn 20 48 19.5 +2.7**
YSS Yuzh-Sakhalins 5.10 306 Pn **Pn 20 48 22.2 +0.9**
YSS Yuzh-Sakhalins 5.10 306 *e*PN **Pn 20 48 23.5 +2.2**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 5.10 306 *e*P **Pn 20 48 23.5 +2.2**
JANG Nango 6.56 238 *e*P **Pn 20 48 41.9 +0.6**
JANG *e*S **Sn 20 49 50.8 -5.3**
JTM Tenmabayashi 6.60 242 Pn **Pn 20 48 44.0 +2.1**
TYV Tymovskoe 7.93 331 *e*P Pn 20 49 03.6 +3.5
PETK Petropavlovsk- 10.76 30 Pn **Pn 20 49 38.3 -0.5**
comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=1.0
comp=Z,1.1nm,0.6s
MJA0 Matsu Arr-Jizo 11.03 230 *e*PN **Pn 20 49 44.7 +2.0**
MJAR Matsushiro Arr 11.05 230 Pn **Pn 20 49 44.8 +1.8**
comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=7.6
comp=Z,1.6nm,0.8s
MAJO Matsushiro 11.05 230 Pn **Pn 20 49 44.3 +1.4**
MAJO Matsushiro 11.05 230 PN **Pn 20 49 44.3 +1.4**
SEY Seymchan 18.98 5 P **Pn 20 51 25.4 -1.3**
comp=Z,0.1nm,0.3s,baz=200,slow=11,SNR=5.3
comp=Z,2.8nm,0.9s
YAK Yakutsk 21.16 335 *i* P **P 20 51 49.4 -0.4**
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK Yakutsk 21.16 335 P **P 20 51 47.8 -2.0**
comp=Z,0.2nm,0.3s,baz=145,slow=2.9,SNR=3.0
H11N2 WAKE ISLAND Hy 28.63 142 T T 21 23 44.4
baz=333,slow=76,SNR=122
H11N1 WAKE ISLAND Hy 28.64 142 T T 21 23 50.4
baz=333,slow=76,SNR=97
H11N3 WAKE ISLAND Hy 28.65 142 T T 21 23 47.9
baz=333,slow=76,SNR=94
ULN Ulaanbaatar 28.98 292 *i* P **P 20 53 01.5 -3.1**
ULN pmax pmax
comp=Z,1.0nm,1.2s
SONM Songino Array 29.42 292 P **P 20 53 08.2 -0.3**
SONM Songino Array 29.42 292 *e*P **P 20 53 09.2 +0.7**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 29.42 292 P **P 20 53 08.9 +0.4**
comp=Z,0.5nm,0.5s,baz=86,slow=8.6,SNR=5.6
comp=Z,0.5nm,0.5s
H11S1 WAKE ISLAND Hy 29.63 144 T T 21 25 07.5
baz=334,slow=76,SNR=156
H11S3 WAKE ISLAND Hy 29.63 144 T T 21 25 01.7
baz=334,slow=76,SNR=100
H11S2 WAKE ISLAND Hy 29.64 144 T T 21 25 08.2
baz=334,slow=76,SNR=124
C18K Utukok River 35.42 29 P **P 20 54 01.1 +0.4**
C18K IAmb IAmb 20 54 14.1
comp=Z,4.1nm,1.4s
C19K Lookout Ridge 36.11 29 P **P 20 54 07.0 +0.5**
TTA Tatalina 36.41 39 P **P 20 54 08.4 -0.8**
TTA IAmb IAmb 20 54 17.8
comp=Z,5.9nm,1.4s
TTA Tatalina 36.41 39 P **P 20 54 08.4 -0.8**
TTA pmax pmax
comp=Z,6.0nm,1.4s
E19K Redstone River 36.55 32 P **P 20 54 11.3 +1.0**
E19K IAmb IAmb 20 54 14.3
comp=Z,2.2nm,0.7s
IMAR Indian Mountai 37.68 34 P **P 20 54 19.5 -0.4**
D22K Ayikyak River 38.49 30 P **P 20 54 28.1 +1.4**
D22K IAmb IAmb 20 54 29.5
comp=Z,3.9nm,1.4s
NRIK Noril'sk 39.51 331 *i* P **P 20 54 34.0 -1.2**
NRIK pmax pmax
comp=Z,2.0nm,1.5s
ILAR Eielson Array 40.50 36 P **P 20 54 44.1 +0.7**
comp=Z,0.3nm,0.6s,baz=267,slow=8.4,SNR=4.6
comp=Z,0.3nm,0.6s
D25K Kavik River 40.78 29 P **P 20 54 46.5 +0.7**
D25K IAmb IAmb 20 54 54.5
comp=Z,5.2nm,1.2s
DGZ Jazzator, Alta 41.26 300 *i* P **P 20 54 51.4 +1.3**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
BMAR Burnt Mountain 41.40 32 P **P 20 54 52.6 +1.7**
ZALV Zalesovo Beam 41.73 307 P **P 20 54 52.5 -1.1**
comp=Z,0.3nm,0.3s,baz=89,slow=8.0,SNR=2.2
ZALV PcP **PcP 20 56 50.5 +0.6**
comp=Z,0.5nm,0.5s,baz=101,slow=1.5,SNR=2.5
comp=Z,0.3nm,0.3s
BCAR Beaver Creek A 42.88 39 P **P 20 55 05.3 +2.3**
EGAK Eagle 42.95 36 P **P 20 55 04.3 +0.8**
EGAK IAmb IAmb 20 55 30.8
comp=Z,5.7nm,1.4s
MK31 Makanchi Array 45.46 298 P **P 20 55 24.1 +0.2**
MK31 Makanchi Array 45.46 298 P **P 20 55 24.1 +0.2**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 45.46 298 P **P 20 55 23.6 -0.3**
MKAR Makanchi Array 45.46 298 *i* P **P 20 55 24.5 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 45.46 298 P **P 20 55 24.0 +0.1**
comp=Z,1.1nm,0.6s,baz=78,slow=8.5,SNR=18
MKAR PcP **PcP 20 57 02.5 -0.3**
comp=Z,0.1nm,0.5s,baz=70,slow=4.1,SNR=1.8
comp=Z,1.1nm,0.6s
MKAR Makanchi Array 45.46 298 *e*P **P 20 55 24.5 +0.6**
KURK Kurchatov 46.31 304 P **P 20 55 30.0 -0.5**
KURK IAmb IAmb 20 55 31.1
comp=Z,2.8nm,1.2s
KURK Kurchatov 46.31 304 *i* P **P 20 55 30.1 -0.3**
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 46.31 304 *e*P **P 20 55 30.1 -0.3**
KURBB Kurchatov Arra 46.39 304 P **P 20 55 30.5 -0.6**
KURBB PcP **PcP 20 57 06.1 +0.2**
comp=Z,0.6nm,0.4s,baz=72,slow=7.4,SNR=5.0
comp=Z,0.6nm,0.2s,baz=81,slow=2.7,SNR=4.5
comp=Z,0.6nm,0.4s
A36M Sachs Harbour 47.55 25 P **P 20 55 41.0 +1.2**
A36M IAmb IAmb 20 55 42.4
comp=Z,2.1nm,0.7s
C36M Paulatuk 48.61 28 P **P 20 55 49.3 +1.2**
C36M IAmb IAmb 20 56 12.6
comp=Z,5.3nm,1.5s
BVAR Borovoye Array 50.19 310 P **P 20 56 00.3 -0.1**
comp=Z,0.3nm,0.3s,baz=50,slow=9.6,SNR=3.3
comp=Z,0.3nm,0.3s
AAK Ala-Archa 52.26 296 P **P 20 56 16.4 +0.1**
AAK IAmb IAmb 20 56 18.4
comp=Z,1.4nm,0.6s
AAK Ala-Archa 52.26 296 P **P 20 56 16.5 +0.1**
AAK pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 52.26 296 *e*P **P 20 56 16.5 +0.1**
ARSB Arslanbob 53.89 295 P **P 20 56 29.6 +1.3**
ARSB Arslanbob 53.89 295 P **P 20 56 29.6 +1.3**
ARSB pmax pmax
comp=Z,2.0nm,1.1s
RES Resolute Bay 54.28 17 P **P 20 56 30.4 -0.1**
RES IAmb IAmb 20 56 31.2
comp=Z,4.1nm,1.1s
RES Resolute Bay 54.28 17 P **P 20 56 30.4 -0.1**
RES pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 54.59 298 P **P 20 56 32.9 -0.3**
KKAR Karatay Array 54.59 298 P **P 20 56 33.4 +0.2**
KKAR IAmb IAmb 20 56 58.3
comp=Z,3.3nm,1.4s
KKAR Karatay Array 54.59 298 P **P 20 56 33.4 +0.2**
KKAR pmax pmax
comp=Z,3.0nm,1.5s
YKA Yellowknife Ar 54.84 34 P **P 20 56 35.8 +1.1**
comp=Z,0.2nm,0.3s,baz=297,slow=6.8,SNR=3.8
comp=Z,0.2nm,0.3s
ARU Arti 54.89 317 P **P 20 56 34.4 -0.7**
ARU Arti 54.89 317 *c i* P **P 20 56 34.8 -0.4**
ARU S **S 21 04 16.3 +0.2**
ARU SS **SS 21 07 57.1 -1.7**
ARU pmax pmax
comp=Z,17nm,2.7s
ARU Arti 54.89 317 *e*P **P 20 56 34.8 -0.4**
ABKAR Akbulak array 57.76 309 P **P 20 56 55.1 -0.6**
ABKAR Akbulak array 57.76 309 P **P 20 56 55.5 -0.2**
ABKAR IAmb IAmb 20 57 09.3
comp=Z,2.4nm,1.4s
ARCES ARCESS Array B 59.32 340 *e*P **P 20 57 07.1 +0.8**
ARCES pmax pmax
comp=Z,8.0nm,1.2s
ARCES ARCESS Array B 59.32 340 P **P 20 57 05.7 -0.7**
comp=Z,4.7nm,1.0s,baz=47,slow=7.2,SNR=7.5
comp=Z,4.7nm,1.0s
FIA1 FINESS Array S 65.08 334 P **P 20 57 44.2 -0.8**
FINES FINESS Array B 65.09 334 P **P 20 57 43.8 -1.2**
FINES FINESS Array B 65.09 334 *e*P **P 20 57 44.6 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 65.09 334 P **P 20 57 44.1 -1.0**
comp=Z,1.7nm,0.5s,baz=37,slow=7.2,SNR=29
comp=Z,1.7nm,0.5s
FCC Fort Churchill 65.11 31 P **P 20 57 44.3 -1.0**
FCC Fort Churchill 65.11 31 P **P 20 57 44.3 -1.0**
FCC pmax pmax
comp=Z,7.0nm,1.4s
GEYT Alibeck 65.30 299 P **P 20 57 46.8 -0.1**
GEYT Alibeck 65.30 299 P **P 20 57 47.1 +0.2**
comp=Z,2.0nm,0.6s,baz=107,slow=1.5,SNR=4.9
comp=Z,2.0nm,0.6s
GYA0 ALIBECK ARRAY 65.30 299 P **P 20 57 46.9 0.0**
GYA0 pmax pmax
comp=Z,4.0nm,0.6s
GYA0B ALIBECK ARRAY 65.30 299 P **P 20 57 46.9 0.0**
OBN Obninsk 65.72 324 *i* P **P 20 57 47.5 -1.7**
OBN pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 65.72 324 *e*P **P 20 57 47.5 -1.7**
PDAR Pinedale Array 68.77 51 P **P 20 58 10.1 +0.9**
NB2 NORSAR Subarra 69.69 340 P **P 20 58 13.2 -1.1**
comp=Z,1.0nm,0.4s,baz=31,slow=6.5
NOA NORSAR Array B 69.69 340 P **P 20 58 13.4 -0.9**
comp=Z,1.1nm,0.6s,baz=32,slow=6.6,SNR=18
comp=Z,1.1nm,0.6s
HFS Hagfors 69.81 338 P **P 20 58 13.8 -1.2**
comp=Z,1.7nm,0.4s,baz=30,slow=3.7,SNR=25
comp=Z,1.7nm,0.4s
KIV Kislovodsk 70.40 313 *e*P **P 20 58 18.8 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 70.40 313 *e*P **P 20 58 18.8 -0.2**
KBZ Khabaz 70.44 312 *i* P **P 20 58 19.1 0.0**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 70.44 312 P **P 20 58 19.4 +0.3**
comp=Z,7.2nm,0.9s,baz=30,slow=9.3,SNR=5.5
comp=Z,2.7nm,0.9s
KBZ Khabaz 70.44 312 *e*P **P 20 58 19.2 +0.1**
AKASG Malin Array Be 71.98 324 *e*P **P 20 58 28.1 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 71.98 324 P **P 20 58 27.9 -0.4**
comp=Z,0.9nm,0.5s,baz=35,slow=6.4,SNR=5.0
comp=Z,0.9nm,0.5s
CLL Collm 77.53 333 *i* P **P 20 59 00.7 +0.2**
comp=Z,6.0nm,0.9s
EKA Eskdalemuir Ar 78.11 344 P **P 20 59 03.3 -0.3**
comp=Z,0.4nm,0.3s,baz=19,slow=5.1,SNR=9.8
comp=Z,0.4nm,0.3s
BRTR Keskin Array B 78.14 314 *e*P **P 20 59 05.2 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 78.14 314 P **P 20 59 04.5 +0.2**
comp=Z,0.9nm,0.8s,baz=44,slow=3.6,SNR=3.9
comp=Z,0.9nm,0.8s
GERES GERESS Array B 79.41 332 P **P 20 59 11.0 0.0**
comp=Z,0.4nm,0.4s,baz=38,slow=6.1,SNR=5.3
comp=Z,0.4nm,0.4s
TXAR Lajitas Array 81.47 57 P **P 20 59 23.2 +0.8**
TXAR Lajitas Array 81.47 57 P **P 20 59 23.2 +0.8**
TXAR Lajitas Array 81.47 57 P **P 20 59 23.6 +1.1**
comp=Z,0.3nm,0.7s,baz=306,slow=4.3,SNR=3.7
comp=Z,0.3nm,0.7s
MMAI Mount Meron Ar 82.19 309 P **P 20 59 27.6 +1.5**
comp=Z,0.8nm,0.5s,baz=58,slow=7.9,SNR=2.4
comp=Z,0.8nm,0.5s
H03N2 Juan Fernandez 141.78 90 T T 23 45 14.2
baz=304,slow=77,SNR=8.3
H03N3 Juan Fernandez 141.80 90 T T 23 45 11.0
baz=304,slow=77,SNR=6.2
H03N1 Juan Fernandez 141.80 90 T T 23 45 15.5
baz=304,slow=77,SNR=7.1

SJA ***20*** *20:49:28.5±1.3, 20°.78S×70°.91W, h15km, ML4.0, MW4.1*
IDC ***20*** *20:49:28.9±0.9, 20°.63S×70°.81W, h0km, mb4.1/5, mbtmp4.2/8, ML4.1/3, MS3.4/5, Error ellipse: s-maj=27.5km s-min=20.7km az=74.0*
NEIC ***20*** *20:49:32.3±1.8, 20°.78S±0°.04×70°.87W±0°.05, h27km±5km, mb4.2/9, Error ellipse: s-maj=7.2km s-min=4.8km az=112.0*
GUC ***20*** *20:49:34.5±0.6, 20°.73S×70°.78W, h47km±4km, ML4.0*
ISC 20 20:49:29.8±1.5, 20°.75S±0°.02×70°.86W±0°.05, h9km±9km, n103, n0‰99/128, mb4.2/6, 6C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TA01	**Diego Aracena**	**0.66**	**74**			**Pn**	**20 49 45.7**	**+0.4**
TA01				Sg		**Sn**	**20 49 54.5**	**-1.3**
TA01	**Diego Aracena**	**0.66**	**74**	*e*P		**Pn**	**20 49 45.7**	**+0.4**
TA01	**Diego Aracena**	**0.66**	**74**	*i*P		**Pn**	**20 49 45.9**	**+0.5**
TA01				*e*S		**Sn**	**20 49 54.3**	**-1.6**
TA01				IAML			20 49 55.3	
comp=N,9µm,0.6s								
PATCX	**Punta Patache**	**0.66**	**96**			**Pn**	**20 49 45.6**	**+0.2**
PATCX				Sg		**Sn**	**20 49 54.8**	**-1.3**
PATCX	**Punta Patache**	**0.66**	**96**	*e*P		**Pn**	**20 49 45.9**	**+0.4**
PATCX				IAML			20 49 56.4	
comp=Z,4µm,0.5s								
PATCX	**Punta Patache**	**0.66**	**96**	*i*P		**Pn**	**20 49 46.1**	**+0.6**
PATCX				*e*S		**Sn**	**20 49 55.0**	**-1.0**
PATCX				IAML			20 49 56.1	
comp=E,11µm,0.3s								
TA02	**Huaiquique**	**0.83**	**55**			**Pn**	**20 49 48.3**	**+0.5**
TA02				Sg		**Sn**	**20 49 59.0**	**-1.2**
TA02	**Huaiquique**	**0.83**	**55**	*e*P		**Pn**	**20 49 47.7**	**-0.1**
TA02				*e*S		**Sn**	**20 50 00.0**	**-0.1**
TA02	**Huaiquique**	**0.83**	**55**	*i*P		**Pn**	**20 49 48.2**	**+0.5**
TA02				*e*S		**Sn**	**20 49 58.5**	**-1.6**
HMBC	**Humberstone**	**1.02**	**63**	⇑*i*P		**Pn**	**20 49 51.2**	**+0.7**
HMBC				*e*S		**Sn**	**20 50 03.9**	**-1.2**
HMBC				IAML			20 50 05.4	
comp=E,6µm,0.5s								
PB02	**IPOC Station P**	**1.06**	**122**			**Pn**	**20 49 51.5**	**+0.5**
PB02				Sn		**Sn**	**20 50 04.8**	**-1.1**
PB02	**IPOC Station P**	**1.06**	**122**	*e*P		**Pn**	**20 49 52.0**	**+1.1**
PB02				*e*S		**Sn**	**20 50 05.8**	**-0.1**
PB02				IAML			20 50 06.8	
comp=Z,11µm,0.3s								
PB02	**IPOC Station P**	**1.06**	**122**	⇓*i*P		**Pn**	**20 49 52.2**	**+1.2**
PB02				*e*S		**Sn**	**20 50 05.4**	**-0.5**
PB02				IAML			20 50 06.6	
comp=E,14µm,0.2s								
PX03	**IPOC Station P**	**1.20**	**73**	*i*P		**Pg**	**20 49 53.2**	**+0.4**
PX03				*e*S		**Sg**	**20 50 08.2**	**-0.3**
PX03				IAML			20 50 10.1	
comp=N,7µm,0.5s								
PB01	**IPOC Station P**	**1.31**	**103**			**Pg**	**20 49 55.3**	**+0.3**
PB01				Sn		**Sg**	**20 50 11.8**	**-0.2**
PB01	**IPOC Station P**	**1.31**	**103**	*e*P		**Pb**	**20 49 54.9**	**+0.2**
PB01				*e*S		**Sg**	**20 50 12.5**	**+0.4**
PB01				IAML			20 50 13.8	
comp=Z,3µm,0.2s								
PB01	**IPOC Station P**	**1.31**	**103**	*i*P		**Pg**	**20 49 55.5**	**+0.5**
PB01				*e*S		**Sn**	**20 50 11.5**	**-0.7**
PB01				IAML			20 50 14.2	
comp=E,8µm,0.3s								
PB07	**IPOC Station P**	**1.32**	**137**			**Pb**	**20 49 55.1**	**+0.1**
PB07				Sn		**Sb**	**20 50 11.7**	**-0.4**
PB07	**IPOC Station P**	**1.32**	**137**	*e*P		**Pb**	**20 49 55.0**	**+0.1**
PB07				*e*S		**Sg**	**20 50 12.5**	**0.0**
PB07				*e*S		**Sn**	**20 50 12.8**	**+0.2**
PB07				IAML			20 50 13.6	
comp=Z,4µm,0.7s								
PB07	**IPOC Station P**	**1.32**	**137**	⇓*i*P		**Pg**	**20 49 55.8**	**+0.5**
PB07				*e*S		**Sn**	**20 50 12.3**	**-0.2**
PB07				IAML			20 50 13.5	
comp=E,3µm,0.2s								
PB11	**IPOC Station P**	**1.50**	**49**			**Pb**	**20 49 58.0**	**+0.1**
PB11	**IPOC Station P**	**1.50**	**49**	*e*P		**Pn**	**20 49 57.3**	**+0.2**
PB11				*e*S		**Sb**	**20 50 16.9**	**-0.3**
PB11				IAML			20 50 17.8	
comp=Z,2µm,0.2s								
PB11	**IPOC Station P**	**1.50**	**49**	⇑*i*P		**Pb**	**20 49 57.8**	**-0.1**
PB11				*e*S		**Sn**	**20 50 16.0**	**-0.9**
PB11				IAML			20 50 17.9	
comp=N,3µm,0.3s								
PB04	**IPOC Station P**	**1.70**	**157**			**Pn**	**20 50 00.2**	**+0.3**
PB04	**IPOC Station P**	**1.70**	**157**	*e*P		**Pn**	**20 50 00.8**	**+0.9**
PB04				*e*S		**Sn**	**20 50 20.9**	**-1.1**
PB04				IAML			20 50 23.1	
comp=Z,3µm,0.2s								
PB04	**IPOC Station P**	**1.70**	**157**	*i*P		**Pn**	**20 50 00.8**	**+0.9**
PB04				IAML			20 50 22.1	
comp=E,3µm,0.2s								
PB08	**IPOC Station P**	**1.71**	**69**			**Pb**	**20 50 01.5**	**-0.2**
PB08	**IPOC Station P**	**1.71**	**69**	*e*P		**Pb**	**20 50 00.9**	**-0.7**
PB08				*e*S		**Sb**	**20 50 23.7**	**+0.3**
PB08				IAML			20 50 25.6	
comp=Z,935nm,0.5s								
PB08	**IPOC Station P**	**1.71**	**69**	⇑*i*P		**Pb**	**20 50 01.4**	**-0.2**
PB08				*e*S		**Sn**	**20 50 21.7**	**-0.6**
PB08				IAML			20 50 24.5	
comp=N,2µm,0.6s								
PB09	**IPOC Station P**	**1.83**	**125**			**Pb**	**20 50 03.7**	**+0.1**
PB09	**IPOC Station P**	**1.83**	**125**	*e*P		**Pb**	**20 50 04.0**	**+0.5**
PB09				*e*S		**Sb**	**20 50 26.9**	**+0.3**
PB09				IAML			20 50 28.0	
comp=Z,2µm,0.7s								
PB09	**IPOC Station P**	**1.83**	**125**	*i*P		**Pb**	**20 50 04.0**	**+0.5**
GO01	**Chusmiza**	**1.90**	**56**			**Pb**	**20 50 04.2**	**-0.7**
GO01	**Chusmiza**	**1.90**	**56**	*e*P		**Pb**	**20 50 04.2**	**-0.7**
GO01				*e*S		**Sn**	**20 50 27.4**	**+0.2**
GO01				IAML			20 50 28.8	
comp=Z,856nm,0.6s								
GO01	**Chusmiza**	**1.90**	**56**	⇑*i*P		**Pb**	**20 50 04.2**	**-0.7**
GO01				*e*S		**Sn**	**20 50 26.9**	**-0.2**
PB05	**IPOC Station P**	**2.17**	**164**	Pn		**Pn**	**20 50 06.7**	**+0.4**
PB05	**IPOC Station P**	**2.17**	**164**	*e*P		**Pn**	**20 50 06.7**	**+0.4**
PB05				*e*S		**Sn**	**20 50 34.0**	**+0.4**
PB05				IAML			20 50 36.2	
comp=Z,410nm,0.2s								
PB05	**IPOC Station P**	**2.17**	**164**	*i*P		**Pn**	**20 50 06.9**	**+0.6**
PB12	**IPOC Station P**	**2.19**	**13**			**Pn**	**20 50 07.2**	**+0.8**
PB12	**IPOC Station P**	**2.19**	**13**	*e*P		**Pn**	**20 50 07.3**	**+0.8**
PB12				*e*S		**Sn**	**20 50 31.3**	**-2.4**
PB12				IAML			20 50 32.8	
comp=Z,508nm,0.2s								
PB12	**IPOC Station P**	**2.19**	**13**	*i*P		**Pn**	**20 50 07.6**	**+1.1**
PB06	**IPOC Station P**	**2.28**	**149**			**Pn**	**20 50 08.6**	**+0.7**
PB06	**IPOC Station P**	**2.28**	**149**	*e*P		**Pn**	**20 50 08.7**	**+0.9**
PB06				*e*S		**Sn**	**20 50 36.6**	**+0.4**
PB06				IAML			20 50 48.5	
comp=Z,927nm,1.0s								
PB06	**IPOC Station P**	**2.28**	**149**	*i*P		**Pn**	**20 50 08.7**	**+0.9**
AP01	**Chacalluta**	**2.42**	**12**			**Pn**	**20 50 10.5**	**+0.9**
AP01	**Chacalluta**	**2.42**	**12**	*e*P		**Pn**	**20 50 11.1**	**+1.5**
AP01				*e*S		**Sn**	**20 50 38.1**	**-1.3**
AP01				IAML			20 50 49.9	
comp=Z,727nm,0.5s								
AP01	**Chacalluta**	**2.42**	**12**	*i*P		**Pn**	**20 50 10.7**	**+1.1**
LVC	**Limon Verde**	**2.58**	**136**	Pn		**Pb**	**20 50 14.7**	**-1.9**
LVC	**Limon Verde**	**2.58**	**136**	*e*P		**Pn**	**20 50 14.1**	**+1.9**
LVC				*e*S		**Sb**	**20 50 46.9**	**-1.8**
LVC				IAML			20 50 49.2	
comp=Z,536nm,0.8s								
LVC	**Limon Verde**	**2.58**	**136**	Pn		**Pb**	**20 50 14.8**	**-1.8**
comp=Z,60nm,0.3s,baz=333,slow=7.3,SNR=435								
LVC				Sn		**Sb**	**20 50 46.5**	**-2.1**
comp=Z,147nm,0.3s,baz=309,slow=15,SNR=7.1								
LVC				LR		LR	20 51 19.8	
comp=Z,887nm,18.1s,baz=2.5,slow=42								
comp=Z,268nm,0.4s								
PB16	**IPOC Station P**	**2.72**	**28**			**Pn**	**20 50 15.8**	**+1.5**
PB16	**IPOC Station P**	**2.72**	**28**	*e*P		**Pn**	**20 50 15.5**	**+1.3**
PB16				*e*S		**Sn**	**20 50 47.2**	**-0.4**
PB16				IAML			20 51 06.3	
comp=Z,283nm,1.7s								
PB15	**IPOC Station P**	**2.76**	**153**			**Pn**	**20 50 15.0**	**+0.6**
AF01	**San Pedro de A**	**3.31**	**132**			**Pn**	**20 50 21.4**	**-0.7**
PB14	**IPOC Station P**	**3.88**	**174**	Pn		**Pn**	**20 50 29.0**	**-0.3**
PB14	**IPOC Station P**	**3.88**	**174**	*e*P		**Pn**	**20 50 29.9**	**0.0**
PB14				*e*S		**Sn**	**20 51 12.1**	**-3.6**
PB14				IAML			20 51 15.2	
comp=Z,182nm,0.5s								
GO02	**Mina Guanaco**	**4.54**	**165**	Pn		**Pn**	**20 50 40.0**	**+0.9**
GO02	**Mina Guanaco**	**4.54**	**165**	*e*P		**Pn**	**20 50 40.3**	**+1.3**
GO02				*e*S		**Sn**	**20 51 32.9**	**+0.7**
GO02				IAML			20 51 35.4	
comp=Z,295nm,0.5s								
AC01	**Pan de Azucar**	**5.37**	**178**			**Pn**	**20 50 49.0**	**-1.2**
AC01	**Pan de Azucar**	**5.37**	**178**	*e*P		**Pn**	**20 50 48.5**	**-1.7**
AC06	**Mina Casimiro**	**6.59**	**176**	Pn		**Pn**	**20 51 06.3**	**-0.6**
GO03	**Copiap**	**6.83**	**175**			**Pn**	**20 51 09.4**	**-0.9**
LCO	**Las Campanas**	**8.22**	**179**	Pn		**Pn**	**20 51 27.7**	**-1.9**
CO01	**Juntas del Tor**	**9.21**	**176**	Pn		**Pn**	**20 51 41.7**	**-1.4**
CO03	**El Pedregal**	**10.04**	**179**	Pn		**Pn**	**20 51 52.6**	**-1.9**
CO02	**Combarbal**	**10.41**	**181**	Pn		**Pn**	**20 51 57.6**	**-1.8**
SIV	**San Ignacio**	**10.43**	**65**	Pn		**Pn**	**20 51 59.6**	**0.0**
comp=Z,0.2nm,0.3s,baz=260,slow=7.6,SNR=17								
SIV				LR		LR	20 56 48.2	
comp=Z,130nm,20.5s,baz=278,slow=42								
comp=Z,4.0nm,0.5s								
CFA	**Coronel Fontan**	**11.06**	**168**	Pn		**Pn**	**20 52 08.2**	**0.0**
comp=Z,0.9nm,0.3s,baz=4.6,slow=12,SNR=8.1								
comp=Z,1.9nm,0.3s								
ETMB	**Extrema**	**11.76**	**23**	Pn		**Pn**	**20 52 17.5**	**-0.4**
BO01	**Tunca**	**13.59**	**181**	Pn		**Pn**	**20 52 41.0**	**-1.8**
CPUP	**Villa Florida**	**13.59**	**117**	LR		LR	20 58 50.7	
comp=Z,75nm,18.6s,baz=25,slow=41								
SAML	**Samuel**	**13.88**	**33**	Pn		**Pn**	**20 52 45.5**	**-1.3**
H03N1	**Juan Fernandez**	**14.52**	**208**	T		T	21 08 06.6	
baz=34,slow=72,SNR=97								
H03N2	**Juan Fernandez**	**14.53**	**208**	T		T	21 08 00.6

GO06					IAmb	IAmb	20 53 52.2		
	comp=Z,25nm,1.5s								
TRQA	**Tornquist**	**18.88**	**158**		**P**	**P**	**20 53 49.9**	**-0.6**	
TRQA					IAmb	IAmb	20 53 52.9		
	comp=Z,11nm,0.8s								
PLCA	**Paso Flores**	**19.92**	**179**		P	**P**	**20 54 02.7**	**+0.8**	
PLCA					IAmb	IAmb	20 54 10.8		
	comp=Z,11nm,1.2s								
PLCA	**Paso Flores**	**19.92**	**179**		P	**Pn**	**20 54 04.3**	**+0.8**	
	comp=Z,2.6nm,0.9s,baz=357,slow=15,SNR=5.0								
	comp=Z,2.6nm,0.9s								
COHC	**Cochancay**	**19.94**	**335**		P	**P**	**20 54 03.3**	**+1.1**	
SLOR	**San Lorenzo -**	**21.26**	**338**		P	**P**	**20 54 18.1**	**+1.0**	
SLOR					IAmb	IAmb	20 54 42.9		
	comp=Z,7.6nm,1.0s								
BDFB	**Brasilia**	**22.28**	**81**		P	**P**	**20 54 28.0**	**+0.3**	
	comp=Z,1.4nm,0.4s,baz=250,slow=12,SNR=2.4								
BDFB					LR	LR	21 04 25.0		
	comp=Z,101nm,19.0s,baz=116,slow=40								
	comp=Z,1.4nm,0.4s								
RCBR	**Riachuelo**	**36.99**	**71**		LR	LR	21 13 16.2		
	comp=Z,117nm,18.6s,baz=292,slow=39								
SNAA	**Sanae**	**63.58**	**161**		P	**P**	**21 00 01.4**	**+0.9**	
SNAA	**Sanae**	**63.58**	**161**	⇑	P	**P**	**21 00 02.1**	**+1.5**	
	comp=Z,79nm,0.7s								
SNAA	**Sanae**	**63.58**	**161**		P	**P**	**21 00 01.5**	**+0.9**	
	comp=Z,3.2nm,0.7s,baz=274,slow=7.9,SNR=6.9								
	comp=Z,3.2nm,0.7s								
TROLL	**Troll, Antarti**	**65.29**	**161**	⇑	P	**P**	**21 00 13.2**	**+1.2**	
	comp=Z,90nm,0.6s								
QSPA	**South Pole Qui**	**69.43**	**180**		P	**P**	**21 00 38.9**	**+0.7**	
QSPA					IAmb	IAmb	21 00 41.1		
	comp=Z,2.3nm,0.7s								
TOA0	**Torodi Ar. Sit**	**78.83**	**71**		P	**P**	**21 01 32.8**	**-1.0**	
TORD	**Torodi Ar. Bea**	**78.83**	**71**		P	**P**	**21 01 32.7**	**-1.1**	
	comp=Z,3.5nm,0.5s,baz=257,slow=5.4,SNR=28								
	comp=Z,3.5nm,0.5s								
YKA	**Yellowknife Ar**	**89.89**	**341**		P	**P**	**21 02 29.0**	**+0.2**	
	comp=Z,0.7nm,0.7s,baz=137,slow=4.6,SNR=13								
	comp=Z,0.7nm,0.7s								
H11S2	**WAKE ISLAND Hyd**	**25.98**	**278**		T	T	23 27 57.2		
	baz=103,slow=74,SNR=94								
H11S1	**WAKE ISLAND Hyd**	**25.99**	**278**		T	T	23 27 50.8		
	baz=103,slow=74,SNR=82								
H11S3	**WAKE ISLAND Hyd**	**26.00**	**278**		T	T	23 27 52.6		
	baz=103,slow=74,SNR=77								
H11N3	**WAKE ISLAND Hyd**	**26.05**	**280**		T	T	23 27 54.4		
	baz=102,slow=75,SNR=17								
H11N2	**WAKE ISLAND Hyd**	**26.06**	**280**		T	T	23 27 55.3		
	baz=102,slow=75,SNR=24								
H11N1	**WAKE ISLAND Hyd**	**26.06**	**280**		T	T	23 27 53.4		
	baz=102,slow=75,SNR=12								
ASAR	**Alice Springs**	**129.69**	**210**		PKP	**PKPdf**	**21 08 40.6**	**+0.3**	
	comp=Z,0.6nm,1.0s,baz=184,slow=1.4,SNR=3.3								
WRA	**Warramunga Arr**	**132.63**	**213**		PKP	**PKPdf**	**21 08 46.6**	**+0.7**	
	comp=Z,1.7nm,1.0s,baz=169,slow=1.9,SNR=8.7								
ZALV	**Zalesovo Beam**	**142.02**	**23**		PKP	**PKPdf**	**21 09 02.2**	**+0.2**	
	comp=Z,1.2nm,0.6s,baz=295,slow=3.4,SNR=6.3								
MKAR	**Makanchi Array**	**146.06**	**34**		PKPbc	**PKPdf**	**21 09 09.9**	**+0.4**	
	comp=Z,4.1nm,0.8s,baz=314,slow=3.6,SNR=37								
MJAR	**Matsushiro Arr**	**150.19**	**308**		PKPbc	**PKPbc**	**21 09 22.0**	**+0.4**	
	comp=Z,1.5nm,1.0s,baz=113,slow=1.9,SNR=5.5								

*SOF **20** 21:08:29.5,39.4N±0.03×26.21E±0.01,h13km±7km*
*AFAD **20** 21:08:31.9±0.0,39.54N×26.21E,h9km±1km,ML2.9*
*ATH **20** 21:08:32.6,39.53N×26.16E,h15km±1km,ML2.8/9,Error ellipse: s-maj=1.9km s-min=0.6km az=101.0*
*ISK **20** 21:08:32.4,39.58N×26.26E,h9km,ML3.1/19*
*THE **20** 21:08:33.0,39.53N×26.24E,h17km±1km,ML2.8/7,Error ellipse: s-maj=2.2km s-min=0.9km az=237.0*

ISC 20 21:08:32.0±0.8,39.54N±0.01×26.18E±0.02,h13km±5km, n74,σ0.69/121,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.05**	**227**	P	**Pg**	**21 08 34.3**	**-0.3**
KOCA				S	**Sg**	**21 08 35.6**	**-0.7**
PRK	**Paraskevi**	**0.30**	**167**	P	**Pg**	**21 08 38.6**	**+0.4**
PRK				S	**Sg**	**21 08 43.2**	**+0.9**
	6μm,0.2s						
PRK	**Paraskevi**	**0.30**	**167**	P	**Pg**	**21 08 38.6**	**+0.4**
PRK				S	**Sg**	**21 08 42.9**	**+0.6**
PRK				AML	AML	21 08 43.3	
	comp=E,14983μm,0.2s						
PRK				AML	AML	21 08 43.5	
	comp=N,9986μm,0.2s						
BOZC	**Bozcaada**	**0.32**	**342**	P	**Pg**	**21 08 38.7**	**+0.1**
BOZC				S	**Sg**	**21 08 43.0**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.35**	**54**	P	**Pg**	**21 08 39.1**	**0.0**
BAYC				S	**Sg**	**21 08 43.8**	**-0.1**
BAYC				*i* AML	AML	21 08 44.0	
	comp=N,1μm,0.2s						
SIGR	**SIGRI**	**0.41**	**218**	Pg	**Pn**	**21 08 42.9**	**-0.6**
SIGR				Sg	**Sb**	**21 08 49.4**	**+2.2**
SIGR	**SIGRI**	**0.41**	**218**	P	**Pn**	**21 08 43.0**	**-0.6**
SIGR				S	**Sb**	**21 08 49.3**	**+2.1**
	comp=N,1μm,0.2s						
AYVA	**Ayvalik**	**0.45**	**120**	P	**Pg**	**21 08 41.2**	**+0.2**
AYVA				S	**Sg**	**21 08 46.5**	**-0.5**
EAG3	**Mitilini, Lesv**	**0.54**	**146**	P	**Pb**	**21 08 43.1**	**-0.2**
EAG3				S	**Sb**	**21 08 50.5**	**-0.4**
EAG3				AML	AML	21 08 51.7	
	comp=E,4509μm,0.3s						
EAG3				AML	AML	21 08 56.1	
	comp=N,3922μm,0.3s						
CNKL	**anakkale-Mer**	**0.55**	**16**	P	**Pg**	**21 08 43.0**	**+0.1**
CNKL				P	**Pg**	**21 08 43.0**	**+0.1**
CNKL				S	**Sg**	**21 08 50.2**	**-0.1**
CNKL				S	**Sb**	**21 08 50.4**	**-1.0**
CNKL				*i* AML	AML	21 08 51.0	
	comp=N,696nm,0.4s						
CNKL				*i* AML	AML	21 08 51.0	
	comp=N,700nm,0.5s						
COMU	**Canakkale**	**0.61**	**22**	Pg	**Pg**	**21 08 43.7**	**-0.2**
GOAD	**anakkale-G¶**	**0.66**	**341**	P	**Pg**	**21 08 44.4**	**-0.6**
GADA	**Gvkgeada**	**0.69**	**342**	Pg	**Pg**	**21 08 45.8**	**+0.3**
GADA				Sg	**Sg**	**21 08 55.2**	**+0.6**
BUHA	**Balikesir, Bur**	**0.69**	**93**	P	**Pb**	**21 08 46.0**	**0.0**
BUHA				S	**Sg**	**21 08 54.7**	**+0.1**
DKL	**Dikili**	**0.73**	**129**	Pg	**Pb**	**21 08 46.7**	**+0.2**
RFT7	**Candarli**	**0.81**	**135**	Pg	**Pb**	**21 08 48.3**	**+0.3**
RFT7				Sg	**Sn**	**21 09 00.0**	**-1.0**
CANM	**Can-anakkale**	**0.82**	**54**	Pg	**Pg**	**21 08 47.1**	**-0.8**
CANM				Sg	**Sg**	**21 08 58.2**	**-0.5**
LIA	**Limnos Island**	**0.85**	**295**	P	**Pg**	**21 08 48.6**	**0.0**
LIA				S	**Sb**	**21 09 01.6**	**+1.6**
	comp=N,828nm,0.2s						
LIA	**Limnos Island**	**0.85**	**295**	P	**Pg**	**21 08 48.5**	**0.0**
LIA				S	**Sg**	**21 08 59.9**	**+0.2**
LIA				AML	AML	21 09 01.9	
	comp=E,1579μm,0.3s						
LIA				AML	AML	21 09 03.5	
	comp=N,1698μm,0.2s						
KARB	**zmir-Karabur**	**0.89**	**168**	P	**Pg**	**21 08 49.3**	**+0.1**
KARB				S	**Sg**	**21 09 00.5**	**-0.3**
KARB				*i* AML	AML	21 09 03.0	
	comp=N,428nm,0.4s						
KARB				*i* AML	AML	21 09 04.0	
	comp=N,435nm,0.4s						
GELI	**Tayfur-Gelibol**	**0.89**	**14**	Pg	**Pg**	**21 08 49.5**	**+0.2**
GELI				Sg	**Sg**	**21 09 00.9**	**0.0**
ZEDA	**zmir-Bergama**	**0.90**	**129**	P	**Pg**	**21 08 49.4**	**+0.1**
ZEDA				S	**Sb**	**21 09 01.9**	**+0.7**
EFSA	**Agios Efstrati**	**0.92**	**271**	P	**Pb**	**21 08 49.9**	**+0.1**
EFSA				S	**Sg**	**21 09 01.7**	**-0.3**
FOCM	**Foa**	**0.93**	**152**	Pg	**Pg**	**21 08 50.0**	**+0.1**
SMTH	**Samothraki Isl**	**1.06**	**332**	P	**Pb**	**21 08 52.2**	**0.0**
SMTH				S	**Sb**	**21 09 06.8**	**+0.8**
	comp=N,260nm,0.2s						
SMTH	**Samothraki Isl**	**1.06**	**332**	P	**Pb**	**21 08 52.2**	**0.0**
SMTH				S	**Sb**	**21 09 06.5**	**+0.5**
SMTH				AML	AML	21 09 08.5	
	comp=N,545μm,0.2s						
SMTH				AML	AML	21 09 08.6	
	comp=E,487μm,0.2s						
PSRA	**Psara**	**1.10**	**206**	P	**Pb**	**21 08 52.3**	**-0.6**
PSRA				S	**Sb**	**21 09 07.5**	**+0.3**
PSRA				AML	AML	21 09 12.0	
	comp=E,1966μm,0.2s						
PSRA				AML	AML	21 09 12.4	
	comp=N,2658μm,0.2s						
BALY	**Balya**	**1.13**	**79**	P	**Pn**	**21 08 53.6**	**+0.1**
BALY				S	**Sb**	**21 09 07.9**	**-0.1**
BALY				*i* AML	AML	21 09 10.0	
	comp=N,258nm,0.4s						
BALY				*i* AML	AML	21 09 13.0	
	comp=N,336nm,0.5s						
CHOS	**Chios island**	**1.15**	**185**	P	**Pb**	**21 08 53.5**	**-0.3**
CHOS				S	**Sb**	**21 09 09.2**	**+0.6**
	comp=N,522nm,0.3s						
CHOS	**Chios island**	**1.15**	**185**	P	**Pb**	**21 08 53.6**	**-0.3**
CHOS				S	**Sb**	**21 09 08.2**	**-0.5**
CHOS				AML	AML	21 09 13.0	
	comp=N,766μm,0.5s						
CHOS				AML	AML	21 09 15.3	
	comp=E,1326μm,0.2s						
CAVK	**Edirne/Enez-Ca**	**1.16**	**359**	P	**Pb**	**21 08 53.8**	**0.0**
CAVK				S	**Sb**	**21 09 08.8**	**+0.1**
CAVK				*i* AML	AML	21 09 16.0	
	comp=E,324nm,0.5s						
ERIK	**Erikli-Kesan**	**1.16**	**12**	Pn	**Pb**	**21 08 53.8**	**-0.1**
ERIK				Sn	**Sg**	**21 09 09.7**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.20**	**97**	P	**Pg**	**21 08 55.1**	**0.0**
STEP				S	**Sn**	**21 09 10.8**	**+0.2**
ENEZ	**Enez**	**1.20**	**359**	Pn	**Pb**	**21 08 55.0**	**+0.4**
ENEZ				Sn	**Sg**	**21 09 11.5**	**+0.7**
ENEZ	**Enez**	**1.20**	**359**	P	**Pn**	**21 08 54.8**	**+0.3**
ENEZ				S	**Sg**	**21 09 11.2**	**+0.4**
KRBG	**Karabiga-Canak**	**1.21**	**45**	Pn	**Pn**	**21 08 54.6**	**0.0**
KRBG				Sn	**Sb**	**21 09 10.7**	**+0.4**
URLA	**Izmir**	**1.22**	**165**	Pn	**Pn**	**21 08 54.6**	**-0.2**
URLA	**Izmir**	**1.22**	**165**	P	**Pn**	**21 08 54.5**	**-0.2**
URLA				S	**Sb**	**21 09 09.6**	**-0.9**
URLA				*i* AML	AML	21 09 14.0	
	comp=E,322nm,0.6s						
GONE	**Gonen-Balikesi**	**1.27**	**66**	Pn	**Pb**	**21 08 55.8**	**+0.1**
BALB	**Balikesir**	**1.31**	**85**	Pn	**Pn**	**21 08 56.2**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**1.32**	**169**	P	**Pn**	**21 08 55.7**	**-0.4**
ZEYE				*i* AML	AML	21 09 18.0	
	comp=E,209nm,0.6s						
BKES	**Balkesir-Mer**	**1.36**	**81**	P	**Pb**	**21 08 57.8**	**+0.4**
BKES				S	**Sn**	**21 09 14.8**	**+0.2**
BKES				*i* AML	AML	21 09 19.0	
	comp=E,206nm,0.2s						
ALN	**Alexandroupoli**	**1.36**	**356**	Pn	**Pn**	**21 08 57.3**	**+0.6**
ALN	**Alexandroupoli**	**1.36**	**356**	P	**Pn**	**21 08 56.9**	**+0.2**
ALN				S	**Sn**	**21 09 13.6**	**-1.0**
	comp=E,450nm,0.4s						
ALN	**Alexandroupoli**	**1.36**	**356**	P	**Pn**	**21 08 56.7**	**0.0**
ALN				S	**Sn**	**21 09 14.0**	**-0.7**
ALN				AML	AML	21 09 17.2	
	comp=E,690μm,0.3s						
ALN				AML	AML	21 09 17.3	
	comp=N,1103μm,0.5s						
RKY	**Sarkoy-Tekirda**	**1.38**	**33**	Pn	**Pn**	**21 08 57.3**	**+0.3**
SART	**Tekirdag**	**1.38**	**33**	P	**Pn**	**21 08 55.8**	**-1.2**
SART				*i* AML	AML	21 09 18.0	
	comp=N,368nm,0.2s						
SART				*i* AML	AML	21 09 51.0	
	comp=N,221nm,0.9s						
AKHS	**Akhisar**	**1.43**	**117**	P	**Pn**	**21 08 58.1**	**+0.6**
AKHS				S	**Sb**	**21 09 16.6**	**+0.2**
EDC	**Edincik**	**1.52**	**57**	Pn	**Pn**	**21 08 59.0**	**+0.1**
THAS	**Thassos island**	**1.55**	**314**	P	**Pn**	**21 08 59.0**	**-0.3**
THAS	**Thassos island**	**1.55**	**314**	P	**Pn**	**21 08 58.7**	**-0.5**
THAS				S	**Sn**	**21 09 17.8**	**-1.5**
THAS				AML	AML	21 09 23.6	
	comp=N,189μm,0.2s						
THAS				AML	AML	21 09 24.9	
	comp=E,174μm,0.3s						
UKOP	**Uzunkopru-Edir**	**1.63**	**12**	Pn	**Pn**	**21 09 01.1**	**+0.8**
RDO	**Rodhopi**	**1.68**	**343**	Pn	**Pn**	**21 09 01.8**	**+0.7**
RDO	**Rodhopi**	**1.68**	**343**	P	**Pn**	**21 09 01.3**	**+0.2**
RDO				S	**Sn**	**21 09 21.3**	**-1.2**
RDO				AML	AML	21 09 28.1	
	comp=E,198μm,0.3s						
RDO				AML	AML	21 09 28.5	
	comp=N,188μm,0.6s						
BAND	**Balkesir-Ban**	**1.69**	**60**	P	**Pn**	**21 09 02.0**	**+0.9**
BAND				S	**Sn**	**21 09 21.9**	**-0.6**
DURS	**Dursunbey**	**1.77**	**87**	P	Pn	21 08 54.1	-8.3
DURS				S	**Sn**	**21 09 25.1**	**+0.3**
KCTX	**Karacabey (Bur**	**1.82**	**66**	Pn	**Pn**	**21 09 03.6**	**+0.5**
KYMI	**Kymi, Euboea I**	**1.85**	**242**	P	**Pn**	**21 09 02.8**	**-0.7**
KYMI				S	**Sn**	**21 09 28.5**	**+1.8**
	comp=N,125nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.85**	**242**	P	**Pn**	**21 09 02.8**	**-0.7**
OUR	**Ouranopolis**	**1.87**	**296**	P	**Pn**	**21 09 03.7**	**+0.1**
DST	**Dursunbey**	**1.88**	**87**	Pn	**Pn**	**21 09 04.6**	**+0.7**
SMG	**Samos**	**1.89**	**164**	P	**Pn**	**21 09 03.7**	**-0.3**
SMG				S	**Sn**	**21 09 26.7**	**-1.0**
SMG	**Samos**	**1.89**	**164**	P	**Pn**	**21 09 03.7**	**-0.3**
KAVA	**Kavala**	**1.94**	**319**	P	**Pn**	**21 09 04.5**	**-0.1**
KAVA				S	**Sn**	**21 09 27.3**	**-1.5**
CRLT	**Corlu**	**1.99**	**36**	Pn	**Pn**	**21 09 05.8**	**+0.5**
KDZ	**Kurdzhali**	**2.19**	**343**	P	**Pn**	**21 09 09.0**	**+0.9**
RZN	**Rozhen**	**2.42**	**333**	P	**Pn**	**21 09 12.2**	**+0.8**
APE	**Apeiranthos**	**2.52**	**192**	P	**Pn**	**21 09 11.9**	**-0.7**
NVR	**Nevrokopi**	**2.54**	**316**	P	**Pn**	**21 09 13.5**	**+0.7**
DIM	**Dimitrovgrad**	**2.55**	**350**	P	**Pn**	**21 09 14.0**	**+1.0**
MMB	**Musomishta**	**2.73**	**318**	P	**Pn**	**21 09 16.2**	**+0.6**
PLD	**Plovdiv**	**2.83**	**338**	*eP*	**Pn**	**21 09 17.8**	**+1.0**
PLD				S	**Sg**	**21 10 01.2**	**-1.7**
JMB	**Yambol**	**2.96**	**5**	*eP*	**Pn**	**21 09 19.5**	**+0.8**
JMB				S	**Sg**	**21 10 05.5**	**-1.8**
MPEP	**Malo Peshtene**	**4.24**	**335**	P	**Pn**	**21 09 37.6**	**+1.4**

*NEIC **20** 21:39:35.7±0.7, 19.8N±0.1×68.81W±0.09, h46km±89km, Error ellipse: s-maj=19.0km s-min=5.2km az=217.0*
*RSPR **20** 21:39:38.1, 19.62N×68.92W, h25km±27km, MD3.4/3*
*SDD **20** 21:39:42.9±2.0, 18.38N×69.13W, h70km±24km, MD3.0, ML2.3, MW2.6*

ISC 20 21:39:41.0±1.5,18.5N±0.2×69.09W±0.05,h82km±19km, n15,σ1.24/22,3C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATOM	**Hato Mayor del**	**0.41**	**318**	*e*Pg	**Pn**	**21 39 53.5**	**-0.8**
HATOM				*e*Sg	**Sn**	**21 40 04.2**	**+0.1**
HATOM				IAML		21 40 04.7	
	comp=N,28nm,2.8s						
SMDR	**Samana, DR**	**0.81**	**354**	*e*Sg	**Sn**	**21 40 11.6**	**+1.0**
SMDR				IAML		21 40 39.5	
	comp=N,45nm,3.5s						
DR08	**Loma La Naviza**	**1.00**	**298**	*e*Pg	**Pn**	**21 40 00.5**	**+0.2**
DR08				*e*Sg	**Sn**	**21 40 13.9**	**-0.7**
DR08				IAML		21 40 19.5	
	comp=N,169nm,0.2s						
LSP	**Las Mesas**	**1.93**	**99**	⇑ *e*P	**Pn**	**21 40 11.9**	**-0.1**
LSP	**Las Mesas**	**1.93**	**99**	*e*S	**Sn**	**21 40 38.4**	**+2.7**
LSP	**Las Mesas**	**1.93**	**99**		**Pn**	**21 40 11.9**	**-0.1**
LSP					**Sn**	**21 40 38.4**	**+2.7**
SDDR	**Presa de Saban**	**2.14**	**284**	Pn	**Pn**	**21 40 14.1**	**-0.8**
SDDR				Sn	**Sn**	**21 40 42.7**	**+2.0**
SDDR				IAML		21 41 15.6	
	comp=N,24nm,2.7s						
SDDR	**Presa de Saban**	**2.14**	**284**	*e*Pg	**Pn**	**21 40 14.6**	**-0.3**
SDDR				*e*Sg	**Sn**	**21 40 40.6**	**-0.1**
SDDR				IAML		21 40 51.7	
	comp=N,22nm,1.9s						
AOPR	**Arecibo Observ**	**2.23**	**93**	⇑ *e*P	**Pn**	**21 40 14.8**	**-1.2**
AOPR	**Arecibo Observ**	**2.23**	**93**	*e*S	**Sn**	**21 40 42.5**	**-0.2**
AOPR	**Arecibo Observ**	**2.23**	**93**		Pn	21 40 12.9	-3.1
AOPR					**Sn**	**21 40 41.9**	**-0.8**
AOPR				IAML		21 40 48.9	
	comp=N,36nm,1.1s						
AOPR	**Arecibo Observ**	**2.23**	**93**	*e*Pg	**Pn**	**21 40 16.5**	**+0.5**
AOPR				*e*Sg	**Sn**	**21 40 42.5**	**-0.2**
AOPR				IAML		21 40 48.8	
	comp=N,33nm,1.2s						
CELP	**Cerrillos**	**2.42**	**99**	⇑ *e*P	**Pn**	**21 40 17.7**	**-0.9**
CELP	**Cerrillos**	**2.42**	**99**	*e*S	**Sn**	**21 40 48.1**	**+0.7**
CELP	**Cerrillos**	**2.42**	**99**		**Pn**	**21 40 17.0**	**-1.6**
CELP					**Sn**	**21 40 46.9**	**-0.5**
CELP				IAML		21 41 18.8	
	comp=E,23nm,3.4s						
CELP				IAML		21 41 54.5	
	comp=N,26nm,2.6s						

*KRSC **20** 21:42:39.8±1.3,51.81N×157.26E,h169km±9km,Ml4.4*
*MOS **20** 21:42:40.6±0.9,51.90N×156.85E,h167km,mb4.1/23,Error ellipse: s-maj=10.4km s-min=3.8km az=71.9*
*NEIC **20** 21:42:41.1±1.8,51.90N±0.09×156.8E±0.2,h156km±6km, mb4.3/60,Error ellipse: s-maj=16.0km s-min=10.5km az=129.0*
*IDC **20** 21:42:43.1±0.6,52.10N×156.77E,h166km±3km,mb3.6/23, mbtmp4.1/26,Error ellipse: s-maj=12.6km s-min=7.5km az=151.0*

ISC 20 21:42:41.6±0.5,51.89N±0.04×157.01E±0.05,h164km±4km, h164km:pP-P,n230,σ1.44/268,mb4.2/71,1C-4D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.44**	**196**	PN	**Pn**	**21 43 05.3**	**+1.1**
PAU				S	**Sn**	**21 43 22.5**	**+1.0**
PAU	**Pauzhetka**	**0.44**	**196**	*i* P	**Pn**	**21 43 05.3**	**+1.1**
PAU				*e*S	**Sn**	**21 43 22.5**	**+1.0**
KDTR	**Khodutka, Kamc**	**0.67**	**97**	PN	**Pn**	**21 43 04.4**	**-0.9**
KDTR				S	**Sn**	**21 43 21.2**	**-2.3**
KDTR	**Khodutka, Kamc**	**0.67**	**97**	*e*P	**Pn**	**21 43 04.4**	**-0.9**
KDTR				*e*S	**Sn**	**21 43 21.2**	**-2.3**
ASAK	**Asacha**	**0.74**	**48**	PN	**Pn**	**21 43 05.6**	**-0.3**
ASAK	**Asacha**	**0.74**	**48**	*e*P	**Pn**	**21 43 05.6**	**-0.3**
GRL	**Gorelyy**	**0.93**	**44**	PN	**Pn**	**21 43 07.3**	**0.0**
GRL				S	**Sn**	**21 43 27.6**	**+0.5**
GRL	**Gorelyy**	**0.93**	**44**	*e*P	**Pn**	**21 43 07.3**	**0.0**
GRL				*e*S	**Sn**	**21 43 27.6**	**+0.5**
MTVR	**Mutnovka**	**0.93**	**50**	PN	**Pn**	**21 43 07.0**	**-0.3**
MTVR				S	**Sn**	**21 43 26.9**	**-0.2**
MTVR	**Mutnovka**	**0.93**	**50**	*e*P	**Pn**	**21 43 07.0**	**-0.3**
MTVR				*e*S	**Sn**	**21 43 26.9**	**-0.2**
APC	**Apacha**	**1.04**	**5**	PN	**Pn**	**21 43 07.5**	**-0.4**
APC				S	**Sn**	**21 43 27.1**	**-1.2**
APC	**Apacha**	**1.04**	**5**	*i* P	**Pn**	**21 43 07.5**	**-0.4**
APC				*e*S	**Sn**	**21 43 27.1**	**-1.2**
RUS	**Russkaya**	**1.07**	**59**	PN	**Pn**	**21 43 07.6**	**-0.6**
RUS				S	**Sn**	**21 43 27.2**	**-1.5**
RUS	**Russkaya**	**1.07**	**59**	*e*P	**Pn**	**21 43 07.6**	**-0.6**
RUS				*e*S	**Sn**	**21 43 27.2**	**-1.5**
KRMR	**Karymshinskiy**	**1.17**	**36**	PN	**Pn**	**21 43 08.6**	**-0.4**
KRMR				S	**Sn**	**21 43 29.7**	**-0.5**
KRMR	**Karymshinskiy**	**1.17**	**36**	*i* P	**Pn**	**21 43 08.6**	**-0.4**
KRMR				*e*S	**Sn**	**21 43 29.7**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.29**	**19**		**Pn**	**21 43 10.1**	**0.0**
PEA0B				Sn	**Sn**	**21 43 31.7**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.29**	**19**	*d* PN	**Pn**	**21 43 09.5**	**-0.6**
PETK	**Petropavlovsk-**	**1.29**	**19**		**Pn**	**21 43 09.1**	**-1.0**
PETK	**Petropavlovsk-**	**1.29**	**19**	P	**Pn**	**21 43 09.3**	**-0.8**
	483nm,0.5s,baz=190,slow=7.6,SNR=828						
PETK				S	**Sn**	**21 43 32.3**	**0.0**
	334nm,0.7s,baz=209,slow=30,SNR=19						
SKR	**Severo-Kuril's**	**1.33**	**205**	⇓ *i* PN	**Pn**	**21 43 10.9**	**+0.3**
SKR				*e*S	**Sn**	**21 43 33.0**	**+0.2**
SKR				pmax	pmax		
	comp=Z,4μm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
SKR				smax	smax		
	comp=E,3μm,0.6s						
SKR	**Severo-Kuril's**	**1.33**	**205**	*i* P	**Pn**	**21 43 10.8**	**+0.3**
SKR				*e*S	**Sn**	**21 43 33.0**	**+0.2**
PET	**Petropavlovsk**	**1.52**	**41**	Pn	**Pn**	**21 43 12.0**	**-0.3**
PET				Sn	**Sn**	**21 43 34.8**	**-1.3**
PET	**Petropavlovsk**	**1.52**	**41**	*e*PN	**Pn**	**21 43 12.0**	**-0.3**
PET				*e*S	**Sn**	**21 43 35.1**	**-0.9**
PET				pmax	pmax		
	comp=Z,237nm,0.5s						
PET				smax	smax		
	comp=N,733nm,0.5s						
PET				smax	smax		
	comp=E,665nm,0.5s						
PET	**Petropavlovsk**	**1.52**	**41**	*e*P	**Pn**	**21 43 11.5**	**-0.7**
PET				*e*S	**Sn**	**21 43 34.8**	**-1.3**
INSR	**Institute**	**1.53**	**39**	*e*P	**Pn**	**21 43 12.1**	**-0.3**
DALK	**Dalny**	**1.56**	**42**	PN	**Pn**	**21 43 12.5**	**-0.2**
DALK				S	**Sn**	**21 43 35.8**	**-1.1**
DALK	**Dalny**	**1.56**	**42**	*e*P	**Pn**	**21 43 12.5**	**-0.2**
DALK				*e*S	**Sn**	**21 43 35.8**	**-1.1**
KOK	**Koryaka**	**1.72**	**35**	PN	**Pn**	**21 43 15.0**	**+0.5**
KOK	**Koryaka**	**1.72**	**35**	*e*P	**Pn**	**21 43 15.0**	**+0.5**
UGLR	**Uglovaya**	**1.72**	**39**	PN	**Pn**	**21 43 15.1**	**+0.6**
UGLR				S	**Sn**	**21 43 40.2**	**+0.1**
UGLR	**Uglovaya**	**1.72**	**39**	*e*P	**Pn**	**21 43 15.1**	**+0.6**
UGLR				*e*S	**Sn**	**21 43 40.2**	**+0.1**
AVH	**Avacha**	**1.73**	**37**	PN	**Pn**	**21 43 15.3**	**+0.7**
AVH	**Avacha**	**1.73**	**37**	*e*P	**Pn**	**21 43 15.3**	**+0.7**

NMR Nemuro--Hokkai 11.42 226 *e*PN **Pn** **21 45 15.3 -4.4**
KMSK Kamenskaya 11.70 21 PN **Pn** **21 45 23.7 +0.5**
KMSK Kamenskaya 11.70 21 *e*P **Pn** **21 45 23.7 +0.5**
ASAJ Asahikawa 12.38 237 P **Pn** **21 45 34.2 +2.0**
comp=Z,40nm,0.7s,baz=48,slow=13,SNR=14
ERM Erimo 13.65 229 Pn **Pn** **21 45 45.8 -2.6**
ERM Erimo 13.65 229 *i* P **Pn** **21 45 46.4 -2.0**
JTM Tenmabayashi 15.60 231 Pn **Pn** **21 46 08.0 -4.5**
KLR Kul'dur 16.25 271 P **Pn** **21 46 20.7 +0.3**
comp=Z,0.5nm,0.6s,baz=65,slow=11,SNR=2.2
BILL Bilibino 16.81 12 P **P** **21 46 25.9 -0.5**
BILL Bilibino 16.81 12 *i* P **P** **21 46 26.7 +0.3**
BILL pmax pmax
comp=Z,16nm,1.6s
YAK Yakutsk 17.88 315 P **P** **21 46 37.2 -1.0**
YAK Yakutsk 17.88 315 *e*P **P** **21 46 37.5 -0.6**
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=E,11nm,1.5s
YAK Yakutsk 17.88 315 P **P** **21 46 38.2 +0.1**
comp=E,1.0nm,0.5s,baz=114,slow=20,SNR=10.0
JMM Marumori 18.07 225 P **P** **21 46 38.7 -1.8**
MAJO Matsushiro 20.33 228 P **P** **21 47 02.2 -2.6**
MAJO IAmb IAmb 21 47 09.9
comp=Z,14nm,0.6s
MAJO Matsushiro 20.33 228 *i* P **P** **21 47 03.5 -1.4**
MAJO pmax pmax
comp=Z,9.0nm,0.4s
MJAR Matsushiro Arr 20.33 228 P **P** **21 47 05.7 +0.8**
comp=Z,4.6nm,0.6s,baz=24,slow=12,SNR=16
comp=Z,4.6nm,0.6s
INU Inuyama 21.86 229 P **P** **21 47 17.8 -3.3**
INU IAmb IAmb 21 47 26.6
comp=Z,14nm,0.9s
ANM Nome 23.09 42 P **P** **21 47 33.3 +0.9**
ANM IAmb IAmb 21 47 36.2
comp=Z,4.5nm,0.7s
ANM Nome 23.09 42 P **P** **21 47 33.3 +0.9**
ANM pmax pmax
comp=Z,5.0nm,0.7s
M13K Dall Lake 23.34 53 P **P** **21 47 34.5 -0.2**
TIXI Tiksi 23.44 338 P **P** **21 47 34.9 -0.6**
TIXI IAmb IAmb 21 47 37.1
comp=Z,6.1nm,0.8s
TIXI Tiksi 23.44 338 *i* P **P** **21 47 35.2 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
F15K North Star Dit 23.71 40 P **P** **21 47 39.4 +1.4**
F15K IAmb IAmb 21 47 42.5
comp=Z,6.9nm,1.0s
C16K Lisburne Hills 24.34 33 P **P** **21 47 44.0 +0.2**
KSRS Korea Array 25.01 246 P **P** **21 47 51.3 +1.2**
comp=Z,0.9nm,0.9s,baz=42,slow=15,SNR=1.3
KSRS pP **pP** **21 48 25.7 +2.2**
comp=Z,0.9nm,0.8s,baz=46,slow=11,SNR=1.9
comp=Z,0.9nm,0.9s
M16K Timber Creek 25.52 52 P **P** **21 47 54.6 +0.2**
G18K Tagagawik 26.15 41 P **P** **21 48 01.1 +1.0**
G18K IAmb IAmb 21 48 02.6
comp=Z,3.7nm,0.7s
C19K Lookout Ridge 26.61 33 P **P** **21 48 05.0 +0.8**
C19K IAmb IAmb 21 48 09.5
comp=Z,6.7nm,0.5s
D19K Kuna River 26.94 35 P **P** **21 48 07.7 +0.5**
D19K IAmb IAmb 21 48 08.8
comp=Z,3.3nm,0.8s
TTA Tatalina 26.96 48 P **P** **21 48 08.2 +0.7**
TTA IAmb IAmb 21 48 29.9
comp=Z,11nm,1.4s
TTA Tatalina 26.96 48 P **P** **21 48 08.2 +0.7**
TTA pmax pmax
comp=Z,11nm,1.4s
E19K Redstone River 27.02 37 P **P** **21 48 09.1 +1.2**
E19K IAmb IAmb 21 48 16.0
comp=Z,6.2nm,1.4s
IMAR Indian Mountai 28.16 41 P **P** **21 48 18.0 0.0**
B21K Ikpikpuk River 28.44 33 P **P** **21 48 21.5 +1.0**
H21K Melozitna Rive 28.51 42 P **P** **21 48 22.1 +0.9**
H21K IAmb IAmb 21 48 32.9
comp=Z,6.5nm,1.5s
CAST Castle Rocks 28.75 47 P **P** **21 48 23.5 +0.3**
KDAK Kodiak Island 29.04 58 P **P** **21 48 25.4 -0.4**
KDAK Kodiak Island 29.04 58 P **P** **21 48 25.4 -0.4**
KDAK pmax pmax
comp=Z,37nm,1.4s
KDAK Kodiak Island 29.04 58 P **P** **21 48 26.1 +0.3**
comp=Z,3.1nm,0.3s,baz=357,slow=1.0,SNR=14
comp=Z,3.1nm,0.3s
BPAW Bear Paw Mtn. 29.23 45 P **P** **21 48 28.5 +1.0**
BPAW IAmb IAmb 21 48 33.7
comp=Z,6.9nm,1.2s
MLY Manley 29.35 43 P **P** **21 48 29.3 +0.7**
BRLK Bradley Lake 29.59 54 P **P** **21 48 31.2 +0.4**
CCB Clear Creek Bu 30.61 44 **P** **21 48 40.5 +0.9**
CCB IAmb IAmb 21 48 46.5
comp=Z,5.0nm,1.4s
BMAR Burnt Mountain 31.86 39 P **P** **21 48 52.1 +1.5**
ULN Ulaanbaatar 31.93 283 *i* P **P** **21 48 49.1 -2.5**
ULN pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 32.34 283 pP pP 21 49 30.2 +0.6
comp=Z,0.4nm,0.7s,baz=75,slow=9.6,SNR=2.5
HHC Hu-ho-hao-te 32.73 269 *e*P **P** **21 48 57.9 -0.7**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,240nm,4.5s
NRIK Noril'sk 35.81 325 *i* P **P** **21 49 23.6 -1.0**
NRIK pmax pmax
comp=Z,2.0nm,1.1s
A36M Sachs Harbour 38.11 30 **P** **21 49 45.2 +1.3**
A36M IAmb IAmb 21 49 46.6
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 41.84 302 pP pP 21 50 49.5 -1.1
comp=Z,0.2nm,0.3s,baz=68,slow=9.5,SNR=2.4
EUNU Eureka 43.56 13 P **P** **21 50 29.4 +1.0**
EUNU IAmb IAmb 21 50 30.3
comp=Z,8.7nm,0.7s
RES Resolute Bay 45.13 21 P **P** **21 50 42.0 +1.2**
RES Resolute Bay 45.13 21 P **P** **21 50 42.1 +1.2**
RES pmax pmax
comp=Z,6.0nm,1.5s
YKA Yellowknife Ar 45.31 41 P **P** **21 50 42.5 +0.1**
comp=Z,0.3nm,0.4s,baz=254,slow=5.8,SNR=7.7
comp=Z,0.3nm,0.4s
WMQ Urumqi 45.58 289 *e*P **P** **21 50 43.5 -1.4**
WMQ pmax pmax
comp=Z,12nm,0.6s
KURK Kurchatov 46.76 301 P **P** **21 50 54.9 +1.0**
KURK *PP **pP** **21 51 31.4 +1.1**
KURBB Kurchatov Arra 46.86 301 P **P** **21 50 54.9 +0.3**
comp=Z,0.8nm,0.5s,baz=60,slow=7.8,SNR=5.2
KURBB pP **pP** **21 51 31.4 +0.2**
comp=Z,9.4nm,0.8s,baz=60,slow=7.8,SNR=33
KURBB ScP **ScP** **21 56 02.6 0.0**
comp=Z,0.3nm,0.6s,baz=55,slow=3.6,SNR=4.2
comp=Z,0.8nm,0.5s
MK31 Makanchi Array 46.96 295 P **P** **21 50 55.6 0.0**
MK31 Makanchi Array 46.96 295 *i* P **P** **21 50 54.6 -1.0**
MKAR Makanchi Array 46.96 295 *i* P **P** **21 50 55.7 +0.1**
MKAR Makanchi Array 46.96 295 P **P** **21 50 55.5 -0.2**
comp=Z,0.3nm,0.5s,baz=61,slow=7.0,SNR=13
MKAR pP **pP** **21 51 31.8 -0.3**
comp=Z,3.0nm,0.9s,baz=59,slow=7.6,SNR=11
comp=Z,0.3nm,0.5s
MAKZ Makanchi 47.13 295 P **P** **21 50 56.8 -0.1**
MAKZ Makanchi 47.13 295 P **P** **21 50 56.8 -0.1**
MAKZ pmax pmax
comp=Z,1.0nm,1.0s
SPITS Spitsbergen Ar 48.00 350 P **P** **21 51 02.4 -0.8**
SPITS pmax pmax
comp=Z,46nm,1.5s
SPITS Spitsbergen Ar 48.00 350 P **P** **21 51 02.3 -0.8**
comp=Z,0.7nm,0.3s,baz=50,slow=9.0,SNR=10
comp=Z,0.7nm,0.3s
SPB2 Spitsbergen Ar 48.00 350 P **P** **21 51 02.4 -0.8**
PZH PanZhiHua 48.34 260 P **P** **21 51 10.3 +3.7**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,80nm,5.1s
NLWA Neilton Lookou 49.06 62 P **P** **21 51 12.6 +1.0**
BVAR Borovoye Array 49.65 308 P **P** **21 51 15.2 -0.8**
comp=Z,0.7nm,0.4s,baz=51,slow=7.6,SNR=11
BVAR pP **pP** **21 51 52.3 -0.5**
comp=Z,3.2nm,0.7s,baz=59,slow=8.8,SNR=10.0
BVAR PcP **PcP** **21 52 35.4 +0.6**
comp=Z,0.8nm,0.5s,baz=44,slow=4.4,SNR=4.8
BVAR ScP **ScP** **21 56 14.7 +0.3**
comp=Z,0.9nm,0.7s,baz=64,slow=3.4,SNR=5.1
comp=Z,0.7nm,0.4s
BRVK Borovoye 49.68 308 **P** **21 51 15.0 -1.2**
BRVK Borovoye 49.68 308 P **P** **21 51 15.0 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
NEEM North Greenlan 49.75 8 *i* P **P** **21 51 16.2 -0.6**
NEEM IAmb IAmb 21 51 17.6
comp=Z,4.7nm,0.6s
LON Longmire 50.57 62 P **P** **21 51 23.1 0.0**
LON Longmire 50.57 62 P **P** **21 51 23.1 0.0**
LON pmax pmax
comp=Z,2.0nm,0.7s
EDM Edmonton 50.99 51 P **P** **21 51 27.3 +1.1**
EDM Edmonton 50.99 51 P **P** **21 51 27.3 +1.1**
EDM pmax pmax
comp=Z,11nm,0.7s
NEW Newport 52.14 58 P **P** **21 51 35.5 +0.8**
NEW Newport 52.14 58 P **P** **21 51 35.5 +0.8**
NEW pmax pmax
comp=Z,4.0nm,1.3s
NEW Newport 52.14 58 P **P** **21 51 36.0 +1.3**
comp=Z,0.8nm,0.3s,baz=309,slow=6.5,SNR=2.9
comp=Z,0.8nm,0.3s
ARU Arti 52.99 317 P **P** **21 51 39.3 -1.4**
ARU Arti 52.99 317 *c i* P **P** **21 51 39.4 -1.4**
ARU *PP **pP** **21 52 15.9 -2.2**
ARU S **S** **21 58 53.8 -3.4**
ARU pmax pmax
comp=Z,3.0nm,1.1s
J05D Fort Rock, OR 53.05 65 P **P** **21 51 43.5 +1.9**
J05D IAmb IAmb 21 51 45.1
comp=Z,12nm,1.4s
YBH Yreka Blue Hor 53.22 67 P **P** **21 51 45.2 +2.4**
YBH IAmb IAmb 21 52 12.7
comp=Z,4.3nm,1.2s
YBH Yreka Blue Hor 53.22 67 P **P** **21 51 45.2 +2.4**
YBH pmax pmax
comp=Z,4.0nm,1.3s
YBH Yreka Blue Hor 53.22 67 P **P** **21 51 45.6 +2.8**
comp=Z,1.9nm,0.7s,baz=348,slow=6.1,SNR=6.4
comp=Z,1.9nm,0.7s
K05A Summer Lake 53.60 65 P **P** **21 51 47.7 +2.0**
AAK Ala-Archa 53.90 295 **P** **21 51 47.2 -0.6**
AAK Ala-Archa 53.90 295 P **P** **21 51 47.2 -0.6**
AAK pmax pmax
comp=Z,2.0nm,1.3s
MSO Missoula 54.72 57 P **P** **21 51 53.9 +0.3**
MSO IAmb IAmb 21 51 56.2
comp=Z,9.4nm,1.3s
PLID Pearl Lake 54.76 60 **P** **21 51 55.5 +1.3**
PLID IAmb IAmb 21 51 56.8
comp=Z,3.8nm,0.7s
WVOR Wild Horse Val 55.06 64 P **P** **21 51 58.3 +2.2**
WVOR IAmb IAmb 21 51 59.6
comp=Z,9.7nm,1.1s
WVOR Wild Horse Val 55.06 64 P **P** **21 51 58.3 +2.2**
WVOR pmax pmax
comp=Z,10.0nm,1.1s
BPMT Black Pine Rid 55.23 57 P **P** **21 51 58.6 +1.2**
SUMG Summit 55.36 6 P **P** **21 51 58.6 +0.4**
SUMG Summit 55.36 6 P **P** **21 51 58.6 +0.4**
SUMG pmax pmax
comp=Z,28nm,1.5s
SUMG Summit 55.36 6 *i* P **P** **21 51 58.0 -0.2**
SUMG IAmb IAmb 21 52 00.8
comp=Z,4.5nm,0.8s
FCC Fort Churchill 55.59 37 P **P** **21 52 00.3 +0.8**
FCC IAmb IAmb 21 52 07.4
comp=Z,6.0nm,1.3s
FCC Fort Churchill 55.59 37 P **P** **21 52 00.3 +0.8**
FCC pmax pmax
comp=Z,6.0nm,1.3s
BOZ Bozeman (W) 56.73 57 P **P** **21 52 09.9 +1.9**
BOZ IAmb IAmb 21 52 10.6
comp=Z,2.8nm,0.6s
BOZ Bozeman (W) 56.73 57 P **P** **21 52 10.0 +1.9**
BOZ pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 57.12 309 P **P** **21 52 09.6 -0.8**
KVN Kaiserville 57.63 67 P **P** **21 52 16.4 +2.0**
KVN IAmb IAmb 21 52 17.5
comp=Z,3.0nm,0.6s
KVN Kaiserville 57.63 67 P **P** **21 52 16.4 +2.0**
KVN pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 57.94 67 P **P** **21 52 18.5 +1.9**
NVAR Mina Array Bea 57.94 67 P **P** **21 52 18.8 +2.2**
comp=Z,1.9nm,0.5s,baz=296,slow=7.5,SNR=12
comp=Z,1.9nm,0.5s
RLMT Red Lodge 58.28 56 **P** **21 52 20.1 +1.1**
RLMT IAmb IAmb 21 52 22.4
comp=Z,5.3nm,0.9s
ICESG Greenland Ices 58.71 7 *i* P **P** **21 52 21.8 +0.1**
ICESG IAmb IAmb 21 52 22.4
comp=Z,5.3nm,0.5s
BW06 Boulder Array 59.76 58 P **P** **21 52 29.4 +0.2**
BW06 IAmb IAmb 21 52 32.2
comp=Z,4.0nm,0.8s
PDAR Pinedale Array 59.76 58 P **P** **21 52 30.4 +1.2**
PDAR Pinedale Array 59.76 58 P **P** **21 52 31.0 +1.8**
comp=Z,2.3nm,0.7s,baz=309,slow=3.1,SNR=23
PDAR pP **pP** **21 53 09.8 +2.3**
comp=Z,1.1nm,0.8s,baz=304,slow=2.8,SNR=3.3
comp=Z,2.3nm,0.7s
BELG Belogornoye 60.39 318 *i* P **P** **21 52 32.6 -0.3**
BELG pmax pmax
comp=Z,2.0nm,1.2s
FINES FINESS Array B 60.45 335 *i* P **P** **21 52 35.2 +2.0**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 60.45 335 P **P** **21 52 31.6 -1.7**
comp=Z,0.9nm,0.9s,baz=44,slow=6.1,SNR=4.2
comp=Z,0.9nm,0.9s
ULM Lac du Bonnet 61.01 45 P **P** **21 52 37.7 +0.5**
comp=Z,1.5nm,0.4s,baz=293,slow=7.7,SNR=5.0
comp=Z,1.5nm,0.4s
TMUT Trail Mountain 61.31 62 P **P** **21 52 40.9 +1.1**
TMUT IAmb IAmb 21 52 43.1
comp=Z,6.6nm,1.2s
ELS Elsinore Mount 61.78 71 P **P** **21 52 44.0 +1.2**
ISCO Idaho Springs 63.95 58 P **P** **21 52 58.6 +1.3**
ISCO Idaho Springs 63.95 58 P **P** **21 52 58.6 +1.3**
ISCO pmax pmax
comp=Z,2.0nm,1.1s
HFS Hagfors 64.49 341 P **P** **21 52 58.3 -1.7**
comp=Z,0.9nm,0.8s,baz=5.7,slow=2.9,SNR=1.1
comp=Z,0.9nm,0.8s
GEYT Alibeck 66.13 301 pP pP 21 53 50.1 +0.2
comp=Z,3.5nm,0.9s,baz=50,slow=4.5,SNR=6.5
ANMO Albuquerque 67.07 62 P **P** **21 53 18.7 +1.5**
ANMO Albuquerque 67.07 62 P **P** **21 53 18.7 +1.5**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 67.07 62 P **P** **21 53 19.3 +2.0**
comp=Z,1.3nm,0.6s,baz=76,slow=7.0,SNR=4.9
comp=Z,1.3nm,0.6s
SCHQ Schefferville 67.57 26 P **P** **21 53 20.3 +0.5**
comp=Z,3.1nm,0.9s,baz=350,slow=6.5,SNR=8.2
comp=Z,3.1nm,0.9s
KIV Kislovodsk 68.99 315 *e*P **P** **21 53 27.6 -1.3**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KBZ Khabaz 69.08 315 *i* P **P** **21 53 30.4 +1.1**
KBZ pmax pmax
comp=Z,7.0nm,2.0s
VLDQ Val d'Or 70.06 35 P **P** **21 53 34.1 -1.1**
VLDQ IAmb IAmb 21 53 52.4
comp=Z,4.9nm,1.2s
EKA Eskdalemuir Ar 71.88 348 P **P** **21 53 46.5 +0.4**
comp=Z,0.2nm,0.3s,baz=20,slow=5.0,SNR=8.3
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 72.85 64 P **P** **21 53 54.3 +1.9**
comp=Z,4.1nm,0.7s,baz=298,slow=4.6,SNR=34
comp=Z,4.1nm,0.7s
WR0 Warramunga Arr 74.19 202 P **P** **21 54 01.2 +1.1**
WR0 IAmb IAmb 21 54 06.9
comp=Z,8.6nm,1.3s
WB2 Warramunga Arr 74.22 202 P **P** **21 54 01.1 +0.9**
WB2 IAmb IAmb 21 54 29.7
comp=Z,8.8nm,1.2s
WRA Warramunga Arr 74.22 202 P **P** **21 54 01.7 +1.5**
comp=Z,1.8nm,0.7s,baz=19,slow=6.2,SNR=12
comp=Z,1.8nm,0.7s
AS31 Alice Springs 77.91 202 P **P** **21 54 22.3 +1.3**
ASAR Alice Springs 77.92 202 P **P** **21 54 22.7 +1.7**
ASAR Alice Springs 77.92 202 P **P** **21 54 22.7 +1.7**
ASAR Alice Springs 77.92 202 P **P** **21 54 23.5 +2.5**
comp=Z,2.3nm,0.4s,baz=14,slow=5.1,SNR=60
comp=Z,2.3nm,0.4s
ESDC Sonseca Array 87.31 345 P **P** **21 55 09.4 -0.2**
comp=Z,0.5nm,0.7s,baz=0.9,slow=3.7,SNR=4.3
comp=Z,0.5nm,0.7s
PAB San Pablo 87.50 346 P **P** **21 55 10.1 -0.4**
PAB IAmb IAmb 21 55 21.6
comp=Z,5.9nm,1.1s
PAB San Pablo 87.50 346 P **P** **21 55 10.1 -0.4**
PAB pmax pmax
comp=Z,6.0nm,1.2s
QSPA South Pole Qui 141.63 180 PKhKP PKPpre 22 01 46.7
comp=Z,1.1nm,0.6s,baz=5.0,slow=0.6,SNR=12
QSPA PKP **PKiKP** **22 01 54.3 -0.4**
comp=Z,1.1nm,0.6s,baz=37,slow=9.1,SNR=5.2
PLCA Paso Flores 145.89 90 PKPbc **PKPab** **22 02 02.4 +0.6**
comp=Z,2.7nm,0.6s,baz=299,slow=3.3,SNR=12

*ANF **20** 21:47:01.6±0.2,59.79N×136.79W,h2km±2km, ML3.6/32, Error ellipse: s-maj=1.5km s-min=1.3km az=55.0*
*AEIC **20** 21:47:01.9±1.4,59.80N±0.02×136.76W±0.04,h2km±7km, Error ellipse: s-maj=3.1km s-min=2.5km az=51.0*
*PGC **20** 21:47:02.8,59.78N×136.79W,h1km, ML3.4,ML3.4/32, 115km Wnw of Haines, Ak Southeastern Alaska*
*NEIC **20** 21:47:02.0±1.1,59.79N±0.01×136.76W±0.04,h1km±9km, ML3.4/97,ML3.1(AEIC),ML3.4(OTT), Error ellipse: s-maj=2.6km s-min=1.6km az=106.0*

ISC 20 21:47:02.4±0.9,**59.80N**±0.01×**136.74W**±0.01,**h15**km±7km, **n191,σ1s67/260,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
P30M	**Million Dollar**	**0.34**	**341**		**Pg**	**21 47 09.1**	**-0.3**
P30M					**Sg**	**21 47 13.8**	**-0.4**
P30M	**Million Dollar**	**0.34**	**341**	P	**Pg**	**21 47 09.1**	**-0.3**
	baz=166						
P30M				S	**Sg**	**21 47 13.8**	**-0.4**
	baz=166						
P30M	**Million Dollar**	**0.34**	**341**	P	**Pg**	**21 47 09.2**	**-0.3**
P30M				S	**Sg**	**21 47 13.9**	**-0.4**
PLBC	**Pleasant Camp**	**0.40**	**151**		**Pg**	**21 47 10.0**	**-0.4**
PLBC					**Sg**	**21 47 15.3**	**-0.6**
PLBC	**Pleasant Camp**	**0.40**	**151**	P	**Pg**	**21 47 10.0**	**-0.4**
	baz=327,SNR=386						
PLBC				S	**Sg**	**21 47 15.2**	**-0.6**
	baz=327						
PLBC	**Pleasant Camp**	**0.40**	**151**	P	**Pg**	**21 47 10.0**	**-0.4**
PLBC				S	**Sg**	**21 47 15.2**	**-0.6**
P29M	**Windy Craggy**	**0.53**	**252**		**Pg**	**21 47 11.9**	**-1.0**
P29M				**Sg**	**Sg**	**21 47 18.8**	**-1.3**
P29M				IAML		21 47 19.9	
	comp=E,3μm,0.3s						
P29M	**Windy Craggy**	**0.53**	**252**	P	**Pg**	**21 47 11.9**	**-1.0**
	baz=72						
P29M				S	**Sg**	**21 47 18.9**	**-1.2**
	baz=72						
P29M	**Windy Craggy**	**0.53**	**252**	P	**Pg**	**21 47 11.9**	**-1.0**
P29M				S	**Sg**	**21 47 18.9**	**-1.2**
SKAG	**Skagway**	**0.80**	**115**		**Pg**	**21 47 17.1**	**-0.7**
SKAG				Sg	**Sg**	**21 47 27.4**	**-0.9**
SKAG	**Skagway**	**0.80**	**115**	P	**Pg**	**21 47 17.0**	**-0.8**
SKAG	**Skagway**	**0.80**	**115**	P	**Pg**	**21 47 17.1**	**-0.7**
	baz=294,SNR=413						
SKAG				S	**Sg**	**21 47 27.2**	**-1.1**
	baz=294						
YUK7	**Dusty Glacier**	**1.01**	**317**		**Pg**	**21 47 20.4**	**-1.6**
YUK7					**Sg**	**21 47 34.4**	**-0.8**
YUK7	**Dusty Glacier**	**1.01**	**317**	P	**Pg**	**21 47 20.5**	**-1.6**
YUK7				S	**Sg**	**21 47 34.1**	**-1.1**
O30N	**Mendenhall**	**1.02**	**18**		**Pg**	**21 47 21.7**	**-0.5**
O30N				Sg	**Sg**	**21 47 35.2**	**-0.4**
O30N				IAML		21 47 35.9	
	comp=E,900nm,0.5s						
O30N	**Mendenhall**	**1.02**	**18**	P	**Pg**	**21 47 21.2**	**-1.0**
	baz=200,SNR=1000						
O30N				S	**Sg**	**21 47 35.2**	**-0.4**
	baz=200						
O29M	**Mount Kennedy**	**1.05**	**299**		**Pg**	**21 47 20.8**	**-1.8**
O29M				IAML		21 47 36.1	
	comp=N,519nm,0.4s						
O29M				IAML		21 47 38.5	
	comp=E,564nm,0.3s						
O29M	**Mount Kennedy**	**1.05**	**299**	P	**Pg**	**21 47 20.8**	**-1.8**
	baz=120						
O29M				S	**Sg**	**21 47 35.0**	**-1.4**
	baz=120						
O29M	**Mount Kennedy**	**1.05**	**299**	P	**Pg**	**21 47 20.9**	**-1.8**
O29M				S	**Sg**	**21 47 34.8**	**-1.6**
HYT	**Haines Junctio**	**1.09**	**340**		**Pg**	**21 47 21.9**	**-1.7**
HYT	**Haines Junctio**	**1.09**	**340**	P	**Pg**	**21 47 21.8**	**-1.7**
	baz=161,SNR=362						
HYT				S	**Sg**	**21 47 37.4**	**-0.5**
	baz=161						
HYT	**Haines Junctio**	**1.09**	**340**	P	**Pg**	**21 47 22.0**	**-1.6**
WHY	**Whitehorse**	**1.27**	**46**		**Pn**	**21 47 25.9**	**+0.3**
WHY					**Sn**	**21 47 43.3**	**+0.9**
WHY				IAML		21 47 44.4	
	comp=E,532nm,0.7s						
WHY				IAML		21 47 50.1	
	comp=N,589nm,0.6s						
WHY	**Whitehorse**	**1.27**	**46**	P	**Pn**	**21 47 25.9**	**+0.3**
	baz=228,SNR=1000						
WHY				S	**Sn**	**21 47 43.2**	**+0.9**
	baz=228						
WHY	**Whitehorse**	**1.27**	**46**	P	**Pn**	**21 47 26.0**	**+0.3**
WHY				S	**Sg**	**21 47 42.9**	**-0.4**
PNL	**Peninsula**	**1.35**	**266**		**Pn**	**21 47 26.4**	**-0.2**
PNL	**Peninsula**	**1.35**	**266**	P	**Pn**	**21 47 26.6**	**0.0**
PNL	**Peninsula**	**1.35**	**266**	P	**Pn**	**21 47 26.5**	**-0.2**
	baz=84,SNR=892						
PNL				S	**Sg**	**21 47 45.3**	**-0.7**
	baz=84						
PNL	**Peninsula**	**1.35**	**266**	Pn	**Pn**	**21 47 26.5**	**-0.2**
YUK6	**Outpost Mounta**	**1.40**	**326**	P	**Pn**	**21 47 27.3**	**-0.2**
	baz=146,SNR=561						
YUK6				S	**Sg**	**21 47 47.1**	**-0.5**
	baz=146						
YUK6	**Outpost Mounta**	**1.40**	**326**	Pn	**Pn**	**21 47 27.3**	**-0.2**
YUK5	**Granite Creek**	**1.45**	**338**		**Sg**	**21 47 49.1**	**+0.2**
YUK5	**Granite Creek**	**1.45**	**338**	Pn	**Pn**	**21 47 28.3**	**+0.2**
YUK5				Sn	**Sb**	**21 47 48.0**	**+0.8**
BCPM	**Bancas Point**	**1.47**	**277**		**Pn**	**21 47 28.5**	**+0.3**
BCPM				IAML		21 47 53.1	
	comp=E,745nm,0.3s						
BCPM				IAML		21 47 54.8	
	comp=N,541nm,0.8s						
BCPM	**Bancas Point**	**1.47**	**277**		**Sb**	**21 47 48.1**	**+0.4**
R31K	**City Hall, Gus**	**1.48**	**159**		**Pn**	**21 47 28.7**	**+0.3**
R31K	**City Hall, Gus**	**1.48**	**159**	P	**Pn**	**21 47 28.8**	**+0.3**
	baz=339,SNR=24						
R31K				S	**Sg**	**21 47 49.1**	**-1.1**
	baz=339						
YKU2	**Yakutat**	**1.52**	**260**	Pn	**Pn**	**21 47 29.1**	**+0.2**
YKU2	**Yakutat**	**1.52**	**260**	P	**Pg**	**21 47 31.1**	**-0.4**
P32M	**Atlin**	**1.55**	**97**		**Pb**	**21 47 30.8**	**0.0**
P32M				IAML		21 47 54.7	
	comp=N,634nm,0.2s						
P32M	**Atlin**	**1.55**	**97**	P	**Pb**	**21 47 30.6**	**-0.1**
	baz=278,SNR=1000						
P32M				S	**Sg**	**21 47 51.9**	**-0.4**
	baz=278						
P32M	**Atlin**	**1.55**	**97**	Pn	**Pb**	**21 47 30.8**	**0.0**
P32M				Sg	**Sg**	**21 47 51.8**	**-0.5**
BESE	**Bessie Mountai**	**1.56**	**141**	Pn	**Pn**	**21 47 30.1**	**+0.5**
BESE				Sg	**Sb**	**21 47 51.1**	**+0.6**
N30M	**Aishikik Lake**	**1.67**	**354**		**Pb**	**21 47 32.7**	**-0.1**
N30M				IAML		21 47 57.5	
	comp=E,473nm,0.2s						
N30M				IAML		21 48 02.5	
	comp=N,285nm,0.6s						
N30M	**Aishikik Lake**	**1.67**	**354**	Pb	**Pb**	**21 47 33.1**	**+0.2**
	baz=175						
N30M				S	**Sb**	**21 47 54.7**	**+1.0**
	baz=175						
N30M	**Aishikik Lake**	**1.67**	**354**	Pg	**Pb**	**21 47 33.4**	**+0.6**
N30M				Sg	**Sg**	**21 47 55.5**	**-0.8**

N31M	**Braeburn, Yuko**	**1.76**	**15**	Pb	**Pb**	**21 47 34.4 +0.1**	**PTPK**	**Patty Peak**	**3.15**	**299**	Pn	**Pn**	**21 47 52.2 +0.6**	NILT			*i* S	**Sb**	**21 50 23.7 -2.7**
	baz=197,SNR=622						PTPK				Pg	**Pb**	**21 47 56.7 -1.4**	**HUIG**	**Huatulco**	**1.37**	**286**	**Pn**	**21 50 14.5 +0.5**
N31M				Sb	**Sg**	**21 47 58.7 -0.2**	**BVCY**	**Beaver Creek**	**3.30**	**324**	Pn	**Pn**	**21 47 55.5 +2.1**	HUIG				**Sb**	**21 50 30.2 -1.9**
	baz=197						BVCY				Pg	**Pb**	**21 48 01.9 +1.4**	**HUIG**	**Huatulco**	**1.37**	**286** *e*P	**Pn**	**21 50 14.5 +0.5**
N31M	**Braeburn, Yuko**	**1.76**	**15**	Pn	**Pb**	**21 47 34.5 +0.2**	**L29M**	**L29M**	**3.39**	**349**		**Pn**	**21 47 56.2 +1.5**	HUIG			*i* S	**Sb**	**21 50 30.2 -1.9**
N31M				Sg	**Sg**	**21 47 58.6 -0.2**	**L29M**	**L29M**	**3.39**	**349**	P	**Pn**	**21 47 56.1 +1.5**	**PCIG**		**1.50**	**78**	**Pn**	**21 50 15.6 -0.2**
PINM	**Pinnacle**	**1.79**	**281**	Pb	**Pb**	**21 47 34.5 -0.4**		baz=168						PCIG				**Sn**	**21 50 32.9 -2.5**
	baz=99,SNR=322						**L29M**	**L29M**	**3.39**	**349**	Pn	**Pn**	**21 47 56.7 +2.1**	**PCIG**		**1.50**	**78** *e*P	**Pn**	**21 50 15.6 -0.2**
PINM				S	**Sb**	**21 47 57.7 +0.6**	L29M				Pg	**Pg**	**21 48 05.5 -1.7**	PCIG			*i* S	**Sn**	**21 50 32.9 -2.5**
	baz=99						L29M				Sg	**Sg**	**21 48 49.5 -1.5**	**CMIG**	**Matias Romero**	**1.69**	**355**	**Pn**	**21 50 19.1 +0.6**
PCA	**Pinnacle**	**1.79**	**281**		**Pb**	**21 47 34.1 -0.8**	**S34M**	**Telegraph Cree**	**3.48**	**121**		**Pn**	**21 47 57.0 +1.2**	CMIG				**Sn**	**21 50 39.0 -1.3**
PCA					**Sb**	**21 47 58.4 +1.3**	**BERG**	**Berg Lake**	**3.54**	**283**		**Pn**	**21 47 58.6 +2.0**	**CMIG**	**Matias Romero**	**1.69**	**355**⇓ *e*P	**Pn**	**21 50 19.1 +0.6**
PCA	**Pinnacle**	**1.79**	**281**	Pn	**Pn**	**21 47 33.9 +1.1**	BERG				IAML		21 48 56.4	CMIG			*i* S	**Sn**	**21 50 39.0 -1.3**
PCA				Sg	**Sb**	**21 47 58.1 +1.0**		comp=E,94nm,0.7s						**PEIG**	**Puerto Escondi**	**2.40**	**285**	**Pn**	**21 50 29.0 +0.8**
YUK4	**Talbot Arm**	**1.81**	**330**	P	**Pb**	**21 47 35.1 -0.3**	**M27K**	**Edge Creek, AK**	**3.58**	**318**		**Pn**	**21 47 58.2 +0.8**	PEIG				**Sn**	**21 50 54.2 -3.4**
	baz=152,SNR=639						M27K				IAML		21 49 06.8	**PEIG**	**Puerto Escondi**	**2.40**	**285** *e*P	**Pn**	**21 50 29.0 +0.8**
YUK4				Sb	**Sg**	**21 48 01.9 +1.2**		comp=E,41nm,0.9s						PEIG			*i* S	**Sn**	**21 50 54.2 -3.4**
	baz=152						**M27K**	**Edge Creek, AK**	**3.58**	**318**	Pn	**Pn**	**21 47 58.7 +1.4**	**PATR**	**El Naranjo**	**2.44**	**96** *e*P	**Pn**	**21 50 28.9 -0.1**
YUK4	**Talbot Arm**	**1.81**	**330**	Pn	**Pb**	**21 47 35.5 +0.2**	M27K				Pg	**Pb**	**21 48 06.8 +1.4**	PATR			*i* S	**Sn**	**21 50 56.0 -2.9**
YUK4				Sg	**Sg**	**21 48 02.8 +2.1**	**VRDI**	**Verde Repeater**	**3.61**	**296**		**Pn**	**21 47 58.7 +0.8**	**PAVE**	**Pavencul**	**2.48**	**94** *e*P	**Pn**	**21 50 30.0 +0.5**
S31K	**Pelican**	**1.86**	**172**		**Pn**	**21 47 34.6 +1.0**	**DLBC**	**Dease Lake**	**3.72**	**109**		**Pn**	**21 48 00.5 +1.2**	PAVE			*i* S	**Sn**	**21 50 58.4 -1.7**
S31K				IAML		21 48 01.2	DLBC				IAML		21 49 03.3	**CHUJ**	**Union Juarez**	**2.56**	**96** *i* P	**Pn**	**21 50 30.7 +0.1**
	comp=E,414nm,0.4s							comp=N,92nm,0.5s						CHUJ			*i* S	**Sn**	**21 50 59.4 -2.5**
S31K				IAML		21 48 01.5	DLBC				IAML		21 49 04.6	**CCIG**	**Comitan**	**2.66**	**70**	**Pn**	**21 50 33.9 +1.9**
	comp=N,416nm,0.5s							comp=E,85nm,0.6s						CCIG			Sn	**Sn**	**21 51 04.3 0.0**
S31K	**Pelican**	**1.86**	**172**		**Sb**	**21 47 59.6 +0.5**	**DLBC**	**Dease Lake**	**3.72**	**109**	P	**Pn**	**21 48 00.2 +1.0**	**RTAL**	**Retalhuleu**	**3.07**	**106**	**Pn**	**21 50 37.9 +0.5**
S31K	**Pelican**	**1.86**	**172**	P	**Pn**	**21 47 34.6 +1.0**		baz=294,SNR=36						**HUEH**	**Huehuetenango**	**3.12**	**91**	**Pn**	**21 50 40.1 +1.7**
	baz=351,SNR=220						**DLBC**	**Dease Lake**	**3.72**	**109**	Pn	**Pn**	**21 48 00.3 +1.0**	**TLIG**	**Tlapa**	**4.26**	**301**	**Pn**	**21 50 55.4 +1.5**
S31K				S	**Sb**	**21 47 59.2 +0.1**	DLBC				Sg	**Sg**	**21 48 58.5 -3.3**	**PETF**	**Flores**	**4.92**	**71**	**Pn**	**21 51 04.5 +1.6**
	baz=351						**MAYO**	**Mayo, Yukon**	**3.83**	**6**	Sg	**Sg**	**21 49 01.2 -4.0**	**MTO3**	**Montecristo**	**5.29**	**100**	**Pn**	**21 51 10.0 +1.8**
R32K	**Eaglecrest**	**1.92**	**142**		**Pn**	**21 47 34.5 +0.2**	**GLB**	**Gilahina Butte**	**3.85**	**298**		**Pn**	**21 48 02.1 +1.1**	**TGUH**	**Tegucigalpa,Un**	**7.35**	**99**	Pn	**Pn**	**21 51 38.0 +1.6**
R32K				IAML		21 48 04.5	**M26K**	**Nabesna, AK**	**4.00**	**313**	P	**Pn**	**21 48 04.6 +1.5**	**TEIG**	**Tepich**	**7.81**	**51**		**Pn**	**21 51 42.6 0.0**
	comp=N,448nm,0.3s							baz=128						**ORTG**	**Ortega, Santa**	**10.34**	**118**	Pn	**Pn**	**21 52 19.5 +2.1**
R32K				IAML		21 48 06.3	**WTLY**	**Watson Lake, Y**	**4.01**	**82**	Sg	**Sg**	**21 49 06.3 -4.7**	**SRBA**	**San Rafael, Bu**	**12.69**	**118**	Pn	**Pn**	**21 52 50.5 +0.8**
	comp=E,314nm,0.4s						**RAGM**	**Ragged Mountai**	**4.02**	**282**		**Pn**	**21 48 05.2 +1.9**	**833A**	**Chaparral WMA,**	**13.57**	**342**		**Pn**	**21 53 03.3 +1.8**
R32K	**Eaglecrest**	**1.92**	**142**	P	**Pn**	**21 47 34.6 +0.2**	RAGM				IAML		21 49 06.0	**HNDO**	**Hondo**	**14.68**	**344**	Pn	**Pn**	**21 53 19.2 +2.5**
	baz=323,SNR=101							comp=E,70nm,1.2s						**TXAR**	**Lajitas Array**	**16.13**	**331**		**P**	**21 53 39.0 -0.2**
R32K				S	**Sb**	**21 48 00.2 -0.4**	**BCAR**	**Beaver Creek A**	**4.07**	**326**		**Pn**	**21 48 05.5 +1.5**	**BRDY**	**Brady**	**16.29**	**347**		**P**	**21 53 41.2 +0.3**
	baz=323						**BMRM**	**Bremner River**	**4.07**	**290**		**Pn**	**21 48 05.5 +1.4**	BRDY				IAmb	IAmb	21 53 53.5
JIS	**Juneau Island**	**1.96**	**140**		**Pn**	**21 47 35.3 +0.4**	**BMRM**	**Bremner River**	**4.07**	**290**	P	**Pn**	**21 48 05.4 +1.4**		comp=Z,7.5nm,0.9s					
JIS				IAML		21 48 05.9		baz=104						**ALPN**	**Alpine**	**17.00**	**333**	P	**P**	**21 53 49.0 +0.1**
	comp=E,405nm,0.4s						**K29M**	**Barlow Dome**	**4.07**	**355**		**Pn**	**21 48 06.8 +2.6**	ALPN				IAmb	IAmb	21 53 51.5
JIS	**Juneau Island**	**1.96**	**140**		**Sb**	**21 48 01.5 -0.2**	K29M				IAML		21 49 12.9		comp=Z,12nm,1.5s					
JIS	**Juneau Island**	**1.96**	**140**	P	**Pn**	**21 47 35.5 +0.6**		comp=E,70nm,0.4s						**T35A**	**Sooner Cattle**	**21.50**	**356**	P	**P**	**21 54 38.7 +0.9**
P33M	**Teslin, Yukon**	**2.01**	**77**		**Pn**	**21 47 37.0 +1.2**	K29M				IAML		21 49 14.7	T35A				IAmb	IAmb	21 54 41.1
P33M				IAML		21 48 06.8		comp=N,38nm,0.8s							comp=Z,18nm,1.2s					
	comp=E,292nm,0.7s						**K29M**	**Barlow Dome**	**4.07**	**355**	P	**Pn**	**21 48 06.8 +2.6**							
P33M	**Teslin, Yukon**	**2.01**	**77**	P	**Pn**	**21 47 37.0 +1.2**		baz=175												
	baz=260,SNR=216						**K29M**	**Barlow Dome**	**4.07**	**355**	Pn	**Pn**	**21 48 06.7 +2.5**							
P33M				S	**Sb**	**21 48 03.8 +0.2**	K29M				Sg	**Sg**	**21 49 09.8 -3.2**							
	baz=260						**L27K**	**Beaver Creek,**	**4.08**	**325**		**Pn**	**21 48 05.9 +1.7**							
P33M	**Teslin, Yukon**	**2.01**	**77**	Pn	**Pn**	**21 47 37.2 +1.4**	**L27K**	**Beaver Creek,**	**4.08**	**325**	Pn	**Pn**	**21 48 06.8 +2.6**							
P33M				Sg	**Sg**	**21 48 06.0 -1.1**	**WRAK**	**Wrangell Islan**	**4.12**	**144**		**Pn**	**21 48 05.2 +0.6**							
SAMH	**Samovar Hills**	**2.06**	**281**		**Pb**	**21 47 38.5 -0.9**	**WRAK**	**Wrangell Islan**	**4.12**	**144**	P	**Pn**	**21 48 06.5 +1.9**							
SAMH	**Samovar Hills**	**2.06**	**281**	Pn	**Pb**	**21 47 38.8 -0.7**		baz=327												
SAMH				Sg	**Sg**	**21 48 07.4 -1.1**	**WRAK**	**Wrangell Islan**	**4.12**	**144**	Pn	**Pn**	**21 48 06.7 +2.2**							
YUK8	**Steele Glacier**	**2.11**	**316**		**Pn**	**21 47 38.9 +1.6**	**U33K**	**Whale Pass**	**4.17**	**151**	Pn	**Pn**	**21 48 05.8 +0.5**							
YUK8	**Steele Glacier**	**2.11**	**316**	P	**Pn**	**21 47 38.3 +1.0**	U33K				IAML		21 49 18.2							
	baz=134,SNR=584							comp=E,41nm,2.0s												
YUK8				Sb	**Sg**	**21 48 08.8 -1.4**	U33K				IAML		21 49 22.4							
	baz=134							comp=N,49nm,1.4s												
YUK8	**Steele Glacier**	**2.11**	**316**	Pg	**Pb**	**21 47 40.6 +0.2**	**U33K**	**Whale Pass**	**4.17**	**151**	P	**Pn**	**21 48 05.9 +0.6**							
YUK8				Sg	**Sg**	**21 48 08.7 -1.4**		baz=334												
N32M	**Quiet Lake**	**2.26**	**52**	P	**Pn**	**21 47 40.9 +1.7**	**N25K**	**Chitina, Valde**	**4.26**	**299**		**Pn**	**21 48 08.6 +1.9**							
	baz=235						**N25K**	**Chitina, Valde**	**4.26**	**299**	P	**Pn**	**21 48 08.3 +1.6**							
N32M				Sb	**Sg**	**21 48 13.5 -1.6**		baz=112												
	baz=235						**T35M**	**Bob Quinn**	**4.43**	**127**	Pn	**Pn**	**21 48 11.5 +2.5**							
N32M	**Quiet Lake**	**2.26**	**52**	Pn	**Pn**	**21 47 41.1 +1.9**	**T35M**	**Bob Quinn**	**4.43**	**127**	Pn	**Pn**	**21 48 11.2 +2.2**							
N32M				Pg	**Pb**	**21 47 44.1 +1.2**	**DAWY**	**Dawson**	**4.46**	**345**		**Pn**	**21 48 11.3 +2.0**							
N32M				Sg	**Sg**	**21 48 13.8 -1.3**	DAWY				IAML		21 49 33.7							
LOGN	**Logan Glacier**	**2.36**	**298**		**Pn**	**21 47 41.9 +1.3**		comp=E,50nm,0.9s												
LOGN	**Logan Glacier**	**2.36**	**298**	Pn	**Pn**	**21 47 42.1 +1.5**	DAWY				IAML		21 49 40.7							
Q32M	**Nakina River**	**2.44**	**108**		**Pn**	**21 47 43.2 +1.5**		comp=N,32nm,0.5s												
Q32M				IAML		21 48 21.6	**DAWY**	**Dawson**	**4.46**	**345**	P	**Pn**	**21 48 11.2 +2.0**							
	comp=N,159nm,0.7s							baz=163,SNR=15												
Q32M				IAML		21 48 22.2	**DAWY**	**Dawson**	**4.46**	**345**	Pn	**Pn**	**21 48 11.4 +2.0**							
	comp=E,207nm,0.9s						DAWY				Sg	**Sg**	**21 49 22.8 -2.6**							
Q32M	**Nakina River**	**2.44**	**108**		**Sb**	**21 48 14.8 -1.1**	**TGTN**	**Hyland Airport**	**4.51**	**64**	P	**Pn**	**21 48 11.8 +1.7**							
Q32M	**Nakina River**	**2.44**	**108**	P	**Pn**	**21 47 43.2 +1.5**		baz=251,SNR=11												
	baz=292						**TGTN**	**Hyland Airport**	**4.51**	**64**	Pn	**Pn**	**21 48 12.1 +2.0**							
Q32M				S	**Sb**	**21 48 14.7 -1.2**	TGTN				Sg	**Sg**	**21 49 25.4 -1.6**							
	baz=292						**L26K**	**Log Cabin Wild**	**4.53**	**318**		**Pn**	**21 48 12.7 +2.4**							
Q32M	**Nakina River**	**2.44**	**108**	Pn	**Pn**	**21 47 43.3 +1.5**	L26K				IAML		21 49 44.3							
CTGM	**Chitina Glacie**	**2.56**	**299**		**Pn**	**21 47 45.2 +1.9**		comp=E,22nm,0.6s												
CTGM	**Chitina Glacie**	**2.56**	**299**	IAML		21 48 26.4	**DIV**	**Divide**	**4.66**	**290**	Pn	**Pn**	**21 48 15.6 +3.4**							
	comp=N,106nm,0.9s						**J29N**	**Klondike Camp**	**4.72**	**352**		**Pn**	**21 48 13.0 +0.1**							
CTGM	**Chitina Glacie**	**2.56**	**299**	Pn	**Pn**	**21 47 45.4 +2.0**	J29N				IAML		21 49 38.8							
CTGM				Sg	**Sb**	**21 48 21.2 +1.8**		comp=N,191nm,0.5s												
CTG	**Chitna Glacier**	**2.56**	**299**	P	**Pn**	**21 47 44.3 +0.9**	J29N				IAML		21 49 40.0							
	baz=116							comp=E,177nm,0.7s												
CTG				Sb	**Sb**	**21 48 21.6 +2.2**	**CRAG**	**Craig**	**4.76**	**154**	Pn	**Pn**	**21 48 13.3 -0.1**							
	baz=116						CRAG				IAML		21 51 23.3							
S32K	**Killisnoo**	**2.60**	**153**		**Pn**	**21 47 43.6 -0.1**		comp=N,42nm,2.6s												
S32K				IAML		21 48 26.9	**CRAG**	**Craig**	**4.76**	**154**	P	**Pn**	**21 48 14.1 +0.7**							
	comp=E,101nm,0.7s						**J30M**	**Hart River**	**4.80**	**2**		**Pn**	**21 48 16.5 +2.5**							
S32K	**Killisnoo**	**2.60**	**153**	P	**Pn**	**21 47 43.6 -0.1**	**J30M**	**Hart River**	**4.80**	**2**	Sb	**Sg**	**21 49 30.5 -5.7**							
	baz=334							baz=183												
S32K				Sb	**Sb**	**21 48 22.8 +2.6**	**J30M**	**Hart River**	**4.80**	**2**	Pn	**Pn**	**21 48 16.8 +2.8**							
	baz=334						J30M				Sg	**Sg**	**21 49 30.7 -5.5**							
M31M	**Drury Creek, Y**	**2.67**	**24**		**Pn**	**21 47 47.1 +2.3**	**KLU**	**Klutina**	**4.83**	**295**		**Pn**	**21 48 15.5 +1.1**							
M31M				IAML		21 48 36.4	KLU				IAML		21 49 30.6							
	comp=E,186nm,0.8s							comp=N,17nm,1.9s												
M31M	**Drury Creek, Y**	**2.67**	**24**	P	**Pn**	**21 47 46.5 +1.8**	KLU				IAML		21 49 37.0							
	baz=207,SNR=16							comp=E,17nm,1.0s												
M31M				Sb	**Sg**	**21 48 25.4 -2.6**	**K27K**	**Chicken**	**4.93**	**332**	Pn	**Pn**	**21 48 18.0 +2.2**							
	baz=207						**FID**	**Port Fidalgo**	**4.94**	**285**		**Pn**	**21 48 19.4 +3.5**							
M31M	**Drury Creek, Y**	**2.67**	**24**	Pn	**Pn**	**21 47 47.2 +2.5**	**FID**	**Port Fidalgo**	**4.94**	**285**	IAML		21 48 55.0							
M31M				Pg	**Pb**	**21 47 51.0 +1.2**		comp=E,26nm,2.7s												
YUK3	**Moose Creek**	**2.69**	**319**		**Pn**	**21 47 46.6 +1.3**	FID				IAML		21 50 23.0							
YUK3	**Moose Creek**	**2.69**	**319**	P	**Pn**	**21 47 46.0 +0.7**		comp=N,26nm,2.5s												
	baz=136,SNR=25						**V35K**	**Ketchikan**	**5.26**	**146**	Pn	**Pn**	**21 48 21.7 +1.4**							
YUK3	**Moose Creek**	**2.69**	**319**	Pn	**Pn**	**21 47 46.6 +1.3**	V35K				IAML		21 50 38.7							
YUK3				Pg	**Pb**	**21 47 50.2 -0.1**		comp=E,30nm,2.6s												
BARN	**Barnard Glacie**	**2.75**	**300**		**Pn**	**21 47 47.4 +1.5**	V35K				IAML		21 50 57.8							
M29M	**Somme Creek**	**2.78**	**343**		**Pn**	**21 47 47.8 +1.4**		comp=N,26nm,2.9s												
M29M				IAML		21 48 40.0	**EGAK**	**Eagle**	**5.40**	**339**		**Pn**	**21 48 24.2 +1.9**							
	comp=E,95nm,0.7s						**EGAK**	**Eagle**	**5.40**	**339**	P	**Pn**	**21 48 24.4 +2.2**							
M29M				IAML		21 48 43.5		baz=156,SNR=18												
	comp=N,76nm,0.6s						**EGAK**	**Eagle**	**5.40**	**339**	Pn	**Pn**	**21 48 24.6 +2.4**							
M29M	**Somme Creek**	**2.78**	**343**	P	**Pn**	**21 47 47.6 +1.2**	EGAK				Sg	**Sg**	**21 49 51.6 -3.9**							
	baz=162						**SCRK**	**Sand Creek**	**5.41**	**324**		**Pn**	**21 48 23.9 +1.5**							
M29M	**Somme Creek**	**2.78**	**343**	Pn	**Pn**	**21 47 48.3 +1.9**	**I30M**	**Mount Dempster**	**5.45**	**2**	Pn	**Pn**	**21 48 25.6 +2.7**							
M30M	**Minto, Yukon**	**2.79**	**360**	Pn	**Pn**	**21 47 48.2 +1.8**	**I30M**	**Mount Dempster**	**5.45**	**2**	Pn	**Pn**	**21 48 26.3 +3.4**							
M30M				IAML		21 48 32.3	**RIDG**	**Independent Ri**	**5.51**	**319**	Pn	**Pn**	**21 48 24.4 +0.6**							
	comp=E,152nm,0.7s						**SCM**	**Sheep Creek Mo**	**5.57**	**296**	Pn	**Pn**	**21 48 26.2 +1.6**							
M30M				IAML		21 48 34.7	**J26L**	**Joseph Creek**	**5.70**	**329**		**Pn**	**21 48 28.1 +1.8**							
	comp=N,146nm,0.8s						**I28M**	**Miner Creek**	**5.86**	**347**	Pn	**Pn**	**21 48 30.9 +2.3**							
M30M	**Minto, Yukon**	**2.79**	**360**	P	**Pn**	**21 47 47.9 +1.5**	**I28M**	**Miner Creek**	**5.86**	**347**	Pn	**Pn**	**21 48 30.4 +1.8**							
	baz=180,SNR=21						**KNK**	**Knik Glacier**	**5.99**	**291**	Pn	**Pn**	**21 48 33.1 +2.8**							
M30M				Sb	**Sg**	**21 48 29.4 -2.3**	**I27K**	**Kandik River**	**6.24**	**341**		**Pn**	**21 48 36.1 +2.3**							
	baz=180						**I27K**	**Kandik River**	**6.24**	**341**	Pn	**Pn**	**21 48 35.7 +2.0**							
M30M	**Minto, Yukon**	**2.79**	**360**	Pn	**Pn**	**21 47 48.2 +1.8**	**J25K**	**Salcha River,**	**6.29**	**324**		**Pn**	**21 48 37.2 +2.8**							
M30M				Pg	**Pb**	**21 47 53.1 +1.3**	**KOTAN**	**Kotaneelee Air**	**6.38**	**82**	P	**Pn**	**21 48 36.4 +0.7**							
M30M				Sg	**Sg**	**21 48 29.6 -2.2**		baz=272,SNR=9.9												
YUK2	**White River**	**2.83**	**317**		**Pn**	**21 47 48.5 +1.5**	**H29M**	**Whitestone**	**6.49**	**354**	Pn	**Pn**	**21 48 38.6 +1.5**							
YUK2	**White River**	**2.83**	**317**	Pn	**Pn**	**21 47 49.3 +2.2**	**H27K**	**Steamboat Moun**	**6.81**	**343**	Pn	**Pn**	**21 48 44.5 +2.9**							
SIT	**Sitka**	**2.85**	**164**		**Pn**	**21 47 47.9 +0.7**	**IL31**		**6.87**	**321**		**Pn**	**21 48 43.7 +1.4**							
SIT				IAML		21 48 36.3	**ILAR**	**Eielson Array**	**6.87**	**321**		**Pn**	**21 48 43.7 +1.4**							
	comp=E,121nm,0.7s						**ILAR**	**Eielson Array**	**6.87**	**321**	P	**Pn**	**21 48 43.9 +1.5**							
SIT				IAML		21 48 37.7		comp=N,1,9nm,0.7s,baz=262,slow=6.7,SNR=34												
	comp=N,78nm,0.9s						**ILAR**	**Eielson Array**	**6.87**	**321**										
SIT	**Sitka**	**2.85**	**164**	P	**Pn**	**21 47 50.0 +2.8**		comp=N,1,9nm,0.7s												
SIT	**Sitka**	**2.85**	**164**	Pb	**Pb**	**21 47 52.9 0.0**	**G30M**	**tAoh Zrail Nji**	**7.21**	**2**	Pn	**Pn**	**21 48 49.5 +2.4**							
	baz=345						**G31M**	**Satah River**	**7.24**	**8**	P	**Pn**	**21 48 50.2 +2.9**							
SIT				Sb	**Sb**	**21 48 30.0 +2.5**		baz=190,SNR=21												
	baz=345						**G31M**	**Satah River**	**7.24**	**8**	Pn	**Pn**	**21 48 50.2 +2.9**							
FARO	**Faro, Yukon**	**2.94**	**33**		**Pn**	**21 47 50.7 +2.2**	**G27K**	**Doyon Strip**	**7.37**	**345**	Pn	**Pn**	**21 48 52.3 +3.0**							
FARO				IAML		21 48 37.3	**NBC5**	**NorthernBC 5**	**7.68**	**101**	P	**Pn**	**21 48 55.0 +1.4**							
	comp=N,156nm,0.2s						**F30M**	**Barrier River**	**7.85**	**3**	P	**Pn**	**21 48 58.4 +2.6**							
FARO	**Faro, Yukon**	**2.94**	**33**	Sb	**Sg**	**21 48 34.4 -2.5**														
	baz=216																			
FARO	**Faro, Yukon**	**2.94**	**33**	Pg	**Pg**	**21 47 56.6 -2.1**														
FARO				Sg	**Sg**	**21 48 34.6 -2.3**														
R33M	**Jennings River**	**2.96**	**95**		**Pn**	**21 47 50.3 +1.4**														
R33M	**Jennings River**	**2.96**	**95**	P	**Pn**	**21 47 50.0 +1.1**														
	baz=280,SNR=108																			
R33M				Sb	**Sg**	**21 48 34.7 -2.9**														
	baz=280																			
R33M	**Jennings River**	**2.96**	**95**	Pn	**Pn**	**21 47 49.8 +0.9**														
R33M				Sg	**Sg**	**21 48 34.5 -3.0**														
KIAG	**Kiagna River**	**3.01**	**294**		**Pn**	**21 47 51.2 +1.7**														
KIAG	**Kiagna River**	**3.01**	**294**	Pn	**Pn**	**21 47 51.1 +1.5**														
SNH	**Sunshine Point**	**3.09**	**280**		**Pn**	**21 47 51.9 +1.4**														
SNH				IAML		21 48 37.6														
	comp=N,62nm,0.7s																			

*NEIC **20** 21:49:49.4±3.0, 15°.34N±0°.06×94°.77W±0°.02, h10km±2km, mb4.0/5, Md4.3/20(MEX), Error ellipse: s-maj=10.7km s-min=3.2km az=182.0*

*MEX **20** 21:49:53.4±0.7, 15°.44N×94°.72W, h16km±13km, MD4.3*

ISC 20 21:49:48.9±0.9, 15°.39N±0°.05×94°.74W±0°.03, h10km, n29, σ1§68/43, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
CARR	**Arriaga**	**1.17**	**43**	*i* P		**Pn**	**21 50 10.7**	**-0.6**
CARR				*i* S		**Sb**	**21 50 24.1**	**-2.2**
NILT	**Santiago Nilte**	**1.17**	**6**	*i* P		**Pn**	**21 50 10.9**	**-0.4**

*IDC **20** 21:54:22.2±1.9, 39°.06N×71°.81E, h0km, mb3.7/7, mbtmp3.7/12, ML3.0/6, MS3.4/1, Error ellipse: s-maj=39.5km s-min=11.8km az=141.0*

*KRNET **20** 21:54:25.0±0.1, 39°.39N×71°.57E, h14km, mb3.5*

*NNC **20** 21:54:27.4±1.8, 39°.42N×71°.31E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=16.6km s-min=10.0km az=170.0*

ISC 20 21:54:24.8±1.5, 39°.39N±0°.06×71°.61E±0°.03, h4km±8km, n51, σ1§76/75, mb3.8/7, 38C-20D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
DRK	**Karamyk**	**0.18**	**58**	⇑ *eP*		**Pg**	**21 54 29.2**	**+0.8**
	baz=63							
DRK				⇑ *eS*		**Sg**	**21 54 32.4**	**+1.7**
	baz=63							
BTK	**Batken**	**0.91**	**318**	⇑ *iP*		**Pg**	**21 54 41.9**	**-0.3**
	baz=19							
BTK				⇑ *iS*		**Sg**	**21 54 54.3**	**+0.4**
	baz=19							
OHH	**Osh**	**1.45**	**38**	⇓ *iP*		**Pn**	**21 54 52.5**	**+0.5**
	baz=39							
OHH				⇓ *iS*		**Sg**	**21 55 12.2**	**+0.7**
	baz=39							
SFK	**Sufi-Kurgan**	**1.59**	**66**	⇓ *iP*		**Pn**	**21 54 55.1**	**+1.1**
	baz=67							
SFK				⇓ *iS*		**Sb**	**21 55 17.0**	**+1.5**
	baz=67							
TRKS	**Terek-Say**	**2.17**	**351**	⇑ *iP*		**Pn**	**21 55 02.3**	**+0.4**
	baz=52							
TRKS				⇑ *iS*		**Sn**	**21 55 29.3**	**0.0**
	baz=52							
ARSB	**Arslanbob**	**2.20**	**28**	⇑ *iP*		**Pn**	**21 55 03.9**	**+1.6**
	baz=29							
ARSB				⇑ *iS*		**Sn**	**21 55 32.4**	**+2.3**
	baz=29							
ARK	**Arkit**	**2.42**	**6**	⇑ *iP*		**Pn**	**21 55 07.1**	**+1.8**
	baz=7.0							
ARK				⇑ *iS*		**Sn**	**21 55 37.5**	**+2.0**
	baz=7.0							
AML	**Almayashu**	**3.17**	**29**	P		**Pb**	**21 55 21.2**	**-0.7**
	SNR=74							
AML	**Almayashu**	**3.17**	**29**	⇓ Pn		**Pb**	**21 55 20.0**	**-1.9**
	1.4nm,0.6s				

baz=50
ULHL ⇑*i*S **Sn** **21 56 28.2 +0.6**
baz=50
TKM2 Tokmak 2 4.64 39 P **Pn** **21 55 40.6 +4.7**
SNR=16
TKM2 Tokmak 2 4.64 39 ⇑Pn **Pn** **21 55 40.1 +4.3**
5.4nm,0.5s
TKM2 ⇑Lg Lg 21 56 54.6
11nm,0.8s
TKM2 Tokmak 2 4.64 39⇑*i*P **Pn** **21 55 37.9 +2.0**
baz=39
TKM2 ⇑*i*S **Sn** **21 56 30.8 +0.5**
baz=39
KDJ Kajisay 5.04 55⇑*i*P **Pn** **21 55 43.4 +2.0**
baz=56
KDJ ⇑*i*S **Sn** **21 56 41.4 +1.2**
baz=56
ANVS Anan'yevo 5.70 52⇑*i*P **Pn** **21 55 52.4 +2.0**
baz=52
ANVS ⇑*i*S **Sn** **21 56 56.9 +0.5**
baz=52
PRZ Przheval'sk 6.00 57⇑*i*P **Pn** **21 55 56.3 +1.7**
baz=57
PRZ ⇑*i*S **Sn** **21 57 04.2 +0.4**
baz=57
GEYT Alibeck 10.65 266 Pn **Pn** **21 56 57.1 -1.1**
0.3nm,0.3s,baz=86,slow=9.5,SNR=4.2
GEYT Sn **Sn** **21 58 58.2 +0.2**
0.3nm,0.3s,baz=77,slow=35,SNR=2.5
0.8nm,0.5s
MKAR Makanchi Array 10.76 43 Pn **Pn** **21 57 00.2 +0.6**
baz=230,slow=11,SNR=1.9
KURBB Kurchatov Arra 12.25 21 Pn **Pn** **21 57 20.8 +0.8**
baz=213,slow=12,SNR=1.9
0.2nm,0.4s
AB31 Akbulak array 12.91 324 ⇓Pn **Pn** **21 57 28.0 -1.0**
1.6nm,0.4s
AB31 ⇑Sn **Sn** **21 59 54.3 +1.3**
1.4nm,0.6s,baz=134,slow=25,SNR=3.5
BVAR Borovoye Array 13.67 357 Pn **Pn** **21 57 39.6 +0.3**
baz=157,slow=11,SNR=12
0.7nm,0.5s
AKTO Aktyubinsk 14.63 323 ⇓Pn **Pn** **21 57 53.1 +0.6**
1.7nm,0.4s
AKTO ⇓Sn **Sn** **22 00 33.9 -1.0**
1.9nm,0.9s
ZALV Zalesovo Beam 17.11 27 P **Pn** **21 58 26.2 +1.5**
0.5nm,0.3s,baz=210,slow=10.0,SNR=11
0.9nm,0.4s
BRTR Keskin Array B 29.13 283 P **P** **22 00 27.3 +0.3**
0.6nm,0.8s,baz=70,slow=13,SNR=2.6
0.6nm,0.8s
FINES FINESS Array B 35.40 324 P **P** **22 01 22.6 +1.1**
1.0nm,0.7s,baz=118,slow=12,SNR=5.0
1.0nm,0.7s
ARCES ARCESS Array B 38.68 336 P **P** **22 01 50.4 +1.1**
2.6nm,0.9s,baz=115,slow=8.1,SNR=1.6
2.6nm,0.9s
HFS Hagfors 41.13 320 P **P** **22 02 10.1 +0.4**
2.0nm,0.8s,baz=94,slow=14,SNR=6.9
2.0nm,0.8s
ESDC Sonseca Array 56.57 296 P **P** **22 04 08.7 +0.1**
0.5nm,0.8s,baz=58,slow=6.8,SNR=2.5
0.5nm,0.8s
JCJ Chichijima 58.93 79 LR LR 22 32 12.8
comp=Z,32nm,18.9s,baz=179,slow=39
TORD Torodi Ar. Bea 66.29 268 P **P** **22 05 13.3 -1.3**
0.4nm,0.5s,baz=54,slow=6.0,SNR=5.8
0.4nm,0.5s
YKA Yellowknife Ar 78.34 3 P **P** **22 06 25.9 0.0**
0.2nm,0.4s,baz=348,slow=5.7,SNR=6.3
0.2nm,0.4s

*NEIC **20** 22:01:33.3±0.6, 15.14S±0.09×173.12W±0.08, h10km±1km, mb4.4/8, Error ellipse: s-maj=19.6km s-min=6.5km az=141.0*
*IDC **20** 22:01:34.1±0.8, 15.03S×173.61W, h0km, mb4.0/8, mbtmp4.0/8, MS3.9/29, Error ellipse: s-maj=45.9km s-min=19.9km az=145.0*
ISC 20 22:01:33.9±0.6, 15.17S±0.09×173.1W±0.1, h10km, n53, σ1§92/24, mb4.0/11, MS4.0/28, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.81**	**47**	Pn	**Pn**	**22 02 04.8**	**-0.5**
AFI				Sn	**Sn**	**22 02 24.0**	**-4.3**
NIUE	**Niue**	**4.95**	**142**		**Pn**	**22 02 48.0**	**-0.4**
RAO	**Raoul Island**	**14.70**	**197**	LR	LR	22 09 30.8	
	comp=Z,250nm,20.7s,baz=324,slow=32						
DZM	**Mont Dzumac**	**20.52**	**247**	LR	LR	22 12 57.6	
	comp=Z,297nm,20.2s,baz=74,slow=34						
PPT	**Papeete**	**22.73**	**99**	LR	LR	22 12 45.3	
	comp=Z,87nm,19.4s,baz=351,slow=29						
URZ	**Urewera**	**24.57**	**199**	LR	LR	22 15 12.4	
	comp=Z,343nm,19.1s,baz=121,slow=33						
HNR	**Honiara**	**26.90**	**279**	LR	LR	22 15 42.7	
	comp=Z,949nm,18.1s,baz=76,slow=32						
LTZ	**Lake Taylor**	**30.24**	**202**	P	**P**	**22 07 43.9**	**-1.1**
INZ	**Inchbonnie**	**30.50**	**203**	P	**P**	**22 07 46.0**	**-1.1**
INZ				IAmb	IAmb	22 08 08.4	
	comp=Z,6.0nm,1.0s						
RPZ	**Rata Peaks**	**31.49**	**202**	LR	LR	22 19 32.9	
	comp=Z,309nm,19.4s,baz=23,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.90**	**329**	T	T	22 50 22.5	
	baz=149,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	22 50 22.9	
	baz=149,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	22 50 25.2	
	baz=149,slow=76,SNR=26						
CTA	**Charters Tower**	**38.95**	**257**	LR	LR	22 23 08.2	
	comp=Z,66nm,18.6s,baz=80,slow=34						
H11N3	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	22 51 41.7	
	baz=150,slow=76,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	22 51 41.5	
	baz=150,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	22 51 36.0	
	baz=150,slow=76,SNR=6.5						
STKA	**Stephens Creek**	**44.38**	**240**		**P**	**22 09 43.0**	**-1.8**
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**22 09 44.9**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=119,slow=16,SNR=2.0						
STKA				LR	LR	22 24 58.7	
	comp=Z,75nm,21.2s,baz=35,slow=32						
	comp=Z,1.1nm,0.5s						
BBOO	**Buckleboo**	**49.15**	**240**	P	**P**	**22 10 20.9**	**-1.4**
WB0	**Warramunga Arr**	**50.11**	**257**	P	**P**	**22 10 28.8**	**-0.9**
WB0				IAmb	IAmb	22 10 40.8	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**50.15**	**257**	P	**P**	**22 10 28.5**	**-1.5**
WRA	**Warramunga Arr**	**50.15**	**257**	P	**P**	**22 10 28.7**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=91,slow=6.8,SNR=14						
	comp=Z,0.4nm,0.4s						
AS31	**Alice Springs**	**50.43**	**252**	P	**P**	**22 10 30.6**	**-1.5**
AS31				IAmb	IAmb	22 10 43.5	
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**50.43**	**252**	P	**P**	**22 10 30.6**	**-1.5**
ASAR	**Alice Springs**	**50.43**	**252**	P	**P**	**22 10 30.1**	**-2.1**
	comp=Z,1.8nm,0.4s,baz=90,slow=7.8,SNR=51						
ASAR				LR	LR	22 30 23.2	
	comp=Z,166nm,20.5s,baz=108,slow=35						
	comp=Z,1.8nm,0.4s						
VNDA	**Vanda**	**63.63**	**186**	LR	LR	22 35 02.6	
	comp=Z,55nm,20.5s,baz=332,slow=32						
NWAO	**Narrogin (SRO)**	**64.96**	**240**	LR	LR	22 38 25.4	
	comp=Z,61nm,20.7s,baz=197,slow=34						
PFO	**Pinyon Flats O**	**72.57**	**47**	LR	LR	22 37 42.0	
	comp=Z,121nm,18.9s,baz=222,slow=30						
LPIG	**La Paz**	**72.70**	**58**	LR	LR	22 36 17.7	
	comp=Z,80nm,19.1s,baz=194,slow=28						
YBH	**Yreka Blue Hor**	**73.26**	**37**	LR	LR	22 39 19.5	
	comp=Z,126nm,20.8s,baz=234,slow=31						
NVAR	**Mina Array Bea**	**73.98**	**42**	P	**P**	**22 13 13.1**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=216,slow=8.9,SNR=1.8						
NVAR				LR	LR	22 38 58.1	
	comp=Z,146nm,21.0s,baz=272,slow=30						
	comp=Z,0.2nm,0.3s						
KDAK	**Kodiak Island**	**74.64**	**11**	LR	LR	22 38 12.1	
	comp=Z,120nm,20.7s,baz=217,slow=30						
QSPA	**South Pole Qui**	**74.88**	**180**		**P**	**22 13 13.9**	**-0.8**
QSPA				IAmb	IAmb	22 13 28.9	
	comp=Z,5.3nm,1.0s						
QSPA	**South Pole Qui**	**74.88**	**180**	P	**P**	**22 13 16.9**	**+2.2**
	comp=Z,3.6nm,1.0s,baz=53,slow=2.2,SNR=6.1						
	comp=Z,3.6nm,1.0s						
KSRS	**Korea Array**	**76.17**	**315**	LR	LR	22 41 06.4	
	comp=Z,18nm,21.4s,baz=90,slow=31						
ELK	**Elko**	**77.24**	**41**	LR	LR	22 41 15.6	
	comp=Z,101nm,20.0s,baz=268,slow=31						
BBB	**Bella Bella**	**77.56**	**26**	LR	LR	22 41 23.2	
	comp=Z,90nm,19.0s,baz=354,slow=31						
TXAR	**Lajitas Array**	**80.27**	**56**	P	P	22 13 49.9	+4.4
	comp=Z,1.3nm,1.0s,baz=243,slow=5.5,SNR=8.6						
TXAR				LR	LR	22 41 50.2	
	comp=Z,36nm,18.6s,baz=214,slow=30						
	comp=Z,1.3nm,1.0s						
NEW	**Newport**	**80.37**	**34**	LR	LR	22 43 27.5	
	comp=Z,76nm,18.8s,baz=286,slow=31						
ANMO	**Albuquerque**	**80.45**	**50**	LR	LR	22 40 06.0	
	comp=Z,69nm,20.5s,baz=356,slow=29						
PDAR	**Pinedale Array**	**81.92**	**42**	P	**P**	**22 13 57.0**	**+2.8**
	comp=Z,1.4nm,1.0s,baz=219,slow=3.8,SNR=6.3						
PDAR				LR	LR	22 44 36.8	
	comp=Z,98nm,20.7s,baz=286,slow=31						
	comp=Z,1.4nm,1.0s						
ILAR	**Eielson Array**	**82.17**	**11**	LR	LR	22 42 17.2	
	comp=Z,53nm,21.6s,baz=211,slow=30						
INK	**Inuvik**	**87.98**	**14**	LR	LR	22 45 51.2	
	comp=Z,71nm,20.3s,baz=180,slow=30						
YKA	**Yellowknife Ar**	**89.78**	**23**	P	**P**	**22 14 32.7**	**+0.4**
	comp=Z,0.7nm,1.1s,baz=231,slow=4.3,SNR=5.5						
YKA				LR	LR	22 47 47.1	
	comp=Z,73nm,18.8s,baz=274,slow=31						
	comp=Z,0.7nm,1.1s						
SNAA	**Sanae**	**93.12**	**177**	LR	LR	22 55 12.8	
	comp=Z,44nm,18.1s,baz=245,slow=34						
ULM	**Lac du Bonnet**	**93.59**	**39**	LR	LR	22 51 44.7	
	comp=Z,107nm,19.4s,baz=256,slow=32						
TKL	**Tuckaleechee C**	**98.17**	**55**	LR	LR	22 54 13.7	
	comp=Z,46nm,18.9s,baz=8.5,slow=32						
ARCES	**ARCESS Array B**	**124.41**	**352**	PKP	**PKiKP**	**22 20 35.1**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=352,slow=7.4,SNR=3.8						
KHC	**Kasperske Hory**	**145.68**	**352**	*eP*	**PKiKP**	**22 21 18.7**	**+1.9**
KHC				*ex*	x	22 21 27.8	
CKRC	**Cesky Krumlov**	**145.89**	**351**	*eP*	**PKiKP**	**22 21 19.8**	**+2.6**
GERES	**GERESS Array B**	**145.95**	**352**	PKPbc	**PKPab**	**22 21 13.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=46,slow=2.8,SNR=3.2						
BRTR	**Keskin Array B**	**146.14**	**321**	PKPbc	**PKPab**	**22 21 15.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=119,slow=2.8,SNR=5.0						

*IDC **20** 22:11:00.4±0.7, 7.53S×128.12E, h98km±6km, mb4.3/24, mbtmp4.6/28, MS3.6/2, Error ellipse: s-maj=16.0km s-min=8.9km az=72.0*
*NEIC **20** 22:11:05.9±1.5, 7.65S±0.07×128.07E±0.02, h147km±7km, mb4.7/76, Error ellipse: s-maj=10.1km s-min=1.0km az=167.0*
*DJA **20** 22:11:06.3±0.2, 8°S±2°×12°8E±°, h134km±5km, M5.0/22, mB5.5/13, mb4.9/22, MLv5.3/17, Mw(mB)4.9/13*
ISC 20 22:11:05.0±0.3, 7.68S±0.04×128.09E±0.04, h142km, n239, σ1§60/256, mb4.6/66, 5C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.20**	**96**		**Pn**	**22 11 56.1**	**+1.6**
SAUI				Sn	**Sn**	**22 12 33.2**	**+0.3**
SAUI	**Saumlaki**	**3.20**	**96**	P	**Pn**	**22 11 56.5**	**+1.9**
SAUI	**Saumlaki**	**3.20**	**96**	P	**Pn**	**22 11 56.2**	**+1.6**
BNDI	**Bandanaira**	**3.62**	**30**	P	**Pn**	**22 12 02.0**	**+1.9**
BNDI	**Bandanaira**	**3.62**	**30**	P	**Pn**	**22 12 02.0**	**+1.9**
SOEI	**Soe**	**4.30**	**241**	Pn	**Pn**	**22 12 10.1**	**+0.9**
SOEI				Sn	**Sn**	**22 12 58.8**	**-0.3**
SOEI	**Soe**	**4.30**	**241**	P	**Pn**	**22 12 11.0**	**+1.8**
SOEI	**Soe**	**4.30**	**241**	P	**Pn**	**22 12 10.4**	**+1.2**
SOEI				S	**Sn**	**22 12 59.2**	**+0.1**
KRAI	**Karang Ratu**	**4.34**	**4**	P	**Pn**	**22 12 13.1**	**+3.4**
NLAI	**Namlea**	**4.52**	**347**	P	**Pn**	**22 12 15.9**	**+3.9**
MMRI	**Maumere**	**5.87**	**260**	Pn	**Pn**	**22 12 30.8**	**+0.8**
MMRI	**Maumere**	**5.87**	**260**	P	**Pn**	**22 12 31.4**	**+1.4**
MMRI	**Maumere**	**5.87**	**260**	P	**Pn**	**22 12 31.1**	**+1.1**
	749nm,0.6s,10μm2.8nm						
BBSI	**Bau Bau**	**5.90**	**291**	P	**Pn**	**22 12 32.7**	**+2.3**
	55nm,0.8s,0.2nm						
MTN	**Manton Dam**	**5.94**	**150**	Pn	**Pn**	**22 12 30.6**	**-0.3**
MTN	**Manton Dam**	**5.94**	**150**	P	**Pn**	**22 12 31.7**	**+0.8**
SANI	**Sanana**	**5.97**	**339**	P	**Pn**	**22 12 34.2**	**+2.9**
SANI	**Sanana**	**5.97**	**339**	P	**Pn**	**22 12 34.8**	**+3.5**
	47nm,0.7s,0.2nm						
FAKI	**Fak Fak**	**6.29**	**41**	Pn	**Pn**	**22 12 35.0**	**-0.5**
FAKI	**Fak Fak**	**6.29**	**41**	P	**Pn**	**22 12 36.0**	**+0.4**
EDFI	**Ende, Flores**	**6.42**	**260**	P	**Pn**	**22 12 38.5**	**+1.0**
	194nm,0.9s,6μm0.9nm						
KDU	**Kakadu**	**6.59**	**139**	P	**Pn**	**22 12 39.2**	**-0.3**
LBMI	**Labuha**	**7.02**	**355**	P	**Pn**	**22 12 49.5**	**+4.1**
	66nm,0.6s,2μm0.3nm						
SIJI	**Sorong**	**7.47**	**25**	P	**Pn**	**22 12 52.3**	**+0.9**
SWI	**Sorong**	**7.47**	**25**	P	**Pn**	**22 12 53.0**	**+1.5**
	318nm,0.8s,6μm1.4nm						
BASI	**Baing, Sumba**	**7.84**	**251**	P	**Pn**	**22 12 55.6**	**-0.7**
	698nm,0.6s,15μm2.9nm						
KNRA	**Kununurra**	**7.97**	**175**	Pn	**Pn**	**22 12 56.8**	**-1.3**
KNRA	**Kununurra**	**7.97**	**175**	P	**Pn**	**22 12 57.1**	**-1.1**
BKSI	**Bukumba**	**8.25**	**286**	P	**Pn**	**22 13 05.0**	**+3.1**
	44nm,1.1s						
LUWI	**Luwuk**	**8.46**	**321**	Pn	**Pn**	**22 13 05.8**	**+1.1**
LUWI	**Luwuk**	**8.46**	**321**	P	**Pn**	**22 13 08.2**	**+3.5**
	84nm,1.0s,2μm						
KAPI	**Kappang**	**8.70**	**287**	Pn	**Pn**	**22 13 09.0**	**+1.1**
KAPI	**Kappang**	**8.70**	**287**	P	**Pn**	**22 13 04.7**	**-3.1**
	9.4nm,0.8s,baz=73,slow=19,SNR=2.2						
TTSI	**Tana Toraja**	**9.43**	**299**	P	**Pn**	**22 13 20.5**	**+2.8**
	20nm,1.0s,825nm						
GTOI	**Gorontalo**	**9.69**	**328**	P	Pn	22 13 27.5	+6.4
	22nm,0.8s						
DBNI	**Kabupaten Domp**	**9.71**	**265**	P	**Pn**	**22 13 22.1**	**+0.6**
	80nm,0.7s,6μm						
MRSI	**Marisa**	**10.16**	**323**	P	**Pn**	**22 13 31.4**	**+4.0**
	36nm,0.7s						
PLAI	**Plampang**	**10.27**	**263**	P	**Pn**	**22 13 27.9**	**-0.9**
PLAI	**Plampang**	**10.27**	**263**	P	**Pn**	**22 13 28.3**	**-0.5**
	83nm,0.6s,2μm						
FITZ	**Fitzroy Crossi**	**10.63**	**193**	Pn	**Pn**	**22 13 30.3**	**-3.2**
TWSI	**Taliwang, Sumb**	**11.14**	**264**	P	**Pn**	**22 13 39.5**	**-0.9**
TOLI2	**Tolitoli**	**11.37**	**320**	Pn	**Pn**	**22 13 45.2**	**+1.7**
MPSI	**Mapaga**	**11.41**	**314**	P	**Pn**	**22 13 47.4**	**+3.5**
	20nm,0.8s						
BKB	**Balikpapan**	**12.85**	**299**		**P**	**22 14 08.4**	**+0.4**
BKB	**Balikpapan**	**12.85**	**299**	P	P	22 14 13.4	+5.4
GENI	**Genyem**	**13.05**	**68**	P	**Pn**	**22 14 05.3**	**+0.1**
WB0	**Warramunga Arr**	**13.48**	**154**		**Pn**	**22 14 07.9**	**-2.9**
WRA	**Warramunga Arr**	**13.61**	**154**	P	**Pn**	**22 14 09.3**	**-3.1**
	21nm,0.4s,baz=331,slow=13,SNR=137						
WRA				S	Sn	22 16 31.4	-12
	116nm,0.7s,baz=326,slow=24,SNR=14						
JAGI	**Jajag, Banyuwa**	**13.82**	**266**	Pn	**Pn**	**22 14 13.1**	**-2.0**
JAGI	**Jajag, Banyuwa**	**13.82**	**266**	P	**Pn**	**22 14 14.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**13.82**	**266**	P	**Pn**	**22 14 13.1**	**-2.0**
MTKI	**Muara Teweh, K**	**14.75**	**296**	P	**P**	**22 14 32.0**	**+2.8**
DAV	**Davao City (W)**	**14.86**	**350**		**Pn**	**22 14 29.2**	**+0.9**
DAV	**Davao City (W)**	**14.86**	**350**	LR	LR	22 20 18.9	
	comp=Z,86nm,19.6s,baz=285,slow=38						
PSA00	**Pilbara Seismi**	**15.94**	**209**	Pn	**Pn**	**22 14 39.8**	**-1.7**
PSA00				IAmb	IAmb	22 14 42.2	
	comp=Z,57nm,1.2s						
PSA00	**Pilbara Seismi**	**15.94**	**209**	P	**Pn**	**22 14 40.0**	**-1.5**
PSA00				IAmb	IAmb	22 14 42.4	
	comp=Z,175nm,1.2s						
PSA00	**Pilbara Seismi**	**15.94**	**209**	P	**Pn**	**22 14 41.3**	**-0.2**
COEN	**Coen**	**16.07**	**114**	P	**Pn**	**22 14 42.8**	**-0.4**
COEN				IAmb	IAmb	22 15 04.9	
	comp=Z,24nm,0.6s						
COEN	**Coen**	**16.07**	**114**	P	**Pn**	**22 14 43.3**	**+0.1**
AS31	**Alice Springs**	**16.85**	**161**	P	**P**	**22 14 51.6**	**-0.7**
AS31				IAmb	IAmb	22 15 22.0	
	comp=Z,14nm,0.5s						
ASAR	**Alice Springs**	**16.85**	**161**	P	**Pn**	**22 14 52.6**	**0.0**
ASAR	**Alice Springs**	**16.85**	**161**	P	**Pn**	**22 14 52.7**	**+0.1**
	comp=Z,15nm,0.6s,baz=338,slow=9.7,SNR=75						
ASAR				S	S	22 17 48.5	-12
	comp=Z,19nm,0.7s,baz=325,slow=18,SNR=8.1						
AS01	**Alice Springs**	**16.86**	**161**	P	**Pn**	**22 14 52.8**	**0.0**
QIS	**Mount Isa**	**16.97**	**140**	P	**Pn**	**22 14 55.9**	**+1.8**
WRKA	**Warakurna**	**17.26**	**179**	P	**Pn**	**22 14 57.6**	**0.0**
UGM	**Wanagama**	**17.41**	**268**	P	**P**	**22 14 57.8**	**-0.7**
UGM	**Wanagama**	**17.41**	**268**	P	**P**	**22 14 57.9**	**-0.6**
UGM	**Wanagama**	**17.41**	**268**	P	**P**	**22 14 58.2**	**-0.3**
	comp=Z,191nm,1.7s						
KKM	**Kota Kinabalu**	**18.06**	**319**	P	**P**	**22 15 05.6**	**-0.2**
KKM				IAmb	IAmb	22 15 17.4	
	comp=Z,50nm,1.0s						
KKM	**Kota Kinabalu**	**18.06**	**319**	P	**Pn**	**22 15 08.5**	**+1.2**
KKM	**Kota Kinabalu**	**18.06**	**319**	P	**Pn**	**22 15 08.4**	**+1.2**
	comp=Z,51nm,1.2s						
SBUM	**Sibu**	**18.76**	**302**	P	**P**	**22 15 14.1**	**+0.8**
SBUM				IAmb	IAmb	22 15 17.3	
	comp=Z,20nm,0.7s						
PMG	**Port Moresby**	**18.94**	**97**		**P**	**22 15 15.3**	**0.0**
PMG				IAmb	IAmb	22 15 21.9	
	comp=Z,53nm,0.8s						
PMG	**Port Moresby**	**18.94**	**97**	P	**Pn**	**22 15 16.6**	**-0.9**
PMG	**Port Moresby**	**18.94**	**97**	P	**P**	**22 15 16.3**	**+1.1**
PMG	**Port Moresby**	**18.94**	**97**	P	**P**	**22 15 15.1**	**-0.2**
	comp=Z,13nm,0.5s,baz=205,slow=16,SNR=3.9						
PMG				S	**S**	**22 18 39.1**	**-4.0**
	comp=Z,13nm,1.0s,baz=16,slow=16,SNR=2.0						
KSM	**Kuching**	**19.93**	**296**	P	**P**	**22 15 25.7**	**-0.3**
GIRL	**Giralia**	**19.98**	**220**	P	**Pn**	**22 15 28.6**	**-0.9**
MANU	**Manus Island**	**20.00**	**75**	P	**P**	**22 15 27.1**	**+0.3**
MANU				IAmb	IAmb	22 15 31.0	
	comp=Z,26nm,0.7s						
BBJI	**Bungbulang**	**20.26**	**269**	P	**P**	**22 15 28.8**	**-0.8**
LEM	**Lembang**	**20.32**	**271**	P	**P**	**22 15 30.5**	**+0.1**
	comp=Z,26nm,0.6s,baz=0.0,slow=20,SNR=3.1						
	comp=Z,26nm,0.6s						
MEEK	**Meekatharra**	**20.89**	**204**	P	**P**	**22 15 37.8**	**+1.5**
OOD	**Oodnadatta**	**21.26**	**161**	P	**P**	**22 15 41.6**	**+1.5**
CTA	**Charters Tower**	**21.49**	**127**	P	**P**	**22 15 43.0**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=296,slow=13,SNR=7.7						
	comp=Z,3.3nm,0.5s						
TV1H	**Townsville Har**	**21.50**	**124**	P	**P**	**22 15 44.7**	**+1.9**
TGY	**Tagaytay City**	**22.77**	**342**	P	**P**	**22 15 54.7**	**-0.9**
	comp=Z,397nm,0.7s,baz=228,slow=3.4,SNR=11						
FORT	**Forrest**	**22.98**	**180**	P	**P**	**22 15 57.4**	**+0.1**
FORT	**Forrest**	**22.98**	**180**	P	**P**	**22 15 59.0**	**+1.7**
MULG	**Mulgathing**	**23.17**	**167**	P	**P**	**22 16 00.9**	**+1.8**
INKA	**Innaminka**	**23.27**	**151**	P	**P**	**22 16 02.4**	**+2.3**
MORW	**Morawa**	**24.11**	**207**	P	**P**	**22 16 08.3**	**+0.6**
MORW				IAmb	IAmb	22 16 10.6	
	comp=Z,18nm,0.7s						
MORW	**Morawa**	**24.11**	**207**	P	**P**	**22 16 09.2**	**+1.5**
QLP	**Quilpie**	**24.27**	**143**	P	**P**	**22 16 10.9**	**+1.8**
KMBL	**Kambalda**	**24.27**	**193**	P	**P**	**22 16 10.4**	**+1.3**
LCRK	**Leigh Creek**	**24.56**	**159**	P	**P**	**22 16 13.6**	**+1.9**
BLDU	**Ballidu**	**25.18**	**204**	P	**P**	**22 16 18.2**	**+0.8**
KLBR	**Kellerberrin**	**25.67**	**201**	P	**P**	**22 16 23.0**	**+1.2**
MYKOM	**Kota Tinggi**	**25.94**	**290**	P	**P**	**22 16 23.8**	**-0.7**
BBOO	**Buckleboo**	**26.08**	**165**	P	**P**	**22 16 26.2**	**+0.7**
BBOO				IAmb	IAmb	22 16 56.1	
	comp=Z,28nm,1.3s						
BBOO	**Buckleboo**	**26.08**	**165**	P	**P**	**22 16 27.1**	**+1.6**
MUN	**Mundaring**	**26.59**	**203**	P	**P**	**22 16 31.0**	**+0.9**
NWAO	**Narrogin (SRO)**	**27.07**	**200**	P	**P**	**22 16 35.5**	**+1.1**
	comp=Z,9.5nm,0.5s,baz=35,slow=7.0,SNR=17						
	comp=Z,9.5nm,0.5s						
STKA	**Stephens Creek**	**27.17**	**154**	P	**P**	**22 16 36.1**	**+0.9**
STKA	**Stephens Creek**	**27.17**	**154**	P	**P**	**22 16 36.8**	**+1.6**
STKA	**Stephens Creek**	**27.17**	**154**	P	**P**	**22 16 36.2**	**+0.9**
	comp=Z,3.6nm,0.4s,baz=333,slow=8.9,SNR=10.0						
STKA				PcP	**PcP**	**22 19 52.9**	**+0.7**
	comp=Z,4.3nm,0.4s,baz=31,slow=2.3,SNR=2.9						
	comp=Z,3.6nm,0.4s						
HTT	**Hallett**	**27.52**	**160**	P	**P**	**22 16 40.4**	**+2.0**
RKGY	**Rocky Gully**	**28.69**	**199**	P	**P**	**22 16 51.2**	**+2.5**
CMSA	**Cobar Meteorol**	**28.86**	**148**	P	**P**	**22 16 52.4**	**+2.1**
KULM	**Kulim**	**30.25**	**294**	P	**P**	**22 17 02.4**	**-0.5**
RPSI	**Rantau Prapat**	**30.87**	**288**	P	**P**	**22 17 07.8**	**-0.4**
PSI	**Prapat**	**30.90**	**289**	P	**P**	**22 17 08.5**	**-0.2**
ARPS	**Mount Arapiles**	**31.55**	**159**	P	**P**	**22 17 16.5**	**+2.6**
TPUB	**Ta-pu**	**31.64**	**347**	P	**P**	**22 17 13.3**	**-1.6**
GSI	**Gunungsitoli**	**31.72**	**285**	P	**P**	**22 17 14.2**	**-1.5**
GSI	**Gunungsitoli**	**31.72**	**285**	P	**P**	**22 17 15.0**	**-0.7**
UBPT	**Khong Chiam**	**31.98**	**316**	P	**P**	**22 17 18.1**	**+0.2**
UBPT				IAmb	IAmb	22 17 19.1	
	comp=Z,5.4nm,0.6s						
UBPT	**Khong Chiam**	**31.98**	**316**	P	**P**	**22 17 18.6**	**+0.7**
YOJ	**Yonaguni jima**	**32.33**	**351**	P	**P**	**22 17 22.6**	**+1.8**
YNG	**Young**	**32.43**	**148**	P	**P**	**22 17 24.3**	**+2.6**
SRIT	**Nakonsritamara**	**32.67**	**299**	P	**P**	**22 17 22.6**	**-1.4**
CAN	**Canberra**	**33.53**	**148**	P	**P**	**22 17 31.8**	**+0.4**
CAN				IAmb	IAmb	22 18 00.4	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**33.53**	**148**	P	**P**	**22 17 34.5**	**+3.2**
LHMI	**Lhok Sumawe**	**33.61**	**292**	P	**P**	**22 17 29.9**	**-2.3**
LHMI	**Lhok Sumawe**	**33.61**	**292**	P	**P**	**22 17 32.3**	**+0.1**
TOO	**Toolangi**	**33.69**	**155**	P	**P**	**22 17 32.8**	**+0.2**
TOO				IAmb	IAmb	22 17 42.5	
	comp=Z,28nm,1.4s

WHZ IAmb IAmb 22 20 30.5
comp=Z,25nm,1.4s
LSA Lhasa 51.40 318 P **P** **22 19 56.3 +0.1**
LSA IAmb IAmb 22 19 59.4
comp=Z,7.8nm,0.6s
USA0B Ussuriysk Arra 51.76 4 P **P** **22 19 58.2 +0.3**
USA0B IAmb IAmb 22 20 20.5
comp=Z,12nm,1.2s
USRK Ussuriysk Ar. 51.76 4 P **P** **22 19 58.0 +0.1**
USRK Ussuriysk Ar. 51.76 4 P **P** **22 19 58.2 +0.3**
comp=Z,1.9nm,0.4s,baz=190,slow=7.3,SNR=9.6
comp=Z,1.9nm,0.4s
XLT XiLinHaoTe 52.48 349 *e*P **P** **22 20 03.8 +0.4**
XLT pP pwP 22 20 41.0 +0.4
XLT sP sP 22 21 00.3 +10
XLT PP **PP** **22 22 09.9 +6.1**
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,82nm,4.6s
URZ Urewera 53.59 132 P **P** **22 20 11.6 0.0**
comp=Z,1.0nm,0.3s,baz=264,slow=18,SNR=1.5
comp=Z,1.0nm,0.3s
GTA Gaotai 53.68 333 P **P** **22 20 12.4 +0.1**
GTA pP pwP 22 20 51.3 +1.2
GTA pmax pmax
comp=Z,15nm,0.6s
ULN Ulaanbaatar 58.35 344 P **P** **22 20 46.2 +0.8**
ULN IAmb IAmb 22 20 47.9
comp=Z,7.8nm,0.7s
SONM Songino Array 58.51 343 P **P** **22 20 47.0 +0.5**
SONM Songino Array 58.51 343 P **P** **22 20 46.5 0.0**
comp=Z,3.7nm,0.5s,baz=170,slow=7.1,SNR=29
SONM PcP **PcP** **22 21 35.5 +0.1**
comp=Z,0.8nm,0.5s,baz=151,slow=4.6,SNR=2.1
comp=Z,3.7nm,0.5s
CASY Casey 59.75 188 P **P** **22 20 55.1 +0.5**
CASY IAmb IAmb 22 21 16.7
comp=Z,12nm,1.2s
WMQ Urumqi 62.95 328 *e*P **P** **22 21 19.1 +2.6**
PEA0B Petropavlovsk- 65.57 19 P **P** **22 21 33.3 0.0**
PETK Petropavlovsk- 65.57 19 P **P** **22 21 33.1 -0.3**
PETK Petropavlovsk- 65.57 19 P **P** **22 21 32.9 -0.4**
comp=Z,3.4nm,0.6s,baz=185,slow=3.2,SNR=9.6
PETK pP **PcP** **22 21 56.9 -6.9**
comp=Z,3.8nm,0.9s,baz=130,slow=3.2,SNR=1.7
PETK PKPPKP **P'P'df** **22 50 09.0 -1.5**
comp=Z,4.9nm,1.0s,baz=108,slow=4.8,SNR=3.5
comp=Z,3.4nm,0.6s
NIL Nilore 66.24 312 P **P** **22 21 37.2 -0.8**
KSH Kashi 67.25 319 P **P** **22 21 45.0 +0.5**
KSH pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 67.77 328 P **P** **22 21 47.1 -0.4**
MKAR Makanchi Array 67.77 328 P **P** **22 21 47.0 -0.5**
MKAR Makanchi Array 67.77 328 P **P** **22 21 46.9 -0.6**
comp=Z,4.3nm,0.5s,baz=121,slow=7.5,SNR=106
MKAR pP **PcP** **22 22 11.5 -1.7**
comp=Z,3.5nm,0.5s,baz=121,slow=7.7,SNR=7.5
comp=Z,4.3nm,0.5s
NRN Naryn 68.26 320 P **P** **22 21 50.6 -0.5**
TKM2 Tokmak 2 69.32 321 P **P** **22 21 57.9 +0.5**
SNR=7.0
YAK Yakutsk 69.51 1 P **P** **22 21 56.9 -1.0**
UCH Uchtor 69.62 320 P **P** **22 22 00.4 +0.8**
SNR=5.7
KBL Kabul 69.76 311 **P** **22 21 59.2 -1.1**
KBL IAmb IAmb 22 22 01.1
comp=Z,8.0nm,0.7s
AAK Ala-Archa 69.85 321 P **P** **22 22 01.5 +0.9**
SNR=6.0
AAK Ala-Archa 69.85 321 **P** **22 22 00.4 -0.3**
AML Almayashu 70.09 320 P **P** **22 22 03.1 +0.7**
SNR=11
ARSB Arslanbob 70.14 319 P **P** **22 22 02.2 -0.2**
USP Ospenovka 70.18 321 P **P** **22 22 02.9 +0.4**
SNR=13
EKS2 Erkin-Say 70.31 320 P **P** **22 22 04.3 +0.9**
SNR=8.5
BTK Batken 70.96 317 P **P** **22 22 06.8 -0.6**
ZAA0 Zalesovo Array 71.37 335 P **P** **22 22 08.2 -1.1**
ZAA0 IAmb IAmb 22 22 09.5
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 71.37 335 P **P** **22 22 08.3 -1.0**
comp=Z,12nm,0.7s,baz=122,slow=4.9,SNR=73
ZALV pP **PcP** **22 22 33.2 +5.0**
comp=Z,1.5nm,0.6s,baz=110,slow=5.7,SNR=2.0
comp=Z,12nm,0.7s
SIMJ Simiganj 71.57 315 **P** **22 22 10.6 -0.5**
SIMJ IAmb IAmb 22 22 11.5
comp=Z,14nm,1.1s
VNDA Vanda 72.01 173 P **P** **22 22 13.9 +1.0**
VNDA Vanda 72.01 173 P **P** **22 22 14.2 +1.3**
comp=Z,1.6nm,0.3s,baz=319,slow=6.1,SNR=19
comp=Z,1.6nm,0.3s
KURBB Kurchatov Arra 72.11 329 P **P** **22 22 13.6 -0.3**
comp=Z,9.5nm,0.8s,baz=132,slow=5.0,SNR=108
comp=Z,9.5nm,0.8s
KURK Kurchatov 72.12 329 P **P** **22 22 13.8 -0.1**
KURK IAmb IAmb 22 22 15.3
comp=Z,16nm,0.8s
KK31 Karatay Array 72.61 320 **P** **22 22 16.6 -0.5**
KKAR Karatay Array 72.61 320 P **P** **22 22 16.3 -0.7**
MAW Mawson 73.63 201 P **P** **22 22 24.1 +1.6**
comp=Z,3.6nm,0.4s,baz=67,slow=9.7,SNR=1.9
comp=Z,3.6nm,0.4s
HRA Herat 74.88 309 **P** **22 22 30.0 -0.7**
HRA IAmb IAmb 22 22 31.9
comp=Z,8.3nm,0.8s
BVAR Borovoye Array 77.64 328 P **P** **22 22 45.5 -0.1**
comp=Z,5.7nm,0.5s,baz=126,slow=9.0,SNR=43
comp=Z,5.7nm,0.5s
BRVK Borovoye 77.71 328 P **P** **22 22 45.6 -0.4**
BRVK IAmb IAmb 22 22 46.8
comp=Z,14nm,1.1s
VOI Vohitsoka 79.13 249 P **P** **22 22 54.5 -0.2**
VOI IAmb IAmb 22 23 19.8
comp=Z,27nm,1.5s
TIXI Tiksi 79.16 0 P **P** **22 22 52.5 -1.1**
TIXI IAmb IAmb 22 22 54.0
comp=Z,12nm,0.6s
GEYT Alibeck 79.21 311 P **P** **22 22 53.9 -0.7**
GEYT Alibeck 79.21 311 P **P** **22 22 54.0 -0.7**
comp=Z,2.6nm,0.6s,baz=160,slow=4.7,SNR=7.5
comp=Z,2.6nm,0.6s
GYA0B ALIBECK ARRAY 79.21 311 P **P** **22 22 53.8 -0.8**
NRIK Noril'sk 81.77 347 P **P** **22 23 06.8 -0.7**
NRIK IAmb IAmb 22 23 09.4
comp=Z,11nm,0.8s
NRIK Noril'sk 81.77 347 P **P** **22 23 07.0 -0.4**
comp=Z,10nm,0.8s,baz=133,slow=5.7,SNR=19
comp=Z,10nm,0.8s
ABKAR Akbulak array 81.87 322 P **P** **22 23 07.1 -1.4**
ABKAR Akbulak array 81.87 322 P **P** **22 23 07.3 -1.2**
QSPA South Pole Qui 82.30 180 P **P** **22 23 11.2 +0.6**
QSPA South Pole Qui 82.30 180 P **P** **22 23 11.3 +0.7**
comp=Z,4.3nm,0.7s,baz=299,slow=1.1,SNR=28
comp=Z,4.3nm,0.7s
ARU Arti 85.28 329 P **P** **22 23 24.0 -1.7**
ARU IAmb IAmb 22 23 26.1
comp=Z,8.3nm,0.8s
ELIB Princess Elisa 87.28 198 *d*P **P** **22 23 37.9 +2.4**
comp=Z,11nm,0.8s
K15K Wolf Creek Mou 87.81 26 P **P** **22 23 37.4 -0.5**
M16K Timber Creek 88.54 28 P **P** **22 23 40.5 -0.8**
M16K IAmb IAmb 22 23 41.5
comp=Z,14nm,1.4s
H17K Granite Mounta 89.41 24 P **P** **22 23 45.0 -0.4**
H17K IAmb IAmb 22 24 04.0
comp=Z,8.0nm,1.5s
KDAK Kodiak Island 90.79 32 LR LR 23 05 05.3
comp=Z,86nm,18.6s,baz=138,slow=36
C19K Lookout Ridge 90.91 20 P **P** **22 23 52.0 -0.4**
C19K IAmb IAmb 22 24 32.5
comp=Z,7.8nm,1.4s
AKH Akhalkalaki 90.99 311 P **P** **22 23 52.7 -0.8**
GURO Guroymak-BITLI 91.66 309 P **P** **22 23 56.0 -0.7**
GURO IAmb IAmb 22 23 57.7
comp=Z,6.9nm,1.1s
KBZ Khabaz 91.79 314 P **P** **22 23 55.3 -1.6**
comp=Z,1.3nm,0.8s,baz=146,slow=7.3,SNR=2.9
comp=Z,1.3nm,0.8s
SNAA Sanae 94.56 194 P **P** **22 24 10.8 +1.6**
comp=Z,4.5nm,0.7s,baz=128,slow=7.0,SNR=8.4
comp=Z,4.5nm,0.7s
ILAR Eielson Array 94.77 25 P **P** **22 24 09.5 -0.6**
comp=Z,0.4nm,0.8s,baz=239,slow=5.5,SNR=4.8

ILAR PKKP **PKKPdf** **22 41 07.5 -1.3**
comp=Z,0.5nm,0.8s,baz=63,slow=2.1,SNR=5.9
comp=Z,0.4nm,0.8s
BOSA Boshof 97.49 240 P Pdif 22 24 24.1 +0.6
comp=Z,4.0nm,1.0s,baz=65,slow=3.9,SNR=3.1
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 101.55 339 Pdiff **Pdif** **22 24 37.5 -3.0**
comp=Z,2.5nm,0.7s,baz=65,slow=6.8,SNR=6.2
ARCES PKiKP **PKiKP** **22 29 03.1 -0.4**
comp=Z,5.8nm,1.2s,baz=124,slow=1.6,SNR=8.5
SPITS Spitsbergen Ar 101.86 349 Pdiff **Pdif** **22 24 40.1 -1.7**
comp=Z,1.8nm,0.5s,baz=101,slow=8.8,SNR=5.4
FINES FINESS Array B 102.45 331 Pdiff **Pdif** **22 24 41.4 -3.2**
comp=Z,1.5nm,0.9s,baz=350,slow=9.7,SNR=4.8
FINES PKiKP **PKiKP** **22 29 04.4 -0.9**
comp=Z,1.5nm,0.8s,baz=119,slow=2.4,SNR=4.7
HFS Hagfors 108.65 331 Pdiff **Pdif** **22 25 10.4 -1.9**
comp=Z,1.1nm,0.6s,baz=111,slow=8.1,SNR=1.9
YKA Yellowknife Ar 109.19 26 Pdiff **Pdif** **22 25 11.5 -3.1**
comp=Z,0.1nm,0.4s,baz=285,slow=14,SNR=2.0
YKA PKiKP **PKiKP** **22 29 17.6 -0.2**
comp=Z,0.6nm,0.6s,baz=303,slow=1.4,SNR=11
YKA PKKPbc **PKKPbc** **22 40 24.7 -2.5**
comp=Z,0.2nm,0.5s,baz=140,slow=9.8,SNR=7.3
NOA NORSAR Array B 109.51 333 Pdiff **Pdif** **22 25 15.2 -1.0**
comp=Z,0.2nm,0.7s,baz=89,slow=5.9,SNR=1.2
NOA PKiKP **PKiKP** **22 29 18.4 -0.1**
comp=Z,0.5nm,0.8s,baz=43,slow=4.4,SNR=3.3
GERES GERESS Array B 111.72 320 PKiKP **PKiKP** **22 29 22.4 -0.7**
comp=Z,0.8nm,0.6s,baz=51,slow=2.0,SNR=5.8
PDAR Pinedale Array 118.71 45 PKP **PKiKP** **22 29 37.0 0.0**
comp=Z,0.6nm,0.5s,baz=324,slow=1.2,SNR=10
PDAR PKKPbc **PKKPbc** **22 39 53.5 -0.9**
comp=Z,0.6nm,0.5s,baz=122,slow=7.0,SNR=7.7
EKA Eskdalemuir Ar 118.84 331 PKP **PKPdf** **22 29 36.1 -0.4**
comp=Z,1.0nm,0.5s,baz=32,slow=3.6,SNR=7.6
ULM Lac du Bonnet 124.04 33 PKP **PKPdf** **22 29 45.2 -1.4**
comp=Z,1.7nm,0.5s,baz=328,slow=4.4,SNR=4.9
ESDC Sonseca Array 126.64 314 PKP **PKPdf** **22 29 52.1 +0.1**
comp=Z,0.1nm,0.4s,baz=1.7,slow=4.2,SNR=2.9
TXAR Lajitas Array 126.90 59 PKP **PKPdf** **22 29 52.9 0.0**
comp=Z,1.0nm,1.0s,baz=204,slow=2.2,SNR=4.8
TORD Torodi Ar. Bea 127.08 281 PKP **PKPdf** **22 29 53.4 -0.1**
comp=Z,1.7nm,0.7s,baz=68,slow=3.6,SNR=12
PLCA Paso Flores 128.86 162 PKP **PKiKP** **22 29 57.8 +0.8**
comp=Z,3.5nm,0.9s,baz=217,slow=1.8,SNR=7.8
SCHQ Schefferville 131.48 11 PKP **PKiKP** **22 30 01.8 +0.1**
comp=Z,2.8nm,0.9s,baz=353,slow=2.6,SNR=5.0
SCHQ SKPbc **SKPbc** **22 33 11.5 -1.5**
comp=Z,4.0nm,0.7s,baz=339,slow=3.4,SNR=6.8
DBIC Dimbokro 133.32 272 PKP **PKiKP** **22 30 06.7 +0.2**
comp=Z,3.4nm,0.8s,baz=173,slow=5.4,SNR=3.3
CFA Coronel Fontan 137.93 159 PKP **PKiKP** **22 30 15.4 -0.1**
comp=Z,4.8nm,0.5s,baz=221,slow=4.9,SNR=11
CPUP Villa Florida 145.79 171 PKPbc **PKPab** **22 30 29.1 +0.3**
comp=Z,6.9nm,0.7s,baz=182,slow=3.4,SNR=10

*NEIC **20** 22:16:54.3±1.1, 17.67°S±0.09°×178.23W±0.10, h545km±11km, mb4.3/22, Error ellipse: s-maj=17.3km s-min=8.8km az=224.0*
*IDC **20** 22:16:58.7±6.1, 17.50°S×178.50W, h599km±76km, mb3.3/7, mbtmp4.3/8, Error ellipse: s-maj=35.4km s-min=28.2km az=44.0*
ISC 20 22:16:54.3±0.7, 17.6°S±0.1×178.3°W±0.1, h547km, n37, σ0.88/37, mb4.2/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.27**	**61**	P	**P**	**22 18 44.0**	**-1.0**
LIFNC	**LIFOU**	**14.03**	**255**	P	**P**	**22 19 52.8**	**-1.0**
PINNC	**Pines Island,**	**14.29**	**247**	P	**P**	**22 19 56.2**	**-0.4**
OUENC	**Ouen Island, N**	**14.77**	**249**	P	**P**	**22 20 01.7**	**+0.2**
DZM	**Mont Dzumac**	**15.03**	**250**	P	**P**	**22 20 03.7**	**-0.6**
DZM	**Mont Dzumac**	**15.03**	**250**	P	**P**	**22 20 03.7**	**-0.6**
	4.8nm,0.5s,baz=75,slow=9.9,SNR=2.3						
ONTNC	**Ouen Toro**	**15.08**	**249**	P	**P**	**22 20 03.6**	**-1.1**
KOUNC	**Koumac, New Ca**	**16.72**	**257**	P	**P**	**22 20 20.4**	**-0.4**
URZ	**Urewera**	**20.98**	**190**	P	**P**	**22 21 02.2**	**+2.9**
	7.6nm,0.8s,baz=38,slow=20,SNR=3.8						
	7.6nm,0.8s						
HNR	**Honiara**	**22.64**	**288**	P	**P**	**22 21 15.9**	**+1.5**
QRZ	**Quartz Range**	**24.47**	**197**	P	**P**	**22 21 29.8**	**-0.6**
LHI	**Lord Howe Isla**	**24.76**	**232**	P	**P**	**22 21 33.0**	**0.0**
MRNZ	**Matariki Terra**	**24.94**	**196**	P	**P**	**22 21 33.5**	**-1.1**
ARMA	**Armidale**	**30.19**	**239**	P	**P**	**22 22 20.6**	**-0.2**
ARMA				IAmb	IAmb	22 22 43.8	
	comp=Z,18nm,1.4s						
CAN	**Canberra**	**33.98**	**232**	P	**P**	**22 22 52.7**	**-0.1**
CAN				IAmb	IAmb	22 22 54.5	
	comp=Z,13nm,1.2s						
TOO	**Toolangi**	**37.45**	**231**	P	**P**	**22 23 21.5**	**-0.1**
TOO				IAmb	IAmb	22 23 37.4	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**22 23 33.8**	**+0.6**
	comp=Z,9.2nm,0.9s,baz=82,slow=7.1,SNR=1.3						
	comp=Z,9.2nm,0.9s						
WRA	**Warramunga Arr**	**44.79**	**259**	P	**P**	**22 24 18.8**	**-1.2**
WRA	**Warramunga Arr**	**44.79**	**259**	P	**P**	**22 24 19.2**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=95,slow=7.2,SNR=3.3						
	comp=Z,1.8nm,0.5s						
AS31	**Alice Springs**	**44.98**	**254**	P	**P**	**22 24 21.1**	**-0.3**
AS31				IAmb	IAmb	22 24 22.2	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**22 24 21.3**	**-0.1**
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**22 24 21.0**	**-0.4**
	comp=Z,13nm,0.5s,baz=88,slow=7.9,SNR=22						
	comp=Z,13nm,0.5s						
QSPA	**South Pole Qui**	**72.46**	**180**	P	**P**	**22 27 25.2**	**-0.2**
QSPA				IAmb	IAmb	22 27 26.4	
	comp=Z,5.7nm,1.1s						
QSPA	**South Pole Qui**	**72.46**	**180**	P	**P**	**22 27 25.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=62,slow=2.2,SNR=5.0						
	comp=Z,2.4nm,0.8s						
K05A	**Summer Lake**	**79.89**	**39**	P	**P**	**22 28 07.5**	**+0.8**
J05D	**Fort Rock, OR**	**80.01**	**38**	P	**P**	**22 28 08.1**	**+0.8**
K15K	**Wolf Creek Mou**	**80.72**	**8**	P	**P**	**22 28 11.3**	**+1.0**
K15K				IAmb	IAmb	22 28 14.1	
	comp=Z,26nm,1.5s						
L18K	**Granite Mounta**	**81.37**	**10**	P	**P**	**22 28 14.6**	**+0.9**
L18K				IAmb	IAmb	22 28 18.9	
	comp=Z,7.7nm,1.4s						
J16K	**Anvik River**	**81.79**	**8**	P	**P**	**22 28 16.6**	**+0.8**
J16K				IAmb	IAmb	22 28 40.9	
	comp=Z,6.8nm,1.2s						
SUA	**Susitna One**	**81.80**	**13**	P	**P**	**22 28 15.6**	**-0.5**
SUA				IAmb	IAmb	22 28 32.1	
	comp=Z,9.1nm,1.2s						
SCM	**Sheep Creek Mo**	**82.90**	**14**	P	**P**	**22 28 21.4**	**-0.1**
SCM				IAmb	IAmb	22 28 24.3	
	comp=Z,20nm,1.4s						
M24K	**Tolsona, Glenn**	**83.41**	**15**	P	**P**	**22 28 25.0**	**+1.0**
M24K				IAmb	IAmb	22 28 50.7	
	comp=Z,14nm,1.1s						
TRF	**Thorofare Moun**	**83.68**	**12**	P	**P**	**22 28 24.8**	**-0.8**
TRF				IAmb	IAmb	22 28 26.6	
	comp=Z,7.4nm,1.2s						
CCB	**Clear Creek Bu**	**85.25**	**13**	P	**P**	**22 28 32.0**	**-1.0**
IMAR	**Indian Mountai**	**85.35**	**10**	P	**P**	**22 28 33.0**	**-0.4**
ILAR	**Eielson Array**	**85.56**	**13**	P	**P**	**22 28 33.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=222,slow=5.6,SNR=7.1						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**87.05**	**43**	P	**P**	**22 28 42.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=215,slow=3.0,SNR=2.5						
	comp=Z,0.2nm,0.5s						

DJA 20 22:21:35.6±0.4, 7°S±4°×107°E±°, h98km±6km, M3.9/13, mb4.5/2, mB5.4/1, MLv3.7/13, Mw(mB)4.9/1, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.09**	**320**	P	Pn	22 21 50.7	+1.4
BBJI	**Bungbulang**	**0.46**	**100**	P	Pn	22 21 52.1	+1.1
LEM	**Lembang**	**0.69**	**38**	P	Pn	22 21 53.0	0.0
SKJI	**Sukabumi**	**0.73**	**301**	P	Pn	22 21 54.0	+0.9
DBJI	**Dramaga**	**0.93**	**332**	P	Pn	22 21 55.3	+0.1
DBJI				S	Sn	22 22 10.3	+0.5
CMJI	**Cimerak**	**1.31**	**108**	P	Pn	22 22 00.2	+0.8
TNG	**Tangerang**	**1.32**	**336**	P	Pn	22 21 59.3	-0.2
SBJI	**Serang**	**1.64**	**320**	P	Pn	22 22 03.8	+0.3
KPJI	**Karang Pucung**	**1.73**	**89**	P	Pn	22 22 05.1	+0.5
KASI	**Kota Agung**	**3.25**	**304**	P	Pn	22 22 25.7	+1.0
UGM	**Wanagama**	**3.35**	**99**	P	Pn	22 22 26.7	+0.7
LWLI	**Liwa**	**3.90**	**307**	P	Pn	22 22 33.3	-0.2
EGSI	**Enggano, Bengk**	**5.28**	**292**	P	Pn	22 22 52.2	0.0
	143nm,1.2s,5µm0.7nm						
PLAI	**Plampang**	**10.58**	**99**	P	Pn	22 24 03.3	-1.0

*IDC **20** 22:40:30.1±1.4, 12.01N×86.43W, h0km, mb3.5/5, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=74.8km s-min=22.9km az=50.0*
*CATAC **20** 22:40:31.3±0.7, 11.11N×86.94W, h12km±5km, ML3.7*
ISC 20 22:40:29.9±0.9, 11.11N±0.04×86.99W±0.06, h10km, n59, σ0.93/52, mb3.3/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADRN	**Diriamba**	**1.05**	**44**	*i* P	**Pg**	**22 40 50.4**	**+0.3**
ADRN				IAML		22 41 25.6	
	comp=Z,10µm,1.0s						
COPN	**Copaltepe**	**1.14**	**20**	*i* P	**Pb**	**22 40 51.9**	**+0.2**
COPN				IAML		22 41 00.7	
	comp=Z,4µm,1.0s						
NANN	**Nandasmo**	**1.19**	**46**	*i* P	**Pg**	**22 40 53.4**	**+0.7**
NANN				*i* S	**Sn**	**22 41 09.1**	**+0.2**
NANN				IAML		22 41 44.0	
	comp=Z,35µm,1.0s						
MASN	**Masaya**	**1.20**	**43**	*i* P	**Pg**	**22 40 53.7**	**+0.7**
MASN				IAML		22 41 05.5	
	comp=Z,350nm,1.0s						
SAPS	**Ciudad Sandino**	**1.20**	**28**	*i* P	**Pb**	**22 40 52.6**	**-0.2**
SAPS				IAML		22 41 22.7	
	comp=Z,2µm,1.0s						
MAS3	**Al N del Volca**	**1.21**	**41**	*i* P	**Pb**	**22 40 52.4**	**-0.6**
MAS3				IAML		22 41 37.1	
	comp=Z,980nm,1.0s						
TISN	**Laguna Tiscapa**	**1.25**	**34**	*i* P	**Pn**	**22 40 52.5**	**-1.0**
TISN				IAML		22 40 53.1	
	comp=Z,140nm,1.0s						
APQ2	**Apoyeque**	**1.26**	**31**	*i* PA		22 40 54.2	
APQ2				IAML		22 41 25.4	
	comp=Z,2µm,1.0s						
APYN	**Apoyeque**	**1.28**	**29**	*i* PA		22 40 55.1	
APYN				IAML		22 41 15.8	
	comp=Z,1µm,1.0s						
WILN	**Americas 2**	**1.31**	**37**	*i* P	**Pn**	**22 40 54.2**	**-0.1**
WILN				IAML		22 41 56.1	
	comp=Z,1µm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.34**	**16**	*i* P	**Pn**	**22 40 54.7**	**0.0**
LEVN				IAML		22 41 24.8	
	comp=Z,2µm,1.0s						
JAPN	**Al SSO del Vol**	**1.35**	**72**	*i* P	**Pn**	**22 40 55.6**	**+0.7**
JAPN				IAML		22 41 09.5	
	comp=Z,900nm,1.0s						
MOMN	**Momotombo**	**1.37**	**19**	*i* P	**Pn**	**22 40 55.0**	**-0.1**
MOMN				IAML		22 41 02.4	
	comp=Z,71nm,1.0s						
MACN	**El Madrono**	**1.39**	**13**	*i* P	**Pn**	**22 40 55.3**	**-0.1**
MACN				IAML		22 41 21.3	
	comp=Z,810nm,1.0s						
MORN	**Al O del Volca**	**1.39**	**72**	*i* PA		22 40 56.0	
MORN				IAML		22 41 21.1	
	comp=Z,2µm,1.0s						
OMEN	**Al SSO del Vol**	**1.40**	**73**	*i* P	**Pn**	**22 40 56.3**	**+0.8**
OMEN				IAML		22 41 02.3	
	comp=Z,1µm,1.0s						
CNGA	**Al SSO del Vol**	**1.41**	**12**	*i* P	**Pn**	**22 40 55.6**	**-0.1**
CNGA				IAML		22 41 07.3	
	comp=Z,930nm,1.0s						
MOM2	**El Cardon**	**1.41**	**20**	*i* P	**Pn**	**22 40 55.6**	**-0.1**
MOM2				IAML		22 41 04.8	
	comp=Z,1µm,1.0s						
CNGN	**Cerro Negro**	**1.41**	**12**	*i* P	**Pn**	**22 40 56.3**	**+0.5**
CNGN				*i* S	**Sb**	**22 41 15.7**	**+1.1**
CNGN				IAML		22 41 29.1	
	comp=Z,2µm,1.0s						
CONN	**Concepcion**	**1.41**	**71**	*i* P	**Pn**	**22 40 55.6**	**-0.1**
CONN				IAML		22 41 13.4	
	comp=Z,7µm,1.0s						
HZTE	**Horizontes, Gu**	**1.42**	**106**	*i* P	**Pn**	**22 40 56.4**	**+0.5**
HZTE				IAML		22 41 38.5	
	comp=Z,2µm,1.0s						
ROCN	**Rota Cerro Neg**	**1.42**	**10**	*i* P	**Pn**	**22 40 56.3**	**+0.4**
ROCN				IAML		22 41 20.9	
	comp=Z,670nm,1.0s						
HUEN		**1.46**	**33**	*i* S	**Sn**	**22 41 15.6**	**0.0**
PLRN	**Geotermica Pol**	**1.48**	**8**	*i* P	**Pn**	**22 40 57.6**	**+0.9**
PLRN				IAML		22 41 52.7	
	comp=Z,1µm,1.0s						
TELN	**Telica**	**1.50**	**6**	*i* P	**Pn**	**22 40 58.0**	**+1.0**
TELN				IAML		22 41 44.2	
	comp=Z,89nm,1.0s						
HERN	**Volcan Telica**	**1.50**	**6**	*i* P	**Pn**	**22 40 57.6**	**+0.6**
HERN				IAML		22 41 42.8	
	comp=Z,940nm,1.0s						
CRIN	**San Cristobal**	**1.58**	**358**	*i* P	**Pn**	**22 40 59.7**	**+1.6**
CRIN				IAML		22 41 35.3	
	comp=Z,2µm,1.0s						
VRLE	**La Escondida,**	**1.63**	**101**	*i* P	**Pn**	**22 40 59.1**	**+0.3**
VRLE				IAML		22 41 28.6	
	comp=Z,320nm,1.0s						
SAJU	**San Juanillo,**	**1.63**	**129**	*i* P	**Pn**	**22 40 58.1**	**-0.6**
SAJU				IAML		22 41 44.1	
	comp=Z,370nm,1.0s						
ORTG	**Ortega, Santa**	**1.68**	**116**	*i* P	**Pn**	**22 40 59.5**	**+0.1**
ORTG				IAML		22 41 42.5	
	comp=Z,560nm,1.0s						
BRAN	**Las Pilas**	**1.72**	**21**	*i* P	Pn	22 40 52.9	-7.1
BRAN				IAML		22 41 06.3	
	comp=Z,2µm,1.0s						
BOAB	**BOACO BROADBAN**	**1.86**	**44**	*i* P	**Pn**	**22 41 01.6**	**-0.3**
BOAB				IAML		22 41 36.7	
	comp=Z,290nm,1.0s						
INDI	**Punta indio, G**	**1.91**	**130**	*i* P	**Pn**	**22 41 03.2**	**+0.6**
INDI				IAML		22 41 49.6	
	comp=Z,320nm,1.0s						
CSGN	**Cosiguina Volc**	**1.94**	**343**	*i* PA		22 41 03.5	
CSGN				IAML		22 41 38.8	
	comp=Z,2µm,1.0s						
ACON	**Acoyapa**	**1.97**	**64**	*i* P	**Pn**	**22 41 03.0**	**-0.4**
ACON				IAML		22 41 57.4	
	comp=Z,340nm,1.0s						
LIMN	**Finca el Limon**	**2.04**	**17**	*i* P	**Pn**	**22 41 04.3**	**-0.1**
LIMN				IAML		22 42 00.5	
	comp=Z,490nm,1.0s						
MATN	**Matagalpa**	**2.09**	**30**	*i* P	**Pn**	**22 41 06.1**	**+1.0**
MATN				IAML		22 41 15.1	
	comp=Z,360nm,1.0s						
JTS	**Las Juntas de**	**2.16**	**112**	Pn	**Pb**	**22 41 09.9**	**+0.7**
	comp=Z,14nm,0.3s,baz=315,slow=13,SNR=14						
JTS				Sn	**Sn**	**22 41 34.2**	**+1.3**
	comp=Z,8.2nm,0.3s,baz=327,slow=20,SNR=4.0						
	comp=Z,30nm,0.3s						
AMPH	**Amapala**	**2.26**	**343**	*i* P	**Pn**	**22 41 09.4**	**+2.0**
CNCH	**Conchagua**	**2.31**	**339**	*i* P	**Pn**	**22 41 09.0**	**+0.8**
CNCH				IAML		22 41 20.9	
	comp=Z,560nm,1.0s						
LAFE	**Finca La Fe, P**	**2.42**	**122**	*i* P	**Pn**	**22 41 10.2**	**+0.6**
LAFE				IAML		22 42 13.0	
	comp=Z,3.5nm,1.0s						
RCFN	**Al S de San Ju**	**2.53**	**17**	IAML		22 41 12.2	
	comp=Z,3µm,1.0s						
RCFN				*i* PA		22 41 12.3	
RCPN	**Sur Rio San Ju**	**2.56**	**20**	*i* PA		22 41 11.6	
RCPN				IAML		22 41 19.0	
	comp=Z,1.5nm,1.0s						
PACA	**Pacayal**	**2.69**	**331**	*i* P	**Pn**	**22 41

CMIG	**Matias Romero**	**9.70**	**309**	Pn	**Pn**	**22 42 48.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=141,slow=20,SNR=1.8						
	comp=Z,1.7nm,0.7s						
TXAR	**Lajitas Array**	**23.90**	**322**	P	**P**	**22 45 43.8**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=135,slow=10,SNR=14						
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**37.16**	**332**	P	**P**	**22 47 39.7**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=113,slow=9.8,SNR=3.9						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**39.01**	**320**	P	**P**	**22 47 56.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=110,slow=11,SNR=2.5						
	comp=Z,0.3nm,0.5s						
ULM	**Lac du Bonnet**	**39.71**	**351**	P	P	22 47 58.5	-3.8
	comp=Z,1.6nm,0.7s,baz=186,slow=9.2,SNR=4.6						
	comp=Z,1.6nm,0.7s						
YKA	**Yellowknife Ar**	**55.02**	**345**	P	P	22 49 56.0	-5.4
	comp=Z,0.3nm,0.9s,baz=131,slow=7.5,SNR=5.4						
	comp=Z,0.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**150.04**	**349**	PKP	**PKPdf**	**23 00 14.8**	**-2.0**
	comp=Z,1.3nm,0.4s,baz=18,slow=4.1,SNR=2.8						
CMAR				PKPbc	**pPKPdf**	**23 00 20.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=342,slow=3.6,SNR=5.7						

DJA 20 22:54:01.0±0.9, 11°S±8°×11°6E±°, h10km, M3.9/9, mb3.9/3, MLv3.9/9, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**2.61**	**13**	P	Pn	22 54 43.4	+0.2
TWSI				S	Sn	22 55 15.9	+0.9
PLAI	**Plampang**	**2.85**	**31**	P	Pn	22 54 46.3	-0.3
SRBI	**Singaraja**	**3.37**	**341**	P	Pn	22 54 54.0	+0.2
DBNI	**Kabupaten Domp**	**3.41**	**36**	P	Pn	22 54 54.3	0.0
JAGI	**Jajag, Banyuwa**	**3.52**	**323**	P	Pn	22 54 55.2	-0.7
ABJI	**Asem Bagus**	**4.04**	**329**	P	Pn	22 55 03.1	+0.2
BLJI	**Banyuglugur**	**4.43**	**323**	P	Pn	22 55 08.4	+0.1
KMMI	**Kalianget**	**4.81**	**331**	P	Pn	22 55 14.3	+0.7
PWJI	**Pagerwojo** 17nm,0.9s,0.1nm	**5.51**	**306**	P	Pn	22 55 23.4	+0.2
EDFI	**Ende, Flores** 4.6nm,0.8s,0.1nm	**5.87**	**65**	P	Pn	22 55 28.1	-0.2
BKSI	**Bulukumba**	**7.04**	**33**	P	Pn	22 55 44.7	+0.6

*IDC **20** 22:56:39.3±1.4, 40°.46N×40°.91E, h0km, mb3.6/1, mbtmp3.0/4, ML2.2/3, Error ellipse: s-maj=18.1km s-min=13.5km az=175.0*
*NORS **20** 22:56:40.9, 42°.17N×47°.32E, h7km, MPVA4.0*
*TIF **20** 22:56:40.3, 42°.12N×47°.71E, h32km±2km*
*MOS **20** 22:56:41.1, 42°.13N×47°.31E, h10km, MPVA4.2*
*DRS **20** 22:56:42.5, 42°.09N×47°.25E, h14km*
*TEH **20** 22:56:55.6, 41°.14N×47°.44E, h10km±990km, ML2.4*

ISC 20 22:56:42.5±0.8, 42°.12N±0°.02×47°.31E±0°.02, h18km±5km, n122, σ1§57/217, 4C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMKR	**Kumukh**	**0.16**	**273**	*i* PG	**Pb**	**22 56 46.6**	**-0.3**
KMKR				*e*S	**Sg**	**22 56 50.0**	**-0.1**
KMKR	**Kumukh**	**0.16**	**273**	*i* Pg	**Pb**	**22 56 46.6**	**-0.3**
KMKR				*e*Sg	**Sg**	**22 56 50.0**	**-0.1**
URKR	**Urkarakh**	**0.24**	**80**	*e*PG	**Pg**	**22 56 48.0**	**-0.2**
URKR				*e*S	**Sg**	**22 56 52.2**	**+0.1**
URKR	**Urkarakh**	**0.24**	**80**	*e*Pg	**Pg**	**22 56 48.0**	**-0.2**
URKR				*e*Sg	**Sg**	**22 56 52.2**	**+0.1**
GNBR	**Gunib**	**0.37**	**316**	*e*PG	**Pg**	**22 56 50.0**	**-0.3**
GNBR				*e*S	**Sg**	**22 56 55.9**	**+0.3**
GNBR	**Gunib**	**0.37**	**316**	*e*Pg	**Pg**	**22 56 50.0**	**-0.3**
GNBR				*e*Sg	**Sg**	**22 56 55.9**	**+0.3**
SGKR	**Sergokala**	**0.42**	**37**	*e*PG	**Pg**	**22 56 51.4**	**+0.1**
SGKR				*e*S	**Sb**	**22 56 58.6**	**+0.9**
SGKR	**Sergokala**	**0.42**	**37**	*e*Pg	**Pg**	**22 56 51.4**	**+0.1**
SGKR				*e*Sg	**Sb**	**22 56 58.6**	**+0.9**
ARKR	**Arakani**	**0.54**	**334**	*e*PG	**Pg**	**22 56 52.9**	**-0.4**
ARKR				*e*S	**Sb**	**22 57 00.8**	**-0.1**
ARKR	**Arakani**	**0.54**	**334**	*e*Pg	**Pg**	**22 56 52.9**	**-0.4**
ARKR				*e*Sg	**Sb**	**22 57 00.8**	**-0.1**
XNZR	**Khunzakh**	**0.61**	**313**	*e*Pg	**Pg**	**22 56 54.3**	**-0.5**
XNZR				*e*Sg	**Sg**	**22 57 02.9**	**-0.1**
HNZR	**Khunzah**	**0.62**	**315**	*e*PG	**Pg**	**22 56 54.3**	**-0.6**
HNZR				*e*S	**Sg**	**22 57 02.9**	**-0.3**
UNCR	**Uncukul**	**0.70**	**327**	*e*PG	**Pb**	**22 56 55.8**	**-0.5**
UNCR				*e*S	**Sg**	**22 57 06.0**	**+0.2**
UNCR	**Uncukul**	**0.70**	**327**	*e*Pg	**Pb**	**22 56 55.8**	**-0.5**
UNCR				*e*Sg	**Sg**	**22 57 06.0**	**+0.2**
ZKTA	**Zakatala**	**0.71**	**227**	PG	**Pb**	**22 56 55.6**	**-0.7**
AKT	**Akhty**	**0.71**	**154**	*e* PG	**Pb**	**22 56 55.5**	**-1.0**
AKT	**Akhty**	**0.71**	**154**	*e*Pg	**Pb**	**22 56 55.6**	**-1.0**
AKT				*e*Sg	**Sb**	**22 57 05.0**	**-1.0**
BUJR	**Buynaksk**	**0.72**	**348**	*e*PG	**Pb**	**22 56 56.2**	**-0.4**
BUJR				*e*S	**Sn**	**22 57 07.6**	**-0.9**
BUJR	**Buynaksk**	**0.72**	**348**	*e*Pg	**Pb**	**22 56 56.2**	**-0.4**
BUJR				*e*Sg	**Sn**	**22 57 07.6**	**-0.9**
DRN	**Derbent**	**0.77**	**97**	*e*PG	**Pb**	**22 56 57.6**	**+0.3**
DRN	comp=Z,169nm,0.1s			pmax	pmax		
DRN	**Derbent**	**0.77**	**97**	*e*Pg	**Pb**	**22 56 57.7**	**+0.3**
DRN				*e*Sg	**Sn**	**22 57 09.5**	**0.0**
KRNR	**Karanay**	**0.77**	**337**	*e*PG	**Pb**	**22 56 56.7**	**-0.7**
KRNR				*e*S	**Sg**	**22 57 07.9**	**+0.2**
KRNR	**Karanay**	**0.77**	**337**	*e*Pg	**Pb**	**22 56 56.7**	**-0.7**
KRNR				*e*Sg	**Sg**	**22 57 07.9**	**+0.2**
KSMR	**Kasumkent**	**0.80**	**130**	*e*PG	**Pb**	**22 56 57.4**	**-0.6**
KSMR				*e*S	**Sg**	**22 57 09.1**	**+0.3**
KSMR	comp=Z,86nm,0.1s			pmax	pmax		
KSMR	comp=E,3μm,0.4s			smax	smax		
KSMR	comp=E,2μm,0.4s			smax	smax		
KSMR	comp=N,2μm,0.4s			smax	smax		
KSMR	**Kasumkent**	**0.80**	**130**	*e*Pg	**Pb**	**22 56 57.5**	**-0.6**
KSMR				*e*Sg	**Sg**	**22 57 09.1**	**+0.3**
LGD	**Lagodekhi**	**0.85**	**251**	*e*PG	**Pb**	**22 56 57.5**	**-1.2**
LGD				*e*S	**Sb**	**22 57 09.3**	**-0.5**
LGD	**Lagodekhi**	**0.85**	**251**	P	**Pb**	**22 56 57.5**	**-1.2**
LGD				S	**Sb**	**22 57 09.3**	**-0.5**
LGD	**Lagodekhi**	**0.85**	**251**	*e*Pg	**Pb**	**22 56 57.5**	**-1.2**
LGD				*e*Sg	**Sb**	**22 57 09.3**	**-0.5**
MAK	**Makhachkala**	**0.85**	**10**	⇑*i* PG	**Pb**	**22 56 57.8**	**-1.0**
MAK				*e*		22 57 10.0	
MAK	comp=Z,60nm,0.3s			pmax	pmax		
MAK	comp=N,721nm,0.4s			smax	smax		
MAK	comp=N,556nm,0.3s			smax	smax		
MAK	**Makhachkala**	**0.85**	**10**	*e*Pg	**Pb**	**22 56 58.9**	**+0.1**
MAK				*e*Sg	**Sn**	**22 57 13.0**	**+1.3**
SEKA	**Sheki**	**0.92**	**185**	PG	**Pb**	**22 56 59.1**	**-0.9**
DBC	**Dubki**	**0.96**	**339**	*e*PG	**Pb**	**22 57 00.4**	**-0.4**
DBC				*i* S	**Sn**	**22 57 14.7**	**0.0**
DBC	comp=Z,119nm,0.3s			pmax	pmax		
DBC	comp=E,94nm,0.3s			smax	smax		
DBC	**Dubki**	**0.96**	**339**	*e*Pg	**Pb**	**22 57 00.6**	**-0.2**
DBC				*e*Sg	**Sb**	**22 57 12.8**	**-0.5**
BTLR	**Botlikh**	**0.97**	**304**	*e*PG	**Pb**	**22 57 00.3**	**-0.6**
BTLR				*e*S	**Sg**	**22 57 14.2**	**0.0**
BTLR	**Botlikh**	**0.97**	**304**	*e*Pg	**Pb**	**22 57 00.3**	**-0.6**
BTLR				*e*Sg	**Sg**	**22 57 14.2**	**0.0**
DLMR	**Dylym**	**1.07**	**332**	*e*PG	**Pb**	**22 57 02.5**	**-0.1**
DLMR				*i* S	**Sg**	**22 57 18.8**	**+1.4**
DLMR	comp=Z,157nm,0.3s			pmax	pmax		
DLMR	comp=E,580nm,0.2s			smax	smax		
DLMR	**Dylym**	**1.07**	**332**	*e*Pg	**Pb**	**22 57 02.6**	**-0.1**
DLMR				*e*Sg	**Sg**	**22 57 18.6**	**+1.2**
KANR	**Karaman**	**1.08**	**7**	*i* PG	**Pg**	**22 57 04.0**	**+0.5**
KANR				*e*S	**Sg**	**22 57 20.0**	**+2.3**
KANR	**Karaman**	**1.08**	**7**	*i* Pg	**Pg**	**22 57 04.0**	**+0.5**
KANR				*e*Sg	**Sg**	**22 57 20.0**	**+2.3**
VSHL	**Vashlovani**	**1.12**	**218**	P	**Pg**	**22 57 04.6**	**+0.3**
VSHL				S	**Sg**	**22 57 22.3**	**+3.4**
VSHL	**Vashlovani**	**1.12**	**218**	*e*Pg	**Pg**	**22 57 04.6**	**+0.3**
VSHL				*e*Sg	**Sg**	**22 57 22.3**	**+3.4**
DVE	**Vedeno**	**1.21**	**314**	*i* PG	**Pb**	**22 57 05.0**	**0.0**
DVE				*e*S	**Sg**	**22 57 22.4**	**+0.6**
DVE	**Vedeno**	**1.21**	**314**	*i* Pg	**Pb**	**22 57 05.0**	**0.0**
DVE				*e*Sg	**Sg**	**22 57 22.4**	**+0.6**
MNGR	**Mingechevir, A**	**1.36**	**187**	PG	**Pn**	**22 57 06.8**	**+0.2**
GROC	**Groznyy**	**1.55**	**315**	*e*PG	**Pb**	**22 57 11.2**	**+0.5**
GROC				*e*		22 57 33.4	
GROC	comp=Z,65nm,0.4s			pmax	pmax		
GROC	comp=N,140nm,0.5s			smax	smax		
GROC	comp=E,104nm,0.4s			smax	smax		
GROC	comp=N,164nm,0.5s			smax	smax		
GROC	**Groznyy**	**1.55**	**315**	*e*Pg	**Pb**	**22 57 11.3**	**+0.5**
GROC				*e*Sg	**Sg**	**22 57 33.5**	**+0.8**
GANJ	**Ganja**	**1.65**	**207**	PN	**Pb**	**22 57 11.7**	**-0.8**
CHRG	**Chargali**	**1.78**	**277**	P	**Pb**	**22 57 14.2**	**-0.6**
CHRG				S	**Sg**	**22 57 40.6**	**+0.6**
KMGR	**Komgaron**	**2.03**	**298**	*e*PN	**Pb**	**22 57 18.9**	**-0.1**
KMGR				*e*S	**Sg**	**22 57 46.0**	**-2.0**
KMGR	**Komgaron**	**2.03**	**298**	*e*Pg	**Pb**	**22 57 18.9**	**-0.1**
KMGR				*e*Sg	**Sg**	**22 57 46.2**	**-1.8**
GUDG	**Gudauri**	**2.13**	**280**	*e*PN	**Pb**	**22 57 20.0**	**-0.7**
GUDG				*e*S	**Sg**	**22 57 49.3**	**-1.8**
GUDG	**Gudauri**	**2.13**	**280**	P	**Pb**	**22 57 20.7**	**-0.1**
GUDG				S	**Sg**	**22 57 50.4**	**-0.7**
GUDG	**Gudauri**	**2.13**	**280**	*e*Pg	**Pb**	**22 57 20.0**	**-0.7**
GUDG				*e*Sg	**Sg**	**22 57 49.3**	**-1.8**
MTEO	**Meteo**	**2.13**	**286**	PN	**Pb**	**22 57 20.9**	**0.0**
MTEO				S	**Sb**	**22 57 48.6**	**+1.4**
MTEO	**Meteo**	**2.13**	**286**	P	**Pb**	**22 57 20.9**	**0.0**
MTEO				S	**Sb**	**22 57 48.6**	**+1.4**
VLKR	**Vladikavkaz**	**2.15**	**296**	*i* PN	**Pb**	**22 57 21.8**	**+0.7**
VLKR				*e*S	**Sg**	**22 57 51.7**	**-0.1**
VLKR	**Vladikavkaz**	**2.15**	**296**	*i* Pg	**Pb**	**22 57 21.8**	**+0.7**
VLKR				*e*Sg	**Sg**	**22 57 51.7**	**-0.1**
LACR	**Lac**	**2.34**	**289**	*e*PN	**Pb**	**22 57 23.4**	**-0.8**
LACR				*e*S	**Sb**	**22 57 54.3**	**+1.5**
LACR	**Lac**	**2.34**	**289**	*e*Pn	**Pb**	**22 57 23.4**	**-0.8**
LACR				*e*Sn	**Sb**	**22 57 54.3**	**+1.5**
BTKR	**Batakoyurt**	**2.39**	**302**	*e*PN	**Pb**	**22 57 24.8**	**-0.3**
BTKR				*e*S	**Sb**	**22 57 55.0**	**+0.7**
BTKR	**Batakoyurt**	**2.39**	**302**	*e*Pn	**Pb**	**22 57 24.8**	**-0.3**
BTKR				*e*Sn	**Sb**	**22 57 55.0**	**+0.7**
DMNI	**Dmanisi**	**2.47**	**252**	*e*PN	**Pn**	**22 57 23.5**	**+1.5**
DMNI				*e*S	**Sb**	**22 57 56.4**	**-0.1**
DMNI	**Dmanisi**	**2.47**	**252**	P	**Pn**	**22 57 23.5**	**+1.5**
DMNI				S	**Sb**	**22 57 56.4**	**-0.1**
DMNI	**Dmanisi**	**2.47**	**252**	*e*Pn	**Pn**	**22 57 23.5**	**+1.5**
DMNI				*e*Sn	**Sb**	**22 57 56.4**	**-0.1**
TRLG	**Trialeti**	**2.47**	**257**	*e*PN	**Pn**	**22 57 23.5**	**+1.4**
TRLG				*e*S	**Sb**	**22 57 55.1**	**-1.5**
TRLG	**Trialeti**	**2.47**	**257**	P	**Pn**	**22 57 23.5**	**+1.4**
TRLG				S	**Sb**	**22 57 55.1**	**-1.5**
TRLG	**Trialeti**	**2.47**	**257**	*e*Pn	**Pn**	**22 57 23.5**	**+1.4**
TRLG				*e*Sn	**Sb**	**22 57 55.1**	**-1.5**
ARNR	**Ardon**	**2.47**	**296**	*e*PN	**Pb**	**22 57 25.0**	**-1.5**
ARNR				*e*S	**Sb**	**22 57 57.3**	**+0.8**
ARNR	**Ardon**	**2.47**	**296**	*e*Pn	**Pb**	**22 57 24.9**	**-1.5**
ARNR				*e*Sn	**Sb**	**22 57 57.3**	**+0.8**
KORR	**Kora**	**2.58**	**293**	*e*PN	**Pb**	**22 57 26.1**	**-2.2**
KORR				*e*S	**Sb**	**22 57 59.9**	**+0.2**
KORR	**Kora**	**2.58**	**293**	*e*Pn	**Pb**	**22 57 26.1**	**-2.2**
KORR				*e*Sn	**Sb**	**22 57 59.9**	**+0.2**
ZEI	**Tsey**	**2.61**	**286**	*e*PN	**Pb**	**22 57 28.2**	**-0.7**
ZEI				*e*S	**Sb**	**22 58 02.4**	**+1.7**
ZEI	**Tsey**	**2.61**	**286**	*e*Pn	**Pb**	**22 57 28.2**	**-0.7**
ZEI				*e*Sn	**Sb**	**22 58 00.8**	**0.0**
STDR	**Stavd-Durt**	**2.70**	**299**	*e*PN	**Pb**	**22 57 28.0**	**-2.3**
STDR				*e*S	**Sb**	**22 58 02.3**	**-0.7**
STDR	**Stavd-Durt**	**2.70**	**299**	*e*Pn	**Pb**	**22 57 28.0**	**-2.3**
STDR				*e*Sn	**Sb**	**22 58 02.3**	**-0.7**
ALIG	**Mtskhetisjvari**	**2.72**	**271**	*e*PN	**Pn**	**22 57 27.9**	**+2.4**
ALIG				*e*S	**Sb**	**22 58 03.3**	**-0.6**
ALIG	**Mtskhetisjvari**	**2.72**	**271**	P	**Pn**	**22 57 27.9**	**+2.4**
ALIG				S	**Sb**	**22 58 03.3**	**-0.6**
ALIG	**Mtskhetisjvari**	**2.72**	**271**	*e*Pn	**Pn**	**22 57 27.9**	**+2.4**
ALIG				*e*Sn	**Sb**	**22 58 03.3**	**-0.6**
PRTR	**Priterechnaya**	**2.76**	**307**	*e*PN	**Pb**	**22 57 29.0**	**-2.3**
PRTR				*e*S	**Sb**	**22 58 04.4**	**-0.3**
PRTR	**Priterechnaya**	**2.76**	**307**	*e*Pn	**Pb**	**22 57 29.0**	**-2.3**
PRTR				*e*Sn	**Sb**	**22 58 03.1**	**-1.7**
GNI	**Garni**	**2.77**	**225**	*i* PN	**Pn**	**22 57 28.8**	**+2.7**
GNI				*i* S	**Sb**	**22 58 03.9**	**-1.3**
GNI	comp=Z,11nm,1.9s			pmax	pmax		
GNI	**Garni**	**2.77**	**225**	*e*Pn	**Pb**	**22 57 30.2**	**-1.3**
GNI				*e*Sn	**Sb**	**22 58 07.2**	**+2.0**
GNI	**Garni**	**2.77**	**225**	Pn	**Pb**	**22 57 29.6**	**-1.9**
GNI	comp=Z,0.8nm,0.3s,baz=282,slow=11,SNR=2.2			Sn	**Sb**	**22 58 05.6**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=297,slow=14,SNR=3.1						
	comp=Z,3.2nm,0.4s						
LSNR	**Lesken**	**2.82**	**295**	*e*PN	**Pb**	**22 57 30.2**	**-2.1**
LSNR				*i* S	**Sb**	**22 58 05.9**	**-0.6**
LSNR	**Lesken**	**2.82**	**295**	*e*Pn	**Pb**	**22 57 30.2**	**-2.1**
LSNR				*i* Sn	**Sb**	**22 58 05.9**	**-0.6**
ONI	**Oni**	**2.90**	**281**	*i* PN	**Pb**	**22 57 33.2**	**-0.5**
ONI				*e*S	**Sb**	**22 58 06.6**	**-2.3**
ONI	**Oni**	**2.90**	**281**	P	**Pb**	**22 57 32.9**	**-0.9**
ONI				S	**Sg**	**22 58 14.4**	**-1.2**
ONI	**Oni**	**2.90**	**281**	*i* Pn	**Pb**	**22 57 33.2**	**-0.5**
ONI				*e*Sn	**Sb**	**22 58 06.6**	**-2.3**
NCK	**Nalchik**	**3.06**	**298**	*i* PN	**Pn**	**22 57 29.7**	**-0.3**
NCK	comp=Z,15nm,0.2s			pmax	pmax		
NAX	**Nakhchivan**	**3.25**	**206**	PN	**Pn**	**22 57 34.8**	**+2.0**
GRMI	**Germi**	**3.34**	**172**	Pn	**Pn**	**22 57 36.1**	**+2.1**
MAKU	**Maku**	**3.41**	**217**	Pn	**Pb**	**22 57 42.0**	**-0.5**
NEUR	**Neytrino**	**3.58**	**290**	*e*PN	**Pn**	**22 57 40.0**	**+2.6**
NEUR				*e*S	**Sn**	**22 58 23.0**	**+3.6**
NEUR	**Neytrino**	**3.58**	**290**	*e*Pn	**Pn**	**22 57 40.0**	**+2.6**
NEUR				*e*Sn	**Sn**	**22 58 23.0**	**+3.6**
KBZ	**Khabaz**	**3.62**	**298**	*i* PN	**Pn**	**22 57 38.6**	**+0.9**
KBZ	comp=Z,2.0nm,1.0s			pmax	pmax		
KBZ	**Khabaz**	**3.62**	**298**	*e*Pn	**Pn**	**22 57 39.2**	**+1.6**
KBZ				*e*Sn	**Sn**	**22 58 22.6**	**+2.7**
KBZ	**Khabaz**	**3.62**	**298**	Pn	**Pn**	**22 57 37.6**	**-0.1**
KBZ	comp=Z,0.4nm,0.3s,baz=168,slow=5.3,SNR=12			*i* PGn	**Sn**	**22 58 21.9**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=192,slow=9.3,SNR=4.5						
	comp=Z,0.8nm,0.3s						
IMRD	**Marand**	**3.62**	**200**	Pn	**Pb**	**22 57 44.1**	**-2.1**
PYA1	**Pyatigorsk**	**3.65**	**304**	*i* PN	**Pn**	**22 57 39.1**	**+1.0**
PYA1	**Pyatigorsk**	**3.65**	**304**	*e*Pn	**Pn**	**22 57 39.5**	**+1.4**
PYA1				*e*Sn	**Sn**	**22 58 22.4**	**+1.7**
SHA1	**Shidzhatmaz**	**3.78**	**297**	*e*PN	**Pn**	**22 57 41.7**	**+1.5**
SHA1				*e*S	**Sn**	**22 58 27.3**	**+3.0**
SHA1	**Shidzhatmaz**	**3.78**	**297**	*e*Pn	**Pn**	**22 57 41.7**	**+1.5**
SHA1				*e*Sn	**Sn**	**22 58 27.3**	**+3.0**
BEYR	**Belyy Ugol+**	**3.80**	**301**	*e*PN	**Pn**	**22 57 41.0**	**+0.8**
BEYR				*e*S	**Sn**	**22 58 26.4**	**+2.0**
BEYR	**Belyy Ugol+**	**3.80**	**301**	*e*Pn	**Pn**	**22 57 41.0**	**+0.8**
BEYR				*e*Sn	**Sn**	**22 58 26.4**	**+2.0**
IHRS	**Heris**	**3.81**	**183**	Pn	**Pn**	**22 57 43.3**	**+2.8**
KIV	**Kislovodsk**	**3.85**	**300**	*e*PN	**Pn**	**22 57 41.9**	**+0.9**
KIV				*e*S	**Sn**	**22 58 28.4**	**+2.5**
KIV	comp=Z,4.0nm,1.0s			pmax	pmax		
KIV	**Kislovodsk**	**3.85**	**300**	*e*Pn	**Pn**	**22 57 42.7**	**+1.7**
KIV				*e*Sn	**Sn**	**22 58 27.9**	**+2.0**
ISHB	**Shabestar**	**4.05**	**199**	Pn	**Pb**	**22 57 50.7**	**-2.8**
ALER	**Alexandrovskoy**	**4.15**	**311**	*e*PN	**Pn**	**22 57 46.6**	**+1.6**
ALER				*e*S	**Sn**	**22 58 38.3**	**+5.2**
ALER	**Alexandrovskoy**	**4.15**	**311**	*e*Pn	**Pn**	**22 57 46.6**	**+1.6**
ALER				*e*Sn	**Sn**	**22 58 38.3**	**+5.2**
ISRB	**Sarab**	**4.30**	**176**	Pn	**Pn**	**22 57 50.0**	**+2.7**
BELG	**Belogornoye**	**10.28**	**1**	*i* P	**Pn**	**22 59 09.4**	**+0.4**
BELG	comp=Z,1.0nm,0.8s			pmax	pmax		
BRTR	**Keskin Array B** baz=85,slow=18,SNR=1.1	**10.62**	**262**	Pn	Pn	22 58 06.2	-68
	comp=Z,0.3nm,0.7s						
AKTO	**Aktyubinsk**	**11.13**	**38**	⇓Pn	**Pn**	**22 59 22.7**	**+2.0**
AKTO	comp=Z,0.1nm,0.4s			⇑Sn	**Sn**	**23 01 18.2**	**-6.4**
	comp=Z,0.4nm,0.8s						
AKTO	**Aktyubinsk**	**11.13**	**38**	P	**Pn**	**22 59 22.7**	**+2.0**
AB31	**Akbulak array**	**11.35**	**47**	⇑Pn	**Pn**	**22 59 22.9**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=241,slow=12,SNR=6.7						
AB31				⇓Sn	**Sn**	**23 01 26.3**	**-3.6**
	comp=Z,0.5nm,0.7s,baz=233,slow=26,SNR=3.0						
AB31	**Akbulak array**	**11.35**	**47**	P	**Pn**	**22 59 22.9**	**-0.8**
AB31				S	**Sn**	**23 01 26.3**	**-3.6**
OBN	**Obninsk**	**14.79**	**335**	*e*P	**Pn**	**23 00 12.9**	**+2.3**
OBN	comp=Z,2.0nm,0.8s			pmax	pmax		
ARU	**Arti**	**16.06**	**23**	*i* P	**Pn**	**23 00 27.9**	**+0.6**
ARU	comp=Z,2.0nm,1.2s			pmax	pmax		
BRVK	**Borovoye**	**18.88**	**47**	*i* P	**P**	**23 01 02.1**	**+0.4**
BRVK	comp=Z,2.0nm,1.0s			pmax	pmax		
FINES	**FINESS Array B**	**23.18**	**334**	P	**P**	**23 01 44.3**	**-3.7**
FINES	**FINESS Array B**	**23.18**	**334**	P	**P**	**23 01 44.3**	**-3.7**
	comp=Z,2.5nm,1.0s,baz=144,slow=9.6,SNR=2.6						
	comp=Z,2.5nm,1.0s						

DJA 20 23:02:31.9±2.3, 4°N±20°×12°6E±°, h136km±9km, M4.0/7, mb4.3/2, mB5.0/2, MLv3.9/7, Mw(mB)4.3/2, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.40**	**242**	P	Pn	23 02 52.3	+1.2
SGSI				S	Sn	23 03 07.9	+2.2
TNTI	**Ternate**	**3.42**	**154**	P	Pn	23 03 24.5	+0.3
GTOI	**Gorontalo**	**4.31**	**222**	P	Pn	23 03 35.8	-0.1
LBMI	**Labuha**	**4.76**	**160**	P	Pn	23 03 42.1	+0.1
MRSI	**Marisa** 19nm,0.5s,0.1nm	**5.18**	**230**	P	Pn	23 03 47.4	-0.1
LUWI	**Luwuk** 32nm,0.8s,1μm0.4nm	**5.78**	**213**	P	Pn	23 03 55.5	-0.1
NLAI	**Namlea**	**7.17**	**170**	P	Pn	23 04 13.4	-0.8

*IDC **20** 23:12:38.9±1.6, 11°.69S×166°.08E, h0km, mb4.0/7, mbtmp4.0/8, ML3.0/1, MS3.4/4, Error ellipse: s-maj=43.8km s-min=23.7km az=108.0*

ISC 20 23:12:44.5±1.2, 11°.71S±0°.10×166°.1E±0°.2, h37km, n10, σ1§05/9, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.43**	**290**	LR	LR	23 17 09.5	
	comp=Z,2μm,18.6s,baz=136,slow=42						
DZM	**Mont Dzumac**	**10.31**	**178**	Pn	**Pn**	**23 15 08.4**	**-1.5**
	0.1nm,0.3s,baz=340,slow=22,SNR=1.4						
DZM				Sn	**Sn**	**23 17 06.2**	**+1.9**
	0.2nm,0.3s,baz=51,slow=23,SNR=1.7						
DZM				LR	LR	23 18 13.2	
	comp=Z,122nm,18.6s,baz=255,slow=32						
	7.0nm,1.1s						
CTA	**Charters Tower**	**20.78**	**244**	LR	LR	23 24 24.4	
	comp=Z,42nm,19.7s,baz=96,slow=34						
STKA	**Stephens Creek**	**30.18**	**225**	P	**P**	**23 18 51.2**	**-0.1**
	3.1nm,0.6s,baz=26,slow=8.1,SNR=7.3						
	3.1nm,0.6s						
WRA	**Warramunga Arr**	**31.56**	**251**	P	**P**	**23 19 04.2**	**+0.5**
	0.8nm,0.7s,baz=84,slow=9.5,SNR=6.4						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**32.78**	**244**	P	**P**	**23 19 13.9**	**-0.5**
	1.5nm,0.7s,baz=67,slow=9.8,SNR=15						
ASAR				LR	LR	23 30 54.5	
	comp=Z,54nm,21.3s,baz=108,slow=33						
	1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**72.67**	**294**	P	**P**	**23 24 09.0**	**0.0**
	1.7nm,0.3s,baz=134,slow=5.0,SNR=6.5						
	1.7nm,0.3s						
SONM	**Songino Array**	**79.39**	**324**	P	**P**	**23 24 46.8**	**0.0**
	0.2nm,0.4s,baz=130,slow=5.8,SNR=1.9						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**84.04**	**18**	P	**P**	**23 25 11.1**	**+0.3**
	0.3nm,0.6s,baz=256,slow=5.5,SNR=5.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**94.22**	**317**	P	**P**	**23 26 00.0**	**+0.2**
	0.6nm,0.6s,baz=90

	comp=Z,2.6nm,0.8s						
WR0	**Warramunga Arr**	**44.17 272**	P	**P**	**23 36 58.7**	**+0.4**
WR0			IAmb	IAmb	23 37 09.1	
	comp=Z,23nm,1.4s						
WRA	**Warramunga Arr**	**44.35 272**	P	**P**	**23 37 00.1**	**+0.5**
WRA	**Warramunga Arr**	**44.35 272**	P	**P**	**23 36 59.9**	**+0.2**
	comp=Z,7.8nm,0.9s,baz=110,slow=8.1,SNR=34						
	comp=Z,7.8nm,0.9s						
FORT	**Forrest**	**46.34 255**	P	**P**	**23 37 15.5**	**+0.2**
KNRA	**Kununurra**	**50.95 274**	P	**P**	**23 37 51.1**	**+0.1**
KNRA			IAmb	IAmb	23 37 54.9	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.62 270**	P	**P**	**23 38 04.1**	**+0.7**
NWAO	**Narrogin (SRO)**	**54.70 249**	LR	LR	23 59 54.0	
	comp=Z,52nm,18.6s,baz=262,slow=34						
CASY	**Casey**	**55.40 208**	P	**P**	**23 38 23.2**	**+0.1**
CASY			IAmb	IAmb	23 38 24.2	
	comp=Z,8.8nm,0.8s						
GUMO	**Guam**	**56.55 315**	LR	LR	00 02 05.7	
	comp=Z,33nm,18.6s,baz=102,slow=35						
RPN	**Rapa Nui**	**59.23 105**	LR	LR	23 59 16.0	
	comp=Z,24nm,20.4s,baz=198,slow=31						
QSPA	**South Pole Qui**	**59.87 180**	P	**P**	**23 38 56.7**	**+2.0**
QSPA	**South Pole Qui**	**59.87 180**	P	**P**	**23 38 56.4**	**+1.7**
	comp=Z,4.2nm,0.9s,baz=31,slow=5.6,SNR=9.3						
	comp=Z,4.2nm,0.9s						
KAPI	**Kappang**	**63.83 280**	LR	LR	00 05 24.7		
	comp=Z,22nm,22.0s,baz=126,slow=34						
BELA	**Belgrano 2**	**69.91 172**	P	**P**	**23 40 00.3**	**+0.5**
BELA			IAmb	IAmb	23 40 29.5	
	comp=Z,9.6nm,1.1s						
MAW	**Mawson**	**72.55 200**	P	**P**	**23 40 17.0**	**+1.2**
	comp=Z,7.5nm,0.8s,baz=180,slow=14,SNR=2.5						
	comp=Z,7.5nm,0.8s						
TROLL	**Troll, Antarti**	**78.04 180**	⇑P	**P**	**23 40 47.7**	**+0.1**
	comp=Z,348nm,0.9s						
MJAR	**Matsushiro Arr**	**78.25 325**	LR	LR	00 11 10.0		
	comp=Z,24nm,19.1s,baz=84,slow=32						
SNAA	**Sanae**	**78.31 178**	P	**P**	**23 40 50.1**	**+1.2**
SNAA			IAmb	IAmb	23 41 08.3	
	comp=Z,14nm,1.4s						
LPIG	**La Paz**	**84.23 58**	LR	LR	00 13 43.1		
	comp=Z,35nm,18.1s,baz=156,slow=32						
PETK	**Petropavlovsk-**	**85.72 345**	P	**P**	**23 41 28.8**	**+1.0**
MT01	**Popeta**	**85.76 127**	P	**P**	**23 41 28.9**	**+0.2**
MT02	**Curacav**	**86.17 126**	P	**P**	**23 41 30.3**	**-0.5**
NVAR	**Mina Arroya Bea**	**87.94 43**	P	**P**	**23 41 39.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=225,slow=8.2,SNR=3.6						
NVAR			LR	LR	00 17 30.9		
	comp=Z,46nm,18.0s,baz=274,slow=33						
	comp=Z,0.8nm,0.7s						
KLR	**Kul'dur**	**91.02 330**	LR	LR	00 16 24.9		
	comp=Z,20nm,20.5s,baz=92,slow=31						
ELK	**Elko**	**91.25 42**	LR	LR	00 22 22.0		
	comp=Z,51nm,18.2s,baz=218,slow=35						
MA2	**Magadan**	**93.20 345**	LR	LR	00 18 22.6		
	comp=Z,34nm,20.0s,baz=143,slow=32						
LVC	**Limon Verde**	**93.79 119**	LR	LR	00 16 13.0		
	comp=Z,48nm,19.8s,baz=266,slow=30						
MKAR	**Makanchi Array**	**117.86 310**	PKP	**PKPdf**	**23 47 33.3**	**-2.2**
	comp=Z,0.3nm,0.9s,baz=48,slow=1.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**121.16 314**	PKP	**PKPdf**	**23 47 40.0**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=103,slow=2.0,SNR=16						
KBL	**Kabul**	**124.39 293**		**PKPdf**	**23 47 48.0**	**-0.7**
KK31	**Karatay Array**	**125.20 304**		**PKPdf**	**23 47 48.9**	**-0.9**
KKAR	**Karatay Array**	**125.20 304**		**PKPdf**	**23 47 48.9**	**-0.8**
KKAR	**Karatay Array**	**125.20 304**		**PKPdf**	**23 47 48.9**	**-0.8**
BVAR	**Borovoye Array**	**126.47 316**	PKP	**PKPdf**	**23 47 49.7**	**-2.1**
	comp=Z,1.9nm,0.8s,baz=90,slow=1.5,SNR=12						
H10S2	**ASCENSION HYDR**	**137.76 155**	T	T	02 22 44.7		
	baz=16,slow=74,SNR=4.2						
H10S3	**ASCENSION HYDR**	**137.76 155**	T	T	02 22 40.9		
	baz=204,slow=74,SNR=5.3						
H10N3	**ASCENSION HYDR**	**138.85 154**	T	T	02 24 06.5		
	baz=204,slow=75,SNR=7.9						
H10N1	**ASCENSION HYDR**	**138.85 154**	T	T	02 24 02.9		
	baz=204,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**138.86 154**	T	T	02 24 10.8		
	baz=204,slow=75,SNR=12						
FINES	**FINESS Array B**	**145.08 340**	PKP	**PKPbc**	**23 48 22.9**	**-2.4**
	comp=Z,14nm,0.7s,baz=53,slow=3.1,SNR=51						
KBZ	**Khabaz**	**145.23 304**	PKPbc	**PKPbc**	**23 48 25.9**	**-0.6**
	comp=Z,2.0nm,1.0s,baz=90,slow=1.0,SNR=3.5						
NB2	**NORSAR Subarra**	**148.63 352**	PKP	**PKPdf**	**23 48 34.5**	**+2.5**
	comp=Z,12nm,1.2s,baz=15,slow=2.9						
NOA	**NORSAR Array B**	**148.63 352**	PKPbc	**PKPdf**	**23 48 33.7**	**+1.7**
	comp=Z,4.6nm,1.1s,baz=15,slow=5.1,SNR=6.4						
HFS	**Hagfors**	**149.13 349**	PKPbc	**PKPbc**	**23 48 35.7**	**-1.3**
	comp=Z,4.6nm,0.8s,baz=99,slow=4.7,SNR=6.4						
AKASG	**Malin Array Be**	**151.32 323**		**PKPbc**	**23 48 41.4**	**-1.0**
AKASG	**Malin Array Be**	**151.32 323**	PKPbc	**PKPbc**	**23 48 40.6**	**-1.8**
	comp=Z,3.8nm,0.7s,baz=48,slow=2.4,SNR=16						
AKBB	**Malin Array Si**	**151.32 323**		**PKPbc**	**23 48 41.4**	**-1.1**
KIEV	**Kiev**	**151.34 323**		**PKPbc**	**23 48 41.4**	**-1.1**
MMAI	**Mount Meron Ar**	**151.74 284**	PKPbc	**PKPbc**	**23 48 43.4**	**-0.8**
	comp=Z,7.9nm,1.0s,baz=63,slow=4.2,SNR=7.0						
BR131	**Keskin Array S**	**152.75 299**		**PKPbc**	**23 48 44.9**	**-1.4**
BRTR	**Keskin Array B**	**152.75 299**	PKPbc	**PKPbc**	**23 48 44.6**	**-1.6**
	comp=Z,1.6nm,1.0s,baz=149,slow=2.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**162.99 178**	PKPab	**PKPab**	**23 49 41.5**	**+0.1**
	comp=Z,1.7nm,1.1s,baz=148,slow=1.4,SNR=5.0						

*UPA **21** 00:06:32.8±0.5,9.°11N×82.°35W, h2km±2km, MW2.6*
*CATAC **21** 00:06:38.3±0.4,9.°09N×82.°76W, h5km, ML2.8*
ISC 21 00:06:33.4±1.5,**9.°10N**±0.°03×**82.°40W**±0.°04,**h6**km±14km,
n24,σ1°**36**/**28,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR2	**Aguacate**	**0.30**	**122**	*e*P	**Pg**	**00 06 38.6**	**-0.7**
CHGR2				*e*S	**Sb**	**00 06 43.2**	**-3.1**
CNI2	**El Empalme, Bo**	**0.33**	**348**	*e*P	**Pb**	**00 06 40.4**	**-1.3**
CNI2				*e*S	**Sb**	**00 06 46.6**	**-0.7**
BCO2	**Palmira**	**0.40**	**199**	*e*P	**Pb**	**00 06 42.5**	**-0.4**
BCO2				*e*S	**Sb**	**00 06 50.2**	**+0.8**
CTCR	**Cotoan**	**0.41**	**241**	*i* PA		00 06 42.9	
CTCR				IAML		00 06 53.3	
	comp=Z,2μm,1.0s						
BRU2	**Volcan**	**0.42**	**224**	*e*P	**Pb**	**00 06 43.0**	**-0.3**
BRU2				*e*S	**Sb**	**00 06 51.0**	**+1.1**
BRU2	**Volcan**	**0.42**	**224**	*i* P	**Pb**	**00 06 43.9**	**+0.6**
BRU2				IAML		00 06 52.7	
	comp=Z,330nm,1.0s						
DVD	**David**	**0.66**	**184**	*e*P	**Pb**	**00 06 46.5**	**-0.8**
DVD				*e*S	**Sb**	**00 06 57.2**	**+0.5**
CDITO	**Canoas**	**0.70**	**222**	*i* P	**Pn**	**00 06 48.9**	**-1.0**
CDITO				IAML		00 07 08.1	
	comp=Z,290nm,1.0s						
POTG	**Potrero Grande**	**0.71**	**267**	*i* P	**Pg**	**00 06 45.7**	**-1.4**
POTG				IAML		00 06 59.9	
	comp=Z,790nm,1.0s						
PTPM	**Petroterminale**	**1.00**	**208**	*e*P	**Pn**	**00 06 53.1**	**-0.9**
PTPM				*e*S	**Sn**	**00 07 08.2**	**-0.4**
RIOS	**Rincon, Osa**	**1.17**	**250**	*i* P	**Pg**	**00 06 56.9**	**+1.0**
OCHAL	**Ojochal**	**1.23**	**270**	*i* P	**Pb**	**00 06 57.1**	**0.0**
PEZE	**Perez Zeledon,**	**1.29**	**283**	*i* P	**Pn**	**00 06 57.2**	**-0.9**
PEZE				IAML		00 07 17.6	
	comp=Z,190nm,1.0s						
CDM	**Cerro de Muert**	**1.42**	**289**	*i* P	**Pn**	**00 06 58.8**	**-1.4**
CDM				IAML		00 07 20.5	
	comp=Z,250nm,1.0s						
RIMA	**Rio Macho**	**1.59**	**295**	*i* P	**Pn**	**00 07 01.3**	**-1.0**
RIMA				IAML		00 07 23.6	
	comp=Z,120nm,1.0s						
LCR2	**La Lucha 2**	**1.71**	**292**	*i* P	**Pn**	**00 07 03.1**	**-0.9**
LCR2				IAML		00 07 27.7	
	comp=Z,75nm,1.0s						
OCM	**Ochomogo**	**1.73**	**297**	*i* P	**Pn**	**00 07 04.0**	**-0.3**
OCM				IAML		00 07 29.1	
	comp=Z,90nm,1.0s						
TBLN	**Tablon, Guarco**	**1.74**	**295**	*i* P	**Pn**	**00 07 03.2**	**-1.1**
TBLN				IAML		00 07 28.5	
	comp=Z,330nm,1.0s						
JACO	**JACO, Garabito**	**2.30**	**284**	*i* P	**Pn**	**00 07 12.3**	**+0.4**
JACO				IAML		00 08 45.8	
	comp=Z,46nm,1.0s						
BCIP	**Isla Barro Col**	**2.53**	**88**	*i* P	**Pg**	**00 07 25.2**	**+3.2**
BCIP				IAML		00 07 53.9	
	comp=Z,110nm,1.0s						
DUNO	**Dulce Nombre,**	**3.20**	**288**	*i* P	**Pn**	**00 07 25.7**	**+1.3**
DUNO				IAML		00 07 43.9	
	comp=Z,1μm,1.0s						
HZTE	**Horizontes, Gu**	**3.54**	**297**	*i* P	**Pn**	**00 07 30.6**	**+1.7**
HZTE				IAML		00 09 27.7	
	comp=Z,87nm,1.0s						

UDBS	**Universidad Do**	**8.06**	**305**	*i* P	**Pn**	**00 08 32.7**	**+1.6**
IZABA	**Izabal, Puerto**	**8.94**	**318**	*i* P	Pn	00 08 52.8	+10

IDC 21 00:09:41.6±3.8,**28.°48S×178.°01W, h0km, mb3.4/2,**
mbtmp3.4/2, Error ellipse: s-maj=82.7km s-min=19.2km
az=62.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.77**	**174**	Pn	Pn	00 10 00.2	+0.4
	101nm,0.3s,baz=31,slow=18,SNR=7.3						
RAO				Sn	Sn	00 10 12.4	+0.3
	485nm,0.3s,baz=36,slow=20,SNR=16						
ASAR	**Alice Springs**	**43.23**	**265**	P	P	00 17 44.4	-0.6
	0.2nm,0.4s,baz=105,slow=7.5,SNR=5.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.05**	**270**	P	P	00 17 51.8	+0.2
	0.6nm,0.8s,baz=110,slow=8.1,SNR=12						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**143.34**	**341**	PKP	PKPbc	00 29 15.6	+1.2
	0.8nm,0.5s,baz=40,slow=4.5,SNR=9.9						

*UPP **21** 00:26:38.4±0.0,67.°83N×20.°20E, h0km, ML2.3, Suspected explosion*
*HEL **21** 00:26:38.8±0.2,67.°81N×20.°18E, h0km, ML1.7, Explosion*
*IDC **21** 00:26:39.0±1.4,67.°85N×20.°61E, h0km, mbtmp2.5/3, ML1.8/3, Error ellipse: s-maj=20.2km s-min=7.6km az=117.0*
ISC 21 00:26:38.6±0.8,**67.°83N**±0.°02×**20.°23E**±0.°03,**h0km, n30,**
σ1°**25**/**47, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**19**	P	**Pg**	**00 26 41.1**	**+0.1**
KUA				S	**Sg**	**00 26 43.1**	**+0.4**
RATU	**Laukkuluspa**	**0.24**	**268**	P	**Pg**	**00 26 43.0**	**-0.1**
KOVU	**Salmi**	**0.39**	**356**	P	**Pg**	**00 26 46.0**	**-0.1**
KOVU				S	**Sg**	**00 26 51.5**	**+0.4**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**00 26 51.7**	**-0.3**
LANU				SG	**Sg**	**00 27 01.5**	**+0.4**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**00 26 51.8**	**-0.2**
DUNU	**Dundret**	**0.73**	**169**	P	**Pg**	**00 26 52.1**	**-0.4**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**00 26 53.2**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**00 26 53.3**	**-0.6**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**00 27 03.8**	**-1.2**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**00 27 04.1**	**-1.4**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**00 27 04.5**	**-1.0**
HEF				MSG		00 27 22.1	
	comp=Z,6.6nm,0.2s						
HEF				SB	**Sg**	**00 27 23.8**	**0.0**
KLF	**Kolari**	**1.56**	**111**	PG	**Pn**	**00 27 06.8**	**-0.6**
KLF				MSG		00 27 25.7	
	comp=Z,6.1nm,0.2s						
KLF				SN	**Sb**	**00 27 28.4**	**0.0**
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	**Pn**	**00 27 07.8**	**-0.6**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**00 27 08.2**	**-0.2**
KTK1				SN	**Sg**	**00 27 30.9**	**+0.2**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**00 27 09.3**	**-0.1**
TRO	**Tromso**	**1.87**	**346**	PG	**Pb**	**00 27 12.7**	**-0.8**
TRO				SG	**Sb**	**00 27 37.4**	**0.0**
KALU	**Kalix**	**2.34**	**147**	PB	**Pn**	**00 27 19.0**	**+0.8**
	baz=330						
KALU				SG	**Sb**	**00 27 50.5**	**-0.3**
TOF	**Tornio**	**2.39**	**136**	PG	**Pn**	**00 27 20.2**	**+1.4**
TOF				MSG		00 27 49.3	
	comp=Z,2.2nm,0.2s						
TOF				SG	**Sb**	**00 27 52.4**	**+0.1**
SGF	**Sodankyl**	**2.44**	**96**	PB	**Pn**	**00 27 20.7**	**+1.1**
SGF				SG	**Sb**	**00 27 53.3**	**-0.5**
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**00 27 23.1**	**+1.8**
RNF				SG	**Sb**	**00 27 57.4**	**0.0**
ARA0	**ARCESS Array S**	**2.58**	**46**	PN	**Pn**	**00 27 22.2**	**+0.7**
	baz=227						
ARA0				SG	**Sb**	**00 27 57.5**	**-0.3**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**00 27 20.7**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=45						
ARCES				Lg	Lg	00 27 56.7	
	comp=Z,1.5nm,0.3s,baz=229,slow=25,SNR=17						
	comp=Z,0.8nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	PN	**Pn**	**00 27 29.7**	**+0.7**
KEV				SN	**Sn**	**00 28 08.6**	**+1.6**
BURU	**Burvik**	**3.30**	**171**	PB	**Pn**	**00 27 34.3**	**+3.0**
VRF	**Varrio**	**3.56**	**87**	SG	**Sg**	**00 28 29.6**	**-3.3**
OUL	**Oulu**	**3.58**	**138**	PG	**Pb**	**00 27 43.2**	**+0.6**
OUL				SG	**Sb**	**00 28 27.6**	**+1.1**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**00 27 41.2**	**+1.6**
OLKF				SG	**Sb**	**00 28 38.9**	**+3.2**
KU6	**Riekki**	**4.21**	**111**	PN	**Pn**	**00 27 45.0**	**+1.0**
KU6				SG	**Sb**	**00 28 47.2**	**+2.3**
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**00 28 20.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=16,SNR=3.8						
FINES				Sn	**Sn**	**00 29 36.5**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=334,slow=22,SNR=2.1						
FINES				Lg	Lg	00 30 15.5	
	comp=Z,0.4nm,0.3s,baz=349,slow=26,SNR=9.5						
	comp=Z,0.3nm,0.5s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**00 28 34.0**	**+0.2**
	baz=24,slow=11,SNR=1.3						
NOA				Lg	Lg	00 30 47.0	
	baz=78,slow=17,SNR=5.0						
	comp=Z,0.2nm,0.6s						

TEH 21 00:30:00.2,30.°71N×57.°34E, h9km±26km**, ML3.6,**
Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.21**	**195**	Pg	Pg	00 30 05.5	+0.7
KRM1				Sg	Sg	00 30 08.4	+0.6
ZRDN	**Zarand Kerman**	**0.74**	**291**	Pg	Pg	00 30 14.7	+0.2
KHGB	**Koh Gabri**	**0.81**	**246**	Pg	Pb	00 30 16.3	-0.3
CHMN	**Cheshme madani**	**0.86**	**168**	Pg	Pg	00 30 17.2	+0.3
TVBK	**TV Kerman**	**0.88**	**215**	Pg	Pn	00 30 18.4	-0.6
TVBK				Sg	Sb	00 30 29.3	-0.4
NGRK	**Negar Kerman**	**1.19**	**206**	Pg	Pn	00 30 23.8	+0.5
NGRK				Sg	Sn	00 30 40.7	+1.0
IBAF	**Bafgh**	**1.75**	**300**	Pg	Pg	00 30 33.6	-0.2
KBAM	**BAM**	**1.84**	**148**	Pn	Pb	00 30 34.3	+0.2
BSRN	**Basiran**	**1.98**	**50**	Pn	Pb	00 30 35.4	-1.1
IKOO	**Kooshah**	**2.22**	**39**	Pn	Pb	00 30 39.3	-1.4
TPRV	**Parvadeh(Tabas**	**2.38**	**347**	Pn	Pn	00 30 41.1	+1.7
NHDN	**Nehbandan**	**2.43**	**73**	Pn	Pb	00 30 42.4	-1.6
IMEH	**Mehriz**	**2.43**	**287**	Pn	Pb	00 30 42.9	-1.3
ITEG	**Tejag**	**2.49**	**29**	Pn	Pn	00 30 42.7	+1.6
KHNJ	**Kahnooj**	**2.77**	**173**	Pn	Pb	00 30 48.0	-2.0
TKDS	**Koohdasht(Taba**	**2.90**	**356**	Pn	Pn	00 30 48.6	+2.0
AFRZ	**Afriz**	**3.06**	**27**	Pn	Pn	00 30 50.6	+1.8
ZHDN	**Zahedan**	**3.28**	**113**	Pn	Pn	00 30 53.9	+1.9
SHRT	**Shahrakht**	**3.85**	**40**	Pn	Pn	00 31 01.9	+2.2
ANAR	**Anarak**	**3.94**	**310**	Pn	Pn	00 31 03.9	+3.0
IRAM	**Ramesheh**	**4.38**	**286**	Pn	Pn	00 31 10.2	+3.0
IZEF	**Zefreh**	**4.79**	**298**	Pn	Pn	00 31 17.4	+3.0
KLNJ	**Kolanjah**	**4.95**	**275**	Pn	Pn	00 31 17.4	+2.3
TBJM	**Torbat-e-JAM**	**5.19**	**28**	Pn	Pn	00 31 20.1	+1.9
SBZV	**Sabzevar**	**5.67**	**2**	Pn	Pn	00 31 27.1	+2.4
IPAY	**Payeh**	**5.89**	**13**	Pn	Pn	00 31 30.0	+2.1
IAKL	**Akhelmad**	**6.00**	**11**	Pn	Pn	00 31 31.8	+2.5
MRVT	**Maraveh tapeh**	**7.01**	**352**	Pn	Pn	00 31 45.2	+2.1

TRN 21 00:31:59.6,17.°53N×61.°56W, h20km**, MD4.0, Leeward**
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANBD	**Bethesda, Anti**	**0.52**	**202**	*e*P	Pn	00 32 12.3	+0.3
ANBD				*e*S	Sn	00 32 21.0	+0.8
MBFL	**Flemmings, Mon**	**1.00**	**219**	*e*P	Pn	00 32 19.7	+1.1
MBFL				*e*S	Sn	00 32 34.9	+2.8
ABD	**La Joyeuse, An**	**1.06**	**176**	*e*P	Pn	00 32 21.0	+1.7
ABD				*e*S	Sn	00 32 35.8	+2.4
CBE	**Ff, Capester**	**1.46**	**182**	*e*P	Pb	00 32 27.2	+1.1
CBE				*e*S	Sb	00 32 47.1	+2.9
FDF	**Fort de France**	**2.81**	**172**	*e*P	Pn	00 32 44.2	+0.7
FDF				*e*S	Sn	00 33 19.5	+2.6
BIM	**Bigot**	**3.04**	**171**	*e*P	Pn	00 32 49.5	+2.9
BIM				*e*S	Sn	00 33 25.8	+3.4
MPOM	**Morne Pois Mar**	**3.14**	**168**	*e*P	Pn	00 32 50.0	+1.9
MPOM				*e*S	Sn	00 33 27.2	+2.3
SLBI	**Saint Lucia, B**	**3.54**	**171**	*e*P	Pn	00 32 55.7	+2.3
SLBI				*e*S	Sn	00 33 36.4	+1.7
AOPR	**Arecibo Observ**	**5.01**	**280**	*e*P	Pn	00 33 16.3	+2.5

*TEH **21** 00:38:12.9,33.°77N×45.°73E, h11km±23km, ML3.1*
*ISN **21** 00:38:13.6±1.6,33.°79N×45.°73E, h25km, ML3.5*
ISC 21 00:38:12.9±1.1,**33.°76N**±0.°06×**45.°66E**±0.°05,**h10**km**, n15,**
σ1°**39**/**18, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.75**	**356**	Pg	**Pg**	**00 38 27.5**	**+0.2**
KGS1				Sg	**Sb**	**00 38 38.1**	**-0.2**
IGHG	**Ghaleghazi**	**0.94**	**53**	Pg	**Pb**	**00 38 30.8**	**-0.7**
IDHR	**Dehrash**	**1.11**	**33**	Pg	**Pg**	**00 38 33.4**	**-0.9**
BHD	**Baghdad**	**1.18**	**246**	*e*Pg	**Pn**	**00 38 35.0**	**-0.4**
	baz=65						
BHD				*e*Sg	**Sn**	**00 38 53.5**	**+2.0**
BHD				AML	AML	00 38 57.4	
	comp=E,1μm,0.3s						
ILIN	**Lien**	**1.58**	**43**	Pg	**Pg**	**00 38 42.4**	**-0.9**
ILIN				Sg	**Sg**	**00 39 04.7**	**+0.9**
IKFM	**Kafar-mosalman**	**1.84**	**97**	Pg	**Pb**	**00 38 45.8**	**-0.8**
IALM	**Almabolaq**	**2.35**	**61**	Pn	**Pb**	**00 38 52.9**	**-2.6**
SDS1	**Sadasht. Az.**	**2.39**	**357**	Pn	**Pb**	**00 38 54.3**	**-1.8**
HSAM	**Samen**	**2.49**	**79**	Pn	**Pn**	**00 38 54.5**	**+0.8**
MAHB	**Mahabad**	**3.00**	**1**	Pn	**Pn**	**00 39 02.6**	**+1.9**
HAGD	**Aghdareh**	**3.07**	**69**	Pn	**Pn**	**00 39 03.1**	**+1.4**
JHBN	**Jahan bin**	**4.47**	**109**	Pn	**Pn**	**00 39 22.0**	**+0.9**
QAMS	**Qamsar**	**4.78**	**89**	Pn	**Pn**	**00 39 26.4**	**+1.2**
IKLH	**Kolahrood**	**4.96**	**93**	Pn	**Pn**	**00 39 29.1**	**+1.3**
IRAM	**Ramesheh**	**5.99**	**107**	Pn	**Pn**	**00 39 42.7**	**+0.9**

*IDC **21** 00:55:00.5±1.1,17.°29N×83.°44W, h0km, mb3.5/6, mbtmp3.8/10, ML3.6/4, MS3.3/4, Error ellipse: s-maj=27.3km s-min=20.4km az=81.0*
*NEIC **21** 00:55:02.5±1.2,17.°53N±0.°07×83.°33W±0.°07, h10km±2km, mb4.0/28, Error ellipse: s-maj=12.2km s-min=10.4km az=143.0*
*CATAC **21** 00:55:03.7±1.1,17.°42N×83.°57W, h0km, MB5.3, mb4.8, ML4.4*
*JSN **21** 00:55:04.0±0.3,20.°11N×83.°18W, h15km*
ISC 21 00:55:02.7±0.5,**17.°50N**±0.°05×**83.°43W**±0.°05,**h18**km**, n89,**
σ1°**69**/**93, mb3.9**/**9, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**4.56**	**154**	*e*P	**Pn**	**00 56 10.6**	**-0.2**
PRVC	**Isla de Provid**	**4.56**	**154**	*i* P	**Pn**	**00 56 12.0**	**+1.2**
PRVC				IAML		00 58 25.8	
	comp=Z,58nm,1.0s						
NISHN	**Nisperales Com**	**4.60**	**249**	*i* P	**Pn**	**00 56 11.4**	**0.0**
RCPN	**Sur Rio San Ju**	**4.71**	**213**	*i* PA		00 56 14.9	
RCPN				IAML		00 57 12.9	
	comp=Z,0.5nm,1.0s						
YUSH	**Yuscaran**	**4.82**	**223**	*i* P	**Pn**	**00 56 16.1**	**+1.7**
YUSH				*i* S	**Sn**	**00 57 11.0**	**+1.1**
COMHN	**El Horno**	**5.00**	**233**	*i* P	**Pn**	**00 56 17.4**	**+0.4**
COMHN				*i* S	**Sn**	**00 57 13.7**	**-0.7**
TGUH	**Tegucigalpa,Un**	**5.04**	**228**	*i* P	**Pn**	**00 56 19.3**	**+1.8**
TGUH				IAML		00 58 16.0	
	comp=Z,160nm,1.0s						
MATN	**Matagalpa**	**5.14**	**208**		**Pn**	**00 56 18.3**	**-0.6**
LIMN	**Finca el Limon**	**5.24**	**213**	*i* P	**Pb**	**00 56 30.0**	**-3.9**
SOR	**Soroa**	**5.28**	**4**	Pn	**Pn**	**00 56 20.8**	**+0.1**
TEIG	**Tepich**	**5.33**	**301**	Pn	**Pn**	**00 56 21.3**	**-0.1**
TEIG	**Tepich**	**5.33**	**301**	LR	LR	00 58 27.2	
	comp=Z,1μm,21.9s,baz=344,slow=38						
TEIG	**Tepich**	**5.33**	**301**	*e*P	**Pn**	**00 56 21.2**	**-0.2**
BOAB	**BOACO BROADBAN**	**5.46**	**204**	Pn	**Pn**	**00 56 25.0**	**+1.8**
BOAB	**

JSC	**Jenkinsville**	**16.83**	**6**		**Pn**	**00 58 58.0 +0.6**
FPAL	**Fort Paine**	**17.08**	**354**		**P**	**00 59 02.2 -0.1**
Y45A	**Yeager Farm, C**	**17.20**	**343**		**P**	**00 59 03.2 -0.3**
Y45A				IAmb	IAmb	00 59 19.6
	comp=Z,13nm,0.9s					
BAUV	**El Baul**	**17.22**	**118**	Pn	**Pn**	**00 58 59.6 -2.8**
BAUV				IAmb	IAmb	00 59 00.9
	comp=Z,24nm,1.4s					
BIRD	**Birdtown, Kers**	**17.28**	**8**		**Pn**	**00 59 03.5 +0.4**
BIRD				IAmb	IAmb	00 59 15.1
	comp=Z,15nm,1.3s					
BG3	**Lake Jocassee**	**17.43**	**1**	Pn	**Pn**	**00 59 04.9 0.0**
W50A	**Signal Mountai**	**17.71**	**355**		**P**	**00 59 09.3 0.0**
W50A				IAmb	IAmb	00 59 25.2
	comp=Z,13nm,1.5s					
TKL	**Tuckaleechee C**	**18.09**	**359**	P	**P**	**00 59 14.4 +1.1**
	comp=Z,0.2nm,0.3s,baz=122,slow=22,SNR=1.7					
TKL				S	**Sn**	**01 02 27.1 -7.5**
	comp=Z,4.0nm,0.6s,baz=130,slow=3.5,SNR=6.3					
	comp=Z,1.0nm,0.5s					
833A	**Chaparral WMA,**	**18.21**	**309**	P	**P**	**00 59 15.7 +0.9**
WLAR	**White Oak Lake**	**18.31**	**334**	P	**P**	**00 59 16.1 +0.3**
ZAIG	**Zacatecas**	**18.71**	**289**	P	**Pn**	**00 59 21.9 +0.8**
ZAIG				IAmb	IAmb	00 59 27.0
	comp=Z,23nm,1.5s					
HNDO	**Hondo**	**18.80**	**312**	P	**Pn**	**00 59 22.8 +1.0**
X40A	**Basin Creek Fa**	**18.89**	**335**	P	**Pn**	**00 59 24.4 +1.6**
DRIO	**Del Rio**	**19.70**	**310**	Pn	**Pn**	**00 59 33.5 +0.8**
JCT	**Junction City**	**19.73**	**314**	P	**Pn**	**00 59 32.4 -0.7**
JCT				IAmb	IAmb	00 59 55.6
	comp=Z,8.0nm,0.8s					
APMT	**Aspermont**	**21.76**	**320**	P	**P**	**00 59 54.4 +1.0**
TXAR	**Lajitas Array**	**21.95**	**306**	P	**P**	**00 59 57.2 +1.6**
TXAR	**Lajitas Array**	**21.95**	**306**	P	**P**	**00 59 57.6 +2.0**
	comp=Z,0.7nm,0.6s,baz=127,slow=9.4,SNR=21					
TXAR				S	**S**	**01 03 56.1 -1.3**
	comp=Z,0.1nm,0.5s,baz=91,slow=15,SNR=1.9					
	comp=Z,0.7nm,0.6s					
TX31	**Lajitas Ar. Si**	**21.95**	**306**	P	**P**	**00 59 57.7 +2.1**
TX31				IAmb	IAmb	01 00 03.6
	comp=Z,6.2nm,1.1s					
WMOK	**Wichita Mounta**	**21.97**	**324**	P	**P**	**00 59 57.0 +1.4**
WMOK				IAmb	IAmb	00 59 59.1
	comp=Z,3.6nm,0.7s					
ALPN	**Alpine**	**22.43**	**309**	P	**P**	**01 00 00.9 +0.1**
ALPN				IAmb	IAmb	01 00 14.7
	comp=Z,7.0nm,0.9s					
T35A	**Sooner Cattle**	**22.52**	**332**	P	**P**	**01 00 01.1 -0.5**
PDAR	**Pinedale Array**	**33.58**	**324**	P	**P**	**01 01 44.2 +2.2**
	comp=Z,0.9nm,0.8s,baz=128,slow=9.7,SNR=5.9					
	comp=Z,0.9nm,0.8s					
NVAR	**Mina Array Bea**	**36.88**	**312**	P	**P**	**01 02 12.2 +1.8**
	comp=Z,0.9nm,0.7s,baz=120,slow=8.2,SNR=4.5					
	comp=Z,0.9nm,0.7s					
YKA	**Yellowknife Ar**	**49.92**	**342**	P	**P**	**01 03 56.2 +1.2**
	comp=Z,0.2nm,0.8s,baz=138,slow=8.5,SNR=5.9					
	comp=Z,0.2nm,0.8s					
ILAR	**Eielson Array**	**63.08**	**335**	P	**P**	**01 05 30.9 +2.2**
	comp=Z,1.0nm,0.9s,baz=110,slow=4.1,SNR=11					
	comp=Z,1.0nm,0.9s					
ESDC	**Sonseca Array**	**71.06**	**53**	P	**P**	**01 06 22.1 +2.2**
	comp=Z,0.7nm,0.8s,baz=287,slow=6.2,SNR=4.2					
	comp=Z,0.7nm,0.8s					
WRA	**Warramunga Arr**	**144.19**	**260**	PKP	**PKPdf**	**01 14 38.3 -0.1**
	comp=Z,0.5nm,0.8s,baz=88,slow=3.1,SNR=2.3					
ASAR	**Alice Springs**	**144.58**	**254**	PKP	**PKPdf**	**01 14 38.8 -0.2**
	comp=Z,0.9nm,0.8s,baz=109,slow=3.6,SNR=5.8					

IDC ***21*** *01:00:13.1±1.3,22.81N×120.74E,h0km,mb3.4/4, mbtmp3.4/4,MS3.0/2,Error ellipse: s-maj=77.2km s-min=28.0km az=69.0*

NIED ***21*** *01:00:15.8,22.83N×120.53E,h11km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr4.20; Mθθ-0.51; Mϕϕ-3.70; Mrθ-3.09; Mθϕ1.84; Mϕr-6.85; Fault plane solution: M₀8.55000×10¹⁴ NP1: ϕs194.00000°,δ77.00000°,λ108.00000°. NP2: ϕs319.00000°,δ22.00000°,λ37.00000°.*

JMA ***21*** *01:00:15.8±0.1,22.8N±0.4×120.5E±0.2,h11km±1km, MV4.2/14,TAIWAN REGION*

ASIES ***21*** *01:00:16.1,22.84N×120.61E,h14km,ML4.1,Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr2.86; Mθθ-1.31; Mϕϕ0.63; Mrθ1.99; Mθϕ2.08; Mϕr-4.88; Fault plane solution: M₀6.10089×10²¹ NP1: ϕs153.56000°,δ78.97000°,λ109.99000°. NP2: ϕs271.31000°,δ22.72000°,λ29.69000°. Principal axes: T Plg51.9530°, Azm86.6610°; N Plg19.6040°, Azm329.5890°; P Plg31.1290°, Azm227.1670°;*

TAP ***21*** *01:00:16.1,22.84N×120.61E,h14km,ML4.1,B*

ISC 21 01:00:16.3±0.7, 22.84N±0.01×120.59E±0.01, h15km±3km, n153, σ0.97/249, mb3.6/4, 11C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res	ISC
SCST	**Cishan**		**0.10**	**294**	⇑	*i* P			**Pb**
	baz=295								
SCST				S					**Sb**
	baz=295								
SSD	**Sandimen**		**0.10**	**159**	⇑	*i* P			**Pg**
	baz=161								
SSD				S					**Sg**
	baz=161								
TSMG	**Majia**		**0.15**	**161**	⇑	*i* P			**Pb**
	baz=164								
TSMG				*i* S					**Sg**
	baz=164								
SGLT	**Jiouru**		**0.15**	**218**	⇑	*i* P			**Pb**
	baz=219								
SGLT				*i* S					**Sb**
	baz=219								
SLGT	**Liugui**		**0.16**	**19**	⇓	*i* P			**Pb**
	baz=22								
SLGT				*i* S					**Sb**
	baz=22								
TWM1	**Shoushan**		**0.16**	**262**	⇑	*i* P			**Pb**
	baz=264								
TWM1				S					**Sb**
	baz=264								
TSPT	**Pingtung City**		**0.19**	**208**		P			**Pb**
	baz=204								
TSPT				S					**Sb**
	baz=204								
MASBT	**Mashibuluo**		**0.23**	**171**	⇓	*i* P			**Pb**
	baz=171								
MASBT				*i* S					**Sg**
	baz=171								
SGST	**Jiashian**		**0.24**	**358**		*e* P			**Pg**
	baz=4.0								
SGST				*i* S					**Sb**
	baz=4.0								
SNJT	**Kaohsiung City**		**0.25**	**249**		P			**Pb**
	baz=251								
SNJT				*e* S					**Sn**
	baz=251								
SHHT	**Tainan City**		**0.29**	**308**		P			**Pn**
	baz=317								
SHHT				*e* S					**Sn**
	baz=317								
CHN3	**Shinhua**		**0.31**	**318**		P			**Pn**
	baz=326								
CHN3				S					**Sn**
	baz=326								
CHN1	**Nanshi**		**0.34**	**350**	⇓	*i* P			**Pb**
	baz=358								
CHN1				S					**Sn**
	baz=358								
STYT	**Tauyuan**		**0.35**	**26**	⇓	*i* P			**Pb**
	baz=33								
STYT				S					**Sn**
	baz=33								
STYH	**Taoyuan**		**0.37**	**27**		P			**Pb**
	baz=34								
STYH				*e* S					**Sb**
	baz=34								
WSSB	**Gushan**		**0.37**	**237**		P			**Pb**
	baz=236								
KAU	**Kaohsiung**		**0.38**	**224**		*e* P			**Pn**
	baz=233								
SNST	**Tainan City**		**0.38**	**347**		P			**Pb**
	baz=347								
SNST				S					**Sn**
	baz=347								
TAI1	**Yung-k'ang**		**0.39**	**300**		*e* P			**Pn**
	baz=301								
TAI	**Tainan**		**0.39**	**292**		*e* P			**Pb**
	baz=294								
TAI				*e* S					**Sn**
	baz=294								
SSHA	**Shanhua**		**0.40**	**316**		*e* P			**Pb**
	baz=329								
ECL	**Taimali**		**0.41**	**126**	⇑	*i* P			**Pb**
	baz=133								
ECL				S					**Sb**
	baz=133								
TWK	**Hsinying**		**0.43**	**347**	⇑	*i* P			**Pb**
	baz=350								
TWK				S					**Sb**
	baz=350								
TWG	**Pinlang**		**0.44**	**93**	⇓	*i* P			**Pb**
	baz=93								
TWG				S					**Sb**
	baz=93								
TWGBT	**Beinan**		**0.45**	**93**		P			**Pb**
TWGBT	**Beinan**		**0.45**	**93**	⇓	*i* P			**Pb**
TWGBT				S					**Sb**
	baz=93								
TPUB	**Ta-pu**		**0.46**	**4**		*i* P			**Pb**
	baz=5.0								
TPUB				S					**Sb**
	baz=5.0								
SCZT	**Fangliau**		**0.47**	**177**	⇓	*i* P			**Pb**
	baz=167								
SCLT	**Jiali**		**0.49**	**312**		P			**Pb**
	baz=315								
SCLT				S					**Sn**
	baz=315								
LONT	**Longtian**		**0.50**	**83**		*i* P			**Pb**
	baz=85								
LONT				S					**Sb**
	baz=85								
CHN4	**Tsaushan**		**0.50**	**0**	⇑	*i* P			**Pb**
	baz=1.0								
CHN4				S					**Sn**
	baz=1.0								
EAST	**Anshuo**		**0.52**	**153**		P			**Pb**
	baz=146								
EAST				S					**Sb**
	baz=146								
ELDTW	**Lidau**		**0.52**	**49**		P			**Pb**
	baz=44								
ELDTW				S					**Sb**
	baz=44								
TTN	**Taitung**		**0.52**	**100**		*i* P			**Pb**
	baz=102								
TTN				S					**Sn**
	baz=102								
TWP	**Hsiaoliuchiu**		**0.54**	**203**	⇑	*i* P			**Pn**
	baz=199								
TWP				S					**Sn**
	baz=199								
TSCK	**Chigu Township**		**0.56**	**303**		P			**Pb**
	baz=304								
TSCK				S					**Sn**
	baz=304								
TAW	**Tawu**		**0.56**	**150**		P			**Pb**
	baz=143								
TAW				S					**Sb**
	baz=143								
TAWH	**Dawu Township**		**0.57**	**151**		*e* P			**Pb**
	baz=145								
TAWH				S					**Sb**
	baz=145								
ICHU	**Yijhu**		**0.59**	**331**		P			**Pb**
	baz=332								
ICHU				S					**Sn**
	baz=332								
WCKO	**Fanlu**		**0.59**	**1**		P			**Pb**
	baz=1.0								
WCKO				S					**Sn**
	baz=1.0								
CHN8	**Yiju**		**0.61**	**325**		P			**Pn**
	baz=327								
CHN8				S					**Sn**
	baz=327								
ECS	**Chishang**		**0.63**	**67**		P			**Pb**
	baz=66								
ECS				S					**Sn**
	baz=66								
EHD	**Haiduan**		**0.64**	**62**		P			**Pb**
	baz=61								
EHD				S					**Sb**
	baz=61								
CHY	**Chiayi**		**0.67**	**347**		*e* P			**Pn**
	baz=348								
CHY				*e* S					**Sn**
	baz=348								
EDH	**Donghe**		**0.67**	**79**		P			**Pn**
	baz=76								
EDH				S					**Sn**
	baz=76								
ALS	**Alishan**		**0.69**	**16**	⇑	*i* P			**Pb**
	baz=17								
ALS				S					**Sn**
	baz=17								
CHN2	**Minshiung**		**0.69**	**351**		*i* P			**Pn**
	baz=352								
CHN2				*i* S					**Sn**
	baz=352								
FULB	**Fuli**		**0.74**	**61**		P			**Pn**
	baz=51								
FULB				S					**Sn**
	baz=51								
CHN5	**Tsauling**		**0.75**	**6**		P			**Pb**
	baz=7.0								
CHN5				S					**Sn**
	baz=7.0								
WSL	**Shuilin Townsh**		**0.75**	**334**		*e* P			**Pn**
	baz=336								
WSL				*e* S					**Sn**
	baz=336								
CHKT	**Chengkung**		**0.76**	**70**	⇑	*i* P			**Pn**
	baz=85								
CHKT				S					**Sn**
	baz=85								
CHKH	**Chenggong**		**0.82**	**65**		*e* P			**Pn**
	baz=81								
TWF1	**Yuli**		**0.82**	**52**		*e* P			**Pb**
	baz=61								
TWF1				S					**Sb**
	baz=61								
LDUT	**Ludao**		**0.83**	**102**		P			**Pn**
	baz=102								
EYUL	**Yuli**		**0.84**	**53**		P			**Pn**
	baz=53								
EYUL				S					**Sb**
	baz=53								
WGK	**Gukeng**		**0.84**	**358**		*e* P			**Pn**
WGK				*e* S					**Sn**
WDLH	**Douliu**		**0.84**	**357**		P			**Pn**
	baz=358								
WDLH				S					**Sn**
	baz=358								
HEN	**Hengchun**		**0.85**	**171**		*e* P			**Pn**
	baz=157								
HEN				*e* S					**Sn**
	baz=157								
YULB	**Yu-li**		**0.85**	**50**		P			**Pb**
YULB	**Yu-li**		**0.85**	**50**		P			**Pb**
	baz=59								
YULB				S					**Sb**
	baz=59								
SMST	**Manzhou Townsh**		**0.85**	**165**		P			**Pn**
	baz=163								
SMST				S					**Sn**
	baz=163								
WSF	**Szhu**		**0.86**	**337**		P			**Pn**
	baz=339								
WSF				S					**Sn**
	baz=339								
WTK	**Tuku**		**0.86**	**347**		*e* P			**Pb**
	baz=349								
WTK				S					**Sn**
	baz=349								
WHYT	**Xinyi Township**		**0.88**	**16**		*e* P			**Pn**
	baz=17								
WHYT				*e* S					**Sn**
	baz=17								
TWK1	**Hengchun**		**0.92**	**168**		*e* P			**Pn**
	baz=165								
TWK1				S					**Sn**
	baz=165								
ECBN	**Changbin**		**0.92**	**59**		*e* P			**Pn**
	baz=73								
TWKBT	**Hengchun**		**0.92**	**167**		*e* P			**Pn**
	baz=165								
TWKBT						*e* S			**Sn**
	baz=165								
EHY	**Hungye**		**0.94**	**45**	⇓	*i* P			**Pn**
	baz=54								
EHY				S					**Sn**
	baz=54								
WDGT	**Dungji**		**0.95**	**296**		P			**Pb**
	baz=298								
WDGT				S					**Sb**
	baz=298								
WJS	**Zhushan**		**0.98**	**7**		P			**Pn**
	baz=354								
WJS				S					**Sn**
	baz=354								
TSEB	**Hengchuen, Pin**		**0.98**	**163**		P			**Pn**
	baz=164								
TSEB				S					**Sn**
	baz=164								
SSLB	**Suanglung**		**1.00**	**19**		P			**Pn**
SSLB	**Suanglung**		**1.00**	**19**		P			**Pg**
	baz=21								
SSLB				S					**Sn**
	baz=21								
HGSD	**Ruisui**		**1.00**	**50**		P			**Pn**
	baz=50								
HGSD				S					**Sn**
	baz=50								
WNT	**Mingjian**		**1.03**	**5**		P			**Pn**
	baz=8.0								
WNT				S					**Sn**
	baz=8.0								
VWDT	**VWDT**		**1.04**	**29**		P			**Pg**
	baz=22								
VWDT				*e* S					**Sn**
	baz=22								
WTCT	**Ta-ch'eng**		**1.05**	**344**		*e* S			**Sn**
	baz=347								
WRL	**Guolierlin Hig**		**1.07**	**349**		P			**Pb**
	baz=352								
WRL				S					**Sn**
	baz=352								
SMLT	**Sun Moon Lake**		**1.07**	**15**		P			**Pn**
	baz=17								
SMLT				S					**Sn**
	baz=17								
TYC	**Yuchr**		**1.08**	**13**		P			**Pg**
	baz=15								
TYC				S					**Sn**
	baz=15								
EGFH	**Guangfu**		**1.12**	**43**		*e* S			**Sn**
	baz=53								
VCHM	**Qimei**		**1.13**	**289**		P			**Pb**
	baz=291								
VCHM				S					**Sb**
	baz=291								
WARBT	**Fenglin Townsh**		**1.14**	**40**		P			**Pg**
	baz=30								
WARBT				S					**Sn**
	baz=30								
PHUB	**P'eng-hu**		**1.15**	**306**		*e* P			**Pn**
	baz=321								
PHUB				S					**Sb**
	baz=321								
PNG	**Penghu**		**1.20**	**307**		*e* P			**Pn**
	baz=323								
PNG				*e* S					**Sb**
	baz=323								
LAY	**Lan-yu**		**1.20**	**132**		*e* P			**Pb**
	baz=133								
TEGC	**Jichi Village**		**1.23**	**45**		*e* P			**Pg**
	baz=47								
OWD	**Renai**		**1.23**	**26**		*e* P			**Pg**
	baz=28								
WCHH	**Zhanghua**		**1.23**	**359**		*e* P			**Pg**
	baz=1.0								
WCHH				*e* S					**Sg**
	baz=1.0								
ESL	**Shilin**		**1.24**	**39**		P			**Pg**
	baz=31								
ESL				S					**Sg**
	baz=31								
WUSB	**Renai**		**1.24**	**23**		P			**Pg**
	baz=11								
WUSB				S					**Sg**
	baz=11								
WCS	**Beigang Elemen**		**1.24**	**14**		P			**Pg**
	baz=16								
WCS				S					**Sg**
	baz=16								
LYUB	**Lan-yu**		**1.24**	**132**		*e* P			**Pn**
	baz=122								
SHUL	**Shoufeng**		**1.29**	**43**		P			**Pg**
	baz=45								
TCU	**Taichung**		**1.30**	**3**		*e* P			**Pb**
	baz=6.0								
TCU				*e* S					**Sg**
	baz=6.0								
CHGB	**Renai**		**1.32**	**24**		*e* P			**Pg**
	baz=12								
CHGB				*e* S					**Sg**
	baz=12								
ETM	**Tongmen**		**1.39**	**36**		*e* P			**Pg**
	baz=38								
ETM				*e* S					**Sg**
	baz=38								
LXIB	**Xiulin Townshi**		**1.39**	**33**		P			**Pb**
	baz=32								
LXIB				S					**Sg**
	baz=32								
WHF	**Hehuan Shan**		**1.43**	**25**		P			**Pg**
	baz=17								
WHF				*e* S					**Sg**
	baz=17								
HWA	**Hwalien**		**1.46**	**39**		*e* P			**Pg**
	baz=57								
WHP	**Taichung City**		**1.46**	**13**		P			**Pb**
	baz=15								
WHP				S					**Sg**
	baz=15								
TDCB	**Techi**		**1.50**	**20**		*e* P			**Pn**
	baz=10.0								
WDJ	**Dajia District**		**1.50**	**2**		*e* P			**Pb**
	baz=5.0								
WDJ				*e* S					**Sg**
	baz=5.0								
TWT	**Tachien**		**1.50**	**21**		P			**Pb**
	baz=22								
TWT				*e* S					**Sg**
	baz=22								
TWQ1	**Liyutan**		**1.51**	**6**		P			**Pb**
	baz=9.0								
TWQ1				S					**Sg**
	baz=9.0								
TWD	**Chiawan**		**1.54**	**37**		P			**Pb**
	baz=39								
TWD				S					**Sg**
	baz=39								
NSY	**Sanyi**		**1.57**	**6**		P			**Pb**
	baz=9.0								
NSY				S					**Sg**
	baz=9.0								
ETLH	**Xiulin Townshi**		**1.58**	**31**		*e* P			**Pb**
	baz=33								
ETLH				*e* S					**Sg**
	baz=33								
NACB	**Ninganchiao**		**1.61**	**35**		P			**Pb**
NACB	**Ninganchiao**		**1.61**	**35**		P			**Pb**
	baz=37								
NACB				S					**Sb**
	baz=37								
ETL	**Fush Village**		**1.61**	**36**		*e* P			**Pn**
	baz=38								
NMLH	**Miaoli**		**1.69**	**6**		*e* P			**Pb**
	baz=9.0								
NNSB	**Datong**		**1.73**	**25**		*e* P			**Pb**
	baz=28								
NNSB				*e* S					**Sb**
	baz=28								
NNS	**Nan Shan**		**1.74**	**24**		P			**Pb**
	baz=27								
NNS				*e* S					**Sg**
	baz=27								
EAHA	**Aohua**		**1.81**	**35**		*e* P			**Pn**
	baz=37								

NSTT	**Nanjuang** baz=359	**1.82**	**12**	*eP*	**Pb**	**01 00 48.3**	**-1.0**
NSTT				*eS*	**Sg**	**01 01 13.4**	**-1.5**
LIOB	**Emei** baz=359	**1.83**	**12**	*eP*	**Pn**	**01 00 48.3**	**+1.0**
NFF	**Wufeng Townshi** baz=1.0	**1.84**	**15**	*eP*	**Pb**	**01 00 48.8**	**-1.0**
LATG	**Datong** baz=29	**1.89**	**27**	*eP*	**Pb**	**01 00 50.2**	**-0.3**
LATG				*eS*	**Sb**	**01 01 15.3**	**+1.3**
ENA	**Nanau** baz=36	**1.90**	**34**	*eP*	**Pb**	**01 00 49.4**	**-1.3**
EWUT	**Wuta** baz=36	**1.93**	**34**	*eP*	**Pb**	**01 00 51.1**	**-0.1**
NDT	**Datong Townshi** baz=11	**1.94**	**26**	*eP*	**Pb**	**01 00 51.4**	**0.0**
NSK	**Sanguang** baz=24	**1.95**	**21**	*eP*	**Pb**	**01 00 51.0**	**-0.7**
YHNB	**Yeheng**	**1.95**	**21**	P	**Pb**	**01 00 51.0**	**-0.7**
YHNB	**Yeheng** baz=25	**1.95**	**21**	*eP*	**Pb**	**01 00 51.2**	**-0.5**
ENTT	**Nioudou** baz=12	**2.00**	**26**	*eP*	**Pb**	**01 00 52.1**	**-0.3**
EOS4	**EOS4** baz=52	**2.03**	**51**	*eP*	**Pn**	**01 00 50.8**	**+1.2**
NWLT	**Wulai** baz=26	**2.10**	**23**	*eP*	**Pb**	**01 00 54.3**	**+0.2**
TWC	**Suao** baz=35	**2.10**	**33**	*eP*	**Pb**	**01 00 54.1**	**0.0**
TWE	**Neicheng** baz=46	**2.11**	**28**	P	**Pb**	**01 00 54.4**	**+0.1**
FUSB	**Fushanzhiwuyua** baz=10.0	**2.11**	**25**	*eP*	**Pb**	**01 00 54.3**	**0.0**
EOS3	**EOS3** baz=47	**2.14**	**47**	*eP*	**Pb**	**01 00 53.1**	**-1.6**
NHDH	**Xindian Distri** baz=25	**2.27**	**22**	*eP*	**Pb**	**01 00 57.2**	**+0.1**
TWA	**Mucha** baz=10.0	**2.31**	**23**	*eP*	**Pb**	**01 00 58.7**	**+0.9**
VWUC	**VWUC** baz=338	**2.38**	**334**	*eP*	**Pn**	**01 00 54.3**	**-0.5**
TIPB	**Shuangxi** baz=13	**2.40**	**28**	*eP*	**Pb**	**01 00 57.9**	**-1.3**
SXI1	**Grass Mountain** baz=13	**2.53**	**27**	*eP*	**Pn**	**01 00 58.6**	**+1.7**
KNMB	**Chin-men Tao** baz=314	**2.58**	**309**	*eP*	**Pn**	**01 00 56.2**	**-1.3**
JYNG	**Yonaguni jima**	**2.69**	**53**	*eP*	**Pn**	**01 01 01.1**	**+2.2**
JYNG				*eS*	**Sn**	**01 01 33.7**	**+2.5**
YOJ	**Yonaguni jima**	**2.74**	**54**	P	**Pn**	**01 01 01.9**	**+2.1**
YOJ				*eS*	**Sb**	**01 01 37.4**	**-1.0**
YOJ	**Yonaguni jima** baz=53	**2.74**	**54**	*eP*	**Pn**	**01 01 01.7**	**+2.0**
HATJ	**Hateruma jima**	**3.19**	**67**	*eP*	**Pn**	**01 01 07.9**	**+2.0**
HATJ				S	**Sn**	**01 01 45.5**	**+1.9**
MATB	**Ma-tsu** baz=354	**3.34**	**350**	*eP*	**Pn**	**01 01 07.2**	**-0.8**
JKRS	**Kuro-shima**	**3.43**	**65**	P	**Pn**	**01 01 10.8**	**+1.6**
JIJ	**Ishigaki jima**	**3.59**	**64**	P	**Pn**	**01 01 12.5**	**+1.1**
JIJ				*eS*	**Sn**	**01 01 54.5**	**+0.9**
JISG	**Ishigakijimahi**	**3.82**	**62**	P	**Pn**	**01 01 15.8**	**+1.1**
JTJ	**Tarama**	**4.17**	**64**	P	**Pn**	**01 01 21.0**	**+1.6**
JTJ				*eS*	**Sn**	**01 02 10.7**	**+2.9**
KSRS	**Korea Array** comp=Z,37nm,19.9s,baz=155,slow=40	**15.87**	**22**	LR	LR	01 10 50.8	
CMAR	**Chiang Mai Arr** comp=Z,53nm,18.3s,baz=45,slow=40	**20.72**	**262**	LR	LR	01 14 07.5	
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=126,slow=9.1,SNR=2.3 0.2nm,0.7s	**38.93**	**317**	P	**P**	**01 07 41.5**	**0.0**
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=345,slow=8.9,SNR=4.1 0.8nm,0.7s	**44.59**	**161**	P	**P**	**01 08 26.1**	**-2.0**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=339,slow=7.3,SNR=2.4 0.2nm,0.3s	**48.01**	**163**	P	**P**	**01 08 53.9**	**-1.0**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=322,slow=4.0,SNR=4.7 0.2nm,0.5s	**84.41**	**23**	P	**P**	**01 12 47.1**	**-0.8**

IDC 21 01:03:36.0±2.6, 4.08N×127.02E, h0km, mb3.4/4, mbtmp3.4/4, MS4.0/1, Error ellipse: s-maj=246.8km s-min=24.3km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=345,slow=10.0,SNR=3.1 0.5nm,0.7s	**24.94**	**163**	P	P	01 09 02.5	+1.3
ASAR	**Alice Springs** 0.3nm,0.9s,baz=335,slow=6.4,SNR=1.6 0.3nm,0.9s	**28.39**	**167**	P	P	01 09 30.9	-1.4
KLR	**Kul'dur** comp=Z,172nm,18.1s,baz=278,slow=42	**45.17**	**4**	LR	LR	01 35 15.8	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=120,slow=7.5,SNR=8.4 0.2nm,0.5s	**57.43**	**325**	P	P	01 13 26.1	-0.6
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=115,slow=6.3,SNR=1.5 0.3nm,0.3s	**61.60**	**327**	P	P	01 13 56.2	+0.9

IDC 21 01:03:47.7±9.5, 17.74S×171.57W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=415.8km s-min=40.7km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=96,slow=8.1,SNR=5.4 0.6nm,0.9s	**51.05**	**258**	P	P	01 12 52.0	-0.2
ASAR	**Alice Springs** 0.3nm,0.3s,baz=92,slow=8.7,SNR=8.1 0.3nm,0.3s	**51.09**	**254**	P	P	01 12 52.5	0.0
ILAR	**Eielson Array** 0.4nm,1.0s,baz=218,slow=2.5,SNR=4.1 0.4nm,1.0s	**84.41**	**10**	P	P	01 16 21.6	-0.1

*VAO **21** 01:06:40.4±0.5, 18.77S×69.22W, h104km±4km, mb6.2*
*SJA **21** 01:06:40.1±0.6, 18.91S×69.68W, h133km±2km, ML6.2, MW5.8*
*GUC **21** 01:06:40.9±0.8, 18.86S×69.58W, h129km±3km, ML6.2*
*BJI **21** 01:06:41.2±0.0, 18.91S×69.42W, h115km, mB6.1/68*
*NEIC **21** 01:06:42.9, 18.85S×69.46W, h110km*
*NEIC **21** 01:06:42.7±2.9, 18.88S±0.05×69.45W±0.07, h116km±1km, mb6.1/813, Mwb6.3/67, Mwr6.3/47, Mww6.3/44, Error ellipse: s-maj=11.7km s-min=8.0km az=274.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-2.02; Mθθ0.51; Mϕϕ 1.51; Mrθ-0.32; Mθϕ0.24; Mϕr-3.49; Fault plane solution: Mo3.96000×10¹⁸ NP1:ϕs6.13000°, δ76.48000°, λ-92.04000°. NP2:ϕs194.81000°, δ13.67000°, λ-81.56000°. Principal axes: T 3.7022, Plg31.0000°, Azm98.0000°; N 0.4673, Plg2.0000°, Azm7.0000°; P -4.1695, Plg58.0000°, Azm273.0000°; Moment Tensor Solution. Moment tensor: Scale 10¹⁸ Nm; Mrr-2.38; Mθθ-0.13; Mϕϕ2.51; Mrθ0.52; Mϕθ0.12; Mϕr-2.67; Fault plane solution: Mo3.66000×10¹⁸ NP1:ϕs193.09000°, δ22.06000°, λ-70.69000°. NP2:ϕs352.37000°, δ69.24000°, λ-97.63000°. Principal axes: T 3.6823, Plg24.0000°, Azm88.0000°; N -0.0548, Plg7.0000°; Azm355.0000°; P -3.6275, Plg65.0000°, Azm250.0000°;*
*MOS **21** 01:06:42.2±1.4, 18.82S×69.61W, h123km, mb6.0/43 Error ellipse: s-maj=9.7km s-min=5.6km az=95.2*
*IPGP **21** 01:06:42.0, 18.89S×69.62W, h121km, Mw6.4, Fault plane solution: NP1:ϕs355.00000°, δ71.00000°, λ-96.00000°. NP2:ϕs193.00000°, δ20.00000°, λ-73.00000°.*
*NEIC **21** 01:06:42, 18.88S×69.52W, h110km*
*NEIC **21** 01:06:42.1, 18.88S×69.54W, h110km*
*NEIC **21** 01:06:42.9, 18.95S×69.56W, h110km, Moment Tensor Solution. Duration: 7s2 Moment tensor: Scale 10¹⁸Nm; Mrr-2.60; Mθθ-0.18; Mϕϕ2.78; Mrθ0.45; Mθϕ0.02; Mϕr-2.12; Fault plane solution: Mo3.45000×10¹⁸ NP1: ϕs352.45000°, δ64.54000°, λ-97.19000°. NP2: ϕs188.81000°, δ26.40000°, λ-75.27000°. Principal axes: T 3.5165, Plg19.0000°, Azm88.0000°; N -0.1281, Plg6.0000°, Azm356.0000°; P -3.3884, Plg70.0000°, Azm248.0000°;*

*IDC **21** 01:06:43.4±0.3, 18.71S×69.31W, h128km±2km, mb5.4/26, mbtmp5.7/28, MS5.3/39 Error ellipse: s-maj=11.4km s-min=8.6km az=80.0*
*GCMT **21** 01:06:44.7±0.1, 18.93S×69.66W, h134km, MW6.3/171, Moment Tensor Solution. s171,c430; s166,c608; Duration: 3s5 Moment tensor: Scale 10¹⁸Nm; Mrr-2.39±.02; Mθθ-0.36±.02; Mϕϕ2.75±.02; Mrθ0.30±.01; Mθϕ-0.01±.02; Mϕr-2.75±.02; Best double couple: Mo3.77700×10¹⁸ NP1:ϕs355.00000°, δ69.00000°, λ-94.00000°. NP2:ϕs186.00000°, δ22.00000°, λ-80.00000°. Principal axes: T 3.9480, Plg24.0000°, Azm88.0000°; N -0.3450, Plg4.0000°, Azm357.0000°; P -3.6060, Plg66.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **21** 01:07:02.5, 13.52S×65.19W, h127km±3km, mb4.9*
ISC 21 01:06:42.1±0.2, 18.84S±0.02×69.46W±0.03, h120km±1km, h120km:pP-P, n2396, σ2s40/2886, mb6.1/517, 83C-105D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.51**	**355**		**Pn**	**01 07 00.5**	**-0.5**
PB16	**IPOC Station P**	**0.51**	**355**	*eP*	**Pn**	**01 07 01.0**	**+0.1**
PB16				*eS*	**Sn**	**01 07 17.5**	**+2.5**
PB16				IAML		01 07 20.9	
	comp=Z,387μm,0.4s						
PB16	**IPOC Station P**	**0.51**	**355**	⇓*eP*	**Pn**	**01 07 00.2**	**-0.7**
PB16				*eS*	**Sn**	**01 07 14.6**	**-0.4**
PB16				IAML		01 07 18.9	
	comp=E,491μm,0.5s						
PX02	**IPOC Station P**	**0.71**	**260**	⇑*iP*	**Pn**	**01 06 59.1**	**-2.7**
PX02				*eS*	**Sn**	**01 07 14.2**	**-2.3**
PX02				IAML		01 07 16.9	
	comp=N,1114μm,0.6s						
PB12	**IPOC Station P**	**0.86**	**285**	Pn	**Pn**	**01 07 01.4**	**-1.6**
PB12	**IPOC Station P**	**0.86**	**285**	*eP*	**Pn**	**01 07 01.3**	**-1.6**
PB12				*eS*	**Sn**	**01 07 17.2**	**-1.5**
PB12				IAML		01 07 20.2	
	comp=Z,322μm,0.3s						
PB12	**IPOC Station P**	**0.86**	**285**	⇑*eP*	**Pn**	**01 07 01.2**	**-1.7**
PB12				*eS*	**Sn**	**01 07 16.6**	**-2.1**
PB12				IAML		01 07 19.9	
	comp=E,650μm,0.5s						
GO01	**Chusmiza**	**0.86**	**163**		**Pn**	**01 07 03.0**	**-0.5**
GO01	**Chusmiza**	**0.86**	**163**	*eP*	**Pn**	**01 07 03.4**	**0.0**
GO01				*eS*	**Sn**	**01 07 21.0**	**+1.5**
GO01	**Chusmiza**	**0.86**	**163**	*i* P	**Pn**	**01 07 03.0**	**-0.5**
GO01				*eS*	**Sn**	**01 07 19.5**	**0.0**
GO01				IAML		01 07 23.8	
	comp=E,727μm,0.4s						
PB11	**IPOC Station P**	**0.93**	**192**	Pn	**Pn**	**01 07 02.9**	**-0.9**
PB11	**IPOC Station P**	**0.93**	**192**	*eP*	**Pn**	**01 07 02.8**	**-0.9**
PB11				*eS*	**Sn**	**01 07 19.1**	**-1.0**
PB11				IAML		01 07 32.3	
	comp=Z,387μm,1.0s						
PB11	**IPOC Station P**	**0.93**	**192**	⇑*eP*	**Pn**	**01 07 02.4**	**-1.4**
PB11				*eS*	**Sn**	**01 07 18.6**	**-1.5**
PB11				IAML		01 07 20.0	
	comp=N,595μm,0.5s						
AP01	**Chacalluta**	**0.96**	**299**		**Pn**	**01 07 02.9**	**-0.9**
AP01	**Chacalluta**	**0.96**	**299**	*eP*	**Pn**	**01 07 02.6**	**-1.2**
AP01				*eS*	**Sn**	**01 07 18.8**	**-1.4**
AP01				IAML		01 07 24.9	
	comp=Z,470μm,2.2s						
AP01	**Chacalluta**	**0.96**	**299**	⇑*iP*	**Pn**	**01 07 02.4**	**-1.4**
AP01				*eS*	**Sn**	**01 07 18.4**	**-1.8**
PB18	**Visviri**	**1.25**	**359**	Pn	**Pn**	**01 07 08.6**	**+1.2**
PB18	**Visviri**	**1.25**	**359**	*i* P	**Pn**	**01 07 08.3**	**+0.9**
PB08	**IPOC Station P**	**1.32**	**168**		**Pn**	**01 07 07.7**	**-0.2**
PB08	**IPOC Station P**	**1.32**	**168**	P	**Pn**	**01 07 07.1**	**-0.9**
PB08	**IPOC Station P**	**1.32**	**168**	*eP*	**Pn**	**01 07 07.8**	**-0.2**
PB08				*eS*	**Sn**	**01 07 28.4**	**+0.8**
PB08				IAML		01 07 31.7	
	comp=Z,209μm,0.8s						
PB08	**IPOC Station P**	**1.32**	**168**	⇓*eP*	**Pn**	**01 07 07.6**	**-0.4**
PB08				*eS*	**Sn**	**01 07 27.6**	**+0.1**
PB08				IAML		01 07 28.9	
	comp=E,285μm,0.7s						
HMBC	**Humberstone**	**1.48**	**196**	*eP*	**Pn**	**01 07 08.0**	**-1.6**
HMBC				*eS*	**Sn**	**01 07 28.9**	**-1.5**
HMBC	**Humberstone**	**1.48**	**196**	⇑*iP*	**Pn**	**01 07 07.9**	**-1.6**
HMBC				⇑*iP*	**Pn**	**01 07 07.7**	**-1.8**
HMBC				*eS*	**Sn**	**01 07 28.0**	**-2.4**
HMBC				IAML		01 07 33.8	
	comp=N,585μm,0.7s						
HMBC				IAML		01 07 33.8	
	comp=N,585μm,0.7s						
TA02	**Huaiquique**	**1.56**	**204**		**Pn**	**01 07 08.6**	**-1.6**
TA02	**Huaiquique**	**1.56**	**204**	*eP*	**Pn**	**01 07 08.3**	**-2.0**
TA02				IAML		01 07 30.7	
	comp=Z,151μm,1.4s						
TA02	**Huaiquique**	**1.56**	**204**	⇑*eP*	**Pn**	**01 07 08.2**	**-2.0**
TA02				IAML		01 07 32.1	
TA01	**Diego Aracena**	**1.84**	**202**	Pn	**Pn**	**01 07 11.9**	**-1.8**
TA01	**Diego Aracena**	**1.84**	**202**	*eP*	**Pn**	**01 07 11.4**	**-2.3**
TA01				*eS*	**Sn**	**01 07 34.9**	**-2.9**
TA01				IAML		01 07 38.0	
	comp=Z,125μm,0.6s						
TA01	**Diego Aracena**	**1.84**	**202**	⇑*eP*	**Pn**	**01 07 11.4**	**-2.3**
TA01				IAML		01 07 37.7	
	comp=E,240μm,0.3s						
PATCX	**Punta Patache**	**2.07**	**198**		**Pn**	**01 07 15.2**	**-1.4**
PATCX	**Punta Patache**	**2.07**	**198**	*eP*	**Pn**	**01 07 14.7**	**-1.9**
PATCX				*eS*	**Sn**	**01 07 40.1**	**-2.9**
PATCX	**Punta Patache**	**2.07**	**198**	⇑*iP*	**Pn**	**01 07 14.4**	**-2.2**
PATCX				IAML		01 07 43.8	
	comp=E,194μm,0.5s						
PB01	**IPOC Station P**	**2.19**	**181**		**Pn**	**01 07 17.3**	**-0.8**
PB01	**IPOC Station P**	**2.19**	**181**	*eP*	**Pn**	**01 07 16.9**	**-1.2**
PB01				*eS*	**Sn**	**01 07 44.4**	**-1.3**
PB01				IAML		01 07 47.2	
	comp=Z,141μm,0.6s						
PB02	**IPOC Station P**	**2.50**	**189**		**Pn**	**01 07 21.4**	**-0.6**
PB02	**IPOC Station P**	**2.50**	**189**	*eP*	**Pn**	**01 07 20.6**	**-1.5**
PB02				*eS*	**Sn**	**01 07 50.1**	**-2.5**
PB02				IAML		01 07 54.1	
	comp=Z,263μm,0.4s						
I08BO	**LAS PENAS INFR** baz=210,slow=23,SNR=1.2	**2.78**	**20**	P	**Pn**	**01 07 27.5**	**+1.3**
I08BO				*eS*	**Sn**	**01 07 59.8**	**-0.2**
I08BO				I	I	01 21 50.0	
	baz=206,slow=330,SNR=1.3						
LPAZ	**La Paz**	**2.84**	**27**	Pn	**Pn**	**01 07 28.1**	**+1.1**
LPAZ	**La Paz**	**2.84**	**27**	P	**Pn**	**01 07 28.1**	**+1.1**
LPAZ	**La Paz**	**2.84**	**27**	*eP*	**Pn**	**01 07 28.6**	**+1.6**
PB07	**IPOC Station P**	**2.90**	**188**		**Pn**	**01 07 26.6**	**-0.6**
PB07	**IPOC Station P**	**2.90**	**188**	P	**Pn**	**01 07 23.7**	**-3.5**
PB07	**IPOC Station P**	**2.90**	**188**	*eP*	**Pn**	**01 07 25.9**	**-1.4**
PB07				*eS*	**Sn**	**01 07 59.0**	**-3.0**
PB07				IAML		01 08 05.1	
	comp=Z,94μm,0.4s						
PB09	**IPOC Station P**	**2.94**	**176**		**Pn**	**01 07 28.1**	**+0.2**
PB09	**IPOC Station P**	**2.94**	**176**	*eP*	**Pn**	**01 07 27.3**	**-0.6**
PB09				*eS*	**Sn**	**01 08 01.1**	**-2.0**
PB09	**IPOC Station P**	**2.94**	**176**	⇓*iP*	**Pn**	**01 07 27.4**	**-0.6**
PB09				IAML		01 08 04.2	
	comp=E,63μm,0.4s						
PB04	**IPOC Station P**	**3.53**	**190**		**Pn**	**01 07 34.6**	**-1.1**
PB04	**IPOC Station P**	**3.53**	**190**	*eP*	**Pn**	**01 07 33.8**	**-1.9**
PB04				*eS*	**Sn**	**01 08 13.8**	**-3.2**
PB04				IAML		01 08 21.6	
	comp=Z,65μm,0.6s						
PB04	**IPOC Station P**	**3.53**	**190**	*i* P	**Pn**	**01 07 33.4**	**-2.2**
LVC	**Limon Verde**	**3.78**	**172**	Pn	**Pn**	**01 07 39.6**	**+0.4**
LVC	**Limon Verde**	**3.78**	**172**	P	**Pn**	**01 07 39.6**	**+0.4**
LVC	**Limon Verde**	**3.78**	**172**	*eP*	**Pn**	**01 07 38.5**	**-0.6**
LVC				*eS*	Sn	01 08 11.2	-12
LVC				IAML		01 08 45.3	
	comp=Z,21μm,1.2s						
LVC	**Limon Verde** comp=Z,2μm,0.4s,baz=357,slow=8.0,SNR=1849	**3.78**	**172**	P	**Pn**	**01 07 39.1**	**0.0**
LVC				S	Sn	01 08 10.2	-13
	comp=Z,28μm,0.6s,baz=338,slow=5.5,SNR=19						
LVC	**Limon Verde**	**3.78**	**172**	*eP*	**Pn**	**01 07 39.0**	**-0.1**
PB06	**IPOC Station P**	**3.84**	**182**		**Pn**	**01 07 38.5**	**-1.3**
PB06	**IPOC Station P**	**3.84**	**182**	*eP*	**Pn**	**01 07 38.1**	**-1.7**
PB06				*eS*	**Sn**	**01 08 22.4**	**-2.1**
PB06				IAML		01 08 25.6	
	comp=Z,58μm,0.8s						
PB06	**IPOC Station P**	**3.84**	**182**	*i* P	**Pn**	**01 07 38.3**	**-1.5**
PB05	**IPOC Station P**	**4.05**	**190**	Pn	**Pn**	**01 07 40.4**	**-2.1**
PB05	**IPOC Station P**	**4.05**	**190**	*eP*	**Pn**	**01 07 40.1**	**-2.3**
PB05				*eS*	**Sn**	**01 08 26.1**	**-3.1**
PB05				IAML		01 08 30.1	
	comp=Z,25μm,0.6s						
PB05	**IPOC Station P**	**4.05**	**190**	*eP*	**Pn**	**01 07 40.1**	**-2.3**
AF01	**San Pedro de A**	**4.26**	**164**		**Pn**	**01 07 46.9**	**+1.4**
PB15	**IPOC Station P**	**4.34**	**180**		**Pn**	**01 07 45.2**	**-1.3**
PB15	**IPOC Station P**	**4.34**	**180**	*eP*	**Pn**	**01 07 45.0**	**-1.5**
PB15	**IPOC Station P**	**4.34**	**180**	⇓*iP*	**Pn**	**01 07 45.1**	**-1.4**
YJA	**Yavi**	**4.96**	**133**	*eP*	**Pn**	**01 07 56.5**	**+1.4**
YJA				AMP		01 08 55.9	
	comp=E,73μm,1.9s						
YJA				AMP		01 08 59.5	
	comp=Z,14μm,2.1s						
PB14	**IPOC Station P**	**5.82**	**189**	Pn	**Pn**	**01 08 02.8**	**-3.7**
PB14	**IPOC Station P**	**5.82**	**189**	P	**Pn**	**01 08 02.4**	**-4.0**
GO02	**Mina Guanaco**	**6.29**	**181**	Pn	**Pn**	**01 08 10.2**	**-2.6**
GO02	**Mina Guanaco**	**6.29**	**181**	⇓P	**Pn**	**01 08 09.6**	**-3.1**
AC01	**Pan de Azucar**	**7.35**	**188**		**Pn**	01 08 21.9	-4.9
SIV	**San Ignacio**	**8.49**	**72**	P	**Pn**	**01 08 40.3**	**-2.1**
	comp=Z,505nm,0.4s,baz=262,slow=10,SNR=646						
SIV				S	Sn	01 10 05.3	-11
	comp=Z,443nm,0.8s,baz=262,slow=13,SNR=3.6						
AC06	**Mina Casimiro**	**8.51**	**185**		**Pn**	01 08 37.3	-5.3
BBSD	**Serra de San D**	**8.58**	**80**	*eP*	**Pn**	**01 08 40.3**	**-3.2**
GO03	**Copiap**	**8.74**	**185**	Pn	**Pn**	**01 08 41.1**	**-4.5**
GO03	**Copiap**	**8.74**	**185**	⇑P	**Pn**	01 08 38.9	-6.7
BBRB	**Robore, Bolivi**	**9.17**	**88**	*eP*	**Pn**	01 08 46.7	-4.8
AC04	**Llanos de Chal**	**9.44**	**189**	Pn	**Pn**	01 08 48.5	-6.5
ETMB	**Extrema**	**9.51**	**20**		**Pn**	**01 08 53.0**	**-3.0**
ETMB	**Extrema**	**9.51**	**20**	*eP*	**Pn**	**01 08 52.9**	**-3.2**
NNA	**Nana**	**9.86**	**313**	*ceP*	**Pn**	**01 08 58.1**	**-2.7**
NNA				pmax	pmax		
	comp=Z,577nm,0.7s						
NNA	**Nana**	**9.86**	**313**	P	**Pn**	**01 08 57.0**	**-3.8**
	comp=Z,392nm,0.6s,baz=143,slow=12,SNR=57						
NNA				S	**Sn**	**01 10 40.9**	**-8.7**
	comp=Z,434nm,0.6s,baz=198,slow=9.6,SNR=1.7						
NNA	**Nana**	**9.86**	**313**	*eP*	**Pn**	**01 08 57.0**	**-3.8**
LCO	**Las Campanas**	**10.19**	**186**	Pn	Pn	01 09 00.2	-5.2
LCO	**Las Campanas**	**10.19**	**186**	⇓P	Pn	01 08 58.8	-6.6
LCO	**Las Campanas**	**10.19**	**186**	P	Pn	01 09 00.2	-5.2
PTLB	**Pontes e Lacer**	**10.43**	**73**		**Pn**	**01 09 05.4**	**-3.1**
PTLB	**Pontes e Lacer**	**10.43**	**73**	*eP*	**Pn**	**01 09 04.2**	**-4.2**
VILB	**Vilhena**	**10.66**	**58**	Pn	**Pn**	**01 09 10.2**	**-1.4**
CO05	**La Serena**	**11.14**	**188**	Pn	Pn	01 09 11.6	-6.4
TICA	**Tres Isletas**	**11.25**	**134**	*eP*	**Pn**	**01 09 16.4**	**-3.0**
GO04	**Tololo Observa**	**11.35**	**186**	⇑P	Pn	01 09 15.2	-5.7
CZSB	**Cruzeiro do Su**	**11.49**	**344**		Pn	01 09 17.8	-4.9
CZSB	**Cruzeiro do Su**	**11.49**	**344**	*eP*	Pn	01 09 16.9	-5.8
SAML	**Samuel**	**11.57**	**33**		**Pn**	**01 09 19.5**	**-4.2**
SAML	**Samuel**	**11.57**	**33**	P	**Pn**	**01 09 19.5**	**-4.2**
SAML	**Samuel**	**11.57**	**33**	*eP*	**Pn**	**01 09 19.2**	**-4.5**
SAML	**Samuel**	**11.57**	**33**	*eP*	**Pn**	**01 09 19.2**	**-4.5**
ESFA	**Espinillo Form**	**11.86**	**123**	*eP*	**Pn**	**01 09 24.4**	**-3.0**
VACA	**Villa Angela C**	**11.89**	**139**	*eP*	**Pn**	**01 09 24.2**	**-3.6**
BDQN	**Bodoquena, MS**	**12.08**	**100**	*eP*	Pn	01 09 25.6	-4.8
CO02	**Combarbal**	**12.39**	**186**	⇑P	Pn	01 09 27.8	-6.7
CFA	**Coronel Fontan**	**12.76**	**175**	P	Pn	01 09 34.4	-4.8
	comp=Z,170nm,0.5s,baz=351,slow=13,SNR=180						
CFA				S	Sn	01 11 47.9	-12
	comp=Z,165nm,0.3s,baz=171,slow=18,SNR=8.4						
CFA				LR	LR	01 15 42.8	
	comp=Z,11μm,18.6s,baz=358,slow=42						
ANTJ	**Antonio Joao (**	**13.00**	**106**	*eP*	**Pn**	**01 09 39.2**	**-3.2**
AQDB	**Aquidauana**	**13.06**	**99**	Pn	**Pn**	**01 09 41.0**	**-2.2**
AQDB	**Aquidauana**	**13.06**	**99**	*eP*	**Pn**	**01 09 38.5**	**-4.7**
CPUP	**Villa Florida**	**13.45**	**126**	Pn	**Pn**	**01 09 45.4**	**-2.8**
CPUP	**Villa Florida**	**13.45**	**126**	⇑P	**Pn**	**01 09 44.3**	**-3.8**
CPUP	**Villa Florida**	**13.45**	**126**	P	**Pn**	**01 09 45.4**	**-2.8**
CPUP	**Villa Florida**	**13.45**	**126**	P	**Pn**	**01 09 44.4**	**-3.8**
	comp=Z,141nm,0.8s,baz=303,slow=12,SNR=53						
CPUP				S	**Sn**	**01 12 11.4**	**-5.0**
	comp=Z,110nm,1.0s,baz=245,slow=16,SNR=1.5						
CPUP				LR	LR	01 16 26.4	
	comp=Z,3μm,21.3s,baz=316,slow=44						
CPUP	**Villa Florida**	**13.45**	**126**	*eP*	Pn	01 09 43.2	-5.0
SALV	**Santo Antonio**	**13.46**	**80**	*eP*	Pn	01 09 43.2	-5.3
RVDE	**Rio Verde (Bra**	**13.74**	**93**	*eP*	Pn	01 09 47.0	-5.0
VA06	**Catapilco**	**13.76**	**187**	Pn	**Pn**	**01 09 50.1**	**-2.1**
VA03	**San Esteban**	**13.90**	**184**	Pn	**Pn**	**01 09 52.0**	**-2.0**
PP1B	**Ponte de Pedra**	**13.91**	**87**	*eP*	Pn	01 09 49.3	-4.9
ROC1	**El Roble**	**14.14**	**185**	Pn	**Pn**	**01 09 55.9**	**-1.4**
VA01	**Torpederas**	**14.26**	**187**			**01 09 56.5**	**-2.0**
PEL	**Peldehue**	**14.28**	**184**	Pn	**Pn**	**01 09 57.4**	**-1.5**
PEL	**Peldehue**	**14.28**	**184**	⇓P	**Pn**	**01 09 56.6**	**-2.3**
PEL	**Peldehue**	**14.28**	**184**	P	**Pn**	**01 09 57.4**	**-1.5**
ATAH	**Atahualpa**	**14.53**	**322**	P	**Pn**	**01 10 02.4**	**-0.1**
	comp=Z,63nm,0.9s,baz=132,slow=11,SNR=26						
ATAH				S	**Sn**	**01 12 44.0**	**+0.7**
	comp=Z,74nm,0.8s,baz=49,slow=20,SNR=1.8						
MT03	**Universidad Ad**	**14.62**	**183**		**Pn**	**01 10 02.0**	**-1.2**
RPRD	**Ribas do Rio P**	**14.93**	**99**	*eP*	**Pn**	**01 10 03.2**	**-4.0**
LMEL	**Las Melosas**	**14.96**	**182**		**Pn**	**01 10 06.9**	**-0.7**
MT01	**Popeta**

PLTB **Pedras Altas** 19.23 135 P **P** 01 10 55.7 -1.3
PLTB IAmb IAmb 01 10 59.3
comp=Z,789nm,0.7s
PLTB Pedras Altas 19.23 135 *e*P **P** **01 10 54.5 -2.5**
CHSH Refugio Sur-Vo 19.56 331 P **P** **01 11 02.0 +0.8**
PTLC Puerto Leguiza 19.61 344 *e*P P 01 10 53.1 -8.1
ITTB Itaituba 19.66 45 *e*P **P** **01 10 59.6 -2.2**
CNLB Canela 19.90 125 *e*P **P** **01 11 01.1 -3.3**
SALI Salinas 20.04 324 P **P** **01 11 06.8 +1.0**
SLOR San Lorenzo - 20.07 333 P Pn 01 11 08.1 -1.5
SLOR IAmb IAmb 01 11 15.9
comp=Z,1µm,1.1s
IPMB Ipameri, GO 20.18 91 *e*P **P** **01 11 04.6 -2.8**
TRQA Tornquist 20.23 163 P **P** **01 11 07.1 -0.6**
TRQA Tornquist 20.23 163 P **P** **01 11 07.1 -0.6**
TRQA pmax pmax
comp=Z,2µm,1.1s
PPLP Puerto Lpez 20.46 326 *e*P **P** **01 11 09.5 -0.9**
BDFB Brasilia 20.72 84 P **P** **01 11 11.5 -1.8**
BDFB IAmb IAmb 01 11 21.2
comp=Z,732nm,1.1s
BDFB Brasilia 20.72 84 P **P** **01 11 11.5 -1.8**
BDFB pmax pmax
comp=Z,732nm,1.1s
BDFB Brasilia 20.72 84 P **P** **01 11 10.7 -2.7**
comp=Z,87nm,0.4s,baz=258,slow=9.9,SNR=49
BDFB S **S** **01 14 52.8 -5.6**
comp=Z,26nm,0.6s,baz=140,slow=16,SNR=0.8
comp=Z,87nm,0.4s
GO06 Curarrehue 20.74 184 P **P** **01 11 13.1 -0.3**
GO06 IAmb IAmb 01 11 21.6
comp=Z,1µm,1.1s
GO06 Curarrehue 20.74 184 ⇓P **P** **01 11 12.8 -0.5**
PULU Pululahua 20.75 334 P **P** **01 11 14.3 +0.5**
BONI La Bonita 20.75 337 *e*P **P** **01 11 12.3 -1.5**
RCLB Rio Claro- Sao 20.82 104 *e*P **P** **01 11 11.0 -3.3**
IMBA Imbabura, San 20.85 335 P **P** **01 11 15.6 +0.5**
IMBA IAmb IAmb 01 11 26.5
comp=Z,898nm,0.7s
OTAV Otavalo 20.92 334 P **P** **01 11 16.3 +0.5**
OTAV Otavalo 20.92 334 ⇓P **P** **01 11 16.1 +0.3**
OTAV Otavalo 20.92 334 P **P** **01 11 16.3 +0.5**
OTAV pmax pmax
comp=Z,356nm,0.9s
OTAV Otavalo 20.92 334 *e*P **P** **01 11 14.3 -1.5**
OTAV Otavalo 20.92 334 *e*P **P** **01 11 14.8 -0.9**
CUSE Cuicocha Este 20.94 334 *e*P **P** **01 11 17.3 +1.1**
SPB Sao Paulo 21.06 107 P **P** **01 11 14.5 -2.3**
SPB Sao Paulo 21.06 107 ⇑P **P** **01 11 13.1 -3.7**
SPB Sao Paulo 21.06 107 *e*P **P** **01 11 13.2 -3.6**
PAC1 Pacto, Paraso 21.09 333 *e*P **P** **01 11 16.1 -1.2**
TULM Tulcn-Chalpat 21.09 336 P **P** **01 11 16.1 -1.5**
TULM Tulcn-Chalpat 21.09 336 *e*P **P** **01 11 19.1 +1.5**
CMBC Cumbal 21.31 336 *e*P **P** **01 11 22.9 +2.9**
PET01 Itanhaem-SP 21.32 109 *e*P **P** **01 11 16.9 -2.6**
GCUF Volcan Galeras 21.40 338 *e*P **P** **01 11 21.9 +1.0**
LR05 Currie 21.43 185 P **P** **01 11 20.1 -0.4**
LR05 IAmb IAmb 01 11 25.3
comp=Z,779nm,0.7s
CRUC La Cruz 21.58 339 *e*P **P** **01 11 24.6 +1.9**
GARC Garzon, Huila 21.73 344 *e*P **P** **01 11 21.5 -2.7**
PMNB Patos De Minas 21.81 93 *e*P **P** **01 11 22.1 -2.8**
PLCA Paso Flores 21.84 182 P **P** **01 11 24.2 -0.8**
PLCA IAmb IAmb 01 11 29.2
comp=Z,1µm,0.8s
PLCA Paso Flores 21.84 182 ⇓P **P** **01 11 24.1 -0.9**
PLCA Paso Flores 21.84 182 P **P** **01 11 25.1 +0.1**
comp=Z,1µm,0.8s,baz=4.7,slow=12,SNR=168
PLCA S **S** **01 15 17.1 -1.7**
comp=Z,12nm,0.8s,baz=344,slow=18,SNR=1.1
comp=Z,1µm,0.8s
PLCA Paso Flores 21.84 182 *e*P **P** **01 11 23.9 -1.1**
BBAC Balboa, Cauca 22.10 339 *e*P **P** **01 11 27.6 -0.5**
BETC Betania 22.18 344 *e*P **P** **01 11 29.4 +0.6**
POPC Popayan, Colom 22.41 341 *e*P **P** **01 11 34.0 +2.8**
TUMC Tumaco 22.47 335 P **P** **01 11 32.4 +0.8**
TUMC Tumaco 22.47 335 *e*P **P** **01 11 32.3 +0.7**
MALB Monte Alegre 22.51 43 *e*P **P** **01 11 28.1 -3.9**
PARB Paraibuna 22.68 106 *e*P **P** **01 11 30.6 -3.1**
LL05 Los Muermos 22.75 188 P **P** **01 11 33.8 -0.3**
BOAV Boa Vista 22.86 24 P **P** **01 11 34.6 -0.8**
JAMC Jamundi, Valle 23.04 341 *e*P **P** **01 11 36.8 -0.5**
PRAC Prado 23.04 346 P **P** **01 11 37.3 +0.1**
PRAC Prado 23.04 346 *e*P **P** **01 11 30.1 -7.0**
PTGC Puerto Gaitan, 23.05 353 *e*P **P** **01 11 32.9 -4.3**
VILC Villavicencio, 23.19 349 *e*P **P** **01 11 36.5 -2.1**
BSCB Bom Sucesso 23.30 99 *e*P **P** **01 11 36.3 -3.3**
ORTC Ortega, Tolima 23.32 345 *e*P **P** **01 11 35.6 -4.1**
GR1C Gorgona, Isla 23.34 338 *e*P **P** **01 11 40.6 +0.7**
LL06 Loncomilla 23.57 188 P **P** **01 11 40.7 -1.0**
LL01 San Ignacio de 23.59 185 IAmb IAmb 01 11 46.3
comp=Z,411nm,0.8s
LL01 San Ignacio de 23.59 185 ⇓P **P** **01 11 40.9 -1.0**
CVER Cruz Verde, Cu 23.66 348 *e*P **P** **01 11 41.9 -1.4**
YOTC Yotoco, Valle 23.68 343 *e*P **P** **01 11 41.8 -1.3**
MALC Bahia Malaga 24.00 340 *e*P **P** **01 11 45.0 -0.9**
ROSC El Rosal 24.02 348 P **P** **01 11 46.8 +0.4**
ROSC El Rosal 24.02 348 P **P** **01 11 46.8 +0.4**
ROSC pmax pmax
comp=Z,125nm,0.7s
ROSC El Rosal 24.02 348 P **P** **01 11 46.6 +0.1**
comp=Z,69nm,0.5s,baz=163,slow=7.5,SNR=31
ROSC S **S** **01 15 52.9 -2.4**
comp=Z,23nm,0.6s,baz=112,slow=19,SNR=1.4
ROSC LR LR 01 22 36.0
comp=Z,5µm,19.7s,baz=204,slow=40
comp=Z,69nm,0.5s
ROSC El Rosal 24.02 348 *e*P **P** **01 11 45.9 -0.6**
LL07 Hotel Espejo d 24.16 187 P **P** **01 11 47.0 0.0**
LL07 IAmb IAmb 01 11 51.2
comp=Z,1µm,0.8s
JANB Januaria 24.34 85 *e*P **P** **01 11 46.1 -2.9**
LL02 Futaleuf 24.36 184 ⇓P **P** **01 11 47.8 -1.1**
DIAM Diamantina, MG 24.44 93 *e*P **P** **01 11 47.0 -3.1**
NIZA Niza - Manizal 24.48 345 *e*P **P** **01 11 51.1 +0.6**
SDBA SAO DESIDERIO 24.48 78 *e*P **P** **01 11 47.3 -3.0**
PLMC San Jos del P 24.54 343 *e*P **P** **01 11 47.6 -3.2**
GUY2C Guyana, Caldas 24.61 346 *e*P **P** **01 11 51.1 -0.9**
SPBC San Pablo de B 24.76 349 *e*P **P** **01 11 50.0 -2.9**
PIZC Pizarro, Choco 24.91 341 *e*P **P** **01 11 53.9 -0.1**
TAMC Tame, Arauca 25.22 355 *e*P **P** **01 11 54.4 -2.6**
CBOC Ciudad Bolivar 25.39 345 *e*P **P** **01 11 55.4 -3.2**
BARC Barichara 25.54 351 *e*P **P** **01 11 58.5 -1.6**
DUB01 Friburgo-RJ 25.57 102 *e*P **P** **01 11 58.5 -1.6**
AY01 Puyuhuapi 25.64 185 IAmb IAmb 01 12 02.6
comp=Z,441nm,0.8s
PTBC PUERTO BERRIO, 25.70 348 *e*P **P** **01 11 55.9 -5.4**
SOLC Bahia Solano 26.12 342 *e*P **P** **01 12 07.9 +2.9**
PAMC Pamplona, Colo 26.21 353 *e*P **P** **01 12 04.7 -1.8**
DBBC Dabeiba 26.55 345 *e*P **P** **01 12 07.0 -2.0**
ZARC Zaragoza, Cauc 26.70 348 *e*P **P** **01 12 07.8 -2.5**
COYC Coyhaique 26.74 184 P **P** **01 12 09.8 -0.6**
SJMB Sao Joao De Ma 26.76 94 *e*P **P** **01 12 07.8 -3.1**
UREC San Jos de Ur 27.10 347 *e*P **P** **01 12 11.1 -2.7**
PTAC Punta Ardita, 27.11 342 *e*P **P** **01 12 08.8 -5.1**
OCAC Ocana 27.18 352 *e*P **P** **01 12 11.6 -3.1**
PAYG Puerto Ayora 27.27 309 P **P** **01 12 14.5 -0.9**
PAYG Puerto Ayora 27.27 309 ⇑P **P** **01 12 17.2 +1.7**
PAYG Puerto Ayora 27.27 309 *e*P **P** **01 12 14.9 -0.5**
I20EC Galapagos 27.38 309 I I 03 54 20.0
baz=138,slow=314,SNR=0.9
RIB01 Linhares ES 27.46 96 *e*P **P** **01 12 15.3 -1.8**
APAC Apartado, Choc 27.49 345 *e*P **P** **01 12 16.3 -1.0**
SDV Santo Domingo 27.58 357 P **P** **01 12 17.8 -0.6**
SDV Santo Domingo 27.58 357 P **P** **01 12 17.0 -1.4**
comp=Z,79nm,0.4s,baz=186,slow=6.6,SNR=32
SDV S **S** **01 16 45.1 -6.1**
comp=Z,20nm,0.8s,baz=102,slow=19,SNR=1.7
SDV LR LR 01 26 05.1
comp=Z,9µm,18.9s,baz=191,slow=42
comp=Z,79nm,0.4s
SDV Santo Domingo 27.58 357 *e*P **P** **01 12 16.2 -2.1**
SDV Santo Domingo 27.58 357 *e*P **P** **01 12 16.2 -2.1**
BAUV El Baul 27.65 3 P **P** **01 12 17.5 -1.2**
AY02 Valle Explorad 27.74 186 IAmb IAmb 01 12 25.8
comp=Z,375nm,0.6s
CACAO El Cacao, Vera 28.35 336 *e*P **P** **01 12 25.5 +0.5**
LCBC Los crdobas, 28.36 346 *e*P **P** **01 12 24.6 -0.4**
CAPC Capurgana 28.39 343 *e*P **P** **01 12 23.3 -2.0**
CAP2 Capurgana 28.41 343 P **P** **01 12 27.1 +1.5**
CAP2 IAmb IAmb 01 12 31.9
comp=Z,824nm,1.5s
AY03 Cochrane 28.45 184 P **P** **01 12 24.8 -0.8**
AY03 IAmb IAmb 01 12 29.7
comp=Z,226nm,0.8s
UPD2 Meteti 28.50 342 *e*P **P** **01 12 27.9 +1.7**
AZU Azuero 28.54 337 *e*P **P** **01 12 26.5 -0.1**
LL6C La Loma 6 Bece 28.65 352 *e*P **P** **01 12 25.1 -2.5**
GMAL Guarumal, Vera 28.88 335 *e*P **P** **01 12 28.9 -0.7**
ARGC Ariguani, Magd 28.91 350 *e*P **P** **01 12 28.4 -1.6**
MDP Montagnes des 29.00 36 P **P** **01 12 28.9 -1.8**
comp=Z,82nm,0.5s,baz=205,slow=12,SNR=38
MDP S **S** **01 17 10.5 -2.7**
comp=Z,32nm,1.0s,baz=33,slow=17,SNR=1.6
comp=Z,82nm,0.5s
MPGF Montagnes des 29.00 36 ⇑P **P** **01 12 28.9 -1.8**
SJCC San Jacinto, C 29.11 348 *e*P **P** **01 12 30.8 -1.0**
ABR01 Abrolhos, BA 29.18 93 *e*P **P** **01 12 31.0 -1.5**
PNME Penonome 29.20 338 *e*P **P** **01 12 33.4 +0.9**
PCRV Puerto La Cruz 29.23 10 P **P** **01 12 31.6 -1.2**
comp=Z,32nm,0.4s,baz=294,slow=2.0,SNR=30
PCRV S **S** **01 17 12.8 -4.0**
comp=Z,18nm,1.0s,baz=26,slow=18,SNR=1.4
comp=Z,32nm,0.4s
UPA Univ. de Panam 29.38 339 *e*P **P** **01 12 33.7 -0.4**
BCIP Isla Barro Col 29.66 339 IAmb IAmb 01 12 42.8
comp=Z,607nm,1.3s
BCIP Isla Barro Col 29.66 339 ⇑P **P** **01 12 38.2 +1.6**
BCIP Isla Barro Col 29.66 339 *e*P **P** **01 12 35.6 -1.0**
CRJC Cerrejon, Guaj 29.87 353 *e*P **P** **01 12 34.7 -3.8**
SMRC Santa Marta, M 30.19 351 *e*P P 01 12 35.6 -5.6
CDITO Canoas 30.29 333 IAmb IAmb 01 12 48.5
comp=Z,572nm,1.2s
CDITO Canoas 30.29 333 *i*P **P** **01 12 43.4 +1.3**
PIRO Carate, Puerto 30.34 332 *i*P P 01 12 47.7 +5.1
TRN Trinidad (W) 30.36 16 *e*P **P** **01 12 43.1 +0.4**
BRU2 Volcan 30.41 333 P **P** **01 12 45.7 +2.3**
BRU2 IAmb IAmb 01 12 54.7
comp=Z,426nm,1.1s
POTG Potrero Grande 30.82 333 *i*P **P** **01 12 48.8 +1.9**
DRK0 Durika 31.06 333 P **P** **01 12 50.4 +1.3**
AUA1 Aruba 31.16 359 *e*P **P** **01 12 48.5 -1.3**
PEZE Perez Zeledon, 31.36 332 IAmL 01 12 57.6
comp=Z,430nm,1.0s
PEZE Perez Zeledon, 31.36 332 *i*P **P** **01 12 53.4 +1.7**
CDM Cerro de Muert 31.55 332 IAmL 01 12 59.8
comp=Z,740nm,1.0s
CDM Cerro de Muert 31.55 332 *i*P **P** **01 12 55.1 +1.4**
GRGR Grenville 31.73 15 P **P** **01 12 54.5 -0.3**
GRGR IAmb IAmb 01 13 09.3
comp=Z,359nm,0.8s
GRGR Grenville 31.73 15 ⇑P **P** **01 12 54.2 -0.6**
GRGR Grenville 31.73 15 *e*P **P** **01 12 54.4 -0.3**
GRGR Grenville 31.73 15 *e*P **P** **01 12 53.2 -1.6**
GRW Mount Saint Ca 31.75 15 *e*P **P** **01 12 54.1 -1.0**
RIMA Rio Macho 31.78 332 IAmb IAmb 01 13 01.7
comp=Z,391nm,1.2s
LCR2 La Lucha 2 31.82 332 IAmb IAmb 01 13 02.1
comp=Z,507nm,1.0s
LCR2 La Lucha 2 31.82 332 *i*S pP 01 13 19.0 -4.1
LCR2 La Lucha 2 31.82 332 *i*P **P** **01 12 57.6 +1.7**
LCR2 La Lucha 2 31.82 332 IAmL 01 13 01.8
comp=Z,830nm,1.0s
TBLN Tablon, Guarco 31.89 332 IAmL 01 13 02.4
comp=Z,890nm,1.0s
TBLN Tablon, Guarco 31.89 332 *i*P **P** **01 12 58.3 +1.8**
OCM Ochomogo 31.94 332 IAmL 01 13 02.9
comp=Z,690nm,1.0s
OCM Ochomogo 31.94 332 *i*P **P** **01 12 58.7 +1.8**
JACO JACO, Garabito 32.05 331 P **P** **01 12 59.2 +1.6**
JACO IAmb IAmb 01 13 03.8
comp=Z,319nm,1.0s
JACO JACO, Garabito 32.05 331 IAmL 01 13 03.5
comp=Z,570nm,1.0s
JACO JACO, Garabito 32.05 331 *i*P **P** **01 12 59.8 +2.2**
HDC Heredia 32.10 332 *e*P **P** **01 12 56.7 -1.6**
HDC3 Heredia 3 32.10 332 IAmL 01 13 04.6
comp=Z,1µm,1.0s
HDC3 Heredia 3 32.10 332 *i*P **P** **01 13 00.7 +2.5**
GCMP Grenada, Carri 32.12 15 *e*P **P** **01 12 57.4 -0.8**
TCS1 Tacares 32.22 332 IAmL 01 13 05.8
comp=Z,4µm,1.0s
TCS1 Tacares 32.22 332 *i*P **P** **01 13 02.3 +3.1**
LAFE Finca La Fe, P 32.29 331 IAmL 01 13 06.0
comp=Z,4.7nm,1.0s
LAFE Finca La Fe, P 32.29 331 *i*P **P** **01 13 02.7 +3.0**
RIFO Rio Frio, Sara 32.30 333 IAmL 01 13 05.9
comp=Z,1µm,1.0s
RIFO Rio Frio, Sara 32.30 333 *i*P **P** **01 13 01.8 +2.0**
GO09 Cerro Castillo 32.44 183 P **P** **01 13 00.3 -0.3**
CPMI Catarata Coope 32.47 332 IAmL 01 13 08.2
comp=Z,710nm,1.0s
CPMI Catarata Coope 32.47 332 *i*P **P** **01 13 04.6 +3.1**
INDI Punta indio, G 32.62 330 IAmL 01 13 08.4
comp=Z,580nm,1.0s
INDI Punta indio, G 32.62 330 *i*P **P** **01 13 04.3 +1.7**
SOCE Pocosol 32.66 332 P **P** **01 13 04.7 +1.7**
SOCE IAmb IAmb 01 13 09.8
comp=Z,792nm,0.9s
SOCE Pocosol 32.66 332 IAmL 01 13 09.8
comp=Z,830nm,1.0s
SOCE Pocosol 32.66 332 *i*P **P** **01 13 05.3 +2.3**
JTS Las Juntas de 32.74 331 P **P** **01 13 04.2 +0.6**
JTS IAmb IAmb 01 13 09.9
comp=Z,262nm,0.9s
JTS Las Juntas de 32.74 331 ⇓P **P** **01 13 05.0 +1.3**
JTS Las Juntas de 32.74 331 P **P** **01 13 04.2 +0.6**
JTS pmax pmax
comp=Z,262nm,1.0s
JTS Las Juntas de 32.74 331 *e*P **P** **01 13 04.5 +0.9**
JTS Las Juntas de 32.74 331 P **P** **01 13 05.2 +1.6**
JTS pP **pP** **01 13 33.0 +2.0**
JTS PcP **PcP** **01 15 48.9 +2.4**
VACR Volcan Arenal 32.77 332 IAmL 01 13 10.5
comp=Z,910nm,1.0s
VACR Volcan Arenal 32.77 332 *i*P **P** **01 13 05.9 +1.9**
ARE1 Arenal 1 32.78 331 IAmb IAmb 01 13 11.0
comp=Z,534nm,1.2s
DUNO Dulce Nombre, 32.80 330 IAmb IAmb 01 13 10.2
comp=Z,289nm,1.0s
COVE Coope Vega, Sa 32.87 332 IAmL 01 13 10.6
comp=Z,2µm,1.0s
COVE Coope Vega, Sa 32.87 332 *i*P **P** **01 13 06.7 +2.0**
SAJU San Juanillo, 32.90 330 IAmL 01 13 10.6
comp=Z,440nm,1.0s
SAJU San Juanillo, 32.90 330 *i*P **P** **01 13 08.0 +3.0**
SVB Belmont 32.92 15 *e*P **P** **01 13 03.7 -1.6**
ORTG Ortega, Santa 33.03 330 P **P** **01 13 06.9 +0.6**
ORTG IAmb IAmb 01 13 12.6
comp=Z,1µm,1.9s
ORTG **PcP** **01 15 48.0 +0.6**
ORTG Ortega, Santa 33.03 330 IAmL 01 13 12.4
comp=Z,440nm,1.0s
ORTG Ortega, Santa 33.03 330 *i*P **P** **01 13 08.2 +1.9**
BCHC Barbados, Cave 33.22 18 *e*P **P** **01 13 05.4 -2.4**
BBGH Gun Hill 33.25 18 *e*P **P** **01 13 05.5 -2.5**
VMAR Armenia, Volca 33.27 331 IAmL 01 13 14.4
comp=Z,1µm,1.0s
VMAR Armenia, Volca 33.27 331 *i*P **P** **01 13 09.9 +1.6**
VRLE La Escondida, 33.36 331 *i*P **P** **01 13 11.3 +2.1**
SLBI Saint Lucia, B 33.71 15 *e*P **P** **01 13 08.7 -3.3**
MG02 Cerro Sombrero 33.87 180 ⇑P **P** **01 13 14.8 +1.7**
EFI East Falkland 33.97 167 P **P** **01 13 14.5 +0.6**
EFI IAmb IAmb 01 13 17.7
comp=Z,545nm,0.9s
EFI East Falkland 33.97 167 ⇓P **P** **01 13 14.5 +0.6**
EFI East Falkland 33.97 167 *ce*P **P** **01 13 15.7 +1.8**
EFI pmax pmax
comp=Z,612nm,1.0s
EFI East Falkland 33.97 167 P **P** **01 13 15.8 +1.9**
EFI pP **pP** **01 13 43.3 +2.1**
EFI sP **sP** **01 13 58.9 +3.4**
EFI PcP **PcP** **01 15 51.2 +1.9**
EFI ScP **ScP** **01 19 22.1 -1.1**
MG04 Isla Riesco 33.99 182 IAmb IAmb 01 13 19.1
comp=Z,328nm,0.9s
PRVC Isla de Provid 34.10 339 P **P** **01 13 16.1 +0.6**
PRVC IAmb IAmb 01 13 21.4
comp=Z,406nm,1.3s
PRVC Isla de Provid 34.10 339 *e*P **P** **01 13 15.9 +0.4**
H05S1 Guadeloupe/Mar 34.13 15 P **P** **01 13 13.9 -1.8**
SNR=37
MPOM Morne Pois Mar 34.15 15 IAmb IAmb 01 13 17.3
comp=Z,525nm,1.1s
MPOM Morne Pois Mar 34.15 15 *e*P **P** **01 13 13.3 -2.5**
BIM Bigot 34.16 15 IAmb IAmb 01 13 17.9
comp=Z,358nm,0.8s
BIM Bigot 34.16 15 *e*P **P** **01 13 12.6 -3.4**
GO10 Punta Arenas 34.27 182 P **P** **01 13 18.2 +1.7**
ACON Acoyapa 34.31 332 P **P** **01 13 18.5 +1.2**
ACON IAmb IAmb 01 13 23.7
comp=Z,274nm,1.2s
ACON Acoyapa 34.31 332 *e*P **P** **01 13 15.5 -1.8**
ACON Acoyapa 34.31 332 IAML 01 13 22.7
comp=Z,290nm,1.0s
ACON Acoyapa 34.31 332 *i*P **P** **01 13 18.0 +0.7**
FDF Fort de France 34.35 14 P **P** **01 13 15.8 -1.9**
FDF Fort de France 34.35 14 ⇑P **P** **01 13 14.2 -3.4**
FDF Fort de France 34.35 14 P **P** **01 13 15.8 -1.9**
FDF pmax pmax
comp=Z,531nm,0.5s
FDF Fort de France 34.35 14 *e*P **P** **01 13 13.3 -4.4**
FDF Fort de France 34.35 14 P **P** **01 13 14.3 -3.4**
SVN Savane Anatole 34.45 14 P **P** **01 13 16.7 -1.9**
ILAM Ilet Lapin Mar 34.46 15 P **P** **01 13 17.4 -1.1**
ILAM IAmb IAmb 01 13 29.4
comp=Z,238nm,1.0s
ILAM Ilet Lapin Mar 34.46 15 *e*P **P** **01 13 16.5 -2.0**
NANN Nandasmo 34.72 330 *i*S sP 01 14 07.4 +4.8
NANN Nandasmo 34.72 330 *i*P **P** **01 13 22.3 +1.5**
NANN Nandasmo 34.72 330 IAML 01 13 26.6
comp=Z,11µm,1.0s
WILN Americas 2 34.95 331 IAML 01 13 27.7
comp=Z,700nm,1.0s
WILN Americas 2 34.95 331 *i*P **P** **01 13 24.9 +2.2**
BOAB BOACO BROADBAN 34.96 332 IAmb IAmb 01 13 32.7
comp=Z,223nm,1.0s
BOAB BOACO BROADBAN 34.96 332 P **P** **01 13 21.7 -1.1**
BOAB BOACO BROADBAN 34.96 332 ⇓P **P** **01 13 23.1 +0.3**
SAPS Ciudad Sandino 35.05 330 IAML 01 13 28.2
comp=Z,410nm,1.0s
SAPS Ciudad Sandino 35.05 330 *i*P **P** **01 13 23.2 -0.5**
RCBR Riachuelo 35.16 73 ⇑P **P** **01 13 22.9 -1.8**
RCBR Riachuelo 35.16 73 LR LR 01 29 04.4
comp=Z,11µm,18.4s,baz=230,slow=38
RCBR Riachuelo 35.16 73 P **P** **01 13 23.3 -1.4**
RCBR Riachuelo 35.16 73 *e*P **P** **01 13 22.4 -2.3**
CNGN Cerro Negro 35.48 330 P **P** **01 13 28.3 +1.0**
CNGN Cerro Negro 35.48 330 *e*P **P** **01 13 24.3 -3.1**
MATN Matagalpa 35.50 332 IAML 01 13 33.1
comp=Z,150nm,1.0s
MATN Matagalpa 35.50 332 *i*P **P** **01 13 29.6 +2.0**
CBE Ff, Capester 35.54 13 P **P** **01 13 26.7 -1.2**
CBE Ff, Capester 35.54 13 *e*P P 01 13 22.4 -5.5
GDHS Morne Mazeau, 35.71 13 P **P** **01 13 27.9 -1.4**
GDHS IAmb IAmb 01 13 31.3
comp=Z,201nm,0.4s
CRIN San Cristobal 35.82 330 P **P** **01 13 29.0 -1.4**
CRIN San Cristobal 35.82 330 *e*P **P** **01 13 27.8 -2.6**
GDSD La Dsirade Is 35.90 14 P **P** **01 13 29.2 -1.7**
H05N1 Guadeloupe/Mar 35.90 14 P **P** **01 13 28.2 -2.7**
SNR=13
ABD La Joyeuse, An 35.96 13 *e*P P 01 13 24.5 -6.9
MG01 Puerto William 36.05 178 P **P** **01 13 30.9 -0.8**
MG01 IAmb IAmb 01 13 35.0
comp=Z,362nm,0.8s
ANBD Bethesda, Anti 36.46 12 *e*P **P** **01 13 31.3 -4.3**
CRPR Cabo Rojo, PR 36.69 4 P **P** **01 13 36.9 -0.7**
CRPR IAmb IAmb 01 13 45.1
comp=Z,420nm,1.4s
IGPR InterUniversit 36.73 5 IAmb IAmb 01 13 40.0
comp=Z,781nm,1.6s
SABA Saba 36.75 10 P **P** **01 13 37.6 -0.5**
SABA IAmb IAmb 01 13 43.5
comp=Z,223nm,0.8s
OBIP Obispado Ponce 36.76 5 P **P** **01 13 36.9 -1.3**
OBIP IAmb IAmb 01 13 45.6
comp=Z,414nm,1.1s
CELP Cerrillos 36.80 5 P **P** **01 13 36.5 -2.0**
SJG San Juan 36.87 5 P **P** **01 13 37.1 -1.9**
SJG IAmb IAmb 01 13 46.1
comp=Z,261nm,0.9s
SJG San Juan 36.87 5 ⇑P **P** **01 13 35.4 -3.7**
SJG San Juan 36.87 5 P **P** **01 13 37.2 -1.9**
SJG pmax pmax
comp=Z,261nm,1.0s
SJG San Juan 36.87 5 *e*P P 01 13 34.0 -5.1
SJG San Juan 36.87 5 P **P** **01 13 36.6 -2.5**
SJG sP **sP** **01 14 20.9 -0.7**
HUMP Col San Antoni 36.92 6 P **P** **01 13 37.8 -1.7**
AOPR Arecibo Observ 37.05 4 IAmb IAmb 01 13 47.4
comp=Z,194nm,0.8s
GCPR Guaynabo City 37.07 5 IAmb IAmb 01 13 43.7
comp=Z,243nm,0.6s
TGUH Tegucigalpa,Un 37.11 331 IAmb IAmb 01 13 46.1
comp=Z,461nm,1.0s
TGUH Tegucigalpa,Un 37.11 331 ⇓P **P** **01 13 41.4 +0.1**
TGUH Tegucigalpa,Un 37.11 331 *e*P **P** **01 13 39.8 -1.5**
PAPH Port-au-Prince 37.24 356 P **P** **01 13 42.6 +0.4**
RPN Rapa Nui 37.50 250 LR LR 01 25 44.9
comp=Z,21µm,19.3s,baz=98,slow=30
SDDR Presa de Saban 37.63 357 ⇓P **P** **01 13 46.1 +0.5**
SDDR Presa de Saban 37.63 357 *e*P **P** **01 13 42.7 -2.9**
MTDJ Mount Denham 37.68 347 IAmb IAmb 01 13 50.7
comp=Z,311nm,1.1s
MTDJ Mount Denham 37.68 347 ⇑P **P** **01 13 46.3 +0.3**
MTDJ Mount Denham 37.68 347 *e*P **P** **01 13 45.0 -1.0**
SNET Serv Nac Est T 37.74 328 P **P** **01 13 47.9 +1.3**
MTO3 Montecristo 38.41 328 IAmb IAmb 01 13 57.6
comp=Z,341nm,1.0s
ESQI Esquipulas 38.54 328 P **P** **01 13 54.0 +0.7**
GTBY Guantanamo Bay 38.93 352 IAmb IAmb 01 13 59.6
comp=Z,265nm,1.0s
GTBY Guantanamo Bay 38.93 352 ⇑P **P** **01 13 56.9 +0.6**
GTBY Guantanamo Bay 38.93 352 *e*P **P** **01 13 56.1 -0.2**
RTAL Retalhuleu 39.74 325 P **P** **01 14 02.8 -0.4**
HUEH Huehuetenango 40.29 326 P **P** **01 14 08.5 +0.5**
HUEH IAmb IAmb 01 14 13.1
comp=Z,353nm,0.9s
PETF Flores 40.81 329 IAmb IAmb 01 14 17.4
comp=Z,618nm,1.2s
CCIG Comitan 41.43 326 IAmb IAmb 01 14 22.1
comp=Z,409nm,1.3s
CCIG Comitan 41.43 326 ⇑P **P** **01 14 17.2 -0.1**
TEIG Tepich 42.99 334 P **P** **01 14 29.6 -0.1**
TEIG IAmb IAmb 01 14 33.8
comp=Z,531nm,1.1s
TEIG Tepich 42.99 334 ⇓P **P** **01 14 28.4 -1.3**
TEIG Tepich 42.99 334 *e*P **P** **01 14 29.7 +0.1**
TEIG Tepich 42.99 334 P **P** **01 14 28.7 -1.0**
TEIG pP **pP** **01 14 57.2 -0.9**
TEIG PcP **PcP** **01 16 20.0 +2.0**
CAMR Camarioca 43.24 344 P **P** **01 14 31.8 +0.1**
CAMR IAmb IAmb 01 14 36.7
comp=Z,2µm,1.2s
SOR Soroa 43.45 342 P **P** **01 14 33.5 +0.2**
SOR Soroa 43.45 342 P **P** **01 14 33.5 +0.2**
SOR pmax pmax
comp=Z,256nm,1.1s
HOPE Hope Point 43.45 152 P **P** **01 14 33.6 +0.6**
HOPE IAmb IAmb 01 14 37.9
comp=Z,456nm,1.1s
HOPE Hope Point 43.45 152 ⇓P **P** **01 14 35.2 +2.2**
HOPE Hope Point 43.45 152 P **P** **01 14 33.6 +0.6**
HOPE pmax pmax
comp=Z,456nm,1.1s
HOPE Hope Point 43.45 152 P **P** **01 14 36.3 +3.4**
HOPE pP **pP** **01 15 04.7 +3.1**
HOPE sP **sP** **01 15 18.0 +2.3**
HOPE PcP **PcP** **01 16 20.5 +1.5**
ORCD Orcadas 45.39 163 P **P** **01 14 45.7 -2.5**
061Z Ochoppi 45.81 346 P **P** **01 14 51.9 -0.1**
baz=165,SNR=26
061Z S **S** **01 21 30.9 +4.0**
baz=165
PMSA Palmer Station 46.04 177 P **P** **01 14 54.4 +1.1**
PMSA Palmer Station 46.04 177 ⇑P **P** **01 14 56.4 +3.0**
PMSA Palmer Station 46.04 177 LR LR 01 34 08.5
comp=Z,3µm,20.3s,baz=350,slow=36
PMSA Palmer Station 46.04 177 P **P** **01 14 56.3 +3.0**
PMSA pP **pP** **01 15 25.4 +3.5**
PMSA PcP **PcP** **01 16 30.8 +3.0**
PMSA Palmer Station 46.04 177 *e*P **P** **01 14 56.5 +3.2**
TLIG Tlapa 46.13 320 P **P** **01 14 55.5 +0.7**
TLIG Tlapa 46.13 320 ⇓P **P** **01 14 55.7 +0.9**
060A Indiantown 46.82 347 P **P** **01 14 59.9 0.0**
baz=166,SNR=10.0
060A S **S** **01 21 45.4 +4.2**
baz=166
UNM Universidad Na 47.85 321 P **P** **01 15 08.8 +0.4**

UNM Universidad Na 47.85 321 P **P**
UNM pmax pmax **01 15 08.8 +0.4**
comp=Z,578nm,0.9s
DWPF Disney Wildern 48.09 346 P **P** **01 15 09.0 -0.8**
DWPF Disney Wildern 48.09 346 P **P** **01 15 08.8 -0.9**
baz=165
DWPF S **S** **01 21 58.7 -0.6**
baz=165
DWPF Disney Wildern 48.09 346 P **P** **01 15 09.0 -0.8**
baz=165,SNR=30
DWPF S **S** **01 22 02.5 +3.2**
baz=165
DWPF Disney Wildern 48.09 346 ⇑P **P** **01 15 09.2 -0.5**
DWPF Disney Wildern 48.09 346 P **P** **01 15 08.8 -0.9**
DWPF pP **pP** **01 15 37.2 -1.6**
SMAI San Martin Ant 49.29 179 P **P** **01 15 19.1 +0.7**
SMAI IAmb IAmb 01 15 23.2
comp=Z,226nm,0.9s
MOIG Morelia 49.34 319 P **P** **01 15 20.6 +0.9**
MOIG IAmb IAmb 01 15 25.1
comp=Z,471nm,1.0s
MOIG Morelia 49.34 319 ⇓P **P** **01 15 20.6 +0.9**
656A Willston 49.56 345 P **P** **01 15 20.2 -0.8**
baz=164,SNR=86
656A S **S** **01 22 17.7 -2.2**
baz=164
JRQG Juriquilla Cam 49.66 321 P **P** **01 15 22.7 +0.6**
456A Hilliard 50.74 346 P **P** **01 15 29.4 -0.4**
baz=165,SNR=115
456A S **S** **01 22 34.2 -1.9**
baz=165
553A Crawfordville 50.84 343 P **P** **01 15 29.9 -0.6**
baz=162,SNR=81
553A S **S** **01 22 35.4 -2.0**
baz=162
BBSR BB Station 51.13 5 P **P** **01 15 32.6 0.0**
BBSR IAmb IAmb 01 15 35.8
comp=Z,658nm,1.8s
BBSR BB Station 51.13 5 P **P** **01 15 32.2 -0.5**
baz=186,SNR=8.0
BBSR S **S** **01 22 40.4 -1.0**
baz=186
BBSR BB Station 51.13 5 ⇑P **P** **01 15 31.8 -0.9**
451A Vernon 51.61 342 P **P** **01 15 35.4 -0.8**
baz=160,SNR=43
451A S **S** **01 22 43.6 -4.5**
baz=160
257A Skidaway Islan 51.73 347 P **P** **01 15 38.3 +1.2**
baz=166,SNR=15
257A S **S** **01 22 48.1 -1.6**
baz=166
TIGA Tifton 51.80 345 P **P** **01 15 37.0 -0.7**
baz=163,SNR=49
TIGA S **S** **01 22 48.2 -2.5**
baz=163
TIGA Tifton 51.80 345 P **P** **01 15 36.6 -1.2**
baz=163,SNR=49
TIGA S **S** **01 22 46.5 -4.2**
baz=163
255A Hazlehurst 52.00 346 P **P** **01 15 38.2 -0.9**
baz=164,SNR=91
255A S **S** **01 22 50.4 -3.0**
baz=164
352A Blakely 52.19 343 P **P** **01 15 39.4 -1.2**
baz=161,SNR=127
352A S **S** **01 22 53.2 -2.9**
baz=161
ZAIG Zacatecas 52.51 321 IAmb IAmb 01 15 48.9
comp=Z,260nm,0.9s
ZAIG Zacatecas 52.51 321 ⇓P **P** **01 15 44.4 +0.9**
BRAL Brewton 52.52 341 P **P** **01 15 42.5 -0.5**
baz=159,SNR=35
BRAL S **S** **01 22 56.3 -4.2**
baz=159
BRAL Brewton 52.52 341 P **P** **01 15 42.1 -0.9**
baz=159,SNR=35
BRAL S **S** **01 22 57.7 -2.8**
baz=159
BRAL Brewton 52.52 341 ⇓P **P** **01 15 42.5 -0.5**
NHSC New Hope 52.66 349 P **P** **01 15 44.0 0.0**
baz=167,SNR=112
NHSC S **S** **01 22 59.5 -2.9**
baz=167
NHSC New Hope 52.66 349 P **P** **01 15 43.7 -0.3**
baz=167,SNR=112
NHSC S **S** **01 23 00.2 -2.2**
baz=167
NHSC New Hope 52.66 349 ⇑P **P** **01 15 43.8 -0.2**
154A Montrose 52.81 346 P **P** **01 15 43.9 -1.2**
baz=164,SNR=103
154A S **S** **01 22 57.8 -6.6**
baz=164
TRIS Tristan da Cun 52.87 123 P **P** **01 15 46.5 +0.9**
TRIS IAmb IAmb 01 15 55.8
comp=Z,339nm,0.8s
250A Grady 53.04 342 P **P** **01 15 45.6 -1.2**
baz=160,SNR=32
250A S **S** **01 23 03.8 -3.8**
baz=160
HAW Hawthorne Fire 53.19 347 P **P** **01 15 46.8 -1.1**
baz=166,SNR=151
HAW S **S** **01 23 05.7 -3.9**
baz=166
Y60A Bolivia 53.21 351 P **P** **01 15 47.1 -0.9**
baz=170,SNR=12
Y60A P **P** **01 15 47.1 -0.9**
baz=170,SNR=12
Y60A S **S** **01 23 10.7 +0.9**
baz=170
Y60A S **S** **01 23 10.7 +0.9**
baz=170
152A Waverly Hall 53.26 344 IAmb IAmb 01 15 52.1
comp=Z,365nm,1.1s
152A Waverly Hall 53.26 344 P **P** **01 15 46.8 -1.7**
baz=162,SNR=136
152A S **S** **01 23 06.7 -3.9**
baz=162
Y58A Scranton 53.35 349 P **P** **01 15 48.3 -0.8**
baz=168,SNR=41
Y58A P **P** **01 15 48.3 -0.8**
baz=168,SNR=41
Y58A S **S** **01 23 07.1 -4.6**
baz=168
Y58A S **S** **01 23 07.1 -4.6**
baz=168
346A Big Creek Wild 53.51 339 IAmb IAmb 01 15 54.3
comp=Z,346nm,1.0s
346A Big Creek Wild 53.51 339 P **P** **01 15 49.5 -0.8**
baz=156,SNR=22
346A S **S** **01 23 10.5 -3.5**
baz=156
Y57A Sumter 53.59 349 P **P** **01 15 50.3 -0.5**
baz=167,SNR=67
Y57A P **P** **01 15 50.3 -0.5**
baz=167,SNR=67
Y57A S **S** **01 23 10.0 -4.9**
baz=167
Y57A S **S** **01 23 10.0 -4.9**
baz=167
GOGA Godfrey 53.66 345 IAmb IAmb 01 15 55.1
comp=Z,249nm,1.2s
GOGA Godfrey 53.66 345 P **P** **01 15 50.1 -1.2**
baz=164,SNR=62
GOGA Godfrey 53.66 345 P **P** **01 15 49.7 -1.6**
baz=164,SNR=62
GOGA S **S** **01 23 11.4 -4.5**
baz=164
GOGA Godfrey 53.66 345 ⇓P **P** **01 15 49.9 -1.4**
HBVL Hebbronville 53.71 327 IAmb IAmb 01 15 56.6
comp=Z,283nm,0.8s
KVTX Kingsville 53.72 328 P **P** **01 15 51.3 -0.5**
baz=146,SNR=13
KVTX S **S** **01 23 19.3 +2.5**
baz=146
KVTX Kingsville 53.72 328 ⇓P **P** **01 15 52.6 +0.8**
X58A Rowland 53.93 350 P **P** **01 15 52.7 -0.5**
X58A IAmb IAmb 01 15 57.3
comp=Z,449nm,1.2s
X58A Rowland 53.93 350 P **P** **01 15 52.5 -0.8**
baz=168,SNR=36
X58A P **P** **01 15 52.5 -0.8**
baz=168,SNR=36
X58A S **S** **01 23 12.9 -6.5**
baz=168
X58A S **S** **01 23 12.9 -6.5**
baz=168
JSC Jenkinsville 54.01 348 IAmb IAmb 01 15 58.2
comp=Z,410nm,1.0s
JSC Jenkinsville 54.01 348 P **P** **01 15 53.0 -0.8**
baz=166,SNR=128
HODGE Hodges 54.17 347 IAmb IAmb 01 15 59.2
comp=Z,600nm,1.6s
HODGE Hodges 54.17 347 P **P** **01 15 54.1 -0.9**
baz=165,SNR=74
BIRD Birdtown, Kers 54.21 349 P **P** **01 15 55.0 -0.4**
baz=167,SNR=221
Y52A Lilburn 54.23 345 IAmb IAmb 01 15 59.2
comp=Z,228nm,1.1s
Y52A Lilburn 54.23 345 P **P** **01 15 54.3 -1.2**
baz=163,SNR=43
Y52A P **P** **01 15 54.3 -1.2**
baz=163,SNR=43
LRAL Lakeview Retre 54.24 342 P **P** **01 15 54.1 -1.5**
LRAL IAmb IAmb 01 15 59.0
comp=Z,254nm,1.2s
LRAL Lakeview Retre 54.24 342 P **P** **01 15 54.0 -1.6**
baz=160,SNR=76
LRAL Lakeview Retre 54.24 342 P **P** **01 15 54.3 -1.3**
baz=160,SNR=76
LRAL Lakeview Retre 54.24 342 ⇓P **P** **01 15 53.9 -1.7**
441A DeRidder 54.33 335 P **P** **01 15 56.5 +0.3**
baz=152,SNR=20
CNNC Cliffs of the 54.38 352 IAmb IAmb 01 16 00.3
comp=Z,287nm,1.3s
CNNC Cliffs of the 54.38 352 P **P** **01 15 55.6 -0.9**
baz=170,SNR=10
CNNC Cliffs of the 54.38 352 P **P** **01 15 56.1 -0.4**
baz=170,SNR=10
CNNC Cliffs of the 54.38 352 ⇓P **P** **01 15 57.1 +0.6**
H10N3 ASCENSION HYDR 54.39 86 P **P** **01 15 56.5 -0.2**
baz=262,slow=5.7,SNR=37
W59A Clinton 54.39 351 IAmb IAmb 01 16 00.6
comp=Z,253nm,1.0s
W59A Clinton 54.39 351 P **P** **01 15 55.6 -1.0**
baz=170,SNR=13
H10N2 ASCENSION HYDR 54.41 86 P **P** **01 15 56.5 -0.4**
baz=262,slow=5.7,SNR=25
H10N1 ASCENSION HYDR 54.41 86 P **P** **01 15 56.6 -0.3**
baz=262,slow=5.7,SNR=70
ASCN Ascension 54.49 86 P **P** **01 15 57.6 -0.2**
146A Union 54.52 340 IAmb IAmb 01 16 01.4
comp=Z,485nm,1.2s
146A Union 54.52 340 P **P** **01 15 56.7 -0.9**
baz=157,SNR=23
W57A Gilead 54.62 349 IAmb IAmb 01 16 02.4
comp=Z,426nm,1.1s
W57A Gilead 54.62 349 P **P** **01 15 57.3 -1.0**
baz=168,SNR=103
W57A P **P** **01 15 57.3 -1.0**
baz=168,SNR=103
VBMS Vicksburg 54.63 338 IAmb IAmb 01 16 02.3
comp=Z,557nm,1.6s
VBMS Vicksburg 54.63 338 P **P** **01 15 57.1 -1.3**
baz=155
PAULI Pauline 54.65 348 IAmb IAmb 01 16 02.8
comp=Z,307nm,1.0s
PAULI Pauline 54.65 348 P **P** **01 15 58.1 -0.4**
baz=166,SNR=86
V61A Roper 54.75 353 P **P** **01 15 59.7 +0.5**
baz=172,SNR=16
V61A P **P** **01 15 59.7 +0.5**
baz=172,SNR=16
735A Kenedy 54.76 329 P **P** **01 15 59.7 +0.3**
baz=147,SNR=25
HKT Hockley 54.77 332 P **P** **01 16 00.2 +0.9**
baz=149
HKT Hockley 54.77 332 ⇓P **P** **01 15 59.2 -0.2**
HKT Hockley 54.77 332 P **P** **01 15 59.3 0.0**
HKT pmax pmax
comp=Z,458nm,1.2s
HKT Hockley 54.77 332 P **P** **01 15 59.6 +0.2**
HKT pP **pP** **01 16 28.3 -0.5**
HKT sP **sP** **01 16 43.3 +1.0**
Y49A Blount Mountai 54.84 343 IAmb IAmb 01 16 03.2
comp=Z,229nm,1.1s
Y49A Blount Mountai 54.84 343 P **P** **01 15 58.3 -1.7**
baz=160,SNR=5.5
KMSC Kings Mountain 54.86 348 IAmb IAmb 01 16 04.4
comp=Z,365nm,0.9s
KMSC Kings Mountain 54.86 348 P **P** **01 15 59.2 -0.7**
baz=166,SNR=115
KMSC Kings Mountain 54.86 348 P **P** **01 15 59.3 -0.7**
baz=166,SNR=115
BG3 Lake Jocassee 55.05 347 IAmb IAmb 01 16 05.7
comp=Z,183nm,1.0s
CASEE Lake Jocassee 55.05 347 P **P** **01 16 00.4 -1.0**
baz=164,SNR=64
X51A Calhoun 55.10 345 IAmb IAmb 01 16 05.4
comp=Z,407nm,1.1s
X51A Calhoun 55.10 345 P **P** **01 16 00.6 -1.2**
baz=162,SNR=67
X51A P **P** **01 16 00.6 -1.2**
baz=162,SNR=67
V58A Windy Hill, Pi 55.10 350 IAmb IAmb 01 16 05.7
comp=Z,362nm,1.1s
V58A Windy Hill, Pi 55.10 350 P **P** **01 16 00.5 -1.3**
baz=169,SNR=64
V58A P **P** **01 16 00.5 -1.3**
baz=169,SNR=64
833A Chaparral WMA, 55.11 328 P **P** **01 16 00.9 -1.1**
baz=145,SNR=102
833A Chaparral WMA, 55.11 328 P **P** **01 16 01.1 -0.8**
baz=145,SNR=102
FPAL Fort Paine 55.27 344 P **P** **01 16 02.4 -0.6**
FPAL IAmb IAmb 01 16 06.4
comp=Z,293nm,1.2s
HNVL Huntsville, TX 55.30 333 P **P** **01 16 03.6 +0.4**
W52A Murphy 55.37 346 P **P** **01 16 04.0 +0.2**
W52A IAmb IAmb 01 16 07.8
comp=Z,266nm,1.1s
W52A Murphy 55.37 346 P **P** **01 16 02.6 -1.2**
baz=163,SNR=55
143A Socs Landing, 55.39 337 P **P** **01 16 02.8 -1.1**
baz=155,SNR=18
U59A Littleton 55.46 352 IAmb IAmb 01 16 08.2
comp=Z,368nm,1.5s
U59A Littleton 55.46 352 P **P** **01 16 03.1 -1.2**
baz=170,SNR=48
U59A P **P** **01 16 03.1 -1.2**
baz=170,SNR=48
V55A Taylorsville 55.52 348 P **P** **01 16 04.5 -0.3**
baz=166,SNR=203
V55A P **P** **01 16 04.5 -0.3**
baz=166,SNR=203
X48A Hartselle 55.58 342 IAmb IAmb 01 16 08.7
comp=Z,400nm,1.1s
X48A Hartselle 55.58 342 P **P** **01 16 04.0 -1.1**
baz=160,SNR=112
V53A Saluda 55.67 347 IAmb IAmb 01 16 09.9
comp=Z,169nm,1.1s
V53A Saluda 55.67 347 P **P** **01 16 05.1 -0.8**
baz=165,SNR=71
V53A P **P** **01 16 05.1 -0.8**
baz=165,SNR=71
Y45A Yeager Farm, C 55.80 340 IAmb IAmb 01 16 10.6
comp=Z,342nm,1.1s
Y45A Yeager Farm, C 55.80 340 P **P** **01 16 05.5 -1.3**
baz=157,SNR=45
W50A Signal Mountai 55.81 344 IAmb IAmb 01 16 10.6
comp=Z,324nm,1.0s
W50A Signal Mountai 55.81 344 P **P** **01 16 06.0 -1.0**
baz=162,SNR=126
NATX Nacogdoches 55.82 334 P **P** **01 16 06.8 -0.1**
baz=151,SNR=44
NATX S **S** **01 23 44.4 -0.6**
baz=151
NATX Nacogdoches 55.82 334 P **P** **01 16 06.9 -0.1**
baz=151,SNR=44
NATX Nacogdoches 55.82 334 ⇓P **P** **01 16 07.1 +0.1**
CPCT Cooper Cave 55.85 345 IAmb IAmb 01 16 10.9
comp=Z,303nm,1.1s
U56A King 55.85 349 P **P** **01 16 07.4 +0.3**
U56A King 55.85 349 P **P** **01 16 07.0 -0.1**
baz=168,SNR=65
U56A P **P** **01 16 07.0 -0.1**
baz=168,SNR=65
TKL Tuckaleechee C 55.88 346 P **P** **01 16 07.1 -0.2**
TKL IAmb IAmb 01 16 10.9
comp=Z,318nm,1.1s
TKL Tuckaleechee C 55.88 346 P **P** **01 16 06.0 -1.3**
baz=164,SNR=81
TKL Tuckaleechee C 55.88 346 P **P** **01 16 07.1 -0.2**
TKL pmax pmax
comp=Z,318nm,1.1s
TKL Tuckaleechee C 55.88 346 LR LR 01 41 44.9
comp=Z,2μm,20.3s,baz=162,slow=38
SWET Sewanee 55.99 344 IAmb IAmb 01 16 11.6
comp=Z,350nm,1.2s
V52A Sevierville 56.01 346 P **P** **01 16 07.1 -1.2**
baz=164,SNR=153
T59A Double "B" Far 56.04 352 IAmb IAmb 01 16 12.3
comp=Z,331nm,0.9s
T59A Double "B" Far 56.04 352 P **P** **01 16 07.1 -1.3**
baz=171,SNR=94
T59A P **P** **01 16 07.1 -1.3**
baz=171,SNR=94
T60A Surry 56.10 353 P **P** **01 16 07.6 -1.2**
baz=172,SNR=25
T60A P **P** **01 16 07.6 -1.2**
baz=172,SNR=25
V51A Loudon 56.15 345 IAmb IAmb 01 16 12.9
comp=Z,245nm,1.1s
V51A Loudon 56.15 345 P **P** **01 16 07.8 -1.4**
baz=163,SNR=49
PTCN Pitcairn Islan 56.19 252 P **P** **01 16 09.2 -0.7**
435B Jarrell 56.27 331 IAmb IAmb 01 16 14.5
comp=Z,309nm,0.9s
435B Jarrell 56.27 331 P **P** **01 16 09.5 -0.7**
baz=148
435B S **S** **01 23 49.3 -1.6**
baz=148
435B Jarrell 56.27 331 P **P** **01 16 09.5 -0.7**
baz=148,SNR=47
SACV Santiago Islan 56.28 56 P **P** **01 16 09.3 -1.2**
SACV IAmb IAmb 01 16 14.0
comp=Z,149nm,0.8s
U54A Nelsons Funny 56.29 348 P **P** **01 16 09.4 -0.9**
baz=166,SNR=82
U54A P **P** **01 16 09.4 -0.9**
baz=166,SNR=82
T57A Hurt 56.30 351 P **P** **01 16 09.5 -0.8**
baz=169,SNR=113
T57A P **P** **01 16 09.5 -0.8**
baz=169,SNR=113
OXF Oxford 56.35 340 P **P** **01 16 08.7 -2.0**
baz=157,SNR=70
OXF S **S** **01 23 44.6 -7.3**
baz=157
OXF Oxford 56.35 340 P **P** **01 16 08.6 -2.1**
baz=157,SNR=70
OXF Oxford 56.35 340 ⇓P **P** **01 16 08.8 -1.8**
PLAL Pickwick Lake 56.38 342 IAmb IAmb 01 16 13.8
comp=Z,262nm,1.1s
237A Washetta, Mont 56.51 333 P **P** **01 16 12.5 +0.6**
baz=150,SNR=91
237A S **S** **01 23 55.1 +1.0**
baz=150
S61A Accomac 56.52 354 P **P** **01 16 12.6 +0.7**
S61A Accomac 56.52 354 P **P** **01 16 11.6 -0.2**
baz=173,SNR=11
S61A P **P** **01 16 11.6 -0.2**
baz=173,SNR=11
CCAR Cane Creek 56.62 338 P **P** **01 16 12.7 +0.1**
baz=155,SNR=14
CCAR S **S** **01 23 59.4 +4.1**
baz=155
TZTN Tazewell 56.67 346 IAmb IAmb 01 16 16.7
comp=Z,203nm,1.1s
TZTN Tazewell 56.67 346 P **P** **01 16 12.2 -0.7**
baz=164,SNR=39
TZTN S **S** **01 23 52.8 -3.3**
baz=164
TZTN Tazewell 56.67 346 P **P** **01 16 11.8 -1.1**
baz=164,SNR=39
TZTN S **S** **01 23 52.3 -3.7**
baz=164
TZTN Tazewell 56.67 346 ⇑P **P** **01 16 11.7 -1.3**
BLA Blacksburg 56.70 350 P **P** **01 16 13.1 -0.1**
baz=168,SNR=60
BLA S **S** **01 23 54.1 -2.4**
baz=168
BLA Blacksburg 56.70 350 P **P** **01 16 12.8 -0.4**
baz=168,SNR=60
BLA S **S** **01 23 54.2 -2.3**
baz=168
BLA Blacksburg 56.70 350 ⇓P **P** **01 16 12.7 -0.4**
V48A Smith Brothers 56.73 343 S **S** **01 23 51.0 -5.8**
baz=160
WLAR White Oak Lake 56.90 336 P **P** **01 16 14.9 +0.3**
S57A Dark Hollow, R 57.01 351 P **P** **01 16 14.8 -0.4**
baz=169,SNR=73
S57A P **P** **01 16 14.8 -0.4**
baz=169,SNR=73
S57A S **S** **01 23 58.0 -2.3**
baz=169
S57A S **S** **01 23 58.0 -2.3**
baz=169
R58B Mineral 57.06 352 IAmb IAmb 01 16 19.9
comp=Z,190nm,1.0s
R58B Mineral 57.06 352 P **P** **01 16 14.9 -0.7**
baz=170,SNR=59
R58B P **P** **01 16 14.9 -0.7**
baz=170,SNR=59
R58B S **S** **01 23 56.2 -4.8**
baz=170
R58B S **S** **01 23 56.2 -4.8**
baz=170
JCT Junction City 57.07 329 IAmb IAmb 01 16 20.0
comp=Z,215nm,0.9s
JCT Junction City 57.07 329 P **P** **01 16 15.2 -0.7**
baz=145,SNR=77
JCT S **S** **01 24 00.7 -1.0**
baz=145
JCT Junction City 57.07 329 P **P** **01 16 15.0 -0.9**
baz=145,SNR=77
JCT S **S** **01 24 00.7 -1.0**
baz=145
JCT Junction City 57.07 329 ⇓P **P** **01 16 15.1 -0.9**
MET Memphis--Engin 57.08 340 P **P** **01 16 16.2 +0.3**
R61A Willards 57.14 354 P **P** **01 16 17.2 +1.0**
R61A Willards 57.14 354 P **P** **01 16 15.6 -0.5**
baz=173,SNR=5.8
R61A P **P** **01 16 15.6 -0.5**
baz=173,SNR=5.8
U49A Red Boiling Sp 57.18 344 IAmb IAmb 01 16 19.9
comp=Z,185nm,0.9s
U49A Red Boiling Sp 57.18 344 P **P** **01 16 15.0 -1.5**
baz=162,SNR=77
U49A S **S** **01 23 56.6 -6.0**
baz=162
WHTX Lake Whitney, 57.23 332 P **P** **01 16 16.6 -0.3**
baz=148,SNR=55
WHTX S **S** **01 24 01.8 -1.7**
baz=148
WHTX Lake Whitney, 57.23 332 P **P** **01 16 15.8 -1.2**
baz=148,SNR=55
WHTX S **S** **01 24 02.3 -1.2**
baz=148
CBN Corbin Frederi 57.23 353 IAmb IAmb 01 16 20.8
comp=Z,206nm,1.1s
CBN Corbin Frederi 57.23 353 P **P** **01 16 16.7 -0.1**
baz=171,SNR=14
CBN S **S** **01 23 59.8 -3.5**
baz=171
CBN Corbin Frederi 57.23 353 P **P** **01 16 16.2 -0.6**
baz=171,SNR=14
CBN Corbin Frederi 57.23 353 ⇑P **P** **01 16 16.5 -0.3**
Z38A Mt. Pleasant 57.26 335 P **P** **01 16 16.9 -0.2**
baz=151,SNR=106
Z38A S **S** **01 24 02.4 -1.4**
baz=151
BRDY Brady 57.35 330 IAmb IAmb 01 16 21.7
comp=Z,308nm,1.1s
WVT Waverly 57.37 342 P **P** **01 16 17.1 -0.7**
WVT IAmb IAmb 01 16 20.8
comp=Z,315nm,0.9s
WVT Waverly 57.37 342 P **P** **01 16 16.8 -1.1**
baz=159
WVT S **S** **01 23 58.5 -6.7**
baz=159
WVT Waverly 57.37 342 P **P** **01 16 15.7 -2.2**
baz=159,SNR=253
WVT S **S** **01 24 00.9 -4.3**
baz=159
WVT Waverly 57.37 342 ⇓P **P** **01 16 15.7 -2.2**
WVT Waverly 57.37 342 P **P** **01 16 17.1 -0.7**
WVT pmax pmax
comp=Z,315nm,0.9s
WVT Waverly 57.37 342 P **P** **01 16 15.8 -2.0**
WVT PcP **PcP** **01 17 12.0 +1.5**
T50A Nancy 57.43 345 IAmb IAmb 01 16 21.7
comp=Z,196nm,1.0s
T50A Nancy 57.43 345 P **P** **01 16 16.6 -1.7**

T50A P **P** **01 16 16.6 -1.7**
baz=163
T50A S **S** **01 24 01.2 -4.7**
baz=163
T50A S **S** **01 24 01.2 -4.7**
baz=163
S54A Dingess, Beckl 57.43 349 P **P** **01 16 17.4 -0.9**
baz=167,SNR=91
S54A P **P** **01 16 17.4 -0.9**
baz=167,SNR=91
S54A S **S** **01 24 03.0 -3.1**
baz=167
S54A S **S** **01 24 03.0 -3.1**
baz=167
FW14 Alvarado 57.46 332 P **P** **01 16 18.8 +0.3**
HPIG 57.48 321 IAmb IAmb 01 16 23.6
comp=Z,210nm,0.9s
HPIG 57.48 321 ⇑P **P** **01 16 18.9 -0.2**
X40A Basin Creek Fa 57.51 337 S **S** **01 24 03.1 -4.0**
baz=154
X40A S **S** **01 24 03.1 -4.0**
baz=154
FW13 Cleburne 57.52 332 IAmb IAmb 01 16 23.2
comp=Z,296nm,0.8s
HALT Halls 57.62 341 P **P** **01 16 18.8 -0.8**
HALT IAmb IAmb 01 16 23.2
comp=Z,476nm,1.3s
R55A Marlinton 57.70 350 P **P** **01 16 20.3 +0.1**
baz=168,SNR=72
R55A P **P** **01 16 20.3 +0.1**
baz=168,SNR=72
R55A S **S** **01 24 07.5 -2.1**
baz=168
R55A S **S** **01 24 07.5 -2.1**
baz=168
HBAR Harrisburg 57.72 340 P **P** **01 16 20.3 0.0**
HBAR IAmb IAmb 01 16 24.5
comp=Z,475nm,1.3s
S51A Beattyville 57.74 347 IAmb IAmb 01 16 24.0
comp=Z,248nm,1.2s
S51A Beattyville 57.74 347 P **P** **01 16 18.6 -1.8**
baz=164,SNR=40
S51A P **P** **01 16 18.6 -1.8**
baz=164,SNR=40
S51A S **S** **01 24 04.4 -5.5**
baz=164
S51A S **S** **01 24 04.4 -5.5**
baz=164
SAND Sanderson 57.83 326 IAmb IAmb 01 16 25.6
comp=Z,382nm,1.1s
SLBS Sierra La Lagu 57.85 315 P **P** **01 16 21.7 +0.1**
SLBS IAmb IAmb 01 16 26.9
comp=Z,506nm,1.5s
SLBS Sierra La Lagu 57.85 315 ⇓P **P** **01 16 22.3 +0.7**
SLBS Sierra La Lagu 57.85 315 P **P** **01 16 21.9 +0.4**
SLBS pP **pP** **01 16 51.1 +0.1**
SLBS sP **sP** **01 17 06.1 +1.6**
GNAR Gosnell 57.88 340 P **P** **01 16 21.4 0.0**
T47A Sharon Grove 57.98 343 P **P** **01 16 21.0 -1.1**
baz=160,SNR=215
T47A S **S** **01 24 07.6 -5.5**
baz=160
FW07 Weatherford 57.98 332 IAmb IAmb 01 16 26.4
comp=Z,415nm,1.1s
WHAR Wooly Hollow 58.03 338 IAmb IAmb 01 16 26.1
comp=Z,301nm,1.3s
R53A Hurricane 58.07 348 IAmb IAmb 01 16 26.7
comp=Z,360nm,1.1s
R53A Hurricane 58.07 348 P **P** **01 16 21.9 -0.8**
baz=166,SNR=46
R53A P **P** **01 16 21.9 -0.8**
baz=166,SNR=46
R53A S **S** **01 24 10.8 -3.4**
baz=166
R53A S **S** **01 24 10.8 -3.4**
baz=166
OZNA Ozona 58.09 328 IAmb IAmb 01 16 26.9
comp=Z,248nm,0.8s
TX31 Lajitas Ar. Si 58.17 325 IAmb IAmb 01 16 27.9
comp=Z,158nm,1.1s
TX31 Lajitas Ar. Si 58.17 325 P **P** **01 16 22.9 -0.8**
baz=141,SNR=158
TXAR Lajitas Array 58.17 325 P **P** **01 16 23.8 +0.1**
TXAR Lajitas Array 58.17 325 P **P** **01 16 23.8 +0.1**
TXAR Lajitas Array 58.17 325 P **P** **01 16 22.9 -0.8**
comp=Z,74nm,0.9s,baz=149,slow=7.7,SNR=106
TXAR LR LR 01 40 19.0
comp=Z,2µm,21.0s,baz=134,slow=35
TXAR PKPPKP **P'P'df** **01 46 01.4 -1.2**
comp=Z,1.1nm,1.0s,baz=270,slow=1.3,SNR=4.1
comp=Z,74nm,0.9s
PVMO Portageville 58.20 341 P **P** **01 16 24.2 +0.6**
Z35A Perchaven, San 58.28 333 P **P** **01 16 24.1 -0.1**
Z35A Perchaven, San 58.28 333 P **P** **01 16 24.0 -0.2**
baz=149,SNR=88
Z35A S **S** **01 24 16.1 -1.1**
baz=149
LCAR Lake Charles 58.35 339 IAmb IAmb 01 16 27.9
comp=Z,216nm,1.1s
LCAR Lake Charles 58.35 339 P **P** **01 16 23.2 -1.5**
baz=156,SNR=108
LCAR S **S** **01 24 13.4 -4.5**
baz=156
SDMD Soldier's Deli 58.36 353 P **P** **01 16 23.4 -1.3**
baz=172,SNR=28
SDMD S **S** **01 24 13.9 -4.0**
baz=172
P61A Hammonton 58.42 355 P **P** **01 16 25.0 -0.1**
baz=174
P61A P **P** **01 16 25.0 -0.1**
baz=174
T45B Paducah 58.44 342 P **P** **01 16 24.1 -1.1**
baz=159,SNR=46
T45B S **S** **01 24 13.7 -5.3**
baz=159
Q54A Coxs Mills 58.50 350 P **P** **01 16 25.1 -0.6**
baz=167,SNR=91
Q54A P **P** **01 16 25.1 -0.6**
baz=167,SNR=91
Q54A S **S** **01 24 16.4 -3.4**
baz=167
Q54A S **S** **01 24 16.4 -3.4**
baz=167
R50A Paris 58.51 346 IAmb IAmb 01 16 29.4
comp=Z,331nm,1.1s
R50A Paris 58.51 346 P **P** **01 16 24.6 -1.2**
baz=164,SNR=75
R50A P **P** **01 16 24.6 -1.2**
baz=164,SNR=75
R50A S **S** **01 24 14.4 -5.6**
baz=164
R50A S **S** **01 24 14.4 -5.6**
baz=164
FCAR Ozark Folk Cen 58.52 338 IAmb IAmb 01 16 28.9
comp=Z,202nm,1.2s
P57A Homestead Farm 58.57 352 IAmb IAmb 01 16 31.0
comp=Z,307nm,1.1s
P57A Homestead Farm 58.57 352 P **P** **01 16 26.0 -0.1**
baz=170,SNR=44
P57A P **P** **01 16 26.0 -0.1**
baz=170,SNR=44
P57A S **S** **01 24 17.6 -3.1**
baz=170
P57A S **S** **01 24 17.6 -3.1**
baz=170
GEDE Greenville 58.63 354 P **P** **01 16 25.4 -1.1**
baz=173,SNR=24
GEDE S **S** **01 24 16.5 -5.0**
baz=173
R49A Shelbyville 58.72 346 IAmb IAmb 01 16 30.5
comp=Z,228nm,1.1s
R49A Shelbyville 58.72 346 P **P** **01 16 25.6 -1.6**
baz=163,SNR=47
R49A P **P** **01 16 25.6 -1.6**
baz=163,SNR=47
R49A S **S** **01 24 14.6 -8.0**
baz=163
R49A S **S** **01 24 14.6 -8.0**
baz=163
PSUB Penn St. - Bra 58.73 355 P **P** **01 16 25.6 -1.7**
baz=173
Q52A Bidwell 58.74 348 IAmb IAmb 01 16 31.2
comp=Z,286nm,1.1s
Q52A Bidwell 58.74 348 P **P** **01 16 26.3 -1.1**
baz=166,SNR=49
Q52A P **P** **01 16 26.3 -1.1**
baz=166,SNR=49
Q52A S **S** **01 24 19.3 -3.7**
baz=166
Q52A S **S** **01 24 19.3 -3.7**
baz=166
PBMO Poplar Bluff 58.76 340 IAmb IAmb 01 16 30.8
comp=Z,283nm,0.9s
PBMO Poplar Bluff 58.76 340 P **P** **01 16 26.3 -1.3**
baz=157,SNR=130
PBMO S **S** **01 24 19.7 -3.5**
baz=157
ABTX Abilene, Hawle 58.76 330 P **P** **01 16 27.0 -0.7**
baz=146,SNR=139
ABTX S **S** **01 24 21.2 -2.4**
baz=146
ABTX Abilene, Hawle 58.76 330 P **P** **01 16 26.7 -1.0**
baz=146,SNR=139
ABTX S **S** **01 24 20.9 -2.6**
baz=146
MVL Millersville 58.89 354 IAmb IAmb 01 16 32.6
comp=Z,198nm,1.0s
WCI Wyandotte Cave 58.93 345 P **P** **01 16 28.5 -0.2**
WCI Wyandotte Cave 58.93 345 P **P** **01 16 27.7 -1.0**
baz=161
WCI S **S** **01 24 18.6 -6.9**
baz=161
WCI Wyandotte Cave 58.93 345 P **P** **01 16 27.2 -1.5**
baz=161,SNR=66
WCI S **S** **01 24 21.1 -4.4**
baz=161
WCI Wyandotte Cave 58.93 345 ⇓P **P** **01 16 26.7 -2.0**
WCI Wyandotte Cave 58.93 345 P **P** **01 16 28.5 -0.2**
WCI pmax pmax
comp=Z,708nm,1.6s
WCI Wyandotte Cave 58.93 345 P **P** **01 16 26.7 -2.0**
WCI pP **pP** **01 16 56.4 -2.3**
WCI sP **sP** **01 17 10.7 -1.6**
TUPA Temple Univers 58.95 355 P **P** **01 16 27.6 -1.2**
baz=174,SNR=37
ALPN Alpine 58.97 325 IAmb IAmb 01 16 33.3
comp=Z,468nm,1.5s
MCWV Mont Chateau 59.00 351 P **P** **01 16 28.9 -0.2**
baz=169,SNR=70
MCWV S **S** **01 24 25.5 -0.8**
baz=169
MCWV Mont Chateau 59.00 351 P **P** **01 16 29.0 -0.2**
baz=169,SNR=70
MCWV S **S** **01 24 26.5 +0.3**
baz=169
MCWV Mont Chateau 59.00 351 ⇓P **P** **01 16 28.7 -0.4**
Q51A Peebles 59.02 347 IAmb IAmb 01 16 32.8
comp=Z,254nm,1.1s
Q51A Peebles 59.02 347 P **P** **01 16 27.6 -1.7**
baz=165,SNR=64
Q51A P **P** **01 16 27.6 -1.7**
baz=165,SNR=64
Q51A S **S** **01 24 22.1 -4.4**
baz=165
Q51A S **S** **01 24 22.1 -4.4**
baz=165
P53A Whipple 59.09 349 P **P** **01 16 29.4 -0.3**
baz=167,SNR=114
P53A P **P** **01 16 29.4 -0.3**
baz=167,SNR=114
P53A S **S** **01 24 24.1 -3.3**
baz=167
P53A S **S** **01 24 24.1 -3.3**
baz=167
PANJ Princeton 59.12 355 P **P** **01 16 29.3 -0.6**
baz=174,SNR=17
PANJ S **S** **01 24 26.0 -1.6**
baz=174
U40A Yellville 59.19 338 P **P** **01 16 29.2 -1.3**
baz=154,SNR=152
U40A P **P** **01 16 29.2 -1.3**
baz=154,SNR=152
U40A S **S** **01 24 24.8 -4.1**
baz=154
U40A S **S** **01 24 24.8 -4.1**
baz=154
S44A Carbondale 59.24 342 P **P** **01 16 29.3 -1.5**
S44A **S** **01 24 28.5 -1.0**
S44A Carbondale 59.24 342 P **P** **01 16 29.6 -1.2**
baz=158,SNR=154
S44A S **S** **01 24 24.9 -4.5**
baz=158
P52A Corning 59.37 349 IAmb IAmb 01 16 35.3
comp=Z,260nm,0.8s
P52A Corning 59.37 349 P **P** **01 16 30.4 -1.3**
baz=166,SNR=96
P52A S **S** **01 24 27.4 -3.5**
baz=166
LUPA Lehigh Univers 59.39 355 P **P** **01 16 31.9 +0.2**
P51A Williamsport 59.40 348 IAmb IAmb 01 16 35.3
comp=Z,296nm,1.1s
P51A Williamsport 59.40 348 P **P** **01 16 30.3 -1.6**
baz=165,SNR=50
P51A P **P** **01 16 30.3 -1.6**
baz=165,SNR=50
P51A S **S** **01 24 26.0 -5.4**
baz=165
P51A S **S** **01 24 26.0 -5.4**
baz=165
BRNJ Basking Ridge 59.41 355 IAmb IAmb 01 16 36.2
comp=Z,279nm,1.1s
BRNJ Basking Ridge 59.41 355 P **P** **01 16 31.0 -0.9**
baz=174,SNR=9.5
PABK Blue Knob Stat 59.42 352 S **S** **01 24 29.0 -2.6**
baz=170
HHAR Hobbs 59.52 337 IAmb IAmb 01 16 36.4
comp=Z,270nm,1.0s
HHAR Hobbs 59.52 337 S **S** **01 24 33.0 -0.1**
baz=153
FOR Fordham 59.54 356 P **P** **01 16 32.1 -0.7**
baz=175,SNR=10.0
N62A Caumsett State 59.58 356 IAmb IAmb 01 16 37.0
comp=Z,246nm,0.9s
N62A Caumsett State 59.58 356 P **P** **01 16 33.8 +0.7**
baz=176,SNR=5.2
N62A P **P** **01 16 33.8 +0.7**
baz=176,SNR=5.2
O54A Avella 59.60 350 IAmb IAmb 01 16 38.6
comp=Z,194nm,0.9s
O54A Avella 59.60 350 P **P** **01 16 32.2 -1.1**
baz=168,SNR=46
O54A P **P** **01 16 32.2 -1.1**
baz=168,SNR=46
O54A S **S** **01 24 30.0 -3.9**
baz=168
O54A S **S** **01 24 30.0 -3.9**
baz=168
PAL Palisades 59.69 356 IAmb IAmb 01 16 37.7
comp=Z,144nm,1.1s
PAL Palisades 59.69 356 P **P** **01 16 32.8 -1.0**
baz=175,SNR=14
PAL S **S** **01 24 31.7 -3.2**
baz=175
PAL Palisades 59.69 356 P **P** **01 16 35.1 +1.3**
baz=175,SNR=14
SSPA Standing Stone 59.69 353 P **P** **01 16 34.4 +0.6**
SSPA IAmb IAmb 01 16 38.3
comp=Z,225nm,1.1s
SSPA Standing Stone 59.69 353 P **P** **01 16 32.7 -1.2**
baz=171
SSPA S **S** **01 24 32.2 -2.9**
baz=171
SSPA Standing Stone 59.69 353 P **P** **01 16 33.4 -0.4**
baz=171,SNR=32
SSPA S **S** **01 24 30.9 -4.2**
baz=171
SSPA Standing Stone 59.69 353 ⇑P **P** **01 16 33.0 -0.9**
SSPA Standing Stone 59.69 353 P **P** **01 16 32.9 -0.9**
MGMO Mountain Grove 59.71 339 IAmb IAmb 01 16 37.6
comp=Z,266nm,0.9s
N58A Sunbury 59.76 354 IAmb IAmb 01 16 38.7
comp=Z,309nm,1.1s
N58A Sunbury 59.76 354 P **P** **01 16 33.9 -0.4**
baz=172,SNR=37
N58A P **P** **01 16 33.9 -0.4**
baz=172,SNR=37
N58A S **S** **01 24 33.2 -2.7**
baz=172
N58A S **S** **01 24 33.2 -2.7**
baz=172
O52A Adamsville 59.78 349 IAmb IAmb 01 16 38.3
comp=Z,190nm,0.7s
O52A Adamsville 59.78 349 P **P** **01 16 33.5 -1.0**
baz=166,SNR=68
O52A P **P** **01 16 33.5 -1.0**
baz=166,SNR=68
O52A S **S** **01 24 32.0 -4.2**
baz=166
O52A S **S** **01 24 32.0 -4.2**
baz=166
O53A New Philadelph 59.80 350 P **P** **01 16 33.7 -0.9**
baz=167,SNR=96
O53A S **S** **01 24 32.3 -4.2**
baz=167
P49A Miami Univ. Ec 59.80 346 P **P** **01 16 32.7 -1.9**
baz=163,SNR=66
P49A S **S** **01 24 31.3 -5.3**
baz=163
P49A Miami Univ. Ec 59.80 346 P **P** **01 16 32.9 -1.7**
baz=163,SNR=66
ODNJ Ogdensburg 59.81 355 P **P** **01 16 34.2 -0.4**
ODNJ IAmb IAmb 01 16 38.7
comp=Z,227nm,1.4s
ODNJ Ogdensburg 59.81 355 P **P** **01 16 33.6 -1.0**
baz=174,SNR=11
ODNJ S **S** **01 24 35.0 -1.6**
baz=174
WSPT Westport, CT 59.81 357 IAmb IAmb 01 16 38.7
comp=Z,376nm,1.3s
RLO Rose Lookout 59.82 336 IAmb IAmb 01 16 39.0
comp=Z,528nm,0.9s
U38A Gravette 59.82 337 IAmb IAmb 01 16 38.6
comp=Z,508nm,1.8s
U38A Gravette 59.82 337 P **P** **01 16 33.7 -1.1**
baz=153,SNR=56
U38A S **S** **01 24 32.9 -4.1**
baz=153
UPAO U. Pittsburgh 59.83 351 S **S** **01 24 34.2 -2.7**
baz=168
TRNY Table Rock, Ra 59.84 356 IAmb IAmb 01 16 39.0
comp=Z,514nm,2.0s
FVM French Village 59.87 341 P **P** **01 16 34.0 -1.2**
baz=157,SNR=269
FVM S **S** **01 24 34.5 -2.9**
baz=157
PECS Pecos 59.87 326 IAmb IAmb 01 16 39.6
comp=Z,174nm,0.7s
OLIL Olney 59.88 343 IAmb IAmb 01 16 38.0
comp=Z,380nm,1.4s
OLIL Olney 59.88 343 P **P** **01 16 33.3 -1.9**
baz=160,SNR=28
OLIL S **S** **01 24 35.8 -1.9**
baz=160
P48A Milroy 59.89 346 IAmb IAmb 01 16 38.0
comp=Z,430nm,1.5s
P48A Milroy 59.89 346 P **P** **01 16 33.3 -2.0**
baz=162,SNR=35
P48A P **P** **01 16 33.3 -2.0**
baz=162,SNR=35
P48A S **S** **01 24 31.1 -6.6**
baz=162
P48A S **S** **01 24 31.1 -6.6**
baz=162
TUL3 Leonard 59.90 335 P **P** **01 16 34.5 -0.9**
baz=151,SNR=102
TUL3 S **S** **01 24 34.4 -3.5**
baz=151
TUL3 Leonard 59.90 335 P **P** **01 16 34.8 -0.6**
baz=151,SNR=102
TUL3 S **S** **01 24 35.6 -2.4**
baz=151
M63A Gales Ferry 59.99 358 IAmb IAmb 01 16 40.1
comp=Z,158nm,1.1s
M63A Gales Ferry 59.99 358 P **P** **01 16 36.6 +0.8**
baz=177,SNR=6.4
M63A P **P** **01 16 36.6 +0.8**
baz=177,SNR=6.4
M63A S **S** **01 24 35.1 -3.8**
baz=177
M63A S **S** **01 24 35.1 -3.8**
baz=177
VHRN Van Horn 60.01 325 IAmb IAmb 01 16 40.6
comp=Z,283nm,0.9s
POST Post 60.02 329 P **P** **01 16 35.7 -0.7**
ACSO Alum Creek Sta 60.11 348 P **P** **01 16 35.4 -1.3**
baz=165,SNR=126
ACSO S **S** **01 24 35.8 -4.6**
baz=165
ACSO Alum Creek Sta 60.11 348 P **P** **01 16 35.6 -1.1**
baz=165,SNR=126
ACSO S **S** **01 24 36.0 -4.4**
baz=165
ACSO Alum Creek Sta 60.11 348 ⇓P **P** **01 16 35.3 -1.4**
M65A Busby, Falmout 60.11 359 P **P** **01 16 36.1 -0.5**
baz=179
M65A S **S** **01 24 35.6 -4.7**
baz=179
WMOK Wichita Mounta 60.14 332 IAmb IAmb 01 16 40.6
comp=Z,395nm,1.8s
WMOK Wichita Mounta 60.14 332 P **P** **01 16 36.1 -1.0**
baz=148
WMOK S **S** **01 24 38.3 -2.8**
baz=148
WMOK Wichita Mounta 60.14 332 S **S** **01 24 39.3 -1.9**
baz=148
CCM Cathedral Cave 60.19 340 P **P** **01 16 36.5 -0.8**
CCM IAmb IAmb 01 16 40.7
comp=Z,253nm,1.0s
CCM Cathedral Cave 60.19 340 P **P** **01 16 35.8 -1.5**
baz=156
CCM S **S** **01 24 37.1 -4.5**
baz=156
CCM Cathedral Cave 60.19 340 P **P** **01 16 36.0 -1.3**
baz=156,SNR=111
CCM S **S** **01 24 33.1 -8.4**
baz=156
CCM Cathedral Cave 60.19 340 ⇑P **P** **01 16 35.6 -1.7**
CCM Cathedral Cave 60.19 340 P **P** **01 16 36.5 -0.8**
CCM pmax pmax
comp=Z,253nm,1.0s
CCM Cathedral Cave 60.19 340 P **P** **01 16 35.6 -1.7**
CCM PcP **PcP** **01 17 22.1 +0.4**
DKNS Dickens 60.23 330 IAmb IAmb 01 16 41.5
comp=Z,264nm,1.0s
N53A Lisbon 60.28 350 P **P** **01 16 37.4 -0.5**
baz=168,SNR=78
N53A P **P** **01 16 37.4 -0.5**
baz=168,SNR=78
N53A S **S** **01 24 39.3 -3.4**
baz=168
N53A S **S** **01 24 39.3 -3.4**
baz=168
PSDB Penn State Uni 60.28 352 P **P** **01 16 38.5 +0.6**
baz=170
PAMR Moraine State 60.29 351 P **P** **01 16 38.0 0.0**
baz=168
PAMR S **S** **01 24 39.4 -3.5**
baz=168
M57A Sunshine Farm, 60.30 353 IAmb IAmb 01 16 42.7
comp=Z,485nm,1.4s
M57A Sunshine Farm, 60.30 353 P **P** **01 16 37.5 -0.4**
baz=172,SNR=29
M57A P **P** **01 16 37.5 -0.4**
baz=172,SNR=29
M57A S **S** **01 24 39.1 -3.8**
baz=172
M57A S **S** **01 24 39.1 -3.8**
baz=172
Q44A Meyer Farm, Va 60.30 342 P **P** **01 16 36.2 -1.9**
baz=159,SNR=76
Q44A S **S** **01 24 36.4 -6.6**
baz=159
O49A Covington 60.34 347 IAmb IAmb 01 16 41.6
comp=Z,391nm,1.1s
O49A Covington 60.34 347 P **P** **01 16 36.9 -1.5**
baz=164,SNR=88
O49A P **P** **01 16 36.9 -1.5**
baz=164,SNR=88
O49A S **S** **01 24 36.8 -6.7**
baz=164
O49A S **S** **01 24 36.8 -6.7**
baz=164
KSPA Keystone Colle 60.38 355 IAmb IAmb 01 16 42.9
comp=Z,394nm,1.6s
KSPA Keystone Colle 60.38 355 P **P** **01 16 37.6 -0.9**
baz=173,SNR=18
KSPA S **S** **01 24 39.5 -4.4**
baz=173
SLM Saint Louis 60.41 341 IAmb IAmb 01 16 42.1
comp=Z,385nm,1.3s
SLM Saint Louis 60.41 341 P **P** **01 16 37.6 -1.2**
baz=157,SNR=12
SLM S **S** **01 24 39.7 -4.7**

baz=157
NPNY Mohonk Preserv 60.45 356 P **P** **01 16 38.3 -0.7**
baz=175,SNR=13
NPNY S **S** **01 24 43.4 -1.4**
baz=175
P46A Rosedale 60.48 344 P **P** **01 16 37.2 -2.0**
baz=161,SNR=44
P46A S **S** **01 24 37.6 -7.5**
baz=161
L64A Middleborough 60.48 359 IAmb IAmb 01 16 43.2
comp=Z,183nm,1.1s
L64A Middleborough 60.48 359 P **P** **01 16 39.1 -0.1**
baz=178,SNR=11
L64A P **P** **01 16 39.1 -0.1**
baz=178,SNR=11
QUOK Quay 60.49 335 **P** **01 16 38.8 -0.6**
S39A Bolivar 60.55 338 IAmb IAmb 01 16 43.4
comp=Z,249nm,0.9s
S39A Bolivar 60.55 338 P **P** **01 16 38.8 -1.1**
baz=154,SNR=191
S39A S **S** **01 24 40.0 -6.3**
baz=154
SHEL Horse Pasture 60.58 98 P **P** **01 16 41.9 +1.3**
SHEL Horse Pasture 60.58 98 *e*P **P** **01 16 38.2 -2.3**
SHEL IAmb IAmb 01 16 45.5
comp=Z,607nm,1.2s
SHEL Horse Pasture 60.58 98 ⇑P **P** **01 16 40.9 +0.3**
SHEL Horse Pasture 60.58 98 P **P** **01 16 41.9 +1.3**
SHEL pmax pmax
comp=Z,599nm,1.2s
O48B Farmland 60.59 346 P **P** **01 16 39.0 -1.0**
baz=163,SNR=49
O48B S **S** **01 24 40.0 -6.6**
baz=163
O48B Farmland 60.59 346 P **P** **01 16 38.6 -1.4**
baz=163,SNR=49
O48B S **S** **01 24 41.3 -5.3**
baz=163
M55A Ridgway 60.62 352 IAmb IAmb 01 16 44.6
comp=Z,221nm,0.8s
M55A Ridgway 60.62 352 P **P** **01 16 39.4 -0.8**
baz=170,SNR=59
M55A P **P** **01 16 39.4 -0.8**
baz=170,SNR=59
M55A S **S** **01 24 43.3 -3.8**
baz=170
M55A S **S** **01 24 43.3 -3.8**
baz=170
N51A Ashland 60.66 349 IAmb IAmb 01 16 44.0
comp=Z,292nm,0.9s
N51A Ashland 60.66 349 P **P** **01 16 38.9 -1.5**
baz=166,SNR=67
N51A P **P** **01 16 38.9 -1.5**
baz=166,SNR=67
N51A S **S** **01 24 40.8 -6.7**
baz=166
N51A S **S** **01 24 40.8 -6.7**
baz=166
R40A Maddies Statio 60.74 340 IAmb IAmb 01 16 44.3
comp=Z,186nm,1.0s
R40A Maddies Statio 60.74 340 P **P** **01 16 39.5 -1.5**
baz=155,SNR=66
R40A S **S** **01 24 43.2 -5.3**
baz=155
PAOC Oil Creek Stat 60.80 351 P **P** **01 16 40.8 -0.6**
baz=169
PAOC S **S** **01 24 44.8 -4.4**
baz=169
M53A WI Miller and 60.87 350 P **P** **01 16 41.0 -0.9**
baz=168,SNR=152
M53A S **S** **01 24 46.8 -3.3**
baz=168
QUA2 Belchertown 60.87 358 P **P** **01 16 40.1 -1.8**
baz=177,SNR=7.5
BCX Boston College 60.89 359 P **P** **01 16 41.9 0.0**
MNTX Cornudas Mount 60.93 325 P **P** **01 16 41.1 -1.5**
baz=141,SNR=248
MNTX S **S** **01 24 50.6 -0.8**
baz=141
MNTX Cornudas Mount 60.93 325 P **P** **01 16 41.4 -1.1**
baz=141,SNR=248
MNTX S **S** **01 24 50.0 -1.4**
baz=141
MNTX Cornudas Mount 60.93 325 ⇓P **P** **01 16 41.0 -1.5**
L59A Walton 60.94 355 IAmb IAmb 01 16 46.9
comp=Z,447nm,1.3s
L59A Walton 60.94 355 P **P** **01 16 41.5 -0.9**
baz=174,SNR=26
L59A P **P** **01 16 41.5 -0.9**
baz=174,SNR=26
L59A S **S** **01 24 47.7 -3.4**
baz=174
L59A S **S** **01 24 47.7 -3.4**
baz=174
WES Weston 60.94 358 IAmb IAmb 01 16 46.5
comp=Z,236nm,1.3s
ALLY Alegheny Colle 60.99 351 P **P** **01 16 42.0 -0.7**
baz=168,SNR=144
ALLY S **S** **01 24 48.6 -3.2**
baz=168
N49A Columbus Grove 61.01 347 P **P** **01 16 41.6 -1.2**
baz=164,SNR=221
N49A P **P** **01 16 41.6 -1.2**
baz=164,SNR=221
N49A S **S** **01 24 45.6 -6.4**
baz=164
N49A S **S** **01 24 45.6 -6.4**
baz=164
BINY Binghamton 61.03 354 IAmb IAmb 01 16 47.6
comp=Z,354nm,1.1s
BINY Binghamton 61.03 354 P **P** **01 16 42.7 -0.3**
baz=173,SNR=39
BINY S **S** **01 24 50.0 -2.3**
baz=173
BINY Binghamton 61.03 354 P **P** **01 16 42.3 -0.7**
baz=173,SNR=39
BINY S **S** **01 24 47.1 -5.1**
baz=173
BINY Binghamton 61.03 354 ⇑P **P** **01 16 42.5 -0.5**
T35B Sooner Cattle 61.06 335 P **P** **01 16 42.4 -0.8**
baz=151,SNR=178
T35B S **S** **01 24 49.1 -3.7**
baz=151
L61B Northampton 61.06 357 P **P** **01 16 42.7 -0.4**
baz=176,SNR=10
L61B S **S** **01 24 47.3 -5.2**
baz=176
L61B Northampton 61.06 357 P **P** **01 16 42.2 -0.9**
baz=176,SNR=10
HRV Adam Dziewonsk 61.07 358 P **P** **01 16 43.7 +0.5**
HRV IAmb IAmb 01 16 47.5
comp=Z,276nm,1.1s
HRV Adam Dziewonsk 61.07 358 P **P** **01 16 42.8 -0.4**
baz=178
HRV S **S** **01 24 49.3 -3.3**
baz=178
HRV Adam Dziewonsk 61.07 358 P **P** **01 16 42.6 -0.6**
baz=178,SNR=24
HRV S **S** **01 24 50.5 -2.2**
baz=178
HRV Adam Dziewonsk 61.07 358 ⇑P **P** **01 16 42.4 -0.8**
HRV Adam Dziewonsk 61.07 358 P **P** **01 16 43.7 +0.5**
HRV pmax pmax
comp=Z,276nm,1.1s
HRV Adam Dziewonsk 61.07 358 P **P** **01 16 42.4 -0.8**
HRV pP **pP** **01 17 13.0 -0.8**
M52A Chesterland 61.08 350 P **P** **01 16 42.5 -0.8**
baz=167,SNR=76
M52A P **P** **01 16 42.5 -0.8**
baz=167,SNR=76
M52A S **S** **01 24 46.7 -6.1**
baz=167
M52A S **S** **01 24 46.7 -6.1**
baz=167
P43A Skaggs, Pawnee 61.12 342 P **P** **01 16 41.9 -1.7**
baz=158,SNR=120
P43A S **S** **01 24 47.2 -6.3**
baz=158
L56A Greenwood 61.13 353 IAmb IAmb 01 16 48.0
comp=Z,183nm,0.8s
L56A Greenwood 61.13 353 P **P** **01 16 42.1 -1.6**
baz=171,SNR=38
L56A P **P** **01 16 42.1 -1.6**
baz=171,SNR=38
L56A S **S** **01 24 49.9 -3.6**
baz=171
L56A S **S** **01 24 49.9 -3.6**
baz=171
SFIN Lafayette 61.16 345 P **P** **01 16 41.6 -2.2**
baz=161,SNR=124
SFIN S **S** **01 24 45.3 -8.6**
baz=161
SFIN Lafayette 61.16 345 P **P** **01 16 42.0 -1.8**
baz=161,SNR=124
SFIN S **S** **01 24 47.1 -6.8**
baz=161
M50A Fremont 61.25 348 IAmb IAmb 01 16 48.0
comp=Z,394nm,1.1s
M50A Fremont 61.25 348 P **P** **01 16 43.3 -1.2**
baz=165,SNR=53
M50A P **P** **01 16 43.3 -1.2**
baz=165,SNR=53
M50A S **S** **01 24 50.2 -4.7**
baz=165
M50A S **S** **01 24 50.2 -4.7**
baz=165
K62A Royalston 61.25 358 IAmb IAmb 01 16 48.9
comp=Z,478nm,1.9s
N47A Urbana 61.30 346 P **P** **01 16 42.9 -1.9**
baz=162,SNR=85
N47A P **P** **01 16 42.9 -1.9**
baz=162,SNR=85
N47A S **S** **01 24 48.5 -7.2**
baz=162
N47A S **S** **01 24 48.5 -7.2**
baz=162
O44A Mansfield 61.31 343 P **P** **01 16 41.6 -3.2**
baz=160,SNR=40
O44A S **S** **01 24 52.5 -3.3**
baz=160
MBO M'Bour 61.36 61 P **P** **01 16 46.1 +0.4**
MBO M'Bour 61.36 61 ⇑P **P** **01 16 45.0 -0.7**
MBO M'Bour 61.36 61 P **P** **01 16 44.9 -0.7**
MSTX Muleshoe 61.37 329 P **P** **01 16 43.2 -2.3**
baz=144,SNR=257
MSTX S **S** **01 24 53.7 -3.3**
baz=144
MSTX Muleshoe 61.37 329 P **P** **01 16 44.9 -0.7**
baz=144,SNR=257
MSTX S **S** **01 24 53.5 -3.5**
baz=144
TRY Troy 61.39 356 IAmb IAmb 01 16 49.9
comp=Z,240nm,1.1s
TRY Troy 61.39 356 P **P** **01 16 44.9 -0.5**
baz=176,SNR=20
HCNY Howe Caverns 61.40 356 P **P** **01 16 45.9 +0.4**
baz=175,SNR=16
HCNY S **S** **01 24 52.4 -4.4**
baz=175
ERPA Erie 61.43 351 P **P** **01 16 45.0 -0.6**
baz=169,SNR=95
ERPA S **S** **01 24 54.0 -3.3**
baz=169
ERPA Erie 61.43 351 P **P** **01 16 45.2 -0.4**
baz=169,SNR=95
ERPA S **S** **01 24 54.9 -2.3**
baz=169
ERPA Erie 61.43 351 ⇓P **P** **01 16 44.9 -0.8**
BELA Belgrano 2 61.44 172 P **P** **01 16 46.3 +1.0**
BELA IAmb IAmb 01 16 50.1
comp=Z,274nm,1.2s
WVNY West Valley, N 61.52 352 P **P** **01 16 46.2 -0.1**
WVNY West Valley, N 61.52 352 P **P** **01 16 45.8 -0.4**
baz=170,SNR=63
WVNY S **S** **01 24 54.0 -4.5**
baz=170
AMTX Amarillo 61.58 330 IAmb IAmb 01 16 50.5
comp=Z,482nm,1.6s
AMTX Amarillo 61.58 330 P **P** **01 16 45.4 -1.5**
baz=145
AMTX S **S** **01 24 56.2 -3.5**
baz=145
AMTX Amarillo 61.58 330 P **P** **01 16 45.5 -1.5**
baz=145,SNR=45
AMTX Amarillo 61.58 330 ⇓P **P** **01 16 45.5 -1.4**
K57A Scipio Center 61.61 354 IAmb IAmb 01 16 50.9
comp=Z,215nm,0.9s
K57A Scipio Center 61.61 354 P **P** **01 16 45.6 -1.3**
baz=172,SNR=27
K57A S **S** **01 24 55.6 -3.9**
baz=172
U32A Winter Ranch, 61.62 333 P **P** **01 16 45.8 -1.2**
baz=148,SNR=64
UNH University of 61.64 359 P **P** **01 16 48.2 +1.2**
baz=178,SNR=8.9
OK032 Salt Plains WL 61.65 334 IAmb IAmb 01 16 51.1
comp=Z,312nm,0.9s
KAN14 Manchester OK 61.68 334 IAmb IAmb 01 16 51.2
comp=Z,280nm,0.8s
P40A Paris 61.79 340 P **P** **01 16 46.8 -1.3**
baz=156,SNR=99
P40A S **S** **01 24 55.8 -6.1**
baz=156
SRIG Santa Rosalia 61.85 317 IAmb IAmb 01 16 53.7
comp=Z,195nm,1.0s
KAN10 Anthony SW Sta 61.87 334 P **P** **01 16 48.9 +0.1**
KAN10 IAmb IAmb 01 16 52.7
comp=Z,385nm,1.3s
HDIL Hopedale 61.91 343 IAmb IAmb 01 16 51.6
comp=Z,272nm,0.8s
HDIL Hopedale 61.91 343 P **P** **01 16 46.8 -2.1**
baz=159,SNR=69
HDIL S **S** **01 24 56.9 -6.4**
baz=159
HDIL Hopedale 61.91 343 P **P** **01 16 47.0 -1.9**
baz=159,SNR=69
HDIL S **S** **01 24 58.3 -5.1**
baz=159
HDIL Hopedale 61.91 343 ⇓P **P** **01 16 46.7 -2.2**
J61A Chester 61.95 357 IAmb IAmb 01 16 54.0
comp=Z,482nm,1.8s
J61A Chester 61.95 357 P **P** **01 16 49.5 +0.4**
baz=177,SNR=12
J61A P **P** **01 16 49.5 +0.4**
baz=177,SNR=12
J61A S **S** **01 25 07.7 +4.1**
baz=177
J61A S **S** **01 25 07.7 +4.1**
baz=177
ACCN Adirondack Com 62.04 357 IAmb IAmb 01 16 54.3
comp=Z,416nm,1.7s
ACCN Adirondack Com 62.04 357 P **P** **01 16 49.4 -0.3**
baz=176,SNR=14
ACCN S **S** **01 25 03.7 -1.1**
baz=176
L48A N Adams 62.05 347 P **P** **01 16 48.2 -1.6**
baz=164,SNR=110
L48A P **P** **01 16 48.2 -1.6**
baz=164,SNR=110
L48A S **S** **01 24 58.7 -6.3**
baz=164
L48A S **S** **01 24 58.7 -6.3**
baz=164
J58A Remsen 62.13 355 IAmb IAmb 01 16 54.7
comp=Z,680nm,1.8s
J58A Remsen 62.13 355 P **P** **01 16 49.6 -0.7**
baz=174,SNR=16
J58A P **P** **01 16 49.6 -0.7**
baz=174,SNR=16
J58A S **S** **01 25 03.5 -2.5**
baz=174
J58A S **S** **01 25 03.5 -2.5**
baz=174
J59A Piesco 62.17 356 IAmb IAmb 01 16 55.2
comp=Z,328nm,1.1s
J59A Piesco 62.17 356 P **P** **01 16 50.2 -0.4**
baz=175
J59A P **P** **01 16 50.2 -0.4**
baz=175
J59A S **S** **01 25 04.4 -2.2**
baz=175
J59A S **S** **01 25 04.4 -2.2**
baz=175
J56A Wolcott 62.18 354 IAmb IAmb 01 16 54.5
comp=Z,243nm,0.9s
J56A Wolcott 62.18 354 P **P** **01 16 49.5 -1.2**
baz=172,SNR=12
J56A P **P** **01 16 49.5 -1.2**
baz=172,SNR=12
J56A S **S** **01 25 06.6 0.0**
baz=172
J56A S **S** **01 25 06.6 0.0**
baz=172
HSIG 62.20 319 ⇓P **P** **01 16 51.1 0.0**
AAM Ann Arbor 62.23 348 IAmb IAmb 01 16 54.5
comp=Z,293nm,1.2s
AAM Ann Arbor 62.23 348 P **P** **01 16 49.9 -1.2**
baz=165,SNR=19
AAM S **S** **01 25 02.1 -5.2**
baz=165
AAM Ann Arbor 62.23 348 P **P** **01 16 49.5 -1.5**
baz=165,SNR=19
AAM S **S** **01 25 02.4 -4.9**
baz=165
AAM Ann Arbor 62.23 348 ⇑P **P** **01 16 49.8 -1.2**
J57A Williamstown 62.23 355 IAmb IAmb 01 16 55.1
comp=Z,125nm,0.8s
J57A Williamstown 62.23 355 P **P** **01 16 51.0 0.0**
baz=173,SNR=16
J57A P **P** **01 16 51.0 0.0**
baz=173,SNR=16
J57A S **S** **01 25 02.6 -4.7**
baz=173
J57A S **S** **01 25 02.6 -4.7**
baz=173
MEDO Medina 62.25 353 IAmb IAmb 01 16 55.2
comp=Z,636nm,1.7s
J55A Hilton 62.28 353 P **P** **01 16 52.9 +1.6**
J55A IAmb IAmb 01 16 55.2
comp=Z,512nm,1.4s
J55A Hilton 62.28 353 P **P** **01 16 50.6 -0.7**
baz=171,SNR=13
J55A P **P** **01 16 50.6 -0.7**
baz=171,SNR=13
J55A S **S** **01 25 04.2 -3.6**
baz=171
J55A S **S** **01 25 04.2 -3.6**
baz=171
HNH Hanover 62.29 358 IAmb IAmb 01 16 56.4
comp=Z,368nm,1.6s
HNH Hanover 62.29 358 S **S** **01 25 06.6 -1.4**
baz=177
M44A Midewin, Midew 62.35 344 P **P** **01 16 49.8 -2.1**
baz=160,SNR=28
M44A S **S** **01 25 06.9 -2.0**
baz=160
P38A Dawn 62.36 339 IAmb IAmb 01 16 55.4
comp=Z,347nm,1.1s
P38A Dawn 62.36 339 P **P** **01 16 50.8 -1.1**
baz=154,SNR=106
P38A S **S** **01 25 02.6 -6.5**
baz=154
J54A Appleton 62.38 352 IAmb IAmb 01 16 56.1
comp=Z,210nm,1.1s
J54A Appleton 62.38 352 P **P** **01 16 50.9 -1.1**
baz=170,SNR=9.1
J54A P **P** **01 16 50.9 -1.1**
baz=170,SNR=9.1
J54A S **S** **01 25 05.9 -3.2**
baz=170
J54A S **S** **01 25 05.9 -3.2**
baz=170
I62A Tamworth 62.43 358 S **S** **01 25 08.2 -1.6**
baz=178
I62A S **S** **01 25 08.2 -1.6**
baz=178
N41A Harden Midland 62.50 342 P **P** **01 16 51.2 -1.6**
baz=157,SNR=104
N41A S **S** **01 25 04.4 -6.4**
baz=157
K50A Casco 62.50 349 P **P** **01 16 50.7 -2.0**
baz=166,SNR=81
K50A P **P** **01 16 50.7 -2.0**
baz=166,SNR=81
K50A S **S** **01 25 04.8 -5.8**
baz=166
K50A S **S** **01 25 04.8 -5.8**
baz=166
L46A Eue Claire 62.52 346 IAmb IAmb 01 16 55.7
comp=Z,300nm,0.8s
L46A Eue Claire 62.52 346 P **P** **01 16 50.5 -2.4**
baz=162,SNR=44
L46A P **P** **01 16 50.5 -2.4**
baz=162,SNR=44
L46A S S 01 25 01.6 -9.3
baz=162
L46A S S 01 25 01.6 -9.3
baz=162
MCVT Middlebury Col 62.57 357 P **P** **01 16 53.7 +0.5**
baz=176,SNR=26
MCVT S **S** **01 25 09.1 -2.5**
baz=176
I63A Otisfield 62.59 359 IAmb IAmb 01 16 58.3
comp=Z,236nm,1.4s
I63A Otisfield 62.59 359 S **S** **01 25 09.5 -2.3**
baz=179
I63A S **S** **01 25 09.5 -2.3**
baz=179
NCB Newcomb 62.66 356 IAmb IAmb 01 16 58.3
comp=Z,507nm,1.6s
NCB Newcomb 62.66 356 P **P** **01 16 53.1 -0.7**
baz=175,SNR=16
NCB S **S** **01 25 10.0 -2.6**
baz=175
HQIL Hanson Quary C 62.69 345 IAmb IAmb 01 16 56.7
comp=Z,194nm,0.8s
VNA3 Neumayer Olymp 62.74 162 ⇑P **P** **01 16 55.0 +0.8**
comp=Z,252nm,0.9s
WCNY West Carthage 62.77 355 P **P** **01 16 53.7 -0.8**
baz=173,SNR=17
WCNY S **S** **01 25 11.0 -3.0**
baz=173
LBNH Lisbon 62.81 358 P **P** **01 16 55.4 +0.6**
LBNH IAmb IAmb 01 16 59.7
comp=Z,317nm,1.4s
LBNH Lisbon 62.81 358 P **P** **01 16 55.4 +0.6**
baz=177,SNR=12
LBNH S **S** **01 25 14.4 -0.2**
baz=177
LBNH Lisbon 62.81 358 P **P** **01 16 55.2 +0.4**
baz=177,SNR=12
LBNH S **S** **01 25 13.3 -1.2**
baz=177
LBNH Lisbon 62.81 358 ⇑P **P** **01 16 55.1 +0.2**
LBNH Lisbon 62.81 358 P **P** **01 16 55.4 +0.6**
LBNH pmax pmax
comp=Z,317nm,1.4s
319A Douglas 62.88 322 IAmb IAmb 01 17 00.6
comp=Z,357nm,0.8s
121A Cookes Peak, D 62.89 324 P **P** **01 16 55.6 -0.2**
baz=139,SNR=126
121A S **S** **01 25 15.6 -0.7**
baz=139
121A Cookes Peak, D 62.89 324 P **P** **01 16 56.0 +0.2**
baz=139,SNR=126
121A S **S** **01 25 18.6 +2.4**
baz=139
VNA1 Neumayer--Stat 62.95 161 ⇑P **P** **01 16 56.7 +1.2**
comp=Z,336nm,0.9s
KSU1 Kansas State U 63.00 337 P **P** **01 16 55.1 -1.0**
baz=151,SNR=81
KSU1 S **S** **01 25 12.5 -4.5**
baz=151
KSU1 Kansas State U 63.00 337 P **P** **01 16 54.9 -1.2**
baz=151,SNR=81
KSU1 S **S** **01 25 11.1 -6.0**
baz=151
KSU1 Kansas State U 63.00 337 ⇓P **P** **01 16 54.9 -1.2**
L44A Lake County Fo 63.06 345 IAmb IAmb 01 16 59.5
comp=Z,274nm,1.1s
L44A Lake County Fo 63.06 345 P **P** **01 16 55.4 -1.1**
baz=160,SNR=24
L44A S **S** **01 25 09.5 -8.3**
baz=160
L44A Lake County Fo 63.06 345 P **P** **01 16 55.4 -1.1**
baz=160,SNR=24
L44A S **S** **01 25 10.6 -7.1**
baz=160
H62A Milan 63.13 359 S **S** **01 25 17.8 -0.7**
baz=178
H62A S **S** **01 25 17.8 -0.7**
baz=178
R32A Long Quarter, 63.23 335 P **P** **01 16 57.4 -0.4**
baz=149,SNR=125
R32A S **S** **01 25 18.2 -1.9**
baz=149
N38A Joes South For 63.32 340 IAmb IAmb 01 17 01.6
comp=Z,259nm,0.8s
N38A Joes South For 63.32 340 P **P** **01 16 56.8 -1.4**
baz=155,SNR=74
N38A S **S** **01 25 16.7 -4.2**
baz=155
VNA2 Neumayer--Watz 63.32 161 ⇑P **P** **01 16 58.8 +0.9**
comp=Z,306nm,0.8s,baz=287,slow=6.8

LONY	Lake Ozonia	63.33	356		IAmb	IAmb	01 17 02.7		
	comp=Z,181nm,1.0s								
LONY	Lake Ozonia	63.33	356		P	P	01 16 58.2	0.0	
	baz=175,SNR=34								
LONY	Lake Ozonia	63.33	356	⇑	P	P	01 16 57.6	-0.7	
RTBA	Rita Blanca	63.35	330		IAmb	IAmb	01 17 03.9		
	comp=Z,837nm,2.0s								
L42A	Oliver, Polo	63.36	343		IAmb	IAmb	01 17 01.5		
	comp=Z,223nm,1.0s								
L42A	Oliver, Polo	63.36	343		P	P	01 16 56.6	-1.9	
	baz=159,SNR=16								
L42A					S	S	01 25 14.5	-6.9	
	baz=159								
J47A	Sunmer	63.37	347		P	P	01 16 57.3	-1.3	
	baz=164,SNR=59								
J47A					P	P	01 16 57.3	-1.3	
	baz=164,SNR=59								
J47A					S	S	01 25 15.3	-6.2	
	baz=164								
J47A					S	S	01 25 15.3	-6.2	
	baz=164								
HAL	Halifax	63.40	5		P	P	01 16 59.7	+1.0	
HAL	Halifax	63.40	5		P	P	01 16 59.7	+1.0	
HAL					pmax	pmax			
	comp=Z,159nm,1.1s								
FRNY	Flat Rock	63.48	357		IAmb	IAmb	01 17 03.8		
	comp=Z,455nm,1.5s								
FRNY	Flat Rock	63.48	357		P	P	01 16 58.5	-0.7	
	baz=176,SNR=33								
FRNY					S	S	01 25 20.7	-2.1	
	baz=176								
DELO	Deloro Mine	63.49	353		P	P	01 16 59.4	+0.1	
DELO					IAmb	IAmb	01 17 03.3		
	comp=Z,509nm,1.5s								
Y22A	Socorro	63.50	326		P	P	01 17 00.2	+0.4	
	baz=140,SNR=26								
Y22A					S	S	01 25 22.6	-1.3	
	baz=140								
BMNY	Brushton-Moira	63.54	356		P	P	01 16 58.5	-1.1	
	baz=175,SNR=51								
BMNY					S	S	01 25 21.3	-2.2	
	baz=175								
Y22D	IRIS PASSCAL I	63.58	326		IAmb	IAmb	01 17 05.4		
	comp=Z,218nm,0.9s								
Y22D	IRIS PASSCAL I	63.58	326		P	P	01 16 59.6	-0.7	
	baz=140								
Y22D					S	S	01 25 26.0	+1.2	
	baz=140								
Y22D	IRIS PASSCAL I	63.58	326		P	P	01 17 00.7	+0.4	
	baz=140,SNR=6.8								
Y22F	Passcal Instru	63.58	326		P	P	01 16 59.6	-0.7	
	baz=140								
Y22F					S	S	01 25 26.5	+1.7	
	baz=140								
I49A	Point Hope	63.66	349		P	P	01 16 58.3	-2.1	
	baz=166,SNR=42								
I49A					P	P	01 16 58.3	-2.1	
	baz=166,SNR=42								
I49A					S	S	01 25 19.1	-6.0	
	baz=166								
I49A					S	S	01 25 19.1	-6.0	
	baz=166								
K43A	Burlington	63.66	345		IAmb	IAmb	01 17 03.7		
	comp=Z,382nm,0.9s								
K43A	Burlington	63.66	345		P	P	01 16 58.8	-1.7	
	baz=160,SNR=54								
K43A					S	S	01 25 18.4	-6.8	
	baz=160								
GGN	Saint George	63.70	2		P	P	01 17 01.5	+0.9	
WBO	Williamsburg	63.76	355		IAmb	IAmb	01 17 05.4		
	comp=Z,198nm,0.9s								
G65A	Princeton	63.76	1		IAmb	IAmb	01 17 04.7		
	comp=Z,220nm,1.3s								
G65A	Princeton	63.76	1		P	P	01 17 00.2	-0.8	
	baz=182,SNR=9.5								
G65A					P	P	01 17 00.2	-0.8	
	baz=182,SNR=9.5								
G65A					S	S	01 25 24.2	-2.0	
	baz=182								
G65A					S	S	01 25 24.2	-2.0	
	baz=182								
G62A	West of Eustis	63.76	359		IAmb	IAmb	01 17 06.0		
	comp=Z,239nm,0.9s								
G62A	West of Eustis	63.76	359		P	P	01 17 01.3	+0.2	
	baz=179,SNR=43								
G62A					P	P	01 17 01.3	+0.2	
	baz=179,SNR=43								
G62A					S	S	01 25 24.6	-1.7	
	baz=179								
G62A					S	S	01 25 24.6	-1.7	
	baz=179								
PKME	Peaks-Kenny Pk	63.80	0		P	P	01 17 01.8	+0.5	
PKME	Peaks-Kenny Pk	63.80	0		P	P	01 17 01.9	+0.7	
	baz=180,SNR=8.8								
PKME	Peaks-Kenny Pk	63.80	0		P	P	01 17 01.0	-0.3	
	baz=180,SNR=8.8								
PKME	Peaks-Kenny Pk	63.80	0	⇓	P	P	01 17 02.6	+1.3	
L40A	Anamosa	63.85	342		IAmb	IAmb	01 17 05.0		
	comp=Z,445nm,1.1s								
L40A	Anamosa	63.85	342		P	P	01 17 00.1	-1.6	
	baz=157,SNR=100								
L40A					S	S	01 25 21.1	-6.4	
	baz=157								
SADO	Sadowa	63.92	352		IAmb	IAmb	01 17 05.9		
	comp=Z,184nm,0.9s								
SADO	Sadowa	63.92	352	⇑	P	P	01 17 00.9	-1.2	
SADO	Sadowa	63.92	352		LR	LR	01 46 29.2		
	comp=Z,3µm,20.7s,baz=86,slow=37								
CBKS	Cedar Bluff	63.99	334		P	P	01 17 02.3	-0.5	
	baz=148,SNR=112								
CBKS					S	S	01 25 27.6	-1.9	
	baz=148								
CBKS	Cedar Bluff	63.99	334		P	P	01 17 02.5	-0.2	
	baz=148,SNR=112								
CBKS					S	S	01 25 25.7	-3.7	
	baz=148								
CBKS	Cedar Bluff	63.99	334	⇓	P	P	01 17 02.2	-0.5	
ANMO	Albuquerque	64.01	327		P	P	01 17 02.9	-0.3	
ANMO					IAmb	IAmb	01 17 09.1		
	comp=Z,295nm,1.4s								
ANMO	Albuquerque	64.01	327		P	P	01 17 02.7	-0.4	
	baz=141								
ANMO					S	S	01 25 27.9	-2.3	
	baz=141								
ANMO	Albuquerque	64.01	327		P	P	01 17 03.3	+0.2	
	baz=141,SNR=227								
ANMO					S	S	01 25 31.9	+1.8	
	baz=141								
ANMO	Albuquerque	64.01	327	⇓	P	P	01 17 02.8	-0.4	
ANMO	Albuquerque	64.01	327		P	P	01 17 02.9	-0.3	
ANMO					pmax	pmax			
	comp=Z,295nm,1.4s								
ANMO	Albuquerque	64.01	327		PKPPKP	P'P'df	01 45 49.4	-3.8	
	comp=Z,1.8nm,0.9s,baz=21,slow=3.3,SNR=3.3								
ANMO					LR	LR	01 46 37.9		
	comp=Z,2µm,21.3s,baz=232,slow=37								
ANMO	Albuquerque	64.01	327		P	P	01 17 02.8	-0.3	
ANMO					PcP	PcP	01 17 37.0	-0.6	
MNTQ	Montreal, Queb	64.15	357		IAmb	IAmb	01 17 08.0		
	comp=Z,357nm,0.8s								
N35A	Tabor	64.19	338		P	P	01 17 03.0	-1.0	
	baz=152,SNR=138								
N35A					S	S	01 25 29.0	-2.8	
	baz=152								
F63A	Nahmakanta, Br	64.24	0		S	S	01 25 34.3	+2.1	
	baz=180								
F63A					S	S	01 25 34.3	+2.1	
	baz=180								
SCIA	State Center	64.32	341		P	P	01 17 03.5	-1.2	
	baz=155,SNR=84								
SCIA					S	S	01 25 29.5	-3.8	
	baz=155								
SCIA	State Center	64.32	341		P	P	01 17 03.6	-1.2	
	baz=155,SNR=84								
SCIA					S	S	01 25 31.1	-2.2	
	baz=155								
SCIA	State Center	64.32	341	⇓	P	P	01 17 03.4	-1.4	
JFWS	Jewell Farm	64.36	343		IAmb	IAmb	01 17 09.6		
	comp=Z,282nm,0.9s								
JFWS	Jewell Farm	64.36	343		P	P	01 17 03.6	-1.4	
	baz=158,SNR=103								
JFWS					S	S	01 25 29.4	-4.4	
	baz=158								
JFWS	Jewell Farm	64.36	343		P	P	01 17 04.0	-1.1	
	baz=158,SNR=103								
JFWS					S	S	01 25 28.3	-5.5	
	baz=158								
JFWS	Jewell Farm	64.36	343	⇓	P	P	01 17 03.4	-1.7	
F64A	Sherman	64.41	1		P	P	01 17 04.8	-0.4	
	baz=181,SNR=19								
F64A					P	P	01 17 04.8	-0.4	
	baz=181,SNR=19								
F64A					S	S	01 25 34.0	-0.2	
	baz=181								
F64A					S	S	01 25 34.0	-0.2	
	baz=181								
I45A	Fountain	64.43	347		IAmb	IAmb	01 17 08.3		
	comp=Z,427nm,1.5s								
I45A	Fountain	64.43	347		P	P	01 17 03.4	-2.1	
	baz=162,SNR=8.5								
I45A					P	P	01 17 03.4	-2.1	
	baz=162,SNR=8.5								
I45A					S	S	01 25 31.4	-3.1	
	baz=162								
I45A					S	S	01 25 31.4	-3.1	
	baz=162								
TUC	Tucson	64.44	322		P	P	01 17 06.0	+0.1	
TUC					IAmb	IAmb	01 17 10.9		
	comp=Z,628nm,1.9s								
TUC	Tucson	64.44	322		P	P	01 17 03.4	-2.5	
	baz=136								
TUC					S	S	01 25 34.8	-0.5	
	baz=136								
TUC	Tucson	64.44	322	⇓	P	P	01 17 05.8	-0.1	
TUC	Tucson	64.44	322		P	P	01 17 06.0	+0.1	
TUC					pmax	pmax			
	comp=Z,628nm,1.9s								
TUC	Tucson	64.44	322		P	P	01 17 06.0	+0.1	
TUC					PcP	PcP	01 17 38.7	-0.5	
TUC					sP	sP	01 17 50.1	+0.6	
GAC	Glen Almond	64.47	355	⇑	P	P	01 17 05.0	-0.6	
LMN	Caledonia Moun	64.52	4		P	P	01 17 05.9	-0.1	
T25A	Trinidad	64.70	330		IAmb	IAmb	01 17 12.4		
	comp=Z,241nm,1.1s								
T25A	Trinidad	64.70	330		P	P	01 17 07.6	-0.1	
	baz=143,SNR=117								
T25A					S	S	01 25 37.8	-0.9	
	baz=143								
N33B	J Bar K, Exete	64.74	337		P	P	01 17 06.3	-1.3	
	baz=151,SNR=50								
N33B					S	S	01 25 35.3	-3.2	
	baz=151								
K38A	Parkersburg	64.85	341		P	P	01 17 07.0	-1.3	
	baz=156,SNR=110								
K38A					S	S	01 25 40.8	+1.0	
	baz=156								
GLMI	Grayling	64.85	348		P	P	01 17 08.0	-0.3	
	baz=164,SNR=28								
GLMI					S	S	01 25 33.2	-6.5	
	baz=164								
GLMI	Grayling	64.85	348		P	P	01 17 07.9	-0.3	
	baz=164,SNR=28								
GLMI					S	S	01 25 39.2	-0.5	
	baz=164								
GLMI	Grayling	64.85	348	⇑	P	P	01 17 07.8	-0.4	
TRQ	Mont Tremblant	64.92	356		IAmb	IAmb	01 17 12.8		
	comp=Z,243nm,0.7s								
I42A	Draeger Farm,	64.92	345		IAmb	IAmb	01 17 13.4		
	comp=Z,255nm,1.1s								
I42A	Draeger Farm,	64.92	345		P	P	01 17 07.3	-1.4	
	baz=160,SNR=76								
I42A					S	S	01 25 34.6	-6.1	
	baz=160								
SNAA	Sanae	64.95	161		P	P	01 17 09.2	+0.5	
SNAA	Sanae	64.95	161	e	P	P	01 17 09.2	+0.5	
SNAA	Sanae	64.95	161	⇑	P	P	01 17 08.6	0.0	
	comp=Z,5µm,0.8s								
SNAA	Sanae	64.95	161	⇑	P	P	01 17 08.7	0.0	
SNAA	Sanae	64.95	161		P	P	01 17 08.8	+0.2	
	comp=Z,185nm,0.8s,baz=276,slow=5.6,SNR=116								
SNAA					pP	pP	01 17 39.3	+0.2	
	comp=Z,114nm,0.8s,baz=284,slow=6.7,SNR=5.6								
SNAA					S	S	01 25 39.2	-1.4	
	comp=Z,2.6nm,1.0s,baz=104,slow=18,SNR=1.4								
SNAA					PKP2bc	P'P'bc	01 45 56.4	-2.0	
	comp=Z,16nm,1.1s,baz=63,slow=2.8,SNR=8.6								
	comp=Z,185nm,0.8s								
E63A	Oxbow	64.96	1		P	P	01 17 08.3	-0.6	
	baz=181,SNR=15								
E63A					P	P	01 17 08.3	-0.6	
	baz=181,SNR=15								
E63A					S	S	01 25 38.4	-2.6	
	baz=181								
E63A					S	S	01 25 38.4	-2.6	
	baz=181								
E62A	Clayton Lake	65.15	360		P	P	01 17 09.8	-0.3	
	baz=180,SNR=18								
E62A					P	P	01 17 09.8	-0.3	
	baz=180,SNR=18								
E62A					S	S	01 25 40.4	-2.9	
	baz=180								
E62A					S	S	01 25 40.4	-2.9	
	baz=180								
H43A	Windswept, Lux	65.19	346		IAmb	IAmb	01 17 13.8		
	comp=Z,232nm,0.8s								
H43A	Windswept, Lux	65.19	346		P	P	01 17 09.1	-1.3	
	baz=161,SNR=59								
H43A					S	S	01 25 37.3	-6.6	
	baz=161								
PQI	Presque Isle	65.22	1		P	P	01 17 11.0	+0.5	
G45A	Suttons Bay	65.27	347		P	P	01 17 09.3	-1.5	
	baz=163,SNR=38								
G45A					P	P	01 17 09.3	-1.5	
	baz=163,SNR=38								
G45A					S	S	01 25 38.5	-6.3	
	baz=163								
G45A					S	S	01 25 38.5	-6.3	
	baz=163								
I40A	Norwalk	65.37	343		IAmb	IAmb	01 17 15.1		
	comp=Z,380nm,1.2s								
I40A	Norwalk	65.37	343		P	P	01 17 10.5	-1.1	
	baz=158,SNR=37								
I40A					S	S	01 25 41.2	-4.9	
	baz=158								
KSCO	Kaye Shedlock'	65.40	332		P	P	01 17 12.3	+0.3	
	baz=145,SNR=46								
KSCO					S	S	01 25 44.3	-2.6	
	baz=145								
KSCO	Kaye Shedlock'	65.40	332		P	P	01 17 11.7	-0.3	
	baz=145,SNR=46								
214A	Organ Pipe Nat	65.40	320		IAmb	IAmb	01 17 17.4		
	comp=Z,292nm,0.9s								
214A	Organ Pipe Nat	65.40	320		P	P	01 17 11.8	-0.3	
	baz=134,SNR=99								
214A					S	S	01 25 49.1	+2.1	
	baz=134								
L34A	Svendsen Farm,	65.43	338		P	P	01 17 11.1	-0.9	
	baz=152,SNR=101								
L34A					S	S	01 25 41.8	-5.1	
	baz=152								
PIX	Pinacate	65.52	319		P	P	01 17 13.0	+0.2	
X18A	Snowflake	65.58	324		IAmb	IAmb	01 17 18.6		
	comp=Z,395nm,1.5s								
BGNE	Belgrade	65.58	337		P	P	01 17 12.4	-0.6	
	baz=150,SNR=131								
BGNE					S	S	01 25 46.2	-2.7	
	baz=150								
BGNE	Belgrade	65.58	337		P	P	01 17 12.6	-0.4	
	baz=150,SNR=131								
BGNE					S	S	01 25 46.8	-2.1	
	baz=150								
D62A	Allapoint, All	65.62	0		P	P	01 17 14.0	+1.0	
D62A					IAmb	IAmb	01 17 17.4		
	comp=Z,145nm,0.8s								
D62A	Allapoint, All	65.62	0		P	P	01 17 12.6	-0.5	
	baz=180,SNR=31								
D62A					P	P	01 17 12.6	-0.5	
	baz=180,SNR=31								
D62A					S	S	01 25 45.6	-3.3	
	baz=180								
D62A					S	S	01 25 45.6	-3.3	
	baz=180								
SDCO	Great Sand Dun	65.71	329		IAmb	IAmb	01 17 19.1		
	comp=Z,381nm,1.0s								
SDCO	Great Sand Dun	65.71	329		P	P	01 17 14.2	-0.1	
	baz=142,SNR=432								
SDCO					S	S	01 25 51.5	+0.4	
	baz=142								
SDCO	Great Sand Dun	65.71	329		P	P	01 17 14.6	+0.4	
	baz=142,SNR=432								
SDCO					S	S	01 25 51.3	+0.2	
	baz=142								
SDCO	Great Sand Dun	65.71	329	⇓	P	P	01 17 14.1	-0.1	
W18A	Petrified Fore	65.89	325		IAmb	IAmb	01 17 20.4		
	comp=Z,316nm,1.1s								
W18A	Petrified Fore	65.89	325		P	P	01 17 14.9	-0.4	
	baz=138,SNR=45								
W18A					S	S	01 25 51.5	-1.7	
	baz=138								
SFX	San Felipe	66.04	318		P	P	01 17 16.5	+0.4	
SFX					IAmb	IAmb	01 17 21.2		
	comp=Z,201nm,1.2s								
LMQ	La Malbaie	66.09	359		IAmb	IAmb	01 17 20.3		
	comp=Z,448nm,1.9s								
E46A	Sault Ste Mari	66.28	349		IAmb	IAmb	01 17 20.7		
	comp=Z,209nm,0.9s								
E46A	Sault Ste Mari	66.28	349		P	P	01 17 15.9	-1.4	
	baz=165,SNR=48								
E46A					S	S	01 25 52.0	-5.0	
	baz=165								
I37B	Waseca	66.28	341		P	P	01 17 16.4	-1.0	
	baz=155,SNR=170								
I37B					S	S	01 25 52.8	-4.4	
	baz=155								
S22A	4UR Ranch, Cre	66.36	328		IAmb	IAmb	01 17 23.2		
	comp=Z,162nm,0.9s								
S22A	4UR Ranch, Cre	66.36	328		P	P	01 17 18.4	-0.1	
	baz=141,SNR=236								
S22A					S	S	01 25 58.0	-1.1	
	baz=141								
F42A	Maple Grove Fa	66.49	346		P	P	01 17 17.6	-1.1	
	baz=161,SNR=7.6								
F42A					S	S	01 25 53.3	-6.4	
	baz=161								
Q24A	Divide	66.51	330		IAmb	IAmb	01 17 24.1		
	comp=Z,354nm,1.1s								
Q24A	Divide	66.51	330		P	P	01 17 19.5	+0.1	
	baz=143,SNR=127								
Q24A					S	S	01 26 00.9	+0.1	
	baz=143								
LDAQ	Lac Daran	66.52	359		IAmb	IAmb	01 17 23.2		
	comp=Z,418nm,1.6s								
G40A	Rib Lake	66.54	344		IAmb	IAmb	01 17 22.6		
	comp=Z,626nm,1.9s								
G40A	Rib Lake	66.54	344		P	P	01 17 17.9	-1.1	
	baz=159,SNR=55								
G40A					S	S	01 25 52.7	-7.6	
	baz=159								
TROLL	Troll, Antarti	66.66	161	⇑	P	P	01 17 20.7	+1.0	
	comp=Z,8µm,0.7s								
OGNE	Ogallala	66.74	334		IAmb	IAmb	01 17 24.9		
	comp=Z,228nm,0.7s								
OGNE	Ogallala	66.74	334		P	P	01 17 20.3	-0.2	
	baz=146,SNR=48								
OGNE					S	S	01 26 02.5	-0.5	
	baz=146								
OGNE	Ogallala	66.74	334		P	P	01 17 20.5	0.0	
	baz=146,SNR=48								
OGNE	Ogallala	66.74	334	⇓	P	P	01 17 20.1	-0.4	
MVCO	Mesa Verde	66.80	327		IAmb	IAmb	01 17 25.9		
	comp=Z,197nm,0.9s								
MVCO	Mesa Verde	66.80	327		P	P	01 17 21.2	0.0	
	baz=140,SNR=105								
MVCO					S	S	01 26 04.0	-0.2	
	baz=140								
MVCO	Mesa Verde	66.80	327	⇓	P	P	01 17 21.1	-0.1	
E43A	Lone Tree Farm	66.82	347		P	P	01 17 19.4	-1.4	
	baz=162,SNR=41								
E43A					S	S	01 25 54.0	-10	
	baz=162								
VTX	Valle De La Tr	66.87	318		P	P	01 17 22.1	+0.7	
VTX					IAmb	IAmb	01 17 26.9		
	comp=Z,582nm,1.8s								
VLDQ	Val d'Or	67.03	354		IAmb	IAmb	01 17 26.4		
	comp=Z,236nm,0.9s								
COWI	Conover	67.05	345		IAmb	IAmb	01 17 26.1		
	comp=Z,342nm,1.4s								
COWI	Conover	67.05	345		P	P	01 17 21.2	-1.1	
	baz=160								
COWI					S	S	01 26 01.0	-5.4	
	baz=160								
COWI	Conover	67.05	345	⇑	P	P	01 17 21.1	-1.1	
ECSD	EROS Data Cent	67.07	339		IAmb	IAmb	01 17 26.2		
	comp=Z,362nm,1.2s								
ECSD	EROS Data Cent	67.07	339		P	P	01 17 21.3	-1.2	
	baz=152,SNR=138								
ECSD					S	S	01 26 04.8	-1.9	
	baz=152								
ECSD	EROS Data Cent	67.07	339		P	P	01 17 21.4	-1.0	
	baz=152,SNR=138								
ECSD					S	S	01 26 01.9	-4.8	
	baz=152								
ECSD	EROS Data Cent	67.07	339	⇓	P	P	01 17 21.2	-1.2	
WUAZ	Wupatki	67.09	324		IAmb	IAmb	01 17 28.4		
	comp=Z,358nm,1.1s								
WUAZ	Wupatki	67.09	324		P	P	01 17 23.6	+0.6	
	baz=137,SNR=146								
WUAZ					S	S	01 26 10.6	+2.9	
	baz=137								
WUAZ	Wupatki	67.09	324	⇓	P	P	01 17 23.4	+0.5	
SPMN	Marine on St.	67.21	342		IAmb	IAmb	01 17 26.7		
	comp=Z,285nm,0.8s								
SPMN	Marine on St.	67.21	342		P	P	01 17 21.8	-1.5	
	baz=156,SNR=113								
SPMN					S	S	01 26 04.3	-3.9	
	baz=156								
SPMN	Marine on St.	67.21	342		P	P	01 17 22.0	-1.2	
	baz=156,SNR=113								
SPMN					S	S	01 26 04.1	-4.2	
	baz=156								
K30B	Basset	67.23	336		P	P	01 17 23.3	-0.2	
	baz=149,SNR=116								
K30B					S	S	01 26 06.6	-2.1	
	baz=149								
ESJX	Sierra Juarez	67.38	318		P	P	01 17 25.7	+0.9	
GLA	Glamis	67.39	320		P	P	01 17 25.0	+0.3	
	baz=133								
ISCO	Idaho Springs	67.39	331		IAmb	IAmb	01 17 29.7		
	comp=Z,209nm,1.0s								
ISCO	Idaho Springs	67.39	331		P	P	01 17 24.6	-0.4	
	baz=143,SNR=228								
ISCO					S	S	01 26 12.3	+0.9	
	baz=143								
ISCO	Idaho Springs	67.39	331		P	P	01 17 25.1	+0.1	
	baz=143,SNR=228								
ISCO	Idaho Springs	67.39	331	⇑	P	P	01 17 24.4	-0.5	
BRIGG	Briggsdale	67.43	332		IAmb	IAmb	01 17 30.1		
	comp=Z,497nm,1.1s								
SMCO	Snowmass	67.55	329		P	P	01 17 26.2	+0.2	
SMCO					IAmb	IAmb	01 17 31.1		
	comp=Z,204nm,0.9s								
SMCO	Snowmass	67.55	329	⇓	P	P	01 17 26.2	+0.2	
BLYC	Blythe	67.68	320		IAmb	IAmb	01 17 31.8		
	comp=Z,168nm,0.8s								
CCX	Cicese	67.74	318		P	P	01 17 26.3	-0.6	
CCX					IAmb	IAmb	01 17 32.3		
	comp=Z,199nm,1.0s								
YUH	Yuha Desert	67.79	319		IAmb	IAmb	01 17 32.7		
	comp=Z,295nm,1.2s								
D41A	Chassel	67.82	346		IAmb	IAmb	01 17 31.0		
	comp=Z,198nm,0.8s								
D41A	Chassel	67.82	346		P	P	01 17 26.0	-1.0	
	baz=160,SNR=15								
D41A					S	S	01 26 10.4	-5.1	
	baz=160								
PDMCI	Parker Dam,Lak	67.83	321		P	P	01 17 27.9	+0.5	
	baz=134,SNR=33								
PDMCI					S	S	01 26 18.9	+2.8	
	baz=134								
PV17	East Wray Mesa	67.85	327		P	P	01 17 27.7	-0.1	
PV17					IAmb	IAmb	01 17 32.5		
	comp=Z,405nm,1.5s								
IKP	In-Ko-Pah, Jac	67.91	319		P	P	01 17 28.9	+0.9	
	baz=132,SNR=23								
IKP					S	S	01 26 20.3	+2.9	
	baz=132								
SWSC	Sam W. Stewart	67.92	319		P	P	01 17 29.1	+1.1	
	baz=132,SNR=15								
SWSC					S	S	01 26 20.8	+3.6	
	baz=132								
F36A	Milaca	68.00	342		IAmb	IAmb	01 17 31.7		
	comp=Z,232nm,0.9s			

baz=158
TKX Tecate 68.17 318 lAmb lAmb 01 17 35.0
comp=Z,332nm,1.1s
LIC Lamto 68.17 75⇑ *e*P **P** **01 17 28.4 -1.6**
comp=Z,147nm,0.4s
BC3 Big Chuckawall 68.18 320 P **P** **01 17 30.2 +0.5**
baz=133,SNR=65
BC3 S **S** **01 26 23.9 +3.3**
baz=133
W13A Hualapai Mount 68.23 322 lAmb lAmb 01 17 35.8
comp=Z,827nm,2.0s
U15A North Rim 68.27 324 lAmb lAmb 01 17 36.1
comp=Z,209nm,0.8s
MONP2 Monument Peak 68.27 319 P **P** **01 17 30.5 0.0**
baz=132
MONP2 S **S** **01 26 23.9 +2.1**
baz=132
BAR Barrett 68.28 318 lAmb lAmb 01 17 35.7
comp=Z,224nm,0.9s
IRM Iron Mountain 68.33 320 P **P** **01 17 31.4 +0.7**
baz=133,SNR=131
IRM S **S** **01 26 26.4 +4.1**
baz=133
TIC Toumodi 68.34 75⇑ *e*P **P** **01 17 27.7 -3.4**
N23A Red Feather La 68.42 331 lAmb lAmb 01 17 36.1
comp=Z,194nm,1.0s
N23A Red Feather La 68.42 331 P **P** **01 17 31.3 0.0**
baz=143,SNR=113
N23A S **S** **01 26 23.9 +0.5**
baz=143
NEE2 Needles Airpor 68.44 321 P **P** **01 17 31.2 0.0**
baz=134
NEE2 S **S** **01 26 28.0 +4.6**
baz=134
KIC Kosan Boka 68.49 75⇑ *i*P **P** **01 17 31.3 -0.7**
comp=Z,180nm,0.3s
DBIC Dimbokro 68.50 75 P **P** **01 17 30.1 -2.0**
comp=Z,121nm,0.5s,baz=236,slow=5.8,SNR=94
DBIC pP **pP** **01 18 03.5 +0.3**
comp=Z,265nm,1.0s,baz=224,slow=4.4,SNR=4.9
DBIC S **S** **01 26 22.4 -2.5**
comp=Z,32nm,1.1s,baz=96,slow=19,SNR=8.8
DBIC PKPPKP **P'P'df** **01 45 47.4 -0.8**
comp=Z,2.7nm,0.7s,baz=205,slow=2.7,SNR=3.6
DBIC LR LR 01 46 32.9
comp=Z,4μm,19.4s,baz=228,slow=35
comp=Z,121nm,0.5s
DBIC Dimbokro 68.50 75 P **P** **01 17 30.4 -1.7**
DBIC pP **pP** **01 18 02.5 -0.7**
SUSD Miller 68.50 338 lAmb lAmb 01 17 35.1
comp=Z,226nm,0.8s
SUSD Miller 68.50 338 P **P** **01 17 31.6 +0.1**
baz=150,SNR=24
SUSD S **S** **01 26 22.3 -1.5**
baz=150
SUSD Miller 68.50 338 P **P** **01 17 30.7 -0.7**
baz=150,SNR=24
SUSD S **S** **01 26 19.9 -4.0**
baz=150
PHWY Pilot Hill 68.52 332 lAmb lAmb 01 17 36.6
comp=Z,194nm,1.0s
HMU Henry Mountain 68.52 326 lAmb lAmb 01 17 37.5
comp=Z,367nm,1.0s
DRLN Deer Lake 68.62 8 lAmb lAmb 01 17 35.7
comp=Z,284nm,1.2s
DRLN Deer Lake 68.62 8 ⇓P **P** **01 17 30.7 -1.3**
DRLN ⇑P **P** **01 17 33.9 +1.9**
109C Camp Elliot, M 68.70 318 P **P** **01 17 32.6 -0.3**
baz=131
109C S **S** **01 26 28.0 +1.6**
baz=131
BELC Belle Mtn. Jos 68.75 320 P **P** **01 17 33.7 +0.4**
baz=133,SNR=33
BELC S **S** **01 26 29.8 +2.5**
baz=133
PCAN Candelaria 68.75 34 *e*P pP 01 18 04.5 +0.1
comp=Z,329nm,0.7s
TPFO Pinon Flats 68.76 319 P **P** **01 17 34.2 +0.7**
baz=132,SNR=47
TPFO S **S** **01 26 31.8 +4.3**
baz=132
PFO Pinyon Flats O 68.77 319 P **P** **01 17 33.8 +0.3**
PFO lAmb lAmb 01 17 38.9
comp=Z,211nm,1.0s
PFO Pinyon Flats O 68.77 319 P **P** **01 17 33.7 +0.3**
baz=132,SNR=34
PFO S **S** **01 26 31.9 +4.3**
baz=132
PFO Pinyon Flats O 68.77 319 *i*P **P** **01 17 34.2 +0.7**
PFO pmax pmax
comp=Z,196nm,0.9s
PFO Pinyon Flats O 68.77 319 PKPPKP **P'P'df** **01 45 45.9 +0.2**
comp=Z,3.9nm,0.9s,baz=326,slow=3.4,SNR=5.1
PFO LR LR 01 46 26.6
comp=Z,2μm,21.0s,baz=136,slow=35
PFO Pinyon Flats O 68.77 319 P **P** **01 17 34.1 +0.7**
PFO sP **sP** **01 18 18.9 +1.5**
PICO Pico 68.81 34 *e*P pP 01 18 05.3 +0.5
comp=Z,291nm,0.9s
F33A 5 Mile Ranch, 68.83 340 lAmb lAmb 01 17 36.8
comp=Z,228nm,0.7s
F33A 5 Mile Ranch, 68.83 340 P **P** **01 17 32.3 -1.1**
baz=153,SNR=190
F33A S **S** **01 26 23.3 -4.2**
baz=153
O20A White River Ci 68.91 329 lAmb lAmb 01 17 39.2
comp=Z,359nm,1.1s
O20A White River Ci 68.91 329 P **P** **01 17 34.5 +0.2**
baz=141,SNR=134
O20A S **S** **01 26 31.7 +2.5**
baz=141
PKCU Pink Cliffs 69.01 325 lAmb lAmb 01 17 40.6
comp=Z,711nm,1.8s
ROSA Rosais 69.07 33 *e*P pP 01 18 06.8 +0.4
comp=Z,314nm,0.3s
GMRC Granite Mounta 69.07 321 P **P** **01 17 36.2 +0.9**
baz=133,SNR=158
GMRC S **S** **01 26 36.7 +5.5**
baz=133
MURC Murrieta 69.22 319 P **P** **01 17 36.7 +0.6**
baz=132,SNR=19
MURC S **S** **01 26 39.0 +6.2**
baz=132
V12A Nelson 69.24 322 lAmb lAmb 01 17 41.6
comp=Z,375nm,1.3s
SRU San Rafael Swe 69.28 327 lAmb lAmb 01 17 41.3
comp=Z,202nm,0.9s
EYMN Ely 69.36 344 P **P** **01 17 36.4 -0.3**
baz=158,SNR=44
EYMN S **S** **01 26 28.3 -5.4**
baz=158
EYMN Ely 69.36 344 P **P** **01 17 35.2 -1.4**
baz=158,SNR=44
EYMN S **S** **01 26 26.5 -7.2**
baz=158
EYMN Ely 69.36 344 ⇑P **P** **01 17 35.1 -1.5**
MACI Morro de la Ar 69.38 49 P **P** **01 17 39.2 +1.9**
MACI lAmb lAmb 01 17 48.0
comp=Z,341nm,0.8s
ELS Elsinore Mount 69.40 319 lAmb lAmb 01 17 42.6
comp=Z,413nm,1.5s
PGRA Graciosa 69.43 33 *e*P pP 01 18 08.8 +0.2
comp=Z,455nm,0.5s
NVL N'lazarevskaya 69.49 160 *e*P **P** **01 17 36.4 -0.8**
NVL *e**SP **pP** **01 18 09.6 +1.5**
NVL *e*S **S** **01 26 35.9 +1.2**
NVL pmax pmax
comp=Z,411nm,1.1s
NVL smax smax
comp=N,7μm,15.2s
BBRC Big Bear Solar 69.49 319 P **P** **01 17 38.8 +0.7**
baz=132
BBRC S **S** **01 26 41.1 +4.8**
baz=132
PSMA Santa Maria 69.51 37 *e*P pP 01 18 10.3 +1.3
comp=N,207nm,1.4s
HEC Hector,Ludlow 69.51 320 P **P** **01 17 37.8 -0.2**
baz=133,SNR=43
HEC S **S** **01 26 41.3 +5.1**
baz=133
SZCU Shurtz Canyon 69.55 324 lAmb lAmb 01 17 43.9
comp=Z,601nm,1.7s
PSMN Pico do Norte, 69.55 37 *e*P pP 01 18 11.1 +1.8
comp=Z,250nm,1.7s
PSBA Serra de Santa 69.58 34 *e*P pP 01 18 11.5 +2.0
comp=Z,372nm,0.9s
RWWY Rawlins 69.63 331 lAmb lAmb 01 17 43.6
comp=Z,1μm,2.0s

PAGU Agualva, Azore 69.66 34 *e*P pP 01 18 12.5 +2.6
comp=Z,355nm,1.1s
P17A Butcher Ranch, 69.66 327 lAmb lAmb 01 17 43.8
comp=Z,267nm,0.9s
TUQ Turquoise Moun 69.67 321 P **P** **01 17 38.7 -0.3**
baz=133
TUQ S **S** **01 26 41.3 +3.1**
baz=133
CMLA Cha da Macela 69.83 36 *e*P pP 01 18 13.3 +2.2
comp=Z,371nm,1.6s
CIS Catalina Islan 69.86 318 P **P** **01 17 40.6 +0.6**
baz=131
CIS S **S** **01 26 43.3 +3.1**
baz=131
PCALD Caldeiras da R 69.88 36 *e*P pP 01 18 13.4 +2.1
comp=Z,269nm,1.2s
RDMU Red Mountain 69.89 328 lAmb lAmb 01 17 45.0
comp=Z,241nm,1.1s
BFSC Mount Baldy Ra 69.93 319 P **P** **01 17 41.0 +0.4**
baz=131,SNR=44
BFSC S **S** **01 26 45.7 +4.5**
baz=131
RRX Edison Barstow 69.94 320 P **P** **01 17 40.9 +0.3**
baz=132
RRX S **S** **01 26 44.9 +3.7**
baz=132
EOSO Osorio 69.96 49 P **P** **01 17 40.0 -0.8**
FMP Fort Macarthur 69.99 318 P **P** **01 17 41.5 +0.8**
baz=131
FMP S **S** **01 26 46.5 +4.9**
baz=131
BART Pico Bartolome 70.04 36 *e*P pP 01 18 13.6 +1.2
comp=Z,296nm,1.1s
K22A Casper 70.08 332 lAmb lAmb 01 17 46.1
comp=Z,210nm,0.9s
K22A Casper 70.08 332 P **P** **01 17 41.2 -0.1**
baz=143,SNR=95
K22A S **S** **01 26 43.7 +1.1**
baz=143
K22A Casper 70.08 332 P **P** **01 17 41.5 +0.2**
baz=143,SNR=95
K22A S **S** **01 26 42.7 0.0**
baz=143
GSC Goldstone, Bar 70.11 320 lAmb lAmb 01 17 47.2
comp=Z,598nm,1.6s
GSC Goldstone, Bar 70.11 320 P **P** **01 17 41.8 +0.2**
baz=132,SNR=16
GSC S **S** **01 26 45.4 +2.2**
baz=132
RSSD Black Hills 70.19 334 P **P** **01 17 41.9 -0.2**
RSSD lAmb lAmb 01 17 46.8
comp=Z,234nm,1.0s
RSSD Black Hills 70.19 334 P **P** **01 17 42.4 +0.3**
baz=145
RSSD S **S** **01 26 43.1 -1.0**
baz=145
RSSD Black Hills 70.19 334 P **P** **01 17 42.1 0.0**
baz=145,SNR=175
RSSD S **S** **01 26 43.1 -1.0**
baz=145
RSSD Black Hills 70.19 334 ⇓P **P** **01 17 41.8 -0.3**
RSSD Black Hills 70.19 334 P **P** **01 17 41.9 -0.2**
RSSD pmax pmax
comp=Z,234nm,1.0s
RSSD Black Hills 70.19 334 P **P** **01 17 41.8 -0.2**
RSSD pP **pP** **01 18 12.5 -0.4**
RSSD sP **sP** **01 18 27.5 +1.3**
SHOC Shoshone, Teco 70.20 321 P **P** **01 17 41.9 -0.2**
baz=133,SNR=20
SHOC S **S** **01 26 46.0 +1.9**
baz=133
D32A Dogwood Acres, 70.21 340 lAmb lAmb 01 17 45.4
comp=Z,308nm,0.7s
D32B Dogwood Acres, 70.21 340 P **P** **01 17 41.2 -0.6**
baz=152,SNR=18
D32B S **S** **01 26 39.6 -4.0**
baz=152
PASC Pasadena Art C 70.22 319 lAmb lAmb 01 17 47.7
comp=Z,337nm,1.1s
B35A Bob, Littlefor 70.33 343 lAmb lAmb 01 17 46.0
comp=Z,199nm,0.7s
B35A Bob, Littlefor 70.33 343 P **P** **01 17 41.5 -1.0**
baz=156,SNR=79
B35A S **S** **01 26 39.4 -5.6**
baz=156
DECC Green Verdugo 70.36 319 P **P** **01 17 43.3 +0.2**
baz=131,SNR=35
DECC S **S** **01 26 47.9 +1.8**
baz=131
SNCC San Nicolas Is 70.47 317 P **P** **01 17 43.4 -0.3**
baz=130
EDW2 Edwards Air Fo 70.56 319 P **P** **01 17 44.9 +0.6**
baz=131,SNR=32
EDW2 S **S** **01 26 48.6 +0.2**
baz=131
GWY Greenwater Val 70.63 321 lAmb lAmb 01 17 50.0
comp=Z,245nm,0.9s
CCAC Calif City Air 70.75 319 P **P** **01 17 46.6 +1.1**
CCAC lAmb lAmb 01 17 50.8
comp=Z,186nm,0.8s
LRMC Laurel Mtn Rad 70.77 320 P **P** **01 17 46.3 +0.7**
baz=132,SNR=46
LRMC S **S** **01 26 52.7 +1.8**
baz=132
OSI Osito Audit: C 70.84 319 P **P** **01 17 46.9 +0.8**
baz=131
OSI S **S** **01 26 55.1 +3.4**
baz=131
AGMN Agassiz Nation 70.89 342 lAmb lAmb 01 17 49.6
comp=Z,177nm,0.8s
AGMN Agassiz Nation 70.89 342 P **P** **01 17 45.0 -0.9**
baz=154,SNR=136
AGMN S **S** **01 26 49.1 -2.4**
baz=154
AGMN Agassiz Nation 70.89 342 P **P** **01 17 44.8 -1.1**
baz=154,SNR=136
AGMN S **S** **01 26 47.4 -4.1**
baz=154
AGMN Agassiz Nation 70.89 342 ⇓P **P** **01 17 44.5 -1.4**
TPNV Topopah Spring 70.90 322 lAmb lAmb 01 17 52.3
comp=Z,289nm,0.9s
TPNV Topopah Spring 70.90 322 P **P** **01 17 47.5 +1.0**
baz=133,SNR=122
TPNV S **S** **01 26 55.5 +3.1**
baz=133
TPNV Topopah Spring 70.90 322 ⇓P **P** **01 17 47.4 +1.0**
FURC Furnace Creek, 70.93 321 P **P** **01 17 47.6 +1.2**
baz=133,SNR=72
FURC S **S** **01 26 52.1 -0.3**
baz=133
E28A Huff 70.96 338 P **P** **01 17 46.3 -0.1**
baz=149,SNR=94
E28A S **S** **01 26 55.5 +3.0**
baz=149
WCT Wildcat Mounta 71.01 321 lAmb lAmb 01 17 53.0
comp=Z,320nm,1.1s
SCZ2 Santa Cruz Isl 71.02 318 P **P** **01 17 47.9 +0.8**
baz=130
MPMC Manual Prospec 71.03 320 P **P** **01 17 48.1 +0.7**
baz=132,SNR=62
MPMC S **S** **01 26 56.9 +2.8**
baz=132
S11A Rachel 71.08 323 lAmb lAmb 01 17 53.6
comp=Z,218nm,1.0s
ARVC Arvin 71.24 319 P **P** **01 17 50.0 +1.6**
baz=131,SNR=18
ARVC S **S** **01 26 58.1 +2.0**
baz=131
DUG Dugway, Tooele 71.27 326 P **P** **01 17 49.1 +0.5**
DUG Dugway, Tooele 71.27 326 P **P** **01 17 49.3 +0.6**
baz=137,SNR=108
DUG S **S** **01 26 58.9 +2.3**
baz=137
DUG Dugway, Tooele 71.27 326 ⇓P **P** **01 17 49.1 +0.5**
DUG Dugway, Tooele 71.27 326 P **P** **01 17 49.2 +0.5**
DUG pmax pmax
comp=Z,232nm,1.1s
QSPA South Pole Qui 71.33 180 P **P** **01 17 49.2 +0.5**
QSPA lAmb lAmb 01 17 53.3
comp=Z,504nm,1.1s
QSPA South Pole Qui 71.33 180 P **P** **01 17 49.2 +0.5**
comp=Z,371nm,0.8s,baz=172,slow=0.7,SNR=373
QSPA S **S** **01 26 56.9 +0.2**
comp=Z,8.9nm,1.2s,baz=177,slow=23,SNR=12
QSPA PKPPKP **P'P'df** **01 45 40.7 -1.4**
comp=Z,5.1nm,1.0s,baz=333,slow=2.4,SNR=6.8
QSPA LR LR 01 49 18.7
comp=Z,1μm,20.2s,baz=154,slow=36

comp=Z,371nm,0.8s
QSPA South Pole Qui 71.33 180 P **P** **01 17 49.4 +0.8**
SBC Santa Barbara 71.36 318 P **P** **01 17 49.3 +0.3**
baz=130
SBC S **S** **01 26 59.1 +1.7**
baz=130
ISA Isabella, Lake 71.37 320 P **P** **01 17 50.2 +1.0**
baz=131,SNR=65
ISA S **S** **01 27 02.1 +4.3**
baz=131
R11B Troy Canyon, C 71.48 323 lAmb lAmb 01 17 55.7
comp=Z,285nm,1.3s
R11B Troy Canyon, C 71.48 323 P **P** **01 17 50.8 +0.8**
baz=134,SNR=139
R11B S **S** **01 27 02.5 +3.4**
baz=134
BCW Bitter Crk WRg 71.48 318 lAmb lAmb 01 17 55.5
comp=Z,296nm,1.1s
BW06 Boulder Array 71.56 330 P **P** **01 17 49.8 -0.6**
baz=140,SNR=108
BW06 S **S** **01 26 58.4 -1.7**
baz=140
BW06 Boulder Array 71.56 330 ⇑P **P** **01 17 49.7 -0.7**
PDAR Pinedale Array 71.56 330 P **P** **01 17 49.6 -0.8**
comp=Z,16nm,0.6s,baz=123,slow=7.3,SNR=69
PDAR PKPPKP **P'P'df** **01 45 40.0 -0.3**
comp=Z,0.8nm,0.9s,baz=126,slow=2.0,SNR=5.6
PDAR LR LR 01 51 27.8
comp=Z,2μm,21.9s,baz=138,slow=38
PDAR P4KPbc 01 54 28.9
comp=Z,0.7nm,0.8s,baz=114,slow=4.2,SNR=5.7
comp=Z,16nm,0.6s
GRAC Grapevine Rang 71.59 321 P **P** **01 17 51.9 +1.4**
baz=132,SNR=13
GRAC S **S** **01 27 04.8 +4.7**
baz=132
CWC Cottonwood Cre 71.64 320 P **P** **01 17 51.7 +0.8**
baz=132
CWC S **S** **01 27 04.1 +3.0**
baz=132
PMOZ Porto Moniz, M 71.65 45 *e*P **P** **01 17 52.5 +1.5**
comp=Z,252nm,1.4s
PMOZ *e*pP **pP** **01 18 25.6 +3.2**
PMOZ *e*S **S** **01 27 04.8 +3.7**
PMOZ Porto Moniz, M 71.65 45 *e*LR LR 01 40 51.6
PMOZ Porto Moniz, M 71.65 45 P **P** **01 17 51.7 +0.7**
HWUT Hardware Ranch 71.67 328 lAmb lAmb 01 17 55.6
comp=Z,316nm,1.4s
MDND Maddock 71.68 339 P **P** **01 17 50.8 +0.1**
baz=150,SNR=75
MDND S **S** **01 27 01.1 +0.5**
baz=150
MDND Maddock 71.68 339 P **P** **01 17 50.3 -0.4**
baz=150,SNR=75
MDND S **S** **01 27 01.8 +1.2**
baz=150
PKM Mcpherson Peak 71.70 318 P **P** **01 17 51.2 -0.2**
baz=130,SNR=29
FUL Funchal 71.74 45 *e*pP **pP** **01 18 27.5 +4.6**
FUL A A 01 18 29.0
comp=Z,258nm,1.6s
PMAR Madeira 71.77 45 *e*P **P** **01 17 53.1 +1.3**
comp=Z,254nm,1.5s
PMAR *e*pP **pP** **01 18 26.1 +2.8**
VES Vestal, Richgr 71.86 319 P **P** **01 17 53.0 +0.9**
baz=131,SNR=38
SPUT South Promonto 71.89 327 P **P** **01 17 53.2 +0.8**
SMMC Simmler 72.09 318 P **P** **01 17 54.3 +0.8**
baz=130,SNR=38
SMMC S **S** **01 27 10.5 +4.6**
baz=130
TIN Tinemaha, Big 72.14 321 P **P** **01 17 54.9 +1.1**
baz=132,SNR=14
TIN S **S** **01 27 10.6 +4.0**
baz=132
AHID Auburn Hatcher 72.30 329 ⇓P **P** **01 17 54.5 -0.4**
VOG Valley Oaks Go 72.36 320 P **P** **01 17 55.3 +0.3**
baz=131
VOG S **S** **01 27 11.8 +3.0**
baz=131
PMPS Porto Santo 72.36 45 *e*P **P** **01 17 56.6 +1.5**
comp=Z,623nm,1.8s
PMPS *e*pP **pP** **01 18 30.9 +4.3**
PMPST Porto Santo, M 72.38 45 *e*P **P** **01 17 59.8 +4.6**
comp=Z,685nm,1.7s
PMPST *e*pP **pP** **01 18 30.2 +3.5**
ULM Lac du Bonnet 72.64 343 lAmb lAmb 01 17 59.9
comp=Z,230nm,0.7s
ULM Lac du Bonnet 72.64 343 P **P** **01 17 55.2 -1.2**
comp=Z,160nm,0.6s,baz=154,slow=6.1,SNR=60
ULM pP **pP** **01 18 27.8 +0.4**
comp=Z,48nm,0.6s,baz=162,slow=7.1,SNR=2.5
ULM S **S** **01 27 09.3 -2.2**
comp=Z,6.6nm,1.0s,baz=288,slow=19,SNR=2.5
ULM LR LR 01 51 39.7
comp=Z,1μm,20.6s,baz=150,slow=37
comp=Z,160nm,0.6s
Q09A Carvers 72.72 323 lAmb lAmb 01 18 02.9
comp=Z,344nm,0.9s
MLAC Mammoth, Mammo 72.88 321 P **P** **01 17 59.6 +1.2**
baz=131,SNR=15
MLAC S **SKiKP** **01 27 17.8 -2.1**
baz=131
ELK Elko 72.96 325 ⇓P **P** **01 17 58.8 +0.1**
ELK Elko 72.96 325 LR LR 01 51 44.7
comp=Z,2μm,20.1s,baz=127,slow=37
NV11 Mina Array Sit 73.01 322 P **P** **01 17 59.5 +0.5**
NVAR Mina Array Bea 73.10 322 P **P** **01 18 00.0 +0.4**
comp=Z,86nm,0.8s,baz=134,slow=5.1,SNR=104
NVAR pP **pP** **01 18 30.2 -0.3**
comp=Z,38nm,0.9s,baz=135,slow=7.2,SNR=3.0
NVAR LR LR 01 51 06.4
comp=Z,1μm,19.5s,baz=119,slow=36
comp=Z,86nm,0.8s
FLWY Flagg Ranch 73.10 330 lAmb lAmb 01 18 04.9
comp=Z,445nm,0.9s
ELIB Princess Elisa 73.11 161 *d*P **P** **01 17 59.9 +0.8**
comp=Z,120nm,0.8s
ELIB *d*PP **PP** **01 20 40.9 -2.2**
LAO LASA Array 73.18 335 lAmb lAmb 01 18 04.3
comp=Z,554nm,1.4s
LAO LASA Array 73.18 335 P **P** **01 17 59.5 -0.3**
baz=144,SNR=96
LAO S **S** **01 27 17.9 0.0**
baz=144
LAO LASA Array 73.18 335 P **P** **01 17 59.7 0.0**
baz=144,SNR=96
LAO S **SKiKP** **01 27 20.8 +1.0**
baz=144
LAO LASA Array 73.18 335 ⇓P **P** **01 17 59.4 -0.3**
RLMT Red Lodge 73.24 332 lAmb lAmb 01 18 05.3
comp=Z,190nm,0.8s
RLMT Red Lodge 73.24 332 P **P** **01 18 00.6 +0.3**
baz=141,SNR=202
RLMT S **S** **01 27 18.2 -0.9**
baz=141
RLMT Red Lodge 73.24 332 ⇓P **P** **01 18 00.3 0.0**
H17A Grant Village 73.28 331 P **P** **01 18 01.5 +0.8**
baz=140,SNR=53
H17A S **SKiKP** **01 27 20.8 +0.6**
baz=140
SCHQ Schefferville 73.41 2 P **P** **01 18 01.2 +0.4**
SCHQ lAmb lAmb 01 18 04.9
comp=Z,295nm,1.3s
SCHQ Schefferville 73.41 2 ⇑P **P** **01 18 02.1 +1.3**
SCHQ Schefferville 73.41 2 P **P** **01 17 59.8 -1.0**
comp=Z,56nm,0.6s,baz=160,slow=5.3,SNR=26
comp=Z,56nm,0.6s
BBGB Big Mountain B 73.55 319 lAmb lAmb 01 18 09.6
comp=Z,369nm,0.8s
WAKR Walker 73.81 321 lAmb lAmb 01 18 09.7
comp=Z,342nm,1.5s
DGMT Dagmar 73.84 337 lAmb lAmb 01 18 08.5
comp=Z,428nm,0.8s
DGMT Dagmar 73.84 337 P **P** **01 18 04.1 +0.6**
baz=146,SNR=99
DGMT S **S** **01 27 26.0 +0.7**
baz=146
DGMT Dagmar 73.84 337 P **P** **01 18 03.7 +0.2**
baz=146,SNR=99
DGMT Dagmar 73.84 337 ⇓P **P** **01 18 03.5 0.0**
YHL Hebgen Lake 73.91 330 lAmb lAmb 01 18 10.2
comp=Z,333nm,1.2s
SAO San Andreas Ge 73.92 319 lAmb lAmb 01 18 09.4
comp=Z,421nm,1.8s
YERR Yerington 74.01 322 lAmb lAmb 01 18 10.5
comp=Z,431nm,1.4s
EMB Emerald Bay 74.51 321 lAmb lAmb 01 18 13.5

comp=Z,514nm,1.9s
HLID Hailey 74.53 328 IAmb IAmb 01 18 13.4
comp=Z,280nm,1.1s
HLID Hailey 74.53 328 P **P** **01 18 08.4 +0.6**
baz=136,SNR=274
HLID S **S** **01 27 35.3 +1.8**
baz=136
HLID Hailey 74.53 328 ⇓P **P** **01 18 08.5 +0.7**
PAHR Pah Rah Range 74.57 322 IAmb IAmb 01 18 13.7
comp=Z,442nm,0.9s
MPK Martis Peak 74.68 322 IAmb IAmb 01 18 14.6
comp=Z,305nm,1.3s
BOZ Bozeman (W) 74.68 331 P **P** **01 18 08.6 -0.1**
baz=139,SNR=190
BOZ S **S** **01 27 35.3 +0.3**
baz=139
BOZ Bozeman (W) 74.68 331 ⇓P **P** **01 18 08.4 -0.2**
MFID Camas Ranch 75.15 327 IAmb IAmb 01 18 16.9
comp=Z,378nm,1.1s
PLTX Planet X, Gerl 75.28 323 IAmb IAmb 01 18 17.4
comp=Z,370nm,0.9s
PPT Papeete 75.44 256 P **P** **01 18 14.4 +0.9**
comp=Z,90nm,1.1s,baz=19,slow=16,SNR=4.4
PPT LR LR 01 44 36.1
comp=Z,1μm,18.3s,baz=105,slow=30
comp=Z,90nm,1.1s
MCCM Marconi Confer 75.67 319 IAmb IAmb 01 18 19.3
comp=Z,208nm,0.9s
EGMT Eagleton 75.70 333 IAmb IAmb 01 18 18.8
comp=Z,254nm,0.8s
EGMT Eagleton 75.70 333 P **P** **01 18 13.8 -0.6**
baz=141,SNR=198
EGMT S **S** **01 27 45.1 -0.9**
baz=141
EGMT Eagleton 75.70 333 ⇓P **P** **01 18 13.8 -0.6**
ORV Oroville 75.72 321 IAmb IAmb 01 18 20.0
comp=Z,343nm,1.0s
WVOR Wild Horse Val 75.97 325 ⇑P **P** **01 18 16.4 +0.4**
LYMT Lyon Mountain 76.01 331 P **P** **01 18 17.0 +0.7**
HOPS Hopland Field 76.31 320 IAmb IAmb 01 18 23.4
comp=Z,453nm,1.8s
PLID Pearl Lake 76.42 328 IAmb IAmb 01 18 23.5
comp=Z,238nm,0.9s
MSO Missoula 76.67 330 IAmb IAmb 01 18 25.4
comp=Z,761nm,1.9s
MSO Missoula 76.67 330 P **P** **01 18 20.0 +0.1**
baz=137,SNR=105
MSO Missoula 76.67 330 ⇑P **P** **01 18 20.3 +0.4**
BMO Blue Mountains 76.91 327 IAmb IAmb 01 18 26.3
comp=Z,209nm,0.9s
BMO Blue Mountains 76.91 327 ⇓P **P** **01 18 21.3 0.0**
TOA0 Torodi Ar. Sit 76.97 71 P **P** **01 18 20.4 -1.7**
TOA0 IAmb IAmb 01 18 30.0
comp=Z,171nm,0.6s
TOA0 Torodi Ar. Sit 76.97 71 P **P** **01 18 20.7 -1.4**
SNR=66
TOA0 S **S** **01 27 59.6 -1.4**
TORD Torodi Ar. Bea 76.97 71 P **P** **01 18 21.2 -0.9**
TORD IAmb IAmb 01 18 30.0
comp=Z,151nm,0.6s
TORD Torodi Ar. Bea 76.97 71 P **P** **01 18 19.7 -2.4**
comp=Z,50nm,0.5s,baz=256,slow=5.3,SNR=299
TORD pP **pP** **01 18 54.2 +0.4**
comp=Z,197nm,1.0s,baz=278,slow=4.3,SNR=4.5
TORD S **S** **01 27 56.4 -4.6**
comp=Z,22nm,1.1s,baz=258,slow=9.5,SNR=12
TORD PKKPbc **PKKPbc** **01 37 31.2 +1.9**
comp=Z,0.8nm,0.5s,baz=60,slow=3.1,SNR=8.8
TORD PKPPKP P'P'df 01 45 21.9 -11
comp=Z,3.4nm,1.3s,baz=34,slow=4.3,SNR=4.2
TORD LR LR 01 51 10.3
comp=Z,6μm,21.2s,baz=246,slow=35
comp=Z,50nm,0.5s
K05A Summer Lake 77.41 324 IAmb IAmb 01 18 29.8
comp=Z,328nm,1.1s
KMRM Mail Ridge 77.46 320 IAmb IAmb 01 18 30.0
comp=Z,304nm,1.1s
TIO Tiouine 77.56 51 P **P** **01 18 25.4 +0.1**
YBH Yreka Blue Hor 77.81 322 P **P** **01 18 25.9 -0.4**
YBH Yreka Blue Hor 77.81 322 P **P** **01 18 25.9 -0.4**
YBH pmax pmax
comp=Z,79nm,1.1s
YBH Yreka Blue Hor 77.81 322 LR LR 01 54 02.5
comp=Z,1μm,20.7s,baz=135,slow=36
K04D Chiloquin, OR 77.83 323 IAmb IAmb 01 18 31.5
comp=Z,314nm,1.0s
KMPM Mount Pierce 77.83 320 IAmb IAmb 01 18 31.9
comp=Z,259nm,0.9s
PINE Pine Mountain 78.13 325 IAmb IAmb 01 18 33.9
comp=Z,277nm,1.0s
KRPM Rodgers 78.22 321 IAmb IAmb 01 18 34.1
comp=Z,340nm,1.2s
KOMG Komaggas 78.31 118 *eP* **P** **01 18 29.4 +0.1**
KOMG IAmb IAmb 01 18 34.1
comp=Z,120nm,1.1s
SBA Scott Base 78.33 190 P **P** **01 18 29.1 +0.5**
SBA IAmb IAmb 01 18 34.4
comp=Z,376nm,1.4s
SBA Scott Base 78.33 190 P **P** **01 18 29.1 +0.5**
SBA pmax pmax
comp=Z,376nm,1.4s
FFC Flin Flon 78.36 341 P **P** **01 18 28.5 -0.4**
FFC Flin Flon 78.36 341 P **P** **01 18 28.5 -0.4**
FFC pmax pmax
comp=Z,186nm,1.3s
KRMB Red Mountain 78.38 321 IAmb IAmb 01 18 34.8
comp=Z,354nm,1.3s
AVE Averroes 78.67 49 P **P** **01 18 30.8 -0.4**
I05D Terrebonne, OR 78.70 325 IAmb IAmb 01 18 36.7
comp=Z,207nm,0.8s
CER Ceres 78.87 121 *eP* **P** **01 18 32.8 +0.4**
CER IAmb IAmb 01 18 36.8
comp=Z,209nm,1.3s
K02D Willamette Mer 78.96 322 P **P** **01 18 34.1 +1.5**
K02D IAmb IAmb 01 18 38.0
comp=Z,504nm,1.5s
F07A Phinny Hill Vi 78.98 327 IAmb IAmb 01 18 38.5
comp=Z,616nm,1.7s
DBO Dodson Butte 78.99 323 IAmb IAmb 01 18 38.0
comp=Z,631nm,1.7s
KBO Bosley Butte 78.99 322 IAmb IAmb 01 18 39.4
comp=Z,745nm,1.7s
HAWA Hanford 79.11 327 IAmb IAmb 01 18 38.6
comp=Z,265nm,1.1s
NEW Newport 79.20 330 P **P** **01 18 33.3 -0.5**
baz=135,SNR=46
D08A Wollman Farm, 79.25 328 IAmb IAmb 01 18 39.3
comp=Z,535nm,1.6s
G05A Wamic 79.28 326 IAmb IAmb 01 18 40.0
comp=Z,426nm,1.1s
VNDA Vanda 79.36 190 P **P** **01 18 35.5 +1.3**
VNDA IAmb IAmb 01 18 39.5
comp=Z,451nm,1.9s
VNDA Vanda 79.36 190 P **P** **01 18 36.1 +1.9**
comp=Z,60nm,0.8s,baz=117,slow=6.0,SNR=68
comp=Z,60nm,0.8s
E07A Sunnyside 79.38 327 IAmb IAmb 01 18 40.3
comp=Z,342nm,1.3s
J01E Myrtle Point 79.41 323 IAmb IAmb 01 18 40.3
comp=Z,270nm,1.1s
RTC Rabat Centre 79.43 49 P **P** **01 18 34.4 -0.9**
C09A Chrisman Ranch 79.44 329 IAmb IAmb 01 18 40.2
comp=Z,257nm,0.8s
KEBM Edson Butte 79.46 322 IAmb IAmb 01 18 40.8
comp=Z,499nm,1.2s
HOOD Mount Hood Mea 79.51 325 IAmb IAmb 01 18 41.9
comp=Z,349nm,1.1s
BUCK Buck Mountain 79.52 324 IAmb IAmb 01 18 40.5
comp=Z,256nm,1.0s
H04D Lebanon 79.59 324 IAmb IAmb 01 18 40.6
comp=Z,394nm,1.7s
PFVI Vila Bisbo 79.73 45 *eP* **P** **01 18 37.8 +1.0**
comp=Z,384nm,1.3s
PFVI *epP* **pP** **01 19 11.7 +3.0**
PFVI Vila Bisbo 79.73 45 IAmb IAmb 01 18 48.2
comp=Z,259nm,1.1s
PFVI Vila Bisbo 79.73 45 P **P** **01 18 36.5 -0.3**
CVNA Calvinia 79.75 120 *eP* **P** **01 18 38.3 +0.9**
CVNA IAmb IAmb 01 18 42.1
comp=Z,176nm,1.0s
MATJ Matjiesfontein 79.94 122 *eP* **P** **01 18 37.2 -1.1**
MATJ IAmb IAmb 01 19 14.6
comp=Z,492nm,1.2s
COR Corvallis 79.94 324 P **P** **01 18 38.7 +0.9**
COR IAmb IAmb 01 18 43.4
comp=Z,377nm,1.1s
COR Corvallis 79.94 324 P **P** **01 18 38.7 +0.9**

COR pmax pmax
comp=Z,377nm,1.2s
MORF Marmelete 79.94 45 *eP* **P** **01 18 38.4 +0.4**
comp=Z,466nm,1.7s
MORF *epP* **pP** **01 19 13.3 +3.4**
MORF Marmelete 79.94 45 P **P** **01 18 38.8 +0.8**
MORF IAmb IAmb 01 18 49.6
comp=Z,242nm,0.9s
MORF Marmelete 79.94 45 *eP* **P** **01 18 39.0 +0.9**
MORF IAmb IAmb 01 18 49.8
comp=Z,231nm,0.9s
MORF *eS* **S** **01 28 34.9 +2.8**
MORF Marmelete 79.94 45 *eP* **P** **01 18 38.9 +0.9**
MORF *eS* **S** **01 28 34.8 +2.8**
MORF pmax pmax
comp=Z,231nm,0.9s
PTEO Sao Teotonio 80.03 45 *eP* **P** **01 18 39.0 +0.6**
comp=Z,911nm,1.4s
PTEO *epP* **pP** **01 19 14.2 +3.9**
LTY Liberty 80.27 327 IAmb IAmb 01 18 44.6
comp=Z,493nm,1.4s
F04A Amboy 80.32 326 IAmb IAmb 01 18 44.7
comp=Z,410nm,1.1s
SUR Sutherland 80.37 121 P **P** **01 18 41.6 +0.9**
SUR Sutherland 80.37 121 *eP* **P** **01 18 40.7 0.0**
SUR IAmb IAmb 01 19 17.9
comp=Z,284nm,1.3s
SUR Sutherland 80.37 121 LR LR 01 53 44.5
comp=Z,2μm,18.1s,baz=250,slow=35
SUR Sutherland 80.37 121 P **P** **01 18 42.0 +1.3**
SUR S **S** **01 28 38.6 +1.3**
PBDV Barranco-do-Ve 80.39 45 *eP* **P** **01 18 41.0 +0.6**
comp=Z,448nm,1.4s
PBDV *epP* **pP** **01 19 16.9 +4.5**
PBDV Barranco-do-Ve 80.39 45 P **P** **01 18 40.2 -0.2**
IFR Ifrane 80.43 50 P **P** **01 18 40.3 -0.5**
PMAFR Mafra 80.43 43 *eP* **P** **01 18 42.4 +1.9**
comp=Z,377nm,1.5s
PMAFR *epP* **pP** **01 19 16.6 +4.1**
PMAFR Mafra 80.43 43 P **P** **01 18 41.2 +0.6**
MDT Midelt 80.46 51 P **P** **01 18 41.1 +0.1**
comp=Z,25nm,0.7s,baz=238,slow=3.2,SNR=34
MDT pP **pP** **01 19 14.0 +1.1**
comp=Z,60nm,0.9s,baz=264,slow=5.8,SNR=3.9
MDT LR LR 01 54 16.1
comp=Z,766nm,18.2s,baz=268,slow=36
comp=Z,25nm,0.7s
PNCL Nicolau / Gran 80.46 44 *eP* **P** **01 18 40.9 +0.2**
comp=Z,302nm,1.2s
PNCL *epP* **pP** **01 19 16.0 +3.3**
PNCL Nicolau / Gran 80.46 44 P **P** **01 18 40.6 -0.1**
MESJ Messejana 80.52 45 *eP* **P** **01 18 41.3 +0.3**
comp=Z,206nm,1.2s
MESJ *epP* **pP** **01 19 16.3 +3.3**
MESJ Messejana 80.52 45 *eP* **P** **01 18 42.0 +1.0**
MESJ IAmb IAmb 01 18 46.2
comp=Z,227nm,1.4s
MESJ *eS* **S** **01 28 40.9 +2.9**
MESJ Messejana 80.52 45 *eP* **P** **01 18 42.0 +1.0**
MESJ *eS* **S** **01 28 40.8 +2.9**
MESJ pmax pmax
comp=Z,227nm,1.4s
PCVE Castro Verde 80.53 45 *eP* **P** **01 18 41.5 +0.4**
comp=Z,254nm,1.9s
PCVE *epP* **pP** **01 19 16.3 +3.2**
PCVE Castro Verde 80.53 45 P **P** **01 18 41.0 -0.1**
PACT Alcochete 80.62 44 *eP* **P** **01 18 42.7 +1.2**
comp=Z,524nm,1.4s
PVAQ Vaqueiros 80.62 45 *eP* **P** **01 18 42.7 +1.1**
comp=Z,26nm,1.3s
PVAQ *eS* **S** **01 28 40.5 +1.5**
PVAQ Vaqueiros 80.62 45 P **P** **01 18 39.8 -1.8**
EGRO El Granado 80.85 45 P **P** **01 18 42.5 -0.3**
PBEJ Beja 80.86 45 *eP* **P** **01 18 43.0 +0.2**
comp=Z,201nm,1.4s
PBEJ *epP* **pP** **01 19 17.9 +3.1**
MERW Merweville 80.86 121 *eP* **P** **01 18 44.3 +1.0**
MERW IAmb IAmb 01 18 46.9
comp=Z,203nm,1.2s
D05A Enumclaw 80.90 327 IAmb IAmb 01 18 47.7
comp=Z,381nm,1.0s
FRAZ Fraserburg 80.98 121 *eP* **P** **01 18 44.4 +0.4**
FRAZ IAmb IAmb 01 19 20.1
comp=Z,382nm,1.2s
EVO Evora 81.03 44 *eP* **P** **01 18 43.6 -0.1**
comp=Z,250nm,1.4s
EVO *epP* **pP** **01 19 15.6 -0.1**
EVO Evora 81.03 44 P **P** **01 18 44.2 +0.4**
PSBE So Bento 81.06 43 *eP* **P** **01 18 44.2 +0.3**
comp=Z,274nm,1.4s
ARNO Arenosillo 81.13 46 P **P** **01 18 44.3 +0.1**
PMTG Montargil 81.18 44 *eP* **P** **01 18 45.2 +0.7**
comp=Z,387nm,1.4s
PMTG *epP* **pP** **01 19 19.4 +2.9**
TSUM Tsumeb 81.31 107 P **P** **01 18 45.5 -0.4**
TSUM Tsumeb 81.31 107 *eP* **P** **01 18 45.6 -0.3**
TSUM IAmb IAmb 01 18 56.1
comp=Z,151nm,1.2s
TSUM Tsumeb 81.31 107 LR LR 01 52 54.3
comp=Z,6μm,18.5s,baz=244,slow=34
E03A Lebam 81.32 326 IAmb IAmb 01 18 50.4
comp=Z,354nm,1.2s
RADR Rader Ridge 81.37 325 IAmb IAmb 01 18 50.8
comp=Z,342nm,1.1s
PBAR Barrancos 81.49 45 *eP* **P** **01 18 46.1 -0.1**
comp=Z,238nm,1.4s
PBAR *epP* **pP** **01 19 22.1 +3.9**
PESTR Estremoz 81.49 44 *eP* **P** **01 18 45.9 -0.3**
comp=Z,320nm,1.3s
PESTR *epP* **pP** **01 19 21.4 +3.2**
GRAN Grantham 81.49 121 *eP* **P** **01 18 45.8 -0.8**
GRAN IAmb IAmb 01 18 50.5
comp=Z,45nm,0.6s
B06A Marblemount 81.51 328 IAmb IAmb 01 18 50.3
comp=Z,264nm,0.9s
KEIM Keimoes 81.53 117 *eP* **P** **01 18 47.5 +0.6**
KEIM IAmb IAmb 01 19 22.9
comp=Z,204nm,1.1s
PCAS Casmilo, Conde 81.54 43 *eP* **P** **01 18 46.1 -0.3**
comp=Z,221nm,1.2s
GNW Green Mountain 81.58 327 IAmb IAmb 01 18 51.0
comp=Z,530nm,1.9s
IVI Ivigtut 81.59 10 *i* P **P** **01 18 44.9 -1.2**
IVI IAmb IAmb 01 19 20.1
comp=Z,350nm,1.3s
COI Coimbra 81.68 43 *eP* **P** **01 18 46.9 -0.2**
comp=Z,446nm,1.3s
COI *epP* **pP** **01 19 22.4 +3.2**
COI Coimbra 81.68 43 IAmb IAmb 01 18 52.3
comp=Z,363nm,1.5s
UPI Upington 81.87 117 *eP* **P** **01 18 48.4 -0.2**
UPI IAmb IAmb 01 18 52.8
comp=Z,543nm,1.8s
PMRV Marv??o 81.92 44 *eP* **P** **01 18 47.6 -0.8**
comp=Z,104nm,1.5s
PMRV *epP* **pP** **01 19 23.2 +2.7**
PMRV *eS* **S** **01 28 54.8 +2.4**
PMRV Marv??o 81.92 44 *e*LR LR 01 45 27.9
comp=Z,2μm,20.0s
NRS Narsarsuaq 82.03 12 *i* P **P** **01 18 48.1 -0.3**
NRS IAmb IAmb 01 18 56.6
comp=Z,7μm,4.2s
PTO Porto 82.07 42 *eP* **P** **01 18 49.3 +0.2**
comp=Z,281nm,1.9s
PCBR Castelo Branco 82.09 43 *eP* **P** **01 18 49.5 +0.3**
comp=Z,176nm,1.4s
BRAK Brakfontein 82.23 121 *eP* **P** **01 18 50.5 0.0**
BRAK IAmb IAmb 01 19 27.2
comp=Z,148nm,1.3s
PVIS Viseu 82.29 42 *eP* **P** **01 18 50.9 +0.5**
PVIS *epP* **pP** **01 19 24.9 +2.4**
MTE Manteigas 82.34 43 *eP* **P** **01 18 50.9 +0.2**
comp=Z,246nm,1.5s
MTE *epP* **pP** **01 19 26.4 +3.6**
MTE *eS* **S** **01 28 58.7 +1.9**
MTE Manteigas 82.34 43 *e*LQ LQ 01 40 40.2
MTE *e*LR LR 01 44 28.4
comp=Z,2μm,20.0s
ROOI Rooidraai Farm 82.55 122 *eP* **P** **01 18 51.4 -0.7**
ROOI IAmb IAmb 01 19 27.8
comp=Z,412nm,1.6s
PGC Sidney 82.59 327 IAmb IAmb 01 18 56.8
comp=Z,345nm,1.2s
PVRL Vila Real 82.70 42 *eP* **P** **01 18 52.7 +0.2**
comp=Z,342nm,1.7s

PVRL *epP* **pP** **01 19 27.9 +3.3**
POLO Lamas de Olo 82.71 42 *eP* **P** **01 18 51.9 -0.7**
comp=Z,111nm,1.7s
POLO *epP* **pP** **01 19 25.6 +0.9**
PGAV Gavieira, Arco 82.73 41 *eP* **P** **01 18 52.2 -0.5**
comp=Z,325nm,1.8s
PGAV *epP* **pP** **01 19 28.8 +4.0**
PGAV *eS* **S** **01 29 02.5 +1.8**
PGAV Gavieira, Arco 82.73 41 *e*LR LR 01 45 29.0
comp=Z,3μm,18.0s
PKA Prieska 82.75 119 *eP* **P** **01 18 54.0 +0.8**
PKA IAmb IAmb 01 19 27.9
comp=Z,68nm,1.1s
BFON Badsfontein, M 82.87 121 *eP* **P** **01 18 51.9 -2.0**
BFON IAmb IAmb 01 19 29.9
comp=Z,495nm,1.5s
MVO Moncorvo 83.08 42 *eP* **P** **01 18 54.5 0.0**
comp=Z,396nm,1.7s
MVO *epP* **pP** **01 19 27.6 +1.0**
MVO *eS* **S** **01 29 06.2 +1.9**
MVO Moncorvo 83.08 42 *e*LQ LQ 01 40 52.5
MVO *e*LR LR 01 45 51.2
comp=Z,2μm,18.0s
GRAF Camdeboo Natio 83.37 122 *eP* **P** **01 18 57.1 +0.8**
GRAF IAmb IAmb 01 19 32.5
comp=Z,315nm,1.1s
PBRG Braganca 83.61 42 *eP* **P** **01 18 56.9 -0.2**
comp=Z,407nm,1.5s
PBRG *epP* **pP** **01 19 32.7 +3.4**
RAR Rarotonga 83.65 250 LR LR 01 47 34.4
comp=Z,4μm,20.1s,baz=112,slow=29
NUUK Nuuk 83.89 8 *i* P **P** **01 18 58.0 0.0**
NUUK IAmb IAmb 01 19 34.6
comp=Z,309nm,1.2s
PAB San Pablo 84.00 45 P **P** **01 18 59.3 +0.1**
PAB San Pablo 84.00 45 P **P** **01 18 59.3 +0.1**
PAB pmax pmax
comp=Z,155nm,1.0s
TAM Tamanrasset 84.10 64 P **P** **01 18 59.8 -0.4**
TAM Tamanrasset 84.10 64 P **P** **01 18 59.8 -0.4**
TAM pmax pmax
comp=Z,214nm,1.4s
SOE Somerset East 84.10 122 P **P** **01 18 59.0 -1.1**
SOE Somerset East 84.10 122 *eP* **P** **01 18 59.2 -0.9**
SOE IAmb IAmb 01 19 35.9
comp=Z,372nm,1.2s
ESDC Sonseca Array 84.32 45 IAmb IAmb 01 19 12.4
comp=Z,257nm,1.4s
ESDC Sonseca Array 84.32 45 P **P** **01 19 00.5 -0.3**
comp=Z,69nm,1.1s,baz=242,slow=5.2,SNR=46
ESDC pP **pP** **01 19 33.7 +0.6**
comp=Z,181nm,1.2s,baz=245,slow=5.2,SNR=7.3
ESDC PKKPbc **PKKPbc** **01 37 13.5 -0.7**
comp=Z,1.9nm,0.9s,baz=30,slow=3.2,SNR=8.3
comp=Z,69nm,1.1s
ESBB Sonseca Array 84.32 45 IAmb IAmb 01 19 12.3
comp=Z,265nm,1.4s
GRHM Grahamstown, E 84.57 123 P **P** **01 19 02.3 -0.1**
GRHM Grahamstown, E 84.57 123 *eP* **P** **01 19 03.3 +0.9**
GRHM IAmb IAmb 01 19 18.4
comp=Z,110nm,0.9s
HVD Gariep Dam 84.71 120 *eP* **P** **01 19 03.0 -0.3**
HVD IAmb IAmb 01 19 39.8
comp=Z,633nm,1.5s
USTO Oran 84.80 50 P P 01 19 14.0 +11
ODJA Bouhanifia 84.91 50 P **P** **01 19 06.0 +2.1**
BOSA Boshof 85.15 118 P **P** **01 19 04.8 -0.7**
BOSA pP **pP** **01 19 37.1 -0.6**
BOSA Boshof 85.15 118 *i* S sP 01 19 52.6 +1.6
BOSA Boshof 85.15 118 ⇑*i*P **P** **01 19 04.8 -0.7**
BOSA IAmb IAmb 01 19 09.0
comp=Z,136nm,1.2s
BOSA Boshof 85.15 118 P **P** **01 19 04.8 -0.7**
BOSA *PP **pP** **01 19 37.1 -0.6**
BOSA pmax pmax
comp=Z,120nm,1.2s
BOSA Boshof 85.15 118 P **P** **01 19 04.2 -1.3**
comp=Z,25nm,0.6s,baz=249,slow=4.0,SNR=22
BOSA pP **pP** **01 19 38.9 +1.1**
comp=Z,144nm,1.1s,baz=243,slow=4.5,SNR=9.2
BOSA LR LR 01 55 01.7
comp=Z,6μm,18.2s,baz=256,slow=34
comp=Z,25nm,0.6s
BOSA Boshof 85.15 118 *i* P **P** **01 19 08.7 +3.3**
OJBR Djebel Berber 85.38 50 P P 01 19 19.0 +13
SWZ Schweizer 85.67 117 *eP* **P** **01 19 06.9 -1.2**
SWZ IAmb IAmb 01 19 43.2
comp=Z,301nm,1.5s
OKGL Djebel Kef Gue 85.80 50 P P 01 19 18.0 +10
LBTB Lobatse 86.60 115 IAmb IAmb 01 19 16.8
comp=Z,122nm,1.3s
LBTB Lobatse 86.60 115 *eP* **P** **01 19 13.0 +0.4**
LBTB IAmb IAmb 01 19 16.5
comp=Z,118nm,1.2s
LBTB Lobatse 86.60 115 LR LR 01 55 48.9
comp=Z,2μm,19.4s,baz=248,slow=34
LBTB Lobatse 86.60 115 *i* S **P** **01 19 14.4 +1.7**
SFJD Kangerlussuaq 86.73 7 P **P** **01 19 12.3 +0.3**
SFJD pP **pP** **01 19 42.3 -2.1**
SFJD Kangerlussuaq 86.73 7 P **P** **01 19 12.3 +0.3**
SFJD *PP **pP** **01 19 42.3 -2.1**
SFJD pmax pmax
comp=Z,145nm,1.4s
SFJD Kangerlussuaq 86.73 7 LR LR 01 57 06.3
comp=Z,1μm,20.9s,baz=192,slow=35
SFJD Kangerlussuaq 86.73 7 *i* P **P** **01 19 10.1 -1.9**
SFJD IAmb IAmb 01 19 44.6
comp=Z,238nm,1.5s
DY2G Dye2 86.82 9 *i* P **P** **01 19 12.6 -0.2**
DY2G IAmb IAmb 01 19 50.0
comp=Z,1μm,1.4s
MAW Mawson 87.01 164 P **P** **01 19 15.5 +1.9**
MAW Mawson 87.01 164 P **P** **01 19 15.5 +1.9**
MAW pmax pmax
comp=Z,60nm,1.1s
MAW Mawson 87.01 164 P **P** **01 19 15.0 +1.4**
comp=Z,156nm,0.8s,baz=230,slow=7.3,SNR=41
MAW PKKPbc **PKKPbc** **01 37 06.5 -1.1**
comp=Z,9.8nm,0.5s,baz=107,slow=4.3,SNR=10
MAW LR LR 02 00 60.0
comp=Z,2μm,18.5s,baz=227,slow=37
comp=Z,156nm,0.8s
BBB Bella Bella 87.11 328 IAmb IAmb 01 19 19.6
comp=Z,578nm,1.9s
BBB Bella Bella 87.11 328 LR LR 02 01 00.1
comp=Z,520nm,19.9s,baz=122,slow=37
VAL Valentia 87.25 32 P **P** **01 19 18.4 +3.5**
VAL Valentia 87.25 32 P **P** **01 19 17.1 +2.3**
ISOG Isortoq, Green 87.26 12 *i* P **P** **01 19 14.6 0.0**
ISOG IAmb IAmb 01 19 51.1
comp=Z,175nm,1.1s
SNKL Senekal, Frees 87.35 119 *eP* **P** **01 19 16.2 -0.2**
SNKL IAmb IAmb 01 19 31.4
comp=Z,74nm,0.9s
KSR Koster 87.43 116 *eP* **P** **01 19 18.3 +1.5**
KSR IAmb IAmb 01 20 13.8
comp=Z,76nm,1.4s
PRYS Parys 87.47 117 *eP* **P** **01 19 16.3 -0.6**
PRYS IAmb IAmb 01 19 52.2
comp=Z,229nm,1.5s
ANGG Ammassalik, Gr 87.59 13 *i* P **P** **01 19 16.6 +0.4**
ANGG IAmb IAmb 01 19 50.4
comp=Z,276nm,1.3s
HRAO HartRAO 88.09 117 *eP* **P** **01 19 19.8 0.0**
NHAM Northam, North 88.11 116 *eP* **P** **01 19 19.3 -0.6**
NHAM IAmb IAmb 01 19 22.6
comp=Z,416nm,2.2s
NYAT Nyati, Northwe 88.17 116 *eP* **P** **01 19 18.7 -1.4**
NYAT IAmb IAmb 01 19 56.0
comp=Z,490nm,2.1s
YKA Yellowknife Ar 88.52 341 P **P** **01 19 20.1 -0.6**
comp=Z,346nm,0.7s,baz=134,slow=4.7,SNR=619
YKA pP **pP** **01 19 52.8 0.0**
comp=Z,74nm,0.8s,baz=136,slow=4.7,SNR=2.7
YKA PKKP **PKKPdf** **01 37 00.9 +1.1**
comp=Z,1.4nm,0.8s,baz=312,slow=2.3,SNR=10
IGLA Glengowla, Co 88.54 31 P **P** **01 19 21.3 +0.4**
TSWA Tswaing Meteor 88.58 116 *eP* **P** **01 19 22.3 +0.1**
TSWA IAmb IAmb 01 19 26.1
comp=Z,163nm,1.2s
SLR Silverton 88.65 117 *eP* **P** **01 19 22.6 +0.2**
SLR IAmb IAmb 01 19 58.0
comp=Z,110nm,1.2s
XMAS Kiritimati 88.75 273 P **P** **01 19 22.9 -0.1**
ILULI Ilulissat 88.80 6 *i* P **P** **01 19 22.8 +1.0**

ILULI IAmb IAmb 01 19 58.0
comp=Z,264nm,1.2s
LEPH Lephalale, Lim 88.88 115 *e*P **P 01 19 22.6 -0.9**
LEPH IAmb IAmb 01 19 27.4
comp=Z,106nm,1.1s
GRNB Grenville Isla 88.98 329 IAmb IAmb 01 19 27.8
comp=Z,141nm,1.1s
RUST Rust De Winter 89.02 116 *e*P **P 01 19 23.6 -0.6**
RUST IAmb IAmb 01 20 00.3
comp=Z,380nm,2.2s
IWEX Carrickbyrne, 89.27 33 P **P 01 19 23.9 -0.5**
NWCL Newcastle 89.30 119 *e*P **P 01 19 24.9 -0.6**
NWCL IAmb IAmb 01 19 28.5
comp=Z,41nm,1.0s
CRAIL Swartwater, Li 89.62 114 *e*P **P 01 19 28.2 +1.2**
WTBG Waterberg Wild 89.69 115 *e*P **P 01 19 26.6 -0.7**
WTBG IAmb IAmb 01 20 02.2
comp=Z,52nm,1.2s
DSB Dublin 89.94 32 P **P 01 19 29.6 +2.1**
CRLN Carolina, Mapu 90.03 117 *e*P **P 01 19 27.6 -1.3**
CRLN IAmb IAmb 01 20 05.0
comp=Z,188nm,2.1s
FLDN Fort Liard 90.04 336 IAmb IAmb 01 19 32.7
comp=Z,161nm,0.8s
FLDN Fort Liard 90.04 336 P **P 01 19 28.4 +0.6**
baz=130,SNR=19
RSBS Rosebush, Pemb 90.10 34 *e*P **P 01 19 28.3 -0.1**
UMMG Uummannaq 90.10 6 *i*P **P 01 19 27.8 -0.1**
UMMG IAmb IAmb 01 19 31.9
comp=Z,461nm,1.7s
KOTAN Kotaneelee Air 90.19 336 P **P 01 19 29.1 +0.5**
baz=130,SNR=60
KOTAN S **S 01 30 09.7 -2.2**
baz=130
U35K Hyder 90.19 331 P **P 01 19 29.4 +0.8**
baz=124
ICESG Greenland Ices 90.27 10 *i*P **P 01 19 28.9 -0.3**
ICESG IAmb IAmb 01 19 33.4
comp=Z,277nm,0.8s
DULL Dullstroom, Mp 90.38 117 *e*P **P 01 19 30.9 +0.2**
DULL IAmb IAmb 01 19 35.0
comp=Z,64nm,1.2s
ILTH Belurgan, Co L 90.38 32 P **P 01 19 30.9 +1.4**
V35K Ketchikan 90.61 330 P **P 01 19 31.0 +0.4**
baz=123
T35M Bob Quinn 90.90 331 P **P 01 19 32.0 +0.1**
baz=124,SNR=14
PILG Pilgrimsrest, 90.98 117 *e*P **P 01 19 33.9 +0.4**
PILG IAmb IAmb 01 20 10.0
comp=Z,218nm,1.5s
MCH1 Michaelchurch 91.06 35 *e*P **P 01 19 31.3 -1.5**
BORG Borgarnes 91.08 19 P **P 01 19 34.3 +1.8**
BORG IAmb IAmb 01 19 38.3
comp=Z,252nm,1.4s
BORG Borgarnes 91.08 19 P **P 01 19 33.9 +1.4**
comp=Z,54nm,0.5s,baz=215,slow=2.2,SNR=42
BORG pP **pP 01 20 05.2 0.0**
comp=Z,65nm,1.0s,baz=1.0,slow=0.7,SNR=3.3
BORG LR LR 01 56 44.4
comp=Z,850nm,21.9s,baz=235,slow=33
comp=Z,54nm,0.5s
MONM Monmouth 91.08 35 *e*P **P 01 19 31.8 -1.1**
SOEG Soedalen 91.11 13 *i*P **P 01 19 34.6 +2.0**
SOEG IAmb IAmb 01 20 08.9
comp=Z,312nm,2.1s
MUSN Musina, Limpop 91.20 114 *e*P **P 01 19 35.3 +1.0**
MUSN IAmb IAmb 01 19 39.3
comp=Z,145nm,1.3s
MPHEP Siloam, Limpop 91.26 115 *e*P **P 01 19 35.6 +1.0**
MPHEP IAmb IAmb 01 20 11.3
comp=Z,191nm,1.3s
WIM Isle of Man 91.28 32 *e*P **P 01 19 33.4 -0.4**
HOED Hoedspruit, Li 91.36 116 *e*P **P 01 19 35.2 +0.2**
HOED IAmb IAmb 01 19 39.5
comp=Z,110nm,1.3s
IOMK Kirk Michael 91.39 32 *e*P **P 01 19 32.5 -1.8**
IOMK IAmb IAmb 01 19 37.7
comp=Z,306nm,1.4s
FOEL Foel Wylfa 91.39 34 *e*P **P 01 19 34.9 +0.5**
CRAG Craig 91.41 329 P **P 01 19 34.1 -0.2**
baz=122
WRAK Wrangell Islan 91.55 330 IAmb IAmb 01 19 39.3
comp=Z,106nm,0.9s
WRAK Wrangell Islan 91.55 330 P **P 01 19 34.9 0.0**
baz=123,SNR=12
DLBC Dease Lake 91.62 333 IAmb IAmb 01 19 40.1
comp=Z,196nm,1.1s
DLBC Dease Lake 91.62 333 P **P 01 19 34.7 -0.6**
baz=124,SNR=75
DLBC S **S 01 30 27.0 +1.9**
baz=124
DLBC Dease Lake 91.62 333 LR LR 02 06 01.5
comp=Z,1µm,19.8s,baz=116,slow=39
GAL1 Galloway 91.63 32 *e*P **P 01 19 34.1 -1.2**
GAL1 IAmb IAmb 01 19 38.2
comp=Z,47nm,0.6s
U33K Whale Pass 91.75 330 P **P 01 19 35.7 -0.1**
baz=122
S34M Telegraph Cree 91.81 332 IAmb IAmb 01 19 41.7
comp=Z,78nm,1.0s
S34M Telegraph Cree 91.81 332 P **P 01 19 35.9 -0.2**
baz=124,SNR=22
S34M S **S 01 30 27.2 +0.4**
baz=124
UPNV Upernavik 91.83 4 *i*P **P 01 19 35.0 -0.8**
UPNV IAmb IAmb 01 20 12.5
comp=Z,219nm,1.2s
WRGLY Wrigley 91.96 338 IAmb IAmb 01 19 40.8
comp=Z,131nm,1.4s
WRGLY Wrigley 91.96 338 P **P 01 19 37.0 +0.3**
baz=130,SNR=25
NEWG New Galloway 92.00 31 *e*P **P 01 19 36.1 -0.9**
NEWG IAmb IAmb 01 19 40.2
comp=Z,101nm,1.3s
T33K Petersburg 92.05 330 P **P 01 19 37.1 -0.1**
baz=122
WTLY Watson Lake, Y 92.06 334 IAmb IAmb 01 19 42.0
comp=Z,102nm,0.8s
WTLY Watson Lake, Y 92.06 334 P **P 01 19 37.7 +0.4**
baz=125,SNR=56
MOPA Mopani 92.08 116 *e*P **P 01 19 38.1 -0.2**
KEST Kesra 92.12 53 P **P 01 19 40.4 +2.2**
comp=Z,8.8nm,0.6s,baz=281,slow=3.8,SNR=9.4
KEST PKKP **PKKPdf 01 36 53.2 +0.7**
comp=Z,8.6nm,0.7s,baz=253,slow=5.7,SNR=3.4
KEST LR LR 02 00 26.1
comp=Z,2µm,20.5s,baz=210,slow=35
KEST Kesra 92.12 53 P **P 01 19 40.6 +2.4**
KEST S **SKSac 01 30 02.7 +2.2**
LSZ Lusaka 92.15 107 P **P 01 19 39.5 +0.6**
LSZ pP **pP 01 20 11.7 +0.2**
LSZ Lusaka 92.15 107 P **P 01 19 39.5 +0.6**
LSZ *PP **pP 01 20 11.7 +0.2**
LSZ pmax pmax
comp=Z,137nm,2.0s
LSZ Lusaka 92.15 107 PKKPbc PKKPbc 01 36 54.5 +0.9
comp=Z,9.4nm,0.5s,baz=61,slow=3.8,SNR=22
LSZ LR LR 01 59 36.7
comp=Z,5µm,18.5s,baz=262,slow=34
LSZ Lusaka 92.15 107 P **P 01 19 41.6 +2.7**
LSZ S **SKSac 01 30 06.2 +4.6**
PGBU Glenifferbraes 92.23 31 *e*P **P 01 19 39.3 +1.2**
KESW Keswick, Cumbr 92.29 32 *e*P **P 01 19 37.5 -0.9**
KESW IAmb IAmb 01 19 41.9
comp=Z,106nm,1.2s
CWF Charnwood Fore 92.33 34 *e*P **P 01 19 37.9 -0.7**
LBWR Ladybower, Pea 92.42 34 *e*P **P 01 19 39.5 +0.5**
SSB Saint Sauveur 92.47 43 IAmb IAmb 01 19 51.2
comp=Z,97nm,1.3s
KPL Plockton 92.47 29 *e*P **P 01 19 38.1 -1.0**
R33M Jennings River 92.56 333 P **P 01 19 40.3 +0.5**
baz=124
ESK Eskdalemuir 92.60 32 P **P 01 19 40.1 +0.3**
ESK IAmb IAmb 01 19 51.5
comp=Z,217nm,1.8s
ESK Eskdalemuir 92.60 32 *e*P **P 01 19 39.1 -0.7**
ESK Eskdalemuir 92.60 32 P **P 01 19 40.1 +0.3**
ESK pmax pmax
comp=Z,217nm,1.8s
EKB Eskdalemuir 92.62 32 P **P 01 19 41.0 +1.1**
EKB IAmb IAmb 01 19 51.7
comp=Z,208nm,1.8s
EKA Eskdalemuir Ar 92.63 32 P **P 01 19 38.1 -1.8**
comp=Z,4.4nm,0.4s,baz=235,slow=5.3,SNR=24
EKA pP **pP 01 20 12.2 -0.4**
comp=Z,18nm,1.0s,baz=247,slow=4.5,SNR=2.2

EKA PKKP **PKKPdf 01 36 52.0 -0.3**
comp=Z,2.6nm,0.7s,baz=83,slow=4.0,SNR=10
comp=Z,4.4nm,0.4s
HPK Haverah Park 92.74 33 *e*P **P 01 19 42.0 +1.5**
HPK IAmb IAmb 01 19 44.6
comp=Z,281nm,2.0s
Q32M Nakina River 92.89 333 P **P 01 19 41.5 +0.2**
baz=122
KRI Karoi 92.90 109 *e*P **P 01 19 42.9 +0.5**
S32K Killisnoo 93.14 331 P **P 01 19 41.4 -0.8**
baz=121
SIT Sitka 93.29 330 P **P 01 19 43.0 +0.1**
baz=120
JIS Juneau Island 93.47 331 IAmb IAmb 01 19 48.2
comp=Z,212nm,1.9s
R32K Eaglecrest 93.53 331 IAmb IAmb 01 19 48.6
comp=Z,78nm,1.1s
R32K Eaglecrest 93.53 331 P **P 01 19 43.5 -0.5**
baz=121,SNR=6.9
SUMG Summit 93.53 9 IAmb IAmb 01 19 49.3
comp=Z,137nm,0.9s
SUMG Summit 93.53 9 P **P 01 19 45.7 +1.5**
SUMG Summit 93.53 9 *i*P **P 01 19 44.2 0.0**
SUMG IAmb IAmb 01 19 48.9
comp=Z,159nm,1.0s
BNI Bardonecchia 93.76 44 P **P 01 19 47.8 +2.2**
BNI Bardonecchia 93.76 44 P **P 01 19 47.8 +2.2**
BNI pmax pmax
comp=Z,56nm,1.4s
P33M Teslin, Yukon 93.79 333 IAmb IAmb 01 19 49.6
comp=Z,128nm,1.6s
P33M Teslin, Yukon 93.79 333 P **P 01 19 47.0 +1.7**
baz=122,SNR=20
BESE Bessie Mountai 93.84 331 P **P 01 19 46.6 +1.0**
BESE IAmb IAmb 01 19 50.0
comp=Z,89nm,1.1s
P32M Atlin 93.85 333 P **P 01 19 47.5 +1.9**
baz=121,SNR=15
R31K City Hall, Gus 94.16 331 P **P 01 19 48.3 +1.4**
baz=120
S31K Pelican 94.16 331 P **P 01 19 49.2 +2.3**
baz=119
N32M Quiet Lake 94.40 334 P **P 01 19 49.7 +1.6**
baz=122
DOU Dourbes 94.47 38 *d*P **P 01 19 48.9 +0.4**
comp=Z,18nm,1.3s
SKAG Skagway 94.49 332 P **P 01 19 50.0 +1.6**
baz=120
BMRD Maredsous 94.66 38 *d*P **P 01 19 49.9 +0.5**
RCHB Rochefort 94.87 39 *d*P **P 01 19 50.5 +0.1**
BGES Gesves 94.88 38 *d*P **P 01 19 50.5 +0.1**
comp=Z,20nm,0.7s
WHY Whitehorse 94.90 333 P **P 01 19 51.4 +0.9**
baz=120
PLBC Pleasant Camp 94.95 332 P **P 01 19 51.0 +0.5**
baz=119
SCO Scoresbysund 95.01 14 *i*P **P 01 19 52.8 +2.3**
SCO IAmb IAmb 01 20 39.3
comp=Z,129nm,1.9s
BCLA Clavier 95.02 38 *d*P **P 01 19 51.4 +0.3**
FARO Faro, Yukon 95.07 335 P **P 01 19 52.1 +1.0**
baz=121,SNR=17
CASY Casey 95.14 180 P **P 01 19 52.3 +0.8**
CASY IAmb IAmb 01 19 56.2
comp=Z,110nm,1.1s
WLF Walferdange 95.23 39 P **P 01 19 53.7 +1.7**
WLF IAmb IAmb 01 20 03.6
comp=Z,144nm,1.5s
WLF Walferdange 95.23 39 *d*P **P 01 19 53.7 +1.7**
WLF Walferdange 95.23 39 P **P 01 19 54.0 +2.0**
WLF Walferdange 95.23 39 P **P 01 19 53.7 +1.7**
WLF pmax pmax
comp=Z,144nm,1.5s
WLF Walferdange 95.23 39 *e*P **P 01 19 52.7 +0.7**
comp=Z,36nm,1.1s
WLF *e*S **SKSac 01 30 17.4 +0.9**
baz=251,slow=4.6
WLF *e*pS **ScS 01 30 59.0 +1.2**
baz=251,slow=4.6
BSTI Sart Tilman 95.24 38 *d*P **P 01 19 52.7 +0.7**
ECH Echery 95.28 41 P **P 01 19 53.9 +1.6**
ECH Echery 95.28 41 P **P 01 19 53.9 +1.6**
ECH pmax pmax
comp=Z,35nm,1.0s
BHOU Houvegnez 95.41 39 *d*P **P 01 19 54.2 +1.3**
O30N Mendenhall 95.47 333 P **P 01 19 54.1 +1.1**
baz=119,SNR=6.0
M31M Drury Creek, Y 95.48 335 P **P 01 19 54.5 +1.5**
baz=120
MEM Membach 95.51 38 *d*P **P 01 19 53.7 +0.4**
P30M Million Dollar 95.54 332 P **P 01 19 54.0 +0.7**
baz=118
BTNL Ternell 95.57 38 *d*P **P 01 19 54.5 +0.9**
P29M Windy Craggy 95.65 332 IAmb IAmb 01 19 58.6
comp=Z,68nm,1.4s
P29M Windy Craggy 95.65 332 P **P 01 19 55.1 +1.3**
baz=118
URZ Urewera 95.65 227 P **P 01 19 56.5 +2.1**
comp=Z,5.0nm,0.8s,baz=164,slow=0.8,SNR=8.3
URZ LR LR 01 53 53.3
comp=Z,4µm,21.9s,baz=248,slow=30
comp=Z,5.0nm,0.8s
N31M Braeburn, Yuko 95.69 334 IAmb IAmb 01 19 57.9
comp=Z,54nm,1.1s
N31M Braeburn, Yuko 95.69 334 P **P 01 19 54.8 +0.9**
baz=119,SNR=14
KHZ Kahutara 95.89 222 P **P 01 19 55.7 +0.4**
BFO Black Forest 96.05 41 *e*P **P 01 19 56.7 +0.8**
comp=Z,4.4nm,0.9s
BFO *ep*P **pP 01 20 29.5 +1.0**
BFO *e*S **SKSac 01 30 23.0 +2.0**
baz=251,slow=4.6
BFO *e*pS **S 01 31 03.7 -0.7**
baz=251,slow=4.6
C36M Paulatuk 96.06 343 P **P 01 19 57.5 +2.1**
C36M Paulatuk 96.06 343 P **P 01 19 56.0 +0.6**
baz=129
RAO Raoul Island 96.08 236 LR LR 01 53 37.9
comp=Z,1µm,19.9s,baz=129,slow=29
HYT Haines Junctio 96.11 333 P **P 01 19 55.6 -0.3**
baz=118
AHRW Bad Neuenahr-A 96.11 39 *e*P **P 01 19 56.9 +0.9**
AHRW *e*S **SKSac 01 30 23.8 +2.6**
baz=251,slow=4.6
AHRW *ep*S **S 01 31 03.7 -1.0**
baz=251,slow=4.6
N30M Aishikik Lake 96.23 333 IAmb IAmb 01 20 01.0
comp=Z,65nm,1.4s
N30M Aishikik Lake 96.23 333 P **P 01 19 56.2 -0.2**
baz=118
O29M Mount Kennedy 96.33 332 P **P 01 19 56.7 -0.3**
baz=117
ZCCA Zocca 96.36 45 IAmb IAmb 01 20 11.4
comp=Z,49nm,0.9s
PNL Peninsula 96.42 331 P **P 01 19 56.4 -0.8**
baz=116
DAVOX Davos/Dischmat 96.48 43 P **P 01 19 58.5 +0.5**
comp=Z,7.9nm,1.0s,baz=255,slow=5.8,SNR=7.8
DAVOX PP **PP 01 23 51.2 -2.6**
baz=259,slow=10
DAVOX LR LR 02 01 12.8
comp=Z,881nm,20.2s,baz=260,slow=34
comp=Z,7.9nm,1.0s
LTZ Lake Taylor 96.49 221 P **P 01 19 58.5 +0.4**
LTZ IAmb IAmb 01 20 03.6
comp=Z,68nm,0.9s
YUK6 Outpost Mounta 96.53 333 P **P 01 19 57.6 -0.5**
baz=117
BUG Bochum--Univer 96.56 38 *e*P **P 01 19 59.2 +1.2**
comp=Z,11nm,0.9s
BUG *e*S **SKSac 01 30 26.0 +2.6**
baz=251,slow=4.6
BUG *ep*S **S 01 31 08.3 -0.1**
baz=251,slow=4.6
M30M Minto, Yukon 96.64 335 P **P 01 19 57.5 -0.7**
baz=118,SNR=18
DAVA Damuels 96.65 42 *e*P **P 01 20 00.4 +1.6**
comp=Z,47nm,1.3s
DAVA *e*PKKP **PKKPbc 01 36 40.9 -2.5**
comp=Z,1.2nm,0.3s
NEEM North Greenlan 96.70 4 *i*P **P 01 19 58.9 +0.4**
NEEM IAmb IAmb 01 20 02.6
comp=Z,223nm,1.5s
RPZ Rata Peaks 96.72 219 LR LR 01 57 27.9
comp=Z,942nm,18.1s,baz=113,slow=31
STU Stuttgart 96.75 41 P **P 01 19 59.0 0.0**
STU Stuttgart 96.75 41 P **P 01 19 59.0 0.0**

STU pmax pmax
comp=Z,39nm,1.0s
TNS Taunus Mts 96.81 39 *e*P **P 01 20 00.4 +1.1**
comp=Z,9.7nm,0.8s
TNS *ep*P **pP 01 20 32.9 +0.9**
TNS *e*S **SKSac 01 30 28.2 +3.2**
baz=251,slow=4.6
TNS *ep*S **ScS 01 31 11.8 +0.6**
baz=251,slow=4.6
YUK4 Talbot Arm 96.84 333 P **P 01 19 59.0 -0.3**
baz=117,SNR=8.6
UBR Ueberruh 96.94 42 *e*P **P 01 20 01.1 +1.2**
comp=Z,9.1nm,1.0s
UBR *e*S **SKSac 01 30 27.9 +2.2**
baz=251,slow=4.6
UBR *ep*S **ScS 01 31 15.2 +2.8**
baz=251,slow=4.6
PINM Pinnacle 96.99 332 P **P 01 20 00.0 +0.1**
baz=116
HIZ Hauiti 97.06 225 P Pdif 01 20 01.7 +0.8
HIZ IAmb IAmb 01 20 06.5
comp=Z,104nm,1.3s
FETA Feichten 97.11 43 *e*P Pdif 01 20 02.3 +1.4
comp=Z,45nm,1.5s
FETA *e*PP **PP 01 23 59.3 +0.6**
comp=Z,4.8nm,1.0s
FETA *i*PKKP **PKKPbc 01 36 39.9 -2.2**
comp=Z,3.3nm,0.8s
KASTN Kahler Asten 97.15 38 *e*P Pdif 01 20 01.9 +1.0
comp=Z,8.9nm,1.0s
KASTN *e*S **SKSac 01 30 29.1 +2.6**
baz=251,slow=4.6
KASTN *ep*S **ScS 01 31 14.7 +0.8**
baz=251,slow=4.6
TEOL Teolo 97.16 45 IAmb IAmb 01 20 13.0
comp=Z,80nm,1.0s
IBBN Ibbenburen 97.16 37 *e*P Pdif 01 20 01.5 +0.7
IBBN *e*S **SKSac 01 30 30.6 +4.1**
baz=251,slow=4.6
IBBN *ep*S **ScS 01 31 15.9 +2.1**
baz=251,slow=4.6
M29M Somme Creek 97.26 334 IAmb IAmb 01 20 05.2
comp=Z,42nm,0.9s
M29M Somme Creek 97.26 334 P **P 01 20 00.5 -0.6**
baz=117
RETA Reutte 97.29 42 *e*P Pdif 01 20 02.9 +1.3
comp=Z,39nm,1.1s
RETA *i*PKKP **PKKPbc 01 36 39.5 -2.1**
comp=Z,1.4nm,0.5s
YUK8 Steele Glacier 97.30 333 P **P 01 20 01.4 -0.1**
baz=116
CTI Castel Tesino 97.38 44 IAmb IAmb 01 20 13.3
comp=Z,75nm,1.4s
J30M Hart River 97.41 336 P **P 01 20 01.5 -0.2**
baz=119
L29M L29M 97.43 335 IAmb IAmb 01 20 05.8
comp=Z,78nm,0.9s
L29M L29M 97.43 335 P **P 01 20 01.7 -0.1**
baz=117
MOTA Moosalm 97.46 43 *e*P Pdif 01 20 04.3 +1.8
comp=Z,57nm,1.1s,SNR=4.8
MOTA *e*PP **PP 01 24 02.9 +1.6**
comp=Z,4.4nm,0.7s
MOTA *e*PKKP **PKKPbc 01 36 38.3 -2.8**
comp=Z,4.7nm,0.6s
SQTA Sankt Quirin 97.48 43 *e*P Pdif 01 20 03.7 +1.2
comp=Z,76nm,1.5s,SNR=8.7
SQTA *i*PKKP **PKKPbc 01 36 38.4 -2.6**
comp=Z,1.3nm,0.4s
K29M Barlow Dome 97.53 336 P Pdif 01 20 02.2 -0.1
baz=118,SNR=15
INTR Introdacqua 97.61 48 P Pdif 01 20 04.1 +0.9
I30M Mount Dempster 97.74 337 P **P 01 20 02.7 -0.5**
I30M Mount Dempster 97.74 337 P Pdif 01 20 03.3 0.0
baz=118,SNR=28
WATA Walderalm 97.76 43 *e*PcP Pdif 01 20 05.4 +1.6
comp=Z,63nm,1.3s
WATA *e*PP **PP 01 24 06.7 +3.1**
comp=Z,5.1nm,0.8s
WTTA Wattenberg 97.77 43 *e*PcP Pdif 01 20 05.4 +1.5
comp=Z,88nm,1.1s,SNR=6.8
WTTA *e*PP **PP 01 24 05.5 +1.7**
comp=Z,4.2nm,0.7s
WTTA *e*PKKP **PKKPbc 01 36 38.3 -2.0**
comp=Z,3.6nm,0.6s
YUK3 Moose Creek 97.81 333 P **P 01 20 02.9 -0.8**
baz=115,SNR=5.0
G31M Satah River 97.83 339 IAmb IAmb 01 20 07.0
comp=Z,50nm,0.8s
G31M Satah River 97.83 339 P **P 01 20 01.9 -1.4**
baz=120,SNR=39
CTG Chitna Glacier 97.85 332 P **P 01 20 02.8 -1.0**
baz=115
F31M Tsiigehtchic 97.91 339 IAmb IAmb 01 20 07.4
comp=Z,61nm,1.2s
F31M Tsiigehtchic 97.91 339 Pdiff Pdif 01 20 04.7 +0.9
baz=120
UBBA Unterbreizbach 97.95 39 *e*P Pdif 01 20 05.3 +1.1
UBBA *e*S **SKSac 01 30 35.0 +4.7**
baz=251,slow=4.6
UBBA *ep*S **ScS 01 31 23.5 +3.2**
baz=251,slow=4.6
A36M Sachs Harbour 98.02 345 IAmb IAmb 01 20 07.8
comp=Z,49nm,0.7s
A36M Sachs Harbour 98.02 345 Pdiff Pdif 01 20 05.5 +1.3
baz=128
J29N Klondike Camp 98.08 336 IAmb IAmb 01 20 08.9
comp=Z,40nm,1.2s
J29N Klondike Camp 98.08 336 Pdiff Pdif 01 20 06.7 +2.0
baz=117
ABTA Abfaltersbach 98.17 43 *e*Pdiff Pdif 01 20 07.2 +1.6
comp=Z,18nm,0.8s
ABTA *i*PKKP **PKKPbc 01 36 38.9 -0.2**
comp=Z,2.2nm,0.7s
BVCY Beaver Creek 98.25 334 Pdiff Pdif 01 20 06.8 +1.3
baz=115
INK Inuvik 98.28 340 Pdiff Pdif 01 20 06.0 +0.6
baz=121
INK Inuvik 98.28 340 LR LR 02 08 20.2
comp=Z,2µm,19.5s,baz=135,slow=38
GRFO Grafenberg 98.31 40 P Pdif 01 20 07.0 +1.0
GRFO Grafenberg 98.31 40 P Pdif 01 20 07.0 +1.0
GRFO pmax pmax
comp=Z,29nm,1.0s
GRF Grafenberg Arr 98.31 40 *e*P Pdif 01 20 07.1 +1.1
comp=Z,11nm,0.9s
GRF *e*S **SKSac 01 30 36.5 +4.0**
baz=251,slow=4.6
GRF *ep*S **ScS 01 31 25.5 +1.9**
baz=251,slow=4.6
CLUD Cludinico 98.32 44 IAmb IAmb 01 20 18.4
comp=Z,69nm,1.0s
DAWY Dawson 98.36 335 Pdiff Pdif 01 20 06.9 +0.9
baz=116
EPYK Eagle Plains 98.41 338 Pdiff **P 01 20 03.7 -2.4**
baz=118
KMY Karmoy 98.44 30 IVmB_BB 01 20 05.6
comp=Z,724nm,2.8s
KMY *e*P Pdif 01 20 06.2 -0.1
KMY *ep*P pP 01 20 38.8 -0.2
KMY *e*SKSac **SKSac 01 30 35.5 +2.8**
KMY *e*SS **SS 01 38 16.2 +4.4**
LESA Schwarzleotal 98.49 43 *e*Pdiff Pdif 01 20 08.0 +1.0
comp=Z,8.4nm,0.5s
CLZ Clausthal 98.51 38 *e*P Pdif 01 20 08.1 +1.2
comp=Z,7.6nm,0.9s
CLZ *e*S **SKSac 01 30 37.7 +4.2**
baz=251,slow=4.6
CLZ *ep*S **ScS 01 31 26.7 +1.4**
baz=251,slow=4.6
I29M Ogilvie Camp, 98.52 337 Pdiff **P 01 20 05.0 -1.6**
baz=117
G30M tAoh Zraii Nji 98.53 339 Pdiff **P 01 20 06.5 -0.1**
baz=118
NRDL Niedersach Rie 98.58 37 *e*P Pdif 01 20 08.0 +1.0
NRDL *e*S **SKSac 01 30 36.5 +3.0**
baz=251,slow=4.6
NRDL *ep*S **ScS 01 31 25.7 +0.2**
baz=251,slow=4.6
M27K Edge Creek, AK 98.66 333 Pdiff **P 01 20 05.6 -1.8**
baz=114
RJOB Jochberg 98.67 43 *e*P Pdif 01 20 09.4 +1.7
RJOB *e*S **SKSac 01 30 34.5 0.0**
baz=251,slow=4.6
RJOB *ep*S **ScS 01 31 27.7 +0.9**
baz=251,slow=4.6
F30M Barrier River 98.68 339 Pdiff **P 01 20 05.8 -1.4**
baz=119

BERG	**Berg Lake**	**98.68**	**331**	IAmb	IAmb	01 20 11.2		
	comp=Z,65nm,1.3s							
JMI	**Jan Mayen**	**98.68**	**17**	*e*Pdif	**P**	**01 20 05.8**	**-1.3**	
JMI				*e*PP	**PP**	**01 24 10.0**	**+0.1**	
JMI				*e*SKSac	**SKSac**	**01 30 37.2**	**+3.8**	
JMIC	**Jan Mayen**	**98.78**	**17**	*e*SKSac	**SKSac**	**01 30 38.1**	**+4.2**	
ASSE	**Asse, Remlinge**	**98.78**	**38**	*e*P	Pdif	01 20 09.5	+1.6	
	comp=Z,6.3nm,1.0s							
ASSE				*e*S	**SKSac**	**01 30 38.0**	**+3.4**	
	baz=251,slow=4.6							
ASSE				*e*pS	**ScS**	**01 31 29.4**	**+2.1**	
	baz=251,slow=4.6							
KBA	**Koelnbreinsper**	**98.82**	**43**	*e*Pdiff	Pdif	01 20 09.0	+0.4	
	comp=Z,11nm,0.7s,SNR=4.6							
KBA				*e*PP	**PP**	**01 24 13.9**	**+2.2**	
	comp=Z,3.7nm,0.8s							
KBA				*e*PKKP	**PKKPbc**	**01 36 35.0**	**-2.4**	
	comp=Z,1.7nm,0.4s							
KAIM	**Kayak Island**	**98.84**	**331**	Pdiff	**P**	**01 20 06.4**	**-1.7**	
	baz=112							
MOX	**Moxa**	**98.86**	**40**	*e*P	Pdif	01 20 10.0	+1.5	
	comp=Z,2.2nm,0.8s							
MOX				*e*pP	pP	01 20 42.2	+1.0	
MOX				*e*S	**SKSac**	**01 30 39.7**	**+4.4**	
	baz=251,slow=4.6							
MOX				*e*pS	**ScS**	**01 31 29.9**	**+1.7**	
	baz=251,slow=4.6							
MYKA	**Terra Mystica**	**98.87**	**44**	*e*Pdiff	Pdif	01 20 09.2	+0.6	
	comp=Z,16nm,0.8s,SNR=6.6							
JAVS	**Javornik**	**98.93**	**45**	*i* Pdiff	Pdif	01 20 10.7	+1.7	
JAVS				*e*		01 20 19.8		
JAVS				*e*		01 20 38.8		
JAVS				*e*SKSac	**SKSac**	**01 30 36.0**	**0.0**	
JAVS				*e*Sdiff	**ScS**	**01 31 28.1**	**-1.0**	
JAVS				*e*SP	**SP**	**01 32 55.6**	**+0.1**	
JAVS				*e*SS	**SS**	**01 38 19.1**	**-0.3**	
L27K	**Beaver Creek,**	**98.93**	**334**	Pdiff	**P**	**01 20 07.4**	**-1.1**	
	baz=114							
SUE	**Sulen**	**98.93**	**28**	*e*P	Pdif	01 20 11.2	+2.8	
SUE				IVmBBB		01 20 28.6		
	comp=Z,1μm,2.5s							
SUE				*e*SKSac	**SKSac**	**01 30 36.6**	**+1.6**	
SUE				*e*SP	**SP**	**01 32 58.1**	**+3.5**	
SUE				*e*SS	**SS**	**01 38 22.9**	**+4.4**	
SUE				IAMs_20	IAMs_20	01 55 01.3		
	comp=Z,5μm,42.1s							
BER	**Bergen**	**98.93**	**29**	*e*P	Pdif	01 20 09.7	+1.3	
BER				IVmBBB		01 20 15.8		
	comp=Z,1μm,3.5s							
BER				*e*SKSac	**SKSac**	**01 30 37.9**	**+2.9**	
BER				*e*SS	**SS**	**01 38 20.7**	**+2.2**	
H29M	**Whitestone**	**98.93**	**337**	Pdiff	**P**	**01 20 06.4**	**-2.0**	
	baz=117							
ROTZ	**Rotzenmuhle**	**98.94**	**41**	*e*P	Pdif	01 20 10.2	+1.3	
ROTZ				*e*S	**SKSac**	**01 30 38.4**	**+2.8**	
	baz=251,slow=4.6							
ROTZ				*e*pS	**S**	**01 31 32.3**	**+3.5**	
	baz=251,slow=4.6							
MANZ	**Manzenberg**	**98.95**	**40**	*e*P	Pdif	01 20 10.6	+1.8	
	comp=Z,1.2nm,0.8s							
MANZ				*e*pP	pP	01 20 42.7	+1.2	
MANZ				*e*S	**SKSac**	**01 30 39.4**	**+3.7**	
	baz=251,slow=4.6							
MANZ				*e*pS	**S**	**01 31 31.8**	**+2.9**	
	baz=251,slow=4.6							
SNART	**Snartemo**	**99.06**	**31**	*e*SKSac	**SKSac**	**01 30 40.9**	**+5.0**	
BLS5	**Blasjo**	**99.10**	**30**	*e*Pdif	**Pdif**	**01 20 10.8**	**+1.6**	
BLS5				IVmB_BB		01 20 50.6		
	comp=Z,1μm,3.9s							
BLS5				*e*SKSac	**SKSac**	**01 30 38.0**	**+1.9**	
BLS5				*e*SS	**SS**	**01 38 25.5**	**+4.5**	
G29M	**Pine Creek**	**99.12**	**338**	IAmb	IAmb	01 20 12.8		
	comp=Z,42nm,0.9s							
G29M	**Pine Creek**	**99.12**	**338**	Pdiff	**Pdif**	**01 20 07.7**	**-1.5**	
	baz=117							
M26K	**Nabesna, AK**	**99.16**	**333**	Pdiff	**Pdif**	**01 20 07.4**	**-2.2**	
	baz=113							
WET	**Wettzell**	**99.16**	**41**	*e*P	**Pdif**	**01 20 10.7**	**+0.9**	
	comp=Z,4.2nm,0.9s							
WET				*e*S	**SKSac**	**01 30 38.9**	**+2.1**	
	baz=251,slow=4.6							
WET				*e*pS	**S**	**01 31 32.8**	**+2.0**	
	baz=251,slow=4.6							
I28M	**Miner Creek**	**99.17**	**336**	P	**Pdif**	**01 20 10.4**	**+0.8**	
I28M	**Miner Creek**	**99.17**	**336**	Pdiff	**Pdif**	**01 20 07.5**	**-2.1**	
	baz=115							
BSEG	**Bad Segeberg**	**99.18**	**36**	*e*P	**Pdif**	**01 20 10.8**	**+1.1**	
	comp=Z,8.3nm,0.8s							
BSEG				*e*S	**SKSac**	**01 30 40.6**	**+4.1**	
	baz=251,slow=4.6							
BSEG				*e*pS	**S**	**01 31 31.6**	**+1.0**	
	baz=251,slow=4.6							
FLTG	**Flechtingen**	**99.18**	**38**	*e*P	**Pdif**	**01 20 11.3**	**+1.5**	
FLTG				*e*S	**SKSac**	**01 30 40.6**	**+4.0**	
	baz=251,slow=4.6							
FLTG				*e*pS	**S**	**01 31 31.6**	**+0.9**	
	baz=251,slow=4.6							
BIOA	**Bad Ischl, Aus**	**99.19**	**43**	*e*Pdiff	**Pdif**	**01 20 11.2**	**+1.2**	
	comp=Z,24nm,1.1s							
BIOA				*e*PP	**PP**	**01 24 16.1**	**+1.7**	
	comp=Z,1.7nm,0.6s							
BIOA				*i* PKKP	**PKKPbc**	**01 36 33.3**	**-2.8**	
	comp=Z,0.7nm,0.4s							
NKC	**Novy Kostel**	**99.23**	**40**	*e*PDIFF	**Pdif**	**01 20 11.5**	**+1.4**	
NKC				*ex*	x	01 20 19.2		
NKC				*e*SKS	**SKSac**	**01 30 36.5**	**-0.6**	
NKC	**Novy Kostel**	**99.23**	**40**	*i* P	**Pdif**	**01 20 11.5**	**+1.4**	
NKC				*e*		01 30 36.5		
FOO	**Floro**	**99.26**	**28**	*e*Pdif	**Pdif**	**01 20 13.5**	**+3.6**	
FOO				IVmB_BB		01 20 25.0		
	comp=Z,821nm,3.4s							
FOO				*e*PP	**PP**	**01 24 15.2**	**+0.7**	
FOO				*e*SKSac	**SKSac**	**01 30 39.4**	**+2.8**	
FOO				*e*SS	**SS**	**01 38 28.1**	**+5.0**	
TANN	**Tannenbergstha**	**99.30**	**40**	*e*P	**Pdif**	**01 20 12.2**	**+1.7**	
TANN				*e*S	**SKSac**	**01 30 42.1**	**+4.6**	
	baz=251,slow=4.6							
TANN				*e*pS	**S**	**01 31 35.3**	**+3.3**	
	baz=251,slow=4.6							
BMRM	**Bremner River**	**99.31**	**331**	Pdiff	**Pdif**	**01 20 09.9**	**-0.4**	
	baz=112							
ODD1	**Odda**	**99.36**	**30**	*e*Pdif	**Pdif**	**01 20 12.4**	**+1.9**	
ODD1				IVmB_BB		01 20 42.3		
	comp=Z,1μm,5.1s							
ODD1				*e*SKSac	**SKSac**	**01 30 40.9**	**+3.6**	
ODD1				*e*SS	**SS**	**01 38 28.2**	**+3.5**	
EGAK	**Eagle**	**99.36**	**336**	Pdiff	**Pdif**	**01 20 09.7**	**-0.6**	
	baz=114							
K27K	**Chicken**	**99.42**	**335**	Pdiff	**Pdif**	**01 20 08.6**	**-2.0**	
	baz=114							
OBKA	**Obir**	**99.43**	**44**	*e*Pdiff	**Pdif**	**01 20 12.7**	**+1.5**	
	comp=Z,20nm,0.8s							
L26K	**Log Cabin Wild**	**99.55**	**334**	Pdif	**Pdif**	**01 20 11.9**	**+0.7**	
L26K	**Log Cabin Wild**	**99.55**	**334**	Pdiff	**Pdif**	**01 20 07.8**	**-3.4**	
	baz=113							
N25K	**Chitina, Valde**	**99.55**	**332**	Pdiff	**Pdif**	**01 20 09.1**	**-2.2**	
	baz=112							
Q23K	**Middleton Isla**	**99.56**	**330**	Pdiff	**Pdif**	**01 20 07.3**	**-4.0**	
	baz=111							
GEC2	**GERESS Array S**	**99.58**	**42**	*e*P	**Pdif**	**01 20 12.7**	**+0.8**	
GEC2				*e*pP	**pP**	**01 20 46.1**	**+1.6**	
GEC2				*e*S	**SKSac**	**01 30 41.1**	**+2.0**	
	baz=251,slow=4.6							
GEC2				*e*pS	**S**	**01 31 39.4**	**+4.9**	
	baz=251,slow=4.6							
GERES	**GERESS Array B**	**99.58**	**42**	Pdif	**Pdif**	**01 20 12.2**	**+0.4**	
GERES	**GERESS Array B**	**99.58**	**42**	P	**Pdif**	**01 20 11.7**	**-0.2**	
	comp=Z,2.0nm,0.8s,baz=242,slow=2.9,SNR=10							
GERES				pP	**pP**	**01 20 44.3**	**-0.2**	
	comp=Z,7.2nm,1.0s,baz=228,slow=1.6,SNR=4.5							
GERES				PP	**PP**	**01 24 14.4**	**-3.1**	
	comp=Z,1.1nm,0.6s,baz=224,slow=6.9,SNR=4.1							
GERES				PKKPbc	**PKKPbc**	**01 36 33.0**	**-2.1**	
	comp=Z,2.9nm,0.7s,baz=68,slow=1.7,SNR=16							
GERES				PKPPKP	**P'P'df**	**01 44 46.1**	**-3.2**	
	comp=Z,0.5nm,0.7s,baz=24,slow=5.4,SNR=2.9							
	comp=Z,2.0nm,0.8s							
KHC	**Kasperske Hory**	**99.59**	**41**	*e*PDIFF	**Pdif**	**01 20 11.8**	**0.0**	
KHC				*ex*	x	01 20 18.5		
KHC				*e*PP	**PP**	**01 24 13.5**	**-3.9**	
KHC				*e*SKS	**SKSac**	**01 30 36.0**	**-3.0**	
KHC				*e*PKKP	**PKKPbc**	**01 36 33.7**	**-1.4**	
KHC	**Kasperske Hory**	**99.59**	**41**	*i* P	**Pdif**	**01 20 11.8**	**0.0**	
KHC				*e*		01 30 36.0		
HYA	**Hoyanger**	**99.61**	**28**	*e*SKSac	**SKSac**	**01 30 38.5**	**+0.2**	
HYA				*e*SS	**SS**	**01 38 30.3**	**+2.4**	
MOA	**Molln**	**99.65**	**43**	*e*Pdiff	**Pdif**	**01 20 13.0**	**+1.0**	
	comp=Z,24nm,1.1s							
MOA				*i* PKKP	**PKKPbc**	**01 36 32.9**	**-2.0**	
	comp=Z,1.9nm,0.5s							
HOMB	**Homborsund**	**99.68**	**32**	*e*Pdif	**Pdif**	**01 20 15.1**	**+3.3**	
HOMB				IVmB_BB		01 20 29.2		
	comp=Z,2μm,2.3s							
HOMB				*e*PP	**PP**	**01 24 19.1**	**+1.4**	
HOMB				*e*SKSac	**SKSac**	**01 30 41.6**	**+2.8**	
HOMB				*e*SP	**SP**	**01 33 06.7**	**+3.8**	
HOMB				*e*SS	**SS**	**01 38 31.2**	**+2.1**	
HOMB				IVMs_BB	IVMs_BB	01 55 14.6		
	comp=Z,815nm,24.2s							
EYAK	**Cordova Ski Ar**	**99.68**	**331**	Pdiff	**Pdif**	**01 20 08.2**	**-3.6**	
	baz=111							
E29M	**Blow River**	**99.75**	**340**	Pdiff	**Pdif**	**01 20 09.2**	**-2.8**	
	baz=117							
SOKA	**Soboth**	**99.80**	**44**	*e*Pdiff	**Pdif**	**01 20 14.4**	**+1.5**	
	comp=Z,6.5nm,0.8s							
I27K	**Kandik River**	**99.88**	**336**	Pdiff	**Pdif**	**01 20 10.2**	**-2.5**	
	baz=114							
CLL	**Collm**	**99.90**	**39**	*e*P	**Pdif**	**01 20 14.0**	**+1.0**	
CLL				*e**PP	**pP**	**01 20 45.0**	**-0.7**	
CLL				*e*		01 30 42.0		
CLL				*e*S	**ScS**	**01 31 35.0**	**-1.7**	
CLL				pmax	pmax			
	comp=Z,19nm,1.1s							
CLL	**Collm**	**99.90**	**39**	*e*Pdif	**Pdif**	**01 20 14.0**	**+1.0**	
	comp=Z,19nm,1.1s							
CLL				*i* x	x	01 20 22.1		
	comp=Z,45nm,1.7s							
CLL				*e*pPdif	**pP**	**01 20 45.0**	**-0.7**	
CLL				*e*PP	**PP**	**01 24 18.0**	**-1.6**	
CLL				*e*pPP		01 24 52.0		
CLL				*e*SKSac	**SKSac**	**01 30 42.0**	**+1.7**	
CLL				*e*SKKSac	**SKKSac**	**01 31 13.0**	**-0.8**	
CLL				*e*Sdif	**ScS**	**01 31 35.0**	**-1.7**	
CLL				*e*SP	**SP**	**01 33 05.0**	**-0.6**	
CLL				*ex*	x	01 33 14.0		
CLL				*e*pPS		01 33 42.0		
CLL				*e*PPS	PPS	01 34 00.0		
CLL				*e*PKKPbc	**PKKPbc**	**01 36 34.0**	**-0.2**	
CLL				*e*pPKKPbc		01 37 00.0		
CLL				*e*SS	**SS**	**01 38 23.0**	**-10**	
CLL				*e*sSS		01 39 12.0		
CLL				*ex*	x	01 43 36.0		
CLL	**Collm**	**99.90**	**39**	*e*P	**Pdif**	**01 20 14.2**	**+1.2**	
CLL				*e*pP	**pP**	**01 20 46.9**	**+1.2**	
CLL				*e*S	**SKSac**	**01 30 42.8**	**+2.6**	
	baz=251,slow=4.6							
CLL				*e*pS	**S**	**01 31 42.1**	**+5.3**	
	baz=251,slow=4.6							
HSKC	**Hora Svate Kat**	**99.95**	**40**	*e*PDIFF	**Pdif**	**01 20 14.7**	**+1.4**	
HSKC				*e*SKS	**SKSac**	**01 30 40.1**	**-0.6**	
CKRC	**Cesky Krumlov**	**99.96**	**42**	*e*PDIFF	**Pdif**	**01 20 15.1**	**+1.7**	
CKRC				*ex*	x	01 20 20.6		
CKRC				*e*SKS	**SKSac**	**01 30 32.8**	**-8.0**	
CKRC				*e*PKKP	**PKKPbc**	**01 36 32.7**	**-1.3**	
CKRC	**Cesky Krumlov**	**99.96**	**42**	*i* P	**Pdif**	**01 20 15.1**	**+1.7**	
ZVC	**Zvikov**	**100.07**	**41**	*e*PDIFF	**Pdif**	**01 20 15.3**	**+1.5**	
F28M	**Old Crow**	**100.08**	**338**	Pdiff	**Pdif**	**01 20 12.0**	**-1.5**	
	baz=115							
HARP	**HAARP**	**100.09**	**333**	Pdiff	**Pdif**	**01 20 10.8**	**-2.9**	
	baz=111							
H27K	**Steamboat Moun**	**100.10**	**337**	Pdiff	**Pdif**	**01 20 11.1**	**-2.5**	
	baz=114							
KLU	**Klutina**	**100.10**	**332**	Pdif	**Pdif**	**01 20 12.7**	**-1.1**	
KLU	**Klutina**	**100.10**	**332**	Pdiff	**Pdif**	**01 20 11.1**	**-2.7**	
	baz=111							
SCRK	**Sand Creek**	**100.18**	**334**	Pdif	**Pdif**	**01 20 14.2**	**+0.1**	
SCRK	**Sand Creek**	**100.18**	**334**	Pdiff	**Pdif**	**01 20 11.1**	**-3.0**	
	baz=112							
J26L	**Joseph Creek**	**100.20**	**335**	Pdiff	**Pdif**	**01 20 10.7**	**-3.5**	
	baz=112							
P23K	**Montague Islan**	**100.26**	**330**	Pdiff	**Pdif**	**01 20 12.2**	**-2.2**	
	baz=110							
ARSA	**Arzberg**	**100.29**	**44**	*e*Pdiff	**Pdif**	**01 20 16.3**	**+1.4**	
	comp=Z,13nm,1.4s							
ARSA				*e*PKKP	**PKKPbc**	**01 36 30.7**	**-2.3**	
	comp=Z,0.6nm,0.4s							
BRG	**Berggiesshubel**	**100.34**	**40**	P	**Pdif**	**01 20 24.9**	**+10**	
BRG				Amp		01 20 27.7		
	comp=Z,34nm,1.4s							
BRG				⇓pPif		01 20 51.7		
BRG				Amp		01 20 53.5		
	comp=Z,24nm,1.5s							
BRG				⇓sPif		01 21 07.8		
BRG				Amp		01 21 08.9		
	comp=Z,16nm,1.2s							
BRG				PP	**PP**	**01 24 18.4**	**-4.5**	
BRG				Amp		01 24 22.8		
	comp=Z,34nm,1.5s							
BRG	**Berggiesshubel**	**100.34**	**40**	SP	SP	01 33 14.0	+3.7	
BRG				⇑PKKPb		01 36 33.2		
BRG				Amp		01 36 34.3		
	comp=Z,3.8nm,0.9s							
BRG				⇓PKKPf		01 36 58.1		
BRG				Amp		01 37 03.4		
	comp=Z,15nm,1.4s							
BRG	**Berggiesshubel**	**100.34**	**40**	*i* P	**Pdif**	**01 20 16.9**	**+1.9**	
BRG						01 30 46.0		
BRG				S	**Sdif**	**01 31 42.0**	**+1.5**	
BRG				SP	**SP**	**01 33 14.0**	**+3.7**	
BRG				pmax	pmax			
	comp=Z,16nm,1.4s							
BRG				pmax	pmax			
	comp=Z,34nm,1.5s							
BRG				pmax	pmax			
	comp=Z,24nm,1.5s							
BRG				pmax	pmax			
	comp=Z,35nm,1.5s							
BRG				pmax	pmax			
	comp=E,15μm,1.4s							
BRG				pmax	pmax			
	comp=E,8μm,1.4s							
BRG				pmax	pmax			
	comp=E,6μm,1.4s							
BRG	**Berggiesshubel**	**100.34**	**40**	*e*P	**Pdif**	**01 20 16.4**	**+1.5**	
BRG				*e*S	**SKSac**	**01 30 44.6**	**+2.1**	
	baz=251,slow=4.6							
BRG				*e*pS	**Sdif**	**01 31 40.4**	**-0.1**	
	baz=251,slow=4.6							
AKN	**Aaknes**	**100.34**	**28**	*e*Pdif	**Pdif**	**01 20 16.2**	**+1.5**	
AKN				*e*PP	**PP**	**01 24 23.9**	**+1.2**	
AKN				*e*SKSac	**SKSac**	**01 30 44.7**	**+2.6**	
I26K	**Coal Creek Min**	**100.35**	**336**	Pdiff	**Pdif**	**01 20 13.0**	**-1.7**	
	baz=112							
G27K	**Doyon Strip**	**100.38**	**337**	Pdiff	**Pdif**	**01 20 13.8**	**-1.1**	
	baz=114							
E28M	**Babbage River**	**100.38**	**339**	Pdif	**Pdif**	**01 20 15.2**	**+0.4**	
E28M	**Babbage River**	**100.38**	**339**	Pdiff	**Pdif**	**01 20 13.9**	**-0.9**	
	baz=115							
PRA	**Prague**	**100.40**	**41**	*e*SKS	**SKSac**	**01 30 35.3**	**-7.5**	
SKAR	**Skarslia**	**100.41**	**29**	*e*P	**Pdif**	**01 20 18.7**	**+3.6**	
SKAR				*e*PP	**PP**	**01 24 23.7**	**+0.4**	
SKAR				*e*SKSac	**SKSac**	**01 30 45.0**	**+2.5**	
SKAR				*e*SP	**SP**	**01 33 13.9**	**+3.3**	
SKAR				*e*SS	**SS**	**01 38 43.5**	**+4.2**	
GLI	**Glacier Island**	**100.42**	**331**	Pdiff	**Pdif**	**01 20 12.8**	**-2.3**	
	baz=110							
M24K	**Tolsona, Glenn**	**100.43**	**332**	Pdiff	**Pdif**	**01 20 13.9**	**-1.3**	
	baz=110							
PAX	**Paxson**	**100.43**	**333**	Pdiff	**Pdif**	**01 20 13.9**	**-1.3**	
	baz=111							
D28M	**Stokes Point**	**100.44**	**340**	Pdiff	**Pdif**	**01 20 14.1**	**-0.8**	
	baz=116							
RIDG	**Independent Ri**	**100.44**	**334**	Pdif	**Pdif**	**01 20 16.2**	**+0.9**	
RIDG	**Independent Ri**	**100.44**	**334**	Pdiff	**Pdif**	**01 20 14.5**	**-0.8**	
	baz=111							
PRU	**Pruhonice**	**100.45**	**41**	*e*PDIFF	**Pdif**	**01 20 13.4**	**-2.1**	
PRU				*ex*	x	01 20 23.4		
PRU				*e*SKS		01 30 34.3		
PRU	**Pruhonice**	**100.45**	**41**	*i* P	**Pdif**	**01 20 13.4**	**-2.1**	
GOPC	**GO Pecny, Ondr**	**100.58**	**41**	*e*SKS	**SKSac**	**01 30 39.3**	**-4.5**	
PVCC	**Panska Ves**	**100.62**	**40**	*e*SKS	**SKSac**	**01 30 42.4**	**-1.5**	
PVCC				*e*PKKP		01 36 32.8		
KONO	**Kongsberg**	**100.68**	**30**	*e*Pdif	**Pdif**	**01 20 17.3**	**+1.0**	
KONO				*e*PP	**PP**	**01 24 26.5**	**+1.2**	
KONO				*e*SKSac	**SKSac**	**01 30 46.3**	**+2.6**	
KONO				*e*SP	**SP**	**01 33 18.3**	**+4.8**	
KONO				*e*SS	**SS**	**01 38 48.1**	**+5.2**	
KONO	**Kongsberg**	**100.68**	**30**	*i* P	**Pdif**	**01 20 19.3**	**+3.0**	
KONO				pmax	pmax			
	comp=Z,16nm,1.2s							
CONA	**Conrad Observa**	**100.70**	**43**	*e*Pdiff	**Pdif**	**01 20 17.8**	**+1.0**	
	comp=Z,23nm,1.3s							
CONA				*i* PKKP	**PKKPbc**	**01 36 29.7**	**-2.2**	
	comp=Z,1.6nm,0.6s							
RUE	**Ruedersdorf**	**100.71**	**38**	*e*P	**Pdif**	**01 20 17.7**	**+1.2**	
	comp=Z,4.9nm,0.8s							
RUE				*e*S	**SKSac**	**01 30 46.8**	**+2.6**	
	baz=251,slow=4.6							
RUE				*e*pS	**Sdif**	**01 31 42.8**	**-0.6**	
	baz=251,slow=4.6							
MOL	**Molde**	**100.72**	**27**	*e*P	**Pdif**	**01 20 19.2**	**+2.9**	
MOL				*e*PP	**PP**	**01 24 23.2**	**-2.3**	
MOL				*e*SKSac	**SKSac**	**01 30 46.6**	**+2.8**	
TREC	**Trest**	**100.84**	**42**	*e*PDIFF	**Pdif**	**01 20 19.0**	**+1.7**	
TREC				*ex*	x	01 20 25.4		
TREC				*e*SKS	**SKSac**	**01 30 49.3**	**+4.2**	
TREC	**Trest**	**100.84**	**42**	*i* P	**Pdif**	**01 20 19.0**	**+1.7**	
TREC				*e*		01 30 49.3		
SCM	**Sheep Creek Mo**	**100.85**	**332**	Pdiff	**Pdif**	**01 20 16.2**	**-0.9**	
	baz=110							
K24K	**Donnelly Dome**	**100.85**	**334**	Pdiff	**Pdif**	**01 20 15.5**	**-1.5**	
	baz=110							
E27K	**Coleen River**	**100.91**	**339**	Pdiff	**Pdif**	**01 20 16.2**	**-1.0**	
	baz=113							
RONA	**Rosalia, Austr**	**100.92**	**43**	*e*Pdiff	**Pdif**	**01 20 19.4**	**+1.7**	
	comp=Z,11nm,1.3s							
J25K	**Salcha River,**	**100.97**	**335**	Pdiff	**Pdif**	**01 20 15.0**	**-2.6**	
	baz=111							
M23K	**Glacier View**	**101.01**	**332**	Pdiff	**Pdif**	**01 20 16.0**	**-1.7**	
	baz=109							
D27M	**Malcolm River**	**101.12**	**340**	Pdiff	**Pdif**	**01 20 15.7**	**-2.4**	
	baz=114							
DOMB	**Dombas**	**101.21**	**28**	*e*Pdif	**Pdif**	**01 20 25.0**	**+6.3**	
DOMB				IVmBBB		01 20 30.2		
	comp=Z,721nm,5.0s							
DOMB				*e*PP	**PP**	**01 24 29.2**	**-0.1**	
DOMB				*e*SKSac	**SKSac**	**01 30 49.5**	**+3.2**	
DOMB				*e*SP	**SP**	**01 33 22.9**	**+3.9**	
DOMB				*e*SS	**SS**	**01 38 54.6**	**+4.4**	
G26K	**Porcupine Rive**	**101.21**	**337**	Pdiff	**Pdif**	**01 20 16.3**	**-2.2**	
	baz=112							
KNK	**Knik Glacier**	**101.22**	**331**	Pdiff	**Pdif**	**01 20 16.0**	**-2.7**	
	baz=109							
SEW	**Seward**	**101.27**	**330**	PKiKP	**PP**	**01 24 32.4**	**+2.7**	
	baz=108							
WAT6	**Susitna Watana**	**101.28**	**332**	PKiKP	**PP**	**01 24 33.2**	**+3.2**	
	baz=109							
DHY	**Denali Highway**	**101.28**	**333**	PKiKP	**PP**	**01 24 33.9**	**+3.9**	
	baz=109							
SML	**Sawmill**	**101.29**	**332**	Pdif	**Pdif**	**01 20 18.8**	**-0.2**	
SML	**Sawmill**	**101.29**	**332**	PKiKP	**PP**	**01 24 32.5**	**+2.6**	
	baz=109							
OSL	**Oslo**	**101.31**	**30**	*e*P	**Pdif**	**01 20 20.9**	**+1.9**	
OSL				*e*SKSac	**SKSac**	**01 30 49.1**	**+2.4**	
OSL				*e*SP	**SP**	**01 33 24.4**	**+4.3**	
OSL				*e*SS	**SS**	**01 38 57.0**	**+5.4**	
KRUC	**Moravsky**	**101.35**	**42**	*e*PDIFF	**Pdif**	**01 20 18.3**	**-1.2**	
KRUC				*e*		01 20 28.2		
KRUC				*e*		01 30 46.2		
PRP	**Porcupine Dome**	**101.35**	**336**	PKiKP	**PP**	**01 24 33.8**	**+3.4**	
	baz=110							
UPC	**Upice**	**101.50**	**41**	*e*PDIFF	**Pdif**	**01 20 22.4**	**+2.2**	
UPC				*ex*	x	01 20 28.7		
UPC				*e*SKS	**SKSac**	**01 30 42.5**	**-5.6**	
UPC				*e*PKKP	**PKKPbc**	**01 36 30.5**	**+0.9**	
UPC	**Upice**	**101.50**	**41**	*i* P	**Pdif**	**01 20 22.4**	**+2.2**	
UPC				*e*		01 30 42.5		
O22K	**Cooper Landing**	**101.52**	**330**	PKiKP	**PKiKP**	**01 24 35.8**	**-7.4**	
	baz=108							
VRAC	**Vranov**	**101.54**	**42**	*e*PDIFF	**Pdif**	**01 20 20.2**	**-0.2**	
VRAC				*e*		01 20 31.4		
VRAC				*e*PP	**PP**	**01 24 32.2**	**+0.1**	
VRAC				*e*		01 30 49.0		
VRAC	**Vranov**	**101.54**	**42**	P	**Pdif**	**01 20 22.6**	**+2.2**	
	comp=Z,0.8nm,0.3s,baz=168,slow=3.1,SNR=4.4							
VRAC				PP	**PP**	**01 24 26.6**	**-5.5**	
	comp=Z,1.9nm,0.4s,baz=220,slow=8.8,SNR=3.5							
HDA	**Harding Lake**	**101.54**	**334**	PKiKP	**PKiKP**	**01 24 36.4**	**-6.8**	
	baz=109							
CHVC	**Chvalec**	**101.55**	**40**	*e*PDIFF	**Pdif**	**01 20 22.2**	**+1.8**	
CHVC				*e*SKS	**SKSac**	**01 30 47.6**	**-0.8**	
CHVC				*e*PKKP	**PKKPbc**	**01 36 29.5**	**0.0**	
CHVC	**Chvalec**	**101.55**	**40**	*i* P	**Pdif**	**01 20 22.2**	**+1.8**	
CHVC				*e*		01 30 47.6		
PMR	**Palmer**	**101.58**	**331**	PKiKP	**PKiKP**	**01 24 36.5**	**-6.8**	

MORC Moravsky Berou 102.26 41 *i* P Pdif 01 20 25.9 +2.3
E25K Arctic Village 102.27 338 PKiKP PKiKP 01 24 39.2 -5.3
baz=110
CAPN Captain Cook N 102.27 330 PKiKP PKiKP 01 24 39.1 -5.4
baz=106
Q20K Shuyak Island 102.28 328 PKiKP PKiKP 01 24 39.1 -5.6
baz=106
SUA Susitna One 102.28 331 PKiKP PKiKP 01 24 39.2 -5.6
baz=107
MAUC Maruska 102.33 42 *e*PDIFF Pdif 01 20 26.0 +2.0
MAUC *ex* x 01 20 33.3
MAUC *e*SKS SKSac 01 30 48.9 -3.3
CUT Chulitna 102.34 332 PKiKP PP 01 24 34.8 -2.8
baz=107
OHAK Old Harbor 102.36 326 PKiKP PKiKP 01 24 37.1 -7.7
baz=106
H24K Noodor Dome 102.38 336 PKiKP PKiKP 01 24 37.4 -7.4
baz=108
NEA2 Nenana 102.47 334 PKiKP PKiKP 01 24 38.2 -6.7
baz=108
G24K Hadweenzic Riv 102.49 337 PKiKP PKiKP 01 24 38.0 -6.9
baz=108
TRF Thorofare Moun 102.65 333 PKiKP PKiKP 01 24 40.8 -4.6
baz=107
OKC Ostrava-Krasne 102.65 42 *e*SKS SKSac 01 30 45.5 -8.1
SII Sitkinak Islan 102.66 326 PKiKP PP 01 24 36.9 -3.4
baz=105
I23K Minto, Yukon-K 102.76 335 PKiKP PKiKP 01 24 40.7 -4.6
baz=107
VYHS Vyhne 102.77 43 *e*P Pdif 01 20 27.5 +1.6
VYHS *e* 01 24 39.7
VYHS Vyhne 102.77 43 *e*PDIFF Pdif 01 20 27.5 +1.6
VYHS *e* 01 20 37.7
VYHS *e*PP PP 01 24 39.7 -1.6
VYHS *e* 01 36 25.3
O20K Slope Mountain 102.79 329 PKiKP PKiKP 01 24 38.8 -6.8
baz=105
SKT Skwentna 102.79 331 PKiKP PKiKP 01 24 38.2 -7.4
baz=106
HFS Hagfors 102.79 31 P Pdif 01 20 26.0 +0.4
comp=Z,2.4nm,0.7s,baz=201,slow=12,SNR=3.4
HFS PP PP 01 24 39.8 -1.4
comp=Z,12nm,1.1s,baz=183,slow=5.9,SNR=6.4
HFS PKKPbc PKKPbc 01 36 24.9 -1.2
comp=Z,6.0nm,0.7s,baz=95,slow=8.2,SNR=16
N20K Mount Spurr 102.89 330 PKiKP PKiKP 01 24 41.4 -4.4
baz=106
F24K Squaw Lake 102.90 337 PKiKP PKiKP 01 24 43.4 -2.3
baz=108
D25K Kavik River 102.94 339 PKiKP PKiKP 01 24 43.6 -2.1
baz=109
P19K Oil Pt 102.97 329 PKiKP PKiKP 01 24 41.3 -4.7
baz=105
Q19K Cape Douglas, 102.99 328 PKiKP PKiKP 01 24 41.3 -4.7
baz=105
R18K Karluk 103.06 327 PKiKP PKiKP 01 24 45.3 -0.8
baz=104
BPAW Bear Paw Mtn. 103.13 334 PKiKP PKiKP 01 24 44.3 -1.8
baz=106
NSS Namsos 103.20 26 *e*Pdif Pdif 01 20 28.9 +1.5
NSS *e*PP PP 01 24 44.0 0.0
NSS *e*SKSac SKSac 01 30 58.3 +2.8
NSS *e*SS SS 01 39 16.5 -1.0
MLY Manley 103.28 334 PKiKP PKiKP 01 24 43.7 -2.8
baz=106
LANS Liptovska Anna 103.33 42 *e*P Pdif 01 20 41.3 +13
LANS *e* 01 24 42.9
PPLA Purkeypile 103.33 332 PKiKP PKiKP 01 24 43.8 -2.9
baz=105
CAST Castle Rocks 103.42 333 PKiKP PKiKP 01 24 42.8 -3.8
baz=105
G23K Bananza Creek 103.47 336 PKiKP PKiKP 01 24 43.6 -3.1
baz=106
M20K Styx River 103.49 331 PKiKP PKiKP 01 24 45.0 -2.0
baz=105
BOVS Bovan 103.58 48 ⇑P PP 01 24 43.5 -4.0
O19K Port Alsworth 103.64 329 PKiKP PKiKP 01 24 47.0 -0.1
baz=104
CHUM Lake Minchumin 103.64 333 PKiKP PKiKP 01 24 47.0 0.0
baz=105
COLD Coldfoot 103.67 337 PKiKP PKiKP 01 24 46.3 -0.7
baz=106
E23K Chandalar 103.69 338 PKiKP PKiKP 01 24 46.4 -0.7
baz=106
D24K Happy Valley 103.72 339 PKiKP PKiKP 01 24 46.6 -0.5
baz=107
H22K Ishtalitna Cre 103.77 335 PKiKP PKiKP 01 24 45.8 -1.4
baz=105
I21K Tanana 103.83 334 PKiKP PKiKP 01 24 45.6 -1.7
baz=105
C24K Franklin Bluff 103.84 339 PKiKP PKiKP 01 24 45.3 -1.9
baz=107
N19K Bonanza Creek 103.86 330 PKiKP PKiKP 01 24 46.1 -1.5
baz=104
P18K Big Mountain, 103.89 328 PKiKP PKiKP 01 24 45.3 -2.3
baz=103
BZS Buzias 103.95 46 ⇑P PKiKP 01 24 47.0 -1.2
Q17K Contact Creek 103.97 327 PKiKP PKiKP 01 24 48.4 +0.5
baz=103
L20K Farewell, AK 103.98 332 PKiKP PKiKP 01 24 47.1 -0.6
baz=104
O18K Koktuh Hills 103.99 329 PKiKP PKiKP 01 24 43.5 -4.3
baz=103
M19K Big River Lodg 104.08 331 PKiKP PKiKP 01 24 46.6 -1.3
baz=104
G22K Bettles 104.09 336 PKiKP PKiKP 01 24 44.9 -2.8
baz=105
STOK Stokkvaagen 104.10 24 *e*Pdif Pdif 01 20 36.2 +4.9
STOK *e*PP PP 01 24 52.7 +2.0
STOK *e*SKSac SKSac 01 30 58.3 -1.2
STOK *e*SS SS 01 39 34.7 +5.0
BLKB Belogradchik 104.26 48 ⇓P PKiKP 01 24 49.2 +0.3
K20K Telida 104.27 332 PKiKP PKiKP 01 24 45.7 -2.5
baz=103
H21K Melozitna Rive 104.28 335 PKiKP PKiKP 01 24 41.6 -6.6
baz=104
D23K Nanushuk River 104.31 338 PKiKP PKiKP 01 24 42.3 -5.9
baz=105
SURR Surduc 104.33 46 ⇑P PKiKP 01 24 45.4 -3.4
L19K White Mountain 104.35 331 PKiKP PKiKP 01 24 45.1 -3.3
baz=103
DJES Djerdap 104.37 47 ⇓P PKiKP 01 24 50.0 +1.0
P17K Kvichak River 104.45 328 PKiKP PKiKP 01 24 43.7 -4.9
baz=102
F22K John River 104.49 337 PKiKP PKiKP 01 24 44.9 -3.7
baz=104
J20K Nowinta River 104.49 333 PKiKP PKiKP 01 24 44.4 -4.2
baz=103
N18K Kilae Creek 104.50 330 PKiKP PKiKP 01 24 47.1 -1.6
baz=102
CRVS Cervenica-Dubn 104.55 43 *e*PDIFF Pdif 01 20 38.7 +4.9
CRVS *e* 01 36 39.7
MOR8 Moi Rana 104.62 25 *e*Pdif Pdif 01 20 33.4 -0.4
MOR8 *e*PP PP 01 24 57.8 +3.2
MOR8 *e*SKSac SKSac 01 31 04.5 +2.4
MOR8 *e*SP SP 01 33 59.0 +4.2
MOR8 *e*SS SS 01 39 42.9 +5.9
M18K Stony River 104.65 330 PKiKP PKiKP 01 24 44.6 -4.4
baz=102
R16K Pilot Point 104.69 326 Pdiff Pdif 01 20 32.7 -1.5
baz=102
GZR Gura Zlata 104.70 47 ⇑P PKiKP 01 24 44.8 -4.8
LOF Lofoten 104.74 23 *e*Pdif Pdif 01 20 37.1 +2.9
LOF *e*PP PP 01 24 56.6 +1.2
LOF *e*SKSac SKSac 01 31 05.4 +3.0
LOF *e*SS SS 01 39 44.5 +6.1
G21K Allakaket 104.76 336 PKiKP PKiKP 01 24 44.7 -4.4
baz=103
I20K Naaghedeneel 104.77 334 PKiKP PKiKP 01 24 45.1 -3.9
baz=103
CHGN Chignik 104.89 325 Pdiff Pdif 01 20 32.1 -2.9
baz=102
O17K Koliganek Bris 104.90 328 Pdiff Pdif 01 20 33.2 -1.9
baz=102
F21K Alatna River 104.91 336 PKiKP PKiKP 01 24 45.8 -3.5
baz=103
D22K Ayikyak River 104.99 338 PKiKP PKiKP 01 24 47.3 -2.1
baz=103
TTA Tatalina 105.04 332 PKiKP PKiKP 01 24 50.6 +0.8
baz=102
J19K Poorman 105.08 333 PKiKP PKiKP 01 24 51.6 +1.9
baz=102
H20K Anotleneega Mo 105.09 334 PKiKP PKiKP 01 24 48.4 -1.3
baz=102
N17K Nushagak Hills 105.10 329 PKiKP PKiKP 01 24 49.8 0.0
baz=102
LODK Lodwar 105.12 92 *e*P Pdif 01 20 45.0 +7.7
L18K Granite Mounta 105.20 331 PKiKP PKiKP 01 24 48.6 -1.4
baz=101
P16K Nushagak River 105.20 328 PKiKP PKiKP 01 24 49.0 -1.0
baz=101
FAUS Fauske 105.22 24 *e*Pdif Pdif 01 20 38.6 +2.3
FAUS *e*PP PP 01 25 00.5 +1.6
FAUS *e*SKSac SKSac 01 31 06.1 +1.5
FAUS *e*SP SP 01 34 04.3 +3.5
FAUS *e*SS SKKPbc 01 39 50.1 -2.3
CHNA Chernabura Isl 105.25 323 PKiKP PKiKP 01 24 50.5 +0.2
baz=101
STEI Steigen 105.32 23 *e*Pdif Pdif 01 20 40.1 +3.4
STEI *e*SKSac SKSac 01 31 10.7 +5.7
STEI *e*SP SP 01 34 05.8 +4.0
STEI *e*SS SKKPbc 01 39 50.1 -2.0
E21K Killik River 105.36 338 PKiKP PKiKP 01 24 50.3 +0.2
baz=102
O16K Kokwok River B 105.36 328 PKiKP PKiKP 01 24 51.1 +0.9
baz=101
M17K Holitna River 105.39 330 PKiKP PKiKP 01 24 50.7 +0.4
baz=101
KMBO Kilima Mbogo 105.42 97 PP PKiKP 01 24 53.8 +1.6
comp=Z,1.9nm,0.9s,baz=227,slow=12,SNR=2.6
KMBO PKKPbc PKKPbc 01 36 16.2 -0.5
comp=Z,2.0nm,0.9s,baz=64,slow=3.6,SNR=6.1
KMBO Kilima Mbogo 105.42 97 *e*P PKiKP 01 24 43.2 -9.0
J18K Innoko River 105.46 332 PKiKP PKiKP 01 24 49.5 -0.9
baz=101
B22K Teshekpuk Lake 105.57 340 PKiKP PKiKP 01 24 50.7 +0.3
baz=102
F20K Avaraart Lake 105.73 336 PKiKP PKiKP 01 24 50.5 -0.3
baz=101
H19K Roundabout Mou 105.73 334 PKiKP PKiKP 01 24 50.5 -0.3
baz=101
GCSA Galena City Sc 105.77 334 PKiKP PKiKP 01 24 49.6 -1.2
baz=101
C21K Knifeblade Rid 105.79 338 PKiKP PKiKP 01 24 48.3 -2.6
baz=101
B21K Ikpikpuk River 105.82 339 Pdif Pdif 01 20 40.2 +1.2
B21K Ikpikpuk River 105.82 339 PKiKP PKiKP 01 24 49.3 -1.6
baz=101
SDPT Sand Point 105.85 324 PKiKP PKiKP 01 24 51.1 -0.2
baz=100
N16K Nishlik Lake 105.86 329 PKiKP PKiKP 01 24 50.5 -0.8
baz=100
L17K Donlin 105.93 331 PKiKP PKiKP 01 24 50.1 -1.1
baz=100
ARR Arges 105.98 47 ⇑P PKiKP 01 24 51.7 -0.3
K17K Iditarod 106.03 331 PKiKP PKiKP 01 24 50.6 -0.9
baz=100
M16K Timber Creek 106.05 330 PKiKP PKiKP 01 24 50.6 -1.0
baz=100
G19K Purcell Mounta 106.10 335 Pdif Pdif 01 20 41.8 +1.5
G19K Purcell Mounta 106.10 335 PKiKP PKiKP 01 24 51.6 +0.1
baz=100
ARCR ARCALIA 106.11 45 ⇓P PKiKP 01 24 53.5 +1.4
E20K Nigu River 106.13 337 PKiKP PKiKP 01 24 52.2 +0.6
baz=100
O15K Ungalikthiuk R 106.16 328 PKiKP PKiKP 01 24 50.6 -1.2
baz=100
A22K Sinclair Lake 106.21 340 PKiKP PKiKP 01 24 52.8 +1.2
baz=100
D20K Etivluk River 106.36 338 PKiKP PKiKP 01 24 52.6 +0.6
baz=100
E19K Redstone River 106.38 336 Pdif Pdif 01 20 42.9 +1.4
E19K Redstone River 106.38 336 PKiKP PKiKP 01 24 52.6 +0.6
baz=100
L16K Owhat River 106.40 330 PKiKP PKiKP 01 24 52.6 +0.5
baz=99
N15K Kwethluk River 106.46 329 PKiKP PKiKP 01 24 51.8 -0.5
baz=99
H18K Honhosa River 106.46 334 Pdif Pdif 01 20 43.4 +1.5
H18K Honhosa River 106.46 334 PKiKP PKiKP 01 24 55.0 +2.8
baz=99
F19K Shaleruckik Mo 106.49 336 Pdif Pdif 01 20 43.5 +1.6
F19K Shaleruckik Mo 106.49 336 PKiKP PKiKP 01 24 54.6 +2.5
baz=99
G18K Tagagawik 106.69 335 Pdif Pdif 01 20 45.0 +2.0
G18K Tagagawik 106.69 335 PKiKP PKiKP 01 24 52.3 -0.4
baz=99
KBS Kingsbay 106.72 12 *e*P Pdif 01 20 45.9 +3.2
KBS *e*PP PP 01 25 11.3 +1.6
KBS *e*SKSac SKSac 01 31 16.1 +5.2
KBS *e*SP SP 01 34 21.2 +5.4
KBS *e*SS SS 01 40 03.0 -1.8
B20K Meade River 106.76 339 Pdif Pdif 01 20 45.0 +1.9
B20K Meade River 106.76 339 PKiKP PKiKP 01 24 51.6 -1.0
baz=99
A21K Barrow 106.79 340 PKiKP PKiKP 01 24 49.4 -3.2
baz=99
D19K Kuna River 106.87 337 Pdif Pdif 01 20 45.5 +1.8
D19K Kuna River 106.87 337 PKiKP PKiKP 01 24 52.9 0.0
baz=98
TRO Tromso 106.94 21 *e*Pdif Pdif 01 20 46.1 +2.2
TRO *e*PP PP 01 25 13.6 +2.1
TRO *e*SKSac SKSac 01 31 13.9 +1.8
TRO *e*SP SP 01 34 20.4 +1.9
TRO *e*SS SS 01 40 12.6 +4.4
H17K Granite Mounta 107.08 334 PKiKP PKiKP 01 24 55.5 +2.1
baz=98
GRD1 Great Renaissa 107.13 84 *e*P Pdif 01 20 54.3 +8.2
J16K Anvik River 107.15 332 PKiKP PKiKP 01 24 59.0 +5.4
baz=98
F18K Selawik 107.19 335 PKiKP PKiKP 01 24 56.8 +3.4
baz=98
N14K Kuskokwak Cree 107.21 328 PKiKP PKiKP 01 24 50.1 -3.5
baz=98
I17K Unalakleet 107.27 332 PKiKP PKiKP 01 24 55.9 +2.2
baz=98
L15K Ungalak Mounta 107.35 330 PKiKP PKiKP 01 24 57.1 +3.2
baz=98
JETT Jettan, Norway 107.45 22 *e*Pdif Pdif 01 20 48.6 +2.4
JETT *e*PP PP 01 25 13.9 -1.4
JETT *e*SKSac SKSac 01 31 17.7 +3.2
JETT *e*SP SP 01 34 26.1 +2.4
JETT *e*SS SS 01 40 17.4 +2.2
SPA0 Spitsbergen Ar 107.45 12 *e*P Pdif 01 20 48.2 +2.1
SPA0 *e*PP PP 01 25 15.9 +0.8
SPA0 *e*SKSac SKSac 01 31 17.7 +3.5
SPA0 *e*SP SP 01 34 28.0 +4.6
SPITS Spitsbergen Ar 107.45 12 PKKPbc PKKPbc 01 36 09.8 -2.5
comp=Z,2.4nm,0.5s,baz=98,slow=2.5,SNR=9.2
M14K Bethel 107.46 329 PKiKP PKiKP 01 24 56.2 +2.1
baz=97
C19K Lookout Ridge 107.48 338 PKiKP PKiKP 01 25 00.7 +6.7
baz=97
BJO1 Bjornoya 107.60 16 *e*Pdif Pdif 01 20 50.0 +3.3
BJO1 *e*PP PP 01 25 14.8 -1.4
BJO1 *e*SKSac SKSac 01 31 15.0 +0.1
BJO1 *e*SP SP 01 34 30.7 +5.8
BJO1 *e*SS SS 01 40 17.7 +0.8
E18K Tukpahlearik C 107.67 336 PKiKP PKiKP 01 24 58.8 +4.5
baz=96
F17K Baldwin Pennin 107.81 335 PKiKP PKiKP 01 24 56.9 +2.2
baz=96
C18K Utukok River 108.01 337 Pdif Pdif 01 20 49.9 +1.0
C18K Utukok River 108.01 337 PKiKP PKiKP 01 25 00.6 +5.5
baz=96
M13K Dall Lake 108.10 329 PKiKP PKiKP 01 25 01.8 +6.5
baz=96
A19K Wainwright 108.11 339 PKiKP PKiKP 01 24 59.7 +4.6
baz=95
G16K Koyuk River 108.16 334 PKiKP PKiKP 01 24 56.4 +1.1
baz=96
B18K Kokolik River 108.30 338 PKiKP PKiKP 01 25 02.2 +6.7
baz=95
CFR Carcaliu 108.39 48 ⇓P PKiKP 01 24 57.8 +1.5
KTK1 Kautokeino 108.39 22 *e*Pdif Pdif 01 20 48.5 -1.9
KTK1 *e*PP PP 01 25 20.1 -2.0
KTK1 *e*SKSac SKSac 01 31 16.8 -1.7
KTK1 *e*SP SP 01 34 38.5 +5.2
KTK1 *e*SS SS 01 40 26.8 -1.1
J14K Nanvaranak Lak 108.43 331 PKiKP PKiKP 01 25 00.2 +4.3
baz=95
HAMF Hammerfest 108.66 21 *e*Pdif Pdif 01 20 54.3 +2.8
HAMF *e*PP PP 01 25 24.1 +0.1
HAMF *e*SKSac SKSac 01 31 22.9 +3.4
HAMF *e*SP SP 01 34 39.0 +3.2
HAMF *e*SS SS 01 40 36.7 +5.3
C17K DeLong Mountai 108.73 337 PKiKP PKiKP 01 25 04.1 +7.8
baz=94
DILA Dilla 108.82 90 *e*P PKiKP 01 24 55.6 -2.8
FINES FINESS Array B 108.99 30 Pdiff Pdif 01 20 56.0 +2.8
comp=Z,0.6nm,0.8s,baz=235,slow=6.6,SNR=0.9
FINES PKiKP PKiKP 01 24 56.4 -0.6
comp=Z,2.5nm,0.9s,baz=178,slow=1.5,SNR=5.5
FINES PKKPbc PKKPbc 01 36 05.5 -1.4
comp=Z,9.0nm,0.7s,baz=84,slow=3.0,SNR=4.1
FINES PKPPKP P'P'df 01 44 30.7 +0.3
comp=Z,2.4nm,0.9s,baz=104,slow=6.9,SNR=5.7
F15K North Star Dit 109.13 334 PKiKP PKiKP 01 25 06.0 +8.8
baz=93
ARA0 ARCESS Array S 109.23 22 *e*Pdif Pdif 01 20 56.1 +2.0
ARA0 *e*PP PP 01 25 25.8 -2.5
ARA0 *e*SKSac SKSac 01 31 22.9 +0.8
ARA0 *e*SP SP 01 34 47.4 +5.8
ARA0 *e*SS SS 01 40 38.9 -0.2
ARCES ARCESS Array B 109.23 22 Pdiff Pdif 01 20 59.6 +5.5
comp=Z,1.9nm,0.7s,baz=341,slow=2.6,SNR=5.8
ARCES PKKPbc PKKPbc 01 36 05.5 -1.0
comp=Z,5.6nm,0.6s,baz=97,slow=3.8,SNR=6.5
ARCES PKKPab PKKPab 01 36 16.0 +0.9
comp=Z,7.6nm,0.7s,baz=91,slow=4.9,SNR=8.9
HOPEN Hopen 109.23 14 *e*Pdif Pdif 01 20 58.7 +4.7
HOPEN *e*PP PP 01 25 30.7 +2.7
HOPEN *e*SKSac SKSac 01 31 25.6 +3.8
HOPEN *e*SP SP 01 34 45.9 +4.5
MNK Minsk 109.35 38 *i* P Pdif 01 20 54.6 -0.4
comp=E,6.0nm,0.9s
MNK *i* P Pdif 01 20 54.6 -0.4
comp=N,7.0nm,1.0s
MNK *i* P Pdif 01 20 54.6 -0.4
comp=Z,3.0nm,0.9s,baz=264
MNK *i* pP pPdif 01 21 23.4 -4.2
MNK *i* PP PP 01 25 29.3 -0.2
MNK *i* PPP PPP 01 27 48.4
MNK *i* SKS SKSac 01 31 21.7 -1.4
MNK *i* PS PS 01 34 17.8 -41
MNK *i* SP SP 01 34 24.1 -19
MNK *i* SKKS 01 35 10.2
MNK *i* SS SKKPbc 01 39 40.2 +0.4
MNK *i* SSS SSS 01 44 16.3
MNK *i* LRM MLR 02 07 20.9
comp=Z,1μm,19.7s
MNK *i* LRM MLR 02 07 22.2
comp=E,415nm,19.7s
MNK *i* LRM MLR 02 08 17.5
comp=N,416nm,18.4s
MNK Minsk 109.35 38 *i* P Pdif 01 20 54.6 -0.4
MNK *i* 01 25 29.3
MNK *i* PPP PPP 01 27 48.3
MNK *i* 01 31 21.7
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,3.0nm,0.9s
MNK MLR MLR
comp=N,416nm,18.0s
AKASG Malin Array Be 109.80 42 PKiKP PKiKP 01 24 57.6 -1.2
comp=N,1.7nm,0.4s,baz=272,slow=2.7,SNR=9.5
AKASG PP PP 01 25 27.2 -5.6
comp=N,7.7nm,1.1s,baz=266,slow=7.0,SNR=8.8
AKASG PKKPbc PKKPbc 01 36 02.5 -1.6
comp=N,2.0nm,0.4s,baz=71,slow=3.7,SNR=9.0
FURI Furi 109.92 87 *e*P PKiKP 01 25 01.1 +0.6
WLRA Wolmera 109.99 87 *e*P PKiKP 01 25 02.3 +1.5
NIKH Nikolski High 110.44 320 PKiKP PKiKP 01 25 05.0 +5.1
baz=94
TNA Tin City 110.48 334 PKiKP PKiKP 01 25 06.3 +6.6
baz=90
VADS Vadso 110.57 21 *e*Pdif Pdif 01 21 01.8 +1.7
VADS IVmB_BB 01 21 01.8
comp=Z,990nm,2.5s
VADS *e*PP PP 01 25 36.2 -1.6
VADS *e*SKSac SKSac 01 31 27.8 +0.3
VADS *i* 01 33 03.6
VADS *e*SP SP 01 34 55.1 +0.7
VADS *e*SS SS 01 40 55.3 -1.7
DESE Dese 111.44 85 *e*P PKiKP 01 25 11.1 +7.6
BRTR Keskin Array B 111.71 54 *c* *i*PKiKP PKiKP 01 25 05.1 +2.1
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 111.71 54 PKiKP PKiKP 01 25 03.9 +0.8
comp=Z,2.2nm,0.8s,baz=187,slow=3.5,SNR=6.9
BRTR PP PP 01 25 39.5 -7.7
comp=Z,5.6nm,0.9s,baz=253,slow=5.6,SNR=8.2
BRTR PKKPbc PKKPbc 01 35 57.5 -0.1
comp=Z,1.3nm,0.8s,baz=97,slow=4.3,SNR=5.9
BRTR PKKPab PKKPab 01 36 06.5 +1.2
comp=Z,8.1nm,0.8s,baz=124,slow=2.6,SNR=11
MMAI Mount Meron Ar 112.22 61 PKiKP PKiKP 01 25 04.7 +0.5
comp=Z,4.0nm,0.4s,baz=70,slow=2.7,SNR=19
MMAI PP PP 01 25 43.2 -7.7
comp=Z,2.6nm,0.6s,baz=339,slow=2.0,SNR=5.7
MMAI PKKPbc PKKPbc 01 35 55.7 +0.1
comp=Z,0.4nm,0.4s,baz=66,slow=4.0,SNR=4.4
SIM Simferopol' 112.57 48 *i* PKiKP PKiKP 01 25 05.1 +0.8
SIM *e* 01 31 55.5
SIM pmax pmax
comp=Z,327nm,17.0s
OBN Obninsk 114.39 37 *d* *i*PKiKP PKiKP 01 25 09.1 +1.7
OBN *i* 01 25 43.8
OBN *e* 01 25 49.8
OBN *e* 01 28 37.4
OBN *i* 01 31 40.5
OBN *i* PS PS 01 35 45.8 +0.8
OBN *i* SS SS 01 41 44.0 -4.3
OBN *i* SSS SSS 01 46 13.1
OBN pmax pmax
comp=Z,54nm,1.7s
OBN Obninsk 114.39 37 PKKPbc PKKPbc 01 35 48.9 0.0
comp=Z,9.4nm,0.5s,baz=139,slow=9.3,SNR=5.1
ANN Anapa 114.92 49 *i* PKiKP PKiKP 01 25 13.4 +4.6
ANN *e* 01 26 17.1
ANN *e* 01 31 49.7
ANN *e*SP SP 01 35 36.9 +1.2
ANN *e*SS SS 01 41 52.4 -3.5
ANN pmax pmax
comp=Z,155nm,1.8s
MOS Moscow 114.97 37 *i* PKIKP PKPdf 01 25 08.9 +0.4
MOS *e* 01 25 39.0
MOS *e* 01 31 42.8
KLMR Klimovskoe 115.51 31 *e*PKIKP PKiKP 01 25 09.0 -0.4
KLMR *e* 01 25 42.6
KLMR *e* 01 26 15.6
KLMR *e*SP SP 01 35 43.2 +3.2
KLMR pmax pmax
comp=Z,51nm,1.3s
LPSR Galich'ya Gora 115.89 40 *e*PKIKP PKPdf 01 25 09.7 -0.7
LPSR *e**PP PP 01 25 44.8 -31
LPSR pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 116.09 42 *e*PKIKP PKPdf 01 25 10.5 -0.3
VSR *e**PP pPKPdf 01 25 44.8 +0.1
VSR pmax pmax
comp=Z,20nm,1.4s
VORR Voronezh 116.10 41 *e*PKIKP PKiKP 01 25 12.4 +1.6
VORR pmax pmax
comp=Z,39nm,1.7s
SOC Sochi 116.53 50 *i* PKIKP PKPdf 01 25 11.4 -0.5
SOC *e* 01 26 21.4
SOC *e*PPP PPP 01 28 49.1
SOC *e*PPS PPS 01 36 06.0
SOC *e*SSS SSS 01 46 41.6
MARD Mardin 117.06 57 PKPdf PKiKP 01 25 13.5 +0.1
ERBR Yeremizino-Bor 117.09 48 *i* PKIKP PKiKP 01 25 15.0 +2.0
ERBR *e* 01 25 47.9
ERBR *e* 01 31 55.0
ERBR *e*SP SP 01 36 01.3 +5.9
ERBR *e*SS SS 01 42 33.2 +9.0
ERBR pmax pmax
comp=Z,39nm,1.3s
LABN Labinsk 117.26 49 *i* PKIKP PKPdf 01 25 07.6 -5.7
LABN *e* 01 25 37.6
LABN *e* 01 31 55.5
LABN *e*SP SP 01 35 56.7 -0.3
LABN *e*SS SS 01 42 23.5 -3.0
LABN pmax pmax
comp=Z,63nm,2.1s
VRH Novokhopyorsk 117.70 41 *e*PKIKP PKPdf 01 25 12.5 -1.4
VRH *e**PP pPKPdf 01 25 47.6 -0.2
VRH pmax pmax
comp=Z,10.0nm,0.7s
SHA1 Shidzhatmaz 118.66 50 *i* PKIKP PKiKP 01 25 17.0 +0.6
KIV Kislovodsk 118.68 50 ⇓P PKiKP 01 25 18.3 +2.0
KIV Kislovodsk 118.68 50 *e*P Pdif 01 21 44.7 +7.8

KIV *i* 01 25 18.2
KIV *e* 01 26 37.0
KIV *e* 01 32 02.0
KIV *e*PS **PS** **01 36 27.4 +2.8**
KIV *e*SS SS 01 42 50.4 +5.3
KIV pmax pmax
comp=Z,14nm,1.1s
KVAR Kislovodsk Arr 118.68 50 PKP **PKPdf** **01 25 15.9 -0.3**
comp=Z,3.1nm,0.7s,baz=301,slow=12,SNR=2.3
KBZ Khabaz 118.83 50 PKP **PKiKP** **01 25 16.9 +0.5**
comp=Z,18nm,0.9s,baz=233,slow=2.2,SNR=22
KBZ PKKPab **PKKPab** **01 35 35.0 +1.5**
comp=Z,5.1nm,0.8s,baz=74,slow=3.8,SNR=8.0
GOF Gofitskoye 118.91 48*c e*PKiKP **PKiKP** **01 25 18.7 +2.2**
ONI Oni 119.26 51 PKPdf **PKiKP** **01 25 19.0 +1.6**
ONI Oni 119.26 51 PKiKP **PKiKP** **01 25 19.0 +1.6**
BILL Bilibino 119.87 339 **PKiKP** **01 25 18.0 +0.2**
BILL Bilibino 119.87 339 ⇑PKiKP **PKiKP** **01 25 18.2 +0.5**
GNI Garni 120.25 54 **PKPdf** **01 25 19.1 -0.4**
GNI Garni 120.25 54 PKP **PKiKP** **01 25 20.1 +0.6**
comp=Z,9.6nm,0.7s,baz=360,slow=1.8,SNR=11
GNI Garni 120.25 54 P **PKiKP** **01 25 20.1 +0.6**
KIRV Kirov 120.86 32 PKP **PKiKP** **01 25 19.8 -0.1**
comp=Z,13nm,0.4s,baz=318,slow=0.5,SNR=7.9
GROC Groznyy 120.96 50 *i* PKiKP **PKiKP** **01 25 22.8 +2.2**
GROC *e* 01 26 09.9
GROC *e* 01 26 54.3
GROC *e* 01 32 08.2
GROC pmax pmax
comp=Z,26nm,1.1s
BELG Belogornoye 121.19 40 PKP **PKPdf** **01 25 20.4 -0.2**
comp=Z,31nm,0.7s,baz=232,slow=0.5,SNR=24
BELG pPKP **pPKPdf** **01 25 54.6 +0.2**
comp=Z,37nm,0.9s,baz=130,slow=1.9,SNR=4.7
BELG PKKPab **PKKPab** **01 35 23.4 +0.6**
comp=Z,41nm,0.8s,baz=347,slow=2.3,SNR=12
STKA Stephens Creek 121.44 211 **PKPdf** **01 25 21.6 -0.2**
STKA Stephens Creek 121.44 211 PKP **PKiKP** **01 25 22.2 +0.2**
comp=Z,23nm,0.6s,baz=111,slow=3.7,SNR=39
MAK Makhachkala 122.22 51 *e*P **Pdif** **01 21 51.9 -0.6**
MAK *i* 01 25 22.7
MAK *e* 01 25 52.2
MAK *e* 01 26 57.3
MAK *e*PPP PPP 01 29 39.3
MAK *e* 01 32 13.9
MAK *e*SS SS 01 43 34.5 +4.2
MAK *e*SSS SSS 01 48 02.9
MAK pmax pmax
comp=Z,149nm,1.1s
ABTO Aybut 125.77 82 P **PKiKP** **01 25 31.7 +0.8**
SNR=5.4
TIXI Tiksi 126.11 353 PKPdf **PKiKP** **01 25 30.6 +0.6**
TIXI Tiksi 126.11 353 PKiKP **PKiKP** **01 25 30.6 +0.6**
ARU Arti 126.23 33 *i* PKiKP **PKiKP** **01 25 30.5 -0.1**
ARU 01 27 24.3
ARU PPP PPP 01 30 08.9
ARU 01 32 31.3
ARU Arti 126.23 33 PKP **PKPdf** **01 25 30.1 0.0**
comp=Z,29nm,0.4s,baz=270,slow=2.0,SNR=29
ARU pPKP **pPKPdf** **01 26 03.0 -1.1**
comp=Z,20nm,0.5s,baz=270,slow=0.9,SNR=2.1
WHFO Wadi Hawf 126.32 81 P **PKiKP** **01 25 35.0 +3.0**
SNR=5.3
RBK Rabkut 126.65 82 P **PKPdf** **01 25 32.2 0.0**
DOK Doka 126.78 81 P **PKPdf** **01 25 32.0 -0.4**
SNR=6.1
H11S2 WAKE ISLAND Hyl 126.99 279 T T 03 45 10.7
baz=101,slow=74,SNR=8406
H11S1 WAKE ISLAND Hyl 127.00 281 T T 03 45 11.3
baz=101,slow=74,SNR=5439
H11N3 WAKE ISLAND Hyl 127.00 281 T T 03 45 01.2
baz=100,slow=74,SNR=683
H11S3 WAKE ISLAND Hyl 127.01 279 T T 03 45 09.8
baz=101,slow=74,SNR=4604
H11N2 WAKE ISLAND Hyl 127.02 281 T T 03 45 02.2
baz=100,slow=74,SNR=596
H11N1 WAKE ISLAND Hyl 127.02 281 T T 03 45 04.5
baz=100,slow=74,SNR=840
SVE Sverdlovsk 127.12 32 *e*PKiKP **PKiKP** **01 25 33.2 +0.8**
SVE pmax pmax
comp=Z,50nm,1.9s
MZWR Madinat Zayed 127.27 74 P **PKiKP** **01 25 36.6 +3.0**
DMTO DMTO 127.39 82 P **PKiKP** **01 25 37.0 +3.0**
SNR=7.8
SEY Seymchan 127.46 337*c i* PKiKP **PKiKP** **01 25 32.8 -0.1**
SEY pmax pmax
comp=Z,81nm,0.8s
NRIK Noril'sk 127.56 10*c i* PKiKP **PKiKP** **01 25 34.7 +1.8**
NRIK Noril'sk 127.56 10 PKP **PKiKP** **01 25 32.8 -0.1**
comp=Z,11nm,0.6s,baz=34,slow=1.6,SNR=21
CTA Charters Tower 127.82 224 PKP **PKiKP** **01 25 34.8 -0.1**
comp=Z,45nm,0.8s,baz=152,slow=1.6,SNR=34
FORT Forrest 127.87 199 **PKPdf** **01 25 34.2 0.0**
AKTO Aktyubinsk 127.97 40 PKP **PKiKP** **01 25 34.4 +0.1**
comp=Z,22nm,0.9s,baz=266,slow=2.2,SNR=30
AKTO pPKP **pPKPdf** **01 26 07.6 0.0**
comp=Z,23nm,0.8s,baz=290,slow=2.6,SNR=6.4
AKTO SKKPbc SKKPbc 01 38 32.5 -7.6
comp=Z,3.7nm,1.1s,baz=45,slow=7.1,SNR=4.9
SHAO Shalim 128.07 82 P **PKiKP** **01 25 37.3 +1.8**
NWAO Narrogin (SRO) 128.13 187 **PKPdf** **01 25 33.9 -0.7**
NWAO Narrogin (SRO) 128.13 187 PKP **PKPdf** **01 25 34.8 +0.1**
comp=Z,50nm,0.7s,baz=176,slow=3.8,SNR=18
UMZA Um Al Zommool 128.32 76 P **PKiKP** **01 25 36.5 +0.7**
AJN Ajban 128.35 73 P **PKiKP** **01 25 38.5 +2.7**
ASUD Al Ashush, Dub 128.67 73 P **PKiKP** **01 25 39.6 +3.1**
FAQ Al Faqa, Dubai 128.91 73 P **PKiKP** **01 25 39.3 +2.3**
ALNE Al Ain 129.00 74 P **PKPdf** **01 25 34.8 -1.7**
SNR=6.6
NAZ Nazwa, Dubai 129.00 73 P **PKiKP** **01 25 37.1 0.0**
UMQ Umm Al-Quwin 129.04 72 P **PKiKP** **01 25 40.7 +3.6**
ASHO Ashiyiah 129.33 72 P **PKiKP** **01 25 39.7 +1.9**
HATD Hatta, Dubai 129.41 73 P **PKiKP** **01 25 37.9 -0.1**
MASF Masafi 129.48 72 P **PKiKP** **01 25 40.0 +1.9**
SHME Shamm 129.51 71 P **PKiKP** **01 25 40.8 +2.7**
AB31 Akbulak array 129.52 41 *i* PKiKP **PKPdf** **01 25 36.7 0.0**
ABKAR Akbulak array 129.52 41 **PKPdf** **01 25 36.8 +0.1**
MDH Madha 129.60 72 P **PKPdf** **01 25 36.6 -0.9**
PET Petropavlovsk 129.63 324 *i* PKiKP **PKPdf** **01 25 35.0 -1.7**
PET *e* 01 27 46.7
PET *e*PPS PPS 01 39 40.3
PET *e*SS SS 01 45 07.0 +5.2
PET pmax pmax
comp=Z,112nm,1.3s
PET pmax pmax
comp=Z,1μm,19.1s
ARQ Araqi 129.63 75 P **PKiKP** **01 25 40.4 +1.9**
SOHO SOHO 129.72 74 P **PKPdf** **01 25 37.5 -0.3**
MA2 Magadan 130.12 335 **PKiKP** **01 25 38.0 -0.3**
MA2 Magadan 130.12 335*c i* PKiKP **PKiKP** **01 25 38.3 0.0**
MA2 pmax pmax
comp=Z,68nm,1.7s
PEA0B Petropavlovsk- 130.12 325*c i* PKiKP **PKiKP** **01 25 40.1 +1.6**
PETK Petropavlovsk- 130.12 325 PKhKP PKPpre 01 25 23.9
comp=Z,2.4nm,0.7s,baz=54,slow=1.8,SNR=6.0
PETK PKP **PKiKP** **01 25 39.0 +0.5**
comp=Z,52nm,0.9s,baz=96,slow=4.5,SNR=22
PETK pPKP pPKPdf 01 26 11.6 +0.1
comp=Z,21nm,0.9s,baz=76,slow=6.3,SNR=2.6
DQM DQM 130.16 80 P **PKiKP** **01 25 41.0 +1.4**
SNR=9.8
BSY Bisya 130.19 76 P **PKPdf** **01 25 39.1 +0.3**
SNR=11
MHTO MHTO 130.70 78 P **PKiKP** **01 25 40.2 -0.4**
SNR=13
GEYT Alibeck 130.78 56 PKP **PKPdf** **01 25 39.8 +0.3**
comp=Z,4.6nm,0.4s,baz=228,slow=3.8,SNR=18
GEYT pPKP **pPKPdf** **01 26 15.4 +2.1**
comp=Z,9.0nm,0.9s,baz=238,slow=5.1,SNR=3.0
GEYT PP PP **01 27 51.0 -5.9**
comp=Z,3.6nm,0.9s,baz=218,slow=6.8,SNR=1.6
GEYT SKPbc **SKPbc** **01 28 52.4 -0.2**
comp=Z,14nm,1.1s,baz=101,slow=1.5,SNR=4.6
JMDO Jabal Madar 130.99 76 P **PKiKP** **01 25 41.6 +0.4**
SNR=5.7
SMDO Samad 131.01 76 P **PKPdf** **01 25 40.8 +0.4**
SNR=22
JASK Jask - Hormozg 131.04 72 P **PKiKP** **01 25 43.8 +2.5**
SNR=5.5
BIDO Bidbid 131.12 75 P **PKiKP** **01 25 41.2 -0.2**
SNR=12
WSAR Wadi Sarin 131.56 75 PP **PP** **01 27 59.3 -3.0**
comp=Z,8.4nm,1.0s,baz=303,slow=4.7,SNR=2.1
WSAR Wadi Sarin 131.56 75 P **PKiKP** **01 25 42.3 0.0**
SNR=11

WBK Wadi Bani Khal 131.81 76 P **PKiKP** **01 25 44.5 +1.6**
SNR=15
AS31 Alice Springs 131.99 209 PKPdf **PKPdf** **01 25 41.4 -0.9**
ASAR Alice Springs 131.99 209 PKPdf **PKPdf** **01 25 42.7 +0.5**
ASAR Alice Springs 131.99 209 PKhKP PKPpre 01 25 24.8
comp=Z,4.8nm,0.7s,baz=136,slow=2.8,SNR=27
ASAR PKP **PKPdf** **01 25 41.7 -0.6**
comp=Z,51nm,0.8s,baz=131,slow=1.6,SNR=37
ASAR PP **PP** **01 28 01.9 -1.5**
comp=Z,6.4nm,1.0s,baz=155,slow=7.6,SNR=5.4
ASAR SKPbc **SKPbc** **01 28 55.5 -2.0**
comp=Z,5.2nm,0.7s,baz=140,slow=4.8,SNR=5.6
ASAR PKKP **PKKPdf** **01 35 38.1 +1.3**
comp=Z,0.6nm,0.5s,baz=338,slow=1.2,SNR=8.2
MORW Morawa 132.07 186 **PKPdf** **01 25 40.9 -1.4**
JLN Jalan Bani Buh 132.17 77 P **PKiKP** **01 25 45.0 +1.4**
SNR=18
BRVK Borovoye 133.80 33 **PKPdf** **01 25 44.5 -0.1**
BRVK Borovoye 133.80 33*c i* PKiKP **PKiKP** **01 25 47.5 +1.5**
BRVK pmax pmax
comp=Z,90nm,2.5s
BRVK Borovoye 133.80 33 P **PKPdf** **01 25 44.8 +0.1**
BVA0 Borovoye Array 133.88 33 *i* PKiKP **PKPdf** **01 25 44.7 -0.1**
BVAR Borovoye Array 133.88 33 PKhKP PKPpre 01 25 32.6
comp=Z,0.9nm,0.6s,baz=269,slow=3.2,SNR=5.5
BVAR PKP **PKiKP** **01 25 45.8 -0.3**
comp=Z,9.4nm,0.6s,baz=289,slow=2.5,SNR=18
BVAR pPKP pPKPdf 01 26 18.3 -0.5
comp=Z,7.6nm,0.8s,baz=218,slow=2.9,SNR=2.5
BVAR PKKP **PKKPdf** **01 35 33.9 -0.3**
comp=Z,2.5nm,0.8s,baz=106,slow=2.2,SNR=4.5
NGCH Negor - Chabah 133.97 73 P **PKiKP** **01 25 51.0 +3.8**
COEN Coen 134.22 227 PKPdf **PKPdf** **01 25 46.9 +0.3**
PMG Port Moresby 134.26 235 **PKiKP** **01 25 48.1 +0.1**
PMG Port Moresby 134.26 235 PKhKP PKPpre 01 25 33.3
comp=Z,9.7nm,0.6s,baz=48,slow=5.7,SNR=5.6
PMG PKP **PKiKP** **01 25 49.1 +1.0**
comp=Z,28nm,0.8s,baz=101,slow=1.3,SNR=11
YAK Yakutsk 134.82 347 **PKiKP** **01 25 47.7 0.0**
YAK Yakutsk 134.82 347 *e*PKiKP **PKPdf** **01 25 45.6 -0.7**
YAK *e* 01 28 20.9
YAK *e*SS SS 01 46 07.2 +3.5
YAK pmax pmax
comp=Z,67nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,141nm,2.3s
YAK pmax pmax
comp=N,56nm,2.3s
YAK pmax pmax
comp=E,72nm,2.5s
WRA Warramunga Arr 134.94 212 PKPdf **PKPdf** **01 25 48.5 +0.7**
WRA Warramunga Arr 134.94 212 PKhKP PKPpre 01 25 39.4
comp=E,5.4nm,0.5s,baz=188,slow=1.2,SNR=19
WRA PKP **PKPdf** **01 25 48.2 +0.3**
comp=E,120nm,0.8s,baz=135,slow=1.8,SNR=56
WRA SKPbc **SKPbc** **01 29 06.2 -1.3**
comp=E,20nm,1.2s,baz=162,slow=3.4,SNR=8.2
WRAB Tennant Creek 134.94 212 PKPdf **PKPdf** **01 25 48.0 +0.1**
WRAB Tennant Creek 134.94 212 PKiKP **PKPdf** **01 25 48.0 +0.1**
WB0 Warramunga Arr 135.06 213 PKPdf **PKPdf** **01 25 48.8 +0.7**
BRZS Berezniki 136.71 35 *e*PKP **PKPdf** **01 25 50.4 +0.1**
baz=35
BRZS Berezniki 136.71 35 *e*PKiKP **PKPdf** **01 25 50.3 +0.1**
MANU Manus Island 138.27 244 PKPdf **PKPdf** **01 25 53.6 -0.6**
NKL Nikolayevsk 138.56 333 *i* PKiKP **PKiKP** **01 25 55.6 0.0**
NKL *e* 01 28 45.0
NKL *e*PPP PPP 01 31 45.3
NKL *e*SSS SSS 01 52 05.0
KK31 Karatay Array 138.56 45 **PKPdf** **01 25 54.8 +0.9**
KK31 Karatay Array 138.56 45 PKiKP **PKPdf** **01 25 54.8 +0.9**
KKAR Karatay Array 138.56 45 PKPdf **PKiKP** **01 25 55.6 -0.4**
KKAR Karatay Array 138.56 45 **PKiKP** **01 25 54.8 +0.9**
KKAR Karatay Array 138.56 45 PKiKP **PKPdf** **01 25 54.8 +0.9**
PSA00 Pilbara Seismi 138.81 193 PKPdf **PKPdf** **01 25 54.8 -0.2**
PSA00 Pilbara Seismi 138.81 193 PKPdf **PKPdf** **01 25 54.7 -0.2**
KAAM Kaadhehdhoo 138.90 112 PKPdf **PKPdf** **01 25 55.6 +0.3**
SIMJ Simiganj 139.00 52 **PKPdf** **01 25 55.0 +0.1**
TYV Tymovskoe 139.17 329 *e*PKiKP **PKiKP** **01 25 57.1 +0.2**
TYV pmax pmax
comp=Z,2μm,4.2s
TYV pmax pmax
comp=Z,43nm,1.4s
DZA Taraz 139.20 45 *e*PKP **PKPdf** **01 25 54.4 -0.6**
baz=45
DZA Taraz 139.20 45 *e*PKiKP **PKPdf** **01 25 54.4 -0.6**
KURK Kurchatov 139.36 31 PKPdf **PKiKP** **01 25 56.2 -1.2**
KURK Kurchatov 139.36 31 PKiKP **PKPdf** **01 25 56.0 +1.0**
KURK 01 26 28.9
KURK Kurchatov 139.36 31 P **PKPdf** **01 25 54.2 -0.8**
KURBB Kurchatov Arra 139.38 31 PKiKP **PKPdf** **01 25 51.5 -3.5**
KURBB Kurchatov Arra 139.38 31 PKhKP PKPpre 01 25 48.0
comp=Z,2.5nm,0.5s,baz=314,slow=3.0,SNR=11
KURBB PKP **PKPdf** **01 25 56.0 +0.9**
comp=Z,10nm,0.6s,baz=309,slow=2.8,SNR=15
KURBB pPKP pPKPdf 01 26 28.9 -0.2
comp=Z,14nm,0.9s,baz=307,slow=2.8,SNR=3.5
KURBB SKKPbc SKKPbc 01 37 43.6 -15
comp=Z,2.6nm,0.9s,baz=121,slow=5.2,SNR=5.3
ZAA0 Zalesovo Array 139.75 23 PKPdf **PKPdf** **01 25 56.3 +0.7**
ZALV Zalesovo Beam 139.75 23 PKPdf **PKPdf** **01 25 54.4 -1.2**
ZALV Zalesovo Beam 139.75 23 PKhKP PKPpre 01 25 48.5
comp=Z,3.0nm,0.5s,baz=335,slow=4.1,SNR=18
ZALV PKP **PKPdf** **01 25 54.8 -0.8**
comp=Z,128nm,0.9s,baz=312,slow=2.2,SNR=54
ZALV pPKP pPKPdf 01 26 31.2 +1.6
comp=Z,83nm,0.9s,baz=292,slow=2.8,SNR=4.0
ZALV SKKPbc SKKPbc 01 37 40.4 -16
comp=Z,1.0nm,0.3s,baz=159,slow=5.3,SNR=7.5
BTK Batken 139.90 50 PKPdf **PKPdf** **01 25 56.9 +0.4**
BTK Batken 139.90 50 PKiKP **PKPdf** **01 25 56.9 +0.4**
BTLS Baital 140.01 41 *e*PKP **PKPdf** **01 25 56.2 -0.2**
baz=41
BTLS Baital 140.01 41 *e*PKiKP **PKPdf** **01 25 56.2 -0.2**
KBL Kabul 140.06 58 **PKPdf** **01 25 56.7 -0.4**
KBL Kabul 140.06 58 PKiKP **PKPdf** **01 25 56.7 -0.4**
KBL Kabul 140.06 58 P **PKPdf** **01 25 58.0 +0.9**
SNR=8.3
KBU Kabul Universi 140.14 58 PKP **PKPdf** **01 25 57.3 +0.1**
SEM Semipalatinsk 140.35 30 *e*PKP **PKPdf** **01 25 57.1 0.0**
baz=30
SEM Semipalatinsk 140.35 30 *e*PKiKP **PKPdf** **01 25 57.1 0.0**
FITZ Fitzroy Crossi 140.41 203 PKPpre PKPpre 01 25 50.5
FITZ PKPdf **PKPdf** **01 25 58.4 +0.5**
EKS2 Erkin-Say 140.93 44 P **PKiKP** **01 26 02.4 +1.4**
SNR=18
ARSB Arslanbob 140.95 47 PKPdf **PKPdf** **01 25 59.1 +0.7**
ARSB Arslanbob 140.95 47 PKiKP **PKPdf** **01 25 59.1 +0.7**
BOD Bodaibo 141.00 357 *e*PKHKP PKPpre 01 25 50.5
BOD pmax pmax
comp=Z,68nm,1.8s
AML Almayashu 141.11 45 P **PKiKP** **01 26 03.8 +2.0**
SNR=7.9
SGDS Sogindy 141.13 43 *e*PKP **PKPdf** **01 25 57.7 -1.0**
baz=43
SGDS *e*PP **PP** **01 29 01.7 +0.4**
baz=43
SGDS Sogindy 141.13 43 *e*PKiKP **PKPdf** **01 25 57.6 -1.0**
SGDS *e* 01 29 01.7
USP Ospenovka 141.13 43 P **PKiKP** **01 26 01.9 +0.6**
SNR=11
KNRA Kununurra 141.29 209 PKPpre PKPpre 01 25 52.9
KNRA PKPdf **PKPdf** **01 26 00.8 +1.2**
AAK Ala-Archa 141.42 44 P **PKiKP** **01 26 03.3 +1.3**
SNR=6.3
AAK Ala-Archa 141.42 44 PKPpre 01 25 54.6
AAK PKPdf **PKiKP** **01 26 02.5 +0.4**
AAK Ala-Archa 141.42 44 PKHKP PKPpre 01 25 54.6
AAK Ala-Archa 141.42 44 PKhKP PKPpre 01 25 56.2
comp=Z,8.1nm,0.8s,baz=216,slow=1.8,SNR=13
AAK SKKPbc SKKPbc 01 37 35.2 -15
comp=Z,4.5nm,1.0s,baz=171,slow=6.1,SNR=5.2
FRU1 Bishkek 141.43 44 PKPpre PKPpre 01 25 54.8
FRU1 PKPdf **PKiKP** **01 26 02.6 +0.7**
FRU1 Bishkek 141.43 44 PKiKP **PKiKP** **01 26 02.6 +0.7**
YSS Yuzh-Sakhalins 141.52 324 **PKPdf** **01 25 56.4 -2.6**
YSS Yuzh-Sakhalins 141.52 324 *i* PKHKP PKPpre 01 25 53.8
YSS *e* 01 29 07.7
YSS *e* 01 32 14.0
YSS *e*SS SS 01 47 27.4 +3.6
YSS pmax pmax
comp=Z,80nm,1.2s
YSS pmax pmax
comp=Z,2μm,4.3s
YSS pmax pmax
comp=Z,2μm,6.2s
YSS MLR MLR
comp=Z,1μm,21.0s
UCH Uchtor 141.61 45 P **PKiKP** **01 26 03.5 +0.7**
SNR=16
KUU Kurty 142.01 41 *e*PKP **PKPdf** **01 25 58.4 -1.7**
baz=41
KUU *e*PP **PP** **01 29 07.8 +1.3**
baz=41
KUU Kurty 142.01 41 *e*PKiKP **PKPdf** **01 25 58.3 -1.8**
KUU *e* 01 29 07.7
TKM2 Tokmak 2 142.01 43 P **PKiKP** **01 26 03.6 +0.3**
SNR=21
TKM2 Tokmak 2 142.01 43 PKiKP **PKPdf** **01 25 57.5 -2.9**
GRNR Gornyy 142.10 333 ⇑*i*PKiKP **PKPdf** **01 25 57.4 -2.6**
GRNR *e* 01 29 04.0
GRNR pmax pmax
comp=Z,20nm,0.9s
CHKK Chushkaly 142.43 41 *e*PKP **PKPdf** **01 25 59.5 -1.3**
baz=41
CHKK Chushkaly 142.43 41 *e*PKiKP **PKPdf** **01 25 59.5 -1.3**
MTN Manton Dam 142.54 214 **PKPdf** **01 25 58.3 -3.5**
TDK Taldyqorghan 142.68 38 *e*PKP **PKPdf** **01 26 00.1 -1.2**
baz=38
TDK Taldyqorghan 142.68 38 *e*PKiKP **PKPdf** **01 26 00.0 -1.2**
AAA Alma-Ata 142.71 42 *e*PKP **PKPdf** **01 25 59.8 -1.7**
baz=42
AAA Alma-Ata 142.71 42 *e*PKiKP **PKPdf** **01 25 59.7 -1.7**
ULHL Ulahol 142.75 44 P **PKiKP** **01 26 04.2 -0.6**
SNR=12
TNSS Tian-Shan 142.82 42 *e*PKP **PKPdf** **01 26 00.7 -1.4**
baz=42
TNSS *e*PKiKP **PKiKP** **01 26 04.9 -0.3**
baz=42
TNSS Tian-Shan 142.82 42 *e*PKiKP **PKPdf** **01 26 00.6 -1.4**
MDOK Medeo 142.82 42 *e*PKP **PKPdf** **01 26 00.7 -1.1**
baz=42
MDOK *e*PKiKP **PKiKP** **01 26 05.0 +0.1**
baz=42
MDOK Medeo 142.82 42 *e*PKiKP **PKPdf** **01 26 00.6 -1.1**
ZEA Zeya 142.86 344 *e*PKiKP **PKPdf** **01 25 59.3 -1.9**
ZEA *e* 01 29 11.6
ZEA *e* 01 47 32.7
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=E,100nm,3.2s
ZEA pmax pmax
comp=Z,800nm,5.3s
ZEA pmax pmax
comp=Z,600nm,8.6s
JKA Kamikawa-asahi 143.21 320 PKPdf **PKPdf** **01 26 03.2 +1.1**
ASAJ Asahikawa 143.21 320 PKiKP **PKPdf** **01 26 03.2 +1.1**
MAKZ Makanchi 143.58 34 ⇑PKiKP **PKPdf** **01 26 04.0 +1.2**
NIL Nilore 143.66 59 PKPdf **PKPdf** **01 26 04.2 +0.9**
NIL Nilore 143.66 59 PKiKP **PKPdf** **01 26 04.2 +0.9**
NIL Nilore 143.66 59 P PKPab 01 25 59.1 -1.1
KPKS Kokpek 143.68 40 *e*PKP **PKPdf** **01 26 02.0 -1.2**
baz=40
KPKS *e*PP **PP** **01 29 17.6 +0.9**
baz=40
KPKS Kokpek 143.68 40 *e*PKiKP PKPbc 01 26 01.9 +0.9
KPKS *e* 01 29 17.5
ZHN Zhinishke 143.69 41 *e*PKP PKPbc 01 26 01.8 +0.7
baz=41
ZHN Zhinishke 143.69 41 *e*PKiKP PKPbc 01 26 01.7 +0.7
SATY Saty 143.72 41 *e*PKP PKPbc 01 26 01.9 +0.7
baz=41
SATY Saty 143.72 41 *e*PKiKP PKPbc 01 26 01.8 +0.6
MK31 Makanchi Array 143.75 33 PKPdf PKPbc 01 26 01.4 +0.4
MK31 Makanchi Array 143.75 33 *i* PKiKP **PKPdf** **01 26 02.0 -1.1**
MKAR Makanchi Array 143.75 33 PKPdf **PKPdf** **01 26 03.7 +0.7**
MKAR Makanchi Array 143.75 33 PKiKP **PKPdf** **01 26 03.7 +0.7**
MKAR Makanchi Array 143.75 33 PKhKP PKPpre 01 25 60.0
comp=Z,9.2nm,0.5s,baz=308,slow=2.8,SNR=55
MKAR PKP **PKPdf** **01 26 02.4 -0.7**
comp=Z,18nm,0.6s,baz=328,slow=2.8,SNR=70
MKAR SKKPbc SKKPbc 01 37 19.2 -21
comp=Z,2.7nm,0.8s,baz=130,slow=6.6,SNR=5.1
KSH Kashi 143.78 48 PKP PKPab 01 26 00.9 +0.3
KSH PP **PP** **01 29 21.3 +3.8**
KSH SKKS 01 35 59.5
KSH LR LR
comp=Z,850nm,19.1s
KSH LR LR
comp=Z,1μm,20.3s
KSH LR LR
comp=Z,2μm,21.3s
ERM Erimo 143.96 317 PKPdf **PKPdf** **01 26 04.2 +0.7**
ERM Erimo 143.96 317 PKiKP **PKPdf** **01 26 04.2 +0.7**
UZB Uzunbulak 144.06 41 *e*PKP **PKPab** **01 26 01.6 0.0**
baz=41
UZB *e*PKiKP **PKiKP** **01 26 06.1 -1.3**
baz=41
UZB Uzynbulak 144.06 41 *e*PKiKP **PKPab** **01 26 01.6 0.0**
DGZ Jazzator, Alta 144.07 26 *i* PKiKP PKPbc 01 26 02.2 +0.2
SHLS Shalkode 144.33 40 *e*PKP PKPbc 01 26 03.4 +0.5
baz=40
SHLS *e*PKiKP **PKiKP** **01 26 08.0 0.0**
baz=40
SHLS Shalkode 144.33 40 *e*PKiKP PKPbc 01 26 03.4 +0.4
ZSN Zaisan 144.59 31 *e*PKP **PKPab** **01 26 02.3 -1.0**
baz=31
ZSN *e*PKiKP **PKiKP** **01 26 07.4 -0.8**
baz=31
ZSN Zaisan 144.59 31 *e*PKiKP **PKPab** **01 26 02.3 -1.0**
JEW Eniwo 144.60 319 P **PKPdf** **01 26 04.4 -0.2**
GOA Goa 144.80 90 *e*P **PKPdf** **01 26 06.8 +1.2**
GOA *i* x x 01 26 40.2
MNGI Mangalore 145.19 94 *e*P **PKPbc** **01 26 05.2 -1.0**
MNGI *i* x x 01 26 41.8
KLR Kul'dur 145.21 335 *i* PKP2 **PKPbc** **01 26 04.0 -1.3**
POO Poona 145.28 84 *e*P **PKPbc** **01 26 05.3 -1.2**
POO *i* x x 01 26 39.8
KAD Karad 145.44 87 *e*P **PKPdf** **01 26 05.8 -1.1**
KAD *i* x x 01 26 42.5
JOT Ohata 145.63 317 P **PKPab** **01 26 07.1 -0.2**
TRD Trivandrum 145.85 103 *e*P **PKPbc** **01 26 08.2 -0.2**
TRD *i* pP **sPKPdf** **01 26 48.6 -5.8**
HEH HeiHe 145.89 341 PKPbc **PKPdf** **01 26 06.5 -0.1**
JTM Tenmabayashi 145.93 316 PKPbc **PKPbc** **01 26 07.9 0.0**
JTM Tenmabayashi 145.93 316 P **PKPab** **01 26 08.2 -0.3**
TEY Ternei 146.06 326 *e*PKP2 **PKPbc** **01 26 07.6 -0.5**
AJM Ajmer 146.10 70 *e*P **PKPdf** **01 26 07.2 -0.6**
AJM *i* x x 01 26 40.5
AJM *ex* x 01 30 00.3
IRK Irkutsk 146.31 7 *e*PKP2 **PKPbc** **01 26 08.8 +0.2**
IRK pmax pmax
comp=Z,2μm,2.4s
SAUI Saumlaki 146.39 219 PKPbc **PKPbc** **01 26 09.4 -0.6**
JOM Ohasama 146.44 314 P **PKPdf** **01 26 08.3 +0.4**
DHRM DHARAMSHALA 146.50 60 *e*P **PKPbc** **01 26 09.8 -0.3**
DHRM *i* x x 01 30 01.6
GUMO Guam 146.66 266 PKPbc **PKPbc** **01 26 10.0 -0.7**
GUMO Guam 146.66 266 PKP2 **PKPbc** **01 26 10.0 -0.7**
BHK Bhakra 146.80 61 *e*P **PKPdf** **01 26 09.6 +0.9**
BHK *i* x x 01 26 44.4
BHK *ex* x 01 30 06.2
CIT Chita 146.81 357 *e*PKP2 **PKPab** **01 26 11.3 -0.3**
CIT pmax pmax
comp=Z,1μm,3.4s
KOD Kodaikanal 146.91 100 *e*P **PKPbc** **01 26 11.6 -0.2**
KOD *i* x x 01 26 46.3
SMLA Simla 147.50 61 *e*P **PKPdf** **01 26 11.0 +1.1**
SMLA *i* x x 01 30 07.0
KUDL Kundal 147.52 67 *e*P **PKPdf** **01 26 10.5 +0.5**
KUDL *i* x x 01 26 47.6
JMM Marumori 147.53 312 P **PKPbc** **01 26 12.6 +0.1**
JYA Atsumi 147.94 314 P **PKiKP** **01 26 14.7 -0.7**
ZAK Zakamensk 148.00 9 *e*PKiKP **PKPbc** **01 26 12.4 -1.1**
ZAK *e* 01 26 46.8
ZAK pmax pmax
comp=Z,158nm,1.0s
ZAK pmax pmax
comp=Z,153nm,1.2s
SALM Salem 148.03 98 *e*P **PKPab** **01 26 16.9 -0.6**
SALM *i* x x 01 30 10.7
NDI New Delhi 148.06 66 *e*P **PKPdf** **01 26 11.3 +0.4**
NDI *i* x x 01 26 48.7
NDI *ex* x 01 30 13.8

BISR	**Bishrakh**	**148.27**	**66**	*ex*	x	01 26 17.2			
AKL	**Akola**	**148.43**	**81**	*e*P	**PKPbc**	**01 26 15.0**	**-0.4**		
AKL				*i* x	x	01 26 48.7			
AKL				*ex*	x	01 30 11.0			
DDI	**Dehra Dun**	**148.43**	**63**	*ex*	x	01 26 18.6			
SOEI	**Soe**	**148.52**	**207**		**PKPbc**	**01 26 14.9**	**-1.1**		
SOEI	**Soe**	**148.52**	**207**	PKP	**PKPdf**	**01 26 13.9**	**+1.6**		
WMQ	**Urumqi**	**148.57**	**33**	PKPbc	**PKPdf**	**01 26 12.5**	**+1.1**		
WMQ				sPKP		01 26 52.3			
WMQ				SKKS		01 36 26.8			
WMQ				AMB	AMB				
	comp=Z,810nm,6.1s								
WMQ				LR	LR				
	comp=Z,760nm,17.5s								
WMQ				LR	LR				
	comp=Z,1μm,18.9s								
WMQ				LR	LR				
	comp=Z,2μm,22.5s								
HIA	**Hailar**	**148.76**	**348**		**PKPdf**	**01 26 13.3**	**+1.9**		
HIA	**Hailar**	**148.76**	**348**	PKIKP	**PKPdf**	**01 26 13.3**	**+1.9**		
PALK	**Pallekele**	**148.80**	**108**		**PKPbc**	**01 26 15.6**	**-1.0**		
PALK	**Pallekele**	**148.80**	**108**	⇓PKP2	**PKiKP**	**01 26 18.0**	**+0.1**		
PALK	**Pallekele**	**148.80**	**108**	P	**PKPbc**	**01 26 14.7**	**-1.9**		
USA0B	**Ussuriysk Arra**	**148.99**	**329**		**PKPbc**	**01 26 15.2**	**-0.9**		
USA0B	**Ussuriysk Arra**	**148.99**	**329**	PKIKP	**PKPbc**	**01 26 15.2**	**-0.9**		
USRK	**Ussuriysk Ar.**	**148.99**	**329**	PKPbc	**PKPbc**	**01 26 16.2**	**+0.1**		
USRK	**Ussuriysk Ar.**	**148.99**	**329**	PKPbc	**PKPbc**	**01 26 14.7**	**-1.4**		
	comp=Z,178nm,0.7s,baz=315,slow=0.8,SNR=67								
USRK				pPKPbc	**pPKPbc**	**01 26 50.8**	**+1.2**		
	comp=Z,111nm,1.1s,baz=60,slow=0.9,SNR=2.4								
MALK	**Mahakanadarawa**	**149.10**	**106**	PKP	**PKPdf**	**01 26 14.0**	**+1.0**		
HYB	**Hyderabad**	**149.59**	**88**	*e*PKPdf	**PKPdf**	**01 26 14.5**	**+0.8**		
HYB	**Hyderabad**	**149.59**	**88**	*e*P	**PKPbc**	**01 26 16.2**	**-2.2**		
HYB				*i* x	x	01 26 50.5			
FAKI	**Fak Fak**	**149.60**	**227**		**PKPbc**	**01 26 17.1**	**-1.5**		
JRY	**Ryogami san**	**149.72**	**310**	P	**PKPbc**	**01 26 16.6**	**-1.6**		
BNX	**BinXian**	**149.76**	**336**	⇑PKPbc	**PKPdf**	**01 26 11.1**	**-2.0**		
BNX				pPKP	**pPKPdf**	**01 26 41.1**	**-5.8**		
BNX				sPKP		01 26 52.9			
BNX				PP	**PP**	**01 29 51.8**	**+0.2**		
BNX				SS	SS	01 49 00.1	+3.3		
BNX				AMB	AMB				
	comp=Z,2μm,7.1s								
BNX				LR	LR				
	comp=Z,620nm,22.2s								
BNX				LR	LR				
	comp=Z,510nm,15.7s								
BNX				LR	LR				
	comp=Z,1μm,27.1s								
MDJ	**Mudanjiang**	**149.78**	**332**	PKPbc	**PKPdf**	**01 26 14.6**	**+1.4**		
MDJ				PP	**PP**	**01 29 53.8**	**+1.9**		
MDJ				SS	SS	01 48 59.3	+2.1		
MDJ				AMB	AMB				
	comp=Z,2μm,11.8s								
MDJ				LR	LR				
	comp=Z,710nm,23.5s								
MDJ				LR	LR				
	comp=Z,2μm,24.6s								
MDJ				LR	LR				
	comp=Z,2μm,24.0s								
MDJ	**Mudanjiang**	**149.78**	**332**	PKPbc	**PKPbc**	**01 26 16.9**	**-1.1**		
JCJ	**Chichijima**	**149.79**	**292**	PKPbc	**PKPbc**	**01 26 18.7**	**+0.1**		
JOD2	**Odawara 2**	**149.92**	**309**	P	**PKPdf**	**01 26 14.3**	**+0.6**		
MAJO	**Matsushiro**	**149.98**	**312**	PKPbc	**PKiKP**	**01 26 19.4**	**-0.3**		
MAJO	**Matsushiro**	**149.98**	**312**	PKP2	**PKiKP**	**01 26 19.4**	**-0.3**		
MAT	**Matsushiro**	**149.98**	**312**	P	**PKPdf**	**01 26 14.8**	**+1.0**		
MJAR	**Matsushiro Arr**	**149.98**	**312**	PKPbc	**PKPbc**	**01 26 16.9**	**-1.9**		
	comp=Z,117nm,0.8s,baz=91,slow=1.4,SNR=43								
MJAR				pPKPbc	**pPKPbc**	**01 26 52.5**	**+0.4**		
	comp=Z,28nm,0.7s,baz=80,slow=1.3,SNR=2.3								
MJB9	**Matsu-Tunnel**	**149.98**	**312**		**PKPbc**	**01 26 16.5**	**-2.3**		
JHJ2	**Mitsune**	**150.22**	**304**	PKPbc	**PKiKP**	**01 26 20.1**	**-0.2**		
MDRS	**Chennai**	**150.34**	**97**	*e*P	**PKPdf**	**01 26 15.9**	**+1.0**		
MDRS				*i* x	x	01 26 51.7			
MMRI	**Maumere**	**150.36**	**204**		**PKPdf**	**01 26 15.7**	**+0.7**		
MMRI				PKPbc	**PKiKP**	**01 26 21.9**	**+0.8**		
PTH	**Pithoragarh**	**150.44**	**63**	*e*P	**PKPdf**	**01 26 15.9**	**+1.0**		
PTH				*i* x	x	01 30 24.8			
XMIS	**Christmas Isla**	**150.47**	**170**	PKPbc	**PKPbc**	**01 26 18.9**	**-1.7**		
XMIS				PKPab	**PKPab**	**01 26 24.8**	**-2.5**		
LGTI	**Lohaghat**	**150.49**	**63**	*e*P	**PKPdf**	**01 26 14.3**	**-0.4**		
LGTI				*i* x	x	01 26 56.4			
LGTI				*ex*	x	01 30 26.3			
SONM	**Songino Array**	**150.89**	**6**	PKP	**PKPdf**	**01 26 15.9**	**+0.9**		
	comp=Z,21nm,1.0s,baz=308,slow=1.2,SNR=34								
SONM				PKPbc	**PKiKP**	**01 26 22.0**	**+0.7**		
	comp=Z,196nm,0.5s,baz=298,slow=1.2,SNR=81								
ULN	**Ulaanbaatar**	**150.91**	**5**		**PKPdf**	**01 26 15.2**	**+0.1**		
ULN				PKPbc	**PKiKP**	**01 26 22.4**	**+1.0**		
ULN	**Ulaanbaatar**	**150.91**	**5**	PKIKP	**PKiKP**	**01 26 22.4**	**+1.0**		
ULN	**Ulaanbaatar**	**150.91**	**5**	P	**PKPdf**	**01 26 17.0**	**+1.9**		
JGF	**Kuroka**	**151.03**	**311**	P	**PKPbc**	**01 26 20.9**	**-0.5**		
INU	**Inuyama**	**151.39**	**310**		**PKPdf**	**01 26 15.8**	**-0.1**		
INU				PKPbc	**PKiKP**	**01 26 23.6**	**+1.0**		
VJD	**Vijayawada**	**151.44**	**90**	*e*P	**PKPdf**	**01 26 17.0**	**+0.5**		
BRCI	**Bahraich**	**152.06**	**67**	*e*P	**PKPdf**	**01 26 19.1**	**+2.0**		
CN2	**Changchun**	**152.14**	**337**	*e*PKPbc	**PKPdf**	**01 26 17.0**	**+0.2**		
CN2				*e*PP	**PP**	**01 30 08.8**	**+3.5**		
CN2				SKS	**SKSdf**	**01 33 06.6**	**-6.5**		
CN2				*e*SS	**SS**	**01 49 20.8**	**-2.3**		
CN2				AMB	AMB				
	comp=Z,840nm,6.0s								
CN2				LR	LR				
	comp=Z,240nm,23.0s								
CN2				LR	LR				
	comp=Z,130nm,23.0s								
CN2				LR	LR				
	comp=Z,550nm,25.0s								
JAGI	**Jajag, Banyuwa**	**152.63**	**188**		**PKPdf**	**01 26 19.5**	**+1.0**		
JAGI				PKPbc	**PKiKP**	**01 26 27.6**	**+1.8**		
VAR	**Varanasi**	**153.72**	**71**	*e*P	**PKPdf**	**01 26 16.7**	**-3.0**		
VIS	**Vishakhapatnam**	**154.14**	**88**	⇓*i*P	**PKPdf**	**01 26 21.8**	**+1.4**		
VIS				IAmb	IAmb	01 26 33.4			
	comp=Z,28nm,0.9s								
VIS				*i* x	x	01 30 45.9			
SMRI	**Semarang**	**154.27**	**180**	PKPdf	**PKPdf**	**01 26 21.8**	**+1.0**		
SMRI				PKPbc	**PKiKP**	**01 26 31.8**	**+2.6**		
SMRI				PKPab	**PKPab**	**01 26 46.0**	**+2.8**		
SANI	**Sanana**	**154.27**	**218**	PKP	**PKPdf**	**01 26 19.4**	**-1.4**		
LEM	**Lembang**	**154.33**	**173**	PKP	**PKPdf**	**01 26 22.7**	**+1.6**		
	comp=Z,37nm,0.6s,baz=127,slow=6.3,SNR=6.5								
LEM				PKPbc	**PKiKP**	**01 26 31.2**	**+1.7**		
	comp=Z,179nm,0.8s,baz=98,slow=5.0,SNR=18								
JMN	**Monobe**	**154.44**	**310**		**PKPdf**	**01 26 20.4**	**-0.1**		
SNY	**Shenyang**	**154.54**	**337**	⇓PKPbc	**PKPdf**	**01 26 20.4**	**+0.1**		
SNY				PKS	**PKSdf**	**01 29 57.3**	**+2.9**		
SNY				PP	**PP**	**01 30 21.4**	**+2.7**		
SNY				SS	SS	01 49 49.0	-0.2		
SNY				AMB	AMB				
	comp=Z,930nm,6.4s								
SNY				LR	LR				
	comp=Z,500nm,22.1s								
SNY				LR	LR				
	comp=Z,590nm,20.6s								
SNY				LR	LR				
	comp=Z,1μm,29.2s								
XLT	**XiLinHaoTe**	**154.59**	**351**	*e*PKPbc	**PKPdf**	**01 26 21.5**	**+1.0**		
XLT				pPKP	PKPab	01 26 48.3	+4.3		
XLT				PP	**PP**	**01 30 20.6**	**+1.7**		
XLT				SS	SS	01 49 52.8	+3.3		
KAPI	**Kappang**	**154.62**	**202**	PKPab	**PKPab**	**01 26 46.9**	**+2.2**		
KAPI	**Kappang**	**154.62**	**202**	PKP2	**PKPab**	**01 26 46.9**	**+2.2**		
JHSG	**JHARSUGUGA**	**154.74**	**79**	*e*P	**PKPdf**	**01 26 22.4**	**+1.1**		
JHSG				*ex*	x	01 30 45.3			
KS19	**Wonju Array Si**	**156.01**	**324**	PKPdf	**PKPdf**	**01 26 23.0**	**+0.5**		
KS19				PKPdif	PKPab	01 26 34.4	-16		
KS19				PKPab	**pPKPdf**	**01 26 51.8**	**-4.4**		
KSRS	**Korea Array**	**156.02**	**324**	PKP	**PKPdf**	**01 26 22.9**	**+0.5**		
	comp=Z,9.0nm,1.0s,baz=58,slow=1.4,SNR=19								
KSRS				PKPab	**PKPab**	**01 26 49.8**	**-0.4**		
	comp=Z,32nm,0.9s,baz=63,slow=3.8,SNR=17								
KSRS				PP	**PP**	**01 30 29.2**	**+1.8**		
	comp=Z,5.9nm,0.9s,baz=33,slow=5.4,SNR=5.5								
BOK	**Bokaro**	**156.52**	**74**	*e*P	**PKPdf**	**01 26 26.5**	**+3.0**		
INCN	**Inchon**	**156.69**	**326**	PKPdf	**PKPdf**	**01 26 24.2**	**+0.8**		
INCN	**Inchon**	**156.69**	**326**	PKIKP	**PKPdf**	**01 26 24.2**	**+0.8**		
INCN	**Inchon**	**156.69**	**326**	P	**PKPdf**	**01 26 24.2**	**+0.8**		
LUWI	**Luwuk**	**156.87**	**213**	PKPdf	**PKPdf**	**01 26 24.4**	**+0.1**		
LUWI	**Luwuk**	**156.87**	**213**	PKP	**PKPdf**	**01 26 22.1**	**-2.2**		
JNU	**Nakatsue**	**156.90**	**312**	PKPab	**PKPab**	**01 26 55.9**	**+1.6**		
TJN	**Taejon**	**157.10**	**323**	PKPab	**PKPab**	**01 26 56.4**	**+1.5**		
TJN	**Taejon**	**157.10**	**323**	PKP2	**PKPab**	**01 26 56.4**	**+1.5**		
GTA	**Gaotai**	**157.50**	**22**	PKP	**PKPdf**	**01 26 25.4**	**+0.9**		
GTA				pPKP	PKPab	01 26 55.3	-1.4		
GTA				PKPab	**pPKPdf**	**01 27 00.0**	**+1.7**		
GTA				PKS	**PKSdf**	**01 29 59.3**	**+0.9**		
GTA				PP	**PP**	**01 30 35.8**	**+0.5**		
GTA				SKKS		01 37 12.6			
GTA				SS	**SS**	**01 50 20.8**	**-0.5**		
GTA				AMB	AMB				
	comp=Z,710nm,11.5s								
GTA				LR	LR				
	comp=Z,480nm,22.3s								
GTA				LR	LR				
	comp=Z,640nm,22.3s								
GTA				LR	LR				
	comp=Z,1μm,22.7s								
DL2	**Dalian**	**157.81**	**337**	⇓*i*PKP	**PKPdf**	**01 26 26.6**	**+1.9**		
DL2				pPKP	**pPKPdf**	**01 26 58.8**	**+0.1**		
DL2				PP	**PP**	**01 30 37.9**	**+1.0**		
DL2				SS	SS	01 50 25.9	+1.5		
DL2				AMB	AMB				
	comp=Z,1μm,6.2s								
GOMU	**GeErMu**	**157.84**	**36**	PKP	**PKPdf**	**01 26 27.8**	**+2.5**		
GOMU				pPKP	pPKPdf	01 27 00.3	+0.9		
GOMU				PP	**PP**	**01 30 38.6**	**+0.6**		
GOMU				SKKS		01 37 16.3			
GOMU				AMB	AMB				
	comp=Z,2μm,9.1s								
GOMU				LR	LR				
	comp=Z,1μm,21.8s								
GOMU				LR	LR				
	comp=Z,660nm,21.6s								
GOMU				LR	LR				
	comp=Z,740nm,19.4s								
HHC	**Hu-ho-hao-te**	**158.05**	**358**	*e*PKP	**PKPdf**	**01 26 27.1**	**+2.0**		
HHC				PP	**PP**	**01 30 37.1**	**-0.9**		
HHC				LR	LR				
	comp=Z,1μm,21.4s								
HHC				LR	LR				
	comp=Z,1μm,22.7s								
HHC				LR	LR				
	comp=Z,3μm,22.2s								
GTK	**Tadong**	**158.15**	**63**	*e*P	**PKPdf**	**01 26 26.8**	**+1.1**		
SLGI	**Shiliguri**	**158.17**	**65**	*ex*	x	01 26 20.4			
SLGI				*i* x	x	01 27 30.0			
SLGI				*ex*	x	01 31 09.4			
BTO	**Baotou**	**158.31**	**1**	*e*PKP	**PKPdf**	**01 26 27.0**	**+1.6**		
BTO				SKKS		01 37 20.8			
BTO				LR	LR				
	comp=Z,1μm,19.4s								
BTO				LR	LR				
	comp=Z,780nm,18.0s								
BTO				LR	LR				
	comp=Z,2μm,21.6s								
BJI	**Beijing**	**158.32**	**348**	PKP	**PKPdf**	**01 26 25.5**	**+0.2**		
BJI				sPKP		01 27 04.3			
BJI				PP	**PP**	**01 30 39.9**	**+0.5**		
BJI				AMB	AMB				
	comp=Z,780nm,10.1s								
BJT	**Baijiatuao**	**158.35**	**348**	PKPdf	**PKPdf**	**01 26 26.4**	**+1.1**		
BJT	**Baijiatuao**	**158.35**	**348**	PKIKP	**PKPdf**	**01 26 26.4**	**+1.1**		
GSI	**Gunungsitoli**	**158.42**	**142**	PKPdf	**PKPdf**	**01 26 28.3**	**+2.0**		
BKB	**Balikpapan**	**159.07**	**198**	PKPdf	**PKPdf**	**01 26 25.4**	**-1.6**		
BKB				PKPab	**PKPab**	**01 27 06.9**	**+3.1**		
LSA	**Lhasa**	**159.31**	**55**	PKPdf	**PKPdf**	**01 26 28.0**	**+0.6**		
LSA				PKPab	**PKPab**	**01 27 03.6**	**-1.7**		
LSA	**Lhasa**	**159.31**	**55**	PKIKP	**PKPdf**	**01 26 28.0**	**+0.6**		
LSA						01 27 03.7			
LSA	**Lhasa**	**159.31**	**55**	P	**PKPdf**	**01 26 28.5**	**+1.1**		
BKNI	**Bangkinang**	**159.37**	**152**	PKPdf	**PKPdf**	**01 26 27.7**	**+0.3**		
BKNI	**Bangkinang**	**159.37**	**152**	PKP	**PKPdf**	**01 26 23.0**	**-4.4**		
TOLI2	**Tolitoli**	**159.72**	**211**	PKPdf	**PKPdf**	**01 26 28.7**	**+1.0**		
TOLI2				PKPab	**PKPab**	**01 27 06.8**	**+0.1**		
RPSI	**Rantau Prapat**	**160.33**	**143**	PKPdf	**PKPdf**	**01 26 29.9**	**+1.5**		
PSI	**Prapat**	**160.42**	**143**	PKIKP	**PKPdf**	**01 26 29.9**	**+1.2**		
LHMI	**Lhok Sumawe**	**161.05**	**134**	PKPdf	**PKPdf**	**01 26 30.7**	**+1.5**		
LHMI				PKPab	**sPKPdf**	**01 27 14.8**	**-1.2**		
TIY	**Taiyuan**	**161.13**	**355**	*e*PKP	**PKPdf**	**01 26 30.5**	**+1.8**		
TIY				pPKP	**pPKPdf**	**01 27 02.8**	**+0.2**		
TIY				PKPab	**sPKPdf**	**01 27 14.6**	**-0.8**		
TIY				PP	**PP**	**01 30 56.0**	**+1.4**		
TIY				SS	SS	01 50 58.1	-0.8		
TIY				AMB	AMB				
	comp=Z,2μm,6.6s								
HNS	**HongShan**	**161.16**	**350**	⇑PKP	**PKPdf**	**01 26 29.8**	**+1.2**		
HNS				sPKP		01 27 14.0			
HNS				PP	**PP**	**01 30 53.9**	**-0.8**		
HNS				AMB	AMB				
	comp=Z,2μm,10.7s								
HNS				LR	LR				
	comp=Z,910nm,24.7s								
HNS				LR	LR				
	comp=Z,600nm,22.0s								
HNS				LR	LR				
	comp=Z,1μm,24.0s								
DAV	**Davao City (W)**	**161.27**	**233**	P	**PKPdf**	**01 26 28.8**	**-0.6**		
AGT	**Agartala**	**161.35**	**71**	*i* x	x	01 26 31.5			
PBA	**Port Blair**	**161.41**	**110**	*e*P	**PKPdf**	**01 26 28.5**	**-1.0**		
PBA				*i* x	x	01 31 31.9			
PBA	**Port Blair**	**161.41**	**110**	P	**PKPdf**	**01 26 31.1**	**+1.6**		
SHL	**Shillong**	**161.48**	**65**	PKPdf	**PKPdf**	**01 26 30.3**	**+0.8**		
SHL	**Shillong**	**161.48**	**65**	*e*P	**PKPdf**	**01 26 28.9**	**-0.7**		
SHL				IAmb	IAmb	01 26 33.9			
	comp=Z,111nm,1.5s								
SHL				*ex*	x	01 27 47.8			
SHL				*i* x	x	01 31 28.8			
SHL	**Shillong**	**161.48**	**65**	PKIKP	**PKPdf**	**01 26 30.3**	**+0.8**		
SHL	**Shillong**	**161.48**	**65**	P	**PKPdf**	**01 26 31.2**	**+1.6**		
	SNR=28								
TIA	**Tai'an**	**161.75**	**343**	PKP	**PKPdf**	**01 26 29.8**	**+0.5**		
TIA				PP	**PP**	**01 30 59.1**	**+1.1**		
TIA				SKKS		01 37 39.1			
TIA				LR	LR				
	comp=Z,380nm,19.4s								
TIA				LR	LR				
	comp=Z,320nm,20.1s								
TIA				LR	LR				
	comp=Z,840nm,23.7s								
MYKOM	**Kota Tinggi**	**161.83**	**158**	PKPdf	**PKPdf**	**01 26 31.2**	**+1.2**		
LZH	**Lanzhou**	**161.83**	**18**	⇓PKP	**PKPdf**	**01 26 31.8**	**+2.2**		
LZH				PP	**PP**	**01 30 58.8**	**+0.1**		
LZH				SKS	**SKSdf**	**01 33 21.8**	**-1.9**		
LZH				SS	**SS**	**01 51 08.4**	**+1.6**		
LZH				AMB	AMB				
	comp=Z,1μm,9.5s								
LZH				LR	LR				
	comp=Z,1μm,21.0s								
LZH				LR	LR				
	comp=Z,1μm,21.4s								
LZH				LR	LR				
	comp=Z,2μm,21.7s								
JOW	**Kunigami**	**161.84**	**299**	PKPdf	**PKPdf**	**01 26 30.1**	**+0.4**		
TEZP	**TEZPUR**	**161.91**	**61**	*e*P	**PKPdf**	**01 26 29.5**	**-0.2**		
DGPR	**DIGLIPUR**	**162.16**	**106**	*e*P	**PKPdf**	**01 26 32.4**	**+2.1**		
DGPR				*i* x	x	01 31 36.0			
SILR	**SILCHAR**	**162.51**	**67**	*e*P	**PKPdf**	**01 26 32.7**	**+2.4**		
KSM	**Kuching**	**162.74**	**179**		**PKPdf**	**01 26 31.0**	**0.0**		
SAIH	**SAIHA**	**163.18**	**75**	*e*P	**PKPdf**	**01 26 32.6**	**+1.3**		
SAIH				*i* x	x	01 31 36.3			
KOHI	**KOHIMA**	**163.33**	**63**	⇓*i*P	**PKPdf**	**01 26 32.1**	**+0.8**		
KOHI				*i* x	x	01 31 42.1			
KULM	**Kulim**	**163.43**	**143**	PKPdf	**PKPdf**	**01 26 31.7**	**+0.1**		
MOKO	**MOKOCHONG**	**163.44**	**60**	⇓*i*P	**PKPdf**	**01 26 32.6**	**+1.2**		
MOKO				*i* x	x	01 31 41.2			
IMP	**Imphal**	**163.49**	**66**	⇓*i*P	**PKPdf**	**01 26 32.1**	**+0.7**		
IMP				*i* x	x	01 27 57.1			
SBUM	**Sibu**	**163.62**	**186**	PKPdf	**PKPdf**	**01 26 31.4**	**-0.3**		
SBUM					**PKPab**	**01 27 21.9**	**-1.8**		
LKP	**Lekhapani**	**164.07**	**55**	*e*P	**PKPdf**	**01 26 32.3**	**+0.5**		
LKP				*i* x	x	01 31 47.4			
LYN	**LuoYang**	**164.26**	**354**	⇓PKP	**PKPdf**	**01 26 33.5**	**+1.8**		
LYN				PKS	**PKSdf**	**01 30 04.6**	**-0.1**		
LYN				PP	**PP**	**01 31 12.0**	**+0.9**		
LYN				AMB	AMB				
	comp=Z,3μm,9.0s								
SSE	**Sheshan**	**164.46**	**324**	PKP	**PKPdf**	**01 26 25.9**	**-6.1**		
SSE				PP	**PP**	**01 31 13.1**	**+0.2**		
SSE				AMB	AMB				
	comp=Z,840nm,6.3s								
SSE				LR	LR				
	comp=Z,260nm,25.0s								
SSE				LR	LR				
	comp=Z,380nm,24.4s								
XAN	**Xi'an**	**164.80**	**5**	⇓PKP	**PKPdf**	**01 26 33.1**	**+0.8**		
XAN				pPKP	pPKPdf	01 27 06.1	-0.2		
XAN				PKPab	**PKPab**	**01 27 30.4**	**+1.9**		
XAN				PP	**PP**	**01 31 14.5**	**+0.6**		
XAN				SKKS		01 37 55.9			
XAN				SS	**SS**	**01 51 42.5**	**+5.7**		
XAN				AMB	AMB				
	comp=Z,2μm,13.0s								
XAN				LR	LR				
	comp=Z,1μm,22.6s								
XAN				LR	LR				
	comp=Z,1μm,23.2s								
XAN				LR	LR				
	comp=Z,2μm,24.5s								
NJ2	**Nanjing**	**164.87**	**332**	⇓PKP	**PKPdf**	**01 26 32.8**	**+0.5**		
NJ2				pPKP	**pPKPdf**	**01 26 58.3**	**-8.1**		
NJ2				PKPab	**PKPab**	**01 27 29.8**	**+0.9**		
NJ2				PP	**PP**	**01 31 16.0**	**+1.3**		
NJ2				SS	SS	01 51 34.9	-3.4		
NJ2				AMB	AMB				
	comp=Z,2μm,6.1s								
NJ2				LR	LR				
	comp=Z,2μm,21.8s								
NJ2				LR	LR				
	comp=Z,1μm,19.9s								
NJ2				LR	LR				
	comp=Z,920nm,18.9s								
SRIT	**Nakonsritamara**	**165.29**	**132**	PKPdf	**PKPdf**	**01 26 34.3**	**+1.1**		
SRIT				PKPab	**PKPab**	**01 27 31.9**	**+0.7**		
SRIT				pPKPab	**pPKPab**	**01 28 04.8**	**+0.9**		
MND	**Mandalay**	**166.11**	**74**	PKPdf	**PKPdf**	**01 26 34.2**	**+0.5**		
KKM	**Kota Kinabalu**	**166.13**	**204**	PKPdf	**PKPdf**	**01 26 34.0**	**-0.1**		
CD2	**Chengdu**	**166.51**	**26**	PKP	**PKPdf**	**01 26 35.4**	**+1.6**		
CD2				pPKP	pPKPdf	01 27 04.9	-2.9		
CD2				PP	**PP**	**01 31 21.0**	**-2.2**		
CD2				SKKS		01 38 01.3			
CD2				SS	**SS**	**01 51 53.6**	**-1.3**		
CD2				AMB	AMB				
	comp=Z,1μm,7.0s								
CD2				LR	LR				
	comp=Z,2μm,33.3s								
CD2				LR	LR				
	comp=Z,2μm,35.3s								
CD2				LR	LR				
	comp=Z,2μm,32.8s								
TNCH	**TengChong**	**167.26**	**59**	PKP	**PKPdf**	**01 26 36.0**	**+1.3**		
TNCH				pPKP	pPKPdf	01 27 04.1	-4.7		
TNCH				sPKP		01 27 17.6			
TNCH				PKPab	**PKPab**	**01 27 38.3**	**-1.8**		
TNCH				PP	**PP**	**01 31 29.6**	**+1.0**		
TNCH				SKS	**SKSdf**	**01 33 24.5**	**-3.5**		
TNCH				SKKS	**SKKSac**	**01 38 05.5**	**+0.5**		
TNCH				AMB	AMB				
	comp=Z,780nm,11.6s								
WHN	**Wuhan**	**167.85**	**344**	PKP	**PKPdf**	**01 26 36.1**	**+1.4**		
WHN				pPKP	**pPKPdf**	**01 27 08.6**	**-0.1**		
WHN				sPKP		01 27 21.1			
WHN				PKPab	**PKPab**	**01 27 42.4**	**+0.4**		
WHN				PP	**PP**	**01 31 31.6**	**+1.9**		
WHN				SKS	**SKSdf**	**01 33 25.6**	**-2.0**		
WHN				SS	**SS**	**01 52 04.3**	**-3.5**		
WHN				LR	LR				
	comp=Z,3μm,20.5s								
WHN				LR	LR				
	comp=Z,2μm,18.2s								
WHN				LR	LR				
	comp=Z,3μm,20.4s								
ENH	**Enshi**	**168.58**	**5**	PKPdf	**PKPdf**	**01 26 35.9**	**+0.7**		
PZH	**PanZhiHua**	**168.86**	**45**	PKP	**PKPdf**	**01 26 35.5**	**-0.2**		
PZH				pPKP	**pPKPdf**	**01 27 09.3**	**-0.4**		
PZH				PKPab	**PKPab**	**01 27 49.8**	**+2.8**		
PZH				PP	**PP**	**01 31 40.5**	**+4.4**		
PZH				SKKS		01 38 13.8			
PZH				SS	**SS**	**01 52 19.3**	**-0.8**		
PZH				AMB	AMB				
	comp=Z,1μm,12.0s								
PZH				LR	LR				
	comp=Z,950nm,19.6s								
PZH				LR	LR				
	comp=Z,640nm,19.6s								
PZH				LR	LR				
	comp=Z,1μm,20.1s								
CM31	**Chiang Mai Arr**	**169.00**	**90**	PKPdf	**PKPdf**	**01 26 37.2**	**+1.4**		
CM31	**Chiang Mai Arr**	**169.00**	**90**	P	**PKPdf**	**01 26 36.8**	**+1.0**		
	SNR=16								
CMAR	**Chiang Mai Arr**	**169.00**	**90**	PKPdf	**PKPdf**	**01 26 36.4**	**+0.5**		
CMAR	**Chiang Mai Arr**	**169.00**

IDC ***21*** *01:39:16.4±2.0,40.°67N×78.°35E,h0km,mb3.4/5, mbtmp3.4/10,ML2.7/5.Error ellipse: s-maj=27.6km s-min=16.5km az=169.0*
SOME ***21*** *01:39:17.7,40.°88N×78.°28E,h0km*
NNC ***21*** *01:39:18.5±0.7,40.°82N×78.°36E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=4.8km s-min=3.2km az=165.0*
KRNET ***21*** *01:39:18.3±0.1,40.°69N×78.°51E,mb3.6*
ISC 21 01:39:17.6±1.8,40.78N±0.06×78.32E±0.03,h3km±10km, n98,σ1§52/144,mb3.5/5,41C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay** baz=26	**1.60**	**328**	⇑*iP*			**Pn**	**01 39 47.3**	**+0.3**
KDJ	baz=26			⇑*iS*			**Sn**	**01 40 08.7**	**+0.5**
PRZ	**Przheval'sk** baz=57	**1.70**	**2**	⇑*iP*			**Pn**	**01 39 48.4**	**0.0**
PRZ	baz=57			⇑*iS*			**Sn**	**01 40 09.9**	**-0.9**
NRN	**Naryn** baz=92	**1.87**	**291**	⇑*iP*			**Pn**	**01 39 51.5**	**+0.7**
NRN	baz=92			⇑*iS*			**Sn**	**01 40 15.8**	**+0.6**
ANVS	**Anan'yevo** baz=44	**2.06**	**346**	⇑*iP*			**Pn**	**01 39 53.5**	**+0.2**
ANVS	baz=44			⇑*iS*			**Sn**	**01 40 19.2**	**-0.4**
ULHL	**Ulahol** SNR=18	**2.14**	**314**	P			**Pb**	**01 39 57.4**	**+0.2**
ULHL	**Ulahol** baz=13	**2.14**	**314**	⇓*iP*			**Pn**	**01 39 55.2**	**+0.8**
ULHL	baz=13			⇓*iS*			**Sn**	**01 40 21.9**	**+0.2**
SATY	**Saty** 70nm,0.4s	**2.28**	**2**	Pg			**Pb**	**01 40 00.1**	**+0.7**
SATY	637nm,1.0s			Lg			Lg	01 40 31.1	
SATY	**Saty** 83nm,0.3s	**2.28**	**2**	*eP*			**Pb**	**01 40 00.1**	**+0.7**
SATY	623nm,0.4s			*eS*			**Sg**	**01 40 30.6**	**-0.2**
ZHN	**Zhinishke** 124nm,0.2s	**2.39**	**2**	Pg			**Pb**	**01 40 01.8**	**+0.5**
ZHN	514nm,0.7s			Lg			Lg	01 40 33.3	
ZHN	**Zhinishke** 124nm,0.2s	**2.39**	**2**	*eP*			**Pb**	**01 40 01.8**	**+0.5**
ZHN	514nm,0.3s			*eS*			**Sg**	**01 40 33.2**	**-1.0**
UZB	**Uzynbulak** 20nm,0.3s	**2.42**	**12**	Pg			**Pb**	**01 40 02.0**	**+0.1**
UZB	294nm,0.5s			Lg			Lg	01 40 33.5	
UZB	**Uzynbulak** 20nm,0.1s	**2.42**	**12**	*eP*			**Pb**	**01 40 02.0**	**+0.1**
UZB	290nm,0.2s			*eS*			**Sg**	**01 40 33.5**	**-1.9**
TNSS	**Tian-Shan** 121nm,0.4s	**2.48**	**336**	Pg			**Pb**	**01 40 03.7**	**+0.7**
TNSS	126nm,0.5s			Lg			Lg	01 40 36.4	
TNSS	**Tian-Shan** 121nm,0.1s	**2.48**	**336**	*eP*			**Pb**	**01 40 03.7**	**+0.7**
TNSS	138nm,0.3s			*eS*			**Sg**	**01 40 36.5**	**-0.7**
SHLS	**Shalkode** 73nm,0.3s	**2.52**	**19**	Pg			**Pg**	**01 40 06.7**	**+0.8**
SHLS	1µm,0.7s			Lg			Lg	01 40 41.8	
SHLS	**Shalkode** 73nm,0.3s	**2.52**	**19**	*eP*			**Pg**	**01 40 06.7**	**+0.8**
SHLS	1µm,0.3s			*eS*			**Sg**	**01 40 41.9**	**+3.2**
MDOK	**Medeo** 90nm,0.6s	**2.56**	**339**	⇑Pg			**Pb**	**01 40 04.6**	**+0.3**
MDOK	66nm,0.5s			Pg			**Pb**	**01 40 04.9**	**+0.6**
MDOK	620nm,0.7s			Lg			Lg	01 40 38.6	
MDOK	333nm,0.6s			⇓Lg			Lg	01 40 41.0	
MDOK	**Medeo** 66nm,0.2s	**2.56**	**339**	*eP*			**Pb**	**01 40 04.9**	**+0.6**
MDOK	617nm,0.3s			*eS*			**Sg**	**01 40 38.6**	**-1.3**
KOTS	**Kotyrbulak** 96nm,0.5s	**2.61**	**340**	Pg			**Pb**	**01 40 06.4**	**+1.2**
KOTS	376nm,0.3s			Lg			Lg	01 40 41.6	
KOTS	**Kotyrbulak** 72nm,0.2s	**2.61**	**340**	*eP*			**Pb**	**01 40 06.4**	**+1.2**
KOTS	376nm,0.3s			*eS*			**Sg**	**01 40 41.6**	**+0.1**
KNDC	**Almaty** 67nm,0.3s	**2.64**	**338**	⇑Pg			**Pb**	**01 40 06.0**	**+0.4**
KNDC	399nm,0.9s			⇑Lg			Lg	01 40 43.4	
AAA	**Alma-Ata** 324nm,0.5s	**2.64**	**337**	Pg			**Pb**	**01 40 07.3**	**+1.6**
AAA	670nm,0.6s			Lg			Lg	01 40 43.2	
AAA	**Alma-Ata** 324nm,0.1s	**2.64**	**337**	*eP*			**Pb**	**01 40 07.3**	**+1.6**
AAA	670nm,0.3s			*eS*			**Sg**	**01 40 43.2**	**+0.7**
PDGK	**Podgornoye** 17nm,0.4s	**2.69**	**18**	Pg			**Pb**	**01 40 07.2**	**+0.7**
PDGK	151nm,0.6s			Lg			Lg	01 40 42.1	
KPKS	**Kokpek** 68nm,0.2s	**2.70**	**6**	Pg			**Pb**	**01 40 07.3**	**+0.8**
KPKS	656nm,0.6s			Lg			Lg	01 40 42.8	
KPKS	**Kokpek** 68nm,0.1s	**2.70**	**6**	*eP*			**Pb**	**01 40 07.3**	**+0.8**
KPKS	655nm,0.2s			*eS*			**Sg**	**01 40 42.8**	**-1.4**
KURS	**Kuram** 65nm,0.6s	**2.71**	**358**	Pg			**Pb**	**01 40 07.6**	**+0.8**
KURS	166nm,0.9s			Lg			Lg	01 40 43.2	
KURS	**Kuram** 43nm,0.9s	**2.71**	**358**	*eP*			**Pb**	**01 40 07.6**	**+0.8**
KURS	165nm,0.3s			*eS*			**Sg**	**01 40 43.2**	**-1.4**
KASK	**Kaskelen**	**2.74**	**333**	⇑Pg			**Pb**	**01 40 08.7**	**+1.5**
KASK				⇓Lg			Lg	01 40 46.5	
MTBS	**Maitube** 36nm,0.3s	**2.74**	**330**	Pg			**Pb**	**01 40 08.3**	**+1.0**
MTBS	150nm,0.8s			Lg			Lg	01 40 44.3	
MTBS	**Maitube** 36nm,0.1s	**2.74**	**330**	*eP*			**Pb**	**01 40 08.3**	**+1.0**
MTBS	128nm,0.2s			*eS*			**Sg**	**01 40 44.3**	**-1.3**
KST	**Kastek** 37nm,0.6s	**2.87**	**323**	Pg			**Pb**	**01 40 10.4**	**+0.9**
KST	187nm,0.5s			Lg			Lg	01 40 48.5	
KST	**Kastek** 36nm,0.2s	**2.87**	**323**	*eP*			**Pb**	**01 40 10.4**	**+0.9**
KST	187nm,0.5s			*eS*			**Sg**	**01 40 48.5**	**-1.1**
TKM2	**Tokmak 2** SNR=9.7	**2.95**	**317**	P			**Pb**	**01 40 09.2**	**-1.8**
TKM2	**Tokmak 2** 14nm,0.6s	**2.95**	**317**	⇓Pg			**Pb**	**01 40 12.2**	**+1.3**
TKM2	73nm,0.6s			⇓Lg			Lg	01 40 52.6	
TKM2	**Tokmak 2** baz=17	**2.95**	**317**	⇑*iP*			**Pn**	**01 40 06.5**	**+0.9**
TKM2	baz=17			⇑*iS*			**Sn**	**01 40 41.6**	**-0.1**
KTMS	**Ketmen** 18nm,0.5s	**3.06**	**29**	Pg			**Pb**	**01 40 12.7**	**-0.1**
KTMS	106nm,0.7s			Lg			Lg	01 40 52.0	
KTMS	**Ketmen** 19nm,0.2s	**3.06**	**29**	*eP*			**Pb**	**01 40 12.7**	**-0.1**
KTMS	110nm,0.5s			*eS*			**Sb**	**01 40 52.0**	**+1.3**
DGS	**Degeres** 27nm,0.6s	**3.11**	**323**	Pg			**Pb**	**01 40 15.4**	**+1.8**
DGS	207nm,0.6s			Lg			Lg	01 40 57.1	
DGS	**Degeres** 27nm,0.3s	**3.11**	**323**	*eP*			**Pb**	**01 40 15.5**	**+2.0**
DGS	207nm,0.3s			*eS*			**Sg**	**01 40 57.1**	**-0.3**
KBK	**Karagaybulak** SNR=5.5	**3.15**	**308**	P			**Pg**	**01 40 17.6**	**-0.3**
KBK	**Karagaybulak** baz=8.0	**3.15**	**308**	⇑*iP*			**Pn**	**01 40 09.3**	**+1.1**
KBK	baz=8.0			⇑*iS*			**Sn**	**01 40 46.3**	**-0.1**
KTBS	**Karatobe** 33nm,0.5s	**3.17**	**338**	Pg			**Pb**	**01 40 15.5**	**+0.9**
KTBS	168nm,0.4s			Lg			Lg	01 40 56.8	
KTBS	**Karatobe** 33nm,0.2s	**3.17**	**338**	*eP*			**Pb**	**01 40 15.5**	**+0.9**
KTBS	168nm,0.4s			*eS*			**Sg**	**01 40 56.8**	**-2.7**
ARLS	**Aral** baz=92	**3.20**	**291**	⇑*iP*			**Pn**	**01 40 09.6**	**+0.7**
ARLS	baz=92			⇑*iS*			**Sn**	**01 40 47.1**	**-0.6**
UCH	**Uchtor** SNR=13	**3.21**	**298**	P			**Pb**	**01 40 16.8**	**+1.4**
UCH	**Uchtor** baz=98	**3.21**	**298**	⇓*eP*			**Pn**	**01 40 10.0**	**+0.7**
UCH	baz=98			⇓*iS*			**Sn**	**01 40 48.0**	**-0.2**
CHKK	**Chushkaly** 42nm,0.3s	**3.23**	**343**	Pg			**Pb**	**01 40 16.0**	**+0.5**
CHKK	315nm,0.5s			Lg			Lg	01 40 59.9	
CHKK	**Chushkaly** 44nm,0.2s	**3.23**	**343**	*eP*			**Pb**	**01 40 17.0**	**+1.5**
CHKK	313nm,0.2s			*eS*			**Sg**	**01 40 59.9**	**-1.4**
BLB	**Baldybastay** 76nm,0.6s	**3.32**	**2**	Pg			**Pb**	**01 40 18.5**	**+1.3**
BLB	64nm,0.6s			Lg			Lg	01 41 02.3	
AAK	**Ala-Archa** SNR=15	**3.41**	**304**	P			**Pb**	**01 40 20.3**	**+1.5**
AAK	**Ala-Archa** 0.8nm,0.3s,baz=132,slow=10,SNR=6.8	**3.41**	**304**	Pn			**Pn**	**01 40 15.4**	**+3.5**
AAK	6.9nm,0.3s,baz=134,slow=9.9,SNR=67			Pg			**Pb**	**01 40 20.3**	**+1.5**
AAK	4.7nm,0.3s,baz=293,slow=16,SNR=21 5.3nm,0.4s			Lg			Lg	01 41 05.3	
AAK	**Ala-Archa** baz=4.0	**3.41**	**304**	⇑*iP*			**Pn**	**01 40 12.8**	**+0.9**
AAK	baz=4.0			⇑*iS*			**Sn**	**01 40 52.7**	**-0.3**
FRU1	**Bishkek** baz=7.0	**3.42**	**308**	⇑*eP*			**Pn**	**01 40 13.2**	**+1.2**
FRU1	baz=7.0			⇑*eS*			**Sn**	**01 40 53.2**	**+0.1**
KUU	**Kurty** 16nm,0.3s	**3.44**	**335**	Pg			**Pb**	**01 40 20.0**	**+0.8**
KUU	164nm,0.7s			Lg			Lg	01 41 05.2	
KUU	**Kurty** 16nm,0.2s	**3.44**	**335**	*eP*			**Pb**	**01 40 20.0**	**+0.8**
KUU	164nm,0.7s			*eS*			**Sg**	**01 41 05.2**	**-2.9**
ARXS	**Arharly** 36nm,0.7s	**3.45**	**354**	Pg			**Pb**	**01 40 21.2**	**+1.8**
ARXS	172nm,0.5s			Lg			Lg	01 41 06.6	
ARXS	**Arharly** 40nm,0.3s	**3.45**	**354**	*eP*			**Pb**	**01 40 21.2**	**+1.8**
ARXS	172nm,0.5s			*eS*			**Sg**	**01 41 06.6**	**-1.8**
CHMS	**Chumysh** SNR=12	**3.47**	**311**	P			**Pb**	**01 40 21.1**	**+1.5**
CHMS	**Chumysh** 11nm,0.5s	**3.47**	**311**	⇑Pg			**Pb**	**01 40 21.1**	**+1.5**
CHMS	215nm,1.2s			⇓Lg			Lg	01 41 08.7	
CHMS	**Chumysh** baz=11	**3.47**	**311**	⇑*iP*			**Pn**	**01 40 13.6**	**+1.1**
CHMS	baz=11			⇑*iS*			**Sn**	**01 40 53.7**	**-0.4**
KRBS	**Karabastau** 18nm,0.3s	**3.51**	**327**	Pg			**Pb**	**01 40 21.1**	**+0.6**
KRBS	100nm,0.5s			Lg			Lg	01 41 06.8	
KRBS	**Karabastau** 18nm,0.3s	**3.51**	**327**	*eP*			**Pb**	**01 40 21.1**	**+0.6**
KRBS	100nm,0.2s			*eS*			**Sb**	**01 41 06.8**	**+3.3**
KNOS	**Konyrlen** 31nm,0.6s	**3.63**	**10**	Pg			**Pb**	**01 40 24.3**	**+1.8**
KNOS	34nm,0.3s			Lg			Lg	01 41 11.9	
DJR	**Jarkent** 6.9nm,0.3s	**3.71**	**17**	Pg			**Pb**	**01 40 25.3**	**+1.4**
DJR	83nm,0.4s			Lg			Lg	01 41 13.6	
DJR	**Jarkent** 6.8nm,0.1s	**3.71**	**17**	*eP*			**Pb**	**01 40 25.3**	**+1.4**
DJR	83nm,0.4s			*eS*			**Sg**	**01 41 13.6**	**-3.2**
AML	**Almayashu** SNR=11	**3.73**	**293**	P			**Pb**	**01 40 27.0**	**+2.6**
AML	**Almayashu** 0.7nm,0.4s	**3.73**	**293**	⇑Pg			**Pb**	**01 40 27.2**	**+2.8**
AML	8.5nm,0.6s			⇑Lg			Lg	01 41 16.9	
AML	**Almayashu** baz=93	**3.73**	**293**	⇑*iP*			**Pn**	**01 40 17.5**	**+1.0**
AML	baz=93			⇑*iS*			**Sn**	**01 41 00.5**	**-0.6**
SFK	**Sufi-Kurgan** baz=62	**3.76**	**260**	⇑*iP*			**Pn**	**01 40 17.0**	**+0.3**
SFK	baz=62			⇑*iS*			**Sn**	**01 40 59.8**	**-1.8**
USP	**Ospenovka** SNR=7.7	**3.78**	**312**	P			**Pb**	**01 40 25.9**	**+0.9**
USP	**Ospenovka** baz=12	**3.78**	**312**	⇑*iP*			**Pn**	**01 40 17.7**	**+0.9**
USP	baz=12			⇑*iS*			**Sn**	**01 41 01.0**	**-0.8**
SGDS	**Sogindy** 5.3nm,0.4s	**3.83**	**315**	Pg			**Pb**	**01 40 27.5**	**+1.6**
SGDS	76nm,0.8s			Lg			Lg	01 41 17.9	
EKS2	**Erkin-Say** SNR=8.7	**3.89**	**300**	P			**Pb**	**01 40 29.8**	**+2.9**
EKS2	**Erkin-Say** baz=1.0	**3.89**	**300**	⇑*iP*			**Pn**	**01 40 19.4**	**+1.0**
EKS2	baz=1.0			⇑*iS*			**Sn**	**01 41 03.9**	**-0.7**
ARSB	**Arslanbob** baz=80	**4.07**	**279**	⇑*eP*			**Pn**	**01 40 21.8**	**+0.8**
ARSB	baz=80			⇑*iS*			**Sn**	**01 41 08.1**	**-1.1**
TDK	**Taldyqorghan** 46nm,0.5s	**4.22**	**1**	Pg			**Pb**	**01 40 35.0**	**+2.5**
TDK	80nm,0.6s			Lg			Lg	01 41 30.1	
TDK	**Taldyqorghan** 32nm,0.2s	**4.22**	**1**	*eP*			**Pb**	**01 40 34.7**	**+2.2**
TDK	80nm,0.6s			*eS*			**Sg**	**01 41 30.1**	**-3.0**
MRKS	**Merke** 9.9nm,0.5s	**4.29**	**299**	Pg			**Pb**	**01 40 36.1**	**+2.5**
MRKS	28nm,0.7s			Lg			Lg	01 41 32.1	
MRKS	**Merke** 9.8nm,0.2s	**4.29**	**299**	*eP*			**Pb**	**01 40 35.9**	**+2.2**
MRKS	28nm,0.2s			*eS*			**Sg**	**01 41 32.1**	**-3.1**
KAPS	**Kapalarasan** 5.4nm,0.4s	**4.57**	**9**	Pg			**Pb**	**01 40 40.3**	**+1.9**
KAPS	31nm,0.5s			Lg			Lg	01 41 39.9	
KAPS	**Kapalarasan** 5.7nm,0.3s	**4.57**	**9**	*eP*			**Pb**	**01 40 40.3**	**+1.9**
KAPS	18nm,0.2s			*eS*			**Sg**	**01 41 39.9**	**-4.3**
BTLS	**Baital** 2.7nm,0.7s	**5.29**	**325**	Pg			**Pb**	**01 40 53.7**	**+3.0**
BTLS	17nm,1.1s			Lg			Lg	01 42 02.8	
BTLS	**Baital** 2.7nm,0.7s	**5.29**	**325**	*eP*			**Pb**	**01 40 53.7**	**+3.0**
BTLS	17nm,1.1s			*eS*			**Sg**	**01 42 02.8**	**-4.6**
TRKS	**Terek-Say** baz=80	**5.47**	**280**	⇓*iP*			**Pn**	**01 40 40.7**	**+0.5**
TRKS	baz=80			⇓*iS*			**Sn**	**01 41 40.6**	**-3.1**
BTK	**Batken** baz=66	**5.77**	**265**	⇑*iP*			**Pn**	**01 40 44.3**	**+0.1**
BTK	baz=66			⇑*iS*			**Sn**	**01 41 47.7**	**-3.3**
KK31	**Karatay Array** 2.4nm,0.7s,baz=116,slow=17,SNR=20	**6.27**	**294**	⇑Pg			Pb	01 41 12.9	+5.5
KK31	2.4nm,0.5s,baz=110,slow=25,SNR=5.0			Lg			Lg	01 42 40.1	
MAKZ	**Makanchi** 4.9nm,1.3s	**6.58**	**22**	⇓Pn			**Pn**	**01 40 56.0**	**+0.7**
MAKZ	14nm,1.2s			⇓Lg			Lg	01 42 47.9	
MK31	**Makanchi Array** 0.7nm,0.4s,baz=208,slow=14,SNR=28	**6.66**	**24**	Pn			**Pn**	**01 40 56.5**	**+0.1**
MK31	2.7nm,0.6s			⇓Sn			**Sn**	**01 42 12.6**	**-0.2**
MK31	8.0nm,0.7s,baz=205,slow=28			⇑Lg			Lg	01 42 49.6	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=207,slow=14,SNR=14	**6.66**	**24**	Pn			**Pn**	**01 40 56.9**	**+0.6**
MKAR	0.4nm,0.3s,baz=199,slow=21,SNR=2.2			Sn			**Sn**	**01 42 14.2**	**+1.4**
MKAR	0.8nm,0.3s,baz=202,slow=23,SNR=4.0 0.3nm,0.3s			Lg			Lg	01 42 45.6	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=188,slow=12,SNR=5.4	**9.85**	**1**	Pn			**Pn**	**01 41 40.3**	**+0.4**
KURBB	0.2nm,0.3s,baz=181,slow=28,SNR=5.6 0.5nm,0.5s			Lg			Lg	01 44 28.2	
BVAR	**Borovoye Array** baz=147,slow=13,SNR=4.9	**13.38**	**339**	Pn			**Pn**	**01 42 27.4**	**-0.9**
BVAR	baz=148,slow=30,SNR=6.1 0.8nm,0.5s			Lg			Lg	01 46 18.3	
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=207,slow=13,SNR=3.2 0.2nm,0.3s	**13.88**	**16**	Pn			**Pn**	**01 42 35.1**	**0.0**
SONM	**Songino Array** 0.5nm,0.7s,baz=262,slow=10.0,SNR=3.1 0.5nm,0.7s	**21.21**	**61**	P			**P**	**01 44 04.3**	**-0.3**
BRTR	**Keskin Array B** 0.9nm,0.9s,baz=90,slow=8.6,SNR=4.5 0.9nm,0.9s	**33.84**	**283**	P			**P**	**01 46 00.5**	**-0.8**
ARCES	**ARCESS Array B** 0.9nm,0.8s,baz=110,slow=8.0,SNR=0.9 0.9nm,0.8s	**39.60**	**334**	P			**P**	**01 46 49.8**	**0.0**
NOA	**NORSAR Array B** 0.1nm,0.4s,baz=89,slow=7.6,SNR=1.5 0.1nm,0.4s	**44.59**	**320**	P			**P**	**01 47 30.3**	**-0.4**
GERES	**GERESS Array B** 0.6nm,0.7s,baz=90,slow=6.3,SNR=2.6 0.6nm,0.7s	**45.29**	**303**	P			**P**	**01 47 36.2**	**-0.4**

NERS ***21*** *01:54:31.5,60.°19N×176.°15W,h10km,MPV4.6*
IDC ***21*** *01:54:40.5±0.7,60.°38N×177.°75W,h0km,mb3.9/21, mbtmp3.9/25,ML3.8/4,Error ellipse: s-maj=25.9km s-min=10.6km az=3.0*
MOS ***21*** *01:54:41.4±1.1,60.°52N×177.°53W,h14km,mb4.6/30, Error ellipse: s-maj=9.9km s-min=8.1km az=98.7*
NEIC ***21*** *01:54:42.4±1.6,60.°52N±0.°06×177.°5W±0.°1,h10km±1km, mb4.5/129,ML4.8(AEIC),Error ellipse: s-maj=10.7km s-min=10.5km az=212.0*
AEIC ***21*** *01:54:42.9±2.6,60.°53N±0.°07×178.°2W±0.°1,h10km±4km, Error ellipse: s-maj=9.8km s-min=9.1km az=49.0*
ISC 21 01:54:41.9±0.3,60.42N±0.°05×177.31W±0.°04,h10km, n588,σ2§28/540,mb4.4/91,MS4.5/3,5C-1D,Bering Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**4.28**	**36**				**Pn**	**01 55 45.8**	**-1.1**
GAMB	**Gambell**	**4.28**	**36**				**Sn**	**01 56 34.2**	**-2.6**
GAMB	**Gambell** baz=222,SNR=8.3	**4.28**	**36**	P			**Pn**	**01 55 48.7**	**+1.8**
SPIA	**Saint Paul Isl**	**4.90**	**128**				**Pn**	**01 55 56.9**	**+1.4**
SPIA	**Saint Paul Isl**	**4.90**	**128**				**Sn**	**01 56 53.9**	**+1.7**
SPIA	**Saint Paul Isl** baz=315	**4.90**	**128**	P			**Pn**	**01 55 55.6**	**+0.1**
ANDR	**Anadyr'**	**4.96**	**333**	*eP*			**Pn**	**01 55 54.5**	**-1.7**
ANDR				*ePg*			**Pb**	**01 56 10.1**	**+1.5**
ANDR				Pgmax				01 56 14.1	
ANDR				*eSg*			**Sg**	**01 57 20.4**	**-0.4**
ANDR	730nm,0.9s			Sgmax				01 57 50.9	
M11K	**Mekoryuk**	**5.51**	**85**				**Pn**	**01 56 05.7**	**+1.9**
M11K							**Sn**	**01 57 10.1**	**+3.1**
M11K	**Mekoryuk** baz=276,SNR=9.1	**5.51**	**85**	P			**Pn**	**01 56 06.2**	**+2.4**
P08K	**Saint George I** baz=317	**5.58**	**130**	P			**Pn**	**01 56 04.2**	**-0.7**
TNA	**Tin City**	**6.70**	**36**				**Pn**	**01 56 18.9**	**-1.2**
TNA	**Tin City** baz=225,SNR=7.5	**6.70**	**36**	P			**Pn**	**01 56 18.7**	**-1.4**
M13K	**Dall Lake**	**6.91**	**84**				**Pn**	**01 56 25.1**	**+2.0**
M13K	**Dall Lake** baz=277	**6.91**	**84**	P			**Pn**	**01 56 24.7**	**+1.7**
ANM	**Nome**	**6.91**	**48**				**Pn**	**01 56 22.5**	**-0.6**
ANM	**Nome** baz=240	**6.91**	**48**	P			**Pn**	**01 56 23.6**	**+0.4**
ANM	**Nome**	**6.91**	**48**	PN			**Pn**	**01 56 22.5**	**-0.6**
J14K	**Nanvaranak Lak**	**6.97**	**64**				**Pn**	**01 56 23.8**	**0.0**
J14K	**Nanvaranak Lak** baz=258	**6.97**	**64**	P			**Pn**	**01 56 23.8**	**0.0**
F14K	**Arctic Creek**	**7.12**	**40**				**Pn**	**01 56 24.6**	**-1.4**
F14K	**Arctic Creek** baz=231	**7.12**	**40**	P			**Pn**	**01 56 25.7**	**-0.3**
L14K	**Kuka Creek**	**7.20**	**76**				**Pn**	**01 56 28.2**	**+1.2**
L14K	**Kuka Creek** baz=270	**7.20**	**76**	P			**Pn**	**01 56 28.0**	**+1.0**
M14K	**Bethel**	**7.57**	**81**	Pn			**Pn**	**01 56 33.3**	**+1.3**
M14K	**Bethel** baz=275	**7.57**	**81**	P			**Pn**	**01 56 33.1**	**+1.1**
G15K	**Niukluk**	**7.63**	**47**				**Pn**	**01 56 32.8**	**-0.1**
G15K	**Niukluk** baz=240	**7.63**	**47**	P			**Pn**	**01 56 33.5**	**+0.6**
L15K	**Ungalak Mounta**	**7.78**	**74**				**Pn**	**01 56 36.0**	**+0.9**
L15K	**Ungalak Mounta** baz=269	**7.78**	**74**	P			**Pn**	**01 56 35.4**	**+0.4**
N14K	**Kuskokwak Cree**	**7.81**	**87**				**Pn**	**01 56 37.1**	**+1.7**
N14K	**Kuskokwak Cree** baz=281	**7.81**	**87**	P			**Pn**	**01 56 36.5**	**+1.2**
K15K	**Wolf Creek Mou**	**7.81**	**69**				**Pn**	**01 56 36.5**	**+1.1**
K15K	**Wolf Creek Mou** baz=264	**7.81**	**69**	P			**Pn**	**01 56 36.7**	**+1.2**
F15K	**North Star Dit**	**7.81**	**42**				**Pn**	**01 56 34.9**	**-0.5**
F15K	**North Star Dit** baz=234	**7.81**	**42**	P			**Pn**	**01 56 35.9**	**+0.5**
H16K	**Elim** baz=247,SNR=32	**8.14**	**52**	P			**Pn**	**01 56 40.5**	**+0.5**
O14K	**Tigyukauivet M**	**8.16**	**91**				**Pn**	**01 56 42.0**	**+1.8**
O14K	**Tigyukauivet M** baz=286	**8.16**	**91**	P			**Pn**	**01 56 41.8**	**+1.5**
M15K	**Kasigluk River**	**8.19**	**81**				**Pn**	**01 56 42.4**	**+1.7**
M15K	**Kasigluk River** baz=276	**8.19**	**81**	P			**Pn**	**01 56 42.4**	**+1.7**
KOFP	**Korovin Flat P**	**8.35**	**166**				**Pn**	**01 56 42.5**	**-0.4**
J16K	**Anvik River**	**8.40**	**63**				**Pn**	**01 56 43.9**	**+0.4**
J16K	**Anvik River** baz=258	**8.40**	**63**	P			**Pn**	**01 56 45.2**	**+1.8**
ATKA	**Atka Island**	**8.41**	**167**	Pn			**Pn**	**01 56 42.2**	**-1.5**
G16K	**Koyuk River**	**8.44**	**47**				**Pn**	**01 56 44.3**	**+0.2**
G16K	**Koyuk River** baz=242	**8.44**	**47**	P			**Pn**	**01 56 43.9**	**-0.1**
I17K	**Unalakleet**	**8.51**	**59**	Pn			**Pn**	**01 56 44.5**	**-0.5**
I17K	**Unalakleet** baz=254	**8.51**	**59**	P			**Pn**	**01 56 45.2**	**+0.2**
N15K	**Kwethluk River**	**8.55**	**84**				**Pn**	**01 56 47.4**	**+1.8**
N15K	**Kwethluk River** baz=280	**8.55**	**84**	P			**Pn**	**01 56 47.2**	**+1.5**
ADK	**Adak**	**8.56**	**177**	Pn			**Pn**	**01 56 49.5**	**+3.8**
ADK	**Adak**	**8.56**	**177**	PN			**Pn**	**01 56 49.5**	**+3.8**
CLES	**Cleveland East**	**8.63**	**149**	Pn			**Pn**	**01 56 47.6**	**+0.9**
L16K	**Owhat River**	**8.74**	**74**				**Pn**	**01 56 49.7**	**+1.5**
L16K	**Owhat River** baz=270,SNR=19	**8.74**	**74**	P			**Pn**	**01 56 50.5**	**+2.4**
NIKH	**Nikolski High**	**8.79**	**144**				**Pn**	**01 56 50.5**	**+1.7**
NIKH	**Nikolski High** baz=331	**8.79**	**144**	P			**Pn**	**01 56 48.7**	**-0.1**
UNV	**Unalaska Valle** baz=323	**8.82**	**134**	P			**Pn**	**01 56 48.7**	**-0.5**

O15K Ungalikthiuk R 8.90 90 P Pn 01 56 53.4 +3.1
baz=286
WECS Westdahl Cape 8.95 126 Pn 01 56 53.5 +2.3
M16K Timber Creek 9.01 78 Pn 01 56 53.9 +2.0
M16K Timber Creek 9.01 78 P Pn 01 56 54.7 +2.8
baz=275
G17K Kiwalik Mounta 9.12 49 P Pn 01 56 55.4 +2.0
baz=245
N16K Nishlik Lake 9.16 82 P Pn 01 56 56.6 +2.6
baz=278
H17K Granite Mounta 9.18 53 Pn 01 56 54.5 +0.4
H17K Granite Mounta 9.18 53 P Pn 01 56 55.3 +1.2
baz=249
FALS False Pass 9.29 121 P Pn 01 56 57.1 +1.4
baz=313
L17K Donlin 9.31 71 P Pn 01 56 58.6 +2.6
baz=269
K17K Iditarod 9.35 68 Pn 01 56 57.0 +0.5
K17K Iditarod 9.35 68 P Pn 01 56 58.0 +1.6
baz=265
F17K Baldwin Pennin 9.37 43 Pn Pn 01 56 58.3 +1.5
F17K Baldwin Pennin 9.37 43 P Pn 01 56 58.4 +1.7
baz=238
C16K Lisburne Hills 9.42 28 Pn Pn 01 56 56.5 -0.9
C16K Lisburne Hills 9.42 28 P Pn 01 56 58.1 +0.7
baz=220
M17K Holitna River 9.72 76 P Pn 01 57 01.2 -0.4
baz=274
H18K Honhosa River 9.87 53 Pn 01 57 04.2 +0.6
H18K Honhosa River 9.87 53 P Pn 01 57 04.5 +0.9
baz=251
N17K Nushagak Hills 9.93 81 Pn Pn 01 57 06.9 +2.5
N17K Nushagak Hills 9.93 81 P Pn 01 57 06.8 +2.4
baz=279
G18K Tagagawik 10.04 49 P Pn 01 57 07.7 +1.7
baz=246
L18K Granite Mounta 10.06 71 Pn Pn 01 57 07.0 +0.7
L18K Granite Mounta 10.06 71 P Pn 01 57 08.9 +2.6
baz=270
C17K DeLong Mountai 10.10 31 P Pn 01 57 08.5 +1.7
baz=224
O17K Koliganek Bris 10.11 85 P Pn 01 57 09.8 +2.9
baz=283
E18K Tukpahlearik C 10.14 39 Pn 01 57 08.4 +1.1
E18K Tukpahlearik C 10.14 39 P Pn 01 57 10.4 +3.2
baz=235
J18K Innoko River 10.15 64 Pn 01 57 08.7 +1.2
J18K Innoko River 10.15 64 P Pn 01 57 09.2 +1.7
baz=263
GCSA Galena City Sc 10.35 56 P Pn 01 57 11.4 +1.3
baz=255
TTA Tatalina 10.41 67 Pn Pn 01 57 12.1 +0.9
TTA Tatalina 10.41 67 P Pn 01 57 12.8 +1.7
baz=266
TTA Tatalina 10.41 67 PN Pn 01 57 12.1 +0.9
BILL Bilibino 10.43 324 Pn Pn 01 57 08.8 -2.5
BILL Bilibino 10.43 324 *i* PN Pn 01 57 10.0 -1.3
BILL Bilibino 10.43 324 *eP* Pn 01 57 10.0 -1.3
BILL Pmax 01 57 13.2
BILL *eS* Sn 01 59 34.6 +27
BILL *eS* 02 00 22.6
BILL Sgmax 02 00 50.1
70nm,1.2s
M18K Stony River 10.49 75 P Pn 01 57 15.1 +2.9
baz=274
N18K Kilae Creek 10.54 79 Pn Pn 01 57 14.5 +1.6
N18K Kilae Creek 10.54 79 P Pn 01 57 14.9 +2.0
baz=279
J19K Poorman 10.72 61 Pn 01 57 16.6 +1.4
J19K Poorman 10.72 61 P Pn 01 57 16.3 +1.1
baz=261
G19K Purcell Mounta 10.73 49 Pn 01 57 17.6 +2.3
G19K Purcell Mounta 10.73 49 P Pn 01 57 18.5 +3.2
baz=248
CHGN Chignik 10.73 104 Pn Pn 01 57 17.3 +1.9
CHGN Chignik 10.73 104 P Pn 01 57 19.7 +4.3
baz=301
C18K Utukok River 10.74 33 Pn Pn 01 57 15.8 +0.2
C18K Utukok River 10.74 33 P Pn 01 57 17.9 +2.2
baz=228,SNR=9.4
H19K Roundabout Mou 10.75 53 Pn 01 57 16.1 +0.5
H19K Roundabout Mou 10.75 53 P Pn 01 57 18.2 +2.6
baz=252
F19K Shaleruckik Mo 10.77 45 Pn Pn 01 57 15.8 -0.1
F19K Shaleruckik Mo 10.77 45 P Pn 01 57 18.5 +2.6
baz=243
L19K White Mountain 10.93 71 Pn Pn 01 57 20.1 +2.0
L19K White Mountain 10.93 71 P Pn 01 57 21.6 +3.5
baz=271
CHNA Chernabura Isl 11.01 113 P Pn 01 57 22.3 +3.1
baz=308
CNBA Chernabura Isl 11.01 113 Pn Pn 01 57 21.4 +2.1
B18K Kokolik River 11.09 30 P Pn 01 57 23.6 +3.3
baz=224
P18K Big Mountain, 11.12 86 P Pn 01 57 22.2 +1.4
baz=285
Q17K Contact Creek 11.13 92 P Pn 01 57 21.8 +0.7
baz=291
M19K Big River Lodg 11.15 72 Pn 01 57 22.2 +1.1
M19K Big River Lodg 11.15 72 P Pn 01 57 24.3 +3.1
baz=273,SNR=6.1
N19K Bonanza Creek 11.21 78 Pn Pn 01 57 24.6 +2.6
N19K Bonanza Creek 11.21 78 P Pn 01 57 25.3 +3.3
baz=279
E19K Redstone River 11.25 43 Pn 01 57 23.5 +1.0
E19K Redstone River 11.25 43 P Pn 01 57 25.7 +3.2
baz=242
K20K Telida 11.33 65 Pn 01 57 25.0 +1.4
K20K Telida 11.33 65 P Pn 01 57 26.6 +3.1
baz=266
I20K Naaghedeneel 11.36 58 P Pn 01 57 26.6 +2.7
baz=259
H20K Anotleneega Mo 11.37 54 P Pn 01 57 26.6 +2.5
baz=255
L20K Farewell, AK 11.38 69 P Pn 01 57 26.3 +2.0
baz=271
J20K Nowinta River 11.39 61 Pn Pn 01 57 25.9 +1.6
J20K Nowinta River 11.39 61 P Pn 01 57 26.1 +1.8
baz=262
O19K Port Alsworth 11.39 81 P Pn 01 57 24.8 +0.4
baz=282
EVEN Evensk 11.41 288 *e* Pn 01 57 16.9 -7.7
EVEN *e* 01 57 29.6
C19K Lookout Ridge 11.48 33 Pn 01 57 27.7 +2.0
C19K Lookout Ridge 11.48 33 P Pn 01 57 28.6 +2.9
baz=230
D19K Kuna River 11.53 37 Pn 01 57 28.7 +2.3
D19K Kuna River 11.53 37 P Pn 01 57 28.3 +2.0
baz=235
F20K Avaraart Lake 11.59 46 P Pn 01 57 30.4 +3.3
baz=246
M20K Styx River 11.75 72 Pn 01 57 31.9 +2.5
M20K Styx River 11.75 72 P Pn 01 57 32.8 +3.4
baz=274,SNR=8.8
A19K Wainwright 11.88 28 P Pn 01 57 32.7 +1.6
baz=223
IMAR Indian Mountai 11.95 52 Pn Pn 01 57 33.4 +1.3
E20K Nigu River 12.00 40 P Pn 01 57 37.0 +4.2
baz=240
Q19K Cape Douglas, 12.03 87 P Pn 01 57 37.1 +3.8
baz=288
RSO Redoubt South 12.10 79 Pn Pn 01 57 36.6 +2.3
R18K Karluk 12.11 94 P Pn 01 57 39.4 +5.2
baz=294
D20K Etivluk River 12.11 38 P Pn 01 57 38.4 +4.2
baz=237
CHUM Lake Minchumin 12.15 63 P Pn 01 57 39.0 +4.2
baz=266
PPLA Purkeypile 12.16 67 P Pn 01 57 37.4 +2.3
baz=270
G21K Allakaket 12.21 50 Pn 01 57 38.8 +3.2
G21K Allakaket 12.21 50 P Pn 01 57 39.2 +3.6
baz=252
CAST Castle Rocks 12.22 65 Pn 01 57 36.8 +1.0
CAST Castle Rocks 12.22 65 P Pn 01 57 39.3 +3.5
baz=268
H21K Melozitna Rive 12.24 54 Pn 01 57 37.0 +1.0
H21K Melozitna Rive 12.24 54 P Pn 01 57 38.5 +2.5
baz=257
O20K Slope Mountain 12.24 81 P Pn 01 57 40.0 +3.9
baz=283
F21K Alatna River 12.46 47 Pn 01 57 41.5 +2.4
F21K Alatna River 12.46 47 P Pn 01 57 42.1 +3.0
baz=249
I21K Tanana 12.47 57 P Pn 01 57 42.7 +3.5
baz=260

SKT Skwentna 12.50 72 Pn 01 57 42.2 +2.7
SKT Skwentna 12.50 72 P Pn 01 57 43.2 +3.7
baz=275
SII Sitkinak Islan 12.67 98 P Pn 01 57 45.0 +3.0
baz=298
B20K Meade River 12.72 33 Pn 01 57 42.1 -0.4
B20K Meade River 12.72 33 P Pn 01 57 44.4 +1.9
baz=232
KTH Kantishna Hill 12.75 64 Pn 01 57 43.4 +0.3
Q20K Shuyak Island 12.75 87 P Pn 01 57 43.5 +0.4
baz=289
BPAW Bear Paw Mtn. 12.75 62 Pn 01 57 44.3 +1.2
BPAW Bear Paw Mtn. 12.75 62 P Pn 01 57 46.2 +3.1
baz=266
E21K Killik River 12.81 41 P Pn 01 57 42.7 -1.1
baz=243
OHAK Old Harbor 12.82 94 Pn Pn 01 57 45.9 +1.9
OHAK Old Harbor 12.82 94 P Pn 01 57 46.7 +2.8
baz=295
H22K Ishtalitna Cre 12.87 54 P Pn 01 57 47.1 +2.4
baz=258
C21K Knifeblade Rid 12.90 38 P Pn 01 57 45.9 +0.8
baz=239
SUA Susitna One 12.92 74 Pn Pn 01 57 47.8 +2.4
KDAK Kodiak Island 12.95 91 Pn Pn 01 57 49.5 +3.9
0.2nm,0.3s,baz=322,slow=18,SNR=1.8
18nm,1.0s
MLY Manley 12.97 58 Pn 01 57 46.8 +0.8
MLY Manley 12.97 58 P Pn 01 57 47.0 +1.0
baz=282
OMS Omsukchan 13.00 291 *e* Pn 01 57 52.0 +5.6
TRF Thorofare Moun 13.03 65 P Pn 01 57 48.6 +1.6
baz=269
F22K John River 13.04 46 P Pn 01 57 48.2 +1.3
baz=250
G22K Bettles 13.09 49 P Pn 01 57 51.0 +3.4
baz=253
B21K Ikpikpuk River 13.21 36 Pn 01 57 48.8 -0.3
B21K Ikpikpuk River 13.21 36 P Pn 01 57 49.4 +0.3
baz=238
D22K Ayikyak River 13.43 41 Pn 01 57 53.2 +1.0
D22K Ayikyak River 13.43 41 P Pn 01 57 55.0 +2.8
baz=244,SNR=15
RC01 Rabbit Creek A 13.46 75 P Pn 01 57 56.8 +4.2
baz=280
I23K Minto, Yukon-K 13.56 58 P Pn 01 57 57.8 +3.8
baz=263
O22K Cooper Landing 13.57 78 P Pn 01 57 54.9 +0.7
baz=282
G23K Bananza Creek 13.60 51 P Pn 01 57 56.6 +2.1
baz=256
NEA2 Nenana 13.63 60 P Pn 01 57 57.0 +2.1
baz=266
MCK McKinley 13.64 64 P Pn 01 57 59.0 +3.9
baz=270
COLD Coldfoot 13.67 49 P Pn 01 57 57.9 +2.4
baz=254
PMR Palmer 13.67 73 P Pn 01 57 58.5 +3.0
baz=278
A21K Barrow 13.72 29 P Pn 01 57 57.4 +1.3
baz=228
GHO Glory Hole Cre 13.75 72 Pn 01 58 00.5 +3.9
SEW Seward 13.79 79 P Pn 01 58 00.2 +3.1
baz=284
WAT1 Susitna Watana 13.83 68 P Pn 01 58 00.5 +2.8
baz=274
A22K Sinclair Lake 13.92 31 P Pn 01 57 59.4 +0.6
baz=232
B22K Teshekpuk Lake 13.95 35 Pn 01 57 59.9 +0.6
B22K Teshekpuk Lake 13.95 35 P Pn 01 58 00.4 +1.2
baz=237
KNK Knik Glacier 14.02 73 Pn Pn 01 58 01.9 +1.7
MDM Murphy Dome 14.02 59 Pn Pn 01 58 00.6 +0.3
SML Sawmill 14.02 72 P Pn 01 58 02.0 +1.6
baz=278
D23K Nanushuk River 14.12 42 P Pn 01 58 03.6 +2.0
baz=246
E23K Chandalar 14.14 46 P Pn 01 58 05.3 +3.3
baz=251
CCB Clear Creek Bu 14.18 60 Pn 01 58 05.0 +2.6
WAT6 Susitna Watana 14.22 68 P Pn 01 58 05.5 +2.4
baz=275
H24K Noodor Dome 14.27 55 P P 01 58 09.3 -1.8
H24K Noodor Dome 14.27 55 P Pn 01 58 05.9 +2.1
baz=262
M23K Glacier View 14.31 72 P Pn 01 58 06.6 +2.3
baz=278
DHY Denali Highway 14.35 66 Pn 01 58 07.7 +2.6
DHY Denali Highway 14.35 66 P Pn 01 58 04.4 -0.6
baz=273
POKR Poker Plat Res 14.37 58 P Pn 01 58 06.8 +1.7
baz=265
SCM Sheep Creek Mo 14.49 71 Pn 01 58 10.7 +3.9
SCM Sheep Creek Mo 14.49 71 P Pn 01 58 10.7 +3.9
HDA Harding Lake 14.53 61 P P 01 58 13.8 -0.2
HDA Harding Lake 14.53 61 P Pn 01 58 05.6 -1.7
baz=269
SEY Seymchan 14.53 293 *eP* Pn 01 58 05.5 -1.8
SEY Pmax 01 58 14.5
10.0nm,0.8s
SEY Seymchan 14.53 293 Pn Pn 01 58 06.0 -1.3
0.1nm,0.3s,baz=71,slow=10,SNR=6.1
IL31 14.58 60 Pn 01 58 10.3 +2.5
ILAR Eielson Array 14.58 60 Pn 01 58 11.9 +4.0
ILAR Eielson Array 14.58 60 P Pn 01 58 11.9 +4.0
ILAR Eielson Array 14.58 60 Pn Pn 01 58 07.7 -0.2
baz=272,slow=14,SNR=5.9
1.0nm,1.0s
G24K Hadweenzic Riv 14.58 52 Pn 01 58 09.1 +1.1
G24K Hadweenzic Riv 14.58 52 P Pn 01 58 04.3 -3.7
baz=259
F24K Squaw Lake 14.61 48 P Pn 01 58 03.7 -4.7
baz=256
GLI Glacier Island 14.76 75 P Pn 01 58 03.9 -6.5
baz=282
D24K Happy Valley 14.81 42 P Pn 01 58 03.6 -7.4
baz=248
P23K Montague Islan 14.81 79 P Pn 01 58 05.6 -5.5
baz=285
M24K Tolsona, Glenn 14.99 70 Pn 01 58 17.1 +3.5
K24K Donnelly Dome 15.04 63 P Pn 01 58 14.7 +0.4
baz=272
PET Petropavlovsk 15.06 251 Pn Pn 01 58 14.5 0.0
PET Petropavlovsk 15.06 251 *eP* Pn 01 58 15.0 +0.5
PET *eS* Sn 02 00 53.6 -7.5
PET pmax pmax
comp=Z,79nm,1.0s
C24K Franklin Bluff 15.07 40 P Pn 01 58 14.0 -0.5
baz=247
G25K Bearman Lake 15.13 52 P Pn 01 58 13.4 -1.9
baz=261
PRP Porcupine Dome 15.20 57 Pn Pn 01 58 20.0 +3.5
PRP Porcupine Dome 15.20 57 P Pn 01 58 12.8 -3.7
baz=266
KLU Klutina 15.21 72 P P 01 58 22.2 +0.7
KLU IAmb IAmb 01 58 32.3
comp=Z,15nm,0.8s
KLU Klutina 15.21 72 P Pn 01 58 16.3 -0.1
baz=280
J25K Salcha River, 15.22 60 Pn 01 58 17.8 +1.1
J25K IAmb IAmb 01 58 31.6
comp=Z,22nm,0.8s
J25K Salcha River, 15.22 60 P Pn 01 58 14.9 -1.8
baz=269
PAX Paxson 15.23 67 P Pn 01 58 12.5 -4.2
baz=275
HARP HAARP 15.43 69 P Pn 01 58 21.1 +1.7
baz=278
PEA0B Petropavlovsk- 15.46 253 Pn Pn 01 58 20.2 +0.4
PEA0B IAmb IAmb 01 58 45.3
comp=Z,37nm,1.1s
PEA0B Petropavlovsk- 15.46 253 *i* P Pn 01 58 20.9 +1.1
PETK Petropavlovsk- 15.46 253 Pn Pn 01 58 19.2 -0.6
PETK Petropavlovsk- 15.46 253 P Pn 01 58 19.2 -0.6
PETK Petropavlovsk- 15.46 253 Pn Pn 01 58 17.0 -2.8
comp=Z,0.3nm,0.3s,baz=69,slow=14,SNR=1.4
comp=Z,1.8nm,0.7s
RIDG Independent Ri 15.46 64 P P 01 58 23.8 -0.5
RIDG Independent Ri 15.46 64 P Pn 01 58 15.5 -4.3
baz=273
F25K Christian River 15.47 49 P Pn 01 58 14.3 -5.5
baz=258
EYAK Cordova Ski Ar 15.48 76 P Pn 01 58 17.3 -2.6
baz=284
Q23K Middleton Isla 15.48 80 P Pn 01 58 19.9 0.0
baz=288

E25K Arctic Village 15.62 47 Pn Pn 01 58 22.1 +0.3
E25K IAmb IAmb 01 58 30.3
comp=Z,42nm,1.4s
E25K Arctic Village 15.62 47 P Pn 01 58 17.9 -3.8
baz=256,SNR=12
D25K Kavik River 15.68 42 IAmb IAmb 01 58 35.9
comp=Z,38nm,0.8s
D25K Kavik River 15.68 42 P Pn 01 58 16.9 -5.7
baz=251
MGD Magadan 1 15.80 283 *e* P 01 58 32.4 +4.4
N25K Chitina, Valde 15.81 71 P P 01 58 29.6 +1.4
N25K IAmb IAmb 01 58 39.3
comp=Z,23nm,0.8s
N25K Chitina, Valde 15.81 71 P Pn 01 58 20.2 -4.1
baz=281,SNR=5.5
SCRK Sand Creek 15.83 63 Pn Pn 01 58 25.0 +0.4
SCRK Sand Creek 15.83 63 P Pn 01 58 22.8 -1.8
baz=273
BMAR Burnt Mountain 15.84 50 P 01 58 27.6 -0.8
MA2 Magadan 15.91 281 *i* P Pn 01 58 25.3 -0.3
MA2 pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 15.91 281 *eP* Pn 01 58 25.3 -0.3
MA2 Magadan 15.91 281 Pn Pn 01 58 24.6 -0.9
comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=3.0
comp=Z,1.4nm,0.3s
BMRM Bremner River 15.93 74 P Pn 01 58 24.4 -1.5
baz=283,SNR=5.5
J26L Joseph Creek 16.00 61 IAmb IAmb 01 58 39.2
comp=Z,21nm,0.8s
J26L Joseph Creek 16.00 61 P Pn 01 58 24.1 -2.7
baz=271
MENT Mentasta 16.03 66 P P 01 58 30.8 +0.2
MENT IAmb IAmb 01 58 41.0
comp=Z,21nm,0.7s
F26K Sheenjek River 16.05 49 P Pn 01 58 28.8 +1.4
baz=260
G26K Porcupine Rive 16.06 52 P Pn 01 58 30.0 +2.5
baz=263
I26K Coal Creek Min 16.18 58 IAmb IAmb 01 58 39.7
comp=Z,52nm,1.1s
I26K Coal Creek Min 16.18 58 P Pn 01 58 27.2 -1.8
baz=269
L26K Log Cabin Wild 16.19 66 P Pn 01 58 25.8 -3.4
baz=277
GLB Gilahina Butte 16.21 72 Pn 01 58 30.0 +0.5
KAIM Kayak Island 16.28 77 P Pn 01 58 25.5 -4.8
baz=286
VRDI Verde Repeater 16.42 72 Pn Pn 01 58 34.3 +1.9
M26K Nabesna, AK 16.43 68 IAmb IAmb 01 58 45.9
comp=Z,24nm,0.8s
M26K Nabesna, AK 16.43 68 P Pn 01 58 25.5 -6.8
baz=279
SUUS Susuman 16.47 293 *e* P 01 58 37.7 +2.2
BERG Berg Lake 16.50 75 Pn 01 58 33.5 +0.3
BERG IAmb IAmb 01 58 47.1
comp=Z,39nm,1.1s
K27K Chicken 16.67 62 P Pn 01 58 29.2 -6.0
baz=274
I27K Kandik River 16.83 57 P Pn 01 58 31.1 -6.2
baz=269
L27K Beaver Creek, 16.87 66 P Pn 01 58 30.1 -7.7
baz=278
G27K Doyon Strip 16.88 53 P Pn 01 58 33.4 -4.6
baz=265
BCAR Beaver Creek A 16.89 66 Pn Pn 01 58 39.3 +1.2
H27K Steamboat Moun 16.89 55 P Pn 01 58 34.4 -3.7
baz=267
M27K Edge Creek, AK 16.95 68 P Pn 01 58 36.3 -2.6
baz=280
EGAK Eagle 17.03 60 P Pn 01 58 35.4 -4.4
baz=272,SNR=5.6
E27K Coleen River 17.09 48 P Pn 01 58 34.9 -5.6
baz=261
BARN Barnard Glacie 17.31 72 P P 01 58 46.5 +1.6
BARN IAmb IAmb 01 58 54.9
comp=Z,25nm,0.9s
CTG Chitna Glacier 17.48 72 P Pn 01 58 36.2 -9.4
baz=284
CTGM Chitina Glacie 17.49 72 IAmb IAmb 01 58 57.0
comp=Z,40nm,1.0s
D27M Malcolm River 17.51 45 P Pn 01 58 41.0 -4.9
baz=258
I28M Miner Creek 17.53 57 Pn Pn 01 58 46.8 +0.7
I28M Miner Creek 17.53 57 P Pn 01 58 33.8 -12
baz=271
F28M Old Crow 17.65 50 P Pn 01 58 37.7 -10
baz=265,SNR=5.4
LOGN Logan Glacier 17.68 73 Pn 01 58 48.2 +0.2
LOGN IAmb IAmb 01 59 07.8
comp=Z,28nm,1.0s
YUK3 Moose Creek 17.71 70 P Pn 01 58 39.0 -10
baz=282
DAWY Dawson 17.84 62 IAmb IAmb 01 59 01.3
comp=Z,48nm,0.9s
DAWY Dawson 17.84 62 P Pn 01 58 42.9 -7.0
baz=276,SNR=32
E28M Babbage River 17.91 47 P Pn 01 58 43.3 -7.3
baz=262
YUK8 Steele Glacier 18.15 71 P Pn 01 58 48.6 -5.3
baz=284
H29M Whitestone 18.17 55 IAmb IAmb 01 59 04.5
comp=Z,45nm,1.0s
H29M Whitestone 18.17 55 P Pn 01 58 48.5 -5.4
baz=270
PINM Pinnacle 18.24 75 P Pn 01 58 49.8 -5.0
baz=288
D28M Stokes Point 18.31 45 P Pn 01 58 50.7 -4.8
baz=260
G29M Pine Creek 18.32 53 P Pn 01 58 56.2 +0.4
G29M IAmb IAmb 01 59 10.9
comp=Z,38nm,1.1s
G29M Pine Creek 18.32 53 P Pn 01 58 48.6 -7.2
baz=269
E29M Blow River 18.48 48 P P 01 58 57.4 -0.2
E29M IAmb IAmb 01 59 17.2
comp=Z,31nm,1.3s
E29M Blow River 18.48 48 P P 01 58 52.9 -4.7
baz=264
M29M Somme Creek 18.50 67 P P 01 58 58.8 +0.8
M29M Somme Creek 18.50 67 P P 01 58 55.3 -2.7
baz=282
L29M L29M 18.53 65 P P 01 58 59.3 +1.1
L29M L29M 18.53 65 P P 01 58 54.7 -3.5
baz=280
YUK4 Talbot Arm 18.66 70 P P 01 58 55.6 -4.2
baz=284
K29M Barlow Dome 18.69 62 IAmb IAmb 01 59 10.4
comp=Z,26nm,1.0s
K29M Barlow Dome 18.69 62 P Pn 01 59 01.6 +1.3
baz=278
PNL Peninsula 18.78 76 P P 01 58 57.7 -3.3
baz=289
EPYK Eagle Plains 18.84 54 P 01 59 02.0 +0.5
EPYK Eagle Plains 18.84 54 P P 01 58 59.5 -2.0
baz=271,SNR=14
YUK6 Outpost Mounta 18.89 71 P P 01 58 58.8 -3.6
baz=286
O29M Mount Kennedy 18.98 73 P P 01 59 02.3 -0.8
baz=288
G30M tAoh Zraii Nji 19.03 52 IAmb IAmb 01 59 15.8
comp=Z,21nm,0.8s
G30M tAoh Zraii Nji 19.03 52 P P 01 59 00.8 -2.9
baz=270
I30M Mount Dempster 19.03 58 P P 01 58 58.3 -5.5
baz=275
J30M Hart River 19.11 60 P P 01 58 55.8 -8.9
baz=277
F30M Barrier River 19.21 50 P P 01 59 01.8 -3.8
baz=269
M30M Minto, Yukon 19.23 66 P P 01 58 58.1 -7.8
baz=282,SNR=9.6
HYT Haines Junctio 19.33 71 P 01 59 08.6 +1.6
HYT Haines Junctio 19.33 71 P P 01 58 59.3 -7.8
baz=287,SNR=10
N30M Aishkik Lake 19.35 69 P P 01 58 59.5 -7.7
baz=285
P29M Windy Craggy 19.59 75 IAmb IAmb 01 59 21.6
comp=Z,35nm,1.2s
P29M Windy Craggy 19.59 75 P P 01 59 02.2 -7.6
baz=290
P30M Million Dollar 19.80 73 P P 01 59 07.0 -5.1
baz=289
G31M Satah River 19.80 53 P P 01 59 03.1 -8.9
baz=272,SNR=8.7
N31M Braeburn, Yuko 19.95 69 P P 01 59 08.6 -5.2
baz=286

F31M Tsiigehtchic 20.00 51 P **P** **01 59 08.7 -5.5**
baz=271,SNR=18
O30N Mendenhall 20.01 71 P **P** **01 59 09.3 -5.1**
baz=288
INK Inuvik 20.09 48 P **P** **01 59 15.1 0.0**
INK Inuvik 20.09 48 P P 01 59 07.9 -7.2
baz=269,SNR=14
INK Inuvik 20.09 48 P **P** **01 59 16.0 +0.9**
comp=Z,16nm,1.2s,baz=257,slow=12,SNR=18
comp=Z,16nm,1.2s
M31M Drury Creek, Y 20.41 66 P **P** **01 59 19.4 +0.7**
M31M IAmb IAmb 01 59 32.0
comp=Z,44nm,1.2s
M31M Drury Creek, Y 20.41 66 P **P** **01 59 14.3 -4.4**
baz=285,SNR=7.1
WHY Whitehorse 20.61 71 P **P** **01 59 23.3 +2.3**
WHY IAmb IAmb 01 59 42.5
comp=Z,34nm,1.3s
WHY Whitehorse 20.61 71 P **P** **01 59 16.6 -4.4**
baz=288
FARO Faro, Yukon 20.87 66 P **P** **01 59 23.8 +0.1**
FARO IAmb IAmb 01 59 44.1
comp=Z,18nm,1.3s
FARO Faro, Yukon 20.87 66 P **P** **01 59 18.5 -5.3**
baz=285
N32M Quiet Lake 21.30 69 P **P** **01 59 29.8 +1.5**
N32M IAmb IAmb 01 59 54.8
comp=Z,34nm,1.0s
N32M Quiet Lake 21.30 69 P **P** **01 59 23.9 -4.4**
baz=286
P32M Atlin 21.52 73 P **P** **01 59 31.5 +0.8**
P32M IAmb IAmb 01 59 46.9
comp=Z,28nm,1.4s
P32M Atlin 21.52 73 P **P** **01 59 28.2 -2.6**
baz=292
R32K Eaglecrest 21.64 77 P P 01 59 26.1 -5.9
baz=294
P33M Teslin, Yukon 21.72 71 P **P** **01 59 28.6 -4.4**
baz=290
SIT Sitka 21.77 80 P **P** **01 59 28.4 -4.9**
baz=297
S32K Killisnoo 21.95 79 P **P** **01 59 31.2 -4.1**
baz=296
Q32M Nakina River 22.45 74 P **P** **01 59 37.2 -3.7**
baz=294
R33M Jennings River 22.89 72 P P 01 59 39.3 -6.2
baz=293
A36M Sachs Harbour 23.07 39 P **P** **01 59 47.5 +0.5**
A36M Sachs Harbour 23.07 39 P **P** **01 59 42.0 -5.0**
baz=268,SNR=10
U33K Whale Pass 23.29 81 P **P** **01 59 45.4 -4.0**
baz=299
S34M Telegraph Cree 23.43 76 P P 01 59 43.2 -7.5
baz=296
C36M Paulatuk 23.50 45 P P 01 59 42.4 -8.9
baz=275
WRAK Wrangell Islan 23.52 80 P P 01 59 44.3 -7.3
baz=299
CRAG Craig 23.61 82 P P 01 59 41.0 -12
baz=301
TIXI Tiksi 23.61 320 P **P** **01 59 50.6 -1.9**
TIXI IAmb IAmb 02 00 12.7
comp=Z,26nm,1.2s
TIXI Tiksi 23.61 320 *ce*P **P** **01 59 50.8 -1.7**
TIXI pmax pmax
comp=Z,15nm,1.0s
WTLY Watson Lake, Y 23.64 69 P P 01 59 44.4 -8.5
baz=292
DLBC Dease Lake 23.73 74 P P 01 59 44.4 -9.4
baz=295
DLBC Dease Lake 23.73 74 P **P** **01 59 54.7 +0.9**
comp=Z,0.9nm,0.8s,baz=283,slow=14,SNR=1.6
comp=Z,0.9nm,0.8s
TYV Tymovskoe 24.17 265 *e*P **P** **02 00 04.2 +6.3**
TYV pmax pmax
comp=Z,11nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.8s
U35K Hyder 24.90 79 P P 01 59 56.9 -7.6
baz=300
WRGLY Wrigley 24.95 60 P **P** **02 00 07.2 +2.2**
WRGLY Wrigley 24.95 60 P **P** **02 00 01.3 -3.7**
baz=289,SNR=6.1
YAK Yakutsk 24.99 297 P **P** **02 00 05.3 +0.1**
YAK Yakutsk 24.99 297 *e*P **P** **02 00 06.0 +0.8**
YAK *e*'PP **sP** **02 00 10.0 +0.5**
YAK *e* 02 00 38.8
YAK *e* 02 03 43.7
YAK *e*S **S** **02 04 30.0 +1.4**
YAK *e*SS **SnSn** **02 05 19.9 +3.3**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,123nm,3.3s
YAK pmax pmax
comp=N,66nm,3.0s
YAK pmax pmax
comp=E,172nm,4.2s
YAK smax smax
comp=E,153nm,3.0s
YAK smax smax
comp=N,40nm,2.3s
YAK MLR MLR
comp=Z,536nm,21.0s
YAK MLR MLR
comp=N,499nm,19.0s
KOTAN Kotaneelee Air 25.82 67 P P 02 00 05.8 -7.0
baz=294
YSS Yuzh-Sakhalins 26.73 258 *i* P **P** **02 00 21.7 +0.5**
YSS pmax pmax
comp=Z,16nm,1.0s
YKA Yellowknife Ar 29.00 58 *ce*P **P** **02 00 45.7 +4.4**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 29.00 58 P **P** **02 00 42.0 +0.7**
comp=Z,0.3nm,0.6s,baz=296,slow=8.2,SNR=3.3
comp=Z,0.3nm,0.6s
KLR Kul'dur 30.62 272 *ce*P **P** **02 00 53.9 -1.8**
KLR pmax pmax
comp=Z,9.0nm,2.5s
KLR Kul'dur 30.62 272 P **P** **02 00 52.1 -3.6**
comp=Z,0.8nm,0.6s,baz=128,slow=9.2,SNR=2.9
comp=Z,0.8nm,0.6s
BOD Bodaibo 33.91 297 *e*P **P** **02 01 21.9 -2.6**
BOD pmax pmax
comp=Z,13nm,1.2s
USA0B Ussuriysk Arra 33.98 265 *i* P **P** **02 01 25.8 +0.5**
EDM Edmonton 34.44 73 P **P** **02 01 31.0 +1.8**
EDM Edmonton 34.44 73 P **P** **02 01 31.0 +1.8**
EDM pmax pmax
comp=Z,12nm,0.7s
MSHR Mys Shultsa 35.58 264 *i* P **P** **02 01 39.0 -0.1**
MSHR pmax pmax
comp=Z,15nm,1.0s
NEW Newport 35.83 82 P P 02 01 35.0 -6.3
baz=313
NRIK Noril'sk 37.26 324 *i* P **P** **02 01 53.6 +0.5**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
NRIK Noril'sk 37.26 324 P **P** **02 01 51.3 -1.8**
comp=Z,0.9nm,0.5s,baz=50,slow=7.5,SNR=4.2
comp=Z,0.9nm,0.5s
MSO Missoula 38.38 81 P P 02 01 57.4 -5.6
baz=315
FFC Flin Flon 38.73 64 P **P** **02 02 06.5 +0.8**
FFC IAmb IAmb 02 02 15.8
comp=Z,10nm,1.3s
FFC Flin Flon 38.73 64 P **P** **02 02 06.5 +0.8**
FFC pmax pmax
comp=Z,10.0nm,1.3s
BPMT Black Pine Rid 38.90 81 P **P** **02 02 09.7 +2.2**
JHJ2 Mitsune 38.99 245 P **P** **02 02 06.1 -2.0**
EGMT Eagleton 39.58 77 P P 02 02 08.2 -4.8
baz=314
MFID Camas Ranch 39.89 87 P **P** **02 02 18.8 +3.0**
BOZ Bozeman (W) 40.38 81 P P 02 02 15.8 -4.0
baz=316
HLID Hailey 40.49 85 P **P** **02 02 21.9 +1.2**
HLID Hailey 40.49 85 P **P** **02 02 17.7 -3.0**
baz=317
KSRS Korea Array 41.10 261 P **P** **02 02 23.2 -2.3**
comp=Z,2.0nm,0.9s,baz=34,slow=9.4,SNR=5.4
comp=Z,2.0nm,0.9s

YHL Hebgen Lake 41.14 81 P **P** **02 02 27.9 +1.7**
PNTR Pine Nut 41.28 94 P **P** **02 02 28.2 +0.9**
PNTR IAmb IAmb 02 02 30.7
comp=Z,9.9nm,1.1s
YHH Holmes Hill 41.35 81 P **P** **02 02 28.4 +0.5**
BMN Battle Mountai 41.43 91 P **P** **02 02 29.9 +1.4**
BMN Battle Mountai 41.43 91 P **P** **02 02 29.9 +1.4**
BMN pmax pmax
comp=Z,4.0nm,0.9s
H17A Grant Village 41.77 81 P P 02 02 27.2 -4.1
baz=317
RLMT Red Lodge 41.88 80 P **P** **02 02 32.9 +0.7**
RLMT Red Lodge 41.88 80 P **P** **02 02 28.9 -3.2**
baz=317
DGMT Dagmar 41.93 72 P **P** **02 02 29.1 -3.2**
baz=315
FLWY Flagg Ranch 41.94 82 P **P** **02 02 34.2 +1.5**
FLWY IAmb IAmb 02 02 53.5
comp=Z,9.6nm,1.1s
IMW Indian Meadow 41.95 82 P **P** **02 02 34.3 +1.5**
IMW IAmb IAmb 02 02 43.3
comp=Z,6.8nm,1.1s
KVN Kaiserville 42.05 93 P **P** **02 02 35.2 +1.6**
KVN Kaiserville 42.05 93 P **P** **02 02 35.2 +1.6**
KVN pmax pmax
comp=Z,6.0nm,1.2s
MOOW Moose Ponds 42.16 82 P **P** **02 02 36.8 +2.3**
RYN Ryan 42.17 94 P **P** **02 02 35.5 +1.0**
RYN IAmb IAmb 02 02 37.7
comp=Z,11nm,1.2s
ELK Elko 42.18 89 P **P** **02 02 35.9 +1.2**
ELK Elko 42.18 89 P **P** **02 02 35.9 +1.2**
ELK pmax pmax
comp=Z,4.0nm,0.9s
LAO LASA Array 42.23 76 P P 02 02 27.4 -7.4
baz=316
TPAW Teton Pass 42.25 83 P **P** **02 02 37.4 +2.1**
TPAW IAmb IAmb 02 02 45.5
comp=Z,7.5nm,1.0s
LOHW Long Hollow 42.33 82 P **P** **02 02 37.5 +1.7**
SNOW Snow King Moun 42.37 82 P **P** **02 02 37.0 +0.8**
SNOW IAmb IAmb 02 02 46.5
comp=Z,8.3nm,1.1s
REDW Red Top Meadow 42.39 83 P **P** **02 02 38.5 +2.1**
NVAR Mina Array Bea 42.43 94 P **P** **02 02 37.8 +1.1**
NVAR Mina Array Bea 42.43 94 P **P** **02 02 39.0 +2.3**
comp=Z,2.3nm,0.8s,baz=304,slow=8.2,SNR=10
comp=Z,2.3nm,0.8s
NV11 Mina Array Sit 42.50 94 P **P** **02 02 38.8 +1.6**
HVU Hansel Valley 42.62 86 P **P** **02 02 39.9 +1.8**
HVU IAmb IAmb 02 02 41.7
comp=Z,7.0nm,1.1s
HVU Hansel Valley 42.62 86 P **P** **02 02 39.9 +1.8**
HVU pmax pmax
comp=Z,7.0nm,1.1s
MDPB Devils Postpil 42.67 95 P **P** **02 02 40.0 +1.3**
MDPB IAmb IAmb 02 02 42.2
comp=Z,5.7nm,0.9s
Q09A Carvers 42.67 92 P **P** **02 02 39.5 +0.8**
TPH Tonopah 43.24 93 P **P** **02 02 45.0 +1.7**
TPH Tonopah 43.24 93 P **P** **02 02 45.0 +1.7**
TPH pmax pmax
comp=Z,23nm,0.8s
HWUT Hardware Ranch 43.35 85 P **P** **02 02 45.0 +0.9**
HWUT IAmb IAmb 02 02 57.0
comp=Z,7.6nm,1.0s
MZP Montezuma Peak 43.45 94 P **P** **02 02 47.0 +2.0**
BW06 Boulder Array 43.47 82 P P 02 02 40.2 -4.9
baz=318
PD31 Pinedale Array 43.47 82 P **P** **02 02 45.9 +0.8**
PDAR Pinedale Array 43.47 82 P **P** **02 02 47.5 +2.4**
comp=Z,0.6nm,0.7s,baz=319,slow=6.5,SNR=6.4
comp=Z,0.6nm,0.7s
ZAK Zakamensk 43.50 294 *e*P **P** **02 02 42.8 -2.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
ULN Ulaanbaatar 43.55 289 P **P** **02 02 44.5 -1.1**
ULN Ulaanbaatar 43.55 289 *i* P **P** **02 02 47.8 +2.2**
ULN pmax pmax
comp=Z,3.0nm,1.0s
DUG Dugway, Tooele 43.80 87 P **P** **02 02 49.3 +1.6**
DUG Dugway, Tooele 43.80 87 P **P** **02 02 44.7 -3.0**
baz=320
DUG Dugway, Tooele 43.80 87 P **P** **02 02 49.3 +1.6**
DUG pmax pmax
comp=Z,6.0nm,1.3s
R11B Troy Canyon, C 43.84 91 P **P** **02 02 46.0 -2.0**
baz=321
SONM Songino Array 43.88 289 P **P** **02 02 47.7 -0.6**
comp=Z,0.4nm,0.5s,baz=46,slow=4.3,SNR=3.7
comp=Z,0.4nm,0.5s
SPR3 Spring Creek 3 43.96 90 P **P** **02 02 50.8 +1.5**
SPR3 IAmb IAmb 02 02 53.2
comp=Z,10.0nm,1.2s
GRAC Grapevine Rang 44.01 94 P **P** **02 02 51.4 +2.1**
GRAC Grapevine Rang 44.01 94 P **P** **02 02 46.7 -2.6**
baz=322
SMMC Simmler 44.05 98 P **P** **02 02 47.1 -2.5**
baz=323
VES Vestal, Richgr 44.07 97 P **P** **02 02 47.3 -2.5**
baz=323
CWC Cottonwood Cre 44.10 95 P P 02 02 45.7 -4.5
baz=322
S11A Rachel 44.31 92 P **P** **02 02 53.4 +1.6**
NLU North Lily Min 44.34 87 **P** **02 02 53.1 +0.9**
NLU IAmb IAmb 02 03 01.0
comp=Z,6.0nm,1.1s
PKM McPherson Peak 44.47 98 P P 02 02 48.8 -4.4
baz=324
ULM Lac du Bonnet 44.51 65 P **P** **02 02 54.1 +1.0**
comp=Z,2.3nm,0.7s,baz=337,slow=9.0,SNR=5.2
comp=Z,2.3nm,0.7s
MPU Maple Canyon 44.52 86 P **P** **02 02 55.2 +1.7**
MPU IAmb IAmb 02 02 57.2
comp=Z,7.5nm,1.1s
MDND Maddock 44.53 70 P P 02 02 49.2 -4.1
baz=316
WCT Wildcat Mounta 44.54 94 P **P** **02 02 55.0 +1.4**
WCT IAmb IAmb 02 03 05.9
comp=Z,8.8nm,1.4s
BSUT Blindstream Ca 44.55 85 P **P** **02 02 55.1 +1.1**
BSUT IAmb IAmb 02 03 06.4
comp=Z,8.6nm,0.8s
TPNV Topopah Spring 44.60 93 P **P** **02 02 55.0 +0.8**
TPNV IAmb IAmb 02 02 57.5
comp=Z,10nm,1.2s
TPNV Topopah Spring 44.60 93 P P 02 02 47.9 -6.2
baz=322
TPNV Topopah Spring 44.60 93 P **P** **02 02 55.0 +0.8**
TPNV pmax pmax
comp=Z,10.0nm,1.3s
FURC Furnace Creek, 44.68 94 P **P** **02 02 52.0 -2.5**
baz=322
MPMC Manual Prospec 44.69 95 P **P** **02 02 52.1 -2.8**
baz=323
ARVC Arvin 44.77 97 P **P** **02 02 53.5 -1.8**
baz=323
PRN Pahroc Range 44.84 92 P **P** **02 02 58.0 +2.0**
GWY Greenwater Val 44.99 94 P **P** **02 02 59.1 +1.8**
GWY IAmb IAmb 02 03 00.4
comp=Z,7.7nm,1.1s
K22A Casper 45.04 80 P **P** **02 02 58.8 +1.2**
K22A IAmb IAmb 02 03 08.6
comp=Z,9.3nm,1.0s
K22A Casper 45.04 80 P **P** **02 02 55.8 -1.8**
baz=319
LRMC Laurel Mtn Rad 45.05 96 P P 02 02 54.3 -3.5
baz=323
QSM Queen of Sheba 45.07 95 P **P** **02 02 59.2 +1.5**
QSM IAmb IAmb 02 03 01.0
comp=Z,10nm,1.1s
RSSD Black Hills 45.16 77 P **P** **02 02 59.7 +1.1**
RSSD IAmb IAmb 02 03 09.4
comp=Z,4.5nm,0.8s
RSSD Black Hills 45.16 77 P **P** **02 02 57.3 -1.3**
baz=318
RSSD Black Hills 45.16 77 P **P** **02 02 59.7 +1.1**
RSSD pmax pmax
comp=Z,5.0nm,0.9s
TMUT Trail Mountain 45.28 87 P **P** **02 03 01.0 +1.3**
TMUT IAmb IAmb 02 03 12.1
comp=Z,7.2nm,0.8s
EDW2 Edwards Air Fo 45.38 97 P **P** **02 02 59.0 -1.2**
baz=323
MVU Marysvale 45.39 88 P **P** **02 03 02.1 +1.6**
MSU Marysvale 45.40 88 P **P** **02 03 02.1 +1.5**

MSU Marysvale 45.40 88 P **P** **02 03 02.1 +1.5**
Q16A Castle Valley 45.59 87 P **P** **02 03 03.9 +1.9**
Q16A IAmb IAmb 02 03 05.4
comp=Z,8.2nm,1.1s
GSC Goldstone, Bar 45.63 95 P **P** **02 03 02.9 +0.7**
GSC Goldstone, Bar 45.63 95 P **P** **02 03 00.6 -1.6**
baz=323
GSC Goldstone, Bar 45.63 95 P **P** **02 03 02.9 +0.7**
GSC pmax pmax
comp=Z,9.0nm,1.0s
SZCU Shurtz Canyon 45.66 90 P **P** **02 03 04.2 +1.5**
SZCU IAmb IAmb 02 03 18.0
comp=Z,4.9nm,1.1s
SRU San Rafael Swe 45.76 86 P **P** **02 03 04.5 +1.1**
SRU San Rafael Swe 45.76 86 P **P** **02 03 04.5 +1.1**
SRU pmax pmax
comp=Z,16nm,0.7s
AGMN Agassiz Nation 45.93 67 P **P** **02 03 02.0 -2.3**
baz=317
BFSC Mount Baldy Ra 46.05 97 P **P** **02 03 03.7 -2.0**
baz=324
O20A White River Ci 46.10 84 P **P** **02 03 07.8 +1.7**
O20A White River Ci 46.10 84 P **P** **02 03 05.4 -0.7**
baz=320
HEC Hector,Ludlow 46.24 95 P **P** **02 03 06.6 -0.4**
baz=323
KNB Kanab 46.25 90 P **P** **02 03 08.1 +0.8**
KNB IAmb IAmb 02 03 19.6
comp=Z,6.4nm,1.0s
KNB Kanab 46.25 90 P **P** **02 03 08.1 +0.8**
KNB pmax pmax
comp=Z,6.0nm,1.0s
V12A Nelson 46.26 93 P **P** **02 03 07.3 +0.1**
V12A IAmb IAmb 02 03 10.1
comp=Z,5.0nm,0.9s
CIS Catalina Islan 46.36 98 P **P** **02 03 07.2 -0.8**
baz=324
BBRC Big Bear Solar 46.40 96 P **P** **02 03 07.8 -0.7**
baz=324
HMU Henry Mountain 46.56 88 P **P** **02 03 11.6 +1.8**
HHC Hu-ho-hao-te 46.57 279 *e*P **P** **02 03 08.5 -1.2**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,250nm,5.7s
GMRC Granite Mounta 46.60 95 P **P** **02 03 09.0 -1.0**
baz=323
N23A Red Feather La 46.65 81 P **P** **02 03 08.9 -1.6**
baz=320
U15A North Rim 46.97 90 P **P** **02 03 14.6 +1.5**
U15A IAmb IAmb 02 03 25.6
comp=Z,4.1nm,0.8s
BELC Belle Mtn. Jos 47.06 95 P **P** **02 03 14.3 +0.7**
baz=324
NEE2 Needles Airpor 47.13 94 P **P** **02 03 13.6 -0.4**
baz=323
PFO Pinyon Flats O 47.15 96 P **P** **02 03 14.0 -0.2**
baz=324
TPFO Pinon Flats 47.16 96 P **P** **02 03 12.2 -2.2**
baz=324
SUSD Miller 47.34 73 P **P** **02 03 12.3 -3.2**
baz=319
IRM Iron Mountain 47.36 95 P **P** **02 03 13.1 -2.7**
baz=324
109C Camp Elliot, M 47.41 97 P **P** **02 03 12.9 -3.2**
baz=324
BC3 Big Chuckawall 47.61 95 P **P** **02 03 16.5 -1.3**
baz=324
ISCO Idaho Springs 47.65 82 P **P** **02 03 15.7 -2.7**
baz=321
PDMCI Parker Dam,Lak 47.74 94 P **P** **02 03 19.8 +1.1**
baz=324
TKX Tecate 47.92 97 P **P** **02 03 19.9 -0.3**
BLYC Blythe 47.99 94 P **P** **02 03 21.9 +1.2**
S22A 4UR Ranch, Cre 48.65 84 P **P** **02 03 27.2 +1.1**
S22A IAmb IAmb 02 03 38.5
comp=Z,4.0nm,0.8s
S22A 4UR Ranch, Cre 48.65 84 P **P** **02 03 23.8 -2.2**
baz=322,SNR=5.3
ZALV Zalesovo Beam 48.69 309 P **P** **02 03 25.2 -0.6**
comp=Z,0.5nm,0.4s,baz=55,slow=8.6,SNR=2.6
comp=Z,0.5nm,0.4s
X16A Lo Mia Camp, P 48.99 91 P **P** **02 03 29.2 +0.6**
X16A IAmb IAmb 02 03 32.0
comp=Z,3.7nm,1.0s
E38A The Farm, Brul 49.14 65 P **P** **02 03 29.6 +0.3**
SDCO Great Sand Dun 49.30 83 P **P** **02 03 32.2 +1.2**
SDCO IAmb IAmb 02 03 34.2
comp=Z,5.1nm,1.4s
SDCO Great Sand Dun 49.30 83 P **P** **02 03 29.9 -1.2**
baz=322
SPMN Marine on St. 49.62 67 P **P** **02 03 34.1 +1.1**
SPMN Marine on St. 49.62 67 P **P** **02 03 30.3 -2.7**
baz=320
X18A Snowflake 49.64 90 P **P** **02 03 33.6 +0.1**
X18A IAmb IAmb 02 03 36.9
comp=Z,8.2nm,1.0s
KSCO Kaye Shedlock' 49.73 80 P **P** **02 03 30.9 -3.2**
baz=321
NJ2 Nanjing 49.89 265 *e*P **P** **02 03 33.8 -1.4**
NJ2 pP **pP** **02 03 38.3 0.0**
NJ2 sP **sP** **02 03 41.8 +2.3**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,240nm,3.8s
214A Organ Pipe Nat 50.29 94 P **P** **02 03 37.4 -0.9**
baz=325
T25A Trinidad 50.32 83 P **P** **02 03 36.9 -1.8**
baz=322
DGZ Jazzator, Alta 50.90 304 *i* P **P** **02 03 42.5 -0.3**
DGZ pmax pmax
comp=Z,5.0nm,1.2s
TUC Tucson 51.01 92 P **P** **02 03 43.7 0.0**
baz=324
ANMO Albuquerque 51.04 86 P **P** **02 03 44.3 +0.1**
baz=323
LYN LuoYang 51.05 273 *e*P **P** **02 03 45.3 +1.4**
LYN pmax pmax
comp=Z,10.0nm,0.8s
121A Cookes Peak, D 52.31 89 P **P** **02 03 52.5 -1.2**
baz=324
GTA Gaotai 53.37 287 *e*P **P** **02 04 00.3 -1.0**
GTA pP sP 02 04 06.8 +1.1
GTA pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 53.60 310 P **P** **02 04 02.2 -0.4**
KURK IAmb IAmb 02 04 09.8
comp=Z,8.8nm,1.1s
KURK Kurchatov 53.60 310 P **P** **02 04 03.0 +0.4**
KURBB Kurchatov Arra 53.70 310 P **P** **02 04 03.0 -0.5**
comp=Z,2.1nm,0.8s,baz=43,slow=8.1,SNR=19
comp=Z,2.1nm,0.8s
LZH Lanzhou 54.06 281 *e*P P 02 03 59.0 -7.5
LZH pP pP 02 04 09.3 -0.3
LZH pmax pmax
comp=Z,19nm,1.4s
MNTX Cornudas Mount 54.18 88 P **P** **02 04 05.5 -1.7**
baz=325
SVE Sverdlovsk 54.52 325 *e*P **P** **02 04 10.8 +1.5**
SVE pmax pmax
comp=Z,15nm,1.4s
BVAR Borovoye Array 54.68 317 P **P** **02 04 10.2 -0.3**
comp=Z,1.8nm,0.8s,baz=60,slow=8.8,SNR=9.0
comp=Z,1.8nm,0.8s
BRVK Borovoye 54.69 317 P **P** **02 04 10.2 -0.4**
BRVK IAmb IAmb 02 04 28.7
comp=Z,4.5nm,1.0s
BRVK Borovoye 54.69 317 *i* P **P** **02 04 10.5 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
VHRN Van Horn 55.12 88 P **P** **02 04 14.2 0.0**
VHRN IAmb IAmb 02 04 17.6
comp=Z,4.2nm,0.9s
MK31 Makanchi Array 55.30 305 P **P** **02 04 13.2 -1.9**
MK31 IAmb IAmb 02 04 22.1
comp=Z,3.1nm,0.9s
MK31 Makanchi Array 55.30 305 *i* P **P** **02 04 15.6 +0.5**
MKAR Makanchi Array 55.30 305 P **P** **02 04 13.2 -2.0**
MKAR Makanchi Array 55.30 305 P **P** **02 04 13.5 -1.6**
comp=Z,0.7nm,0.5s,baz=46,slow=6.4,SNR=14
comp=Z,0.7nm,0.5s
WMQ Urumqi 55.41 299 *e*P **P** **02 04 18.1 +2.1**
WMQ LR LR
comp=N,550nm,19.5s
WMQ LR LR

comp=E,1μm,22.7s
WMQ LR LR
comp=E,2μm,24.3s
ARU Arti 55.44 326 *d* iP **P** 02 04 17.0 +1.0
ARU 02 06 15.4
ARU S **S** 02 12 04.6 +4.3
ARU SS **SS** 02 15 48.2 +4.2
ARU pmax pmax
comp=E,11nm,2.2s
ABTX Abilene, Hawle 56.27 82 P **P** 02 04 23.2 +0.9
ABTX Abilene, Hawle 56.27 82 P **P** 02 04 20.4 -1.9
baz=325
TX31 Lajitas Ar. Si 56.96 88 P **P** 02 04 27.6 +0.2
TX31 IAmb IAmb 02 04 39.2
comp=Z,8.2nm,1.2s
TXAR Lajitas Array 56.96 88 P **P** 02 04 28.5 +1.2
TXAR Lajitas Array 56.96 88 P **P** 02 04 28.8 +1.5
comp=Z,2.0nm,0.9s,baz=318,slow=4.1,SNR=17
comp=Z,2.0nm,0.9s
FINES FINESS Array B 57.14 347 P **P** 02 04 27.1 -0.9
comp=Z,1.0nm,0.9s,baz=16,slow=7.2,SNR=1.5
comp=Z,1.0nm,0.9s
JCT Junction City 57.94 84 P **P** 02 04 34.9 +0.8
JCT Junction City 57.94 84 P **P** 02 04 34.9 +0.8
JCT pmax pmax
comp=Z,12nm,0.8s
M53A WI Miller and 58.04 62 P **P** 02 04 31.4 -3.2
baz=325
NOA NORSAR Array B 58.70 355 P **P** 02 04 42.5 +3.6
comp=Z,0.4nm,0.6s,baz=4.6,slow=6.9,SNR=2.1
O53A New Philadelph 58.77 63 P **P** 02 04 38.1 -1.7
baz=325
WVT Waverly 59.11 71 P **P** 02 04 40.0 -2.2
baz=325
MCWV Mont Chateau 59.86 62 P **P** 02 04 44.8 -2.4
baz=326
ABKAR Akbulak array 61.31 321 P **P** 02 04 57.0 0.0
ABKAR Akbulak array 61.31 321 P **P** 02 04 56.1 -1.0
OBN Obninsk 61.71 339 ⇑ *e*P **P** 02 05 00.3 +0.7
OBN *e* 02 05 10.9
OBN *e*S S 02 13 40.9 +19
OBN pmax pmax
comp=Z,6.0nm,1.2s
OBN MLR MLR
comp=Z,313nm,18.0s
AAK Ala-Archa 61.86 307 P **P** 02 05 01.0 -0.1
AAK Ala-Archa 61.86 307 P **P** 02 05 01.0 -0.1
AAK pmax pmax
comp=Z,6.0nm,1.0s
BELG Belogornoye 61.91 331 *i* P **P** 02 05 01.4 +0.4
BELG pmax pmax
comp=Z,1.0nm,0.9s
PZH PanZhiHua 62.92 276 P **P** 02 05 09.5 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.3s
PZH pmax pmax
comp=Z,130nm,4.2s
KKAR Karatay Array 63.01 310 P **P** 02 05 05.2 -3.4
KKAR Karatay Array 63.01 310 P **P** 02 05 06.0 -2.5
KKAR IAmb IAmb 02 05 19.4
comp=Z,7.7nm,1.4s
KKAR Karatay Array 63.01 310 P **P** 02 05 05.2 -3.4
KKAR 02 05 06.1
KKAR pmax pmax
comp=Z,8.0nm,1.5s
KMI Kunming 63.57 275 ⇑ P **P** 02 05 11.0 -1.8
KMI pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 67.19 342 P **P** 02 05 35.7 +0.2
comp=Z,0.5nm,0.5s,baz=15,slow=6.3,SNR=2.9
comp=Z,0.5nm,0.5s
CLL Collm 68.32 353 *e*P **P** 02 05 47.0 +4.3
CLL Collm 68.32 353 *e*Px Px 02 05 47.0
KHC Kasperske Hory 70.45 352 *i* P **P** 02 05 57.8 +1.8
KHC pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 70.66 349 *e*P **P** 02 06 01.2 +4.0
VYHS *e* 02 06 19.0
VYHS Vyhne 70.66 349 *e*P **P** 02 06 01.2 +4.0
VYHS *e* 02 06 19.0
KIV Kislovodsk 70.98 331 *e*P **P** 02 06 00.3 +1.0
KIV pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 71.06 274 P **P** 02 05 58.6 -1.4
comp=Z,1.0nm,0.3s,baz=14,slow=6.5,SNR=4.3
comp=Z,1.0nm,0.3s
KBZ Khabaz 71.14 330 *i* P **P** 02 06 01.0 +0.9
KBZ pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 71.14 330 P **P** 02 06 02.8 +2.7
comp=Z,1.0nm,0.9s,baz=246,slow=20,SNR=1.3
GEYT Alibeck 72.02 317 P **P** 02 06 06.0 +0.5
comp=Z,1.2nm,0.7s,baz=343,slow=4.6,SNR=4.0
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 77.03 336 P **P** 02 06 36.0 +1.1
BRTR Keskin Array B 77.03 336 P **P** 02 06 36.0 +1.1
comp=Z,0.7nm,0.8s,baz=331,slow=5.3,SNR=1.7
comp=Z,0.7nm,0.8s
ESDC Sonseca Array 80.11 5 P **P** 02 06 53.0 +1.2
comp=Z,0.5nm,0.8s,baz=343,slow=5.1,SNR=1.9
comp=Z,0.5nm,0.8s
QSPA South Pole Qui 150.19 180 PKPbc **PKPbc** 02 14 31.5 +0.2
comp=Z,2.7nm,0.8s,baz=344,slow=1.0,SNR=6.8

IDC ***21*** *01:57:20.7±1.1, 37.°35N×141.°55E, h0km, mb3.6/8, mbtmp3.6/10, ML3.0/2, Error ellipse: s-maj=29.4km s-min=21.6km az=109.0*
JMA ***21*** *01:57:22.3±0.1, 37.°4N±0.°3×141.°6E±0.°7, h27km±1km, MV3.7/39, E OFF FUKUSHIMA PREF*

ISC 21 01:57:21.9±1.9, 37.°38N±0.°05×141.°62E±0.°07, h10km±11km, n26, σ0°91/30, mb3.7/8, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**269**	*i* P		**Pg**	**01 57 34.1**	**+0.6**
JFK				S		**Sg**	**01 57 42.0**	**+0.6**
JMST	**Minamisoumatoc**	**0.68**	**301**	⇓ *i* P		**Pg**	**01 57 35.2**	**+0.2**
JMST				⇓ S		**Sg**	**01 57 44.5**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.72**	**247**	*i* P		**Pg**	**01 57 35.8**	**+0.1**
ONAJ				S		**Sb**	**01 57 46.1**	**-0.3**
JMM	**Marumori**	**0.82**	**306**	*i* P		**Pb**	**01 57 37.5**	**-0.8**
JMM				S		**Sb**	**01 57 48.3**	**-1.0**
JOTO	**OTAMA OYAMA**	**1.04**	**280**	*i* P		**Pb**	**01 57 41.8**	**-0.3**
JOTO				S		**Sb**	**01 57 55.5**	**-0.4**
JIO	**Ouri**	**1.09**	**349**	⇓ *i* P		**Pb**	**01 57 41.6**	**-1.3**
JIO				⇓ *e*S		**Sb**	**01 57 55.1**	**-2.2**
JHO	**Hitachi**	**1.14**	**228**	*i* P		**Pn**	**01 57 41.9**	**-2.1**
JOU	**Okura**	**1.24**	**323**	⇓ *i* P		**Pn**	**01 57 44.9**	**-0.5**
JOU				⇓ S		**Sb**	**01 58 01.5**	**-0.1**
JYS	**Shirataka**	**1.49**	**305**	P		**Pn**	**01 57 49.4**	**+0.6**
JYS				S		**Sg**	**01 58 09.5**	**-0.5**
JFY	**Yanaizu**	**1.53**	**272**	*i* P		**Pn**	**01 57 49.1**	**-0.2**
JFY				*e*S		**Sb**	**01 58 09.3**	**-0.6**
MJAR	**Matsushiro Arr**	**2.86**	**254**	Pn		**Pn**	**01 58 08.4**	**+0.8**
	0.6nm,0.3s,baz=82,slow=16,SNR=19							
MJAR				Sn		**Sb**	**01 58 47.8**	**-0.4**
	0.7nm,0.3s,baz=263,slow=21,SNR=4.9							
	2.8nm,0.3s							
ASAJ	**Asahikawa**	**6.77**	**6**	Pn		**Pn**	**01 59 01.5**	**+0.2**
	0.5nm,0.3s,baz=38,slow=19,SNR=0.9							
	2.3nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.18**	**122**	T		T	02 32 40.3	
	baz=314,slow=75,SNR=99							
H11N1	**WAKE ISLAND Hy**	**28.19**	**122**	T		T	02 32 40.3	
	baz=314,slow=75,SNR=56							
H11N3	**WAKE ISLAND Hy**	**28.20**	**122**	T		T	02 32 43.1	
	baz=314,slow=75,SNR=55							
H11S1	**WAKE ISLAND Hy**	**28.91**	**124**	T		T	02 33 36.3	
	baz=316,slow=76,SNR=62							
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T		T	02 33 36.4	
	baz=316,slow=76,SNR=38							
H11S2	**WAKE ISLAND Hy**	**28.93**	**124**	T		T	02 33 37.5	
	baz=316,slow=76,SNR=30							
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**	**02 05 30.1**	**-0.1**
	0.9nm,0.7s,baz=83,slow=9.9,SNR=4.7							
	0.9nm,0.7s							
KURBB	**Kurchatov Arra**	**45.92**	**308**	P		**P**	**02 05 44.3**	**-0.3**
	0.6nm,0.4s,baz=82,slow=7.8,SNR=7.7							
	0.6nm,0.4s							
ILAR	**Eielson Array**	**49.11**	**33**	P		**P**	**02 06 11.2**	**+1.9**
	0.5nm,0.8s,baz=272,slow=6.9,SNR=4.6							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**57.43**	**188**	P		**P**	**02 07 10.2**	**-0.7**
	0.6nm,0.7s,baz=5.9,slow=7.4,SNR=2.7							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**61.16**	**188**	P		**P**	**02 07 36.6**	**-0.1**
	0.3nm,0.7s,baz=14,slow=5.9,SNR=2.6							
	0.3nm,0.7s							
YKA	**Yellowknife Ar**	**63.42**	**30**	P		**P**	**02 07 52.3**	**+0.9**
	0.1nm,0.7s,baz=301,slow=6.8,SNR=2.5							
	0.1nm,0.7s							
FINES	**FINESS Array B**	**68.58**	**332**	P		**P**	**02 08 24.1**	**-0.5**
	1.2nm,0.7s,baz=36,slow=8.8,SNR=5.1							
	1.2nm,0.7s							
NOA	**NORSAR Array B**	**73.93**	**337**	P		**P**	**02 08 57.2**	**+0.1**
	0.5nm,0.8s,baz=51,slow=5.7,SNR=1.7							
	0.5nm,0.8s							

NNC 21 02:15:15.7±4.3, 41.°50N×78.°67E, h0km, mb3.7, mpv3.0, 1C-1D, Error ellipse: s-maj=31.3km s-min=22.0km az=150.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.67**	**9**	P		Pn	02 15 46.3	0.0
	3.2nm,0.1s							
UZB				S		Sn	02 16 08.0	-0.5
	40nm,0.3s							
KPKS	**Kokpek**	**1.96**	**0**	Pg		Pg	02 15 53.0	-0.4
	0.9nm,0.2s							
KPKS				Lg		Lg	02 16 18.5	
	8.3nm,0.4s							
KNDC	**Almaty**	**2.13**	**324**	⇓ Pg		Pn	02 15 53.6	+1.0
	6.8nm,0.3s							
KNDC				⇑ Lg		Lg	02 16 24.5	
	4.5nm,0.5s							
DJR	**Jarkent**	**2.95**	**16**	Pg		Pb	02 16 08.8	-0.3
	0.4nm,0.1s							
DJR				Lg		Lg	02 16 47.9	
	5.3nm,0.5s							

KRNET 21 02:15:54.4±0.1, 42.°64N×78.°89E, h25km, mb2.0, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.39**	**247**	⇑ *e*P		Pb	02 16 02.8	-0.2
	baz=49							
PRZ				⇑ *e*S		Sb	02 16 08.7	-0.1
	baz=49							
ANVS	**Anan'yevo**	**0.91**	**280**	⇑ *i* P		Pb	02 16 11.4	-0.3
	baz=80							
ANVS				⇑ *i* S		Sn	02 16 24.1	-0.1
	baz=80							
TARG	**Taragay, Kyrgy**	**1.22**	**222**	⇓ *i* P		Pn	02 16 16.5	+0.3
	baz=22							
TARG				⇓ *i* S		Sb	02 16 33.2	+0.8
	baz=22							
KDJ	**Kajisay**	**1.36**	**249**	⇑ *i* P		Pb	02 16 19.4	+0.1
	baz=48							
KDJ				⇑ *i* S		Sb	02 16 37.0	+0.6
	baz=48							
ULHL	**Ulahol**	**2.00**	**260**	⇑ *i* P		Pb	02 16 29.2	-1.0
	baz=60							
ULHL				⇑ *i* S		Sb	02 16 54.1	-0.6
	baz=60							

NAO ***21*** *02:19:09.0, 31.°61N×47.°93E, h33km, mb3.8*
MOS ***21*** *02:19:35.1±1.2, 34.°57N×45.°56E, h9km, mb4.1/17, Error ellipse: s-maj=7.2km s-min=4.9km az=98.5*
IDC ***21*** *02:19:35.3±0.8, 34.°57N×45.°55E, h0km, mb4.0/21, mbtmp4.0/27, ML3.6/6, MS4.5/3, Error ellipse: s-maj=19.0km s-min=12.6km az=168.0*
NEIC ***21*** *02:19:37.0±1.5, 34.°50N±0.°04×45.°45E±0.°05, h10km±1km, mb4.2/46, Error ellipse: s-maj=7.5km s-min=5.6km az=299.0*
TEH ***21*** *02:19:37.6, 34.°53N×45.°55E, h17km±24km, ML4.1*
ISN ***21*** *02:19:38.7±2.4, 34.°48N×45.°53E, h28km±20km, ML4.0*
AFAD ***21*** *02:19:44.8±0.0, 34.°84N×44.°98E, h7km±3km, MW4.2*
OMAN ***21*** *02:19:47.0±0.7, 33.°87N×46.°16E, h15km, mb4.2/27, Error ellipse: s-maj=15.2km s-min=5.5km az=52.0*

ISC 21 02:19:37.5±0.8, 34.°50N±0.°03×45.°55E±0.°03, h18km±3km, n296, σ1°83/305, mb4.2/68, MS4.7/3, 12C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.03**	**83**	Pg		**Pg**	**02 19 41.0**	**+0.2**
IDHR	**Dehrash**	**0.71**	**74**	Pg		**Pg**	**02 19 51.0**	**-0.6**
IDHR				Sg		**Sb**	**02 20 02.0**	**+1.0**
IGHG	**Ghaleghazi**	**0.86**	**101**	Pg		**Pg**	**02 19 54.1**	**-0.2**
IGHG				Sg		**Sn**	**02 20 07.9**	**+0.9**
ILIN	**Lien**	**1.23**	**70**	Pg		**Pb**	**02 20 00.3**	**-0.2**
BHD	**Baghdad**	**1.57**	**219**	*e*Pg		**Pn**	**02 20 05.0**	**+0.6**
	baz=38							
BHD				*e*Sg		**Sg**	**02 20 28.0**	**-0.2**
BHD				AML	AML		02 20 33.4	
	comp=E,3μm,0.5s							
SDS1	**Sardasht. Az.**	**1.64**	**358**	Pg		**Pb**	**02 20 08.0**	**+0.6**
IKFM	**Kafar-mosalman**	**2.14**	**116**	Pn		**Pb**	**02 20 15.3**	**-0.5**
IALM	**Almabolaq**	**2.18**	**80**	Pn		**Pb**	**02 20 16.1**	**-0.5**
MAHB	**Mahabad**	**2.26**	**3**	Pn		**Pn**	**02 20 16.1**	**+1.9**
HSAM	**Samen**	**2.54**	**96**	Pn		**Pn**	**02 20 20.6**	**+2.5**
RAFI	**Al-Rafai**	**2.81**	**170**	*e*Pn		**Pn**	**02 20 23.0**	**+1.5**
RAFI				*e*Sn		**Sn**	**02 20 57.0**	**+2.1**
RAFI				AML	AML		02 21 23.3	
	comp=N,713nm,0.7s							
RAFI				AML	AML		02 21 25.0	
	comp=E,903nm,0.7s							
HAGD	**Aghdareh**	**2.97**	**83**	Pn		**Pn**	**02 20 26.9**	**+3.0**
IHSH	**Hashtrud**	**3.12**	**26**	Pn		**Pn**	**02 20 28.0**	**+1.9**
CUKT	**Cukurca**	**3.16**	**331**	P		**Pn**	**02 20 28.3**	**+1.8**
CUKT				S		**Sn**	**02 21 00.9**	**-2.9**
IAZR	**Azarshahr**	**3.19**	**6**	Pn		**Pn**	**02 20 29.1**	**+2.1**
YOVA	**Hakkari_Yksek**	**3.24**	**342**	P		**Pn**	**02 20 30.1**	**+2.4**
YOVA				S		**Sn**	**02 21 03.9**	**-2.1**
HAKT	**HAKKARI**	**3.40**	**334**	P		**Pn**	**02 20 31.0**	**+1.1**
HAKT				S		**Sn**	**02 21 05.6**	**-4.2**
IRAZ	**Razeghan**	**3.70**	**75**	Pn		**Pn**	**02 20 37.1**	**+3.1**
ISRB	**Sarab**	**3.73**	**27**	Pn		**Pn**	**02 20 36.2**	**+1.9**
ITBZ	**Tabriz**	**3.75**	**7**	Pn		**Pn**	**02 20 35.6**	**+0.9**
ISHB	**Shabestar**	**3.77**	**1**	Pn		**Pn**	**02 20 35.9**	**+0.9**
SIRN	**Sırnak**	**3.93**	**320**	P		**Pn**	**02 20 37.1**	**+0.2**
SIRN				S		**Sn**	**02 21 17.5**	**-5.1**
IHRS	**Heris**	**3.99**	**17**	Pn		**Pn**	**02 20 40.2**	**+2.2**
JIR1	**Jirandeh**	**4.10**	**56**	Pn		**Pn**	**02 20 41.7**	**+2.2**
PERV	**Siirt/Pervari-**	**4.21**	**326**	P		**Pn**	**02 20 41.2**	**+0.3**
GEVA	**Gevas**	**4.30**	**333**	P		**Pn**	**02 20 44.0**	**+1.8**
GEVA				S		**Sn**	**02 21 30.8**	**-1.1**
OZAP	**Van, Ozalp-Mer**	**4.34**	**344**	P		**Pn**	**02 20 44.8**	**+2.1**
TVAN	**Van**	**4.38**	**337**	P		**Pn**	**02 20 46.0**	**+2.7**
TVAN				S		**Sn**	**02 21 34.2**	**+0.4**
MIDY	**Mardin/Midyat-**	**4.45**	**312**	P		**Pn**	**02 20 45.2**	**+1.1**
IQOM	**Qom**	**4.56**	**84**	Pn		**Pn**	**02 20 48.0**	**+2.2**
GRMI	**Germi**	**4.69**	**23**	Pn		**Pn**	**02 20 49.5**	**+2.0**
GAS1	**Astara - Iran**	**4.69**	**33**	Pn		**Pn**	**02 20 50.0**	**+2.6**
VMUR	**Van-Muradiye**	**4.75**	**341**	P		**Pn**	**02 20 50.7**	**+2.3**
BLIS	**Bitlis-Merkez**	**4.79**	**326**	P		**Pn**	**02 20 50.1**	**+1.2**
IPIR	**Pirpir**	**4.81**	**111**	Pn		**Pn**	**02 20 50.9**	**+1.6**
JHBN	**Jahan bin**	**4.84**	**116**	Pn		**Pn**	**02 20 51.0**	**+1.3**
BTMN	**Batman**	**4.84**	**316**	P		**Pn**	**02 20 52.1**	**+2.6**
MAKU	**Maku**	**4.89**	**352**	Pn		**Pn**	**02 20 53.0**	**+2.6**
QAMS	**Qamsar**	**4.91**	**97**	Pn		**Pn**	**02 20 53.1**	**+2.5**
KLST	**Kelardasht - M**	**4.92**	**64**	Pn		**Pn**	**02 20 54.3**	**+3.5**
GURO	**Guroymak-BITLI**	**4.94**	**326**	Pn		**Pn**	**02 20 52.0**	**+1.1**
ZNGN	**Zangian**	**5.03**	**117**	Pn		**Pn**	**02 20 53.8**	**+1.4**
SVAN	**Silvan-Diyarba**	**5.06**	**317**	P		**Pn**	**02 20 53.9**	**+1.4**
IVRN	**Varamin**	**5.11**	**83**	Pn		**Pn**	**02 20 55.6**	**+2.4**
IKLH	**Kolahrood**	**5.15**	**102**	Pn		**Pn**	**02 20 56.5**	**+2.6**
MUSM	**Mu-Merkez**	**5.32**	**324**	P		**Pn**	**02 20 56.8**	**+0.6**
DORK	**Agr/Tutak/Do**	**5.36**	**336**	P		**Pn**	**02 20 58.6**	**+1.9**
IDMV	**Damavand**	**5.42**	**77**	Pn		**Pn**	**02 21 00.3**	**+2.6**
IBRJ	**Brojen**	**5.44**	**117**	Pn		**Pn**	**02 20 58.6**	**+0.7**
KRSH	**Karshahi**	**5.48**	**94**	Pn		**Pn**	**02 21 00.5**	**+2.2**
ISFB	**Sefidab**	**5.53**	**90**	Pn		**Pn**	**02 21 00.6**	**+1.7**
GNI	**Garni**	**5.67**	**354**			**Pg**	**02 21 22.1**	**-4.0**
GNI	**Garni**	**5.67**	**354**	*i* P		**Pn**	**02 20 58.4**	**-2.6**
GNI	**Garni**	**5.67**	**354**	Pn		**Pn**	**02 21 04.6**	**+3.6**
	comp=E,0.2nm,0.3s,baz=227,slow=2.5,SNR=4.6							
	comp=E,3.3nm,0.7s							
GNI	**Garni**	**5.67**	**354**	P		**Pb**	**02 21 20.2**	**+4.2**
IGAR	**Gharneh**	**5.81**	**109**	Pn		**Pn**	**02 21 05.0**	**+2.0**
IZEF	**Zefreh**	**5.87**	**104**	Pn		**Pn**	**02 21 05.5**	**+1.7**
IFIR	**Firoozkooh**	**6.01**	**77**	Pn		**Pn**	**02 21 07.7**	**+1.9**
ILAS	**Lasjerd**	**6.14**	**80**	Pn		**Pn**	**02 21 09.3**	**+1.8**
KLNJ	**Kolanjah**	**6.16**	**123**	Pn		**Pn**	**02 21 08.7**	**+0.8**
IRAM	**Ramesheh**	**6.32**	**113**	Pn		**Pn**	**02 21 11.2**	**+1.2**
NZIP	**Nizip/Gaziante**	**6.89**	**294**	P		**Pn**	**02 21 19.4**	**+1.8**
ANAR	**Anarak**	**6.93**	**99**	Pn		**Pn**	**02 21 19.7**	**+1.5**
GZT	**Gaziantep**	**7.08**	**296**	P		**Pn**	**02 21 17.9**	**-2.4**
AKCA	**Adyaman/G¶l**	**7.16**	**300**	P		**Pn**	**02 21 21.8**	**+0.4**
AKCD	**Akcadag**	**7.22**	**304**	P		**Pn**	**02 21 24.2**	**+1.9**
GAZ	**Gaziantep**	**7.28**	**294**			**Pn**	**02 21 23.5**	**+0.5**
AHBU	**AHRAM**	**7.45**	**137**	Pn		**Pn**	**02 21 27.0**	**+1.8**
ASF	**Jabal al Asfar**	**7.61**	**255**	Pn		**Pn**	**02 21 29.2**	**+1.7**
	comp=E,0.6nm,0.3s,baz=62,slow=24,SNR=11							
ASF				Lg		Lg	02 23 38.0	
	comp=E,2.2nm,0.3s,baz=165,slow=20,SNR=2.1							
	comp=E,2.3nm,0.3s							
ONI	**Oni**	**8.24**	**349**	Pn		**Pn**	**02 21 40.0**	**+3.8**
ONI	**Oni**	**8.24**	**349**	P		**Pn**	**02 21 40.0**	**+3.8**
MMAI	**Mount Meron Ar**	**8.58**	**263**	Pn		**Pn**	**02 21 42.4**	**+1.5**
	comp=E,0.8nm,0.3s,baz=80,slow=16,SNR=8.9							
MMAI				Lg		Lg	02 24 07.5	
	comp=E,3.2nm,0.3s,baz=80,slow=31,SNR=5.8							
	comp=E,0.4nm,0.3s							
TPRV	**Parvadeh(Tabas**	**9.38**	**96**	Pn		**Pn**	**02 21 53.3**	**+1.4**
KBZ	**Khabaz**	**9.44**	**348**	*i* P		**Pn**	**02 21 51.5**	**-1.0**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KBZ	**Khabaz**	**9.44**	**348**	Pn		Pn	02 21 58.8	+6.3
	comp=Z,0.1nm,0.3s,baz=170,slow=9.9,SNR=5.8							
TKDS	**Koohdasht(Taba**	**9.64**	**92**	Pn		**Pn**	**02 21 57.0**	**+1.6**
KVAR	**Kislovodsk Arr**	**9.70**	**348**	Pn		Pn	02 22 02.0	+5.9
	baz=90,slow=19							
KIV	**Kislovodsk**	**9.70**	**348**	P		Pn	02 22 01.2	+5.1
KIV	**Kislovodsk**	**9.70**	**348**	*e*P		**Pn**	**02 21 53.4**	**-2.8**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
EIL	**Elat**	**10.20**	**245**	Pn		**Pn**	**02 22 03.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=83,slow=5.2,SNR=4.5							
	comp=Z,1.0nm,0.4s							
GEYT	**Alibeck**	**10.71**	**68**	Pn		**Pn**	**02 22 13.1**	**+3.1**
GEYT	**Alibeck**	**10.71**	**68**	P		**Pn**	**02 22 13.1**	**+3.1**
GEYT	**Alibeck**	**10.71**	**68**	Pn		**Pn**	**02 22 13.3**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=238,slow=8.5,SNR=6.1							
GEYT				LR		LR	02 27 30.2	
	comp=Z,983nm,20.5s,baz=249,slow=44							
SMRA	**Abu-Samra**	**10.75**	**153**	P		**Pn**	**02 22 12.1**	**+1.6**
SMRA				S		**Sn**	**02 24 03.8**	**-6.5**
BRTR	**Keskin Array B**	**10.85**	**302**	Pn		Pn	02 22 18.5	+6.6
	baz=57,slow=35,SNR=2.5							
TRNA	**Turayna**	**10.90**	**152**	P		**Pn**	**02 22 14.0**	**+1.3**
	SNR=5.9							
SLWR	**Sila**	**11.69**	**151**	P		**Pn**	**02 22 23.8**	**+0.4**
SLWR				S		Sn	02 24 26.0	-7.4
SHME	**Shamm**	**12.43**	**130**	P		**Pn**	**02 22 33.4**	**-0.2**
BANOM	**Banah**	**12.62**	**130**	P		**Pn**	**02 22 36.1**	**0.0**
NAZ	**Nazwa, Dubai**	**12.91**	**135**	P		**Pn**	**02 22 40.6**	**+0.4**
NAZ				S		Sn	02 24 56.0	-7.4
MASF	**Masafi**	**12.93**	**132**	P		**Pn**	**02 22 40.2**	**-0.1**
MASF				S		Sn	02 24 55.9	-8.0
MZWR	**Madinat Zayed**	**12.93**	**144**	P		**Pn**	**02 22 40.6**	**+0.2**
ASUD	**Al Ashush, Dub**	**13.00**	**137**	P		**Pn**	**02 22 41.5**	**+0.2**
	SNR=13							
ASUD				S		Sn	02 24 58.1	-7.4
FAQ	**Al Faqa, Dubai**	**13.06**	**135**	P		**Pn**	**02 22 43.3**	**+1.2**
FAQ				S		Sn	02 24 59.1	-7.9
MDH	**Madha**	**13.07**	**132**	P		**Pn**	**02 22 41.7**	**-0.5**
MDH				S		Sn	02 24 58.9	-8.2
HATD	**Hatta, Dubai**	**13.31**	**134**	P		**Pn**	**02 22 45.0**	**-0.6**
HATD				S		Sn	02 25 05.0	-8.2
ASHO	**Ashiyiah**	**13.38**	**134**	P		**Pn**	**02 22 45.8**	**-0.7**
	SNR=22							
ASHO				S		Sn	02 25 06.4	-8.4
MZR	**Muzera**	**13.39**	**147**	P		**Pn**	**02 22 46.8**	**0.0**
MZR				S		Sn	02 25 07.3	-7.8
JASK	**Jask - Hormozg**	**13.68**	**126**	P		**Pn**	**02 22 49.3**	**-1.3**
ALNE	**Al Ain**	**13.68**	**137**	P		**Pn**	**02 22 50.4**	**-0.3**
SOHO	**SOHO**	**14.08**	**134**	P		**Pn**	**02 22 55.2**	**-0.8**
SOHO				S		Sn	02 25 24.2	-7.6
UMZA	**Um Al Zommool**	**14.45**	**142**	P		**Pn**	**02 23 00.9**	**-0.2**
UMZA				S		Sn	02 25 32.2	-8.7
ARQ	**Araqi**	**14.68**	**136**	P		**Pn**	**02 23 03.6**	**-0.8**
	SNR=16							
ARQ				S		Sn	02 25 38.6	-8.1
BIDO	**Bidbid**	**15.50**	**132**	P		**Pn**	**02 23 14.6**	**-0.6**
BSY	**Bisya**	**15.53**	**136**	P		**Pn**	**02 23 15.0**	**-0.7**
BSY				S		Sn	02 25 57.9	-9.5
SMDO	**Samad**	**15.79**	**133**	P		**Pn**	**02 23 18.6**	**-0.6**
	SNR=20							
SMDO				S		**Sn**	**02 26 07.9**	**-5.9**
WSAR	**Wadi Sarin**	**16.02**	**131**	Pn		**Pn**	**02 23 20.4**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=326,slow=7.7,SNR=6.7							
WSAR	**Wadi Sarin**	**16.02**	**131**	P		**Pn**	**02 23 20.6**	**-1.3**
WSAR				S		Sn	02 26 10.3	-8.7
NGCH	**Negor - Chabah**	**16.28**	**120**	P		**Pn**	**02 23 23.5**	**-1.7**
JMDO	**Jabal Madar**	**16.35**	**134**	P		**Pn**	**02 23 25.3**	**-0.8**
WBK	**Wadi Bani Khal**	**16.69**	**132**	P		**Pn**	**02 23 29.9**	**-0.7**
WBK				S		**Sn**	**02 26 29.2**	**-6.3**
VRH	**Novokhopyorsk**	**16.92**	**352**	*e*P		**Pn**	**02 23 31.6**	**-1.6**
VRH				pmax	pmax			
	comp=Z,20nm,0.6s							
VORD	**Divnogorie**	**17.07**	**346**	*e*P		**

AKASG	**Malin Array Be**	**20.09 329**	P	**P**	**02 24 09.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=138,slow=9.5,SNR=12					
	comp=Z,0.7nm,0.4s					
AKBB	**Malin Array Si**	**20.09 329**	P	**P**	**02 24 10.5**	**+0.6**
AKBB			IAmb	IAmb	02 24 19.5	
	comp=Z,7.6nm,1.1s					
AKBB	**Malin Array Si**	**20.09 329**	P	**P**	**02 24 10.5**	**+0.6**
AKBB			pmax	pmax		
	comp=Z,8.0nm,1.1s					
KIEV	**Kiev**	**20.09 329**	⇑P	**P**	**02 24 07.9**	**-2.0**
KIEV	**Kiev**	**20.09 329**	P	**P**	**02 24 10.4**	**+0.5**
KIEV	**Kiev**	**20.09 329**	P	**P**	**02 24 10.4**	**+0.5**
KIEV			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BURAR	**Bucovina Array**	**20.09 317**	⇓P	**P**	**02 24 09.5**	**-0.6**
FNA	**Florina**	**20.11 295**	Pn	**P**	**02 24 11.7**	**+1.3**
FNA	**Florina**	**20.11 295**	P	**P**	**02 24 11.7**	**+1.3**
FNA			pmax	pmax		
	comp=Z,6.0nm,1.4s					
BUR08	**Bucovina Ar. S**	**20.12 317**		**P**	**02 24 11.8**	**+1.4**
ARCR	**ARCALIA**	**20.31 315**	⇓P	**P**	**02 24 13.5**	**+1.2**
MARR	**Marisel-Cluj**	**20.85 312**	⇑P	**P**	**02 24 19.6**	**+1.3**
KK31	**Karatay Array**	**21.20 59**	P	**P**	**02 24 24.4**	**+2.4**
KK31	**Karatay Array**	**21.20 59**	P	**P**	**02 24 24.5**	**+2.4**
KK31			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KKAR	**Karatay Array**	**21.20 59**	P	**P**	**02 24 24.8**	**+2.7**
KKAR	**Karatay Array**	**21.20 59**		**P**	**02 24 23.5**	**+1.5**
KKAR	**Karatay Array**	**21.20 59**	P	**P**	**02 24 24.8**	**+2.7**
KKAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
OBN	**Obninsk**	**21.54 346**	⇑P	**P**	**02 24 23.5**	**-2.0**
OBN	**Obninsk**	**21.54 346**	*c iP*	**P**	**02 24 24.9**	**-0.6**
OBN			*e**PP	**pP**	**02 24 27.6**	**-3.3**
OBN			*e*PPP	PPP	02 24 54.8	
OBN			*e*S	**S**	**02 28 19.1**	**-4.2**
OBN			*e*SSS	SSS	02 29 09.3	
OBN			pmax	pmax		
	comp=Z,8.0nm,0.8s					
OBN			MLR	MLR		
	comp=Z,305nm,17.0s					
OBN	**Obninsk**	**21.54 346**	P	**P**	**02 24 24.1**	**-1.3**
	comp=Z,13nm,0.5s,baz=157,slow=15,SNR=4.7					
	comp=Z,13nm,0.5s					
KOLS	**Kolonicke sedl**	**22.46 317**	*e*P	**P**	**02 24 37.1**	**+1.6**
KOLS			*e*		02 24 41.8	
KOLS	**Kolonicke sedl**	**22.46 317**	*e*P	**P**	**02 24 37.1**	**+1.6**
KOLS	**Kolonicke sedl**	**22.46 317**	*e*PN	**P**	**02 24 41.8**	**+6.3**
KWP	**Kalwaria Pacla**	**22.59 319**	P	**P**	**02 24 37.7**	**+0.8**
KWP	**Kalwaria Pacla**	**22.59 319**	P	**P**	**02 24 37.7**	**+0.8**
ARSB	**Arslanbob**	**22.63 64**	P	**P**	**02 24 37.8**	**+0.3**
ARSB	**Arslanbob**	**22.63 64**	P	**P**	**02 24 37.8**	**+0.3**
ARSB			pmax	pmax		
	comp=Z,3.0nm,1.3s					
CRVS	**Cervenica-Dubn**	**22.90 316**	*e*P	**P**	**02 24 41.5**	**+1.3**
CRVS			*e*		02 24 47.6	
CRVS	**Cervenica-Dubn**	**22.90 316**	*e*P	**P**	**02 24 41.5**	**+1.3**
CRVS	**Cervenica-Dubn**	**22.90 316**	*e*PN	P	02 24 47.6	+7.4
NIL	**Nilore**	**22.93 84**	P	**P**	**02 24 39.8**	**-0.9**
NIL			IAmb	IAmb	02 24 42.9	
	comp=Z,10nm,1.1s					
NIL	**Nilore**	**22.93 84**	P	**P**	**02 24 39.8**	**-0.9**
NIL			pmax	pmax		
	comp=Z,10.0nm,1.1s					
ARU	**Arti**	**23.67 18**	P	**P**	**02 24 48.5**	**+0.8**
ARU			IAmb	IAmb	02 24 54.9	
	comp=Z,4.7nm,0.7s					
ARU	**Arti**	**23.67 18**	*c iP*	**P**	**02 24 48.0**	**+0.3**
ARU			S	**S**	**02 29 02.6**	**+1.1**
ARU			pmax	pmax		
	comp=Z,6.0nm,2.4s					
ARU	**Arti**	**23.67 18**	P	**P**	**02 24 53.2**	**+5.4**
	comp=Z,3.7nm,0.6s,baz=243,slow=7.5,SNR=8.6					
AAK	**Ala-Archa**	**23.95 62**	*i* P	**P**	**02 24 50.2**	**-0.6**
AAK			pmax	pmax		
	comp=Z,6.0nm,2.8s					
KIRV	**Kirov**	**24.23 5**	*i* P	**P**	**02 24 52.6**	**-0.3**
VYHS	**Vyhne**	**24.25 313**	*e*P	**P**	**02 24 55.6**	**+2.2**
VYHS	**Vyhne**	**24.25 313**	*e*P	**P**	**02 24 55.6**	**+2.2**
OJC	**Ojcow**	**24.50 318**	P	**P**	**02 24 55.5**	**-0.1**
OJC			IAmb	IAmb	02 25 18.8	
	comp=Z,6.6nm,1.1s					
OJC	**Ojcow**	**24.50 318**	P	**P**	**02 24 55.5**	**-0.1**
OJC			pmax	pmax		
	comp=Z,7.0nm,1.1s					
KSH	**Kashi**	**24.73 69**	P	**P**	**02 24 57.8**	**-0.2**
KSH			sP	pP	02 25 02.6	-1.1
KSH			pmax	pmax		
	comp=Z,4.0nm,0.7s					
NRN	**Naryn**	**24.89 65**	P	**P**	**02 24 58.4**	**-1.2**
NRN			IAmb	IAmb	02 25 03.0	
	comp=Z,3.6nm,1.1s					
NRN	**Naryn**	**24.89 65**	P	**P**	**02 24 58.4**	**-1.2**
NRN			pmax	pmax		
	comp=Z,4.0nm,1.1s					
MAUC	**Maruska**	**25.23 314**	*e*P	**P**	**02 25 04.9**	**+2.7**
RONA	**Rosalia, Austr**	**25.52 310**	*e*P	**P**	**02 25 05.4**	**+0.5**
	comp=Z,1.0nm,0.6s					
BRVK	**Borovoye**	**25.53 36**	P	**P**	**02 25 05.0**	**+0.1**
BRVK	**Borovoye**	**25.53 36**	P	**P**	**02 25 05.0**	**+0.1**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.8s					
BVAR	**Borovoye Array**	**25.57 36**	P	**P**	**02 25 06.0**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=237,slow=7.5,SNR=16					
	comp=Z,1.9nm,0.5s					
MORC	**Moravsky Berou**	**25.58 315**	P	**P**	**02 25 05.6**	**+0.2**
MORC			IAmb	IAmb	02 25 13.4	
	comp=Z,6.6nm,1.4s					
MORC	**Moravsky Berou**	**25.58 315**	*e*P	**P**	**02 25 06.4**	**+1.0**
MORC	**Moravsky Berou**	**25.58 315**	P	**P**	**02 25 05.6**	**+0.2**
MORC			pmax	pmax		
	comp=Z,7.0nm,1.4s					
PABE	**Paberze**	**25.76 331**	P	**P**	**02 25 06.6**	**-0.3**
ARSA	**Arzberg**	**25.86 309**	*e*P	**P**	**02 25 08.4**	**+0.5**
	comp=Z,1.1nm,0.6s					
CONA	**Conrad Observa**	**25.87 310**	*e*P	**P**	**02 25 08.5**	**+0.4**
	comp=Z,4.1nm,1.0s					
VRAC	**Vranov**	**25.94 314**	*e*P	**P**	**02 25 09.4**	**+0.7**
KRUC	**Moravsky**	**25.96 313**	*e*P	**P**	**02 25 09.4**	**+0.6**
SOKA	**Soboth**	**26.00 307**	*e*P	**P**	**02 25 09.6**	**+0.2**
	comp=Z,4.7nm,1.2s					
KRLC	**Kraliky**	**26.15 315**	*e*P	**P**	**02 25 10.2**	**-0.4**
KRLC	**Kraliky**	**26.15 315**	*e*P	**P**	**02 25 10.2**	**-0.4**
DPC	**Dobruska-Polom**	**26.54 316**	*e*P	**P**	**02 25 13.1**	**-1.0**
DPC	**Dobruska-Polom**	**26.54 316**	*e*P	**P**	**02 25 13.1**	**-1.0**
KLMR	**Klimovskoe**	**26.66 353**	*e*P	**P**	**02 25 11.2**	**-3.7**
KLMR			pmax	pmax		
	comp=Z,17nm,1.9s					
OSTC	**Ostas**	**26.69 316**	*e*P	**P**	**02 25 14.4**	**-1.0**
OSTC	**Ostas**	**26.69 316**	*e*P	**P**	**02 25 14.4**	**-1.0**
UPC	**Upice**	**26.78 316**	*e*P	**P**	**02 25 19.4**	**+3.2**
UPC	**Upice**	**26.78 316**	*e*P	**P**	**02 25 19.4**	**+3.2**
CHVC	**Chvalec**	**26.79 316**	*e*P	**P**	**02 25 17.0**	**+0.6**
CHVC	**Chvalec**	**26.79 316**	*e*P	**P**	**02 25 17.0**	**+0.6**
MOA	**Molln**	**26.86 309**	*e*P	**P**	**02 25 17.6**	**+0.6**
	comp=Z,3.1nm,0.8s					
CKRC	**Cesky Krumlov**	**27.15 311**	*e*P	**P**	**02 25 24.1**	**+4.5**
CKRC	**Cesky Krumlov**	**27.15 311**	*e*P	**P**	**02 25 24.1**	**+4.5**
BIOA	**Bad Ischl, Aus**	**27.21 309**	*e*P	**P**	**02 25 20.8**	**+0.7**
	comp=Z,0.7nm,0.3s					
KHC	**Kasperske Hory**	**27.71 312**	*e*P	**P**	**02 25 30.7**	**+6.1**
KHC	**Kasperske Hory**	**27.71 312**	*e*P	**P**	**02 25 30.7**	**+6.1**
MOTA	**Moosalm**	**28.77 307**	*i* P	**P**	**02 25 34.3**	**+0.1**
	comp=Z,0.3nm,0.2s					
KURBB	**Kurchatov Arra**	**28.84 46**	P	**P**	**02 25 36.1**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=253,slow=8.9,SNR=11					
	comp=Z,1.3nm,0.8s					
KURK	**Kurchatov**	**28.93 46**	P	**P**	**02 25 36.1**	**+0.7**
DAVA	**Damuels**	**29.57 306**	*e*P	**P**	**02 25 41.3**	**0.0**
	comp=Z,1.6nm,0.4s					
FINES	**FINESS Array B**	**29.70 341**	P	**P**	**02 25 41.6**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=147,slow=10,SNR=30					
	comp=Z,1.8nm,0.6s					
MK31	**Makanchi Array**	**30.18 55**	P	**P**	**02 25 47.2**	**+0.6**
MK31			IAmb	IAmb	02 25 48.8	
	comp=Z,1.3nm,0.7s					
MK31	**Makanchi Array**	**30.18 55**	*ce*P	**P**	**02 25 48.4**	**+1.8**
MKAR	**Makanchi Array**	**30.18 55**	P	**P**	**02 25 48.1**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=251,slow=10.0,SNR=26					
	comp=Z,1.3nm,0.5s					
HFS	**Hagfors**	**32.94 331**	P	**P**	**02 26 10.8**	**+0.2**
	comp=Z,7.5nm,0.5s,baz=131,slow=10,SNR=75					
	comp=Z,7.5nm,0.5s					
ZALV	**Zalesovo Beam**	**33.62 43**	*i* P	**P**	**02 26 16.8**	**+0.2**
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.3s					
ZALV	**Zalesovo Beam**	**33.62 43**	P	**P**	**02 26 16.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=238,slow=8.5,SNR=5.2					
	comp=Z,0.6nm,0.3s					
OSL	**Oslo**	**34.06 329**	*e*P	**P**	**02 26 21.0**	**+0.7**
DGZ	**Jazzator, Alta**	**34.10 51**	*i* P	**P**	**02 26 20.4**	**-0.6**
DGZ			pmax	pmax		
	comp=Z,15nm,3.4s					
NC602	**NORSAR Array S**	**34.16 331**	*e*P	**P**	**02 26 20.8**	**-0.5**
NC602			IAmb	IAmb	02 26 21.8	
	comp=Z,78nm,2.0s					
KONO	**Kongsberg**	**34.39 328**	*e*P	**P**	**02 26 23.3**	**+0.1**
NB2	**NORSAR Subarra**	**34.47 331**	P	**P**	**02 26 23.1**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=124,slow=8.6					
NB2	**NORSAR Subarra**	**34.47 331**	P	**P**	**02 26 23.1**	**-0.9**
	baz=124,slow=8.6					
NOA	**NORSAR Array B**	**34.47 331**	P	**P**	**02 26 23.1**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=124,slow=8.7,SNR=8.6					
	comp=Z,0.9nm,0.6s					
SKAR	**Skarslia**	**35.47 329**	*e*P	**P**	**02 26 34.1**	**+1.4**
SKAR			IAmb	IAmb	02 26 40.6	
	comp=Z,24nm,1.3s					
BLS5	**Blasjo**	**35.68 326**	*e*P	**P**	**02 26 35.3**	**+0.8**
DOMB	**Dombas**	**35.88 331**	*e*P	**P**	**02 26 36.4**	**+0.2**
DOMB			IAmb	IAmb	02 26 37.9	
	comp=Z,5.9nm,1.0s					
TBLU	**Trondheim**	**36.11 334**	*e*P	**P**	**02 26 38.7**	**+0.6**
NSS	**Namsos**	**36.30 336**	*e*P	**P**	**02 26 39.7**	**0.0**
NSS			IAmb	IAmb	02 26 44.3	
	comp=Z,91nm,2.1s					
BER	**Bergen**	**36.62 327**	*e*P	**P**	**02 26 43.2**	**+0.8**
MOR8	**Moi Rana**	**36.63 339**	*e*P	**P**	**02 26 42.2**	**-0.3**
MOR8			IAmb	IAmb	02 26 44.1	
	comp=Z,76nm,2.0s					
KTK1	**Kautokeino**	**36.75 347**	*e*P	**P**	**02 26 43.3**	**-0.1**
KTK1			IAmb	IAmb	02 26 48.4	
	comp=Z,49nm,1.6s					
VADS	**Vadso**	**36.76 351**	*e*P	**P**	**02 26 43.8**	**+0.3**
ARA0	**ARCESS Array S**	**36.80 348**	*e*P	**P**	**02 26 44.0**	**+0.1**
ARA0			IAmb	IAmb	02 26 47.3	
	comp=Z,58nm,1.6s					
ARCES	**ARCESS Array B**	**36.80 348**	P	**P**	**02 26 44.1**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=145,slow=8.7,SNR=20					
	comp=Z,1.6nm,0.5s					
STOK	**Stokkvaagen**	**37.16 339**	*e*P	**P**	**02 26 46.9**	**0.0**
KONS	**Konsvik**	**37.24 339**	*e*P	**P**	**02 26 46.8**	**-0.8**
FAUS	**Fauske**	**37.26 341**	*e*P	**P**	**02 26 48.2**	**+0.4**
FAUS			IAmb	IAmb	02 26 51.0	
	comp=Z,16nm,1.1s					
JETT	**Jettan, Norway**	**37.76 346**	*e*P	**P**	**02 26 52.1**	**+0.1**
JETT			IAmb	IAmb	02 26 57.1	
	comp=Z,18nm,0.9s					
TRO	**Tromso**	**38.13 345**	*e*P	**P**	**02 26 55.1**	**0.0**
TRO			IAmb	IAmb	02 27 01.9	
	comp=Z,10nm,0.9s					
EKA	**Eskdalemuir Ar**	**39.27 317**	P	**P**	**02 27 04.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=102,slow=8.6,SNR=9.6					
	comp=Z,0.3nm,0.3s					
ESDC	**Sonseca Array**	**39.43 292**	P	**P**	**02 27 06.9**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=58,slow=9.6,SNR=3.1					
	comp=Z,0.5nm,0.7s					
NRIK	**Noril'sk**	**41.84 21**	P	**P**	**02 27 26.8**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=225,slow=6.7,SNR=4.3					
	comp=Z,0.9nm,0.3s					
TORD	**Torodi Ar. Bea**	**44.97 253**	P	**P**	**02 27 53.1**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=44,slow=7.5,SNR=3.7					
	comp=Z,0.4nm,0.7s					
SPA0	**Spitsbergen Ar**	**45.54 352**	*e*P	**P**	**02 27 56.2**	**+0.6**
SPA0			IAmb	IAmb	02 27 59.4	
	comp=Z,35nm,1.3s					
SONM	**Songino Array**	**46.55 54**	P	**P**	**02 28 05.2**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=289,slow=9.0,SNR=1.4					
SONM			PcP	**PcP**	**02 29 38.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=273,slow=5.0,SNR=3.6					
	comp=Z,0.2nm,0.4s					
CHTO	**Chiang Mai**	**49.66 94**	P	**P**	**02 28 27.6**	**-0.8**
CHTO	**Chiang Mai**	**49.66 94**	P	**P**	**02 28 27.6**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,7.0nm,0.5s					
CMAR	**Chiang Mai Arr**	**49.84 94**	*ce*P	**P**	**02 28 29.8**	**+0.1**
CMAR			pmax	pmax		
	comp=Z,4.0nm,0.5s					
CMAR	**Chiang Mai Arr**	**49.84 94**	P	**P**	**02 28 29.6**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=295,slow=8.5,SNR=14					
	comp=Z,3.5nm,0.6s					
XAN	**Xi'an**	**51.57 71**	*e*P	**P**	**02 28 43.5**	**+0.9**
DBIC	**Dimbokro**	**53.99 251**	P	**P**	**02 29 01.1**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=69,slow=4.0,SNR=4.4					
	comp=Z,3.6nm,1.0s					
TIXI	**Tiksi**	**55.58 22**	*ce*P	**P**	**02 29 10.1**	**-1.3**
TIXI			pmax	pmax		
	comp=Z,9.0nm,3.4s					
YAK	**Yakutsk**	**57.51 34**	*i* P	**P**	**02 29 25.3**	**0.0**
YAK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KLR	**Kul'dur**	**62.50 48**	LR	LR	03 00 59.3	
	comp=Z,661nm,21.8s,baz=258,slow=40					
KSRS	**Korea Array**	**64.61 61**	P	**P**	**02 30 14.1**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=285,slow=6.8,SNR=6.1					
	comp=Z,1.5nm,0.5s					
USRK	**Ussuriysk Ar.**	**64.62 53**	P	**P**	**02 30 13.4**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=278,slow=7.2,SNR=5.4					
	comp=Z,1.9nm,0.6s					
A36M	**Sachs Harbour**	**73.61 357**	P	**P**	**02 31 09.6**	**+0.5**
PETK	**Petropavlovsk-**	**74.80 35**	LR	LR	03 09 05.5	
	comp=Z,411nm,19.2s,baz=265,slow=40					
C18K	**Utukok River**	**75.25 10**	P	**P**	**02 31 19.6**	**+0.7**
C18K			IAmb	IAmb	02 31 20.3	
	comp=Z,2.5nm,0.8s					
D19K	**Kuna River**	**75.81 9**	P	**P**	**02 31 22.7**	**+0.7**
D19K			IAmb	IAmb	02 31 29.6	
	comp=Z,3.2nm,1.1s					
D22K	**Ayikyak River**	**76.04 7**	P	**P**	**02 31 24.0**	**+0.7**
D25K	**Kavik River**	**76.11 4**	P	**P**	**02 31 24.8**	**+1.1**
C36M	**Paulatuk**	**76.17 356**	P	**P**	**02 31 24.0**	**0.0**
E18K	**Tukpahlearik C**	**76.47 10**	P	**P**	**02 31 26.5**	**+0.8**
E18K			IAmb	IAmb	02 31 52.2	
	comp=Z,3.5nm,1.1s					
E19K	**Redstone River**	**76.90 9**	P	**P**	**02 31 28.7**	**+0.6**
E19K			IAmb	IAmb	02 31 35.5	
	comp=Z,3.5nm,1.1s					
E28M	**Babbage River**	**77.13 2**	P	**P**	**02 31 29.9**	**+0.4**
E28M			IAmb	IAmb	02 31 54.7	
	comp=Z,4.3nm,1.4s					
E25K	**Arctic Village**	**77.35 4**	P	**P**	**02 31 31.7**	**+1.0**
E25K			IAmb	IAmb	02 31 37.0	
	comp=Z,4.1nm,1.4s					
E29M	**Blow River**	**77.39 1**	P	**P**	**02 31 31.7**	**+0.9**
E29M			IAmb	IAmb	02 31 32.6	
	comp=Z,3.4nm,0.9s					
E27K	**Coleen River**	**77.48 3**	P	**P**	**02 31 32.6**	**+1.2**
F24K	**Squaw Lake**	**77.78 5**	P	**P**	**02 31 34.4**	**+1.2**
F24K			IAmb	IAmb	02 32 01.9	
	comp=Z,4.7nm,1.4s					
G16K	**Koyuk River**	**78.08 12**	P	**P**	**02 31 35.7**	**+0.9**
G16K			IAmb	IAmb	02 31 36.0	
	comp=Z,1.4nm,0.9s					
BMAR	**Burnt Mountain**	**78.09 4**	P	**P**	**02 31 36.4**	**+1.5**
F28M	**Old Crow**	**78.12 2**		**P**	**02 31 35.7**	**+0.7**
F28M			IAmb	IAmb	02 32 14.3	
	comp=Z,3.1nm,1.4s					
G19K	**Purcell Mounta**	**78.17 9**	P	**P**	**02 31 36.1**	**+0.9**
G19K			IAmb	IAmb	02 31 46.2	
	comp=Z,4.6nm,1.3s					
G21K	**Allakaket**	**78.24 8**	P	**P**	**02 31 36.3**	**+0.6**
G21K			IAmb	IAmb	02 31 43.0	
	comp=Z,2.7nm,1.0s					
F31M	**Tsiigehtchic**	**78.37 360**	P	**P**	**02 31 36.6**	**+0.3**
IMAR	**Indian Mountai**	**78.73 8**	P	**P**	**02 31 39.1**	**+0.8**
G29M	**Pine Creek**	**78.87 1**	P	**P**	**02 31 39.4**	**+0.2**
G31M	**Satah River**	**78.89 360**	P	**P**	**02 31 39.6**	**+0.4**
H17K	**Granite Mounta**	**78.90 11**	P	**P**	**02 31 40.0**	**+0.7**
H17K			IAmb	IAmb	02 32 04.9	
	comp=Z,3.2nm,1.2s					
H21K	**Melozitna Rive**	**79.15 8**	P	**P**	**02 31 41.7**	**+1.0**
H21K			IAmb	IAmb	02 31 49.4	
	comp=Z,5.5nm,1.4s					
ILAR	**Eielson Array**	**80.57 5**	P	**P**	**02 31 48.0**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=336,slow=4.0,SNR=4.5					
	comp=Z,0.3nm,0.8s					
YKA	**Yellowknife Ar**	**82.03 351**	P	**P**	**02 31 56.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=17,slow=5.6,SNR=12					
	comp=Z,0.7nm,0.8s					

*NOU **21** 02:39:55.0, 33°.78S × 179°.36W, h328 km, MLv4.2/7, South of Kermadec Islands*
*WEL **21** 02:40:19.5 ± 0.6, 35°.5 ± 4'.4 × 17°.9E ± 1°.0, h33 km, M4.0/19, ML4.1/24, MLv4.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=104.4, confirmed*

ISC 21 02:40:17.0 ± 1.4, 35°.00S ± 0°.07 × 179°.4E ± 0°.1, h200 km, n47, σ 1 s 37/54, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.70**	**198**	P	**Pn**	**02 41 05.9**	**+2.9**
MXZ	**Matakaoa Point**	**2.70**	**198**	P	**Pn**	**02 41 04.7**	**+1.7**
MXZ				S	**Sn**	**02 41 38.1**	**-1.0**
WMGZ	**Waiomatatini S**	**2.92**	**195**	P	**Pn**	**02 41 08.0**	**+2.5**
WMGZ				S	**Sn**	**02 41 43.6**	**-0.2**
HAZ	**Te Kaha**	**3.03**	**204**	P	**Pn**	**02 41 08.5**	**+1.6**
HAZ				S	**Sn**	**02 41 45.9**	**-0.2**
PKGZ	**Pakihiroa**	**3.06**	**199**	P	**Pn**	**02 41 09.6**	**+2.3**
PKGZ				S	**Sn**	**02 41 47.2**	**+0.2**
PUZ	**Puketiti**	**3.19**	**196**	P	**Pn**	**02 41 10.6**	**+1.7**
PUZ				S	**Sn**	**02 41 48.8**	**-0.9**
RUGZ	**Raukumara Rang**	**3.26**	**204**	P	**Pn**	**02 41 10.9**	**+1.2**
TWGZ	**Tauwhareparae**	**3.36**	**199**	P	**Pn**	**02 41 13.3**	**+2.4**
TWGZ				S	**Sn**	**02 41 53.8**	**+0.5**
KUZ	**Kuaotunu**	**3.43**	**238**	P	**Pn**	**02 41 13.0**	**+1.3**
KUZ	**Kuaotunu**	**3.43**	**238**	P	**Pn**	**02 41 12.7**	**+1.0**
CNGZ	**Carnagh Statio**	**3.60**	**194**	P	**Pn**	**02 41 15.8**	**+2.1**
OPRZ	**Ohinepanea**	**3.63**	**218**	P	**Pn**	**02 41 15.5**	**+1.4**
MWZ	**Matawai**	**3.64**	**203**	P	**Pn**	**02 41 15.7**	**+1.4**
URZ	**Urewera**	**3.72**	**208**	P	**Pn**	**02 41 16.4**	**+1.2**
URZ	**Urewera**	**3.72**	**208**	P	**Pn**	**02 41 15.9**	**+0.7**
RAGZ	**Rawiri**	**3.83**	**203**	P	**Pn**	**02 41 18.1**	**+1.5**
RIGZ	**Rimuhau**	**3.92**	**199**	P	**Pn**	**02 41 18.7**	**+1.0**
RIGZ				S	**Sn**	**02 42 04.8**	**-0.7**
TARZ	**Mount Tarawera**	**3.96**	**214**	P	**Pn**	**02 41 20.3**	**+2.0**
MKAZ	**Moumakai**	**4.00**	**237**	P	**Pn**	**02 41 20.4**	**+1.7**
MUGZ	**Murupara**	**4.05**	**210**	P	**Pn**	**02 41 19.9**	**+0.7**
RTZ	**Ruatahuna**	**4.08**	**207**	P	**Pn**	**02 41 20.0**	**+0.2**
PRGZ	**Paritu Road**	**4.09**	**196**	P	**Pn**	**02 41 21.1**	**+1.2**
SNGZ	**Shannon Statio**	**4.11**	**203**	P	**Pn**	**02 41 21.1**	**+1.0**
KNZ	**Kokohu**	**4.24**	**198**	P	**Pn**	**02 41 22.0**	**+0.4**
ALRZ	**Allen Road**	**4.30**	**213**	P	**Pn**	**02 41 23.3**	**+0.8**
MHGZ	**Mahia Peninsul**	**4.31**	**195**	P	**Pn**	**02 41 24.0**	**+1.5**
RAHZ	**Arahi**	**4.31**	**204**	P	**Pn**	**02 41 24.0**	**+1.4**
MTHZ	**Maungataniwha**	**4.34**	**207**	P	**Pn**	**02 41 23.8**	**+0.8**
WHHZ	**Waihua**	**4.41**	**202**	P	**Pn**	**02 41 26.1**	**+2.2**
MRHZ	**Matea Rd**	**4.50**	**211**	P	**Pn**	**02 41 25.2**	**+0.3**
NMHZ	**Naumai**	**4.57**	**206**	P	**Pn**	**02 41 26.5**	**+0.6**
ARHZ	**Aropaoanui**	**4.66**	**203**	P	**Pn**	**02 41 27.2**	**+0.3**
OUZ	**Omahuta**	**4.72**	**266**	P	**Pn**	**02 41 28.5**	**+0.7**
BKZ	**Black Stump Fm**	**4.75**	**208**	P	**Pn**	**02 41 28.5**	**+0.3**
BKZ	**Black Stump Fm**	**4.75**	**208**	P	**Pn**	**02 41 28.5**	**+0.3**
KWHZ	**Kaweka Forest**	**5.00**	**207**	P	**Pn**	**02 41 31.2**	**-0.1**
HIZ	**Hauiti**	**5.04**	**224**	P	**Pn**	**02 41 34.0**	**+2.2**
NTVZ	**North Tongarir**	**5.04**	**215**	P	**Pn**	**02 41 32.6**	**+0.6**
ETVZ	**East Tongariro**	**5.06**	**214**	P	**Pn**	**02 41 32.2**	**+0.1**
SNVZ	**South Ngauruho**	**5.13**	**214**	P	**Pn**	**02 41 32.9**	**-0.2**
KAHZ	**Kahuranaki**	**5.18**	**202**	P	**Pn**	**02 41 33.4**	**-0.2**
KRHZ	**Kereru**	**5.21**	**206**	P	**Pn**	**02 41 33.1**	**-0.9**
WNVZ	**Wahianoa**	**5.26**	**214**	P	**Pn**	**02 41 34.7**	**-0.1**
PXZ	**Pawanui**	**5.40**	**201**	P	**Pn**	**02 41 35.6**	**-0.8**
GLKZ	**Green Lake**	**6.17**	**23**	S	**Sn**	**02 42 55.8**	**-1.4**
BFZ	**Birch Farm**	**6.19**	**202**	P	**Pn**	**02 41 45.5**	**-1.0**
KHZ	**Kahutara**	**8.69**	**210**	P	**Pn**	**02 42 16.0**	**-3.0**

*TEH **21** 02:40:52.3, 34°.61N × 45°.63E, h10 km ± 75 km, ML2.9*
*ISN **21** 02:40:52.9 ± 2.2, 34°.46N × 45°.55E, h25 km, ML2.9*

ISC 21 02:40:51.5 ± 1.2, 34°.59N ± 0°.07 × 45°.61E ± 0°.07, h17 km ± 7 km, n6, σ 1 s 01/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.09

comp=N,326nm,0.5s
BPAW Bear Paw Mtn. 1.20 7 P **Pn** **03 07 47.0 0.0**
baz=186
BPAW S **Sn** **03 08 04.0 -0.9**
baz=186
RND Reindeer 1.22 65 Pn **Pn** **03 07 47.2 -0.1**
RND Sn **Sn** **03 08 04.4 -1.0**
RND IAML 03 08 05.2
comp=E,474nm,0.4s
RND IAML 03 08 05.4
comp=N,357nm,0.5s
WAT1 Susitna Watana 1.27 93 **Pn** **03 07 47.6 -0.2**
WAT1 **Sn** **03 08 05.7 -0.6**
WAT1 Susitna Watana 1.27 93 P **Pn** **03 07 47.6 -0.2**
baz=275
WAT1 S **Sn** **03 08 05.7 -0.6**
baz=275
L20K Farewell, AK 1.27 251 **Pn** **03 07 47.8 0.0**
L20K **Sn** **03 08 06.0 -0.2**
L20K Farewell, AK 1.27 251 P **Pn** **03 07 47.8 0.0**
baz=69
L20K S **Sn** **03 08 06.0 -0.2**
baz=69
K20K Telida 1.33 291 Pn **Pn** **03 07 48.5 -0.1**
K20K IAML 03 08 07.3
comp=E,610nm,0.6s
K20K IAML 03 08 07.6
comp=N,676nm,0.7s
K20K Telida 1.33 291 P **Pn** **03 07 48.4 -0.1**
baz=108
M20K Styx River 1.34 220 Pn **Pn** **03 07 48.0 -0.8**
M20K Styx River 1.34 220 P **Pn** **03 07 48.5 -0.3**
baz=39
MCK McKinley 1.35 52 **Sn** **03 08 07.6 -0.3**
MCK McKinley 1.35 52 Pn **Pn** **03 07 48.8 +0.1**
MCK McKinley 1.35 52 P **Pn** **03 07 48.9 +0.2**
baz=233
MCK S **Sn** **03 08 07.6 -0.3**
baz=233
STLK Strandline Lak 1.45 190 **Pn** **03 07 50.0 0.0**
SUA Susitna One 1.48 170 Pn **Pn** **03 07 50.7 +0.3**
SUA IAML 03 08 12.2
comp=E,484nm,0.7s
SUA IAML 03 08 13.8
comp=N,293nm,0.6s
SUA Susitna One 1.48 170 P **Pn** **03 07 50.7 +0.3**
baz=351
BWN Browne 1.50 32 Pn **Pn** **03 07 50.7 +0.2**
BWN IAML 03 08 13.4
comp=N,345nm,1.1s
BWN IAML 03 08 17.4
comp=E,337nm,0.6s
GHO Glory Hole Cre 1.60 135 Pn **Pn** **03 07 52.0 +0.3**
GHO IAML 03 08 15.8
comp=E,604nm,0.8s
SPCG Spurr Capps Gl 1.67 192 **Pn** **03 07 52.5 -0.1**
PMR Palmer 1.67 142 Pn **Pn** **03 07 52.2 -0.3**
PMR IAML 03 08 19.7
comp=E,411nm,0.4s
PMR IAML 03 08 19.8
comp=N,291nm,0.6s
PMR Palmer 1.67 142 P **Pn** **03 07 52.8 +0.3**
PMR Palmer 1.67 142 P **Pn** **03 07 52.6 +0.1**
baz=324
WAT6 Susitna Watana 1.68 100 **Pn** **03 07 52.2 -0.5**
WAT6 Susitna Watana 1.68 100 P **Pn** **03 07 52.2 -0.5**
baz=283
SPNN North Nagishla 1.69 203 **Pn** **03 07 53.2 +0.3**
SPCP Crater Peak Br 1.70 194 **Pn** **03 07 53.5 +0.4**
SPCN Chakachatna No 1.75 194 **Pn** **03 07 54.1 +0.6**
M19K Big River Lodg 1.76 236 Pn **Pn** **03 07 53.2 -0.4**
M19K Big River Lodg 1.76 236 P **Pn** **03 07 53.3 -0.3**
baz=54
N20K Mount Spurr 1.77 194 P **Pn** **03 07 54.0 +0.1**
baz=14
SPCR Spurr Chakacha 1.77 194 **Pn** **03 07 54.0 +0.1**
SML Sawmill 1.78 127 Pn **Pn** **03 07 53.8 0.0**
SML IAML 03 08 19.4
comp=E,377nm,0.7s
SML IAML 03 08 22.4
comp=N,383nm,0.4s
SML Sawmill 1.78 127 P **Pn** **03 07 53.9 0.0**
baz=310
J20K Nowinta River 1.79 316 Pn **Pn** **03 07 53.8 -0.2**
J20K IAML 03 08 17.8
comp=N,446nm,0.6s
J20K IAML 03 08 17.9
comp=E,280nm,0.5s
J20K Nowinta River 1.79 316 P **Pn** **03 07 54.0 0.0**
baz=133
DHY Denali Highway 1.80 83 Pn **Pn** **03 07 53.7 -0.5**
DHY IAML 03 08 17.8
comp=E,292nm,0.4s
DHY IAML 03 08 18.3
comp=N,395nm,0.4s
DHY Denali Highway 1.80 83 P **Pn** **03 07 54.0 -0.3**
baz=266
L19K White Mountain 1.80 247 Pn **Pn** **03 07 53.5 -0.7**
L19K White Mountain 1.80 247 P **Pn** **03 07 54.0 -0.2**
baz=64
FIS Fire Island 1.85 163 Pn **Pn** **03 07 54.6 -0.1**
NEA2 Nenana 1.95 30 Pn **Pn** **03 07 55.5 -0.4**
NEA2 IAML 03 08 20.8
comp=E,195nm,0.9s
NEA2 IAML 03 08 21.0
comp=N,191nm,0.8s
NEA2 Nenana 1.95 30 P **Pn** **03 07 55.7 -0.3**
baz=211
RC01 Rabbit Creek A 1.98 157 Pn **Pn** **03 07 56.1 -0.2**
RC01 IAML 03 08 22.7
comp=E,314nm,0.4s
RC01 Rabbit Creek A 1.98 157 P **Pn** **03 07 56.2 -0.1**
baz=339
M23K Glacier View 2.01 122 **Pn** **03 07 56.5 -0.3**
M23K Glacier View 2.01 122 P **Pn** **03 07 56.5 -0.3**
baz=306
KNK Knik Glacier 2.02 137 Pn **Pn** **03 07 56.5 -0.3**
KNK IAML 03 08 28.5
comp=N,387nm,0.5s
KNK Knik Glacier 2.02 137 P **Pn** **03 07 56.6 -0.2**
baz=320
WRH Wood River Hil 2.12 41 Pn **Pn** **03 07 57.6 -0.4**
MLY Manley 2.14 6 Pn **Pn** **03 07 58.2 -0.1**
MLY IAML 03 08 24.9
comp=N,105nm,1.0s
MLY Manley 2.14 6 P **Pn** **03 07 58.3 0.0**
baz=186
SCM Sheep Creek Mo 2.15 119 Pn **Pn** **03 07 58.1 -0.4**
SCM Sheep Creek Mo 2.15 119 P **Pn** **03 07 58.4 -0.1**
baz=302
TTA Tatalina 2.15 272 Pn **Pn** **03 07 58.1 -0.5**
TTA IAML 03 08 25.8
comp=N,126nm,0.7s
TTA IAML 03 08 26.1
comp=E,121nm,0.8s
TTA Tatalina 2.15 272 P **Pn** **03 07 58.6 0.0**
TTA Tatalina 2.15 272 P **Pn** **03 07 58.4 -0.2**
baz=88
CAPN Captain Cook N 2.16 178 Pn **Pn** **03 07 59.2 +0.6**
CAPN Captain Cook N 2.16 178 P **Pn** **03 08 00.5 +2.0**
baz=359
J19K Poorman 2.22 301 Pn **Pn** **03 07 59.3 -0.1**
J19K IAML 03 08 26.6
comp=N,108nm,0.7s
J19K IAML 03 08 27.6
comp=E,131nm,0.6s
J19K Poorman 2.22 301 P **Pn** **03 07 59.5 +0.2**
baz=117
I21K Tanana 2.29 353 Pn **Pn** **03 08 00.3 +0.1**
I21K IAML 03 08 28.8
comp=E,100nm,0.9s
I21K IAML 03 08 29.6
comp=N,84nm,0.7s
I21K Tanana 2.29 353 P **Pn** **03 08 00.5 +0.3**
baz=172
CCB Clear Creek Bu 2.33 40 Pn **Pn** **03 08 00.5 -0.3**
CCB IAML 03 08 28.3
comp=E,138nm,0.6s
I20K Naaghedeneel 2.35 325 Pn **Pn** **03 08 01.2 +0.2**
I20K Naaghedeneel 2.35 325 P **Pn** **03 08 01.4 +0.4**
baz=142
I23K Minto, Yukon-K 2.40 20 Pn **Pn** **03 08 01.7 +0.1**
I23K Minto, Yukon-K 2.40 20 P **Pn** **03 08 01.8 +0.2**
baz=201
RDT Redoubt 2.41 193 **Pn** **03 08 02.1 +0.2**
DFR Drift River 2.42 196 **Pn** **03 08 02.7 +0.6**

HDA Harding Lake 2.45 50 Pn **Pn** **03 08 01.8 -0.5**
HDA IAML 03 08 33.2
comp=E,115nm,1.0s
HDA IAML 03 08 33.3
comp=N,121nm,0.4s
HDA Harding Lake 2.45 50 P **Pn** **03 08 02.2 -0.1**
baz=234
MDM Murphy Dome 2.46 32 Pn **Pn** **03 08 02.2 -0.2**
MDM IAML 03 08 33.7
comp=N,74nm,1.2s
SLKM Skilak Lake 2.47 167 **Pn** **03 08 02.5 -0.1**
NCT North Crescent 2.49 199 **Pn** **03 08 03.6 +0.7**
COLA College 2.49 36 Pn **Pn** **03 08 02.2 -0.5**
COLA College 2.49 36 IAML 03 08 37.6
comp=N,196nm,0.5s
COLA IAML 03 08 38.2
comp=N,180nm,0.5s
COLA College 2.49 36 P **Pn** **03 08 02.7 -0.1**
J18K Innoko River 2.51 285 Pn **Pn** **03 08 03.2 0.0**
J18K IAML 03 08 34.9
comp=N,68nm,1.0s
J18K IAML 03 08 34.9
comp=E,185nm,1.1s
J18K Innoko River 2.51 285 P **Pn** **03 08 03.3 +0.1**
baz=100
M24K Tolsona, Glenn 2.51 107 Pn **Pn** **03 08 03.5 +0.3**
M24K Tolsona, Glenn 2.51 107 P **Pn** **03 08 03.7 +0.5**
baz=291
RDWB Redoubt West 2.54 197 **Pn** **03 08 04.1 +0.4**
M18K Stony River 2.56 238 **Pn** **03 08 03.6 -0.1**
M18K Stony River 2.56 238 P **Pn** **03 08 03.6 -0.1**
baz=54
O22K Cooper Landing 2.56 162 Pn **Pn** **03 08 03.9 +0.2**
O22K Cooper Landing 2.56 162 P **Pn** **03 08 04.0 +0.3**
baz=344
RSO Redoubt South 2.56 196 Pn **Pn** **03 08 03.6 -0.4**
RDSO Redoubt South 2.56 196 **Pn** **03 08 04.9 +0.9**
L18K Granite Mounta 2.59 257 Pn **Pn** **03 08 04.0 -0.1**
L18K Granite Mounta 2.59 257 P **Pn** **03 08 04.2 +0.1**
baz=72
N19K Bonanza Creek 2.59 217 Pn **Pn** **03 08 03.9 -0.4**
N19K Bonanza Creek 2.59 217 P **Pn** **03 08 04.4 +0.1**
baz=34
RED Redoubt Volcan 2.60 196 **Pn** **03 08 05.1 +0.7**
K24K Donnelly Dome 2.64 68 **Pn** **03 08 04.9 0.0**
K24K Donnelly Dome 2.64 68 P **Pn** **03 08 04.9 0.0**
baz=253
PAX Paxson 2.67 86 Pn **Pn** **03 08 05.4 +0.2**
PAX Paxson 2.67 86 P **Pn** **03 08 05.6 +0.4**
baz=271
IL31 2.70 44 Pn **Pn** **03 08 05.2 -0.3**
ILAR Eielson Array 2.70 44 Pn **Pn** **03 08 04.9 -0.7**
ILAR Eielson Array 2.70 44 P **Pn** **03 08 05.5 -0.1**
comp=E,31nm,0.5s,baz=227,slow=13,SNR=645
SVW2 Sprevohn 2.72 230 Pn **Pn** **03 08 05.6 -0.3**
POKR Poker Plat Res 2.79 36 Pn **Pn** **03 08 06.9 +0.2**
POKR Poker Plat Res 2.79 36 P **Pn** **03 08 06.9 +0.2**
baz=219
H21K Melozitna Rive 2.83 347 Pn **Pn** **03 08 07.2 0.0**
H21K Melozitna Rive 2.83 347 P **Pn** **03 08 07.2 0.0**
baz=166
GLI Glacier Island 2.85 134 Pn **Pn** **03 08 07.1 -0.5**
GLI Glacier Island 2.85 134 P **Pn** **03 08 07.2 -0.5**
baz=318
HARP HAARP 2.88 98 **Pn** **03 08 08.6 +0.5**
HARP HAARP 2.88 98 P **Pn** **03 08 08.6 +0.5**
baz=283
KLU Klutina 2.90 117 Pn **Pn** **03 08 07.3 -0.9**
KLU IAML 03 08 54.5
comp=E,182nm,0.6s
KLU IAML 03 08 55.8
comp=N,164nm,0.7s
KLU Klutina 2.90 117 P **Pn** **03 08 07.5 -0.8**
baz=302
O20K Slope Mountain 2.92 193 **Pn** **03 08 09.4 +0.9**
O20K Slope Mountain 2.92 193 P **Pn** **03 08 09.4 +0.9**
baz=12
SEW Seward 2.96 162 Pn **Pn** **03 08 08.6 -0.4**
SEW Seward 2.96 162 P **Pn** **03 08 08.9 0.0**
baz=344
H22K Ishtalitna Cre 2.99 359 **Pn** **03 08 09.2 -0.1**
H22K Ishtalitna Cre 2.99 359 P **Pn** **03 08 09.2 -0.1**
baz=179
H20K Anotleneega Mo 3.02 330 **Pn** **03 08 09.8 0.0**
H20K Anotleneega Mo 3.02 330 P **Pn** **03 08 09.8 0.0**
baz=147
RIDG Independent Ri 3.03 71 Pn **Pn** **03 08 10.0 +0.1**
RIDG IAML 03 08 53.1
comp=N,76nm,0.7s
RIDG IAML 03 08 55.0
comp=E,74nm,1.1s
RIDG Independent Ri 3.03 71 P **Pn** **03 08 10.2 +0.2**
baz=257
GCSA Galena City Sc 3.08 309 **Pn** **03 08 10.5 0.0**
GCSA Galena City Sc 3.08 309 P **Pn** **03 08 10.5 0.0**
baz=124
N18K Kilae Creek 3.13 226 Pn **Pn** **03 08 10.8 -0.4**
N18K Kilae Creek 3.13 226 P **Pn** **03 08 11.2 -0.1**
baz=42
J25K Salcha River, 3.14 55 Pn **Pn** **03 08 10.4 -1.0**
J25K IAML 03 08 52.2
comp=E,90nm,0.5s
J25K IAML 03 08 52.2
comp=N,74nm,0.5s
J25K Salcha River, 3.14 55 P **Pn** **03 08 10.9 -0.5**
baz=240
FID Port Fidalgo 3.16 131 Pn **Pn** **03 08 10.7 -0.9**
DIV Divide 3.17 122 Pn **Pn** **03 08 10.8 -1.0**
BRLK Bradley Lake 3.17 176 Pn **Pn** **03 08 11.9 +0.1**
BRLK IAML 03 08 50.2
comp=N,77nm,0.5s
BRLK IAML 03 08 50.8
comp=E,97nm,1.1s
BRSE Bradley Lake S 3.20 175 **Pn** **03 08 12.0 -0.2**
BRSE Bradley Lake S 3.20 175 P **Pn** **03 08 12.0 -0.2**
baz=356
K17K Iditarod 3.22 270 Pn **Pn** **03 08 12.1 -0.3**
K17K IAML 03 08 50.4
comp=N,56nm,1.3s
K17K IAML 03 08 51.4
comp=E,50nm,1.7s
K17K Iditarod 3.22 270 P **Pn** **03 08 12.6 +0.2**
baz=83
M17K Holitna River 3.25 245 Pn **Pn** **03 08 12.7 -0.2**
M17K IAML 03 09 12.7
comp=N,45nm,1.0s
M17K IAML 03 09 22.1
comp=E,51nm,0.7s
IMAR Indian Mountai 3.26 342 Pn **Pn** **03 08 12.5 -0.4**
HOM Homer 3.27 183 Pn **Pn** **03 08 13.2 +0.1**
H24K Noodor Dome 3.29 25 Pn **Pn** **03 08 12.8 -0.5**
H24K Noodor Dome 3.29 25 P **Pn** **03 08 13.1 -0.2**
baz=208
L17K Donlin 3.33 260 **Pn** **03 08 13.8 -0.2**
L17K Donlin 3.33 260 P **Pn** **03 08 13.8 -0.2**
baz=73
WACK Wrangell Chich 3.37 103 **Pn** **03 08 14.4 -0.3**
N25K Chitina, Valde 3.40 110 Pn **Pn** **03 08 14.2 -0.7**
N25K IAML 03 08 56.0
comp=E,82nm,0.5s
N25K IAML 03 08 57.3
comp=N,126nm,0.4s
N25K Chitina, Valde 3.40 110 P **Pn** **03 08 14.4 -0.5**
baz=296
CNPM China Poot 3.40 179 Pn **Pn** **03 08 15.3 +0.4**
CNPM IAML 03 08 58.4
comp=E,116nm,0.4s
P19K Oil Pt 3.41 197 Pn **Pn** **03 08 15.5 +0.6**
P19K IAML 03 09 27.9
comp=E,117nm,2.2s
P19K IAML 03 10 38.4
comp=N,100nm,2.5s
P19K Oil Pt 3.41 197 P **Pn** **03 08 15.9 +0.9**
baz=15
HIN Hinchinbrook I 3.41 136 Pn **Pn** **03 08 14.2 -0.8**
H19K Roundabout Mou 3.45 322 Pn **Pn** **03 08 15.2 -0.3**
H19K Roundabout Mou 3.45 322 P **Pn** **03 08 15.4 -0.1**
baz=137
SCRK Sand Creek 3.46 69 Pn **Pn** **03 08 14.8 -0.8**
SCRK IAML 03 09 01.2
comp=E,38nm,0.8s
SCRK IAML 03 09 02.6
comp=N,37nm,0.7s
SCRK Sand Creek 3.46 69 P **Pn** **03 08 15.0 -0.6**
baz=255

WASW Wrangell South 3.46 103 **Pn** **03 08 15.6 -0.3**
MENT Mentasta 3.47 86 Pn **Pn** **03 08 15.6 -0.2**
MENT IAML 03 09 13.3
comp=E,102nm,0.4s
MENT IAML 03 09 15.8
comp=N,118nm,1.0s
P23K Montague Islan 3.48 146 **Pn** **03 08 14.8 -1.0**
P23K Montague Islan 3.48 146 P **Pn** **03 08 14.8 -1.0**
baz=329
EYAK Cordova Ski Ar 3.55 129 Pn **Pn** **03 08 17.2 +0.4**
EYAK Cordova Ski Ar 3.55 129 P **Pn** **03 08 17.8 +1.0**
EYAK Cordova Ski Ar 3.55 129 P **Pn** **03 08 16.6 -0.2**
baz=315
PRP Porcupine Dome 3.63 41 Pn **Pn** **03 08 16.9 -1.1**
PRP IAML 03 09 19.4
comp=E,29nm,0.7s
PRP Porcupine Dome 3.63 41 P **Pn** **03 08 17.5 -0.5**
baz=226
L26K Log Cabin Wild 3.63 85 Pn **Pn** **03 08 17.9 -0.1**
L26K IAML 03 09 07.3
comp=N,70nm,0.5s
L26K IAML 03 09 12.9
comp=E,91nm,0.4s
L26K Log Cabin Wild 3.63 85 P **Pn** **03 08 18.1 +0.1**
baz=272
N17K Nushagak Hills 3.69 232 Pn **Pn** **03 08 18.0 -0.6**
N17K IAML 03 09 32.0
comp=N,30nm,3.9s
N17K Nushagak Hills 3.69 232 P **Pn** **03 08 18.6 0.0**
baz=47
AUCH Augustine Cone 3.71 197 **Pn** **03 08 20.7 +1.7**
BMRM Bremner River 3.72 119 Pn **Pn** **03 08 18.0 -1.2**
BMRM Bremner River 3.72 119 P **Pn** **03 08 17.9 -1.2**
baz=305
G21K Allakaket 3.73 346 Pn **Pn** **03 08 19.1 -0.1**
G21K Allakaket 3.73 346 P **Pn** **03 08 19.1 -0.1**
baz=164
J26L Joseph Creek 3.79 62 Pn **Pn** **03 08 19.9 -0.2**
J26L IAML 03 09 08.2
comp=E,99nm,0.7s
J26L IAML 03 09 08.8
comp=N,64nm,0.6s
J26L Joseph Creek 3.79 62 P **Pn** **03 08 20.0 -0.1**
baz=249
GLB Gilahina Butte 3.81 109 Pn **Pn** **03 08 19.6 -0.7**
GLB IAML 03 09 03.6
comp=E,95nm,0.4s
H18K Honhosa River 3.83 309 **Pn** **03 08 20.3 -0.2**
H18K Honhosa River 3.83 309 P **Pn** **03 08 20.6 +0.1**
baz=122
G23K Bananza Creek 3.85 8 Pn **Pn** **03 08 20.8 0.0**
G23K Bananza Creek 3.85 8 P **Pn** **03 08 21.0 +0.2**
baz=188
M26K Nabesna, AK 3.87 94 Pn **Pn** **03 08 20.2 -0.9**
M26K IAML 03 09 22.4
comp=N,52nm,0.5s
M26K IAML 03 09 30.3
comp=E,34nm,0.6s
M26K Nabesna, AK 3.87 94 P **Pn** **03 08 20.9 -0.2**
baz=281
GOAT Goat Mountain 3.91 124 **Pn** **03 08 21.6 0.0**
L16K Owhat River 4.00 256 Pn **Pn** **03 08 22.9 +0.1**
L16K IAML 03 09 10.7
comp=N,22nm,3.0s
L16K IAML 03 09 53.3
comp=E,25nm,4.8s
L16K Owhat River 4.00 256 P **Pn** **03 08 22.9 +0.1**
baz=69
P18K Big Mountain, 4.01 210 Pn **Pn** **03 08 23.4 +0.3**
P18K IAML 03 09 39.6
comp=E,34nm,3.9s
P18K IAML 03 10 02.9
comp=N,37nm,3.5s
P18K Big Mountain, 4.01 210 P **Pn** **03 08 23.6 +0.6**
baz=27
RAGM Ragged Mountai 4.05 126 Pn **Pn** **03 08 23.6 0.0**
VRDI Verde Repeater 4.06 111 Pn **Pn** **03 08 22.9 -0.9**
VRDI IAML 03 09 11.6
comp=N,44nm,0.5s
VRDI IAML 03 09 12.4
comp=E,38nm,0.7s
M16K Timber Creek 4.08 246 Pn **Pn** **03 08 23.6 -0.3**
M16K IAML 03 09 52.0
comp=E,30nm,3.4s
M16K IAML 03 11 12.9
comp=N,35nm,3.9s
M16K Timber Creek 4.08 246 P **Pn** **03 08 23.7 -0.2**
baz=59
G19K Purcell Mounta 4.09 325 Pn **Pn** **03 08 23.6 -0.4**
G24K Hadweenzic Riv 4.14 22 Pn **Pn** **03 08 24.3 -0.3**
G24K Hadweenzic Riv 4.14 22 P **Pn** **03 08 24.6 0.0**
baz=205
Q19K Cape Douglas, 4.16 197 Pn **Pn** **03 08 25.5 +0.5**
Q19K Cape Douglas, 4.16 197 P **Pn** **03 08 26.2 +1.1**
baz=15
O17K Koliganek Bris 4.21 224 **Pn** **03 08 26.0 +0.4**
O17K Koliganek Bris 4.21 224 P **Pn** **03 08 26.0 +0.4**
baz=39
J16K Anvik River 4.24 279 Pn **Pn** **03 08 25.8 -0.1**
J16K IAML 03 09 41.2
comp=E,20nm,3.9s
J16K Anvik River 4.24 279 P **Pn** **03 08 25.9 -0.1**
baz=91
Q23K Middleton Isla 4.24 143 Pn **Pn** **03 08 26.1 +0.1**
Q23K Middleton Isla 4.24 143 P **Pn** **03 08 26.4 +0.4**
baz=328
MID Middleton Isla 4.25 143 Pn **Pn** **03 08 26.2 +0.1**
MID Middleton Isla 4.25 143 P **Pn** **03 08 27.3 +1.2**
K27K Chicken 4.29 71 Pn **Pn** **03 08 26.4 -0.2**
K27K IAML 03 09 14.6
comp=E,24nm,0.8s
K27K IAML 03 09 23.5
comp=N,35nm,0.6s
K27K Chicken 4.29 71 P **Pn** **03 08 26.4 -0.2**
baz=259
I26K Coal Creek Min 4.30 53 Pn **Pn** **03 08 26.1 -0.7**
I26K IAML 03 09 21.5
comp=N,32nm,0.7s
I26K IAML 03 09 22.3
comp=E,31nm,0.9s
I26K Coal Creek Min 4.30 53 P **Pn** **03 08 26.3 -0.6**
baz=240
H17K Granite Mounta 4.31 302 Pn **Pn** **03 08 27.2 +0.4**
H17K IAML 03 09 18.5
comp=N,22nm,0.8s
H17K IAML 03 09 20.1
comp=E,49nm,0.8s
H17K Granite Mounta 4.31 302 P **Pn** **03 08 27.2 +0.4**
baz=114
N16K Nishlik Lake 4.32 239 **Pn** **03 08 27.0 -0.1**
N16K Nishlik Lake 4.32 239 P **Pn** **03 08 27.0 -0.1**
baz=52
L27K Beaver Creek, 4.33 84 Pn **Pn** **03 08 26.3 -0.8**
L27K IAML 03 09 38.0
comp=N,18nm,1.4s
L27K Beaver Creek, 4.33 84 P **Pn** **03 08 26.5 -0.7**
baz=272
I17K Unalakleet 4.33 287 Pn **Pn** **03 08 26.8 -0.4**
I17K IAML 03 09 19.3
comp=N,40nm,1.2s
I17K IAML 03 09 19.6
comp=E,66nm,0.8s
I17K Unalakleet 4.33 287 P **Pn** **03 08 27.8 +0.6**
baz=99
BCAR Beaver Creek A 4.34 84 Pn **Pn** **03 08 26.3 -1.2**
COLD Coldfoot 4.35 6 Pn **Pn** **03 08 26.9 -0.6**
COLD Coldfoot 4.35 6 P **Pn** **03 08 27.2 -0.3**
baz=186
Q20K Shuyak Island 4.36 188 P **Pn** **03 08 27.7 +0.1**
baz=6.8
SYI Shuyak Island 4.36 188 Pn **Pn** **03 08 27.3 -0.3**
G18K Tagagawik 4.37 316 Pn **Pn** **03 08 27.1 -0.6**
G18K Tagagawik 4.37 316 P **Pn** **03 08 28.1 +0.4**
baz=130
M27K Edge Creek, AK 4.39 93 Pn **Pn** **03 08 27.9 -0.2**
M27K IAML 03 09 40.5
comp=E,22nm,1.5s
M27K IAML 03 09 40.8
comp=N,30nm,0.9s
M27K Edge Creek, AK 4.39 93 P **Pn** **03 08 28.5 +0.4**
baz=282
BERG Berg Lake 4.42 122 Pn **Pn** **03 08 27.8 -0.6**
F21K Alatna River 4.42 349 Pn **Pn** **03 08 28.1 -0.3**
F21K Alatna River 4.42 349 P **Pn** **03 08 28.8 +0.4**
baz=167
G25K Bearman Lake 4.46 28 **Pn** **03 08 29.1 +0.3**

G25K Bearman Lake 4.46 28 P Pn 03 08 29.1 +0.3
baz=212
KAIM Kayak Island 4.46 129 Pn Pn 03 08 29.0 -0.1
KAIM Kayak Island 4.46 129 P Pn 03 08 29.5 +0.4
baz=315
FYU Fort Yukon 4.49 33 Pn Pn 03 08 29.1 -0.2
FYU IAML 03 09 44.9
comp=N,47nm,4.2s
FYU IAML 03 11 12.4
comp=E,51nm,4.5s
PTPK Patty Peak 4.51 109 Pn 03 08 29.5 -0.3
F20K Avaraart Lake 4.55 338 Pn 03 08 30.3 +0.2
F20K Avaraart Lake 4.55 338 P Pn 03 08 30.3 +0.2
baz=153
F22K John River 4.62 356 Pn 03 08 31.2 +0.1
F22K John River 4.62 356 P Pn 03 08 31.2 +0.1
baz=175
KIAG Kiagna River 4.68 111 Pn 03 08 30.8 -1.3
KAHG Katmai Hook Gl 4.71 201 Pn 03 08 33.0 +0.6
K15K Wolf Creek Mou 4.77 267 Pn Pn 03 08 32.2 -0.8
K15K IAML 03 09 48.1
comp=N,16nm,3.4s
K15K IAML 03 10 29.0
comp=E,24nm,4.3s
K15K Wolf Creek Mou 4.77 267 P Pn 03 08 33.4 +0.3
baz=78
F19K Shaleruckik Mo 4.80 328 Pn Pn 03 08 32.6 -0.9
F19K IAML 03 10 13.4
comp=E,12nm,4.6s
F19K Shaleruckik Mo 4.80 328 P Pn 03 08 33.3 -0.2
baz=142
G17K Kiwalik Mounta 4.84 307 Pn 03 08 34.8 +0.8
G17K Kiwalik Mounta 4.84 307 P Pn 03 08 34.8 +0.8
baz=118
F24K Squaw Lake 4.84 16 Pn Pn 03 08 33.6 -0.4
F24K Squaw Lake 4.84 16 P Pn 03 08 33.9 -0.2
baz=199
BVCY Beaver Creek 4.84 91 Pn 03 08 34.2 +0.1
BVCY Beaver Creek 4.84 91 P Pn 03 08 34.2 +0.1
baz=281
EGAK Eagle 4.86 63 Pn Pn 03 08 33.8 -0.5
EGAK IAML 03 09 44.8
comp=E,44nm,0.8s
EGAK IAML 03 09 46.4
comp=E,33nm,0.8s
EGAK Eagle 4.86 63 P Pn 03 08 34.3 0.0
baz=252
SNH Sunshine Point 4.89 120 Pn Pn 03 08 33.6 -1.2
BARK Barkley Ridge 4.90 117 Pn 03 08 34.1 -0.8
L15K Ungalak Mounta 4.91 260 Pn 03 08 35.1 +0.1
L15K Ungalak Mounta 4.91 260 P Pn 03 08 35.1 +0.1
baz=71
BARN Barnard Glacie 4.91 108 Pn Pn 03 08 34.3 -1.0
BARN IAML 03 09 31.3
comp=E,34nm,0.5s
BARN IAML 03 09 31.3
comp=N,38nm,0.5s
M15K Kasigluk River 4.98 248 Pn 03 08 36.0 +0.1
M15K Kasigluk River 4.98 248 P Pn 03 08 36.0 +0.1
baz=59
KAKN Katmai Knife C 4.99 203 Pn 03 08 36.6 +0.4
YUK2 White River 5.00 98 Pn 03 08 36.7 +0.3
I27K Kandik River 5.01 53 Pn 03 08 36.5 +0.1
I27K Kandik River 5.01 53 P Pn 03 08 36.5 +0.1
baz=242
N15K Kwethluk River 5.03 241 Pn Pn 03 08 35.4 -1.2
N15K IAML 03 12 01.4
comp=N,30nm,4.2s
N15K Kwethluk River 5.03 241 P Pn 03 08 36.4 -0.2
baz=53
P16K Nushagak River 5.08 223 Pn 03 08 37.8 +0.5
P16K Nushagak River 5.08 223 P Pn 03 08 37.8 +0.5
baz=37
CTG Chitna Glacier 5.10 108 P Pn 03 08 37.5 -0.2
baz=297
CTGM Chitina Glacie 5.10 108 Pn Pn 03 08 37.3 -0.4
CTGM IAML 03 09 38.3
comp=N,26nm,0.5s
CTGM IAML 03 09 38.4
comp=E,19nm,0.5s
ACHA Angle Creek He 5.12 205 Pn 03 08 39.2 +1.2
H16K Elim 5.15 294 Pn 03 08 38.6 +0.4
H16K Elim 5.15 294 P Pn 03 08 38.6 +0.4
baz=105
G26K Porcupine Rive 5.16 35 Pn 03 08 38.3 0.0
G26K Porcupine Rive 5.16 35 P Pn 03 08 38.3 0.0
baz=222
YUK3 Moose Creek 5.18 98 Pn 03 08 39.0 +0.1
YUK3 Moose Creek 5.18 98 P Pn 03 08 39.0 +0.1
baz=288
KDAK Kodiak Island 5.19 188 Pn Pn 03 08 36.1 -2.7
KDAK Kodiak Island 5.19 188 P Pn 03 08 37.0 -1.8
comp=E,7.2nm,0.2s,baz=69,slow=5.6,SNR=120
KDAK S Sn 03 09 33.7 -3.7
comp=E,14nm,0.3s,baz=133,slow=23,SNR=28
E19K Redstone River 5.20 334 Pn Pn 03 08 38.4 -0.5
E19K IAML 03 09 38.7
comp=N,13nm,4.3s
E19K Redstone River 5.20 334 P Pn 03 08 39.2 +0.4
baz=148
E23K Chandalar 5.21 7 Pn 03 08 39.9 +0.8
E23K Chandalar 5.21 7 P Pn 03 08 39.9 +0.8
baz=188
F25K Christian Rive 5.26 24 Pn 03 08 39.5 -0.2
F25K Christian Rive 5.26 24 P Pn 03 08 39.6 -0.2
baz=209
LOGN Logan Glacier 5.31 109 Pn Pn 03 08 39.4 -1.2
LOGN IAML 03 09 42.5
comp=E,21nm,1.4s
LOGN IAML 03 09 48.6
comp=N,24nm,1.3s
BMAR Burnt Mountain 5.34 29 Pn Pn 03 08 40.0 -0.9
H27K Steamboat Moun 5.37 47 Pn 03 08 40.6 -0.5
H27K Steamboat Moun 5.37 47 P Pn 03 08 40.7 -0.5
baz=236
G16K Koyuk River 5.43 302 Pn Pn 03 08 41.7 -0.4
G16K Koyuk River 5.43 302 P Pn 03 08 42.3 +0.3
baz=112
DAWY Dawson 5.46 73 Pn Pn 03 08 41.4 -1.0
DAWY Dawson 5.46 73 P Pn 03 08 41.9 -0.5
baz=263
M14K Bethel 5.50 251 Pn Pn 03 08 43.2 +0.3
M14K Bethel 5.50 251 P Pn 03 08 43.5 +0.6
baz=62
F17K Baldwin Pennin 5.54 314 Pn Pn 03 08 43.4 -0.1
F17K Baldwin Pennin 5.54 314 P Pn 03 08 44.0 +0.6
baz=125
L14K Kuka Creek 5.57 259 Pn Pn 03 08 43.5 -0.4
L14K Kuka Creek 5.57 259 P Pn 03 08 44.9 +1.0
baz=69
I28M Miner Creek 5.58 58 Pn Pn 03 08 43.2 -0.9
I28M Miner Creek 5.58 58 P Pn 03 08 44.2 +0.1
baz=248
O15K Ungalikthiuk R 5.58 232 Pn 03 08 44.8 +0.7
O15K Ungalikthiuk R 5.58 232 P Pn 03 08 44.8 +0.7
baz=44
J14K Nanvaranak Lak 5.62 274 Pn Pn 03 08 43.8 -0.7
J14K Nanvaranak Lak 5.62 274 P Pn 03 08 45.0 +0.5
baz=83
F26K Sheenjek River 5.66 29 Pn 03 08 45.0 0.0
F26K Sheenjek River 5.66 29 P Pn 03 08 45.0 0.0
baz=215
YUK8 Steele Glacier 5.66 102 Pn 03 08 45.4 0.0
YUK8 Steele Glacier 5.66 102 P Pn 03 08 45.4 0.0
baz=292
E20K Nigu River 5.73 341 Pn 03 08 46.4 +0.3
E20K Nigu River 5.73 341 P Pn 03 08 46.4 +0.3
baz=157
E25K Arctic Village 5.74 22 Pn Pn 03 08 45.4 -0.8
E25K Arctic Village 5.74 22 P Pn 03 08 46.4 +0.2
baz=207
SAMH Samovar Hills 5.76 114 Pn 03 08 47.0 +0.4
OHAK Old Harbor 5.80 191 Pn Pn 03 08 45.7 -1.3
OHAK Old Harbor 5.80 191 P Pn 03 08 45.2 -1.8
N14K Kuskokwak Cree 5.82 244 Pn 03 08 47.8 +0.6
N14K Kuskokwak Cree 5.82 244 P Pn 03 08 47.8 +0.6
baz=54
M29M Somme Creek 5.93 89 Pn Pn 03 08 48.8 -0.1
M29M Somme Creek 5.93 89 P Pn 03 08 49.1 +0.2
baz=280
E18K Tukpahlearik C 5.98 323 Pn Pn 03 08 49.0 -0.4
E18K Tukpahlearik C 5.98 323 P Pn 03 08 50.3 +1.0
baz=135
G15K Niukluk 5.98 296 Pn 03 08 49.6 +0.2
G15K Niukluk 5.98 296 P Pn 03 08 49.6 +0.2
baz=104
PCA Pinnacle 6.00 113 Pn Pn 03 08 49.4 -0.3
PINM Pinnacle 6.00 113 P Pn 03 08 49.2 -0.6
baz=303
L29M L29M 6.00 82 Pn Pn 03 08 48.5 -1.3
L29M L29M 6.00 82 P Pn 03 08 49.6 -0.2
baz=274
D22K Ayikyak River 6.02 355 P Pn 03 08 50.7 +0.8
baz=174
J29N Klondike Camp 6.02 69 Pn 03 08 49.1 -1.0
O14K Tigyukauivet M 6.07 237 Pn Pn 03 08 47.8 -2.9
O14K Tigyukauivet M 6.07 237 P Pn 03 08 50.9 +0.3
baz=48
D23K Nanushuk River 6.08 2 Pn 03 08 51.2 +0.4
D23K Nanushuk River 6.08 2 P Pn 03 08 51.2 +0.4
baz=182
YUK4 Talbot Arm 6.14 99 P Pn 03 08 52.0 +0.1
baz=290
D20K Etivluk River 6.21 342 Pn 03 08 52.7 +0.1
D20K Etivluk River 6.21 342 P Pn 03 08 52.7 +0.1
baz=157
M13K Dall Lake 6.26 252 P Pn 03 08 54.3 +1.1
baz=61
D19K Kuna River 6.26 336 Pn Pn 03 08 53.5 +0.2
D19K Kuna River 6.26 336 P Pn 03 08 53.6 +0.4
baz=150
K29M Barlow Dome 6.27 75 Pn Pn 03 08 52.1 -1.3
K29M Barlow Dome 6.27 75 P Pn 03 08 52.9 -0.5
baz=268
BCPM Banana Point 6.34 113 Pn Pn 03 08 53.9 -0.4
D24K Happy Valley 6.34 8 Pn Pn 03 08 54.5 +0.2
YUK6 Outpost Mounta 6.42 102 Pn 03 08 54.9 -0.7
YUK6 Outpost Mounta 6.42 102 P Pn 03 08 54.9 -0.7
baz=294
C21K Knifeblade Rid 6.42 349 Pn 03 08 56.2 +0.8
C21K Knifeblade Rid 6.42 349 P Pn 03 08 56.2 +0.8
baz=166
F15K North Star Dit 6.44 302 Pn Pn 03 08 55.6 -0.1
F15K North Star Dit 6.44 302 P Pn 03 08 56.6 +1.0
baz=110
ANM Nome 6.46 291 Pn Pn 03 08 56.1 +0.2
ANM Nome 6.46 291 P Pn 03 08 55.6 -0.3
baz=98
H29M Whitestone 6.48 54 Pn Pn 03 08 55.3 -0.9
PNL Peninsula 6.59 114 P Pn 03 08 58.3 +0.5
O29M Mount Kennedy 6.61 108 Pn Pn 03 08 56.1 -2.0
E27K Coleen River 6.64 33 Pn Pn 03 08 56.6 -1.7
E27K Coleen River 6.64 33 P Pn 03 08 58.2 -0.2
baz=222
M30M Minto, Yukon 6.67 86 Pn Pn 03 08 57.8 -1.1
M30M Minto, Yukon 6.67 86 P Pn 03 08 58.5 -0.4
baz=279
YUK7 Dusty Glacier 6.70 105 Pn 03 08 59.2 -0.1
F28M Old Crow 6.72 40 Pn Pn 03 08 58.3 -1.1
F28M Old Crow 6.72 40 P Pn 03 08 58.9 -0.5
baz=231
D25K Kavik River 6.73 15 Pn Pn 03 09 00.4 +0.8
N30M Aishikik Lake 6.81 96 Pn Pn 03 08 59.9 -0.9
N30M Aishikik Lake 6.81 96 P Pn 03 09 00.6 -0.1
baz=289
J30M Hart River 6.85 69 P Pn 03 09 01.0 -0.3
baz=263
HYT Haines Junctio 6.85 102 Pn Pn 03 09 00.2 -1.2
B21K Ikpikpuk River 6.86 350 Pn Pn 03 09 00.4 -0.9
G29M Pine Creek 6.92 49 Pn Pn 03 09 03.2 +1.1
I30M Mount Dempster 6.94 64 Pn Pn 03 09 01.4 -1.1
C18K Utukok River 7.04 329 Pn Pn 03 09 02.9 -1.8
C19K Lookout Ridge 7.07 335 Pn Pn 03 09 03.1 -0.9
EPYK Eagle Plains 7.15 55 Pn Pn 03 09 04.4 -0.8
P29M Windy Craggy 7.32 111 Pn Pn 03 09 06.8 -0.8
N31M Braeburn, Yuko 7.40 94 Pn Pn 03 09 08.3 -0.4
E28M Babbage River 7.47 35 Pn Pn 03 09 09.7 +0.1
B22K Teshekpuk Lake 7.50 355 Pn Pn 03 09 10.0 +0.1
O30N Mendenhall 7.51 100 Pn Pn 03 09 08.2 -2.0
D27M Malcolm River 7.60 29 Pn Pn 03 09 12.2 +0.8
E29M Blow River 7.79 39 Pn Pn 03 09 12.4 -1.4
M31M Drury Creek, Y 7.84 88 Pn Pn 03 09 13.7 -1.0
C16K Lisburne Hills 7.90 319 Pn Pn 03 09 15.3 -0.1
WHY Whitehorse 8.10 99 Pn Pn 03 09 17.3 -1.0
G31M Satah River 8.26 53 Pn Pn 03 09 18.4 -1.8
FARO Faro, Yukon 8.32 87 Pn Pn 03 09 20.5 -0.6
SKAG Skagway 8.45 107 Pn Pn 03 09 21.0 -1.9
SKAG Skagway 8.45 107 P Pn 03 09 22.7 -0.2
F31M Tsingehtchic 8.65 51 Pn Pn 03 09 24.4 -1.1
P32M Atlin 9.10 104 Pn Pn 03 09 30.7 -1.0
INK Inuvik 9.10 46 P Pn 03 09 30.2 -1.4
comp=N,0.4nm,0.4s,baz=239,slow=8.5,SNR=4.5
P33M Teslin, Yukon 9.22 99 Pn Pn 03 09 31.5 -1.8
R32K Eaglecrest 9.46 112 Pn Pn 03 09 34.9 -1.7
JIS Juneau Island 9.52 112 Pn Pn 03 09 36.3 -1.0
JIS Juneau Island 9.52 112 P Pn 03 09 36.7 -0.6
Q32M Nakina River 10.06 105 Pn Pn 03 09 43.5 -1.3
S34M Telegraph Cree 11.13 108 Pn Pn 03 09 57.8 -1.4
DLBC Dease Lake 11.33 104 Pn Pn 03 10 00.8 -1.0
C36M Paulatuk 12.67 48 Pn Pn 03 10 19.3 0.0
YKA Yellowknife Ar 16.70 75 P P 03 11 10.9 +0.3
comp=N,0.3nm,0.6s,baz=285,slow=11,SNR=6.7
PDAR Pindale Array 31.46 110 P P 03 13 35.5 +1.4
comp=N,0.4nm,0.6s,baz=320,slow=3.9,SNR=3.8
comp=N,0.4nm,0.6s
TXAR Lajitas Array 45.36 115 P P 03 15 31.4 +1.3
comp=N,0.3nm,0.6s,baz=332,slow=8.7,SNR=3.6
comp=N,0.3nm,0.6s
AKASG Malin Array Be 66.73 360 P P 03 18 01.0 -0.7
comp=N,0.5nm,0.4s,baz=2.2,slow=6.7,SNR=4.4
comp=N,0.5nm,0.4s

*NEIC **21** 03:42:36.1±1.6,28°.89N±0°.09×139°.9E±0°.2,h376km±9km, mb4.1/27,Error ellipse: s-maj=19.8km s-min=12.7km az=83.0*
*JMA **21** 03:42:36.2±0.1,29°N±1°×14°0E±°,h391km,MV3.7/42,W OFF OGASAWARA*
*IDC **21** 03:42:37.7±1.4,28°.88N×139°.68E,h377km±12km, mb3.5/19,mbtmp4.2/24,Error ellipse: s-maj=19.7km s-min=10.1km az=81.0*

ISC 21 03:42:35.3±0.5,28°.89N±0°.05×139°.68E±0°.08,h350km,n93, σ1§67/106,**mb4.0**/33,**2C,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.84**	**128**	**P**		**Pn**	**S**	**03 43 35.5**	**+2.1**
CBIJ				*e*S		**S**	**S**	**03 44 22.0**	**+2.0**
JCJ	**Chichijima**	**2.84**	**128**	**Pn**		**Pn**	**S**	**03 43 35.1**	**+1.7**
JCJ				Sn		**S**	**S**	**03 44 21.0**	**+1.0**
JCJ	**Chichijima**	**2.84**	**128**	**P**		**Pn**	**S**	**03 43 31.6**	**-1.7**
	212nm,0.3s,baz=27,slow=11,SNR=251								
JCJ				S		**S**	**S**	**03 44 17.9**	**-2.1**
	1µm,0.4s,baz=270,slow=20,SNR=11								
JHH2	**Haha-jima-NKT2**	**3.15**	**135**	**P**		**Pn**	**S**	**03 43 38.5**	**+2.3**
JHH2				*e*S		**S**	**S**	**03 44 27.9**	**+2.9**
JHJ2	**Mitsune**	**4.21**	**2**	**Pn**		**Pn**	**S**	**03 43 49.0**	**+2.6**
JHJ2	**Mitsune**	**4.21**	**2**	***e*P**		**Pn**	**S**	**03 43 50.5**	**+4.1**
JHJ	**Hachijo jima 2**	**4.22**	**1**	**P**		**Pn**	**S**	**03 43 49.4**	**+3.0**
	54nm,0.3s,baz=18,slow=22,SNR=5.0								
JHJ				S		**S**	**S**	**03 44 45.2**	**+1.3**
	70nm,0.3s,baz=254,slow=23,SNR=6.9								
BSO1	**Boso 1**	**5.85**	**11**	**S**		**S**	**S**	**03 45 17.0**	**+1.4**
BSO3	**Boso 3**	**5.94**	**7**	***e*S**		**S**	**S**	**03 45 17.9**	**+0.1**
JTNC	**Tanabenakahech**	**6.02**	**326**	***e*P**		**Pn**	**S**	**03 44 10.9**	**+4.6**
JTNC				S		**S**	**S**	**03 45 24.5**	**+4.4**
BSO4	**Boso 4**	**6.11**	**5**	***e*S**		**S**	**S**	**03 45 22.3**	**+0.7**
JOD2	**Odawara 2**	**6.37**	**356**	***e*S**		**S**	**S**	**03 45 29.5**	**+2.0**
JNY	**Yasuok**	**6.63**	**347**	***e*P**		Pn	S	03 44 19.0	+5.6
INU	**Inuyama**	**6.82**	**341**	**Pn**		**Pn**	**S**	**03 44 17.0**	**+1.4**
JRY	**Ryogami san**	**7.14**	**355**	**P**		**Pn**	**S**	**03 44 21.8**	**+2.6**
JAG	**Ashikaga**	**7.52**	**359**	**P**		**Pn**	**S**	**03 44 24.6**	**+0.9**
MJAR	**Matsushiro Arr**	**7.73**	**351**	**P**		**Pn**	**S**	**03 44 28.2**	**+2.0**
	2.1nm,0.6s,baz=171,slow=11,SNR=7.2								
MAJO	**Matsushiro**	**7.73**	**351**	**Pn**		**Pn**	**S**	**03 44 28.1**	**+1.9**
JHO	**Hitachi**	**7.74**	**5**	**P**		**Pn**	**S**	**03 44 28.0**	**+1.8**
JHO				*e*S		**S**	**S**	**03 45 54.4**	**-2.2**
MJB9	**Matsu-Tunnel**	**7.74**	**351**	**Pn**		**Pn**	**S**	**03 44 29.5**	**+3.2**
JFK	**Kawauchi**	**8.51**	**6**	**S**		**S**	**S**	**03 46 11.2**	**-2.3**
JNU	**Nakatsue**	**8.65**	**301**			**Pn**	**S**	**03 44 40.6**	**+3.4**
JNU	**Nakatsue**	**8.65**	**301**	**P**		**P**	**S**	**03 44 41.5**	**+1.7**
	18nm,0.9s,baz=53,slow=4.8,SNR=6.4								
JMM	**Marumori**	**9.00**	**6**			**Pn**	**S**	**03 44 42.5**	**+1.3**
JMK	**Ichinoseki**	**10.12**	**7**	**S**		**S**	**S**	**03 46 47.4**	**-1.3**
JOW	**Kunigami**	**10.30**	**261**	**P**		**Pn**	**S**	**03 44 59.8**	**+2.9**
JOW	**Kunigami**	**10.30**	**261**	**P**		**P**	**S**	**03 45 00.7**	**+2.5**
	18nm,0.6s,baz=95,slow=7.4,SNR=6.2								
KSRS	**Korea Array**	**13.03**	**314**	**P**		**Pn**	**S**	**03 45 31.6**	**+2.6**
	4.5nm,1.0s,baz=131,slow=13,SNR=9.9								
YULB	**Yu-li**	**17.39**	**256**	**P**		**P**	**P**	**03 46 15.1**	**-0.7**
YULB				IAmb		IAmb	IAmb	03 46 20.4	
	comp=Z,32nm,1.3s								
SSLB	**Suanglung**	**17.54**	**257**	**P**		**P**	**P**	**03 46 17.2**	**-0.2**
BNX	**BinXian**	**19.41**	**333**	⇑**P**		**P**	**P**	**03 46 38.5**	**+1.5**
BNX				pmax		pmax			
	comp=Z,12nm,0.9s								
BNX				pmax		pmax			
	comp=Z,160nm,5.4s								
TIA	**Tai'an**	**20.34**	**297**	⇑**P**		**P**	**P**	**03 46 45.8**	**-0.7**
TIA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
KLR	**Kul'dur**	**21.20**	**346**	**P**		**P**	**P**	**03 46 55.3**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=145,slow=8.4,SNR=10								
	comp=Z,2.4nm,0.7s								
HEH	**HeiHe**	**23.28**	**340**	***e*P**		**P**	**P**	**03 47 13.8**	**+0.9**
HEH				pmax		pmax			
	comp=Z,13nm,0.8s								
HEH				pmax		pmax			
	comp=Z,190nm,5.2s								
ENH	**Enshi**	**26.26**	**280**	**P**		**P**	**P**	**03 47 38.8**	**-1.1**
ENH				IAmb		IAmb	IAmb	03 47 41.0	
	comp=Z,19nm,1.0s								
XAN	**Xi'an**	**26.68**	**289**	**P**		**P**	**P**	**03 47 43.6**	**0.0**
XAN				pmax		pmax			
	comp=Z,18nm,0.6s								
ULN	**Ulaanbaatar**	**31.50**	**316**	**P**		**P**	**P**	**03 48 25.9**	**0.0**
ULN				IAmb		IAmb	IAmb	03 48 27.2	
	comp=Z,8.4nm,1.4s								
SONM	**Songino Array**	**31.89**	**316**	**P**		**P**	**P**	**03 48 28.5**	**-0.7**
SONM	**Songino Array**	**31.89**	**316**	**P**		**P**	**P**	**03 48 29.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=118,slow=7.4,SNR=7.8								
SONM				PcP		**PcP**	**PcP**	**03 51 10.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=123,slow=2.6,SNR=3.7								
	comp=Z,1.2nm,0.8s								
CRAI	**Chiangrai**	**36.64**	**265**	**P**		**P**	**P**	**03 49 09.7**	**-0.2**
CRAI				IAmb		IAmb	IAmb	03 49 11.6	
	comp=Z,11nm,1.0s								
CHTO	**Chiang Mai**	**38.42**	**264**	**P**		**P**	**P**	**03 49 23.7**	**-1.0**
CHTO				IAmb		IAmb	IAmb	03 49 25.6	
	comp=Z,7.7nm,1.2s								
CMAR	**Chiang Mai Arr**	**38.56**	**264**	**P**		**P**	**P**	**03 49 25.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**38.56**	**264**	**P**		**P**	**P**	**03 49 26.2**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=53,slow=8.8,SNR=7.2								
	comp=Z,0.9nm,0.3s								
SHL	**Shillong**	**42.41**	**277**	**P**		**P**	**P**	**03 49 55.9**	**-1.3**
SHL				IAmb		IAmb	IAmb	03 49 58.1	
	comp=Z,8.3nm,0.8s								
ZALV	**Zalesovo Beam**	**46.69**	**318**	**P**		**P**	**P**	**03 50 29.2**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=90,slow=8.9,SNR=4.8								
ZALV				PcP		**PcP**	**PcP**	**03 51 56.5**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=110,slow=3.4,SNR=10								
	comp=Z,0.8nm,0.7s								
MK31	**Makanchi Array**	**47.63**	**308**	**P**		**P**	**P**	**03 50 36.0**	**-1.3**
MKAR	**Makanchi Array**	**47.63**	**308**	**P**		**P**	**P**	**03 50 36.5**	**-0.9**
MKAR	**Makanchi Array**	**47.63**	**308**	**P**		**P**	**P**	**03 50 37.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=92,slow=9.1,SNR=17								
MKAR				PcP		**PcP**	**PcP**	**03 51 58.7**	**-2.0**
	comp=Z,1.6nm,0.8s,baz=87,slow=6.3,SNR=12								
	comp=Z,1.0nm,0.7s								
MAKZ	**Makanchi**	**47.85**	**308**	**P**		**P**	**P**	**03 50 37.5**	**-1.5**
WRA	**Warramunga Arr**	**48.82**	**187**	**P**		**P**	**P**	**03 50 46.1**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=2.0,slow=7.6,SNR=18								
WRA				PcP		**PcP**	**PcP**	**03 52 06.0**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=7.0,slow=3.9,SNR=4.7								
WRA				ScP		**ScP**	**ScP**	**03 55 23.1**	**-3.0**
	comp=Z,2.9nm,0.8s,baz=360,slow=4.6,SNR=8.2								
	comp=Z,1.3nm,0.3s								
KURK	**Kurchatov**	**50.15**	**314**	**P**		**P**	**P**	**03 50 54.6**	**-1.6**
KURK				IAmb		IAmb	IAmb	03 50 57.1	
	comp=Z,7.0nm,1.2s								
NRIK	**Noril'sk**	**50.18**	**339**	**P**		**P**	**P**	**03 50 54.4**	**-1.7**
NRIK				IAmb		IAmb	IAmb	03 50 57.3	
	comp=Z,8.7nm,0.8s								
NRIK	**Noril'sk**	**50.18**	**339**	**P**		**P**	**P**	**03 50 56.6**	**+0.6**
	comp=Z,7.4nm,0.7s,baz=122,slow=9.2,SNR=7.9								
	comp=Z,7.4nm,0.7s								
KURBB	**Kurchatov Array**	**50.21**	**313**	**P**		**P**	**P**	**03 50 56.1**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=92,slow=7.8,SNR=18								
	comp=Z,1.9nm,0.6s								
AS31	**Alice Springs**	**52.55**	**187**	**P**		**P**	**P**	**03 51 13.6**	**-0.5**
ASAR	**Alice Springs**	**52.55**	**187**	**P**		**P**	**P**	**03 51 12.9**	**-1.2**
ASAR	**Alice Springs**	**52.55**	**187**	**P**		**P**	**P**	**03 51 13.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=16,slow=14,SNR=17								
ASAR				PcP		**PcP**	**PcP**	**03 52 18.0**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=12,slow=5.0,SNR=5.8								
ASAR				ScP		**ScP**	**ScP**	**03 55 39.1**	**-3.0**
	comp=Z,1.0nm,0.8s,baz=2.9,slow=2.7,SNR=7.3								
	comp=Z,0.7nm,0.5s								
KSH	**Kashi**	**52.77**	**299**	**P**		**P**	**P**	**03 51 19.3**	**+3.5**
KSH				pmax		pmax			
	comp=Z,7.0nm,0.6s								
PSA00	**Pilbara Seismi**	**53.70**	**203**	**P**		**P**	**P**	**03 51 22.3**	**-0.1**
BVAR	**Borovoye Array**	**55.23**	**317**	**P**		**P**	**P**	**03 51 32.5**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=85,slow=8.5,SNR=13								
BVAR				PcP		**PcP**	**PcP**	**03 52 28.5**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=95,slow=3.1,SNR=8.8								
	comp=Z,2.2nm,0.6s								
BPAW	**Bear Paw Mtn.**	**55.41**	**30**	**P**		**P**	P	03 51 27.4	-6.7
KK31	**Karatay Array**	**56.25**	**305**	**P**		**P**	**P**	**03 51 38.6**	**-1.8**
KK31				IAmb		IAmb	IAmb	03 51 40.9	
	comp=Z,5.0nm,0.7s								
KKAR	**Karatay Array**	**56.25**	**305**	**P**		**P**	**P**	**03 51 39.7**	**-0.7**
ILAR	**Eielson Array**	**57.22**	**29**	**P**		**P**	**P**	**03 51 47.9**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=260,slow=4.5,SNR=1.8								
MORW	**Morawa**		**61.91**	**203**	**P**		**P**	**P**	**03 52 17.4**	**-1.4**
ABKAR	**Akbulak array**		**62.26**	**313**	**P**		**P**	**P**	**03 52 20.4**	**-0.5**
GEYT	**Alibeck**		**66.68**	**302**	**P**		**P**	**P**	**03 52 49.2**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=237,slow=5.1,SNR=3.9									
	comp=Z,2.1nm,0.8s									
ARCES	**ARCESS Array B**		**71.12**	**340**	**P**		**P**	**P**	**03 53 15.4**	**-0.7**
ARCES	**ARCESS Array B**		**71.12**	**340**	**P**		**P**	**P**	**03 53 16.4**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=66,slow=7.1,SNR=16									
	comp=Z,6.8nm,0.8s									
KBZ	**Khabaz**		**75.17**	**312**	**P**		**P**	**P**	**03 53 40.4**	**+0.4**
	comp=Z,5.8nm,0.8s,baz=95,slow=5.4,SNR=16									
	comp=Z,5.8nm,0.8s									
FIA1	**FINESS Array S**		**75.36**	**333**	**P**		**P**	**P**	**03 53 39.1**	**-1.6**
FINES	**FINESS Array B**		**75.36**	**333**	**P**		**P**	**P**	**03 53 40.0**	**-0.7**
FINES	**FINESS Array B**		**75.36**	**333**	**P**		**P**	**P**	**03 53 40.4**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=73,slow=5.1,SNR=36									
	comp=Z,4.1nm,0.7s									
MEF	**Metsahovi**		**76.73**	**332**	***e*P**		**P**	**P**	**03 53 46.3**	**-2.2**
VSU	**Vasula**		**76.75**	**330**	***e*P**		**P**	**P**	**03 53 48.8**	**+0.2**
RAF	**Rauma**		**77.30**	**334**	***e*P**		**P**	**P**	**03 53 51.1**	**-0.5**
MTSE	**Matsula**		**77.86**	**331**	***e*P**		**P**	**P**	**03 53 54.8**	**+0.2**
PABE	**Paberze**		**79.70**	**329**	***e*P**		**P**	**P**	**03 54 04.2**	**-0.4**
AKASG	**Malin Array Be**		**79.86**	**323**	**P**		**P**	**P**	**03 54 04.9**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=48,slow=5.3,SNR=13									
	comp=Z

*ISN **21** 03:51:38.9±2.2,34°.45N×45°.58E,h12km,ML2.9*
ISC 21 03:51:35.7±3.1,**34°.7N**±0°.1×**45°.4E**±0°.1,**h3**km±17km,**n7,** σ1$42/9,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.27**	**137**	Pg	**Pg**	**03 51 41.5**	**+0.7**
IDHR	**Dehrash**	**0.84**	**90**	Pg	**Pg**	**03 51 51.7**	**-0.1**
IDHR				Sg	**Sb**	**03 52 02.6**	**-2.2**
IGHG	**Ghaleghazi**	**1.06**	**110**	Pg	**Pg**	**03 51 55.4**	**-0.6**
ILIN	**Lien**	**1.33**	**80**	Pg	**Pb**	**03 52 01.1**	**-0.3**
BHD	**Baghdad** baz=40	**1.65**	**210**	*e*Pg	**Pn**	**03 52 05.0**	**-0.5**
BHD				*e*Sg	**Sn**	**03 52 28.0**	**+0.9**
BHD	comp=E,276nm,0.4s			AML	AML	03 52 38.2	
IALM	**Almabolaq**	**2.31**	**85**	Pn	**Pn**	**03 52 16.6**	**+1.8**
IKFM	**Kafar-mosalman**	**2.37**	**119**	Pn	**Pn**	**03 52 16.1**	**+0.7**

*KOLA **21** 04:09:32.5,67°.68N×33°.72E,h0km,ML2.3,Error ellipse: s-maj=5.0km s-min=2.4km az=110.0,Khibiny, mines Kirovsk, Yukspor*
*IDC **21** 04:09:36.8±1.6,67°.26N×33°.79E,h0km,mb3.3/1, mbtmp3.2/4,ML2.4/3,MS3.4/2,Error ellipse: s-maj=18.4km s-min=13.2km az=78.0*
ISC 21 04:09:33.0±1.1,**67°.63N**±0°.07×**33°.62E**±0°.06,**h9**km±7km, **n16,**σ1$**27/22,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.10**	**236**	P	**Pb**	**04 09 35.4**	**0.0**
APA				S	**Sb**	**04 09 38.0**	**+0.8**
APA	**Apatity**	**0.10**	**236**	P	**Pb**	**04 09 35.4**	**0.0**
APA				S	**Sb**	**04 09 37.8**	**+0.6**
APA0	**Apatity Array**	**0.24**	**266**	P	**Pg**	**04 09 37.6**	**-0.3**
APA0				S	**Sg**	**04 09 41.6**	**+0.5**
APA0	**Apatity Array**	**0.24**	**266**	P	**Pg**	**04 09 37.7**	**-0.2**
APA0				S	**Sg**	**04 09 41.5**	**+0.3**
TERR	**Teriberka**	**1.68**	**18**	P	**Pn**	**04 10 01.1**	**-1.4**
TERR				S	**Sn**	**04 10 22.6**	**-1.4**
VADS	**Vadso**	**2.94**	**330**	P	**Pn**	**04 10 20.0**	**+0.1**
VADS				S	**Sn**	**04 10 55.9**	**+0.6**
ARCES	**ARCESS Array B**	**3.54**	**307**	P	**Pn**	**04 10 27.9**	**-0.2**
ARCES				S	**Sn**	**04 11 09.5**	**-0.6**
ARCES	**ARCESS Array B**	**3.54**	**307**	P	**Pn**	**04 10 28.4**	**+0.3**
ARCES				S	**Sn**	**04 11 09.5**	**-0.6**
ARCES	**ARCESS Array B** 2.0nm,0.3s,baz=118,slow=15,SNR=6.6	**3.54**	**307**	Pn	**Pb**	**04 10 36.5**	**+0.7**
ARCES	4.3nm,0.3s,baz=122,slow=27,SNR=13 7.9nm,0.4s			Sn	**Sb**	**04 11 20.9**	**+2.0**
FINES	**FINESS Array B** 0.1nm,0.3s,baz=26,slow=14,SNR=4.2	**7.00**	**211**	Pn	**Pn**	**04 11 15.3**	**-0.2**
FINES	0.3nm,0.3s,baz=25,slow=26,SNR=6.3			Sn	Sn	04 12 18.9	-16
FINES	1.5nm,0.3s,baz=24,slow=28,SNR=11 1.2nm,0.8s			Lg	Lg	04 13 08.8	
FAUS	**Fauske**	**7.04**	**277**	S	**Sn**	**04 12 32.8**	**-3.1**
HFS	**Hagfors** 0.3nm,0.3s,baz=40,slow=27,SNR=2.6	**11.50**	**239**	Lg	Lg	04 15 29.6	
NOA	**NORSAR Array B** baz=48,slow=11,SNR=4.4	**11.69**	**246**	Pn	**Pn**	**04 12 18.5**	**-1.2**
NOA	baz=242,slow=16,SNR=4.6 0.2nm,0.5s			Lg	Lg	04 15 39.5	
BVAR	**Borovoye Array** 0.8nm,0.6s,baz=338,slow=10,SNR=3.4 0.8nm,0.6s	**22.85**	**111**	P	**P**	**04 14 38.7**	**+2.5**
GNI	**Garni** comp=Z,58nm,21.0s,baz=16,slow=36	**28.20**	**162**	LR	LR	04 26 09.2	
SONM	**Songino Array** comp=Z,81nm,18.8s,baz=302,slow=36	**40.62**	**81**	LR	LR	04 34 17.0	

IDC 21 04:11:58.9±2.1,**32°.82S**×**178°.86W**,**h0**km,**mb3.7**/2, **mbtmp3.8**/3,**ML3.8/1,Error ellipse: s-maj=62.3km s-min=38.5km az=135.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.0nm,0.3s,baz=352,slow=4.8,SNR=27	**6.34**	**210**	Pn	Pn	04 13 33.1	-0.5
URZ	0.7nm,0.3s,baz=352,slow=14,SNR=1.4 4.0nm,0.3s			Sn	Sn	04 14 39.4	-7.2
ASAR	**Alice Springs** 0.7nm,0.6s,baz=111,slow=7.6,SNR=11 0.7nm,0.6s	**42.31**	**270**	P	P	04 19 54.8	+0.2
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=114,slow=7.7,SNR=5.7 0.3nm,0.3s	**43.52**	**275**	P	P	04 20 03.9	-0.5
FINES	**FINESS Array B** 1.2nm,0.8s,baz=44,slow=4.3,SNR=7.1	**147.14**	**338**	PKPbc	PKPbc	04 31 43.5	+0.4
HFS	**Hagfors** 1.2nm,0.9s,baz=344,slow=4.7,SNR=5.2	**151.45**	**347**	PKPbc	PKPbc	04 31 52.8	-1.2

*IDC **21** 04:23:01.3±4.4,2°.88S×130°.89E,h0km,mb3.4/2, mbtmp3.5/3,ML3.5/1,Error ellipse: s-maj=315.4km s-min=30.2km az=72.0*
*DJA **21** 04:23:07.5±0.5,3°.5S×13°.1E,h10km,M3.3/6,MLv3.3/6*
ISC 21 04:23:06.5±1.0,**3°.05S**±0°.08×**130°.6E**±0°.1,**h24**km,**n7,** σ1$**26/7,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.62**	**205**	P	**Pn**	**04 23 34.7**	**+1.1**
FAKI	**Fak Fak**	**1.65**	**86**	P	**Pb**	**04 23 36.7**	**+0.4**
SIJI	**Sorong**	**2.26**	**17**	P	**Pb**	**04 23 46.6**	**-0.2**
SWI	**Sorong**	**2.27**	**17**	P	**Pb**	**04 23 48.2**	**+1.4**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=349,slow=12,SNR=5.2 0.5nm,0.5s	**17.18**	**168**	P	**Pn**	**04 27 05.5**	**+0.3**
ASAR	**Alice Springs** 1.2nm,0.4s,baz=352,slow=11,SNR=25 1.2nm,0.4s	**20.75**	**171**	P	**P**	**04 27 44.4**	**-1.3**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=110,slow=7.0,SNR=1.6 0.2nm,0.5s	**65.29**	**326**	P	**P**	**04 33 45.5**	**-1.1**

*IDC **21** 04:26:49.2±1.7,0°.30S×125°.09E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=184.3km s-min=24.9km az=63.0*
*DJA **21** 04:26:51.5±0.4,0°.5S×12°.6E±°,h10km,M3.4/6,MLv3.4/6*
ISC 21 04:26:54.8±1.1,**0°.1S**±0°.1×**125°.67E**±0°.09,**h49**km,**n7,** σ1$**29/8,mb3.6/4,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.80**	**291**	P	**Pn**	**04 27 22.3**	**-1.1**
LBMI	**Labuha**	**1.92**	**107**	P	**Pn**	**04 27 23.9**	**-1.1**
LBMI				S	**Sn**	**04 27 47.9**	**-0.1**
SANI	**Sanana**	**2.00**	**171**	P	**Pn**	**04 27 24.9**	**-1.2**
WRA	**Warramunga Arr** 2.4nm,0.9s,baz=334,slow=10,SNR=4.9 2.4nm,0.9s	**21.50**	**157**	P	**P**	**04 31 41.7**	**+2.0**
ASAR	**Alice Springs** 0.6nm,0.6s,baz=348,slow=8.0,SNR=11 0.6nm,0.6s	**24.79**	**162**	P	**P**	**04 32 12.4**	**+0.1**
STKA	**Stephens Creek** 0.6nm,0.4s,baz=336,slow=10.0,SNR=3.1 0.6nm,0.4s	**35.04**	**156**	P	**P**	**04 33 43.0**	**0.0**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=144,slow=6.5,SNR=5.5 0.3nm,0.4s	**60.09**	**327**	P	**P**	**04 36 57.6**	**+0.6**

*NEIC **21** 04:30:30.1±2.9,15°.47N±0°.06×94°.76W±0°.04,h10km±2km, mb4.0/17,Md4.3/80(MEX),Error ellipse: s-maj=11.4km s-min=4.9km az=202.0*
*MEX **21** 04:30:33.3±1.0,15°.47N×94°.79W,h16km±10km,MD4.3*
*CATAC **21** 04:30:33.3±0.5,15°.21N×94°.78W,h118km±22km,MB4.9, mb4.8,ML4.5*
*IDC **21** 04:30:40.0±9.1,17°.15N×93°.83W,h0km,mb3.2/2, mbtmp3.3/3,ML3.7/1,Error ellipse: s-maj=151.1km s-min=24.3km az=152.0*
ISC 21 04:30:28.8±1.5,**15°.41N**±0°.04×**94°.80W**±0°.02,**h11**km±10km, **n117,**σ2$**31**/165,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.16**	**9**	*i* P	**Pb**	**04 30 50.6**	**-0.3**
NILT				*i* S	**Sg**	**04 31 03.1**	**-3.1**
CARR	**Arriaga**	**1.19**	**46**	*i* P	**Pb**	**04 30 50.7**	**-0.7**
CARR				*i* S	**Sb**	**04 31 04.5**	**-2.4**
HUIG	**Huatulco**	**1.31**	**286**		**Pn**	**04 30 53.1**	**0.0**
HUIG	**Huatulco**	**1.31**	**286**	*i* P	**Pn**	**04 30 53.1**	**0.0**
HUIG				*i* S	**Sb**	**04 31 08.2**	**-2.1**
PCIG		**1.55**	**79**		**Pn**	**04 30 56.4**	**0.0**
PCIG					**Sn**	**04 31 14.2**	**-2.3**
PCIG		**1.55**	**79**	*i* P	**Pn**	**04 30 56.4**	**0.0**
PCIG				*e*S	**Sn**	**04 31 14.2**	**-2.3**
CMIG	**Matias Romero**	**1.67**	**357**		**Pn**	**04 30 58.6**	**+0.5**
CMIG					**Sn**	**04 31 18.4**	**-1.1**
CMIG	**Matias Romero** 163nm,0.3s,baz=168,slow=11,SNR=1628	**1.67**	**357**	Pg	**Pn**	**04 30 59.1**	**+1.0**
CMIG	165nm,0.3s,baz=18,slow=20,SNR=8.6			Lg	Lg	04 31 18.2	
CMIG	**Matias Romero**	**1.67**	**357**	*i* P	**Pn**	**04 30 58.6**	**+0.5**
CMIG				*i* S	**Sn**	**04 31 18.4**	**-1.1**
TGIG		**2.11**	**50**		**Pn**	**04 31 05.4**	**+1.3**
TGIG					**Sn**	**04 31 29.7**	**-0.7**
TGIG		**2.11**	**50**	*e*P	**Pn**	**04 31 05.4**	**+1.3**
TGIG				*e*S	**Sn**	**04 31 29.7**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.13**	**50**		**Pn**	**04 31 06.9**	**-0.5**
TGBT					**Sn**	**04 31 30.6**	**-0.2**
TGBT	**Tuxtla Gutierr**	**2.13**	**50**	*i* P	**Pn**	**04 31 06.9**	**-0.5**
TGBT				*i* S	**Sn**	**04 31 30.6**	**-0.2**
PEIG	**Puerto Escondi**	**2.33**	**285**		**Pn**	**04 31 07.6**	**+0.4**
PEIG	**Puerto Escondi**	**2.33**	**285**	*e*P	**Pn**	**04 31 07.6**	**+0.4**
PEIG				*e*S	**Sn**	**04 31 31.6**	**-4.4**
NEUV	**Arroyo Zacate**	**2.48**	**337**	*e*P	**Pn**	**04 31 10.2**	**+1.0**
NEUV				*i* S	**Sb**	**04 31 43.6**	**-0.5**
OXIG	**Oaxaca**	**2.48**	**312**		**Pn**	**04 31 12.1**	**+2.6**
OXIG					**Sn**	**04 31 40.3**	**+0.4**
VHO	**Vista Hermosa**	**2.48**	**312**	*e*P	**Pn**	**04 31 12.1**	**+2.7**
VHO				*e*S	**Sn**	**04 31 40.3**	**+0.4**
PATR	**El Naranjo**	**2.49**	**96**	*i* P	**Pn**	**04 31 09.9**	**+0.3**
PATR				*i* S	**Sn**	**04 31 37.0**	**-3.2**
THIG		**2.50**	**101**		**Pn**	**04 31 09.2**	**-0.2**
THIG					**Sn**	**04 31 39.2**	**-0.7**
THIG		**2.50**	**101**	*e*P	**Pn**	**04 31 09.2**	**-0.2**
THIG				*e*S	**Sn**	**04 31 39.2**	**-0.7**
PAVE	**Pavencul**	**2.54**	**95**	*i* P	**Pn**	**04 31 10.5**	**+0.3**
PAVE				*i* S	**Sn**	**04 31 40.6**	**-0.7**
CHUJ	**Union Juarez**	**2.62**	**97**	*i* P	**Pn**	**04 31 11.1**	**-0.2**
CHUJ				*i* S	**Sn**	**04 31 42.0**	**-1.2**
TUIG	**Tuzandepetl**	**2.63**	**8**	*e*P	**Pn**	**04 31 12.8**	**+1.5**
TUIG				*e*S	**Sg**	**04 31 50.6**	**-2.8**
SMCA	**Catarina**	**2.69**	**102**	*i* P	**Pn**	**04 31 13.6**	**+1.5**
SMCA	comp=Z,820nm,1.0s			IAML		04 31 50.4	
CCIG	**Comitan**	**2.70**	**71**		**Pn**	**04 31 14.4**	**+2.0**
CCIG	**Comitan**	**2.70**	**71**	*e*P	**Pn**	**04 31 15.0**	**+2.6**
CCIG				*e*S	**Sb**	**04 31 50.2**	**-0.5**
CCIG	**Comitan**	**2.70**	**71**	*i* P	**Pb**	**04 31 15.7**	**-1.6**
CCIG				*i* S	**Sb**	**04 31 49.8**	**-0.8**
CCIG	comp=Z,2μm,1.0s			IAML		04 31 53.7	
SMSP	**San Marcos**	**2.95**	**98**	*i* P	**Pb**	**04 31 19.9**	**-1.6**
SMSP	comp=Z,2μm,1.0s			IAML		04 31 55.6	
YOIG	**Yosondua**	**3.00**	**299**		**Pn**	**04 31 19.3**	**+2.7**
YOIG					**Sn**	**04 31 53.2**	**+0.3**
YOIG	**Yosondua**	**3.00**	**299**	*e*P	**Pn**	**04 31 19.3**	**+2.7**
YOIG				*e*S	**Sn**	**04 31 53.2**	**+0.3**
VHSA	**Villahermosa**	**3.12**	**35**	*i* P	**Pg**	**04 31 28.2**	**-0.3**
VHSA				*i* S	**Sn**	**04 31 56.3**	**+1.1**
RTAL	**Retalhuleu**	**3.13**	**106**	Pn	**Pn**	**04 31 18.2**	**+0.1**
RTAL	**Retalhuleu**	**3.13**	**106**	*i* P	**Pn**	**04 31 19.6**	**+1.5**
RTAL				*i* S	**Sn**	**04 31 54.9**	**-0.6**
RTAL	comp=Z,570nm,1.0s			IAML		04 32 12.2	
PMUV	**Sontecomapan**	**3.13**	**354**	*e*P	**Pn**	**04 31 17.8**	**-0.4**
PMUV				*e*S	**Sn**	**04 31 56.4**	**+0.7**
HUEH	**Huehuetenango**	**3.18**	**91**	Pn	**Pn**	**04 31 20.7**	**+1.7**
HUEH	**Huehuetenango**	**3.18**	**91**	*i* P	**Pn**	**04 31 22.5**	**+3.5**
HUEH				*i* S	**Sn**	**04 32 00.9**	**+3.8**
HUEH	comp=Z,2μm,1.0s			IAML		04 32 16.1	
SOKI	**Kika Raxquin**	**3.33**	**100**	*i* P	**Pb**	**04 31 26.1**	**-2.1**
SOKI	comp=Z,500nm,1.0s			IAML		04 32 21.7	
PNIG	**Pinotepa**	**3.35**	**287**		**Pn**	**04 31 22.3**	**+1.1**
PNIG	**Pinotepa**	**3.35**	**287**	*e*P	**Pn**	**04 31 22.3**	**+1.1**
PNIG				*e*S	**Sn**	**04 31 56.5**	**-4.4**
TXIG	**Tlaxiaco**	**3.39**	**303**		**Pn**	**04 31 25.2**	**+3.2**
TXIG					**Sn**	**04 32 00.8**	**-1.5**
TXIG	**Tlaxiaco**	**3.39**	**303**	*e*P	**Pn**	**04 31 25.2**	**+3.2**
TXIG				*e*S	**Sn**	**04 32 00.8**	**-1.5**
TOIG	**Toxpalan**	**3.44**	**321**		**Pn**	**04 31 26.9**	**+4.4**
TOIG	**Toxpalan**	**3.44**	**321**	*e*P	**Pn**	**04 31 26.9**	**+4.4**
TOIG				*i* S	**Sb**	**04 32 09.4**	**-2.3**
QUIS	**Sacapulas**	**3.58**	**91**	*i* P	**Pn**	**04 31 28.6**	**+4.2**
QUIS				*i* S	**Sn**	**04 32 08.5**	**+1.7**
QUIS	comp=Z,860nm,1.0s			IAML		04 32 18.9	
HLIG	**Huajuapan de L**	**3.75**	**310**		**Pn**	**04 31 30.7**	**+3.9**
HLIG					**Sn**	**04 32 10.8**	**-0.4**
HLIG	**Huajuapan de L**	**3.75**	**310**	*e*P	**Pn**	**04 31 30.7**	**+3.9**
HLIG				*e*S	**Sn**	**04 32 10.8**	**-0.4**
TPIG	**Tehuac#an**	**3.87**	**321**	*e*	**Sg**	**04 32 33.0**	**0.0**
FTIG	**Fresnillo de T**	**4.04**	**308**		**Pn**	**04 31 34.8**	**+3.9**
FTIG					**Sn**	**04 32 17.7**	**-0.6**
FTIG	**Fresnillo de T**	**4.04**	**308**	*e*P	**Pn**	**04 31 34.8**	**+3.9**
FTIG				*i* S	**Sn**	**04 32 17.7**	**-0.6**
MGIG	**Malinaltepec**	**4.10**	**297**		**Pn**	**04 31 34.8**	**+3.1**
MGIG					**Sn**	**04 32 18.2**	**-1.6**
MGIG	**Malinaltepec**	**4.10**	**297**	*e*P	**Pn**	**04 31 34.8**	**+3.1**
MGIG				*e*S	**Sn**	**04 32 18.2**	**-1.6**
TLIG	**Tlapa**	**4.20**	**301**	Pn	**Pn**	**04 31 36.1**	**+3.1**
TLIG	**Tlapa**	**4.20**	**301**	*e*P	**Pn**	**04 31 36.4**	**+3.4**
TLIG				*e*S	**Sn**	**04 32 21.1**	**-1.0**
TLIG	**Tlapa**	**4.20**	**301**	*i* P	**Pn**	**04 31 36.6**	**+3.6**
TLIG				IAML		04 32 57.9	
AVCB	**Coban**	**4.24**	**89**	*i* P	**Pn**	**04 31 37.7**	**+4.2**
AVCB	comp=Z,6μm,1.0s			IAML		04 33 06.8	
CRIG	**Cruz Grande**	**4.37**	**288**		**Pn**	**04 31 36.7**	**+1.5**
CRIG	**Cruz Grande**	**4.37**	**288**	*e*P	**Pn**	**04 31 36.7**	**+1.5**
CRIG				*e*S	**Sn**	**04 32 20.3**	**-5.8**
JAUV	**Jalcomulco**	**4.37**	**334**	*e*P	**Pn**	**04 31 35.5**	**+0.2**
JAUV				*i* S	**Sn**	**04 32 27.3**	**+1.0**
GUNB	**GUNB**	**4.38**	**100**	*i* P	**Pn**	**04 31 39.3**	**+3.7**
GUNB	comp=Z,160nm,1.0s			IAML		04 31 45.7	
LVIG	**Laguna Verde**	**4.56**	**340**	*e*P	**Pn**	**04 31 36.6**	**-1.1**
LVIG				*e*S	**Sn**	**04 32 29.0**	**-1.8**
DAIG	**Los Arroyos**	**4.93**	**290**		**Pn**	**04 31 44.9**	**+2.0**
DAIG	**Los Arroyos**	**4.93**	**290**	*e*P	**Pn**	**04 31 44.9**	**+2.0**
DAIG				*e*S	**Sn**	**04 32 34.4**	**-5.3**
SCIG	**Sabancuy**	**4.94**	**44**	*e*P	**Pn**	**04 31 44.2**	**+1.2**
SCIG				*e*S	**Sn**	**04 32 37.2**	**-3.1**
PETF	**Flores**	**4.97**	**72**	Pn	**Pn**	**04 31 44.2**	**+0.8**
PETF	**Flores**	**4.97**	**72**	*i* P	**Pn**	**04 31 45.6**	**+2.2**
PETF	comp=Z,3μm,1.0s			IVmB_BB		04 31 48.8	
PETF	comp=Z,390nm,1.0s			IAML		04 31 48.9	
PETF	comp=Z,310nm,0.7s			IAmb	IAmb	04 31 49.3	
NUBE	**Las Nubes**	**5.08**	**107**	*i* P	**Pn**	**04 31 47.8**	**+2.6**
NUBE	comp=Z,70nm,0.5s			IAmb	IAmb	04 31 53.9	
NUBE	comp=Z,130nm,1.0s			IAML		04 33 00.9	
PPM	**Popocatepetl**	**5.16**	**315**	*e*P	Pn	04 31 54.0	+7.6
PPM				*e*S	**Sn**	**04 32 45.5**	**-0.8**
PPM				*i*		04 32 57.8	
PPIG	**Popocatepetl**	**5.16**	**315**		**Sn**	**04 32 45.5**	**-0.8**
MEIG	**Mezcala**	**5.25**	**299**		**Pn**	**04 31 51.3**	**+3.9**
MEIG					**Sn**	**04 32 47.5**	**-0.5**
MEIG	**Mezcala**	**5.25**	**299**	*e*P	**Pn**	**04 31 51.3**	**+3.9**
MEIG				*e*S	**Sn**	**04 32 47.5**	**-0.5**
YAIG	**Yautepec**	**5.33**	**311**		Pn	04 31 53.8	+5.2
YAIG	**Yautepec**	**5.33**	**311**	*e*P	Pn	04 31 53.8	+5.2
YAIG				*e*S	**Sn**	**04 32 46.8**	**-3.2**
MTO3	**Montecristo**	**5.35**	**100**	Pn	**Pn**	**04 31 51.0**	**+2.1**
MTO3	**Montecristo**	**5.35**	**100**	*i* P	Pn	04 31 43.2	-5.7
MTO3	comp=Z,1μm,1.0s			IVmB_BB		04 31 43.3	
MTO3	comp=Z,13nm,0.7s			IAmb	IAmb	04 32 00.6	
MTO3	comp=Z,68nm,1.0s			IAML		04 33 15.5	
PLIG	**Platanillo**	**5.39**	**304**		**Pn**	**04 31 52.2**	**+2.9**
PLIG					**Sn**	**04 32 50.9**	**-0.6**
PLIG	**Platanillo**	**5.39**	**304**	*e*P	**Pn**	**04 31 52.2**	**+2.9**
PLIG				*e*S	**Sn**	**04 32 50.9**	**-0.6**
JAYA	**Jayaque - finc**	**5.47**	**108**	*i* P	**Pn**	**04 31 53.1**	**+2.7**
JAYA	comp=Z,100nm,0.6s			IAmb	IAmb	04 32 08.2	
JAYA	comp=Z,240nm,1.0s			IAML		04 32 10.1	
CAIG	**El Cayaco**	**5.50**	**288**		**Pn**	**04 31 52.8**	**+2.1**
CAIG	**El Cayaco**	**5.50**	**288**	*e*P	**Pn**	**04 31 52.8**	**+2.1**
CAIG				*e*S	Sn	04 32 45.9	-8.1
PMON	**Piamonte**	**5.57**	**107**	*i* P	**Pn**	**04 31 55.9**	**+4.1**
PMON	comp=Z,1μm,1.0s			IVmB_BB		04 32 05.3	
PMON	comp=Z,77nm,0.5s			IAmb	IAmb	04 32 11.6	
PMON	comp=Z,140nm,1.0s			IAML		04 33 26.8	
COEG	**Centro de Oper**	**6.00**	**107**	*i* P	Pb	04 32 07.8	-5.7
ARIG	**Puente Sto Nin**	**6.03**	**299**		**Pn**	**04 32 02.3**	**+4.2**
ARIG	**Puente Sto Nin**	**6.03**	**299**	*e*P	**Pn**	**04 32 02.3**	**+4.2**
ARIG				*e*S	**Sn**	**04 33 00.1**	**-7.0**
ZIIG	**Zihuatanejo**	**6.76**	**290**		**Pn**	**04 32 11.4**	**+3.5**
ZIIG	**Zihuatanejo**	**6.76**	**290**	*e*P	**Pn**	**04 32 11.4**	**+3.5**
ZIIG				*e*S	**Sn**	**04 33 21.4**	**-3.6**
MYIG	**Mrida**	**7.32**	**40**	*e*P	**Pn**	**04 32 19.1**	**+3.5**
MYIG				*e*S	**Sn**	**04 33 33.1**	**-5.7**
MOIG	**Morelia**	**7.42**	**306**	Pn	**Pn**	**04 32 18.3**	**+0.9**
YUSH	**Yuscaran**	**7.83**	**100**	*i* P	Pn	04 32 30.8	+7.9
TEIG	**Tepich**	**7.84**	**51**	Pn	**Pn**	**04 32 22.0**	**-0.9**
CRIN	**San Cristobal**	**7.99**	**109**	Pn	**Pn**	**04 32 26.4**	**+1.4**
MATN	**Matagalpa**	**8.95**	**105**		**Pn**	**04 32 39.1**	**+0.8**
ORTG	**Ortega, Santa**	**10.40**	**118**	Pn	**Pn**	**04 33 02.6**	**+4.5**
RIMA	**Rio Macho**	**12.06**	**116**	Pn	**Pn**	**04 33 22.5**	**+1.6**
DRK0	**Durika**	**12.83**	**117**	Pn	**Pn**	**04 33 33.8**	**+2.3**
833A	**Chaparral WMA,**	**13.54**	**342**	Pn	**Pn**	**04 33 39.3**	**-1.5**
HNDO	**Hondo**	**14.64**	**344**		**Pn**	**04 33 58.4**	**+2.3**
DRIO	**Del Rio**	**14.94**	**340**	Pn	**Pn**	**04 34 02.4**	**+2.3**
JCT	**Junction City**	**15.68**	**344**	Pn	**Pn**	**04 34 10.3**	**+0.4**
JCT	comp=Z,6.5nm,0.7s			IAmb	IAmb	04 34 30.5	
SAND	**Sanderson**	**15.96**	**336**	Pn	**Pn**	**04 34 14.3**	**+0.8**
TXAR	**Lajitas Array**	**16.09**	**331**	Pn	**Pn**	**04 34 15.3**	**+0.1**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=17 comp=Z,1.1nm,0.7s	**16.09**	**331**	Pn	**P**	**04 34 18.2**	**-0.4**
TX31	**Lajitas Ar. Si**	**16.09**	**331**	Pn	**Pn**	**04 34 15.6**	**+0.4**
BRDY	**Brady**	**16.26**	**347**	Pn	**Pn**	**04 34 16.4**	**-0.9**
OZNA	**Ozona**	**16.49**	**341**	Pn	**Pn**	**04 34 20.4**	**+0.1**
OZNA	comp=Z,16nm,0.9s			IAmb	IAmb	04 34 38.4	
WHTX	**Lake Whitney,**	**16.68**	**352**	P	**P**	**04 34 25.5**	**+0.5**
ALPN	**Alpine**	**16.96**	**333**	P	**P**	**04 34 28.4**	**+0.2**
ALPN	comp=Z,6.6nm,0.7s			IAmb	IAmb	04 34 30.6	
SGCY	**Sterling City**	**17.41**	**342**	Pn	**Pn**	**04 34 32.1**	**+0.3**
SGCY	comp=Z,12nm,0.7s			IAmb	IAmb	04 34 37.4	
MNHN	**Monahans**	**17.45**	**337**	P	**P**	**04 34 34.1**	**+0.6**
PLPT	**Palo Pinto**	**17.61**	**350**	P	**P**	**04 34 35.8**	**+0.5**
PLPT	comp=Z,9.9nm,0.8s			IAmb	IAmb	04 34 52.8	
APMT	**Aspermont**	**18.48**	**346**	P	**Pn**	**04 34 46.6**	**+1.7**
APMT	comp=Z,21nm,1.4s			IAmb	IAmb	04 34 48.4	
DKNS	**Dickens**	**19.00**	**344**	P	**Pn**	**04 34 52.0**	**+0.7**
DKNS	comp=Z,12nm,1.1s			IAmb	IAmb	04 35 03.3	
OK033	**Mehan**	**20.64**	**355**	P	**P**	**04 35 08.8**	**+0.4**
121A	**Cookes Peak, D**	**20.73**	**328**	P	**P**	**04 35 11.6**	**+1.9**
121A	comp=Z,4.9nm,0.9s			IAmb	IAmb	04 35 15.2	
RTBA	**Rita Blanca**	**22.10**	**343**	P	**P**	**04 35 24.6**	**+0.3**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,baz=142,slow=7.9,SNR=1.9 comp=Z,0.3nm,0.6s	**30.89**	**322**	P	P	04 36 52.8	+7.0
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.8s,baz=154,slow=6.9,SNR=2.3 comp=Z,0.2nm,0.8s	**49.06**	**348**	P	**P**	**04 39 16.6**	**+0.9**

*IDC **21** 04:32:30.2±1.1,24°.20S×66°.99W,h168km±11km,mb3.2/6, mbtmp3.9/10,Error ellipse: s-maj=18.7km s-min=12.7km az=75.0*
*SJA **21** 04:32:30.3±0.8,24°.14S×67°.15W,h199km±4km,ML3.7, MW3.6*
*GUC **21** 04:32:32.6±0.5,24°.12S×67°.40W,h208km±6km,ML3.9*
*VAO **21** 04:32:33.3±0.6,23°.87S×67°.11W,h200km±8km,mb4.0*
ISC 21 04:32:31.3±0.7,**24°.18S**±0°.03×**67°.19W**±0°.04,**h187**km±6km, **n68,**σ1$**40**/101,**mb3.5/6,1C,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.52**	**323**	*e*P	**Pn**	**04 33 05.6**	**+1.2**
AF01				*e*S	**Sn**	**04 33 32.1**	**+2.0**
AF01	comp=N,804nm,0.1s			IAML		04 33 40.8	
SLA	**San Lorenzo**	**1.63**	**110**	*e*P	**Pn**	**04 33 05.8**	**+0.4**
SLA				*e*S	**Sn**	**04 33 31.8**	**+0.1**
FSA	**Cafayete**	**2.22**	**151**	*e*P	**Pn**	**04 33 11.9**	**+0.4**
FSA				*e*S	**Sn**	**04 33

PB04	**IPOC Station P**	**3.28**	**303**	*e*P		**Pn**	**04 33 24.1**	**+0.1**
PB04				*e*S		**Sn**	**04 34 03.7**	**-1.3**
PB04				IAML			04 34 08.0	
	comp=Z,158nm,0.2s							
PB04	**IPOC Station P**	**3.28**	**303**	*e*P		**Pn**	**04 33 24.1**	**+0.1**
PB04				*e*S		**Sn**	**04 34 03.0**	**-2.0**
PB07	**IPOC Station P**	**3.48**	**314**	*e*P		**Pn**	**04 33 26.3**	**-0.1**
PB07				*e*S		**Sn**	**04 34 07.5**	**-2.0**
PB07				IAML			04 34 08.5	
	comp=Z,188nm,0.3s							
PB07	**IPOC Station P**	**3.48**	**314**⇑	*e*P		**Pn**	**04 33 26.4**	**-0.1**
PB01	**IPOC Station P**	**3.77**	**325**	*e*P		**Pn**	**04 33 29.5**	**-0.4**
PB01				*e*S		**Sn**	**04 34 13.3**	**-2.5**
PB01				IAML			04 34 16.0	
	comp=Z,64nm,0.2s							
PB02	**IPOC Station P**	**3.78**	**318**	*e*P		**Pn**	**04 33 29.6**	**-0.5**
PB02				*e*S		**Sn**	**04 34 15.2**	**-0.9**
PB02				IAML			04 34 20.1	
	comp=Z,160nm,0.2s							
PATCX	**Punta Patache**	**4.32**	**320**	*e*P		**Pn**	**04 33 36.1**	**-0.8**
PATCX				*e*S		**Sn**	**04 34 27.7**	**-0.5**
GO03	**Copiap**	**4.37**	**218**	*e*P		**Pn**	**04 33 37.0**	**-0.4**
GO03				*e*S		**Sn**	**04 34 27.9**	**-1.4**
PB08	**IPOC Station P**	**4.41**	**335**	*e*P		**Pn**	**04 33 38.4**	**+0.1**
PB08				*e*S		**Sn**	**04 34 29.2**	**-1.6**
PB08				IAML			04 34 30.7	
	comp=Z,30nm,0.5s							
CYA	**Choya**	**4.43**	**164**	*e*P		**Pn**	**04 33 38.9**	**+0.8**
TA01	**Diego Aracena**	**4.54**	**322**	*e*P		**Pn**	**04 33 39.0**	**-0.5**
TA01				*e*S		**Sn**	**04 34 30.4**	**-2.6**
TA01				IAML			04 34 34.5	
	comp=Z,27nm,0.6s							
HMBC	**Humberstone**	**4.61**	**327**	*e*P		**Pn**	**04 33 39.0**	**-1.7**
HMBC				*e*S		**Sn**	**04 34 31.3**	**-3.8**
VCA	**Vinchina**	**4.63**	**191**	*e*P		**Pn**	**04 33 42.1**	**+1.3**
VCA				IAML			04 35 06.1	
	comp=Z,106nm,0.9s							
GO01	**Chusmiza**	**4.86**	**337**	*e*P		**Pn**	**04 33 44.1**	**-0.1**
GO01				*e*S		**Sn**	**04 34 41.1**	**-0.1**
PB11	**IPOC Station P**	**4.95**	**332**	*e*P		**Pn**	**04 33 43.5**	**-1.5**
PB11				*e*S		**Sn**	**04 34 37.4**	**-5.6**
PB11				IAML			04 34 43.1	
	comp=Z,45nm,0.3s							
ACLC	**CERRO LA CRUZ**	**5.23**	**178**	*e*P		**Pn**	**04 33 48.8**	**+0.2**
AC04	**Llanos de Chal**	**5.32**	**220**	*e*P		**Pn**	**04 33 48.1**	**-1.4**
AC04				*e*S		**Sn**	**04 34 49.9**	**-1.2**
AC04				IAML			04 34 51.4	
	comp=Z,15nm,0.7s							
CFA	**Coronel Fontan**	**7.46**	**187**	P		**Pn**	**04 34 16.8**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=356,slow=11,SNR=49							
CFA				S		**Sn**	**04 35 36.5**	**-5.1**
	comp=Z,2.4nm,0.3s,baz=291,slow=23,SNR=6.3							
MURT	**Porto Murtinho**	**9.18**	**76**	*e*P		**Pn**	**04 34 39.1**	**-1.0**
BBSD	**Serra de San D**	**9.29**	**43**	*e*P		**Pn**	**04 34 39.3**	**-2.2**
SIV	**San Ignacio**	**9.97**	**36**	P		**Pn**	**04 34 47.5**	**-2.9**
	comp=Z,4.2nm,0.4s,baz=209,slow=11,SNR=39							
RODS	**Rosario do Sul**	**12.31**	**123**	*e*P		**P**	**04 35 24.6**	**-0.6**
TRCB	**Terra Rica**	**13.43**	**87**	*e*P		**P**	**04 35 37.1**	**-0.6**
ALGR	**Alto Alegre (B**	**13.49**	**113**	*e*P		**P**	**04 35 37.6**	**-0.7**
CPSB	**Cacapava Do Su**	**13.71**	**120**	*e*P		**P**	**04 35 40.0**	**-0.7**
PTGB	**Pitanga**	**13.79**	**95**	*e*P		**P**	**04 35 40.5**	**-1.2**
SAML	**Samuel**	**15.62**	**15**	*e*P		**Pn**	**04 36 00.3**	**-1.5**
ITRB	**Iturama**	**16.24**	**77**	*e*P		**Pn**	**04 36 08.3**	**-0.9**
ARAG	**Araguaiana, MT**	**16.72**	**63**	*e*P		**P**	**04 36 13.5**	**-0.7**
IPMB	**Ipameri, GO**	**18.75**	**74**	*e*P		**P**	**04 36 35.9**	**-0.4**
SNDB	**Serra Nova Dou**	**19.36**	**54**	*e*P		**P**	**04 36 41.5**	**-1.3**
BDFB	**Brasilia**	**19.91**	**68**	P		**P**	**04 36 48.2**	**-0.7**
	comp=Z,12nm,0.6s,baz=243,slow=11,SNR=31							
BDFB	**Brasilia**	**19.91**	**68**	*e*P		**P**	**04 36 47.2**	**-1.8**
PMNB	**Patos De Minas**	**20.12**	**78**	*e*P		**P**	**04 36 50.3**	**-0.8**
JANB	**Januaria**	**23.36**	**71**	*e*P		**P**	**04 37 21.9**	**-1.3**
SMTB	**Santa Maria do**	**24.14**	**54**	*e*P		**P**	**04 37 29.3**	**-1.0**
GUA01	**Guaratinga, BA**	**26.73**	**79**	*e*P		**P**	**04 37 52.3**	**-1.3**
TXAR	**Lajitas Array**	**63.72**	**325**	P		**P**	**04 42 45.1**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=134,slow=8.9,SNR=4.2							
	comp=Z,0.2nm,0.6s							
QSPA	**South Pole Qui**	**66.03**	**180**	P		**P**	**04 43 00.0**	**+2.4**
	comp=Z,0.6nm,0.6s,baz=179,slow=1.3,SNR=5.4							
	comp=Z,0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P		**P**	**04 44 02.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=268,slow=5.6,SNR=5.1							
	comp=Z,0.3nm,0.4s							
PDAR	**Pinedale Array**	**77.21**	**329**	P		**P**	**04 44 06.5**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=134,slow=7.9,SNR=3.6							
	comp=Z,0.2nm,0.4s							
ULM	**Lac du Bonnet**	**78.34**	**342**	P		**P**	**04 44 11.1**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=207,slow=2.3,SNR=2.0							
	comp=Z,0.7nm,0.5s							
YKA	**Yellowknife Ar**	**94.23**	**340**	P		**P**	**04 45 29.9**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=115,slow=5.9,SNR=7.9							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**128.22**	**205**	PKP		**PKPdf**	**04 51 17.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=142,slow=1.7,SNR=5.2							
WRA	**Warramunga Arr**	**131.39**	**207**	PKP		**PKPdf**	**04 51 23.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=155,slow=1.9,SNR=1.7							
ZALV	**Zalesovo Beam**	**143.63**	**28**	PKP		**PKPdf**	**04 51 43.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=270,slow=1.5,SNR=4.6							
MKAR	**Makanchi Array**	**146.77**	**40**	PKPbc		**PKPbc**	**04 51 50.8**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=298,slow=3.6,SNR=9.3							

*NAO **21** 05:45:19.5,32˚.09N×46˚.34E,h33km,mb3.4*
*DSN **21** 05:45:23.6±5.3,35˚.19N×44˚.78E,h10km,mb4.8/1,Error ellipse: s-maj=72.9km s-min=31.3km az=175.0*
*IDC **21** 05:45:35.1±1.0,34˚.40N×45˚.45E,h0km,mb3.8/14, mbtmp3.9/18,ML3.7/4,MS3.3/10,Error ellipse: s-maj=19.9km s-min=16.3km az=20.0*
*AFAD **21** 05:45:38.4±0.0,34˚.56N×45˚.24E,h8km±2km,MW4.1*
*ISN **21** 05:45:39.8±2.3,34˚.53N×45˚.58E,h14km,ML4.3*
*NEIC **21** 05:45:39.9±1.7,34˚.63N±0˚.03×45˚.6E±0˚.1,h10km±1km, mb4.1/22,Error ellipse: s-maj=17.0km s-min=4.6km az=269.0*
*TEH **21** 05:45:39.0,34˚.55N×45˚.59E,h16km±12km,ML4.1*
*OMAN **21** 05:45:48.5±1.0,33˚.59N×45˚.99E,h15km,mb4.3/22, ms3.5/1,Error ellipse: s-maj=20.5km s-min=6.4km az=59.0*

ISC 21 05:45:38.9±0.9,34˚46N±0˚.03×45˚.57E±0˚.04,h19km±3km, n156,σ1§48/164,mb4.0/24,MS3.2/4,10C-2D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.05**	**17**	Pg	**Pg**	**05 45 41.8**	**-0.6**
KGS1				Sg	**Sg**	**05 45 44.4**	**-0.3**
IDHR	**Dehrash**	**0.72**	**70**	Pg	**Pg**	**05 45 51.9**	**-1.2**
IDHR				Sg	**Sb**	**05 46 02.5**	**0.0**
IGHG	**Ghaleghazi**	**0.83**	**98**	Pg	**Pg**	**05 45 55.3**	**0.0**
ILIN	**Lien**	**1.24**	**68**	Pg	**Pb**	**05 46 01.6**	**-0.2**
BHD	**Baghdad**	**1.54**	**220**	*e*Pg	**Pn**	**05 46 07.0**	**+1.6**
	baz=38						
BHD				*e*Sg	**Sg**	**05 46 31.0**	**+2.3**
BHD				AML	AML	05 46 44.0	
	comp=E,5μm,0.5s						
SDS1	**Sardasht. Az.**	**1.69**	**358**	Pg	**Pb**	**05 46 08.6**	**-0.9**
IKFM	**Kafar-mosalman**	**2.11**	**115**	Pn	**Pn**	**05 46 15.8**	**+2.6**
IALM	**Almabolaq**	**2.18**	**79**	Pn	**Pb**	**05 46 16.9**	**-1.0**
MAHB	**Mahabad**	**2.31**	**3**	Pn	**Pn**	**05 46 17.1**	**+1.0**
HSAM	**Samen**	**2.52**	**95**	Pn	**Pn**	**05 46 21.3**	**+2.2**
HAGD	**Aghdareh**	**2.97**	**82**	Pn	**Pn**	**05 46 27.4**	**+2.2**
CUKT	**Cukurca**	**3.21**	**331**	P	**Pn**	**05 46 29.6**	**+1.1**
CUKT				S	**Sn**	**05 47 06.7**	**+0.4**
IAZR	**Azarshahr**	**3.23**	**6**	Pn	**Pn**	**05 46 29.5**	**+0.6**
YOVA	**Hakkari_Yksek**	**3.29**	**342**	P	**Pn**	**05 46 30.5**	**+0.8**
YOVA				S	**Sn**	**05 47 10.8**	**+2.3**
HAKT	**HAKKARI**	**3.44**	**335**	P	**Pn**	**05 46 32.5**	**+0.7**
HAKT				S	**Sn**	**05 47 12.4**	**+0.1**
ISRB	**Sarab**	**3.77**	**26**	Pn	**Pn**	**05 46 37.3**	**+1.1**
ISHB	**Shabestar**	**3.82**	**1**	Pn	**Pn**	**05 46 36.9**	**-0.1**
IHRS	**Heris**	**4.03**	**17**	Pn	**Pn**	**05 46 41.7**	**+1.8**
JIR1	**Jirandeh**	**4.12**	**56**	Pn	**Pn**	**05 46 43.0**	**+2.0**
IMRD	**Marand**	**4.25**	**1**	Pn	**Pn**	**05 46 43.7**	**+0.8**
PERV	**Siirt/Pervari-**	**4.26**	**326**	P	**Pn**	**05 46 43.2**	**+0.3**
PERV				S	**Sn**	**05 47 34.1**	**+1.9**
GEVA	**Gevas**	**4.35**	**333**	P	**Pn**	**05 46 45.5**	**+1.3**
GEVA				S	**Sn**	**05 47 36.3**	**+1.8**
IQOM	**Qom**	**4.55**	**84**	Pn	**Pn**	**05 46 49.1**	**+2.0**
GAS1	**Astara - Iran**	**4.73**	**33**	Pn	**Pn**	**05 46 50.2**	**+1.0**
GRMI	**Germi**	**4.73**	**23**	Pn	**Pn**	**05 46 50.4**	**+1.1**
JHBN	**Jahan bin**	**4.81**	**116**	Pn	**Pn**	**05 46 51.7**	**+1.1**
MARD	**Mardin**	**4.82**	**308**	P	**Pn**	**05 46 50.4**	**-0.3**
MARD				S	**Sn**	**05 47 45.4**	**-0.7**
QAMS	**Qamsar**	**4.89**	**97**	Pn	**Pn**	**05 46 53.5**	**+1.8**
KLST	**Kelardasht - M**	**4.93**	**64**	Pn	**Pn**	**05 46 54.1**	**+1.8**
MAKU	**Maku**	**4.94**	**352**	Pn	**Pn**	**05 46 53.5**	**+1.2**
GURO	**Guroymak-BITLI**	**4.98**	**326**	Pn	**Pn**	**05 46 53.3**	**+0.4**
ZNGN	**Zangian**	**5.00**	**116**	Pn	**Pn**	**05 46 54.5**	**+1.2**
IVRN	**Varamin**	**5.10**	**82**	Pn	**Pn**	**05 46 56.0**	**+1.6**
IKLH	**Kolahrood**	**5.12**	**101**	Pn	**Pn**	**05 46 57.3**	**+2.3**
IDMV	**Damavand**	**5.42**	**76**	Pn	**Pn**	**05 47 00.5**	**+1.5**
KRSH	**Karshahi**	**5.46**	**93**	Pn	**Pn**	**05 47 01.2**	**+1.7**
ISFB	**Sefidab**	**5.52**	**89**	Pn	**Pn**	**05 47 01.1**	**+0.9**
GNI	**Garni**	**5.72**	**354**		**Pn**	**05 47 02.6**	**-0.5**
GNI	**Garni**	**5.72**	**354**	Pg	**Pb**	**05 47 20.7**	**+2.5**
	comp=E,0.5nm,0.3s,baz=345,slow=20,SNR=1.7						
GNI				Lg	Lg	05 48 40.9	
	comp=E,0.5nm,0.3s,baz=22,slow=19,SNR=1.5						
GNI	**Garni**	**5.72**	**354**	P	**Pg**	**05 47 26.6**	**-1.9**
GNI				S	**Sg**	**05 48 41.3**	**-1.2**
IGAR	**Gharneh**	**5.79**	**109**	Pn	**Pn**	**05 47 05.8**	**+1.9**
IZEF	**Zefreh**	**5.85**	**104**	Pn	**Pn**	**05 47 07.1**	**+2.2**
IFIR	**Firoozkooh**	**6.01**	**77**	Pn	**Pn**	**05 47 08.9**	**+1.8**
KLNJ	**Kolanjah**	**6.13**	**122**	Pn	**Pn**	**05 47 10.1**	**+1.3**
ILAS	**Lasjerd**	**6.14**	**79**	Pn	**Pn**	**05 47 10.1**	**+1.2**
IRAM	**Ramesheh**	**6.29**	**113**	Pn	**Pn**	**05 47 13.2**	**+2.3**
ANAR	**Anarak**	**6.91**	**98**	Pn	**Pn**	**05 47 20.9**	**+1.6**
GAZ	**Gaziantep**	**7.31**	**294**		**Pn**	**05 47 27.1**	**+2.3**
ASF	**Jabal al Asfar**	**7.61**	**255**	Pn	**Pn**	**05 47 26.5**	**-2.4**
	comp=E,0.2nm,0.3s,baz=239,slow=20,SNR=1.5						
ASF				Lg	Lg	05 49 38.8	
	comp=E,1.0nm,0.3s,baz=107,slow=19,SNR=1.2						
	comp=E,1.1nm,0.6s						
ONI	**Oni**	**8.29**	**349**	Pn	**Pn**	**05 47 38.1**	**0.0**
MMAI	**Mount Meron Ar**	**8.59**	**263**	LR	LR	05 51 49.2	
	comp=E,279nm,18.2s,baz=43,slow=44						
KBZ	**Khabaz**	**9.49**	**348**	Pn	Pn	05 48 01.5	+7.0
	comp=E,0.1nm,0.3s,baz=160,slow=9.1,SNR=3.7						
EIL	**Elat**	**10.19**	**245**	LR	LR	05 53 02.4	
	comp=E,314nm,18.4s,baz=91,slow=44						
GEYT	**Alibeck**	**10.71**	**68**	Pn	**Pn**	**05 48 15.1**	**+3.7**
	comp=E,0.2nm,0.3s,baz=266,slow=19,SNR=4.9						
GEYT				LR	LR	05 52 06.8	
	comp=E,59nm,20.3s,baz=326,slow=36						
TRNA	**Turayna**	**10.86**	**152**	P	**Pn**	**05 48 15.2**	**+1.9**
TRNA				S	Sn	05 50 06.1	-8.3
SHME	**Shamm**	**12.39**	**130**	P	**Pn**	**05 48 34.0**	**-0.4**
SHME	**Shamm**	**12.39**	**130**	P	**Pn**	**05 48 34.4**	**+0.1**
SHME				S	Sn	05 50 44.0	-7.9
BANOM	**Banah**	**12.58**	**130**	P	**Pn**	**05 48 35.4**	**-1.6**
MASF	**Masafi**	**12.89**	**132**	P	**Pn**	**05 48 41.6**	**+0.4**
MASF				S	Sn	05 50 55.8	-8.4
MSFE	**Esma-Masafi**	**12.90**	**132**	P	**Pn**	**05 48 41.1**	**-0.2**
ASUD	**Al Ashush, Dub**	**12.96**	**137**	P	**Pn**	**05 48 42.5**	**+0.4**
ASUD	**Al Ashush, Dub**	**12.96**	**137**	P	**Pn**	**05 48 42.7**	**+0.6**
ASUD				S	**Sn**	**05 51 00.5**	**-5.3**
MDH	**Madha**	**13.03**	**132**	P	**Pn**	**05 48 41.9**	**-1.1**
MDH	**Madha**	**13.03**	**132**	P	**Pn**	**05 48 42.5**	**-0.5**
MDH				S	Sn	05 50 58.0	-10
HATD	**Hatta, Dubai**	**13.27**	**133**	P	**Pn**	**05 48 45.6**	**-0.8**
HATD	**Hatta, Dubai**	**13.27**	**133**	P	**Pn**	**05 48 45.6**	**-0.8**
HATD				S	Sn	05 51 05.3	-8.3
ASHO	**Ashiyiah**	**13.34**	**134**	P	**Pn**	**05 48 45.9**	**-1.4**
ASHO	**Ashiyiah**	**13.34**	**134**	P	**Pn**	**05 48 47.2**	**-0.1**
ASHO				S	Sn	05 51 05.6	-10
ALNE	**Al Ain**	**13.64**	**137**	P	**Pn**	**05 48 49.4**	**-2.1**
ALNE	**Al Ain**	**13.64**	**137**	P	**Pn**	**05 48 50.8**	**-0.6**
ALNE				S	Sn	05 51 13.9	-8.7
SOHO	**SOHO**	**14.03**	**134**	P	**Pn**	**05 48 54.4**	**-2.4**
SOHO				S	Sn	05 51 24.2	-7.9
UMZA	**Um Al Zommool**	**14.40**	**142**	P	**Pn**	**05 49 01.7**	**-0.2**
UMZA				S	Sn	05 51 32.3	-8.9
ARQ	**Araqi**	**14.64**	**136**	P	**Pn**	**05 49 05.6**	**+0.4**
ARQ				S	Sn	05 51 37.7	-9.3
BSY	**Bisya**	**15.49**	**136**	P	**Pn**	**05 49 16.1**	**-0.3**
BSY				P	**Pn**	**05 49 16.1**	**-0.3**
BSY				S	Sn	05 51 58.8	-8.8
BSY				S	Sn	05 51 58.8	-8.8
SMDO	**Samad**	**15.75**	**133**	P	**Pn**	**05 49 21.5**	**+1.5**
SMDO				S	Sn	05 52 05.4	-8.7
WSAR	**Wadi Sarin**	**15.98**	**131**	Pn	**Pn**	**05 49 21.9**	**-0.8**
	comp=E,1.1nm,0.3s,baz=303,slow=9.9,SNR=10						
WSAR				LR	LR	05 56 34.4	
	comp=E,99nm,19.2s,baz=235,slow=41						
	comp=E,6.2nm,0.6s						
WSAR	**Wadi Sarin**	**15.98**	**131**	P	**Pn**	**05 49 22.2**	**-0.6**
WSAR				S	Sn	05 52 09.4	-10
JMDO	**Jabal Madar**	**16.31**	**134**	P	**Pn**	**05 49 27.7**	**+0.8**
JMDO				S	Sn	05 52 19.0	-8.5
WBK	**Wadi Bani Khal**	**16.65**	**132**	P	**Pn**	**05 49 31.3**	**-0.1**
WBK				S	Sn	05 52 26.6	-9.2
JLN	**Jalan Bani Buh**	**17.26**	**132**	P	**Pn**	**05 49 38.4**	**-0.6**
MHTO	**MHTO**	**17.31**	**138**	P	**Pn**	**05 49 37.6**	**-1.9**
MHTO				P	**Pn**	**05 49 37.7**	**-1.9**
MHTO				S	Sn	05 52 39.7	-12
DOK	**Doka**	**17.52**	**152**	P	**Pn**	**05 49 39.3**	**-2.9**
	SNR=14						
DOK				S	Sn	05 52 46.6	-10
DQM	**DQM**	**17.94**	**141**	P	**Pn**	**05 49 46.3**	**-1.2**
DQM				S	Sn	05 52 53.9	-13
BELG	**Belogornoye**	**17.99**	**4**	P	**Pn**	**05 49 45.3**	**-2.5**
	comp=E,0.6nm,0.3s,baz=236,slow=5.2,SNR=9.2						
BELG				LR	LR	05 58 34.2	
	comp=E,74nm,20.0s,baz=159,slow=43						
	comp=E,12nm,0.8s						
WHFO	**Wadi Hawf**	**18.02**	**154**	P	**Pn**	**05 49 46.6**	**-1.9**
	SNR=18						
WHFO				S	Sn	05 52 56.3	-13
ABKAR	**Akbulak array**	**18.21**	**31**		**Pn**	**05 49 50.7**	**+0.2**
AKTO	**Aktyubinsk**	**18.38**	**26**	P	**Pn**	**05 49 52.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=210,slow=11,SNR=11						
AKTO				LR	LR	05 57 35.4	
	comp=E,55nm,20.1s,baz=256,slow=39						
	comp=E,3.2nm,0.8s						
ABTO	**Aybut**	**18.38**	**156**	P	**P**	**05 49 52.6**	**-0.2**
	SNR=6.0						
RBK	**Rabkut**	**18.56**	**153**	P	**P**	**05 49 53.2**	**-1.7**
DMTO	**DMTO**	**18.66**	**151**	P	**P**	**05 49 53.4**	**-2.4**
SHAO	**Shalim**	**18.66**	**149**	P	**P**	**05 49 52.8**	**-3.1**
SHAO	**Shalim**	**18.66**	**149**	P	**P**	**05 49 52.4**	**-3.5**
SORM	**Soroca**	**18.76**	**322**	⇑P	**P**	**05 49 56.7**	**-0.1**
VOIR		**19.12**	**311**	⇑P	**P**	**05 50 01.9**	**+1.0**
DOPR	**Dopca**	**19.17**	**313**	⇑P	**Pn**	**05 50 02.9**	**+0.6**
KBL	**Kabul**	**19.34**	**83**	P	**P**	**05 50 05.0**	**+1.5**
KBL				IAmb	IAmb	05 50 08.1	
	comp=Z,13nm,1.1s						
KBL	**Kabul**	**19.34**	**83**	P	**Pn**	**05 50 06.6**	**+2.0**
ARR	**Arges**	**19.35**	**311**	⇓P	**Pn**	**05 50 05.3**	**+0.8**
BLKB	**Belogradchik**	**19.95**	**304**	⇑P	**P**	**05 50 11.2**	**+1.3**
BURAR	**Bucovina Array**	**20.14**	**317**	⇑P	**P**	**05 50 12.9**	**+0.9**
AKASG	**Malin Array Be**	**20.14**	**329**	P	**P**	**05 50 12.5**	**+0.7**
AKASG	**Malin Array Be**	**20.14**	**329**	P	**P**	**05 50 11.4**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=138,slow=9.4,SNR=5.7						
	comp=Z,1.2nm,0.7s						
KIEV	**Kiev**	**20.14**	**329**	⇑P	**P**	**05 50 11.2**	**-0.5**
KIEV	**Kiev**	**20.14**	**329**	P	**P**	**05 50 10.7**	**-1.0**
KIEV				IAmb	IAmb	05 50 21.4	
	comp=Z,6.9nm,1.2s						
BUR08	**Bucovina Ar. S**	**20.16**	**317**	P	**P**	**05 50 12.2**	**0.0**
GZR	**Gura Zlata**	**20.54**	**309**	⇑P	**P**	**05 50 17.3**	**+0.9**
BTK	**Batken**	**20.83**	**67**	P	**P**	**05 50 20.4**	**+0.9**
BTK				IAmb	IAmb	05 50 35.5	
	comp=Z,6.3nm,1.1s						
MARR	**Marisel-Cluj**	**20.89**	**312**	⇑P	**P**	**05 50 21.2**	**+1.1**
DRGR		**21.19**	**312**	⇓P	**P**	**05 50 25.1**	**+1.7**
KK31	**Karatay Array**	**21.22**	**59**	P	**P**	**05 50 23.7**	**+0.1**
KKAR	**Karatay Array**	**21.22**	**59**	P	**P**	**05 50 24.2**	**+0.7**
KKAR	**Karatay Array**	**21.22**	**59**	P	**P**	**05 50 24.4**	**+0.8**
KKAR				IAmb	IAmb	05 50 34.3	
	comp=Z,4.4nm,1.1s						
KOLS	**Kolonicke sedl**	**22.50**	**317**	*e*PN	P	05 50 47.3	+10
MORH	**Mrgy, Hungar**	**23.53**	**308**	⇑P	**P**	**05 50 50.0**	**+2.2**
VYHS	**Vyhne**	**24.30**	**313**	*e*P	**P**	**05 50 56.7**	**+1.6**
KSH	**Kashi**	**24.74**	**69**	P	**P**	**05 51 00.0**	**+0.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NRN	**Naryn**	**24.90**	**65**	P	**P**	**05 51 01.9**	**+0.9**
NRN				IAmb	IAmb	05 51 04.3	
	comp=Z,4.3nm,1.0s						
MODS	**Modra-Piesok**	**25.19**	**312**	*e*P	**P**	**05 51 06.7**	**+3.5**
ZST	**Bratislava**	**25.23**	**312**	*e*P	**P**	**05 51 04.8**	**+1.2**
BRVK	**Borovoye**	**25.56**	**36**	P	**P**	**05 51 05.7**	**-0.8**
BRVK				IAmb	IAmb	05 51 28.4	
	comp=Z,3.7nm,1.0s						
BVAR	**Borovoye Array**	**25.59**	**36**	P	**P**	**05 51 06.5**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=238,slow=8.4,SNR=12						
BVAR				LR	LR	06 03 40.5	
	comp=Z,94nm,18.2s,baz=230,slow=42						
	comp=Z,2.5nm,0.7s						
MORC	**Moravsky Berou**	**25.62**	**315**	⇑P	**P**	**05 51 08.9**	**+1.8**
MORC	**Moravsky Berou**	**25.62**	**315**	P	**P**	**05 51 06.6**	**-0.5**
MORC				IAmb	IAmb	05 51 19.8	
	comp=Z,6.2nm,1.4s						
PABE	**Paberze**	**25.81**	**331**	P	**P**	**05 51 08.3**	**-0.3**
GERES	**GERESS Array B**	**27.58**	**311**	LR	LR	06 04 54.4	
	comp=Z,41nm,20.0s,baz=112,slow=42						
KURBB	**Kurchatov Arra**	**28.86**	**46**	P	**P**	**05 51 37.2**	**+1.0**
	comp=Z,0.7nm,0.2s,baz=253,slow=8.8,SNR=6.0						
	comp=Z,0.7nm,0.2s						
KURK	**Kurchatov**	**28.95**	**46**	P	**P**	**05 51 38.0**	**+1.0**
KURK				IAmb	IAmb	05 51 53.8	
	comp=Z,2.4nm,1.0s						
FIA1	**FINESS Array S**	**29.75**	**341**	P	**P**	**05 51 43.4**	**-0.5**
FINES	**FINESS Array B**	**29.75**	**341**	P	**P**	**05 51 43.0**	**-0.9**
FINES	**FINESS Array B**	**29.75**	**341**	P	**P**	**05 51 42.7**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=143,slow=10,SNR=13						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**30.20**	**55**	P	**P**	**05 51 49.5**	**+1.4**
MKAR	**Makanchi Array**	**30.20**	**55**	P	**P**	**05 51 49.2**	**+1.1**
MKAR	**Makanchi Array**	**30.20**	**55**	P	**P**	**05 51 49.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=252,slow=7.6,SNR=15						
	comp=Z,0.9nm,0.6s						
BNI	**Bardonecchia**	**31.44**	**301**	P	**P**	**05 51 60.0**	**+0.7**
HFS	**Hagfors**	**32.99**	**331**	P	**P**	**05 52 11.9**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=116,slow=10,SNR=18						
	comp=Z,2.9nm,0.5s						
ZAA0	**Zalesovo Array**	**33.64**	**42**	P	**P**	**05 52 19.4**	**+1.2**
ZAA0				IAmb	IAmb	05 52 46.2	
	comp=Z,3.1nm,1.4s						
ZALV	**Zalesovo Beam**	**33.64**	**42**	P	**P**	**05 52 19.8**	**+1.6**
ZALV	**Zalesovo Beam**	**33.64**	**42**	P	**P**	**05 52 18.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=246,slow=6.7,SNR=4.1						
ZALV				LR	LR	06 08 42.6	
	comp=Z,55nm,20.8s,baz=250,slow=41						
	comp=Z,0.4nm,0.3s						
WMQ	**Urumqi**	**33.67**	**61**	*e*P	**P**	**05 52 21.8**	**+3.1**
NB2	**NORSAR Subarra**	**34.51**	**331**	P	**P**	**05 52 24.6**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=126,slow=8.6						
NOA	**NORSAR Array B**	**34.51**	**331**	P	**P**	**05 52 24.3**	**-1.4**
	comp=Z,0.7nm,0.7s,baz

TEH ***21*** *05:51:28.8, 34.°59N×45.°55E, h14km±16km, ML2.9*
ISN ***21*** *05:51:28.8±2.3, 34.°50N×45.°63E, h14km, ML2.9*
ISC 21 05:51:28.9±1.5,**34.°5N**±0.°1×**45.°59E**±0.°09,**h18**km,**n7,** σ0**98**/8,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.04**	**178**	Pg	**Pg**	**05 51 31.9**	**-0.3**
IDHR	**Dehrash**	**0.68**	**77**	Pg	**Pb**	**05 51 42.2**	**-0.1**
IGHG	**Ghaleghazi**	**0.84**	**105**	Pg	**Pg**	**05 51 45.9**	**+0.5**
ILIN	**Lien**	**1.19**	**71**	Pg	**Pb**	**05 51 51.7**	**+0.5**
BHD	**Baghdad** baz=40	**1.62**	**219**	*e*Pg	**Pn**	**05 51 56.0**	**-0.6**
BHD				*e*Sg	**Sb**	**05 52 20.0**	**+1.6**
IKFM	**Kafar-mosalman**	**2.13**	**118**	Pn	**Pb**	**05 52 06.3**	**-0.7**
IALM	**Almabolaq**	**2.15**	**81**	Pn	**Pb**	**05 52 06.7**	**-0.8**

NIED ***21*** *06:15:28.6, 34.°91N×138.°26E, h25km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.10; Mθθ-2.08; Mφφ0.98; Mrθ-0.93; Mθφ-0.83; Mφr1.14; Fault plane solution: M₀2.47000×10¹⁴ NP1: φs292.00000°, δ69.00000°, λ137.00000°. NP2: φs40.00000°, δ50.00000°, λ27.00000°.*
JMA 21 06:15:28.6±0.1,**34.°9N**±0.°3×**138.°3E**±0.°4,**h25**km,**MV3.7**/20, **6D,CENTRAL SHIZUOKA PREF,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	**Shizuoka 3**	**0.16**	**345**	P	Pb	06 15 33.7	-0.2
SHZ3				S	Sb	06 15 37.6	+0.2
JSG	**Sagara**	**0.24**	**194**	⇓P	Pb	06 15 34.8	-0.1
JSG				⇓S	Sb	06 15 40.2	+1.2
JKKG	**Kakegawa**	**0.27**	**242**	*i* P	Pb	06 15 34.8	-0.2
JKKG				S	Sb	06 15 39.4	-0.1
JFNN	**Fujinakano**	**0.45**	**51**	*i* P	Pb	06 15 37.5	-0.5
JFNN				S	Sb	06 15 44.5	+0.2
JIZS	**Izushimoda**	**0.54**	**111**	*i* P	Pb	06 15 38.2	-1.3
JIZS				S	Sb	06 15 45.7	-1.3
JNY	**Yasuok**	**0.55**	**324**	⇓*i* P	Pb	06 15 39.4	-0.4
JNY				⇓S	Sb	06 15 47.3	-0.1
TK04	**Tokai 4**	**0.61**	**211**	*i* P	Pb	06 15 40.4	-0.2
TK04				X		06 15 50.7	
JYN	**Shimob**	**0.63**	**22**	⇓*i* P	Pb	06 15 40.4	-0.6
JYN				⇓S	Sb	06 15 49.7	+0.2
JOD2	**Odawara 2**	**0.76**	**62**	*i* P	Pb	06 15 42.1	-1.2

SJA ***21*** *06:25:09.3±1.9, 21.°08S×69.°45W, h120km, ML3.5, MW3.5*
GUC ***21*** *06:25:13.6±0.6, 21.°12S×69.°32W, h76km±3km, ML3.3*
ISC 21 06:25:14.9±1.2,**21.°13S**±0.°02×**69.°44W**±0.°04,**h68**km±7km, **n36,**σ1**56**/69,**2C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.10**	**330**	*e*P	**Pn**	**06 25 24.1**	**-0.9**
PB01				*e*S	**Sn**	**06 25 33.3**	**+1.0**
PB01				IAML		06 25 34.5	
	comp=Z,821nm,0.2s						
PB01	**IPOC Station P**	**0.10**	**330**	*e*P	**Pn**	**06 25 24.1**	**-0.9**
PB01				*e*S	**Sn**	**06 25 32.9**	**+0.5**
PB01				IAML		06 25 33.6	
	comp=N,2μm,0.1s						
PB02	**IPOC Station P**	**0.47**	**246**	*e*P	**Pn**	**06 25 26.8**	**-0.5**
PB02				*e*S	**Sn**	**06 25 37.3**	**+0.8**
PB02				IAML		06 25 40.7	
	comp=Z,2μm,0.1s						
PB02	**IPOC Station P**	**0.47**	**246**	*e*P	**Pn**	**06 25 27.1**	**-0.3**
PB02				*e*S	**Sn**	**06 25 37.8**	**+1.3**
PB02				IAML		06 25 39.3	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**0.69**	**165**	*e*P	**Pn**	**06 25 28.9**	**-0.8**
PB09				*e*S	**Sn**	**06 25 41.7**	**+1.1**
PB09				IAML		06 25 43.8	
	comp=Z,762nm,0.3s						
PB09	**IPOC Station P**	**0.69**	**165**	⇑*i* P	**Pn**	**06 25 29.2**	**-0.6**
PB09				*e*S	**Sn**	**06 25 41.8**	**+1.1**
PB09				IAML		06 25 43.2	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**0.73**	**215**	*e*P	**Pn**	**06 25 29.4**	**-0.7**
PB07				*e*S	**Sn**	**06 25 42.2**	**+0.8**
PB07				IAML		06 25 44.4	
	comp=Z,668nm,0.2s						
PB07	**IPOC Station P**	**0.73**	**215**	*e*P	**Pn**	**06 25 29.6**	**-0.5**
PB07				*e*S	**Sn**	**06 25 42.0**	**+0.5**
PB07				IAML		06 25 43.1	
	comp=N,1μm,0.2s						
PATCX	**Punta Patache**	**0.74**	**294**	*e*P	**Pn**	**06 25 29.9**	**-0.2**
PATCX				*e*S	**Sn**	**06 25 43.4**	**+2.0**
PATCX	**Punta Patache**	**0.74**	**294**	*e*P	**Pn**	**06 25 29.9**	**-0.2**
PATCX				*e*S	**Sn**	**06 25 42.7**	**+1.3**
TA01	**Diego Aracena**	**0.89**	**309**	*e*P	**Pn**	**06 25 31.1**	**-0.9**
TA01				*e*S	**Sn**	**06 25 45.5**	**+1.0**
TA01				IAML		06 25 46.4	
	comp=Z,536nm,0.3s						
TA01	**Diego Aracena**	**0.89**	**309**	*e*P	**Pn**	**06 25 31.1**	**-0.9**
TA01				*i* S	**Sn**	**06 25 45.0**	**+0.5**
TA01				IAML		06 25 45.6	
	comp=E,1μm,0.4s						
HMBC	**Humberstone**	**0.94**	**333**	*e*P	**Pn**	**06 25 31.4**	**-1.3**
HMBC				*e*S	**Sn**	**06 25 46.1**	**+0.2**
HMBC	**Humberstone**	**0.94**	**333**	*e*P	**Pn**	**06 25 31.5**	**-1.3**
HMBC				*e*S	**Sn**	**06 25 45.5**	**-0.3**
HMBC				IAML		06 25 46.8	
	comp=N,1μm,0.2s						
PB08	**IPOC Station P**	**1.02**	**15**	*e*P	**Pn**	**06 25 32.4**	**-1.5**
PB08				*e*S	**Sn**	**06 25 47.5**	**-0.3**
PB08	**IPOC Station P**	**1.02**	**15**	*e*P	**Pn**	**06 25 32.5**	**-1.3**
PB08				*e*S	**Sn**	**06 25 47.1**	**-0.8**
TA02	**Huaiquique**	**1.07**	**322**	*e*P	**Pn**	**06 25 33.1**	**-1.1**
TA02				IAML		06 25 51.3	
	comp=Z,993nm,0.1s						
TA02	**Huaiquique**	**1.07**	**322**	*e*P	**Pn**	**06 25 33.3**	**-0.9**
TA02				*e*S	**Sn**	**06 25 48.7**	**+0.2**
PB04	**IPOC Station P**	**1.37**	**209**	*e*P	**Pn**	**06 25 37.5**	**-0.7**
PB04				*e*S	**Sn**	**06 25 57.1**	**+1.3**
PB04				IAML		06 26 02.8	
	comp=Z,426nm,0.3s						
PB04	**IPOC Station P**	**1.37**	**209**	⇑*e*P	**Pn**	**06 25 37.5**	**-0.7**
PB04				*e*S	**Sn**	**06 25 56.2**	**+0.4**
PB04				IAML		06 26 01.1	
	comp=N,449nm,0.2s						
PB11	**IPOC Station P**	**1.37**	**351**	*e*P	**Pn**	**06 25 36.9**	**-1.5**
PB11				*e*S	**Sn**	**06 25 55.8**	**0.0**
PB11				IAML		06 25 58.1	
	comp=Z,340nm,0.3s						
PB11	**IPOC Station P**	**1.37**	**351**	*e*P	**Pn**	**06 25 36.8**	**-1.5**
PB11				*e*S	**Sn**	**06 25 55.1**	**-0.7**
PB11				IAML		06 25 56.6	
	comp=E,848nm,0.4s						
GO01	**Chusmiza**	**1.47**	**9**	*e*P	**Pn**	**06 25 38.5**	**-1.4**
GO01				*e*S	**Sn**	**06 25 59.5**	**+1.0**
GO01	**Chusmiza**	**1.47**	**9**	*e*P	**Pn**	**06 25 38.4**	**-1.4**
GO01				*e*S	**Sn**	**06 25 57.2**	**-1.3**
GO01				IAML		06 25 59.9	
	comp=N,1μm,0.2s						
LVC	**Limon Verde**	**1.56**	**162**	*e*P	**Pn**	**06 25 40.8**	**0.0**
LVC				*e*S	**Sn**	**06 26 02.1**	**+1.7**
LVC				IAML		06 26 05.0	
	comp=Z,274nm,0.9s						
LVC	**Limon Verde**	**1.56**	**162**	*e*P	**Pn**	**06 25 40.8**	**0.0**
LVC				*e*S	**Sn**	**06 26 01.5**	**+1.1**
PB06	**IPOC Station P**	**1.58**	**185**	*e*P	**Pn**	**06 25 40.0**	**-1.0**
PB06				*e*S	**Sn**	**06 26 01.0**	**+0.4**
PB06				IAML		06 26 03.6	
	comp=Z,326nm,0.3s						
PB06	**IPOC Station P**	**1.58**	**185**	*e*P	**Pn**	**06 25 39.9**	**-1.0**
PB06				*i* S	**Sn**	**06 26 00.5**	**-0.1**
PB06				IAML		06 26 04.2	
	comp=E,466nm,0.2s						
PB05	**IPOC Station P**	**1.86**	**202**	*e*P	**Pn**	**06 25 43.3**	**-1.4**
PB05				*e*S	**Sn**	**06 26 06.2**	**-1.1**
PB05				IAML		06 26 15.0	
	comp=Z,122nm,0.7s						
PB05	**IPOC Station P**	**1.86**	**202**	*e*P	**Pn**	**06 25 43.3**	**-1.4**
PB05				*e*S	**Sn**	**06 26 05.8**	**-1.6**
PB05				IAML		06 26 15.2	
	comp=E,220nm,0.4s						
PB15	**IPOC Station P**	**2.07**	**181**	*e*P	**Pn**	**06 25 47.2**	**-0.5**
PB15				*e*S	**Sn**	**06 26 14.3**	**+1.7**
PB15				IAML		06 26 21.1	
	comp=Z,978nm,0.3s						
PB15	**IPOC Station P**	**2.07**	**181**	*e*P	**Pn**	**06 25 47.0**	**-0.7**
PB15				*e*S	**Sn**	**06 26 12.9**	**+0.3**
AF01	**San Pedro de A**	**2.16**	**148**	*e*P	**Pn**	**06 25 49.7**	**+0.8**
PB12	**IPOC Station P**	**2.64**	**341**	*e*P	**Pn**	**06 25 52.7**	**-2.5**
PB12				*e*S	**Sn**	**06 26 32.9**	**+6.7**
PB12				IAML		06 26 33.7	
	comp=Z,109nm,0.4s						
PB16	**IPOC Station P**	**2.78**	**359**	*e*P	**Pn**	**06 25 57.1**	**-0.5**
PB16				*e*S	**Sn**	**06 26 36.8**	**+6.5**
PB16				IAML		06 26 37.8	
	comp=Z,76nm,0.6s						
GO02	**Mina Guanaco**	**4.02**	**182**	*e*P	**Pn**	**06 26 12.7**	**-1.6**

NEIC ***21*** *06:40:57.0±1.5, 15.°74S±0.°04×74.°75W±0.°08, h31km±3km, mb5.0/324, Error ellipse: s-maj=10.8km s-min=5.7km az=95.0*
IDC ***21*** *06:40:58.0±0.6, 15.°67S×74.°66W, h39km±5km, mb4.3/16, mbtmp4.5/21, ML4.2/4, MS3.9/46, Error ellipse: s-maj=20.0km s-min=11.0km az=65.0*
VAO ***21*** *06:40:59.3±0.7, 15.°78S×74.°54W, h54km±6km, mb4.5*
ISC 21 06:40:56.7±0.5,**15.°75S**±0.°05×**74.°67W**±0.°06,**h33**km±2km, **h33**km:**pP-P,n687,**σ1**00**/545,**mb5.0**/170,**MS4.0**/41,**2C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.29**	**330**	Pn	**Pn**	**06 42 00.1**	**+0.3**
NNA				Sn	**Sn**	**06 42 50.0**	**+1.2**
NNA	**Nana** 22nm,0.3s,baz=152,slow=12,SNR=60	**4.29**	**330**	Pn	**Pn**	**06 42 00.1**	**+0.3**
NNA				Sn	**Sn**	**06 42 48.6**	**-0.2**
	138nm,0.3s,baz=17,slow=15,SNR=8.2						
	150nm,0.5s						
NNA	**Nana**	**4.29**	**330**	*e*P	**Pn**	**06 41 59.7**	**-0.1**
NNA				*e*S	**Sn**	**06 42 50.7**	**+1.9**
AP01	**Chacalluta**	**4.89**	**123**	Pn	**Pn**	**06 42 09.1**	**+1.2**
PB12	**IPOC Station P**	**5.03**	**125**	Pn	**Pn**	**06 42 11.0**	**+1.0**
PB16	**IPOC Station P**	**5.57**	**118**	Pn	**Pn**	**06 42 19.9**	**+2.1**
PB11	**IPOC Station P**	**6.22**	**131**	Pn	**Pn**	**06 42 27.5**	**+1.1**
TA02	**Huaiquique**	**6.23**	**137**		**Pn**	**06 42 27.5**	**+1.1**
LPAZ	**La Paz**	**6.31**	**96**	Pn	**Pn**	**06 42 29.4**	**+1.4**
TA01	**Diego Aracena**	**6.41**	**139**	Pn	**Pn**	**06 42 29.9**	**+1.1**
GO01	**Chusmiza**	**6.51**	**128**		**Pn**	**06 42 32.5**	**+1.8**
PATCX	**Punta Patache**	**6.62**	**140**		**Pn**	**06 42 32.7**	**+0.9**
PB08	**IPOC Station P**	**6.83**	**131**		**Pn**	**06 42 36.6**	**+1.6**
PB02	**IPOC Station P**	**7.15**	**141**		**Pn**	**06 42 39.9**	**+0.8**
PB01	**IPOC Station P**	**7.21**	**138**		**Pn**	**06 42 41.0**	**+1.1**
PB07	**IPOC Station P**	**7.47**	**143**		**Pn**	**06 42 44.3**	**+0.7**
PB04	**IPOC Station P**	**7.82**	**148**		**Pn**	**06 42 48.1**	**-0.2**
PB09	**IPOC Station P**	**7.91**	**140**		**Pn**	**06 42 52.0**	**+2.3**
CZSB	**Cruzeiro do Su**	**8.20**	**14**	Pn	**Pn**	**06 42 54.2**	**+0.7**
CZSB	**Cruzeiro do Su**	**8.20**	**14**	*e*P	**Pn**	**06 42 54.1**	**+0.7**
CZSB				*e*S	**Sn**	**06 44 23.7**	**-1.3**
CZSB	**Cruzeiro do Su**	**8.20**	**14**	*e*P	**Pn**	**06 42 55.6**	**+2.1**
PB05	**IPOC Station P**	**8.23**	**150**	Pn	**Pn**	**06 42 54.4**	**+0.5**
PB06	**IPOC Station P**	**8.43**	**146**		**Pn**	**06 42 57.1**	**+0.4**
LVC	**Limon Verde**	**8.73**	**142**	Pn	**Pn**	**06 43 03.4**	**+2.4**
LVC	**Limon Verde** 7.8nm,0.3s,baz=324,slow=8.4,SNR=42	**8.73**	**142**	Pn	**Pn**	**06 43 03.2**	**+2.2**
LVC				Sn	**Sn**	**06 44 33.8**	**-4.7**
	9.1nm,0.3s,baz=89,slow=19,SNR=12						
LVC				LR	LR	06 46 22.2	
	comp=Z,477nm,21.0s,baz=310,slow=37						
	23nm,0.2s						
LVC	**Limon Verde**	**8.73**	**142**	*e*P	**Pn**	**06 43 01.6**	**+0.6**
PB15	**IPOC Station P**	**8.89**	**147**		**Pn**	**06 43 03.5**	**+0.4**
ATAH	**Atahualpa** 1.0nm,0.3s,baz=131,slow=6.7,SNR=6.6	**9.31**	**336**	Pn	**Pn**	**06 43 10.5**	**+1.5**
ATAH				LR	LR	06 47 30.4	
	comp=Z,234nm,21.9s,baz=178,slow=42						
	2.5nm,0.4s						
ETMB	**Extrema**	**10.13**	**55**	Pn	**Pn**	**06 43 22.3**	**+2.3**
ETMB	**Extrema**	**10.13**	**55**	*e*P	**Pn**	**06 43 20.6**	**+0.6**
GO02	**Mina Guanaco**	**10.50**	**154**	Pn	**Pn**	**06 43 26.6**	**+1.3**
AC01	**Pan de Azucar**	**11.02**	**161**	Pn	**Pn**	**06 43 31.8**	**-0.3**
TBTG	**Tabatinga, AM**	**12.41**	**23**	*e*P	**Pn**	**06 43 52.7**	**+1.6**
MCRA	**Macar, Loja**	**12.45**	**335**	Pn	**Pn**	**06 43 50.6**	**-1.1**
MCRA	**Macar, Loja**	**12.45**	**335**	*e*P	P	06 43 57.7	-5.4
AC04	**Llanos de Chal**	**12.83**	**166**	Pn	**Pn**	**06 43 55.8**	**-1.1**
BOSC	**San Juan Bosco**	**13.07**	**343**	Pn	**Pn**	**06 43 59.9**	**-0.5**
SIV	**San Ignacio** 1.0nm,0.6s,baz=285,slow=11,SNR=6.3	**13.09**	**93**	Pn	**Pn**	**06 43 59.7**	**-0.7**
SIV				LR	LR	06 49 40.4	
	comp=Z,436nm,19.1s,baz=286,slow=40						
SAML	**Samuel**	**13.09**	**60**	Pn	**Pn**	**06 44 00.3**	**-0.2**
SAML	**Samuel**	**13.09**	**60**	*e*P	**Pn**	**06 44 00.4**	**-0.1**
SAML	**Samuel**	**13.09**	**60**	*e*P	**Pn**	**06 43 60.0**	**-0.6**
BBSD	**Serra de San D**	**13.56**	**98**	*e*P	**Pn**	**06 44 07.9**	**+1.0**
LCO	**Las Campanas**	**13.70**	**165**	Pn	**Pn**	**06 44 08.7**	**-0.3**
COHC	**Cochancay**	**13.95**	**341**		**Pn**	**06 44 11.3**	**-0.9**
COHC	**Cochancay**	**13.95**	**341**	*e*P	P	**06 44 18.1**	**-1.7**
VBST	**Vila Bela da S**	**14.20**	**87**	*e*P	**Pn**	**06 44 17.4**	**+1.8**
BBRB	**Robore, Bolivi**	**14.43**	**102**	*e*P	**Pn**	**06 44 19.5**	**+0.7**
CO01	**Juntas del Tor**	**14.77**	**164**		**Pn**	**06 44 22.1**	**-1.4**
PTLB	**Pontes e Lacer**	**14.97**	**91**		**Pn**	**06 44 26.2**	**+0.3**
PTLB	**Pontes e Lacer**	**14.97**	**91**	*e*P	**Pn**	**06 44 25.9**	**0.0**
BBLB	**La Banda, Boli**	**15.44**	**103**	*e*P	**Pn**	**06 44 31.7**	**-0.5**
TEFE	**Tefe**	**15.67**	**40**	*e*P	**Pn**	**06 44 35.0**	**-0.2**
PTLC	**Puerto Leguiza**	**15.82**	**360**	*e*P	**Pn**	**06 44 33.0**	**-4.2**
PULU	**Pululahua**	**16.12**	**346**		**Pn**	**06 44 40.7**	**-0.7**
IMBA	**Imbabura, San**	**16.30**	**347**		**Pn**	**06 44 42.7**	**-1.0**
OTAV	**Otavalo**	**16.32**	**346**		**Pn**	**06 44 42.1**	**-1.9**
OTAV	**Otavalo**	**16.32**	**346**	*e*P	P	**06 44 48.0**	**+1.4**
OTAV	**Otavalo**	**16.32**	**346**	*e*P	P	**06 44 46.1**	**-0.5**
CFA	**Coronel Fontan** 0.7nm,0.3s,baz=340,slow=12,SNR=27	**16.84**	**161**	Pn	P	**06 44 52.4**	**+0.6**
CFA				LR	LR	06 50 33.3	
	comp=Z,346nm,20.3s,baz=340,slow=34						
	16nm,0.8s						
PTET	**Porto Estrela**	**16.87**	**91**	*e*P	P	**06 44 51.8**	**-0.5**
TICA	**Tres Isletas**	**17.01**	**131**	*e*P	**Pn**	**06 44 52.5**	**+0.4**
GCUF	**Volcan Galeras**	**17.07**	**351**	*e*P	P	**06 44 55.6**	**+0.6**
MURT	**Porto Murtinho**	**17.19**	**113**	*e*P	**Pn**	**06 44 54.1**	**-0.3**
POCN	**Pocone**	**17.25**	**95**	*e*P	**Pn**	**06 44 53.9**	**-1.3**
PANT	**Pantanal (Braz**	**17.53**	**103**	*e*P	**Pn**	**06 44 58.1**	**-0.6**
VACA	**Villa Angela C**	**17.54**	**135**	*e*P	**Pn**	**06 44 58.1**	**-0.7**
BDQN	**Bodoquena, MS**	**17.66**	**108**	*e*P	**Pn**	**06 45 00.4**	**+0.1**
MT02	**Curacav**	**17.73**	**170**	P	**Pn**	**06 45 00.6**	**-0.4**
BBAC	**Balboa, Cauca**	**17.84**	**352**	*e*P	P	**06 45 04.6**	**+1.4**
MT05	**Renca**	**17.92**	**169**	P	**Pn**	**06 45 03.3**	**-0.2**
SALV	**Santo Antonio**	**18.26**	**93**	*e*P	P	**06 45 07.3**	**-0.3**
MT01	**Popeta** comp=Z,166nm,2.0s	**18.30**	**171**	IAmb	IAmb	06 45 10.6	
NBRS	**Nabres**	**18.30**	**88**	*e*P	**Pn**	**06 45 08.8**	**+0.6**
MACA	**Manacapuru-AM**	**18.60**	**49**	P	P	**06 45 11.3**	**0.0**
MACA	**Manacapuru-AM**	**18.60**	**49**	*e*P	P	**06 45 10.9**	**-0.5**
AQDB	**Aquidauana**	**18.63**	**107**	*e*P	**Pn**	**06 45 12.9**	**+0.7**
ANTJ	**Antonio Joao (**	**18.72**	**112**	*e*P	P	**06 45 12.3**	**-0.4**
BO01	**Tunca**	**18.84**	**171**	P	P	**06 45 12.9**	**-0.9**
JAMC	**Jamundi, Valle**	**18.95**	**354**	*e*P	P	**06 45 15.5**	**+0.2**
RVDE	**Rio Verde (Bra**	**19.11**	**103**	*e*P	**Pn**	**06 45 17.9**	**0.0**
CPUP	**Villa Florida** comp=Z,250nm,18.5s,baz=296,slow=41	**19.28**	**126**	LR	LR	06 54 07.2	
PRAC	**Prado**	**19.34**	**359**	*e*P	**Pn**	**06 45 22.9**	**+2.1**
ORTC	**Ortega, Tolima**	**19.54**	**358**	*e*P	**Pn**	**06 45 22.6**	**-0.5**
YOTC	**Yotoco, Valle**	**19.68**	**355**	*e*P	**Pn**	**06 45 25.4**	**+0.6**
VILC	**Villavicencio,**	**19.76**	**3**	*e*P	**Pn**	**06 45 28.2**	**+2.3**
AMBA	**Amambai (Brazi**	**19.88**	**114**	*e*P	P	**06 45 24.9**	**-0.5**
ML02	**Panimavida**	**20.14**	**172**		**Pn**	06 45 30.9	+0.8
MECA	**Mercedes**	**20.31**	**134**	*e*P	P	**06 45 28.6**	**-1.3**
ROSC	**El Rosal** comp=Z,3.8nm,0.5s,baz=252,slow=20,SNR=2.4	**20.46**	**1**	P	**Pn**	06 45 33.7	-0.7
ROSC				LR	LR	06 54 17.0	
	comp=Z,477nm,20.4s,baz=224,slow=39						
	comp=Z,3.8nm,0.5s						
ROSC	**El Rosal**	**20.46**	**1**	*e*P	**Pn**	06 45 38.6	+4.3
RPRD	**Ribas do Rio P**	**20.47**	**106**	*e*P	P	**06 45 31.6**	**-0.2**
PLMC	**San Jos del P**	**20.58**	**355**	*e*P	P	**06 45 33.2**	**+0.2**
NPGB	**Novo Progresso**	**20.80**	**68**	*e*P	P	**06 45 34.5**	**-0.8**
GUY2C	**Guyana, Caldas**	**20.85**	**358**	*e*P	P	**06 45 37.4**	**+1.0**
C2SB	**Chapadao do Su**	**21.06**	**101**	*e*P	P	**06 45 35.9**	**-2.2**
AZCA	**Azaras, Argent**	**21.20**	**128**	*e*P	P	**06 45 38.5**	**-1.2**
SPBC	**San Pablo de B**	**21.27**	**2**	*e*P	P	**06 45 40.1**	**-0.5**
ITQB	**Itaqui**	**21.61**	**133**	P	P	**06 45 44.4**	**+0.4**
ITQB				IAmb	IAmb	06 45 58.6	
	comp=Z,103nm,1.5s						
ITQB	**Itaqui**	**21.61**	**133**	*e*P	P	**06 45 44.5**	**+0.4**
DVLD	**Doverlandia**	**21.63**	**95**	*e*P	P	**06 45 43.9**	**-0.4**
ITTB	**Itaituba**	**21.78**	**61**	*e*P	P	**06 45 44.8**	**-1.1**
ARAP	**Termas del Ara**	**21.79**	**137**	*e*P	P	**06 45 45.2**	**-0.8**
ARAG	**Araguaiana, MT**	**22.00**	**93**	*e*P	P	**06 45 48.5**	**+0.2**
PTBC	**PUERTO BERRIO,**	**22.15**	**1**	*e*P	P	**06 45 50.3**	**+0.5**
UNIS	**Unistalda (Bra**	**22.40**	**130**	*e*P	P	**06 45 52.2**	**-0.4**
PCMB	**Pacaembu**	**22.91**	**108**	*e*P	P	**06 45 55.8**	**-2.2**
PTGB	**Pitanga**	**22.98**	**116**	*e*P	P	**06 45 57.3**	**-1.5**
SNDB	**Serra Nova Dou**	**23.00**	**84**	*e*P	P	**06 45 57.7**	**-1.2**
RODS	**Rosario do Sul**	**23.02**	**133**	*e*P	P	**06 45 58.5**	**-0.5**
PAMC	**Pamplona, Colo**	**23.02**	**5**	*e*P	P	06 46 08.4	+8.9
ZARC	**Zaragoza, Cauc**	**23.09**	**360**	*e*P	P	**06 45 58.9**	**-0.9**
TBOT	**Tacuaremb**	**23.30**	**136**	*e*P	P	**06 46 00.8**	**-0.9**
UREC	**San Jos de Ur**	**23.36**	**358**	*e*P	P	**06 46 02.8**	**+0.3**
ITRB	**Iturama**	**23.48**	**103**	*e*P	P	**06 46 03.9**	**+0.2**
OCAC	**Ocana**	**23.87**	**3**	*e*P	P	**06 46 06.7**	**-0.9**
GO06	**Curarrehue**	**23.91**	**174**	P	P	**06 46 08.1**	**+0.4**
CPSB	**Cacapava Do Su**	**24.31**	**131**	*e*P	P	**06 46 09.9**	**-1.5**
MALB	**Monte Alegre**	**24.40**	**58**	*e*P	P	**06 46 12.1**	**-0.1**
LR05	**Currie** comp=Z,54nm,1.1s	**24.50**	**175**	IAmb	IAmb	06 46 16.7	
SDV	**Santo Domingo**	**24.80**	**10**	P	P	**06 46 15.7**	**-0.4**
SDV	**Santo Domingo** comp=Z,4.0nm,0.2s,baz=212,slow=6.7,SNR=9.3	**24.80**	**10**	P	P	**06 46 16.1**	**0.0**
SDV				LR	LR	06 57 06.0	
	comp=Z,207nm,20.9s,baz=172,slow=39						
	comp=Z,4.0nm,0.2s						
SDV	**Santo Domingo**	**24.80**	**10**	*e*P	P	**06 46 16.9**	**+0.8**
TRQA	**Tornquist**	**24.88**	**156**	P	P	**06 46 16.4**	**-0.1**
PLCA	**Paso Flores**	**25.15**	**173**	P	P	**06 46 19.1**	**+0.2**
PLCA	**Paso Flores** comp=Z,13nm,0.9s,baz=345,slow=10,SNR=40	**25.15**	**173**	P	P	**06 46 20.3**	**+1.4**
PLCA				LR	LR	06 54 23.7	
	comp=Z,197nm,19.9s,baz=351,slow=32						
	comp=Z,13nm,0.9s						
PLCA	**Paso Flores**	**25.15**	**173**	*e*P	P	**06 46 19.8**	**+0.8**
BCIP	**Isla Barro Col**	**25.28**	**348**	P	P	**06 46 19.0**	**-1.2**
BAUV	**El Baul**	**25.40**	**15**	P	P	**06 46 21.2**	**0.0**
IPMB	**Ipameri, GO**	**25.41**	**99**	*e*P	P	**06 46 20.7**	**-0.8**
ARGC	**Ariguani, Magd**	**25.45**	**1**	*e*P	P	**06 46 24.5**	**+2.8**
SJCC	**San Jacinto, C**	**25.49**	**359**	*e*P	P	**06 46 24.1**	**+1.9**
CDITO	**Canoas**	**25.50**	**341**	P	P	**06 46 20.9**	**-1.3**
CDITO				IAmb	IAmb	06 46 25.8	
	comp=Z,52nm,1.2s						
BRU2	**Volcan**	**25.65**	**341**	P	P	**06 46 22.4**	**-1.3**
BRU2				IAmb	IAmb	06 46 28.1	
	comp=Z,38nm,0.8s						
BDFB	**Brasilia**	**25.66**	**93**	P	P	**06 46 25.0**	**+1.2**
BDFB	**Brasilia** comp=Z,2.7nm,0.6s,baz=278,slow=11,SNR=7.3	**25.66**	**93**	P	P	**06 46 24.1**	**+0.3**
BDFB				LR	LR	06 58 08.9	
	comp=Z,118nm,18.7s,baz=324,slow=40						
	comp=Z,2.7nm,0.6s						
RCLB	**Rio Claro- Sao**	**26.46**	**109**	*e*P	P	**06 46 30.1**	**-0.9**
PCRV	**Puerto La Cruz** comp=Z,526nm,19.3s,slow=38	**27.80**	**22**	LR	LR	06 58 29.3	
JTS	**Las Juntas de** comp=Z,284nm,21.3s,baz=147,slow=35	**27.80**	**338**	LR	LR	06 57 10.7	
JANB	**Januaria**	**29.26**	**93**	*e*P	P	**06 46 55.8**	**-0.4**
DIAM	**Diamantina, MG**	**29.73**	**99**	*e*P	P	**06 47 01.4**	**+1.1**
COYC	**Coyhaique**	**29.81**	**176**	P	P	**06 47 01.0**	**+0.4**
MDP	**Montagnes des** comp=Z,542nm,18.2s,baz=218,slow=37	**30.08

baz=172,SNR=12
KMSC Kings Mountain 51.00 353 P P 06 49 55.1 -0.4
baz=172,SNR=12
CASEE Lake Jocassee 51.07 351 P P 06 49 55.0 -1.0
baz=170,SNR=5.4
FPAL Fort Paine 51.08 348 IAmb IAmb 06 49 55.8
comp=Z,21nm,0.8s
435B Jarrell 51.25 335 IAmb IAmb 06 49 58.3
comp=Z,12nm,0.8s
435B Jarrell 51.25 335 P P 06 49 57.0 -0.4
baz=152
X48A Hartselle 51.29 347 IAmb IAmb 06 49 56.9
comp=Z,12nm,0.8s
X48A Hartselle 51.29 347 P P 06 49 56.5 -1.1
baz=165,SNR=7.6
W52A Murphy 51.32 350 IAmb IAmb 06 49 58.1
comp=Z,15nm,0.8s
W52A Murphy 51.32 350 P P 06 49 57.0 -0.8
baz=169,SNR=6.8
Y45A Yeager Farm, C 51.34 344 IAmb IAmb 06 49 58.4
comp=Z,27nm,1.1s
Y45A Yeager Farm, C 51.34 344 P P 06 49 57.4 -0.6
baz=162
DRIO Del Rio 51.42 331 P P 06 49 58.6 -0.1
V58A Windy Hill, Pi 51.43 355 IAmb IAmb 06 49 59.1
comp=Z,19nm,1.2s
W50A Signal Mountai 51.67 349 P P 06 49 59.7 -0.7
W50A IAmb IAmb 06 50 00.3
comp=Z,20nm,0.8s
W50A Signal Mountai 51.67 349 P P 06 49 59.0 -1.4
baz=167,SNR=8.9
V53A Saluda 51.72 352 P P 06 49 59.9 -0.9
baz=170
V53A P P 06 49 59.9 -0.9
baz=170
SWET Sewanee 51.80 348 IAmb IAmb 06 50 01.0
comp=Z,21nm,0.9s
TKL Tuckaleechee C 51.85 351 IAmb IAmb 06 50 01.7
comp=Z,24nm,1.1s
TKL Tuckaleechee C 51.85 351 P P 06 50 00.8 -1.0
baz=169,SNR=5.7
TKL Tuckaleechee C 51.85 351 LR LR 07 14 50.6
comp=Z,126nm,18.9s,baz=166,slow=39
OXF Oxford 51.91 345 IAmb IAmb 06 50 02.2
comp=Z,18nm,0.9s
OXF Oxford 51.91 345 P P 06 50 01.4 -0.9
baz=162
OXF Oxford 51.91 345 P P 06 50 01.3 -0.9
baz=162
JCT Junction City 51.94 332 P P 06 50 02.3 -0.3
JCT Junction City 51.94 332 P P 06 50 01.6 -1.0
baz=149
V52A Sevierville 52.00 351 IAmb IAmb 06 50 02.9
comp=Z,25nm,0.8s
V52A Sevierville 52.00 351 P P 06 50 01.9 -1.0
baz=169,SNR=15
HPIG 52.02 324 IAmb IAmb 06 50 05.2
comp=Z,22nm,1.3s
V51A Loudon 52.08 350 IAmb IAmb 06 50 03.4
comp=Z,23nm,1.1s
V51A Loudon 52.08 350 P P 06 50 02.2 -1.3
baz=168,SNR=7.5
U56A King 52.09 354 IAmb IAmb 06 50 04.5
comp=Z,22nm,0.9s
U56A King 52.09 354 P P 06 50 03.5 -0.1
baz=173,SNR=5.7
U56A P P 06 50 03.5 -0.1
baz=173,SNR=5.7
WHTX Lake Whitney, 52.26 335 P P 06 50 03.9 -0.9
baz=152
U54A Nelsons Funny 52.42 353 IAmb IAmb 06 50 06.4
comp=Z,16nm,0.8s
U54A Nelsons Funny 52.42 353 P P 06 50 05.0 -1.1
baz=171
U54A P P 06 50 05.0 -1.1
baz=171
Z38A Mt. Pleasant 52.45 338 IAmb IAmb 06 50 07.2
comp=Z,16nm,0.8s
V48A Smith Brothers 52.49 348 P P 06 50 05.3 -1.2
baz=165,SNR=11
T59A Double "B" Far 52.51 357 IAmb IAmb 06 50 07.0
comp=Z,10.0nm,0.7s
FW14 Alvarado 52.51 336 P P 06 50 06.8 0.0
SAND Sanderson 52.59 330 IAmb IAmb 06 50 08.7
comp=Z,16nm,1.1s
T57A Hurt 52.64 355 IAmb IAmb 06 50 08.2
comp=Z,17nm,0.9s
T57A Hurt 52.64 355 P P 06 50 07.2 -0.4
baz=175,SNR=6.1
T57A P P 06 50 07.2 -0.4
baz=175,SNR=6.1
TZTN Tazewell 52.68 351 IAmb IAmb 06 50 07.5
comp=Z,11nm,0.8s
TZTN Tazewell 52.68 351 P P 06 50 07.0 -0.9
baz=169,SNR=5.7
TZTN Tazewell 52.68 351 P P 06 50 06.7 -1.3
baz=169,SNR=5.7
TXAR Lajitas Array 52.85 328 P P 06 50 09.4 -0.1
comp=Z,8.5nm,0.8s,baz=150,slow=8.9,SNR=82
TXAR LR LR 07 11 28.3
comp=Z,42nm,18.7s,baz=112,slow=35
comp=Z,8.5nm,0.8s
TX31 Lajitas Ar. Si 52.85 328 P P 06 50 09.2 -0.2
baz=144,SNR=23
OZNA Ozona 52.92 331 IAmb IAmb 06 50 10.6
comp=Z,27nm,1.3s
BLA Blacksburg 52.95 354 P P 06 50 08.6 -1.4
baz=173
U49A Red Boiling Sp 53.03 349 IAmb IAmb 06 50 09.8
comp=Z,8.2nm,0.6s
U49A Red Boiling Sp 53.03 349 P P 06 50 09.1 -1.4
baz=167,SNR=6.3
WVT Waverly 53.08 347 P P 06 50 09.1 -1.8
WVT IAmb IAmb 06 50 09.9
comp=Z,15nm,1.1s
WVT Waverly 53.08 347 P P 06 50 09.2 -1.7
baz=164
WVT Waverly 53.08 347 P P 06 50 08.3 -2.5
baz=164,SNR=6.5
WVT Waverly 53.08 347 P P 06 50 08.7 -2.1
WVT pP pP 06 50 18.8 -2.1
WVT sP sP 06 50 22.6 -1.7
FW06 Azle 53.16 336 IAmb IAmb 06 50 12.6
comp=Z,25nm,0.8s
PLPT Palo Pinto 53.32 335 IAmb IAmb 06 50 13.7
comp=Z,38nm,1.3s
T50A Nancy 53.35 350 P P 06 50 11.3 -1.6
baz=168
T50A P P 06 50 11.3 -1.6
baz=168
WHAR Wooly Hollow 53.44 342 IAmb IAmb 06 50 14.0
comp=Z,26nm,1.2s
R58B Mineral 53.51 357 IAmb IAmb 06 50 14.7
comp=Z,9.4nm,0.8s
S54A Dingess, Beckl 53.63 353 IAmb IAmb 06 50 15.6
comp=Z,12nm,0.8s
S54A Dingess, Beckl 53.63 353 P P 06 50 13.4 -1.5
baz=172,SNR=5.3
S54A P P 06 50 13.4 -1.5
baz=172,SNR=5.3
ALPN Alpine 53.68 329 IAmb IAmb 06 50 16.6
comp=Z,17nm,1.5s
ABTX Abilene, Hawle 53.71 334 IAmb IAmb 06 50 16.5
comp=Z,26nm,1.1s
ABTX Abilene, Hawle 53.71 334 P P 06 50 14.6 -1.0
baz=150,SNR=6.8
ABTX Abilene, Hawle 53.71 334 P P 06 50 15.6 0.0
baz=150,SNR=6.8
CBN Corbin Frederi 53.73 357 P P 06 50 14.8 -0.8
baz=177
T47A Sharon Grove 53.75 348 P P 06 50 14.0 -1.7
baz=165
LCAR Lake Charles 53.85 343 IAmb IAmb 06 50 16.3
comp=Z,16nm,1.0s
LCAR Lake Charles 53.85 343 P P 06 50 15.5 -1.0
baz=160,SNR=5.7
FCAR Ozark Folk Cen 53.95 342 IAmb IAmb 06 50 17.3
comp=Z,9.8nm,0.8s
MNHN Monahans 54.04 330 IAmb IAmb 06 50 19.0
comp=Z,14nm,0.8s
PBMO Poplar Bluff 54.32 344 P P 06 50 18.8 -1.1
PBMO IAmb IAmb 06 50 19.6
comp=Z,18nm,1.0s
PBMO Poplar Bluff 54.32 344 P P 06 50 18.5 -1.4
baz=161,SNR=8.8
R50A Paris 54.50 351 IAmb IAmb 06 50 21.2
comp=Z,17nm,1.0s
ODSA Odessa 54.58 331 IAmb IAmb 06 50 22.6
comp=Z,16nm,0.8s
U40A Yellville 54.60 342 P P 06 50 21.3 -0.7
baz=158,SNR=28
U40A P P 06 50 21.3 -0.7
baz=158,SNR=28
PECS Pecos 54.60 329 IAmb IAmb 06 50 23.4
comp=Z,17nm,1.3s
CGM3 Cape Girardeau 54.62 345 IAmb IAmb 06 50 21.8
comp=Z,16nm,0.8s
R49A Shelbyville 54.65 350 IAmb IAmb 06 50 22.0
comp=Z,31nm,1.3s
R49A Shelbyville 54.65 350 P P 06 50 21.2 -1.1
baz=168,SNR=6.3
R49A P P 06 50 21.2 -1.1
baz=168,SNR=6.3
VHRN Van Horn 54.69 328 IAmb IAmb 06 50 23.9
comp=Z,17nm,1.2s
Q54A Coxs Mills 54.75 354 P P 06 50 21.9 -1.2
baz=173
Q54A P P 06 50 21.9 -1.2
baz=173
WCI Wyandotte Cave 54.79 349 P P 06 50 22.0 -1.4
WCI Wyandotte Cave 54.79 349 P P 06 50 21.5 -1.8
baz=166
WCI Wyandotte Cave 54.79 349 P P 06 50 21.9 -1.4
baz=166,SNR=16
WCI Wyatte Cave 54.79 349 P P 06 50 21.9 -1.4
W35A Tecumseh 54.84 338 IAmb IAmb 06 50 23.7
comp=Z,35nm,1.3s
HHAR Hobbs 54.86 341 P P 06 50 23.5 -0.4
HHAR IAmb IAmb 06 50 24.4
comp=Z,22nm,1.1s
POST Post 54.90 332 IAmb IAmb 06 50 24.9
comp=Z,24nm,1.1s
S44A Carbondale 54.90 346 P P 06 50 22.2 -1.9
baz=163,SNR=14
Q51A Peebles 55.09 352 IAmb IAmb 06 50 25.3
comp=Z,15nm,1.1s
TUL3 Leonard 55.13 339 P P 06 50 24.8 -1.0
baz=155,SNR=14
TUL3 Leonard 55.13 339 P P 06 50 25.2 -0.6
baz=155,SNR=14
U38A Gravette 55.15 341 IAmb IAmb 06 50 26.4
comp=Z,22nm,1.2s
U38A Gravette 55.15 341 P P 06 50 24.7 -1.3
baz=157,SNR=11
DKNS Dickens 55.15 333 IAmb IAmb 06 50 26.7
comp=Z,20nm,0.9s
WMOK Wichita Mounta 55.19 336 IAmb IAmb 06 50 26.7
comp=Z,28nm,1.9s
WMOK Wichita Mounta 55.19 336 P P 06 50 25.1 -1.2
baz=152
MCWV Mont Chateau 55.33 355 P P 06 50 27.1 -0.1
baz=174
WUPA West Chester U 55.40 359 IAmb IAmb 06 50 29.0
comp=Z,12nm,1.1s
FVM French Village 55.46 345 IAmb IAmb 06 50 28.1
comp=Z,15nm,0.9s
FVM French Village 55.46 345 P P 06 50 27.1 -1.1
baz=162,SNR=7.5
MVL Millersville 55.48 358 IAmb IAmb 06 50 29.7
comp=Z,16nm,1.1s
GDL2 Guadalupe Moun 55.52 329 P P 06 50 28.4 -0.5
GDL2 PcP PcP 06 51 28.4 -0.2
P52A Corning 55.53 353 P P 06 50 27.9 -0.8
baz=171
MNTX Cornudas Mount 55.62 328 P P 06 50 28.3 -1.2
baz=144,SNR=11
MNTX Cornudas Mount 55.62 328 P P 06 50 28.9 -0.6
baz=144,SNR=11
OLIL Olney 55.64 347 P P 06 50 28.0 -1.5
baz=164,SNR=11
CCM Cathedral Cave 55.74 344 P P 06 50 28.9 -1.2
CCM IAmb IAmb 06 50 30.0
comp=Z,13nm,1.1s
CCM Cathedral Cave 55.74 344 P P 06 50 29.0 -1.2
baz=161
CCM Cathedral Cave 55.74 344 P P 06 50 29.2 -1.0
baz=161,SNR=8.6
CCM Cathedral Cave 55.74 344 P P 06 50 28.9 -1.2
CCM pP pP 06 50 39.1 -1.2
P49A Miami Univ. Ec 55.79 351 IAmb IAmb 06 50 29.4
comp=Z,22nm,1.2s
P49A Miami Univ. Ec 55.79 351 P P 06 50 29.5 -1.0
baz=168,SNR=5.1
P49A Miami Univ. Ec 55.79 351 P P 06 50 28.6 -1.9
baz=168,SNR=5.1
P48A Milroy 55.83 350 IAmb IAmb 06 50 29.9
comp=Z,29nm,1.3s
S39A Bolivar 55.98 342 P P 06 50 31.1 -0.8
S39A Bolivar 55.98 342 P P 06 50 30.9 -1.0
baz=158,SNR=38
Q44A Meyer Farm, Va 56.00 347 P P 06 50 30.6 -1.4
baz=163,SNR=17
O53A New Philadelph 56.04 354 P P 06 50 31.1 -1.2
baz=172
SSPA Standing Stone 56.17 357 P P 06 50 32.9 -0.3
baz=176
SSPA Standing Stone 56.17 357 P P 06 50 33.1 -0.2
SSPA pP pP 06 50 43.9 +0.6
ACSO Alum Creek Sta 56.23 352 IAmb IAmb 06 50 33.4
comp=Z,42nm,1.5s
ACSO Alum Creek Sta 56.23 352 P P 06 50 32.1 -1.6
baz=170
MSTX Muleshoe 56.23 332 IAmb IAmb 06 50 34.3
comp=Z,13nm,1.1s
MSTX Muleshoe 56.23 332 P P 06 50 32.4 -1.5
baz=147,SNR=5.4
MSTX Muleshoe 56.23 332 P P 06 50 33.3 -0.6
baz=147,SNR=5.4
R40A Maddies Statio 56.23 343 IAmb IAmb 06 50 33.6
comp=Z,23nm,0.8s
R40A Maddies Statio 56.23 343 P P 06 50 32.4 -1.4
baz=160,SNR=23
T35B Sooner Cattle 56.29 339 P P 06 50 33.5 -0.7
baz=155,SNR=11
PAL Palisades 56.47 1 P P 06 50 34.8 -0.6
baz=181
AMTX Amarillo 56.52 333 P P 06 50 34.3 -1.6
baz=149
O48B Farmland 56.57 350 IAmb IAmb 06 50 35.5
comp=Z,22nm,1.0s
O48B Farmland 56.57 350 P P 06 50 34.8 -1.3
baz=168
OK032 Salt Plains WL 56.80 337 IAmb IAmb 06 50 38.1
comp=Z,38nm,1.4s
P43A Skaggs, Pawnee 56.82 346 IAmb IAmb 06 50 37.4
comp=Z,22nm,0.8s
P43A Skaggs, Pawnee 56.82 346 P P 06 50 36.3 -1.5
baz=163,SNR=7.0
SFIN Lafayette 57.02 349 IAmb IAmb 06 50 38.2
comp=Z,11nm,0.9s
SFIN Lafayette 57.02 349 P P 06 50 37.9 -1.4
baz=166
SFIN Lafayette 57.02 349 P P 06 50 37.2 -2.1
baz=166
N49A Columbus Grove 57.07 351 IAmb IAmb 06 50 39.2
comp=Z,25nm,1.1s
N49A Columbus Grove 57.07 351 P P 06 50 38.2 -1.4
baz=169,SNR=7.5
N49A P P 06 50 38.2 -1.4
baz=169,SNR=7.5
N47A Urbana 57.26 350 IAmb IAmb 06 50 40.1
comp=Z,26nm,1.1s
N47A Urbana 57.26 350 P P 06 50 38.7 -2.2
baz=168,SNR=6.7
N47A P P 06 50 38.7 -2.2
baz=168,SNR=6.7
P40A Paris 57.34 344 IAmb IAmb 06 50 41.3
comp=Z,11nm,0.8s
P40A Paris 57.34 344 P P 06 50 39.8 -1.7
baz=160,SNR=7.4
319A Douglas 57.45 325 IAmb IAmb 06 50 44.3
comp=Z,28nm,1.1s
121A Cookes Peak, D 57.53 327 IAmb IAmb 06 50 45.0
comp=Z,18nm,1.0s
121A Cookes Peak, D 57.53 327 P P 06 50 41.4 -1.8
baz=142,SNR=7.8
121A Cookes Peak, D 57.53 327 P P 06 50 44.2 +0.9
baz=142,SNR=7.8
HDIL Hopedale 57.64 347 IAmb IAmb 06 50 42.7
comp=Z,17nm,1.0s
HDIL Hopedale 57.64 347 P P 06 50 42.6 -1.0
baz=163
L59A Walton 57.65 360 IAmb IAmb 06 50 45.8
comp=Z,30nm,1.1s
BINY Binghamton 57.67 359 IAmb IAmb 06 50 45.2
comp=Z,28nm,1.1s
BINY Binghamton 57.67 359 P P 06 50 43.4 -0.4
baz=179
ERPA Erie 57.78 355 P P 06 50 44.8 +0.1
baz=174
P38A Dawn 57.83 343 P P 06 50 43.6 -1.4
baz=159,SNR=18
L61B Northampton 57.94 2 P P 06 50 45.0 -0.7
baz=182
HRV Adam Dziewonsk 58.03 3 P P 06 50 46.2 -0.2
baz=184
N41A Harden Midland 58.15 346 IAmb IAmb 06 50 46.6
comp=Z,24nm,0.9s
N41A Harden Midland 58.15 346 P P 06 50 45.7 -1.5
baz=162,SNR=5.5
KSU1 Kansas State U 58.29 340 IAmb IAmb 06 50 47.7
comp=Z,15nm,0.7s
KSU1 Kansas State U 58.29 340 P P 06 50 47.4 -0.9
baz=155,SNR=8.4
KSU1 Kansas State U 58.29 340 P P 06 50 46.8 -1.4
baz=155,SNR=8.4
R32A Long Quarter, 58.41 338 P P 06 50 48.5 -0.6
baz=153,SNR=8.9
L46A Eue Claire 58.47 350 IAmb IAmb 06 50 48.7
comp=Z,17nm,0.9s
ANMO Albuquerque 58.76 330 P P 06 50 51.4 -0.4
ANMO Albuquerque 58.76 330 P P 06 50 51.5 -0.4
baz=144
ANMO Albuquerque 58.76 330 P P 06 50 51.8 -0.1
baz=144,SNR=14
ANMO Albuquerque 58.76 330 P P 06 50 52.0 +0.1
N38A Joes South For 58.84 344 IAmb IAmb 06 50 51.9
comp=Z,19nm,0.8s
TUC Tucson 58.99 324 P P 06 50 53.2 -0.2
TUC Tucson 58.99 324 P P 06 50 52.9 -0.4
baz=139
TUC Tucson 58.99 324 P P 06 50 53.4 0.0
L42A Oliver, Polo 59.11 347 IAmb IAmb 06 50 52.5
comp=Z,19nm,1.2s
CBKS Cedar Bluff 59.13 337 P P 06 50 53.7 -0.5
baz=152,SNR=6.0
CBKS Cedar Bluff 59.13 337 P P 06 50 54.0 -0.2
baz=152,SNR=6.0
J47A Sunmer 59.43 351 IAmb IAmb 06 50 56.1
comp=Z,20nm,0.9s
K43A Burlington 59.51 348 P P 06 50 54.5 -2.1
baz=165,SNR=5.9
L40A Anamosa 59.52 346 IAmb IAmb 06 50 56.1
comp=Z,15nm,0.9s
L40A Anamosa 59.52 346 P P 06 50 55.1 -1.6
baz=162,SNR=7.6
N35A Tabor 59.59 342 P P 06 50 56.5 -0.7
baz=157
T25A Trinidad 59.60 333 IAmb IAmb 06 50 58.8
comp=Z,19nm,1.2s
T25A Trinidad 59.60 333 P P 06 50 57.3 -0.4
baz=147,SNR=8.5
SCIA State Center 59.87 344 IAmb IAmb 06 50 59.0
comp=Z,11nm,0.8s
SCIA State Center 59.87 344 P P 06 50 58.2 -1.0
baz=159
SCIA State Center 59.87 344 P P 06 50 58.4 -0.7
baz=159
214A Organ Pipe Nat 59.89 323 IAmb IAmb 06 51 01.4
comp=Z,11nm,0.9s
214A Organ Pipe Nat 59.89 323 P P 06 50 59.1 -0.4
baz=137
LONY Lake Ozonia 60.08 0 P P 06 51 00.4 -0.1
baz=180
JFWS Jewell Farm 60.10 347 P P 06 51 00.3 -0.4
baz=163
SADO Sadowa 60.36 356 LR LR 07 17 31.9
comp=Z,78nm,21.8s,baz=93,slow=36
KSCO Kaye Shedlock' 60.43 335 P P 06 51 02.7 -0.5
baz=149
KSCO Kaye Shedlock' 60.43 335 P P 06 51 03.2 0.0
baz=149
W18A Petrified Fore 60.55 327 P P 06 51 04.2 0.0
baz=141
SDCO Great Sand Dun 60.59 332 P P 06 51 04.4 -0.1
baz=146,SNR=26
SDCO Great Sand Dun 60.59 332 P P 06 51 04.5 0.0
baz=146,SNR=26
L34A Svendsen Farm, 60.82 342 P P 06 51 04.4 -1.3
baz=156,SNR=7.3
BGNE Belgrade 60.88 340 P P 06 51 05.1 -1.0
baz=154,SNR=11
BGNE Belgrade 60.88 340 P P 06 51 05.2 -0.9
baz=154,SNR=11
X16A Lo Mia Camp, P 60.93 326 IAmb IAmb 06 51 08.7
comp=Z,16nm,1.1s
113A Mohawk Valley, 61.03 323 IAmb IAmb 06 51 08.9
comp=Z,18nm,1.3s
I40A Nowata 61.12 347 IAmb IAmb 06 51 07.6
comp=Z,15nm,1.0s
S22A 4UR Ranch, Cre 61.20 331 P P 06 51 08.5 -0.2
baz=144,SNR=8.7
Y14A Wickenburg 61.44 324 IAmb IAmb 06 51 11.8
comp=Z,11nm,0.9s
Q24A Divide 61.44 333 IAmb IAmb 06 51 11.4
comp=Z,16nm,1.1s
Q24A Divide 61.44 333 P P 06 51 10.8 +0.4
baz=146,SNR=5.3
MVCO Mesa Verde 61.56 330 P P 06 51 11.0 0.0
baz=143
WUAZ Wupatki 61.72 326 P P 06 51 12.2 +0.1
baz=139
OGNE Ogallala 61.85 337 P P 06 51 12.3 -0.5
OGNE Ogallala 61.85 337 P P 06 51 13.2 +0.5
baz=150
I37A Lemond, Waseca 61.89 345 P P 06 51 12.1 -0.7
I37A IAmb IAmb 06 51 12.1
comp=Z,19nm,1.1s
ISCO Idaho Springs 62.34 333 P P 06 51 15.9 -0.4
ISCO Idaho Springs 62.34 333 P P 06 51 16.4 +0.1
baz=146,SNR=7.1
ISCO Idaho Springs 62.34 333 P P 06 51 16.4 +0.1
baz=146,SNR=7.1
IKP In-Ko-Pah, Jac 62.35 321 P P 06 51 16.2 -0.1
baz=134
PDMCI Parker Dam,Lak 62.35 324 P P 06 51 16.9 +0.8
baz=136
SWSC Sam W Stewart 62.36 321 P P 06 51 16.7 +0.5
baz=135
K30B Basset 62.50 339 P P 06 51 16.4 -0.6
baz=153,SNR=8.0
ECSD EROS Data Cent 62.51 342 P P 06 51 16.1 -0.9
ECSD EROS Data Cent 62.51 342 P P 06 51 16.1 -0.9
baz=156,SNR=21
ECSD EROS Data Cent 62.51 342 P P 06 51 15.9 -1.0
baz=156,SNR=21
BC3 Big Chuckawall 62.66 322 P P 06 51 18.4 +0.1
baz=135
IRM Iron Mountain 62.83 323 P P 06 51 19.8 +0.4
baz=136,SNR=8.8
SPMN Marine on St. 62.88 346 P P 06 51 18.3 -1.1
baz=160,SNR=8.5
SPMN Marine on St. 62.88 346 P P 06 51 18.4 -1.1
baz=160,SNR=8.5
TPFO Pinon Flats 63.22 321 P P 06 51 21.8 -0.3
baz=134
BELC Belle Mtn. Jos 63.22 322 P P 06 51 21.6 -0.5
baz=135
PFO Pinyon Flats O 63.22 321 P P 06 51 22.1 0.0
baz=134
PFO Pinyon Flats O 63.22 321 P P 06 51 23.1 +1.0
HMU Henry Mountain 63.24 329 IAmb IAmb 06 51 25.2
comp=Z,34nm,1.8s
N23A Red Feather La 63.38 334 P P 06 51 23.7 +0.5
baz=146
PHWY Pilot Hill 63.52 334 IAmb IAmb 06 51 25.3
comp=Z,29nm,1.6s
KNB Kanab 63.62 326 IAmb IAmb 06 51 26.9
comp=Z,14nm,0.9s
F36A Milaca 63.65 345 P P 06 51 23.5 -1.1
baz=160,SNR=17
MURC Murrieta 63.66 321 P P 06 51 25.1 +0.2
baz=134
O20A White River Ci 63.77 332 IAmb IAmb 06 51 27.0
comp=Z,13nm,1.0s
O20A White River Ci 63.77 332 P P 06 51 26.1 +0.4
baz=144,SNR=7.5
SUSD Miller 63.87 341 P P 06 51 25.0 -1.0
baz=154
HEC Hector,Ludlow 64.00 323 P P 06 51 26.7 -0.4
baz=135
SRU San Rafael Swe 64.04 330 IAmb IAmb 06 51 28.8
comp=Z,20nm,1.3s
F33A 5 Mile Ranch, 64.35 343 P P 06 51 28.2 -0.9

baz=157,SNR=13
P17A Butcher Ranch, 64.43 330 IAmb IAmb 06 51 30.8
comp=Z,12nm,0.7s
GSC Goldstone, Bar 64.60 323 P **P** **06 51 30.9 -0.2**
baz=134
SHOC Shoshone, Teco 64.72 323 P **P** **06 51 31.6 -0.2**
baz=135
EDW2 Edwards Air Fo 65.02 322 P **P** **06 51 33.8 0.0**
baz=133
K22A Casper 65.08 335 IAmb IAmb 06 51 34.7
comp=Z,10nm,0.8s
K22A Casper 65.08 335 P **P** **06 51 33.9 -0.3**
baz=146,SNR=6.2
K22A Casper 65.08 335 P **P** **06 51 34.1 -0.1**
baz=146,SNR=6.2
EYMN Ely 65.17 348 P **P** **06 51 34.4 0.0**
baz=162
BELA Belgrano 2 65.20 171 P **P** **06 51 35.4 +1.1**
BELA IAmb IAmb 06 53 02.8
comp=Z,30nm,1.6s
LRMC Laurel Mtn Rad 65.24 322 P **P** **06 51 35.2 -0.1**
baz=134
BSUT Blindstream Ca 65.27 330 P **P** **06 51 35.9 +0.2**
BSUT IAmb IAmb 06 51 37.3
comp=Z,9.1nm,0.8s
MPU Maple Canyon 65.28 329 IAmb IAmb 06 51 36.6
comp=Z,11nm,1.1s
RSSD Black Hills 65.34 337 P **P** **06 51 35.8 -0.1**
RSSD IAmb IAmb 06 51 36.9
comp=Z,25nm,1.4s
RSSD Black Hills 65.34 337 P **P** **06 51 36.2 +0.4**
baz=149
RSSD Black Hills 65.34 337 P **P** **06 51 35.3 -0.6**
baz=149,SNR=8.1
RSSD Black Hills 65.34 337 P **P** **06 51 35.8 -0.1**
TPNV Topopah Spring 65.44 324 IAmb IAmb 06 51 38.9
comp=Z,9.5nm,0.9s
TPNV Topopah Spring 65.44 324 P **P** **06 51 37.1 +0.5**
baz=136,SNR=5.8
FURC Furnace Creek, 65.45 323 P **P** **06 51 36.5 0.0**
baz=135
MPMC Manual Prospec 65.53 323 P **P** **06 51 36.8 -0.4**
baz=134
WCT Wildcat Mounta 65.55 324 IAmb IAmb 06 51 39.5
comp=Z,14nm,1.1s
ARVC Arvin 65.69 321 P **P** **06 51 38.0 0.0**
baz=133
D32B Dogwood Acres, 65.74 343 P **P** **06 51 37.6 -0.5**
baz=156
ISA Isabella, Lake 65.84 322 P **P** **06 51 39.2 +0.1**
baz=133
SPR3 Spring Creek 3 65.89 327 P **P** **06 51 39.3 -0.3**
SPR3 IAmb IAmb 06 51 41.1
comp=Z,12nm,0.9s
DUG Dugway, Tooele 66.00 329 IAmb IAmb 06 51 42.1
comp=Z,21nm,0.9s
DUG Dugway, Tooele 66.00 329 P **P** **06 51 40.6 +0.4**
baz=140,SNR=18
TCUT Toone Canyon 66.03 330 IAmb IAmb 06 51 42.9
comp=Z,20nm,1.0s
B35A Bob, Littlefor 66.05 346 IAmb IAmb 06 51 39.5
comp=Z,9.9nm,0.6s
B35A Bob, Littlefor 66.05 346 P **P** **06 51 38.9 -1.2**
baz=160,SNR=5.7
R11B Troy Canyon, C 66.08 326 P **P** **06 51 41.4 +0.7**
baz=137,SNR=10
GRAC Grapevine Rang 66.11 324 P **P** **06 51 41.5 +0.7**
baz=135
PKM Mcpherson Peak 66.13 320 P **P** **06 51 41.7 +0.6**
baz=132
CWC Cottonwood Cre 66.14 323 P **P** **06 51 41.9 +0.8**
baz=134
Q12A Willow Creek R 66.18 327 IAmb IAmb 06 51 43.3
comp=Z,12nm,0.9s
E28A Huff 66.32 341 P **P** **06 51 41.9 0.0**
baz=153,SNR=6.0
VES Vestal, Richgr 66.32 322 P **P** **06 51 43.0 +0.9**
baz=133
BW06 Boulder Array 66.47 333 IAmb IAmb 06 51 56.5
comp=Z,19nm,1.8s
BW06 Boulder Array 66.47 333 P **P** **06 51 42.8 -0.4**
baz=143,SNR=5.7
PDAR Pinedale Array 66.47 333 P **P** **06 51 42.6 -0.6**
comp=Z,2.5nm,0.9s,baz=138,slow=7.3,SNR=17
PDAR LR LR 07 24 06.2
comp=Z,48nm,18.8s,baz=130,slow=39
comp=Z,2.5nm,0.9s
HWUT Hardware Ranch 66.48 331 IAmb IAmb 06 51 44.3
comp=Z,16nm,0.9s
AGMN Agassiz Nation 66.50 345 IAmb IAmb 06 51 43.1
comp=Z,11nm,0.8s
AGMN Agassiz Nation 66.50 345 P **P** **06 51 42.7 -0.3**
baz=158,SNR=6.8
AGMN Agassiz Nation 66.50 345 P **P** **06 51 42.2 -0.7**
baz=158,SNR=6.8
SMMC Simmler 66.52 321 P **P** **06 51 44.3 +0.8**
baz=132
MDND Maddock 67.12 342 P **P** **06 51 47.0 0.0**
baz=154,SNR=7.9
MDND Maddock 67.12 342 P **P** **06 51 47.2 +0.2**
baz=154,SNR=7.9
AHID Auburn Hatcher 67.17 332 IAmb IAmb 06 51 48.5
comp=Z,13nm,1.0s
HVU Hansel Valley 67.19 330 IAmb IAmb 06 51 48.7
comp=Z,14nm,0.9s
MLAC Mammoth, Mammo 67.39 323 P **P** **06 51 49.2 0.0**
baz=134
OMMB Old Mammoth Mi 67.48 323 IAmb IAmb 06 51 51.7
comp=Z,14nm,1.0s
NV11 Mina Array Sit 67.56 324 IAmb IAmb 06 52 41.6
comp=Z,20nm,1.9s
SNOW Snow King Moun 67.56 332 IAmb IAmb 06 51 50.8
comp=Z,6.7nm,0.7s
LOHW Long Hollow 67.61 333 IAmb IAmb 06 51 51.5
comp=Z,20nm,1.6s
LHV Little Huntoon 67.63 324 IAmb IAmb 06 51 52.9
comp=Z,15nm,1.1s
NVAR Mina Array Bea 67.64 324 P **P** **06 51 51.8 +1.1**
comp=Z,2.6nm,0.8s,baz=149,slow=7.2,SNR=16
comp=Z,2.6nm,0.8s
ELK Elko 67.64 328 LR LR 07 20 55.5
comp=Z,89nm,18.4s,baz=137,slow=36
TPAW Teton Pass 67.67 332 IAmb IAmb 06 51 52.1
comp=Z,23nm,1.6s
VNA2 Neumayer--Watz 67.85 161 ⇑P P 06 51 44.8 -6.5
comp=Z,4.5nm,0.8s,baz=323,slow=14
IMW Indian Meadow 67.98 333 IAmb IAmb 06 51 54.1
comp=Z,26nm,1.4s
H17A Grant Village 68.22 333 P **P** **06 51 54.4 +0.1**
baz=143
RLMT Red Lodge 68.24 334 IAmb IAmb 06 51 55.6
comp=Z,17nm,1.1s
RLMT Red Lodge 68.24 334 P **P** **06 51 54.5 +0.2**
baz=144,SNR=14
YMP Mirror Lake Pl 68.31 334 IAmb IAmb 06 52 09.8
comp=Z,15nm,1.3s
ULM Lac du Bonnet 68.31 346 P **P** **06 51 53.6 -0.8**
comp=Z,9.6nm,0.5s,baz=159,slow=5.9,SNR=28
ULM LR LR 07 24 10.8
comp=Z,71nm,18.0s,baz=161,slow=38
comp=Z,9.6nm,0.5s
LAO LASA Array 68.33 337 P **P** **06 51 54.5 -0.2**
baz=147
WAKR Walker 68.34 324 IAmb IAmb 06 51 57.6
comp=Z,13nm,1.3s
YERR Yerington 68.56 324 IAmb IAmb 06 51 58.6
comp=Z,16nm,1.3s
PNTR Pine Nut 68.83 324 IAmb IAmb 06 52 00.5
comp=Z,11nm,0.9s
YHL Hebgen Lake 68.84 333 IAmb IAmb 06 52 00.4
comp=Z,22nm,0.9s
GCMT Greycliff 68.95 335 P **P** **06 51 57.0 -1.6**
DGMT Dagmar 69.13 339 P **P** **06 51 59.6 0.0**
DGMT Dagmar 69.13 339 P **P** **06 51 59.7 +0.1**
baz=150,SNR=8.3
DGMT Dagmar 69.13 339 P **P** **06 51 59.9 +0.3**
baz=150,SNR=8.3
PAHR Pah Rah Range 69.13 324 IAmb IAmb 06 52 02.3
comp=Z,18nm,1.0s
MPK Martis Peak 69.22 324 IAmb IAmb 06 52 03.0
comp=Z,22nm,1.4s
HLID Hailey 69.33 330 P **P** **06 52 01.1 0.0**
baz=139,SNR=11
SNAA Sanae 69.46 161 P **P** **06 52 02.2 +0.8**
SNAA IAmb IAmb 06 52 14.9
comp=Z,10nm,1.0s
SNAA Sanae 69.46 161 ⇑P pP 06 52 11.7 +0.4
comp=Z,94nm,0.6s
SNAA Sanae 69.46 161 P **P** **06 52 02.7 +1.3**
comp=Z,3.1nm,0.7s,baz=265,slow=8.7,SNR=6.7
SNAA pP **pP** **06 52 12.9 +1.6**
comp=Z,7.1nm,0.9s,baz=291,slow=10,SNR=4.9
comp=Z,3.1nm,0.7s
BOZ Bozeman (W) 69.63 333 P **P** **06 52 02.9 0.0**
BOZ IAmb IAmb 06 52 04.1
comp=Z,15nm,1.2s
BOZ Bozeman (W) 69.63 333 P **P** **06 52 03.1 +0.3**
baz=142,SNR=9.8
LRM Limekiln Ridge 70.16 333 P **P** **06 52 05.7 -0.5**
ORV Oroville 70.23 323 IAmb IAmb 06 52 08.9
comp=Z,27nm,1.1s
SCHQ Schefferville 70.62 5 P **P** **06 52 07.8 -0.7**
comp=Z,7.7nm,0.9s,baz=202,slow=3.1,SNR=6.5
SCHQ LR LR 07 21 57.6
comp=Z,71nm,21.8s,baz=272,slow=35
comp=Z,7.7nm,0.9s
EGMT Eagleton 70.79 336 IAmb IAmb 06 52 10.9
comp=Z,20nm,1.1s
EGMT Eagleton 70.79 336 P **P** **06 52 10.3 +0.4**
baz=144,SNR=5.6
MSO Missoula 71.59 333 IAmb IAmb 06 52 16.8
comp=Z,17nm,1.2s
MSO Missoula 71.59 333 P **P** **06 52 15.5 +0.7**
baz=140
BMO Blue Mountains 71.68 330 P **P** **06 52 15.2 -0.1**
I07A Izee 72.23 328 IAmb IAmb 06 52 20.9
comp=Z,18nm,1.4s
YBH Yreka Blue Hor 72.36 324 LR LR 07 22 24.4
comp=Z,55nm,19.6s,baz=107,slow=34
DBIC Dimbokro 72.61 78 P **P** **06 52 21.4 0.0**
comp=Z,6.4nm,0.8s,baz=250,slow=7.0,SNR=7.6
DBIC LR LR 07 23 31.7
comp=Z,126nm,18.9s,baz=214,slow=35
comp=Z,6.4nm,0.8s
NEW Newport 74.09 332 P **P** **06 52 30.6 +1.1**
baz=138
NEW Newport 74.09 332 LR LR 07 26 21.5
comp=Z,102nm,20.4s,baz=164,slow=37
QSPA South Pole Qui 74.41 180 P **P** **06 52 32.2 +0.9**
QSPA South Pole Qui 74.41 180 P **P** **06 52 32.9 +1.6**
comp=Z,6.6nm,0.6s,baz=151,slow=1.9,SNR=19
comp=Z,6.6nm,0.6s
EDM Edmonton 76.32 337 P **P** **06 52 41.5 -0.7**
BRLDA Berland Lookou 78.54 336 IAmb IAmb 06 52 54.3
comp=Z,9.9nm,0.6s
FRB Frobisher Bay 79.39 3 LR LR 07 29 37.8
comp=Z,69nm,20.2s,baz=194,slow=37
RAR Rarotonga 80.00 251 LR LR 07 21 36.3
comp=Z,71nm,21.6s,baz=166,slow=30
TOA0 Torodi Ar. Sit 80.78 74 P **P** **06 53 07.9 +0.3**
TOA0 IAmb IAmb 06 53 08.9
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 80.78 74 P **P** **06 53 08.0 +0.4**
TORD IAmb IAmb 06 53 08.8
comp=Z,10nm,0.8s
TORD Torodi Ar. Bea 80.78 74 P **P** **06 53 07.9 +0.3**
comp=Z,8.1nm,0.6s,baz=265,slow=4.8,SNR=52
TORD pP **sP** **06 53 21.0 -0.5**
comp=Z,6.1nm,0.8s,baz=275,slow=4.6,SNR=8.5
TORD LR LR 07 26 24.8
comp=Z,55nm,21.2s,baz=321,slow=34
comp=Z,8.1nm,0.6s
VNDA Vanda 81.50 191 LR LR 07 21 58.7
comp=Z,92nm,21.2s,baz=140,slow=30
BBB Bella Bella 81.92 330 LR LR 07 30 08.0
comp=Z,65nm,21.2s,baz=334,slow=36
MDT Midelt 82.47 53 LR LR 07 27 19.4
comp=Z,72nm,20.8s,baz=284,slow=34
YKA Yellowknife Ar 84.04 343 P **P** **06 53 22.9 -0.6**
YKA Yellowknife Ar 84.04 343 P **P** **06 53 23.1 -0.4**
comp=Z,4.4nm,0.8s,baz=138,slow=5.4,SNR=69
YKA pP **pP** **06 53 35.9 +1.8**
comp=Z,1.9nm,0.9s,baz=138,slow=5.0,SNR=7.7
YKA LR LR 07 34 59.4
comp=Z,69nm,18.1s,baz=344,slow=39
comp=Z,4.4nm,0.8s
SFJD Kangerlussuaq 84.40 9 LR LR 07 33 49.6
comp=Z,67nm,18.4s,baz=186,slow=38
KOTAN Kotaneelee Air 85.40 338 P **P** **06 53 31.4 +0.9**
baz=133
PAB San Pablo 85.43 47 P **P** **06 53 32.1 +0.9**
V35K Ketchikan 85.48 331 P **P** **06 53 31.6 +0.6**
baz=126
ESDC Sonseca Array 85.75 47 P **P** **06 53 33.7 +0.9**
comp=Z,1.2nm,0.7s,baz=260,slow=5.0,SNR=14
comp=Z,1.2nm,0.7s
ESBB Sonseca Array 85.75 47 P **P** **06 53 33.8 +1.0**
T35M Bob Quinn 85.86 333 P **P** **06 53 33.3 +0.5**
baz=127
SUR Sutherland 86.22 122 LR LR 07 31 06.7
comp=Z,54nm,18.5s,baz=244,slow=35
CRAG Craig 86.27 331 P **P** **06 53 35.5 +0.7**
baz=125
U33K Whale Pass 86.63 331 P **P** **06 53 37.7 +1.1**
baz=125
DLBC Dease Lake 86.65 334 P **P** **06 53 37.0 +0.2**
baz=128
S34M Telegraph Cree 86.80 334 P **P** **06 53 38.6 +1.2**
baz=127
TSUM Tsumeb 87.00 109 LR LR 07 30 45.7
comp=Z,54nm,18.8s,baz=157,slow=34
WTLY Watson Lake, Y 87.19 336 P **P** **06 53 39.9 +0.6**
WTLY IAmb IAmb 06 53 40.8
comp=Z,17nm,1.3s
WTLY Watson Lake, Y 87.19 336 P **P** **06 53 39.4 +0.1**
baz=129
WRGLY Wrigley 87.32 340 P **P** **06 53 40.0 +0.2**
baz=134
R33M Jennings River 87.61 335 P **P** **06 53 41.3 -0.2**
baz=127
Q32M Nakina River 87.90 334 P **P** **06 53 43.0 0.0**
baz=126
S32K Killisnoo 88.06 332 P **P** **06 53 42.8 -0.6**
baz=124
P33M Teslin, Yukon 88.85 335 P **P** **06 53 48.0 +0.7**
P33M Teslin, Yukon 88.85 335 P **P** **06 53 47.6 +0.3**
baz=125
P32M Atlin 88.87 334 P **P** **06 53 47.2 -0.1**
baz=124
S31K Pelican 89.07 332 P **P** **06 53 47.8 -0.4**
baz=122
N32M Quiet Lake 89.50 336 P **P** **06 53 50.2 -0.1**
baz=125
BORG Borgarnes 89.83 20 LR LR 07 32 55.5
comp=Z,19nm,20.4s,baz=243,slow=35
PLBC Pleasant Camp 89.93 333 P **P** **06 53 52.0 -0.2**
baz=122
WHY Whitehorse 89.95 335 P **P** **06 53 52.6 +0.1**
baz=123
FARO Faro, Yukon 90.22 336 P **P** **06 53 53.3 -0.3**
FARO IAmb IAmb 06 53 55.0
comp=Z,14nm,1.0s
FARO Faro, Yukon 90.22 336 P **P** **06 53 53.9 +0.3**
baz=125
O30N Mendenhall 90.51 334 P **P** **06 53 55.2 +0.2**
baz=122
P30M Milton Dollar 90.53 334 P **P** **06 53 55.1 0.0**
baz=122
M31M Drury Creek, Y 90.61 336 P **P** **06 53 56.0 +0.6**
baz=124
N31M Braeburn, Yuko 90.77 335 P **P** **06 53 56.3 +0.1**
baz=123
BOSA Boshof 91.00 120 LR LR 07 31 47.7
comp=Z,44nm,20.1s,baz=190,slow=34
HYT Haines Junctio 91.13 334 P **P** **06 53 57.9 -0.1**
baz=121
RES Rolute Bay 91.14 355 LR LR 07 37 59.3
comp=Z,41nm,19.3s,baz=7.0,slow=38
N30M Aishikik Lake 91.29 335 P **P** **06 53 58.6 0.0**
baz=122
O29M Mount Kennedy 91.32 333 P **P** **06 53 58.8 -0.1**
baz=120
MAW Mawson 91.32 165 LR LR 07 34 45.0
comp=Z,100nm,18.9s,baz=178,slow=35
SUMG Summit 91.33 10 P **P** **06 53 59.1 +0.1**
SUMG IAmb IAmb 06 54 00.3
comp=Z,12nm,1.0s
SUMG Summit 91.33 10 *i*P **P** **06 53 58.0 -1.0**
M30M Minto, Yukon 91.75 336 P **P** **06 54 00.2 -0.5**
baz=122
YUK4 Talbot Arm 91.87 334 P **P** **06 54 01.0 -0.5**
baz=120
YUK8 Steele Glacier 92.31 334 P **P** **06 54 04.5 +0.9**
baz=119
M29M Somme Creek 92.35 335 P **P** **06 54 03.6 +0.1**
baz=120
LBTB Lobatse 92.42 117 LR LR 07 33 37.1
comp=Z,43nm,18.1s,baz=222,slow=34
L29M L29M 92.56 336 IAmb IAmb 06 54 05.4
comp=Z,8.6nm,0.8s
L29M L29M 92.56 336 P **P** **06 54 04.4 -0.1**
baz=120
J30M Hart River 92.64 338 P **P** **06 54 05.2 +0.3**
baz=122
K29M Barlow Dome 92.70 337 P **P** **06 54 05.4 +0.2**
baz=121
CTG Chitna Glacier 92.83 333 P **P** **06 54 06.6 +0.8**
baz=118
YUK3 Moose Creek 92.84 334 P **P** **06 54 06.6 +0.6**
baz=118
I30M Mount Dempster 93.00 338 IAmb IAmb 06 54 07.3
comp=Z,4.8nm,1.0s
I30M Mount Dempster 93.00 338 P **P** **06 54 06.4 -0.1**
baz=122
G31M Satah River 93.20 340 P **P** **06 54 06.8 -0.4**
baz=124
J29N Klondike Camp 93.27 337 P **P** **06 54 07.8 0.0**
baz=120
F31M Tsiigehtchic 93.32 341 P **P** **06 54 06.9 -0.8**
baz=124
DAWY Dawson 93.52 337 P **P** **06 54 08.0 -0.9**
baz=119
M27K Edge Creek, AK 93.71 334 P **P** **06 54 08.8 -1.1**
baz=117
INK Inuvik 93.74 341 IAmb IAmb 06 54 10.5
comp=Z,8.3nm,1.4s
INK Inuvik 93.74 341 P **P** **06 54 09.1 -0.6**
baz=124
INK Inuvik 93.74 341 LR LR 07 38 43.8
comp=Z,44nm,21.5s,baz=181,slow=37
I29M Ogilvie Camp, 93.76 338 IAmb IAmb 06 54 10.3
comp=Z,5.0nm,0.9s
I29M Ogilvie Camp, 93.76 338 P **P** **06 54 09.3 -0.6**
baz=120
A36M Sachs Harbour 93.79 346 P **P** **06 54 09.6 -0.2**
baz=132
L27K Beaver Creek, 94.01 335 P **P** **06 54 10.4 -0.7**
baz=117
F30M Barrier River 94.07 340 P **P** **06 54 10.5 -0.7**
baz=122
H29M Whitestone 94.22 339 P **P** **06 54 11.3 -0.7**
baz=120
BMRM Bremner River 94.26 333 P **P** **06 54 12.3 0.0**
baz=115
I28M Miner Creek 94.40 338 P **P** **06 54 11.9 -1.0**
baz=119
G29M Pine Creek 94.45 339 P **P** **06 54 12.5 -0.6**
baz=120
N25K Chitina, Valde 94.53 333 P **P** **06 54 12.2 -1.4**
baz=115
EGAK Eagle 94.54 337 P **P** **06 54 13.1 -0.4**
baz=118
K27K Chicken 94.55 336 P **P** **06 54 12.4 -1.1**
baz=117
E29M Blow River 95.16 341 P **P** **06 54 15.7 -0.5**
baz=120
SCRK Sand Creek 95.28 336 P **P** **06 54 16.2 -0.8**
baz=115
J26L Joseph Creek 95.34 336 P **P** **06 54 16.5 -0.8**
baz=116
F28M Old Crow 95.42 340 P **P** **06 54 16.3 -1.2**
baz=119
PAX Paxson 95.47 334 P **P** **06 54 16.8 -1.1**
baz=114
RIDG Independent Ri 95.53 335 P **P** **06 54 16.7 -1.4**
baz=115
G27K Doyon Strip 95.66 339 P **P** **06 54 18.3 -0.3**
baz=117
E28M Babbage River 95.79 340 P **P** **06 54 19.0 -0.1**
baz=119
M23K Glacier View 95.97 333 P **P** **06 54 19.0 -1.1**
baz=112
J25K Salcha River, 96.10 336 P **P** **06 54 19.2 -1.5**
baz=114
E27K Coleen River 96.27 340 P **P** **06 54 19.3 -2.0**
baz=117
WAT6 Susitna Watana 96.28 334 P **P** **06 54 19.8 -1.8**
baz=112
DHY Denali Highway 96.31 334 P **P** **06 54 19.4 -2.4**
baz=112
O22K Cooper Landing 96.39 331 P **P** **06 54 20.6 -1.4**
baz=111
G26K Porcupine Rive 96.48 338 P **P** **06 54 21.1 -1.2**
baz=115
PMR Palmer 96.52 332 P **P** **06 54 21.7 -0.8**
baz=111
PRP Porcupine Dome 96.52 337 P **P** **06 54 21.5 -1.1**
baz=114
D27M Malcolm River 96.55 341 P **P** **06 54 22.0 -0.6**
baz=118
WAT1 Susitna Watana 96.71 334 P **P** **06 54 21.8 -1.7**
baz=111
ILAR Eielson Array 96.76 336 P **P** **06 54 22.8 -0.8**
comp=Z,0.5nm,1.0s,baz=157,slow=4.9,SNR=4.1
ILAR LR LR 07 45 35.1
comp=Z,66nm,18.9s,baz=132,slow=40
comp=Z,0.5nm,1.0s
KDAK Kodiak Island 96.88 328 LR LR 07 36 31.1
comp=Z,148nm,18.2s,baz=193,slow=34
OHAK Old Harbor 97.06 327 P **P** **06 54 22.7 -2.4**
baz=108
G25K Bearman Lake 97.24 338 P **P** **06 54 25.2 -0.4**
baz=113
JMIC Jan Mayen 97.31 18 LR LR 07 31 07.1
comp=Z,34nm,21.7s,baz=284,slow=31
F25K Christian Rive 97.40 339 P **P** **06 54 26.4 -0.1**
baz=114
H24K Noodor Dome 97.55 337 P **P** **06 54 26.3 -0.8**
baz=112
E25K Arctic Village 97.58 339 P **P** **06 54 26.7 -0.6**
baz=114
TRF Thorofare Moun 97.67 334 P **P** **06 54 26.9 -1.1**
baz=110
G24K Hadweenzic Riv 97.72 337 P **P** **06 54 27.0 -0.9**
baz=112
P19K Oil Pt 97.78 330 P **P** **06 54 25.9 -2.4**
baz=108
LSZ Lusaka 97.83 108 LR LR 07 35 24.7
comp=Z,63nm,22.0s,baz=278,slow=33
I23K Minto, Yukon-K 97.88 336 P **P** **06 54 25.6 -3.0**
baz=110
F24K Squaw Lake 98.17 338 P **P** **06 54 29.1 -0.8**
baz=111
BPAW Bear Paw Mtn. 98.18 334 P **P** **06 54 29.2 -0.9**
baz=109
PPLA Purkeypile 98.31 333 P **P** **06 54 29.4 -1.4**
baz=108
D25K Kavik River 98.33 340 P **P** **06 54 29.7 -0.9**
baz=113
G23K Bananza Creek 98.67 337 P **P** **06 54 31.4 -0.8**
baz=110
P18K Big Mountain, 98.68 329 P **P** **06 54 31.3 -1.1**
baz=106
C24K Franklin Bluff 99.23 340 P **Pdif** **06 54 34.3 -0.3**
baz=110
K20K Telida 99.26 333 P **Pdif** **06 54 34.2 -0.7**
baz=106
L19K White Mountain 99.28 332 P **Pdif** **06 54 34.5 -0.5**
baz=106
N17K Nushagak Hills 99.93 330 P **Pdif** **06 54 38.2 +0.3**
baz=104
O16K Kokwok River B 100.15 329 P **Pdif** **06 54 39.9 +1.1**
baz=104
H20K Anotleneega Mo 100.19 335 P **Pdif** **06 54 39.2 +0.3**
baz=106
CLL Collm 100.69 40 *e*Pdif **Pdif** **06 54 41.0 -0.5**
D19K Kuna River 102.14 338 P **Pdif** **06 54 47.6 +0.1**
baz=102
H16K Elim 103.05 334 P **Pdif** **06 54 52.9 +1.2**
baz=99
B18K Kokolik River 103.60 339 P **Pdif** **06 54 53.0 -1.0**
baz=98
UNV Unalaska Valle 103.62 322 P **Pdif** **06 54 55.9 +1.4**
baz=98
D17K Noatak River 103.84 337 P **Pdif** **06 54 54.9 -0.2**
baz=98
C17K DeLong Mountai 103.97 338 P **Pdif** **06 54 56.4 +0.7**
baz=97
F15K North Star Dit 104.21 335 P **Pdif** **06 54 58.0 +1.2**
baz=97
M11K Mekoryuk 104.30 329 P **Pdif** **06 54 58.6 +1.3**
baz=97
KBZ Khabaz 120.59 48 PKP **PKiKP** **06 59 45.8 +0.5**
comp=Z,3.0nm,0.8s,baz=256,slow=2.2,SNR=7.6

ABKAR	**Akbulak array**	130.31	38	PKPdf	**PKiKP**	07 00 04.5	0.0
ABKAR	**Akbulak array**	130.31	38	PKPdf	**PKiKP**	07 00 04.4	0.0
ASAR	**Alice Springs**	131.89	216	PKP	**PKPdf**	07 00 07.2	-0.3
	comp=Z,0.5nm,0.5s,baz=106,slow=2.0,SNR=3.9						
ASAR				pPKP	**pPKPdf**	07 00 19.7	+1.7
	comp=Z,2.0nm,1.1s,baz=168,slow=3.5,SNR=5.4						
BVAR	**Borovoye Array**	133.77	29	PKP	**PKiKP**	07 00 11.0	-0.4
	comp=Z,0.5nm,0.4s,baz=267,slow=3.0,SNR=5.0						
ZAA0	**Zalesovo Array**	138.65	18	PKPdf	**PKPdf**	07 00 19.6	+0.5
ZALV	**Zalesovo Beam**	138.65	18	PKPdf	**PKPdf**	07 00 19.8	+0.8
ZALV	**Zalesovo Beam**	138.65	18	PKP	**PKPdf**	07 00 18.8	-0.2
	comp=Z,6.8nm,0.8s,baz=306,slow=2.2,SNR=25						
KURBB	**Kurchatov Arra**	139.06	26	PKP	**PKPdf**	07 00 20.6	+0.6
	comp=Z,1.2nm,0.6s,baz=315,slow=2.8,SNR=12						
MKAR	**Makanchi Array**	143.59	27	PKPdf	PKPbc	07 00 26.9	+1.2
MKAR	**Makanchi Array**	143.59	27	PKhKP	PKPpre	07 00 25.2	
	comp=Z,1.4nm,0.7s,baz=327,slow=3.5,SNR=14						
USRK	**Ussuriysk Ar.**	143.74	327	PKP	PKPab	07 00 25.9	+0.5
	comp=Z,2.8nm,0.7s,baz=77,slow=4.3,SNR=6.2						
NRN	**Naryn**	144.00	39	PKPdf	**PKPdf**	07 00 28.9	-0.6
MJAR	**Matsushiro Arr**	144.21	312	PKP	**PKPab**	07 00 27.0	-0.4
	comp=Z,5.0nm,0.8s,baz=100,slow=3.2,SNR=12						
SONM	**Songino Array**	147.99	359	PKPdf	**PKPdf**	07 00 34.8	-1.1
SONM					**PKPbc**	07 00 39.3	+0.4
SONM	**Songino Array**	147.99	359	PKPbc	**PKPbc**	07 00 38.9	-0.1
	comp=Z,5.1nm,0.7s,baz=325,slow=1.3,SNR=27						
KSRS	**Korea Array**	150.56	322	PKP	**PKPdf**	07 00 41.1	+1.0
	comp=Z,4.2nm,1.0s,baz=20,slow=2.0,SNR=7.6						
KSRS				PKPbc	**PKiKP**	07 00 46.2	+0.1
	comp=Z,10nm,0.9s,baz=10,slow=1.3,SNR=28						
KSM	**Kuching**	164.99	200		**PKPdf**	07 00 57.4	-1.1

*CNRM **21** 06:41:36.6,35˚.71N×3˚.73W, h8km, ML2.5*
*MDD **21** 06:41:39.7±0.8, 35˚.40N×3˚.75W, h10km±6km, mb_Lg2.7/12, Error ellipse: s-maj=4.8km s-min=3.4km az=165.0*
*SFS **21** 06:41:40.4, 35˚.44N×3˚.70W, h12km, ML2.6/9,ML2.7/9, MLv2.6/9*
*INMG **21** 06:41:41.8±1.6, 35˚.42N×3˚.61W, h35km, ML2.1, Error ellipse: s-maj=6.8km s-min=4.3km az=5.0*

ISC 21 06:41:40.5±1.1, 35˚47N±0˚03×3˚71W±0˚02, h21km±3km, n54, σ1§51/80, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PALE	**Palemas**	**0.31**	**218**	P		**Pb**	**06 41 46.1**	**-1.3**
PALE	**Palemas**	**0.31**	**218**	S		**Sb**	**06 41 53.1**	**+1.0**
PVLZ	**Peæn de**	**0.57**	**239**	Pg		**Pb**	**06 41 50.7**	**-1.1**
GOG	**Mont Gurugu**	**0.63**	**113**	P		**Pb**	**06 41 51.7**	**-1.2**
GOG	**Mont Gurugu**	**0.63**	**113**	S		**Sb**	**06 42 02.1**	**+0.7**
EMEL	**Melilla**	**0.63**	**105**	P		**Pb**	**06 41 52.0**	**-0.9**
EMEL				S		**Sb**	**06 41 58.8**	**-2.6**
EMLI	**Melilla**	**0.64**	**105**	Pg		**Pb**	**06 41 51.6**	**-1.4**
EMLI				Sg		**Sb**	**06 42 00.5**	**-1.0**
EALB	**Alboran**	**0.72**	**49**	Sg		**Sb**	**06 42 03.9**	**0.0**
EALB				Pg		**Pb**	**06 41 53.5**	**-0.9**
EALB	**Alboran**	**0.72**	**49**	P		**Pb**	**06 41 54.1**	**-0.3**
EALB				S		**Sb**	**06 42 04.3**	**+0.5**
EALB				*i* Vmb_Lg			06 42 06.9	
AKLM	**AKL**	**0.96**	**188**	P		**Pb**	**06 41 58.6**	**+0.1**
AKLM	**AKL**	**0.96**	**188**	S		**Sn**	**06 42 14.6**	**+2.7**
CHAS	**Isla Isabel II**	**1.08**	**105**	Pg		**Pn**	**06 41 59.5**	**-0.9**
TAF	**Taforalt**	**1.24**	**121**	P		**Pn**	**06 42 01.8**	**-0.9**
TAF	**Taforalt**	**1.24**	**121**	S		**Sb**	**06 42 23.3**	**+4.4**
EMIJ	**Mijas**	**1.40**	**322**	Pn		**Pn**	**06 42 04.6**	**-0.2**
EMIJ				Sn		**Sn**	**06 42 22.3**	**-0.3**
EMIJ	**Mijas**	**1.40**	**322**	P		**Pn**	**06 42 03.7**	**-1.1**
EMIJ				S		**Sn**	**06 42 20.3**	**-2.3**
EMIJ				*i* Vmb_Lg			06 42 31.9	
ELGU	**Los Guajares,**	**1.40**	**3**	Pn		**Pn**	**06 42 04.8**	**-0.2**
ELGU				Sn		**Sn**	**06 42 22.7**	**-0.2**
ELGU	**Los Guajares,**	**1.40**	**3**	P		**Pn**	**06 42 05.5**	**+0.5**
ELGU				S		**Sn**	**06 42 21.5**	**-1.3**
ELGU				*i* Vmb_Lg			06 42 25.9	
EMAL	**Malaga-Limoner**	**1.42**	**336**	Pn		**Pn**	**06 42 04.2**	**-0.9**
EMAL				Sn		**Sn**	**06 42 23.2**	**+0.1**
ECEU	**Ceuta**	**1.43**	**288**	Pg		**Pb**	**06 42 06.0**	**-0.4**
JBK	**JBK**	**1.47**	**140**	P		**Pn**	**06 42 05.2**	**-0.7**
JBK	**JBK**	**1.47**	**140**	S		**Sb**	**06 42 27.0**	**+1.6**
EBER	**Berja**	**1.57**	**25**	Pn		**Pn**	**06 42 06.9**	**-0.6**
EBER				Sn		**Sn**	**06 42 27.6**	**+0.3**
EBER	**Berja**	**1.57**	**25**	P		**Pn**	**06 42 07.0**	**-0.4**
EBER				S		**Sn**	**06 42 27.6**	**+0.3**
EBER				*i* Vmb_Lg			06 42 40.0	
EGOR	**Sierra Gorda,**	**1.67**	**349**	Pn		**Pn**	**06 42 09.3**	**+0.6**
EGOR				Sn		**Sn**	**06 42 29.1**	**-0.5**
EGOR	**Sierra Gorda,**	**1.67**	**349**	P		**Pn**	**06 42 09.6**	**+0.8**
EGOR				S		**Sn**	**06 42 29.1**	**-0.5**
ENIJ	**Nijar**	**1.93**	**38**	S		**Sn**	**06 42 33.1**	**-2.7**
EQES	**Quesada**	**2.39**	**12**	P		**Pn**	**06 42 20.6**	**+2.0**
EQES				S		**Sn**	**06 42 50.1**	**+2.8**
EQES				*i* Vmb_Lg			06 42 53.6	
MD31	**MD31**	**2.73**	**199**	P		**Pn**	**06 42 24.4**	**+1.2**
MD31	**MD31**	**2.73**	**199**	S		**Sb**	**06 43 00.3**	**-1.5**
MDT	**Midelt**	**2.75**	**196**	P		**Pn**	**06 42 24.6**	**+1.1**
MDT	**Midelt**	**2.75**	**196**	S		**Sb**	**06 43 01.8**	**-0.4**
EADA	**Adamuz**	**2.79**	**346**	Pn		**Pn**	**06 42 25.6**	**+1.7**
EADA				Sn		**Sn**	**06 42 57.6**	**+0.6**
EADA	**Adamuz**	**2.79**	**346**	P		**Pn**	**06 42 25.7**	**+1.8**
EADA				S		**Sn**	**06 42 58.6**	**+1.6**
EADA				*i* Vmb_Lg			06 43 01.1	
ECAB	**El Cabril**	**2.94**	**333**	P		**Pn**	**06 42 26.8**	**+0.7**
ECAB				S		**Sn**	**06 43 00.4**	**-0.4**
ECAB				*i* Vmb_Lg			06 43 46.3	
EMIN	**Mina Concepcio**	**3.31**	**315**	P		**Pn**	**06 42 29.7**	**-1.5**
EMIN				S		**Sn**	**06 43 08.2**	**-1.7**
EMIN				*i* Vmb_Lg			06 43 23.5	
ETOB	**Tobarra**	**3.61**	**28**	P		**Pn**	**06 42 36.8**	**+1.4**
EGRO	**El Granado**	**3.68**	**305**	P		**Pn**	**06 42 35.4**	**-0.7**
EGRO				*i* Vmb_Lg			06 42 46.9	
EGRO				S		**Sn**	**06 43 14.6**	**-4.3**
PVAQ	**Vaqueiros**	**3.77**	**302**	*e*S		**Sn**	**06 43 20.0**	**-1.1**
PBAR	**Barrancos**	**3.80**	**316**	*e*S		**Sn**	**06 43 22.3**	**+0.3**
PBAR				A		A	06 43 44.7	
	1.5nm,0.8s							
PBDV	**Barranco-do-Ve**	**3.84**	**299**	*e*P		**Pn**	**06 42 39.6**	**+1.1**
PBDV				*e*S		**Sn**	**06 43 22.6**	**-0.4**
PCVE	**Castro Verde**	**4.10**	**303**	*e*P		**Pn**	**06 42 44.2**	**+2.2**
PCVE				*e*S		**Sn**	**06 43 29.3**	**-0.1**
PCVE				A		A	06 43 33.1	
	1.5nm,0.4s							
PAB	**San Pablo**	**4.11**	**353**	*i* Vmb_Lg			06 42 41.7	
PAB				P		**Pn**	**06 42 42.6**	**+0.5**
PAB				S		**Sn**	**06 43 26.6**	**-3.0**
EBAD	**Badajoz**	**4.21**	**322**	P		**Pn**	**06 42 43.2**	**-0.3**
EBAD				S		**Sn**	**06 43 31.5**	**-0.7**
EBAD				*i* Vmb_Lg			06 43 38.0	
MESJ	**Messejana**	**4.33**	**304**	*e*P		**Pn**	**06 42 45.7**	**+0.5**
MESJ				*e*S		**Sn**	**06 43 34.2**	**-0.9**
MESJ				A		A	06 43 37.6	
	1.8nm,0.6s							
PESTR	**Estremoz**	**4.60**	**319**	*e*S		**Sn**	**06 43 42.5**	**+0.9**
PESTR				A		A	06 43 58.2	
	1.1nm,1.2s							
EVO	**Evora**	**4.61**	**313**	*e*P		**Pn**	**06 42 50.0**	**+1.1**
EVO				*e*S		**Sn**	**06 43 39.7**	**-2.1**
EVO				A		A	06 43 46.8	
	1.6nm,0.3s							
PNCL	**Nicolau / Gran**	**4.69**	**306**	*e*P		**Pn**	**06 42 50.5**	**+0.5**
PNCL				*e*S		**Sn**	**06 43 43.6**	**-0.1**
PNCL				A		A	06 44 00.8	
	1.4nm,0.7s							
PMRV	**Marv??o**	**4.92**	**325**	*e*P		**Pn**	**06 42 54.6**	**+1.3**
PMTG	**Montargil**	**5.09**	**316**	*e*P		**Pn**	**06 42 57.8**	**+2.2**
PCBR	**Castelo Branco**	**5.29**	**327**	*e*P		**Pn**	**06 43 00.9**	**+2.6**
PMAFR	**Mafra**	**5.65**	**310**	*e*S		**Sn**	**06 44 06.4**	**-1.1**
PMAFR				A		A	06 44 13.7	
	9.7nm,0.4s							
MVO	**Moncorvo**	**6.26**	**336**	*e*P		**Pn**	**06 43 15.1**	**+3.4**
PBRG	**Braganca**	**6.76**	**340**	*e*P		**Pn**	**06 43 19.5**	**+1.0**

*DJA **21** 06:52:03.7±1.2, 6˚N±10˚×12˚7E±˚, h136km±23km, M4.3/7, mB4.6/5, mb4.4/7, MLv4.6/7, Mw(mB)3.8/5*
*NEIC **21** 06:52:05.8±0.8, 5˚.77N±0˚.04×126˚.2E±0˚.2, h99km±7km, mb4.2/22, Error ellipse: s-maj=21.8km s-min=5.4km az=85.0*
*IDC **21** 06:52:06.5±1.5, 5˚.81N×126˚.49E, h116km±12km, mb3.8/11, mbtmp4.2/12, Error ellipse: s-maj=47.1km s-min=11.5km az=70.0*

ISC 21 06:52:05.3±0.6, 5˚71N±0˚06×126˚4E±0˚1, h100km, n59, σ1§21/54, mb4.1/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DAV	**Davao City (W)**	**1.56**	**330**			**Pn**	**06 52 31.3**	**-1.0**
DAV	**Davao City (W)**	**1.56**	**330**	P		**Pn**	**06 52 32.7**	**+0.4**
	207nm,0.3s,baz=187,slow=1.4,SNR=2.8							
DAV				S		**Sn**	**06 52 55.8**	**+3.0**
	845nm,0.3s,baz=264,slow=16,SNR=6.6							
DAV	**Davao City (W)**	**1.56**	**330**	P		**Pn**	**06 52 32.4**	**+0.1**
SGSI	**Sangihe**	**2.17**	**202**	P		**Pn**	**06 52 42.8**	**+2.7**
GTOI	**Gorontalo**	**6.04**	**214**	P		**Pn**	**06 53 33.8**	**+1.6**
	26nm,0.7s,338nm0.1nm							
MRSI	**Marisa**	**6.81**	**220**	P		**Pn**	**06 53 45.9**	**+3.2**
	44nm,0.9s,825nm0.2nm							
TOLI2	**Tolitoli**	**7.20**	**231**			**Pn**	**06 53 47.6**	**-0.3**
LUWI	**Luwuk**	**7.60**	**208**	Pn		**Pn**	**06 53 53.1**	**-0.3**
LUWI	**Luwuk**	**7.60**	**208**	P		**Pn**	**06 53 56.6**	**+3.2**
	56nm,1.3s,0.2nm							
SANI	**Sanana**	**7.71**	**183**	P		**Pn**	**06 53 52.8**	**-2.2**
NLAI	**Namlea**	**8.92**	**175**	P		**Pn**	**06 54 10.3**	**-1.0**
KAPI	**Kappang**	**12.53**	**212**	P		**Pn**	**06 55 02.4**	**+2.4**
	9.0nm,0.3s,baz=43,slow=11,SNR=3.5							
SBUM	**Sibu**	**14.46**	**258**			**Pn**	**06 55 24.1**	**-1.2**
JAGI	**Jajag, Banyuwa**	**18.61**	**221**	P		**P**	**06 56 14.1**	**-1.0**
MTN	**Manton Dam**	**19.03**	**166**	P		**P**	**06 56 20.7**	**+1.1**
MTN				IAmb		IAmb	06 56 40.6	
	comp=Z,23nm,1.1s							
KNRA	**Kununurra**	**21.38**	**174**	P		**P**	**06 56 45.9**	**+1.0**
KNRA				IAmb		IAmb	06 56 50.1	
	comp=Z,15nm,0.8s							
FITZ	**Fitzroy Crossi**	**23.66**	**182**	P		**P**	**06 57 09.3**	**+1.4**
WB0	**Warramunga Arr**	**26.52**	**163**	P		**P**	**06 57 34.0**	**+0.2**
WRA	**Warramunga Arr**	**26.67**	**163**	P		**P**	**06 57 35.7**	**+0.6**
WRA	**Warramunga Arr**	**26.67**	**163**	P		**P**	**06 57 35.3**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=337,slow=10,SNR=15							
	comp=Z,2.2nm,0.7s							
WB2	**Warramunga Arr**	**26.68**	**163**	P		**P**	**06 57 35.3**	**+0.2**
WB2				IAmb		IAmb	06 57 43.7	
	comp=Z,6.1nm,1.1s							
WR0	**Warramunga Arr**	**26.75**	**163**	P		**P**	**06 57 36.1**	**+0.3**
WR0				IAmb		IAmb	06 57 48.8	
	comp=Z,3.6nm,0.9s							
AS31	**Alice Springs**	**30.11**	**166**	P		**P**	**06 58 05.8**	**+0.2**
AS31				IAmb		IAmb	06 58 10.6	
	comp=Z,1.4nm,0.3s							
ASAR	**Alice Springs**	**30.11**	**166**	P		**P**	**06 58 05.4**	**-0.2**
ASAR	**Alice Springs**	**30.11**	**166**	P		**P**	**06 58 06.0**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=340,slow=7.1,SNR=40							
	comp=Z,1.7nm,0.3s							
FORT	**Forrest**	**36.32**	**178**	P		**P**	**06 58 59.9**	**+0.5**
BBOO	**Buckleboo**	**39.40**	**167**	P		**P**	**06 59 26.1**	**+0.7**
STKA	**Stephens Creek**	**40.10**	**160**	P		**P**	**06 59 31.9**	**+0.7**
STKA	**Stephens Creek**	**40.10**	**160**	P		**P**	**06 59 31.2**	**0.0**
	comp=Z,1.1nm,0.4s,baz=320,slow=9.4,SNR=5.4							
	comp=Z,1.1nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**41.32**	**68**	T		T	07 43 41.1	
	baz=253,slow=78,SNR=8.5							
H11S1	**WAKE ISLAND Hy**	**41.34**	**68**	T		T	07 43 46.3	
	baz=253,slow=78,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**41.34**	**68**	T		T	07 43 43.9	
	baz=253,slow=78,SNR=14							
H11N1	**WAKE ISLAND Hy**	**41.79**	**67**	T		T	07 44 12.6	
	baz=243,slow=75,SNR=20							
H11N2	**WAKE ISLAND Hy**	**41.80**	**67**	T		T	07 44 15.5	
	baz=243,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**41.81**	**67**	T		T	07 44 15.8	
	baz=243,slow=75,SNR=16							
HIA	**Hailar**	**43.77**	**354**	P		**P**	**07 00 00.3**	**-0.6**
HIA				IAmb		IAmb	07 00 29.3	
	comp=Z,3.3nm,0.7s							
PEA0B	**Petropavlovsk-**	**53.76**	**23**	P		**P**	**07 01 17.4**	**+0.2**
PETK	**Petropavlovsk-**	**53.76**	**23**	P		**P**	**07 01 17.4**	**+0.2**
MK31	**Makanchi Array**	**55.73**	**325**	P		**P**	**07 01 30.9**	**-0.7**
MK31				IAmb		IAmb	07 01 31.2	
	comp=Z,0.9nm,0.5s							
MKAR	**Makanchi Array**	**55.73**	**325**	P		**P**	**07 01 31.0**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=117,slow=7.7,SNR=24							
	comp=Z,1.2nm,0.4s							
ZALV	**Zalesovo Beam**	**58.67**	**333**	P		**P**	**07 01 50.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=101,slow=7.5,SNR=2.1							
	comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**59.88**	**327**	P		**P**	**07 01 59.6**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=127,slow=6.8,SNR=19							
	comp=Z,1.5nm,0.6s							
KURK	**Kurchatov**	**59.88**	**327**	P		**P**	**07 01 59.8**	**-0.7**
KURK				IAmb		IAmb	07 02 00.9	
	comp=Z,2.6nm,0.7s							
KKAR	**Karatay Array**	**61.55**	**316**	P		**P**	**07 02 11.3**	**-0.7**
BVAR	**Borovoye Array**	**65.47**	**327**	P		**P**	**07 02 37.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=142,slow=7.3,SNR=2.9							
	comp=Z,0.5nm,0.4s							
NRIK	**Noril'sk**	**68.43**	**346**	P		**P**	**07 02 56.1**	**0.0**
NRIK				IAmb		IAmb	07 02 56.9	
	comp=Z,2.7nm,0.8s							
NRIK	**Noril'sk**	**68.43**	**346**	P		**P**	**07 02 55.7**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=141,slow=4.1,SNR=4.2							
	comp=Z,1.8nm,0.5s							
C18K	**Utukok River**	**78.36**	**21**	P		**P**	**07 03 54.4**	**0.0**
D19K	**Kuna River**	**79.43**	**21**	P		**P**	**07 04 00.4**	**+0.1**
H19K	**Roundabout Mou**	**79.53**	**24**	P		**P**	**07 04 00.8**	**-0.1**
H19K				IAmb		IAmb	07 04 08.2	
	comp=Z,1.9nm,1.1s							
CCB	**Clear Creek Bu**	**83.09**	**26**	P		**P**	**07 04 19.4**	**-0.2**
ILAR	**Eielson Array**	**83.49**	**26**	P		**P**	**07 04 19.6**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=260,slow=5.4,SNR=4.2							
	comp=Z,0.2nm,0.5s							
BMAR	**Burnt Mountain**	**84.41**	**23**	P		**P**	**07 04 27.5**	**+1.1**
I28M	**Miner Creek**	**86.40**	**25**	P		**P**	**07 04 37.4**	**+1.0**
ARCES	**ARCESS Array B**	**88.48**	**340**	P		**P**	**07 04 45.6**	**-0.5**
ARCES				IAmb		IAmb	07 05 03.7	
	comp=Z,2.3nm,1.0s							
ARCES	**ARCESS Array B**	**88.48**	**340**	P		**P**	**07 04 45.4**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=84,slow=6.2,SNR=17							
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**89.92**	**332**	P		**P**	**07 04 52.1**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=70,slow=6.3,SNR=5.0							
	comp=Z,1.4nm,0.8s							
TXAR	**Lajitas Array**	**120.67**	**51**	PKP		**PKPdf**	**07 10 46.6**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=228,slow=1.5,SNR=3.4							
TORD	**Torodi Ar. Bea**	**121.93**	**289**	PKP		**PKPdf**	**07 10 49.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=7.6,slow=3.0,SNR=3.1							

*DJA **21** 06:55:42.4±1.1, 0˚S±11˚×13˚3E±˚, h10km, M4.2/5, MLv4.2/5*
*IDC **21** 06:55:45.1±5.3, 0˚.67S×132˚.44E, h0km, mb4.0/4, mbtmp3.9/5, ML3.9/1, MS3.1/3, Error ellipse: s-maj=369.4km s-min=21.7km az=75.0*

ISC 21 06:55:44.5±1.0, 0˚45S±0˚09×133˚23E±0˚06, h10km, n13, σ0§77/14, mb4.1/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MWPI	**Manokwari, Pap**	**0.94**	**121**	P		**Pg**	**06 56 00.9**	**-1.7**
MWPI				S		**Sn**	**06 56 18.5**	**+1.2**
SIJI	**Sorong**	**2.01**	**258**	P		**Pn**	**06 56 18.0**	**-0.6**
SIJI				S		**Sn**	**06 56 43.8**	**0.0**
SWI	**Sorong**	**2.02**	**258**	P		**Pn**	**06 56 18.1**	**-0.5**
SWI				S		**Sn**	**06 56 43.9**	**0.0**
FAKI	**Fak Fak**	**2.64**	**202**	P		**Pn**	**06 56 27.2**	**-0.1**
FAKI				S		**Sn**	**06 56 59.8**	**+0.4**
BNDI	**Bandanaira**	**5.24**	**219**	P		**Pn**	**06 57 03.5**	**+0.5**
KAPI	**Kappang**	**14.21**	**251**	LR		LR	07 04 39.3	
	comp=Z,26nm,18.4s,baz=289,slow=40							
PMG	**Port Moresby**	**16.47**	**123**	LR		LR	07 07 29.2	
	comp=Z,57nm,19.4s,baz=304,slow=41							
WRA	**Warramunga Arr**	**19.40**	**177**	P		**P**	**07 00 11.2**	**+0.2**
	0.3nm,0.3s,baz=354,slow=13,SNR=5.2							
	0.8nm,0.4s							
ASAR	**Alice Springs**	**23.09**	**178**	P		**P**	**07 00 51.0**	**+0.4**
	2.1nm,0.4s,baz=357,slow=12,SNR=26							
	2.1nm,0.4s							
MKAR	**Makanchi Array**	**64.71**	**324**	P		**P**	**07 06 23.6**	**+0.7**
	0.8nm,0.6s,baz=114,slow=8.3,SNR=11							
	0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**68.78**	**326**	P		**P**	**07 06 49.2**	**+0.5**
	1.3nm,0.8s,baz=120,slow=6.0,SNR=14							
	1.3nm,0.8s							
BVAR	**Borovoye Array**	**74.37**	**326**	P		**P**	**07 07 22.9**	**+0.4**
	1.3nm,0.8s,baz=107,slow=5.1,SNR=6.9							
	1.3nm,0.8s							
BELG	**Belogornoye**	**87.66**	**322**	LR		LR	07 50 12.4	
	comp=Z,33nm,19.8s,baz=136,slow=37							

*IDC **21** 07:12:17.4±1.7, 26˚.40S×27˚.45E, h0km, mb4.0/3, mbtmp4.2/8, ML3.6/4, MS2.9/3, Error ellipse: s-maj=23.7km s-min=14.4km az=100.0*
*PRE **21** 07:12:17.9±0.8, 26˚.32S×27˚.43E, h2km, ML3.5*
*NEIC **21** 07:12:18.6±1.7, 26˚.40S±0˚.04×27˚.47E±0˚.08, h5km±2km, mb4.2/4, Error ellipse: s-maj=13.3km s-min=3.5km az=122.0*
*BUL **21** 07:12:26.3±0.9, 26˚.42S×27˚.44E, h10km±38km, MD3.5*

ISC 21 07:12:18.9±1.5, 26˚29S±0˚03×27˚40E±0˚03, h14km±10km, n53, σ1§73/85, mb4.2/4, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KSR	**Koster**	**0.63**	**314**	*e*P		**Pb**	**07 12 31.5**	**-0.3**
KSR				*e*S		**Sb**	**07 12 39.9**	**-0.6**
KSR				IAML			07 12 49.0	
	comp=Z,3µm,0.6s							
SLR	**Silverton**	**0.97**	**55**	*e*P		**Pb**	**07 12 36.2**	**-1.3**
SLR				*e*S		**Sb**	**07 12 49.8**	**-0.4**
SLR				IAML			07 12 55.8	
	comp=Z,1µm,0.2s							
SNKL	**Senekal, Frees**	**2.00**	**171**	*e*P		**Pn**	**07 12 53.5**	**+1.0**
SNKL				*e*S		**Sn**	**07 13 19.1**	**+1.7**
SNKL				IAML			07 13 19.3	
	comp=Z,1µm,0.7s							
SWZ	**Schweizer**	**2.05**	**244**	*e*P		**Pn**	**07 12 54.5**	**+1.4**
SWZ				*e*S		**Sb**	**07 13 20.8**	**-0.6**
SWZ				IAML			07 13 23.5	
	comp=Z,726nm,0.4s							
LBTB	**Lobatse**	**2.07**	**308**	*i* P		**Pg**	**07 12 59.9**	**+1.4**
LBTB				*i* S		**Sg**	**07 13 23.8**	**-1.5**
LBTB	**Lobatse**	**2.07**	**308**	Pn		**Pb**	**07 12 56.4**	**+0.2**
	comp=Z,104nm,0.3s,baz=133,slow=14,SNR=831							
LBTB				Lg		Lg	07 13 25.7	
	comp=Z,407nm,0.3s,baz=40,slow=22,SNR=69							
LBTB				LR		LR	07 13 37.3	
	comp=Z,62nm,19.2s,baz=136,slow=37							
	comp=Z,377nm,0.4s							
LEPH	**Lephalale, Lim**	**2.45**	**9**	*e*P		**Pb**	**07 13 00.8**	**-1.9**
LEPH				*e*S		**Sb**	**07 13 30.8**	**-2.1**
LEPH				IAML			07 13 37.0	
	comp=Z,719nm,0.5s							
NWCL	**Newcastle**	**2.65**	**123**	*e*P		**Pn**	**07 13 02.0**	**+0.7**
NWCL				*e*S		**Sn**	**07 13 34.3**	**+1.1**
NWCL				IAML			07 13 38.8	
	comp=Z,780nm,0.4s							
BOSA	**Boshof**	**3.00**	**219**	*i* P		**Pb**	**07 13 09.9**	**-2.2**
BOSA				*i* S		**Sn**	**07 13 42.3**	**+0.4**
BOSA	**Boshof**	**3.00**	**219**	*e*P		**Pn**	**07 13 07.3**	**+1.2**
BOSA				*e*S		**Sn**	**07 13 43.3**	**+1.4**
BOSA				IAML			07 13 50.2	
	comp=Z,223nm,0.4s							
BOSA	**Boshof**	**3.00**	**219**	Pn		**Pn**	**07 13 06.2**	**+0.1**
	comp=Z,7.4nm,0.3s,baz=38,slow=12,SNR=286							
BOSA				Pg		**Pb**	**07 13 12.5**	**+0.4**
	comp=Z,18nm,0.3s,baz=45,slow=17,SNR=19							
BOSA				Lg		Lg	07 13 48.5	
	comp=Z,94nm,0.3s,baz=328,slow=22,SNR=32							
	comp=Z,16nm,0.4s							
PILG	**Pilgrimsrest,**	**3.28**	**66**	*e*P		**Pn**	**07 13 11.0**	**+0.9**
PILG				*e*S		**Sn**	**07 13 50.1**	**+1.2**
PILG				IAML	

LSZ			Sn		**Sn**	**07 16 54.6**	**-4.0**
	comp=Z,2.6nm,0.3s,baz=53,slow=23,SNR=7.7						
LSZ			Lg		Lg	07 17 59.3	
	comp=Z,1.2nm,0.3s,baz=280,slow=20,SNR=3.5						
LSZ			LR		LR	07 18 52.7	
	comp=Z,58nm,20.2s,baz=284,slow=36						
TSUM	**Tsumeb**	**11.48 306**			**Pn**	**07 15 03.1**	**+0.6**
TSUM	**Tsumeb**	**11.48 306**		Pn	**Pn**	**07 15 03.6**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=134,slow=13,SNR=13						
TSUM			Sn		**Sn**	**07 17 10.1**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=107,slow=17,SNR=2.3						
TSUM			Lg	Lg	Lg	07 18 16.3	
	comp=Z,1.7nm,0.3s,baz=33,slow=22,SNR=3.6						
	comp=Z,9.1nm,0.4s						
KMBO	**Kilima Mbogo**	**26.76 22**		P	**P**	**07 18 01.3**	**+2.7**
DBIC	**Dimbokro**	**45.31 312**		P	**P**	**07 20 37.3**	**+0.8**
DBIC	**Dimbokro**	**45.31 312**		P	**P**	**07 20 38.6**	**+2.1**
	comp=Z,4.0nm,0.8s,baz=147,slow=8.2,SNR=3.1						
	comp=Z,4.0nm,0.8s						
TOA0	**Torodi Ar. Sit**	**46.50 324**		P	**P**	**07 20 47.6**	**+1.7**
TOA0				IAmb	IAmb	07 20 48.9	
	comp=Z,2.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**46.50 324**		P	**P**	**07 20 47.2**	**+1.3**
TORD				IAmb	IAmb	07 20 48.8	
	comp=Z,2.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**46.50 324**		P	**P**	**07 20 47.4**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=135,slow=6.5,SNR=7.5						
	comp=Z,1.2nm,0.7s						
BRTR	**Keskin Array B**	**65.93 5**		LR	LR	07 51 27.4	
	comp=Z,30nm,18.4s,baz=275,slow=36						
ESDC	**Sonseca Array**	**71.85 335**		P	**P**	**07 23 41.7**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=159,slow=6.5,SNR=4.6						
	comp=Z,0.4nm,0.6s						

*NNC **21** 07:13:14.2±0.6, 49°.99N×78°.85E, h0km, mb3.1, mpv2.8,*
Error ellipse: s-maj=12.1km s-min=3.2km az=72.0,
Suspected Mining explosion.
*IDC **21** 07:13:15.8±0.8, 50°.06N×78°.84E, h0km, mbtmp2.8/3,*
ML2.2/3, Error ellipse: s-maj=12.6km s-min=5.7km
az=58.0

ISC 21 07:13:15.3±0.9, 50°.03N±0°.05×78°.74E±0°.07, h0km, n18,
σ0°.94/32, 19C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.57**	**346**	⇓P		**Pg**	**Pg**	**07 13 26.2**	**0.0**
KUR07				⇑S			**Sb**	**07 13 35.6**	**-1.2**
KUR06	**Kurchatov Arra**	**0.58**	**347**	⇑P		**Pg**	**Pg**	**07 13 26.6**	**0.0**
KUR06				⇑S			**Sb**	**07 13 36.0**	**-1.3**
KUR14	**Kurchatov Arra**	**0.59**	**351**	⇑P		**Pg**	**Pg**	**07 13 26.5**	**-0.1**
KUR14				⇓S			**Sb**	**07 13 36.0**	**-1.4**
KUR15	**Kurchatov Arra**	**0.60**	**349**	⇑P		**Pg**	**Pg**	**07 13 26.7**	**0.0**
KUR15				⇓S			**Sb**	**07 13 36.3**	**-1.3**
KURBB	**Kurchatov Arra**	**0.60**	**347**	⇑P		**Pg**	**Pg**	**07 13 26.9**	**0.0**
	26nm,0.3s								
KURBB				⇑S			**Sb**	**07 13 37.2**	**-0.6**
	89nm,0.6s								
KURBB	**Kurchatov Arra**	**0.60**	**347**	Pg		**Pg**	**Pg**	**07 13 26.7**	**-0.2**
	2.6nm,0.3s,baz=165,slow=17,SNR=127								
KURBB				Lg		Lg	Lg	07 13 36.5	
	1.6nm,0.3s,baz=162,slow=41,SNR=12								
KUR16	**Kurchatov Arra**	**0.61**	**346**	⇓P		**Pg**	**Pg**	**07 13 27.2**	**+0.1**
KUR16				⇓S			**Sb**	**07 13 37.0**	**-1.1**
KUR05	**Kurchatov Arra**	**0.62**	**348**	⇑P		**Pg**	**Pg**	**07 13 27.2**	**-0.1**
KUR05				⇑S			**Sb**	**07 13 36.8**	**-1.6**
KUR17	**Kurchatov Arra**	**0.62**	**344**	⇓P		**Pg**	**Pg**	**07 13 27.4**	**+0.1**
KUR17				⇓S			**Sb**	**07 13 37.1**	**-1.3**
KUR04	**Kurchatov Arra**	**0.64**	**349**	⇑P		**Pg**	**Pg**	**07 13 27.5**	**-0.1**
KUR04				⇓S			**Sg**	**07 13 37.3**	**+1.4**
KURK	**Kurchatov**	**0.69**	**354**	⇑P		**Pg**	**Pg**	**07 13 28.2**	**-0.2**
	11nm,0.4s								
KURK				⇑S			**Sb**	**07 13 38.8**	**-1.4**
	31nm,0.7s								
MAKZ	**Makanchi**	**3.88**	**145**	⇑Pg		**Pb**	**Pb**	**07 14 23.5**	**-1.1**
	1.7nm,0.6s								
MAKZ				⇓Lg		Lg	Lg	07 15 16.3	
	14nm,0.7s								
MK31	**Makanchi Array**	**4.01**	**143**	⇑Pn		**Pn**	**Pn**	**07 14 19.0**	**+0.9**
	0.2nm,0.2s,baz=323,slow=10,SNR=48								
MK31				⇑Pg		**Pb**	**Pb**	**07 14 26.9**	**0.0**
	0.3nm,0.2s,baz=325,slow=15,SNR=18								
MK31				⇑Lg		Lg	Lg	07 15 21.6	
	8.3nm,0.5s,baz=323,slow=26,SNR=16								
MKAR	**Makanchi Array**	**4.01**	**143**	Pn		**Pn**	**Pn**	**07 14 18.8**	**+0.7**
	0.3nm,0.3s,baz=324,slow=10,SNR=57								
MKAR				Pg		**Pb**	**Pb**	**07 14 25.3**	**-1.6**
	0.7nm,0.3s,baz=327,slow=14,SNR=12								
MKAR				Sn		**Sn**	**Sn**	**07 15 06.0**	**+0.2**
	0.5nm,0.3s,baz=332,slow=16,SNR=6.8								
MKAR				Lg		Lg	Lg	07 15 20.8	
	1.8nm,0.3s,baz=325,slow=27,SNR=17								
	0.4nm,0.3s								
OTUK	**Ortayu**	**4.57**	**249**	⇑Pn		**Pn**	**Pn**	**07 14 26.1**	**+0.5**
	0.6nm,0.3s								
OTUK				⇑Lg		Lg	Lg	07 15 40.2	
	6.7nm,0.8s								
ZALV	**Zalesovo Beam**	**5.43**	**41**	Pn		**Pn**	**Pn**	**07 14 39.0**	**+1.6**
	0.6nm,0.3s,baz=230,slow=14,SNR=9.0								
ZALV				Sn		**Sn**	**Sn**	**07 15 41.0**	**+0.4**
	0.1nm,0.3s,baz=222,slow=25,SNR=2.4								
ZALV				Lg		Lg	Lg	07 16 03.8	
	0.2nm,0.3s,baz=221,slow=30,SNR=2.6								
	1.0nm,0.3s								
I46RU	**ZALESOVO INFRA**	**5.43**	**41**	I		I	I	07 45 50.0	
	baz=222,slow=340,SNR=1.1								
BVAR	**Borovoye Array**	**6.01**	**303**	Pn		**Pn**	**Pn**	**07 14 45.6**	**+0.2**
	baz=114,slow=14,SNR=2.3								
BVAR				Sn		**Sn**	**Sn**	**07 15 55.8**	**+0.9**
	0.1nm,0.3s,baz=113,slow=23,SNR=5.8								
BVAR				Lg		Lg	Lg	07 16 25.2	
	0.1nm,0.3s,baz=117,slow=25,SNR=2.4								
	0.3nm,0.4s								

*TAP **21** 07:14:43.0, 24°.70N×122°.29E, h7km, ML3.1, C*
*JMA **21** 07:14:43.9±0.0, 24°.6N±0°.3×122°.3E±0°.1, h32km±1km,*
MV2.8/12, TAIWAN REGION

ISC 21 07:14:43.3±0.9, 24°.70N±0°.02×122°.33E±0°.02, h15km±8km,
n77, σ0°.63/102, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.29**	**198**	*i* P		**Pg**	**Pg**	**07 14 49.7**	**+0.3**
	baz=208								
EOS2				*i* S			**Sb**	**07 14 55.1**	**+0.3**
	baz=208								
EOS3	**EOS3**	**0.41**	**182**	*i* P		**Pg**	**Pg**	**07 14 52.0**	**+0.4**
	baz=187								
TWB1	**Santiao Chiao**	**0.44**	**315**	P		**Pg**	**Pg**	**07 14 51.9**	**-0.3**
	baz=318								
TWB1				*e*S			**Sg**	**07 14 57.1**	**-1.0**
	baz=318								
TWC	**Suao**	**0.45**	**259**	*i* P		**Pg**	**Pg**	**07 14 51.2**	**-1.1**
	baz=266								
TWC				*e*S			**Sg**	**07 14 58.9**	**+0.5**
	baz=266								
ESAO	**Su ao**	**0.46**	**255**	*e*P		**Pg**	**Pg**	**07 14 52.5**	**0.0**
	baz=253								
TIPB	**Shuangxi**	**0.53**	**301**	P		**Pg**	**Pg**	**07 14 53.6**	**-0.3**
	baz=302								
ILA	**Ilan**	**0.54**	**277**	*e*P		**Pg**	**Pg**	**07 14 53.7**	**-0.2**
	baz=276								
EWUT	**Wuta**	**0.56**	**243**	*e*P		**Pg**	**Pg**	**07 14 53.7**	**-0.7**
	baz=240								
NDS	**Dongshan**	**0.56**	**263**	*e*P		**Pg**	**Pg**	**07 14 53.8**	**-0.7**
	baz=253								
SXI1	**Grass Mountain**	**0.57**	**314**	*e*P		**Pg**	**Pg**	**07 14 54.9**	**+0.2**
	baz=315								
SXI1				*e*S			**Sb**	**07 15 03.6**	**+0.6**
	baz=315								
EOS4	**EOS4**	**0.58**	**181**	P		**Pg**	**Pg**	**07 14 54.8**	**+0.3**
	baz=169								
ENA	**Nanau**	**0.60**	**243**	*e*P		**Pg**	**Pg**	**07 14 54.2**	**-1.0**
	baz=240								
ENA				*e*S			**Sg**	**07 15 02.9**	**-0.3**
	baz=240								
TWE	**Neicheng**	**0.60**	**272**	P		**Pg**	**Pg**	**07 14 54.2**	**-1.0**
	baz=271								
TWE				*e*S			**Sg**	**07 15 03.5**	**+0.2**
	baz=271								
JYNG	**Yonagunijimaku**	**0.61**	**114**	P		**Pg**	**Pg**	**07 14 55.5**	**+0.2**
JYNG				*e*S			**Sg**	**07 15 03.7**	**+0.3**
NWF	**Wu-fen Shan**	**0.62**	**307**	*e*P		**Pb**	**Pb**	**07 14 56.5**	**+0.6**
	baz=298								
NWF				S			**Sb**	**07 15 05.1**	**+0.6**
	baz=298								
WFSB	**Wu-fen Shan**	**0.62**	**307**	*e*P		**Pb**	**Pb**	**07 14 56.5**	**+0.6**
	baz=308								
EAHA	**Aohua**	**0.65**	**236**	*e*P		**Pg**	**Pg**	**07 14 56.2**	**+0.1**
	baz=243								
EAHA				*i* S			**Sg**	**07 15 04.9**	**+0.1**
	baz=243								
YOJ	**Yonaguni jima**	**0.66**	**111**	P		**Pg**	**Pg**	**07 14 56.4**	**+0.1**
YOJ				S			**Sg**	**07 15 05.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.66**	**111**	P		**Pg**	**Pg**	**07 14 56.4**	**+0.1**
	baz=110								
YOJ				S			**Sb**	**07 15 06.6**	**+1.0**
	baz=110								
TNOU	**National Taiwa**	**0.68**	**312**	*e*S		**Sb**	**Sb**	**07 15 06.5**	**+0.5**
	baz=313								
FUSB	**Fushanzhiwuyua**	**0.68**	**275**	P		**Pg**	**Pg**	**07 14 55.8**	**-0.9**
	baz=275								
FUSB				*e*S			**Sb**	**07 15 06.5**	**+0.3**
	baz=275								
ENTT	**Nioudou**	**0.70**	**265**	*e*P		**Pb**	**Pb**	**07 14 56.2**	**-1.0**
	baz=264								
ENTT				*e*S			**Sg**	**07 15 06.4**	**+0.2**
	baz=264								
TWA	**Mucha**	**0.73**	**293**	*e*P		**Pb**	**Pb**	**07 14 57.6**	**-0.2**
	baz=282								
LATG	**Datong**	**0.75**	**258**	*e*P		**Pb**	**Pb**	**07 14 56.8**	**-1.3**
	baz=264								
NDT	**Datong Townshi**	**0.75**	**263**	P		**Pb**	**Pb**	**07 14 57.4**	**-0.6**
	baz=261								
NWLT	**Wulai**	**0.76**	**276**	*e*P		**Pb**	**Pb**	**07 14 57.1**	**-1.2**
	baz=267								
NHDH	**Xindian Distri**	**0.78**	**290**	*e*P		**Pb**	**Pb**	**07 14 58.6**	**0.0**
	baz=279								
YM01	**YM01**	**0.82**	**303**	P		**Pg**	**Pg**	**07 14 59.8**	**+0.5**
	baz=303								
YM01				S			**Sn**	**07 15 11.4**	**-0.9**
	baz=303								
YM08	**YM08**	**0.83**	**306**	P		**Pg**	**Pg**	**07 14 59.8**	**+0.3**
	baz=306								
ETL	**Fush Village**	**0.84**	**230**	*e*P		**Pb**	**Pb**	**07 14 59.6**	**0.0**
	baz=235								
NACB	**Ninganchiao**	**0.85**	**232**	P		**Pb**	**Pb**	**07 14 58.9**	**-0.9**
	baz=229								
YHNB	**Yeheng**	**0.87**	**268**	*e*P		**Pb**	**Pb**	**07 14 59.2**	**-1.0**
	baz=267								
YHNB				*e*S			**Sg**	**07 15 12.3**	**+0.6**
	baz=267								
TWY	**Chenhua**	**0.88**	**311**	*e*P		**Pb**	**Pb**	**07 15 00.4**	**+0.1**
	baz=312								
TWY				*i* S			**Sn**	**07 15 13.4**	**-0.1**
	baz=312								
NSK	**Sanguang**	**0.89**	**269**	P		**Pb**	**Pb**	**07 14 59.4**	**-1.1**
	baz=267								
NSK				*e*S			**Sg**	**07 15 12.6**	**+0.4**
	baz=267								
NNSB	**Datong**	**0.91**	**253**	P		**Pb**	**Pb**	**07 14 59.6**	**-1.2**
	baz=251								
NNSB				S			**Sb**	**07 15 12.4**	**-0.3**
	baz=251								
NNS	**Nan Shan**	**0.91**	**254**	*e*P		**Pb**	**Pb**	**07 15 00.5**	**-0.4**
	baz=251								
NNS				S			**Sb**	**07 15 12.6**	**-0.3**
	baz=251								
TWD	**Chiawan**	**0.91**	**228**	*e*P		**Pb**	**Pb**	**07 15 00.9**	**+0.1**
	baz=233								
ETLH	**Xiulin Townshi**	**0.92**	**238**	*e*P		**Pb**	**Pb**	**07 15 00.0**	**-1.0**
	baz=235								
TWS1	**Kuangyinshan**	**0.92**	**296**	*e*S		**Sn**	**Sn**	**07 15 14.6**	**-0.1**
	baz=296								
NTST	**Danshui**	**0.93**	**300**	*e*S		**Sn**	**Sn**	**07 15 14.4**	**-0.3**
	baz=300								
PCYT	**Pengchaiyu**	**0.96**	**346**	*e*P		**Pb**	**Pb**	**07 15 01.2**	**-0.4**
ETM	**Tongmen**	**1.06**	**226**	*e*P		**Pb**	**Pb**	**07 15 03.5**	**+0.1**
	baz=222								
LXIB	**Xiulin Townshi**	**1.07**	**231**	*e*P		**Pb**	**Pb**	**07 15 03.3**	**-0.4**
	baz=227								
NFF	**Wufeng Townshi**	**1.11**	**267**	*e*P		**Pg**	**Pg**	**07 15 05.0**	**+0.3**
	baz=255								
NFF				*e*S			**Sn**	**07 15 19.2**	**-0.1**
	baz=255								
WHF	**Hehuan Shan**	**1.12**	**241**	*e*P		**Pb**	**Pb**	**07 15 04.2**	**-0.4**
	baz=237								
TWT	**Tachien**	**1.14**	**247**	*e*P		**Pg**	**Pg**	**07 15 05.5**	**+0.1**
	baz=244								
SHUL	**Shoufeng**	**1.15**	**218**	*e*P		**Pg**	**Pg**	**07 15 05.3**	**-0.1**
	baz=196								
LIOB	**Emei**	**1.20**	**268**	*e*P		**Pg**	**Pg**	**07 15 06.4**	**0.0**
	baz=256								
LIOB				*e*S			**Sg**	**07 15 22.9**	**+0.8**
	baz=256								
NSTT	**Nanjuang**	**1.21**	**267**	P		**Pg**	**Pg**	**07 15 06.6**	**-0.1**
	baz=255								
NSTT				*e*S			**Sg**	**07 15 22.8**	**+0.3**
	baz=255								
CHGB	**Renai**	**1.23**	**239**	P		**Pb**	**Pb**	**07 15 06.3**	**-0.1**
	baz=229								
WARBT	**Fenglin Townsh**	**1.30**	**222**	*e*P		**Pn**	**Pn**	**07 15 07.2**	**+0.2**
	baz=199								
WUSB	**Renai**	**1.31**	**238**	P		**Pb**	**Pb**	**07 15 07.6**	**-0.1**
	baz=234								
WHP	**Taichung City**	**1.33**	**252**	P		**Pg**	**Pg**	**07 15 08.8**	**-0.2**
	baz=248								
NMLH	**Miaoli**	**1.41**	**264**	*e*P		**Pg**	**Pg**	**07 15 10.8**	**+0.3**
	baz=260								
VWDT	**VWDT**	**1.44**	**229**	P		**Pb**	**Pb**	**07 15 10.3**	**+0.5**
	baz=207								
WCS	**Beigang Elemen**	**1.44**	**244**	*e*P		**Pg**	**Pg**	**07 15 11.6**	**+0.4**
	baz=240								
HGSD	**Ruisui**	**1.46**	**215**	*e*P		**Pb**	**Pb**	**07 15 09.8**	**-0.4**
	baz=196								
TWQ1	**Liyutan**	**1.46**	**256**	*e*P		**Pg**	**Pg**	**07 15 11.6**	**+0.1**
	baz=251								
HATJ	**Hateruma jima**	**1.49**	**115**	*e*S		**Sn**	**Sn**	**07 15 28.0**	**-0.7**
EHY	**Hungye**	**1.50**	**218**	*e*P		**Pn**	**Pn**	**07 15 10.2**	**+0.4**
	baz=214								
SMLT	**Sun Moon Lake**	**1.54**	**238**	*e*P		**Pb**	**Pb**	**07 15 12.3**	**+0.7**
	baz=220								
SSLB	**Suanglung**	**1.55**	**234**	*e*P		**Pb**	**Pb**	**07 15 11.4**	**-0.3**
	baz=213								
TYC	**Yur**	**1.56**	**240**	*e*P		**Pb**	**Pb**	**07 15 12.6**	**+0.7**
	baz=222								
JKRS	**Kuro-shima**	**1.60**	**106**	P		**Pn**	**Pn**	**07 15 10.7**	**-0.2**
JKRS				S			**Sn**	**07 15 30.1**	**-1.2**
YULB	**Yu-li**	**1.61**	**216**	*e*P		**Pn**	**Pn**	**07 15 11.0**	**-0.2**
	baz=212								
TWF1	**Yuli**	**1.64**	**215**	*e*P		**Pn**	**Pn**	**07 15 11.9**	**+0.3**
	baz=197								
WHYT	**Xinyi Township**	**1.68**	**234**	*e*P		**Pb**	**Pb**	**07 15 14.7**	**+0.7**
	baz=230								
JIJ	**Ishigaki jima**	**1.68**	**101**	P		**Pn**	**Pn**	**07 15 11.9**	**-0.2**
JIJ				S			**Sn**	**07 15 32.5**	**-1.0**
JISG	**Ishigakijimahi**	**1.81**	**93**	P		**Pn**	**Pn**	**07 15 13.6**	**-0.2**
JISG				*e*S			**Sn**	**07 15 35.5**	**-0.9**
ALS	**Alishan**	**1.83**	**230**	*e*P		**Pb**	**Pb**	**07 15 16.4**	**-0.3**
	baz=208								
CHN5	**Tsauling**	**1.87**	**234**	*e*P		**Pb**	**Pb**	**07 15 16.6**	**-0.5**
	baz=211								
ELDTW	**Lidau**	**1.93**	**219**	*e*P		**Pn**	**Pn**	**07 15 16.2**	**+0.5**
	baz=200								
CHN4	**Tsaushan**	**2.08**	**230**	*e*P		**Pb**	**Pb**	**07 15 20.3**	**-0.5**
	baz=209								
STYH	**Taoyuan**	**2.08**	**223**	*e*P		**Pn**	**Pn**	**07 15 18.8**	**+1.1**
	baz=204								
WTP	**Ta-pu**	**2.13**	**228**	*e*P		**Pb**	**Pb**	**07 15 20.1**	**-1.6**
	baz=206								
TWK	**Hsinying**	**2.21**	**230**	*e*P		**Pn**	**Pn**	**07 15 20.7**	**+1.3**
	baz=209								
SLGT	**Liugui**	**2.29**	**223**	*e*P		**Pn**	**Pn**	**07 15 22.2**	**+1.6**
	baz=202								

*TEH **21** 07:24:45.5, 34°.46N×45°.64E, h10km±102km, ML2.8*
*ISN **21** 07:24:46.9±2.2, 34°.45N×45°.58E, h10km, ML2.8*

ISC 21 07:24:45.5±1.2, 34°.5N±0°.1×45°.60E±0°.08, h14km±11km, n5,
σ0°.56/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.04**	**351**			Pg	**Pg**	**07 24 47.9**	**-0.2**
IDHR	**Dehrash**	**0.69**	**70**			Pg	**Pg**	**07 24 58.6**	**-0.4**
IDHR						Sg	**Sg**	**07 25 08.9**	**+0.7**
IGHG	**Ghaleghazi**	**0.82**	**99**			Pg	**Pg**	**07 25 01.1**	**-0.3**
ILIN	**Lien**	**1.21**	**68**			Pg	**Pb**	**07 25 08.2**	**-0.1**
BHD	**Baghdad**	**1.57**	**221**	*e*P		g	**Pn**	**07 25 13.0**	**+0.2**
	baz=40								
BHD				*e*Sg			**Sg**	**07 25 36.0**	**+0.1**

*ISN **21** 07:27:21.0±2.2, 34°.50N×45°.63E, h10km±15km, ML3.4*
*TEH **21** 07:27:22.1, 34°.57N×45°.59E, h11km±13km, ML3.3*

ISC 21 07:27:21.9±1.3, 34°.58N±0°.05×45°.51E±0°.05, h8km±10km,
n12, σ1°.10/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.10**	**136**			Pg	**Pg**	**07 27 24.5**	**+0.3**
IDHR	**Dehrash**	**0.73**	**80**			Pg	**Pg**	**07 27 35.0**	**-1.0**
IGHG	**Ghaleghazi**	**0.91**	**105**			Pg	**Pg**	**07 27 38.6**	**-0.9**
IGHG						Sg	**Sg**	**07 27 51.3**	**+0.1**
ILIN	**Lien**	**1.25**	**74**			Pg	**Pg**	**07 27 44.8**	**-1.0**
SDS1	**Sardasht. Az.**	**1.57**	**359**			Pg	**Pg**	**07 27 52.3**	**+0.3**
BHD	**Baghdad**	**1.60**	**216**	*e*P	g		**Pn**	**07 27 50.0**	**-0.6**
	baz=40								
BHD				*e*Sg			**Sb**	**07 28 14.0**	**+1.8**
BHD						AML	AML	07 28 24.8	
	comp=E,735nm,0.5s								
MAHB	**Mahabad**	**2.19**	**4**	Pn			**Pb**	**07 28 00.9**	**-1.0**
IKFM	**Kafar-mosalman**	**2.21**	**118**	Pn			**Pn**	**07 27 59.7**	**+0.9**
IALM	**Almabolaq**	**2.21**	**82**	Pn			**Pn**	**07 28 00.0**	**+0.8**
HSAM	**Samen**	**2.58**	**97**	Pn			**Pn**	**07 28 05.1**	**+0.7**
RAFI	**Al-Rafai**	**2.89**	**170**	*e*Pn			**Pn**	**07 28 08.0**	**-0.3**
RAFI				*e*Sn			**Sn**	**07 28 43.0**	**-0.2**
RAFI						AML	AML	07 28 52.1	
	comp=N,195nm,0.5s								
RAFI						AML	AML	07 29 07.1	
	comp=E,193nm,0.4s								
HAGD	**Aghdareh**	**3.00**	**84**	Pn			**Pn**	**07 28 11.9**	**+1.9**

*NEIC **21** 07:30:13.2±1.6, 15°.46N±0°.07×94°.97W±0°.04, h10km±2km,*
mb4.1/7, Md4.1/28(MEX), Error ellipse: s-maj=11.7km
s-min=6.1km az=181.0
*MEX **21** 07:30:17.7±0.6, 15°.61N×95°.01W, h15km, MD4.1*
*CATAC **21** 07:30:17.9±1.4, 15°.88N×95°.00W, h5km±10km, MB4.9,*
mb4.5, ML4.5

ISC 21 07:30:11.5±1.5, 15°.53N±0°.04×95°.01W±0°.02, h6km±11km,
n52, σ1°.78/78, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.08**	**283**				**Pn**	**07 30 34.7**	**+1.4**
HUIG							**Sb**	**07 30 47.3**	**+0.2**
HUIG	**Huatulco**	**1.08**	**283**	*i* P			**Pn**	**07 30 34.7**	**+1.4**
HUIG				*e*S			**Sb**	**07 30 47.3**	**+0.2**
NILT	**Santiago Nilte**	**1.09**	**20**	*i* P			**Pn**	**07 30 34.2**	**+0.8**
NILT				*i* S			**Sg**	**07 30 46.5**	**-0.3**
CARR	**Arriaga**	**1.27**	**56**	*i* P			**Pn**	**07 30 35.9**	**0.0**
CARR				*i* S			**Sg**	**07 30 51.4**	**-1.2**
CMIG	**Matias Romero**	**1.55**	**5**				**Pg**	**07 30 41.5**	**+0.2**
CMIG							**Sn**	**07 30 59.7**	**-0.6**
CMIG	**Matias Romero**	**1.55**	**5**	*i* P			**Pg**	**07 30 41.5**	**+0.2**
CMIG				*e*S			**Sn**	**07 30 59.7**	**-0.6**
PCIG		**1.74**	**84**				**Pb**	**07 30 44.3**	**+0.4**
PCIG							**Sn**	**07 31 04.3**	**-0.4**
PCIG		**1.74**	**84**	*e*P			**Pb**	**07 30 44.3**	**+0.4**
PCIG				*e*S			**Sn**	**07 31 04.3**	**-0.4**
PEIG	**Puerto Escondi**	**2.11**	**283**				**Pn**	**07 30 49.2**	**+1.8**
PEIG							**Sn**	**07 31 11.5**	**-2.5**
PEIG	**Puerto Escondi**	**2.11**	**283**	*e*P			**Pn**	**07 30 49.2**	**+1.8**
PEIG				*e*S			**Sn**	**07 31 11.5**	**-2.5**
TGIG		**2.20**	**55**				**Pb**	**07 30 51.8**	**0.0**
TGIG							**Sn**	**07 31 16.9**	**+0.6**
TGIG		**2.20**	**55**	*e*P			**Pb**	**07 30 51.8**	**0.0**
TGIG				*i* S			**Sn**	**07 31 16.9**	**+0.6**
OXIG	**Oaxaca**	**2.25**	**313**				**Pb**	**07 30 53.4**	**+0.6**
OXIG							**Sn**	**07 31 19.0**	**+1.1**
VHO	**Vista Hermosa**	**2.25**	**313**	*e*P			**Pb**	**07 30 53.4**	**+0.6**
VHO				*e*S			**Sn**	**07 31 19.0**	**+1.2**
NEUV	**Arroyo Zacate**	**2.30**	**341**	*e*P			**Pb**	**07 30 52.3**	**-1.1**
NEUV				*i* S			**Sn**	**07 31 19.6**	**+1.0**
PAVE	**Pavencul**	**2.76**	**97**	*i* P			**Pb**	**07 30 59.2**	**-2.1**
PAVE				*i* S			**Sn**	**07 31 31.0**	**+0.7**
YOIG	**Yosondua**	**2.77**	**299**				**Pb**	**07 31 00.6**	**-1.0**
YOIG							**Sn**	**07 31 31.1**	**+0.5**
YOIG	**Yosondua**	**2.77**	**299**	*e*P			**Pb**	**07 31 00.6**	**-1.0**

*IDC **21** 07:30:59.0±2.5, 3°.19S×75°.78W, h130km±25km, mb3.5/10, mbtmp4.0/13, Error ellipse: s-maj=23.1km s-min=13.8km az=57.0*
*NEIC **21** 07:30:58.4±1.8, 3°.29S±0°.07×75°.85W±0°.07, h127km±8km, mb4.6/45, Error ellipse: s-maj=11.4km s-min=8.9km az=60.0*

ISC 21 07:30:56.0±0.4, 3°.24S±0°.04×75°.75W±0°.06, h100km, n115, σ2s 14/105, mb4.5/23, 2C-1D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSC	**San Juan Bosco**	**2.74**	**272**		**Pn**	**07 31 39.9**	**+1.4**
BOSC				Sn	**Sn**	**07 32 10.1**	**-1.1**
PTLC	**Puerto Leguiza**	**3.52**	**16**	*eP*	**Pn**	**07 31 47.8**	**-1.1**
PTLC				*eS*	Sn	07 32 18.5	-11
PTLC				*i*		07 32 25.4	
	comp=Z,570nm,0.3s						
CHSH	**Refugio Sur-Vo**	**3.57**	**299**		**Pn**	**07 31 52.5**	**+2.5**
COHC	**Cochancay**	**3.58**	**282**		**Pn**	**07 31 51.9**	**+2.3**
COHC	**Cochancay**	**3.58**	**282**	*eP*	**Pn**	**07 31 51.7**	**+2.1**
SLOR	**San Lorenzo -**	**3.71**	**312**		**Pn**	**07 31 54.5**	**+2.7**
BONI	**La Bonita**	**4.08**	**334**	*eP*	**Pn**	**07 31 57.9**	**+1.3**
PULU	**Pululahua**	**4.25**	**320**		**Pn**	**07 32 01.5**	**+2.5**
IMBA	**Imbabura, San**	**4.27**	**325**		**Pn**	**07 32 03.2**	**+3.9**
ARNL	**Arenillas**	**4.32**	**266**		**Pn**	**07 31 59.4**	**-0.2**
MCRA	**Macar, Loja**	**4.34**	**255**	Pn	**Pn**	**07 31 59.6**	**-0.4**
MCRA	**Macar, Loja**	**4.34**	**255**	*eP*	**Pn**	**07 31 59.5**	**-0.4**
OTAV	**Otavalo**	**4.39**	**322**		**Pn**	**07 32 03.7**	**+2.5**
OTAV	**Otavalo**	**4.39**	**322**	*eP*	**Pn**	**07 32 03.7**	**+2.8**
CUSE	**Cuicocha Este**	**4.41**	**323**	*eP*	**Pn**	**07 32 04.5**	**+3.4**
TULM	**Tulcn-Chalpat**	**4.43**	**333**		**Pn**	**07 32 03.3**	**+1.9**
TULM	**Tulcn-Chalpat**	**4.43**	**333**	*eP*	**Pn**	**07 32 03.4**	**+1.9**
PAC1	**Pacto, Paraso**	**4.62**	**319**	*eP*	Pn	07 32 09.7	+5.8
CMBC	**Cumbal**	**4.64**	**333**	*eP*	**Pn**	**07 32 07.5**	**+3.1**
ATAH	**Atahualpa**	**4.68**	**214**	P	**Pn**	**07 32 08.8**	**+4.1**
	comp=Z,54nm,0.5s,baz=24,slow=11,SNR=83						
ATAH				S	**Sn**	**07 33 01.4**	**+3.2**
	comp=Z,148nm,0.5s,baz=163,slow=18,SNR=16						
GCUF	**Volcan Galeras**	**4.72**	**340**	*eP*	**Pn**	**07 32 07.9**	**+2.5**
CRUC	**La Cruz**	**4.93**	**346**	*eP*	**Pn**	**07 32 10.0**	**+1.8**
PPLP	**Puerto Lpez**	**5.30**	**288**	*eP*	Pn	07 32 18.3	+5.4
SALI	**Salinas**	**5.34**	**281**	Pn	**Pn**	**07 32 13.7**	**+0.3**
CZSB	**Cruzeiro do Su**	**5.39**	**146**	Pn	**Pn**	**07 32 17.7**	**+3.6**
CZSB	**Cruzeiro do Su**	**5.39**	**146**	*eP*	**Pn**	**07 32 18.4**	**+4.3**
GARC	**Garzon, Huila**	**5.40**	**3**	*eP*	**Pn**	**07 32 16.3**	**+1.9**
BBAC	**Balboa, Cauca**	**5.44**	**344**	*eP*	**Pn**	**07 32 17.2**	**+2.2**
BETC	**Betania**	**5.89**	**3**	*eP*	**Pn**	**07 32 24.3**	**+3.3**
JAMC	**Jamundi, Valle**	**6.48**	**352**	*eP*	**Pn**	**07 32 33.4**	**+4.3**
PRAC	**Prado**	**6.96**	**7**	Pn	**Pn**	**07 32 38.5**	**+2.9**
PRAC	**Prado**	**6.96**	**7**	*eP*	**Pn**	**07 32 37.8**	**+2.3**
ORTC	**Ortega, Tolima**	**7.12**	**4**	*eP*	**Pn**	**07 32 40.6**	**+2.9**
YOTC	**Yotoco, Valle**	**7.20**	**355**	*eP*	**Pn**	**07 32 41.0**	**+2.2**
VILC	**Villavicencio,**	**7.59**	**16**	*eP*	**Pn**	**07 32 47.1**	**+3.0**
CVER	**Cruz Verde, Cu**	**7.89**	**12**	*eP*	**Pn**	**07 32 52.8**	**+4.2**
PLMC	**San Jos del P**	**8.11**	**356**	*eP*	**Pn**	**07 32 54.0**	**+2.8**
ROSC	**El Rosal**	**8.15**	**10**	Pn	**Pn**	**07 32 54.4**	**+2.3**
ROSC	**El Rosal**	**8.15**	**10**	P	Pn	07 32 59.7	+7.6
	comp=Z,8.3nm,0.4s,baz=160,slow=15,SNR=9.8						
ROSC	**El Rosal**	**8.15**	**10**	*eP*	**Pn**	**07 32 55.9**	**+3.8**
PTGC	**Puerto Gaitan,**	**8.23**	**26**	*eP*	**Pn**	**07 32 54.6**	**+1.9**
GUY2C	**Guyana, Caldas**	**8.42**	**3**	*eP*	**Pn**	**07 32 59.7**	**+4.0**
NNA	**Nana**	**8.76**	**187**	Pn	**Pn**	**07 33 00.9**	**+1.0**
NNA	**Nana**	**8.76**	**187**	P	**Pn**	**07 33 03.7**	**+3.8**
	comp=Z,67nm,0.3s,baz=355,slow=7.7,SNR=74						
NNA				S	**Sn**	**07 34 33.3**	**-3.6**
	comp=Z,28nm,0.3s,baz=277,slow=23,SNR=4.4						
NNA	**Nana**	**8.76**	**187**	*eP*	**Pn**	**07 33 03.5**	**+3.5**
SPBC	**San Pablo de B**	**8.99**	**11**	*eP*	**Pn**	**07 33 05.5**	**+2.3**
CBOC	**Ciudad Bolivar**	**9.05**	**358**	*eP*	**Pn**	**07 33 05.2**	**+1.2**
PTBC	**PUERTO BERRIO,**	**9.80**	**8**	*eP*	**Pn**	**07 33 15.9**	**+1.8**
BARC	**Barichara**	**10.10**	**15**	*eP*	**Pn**	**07 33 22.4**	**+4.1**
URFC	**San Jos de Ur**	**10.92**	**1**	*eP*	**Pn**	**07 33 33.4**	**+4.0**
ETMB	**Extrema**	**11.50**	**125**	Pn	**Pn**	**07 32 37.3**	**+0.2**
OCAC	**Ocana**	**11.66**	**12**	*eP*	**Pn**	**07 33 41.0**	**+1.6**
BCIP	**Isla Barro Col**	**12.98**	**342**	Pn	**Pn**	**07 33 57.4**	**+0.6**
SDV	**Santo Domingo**	**13.08**	**23**	Pn	**Pn**	**07 33 59.9**	**+1.6**
SDV	**Santo Domingo**	**13.08**	**23**	P	**Pn**	**07 34 00.9**	**+2.6**
	comp=Z,5.0nm,0.4s,baz=268,slow=9.3,SNR=4.3						
SAML	**Samuel**	**13.72**	**115**	Pn	**Pn**	**07 34 07.1**	**+0.7**
BAUV	**El Baul**	**14.34**	**32**		**Pn**	**07 34 15.8**	**+1.4**
LPAZ	**La Paz**	**14.97**	**150**	Pn	**Pn**	**07 34 23.3**	**+0.2**
MACA	**Manacapuru-AM**	**15.04**	**90**	Pn	**Pn**	**07 34 23.8**	**+0.3**
PB18	**Visviri**	**15.53**	**157**		**Pn**	**07 34 31.4**	**+1.4**
PB18				IAmb	IAmb	07 34 39.5	
	comp=Z,33nm,0.6s						
AP01	**Chacalluta**	**15.94**	**161**		**Pn**	**07 34 36.3**	**+1.6**
PB12	**IPOC Station P**	**16.17**	**161**		**Pn**	**07 34 39.2**	**+1.6**
PB16	**IPOC Station P**	**16.20**	**158**		**Pn**	**07 34 40.1**	**+1.7**
PB16				IAmb	IAmb	07 34 46.0	
	comp=Z,32nm,0.6s						
AUA1	**Aruba**	**16.65**	**20**		**Pn**	**07 34 44.0**	**+0.6**
PB11	**IPOC Station P**	**17.46**	**161**	P	**P**	**07 34 52.7**	**-0.6**
GO01	**Chusmiza**	**17.54**	**159**	P	**P**	**07 34 55.7**	**+1.3**
TA02	**Huaiquique**	**17.79**	**162**	P	**P**	**07 34 58.4**	**+1.7**
PB08	**IPOC Station P**	**17.99**	**160**	P	**P**	**07 35 00.5**	**+1.2**
PB08				IAmb	IAmb	07 35 06.3	
	comp=Z,28nm,1.1s						
PATCX	**Punta Patache**	**18.30**	**163**	P	**P**	**07 35 03.9**	**+1.4**
PATCX				IAmb	IAmb	07 35 13.2	
	comp=Z,27nm,0.8s						
PB01	**IPOC Station P**	**18.71**	**161**	IAmb	IAmb	07 35 14.6	
	comp=Z,38nm,0.8s						
SIV	**San Ignacio**	**19.21**	**132**	P	**P**	**07 35 14.0**	**+1.7**
	comp=Z,3.0nm,0.5s,baz=293,slow=9.7,SNR=24						
PB07	**IPOC Station P**	**19.24**	**163**	IAmb	IAmb	07 35 21.1	
	comp=Z,22nm,0.6s						
PB09	**IPOC Station P**	**19.50**	**162**	P	**P**	**07 35 16.0**	**+0.5**
PB09				IAmb	IAmb	07 35 24.7	
	comp=Z,48nm,0.9s						
PB06	**IPOC Station P**	**20.25**	**163**	P	**P**	**07 35 22.8**	**-0.9**
PB06				IAmb	IAmb	07 35 34.5	
	comp=Z,22nm,0.7s						
LVC	**Limon Verde**	**20.36**	**162**	P	**P**	**07 35 24.0**	**-1.1**
LVC				IAmb	IAmb	07 35 36.0	
	comp=Z,27nm,0.8s						
LVC	**Limon Verde**	**20.36**	**162**	P	**P**	**07 35 28.2**	**+3.1**
	comp=Z,13nm,0.6s,baz=16,slow=9.6,SNR=22						
	comp=Z,13nm,0.6s						
PTLB	**Pontes e Lacer**	**20.37**	**128**	P	**P**	**07 35 24.9**	**+0.1**
PB15	**IPOC Station P**	**20.76**	**164**	P	**P**	**07 35 28.4**	**-0.8**
MTDJ	**Mount Denham**	**21.41**	**355**	P	**P**	**07 35 37.5**	**+1.5**
MTDJ				IAmb	IAmb	07 36 05.0	
	comp=Z,57nm,1.1s						
GO02	**Mina Guanaco**	**22.59**	**165**	P	P	07 35 57.4	+8.8
GO02				IAmb	IAmb	07 35 58.1	
	comp=Z,28nm,0.6s						
AQDB	**Aquidauana**	**25.98**	**133**	P	**P**	**07 36 20.2**	**+0.6**
AQDB				IAmb	IAmb	07 36 21.2	
	comp=Z,9.2nm,0.9s						
PLCA	**Paso Flores**	**37.62**	**174**	P	**P**	**07 38 01.4**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=324,slow=8.7,SNR=2.4						
	comp=Z,1.4nm,0.9s						
V48A	**Smith Brothers**	**40.14**	**346**	IAmb	IAmb	07 38 21.4	
	comp=Z,4.7nm,0.6s						
DRIO	**Del Rio**	**40.29**	**325**	P	**P**	**07 38 23.4**	**-0.1**
DRIO				IAmb	IAmb	07 38 24.2	
	comp=Z,7.9nm,0.8s						
TXAR	**Lajitas Array**	**42.02**	**322**	P	**P**	**07 38 37.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=144,slow=9.1,SNR=13						
TXAR				PcP	**PcP**	**07 40 30.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=150,slow=6.4,SNR=5.8						
	comp=Z,0.5nm,0.6s						
LONY	**Lake Ozonia**	**47.66**	**1**	P	**P**	**07 39 21.6**	**-0.6**
LONY				IAmb	IAmb	07 39 47.7	
	comp=Z,9.1nm,1.2s						
ANMO	**Albuquerque**	**47.69**	**325**	P	**P**	**07 39 23.2**	**+0.2**
ANMO	**Albuquerque**	**47.69**	**325**	P	**P**	**07 39 23.1**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=236,slow=8.7,SNR=16						
	comp=Z,2.5nm,0.6s						
JFWS	**Jewell Farm**	**47.78**	**346**	P	**P**	**07 39 20.9**	**-2.3**
JFWS				IAmb	IAmb	07 39 21.8	
	comp=Z,12nm,1.4s						
TPNV	**Topopah Spring**	**54.93**	**321**	IAmb	IAmb	07 40 28.8	
	comp=Z,15nm,1.5s						
PDAR	**Pinedale Array**	**55.05**	**330**	P	**P**	**07 40 16.5**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=118,slow=11,SNR=2.8						
	comp=Z,0.2nm,0.5s						
ULM	**Lac du Bonnet**	**56.03**	**345**	P	P	07 40 21.9	-2.4
	comp=Z,1.9nm,0.7s,baz=180,slow=8.2,SNR=3.5						
	comp=Z,1.9nm,0.7s						
NVAR	**Mina Array Bea**	**57.12**	**321**	P	**P**	**07 40 32.8**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=132,slow=7.3,SNR=16						
	comp=Z,2.7nm,0.8s						
MFID	**Camas Ranch**	**58.79**	**327**	IAmb	IAmb	07 40 44.6	
	comp=Z,5.3nm,1.2s						
ORV	**Oroville**	**59.80**	**320**	P	**P**	**07 40 49.1**	**-1.8**
ORV				IAmb	IAmb	07 40 51.9	
	comp=Z,4.2nm,1.0s						
FCC	**Fort Churchill**	**63.52**	**349**	P	**P**	**07 41 14.0**	**-1.4**
EDM	**Edmonton**	**64.48**	**336**	P	**P**	**07 41 20.5**	**-1.5**
YKA	**Yellowknife Ar**	**71.87**	**342**	P	**P**	**07 42 06.1**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=141,slow=5.8,SNR=10						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.54**	**76**	P	**P**	**07 42 45.8**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=286,slow=5.4,SNR=6.8						
	comp=Z,0.5nm,0.4s						
SUMG	**Summit**	**79.30**	**11**	P	**P**	**07 42 50.2**	**-0.4**
G31M	**Satah River**	**81.15**	**340**	P	**P**	**07 42 59.6**	**-0.5**
A36M	**Sachs Harbour**	**81.47**	**346**	P	**P**	**07 43 00.5**	**-1.2**
A36M				IAmb	IAmb	07 43 01.0	
	comp=Z,5.5nm,0.8s						
SNAA	**Sanae**	**81.60**	**162**	P	**P**	**07 43 01.7**	**-0.8**
INK	**Inuvik**	**81.62**	**341**	P	**P**	**07 43 02.1**	**-0.4**
DAWY	**Dawson**	**81.69**	**337**	P	**P**	**07 43 02.5**	**-0.7**
BCAR	**Beaver Creek A**	**82.26**	**335**	P	**P**	**07 43 05.9**	**-0.3**
GLB	**Gilahina Butte**	**82.53**	**333**	P	**P**	**07 43 07.3**	**-0.3**
GLB				IAmb	IAmb	07 43 07.9	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**84.98**	**336**	P	**P**	**07 43 17.9**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=118,slow=4.6,SNR=7.5						
	comp=Z,0.6nm,0.8s						
B21K	**Ikpikpuk River**	**89.14**	**340**	IAmb	IAmb	07 43 43.7	
	comp=Z,7.3nm,0.7s						
G19K	**Purcell Mounta**	**89.44**	**336**	IAmb	IAmb	07 43 42.7	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**127.00**	**14**	PKP	**PKPdf**	**07 49 47.1**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=353,slow=1.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**128.04**	**21**	PKP	**PKPdf**	**07 49 49.7**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=311,slow=1.6,SNR=4.7						
MKAR	**Makanchi Array**	**132.61**	**20**	PKP	**PKPdf**	**07 49 57.8**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=311,slow=3.5,SNR=6.7						
ASAR	**Alice Springs**	**140.63**	**226**	PKhKP	PKPpre	07 50 06.8	
	comp=Z,0.3nm,0.5s,baz=121,slow=3.7,SNR=8.5						
WRA	**Warramunga Arr**	**142.53**	**231**	PKhKP	PKPpre	07 50 13.3	
	comp=Z,0.8nm,0.8s,baz=123,slow=2.4,SNR=5.7						

IDC 21 08:07:26.3±4.0, 3°.20S×130°.63E, h0km, mb3.5/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=298.0km s-min=28.4km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.03**	**168**	P	Pn	08 11 27.0	+0.9
	0.2nm,0.3s,baz=349,slow=12,SNR=2.9						
	2.0nm,1.2s						
ASAR	**Alice Springs**	**20.59**	**171**	P	P	08 12 06.8	-0.4
	0.9nm,0.4s,baz=350,slow=11,SNR=33						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**65.44**	**326**	P	P	08 18 11.2	0.0
	0.2nm,0.4s,baz=112,slow=8.6,SNR=6.6						
	0.2nm,0.4s						

*SOME **21** 08:29:00.3, 46°.78N×76°.40E, h5km*
*NNC **21** 08:29:01.1±0.5, 46°.79N×76°.49E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=4.0km s-min=3.6km az=86.0*

ISC 21 08:29:01.1±0.9, 46°.76N±0°.03×76°.35E±0°.03, h10km, n53, σ1s 98/76, 8C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDK	**Taldyqorghan**	**2.27**	**140**	Pg	**Pg**	**08 29 42.7**	**-1.9**
	63nm,0.2s						
TDK				Lg	Lg	08 30 12.9	
	202nm,0.5s						
TDK	**Taldyqorghan**	**2.27**	**140**	*eP*	**Pg**	**08 29 43.5**	**-1.1**
	40nm,0.2s						
TDK				*eS*	**Sg**	**08 30 13.9**	**-0.1**
	192nm,0.3s						
BTLS	**Baital**	**2.36**	**224**	Pg	**Pb**	**08 29 44.7**	**+1.0**
	3.7nm,0.2s						
BTLS				Lg	Lg	08 30 16.4	
	25nm,0.3s						
BTLS	**Baital**	**2.36**	**224**	*eP*	**Pb**	**08 29 44.0**	**+0.4**
	2.5nm,0.1s						
BTLS				*eS*	**Sg**	**08 30 15.2**	**-1.6**
	21nm,0.2s						
KAPS	**Kapalarasan**	**2.56**	**124**	Pg	**Pg**	**08 29 47.8**	**-2.4**
	6.4nm,0.1s						
KAPS				Lg	Lg	08 30 21.5	
	83nm,0.4s						
KAPS	**Kapalarasan**	**2.56**	**124**	*eP*	**Pg**	**08 29 48.5**	**-1.6**
	8.3nm,0.1s						
KAPS				*eS*	**Sg**	**08 30 22.5**	**-0.8**
	83nm,0.4s						
ARXS	**Arharly**	**2.75**	**157**	Pg	**Pb**	**08 29 51.3**	**+0.9**
	11nm,0.2s						
ARXS				Lg	Lg	08 30 27.5	
	46nm,0.4s						
ARXS	**Arharly**	**2.75**	**157**	*eP*	**Pg**	**08 29 52.6**	**-1.2**
	19nm,0.2s						
ARXS				*eS*	**Sg**	**08 30 29.1**	**-0.3**
	76nm,0.3s						
KUU	**Kurty**	**2.87**	**180**	Pg	**Pg**	**08 29 54.5**	**-1.5**
	24nm,0.2s						
KUU				Lg	Lg	08 30 32.6	
	48nm,0.2s						
KUU	**Kurty**	**2.87**	**180**	*eP*	**Pg**	**08 29 54.5**	**-1.5**
	24nm,0.2s						
KUU				*eS*	**Sg**	**08 30 32.6**	**-0.5**
	48nm,0.2s						
CHKK	**Chushkaly**	**2.94**	**171**	Pg	**Pb**	**08 29 54.4**	**+0.8**
	9.3nm,0.1s						
CHKK				Lg	Lg	08 30 32.6	
	48nm,0.2s						
CHKK	**Chushkaly**	**2.94**	**171**	*eP*	**Pb**	**08 29 54.4**	**+0.8**
	9.3nm,0.1s						
CHKK				*eS*	**Sg**	**08 30 32.6**	**-2.9**
	48nm,0.2s						
BLB	**Baldybastay**	**3.06**	**150**	Pg	**Pb**	**08 29 56.7**	**+1.1**
	26nm,0.3s						
BLB				Lg	Lg	08 30 36.5	
	50nm,0.3s						
KTBS	**Karatobe**	**3.06**	**176**	Pg	**Pb**	**08 29 56.5**	**+0.9**
	5.3nm,0.2s						
KTBS				Lg	Lg	08 30 36.5	
	126nm,0.3s						
KTBS	**Karatobe**	**3.06**	**176**	*eP*	**Pb**	**08 29 56.5**	**+0.9**
	5.3nm,0.2s						
KTBS				*eS*	**Sg**	**08 30 36.5**	**-2.8**
	126nm,0.3s						
OTUK	**Ortayu**	**3.10**	**300**	⇑Pg	**Pg**	**08 30 00.4**	**0.0**
	2.9nm,0.5s						
OTUK				⇓Lg	Lg	08 30 40.7	
	42nm,0.5s						
KNOS	**Konyrlen**	**3.12**	**139**	Pg	**Pb**	**08 29 57.5**	**+0.9**
	11nm,0.3s						
KNOS				Lg	Lg	08 30 38.2	
	44nm,0.6s						
DJR	**Jarkent**	**3.42**	**134**	Pg	**Pb**	**08 30 02.7**	**+0.8**
	5.7nm,0.2s						
DJR				Lg	Lg	08 30 46.9	
	36nm,0.6s						
DJR	**Jarkent**	**3.42**	**134**	*eP*	**Pb**	**08 30 02.7**	**+0.8**
	5.7nm,0.2s						
DJR				*eS*	**Sg**	**08 30 46.9**	**-4.2**
	36nm,0.6s						
KURS	**Kuram**	**3.52**	**158**	*eP*	**Pg**	**08 30 06.1**	**-2.4**
	9.7nm,0.6s						
KURS				*eS*	**Sg**	**08 30 52.4**	**-1.5**
	21nm,0.3s						
SGDS	**Sogindy**	**3.53**	**201**	Pg	**Pg**	**08 30 06.3**	**-2.3**
	4.5nm,0.2s						
SGDS				Lg	Lg	08 30 53.1	
	36nm,0.3s						
DGS	**Degeres**	**3.54**	**187**	Pg	**Pg**	**08 30 06.4**	**-2.5**
	22nm,0.5s						
DGS				Lg	Lg	08 30 53.0	
	66nm,0.5s						
DGS	**Degeres**	**3.54**	**187**	*eP*	**Pg**	**08 30 06.4**	**-2.5**
	22nm,0.5s						
DGS				*eS*	**Sg**	**08 30 53.0**	**-1.8**
	66nm,0.5s						
KOTS	**Kotyrbulak**	**3.57**	**171**	*eP*	**Pg**	**08 30 07.4**	**-2.0**
	14nm,0.3s						
KOTS				*eS*	**Sg**	**08 30 54.7**	**-0.9**
	58nm,0.2s						
MDOK	**Medeo**	**3.63**	**172**	Pg	**Pg**	**08 30 08.9**	**-1.8**
	6.7nm,0.6s						
MDOK				⇑Lg	Lg	08 30 56.7	
	25nm,0.6s						
MDOK	**Medeo**	**3.63**	**172**	*eP*	**Pg**	**08 30 08.6**	**-2.0**
	8.5nm,0.6s						
MDOK				*eS*	**Sg**	**08 30 56.7**	**-1.0**
	29nm,0.4s						
MTBS	**Maitube**	**3.63**	**179**	Pg	**Pg**	**08 30 08.3**	**-2.4**
	17nm,0.3s						
MTBS				Lg	Lg	08 30 56.4	
	44nm,0.3s						
MTBS	**Maitube**	**3.63**	**179**	*eP*	**Pg**	**08 30 08.3**	**-2.4**
	17nm,0.3s						
MTBS				*eS*	**Sg**	**08 30 56.4**	**-1.2**
	44nm,0.3s						
KPKS	**Kokpek**	**3.69**	**153**	Pg	**Pb**	**08 30 07.9**	**+1.5**
	7.5nm,0.3s						
KPKS				Lg	Lg	08 30 55.8	
	41nm,0.4s						
KPKS	**Kokpek**	**3.69**	**153**	*eP*	**Pb**	**08 30 07.9**	**+1.5**
	7.5nm,0.3s						
KPKS				*eS*	**Sg**	**08 30 55.8**	**-3.6**
	41nm,0.4s						
KST	**Kastek**	**3.73**	**184**	Pg	**Pg**	**08 30 10.2**	**-2.3**
	13nm,0.3s						
KST				Lg	Lg	08 30 59.4	
	28nm,0.3s						
KST	**Kastek**	**3.73**	**184**	*eP*	**Pg**	**08 30 10.2**	**-2.3**
	13nm,0.3s						
KST				*eS*	**Sg**	**08 30 59.4**	**-1.4**
	28nm,0.3s						
TNSS	**Tian-Shan**	**3.75**	**173**	Pg	**Pg**	**08 30 10.9**	**-2.0**
	6.5nm,0.2s						
TNSS				Lg	Lg	08 31 00.5	
	13nm,0.4s						
TNSS	**Tian-Shan**	**3.75**	**173**	*eP*	**Pg**	**08 30 10.9**	**-2.0**
	6.5nm,0.2s						
TNSS				*eS*	**Sg**	**08 31 00.5**	**-0.9**
	13nm,0.4s						
MAKZ	**Makanchi**	**3.87**	**87**	⇑Pg	**Pb**	**08 30 10.2**	**+0.8**
	1.5nm,0.3s						
MAKZ				⇑Lg	Lg	08 30 60.0	
	6.7nm,0.4s						
TKM2	**Tokmak 2**	**3.88**	**188**	⇓Pg	**Pb**	**08 30 11.7**	**+2.1**
	3.1nm,0.4s						
TKM2				⇓Lg	Lg	08 31 07.2	
	27nm,0.8s						
CHMS	**Chumysh**	**3.93**	**197**	⇓Pg	**Pg**	**08 30 17.9**	**+1.5**
	4.1nm,0.6s						
CHMS				⇓Lg	Lg	08 31 09.1	
	24nm,0.7s						
SATY	**Saty**	**3.98**	**158**	Pg	**Pg**	**08 30 14.0**	**-3.3**
	2.5nm,0.1s						
SATY				Lg	Lg	08 31 06.3	
	35nm,0.3s						
SATY	**Saty**	**3.98**	**158**	*eP*	**Pg**	**08 30 14.0**	**-3.3**
	2.5nm,0.1s						
SATY				*eS*	**Sg**	**08 31 06.3**	**-2.5**
	35nm,0.3s						
BRZS	**Berezniki**	**4.05**	**324**	*eP*	**Pg**	**08 30 15.4**	**-3.2**
	2.8nm,0.1s						
BRZS				*eS*	**Sg**	**08 31 08.6**	**-2.4**
	46nm,0.5s						
UZB	**Uzynbulak**	**4.08**	**151**	Pg	**Pb**	**08 30 15.0**	**+1.9**
	2.5nm,0.2s						
UZB				Lg	Lg	08 31 08.5	
	11nm,0.4s						
UZB	**Uzynbulak**	**4.08**	**151**	*eP*	**Pb**	**08 30 15.0**	**+1.9**
	2.5nm,0.2s						
UZB				*eS*	**Sg**	**08 31 08.4**	**-3.6**
	11nm,0.4s						
MK31	**Makanchi Array**	**4.08**	**87**	⇑Pg	**Pb**	**08 30 14.0**	**+0.9**
	0.8nm,0.3s,baz=272,slow=14,SNR=22						
MK31				⇓Lg	Lg	08 31 07.5	
	3.4nm,0.3s,baz=274,slow=32,SNR=9.7						
PDGK	**Podgornoye**	**4.09**	**146**	Pg	**Pb**	**08 30 15.3**	**+2.1**
	0.8nm,0.2s						
PDGK				Lg	Lg	08 31 08.5	
	7.7nm,0.7s						
KURBB	**Kurchatov Arra**	**4.13**	**20**	⇓Pg	**Pb**	**08 30 13.8**	**+0.1**
	3.8nm,0.5s						
KURBB				⇓Lg	Lg	08 31 08.6	
	49nm,0.6s						
SHLS	**Shalkode**	**4.22**	**147**	Pg	**Pg**	**08 30 20.7**	**-1.4**
	3.2nm,0.3s						
SHLS				Lg	Lg	08 31 17.4	
	27nm,0.3s						
SHLS	**Shalkode**	**4.22**	**147**	*eP*	**Pg**	**08 30 20.7**	**-1.4**
	3.2nm,0.3s						
SHLS				*eS*	**Sg**	**08 31 17.4**	**+0.6**
	27nm,0.3s						
KURK	**Kurchatov**	**4.23**	**20**	⇑Pg	**Pb**	**08 30 16.6**	**+1.1**
	4.9nm,0.7s						
KURK				⇓Lg	Lg	08 31 10.3	
	34nm,

MLSB	**Milas**	**0.71**	**54**	Pg	**Pb**	**08 40 45.3**	**+0.1**
GCAM	**G?zelcaml?**	**0.83**	**10**	Pg	**Pg**	**08 40 47.2**	**0.0**
GCAM	**G?zelcaml?**	**0.83**	**10**	P	**Pg**	**08 40 47.2**	**0.0**
GCAM				S	**Sb**	**08 40 58.9**	**+0.6**
GCAM				*i* AML	AML	08 41 01.0	
	comp=E,52nm,0.3s						
GCAM				*i* AML	AML	08 41 02.0	
	comp=E,80nm,0.3s						
SMG	**Samos**	**0.85**	**348**	P	**Pg**	**08 40 47.5**	**0.0**
SMG				S	**Sb**	**08 40 59.3**	**+0.5**
	comp=E,330nm,0.4s						
SMG	**Samos**	**0.85**	**348**	P	**Pg**	**08 40 47.7**	**+0.2**
SMG				S	**Sb**	**08 40 59.6**	**+0.8**
SMG				AML	AML	08 41 02.1	
	comp=E,844µm,0.5s						
SMG				AML	AML	08 41 04.1	
	comp=N,473µm,0.3s						
TURN	**Turunc**	**0.96**	**96**	Pg	**Pb**	**08 40 48.9**	**-0.5**
TURN	**Turunc**	**0.96**	**96**	P	**Pb**	**08 40 48.8**	**-0.6**
TURN				S	**Sg**	**08 41 02.6**	**+0.5**
TURN				*i* AML	AML	08 41 04.0	
	comp=N,133nm,0.6s						
TURN				*i* AML	AML	08 41 06.0	
	comp=N,134nm,0.4s						
YER	**Yerkesik**	**1.01**	**75**	Pg	**Pb**	**08 40 50.5**	**+0.1**
ARG	**Arkhangelos**	**1.08**	**127**	Pg	**Pb**	**08 40 51.5**	**-0.1**
ARG	**Arkhangelos**	**1.08**	**127**	P	**Pb**	**08 40 51.4**	**-0.1**
ARG				S	**Sb**	**08 41 05.6**	**0.0**
APE	**Apeiranthos**	**1.24**	**279**	P	**Pn**	**08 40 53.7**	**-0.3**
APE				S	**Sb**	**08 41 09.6**	**-0.5**
APE	**Apeiranthos**	**1.24**	**279**	P	**Pn**	**08 40 52.7**	**-1.4**
DALY	**Dalyan (Mula)**	**1.28**	**92**	Pn	**Pb**	**08 40 55.2**	**+0.3**
KARP	**Karpathos**	**1.33**	**176**	P	**Pn**	**08 40 54.7**	**-0.6**
ESEN	**Aydn-Nazilli**	**1.38**	**48**	P	**Pg**	**08 40 57.2**	**-0.3**
ESEN				S	**Sg**	**08 41 15.1**	**-0.4**
ESEN				*i* AML	AML	08 41 19.0	
	comp=N,17nm,0.5s						
ESEN				*i* AML	AML	08 41 22.0	
	comp=N,19nm,0.4s						
IZMR	**zmir-demi**	**1.44**	**29**	P	**Pb**	**08 40 57.9**	**+0.2**
IZMR				S	**Sg**	**08 41 19.7**	**+2.1**
IZMR				*i* AML	AML	08 41 20.0	
	comp=N,16nm,0.6s						
IZMR				*i* AML	AML	08 41 24.0	
	comp=N,13nm,0.9s						
TAVA	**DENIZLI_Tavas**	**1.59**	**68**	P	**Pg**	**08 41 01.1**	**-0.6**
TAVA				S	**Sg**	**08 41 24.2**	**+1.8**
TAVA				*i* AML	AML	08 41 27.0	
	comp=N,14nm,0.5s						
TAVA				*i* AML	AML	08 41 28.0	
	comp=N,24nm,0.4s						
FETY	**Fethiye**	**1.64**	**98**	Pn	**Pb**	**08 41 01.2**	**0.0**
FETY	**Fethiye**	**1.64**	**98**	P	**Pg**	**08 41 02.7**	**0.0**
FETY				S	**Sg**	**08 41 26.6**	**+2.6**
DNIZ	**Denizli-Tavas-**	**1.75**	**64**	P	**Pb**	**08 41 03.7**	**+0.7**
DNIZ				S	**Sg**	**08 41 29.2**	**+2.0**
DNIZ				*i* AML	AML	08 41 31.0	
	comp=N,42nm,0.5s						
DNIZ				*i* AML	AML	08 41 35.0	
	comp=N,29nm,0.4s						
IZZE	**Mula-Seydike**	**1.80**	**104**	P	**Pb**	**08 41 03.9**	**+0.1**
IZZE				S	**Sg**	**08 41 29.1**	**+0.2**
IZZE				*i* AML	AML	08 41 30.0	
	comp=N,204nm,0.4s						
IZZE				*i* AML	AML	08 41 31.0	
	comp=N,78nm,0.4s						
CAME	**Cameli-Denizli**	**1.80**	**87**	Pn	**Pb**	**08 41 03.2**	**-0.7**
APMY	**Acipayam-Deniz**	**1.89**	**71**	Pn	**Pb**	**08 41 04.6**	**-0.7**

*VAO **21** 08:40:32.7±0.4,20°.54S×67°.82W,h158km,mb4.3*
*NEIC **21** 08:40:32.6±1.4,20°.74S±0°.06×68°.10W±0°.05,h211km±9km, mb4.3/8,Error ellipse: s-maj=9.4km s-min=4.7km az=144.0*
*IDC **21** 08:40:33.1±1.3,20°.71S×67°.65W,h161km±15km,mb3.5/6, mbtmp4.0/11,Error ellipse: s-maj=21.9km s-min=15.6km az=160.0*
*SJA **21** 08:40:33.7±1.7,20°.69S×67°.76W,h150km,ML4.0,MW3.8*
*SCB **21** 08:40:34.2±1.4,20°.73S×67°.84W,h156km±13km,ML4.4/4, MW4.5,Error ellipse: s-maj=3.6km s-min=2.8km az=2.0*
ISC 21 08:40:32.6±0.6, 20°.76S±0°.04×67°.92W±0°.04, h187km±7km, n154,σ1°34/173, mb3.9/6, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.31**	**298**		**Pn**	**08 41 04.5**	**+0.6**
PB08	**IPOC Station P**	**1.31**	**298**	*eP*	**Pn**	**08 41 04.5**	**+0.6**
PB08				*eS*	**S**	**08 41 28.1**	**+0.1**
PB08	**IPOC Station P**	**1.31**	**298**	Pg	**Pn**	**08 41 04.3**	**+0.4**
PB01	**IPOC Station P**	**1.49**	**259**		**Pn**	**08 41 05.7**	**+0.6**
PB01				Sn	**S**	**08 41 29.7**	**-0.6**
PB01	**IPOC Station P**	**1.49**	**259**	*eP*	**Pn**	**08 41 05.7**	**+0.6**
PB01				*eS*	**S**	**08 41 29.8**	**-0.6**
PB01				IAML		08 41 31.4	
	comp=Z,856nm,0.2s						
PB01	**IPOC Station P**	**1.49**	**259**	Pg	**Pn**	**08 41 06.1**	**+0.9**
PB09	**IPOC Station P**	**1.61**	**230**		**Pn**	**08 41 07.9**	**+1.6**
PB09				Sn	**S**	**08 41 33.0**	**+0.5**
PB09	**IPOC Station P**	**1.61**	**230**	*eP*	**Pn**	**08 41 07.7**	**+1.3**
PB09				*eS*	**S**	**08 41 33.9**	**+1.4**
PB09				IAML		08 41 34.9	
	comp=Z,653nm,0.8s						
PB09	**IPOC Station P**	**1.61**	**230**	Pg	**Pn**	**08 41 07.4**	**+1.0**
GO01	**Chusmiza**	**1.61**	**312**		**Pn**	**08 41 07.2**	**+0.5**
GO01	**Chusmiza**	**1.61**	**312**	*eP*	**Pn**	**08 41 07.6**	**+0.8**
GO01	**Chusmiza**	**1.61**	**312**	Pg	**Pn**	**08 41 07.3**	**+0.5**
HMBC	**Humberstone**	**1.90**	**284**	*eP*	Pn	08 40 54.1	-15
HMBC				*eS*	**S**	**08 41 38.0**	**+0.4**
HMBC				IAML		08 41 41.2	
	comp=Z,674nm,0.2s						
HMBC	**Humberstone**	**1.90**	**284**	Pg	**Pn**	**08 41 09.5**	**+0.2**
HMBC				Sg	**S**	**08 41 36.9**	**-0.7**
HMBC				IAML		08 41 41.0	
	comp=Z,964nm,0.3s						
PB11	**IPOC Station P**	**1.91**	**301**		**Pn**	**08 41 09.8**	**+0.4**
PB11	**IPOC Station P**	**1.91**	**301**	*eP*	**Pn**	**08 41 09.8**	**+0.4**
PB11				*eS*	**S**	**08 41 37.7**	**-0.1**
PB11				IAML		08 41 39.8	
	comp=Z,446nm,0.2s						
PB11	**IPOC Station P**	**1.91**	**301**	Pg	**Pn**	**08 41 09.9**	**+0.5**
PB02	**IPOC Station P**	**1.93**	**253**		**Pn**	**08 41 10.3**	**+0.8**
PB02	**IPOC Station P**	**1.93**	**253**	*eP*	**Pn**	**08 41 10.2**	**+0.8**
PB02				*eS*	**S**	**08 41 38.2**	**+0.1**
PB02				IAML		08 41 39.3	
	comp=Z,3µm,0.4s						
PB02	**IPOC Station P**	**1.93**	**253**	Pg	**Pn**	**08 41 10.6**	**+1.1**
PB02				Sg	**S**	**08 41 37.8**	**-0.2**
PB02				IAML		08 41 38.5	
	comp=Z,3µm,0.4s						
LVC	**Limon Verde**	**2.06**	**206**	*eP*	**Pn**	**08 41 12.5**	**+1.3**
LVC				*eS*	**S**	**08 41 42.5**	**+1.4**
LVC	**Limon Verde**	**2.06**	**206**	P	**Pn**	**08 41 12.7**	**+1.6**
	comp=Z,21nm,0.4s,baz=44,slow=9.2,SNR=164						
LVC				S	**S**	**08 41 42.0**	**+0.8**
	comp=Z,66nm,0.3s,baz=321,slow=8.9,SNR=8.8						
LVC	**Limon Verde**	**2.06**	**206**	Pg	**Pn**	**08 41 12.5**	**+1.3**
LVC	**Limon Verde**	**2.06**	**206**	*eP*	**Pn**	**08 41 12.8**	**+1.6**
PB07	**IPOC Station P**	**2.07**	**242**		**Pn**	**08 41 11.8**	**+0.7**
PB07	**IPOC Station P**	**2.07**	**242**	*eP*	**Pn**	**08 41 11.8**	**+0.7**
PB07				*eS*	**S**	**08 41 41.1**	**+0.1**
PB07				IAML		08 41 42.6	
	comp=Z,1µm,0.4s						
PB07	**IPOC Station P**	**2.07**	**242**	Pg	**Pn**	**08 41 12.5**	**+1.4**
PATCX	**Punta Patache**	**2.09**	**268**		**Pn**	**08 41 11.8**	**+0.7**
PATCX	**Punta Patache**	**2.09**	**268**	*eP*	**Pn**	**08 41 11.8**	**+0.7**
PATCX				*eS*	**S**	**08 41 41.0**	**0.0**
PATCX				IAML		08 41 41.9	
	comp=Z,784nm,0.6s						
TA01	**Diego Aracena**	**2.12**	**275**	Pn	**Pn**	**08 41 12.0**	**+0.4**
TA01	**Diego Aracena**	**2.12**	**275**	*eP*	**Pn**	**08 41 11.9**	**+0.4**
TA01				*eS*	**S**	**08 41 40.2**	**-1.3**
TA01				IAML		08 41 42.5	
	comp=Z,459nm,0.2s						
TA01	**Diego Aracena**	**2.12**	**275**	Pg	**Pn**	**08 41 11.9**	**+0.4**
TA02	**Huaiquique**	**2.13**	**283**		**Pn**	**08 41 12.0**	**+0.6**
TA02	**Huaiquique**	**2.13**	**283**	*eP*	**Pn**	**08 41 12.1**	**+0.6**
TA02				*eS*	**S**	**08 41 41.8**	**+0.1**
TA02				IAML		08 41 43.0	
	comp=Z,622nm,0.1s						
TA02	**Huaiquique**	**2.13**	**283**	Pg	**Pn**	**08 41 12.1**	**+0.6**
SOEO	**Opoqueri**	**2.19**	**1**	Pg	**Pn**	**08 41 13.1**	**+0.4**
MOCB	**Mochara**	**2.19**	**103**	Pg	**Pn**	**08 41 12.8**	**+0.1**
MOCB				Sg	**S**	**08 41 40.9**	**-2.8**
MOCB				IAML		08 41 45.0	
	comp=Z,440nm,0.3s						
AF01	**San Pedro de A**	**2.20**	**186**		**Pn**	**08 41 15.5**	**+2.9**
PB06	**IPOC Station P**	**2.47**	**218**		**Pn**	**08 41 17.1**	**+1.6**
PB06	**IPOC Station P**	**2.47**	**218**	*eP*	**Pn**	**08 41 15.3**	**-0.2**
PB06				*eS*	**S**	**08 41 49.7**	**+0.8**
PB06				IAML		08 41 52.0	
	comp=Z,523nm,0.2s						
PB06	**IPOC Station P**	**2.47**	**218**	Pg	**Pn**	**08 41 17.2**	**+1.6**
PB04	**IPOC Station P**	**2.60**	**233**		**Pn**	**08 41 18.5**	**+1.5**
PB04	**IPOC Station P**	**2.60**	**233**	*eP*	**Pn**	**08 41 18.3**	**+1.3**
PB04				*eS*	**S**	**08 41 51.3**	**-0.2**
PB04				IAML		08 41 55.1	
	comp=Z,617nm,0.2s						
PB04	**IPOC Station P**	**2.60**	**233**	Pg	**Pn**	**08 41 18.6**	**+1.6**
YJA	**Yavi**	**2.65**	**123**	*eP*	**Pn**	**08 41 18.7**	**+0.8**
YJA				*eS*	**S**	**08 41 51.5**	**-1.6**
PB15	**IPOC Station P**	**2.83**	**210**	*eP*	Pn	08 41 15.2	-4.6
PB15				*eS*	**S**	**08 41 57.9**	**+1.3**
PB15	**IPOC Station P**	**2.83**	**210**	Pg	**Pn**	**08 41 21.7**	**+1.9**
PB15				Sg	**S**	**08 41 57.5**	**+0.9**
PB15				IAML		08 42 03.2	
	comp=Z,3µm,0.3s						
PB16	**IPOC Station P**	**2.84**	**328**	Pn	**Pn**	**08 41 22.0**	**+1.7**
PB16	**IPOC Station P**	**2.84**	**328**	*eP*	Pn	08 41 04.5	-16
PB16	**IPOC Station P**	**2.84**	**328**	Pg	**Pn**	**08 41 21.9**	**+1.7**
PB05	**IPOC Station P**	**2.97**	**225**	Pn	**Pn**	**08 41 22.9**	**+1.5**
PB05	**IPOC Station P**	**2.97**	**225**	*eP*	**Pn**	**08 41 22.9**	**+1.5**
PB05				*eS*	**S**	**08 41 58.8**	**-0.6**
PB05				IAML		08 42 03.3	
	comp=Z,224nm,0.6s						
PB05	**IPOC Station P**	**2.97**	**225**	Pg	**Pn**	**08 41 23.0**	**+1.6**
AOVT	**TarijaAcel**	**3.10**	**105**	Pg	**Pn**	**08 41 23.2**	**+0.2**
PB12	**IPOC Station P**	**3.11**	**313**	Pn	**Pn**	**08 41 22.5**	**-0.6**
PB12	**IPOC Station P**	**3.11**	**313**	*eP*	**Pn**	**08 41 22.5**	**-0.6**
PB12				*eS*	**S**	**08 42 00.1**	**-2.3**
AP01	**Chacalluta**	**3.29**	**316**		**Pn**	**08 41 25.1**	**-0.1**
AP01	**Chacalluta**	**3.29**	**316**	*eP*	**Pn**	**08 41 25.4**	**+0.2**
AP01				*eS*	**S**	**08 42 07.3**	**+1.1**
AP01				IAML		08 42 09.4	
	comp=Z,280nm,0.5s						
SOET	**ToroToro**	**3.30**	**38**	Pg	**Pn**	**08 41 25.3**	**-0.3**
AOEA	**Aiquile**	**3.61**	**45**	Pg	**Pn**	**08 41 28.6**	**-0.8**
AOEA	**Aiquile**	**3.61**	**45**	Pg	**Pn**	**08 41 28.8**	**-0.6**
SOEJ	**Jacaque**	**3.77**	**356**	Pg	**Pn**	**08 41 33.2**	**+1.5**
BBOE	**La Paz, Chanca**	**3.93**	**359**	Pg	**Pn**	**08 41 35.1**	**+1.5**
SOTI	**Planta Incahua**	**4.11**	**78**	Pg	**Pn**	**08 41 35.0**	**-0.5**
BBOD	**La Paz, Gloria**	**4.15**	**351**	Pg	**Pn**	**08 41 38.3**	**+1.9**
LPAZ	**La Paz**	**4.45**	**357**	Pn	**Pn**	**08 41 41.6**	**+1.3**
LPAZ	**La Paz**	**4.45**	**357**	*eP*	**Pn**	**08 41 41.6**	**+1.3**
LPAZ				*eS*	**S**	**08 42 33.9**	**+0.6**
LPAZ	**La Paz**	**4.45**	**357**	Pg	**Pn**	**08 41 41.1**	**+0.8**
SLA	**San Lorenzo**	**4.53**	**151**	*eP*	**Pn**	**08 41 42.7**	**+1.8**
SLA				*eS*	**S**	**08 42 38.2**	**+3.8**
GO02	**Mina Guanaco**	**4.64**	**199**	Pn	**Pn**	**08 41 44.1**	**+1.7**
GO02	**Mina Guanaco**	**4.64**	**199**	*eP*	**Pn**	**08 41 43.8**	**+1.4**
GO02				*eS*	**S**	**08 42 36.6**	**-0.6**
GO02				IAML		08 42 39.4	
	comp=Z,191nm,0.5s						
GO02	**Mina Guanaco**	**4.64**	**199**	Pg	**Pn**	**08 41 44.1**	**+1.7**
AC01	**Pan de Azucar**	**5.90**	**204**		**Pn**	**08 41 58.2**	**-0.2**
AC06	**Mina Casimiro**	**6.93**	**198**	Pn	**Pn**	**08 42 11.2**	**-0.7**
GO03	**Copiap**	**7.12**	**197**	Pn	**Pn**	**08 42 13.9**	**-0.5**
BBSD	**Serra de San D**	**7.78**	**64**	*eP*	Pn	08 42 19.6	-3.4
AC04	**Llanos de Chal**	**7.95**	**201**	Pn	**Pn**	**08 42 23.5**	**-1.7**
SIV	**San Ignacio**	**8.05**	**55**	P	Pn	08 42 23.5	-3.2
	comp=Z,20nm,0.4s,baz=233,slow=9.7,SNR=286						
SIV				S		08 43 39.8	
	comp=Z,3.2nm,0.5s,baz=232,slow=18,SNR=3.2						
LCO	**Las Campanas**	**8.59**	**197**	Pn	**Pn**	**08 42 32.5**	**-1.4**
TICA	**Tres Isletas**	**8.90**	**130**	*eP*	**Pn**	**08 42 38.5**	**+0.8**
ESFA	**Espinillo Form**	**9.65**	**117**	*eP*	**Pn**	**08 42 48.5**	**+1.0**
PTLB	**Pontes e Lacer**	**9.88**	**59**	Pn	**Pn**	**08 42 49.3**	**-1.3**
PTLB	**Pontes e Lacer**	**9.88**	**59**	*eP*	**Pn**	**08 42 48.9**	**-1.7**
CO03	**El Pedregal**	**10.34**	**193**	Pn	**Pn**	**08 42 55.2**	**-1.3**
CO06	**Fray Jorge**	**10.42**	**198**	Pn	**Pn**	**08 42 56.7**	**-0.8**
VILB	**Vilhena**	**10.72**	**45**	Pn	**Pn**	**08 43 00.4**	**-1.1**
CO02	**Combarbal**	**10.76**	**194**	Pn	**Pn**	**08 43 01.3**	**-0.7**
CFA	**Coronel Fontan**	**10.80**	**181**	P	**Pn**	**08 43 02.5**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=22,slow=18,SNR=19						
CFA				S	**S**	**08 44 56.6**	**-6.7**
	comp=Z,2.5nm,0.3s,baz=144,slow=20,SNR=10						
ETMB	**Extrema**	**11.00**	**9**	Pn	**Pn**	**08 43 04.4**	**-0.8**
ETMB	**Extrema**	**11.00**	**9**	*eP*	**Pn**	**08 43 02.9**	**-2.3**
ANTJ	**Antonio Joao (**	**11.17**	**98**	*eP*	**Pn**	**08 43 07.5**	**+0.1**
CPUP	**Villa Florida**	**11.19**	**122**		**Pn**	**08 43 08.4**	**+1.0**
CPUP	**Villa Florida**	**11.19**	**122**	P	**Pn**	**08 43 05.7**	**-1.7**
	comp=Z,4.4nm,0.5s,baz=300,slow=12,SNR=20						
CPUP	**Villa Florida**	**11.19**	**122**	*eP*	**Pn**	**08 43 08.2**	**+0.7**
AQDB	**Aquidauana**	**11.45**	**91**	Pn	**Pn**	**08 43 12.3**	**+1.5**
AQDB	**Aquidauana**	**11.45**	**91**	*eP*	**Pn**	**08 43 11.6**	**+0.7**
VA06	**Catapilco**	**12.13**	**194**	Pn	**Pn**	**08 43 18.1**	**-1.4**
VA03	**San Esteban**	**12.18**	**191**		**Pn**	**08 43 19.0**	**-1.3**
RVDE	**Rio Verde (Bra**	**12.34**	**84**	*eP*	**Pn**	**08 43 21.7**	**-0.5**
ROC1	**El Roble**	**12.48**	**192**	Pn	**Pn**	**08 43 21.9**	**-2.2**
SALV	**Santo Antonio**	**12.57**	**69**	*eP*	**Pn**	**08 43 24.4**	**-0.9**
SAML	**Samuel**	**12.60**	**22**	Pn	**Pn**	**08 43 24.4**	**-1.2**
SAML	**Samuel**	**12.60**	**22**	*eP*	**Pn**	**08 43 23.6**	**-1.9**
PP1B	**Ponte de Pedra**	**12.72**	**78**	*eP*	**Pn**	**08 43 27.7**	**+0.6**
ITQB	**Itaqui**	**13.53**	**133**		**Pn**	**08 43 36.2**	**-1.0**
ITQB	**Itaqui**	**13.53**	**133**	*eP*	**Pn**	**08 43 38.9**	**+1.7**
BO01	**Tunca**	**13.87**	**191**	Pn	**Pn**	**08 43 40.1**	**-1.2**
CRSM	**Crissiumal (Br**	**14.33**	**121**	*eP*	**P**	**08 43 49.0**	**0.0**
FRBT	**Francisco Belt**	**14.60**	**114**	*eP*	**P**	**08 43 52.9**	**+0.9**
GO05	**Huala**	**14.63**	**193**		**Pn**	**08 43 48.8**	**-2.0**
RODS	**Rosario do Sul**	**14.92**	**132**	*eP*	**P**	**08 43 57.8**	**+2.3**
PTGB	**Pitanga**	**15.15**	**108**	*eP*	**P**	**08 43 59.7**	**+1.6**
PCMB	**Pacaembu**	**15.56**	**96**	*eP*	**Pn**	**08 44 03.9**	**+1.5**
ALGR	**Alto Alegre (B**	**15.71**	**124**	*eP*	**Pn**	**08 44 07.1**	**+3.0**
LDASE	**Londrina, Braz**	**15.80**	**103**	*eP*	**Pn**	**08 44 06.5**	**+1.3**
ITAB	**Concordia**	**15.80**	**117**	P	**P**	**08 44 04.7**	**-0.5**
ITAB	**Concordia**	**15.80**	**117**	*eP*	**Pn**	**08 44 06.6**	**+1.5**
CPSB	**Cacapava Do Su**	**16.20**	**129**	*eP*	**Pn**	**08 44 11.8**	**+1.8**
ITRB	**Iturama**	**16.52**	**89**	*eP*	**P**	**08 44 14.4**	**+1.2**
PLTB	**Pedras Altas**	**16.86**	**133**	P	**P**	**08 44 16.4**	**-0.5**
PLTB				IAmb	IAmb	08 44 44.8	
	comp=Z,14nm,1.3s						
PLTB	**Pedras Altas**	**16.86**	**133**	*eP*	**Pn**	**08 44 19.2**	**+1.3**
FRTB	**Fartura**	**17.21**	**102**	*eP*	**Pn**	**08 44 22.4**	**+0.2**
CNLB	**Canela**	**17.64**	**122**	*eP*	**Pn**	**08 44 27.2**	**0.0**
TRQA	**Tornquist**	**17.99**	**165**	P	**P**	**08 44 27.8**	**-1.4**
TRQA				IAmb	IAmb	08 44 40.2	
	comp=Z,14nm,1.5s						
SNDB	**Serra Nova Dou**	**18.18**	**64**	*eP*	**P**	**08 44 32.5**	**+1.1**
NPGB	**Novo Progresso**	**18.27**	**44**	*eP*	**P**	**08 44 32.5**	**+0.1**
IPMB	**Ipameri, GO**	**18.80**	**85**	*eP*	**P**	**08 44 39.3**	**+1.1**
MACA	**Manacapuru-AM**	**18.86**	**23**	*eP*	**P**	**08 44 39.2**	**+0.4**
RCLB	**Rio Claro- Sao**	**19.04**	**99**	*eP*	**P**	**08 44 42.0**	**+1.3**
SPB	**Sao Paulo**	**19.18**	**102**	P	**P**	**08 44 40.9**	**-1.3**
PET01	**Itanhaem-SP**	**19.39**	**104**	*eP*	**P**	**08 44 46.5**	**+2.0**
BDFB	**Brasilia**	**19.58**	**78**	P	**P**	**08 44 45.1**	**-1.5**
BDFB				IAmb	IAmb	08 44 51.2	
	comp=Z,5.8nm,0.5s						
BDFB	**Brasilia**	**19.58**	**78**	P	**P**	**08 44 46.9**	**+0.3**
	comp=Z,4.7nm,0.4s,baz=256,slow=11,SNR=13						
PLCA	**Paso Flores**	**20.04**	**186**	P	**P**	**08 44 49.2**	**-2.1**
PLCA	**Paso Flores**	**20.04**	**186**	P	Pn	08 44 55.0	-0.5
	comp=Z,2.0nm,0.9s,baz=360,slow=9.5,SNR=7.5						
	comp=Z,2.0nm,0.9s						
PLCA	**Paso Flores**	**20.04**	**186**	*eP*	Pn	08 44 56.2	+0.7
ITTB	**Itaituba**	**20.15**	**38**	*eP*	**P**	**08 44 52.9**	**+0.2**
PMNB	**Patos De Minas**	**20.35**	**87**	*eP*	**P**	**08 44 55.4**	**+0.5**
PARB	**Paraibuna**	**20.83**	**101**	*eP*	**P**	**08 45 00.4**	**+0.5**
BSCB	**Bom Sucesso**	**21.63**	**95**	*eP*	**P**	**08 45 09.1**	**+0.7**
DIAM	**Diamantina, MG**	**22.98**	**88**	*eP*	**P**	**08 45 21.4**	**+0.2**
MALB	**Monte Alegre**	**23.04**	**37**	*eP*	**P**	**08 45 22.0**	**+0.5**
JANB	**Januaria**	**23.16**	**80**	*eP*	**P**	**08 45 23.6**	**+0.8**
SDBA	**SAO DESIDERIO**	**23.55**	**73**	*eP*	**P**	**08 45 27.0**	**+0.7**
SJMB	**Sao Joao De Ma**	**25.24**	**90**	*eP*	**P**	**08 45 42.3**	**+0.7**
PRAC	**Prado**	**25.26**	**344**	P	**P**	**08 45 38.4**	**-3.4**
PRAC				IAmb	IAmb	08 45 43.5	
	comp=Z,12nm,1.4s						
ALF01	**Guarapari-ES**	**25.43**	**95**	*eP*	**P**	**08 45 45.2**	**+1.9**
GUA01	**Guaratinga, BA**	**26.94**	**86**	*eP*	**P**	**08 45 58.1**	**+1.3**
TXAR	**Lajitas Array**	**60.56**	**324**	P	P	08 50 27.2	+3.7
	comp=Z,0.2nm,0.6s,baz=145,slow=9.7,SNR=2.2						
	comp=Z,0.2nm,0.6s						
DBIC	**Dimbokro**	**67.64**	**73**	P	**P**	**08 51 11.3**	**+1.4**
	comp=Z,3.6nm,0.7s,baz=233,slow=6.0,SNR=4.5						
	comp=Z,3.6nm,0.7s						
PDAR	**Pinedale Array**	**73.94**	**329**	P	P	08 51 51.7	+4.2
	comp=Z,0.3nm,0.4s,baz=124,slow=8.3,SNR=5.7						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.24**	**70**	P	**P**	**08 52 02.8**	**+1.8**
	comp=Z,5.5nm,0.5s,baz=258,slow=5.2,SNR=71						
	comp=Z,5.5nm,0.5s						
YKA	**Yellowknife Ar**	**90.80**	**340**	P	P	08 53 17.4	+3.3
	comp=Z,0.4nm,0.7s,baz=133,slow=4.4,SNR=12						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**144.50**	**36**	PKP	**PKiKP**	**08 59 49.6**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=317,slow=3.2,SNR=5.5						

*IDC **21** 09:00:43.4±1.6,15°.78N×94°.66W,h0km,mb3.9/10, mbtmp4.0/11,ML4.4/1,MS3.7/10,Error ellipse: s-maj=50.6km s-min=18.1km az=54.0*
*MEX **21** 09:00:47.1±1.2,15°.54N×95°.07W,h16km±30km,MD4.6*
*NEIC **21** 09:00:49.0±2.7,15°.84N±0°.04×95°.00W±0°.02,h29km±9km, mb4.2/42,Md4.6/27(MEX),Error ellipse: s-maj=6.3km s-min=2.0km az=202.0*
*CATAC **21** 09:00:48.6±0.5,15°.94N×95°.09W,h117km±20km,MB5.1, mb4.9,ML4.9*
ISC 21 09:00:43.2±1.3, 15°.63N±0°.04×95°.03W±0°.03, h5km±9km, n134,σ1°93/138, mb4.2/16, MS3.6/8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.01**	**23**	*i* P	**Pb**	**09 01 03.9**	**+0.7**
NILT				*i* S	**Sg**	**09 01 16.7**	**+1.0**
HUIG	**Huatulco**	**1.05**	**278**		**Pg**	**09 01 02.9**	**-0.5**
HUIG					**Sg**	**09 01 14.7**	**-2.3**
HUIG	**Huatulco**	**1.05**	**278**	*i* P	**Pg**	**09 01 02.9**	**-0.5**
HUIG				*i* S	**Sg**	**09 01 14.7**	**-2.3**
CARR	**Arriaga**	**1.24**	**60**	*i* P	**Pn**	**09 01 06.5**	**-0.6**
CARR				*i* S	**Sb**	**09 01 22.1**	**-1.2**
CMIG	**Matias Romero**	**1.46**	**5**	Pn	**Pn**	**09 01 10.6**	**+0.4**
	156nm,0.3s,baz=187,slow=12,SNR=4072						
CMIG				Sn	**Sn**	**09 01 28.6**	**-1.2**
	1µm,0.3s,baz=102,slow=22,SNR=106						
CMIG				LR	LR	09 01 31.5	
	comp=Z,59nm,19.5s,baz=187,slow=36						
CMIG	**Matias Romero**	**1.46**	**5**	*eP*	**Pn**	**09 01 10.7**	**+0.4**
CMIG				*eS*	**Sn**	**09 01 28.9**	**-1.0**
PCIG		**1.74**	**87**		**Pn**	**09 01 14.2**	**+0.1**
PCIG					**Sn**	**09 01 35.3**	**-1.4**
PCIG		**1.74**	**87**	*i* P	**Pn**	**09 01 14.2**	**+0.1**
PCIG				*i* S	**Sn**	**09 01 35.3**	**-1.4**
TGIG		**2.16**	**58**		**Pn**	**09 01 21.0**	**+1.1**
TGIG					**Sb**	**09 01 49.1**	**-0.8**
TGIG		**2.16**	**58**	*eP*	**Pn**	**09 01 21.0**	**+1.1**
TGIG				*eS*	**Sb**	**09 01 49.1**	**-0.8**
OXIG	**Oaxaca**	**2.18**	**311**		**Pn**	**09 01 21.5**	**+1.1**
OXIG					**Sn**	**09 01 46.8**	**-1.1**
VHO

COEG				IVmB_BB		09 02 41.3	
	comp=Z,740nm,1.0s						
NISHN	**Nisperales Com**	**6.88**	**88**	*i* P	**Pn**	**09 02 27.1**	**+2.2**
MOIG	**Morelia**	**7.12**	**305**		**Pn**	**09 02 32.3**	**+4.0**
TGUH	**Tegucigalpa,Un**	**7.66**	**101**	Pn	**Pn**	**09 02 38.5**	**+2.9**
TEIG	**Tepich**	**7.88**	**54**	Pn	**Pn**	**09 02 38.4**	**-0.2**
TEIG	**Tepich**	**7.88**	**54**	LR	LR	09 06 17.1	
	comp=Z,924nm,18.6s,baz=15,slow=44						
YUSH	**Yuscaran**	**8.09**	**101**	*i* P	**Pn**	**09 02 42.5**	**+1.0**
ZAIG	**Zacatecas**	**10.06**	**316**	Pn	**Pn**	**09 03 12.5**	**+3.8**
ORTG	**Ortega, Santa**	**10.69**	**118**		**Pn**	**09 03 21.6**	**+4.4**
DUNO	**Dulce Nombre,**	**10.81**	**120**		Pn	09 03 25.1	+6.3
LCR2	**La Lucha 2**	**12.24**	**117**	Pn	Pn	09 03 43.3	+4.8
RIMA	**Rio Macho**	**12.35**	**117**		**Pn**	**09 03 42.2**	**+2.2**
SOR	**Soroa**	**13.40**	**56**	Pn	**Pn**	**09 03 51.9**	**-2.2**
HPIG		**14.98**	**320**	Pn	**Pn**	**09 04 17.6**	**+1.6**
JCT	**Junction City**	**15.42**	**344**		**Pn**	**09 04 22.4**	**+0.9**
JCT				IAmb	IAmb	09 04 40.6	
	comp=Z,10nm,0.8s						
SAND	**Sanderson**	**15.68**	**337**		**Pn**	**09 04 26.2**	**+1.2**
TX31	**Lajitas Ar. Si**	**15.79**	**331**	Pn	**Pn**	**09 04 28.0**	**+1.5**
TXAR	**Lajitas Array**	**15.79**	**331**	Pn	**Pn**	**09 04 28.3**	**+1.8**
TXAR	**Lajitas Array**	**15.79**	**331**	Pn	**Pn**	**09 04 28.6**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=150,slow=14,SNR=48						
	comp=Z,4.6nm,0.8s						
BRDY	**Brady**	**16.00**	**348**	P	**P**	**09 04 31.4**	**-1.4**
OZNA	**Ozona**	**16.22**	**341**		**Pn**	**09 04 32.8**	**+0.8**
OZNA				IAmb	IAmb	09 04 34.2	
	comp=Z,15nm,0.8s						
WHTX	**Lake Whitney,**	**16.44**	**353**	P	**P**	**09 04 36.8**	**-0.7**
WHTX				IAmb	IAmb	09 04 52.2	
	comp=Z,18nm,0.8s						
LPIG	**La Paz**	**16.65**	**303**	LR	LR	09 11 28.0	
	comp=Z,90nm,20.8s,baz=100,slow=38						
ALPN	**Alpine**	**16.67**	**333**	P	**Pn**	**09 04 38.9**	**+1.1**
ALPN				IAmb	IAmb	09 04 40.6	
	comp=Z,20nm,0.7s						
SGCY	**Sterling City**	**17.14**	**342**	Pn	**Pn**	**09 04 43.6**	**-0.1**
SGCY				IAmb	IAmb	09 04 47.9	
	comp=Z,16nm,0.8s						
MNHN	**Monahans**	**17.16**	**337**	P	**Pn**	**09 04 45.0**	**+1.0**
FW07	**Weatherford**	**17.18**	**352**	P	**P**	**09 04 45.7**	**0.0**
PLPT	**Palo Pinto**	**17.37**	**351**		**Pn**	**09 04 45.5**	**-1.0**
PLPT				IAmb	IAmb	09 05 01.9	
	comp=Z,13nm,0.8s						
FW06	**Azle**	**17.42**	**353**	P	**Pn**	**09 04 47.5**	**+0.4**
FW06				IAmb	IAmb	09 05 22.3	
	comp=Z,18nm,0.6s						
PECS	**Pecos**	**17.63**	**334**	P	**Pn**	**09 04 49.6**	**-0.1**
VHRN	**Van Horn**	**17.63**	**331**		**Pn**	**09 04 50.3**	**+0.5**
ODSA	**Odessa**	**17.79**	**339**	P	**Pn**	**09 04 51.8**	**0.0**
ODSA				IAmb	IAmb	09 04 55.7	
	comp=Z,17nm,1.0s						
APMT	**Aspermont**	**18.21**	**346**	P	**Pn**	**09 04 56.5**	**-0.4**
APMT				IAmb	IAmb	09 04 58.1	
	comp=Z,12nm,0.9s						
DKNS	**Dickens**	**18.73**	**345**	P	**P**	**09 05 02.1**	**-0.8**
DKNS				IAmb	IAmb	09 05 18.9	
	comp=Z,24nm,1.4s						
WMOK	**Wichita Mounta**	**19.33**	**351**	P	**P**	**09 05 10.1**	**+0.6**
MSTX	**Muleshoe**	**19.55**	**340**	P	**P**	**09 05 12.4**	**+0.4**
MSTX				IAmb	IAmb	09 05 14.8	
	comp=Z,16nm,0.8s						
SMWD	**Samnorwood**	**19.95**	**347**	P	**P**	**09 05 17.2**	**+1.0**
AMTX	**Amarillo**	**20.09**	**344**	P	**P**	**09 05 16.3**	**-1.5**
AMTX				IAmb	IAmb	09 05 21.6	
	comp=Z,7.3nm,0.7s						
FCAR	**Ozark Folk Cen**	**20.34**	**7**	P	**P**	**09 05 20.0**	**-0.5**
319A	**Douglas**	**20.38**	**323**		Pn	09 05 22.8	-0.2
319A				IAmb	IAmb	09 05 38.0	
	comp=Z,21nm,1.3s						
121A	**Cookes Peak, D**	**20.43**	**328**	P	**P**	**09 05 22.7**	**+1.0**
121A				IAmb	IAmb	09 05 25.0	
	comp=Z,13nm,0.8s						
CBOC	**Ciudad Bolivar**	**21.03**	**115**	*eP*	**P**	**09 05 30.6**	**+2.3**
DUN6	**Lazy B Ranch**	**21.14**	**325**	P	**P**	**09 05 30.8**	**+1.4**
T35A	**Sooner Cattle**	**21.24**	**357**		**P**	**09 05 28.4**	**-1.8**
YOTC	**Yotoco, Valle**	**21.71**	**120**	*eP*	**P**	**09 05 40.5**	**+4.9**
ANMO	**Albuquerque**	**21.80**	**334**	P	**P**	**09 05 38.0**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=237,slow=13,SNR=5.2						
	comp=Z,1.7nm,0.6s						
RTBA	**Rita Blanca**	**21.84**	**343**	P	**P**	**09 05 36.5**	**-0.2**
JAMC	**Jamundi, Valle**	**21.88**	**122**	*eP*	**P**	**09 05 38.4**	**+1.0**
GUY2C	**Guyana, Caldas**	**21.90**	**116**	*eP*	**P**	**09 05 40.2**	**+2.2**
TUC	**Tucson**	**21.93**	**322**	P	**P**	**09 05 39.0**	**+1.3**
TUC				IAmb	IAmb	09 05 42.5	
	comp=Z,7.5nm,1.0s						
PTBC	**PUERTO BERRIO,**	**22.09**	**112**	*eP*	**P**	**09 05 40.2**	**+0.6**
ORTC	**Ortega, Tolima**	**22.68**	**119**	*eP*	**P**	**09 05 48.1**	**+2.3**
SPBC	**San Pablo de B**	**22.83**	**113**	*eP*	**P**	**09 05 48.2**	**+0.7**
T25A	**Trinidad**	**22.99**	**341**	P	**P**	**09 05 49.8**	**+0.7**
ROSC	**El Rosal**	**23.00**	**116**	P	**P**	**09 05 51.8**	**+2.3**
ROSC	**El Rosal**	**23.00**	**116**	P	**P**	**09 05 53.1**	**+3.5**
	comp=Z,16nm,0.9s,baz=110,slow=13,SNR=6.7						
X18A	**Snowflake**	**23.12**	**327**	P	**P**	**09 05 50.2**	**-0.2**
BARC	**Barichara**	**23.22**	**110**	*eP*	**P**	**09 05 53.3**	**+1.6**
X16A	**Lo Mia Camp, P**	**23.84**	**325**	P	**P**	**09 05 59.2**	**+1.6**
X16A				IAmb	IAmb	09 06 01.7	
	comp=Z,7.4nm,1.0s						
SDCO	**Great Sand Dun**	**23.90**	**339**	P	**P**	**09 05 58.0**	**-0.3**
Y14A	**Wickenburg**	**24.40**	**322**	P	**P**	**09 06 03.6**	**+0.9**
Y14A				IAmb	IAmb	09 06 06.0	
	comp=Z,5.4nm,0.9s						
MVCO	**Mesa Verde**	**24.59**	**333**	P	**P**	**09 06 05.1**	**+0.4**
MVCO				IAmb	IAmb	09 06 07.5	
	comp=Z,14nm,1.4s						
SDV	**Santo Domingo**	**24.75**	**103**	LR	LR	09 16 23.0	
	comp=Z,133nm,20.1s,baz=270,slow=38						
PTGC	**Puerto Gaitan,**	**25.21**	**114**	*eP*	**P**	**09 06 10.7**	**+0.6**
OGNE	**Ogallala**	**25.95**	**348**	P	**P**	**09 06 18.4**	**+1.7**
PFO	**Pinyon Flats O**	**26.37**	**317**	LR	LR	09 17 50.7	
	comp=Z,166nm,20.4s,baz=134,slow=39						
SJG	**San Juan**	**27.73**	**81**	LR	LR	09 17 53.6	
	comp=Z,70nm,18.3s,baz=192,slow=38						
SPMN	**Marine on St.**	**29.56**	**3**	P	**P**	**09 06 46.5**	**-2.4**
PDAR	**Pinedale Array**	**29.78**	**338**	P	**P**	**09 06 51.5**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=125,slow=4.6,SNR=2.4						
	comp=Z,0.2nm,0.6s						
ELK	**Elko**	**30.57**	**329**	LR	LR	09 21 15.9	
	comp=Z,191nm,19.3s,baz=186,slow=40						
NVAR	**Mina Array Bea**	**30.59**	**322**	P	**P**	**09 07 00.6**	**+2.2**
	comp=Z,2.0nm,0.7s,baz=137,slow=8.6,SNR=15						
NVAR				LR	LR	09 21 10.5	
	comp=Z,208nm,18.8s,baz=134,slow=40						
	comp=Z,2.0nm,0.7s						
PLID	**Pearl Lake**	**34.28**	**333**	P	**P**	**09 07 30.9**	**+0.2**
PLID				IAmb	IAmb	09 07 31.6	
	comp=Z,3.6nm,0.9s						
ULM	**Lac du Bonnet**	**34.54**	**359**	P	**P**	**09 07 31.3**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=184,slow=13,SNR=3.0						
	comp=Z,1.1nm,0.7s						
YBH	**Yreka Blue Hor**	**35.30**	**323**	LR	LR	09 23 51.4	
	comp=Z,222nm,18.5s,baz=155,slow=39						
NEW	**Newport**	**37.28**	**335**	LR	LR	09 25 20.8	
	comp=Z,148nm,21.9s,baz=280,slow=40						
YKA	**Yellowknife Ar**	**48.81**	**348**	P	**P**	**09 09 28.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=157,slow=7.3,SNR=7.3						
	comp=Z,0.4nm,0.8s						
BDFB	**Brasilia**	**55.86**	**122**	P	**P**	**09 10 22.1**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=312,slow=8.7,SNR=8.2						
	comp=Z,3.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**78.36**	**36**	P	**P**	**09 12 43.4**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=270,slow=5.0,SNR=4.7						
	comp=Z,1.6nm,0.7s						
ESDC	**Sonseca Array**	**81.00**	**51**	P	**P**	**09 12 58.1**	**-1.3**
	comp=Z,2.4nm,1.0s,baz=290,slow=5.2,SNR=9.3						
	comp=Z,2.4nm,1.0s						
NOA	**NORSAR Array B**	**84.10**	**28**	P	**P**	**09 13 15.3**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=300,slow=5.3,SNR=4.0						
NOA				LR	LR	09 49 58.5	
	comp=Z,15nm,19.8s,baz=260,slow=35						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**85.50**	**18**	P	**P**	**09 13 22.1**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=329,slow=2.1,SNR=5.2						
	comp=Z,3.0nm,1.0s						

*AFAD **21** 09:07:18.7±0.0,35°.01N×46°.21E,h4km±5km,MW4.4*
*IDC **21** 09:07:27.8±1.2,35°.70N×45°.52E,h0km,mb3.7/13,*
mbtmp3.7/19,ML3.6/5,MS3.2/8,Error ellipse:
s-maj=27.1km s-min=15.0km az=11.0
*TEH **21** 09:07:29.9,36°.02N×45°.86E,h7km±56km,ML4.2*
ISC 21 09:07:29.9±1.2,**35°.99N**±0°.03×**45°.81E**±0°.04,**h5**km±9km,
n80,σ1§**85**/87,**mb3.6**/13,**MS3.0**/6,**6C-4D**,**Iran-Iraq border**
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDS1	**Sardasht. Az.**	**0.31**	**301**	Pg	**Pg**	**09 07 36.4**	**+0.4**
SDS1				Sg	**Sg**	**09 07 41.8**	**+1.7**
MAHB	**Mahabad**	**0.78**	**354**	Pg	**Pg**	**09 07 44.3**	**-0.6**
MAHB				Sg	**Sg**	**09 07 54.3**	**-0.8**
NGD1	**Naghade .Az. G**	**1.01**	**342**	Pg	**Pg**	**09 07 48.9**	**-0.4**
IDHR	**Dehrash**	**1.37**	**160**	Pg	**Pn**	**09 07 54.1**	**-1.8**
ILIN	**Lien**	**1.42**	**138**	Pg	**Pn**	**09 07 54.7**	**-2.0**
KGS1	**Ghasr-e-Shirin**	**1.49**	**187**	Pg	**Pn**	**09 07 57.5**	**+0.1**
IAZR	**Azarshahr**	**1.69**	**5**	Pg	**Pb**	**09 08 00.8**	**-1.0**
IHSH	**Hashtrud**	**1.76**	**41**	Pg	**Pb**	**09 08 01.1**	**-1.9**
IGHG	**Ghaleghazi**	**1.77**	**159**	Pg	**Pn**	**09 08 02.1**	**+0.6**
IGHG				Sg	**Sg**	**09 08 29.4**	**+2.6**
YOVA	**Hakkari_Yksek**	**2.01**	**323**	P	**Pb**	**09 08 06.1**	**-1.0**
YOVA				S	**Sg**	**09 08 35.8**	**+1.3**
IALM	**Almabolaq**	**2.23**	**120**	Pn	**Pn**	**09 08 08.2**	**+0.3**
ITBZ	**Tabriz**	**2.26**	**7**	Pn	**Pb**	**09 08 09.2**	**-2.1**
ISHB	**Shabestar**	**2.29**	**356**	Pn	**Pn**	**09 08 08.8**	**0.0**
HAKT	**HAKKARI**	**2.30**	**313**	P	**Pn**	**09 08 09.3**	**+0.5**
HAKT				S	**Sb**	**09 08 41.6**	**+0.6**
ISRB	**Sarab**	**2.36**	**39**	Pn	**Pb**	**09 08 10.7**	**-2.4**
IHRS	**Heris**	**2.52**	**23**	Pn	**Pb**	**09 08 12.8**	**-3.1**
IMRD	**Marand**	**2.72**	**358**	Pn	**Pn**	**09 08 15.9**	**+1.4**
HSAM	**Samen**	**2.90**	**127**	Pn	**Pn**	**09 08 18.0**	**+1.0**
HAGD	**Aghdareh**	**2.96**	**112**	Pn	**Pn**	**09 08 19.5**	**+1.7**
IKFM	**Kafar-mosalman**	**2.98**	**145**	Pn	**Pn**	**09 08 19.3**	**+1.5**
OZAP	**Van, Ozalp-Mer**	**3.04**	**332**	P	**Pb**	**09 08 21.6**	**-3.1**
OZAP				S	**Sg**	**09 09 09.0**	**+1.6**
SIRN	**Sırnak**	**3.12**	**300**	P	**Pn**	**09 08 19.5**	**-0.3**
SIRN				S	**Sb**	**09 09 04.4**	**+0.2**
TVAN	**Van**	**3.18**	**324**	P	**Pn**	**09 08 23.4**	**+2.6**
TVAN				S	**Sg**	**09 09 11.0**	**-1.1**
GEIA	**Gevas**	**3.19**	**317**	P	**Pn**	**09 08 22.2**	**+1.2**
VANB	**Van**	**3.24**	**324**	P	**Pn**	**09 08 23.4**	**+1.8**
VANB				S	**Sg**	**09 09 12.6**	**-1.4**
AKDM	**Akdamar-Van**	**3.25**	**317**	P	**Pn**	**09 08 23.3**	**+1.5**
AKDM				S	**Sg**	**09 09 16.1**	**+1.8**
GRMI	**Germi**	**3.27**	**30**	Pn	**Pn**	**09 08 22.9**	**+1.0**
PERV	**Siirt/Pervari-**	**3.27**	**308**	P	**Pn**	**09 08 24.8**	**+2.8**
PERV				S	**Sg**	**09 09 15.6**	**+0.7**
JIR1	**Jirandeh**	**3.30**	**76**	Pn	**Pn**	**09 08 23.6**	**+1.1**
MAKU	**Maku**	**3.48**	**345**	Pn	**Pn**	**09 08 26.8**	**+1.9**
VMUR	**Van-Muradiye**	**3.48**	**330**	P	**Pn**	**09 08 27.8**	**+2.8**
VMUR				S	**Sg**	**09 09 19.8**	**-2.1**
MIDY	**Mardin/Midyat-**	**3.82**	**293**	P	**Pn**	**09 08 30.3**	**+0.8**
MIDY				S	**Sg**	**09 09 33.1**	**+0.5**
BTMN	**Batman**	**4.10**	**299**	P	**Pn**	**09 08 34.1**	**+0.6**
BTMN				S	**Sg**	**09 09 40.3**	**-1.4**
DORK	**Agr/Tutak/Do**	**4.16**	**326**	P	**Pn**	**09 08 36.1**	**+1.9**
DORK				S	**Sg**	**09 09 45.7**	**+2.3**
GNI	**Garni**	**4.24**	**349**	Pn	**Pb**	**09 08 44.8**	**-0.3**
	4.7nm,0.3s,baz=163,slow=2.6,SNR=22						
GNI				Lg	Lg	09 09 45.9	
	3.0nm,0.3s,baz=175,slow=11,SNR=1.8						
GNI				LR	LR	09 10 28.9	
	comp=Z,221nm,18.8s,baz=170,slow=40						
KLST	**Kelardasht - M**	**4.28**	**81**	Pn	**Pn**	**09 08 36.9**	**+0.9**
MZPU	**Pul - Mazandar**	**4.68**	**83**	Pn	**Pn**	**09 08 43.1**	**+1.6**
IVRN	**Varamin**	**4.93**	**100**	Pn	**Pn**	**09 08 45.9**	**+1.1**
IDMV	**Damavand**	**5.08**	**93**	Pn	**Pn**	**09 08 47.7**	**+0.7**
IPIR	**Pirpir**	**5.34**	**127**	Pn	**Pn**	**09 08 51.2**	**+0.6**
IKLH	**Kolahrood**	**5.45**	**118**	Pn	**Pn**	**09 08 53.8**	**+1.7**
JHBN	**Jahan bin**	**5.50**	**132**	Pn	**Pn**	**09 08 54.1**	**+1.3**
ZNGN	**Zangian**	**5.70**	**131**	Pn	**Pn**	**09 08 56.8**	**+1.3**
IZEF	**Zefreh**	**6.21**	**118**	Pn	**Pn**	**09 09 03.7**	**+1.2**
KLNJ	**Kolanjah**	**6.93**	**134**	Pn	**Pn**	**09 09 13.2**	**+0.7**
KBZ	**Khabaz**	**8.05**	**345**	Pn	Pn	09 09 32.5	+5.1
	1.6nm,0.8s,baz=156,slow=15,SNR=2.7						
KBZ				LR	LR	09 12 59.4	
	comp=Z,117nm,21.3s,baz=142,slow=40						
ASF	**Jabal al Asfar**	**8.31**	**245**	Pn	Pn	09 09 24.0	-7.3
	0.7nm,0.3s,baz=43,slow=14,SNR=2.4						
ASF				Lg	Lg	09 11 53.2	
	0.7nm,0.3s,baz=253,slow=20,SNR=3.0						
	1.3nm,0.3s						
MMAI	**Mount Meron Ar**	**9.09**	**254**	Pn	**Pn**	**09 09 42.6**	**+0.7**
	1.7nm,0.3s,baz=71,slow=15,SNR=2.9						
GEYT	**Alibeck**	**10.04**	**75**	Pn	Pn	09 09 59.0	+4.2
	0.3nm,0.3s,baz=265,slow=16,SNR=6.9						
	5.2nm,1.0s						
BRTR	**Keskin Array B**	**10.32**	**295**	Pn	**Pn**	**09 10 00.1**	**+1.3**
	0.1nm,0.3s,baz=117,slow=12,SNR=4.1						
	0.9nm,0.7s						
HARR	**Harsova**	**16.14**	**308**	⇑P	**Pn**	**09 11 14.4**	**-3.1**
WSAR	**Wadi Sarin**	**16.88**	**135**	Pn	**Pn**	**09 11 23.7**	**-3.3**
	0.5nm,0.3s,baz=346,slow=9.0,SNR=6.0						
	4.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.93**	**28**	P	**Pn**	**09 11 26.9**	**-0.5**
	2.6nm,0.6s,baz=203,slow=11,SNR=8.0						
COVR	**Voineasa-Covas**	**17.75**	**310**	⇓P	**P**	**09 11 42.5**	**+3.8**
VOIR		**18.31**	**307**	⇓P	**P**	**09 11 50.9**	**+6.0**
ARR	**Arges**	**18.55**	**307**	⇑P	**Pn**	**09 11 50.8**	**+3.2**
AKASG	**Malin Array Be**	**18.95**	**326**	P	**Pn**	**09 11 52.8**	**+0.3**
	0.5nm,0.3s,baz=131,slow=12,SNR=5.3						
	0.3nm,0.3s						
BURAR	**Bucovina Array**	**19.19**	**314**	⇓P	**P**	**09 11 52.8**	**-1.7**
GZR	**Gura Zlata**	**19.77**	**305**	⇑P	**Pn**	**09 12 01.8**	**-0.6**
MARR	**Marisel-Cluj**	**20.04**	**309**	⇑P	Pn	09 12 09.3	+3.7
DRGR		**20.34**	**309**	⇑P	**P**	**09 12 05.0**	**-2.2**
SIRR	**Siria**	**20.81**	**307**	⇓P	Pn	09 12 13.3	-1.3
KOLS	**Kolonicke sedl**	**21.55**	**314**	*eP*	**P**	**09 12 25.0**	**+5.0**
KIRV	**Kirov**	**22.73**	**5**	LR	LR	09 23 02.0	
	comp=Z,36nm,19.8s,baz=172,slow=41						
MORH	**Mrgy, Hungar**	**22.78**	**305**	⇑P	**P**	**09 12 34.6**	**+1.4**
AAK	**Ala-Archa**	**23.10**	**65**	LR	LR	09 23 17.3	
	comp=Z,38nm,18.4s,baz=278,slow=40						
BVAR	**Borovoye Array**	**24.25**	**38**	P	**P**	**09 12 48.6**	**+0.9**
	1.1nm,0.5s,baz=230,slow=8.1,SNR=7.8						
BVAR				LR	LR	09 24 06.7	
	comp=Z,62nm,19.7s,baz=229,slow=41						
	1.1nm,0.5s						
GERES	**GERESS Array B**	**26.75**	**309**	P	**P**	**09 13 09.5**	**-1.0**
	0.3nm,0.5s,baz=135,slow=13,SNR=2.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**27.67**	**48**	P	**P**	**09 13 21.0**	**+2.3**
	1.5nm,0.6s,baz=255,slow=9.3,SNR=5.2						
	1.5nm,0.6s						
FINES	**FINESS Array B**	**28.37**	**340**	P	**P**	**09 13 24.5**	**-0.3**
	1.3nm,0.7s,baz=138,slow=14,SNR=6.8						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**29.18**	**57**	P	**P**	**09 13 32.7**	**+0.5**
	0.8nm,0.9s,baz=266,slow=6.7,SNR=6.2						
	0.8nm,0.9s						
HFS	**Hagfors**	**31.76**	**330**	P	**P**	**09 13 53.7**	**-1.1**
	1.4nm,0.8s,baz=108,slow=14,SNR=7.7						
HFS				LR	LR	09 29 25.7	
	comp=Z,53nm,18.4s,baz=134,slow=41						
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**32.39**	**44**	P	**P**	**09 14 03.2**	**+2.8**
	2.0nm,0.7s,baz=260,slow=8.2,SNR=9.6						
	2.0nm,0.7s						
NOA	**NORSAR Array B**	**33.28**	**330**	P	**P**	**09 14 07.7**	**-0.5**
	0.4nm,0.8s,baz=125,slow=8.9,SNR=1.7						
NOA				LR	LR	09 29 04.6	
	comp=Z,27nm,19.5s,baz=275,slow=39						
	0.4nm,0.8s						
ARCES	**ARCESS Array B**	**35.40**	**348**	P	**P**	**09 14 26.6**	**+0.3**
	0.6nm,0.7s,baz=160,slow=11,SNR=0.8						
	0.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**38.34**	**316**	P	**P**	**09 14 51.4**	**-0.2**
	0.9nm,0.6s,baz=102,slow=9.6,SNR=3.5						
	0.9nm,0.6s						
ESDC	**Sonseca Array**	**39.08**	**291**	P	**P**	**09 14 56.0**	**-2.0**
	0.6nm,0.7s,baz=70,slow=8.4,SNR=2.4						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.76**	**96**	P	**P**	**09 16 25.0**	**+1.3**
	1.0nm,0.4s,baz=301,slow=7.3,SNR=4.1						
	1.0nm,0.4s						
YKA	**Yellowknife Ar**	**80.59**	**351**	P	**P**	**09 19 41.5**	**-1.7**
	0.1nm,0.7s,baz=17,slow=6.1,SNR=2.7						
	0.1nm,0.7s						
TKL	**Tuckaleechee C**	**94.66**	**321**	LR	LR	10 08 35.5	
	comp=Z,49nm,18.1s,baz=178,slow=39						

HEL 21 09:22:07.4±0.6,**67°.62N**×**33°.92E**,**h0**km,**ML1.3,**
Suspected explosion,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.65**	**276**	PG	Pn	09 22 37.0	-0.6
VRF				MSG		09 22 56.6	
	comp=Z,2.3nm,0.2s						
OLKF	**Oulanka, Finla**	**2.21**	**236**	PG	Pb	09 22 47.1	-1.0
OLKF				MSG		09 23 12.7	
	comp=Z,1.4nm,0.2s						
OLKF				SG	Sb	09 23 15.6	-0.3
KU6	**Riekki**	**2.26**	**227**	PG	Pb	09 22 47.7	-1.3
	baz=46						
KU6				MSG		09 23 14.3	
	comp=Z,0.6nm,0.2s						
KU6				SG	Sb	09 23 17.3	-0.2
KEV	**Kevo**	**3.31**	**314**	SG	Sg	09 23 53.1	-0.5
HEF	**Hetta**	**3.94**	**286**	SG	Sb	09 24 08.6	+2.9
TOF	**Tornio**	**4.09**	**252**	PN	Pn	09 23 10.4	-0.7
TOF				SG	Sb	09 24 11.9	+1.8
KTK1	**Kautokeino**	**4.20**	**294**	SG	Sg	09 24 19.2	-3.0
KALU	**Kalix**	**4.54**	**252**	SN	Sn	09 24 09.1	-1.7

*IDC **21** 09:35:28.3±1.1,26°.68N×110°.87W,h0km,mb3.8/2,*
mbtmp3.6/6,ML3.3/4,MS3.4/11,Error ellipse:
s-maj=21.9km s-min=12.4km az=81.0
*MEX **21** 09:35:30.9±1.3,26°.74N×110°.95W,h10km,MD4.3*
ISC 21 09:35:28.2±0.8,**26°.60N**±0°.06×**111°.09W**±0°.07,**h10**km,**n20,**
σ2§**87**/17,**MS3.6**/3,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.25**	**305**	*eP*	**Pn**	**09 35 50.9**	**-0.9**
SRIG				*eS*	**Sb**	**09 36 07.0**	**-1.2**
GUYB	**Guaymas**	**1.30**	**8**	*i* P	**Pn**	**09 35 49.5**	**-3.0**
TSIG	**Topolobambo**	**2.09**	**118**	*eP*	**Pn**	**09 36 02.9**	**-0.4**
TSIG				*eS*	**Sn**	**09 36 24.4**	**-5.0**
HSIG		**2.41**	**3**	*eP*	**Pn**	**09 36 05.9**	**-1.8**
CSIG	**Choix**	**2.44**	**84**	*eP*	**Pn**	**09 36 04.7**	**-3.4**
LPIG	**La Paz**	**2.59**	**164**	Pn	**Pn**	**09 36 09.8**	**-0.3**
	1.9nm,0.3s,baz=27,slow=2.3,SNR=1.2						
LPIG				Pg	**Pg**	**09 36 17.7**	**-0.1**
	9.3nm,0.3s,baz=271,slow=7.5,SNR=12						
LPIG				Lg	Lg	09 36 50.9	
	16nm,0.3s,baz=177,slow=5.7,SNR=8.9						
LPIG				LR	LR	09 37 10.2	
	comp=Z,627nm,18.8s,baz=332,slow=39						
	9.3nm,0.3s						
SSIG	**Sanalona**	**3.98**	**116**	*eP*	**Pn**	**09 36 33.5**	**+4.2**
NZIG	**Nacozari, Sono**	**3.99**	**19**	*eP*	**Pb**	**09 36 36.0**	**-2.7**
TXAR	**Lajitas Array**	**7.10**	**66**	Pn	**Pn**	**09 37 10.9**	**-1.4**
	0.1nm,0.3s,baz=242,slow=13,SNR=28						
TXAR				Lg	Lg	09 39 06.9	
	0.5nm,0.3s,baz=241,slow=28,SNR=4.8						
TXAR				LR	LR	09 40 05.3	
	comp=Z,315nm,18.8s,baz=246,slow=40						
	2.4nm,0.8s						
PFO	**Pinyon Flats O**	**8.39**	**328**	LR	LR	09 40 37.1	
	comp=Z,132nm,20.6s,baz=138,slow=37						
ANMO	**Albuquerque**	**9.22**	**24**	Pn	**Pn**	**09 37 45.3**	**+3.9**
	0.1nm,0.3s,baz=209,slow=13,SNR=3.2						
ANMO				LR	LR	09 40 16.3	
	comp=Z,75nm,20.8s,baz=286,slow=32						
ANMO				Lg	Lg	09 40 16.8

RTAL				*i* S		**Sn**	**09 45 26.7**	**-0.7**
RTAL				IAML			09 45 31.1	
	comp=Z,9µm,1.0s							
SMCA	**Catarina**	**0.76**	**5**	*i* P		**Pn**	**09 45 19.5**	**-1.1**
SMCA				*i* S		**Sn**	**09 45 29.8**	**-1.1**
SMCA				IAML			09 45 36.7	
	comp=Z,10µm,1.0s							
STG3	**Santiaguito 3,**	**0.82**	**42**	*i* P		**Pn**	**09 45 20.9**	**-0.8**
SMSP	**San Marcos**	**0.94**	**22**	*i* P		**Pn**	**09 45 22.8**	**-0.5**
SMSP				*i* S		**Sn**	**09 45 35.3**	**-0.4**
SMSP				IAML			09 45 40.8	
	comp=Z,54µm,1.0s							
SOKI	**Kika Raxquin**	**1.01**	**45**	*i* P		**Pn**	**09 45 23.6**	**-0.8**
SOKI				*i* S		**Sn**	**09 45 38.0**	**+0.3**
SOKI				IAML			09 45 41.7	
	comp=Z,18µm,1.0s							
FUG	**Fuego 3**	**1.31**	**74**	*i* P		**Pn**	**09 45 27.7**	**-0.6**
HUEH	**Huehuetenango**	**1.36**	**27**	*i* P		**Pn**	**09 45 29.0**	**0.0**
HUEH				*i* S		**Sn**	**09 45 49.3**	**+3.3**
HUEH				IAML			09 45 59.5	
	comp=Z,17µm,1.0s							
PCG	**Pacaya**	**1.52**	**79**	*i* P		**Pn**	**09 45 31.1**	**-0.1**
QUIS	**Sacapulas**	**1.56**	**40**	*i* P		**Pn**	**09 45 32.1**	**+0.4**
QUIS				*i* S		**Sn**	**09 45 52.8**	**+2.0**
QUIS				IAML			09 45 55.6	
	comp=Z,7µm,1.0s							
GUMI	**Mixco**	**1.57**	**70**	*i* P		**Pn**	**09 45 31.7**	**-0.2**
GUMI				*i* S		**Sn**	**09 45 53.2**	**+2.0**
GUMI				IAML			09 45 57.1	
	comp=Z,13µm,1.0s							
GCG4	**OSOP**	**1.64**	**72**	*i* P		**Pn**	**09 45 32.6**	**-0.1**
GCG4				*i* S		**Sn**	**09 45 56.4**	**+3.8**
GCG4				IAML			09 45 56.6	
	comp=Z,6µm,1.0s							
NBG	**Las Nubes**	**1.81**	**74**	*eP*		**Pn**	**09 45 36.3**	**+1.1**
GUNB	**GUNB**	**1.81**	**74**	*i* P		**Pn**	**09 45 35.8**	**+0.6**
GUNB				*i* S		**Sn**	**09 45 58.9**	**+1.8**
GUNB				IAML			09 46 02.6	
	comp=Z,7µm,1.0s							
AVCB	**Coban**	**2.16**	**51**	*i* P		**Pn**	**09 45 41.9**	**+1.9**
AVCB				IAML			09 46 18.3	
	comp=Z,6µm,1.0s							
CCIG	**Comitan**	**2.17**	**0**	Pn		**Pn**	**09 45 41.8**	**+1.7**
SLOZ	**Alcaldia de Sa**	**2.29**	**91**	*eP*		**Pn**	**09 45 41.1**	**-0.5**
SLOZ				*eS*		**Sn**	**09 46 10.2**	**+1.6**
LOAL	**Lomas de Alarc**	**2.29**	**92**	*i* P		**Pn**	**09 45 42.4**	**+0.8**
LOAL				IAML			09 46 19.7	
	comp=Z,10µm,1.0s							
NUBE	**Las Nubes**	**2.30**	**95**	*eP*		**Pn**	**09 45 41.0**	**-0.9**
NUBE	**Las Nubes**	**2.30**	**95**	*i* P		**Pn**	**09 45 41.0**	**-0.9**
NUBE				IAML			09 46 11.9	
	comp=Z,4µm,1.0s							
RTR	**El Retiro**	**2.43**	**94**	*eP*		**Pn**	**09 45 43.1**	**-0.6**
SBLS	**San Blas**	**2.46**	**96**	*eP*		**Pn**	**09 45 43.8**	**-0.3**
CEVE	**Cerro Verde**	**2.46**	**96**	*eP*		**Pn**	**09 45 43.3**	**-0.8**
CEVE	**Cerro Verde**	**2.46**	**96**	*i* P		**Pn**	**09 45 44.1**	**0.0**
CEVE				IAML			09 46 24.1	
	comp=Z,8µm,1.0s							
SNJE	**San Jose**	**2.47**	**95**	*eP*		**Pn**	**09 45 43.5**	**-0.7**
UNIC	**Universidad Ca**	**2.52**	**92**	*i* P		**Pn**	**09 45 44.4**	**-0.4**
UNIC				IAML			09 45 45.2	
	comp=Z,700nm,1.0s							
JAYA	**Jayaque - finc**	**2.65**	**99**	*eP*		**Pn**	**09 45 45.1**	**-1.6**
JAYA				*eS*		**Sn**	**09 46 17.1**	**-0.6**
JAYA	**Jayaque - finc**	**2.65**	**99**	*i* P		**Pn**	**09 45 45.9**	**-0.8**
JAYA				IAML			09 46 23.1	
	comp=Z,8µm,1.0s							
CEDA	**San Andres**	**2.68**	**96**	*eP*		**Pn**	**09 45 46.6**	**-0.3**
CEDA				*eS*		**Sn**	**09 46 20.9**	**+2.6**
CEDA				IAML			09 46 29.3	
	comp=Z,2µm,0.2s							
MTO3	**Montecristo**	**2.71**	**83**	*eP*		**Pn**	**09 45 46.7**	**-0.8**
MTO3	**Montecristo**	**2.71**	**83**	*i* P		**Pn**	**09 45 47.1**	**-0.5**
MTO3				IAML			09 46 31.0	
	comp=Z,610nm,1.0s							
ESQI	**Esquipulas**	**2.75**	**80**	*i* P		**Pn**	**09 45 48.3**	**+0.3**
ESQI				IAML			09 46 29.1	
	comp=Z,1µm,1.0s							
PMON	**Piamonte**	**2.77**	**98**	*i* P		**Pn**	**09 45 48.2**	**-0.1**
PMON				IAML			09 46 34.6	
	comp=Z,5µm,1.0s							
QUEZ	**Alcaldia de Qu**	**2.80**	**95**	*i* P		**Pn**	**09 45 48.8**	**+0.2**
QUEZ				IAML			09 46 35.1	
	comp=Z,8µm,1.0s							
BOQS	**Boqueron**	**2.80**	**97**	*eP*		**Pn**	**09 45 48.6**	**-0.1**
MAGS	**Ministerio de**	**2.80**	**98**	*i* P		**Pn**	**09 45 48.7**	**0.0**
MAGS				IAML			09 46 32.6	
	comp=Z,2µm,1.0s							
LALI	**Alcalda de L**	**2.81**	**102**	*eP*		**Pn**	**09 45 47.1**	**-1.5**
LALI	**Alcalda de L**	**2.81**	**102**	*i* P		**Pn**	**09 45 48.0**	**-0.6**
LALI				IAML			09 46 27.7	
	comp=Z,810nm,1.0s							
ITCA	**Escuela Especi**	**2.81**	**98**	*i* P		**Pn**	**09 45 49.0**	**+0.2**
ITCA				IAML			09 46 29.1	
	comp=Z,8µm,1.0s							
UEES	**Universidad Ev**	**2.84**	**97**	*eP*		**Pn**	**09 45 48.2**	**-1.0**
UEES	**Universidad Ev**	**2.84**	**97**	*i* P		**Pn**	**09 45 49.1**	**-0.1**
UEES				IAML			09 46 42.8	
	comp=Z,2µm,1.0s							
SNET	**Serv Nac Est T**	**2.86**	**98**	*eP*		**Pn**	**09 45 48.9**	**-0.5**
SNET	**Serv Nac Est T**	**2.86**	**98**	*i* P		**Pn**	**09 45 49.2**	**-0.2**
SNET				IAML			09 46 28.5	
	comp=Z,4µm,1.0s							
SEMO	**Seminario San**	**2.86**	**98**	*i* P		**Pn**	**09 45 49.9**	**+0.4**
SEMO				IAML			09 46 29.5	
	comp=Z,5µm,1.0s							
UTEC	**Universidad Te**	**2.88**	**98**	*i* P		**Pn**	**09 45 49.7**	**-0.1**
UTEC				IAML			09 46 37.3	
	comp=Z,2µm,1.0s							
PANCS	**Alcalda de**	**2.92**	**99**	*i* P		**Pn**	**09 45 49.8**	**-0.4**
PANCS				IAML			09 46 33.3	
	comp=Z,5µm,1.0s							
LOMA	**Loma Larga**	**2.92**	**99**	*eP*		**Pn**	**09 45 49.5**	**-0.8**
LOMA	**Loma Larga**	**2.92**	**99**	*i* P		**Pn**	**09 45 50.6**	**+0.3**
LOMA				IAML			09 46 40.8	
	comp=Z,2µm,1.0s							
UDBS	**Universidad Do**	**2.93**	**97**	*i* P		**Pn**	**09 45 50.1**	**-0.2**
UDBS				IAML			09 46 42.1	
	comp=Z,2µm,1.0s							
SJTE	**Alcalda de S**	**3.08**	**99**	*eP*		**Pn**	**09 45 52.2**	**-0.3**
SJTE	**Alcalda de S**	**3.08**	**99**	*i* P		**Pn**	**09 45 52.5**	**0.0**
SJTE				IAML			09 46 40.7	
	comp=Z,2µm,1.0s							
PAVA	**Las Pavas**	**3.14**	**97**	*i* P		**Pn**	**09 45 53.2**	**-0.1**
PAVA				IAML			09 46 38.9	
	comp=Z,2µm,1.0s							
SCLA	**Alcaldia de Sa**	**3.34**	**96**	*eP*		**Pn**	**09 45 55.8**	**-0.2**
SARH	**Santa Rosa de**	**3.34**	**78**	*i* P		**Pn**	**09 45 56.6**	**+0.5**
PQSS	**Presa 15 de Se**	**3.51**	**97**	*eP*		**Pn**	**09 45 57.3**	**-1.0**
COEB	**Comit de Eme**	**3.56**	**99**	*eP*		**Pn**	**09 45 58.6**	**-0.4**
CMIG	**Matias Romero**	**3.98**	**319**	Pn		**Pn**	**09 46 04.8**	**+0.1**
	comp=Z,7.3nm,0.3s,baz=162,slow=12,SNR=15							
CMIG				Sn		**Sn**	**09 46 53.5**	**+3.3**
	comp=Z,65nm,0.3s,baz=77,slow=20,SNR=8.3							
	comp=Z,36nm,0.4s							
CNCH	**Conchagua**	**4.27**	**101**	*eP*		**Pn**	**09 46 08.2**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.72**	**90**	Pn		**Pn**	**09 46 13.2**	**-1.9**
CRIN	**San Cristobal**	**5.15**	**105**			**Pn**	**09 46 21.5**	**+0.7**
CNGN	**Cerro Negro**	**5.53**	**106**			**Pn**	**09 46 26.4**	**+0.3**
BOAB	**BOACO BROADBAN**	**5.51**	**104**	Pn		**Pn**	**09 46 38.4**	**-1.2**
TLIG	**Tlapa**	**7.08**	**300**	Pn		**Pn**	**09 46 50.4**	**+3.0**
ACON	**Acoyapa**	**7.11**	**107**			**Pn**	**09 46 47.0**	**-0.8**
TEIG	**Tepich**	**7.13**	**31**	Pn		**Pn**	**09 46 49.3**	**+1.4**
JTS	**Las Juntas de**	**7.98**	**118**	Pn		**Pn**	**09 47 02.1**	**+2.3**
JTS	**Las Juntas de**	**7.98**	**118**	Pn		**Pn**	**09 47 01.5**	**+1.7**
	comp=Z,4.0nm,0.3s,baz=307,slow=19,SNR=11							
JTS				Sn		**Sn**	**09 48 29.1**	**+0.3**
	baz=328,slow=19							
	comp=Z,9.4nm,0.3s							
SOCE	**Pocosol**	**8.23**	**116**			**Pn**	**09 47 03.7**	**+0.6**
656A	**Willston**	**17.61**	**29**	P		**Pn**	**09 49 07.8**	**-0.6**
SAND	**Sanderson**	**18.27**	**331**			**Pn**	**09 49 17.8**	**+1.1**
TXAR	**Lajitas Array**	**18.54**	**327**	P		**Pn**	**09 49 21.1**	**+1.2**
TXAR	**Lajitas Array**	**18.54**	**327**	P		**Pn**	**09 49 22.1**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=150,slow=12,SNR=14							
TX31	**Lajitas Ar. Si**	**18.54**	**327**	P		**Pn**	**09 49 21.5**	**+1.6**
FW07	**Weatherford**	**19.22**	**345**	P		**Pn**	**09 49 27.6**	**-0.4**
FW07				IAmb	IAmb		09 49 32.6	
	comp=Z,12nm,0.5s							
LRAL	**Lakeview Retre**	**19.43**	**13**			**P**	**09 49 28.7**	**-0.2**
LRAL				IAmb	IAmb		09 49 33.2	
	comp=Z,8.3nm,0.8s							
PLPT	**Palo Pinto**	**19.46**	**344**	P		**P**	**09 49 29.4**	**+0.1**
PLPT				IAmb	IAmb		09 49 47.8	
	comp=Z,9.3nm,0.8s							
MNHN	**Monahans**	**19.74**	**332**	P		**Pn**	**09 49 34.0**	**-0.2**
VHRN	**Van Horn**	**20.38**	**327**	P		Pn	09 49 41.2	-0.7
APMT	**Aspermont**	**20.47**	**341**	P		**P**	**09 49 40.5**	**+0.2**
GOGA	**Godfrey**	**20.78**	**21**	P		**P**	**09 49 42.2**	**-1.4**
GOGA				IAmb	IAmb		09 50 01.2	
	comp=Z,22nm,1.3s							
X48A	**Hartselle**	**20.78**	**12**	P		**P**	**09 49 41.6**	**-2.0**
X48A				IAmb	IAmb		09 49 49.7	
	comp=Z,12nm,0.8s							
Y52A	**Lilburn**	**21.00**	**19**	P		**P**	**09 49 45.0**	**-1.0**
Y52A				IAmb	IAmb		09 50 01.0	
	comp=Z,18nm,0.9s							
WHAR	**Wooly Hollow**	**21.10**	**360**	P		**P**	**09 49 46.6**	**-0.4**
WHAR				IAmb	IAmb		09 50 05.4	
	comp=Z,14nm,1.2s							
WMOK	**Wichita Mounta**	**21.41**	**345**	P		**P**	**09 49 50.3**	**-0.1**
X51A	**Calhoun**	**21.42**	**17**	P		**P**	**09 49 48.7**	**-1.7**
SDV	**Santo Domingo**	**21.70**	**101**	LR		LR	09 59 21.8	
	comp=Z,76nm,18.3s,baz=302,slow=40							
W50A	**Signal Mountai**	**21.89**	**15**	P		**P**	**09 49 54.0**	**-1.6**
W50A				IAmb	IAmb		09 50 04.2	
	comp=Z,7.5nm,0.8s							
LCAR	**Lake Charles**	**21.90**	**2**	P		**P**	**09 49 53.2**	**-2.4**
LCAR				IAmb	IAmb		09 50 12.8	
	comp=Z,5.7nm,0.7s							
SMWD	**Samnorwood**	**22.16**	**342**	P		**P**	**09 49 57.9**	**-0.5**
SMWD				IAmb	IAmb		09 50 14.1	
	comp=Z,8.6nm,0.8s							
WVT	**Waverly**	**22.28**	**9**	P		**P**	**09 49 57.9**	**-1.8**
CPCT	**Cooper Cave**	**22.34**	**17**	P		**P**	**09 49 58.6**	**-1.8**
CPCT				IAmb	IAmb		09 50 07.8	
	comp=Z,9.3nm,1.1s							
PBMO	**Poplar Bluff**	**22.64**	**4**	P		**P**	**09 50 01.0**	**-2.6**
V51A	**Loudon**	**22.72**	**17**	P		**P**	**09 50 02.6**	**-1.8**
V51A				IAmb	IAmb		09 50 24.8	
	comp=Z,12nm,0.9s							
TKL	**Tuckaleechee C**	**22.75**	**18**	P		**P**	**09 50 02.9**	**-1.8**
TKL				IAmb	IAmb		09 50 25.4	
	comp=Z,13nm,1.2s							
TKL	**Tuckaleechee C**	**22.75**	**18**	LR		LR	10 00 02.5	
	comp=Z,155nm,19.6s,baz=176,slow=41							
U49A	**Red Boiling Sp**	**23.04**	**13**	P		**P**	**09 50 05.0**	**-2.7**
U49A				IAmb	IAmb		09 50 22.8	
	comp=Z,5.7nm,0.7s							
T45A	**Paducah**	**23.04**	**7**	P		**P**	**09 50 05.5**	**-2.1**
V53A	**Saluda**	**23.06**	**20**	P		**P**	**09 50 06.0**	**-2.0**
V53A				IAmb	IAmb		09 50 28.5	
	comp=Z,11nm,0.9s							
T47A	**Sharon Grove**	**23.24**	**10**	P		**P**	**09 50 07.4**	**-2.2**
T47A				IAmb	IAmb		09 50 22.5	
	comp=Z,7.9nm,0.8s							
SIUC	**Southern Illin**	**23.66**	**6**	P		**P**	**09 50 11.7**	**-2.0**
WCI	**Wyandotte Cave**	**24.59**	**11**	P		**P**	**09 50 19.8**	**-2.4**
WCI				IAmb	IAmb		09 50 46.2	
	comp=Z,9.6nm,0.8s							
OLIL	**Olney**	**24.80**	**8**	P		**P**	**09 50 21.9**	**-2.2**
PDAR	**Pinedale Array**	**32.27**	**336**	P		**P**	**09 51 31.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=133,slow=9.2,SNR=2.2							
PDAR				PcP		**PcP**	**09 54 18.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=133,slow=5.9,SNR=4.2							
PDAR				ScP		**ScP**	**09 58 02.2**	**+3.3**
	comp=Z,0.2nm,0.6s,baz=150,slow=4.2,SNR=3.7							
PDAR				LR		LR	10 05 12.0	
	comp=Z,36nm,18.5s,baz=308,slow=38							
	comp=Z,0.2nm,0.6s							
SADO	**Sadowa**	**32.51**	**17**	LR		LR	10 05 44.9	
	comp=Z,129nm,19.4s,baz=298,slow=39							
NVAR	**Mina Array Bea**	**33.51**	**321**	P		**P**	**09 51 44.8**	**+2.9**
	comp=Z,1.3nm,0.7s,baz=139,slow=8.4,SNR=8.4							
NVAR				PcP		**PcP**	**09 54 23.8**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=134,slow=2.6,SNR=3.4							
NVAR				LR		LR	10 05 55.6	
	comp=Z,76nm,19.2s,baz=80,slow=38							
	comp=Z,1.3nm,0.7s							
J08A	**Circle Bar Ran**	**36.88**	**327**	P		**P**	**09 52 12.5**	**+1.7**
TA01	**Diego Aracena**	**40.65**	**147**			**P**	**09 52 42.1**	**-0.3**
LVC	**Limon Verde**	**43.00**	**148**	LR		LR	10 07 59.7	
	comp=Z,51nm,20.3s,baz=285,slow=32							
RPN	**Rapa Nui**	**44.25**	**202**	LR		LR	10 07 04.2	
	comp=Z,51nm,18.6s,baz=42,slow=29							
SCHQ	**Schefferville**	**45.18**	**20**	LR		LR	10 13 00.7	
	comp=Z,174nm,18.3s,baz=262,slow=38							
FRB	**Frobisher Bay**	**52.25**	**13**	LR		LR	10 17 33.7	
	comp=Z,103nm,18.5s,baz=157,slow=38							
SFJD	**Kangerlussuaq**	**59.46**	**18**	LR		LR	10 22 52.0	
	comp=Z,72nm,18.3s,baz=248,slow=39							
RES	**Resolute Bay**	**60.60**	**359**	LR		LR	10 22 44.0	
	comp=Z,59nm,18.2s,baz=9.5,slow=38							
ILAR	**Eielson Array**	**62.70**	**337**	P		**P**	**09 55 26.1**	**-0.2**
	comp=Z,2.3nm,1.2s,baz=118,slow=3.9,SNR=6.0							
	comp=Z,2.3nm,1.2s							
PPT	**Papeete**	**64.81**	**243**	LR		LR	10 19 01.1	
	comp=Z,78nm,20.8s,baz=40,slow=31							
BORG	**Borgarnes**	**69.18**	**26**	LR		LR	10 28 48.8	
	comp=Z,33nm,18.4s,baz=308,slow=38							
EKA	**Eskdalemuir Ar**	**77.97**	**36**	P		**P**	**09 56 55.3**	**-4.5**
	comp=Z,0.7nm,0.5s,baz=271,slow=5.7,SNR=4.3							
	comp=Z,0.7nm,0.5s							
MDT	**Midelt**	**80.46**	**59**	LR		LR	10 29 29.1	
	comp=Z,43nm,19.2s,baz=276,slow=34							
NOA	**NORSAR Array B**	**84.13**	**28**	LR		LR	10 34 43.9	
	comp=Z,16nm,18.8s,baz=345,slow=36							
HFS	**Hagfors**	**85.58**	**29**	LR		LR	10 35 54.4	
	comp=Z,28nm,18.1s,baz=256,slow=36							
CMAR	**Chiang Mai Arr**	**145.85**	**341**	PKPbc		**PKPbc**	**10 04 41.5**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=340,slow=4.0,SNR=10							

*SJA **21** 09:52:04.3±0.7,22°.52S×68°.88W,h97^{km}±3^{km}, ML4.1, MW3.8*
*GUC **21** 09:52:05.7±0.8,22°.54S×68°.92W,h89^{km}±4^{km}, ML4.0*
ISC 21 09:52:07.5±1.4,22°.53S±0°.03×68°.92W±0°.05,h80^{km}±8^{km}, n29,σ1$ 65/50,2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.08**	**171**	*eP*		**Pn**	**09 52 18.7**	**-0.8**
LVC				*eS*		**Sn**	**09 52 29.8**	**+1.5**
LVC	**Limon Verde**	**0.08**	**171**	*eP*		**Pn**	**09 52 18.5**	**-1.0**
LVC				*eS*		**Sn**	**09 52 28.5**	**+0.1**
LVC				IAML			09 52 30.7	
	8µm,0.2s							
PB06	**IPOC Station P**	**0.62**	**253**	*eP*		**Pn**	**09 52 22.0**	**-0.6**
PB06				*eS*		**Sn**	**09 52 34.8**	**+1.0**
PB06				IAML			09 52 37.5	
	comp=Z,3µm,0.1s							
PB06	**IPOC Station P**	**0.62**	**253**	*i* P		**Pn**	**09 52 22.2**	**-0.5**
PB06				*eS*		**Sn**	**09 52 34.6**	**+0.7**
PB06				IAML			09 52 35.1	
	comp=E,8µm,0.1s							
PB09	**IPOC Station P**	**0.79**	**338**	*eP*		**Pn**	**09 52 23.6**	**-0.7**
PB09				*eS*		**Sn**	**09 52 37.4**	**+0.5**
PB09				IAML			09 52 39.5	
	comp=Z,2µm,0.2s							
PB09	**IPOC Station P**	**0.79**	**338**	⇓*i* P		**Pn**	**09 52 23.9**	**-0.5**
PB09				*eS*		**Sn**	**09 52 38.0**	**+1.1**
PB09				IAML			09 52 38.6	
	comp=N,3µm,0.4s							
AF01	**San Pedro de A**	**0.81**	**122**	⇓*i* P		**Pn**	**09 52 24.0**	**-0.7**
AF01				*eS*		**Sn**	**09 52 38.2**	**+0.7**
AF01				IAML			09 52 50.5	
	comp=E,9µm,0.5s							
PB15	**IPOC Station P**	**0.84**	**217**	*eP*		**Pn**	**09 52 24.6**	**-0.5**
PB15				*eS*		**Sn**	**09 52 39.4**	**+1.3**
PB15				IAML			09 52 40.8	
	comp=Z,12µm,0.2s							
PB15	**IPOC Station P**	**0.84**	**217**	*eP*		**Pn**	**09 52 24.7**	**-0.3**
PB15				*eS*		**Sn**	**09 52 38.7**	**+0.6**
PB15				IAML			09 52 43.0	
	comp=E,24µm,0.2s							
PB04	**IPOC Station P**	**1.15**	**279**	*eP*		**Pn**	**09 52 27.7**	**-0.9**
PB04				*eS*		**Sn**	**09 52 45.2**	**+0.8**
PB04				IAML			09 52 48.2	
	comp=Z,3µm,0.1s							
PB07	**IPOC Station P**	**1.20**	**312**	*eP*		**Pn**	**09 52 28.1**	**-1.1**
PB07				*eS*		**Sn**	**09 52 45.5**	**0.0**
PB07				IAML			09 52 49.2	
	comp=Z,2µm,0.2s							
PB07	**IPOC Station P**	**1.20**	**312**	*eP*		**Pn**	**09 52 28.5**	**-0.7**
PB07				*eS*		**Sn**	**09 52 46.0**	**+0.5**
PB07				IAML			09 52 47.0	
	comp=E,3µm,0.3s							
PB05	**IPOC Station P**	**1.23**	**254**	*eP*		**Pn**	**09 52 28.4**	**-1.1**
PB05				*eS*		**Sn**	**09 52 46.9**	**+1.0**
PB05	**IPOC Station P**	**1.23**	**254**	*i* P		**Pn**	**09 52 28.4**	**-1.1**
PB05				*eS*		**Sn**	**09 52 46.0**	**0.0**
PB05				IAML			09 52 49.4	
	comp=N,2µm,0.3s							
PB02	**IPOC Station P**	**1.50**	**323**	*eP*		**Pn**	**09 52 32.1**	**-1.0**
PB02				*eS*		**Sn**	**09 52 52.8**	**+0.5**
PB02				IAML			09 52 58.8	
	comp=Z,3µm,0.4s							
PB02	**IPOC Station P**	**1.50**	**323**	*eP*		**Pn**	**09 52 32.0**	**-1.0**
PB02				*eS*		**Sn**	**09 52 52.4**	**+0.1**
PB02				IAML			09 52 54.9	
	comp=E,4µm,0.2s							
PB01	**IPOC Station P**	**1.57**	**340**	*eP*		**Pn**	**09 52 32.4**	**-1.5**
PB01				*eS*		**Sn**	**09 52 54.4**	**+0.7**
PB01				IAML			09 52 55.7	
	comp=Z,1µm,0.1s							
PATCX	**Punta Patache**	**2.05**	**326**	*eP*		**Pn**	**09 52 38.6**	**-1.6**
PATCX				*eS*		**Sn**	**09 53 08.1**	**+3.1**
PATCX				IAML			09 53 09.6	
	comp=Z,665nm,0.2s							
TA01	**Diego Aracena**	**2.28**	**329**	*eP*		**Pn**	**09 52 41.1**	**-2.1**
TA01				*eS*		**Sn**	**09 53 14.9**	**+4.6**
TA01	**Diego Aracena**	**2.28**	**329**	*eP*		**Pn**	**09 52 41.0**	**-2.1**
PB08	**IPOC Station P**	**2.38**	**355**	*eP*		**Pn**	**09 52 43.9**	**-1.1**
PB08				*eS*		**Sn**	**09 53 17.9**	**+4.4**
PB08	**IPOC Station P**	**2.38**	**355**	P		**Pn**	**09 52 43.5**	**-1.4**
PB14	**IPOC Station P**	**2.49**	**213**	*eP*		**Pn**	**09 52 47.2**	**+0.9**
PB14				*eS*		**Sn**	**09 53 17.4**	**+1.4**
PB14				IAML			09 53 25.2	
	comp=Z,637nm,0.6s							
TA02	**Huaiquique**	**2.51**	**333**	*eP*		**Pn**	**09 52 45.1**	**-1.2**
TA02				*eS*		**Sn**	**09 53 19.4**	**+3.3**
TA02				IAML			09 53 25.0	
	comp=Z,634nm,0.3s							
GO02	**Mina Guanaco**	**2.69**	**193**	*eP*		**Pn**	**09 52 47.3**	**-1.7**
GO02				*eS*		Sn	09 53 08.1	-13
GO02				IAML			09 53 31.6	
	comp=Z,478nm,0.2s							
GO02	**Mina Guanaco**	**2.69**	**193**	*eP*		**Pn**	**09 52 47.8**	**-1.2**
PB11	**IPOC Station P**	**2.84**	**346**	*eP*		Pn	09 52 31.8	-19
PB11				IAML			09 53 32.0	
	comp=Z,345nm,0.2s							
GO01	**Chusmiza**	**2.86**	**355**	*eP*		**Pn**	**09 52 50.2**	**-1.3**
PB12	**IPOC Station P**	**4.11**	**341**	*eP*		**Pn**	**09 53 04.1**	**-4.0**

*CRAAG **21** 10:18:09.3,36°.39N×2°.58E,Ml3.2,Algerie 04km SE Oued-Djer*
*MDD **21** 10:18:11.1±0.9,36°.41N×2°.50E,h4^{km}±17^{km},Mb4.3/13, M_mb3.7/11,Error ellipse: s-maj=22.2km s-min=4.5km az=147.0*
ISC 21 10:18:09.9±0.9,36°.39N±0°.04×2°.56E±0°.03,h18^{km},n29, σ1$19/44,10C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ABKD	**Sidi Amar**	**0.25**	**305**	P		**Pg**	**10 18 15.4**	**-0.2**
ACHR	**Chrea**	**0.26**	**83**	P		**Pg**	**10 18 15.3**	**-0.6**
EMHD	**Djebel Mahouad**	**0.37**	**121**	P		**Pg**	**10 18 17.9**	**+0.1**
ADOR	**Douera**	**0.39**	**47**	P		**Pg**	**10 18 18.6**	**+0.4**
EHRZ	**Djelida**	**0.41**	**242**	P		**Pg**	**10 18 18.1**	**-0.4**
EARB	**Arib**	**0.46**	**259**	P		**Pg**	**10 18 18.6**	**-0.6**
EDDR	**Deurdeur**	**0.48**	**216**	P		**Pb**	**10 18 19.8**	**-0.1**
ABA	**Alger-Bouzarea**	**0.56**	**43**	P		**Pg**	**10 18 20.8**	**-0.3**
AKED	**El Kharrouba**	**0.74**	**69**	P		**Pb**	**10 18 24.6**	**+0.4**
ADJB	**Djebel Djouab**	**0.75**	**108**	P		**Pb**	**10 18 24.4**	**-0.1**
EBNH	**Beni Haoua**	**0.82**	**279**	P		**Pb**	**10 18 25.9**	**+0.3**
EIBI	**Ibiza**	**2.80**	**340**	P		**Pn**	**10 18 54.5**	**+0.7**
EIBI				S		**Sn**	**10

CSP1					AML	AML		
	comp=N,358μm,1.6s							
T1221	**Campello sul C**	**0.18**	**237**	⇑P	Pg	10 38 04.5	+0.6	
T1221				S	Sg	10 38 07.8	+1.4	
T1221				AML	AML			
	comp=E,770μm,0.3s							
T1221				AML	AML			
	comp=N,1114μm,0.3s							
T1221				AML	AML			
	comp=E,684μm,0.3s							
T1221				AML	AML			
	comp=N,1190μm,0.3s							
T1221				AML	AML			
	comp=E,401μm,0.8s							
T1221				AML	AML			
	comp=N,554μm,0.3s							
T1221				AML	AML			
	comp=E,366μm,0.8s							
T1221				AML	AML			
	comp=N,591μm,0.3s							
T1221				AML	AML			
	comp=E,207μm,0.2s							
T1221				AML	AML			
	comp=N,126μm,0.1s							
T1221				AML	AML			
	comp=E,212μm,0.2s							
T1221				AML	AML			
	comp=N,131μm,0.2s							
MMO1	**Montemonaco**	**0.21**	**106**	P	Pg	10 38 05.0	+0.6	
MMO1				S	Sg	10 38 08.6	+1.2	
GAVE	**Gavelli**	**0.29**	**203**	P	Pb	10 38 06.9	-0.7	
GAVE				S	Sb	10 38 11.4	-1.1	
GAVE				AML	AML			
	comp=E,1166μm,0.4s							
GAVE				AML	AML			
	comp=N,386μm,0.5s							
GAVE				AML	AML			
	comp=E,1150μm,1.1s							
GAVE				AML	AML			
	comp=N,907μm,0.4s							
GAVE				AML	AML			
	comp=E,129μm,0.2s							
GAVE				AML	AML			
	comp=N,80μm,0.2s							
GAVE				AML	AML			
	comp=E,115μm,0.2s							
GAVE				AML	AML			
	comp=E,1039μm,0.1s							
GAVE				AML	AML			
	comp=N,237μm,0.2s							
GAVE				AML	AML			
	comp=E,1087μm,0.2s							
GAVE				AML	AML			
	comp=N,719μm,0.2s							
MF5	**Montefalcone A**	**0.30**	**84**	P	Pb	10 38 07.2	-0.6	
MF5				S	Sb	10 38 12.6	-0.3	
MF5				AML	AML			
	comp=E,100μm,0.3s							
MTRA	**Matera**	**0.33**	**128**	P	Pg	10 38 07.3	+0.7	
MTRA				S	Sb	10 38 12.5	-1.1	
MTRA				AML	AML			
	comp=N,34μm,0.1s							
MTRA				AML	AML			
	comp=E,40μm,0.1s							
EL6	**Elcito**	**0.37**	**6**	⇑P	Pg	10 38 08.3	+0.8	
EL6				S	Sb	10 38 14.3	-0.7	

ROM 21 10:38:11.8±0.1,**42°782N**±0.003×**12°729E**±0.004,
h7km,**ML1.9**/29,**1D**,**Error ellipse: s-maj=0.4km**
s-min=0.2km az=161.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
T1221	**Campello sul C**	**0.12**	**48**	P	Pg	10 38 14.9	+0.4	
T1221				S	Sg	10 38 17.1	+0.8	
T1221				AML	AML			
	comp=E,1095μm,0.4s							
T1221				AML	AML			
	comp=N,1174μm,0.2s							
T1221				AML	AML			
	comp=E,1065μm,0.3s							
T1221				AML	AML			
	comp=N,1190μm,0.3s							
T1221				AML	AML			
	comp=N,1175μm,0.2s							
T1221				AML	AML			
	comp=N,1187μm,0.3s							
T1221				AML	AML			
	comp=E,1064μm,0.3s							
T1221				AML	AML			
	comp=E,1097μm,0.3s							
MOMA	**Monte Martano**	**0.12**	**281**	P	Pg	10 38 14.8	+0.3	
MOMA				S	Sg	10 38 17.1	+0.8	
MOMA				AML	AML			
	comp=E,2470μm,0.6s							
MOMA				AML	AML			
	comp=N,1980μm,0.3s							
MOMA				AML	AML			
	comp=E,2585μm,1.1s							
MOMA				AML	AML			
	comp=N,2105μm,0.3s							
MOMA				AML	AML			
	comp=N,1975μm,0.3s							
MOMA				AML	AML			
	comp=E,2470μm,0.6s							
MOMA				AML	AML			
	comp=E,2585μm,0.9s							
MOMA				AML	AML			
	comp=N,2102μm,0.3s							
MOMA				AML	AML			
	comp=N,1976μm,0.3s							
MOMA				AML	AML			
	comp=E,2492μm,0.2s							
MOMA				AML	AML			
	comp=E,2394μm,0.2s							
ARRO	**Arrone**	**0.20**	**172**	P	Pg	10 38 16.3	+0.4	
ARRO				S	Sg	10 38 20.8	+2.1	
CESX	**Cesi**	**0.20**	**213**	P	Pg	10 38 16.4	+0.5	
CESX				S	Sg	10 38 20.3	+1.7	
CESX				AML	AML			
	comp=E,618μm,0.4s							
CESX				AML	AML			
	comp=N,575μm,1.3s							
CESX				AML	AML			
	comp=E,618μm,1.6s							
CESX				AML	AML			
	comp=N,575μm,0.7s							
CESX				AML	AML			
	comp=E,618μm,0.4s							
CESX				AML	AML			
	comp=N,535μm,0.2s							
CESI	**CESI - Serrava**	**0.26**	**30**	P	Pg	10 38 17.6	+0.7	
CESI				S	Sg	10 38 21.9	+1.5	
CESI				AML	AML			
	comp=N,802μm,0.3s							
CESI				AML	AML			
	comp=E,381μm,0.4s							
CESI				AML	AML			
	comp=N,801μm,0.3s							
CESI				AML	AML			
	comp=E,381μm,0.4s							
NRCA	**Norcia**	**0.29**	**80**	P	Pg	10 38 18.3	+0.8	
NRCA				S	Sb	10 38 23.2	-1.2	
T1214	**Arquata del Tr**	**0.35**	**93**	P	Pg	10 38 19.5	+0.7	
T1214				S	Sb	10 38 25.4	-0.9	
T1214				AML	AML			
	comp=E,201μm,0.3s							
T1214				AML	AML			
	comp=E,242μm,0.3s							
T1214				AML	AML			
	comp=N,175μm,0.2s							
T1214				AML	AML			
	comp=N,153μm,0.2s							
MC2	**Monte Cornacci**	**0.36**	**69**	P	Pg	10 38 19.6	+0.6	
MC2				S	Sb	10 38 25.9	-0.7	
RM33	**Pellescritta (**	**0.45**	**127**	P	Pg	10 38 21.2	+0.6	
RM33				AML	AML			
	comp=E,107μm,0.7s							
RM33				AML	AML			
	comp=N,104μm,1.5s							
RM33				AML	AML			
	comp=E,107μm,0.7s							
RM33				AML	AML			
	comp=N,104μm,1.5s							
RM33				AML	AML			
	comp=N,154μm,0.7s							
RM33				AML	AML			
	comp=N,88μm,0.4s							
RM33				AML	AML			
	comp=E,102μm,0.5s							
MMO1	**Montemonaco**	**0.46**	**75**	P	Pg	10 38 21.0	+0.4	
MMO1				S	Sb	10 38 28.1	-1.1	
CSP1	**Cessapalombo**	**0.47**	**48**	P	Pg	10 38 21.2	+0.3	
CSP1				S	Sb	10 38 29.1	-0.5	
MGAB	**Montegabbione**	**0.47**	**286**	⇓P	Pb	10 38 21.7	-0.7	
MGAB				S	Sb	10 38 29.1	-0.5	
MGAB				AML	AML			
	comp=E,184μm,0.2s							
MGAB				AML	AML			
	comp=N,171μm,0.8s							
MGAB				AML	AML			
	comp=E,176μm,0.6s							
MGAB				AML	AML			
	comp=N,210μm,0.8s							
MGAB				AML	AML			
	comp=N,210μm,1.2s							
MGAB				AML	AML			
	comp=N,146μm,0.2s							
MGAB				AML	AML			
	comp=E,161μm,0.2s							
MGAB				AML	AML			
	comp=E,184μm,0.2s							
SNTG	**Esanatoglia**	**0.50**	**18**	P	Pb	10 38 22.4	-0.4	
SNTG				S	Sb	10 38 29.6	-0.8	
FOSV	**Fossato di Vic**	**0.51**	**3**	P	Pg	10 38 22.1	+0.3	
FOSV				S	Sb	10 38 30.7	-0.1	
FOSV				AML	AML			
	comp=E,103μm,0.2s							
FOSV				AML	AML			
	comp=N,93μm,0.5s							
MF5	**Montefalcone A**	**0.58**	**69**	P	Pb	10 38 23.8	-0.5	
MF5				S	Sb	10 38 32.4	-0.2	
ATLO	**AVT- Montelove**	**0.58**	**336**	P	Pb	10 38 23.8	-0.6	
FIAM	**Fiamignano**	**0.59**	**151**	P	Pb	10 38 23.9	-0.6	
SACS	**San Casciano d**	**0.61**	**277**	P	Pg	10 38 24.0	+0.5	
SACS				S	Sb	10 38 33.0	-0.5	
EL6	**Elcito**	**0.61**	**26**	P	Pb	10 38 24.3	-0.6	
EL6				S	Sb	10 38 33.6	-0.1	
EL6				AML	AML			
	comp=E,329μm,0.3s							
EL6				AML	AML			
	comp=E,330μm,0.3s							
EL6				AML	AML			
	comp=N,204μm,1.5s							
EL6				AML	AML			
	comp=N,172μm,0.3s							
EL6				AML	AML			
	comp=E,329μm,0.3s							
TERO	**Teramo**	**0.66**	**104**	P	Pb	10 38 25.3	-0.4	
TERO				S	Sb	10 38 35.0	-0.1	
CAFI	**Castiglion Fio**	**0.78**	**315**	P	Pg	10 38 26.8	0.0	

*RSPR **21** 11:16:42.7, 19°.49N×68°.91W, h98km±7km, MD3.6/6*
*SDD **21** 11:16:43.9±2.0, 19°.41N×68°.55W, h3km±342km, MD3.0, ML2.4, MW2.7*
*NEIC **21** 11:16:44.4±2.1, 19°.4N±0°.2×68°.87W±0°.07, h35km±2km, ML2.6/18, Md3.6/6(RSPR), Error ellipse: s-maj=29.4km s-min=8.8km az=12.0*
ISC 21 11:16:44.9±1.6,**19°.4N**±0°.1×**68°.76W**±0°.04,**h16**km±11km,
n31,σ1°**49**/35,**8C-7D**,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SMDR	**Samana, DR**	**0.41**	**262**	⇑eP	**Pg**	**11 16 53.5**	**+0.2**	
SMDR				⇑eSg	**Sn**	**11 17 03.2**	**-0.3**	
SMDR				IAML		11 17 04.7		
	comp=E,121nm,0.7s							
SMDR				IAML		11 17 04.8		
	comp=N,92nm,0.7s							
HATOM	**Hato Mayor del**	**0.81**	**227**	⇑eP	**Pg**	**11 17 01.1**	**+0.4**	
HATOM				⇑eSg	**Sn**	**11 17 15.3**	**+1.9**	
HATOM				IAML		11 17 17.2		
	comp=E,23nm,1.2s							
HATOM				IAML		11 17 58.8		
	comp=N,33nm,1.9s							
NADR	**Nagua**	**1.04**	**271**	⇑eP	**Pg**	**11 17 06.6**	**+1.5**	
NADR				⇓eSg	**Sn**	**11 17 23.1**	**+4.1**	
NADR				IAML		11 17 27.2		
	comp=N,142nm,0.2s							
NADR				IAML		11 17 38.6		
	comp=E,149nm,1.1s							
AGPR	**Aguadilla, PR**	**1.78**	**119**	Pn	**Pn**	**11 17 13.9**	**-1.1**	
PRSN	**Puerto Rico Se**	**1.89**	**126**	Pn	**Pn**	**11 17 14.5**	**-2.0**	
PRSN				IAML		11 17 48.8		
	comp=E,43nm,0.3s							
PRSN				IAML		11 17 54.9		
	comp=N,50nm,0.3s							
LSP	**Las Mesas**	**1.96**	**126**	⇓eP	**Pn**	**11 17 17.6**	**0.0**	
LSP	**Las Mesas**	**1.96**	**126**	eS	**Sb**	**11 17 45.2**	**+0.7**	
LSP	**Las Mesas**	**1.96**	**126**		**Pn**	**11 17 17.6**	**0.0**	
LSP					**Sb**	**11 17 45.2**	**+0.7**	
CRPR	**Cabo Rojo, PR**	**2.05**	**130**	⇓eP	**Pn**	**11 17 18.4**	**-0.3**	
CRPR	**Cabo Rojo, PR**	**2.05**	**130**	eS	**Sn**	**11 17 45.4**	**+1.5**	
CRPR	**Cabo Rojo, PR**	**2.05**	**130**		**Pn**	**11 17 18.4**	**-0.3**	
CRPR	**Cabo Rojo, PR**	**2.05**	**130**	IAML		11 17 36.0		
	comp=E,45nm,3.4s							
CRPR				IAML		11 17 50.0		
	comp=N,40nm,3.1s							
CRPR	**Cabo Rojo, PR**	**2.05**	**130**		**Sn**	**11 17 45.4**	**+1.5**	
CRPR	**Cabo Rojo, PR**	**2.05**	**130**	⇑eP	**Pn**	**11 17 18.0**	**-0.7**	
CRPR				⇓eSg	**Sn**	**11 17 45.2**	**+1.2**	
CRPR				IAML		11 17 49.3		
	comp=N,57nm,3.6s							
CRPR				IAML		11 17 54.9		
	comp=E,47nm,2.1s							
MLPR	**Magueyes Islan**	**2.12**	**130**	⇓eP	**Pn**	**11 17 18.7**	**-1.0**	
MLPR	**Magueyes Islan**	**2.12**	**130**	eS	**Sn**	**11 17 44.2**	**-1.5**	
MLPR	**Magueyes Islan**	**2.12**	**130**		**Pn**	**11 17 18.7**	**-1.0**	
MLPR					**Sn**	**11 17 44.2**	**-1.5**	
MLPR	**Magueyes Islan**	**2.12**	**130**	IAML		11 18 40.8		
	comp=N,36nm,2.9s							
AOPR	**Arecibo Observ**	**2.14**	**117**	⇑eP	**Pb**	**11 17 22.7**	**-0.6**	
AOPR	**Arecibo Observ**	**2.14**	**117**	eS	**Sn**	**11 17 47.4**	**+1.2**	
AOPR	**Arecibo Observ**	**2.14**	**117**		**Pn**	**11 17 18.2**	**-1.8**	
AOPR				IAML		11 17 54.5		
	comp=N,41nm,2.1s							
AOPR	**Arecibo Observ**	**2.14**	**117**		**Sn**	**11 17 47.4**	**+1.2**	
AOPR	**Arecibo Observ**	**2.14**	**117**	⇓ePg	**Pn**	**11 17 20.2**	**+0.3**	
AOPR				⇑eSg	**Sn**	**11 17 47.6**	**+1.4**	
AOPR				IAML		11 17 53.9		
	comp=N,29nm,1.4s							
AOPR				IAML		11 17 54.5		
	comp=E,42nm,0.4s							
CELP	**Cerrillos**	**2.42**	**121**	⇓eP	**Pn**	**11 17 22.9**	**-0.9**	
CELP	**Cerrillos**	**2.42**	**121**	eS	**Sn**	**11 17 52.8**	**-0.2**	
CELP	**Cerrillos**	**2.42**	**121**		**Pn**	**11 17 22.9**	**-0.9**	
CELP	**Cerrillos**	**2.42**	**121**		**Sn**	**11 17 52.8**	**-0.2**	
CELP	**Cerrillos**	**2.42**	**121**	IAML		11 17 47.7		
	comp=E,22nm,3.5s							
SDDR	**Presa de Saban**	**2.42**	**262**	Pn	**Pn**	**11 17 20.2**	**-3.6**	
SJG	**San Juan**	**2.76**	**116**	Pn	**Pn**	**11 17 26.5**	**-1.9**	
SJG				IAML		11 18 00.8		
	comp=E,24nm,3.4s							
SJG				IAML		11 19 00.9		
	comp=E,23nm,3.0s							
HUMP	**Col San Antoni**	**3.00**	**113**	Pn	**Pn**	**11 17 31.6**	**-0.2**	
HUMP				IAML		11 18 14.3		
	comp=N,19nm,2.8s							
HUMP				IAML		11 19 20.4		
	comp=E,17nm,1.7s							

*JMA **21** 11:18:55.6±0.3,31°.N×2°×13°.8E±°, h443km, MV3.6/40, NEAR TORISHIMA IS*
*IDC **21** 11:18:56.4±1.1,31°.23N×138°.07E, h414km±12km, mb3.0/11, mbtmp3.7/15, Error ellipse: s-maj=16.4km s-min=11.4km az=94.0*
ISC 21 11:18:55.4±0.7,**31°.21N**±0°.07×**138°.29E**±0°.10,**h400**km,**n29**,
σ1°**96**/37,**mb3.2**/11,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JHJ	**Hachijo jima 2**	**2.29**	**33**	P	Pn	11 19 57.0	+3.8	
	193nm,0.3s,baz=278,slow=21,SNR=16							
JHJ				S	**S**	**11 20 39.9**	**-0.1**	
	98nm,0.3s,baz=246,slow=20,SNR=1.9							
JHJ2	**Mitsune**	**2.30**	**34**	P	Pn	11 19 57.0	+3.7	
TK02	**Tokai 2**	**2.77**	**351**	*e*P	Pn	11 20 00.7	+4.3	
JIE	**Ise**	**3.45**	**338**	P	**Pn**	**11 20 05.9**	**+3.6**	
JKN2	**Miekihoku**	**3.47**	**331**	P	**Pn**	**11 20 05.4**	**+2.9**	
HMMJ	**Hamamatsu 2**	**3.67**	**353**	P	**Pn**	**11 20 07.6**	**+3.3**	
HMMJ				*e*S	**S**	**11 21 03.4**	**+3.1**	
JOD2	**Odawara 2**	**4.10**	**9**	P	**Pn**	**11 20 10.2**	**+1.8**	
JOD2				*e*S	**S**	**11 21 08.3**	**+0.7**	
BSO1	**Boso 1**	**4.11**	**33**	P	**Pn**	**11 20 09.8**	**+1.9**	
BSO1				*e*S	**S**	**11 21 08.1**	**+1.3**	
JAO	**Obara**	**4.14**	**348**	P	**Pn**	**11 20 11.9**	**+3.2**	
JNY	**Yasuok**	**4.16**	**355**	P	**Pn**	**11 20 12.1**	**+3.1**	
JNY				S	**S**	**11 21 11.3**	**+2.6**	
JRY	**Ryogami san**	**4.83**	**6**	P	**Pn**	**11 20 17.4**	**+1.9**	
JRY				*e*S	**S**	**11 21 21.8**	**+1.1**	
JYT	**Yasato**	**5.25**	**17**	P	**Pn**	**11 20 19.8**	**-0.1**	
JYT				S	**S**	**11 21 25.1**	**-3.7**	
JAG	**Ashikaga**	**5.29**	**10**	P	**Pn**	**11 20 20.8**	**+0.4**	
JAG				*e*S	**S**	**11 21 27.2**	**-2.4**	
MJAR	**Matsushiro Arr**	**5.32**	**359**	P	**Pn**	**11 20 21.8**	**+1.1**	
	7.8nm,0.7s,baz=207,slow=6.9,SNR=31							
MJAR				S	**S**	**11 21 30.0**	**-0.1**	
	2.1nm,0.5s,baz=189,slow=24,SNR=3.0							
CBIJ	**Chichi jima**	**5.33**	**139**	P	**Pn**	**11 20 22.7**	**+1.8**	
CBIJ				S	**S**	**11 21 29.2**	**-1.2**	
JHO	**Hitachi**	**5.71**	**19**	P	**Pn**	**11 20 25.1**	**+0.3**	
JHO				S	**S**	**11 21 35.0**	**-2.7**	
KSRS	**Korea Array**	**10.59**	**309**	P	**Pn**	**11 21 20.4**	**+0.2**	
	0.6nm,0.4s,baz=121,slow=10,SNR=6.1							
KLR	**Kul'dur**	**18.67**	**347**	P	**P**	**11 22 46.4**	**-0.4**	
	1.1nm,0.4s,baz=167,slow=12,SNR=5.4							
CMAR	**Chiang Mai Arr**	**37.70**	**260**	P	**P**	**11 25 33.5**	**-1.4**	
	1.3nm,0.6s,baz=53,slow=6.8,SNR=11							
	1.3nm,0.6s							
MKAR	**Makanchi Array**	**45.27**	**307**	P	**P**	**11 26 33.9**	**-1.2**	
	0.3nm,0.4s,baz=91,slow=10,SNR=8.0							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**47.76**	**312**	P	**P**	**11 26 51.2**	**-2.7**	
	0.3nm,0.5s,baz=90,slow=6.6,SNR=6.8							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**51.00**	**185**	P	**P**	**11 27 17.9**	**-0.6**	
	0.6nm,0.4s,baz=0.2,slow=7.7,SNR=12							
	0.6nm,0.4s							
BVAR	**Borovoye Array**	**52.73**	**315**	P	**P**	**11 27 29.8**	**-0.9**	
	0.5nm,0.5s,baz=92,slow=6.6,SNR=2.6							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**54.72**	**185**	P	**P**	**11 27 44.9**	**-0.4**	
	0.2nm,0.5s,baz=24,slow=12,SNR=19							
	0.2nm,0.5s							
ILAR	**Eielson Array**	**55.81**	**30**	P	**P**	**11 27 52.4**	**0.0**	
	0.4nm,0.7s,baz=253,slow=5.6,SNR=12							
	0.4nm,0.7s							
ARCES	**ARCESS Array B**	**68.54**	**340**	P	**P**	**11 29 15.3**	**-0.5**	
	3.3nm,1.0s,baz=72,slow=7.8,SNR=4.0							
	3.3nm,1.0s							
YKA	**Yellowknife Ar**	**70.14**	**28**	P	**P**	**11 29 25.9**	**+0.4**	
	0.4nm,0.5s,baz=302,slow=6.4,SNR=11							
	0.4nm,0.5s							
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**11 29 40.0**	**-1.0**	
	1.8nm,1.0s,baz=104,slow=8.0,SNR=7.0							
	1.8nm,1.0s							
NVAR	**Mina Array Bea**	**80.61**	**51**	P	**P**	**11 30 26.8**	**+1.6**	
	0.2nm,0.4s,baz=302,slow=5.2,SNR=2.8							
	0.2nm,0.4s							

*IDC **21** 11:40:45.5±3.4, 12°.18S×166°.76E, h123km±29km, mb3.9/14, mbtmp4.4/16, MS3.3/10, Error ellipse: s-maj=23.9km s-min=14.4km az=87.0*
*NOU **21** 11:40:46.8, 12°.25S×166°.67E, h122km, mb4.7/42, Santa Cruz Islands*
*NEIC **21** 11:40:47.6±1.5, 12°.3S±0°.1×166°.7E±0°.2, h135km±10km, mb4.7/38, Error ellipse: s-maj=23.4km s-min=14.7km az=67.0*
ISC 21 11:40:48.9±0.6,**12°.32S**±0°.06×**166°.57E**±0°.09,**h150**km,
n116,σ1°**33**/113,**mb4.7**/37,**2C-1D**,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HNR	**Honiara**	**7.10**	**293**	Pn	**Pn**	**11 42 29.7**	**-0.7**	
HNR	**Honiara**	**7.10**	**293**	P	**Pn**	**11 42 29.5**	**-0.9**	
HNR	**Honiara**	**7.10**	**293**	P	**Pn**	**11 42 28.9**	**-1.5**	
	766nm,0.5s,baz=148,slow=7.2,SNR=6.6							
HNR				S	**Sn**	**11 43 44.2**	**-5.8**	
	861nm,0.5s,baz=227,slow=18,SNR=1.6							
HNR				LR	LR	11 45 07.8		
	comp=Z,659nm,19.5s,baz=122,slow=36							
LIFNC	**LIFOU**	**8.44**	**176**	Pn	**Pn**	**11 42 45.5**	**-2.6**	
LIFNC	**LIFOU**	**8.44**	**176**	P	**Pn**	**11 42 45.9**	**-2.3**	
KOUNC	**Koumac, New Ca**	**8.48**	**195**		**Pn**	**11 42 48.6**	**0.0**	
KOUNC	**Koumac, New Ca**	**8.48**	**195**	P	**Pn**	**11 42 47.3**	**-1.4**	
YATNC	**Mamie plateau,**	**9.70**	**178**	P	**Pn**	**11 43 02.8**	**-2.1**	
DZM	**Mont Dzumac**	**9.70**	**181**		**Pn**	**11 43 03.5**	**-1.5**	
DZM	**Mont Dzumac**	**9.70**	**181**	P	**Pn**	**11 43 03.3**	**-1.8**	
DZM	**Mont Dzumac**	**9.70**	**181**	P	**Pn**	**11 43 03.8**	**-1.3**	
	7.7nm,0.3s,baz=338,slow=11,SNR=36							
DZM				S	**Sn**	**11 44 48.9**	**-3.8**	
	14nm,0.5s,baz=143,slow=20,SNR=1.7							
DZM				LR	LR	11 46 26.9		
	comp=Z,176nm,20.2s,baz=46,slow=35							
NOUC	**Port Laguerre**	**9.73**	**181**	P	**Pn**	**11 43 04.6**	**-0.8**	
ONTNC	**Ouen Toro**	**9.94**	**181**		**Pn**	**11 43 06.6**	**-1.5**	
ONTNC	**Ouen Toro**	**9.94**	**181**	P	**Pn**	**11 43 08.5**	**+0.5**	
OUENC	**Ouen Island, N**	**10.05**	**179**		**Pn**	**11 43 08.7**	**-0.9**	
OUENC	**Ouen Island, N**	**10.05**	**179**	P	**Pn**	**11 43 08.4**	**-1.2**	
PINNC	**Pines Island,**	**10.28**	**175**	Pn	**Pn**	**11 43 12.7**	**+0.2**	
PINNC	**Pines Island,**	**10.28**	**175**	P	**Pn**	**11 43 12.4**	**-0.2**	
EIDS	**Eidsvold**	**19.55**	**226**	P	**Pn**	**11 45 07.5**	**-0.5**	
EIDS	**Eidsvold**	**19.55**	**226**	P	**Pn**	**11 45 07.5**	**-0.5**	
LAE	**Lae**	**20.17**	**284**	P	**P**	**11 45 11.8**	**-0.1**	
CTA	**Charters Tower**	**20.97**	**246**	P	**P**	**11 45 21.6**	**+1.3**	
	12nm,0.8s,baz=74,slow=11,SNR=11							
CTA				LR	LR	11 53 49.2		
	comp=Z,61nm,18.2s,baz=81,slow=37							
	12nm,0.8s							
ARMA	**Armidale**	**22.71**	**215**	P	**P**	**11 45 40.0**	**+1.8**	
ARMA				IAmb	IAmb	11 45 41.9		
	comp=Z,54nm,0.9s							
ARMA	**Armidale**	**22.71**	**215**	P	**P**	**11 45 39.9**	**+1.8**	
COEN	**Coen**	**22.84**	**263**	P	**P**	**11 45 41.0**	**+1.7**	
CMSA	**Cobar Meteorol**	**27.13**	**222**	P	**P**	**11 46 19.1**	**+1.1**	
YNG	**Young**	**27.43**	**214**	P	**P**	**11 46 22.3**	**+1.6**	
URZ	**Urewera**	**27.50**	**162**	P	**P**	**11 46 22.0**	**+0.8**	
CNB	**Canberra Magne**	**27.69**	**211**	P	**P**	**11 46 24.5**	**+1.4**	
RTZ	**Ruatahuna**	**27.79**	**162**	P	**P**	**11 46 23.8**	**0.0**	
CAN	**Canberra**	**27.89**	**212**	P	**P**	**11 46 26.3**	**+1.5**	
BKZ	**Black Stump Fm**	**28.16**	**164**	P	**P**	**11 46 27.6**	**+0.4**	
BKZ				IAmb	IAmb	11 46 28.9		
	comp=Z,7.2nm,0.6s							
BKZ	**Black Stump Fm**	**28.16**	**164**	P	**P**	**11 46 28.0**	**+0.9**	
QRZ	**Quartz Range**	**28.88**	**171**	P	**P**	**11 46 34.2**	**+0.7**	
MRZ	**Mangatainoka R**	**29.33**	**166**	P	**P**	**11 46 37.2**	**-0.2**	
MRZ				IAmb	IAmb	11 46 40.0		
	comp=Z,14nm,1.0s							
MRNZ	**Matariki Terra**	**29.48**	**171**	P	**P**	**11 46 38.8**	**+0.1**	
TCW	**Tory Channel**	**29.57**	**168**	P	**P**	**11 46 39.2**	**-0.3**	
DSZ	**Denniston Nort**	**29.67**	**172**	P	**P**	**11 46 42.9**	**+2.4**	
DSZ				IAmb	IAmb	11 46 43.8		
	comp=Z,15nm,0.8s							
THZ	**Tophouse**	**29.86**	**170**	P	**P**	**11 46 42.2**	**0.0**	
THZ				IAmb	IAmb	11 46 47.7		
	comp=Z,14nm,1.0s							
STKA	**Stephens Creek**	**30.11**	**226**	P	**P**	**11 46 46.2**	**+1.7**	
STKA	**Stephens Creek**	**30.11**	**226**	P	**P**	**11 46 46.1**	**+1.7**	
STKA	**Stephens Creek**	**30.11**	**226**	P	**P**	**11 46 46.1**	**+1.7**	
	comp=Z,10nm,0.6s,baz=47,slow=9.2,SNR=31							
STKA				LR	LR	11 58 30.4		
	comp=Z,72nm,

JCZ	**Jackson Bay**	**31.70 177**	P	**P**	**11 47 01.2 +2.8**	
MQZ	**McQueen's Vall**	**31.72 172**	P	**P**	**11 46 58.1 -0.3**	
WB0	**Warramunga Arr**	**31.75 252**	P	**P**	**11 46 58.9 -0.3**	
WB0			IAmb	IAmb	11 46 59.7	
	comp=Z,7.5nm,0.7s					
WB2	**Warramunga Arr**	**31.82 252**	P	**P**	**11 46 59.2 -0.5**	
WB2			IAmb	IAmb	11 47 12.7	
	comp=Z,17nm,1.4s					
WRA	**Warramunga Arr**	**31.83 252**	P	**P**	**11 46 59.8 0.0**	
	comp=Z,2.1nm,0.6s,baz=84,slow=8.6,SNR=13					
	comp=Z,2.1nm,0.6s					
LCRK	**Leigh Creek**	**31.83 231**	P	**P**	**11 47 00.9 +1.3**	
LBZ	**Lake Benmore**	**32.11 175**	P	**P**	**11 47 01.1 -0.7**	
LBZ			IAmb	IAmb	11 47 10.0	
	comp=Z,30nm,1.3s					
WKZ	**Wanaka**	**32.47 177**	P	**P**	**11 47 06.4 +1.4**	
WKZ			IAmb	IAmb	11 47 32.9	
	comp=Z,40nm,1.3s					
OOD	**Oodnadatta**	**32.71 237**	P	**P**	**11 47 08.2 +0.8**	
ODZ	**Otahua Downs**	**32.80 175**	P	**P**	**11 47 07.9 0.0**	
HTT	**Hallett**	**32.84 226**	P	**P**	**11 47 10.0 +1.5**	
AS01	**Alice Springs**	**32.93 245**	P	**P**	**11 47 09.2 -0.1**	
ARPS	**Mount Arapiles**	**32.96 218**	P	**P**	**11 47 11.1 +1.7**	
MLZ	**Mavora Lakes**	**32.97 178**	P	**P**	**11 47 09.5 +0.1**	
MLZ			IAmb	IAmb	11 47 12.5	
	comp=Z,18nm,1.3s					
AS31	**Alice Springs**	**32.97 245**	P	**P**	**11 47 09.6 -0.1**	
ASAR	**Alice Springs**	**32.97 245**	P	**P**	**11 47 09.1 -0.7**	
ASAR	**Alice Springs**	**32.97 245**	P	**P**	**11 47 09.8 +0.1**	
	comp=Z,9.8nm,0.7s,baz=68,slow=9.8,SNR=174					
ASAR			LR	LR	11 58 30.8	
	comp=Z,21nm,20.1s,baz=163,slow=32					
	comp=Z,9.8nm,0.7s					
WHZ	**Wether Hill Ro**	**33.49 178**	P	**P**	**11 47 13.3 -0.5**	
WHZ			IAmb	IAmb	11 47 38.0	
	comp=Z,20nm,1.4s					
BBOO	**Buckleboo**	**34.58 229**	P	**P**	**11 47 23.8 +0.4**	
BBOO			IAmb	IAmb	11 47 24.8	
	comp=Z,9.9nm,0.7s					
BBOO	**Buckleboo**	**34.58 229**	P	**P**	**11 47 24.9 +1.4**	
MULG	**Mulgathing**	**34.99 234**	P	**P**	**11 47 27.6 +0.6**	
KNRA	**Kununurra**	**36.80 260**	P	**P**	**11 47 42.7 +0.2**	
KNRA	**Kununurra**	**36.80 260**	P	**P**	**11 47 44.1 +1.5**	
WRKA	**Warakurna**	**38.26 245**	P	**P**	**11 47 55.9 +1.0**	
FITZ	**Fitzroy Crossi**	**39.85 257**	P	**P**	**11 48 08.7 +0.7**	
FORT	**Forrest**	**39.99 236**	P	**P**	**11 48 10.1 +1.0**	
FORT	**Forrest**	**39.99 236**	P	**P**	**11 48 11.0 +1.9**	
KMBL	**Kambalda**	**45.24 238**	P	**P**	**11 48 52.5 +1.0**	
PSA00	**Pilbara Seismi**	**45.48 252**	P	**P**	**11 48 53.8 +0.3**	
PSA00	**Pilbara Seismi**	**45.48 252**	P	**P**	**11 48 54.0 +0.5**	
PSA00			IAmb	IAmb	11 48 54.9	
	comp=Z,9.0nm,0.5s					
PSA00	**Pilbara Seismi**	**45.48 252**	P	**P**	**11 48 54.9 +1.4**	
JCJ	**Chichijima**	**45.77 329**	LR	LR	12 07 19.3	
	comp=Z,11nm,20.0s,baz=123,slow=35					
MEEK	**Meekatharra**	**47.13 245**	P	**P**	**11 49 08.0 +1.7**	
NWAO	**Narrogin (SRO)**	**49.44 237**	P	**P**	**11 49 24.2 +0.3**	
MORW	**Morawa**	**49.73 242**	P	**P**	**11 49 26.4 +0.1**	
MORW			IAmb	IAmb	11 49 49.0	
	comp=Z,23nm,1.4s					
JMN	**Monobe**	**55.36 327**	P	**P**	**11 50 07.3 -0.1**	
MJAR	**Matsushiro Arr**	**55.46 332**	P	**P**	**11 50 06.3 -1.8**	
	comp=Z,0.7nm,0.5s,baz=173,slow=7.2,SNR=6.7					
	comp=Z,0.7nm,0.5s					
JNU	**Nakatsue**	**56.57 324**	P	**P**	**11 50 15.8 -0.3**	
	comp=Z,1.9nm,0.4s,baz=90,slow=1.0,SNR=6.3					
JNU			LR	LR	12 11 04.3	
	comp=Z,26nm,22.0s,baz=72,slow=32					
	comp=Z,1.9nm,0.4s					
JKA	**Kamikawa-asahi**	**60.25 340**	P	**P**	**11 50 41.2 -0.1**	
KSRS	**Korea Array**	**61.37 326**	P	**P**	**11 50 49.5 +0.5**	
	comp=Z,0.9nm,0.7s,baz=134,slow=7.6,SNR=4.6					
KSRS			LR	LR	12 16 43.1	
	comp=Z,12nm,18.6s,baz=100,slow=35					
	comp=Z,0.9nm,0.7s					
NJ2	**Nanjing**	**63.48 315**	*e*P	**P**	**11 51 04.8 +1.6**	
NJ2			pmax	pmax		
	comp=Z,12nm,0.7s					
NJ2			pmax	pmax		
	comp=Z,300nm,3.7s					
USA0B	**Ussuriysk Arra**	**64.44 333**	P	**P**	**11 51 09.8 +0.6**	
USA0B			IAmb	IAmb	11 51 21.4	
	comp=Z,9.0nm,0.8s					
VNDA	**Vanda**	**65.25 181**	P	**P**	**11 51 15.1 +1.2**	
VNDA			IAmb	IAmb	11 51 33.3	
	comp=Z,20nm,1.5s					
VNDA	**Vanda**	**65.25 181**	P	**P**	**11 51 14.9 +1.0**	
	comp=Z,1.7nm,0.6s,baz=3.3,slow=9.7,SNR=6.6					
	comp=Z,1.7nm,0.6s					
CASY	**Casey**	**65.50 202**	P	**P**	**11 51 15.6 -0.1**	
CASY			IAmb	IAmb	11 51 16.7	
	comp=Z,7.0nm,0.7s					
PETK	**Petropavlovsk-**	**65.60 354**	LR	LR	12 14 05.3	
	comp=Z,29nm,21.9s,baz=93,slow=30					
KLR	**Kul'dur**	**68.53 336**	P	**P**	**11 51 35.1 0.0**	
	comp=Z,1.7nm,0.5s,baz=96,slow=10,SNR=8.4					
	comp=Z,1.7nm,0.5s					
HHC	**Hu-ho-hao-te**	**73.31 320**	*e*P	P	11 52 08.3 +4.0	
HHC			pmax	pmax		
	comp=Z,32nm,0.7s					
HHC			pmax	pmax		
	comp=Z,260nm,4.7s					
CMAR	**Chiang Mai Arr**	**73.35 294**	P	**P**	**11 52 06.4 +1.6**	
	comp=Z,0.6nm,0.5s,baz=126,slow=4.8,SNR=4.1					
	comp=Z,0.6nm,0.5s					
PZH	**PanZhiHua**	**73.83 302**	P	**P**	**11 52 10.0 +2.4**	
PZH			pmax	pmax		
	comp=Z,10.0nm,0.4s					
PZH			pmax	pmax		
	comp=Z,120nm,5.3s					
LZH	**Lanzhou**	**76.20 312**	*e*P	**P**	**11 52 22.3 +1.2**	
LZH			pP	pP	11 52 49.0 -7.8	
LZH			pmax	pmax		
	comp=Z,8.0nm,1.2s					
QSPA	**South Pole Qui**	**77.70 180**	P	**P**	**11 52 29.5 +0.6**	
QSPA	**South Pole Qui**	**77.70 180**	P	**P**	**11 52 29.5 +0.6**	
	comp=Z,1.5nm,0.3s,baz=81,slow=0.6,SNR=11					
	comp=Z,1.5nm,0.3s					
ILAR	**Eielson Array**	**84.46 18**	P	**P**	**11 53 02.8 -1.6**	
	comp=Z,1.1nm,0.6s,baz=245,slow=5.0,SNR=30					
	comp=Z,1.1nm,0.6s					
WMQ	**Urumqi**	**90.56 315**	*e*P	**P**	**11 53 35.5 +1.3**	
INK	**Inuvik**	**90.83 19**	LR	LR	12 29 08.9	
	comp=Z,52nm,20.6s,baz=186,slow=32					
ELIB	**Princess Elisa**	**92.45 191**	*d*P	**P**	**11 53 42.4 -0.1**	
	comp=Z,2.4nm,0.8s					
MKAR	**Makanchi Array**	**94.99 317**	P	**P**	**11 53 54.1 -0.4**	
	comp=Z,1.1nm,0.7s,baz=85,slow=6.0,SNR=13					
	comp=Z,1.1nm,0.7s					
TROLL	**Troll, Antarti**	**95.20 185**	⇑PcP	**PcP**	**11 53 54.7 -0.7**	
	comp=Z,231nm,0.6s					
YKA	**Yellowknife Ar**	**95.73 27**	P	**P**	**11 53 55.1 -2.3**	
	comp=Z,0.3nm,1.0s,baz=259,slow=5.0,SNR=3.1					
	comp=Z,0.3nm,1.0s					
SNAA	**Sanae**	**95.91 183**	P	**P**	**11 53 57.2 -1.1**	
VNA2	**Neumayer--Watz**	**96.86 182**	⇑PcP	**PcP**	**11 54 02.2 -0.4**	
	comp=Z,3.0nm,0.5s,baz=186,slow=2.8					
ARCES	**ARCESS Array B**	**117.76 346**	PKP	**PKiKP**	**11 59 15.6 -1.2**	
	comp=Z,4.8nm,1.0s,baz=63,slow=2.0,SNR=8.0					
FINES	**FINESS Array B**	**123.24 339**	PKhKP	PKPpre	11 59 16.6	
	comp=Z,1.2nm,0.9s,baz=93,slow=5.6,SNR=4.9					

*SJA **21** 11:52:24.8±0.7, 22.°51S×66.°30W, h269$_{km}$±4$_{km}$, ML4.6, MW4.1*
*IDC **21** 11:52:25.4±1.0, 22.°52S×66.°23W, h238$_{km}$±9$_{km}$, mb3.6/9, mbtmp4.3/14, Error ellipse: s-maj=15.3km s-min=14.6km az=33.0*
*VAO **21** 11:52:26.8±0.4, 22.°32S×66.°43W, h262$_{km}$, mb4.0*
*NEIC **21** 11:52:26.3±1.6, 22.°57S±0.°08×66.°4W±0.°1, h260$_{km}$±7$_{km}$, mb4.4/22, Error ellipse: s-maj=15.7km s-min=11.8km az=93.0*

ISC 21 11:52:24.9±0.4, **22.°53S**±0.°04×**66.°35W**±0.°05, **h245**$_{km}$, **n104**, σ1^{s}**67**/121, **mb4.3**/20, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.85**	**66**	*i* P		**Pn**	**11 53 01.6**	**+2.4**
YJA				*i* S		**S**	**11 53 29.6**	**+3.6**
AF01	**San Pedro de A**	**1.74**	**256**			**Pn**	**11 53 08.1**	**+3.1**
SLA	**San Lorenzo**	**2.31**	**161**	*i* P		**Pn**	**11 53 12.8**	**+2.7**
SLA				*i* S		**S**	**11 53 47.3**	**+1.5**
LVC	**Limon Verde**	**2.37**	**268**	*i* P		**Pn**	**11 53 13.3**	**+2.4**
LVC	**Limon Verde**	**2.37**	**268**	P		**Pn**	**11 53 13.3**	**+2.4**
	54nm,0.3s,baz=75,slow=6.0,SNR=333							
LVC				S		**S**	**11 53 48.6**	**+1.6**
	72nm,0.3s,baz=229,slow=21,SNR=40							
LVC	**Limon Verde**	**2.37**	**268**	*e*P		**Pn**	**11 53 13.2**	**+2.4**
PB09	**IPOC Station P**	**2.78**	**285**			**Pn**	**11 53 17.7**	**+2.8**
PB09	**IPOC Station P**	**2.78**	**285**	*i* P		**Pn**	**11 53 17.4**	**+2.5**
PB09				*i* S		**S**	**11 53 55.6**	**+1.4**
PB15	**IPOC Station P**	**2.96**	**256**			**Pn**	**11 53 19.0**	**+2.2**
PB15	**IPOC Station P**	**2.96**	**256**	*i* P		**Pn**	**11 53 19.3**	**+2.5**
PB15				*i* S		**S**	**11 53 59.0**	**+1.2**
PB06	**IPOC Station P**	**2.98**	**266**	*i* P		**Pn**	**11 53 19.3**	**+2.2**
PB06				*i* S		**S**	**11 53 59.7**	**+1.5**
PB01	**IPOC Station P**	**3.27**	**296**	*i* P		**Pn**	**11 53 22.2**	**+2.0**
PB01				*i* S		**S**	**11 54 04.6**	**+0.8**
PB01				IAML			11 54 06.5	
	comp=Z,984nm,0.1s							
PB07	**IPOC Station P**	**3.37**	**283**	*i* P		**Pn**	**11 53 23.5**	**+2.0**
PB07				*i* S		**S**	**11 54 06.4**	**+0.3**
PB07				IAML			11 54 10.9	
	comp=Z,511nm,0.2s							
PB02	**IPOC Station P**	**3.50**	**289**	*i* P		**Pn**	**11 53 24.6**	**+1.7**
PB02				*i* S		**S**	**11 54 09.0**	**+0.4**
PB04	**IPOC Station P**	**3.52**	**272**	*i* P		**Pn**	**11 53 25.0**	**+1.9**
PB04				*i* S		**S**	**11 54 09.8**	**+0.7**
PB04				IAML			11 54 12.6	
	comp=Z,515nm,0.1s							
PB08	**IPOC Station P**	**3.53**	**312**	*i* P		**Pn**	**11 53 25.8**	**+2.3**
PB08				*i* S		**S**	**11 54 10.2**	**+0.5**
PB08				IAML			11 54 12.7	
	comp=Z,385nm,0.4s							
GO01	**Chusmiza**	**3.89**	**316**			**Pn**	**11 53 29.6**	**+1.9**
GO01	**Chusmiza**	**3.89**	**316**	*i* P		**Pn**	**11 53 29.6**	**+1.9**
GO01				*i* S		**S**	**11 54 17.3**	**-0.2**
PATCX	**Punta Patache**	**3.92**	**295**			**Pn**	**11 53 29.4**	**+1.7**
PATCX	**Punta Patache**	**3.92**	**295**	*i* P		**Pn**	**11 53 29.4**	**+1.7**
PATCX				IAML			11 54 20.4	
	comp=Z,547nm,0.4s							
GO02	**Mina Guanaco**	**3.96**	**228**	Pn		**Pn**	**11 53 30.5**	**+2.2**
GO02	**Mina Guanaco**	**3.96**	**228**	*i* P		**Pn**	**11 53 30.5**	**+2.2**
GO02				*i* S		**S**	**11 54 18.7**	**+0.2**
TA01	**Diego Aracena**	**4.07**	**298**	Pn		**Pn**	**11 53 30.9**	**+1.6**
TA01	**Diego Aracena**	**4.07**	**298**	*i* P		**Pn**	**11 53 30.4**	**+1.1**
TA01				*i* S		**S**	**11 54 20.0**	**-0.3**
TA01				IAML			11 54 20.8	
	comp=Z,444nm,0.2s							
PB11	**IPOC Station P**	**4.14**	**311**	*i* P		**Pn**	**11 53 31.3**	**+0.9**
PB11				*i* S		**S**	**11 54 21.6**	**-0.6**
PB11				IAML			11 54 23.1	
	comp=Z,884nm,0.2s							
TA02	**Huaiquique**	**4.18**	**302**	*i* P		**Pn**	**11 53 31.8**	**+1.1**
TA02				IAML			11 54 24.9	
	comp=Z,780nm,0.1s							
PB14	**IPOC Station P**	**4.26**	**240**	*i* P		**Pn**	**11 53 33.8**	**+1.9**
PB14				*i* S		**S**	**11 54 25.1**	**+0.1**
PB14				IAML			11 54 28.5	
	comp=Z,790nm,0.3s							
AHML	**Horco Molle**	**4.34**	**168**	*i* P		**Pn**	**11 53 34.2**	**+1.7**
PB16	**IPOC Station P**	**5.12**	**324**	*i* P		**Pn**	**11 53 43.6**	**+1.0**
PB16				*i* S		**S**	**11 54 42.5**	**-1.9**
PB16				IAML			11 54 47.9	
	comp=Z,158nm,0.6s							
AC01	**Pan de Azucar**	**5.29**	**226**			**Pn**	**11 53 44.4**	**+0.3**
PB12	**IPOC Station P**	**5.39**	**316**	*i* S		**S**	**11 54 47.2**	**-2.5**
PB12				IAML			11 54 50.7	
	comp=Z,163nm,0.2s							
AC06	**Mina Casimiro**	**6.03**	**216**	Pn		**Pn**	**11 53 53.3**	**+0.1**
GO03	**Copiap**	**6.15**	**214**			**Pn**	**11 53 55.0**	**+0.1**
LPAZ	**La Paz**	**6.43**	**345**	Pn		**Pn**	**11 54 00.1**	**+1.0**
AC04	**Llanos de Chal**	**7.08**	**216**	Pn		**Pn**	**11 54 06.0**	**-0.5**
AC05	**El Transito**	**7.21**	**209**			**Pn**	**11 54 08.6**	**+0.4**
LCO	**Las Campanas**	**7.55**	**210**	Pn		**Pn**	**11 54 12.5**	**-0.2**
BBSD	**Serra de San D**	**7.58**	**46**	*e*P		**Pn**	**11 54 12.4**	**-0.5**
MURT	**Porto Murtinho**	**8.15**	**86**	*e*P		**Pn**	**11 54 21.9**	**+1.7**
SIV	**San Ignacio**	**8.19**	**38**	P		**Pn**	**11 54 20.3**	**-0.5**
	comp=Z,58nm,0.5s,baz=224,slow=7.5,SNR=272							
CO03	**El Pedregal**	**9.14**	**204**	Pn		**Pn**	**11 54 32.7**	**0.0**
CFA	**Coronel Fontan**	**9.19**	**190**	P		**Pn**	**11 54 32.6**	**-0.7**
	comp=Z,14nm,0.2s,baz=36,slow=14,SNR=164							
CFA				S		**S**	**11 56 09.5**	**-7.7**
	comp=Z,13nm,0.3s,baz=125,slow=22,SNR=12							
CO02	**Combarbal**	**9.58**	**205**			**Pn**	**11 54 37.8**	**-0.5**
PTLB	**Pontes e Lacer**	**9.80**	**45**	Pn		**Pn**	**11 54 40.6**	**-0.5**
PTLB	**Pontes e Lacer**	**9.80**	**45**	*e*P		**Pn**	**11 54 40.6**	**-0.5**
SALV	**Santo Antonio**	**12.03**	**59**	*e*P		**P**	**11 55 09.7**	**-2.5**
CRSM	**Crissiumal (Br**	**12.20**	**116**	*e*P		**P**	**11 55 16.1**	**+2.0**
FRBT	**Francisco Belt**	**12.60**	**108**	*e*P		**P**	**11 55 19.4**	**+0.9**
ETMB	**Extrema**	**12.64**	**1**			**P**	**11 55 16.7**	**-2.3**
ETMB	**Extrema**	**12.64**	**1**	*e*P		**P**	**11 55 16.5**	**-2.5**
RODS	**Rosario do Sul**	**12.66**	**130**	*e*P		**P**	**11 55 20.7**	**+1.6**
PTGB	**Pitanga**	**13.28**	**102**	*e*P		**P**	**11 55 28.2**	**+2.1**
SAML	**Samuel**	**13.84**	**13**			**P**	**11 55 31.6**	**-0.7**
SAML	**Samuel**	**13.84**	**13**	*e*P		**P**	**11 55 31.6**	**-0.7**
PDRB	**Porto dos Gac**	**14.22**	**42**	*e*P		**P**	**11 55 35.7**	**-0.8**
ITRB	**Itauna**	**15.19**	**82**	*e*P		**Pn**	**11 55 49.0**	**+1.3**
FRTB	**Fartura**	**15.49**	**96**	*e*P		**Pn**	**11 55 51.7**	**+0.4**
TRQA	**Tornquist**	**15.93**	**167**			**P**	**11 55 54.6**	**-0.5**
IPMB	**Ipameri, GO**	**17.61**	**78**	*e*P		**Pn**	**11 56 14.8**	**-1.4**
SNDB	**Serra Nova Dou**	**17.79**	**56**	*e*P		**Pn**	**11 56 15.9**	**-2.5**
LR05	**Currie**	**18.29**	**194**			**Pn**	**11 56 22.7**	**-1.3**
PLCA	**Paso Flores**	**18.49**	**190**	P		**Pn**	**11 56 24.8**	**-1.7**
PLCA				IAmb	IAmb		11 57 04.0	
	comp=Z,10.0nm,0.8s							
PLCA	**Paso Flores**	**18.49**	**190**	P		**Pn**	**11 56 24.8**	**-1.7**
	comp=Z,2.4nm,0.4s,baz=13,slow=13,SNR=13							
PLCA	**Paso Flores**	**18.49**	**190**	*e*P		**Pn**	**11 56 25.1**	**-1.4**
BDFB	**Brasilia**	**18.63**	**72**	P		**Pn**	**11 56 25.6**	**-2.7**
BDFB	**Brasilia**	**18.63**	**72**	P		**Pn**	**11 56 25.8**	**-2.5**
	comp=Z,8.3nm,0.7s,baz=236,slow=12,SNR=14							
BSCB	**Bom Sucesso**	**20.10**	**90**	*e*P		Pn	11 56 42.5	-3.1
ITTB	**Itaituba**	**20.78**	**31**	*e*P		**P**	**11 56 46.4**	**-1.3**
JANB	**Januaria**	**22.13**	**74**	*e*P		**P**	**11 57 00.5**	**-0.2**
COHC	**Cochancay**	**23.55**	**326**	P		**P**	**11 57 12.3**	**-1.3**
MALB	**Monte Alegre**	**23.67**	**31**	*e*P		**P**	**11 57 14.5**	**-0.2**
RIB01	**Linhares ES**	**24.45**	**87**	*e*P		**P**	**11 57 21.3**	**-0.4**
GUA01	**Guaratinga, BA**	**25.68**	**81**	*e*P		**P**	**11 57 32.7**	**-0.2**
SWET	**Sewanee**	**60.36**	**342**	P		**P**	**12 02 08.3**	**0.0**
SWET				IAmb	IAmb		12 02 09.6	
	comp=Z,7.4nm,0.8s							
U54A	**Nelsons Funny**	**60.52**	**346**	P		**P**	**12 02 10.1**	**+0.7**
U54A				IAmb	IAmb		12 02 11.3	
	comp=Z,8.7nm,0.6s							
V48A	**Smith Brothers**	**61.11**	**341**	P		**P**	**12 02 13.2**	**0.0**
V48A				IAmb	IAmb		12 02 14.6	
	comp=Z,6.8nm,0.7s							
WVT	**Waverly**	**61.78**	**340**	P		**P**	**12 02 17.1**	**-0.6**
WVT				IAmb	IAmb		12 02 18.6	
	comp=Z,9.5nm,0.8s							
TXAR	**Lajitas Array**	**62.85**	**323**	P		**P**	**12 02 25.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=147,slow=9.6,SNR=7.1							
	comp=Z,0.4nm,0.6s							
PBMO	**Poplar Bluff**	**63.22**	**338**	P		**P**	**12 02 26.9**	**-0.3**
PBMO				IAmb	IAmb		12 02 28.8	
	comp=Z,9.6nm,1.1s							
CCM	**Cathedral Cave**	**64.65**	**338**	P		**P**	**12 02 36.6**	**+0.1**
CCM				IAmb	IAmb		12 02 37.7	
	comp=Z,7.3nm,0.6s							
S39A	**Bolivar**	**65.06**	**337**	P		**P**	**12 02 39.0**	**-0.1**
S39A				IAmb	IAmb		12 02 40.5	
	comp=Z,6.0nm,0.5s							
R40A	**Maddies Statio**	**65.21**	**338**	P		**P**	**12 02 40.4**	**+0.2**
N49A	**Columbus Grove**	**65.27**	**345**	P		**P**	**12 02 40.1**	**-0.4**
P38A	**Dawn**	**66.84**	**337**	P		**P**	**12 02 50.5**	**+0.1**
QSPA	**South Pole Qui**	**67.67**	**180**	P		**P**	**12 02 57.0**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=180,slow=11,SNR=2.1							
	comp=Z,0.8nm,0.4s							
JFWS	**Jewell Farm**	**68.74**	**341**	P		**P**	**12 03 02.5**	**+0.3**
JFWS				IAmb	IAmb		12 03 03.6	
	comp=Z,7.9nm,0.8s							
I42A	**Draeger Farm,**	**69.26**	**343**	P		**P**	**12 03 06.2**	**+0.8**
BGNE	**Belgrade**	**70.12**	**335**	P		**P**	**12 03 11.0**	**+0.3**
LDAQ	**Lac Daran**	**70.30**	**357**	P		**P**	**12 03 11.2**	**-0.5**
LDAQ				IAmb	IAmb		12 03 31.8	
	comp=Z,8.3nm,1.2s							
F36A	**Milaca**	**72.41**	**340**	P		**P**	**12 03 24.8**	**+0.5**
F36A				IAmb	IAmb		12 03 25.5	
	comp=Z,4.6nm,0.7s							
TOA0	**Torodi Ar. Sit**	**75.49**	**69**	P		**P**	**12 03 41.6**	**-1.1**
TOA0				IAmb	IAmb		12 03 42.6	
	comp=Z,3.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**75.49**	**69**	P		**P**	**12 03 41.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.49**	**69**	P		**P**	**12 03 42.3**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=257,slow=5.7,SNR=34							
	comp=Z,2.0nm,0.4s							
PDAR	**Pinedale Array**	**76.20**	**329**	P		**P**	**12 03 48.4**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=130,slow=8.2,SNR=11							
	comp=Z,0.5nm,0.5s							
ULM	**Lac du Bonnet**	**77.03**	**341**	P		**P**	**12 03 51.7**	**+1.1**
	comp=Z,3.7nm,0.5s,baz=152,slow=6.6,SNR=18							
	comp=Z,3.7nm,0.5s							
SCHQ	**Schefferville**	**77.05**	**360**	P		**P**	**12 03 51.2**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=188,slow=4.5,SNR=5.8							
	comp=Z,2.6nm,0.8s							
NVAR	**Mina Array Bea**	**77.78**	**321**	P		**P**	**12 03 58.0**	**+2.7**
	comp=Z,0.5nm,0.7s,baz=159,slow=4.5,SNR=4.4							
	comp=Z,0.5nm,0.7s							
ESDC	**Sonseca Array**	**84.92**	**43**	P		**P**	**12 04 33.9**	**+1.4**
	comp=Z,1.5nm,0.9s,baz=249,slow=4.6,SNR=6.5							
	comp=Z,1.5nm,0.9s							
YKA	**Yellowknife Ar**	**92.96**	**340**	P		**P**	**12 05 11.4**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=129,slow=4.4,SNR=24							
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**130.03**	**204**	PKP		**PKiKP**	**12 11 07.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=133,slow=1.7,SNR=9.7							
WRA	**Warramunga Arr**	**133.20**	**207**	PKP		**PKiKP**	**12 11 14.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=154,slow=1.9,SNR=7.1							
KURBB	**Kurchatov Arra**	**140.84**	**35**	PKP		**PKiKP**	**12 11 27.4**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=304,slow=2.6,SNR=5.6							
ZALV	**Zalesovo Beam**	**141.82**	**27**	PKhKP		PKPpre	12 11 25.1	
	comp=Z,0.9nm,0.5s,baz=318,slow=4.2,SNR=4.2							
ZALV				PKP		**PKiKP**	**12 11 29.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=275,slow=2.5,SNR=6.0							
MKAR	**Makanchi Array**	**145.01**	**39**	PKP		**PKiKP**	**12 11 34.2**	**-2.6**
	comp=Z,1.2nm,0.3s,baz=357,slow=2.5,SNR=34							

*TIR **21** 12:05:04.8, 38.°85N×19.°79E, h36$_{km}$±1$_{km}$, Md3.7, Ml3.1*
*ATH **21** 12:05:06.0, 38.°85N×19.°80E, h6$_{km}$±1$_{km}$, ML2.9/20, Manual Solution by G.Panopoulou This location: 2020/05/06 11:27:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **21** 12:05:06.7, 38.°87N×19.°82E, h0$_{km}$±3$_{km}$, ML2.8/7, Error ellipse: s-maj=3.3km s-min=0.7km az=257.0*

ISC 21 12:05:05.9±1.2, **38.°85N**±0.°02×**19.79E**±0.°03, **h6**$_{km}$±9$_{km}$, **n81**, σ0^{s}**51**/119, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.64**	**105**	P		**Pg**	**12 05 17.9**	**-0.2**
DRAG				S		**Sb**	**12 05 27.9**	**-0.7**
DRAG	**Dragano-Lefkad**	**0.64**	**105**	P		**Pg**	**12 05 18.0**	**-0.2**
DRAG				S		**Sg**	**12 05 27.0**	**+0.5**
TSLK	**Tsoukalades, L**	**0.68**	**92**	P		**Pg**	**12 05 18.6**	**-0.4**
TSLK				S		**Sb**	**12 05 29.5**	**-0.3**
	885nm,0.2s							
TSLK	**Tsoukalades, L**	**0.68**	**92**	P		**Pg**	**12 05 18.7**	**-0.3**
TSLK				S		**Sg**	**12 05 27.6**	**-0.2**
LKD2	**Lefkada island**	**0.68**	**95**	P		**Pg**	**12 05 18.7**	**-0.4**
	baz=94							
LKD2				S		**Sb**	**12 05 29.2**	**-0.8**
	baz=94							
LKD2				AMP				
	comp=E,5.4nm,0.2s,baz=94							
LKD2	**Lefkada island**	**0.68**	**95**	P		**Pg**	**12 05 18.6**	**-0.4**
LKD2				S		**Sg**	**12 05 28.4**	**+0.5**
	comp=E,1μm,0.2s							
LKD2	**Lefkada island**	**0.68**	**95**	P		**Pg**	**12 05 18.6**

THL	**Klokotos Trika**	**1.87**	**67**	P	**Pn**	**12 05 38.3**	**-0.1**
THL	**Klokotos Trika**	**1.87**	**67**	P	**Pn**	**12 05 38.3**	**-0.1**
AGG	**Agios Georgios**	**1.99**	**84**	P	**Pn**	**12 05 40.9**	**+0.8**
AGG	**Agios Georgios**	**1.99**	**84**	P	**Pn**	**12 05 40.8**	**+0.8**
AGG				S	**Sn**	**12 06 04.4**	**-0.9**
KLV	**Kalavryta, Ach**	**2.02**	**113**	P	**Pn**	**12 05 40.5**	**0.0**
GUR	**Goura**	**2.21**	**114**	P	**Pn**	**12 05 43.4**	**+0.2**
AXAR	**Agios Charalam**	**2.25**	**91**	P	**Pn**	**12 05 44.0**	**+0.4**
FNA	**Florina** baz=31	**2.28**	**32**	P	**Pn**	**12 05 44.5**	**+0.3**
FNA				S	**Sn**	**12 06 13.9**	**+1.3**
FNA	**Florina** baz=31	**2.28**	**32**	P	**Pn**	**12 05 44.4**	**+0.3**
FNA	**Florina**	**2.28**	**32**	P	**Pn**	**12 05 44.4**	**+0.3**
OHR	**Ohrid**	**2.39**	**19**	*i* Pn	**Pn**	**12 05 46.6**	**+1.0**
PYL	**PYLOS**	**2.49**	**141**	P	**Pn**	**12 05 47.1**	**+0.1**
XOR	**Xorichti**	**2.70**	**78**	P	**Pn**	**12 05 50.0**	**+0.1**
NEO	**Neokhori**	**2.71**	**79**	P	**Pn**	**12 05 50.7**	**+0.7**
VIL2	**Platees**	**2.80**	**102**	P	**Pn**	**12 05 51.2**	**-0.1**
PHP	**Peshkopia** baz=9.0	**2.87**	**10**	P	**Pn**	**12 05 51.9**	**-0.3**
PHP				AMP			
	comp=N,0.1nm,0.2s,baz=9.0						
HORT	**Hortiatis**	**3.09**	**55**	P	**Pn**	**12 05 54.4**	**-0.9**
PUK	**Puka** baz=1.0	**3.19**	**1**	P	**Pn**	**12 05 55.9**	**-0.7**
VLY	**Voula,Athens**	**3.31**	**106**	P	**Pn**	**12 05 57.9**	**-0.2**
DION	**Dionisos Attik**	**3.34**	**102**	P	**Pn**	**12 05 59.8**	**+1.1**
KYMI	**Kymi, Euboea I**	**3.38**	**92**	P	**Pn**	**12 05 58.8**	**-0.4**

AFAD ***21*** *12:18:23.0±0.0,37.°49N×44.°18E,h2km±1km,ML2.4*
ISK ***21*** *12:18:24.3,37.°53N×44.°01E,h5km,ML2.7/5*
TEH ***21*** *12:18:26.6,37.°66N×44.°43E,h10km±100km,ML2.7*
ISC 21 12:18:23.6±1.0,**37.°50N**±0.°03×**44.°20E**±0.°03,**h7km**±8km,
n28,σ1°826/44,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.12**	**41**	P	**Pg**	**12 18 26.1**	**-0.1**
YOVA				*i* AML	AML	12 18 28.0	
	comp=N,1μm,0.3s						
YOVA				*i* AML	AML	12 18 28.0	
	comp=E,1μm,0.7s						
YOVA				S	**Sg**	**12 18 28.0**	**0.0**
HAKT	**HAKKARI**	**0.39**	**279**	P	**Pg**	**12 18 30.7**	**-0.6**
HAKT				S	**Sg**	**12 18 37.0**	**+0.5**
HAKT				*i* AML	AML	12 18 38.0	
	comp=N,2μm,0.5s						
HAKT				*i* AML	AML	12 18 38.0	
	comp=E,3μm,0.3s						
CUKT	**Cukurca**	**0.53**	**242**	Pg	**Pg**	**12 18 33.7**	**-0.2**
CUKT				Sg	**Sg**	**12 18 41.0**	**+0.2**
CUKT	**Cukurca**	**0.53**	**242**	P	**Pg**	**12 18 33.8**	**-0.1**
CUKT				S	**Sg**	**12 18 41.7**	**+0.8**
CUKT				*i* AML	AML	12 18 44.0	
	comp=E,2μm,0.7s						
CUKT				*i* AML	AML	12 18 44.0	
	comp=N,1μm,0.3s						
OZAP	**Van, Ozalp-Mer**	**1.17**	**352**	P	**Pb**	**12 18 45.8**	**-0.5**
OZAP				*i* AML	AML	12 19 13.0	
	comp=E,55nm,1.5s						
OZAP				*i* AML	AML	12 19 19.0	
	comp=N,52nm,0.6s						
TVAN	**Van**	**1.20**	**329**	P	**Pn**	**12 18 46.3**	**-0.8**
TVAN				S	**Sn**	**12 19 04.4**	**+0.6**
TVAN				*i* AML	AML	12 19 06.0	
	comp=E,127nm,0.4s						
TVAN				*i* AML	AML	12 19 09.0	
	comp=N,121nm,0.5s						
GEVA	**Gevas**	**1.21**	**312**	P	**Pb**	**12 18 46.9**	**-0.1**
GEVA				S	**Sn**	**12 19 04.5**	**+0.6**
GEVA				*i* AML	AML	12 19 08.0	
	comp=E,81nm,0.6s						
GEVA				*i* AML	AML	12 19 10.0	
	comp=N,102nm,0.4s						
VANB	**Van**	**1.27**	**330**	Pn	**Pn**	**12 18 46.3**	**-1.6**
VANB				Sn	**Sb**	**12 19 02.3**	**-2.1**
AKDM	**Akdamar-Van**	**1.27**	**311**	Pn	**Pn**	**12 18 47.2**	**-0.8**
ISHB	**Shabestar**	**1.37**	**55**	Pg	**Pn**	**12 18 48.0**	**-1.4**
PERV	**Siirt/Pervari-**	**1.39**	**289**	P	**Pb**	**12 18 49.4**	**-0.5**
PERV				*i* AML	AML	12 19 16.0	
	comp=E,293nm,0.5s						
PERV				*i* AML	AML	12 19 17.0	
	comp=N,606nm,0.5s						
MAHB	**Mahabad**	**1.41**	**121**	Sg	**Sg**	**12 19 12.3**	**+3.3**
SIRN	**Sırnak**	**1.42**	**270**	P	**Pn**	**12 18 49.3**	**-0.7**
SIRN				S	**Sg**	**12 19 09.3**	**+0.1**
SIRN				*i* AML	AML	12 19 13.0	
	comp=E,123nm,0.2s						
SIRN				*i* AML	AML	12 19 15.0	
	comp=N,198nm,0.5s						
IAZR	**Azarshahr**	**1.43**	**82**	Pg	**Pg**	**12 18 50.5**	**-0.5**
VMUR	**Van-Muradiye**	**1.57**	**342**	P	**Pg**	**12 18 54.0**	**+0.3**
VMUR				S	**Sg**	**12 19 17.2**	**+3.2**
VMUR				*i* AML	AML	12 19 21.0	
	comp=E,98nm,0.7s						
VMUR				*i* AML	AML	12 19 22.0	
	comp=N,59nm,0.7s						
IMRD	**Marand**	**1.70**	**44**	Pg	**Pb**	**12 18 54.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**1.75**	**319**	P	**Pg**	**12 18 57.8**	**+0.7**
ADCV				S	**Sg**	**12 19 22.3**	**+2.6**
ADCV				*i* AML	AML	12 19 28.0	
	comp=E,25nm,0.8s						
ADCV				*i* AML	AML	12 19 28.0	
	comp=N,32nm,1.1s						
BLIS	**Bitlis-Merkez**	**1.88**	**300**	P	**Pg**	**12 18 59.6**	**-0.1**
BLIS				S	**Sg**	**12 19 26.5**	**+2.5**
BLIS				*i* AML	AML	12 19 31.0	
	comp=E,19nm,0.4s						
BLIS				*i* AML	AML	12 19 33.0	
	comp=N,54nm,0.9s						
MAKU	**Maku**	**1.89**	**12**	Pg	**Pb**	**12 18 59.0**	**+0.4**
MLAZ	**Malazgirt-MUS**	**2.09**	**322**	Pn	**Pb**	**12 19 00.6**	**-1.3**
DORK	**Agr/Tutak/Do**	**2.19**	**330**	P	**Pb**	**12 19 03.5**	**-0.1**
DORK				S	**Sg**	**12 19 34.9**	**+1.0**
DORK				*i* AML	AML	12 19 37.0	
	comp=E,29nm,0.7s						
DORK				*i* AML	AML	12 19 41.0	
	comp=N,34nm,1.1s						
MIDY	**Mardin/Midyat-**	**2.23**	**268**	P	**Pb**	**12 19 04.0**	**-0.3**
MIDY				S	**Sg**	**12 19 33.6**	**-1.6**
MIDY				*i* AML	AML	12 19 39.0	
	comp=N,83nm,0.6s						
MIDY				*i* AML	AML	12 19 41.0	
	comp=E,66nm,0.3s						
AGRB	**Hanur-Agry**	**2.28**	**336**	Pn	**Pb**	**12 19 03.4**	**-1.8**
BTMN	**Batman**	**2.35**	**280**	P	**Pb**	**12 19 06.8**	**+0.4**
BTMN				S	**Sb**	**12 19 36.9**	**+1.2**
BTMN				*i* AML	AML	12 19 42.0	
	comp=N,38nm,0.5s						
BTMN				*i* AML	AML	12 19 45.0	
	comp=E,60nm,1.0s						
KOTA	**Agri, Merkez-K**	**2.43**	**342**	P	**Pb**	**12 19 06.4**	**-1.3**
KOTA				*i* AML	AML	12 19 29.0	
	comp=N,8.2nm,1.1s						
KOTA				*i* AML	AML	12 19 35.0	
	comp=E,6.4nm,1.6s						
MUSM	**Mu-Merkez**	**2.44**	**301**	P	**Pb**	**12 19 07.4**	**-0.6**
MUSM				S	**Sg**	**12 19 41.8**	**-0.4**
MUSM				*i* AML	AML	12 19 47.0	
	comp=N,13nm,0.6s						
MUSM				*i* AML	AML	12 19 48.0	
	comp=E,9.4nm,0.6s						
SVAN	**Silvan-Diyarba**	**2.46**	**286**	Pn	**Pn**	**12 19 04.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.46**	**286**	P	**Pb**	**12 19 07.8**	**-0.4**
SVAN				S	**Sb**	**12 19 40.1**	**+1.3**
SVAN				*i* AML	AML	12 19 48.0	
	comp=E,13nm,0.6s						
SVAN				*i* AML	AML	12 19 49.0	
	comp=N,16nm,0.4s						

IDC ***21*** *12:21:20.0±2.1,31.°72S×178.°69W,h0km,mb4.1/3,*
mbtmp4.0/4,ML3.7/1,Error ellipse: s-maj=49.3km
s-min=34.8km az=61.0
WEL ***21*** *12:21:22.4±0.8,32.°5S±6.°×17.°8W±1.°6,h33km,M4.1/9,*
mB4.6/6,ML4.7/16,MLv4.3/9,Mw(mB)3.8/6,Error ellipse:
s-maj=0.0km s-min=0.0km az=107.9,confirmed
ISC 21 12:21:16.5±1.4,**32.°14S**±0.°07×**177.°7W**±0.°2,**h18km,n29,**
σ2°33/43,mb4.1/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.87**	**356**	P	**Pb**	**12 22 06.1**	**-1.2**
GLKZ				S	**Sn**	**12 22 35.4**	**-0.1**
WMGZ	**Waiomatatini S**	**6.51**	**208**	P	**Pn**	**12 22 52.2**	**+0.8**
WMGZ				S	**Sn**	**12 24 05.8**	**+0.6**
PKGZ	**Pakihiroa**	**6.71**	**210**	P	**Pn**	**12 22 58.4**	**+4.2**
PKGZ				S	**Sn**	**12 24 08.7**	**-1.5**
HAZ	**Te Kaha**	**6.73**	**212**	P	**Pn**	**12 22 56.1**	**+1.8**
HAZ				S	**Sn**	**12 24 10.9**	**+0.4**
PUZ	**Puketiti**	**6.79**	**208**	P	**Pn**	**12 22 57.1**	**+1.9**
PUZ				S	**Sn**	**12 24 11.7**	**-0.4**
RUGZ	**Raukumara Rang**	**6.95**	**212**	P	**Pn**	**12 22 59.6**	**+2.1**
RUGZ				S	**Sn**	**12 24 14.9**	**-1.2**
TWGZ	**Tauwhareparae**	**6.99**	**209**	P	**Pn**	**12 23 01.5**	**+3.4**
TWGZ				S	**Sn**	**12 24 16.9**	**-0.3**
CNGZ	**Carnagh Statio**	**7.17**	**207**	P	**Pn**	**12 23 04.0**	**+3.6**
MWZ	**Matawai**	**7.32**	**211**	P	**Pn**	**12 23 01.5**	**-1.0**
MWZ				S	**Sn**	**12 24 22.6**	**-2.5**
URZ	**Urewera**	**7.45**	**213**	Pn	**Pn**	**12 23 07.0**	**+2.8**
	1.1nm,0.3s,baz=339,slow=4.1,SNR=29						
URZ				Sn	**Sn**	**12 24 25.6**	**-2.6**
	2.1nm,0.3s,baz=238,slow=15,SNR=6.6 5.9nm,0.5s						
URZ	**Urewera**	**7.45**	**213**	P	**Pn**	**12 23 07.0**	**+2.8**
URZ				S	**Sn**	**12 24 25.2**	**-3.0**
RIGZ	**Rimuhau**	**7.54**	**208**	P	**Pn**	**12 23 08.5**	**+3.0**
RIGZ				S	**Sn**	**12 24 30.8**	**+0.4**
WCZ	**Waipu Caves**	**7.63**	**238**	P	**Pn**	**12 23 09.7**	**+3.0**
PRGZ	**Paritu Road**	**7.67**	**207**	P	**Pn**	**12 23 11.3**	**+3.9**
PRGZ				S	**Sn**	**12 24 32.7**	**-1.2**
SNGZ	**Shannon Statio**	**7.77**	**210**	P	**Pn**	**12 23 11.1**	**+2.4**
SNGZ				S	**Sn**	**12 24 34.5**	**-1.8**
MUGZ	**Murupara**	**7.78**	**214**	P	**Pn**	**12 23 09.7**	**+0.9**
MUGZ				S	**Sn**	**12 24 32.5**	**-4.0**
OUZ	**Omahuta**	**7.89**	**245**	P	**Pn**	**12 23 14.0**	**+3.6**
MTHZ	**Maungataniwha**	**8.05**	**212**	P	**Pn**	**12 23 15.9**	**+3.3**
MTHZ				S	**Sn**	**12 24 41.3**	**-1.9**
MCHZ	**McNeill Hill**	**8.60**	**210**	P	**Pn**	**12 23 21.6**	**+1.5**
MCHZ				S	**Sn**	**12 24 54.3**	**-2.3**
NTVZ	**North Tongarir**	**8.80**	**216**	P	**Pn**	**12 23 24.8**	**+1.9**
ETVZ	**East Tongariro**	**8.81**	**216**	P	**Pn**	**12 23 24.7**	**+1.6**
ETVZ				S	**Sn**	**12 24 59.5**	**-2.5**
KAHZ	**Kahuranaki**	**8.82**	**208**	P	**Pn**	**12 23 23.6**	**+0.4**
KAHZ				S	**Sn**	**12 24 58.7**	**-3.3**
ASAR	**Alice Springs**	**43.31**	**269**	P	**P**	**12 29 17.0**	**-0.6**
	1.0nm,0.6s,baz=105,slow=7.0,SNR=26 1.0nm,0.6s						
WRA	**Warramunga Arr**	**44.46**	**274**	P	**P**	**12 29 26.2**	**-0.5**
	1.4nm,0.3s,baz=115,slow=7.6,SNR=24 1.4nm,0.3s						
QSPA	**South Pole Qui**	**57.98**	**180**	P	P	12 31 17.9	+10
	1.6nm,0.8s,baz=57,slow=0.5,SNR=4.1 1.6nm,0.8s						
H03N3	**Juan Fernandez**	**79.49**	**123**	T	T	14 02 24.8	
	baz=242,slow=74,SNR=2.9						
H03N2	**Juan Fernandez**	**79.49**	**123**	T	T	14 02 20.4	
	baz=242,SNR=4.8						
H03N1	**Juan Fernandez**	**79.50**	**123**	T	T	14 02 21.7	
	baz=242,slow=74,SNR=6.0						
FINES	**FINESS Array B**	**146.86**	**339**	PKPbc	**PKiKP**	**12 40 59.9**	**+0.4**
	0.9nm,0.8s,baz=62,slow=5.2,SNR=5.0						

IDC ***21*** *12:27:20.9±6.2,5.°08S×103.°15E,h0km,mb3.5/4,*
mbtmp3.5/4,Error ellipse: s-maj=307.3km s-min=25.1km
az=51.0
DJA ***21*** *12:27:39.5±0.3,5.°5S±5.°×10.°4E±.°,h136km±5km,M4.4/14,*
mb4.6/5,MLv4.3/14
ISC 21 12:27:39.7±0.9,**4.°61S**±0.°08×**104.°02E**±0.°07,**h150km,n21,**
σ1°810/23,mb3.4/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.40**	**175**	P	**Pn**	**12 28 00.7**	**-0.1**
LWLI				S	**Sn**	**12 28 15.8**	**-1.1**
LHSI	**Lahat**	**0.93**	**328**	P	**Pn**	**12 28 02.8**	**-1.1**
KASI	**Kota Agung**	**1.02**	**152**	P	**Pn**	**12 28 04.0**	**-0.6**
KASI				S	**Sn**	**12 28 20.7**	**-3.0**
EGSI	**Enggano, Bengk**	**1.89**	**247**	P	**Pn**	**12 28 12.9**	**-0.6**
UBSI	**University, Be**	**1.94**	**296**	P	**Pn**	**12 28 13.7**	**-0.4**
SBJI	**Serang**	**2.58**	**126**	P	**Pn**	**12 28 20.9**	**-0.9**
PPBI	**Pangkal Pinang**	**3.22**	**41**	P	**Pn**	**12 28 28.7**	**-1.2**
SKJI	**Sukabumi**	**3.46**	**133**	P	**Pn**	**12 28 32.1**	**-0.9**
CNJI	**Cibinong**	**4.09**	**131**	P	**Pn**	**12 28 40.1**	**-1.0**
PPSI	**Pulau Pagai**	**4.41**	**295**	P	**Pn**	**12 28 45.1**	**-0.2**
BBJI	**Bungbulang**	**4.59**	**128**	P	**Pn**	**12 28 47.2**	**-0.5**
JCJI	**Jatiwangi**	**4.62**	**114**	P	**Pn**	**12 28 48.8**	**+0.7**
CMJI	**Cimerak** 109nm,2.0s,0.4nm	**5.41**	**126**	P	**Pn**	**12 28 58.0**	**-0.6**
SISI	**Saibi** 55nm,1.6s,0.3nm	**5.91**	**303**	P	**Pn**	**12 29 04.8**	**-0.4**
UGM	**Wanagama** 289nm,1.7s,1.2nm	**7.25**	**117**	P	**Pn**	**12 29 23.0**	**-0.1**
PBSI	**Pulau Batu**	**7.31**	**308**	P	**Pn**	**12 29 23.2**	**-0.7**
WRA	**Warramunga Arr**	**33.22**	**120**	P	**P**	**12 34 04.1**	**+1.5**
	0.3nm,0.6s,baz=302,slow=9.0,SNR=1.9 0.3nm,0.6s						
ASAR	**Alice Springs**	**34.48**	**126**	P	**P**	**12 34 15.2**	**+1.6**
	0.6nm,1.1s,baz=297,slow=7.5,SNR=6.5 0.6nm,1.1s						
MKAR	**Makanchi Array**	**54.68**	**342**	P	**P**	**12 36 53.8**	**+0.7**
	0.6nm,0.7s,baz=142,slow=8.4,SNR=6.4 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**60.53**	**347**	P	**P**	**12 37 33.9**	**+0.1**
	0.4nm,0.5s,baz=159,slow=4.5,SNR=2.5 0.4nm,0.5s						
TXAR	**Lajitas Array**	**144.06**	**44**	PKPbc	**PKPdf**	**12 46 58.9**	**+0.6**
	0.1nm,0.3s,baz=296,slow=1.0,SNR=7.0						

IDC ***21*** *12:56:10.9±0.9,15.°15S×13.°34W,h0km,mb4.2/8,*
mbtmp4.2/8,MS4.1/63,Error ellipse: s-maj=46.5km
s-min=21.9km az=118.0
NEIC ***21*** *12:56:12.2±2.1,15.°3S±0.°1×13.°11W±0.°09,h10km±1km,*
mb4.6/26,Error ellipse: s-maj=19.8km s-min=13.5km
az=338.0
GCMT ***21*** *12:56:15.2±0.2,15.°32S±0.°02×13.°19W±0.°02,h13km±1km,*
MW5.0/98,Moment Tensor Solution. s32,c37; s98,c139;
Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.59±. 14;
Mθθ0.51±.09; Mϕϕ2.08±.10; Mrθ-1.21±.30; Mrϕ-1.03±.06;
Mθϕ-2.19±.30; Best double couple: M₀3.51600×10¹⁶
NP1:ϕs4.00000°,δ67.00000°,λ-66.00000°. NP2:
ϕs135.00000°,δ33.00000°,λ-134.00000°. Principal axes:
T 3.0650, Plg18.0000°, Azm76.0000°; N 0.8960,
Plg22.0000°, Azm174.0000°; P -3.9670, Plg61.0000°,
Azm311.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
ISC 21 12:56:11.7±0.5,**15.°31S**±0.°10×**13.°16W**±0.°08,**h10km,n97,**
σ1°803/35,mb4.5/19,MS4.2/64,Southern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**6.48**	**347**	T	T	13 04 16.9	
	baz=167,slow=74,SNR=116						
H10S3	**ASCENSION HYDR**	**6.49**	**347**	T	T	13 04 18.1	
	baz=53,slow=74,SNR=183						
SHEL	**Horse Pasture**	**7.17**	**96**		**Pn**	**12 57 55.1**	**-1.7**
H10N1	**ASCENSION HYDR**	**7.53**	**350**	T	T	13 05 36.7	
	baz=166,slow=75,SNR=9.7						
H10N3	**ASCENSION HYDR**	**7.54**	**350**	T	T	13 05 43.8	
	baz=166,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**7.55**	**350**	T	T	13 05 39.0	
	baz=166,slow=75,SNR=8.0						
DBIC	**Dimbokro**	**23.34**	**21**	P	**P**	**13 01 20.7**	**+0.4**
DBIC				IAmb	IAmb	13 01 21.7	
	comp=Z,22nm,1.2s						
DBIC	**Dimbokro**	**23.34**	**21**	P	**P**	**13 01 20.9**	**+0.5**
	comp=Z,8.2nm,1.0s,baz=212,slow=9.7,SNR=5.1						
DBIC				LR	LR	13 08 11.5	
	comp=Z,528nm,19.8s,baz=176,slow=31 comp=Z,8.2nm,1.0s						
RCBR	**Riachuelo**	**24.24**	**290**	LR	LR	13 08 30.5	
	comp=Z,390nm,21.6s,baz=110,slow=31						
WIN	**Windhoek**	**29.48**	**109**	P	**P**	**13 02 15.4**	**-0.9**
WIN				IAmb	IAmb	13 02 21.0	
	comp=Z,21nm,1.5s						
TSUM	**Tsumeb**	**29.59**	**102**	LR	LR	13 11 45.0	
	comp=Z,509nm,20.9s,baz=331,slow=31						
SACV	**Santiago Islan**	**31.81**	**341**	P	**P**	**13 02 36.3**	**-0.4**
TOA0	**Torodi Ar. Sit**	**31.87**	**28**	P	**P**	**13 02 36.5**	**-0.8**
TOA0				IAmb	IAmb	13 02 43.0	
	comp=Z,8.4nm,1.4s						
TORD	**Torodi Ar. Bea**	**31.87**	**28**	P	**P**	**13 02 36.5**	**-0.8**
TORD				IAmb	IAmb	13 02 42.9	
	comp=Z,8.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**31.87**	**28**	P	**P**	**13 02 36.2**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=212,slow=8.6,SNR=8.5						
TORD				LR	LR	13 13 20.7	
	comp=Z,883nm,19.8s,baz=162,slow=32 comp=Z,2.1nm,0.9s						
SPB	**Sao Paulo**	**33.28**	**250**	P	**P**	**13 02 47.2**	**-2.4**
BDFB	**Brasilia**	**33.57**	**265**	P	**P**	**13 02 53.6**	**+1.2**
BDFB				IAmb	IAmb	13 02 58.7	
	comp=Z,5.6nm,1.2s						
BDFB	**Brasilia**	**33.57**	**265**	P	**P**	**13 02 51.7**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=113,slow=15,SNR=1.8						
BDFB				LR	LR	13 13 44.4	
	comp=Z,760nm,20.8s,baz=122,slow=32 comp=Z,1.2nm,0.5s						
SUR	**Sutherland**	**35.22**	**125**	LR	LR	13 14 19.3	
	comp=Z,223nm,20.7s,baz=325,slow=31						
LBTB	**Lobatse**	**37.53**	**111**	P	**P**	**13 03 24.9**	**-1.4**
LBTB	**Lobatse**	**37.53**	**111**	LR	LR	13 16 35.5	
	comp=Z,378nm,19.8s,baz=278,slow=32						
BOSA	**Boshof**	**37.84**	**117**	P	**P**	**13 03 28.0**	**-0.9**
BOSA	**Boshof**	**37.84**	**117**	LR	LR	13 17 05.3	
	comp=Z,400nm,18.2s,baz=288,slow=33						
LSZ	**Lusaka**	**39.84**	**96**	LR	LR	13 18 14.5	
	comp=Z,694nm,20.5s,baz=295,slow=33						
GRHM	**Grahamstown, E**	**39.94**	**124**	P	P	13 03 39.4	-6.9
TAM	**Tamanrasset**	**42.06**	**26**	P	**P**	**13 04 04.1**	**+0.1**
CPUP	**Villa Florida**	**42.53**	**248**	LR	LR	13 19 50.3	
	comp=Z,380nm,18.1s,baz=86,slow=33						
POGA	**Pongola**	**43.26**	**114**	P	**P**	**13 04 14.2**	**+0.5**
POGA				IAmb	IAmb	13 04 16.7	
	comp=Z,23nm,0.8s						
MACI	**Morro de la Ar**	**43.43**	**356**	P	**P**	**13 04 14.9**	**-0.1**
MDP	**Montagnes des**	**44.05**	**294**	LR	LR	13 19 24.7	
	comp=Z,115nm,21.6s,baz=94,slow=32						
PTLB	**Puntas e Lacer**	**44.26**	**263**	P	**P**	**13 04 21.8**	**0.0**
MBAR	**Mbarara**	**45.73**	**76**	P	**P**	**13 04 34.8**	**+1.0**
MBAR				IAmb	IAmb	13 04 42.7	
	comp=Z,4.6nm,0.9s						
SIV	**San Ignacio**	**46.06**	**262**	LR	LR	13 21 57.1	
	comp=Z,344nm,19.9s,baz=106,slow=34						
TRQA	**Tornquist**	**48.50**	**232**	P	**P**	**13 04 55.0**	**+0.1**
TRQA				IAmb	IAmb	13 04 56.9	
	comp=Z,15nm,1.4s						
MDT	**Midelt**	**48.55**	**10**	LR	LR	13 23 47.5	
	comp=Z,385nm,18.5s,baz=182,slow=34						
SAML	**Samuel**	**49.23**	**271**	P	**P**	**13 04 59.4**	**-1.3**
SAML				IAmb	IAmb	13 05 33.8	
	comp=Z,5.9nm,1.3s						
BOAV	**Boa Vista**	**50.05**	**286**	P	**P**	**13 05 06.2**	**-0.8**
BOAV				IAmb	IAmb	13 05 06.8	
	comp=Z,11nm,1.5s						
EFI	**East Falkland**	**50.88**	**215**	P	**P**	**13 05 14.3**	**+1.6**
LODK	**Lodwar**	**51.51**	**73**	P	**P**	**13 05 19.6**	**+1.5**
KMBO	**Kilima Mbogo**	**51.69**	**79**	P	**P**	**13 05 20.4**	**+0.7**
KMBO				IAmb	IAmb	13 05 23.1	
	comp=Z,6.8nm,1.4s						
KMBO	**Kilima Mbogo**	**51.69**	**79**	LR	LR	13 26 19.5	
	comp=Z,227nm,19.2s,baz=289,slow=35						
LVC	**Limon Verde**	**52.98**	**253**	LR	LR	13 26 56.0	
	comp=Z,218nm,20.2s,baz=122,slow=35						
CO01	**Juntas del Tor**	**54.03**	**244**	P	**P**	**13 05 37.5**	**+0.7**
CO01				IAmb	IAmb	13 05 52.2	
	comp=Z,12nm,1.5s						
AC06	**Mina Casimiro**	**54.20**	**247**	P	**P**	**13 05 37.6**	**-0.2**
AC06				IAmb	IAmb	13 05 55.4	
	comp=Z,16nm,1.4s						
MT16	**CCHEN**	**54.61**	**240**	P	**P**	**13 05 40.0**	**-0.8**
PEL	**Peldehue**	**54.73**	**240**	P	**P**	**13 05 41.7**	**+0.1**
PEL				IAmb	IAmb	13 06 08.1	
	comp=Z,20nm,1.4s						
KEST	**Kesra**	**55.06**	**22**	LR	LR	13 29 12.1	
	comp=Z,274nm,18.3s,baz=206,slow=36						
PLCA	**Paso Flores**	**55.54**	**231**	LR	LR	13 26 26.6	
	comp=Z,281nm,20.1s,baz=63,slow=33						
PCRV	**Puerto La Cruz**	**56.93**	**293**	LR	LR	13 30 06.2	
	comp=Z,102nm,18.3s,slow=36						
USHA	**Ushuaia**	**57.85**	**214**	LR	LR	13 27 46.7	
	comp=Z,760nm,20.0s,baz=78,slow=33						
VAE	**Valguarnera**	**58.57**	**26**	LR	LR	13 30 13.0	
	comp=Z,308nm,19.6s,baz=158,slow=35						
PMSA	**Palmer Station**	**60.13**	**203**	LR	LR	13 25 42.2	
	comp=Z,266nm,19.0s,baz=329,slow=29						
ATD	**Arta Tunnel**	**61.54**	**68**	LR	LR	13 32 10.8	
	comp=Z,12nm,18.1s,baz=208,slow=35						
NNA	**Nana**	**61.79**	**264**	LR	LR	13 32 01.7	
	comp=Z,332nm,18.9s,baz=132,slow=35						
SDV	**Santo Domingo**	**61.81**	**289**	LR	LR	13 31 16.2	
	comp=Z,180nm,21.0s,baz=100,slow=34						
SJG	**San Juan**	**61.88**	**301**	LR	LR	13 26 48.8	
	comp=Z,64nm,21.5s,baz=128,slow=30						
IDI	**Anoyia**	**61.92**	**35**	LR	LR	13 31 55.6	
	comp=Z,72nm,21.9s,baz=248,slow=35						
ROSC	**El Rosal**	**63.78**	**283**	LR	LR	13 34 05.3	
	comp=Z,956nm,18.2s,baz=215,slow=36						
ATAH	**Atahualpa**	**64.31**	**269**	LR	LR	13 34 55.8	
	comp=Z,235nm,19.4s,baz=116,slow=36						
EIL	**Elat**	**64

RPN	**Rapa Nui**	**88.48**	**242**	LR	LR	13 44 15.2		
	comp=Z,83nm,18.4s,baz=98,slow=33							
ARCES	**ARCESS Array B**	**88.89**	**13**	LR	LR	13 51 41.5		
	comp=Z,94nm,18.5s,baz=214,slow=38							
KIRV	**Kirov**	**89.47**	**28**	LR	LR	13 51 49.1		
	comp=Z,51nm,18.7s,baz=264,slow=37							
FRB	**Frobisher Bay**	**89.50**	**339**	LR	LR	13 42 05.9		
	comp=Z,53nm,19.3s,baz=178,slow=31							
AKTO	**Aktyubinsk**	**90.15**	**37**	LR	LR	13 51 28.3		
	comp=Z,51nm,21.3s,baz=285,slow=37							
ARU	**Arti**	**92.87**	**32**	LR	LR	13 52 08.3		
	comp=Z,45nm,20.9s,baz=124,slow=36							
SPITS	**Spitsbergen Ar**	**94.80**	**6**	LR	LR	13 50 24.8		
	comp=Z,50nm,19.6s,baz=189,slow=34							
ULM	**Lac du Bonnet**	**97.05**	**320**	LR	LR	13 49 44.0		
	comp=Z,63nm,18.0s,baz=108,slow=33							
BVAR	**Borovoye Array**	**98.26**	**37**	LR	LR	14 00 41.4		
	comp=Z,30nm,18.0s,baz=251,slow=39							
AAK	**Ala-Archa**	**98.51**	**48**	LR	LR	13 54 34.9		
	comp=Z,82nm,20.3s,baz=262,slow=36							
MJAR	**Matsushiro Arr**	**146.90**	**45**	PKPbc	**PKiKP**	**13 15 57.5**	**+0.1**	
	comp=Z,3.0nm,0.9s,baz=286,slow=3.4,SNR=3.9							

*IDC **21** 12:57:53.3±0.6, 14.06N×145.03E, h148km±4km, mb3.4/9, mbtmp3.8/9, Error ellipse: s-maj=31.3km s-min=16.2km az=100.0*
*NEIC **21** 12:57:54.0±1.1, 14.10N±0.07×145.0E±0.1, h159km±3km, mb4.3/39, Error ellipse: s-maj=18.6km s-min=10.3km az=101.0*

ISC 21 12:57:53.0±0.5, **14.11N**±0.07×**145.0E**±0.1, **h150**km, **n60,** σ1**9**07/62, **mb4.2**/30, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GUMO	**Guam**	**0.55**	**198**			**Pn**		**12 58 16.3**	**+1.7**
GUMO						Sn		**12 58 32.7**	**+1.6**
GUMO	**Guam**	**0.55**	**198**	P		**Pn**		**12 58 16.3**	**+1.7**
	2μm,0.3s,baz=159,slow=21,SNR=383								
GUMO				S		**Sn**		**12 58 31.7**	**+0.6**
	1μm,0.3s,baz=32,slow=23,SNR=41								
JCJ	**Chichijima**	**13.19**	**349**	Pn		**Pn**		**13 00 54.0**	**-0.6**
PATS	**Pohnpei**	**14.91**	**118**	Pn		**Pn**		**13 01 16.1**	**-0.4**
FAKI	**Fak Fak**	**21.15**	**218**	P		**P**		**13 02 27.7**	**+1.2**
KSAR	**Wonju Array Be**	**27.81**	**330**	P		**P**		**13 03 27.1**	**-0.9**
KS19	**Wonju Array Si**	**27.86**	**330**	P		**P**		**13 03 24.9**	**-3.8**
USA0B	**Ussuriysk Arra**	**31.99**	**342**	P		**P**		**13 04 38.8**	**-1.1**
USA0B				IAmb		IAmb		13 04 39.1	
	comp=Z,3.4nm,0.8s								
USRK	**Ussuriysk Ar.**	**31.99**	**342**	P		**P**		**13 04 04.9**	**-0.1**
KNRA	**Kununurra**	**33.69**	**209**	P		**P**		**13 04 18.5**	**-1.5**
WB0	**Warramunga Arr**	**35.26**	**198**	P		**P**		**13 04 33.0**	**-0.5**
WB0				IAmb		IAmb		13 04 46.0	
	comp=Z,14nm,1.4s								
WR0	**Warramunga Arr**	**35.40**	**197**	P		**P**		**13 04 34.0**	**-0.7**
WR0				IAmb		IAmb		13 04 37.8	
	comp=Z,6.9nm,1.1s								
WB2	**Warramunga Arr**	**35.44**	**198**	P		**P**		**13 04 33.4**	**-1.6**
WB2				IAmb		IAmb		13 04 37.3	
	comp=Z,11nm,1.2s								
WRA	**Warramunga Arr**	**35.44**	**198**	P		**P**		**13 04 33.9**	**-1.2**
WRA	**Warramunga Arr**	**35.44**	**198**	P		**P**		**13 04 34.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=17,slow=9.2,SNR=17								
	comp=Z,2.3nm,0.8s								
FITZ	**Fitzroy Crossi**	**37.29**	**211**	P		**P**		**13 04 50.5**	**-0.3**
AS31	**Alice Springs**	**39.10**	**196**	P		**P**		**13 05 05.3**	**-0.5**
ASAR	**Alice Springs**	**39.10**	**196**	P		**P**		**13 05 04.9**	**-1.0**
ASAR	**Alice Springs**	**39.10**	**196**	P		**P**		**13 05 05.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=15,slow=6.8,SNR=15								
	comp=Z,0.3nm,0.4s								
STKA	**Stephens Creek**	**45.85**	**184**	P		**P**		**13 05 59.7**	**-0.5**
FORT	**Forrest**	**47.53**	**200**	P		**P**		**13 06 12.7**	**-0.6**
FORT				IAmb		IAmb		13 06 19.3	
	comp=Z,18nm,1.0s								
CAN	**Canberra**	**49.31**	**176**	P		**P**		**13 06 24.5**	**-2.4**
CAN				IAmb		IAmb		13 06 28.3	
	comp=Z,16nm,1.3s								
O14K	**Tigyukauivet M**	**59.80**	**29**	P		**P**		**13 07 41.9**	**-0.3**
ANM	**Nome**	**60.65**	**22**	P		**P**		**13 07 48.0**	**+0.1**
ANM				IAmb		IAmb		13 07 49.4	
	comp=Z,7.7nm,1.5s								
NNZ	**Nelson**	**60.98**	**156**	P		**P**		**13 07 50.1**	**-0.2**
MKAR	**Makanchi Array**	**61.23**	**316**	P		**P**		**13 07 53.4**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=94,slow=9.6,SNR=2.9								
	comp=Z,0.3nm,0.6s								
C18K	**Utukok River**	**64.18**	**19**	P		**P**		**13 08 11.4**	**+0.1**
C18K				IAmb		IAmb		13 08 26.2	
	comp=Z,5.1nm,1.4s								
KURBB	**Kurchatov Arra**	**64.34**	**320**	P		**P**		**13 08 13.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=101,slow=6.8,SNR=6.5								
	comp=Z,0.4nm,0.5s								
CNPM	**China Poot**	**64.70**	**30**	P		**P**		**13 08 14.6**	**-0.2**
D19K	**Kuna River**	**65.11**	**20**	P		**P**		**13 08 17.2**	**-0.1**
D19K				IAmb		IAmb		13 08 39.6	
	comp=Z,4.3nm,1.3s								
CAST	**Castle Rocks**	**65.45**	**26**	P		**P**		**13 08 19.7**	**0.0**
IMAR	**Indian Mountai**	**65.65**	**23**	P		**P**		**13 08 22.2**	**+1.4**
RC01	**Rabbit Creek A**	**65.83**	**29**	P		**P**		**13 08 22.4**	**+0.3**
H21K	**Melozitna Rive**	**65.90**	**24**	P		**P**		**13 08 23.0**	**+0.5**
KNK	**Knik Glacier**	**66.51**	**29**	P		**P**		**13 08 27.2**	**+0.7**
D22K	**Ayikyak River**	**67.08**	**20**	P		**P**		**13 08 30.3**	**+0.4**
D22K				IAmb		IAmb		13 08 33.1	
	comp=Z,7.6nm,1.5s								
I23K	**Minto, Yukon-K**	**67.11**	**25**	P		**P**		**13 08 30.5**	**+0.4**
I23K				IAmb		IAmb		13 09 09.4	
	comp=Z,5.3nm,1.4s								
E22K	**Anaktuvuk Pass**	**67.12**	**21**	P		**P**		**13 08 30.4**	**+0.2**
E22K				IAmb		IAmb		13 09 09.8	
	comp=Z,6.5nm,1.4s								
IL31		**68.02**	**25**	P		**P**		**13 08 35.3**	**-0.5**
ILAR	**Eielson Array**	**68.02**	**25**	P		**P**		**13 08 35.5**	**-0.4**
ILAR	**Eielson Array**	**68.02**	**25**	P		**P**		**13 08 35.0**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=245,slow=6.2,SNR=6.7								
	comp=Z,0.3nm,0.6s								
E24K	**Your Creek**	**68.28**	**22**	P		**P**		**13 08 38.0**	**+0.5**
J25K	**Salcha River,**	**68.62**	**26**	P		**P**		**13 08 39.5**	**-0.2**
J25K				IAmb		IAmb		13 09 09.5	
	comp=Z,4.0nm,1.4s								
VRDI	**Verde Repeater**	**68.84**	**29**	P		**P**		**13 08 39.7**	**-1.5**
SCRK	**Sand Creek**	**69.08**	**27**	P		**P**		**13 08 42.9**	**+0.3**
SCRK				IAmb		IAmb		13 09 12.3	
	comp=Z,3.6nm,1.3s								
J26L	**Joseph Creek**	**69.36**	**26**	P		**P**		**13 08 44.2**	**-0.1**
D25K	**Kavik River**	**69.37**	**21**	P		**P**		**13 08 44.2**	**0.0**
D25K				IAmb		IAmb		13 08 49.4	
	comp=Z,4.6nm,1.4s								
BMAR	**Burnt Mountain**	**69.56**	**23**	P		**P**		**13 08 45.9**	**+0.5**
BVAR	**Borovoye Array**	**69.62**	**322**	P		**P**		**13 08 46.7**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=103,slow=9.2,SNR=2.1								
	comp=Z,0.4nm,0.5s								
BRVK	**Borovoye**	**69.69**	**322**	P		**P**		**13 08 45.2**	**-1.2**
M27K	**Edge Creek, AK**	**69.75**	**28**	P		**P**		**13 08 46.6**	**-0.2**
M27K				IAmb		IAmb		13 09 15.0	
	comp=Z,7.3nm,1.4s								
BCAR	**Beaver Creek A**	**69.90**	**28**	P		**P**		**13 08 47.7**	**+0.2**
M29M	**Somme Creek**	**71.34**	**29**	P		**P**		**13 08 56.0**	**-0.4**
M29M				IAmb		IAmb		13 09 18.5	
	comp=Z,9.0nm,1.4s								
L29M	**L29M**	**71.56**	**28**	P		**P**		**13 08 59.2**	**+1.7**
L29M				IAmb		IAmb		13 09 15.7	
	comp=Z,8.6nm,1.5s								
M30M	**Minto, Yukon**	**72.13**	**28**	P		**P**		**13 08 58.5**	**-2.4**
M30M				IAmb		IAmb		13 09 09.8	
	comp=Z,8.3nm,1.5s								
G31M	**Satah River**	**73.47**	**24**	P		**P**		**13 09 09.0**	**+0.3**
G31M				IAmb		IAmb		13 09 45.0	
	comp=Z,5.0nm,1.4s								
DLBC	**Dease Lake**	**75.45**	**33**	P		**P**		**13 09 19.4**	**-1.1**
DLBC				IAmb		IAmb		13 09 45.4	
	comp=Z,12nm,1.4s								
YKA	**Yellowknife Ar**	**82.32**	**27**	P		**P**		**13 09 58.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=286,slow=5.3,SNR=4.8								
	comp=Z,0.2nm,0.5s								
NVAR	**Mina Array Bea**	**86.46**	**51**	P		**P**		**13 10 21.2**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=271,slow=5.4,SNR=9.4								
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**90.76**	**335**	P		**P**		**13 10 39.6**	**+0.7**
	comp=Z,2.7nm,1.1s,baz=108,slow=4.5,SNR=3.4								
	comp=Z,2.7nm,1.1s								

*NEIC **21** 13:06:03.6±0.4, 34.66N±0.02×97.51W±0.03, h16km±8km, Error ellipse: s-maj=3.9km s-min=1.3km az=129.0*
TUL 21 13:06:03.8±0.7, **34.66N**±0.02×**97.50W**±0.02, **h5**km±5km,
ML2.5, mb_Lg2.3/22(NEIC), **ML2.4**/22(NEIC), **Error ellipse: s-maj=3.0km s-min=1.7km az=124.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
X34A	**Smith Ranch, M**	**0.28**	**258**	Pg		Pg		13 06 09.5	+0.2
X34A				IAML				13 06 19.3	
	comp=E,403nm,0.5s								
FNO	**Franklin**	**0.60**	**7**	Pg		Pg		13 06 15.1	-0.2
FNO				Sg		Sg		13 06 23.9	+0.8
FNO				IAML				13 06 24.4	
	comp=N,297nm,0.1s								
W35A	**Tecumseh**	**0.71**	**46**	Pg		Pg		13 06 17.3	-0.1
W35A				Sg		Sg		13 06 27.3	+0.7
W35A				IAML				13 06 27.9	
	comp=E,219nm,0.2s								
LOOK	**Love County**	**0.72**	**159**	Pg		Pg		13 06 18.0	+0.4
LOOK				IAML				13 06 37.5	
	comp=N,100nm,0.3s								
OKCSW	**OKLAHOMA CITY**	**0.74**	**4**	Pg		Pg		13 06 17.6	-0.5
OKCSW				IAML				13 06 33.1	
	comp=E,161nm,0.1s								
OKCSW				IAML				13 06 36.6	
	comp=N,175nm,0.1s								
ADOK	**Arcadia Dam**	**0.99**	**6**	Pg		Pg		13 06 22.4	-0.5
WMOK	**Wichita Mounta**	**1.06**	**274**	Pg		Pg		13 06 23.2	-1.0
OK029	**Liberty Lake**	**1.13**	**2**	Pg		Pg		13 06 24.7	-0.8
OK029				IAML				13 06 40.6	
	comp=N,123nm,0.3s								
WTFS	**Witchita Falls**	**1.20**	**222**	Pg		Pg		13 06 25.9	-0.9
WTFS				IAML				13 06 47.0	
	comp=N,66nm,0.7s								
WTFS				IAML				13 06 47.3	
	comp=N,83nm,0.6s								
Z35A	**Perchaven, San**	**1.34**	**171**			Pn		13 06 28.1	-1.2
Z35A				IAML				13 06 53.5	
	comp=N,38nm,0.2s								
CSTR	**Hydro, Custer**	**1.39**	**315**			Pn		13 06 28.7	-1.2
DEOK	**Depew**	**1.43**	**34**			Pn		13 06 29.7	-0.8
OK052	**Battle Ridge R**	**1.44**	**23**			Pn		13 06 29.9	-0.8
QUOK	**Quay**	**1.64**	**23**			Pn		13 06 33.2	-0.1
FW06	**Azle**	**1.69**	**182**			Pn		13 06 34.0	+0.1
FW03	**Perrin-Whitt E**	**1.69**	**196**	IAmb_Lg				13 06 58.4	
	comp=Z,12nm,1.0s								
OK048	**Pawnee Station**	**1.81**	**14**	Pn		Pn		13 06 35.3	-0.3
TUL3	**Leonard**	**1.87**	**48**			Pn		13 06 36.2	-0.2
TUL3				IAmb_Lg				13 07 05.3	
	comp=Z,17nm,1.0s								
PLPT	**Palo Pinto**	**1.97**	**201**	Pn		Pn		13 06 37.8	-0.1
U32A	**Winter Ranch,**	**2.11**	**325**	Pn		Pn		13 06 39.7	-0.2
OK032	**Salt Plains WL**	**2.21**	**345**	Pn		Pn		13 06 41.2	0.0
TREL	**Terrell**	**2.26**	**148**	Pn		Pn		13 06 41.8	0.0
TREL				IAmb_Lg				13 07 17.9	
	comp=Z,12nm,0.9s								
FW14	**Alvarado**	**2.27**	**174**	IAmb_Lg				13 07 20.5	
	comp=Z,9.1nm,0.9s								
SMWD	**Samnorwood**	**2.30**	**282**			Pn		13 06 41.9	-0.6
T35A	**Sooner Cattle**	**2.39**	**19**	IAmb_Lg				13 07 23.6	
	comp=Z,12nm,0.7s								
RLO	**Rose Lookout**	**2.51**	**53**	Pn		Pn		13 06 45.3	-0.1
APMT	**Aspermont**	**2.56**	**239**	Pn		Pn		13 06 46.3	+0.3
APMT				IAmb_Lg				13 07 30.8	
	comp=Z,13nm,1.2s								
WHTX	**Lake Whitney,**	**2.67**	**179**	Pn		Pn		13 06 47.1	-0.3
ABTX	**Abilene, Hawle**	**2.71**	**222**	Pn		Pn		13 06 47.5	-0.6
ABTX				IAmb_Lg				13 07 34.5	
	comp=Z,12nm,1.0s								
U38A	**Gravette**	**3.09**	**54**	Pn		Pn		13 06 53.4	+0.1
HHAR	**Hobbs**	**3.32**	**60**	Pn		Pn		13 06 56.7	+0.2
BRDY	**Brady**	**3.60**	**201**			Pn		13 07 00.2	-0.1
BRDY				IAmb_Lg				13 08 05.0	
	comp=Z,11nm,1.0s								
R32A	**Long Quarter,**	**3.88**	**346**	IAmb_Lg				13 08 10.9	
	comp=Z,5.5nm,0.7s								
S39A	**Bolivar**	**4.53**	**47**	IAmb_Lg				13 08 35.4	
	comp=Z,5.3nm,0.8s								
FCAR	**Ozark Folk Cen**	**4.56**	**73**	Pn		Pn		13 07 13.1	-0.4
OZNA	**Ozona**	**4.82**	**220**	Pn		Pn		13 07 16.6	-0.6
OZNA				IAmb_Lg				13 08 48.1	
	comp=Z,5.4nm,0.8s								
MGMO	**Mountain Grove**	**4.92**	**58**	Pn		Pn		13 07 18.2	-0.2
T42A	**Van Buren**	**5.71**	**64**	Pn		Pn		13 07 29.4	+0.1
SAND	**Sanderson**	**6.11**	**221**	Pn		Pn		13 07 34.7	-0.2
P40A	**Paris**	**6.52**	**40**	IAmb_Lg				13 09 39.2	
	comp=Z,7.0nm,0.9s								

IDC 21 13:07:52.3±3.9, **6.55S**×**149.56E**, **h81**km±19km, **mb3.0**/1, **mbtmp3.7**/3, **Error ellipse: s-maj=113.1km s-min=24.2km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**3.70**	**220**	P		Pn		13 08 48.1	+0.9
	25nm,0.3s,baz=1.2,slow=4.2,SNR=40								
PMG				S		Sn		13 09 29.6	-0.1
	106nm,0.7s,baz=30,slow=19,SNR=15								
WRA	**Warramunga Arr**	**19.89**	**227**	P		P		13 12 17.0	-0.5
	1.3nm,0.3s,baz=53,slow=10,SNR=24								
ASAR	**Alice Springs**	**22.72**	**220**	P		P		13 12 48.2	+0.5
	0.5nm,0.5s,baz=54,slow=8.6,SNR=30								
ASAR				S		S		13 16 51.4	+0.9
	0.7nm,0.7s,baz=34,slow=22,SNR=5.5								
	0.5nm,0.5s								
TORD	**Torodi Ar. Bea**	**147.69**	**284**	PKPbc		PKPbc		13 27 28.4	-0.4
	0.2nm,0.4s,baz=98,slow=2.6,SNR=1.7								

IDC 21 13:15:51.4±8.0, **15.98S**×**12.07W**, **h0**km, **mb4.0**/3, **mbtmp4.0**/3, **MS3.5**/13, **Error ellipse: s-maj=659.2km s-min=130.8km az=125.0, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DBIC	**Dimbokro**	**23.61**	**18**	LR		LR		13 27 21.2	
	comp=Z,42nm,18.5s,baz=214,slow=29								
TSUM	**Tsumeb**	**28.43**	**101**	LR		LR		13 30 27.3	
	comp=Z,44nm,19.6s,baz=328,slow=31								
TORD	**Torodi Ar. Bea**	**31.99**	**26**	P		P		13 22 19.5	0.0
	0.7nm,0.6s,baz=214,slow=8.3,SNR=4.9								
TORD				LR		LR		13 33 13.3	
	comp=Z,79nm,19.9s,baz=140,slow=33								
	0.7nm,0.6s								
SUR	**Sutherland**	**33.97**	**125**	LR		LR		13 34 21.4	
	comp=Z,36nm,18.9s,baz=276,slow=33								
BDFB	**Brasilia**	**34.56**	**266**	LR		LR		13 33 05.2	
	comp=Z,115nm,20.8s,baz=150,slow=30								
LBTB	**Lobatse**	**36.31**	**111**	LR		LR		13 36 25.7	
	comp=Z,83nm,19.4s,baz=252,slow=34								
BOSA	**Boshof**	**36.60**	**117**	LR		LR		13 37 00.4	
	comp=Z,45nm,18.4s,baz=196,slow=35								
LSZ	**Lusaka**	**38.73**	**95**	LR		LR		13 38 35.2	
	comp=Z,73nm,18.6s,baz=250,slow=35								
SIV	**San Ignacio**	**47.02**	**263**	LR		LR		13 40 57.0	
	comp=Z,55nm,18.7s,baz=288,slow=32								
PLCA	**Paso Flores**	**55.95**	**231**	LR		LR		13 48 17.9	
	comp=Z,94nm,18.7s,baz=60,slow=35								
OPO	**Ambohidratompo**	**56.42**	**102**	LR		LR		13 46 03.8	
	comp=Z,63nm,21.1s,baz=232,slow=32								
NNA	**Nana**	**62.77**	**265**	LR		LR		13 53 27.8	
	comp=Z,39nm,18.0s,baz=62,slow=36								
AKASG	**Malin Array Be**	**75.62**	**26**	P		P		13 27 38.0	-0.1
	1.0nm,0.7s,baz=224,slow=5.4,SNR=6.4								
	1.0nm,0.7s								
JTS	**Las Juntas de**	**76.70**	**285**	LR		LR		14 00 31.1	
	comp=Z,45nm,19.9s,baz=68,slow=35								
FINES	**FINESS Array B**	**82.91**	**17**	P		P		13 28 17.7	+0.1
	1.7nm,0.7s,baz=217,slow=6.6,SNR=6.0								
	1.7nm,0.7s								

IDC 21 13:17:52.1±2.7, **5.83S**×**130.49E**, **h0**km, **mb3.3**/1, **mbtmp3.3**/3, **ML3.1**/2, **MS4.0**/1, **Error ellipse: s-maj=155.5km s-min=33.2km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**14.52**	**165**	Pn		Pn		13 21 19.0	0.0
	0.1nm,0.3s,baz=348,slow=14,SNR=5.1								
WRA				Sn		Sn		13 23 47.3	-14
	0.3nm,0.3s,baz=344,slow=26,SNR=1.1								
	1.0nm,0.7s								
ASAR	**Alice Springs**	**18.03**	**170**	P		Pn		13 22 04.2	-0.2
	baz=349,slow=11,SNR=7.2								
ASAR				S		Sn		13 25 11.5	-15
	0.3nm,0.8s,baz=345,slow=32,SNR=1.2								
	0.2nm,0.4s								

PALK	**Pallekele**	**51.35**	**284**	LR		LR		13 48 38.9
	comp=Z,168nm,21.6s,baz=358,slow=36							
MKAR	**Makanchi Array**	**67.52**	**326**	P		P		13 28 50.3 +0.1
	0.2nm,0.5s,baz=113,slow=9.1,SNR=1.9							
	0.2nm,0.5s							

*TEH **21** 13:21:16.5, 33.70N×45.69E, h9km, ML3.5*
*ISN **21** 13:21:16.4±0.8, 33.70N×45.69E, h11km±3km, ML3.5*
ISC 21 13:21:16.8±0.9, **33.69N**±0.04×**45.67E**±0.04, **h10**km, **n12,** σ1**9**04/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
IBDR	**Badra**	**0.62**	**160**	*e*Pg		**Pb**		**13 21 29.0**	**-0.7**
IBDR				*e*Sg		**Sg**		**13 21 37.0**	**0.0**
IBDR				AML		AML		13 21 59.0	
	comp=E,2μm,0.4s								
IGHG	**Ghaleghazi**	**0.98**	**49**	Pg		**Pg**		**13 21 35.3**	**-0.4**
BHD	**Baghdad**	**1.16**	**249**	*e*Pg		**Pg**		**13 21 39.0**	**-0.1**
BHD				*e*Sg		**Sn**		**13 21 55.0**	**0.0**
BHD				AML		AML		13 22 16.6	
	comp=E,2μm,0.6s								
IDHR	**Dehrash**	**1.17**	**30**	Pg		**Pb**		**13 21 38.4**	**-0.7**
ILIN	**Lien**	**1.62**	**41**	Pg		**Pg**		**13 21 47.6**	**-0.3**
IKFM	**Kafar-mosalman**	**1.82**	**95**	Pn		**Pb**		**13 21 49.8**	**-0.5**
RAFI	**Al-Rafai**	**2.00**	**169**	*e*Pn		**Pb**		**13 21 52.0**	**-1.3**
RAFI				*e*Sn		**Sb**		**13 22 18.0**	**-0.2**
RAFI				AML		AML		13 22 40.4	
	comp=N,307nm,0.4s								
RAFI				AML		AML		13 22 59.3	
	comp=E,401nm,0.3s								
IKRK	**Kirkuk**	**2.03**	**327**	*e*Pn		**Pn**		**13 21 52.0**	**+1.0**
IKRK				*e*Sn		**Sb**		**13 22 19.0**	**0.0**
IKRK				AML		AML		13 22 46.8	
	comp=E,536nm,0.7s								
IKRK				AML		AML		13 22 52.9	
	comp=N,478nm,0.6s								
IALM	**Almabolaq**	**2.37**	**60**	Pn		**Pb**		**13 21 58.0**	**-1.8**
HSAM	**Samen**	**2.49**	**77**	Pn		**Pn**		**13 21 58.9**	**+1.3**
HAGD	**Aghdareh**	**3.08**	**68**	Pn		**Pn**		**13 22 07.7**	**+1.9**
QAMS	**Qamsar**	**4.77**	**88**	Pn		**Pn**		**13 22 30.2**	**+1.2**

*NEIC **21** 13:21:30.4±1.7, 33.44N±0.07×45.7E±0.1, h10km±1km, mb4.3/13, Error ellipse: s-maj=20.5km s-min=8.9km az=112.0*
*IDC **21** 13:21:31.9±15.0, 33.95N×45.66E, h0km, mb3.8/5, mbtmp3.9/5, Error ellipse: s-maj=315.7km s-min=31.5km az=12.0*
ISC 21 13:21:31.7±2.5, **33.7N**±0.4×**45.6E**±0.1, **h10**km, **n21,** σ0**9**73/21, **mb4.3**/10, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ABKAR	**Akbulak array**	**18.83**	**30**	P		**P**		**13 25 51.9**	**+0.3**
MLR	**Muntele Rosu**	**19.12**	**314**	P		**P**		**13 25 54.7**	**-0.1**
AGG	**Agios Georgios**	**19.45**	**292**	Pn		**Pn**		**13 25 59.6**	**0.0**
AGG				IAmb		IAmb		13 26 23.9	
	comp=Z,14nm,1.5s								
AKASG	**Malin Array Be**	**20.78**	**330**	P		**P**		**13 26 12.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=138,slow=10.0,SNR=3.2								
	comp=Z,0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**29.37**	**45**	P		**P**		**13 27 35.0**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=251,slow=8.9,SNR=3.2								
	comp=Z,1.4nm,0.3s								
MK31	**Makanchi Array**	**30.61**	**54**	P		**P**		**13 27 45.6**	**-0.2**
MKAR	**Makanchi Array**	**30.61**	**54**	P		**P**		**13 27 45.8**	**-0.1**
MKAR	**Makanchi Array**	**30.61**	**54**	P		**P**		**13 27 46.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=250,slow=7.9,SNR=14								
	comp=Z,0.6nm,0.5s								
HFS	**Hagfors**	**33.65**	**331**	P		**P**		**13 28 12.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=134,slow=8.3,SNR=7.7								
	comp=Z,0.5nm,0.3s								
ZAA0	**Zalesovo Array**	**34.18**	**42**	P		**P**		**13 28 16.2**	**-0.8**
ZALV	**Zalesovo Beam**	**34.18**	**42**	P		**P**		**13

ELK	**Elko**	**81.54**	**44**	LR	LR	14 21 40.2	
	comp=Z,68nm,18.8s,baz=265,slow=31						
ILAR	**Eielson Array**	**84.05**	**13**	P	**P**	**13 52 38.3**	**-0.8**
	3.8nm,1.3s,baz=249,slow=4.8,SNR=6.4						
	3.8nm,1.3s						
NEW	**Newport**	**84.19**	**36**	LR	LR	14 25 46.5	
	comp=Z,85nm,18.1s,baz=256,slow=33						
ANMO	**Albuquerque**	**85.24**	**52**	LR	LR	14 23 55.4	
	comp=Z,83nm,18.4s,baz=340,slow=31						
TXAR	**Lajitas Array**	**85.35**	**58**	P	**P**	**13 52 46.9**	**+0.3**
	0.4nm,1.0s,baz=233,slow=6.7,SNR=2.1						
TXAR				LR	LR	14 22 35.7	
	comp=Z,47nm,18.8s,baz=274,slow=30						
	0.4nm,1.0s						
MAW	**Mawson**	**85.57**	**200**	LR	LR	14 25 44.9	
	comp=Z,68nm,20.8s,baz=124,slow=32						
PDAR	**Pinedale Array**	**86.24**	**44**	P	**P**	**13 52 51.8**	**+0.8**
	0.6nm,0.9s,baz=252,slow=5.6,SNR=2.2						
PDAR				LR	LR	14 24 39.5	
	comp=Z,55nm,19.6s,baz=298,slow=31						
	0.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**87.75**	**290**	LR	LR	14 30 07.4	
	comp=Z,19nm,19.6s,baz=115,slow=34						
CMIG	**Matias Romero**	**89.08**	**72**	LR	LR	14 27 11.0	
	comp=Z,36nm,18.2s,baz=214,slow=32						
YKA	**Yellowknife Ar**	**92.72**	**25**	LR	LR	14 31 12.1	
	comp=Z,98nm,18.1s,baz=306,slow=33						
ULM	**Lac du Bonnet**	**97.70**	**40**	LR	LR	14 30 39.7	
	comp=Z,68nm,19.9s,baz=199,slow=31						
MMAI	**Mount Meron Ar**	**144.62**	**305**	PKP	**PKPab**	**13 59 45.4**	**+0.7**
	0.8nm,0.4s,baz=29,slow=3.3,SNR=1.8						

*IDC **21** 13:41:10.6±0.8, 39°.83S×173°.71E, h195km±11km, mb3.6/4, mbtmp4.3/6, Error ellipse: s-maj=18.6km s-min=10.1km az=127.0*
*NOU **21** 13:41:10.4, 39°.86S×173°.78E, h245km, MLv4.2/14, Off W. Coast of N. Island, N.Z.*
*NEIC **21** 13:41:12.3±1.5, 39°.91S±0°.07×173°.8E±0°.1, h228km±8km, mb4.3/6, Error ellipse: s-maj=13.4km s-min=9.5km az=119.0*
*WEL **21** 13:41:14.3±0.6, 40°.5S×173°×17°.4E±°, h206km±4km, M4.0/73, ML3.6/7, MLv4.0/73, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9, confirmed*

ISC 21 13:41:12.4±0.7, 39°.92S±0°.04×173°.79E±0°.05, h227km±5km, n229, σ1s04/247, mb4.2/9, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NMEZ	**Namu Road**	**0.51**	**8**	P	**Pn**	**13 41 43.2**	**+0.6**
PREZ	**Palmer Road**	**0.64**	**27**	P	**Pn**	**13 41 43.5**	**+0.3**
PREZ				S	**S**	**13 42 05.7**	**-1.5**
KHEZ	**Kahui Hut**	**0.65**	**16**	P	**Pn**	**13 41 43.6**	**+0.4**
KHEZ	**Kahui Hut**	**0.65**	**16**	P	**Pn**	**13 41 43.7**	**+0.4**
NBEZ	**Newall Road No**	**0.65**	**6**	P	**Pn**	**13 41 43.6**	**+0.5**
NBEZ				S	**S**	**13 42 05.9**	**-1.3**
LREZ	**Lake Rotokare**	**0.66**	**46**	P	**Pn**	**13 41 43.8**	**+0.6**
LREZ				S	**S**	**13 42 06.4**	**-0.8**
NEZ	**North Egmont**	**0.69**	**20**	P	**Pn**	**13 41 43.9**	**+0.4**
NEZ				S	**S**	**13 42 06.1**	**-1.6**
PKE	**Pukeiti**	**0.74**	**12**	P	**Pn**	**13 41 43.8**	**+0.2**
DREZ	**Durham Road**	**0.80**	**24**	P	**Pn**	**13 41 44.1**	**+0.3**
DREZ				S	**S**	**13 42 06.7**	**-1.6**
DUWZ	**D'Urville Isla**	**0.89**	**173**	P	**Pn**	**13 41 45.2**	**+0.9**
DUWZ				S	**S**	**13 42 08.5**	**-0.8**
MHEZ	**Mangahewa**	**0.94**	**27**	P	**Pn**	**13 41 45.0**	**+0.4**
MHEZ				S	**S**	**13 42 08.8**	**-0.8**
WAZ	**Wanganui**	**0.94**	**80**	P	**Pn**	**13 41 45.6**	**+1.1**
WAZ				S	**S**	**13 42 09.1**	**-0.5**
VRZ	**Vera Road**	**1.09**	**44**	P	**Pn**	**13 41 45.2**	**-0.3**
VRZ				S	**S**	**13 42 09.3**	**-2.0**
OHWZ	**Ohakea**	**1.21**	**104**	P	**Pn**	**13 41 47.2**	**+1.0**
OHWZ				S	**S**	**13 42 12.1**	**-0.5**
KIW	**Kapiti Island**	**1.27**	**138**	P	**Pn**	**13 41 47.2**	**+0.5**
KIW				S	**S**	**13 42 11.7**	**-1.8**
TKNZ	**Takaka Hill**	**1.28**	**209**		**Pn**	**13 41 47.2**	**+0.5**
TKNZ	**Takaka Hill**	**1.28**	**209**	P	**Pn**	**13 41 47.4**	**+0.7**
TKNZ				S	**S**	**13 42 12.1**	**-1.6**
QRZ	**Quartz Range**	**1.32**	**226**		**Pn**	**13 41 47.3**	**+0.3**
QRZ	**Quartz Range**	**1.32**	**226**	P	**Pn**	**13 41 47.3**	**+0.3**
QRZ	**Quartz Range**	**1.32**	**226**	P	**Pn**	**13 41 47.5**	**+0.5**
NNZ	**Nelson**	**1.33**	**193**		**Pn**	**13 41 47.8**	**+0.7**
NNZ	**Nelson**	**1.33**	**193**	P	**Pn**	**13 41 47.9**	**+0.9**
NNZ				S	**S**	**13 42 12.8**	**-1.6**
TCW	**Tory Channel**	**1.34**	**164**		**Pn**	**13 41 47.9**	**+0.8**
TCW	**Tory Channel**	**1.34**	**164**	P	**Pn**	**13 41 48.1**	**+0.9**
PKVZ	**Pokaka**	**1.36**	**63**	P	**Pn**	**13 41 47.4**	**0.0**
PKVZ				S	**S**	**13 42 12.2**	**-2.5**
OGWZ	**Otaki Gorge**	**1.39**	**131**	P	**Pn**	**13 41 48.2**	**+0.7**
OGWZ				S	**S**	**13 42 13.6**	**-1.4**
MTVZ	**Mangateitei**	**1.41**	**68**	P	**Pn**	**13 41 47.9**	**+0.1**
MTVZ				S	**S**	**13 42 12.8**	**-2.6**
TRVZ	**Turoa**	**1.50**	**66**	P	**Pn**	**13 41 48.7**	**-0.1**
TUWZ	**Tuamarina**	**1.52**	**176**		**Pn**	**13 41 49.2**	**+0.7**
TUWZ	**Tuamarina**	**1.52**	**176**	P	**Pn**	**13 41 49.4**	**+0.9**
FWVZ	**Far West T-bar**	**1.52**	**65**	P	**Pn**	**13 41 48.8**	**-0.1**
MAVZ	**Matarangi**	**1.52**	**65**	P	**Pn**	**13 41 48.8**	**-0.2**
WNVZ	**Wahianoa**	**1.52**	**68**	P	**Pn**	**13 41 48.9**	**0.0**
WNVZ				S	**S**	**13 42 15.2**	**-2.0**
WHVZ	**Whangaehu Hut**	**1.53**	**66**	P	**Pn**	**13 41 48.6**	**-0.1**
TWVZ	**Taurewa**	**1.53**	**57**	P	**Pn**	**13 41 48.4**	**-0.4**
COVZ	**Chateau Observ**	**1.54**	**63**	P	**Pn**	**13 41 48.7**	**-0.2**
CAW	**Cannon Point**	**1.54**	**141**	P	**Pn**	**13 41 49.2**	**+0.5**
SNZO	**South Karori**	**1.56**	**154**		**Pn**	**13 41 49.1**	**+0.3**
SNZO	**South Karori**	**1.56**	**154**	P	**Pn**	**13 41 49.1**	**+0.3**
WEL	**Wellington**	**1.56**	**152**	P	**Pn**	**13 41 49.3**	**+0.5**
MRZ	**Mangatainoka R**	**1.56**	**119**		**Pn**	**13 41 49.1**	**+0.2**
MRZ	**Mangatainoka R**	**1.56**	**119**	P	**Pn**	**13 41 49.3**	**+0.4**
TUVZ	**Tukino**	**1.58**	**66**	P	**Pn**	**13 41 49.5**	**+0.2**
NGZ	**Ngauruhoe**	**1.59**	**63**	P	**Pn**	**13 41 49.2**	**-0.2**
POWZ	**Post Office Ro**	**1.59**	**108**	P	**Pn**	**13 41 49.5**	**+0.4**
MOVZ	**Moawhango**	**1.60**	**72**	P	**Pn**	**13 41 49.1**	**-0.3**
SNVZ	**South Ngauruho**	**1.61**	**64**	P	**Pn**	**13 41 49.5**	**0.0**
WTVZ	**West Tongariro**	**1.61**	**61**	P	**Pn**	**13 41 49.3**	**-0.2**
NNVZ	**North Ngauruho**	**1.62**	**62**	P	**Pn**	**13 41 49.5**	**-0.2**
HIZ	**Hauiti**	**1.63**	**31**		**Pn**	**13 41 48.9**	**-0.7**
HIZ	**Hauiti**	**1.63**	**31**	P	**Pn**	**13 41 48.8**	**-0.7**
HIZ	**Hauiti**	**1.63**	**31**	P	**Pn**	**13 41 48.9**	**-0.7**
OTVZ	**Oturere**	**1.64**	**63**	P	**Pn**	**13 41 49.8**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.64**	**127**	P	**Pn**	**13 41 50.0**	**+0.3**
KRVZ	**Karewarewa**	**1.65**	**61**	P	**Pn**	**13 41 49.7**	**-0.2**
MRNZ	**Matariki Terra**	**1.67**	**208**	Pn	**Pn**	**13 41 50.2**	**+0.3**
MRNZ	**Matariki Terra**	**1.67**	**208**	P	**Pn**	**13 41 50.4**	**+0.6**
NTVZ	**North Tongarir**	**1.68**	**61**	P	**Pn**	**13 41 50.0**	**-0.1**
TSZ	**Takapari Road**	**1.68**	**96**	P	**Pn**	**13 41 50.3**	**+0.3**
ETVZ	**East Tongariro**	**1.68**	**63**	P	**Pn**	**13 41 50.1**	**-0.1**
TMVZ	**Te Maari**	**1.69**	**62**	P	**Pn**	**13 41 50.1**	**-0.1**
BHW	**Baring Head**	**1.70**	**151**		**Pn**	**13 41 50.1**	**+0.1**
BHW	**Baring Head**	**1.70**	**151**	P	**Pn**	**13 41 50.3**	**+0.3**
KATZ	**Kakaramea**	**1.75**	**58**	P	**Pn**	**13 41 50.7**	**-0.1**
PRWZ	**Pori Road**	**1.79**	**112**	P	**Pn**	**13 41 51.6**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.80**	**178**		**Pn**	**13 41 51.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.80**	**178**	P	**Pn**	**13 41 51.7**	**+0.8**
MTW	**Mount Morrison**	**1.80**	**134**	P	**Pn**	**13 41 51.4**	**+0.4**
BHHZ	**Black Hill Sta**	**1.81**	**77**	P	**Pn**	**13 41 50.7**	**-0.5**
TIWZ	**Tintock**	**1.82**	**119**	P	**Pn**	**13 41 51.7**	**+0.5**
PNHZ	**Pukenui**	**1.86**	**91**	P	**Pn**	**13 41 51.9**	**+0.3**
CMWZ	**Cape Campbell**	**1.86**	**170**		**Pn**	**13 41 52.2**	**+0.7**
CMWZ	**Cape Campbell**	**1.86**	**170**	P	**Pn**	**13 41 52.5**	**+1.0**
RITZ	**Rihia Road**	**1.86**	**60**	P	**Pn**	**13 41 51.4**	**-0.2**
RATZ	**Rangitukua**	**1.86**	**56**	P	**Pn**	**13 41 51.5**	**-0.2**
DVHZ	**Dannevirke**	**1.87**	**103**	P	**Pn**	**13 41 52.0**	**+0.3**
PAWZ	**Paruwai Farm**	**1.92**	**140**	P	**Pn**	**13 41 52.4**	**+0.3**
WATZ	**Wairara**	**1.94**	**52**	P	**Pn**	**13 41 52.0**	**-0.4**
THZ	**Tophouse**	**1.96**	**200**	Pn	**Pn**	**13 41 53.0**	**+0.5**
THZ	**Tophouse**	**1.96**	**200**	P	**Pn**	**13 41 53.1**	**+0.6**
PLWZ	**Palliser**	**1.99**	**146**	Pn	**Pn**	**13 41 52.8**	**0.0**
PLWZ	**Palliser**	**1.99**	**146**	P	**Pn**	**13 41 53.0**	**+0.2**
TMWZ	**Te Maipa**	**2.00**	**127**	P	**Pn**	**13 41 53.3**	**+0.4**
KRHZ	**Kereru**	**2.01**	**83**	P	**Pn**	**13 41 53.1**	**+0.1**
BFZ	**Birch Farm**	**2.03**	**113**		**Pn**	**13 41 53.4**	**+0.2**
BFZ	**Birch Farm**	**2.03**	**113**	P	**Pn**	**13 41 53.5**	**+0.4**
BFZ	**Birch Farm**	**2.03**	**113**	P	**Pn**	**13 41 53.6**	**+0.4**
WPHZ	**Waipukurau**	**2.04**	**95**	P	**Pn**	**13 41 53.7**	**+0.4**
HATZ	**Hinemaiaia**	**2.06**	**61**	P	**Pn**	**13 41 52.8**	**-0.7**
TRWZ	**Traveller**	**2.07**	**136**	P	**Pn**	**13 41 54.0**	**+0.5**
TLZ	**Tolley Road**	**2.09**	**41**	P	**Pn**	**13 41 52.7**	**-1.2**
CPWZ	**Castlepoint**	**2.09**	**119**	P	**Pn**	**13 41 54.7**	**+1.0**
KWHZ	**Kaweka Forest**	**2.09**	**77**	P	**Pn**	**13 41 54.1**	**+0.2**
WHTZ	**Whakaora**	**2.10**	**54**	P	**Pn**	**13 41 54.0**	**+0.1**
ANWZ	**Angora Road**	**2.13**	**106**	P	**Pn**	**13 41 54.8**	**+0.7**
KUTZ	**Kaahu Road**	**2.13**	**49**	P	**Pn**	**13 41 53.8**	**-0.4**
PRHZ	**Porangahau**	**2.21**	**100**	P	**Pn**	**13 41 55.6**	**+0.6**
BKZ	**Black Stump Fm**	**2.22**	**71**		**Pn**	**13 41 54.6**	**-0.6**
BKZ	**Black Stump Fm**	**2.22**	**71**	P	**Pn**	**13 41 54.6**	**-0.6**
BKZ	**Black Stump Fm**	**2.22**	**71**	P	**Pn**	**13 41 54.8**	**-0.4**
THQ2	**Tauhara North**	**2.23**	**57**	P	**Pn**	**13 41 55.3**	**+0.1**
MCHZ	**McNeill Hill**	**2.30**	**79**	P	**Pn**	**13 41 56.5**	**+0.7**
MRHZ	**Matea Rd**	**2.31**	**63**	P	**Pn**	**13 41 55.0**	**-1.1**
WPRZ	**Whakapapatarin**	**2.31**	**54**	P	**Pn**	**13 41 55.3**	**-0.8**
DSZ	**Denniston Nort**	**2.36**	**219**		**Pn**	**13 41 56.5**	**0.0**
DSZ	**Denniston Nort**	**2.36**	**219**	P	**Pn**	**13 41 56.7**	**+0.2**
PXZ	**Pawanui**	**2.37**	**94**	P	**Pn**	**13 41 57.0**	**+0.5**
KAHZ	**Kahuranaki**	**2.38**	**88**	P	**Pn**	**13 41 57.3**	**+0.6**
GRRZ	**Galatos Road**	**2.39**	**50**	P	**Pn**	**13 41 56.6**	**-0.2**
ALRZ	**Allen Road**	**2.40**	**57**	P	**Pn**	**13 41 56.0**	**-1.0**
HRRZ	**Handcock Road**	**2.47**	**53**	P	**Pn**	**13 41 57.0**	**-0.7**
PRRZ	**Plateau Road**	**2.47**	**56**	P	**Pn**	**13 41 56.6**	**-1.1**
NMHZ	**Naumai**	**2.48**	**72**	P	**Pn**	**13 41 58.2**	**+0.4**
HSRZ	**Hossack Road**	**2.50**	**51**	P	**Pn**	**13 41 57.2**	**-0.7**
KHZ	**Kahutara**	**2.50**	**184**	Pn	**Pn**	**13 41 58.0**	**+0.1**
KHZ	**Kahutara**	**2.50**	**184**	P	**Pn**	**13 41 57.9**	**+0.1**
KHZ	**Kahutara**	**2.50**	**184**	P	**Pn**	**13 41 58.1**	**+0.2**
CKHZ	**Cape Kidnapper**	**2.55**	**85**	P	**Pn**	**13 41 59.1**	**+0.6**
UTU	**Utuhina**	**2.56**	**48**	P	**Pn**	**13 41 58.2**	**-0.4**
TOZ	**Tahuroa Road**	**2.56**	**32**	Pn	**Pn**	**13 41 57.2**	**-1.4**
TOZ	**Tahuroa Road**	**2.56**	**32**	P	**Pn**	**13 41 57.6**	**-1.0**
ARHZ	**Aropaoanui**	**2.56**	**76**	P	**Pn**	**13 41 58.9**	**+0.3**
MTHZ	**Maungataniwha**	**2.60**	**67**	P	**Pn**	**13 41 58.4**	**-0.7**
HLRZ	**Highlands Stat**	**2.60**	**51**	P	**Pn**	**13 41 59.0**	**-0.1**
NGRZ	**Ngongotaha**	**2.61**	**47**	P	**Pn**	**13 41 58.6**	**-0.6**
RRRZ	**Republican Roa**	**2.64**	**54**	P	**Pn**	**13 41 58.3**	**-1.2**
KARZ	**Kaharu**	**2.69**	**46**	P	**Pn**	**13 41 59.5**	**-0.6**
TARZ	**Mount Tarawera**	**2.70**	**52**	P	**Pn**	**13 41 59.4**	**-0.9**
OMRZ	**Omania**	**2.71**	**49**	P	**Pn**	**13 41 59.3**	**-0.9**
MUGZ	**Murupara**	**2.73**	**59**	P	**Pn**	**13 41 59.0**	**-1.4**
RAHZ	**Arahi**	**2.75**	**70**	P	**Pn**	**13 42 00.4**	**-0.2**
LIRZ	**Lichensteins R**	**2.79**	**47**	P	**Pn**	**13 42 00.6**	**-0.5**
WHHZ	**Waihua**	**2.80**	**74**	P	**Pn**	**13 42 01.2**	**0.0**
RTZ	**Ruatahuna**	**2.80**	**63**	Pn	**Pn**	**13 41 59.9**	**-1.4**
RTZ	**Ruatahuna**	**2.80**	**63**	P	**Pn**	**13 42 00.1**	**-1.2**
TGRZ	**Tauranga**	**2.92**	**42**	P	**Pn**	**13 42 01.8**	**-0.8**
AWAZ	**Awhitu Peninsu**	**2.93**	**14**	P	**Pn**	**13 42 02.4**	**-0.3**
SNGZ	**Shannon Statio**	**2.98**	**69**	P	**Pn**	**13 42 02.7**	**-0.6**
OPRZ	**Ohinepanea**	**2.99**	**47**	P	**Pn**	**13 42 02.1**	**-1.2**
MKAZ	**Moumakai**	**3.01**	**21**	P	**Pn**	**13 42 03.0**	**-0.5**
WTAZ	**Waiatarua**	**3.04**	**12**	P	**Pn**	**13 42 03.9**	**-0.1**
URZ	**Urewera**	**3.07**	**58**	P	**Pn**	**13 42 02.4**	**-1.9**
URZ	**Urewera**	**3.07**	**58**	P	**Pn**	**13 42 02.6**	**-1.6**
	183nm,0.3s,baz=329,slow=6.9,SNR=673						
URZ					S	**S**	**13 42 39.9**	**-5.0**
	172nm,0.3s,baz=177,slow=18,SNR=26						
URZ	**Urewera**	**3.07**	**58**	P	**Pn**	**13 42 02.4**	**-1.9**
LTZ	**Lake Taylor**	**3.08**	**201**	Pn	**Pn**	**13 42 04.0**	**-0.3**
LTZ	**Lake Taylor**	**3.08**	**201**	P	**Pn**	**13 42 04.3**	**0.0**
ETAZ	**East Tamaki Re**	**3.09**	**17**	P	**Pn**	**13 42 04.1**	**-0.4**
GVZ	**Greta Valley S**	**3.10**	**190**		**Pn**	**13 42 04.2**	**-0.3**
GVZ	**Greta Valley S**	**3.10**	**190**	P	**Pn**	**13 42 04.3**	**-0.2**
EPAZ	**Eden Park BICE**	**3.13**	**14**	P	**Pn**	**13 42 04.7**	**-0.2**
KNZ	**Kokohu**	**3.14**	**75**	P	**Pn**	**13 42 04.5**	**-0.5**
HBAZ	**Herne Bay Bore**	**3.15**	**14**	P	**Pn**	**13 42 04.8**	**-0.3**
RAGZ	**Rawiri**	**3.16**	**64**	P	**Pn**	**13 42 04.3**	**-1.1**
RVAZ	**Riverhead Bore**	**3.20**	**11**	P	**Pn**	**13 42 05.4**	**-0.3**
MBAZ	**Motutaxu North**	**3.26**	**16**	P	**Pn**	**13 42 06.1**	**-0.4**
MHGZ	**Mahia Peninsul**	**3.28**	**78**	P	**Pn**	**13 42 06.6**	**0.0**
WIAZ	**Waiheke Island**	**3.29**	**19**	P	**Pn**	**13 42 06.6**	**-0.2**
INZ	**Inchbonnie**	**3.31**	**211**	Pn	**Pn**	**13 42 06.4**	**-0.5**
INZ	**Inchbonnie**	**3.31**	**211**	P	**Pn**	**13 42 06.5**	**-0.4**
MWZ	**Matawai**	**3.31**	**63**	P	**Pn**	**13 42 05.6**	**-1.5**
RIGZ	**Rimuhau**	**3.31**	**70**	P	**Pn**	**13 42 06.4**	**-0.6**
PRGZ	**Paritu Road**	**3.33**	**74**	P	**Pn**	**13 42 06.9**	**-0.3**
AMCZ	**Amberley**	**3.37**	**194**		**Pn**	**13 42 07.0**	**-0.5**
AMCZ	**Amberley**	**3.37**	**194**	P	**Pn**	**13 42 07.2**	**-0.4**
ABAZ	**Army Bay**	**3.41**	**14**	P	**Pn**	**13 42 08.1**	**-0.1**
TKGZ	**Te Karaka**	**3.49**	**66**	P	**Pn**	**13 42 08.1**	**-0.9**
KUZ	**Kuaotunu**	**3.51**	**26**	P	**Pn**	**13 42 08.6**	**-0.7**
KUZ	**Kuaotunu**	**3.51**	**26**	P	**Pn**	**13 42 08.7**	**-0.7**
RUGZ	**Raukumara Rang**	**3.61**	**59**	P	**Pn**	**13 42 08.1**	**-2.5**
OXZ	**Oxford**	**3.65**	**200**	Pn	**Pn**	**13 42 10.0**	**-0.8**
OXZ	**Oxford**	**3.65**	**200**	P	**Pn**	**13 42 10.1**	**-0.7**
TWGZ	**Tauwhareparae**	**3.70**	**69**	P	**Pn**	**13 42 08.6**	**-1.0**
CNGZ	**Carnagh Statio**	**3.72**	**59**	P	**Pn**	**13 42 11.2**	**-0.6**
HAZ	**Te Kaha**	**3.79**	**57**	P	**Pn**	**13 42 10.1**	**-2.6**
MQZ	**McQueen's Vall**	**3.88**	**192**		**Pn**	**13 42 12.0**	**-1.6**
MQZ	**McQueen's Vall**	**3.88**	**192**	P	**Pn**	**13 42 12.0**	**-1.6**
GRZ	**Great Barrier**	**3.89**	**20**	P	**Pn**	**13 42 13.4**	**-0.5**
WVZ	**Waitaha Valley**	**3.90**	**215**	P	**Pn**	**13 42 13.0**	**-0.8**
PKGZ	**Pakihiroa**	**3.91**	**60**	P	**Pn**	**13 42 12.5**	**-1.6**
PUZ	**Puketiti**	**3.94**	**64**	P	**Pn**	**13 42 12.8**	**-1.7**
MHCZ	**Mount Hutt**	**3.97**	**204**	P	**Pn**	**13 42 13.9**	**-0.9**
RACZ	**Rakaia**	**4.00**	**197**	P	**Pn**	**13 42 14.4**	**-0.6**
AKCZ	**Akaroa Harbour**	**4.00**	**189**	P	**Pn**	**13 42 14.0**	**-1.1**
WMGZ	**Waiomatatini S**	**4.18**	**61**	P	**Pn**	**13 42 15.4**	**-1.9**
MXZ	**Matakaoa Point**	**4.25**	**58**		**Pn**	**13 42 16.2**	**-1.9**
MXZ	**Matakaoa Point**	**4.25**	**58**	P	**Pn**	**13 42 16.1**	**-1.9**
MXZ	**Matakaoa Point**	**4.25**	**58**	P	**Pn**	**13 42 16.3**	**-1.9**
WACZ	**Wakanui South**	**4.28**	**199**	P	**Pn**	**13 42 17.7**	**-0.7**
RPZ	**Rata Peaks**	**4.31**	**207**	Pn	**Pn**	**13 42 17.8**	**-1.0**
RPZ	**Rata Peaks**	**4.31**	**207**	P	**Pn**	**13 42 17.9**	**-0.9**
RPZ	**Rata Peaks**	**4.31**	**207**	P	**Pn**	**13 42 18.1**	**-0.7**
	65nm,0.3s,baz=224,slow=2.0,SNR=258						
RPZ					S	**S**	**13 43 08.3**	**-3.0**
	67nm,0.3s,baz=36,slow=16,SNR=18						
RPZ	**Rata Peaks**	**4.31**	**207**	P	**Pn**	**13 42 17.9**	**-0.9**
ARCZ	**Arundel**	**4.47**	**205**	P	**Pn**	**13 42 19.8**	**-1.1**
FOZ	**Fox Glacier**	**4.68**	**218**	Pn	**Pn**	**13 42 21.7**	**-1.5**
FOZ	**Fox Glacier**	**4.68**	**218**	P	**Pn**	**13 42 22.0**	**-1.3**
TMZ	**Timaru**	**4.92**	**204**	P	**Pn**	**13 42 25.7**	**-0.7**
LBZ	**Lake Benmore**	**5.21**	**210**	Pn	**Pn**	**13 42 28.6**	**-1.3**
LBZ	**Lake Benmore**	**5.21**	**210**	P	**Pn**	**13 42 28.7**	**-1.3**
JCZ	**Jackson Bay**	**5.58**	**220**	P	**Pn**	**13 42 33.1**	**-1.6**
JCZ	**Jackson Bay**	**5.58**	**220**	P	**Pn**	**13 42 33.1**	**-1.6**
ODZ	**Otahua Downs**	**5.62**	**203**	Pn	**Pn**	**13 42 34.4**	**-0.8**
ODZ	**Otahua Downs**	**5.62**	**203**	P	**Pn**	**13 42 34.6**	**-0.6**
ODZ	**Otahua Downs**	**5.62**	**203**	P	**Pn**	**13 42 34.5**	**-0.6**
WKZ	**Wanaka**	**6.04**	**214**	Pn	**Pn**	**13 42 38.2**	**-2.3**
WKZ	**Wanaka**	**6.04**	**214**	P	**Pn**	**13 42 38.2**	**-2.3**
EAZ	**Earnscleugh**	**6.25**	**210**	P	**Pn**	**13 42 40.9**	**-2.3**
HHSZ	**Highcliff Hill**	**6.41**	**200**	P	**Pn**	**13 42 45.7**	**+0.7**
MSZ	**Milford Sound**	**6.44**	**221**	P	**Pn**	**13 42 43.7**	**-1.7**
TUZ	**Tuapeka**	**6.76**	**205**	P	**Pn**	**13 42 48.6**	**-0.9**
MLZ	**Mavora Lakes**	**6.86**	**216**	Pn	**Pn**	**13 42 49.2**	**-1.8**
MLZ	**Mavora Lakes**	**6.86**	**216**	P	**Pn**	**13 42 49.1**	**-1.8**
WHZ	**Wether Hill Ro**	**7.35**	**214**	Pn	**Pn**	**13 42 54.8**	**-2.3**
WHZ	**Wether Hill Ro**	**7.35**	**214**	P	**Pn**	**13 42 54.7**	**-2.5**
DCZ	**Deep Cove**	**7.39**	**219**	Pn	**Pn**	**13 42 55.4**	**-2.2**
SYZ	**Scrubby Hill**	**7.43**	**206**	P	**Pn**	**13 42 57.4**	**-0.7**
SYZ	**Scrubby Hill**	**7.43**	**206**	P	**Pn**	**13 42 57.5**	**-0.7**
APZ	**The Paps**	**8.10**	**209**	P	**Pn**	**13 43 04.6**	**-2.1**
ASAR	**Alice Springs**	**37.23**	**284**	P	**P**	**13 48 02.5**	**+0.2**
	0.8nm,0.5s,baz=124,slow=6.8,SNR=41						
	0.8nm,0.5s						
VNDA	**Vanda**	**38.05**	**184**	P	**P**	**13 48 09.8**	**+1.4**
	7.0nm,1.2s,baz=29,slow=5.7,SNR=2.8						
	7.0nm,1.2s						
WB2	**Warramunga Arr**	**39.15**	**289**	P	**P**	**13 48 18.4**	**+0.1**
WB2				IAmb	IAmb	13 48 44.1	
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**39.16**	**289**	P	**P**	**13 48 18.6**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=125,slow=8.2,SNR=11						
	comp=Z,0.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**46.73**	**283**	P	**P**	**13 49 19.1**	**+0.2**
QSPA	**South Pole Qui**	**50.21**	**180**	P	**P**	**13 49 46.8**	**+1.8**
QSPA				IAmb	IAmb	13 49 47.4	
	comp=Z,4.1nm,0.7s						
QSPA	**South Pole Qui**	**50.21**	**180**	P	**P**	**13 49 47.0**	**+2.0**
	comp=Z,3.3nm,0.5s,baz=58,slow=0.7,SNR=64						
	comp=Z,3.3nm,0.5s						
MMRI	**Maumere**	**55.37**	**290**	P	**P**	**13 50 22.4**	**-0.8**
BELA	**Belgrano 2**	**61.20**	**173**	P	**P**	**13 51 03.1**	**+0.5**
BELA				IAmb	IAmb	13 51 32.6	
	comp=Z,14nm,1.2s						
SNAA	**Sanae**	**68.69**	**181**	P	**P**	**13 51 50.1**	**-0.7**
SNAA				IAmb	IAmb	13 52 13.2	
	comp=Z,10nm,1.3s						
PZH	**PanZhiHua**	**94.08**	**301**	P	**P**	**13 54 06.6**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PZH				pmax	pmax		
	comp=Z,150nm,7.5s						
HHC	**Hu-ho-hao-te**	**98.31**	**317**	*e*P	Pdif	13 54 25.3	+1.4
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						

*TIR **21** 13:42:17.5, 41°.12N×20°.87E, h6km±1km, Md2.5, Ml2.1*
*SKO **21** 13:42:17.4, 41°.08N×20°.85E, h12km, ML2.2*
*BEO **21** 13:42:18.4±0.5, 41°.09N×20°.85E, h2km±4km, ML1.9/6*

ISC 21 13:42:17.6±0.8, 41°.11N±0°.02×20°.86E±0°.02, h6km±5km, n23, σ0s87/41, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.04**	**277**	*e*Pg	**Pg**	**13 42 19.0**	**-0.1**
OHR				*e*Sg	**Sg**	**13 42 20.2**	**0.0**
OHR	**Ohrid**	**0.04**	**277**	*i*Pg	**Pg**	**13 42 19.3**	**+0.2**
OHR				*i* Sg	**Sg**	**13 42 20.3**	**0.0**
OHR				*e*Lg	Lg	13 42 20.

mb3.6/5,mbtmp4.5/6,Error ellipse: s-maj=90.1km s-min=28.7km az=7.0
*NEIC **21** 14:03:15.1±1.1,23°.5S±0°.1×179°.87W±0°.09,h489km±10km, mb4.4/29,Error ellipse: s-maj=20.2km s-min=7.8km az=151.0*

ISC 21 14:03:15.6±0.7,**23°.70S**±0°.09×**179°.9W**±0°.1,**h500**km,**n37,** σ1°.9**36**/37,**mb4.3**/17,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOZ	**Tahuroa Road**	**14.54**	**195**	P	**P**	**14 06 21.7**	**+1.0**
URZ	**Urewera**	**14.74**	**189**	P	**P**	**14 06 24.8**	**+1.9**
	4.8nm,0.5s,baz=150,slow=4.3,SNR=7.6						
URZ				S	**S**	**14 08 52.3**	**-5.1**
	1.9nm,0.6s,baz=218,slow=20,SNR=1.4						
RTZ	**Ruatahuna**	**15.11**	**189**	P	**P**	**14 06 28.2**	**+1.3**
RTZ				IAmb	IAmb	14 06 37.6	
	comp=Z,9.9nm,1.1s						
BFZ	**Birch Farm**	**17.24**	**190**	P	**P**	**14 06 49.4**	**+0.6**
BFZ				IAmb	IAmb	14 07 32.6	
	comp=Z,15nm,1.1s						
QRZ	**Quartz Range**	**18.23**	**199**	P	**P**	**14 06 59.6**	**+1.7**
NNZ	**Nelson**	**18.36**	**196**	P	**P**	**14 07 00.7**	**+1.6**
INZ	**Inchbonnie**	**20.29**	**199**	P	**P**	**14 07 18.4**	**+1.7**
INZ				IAmb	IAmb	14 07 29.5	
	comp=Z,12nm,1.2s						
ARMA	**Armidale**	**26.20**	**249**	P	**P**	**14 08 10.3**	**+0.5**
ARMA				IAmb	IAmb	14 08 44.5	
	comp=Z,8.5nm,1.2s						
EIDS	**Eidsvold**	**26.45**	**260**	P	**P**	**14 08 12.8**	**+0.8**
EIDS				IAmb	IAmb	14 08 31.4	
	comp=Z,11nm,1.4s						
CTA	**Charters Tower**	**31.59**	**270**	P	**P**	**14 08 57.9**	**+1.0**
	comp=Z,15nm,0.3s,baz=95,slow=11,SNR=64						
	comp=Z,15nm,0.3s						
TOO	**Toolangi**	**32.65**	**237**	P	**P**	**14 09 07.0**	**+1.3**
TOO				IAmb	IAmb	14 09 25.6	
	comp=Z,10nm,1.2s						
XMAS	**Kiritimati**	**33.64**	**44**	P	**P**	**14 09 11.9**	**-2.3**
PMG	**Port Moresby**	**34.53**	**289**	P	**P**	**14 09 21.8**	**0.0**
PMG				IAmb	IAmb	14 09 22.9	
	comp=Z,7.6nm,0.8s						
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**	**14 09 25.3**	**+0.6**
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**	**14 09 25.8**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=98,slow=10,SNR=3.9						
	comp=Z,1.2nm,0.6s						
COEN	**Coen**	**36.19**	**279**	P	**P**	**14 09 36.2**	**+0.5**
COEN				IAmb	IAmb	14 10 00.9	
	comp=Z,15nm,1.2s						
BBOO	**Buckleboo**	**39.62**	**247**	P	**P**	**14 10 03.2**	**-0.3**
BBOO				IAmb	IAmb	14 10 19.9	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**42.17**	**260**	P	**P**	**14 10 23.9**	**-0.1**
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**14 10 23.7**	**-0.4**
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**14 10 24.3**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=95,slow=7.4,SNR=109						
	comp=Z,3.2nm,0.5s						
WR0	**Warramunga Arr**	**42.34**	**266**	P	**P**	**14 10 24.6**	**-0.7**
WR0				IAmb	IAmb	14 10 55.8	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**42.52**	**266**	P	**P**	**14 10 26.1**	**-0.7**
WB2				IAmb	IAmb	14 10 26.7	
	comp=Z,7.2nm,0.5s						
WRAB	**Tennant Creek**	**42.52**	**266**	P	**P**	**14 10 25.9**	**-0.9**
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**14 10 26.2**	**-0.7**
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**14 10 26.4**	**-0.5**
	comp=Z,5.7nm,0.5s,baz=94,slow=8.3,SNR=158						
	comp=Z,5.7nm,0.5s						
FORT	**Forrest**	**46.48**	**249**	P	**P**	**14 10 56.6**	**-0.6**
FORT				IAmb	IAmb	14 11 39.5	
	comp=Z,28nm,1.2s						
MTN	**Manton Dam**	**47.55**	**274**	P	**P**	**14 11 04.5**	**-1.0**
KNRA	**Kununurra**	**48.80**	**270**	P	**P**	**14 11 14.6**	**-0.3**
KNRA				IAmb	IAmb	14 11 16.3	
	comp=Z,47nm,1.4s						
FAKI	**Fak Fak**	**50.63**	**287**	P	**P**	**14 11 27.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.95**	**265**	P	**P**	**14 11 30.8**	**+0.1**
MORW	**Morawa**	**57.05**	**250**	P	**P**	**14 12 13.2**	**-0.5**
MORW				IAmb	IAmb	14 12 30.4	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**66.38**	**180**	P	**P**	**14 13 15.9**	**+1.7**
KKM	**Kota Kinabalu**	**68.95**	**287**	P	**P**	**14 13 30.4**	**-0.4**
KKM				IAmb	IAmb	14 14 02.5	
	comp=Z,12nm,1.2s						
PET	**Petropavlovsk**	**78.65**	**347**	P	**P**	**14 14 24.4**	**-0.5**
KVN	**Kaiserville**	**85.03**	**44**	P	**P**	**14 14 58.8**	**+0.6**
TXAR	**Lajitas Array**	**90.23**	**58**	P	**P**	**14 15 24.4**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=238,slow=5.2,SNR=7.5						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**142.37**	**349**	PKhKP	PKPpre	14 21 46.0	
	comp=Z,1.9nm,1.0s,baz=60,slow=3.5,SNR=6.1						

*ISK **21** 14:13:26.2,34°.40N×33°.13E,h21km, ML2.4/15*
*NIC **21** 14:13:26.7,34°.38N×33°.20E,h28km, MI2.2/7*
*GII **21** 14:13:26.7±0.5,34°.27N×33°.21E,h20km,Md2.1/4, Mws2.3/8,confirmed*
*GRAL **21** 14:13:26.7±0.8,34°.09N×33°.77E,h203km±62km,MD3.4*

ISC 21 14:13:25.9±1.2,**34°.33N**±0°.03×**33°.20E**±0°.03,**h26**km±13km, **n62,** σ0°.**70**/75,**1C,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASGA	**Asgata**	**0.46**	**5**	P	**Pb**	**14 13 35.9**	**+0.3**
ASGA				S	**Sn**	**14 13 43.0**	**-1.3**
ASGA				AML	AML	14 13 43.3	
	2.5nm,0.3s						
ASGA				AML	AML	14 13 43.5	
	2.1nm,0.1s						
CSS	**Mathiatis**	**0.64**	**10**	Pg	**Pb**	**14 13 38.3**	**-0.3**
CSS				Sg	**Sb**	**14 13 47.2**	**-0.1**
CSS	**Mathiatis**	**0.64**	**10**	P	**Pb**	**14 13 38.4**	**-0.2**
CSS				S	**Sn**	**14 13 48.5**	**-0.3**
CSS				AML	AML	14 13 49.3	
	0.4nm,0.4s						
CSS				AML	AML	14 13 51.4	
	0.4nm,0.2s						
CSS	**Mathiatis**	**0.64**	**10**	P	**Pb**	**14 13 38.7**	**+0.1**
TROD	**Troodos**	**0.68**	**336**	P	**Pb**	**14 13 39.2**	**-0.2**
TROD				S	**Sn**	**14 13 49.2**	**-0.8**
TROD				AML	AML	14 13 53.4	
	0.3nm,0.2s						
TROD				AML	AML	14 13 56.7	
	0.3nm,0.5s						
NATA	**Nata**	**0.69**	**311**	P	**Pn**	**14 13 40.1**	**0.0**
NATA				S	**Sn**	**14 13 50.4**	**+0.4**
NATA				AML	AML	14 13 52.9	
	1.3nm,0.2s						
NATA				AML	AML	14 13 53.1	
	1.6nm,0.3s						
AKIN	**Akıncılar- Kıb**	**0.72**	**18**	Pg	**Pb**	**14 13 39.9**	**0.0**
MVOU	**Mavrovouni**	**0.78**	**27**	P	**Pb**	**14 13 40.6**	**-0.2**
MVOU				S	**Sn**	**14 13 53.0**	**+1.0**
MVOU				AML	AML	14 13 56.3	
	0.2nm,0.3s						
MVOU				AML	AML	14 13 56.6	
	0.2nm,0.4s						
LEF	**Lefka**	**0.83**	**342**	Pg	**Pb**	**14 13 41.4**	**-0.4**
LEF				Sg	**Sb**	**14 13 52.4**	**-0.2**
PARAL	**Paralimni**	**0.96**	**46**	P	**Pn**	**14 13 43.6**	**-0.2**
ALFC	**Alefka**	**0.96**	**329**	*iP*	**Pn**	**14 13 43.4**	**-0.5**
ALFC				S	**Sn**	**14 13 56.6**	**-0.2**
ALFC				AML	AML	14 13 58.4	
	0.7nm,0.3s						
ALFC				AML	AML	14 13 58.6	
	0.9nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**0.99**	**349**	Pg	**Pb**	**14 13 44.3**	**-0.1**
AKDN				Sg	**Sn**	**14 13 57.2**	**-0.1**
LFK	**Lefkose**	**0.99**	**16**	Pg	**Pb**	**14 13 44.6**	**+0.1**
AKMS	**Akamas**	**0.99**	**314**	P	**Pn**	**14 13 44.0**	**-0.3**
AKMS				S	**Sn**	**14 13 57.3**	**-0.2**
AKMS				AML	AML	14 14 04.2	
	0.3nm,0.4s						
AKMS				AML	AML	14 14 04.6	
	0.3nm,0.4s						
OSC2	**CSNet OBS 4**	**1.47**	**212**	P	**Pn**	**14 13 49.3**	**-1.5**
OSC2				S	**Sn**	**14 14 11.5**	**+2.4**
AKK1	**Akkuyu-Mersin**	**1.83**	**9**	Pn	**Pn**	**14 13 56.5**	**+0.7**
AKKU	**Akkuyu-Mersin**	**1.85**	**9**	Pn	**Pn**	**14 13 56.7**	**+0.7**
TISA	**Tisan-Mersin**	**1.87**	**12**	Pn	**Pn**	**14 13 56.9**	**+0.6**
YESI	**Yesilovacik-Me**	**1.90**	**11**	Pn	**Pn**	**14 13 57.5**	**+0.8**
KARG	**Kargicak-Mersi**	**1.92**	**12**	Pn	**Pn**	**14 13 57.8**	**+0.8**
IKL	**Isikli**	**1.95**	**12**	Pn	**Pn**	**14 13 58.4**	**+1.0**
GAZI	**Gazipasa**	**2.04**	**339**	Pn	**Pn**	**14 13 58.6**	**0.0**
HNTI	**Hanita**	**2.06**	**126**	S	**Sn**	**14 14 23.3**	**-0.4**
DQRL	**Deir Qamar**	**2.06**	**107**	*eP*	**Pn**	**14 13 59.5**	**+0.5**
BHL	**Bhannes**	**2.08**	**101**	*eP*	**Pn**	**14 14 00.6**	**+1.3**
SILI	**Silifke-Mersin**	**2.12**	**16**	Pn	**Pn**	**14 14 00.7**	**+1.0**
KEBE	**Keben-Mersin**	**2.16**	**11**	Pn	**Pn**	**14 14 01.4**	**+1.1**
MMA0B	**Mount Meron ar**	**2.25**	**125**	S	**Sn**	**14 14 28.5**	**-0.2**
MMA0B	**Mount Meron ar**	**2.25**	**125**	P	**Pn**	**14 14 02.2**	**+0.6**
OFRI	**`Ofer**	**2.26**	**138**	S	**Sn**	**14 14 28.4**	**-0.4**
OFRI	**`Ofer**	**2.26**	**138**	P	**Pn**	**14 14 01.6**	**-0.1**
HWQ	**Hawqa**	**2.27**	**90**	*eP*	**Pn**	**14 14 02.1**	**+0.2**
ZAHL	**Zahle**	**2.28**	**101**	*eP*	**Pn**	**14 14 02.5**	**+0.5**
GEM	**Giv'at Ha'Em**	**2.33**	**118**	S	**Sn**	**14 14 30.3**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.33**	**118**	P	**Pn**	**14 14 03.4**	**+0.7**
RCY	**Rachaya**	**2.34**	**110**	*eP*	**Pn**	**14 14 02.5**	**-0.4**
RCY				*eS*	**Sn**	**14 14 28.7**	**-2.2**
BEIL	**Beino**	**2.48**	**84**	*eP*	**Pn**	**14 14 04.3**	**-0.3**
BEIL				*eS*	**Sn**	**14 14 32.8**	**-1.3**
KSHT	**Keshet**	**2.56**	**121**	S	**Sn**	**14 14 36.1**	**0.0**
SLTI	**Sal'it**	**2.59**	**143**	S	**Sn**	**14 14 35.9**	**-0.9**
SLTI	**Sal'it**	**2.59**	**143**	P	**Pn**	**14 14 06.1**	**-0.1**
MMLI	**Mount Malkishu**	**2.65**	**135**	S	**Sn**	**14 14 38.3**	**+0.1**
MMLI	**Mount Malkishu**	**2.65**	**135**	P	**Pn**	**14 14 06.5**	**-0.5**
HDMB	**Hadim**	**2.70**	**348**	Pn	**Pn**	**14 14 08.4**	**+0.6**
SALP	**Salfit**	**2.80**	**143**	S	**Sn**	**14 14 41.7**	**-0.5**
HMDT	**Nahal Hemdat**	**2.84**	**136**	S	**Sn**	**14 14 43.6**	**+0.6**
HMDT	**Nahal Hemdat**	**2.84**	**136**	P	**Pn**	**14 14 09.8**	**+0.1**
DSI	**Dead Sea**	**3.30**	**146**	P	**Pn**	**14 14 16.6**	**+0.6**
DSI	**Dead Sea**	**3.30**	**146**	S	**Sn**	**14 14 54.5**	**+0.1**
YTIR	**Yattir**	**3.37**	**151**	S	**Sn**	**14 14 56.0**	**-0.2**
YTIR	**Yattir**	**3.37**	**151**	P	**Pn**	**14 14 16.7**	**-0.3**
MDBI	**Mazsada**	**3.51**	**148**	S	**Sn**	**14 14 59.7**	**+0.2**
MSBI	**Mazada**	**3.51**	**148**	S	**Sn**	**14 14 58.9**	**-0.6**
KZIT	**Kziot**	**3.56**	**163**	S	**Sn**	**14 15 00.1**	**-0.6**
PRNI	**Paran**	**4.25**	**158**	S	**Sn**	**14 15 17.9**	**+0.2**
PRNI	**Paran**	**4.25**	**158**	P	**Pn**	**14 14 29.7**	**+0.7**
KRMI	**Paran Flat**	**4.39**	**162**	S	**Sn**	**14 15 21.5**	**+0.2**
HRFI	**Mount Harif**	**4.55**	**159**	S	**Sn**	**14 15 25.5**	**+0.3**
HRFI	**Mount Harif**	**4.55**	**159**	P	**Pn**	**14 14 34.3**	**+1.1**
MBRI	**Mt Berech**	**4.75**	**162**	P	**Pn**	**14 14 36.8**	**+0.9**
MBRI	**Mt Berech**	**4.75**	**162**	S	**Sn**	**14 15 30.3**	**+0.2**
EIL2	**Elat**	**4.87**	**162**	P	**Pn**	**14 14 37.6**	**0.0**
EIL	**Elat**	**4.88**	**162**	S	**Sn**	**14 15 32.8**	**-0.5**

*CATAC **21** 14:14:51.4±0.2,9°.30N×83°.67W,h16km±2km,ML3.3*
*UCR **21** 14:14:51.9±1.1,9°.28N×83°.68W,h32km±1km,MW3.6*

ISC 21 14:14:51.9±0.9,**9°.28N**±0°.03×**83°.68W**±0°.03,**h32**km±5km, **n79,** σ0°.**74**/102,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZELE	**Perez Zeledon**	**0.10**	**345**	*eP*	**Pb**	**14 14 57.4**	**-0.2**
ZELE				*eS*	**Sb**	**14 15 01.7**	**+0.2**
PEZE	**Perez Zeledon,**	**0.11**	**2**	*eP*	**Pb**	**14 14 57.3**	**-0.4**
PEZE				*eS*	**Sb**	**14 15 01.5**	**-0.2**
PEZE	**Perez Zeledon,**	**0.11**	**2**	*iP*	**Pb**	**14 14 57.3**	**-0.4**
PEZE				*iS*	**Sb**	**14 15 01.5**	**-0.2**
OCHAL	**Ojochal**	**0.18**	**169**	*iP*	**Pb**	**14 14 57.8**	**-0.4**
OCHAL				*iS*	**Sb**	**14 15 02.5**	**0.0**
OCHAL				IAML		14 15 02.9	
	comp=Z,200nm,1.0s						
BUS1	**Rivas**	**0.28**	**347**	*eP*	**Pb**	**14 14 59.3**	**-0.5**
CDM	**Cerro de Muert**	**0.29**	**344**	*eP*	**Pb**	**14 14 59.3**	**-0.6**
CDM				*eS*	**Sn**	**14 15 05.2**	**-0.7**
CDM	**Cerro de Muert**	**0.29**	**344**	*iP*	**Pb**	**14 14 59.2**	**-0.6**
CDM				*iS*	**Sn**	**14 15 05.1**	**-0.7**
CDM				IAML		14 15 05.7	
	comp=Z,3μm,1.0s						
SRBA	**San Rafael, Bu**	**0.32**	**98**	*eP*	**Pb**	**14 14 59.4**	**-0.5**
SRBA				*eS*	**Sb**	**14 15 05.2**	**-0.2**
SRBA	**San Rafael, Bu**	**0.32**	**98**	*iP*	**Pb**	**14 14 59.4**	**-0.5**
SRBA				*iS*	**Sb**	**14 15 04.9**	**-0.5**
SRBA				IAML		14 15 05.6	
	comp=Z,6μm,1.0s						
EDPN	**Palmar Norte**	**0.38**	**145**	*eP*	**Pb**	**14 15 00.6**	**-0.1**
EDPN				*eS*	**Sn**	**14 15 07.7**	**+0.2**
EDBA	**Buenos Aires**	**0.42**	**106**	*eP*	**Pb**	**14 15 00.3**	**-1.0**
DRK0	**Durika**	**0.43**	**92**	*eP*	**Pb**	**14 15 01.0**	**-0.5**
LLNJ	**Naranjito**	**0.46**	**295**	*eP*	**Pb**	**14 15 01.2**	**-0.6**
RAZU	**San Marcos de**	**0.51**	**318**	*eP*	**Pb**	**14 15 02.3**	**-0.4**
RIMA	**Rio Macho**	**0.52**	**340**	*eP*	**Pb**	**14 15 02.1**	**-0.8**
RIMA	**Rio Macho**	**0.52**	**340**	*iP*	**Pb**	**14 15 02.1**	**-0.8**
RIMA				*iS*	**Sb**	**14 15 09.8**	**-0.7**
RIMA				IAML		14 15 10.8	
	comp=Z,1μm,1.0s						
LCR2	**La Lucha 2**	**0.56**	**325**	*eP*	**Pb**	**14 15 02.7**	**-0.9**
LCR2	**La Lucha 2**	**0.56**	**325**	*iP*	**Pb**	**14 15 02.9**	**-0.7**
LCR2				*iS*	**Sb**	**14 15 10.8**	**-0.8**
LCR2				IAML		14 15 11.4	
	comp=Z,3μm,1.0s						
ABE2	**San Pablo**	**0.56**	**319**	*eP*	**Pb**	**14 15 02.9**	**-0.7**
REPA	**Paraso**	**0.58**	**341**	*eP*	**Pn**	**14 15 04.2**	**+0.1**
POTG	**Potrero Grande**	**0.60**	**112**	*eP*	**Pb**	**14 15 03.5**	**-0.6**
POTG	**Potrero Grande**	**0.60**	**112**	*iP*	**Pb**	**14 15 03.5**	**-0.6**
POTG				*iS*	**Sb**	**14 15 12.5**	**+0.1**
POTG				IAML		14 15 18.8	
	comp=Z,3μm,1.0s						
VINA	**Juan Vinas**	**0.62**	**354**	*eP*	**Pb**	**14 15 04.1**	**-0.4**
TURIB	**Turrialba**	**0.63**	**360**	*eP*	**Pn**	**14 15 05.4**	**+0.7**
PCAYA	**Pacayas**	**0.65**	**349**	*eP*	**Pb**	**14 15 04.7**	**-0.3**
VERB	**Verbena**	**0.67**	**359**	*eP*	**Pn**	**14 15 05.1**	**-0.2**
OCM	**Ochomogo**	**0.67**	**336**	*eP*	**Pb**	**14 15 04.5**	**-0.9**
OCM	**Ochomogo**	**0.67**	**336**	*iP*	**Pb**	**14 15 04.5**	**-0.9**
OCM				*iS*	**Sb**	**14 15 14.4**	**-0.3**
OCM				IAML		14 15 15.5	
	comp=Z,1μm,1.0s						
RITA	**Parrita**	**0.69**	**291**	*eP*	**Pb**	**14 15 05.5**	**0.0**
RVSTA	**Santa Teresita**	**0.70**	**3**	*eP*	**Pn**	**14 15 05.6**	**-0.1**
TRIO	**Tres Rios**	**0.70**	**334**	*eP*	**Pb**	**14 15 05.0**	**-0.8**
ACOS	**Acosta**	**0.70**	**317**	*eP*	**Pb**	**14 15 04.8**	**-1.1**
VTCV	**VTCV, Calle Va**	**0.70**	**356**	*eP*	**Pb**	**14 15 05.6**	**-0.3**
HAYA	**Volcan Irazu**	**0.72**	**347**	*iP*	**Pn**	**14 15 06.1**	**-0.2**
VICA	**Volcano Irazu**	**0.72**	**347**	*eP*	**Pb**	**14 15 05.8**	**-0.6**
CVTV	**Tajo**	**0.73**	**355**	*eP*	**Pb**	**14 15 06.1**	**-0.3**
VTLA	**Turrialba Volc**	**0.73**	**353**	*eP*	**Pb**	**14 15 06.1**	**-0.4**
VTRT	**Volcan Turrial**	**0.73**	**351**	*eP*	**Pb**	**14 15 06.0**	**-0.5**
VTR0	**Volcan Turrial**	**0.74**	**354**	*eP*	**Pn**	**14 15 06.9**	**+0.3**
CVTR	**Volcan Turrial**	**0.74**	**354**	*eP*	**Pn**	**14 15 06.5**	**-0.1**
CORON	**Coronado**	**0.76**	**335**	*eP*	**Pb**	**14 15 06.4**	**-0.5**
VTLO	**VTLO**	**0.76**	**357**	*eP*	**Pb**	**14 15 06.7**	**-0.4**
EDAD	**Golfito**	**0.80**	**141**	*eP*	**Pb**	**14 15 05.2**	**-2.3**
LCOCO	**El Coco**	**0.81**	**9**	*eP*	**Pn**	**14 15 07.6**	**+0.4**
IRES	**Siquirres**	**0.83**	**12**	*eP*	**Pn**	**14 15 08.0**	**+0.5**
VITO	**San Vito**	**0.84**	**123**	*eP*	**Pb**	**14 15 07.6**	**-0.5**
HDC3	**Heredia 3**	**0.84**	**330**	*eP*	**Pb**	**14 15 07.5**	**-0.6**
HDC3	**Heredia 3**	**0.84**	**330**	*iP*	**Pb**	**14 15 07.5**	**-0.6**
HDC3				*iS*	**Sn**	**14 15 19.0**	**0.0**
HDC3				IAML		14 15 24.3	
	comp=Z,890nm,1.0s						
HDC	**Heredia**	**0.84**	**329**	*eP*	**Pb**	**14 15 07.4**	**-0.7**
PIRO	**Carate, Puerto**	**0.93**	**159**	*eP*	**Pb**	**14 15 09.3**	**-0.4**
PIRO	**Carate, Puerto**	**0.93**	**159**	*iP*	**Pb**	**14 15 09.2**	**-0.4**
PIRO				*iS*	**Sn**	**14 15 23.1**	**+2.0**
PIRO				IAML		14 15 25.4	
	comp=Z,1μm,1.0s						
TCS1	**Tacares**	**0.98**	**321**	*eP*	**Pn**	**14 15 10.0**	**+0.5**
TCS1	**Tacares**	**0.98**	**321**	*iP*	**Pn**	**14 15 10.0**	**+0.5**
TCS1				IAML		14 15 26.8	
	comp=Z,8μm,1.0s						
JACO	**JACO, Garabito**	**1.04**	**292**	*eP*	**Pn**	**14 15 09.9**	**-0.3**
JACO	**JACO, Garabito**	**1.04**	**292**	*iP*	**Pn**	**14 15 10.0**	**-0.3**
JACO				IAML		14 15 11.1	
	comp=Z,690nm,1.0s						
JACO				*iS*	**Sb**	**14 15 24.4**	**-0.3**
CDITO	**Canoas**	**1.06**	**131**	*eP*	**Pn**	**14 15 09.7**	**-0.9**
RIFO	**Rio Frio, Sara**	**1.06**	**347**	*eP*	**Pn**	**14 15 11.1**	**+0.4**
RIFO	**Rio Frio, Sara**	**1.06**	**347**	*iP*	**Pn**	**14 15 10.9**	**+0.3**
RIFO				*iS*	**Sn**	**14 15 26.1**	**+1.8**
RIFO				IAML		14 15 29.3	
	comp=Z,510nm,1.0s						
BRU2	**Volcan**	**1.09**	**116**	*eP*	**Pn**	**14 15 10.7**	**-0.5**
BRU2	**Volcan**	**1.09**	**116**	*iP*	**Pn**	**14 15 10.9**	**-0.2**
BRU2				*iS*	**Sn**	**14 15 26.0**	**+0.8**
BRU2				IAML		14 15 32.8	
	comp=Z,770nm,1.0s						
ARZA	**Esparza**	**1.21**	**306**	*eP*	**Pb**	**14 15 13.8**	**-0.4**
CPMI	**Catarata Coope**	**1.22**	**325**	*eP*	**Pn**	**14 15 13.3**	**+0.4**
CPMI	**Catarata Coope**	**1.22**	**325**	*iP*	**Pn**	**14 15 13.4**	**+0.4**
CPMI				*iS*	**Sb**	**14 15 29.6**	**-0.4**
CPMI				IAML		14 15 33.0	
	comp=Z,370nm,1.0s						
LAFE	**Finca La Fe, P**	**1.32**	**294**	*eP*	**Pn**	**14 15 14.8**	**+0.6**
LAFE	**Finca La Fe, P**	**1.32**	**294**	*i* P	**Pn**	**14 15 14.8**	**+0.6**
LAFE				*i* S	**Sb**	**14 15 33.9**	**+1.1**
LAFE				IAML		14 15 36.3	
	comp=Z,2.9nm,1.0s						
CBL1	**Cabuya**	**1.43**	**283**	*eP*	**Pn**	**14 15 15.3**	**-0.3**
SOCE	**Pocosol**	**1.44**	**320**	*eP*	**Pn**	**14 15 16.7**	**+0.9**
SOCE	**Pocosol**	**1.44**	**320**	*i* P	**Pn**	**14 15 16.7**	**+0.9**
SOCE				*i* S	**Sb**	**14 15 35.8**	**-0.3**
SOCE				IAML		14 15 40.2	
	comp=Z,910nm,1.0s						
VACR	**Volcan Arenal**	**1.54**	**321**	*eP*	**Pb**	**14 15 18.9**	**-1.0**
VACR	**Volcan Arenal**	**1.54**	**321**	*i* P	**Pb**	**14 15 18.7**	**-1.2**
VACR				*i* S	**Sb**	**14 15 39.4**	**+0.3**
VACR				IAML		14 15 43.0	
	comp=Z,660nm,1.0s						
ARE1	**Arenal 1**	**1.56**	**319**	*eP*	**Pb**	**14 15 18.9**	**-1.3**
JUNT	**Juntas**	**1.61**	**309**	*eP*	**Pb**	**14 15 20.7**	**-0.4**
JTS	**Las Juntas de**	**1.61**	**309**	*eP*	**Pn**	**14 15 19.3**	**+1.1**
INDI	**Punta indio, G**	**1.89**	**288**	*i* P	**Pn**	**14 15 21.6**	**-0.4**
INDI				*i* S	**Sn**	**14 15 44.7**	**0.0**
PLVR	**Palo Verde**	**1.96**	**303**	*eP*	**Pn**	**14 15 23.9**	**+0.7**
ORTG	**Ortega, Santa**	**2.06**	**302**	*i* P	**Pn**	**14 15 25.1**	**+0.7**
ORTG				IAML		14 15 59.4	
	comp=Z,61nm,1.0s						
SAJU	**San Juanillo,**	**2.15**	**292**	*i* P	**Pb**	**14 15 29.0**	**-1.2**
HZTE	**Horizontes, Gu**	**2.37**	**307**	*i* P	**Pn**	**14 15 30.9**	**+2.3**
BCIP	**Isla Barro Col**	**3.80**	**91**	*i* P	**Pn**	**14 15 49.6**	**+1.4**
BCIP				IAML		14 16 28.2	
	comp=Z,89nm,1.0s						

*MOS **21** 14:35:25.9±1.5,43°.64N×147°.35E,h54km,mb4.1/3,Error ellipse: s-maj=12.2km s-min=10.0km az=73.6*
MOS Felt (III) at Malokuril'skoe.
*SKHL **21** 14:35:28.3±0.4,43°.70N×147°.30E,h58km±2km,mb5.2/2*
*JMA **21** 14:35:29.0±0.3,43°.7N±0°.9×147°.7E±°,h30km±4km, MV4.1/34,E OFF HOKKAIDO*
*IDC **21** 14:35:30.8±3.2,43°.85N×147°.14E,h68km±29km,mb3.2/3, mbtmp3.6/6,ML3.1/3,MS3.2/1,Error ellipse: s-maj=61.1km s-min=27.2km az=149.0*

ISC 21 14:35:27.6±1.2,**43.74N**±0°.08×**147°.31E**±0°.07,**h43**km±9km, **n46,** σ1°**32**/56,**mb3.7**/6,**3C-6D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.37**	**291**	*i*P	N	**14 35 36.8**	**-0.1**
SHO				*e*S	**Sn**	**14 35 42.4**	**-1.0**
SHO				pmax	pmax		
	comp=E,519nm,0.2s						
SHO				pmax	pmax		
	comp=Z,983nm,0.2s						
SHO				pmax	pmax		
	comp=N,478nm,0.1s						
SHO				smax	smax		
	comp=E,6μm,0.3s						
SHO				smax	smax		
	comp=N,8μm,0.2s						
SHO	**Shikotan**	**0.37**	**291**	*i* P	**Pn**	**14 35 36.8**	**-0.1**
SHO				AMB	AMB	14 35 37.0	
	comp=N,880nm,0.3s						
SHO				*e*S	**Sn**	**14 35 42.5**	**-1.0**
SHO				A	A	14 35 44.5	
	comp=N,6μm,0.3s						
SHO				A	A	14 35 44.5	
	comp=N,6μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.09**	**286**	*d i*PN	**Pn**	**14 35 46.4**	**0.0**
YUK				*e*S	**Sn**	**14 35 58.9**	**-1.4**
YUK				pmax	pmax		

BRVK	**Borovoye**	**49.65**	**309**	⇑ *e*P		**P**	**14 44 13.3**	**-1.3**
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BRVK	**Borovoye**	**49.65**	**309**	*e*P		**P**	**14 44 13.3**	**-1.3**
FINES	**FINESS Array B**	**64.94**	**333**	P		**P**	**14 46 01.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=15,slow=5.8,SNR=1.5							
	comp=Z,0.7nm,0.7s							
NOA	**NORSAR Array B**	**69.66**	**339**	P		**P**	**14 46 30.8**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=43,slow=5.4,SNR=4.0							
	comp=Z,0.4nm,0.7s							
KIV	**Kislovodsk**	**69.86**	**312**	*e*P		**P**	**14 46 33.8**	**0.0**
KIV				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KIV	**Kislovodsk**	**69.86**	**312**	*e*P		**P**	**14 46 33.8**	**0.0**

*GII **21** 14:36:34.7±0.4, 34°.27N×33°.14E, h20km, Md2.1/5, Mws2.4/9, confirmed*
*NIC **21** 14:36:35.8, 34°.36N×33°.17E, h27km, Ml2.1/8*
*ISK **21** 14:36:36.6, 34°.47N×33°.10E, h21km, ML2.3/11*
*AFAD **21** 14:36:36.4±0.0, 34°.59N×33°.59E, h8km±1km, ML2.7*

ISC 21 14:36:33.8±1.1, **34°.27N**±0°.03×**33°.21E**±0°.03, **h13**km±9km, **n54**, σ0**81/72**, **1C**, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASGA	**Asgata**	**0.52**	**4**	P	**Pb**	**14 36 45.4**	**+0.6**
ASGA				S	**Sb**	**14 36 52.6**	**+0.2**
ASGA				AML	AML	14 36 52.8	
	1.3nm,0.2s						
ASGA				AML	AML	14 36 53.0	
	1.1nm,0.1s						
CSS	**Mathiatis**	**0.70**	**8**	Pg	**Pg**	**14 36 47.8**	**+0.3**
CSS				Sg	**Sg**	**14 36 55.7**	**-1.0**
CSS	**Mathiatis**	**0.70**	**8**	P	**Pg**	**14 36 47.9**	**+0.4**
CSS				S	**Sg**	**14 36 57.7**	**+0.9**
CSS				AML	AML	14 36 58.8	
	0.4nm,0.4s						
CSS				AML	AML	14 37 01.9	
	0.3nm,0.5s						
CSS	**Mathiatis**	**0.70**	**8**	P	**Pb**	**14 36 48.0**	**0.0**
CSS				S	**Sb**	**14 36 58.1**	**+0.5**
NATA	**Nata**	**0.73**	**314**	P	**Pg**	**14 36 49.3**	**+1.3**
NATA				S	**Sg**	**14 36 58.4**	**+0.7**
NATA				AML	AML	14 37 01.6	
	1.0nm,0.7s						
NATA				AML	AML	14 37 02.6	
	1.3nm,0.3s						
TROD	**Troodos**	**0.74**	**338**	P	**Pg**	**14 36 48.6**	**+0.5**
TROD				S	**Sg**	**14 36 57.8**	**-0.1**
TROD				AML	AML	14 37 00.7	
	0.3nm,0.4s						
TROD				AML	AML	14 37 02.8	
	0.3nm,0.2s						
AKIN	**Akıncılar- Kıb**	**0.78**	**16**	Pg	**Pb**	**14 36 49.4**	**+0.1**
AKIN				Sg	**Sg**	**14 36 58.5**	**-0.6**
MVOU	**Mavrovouni**	**0.83**	**25**	P	**Pb**	**14 36 50.3**	**+0.2**
MVOU				S	**Sb**	**14 37 02.2**	**+1.1**
MVOU				AML	AML	14 37 05.8	
	0.1nm,0.3s						
MVOU				AML	AML	14 37 06.1	
	0.1nm,0.4s						
LEF	**Lefka**	**0.89**	**343**	Pg	**Pg**	**14 36 50.4**	**-0.6**
LEF	**Lefka**	**0.89**	**343**	P	**Pb**	**14 36 52.1**	**+0.9**
LEF				S	**Sg**	**14 37 03.6**	**+0.9**
PARAL	**Paralimni**	**1.00**	**43**	P	**Pb**	**14 36 53.3**	**+0.2**
PARAL				S	**Sb**	**14 37 06.3**	**+0.2**
PARAL				AML	AML	14 37 08.4	
	0.2nm,0.7s						
PARAL				AML	AML	14 37 13.3	
	0.2nm,0.6s						
ALFC	**Alefka**	**1.02**	**331**	⇑ *i*P	**Pg**	**14 36 52.9**	**-0.6**
ALFC				S	**Sg**	**14 37 05.7**	**-1.2**
ALFC				AML	AML	14 37 07.9	
	0.6nm,0.3s						
ALFC				AML	AML	14 37 08.0	
	0.8nm,0.4s						
AKMS	**Akamas**	**1.04**	**316**	P	**Pg**	**14 36 53.5**	**-0.3**
AKMS				S	**Sg**	**14 37 06.6**	**-0.9**
AKMS				AML	AML	14 37 13.3	
	0.3nm,0.4s						
AKMS				AML	AML	14 37 14.1	
	0.3nm,0.4s						
LFK	**Lefkose**	**1.05**	**15**	Pg	**Pb**	**14 36 54.2**	**+0.3**
LFK				Sg	**Sg**	**14 37 07.3**	**-0.4**
AKDN	**Akdeniz- Kıbrı**	**1.05**	**349**	Pg	**Pg**	**14 36 53.1**	**-0.9**
OSC2	**CSNet OBS 4**	**1.42**	**214**	P	**Pn**	**14 36 58.9**	**-0.5**
OSC2				S	**Sn**	**14 37 19.6**	**+1.6**
AKKU	**Akkuyu-Mersin**	**1.91**	**8**	Pn	**Pn**	**14 37 06.0**	**-0.1**
GULN	**MERSIN_Gulnar**	**1.93**	**8**	P	**Pn**	**14 37 06.2**	**-0.2**
GULN				S	**Sn**	**14 37 29.0**	**-1.7**
YESI	**Yesilovacik-Me**	**1.96**	**10**	Pn	**Pn**	**14 37 06.9**	**+0.1**
KARG	**Kargicak-Mersi**	**1.98**	**12**	Pn	**Pn**	**14 37 07.2**	**+0.2**
IKL	**Isikli**	**2.01**	**11**	Pn	**Pn**	**14 37 07.5**	**+0.1**
HNTI	**Hanita**	**2.02**	**125**	S	**Sn**	**14 37 33.1**	**+0.3**
GAZI	**Gazipasa**	**2.10**	**340**	Pn	**Pn**	**14 37 08.3**	**-0.4**
GAZI	**Gazipasa**	**2.10**	**340**	P	**Pn**	**14 37 07.9**	**-0.8**
GAZI				S	**Sn**	**14 37 31.3**	**-3.6**
OFRI	**`Ofer**	**2.21**	**137**	S	**Sn**	**14 37 37.3**	**-0.2**
OFRI	**`Ofer**	**2.21**	**137**	P	**Pn**	**14 37 10.2**	**-0.2**
MMA0B	**Mount Meron ar**	**2.21**	**124**	S	**Sn**	**14 37 37.6**	**0.0**
MMA0B	**Mount Meron ar**	**2.21**	**124**	P	**Pn**	**14 37 11.1**	**+0.7**
KEBE	**Keben-Mersin**	**2.22**	**11**	Pn	**Pn**	**14 37 10.8**	**+0.4**
HWQ	**Hawqa**	**2.27**	**89**	*e*P	**Pn**	**14 37 11.6**	**+0.5**
GEM	**Giv'at Ha'Em**	**2.30**	**117**	S	**Sn**	**14 37 39.7**	**0.0**
GEM	**Giv'at Ha'Em**	**2.30**	**117**	P	**Pn**	**14 37 11.8**	**+0.3**
RCY	**Rachaya**	**2.32**	**109**	*e*P	**Pb**	**14 37 13.4**	**-2.1**
BEIL	**Beino**	**2.48**	**83**	*e*P	**Pn**	**14 37 14.1**	**+0.2**
KSHT	**Keshet**	**2.52**	**120**	S	**Sn**	**14 37 45.9**	**+0.7**
KSHT	**Keshet**	**2.52**	**120**	P	**Pn**	**14 37 15.4**	**+0.9**
SLTI	**Sal'it**	**2.54**	**142**	S	**Sn**	**14 37 45.8**	**+0.3**
MMLI	**Mount Malkishu**	**2.60**	**134**	P	**Pn**	**14 37 15.7**	**0.0**
MMLI	**Mount Malkishu**	**2.60**	**134**	S	**Sn**	**14 37 46.5**	**-0.6**
SALP	**Salfit**	**2.75**	**142**	S	**Sn**	**14 37 50.8**	**0.0**
HMDT	**Nahal Hemdat**	**2.79**	**135**	S	**Sn**	**14 37 52.1**	**+0.3**
HMDT	**Nahal Hemdat**	**2.79**	**135**	P	**Pn**	**14 37 18.7**	**+0.4**
KKBE	**Karaman, Kazim**	**2.96**	**356**	P	**Pn**	**14 37 20.5**	**-0.1**
KKBE				S	**Sn**	**14 37 56.9**	**+0.8**
KKBE				*i* AML	AML	14 38 16.0	
	comp=E,23nm,1.4s						
AMAZ	**Amatzia**	**3.08**	**152**	S	**Sn**	**14 37 58.6**	**-0.3**
KERG	**Konya-Eregli**	**3.23**	**13**	P	**Pn**	**14 37 25.8**	**+1.4**
KERG				S	**Sn**	**14 38 02.9**	**+0.1**
KERG				*i* AML	AML	14 38 03.0	
	comp=N,51nm,1.3s						
YTIR	**Yattir**	**3.31**	**150**	S	**Sn**	**14 38 04.6**	**-0.1**
MSBI	**Mazada**	**3.46**	**148**	P	**Pn**	**14 37 26.3**	**-1.0**
MSBI	**Mazada**	**3.46**	**148**	S	**Sn**	**14 38 07.5**	**-0.6**
PRNI	**Paran**	**4.19**	**158**	S	**Sn**	**14 38 26.5**	**+0.2**
PRNI	**Paran**	**4.19**	**158**	P	**Pn**	**14 37 37.6**	**+0.1**
KRMI	**Paran Flat**	**4.33**	**162**	P	**Pn**	**14 37 39.2**	**-0.2**
KRMI	**Paran Flat**	**4.33**	**162**	S	**Sn**	**14 38 30.4**	**+0.5**
HRFI	**Mount Harif**	**4.49**	**159**	S	**Sn**	**14 38 34.2**	**+0.4**
MBRI	**Mt Berech**	**4.69**	**162**	S	**Sn**	**14 38 39.3**	**+0.6**

*IDC **21** 14:42:50.1±1.1, 35°.82S×73°.01W, h0km, mb3.9/4, mbtmp3.9/5, ML4.2/1, MS3.8/9, Error ellipse: s-maj=74.3km s-min=26.4km az=62.0*
*NEIC **21** 14:42:50.6±1.3, 36°.02S±0°.04×73°.42W±0°.09, h8km±5km, mb4.6/17, Error ellipse: s-maj=10.6km s-min=5.2km az=81.0*
*GUC **21** 14:42:53.3±0.7, 36°.07S×73°.29W, h32km±2km, ML4.2*

ISC 21 14:42:50.0±1.6, **36°.00S**±0°.03×**73°.36W**±0°.06, **h3**km±10km, **n70**, σ1**00/68**, **mb4.6/11**, **MS3.9/8**, **3C**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI05	**Punta Hualpn**	**0.76**	**170**	Pg	**Pb**	**14 43 05.3**	**-0.6**
BI05				Sg	**Sg**	**14 43 14.4**	**0.0**
BI05	**Punta Hualpn**	**0.76**	**170**	⇑ *i*P	**Pb**	**14 43 05.2**	**-0.6**
BI05				*e*S	**Sg**	**14 43 15.0**	**+0.6**
GO05	**Huala**	**1.53**	**50**	Pn	**Pb**	**14 43 18.6**	**-0.4**
GO05	**Huala**	**1.53**	**50**	*i* P	**Pg**	**14 43 19.4**	**0.0**
GO05				*e*S	**Sb**	**14 43 37.9**	**-0.9**
GO05				IAML		14 43 44.5	
	comp=N,3μm,0.5s						
ML02	**Panimavida**	**1.60**	**82**		**Pb**	**14 43 19.6**	**-0.6**
ML02	**Panimavida**	**1.60**	**82**	⇑ *i*P	**Pb**	**14 43 19.5**	**-0.6**
ML02				*e*S	**Sn**	**14 43 38.5**	**-1.8**
ML02				IAML		14 43 52.4	
	comp=E,6μm,0.4s						
BO03	**Pichilemu**	**1.89**	**38**	*i* P	**Pb**	**14 43 24.6**	**-0.5**
BO03				*e*S	**Sb**	**14 43 47.8**	**-1.3**
BO03				IAML		14 43 59.5	
	comp=E,2μm,0.4s						
BO02	**Sierra Bellavi**	**2.43**	**61**		**Pn**	**14 43 31.2**	**+0.5**
BO02	**Sierra Bellavi**	**2.43**	**61**	*i* P	**Pn**	**14 43 31.8**	**+1.1**
BO02				*e*S	**Sn**	**14 44 01.1**	**+0.1**
BI04	**Isla Mocha**	**2.44**	**190**	*i* P	**Pn**	**14 43 31.2**	**+0.4**
BO01	**Tunca**	**2.46**	**50**	Pn	**Pn**	**14 43 32.1**	**+1.0**
BO01	**Tunca**	**2.46**	**50**	*i* P	**Pn**	**14 43 32.0**	**+0.9**
BO01				*e*S	**Sn**	**14 44 01.5**	**-0.1**
BO01				IAML		14 44 16.2	
	comp=E,1μm,0.6s						
VA05	**Santo Domingo**	**2.74**	**32**		**Pn**	**14 43 34.3**	**-0.6**
VA05	**Santo Domingo**	**2.74**	**32**	*i* P	**Pn**	**14 43 36.1**	**+1.1**
VA05				*e*S	**Sn**	**14 44 08.0**	**-0.6**
VA05				IAML		14 44 30.3	
	comp=E,1μm,0.5s						
MT01	**Popeta**	**2.75**	**40**		**Pn**	**14 43 34.7**	**-0.3**
LC02	**Puerto Saavedr**	**2.79**	**180**	Pn	**Pn**	**14 43 34.1**	**-1.4**
LC02	**Puerto Saavedr**	**2.79**	**180**	*i* P	**Pn**	**14 43 35.4**	**-0.2**
LC02				*e*S	**Sn**	**14 44 07.5**	**-2.2**
MT09	**Talagante**	**2.95**	**42**		**Pn**	**14 43 38.1**	**+0.1**
BO04	**La Punta**	**3.02**	**49**	Pn	**Pn**	**14 43 39.9**	**+1.0**
BO04	**La Punta**	**3.02**	**49**	*i* P	**Pn**	**14 43 40.1**	**+1.3**
BO04				*e*S	**Sn**	**14 44 15.2**	**-0.4**
BO04				IAML		14 44 29.8	
	comp=N,775nm,0.5s						
VA01	**Torpederas**	**3.29**	**26**		**Pn**	**14 43 41.9**	**-0.6**
VA01	**Torpederas**	**3.29**	**26**	*i* P	**Pn**	**14 43 43.8**	**+1.3**
MT02	**Curacav**	**3.29**	**34**		**Pn**	**14 43 42.0**	**-0.5**
LMEL	**Las Melosas**	**3.37**	**51**		**Pn**	**14 43 43.6**	**-0.1**
MT05	**Renca**	**3.38**	**40**	Pn	**Pn**	**14 43 44.4**	**+0.6**
MT13	**San Alfonso**	**3.38**	**49**		**Pn**	**14 43 44.1**	**+0.2**
MT03	**Universidad Ad**	**3.43**	**44**		**Pn**	**14 43 45.0**	**+0.5**
MT16	**CCHEN**	**3.47**	**43**		**Pn**	**14 43 45.7**	**+0.6**
ROC1	**El Roble**	**3.59**	**33**		**Pn**	**14 43 46.7**	**-0.1**
PEL	**Peldehue**	**3.60**	**39**		**Pn**	**14 43 47.5**	**+0.6**
VA06	**Catapilco**	**3.83**	**27**	Pn	**Pn**	**14 43 49.3**	**-0.6**
GO06	**Curarrehue**	**3.88**	**158**	Pn	**Pn**	**14 43 50.6**	**-0.1**
GO06	**Curarrehue**	**3.88**	**158**	⇑ *i*P	**Pn**	**14 43 50.8**	**+0.1**
GO06				*e*S	**Sn**	**14 44 34.6**	**-2.2**
GO06				IAML		14 44 54.5	
	comp=N,166nm,0.8s						
LR05	**Currie**	**4.36**	**166**	Pn	**Pn**	**14 43 56.5**	**-0.6**
CO02	**Combarbal**	**5.17**	**23**	*i* P	**Pn**	**14 44 08.3**	**-0.2**
PLCA	**Paso Flores**	**5.21**	**156**		**Pn**	**14 44 09.2**	**+0.2**
PLCA	**Paso Flores**	**5.21**	**156**	Pn	**Pn**	**14 44 09.8**	**+0.8**
	comp=N,1.9nm,0.3s,baz=326,slow=10,SNR=75						
PLCA				Sn	**Sn**	**14 45 14.1**	**+4.4**
	comp=N,2.6nm,0.3s,baz=108,slow=23,SNR=3.6						
	comp=N,5.6nm,0.4s						
LL05	**Los Muermos**	**5.40**	**181**		**Pn**	**14 44 09.9**	**-1.5**
LCO	**Las Campanas**	**7.32**	**19**		**Pn**	**14 44 38.0**	**-0.2**
TRQA	**Tornquist**	**9.33**	**106**		**Pn**	**14 45 06.4**	**+1.0**
AY03	**Cochrane**	**11.26**	**177**		**Pn**	**14 45 32.0**	**+0.3**
PB11	**IPOC Station P**	**16.50**	**12**	P	**P**	**14 46 45.9**	**+0.4**
PB11				IAmb	IAmb	14 46 49.1	
	comp=Z,28nm,1.0s						
CPUP	**Villa Florida**	**16.75**	**59**	LR	LR	14 53 00.1	
	comp=Z,128nm,18.8s,baz=234,slow=37						
PB16	**IPOC Station P**	**17.93**	**12**		**Pn**	**14 47 00.9**	**0.0**
ITAB	**Concordia**	**20.05**	**70**	P	**P**	**14 47 24.5**	**+0.1**
ITAB				IAmb	IAmb	14 47 27.9	
	comp=Z,18nm,0.8s						
LPAZ	**La Paz**	**20.18**	**15**		Pn	14 47 27.8	-0.5
AQDB	**Aquidauana**	**21.88**	**50**	P	**P**	**14 47 44.8**	**+0.6**
NNA	**Nana**	**24.11**	**352**	LR	LR	14 55 26.4	
	comp=Z,115nm,18.9s,baz=184,slow=32						
ETMB	**Extrema**	**26.86**	**16**	P	**P**	**14 48 32.2**	**+0.1**
ETMB				IAmb	IAmb	14 48 33.6	
	comp=Z,8.1nm,0.9s						
PMSA	**Palmer Station**	**29.35**	**172**	LR	LR	14 59 56.4	
	comp=Z,248nm,18.3s,baz=302,slow=35						
RPN	**Rapa Nui**	**31.76**	**276**	LR	LR	14 59 02.2	
	comp=Z,198nm,19.1s,baz=100,slow=30						
COHC	**Cochancay**	**33.81**	**349**	P	**P**	**14 49 35.3**	**+1.8**
PCRV	**Puerto La Cruz**	**46.66**	**12**	LR	LR	15 12 43.9	
	comp=Z,99nm,18.6s,slow=39						
SAND	**Sanderson**	**70.96**	**334**	P	**P**	**14 54 09.3**	**+0.5**
SAND				IAmb	IAmb	14 54 10.6	
	comp=Z,5.3nm,1.1s						
TXAR	**Lajitas Array**	**70.97**	**332**	P	**P**	**14 54 09.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=157,slow=8.6,SNR=10						
	comp=Z,0.7nm,0.5s						
MAW	**Mawson**	**71.57**	**164**	LR	LR	15 26 15.2	
	comp=Z,85nm,18.7s,baz=206,slow=36						
CLTN	**Cedars of Leba**	**72.73**	**349**	IAmb	IAmb	14 54 20.2	
	comp=Z,10nm,1.2s						
WHAR	**Wooly Hollow**	**73.09**	**344**	IAmb	IAmb	14 54 35.1	
	comp=Z,11nm,1.4s						
LCAR	**Lake Charles**	**73.59**	**345**	IAmb	IAmb	14 54 24.8	
	comp=Z,7.0nm,1.1s						
SUR	**Surland**	**74.81**	**119**	LR	LR	15 27 32.6	
	comp=Z,56nm,18.1s,baz=181,slow=36						
CCM	**Cathedral Cave**	**75.53**	**346**	P	**P**	**14 54 35.2**	**-0.3**
T25A	**Trinidad**	**78.27**	**335**	IAmb	IAmb	14 54 53.6	
	comp=Z,7.0nm,1.1s						
TSUM	**Tsumeb**	**79.71**	**106**	LR	LR	15 25 20.3	
	comp=Z,52nm,20.4s,baz=159,slow=32						
RPZ	**Rata Peaks**	**81.43**	**221**	LR	LR	15 24 04.1	
	comp=Z,66nm,18.9s,baz=196,slow=30						
ECSD	**EROS Data Cent**	**82.13**	**343**	P	**P**	**14 55 11.2**	**-0.5**
ECSD				IAmb	IAmb	14 55 12.7	
	comp=Z,7.0nm,1.1s						
NVAR	**Mina Array Bea**	**84.92**	**326**	P	**P**	**14 55 27.4**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=156,slow=6.8,SNR=4.2						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**85.90**	**71**	P	**P**	**14 55 30.5**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=227,slow=5.7,SNR=2.0						
	comp=Z,0.2nm,0.4s						
ULM	**Lac du Bonnet**	**88.16**	**346**	P	**P**	**14 55 41.1**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=187,slow=5.9,SNR=4.4						
	comp=Z,1.8nm,0.5s						
BVAR	**Borovoye Array**	**149.47**	**45**	PKPbc	**PKPbc**	**15 02 40.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=313,slow=5.1,SNR=2.4						
YAK	**Yakutsk**	**150.21**	**338**	PKPbc	**PKPbc**	**15 02 41.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=49,slow=3.7,SNR=7.6						

*IDC **21** 14:55:21.9±1.5, 36°.87N×28°.82E, h0km, mb3.3/2, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=29.9km s-min=22.1km az=139.0*
*AFAD **21** 14:55:21.8±0.0, 37°.10N×28°.61E, h7km±2km, ML2.9*
*ISK **21** 14:55:21.8, 37°.09N×28°.62E, h6km, ML3.1/26*
*THE **21** 14:55:22.5, 37°.08N×28°.62E, h0km±1km, ML2.9/2, Error ellipse: s-maj=2.7km s-min=1.7km az=104.0*
*ATH **21** 14:55:23.1±0.2, 37°.09N×28°.59E, h10km, ML3.2/6, Manual Solution by G.Panopoulou This location: 2020/05/09 01:46:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

ISC 21 14:55:22.1±1.0, **37°.10N**±0°.02×**28°.61E**±0°.01, **h5**km±8km, **n79**, σ0**78/112**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.27**	**277**	Pg	**Pg**	**14 55 28.0**	**+0.7**
YER				Sg	**Sb**	**14 55 32.7**	**-1.6**
YER	**Yerkesik**	**0.27**	**277**	P	**Pb**	**14 55 28.5**	**-0.9**
YER				S	**Sb**	**14 55 33.1**	**-1.2**
MULA	**Mugla, Merkez-**	**0.28**	**304**	P	**Pg**	**14 55 28.0**	**+0.4**
MULA				S	**Sg**	**14 55 31.9**	**+0.6**
MULA				*i* AML	AML	14 55 33.0	
	comp=N,2μm,0.4s						
MULA				*i* AML	AML	14 55 35.0	
	comp=E,2μm,0.4s						
DALY	**Dalyan (Mula)**	**0.28**	**173**	Pg	**Pg**	**14 55 27.7**	**+0.1**
DALY				Sg	**Sb**	**14 55 32.7**	**-2.0**
TAVA	**DENIZLI_Tavas**	**0.44**	**33**	P	**Pg**	**14 55 30.2**	**-0.3**
TAVA				S	**Sg**	**14 55 36.3**	**+0.1**
TAVA				*i* AML	AML	14 55 37.0	
	comp=E,931nm,0.3s						
TURN	**Turunc**	**0.44**	**222**	Pg	**Pg**	**14 55 30.6**	**+0.1**
TURN				Sg	**Sg**	**14 55 37.1**	**+0.9**
TURN	**Turunc**	**0.44**	**222**	P	**Pg**	**14 55 30.4**	**-0.2**
TURN				S	**Sb**	**14 55 37.3**	**-1.8**
FETI	**Fethiye-Mugla**	**0.56**	**136**	Pg	**Pg**	**14 55 32.7**	**-0.2**
CAEL	**Denizli, Camel**	**0.56**	**88**	P	**Pb**	**14 55 33.7**	**-0.9**
CAEL				S	**Sb**	**14 55 43.4**	**+0.4**
CAEL				*i* AML	AML	14 55 57.0	
	comp=N,776nm,0.5s						
CAEL				*i* AML	AML	14 56 01.0	
	comp=E,995nm,0.7s						
CAME	**Cameli-Denizli**	**0.57**	**106**	Pg	**Pg**	**14 55 32.8**	**-0.3**
CAME				Sg	**Sb**	**14 55 41.9**	**-1.3**
FETY	**Fethiye**	**0.60**	**141**	Pg	**Pg**	**14 55 33.4**	**-0.1**
FETY	**Fethiye**	**0.60**	**141**	P	**Pg**	**14 55 33.5**	**-0.1**
DNIZ	**Denizli-Tavas-**	**0.62**	**33**	P	**Pg**	**14 55 33.8**	**-0.3**
DNIZ				S	**Sg**	**14 55 41.6**	**-0.6**
DNIZ				*i* AML	AML	14 55 47.0	
	comp=E,1μm,0.3s						
APMY	**Acipayam-Deniz**	**0.66**	**56**	Pg	**Pg**	**14 55 34.9**	**+0.1**
MLSB	**Milas**	**0.70**	**286**	Pg	**Pg**	**14 55 35.8**	**+0.4**
RFTAA	**Mazikoy-Bodrum**	**0.70**	**262**	Pg	**Pg**	**14 55 35.7**	**+0.2**
ESEN	**Aydn-Nazilli**	**0.73**	**343**	P	**Pg**	**14 55 35.9**	**-0.1**
ESEN				S	**Sg**	**14 55 45.3**	**-0.2**
ESEN				*i* AML	AML	14 55 48.0	
	comp=E,479nm,0.4s						
GOLH	**Golhisar**	**0.77**	**80**	P	**Pg**	**14 55 36.6**	**-0.2**
GOLH				S	**Sb**	**14 55 48.0**	**-0.8**
KNIK	**Mula-Seydike**	**0.81**	**108**	P	**Pg**	**14 55 37.2**	**-0.4**
KNIK				S	**Sb**	**14 55 48.9**	**-1.0**
IZZE	**Mula-Seydike**	**0.82**	**143**	P	**Pg**	**14 55 37.3**	**-0.5**
IZZE				S	**Sn**	**14 55 51.0**	**-1.9**
IZZE				*i* AML	AML	14 55 54.0	
	comp=E,596nm,0.3s						
IZZE				*i* AML	AML	14 55 54.0	
	comp=N,1μm,0.4s						
DAT	**Datca**	**0.91**	**246**	Pg	**Pg**	**14 55 39.5**	**0.0**
DAT	**Datca**	**0.91**	**246**	P	**Pg**	**14 55 39.3**	**-0.2**
DAT				S	**Sn**	**14 55 55.1**	**0.0**
DAT	**Datca**	**0.91**	**246**	P	**Pb**	**14 55 39.8**	**-0.6**
DAT				S	**Sb**	**14 55 52.9**	**+0.1**
DAT				*i* AML	AML	14 55 58.0	
	comp=E,336nm,0.9s						
BDRM	**Kayabasi**	**0.94**	**268**	P	**Pb**	**14 55 40.5**	**-0.3**
BDRM				S	**Sb**	**14 55 54.1**	**+0.7**
ARG	**Arkhangelos**	**0.97**	**204**	Pg	**Pg**	**14 55 40.5**	**-0.1**
ARG	**Arkhangelos**	**0.97**	**204**	P	**Pg**	**14 55 40.5**	**-0.1**
ARG				S	**Sn**	**14 55 56.3**	**0.0**
	615nm,0.7s						
ARG	**Arkhangelos**	**0.97**	**204**	P	**Pg**	**14 55 40.5**	**-0.1**
ARG				S	**Sb**	**14 55 54.6**	**+0.3**
INCE	**Denizli-Bozkur**	**0.98**	**51**	P	**Pg**	**14 55 40.6**	**-0.3**
INCE				S	**Sb**	**14 55 54.4**	**-0.4**
INCE				*i* AML	AML	14 56 00.0	
	comp=E,315nm,0.6s						
YAZI	**Mula-Dat§a-**	**1.02**	**246**	P	**Pb**	**14 55 42.1**	**-0.1**
YAZI				S	**Sn**	**14 55 57.3**	**-0.4**
YAZI				*i* AML	AML	14 56 02.0	
	comp=E,253nm,0.6s						
BODT	**Bodrum**	**1.04**	**268**	Pg	**Pg**	**14 55 41.9**	**-0.2**
BODT	**Bodrum**	**1.04**	**268**	P	**Pb**	**14 55 42.6**	**0.0**
BODT				S	**Sn**	**14 55 59.2**	**+0.9**
ELL	**Elmali**	**1.10**	**108**	Pn	**Pb**	**14 55 43.3**	**-0.3**
KIRA	**zmir-Kiraz**	**1.11**	**351**	P	**Pg**	**14 55 42.0**	**-1.4**
KIRA				S	**Sn**	**14 55 59.7**	**-0.3**
KIRA				*i* AML	AML	14 56 04.0	
	comp=N,267nm,0.5s						
KIRA				*i* AML	AML	14 56 04.0	
	comp=E,208nm,0.5s						
DDIM	**Aydin, Didim**	**1.15**	**288**	P	**Pg**	**14 55 43.4**	**-0.7**
DDIM				S	**Sn**	**14 56 00.3**	**-0.6**
DDIM				*i* AML	AML	14 56 05.0	
	comp=N,433nm,0.9s						
IZMR	**zmir-demi**	**1.16**	**333**	P	**Pg**	**14 55 43.9**	**-0.4**
IZMR				S	**Sg**	**14 55 59.8**	**+0.4**
AKAS	**Kas**	**1.18**	**137**	Pn	**Pb**	**14 55 44.6**	**-0.4**
AKAS	**Kas**	**1.18**	**137**	P	**Pn**	**14 55 45.0**	**-0.3**
AKAS				S	**Sn**	**14 56 04.7**	**+2.9**
AKAS				*i* AML	AML	14 56 07.0	
	comp=N,1μm,0.4s						
AKAS				*i* AML	AML	14 56 11.0	
	comp=E,683nm,0.7s						
KSL	**Kastellorizon**	**1.23**	**140**	P	**Pn**	**14 55 46.5**	**+0.6**
KSL				S	**Sn**	**14 56 02.4**	**-0.5**
GCAM	**G?zelcaml?**	**1.25**	**299**	Pn	**Pg**	**14 55 46.1**	**0.0**
GCAM	**G?zelcaml?**	**1.25**	**299**	P	**Pg**	**14 55 46.3**	**+0.3**
GCAM				S	**Sg**	**14 56 01.5**	**-0.7**
GCAM				*i

BHD				*e*Sn	**Sn**	**15 07 04.5**	**-0.4**
RAFI	**Al-Rafai**	**2.98**	**192**	*e*Pn	**Pn**	**15 06 42.0**	**+0.5**
RAFI				*e*Sn	**Sn**	**15 07 17.0**	**-0.7**

*NEIC **21** 15:17:42.8±0.4,36°.97N±0°.02×99°.37W±0°.04,h5km±1km, Error ellipse: s-maj=5.3km s-min=3.0km az=283.0*
TUL 21 15:17:43.1±0.4,36°.97N±0°.02×99°.37W±0°.04,h6km±5km, ML2.9,mb_Lg2.6/45(NEIC),ML2.9/14(NEIC),Error ellipse: s-maj=4.4km s-min=1.7km az=113.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.59**	**116**	Pg	Pg	15 17 54.0	-0.4
OK035				Sg	Sg	15 18 02.1	0.0
OK035				IAML		15 18 03.2	
	495nm,0.4s						
U32A	**Winter Ranch,**	**0.66**	**153**	Pg	Pg	15 17 55.6	-0.2
U32A				Sg	Sg	15 18 04.2	-0.1
U32A				IAML		15 18 08.3	
	comp=E,492nm,0.4s						
OK038	**West end E0370**	**0.70**	**134**	Pg	Pg	15 17 56.5	-0.1
ELIS	**Ellis County**	**0.90**	**183**	Pg	Pg	15 17 60.0	-0.4
ELIS				IAML		15 18 15.4	
	comp=E,435nm,0.3s						
ELIS				IAML		15 18 16.4	
	comp=N,375nm,0.2s						
OK032	**Salt Plains WL**	**0.94**	**100**	Pg	Pg	15 18 00.7	-0.5
OK032				IAML		15 18 16.1	
	comp=N,324nm,0.2s						
OK032				IAML		15 18 21.5	
	comp=N,362nm,0.2s						
KAN10	**Anthony SW Sta**	**1.03**	**81**	Pg	Pg	15 18 02.2	-0.7
KAN14	**Manchester OK**	**1.13**	**90**	Pg	Pg	15 18 04.0	-0.6
KAN12	**Harper NE Stat**	**1.14**	**73**	Pg	Pg	15 18 04.2	-0.8
KAN08	**Anthony NE Sta**	**1.15**	**77**	Pg	Pg	15 18 04.3	-0.8
CROK	**Carrier**	**1.20**	**112**	Pg	Pg	15 18 05.5	-0.7
CROK				IAML		15 18 29.1	
	comp=E,314nm,0.3s						
KAN05	**Bluff City Nor**	**1.21**	**83**	Pg	Pg	15 18 05.0	-1.2
GC02	**Grant County #**	**1.22**	**95**		Pg	15 18 05.5	-0.9
KAN06	**Argonia West S**	**1.24**	**76**		Pg	15 18 06.1	-0.8
KAN17	**Caldwell West**	**1.29**	**86**		Pn	15 18 06.8	-0.8
KAN01	**Argonia South**	**1.30**	**81**		Pn	15 18 07.3	-0.6
KS21	**Milan North St**	**1.40**	**76**		Pn	15 18 09.1	-0.1
KAN09	**Caldwell North**	**1.41**	**83**		Pn	15 18 08.8	-0.6
CSTR	**Hydro, Custer**	**1.43**	**157**		Pn	15 18 09.3	-0.3
KAN13	**South Haven SW**	**1.51**	**88**		Pn	15 18 10.2	-0.6
R32A	**Long Quarter,**	**1.54**	**20**		Pn	15 18 11.3	+0.1
CBKS	**Cedar Bluff**	**1.87**	**351**		Pn	15 18 15.8	+0.1
OK029	**Liberty Lake**	**1.94**	**127**		Pn	15 18 15.9	-0.7
SMWD	**Samnorwood**	**1.99**	**201**		Pn	15 18 17.6	+0.3
OK048	**Pawnee Station**	**2.02**	**105**	Pn	Pn	15 18 16.4	-1.4
OK033	**Mehan**	**2.16**	**114**		Pn	15 18 18.8	-0.9
OK033				IAmb_Lg		15 18 53.7	
	comp=Z,17nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**2.21**	**134**	Pn	Pn	15 18 19.6	-0.7
WMOK	**Wichita Mounta**	**2.27**	**168**	Pn	Pn	15 18 20.1	-1.2
WMOK				IAmb_Lg		15 19 01.1	
	comp=Z,15nm,0.7s						
QUOK	**Quay**	**2.28**	**110**	Pn	Pn	15 18 20.1	-1.3
T35A	**Sooner Cattle**	**2.29**	**90**	Pn	Pn	15 18 20.1	-1.3
X34A	**Smith Ranch, M**	**2.67**	**152**	Pn	Pn	15 18 26.3	-0.4
X34A				IAmb_Lg		15 19 08.9	
	comp=Z,17nm,0.7s						
RTBA	**Rita Blanca**	**2.76**	**260**	Pn	Pn	15 18 27.3	-0.7
RTBA				IAmb_Lg		15 19 08.6	
	comp=Z,18nm,0.9s						
AMTX	**Amarillo**	**2.80**	**223**	Pn	Pn	15 18 27.9	-0.6
KSU1	**Kansas State U**	**3.05**	**45**	Pn	Pn	15 18 31.2	-0.7
KSU1				IAmb_Lg		15 19 25.0	
	comp=Z,17nm,1.0s						
TUL3	**Leonard**	**3.07**	**109**	Pn	Pn	15 18 31.8	-0.4
TUL3	**Leonard**	**3.07**	**109**	IAmb_Lg		15 19 24.4	
	comp=Z,16nm,0.9s						
DKNS	**Dickens**	**3.53**	**202**	IAmb_Lg		15 19 38.5	
	comp=Z,10.0nm,0.7s						
U38A	**Gravette**	**4.04**	**96**		Pn	15 18 44.5	-1.0
MSTX	**Muleshoe**	**4.08**	**224**	IAmb_Lg		15 20 00.8	
	comp=Z,11nm,0.8s						
POST	**Post**	**4.27**	**205**	IAmb_Lg		15 20 05.6	
	comp=Z,14nm,0.8s						
HHAR	**Hobbs**	**4.42**	**97**	IAmb_Lg		15 20 08.5	
	comp=Z,14nm,0.9s						
S39A	**Bolivar**	**4.87**	**80**	IAmb_Lg		15 20 26.4	
	comp=Z,11nm,0.7s						
SDCO	**Great Sand Dun**	**4.95**	**281**	Pn	Pn	15 18 57.2	-1.0
Q24A	**Divide**	**4.98**	**295**	Pn	Pn	15 18 57.8	-1.0
Q24A				IAmb_Lg		15 20 32.4	
	comp=Z,7.9nm,0.8s						
Z38A	**Mt. Pleasant**	**5.16**	**135**	IAmb_Lg		15 20 31.8	
	comp=Z,13nm,0.7s						
BRDY	**Brady**	**5.68**	**177**	IAmb_Lg		15 20 49.3	
	comp=Z,8.9nm,1.0s						
MGMO	**Mountain Grove**	**5.68**	**86**	IAmb_Lg		15 20 46.7	
	comp=Z,12nm,1.0s						
X40A	**Basin Creek Fa**	**5.86**	**113**	IAmb_Lg		15 20 52.7	
	comp=Z,5.6nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.94**	**98**	IAmb_Lg		15 20 53.1	
	comp=Z,8.6nm,0.7s						
P40A	**Paris**	**6.30**	**64**	IAmb_Lg		15 21 07.8	
	comp=Z,11nm,0.9s						
PHWY	**Pilot Hill**	**6.41**	**314**	IAmb_Lg		15 21 07.8	
	comp=Z,6.2nm,0.8s						
CCM	**Cathedral Cave**	**6.55**	**78**	IAmb_Lg		15 21 11.9	
	comp=Z,9.8nm,0.7s						
PBMO	**Poplar Bluff**	**7.17**	**89**	IAmb_Lg		15 21 45.8	
	comp=Z,7.5nm,0.7s						
RSSD	**Black Hills**	**7.98**	**335**	IAmb_Lg		15 22 02.9	
	comp=Z,4.7nm,0.9s						

*NEIC **21** 15:22:30.5±2.1,18°.94N±0°.06×80°.56W±0°.05,h9km±6km, mb4.0/15,Error ellipse: s-maj=10.4km s-min=4.3km az=210.0*
*IDC **21** 15:22:30.3±1.2,18°.90N×80°.53W,h0km,mb3.7/5, mbtmp3.9/8,ML3.7/3,MS3.5/24,Error ellipse: s-maj=35.3km s-min=28.3km az=21.0*
*SSNC **21** 15:22:33.7±2.4,19°.00N×80°.55W,h20km±30km,MD3.8, ML4.2*
*JSN **21** 15:22:35.7±0.6,19°.15N×80°.11W,h0km±126km,MD4.4*
ISC 21 15:22:33.7±0.6,18°.93N±0°.05×80°.51W±0°.05,h35km,n84, σ1861/75,mb3.9/8,MS3.5/18,1C-1D,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**2.91**	**104**		**Pn**	**15 23 17.5**	**-0.1**
MTDJ	**Mount Denham**	**2.91**	**104**	*i* P	**Pn**	**15 23 17.9**	**+0.3**
MTDJ				*i* S	**Sn**	**15 23 49.9**	**-1.6**
MTDJ	**Mount Denham**	**2.91**	**104**	*e*P	**Pn**	**15 23 18.1**	**+0.6**
MTDJ				*e*S	**Sn**	**15 23 50.9**	**-0.6**
MTDJ				IAML		15 23 53.0	
	503nm,0.2s						
MTDJ				IAML		15 23 53.7	
	comp=Z,480nm,0.2s						
MGV	**Manicaragua**	**3.20**	**9**	*e*P	**Pn**	**15 23 19.7**	**-1.8**
MGV				*e*S	**Sn**	**15 23 54.4**	**-4.0**
MGV				IAML		15 23 56.1	
	comp=E,566nm,0.5s						
MGV				IAML		15 23 56.5	
	comp=N,423nm,0.4s						
CCCC	**Cccc**	**3.43**	**48**	*e*P	**Pn**	**15 23 27.9**	**+3.3**
LMGC	**Las Mercedes**	**3.49**	**71**	*e*P	**Pn**	**15 23 25.1**	**-0.4**
LMGC				*e*S	**Sn**	**15 24 04.2**	**-1.4**
LMGC				IAML		15 24 07.7	
	comp=E,306nm,0.2s						
LMGC				IAML		15 24 08.4	
	comp=N,292nm,0.2s						
STH	**Stony Hill**	**3.62**	**103**	*i* P	**Pn**	**15 23 27.6**	**+0.3**
STH	**Stony Hill**	**3.62**	**103**	*e*P	**Pn**	**15 23 27.4**	**+0.2**
STH				*e*S	**Sn**	**15 24 07.3**	**-1.4**
HOJ	**Hope**	**3.69**	**104**	*i* P	**Pn**	**15 23 29.2**	**+1.0**
GWJ	**Greenwich**	**3.69**	**103**	*e*P	**Pn**	**15 23 28.8**	**+0.5**
CAMR	**Camarioca**	**4.18**	**349**	Pn	**Pn**	**15 23 34.6**	**-0.4**
MARVS	**Santiago de Cu**	**4.48**	**76**	*e*P	**Pn**	**15 23 38.1**	**-1.0**
MARVS				*e*S	**Sn**	**15 24 26.9**	**-3.1**
SOR	**Soroa**	**4.49**	**329**	Pn	**Pn**	**15 23 37.9**	**-1.4**
HLGC	**Holguin**	**4.62**	**64**	*e*P	**Pn**	**15 23 41.3**	**+0.3**
RCC	**Rio Carpintero**	**4.66**	**76**	*e*P	**Pn**	**15 23 40.5**	**-1.1**
RCC				*e*S	**Sn**	**15 24 31.9**	**-2.6**
RCC				*e*Sg	**Sn**	**15 24 35.5**	**+0.9**
RCC				IAML		15 24 41.4	
	comp=E,64nm,0.4s						
RCC				IAML		15 24 41.6	
	comp=N,67nm,0.2s						
RCC				IAML		15 24 41.9	
	comp=Z,71nm,0.4s						
PINC	**Pinares de May**	**4.71**	**70**	*e*P	**Pn**	**15 23 43.2**	**+1.0**
PINC				*e*S	**Sn**	**15 24 34.9**	**-0.7**
PINC				IAML		15 24 42.6	
	comp=E,62nm,0.2s						
GTBY	**Guantanamo Bay**	**5.19**	**78**	Pn	**Pn**	**15 23 48.1**	**-0.8**
GTBY	**Guantanamo Bay**	**5.19**	**78**	*e*P	**Pn**	**15 23 48.2**	**-0.7**
GTBY				*e*S	**Sn**	**15 24 43.1**	**-4.4**
GTBY				IAML		15 24 53.7	
	comp=E,127nm,0.3s						
GTBY				IAML		15 24 54.9	
	comp=E,112nm,0.4s						
NMDO	**Nuevo Mundo**	**5.45**	**72**	*e*P	**Pn**	**15 23 52.3**	**-0.1**
NMDO				*e*S	**Sn**	**15 24 53.3**	**-0.7**
MASC	**Masc**	**6.05**	**77**	*e*P	**Pn**	**15 24 01.1**	**+0.5**
MASC				*e*S	**Sn**	**15 25 06.2**	**-2.5**
MASC				IAML		15 25 16.0	
	comp=E,91nm,0.4s						
MASC				IAML		15 25 16.3	
	comp=N,113nm,0.9s						
061Z	**Ochoppi**	**6.91**	**357**	Pn	**Pn**	**15 24 12.3**	**-0.1**
TEIG	**Tepich**	**7.43**	**281**	Pn	**Pn**	**15 24 18.3**	**-1.3**
TEIG	**Tepich**	**7.43**	**281**	LR	LR	15 26 59.4	
	comp=N,3μm,19.6s,baz=213,slow=36						
ESPN	**Las Esperanzas**	**7.63**	**209**	Pn	**Pn**	**15 24 20.5**	**-1.9**
PAPH	**Port-au-Prince**	**7.79**	**92**	Pn	**Pn**	**15 24 24.6**	**-0.1**
BOAB	**BOACO BROADBAN**	**8.14**	**218**	Pn	**Pn**	**15 24 31.9**	**+2.5**
SDDR	**Presa de Saban**	**8.73**	**88**	Pn	**Pn**	**15 24 38.4**	**+0.8**
SDDR	**Presa de Saban**	**8.73**	**88**	⇓*e*P	**Pn**	**15 24 38.8**	**+1.3**
JTS	**Las Juntas de**	**9.61**	**207**	LR	LR	15 28 37.3	
	comp=N,100nm,20.7s,baz=66,slow=38						
BCIP	**Isla Barro Col**	**9.73**	**176**	Pn	**Pn**	**15 24 51.1**	**-0.2**
ORTG	**Ortega, Santa**	**9.77**	**210**	Pn	**Pn**	**15 24 49.4**	**-2.5**
DRK0	**Durika**	**9.97**	**196**	Pn	**Pn**	**15 24 53.1**	**-1.6**
553A	**Crawfordville**	**11.76**	**343**	Pn	**Pn**	**15 25 17.1**	**-1.8**
451A	**Vernon**	**12.56**	**339**	Pn	**Pn**	**15 25 27.7**	**-2.2**
TIGA	**Tifton**	**12.76**	**348**	Pn	**Pn**	**15 25 32.1**	**-0.5**
352A	**Blakely**	**13.11**	**343**	Pn	**Pn**	**15 25 35.3**	**-2.2**
CELP	**Cerrillos**	**13.24**	**91**	Pn	**Pn**	**15 25 38.9**	**-0.4**
SJG	**San Juan**	**13.65**	**91**	LR	LR	15 30 35.4	
	comp=N,94nm,20.3s,baz=248,slow=36						
CMIG	**Matias Romero**	**13.79**	**265**	Pn	**Pn**	**15 25 46.1**	**-0.7**
	comp=N,0.4nm,0.3s,baz=72,slow=13,SNR=2.7						
CMIG				Sn	Sn	15 28 09.0	-10
	comp=N,0.6nm,0.3s,baz=348,slow=7.5,SNR=6.1						
CMIG				LR	LR	15 31 00.4	
	comp=N,140nm,18.9s,baz=84,slow=37						
	comp=N,1.3nm,0.3s						
SDV	**Santo Domingo**	**13.84**	**135**	Pn	**Pn**	**15 25 46.7**	**-0.9**
SDV	**Santo Domingo**	**13.84**	**135**	Pn	**Pn**	**15 25 47.2**	**-0.4**
	comp=N,2.9nm,0.3s,baz=331,slow=3.1,SNR=17						
SDV				LR	LR	15 31 41.8	
	comp=N,143nm,18.9s,baz=325,slow=40						
	comp=N,12nm,0.5s						
152A	**Waverly Hall**	**14.19**	**345**	Pn	**Pn**	**15 25 50.2**	**-1.9**
GOGA	**Godfrey**	**14.66**	**350**	Pn	**Pn**	**15 25 57.4**	**-1.1**
Y58A	**Scranton**	**14.93**	**3**	Pn	**Pn**	**15 26 01.4**	**-0.7**
LRAL	**Lakeview Retre**	**15.20**	**339**	Pn	**Pn**	**15 26 02.5**	**-3.2**
LRAL				IAmb	IAmb	15 26 16.2	
	comp=Z,11nm,1.2s						
BAUV	**El Baul**	**15.64**	**128**	Pn	**Pn**	**15 26 12.0**	**+0.4**
BG3	**Lake Jocassee**	**16.14**	**353**	Pn	**Pn**	**15 26 17.2**	**-0.6**
143A	**Socs Landing,**	**16.84**	**327**	Pn	**Pn**	**15 26 24.4**	**-2.3**
TKL	**Tuckaleechee C**	**16.91**	**351**	Pn	**Pn**	**15 26 26.7**	**-0.9**
TKL	**Tuckaleechee C**	**16.91**	**351**	Pn	**Pn**	**15 26 27.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=157,slow=13,SNR=2.2						
TKL				LR	LR	15 32 55.4	
	comp=Z,115nm,18.6s,baz=179,slow=37						
	comp=Z,0.8nm,0.3s						
Y45A	**Yeager Farm, C**	**16.91**	**333**	Pn	**Pn**	**15 26 25.3**	**-2.4**
Y45A				IAmb	IAmb	15 26 46.9	
	comp=Z,37nm,1.4s						
U54A	**Nelsons Funny**	**17.56**	**357**	Pn	**Pn**	**15 26 33.8**	**-1.9**
U54A				IAmb	IAmb	15 27 12.7	
	comp=Z,9.1nm,1.1s						
WVT	**Waverly**	**18.31**	**341**		**P**	**15 26 43.5**	**-1.2**
P52A	**Corning**	**20.68**	**356**	P	**P**	**15 27 10.8**	**+0.3**
P52A				IAmb	IAmb	15 27 22.1	
	comp=Z,10nm,1.4s						
CCM	**Cathedral Cave**	**21.23**	**336**	P	**P**	**15 27 16.4**	**-0.1**
CCM				IAmb	IAmb	15 27 45.6	
	comp=Z,9.5nm,1.2s						
R40A	**Maddies Statio**	**21.84**	**334**	P	**P**	**15 27 23.4**	**+0.3**
R40A				IAmb	IAmb	15 27 48.8	
	comp=Z,11nm,1.3s						
SAND	**Sanderson**	**22.49**	**303**	P	**P**	**15 27 30.4**	**+0.2**
TXAR	**Lajitas Array**	**23.49**	**301**	P	**P**	**15 27 41.4**	**+0.9**
TXAR	**Lajitas Array**	**23.49**	**301**	P	**P**	**15 27 41.7**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=116,slow=8.7,SNR=20						
	comp=Z,0.6nm,0.4s						
TX31	**Lajitas Ar. Si**	**23.49**	**301**	P	**P**	**15 27 41.4**	**+0.9**
TX31				IAmb	IAmb	15 27 56.5	
	comp=Z,3.8nm,1.0s						
ANMO	**Albuquerque**	**27.98**	**310**	LR	LR	15 40 00.8	
	comp=Z,50nm,21.2s,baz=226,slow=38						
LPIG	**La Paz**	**28.16**	**286**	LR	LR	15 41 06.3	
	comp=Z,94nm,18.6s,baz=58,slow=40						
MDP	**Montagnes des**	**30.46**	**113**	LR	LR	15 42 43.7	
	comp=Z,49nm,18.2s,baz=314,slow=40						
ELK	**Elko**	**36.80**	**314**	LR	LR	15 45 27.9	
	comp=Z,72nm,20.6s,baz=148,slow=37						
SCHQ	**Schefferville**	**37.33**	**13**	LR	LR	15 45 32.7	
	comp=Z,38nm,18.8s,baz=255,slow=37						
NVAR	**Mina Array Bea**	**38.08**	**309**	P	**P**	**15 29 52.1**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=102,slow=8.4,SNR=2.0						
	comp=Z,0.2nm,0.5s						
SIV	**San Ignacio**	**39.63**	**150**	LR	LR	15 45 59.5	
	comp=Z,96nm,21.7s,baz=288,slow=36						
NEW	**Newport**	**41.61**	**323**	LR	LR	15 48 57.7	
	comp=Z,78nm,18.0s,baz=268,slow=38						
LVC	**Limon Verde**	**42.82**	**164**	LR	LR	15 49 45.8	
	comp=Z,69nm,20.9s,baz=190,slow=38						
FRB	**Frobisher Bay**	**45.52**	**7**	LR	LR	15 48 42.5	
	comp=Z,43nm,19.8s,baz=213,slow=34						
RCBR	**Riachuelo**	**50.37**	**115**	LR	LR	15 53 21.3	
	comp=Z,70nm,18.6s,baz=262,slow=37						
SFJD	**Kangerlussuaq**	**51.75**	**14**	LR	LR	15 55 51.3	
	comp=Z,47nm,18.5s,baz=256,slow=39						
INK	**Inuvik**	**59.26**	**340**	LR	LR	15 58 12.5	
	comp=Z,132nm,19.0s,baz=185,slow=36						
BORG	**Borgarnes**	**60.04**	**25**	LR	LR	15 59 05.9	
	comp=Z,25nm,18.0s,baz=329,slow=36						
ILAR	**Eielson Array**	**63.00**	**334**	P	**P**	**15 32 58.4**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=119,slow=5.6,SNR=5.9						
	comp=Z,0.3nm,0.6s						
KDAK	**Kodiak Island**	**64.63**	**326**	LR	LR	16 05 07.6	
	comp=Z,60nm,18.8s,baz=201,slow=40						
MDT	**Midelt**	**68.40**	**61**	LR	LR	15 57 48.0	
	comp=Z,37nm,19.3s,baz=330,slow=31						
NOA	**NORSAR Array B**	**74.46**	**30**	LR	LR	16 03 08.5	
	comp=Z,14nm,21.4s,baz=225,slow=33						
HFS	**Hagfors**	**75.85**	**31**	LR	LR	16 08 02.6	
	comp=Z,20nm,18.1s,baz=257,slow=36						
ARCES	**ARCESS Array B**	**77.87**	**20**	P	**P**	**15 34 30.1**	**+2.7**
	comp=Z,4.9nm,1.0s,baz=270,slow=4.5,SNR=3.8						
	comp=Z,4.9nm,1.0s						
VRAC	**Vranov**	**80.37**	**41**	LR	LR	16 06 39.9	
	comp=Z,35nm,18.6s,baz=260,slow=33						
FINES	**FINESS Array B**	**81.20**	**28**	P	**P**	**15 34 47.9**	**+2.3**
	comp=Z,0.8nm,0.5s,baz=285,slow=3.7,SNR=6.4						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**147.15**	**262**	PKPbc	**PKPab**	**15 42 15.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=91,slow=3.7,SNR=1.6						
ASAR	**Alice Springs**	**147.64**	**256**	PKPbc	**PKiKP**	**15 42 17.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=102,slow=3.9,SNR=16						

*IDC **21** 16:24:19.8±2.3,42°.10N×143°.01E,h0km,mb3.3/3, mbtmp3.2/4,ML2.2/1,MS2.9/1,Error ellipse: s-maj=58.9km s-min=33.9km az=132.0*
*JMA **21** 16:24:26.8±0.1,41°.9N±0°.6×143°.0E±0°.5,h41km,MV3.0/36, S OFF URAKAWA*
JMA Felt I J1 at S OFF URAKAWA .
ISC 21 16:24:25.1±1.2,41°.85N±0°.08×143°.10E±0°.09,h47km±8km, n14,σ891/14,mb3.1/3,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.17**	**14**	*i* P	**Pn**	**16 24 33.4**	**+0.5**
JEM				*e*S	**Sn**	**16 24 38.2**	**-0.2**
JTHR	**Tokachihiroo**	**0.47**	**18**	*i* P	**Pn**	**16 24 36.3**	**+0.5**
JNBK	**Urakawa-nobuka**	**0.50**	**329**	*i* P	**Pn**	**16 24 36.2**	**0.0**
JSHD	**Hidakashinhida**	**0.73**	**320**	P	**Pn**	**16 24 39.5**	**+0.4**
JCH	**Churui**	**0.79**	**14**	*i* P	**Pn**	**16 24 40.5**	**+0.6**
JBT2	**Biratori 2**	**1.08**	**330**	*e*P	**Pn**	**16 24 44.5**	**+0.7**
JIAM	**Iburiatsuma**	**1.17**	**312**	*e*P	**Pn**	**16 24 46.9**	**+1.8**
JOB	**Onbets**	**1.19**	**27**	*e*P	**Pn**	**16 24 46.7**	**+1.4**
JFR	**Furan**	**1.36**	**344**	*e*S	**Sn**	**16 25 04.1**	**-0.6**
MJAR	**Matsushiro Arr**	**6.52**	**217**	Pn	**Pn**	**16 25 59.1**	**+0.6**
	baz=29,slow=12,SNR=5.5						
	0.7nm,0.5s						
KLR	**Kul'dur**	**10.85**	**317**	LR	LR	16 31 43.2	
	comp=Z,56nm,18.1s,baz=78,slow=42						
KURBB	**Kurchatov Arra**	**44.21**	**304**	P	**P**	**16 32 29.2**	**-0.2**
	0.3nm,0.8s,baz=78,slow=9.3,SNR=2.4						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**44.77**	**35**	P	**P**	**16 32 33.4**	**-0.2**
	0.1nm,0.7s,baz=256,slow=5.6,SNR=4.5						
	0.1nm,0.7s						
FINES	**FINESS Array B**	**65.18**	**332**	P	**P**	**16 35 00.3**	**-0.6**
	0.5nm,0.5s,baz=46,slow=8.2,SNR=6.7						
	0.5nm,0.5s						

*OSPL **21** 16:25:34.5±0.9,18°.96N×70°.33W,h107km±9km,ML2.1*
*SDD **21** 16:25:35.7±1.4,18°.84N×70°.39W,h96km±10km,MD3.1, ML2.7,MW3.2*
ISC 21 16:25:35.5±2.5,18°.88N±0°.10×70°.38W±0°.05,h89km±17km, n10,σ043/16,5C-3D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABDR	**Alto Bandera**	**0.24**	**253**	⇑*e*Pg	**Pn**	**16 25 48.9**	**-0.1**
ABDR				*e*Sg	**Sn**	**16 25 59.4**	**+0.5**
ABDR				IAML		16 25 59.5	
	comp=E,167nm,0.5s						
ABDR				IAML		16 26 00.3	
	comp=N,230nm,0.2s						
DR08	**Loma La Naviza**	**0.35**	**77**	⇑*e*Pg	**Pn**	**16 25 48.6**	**-0.6**
DR08				⇑*e*Sg	**Sn**	**16 25 59.1**	**-0.2**
DR08				IAML		16 26 00.5	
	comp=N,2μm,0.1s						
SDD	**Santo Domingo**	**0.61**	**133**	*i* P	**Pn**	**16 25 50.6**	**-0.5**
SDD				*e*S	**Sn**	**16 26 03.5**	**+0.8**
SC01	**Santiago de lo**	**0.63**	**329**	⇓*e*Sg	**Sn**	**16 26 03.6**	**+0.5**
SC01				IAML		16 26 04.7	
	comp=N,97nm,0.6s						
SC01	**Santiago de lo**	**0.63**	**329**	*i* P	**Pn**	**16 25 51.1**	**-0.2**
SC01				*e*S	**Sn**	**16 26 03.2**	**+0.2**
SC01				IAML		16 26 04.9	
	comp=Z,44nm,0.3s						
NADR	**Nagua**	**0.69**	**47**	IAML		16 26 05.7	
	comp=E,216nm,0.6s						
NADR				IAML		16 26 08.1	
	comp=N,284nm,0.3s						
SDDR	**Presa de Saban**	**0.86**	**277**	⇓*e*Pg	**Pn**	**16 25 53.4**	**-0.2**
SDDR				⇓*e*Sg	**Sn**	**16 26 07.1**	**-0.1**
SDDR				IAML		16 26 11.2	
	comp=N,41nm,0.3s						
SDDR	**Presa de Saban**	**0.86**	**277**	*i* P	**Pn**	**16 25 53.7**	**+0.1**
SDDR				*e*S	**Sn**	**16 26 07.1**	**-0.1**
SDDR				IAML		16 26 07.9	
	comp=Z,30nm,2.2s						
HATOM	**Hato Mayor del**	**0.95**	**95**	⇑*e*Pg	**Pn**	**16 25 54.4**	**-0.3**
HATOM				⇑*e*Sg	**Sn**	**16 26 09.4**	**+0.4**
HATOM				IAML		16 26 10.6	
	comp=E,157nm,0.7s						
HATOM				IAML		16 26 10.8	
	comp=N,81nm,0.2s						
MIDR	**Miches**	**1.27**	**85**	*e*Pg	**Pn**	**16 25 58.2**	**0.0**
MIDR				IAML		16 26 17.7	
	comp=E,63nm,1.4s						
MIDR				IAML		16 26 20.1	
	comp=N,38nm,3.0s						

IDC 21 16:40:09.4±1.6,5°.06S×145°.35E,h0km,mb3.2/2, mbtmp3.4/4,ML2.6/2,Error ellipse: s-maj=58.7km s-min=28.2km az=108.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**158**	Pn	Pn	16 41 20.2	-1.1
	2.2nm,0.3s,baz=348,slow=5.6,SNR=14						
PMG				Sn	Sn	16 42 09.5	-6.7
	2.2nm,0.3s,baz=292,slow=19,SNR=3.5						
	7.1nm,0.6s						
WRA	**Warramunga Arr**	**18.27**	**215**	P	P	16 44 25.3	+0.5
	0.1nm,0.3s,baz=32,slow=11,SNR=3.4						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**21.54**	**210**	P	P	16 45 00.2	-0.3
	0.3nm,1.0s,baz=41,slow=8.6,SNR=1.7						
	0.3nm,1.0s						
ILAR	**Eielson Array**	**85.27**	**23**	P	P	16 52 48.2	+0.4
	0.5nm,0.7s,baz

MRHZ	Matea Rd	0.73 156	P	Pn	17 01 13.0	+0.7
MRHZ			S	Sn	17 01 31.3	-2.8
WHRZ	Whale Island	0.81 67	P	Pn	17 01 13.8	+1.1
RITZ	Rihia Road	0.82 190	P	Pn	17 01 14.2	+1.5
KATZ	Kakaramea	0.85 198	P	Pn	17 01 14.1	+1.1
URZ	Urewera	0.85 96	P	Pn	17 01 12.9	+0.1
URZ	Urewera	0.85 96	P	Pn	17 01 12.7	-0.1
URZ			S	Sn	17 01 32.0	-3.0
RTZ	Ruatahuna	0.87 121	Pn	Pn	17 01 13.6	+0.6
RTZ	Ruatahuna	0.87 121	P	Pn	17 01 13.7	+0.6
RTZ			S	Sn	17 01 33.7	-1.7
MTHZ	Maungataniwha	0.93 137	P	Pn	17 01 14.3	+0.9
MTHZ			S	Sn	17 01 34.5	-1.7
NTVZ	North Tongariro	0.97 197	P	Pn	17 01 14.9	+1.1
KRVZ	Karewarewa	0.97 198	P	Pn	17 01 14.9	+1.1
TMVZ	Te Maari	0.98 195	P	Pn	17 01 15.0	+1.2
HIZ	Hauiti	0.99 249	Pn	Pn	17 01 14.8	+1.1
HIZ	Hauiti	0.99 249	P	Pn	17 01 14.8	+1.1
HIZ	Hauiti	0.99 249	P	Pn	17 01 14.9	+1.1
ETVZ	East Tongariro	1.00 195	P	Pn	17 01 15.3	+1.3
WTVZ	West Tongariro	1.01 200	P	Pn	17 01 15.2	+1.2
TWVZ	Taurewa	1.01 207	P	Pn	17 01 15.3	+1.3
NNVZ	North Ngauruho	1.02 199	P	Pn	17 01 15.3	+1.2
OTVZ	Oturere	1.03 196	P	Pn	17 01 15.4	+1.2
BKZ	Black Stump Fm	1.06 160		Pn	17 01 15.2	+1.0
BKZ	Black Stump Fm	1.06 160	P	Pn	17 01 15.3	+1.0
BKZ	Black Stump Fm	1.06 160	P	Pn	17 01 15.3	+1.0
BKZ			S	Sn	17 01 35.9	-1.9
NGZ	Ngauruhoe	1.06 199	P	Pn	17 01 15.6	+1.2
SNVZ	South Ngauruho	1.06 197	P	Pn	17 01 15.6	+1.1
COVZ	Chateau Observ	1.10 200	P	Pn	17 01 15.8	+1.2
NMVZ	Naumai	1.11 147	P	Pn	17 01 15.8	+1.2
NMHZ			S	Sn	17 01 38.5	+0.1
RAHZ	Arahi	1.11 132	P	Pn	17 01 16.0	+1.4
RAHZ			S	Sn	17 01 37.2	-1.1
RAGZ	Rawiri	1.13 107	P	Pn	17 01 15.7	+0.9
RAGZ			S	Sn	17 01 36.7	-1.9
TUVZ	Tukino	1.14 195	P	Pn	17 01 16.3	+1.4
FWVZ	Far West T-bar	1.15 199	P	Pn	17 01 16.4	+1.3
MAVZ	Matarangi	1.16 199	P	Pn	17 01 16.3	+1.0
WHVZ	Whangaehu Hut	1.17 197	P	Pn	17 01 16.6	+1.3
MWZ	Matawai	1.19 98	P	Pn	17 01 15.6	+0.4
TRVZ	Turoa	1.19 199	P	Pn	17 01 16.6	+1.1
SNGZ	Shannon Statio	1.19 121	P	Pn	17 01 16.5	+1.3
WNVZ	Wahianoa	1.21 196	P	Pn	17 01 16.7	+1.2
PKVZ	Pokaka	1.24 206	P	Pn	17 01 17.0	+1.3
MOVZ	Moawhango	1.25 190	P	Pn	17 01 16.7	+1.0
MKAZ	Moumakai	1.27 327	P	Pn	17 01 16.2	+0.4
KWHZ	Kaweka Forest	1.29 167	P	Pn	17 01 17.4	+1.4
KWHZ			S	Sn	17 01 40.4	-0.5
MTVZ	Mangateitei	1.29 200	P	Pn	17 01 17.4	+1.4
WHNZ	Waihua	1.30 134	P	Pn	17 01 17.6	+1.5
RUGZ	Raukumara Rang	1.31 82	P	Pn	17 01 15.5	-0.8
BHHZ	Black Hill Sta	1.32 179	P	Pn	17 01 17.3	+1.1
ARHZ	Aropaoanui	1.33 146	P	Pn	17 01 18.0	+1.7
MCHZ	McNeill Hill	1.37 158	P	Pn	17 01 18.6	+2.0
VRZ	Vera Road	1.38 226	P	Pn	17 01 18.4	+1.7
HAZ	Te Kaha	1.44 74	P	Pn	17 01 16.6	-0.6
KUZ	Kuaotunu	1.44 350	P	Pn	17 01 17.1	-0.2
KUZ	Kuaotunu	1.44 350	P	Pn	17 01 17.2	-0.1
TKGZ	Te Karaka	1.45 101	P	Pn	17 01 18.3	+1.0
RIGZ	Rimuhau	1.46 112	P	Pn	17 01 18.7	+1.3
KRHZ	Kereru	1.50 170	P	Pn	17 01 19.2	+1.4
ETAZ	East Tamaki Re	1.50 324	P	Pn	17 01 18.0	+0.2
TWGZ	Tauwhareparae	1.53 91	P	Pn	17 01 19.0	+0.9
KNZ	Kokohu	1.54 124	P	Pn	17 01 19.3	+1.2
WAIZ	Waiheke Island	1.55 332	P	Pn	17 01 18.6	+0.3
AWAZ	Awhitu Peninsu	1.56 315	P	Pn	17 01 18.7	+0.4
MHEZ	Mangahewa	1.62 235	P	Pn	17 01 21.2	+2.3
PRGZ	Paritu Road	1.63 118	P	Pn	17 01 20.2	+1.2
PKGZ	Pakihiroa	1.64 81	P	Pn	17 01 19.5	+0.4
MBAZ	Motutapu North	1.67 327	P	Pn	17 01 19.6	+0.3
CKHZ	Cape Kidnapper	1.69 152	P	Pn	17 01 21.4	+1.9
WTAZ	Waiatarua	1.69 316	P	Pn	17 01 20.2	+0.6
CNGZ	Carnagh Statio	1.74 101	P	Pn	17 01 21.4	+1.4
PNHZ	Pukenui	1.75 176	P	Pn	17 01 21.3	+1.2
KAHZ	Kahuranaki	1.75 158	P	Pn	17 01 21.9	+1.8
PUZ	Puketiti	1.75 87	P	Pn	17 01 20.4	+0.2
MHGZ	Mahia Peninsul	1.76 124	P	Pn	17 01 21.8	+1.6
WAZ	Wanganui	1.78 207	P	Pn	17 01 21.8	+1.4
LREZ	Lake Rotokare	1.81 224	P	Pn	17 01 22.8	+2.2
ABAZ	Army Bay	1.84 328	P	Pn	17 01 21.7	+0.7
NEZ	North Egmont	1.87 233	P	Pn	17 01 23.7	+2.3
PREZ	Palmer Road	1.88 231	P	Pn	17 01 23.6	+2.3
TSZ	Takapari Road	1.89 182	P	Pn	17 01 22.7	+1.2
MXZ	Matakaoa Point	1.90 72	Pn	Pn	17 01 21.8	+0.3
MXZ	Matakaoa Point	1.90 72	P	Pn	17 01 21.8	+0.3
PKE	Pukeiti	1.90 237	P	Pn	17 01 23.8	+2.2
WMGZ	Waiomatatini S	1.91 80	P	Pn	17 01 22.1	+0.4
WPHZ	Waipukurau	1.92 171	P	Pn	17 01 23.1	+1.4
KHEZ	Kahui Hut	1.94 234	P	Pn	17 01 23.8	+1.8
KHEZ	Kahui Hut	1.94 234	P	Pn	17 01 24.2	+2.1
PXZ	Pawanui	1.97 161	P	Pn	17 01 23.7	+1.5
GRZ	Great Barrier	1.97 346	P	Pn	17 01 22.4	+0.1
NBEZ	Newall Road No	2.02 236	P	Pn	17 01 25.0	+2.2
OHWZ	Ohakea	2.11 195	P	Pn	17 01 25.3	+1.6
DVHZ	Dannevirke	2.13 177	P	Pn	17 01 24.9	+1.0
PRHZ	Porangahau	2.15 168	P	Pn	17 01 25.5	+1.4
POWZ	Post Office Ro	2.23 185	P	Pn	17 01 25.9	+0.9
ANWZ	Angora Road	2.31 172	P	Pn	17 01 27.2	+1.4
PRWZ	Pori Road	2.38 181	P	Pn	17 01 27.8	+1.1
MRZ	Mangatainoka R	2.51 188	Pn	Pn	17 01 28.7	+0.6
MRZ	Mangatainoka R	2.51 188	P	Pn	17 01 28.7	+0.6
BFZ	Birch Farm	2.51 176		Pn	17 01 28.9	+0.8
BFZ	Birch Farm	2.51 176	P	Pn	17 01 28.9	+0.8
BFZ	Birch Farm	2.51 176	P	Pn	17 01 28.9	+0.8
TIWZ	Tintock	2.61 183	P	Pn	17 01 29.8	+0.7
OGWZ	Otaki Gorge	2.73 194	P	Pn	17 01 31.1	+0.6
CPWZ	Castlepoint	2.74 177	P	Pn	17 01 31.9	+1.3
HOWZ	Holdsworth Sta	2.75 188	P	Pn	17 01 31.1	+0.3
KIW	Kapiti Island	2.83 198	P	Pn	17 01 31.8	+0.2
TMWZ	Te Maipa	2.94 182	P	Pn	17 01 33.2	+0.2
MTW	Mount Morrison	3.01 188	P	Pn	17 01 33.9	0.0
CAW	Cannon Point	3.03 194	P	Pn	17 01 34.1	+0.1
DUWZ	D'Urville Isla	3.10 211	P	Pn	17 01 34.8	-0.1
TRWZ	Traveller	3.24 185	P	Pn	17 01 36.5	0.0
PAWZ	Paruwai Farm	3.24 188	P	Pn	17 01 36.5	-0.1
WEL	Wellington	3.26 197	P	Pn	17 01 36.7	0.0
SNZO	South Karori	3.30 198	Pn	Pn	17 01 36.9	-0.3
SNZO	South Karori	3.30 198	P	Pn	17 01 37.0	-0.3
TCW	Tory Channel	3.33 204		Pn	17 01 37.4	-0.2
TCW	Tory Channel	3.33 204	P	Pn	17 01 37.5	0.0
BHW	Baring Head	3.36 195		Pn	17 01 37.6	-0.3
BHW	Baring Head	3.36 195	P	Pn	17 01 37.7	-0.3
PLWZ	Palliser	3.45 190	Pn	Pn	17 01 38.6	-0.5
PLWZ	Palliser	3.45 190	P	Pn	17 01 38.6	-0.5
TUWZ	Tuamarina	3.63 206		Pn	17 01 40.8	-0.5
TUWZ	Tuamarina	3.63 206	P	Pn	17 01 41.0	-0.3
NNZ	Nelson	3.67 213		Pn	17 01 40.9	-0.8
NNZ	Nelson	3.67 213	P	Pn	17 01 41.4	-0.3
QRZ	Quartz Range	3.79 225		Pn	17 01 42.4	-0.8
QRZ	Quartz Range	3.79 225	P	Pn	17 01 42.8	-0.5
QRZ	Quartz Range	3.79 225	P	Pn	17 01 42.5	-0.8
CMWZ	Cape Campbell	3.84 201	P	Pn	17 01 44.6	+0.7
BSWZ	Blackbirch Sta	3.91 204		Pn	17 01 44.3	-0.4
BSWZ	Blackbirch Sta	3.91 204	P	Pn	17 01 44.4	-0.3
MRNZ	Matariki Terra	4.10 217	Pn	Pn	17 01 46.4	-0.6
MRNZ	Matariki Terra	4.10 217	P	Pn	17 01 46.4	-0.6
THZ	Tophouse Point	4.32 213	Pn	Pn	17 01 49.2	-0.7
THZ	Tophouse	4.32 213	P	Pn	17 01 49.2	-0.7
KHZ	Kahutara	4.65 203	Pn	Pn	17 01 53.8	-0.2
KHZ	Kahutara	4.65 203	P	Pn	17 01 53.8	-0.2
KHZ	Kahutara	4.65 203	P	Pn	17 01 53.6	-0.4
DSZ	Denniston Nort	4.83 221		Pn	17 01 55.7	-0.6
DSZ	Denniston Nort	4.83 221	P	Pn	17 01 55.5	-0.9
GVZ	Greta Valley S	5.31 205		Pn	17 02 01.8	-0.7
GVZ	Greta Valley S	5.31 205	P	Pn	17 02 01.7	-0.7
LTZ	Lake Taylor	5.43 211		Pn	17 02 02.8	-1.2
LTZ	Lake Taylor	5.43 211	P	Pn	17 02 02.8	-1.2
AMCZ	Amberley	5.62 206	Pn	Pn	17 02 05.2	-1.3
AMCZ	Amberley	5.62 206	P	Pn	17 02 05.3	-1.1
INZ	Inchbonnie	5.74 216	P	Pn	17 02 06.8	-1.1
OXZ	Oxford	5.98 209		Pn	17 02 09.3	-1.7
OXZ	Oxford	5.98 209	P	Pn	17 02 09.3	-1.7
OKCZ	Okains Bay	5.99 201	P	Pn	17 02 10.0	-1.2
MQZ	McQueen's Vall	6.09 204		Pn	17 02 10.4	-2.0
MQZ	McQueen's Vall	6.09 204	P	Pn	17 02 10.5	-2.0
AKCZ	Akaroa Harbour	6.17 202	P	Pn	17 02 12.1	-1.4
RACZ	Rakaia	6.29 207	P	Pn	17 02 13.3	-1.7
MHCZ	Mount Hutt	6.34 211	P	Pn	17 02 14.7	-1.1
WVZ	Waitaha Valley	6.34 218	P	Pn	17 02 15.5	-0.3
WACZ	Wakanui South	6.58 207	P	Pn	17 02 17.4	-1.4
RPZ	Rata Peaks	6.70 213	P	Pn	17 02 19.8	-0.6
RPZ	Rata Peaks	6.70 213	P	Pn	17 02 19.6	-0.9
ARCZ	Arundel	6.84 211	P	Pn	17 02 21.3	-0.9
FOZ	Fox Glacier	7.13 219	P	Pn	17 02 25.2	-0.9
TMZ	Timaru	7.27 210	P	Pn	17 02 26.6	-1.3
LBZ	Lake Benmore	7.61 213	P	Pn	17 02 31.3	-1.0
ODZ	Otahua Downs	7.97 209	Pn	Pn	17 02 36.2	-0.6
ODZ	Otahua Downs	7.97 209	P	Pn	17 02 36.3	-0.6
ODZ	Otahua Downs	7.97 209	P	Pn	17 02 36.0	-0.9
JCZ	Jackson Bay	8.04 221	P	Pn	17 02 37.2	-0.7
JCZ	Jackson Bay	8.04 221	P	Pn	17 02 37.3	-0.7
WKZ	Wanaka	8.48 216	Pn	Pn	17 02 42.7	-0.9
WKZ	Wanaka	8.48 216	P	Pn	17 02 42.2	-1.4
HHSZ	Highcliff Hill	8.70 206	P	Pn	17 02 46.5	0.0
MLZ	Mavora Lakes	9.31 217	Pn	Pn	17 02 53.8	-0.6
MLZ	Mavora Lakes	9.31 217	P	Pn	17 02 54.1	-0.2
WHZ	Wether Hill Ro	9.78 215	Pn	Pn	17 03 00.3	-0.1
WHZ	Wether Hill Ro	9.78 215	P	Pn	17 02 59.6	-0.8
SYZ	Scrubby Hill	9.79 209	P	Pn	17 02 59.9	-0.7
DCZ	Deep Cove	9.85 219	Pn	Pn	17 03 02.1	+0.8
APZ	The Paps	10.49 212	P	Pn	17 03 09.4	-0.3
PINNC	Pines Island,	17.17 332	P	P	17 04 28.0	-3.0
PINNC			IAmb	IAmb	17 04 58.4	
	comp=Z,51nm,1.1s					
FUNA	Funafuti	29.65 6	P	P	17 06 29.8	-1.4
	comp=Z,104nm,1.9s					
AS31	Alice Springs	38.59 280	P	P	17 07 50.8	+2.7
WB2	Warramunga Arr	40.32 285	P	P	17 08 05.1	+2.7
WB2			IAmb	IAmb	17 08 33.6	
	comp=Z,9.8nm,1.3s					
WB0	Warramunga Arr	40.39 285	P	P	17 08 05.4	+2.5
WB0			IAmb	IAmb	17 08 20.1	
	comp=Z,10nm,1.3s					
PATS	Pohnpei	47.72 336	P	P	17 09 01.4	+0.3
PZH	PanZhiHua	94.70 300	P	P	17 13 44.6	+1.7
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,140nm,6.0s					
HHC	Hu-ho-hao-te	98.24 316	eP	Pdif	17 14 02.6	+4.0
HHC			pmax	pmax		
	comp=Z,20nm,0.9s					
HHC			pmax	pmax		
	comp=Z,160nm,4.9s					

ISN ***21*** *17:01:18.7± 1.6, 33.64N× 45.47E, h9km± 6km, ML2.6*
TEH ***21*** *17:01:20.2, 33.71N× 45.77E, h8km± 34km, ML2.7*

ISC 21 17:01:18.0±1.4**, 33°68N**±0°04×**45°48E**±0°04**, h3**km±14km**, n9, σ1°09**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.68	147	eP	g	Pb	17 01 33.0	+0.5
IBDR				eS	g	Sg	17 01 41.0	+1.1
BHD	Baghdad	1.01	246	eP	g	Pn	17 01 39.0	0.0
BHD				eS	g	Sn	17 01 53.0	-0.7
IGHG	Ghaleghazi	1.11	54	Pg		Pg	17 01 37.8	-1.5
IDHR	Dehrash	1.26	36	Pg		Pg	17 01 41.9	-0.3
ILIN	Lien	1.74	44	Pg		Pb	17 01 49.9	-0.9
ILIN				Sg		Sb	17 02 12.8	-0.2
IKRK	Kirkuk	1.96	332	ePn		Pg	17 01 55.0	-0.5
IKRK				eSn		Sg	17 02 23.0	+2.1
IKFM	Kafar-mosalman	1.98	94	Pg		Pn	17 01 53.7	+1.3
RAFI	Al-Rafai	2.02	165	ePn		Pb	17 01 55.0	-0.4
RAFI				eSn		Sg	17 02 23.0	0.0
IALM	Almabolaq	2.52	61	Pn		Pn	17 02 00.6	+0.6

IDC ***21*** *17:01:28.2± 9.0, 40.31N× 140.65E, h0km, mb3.6/3, mbtmp3.5/4, ML1.9/1, Error ellipse: s-maj=195.6km s-min=39.5km az=88.0*
JMA ***21*** *17:01:36.2± 0.1, 39.5N± 0.4× 141.3E± 0.6, h125km, MV3.2/40, SOUTHERN IWATE PREF*

ISC 21 17:01:35.4±1.3**, 39°53N**±0°05×**141°4E**±0°1**, h128**km±8km**, n22, σ0°34/25, mb3.6**/3**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JOM	Ohasama	0.07	219	P		Pn	17 01 53.1	+0.3
JOM				S		Sn	17 02 05.8	0.0
JSZI	Iwateshizukuis	0.37	305	P		Pn	17 01 54.1	+0.5
JSZI				S		Sn	17 02 07.6	+0.3
JRG	Rokugo	0.57	257	iP		Pn	17 01 54.8	+0.2
JRG				S		Sn	17 02 08.9	-0.2
JMK	Ichinoseki	0.58	190	iP		Pn	17 01 54.9	+0.2
JMK				S		Sn	17 02 08.7	-0.6
JANG	Nango	0.86	9	iP		Pn	17 01 57.1	+0.3
JANG				S		Sn	17 02 12.6	-0.5
JAH	Hinai	0.86	321	iP		Pn	17 01 57.1	+0.2
JAH				S		Sn	17 02 12.7	-0.4
JYK	Kaneyama	0.98	232	iP		Pn	17 01 58.1	+0.2
JYK				S		Sn	17 02 14.8	-0.2
JIO	Ouri	1.07	180	iP		Pn	17 01 59.1	+0.3
JIO				S		Sn	17 02 16.1	-0.4
JOU	Okura	1.27	205	iP		Pn	17 02 01.4	+0.4
JTM	Tenmabayashi	1.28	350	P		Pn	17 02 01.2	+0.3
JTM				S		Sn	17 02 20.0	-0.3
JOT	Ohata	1.87	353	eP		Pn	17 02 08.0	+0.4
JAW	Awa shima	1.95	238	P		Pn	17 02 08.8	+0.1
MJAR	Matsushiro Arr	3.88	221	Pn		Pn	17 02 34.0	+0.5
	0.1nm,0.3s,baz=27,slow=15,SNR=6.8 2.2nm,0.8s							
H11N2	WAKE ISLAND Hy	29.53	124	T		T	17 38 24.3	
	baz=318,slow=75,SNR=11							
H11N1	WAKE ISLAND Hy	29.54	125	T		T	17 38 25.7	
	baz=318,slow=75,SNR=12							
H11N3	WAKE ISLAND Hy	29.55	124	T		T	17 38 26.4	
	baz=318,slow=75,SNR=8.8							
H11S1	WAKE ISLAND Hy	30.32	126	T		T	17 39 12.7	
	baz=318,slow=76,SNR=5.8							
H11S3	WAKE ISLAND Hy	30.32	126	T		T	17 39 14.2	
	baz=318,slow=76,SNR=5.4							
H11S2	WAKE ISLAND Hy	30.33	126	T		T	17 39 12.1	
	baz=318,slow=76,SNR=5.7							
ZALV	Zalesovo Beam	40.23	310	P		P	17 08 59.3	0.0
	0.5nm,0.5s,baz=94,slow=10,SNR=3.9 0.5nm,0.5s							
MKAR	Makanchi Array	42.79	300	P		P	17 09 20.2	-0.1
	0.5nm,0.7s,baz=85,slow=9.5,SNR=5.9 0.5nm,0.7s							
KURBB	Kurchatov Arra	44.46	306	P		P	17 09 33.2	-0.3
	0.7nm,0.5s,baz=80,slow=8.3,SNR=7.5 0.7nm,0.5s							

ANF ***21*** *17:04:04.9± 1.2, 29.74N× 114.56W, h0km, ML4.7/15, Error ellipse: s-maj=15.1km s-min=5.9km az=15.0*
ECX ***21*** *17:04:11.9± 0.4, 30.17N× 114.23W, h20km± 8km, ML4.6, Fault plane solution: NP1:φs150.00000°, δ87.00000°, λ-176.00000°.*
NEIC ***21*** *17:04:12.6± 2.5, 30.23N± 0.07× 114.25W± 0.07, h10km± 1km, mb4.5/89, Md4.5/16(MEX), Error ellipse: s-maj=14.2km s-min=8.0km az=219.0*
GCMT ***21*** *17:04:12.6± 0.3, 30.20N± 0.02× 114.22W± 0.02, h13km± 1km, MW4.9/108, Moment Tensor Solution. s30,c31; s108,c147; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.28±.09; Mθθ-1.65±.08; Mφφ1.93±.08; Mrθ0.30±.21; Mθφ1.89±.08; Mφr-0.29±.20; Best double couple: Mo2.64100×10^16 NP1:φs339.00000°, δ85.00000°, λ-171.00000°. NP2:φs248.00000°, δ81.00000°, λ-5.00000°. Principal axes: T 2.7500, Plg3.0000°, Azm113.0000°; N -0.2230, Plg80.0000°, Azm8.0000°; P -2.5320, Plg10.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MEX ***21*** *17:04:13.9± 0.4, 30.17N× 114.24W, h16km± 11km, MD4.5*
IDC ***21*** *17:04:13.6± 1.1, 30.37N× 114.06W, h0km, mb4.1/6, mbtmp3.9/15, ML3.5/8, MS4.2/71, Error ellipse: s-maj=19.8km s-min=8.7km az=41.0*

ISC 21 17:04:13.0±0.5**, 30°20N**±0°03×**114°33W**±0°03**, h10**km**, n332, σ2°40/282, mb4.5**/39**, MS4.2**/66**, 8C-7D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SLGB	San Luis Gonza	0.37	191	⇓iP		Pg	17 04 19.0	-1.3
SLGB				eS		Sg	17 04 24.8	-0.4
SFX	San Felipe	0.95	332			Pg	17 04 29.5	-1.9
SFX	San Felipe	0.95	332	eP		Pg	17 04 29.4	-2.0
SFX				eS		Sg	17 04 42.1	-1.7
SFX	San Felipe	0.95	332	⇑iP		Pg	17 04 29.5	-1.9
SFX				eS		Sg	17 04 42.4	-1.4
SFX				⇑e			17 04 46.5	
SFX				IAML			17 04 46.5	
	comp=E,15μm,1.0s							
PPXB	Puerto Peasco	1.28	28	⇓eP		Pn	17 04 33.8	-3.2
SPIG	San Pedro Mart	1.30	311	eP		Pn	17 04 35.4	-2.1
SPIG				eS		Sb	17 04 51.5	-3.1
SPIG	San Pedro Mart	1.30	311	eP		Pn	17 04 35.4	-2.1
SPIG				eS		Sb	17 04 54.7	+0.1
SPIG				IAML			17 05 02.7	
	comp=N,7μm,0.7s							
SQX	San Quintin	1.39	286	⇑iP		Pn	17 04 36.6	-1.9
SQX				eS		Sn	17 04 56.4	-0.6
SQX				IAML			17 04 59.8	
	comp=N,12μm,0.4s							
SQX				IAML			17 05 00.6	
	comp=E,10μm,0.6s							
BAHB	Baha de los	1.41	152	eP		Pn	17 04 34.8	-4.0
BAHB				eS		Sn	17 04 49.8	-7.6
BAHB	Baha de los	1.41	152	⇓iP		Pn	17 04 34.9	-3.9
ECBX	El Chinero	1.42	334	⇓iP		Pn	17 04 35.8	-3.1
ECBX				IAML			17 05 16.4	
	comp=N,5μm,1.3s							
PLIB	Puerto Liberta	1.44	101	⇑iP		Pn	17 04 34.5	-4.7
PIX	Pinacate	1.55	28	Pn		Pn	17 04 37.9	-2.7
PIX	Pinacate	1.55	28	⇓iP		Pn	17 04 37.8	-2.9
VTX	Valle De La Tr	1.73	314	Pn		Pn	17 04 41.7	-1.5
LAPR	La Primavera	1.76	80	eP		Pn	17 04 39.5	-4.0
LAPR				eS		Sg	17 05 06.9	-2.8
LAPR	La Primavera	1.76	80	⇑iP		Pn	17 04 39.8	-3.7
214A	Organ Pipe Nat	2.18	36	Pn		Pn	17 04 46.5	-2.9
214A	Organ Pipe Nat	2.18	36	P		Pn	17 04 46.6	-2.9
	baz=214,SNR=88							
214A	Organ Pipe Nat	2.18	36	⇓iP		Pn	17 04 46.8	-2.6
ESJX	Sierra Juarez	2.28	323	Pn		Pn	17 04 48.9	-2.0
MBIG	Mexicali	2.33	342	eP		Pn	17 04 50.9	-0.4
MBIG				eS		Sn	17 05 17.4	-2.6
CPBX	Cerro Prieto	2.37	340	Pn		Pn	17 04 50.0	-1.9
CPBX	Cerro Prieto	2.37	340	⇑e		Sg	17 05 50.2	+21
CPBX				IAML			17 05 50.2	
	comp=E,7μm,0.4s							
CPBX				⇓e			17 06 04.1	
CPBX				IAML			17 06 04.1	
	comp=N,7μm,1.0s							
BKIRB	Bahia Kino	2.42	123	⇑iP		Pn	17 04 48.4	-4.3
CCX	Cicese	2.61	310	Pn		Pn	17 04 53.1	-2.1
113A	Mohawk Valley,	2.61	10	Pn		Pn	17 04 52.9	-2.4
YUH	Yuha Desert	2.80	331	Pn		Pb	17 05 04.5	+1.4
RMX	La Rumorosa	2.83	328	Pn		Pn	17 04 55.4	-3.0
GLA	Glamis	2.88	352	P		Pn	17 04 57.2	-1.8
	baz=176							
IKP	In-Ko-Pah, Jac	2.88	329	P		Pn	17 04 57.1	-2.0
	baz=155							
IKP				Sb		Sg	17 05 44.3	-1.4
	baz=155							
CBX	Cerro Bola	2.91	317	Pn		Pn	17 04 58.1	-1.4
CBX	Cerro Bola	2.91	317	eP		Pn	17 04 58.0	-1.5
CBX				eS		Sn	17 05 31.6	-3.0
SWSC	Sam W. Stewart	3.02	336	P		Pn	17 04 58.7	-2.2
	baz=161							
TKX	Tecate	3.07	321	Pn		Pn	17 05 00.5	-1.0
HSIG		3.17	111	Pn		Pn	17 04 59.8	-3.1
HSIG		3.17	111	eP		Pn	17 04 59.4	-3.5
HSIG				eS		Sn	17 05 40.2	-0.5
BAR	Barrett	3.19	322	Pn		Pn	17 05 02.6	-0.6
MONP2	Monument Peak	3.23	327	P		Pn	17 05 02.2	-1.8
	baz=153							
MONP2				Sb		Sg	17 05 53.5	-3.3
	baz=153							
TJX	Tijuana	3.28	315	Pn		Pn	17 05 04.2	-0.3
SRIG	Santa Rosalia	3.40	147	eP		Pn	17 05 01.1	-4.9
SRIG				eS		Sn	17 05 44.9	-1.6
BLYC	Blythe	3.55	357	Pn		Pn	17 05 07.4	-0.8
109C	Camp Elliot, M	3.58	319	Pn		Pn	17 05 08.3	-0.3
109C	Camp Elliot, M	3.58	319	P		Pn	17 05 06.6	-2.1
	baz=145							
109C				Sb		Sb	17 06 03.2	+3.2
	baz=145							
TUC	Tucson	3.69	54			Pn	17 05 07.8	-2.4
TUC	Tucson	3.69	54			Pn	17 05 08.1	-2

SBC	Santa Barbara	6.22	314	Sg	Sg	17 07 35.1	+2.4
	baz=136						
W18A	Petrified Fore	6.25	37	Pn	Pn	17 05 46.0	+0.5
W18A	Petrified Fore	6.25	37	Sb	Sg	17 07 33.2	-0.5
	baz=218						
GWY	Greenwater Val	6.29	342	Pn	Pn	17 05 49.8	+3.9
SHPR	Sheep Range	6.33	354	Pn	Pn	17 05 47.4	+0.9
BCW	Bitter Crk WRg	6.39	319	Pn	Pn	17 05 47.8	+0.5
MPMC	Manual Prospec	6.42	336	P	Pn	17 05 48.7	+0.9
	baz=158						
MPMC				Sb	Sg	17 07 31.5	-7.6
	baz=158						
U15A	North Rim	6.45	15		Pn	17 05 48.7	+0.5
ISA	Isabella, Lake	6.47	328	P	Pn	17 05 47.2	-1.2
	baz=150						
ISA				Sb	Sb	17 07 30.2	+7.0
	baz=150						
WCT	Wildcat Mounta	6.86	344	Pn	Pn	17 05 55.8	+2.2
LCMT	Little Creek M	6.86	7	Pn	Pn	17 05 54.5	+0.7
KNB	Kanab	6.92	10	Pn	Pn	17 05 55.9	+1.2
TPNV	Topopah Spring	6.92	347	Pn	Pn	17 05 56.6	+1.9
TPNV	Topopah Spring	6.92	347	P	Pn	17 05 56.6	+1.9
	baz=168						
LPIG	La Paz	7.04	149	Pn	Pn	17 05 58.5	+2.3
	comp=N,2.4nm,0.3s,baz=115,slow=17,SNR=6.2						
LPIG				Lg	Lg	17 07 57.4	
	comp=N,5.1nm,0.3s,baz=343,slow=22,SNR=2.0						
LPIG				LR	LR	17 08 40.1	
	comp=N,3µm,19.0s,baz=339,slow=38						
	comp=N,108nm,0.8s						
PRN	Pahroc Range	7.22	355	Pn	Pn	17 06 00.1	+1.4
PKCU	Pink Cliffs	7.42	13	Pn	Pn	17 06 00.9	-0.8
SZCU	Shurtz Canyon	7.45	8		Pn	17 06 03.3	+1.3
GMN	Gold Mountain	7.50	342	Pn	Pn	17 06 04.2	+1.6
S11A	Rachel	7.52	351	Pn	Pn	17 06 05.2	+2.3
SLBS	Sierra La Lagu	7.57	148		Pn	17 06 05.3	+1.8
MTPU	Mount Pierson	8.03	12		Pn	17 06 11.3	+1.3
VHRN	Van Horn	8.08	83	Pn	Pn	17 06 08.2	-2.3
ANMO	Albuquerque	8.16	52		Pn	17 06 10.7	-0.9
ANMO	Albuquerque	8.16	52	P	Pn	17 06 10.2	-1.4
	baz=235						
ANMO	Albuquerque	8.16	52	Pn	Pn	17 06 10.2	-1.4
	comp=N,0.6nm,0.3s,baz=316,slow=13,SNR=9.1						
ANMO				Sn	Sn	17 07 24.6	-19
	comp=N,1.4nm,0.3s,baz=296,slow=23,SNR=8.2						
ANMO				Lg	Lg	17 08 23.0	
	comp=N,0.1nm,0.3s,baz=288,slow=20,SNR=3.2						
ANMO				LR	LR	17 09 12.4	
	comp=N,1µm,19.9s,baz=322,slow=38						
	comp=N,2.2nm,0.5s						
R11B	Troy Canyon, C	8.20	353	Pn	Pn	17 06 13.5	+1.3
R11B	Troy Canyon, C	8.20	353	P	Pn	17 06 11.5	-0.7
	baz=174,SNR=5.3						
HMU	Henry Mountain	8.28	20		Pn	17 06 14.8	+1.5
HPIG		8.28	111	Pn	Pn	17 06 11.1	-2.2
MSU	Marysvale	8.48	12	Pn	Pn	17 06 17.3	+1.2
MVCO	Mesa Verde	8.51	33		Pn	17 06 16.9	+0.3
MVCO	Mesa Verde	8.51	33	P	Pn	17 06 18.0	+1.4
	baz=216						
SPR3	Spring Creek 3	8.78	360	Pn	Pn	17 06 21.4	+1.1
Q12A	Willow Creek R	8.83	357	Pn	Pn	17 06 21.8	+0.9
NVAR	Mina Array Bea	8.85	339	Pn	Pn	17 06 24.6	+3.5
	comp=N,1.6nm,0.8s,baz=164,slow=12,SNR=9.6						
NVAR				Lg	Lg	17 08 52.2	
	comp=N,0.1nm,0.3s,baz=165,slow=35,SNR=1.2						
NVAR				LR	LR	17 09 13.2	
	comp=N,165nm,20.6s,baz=148,slow=34						
Q16A	Castle Valley	9.08	16		Pn	17 06 25.8	+1.5
ALPN	Alpine	9.24	86	Pn	Pn	17 06 25.9	-0.6
TXAR	Lajitas Array	9.30	93	Pn	Pn	17 06 25.2	-2.1
TXAR	Lajitas Array	9.30	93	Pn	Pn	17 06 26.8	-0.5
	comp=N,0.5nm,0.3s,baz=265,slow=14,SNR=48						
TXAR				Lg	Lg	17 09 00.0	
	comp=N,0.4nm,0.3s,baz=216,slow=30,SNR=2.3						
TXAR				LR	LR	17 10 12.0	
	comp=N,1µm,20.2s,baz=272,slow=40						
	comp=N,7.2nm,0.8s						
PNTR	Pine Nut	9.88	335	Pn	Pn	17 06 40.4	+5.2
EMB	Emerald Bay	9.97	333		Pn	17 06 42.0	+5.6
MPU	Maple Canyon	10.04	12		Pn	17 06 39.7	+2.2
DUG	Dugway, Tooele	10.05	7	Pn	Pn	17 06 43.0	+5.4
DUG	Dugway, Tooele	10.05	7	P	Pn	17 06 39.8	+2.3
	baz=188						
MPK	Martis Peak	10.22	334		Pn	17 06 46.0	+6.1
PAHR	Pah Rah Range	10.36	338		Pn	17 06 46.8	+5.1
SDCO	Great Sand Dun	10.50	42		Pn	17 06 40.6	-3.3
SDCO	Great Sand Dun	10.50	42	P	Pn	17 06 45.0	+1.2
	baz=226						
ELK	Elko	10.55	356	Pn	Pn	17 06 48.0	+3.5
ELK	Elko	10.55	356	Pn	Pn	17 06 45.6	+1.1
	comp=N,0.1nm,0.3s,baz=172,slow=11,SNR=6.6						
	comp=N,1.7nm,0.8s						
CTU	Camp Tracy	10.68	11	Pn	Pn	17 06 49.1	+2.9
BSUT	Blindstream Ca	10.72	15	Pn	Pn	17 06 50.3	+3.4
BGU	Big Grassy Mou	10.76	5		Pn	17 06 51.5	+4.2
T25A	Trinidad	10.78	47	Pn	Pn	17 06 48.5	+0.9
T25A	Trinidad	10.78	47	P	Pn	17 06 48.9	+1.3
	baz=232						
SMCO	Snowmass	10.81	32		Pn	17 06 51.8	+3.7
RDMU	Red Mountain	11.05	19		Pn	17 06 53.2	+1.8
O20A	White River Ci	11.09	25		Pn	17 06 53.4	+1.6
TCUT	Toone Canyon	11.15	11	Pn	Pn	17 06 54.8	+2.1
SPUT	South Promonto	11.19	7	Pn	Pn	17 06 56.9	+3.7
HVU	Hansel Valley	11.63	6		Pn	17 07 02.1	+3.0
N23A	Red Feather La	12.66	30	Pn	Pn	17 07 14.9	+1.6
WVOR	Wild Horse Val	12.70	345		Pn	17 07 19.3	+5.6
AHID	Auburn Hatcher	12.81	11		Pn	17 07 17.8	+2.5
RWWY	Rawlins	12.83	25	Pn	Pn	17 07 17.3	+1.6
ZAIG	Zacatecas	12.86	122		Pn	17 07 15.8	-0.4
PD31	Pinedale Array	13.12	16		Pn	17 07 21.9	+2.4
PDAR	Pinedale Array	13.12	16	Pn	Pn	17 07 20.0	+0.4
PDAR	Pinedale Array	13.12	16	Pn	Pn	17 07 21.9	+2.4
	baz=172,slow=12,SNR=8.1						
PDAR				LR	LR	17 12 48.2	
	comp=N,2µm,18.0s,baz=204,slow=40						
	comp=N,1.8nm,1.0s						
MFID	Camas Ranch	13.25	355	Pn	P	17 07 26.2	-5.0
HLID	Hailey	13.34	360	Pn	P	17 07 28.1	-4.2
YBH	Yreka Blue Hor	13.36	332	Pn	Pn	17 07 26.1	+3.4
	comp=N,0.1nm,0.3s,baz=151,slow=19,SNR=2.3						
YBH				LR	LR	17 12 28.2	
	comp=N,1µm,20.5s,baz=158,slow=37						
	comp=N,2.9nm,1.0s						
J08A	Circle Bar Ran	13.55	347		P	17 07 30.6	-4.0
LOHW	Long Hollow	13.72	11		Pn	17 07 30.3	+2.6
MOOW	Moose Ponds	13.83	11	Pn	Pn	17 07 29.4	+0.1
WMOK	Wichita Mounta	13.88	67	Pn	Pn	17 07 27.3	-2.5
PLPT	Palo Pinto	13.91	75	Pn	Pn	17 07 29.3	-0.9
IMW	Indian Meadow	13.94	10	Pn	P	17 07 34.5	-4.6
YPP	Pitchstone Pla	14.32	10	P	P	17 07 39.4	-4.0
FW07	Weatherford	14.34	76	Pn	Pn	17 07 34.8	-1.3
H17A	Grant Village	14.48	11		Pn	17 07 39.6	+1.3
YFT	Old Faithful	14.50	10		Pn	17 07 39.3	+0.8
WHTX	Lake Whitney,	14.57	79		Pn	17 07 38.9	-0.4
X34A	Smith Ranch, M	14.61	68		Pn	17 07 39.3	-0.5
FW13	Cleburne	14.61	77		Pn	17 07 38.4	-1.4
YNR	Norris Junctio	14.78	10	Pn	Pn	17 07 42.7	+0.4
YHH	Holmes Hill	14.82	10	Pn	Pn	17 07 39.0	-3.9
YHL	Hebgen Lake	14.84	9	Pn	Pn	17 07 40.3	-2.8
YMP	Mirror Lake Pl	14.89	12	P	P	17 07 48.1	-1.5
PLID	Pearl Lake	14.93	355	P	P	17 07 53.3	+3.3
FW16	Waxahatchie	15.07	77	Pn	Pn	17 07 45.9	-0.1
FNO	Franklin	15.11	66	Pn	Pn	17 07 45.3	-1.2
R32A	Long Quarter,	15.28	53	Pn	Pn	17 07 46.7	-2.1
RLMT	Red Lodge	15.43	14	Pn	Pn	17 07 51.6	+0.7
W35A	Tecumseh	15.50	67	Pn	Pn	17 07 50.4	-1.3
TREL	Terrell	15.77	76	Pn	Pn	17 07 51.6	-3.6
TREL				IAmb	IAmb	17 08 03.7	
	comp=Z,61nm,1.2s						
QUOK	Quay	15.90	63	Pn	Pn	17 07 55.7	-1.1
QUOK				IAmb	IAmb	17 07 58.6	
	comp=Z,19nm,0.7s						
F10A	Beach Ranch, E	15.92	353	Pn	Pn	17 07 54.9	-2.2
HKT	Hockley	16.02	86		Pn	17 07 57.1	-1.1
RSSD	Black Hills	16.12	28	Pn	Pn	17 07 59.0	-0.8
BPMT	Black Pine Rid	16.23	2	P	P	17 08 04.3	-0.2
TUL3	Leonard	16.54	65		Pn	17 08 03.0	-2.1
TUL3	Leonard	16.54	65	Pn	Pn	17 08 02.6	-2.5
TUL3				IAmb	IAmb	17 08 25.3	
	comp=Z,22nm,1.2s						
MSO	Missoula	16.61	1	P	P	17 08 10.9	+2.4
Z38A	Mt. Pleasant	16.74	74	P	P	17 08 09.3	-0.6
Z38A				IAmb	IAmb	17 08 13.2	
	comp=Z,72nm,1.1s						

NATX	Nacogdoches	16.94	80	P	P	17 08 12.0	-0.1
NATX				IAmb	IAmb	17 08 15.4	
	comp=Z,58nm,1.2s						
KSU1	Kansas State U	17.05	54		Pn	17 08 09.0	-2.5
BGNE	Belgrade	17.21	45		Pn	17 08 12.8	-0.8
LAO	LASA Array	17.63	19		P	17 08 20.3	+0.5
LAO				IAmb	IAmb	17 08 23.7	
	comp=Z,54nm,1.5s						
EGMT	Eagleton	18.15	10		P	17 08 25.2	-0.2
NEW	Newport	18.17	354	P	P	17 08 27.0	+1.3
	comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=4.2						
NEW				LR	LR	17 15 46.5	
	comp=Z,419nm,18.4s,baz=180,slow=38						
	comp=Z,2.5nm,0.8s						
441A	DeRidder	18.23	83	P	P	17 08 25.6	-0.8
WLAR	White Oak Lake	18.34	74		Pn	17 08 25.0	-2.4
WLAR				IAmb	IAmb	17 08 28.8	
	comp=Z,56nm,1.3s						
L34A	Svendsen Farm,	18.62	46	P	P	17 08 29.5	-1.2
SUSD	Miller	18.71	36	P	P	17 08 30.5	-1.0
SUSD				IAmb	IAmb	17 08 42.3	
	comp=Z,25nm,0.9s						
S39A	Bolivar	18.94	61		Pn	17 08 33.2	-1.6
CCAR	Cane Creek	19.47	73		Pn	17 08 40.0	-1.1
E28A	Huff	19.49	29	P	P	17 08 38.8	-1.3
ECSD	EROS Data Cent	19.51	41	P	Pn	17 08 41.9	+0.3
MGMO	Mountain Grove	19.60	63	P	P	17 08 38.6	-2.8
143A	Socs Landing,	19.71	77	P	P	17 08 39.8	-2.8
DGMT	Dagmar	19.83	20		Pn	17 08 46.0	+0.6
DGMT				IAmb	IAmb	17 09 04.2	
	comp=Z,40nm,1.3s						
R40A	Maddies Statio	19.91	60	P	P	17 08 44.3	-0.5
VBMS	Vicksburg	20.46	78	P	P	17 08 49.7	-1.0
P40A	Paris	20.47	57	P	P	17 08 49.5	-1.3
P40A				IAmb	IAmb	17 08 59.2	
	comp=Z,41nm,1.4s						
CCM	Cathedral Cave	20.62	61	P	Pn	17 08 52.5	-2.2
SCIA	State Center	20.63	50	P	Pn	17 08 53.8	-1.0
SCIA				IAmb	IAmb	17 09 07.3	
	comp=Z,46nm,1.2s						
MDND	Maddock	20.95	29	P	Pn	17 08 56.8	-1.7
F33A	5 Mile Ranch,	21.04	37	P	P	17 08 55.5	-1.4
FVM	French Village	21.23	62	P	P	17 08 57.3	-1.7
FVM				IAmb	IAmb	17 09 05.5	
	comp=Z,26nm,1.4s						
Y45A	Yeager Farm, C	21.31	74	P	P	17 08 58.3	-1.7
346A	Big Creek Wild	21.38	80	P	P	17 08 56.8	-3.9
SLM	Saint Louis	21.54	61	P	P	17 09 03.0	+0.7
SLM				IAmb	IAmb	17 09 09.1	
	comp=Z,21nm,0.7s						
CGM3	Cape Girardeau	21.66	64	P	P	17 09 03.3	-0.5
CGM3				IAmb	IAmb	17 09 21.9	
	comp=Z,11nm,0.6s						
146A	Union	21.69	77	P	P	17 09 03.4	-0.6
N41A	Harden Midland	21.75	55	P	P	17 09 02.8	-1.8
N41A				IAmb	IAmb	17 09 14.8	
	comp=Z,25nm,1.1s						
L40A	Anamosa	22.03	51	P	P	17 09 06.1	-1.5
L40A				IAmb	IAmb	17 09 15.5	
	comp=Z,15nm,0.9s						
CMIG	Matias Romero	22.03	122	P	P	17 09 08.2	+0.4
	comp=Z,17nm,1.2s,baz=324,slow=8.9,SNR=9.5						
CMIG				LR	LR	17 17 38.1	
	comp=Z,871nm,20.0s,baz=286,slow=37						
	comp=Z,17nm,1.2s						
S44A	Carbondale	22.06	64	P	P	17 09 06.2	-1.8
S44A				IAmb	IAmb	17 09 15.3	
	comp=Z,18nm,1.1s						
SIUC	Southern Illin	22.09	63	P	P	17 09 06.5	-1.8
SIUC				IAmb	IAmb	17 09 25.9	
	comp=Z,15nm,1.0s						
F36A	Milaca	22.55	40	P	P	17 09 10.5	-2.7
F36A				IAmb	IAmb	17 09 18.6	
	comp=Z,14nm,1.1s						
SPMN	Marine on St.	22.59	42	P	P	17 09 15.9	+2.3
SPMN				IAmb	IAmb	17 09 27.7	
	comp=Z,15nm,1.1s						
PLAL	Pickwick Lake	22.60	71	P	P	17 09 12.6	-1.1
PLAL				IAmb	IAmb	17 09 20.8	
	comp=Z,16nm,1.1s						
EDM	Edmonton	23.02	2	P	P	17 09 19.4	+1.4
EDM				IAmb	IAmb	17 09 31.0	
	comp=Z,26nm,1.3s						
JFWS	Jewell Farm	23.04	50	P	P	17 09 13.6	-4.7
JFWS				IAmb	IAmb	17 09 45.5	
	comp=Z,14nm,1.0s						
L42A	Oliver, Polo	23.06	53	P	P	17 09 16.9	-1.6
L42A				IAmb	IAmb	17 09 57.8	
	comp=Z,24nm,1.3s						
I40A	Norwalk	23.24	47	P	P	17 09 19.8	-0.6
I40A				IAmb	IAmb	17 09 59.5	
	comp=Z,14nm,1.1s						
X48A	Hartselle	23.41	72	P	P	17 09 20.7	-1.5
X48A				IAmb	IAmb	17 09 38.1	
	comp=Z,16nm,1.2s						
T47A	Sharon Grove	23.62	66	P	P	17 09 21.2	-3.0
Y49A	Blount Mountai	23.92	74	P	P	17 09 25.2	-1.9
Y49A				IAmb	IAmb	17 09 49.5	
	comp=Z,24nm,1.3s						
M44A	Midewin, Midew	23.98	55	P	P	17 09 24.8	-2.8
M44A				IAmb	IAmb	17 09 51.3	
	comp=Z,30nm,1.4s						
P46A	Rosedale	24.07	60	P	P	17 09 25.9	-2.6
P46A				IAmb	IAmb	17 09 36.9	
	comp=Z,20nm,1.1s						
250A	Grady	24.07	79	P	P	17 09 26.7	-1.9
E38A	The Farm, Brul	24.10	41	P	P	17 09 29.2	+0.5
E38A				IAmb	IAmb	17 09 33.8	
	comp=Z,31nm,1.4s						
G40A	Rib Lake	24.17	45	P	P	17 09 30.6	+1.1
G40A				IAmb	IAmb	17 09 34.6	
	comp=Z,19nm,1.1s						
BBB	Bella Bella	24.21	339	LR	LR	17 18 30.9	
	comp=Z,901nm,20.5s,baz=166,slow=36						
K43A	Burlington	24.25	52	P	P	17 09 30.7	+0.6
HQIL	Hanson Quary C	24.25	54	P	P	17 09 27.3	-2.8
I42A	Draeger Farm,	24.34	49	P	P	17 09 31.9	+0.9
I42A				IAmb	IAmb	17 09 56.4	
	comp=Z,22nm,1.4s						
ULM	Lac du Bonnet	24.37	30	P	P	17 09 28.8	-2.3
ULM	Lac du Bonnet	24.37	30	P	P	17 09 30.6	-0.5
	comp=Z,14nm,1.1s,baz=214,slow=10.0,SNR=5.8						
ULM				LR	LR	17 19 18.5	
	comp=Z,836nm,19.6s,baz=220,slow=38						
	comp=Z,14nm,1.1s						
SWET	Sewanee	24.37	71	P	P	17 09 29.6	-1.7
SWET				IAmb	IAmb	17 09 42.8	
	comp=Z,19nm,1.3s						
BLO	Bloomington	24.48	61	P	P	17 09 32.1	-0.1
FPAL	Fort Paine	24.60	72	P	P	17 09 32.1	-1.3
FPAL				IAmb	IAmb	17 09 40.5	
	comp=Z,16nm,1.0s						
U49A	Red Boiling Sp	24.61	68	P	P	17 09 32.1	-1.3
U49A				IAmb	IAmb	17 09 41.9	
	comp=Z,17nm,1.2s						
W50A	Signal Mountai	24.88	71	P	P	17 09 34.2	-1.7
W50A				IAmb	IAmb	17 09 48.2	
	comp=Z,18nm,1.0s						
EYMN	Ely	24.92	38	P	P	17 09 33.9	-2.3
COWI	Conover	25.24	44	P	P	17 09 39.1	0.0
COWI				IAmb	IAmb	17 09 46.9	
	comp=Z,11nm,0.8s						
352A	Blakely	25.25	80	P	P	17 09 39.3	+0.1
152A	Waverly Hall	25.35	77	P	P	17 09 38.4	-1.8
TEIG	Tepich	25.52	107	LR	LR	17 22 37.8	
	comp=Z,2µm,18.3s,baz=56,slow=44						
FFC	Flin Flon	26.07	16	P	P	17 09 47.5	+1.0
FFC				IAmb	IAmb	17 09 54.9	
	comp=Z,11nm,1.2s						
TKL	Tuckaleechee C	26.16	70	P	P	17 09 44.2	-3.3
TKL				IAmb	IAmb	17 10 08.4	
	comp=Z,16nm,1.4s						
TKL	Tuckaleechee C	26.16	70	P	P	17 09 46.9	-0.6
	comp=Z,1.1nm,0.6s,baz=256,slow=17,SNR=1.7						
TKL				LR	LR	17 20 49.7	
	comp=Z,336nm,18.7s,baz=265,slow=38						
	comp=Z,1.1nm,0.6s						
N49A	Columbus Grove	26.64	58	P	P	17 09 51.4	-0.4
Q51A	Peebles	26.88	62	P	P	17 09 51.3	-2.6
Q51A				IAmb	IAmb	17 10 01.0	
	comp=Z,19nm,1.4s						
ACSO	Alum Creek Sta	27.37	60	P	P	17 09 57.8	-0.7
R53A	Hurricane	27.85	64	P	P	17 09 59.5	-3.2
R53A				IAmb	IAmb	17 10 16.2	
	comp=Z,15nm,1.2s						

N51A	Ashland	27.97	59	P	P	17 10 01.3	-2.4
N51A				IAmb	IAmb	17 10 40.6	
	comp=Z,18nm,1.4s						
DLBC	Dease Lake	30.23	344	LR	LR	17 21 48.1	
	comp=Z,842nm,21.5s,baz=168,slow=35						
CRIN	San Cristobal	30.66	119	P	P	17 10 29.6	+1.7
SADO	Sadowa	31.21	52	P	P	17 10 32.4	-0.1
	comp=Z,3.7nm,1.0s,baz=278,slow=10,SNR=2.9						
SADO				LR	LR	17 23 02.5	
	comp=Z,290nm,20.3s,baz=268,slow=36						
	comp=Z,3.7nm,1.0s						
YKA	Yellowknife Ar	32.31	360	P	P	17 10 42.8	+1.0
	comp=Z,0.1nm,0.3s,baz=180,slow=8.0,SNR=1.5						
YKA				LR	LR	17 25 42.6	
	comp=Z,400nm,21.8s,baz=186,slow=40						
JTS	Las Juntas de	33.77	120	LR	LR	17 25 37.6	
	comp=Z,344nm,19.1s,baz=306,slow=38						
KDAK	Kodiak Island	38.12	327	LR	LR	17 24 47.9	
	comp=Z,501nm,20.8s,baz=143,slow=32						
INK	Inuvik	39.78	349	P	P	17 11 49.1	+3.5
INK	Inuvik	39.78	349	LR	LR	17 30 40.4	
	comp=Z,652nm,19.8s,baz=183,slow=40						
ILAR	Eielson Array	40.10	339	P	P	17 11 50.2	+1.7
	comp=Z,0.4nm,0.7s,baz=149,slow=7.8,SNR=7.6						
ILAR				LR	LR	17 27 55.7	
	comp=Z,348nm,19.0s,baz=146,slow=36						
	comp=Z,0.4nm,0.7s						
SCHQ	Schefferville	41.70	40	LR	LR	17 29 27.3	
	comp=Z,681nm,20.6s,baz=266,slow=36						
A36M	Sachs Harbour	42.26	355	P	P	17 12 12.0	+5.9
I20K	Naaghedeneel	42.64	336	P	P	17 12 11.0	+1.7
IMAR	Indian Mountai	43.09	338	P	P	17 12 19.7	+6.8
FRB	Frobisher Bay	44.21	27	LR	LR	17 31 11.4	
	comp=Z,840nm,18.1s,baz=225,slow=37						
SJG	San Juan	45.27	94	LR	LR	17 34 07.1	
	comp=Z,187nm,21.9s,baz=252,slow=40						
ROSC	El Rosal	45.35	116	LR	LR	17 32 33.3	
	comp=Z,229nm,18.6s,baz=220,slow=38						
RES	Resolute Bay	45.62	7	LR	LR	17 32 13.5	
	comp=Z,590nm,18.3s,baz=194,slow=37						
SDV	Santo Domingo	45.94	108	LR	LR	17 35 25.4	
	comp=Z,175nm,18.3s,baz=326,slow=41						
ATAH	Atahualpa	50.66	131	LR	LR	17 31 46.9	
	comp=Z,247nm,19.1s,baz=328,slow=33						
SFJD	Kangerlussuaq	52.35	26	LR	LR	17 35 45.3	
	comp=Z,519nm,19.4s,baz=258,slow=36						
NNA	Nana	55.32	134	LR	LR	17 33 14.2	
	comp=Z,143nm,19.8s,baz=336,slow=32						
SHEM	Shemya Is, Ala	55.69	316	LR	LR	17 35 38.1	
	comp=Z,84nm,19.1s,baz=340,slow=34						
RPN	Rapa Nui	57.20	175	LR	LR	17 33 59.2	
	comp=Z,47nm,21.6s,baz=80,slow=31						
PPT	Papeete	58.38	220	LR	LR	17 33 48.8	
	comp=Z,48nm,21.9s,baz=354,slow=30						
MDP	Montagnes des	63.05	100	LR	LR	17 44 25.4	
	comp=Z,77nm,19.9s,baz=293,slow=38						
BORG	Borgarnes	64.37	28	LR	LR	17 43 20.9	
	comp=Z,322nm,18.9s,baz=307,slow=37						
SEY	Seymchan	65.02	330	LR	LR	17 40 49.9	
	comp=Z,163nm,21.2s,baz=10,slow=34						
PETK	Petropavlovsk-	65.31	318	LR	LR	17 38 19.0	
	comp=Z,68nm,21.3s,baz=75,slow=31						
JMIC	Jan Mayen	66.71	20	LR	LR	17 44 41.5	
	comp=Z,313nm,18.4s,baz=260,slow=36						
MA2	Magadan	66.85	327	LR	LR	17 42 10.7	
	comp=Z,140nm,21.4s,baz=89,slow=34						
RAR	Rarotonga	67.25	226	LR	LR	17 36 02.0	
	comp=Z,72nm,21.9s,baz=100,slow=28						
SPITS	Spitsbergen Ar	68.08	10	LR	LR	17 45 37.0	
	comp=Z,232nm,18.6s,baz=296,slow=37						
LVC	Limon Verde	68.27	135	LR	LR	17 42 06.6	
	comp=Z,65nm,20.0s,baz=307,slow=33						
SIV	San Ignacio	68.83	124	LR	LR	17 46 58.2	
	comp=Z,135nm,18.0s,baz=291,slow=37						
TIXI	Tiksi	69.45	342	LR	LR	17 49 46.2	
	comp=Z,6.8nm,19.5s,baz=75,slow=39						
YAK	Yakutsk	74.79	334	P	P	17 15 57.7	+4.7
	comp=Z,0.1nm,0.3s,baz=45,slow=6.4,SNR=4.1						
YAK				LR	LR	17 49 04.6	
	comp=Z,6.5nm,19.6s,baz=41,slow=36						
ARCES	ARCESS Array B	76.36	14	LR	LR	17 50 34.0	
	comp=Z,269nm,21.9s,baz=336,slow=36						
ASAJ	Asahikawa	78.11	314	LR	LR	17 46 48.2	
	comp=Z,68nm,20.2s,baz=164,slow=33						
BDFB	Brasilia	78.40	116	LR	LR	17 57 02.9	
	comp=Z,63nm,19.0s,baz=345,slow=40						
NOA	NORSAR Array B	78.92	24	LR	LR	17 52 19.7	
	comp=Z,158nm,18.2s,baz=325,slow=37						
HFS	Hagfors	80.43	24	LR	LR	17 54 21.7	
	comp=Z,157nm,18.7s,baz=311,slow=38						
KLR	Kul'dur	81.50	323	LR	LR	17 52 14.6	
	comp=Z,78nm,19.6s,baz=44,slow=35						
FINES	FINESS Array B	83.21	18	LR	LR	17 53 46.0	
	comp=Z,224nm,18.9s,baz=334,slow=36						
JSD	Sado	84.12	311	P	P	17 16 43.3	-1.0
USRK	Ussuriysk Ar.	84.40	319	LR	LR	17 54 55.4	
	comp=Z,35nm,18.4s,baz=34,slow=36						
MJAR	Matsushiro Arr	84.99	310	LR	LR	17 48 10.4	
	comp=Z,158nm,19.9s,baz=63,slow=31						
JHJ	Hachijo jima 2	85.80	306	LR	LR	17 45 47.0	
	comp=Z,119nm,21.6s,baz=72,slow=29						
CLL	Collm	86.56	30	*e*S	S	17 27 35.0	+2.1
CLL				*e*PS		17 28 28.0	
CLL				*e*x	x	17 30 09.0	
CLL				AMS	AMS	17 53 00.0	
	comp=N,200nm,20.1s						
CLL				AMS	AMS	17 53 00.0	
	comp=E,100nm,21.4s						
CLL				AMS	AMS	17 59 00.0	
	comp=Z,200nm,19.0s						
JCJ	Chichijima	87.33	300	LR	LR	17 47 03.1	
	comp=Z,130nm,21.8s,baz=54,slow=29						
DAVOX	Davos/Dischmat	88.34	35	LR	LR	17 54 29.5	
	comp=Z,248nm,21.5s,baz=265,slow=34						
MDT	Midelt	88.63	52	LR	LR	17 54 32.5	
	comp=Z,91nm,20.5s,baz=322,slow=34						
VRAC	Vranov	89.59	30	LR	LR	17 58 04.4	
	comp=Z,262nm,19.1s,baz=310,slow=36						
KSRS	Korea Array	91.02	315	LR	LR	17 53 35.6	
	comp=Z,33nm,20.4s,baz=70,slow=32						
OBN	Obninsk	91.43	16	LR	LR	17 59 12.5	
	comp=Z,132nm,19.6s,baz=354,slow=36						
JNU	Nakatsue	91.86	310	LR	LR	17 51 48.8	
	comp=Z,96nm,20.7s,baz=146,slow=31						
GUMO	Guam	92.35	287	LR	LR	17 50 33.0	
	comp=Z,135nm,21.6s,baz=84,slow=30						
AKASG	Malin Array Be	93.25	22	LR	LR	18 00 49.7	
	comp=Z,149nm,19.4s,baz=350,slow=36						
URZ	Urewera	93.41	227	LR	LR	17 52 03.9	
	comp=Z,34nm,19.8s,baz=122,slow=31						
ARU	Arti	93.51	4	LR	LR	18 04 53.7	
	comp=Z,92nm,18.8s,baz=115,slow=39						
SONM	Songino Array	94.15	334	P	P	17 17 34.6	+2.5
	comp=Z,0.3nm,0.4s,baz=38,slow=2.6,SNR=2.3						
SONM				LR	LR	18 02 25.7	
	comp=Z,108nm,18.8s,baz=30,slow=37						
	comp=Z,0.3nm,0.4s						
ZALV	Zalesovo Beam	94.58	349	LR	LR	18 04 20.5	
	comp=Z,44nm,19.4s,baz=12,slow=38						
BELG	Belogornoye	96.26	11	LR	LR	18 02 45.4	
	comp=Z,158nm,18.1s,baz=321,slow=37						
MLR	Muntele Rosu	96.47	27	LR	LR	18 05 36.9	
	comp=Z,172nm,18.1s,baz=330,slow=38						
BVAR	Borovoye Array	97.03	357	LR	LR	18 07 50.4	
	comp=Z,93nm,18.4s,baz=9.7,slow=39						
VAE	Valguarnera	97.34	39	LR	LR	17 59 14.3	
	comp=Z,84nm,21.1s,baz=330,slow=34						
HHC	Hu-ho-hao-te	97.53	327	*e*P	Pdif	17 17 53.6	+5.9
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,230nm,4.6s						
JOW	Kunigami	97.55	307	LR	LR	17 53 49.2	
	comp=Z,54nm,22.0s,baz=121,slow=30						
AKTO	Aktyubinsk	99.44	5	LR	LR	18 07 27.8	
	comp=Z,155nm,19.1s,baz=1.5,slow=38						
NJ2	Nanjing	100.16	316	*e*P	Pdif	17 18 05.4	+6.0
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	Chiang Mai Arr	121.98	322	PKP	PKiKP	17 23 12.3	+3.8
	comp=Z,0.2nm,0.4s,baz=310,slow=1.7,SNR=4.7						

*STR **21** 17:20:48.6±0.8, 43°N±3°×°±°, h5km, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=80.2, preliminary*

*INMG **21** 17:20:49.1±1.1, 42°.88N×1°.60W, h1km, ML2.1, Error ellipse: s-maj=2.0km s-min=1.9km az=64.0*

*LDG **21** 17:20:49.6±0.1,42.°91N×1.°61W, h2km, Md2.8/1, Ml2.8/21, Error ellipse: s-maj=2.0km s-min=1.5km az=36.0*
*MDD **21** 17:20:49.3±0.2,42.°88N×1.°60W, h0km, mb_Lg2.7/10, Error ellipse: s-maj=2.3km s-min=1.5km az=177.0*
ISC 21 17:20:47.7±0.9, 42.°93N±0.°02×1.°62W±0.°02, h9km±7km, n55, σ1§34/106, 1C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EARA	**Aranguren**	**0.16**	**169**	⇑Pg		**Pg**	**17 20 51.0**	**-0.1**
EARA				Sg		**Sg**	**17 20 53.1**	**-0.4**
EARA	**Aranguren**	**0.16**	**169**	Pg		**Pg**	**17 20 51.0**	**-0.1**
EARA				Sg		**Sg**	**17 20 53.1**	**-0.4**
EORO	**Oroz-Betelu**	**0.23**	**99**	Pg		**Pg**	**17 20 52.6**	**+0.2**
EORO				Sg		**Sg**	**17 20 55.8**	**+0.1**
EORO				*i* Vmb_Lg			17 20 58.1	
EALK	**Alkurruntz**	**0.30**	**16**	Pg		**Pb**	**17 20 55.2**	**-0.2**
EALK				Sg		**Sb**	**17 21 00.2**	**-0.4**
EALK				*i* Vmb_Lg			17 21 03.5	
EALK	**Alkurruntz**	**0.30**	**16**	Pg		**Pb**	**17 20 55.2**	**-0.2**
EALK				Sg		**Sb**	**17 21 00.5**	**0.0**
SJPF	**Ste Jean**	**0.34**	**57**	*e*Pg		**Pg**	**17 20 55.1**	**+0.6**
SJPF				*e*Sg		**Sg**	**17 21 00.2**	**+1.1**
	153nm,0.3s							
OSSF	**Osses**	**0.42**	**39**	Pg		**Pg**	**17 20 56.9**	**+0.9**
OSSF				Sg		**Sb**	**17 21 03.6**	**-0.2**
ATE	**Arette**	**0.69**	**77**	Pg		**Pb**	**17 21 01.9**	**-0.2**
ATE				Sg		**Sb**	**17 21 12.1**	**+0.4**
ETSF	**Etsaut**	**0.78**	**92**	*e*Pg		**Pg**	**17 21 02.9**	**+0.1**
ETSF				*e*Sg		**Sb**	**17 21 14.3**	**0.0**
	36nm,0.3s							
CANF	**Canfranc**	**0.83**	**101**	Pg		**Pb**	**17 21 04.6**	**+0.2**
CANF				Sg		**Sb**	**17 21 16.7**	**+1.0**
TERF	**Tercis-les-Bai**	**0.84**	**26**	Pg		**Pb**	**17 21 05.6**	**+1.1**
TERF				Sg		**Sb**	**17 21 17.1**	**+1.3**
URDF	**Urds**	**0.91**	**56**	Pg		**Pn**	**17 21 06.9**	**+0.2**
URDF				Sg		**Sn**	**17 21 19.8**	**-0.1**
VIEF	**Viey**	**1.21**	**92**	Pg		**Pn**	**17 21 11.8**	**+0.8**
VIEF				Sg		**Sn**	**17 21 28.2**	**+0.7**
ECHI	**Chisagues Biel**	**1.36**	**101**	Pg		**Pg**	**17 21 14.1**	**+0.3**
ECHI				Sg		**Sn**	**17 21 31.9**	**+0.6**
ECHI				*i* Vmb_Lg			17 21 36.2	
ECHI	**Chisagues Biel**	**1.36**	**101**	Pg		**Pg**	**17 21 13.9**	**+0.1**
ECHI				Sg		**Sn**	**17 21 33.5**	**+2.1**
ELAN	**Lanestosa**	**1.36**	**283**	Pg		**Pg**	**17 21 14.9**	**+1.0**
ELAN				Sg		**Sg**	**17 21 32.8**	**+1.2**
ELAN				*i* Vmb_Lg			17 21 39.3	
EPF	**Esparros**	**1.44**	**85**	*e*Pn		**Pn**	**17 21 14.6**	**+0.5**
EPF	**Esparros**	**1.44**	**85**	*e*Pg		**Pg**	**17 21 16.5**	**+1.1**
EPF				*e*Sg		**Sg**	**17 21 34.3**	**+0.2**
	17nm,0.2s							
ESAC	**San Caprasio**	**1.48**	**144**	Pg		**Pn**	**17 21 14.8**	**+0.2**
ESAC				Sg		**Sn**	**17 21 33.5**	**-0.6**
ESAC				*i* Vmb_Lg			17 21 38.5	
MLS	**Moulis**	**1.99**	**88**	Pn		**Pn**	**17 21 23.1**	**+1.4**
MLS				Sn		**Sb**	**17 21 48.7**	**-0.4**
SALF	**Salau**	**2.07**	**94**	Pn		**Pn**	**17 21 24.1**	**+1.3**
SALF				Sn		**Sb**	**17 21 50.8**	**-0.7**
LRVF	**chteau la Riv**	**2.23**	**25**	Pn		**Pn**	**17 21 26.1**	**+1.2**
LRVF				Sn		**Sn**	**17 21 54.6**	**+2.1**
PAND	**Andorre**	**2.37**	**99**	Pn		**Pn**	**17 21 28.0**	**+1.0**
PAND				Sn		**Sn**	**17 21 57.5**	**+1.2**
MONQ	**Montcuq**	**2.50**	**54**	Pn		**Pn**	**17 21 30.0**	**+1.5**
MONQ				Sn		**Sn**	**17 22 01.1**	**+1.9**
EPOB	**Poblet**	**2.55**	**127**	Pn		**Pn**	**17 21 29.6**	**+0.2**
EPOB				Pg		**Pb**	**17 21 34.7**	**+0.9**
EPOB				Sn		**Sn**	**17 22 00.1**	**-0.5**
EPOB				Sg		**Sg**	**17 22 07.4**	**-2.2**
EPOB				*i* Vmb_Lg			17 22 11.4	
LFF	**La Frestale**	**2.64**	**39**	*e*P		**Pb**	**17 21 33.3**	**-1.8**
LFF				*e*Sn		**Sn**	**17 22 01.9**	**-0.7**
	8.5nm,0.3s							
EARI	**Arriondas**	**2.66**	**279**	Pn		**Pn**	**17 21 33.3**	**+2.5**
EARI				Sn		**Sn**	**17 22 04.1**	**+0.9**
CARF	**Carcanieres**	**2.75**	**93**	Pn		**Pn**	**17 21 34.0**	**+1.8**
MTLF	**Montolieu**	**2.84**	**80**	*e*Pn		**Pn**	**17 21 35.4**	**+2.1**
MTLF				*e*Sn		**Sn**	**17 22 06.1**	**-1.5**
	2.9nm,0.3s							
FILF	**Fillols**	**3.10**	**95**	Pn		**Pn**	**17 21 36.7**	**-0.2**
RJF	**Les Rejaudoux**	**3.28**	**42**	*e*Pn		**Pn**	**17 21 40.2**	**+0.9**
RJF				*e*Sn		**Sn**	**17 22 17.2**	**-1.2**
	7.7nm,0.3s							
CAF	**Calviac**	**3.33**	**52**	*e*Pn		**Pn**	**17 21 40.3**	**+0.3**
CAF				*e*Sn		**Sn**	**17 22 18.8**	**-0.9**
	8.3nm,0.4s							
MFF	**Saint Martin d**	**3.82**	**15**	*e*Pn		**Pn**	**17 21 47.4**	**+0.7**
MFF	**Saint Martin d**	**3.82**	**15**	*e*Pg		**Pg**	**17 22 00.2**	**-0.7**
MFF				*e*Sn		**Sn**	**17 22 30.5**	**-1.3**
MFF				*e*Sg		**Sg**	**17 22 50.0**	**-0.4**
	2.7nm,0.3s							
FRNF	**Fournols**	**3.88**	**49**	Pn		**Pn**	**17 21 49.4**	**+1.8**
FRNF				Sn		**Sn**	**17 22 34.9**	**+1.4**
ECAL	**Calabor**	**3.91**	**257**	Pn		**Pn**	**17 21 49.3**	**+1.2**
ECAL				Sg		**Sg**	**17 22 51.7**	**-1.8**
ECAL				*i* Vmb_Lg			17 22 56.5	
VERF	**Verneugheol**	**4.08**	**45**	Pn		**Pn**	**17 21 51.7**	**+1.4**
LASF	**Ste Croix**	**4.15**	**72**	*e*Pn		**Pn**	**17 21 51.3**	**0.0**
LASF				*e*Sn		**Sn**	**17 22 37.4**	**-2.5**
	4.0nm,0.4s							
LASF				*e*Sg		**Sg**	**17 22 58.9**	**-1.9**
	2.1nm,0.2s							
TCF	**Toulx Ste Croi**	**4.33**	**38**	*e*Pn		**Pn**	**17 21 55.1**	**+1.3**
TCF				*e*Sn		**Sn**	**17 22 42.5**	**-1.9**
	3.4nm,0.3s							
MVO	**Moncorvo**	**4.40**	**248**	⇓*e*Pn		**Pn**	**17 21 56.0**	**+1.3**
MVO				*e*Sn		**Sn**	**17 22 46.0**	**-0.1**
MVO				*e*Sg		**Sg**	**17 23 07.0**	**-1.9**
MVO				A		A	17 23 07.9	
	3.7nm,0.5s							
COLF	**Collangettes**	**4.61**	**54**	Pn		**Pn**	**17 21 59.5**	**+1.8**
COLF				Sn		**Sn**	**17 22 52.8**	**+1.4**
BGF	**Bois d'Agland**	**4.83**	**40**	*e*Pn		**Pn**	**17 22 00.8**	**+0.2**
BGF				*e*Sn		**Sn**	**17 22 54.2**	**-2.4**
	20nm,0.6s							
POLO	**Lamas de Olo**	**4.85**	**253**	*e*Pn		**Pn**	**17 22 02.1**	**+1.2**
ELOB	**Lobios**	**4.89**	**260**	Pn		**Pn**	**17 22 02.3**	**+0.8**
ELOB				Sn		**Sn**	**17 22 59.2**	**+1.0**
ELOB				Sg		**Sg**	**17 23 20.0**	**-4.6**
ELOB				*i* Vmb_Lg			17 23 35.1	
VIVF	**Saint-Julien-l**	**4.94**	**65**	*e*Pn		**Pn**	**17 22 02.2**	**0.0**
VIVF				*e*Sn		**Sn**	**17 22 56.5**	**-2.9**
	1.9nm,0.4s							
PGAV	**Gavieira, Arco**	**5.01**	**261**	*e*Pn		**Pn**	**17 22 04.5**	**+1.3**
QUIF	**Quistinic**	**5.11**	**348**	*e*Pn		**Pn**	**17 22 04.9**	**+0.5**
QUIF				*e*Sn		**Sn**	**17 23 01.3**	**-2.1**
	2.7nm,0.2s							
AVF	**Avril sur Loir**	**5.23**	**41**	*e*Pn		**Pn**	**17 22 06.7**	**+0.5**
AVF				*e*Sn		**Sn**	**17 23 04.5**	**-2.1**
	2.0nm,0.3s							
SMF	**Signal de Mont**	**5.38**	**44**	*e*Pn		**Pn**	**17 22 08.7**	**+0.6**
SMF				*e*Sn		**Sn**	**17 23 07.5**	**-2.7**
	1.2nm,0.3s							
GRR	**Gorron**	**5.49**	**5**	*e*Pn		**Pn**	**17 22 10.0**	**+0.4**
GRR				*e*Sn		**Sn**	**17 23 10.4**	**-2.4**
	1.0nm,0.2s							
SSF	**Saint Saulge**	**5.50**	**40**	*e*Pn		**Pn**	**17 22 10.7**	**+0.8**
SSF				*e*Sn		**Sn**	**17 23 11.6**	**-1.7**
	1.1nm,0.2s							
ROSF	**Rostrenen**	**5.53**	**348**	*e*Pn		**Pn**	**17 22 10.8**	**+0.6**
PMRV	**Marv??o**	**5.58**	**233**	*e*Pn		**Pn**	**17 22 11.9**	**+0.9**
LOR	**Lormes**	**5.82**	**40**	*e*Pn		**Pn**	**17 22 14.4**	**+0.2**
LOR				*e*Sn		**Sn**	**17 23 18.0**	**-3.1**
	1.7nm,0.4s							
PESTR	**Estremoz**	**6.08**	**230**	*e*Pn		**Pn**	**17 22 18.7**	**+0.9**

*NEIC **21** 17:26:47.8±0.7, 36.°47N±0.°02×98.°85W±0.°02, h7km±2km, Error ellipse: s-maj=3.2km s-min=1.5km az=137.0*
TUL 21 17:26:48.2±0.6, 36.°46N±0.°02×98.°82W±0.°02, h6km±2km, ML3.0, mb_Lg2.8/73(NEIC), ML3.1/14(NEIC), Error ellipse: s-maj=2.7km s-min=1.3km az=137.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
OK038	**West end E0370**	**0.06**	**72**			Pg	17 26 50.1	+0.3
OK038					Sg	Sg	17 26 52.0	+1.0
U32A	**Winter Ranch,**	**0.17**	**242**		Pg	Pg	17 26 51.7	+0.1
U32A					Sg	Sg	17 26 54.5	+0.6
U32A					IAML		17 26 55.2	
	comp=E,7μm,0.1s							
U32A					IAML		17 26 55.2	
	comp=N,5μm,0.1s							
OK035	**E0210 Rd and N**	**0.26**	**19**	Pg		Pg	17 26 53.8	+0.4
OK035					Sg	Sg	17 26 57.5	+0.6
OK035					IAML		17 26 58.2	
	comp=N,4μm,0.3s							
OK032	**Salt Plains WL**	**0.60**	**55**	Pg		Pg	17 26 59.8	+0.1
OK032					Sg	Sg	17 27 07.5	0.0
OK032					IAML		17 27 08.2	
	comp=N,927nm,0.2s							
ELIS	**Ellis County**	**0.62**	**231**			Pg	17 27 00.3	+0.1
ELIS					IAML		17 27 14.2	
	comp=N,1μm,0.2s							
ELIS					IAML		17 27 16.0	
	comp=E,1μm,0.3s							
CROK	**Carrier**	**0.67**	**86**	Pg		Pg	17 27 01.1	0.0
CROK					IAML		17 27 13.3	
	comp=N,766nm,0.4s							
CROK					IAML		17 27 25.0	
	comp=E,798nm,0.3s							
CSTR	**Hydro, Custer**	**0.82**	**173**	Pg		Pg	17 27 03.9	-0.1
KAN14	**Manchester OK**	**0.85**	**54**	Pg		Pg	17 27 03.6	-0.8
GC02	**Grant County #**	**0.86**	**63**	Pg		Pg	17 27 04.5	-0.3
KAN10	**Anthony SW Sta**	**0.88**	**41**	Pg		Pg	17 27 05.1	0.0
KAN17	**Caldwell West**	**1.03**	**55**			Pg	17 27 07.6	-0.4
KAN12	**Harper NE Stat**	**1.06**	**38**			Pg	17 27 08.2	-0.4
KS21	**Milan North St**	**1.24**	**48**	Pg		Pg	17 27 11.5	-0.5
OK029	**Liberty Lake**	**1.29**	**121**	Pg		Pn	17 27 11.8	-1.0
BLOK	**Blackwell**	**1.32**	**76**			Pn	17 27 13.1	-0.2
ADOK	**Arcadia Dam**	**1.42**	**124**			Pn	17 27 14.1	-0.5
OK048	**Pawnee Station**	**1.51**	**91**			Pn	17 27 15.9	+0.1
OKCSW	**OKLAHOMA CITY**	**1.54**	**133**	Pg		Pn	17 27 16.1	0.0
OK051	**E0350 and S346**	**1.60**	**88**			Pn	17 27 17.4	+0.4
FNO	**Franklin**	**1.66**	**136**			Pn	17 27 18.2	+0.3
OK052	**Battle Ridge R**	**1.69**	**105**			Pb	17 27 19.2	-0.6
WMOK	**Wichita Mounta**	**1.72**	**179**	Pg		Pn	17 27 18.5	-0.2
QUOK	**Quay**	**1.73**	**99**			Pb	17 27 20.4	+0.1
SMWD	**Samnorwood**	**1.78**	**221**			Pn	17 27 19.9	+0.3
SMWD					IAmb_Lg		17 27 48.1	
	comp=N,79nm,0.8s							
T35A	**Sooner Cattle**	**1.91**	**75**			Pb	17 27 22.9	-0.6
R32A	**Long Quarter,**	**1.96**	**2**			Pn	17 27 22.7	+0.6
R32A					IAmb_Lg		17 27 50.7	
	comp=E,64nm,0.8s							
X34A	**Smith Ranch, M**	**2.02**	**156**			Pb	17 27 24.2	-1.1
W35A	**Tecumseh**	**2.05**	**129**			Pn	17 27 23.8	+0.6
CBKS	**Cedar Bluff**	**2.46**	**343**			Pn	17 27 27.6	-1.3
TUL3	**Leonard**	**2.51**	**102**	Pn		Pn	17 27 28.9	-0.6
WTFS	**Witchita Falls**	**2.70**	**174**			Pn	17 27 33.1	+0.9
LOOK	**Love County**	**2.80**	**151**			Pn	17 27 35.3	+1.7
LOOK					IAmb_Lg		17 28 19.1	
	comp=Z,26nm,0.7s							
AMTX	**Amarillo**	**2.81**	**237**		IAmb_Lg		17 28 24.2	
	comp=Z,46nm,0.8s							
RTBA	**Rita Blanca**	**3.16**	**271**			Pn	17 27 40.1	+1.5
KSU1	**Kansas State U**	**3.16**	**33**			Pn	17 27 39.3	+0.7
DKNS	**Dickens**	**3.28**	**212**	Pn		Pn	17 27 40.0	-0.2
APMT	**Aspermont**	**3.31**	**199**			Pn	17 27 40.2	-0.3
APMT					IAmb_Lg		17 28 40.9	
	comp=Z,23nm,0.8s							
U38A	**Gravette**	**3.57**	**89**		IAmb_Lg		17 28 47.5	
	comp=Z,32nm,0.8s							
FW06	**Azle**	**3.63**	**163**		IAmb_Lg		17 28 43.6	
	comp=Z,26nm,0.7s							
ABTX	**Abilene, Hawle**	**3.89**	**190**	Pn		Pn	17 27 49.5	+1.0
ABTX					IAmb_Lg		17 28 50.3	
	comp=Z,22nm,0.8s							
KSCO	**Kaye Shedlock'**	**3.95**	**311**		IAmb_Lg		17 28 59.3	
	comp=Z,20nm,0.9s							
SN05	**Snyder 5**	**3.96**	**206**		IAmb_Lg		17 28 53.8	
	comp=Z,18nm,0.7s							
SN01	**Snyder 1**	**3.98**	**206**		IAmb_Lg		17 28 57.9	
	comp=Z,17nm,0.8s							
POST	**Post**	**4.04**	**214**		IAmb_Lg		17 28 58.1	
	comp=Z,23nm,1.0s							
MSTX	**Muleshoe**	**4.08**	**234**		IAmb_Lg		17 29 03.7	
	comp=Z,21nm,1.0s							
FW14	**Alvarado**	**4.27**	**161**		IAmb_Lg		17 29 03.5	
	comp=Z,16nm,0.8s							
Z38A	**Mt. Pleasant**	**4.48**	**134**		IAmb_Lg		17 29 18.7	
	comp=Z,19nm,0.8s							
S39A	**Bolivar**	**4.56**	**73**			Pn	17 27 58.4	+0.6
S39A					IAmb_Lg		17 29 13.5	
	comp=Z,19nm,0.8s							
BGNE	**Belgrade**	**4.97**	**6**		IAmb_Lg		17 29 35.7	
	comp=Z,28nm,0.7s							
OGNE	**Ogallala**	**5.14**	**332**		IAmb_Lg		17 29 34.1	
	comp=Z,22nm,0.7s							
BRDY	**Brady**	**5.16**	**182**			Pn	17 28 05.4	-0.6
P38A	**Dawn**	**5.23**	**51**	Pn		Pn	17 28 07.4	+0.4
P38A					IAmb_Lg		17 29 46.7	
	comp=Z,14nm,0.7s							
MGMO	**Mountain Grove**	**5.30**	**81**		IAmb_Lg		17 29 38.9	
	comp=Z,19nm,0.9s							
WHAR	**Wooly Hollow**	**5.43**	**100**		IAmb_Lg		17 29 42.4	
	comp=Z,21nm,1.0s							
WLAR	**White Oak Lake**	**5.43**	**119**		IAmb_Lg		17 29 49.0	
	comp=Z,18nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.44**	**94**		IAmb_Lg		17 29 50.1	
	comp=Z,12nm,0.7s							
SDCO	**Great Sand Dun**	**5.50**	**286**			Pn	17 28 11.4	+0.5
Q24A	**Divide**	**5.61**	**298**		IAmb_Lg		17 29 49.7	
	comp=Z,13nm,0.7s							
435B	**Jarrell**	**5.75**	**169**		IAmb_Lg		17 29 57.8	
	comp=Z,24nm,0.9s							
L34A	**Svendsen Farm,**	**5.82**	**18**	Pn		Pn	17 28 15.1	+0.1
BRIGG	**Briggsdale**	**5.96**	**315**		IAmb_Lg		17 30 03.0	
	comp=Z,12nm,0.7s							
LCAR	**Lake Charles**	**6.20**	**91**		IAmb_Lg		17 30 09.5	
	comp=Z,15nm,1.0s							
K30B	**Basset**	**6.24**	**355**		IAmb_Lg		17 30 10.0	
	comp=Z,22nm,0.7s							
CCM	**Cathedral Cave**	**6.25**	**73**		IAmb_Lg		17 30 21.0	
	comp=Z,14nm,0.7s							
FVM	**French Village**	**6.87**	**75**		IAmb_Lg		17 30 28.2	
	comp=Z,11nm,0.7s							
SAND	**Sanderson**	**7.05**	**204**			Pn	17 28 31.3	-0.7
PHWY	**Pilot Hill**	**7.08**	**315**		IAmb_Lg		17 30 37.3	
	comp=Z,17nm,1.0s							
N23A	**Red Feather La**	**7.12**	**311**		IAmb_Lg		17 30 44.2	
	comp=Z,15nm,0.7s							
CGM3	**Cape Girardeau**	**7.39**	**81**		IAmb_Lg		17 30 49.8	
	comp=Z,16nm,0.8s							
N41A	**Harden Midland**	**7.54**	**53**		IAmb_Lg		17 31 01.5	
	comp=Z,17nm,0.8s							
S44A	**Carbondale**	**7.74**	**78**		IAmb_Lg		17 31 02.1	
	comp=Z,12nm,0.7s							
L40A	**Anamosa**	**8.12**	**44**		IAmb_Lg		17 31 07.1	
	comp=Z,10nm,0.8s							
L42A	**Oliver, Polo**	**9.00**	**49**		IAmb_Lg		17 31 37.4	
	comp=Z,11nm,0.9s							

*MEX **21** 17:39:17.1±1.6, 30.°03N×114.°15W, h20km±56km, MD3.8*
*ECX **21** 17:39:18.5±0.5, 30.°22N×114.°31W, h10km±6km, ML3.0*
ISC 21 17:39:16.5±1.9, 30.°25N±0.°07×114.°23W±0.°07, h19km±5km, n8, σ0§38/14, 6C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SFX	**San Felipe**	**0.95**	**326**	*e*P		**Pn**	**17 39 35.0**	**+0.1**
SFX				*e*S		**Sb**	**17 39 46.6**	**0.0**
SFX	**San Felipe**	**0.95**	**326**	⇑*e*P		**Pn**	**17 39 34.9**	**0.0**
SFX				*e*S		**Sg**	**17 39 47.8**	**+0.1**
SFX				⇑*e*			17 39 48.3	
SFX				IAML			17 39 48.3	
	comp=N,217nm,0.2s							
SPIG	**San Pedro Mart**	**1.33**	**307**	*e*P		**Pb**	**17 39 40.8**	**-0.3**
SPIG				*e*S		**Sn**	**17 39 57.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.33**	**307**	⇑*e*P		**Pb**	**17 39 40.8**	**-0.3**
ECBX	**El Chinero**	**1.41**	**330**	⇑*e*P		**Pn**	**17 39 41.2**	**0.0**
ECBX				*e*S		**Sn**	**17 39 59.2**	**0.0**
ECBX				⇑*e*			17 40 09.4	
BAHB	**Baha de los**	**1.42**	**156**	*e*P		Pn	17 39 34.8	-6.5
BAHB				*e*S		**Pb**	**17 39 42.3**	**-0.2**
SQX	**San Quintin**	**1.46**	**283**	*e*P		**Pn**	**17 39 42.1**	**+0.3**
SQX				*e*S		**Sb**	**17 40 01.6**	**+0.4**
SQX				IAML			17 40 04.8	
	comp=E,378nm,0.3s							
SQX				⇑*e*			17 40 04.8	
SQX				IAML			17 40 06.7	
	comp=N,326nm,0.4s							
PIX	**Pinacate**	**1.47**	**27**	*e*P		**Pg**	**17 39 44.4**	**-0.4**
PIX				*e*S		**Sg**	**17 40 05.0**	**+0.9**

*IDC **21** 17:51:58.5±0.6, 6.°79N×72.°97W, h160km±6km, mb4.0/11, mbtmp4.6/17, Error ellipse: s-maj=12.5km s-min=6.9km az=135.0*
*NEIC **21** 17:51:58.3±2.4, 6.°82N±0.°07×72.°98W±0.°08, h153km±6km, mb4.7/238, Error ellipse: s-maj=12.1km s-min=9.1km az=116.0*
*RSNC **21** 17:51:59.2±1.0, 6.°84N×73.°14W, h148km±4km, ML4.4, Mw4.6, Fault plane solution: NP1:φs132.00000°, δ60.00000°, λ58.00000°.*
ISC 21 17:51:57.7±0.6, 6.°84N±0.°03×73.°09W±0.°03, h154km±5km, n590, σ1§53/610, mb4.6/127, 9C-11D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**200**	⇑*i*P		**Pn**	**17 52 19.3**	**+0.3**
BARC				*e*S		**Sn**	**17 52 34.3**	**-0.8**
BARC				*i*			17 52 35.7	
	comp=Z,7μm,0.2s							
PAMC	**Pamplona, Colo**	**0.63**	**38**	⇑*i*P		**Pn**	**17 52 22.0**	**+1.2**
PAMC				*e*S		**Sn**	**17 52 39.1**	**+0.7**
PAMC				*i*			17 52 41.2	
	comp=Z,5μm,0.4s							
TAMC	**Tame, Arauca**	**1.35**	**107**	⇑*i*P		**Pn**	**17 52 27.7**	**+1.6**
TAMC				*e*S		**Sn**	**17 52 48.5**	**+0.6**
TAMC				*i*			17 52 49.9	
	comp=Z,3μm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	⇑*e*P		**Pn**	**17 52 25.8**	**-0.7**
PTBC				*i*			17 52 52.9	
	comp=Z,3μm,0.7s							
OCAC	**Ocana**	**1.41**	**351**	⇓*i*P		**Pn**	**17 52 27.4**	**+0.6**
OCAC				*e*S		**Sn**	**17 52 49.1**	**0.0**
OCAC				*i*			17 52 59.3	
	comp=Z,6μm,0.3s							
SPBC	**San Pablo de B**	**1.53**	**220**	⇑*i*P		**Pn**	**17 52 28.2**	**+0.2**
SPBC				*e*S		**Sn**	**17 52 50.5**	**-0.8**
SPBC				*i*			17 52 56.5	
	comp=Z,7μm,0.2s							
NORC	**Norcasia**	**2.18**	**234**	*e*P		**Pn**	**17 52 35.8**	**+0.6**
NORC				*e*S		**Sn**	**17 53 03.8**	**-0.3**
ROSC	**El Rosal**	**2.34**	**212**	Pn		**Pn**	**17 52 39.1**	**+1.7**
ROSC	**El Rosal**	**2.34**	**212**	P		**Pn**	**17 52 39.3**	**+1.9**
	comp=Z,967nm,0.3s,baz=125,slow=18,SNR=725							
ROSC				S		**Sn**	**17 53 10.2**	**+2.1**
	comp=Z,5μm,0.4s,baz=104,slow=20,SNR=18							
ROSC	**El Rosal**	**2.34**	**212**	⇑*i*P		**Pn**	**17 52 39.3**	**+1.9**
ROSC				*e*S		**Sn**	**17 53 07.8**	**-0.3**
ROSC				*i*			17 53 13.6	
	comp=Z,4μm,0.5s							
CVER	**Cruz Verde, Cu**	**2.50**	**203**	⇑*i*P		**Pn**	**17 52 40.9**	**+1.3**
CVER				*e*S		**Sn**	**17 53 12.5**	**+0.6**
CVER				*i*			17 53 23.0	
	comp=Z,2μm,0.5s							
MEDEC	**Medelln, Ant**	**2.55**	**257**	*e*P		**Pn**	**17 52 40.7**	**+1.0**
MEDEC				*e*S		**Sn**	**17 53 12.3**	**+0.1**
UREC	**San Jos de Ur**	**2.59**	**291**	*e*P		**Pn**	**17 52 39.0**	**-1.0**
UREC				*e*S		**Sn**	**17 53 11.5**	**-1.3**
UREC				*i*			17 53 24.4	
	comp=Z,3μm,0.3s							
GUY2C	**Guyana, Caldas**	**2.78**	**235**	⇓*e*P		**Pn**	**17 52 43.4**	**+0.5**
GUY2C				*e*S		**Sn**	**17 53 18.1**	**+0.4**
GUY2C				*i*			17 53 26.4	
	comp=Z,2μm,0.4s							
VILC	**Villavicencio,**	**2.78**	**193**	⇑*i*P		**Pn**	**17 52 42.7**	**+0.1**
VILC				*e*S		**Sn**	**17 53 17.8**	**+0.4**
VILC				*i*			17 53 28.0	
	comp=Z,2μm,0.3s							
PTGC	**Puerto Gaitan,**	**2.79**	**160**	⇑*i*P		**Pn**	**17 52 42.6**	**-0.1**
PTGC				*e*S		**Sn**	**17 53 15.9**	**-1.6**
PTGC				*i*			17 53 21.7	
	comp=Z,1μm,0.2s							
NIZA	**Niza - Manizal**	**2.96**	**233**	*e*P		**Pn**	**17 52 48.1**	**+3.2**
NIZA				*e*S		**Sn**	**17 53 24.2**	**+2.7**
CBOC	**Ciudad Bolivar**	**3.06**	**252**	⇓*e*P		**Pn**	**17 52 46.9**	**+0.7**
CBOC				*e*S		**Sn**	**17 53 21.3**	**-2.4**
CBOC				*i*			17 53 32.8	
	comp=Z,772nm,0.4s							
DBBC	**Dabeiba**	**3.10**	**273**	⇓*e*P		**Pn**	**17 52 47.0**	**+0.4**

BBAC Balboa, Cauca 6.33 221 *e*P **Pn** **17 53 29.4 +0.3**
BBAC *e*S **Sn** **17 54 37.7 -3.0**
BBAC *i* 17 54 47.3
comp=Z,122nm,0.4s
GR1C Gorgona, Isla 6.33 233 *e*P **Pn** **17 53 29.4 +0.4**
GR1C *e*S **Sn** **17 54 36.2 -4.2**
GR1C *i* 17 54 45.5
comp=Z,530nm,0.4s
CRUC La Cruz 6.50 216 *e*P **Pn** **17 53 34.0 +2.5**
HATO Hato, Curacao 6.69 37 Pn **Pn** **17 53 32.4 -1.2**
PTLC Puerto Leguiza 6.84 194 *e*P **Pn** **17 53 39.2 +3.5**
PTLC *i* 17 55 30.0
comp=Z,112nm,0.5s
GCUF Volcan Galeras 7.01 217 *e*P **Pn** **17 53 39.8 +1.4**
GCUF *e*S **Sn** **17 54 55.3 -2.0**
GCUF *i* 17 55 01.3
comp=Z,62nm,0.5s
BCIP Isla Barro Col 7.07 290 Pn **Pn** **17 53 37.1 -1.6**
TULM Tulcn-Chalpat 7.68 218 Pn **Pn** **17 53 49.4 +2.1**
OTAV Otavalo 8.46 219 **Pn** **17 53 57.3 -0.5**
PCRV Puerto La Cruz 8.99 68 P **Pn** **17 54 03.1 -1.3**
comp=Z,32nm,0.5s,baz=217,slow=8.2,SNR=22
PCRV S **Sn** **17 55 45.2 +0.9**
comp=Z,30nm,0.7s,baz=33,slow=21,SNR=2.3
DRK0 Durika 10.34 284 **Pn** **17 54 22.9 +0.5**
PRVC Isla de Provid 10.41 309 *e*P **Pn** **17 54 19.0 -4.2**
PRVC *e*S **Sn** **17 56 11.1 -7.4**
SRBA San Rafael, Bu 10.44 284 **Pn** **17 54 23.8 +0.2**
COHC Cochancay 11.11 214 **Pn** **17 54 32.8 +0.5**
LCR2 La Lucha 2 11.18 286 Pn **Pn** **17 54 35.0 +1.6**
GWJ Greenwich 11.71 343 *i* P **P** **17 54 44.1 -3.2**
STH Stony Hill 11.74 342 *i* P **Pn** **17 54 43.7 +3.2**
STH *i* S Sn 17 56 40.2 -10
JACO JACO, Garabito 11.79 285 Pn **Pn** **17 54 41.1 0.0**
COVE Coope Vega, Sa 11.82 290 Pn **Pn** **17 54 44.0 +2.4**
SDD Santo Domingo 11.95 15 Pn **Pn** **17 54 42.5 -0.7**
MTDJ Mount Denham 12.12 339 **Pn** **17 54 47.3 +1.8**
MTDJ Mount Denham 12.12 339 *i* P **Pn** **17 54 48.9 +3.4**
TRN Trinidad (W) 12.15 71 *e*P **P** **17 54 53.1 +1.0**
SDDR Presa de Saban 12.19 8 Pn **P** **17 54 50.2 -2.3**
JTS Las Juntas de 12.22 287 Pn **Pn** **17 54 46.7 -0.1**
JTS Las Juntas de 12.22 287 P **P** **17 54 50.8 -2.0**
comp=Z,6.2nm,0.4s,baz=98,slow=12,SNR=4.1
ESPN Las Esperanzas 12.27 297 Pn **Pn** **17 54 46.3 -1.0**
GRGR Grenville 12.44 64 Pn **Pn** **17 54 49.5 -0.2**
ORTG Ortega, Santa 12.72 287 Pn **Pn** **17 54 55.3 +2.0**
CELP Cerrillos 12.84 29 Pn **Pn** **17 54 52.7 -2.0**
HZTE Horizontes, Gu 12.94 288 Pn **Pn** **17 54 55.1 -1.0**
IGPR InterUniversit 12.98 31 Pn **Pn** **17 54 53.7 -2.9**
MCRA Macar, Loja 13.08 212 Pn **Pn** **17 54 55.4 -2.4**
SJG San Juan 13.09 31 Pn **Pn** **17 54 54.9 -3.0**
SJG San Juan 13.09 31 P **Pn** **17 54 57.4 -0.4**
comp=Z,13nm,0.5s,baz=208,slow=16,SNR=7.3
GTBY Guantanamo Bay 13.15 352 Pn **Pn** **17 54 59.1 +0.4**
BOAV Boa Vista 13.28 109 Pn **Pn** **17 54 58.7 -1.7**
GCPR Guaynabo City 13.29 30 Pn **Pn** **17 54 57.6 -2.8**
FDF Fort de France 14.10 55 Pn **Pn** **17 55 07.2 -3.6**
MPOM Morne Pois Mar 14.19 57 Pn **Pn** **17 55 11.0 -0.9**
CZSB Cruzeiro do Su 14.48 178 Pn **Pn** **17 55 14.5 -1.1**
ATAH Atahualpa 14.86 201 P **P** **17 55 21.0 -1.6**
comp=Z,5.1nm,0.7s,baz=16,slow=18,SNR=1.0
ETMB Extrema 17.91 157 P **P** **17 55 53.7 -2.1**
CAMR Camarioca 17.99 335 P **P** **17 55 56.8 +0.3**
CAMR IAmb IAmb 17 56 35.5
comp=Z,99nm,1.1s
SAML Samuel 18.54 148 P **P** **17 56 00.2 -2.4**
PAYG Puerto Ayora 18.71 247 P **P** **17 56 04.8 +0.2**
PAYG IAmb IAmb 17 56 11.8
comp=Z,46nm,1.1s
TEIG Tepich 19.85 314 P **P** **17 56 18.4 +1.6**
TEIG IAmb IAmb 17 56 23.0
comp=Z,41nm,0.9s
MDP Montagnes des 20.41 94 P **P** **17 56 22.5 -0.4**
comp=Z,5.8nm,0.6s,baz=337,slow=11,SNR=1.4
comp=Z,5.8nm,0.6s
DWPF Disney Wildern 22.58 341 P **P** **17 56 48.6 +3.4**
baz=158
PB12 IPOC Station P 25.44 174 P **P** **17 57 09.2 -2.2**
PB12 IAmb IAmb 17 57 23.3
comp=Z,15nm,1.2s
NHSC New Hope 26.95 347 P **P** **17 57 27.9 +3.2**
baz=164
BRAL Brewton 27.50 333 P **P** **17 57 31.9 +2.1**
baz=149
152A Waverly Hall 27.88 339 P **P** **17 57 35.0 +1.9**
152A IAmb IAmb 17 57 36.4
comp=Z,15nm,0.7s
GOGA Godfrey 28.14 341 P **P** **17 57 37.2 +1.9**
GOGA Godfrey 28.14 341 P **P** **17 57 38.1 +2.8**
baz=157
JSC Jenkinsville 28.33 346 P **P** **17 57 38.4 +1.4**
JSC IAmb IAmb 17 57 39.6
comp=Z,8.1nm,0.7s
HODGE Hodges 28.54 344 P **P** **17 57 40.7 +1.8**
HODGE IAmb IAmb 17 57 41.6
comp=Z,7.9nm,0.7s
Z51A Franklin 28.63 339 P **P** **17 57 41.9 +2.1**
Y52A Lilburn 28.74 341 P **P** **17 57 42.0 +1.3**
Y52A IAmb IAmb 17 57 43.6
comp=Z,9.2nm,0.5s
346A Big Creek Wild 28.82 330 P **P** **17 57 41.6 +0.2**
W57A Gilead 28.88 348 P **P** **17 57 41.5 -0.4**
PAULI Pauline 28.98 345 P **P** **17 57 44.9 +2.1**
PAULI IAmb IAmb 17 57 45.8
comp=Z,8.5nm,0.9s
LRAL Lakeview Retre 29.09 335 P **P** **17 57 45.7 +1.9**
LRAL IAmb IAmb 17 57 46.7
comp=Z,7.4nm,0.7s
LRAL Lakeview Retre 29.09 335 P **P** **17 57 46.5 +2.7**
baz=150,SNR=5.4
KMSC Kings Mountain 29.17 346 P **P** **17 57 46.4 +1.9**
baz=163
V58A Windy Hill, Pi 29.34 350 P **P** **17 57 45.2 -0.7**
Y49A Blount Mountai 29.58 337 P **P** **17 57 50.5 +2.4**
Y49A IAmb IAmb 17 57 51.2
comp=Z,14nm,0.7s
V55A Taylorsville 29.82 347 P **P** **17 57 50.5 +0.3**
V55A IAmb IAmb 17 57 53.6
comp=Z,6.4nm,0.8s
FPAL Fort Paine 29.89 339 P **P** **17 57 53.2 +2.3**
FPAL IAmb IAmb 17 57 53.5
comp=Z,7.2nm,0.6s
VBMS Vicksburg 30.02 330 P **P** **17 57 54.6 +2.6**
baz=143
V53A Saluda 30.05 344 P **P** **17 57 54.5 +2.2**
T59A Double "B" Far 30.27 353 P **P** **17 57 54.0 -0.1**
T59A IAmb IAmb 17 57 56.3
comp=Z,7.8nm,0.7s
X48A Hartselle 30.35 337 P **P** **17 57 57.0 +2.1**
X48A IAmb IAmb 17 57 58.0
comp=Z,16nm,0.7s
CPCT Cooper Cave 30.35 341 P **P** **17 57 57.1 +2.2**
CPCT IAmb IAmb 17 57 58.2
comp=Z,8.7nm,0.7s
W50A Signal Mountai 30.38 340 P **P** **17 57 57.7 +2.5**
W50A IAmb IAmb 17 57 58.5
comp=Z,12nm,0.8s
T57A Hurt 30.54 350 P **P** **17 57 56.3 -0.2**
T57A IAmb IAmb 17 57 59.2
comp=Z,9.0nm,0.8s
U54A Nelsons Funny 30.60 346 P **P** **17 57 58.9 +1.8**
U54A IAmb IAmb 17 58 00.5
comp=Z,21nm,0.8s
V51A Loudon 30.62 342 P **P** **17 57 58.8 +1.6**
V51A IAmb IAmb 17 58 00.6
comp=Z,16nm,0.8s
Y45A Yeager Farm, C 30.90 333 P **P** **17 58 01.3 +1.5**
BLA Blacksburg 30.96 349 P **P** **17 58 00.8 +0.5**
BLA IAmb IAmb 17 58 07.0
comp=Z,20nm,1.5s
BLA Blacksburg 30.96 349 P **P** **17 58 02.4 +2.1**
baz=165
RCRC Randolf Colleg 30.96 350 P **P** **17 58 01.2 +0.9**
TZTN Tazewell 31.07 344 P **P** **17 58 03.4 +2.2**
TZTN Tazewell 31.07 344 P **P** **17 58 03.7 +2.5**
baz=159
PLAL Pickwick Lake 31.22 336 P **P** **17 58 04.4 +1.8**
PLAL IAmb IAmb 17 58 05.5
comp=Z,15nm,0.8s
S57A Dark Hollow, R 31.23 351 P **P** **17 58 04.0 +1.4**
S57A IAmb IAmb 17 58 05.4
comp=Z,7.7nm,0.6s
V48A Smith Brothers 31.40 338 P **P** **17 58 06.3 +2.2**
CBN Corbin Frederi 31.46 354 P **P** **17 58 07.1 +2.5**
baz=172
CLTN Cedars of Leba 31.54 339 P **P** **17 58 06.4 +1.0**
CLTN IAmb IAmb 17 58 08.0
comp=Z,7.5nm,0.6s
HBVL Hebbronville 31.54 313 P **P** **17 58 05.1 -0.4**
HBVL IAmb IAmb 17 58 08.2
comp=Z,14nm,0.6s
S54A Dingess, Beckl 31.71 348 P **P** **17 58 06.9 0.0**
S54A IAmb IAmb 17 58 10.1
comp=Z,7.1nm,0.8s
U49A Red Boiling Sp 31.73 340 P **P** **17 58 08.2 +1.2**
T50A Nancy 31.89 342 P **P** **17 58 08.2 -0.3**
T50A IAmb IAmb 17 58 11.7
comp=Z,14nm,1.2s
NATX Nacogdoches 31.94 324 P **P** **17 58 10.5 +1.6**
baz=136
R55A Marlinton 31.94 350 P **P** **17 58 09.4 +0.5**
R55A IAmb IAmb 17 58 12.3
comp=Z,9.6nm,0.9s
S51A Beattyville 32.11 344 P **P** **17 58 11.2 +0.9**
S51A IAmb IAmb 17 58 13.5
comp=Z,7.8nm,0.8s
WVT Waverly 32.12 337 P **P** **17 58 11.6 +1.2**
WVT IAmb IAmb 17 58 12.9
comp=Z,18nm,0.9s
WVT Waverly 32.12 337 P **P** **17 58 12.6 +2.2**
baz=151
Q56A Snyder Ridge, 32.52 351 P **P** **17 58 15.0 +1.0**
Q56A IAmb IAmb 17 58 48.0
comp=Z,9.5nm,1.2s
T47A Sharon Grove 32.62 339 P **P** **17 58 16.7 +1.9**
833A Chaparral WMA, 32.79 314 P **P** **17 58 17.8 +1.4**
baz=126
R50A Paris 32.91 344 P **P** **17 58 19.5 +2.2**
R50A IAmb IAmb 17 58 20.8
comp=Z,14nm,0.7s
X40A Basin Creek Fa 33.00 329 P **P** **17 58 19.0 +0.9**
X40A IAmb IAmb 17 58 20.1
comp=Z,8.1nm,0.7s
SSFO Shawnee State 33.00 345 P **P** **17 58 19.9 +1.9**
Q52A Bidwell 33.03 347 P **P** **17 58 20.3 +2.0**
Q52A IAmb IAmb 17 58 21.6
comp=Z,14nm,0.8s
435B Jarrell 33.08 319 P **P** **17 58 20.9 +2.0**
baz=131
R49A Shelbyville 33.17 342 P **P** **17 58 19.9 +0.4**
R49A IAmb IAmb 17 58 22.2
comp=Z,6.4nm,0.6s
T45A Paducah 33.22 337 P **P** **17 58 21.2 +1.3**
MCWV Mont Chateau 33.23 350 P **P** **17 58 22.4 +2.3**
baz=167
P53A Whipple 33.35 348 P **P** **17 58 21.8 +0.7**
P53A IAmb IAmb 17 58 24.3
comp=Z,21nm,1.4s
Q51A Peebles 33.35 345 P **P** **17 58 21.6 +0.5**
Q51A IAmb IAmb 17 58 24.5
comp=Z,13nm,0.7s
WHAR Wooly Hollow 33.36 331 P **P** **17 58 22.6 +1.4**
WHAR IAmb IAmb 17 58 23.3
comp=Z,11nm,0.7s
BDFB Brasilia 33.41 132 P **P** **17 58 21.9 -0.1**
comp=Z,1.0nm,0.4s,baz=296,slow=10,SNR=3.1
comp=Z,1.0nm,0.4s
HNDO Hondo 33.43 316 P **P** **17 58 21.3 -0.6**
WCI Wyandotte Cave 33.46 341 P **P** **17 58 23.5 +1.5**
WCI IAmb IAmb 17 58 24.8
comp=Z,18nm,0.7s
WCI Wyandotte Cave 33.46 341 P **P** **17 58 24.2 +2.1**
baz=156
LCAR Lake Charles 33.47 333 P **P** **17 58 21.6 -0.5**
LCAR IAmb IAmb 17 58 24.5
comp=Z,9.5nm,0.6s
P52A Corning 33.65 347 P **P** **17 58 24.9 +1.2**
P52A Corning 33.65 347 P **P** **17 58 26.1 +2.5**
baz=163,SNR=9.3
P51A Williamsport 33.71 346 P **P** **17 58 23.4 -0.8**
P51A IAmb IAmb 17 58 27.3
comp=Z,14nm,0.6s
BRNJ Basking Ridge 33.72 358 P **P** **17 58 24.8 +0.6**
PBMO Poplar Bluff 33.74 334 P **P** **17 58 25.6 +1.1**
FCAR Ozark Folk Cen 33.77 332 P **P** **17 58 25.9 +1.1**
FCAR IAmb IAmb 17 58 26.5
comp=Z,18nm,1.0s
WHTX Lake Whitney, 33.80 321 P **P** **17 58 26.7 +1.6**
baz=132
CGM3 Cape Girardeau 33.86 336 P **P** **17 58 25.3 -0.2**
SSPA Standing Stone 33.92 353 P **P** **17 58 28.2 +2.2**
baz=171
PAL Palisades 34.03 359 P **P** **17 58 28.5 +1.6**
PAL IAmb IAmb 17 58 29.4
comp=Z,9.9nm,0.6s
PAL Palisades 34.03 359 P **P** **17 58 28.5 +1.6**
baz=178
S44A Carbondale 34.04 337 P **P** **17 58 27.3 +0.2**
O52A Adamsville 34.05 348 P **P** **17 58 28.4 +1.3**
O52A IAmb IAmb 17 58 30.3
comp=Z,15nm,0.8s
O53A New Philadelph 34.05 349 P **P** **17 58 27.3 +0.1**
O53A IAmb IAmb 17 58 29.9
comp=Z,8.4nm,0.6s
O53A New Philadelph 34.05 349 P **P** **17 58 29.3 +2.1**
baz=165
P49A Miami Univ. Ec 34.19 344 P **P** **17 58 28.0 -0.3**
P49A Miami Univ. Ec 34.19 344 P **P** **17 58 30.0 +1.6**
baz=159
DRIO Del Rio 34.30 314 P **P** **17 58 30.2 +0.7**
P48A Milroy 34.32 343 P **P** **17 58 28.7 -0.8**
BRDY Brady 34.33 318 P **P** **17 58 30.3 +0.6**
BRDY IAmb IAmb 17 58 31.9
comp=Z,7.1nm,0.8s
JCT Junction City 34.36 317 P **P** **17 58 30.6 +0.5**
baz=128
BLO Bloomington 34.39 341 P **P** **17 58 27.8 -2.2**
ACSO Alum Creek Sta 34.41 347 P **P** **17 58 32.3 +2.0**
baz=162
FW06 Azle 34.53 322 P **P** **17 58 32.2 +0.8**
FW06 IAmb IAmb 17 58 33.7
comp=Z,14nm,0.7s
M57A Sunshine Farm, 34.54 355 P **P** **17 58 32.9 +1.6**
M57A IAmb IAmb 17 58 50.6
comp=Z,11nm,1.2s
Z35A Perchaven, San 34.59 323 P **P** **17 58 32.9 +1.0**
KSPA Keystone Colle 34.65 356 P **P** **17 58 33.8 +1.6**
KSPA IAmb IAmb 17 58 38.1
comp=Z,18nm,1.3s
O49A Covington 34.70 345 P **P** **17 58 33.3 +0.6**
O49A IAmb IAmb 17 58 36.1
comp=Z,7.7nm,0.8s
M55A Ridgway 34.85 353 P **P** **17 58 35.3 +1.2**
M55A IAmb IAmb 17 58 36.7
comp=Z,6.0nm,0.6s
MGMO Mountain Grove 34.87 333 P **P** **17 58 34.6 +0.4**
MGMO IAmb IAmb 17 58 35.9
comp=Z,8.6nm,0.8s
PLPT Palo Pinto 34.89 321 IAmb IAmb 17 58 36.2
comp=Z,13nm,0.6s
HHAR Hobbs 34.96 330 P **P** **17 58 34.2 -0.8**
HHAR IAmb IAmb 17 58 36.5
comp=Z,8.3nm,0.8s
O48B Farmland 34.98 344 P **P** **17 58 36.9 +1.7**
baz=158
Q44A Meyer Farm, Va 35.01 338 P **P** **17 58 36.0 +0.6**
Q44A IAmb IAmb 17 58 37.2
comp=Z,9.9nm,0.5s
M53A WI Miller and 35.11 350 P **P** **17 58 37.9 +1.7**
baz=166
CCM Cathedral Cave 35.16 335 P **P** **17 58 38.3 +1.6**
CCM Cathedral Cave 35.16 335 P **P** **17 58 38.5 +1.8**
baz=147
BINY Binghamton 35.30 356 P **P** **17 58 37.3 -0.6**
BINY IAmb IAmb 17 58 57.1
comp=Z,16nm,1.2s
BINY Binghamton 35.30 356 P **P** **17 58 39.8 +1.9**
baz=175
N49A Columbus Grove 35.35 345 P **P** **17 58 39.3 +1.0**
N49A IAmb IAmb 17 58 40.5
comp=Z,7.5nm,0.6s
L56A Greenwood 35.37 354 P **P** **17 58 39.9 +1.4**
L56A IAmb IAmb 17 58 42.0
comp=Z,16nm,1.1s
RLO Rose Lookout 35.42 329 P **P** **17 58 39.6 +0.6**
RLO IAmb IAmb 17 59 15.8
comp=Z,49nm,1.1s
M50A Fremont 35.54 347 P **P** **17 58 40.3 +0.5**
M50A IAmb IAmb 17 58 42.8
comp=Z,18nm,0.7s
OZNA Ozona 35.54 316 P **P** **17 58 39.1 -1.0**
ABTX Abilene, Hawle 35.60 320 P **P** **17 58 41.9 +1.2**
baz=130
TUL3 Leonard 35.63 327 P **P** **17 58 40.5 -0.3**
TUL3 IAmb IAmb 17 58 42.2
comp=Z,11nm,0.7s
TUL3 Leonard 35.63 327 P **P** **17 58 41.9 +1.1**
baz=139
ERPA Erie 35.66 351 P **P** **17 58 42.7 +1.8**
baz=168
SFIN Lafayette 35.67 342 P **P** **17 58 41.8 +0.8**
SFIN Lafayette 35.67 342 P **P** **17 58 42.8 +1.8**
baz=155,SNR=30
SAND Sanderson 35.68 314 P **P** **17 58 42.6 +1.3**
N47A Urbana 35.71 344 P **P** **17 58 42.5 +1.1**
N47A IAmb IAmb 17 58 43.8
comp=Z,15nm,0.7s
WVNY West Valley, N 35.75 353 P **P** **17 58 43.2 +1.5**
WVNY IAmb IAmb 17 58 44.9
comp=Z,10nm,0.9s
S39A Bolivar 35.79 332 P **P** **17 58 42.8 +0.7**
S39A IAmb IAmb 17 58 44.4
comp=Z,9.6nm,0.7s
R40A Maddies Statio 35.80 334 IAmb IAmb 17 58 43.5
comp=Z,13nm,0.6s
P43A Skaggs, Pawnee 35.84 338 P **P** **17 58 43.2 +0.7**
O44A Mansfield 35.92 340 P **P** **17 58 42.1 -1.1**
O44A IAmb IAmb 17 58 44.4
comp=Z,7.9nm,0.6s
L48A N Adams 36.38 346 P **P** **17 58 48.4 +1.4**
J58A Remsen 36.42 357 P **P** **17 58 48.3 +0.9**
J56A Wolcott 36.44 355 P **P** **17 58 48.0 +0.6**
J56A IAmb IAmb 17 59 24.2
comp=Z,9.7nm,0.9s
TXAR Lajitas Array 36.47 312 P **P** **17 58 48.9 +0.8**
TXAR Lajitas Array 36.47 312 P **P** **17 58 49.4 +1.2**
comp=Z,4.1nm,0.6s,baz=127,slow=9.2,SNR=33
TXAR PcP **PcP** **18 01 10.3 +1.4**
comp=Z,2.4nm,0.8s,baz=139,slow=6.5,SNR=9.2
comp=Z,4.1nm,0.6s
WMOK Wichita Mounta 36.48 323 IAmb IAmb 17 58 49.1
comp=Z,7.1nm,0.7s
WMOK Wichita Mounta 36.48 323 P **P** **17 58 49.0 +0.9**
baz=134
J57A Williamstown 36.51 356 IAmb IAmb 17 58 50.8
comp=Z,13nm,0.7s
HDIL Hopedale 36.57 339 P **P** **17 58 49.3 +0.6**
baz=152,SNR=6.1
T35A Sooner Cattle 36.77 328 IAmb IAmb 17 58 51.8
comp=Z,9.2nm,0.6s
MNHN Monahans 36.92 315 IAmb IAmb 17 58 53.0
comp=Z,8.9nm,0.4s
NCB Newcomb 36.99 359 P **P** **17 58 52.6 +0.4**
NCB IAmb IAmb 17 58 55.8
comp=Z,22nm,1.4s
POST Post 37.09 319 P **P** **17 58 52.7 -0.6**
POST IAmb IAmb 17 58 55.2
comp=Z,18nm,0.9s
LBNH Lisbon 37.26 1 P **P** **17 58 55.4 +0.9**
LBNH IAmb IAmb 17 59 34.5
comp=Z,18nm,1.2s
OK032 Salt Plains WL 37.61 326 P **P** **17 58 56.9 -0.6**
OK032 IAmb IAmb 17 58 58.7
comp=Z,12nm,0.6s
DELO Deloro Mine 37.74 355 IAmb IAmb 17 59 00.5
comp=Z,5.5nm,0.6s
ELIS Ellis County 37.77 324 IAmb IAmb 17 59 00.8
comp=Z,32nm,1.3s
I49A Point Hope 37.92 349 P **P** **17 59 00.0 0.0**
L42A Oliver, Polo 37.98 340 IAmb IAmb 17 59 01.5
comp=Z,20nm,1.1s
WBO Williamsburg 38.06 357 P **P** **17 59 03.4 +2.3**
WBO IAmb IAmb 17 59 03.7
comp=Z,7.8nm,0.7s
SADO Sadowa 38.15 353 P **P** **17 59 02.6 +0.8**
SADO IAmb IAmb 17 59 04.4
comp=Z,8.1nm,0.9s
AMTX Amarillo 38.36 321 P **P** **17 59 04.5 +0.6**
baz=130
KSU1 Kansas State U 38.48 330 P **P** **17 59 05.0 +0.2**
baz=140,SNR=7.1
G65A Princeton 38.51 6 P **P** **17 59 04.7 -0.2**
G65A IAmb IAmb 17 59 07.8
comp=Z,15nm,1.1s
L40A Anamosa 38.58 338 IAmb IAmb 17 59 06.3
comp=Z,12nm,0.5s
MNTX Cornudas Mount 38.98 314 P **P** **17 59 10.2 +1.1**
baz=122
JFWS Jewell Farm 38.98 340 P **P** **17 59 09.8 +0.8**
baz=152,SNR=18
SCIA State Center 39.22 336 P **P** **17 59 10.5 -0.4**
SCIA State Center 39.22 336 P **P** **17 59 12.0 +1.1**
baz=147,SNR=7.5
TRQ Mont Tremblant 39.25 358 P **P** **17 59 10.3 -0.8**
LMN Caledonia Moun 39.52 9 P **P** **17 59 14.5 +1.2**
H43A Windswept, Lux 39.61 343 IAmb IAmb 17 59 16.0
comp=Z,17nm,0.8s
CBKS Cedar Bluff 39.89 327 P **P** **17 59 16.7 +0.2**
baz=136
I40A Norwalk 39.97 340 IAmb IAmb 17 59 18.6
comp=Z,18nm,0.9s
RTBA Rita Blanca 40.01 322 P **P** **17 59 19.2 +1.5**
RTBA IAmb IAmb 17 59 19.3
comp=Z,8.2nm,0.7s
G40A Rib Lake 41.06 342 IAmb IAmb 17 59 27.9
comp=Z,13nm,1.1s
121A Cookes Peak, D 41.15 313 P **P** **17 59 29.2 +2.0**
baz=121
E43A Lone Tree Farm 41.17 345 P **P** **17 59 27.1 +0.2**
E43A IAmb IAmb 17 59 28.2
comp=Z,7.9nm,0.7s
VLDQ Val d'Or 41.29 356 IAmb IAmb 17 59 31.0
comp=Z,16nm,1.3s
T25A Trinidad 41.49 321 P **P** **17 59 32.0 +2.1**
baz=129,SNR=5.7
COWI Conover 41.49 343 IAmb IAmb 17 59 31.7
comp=Z,19nm,1.2s
ANMO Albuquerque 41.52 317 P **P** **17 59 32.5 +2.4**
ANMO Albuquerque 41.52 317 P **P** **17 59 32.2 +2.0**
baz=124
KSCO Kaye Shedlock' 41.65 325 P **P** **17 59 31.9 +0.9**
baz=132
SPMN Marine on St. 41.90 339 P **P** **17 59 33.1 +0.3**
SPMN Marine on St. 41.90 339 P **P** **17 59 33.4 +0.6**
baz=150
ECSD EROS Data Cent 42.14 334 P **P** **17 59 34.9 +0.1**
ECSD EROS Data Cent 42.14 334 P **P** **17 59 34.9 +0.1**
baz=144,SNR=12
D41A Chassel 42.22 344 P **P** **17 59 35.6 +0.3**
D41A IAmb IAmb 17 59 46.4
comp=Z,32nm,1.4s
SDCO Great Sand Dun 42.55 321 P **P** **17 59 40.7 +2.1**
baz=128,SNR=14
OGNE Ogallala 42.65 327 P **P** **17 59 40.6 +1.5**
baz=135
F36A Milaca 42.70 339 IAmb IAmb 17 59 41.7
comp=Z,14nm,1.4s
Q24A Divide 43.10 323 P **P** **17 59 44.5 +1.5**
baz=130
TUC Tucson 43.26 311 P **P** **17 59 44.0 -0.1**
TUC Tucson 43.26 311 P **P** **17 59 45.2 +1.1**
baz=118
S22A 4UR Ranch, Cre 43.39 320 P **P** **17 59 47.6 +2.2**
baz=127,SNR=6.3
F33A 5 Mile Ranch, 43.73 337 IAmb IAmb 17 59 48.5
comp=Z,13nm,1.2s
SUSD Miller 43.73 333 P **P** **17 59 48.2 +0.6**
baz=141,SNR=9.0
EYMN Ely 43.86 342 P **P** **17 59 49.4 +0.8**
baz=153,SNR=20
W18A Petrified Fore 43.87 315 P **P** **17 59 51.2 +2.1**
baz=121,SNR=5.3
ISCO Idaho Springs 43.91 323 P **P** **17 59 51.5 +2.0**
baz=130,SNR=12
MVCO Mesa Verde 44.16 318 P **P** **17 59 52.7 +1.3**
baz=124
214A Organ Pipe Nat 44.64 309 P **P** **17 59 56.4 +1.3**
baz=116
N23A Red Feather La 44.80 324 P **P** **17 59 58.7 +2.2**
baz=130,SNR=7.3
B35A Bob, Littlefor 44.93 341 P **P** **17 59 57.5 +0.5**
B35A IAmb IAmb 17 59 58.4
comp=Z,13nm,0.6s
WUAZ Wupatki 45.23 315 P **P** **18 00 02.3 +2.5**
baz=120,SNR=11
AGMN Agassiz Nation 45.62 339 IAmb IAmb 18 00 03.9
comp=Z,12nm,0.6s

AGMN	Agassiz Nation	45.62	339	P		P	18 00 03.3 +0.9
	baz=147,SNR=14						
O20A	White River Ci	45.70	322	P		P	18 00 05.3 +1.8
	baz=127						
113A	Mohawk Valley,	45.72	310	P		P	18 00 03.9 +0.4
RSSD	Black Hills	45.94	329	P		P	18 00 06.0 +0.6
RSSD	Black Hills	45.94	329	P		P	18 00 06.9 +1.6
	baz=135						
K22A	Casper	46.27	326	P		P	18 00 09.5 +1.6
	baz=131						
U15A	North Rim	46.33	315	P		P	18 00 10.1 +1.5
GLA	Glamis	46.64	310	P		P	18 00 12.3 +1.5
	baz=115						
MDND	Maddock	46.69	336	P		P	18 00 12.4 +1.6
	baz=142						
Q16A	Castle Valley	46.86	319	P		P	18 00 13.9 +1.3
KNB	Kanab	46.99	316	IAmb		IAmb	18 00 16.7
	comp=Z,11nm,0.9s						
ULM	Lac du Bonnet	47.28	340	IAmb		IAmb	18 00 16.9
	comp=Z,16nm,0.7s						
ULM	Lac du Bonnet	47.28	340	P		P	18 00 15.6 +0.2
	comp=Z,19nm,0.5s,baz=142,slow=7.2,SNR=58						
	comp=Z,19nm,0.5s						
SWSC	Sam W. Stewart	47.34	309	P		P	18 00 17.8 +1.6
	baz=114						
IRM	Iron Mountain	47.35	311	P		P	18 00 17.8 +1.6
	baz=115						
BC3	Big Chuckawall	47.37	310	P		P	18 00 18.1 +1.6
	baz=115						
IKP	In-Ko-Pah, Jac	47.47	309	P		P	18 00 18.8 +1.6
	baz=113						
BSUT	Blindstream Ca	47.50	321	IAmb		IAmb	18 00 20.2
	comp=Z,9.6nm,0.8s						
MONP2	Monument Peak	47.80	309	P		P	18 00 21.9 +1.9
	baz=113						
GMRC	Granite Mounta	48.00	311	P		P	18 00 23.5 +2.1
	baz=115						
BW06	Boulder Array	48.08	324	P		P	18 00 23.0 +1.0
	baz=128,SNR=7.0						
PD31	Pinedale Array	48.08	324	P		P	18 00 22.1 +0.1
PDAR	Pinedale Array	48.08	324	P		P	18 00 22.9 +0.9
	comp=Z,2.6nm,0.5s,baz=126,slow=9.3,SNR=33						
PDAR				PcP		PcP	18 01 47.8 +0.4
	comp=Z,0.6nm,0.6s,baz=133,slow=3.8,SNR=3.2						
	comp=Z,2.6nm,0.5s						
TPFO	Pinon Flats	48.11	310	P		P	18 00 23.6 +1.3
	baz=114						
SCHQ	Schefferville	48.12	5	P		P	18 00 22.4 +0.7
	comp=Z,5.0nm,0.5s,baz=195,slow=7.1,SNR=28						
	comp=Z,5.0nm,0.5s						
PFO	Pinyon Flats O	48.12	310	P		P	18 00 23.6 +1.3
	baz=114						
109C	Camp Elliot, M	48.33	308	P		P	18 00 25.3 +1.6
	baz=113						
TUQ	Turquoise Moun	48.48	312	P		P	18 00 26.6 +1.6
	baz=116						
HEC	Hector,Ludlow	48.52	311	P		P	18 00 27.2 +1.8
	baz=115						
DUG	Dugway, Tooele	48.62	319	P		P	18 00 27.5 +1.5
	baz=122,SNR=5.5						
MURC	Murrieta	48.68	309	P		P	18 00 28.0 +1.5
	baz=113						
BBRC	Big Bear Solar	48.73	310	P		P	18 00 28.8 +1.7
	baz=114						
GSC	Goldstone, Bar	49.07	312	P		P	18 00 31.7 +2.2
	baz=115						
DGMT	Dagmar	49.15	333	P		P	18 00 31.6 +1.8
	baz=137,SNR=19						
Q12A	Willow Creek R	49.36	317	IAmb		IAmb	18 00 34.4
	comp=Z,9.1nm,0.9s						
TPNV	Topopah Spring	49.38	314	P		P	18 00 34.1 +2.2
	baz=116,SNR=5.1						
RLMT	Red Lodge	49.38	327	P		P	18 00 33.3 +1.5
	baz=129						
R11B	Troy Canyon, C	49.55	316	P		P	18 00 35.0 +1.7
	baz=118,SNR=5.7						
IMW	Indian Meadow	49.56	324	IAmb		IAmb	18 00 35.3
	comp=Z,6.8nm,0.7s						
FURC	Furnace Creek,	49.61	313	P		P	18 00 35.2 +1.8
	baz=116						
H17A	Grant Village	49.66	325	P		P	18 00 35.5 +1.5
	baz=128						
EDW2	Edwards Air Fo	49.79	311	P		P	18 00 36.4 +1.5
	baz=113						
LRMC	Laurel Mtn Rad	49.80	311	P		P	18 00 36.5 +1.4
	baz=114						
CWC	Cottonwood Cre	50.48	312	P		P	18 00 40.9 +0.7
	baz=114						
BOZ	Bozeman (W)	50.98	326	P		P	18 00 45.4 +1.6
	baz=127,SNR=7.5						
VES	Vestal, Richgr	50.99	311	P		P	18 00 45.7 +1.9
	baz=113						
HLID	Hailey	51.44	322	P		P	18 00 48.8 +1.5
	baz=123,SNR=7.9						
SMMC	Simmler	51.47	310	P		P	18 00 49.6 +2.1
	baz=112						
NVAR	Mina Array Bea	51.49	315	P		P	18 00 49.0 +1.2
	comp=Z,1.9nm,0.6s,baz=123,slow=7.4,SNR=16						
NVAR				PcP		PcP	18 02 00.9 +0.9
	comp=Z,0.7nm,0.4s,baz=133,slow=4.9,SNR=6.4						
	comp=Z,1.9nm,0.6s						
EGMT	Eagleton	51.51	329	P		P	18 00 49.2 +1.6
	baz=131						
MFID	Camas Ranch	52.23	321	IAmb		IAmb	18 00 56.4
	comp=Z,11nm,0.9s						
PNTR	Pine Nut	52.69	315	IAmb		IAmb	18 01 02.0
	comp=Z,5.5nm,0.8s						
MSO	Missoula	53.00	326	P		P	18 01 00.3 +1.6
	baz=126						
FFC	Flin Flon	53.08	339	P		P	18 00 59.6 +0.7
FFC				IAmb		IAmb	18 00 59.8
	comp=Z,7.0nm,0.5s						
WVOR	Wild Horse Val	53.53	319	P		P	18 01 02.4 -0.2
WVOR				IAmb		IAmb	18 01 06.2
	comp=Z,9.1nm,1.0s						
ORV	Oroville	54.22	315	P		P	18 01 08.3 +0.7
FCC	Fort Churchill	54.26	347	IAmb		IAmb	18 01 09.2
	comp=Z,9.8nm,1.1s						
F10A	Beach Ranch, E	54.42	323	IAmb		IAmb	18 01 10.4
	comp=Z,8.7nm,0.6s						
I07A	Izee	54.87	320	P		P	18 01 13.6 +1.3
I07A				IAmb		IAmb	18 01 15.8
	comp=Z,12nm,1.2s						
G08A	Pilot Rock	55.12	322	P		P	18 01 14.7 +0.6
G08A				IAmb		IAmb	18 01 16.1
	comp=Z,10nm,0.6s						
NEW	Newport	55.59	326	P		P	18 01 16.4 -0.9
NEW	Newport	55.59	326	P		P	18 01 18.0 +0.7
	baz=123						
L04D	Klamath Falls	55.87	317	P		P	18 01 19.3 -0.2
YBH	Yreka Blue Hor	55.95	317	P		P	18 01 18.9 -1.1
YBH				IAmb		IAmb	18 01 20.4
	comp=Z,3.6nm,0.6s						
G06A	Carlson Farm,	56.13	321	P		P	18 01 23.0 +1.8
G06A				IAmb		IAmb	18 01 36.4
	comp=Z,23nm,1.4s						
DY2G	Dye2	62.35	12	eP		P	18 01 59.6 -4.1
DY2G				IAmb		IAmb	18 02 01.2
	comp=Z,6.6nm,0.4s						
YKA	Yellowknife Ar	63.25	340	P		P	18 02 10.1 +0.6
	comp=Z,9.1nm,0.7s,baz=131,slow=6.6,SNR=208						
	comp=Z,9.1nm,0.7s						
KOTAN	Kotaneelee Air	65.45	335	P		P	18 02 25.3 +1.4
	baz=122						
ICESG	Greenland Ices	65.92	13	iP		P	18 02 26.6 -0.6
ICESG				IAmb		IAmb	18 02 28.6
	comp=Z,8.8nm,1.0s						
WRGLY	Wrigley	66.90	338	P		P	18 02 33.9 +1.0
	baz=124,SNR=7.4						
DLBC	Dease Lake	67.32	331	P		P	18 02 37.6 +1.7
	baz=116						
WTLY	Watson Lake, Y	67.50	333	P		P	18 02 38.8 +1.9
	baz=117						
S34M	Telegraph Cree	67.63	331	P		P	18 02 39.7 +2.0
	baz=114						
WRAK	Wrangell Islan	67.64	329	P		P	18 02 39.3 +1.6
	baz=113						
DBIC	Dimbokro	67.70	86	P		P	18 02 38.0 -0.9
	comp=Z,2.8nm,0.6s,baz=285,slow=9.2,SNR=5.1						
	comp=Z,2.8nm,0.6s						
U33K	Whale Pass	67.92	328	P		P	18 02 41.8 +2.3
	baz=112						
R33M	Jennings River	68.17	332	P		P	18 02 42.8 +1.6
	baz=115						
Q32M	Nakina River	68.60	331	P		P	18 02 45.5 +1.5
	baz=114						
SUMG	Summit	68.96	11	P		P	18 02 47.0 +0.8
SUMG	Summit	68.96	11	iP		P	18 02 46.0 -0.2
SUMG						IAmb	IAmb 18 02 47.8
	comp=Z,13nm,0.6s						
S32K	Killisnoo	69.16	329	P		P	18 02 48.7 +1.5
	baz=111						
P33M	Teslin, Yukon	69.36	333	P		P	18 02 50.0 +1.5
	baz=114						
SIT	Sitka	69.40	329	P		P	18 02 49.5 +0.8
	baz=110						
R32K	Eaglecrest	69.42	330	P		P	18 02 49.6 +0.8
	baz=111						
P32M	Atlin	69.53	332	P		P	18 02 51.2 +1.7
	baz=112						
N32M	Quiet Lake	69.86	333	P		P	18 02 53.0 +1.5
	baz=114						
FARO	Faro, Yukon	70.41	334	P		P	18 02 56.3 +1.4
	baz=114						
C36M	Paulatuk	70.58	343	P		P	18 02 55.0 -0.6
	baz=125						
M31M	Drury Creek, Y	70.85	334	P		P	18 02 59.2 +1.8
	baz=113						
O30N	Mendenhall	71.07	332	P		P	18 03 00.9 +2.0
	baz=111,SNR=5.2						
N31M	Braeburn, Yuko	71.19	333	P		P	18 03 01.5 +2.0
	baz=111						
P30M	Million Dollar	71.25	332	P		P	18 03 01.9 +1.9
	baz=110						
NEEM	North Greenlan	71.53	5	iP		P	18 03 01.1 -0.5
NEEM						IAmb	IAmb 18 03 03.0
	comp=Z,14nm,0.5s						
HYT	Haines Junctio	71.74	332	P		P	18 03 04.7 +1.7
	baz=109						
N30M	Aishikik Lake	71.77	333	P		P	18 03 05.1 +2.0
	baz=110						
M30M	Minto, Yukon	72.03	334	IAmb		IAmb	18 03 06.8
	comp=Z,9.9nm,0.8s						
M30M	Minto, Yukon	72.03	334	P		P	18 03 06.2 +1.6
	baz=110,SNR=10						
YUK6	Outpost Mounta	72.18	332	P		P	18 03 07.3 +1.5
	baz=108						
PNL	Peninsula	72.27	331	P		P	18 03 07.3 +1.2
	baz=107						
A36M	Sachs Harbour	72.42	345	P		P	18 03 07.4 +0.8
	baz=124,SNR=34						
YUK4	Talbot Arm	72.44	333	P		P	18 03 08.8 +1.6
	baz=108						
J30M	Hart River	72.56	336	P		P	18 03 08.4 +0.7
	baz=112						
G31M	Satah River	72.69	339	P		P	18 03 09.6 +1.3
	baz=114,SNR=5.6						
M29M	Somme Creek	72.71	334	P		P	18 03 09.8 +1.1
	baz=109						
F31M	Tsiigehtchic	72.72	339	P		P	18 03 09.7 +1.2
	baz=115,SNR=7.6						
K29M	Barlow Dome	72.78	335	P		P	18 03 10.5 +1.5
	baz=110						
L29M	L29M	72.78	334	P		P	18 03 10.9 +1.9
	baz=109						
I30M	Mount Dempster	72.82	337	P		P	18 03 11.0 +1.7
	baz=112						
INK	Inuvik	73.02	340	IAmb		IAmb	18 03 11.9
	comp=Z,5.2nm,0.6s						
INK	Inuvik	73.02	340	P		P	18 03 11.5 +1.3
	baz=115,SNR=6.1						
EPYK	Eagle Plains	73.38	338	P		P	18 03 13.7 +1.2
	baz=112,SNR=5.1						
YUK3	Moose Creek	73.39	333	P		P	18 03 15.1 +2.2
	baz=107,SNR=6.1						
F30M	Barrier River	73.51	339	P		P	18 03 14.5 +1.4
	baz=113						
CTG	Chitna Glacier	73.57	332	P		P	18 03 15.4 +1.6
	baz=106						
I29M	Ogilvie Camp,	73.62	337	P		P	18 03 15.2 +1.3
	baz=110						
DAWY	Dawson	73.63	335	P		P	18 03 15.2 +1.2
	baz=108						
TORD	Torodi Ar. Bea	73.70	78	P		P	18 03 14.1 -1.2
	comp=Z,0.2nm,0.4s,baz=292,slow=5.9,SNR=1.9						
BVCY	Beaver Creek	73.76	333	P		P	18 03 17.3 +2.5
	baz=107						
H29M	Whitestone	73.94	337	P		P	18 03 16.6 +0.9
	baz=110						
G29M	Pine Creek	74.06	338	P		P	18 03 17.0 +0.6
	baz=111						
M27K	Edge Creek, AK	74.20	333	P		P	18 03 19.3 +1.8
	baz=106						
I28M	Miner Creek	74.30	336	P		P	18 03 19.4 +1.5
	baz=108						
BCAR	Beaver Creek A	74.36	334	P		P	18 03 18.1 -0.1
L27K	Beaver Creek,	74.37	334	P		P	18 03 18.6 +0.3
L27K	Beaver Creek,	74.37	334	P		P	18 03 19.8 +1.5
	baz=106						
E29M	Blow River	74.54	340	P		P	18 03 20.3 +1.1
E29M						IAmb	IAmb 18 03 21.0
	comp=Z,9.2nm,0.8s						
E29M	Blow River	74.54	340	P		P	18 03 20.0 +0.9
	baz=111						
EGAK	Eagle	74.58	336	P		P	18 03 21.4 +2.0
	baz=107						
M26K	Nabesna, AK	74.72	333	P		P	18 03 22.0 +1.7
	baz=105						
K27K	Chicken	74.75	335	P		P	18 03 21.1 +0.7
K27K	Chicken	74.75	335	P		P	18 03 22.4 +2.0
	baz=106						
KAIM	Kayak Island	74.79	330	P		P	18 03 22.8 +2.1
	baz=103						
F28M	Old Crow	74.97	339	P		P	18 03 22.4 +0.8
F28M	Old Crow	74.97	339	P		P	18 03 22.6 +0.9
	baz=109						
I27K	Kandik River	75.01	336	P		P	18 03 23.5 +1.6
	baz=107						
L26K	Log Cabin Wild	75.03	334	P		P	18 03 24.1 +2.0
	baz=104,SNR=6.3						
BMRM	Bremner River	75.11	331	P		P	18 03 24.3 +1.6
	baz=103						
H27K	Steamboat Moun	75.16	337	P		P	18 03 23.3 +0.5
	baz=107						
D28M	Stokes Point	75.17	340	P		P	18 03 24.3 +1.7
	baz=110						
E28M	Babbage River	75.18	340	P		P	18 03 23.6 +0.7
	baz=110						
N25K	Chitina, Valde	75.26	332	P		P	18 03 25.2 +1.7
	baz=103						
J26L	Joseph Creek	75.50	335	P		P	18 03 24.7 -0.1
	baz=105						
I26K	Coal Creek Min	75.54	336	P		P	18 03 26.4 +1.5
	baz=105						
SCRK	Sand Creek	75.55	335	P		P	18 03 26.6 +1.5
	baz=104						
EYAK	Cordova Ski Ar	75.57	331	P		P	18 03 27.4 +2.3
	baz=102						
Q23K	Middleton Isla	75.65	330	P		P	18 03 27.0 +1.5
	baz=101						
E27K	Coleen River	75.77	339	P		P	18 03 27.7 +1.5
	baz=108						
KLU	Klutina	75.85	332	P		P	18 03 28.1 +1.2
	baz=102						
RIDG	Independent Ri	75.86	334	IAmb		IAmb	18 03 29.0
	comp=Z,7.2nm,0.8s						
RIDG	Independent Ri	75.86	334	P		P	18 03 28.0 +1.2
	baz=103						
D27M	Malcolm River	75.88	340	P		P	18 03 27.8 +1.0
	baz=108						
PAX	Paxson	75.96	333	P		P	18 03 28.5 +1.0
	baz=103						
M24K	Tolsona, Glenn	76.09	332	P		P	18 03 29.9 +1.7
	baz=102						
G26K	Porcupine Rive	76.23	338	P		P	18 03 30.3 +1.5
	baz=105						
K24K	Donnelly Dome	76.28	334	P		P	18 03 30.7 +1.5
	baz=102						
J25K	Salcha River,	76.28	335	P		P	18 03 30.2 +0.9
	baz=103						
GLI	Glacier Island	76.29	331	P		P	18 03 30.0 +0.7
	baz=101						
PRP	Porcupine Dome	76.56	336	P		P	18 03 31.8 +0.9
PRP	Porcupine Dome	76.56	336	P		P	18 03 31.9 +1.1
	baz=103,SNR=5.1						
F26K	Sheenjek River	76.56	338	P		P	18 03 31.7 +1.1
	baz=105						
SCM	Sheep Creek Mo	76.58	332	P		P	18 03 32.0 +1.1
SCM						IAmb	IAmb 18 03 33.2
	comp=Z,14nm,0.9s						
SCM	Sheep Creek Mo	76.58	332	P		P	18 03 32.1 +1.2
	baz=101						
BMAR	Burnt Mountain	76.65	338	P		P	18 03 32.4 +1.1
M23K	Glacier View	76.75	332	P		P	18 03 33.2 +1.4
	baz=100						
DHY	Denali Highway	76.83	333	P		P	18 03 33.8 +1.3
	baz=101						
WAT6	Susitna Watana	76.90	333	P		P	18 03 34.1 +1.2
	baz=100						
HDA	Harding Lake	76.91	335	P		P	18 03 34.0 +1.3
	baz=102						
ILAR	Eielson Array	76.96	335	P		P	18 03 33.5 +0.6
	comp=Z,1.5nm,0.7s,baz=104,slow=4.4,SNR=21						
ILAR				PP		PP	18 06 29.2 +1.1
	comp=Z,0.5nm,1.0s,baz=96,slow=7.3,SNR=4.1						
	comp=Z,1.5nm,0.7s						
KNK	Knik Glacier	77.03	331	P		P	18 03 34.8 +1.4
	baz=100						
SML	Sawmill	77.04	332	P		P	18 03 35.6 +2.1
	baz=100						
G25K	Bearman Lake	77.07	337	P		P	18 03 35.3 +1.8
	baz=103						
F25K	Christian Rive	77.09	338	P		P	18 03 35.4 +1.7
	baz=104						
E25K	Arctic Village	77.19	338	P		P	18 03 35.6 +1.4
	baz=104						
POKR	Poker Plat Res	77.25	335	P		P	18 03 35.9 +1.3
	baz=101						
SEW	Seward	77.31	330	P		P	18 03 36.6 +1.7
	baz=98						
WAT1	Susitna Watana	77.31	333	P		P	18 03 36.5 +1.5
	baz=100						
PMR	Palmer	77.38	332	P		P	18 03 36.4 +1.1
	baz=99						
H24K	Noodor Dome	77.58	336	P		P	18 03 37.9 +1.5
	baz=101						
G24K	Hadweenzic Riv	77.59	337	P		P	18 03 37.7 +1.3
	baz=102						
RC01	Rabbit Creek A	77.59	331	P		P	18 03 37.3 +0.8
	baz=98						
D25K	Kavik River	77.76	340	P		P	18 03 38.8 +1.5
	baz=103						
NEA2	Nenana	77.84	335	P		P	18 03 39.4 +1.5
	baz=100						
F24K	Squaw Lake	77.91	338	P		P	18 03 39.8 +1.6
	baz=101						
CUT	Chulitna	78.03	332	P		P	18 03 40.4 +1.5
	baz=98						
I23K	Minto, Yukon-K	78.06	335	P		P	18 03 40.1 +1.1
	baz=100						
SUA	Susitna One	78.13	331	P		P	18 03 40.8 +1.2
	baz=98						
TRF	Thorofare Moun	78.19	333	P		P	18 03 41.4 +1.4
	baz=98						
CAPN	Captain Cook N	78.23	331	P		P	18 03 41.8 +1.7
	baz=97						
E24K	Your Creek	78.25	338	P		P	18 03 41.8 +1.8
	baz=101						
HOM	Homer	78.34	329	P		P	18 03 42.8 +2.2
	baz=96						
SKT	Skwentna	78.56	332	P		P	18 03 42.3 +0.4
SKT						IAmb	IAmb 18 03 43.8
	comp=Z,6.1nm,0.7s						
SKT	Skwentna	78.56	332	P		P	18 03 43.0 +1.1
	baz=97						
D24K	Happy Valley	78.57	339	P		P	18 03 43.5 +1.7
	baz=101						
G23K	Bananza Creek	78.59	337	P		P	18 03 43.9 +1.9
	baz=99,SNR=7.5						
BPAW	Bear Paw Mtn.	78.59	334	P		P	18 03 42.4 +0.4
BPAW	Bear Paw Mtn.	78.59	334	P		P	18 03 42.4 +0.4
	baz=98						
C24K	Franklin Bluff	78.64	340	P		P	18 03 43.6 +1.5
	baz=101						
KDAK	Kodiak Island	78.64	328	P		P	18 03 43.8 +1.4
	baz=95						
E23K	Chandalar	78.66	338	P		P	18 03 44.2 +1.8
	baz=100						
COLD	Coldfoot	78.74	337	P		P	18 03 44.3 +1.6
	baz=99						
N20K	Mount Spurr	78.80	331	P		P	18 03 44.0 +0.8
	baz=96						
PPLA	Purkeypile	78.98	333	P		P	18 03 45.5 +1.2
	baz=96						
CAST	Castle Rocks	78.99	333	P		P	18 03 44.8 +0.6
	baz=97						
H22K	Ishtalitna Cre	79.01	336	P		P	18 03 45.5 +1.3
	baz=98						
P19K	Oil Pt	79.15	329	P		P	18 03 46.3 +1.1
	baz=95						
I21K	Tanana	79.16	335	P		P	18 03 46.8 +1.8
	baz=97						
D23K	Nanushuk River	79.20	339	P		P	18 03 47.0 +1.8
	baz=99						
G22K	Bettles	79.20	337	P		P	18 03 46.2 +1.0
	baz=98						
M20K	Styx River	79.31	332	P		P	18 03 46.3 +0.3
	baz=95						
E22K	Anaktuvuk Pass	79.49	338	P		P	18 03 47.9 +1.0
	baz=98						
F22K	John River	79.54	337	P		P	18 03 47.8 +0.7
	baz=97						
H21K	Melozitna Rive	79.56	335	P		P	18 03 47.2 -0.1
	baz=96						
L20K	Farewell, AK	79.71	332	P		P	18 03 48.4 +0.3
	baz=95						
O19K	Port Alsworth	79.74	330	P		P	18 03 49.0 +0.7
	baz=94						
K20K	Telida	79.87	333	P		P	18 03 49.8 +0.8
	baz=95						
M19K	Big River Lodg	79.90	332	P		P	18 03 50.0 +0.9
	baz=94						
D22K	Ayikyak River	79.90	339	P		P	18 03 50.5 +1.5
	baz=97						
G21K	Allakaket	79.94	336	P		P	18 03 51.2 +2.0
	baz=96						
J20K	Nowinta River	79.98	334	P		P	18 03 49.9 +0.4
	baz=95						
F21K	Alatna River	80.01	337	P		P	18 03 51.2 +1.6
	baz=96						
L19K	White Mountain	80.14	332	P		P	18 03 50.9 +0.5
L19K						IAmb	IAmb 18 03 56.7
	comp=Z,19nm,1.4s						
L19K	White Mountain	80.14	332	P		P	18 03 51.3 +0.9
	baz=94						
I20K	Naaghedeneel	80.18	335	P		P	18 03 51.5 +1.0
	baz=95						
B22K	Teshekpuk Lake	80.34	340	P		P	18 03 52.5 +1.2
	baz=97						
H20K	Anotleneega Mo	80.40	335	P		P	18 03 52.5 +0.8
	baz=94						
Q17K	Contact Creek	80.43	328	P		P	18 03 52.4 +0.3
	baz=92						
N18K	Kilae Creek	80.54	330	P		P	18 03 52.7 +0.1
	baz=93						
M18K	Stony River	80.56	331	P		P	18 03 52.9 +0.3
	baz=93						
J19K	Poorman	80.61	334	P		P	18 03 53.8 +0.9
	baz=94						
B21K	Ikpikpuk River	80.67	339	P		P	18 03 54.0 +1.0
	baz=95						
C21K	Knifeblade Rid	80.69	339	P		P	18 03 54.8 +1.6
	baz=95						
TTA	Tatalina	80.72	333	P		P	18 03 54.4 +0.8
	baz=93						
F20K	Avaraart Lake	80.86	337	P		P	18 03 55.4 +1.3
	baz=94						
A22K	Sinclair Lake	80.92	341	P		P	18 03 55.9 +1.5
	baz=95						
L18K	Granite Mounta	81.00	332	P		P	18 03 56.1 +1.1
	baz=92						
H19K	Roundabout Mou	81.06	335	P		P	18 03 56.7 +1.5
	baz=93						
E20K	Nigu River	81.12	338	P		P	18 03 56.9 +1.3
	baz=94						
GCSA	Galena City Sc	81.20	334	P		P	18 03 57.3 +1.4
	baz=92						
R16K	Pilot Point	81.31	327	P		P	18 03 58.1 +1.4
	baz=91						
D20K	Etivluk River	81.31	338	P		P	18 03 58.2 +1.6
	baz=93						
G19K	Purcell Mounta	81.35	336	P		P	18 03 57.9 +1.1
	baz=93						
E19K	Redstone River	81.47	337	P		P	18 03 58.4 +1.0
	baz=93						
P16K	Nushagak River	81.55	329	P		P	18 03 58.8 +0.9
	baz=91						
B20K	Meade River	81.58	340	P		P	18 03 59.2 +1.4
	baz=93						
O16K	Kokwok River B	81.61	329	P		P	18 03 58.3 +0.1
	baz=91						
F19K	Shaleruckik Mo	81.66	337	P		P	18 03 59.5 +1.2
	baz=92						
L17K	Donlin	81.75	332	P		P	18 03 59.8 +0.8

	baz=91						
CHGN	**Chignik**	**81.76**	**326**	P	**P**	**18 03 59.7**	**+0.7**
	baz=90						
H18K	**Honhosa River**	**81.84**	**335**	P	**P**	**18 04 00.8**	**+1.4**
	baz=91						
G18K	**Tagagawik**	**81.98**	**336**	P	**P**	**18 04 01.1**	**+1.0**
	baz=91						
C19K	**Lookout Ridge**	**82.40**	**339**	P	**P**	**18 04 03.9**	**+1.7**
	baz=91						
O15K	**Ungalikthiuk R**	**82.50**	**329**	P	**P**	**18 04 04.4**	**+1.6**
	baz=89						
H17K	**Granite Mounta**	**82.50**	**335**	P	**P**	**18 04 03.7**	**+0.9**
	baz=90						
N15K	**Kwethluk River**	**82.62**	**330**	P	**P**	**18 04 04.6**	**+1.1**
	baz=89						
E18K	**Tukpahlearik C**	**82.77**	**337**	P	**P**	**18 04 05.1**	**+0.9**
	baz=90						
G17K	**Kiwalik Mounta**	**82.81**	**335**	P	**P**	**18 04 05.5**	**+1.1**
	baz=89						
J16K	**Anvik River**	**82.82**	**333**	P	**P**	**18 04 05.9**	**+1.5**
	baz=89						
I17K	**Unalakleet**	**82.85**	**334**	P	**P**	**18 04 06.4**	**+1.9**
	baz=89						
M15K	**Kasigluk River**	**82.91**	**330**	P	**P**	**18 04 06.4**	**+1.5**
	baz=89						
A19K	**Wainwright**	**82.92**	**340**	P	**P**	**18 04 06.2**	**+1.4**
	baz=89						
C18K	**Utukok River**	**82.98**	**338**	P	**P**	**18 04 06.5**	**+1.2**
	baz=89						
F17K	**Baldwin Pennin**	**83.04**	**336**	P	**P**	**18 04 06.8**	**+1.3**
	baz=89						
B18K	**Kokolik River**	**83.19**	**339**	P	**P**	**18 04 08.1**	**+1.8**
	baz=89						
K15K	**Wolf Creek Mou**	**83.27**	**332**	P	**P**	**18 04 08.4**	**+1.7**
	baz=88						
H16K	**Elim**	**83.50**	**334**	P	**P**	**18 04 09.4**	**+1.5**
	baz=88						
G16K	**Koyuk River**	**83.52**	**335**	P	**P**	**18 04 09.2**	**+1.2**
	baz=88						
M14K	**Bethel**	**83.53**	**330**	P	**P**	**18 04 09.2**	**+1.1**
	baz=88						
C17K	**DeLong Mountai**	**83.72**	**338**	P	**P**	**18 04 10.3**	**+1.3**
	baz=87						
L14K	**Kuka Creek**	**83.85**	**331**	P	**P**	**18 04 11.2**	**+1.4**
	baz=87						
J14K	**Nanvaranak Lak**	**84.18**	**332**	P	**P**	**18 04 12.5**	**+1.1**
	baz=86						
G15K	**Niukluk**	**84.25**	**335**	P	**P**	**18 04 12.7**	**+1.0**
	baz=86						
F15K	**North Star Dit**	**84.46**	**335**	P	**P**	**18 04 14.3**	**+1.5**
	baz=86						
C16K	**Lisburne Hills**	**84.53**	**338**	P	**P**	**18 04 14.1**	**+1.1**
C16K	**Lisburne Hills**	**84.53**	**338**	P	**P**	**18 04 14.6**	**+1.5**
	baz=85						
K13K	**Kusilvak Mount**	**84.75**	**332**	P	**P**	**18 04 15.4**	**+1.1**
K13K				IAmb	IAmb	18 04 20.2	
	comp=Z,11nm,1.3s						
K13K	**Kusilvak Mount**	**84.75**	**332**	P	**P**	**18 04 15.8**	**+1.5**
	baz=85						
ANM	**Nome**	**84.86**	**334**	P	**P**	**18 04 15.2**	**+0.5**
ANM	**Nome**	**84.86**	**334**	P	**P**	**18 04 16.2**	**+1.5**
	baz=85						
F14K	**Arctic Creek**	**85.17**	**335**	P	**P**	**18 04 17.8**	**+1.5**
	baz=84						
TNA	**Tin City**	**85.82**	**335**	P	**P**	**18 04 21.1**	**+1.6**
	baz=83						
ARCES	**ARCESS Array B**	**86.64**	**20**	P	**P**	**18 04 24.1**	**+0.6**
ARCES				IAmb	IAmb	18 04 34.9	
	comp=Z,28nm,1.5s						
ARCES	**ARCESS Array B**	**86.64**	**20**	P	**P**	**18 04 23.6**	**+0.1**
	comp=Z,6.0nm,1.0s,baz=282,slow=3.3,SNR=7.2						
	comp=Z,6.0nm,1.0s						
GAMB	**Gambell**	**87.71**	**334**	P	**P**	**18 04 29.4**	**+0.8**
	baz=79						
P08K	**Saint George I**	**87.89**	**327**	P	**P**	**18 04 31.0**	**+1.3**
	baz=81						
NIKH	**Nikolski High**	**88.06**	**323**	P	**P**	**18 04 31.9**	**+1.3**
	baz=81						
KWP	**Kalwaria Pacla**	**88.58**	**40**	P	**P**	**18 04 31.3**	**-1.9**
ZALV	**Zalesovo Beam**	**116.64**	**14**	PKP	**PKiKP**	**18 10 23.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=275,slow=2.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**117.73**	**20**	PKP	**PKiKP**	**18 10 25.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=318,slow=2.3,SNR=8.4						
MAKZ	**Makanchi**	**122.17**	**20**	PKPdf	**PKPdf**	**18 10 33.8**	**-0.6**
MKAR	**Makanchi Array**	**122.29**	**20**	PKPdf	**PKiKP**	**18 10 34.4**	**-0.4**
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**18 10 34.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=295,slow=2.9,SNR=18						
SONM	**Songino Array**	**125.56**	**0**	PKP	**PKiKP**	**18 10 41.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=295,slow=0.9,SNR=6.0						
AS31	**Alice Springs**	**149.15**	**234**		**PKPbc**	**18 11 28.3**	**-0.5**
ASAR	**Alice Springs**	**149.15**	**234**	PKP	**PKPdf**	**18 11 24.4**	**0.0**
	comp=Z,4.4nm,0.5s,baz=115,slow=3.6,SNR=33						
ASAR				PKPbc	**PKPbc**	**18 11 28.1**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=118,slow=2.2,SNR=143						
MND	**Mandalay**	**149.43**	**20**		**PKiKP**	**18 11 29.9**	**-0.5**
WR0	**Warramunga Arr**	**150.19**	**241**	PKPbc	**PKPbc**	**18 11 31.1**	**-0.3**
WB2	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**18 11 31.5**	**-0.3**
WRAB	**Tennant Creek**	**150.37**	**241**	PKPbc	**PKPbc**	**18 11 31.6**	**-0.2**
WRA	**Warramunga Arr**	**150.37**	**241**		**PKPbc**	**18 11 31.5**	**-0.3**
WRA	**Warramunga Arr**	**150.37**	**241**	PKP	**PKPdf**	**18 11 26.6**	**+0.2**
	comp=Z,4.7nm,0.5s,baz=94,slow=2.1,SNR=4.9						
WRA				PKPbc	**PKPbc**	**18 11 31.3**	**-0.5**
	comp=Z,5.0nm,0.4s,baz=107,slow=2.6,SNR=24						
WB0	**Warramunga Arr**	**150.39**	**242**	PKPbc	**PKPbc**	**18 11 31.5**	**-0.3**
CRAI	**Chiangrai**	**152.34**	**13**	PKPbc	**PKiKP**	**18 11 36.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKPbc	**PKiKP**	**18 11 39.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKP	**PKPdf**	**18 11 31.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=292,slow=2.7,SNR=4.8						
CMAR				PKPbc	**PKiKP**	**18 11 39.8**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=319,slow=3.2,SNR=18						

*IDC **21** 17:56:43.9±1.7,7.28S×155.04E,h0km,mb3.9/7, mbtmp3.9/8,ML1.7/1,MS3.3/4,Error ellipse: s-maj=51.6km s-min=23.8km az=131.0*

ISC 21 17:56:48.5±1.6,7.3S±0.3×155.1E±0.2,h31km,n12, σ0.59/10,mb3.9/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.28**	**114**	LR	LR	18 00 16.7	
	comp=Z,2μm,21.8s,baz=188,slow=40						
PMG	**Port Moresby**	**8.09**	**255**	Pn	**Pn**	**17 58 44.1**	**+0.2**
	0.5nm,0.3s,baz=27,slow=4.5,SNR=4.8						
PMG				Sn	**Sn**	**18 00 14.4**	**+0.1**
	0.9nm,0.3s,baz=91,slow=19,SNR=7.1						
PMG				LR	LR	18 01 03.6	
	comp=Z,128nm,18.1s,baz=50,slow=32						
	8.0nm,0.8s						
CTA	**Charters Tower**	**15.30**	**213**	LR	LR	18 04 31.0	
	comp=Z,113nm,20.9s,baz=76,slow=30						
WRA	**Warramunga Arr**	**23.69**	**236**	P	**P**	**18 01 57.0**	**-0.8**
	2.8nm,1.0s,baz=58,slow=9.5,SNR=7.4						
	2.8nm,1.0s						
ASAR	**Alice Springs**	**26.01**	**229**	P	**P**	**18 02 19.0**	**0.0**
	0.7nm,0.8s,baz=55,slow=9.1,SNR=9.8						
	0.7nm,0.8s						
JCJ	**Chichijima**	**36.41**	**340**	LR	LR	18 18 05.0	
	comp=Z,20nm,19.4s,baz=73,slow=35						
CMAR	**Chiang Mai Arr**	**60.98**	**296**	P	**P**	**18 06 59.7**	**+0.3**
	1.2nm,0.9s,baz=116,slow=5.0,SNR=8.7						
	1.2nm,0.9s						
SONM	**Songino Array**	**69.64**	**327**	P	**P**	**18 07 55.0**	**-0.1**
	0.7nm,0.8s,baz=126,slow=2.6,SNR=4.1						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**83.68**	**319**	P	**P**	**18 09 14.7**	**+0.3**
	1.7nm,0.9s,baz=111,slow=5.7,SNR=14						
	1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**84.48**	**326**	P	**P**	**18 09 17.0**	**-1.2**
	0.3nm,0.3s,baz=64,slow=3.4,SNR=3.5						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**18 10 15.6**	**+0.5**
	0.9nm,1.0s,baz=261,slow=4.6,SNR=8.4						
	0.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**153.17**	**285**	PKPbc	**PKiKP**	**18 16 44.7**	**+0.2**
	0.9nm,1.0s,baz=66,slow=2.5,SNR=2.4						

DJA 21 17:58:43.7±1.0,3°S±4°×13°0E±°,h16km±10km,M3.8/12, mb4.2/5,mB5.0/2,MLv3.6/12,Mw(mB)4.3/2,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRAI	**Karang Ratu**	**1.54**	**255**	P	Pn	17 59 10.3	-0.2
BNDI	**Bandanaira**	**1.59**	**179**	P	Pn	17 59 11.7	+0.5
FAKI	**Fak Fak**	**2.37**	**90**	P	Pn	17 59 21.8	-0.1
SIJI	**Sorong**	**2.46**	**34**	P	Pn	17 59 23.3	0.0
SWI	**Sorong**	**2.46**	**34**	P	Pn	17 59 23.6	+0.3
NLAI	**Namlea**	**2.79**	**263**	P	Pn	17 59 28.7	+0.9
LBMI	**Labuha**	**3.29**	**314**	P	Pn	17 59 34.2	-0.4
KMPI	**Kaimana, Papua**	**3.89**	**101**	P	Pn	17 59 43.0	+0.2
SANI	**Sanana**	**3.98**	**282**	P	Pn	17 59 42.6	-1.6
LUWI	**Luwuk**	**7.34**	**285**	P	Pn	18 00 29.2	-1.2
	27nm,1.1s,0.2nm						
GTOI	**Gorontalo**	**7.72**	**297**	P	Pn	18 00 38.2	+2.6
	11nm,1.2s,0.0nm						
SOEI	**Soe**	**8.79**	**219**	P	Pn	18 00 48.6	-1.7
	91nm,0.8s,2μm						

*NEIC **21** 18:04:14.3±2.2,36.00S±0.05×73.8W±0.1,h10km±1km, mb4.5/16,Mwr4.2/43,Error ellipse: s-maj=14.0km s-min=7.8km az=86.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr 1.81; Mθθ 0.40; Mφφ -2.21; Mrθ -1.22; Mθφ -0.32; Mφr -0.70; Fault plane solution: M₀2.50000×10¹⁵ NP1:φs342.14000°,δ39.72000°, λ46.70000°. NP2:φs212.92000°,δ62.29000°,λ119.67000°. Principal axes: T 2.5602, Plg61.0000°, Azm169.0000°; N -0.1225, Plg26.0000°, Azm18.0000°; P -2.4377, Plg12.0000°, Azm282.0000°;*

*NEIC **21** 18:04:14.3,36.00S×73.81W,h10km*

*IDC **21** 18:04:16.1±0.8,36.01S×73.38W,h0km,mb4.1/6, mbtmp4.1/8,ML3.8/2,MS3.6/2,Error ellipse: s-maj=51.0km s-min=16.8km az=71.0*

*GUC **21** 18:04:17.4±0.7,35.98S×73.46W,h19km±4km,ML4.7*

ISC 21 18:04:15.1±1.8,35.97S±0.04×73.43W±0.06,h4km±11km, n94,σ1.967/102,mb4.4/10,1C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI05	**Punta Hualpn**	**0.80**	**166**	Pg	**Pb**	**18 04 31.5**	**-0.1**
BI05	**Punta Hualpn**	**0.80**	**166**	*e*P	**Pg**	**18 04 31.3**	**+0.9**
BI05				*i* S	**Sg**	**18 04 41.6**	**+0.8**
GO05	**Huala**	**1.56**	**52**	Pn	**Pn**	**18 04 44.3**	**+0.7**
GO05	**Huala**	**1.56**	**52**	*e*P	**Pn**	**18 04 43.9**	**+0.4**
GO05				*i* S	**Sn**	**18 05 03.3**	**-0.9**
GO05				*i* S	**Sb**	**18 05 03.5**	**-1.0**
ML02	**Panimavida**	**1.65**	**83**		**Pn**	**18 04 45.9**	**+1.1**
ML02	**Panimavida**	**1.65**	**83**	*i*P	**Pn**	**18 04 45.9**	**+1.1**
ML02				*i* S	**Sn**	**18 05 06.4**	**0.0**
ML02				IAML		18 05 15.4	
	comp=E,14μm,0.6s						
BO03	**Pichilemu**	**1.90**	**40**	*e*P	**Pn**	**18 04 49.2**	**+0.9**
BO03				*i* S	**Sn**	**18 05 13.2**	**+0.5**
BO03				IAML		18 05 22.0	
	comp=N,5μm,0.3s						
BO02	**Sierra Bellavi**	**2.46**	**62**		**Pn**	**18 04 58.4**	**+2.3**
BO02	**Sierra Bellavi**	**2.46**	**62**	*e*P	**Pn**	**18 04 57.7**	**+1.6**
BO02				*i* S	**Sn**	**18 05 28.0**	**+1.3**
BO02				IAML		18 05 39.6	
	comp=E,7μm,0.2s						
BO01	**Tunca**	**2.48**	**51**	Pn	**Pn**	**18 04 58.7**	**+2.4**
BO01	**Tunca**	**2.48**	**51**	*e*P	**Pn**	**18 04 57.7**	**+1.4**
BO01				*i* S	**Sn**	**18 05 28.5**	**+1.4**
VA05	**Santo Domingo**	**2.75**	**33**		**Pn**	**18 05 00.8**	**+0.9**
VA05	**Santo Domingo**	**2.75**	**33**	*e*P	**Pn**	**18 05 00.8**	**+0.9**
MT01	**Popeta**	**2.76**	**41**		**Pn**	**18 05 01.3**	**+1.2**
MT01	**Popeta**	**2.76**	**41**	*e*P	**Pn**	**18 05 01.2**	**+1.0**
MT01				*i* S	**Sn**	**18 05 35.4**	**+1.5**
MT09	**Talagante**	**2.97**	**43**		**Pn**	**18 05 04.9**	**+1.8**
MT09	**Talagante**	**2.97**	**43**	*e*P	**Pn**	**18 05 04.8**	**+1.6**
MT09				*i* S	**Sn**	**18 05 40.4**	**+1.2**
BO04	**La Punta**	**3.04**	**50**	Pn	**Pn**	**18 05 05.9**	**+1.9**
BO04	**La Punta**	**3.04**	**50**	*e*P	**Pn**	**18 05 06.0**	**+1.9**
BO04				*i* S	**Sn**	**18 05 41.9**	**+0.9**
BO04				IAML		18 05 57.8	
	comp=N,1μm,0.5s						
BO04				IAML		18 05 59.2	
	comp=E,1μm,0.6s						
MT12	**Pirque**	**3.25**	**48**	*e*P	**Pn**	**18 05 09.4**	**+2.4**
MT12				*i* S	**Sn**	**18 05 49.2**	**+3.0**
MT12				IAML		18 06 07.4	
	comp=N,4μm,0.5s						
VA01	**Torpederas**	**3.29**	**27**		**Pn**	**18 05 08.1**	**+0.7**
VA01	**Torpederas**	**3.29**	**27**	*e*P	**Pn**	**18 05 08.1**	**+0.7**
MT02	**Curacav**	**3.30**	**36**		**Pn**	**18 05 08.5**	**+1.0**
MT15	**Las Vizcachas**	**3.37**	**46**	*e*P	**Pn**	**18 05 10.7**	**+2.1**
LMEL	**Las Melosas**	**3.39**	**52**		**Pn**	**18 05 11.7**	**+2.8**
MT05	**Renca**	**3.40**	**42**	Pn	**Pn**	**18 05 11.3**	**+2.3**
MT13	**San Alfonso**	**3.41**	**50**		**Pn**	**18 05 11.5**	**+2.4**
MT03	**Universidad Ad**	**3.45**	**45**		**Pn**	**18 05 11.5**	**+1.9**
MT16	**CCHEN**	**3.49**	**44**		**Pn**	**18 05 12.2**	**+2.1**
ROC1	**El Roble**	**3.59**	**34**		**Pn**	**18 05 12.9**	**+1.1**
PEL	**Peldehue**	**3.62**	**40**		**Pn**	**18 05 14.1**	**+2.1**
VA06	**Catapilco**	**3.83**	**28**		**Pn**	**18 05 15.5**	**+0.6**
GO06	**Curarrehue**	**3.92**	**157**	Pn	**Pn**	**18 05 17.2**	**+0.9**
GO06	**Curarrehue**	**3.92**	**157**	*e*P	**Pn**	**18 05 17.1**	**+0.8**
GO06				*i* S	**Sn**	**18 06 05.8**	**+3.0**
VA03	**San Esteban**	**3.99**	**37**		**Pn**	**18 05 18.9**	**+1.8**
LR05	**Currie**	**4.40**	**166**	Pn	**Pn**	**18 05 23.2**	**+0.6**
H03S1	**Juan Fernandez**	**4.98**	**294**	Pn	**Pn**	**18 05 31.8**	**+1.5**
	baz=71,slow=12						
H03S1				T	T	18 10 33.2	
	baz=116,slow=75,SNR=1047						
H03S3	**Juan Fernandez**	**4.99**	**294**	Pn	**Pn**	**18 05 32.8**	**+2.3**
	baz=71,slow=12						
H03S3				T	T	18 10 37.1	
	baz=116,slow=75,SNR=1068						
H03S2	**Juan Fernandez**	**4.99**	**294**	Pn	**Pn**	**18 05 32.1**	**+1.5**
	baz=71,slow=12						
H03S2				T	T	18 10 28.3	
	baz=116,slow=75,SNR=1069						
CO02	**Combarbal**	**5.17**	**24**		**Pn**	**18 05 34.2**	**+0.9**
CO02	**Combarbal**	**5.17**	**24**	*e*P	**Pn**	**18 05 34.2**	**+0.9**
H03N1	**Juan Fernandez**	**5.17**	**298**	T	T	18 10 52.6	
	baz=111,slow=76,SNR=16						
H03N3	**Juan Fernandez**	**5.17**	**297**	T	T	18 10 58.3	
	baz=111,slow=76,SNR=26						
H03N2	**Juan Fernandez**	**5.19**	**298**	T	T	18 10 55.9	
	baz=111,slow=76,SNR=17						
PLCA	**Paso Flores**	**5.26**	**155**		**Pn**	**18 05 36.6**	**+2.0**
PLCA	**Paso Flores**	**5.26**	**155**	Pn	**Pn**	**18 05 36.1**	**+1.5**
	comp=N,1.9nm,0.3s,baz=325,slow=10,SNR=58						
PLCA				Lg	Lg	18 07 01.2	
	comp=N,5.6nm,0.3s,baz=58,slow=23,SNR=4.0						
	comp=N,5.0nm,0.4s						
CO06	**Fray Jorge**	**5.49**	**16**		**Pn**	**18 05 37.8**	**+0.2**
CO03	**El Pedregal**	**5.61**	**25**		**Pn**	**18 05 40.5**	**+1.1**
GO04	**Tololo Observa**	**6.19**	**22**		**Pn**	**18 05 47.7**	**+0.2**
CO05	**La Serena**	**6.31**	**18**		**Pn**	**18 05 49.6**	**+0.7**
CO01	**Juntas del Tor**	**6.60**	**26**		**Pn**	**18 05 54.8**	**+1.6**
LCO	**Las Campanas**	**7.31**	**19**		**Pn**	**18 06 03.6**	**+0.7**
LL02	**Futaleuf**	**7.31**	**171**		**Pn**	**18 06 02.4**	**-0.2**
AC05	**El Transito**	**7.60**	**21**		**Pn**	**18 06 07.8**	**+1.1**
AC04	**Llanos de Chal**	**8.00**	**15**	Pn	**Pn**	**18 06 12.4**	**+0.3**
GO03	**Copiap**	**8.78**	**19**		**Pn**	**18 06 22.1**	**-0.8**
AC06	**Mina Casimiro**	**8.98**	**18**		**Pn**	**18 06 26.3**	**+0.7**
TRQA	**Tornquist**	**9.39**	**106**		**Pn**	**18 06 34.4**	**+3.2**
GO02	**Mina Guanaco**	**11.27**	**18**	Pn	**Pn**	**18 06 55.3**	**-1.9**
AY03	**Cochrane**	**11.29**	**177**	Pn	**Pn**	**18 06 54.1**	**-3.0**
PB14	**IPOC Station P**	**11.61**	**14**	Pn	**Pn**	**18 07 02.1**	**+0.3**
GO08	**Villa O'Higgin**	**12.50**	**177**	Pn	**Pn**	**18 07 10.3**	**-3.4**
LVC	**Limon Verde**	**13.88**	**18**	Pn	**Pn**	**18 07 35.8**	**+2.8**
	comp=N,0.1nm,0.3s,baz=140,slow=13,SNR=2.6						
	comp=N,2.8nm,0.8s						
PB07	**IPOC Station P**	**14.53**	**13**	Pn	**Pn**	**18 07 40.2**	**-1.5**
PB02	**IPOC Station P**	**14.92**	**13**	Pn	**Pn**	**18 07 45.5**	**-1.5**
PB02				IAmb	IAmb	18 08 05.4	
	comp=Z,22nm,1.3s						
PB01	**IPOC Station P**	**15.27**	**14**	Pn	**Pn**	**18 07 53.1**	**+1.5**
PB01				IAmb	IAmb	18 08 00.8	
	comp=Z,13nm,0.8s						
PB11	**IPOC Station P**	**16.49**	**13**	P	**Pn**	**18 08 09.2**	**+1.7**
PB11				IAmb	IAmb	18 08 21.4	
	comp=Z,18nm,0.9s						
GO01	**Chusmiza**	**16.66**	**14**	Pn	**Pn**	**18 08 08.6**	**-1.5**
MG04	**Isla Riesco**	**16.93**	**176**	Pn	**Pn**	**18 08 09.0**	**-3.8**
PLTB	**Pedras Altas**	**16.99**	**81**	Pn	**Pn**	**18 08 11.5**	**-2.1**
EFI	**East Falkland**	**19.15**	**150**	P	**P**	**18 08 38.0**	**-1.2**
ITAB	**Concordia**	**20.09**	**70**	P	**P**	**18 08 48.0**	**-1.7**
ITAB				IAmb	IAmb	18 08 52.0	
	comp=Z,68nm,1.5s						
LPAZ	**La Paz**	**20.16**	**15**	P	**P**	**18 08 47.9**	**-3.3**
AQDB	**Aquidauana**	**21.91**	**50**	P	**P**	**18 09 09.8**	**+0.5**
AQDB				IAmb	IAmb	18 09 27.6	
	comp=Z,15nm,0.9s						
TRCB	**Terra Rica**	**22.32**	**60**	P	**P**	**18 09 11.8**	**-2.0**
NNA	**Nana**	**24.08**	**352**	LR	LR	18 17 37.5	
	comp=Z,108nm,18.1s,baz=192,slow=33						
ETMB	**Extrema**	**26.85**	**16**	P	**P**	**18 09 56.2**	**-0.6**
ETMB				IAmb	IAmb	18 09 59.7	
	comp=Z,5.9nm,0.7s						
BOAV	**Boa Vista**	**40.03**	**20**	P	**P**	**18 11 50.8**	**-0.5**
BAUV	**El Baul**	**44.96**	**8**	P	**P**	**18 12 31.2**	**-0.2**
VNA3	**Neumayer Olymp**	**47.98**	**157**	⇓P	**P**	**18 12 54.3**	**-0.3**
	comp=Z,7.2nm,0.8s						
VNA2	**Neumayer--Watz**	**48.65**	**156**	⇓P	**P**	**18 13 01.1**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=284,slow=6.0						
SNAA	**Sanae**	**50.20**	**157**	P	**P**	**18 13 09.2**	**-2.4**
SNAA				IAmb	IAmb	18 13 14.3	
	comp=Z,8.9nm,0.9s						
SNAA	**Sanae**	**50.20**	**157**	⇓P	**P**	**18 13 11.7**	**+0.1**
	comp=Z,168nm,0.9s						
SNAA	**Sanae**	**50.20**	**157**	P	**P**	**18 13 12.7**	**+1.1**
	comp=Z,7.6nm,0.9s,baz=322,slow=7.2,SNR=7.6						
	comp=Z,7.6nm,0.9s						
QSPA	**South Pole Qui**	**54.27**	**180**	P	**P**	**18 13 39.1**	**-3.0**
QSPA				IAmb	IAmb	18 13 55.5	
	comp=Z,5.1nm,1.0s						
QSPA	**South Pole Qui**	**54.27**	**180**	P	**P**	**18 13 43.7**	**+1.6**
	comp=Z,2.5nm,0.9s,baz=146,slow=5.9,SNR=5.5						
	comp=Z,2.5nm,0.9s						
TXAR	**Lajitas Array**	**70.92**	**332**	P	**P**	**18 15 35.8**	**+2.2**
	comp=Z,0.8nm,0.5s,baz=153,slow=8.3,SNR=8.3						
TXAR				LR	LR	18 41 58.3	
	comp=Z,48nm,18.2s,baz=253,slow=32						
	comp=Z,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**84.86**	**326**	P	**P**	**18 16 54.0**	**+2.9**
	comp=Z,0.7nm,0.6s,baz=141,slow=5.5,SNR=6.5						
	comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**85.95**	**71**	P	**P**	**18 16 54.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**85.95**	**71**	P	**P**	**18 16 56.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=209,slow=3.8,SNR=3.2						
	comp=Z,0.4nm,0.5s						
ULM	**Lac du Bonnet**	**88.11**	**346**	P	**P**	**18 17 07.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=149,slow=7.1,SNR=3.5						
	comp=Z,1.3nm,0.6s						
NRIK	**Noril'sk**	**144.98**	**12**	PKPbc	**PKPdf**	**18 23 52.9**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=347,slow=4.1,SNR=6.5						
BVAR	**Borovoye Array**	**149.49**	**45**	PKPbc	**PKiKP**	**18 24 06.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=233,slow=1.5,SNR=3.5						
YAK	**Yakutsk**	**150.17**	**338**	PKPbc	**PKiKP**	**18 24 06.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=337,slow=0.4,SNR=4.0						

*ATH **21** 18:05:27.7,40.56N×21.51E,h6km±1km,ML2.0/7,Manual Solution by G.Panopoulou This location: 2020/05/06 11:51:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

*THE **21** 18:05:27.9,40.63N×21.43E,h20km±4km,ML2.2/3,Error ellipse: s-maj=4.3km s-min=1.0km az=3.0*

*SKO **21** 18:05:28.1,40.52N×21.43E,h0km,ML1.9*

*TIR **21** 18:05:29.6,40.65N×21.32E,h7km±1km,Md2.7,Ml2.2*

ISC 21 18:05:28.1±0.9,40.59N±0.02×21.49E±0.02,h9km±8km, n28,σ0.96/49,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.21**	**336**	P	**Pg**	**18 05 32.6**	**+0.2**
	baz=18						
FNA				S	**Sg**	**18 05 35.9**	**+0.6**
	baz=18						
FNA				AMP			
	comp=N,4.4nm,0.2s,baz=18						
FNA	**Florina**	**0.21**	**336**	P	**Pg**	**18 05 32.5**	**+0.2**
FNA				S	**Sg**	**18 05 35.8**	**+0.5**
	comp=N,2μm,0.3s						
FNA	**Florina**	**0.21**	**336**	P	**Pg**	**18 05 32.6**	**+0.2**
FNA				S	**Sg**	**18 05 35.9**	**+0.6**
FNA	**Florina**	**0.21**	**336**	*i*Pg	**Pg**	**18 05 32.5**	**+0.2**
FNA				*i* Sg	**Sg**	**18 05 35.9**	**+0.6**
NEST	**Nestorio**	**0.38**	**242**	P	**Pg**	**18 05 35.0**	**-0.6**
NEST				S	**Sg**	**18 05 40.7**	**+0.1**
	comp=N,202nm,0.3s						
NEST	**Nestorio**	**0.38**	**242**	P	**Pg**	**18 05 35.0**	**-0.6**
NEST				S	**Sg**	**18 05 40.2**	**-0.4**
PENT	**Pentalofos**

SHO					A	A	18 10 58.6	
	320nm,0.3s							
SHO					A	A	18 10 58.6	
	180nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.52**	**271**	*e*P		**Pn**	**18 10 43.7**	**+0.1**
YUK					AMB	AMB	18 10 46.4	
	80nm,0.1s							
YUK				*e*S		**Sn**	**18 11 13.7**	**+0.6**
YUK					A	A	18 11 19.5	
	280nm,0.3s							
YUK					A	A	18 11 19.5	
	230nm,0.3s							
NEM2	**Nemuro 2**	**2.71**	**256**	*e*P		**Pn**	**18 10 46.2**	**-0.1**
NEM2				*e*S		**Sn**	**18 11 16.3**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.72**	**257**	*e*P		**Pn**	**18 10 45.9**	**-0.5**
NMR				*e*S		**Sn**	**18 11 17.8**	**-0.2**
JRA	**Rausu**	**3.06**	**269**	*e*P		**Pn**	**18 10 52.0**	**+1.0**
JNK	**Nakash**	**3.39**	**264**	*e*P		**Pn**	**18 10 56.1**	**+0.5**
JNK				*e*S		**Sn**	**18 11 34.9**	**+0.4**
AKK	**Akkeshi**	**3.44**	**254**	*e*P		**Pn**	**18 10 56.5**	**+0.2**
JAK	**Akkeshi**	**3.55**	**254**	*e*P		**Pn**	**18 10 58.0**	**+0.2**
JTKR	**Abashiri--Toko**	**3.93**	**271**	*e*P		**Pn**	**18 11 04.5**	**+1.5**
JAR	**Ashorobuto**	**4.12**	**261**	*e*P		**Pn**	**18 11 06.7**	**+1.1**
JAR				*e*S		**Sn**	**18 11 52.6**	**0.0**
JOB	**Onbets**	**4.18**	**256**	*e*P		**Pn**	**18 11 07.3**	**+0.8**
JOB				*e*S		**Sn**	**18 11 52.9**	**-1.1**
JCH	**Churui**	**4.60**	**254**	*e*P		**Pn**	**18 11 13.3**	**+1.0**
JCH				*e*S		**Sn**	**18 12 05.2**	**+0.8**
JNBK	**Urakawa-nobuka**	**5.14**	**252**	*e*P		**Pn**	**18 11 20.7**	**+1.0**
JNBK				*e*S		**Sn**	**18 12 17.2**	**-0.6**
JANG	**Nango**	**6.88**	**240**	*e*S		Sn	18 12 55.0	-5.6
JHJ	**Hachijo jima 2**	**13.23**	**218**	Pn		P	18 13 37.4	+18
	12nm,0.3s,baz=58,slow=16,SNR=2.0							
JNU	**Nakatsue**	**18.07**	**239**	LR		LR	18 22 21.8	
	comp=Z,150nm,18.5s,baz=175,slow=39							
SONM	**Songino Array**	**29.82**	**293**	P		**P**	**18 16 08.2**	**+0.1**
	0.2nm,0.3s,baz=82,slow=3.1,SNR=3.5							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**45.85**	**298**	P		**P**	**18 18 23.2**	**+0.3**
	0.7nm,0.8s,baz=75,slow=8.7,SNR=8.7							
	0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**46.76**	**304**	P		**P**	**18 18 28.9**	**-1.0**
	0.2nm,0.3s,baz=74,slow=8.1,SNR=9.6							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**65.31**	**334**	P		**P**	**18 20 41.7**	**-0.5**
	3.6nm,1.1s,baz=70,slow=11,SNR=4.2							
	3.6nm,1.1s							
ASAR	**Alice Springs**	**68.87**	**195**	P		P	18 21 28.2	+23
	0.3nm,0.9s,baz=10,slow=6.1,SNR=1.9							
	0.3nm,0.9s							
NB2	**NORSAR Subarra**	**69.88**	**340**	P		**P**	**18 21 11.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.88**	**340**	P		**P**	**18 21 11.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=32,slow=6.6,SNR=9.9							
	comp=Z,0.5nm,0.5s							
HFS	**Hagfors**	**70.01**	**338**	P		**P**	**18 21 11.1**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=64,slow=6.8,SNR=10							
	comp=Z,1.3nm,0.5s							
AKASG	**Malin Array Be**	**72.26**	**325**	P		**P**	**18 21 26.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=38,slow=6.5,SNR=2.8							
	comp=Z,0.2nm,0.3s							

*IDC **21** 18:36:49.2±2.5, 1.°60S×138.°76E, h0km, mb3.8/6, mbtmp3.9/7, ML4.1/1, Error ellipse: s-maj=93.5km s-min=22.7km az=85.0*

ISC 21 18:36:54.4±3.0, 1.°7S±0.°2×138.°7E±0.°7, h35km, n7, σ0^{s}52/7, mb3.8/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.68**	**193**	P	**Pn**	**18 41 09.8**	**-0.5**
	0.6nm,0.3s,baz=15,slow=13,SNR=9.8						
	3.8nm,0.7s						
ASAR	**Alice Springs**	**22.38**	**192**	P	**P**	**18 41 50.4**	**+0.5**
	4.3nm,0.8s,baz=22,slow=10,SNR=50						
	4.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.95**	**299**	P	**P**	**18 44 58.4**	**-0.1**
	0.7nm,0.8s,baz=111,slow=8.0,SNR=4.8						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**68.98**	**322**	P	**P**	**18 47 56.7**	**+0.4**
	0.4nm,0.7s,baz=115,slow=8.1,SNR=5.0						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**71.05**	**330**	P	**P**	**18 48 08.2**	**-0.6**
	0.5nm,0.5s,baz=100,slow=7.6,SNR=2.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**72.89**	**325**	P	**P**	**18 48 19.8**	**-0.1**
	0.6nm,0.7s,baz=119,slow=5.0,SNR=4.3						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**78.47**	**325**	P	**P**	**18 48 51.7**	**-0.1**
	2.1nm,0.6s,baz=112,slow=6.7,SNR=12						
	2.1nm,0.6s						

*IDC **21** 18:54:15.8±3.5, 36.°36N×71.°50E, h202km±25km, mb3.4/10, mbtmp3.9/17, Error ellipse: s-maj=38.2km s-min=16.2km az=152.0*

*NNC **21** 18:54:22.4±3.0, 37.°18N×71.°32E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=24.4km s-min=22.1km az=120.0*

ISC 21 18:54:18.4±1.3, 36.°7N±0.°1×71.°27E±0.°10, h200km, n30, σ1^{s}45/36, mb3.7/10, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.72**	**18**	P	**Pn**	**18 55 43.8**	**+1.5**
	SNR=76						
AML	**Almayashu**	**5.72**	**18**	⇑Pn	**Pn**	**18 55 43.5**	**+1.3**
	2.7nm,0.6s						
AML				⇑Sn	**Sn**	**18 56 46.1**	**-2.5**
	9.5nm,0.8s						
UCH	**Uchtor**	**6.04**	**24**	P	**Pn**	**18 55 48.1**	**+1.6**
	SNR=84						
EKS2	**Erkin-Say**	**6.24**	**17**	P	**Pn**	**18 55 50.7**	**+2.0**
	SNR=15						
KK31	**Karatay Array**	**6.40**	**355**	⇓Pn	**Pn**	**18 55 51.8**	**+1.1**
	3.9nm,0.6s,baz=176,slow=12,SNR=7.8						
KK31				⇑Sn	**Sn**	**18 57 01.5**	**-2.5**
	14nm,0.6s,baz=179,slow=19,SNR=17						
AAK	**Ala-Archa**	**6.41**	**22**	P	**Pn**	**18 55 52.8**	**+1.8**
	SNR=15						
AAK	**Ala-Archa**	**6.41**	**22**	P	**Pn**	**18 55 52.7**	**+1.8**
	10.0nm,0.5s,baz=197,slow=6.4,SNR=43						
AAK				S	**Sn**	**18 57 03.7**	**-0.7**
	7.9nm,0.7s,baz=348,slow=21,SNR=8.2						
KBK	**Karagaybulak**	**6.57**	**24**	P	**Pn**	**18 55 55.0**	**+1.9**
	SNR=13						
ULHL	**Ulahol**	**6.72**	**33**	P	**Pn**	**18 55 56.5**	**+1.4**
	SNR=6.9						
CHMS	**Chumysh**	**6.81**	**22**	P	**Pn**	**18 55 58.9**	**+2.7**
	SNR=5.6						
USP	**Ospenovka**	**6.99**	**20**	P	**Pn**	**18 56 01.1**	**+2.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.03**	**27**	P	**Pn**	**18 56 00.4**	**+1.3**
	SNR=56						
TKM2	**Tokmak 2**	**7.03**	**27**	⇑Pn	**Pn**	**18 55 59.9**	**+0.9**
	29nm,0.8s						
TKM2				⇑Sn	**Sn**	**18 57 17.8**	**-1.2**
	5.6nm,0.8s						
GEYT	**Alibeck**	**10.54**	**281**	P	**Pn**	**18 56 44.9**	**+0.3**
	0.9nm,0.3s,baz=112,slow=12,SNR=7.0						
GEYT				S	**Sn**	**18 58 41.5**	**-0.8**
	1.3nm,0.5s,baz=94,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**12.98**	**36**	P	**Pn**	**18 57 15.0**	**-0.6**
	2.2nm,0.7s,baz=215,slow=13,SNR=19						
KURBB	**Kurchatov Arra**	**14.84**	**18**	P	**Pn**	**18 57 38.0**	**-0.4**
	0.5nm,0.5s,baz=206,slow=11,SNR=5.2						
BVAR	**Borovoye Array**	**16.31**	**358**	P	**P**	**18 57 57.3**	**+1.8**
	0.3nm,0.4s,baz=167,slow=9.0,SNR=5.1						
BVAR				S	**S**	**19 00 55.4**	**-0.7**
	1.3nm,0.8s,baz=167,slow=21,SNR=4.2						
AKTO	**Aktyubinsk**	**16.70**	**329**	P	**P**	**18 58 01.3**	**+1.6**
	4.1nm,0.4s,baz=140,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**19.62**	**24**	P	**P**	**18 58 31.3**	**-0.1**
	1.2nm,0.5s,baz=216,slow=10,SNR=8.7						
KBZ	**Khabaz**	**22.69**	**297**	P	**P**	**18 59 03.5**	**+0.7**
	1.7nm,0.8s,baz=116,slow=11,SNR=4.7						
	1.7nm,0.8s						
BRTR	**Keskin Array B**	**29.57**	**287**	P	**P**	**19 00 05.1**	**+0.5**
	0.3nm,0.3s,baz=107,slow=6.7,SNR=2.5						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**32.98**	**309**	P	**P**	**19 00 34.5**	**+0.4**
	1.2nm,0.6s,baz=79,slow=7.2,SNR=9.6						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**19 01 12.1**	**+0.3**
	1.0nm,0.4s,baz=120,slow=10,SNR=21						
	1.0nm,0.4s						

ARCES	**ARCESS Array B**	**41.02**	**337**	P		**P**	**19 01 42.2**	**+0.6**
	1.2nm,0.4s,baz=113,slow=7.5,SNR=15							
	1.2nm,0.4s							
HFS	**Hagfors**	**43.02**	**322**	P		**P**	**19 01 58.0**	**+0.1**
	2.9nm,0.5s,baz=98,slow=11,SNR=15							
	2.9nm,0.5s							
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	**19 02 07.5**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	**19 02 08.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=148,slow=3.7,SNR=6.8							
	comp=Z,1.0nm,0.7s							
ESDC	**Sonseca Array**	**57.54**	**298**	P		**P**	**19 03 46.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=54,slow=7.8,SNR=6.6							
	comp=Z,0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P		**P**	**19 04 41.3**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=49,slow=6.2,SNR=11							
	comp=Z,0.8nm,0.5s							
YKA	**Yellowknife Ar**	**81.01**	**3**	P		**P**	**19 06 09.8**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=350,slow=5.5,SNR=15							
	comp=Z,0.8nm,0.7s							

*UCR **21** 19:05:58.0±0.2, 11.°12N×87.°41W, h9km±61km, MB5.0(NEIC)*

*IDC **21** 19:05:59.5±0.6, 11.°70N×86.°67W, h0km, mb4.4/15, mbtmp4.5/16, ML4.5/1, MS4.2/51, Error ellipse: s-maj=24.4km s-min=13.4km az=49.0*

*CATAC **21** 19:06:00.6±0.6, 11.°20N×87.°20W, h9km±5km, ML4.7*

*NEIC **21** 19:06:02.3±2.4, 11.°29N±0.°05×87.°06W±0.°06, h23km±4km, mb5.0/186, Error ellipse: s-maj=10.0km s-min=6.8km az=56.0*

*GCMT **21** 19:06:05.3±0.3, 11.°11N±0.°02×87.°45W±0.°02, h18km±1km, MW5.0/95, Moment Tensor Solution. s47,c60; s95,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.49±.14; $M_{\theta\theta}$-1.85±.09; $M_{\phi\phi}$-0.63±.09; $M_{r\theta}$1.89±.20; $M_{r\phi}$0.98±.06; $M_{\theta\phi}$-2.62±.28; Best double couple: M=4.04000×10^{16} NP1:ϕs286.00000°, δ21.00000°, λ59.00000°. Principal axes: T 4.2190, Plg61.0000°, Azm65.0000°; N -0.3500, Plg11.0000°, Azm315.0000°; P -3.8620, Plg26.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SNET **21** 19:06:06.4±0.8, 11.°54N×87.°32W, h24km±68km, ML4.0*

*BJI **21** 19:06:06.5±0.0, 11.°40N×87.°00W, h50km, Ms5.1/2, Ms7 4.7/3*

ISC 21 19:06:01.7±1.3, 11.°22N±0.°03×87.°16W±0.°04, h24km±9km, n859, σ1^{s}36/817, mb5.0/104, MS4.3/49, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADRN	**Diriamba**	**1.10**	**55**	*i* P	**Pn**	**19 06 22.5**	**+0.8**
ADRN				IAML		19 07 03.4	
	comp=Z,50μm,1.0s						
COPN	**Copaltepe**	**1.10**	**30**	*i* P	**Pb**	**19 06 22.1**	**-0.1**
COPN				IAML		19 06 59.1	
	comp=Z,28μm,1.0s						
CRUN	**El Crucero**	**1.13**	**48**	*i* P	**Pb**	**19 06 22.8**	**0.0**
CRUN				IAML		19 06 53.6	
	comp=Z,28nm,1.0s						
SAPS	**Ciudad Sandino**	**1.20**	**38**	*i* P	**Pb**	**19 06 23.3**	**-0.5**
SAPS				IAML		19 07 23.1	
	comp=Z,16μm,1.0s						
ABCN	**Banco Central**	**1.22**	**43**	*i* P	**Pb**	**19 06 24.1**	**-0.1**
ABCN				IAML		19 07 22.9	
	comp=Z,26μm,1.0s						
NADN	**Granada**	**1.23**	**65**	*i* P	**Pb**	**19 06 23.9**	**-0.3**
NADN				*i* S	**Sn**	**19 06 43.3**	**+4.1**
NADN				IAML		19 06 53.2	
	comp=Z,13μm,1.0s						
AMTN	**Mateare**	**1.24**	**35**	*i* P	**Pb**	**19 06 24.2**	**-0.2**
AMTN				IAML		19 07 23.4	
	comp=Z,39μm,1.0s						
USIM	**UNAN**	**1.24**	**44**	*i* P	**Pb**	**19 06 24.4**	**-0.2**
USIM				*i* S	**Sn**	**19 06 41.4**	**+1.8**
USIM				IAML		19 07 16.6	
	comp=Z,23μm,1.0s						
MASN	**Masaya**	**1.25**	**52**	*i* P	**Pb**	**19 06 24.9**	**+0.2**
MASN				IAML		19 07 07.0	
	comp=Z,2μm,1.0s						
ENAN	**Enatrel Managu**	**1.25**	**45**	*i* P	**Pb**	**19 06 24.5**	**-0.2**
ENAN				*i* S	**Sn**	**19 06 43.4**	**+3.6**
ENAN				IAML		19 06 48.3	
	comp=Z,25μm,1.0s						
MAS3	**Al N del Volca**	**1.25**	**50**	*i* P	**Pb**	**19 06 24.0**	**-0.7**
MAS3				*i* S	**Sn**	**19 06 41.3**	**+1.4**
MAS3				IAML		19 06 56.8	
	comp=Z,10μm,1.0s						
TISN	**Laguna Tiscapa**	**1.27**	**44**	*i* P	**Pb**	**19 06 24.5**	**-0.4**
TISN				IAML		19 06 46.6	
	comp=Z,780nm,1.0s						
APQ2	**Apoyeque**	**1.27**	**40**	*i* P	**Pb**	**19 06 24.5**	**-0.5**
APQ2				IAML		19 06 42.9	
	comp=Z,11μm,1.0s						
APYN	**Apoyeque**	**1.28**	**38**	*i* P	**Pb**	**19 06 24.7**	**-0.5**
APYN				IAML		19 06 50.1	
	comp=Z,7μm,1.0s						
AMYN	**Masaya**	**1.29**	**54**	*i* P	**Pb**	**19 06 24.7**	**-0.6**
AMYN				IAML		19 07 17.2	
	comp=Z,19μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.29**	**24**	*i* P	**Pb**	**19 06 24.5**	**-0.8**
LEVN				*i* S	**Sb**	**19 06 43.2**	**+1.8**
LEVN				IAML		19 06 49.0	
	comp=Z,10μm,1.0s						
BC84	**Volcan Momotom**	**1.31**	**28**	*i* S	**Sb**	**19 06 43.8**	**+1.6**
MACN	**El Madrono**	**1.32**	**21**	*i* P	**Pb**	**19 06 25.1**	**-0.9**
MACN				IAML		19 06 50.6	
	comp=Z,3μm,1.0s						
MOMN	**Momotombo**	**1.33**	**27**	*i* P	**Pb**	**19 06 25.0**	**-1.0**
MOMN				IAML		19 06 34.7	
	comp=Z,500nm,1.0s						
WILN	**Americas 2**	**1.33**	**46**	*i* P	**Pb**	**19 06 25.4**	**-0.7**
WILN				*i* S	**Sb**	**19 06 42.1**	**-0.7**
WILN				IAML		19 07 26.0	
	comp=Z,12μm,1.0s						
AERN	**Aeropuerto Man**	**1.34**	**47**	*i* P	**Pb**	**19 06 28.9**	**+2.7**
CNGA	**Al SSO del Vol**	**1.34**	**20**	*i* P	**Pb**	**19 06 25.2**	**-1.1**
CNGA				IAML		19 06 43.6	
	comp=Z,6μm,1.0s						
CNGN	**Cerro Negro**	**1.35**	**20**		**Pb**	**19 06 25.1**	**-1.3**
CNGN	**Cerro Negro**	**1.35**	**20**	*e*P	**Pb**	**19 06 25.1**	**-1.3**
CNGN	**Cerro Negro**	**1.35**	**20**	*i* P	**Pb**	**19 06 25.5**	**-0.9**
CNGN				IAML		19 07 09.0	
	comp=Z,12μm,1.0s						
ROCN	**Rota Cerro Neg**	**1.35**	**18**	*i* PA		19 06 25.5	
ROCN				IAML		19 06 46.2	
	comp=Z,6μm,1.0s						
MOM2	**El Cardon**	**1.38**	**29**	*i* PA		19 06 25.9	
MOM2				IAML		19 06 55.1	
	comp=Z,8μm,1.0s						
PLRN	**Geotermica Pol**	**1.41**	**16**	*i* PA		19 06 26.0	
PLRN				IAML		19 06 53.2	
	comp=Z,7μm,1.0s						
TELN	**Telica**	**1.41**	**13**	*i* PA		19 06 25.7	
TELN				IAML		19 06 49.1	
	comp=Z,390nm,1.0s						
HERN	**Volcan Telica**	**1.42**	**13**	*i* PA		19 06 26.1	
HERN				IAML		19 07 15.4	
	comp=Z,9μm,1.0s						
TIPN	**Tipitapa**	**1.42**	**47**	*i* PA		19 06 28.2	
TIPN				IAML		19 07 27.8	
	comp=Z,16μm,1.0s						
PKGN	**Cerro Pekin**	**1.45**	**7**	*i* PA		19 06 26.8	
PKGN				IAML		19 06 45.4	
	comp=Z,20μm,1.0s						
CRIN	**San Cristobal**	**1.47**	**4**	Pn	**Pn**	**19 06 26.5**	**-0.4**
CRIN	**San Cristobal**	**1.47**	**4**	*e*P	**Pn**	**19 06 27.0**	**+0.2**
HUEN		**1.47**	**41**	*i* PA		19 06 27.3	
HUEN				IAML		19 07 05.2	
	comp=Z,10μm,1.0s						
JAPN	**Al SSO del Vol**	**1.49**	**78**	*i* PA		19 06 28.0	
JAPN				IAML		19 07 00.2	
	comp=Z,4μm,1.0s						
MORN	**Al O del Volca**	**1.52**	**78**	*i* PA		19 06 28.2	
MORN				IAML		19 06 56.9	
	comp=Z,17μm,1.0s						
OMEN	**Al SSO del Vol**	**1.53**	**79**	*i* PA		19 06 27.8	
OMEN				IAML		19 06 41.3	
	comp=Z,6μm,1.0s						
BC87	**San Francisco**	**1.54**	**34**	*i* P	Pb	19 06 38.7	+9.2
CONN	**Concepcion**	**1.54**	**77**	*i* PA		19 06 28.1	
CONN				IAML		19 06 47.4	
	comp=Z,63μm,1.0s						
HZTE	**Horizontes, Gu**	**1.62**	**108**		**Pn**	**19 06 29.3**	**+0.5**
HZTE	**Horizontes, Gu**	**1.62**	**108**	*e*P	**Pb**	**19 06 29.6**	**-1.4**
HZTE	**Horizontes, Gu**	**1.62**	**108**	*i* PA		19 06 29.5	
HZTE				IAML		19 07 22.3	
	comp=Z,16μm,1.0s						
ELI1	**Hacienda Flor**	**1.68**	**110**	*e*P	**Pb**	**19 06 31.1**	**-0.9**
BRAN	**Las Pilas**	**1.69**	**28**	*i* P	Pn	19 06 21.5	-8.2
BRAN				IAML		19 06 22.3	
	comp=Z,6μm,1.0s						
BRAN				*i* S	Sn	19 06 37.0	-14
DELF	**Filadelfia**	**1.76**	**116**	*e*P	**Pb**	**19 06 36.4**	**+3.1**
GB1A	**Borinquen Arri**	**1.78**	**103**	*e*P	**Pb**	**19 06 32.3**	**-1.4**
CSGN	**Cosiguina Volc**	**1.79**	**347**	*i* PA		19 06 31.1	
CSGN				IAML		19 07 05.2	
	comp=Z,21μm,1.0s						
ERIA	**Liberia**	**1.79**	**109**	*e*P	**Pb**	**19 06 32.6**	**-1.3**
VRLE	**La Escondida,**	**1.82**	**104**	*i* PA		19 06 32.6	
VRLE				IAML		19 07 39.2	
	comp=Z,4μm,1.0s						
GPS3	**Bodega del ICE**	**1.82**	**105**	*e*P	**Pb**	**19 06 33.4**	**-1.1**
SAJU	**San Juanillo,**	**1.83**	**129**	*i* PA		19 06 31.2	
SAJU				IAML		19 07 27.5	
	comp=Z,4μm,1.0s						
ORTG	**Ortega, Santa**	**1.88**	**117**	Pn	**Pn**	**19 06 32.8**	**+0.4**
ORTG	**Ortega, Santa**	**1.88**	**117**	*e*P	**Pn**	**19 06 32.8**	**+0.4**
ORTG	**Ortega, Santa**	**1.88**	**117**	*i* PA		19 06 32.8	
ORTG				IAML		19 07 16.7	
	comp=Z,5μm,1.0s						
BOAB	**BOACO BROADBAN**	**1.91**	**50**	Pn	**Pn**	**19 06 32.6**	**-0.2**
BOAB	**BOACO BROADBAN**	**1.91**	**50**	*i* PA		19 06 32.7	
BOAB				IAML		19 06 52.4	
	comp=Z,4μm,1.0s						
JUD3	**Juan Diaz 3**	**1.91**	**123**	*e*P	**Pn**	**19 06 32.9**	**0.0**
PLVR	**Palo Verde**	**1.98**	**116**	*e*P	**Pn**	**19 06 34.0**	**+0.1**
LIMN	**Finca el Limon**	**1.99**	**23**	*i* PA		19 06 34.1	
LIMN				IAML		19 06 50.7	
	comp=Z,5μm,1.0s						
DUNO	**Dulce Nombre,**	**2.00**	**125**		**Pn**	**19 06 34.0**	**+0.1**
DUNO	**Dulce Nombre,**	**2.00**	**125**	*e*P	**Pn**	**19 06 34.1**	**+0.1**
CAMAV	**Centro de Prod**	**2.00**	**105**	*e*P	**Pb**	**19 06 35.5**	**-2.1**
COLC	**Colonia**	**2.00**	**106**	*e*P	**Pn**	**19 06 35.2**	**+1.1**
NICO	**Nicoya**	**2.00**	**123**	*e*P	**Pn**	**19 06 34.0**	**0.0**
CUI	**Cuipilapa**	**2.04**	**106**	*e*P	**Pb**	**19 06 36.5**	**-1.7**
VMAR	**Armenia, Volca**	**2.05**	**101**	*i* PA		19 06 36.4	
VMAR				IAML		19 07 37.6	
	comp=Z,13μm,1.0s						
MATN	**Matagalpa**	**2.08**	**35**		**Pn**	**19 06 35.5**	**+0.3**
MATN	**Matagalpa**	**2.08**	**35**	*e*P	**Pn**	**19 06 35.2**	**0.0**
ACON	**Acoyapa**	**2.08**	**69**		**Pn**	**19 06 34.0**	**-1.2**
ACON	**Acoyapa**	**2.08**	**69**	*e*P	**Pn**	**19 06 34.7**	**-0.5**
ACON	**Acoyapa**	**2.08**	**69**	*i* PA		19 06 35.2	
ACON				IAML		19 07 27.3	
	comp=Z,3μm,1.0s						
AMPH	**Amapala**	**2.11**	**347**	*e*P	**Pn**	**19 06 35.3**	**-0.2**
INDI	**Punta indio, G**	**2.12**	**129**	*e*P	**Pn**	**19 06 34.7**	**-0.9**
INDI	**Punta indio, G**	**2.12**	**129**	*i* PA		19 06 35.6	
INDI				IAML		19 07 42.0	
	comp=Z,4μm,1.0s						
CNCH	**Conchagua**	**2.14**	**342**	*i* PA		19 06 36.3	
CNCH				IAML		19 07 11.5	
	comp=Z,5μm,1.0s						
LCND	**La Caada**	**2.19**	**341**	*e*P	**Pn**	**19 06 36.8**	**+0.1**
LCND	**La Caada**	**2.19**	**341**	*i* PA		19 06 36.7	
LCND				IAML		19 07 13.9	
	comp=Z,2μm,1.0s						
JUCU	**Jucuarn**	**2.28**	**332**	*e*P	**Pn**	**19 06 37.6**	**-0.4**
JUCU				IAML		19 07 08.9	
	comp=Z,1μm,0.4s						
VERA	**Finca Concepci**	**2.28**	**99**	*e*P	**Pn**	**19 06 39.2**	**+1.4**
JUNT	**Juntas**	**2.36**	**113**	*e*P	**Pb**	**19 06 44.3**	**+0.7**
JTS	**Las Juntas de**	**2.36**	**113**	Pn	Pn	19 06 32.4	-6.7
	comp=Z,4.5nm,0.3s,baz=88,slow=8.0,SNR=18						
JTS				Sn	**Sn**	**19 07 06.3**	**-1.0**
	comp=Z,71nm,0.3s,baz=57,slow=21,SNR=12						
JTS				LR	LR	19 07 13.1	
	comp=Z,1μm,20.5s,baz=284,slow=34						
JTS	**Las Juntas de**	**2.36**	**113**	*e*P	**Pn**	**19 06 39.3**	**+0.2**
CNRM	**Centro Naciona**	**2.44**	**336**	*i* PA		19 06 43.0	
CNRM				IAML		19 07 12.4	
	comp=Z,15μm,1.0s						
PACA	**Pacayal**	**2.50**	**333**	*i* PA		19 06 41.7	
PACA				IAML		19 07 27.8	
	comp=Z,14μm,1.0s						
RCPN	**Sur Rio San Ju**	**2.52**	**24**	*i* PA		19 06 41.4	
RCPN				IAML		19 06 42.5	
	comp=Z,4.6nm,1.0s						
ARE1	**Arenal 1**	**2.52**	**107**		**Pn**	**19 06 42.1**	**+1.0**
ARE1	**Arenal 1**	**2.52**	**107**	*e*P	**Pb**	**19 06 47.1**	**+0.8**
VACR	**Volcan Arenal**	**2.55**	**107**	*e*P	**Pn**	**19 06 42.8**	**+1.2**
VACR	**Volcan Arenal**	**2.55**	**107**	*i* P	**Pb**	**19 06 49.5**	**+2.6**
TUNA	**La Fortuna**	**2.58**	**107**	*e*P	**Pb**	**19 06 47.3**	**-0.2**
CBL1	**Cabuya**	**2.60**	**128**	*e*P	**Pb**	**19 06 47.4**	**-0.4**
LAFE	**Finca La Fe, P**	**2.62**

SNJE San Jose 3.55 118 *e*P **Pn 19 06 56.4 +0.8**
VINA Juan Vinas 3.61 111 *e*P **Pn 19 07 00.1 +3.8**
RVSTA Santa Teresita 3.67 109 *e*P **Pb 19 07 01.4 -4.6**
NUBE Las Nubes 3.69 316 *e*P **Pn 19 06 57.8 +0.3**
NUBE Las Nubes 3.69 316 *i*P **Pn 19 06 57.6 +0.2**
NUBE IAML 19 07 41.4
comp=Z,730nm,1.0s
CDM Cerro de Muert 3.73 116 *e*P **Pn 19 07 01.0 +2.7**
CDM Cerro de Muert 3.73 116 *i*P **Pn 19 07 00.8 +2.5**
CDM IAML 19 08 31.8
comp=Z,1μm,1.0s
BUS1 Rivas 3.75 116 *e*P **Pn 19 07 01.0 +2.6**
MTO3 Montecristo 3.82 326 Pn 19 06 59.6 +0.3
PEZE Perez Zeledon, 3.89 118 Pn **Pn 19 07 00.4 +0.3**
SRBA San Rafael, Bu 4.23 118 *e*P **Pn 19 07 07.1 +2.2**
DRK0 Durika 4.32 116 Pn **Pn 19 07 06.7 +0.5**
POTG Potrero Grande 4.53 118 *e*P **Pn 19 07 12.6 +3.7**
PIRO Carate, Puerto 4.70 126 *e*P **Pn 19 07 13.4 +2.3**
PIRO Carate, Puerto 4.70 126 *i* PA 19 07 13.6
PIRO IAML 19 08 05.2
comp=Z,750nm,1.0s
CDITO Canoas 4.98 122 Pn 19 07 12.5 -2.5
CDITO Canoas 4.98 122 *e*P **Pn 19 07 17.6 +2.6**
CCOL Caracol de Cor 4.99 124 *e*P **Pn 19 07 16.3 +1.2**
BRU2 Volcan 5.02 118 *e*P **Pn 19 07 19.8 +4.0**
CCIG Comitan 6.97 317 Pn 19 07 45.1 +2.5
BCIP Isla Barro Col 7.49 105 Pn **Pn 19 07 47.9 -1.7**
TEIG Tepich 9.02 353 Pn **Pn 19 08 09.5 -1.0**
TEIG Tepich 9.02 353 LR LR 19 11 59.2
comp=Z,8μm,18.8s,baz=294,slow=42
CMIG Matias Romero 9.49 309 Pn **Pn 19 08 18.2 +1.2**
comp=Z,4.6nm,0.3s,baz=126,slow=10,SNR=38
CMIG Sn **Sn 19 10 08.9 +6.0**
comp=Z,0.3nm,0.3s,baz=175,slow=20,SNR=1.4
comp=Z,12nm,0.4s
TLIG Tlapa 12.71 301 Pn **Pn 19 09 04.7 +3.5**
GUY2C Guyana, Caldas 13.11 116 *e*P **P 19 09 18.5 +1.5**
BBAC Balboa, Cauca 13.43 132 *e*P **P 19 09 17.5 -2.8**
ORTC Ortega, Tolima 13.86 121 *e*P **P 19 09 21.5 -3.5**
GCUF Volcan Galeras 13.92 135 *e*P **P 19 09 25.9 -0.1**
OTAV Otavalo 13.93 141 Pn **Pn 19 09 19.4 +1.3**
OCAC Ocana 13.96 101 *e*P **P 19 09 27.1 +0.9**
TULM Tulcn-Chalpat 13.99 138 Pn **Pn 19 09 18.0 -1.0**
ROSC El Rosal 14.21 116 Pn **P 19 09 27.1 -2.1**
comp=Z,2.6nm,0.3s,baz=165,slow=20,SNR=2.8
ROSC LR LR 19 14 56.6
comp=Z,979nm,20.4s,baz=305,slow=38
ROSC El Rosal 14.21 116 *e*P **P 19 09 33.4 +4.3**
BARC Barichara 14.55 107 *e*P **P 19 09 35.0 +2.1**
CVER Cruz Verde, Cu 14.57 116 *e*P **P 19 09 37.7 +4.4**
SALI Salinas 14.67 155 Pn **Pn 19 09 29.6 +1.7**
PAMC Pamplona, Colo 14.78 104 *e*P **P 19 09 34.9 -0.7**
VILC Villavicencio, 15.10 117 *e*P **P 19 09 42.9 +4.1**
COHC Cochancay 15.71 149 *e*P **P 19 09 48.6 +3.2**
TAMC Tame, Arauca 15.91 106 *e*P **P 19 09 49.4 +1.6**
PTGC Puerto Gaitan, 16.44 114 *e*P **P 19 09 54.3 +0.7**
SDV Santo Domingo 16.44 97 Pn **Pn 19 09 50.1 -1.1**
comp=Z,1.0nm,0.3s,baz=148,slow=20,SNR=2.2
SDV LR LR 19 17 37.8
comp=Z,578nm,18.9s,baz=284,slow=44
SDV Santo Domingo 16.44 97 *e*P **Pn 19 09 51.4 +0.2**
PTLC Puerto Leguiza 16.48 131 *e*P **P 19 09 54.4 +0.4**
MCRA Macar, Loja 17.07 155 *e*P **Pn 19 09 58.9 -0.1**
DWPF Disney Wildern 17.64 17 P **P 19 10 05.9 -0.8**
baz=198
BAUV El Baul 18.96 95 P **P 19 10 20.6 -0.8**
BAUV IAmb IAmb 19 10 24.1
comp=Z,188nm,1.9s
553A Crawfordville 19.04 7 P **P 19 10 20.2 -2.0**
553A IAmb IAmb 19 10 30.8
comp=Z,83nm,0.8s
HBVL Hebbronville 19.12 327 Pn 19 10 24.9 +0.9
451A Vernon 19.34 4 P **Pn 19 10 26.6 -0.1**
451A Vernon 19.34 4 P **Pn 19 10 28.0 +1.3**
baz=184,SNR=5.4
BRAL Brewton 19.85 0 P **P 19 10 31.7 +0.7**
baz=180,SNR=6.1
BRAL Brewton 19.85 0 P **Pn 19 10 32.9 +0.2**
baz=180,SNR=6.1
ATAH Atahualpa 20.22 154 P Pn 19 10 39.8 +2.2
comp=Z,26nm,1.1s,baz=358,slow=8.8,SNR=6.0
ATAH LR LR 19 17 29.2
comp=Z,1μm,20.1s,baz=338,slow=34
comp=Z,26nm,1.1s
441A DeRidder 20.22 345 P Pn 19 10 37.7 +0.6
baz=162,SNR=9.0
352A Blakely 20.26 6 P **P 19 10 35.1 -0.4**
352A Blakely 20.26 6 P Pn 19 10 38.0 +0.5
baz=186,SNR=7.9
HKT Hockley 20.31 338 P **P 19 10 36.8 +0.9**
baz=154
TIGA Tifton 20.39 9 Pn Pn 19 10 38.3 -0.7
TIGA Tifton 20.39 9 P Pn 19 10 37.9 -1.2
baz=190,SNR=21
TIGA Tifton 20.39 9 P Pn 19 10 38.0 -1.0
baz=190,SNR=21
833A Chaparral WMA, 20.51 328 P **P 19 10 36.8 -1.4**
833A IAmb IAmb 19 10 50.5
comp=Z,70nm,1.0s
833A Chaparral WMA, 20.51 328 P **P 19 10 39.5 +1.3**
baz=143,SNR=14
833A Chaparral WMA, 20.51 328 P **P 19 10 37.8 -0.4**
baz=143,SNR=14
250A Grady 20.67 2 P **P 19 10 40.9 +1.0**
baz=182,SNR=6.7
CELP Cerrillos 21.04 69 P **P 19 10 39.6 -4.4**
CELP IAmb IAmb 19 10 54.3
comp=Z,143nm,1.9s
255A Hazlehurst 21.05 11 P **P 19 10 40.9 -3.2**
255A IAmb IAmb 19 10 50.4
comp=Z,29nm,0.7s
255A Hazlehurst 21.05 11 P **P 19 10 45.2 +1.2**
baz=192
VBMS Vicksburg 21.12 352 P **P 19 10 46.0 +1.2**
baz=170
HNDO Hondo 21.43 330 P **P 19 10 46.7 -1.5**
SJG San Juan 21.44 69 P **P 19 10 43.0 -5.3**
comp=Z,3.3nm,0.3s,baz=356,slow=19,SNR=1.4
comp=Z,3.3nm,0.3s
152A Waverly Hall 21.46 6 P **P 19 10 49.8 +1.3**
baz=186,SNR=46
NATX Nacogdoches 21.58 342 P **P 19 10 51.0 +1.3**
baz=159
154A Montrose 21.61 9 P **P 19 10 50.1 0.0**
baz=190,SNR=7.7
LRAL Lakeview Retre 21.71 0 P **P 19 10 50.9 -0.2**
LRAL IAmb IAmb 19 10 54.1
comp=Z,41nm,0.8s
LRAL Lakeview Retre 21.71 0 P **P 19 10 51.8 +0.7**
baz=180,SNR=37
LRAL Lakeview Retre 21.71 0 P **P 19 10 52.0 +0.9**
baz=180,SNR=37
435B Jarrell 21.73 335 P **P 19 10 52.4 +1.0**
baz=151
DRIO Del Rio 22.03 327 P **P 19 10 53.9 -0.7**
DRIO IAmb IAmb 19 11 10.6
comp=Z,40nm,0.9s
Z51A Franklin 22.07 4 P **P 19 10 53.9 -1.0**
Z51A IAmb IAmb 19 10 58.1
comp=Z,68nm,1.1s
Z51A Franklin 22.07 4 P **P 19 10 56.2 +1.3**
baz=185,SNR=17
PCRV Puerto La Cruz 22.16 91 P **P 19 10 53.0 -3.2**
comp=Z,15nm,0.7s,baz=305,slow=12,SNR=1.4
comp=Z,15nm,0.7s
237A Washetta, Mont 22.16 340 P **P 19 10 54.9 -1.1**
237A IAmb IAmb 19 11 03.7
comp=Z,78nm,0.9s
GOGA Godfrey 22.34 8 P **P 19 10 56.5 -1.4**
GOGA IAmb IAmb 19 11 00.5
comp=Z,45nm,0.8s
GOGA Godfrey 22.34 8 P **P 19 10 58.9 +1.0**
baz=189,SNR=27
GOGA Godfrey 22.34 8 P **P 19 10 58.4 +0.5**
baz=189,SNR=27
JCT Junction City 22.47 330 P **P 19 11 00.1 +0.7**
baz=146
Y49A Blount Mountai 22.54 2 P **P 19 11 00.6 +0.5**
baz=182,SNR=10
HAW Hawthorne Fire 22.61 12 P **P 19 11 01.1 +0.3**
baz=194,SNR=16
Y45A Yeager Farm, C 22.64 355 P **P 19 11 01.4 +0.3**
baz=174,SNR=5.8
NHSC New Hope 22.71 15 P **P 19 11 01.9 +0.2**
baz=198,SNR=6.6
NHSC New Hope 22.71 15 P **P 19 11 03.3 +1.5**
baz=198,SNR=6.6
Y52A Lilburn 22.71 7 P **P 19 11 00.9 -1.0**
Y52A Lilburn 22.71 7 P **P 19 11 02.2 +0.3**
baz=188,SNR=21
Y52A P **P 19 11 02.2 +0.3**
baz=188,SNR=21
WHTX Lake Whitney, 22.75 337 P **P 19 11 01.3 -1.0**
WHTX IAmb IAmb 19 11 14.8
comp=Z,41nm,0.8s
WHTX Lake Whitney, 22.75 337 P **P 19 11 02.3 0.0**
baz=153
BRDY Brady 22.77 333 P **P 19 11 01.1 -1.4**
FW14 Alvarado 23.01 338 P **P 19 11 05.6 +0.7**
WLAR White Oak Lake 23.02 347 P **P 19 11 04.5 -0.5**
WLAR IAmb IAmb 19 11 13.5
comp=Z,33nm,0.8s
X48A Hartselle 23.12 0 P **P 19 11 05.0 -1.1**
X48A IAmb IAmb 19 11 06.7
comp=Z,22nm,0.7s
X48A Hartselle 23.12 0 P **P 19 11 05.5 -0.6**
baz=180,SNR=16
OXF Oxford 23.27 355 P **P 19 11 06.5 -1.1**
baz=174,SNR=5.6
OXF Oxford 23.27 355 P **P 19 11 06.3 -1.2**
baz=174,SNR=5.6
X51A Calhoun 23.33 5 P **P 19 11 09.0 +0.8**
X51A IAmb IAmb 19 11 10.3
comp=Z,41nm,0.7s
X51A Calhoun 23.33 5 P **P 19 11 08.4 +0.2**
baz=185,SNR=8.6
X51A P **P 19 11 08.4 +0.2**
baz=185,SNR=8.6
HODGE Hodges 23.34 10 P **P 19 11 07.8 -0.5**
HODGE IAmb IAmb 19 11 09.7
comp=Z,42nm,1.2s
HODGE Hodges 23.34 10 P **P 19 11 08.7 +0.4**
baz=192,SNR=14
HPIG 23.40 314 P **P 19 11 10.2 +1.0**
OZNA Ozona 23.49 329 P **P 19 11 10.0 +0.1**
FW07 Weatherford 23.51 337 P **P 19 11 10.4 +0.5**
FW07 IAmb IAmb 19 11 21.2
comp=Z,43nm,0.8s
JSC Jenkinsville 23.58 12 P **P 19 11 10.7 +0.1**
JSC IAmb IAmb 19 11 12.6
comp=Z,22nm,0.6s
JSC Jenkinsville 23.58 12 P **P 19 11 10.7 +0.1**
baz=194,SNR=11
FW06 Azle 23.66 338 P **P 19 11 09.1 -2.3**
FW06 IAmb IAmb 19 11 21.5
comp=Z,49nm,0.8s
PLAL Pickwick Lake 23.67 358 P **P 19 11 10.6 -0.8**
TXAR Lajitas Array 23.70 322 P **P 19 11 12.4 +0.4**
TXAR Lajitas Array 23.70 322 P **P 19 11 13.0 +1.0**
comp=Z,12nm,0.8s,baz=134,slow=10,SNR=74
TXAR PcP **PcP 19 14 58.1 +2.1**
comp=Z,4.6nm,0.9s,baz=145,slow=4.6,SNR=11
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 23.70 322 P **P 19 11 12.1 +0.1**
TX31 Lajitas Ar. Si 23.70 322 P **P 19 11 12.4 +0.4**
baz=136,SNR=33
X40A Basin Creek Fa 23.73 348 P **P 19 11 09.9 -2.1**
PLPT Palo Pinto 23.81 336 P **P 19 11 12.8 -0.1**
PLPT IAmb IAmb 19 11 25.5
comp=Z,76nm,1.2s
SWET Sewanee 23.91 2 P **P 19 11 13.3 -0.6**
SWET IAmb IAmb 19 11 14.8
comp=Z,58nm,0.9s
W50A Signal Mountai 23.93 4 P **P 19 11 13.3 -0.7**
W50A Signal Mountai 23.93 4 P **P 19 11 13.6 -0.4**
baz=184,SNR=32
W52A Murphy 23.94 7 P **P 19 11 14.3 +0.2**
W52A IAmb IAmb 19 11 16.5
comp=Z,40nm,0.8s
W52A Murphy 23.94 7 P **P 19 11 14.3 +0.2**
baz=187,SNR=20
BG3 Lake Jocassee 23.97 9 P **P 19 11 14.6 +0.2**
BG3 IAmb IAmb 19 11 16.9
comp=Z,40nm,1.0s
CASEE Lake Jocassee 23.97 9 P **P 19 11 14.3 -0.1**
baz=190,SNR=18
PAULI Pauline 23.99 11 P **P 19 11 13.8 -0.7**
PAULI Pauline 23.99 11 P **P 19 11 14.9 +0.3**
baz=193,SNR=10
BIRD Birdtown, Kers 24.10 14 P **P 19 11 15.4 -0.2**
BIRD IAmb IAmb 19 11 18.0
comp=Z,38nm,0.9s
BIRD Birdtown, Kers 24.10 14 P **P 19 11 15.6 0.0**
baz=196,SNR=15
Y60A Bolivia 24.11 18 P **P 19 11 14.6 -1.0**
Y60A Bolivia 24.11 18 P **P 19 11 16.3 +0.7**
baz=202,SNR=7.0
Y60A P **P 19 11 16.3 +0.7**
baz=202,SNR=7.0
ABTX Abilene, Hawle 24.20 334 P **P 19 11 16.6 +0.1**
baz=149,SNR=6.4
ABTX Abilene, Hawle 24.20 334 P **P 19 11 16.1 -0.4**
baz=149,SNR=6.4
CPCT Cooper Cave 24.24 5 P **P 19 11 15.3 -1.5**
X58A Rowland 24.30 16 P **P 19 11 16.4 -0.9**
X58A IAmb IAmb 19 11 19.8
comp=Z,35nm,0.8s
X58A Rowland 24.30 16 P **P 19 11 17.2 -0.1**
baz=198,SNR=6.4
X58A P **P 19 11 17.2 -0.1**
baz=198,SNR=6.4
KMSC Kings Mountain 24.39 12 P **P 19 11 17.1 -1.1**
KMSC Kings Mountain 24.39 12 P **P 19 11 18.0 -0.2**
baz=194,SNR=13
KMSC Kings Mountain 24.39 12 P **P 19 11 17.2 -1.1**
baz=194,SNR=13
WHAR Wooly Hollow 24.41 350 P **P 19 11 17.2 -1.1**
V48A Smith Brothers 24.41 1 P **P 19 11 17.6 -0.8**
baz=180,SNR=16
ALPN Alpine 24.44 324 P **P 19 11 19.4 +0.5**
LOOK Love County 24.45 340 P **P 19 11 18.9 +0.1**
TKL Tuckaleechee C 24.52 7 P **P 19 11 19.4 0.0**
TKL Tuckaleechee C 24.52 7 P **P 19 11 19.6 +0.2**
baz=188,SNR=35
TKL Tuckaleechee C 24.52 7 LR LR 19 22 05.0
comp=Z,418nm,19.4s,baz=114,slow=40
V51A Loudon 24.60 5 P **P 19 11 20.3 +0.1**
V51A IAmb IAmb 19 11 22.1
comp=Z,52nm,0.8s
V51A Loudon 24.60 5 P **P 19 11 19.6 -0.6**
baz=186,SNR=25
V53A Saluda 24.66 9 P **P 19 11 20.9 +0.3**
V53A IAmb IAmb 19 11 23.4
comp=Z,41nm,0.8s
V53A Saluda 24.66 9 P **P 19 11 20.9 +0.3**
baz=190,SNR=26
V53A P **P 19 11 20.9 +0.3**
baz=190,SNR=26
W57A Gilead 24.70 14 P **P 19 11 20.5 -0.5**
W57A IAmb IAmb 19 11 24.2
comp=Z,25nm,0.9s
W57A Gilead 24.70 14 P **P 19 11 19.9 -1.1**
baz=197,SNR=12
W57A P **P 19 11 19.9 -1.1**
baz=197,SNR=12
WTFS Witchita Falls 24.71 337 **P 19 11 20.2 -0.9**
WTFS IAmb IAmb 19 11 29.7
comp=Z,30nm,0.7s
V52A Sevierville 24.72 7 P **P 19 11 20.9 -0.3**
V52A IAmb IAmb 19 11 23.3
comp=Z,30nm,1.1s
V52A Sevierville 24.72 7 P **P 19 11 20.8 -0.4**
baz=188,SNR=13
CLTN Cedars of Leba 24.77 2 P **P 19 11 21.4 -0.2**
WVT Waverly 24.80 359 P **P 19 11 20.0 -2.0**
WVT Waverly 24.80 359 P **P 19 11 21.2 -0.7**
baz=178
WVT Waverly 24.80 359 P **P 19 11 20.4 -1.5**
baz=178,SNR=8.2
LCAR Lake Charles 25.00 352 P **P 19 11 21.7 -2.0**
LCAR Lake Charles 25.00 352 P **P 19 11 22.0 -1.7**
baz=170,SNR=10
APMT Aspermont 25.00 334 P **P 19 11 24.3 +0.5**
V55A Taylorsville 25.11 11 P **P 19 11 25.0 +0.3**
baz=194,SNR=14
V55A P **P 19 11 25.0 +0.3**
baz=194,SNR=14
ODSA Odessa 25.18 328 P **P 19 11 25.2 -0.3**
ODSA IAmb IAmb 19 11 40.1
comp=Z,35nm,0.9s
U49A Red Boiling Sp 25.21 3 P **P 19 11 24.6 -1.0**
U49A IAmb IAmb 19 11 27.9
comp=Z,34nm,0.8s
U49A Red Boiling Sp 25.21 3 P **P 19 11 24.8 -0.8**
baz=183,SNR=23
NNA Nana 25.23 156 LR LR 19 20 07.0
comp=Z,325nm,19.1s,baz=348,slow=33
TZTN Tazewell 25.42 7 P **P 19 11 26.9 -0.6**
TZTN IAmb IAmb 19 11 30.8
comp=Z,29nm,0.7s
TZTN Tazewell 25.42 7 P **P 19 11 27.0 -0.6**
baz=188,SNR=7.6
TZTN Tazewell 25.42 7 P **P 19 11 27.3 -0.2**
baz=188,SNR=7.6
LPIG La Paz 25.45 303 LR LR 19 22 03.8
comp=Z,361nm,18.2s,baz=56,slow=38
V58A Windy Hill, Pi 25.53 15 P **P 19 11 28.3 -0.1**
V58A Windy Hill, Pi 25.53 15 P **P 19 11 27.8 -0.6**
baz=198,SNR=30
V58A P **P 19 11 27.8 -0.6**
baz=198,SNR=30
U40A Yellville 25.55 349 P **P 19 11 27.8 -0.9**
baz=167,SNR=17
U40A P **P 19 11 27.8 -0.9**
baz=167,SNR=17
PBMO Poplar Bluff 25.61 354 P **P 19 11 26.5 -2.8**
PBMO IAmb IAmb 19 11 37.8
comp=Z,80nm,1.7s
PBMO Poplar Bluff 25.61 354 P **P 19 11 27.7 -1.6**
baz=172,SNR=8.0
U54A Nelsons Funny 25.64 10 P **P 19 11 26.7 -3.0**
U54A Nelsons Funny 25.64 10 P **P 19 11 29.4 -0.3**
baz=192,SNR=24
U54A P **P 19 11 29.4 -0.3**
baz=192,SNR=24
T47A Sharon Grove 25.65 0 P **P 19 11 27.2 -2.4**
T47A IAmb IAmb 19 11 29.5
comp=Z,36nm,0.8s
T47A Sharon Grove 25.65 0 P **P 19 11 28.3 -1.3**
baz=180,SNR=24
WMOK Wichita Mounta 25.69 338 P **P 19 11 30.4 +0.3**
baz=153
T45B Paducah 25.72 357 P **P 19 11 29.1 -1.1**
baz=176,SNR=8.8
T45A Paducah 25.72 357 P **P 19 11 29.0 -1.2**
U56A King 25.75 13 P **P 19 11 31.1 +0.6**
baz=195,SNR=7.4
U56A P **P 19 11 31.1 +0.6**
baz=195,SNR=7.4
T50A Nancy 25.77 4 P **P 19 11 30.0 -0.7**
T50A PcP **PcP 19 15 01.9 +1.6**
T50A Nancy 25.77 4 P **P 19 11 29.8 -0.9**
baz=185
T50A P **P 19 11 29.8 -0.9**
baz=185
TUL3 Leonard 25.79 344 IAmb IAmb 19 11 33.0
comp=Z,56nm,1.0s
TUL3 Leonard 25.79 344 P **P 19 11 30.9 -0.1**
baz=160,SNR=5.9
TUL3 Leonard 25.79 344 P **P 19 11 30.4 -0.5**
baz=160,SNR=5.9
U38A Gravette 25.94 347 P **P 19 11 31.1 -1.2**
U38A IAmb IAmb 19 11 39.5
comp=Z,76nm,1.8s
U38A PcP **PcP 19 15 02.8 +2.1**
U38A Gravette 25.94 347 P **P 19 11 31.3 -1.0**
baz=163
CGM3 Cape Girardeau 26.06 355 P **P 19 11 32.5 -0.8**
OK052 Battle Ridge R 26.16 342 IAmb IAmb 19 11 43.2
comp=Z,37nm,0.9s
OK029 Liberty Lake 26.18 341 IAmb IAmb 19 11 43.5
comp=Z,28nm,0.7s
MGMO Mountain Grove 26.23 351 P **P 19 11 32.6 -2.3**
MGMO IAmb IAmb 19 11 42.1
comp=Z,71nm,1.9s
QUOK Quay 26.30 342 IAmb IAmb 19 11 44.6
comp=Z,48nm,0.9s
U59A Littleton 26.41 17 P **P 19 11 36.6 +0.1**
baz=201,SNR=5.8
U59A P **P 19 11 36.6 +0.1**
baz=201,SNR=5.8
S44A Carbondale 26.43 356 P **P 19 11 35.7 -0.9**
baz=175
MNTX Cornudas Mount 26.43 323 P **P 19 11 37.5 +0.7**
baz=136
SIUC Southern Illin 26.44 356 P **P 19 11 34.7 -2.0**
SIUC IAmb IAmb 19 11 36.6
comp=Z,29nm,0.8s
S51A Beattyville 26.50 6 **P 19 11 35.8 -1.5**
S51A IAmb IAmb 19 11 41.4
comp=Z,22nm,0.7s
S51A Beattyville 26.50 6 P **P 19 11 36.6 -0.7**
baz=188,SNR=14
S51A P **P 19 11 36.6 -0.7**
baz=188,SNR=14
BLA Blacksburg 26.58 12 P **P 19 11 38.0 -0.1**
baz=194,SNR=6.2
BLA Blacksburg 26.58 12 P **P 19 11 37.8 -0.3**
baz=194,SNR=6.2
SMWD Samnorwood 26.59 336 P **P 19 11 36.8 -1.3**
SMWD IAmb IAmb 19 11 47.0
comp=Z,30nm,0.6s
OK048 Pawnee Station 26.59 342 **P 19 11 38.9 +0.7**
T57A Hurt 26.64 14 P **P 19 11 36.9 -1.7**
T57A IAmb IAmb 19 11 39.7
comp=Z,38nm,1.1s
T57A Hurt 26.64 14 P **P 19 11 38.6 +0.1**
baz=197,SNR=14
T57A P **P 19 11 38.6 +0.1**
baz=197,SNR=14
MSTX Muleshoe 26.77 330 IAmb IAmb 19 11 40.9
comp=Z,32nm,0.8s
MSTX Muleshoe 26.77 330 P **P 19 11 40.3 +0.4**
baz=144,SNR=5.3
MSTX Muleshoe 26.77 330 P **P 19 11 40.0 +0.1**
baz=144,SNR=5.3
WCI Wyandotte Cave 26.90 2 P **P 19 11 38.1 -2.8**
WCI IAmb IAmb 19 11 41.9
comp=Z,32nm,0.8s
WCI Wyandotte Cave 26.90 2 P **P 19 11 39.4 -1.5**
baz=182
WCI Wyandotte Cave 26.90 2 P **P 19 11 39.6 -1.3**
baz=182,SNR=15
S39A Bolivar 26.93 349 P **P 19 11 39.3 -1.9**
S39A IAmb IAmb 19 11 40.8
comp=Z,24nm,0.8s
S39A PcP **PcP 19 15 04.8 +1.9**
S39A Bolivar 26.93 349 P **P 19 11 40.0 -1.2**
baz=166,SNR=20
CCM Cathedral Cave 26.97 353 P **P 19 11 39.4 -2.1**
CCM PcP **PcP 19 15 04.6 +1.6**
CCM Cathedral Cave 26.97 353 P **P 19 11 40.2 -1.3**
baz=171
CCM Cathedral Cave 26.97 353 P **P 19 11 39.9 -1.6**
baz=171,SNR=13
S54A Dingess, Beckl 26.98 10 P **P 19 11 41.1 -0.5**
baz=192
S54A P **P 19 11 41.1 -0.5**
baz=192
T59A Double "B" Far 27.06 17 P **P 19 11 42.3 0.0**
baz=201,SNR=5.8
T59A P **P 19 11 42.3 0.0**
baz=201,SNR=5.8
R50A Paris 27.06 5 P **P 19 11 41.3 -1.1**
R50A IAmb IAmb 19 11 43.1
comp=Z,17nm,0.7s
R50A Paris 27.06 5 P **P 19 11 41.9 -0.5**
baz=186,SNR=12
R50A P **P 19 11 41.9 -0.5**
baz=186,SNR=12
ELIS Ellis County 27.11 338 P **P 19 11 44.2 +1.3**
R40A Maddies Statio 27.34 351 P **P 19 11 43.6 -1.2**
R40A Maddies Statio 27.34 351 P **P 19 11 42.7 -2.1**
baz=169,SNR=5.1
OK032 Salt Plains WL 27.35 340 P **P 19 11 42.7 -2.2**
OK032 IAmb IAmb 19 11 55.2
comp=Z,61nm,1.5s
R53A Hurricane 27.39 9 P **P 19 11 43.4 -1.9**
R53A IAmb IAmb 19 11 46.0
comp=Z,54nm,1.6s
R53A Hurricane 27.39 9 P **P 19 11 44.8 -0.6**
baz=191,SNR=5.1
R53A P **P 19 11 44.8 -0.6**
baz=191,SNR=5.1
OLIL Olney 27.41 358 P **P 19 11 44.1 -1.4**
baz=178,SNR=5.6
S57A Dark Hollow, R 27.43 14 P **P 19 11 43.3 -2.4**
S57A Dark Hollow, R 27.43 14 P **P 19 11 45.6 -0.1**

baz=197,SNR=6.0
S57A P P 19 11 45.6 -0.1
baz=197,SNR=6.0
SSFO Shawnee State 27.59 7 P P 19 11 46.0 -1.1
Q44A Meyer Farm, Va 27.61 357 P P 19 11 45.8 -1.5
baz=176,SNR=5.6
R55A Marlinton 27.67 12 P P 19 11 48.2 +0.3
baz=195
R55A P P 19 11 48.2 +0.3
baz=195
Q51A Peebles 27.90 6 P P 19 11 49.1 -0.7
Q51A Peebles 27.90 6 P P 19 11 48.9 -0.9
baz=188,SNR=36
Q51A P P 19 11 48.9 -0.9
baz=188,SNR=36
Q52A Bidwell 27.97 8 P P 19 11 49.2 -1.3
Q52A Bidwell 27.97 8 P P 19 11 49.9 -0.6
baz=190,SNR=18
Q52A P P 19 11 49.9 -0.6
baz=190,SNR=18
P48A Milroy 28.16 3 P P 19 11 50.6 -1.6
P48A IAmb IAmb 19 11 51.9
comp=Z,67nm,1.6s
P48A Milroy 28.16 3 P P 19 11 50.1 -2.1
baz=183,SNR=7.5
P48A P P 19 11 50.1 -2.1
baz=183,SNR=7.5
Q54A Coxs Mills 28.22 10 P P 19 11 52.0 -0.7
baz=193,SNR=15
Q54A P P 19 11 52.0 -0.7
baz=193,SNR=15
CBN Corbin Frederi 28.26 16 P P 19 11 52.0 -1.1
baz=200
P46A Rosedale 28.28 360 P P 19 11 51.0 -2.3
P46A Rosedale 28.28 360 P P 19 11 52.1 -1.1
baz=180
P49A Miami Univ. Ec 28.28 4 P P 19 11 51.2 -2.1
P49A IAmb IAmb 19 11 53.0
comp=Z,19nm,0.6s
P49A Miami Univ. Ec 28.28 4 P P 19 11 51.8 -1.4
baz=185,SNR=10
P49A Miami Univ. Ec 28.28 4 P P 19 11 51.5 -1.8
baz=185,SNR=10
121A Cookes Peak, D 28.46 321 P P 19 11 54.9 -0.3
baz=133
Q56A Snyder Ridge, 28.60 13 P P 19 11 55.9 -0.2
Q56A IAmb IAmb 19 11 57.8
comp=Z,35nm,0.8s
Q56A Snyder Ridge, 28.60 13 P P 19 11 56.0 -0.1
baz=196,SNR=14
Q56A P P 19 11 56.0 -0.1
baz=196,SNR=14
P53A Whipple 28.61 9 P P 19 11 55.7 -0.5
baz=192,SNR=18
P53A P P 19 11 55.7 -0.5
baz=192,SNR=18
P52A Corning 28.65 8 P P 19 11 55.9 -0.6
P52A Corning 28.65 8 P P 19 11 55.3 -1.2
baz=190,SNR=17
RTBA Rita Blanca 28.78 333 IAmb IAmb 19 12 04.1
comp=Z,17nm,0.9s
RTBA PcP PcP 19 15 10.9 +3.2
O44A Mansfield 28.84 358 P P 19 11 56.9 -1.2
baz=177,SNR=5.8
P38A Dawn 28.85 350 IAmb IAmb 19 11 58.8
comp=Z,19nm,0.6s
P38A Dawn 28.85 350 P P 19 11 56.4 -1.9
baz=167,SNR=13
O49A Covington 28.96 4 P P 19 11 58.4 -0.9
baz=185,SNR=6.5
O49A P P 19 11 58.4 -0.9
baz=185,SNR=6.5
O48B Farmland 28.97 3 P P 19 11 58.2 -1.2
baz=184,SNR=6.2
O48B Farmland 28.97 3 P P 19 11 57.8 -1.6
baz=184,SNR=6.2
KSU1 Kansas State U 29.01 345 IAmb IAmb 19 12 07.8
comp=Z,18nm,0.7s
KSU1 Kansas State U 29.01 345 P P 19 11 58.3 -1.5
baz=160,SNR=6.8
KSU1 Kansas State U 29.01 345 P P 19 11 58.1 -1.7
baz=160,SNR=6.8
SFIN Lafayette 29.04 0 P P 19 11 58.6 -1.4
baz=180,SNR=5.7
SFIN Lafayette 29.04 0 P P 19 11 58.4 -1.6
baz=180,SNR=5.7
Y22D IRIS PASSCAL I 29.04 325 P P 19 12 01.1 +0.8
baz=137
Y22F Passcal Instru 29.04 325 P P 19 12 00.7 +0.4
baz=137
MCWV Mont Chateau 29.05 12 P P 19 11 58.9 -1.3
baz=195,SNR=5.9
MCWV Mont Chateau 29.05 12 P P 19 12 00.0 -0.1
baz=195,SNR=5.9
ACSO Alum Creek Sta 29.13 7 P P 19 11 59.7 -1.1
baz=188,SNR=12
ACSO Alum Creek Sta 29.13 7 P P 19 12 00.1 -0.7
baz=188,SNR=12
O52A Adamsville 29.16 8 P P 19 12 00.7 -0.4
baz=190,SNR=11
O52A P P 19 12 00.7 -0.4
baz=190,SNR=11
HDIL Hopedale 29.28 357 P P 19 12 01.1 -1.0
baz=175,SNR=5.1
HDIL Hopedale 29.28 357 P P 19 12 00.7 -1.4
baz=175,SNR=5.1
P57A Homestead Farm 29.30 15 P P 19 12 03.0 +0.7
baz=198,SNR=19
P57A P P 19 12 03.0 +0.7
baz=198,SNR=19
O53A New Philadelph 29.39 9 P P 19 12 02.0 -1.1
baz=192,SNR=28
ANMO Albuquerque 29.43 326 P P 19 12 03.5 -0.2
ANMO Albuquerque 29.43 326 P P 19 12 04.0 +0.3
baz=138
O54A Avella 29.46 11 P P 19 12 02.4 -1.3
baz=193,SNR=7.9
O54A P P 19 12 02.4 -1.3
baz=193,SNR=7.9
N47A Urbana 29.57 2 P P 19 12 02.8 -1.9
baz=183,SNR=7.2
N47A P P 19 12 02.8 -1.9
baz=183,SNR=7.2
CBKS Cedar Bluff 29.68 340 P P 19 12 06.1 +0.4
baz=154
N49A Columbus Grove 29.70 5 P P 19 12 04.8 -1.0
N49A Columbus Grove 29.70 5 P P 19 12 04.6 -1.2
baz=186,SNR=34
N49A P P 19 12 04.6 -1.2
baz=186,SNR=34
N53A Lisbon 29.99 10 P P 19 12 07.8 -0.6
baz=192,SNR=19
N53A P P 19 12 07.8 -0.6
baz=192,SNR=19
T25A Trinidad 30.11 332 P P 19 12 09.8 0.0
baz=144
TUC Tucson 30.23 318 P P 19 12 11.3 +0.6
baz=128
PAMR Moraine State 30.25 11 P P 19 12 10.0 -0.7
baz=194
M50A Fremont 30.28 6 P P 19 12 09.7 -1.3
baz=188,SNR=11
M50A P P 19 12 09.7 -1.3
baz=188,SNR=11
SSPA Standing Stone 30.42 14 P P 19 12 12.2 0.0
SSPA Standing Stone 30.42 14 P P 19 12 11.7 -0.5
baz=198
SSPA Standing Stone 30.42 14 P P 19 12 12.1 0.0
baz=198,SNR=19
N35A Tabor 30.45 347 P P 19 12 11.7 -0.8
baz=163,SNR=5.4
M53A WI Miller and 30.63 10 P P 19 12 13.8 -0.3
baz=192,SNR=19
L46A Eue Claire 30.68 1 P P 19 12 12.2 -2.3
baz=181,SNR=5.1
L46A P P 19 12 12.2 -2.3
baz=181,SNR=5.1
PSDB Penn State Uni 30.69 12 P P 19 12 15.5 +0.8
baz=196
TUPA Temple Univers 30.71 18 P P 19 12 15.0 +0.2
baz=203,SNR=14
L42A Oliver, Polo 30.74 356 P P 19 12 12.8 -2.2
baz=175,SNR=11
L44A Lake County Fo 30.84 359 P P 19 12 14.3 -1.7
baz=178
L44A Lake County Fo 30.84 359 P P 19 12 14.2 -1.7
baz=178
PAOC Oil Creek Stat 30.88 11 P P 19 12 15.6 -0.7
baz=194
N58A Sunbury 30.91 16 P P 19 12 16.5 0.0
baz=200,SNR=14
N58A P P 19 12 16.5 0.0
baz=200,SNR=14
KSCO Kaye Shedlock' 30.91 336 P P 19 12 15.8 -1.0
baz=149
L40A Anamosa 30.93 354 P P 19 12 14.9 -1.7
baz=172,SNR=7.0
ALLY Alegheny Colle 30.93 10 P P 19 12 16.1 -0.7
baz=193,SNR=7.2
M55A Ridgway 31.02 12 P P 19 12 15.8 -1.7
baz=196,SNR=7.7
M55A P P 19 12 15.8 -1.7
baz=196,SNR=7.7
SCIA State Center 31.02 351 P P 19 12 16.3 -1.2
baz=168
PANJ Princeton 31.06 19 P P 19 12 17.8 0.0
baz=204,SNR=6.1
AAM Ann Arbor 31.11 5 P P 19 12 17.7 -0.6
baz=186
SDCO Great Sand Dun 31.11 331 P P 19 12 18.5 -0.2
baz=143,SNR=8.1
SDCO Great Sand Dun 31.11 331 P P 19 12 19.0 +0.3
baz=143,SNR=8.1
SAML Samuel 31.15 129 P P 19 12 18.2 -0.8
M57A Sunshine Farm, 31.27 15 P P 19 12 19.1 -0.6
baz=199,SNR=25
M57A P P 19 12 19.1 -0.6
baz=199,SNR=25
BRNJ Basking Ridge 31.38 19 P P 19 12 20.4 -0.2
baz=204,SNR=6.0
214A Organ Pipe Nat 31.39 315 P P 19 12 21.6 +0.7
baz=125
ERPA Erie 31.41 10 P P 19 12 20.0 -1.0
baz=193,SNR=12
ERPA Erie 31.41 10 P P 19 12 20.5 -0.5
baz=193,SNR=12
W18A Petrified Fore 31.41 323 P P 19 12 21.3 0.0
baz=134
BGNE Belgrade 31.58 344 P P 19 12 22.6 +0.1
baz=159
BGNE Belgrade 31.58 344 P P 19 12 22.2 -0.3
baz=159
K38A Parkersburg 31.69 352 P P 19 12 21.8 -1.6
baz=169
JFWS Jewell Farm 31.69 356 IAmb IAmb 19 12 22.7
comp=Z,17nm,0.8s
JFWS Jewell Farm 31.69 356 P P 19 12 22.0 -1.4
baz=174,SNR=8.5
JFWS Jewell Farm 31.69 356 P P 19 12 21.8 -1.6
baz=174,SNR=8.5
ODNJ Ogdensburg 31.73 18 P P 19 12 23.5 -0.3
baz=204,SNR=5.2
S22A 4UR Ranch, Cre 31.76 330 P P 19 12 24.3 -0.2
S22A PcP PcP 19 15 18.9 +3.3
S22A 4UR Ranch, Cre 31.76 330 P P 19 12 24.2 -0.2
baz=141,SNR=6.8
KSPA Keystone Colle 31.83 16 P P 19 12 24.3 -0.3
baz=201,SNR=9.3
PAL Palisades 31.88 19 IAmb IAmb 19 12 25.8
comp=Z,18nm,0.8s
PAL Palisades 31.88 19 P P 19 12 25.1 0.0
baz=205
L56A Greenwood 31.92 14 P P 19 12 24.9 -0.6
baz=198,SNR=14
L56A P P 19 12 24.9 -0.6
baz=198,SNR=14
Q24A Divide 31.94 333 P P 19 12 26.1 +0.1
baz=145
WVNY West Valley, N 31.95 12 IAmb IAmb 19 12 26.0
comp=Z,25nm,0.8s
WVNY West Valley, N 31.95 12 P P 19 12 24.9 -0.9
baz=196,SNR=10
J47A Sunmer 31.96 3 P P 19 12 24.4 -1.3
baz=184,SNR=7.0
J47A P P 19 12 24.4 -1.3
baz=184,SNR=7.0
MVCO Mesa Verde 32.21 327 IAmb IAmb 19 12 31.3
comp=Z,11nm,0.8s
MVCO Mesa Verde 32.21 327 P P 19 12 29.1 +0.8
baz=138
BINY Binghamton 32.37 16 P P 19 12 29.1 -0.3
baz=200,SNR=17
BINY Binghamton 32.37 16 P P 19 12 29.3 -0.1
baz=200,SNR=17
OGNE Ogallala 32.38 339 P P 19 12 30.2 +0.6
baz=152
NPNY Mohonk Preserv 32.49 18 P P 19 12 30.3 -0.1
baz=204,SNR=12
I42A Draeger Farm, 32.58 358 P P 19 12 29.5 -1.8
baz=176,SNR=13
L59A Walton 32.62 17 P P 19 12 31.4 -0.2
baz=202,SNR=11
L59A P P 19 12 31.4 -0.2
baz=202,SNR=11
WUAZ Wupatki 32.67 322 P P 19 12 33.0 +0.7
baz=132
I40A Norwalk 32.69 355 P P 19 12 30.3 -1.9
baz=173,SNR=6.5
I45A Puntain 32.70 1 P P 19 12 30.5 -1.8
baz=181
I45A P P 19 12 30.5 -1.8
baz=181
K57A Scipio Center 32.73 15 P P 19 12 31.8 -0.8
baz=199,SNR=11
J54A Appleton 32.78 12 P P 19 12 32.2 -0.7
baz=195,SNR=11
J54A P P 19 12 32.2 -0.7
baz=195,SNR=11
I49A Point Hope 32.81 6 P P 19 12 30.2 -3.0
baz=188,SNR=6.2
I49A P P 19 12 30.2 -3.0
baz=188,SNR=6.2
ISCO Idaho Springs 32.83 333 P P 19 12 34.1 +0.3
baz=145
I37B Waseca 33.12 352 P P 19 12 34.4 -1.5
baz=168,SNR=6.8
H43A Windswept, Lux 33.13 359 P P 19 12 33.5 -2.5
H43A IAmb IAmb 19 12 35.0
comp=Z,21nm,0.8s
H43A Windswept, Lux 33.13 359 P P 19 12 34.2 -1.8
baz=179,SNR=5.8
K30B Basset 33.16 343 P P 19 12 36.4 0.0
baz=157,SNR=6.4
J56A Wolcott 33.16 14 P P 19 12 35.6 -0.7
J56A Wolcott 33.16 14 P P 19 12 35.6 -0.7
baz=198,SNR=33
J56A P P 19 12 35.6 -0.7
baz=198,SNR=33
PV03 Paradox Valley 33.18 328 P P 19 12 37.5 +0.7
PV03 IAmb IAmb 19 12 39.2
comp=Z,14nm,0.8s
HCNY Howe Caverns 33.27 17 P P 19 12 37.0 -0.3
baz=203,SNR=8.6
ECSD EROS Data Cent 33.41 348 P P 19 12 36.7 -1.8
ECSD IAmb IAmb 19 12 47.1
comp=Z,18nm,0.8s
ECSD PcP PcP 19 15 21.2 +1.5
ECSD EROS Data Cent 33.41 348 P P 19 12 36.7 -1.8
baz=163,SNR=20
ECSD EROS Data Cent 33.41 348 P P 19 12 36.6 -1.9
baz=163,SNR=20
J57A Williamstown 33.50 15 P P 19 12 38.1 -1.1
baz=200,SNR=18
J57A P P 19 12 38.1 -1.1
baz=200,SNR=18
TRY Troy 33.52 18 P P 19 12 39.3 -0.1
baz=204,SNR=11
QUA2 Belchertown 33.54 20 P P 19 12 39.2 -0.4
baz=207
GLMI Grayling 33.55 3 P P 19 12 38.1 -1.6
baz=184,SNR=6.9
GLMI Grayling 33.55 3 P P 19 12 38.4 -1.3
baz=184,SNR=6.9
L61B Northampton 33.58 20 P P 19 12 39.4 -0.5
L61B IAmb IAmb 19 12 40.3
comp=Z,23nm,0.8s
L61B Northampton 33.58 20 P P 19 12 38.8 -1.1
baz=206,SNR=5.9
L61B Northampton 33.58 20 P P 19 12 39.3 -0.5
baz=206,SNR=5.9
J58A Remsen 33.64 16 P P 19 12 39.4 -1.0
J58A Remsen 33.64 16 P P 19 12 40.0 -0.4
baz=201,SNR=16
J58A P P 19 12 40.0 -0.4
baz=201,SNR=16
PDMCI Parker Dam,Lak 33.67 317 P P 19 12 41.2 +0.4
baz=126
G45A Suttons Bay 33.72 2 P P 19 12 38.8 -2.3
baz=182,SNR=9.7
G45A P P 19 12 38.8 -2.3
baz=182,SNR=9.7
J59A Piesco 33.95 17 P P 19 12 41.0 -2.2
J59A IAmb IAmb 19 12 43.2
comp=Z,21nm,0.9s
J59A Piesco 33.95 17 P P 19 12 42.2 -1.0
baz=202,SNR=9.2
J59A P P 19 12 42.2 -1.0
baz=202,SNR=9.2
HRV Adam Dziewonsk 34.01 21 P P 19 12 43.6 0.0
baz=208
G40A Rib Lake 34.03 356 P P 19 12 42.0 -1.8
G40A IAmb IAmb 19 12 42.8
comp=Z,20nm,0.8s
G40A Rib Lake 34.03 356 P P 19 12 41.3 -2.5
baz=174,SNR=18
SWSC Sam W. Stewart 34.03 314 P P 19 12 44.4 +0.4
baz=123
IKP In-Ko-Pah, Jac 34.09 313 P P 19 12 45.0 +0.4
baz=122
ACCN Adirondack Com 34.12 18 P P 19 12 44.4 -0.2
baz=204
WCNY West Carthage 34.12 15 P P 19 12 43.4 -1.2
baz=200,SNR=9.7
SADO Sadowa 34.13 10 LR LR 19 27 22.3
comp=Z,370nm,19.4s,baz=272,slow=38
DELO Deloro Mine 34.18 12 IAmb IAmb 19 12 44.8
comp=Z,26nm,1.3s
BC3 Big Chuckawall 34.18 315 P P 19 12 45.9 +0.5
baz=124,SNR=5.9
SPMN Marine on St. 34.23 353 P P 19 12 43.3 -2.2
baz=170,SNR=13
SPMN Marine on St. 34.23 353 P P 19 12 43.0 -2.5
baz=170,SNR=13
IRM Iron Mountain 34.25 316 P P 19 12 46.5 +0.6
baz=125
O20A White River Ci 34.31 331 P P 19 12 45.7 -0.9
baz=141,SNR=12
J61A Chester 34.42 19 P P 19 12 47.1 -0.1
baz=206
J61A P P 19 12 47.1 -0.1
baz=206
MONP2 Monument Peak 34.45 313 P P 19 12 48.5 +0.7
baz=122
SUSD Miller 34.63 345 P P 19 12 48.3 -0.7
baz=159
MDP Montagnes des 34.69 97 LR LR 19 27 57.1
comp=Z,381nm,19.6s,baz=276,slow=38
SRU San Rafael Swe 34.69 327 P P 19 12 50.8 +0.9
SRU IAmb IAmb 19 13 03.0
comp=Z,15nm,0.8s
BELC Belle Mtn. Jos 34.75 315 P P 19 12 50.6 +0.2
baz=124
COWI Conover 34.80 358 P P 19 12 48.5 -2.0
COWI Conover 34.80 358 P P 19 12 48.4 -2.1
baz=176
TPFO Pinon Flats 34.85 314 P P 19 12 51.6 +0.3
baz=123
PFO Pinyon Flats O 34.86 314 P P 19 12 51.6 +0.3
baz=123
PFO Pinyon Flats O 34.86 314 LR LR 19 28 00.0
comp=Z,530nm,21.2s,baz=136,slow=38
F36A Milaca 34.94 352 P P 19 12 49.6 -2.1
F36A IAmb IAmb 19 12 50.5
comp=Z,16nm,0.8s
F36A Milaca 34.94 352 P P 19 12 49.1 -2.6
baz=169,SNR=16
GMRC Granite Mounta 34.96 317 P P 19 12 52.9 +0.6
baz=125
LONY Lake Ozonia 34.99 16 P P 19 12 51.6 -0.6
baz=202,SNR=16
E43A Lone Tree Farm 35.03 0 P P 19 12 50.3 -2.2
baz=180,SNR=15
E46A Sault Ste Mari 35.11 3 IAmb IAmb 19 12 59.6
comp=Z,12nm,0.9s
E46A Sault Ste Mari 35.11 3 P P 19 12 51.5 -1.6
baz=185
MSU Marysvale 35.17 325 P P 19 12 54.4 +0.3
BMNY Brushton-Moira 35.22 16 P P 19 12 52.9 -1.2
baz=202,SNR=19
F33A 5 Mile Ranch, 35.37 349 P P 19 12 53.3 -2.0
baz=164,SNR=26
MURC Murrieta 35.37 314 P P 19 12 57.8 +2.2
baz=122
TCRU Three Creeks R 35.39 325 P P 19 12 53.5 -2.5
TCRU IAmb IAmb 19 13 01.4
comp=Z,15nm,1.0s
LBNH Lisbon 35.43 19 P P 19 12 54.9 -1.0
LBNH IAmb IAmb 19 13 04.8
comp=Z,34nm,1.4s
LBNH Lisbon 35.43 19 P P 19 12 56.3 +0.3
baz=206
HEC Hector,Ludlow 35.44 316 P P 19 12 59.2 +2.8
baz=124
E38A The Farm, Brul 35.46 355 IAmb IAmb 19 12 55.1
comp=Z,21nm,0.8s
E38A The Farm, Brul 35.46 355 P P 19 12 54.1 -2.0
baz=172,SNR=11
TUQ Turquoise Moun 35.52 317 P P 19 12 59.2 +2.2
baz=126
BBRC Big Bear Solar 35.53 315 P P 19 12 59.9 +2.7
baz=123
K22A Casper 35.57 335 P P 19 12 58.9 +1.5
baz=146
RSSD Black Hills 35.87 339 P P 19 12 58.2 -1.8
RSSD Black Hills 35.87 339 P P 19 13 01.1 +1.1
baz=151
GSC Goldstone, Bar 36.03 317 P P 19 13 02.9 +1.6
baz=124
BFSC Mount Baldy Ra 36.03 314 P P 19 13 02.9 +1.5
baz=122
CIS Catalina Islan 36.14 313 P P 19 13 04.2 +2.0
baz=120
TRQ Mont Tremblant 36.49 15 P P 19 13 04.1 -1.0
TRQ IAmb IAmb 19 13 12.9
comp=Z,54nm,1.8s
DECC Green Verdugo 36.52 314 P P 19 13 07.6 +2.2
baz=121
EDW2 Edwards Air Fo 36.61 315 P P 19 13 08.4 +2.1
baz=122
TPNV Topopah Spring 36.62 319 P P 19 13 08.0 +1.6
baz=127
DUG Dugway, Tooele 36.70 326 P P 19 13 07.9 +0.8
baz=135
LRMC Laurel Mtn Rad 36.72 316 P P 19 13 08.4 +1.1
baz=123
FURC Furnace Creek, 36.73 318 P P 19 13 07.6 +0.5
baz=126
SPR3 Spring Creek 3 36.74 324 IAmb IAmb 19 13 22.1
comp=Z,44nm,2.0s
G62A West of Eustis 36.75 20 IAmb IAmb 19 13 07.9
comp=Z,19nm,0.7s
G62A West of Eustis 36.75 20 P P 19 13 06.7 -0.5
baz=208,SNR=6.2
G62A P P 19 13 06.7 -0.5
baz=208,SNR=6.2
EYMN Ely 36.79 355 P P 19 13 05.0 -2.5
baz=173,SNR=5.5
EYMN Ely 36.79 355 P P 19 13 05.1 -2.4
baz=173,SNR=5.5
SNCC San Nicolas Is 36.87 312 P P 19 13 09.3 +0.8
baz=119
MPMC Manual Prospec 36.91 317 P P 19 13 10.3 +1.3
baz=124,SNR=5.2
OSI Osito Audit: C 36.98 314 P P 19 13 10.9 +1.5
baz=121
BW06 Boulder Array 36.98 332 P P 19 13 08.3 -1.3
BW06 Boulder Array 36.98 332 P P 19 13 10.0 +0.5
baz=141
PD31 Pinedale Array 36.98 332 P P 19 13 09.9 +0.4
PDAR Pinedale Array 36.98 332 P P 19 13 09.3 -0.2
PDAR Pinedale Array 36.98 332 P P 19 13 09.2 -0.4
comp=Z,2.6nm,0.6s,baz=126,slow=10,SNR=36
PDAR PcP PcP 19 15 31.0 +0.6
comp=Z,1.9nm,0.9s,baz=138,slow=5.1,SNR=4.7
PDAR LR LR 19 32 03.5
comp=Z,203nm,18.4s,baz=133,slow=42
comp=Z,2.6nm,0.6s
E28A Huff 37.06 344 P P 19 13 09.3 -0.6
baz=157
HWUT Hardware Ranch 37.06 329 IAmb IAmb 19 13 12.3
comp=Z,18nm,0.8s
R11B Troy Canyon, C 37.07 322 P P 19 13 11.9 +1.7
baz=129
PKME Peaks-Kenny Pk 37.22 21 P P 19 13 09.7 -1.4

PKME IAmb IAmb 19 13 11.8
comp=Z,20nm,0.8s
PKME Peaks-Kenny Pk 37.22 21 P **P** **19 13 11.5 +0.4**
baz=210
ARVC Arvin 37.32 315 P **P** **19 13 13.5 +1.3**
baz=122
ISA Isabella, Lake 37.36 316 P **P** **19 13 14.1 +1.4**
baz=123
GRAC Grapevine Rang 37.37 318 P **P** **19 13 14.0 +1.4**
baz=126
SIV San Ignacio 37.39 136 LR LR 19 28 31.3
comp=Z,732nm,18.7s,baz=312,slow=36
B35A Bob, Littlefor 37.43 353 P **P** **19 13 10.1 -2.9**
B35A Bob, Littlefor 37.43 353 P **P** **19 13 10.5 -2.4**
baz=169,SNR=6.1
CWC Cottonwood Cre 37.52 317 P **P** **19 13 14.9 +0.7**
baz=124
VLDQ Val d'Or 37.66 11 IAmb IAmb 19 13 14.3
comp=Z,12nm,0.8s
AGMN Agassiz Nation 37.67 350 IAmb IAmb 19 13 15.5
comp=Z,17nm,0.8s
AGMN Agassiz Nation 37.67 350 P **P** **19 13 13.4 -1.6**
baz=166,SNR=13
AGMN Agassiz Nation 37.67 350 P **P** **19 13 13.0 -1.9**
baz=166,SNR=13
VES Vestal, Richgr 37.88 316 P **P** **19 13 17.5 +0.6**
baz=122
PKM Mcpherson Peak 37.89 314 P **P** **19 13 17.6 +0.4**
baz=120
MDND Maddock 37.98 346 P **P** **19 13 16.4 -1.2**
baz=160,SNR=10
MDND Maddock 37.98 346 P **P** **19 13 16.3 -1.3**
baz=160,SNR=10
REDW Red Top Meadow 38.04 332 P **P** **19 13 18.1 -0.4**
LVC Limon Verde 38.09 152 LR LR 19 28 39.7
comp=Z,275nm,19.3s,baz=318,slow=36
ELK Elko 38.42 325 LR LR 19 33 17.1
comp=Z,566nm,18.9s,baz=130,slow=43
IMW Indian Meadow 38.49 332 P **P** **19 13 23.0 +0.6**
IMW PcP **PcP** **19 15 37.7 +2.6**
H17A Grant Village 38.72 333 P **P** **19 13 24.8 +0.6**
baz=141
RLMT Red Lodge 38.73 335 P **P** **19 13 24.2 0.0**
baz=144,SNR=5.3
NVAR Mina Array Bea 38.81 320 P **P** **19 13 26.7 +1.7**
comp=Z,4.9nm,0.7s,baz=128,slow=8.4,SNR=32
NVAR PcP **PcP** **19 15 38.5 +2.3**
comp=Z,2.8nm,0.7s,baz=146,slow=4.1,SNR=9.5
NVAR LR LR 19 33 06.0
comp=Z,430nm,20.6s,baz=134,slow=42
comp=Z,4.9nm,0.7s
LAO LASA Array 38.86 339 P **P** **19 13 25.1 -0.1**
baz=149
D62A Allapoint, All 38.88 20 P **P** **19 13 24.7 -0.5**
baz=209
D62A P **P** **19 13 24.7 -0.5**
baz=209
ULM Lac du Bonnet 39.57 351 IAmb IAmb 19 13 29.4
comp=Z,19nm,0.7s
ULM Lac du Bonnet 39.57 351 P **P** **19 13 28.9 -2.0**
comp=Z,16nm,0.7s,baz=167,slow=8.4,SNR=44
ULM PcP **PcP** **19 15 38.6 +0.7**
comp=Z,2.7nm,0.7s,baz=157,slow=5.8,SNR=2.6
ULM LR LR 19 29 55.8
comp=Z,193nm,21.7s,baz=140,slow=37
comp=Z,16nm,0.7s
DGMT Dagmar 39.77 342 IAmb IAmb 19 13 34.7
comp=Z,24nm,0.7s
DGMT Dagmar 39.77 342 P **P** **19 13 32.3 -0.3**
baz=153,SNR=7.5
DGMT Dagmar 39.77 342 P **P** **19 13 31.9 -0.7**
baz=153,SNR=7.5
HLID Hailey 39.93 329 P **P** **19 13 35.1 +0.9**
baz=135,SNR=13
PNTR Pine Nut 40.02 320 P **P** **19 13 36.0 +0.9**
BOZ Bozeman (W) 40.12 333 P **P** **19 13 36.5 +0.8**
baz=141,SNR=6.7
EGMT Eagleton 41.29 337 P **P** **19 13 45.0 -0.2**
baz=145
ORV Oroville 41.50 319 P **P** **19 13 46.7 -0.4**
MSO Missoula 42.10 333 P **P** **19 13 51.5 -0.5**
baz=139
YBH Yreka Blue Hor 43.47 321 LR LR 19 33 43.9
comp=Z,516nm,21.5s,baz=139,slow=38
RPN Rapa Nui 43.78 209 LR LR 19 27 30.6
comp=Z,474nm,21.5s,baz=88,slow=29
HAWA Hanford 44.51 328 IAmb IAmb 19 14 25.5
comp=Z,36nm,1.6s
NEW Newport 44.62 332 P **P** **19 14 11.6 -0.6**
baz=136
E07A Sunnyside 44.79 328 IAmb IAmb 19 14 15.8
comp=Z,25nm,0.9s
C09A Chrisman Ranch 44.84 330 IAmb IAmb 19 14 22.0
comp=Z,9.1nm,0.7s
FFC Flin Flon 44.95 348 P **P** **19 14 12.6 -2.0**
FFC IAmb IAmb 19 14 22.5
comp=Z,9.4nm,0.7s
H03N2 Juan Fernandez 45.10 170 T T 20 02 40.5
baz=349,slow=76,SNR=13
H03N1 Juan Fernandez 45.10 170 T T 20 02 36.3
baz=349,slow=76,SNR=15
H03N3 Juan Fernandez 45.12 170 T T 20 02 35.2
baz=349,slow=76,SNR=15
SCHQ Schefferville 46.37 16 P **P** **19 14 23.4 -2.5**
comp=Z,12nm,0.7s,baz=214,slow=10,SNR=8.5
SCHQ PcP **PcP** **19 16 01.3 +0.6**
comp=Z,3.4nm,0.7s,baz=261,slow=4.1,SNR=2.6
SCHQ LR LR 19 33 25.4
comp=Z,496nm,21.1s,baz=234,slow=36
comp=Z,12nm,0.7s
BDFB Brasilia 47.06 124 P **P** **19 14 32.7 +0.8**
comp=Z,16nm,0.8s,baz=294,slow=10.0,SNR=29
BDFB LR LR 19 35 02.3
comp=Z,755nm,19.0s,baz=317,slow=37
comp=Z,16nm,0.8s
CPUP Villa Florida 47.27 143 LR LR 19 35 57.1
comp=Z,285nm,18.0s,baz=334,slow=38
RCBR Riachuelo 53.75 106 LR LR 19 39 36.5
comp=Z,298nm,18.6s,baz=306,slow=38
PLCA Paso Flores 53.93 164 P **P** **19 15 26.4 +2.9**
comp=Z,1.5nm,0.3s,baz=327,slow=10,SNR=6.7
PLCA LR LR 19 35 11.4
comp=Z,188nm,18.2s,baz=332,slow=32
comp=Z,1.5nm,0.3s
FRB Frobisher Bay 54.08 10 LR LR 19 37 54.9
comp=Z,312nm,20.5s,baz=194,slow=36
YKA Yellowknife Ar 54.86 345 P **P** **19 15 28.5 -1.4**
comp=Z,3.1nm,0.7s,baz=139,slow=7.2,SNR=56
YKA PcP **PcP** **19 16 32.0 +0.2**
comp=Z,1.8nm,0.7s,baz=145,slow=4.0,SNR=9.3
comp=Z,3.1nm,0.7s
T35M Bob Quinn 56.35 333 P **P** **19 15 41.3 +0.6**
baz=126
DLBC Dease Lake 57.13 335 P **P** **19 15 46.8 +0.5**
baz=127
DLBC Dease Lake 57.13 335 LR LR 19 43 04.3
comp=Z,135nm,21.3s,baz=124,slow=39
WTLY Watson Lake, Y 57.68 337 P **P** **19 15 49.7 -0.4**
baz=129
R33M Jennings River 58.10 335 P **P** **19 15 53.0 -0.1**
baz=127
Q32M Nakina River 58.38 334 P **P** **19 15 55.0 -0.2**
baz=125
P32M Atlin 59.35 335 P **P** **19 16 02.3 +0.5**
baz=124
N32M Quiet Lake 59.99 336 P **P** **19 16 06.2 0.0**
baz=125
SFJD Kangerlussuaq 60.82 16 LR LR 19 41 25.3
comp=Z,343nm,21.9s,baz=226,slow=35
O30N Mendenhall 61.00 335 P **P** **19 16 13.0 0.0**
baz=122
P29M Windy Craggy 61.11 333 P **P** **19 16 14.0 +0.2**
baz=120
HYT Haines Junctio 61.62 335 P **P** **19 16 14.9 -2.4**
baz=121
N30M Aishikik Lake 61.77 335 P **P** **19 16 17.4 -0.8**
baz=121
M30M Minto, Yukon 62.25 337 P **P** **19 16 21.1 -0.4**
baz=122
YUK8 Steele Glacier 62.80 334 P **P** **19 16 25.3 -0.1**
baz=119
M29M Somme Creek 62.84 336 P **P** **19 16 25.6 +0.1**
baz=120
L29M L29M 63.05 337 P **P** **19 16 27.4 +0.6**
baz=121
J30M Hart River 63.17 339 P **P** **19 16 28.4 +0.7**
baz=124
K29M Barlow Dome 63.21 338 P **P** **19 16 28.1 +0.2**
baz=122
CTG Chitna Glacier 63.33 334 P **P** **19 16 29.5 +0.7**
baz=117
YUK3 Moose Creek 63.33 335 P **P** **19 16 29.1 +0.3**
baz=118
I30M Mount Dempster 63.55 339 P **P** **19 16 30.2 +0.1**
baz=124
RES Resolute Bay 63.59 358 IAmb IAmb 19 16 28.9
comp=Z,28nm,1.9s
RES Resolute Bay 63.59 358 LR LR 19 46 00.2
comp=Z,235nm,18.6s,baz=180,slow=38
BVCY Beaver Creek 63.80 335 P **P** **19 16 31.8 +0.1**
baz=118
G31M Satah River 63.84 341 P **P** **19 16 32.3 +0.5**
baz=127
F31M Tsiigehtchic 63.98 342 P **P** **19 16 33.4 +0.6**
baz=127
DAWY Dawson 64.03 337 P **P** **19 16 33.4 +0.1**
baz=120
M27K Edge Creek, AK 64.19 335 P **P** **19 16 34.7 +0.2**
baz=117
EPYK Eagle Plains 64.31 340 P **P** **19 16 34.1 -0.9**
baz=124
INK Inuvik 64.45 343 IAmb IAmb 19 17 06.2
comp=Z,11nm,1.4s
INK Inuvik 64.45 343 P **P** **19 16 35.6 -0.2**
baz=128
INK Inuvik 64.45 343 LR LR 19 48 44.8
comp=Z,152nm,18.9s,baz=172,slow=40
G30M tAoh Zraii Nji 64.49 341 P **P** **19 16 35.9 -0.3**
baz=125
L27K Beaver Creek, 64.50 336 P **P** **19 16 35.7 -0.6**
baz=117
F30M Barrier River 64.72 341 P **P** **19 16 37.0 -0.6**
baz=126
BMRM Bremner River 64.76 333 P **P** **19 16 37.2 -0.9**
baz=114
H29M Whitestone 64.78 340 P **P** **19 16 36.7 -1.4**
baz=122
A36M Sachs Harbour 64.91 348 P **P** **19 16 37.1 -1.6**
baz=138,SNR=5.8
N25K Chitina, Valde 65.02 334 P **P** **19 16 39.1 -0.7**
baz=114
G29M Pine Creek 65.04 340 P **P** **19 16 38.9 -0.9**
baz=123
K27K Chicken 65.04 337 P **P** **19 16 39.5 -0.3**
baz=118
L26K Log Cabin Wild 65.10 335 P **P** **19 16 40.4 +0.2**
baz=116
EYAK Cordova Ski Ar 65.11 332 P **P** **19 16 40.3 0.0**
baz=112
ICESG Greenland Ices 65.27 17 *i* P **P** **19 16 37.1 -4.5**
ICESG IAmb IAmb 19 16 50.6
comp=Z,4.7nm,2.4s
KLU Klutina 65.56 333 P **P** **19 16 42.3 -1.0**
baz=113
P23K Montague Islan 65.67 331 P **P** **19 16 42.0 -1.9**
baz=111
SCRK Sand Creek 65.77 336 P **P** **19 16 43.6 -1.0**
baz=116
E29M Blow River 65.82 342 P **P** **19 16 43.6 -1.1**
baz=124
J26L Joseph Creek 65.84 337 P **P** **19 16 44.0 -1.0**
baz=116
GLI Glacier Island 65.85 332 P **P** **19 16 43.4 -1.7**
baz=111
H27K Steamboat Moun 65.89 339 P **P** **19 16 44.5 -0.8**
baz=119
M24K Tolsona, Glenn 65.91 334 P **P** **19 16 45.1 -0.4**
baz=113
PAX Paxson 65.95 335 P **P** **19 16 45.1 -0.7**
baz=114
RIDG Independent Ri 66.01 336 P **P** **19 16 45.5 -0.7**
baz=115
F28M Old Crow 66.03 341 IAmb IAmb 19 16 48.5
comp=Z,26nm,1.7s
F28M Old Crow 66.03 341 P **P** **19 16 45.7 -0.4**
baz=121
I26K Coal Creek Min 66.05 338 P **P** **19 16 45.8 -0.4**
baz=117
G27K Doyon Strip 66.22 339 P **P** **19 16 46.2 -1.2**
baz=119
SCM Sheep Creek Mo 66.31 333 P **P** **19 16 47.3 -0.8**
baz=112
K24K Donnelly Dome 66.42 336 P **P** **19 16 48.3 -0.4**
baz=114
E28M Babbage River 66.44 342 P **P** **19 16 47.7 -1.0**
baz=122
M23K Glacier View 66.47 333 P **P** **19 16 48.2 -0.8**
baz=111
J25K Saha River, 66.59 336 P **P** **19 16 50.2 +0.4**
baz=114
KNK Knik Glacier 66.66 333 P **P** **19 16 50.0 -0.2**
baz=110
SEW Seward 66.68 331 P **P** **19 16 49.8 -0.5**
baz=109
SML Sawmill 66.74 333 P **P** **19 16 50.5 -0.3**
baz=110
WAT6 Susitna Watana 66.76 334 P **P** **19 16 50.4 -0.7**
baz=113
DHY Denali Highway 66.79 335 P **P** **19 16 51.2 0.0**
baz=112
E27K Coleen River 66.88 341 P **P** **19 16 51.4 -0.1**
baz=120
PMR Palmer 67.03 333 P **P** **19 16 52.2 -0.3**
baz=110
PRP Porcupine Dome 67.03 337 P **P** **19 16 52.4 -0.3**
baz=115
HDA Harding Lake 67.13 336 P **P** **19 16 53.2 0.0**
baz=113,SNR=5.4
RC01 Rabbit Creek A 67.13 332 P **P** **19 16 53.4 +0.2**
baz=109
WAT1 Susitna Watana 67.20 334 P **P** **19 16 53.9 +0.2**
baz=111
D27M Malcolm River 67.22 342 P **P** **19 16 53.7 -0.1**
baz=121
ILAR Eielson Array 67.25 336 P **P** **19 16 53.8 -0.2**
comp=Z,1.9nm,0.7s,baz=148,slow=4.7,SNR=36
ILAR PP **PP** **19 19 21.3 -0.8**
comp=Z,1.5nm,1.2s,baz=108,slow=7.7,SNR=4.8
ILAR LR LR 19 51 47.7
comp=Z,239nm,18.2s,baz=83,slow=41
comp=Z,1.9nm,0.7s
F26K Sheenjek River 67.49 340 P **P** **19 16 55.5 +0.1**
baz=117
POKR Poker Flat Res 67.60 337 P **P** **19 16 56.3 +0.1**
baz=113
MCK McKinley 67.69 335 P **P** **19 16 56.6 -0.2**
baz=111
CAPN Captain Cook N 67.69 332 P **P** **19 16 56.8 0.0**
baz=108
SUMG Summit 67.70 14 *i* P **P** **19 16 54.0 -3.1**
SUMG IAmb IAmb 19 16 58.9
comp=Z,5.6nm,0.9s
SUA Susitna One 67.72 332 P **P** **19 16 56.8 -0.3**
baz=108
G25K Dearman Lake 67.77 338 P **P** **19 16 56.8 -0.3**
baz=115
F25K Christian Rive 67.96 339 P **P** **19 16 58.1 -0.3**
baz=115
H24K Noodor Dome 68.05 337 P **P** **19 16 58.6 -0.4**
baz=112
NEA2 Nenana 68.05 336 P **P** **19 16 58.8 -0.3**
baz=111
TRF Thorofare Moun 68.16 334 P **P** **19 16 59.0 -0.9**
E25K Arctic Village 68.17 340 P **P** **19 16 59.0 -0.7**
baz=116
P19K Oil Pt 68.37 330 P **P** **19 17 00.6 -0.5**
baz=105
I23K Minto, Yukon-K 68.37 336 P **P** **19 17 01.1 +0.2**
baz=111
Q19K Cape Douglas, 68.38 329 P **P** **19 17 01.0 -0.2**
baz=104
BPAW Bear Paw Mtn. 68.67 335 P **P** **19 17 03.3 +0.4**
baz=109
F24K Squaw Lake 68.72 339 P **P** **19 17 02.4 -0.7**
baz=113
NEEM North Greenlan 68.77 8 *i* P **P** **19 16 60.0 -3.7**
NEEM IAmb IAmb 19 17 03.4
comp=Z,8.6nm,0.6s
PPLA Purkeypile 68.80 334 P **P** **19 17 04.4 +0.5**
baz=107
CAST Castle Rocks 68.91 334 P **P** **19 17 04.5 +0.1**
baz=108
M20K Styx River 68.93 332 P **P** **19 17 04.1 -0.5**
baz=106
D25K Kavik River 68.95 341 P **P** **19 17 04.4 -0.2**
baz=115
E24K Your Creek 69.14 339 P **P** **19 17 06.1 +0.3**
baz=113
G23K Bananza Creek 69.18 338 P **P** **19 17 04.8 -1.3**
baz=111
N19K Bonanza Creek 69.27 331 P **P** **19 17 05.7 -1.1**
baz=104
Q17K Contact Creek 69.37 328 P **P** **19 17 06.9 -0.6**
baz=102
H22K Ishtalitna Cre 69.42 337 P **P** **19 17 06.5 -1.0**
baz=109
L20K Farewell, AK 69.43 333 P **P** **19 17 07.2 -0.5**
baz=106
COLD Coldfoot 69.43 338 P **P** **19 17 08.0 +0.4**
baz=111
M19K Big River Lodg 69.51 332 P **P** **19 17 07.1 -1.0**
baz=105
E23K Chandalar 69.53 339 P **P** **19 17 07.7 -0.6**
baz=112
BORG Borgarnes 69.70 25 LR LR 19 47 44.8
comp=Z,169nm,18.8s,baz=238,slow=36
K20K Telida 69.75 334 P **P** **19 17 07.7 -1.9**
baz=106
G22K Bettles 69.81 338 P **P** **19 17 10.1 +0.3**
baz=109
P17K Kvichak River 69.85 329 P **P** **19 17 10.4 +0.2**
baz=102
H21K Melozitna Rive 69.90 336 P **P** **19 17 09.5 -1.0**
baz=108
N18K Kilae Creek 69.91 331 P **P** **19 17 09.6 -1.0**
baz=103
J20K Nowinta River 70.01 335 P **P** **19 17 10.2 -1.0**
baz=106
M18K Stony River 70.06 332 P **P** **19 17 11.1 -0.4**
baz=103
D23K Nanushuk River 70.23 340 P **P** **19 17 12.3 -0.1**
baz=111
F22K John River 70.25 338 P **P** **19 17 12.7 +0.1**
baz=109
O17K Koliganek Bris 70.30 330 P **P** **19 17 12.8 -0.2**
baz=102
E22K Anaktuvuk Pass 70.33 339 P **P** **19 17 12.0 -1.1**
baz=110
G21K Allakaket 70.43 337 P **P** **19 17 14.1 +0.3**
baz=107
TTA Tatalina 70.49 333 P **P** **19 17 13.7 -0.6**
baz=104
N17K Nushagak Hills 70.50 330 P **P** **19 17 13.8 -0.5**
baz=102
J19K Poorman 70.59 334 P **P** **19 17 13.2 -1.6**
baz=104
L18K Granite Mounta 70.63 332 P **P** **19 17 15.2 +0.2**
baz=103
F21K Alatna River 70.64 338 P **P** **19 17 14.4 -0.6**
baz=108
H20K Anotleneega Mo 70.67 336 P **P** **19 17 15.1 -0.1**
baz=106
D22K Ayikyak River 70.88 340 P **P** **19 17 16.5 0.0**
baz=109
J18K Innoko River 70.93 334 P **P** **19 17 16.6 -0.2**
baz=103
H19K Roundabout Mou 71.32 336 P **P** **19 17 19.7 +0.6**
baz=104
L17K Donlin 71.35 332 P **P** **19 17 19.4 0.0**
baz=101
F20K Avaraart Lake 71.43 337 P **P** **19 17 20.2 +0.5**
baz=105
C21K Knifeblade Rid 71.68 340 P **P** **19 17 21.0 -0.3**
baz=107
G19K Purcell Mounta 71.72 336 P **P** **19 17 22.1 +0.6**
baz=104
L16K Owhat River 71.82 331 P **P** **19 17 23.0 +0.8**
baz=100
E20K Nigu River 71.92 339 P **P** **19 17 23.3 +0.5**
baz=105
H18K Honhosa River 72.01 335 P **P** **19 17 23.9 +0.5**
baz=102
E19K Redstone River 72.10 338 P **P** **19 17 23.9 +0.1**
baz=104
F19K Shaleruckik Mo 72.15 337 P **P** **19 17 23.9 -0.2**
baz=103
D20K Etivluk River 72.19 339 P **P** **19 17 23.8 -0.6**
baz=105
M15K Kasigluk River 72.23 330 P **P** **19 17 23.9 -0.7**
baz=99
G18K Tagagawik 72.29 336 P **P** **19 17 25.8 +0.8**
baz=102
J16K Anvik River 72.61 333 P **P** **19 17 27.2 +0.3**
baz=100
H17K Granite Mounta 72.61 335 P **P** **19 17 27.1 +0.3**
baz=101
D19K Kuna River 72.67 339 P **P** **19 17 27.5 +0.2**
baz=104
I17K Unalakleet 72.75 334 P **P** **19 17 28.3 +0.6**
baz=100
M14K Bethel 72.86 330 P **P** **19 17 28.3 0.0**
baz=98
G17K Kiwalik Mounta 73.02 335 P **P** **19 17 29.0 -0.3**
baz=100
C19K Lookout Ridge 73.33 339 P **P** **19 17 31.6 +0.5**
baz=102
H16K Elim 73.54 334 P **P** **19 17 33.3 +1.0**
baz=98,SNR=5.5
G16K Koyuk River 73.70 335 P **P** **19 17 33.9 +0.6**
baz=99
C18K Utukok River 73.81 338 P **P** **19 17 34.3 +0.3**
baz=101
J14K Nanvaranak Lak 73.86 332 P **P** **19 17 35.1 +0.9**
baz=97
A19K Wainwright 74.07 340 P **P** **19 17 35.6 +0.3**
baz=101
B18K Kokolik River 74.16 339 P **P** **19 17 36.0 0.0**
baz=100
G15K Niukluk 74.35 335 P **P** **19 17 37.1 0.0**
baz=97
C17K DeLong Mountai 74.50 338 P **P** **19 17 38.4 +0.4**
baz=99
F15K North Star Dit 74.69 335 P **P** **19 17 39.4 +0.3**
baz=97,SNR=5.5
UNV Unalaska Valle 74.73 323 P **P** **19 17 40.0 +0.5**
baz=92
ANM Nome 74.87 334 P **P** **19 17 40.6 +0.5**
baz=96
C16K Lisburne Hills 75.27 338 IAmb IAmb 19 17 43.6
comp=Z,19nm,1.5s
C16K Lisburne Hills 75.27 338 P **P** **19 17 41.9 -0.4**
baz=97,SNR=5.9
F14K Arctic Creek 75.36 335 P **P** **19 17 42.5 -0.5**
baz=95
JMIC Jan Mayen 75.76 19 LR LR 19 51 09.2
comp=Z,86nm,20.2s,baz=234,slow=36
TNA Tin City 76.03 335 P **P** **19 17 47.0 +0.2**
baz=94
NIKH Nikolski High 76.13 322 P **P** **19 17 47.3 -0.3**
baz=90
P08K Saint George I 76.53 326 P **P** **19 17 49.7 0.0**
baz=90
ESDC Sonseca Array 77.72 52 P **P** **19 17 54.4 -2.5**
comp=Z,1.4nm,0.8s,baz=282,slow=5.8,SNR=12
comp=Z,1.4nm,0.8s
MDT Midelt 77.80 59 LR LR 19 47 05.3
comp=Z,174nm,21.7s,baz=300,slow=32
DBIC Dimbokro 81.21 85 LR LR 19 51 26.8
comp=Z,66nm,21.9s,baz=269,slow=34
SPITS Spitsbergen Ar 81.84 12 LR LR 19 56 22.5
comp=Z,326nm,18.6s,baz=256,slow=37
NOA NORSAR Array B 84.30 29 P **P** **19 18 29.3 -2.2**
comp=Z,0.8nm,0.8s,baz=289,slow=4.7,SNR=2.2
NOA LR LR 19 53 16.9
comp=Z,109nm,20.8s,baz=275,slow=34
comp=Z,0.8nm,0.8s
HFS Hagfors 85.70 30 P **P** **19 18 36.1 -2.5**
comp=Z,2.7nm,1.0s,baz=273,slow=2.5,SNR=3.8
HFS LR LR 19 52 15.9
comp=Z,139nm,18.8s,baz=270,slow=33
comp=Z,2.7nm,1.0s
TORD Torodi Ar. Bea 86.40 77 LR LR 19 53 08.4
comp=Z,143nm,21.2s,baz=318,slow=33
DAVOX Davos/Dischmat 86.69 43 LR LR 19 53 07.4
comp=Z,167nm,18.7s,baz=282,slow=33
ARCES ARCESS Array B 87.25 19 LR LR 19 58 51.7
comp=Z,74nm,18.3s,baz=304,slow=37
KHC Kasperske Hory 88.53 40 *eP* **P** **19 18 50.5 -2.0**
GERES GERESS Array B 88.68 40 LR LR 19 54 04.5
comp=Z,264nm,20.4s,baz=282,slow=33
KEST Kesra 88.74 54 LR LR 19 52 46.2
comp=Z,118nm,20.8s,baz=9.0,slow=32
VRAC Vranov 90.37 39 LR LR 19 59 55.9
comp=Z,254nm,18.0s,baz=271,slow=36

FINES FINESS Array B 90.94 26 LR LR 19 58 45.2
comp=Z,164nm,19.1s,baz=291,slow=35
VAE Valguarnera 92.26 51 LR LR 19 57 37.6
comp=Z,194nm,18.7s,baz=303,slow=34
SEY Seymchan 93.18 337 LR LR 20 07 14.5
comp=Z,104nm,20.0s,baz=12,slow=40
TIXI Tiksi 93.89 349 P **P** **19 19 16.1 -0.8**
TIXI IAmb IAmb 19 19 18.0
comp=Z,3.0nm,0.8s
TIXI Tiksi 93.89 349 LR LR 20 08 08.7
comp=Z,6.4nm,18.1s,baz=27,slow=40
PETK Petropavlovsk- 95.57 327 LR LR 19 59 42.8
comp=Z,35nm,21.9s,baz=69,slow=34
MA2 Magadan 95.66 334 LR LR 20 08 21.3
comp=Z,80nm,19.1s,baz=76,slow=39
AKASG Malin Array Be 97.36 35 LR LR 20 04 42.8
comp=Z,160nm,18.0s,baz=272,slow=36
MLR Muntele Rosu 97.67 41 LR LR 19 58 36.6
comp=Z,152nm,21.7s,baz=294,slow=33
OBN Obninsk 98.90 29 LR LR 20 06 19.2
comp=Z,106nm,18.0s,baz=334,slow=37
ZALV Zalesovo Beam 114.73 5 PKP **PKiKP** **19 24 40.4 +0.2**
comp=Z,0.6nm,0.5s,baz=251,slow=2.5,SNR=3.8
BOSA Boshof 114.90 116 PKP **PKiKP** **19 24 42.7 +1.4**
comp=Z,4.7nm,0.8s,baz=203,slow=2.0,SNR=5.3
KURBB Kurchatov Arra 117.16 10 PKP **PKPdf** **19 24 45.3 +0.4**
comp=Z,0.4nm,0.3s,baz=331,slow=1.6,SNR=7.8
SONM Songino Array 119.98 349 PKP **PKiKP** **19 24 51.6 +0.8**
comp=Z,1.5nm,0.7s,baz=346,slow=1.0,SNR=8.9
GEYT Alibeck 121.29 32 PKP **PKiKP** **19 24 54.0 +0.6**
comp=Z,3.9nm,0.6s,baz=270,slow=3.0,SNR=13
KSRS Korea Array 121.45 328 PKP **PKiKP** **19 24 54.9 +1.2**
comp=Z,2.2nm,0.5s,baz=6.2,slow=2.0,SNR=15
MKAR Makanchi Array 121.48 8 PKP **PKPdf** **19 24 53.3 -0.1**
comp=Z,0.7nm,0.7s,baz=301,slow=3.0,SNR=4.3
KSAR Wonju Array Be 121.48 328 PKPdf **PKiKP** **19 24 55.2 +1.4**
WMQ Urumqi 125.02 5 *e*PKP **PKPdf** **19 25 00.0 -0.4**
WMQ LR LR
comp=Z,180nm,21.1s
HHC Hu-ho-hao-te 125.37 343 *e*PKP **PKPdf** **19 25 01.3 +0.1**
HRA Herat 126.14 31 PKPdf **PKiKP** **19 25 04.2 +0.8**
GTA Gaotai 129.21 353 PKP **PKPdf** **19 25 09.4 +0.8**
NJ2 Nanjing 130.28 331 *e*PKP **PKPdf** **19 25 10.3 -0.3**
STKA Stephens Creek 130.69 238 PKP **PKiKP** **19 25 13.2 +1.0**
comp=Z,1.2nm,0.6s,baz=83,slow=4.0,SNR=1.8
LZH Lanzhou 131.81 348 *e*PKP **PKiKP** **19 25 16.3 +1.6**
XAN Xi'an 132.46 342 PKP **PKiKP** **19 25 16.8 +0.9**
XAN sPKP 19 25 35.9
CD2 Chengdu 136.81 346 PKP **PKPdf** **19 25 20.0 -3.0**
ASAR Alice Springs 139.06 247 PKhKP PKPpre 19 25 25.9
comp=Z,1.2nm,0.6s,baz=109,slow=3.0,SNR=21
WRA Warramunga Arr 139.19 253 PKPdf **PKPdf** **19 25 26.6 -1.0**
WRA Warramunga Arr 139.19 253 PKhKP PKPpre 19 25 27.4
comp=Z,1.7nm,0.9s,baz=90,slow=2.5,SNR=4.2
PZH PanZhiHua 141.51 347 PKP PKPdf 19 25 23.8 -8.0
TNCH TengChong 143.54 351 *e*PKP **PKiKP** **19 25 38.9 0.0**
MND Mandalay 146.81 354 **PKPbc** **19 25 42.7 +0.1**
CHTO Chiang Mai 149.55 349 **PKPbc** **19 25 51.2 +1.1**
CMAR Chiang Mai Arr 149.90 348 PKP **PKPdf** **19 25 47.0 +0.9**
comp=Z,3.6nm,0.9s,baz=305,slow=1.0,SNR=8.9
CMAR PKPbc **PKPbc** **19 25 51.9 +0.9**
comp=Z,16nm,0.8s,baz=329,slow=2.6,SNR=81
UBPT Khong Chiam 150.85 334 PKPab **PKiKP** **19 25 55.1 +1.2**

*IDC **21** 19:10:24.2±0.6,7.°10S×154.°82E,h0km,mb4.3/15, mbtmp4.3/18,ML2.8/2,MS4.0/16,Error ellipse: s-maj=19.6km s-min=15.7km az=118.0*
*NEIC **21** 19:10:25.9±1.6,7.°18S±0.°09×154.°86E±0.°08,h10km±1km, mb4.8/55,Error ellipse: s-maj=16.4km s-min=11.7km az=210.0*

ISC 21 19:10:25.4±0.4,7.°14S±0.°06×154.°82E±0.°06,h10km,n85, σ1℘19/64,mb4.7/41,MS4.1/13,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.95**	**318**	Pn	**Pn**	**19 11 27.1**	**+1.0**
KRVT	**Keravat (AS076**	**3.96**	**315**	Pn	**Pn**	**19 11 27.6**	**+1.3**
	baz=180,slow=20						
KRVT				Sn	**Sn**	**19 12 10.3**	**-2.5**
	baz=232,slow=20						
HNR	**Honiara**	**5.56**	**114**	Pn	**Pn**	**19 11 49.9**	**+1.7**
HNR	**Honiara**	**5.56**	**114**	Pn	**Pn**	**19 11 50.7**	**+2.5**
	212nm,0.4s,baz=253,slow=14,SNR=2.0						
HNR				LR	LR	19 14 13.6	
	comp=Z,11μm,18.1s,baz=214,slow=41						
PMG	**Port Moresby**	**7.91**	**253**		**Pn**	**19 12 22.3**	**+1.7**
PMG	**Port Moresby**	**7.91**	**253**	Pn	**Pn**	**19 12 21.9**	**+1.3**
	1.1nm,0.3s,baz=30,slow=14,SNR=12						
PMG				Sn	**Sn**	**19 13 53.0**	**+2.8**
	2.4nm,0.3s,baz=97,slow=18,SNR=11						
PMG				LR	LR	19 15 06.7	
	comp=Z,426nm,21.1s,baz=42,slow=36						
	22nm,0.8s						
COEN	**Coen**	**13.30**	**238**	Pn	**Pn**	**19 13 31.4**	**-3.0**
CTA	**Charters Tower**	**15.32**	**212**	Pn	**Pn**	**19 14 03.9**	**+2.0**
	0.2nm,0.3s,baz=332,slow=19,SNR=1.1						
CTA				LR	LR	19 19 03.9	
	comp=Z,266nm,20.5s,baz=29,slow=34						
	3.1nm,0.8s						
KOUNC	**Koumac, New Ca**	**16.18**	**146**	Pn	**Pn**	**19 14 12.4**	**-0.5**
LIFNC	**LIFOU**	**18.11**	**140**	Pn	**Pn**	**19 14 34.8**	**-2.5**
LIFNC				IAmb	IAmb	19 14 41.5	
	comp=Z,96nm,1.1s						
EIDS	**Eidsvold**	**18.47**	**191**	P	**P**	**19 14 40.4**	**-1.2**
DZM	**Mont Dzumac**	**18.60**	**144**	P	**P**	**19 14 41.2**	**-1.8**
ONTNC	**Ouen Toro**	**18.79**	**145**	P	**P**	**19 14 42.0**	**-3.1**
WR0	**Warramunga Arr**	**23.44**	**235**	P	**P**	**19 15 35.1**	**0.0**
WR0				IAmb	IAmb	19 15 47.3	
	comp=Z,30nm,0.8s						
WB0	**Warramunga Arr**	**23.46**	**236**	P	**P**	**19 15 35.2**	**-0.1**
WB0				IAmb	IAmb	19 15 47.4	
	comp=Z,23nm,0.9s						
WRAB	**Tennant Creek**	**23.58**	**235**	P	**P**	**19 15 36.5**	**0.0**
WRAB				IAmb	IAmb	19 15 48.5	
	comp=Z,22nm,0.8s						
WB2	**Warramunga Arr**	**23.58**	**235**	P	**P**	**19 15 36.1**	**-0.4**
WB2				IAmb	IAmb	19 15 49.1	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**23.59**	**235**	P	**P**	**19 15 36.8**	**+0.2**
WRA	**Warramunga Arr**	**23.59**	**235**	P	**P**	**19 15 36.4**	**-0.2**
	comp=Z,8.9nm,0.9s,baz=59,slow=9.9,SNR=17						
	comp=Z,8.9nm,0.9s						
AS31	**Alice Springs**	**25.95**	**228**	P	**P**	**19 15 59.0**	**+0.8**
ASAR	**Alice Springs**	**25.95**	**228**	P	**P**	**19 15 59.4**	**+1.2**
ASAR	**Alice Springs**	**25.95**	**228**	P	**P**	**19 15 58.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=58,slow=9.0,SNR=20						
ASAR				LR	LR	19 25 24.6	
	comp=Z,149nm,20.1s,baz=73,slow=35						
	comp=Z,1.2nm,0.6s						
KNRA	**Kununurra**	**26.89**	**249**	P	**P**	**19 16 07.0**	**+0.2**
KNRA				IAmb	IAmb	19 16 19.6	
	comp=Z,22nm,0.9s						
STKA	**Stephens Creek**	**27.53**	**205**	P	**P**	**19 16 12.8**	**+0.4**
STKA	**Stephens Creek**	**27.53**	**205**	P	**P**	**19 16 12.6**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=0.9,slow=7.7,SNR=5.3						
STKA				LR	LR	19 26 39.7	
	comp=Z,171nm,20.3s,baz=22,slow=35						
	comp=Z,2.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.44**	**246**	P	**P**	**19 16 36.9**	**-1.5**
PSA00	**Pilbara Seismi**	**36.68**	**243**	P	**P**	**19 17 32.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**43.27**	**228**	LR	LR	19 37 31.7	
	comp=Z,129nm,18.8s,baz=272,slow=38						
SBUM	**Sibu**	**43.57**	**281**	P	**P**	**19 18 28.4**	**-1.7**
NACB	**Ninganchiao**	**44.94**	**315**	P	**P**	**19 18 41.5**	**+0.6**
TPUB	**Ta-pu**	**45.09**	**313**	P	**P**	**19 18 41.9**	**-0.1**
JNU	**Nakatsue**	**46.06**	**332**	LR	LR	19 36 02.1	
	comp=Z,136nm,21.2s,baz=167,slow=33						
KSRS	**Korea Array**	**50.99**	**332**	P	**P**	**19 19 27.1**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=149,slow=8.8,SNR=8.1						
KSRS				LR	LR	19 40 57.1	
	comp=Z,27nm,18.1s,baz=95,slow=36						
	comp=Z,2.3nm,0.9s						
CRAI	**Chiangrai**	**60.04**	**298**	P	**P**	**19 20 33.1**	**+0.1**
CRAI				IAmb	IAmb	19 20 47.8	
	comp=Z,6.4nm,1.2s						
PETK	**Petropavlovsk-**	**60.07**	**2**	P	**P**	**19 20 32.0**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=178,slow=8.7,SNR=1.7						
	comp=Z,1.7nm,0.7s						
CM31	**Chiang Mai Arr**	**60.70**	**296**	P	**P**	**19 20 36.1**	**-1.4**
CM31				IAmb	IAmb	19 20 52.7	
	comp=Z,8.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.70**	**296**	P	**P**	**19 20 37.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**60.70**	**296**	P	**P**	**19 20 39.0**	**+1.5**
	comp=Z,4.3nm,0.8s,baz=120,slow=5.1,SNR=37						
	comp=Z,4.3nm,0.8s						
CHTO	**Chiang Mai**	**60.81**	**296**		**P**	**19 20 37.9**	**-0.4**
CHTO				IAmb	IAmb	19 20 53.2	
	comp=Z,14nm,1.4s						
HIA	**Hailar**	**63.99**	**335**	P	**P**	**19 20 58.2**	**-0.8**
HIA				IAmb	IAmb	19 21 09.9	
	comp=Z,5.9nm,0.7s						
SONM	**Songino Array**	**69.37**	**327**	P	**P**	**19 21 33.9**	**+0.4**
SONM	**Songino Array**	**69.37**	**327**	P	**P**	**19 21 34.0**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=131,slow=6.0,SNR=16						
	comp=Z,2.4nm,0.8s						
LSA	**Lhasa**	**71.22**	**305**	P	**P**	**19 21 45.8**	**+0.1**
LSA				IAmb	IAmb	19 22 00.5	
	comp=Z,6.2nm,0.8s						
BILL	**Bilibino**	**75.44**	**4**	P	**P**	**19 22 08.9**	**-0.3**
BILL				IAmb	IAmb	19 22 20.9	
	comp=Z,7.5nm,0.8s						
KDAK	**Kodiak Island**	**77.37**	**26**	LR	LR	19 49 35.1	
	comp=Z,158nm,20.4s,baz=125,slow=30						
I17K	**Unalakleet**	**78.31**	**18**	P	**P**	**19 22 25.4**	**-0.1**
G16K	**Koyuk River**	**78.90**	**17**	P	**P**	**19 22 29.7**	**+1.0**
G16K				IAmb	IAmb	19 22 30.5	
	comp=Z,7.1nm,1.1s						
G19K	**Purcell Mounta**	**80.98**	**18**	P	**P**	**19 22 40.8**	**+0.8**
C19K	**Lookout Ridge**	**82.31**	**15**	IAmb	IAmb	19 22 48.5	
	comp=Z,9.9nm,1.3s						
QSPA	**South Pole Qui**	**82.83**	**180**	P	**P**	**19 22 50.5**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=89,slow=21,SNR=6.1						
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**83.40**	**319**	P	**P**	**19 22 53.6**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=108,slow=5.4,SNR=51						
	comp=Z,5.7nm,0.8s						
ILAR	**Eielson Array**	**83.57**	**22**	P	**P**	**19 22 52.6**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=228,slow=6.4,SNR=13						
	comp=Z,1.4nm,0.9s						
MAKZ	**Makanchi**	**83.61**	**319**	P	**P**	**19 22 53.6**	**-0.6**
MAKZ				IAmb	IAmb	19 22 55.5	
	comp=Z,8.2nm,0.9s						
BARN	**Barnard Glacie**	**83.84**	**26**	P	**P**	**19 22 56.1**	**+0.8**
D22K	**Ayikyak River**	**84.04**	**17**	IAmb	IAmb	19 23 08.7	
	comp=Z,4.5nm,0.9s						
J25K	**Salcha River,**	**84.05**	**22**	IAmb	IAmb	19 23 07.3	
	comp=Z,5.4nm,0.7s						
ZALV	**Zalesovo Beam**	**84.21**	**326**	P	**P**	**19 22 56.1**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=102,slow=6.2,SNR=11						
	comp=Z,2.0nm,0.8s						
L27K	**Beaver Creek,**	**84.68**	**24**	IAmb	IAmb	19 23 13.6	
	comp=Z,12nm,1.4s						
F24K	**Squaw Lake**	**84.71**	**19**	IAmb	IAmb	19 23 11.7	
	comp=Z,4.4nm,0.9s						
K27K	**Chicken**	**85.02**	**23**	IAmb	IAmb	19 23 15.3	
	comp=Z,7.0nm,1.1s						
HYT	**Haines Junctio**	**85.58**	**27**	P	**P**	**19 23 04.1**	**+0.1**
D25K	**Kavik River**	**86.15**	**18**	IAmb	IAmb	19 23 19.1	
	comp=Z,5.2nm,1.0s						
L29M	**L29M**	**86.22**	**25**	IAmb	IAmb	19 23 22.0	
	comp=Z,8.9nm,1.0s						
I28M	**Miner Creek**	**86.48**	**22**	IAmb	IAmb	19 23 21.2	
	comp=Z,4.8nm,0.8s						
M30M	**Minto, Yukon**	**86.57**	**26**	P	**P**	**19 23 09.6**	**+0.9**
J29N	**Klondike Camp**	**86.73**	**24**	IAmb	IAmb	19 23 23.0	
	comp=Z,12nm,0.7s						
KURBB	**Kurchatov Arra**	**86.87**	**322**	P	**P**	**19 23 09.8**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=102,slow=3.1,SNR=13						
	comp=Z,0.9nm,0.4s						
E27K	**Coleen River**	**87.11**	**20**	IAmb	IAmb	19 23 23.7	
	comp=Z,7.2nm,0.8s						
F28M	**Old Crow**	**87.44**	**20**	P	**P**	**19 23 13.3**	**+0.5**
F28M				IAmb	IAmb	19 23 14.1	
	comp=Z,5.3nm,1.1s						
M31M	**Drury Creek, Y**	**87.48**	**26**	P	**P**	**19 23 13.2**	**+0.1**
BBB	**Bella Bella**	**87.74**	**37**	LR	LR	20 00 03.2	
	comp=Z,108nm,18.2s,baz=157,slow=34						
D27M	**Malcolm River**	**87.80**	**19**	IAmb	IAmb	19 23 27.0	
	comp=Z,4.0nm,0.7s						
E28M	**Babbage River**	**87.98**	**20**	IAmb	IAmb	19 23 27.1	
	comp=Z,3.3nm,0.8s						
YBH	**Yreka Blue Hor**	**89.11**	**48**	LR	LR	19 57 37.2	
	comp=Z,70nm,19.3s,baz=272,slow=32						
NVAR	**Mina Array Bea**	**91.95**	**52**	P	**P**	**19 23 36.1**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=256,slow=7.2,SNR=9.8						
	comp=Z,2.3nm,0.9s						
RPN	**Rapa Nui**	**91.95**	**117**	LR	LR	20 01 48.9	
	comp=Z,38nm,18.6s,baz=118,slow=34						
PFO	**Pinyon Flats O**	**92.84**	**57**	LR	LR	20 00 28.1	
	comp=Z,99nm,18.0s,baz=316,slow=32						
NEW	**Newport**	**93.98**	**42**	LR	LR	20 05 20.0	
	comp=Z,66nm,18.4s,baz=259,slow=35						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**19 23 55.6**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=269,slow=4.5,SNR=32						
	comp=Z,3.3nm,0.9s						
PDAR	**Pinedale Array**	**98.92**	**48**	P	**P**	**19 24 06.8**	**+0.2**
	comp=Z,0.9nm,1.1s,baz=245,slow=5.9,SNR=2.4						
	comp=Z,0.9nm,1.1s						
ARU	**Arti**	**99.37**	**326**	LR	LR	20 10 17.7	
	comp=Z,76nm,20.3s,baz=81,slow=36						
AKTO	**Aktyubinsk**	**99.80**	**320**	LR	LR	20 11 00.3	
	comp=Z,100nm,19.8s,baz=19,slow=36						
GERES	**GERESS Array B**	**127.09**	**329**	PKP	**PKiKP**	**19 29 31.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=100,slow=3.0,SNR=4.5						
BDFB	**Brasília**	**148.00**	**135**	PKPbc	**PKPbc**	**19 30 12.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=211,slow=5.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**152.90**	**285**	PKPbc	**PKPbc**	**19 30 24.2**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=47,slow=3.8,SNR=12						

IDC 21 19:38:22.2±20.0,20.°23S×179.°01W,h520km±175km, mb2.8/3,mbtmp3.6/3,Error ellipse: s-maj=261.3km s-min=56.9km az=138.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.66**	**257**	P	P	19 45 40.6	-0.3
	0.7nm,0.6s,baz=87,slow=8.6,SNR=14						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.70**	**262**	P	P	19 45 41.1	-0.2
	0.3nm,0.3s,baz=96,slow=7.6,SNR=7.6						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**88.27**	**13**	P	P	19 50 17.8	+0.3
	0.2nm,0.4s,baz=214,slow=5.3,SNR=6.3						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**142.32**	**331**	PKP	PKPdf	19 56 52.1	-3.1
	1.0nm,0.4s,baz=42,slow=4.1,SNR=8.0						
MMAI	**Mount Meron Ar**	**146.86**	**300**	PKPbc	PKPbc	19 57 07.5	+1.0
	1.2nm,0.5s,baz=68,slow=5.1,SNR=2.3						

*ISN **21** 19:40:45.6±1.1,33.°81N×45.°83E,h10km±6km,ML2.9*
*TEH **21** 19:40:53.2,33.°86N×45.°84E,h18km±85km,ML2.7*

ISC 21 19:40:49.0±1.2,33.°67N±0.°03×45.°62E±0.°05,h8km±12km, n10,σ1℘41/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.62**	**155**	*e*Pg	**Pg**	**19 41 00.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**19 41 09.0**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.83**	**358**	Pg	**Pg**	**19 41 05.9**	**+0.9**
KGS1				Sg	**Sg**	**19 41 16.8**	**+0.9**
IGHG	**Ghaleghazi**	**1.02**	**50**	Pg	**Pg**	**19 41 08.2**	**-0.6**
BHD	**Baghdad**	**1.11**	**249**	*e*Pg	**Pg**	**19 41 11.0**	**+0.6**
BHD				*e*Sg	**Sn**	**19 41 29.2**	**+2.7**
BHD				AML	AML	19 41 55.5	
	comp=E,232nm,0.3s						
IDHR	**Dehrash**	**1.21**	**32**	Pg	**Pb**	**19 41 11.2**	**-1.0**
ILIN	**Lien**	**1.67**	**41**	Pg	**Pn**	**19 41 19.5**	**+0.6**
IKFM	**Kafar-mosalman**	**1.86**	**94**	Pg	**Pb**	**19 41 24.6**	**+1.3**
RAFI	**Al-Rafai**	**1.99**	**168**	*e*Pn	**Pn**	**19 41 22.0**	**-1.0**
RAFI				*e*Sn	**Sb**	**19 41 50.0**	**-0.4**
IKRK	**Kirkuk**	**2.02**	**329**	*e*Pn	**Pn**	**19 41 21.0**	**-2.5**
IKRK				*e*Sn	**Sn**	**19 41 48.0**	**-1.0**
IALM	**Almabolaq**	**2.42**	**60**	Pn	**Pn**	**19 41 29.6**	**+0.5**

*IDC **21** 19:44:38.4±2.2,4.°47S×150.°67E,h131km±22km,mb3.2/4, mbtmp3.6/5,Error ellipse: s-maj=63.0km s-min=12.9km az=136.0*

ISC 21 19:44:39.7±1.3,4.°7S±0.°3×150.°9E±0.°2,h150km,n6, σ1℘39/8,mb3.2/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.14**	**72**	P	**Pn**	**19 45 04.6**	**-1.1**
	baz=142,slow=19						
KRVT				S	**Sn**	**19 45 25.4**	**-0.3**
	baz=197,slow=19						
PMG	**Port Moresby**	**6.03**	**218**	P	**Pn**	**19 46 06.7**	**-0.1**
	5.4nm,0.3s,baz=41,slow=9.3,SNR=7.3						
PMG				S	**Sn**	**19 47 12.7**	**-2.2**
	26nm,0.4s,baz=224,slow=18,SNR=7.6						
WRA	**Warramunga Arr**	**22.18**	**225**	P	**P**	**19 49 23.8**	**-0.1**
	0.8nm,0.8s,baz=51,slow=10,SNR=6.9						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**25.04**	**219**	P	**P**	**19 49 50.5**	**+0.3**
	0.4nm,0.5s,baz=57,slow=8.9,SNR=10						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**28.46**	**197**	P	**P**	**19 50 22.4**	**+1.7**
	1.4nm,0.7s,baz=60,slow=20,SNR=3.1						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**19 56 46.6**	**+0.1**
	0.4nm,0.8s,baz=232,slow=5.2,SNR=4.9						
	0.4nm,0.8s						

*TIF **21** 19:53:04.6,41.°09N×43.°94E,h9km±1km*
*NORS **21** 19:53:06.3,41.°16N×43.°93E,h1km,MPVA3.2*
*AZER **21** 19:53:07.8,40.°93N×44.°37E,h2km,ml2.0*

ISC 21 19:53:04.2±1.2,41.°06N±0.°02×43.°87E±0.°03,h7km±10km, n32,σ℘71/63,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.29**	**315**	P	**Pb**	**19 53 11.6**	**-0.3**
BGD				S	**Sb**	**19 53 16.3**	**-0.7**
DMNI	**Dmanisi**	**0.36**	**42**	P	**Pg**	**19 53 11.5**	**+0.2**
DMNI				S	**Sg**	**19 53 16.4**	**+0.2**
AKH	**Akhalkalaki**	**0.45**	**321**	P	**Pb**	**19 53 14.1**	**-0.5**
AKH				S	**Sb**	**19 53 20.5**	**-1.1**
TRLG	**Trialeti**	**0.51**	**20**	P	**Pg**	**19 53 14.3**	**+0.2**
TRLG				S	**Sg**	**19 53 20.9**	**+0.1**
KZRT	**Kazreti**	**0.52**	**50**	P	**Pg**	**19 53 14.1**	**-0.1**
KZRT				S	**Sg**	**19 53 20.6**	**-0.3**
BRNG	**Burnasheti**	**0.56**	**357**	P	**Pb**	**19 53 15.9**	**-0.7**
BRNG				S	**Sb**	**19 53 24.0**	**-0.9**
SEAG	**Tbilisi Sea**	**0.99**	**45**	P	**Pg**	**19 53 22.7**	**-0.6**
SEAG				S	**Sg**	**19 53 36.3**	**+0.1**
ABS	**Abastumani**	**1.06**	**312**	P	**Pb**	**19 53 25.0**	**+0.1**
ABS				S	**Sb**	**19 53 39.9**	**+0.9**
ALIG	**Mtskhetisjvari**	**1.06**	**351**	P	**Pg**	**19 53 24.4**	**-0.1**
ALIG				S	**Sb**	**19 53 38.8**	**-0.2**
QZX	**Qazax, Azerbai**	**1.14**	**90**	P	**Pg**	**19 53 25.5**	**-0.5**
QZX				S	**Sg**	**19 53 39.6**	**-1.1**
TKB	**Tkibuli**	**1.45**	**333**	P	**Pg**	**19 53 31.9**	**-0.1**
TKB				S	**Sg**	**19 53 51.3**	**+0.5**
GDB	**GEDABAY**	**1.47**	**103**	P	**Pn**	**19 53 30.8**	**-0.5**
GDB				S	**Sb**	**19 53 49.2**	**-1.6**
GUDG	**Gudauri**	**1.48**	**18**	P	**Pb**	**19 53 31.9**	**-0.2**
GUDG				S	**Sn**	**19 53 51.4**	**+0.3**
GUDG	**Gudauri**	**1.48**	**18**	*e*Pg	**Pb**	**19 53 32.0**	**-0.1**
GUDG				*e*Sg	**Sn**	**19 53 51.4**	**+0.3**
CHRG	**Chargali**	**1.50**	**32**	P	**Pn**	**19 53 31.8**	**+0.2**
CHRG				S	**Sn**	**19 53 51.6**	**+0.1**
HYR	**Heyderabad**	**1.53**	**150**	P	**Pb**	**19 53 33.2**	**+0.2**
HYR				S	**Sg**	**19 53 54.8**	**+1.3**
ONI	**Oni**	**1.56**	**349**	P	**Pb**	**19 53 33.6**	**+0.1**
ONI				S	**Sg**	**19 53 54.9**	**+0.4**
ONI	**Oni**	**1.56**	**349**	*e*Pg	**Pb**	**19 53 33.8**	**+0.3**
ONI				*e*Sg	**Sg**	**19 53 54.9**	**+0.4**
MTEO	**Meteo**	**1.69**	**17**	P	**Pb**	**19 53 35.9**	**-0.1**
MTEO				S	**Sg**	**19 53 58.9**	**+0.2**
DDFL	**Dedoflistskaro**	**1.74**	**76**	P	**Pg**	**19 53 38.2**	**+0.7**
LACR	**Lac**	**1.80**	**10**	*e*Pg	**Pg**	**19 53 38.2**	**-0.4**
LACR				*e*Sg	**Sg**	**19 54 01.6**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.85**	**353**	*e*Pg	**Pg**	**19 53 39.9**	**+0.1**
DIGR				*e*Sg	**Sg**	**19 54 03.8**	**0.0**
SHTL	**Shatili**	**1.86**	**31**	P	**Pb**	**19 53 38.4**	**-0.3**
SHTL				S	**Sb**	**19 54 02.8**	**+0.6**
GANJ	**Ganja**	**1.91**	**102**	P	**Pb**	**19 53 39.1**	**-0.2**
GANJ				S	**Sn**	**19 54 02.1**	**+0.7**
VSHL	**Vashlovani**	**1.92**	**84**	P	**Pb**	**19 53 39.9**	**+0.4**
VSHL				S	**Sg**	**19 54 08.3**	**+2.4**
LGD	**Lagodekhi**	**1.94**	**66**	P	**Pb**	**19 53 39.5**	**-0.5**
LGD				S	**Sg**	**19 54 06.2**	**-0.5**
KORR	**Kora**	**2.03**	**4**	*e*Pg	**Pg**	**19 53 43.4**	**+0.2**
KORR				*e*Sg	**Sg**	**19 54 10.7**	**+1.2**
SBZ	**Shahbuz**	**2.10**	**142**	P	**Pb**	**19 53 43.6**	**+0.9**
SBZ				S	**Sg**	**19 54 11.4**	**+0.1**
ZKTA	**Zakatala**	**2.15**	**73**	P	**Pb**	**19 53 42.4**	**+1.1**
ZKTA				S	**Sb**	**19 54 11.5**	**+1.1**
NAX	**Nakhchivan**	**2.26**	**146**	P	**Pb**	**19 53 45.9**	**+0.6**
NAX				S	**Sg**	**19 54 15.4**	**-1.3**
SEKA	**Sheki**	**2.52**	**85**	P	**Pb**	**19 53 50.3**	**+0.5**
SEKA		

0.4nm,0.7s
MKAR Makanchi Array 67.89 327 P **P** **20 13 39.3 -0.9**
0.8nm,0.6s,baz=124,slow=7.6,SNR=13
0.8nm,0.6s
KURBB Kurchatov Arra 72.16 328 P **P** **20 14 05.0 -1.2**
0.3nm,0.5s,baz=129,slow=7.2,SNR=4.7
0.3nm,0.5s

IDC 21 20:13:14.9±2.3, 5.65S×128.31E, h0km, mb3.2/1, mbtmp3.3/3, ML3.4/2, MS2.9/1, Error ellipse: s-maj=160.1km s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.37**	**158**	Pn	Pn	20 16 53.7	+0.5
	0.2nm,0.3s,baz=340,slow=13,SNR=7.9						
WRA				Sn	Sn	20 19 34.4	-10
	0.1nm,0.3s,baz=321,slow=28,SNR=2.2						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**18.70**	**164**	P	P	20 17 34.6	-0.5
	0.2nm,0.3s,baz=340,slow=9.5,SNR=13						
	0.4nm,0.5s						
TGY	**Tagaytay City**	**20.95**	**340**	LR	LR	20 27 45.9	
	comp=Z,30nm,19.3s,baz=124,slow=42						
MKAR	**Makanchi Array**	**66.19**	**327**	P	P	20 24 04.6	+0.1
	0.1nm,0.5s,baz=114,slow=7.1,SNR=1.9						
	0.1nm,0.5s						

IDC 21 20:21:22.5±7.2, 30.88S×178.94W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=292.3km s-min=62.4km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.28**	**268**	P	P	20 29 17.6	-0.5
	0.5nm,0.4s,baz=106,slow=7.4,SNR=5.3						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**43.31**	**273**	P	P	20 29 26.6	+0.1
	1.0nm,0.3s,baz=111,slow=8.1,SNR=36						
	1.0nm,0.3s						
FINES	**FINESS Array B**	**145.31**	**339**	PKPbc	PKPbc	20 41 00.6	-0.8
	1.0nm,0.8s,baz=28,slow=3.3,SNR=3.3						

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*ECX **21** 20:24:37.2±0.4, 30.63N×114.37W, h10km±6km, ML3.0*
*MEX **21** 20:24:38.5±0.4, 31.00N×114.19W, h20km±61km, MD3.8*
ISC 21 20:24:35.0±1.4, 30.66N±0.07×114.35W±0.03, h8km±12km, n12, σ0.80/22, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.57**	**311**	*i* P	**Pb**	**20 24 48.0**	**+0.7**
SFX				*e* S	**Sb**	**20 24 55.1**	**-0.5**
SFX	**San Felipe**	**0.57**	**311**	*e* P	**Pb**	**20 24 48.0**	**+0.7**
SFX				*i* S	**Sb**	**20 24 55.6**	**0.0**
SFX				IAML		20 24 56.8	
	comp=N,873nm,0.2s						
ECBX	**El Chinero**	**1.01**	**324** ⇓	*e* P	**Pg**	**20 24 54.2**	**-0.3**
ECBX				*e* S	**Sg**	**20 25 08.2**	**+0.6**
SPIG	**San Pedro Mart**	**1.03**	**292**	*e* P	**Pb**	**20 24 55.5**	**+0.1**
SPIG				*e* S	**Sb**	**20 25 09.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.03**	**292**	*e* P	**Pb**	**20 24 55.5**	**+0.1**
SPIG				*e* S	**Sb**	**20 25 09.3**	**+0.1**
PIX	**Pinacate**	**1.18**	**40**	*e* P	**Pn**	**20 24 57.9**	**0.0**
PIX				*e* S	**Sn**	**20 25 14.5**	**+0.4**
SQX	**San Quintin**	**1.32**	**267**	*e* P	**Pb**	**20 24 59.5**	**-0.5**
SQX				*e* S	**Sb**	**20 25 17.1**	**0.0**
SQX				IAML		20 25 18.4	
	comp=E,300nm,0.3s						
SQX				*e*		20 25 18.4	
SQX				IAML		20 25 19.2	
	comp=N,293nm,0.5s						
SQX				⇑*e*		20 25 19.2	
VTX	**Valle De La Tr**	**1.43**	**301**	*e* P	**Pg**	**20 25 02.3**	**-0.2**
LAPR	**La Primavera**	**1.76**	**95**	*e* P	**Pg**	**20 25 07.8**	**-0.9**
LAPR				*e* S	**Sg**	**20 25 33.6**	**+2.0**
214A	**Organ Pipe Nat**	**1.85**	**45**	*e* P	**Pb**	**20 25 08.7**	**-0.4**
CBX	**Cerro Bola**	**2.57**	**310**	*e* P	**Pb**	**20 25 20.8**	**-0.8**
CBX				*e* S	**Sn**	**20 25 49.4**	**+0.7**
TJIG	**Tijuana**	**2.66**	**312**	*e* P	**Pg**	**20 25 25.3**	**-0.7**
TJIG				*e* S	**Sb**	**20 25 54.1**	**-1.6**

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*KRSC **21** 20:38:08.5±1.5, 48.84N×156.66E, h30km±20km, Ml4.2*
*IDC **21** 20:38:13.7±8.3, 49.20N×155.20E, h93km±52km, mb3.3/8, mbtmp3.6/9, Error ellipse: s-maj=93.7km s-min=23.2km az=176.0*
ISC 21 20:38:13.5±1.2, 49.1N±0.1×155.5E±0.1, h100km, n32, σ1.9/43/39, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.64**	**13**	*e* P	**Pn**	**20 38 39.6**	**-1.8**
SKR				*e* S	**Sn**	**20 39 01.6**	**-1.0**
PAU	**Pauzhetka**	**2.52**	**18**	*e* P	**Pn**	**20 38 51.8**	**-0.9**
PAU				*e* S	**Sn**	**20 39 23.0**	**+0.1**
KDTR	**Khodutka, Kamc**	**3.17**	**30**	*e* P	**Pn**	**20 38 59.4**	**-2.0**
KDTR				*e* S	**Sn**	**20 39 36.5**	**-1.9**
ASAK	**Asacha**	**3.62**	**24**	*e* P	**Pn**	**20 39 06.7**	**-0.9**
ASAK				*e* S	**Sn**	**20 39 50.3**	**+0.8**
MTVR	**Mutnovka**	**3.79**	**25**	*e* P	**Pn**	**20 39 08.8**	**-1.1**
MTVR				*e* S	**Sn**	**20 39 52.9**	**-0.7**
GRL	**Gorelyy**	**3.82**	**24**	*e* P	**Pn**	**20 39 09.8**	**-0.5**
GRL				*e* S	**Sn**	**20 39 54.8**	**+0.5**
RUS	**Russkaya**	**3.85**	**28**	*e* P	**Pn**	**20 39 08.5**	**-1.9**
RUS				*e* S	**Sn**	**20 39 52.2**	**-2.5**
APC	**Apacha**	**3.98**	**14**	*e* P	**Pn**	**20 39 12.9**	**+0.6**
KRMR	**Karymshinskiy**	**4.09**	**23**	*e* P	**Pn**	**20 39 14.0**	**+0.3**
KRMR				*e* S	**Sn**	**20 40 02.8**	**+2.3**
PETK	**Petropavlovsk-**	**4.25**	**18**	P	**Pn**	**20 39 15.8**	**-0.1**
	20nm,0.4s,baz=187,slow=12,SNR=162						
PET	**Petropavlovsk**	**4.40**	**25**	*e* P	**Pn**	**20 39 17.1**	**-0.9**
PET				*e* S	**Sn**	**20 40 07.8**	**-0.4**
DALK	**Dalny**	**4.44**	**26**	*e* P	**Pn**	**20 39 17.1**	**-1.4**
DALK				*e* S	**Sn**	**20 40 08.0**	**-1.0**
UGLR	**Uglovaya**	**4.62**	**25**	*e* P	**Pn**	**20 39 20.4**	**-0.5**
KOK	**Koryaka**	**4.64**	**24**	*e* P	**Pn**	**20 39 21.6**	**+0.3**
KOK				*e* S	**Sn**	**20 40 16.5**	**+2.6**
AVH	**Avacha**	**4.64**	**24**	*e* P	**Pn**	**20 39 21.7**	**+0.4**
SMAR	**Somma**	**4.66**	**25**	*e* P	**Pn**	**20 39 21.4**	**-0.2**
KRX	**Arik**	**4.70**	**23**	*e* P	**Pn**	**20 39 22.1**	**-0.1**
KRX				*e* S	**Sn**	**20 40 17.3**	**+1.7**
SPN	**Mys Shipunski**	**4.91**	**33**	*e* P	**Pn**	**20 39 23.0**	**-1.9**
SPN				*e* S	**Sn**	**20 40 16.8**	**-3.5**
H11N2	**WAKE ISLAND Hy**	**30.68**	**159**	T	T	21 16 52.5	
	baz=342,slow=76,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**30.69**	**159**	T	T	21 17 01.4	
	baz=342,slow=76,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**30.69**	**159**	T	T	21 17 00.7	
	baz=342,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**31.81**	**160**	T	T	21 18 18.0	
	baz=345,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.82**	**160**	T	T	21 18 17.6	
	baz=345						
H11S2	**WAKE ISLAND Hy**	**31.83**	**160**	T	T	21 18 16.0	
	baz=345,slow=76						
ILAR	**Eielson Array**	**33.71**	**41**	P	**P**	**20 44 45.9**	**+1.2**
	0.4nm,0.8s,baz=256,slow=7.5,SNR=5.2						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**47.34**	**297**	P	**P**	**20 46 35.6**	**-1.3**
	0.1nm,0.5s,baz=55,slow=5.4,SNR=2.0						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**47.55**	**303**	P	**P**	**20 46 37.7**	**-0.7**
	0.5nm,0.8s,baz=69,slow=8.0,SNR=4.0						
	0.5nm,0.8s						
YKA	**Yellowknife Ar**	**48.08**	**39**	P	**P**	**20 46 43.8**	**+1.5**
	0.5nm,0.8s,baz=296,slow=7.5,SNR=5.3						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**50.65**	**309**	P	**P**	**20 47 01.1**	**-1.0**
	0.3nm,0.4s,baz=52,slow=9.6,SNR=4.1						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**56.18**	**341**	P	**P**	**20 47 41.4**	**-0.8**
	3.8nm,1.0s,baz=37,slow=9.1,SNR=1.7						
	3.8nm,1.0s						
EKA	**Eskdalemuir Ar**	**74.43**	**348**	P	**P**	**20 49 40.8**	**+0.6**
	2.2nm,0.8s,baz=15,slow=4.6,SNR=4.4						
	2.2nm,0.8s						
TXAR	**Lajitas Array**	**74.94**	**63**	P	**P**	**20 49 45.6**	**+1.9**
	0.4nm,0.5s,baz=318,slow=5.0,SNR=3.4						
	0.4nm,0.5s						

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*IDC **21** 20:39:21.5±2.5, 43.03N×105.12W, h0km, mb2.6/1,*

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mbtmp3.1/3, ML3.2/2, MS3.1/6, Error ellipse: s-maj=47.9km s-min=11.2km az=158.0
*NEIC **21** 20:39:23.1±2.0, 43.59N±0.08×105.1W±0.2, h0km±1km, ML3.2/44, Error ellipse: s-maj=21.0km s-min=10.3km az=58.0*
ISC 21 20:39:24.7±1.1, 43.57N±0.06×105.14W±0.07, h0km, n32, σ1.9/10/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**55**		**Pg**	**20 39 42.5**	**-0.8**
K22A	**Casper**	**1.37**	**228**		**Pn**	**20 39 48.8**	**-2.5**
K22A				IAML		20 40 17.0	
	comp=N,387nm,0.4s						
PHWY	**Pilot Hill**	**2.28**	**186**		**Pn**	**20 40 03.8**	**-0.1**
PHWY				IAML		20 40 48.2	
	comp=N,115nm,0.7s						
RWWY	**Rawlins**	**2.43**	**220**		**Pn**	**20 40 06.7**	**+0.8**
RWWY				IAML		20 40 52.7	
	comp=N,173nm,0.8s						
N23A	**Red Feather La**	**2.74**	**193**	Pn	**Pn**	**20 40 10.7**	**+0.5**
BW06	**Boulder Array**	**3.33**	**257**	Pn	**Pn**	**20 40 17.7**	**-0.7**
BW06				IAML		20 41 12.8	
	comp=N,46nm,0.6s						
BW06				IAML		20 41 17.1	
	comp=N,40nm,0.8s						
PD31	**Pinedale Array**	**3.33**	**257**		**Pn**	**20 40 16.9**	**-1.5**
PDAR	**Pinedale Array**	**3.33**	**257**	Pn	**Pn**	**20 40 17.6**	**-0.7**
PDAR	**Pinedale Array**	**3.33**	**257**	Pn	**Pn**	**20 40 17.4**	**-0.9**
	comp=N,2.1nm,0.3s,baz=89,slow=16,SNR=33						
PDAR				Lg	Lg	20 41 03.5	
	comp=N,8.2nm,0.3s,baz=84,slow=34,SNR=1.6						
PDAR				LR	LR	20 41 47.0	
	comp=N,187nm,21.9s,baz=84,slow=44						
	comp=N,1.9nm,0.3s						
RLMT	**Red Lodge**	**3.34**	**299**	Pn	**Pn**	**20 40 17.4**	**-1.0**
RLMT				IAML		20 41 23.8	
	comp=N,56nm,1.6s						
RLMT				IAML		20 42 28.0	
	comp=N,56nm,4.7s						
ISCO	**Idaho Springs**	**3.79**	**186**	Pn	**Pn**	**20 40 25.5**	**+0.8**
YMP	**Mirror Lake Pl**	**3.79**	**290**	Pn	**Pn**	**20 40 25.0**	**+0.3**
LOHW	**Long Hollow**	**3.97**	**272**		**Pn**	**20 40 26.7**	**-0.4**
LOHW				IAML		20 41 43.1	
	comp=N,26nm,1.4s						
LOHW				IAML		20 42 37.2	
	comp=N,30nm,5.0s						
H17A	**Grant Village**	**4.01**	**284**	Pn	**Pn**	**20 40 27.8**	**+0.1**
H17A				IAML		20 42 55.5	
	comp=N,27nm,4.9s						
MOOW	**Moose Ponds**	**4.07**	**274**	Pn	**Pn**	**20 40 28.6**	**+0.2**
SNOW	**Snow King Moun**	**4.09**	**270**	Pn	**Pn**	**20 40 28.8**	**+0.1**
YPP	**Pitchstone Pla**	**4.15**	**282**	Pn	**Pn**	**20 40 29.3**	**-0.4**
YPP				IAML		20 41 51.9	
	comp=E,24nm,3.9s						
YPP				IAML		20 43 08.1	
	comp=N,31nm,4.9s						
REDW	**Red Top Meadow**	**4.16**	**269**		**Pn**	**20 40 32.4**	**+2.6**
IMW	**Indian Meadow**	**4.22**	**276**	Pn	**Pn**	**20 40 31.8**	**+1.3**
IMW				IAML		20 41 00.8	
	comp=N,40nm,0.6s						
IMW				IAML		20 42 00.3	
	comp=N,22nm,0.8s						
TPAW	**Teton Pass**	**4.23**	**271**	Pn	**Pn**	**20 40 31.0**	**+0.3**
TPAW				IAML		20 41 52.5	
	comp=N,22nm,0.7s						
FXWY	**Fox Creek**	**4.28**	**273**	Pn	**Pn**	**20 40 30.8**	**-0.5**
FXWY				IAML		20 41 46.5	
	comp=N,20nm,3.4s						
YHL	**Hebgen Lake**	**4.53**	**288**	Pn	**Pn**	**20 40 36.1**	**+1.3**
YHL				IAML		20 42 08.5	
	comp=E,30nm,1.4s						
YHL				IAML		20 42 25.2	
	comp=N,32nm,2.9s						
BOZ	**Bozeman (W)**	**5.06**	**296**	Pn	**Pn**	**20 40 41.5**	**-0.4**
BOZ				IAML		20 43 38.0	
	comp=N,19nm,4.3s						
BSUT	**Blindstream Ca**	**5.17**	**236**	Pn	**Pn**	**20 40 43.4**	**-0.3**
BSUT				IAML		20 42 19.6	
	comp=N,16nm,3.6s						
P18A	**Preston Nutter**	**5.50**	**226**		**Pn**	**20 40 48.0**	**-0.2**
I10CA	**LAC DU BONNET**	**9.10**	**40**	I	I	21 34 00.0	
	baz=222,slow=334,SNR=0.4						
ULM	**Lac du Bonnet**	**9.20**	**40**	Pn	**Pn**	**20 41 38.1**	**-0.5**
	comp=N,0.5nm,0.3s,baz=230,slow=12,SNR=6.4						
ULM				Lg	Lg	20 44 11.0	
	comp=N,0.3nm,0.3s,baz=260,slow=5.3,SNR=2.9						
ULM				LR	LR	20 45 00.1	
	comp=N,70nm,21.4s,baz=230,slow=35						
	comp=N,1.6nm,0.4s						
NEW	**Newport**	**9.58**	**303**	LR	LR	20 46 02.8	
	comp=N,100nm,19.8s,baz=91,slow=41						
PFO	**Pinyon Flats O**	**13.30**	**225**	LR	LR	20 48 02.0	
	comp=N,108nm,19.1s,baz=222,slow=40						
TXAR	**Lajitas Array**	**14.26**	**175**	LR	LR	20 48 30.7	
	comp=N,44nm,21.9s,baz=312,slow=40						
YKA	**Yellowknife Ar**	**19.75**	**347**	P	**Pn**	**20 43 59.3**	**+2.0**
	comp=N,0.3nm,1.0s,baz=154,slow=10,SNR=1.5						
	comp=N,0.3nm,1.0s						
LPIG	**La Paz**	**19.88**	**194**	LR	LR	20 52 05.7	
	comp=N,143nm,20.7s,baz=24,slow=40						

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*IDC **21** 21:08:29.8±2.4, 43.20N×105.22W, h0km, mb3.5/4, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=58.1km s-min=8.5km az=158.0*
*NEIC **21** 21:08:30.2±1.4, 43.84N±0.05×105.26W±0.06, h0km±1km, mb3.2/1, ML3.3/82, Error ellipse: s-maj=9.4km s-min=6.2km az=321.0*
ISC 21 21:08:32.0±0.8, 43.75N±0.05×105.33W±0.06, h0km, n55, σ1.9/47/54, mb3.7/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**68**		**Pn**	**21 08 51.6**	**-2.0**
K22A	**Casper**	**1.41**	**219**		**Pn**	**21 08 57.9**	**-1.2**
K22A				IAML		21 09 21.1	
	comp=E,321nm,0.8s						
K22A				IAML		21 09 21.4	
	comp=N,483nm,0.3s						
PHWY	**Pilot Hill**	**2.45**	**182**		**Pn**	**21 09 14.5**	**+0.9**
PHWY				IAML		21 09 51.3	
	comp=N,101nm,1.2s						
RWWY	**Rawlins**	**2.48**	**215**		**Pn**	**21 09 14.7**	**+0.7**
RWWY				IAML		21 09 51.3	
	comp=N,152nm,0.6s						
N23A	**Red Feather La**	**2.89**	**189**	Pn	**Pn**	**21 09 19.8**	**+0.2**
N23A				IAML		21 10 12.3	
	comp=E,96nm,1.0s						
N23A				IAML		21 10 16.2	
	comp=N,87nm,0.8s						
LAO	**LASA Array**	**3.00**	**348**	Pn	**Pn**	**21 09 19.0**	**-1.9**
RLMT	**Red Lodge**	**3.14**	**297**		**Pn**	**21 09 23.7**	**+0.8**
RLMT				IAML		21 10 15.3	
	comp=N,74nm,0.4s						
RLMT				IAML		21 10 21.1	
	comp=N,73nm,0.9s						
BW06	**Boulder Array**	**3.24**	**254**	Pn	**Pn**	**21 09 25.6**	**+1.2**
PD31	**Pinedale Array**	**3.24**	**254**		**Pn**	**21 09 24.9**	**+0.5**
PDAR	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**21 09 25.5**	**+1.1**
	comp=N,2.5nm,0.3s,baz=77,slow=16,SNR=53						
PDAR				Pg	**Pb**	**21 09 30.8**	**+0.2**
	comp=N,6.6nm,0.3s,baz=71,slow=20,SNR=40						
PDAR				Lg	Lg	21 10 10.2	
	comp=N,15nm,0.3s,baz=70,slow=30,SNR=11						
	comp=N,1.9nm,0.3s						
YMP	**Mirror Lake Pl**	**3.61**	**288**		**Pn**	**21 09 30.0**	**+0.5**
OGNE	**Ogallala**	**3.72**	**138**		**Pn**	**21 09 30.7**	**-0.1**
LOHW	**Long Hollow**	**3.83**	**270**		**Pn**	**21 09 32.6**	**+0.2**
H17A	**Grant Village**	**3.83**	**281**		**Pn**	**21 09 34.6**	**+2.1**
H17A				IAML		21 10 37.9	
	comp=E,43nm,3.1s						
H17A				IAML		21 10 39.1	
	comp=N,50nm,1.2s						
FLWY	**Flagg Ranch**	**3.89**	**277**	Pn	**Pn**	**21 09 35.8**	**+2.5**
FLWY				IAML		21 11 05.7	
	comp=N,67nm,1.3s						
MOOW	**Moose Ponds**	**3.92**	**272**	Pn	**Pn**	**21 09 36.7**	**+3.0**
ISCO	**Idaho Springs**	**3.95**	**183**		**Pn**	**21 09 35.8**	**+1.5**
YNR	**Norris Junctio**	**3.96**	**286**	Pn	**Pn**	**21 09 36.3**	**+2.0**
YNR				IAML		21 10 48.8	
	comp=E,40nm,3.2s						
YNR				IAML		21 10 56.2	
	comp=N,30nm,1.4s						
YPP	**Pitchstone Pla**	**3.98**	**279**		**Pn**	**21 09 36.7**	**+2.0**
YPP				IAML		21 10 52.0	
	comp=E,32nm,1.1s						
YPP				IAML		21 10 52.8	
	comp=N,30nm,2.7s						
IMW	**Indian Meadow**	**4.06**	**274**	Pn	**Pn**	**21 09 37.2**	**+1.6**
IMW				IAML		21 10 00.2	
	comp=N,31nm,0.6s						
IMW				IAML		21 10 52.0	
	comp=N,33nm,1.2s						
TPAW	**Teton Pass**	**4.09**	**268**		**Pn**	**21 09 36.7**	**+0.6**
TPAW				IAML		21 10 44.9	
	comp=N,44nm,4.0s						
YHH	**Holmes Hill**	**4.10**	**287**	Pn	**Pn**	**21 09 37.5**	**+1.3**
FXWY	**Fox Creek**	**4.13**	**270**		**Pn**	**21 09 37.8**	**+1.1**
O20A	**White River Ci**	**4.22**	**212**		**Pn**	**21 09 38.6**	**+0.9**
K30B	**Basset**	**4.32**	**102**	Pn	**Pn**	**21 09 42.4**	**+3.4**
AHID	**Auburn Hatcher**	**4.33**	**259**	Pn	**Pn**	**21 09 40.8**	**+1.5**
AHID				IAML		21 10 53.6	
	comp=N,46nm,1.3s						
AHID				IAML		21 10 53.8	
	comp=N,42nm,2.4s						
YHL	**Hebgen Lake**	**4.34**	**287**		**Pn**	**21 09 39.9**	**+0.3**
YHL				IAML		21 11 17.3	
	comp=E,45nm,1.1s						
YHL				IAML		21 11 19.8	
	comp=N,42nm,1.2s						
RDMU	**Red Mountain**	**4.47**	**226**	Pn	**Pn**	**21 09 42.0**	**+0.7**
RDMU				IAML		21 10 57.5	
	comp=E,33nm,1.3s						
RDMU				IAML		21 10 58.9	
	comp=N,40nm,0.9s						
DGMT	**Dagmar**	**4.79**	**9**	Pn	**Pn**	**21 09 43.7**	**-1.7**
Q24A	**Divide**	**4.79**	**178**	Pn	**Pn**	**21 09 45.9**	**+0.2**
BOZ	**Bozeman (W)**	**4.86**	**295**		**Pn**	**21 09 45.6**	**-0.9**
BOZ				IAML		21 11 05.6	
	comp=N,22nm,2.8s						
BOZ				IAML		21 11 08.9	
	comp=N,33nm,1.3s						
HWUT	**Hardware Ranch**	**5.07**	**247**	Pn	**Pn**	**21 09 46.4**	**-3.1**
BSUT	**Blindstream Ca**	**5.16**	**233**	Pn	**Pn**	**21 09 51.4**	**+0.6**
BSUT				IAML		21 11 38.6	
	comp=E,20nm,3.0s						
BSUT				IAML		21 11 50.5	
	comp=N,17nm,3.2s						
TCUT	**Toone Canyon**	**5.21**	**242**		**Pn**	**21 09 49.6**	**-1.8**
EGMT	**Eagleton**	**5.27**	**326**	Pn	**Pn**	**21 09 50.9**	**-1.3**
P18A	**Preston Nutter**	**5.52**	**223**		**Pn**	**21 09 56.2**	**+0.4**
HVU	**Hansel Valley**	**5.82**	**253**		**Pn**	**21 10 00.7**	**+0.9**
LYMT	**Lyon Mountain**	**5.87**	**306**		**Pn**	**21 10 00.3**	**-0.1**
P17A	**Butcher Ranch,**	**5.89**	**225**		**Pn**	**21 10 01.6**	**+0.9**
SDCO	**Great Sand Dun**	**6.00**	**181**	Pn	**Pn**	**21 10 02.9**	**+0.6**
MPU	**Maple Canyon**	**6.00**	**234**	Pn	**Pn**	**21 10 02.0**	**-0.3**
SRU	**San Rafael Swe**	**6.06**	**222**	Pn	**Pn**	**21 10 03.1**	**0.0**
ECSD	**EROS Data Cent**	**6.31**	**87**	Pn	**Pn**	**21 10 07.7**	**+1.3**
BPMT	**Black Pine Rid**	**6.34**	**298**	Pn	**Pn**	**21 10 05.3**	**-1.7**
T25A	**Trinidad**	**6.64**	**174**	Pn	**Pn**	**21 10 11.7**	**+0.6**
F33A	**5 Mile Ranch,**	**6.76**	**69**	Pn	**Pn**	**21 10 11.9**	**-0.5**
I10CA	**LAC DU BONNET**	**9.05**	**41**	I	I	22 07 00.0	
	baz=220,slow=326,SNR=2.8						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**21 10 45.6**	**+0.3**
	comp=N,0.6nm,0.3s,baz=233,slow=12,SNR=6.5						
ULM				Pg		21 11 19.1	
	comp=N,0.7nm,0.3s,baz=233,slow=15,SNR=5.5						
ULM				Lg	Lg	21 13 17.5	
	comp=N,0.4nm,0.3s,baz=286,slow=20,SNR=2.3						
	comp=N,1.6nm,0.3s						
NEW	**Newport**	**9.36**	**303**	Lg	Lg	21 13 22.0	
	baz=18,slow=20,SNR=1.7						
FCC	**Fort Churchill**	**16.56**	**21**	Pn	**Pn**	**21 12 22.1**	**-3.3**
FCC				IAmb	IAmb	21 12 30.2	
	comp=Z,2.5nm,1.1s						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**P**	**21 12 58.9**	**-2.0**
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**21 13 03.5**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=158,slow=12,SNR=4.8						
	comp=Z,0.2nm,0.8s						
FINES	**FINESS Array B**	**68.03**	**23**	P	**P**	**21 19 33.7**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=304,slow=8.2,SNR=1.3						
	comp=Z,1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**82.29**	**354**	P	**P**	**21 20 55.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=358,slow=4.3,SNR=2.1						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**89.59**	**355**	P	**P**	**21 21 32.5**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=25,slow=3.8,SNR=2.3						
	comp=Z,0.3nm,0.8s						

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*SJA **21** 21:31:01.1±2.0, 21.88S×68.48W, h100km, ML3.8, MW3.8*
*GUC **21** 21:31:03.5±0.6, 21.88S×68.70W, h121km±3km, ML3.9*
ISC 21 21:31:03.1±1.4, 21.88S±0.03×68.78W±0.05, h128km±9km, n38, σ0.64/69, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.44**	**280**	*e* P	**Pn**	**21 31 21.6**	**-0.2**
PB09				*e* S	**Sn**	**21 31 36.4**	**+0.5**
PB09				IAML		21 31 36.7	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**0.44**	**280** ⇑	*i* P	**Pn**	**21 31 21.6**	**-0.2**
PB09				*e* S	**Sn**	**21 31 35.9**	**0.0**
LVC	**Limon Verde**	**0.74**	**190**	*e* P	**Pn**	**21 31 23.3**	**-0.7**
LVC				*e* S	**Sn**	**21 31 37.4**	**-2.4**
LVC				IAML		21 31 39.1	
	comp=Z,1μm,0.5s						
LVC	**Limon Verde**	**0.74**	**190**	*i* P	**Pn**	**21 31 23.6**	**-0.4**
PB07	**IPOC Station P**	**1.04**	**278**	*e* P	**Pn**	**21 31 26.0**	**-0.4**
PB07				*e* S	**Sn**	**21 31 45.6**	**+1.6**
PB07				IAML		21 31 46.2	
	comp=Z,2μm,0.2s						
PB07	**IPOC Station P**	**1.04**	**278** ⇑	*i* P	**Pn**	**21 31 26.5**	**+0.2**
PB07				*e* S	**Sn**	**21 31 44.0**	**-0.1**
PB07				IAML		21 31 47.0	
	comp=E,2μm,0.3s						
PB01	**IPOC

PATCX				IAML			21 31 57.9	
	comp=E,2μm,0.3s							
PX03	**IPOC Station P**	**1.67**	**331**	*i* P		**Pn**	**21 31 32.4**	**-0.6**
PB08	**IPOC Station P**	**1.76**	**348**	*e*P		**Pn**	**21 31 34.7**	**+0.2**
PB08				*e*S		**Sn**	**21 31 58.5**	**+0.2**
PB08				IAML			21 31 59.8	
	comp=Z,351nm,0.6s							
PB08	**IPOC Station P**	**1.76**	**348**	⇑*i* P		**Pn**	**21 31 34.7**	**+0.2**
PB08				*e*S		**Sn**	**21 31 58.4**	**0.0**
PB08				IAML			21 31 59.7	
	comp=E,930nm,0.6s							
TA01	**Diego Aracena**	**1.85**	**315**	*e*P		**Pn**	**21 31 34.8**	**-0.3**
TA01				*e*S		**Sn**	**21 32 00.3**	**+0.8**
TA01				IAML			21 32 03.9	
	comp=Z,401nm,0.3s							
TA01	**Diego Aracena**	**1.85**	**315**	*i* P		**Pn**	**21 31 34.7**	**-0.3**
TA01				*e*S		**Sn**	**21 31 59.1**	**-0.4**
TA01				IAML			21 32 01.9	
	comp=E,1μm,0.5s							
HMBC	**Humberstone**	**1.90**	**327**	*e*P		**Pn**	**21 31 35.2**	**-0.7**
HMBC				*e*S		**Sn**	**21 32 01.2**	**+0.3**
HMBC				IAML			21 32 02.5	
	comp=Z,920nm,0.3s							
HMBC	**Humberstone**	**1.90**	**327**	*i* P		**Pn**	**21 31 35.1**	**-0.7**
TA02	**Huaiquique**	**2.04**	**321**	*i* P		**Pn**	**21 31 36.7**	**-0.6**
TA02				*e*S		**Sn**	**21 32 03.2**	**-0.4**
GO01	**Chusmiza**	**2.23**	**350**	*e*P		**Pn**	**21 31 39.8**	**-0.4**
GO01				*e*S		**Sn**	**21 32 09.7**	**+0.9**
GO01				IAML			21 32 10.8	
	comp=Z,466nm,0.7s							
GO01	**Chusmiza**	**2.23**	**350**	⇑*i* P		**Pn**	**21 31 40.1**	**-0.2**
GO01				*e*S		**Sn**	**21 32 08.7**	**0.0**
GO01				IAML			21 32 10.3	
	comp=N,695nm,0.5s							
PB11	**IPOC Station P**	**2.26**	**338**	*e*P		**Pn**	**21 31 39.8**	**-0.6**
PB11				*e*S		**Sn**	**21 32 08.2**	**-0.7**
PB11				IAML			21 32 10.1	
	comp=Z,380nm,0.5s							
PB11	**IPOC Station P**	**2.26**	**338**	*i* P		**Pn**	**21 31 39.7**	**-0.6**
PB11				*e*S		**Sn**	**21 32 07.9**	**-0.9**
YJA	**Yavi**	**3.04**	**96**	*e*P		**Pn**	**21 31 51.0**	**+0.5**
YJA				*e*S		**Sn**	**21 32 28.2**	**+1.1**
PB14	**IPOC Station P**	**3.12**	**208**	*e*P		**Pn**	**21 31 51.1**	**-0.4**
PB14				*e*S		**Sn**	**21 32 28.2**	**-0.6**
GO02	**Mina Guanaco**	**3.36**	**193**	*e*P		**Pn**	**21 31 54.2**	**-0.3**
GO02				*e*S		**Sn**	**21 32 34.1**	**-0.3**
GO02				IAML			21 32 42.0	
	comp=Z,138nm,0.4s							
GO02	**Mina Guanaco**	**3.36**	**193**	*i* P		**Pn**	**21 31 54.6**	**+0.1**
PB12	**IPOC Station P**	**3.56**	**336**	*e*P		Pn	21 31 52.9	-4.2
PB12				IAML			21 32 36.6	
	comp=Z,85nm,0.3s							

*TEH **21** 22:39:06.6,33°.74N×45°.59E,h19km±49km,ML2.7*
*ISN **21** 22:39:06.2±1.0,33°.74N×45°.60E,h7km±5km,ML2.5*
ISC 21 22:39:06.5±0.9,**33°.75N**±0°.03×**45°.58E**±0°.04,**h13**km,**n9,**
σ0s72/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.70**	**155**	*e*Pg	**Pg**	**22 39 20.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**22 39 29.0**	**-0.3**
IGHG	**Ghaleghazi**	**1.01**	**54**	Pg	**Pg**	**22 39 26.0**	**0.0**
BHD	**Baghdad**	**1.10**	**245**	*e*Pg	**Pg**	**22 39 28.0**	**+0.2**
BHD				*e*Sg	**Sn**	**22 39 43.0**	**+0.2**
IDHR	**Dehrash**	**1.17**	**35**	Pg	**Pg**	**22 39 28.8**	**-0.2**
ILIN	**Lien**	**1.64**	**44**	Pg	**Pb**	**22 39 37.1**	**+0.3**
IKFM	**Kafar-mosalman**	**1.91**	**96**	Pn	**Pg**	**22 39 42.0**	**-1.1**
IKRK	**Kirkuk**	**1.94**	**329**	*e*Pn	**Pb**	**22 39 41.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**22 40 08.0**	**-0.9**
IKRK				AML	AML	22 40 23.1	
	comp=N,57nm,0.8s						
IKRK				AML	AML	22 40 25.3	
	comp=E,53nm,0.8s						
RAFI	**Al-Rafai**	**2.07**	**167**	*e*Pn	**Pb**	**22 39 43.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**22 40 10.0**	**+0.6**
HSAM	**Samen**	**2.56**	**79**	Pn	**Pn**	**22 39 49.0**	**+1.1**

*IDC **21** 23:02:10.5±1.5,2°.97N×127°.68E,h0km,mb3.8/6,*
mbtmp3.8/6,Error ellipse: s-maj=136.2km s-min=18.0km az=66.0.
ISC 21 23:02:16.8±3.2,**3°.N**±1°×**12°.8E**±°,**h50**km,**n6,**σ0s**19/6,**
mb3.7/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**165**	P	**P**	**23 07 24.1**	**0.0**
	1.2nm,0.4s,baz=344,slow=10.0,SNR=18						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**27.16**	**168**	P	**P**	**23 07 55.6**	**-0.2**
	0.4nm,0.4s,baz=345,slow=7.2,SNR=5.8						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**37.06**	**161**	P	**P**	**23 09 22.3**	**+0.1**
	1.0nm,0.3s,baz=331,slow=6.6,SNR=5.0						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**58.83**	**325**	P	**P**	**23 12 10.5**	**+0.2**
	0.5nm,0.4s,baz=114,slow=8.3,SNR=21						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**62.99**	**327**	P	**P**	**23 12 38.2**	**-0.2**
	0.3nm,0.4s,baz=129,slow=6.0,SNR=4.1						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**68.57**	**327**	P	**P**	**23 13 14.4**	**0.0**
	0.3nm,0.4s,baz=105,slow=5.1,SNR=2.3						
	0.3nm,0.4s						

*IDC **21** 23:20:51.8±12.0,29°.55N×139°.83E,h0km,mb3.7/4,*
mbtmp3.7/4,MS3.5/2,Error ellipse: s-maj=319.9km
s-min=88.0km az=180.0
*JMA **21** 23:21:46.0±0.2,32°.N±2°×13°.9E±°,h343km,MV3.0/34,*
NEAR TORISHIMA IS
ISC 21 23:21:44.9±1.0,**31°.68N**±0°.08×**138°.48E**±0°.08,**h350**km,**n18,**
σ1s82/22,mb3.2/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**3.08**	**332**	*e*P	**Pn**	**23 22 46.8**	**+1.9**
JTNC	**Tanabenakahech**	**3.22**	**312**	*e*P	**Pn**	**23 22 47.2**	**+1.0**
BSO3	**Boso 3**	**3.54**	**28**	*e*P	**Pn**	**23 22 50.6**	**+1.7**
BSO3				*e*S	**S**	**23 23 40.7**	**+0.1**
BSO1	**Boso 1**	**3.63**	**35**	*e*P	**Pn**	**23 22 50.8**	**+1.3**
BSO1				*e*S	**S**	**23 23 41.5**	**-0.1**
BSO4	**Boso 4**	**3.65**	**25**	*e*P	**Pn**	**23 22 51.6**	**+1.5**
BSO4				*e*S	**S**	**23 23 42.6**	**-0.2**
JAI	**Aioi**	**3.99**	**303**	*e*P	**Pn**	**23 22 54.7**	**+0.9**
JWT	**Wachi**	**4.42**	**325**	*e*P	**Pn**	**23 22 59.5**	**+1.3**
JAG	**Ashikaga**	**4.80**	**9**	*e*P	**Pn**	**23 23 03.3**	**+1.0**
JAG				*e*S	**S**	**23 24 00.3**	**-4.4**
JTO	**Tosashimizu**	**4.95**	**285**	*e*P	**Pn**	**23 23 04.4**	**+0.5**
JHS	**Saijyo**	**5.58**	**308**	*e*P	**Pn**	**23 23 12.4**	**+1.5**
CBIJ	**Chichi jima**	**5.60**	**144**	*e*P	**Pn**	**23 23 12.5**	**+1.2**
CBIJ				*e*S	**S**	**23 24 20.1**	**-1.1**
JFK	**Kawauchi**	**6.00**	**19**	*e*P	**Pn**	**23 23 17.7**	**+2.0**
JFK				*e*S	**S**	**23 24 25.0**	**-4.4**
JNU	**Nakatsue**	**6.59**	**285**	LR	LR	23 25 45.7	
	comp=Z,274nm,20.6s,baz=152,slow=35						
SONM	**Songino Array**	**29.20**	**313**	P	**P**	**23 27 15.4**	**0.0**
	0.2nm,0.3s,baz=132,slow=9.4,SNR=6.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.11**	**306**	P	**P**	**23 29 27.4**	**-0.1**
	0.6nm,0.7s,baz=89,slow=9.3,SNR=9.2						
	0.6nm,0.7s						
KIRV	**Kirov**	**63.09**	**324**	LR	LR	00 02 20.4	
	comp=Z,36nm,18.5s,baz=346,slow=38						
ARCES	**ARCESS Array B**	**68.15**	**340**	P	**P**	**23 32 08.4**	**+0.7**
	1.0nm,0.6s,baz=64,slow=8.1,SNR=1.1						
	1.0nm,0.6s						
FINES	**FINESS Array B**	**72.41**	**332**	P	**P**	**23 32 33.7**	**+0.3**
	0.4nm,0.4s,baz=57,slow=5.0,SNR=9.3						
	0.4nm,0.4s						

*NEIC **21** 23:33:50.0±0.8,36°.13N±0°.01×97°.694W±0°.008,h7km±4km,*
Error ellipse: s-maj=1.8km s-min=0.6km az=160.0
TUL 21 23:33:50.2±0.7,**36°.15N**±0°.01×**97°.66W**±0°.02,**h5**km±4km,
ML2.4,mb_Lg2.2/7(NEIC),**ML2.5**/50(NEIC),**Error ellipse:**
s-maj=1.7km s-min=1.4km az=70.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.39**	**154**		Pg	23 33 58.0	+0.2
OK029				Sg	Sg	23 34 03.2	+0.4
CROK	**Carrier**	**0.44**	**324**		Pg	23 33 59.0	+0.4
CROK				IAML		23 34 11.0	
	comp=E,329nm,0.3s						
CROK				IAML		23 34 11.7	
	comp=N,319nm,0.3s						
ADOK	**Arcadia Dam**	**0.55**	**155**		Pg	23 34 00.9	+0.1
OK033	**Mehan**	**0.60**	**100**		Pg	23 34 01.9	+0.2
OK033				IAML		23 34 11.0	
	comp=N,281nm,0.2s						
OK033				IAML		23 34 22.2	
	comp=N,338nm,0.1s						
OK048	**Pawnee Station**	**0.64**	**65**		Pg	23 34 02.6	+0.2
OK048				Sg	Sg	23 34 10.7	-0.1
BLOK	**Blackwell**	**0.71**	**30**		Pn	23 34 08.3	+1.4
BLOK				Sg	Sg	23 34 13.8	+0.8
BLOK				IAML		23 34 14.0	
	comp=N,294nm,0.3s						
GC02	**Grant County #**	**0.72**	**347**		Pg	23 34 04.0	0.0
OK051	**E0350 and S346**	**0.76**	**62**	Pg	Pg	23 34 04.6	-0.1
OK051				IAML		23 34 19.2	
	comp=N,182nm,0.1s						
OK051				IAML		23 34 25.0	
	comp=N,178nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**		Pg	23 34 04.5	-0.4
OKCSW				IAML		23 34 18.9	
	comp=E,186nm,0.1s						
OKCSW				IAML		23 34 20.5	
	comp=N,176nm,0.1s						
OK032	**Salt Plains WL**	**0.79**	**326**		Pg	23 34 05.0	-0.3
OK032				IAML		23 34 27.4	
	comp=N,231nm,0.2s						
KAN14	**Manchester OK**	**0.84**	**343**		Pg	23 34 05.9	-0.4
KAN14				IAML		23 34 21.3	
	comp=N,189nm,0.1s						
KAN17	**Caldwell West**	**0.90**	**355**		Pg	23 34 07.2	-0.2
KAN17				IAML		23 34 26.4	
	comp=E,184nm,0.2s						
FNO	**Franklin**	**0.92**	**166**		Pg	23 34 07.6	-0.2
KAN05	**Bluff City Nor**	**0.97**	**350**		Pg	23 34 08.6	-0.2
CSTR	**Hydro, Custer**	**0.97**	**239**		Pg	23 34 07.1	-1.8
KAN09	**Caldwell North**	**0.98**	**2**		Pg	23 34 08.8	-0.3
DEOK	**Depew**	**0.99**	**108**	Pg	Pg	23 34 09.1	-0.2
DEOK				IAML		23 34 23.1	
	comp=N,127nm,0.2s						
DEOK				IAML		23 34 28.2	
	comp=E,126nm,0.3s						
KAN08	**Anthony NE Sta**	**1.10**	**347**		Pg	23 34 10.9	-0.5
KAN08				IAML		23 34 29.5	
	comp=N,153nm,0.1s						
U32A	**Winter Ranch,**	**1.11**	**282**	Pg	Pg	23 34 08.7	-2.7
U32A				IAML		23 34 27.1	
	comp=E,93nm,0.1s						
U32A				IAML		23 34 33.9	
	comp=N,157nm,0.6s						
KAN06	**Argonia West S**	**1.11**	**352**		Pg	23 34 10.9	-0.5
KAN06				IAML		23 34 28.8	
	comp=E,159nm,0.1s						
KAN06				IAML		23 34 29.2	
	comp=N,156nm,0.1s						
KAN12	**Harper NE Stat**	**1.18**	**347**		Pg	23 34 12.3	-0.5
W35A	**Tecumseh**	**1.18**	**147**	IAML		23 34 29.8	
	comp=N,84nm,0.4s						
W35A				IAML		23 34 33.0	
	comp=E,124nm,0.4s						
T35A	**Sooner Cattle**	**1.20**	**50**		Pg	23 34 12.5	-0.7
TUL3	**Leonard**	**1.54**	**98**		Pn	23 34 17.0	-1.3
TUL3	**Leonard**	**1.54**	**98**	IAmb_Lg		23 34 42.3	
	comp=Z,17nm,0.7s						
X34A	**Smith Ranch, M**	**1.55**	**185**		Pn	23 34 18.2	-0.3
WMOK	**Wichita Mounta**	**1.68**	**213**		Pn	23 34 19.4	-0.9
WMOK				IAmb_Lg		23 34 43.5	
	comp=Z,9.2nm,0.8s						
RLO	**Rose Lookout**	**2.14**	**89**	Pn	Pn	23 34 24.1	-2.4
RLO				IAmb_Lg		23 35 03.5	
	comp=Z,16nm,0.7s						
SMWD	**Samnorwood**	**2.35**	**244**		Pn	23 34 28.1	-1.4
WTFS	**Witchita Falls**	**2.47**	**196**	Pn	Pn	23 34 30.4	-0.6
U38A	**Gravette**	**2.66**	**83**		Pn	23 34 32.5	-1.2
HHAR	**Hobbs**	**3.01**	**86**		Pn	23 34 36.6	-2.0
KSU1	**Kansas State U**	**3.06**	**16**		Pn	23 34 38.8	-0.5
FW03	**Perrin-Whitt E**	**3.12**	**186**	Pn	Pn	23 34 36.9	-3.2
CBKS	**Cedar Bluff**	**3.13**	**329**		Pn	23 34 37.0	-3.2
S39A	**Bolivar**	**3.80**	**65**		Pb	23 34 59.3	+1.5
RTBA	**Rita Blanca**	**4.11**	**275**	IAmb_Lg		23 36 05.6	
	comp=Z,4.9nm,0.9s						

*TAP **21** 23:51:13.2,24°.26N×121°.81E,h17km,ML3.6,C*
*ASIES **21** 23:51:13.2,24°.26N×121°.81E,h17km,ML3.6,Mw3.3,*
Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm;
M_{rr}2.91; $M_{\theta\theta}$-0.71; $M_{\phi\phi}$-2.20; $M_{r\theta}$3.02; $M_{\theta\phi}$-3.68; $M_{r\theta}$8.69;
Fault plane solution: $M_0$10.25170×10^{20} NP1:
ϕ_s18.7300°,δ79.52000°,λ76.26000°. NP2:ϕ_s252.07000°,
δ17.22000°,λ142.08000°. Principal axes: T Plg53.5190°,
Azm272.3160°; N Plg13.5050°, Azm21.2710°; P
Plg33.1450°, Azm120.2940°;
*JMA **21** 23:51:13.5±0.1,24°.2N±0°.5×121°.8E±0°.8,h19km±2km,*
MV2.8/11,TAIWAN REGION
ISC 21 23:51:13.3±0.8,**24°.25N**±0°.01×**121°.82E**±0°.02,**h16**km±5km,
n113,σ0s**69/186,2C-20D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**308**	*i* P	**Pg**	**23 51 16.8**	**+0.1**
	baz=310						
EHP				*i* S	**Sg**	**23 51 19.5**	**+0.6**
	baz=310						
EAHA	**Aohua**	**0.11**	**316**	⇓*i* P	**Pg**	**23 51 16.8**	**0.0**
	baz=316						
EAHA				*i* S	**Sg**	**23 51 19.5**	**+0.4**
	baz=316						
ENA	**Nanau**	**0.19**	**337**	⇓*i* P	**Pg**	**23 51 17.9**	**0.0**
	baz=339						
ENA				*i* S	**Sb**	**23 51 21.5**	**-0.4**
	baz=339						
EWUT	**Wuta**	**0.20**	**348**	⇓*i* P	**Pb**	**23 51 18.1**	**-0.4**
	baz=348						
EWUT				*i* S	**Sb**	**23 51 21.7**	**-0.3**
	baz=348						
ETL	**Fush Village**	**0.20**	**243**	⇓*i* P	**Pb**	**23 51 18.3**	**-0.4**
	baz=245						
ETL				S	**Sb**	**23 51 22.3**	**+0.1**
	baz=245						
NACB	**Ninganchiao**	**0.22**	**250**	P	**Pg**	**23 51 18.2**	**-0.2**
NACB	**Ninganchiao**	**0.22**	**250**	⇓*i* P	**Pg**	**23 51 18.3**	**-0.1**
	baz=251						
NACB				*i* S	**Sb**	**23 51 22.4**	**-0.3**
	baz=251						
TWD	**Chiawan**	**0.27**	**230**	⇓*i* P	**Pg**	**23 51 19.2**	**+0.1**
	baz=235						
TWD				*i* S	**Sb**	**23 51 23.8**	**-0.2**
	baz=235						
ETLH	**Xiulin Townshi**	**0.31**	**262**	P	**Pg**	**23 51 19.9**	**-0.1**
	baz=263						
ETLH				S	**Sb**	**23 51 25.1**	**-0.4**
	baz=263						
ESAO	**Su ao**	**0.32**	**4**	P	**Pg**	**23 51 20.2**	**0.0**
	baz=358						
ESAO				S	**Sb**	**23 51 25.0**	**-0.7**
	baz=358						
HWA	**Hwalien**	**0.34**	**216**	P	**Pb**	**23 51 21.5**	**+0.6**
	baz=224						
HWA				S	**Sn**	**23 51 28.3**	**-1.8**
	baz=224						
TWC	**Suao**	**0.36**	**4**	⇓*i* P	**Pg**	**23 51 20.8**	**0.0**
	baz=4.0						
TWC				*i* S	**Sb**	**23 51 26.1**	**-0.5**
	baz=4.0						
LATG	**Datong**	**0.39**	**316**	⇓*i* P	**Pb**	**23 51 21.5**	**-0.5**
	baz=316						
LATG				*i* S	**Sb**	**23 51 27.4**	**-0.3**
	baz=316						
NDS	**Dongshan**	**0.39**	**346**	⇓*i* P	**Pb**	**23 51 21.6**	**-0.3**
	baz=344						
NDS				*i* S	**Sb**	**23 51 27.3**	**-0.4**
	baz=344						
EOS2	**EOS2**	**0.41**	**66**	*i* P	**Pn**	**23 51 23.2**	**-1.2**
	baz=60						
ETM	**Tongmen**	**0.41**	**227**	P	**Pb**	**23 51 22.0**	**-0.3**
	baz=235						
ETM				S	**Sb**	**23 51 27.9**	**-0.4**
	baz=235						
NNSH	**Datong**	**0.44**	**294**	⇓*i* P	**Pb**	**23 51 22.4**	**-0.3**
	baz=293						
NNSH				S	**Sb**	**23 51 28.6**	**-0.5**
	baz=293						
LXIB	**Xiulin Townshi**	**0.44**	**239**	⇓*i* P	**Pg**	**23 51 22.0**	**-0.2**
	baz=249						
LXIB				*i* S	**Sg**	**23 51 28.4**	**+0.1**
	baz=249						
NNSB	**Datong**	**0.44**	**294**	⇓*i* P	**Pb**	**23 51 22.4**	**-0.3**
	baz=294						
NNSB				*i* S	**Sb**	**23 51 28.5**	**-0.6**
	baz=294						
NDT	**Datong Townshi**	**0.45**	**321**	P	**Pb**	**23 51 22.6**	**-0.3**
	baz=320						
NDT				S	**Sb**	**23 51 29.2**	**-0.1**
	baz=320						
NNS	**Nan Shan**	**0.45**	**295**	⇓*i* P	**Pb**	**23 51 22.6**	**-0.4**
	baz=295						
NNS				*i* S	**Sb**	**23 51 29.0**	**-0.5**
	baz=295						
ENTT	**Nioudou**	**0.45**	**329**	⇓*i* P	**Pb**	**23 51 22.4**	**-0.5**
	baz=320						
ENTT				*i* S	**Sb**	**23 51 29.2**	**-0.3**
	baz=320						
EOS3	**EOS3**	**0.45**	**85**	P	**Pn**	**23 51 24.0**	**-1.0**
	baz=85						
EOS4	**EOS4**	**0.47**	**106**	P	**Pn**	**23 51 24.1**	**-1.0**
	baz=97						
TWE	**Neicheng**	**0.49**	**343**	⇓*i* P	**Pb**	**23 51 23.2**	**-0.3**
	baz=343						
TWE				*i* S	**Sb**	**23 51 30.1**	**-0.3**
	baz=343						
ILA	**Ilan**	**0.52**	**353**	*e*P	**Pn**	**23 51 25.4**	**-0.6**
	baz=346						
ILA				S	**Sb**	**23 51 32.3**	**+1.1**
	baz=346						
SHUL	**Shoufeng**	**0.52**	**207**	P	**Pb**	**23 51 24.5**	**+0.5**
	baz=196						
SHUL				S	**Sn**	**23 51 33.4**	**-1.1**
	baz=196						
WHF	**Hehuan Shan**	**0.52**	**258**	P	**Pg**	**23 51 23.8**	**0.0**
	baz=260						
WHF				S	**Sg**	**23 51 30.9**	**+0.1**
	baz=260						
FUSB	**Fushanzhiwuyua**	**0.55**	**337**	⇓*i* P	**Pb**	**23 51 24.3**	**-0.3**
	baz=328						
FUSB				*i* S	**Sg**	**23 51 31.5**	**-0.2**
	baz=328						
ESL	**Shilin**	**0.56**	**219**	P	**Pg**	**23 51 24.3**	**-0.2**
	baz=225						
ESL				*e*S	**Sb**	**23 51 33.6**	**+1.1**
	baz=225						
YHNB	**Yeheng**	**0.58**	**316**	P	**Pb**	**23 51 24.9**	**-0.3**
YHNB	**Yeheng**	**0.58**	**316**	⇓*i* P	**Pb**	**23 51 24.8**	**-0.4**
	baz=315						
YHNB				S	**Sb**	**23 51 32.8**	**-0.5**
	baz=315						
TWT	**Tachien**	**0.59**	**270**	P	**Pb**	**23 51 25.5**	**+0.2**
	baz=271						
TWT				S	**Sb**	**23 51 33.6**	**+0.1**
	baz=271						
NSK	**Sanguang**	**0.60**	**315**	⇓*i* P	**Pb**	**23 51 25.0**	**-0.4**
	baz=315						
NSK				S	**Sb**	**23 51 33.3**	**-0.4**
	baz=315						
TEGC	**Jichi Village**	**0.60**	**206**	*e*P	**Pb**	**23 51 25.4**	**+0.1**
	baz=196						
TEGC				*e*S	**Sn**	**23 51 36.8**	**+0.4**
	baz=196						
NWLT	**Wulai**	**0.60**	**331**	P	**Pg**	**23 51 25.0**	**-0.2**
	baz=330						
NWLT				S	**Sb**	**23 51 33.8**	**+0.1**
	baz=330						
TDCB	**Techi**	**0.61**	**270**	⇓P	**Pb**	**23 51 25.5**	**-0.1**
	baz=271						
TDCB				S	**Sb**	**23 51 33.5**	**-0.4**
	baz=271						
CHGB	**Renai**	**0.62**	**252**	⇓P	**Pb**	**23 51 25.8**	**-0.1**
	baz=249						
CHGB				S	**Sb**	**23 51 34.3**	**-0.1**
	baz=249						
OWD	**Renai**	**0.66**	**244**	P	**Pb**	**23 51 26.5**	**0.0**
	baz=245						
OWD				*e*S	**Sb**	**23 51 36.3**	**+0.8**
	baz=245						
WARBT	**Fenglin Townsh**	**0.66**	**217**	⇑P	**Pg**	**23 51 25.6**	**-0.8**
	baz=221						
WARBT				*e*S	**Sb**	**23 51 35.9**	**+0.4**
	baz=221						
EGFH	**Guangfu**	**0.68**	**212**	*e*P	**Pg**	**23 51 27.2**	**+0.5**
	baz=228						
EGFH				*e*S	**Sn**	**23 51 37.8**	**-0.8**
	baz=228						
WUSB	**Renai**	**0.69**	**248**	⇑P	**Pb**	**23 51 26.9**	**-0.2**
	baz=250						
WUSB				*e*S	**Sb**	**23 51 36.2**	**-0.3**
	baz=250						
TIPB	**Shuangxi**	**0.72**	**0**	*e*P	**Pg**	**23 51 27.4**	**0.0**
	baz=359						
TIPB				*e*S	**Sg**	**23 51 36.7**	**-0.2**
	baz=359						
NFF	**Wufeng Townshi**	**0.74**	**301**	*e*P	**Pn**	**23 51 28.6**	**-0.6**
	baz=300						
NFF				S	**Sg**	**23 51 38.3**	**+0.6**
	baz=300						
TWB1	**Santiao Chiao**	**0.77**	**11**	P	**Pg**	**23 51 28.4**	**+0.1**
	baz=10.0						
TWB1				*e*S	**Sg**	**23 51 38.7**	**+0.2**
	baz=10.0						
TATO	**Taipei**	**0.78**	**337**	P	**Pn**	**23 51 29.2**	**-0.5**
VWDT	**VWDT**	**0.80**	**232**	P	**Pb**	**23 51 28.5**	**-0.2**
	baz=241						
VWDT				S	**Sn**	**23 51 40.7**	**-0.7**
	baz=241						
WHP	**Taichung City**	**0.80**	**272**	*e*P	**Pn**	**23 51 29.2**	**-0.8**
	baz=273						
WHP				*e*S	**Sn**	**23 51 40.6**	**-1.0**
	baz=273						
NWF	**Wu-fen Shan**	**0.82**	**357**	P	**Pn**	**23 51 29.7**	**-0.6**
	baz=348						
NWF				S	**Sg**	**23 51 40.4**	**+0.3**
	baz=348						
WFSB	**Wu-fen Shan**	**0.82**	**357**	*e*P	**Pn**	**23 51 29.7**	**-0.5**
	baz=348						
WFSB				*e*S	**Sg**	**23 51 40.1**	**+0.1**
	baz=348						
LIOB	**Emei**	**0.83**	**298**	*e*P	**Pn**	**23 51 30.0**	**-0.4**
	baz=298						
LIOB				*e*S	**Sn**	**23 51 41.4**	**-1.0**
	baz=298						
TAP	**Taipei**	**0.83**	**340**	*e*P	**Pn**	**23 51 30.1**	**-0.3**
	baz=339						
TAP				*e*S	**Sn**	**23 51 41.8**	**-0.6**
	baz=339						
NSTT	**Nanjuang**	**0.84**	**297**	P	**Pn**	**23 51 29.9**	**-0.6**
	baz=297						
NSTT				S	**Sn**	**23 51 41.4**	**-1.0**
	baz=297						
HGSD	**Ruisui**	**0.84**	**206**	*e*P	**Pn**	**23 51 29.9**	**-0.5**
	baz=194						
HGSD				*e*S	**Sn**

TWS1				*e*S		**Sn**	**23 51 45.4**	**+0.8**
	baz=335								
SBCB	**Hsinchu**	**0.93**	**305**	*e*P		**Pn**	**23 51 32.4**	**+0.7**
	baz=299								
SBCB				*e*S		**Sn**	**23 51 47.0**	**+2.3**
	baz=299								
TYC	**Yuchr**	**0.95**	**249**	*e*P		**Pb**	**23 51 31.2**	**-0.1**
	baz=250								
HSN	**Hsinchu**	**0.95**	**305**	*e*P		**Pb**	**23 51 30.5**	**-0.9**
	baz=301								
HSN				S		**Sn**	**23 51 46.6**	**+1.4**
	baz=301								
YM08	**YM08**	**0.96**	**347**	*e*P		**Pn**	**23 51 32.0**	**-0.1**
	baz=346								
TWQ1	**Liyutan**	**0.96**	**276**	P		**Pn**	**23 51 32.0**	**-0.1**
	baz=277								
TWQ1				*e*S		**Sn**	**23 51 46.4**	**+0.9**
	baz=277								
NTST	**Danshui**	**0.97**	**340**	*e*P		**Pg**	**23 51 32.6**	**+0.5**
	baz=338								
NTST				*e*S		**Sn**	**23 51 46.8**	**+1.1**
	baz=338								
ANP	**Anpu**	**0.97**	**344**	P		**Pn**	**23 51 32.4**	**0.0**
	baz=342								
ANP				S		**Sn**	**23 51 46.3**	**+0.4**
	baz=342								
NSY	**Sanyi**	**0.98**	**280**	*e*P		**Pg**	**23 51 33.1**	**+0.8**
	baz=280								
YULB	**Yu-li**	**0.98**	**209**	P		**Pb**	**23 51 31.6**	**-0.3**
YULB	**Yu-li**	**0.98**	**209**	*e*P		**Pb**	**23 51 30.8**	**-1.1**
	baz=211								
NMLH	**Miaoli**	**0.98**	**287**	*e*P		**Pg**	**23 51 33.1**	**+0.7**
	baz=287								
EYUL	**Yuli**	**1.01**	**207**	*e*P		**Pg**	**23 51 34.0**	**+1.1**
	baz=223								
TWF1	**Yuli**	**1.02**	**208**	*e*P		**Pb**	**23 51 31.8**	**-0.8**
	baz=211								
TWF1				*e*S		**Sg**	**23 51 46.1**	**-0.2**
	baz=211								
TWY	**Chenhua**	**1.04**	**349**	P		**Pg**	**23 51 33.4**	**0.0**
	baz=332								
JYNG	**Yonagunijimaku**	**1.04**	**79**	P		**Pn**	**23 51 33.2**	**0.0**
JYNG				*e*S		**Sg**	**23 51 47.5**	**+0.3**
WHYT	**Xinyi Township**	**1.04**	**238**	*e*P		**Pb**	**23 51 29.9**	**-3.1**
	baz=240								
TCU	**Taichung**	**1.05**	**265**	*e*P		**Pg**	**23 51 33.8**	**+0.2**
	baz=265								
WJS	**Zhushan**	**1.09**	**247**	*e*P		**Pg**	**23 51 35.1**	**+0.7**
	baz=242								
YOJ	**Yonaguni jima**	**1.10**	**79**	P		**Pn**	**23 51 34.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.10**	**79**	P		**Pn**	**23 51 34.0**	**-0.1**
YOJ				*e*S		**Sg**	**23 51 50.1**	**+0.9**
YOJ	**Yonaguni jima**	**1.10**	**79**	*e*P		**Pb**	**23 51 33.4**	**-0.6**
	baz=68								
CHKH	**Chenggong**	**1.12**	**200**	*e*P		**Pn**	**23 51 33.8**	**-0.6**
	baz=202								
FULB	**Fuli**	**1.15**	**205**	*e*P		**Pb**	**23 51 34.7**	**-0.2**
	baz=222								
ALS	**Alishan**	**1.19**	**232**	*e*P		**Pb**	**23 51 35.7**	**+0.1**
	baz=233								
CHKT	**Chengkung**	**1.22**	**200**	*e*P		**Pn**	**23 51 35.5**	**-0.2**
	baz=187								
CHN5	**Tsauling**	**1.23**	**238**	P		**Pg**	**23 51 37.2**	**+0.1**
	baz=239								
ELDTW	**Lidau**	**1.29**	**215**	P		**Pb**	**23 51 37.2**	**0.0**
	baz=204								
WDLH	**Douliu**	**1.30**	**245**	*e*P		**Pg**	**23 51 38.0**	**-0.4**
	baz=247								
WDLH				*e*S		**Sg**	**23 51 57.5**	**+2.2**
	baz=247								
EDH	**Donghe**	**1.36**	**201**	*e*P		**Pn**	**23 51 35.7**	**-1.9**
	baz=190								
WRL	**Guolierlin Hig**	**1.37**	**256**	*e*P		**Pb**	**23 51 38.5**	**0.0**
	baz=257								
WRL				*e*S		**Sg**	**23 51 57.7**	**+0.3**
	baz=257								
WCKO	**Fanlu**	**1.38**	**234**	*e*P		**Pg**	**23 51 39.6**	**-0.3**
	baz=235								
WTK	**Tuku**	**1.43**	**247**	*e*P		**Pb**	**23 51 39.6**	**+0.1**
	baz=249								
WTK				*e*S		**Sg**	**23 51 59.8**	**+0.4**
	baz=249								
CHN4	**Tsaushan**	**1.44**	**232**	P		**Pb**	**23 51 40.1**	**+0.3**
	baz=235								
CHN4				*e*S		**Sg**	**23 52 00.6**	**+0.8**
	baz=235								
STYH	**Taoyuan**	**1.44**	**222**	*e*P		**Pb**	**23 51 39.4**	**-0.3**
	baz=223								
TPUB	**Ta-pu**	**1.45**	**229**	P		**Pb**	**23 51 39.2**	**-0.7**
TPUB	**Ta-pu**	**1.45**	**229**	*e*P		**Pn**	**23 51 38.8**	**0.0**
	baz=232								
TPUB				*e*S		**Sg**	**23 52 00.2**	**+0.2**
	baz=232								
WTP	**Ta-pu**	**1.49**	**228**	*e*P		**Pb**	**23 51 40.6**	**-0.1**
	baz=231								
WTP				*e*S		**Sg**	**23 52 01.0**	**-0.5**
	baz=231								
TWK	**Hsinying**	**1.57**	**232**	*e*P		**Pb**	**23 51 41.6**	**-0.4**
	baz=231								
TWGBT	**Beinan**	**1.58**	**206**	P		**Pn**	**23 51 41.0**	**+0.3**
TWGBT	**Beinan**	**1.58**	**206**	*e*P		**Pn**	**23 51 39.9**	**-0.8**
	baz=207								
CHN1	**Nanshi**	**1.59**	**228**	*e*P		**Pb**	**23 51 42.5**	**+0.1**
	baz=229								
SGST	**Jiashian**	**1.63**	**225**	*e*P		**Pn**	**23 51 41.7**	**+0.4**
	baz=211								
TSMG	**Majia**	**1.88**	**215**	*e*P		**Pb**	**23 51 46.2**	**-1.0**
	baz=228								
MASBT	**Mashibuluo**	**1.96**	**214**	*e*P		**Pn**	**23 51 46.9**	**+1.0**
	baz=216								
MASBT				*e*S		**Sb**	**23 52 12.6**	**-0.3**
	baz=216								
JKRS	**Kuro-shima**	**2.00**	**90**	P		**Pn**	**23 51 47.6**	**+1.2**
JKRS				*e*S		**Sb**	**23 52 12.5**	**-1.3**
JIJ	**Ishigaki jima**	**2.12**	**87**	*e*P		**Pn**	**23 51 49.3**	**+1.3**
JIJ				S		**Sn**	**23 52 14.1**	**0.0**
PHUB	**P'eng-hu**	**2.19**	**251**	*e*P		**Pn**	**23 51 48.6**	**-0.3**
	baz=251								
PHUB				*e*S		**Sn**	**23 52 16.5**	**+0.8**
	baz=251								
VWUC	**VWUC**	**2.28**	**289**	*e*P		**Pn**	**23 51 49.7**	**-0.6**
	baz=286								
JISG	**Ishigakijimahi**	**2.29**	**81**	P		**Pn**	**23 51 51.9**	**+1.4**
JISG				S		**Sn**	**23 52 19.9**	**+1.5**

*IDC **22** 00:19:44.0±0.9, 37°.41N×77°.94E, h0km, mb3.9/13, mbtmp3.8/18, ML3.1/5, MS2.9/2, Error ellipse: s-maj=21.6km s-min=17.0km az=37.0*
*NNC **22** 00:19:48.4±0.9, 37°.75N×78°.00E, h18km±4km, mb4.7, mpv4.4, Error ellipse: s-maj=6.4km s-min=5.0km az=134.0*
ISC 22 00:19:45.8±0.8,**37.70N**±0°.07×**78.03E**±0°.05,**h10**km,**n80, σ3§18/88, mb3.9**/13,**13C-7D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.42**	**319**	Pn	**Pn**	**00 20 28.0**	**+2.4**
KSH				Sn	**Sn**	**00 20 55.5**	**+0.1**
KSH				pmax	pmax		
	comp=Z,44nm,0.7s						
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,820nm,0.7s						
UCH	**Uchtor**	**5.26**	**330**	P	**Pn**	**00 21 09.2**	**+4.3**
	SNR=8.6						
SATY	**Saty**	**5.36**	**3**	Pg	**Pg**	**00 21 25.4**	**-2.9**
	comp=E,64nm,0.5s						
SATY				Lg	Lg	00 22 38.2	
	comp=E,113nm,0.5s						
SATY	**Saty**	**5.36**	**3**	*e*Pn	**Pn**	**00 21 05.8**	**0.0**
	baz=1.5						
SATY				*e*Pg	**Pg**	**00 21 25.1**	**-3.2**
	baz=1.5						
SATY				*e*Lg	Lg	00 22 36.6	
	baz=1.5						
TNSS	**Tian-Shan**	**5.39**	**351**	Pg	**Pg**	**00 21 25.0**	**-4.0**
	comp=E,51nm,0.3s						
TNSS				Lg	Lg	00 22 39.4	
	comp=E,45nm,0.4s						
TNSS	**Tian-Shan**	**5.39**	**351**	*e*Pg	**Pg**	**00 21 26.0**	**-3.0**
	baz=350						
TNSS				*e*Lg	Lg	00 22 38.7	
	baz=350						
IZV	**Izvestkoviy**	**5.43**	**349**	Pg	**Pg**	**00 21 26.7**	**-3.1**
	comp=E,14nm,0.3s						
IZV				Lg	Lg	00 22 40.6	
	comp=E,73nm,0.5s						
ZHN	**Zhinishke**	**5.47**	**3**	Pg	**Pg**	**00 21 27.1**	**-3.3**
	comp=E,30nm,0.4s						
ZHN				Lg	Lg	00 22 40.7	
	comp=E,53nm,0.4s						
ZHN	**Zhinishke**	**5.47**	**3**	*e*Pg	**Pg**	**00 21 28.0**	**-2.4**
	baz=1.7						
ZHN				*e*Lg	Lg	00 22 40.0	
	baz=1.7						
UZB	**Uzynbulak**	**5.49**	**8**	Pg	**Pg**	**00 21 27.2**	**-3.7**
	comp=E,23nm,0.5s						
UZB				Lg	Lg	00 22 41.1	
	comp=E,44nm,0.4s						
UZB	**Uzynbulak**	**5.49**	**8**	*e*Pg	**Pg**	**00 21 27.9**	**-3.0**
	baz=6.3						
UZB				*e*Lg	Lg	00 22 40.3	
	baz=6.3						
MDOK	**Medeo**	**5.50**	**352**	⇑Pg	**Pg**	**00 21 27.1**	**-4.1**
	comp=E,21nm,0.5s						
MDOK				Pg	Pb	00 21 27.7	+5.7
	comp=E,31nm,0.3s						
MDOK				⇑Lg	Lg	00 22 40.7	
	comp=E,92nm,0.6s						
MDOK				Lg	Lg	00 22 42.2	
	comp=E,87nm,0.7s						
MDOK	**Medeo**	**5.50**	**352**	*e*Pg	**Pg**	**00 21 28.5**	**-2.6**
	baz=351						
MDOK				*e*Lg	Lg	00 22 42.1	
	baz=351						
TKM2	**Tokmak 2**	**5.53**	**341**	P	**Pb**	**00 21 23.0**	**+0.4**
	SNR=6.3						
TKM2	**Tokmak 2**	**5.53**	**341**	⇑Pn	**Pn**	**00 21 10.7**	**+2.3**
	comp=E,1.5nm,0.5s						
TKM2				⇓Pg	**Pg**	**00 21 27.0**	**-4.8**
	comp=E,13nm,0.6s						
TKM2				⇑Lg	Lg	00 22 43.0	
	comp=E,65nm,0.9s						
AML	**Almayashu**	**5.54**	**324**	P	**Pn**	**00 21 12.2**	**+3.6**
	SNR=14						
AML	**Almayashu**	**5.54**	**324**	⇑Pn	**Pn**	**00 21 09.6**	**+1.0**
	comp=E,0.3nm,0.5s						
AML				⇑Pg	**Pg**	**00 21 28.2**	**-3.7**
	comp=E,4.9nm,0.8s						
AML				⇑Lg	Lg	00 22 43.9	
	comp=E,25nm,0.8s						
SHLS	**Shalkode**	**5.55**	**11**	Pg	**Pg**	**00 21 29.8**	**-2.4**
	comp=E,67nm,0.7s						
SHLS				Lg	Lg	00 22 45.5	
	comp=E,71nm,0.4s						
SHLS	**Shalkode**	**5.55**	**11**	*e*Pn	**Pn**	**00 21 09.9**	**+1.3**
	baz=13						
SHLS				*e*Pg	**Pg**	**00 21 30.1**	**-2.0**
	baz=13						
MTBS	**Maitube**	**5.56**	**348**	Pg	**Pg**	**00 21 28.4**	**-3.7**
	comp=E,15nm,0.4s						
MTBS				Lg	Lg	00 22 43.2	
	comp=E,30nm,0.3s						
KST	**Kastek**	**5.56**	**344**	Pg	**Pg**	**00 21 28.0**	**-4.3**
	comp=E,26nm,0.4s						
KST				Lg	Lg	00 22 42.7	
	comp=E,102nm,0.7s						
AAA	**Alma-Ata**	**5.56**	**352**	Pg	**Pg**	**00 21 29.6**	**-2.8**
	comp=E,74nm,0.3s						
AAA				Lg	Lg	00 22 45.6	
	comp=E,154nm,0.3s						
AAA	**Alma-Ata**	**5.56**	**352**	*e*Pg	**Pg**	**00 21 29.5**	**-2.8**
	baz=350						
KNDC	**Almaty**	**5.57**	**352**	⇓Pg	**Pg**	**00 21 28.0**	**-4.3**
	comp=E,85nm,0.7s						
KNDC				⇑Lg	Lg	00 22 41.8	
	comp=E,104nm,0.8s						
KOTS	**Kotyrbulak**	**5.57**	**353**	Pg	**Pg**	**00 21 28.9**	**-3.5**
	comp=E,47nm,0.4s						
KOTS				Lg	Lg	00 22 44.6	
	comp=E,134nm,0.5s						
KASK	**Kaskelen**	**5.61**	**350**	⇓Pg	**Pg**	**00 21 29.6**	**-3.5**
KASK				⇓Lg	Lg	00 22 44.9	
AAK	**Ala-Archa**	**5.62**	**332**	P	**Pn**	**00 21 14.3**	**+4.7**
	SNR=7.0						
AAK	**Ala-Archa**	**5.62**	**332**	Pn	**Pn**	**00 21 14.3**	**+4.7**
	comp=E,1.6nm,0.3s,baz=149,slow=7.6,SNR=39						
AAK				Pg	**Pg**	**00 21 29.2**	**-4.2**
	comp=E,4.8nm,0.3s,baz=163,slow=11,SNR=12						
AAK				Sn	**Sn**	**00 22 17.4**	**+3.1**
	comp=E,3.5nm,0.3s,baz=204,slow=16,SNR=3.8						
AAK				Lg	Lg	00 22 43.0	
	comp=E,5.6nm,0.3s,baz=240,slow=20,SNR=2.2						
	comp=E,5.6nm,0.5s						
PDGK	**Podgornoye**	**5.73**	**11**	Pg	**Pg**	**00 21 32.0**	**-3.4**
	comp=E,8.2nm,0.3s						
PDGK				Lg	Lg	00 22 49.2	
	comp=E,28nm,0.5s						
KPKS	**Kokpek**	**5.78**	**5**	Pg	**Pg**	**00 21 32.1**	**-4.3**
	comp=E,36nm,0.4s						
KPKS				Lg	Lg	00 22 49.5	
	comp=E,82nm,0.3s						
KPKS	**Kokpek**	**5.78**	**5**	*e*Pn	**Pn**	**00 21 13.3**	**+1.6**
	baz=3.3						
KPKS				*e*Pg	**Pg**	**00 21 32.8**	**-3.6**
	baz=3.3						
KPKS				*e*Lg	Lg	00 22 49.8	
	baz=3.3						
KURS	**Kuram**	**5.78**	**1**	Pg	**Pg**	**00 21 32.6**	**-3.8**
	comp=E,34nm,0.6s						
KURS				Lg	Lg	00 22 50.5	
	comp=E,72nm,0.6s						
DGS	**Degeres**	**5.79**	**343**	Pg	**Pg**	**00 21 33.7**	**-3.0**
	comp=E,29nm,0.3s						
DGS				Lg	Lg	00 22 52.5	
	comp=E,45nm,0.4s						
CHMS	**Chumysh**	**5.85**	**336**	⇑Pg	**Pg**	**00 21 34.9**	**-2.9**
	comp=E,17nm,0.6s						
CHMS				⇑Lg	Lg	00 22 49.2	
	comp=E,73nm,0.8s						
EKS2	**Erkin-Say**	**5.93**	**328**	P	Pn	00 21 18.9	+5.2
	SNR=5.1						
KTMS	**Ketmen**	**6.00**	**16**	Pg	**Pg**	**00 21 37.1**	**-3.5**
	comp=E,6.7nm,0.2s						
KTMS				Lg	Lg	00 22 58.4	
	comp=E,18nm,0.6s						
KTBS	**Karatobe**	**6.09**	**351**	Pg	**Pg**	**00 21 38.5**	**-3.9**
	comp=E,27nm,0.4s						
KTBS				Lg	Lg	00 23 00.7	
	comp=E,65nm,0.4s						
CHKK	**Chushkaly**	**6.19**	**353**	Pg	**Pg**	**00 21 39.9**	**-4.5**
	comp=E,18nm,0.5s						
CHKK				Lg	Lg	00 23 03.2	
	comp=E,59nm,0.5s						
CHKK	**Chushkaly**	**6.19**	**353**	*e*Pg	**Pg**	**00 21 40.0**	**-4.3**
	baz=352						
MRKS	**Merke**	**6.23**	**325**	Pg	**Pg**	**00 21 41.4**	**-3.8**
	comp=E,14nm,0.4s						
MRKS				Lg	Lg	00 23 05.8	
	comp=E,57nm,0.4s						
SGDS	**Sogindy**	**6.30**	**337**	Pg	**Pg**	**00 21 42.3**	**-4.0**
	comp=E,11nm,0.4s						
SGDS				Lg	Lg	00 23 07.5	
	comp=E,44nm,0.5s						
SGDS	**Sogindy**	**6.30**	**337**	*e*Pg	**Pg**	**00 21 43.4**	**-3.0**
	baz=335						
KUU	**Kurty**	**6.31**	**349**	Pg	**Pg**	**00 21 43.0**	**-3.7**
	comp=E,30nm,0.5s						
KUU				Lg	Lg	00 23 08.5	
	comp=E,89nm,0.7s						
KUU	**Kurty**	**6.31**	**349**	*e*Pg	**Pg**	**00 21 41.9**	**-4.8**
	baz=347						
BLB	**Baldybastay**	**6.39**	**3**	Pg	**Pg**	**00 21 45.5**	**-2.8**
	comp=E,41nm,0.6s						
BLB				Lg	Lg	00 23 12.9	
	comp=E,23nm,0.4s						
ARXS	**Arharly**	**6.50**	**359**	Pg	**Pg**	**00 21 47.5**	**-2.8**
	comp=E,26nm,0.3s						
ARXS				Lg	Lg	00 23 16.3	
	comp=E,30nm,0.5s						
KNOS	**Konyrlen**	**6.70**	**7**	Pg	**Pg**	**00 21 50.3**	**-3.8**
	comp=E,18nm,0.4s						
KNOS				Lg	Lg	00 23 21.2	
	comp=E,15nm,0.4s						
DJR	**Jarkent**	**6.75**	**11**	Pg	**Pg**	**00 21 51.0**	**-4.1**
	comp=E,11nm,0.7s						
DJR				Lg	Lg	00 23 22.5	
	comp=E,22nm,0.8s						
DZA	**Taraz**	**7.28**	**317**	Pg	**Pg**	**00 22 00.6**	**-4.6**
	comp=E,23nm,0.1s						
DZA				Lg	Lg	00 23 38.9	
	comp=E,34nm,0.2s						
DZA	**Taraz**	**7.28**	**317**	*e*Pg	**Pg**	**00 22 02.9**	**-2.3**
	baz=316						
TDK	**Taldyqorghan**	**7.30**	**2**	Pg	**Pg**	**00 22 00.8**	**-4.6**
	comp=E,69nm,0.4s						
TDK				Lg	Lg	00 23 39.6	
	comp=E,106nm,0.7s						
TDK	**Taldyqorghan**	**7.30**	**2**	*e*Pg	**Pg**	**00 22 01.5**	**-3.9**
	baz=1.1						
KAPS	**Kapalarasan**	**7.64**	**7**	Pg	**Pg**	**00 22 07.8**	**-4.2**
	comp=E,4.5nm,0.3s						
KAPS				Lg	Lg	00 23 51.4	
	comp=E,10nm,0.5s						
KK31	**Karatay Array**	**7.87**	**316**	⇓Pn	**Pn**	**00 21 42.3**	**+1.9**
	comp=E,3.6nm,0.8s,baz=126,slow=12,SNR=7.0						
KK31				⇓Pg	Pg	00 22 10.7	-5.7
	comp=E,1.7nm,0.5s,baz=140,slow=12,SNR=4.9						
KK31				⇑Lg	Lg	00 23 55.5	
	comp=E,10nm,0.7s,baz=123,slow=19,SNR=3.6						
CHM	**Chimkent**	**7.94**	**308**	*e*Pg	**Pg**	**00 22 15.1**	**-2.6**
	baz=307						
MAKZ	**Makanchi**	**9.55**	**17**	⇓Pn	**Pn**	**00 22 06.5**	**+3.1**
	comp=E,10.0nm,0.8s						
MAKZ				⇑Sn	**Sn**	**00 23 50.1**	**-0.7**
	comp=E,2.0nm,0.5s						
MK31	**Makanchi Array**	**9.61**	**18**	Pn	**Pn**	**00 22 03.9**	**-0.3**
	comp=E,8.3nm,0.5s,baz=153,slow=11,SNR=222						
MK31				Sn	**Sn**	**00 23 52.4**	**+0.1**
	comp=E,14nm,0.9s,baz=199,slow=23,SNR=5.7						
MKAR	**Makanchi Array**	**9.61**	**18**	Pn	**Pn**	**00 22 04.1**	**-0.1**
	comp=E,3.2nm,0.3s,baz=209,slow=11,SNR=126						
MKAR				Sn	**Sn**	**00 23 52.0**	**-0.3**
	comp=E,0.9nm,0.3s,baz=199,slow=22,SNR=6.7						
MKAR				LR	LR	00 25 35.5	
	comp=E,35nm,19.4s,baz=233,slow=36						
ZSN	**Zaisan**	**10.96**	**25**	*e*Pg	Pn	00 23 04.5	+42
	baz=23						
OTUK	**Ortayu**	**11.33**	**340**	Pg	Pn	00 23 16.0	+48
	comp=E,1.6nm,1.4s						
OTUK				Lg	Lg	00 25 49.3	
	comp=E,6.0nm,1.1s						
OTUK	**Ortayu**	**11.33**	**340**	⇑Lg	Lg	00 25 47.3	
	comp=E,27nm,1.1s						
KURBB	**Kurchatov Arra**	**12.92**	**1**	Pn	**Pn**	**00 22 51.9**	**+2.5**
	baz=188,slow=12,SNR=5.1						
KURBB				Lg	Lg	00 26 39.0	
	baz=192,slow=25,SNR=4.8						
	comp=E,0.2nm,0.6s						
GEYT	**Alibeck**	**15.74**	**277**	Pn	**Pn**	**00 23 25.2**	**-2.4**
	comp=E,0.2nm,0.3s,baz=98,slow=10,SNR=2.5						
GEYT				Sn	**Sn**	**00 26 14.1**	**-8.1**
	comp=E,0.3nm,0.3s,baz=90,slow=19,SNR=1.8						
	comp=E,1.2nm,0.5s						
BVAR	**Borovoye Array**	**16.22**	**343**	Pn	**P**	**00 23 38.7**	**+1.9**
	baz=161,slow=9.2,SNR=2.6						
BVAR				Lg	Lg	00 28 17.9	
	baz=140,slow=23,SNR=2.8						
ZALV	**Zalesovo Beam**	**16.91**	**14**	P	**P**	**00 23 46.1**	**+1.7**
	comp=E,0.1nm,0.3s,baz=195,slow=17,SNR=3.2						
	comp=E,0.4nm,0.4s						
AKTO	**Aktyubinsk**	**19.13**	**318**	P	**P**	**00 24 10.3**	**+1.4**
	comp=E,0.1nm,0.3s,baz=107,slow=13,SNR=4.4						
	comp=E,1.3nm,0.6s						
SONM	**Songino Array**	**23.03**	**55**	P	**P**	**00 24 54.2**	**+3.1**
	comp=E,0.7nm,0.6s,baz=251,slow=9.4,SNR=7.2						
	comp=E,0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.50**	**131**	P	**P**	**00 25 21.2**	**-2.2**
	comp=E,0.7nm,0.3s,baz=310,slow=12,SNR=1.8						
	comp=E,0.7nm,0.3s						
BRTR	**Keskin Array B**	**34.44**	**287**	P	**P**	**00 26 32.8**	**-0.8**
	comp=E,1.5nm,0.9s,baz=89,slow=7.9,SNR=5.7						
	comp=E,1.5nm,0.9s						
MMAI	**Mount Meron Ar**	**34.86**	**275**	P	**P**	**00 26 37.7**	**+0.5**
	comp=E,1.9nm,0.8s,baz=74,slow=11,SNR=1.9						
	comp=E,1.9nm,0.8s						
FINES	**FINESS Array B**	**39.74**	**324**	P	**P**	**00 27 19.9**	**+1.8**
	comp=E,2.5nm,0.7s,baz=114,slow=10,SNR=12						
	comp=E,2.5nm,0.7s						
ARCES	**ARCESS Array B**	**42.28**	**335**	P	**P**	**00 27 41.0**	**+2.0**
	comp=E,4.3nm,0.9s,baz=111,slow=8.2,SNR=5.4						
	comp=E,4.3nm,0.9s						
HFS	**Hagfors**	**45.64**	**321**	P	**P**	**00 28 07.9**	**+1.8**
	comp=E,2.1nm,0.5s,baz=98,slow=11,SNR=11						
	comp=E,2.1nm,0.5s						
GERES	**GERESS Array B**	**46.83**	**305**	P	**P**	**00 28 16.7**	**+1.0**
	comp=E,0.5nm,0.5s,baz=56,slow=7.3,SNR=3.3						
	comp=E,0.5nm,0.5s						
NB2	**NORSAR Subarra**	**46.84**	**322**	P	**P**	**00 28 17.0**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**46.84**	**322**	P	**P**	**00 28 17.0**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=90,slow=7.7,SNR=8.6						
NOA				LR	LR	00 48 45.8	
	comp=Z,22nm,19.5s,baz=260,slow=37						
	comp=Z,1.8nm,0.6s						
ESDC	**Sonseca Array**	**61.80**	**300**	P	**P**	**00 30 05.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=52,slow=7.0,SNR=8.9						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**71.33**	**272**	P	**P**	**00 31 05.1**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=45,slow=5.9,SNR=23						
	comp=Z,0.8nm,0.3s						
WRA	**Warramunga Arr**	**78.03**	**127**	P	**P**	**00 31 44.1**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=300,slow=3.2,SNR=1.4						
	comp=Z,0.5nm,0.9s						
YKA	**Yellowknife Ar**	**79.63**	**6**	P	**P**	**00 31 52.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=350,slow=5.3,SNR=2.1						
	comp=Z,0.2nm,0.5s						

*IDC **22** 00:23:29.1±0.6, 15°.83S×174°.12W, h0km, mb4.3/10, mbtmp4.3/10, Error ellipse: s-maj=32.9km s-min=17.2km az=142.0*
*NEIC **22** 00:23:45.2±1.3, 15°.88S±0°.08×174°.20W±0°.07, h117km±5km, mb4.3/52, Error ellipse: s-maj=12.2km s-min=10.2km az=160.0*
ISC 22 00:23:44.0±0.4,**15.89S**±0°.07×**174.19W**±0°.08,**h115**km, **n87, σ1§10/87, mb4.3**/34,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.05**	**50**		**Pn**	**00 24 32.1**	**+1.2**
AFI				Sn	**Sn**	**00 25 04.5**	**-2.5**
NIUE	**Niue**	**5.16**	**129**		**Pn**	**00 25 01.0**	**+2.0**
NIUE				Sn	**Sn**	**00 25 55.2**	**-2.2**
H11S2	**WAKE ISLAND Hy**	**39.00**	**330**	T	T	01 11 45.7	
	baz=146,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**39.01**	**330**	T	T	01 12 16.2	
	baz=146,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**39.02**	**330**	T	T

TPNV	**Topopah Spring**	**75.74**	**44**	P		**P**	**00 35 18.0**	**+0.7**
SYI	**Shuyak Island**	**76.36**	**12**	P		**P**	**00 35 21.1**	**+1.0**
Y14A	**Wickenburg**	**76.44**	**49**	P		**P**	**00 35 18.8**	**-2.5**
Y14A				IAmb		IAmb	00 35 23.7	
	comp=Z,3.8nm,1.0s							
M14K	**Bethel**	**77.00**	**6**	P		**P**	**00 35 24.7**	**+1.0**
M16K	**Timber Creek**	**77.61**	**8**	P		**P**	**00 35 28.3**	**+1.2**
X16A	**Lo Mia Camp, P**	**77.81**	**49**	P		**P**	**00 35 30.2**	**+1.1**
KNB	**Kanab**	**78.11**	**46**	P		**P**	**00 35 31.9**	**+1.2**
U15A	**North Rim**	**78.19**	**47**	P		**P**	**00 35 32.6**	**+1.3**
U15A				IAmb		IAmb	00 35 33.5	
	comp=Z,3.6nm,1.0s							
K15K	**Wolf Creek Mou**	**78.56**	**6**	P		**P**	**00 35 34.0**	**+1.7**
DUN6	**Lazy B Ranch**	**78.67**	**51**	P		**P**	**00 35 34.7**	**+0.9**
TXAR	**Lajitas Array**	**81.51**	**56**	P		**P**	**00 35 49.1**	**0.0**
	comp=Z,1.2nm,0.9s,baz=216,slow=6.2,SNR=5.0							
	comp=Z,1.2nm,0.9s							
TPAW	**Teton Pass**	**82.60**	**41**	P		**P**	**00 35 54.5**	**-0.3**
S22A	**4UR Ranch, Cre**	**82.66**	**48**	P		**P**	**00 35 55.2**	**+0.1**
S22A				IAmb		IAmb	00 35 56.6	
	comp=Z,2.2nm,0.7s							
HDA	**Harding Lake**	**82.73**	**12**	P		**P**	**00 35 55.9**	**+1.4**
HDA				IAmb		IAmb	00 36 07.3	
	comp=Z,8.2nm,1.4s							
O20A	**White River Ci**	**82.76**	**45**	P		**P**	**00 35 56.3**	**+0.8**
O20A				IAmb		IAmb	00 35 56.8	
	comp=Z,2.6nm,0.6s							
IMW	**Indian Meadow**	**82.81**	**41**	P		**P**	**00 35 56.5**	**+0.7**
IMW				IAmb		IAmb	00 36 00.6	
	comp=Z,2.0nm,0.7s							
H21K	**Melozitna Rive**	**82.89**	**9**	P		**P**	**00 35 56.5**	**+1.1**
H21K				IAmb		IAmb	00 36 14.8	
	comp=Z,5.7nm,1.4s							
ILAR	**Eielson Array**	**83.07**	**11**	P		**P**	**00 35 56.0**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=244,slow=6.0,SNR=8.9							
	comp=Z,0.8nm,0.9s							
BW06	**Boulder Array**	**83.13**	**42**	P		**P**	**00 35 57.7**	**+0.3**
PD31	**Pinedale Array**	**83.13**	**42**	P		**P**	**00 35 57.9**	**+0.5**
PDAR	**Pinedale Array**	**83.13**	**42**	P		**P**	**00 35 57.7**	**+0.2**
PDAR	**Pinedale Array**	**83.13**	**42**	P		**P**	**00 35 57.0**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=208,slow=3.1,SNR=19							
	comp=Z,1.9nm,0.7s							
YHL	**Hebgen Lake**	**83.14**	**40**	P		**P**	**00 35 58.8**	**+1.3**
YHL				IAmb		IAmb	00 35 59.6	
	comp=Z,3.5nm,0.8s							
J25K	**Salcha River,**	**83.22**	**12**	P		**P**	**00 35 58.4**	**+1.2**
J25K				IAmb		IAmb	00 36 33.6	
	comp=Z,7.9nm,1.5s							
BOZ	**Bozeman (W)**	**83.25**	**39**	P		**P**	**00 35 58.1**	**+0.3**
J26L	**Joseph Creek**	**83.50**	**13**	P		**P**	**00 36 01.7**	**+3.1**
J26L				IAmb		IAmb	00 36 42.4	
	comp=Z,5.3nm,1.4s							
L29M	**L29M**	**83.60**	**16**	P		**P**	**00 35 58.5**	**-0.6**
L29M				IAmb		IAmb	00 36 01.1	
	comp=Z,5.0nm,1.1s							
BELA	**Belgrano 2**	**83.62**	**172**	P		**P**	**00 35 59.4**	**+0.3**
BELA				IAmb		IAmb	00 36 00.8	
	comp=Z,4.5nm,0.8s							
E18K	**Tukpahlearik C**	**83.67**	**5**	P		**P**	**00 36 01.0**	**+1.7**
PRP	**Porcupine Dome**	**84.00**	**12**	P		**P**	**00 36 02.4**	**+1.2**
PRP				IAmb		IAmb	00 36 06.0	
	comp=Z,3.6nm,0.9s							
E19K	**Redstone River**	**84.04**	**6**	P		**P**	**00 36 02.4**	**+1.2**
E19K				IAmb		IAmb	00 36 05.5	
	comp=Z,3.3nm,1.0s							
DAWY	**Dawson**	**84.08**	**15**	P		**P**	**00 36 01.6**	**+0.1**
DAWY				IAmb		IAmb	00 36 02.5	
	comp=Z,6.7nm,1.4s							
K29M	**Barlow Dome**	**84.36**	**15**	P		**P**	**00 36 03.8**	**+0.8**
C18K	**Utukok River**	**84.82**	**5**	P		**P**	**00 36 06.8**	**+1.6**
D19K	**Kuna River**	**84.95**	**6**	P		**P**	**00 36 06.9**	**+1.1**
D19K				IAmb		IAmb	00 36 28.9	
	comp=Z,5.3nm,1.5s							
I28M	**Miner Creek**	**85.11**	**14**	P		**P**	**00 36 07.4**	**+0.6**
J30M	**Hart River**	**85.26**	**15**	P		**P**	**00 36 08.6**	**+1.1**
J30M				IAmb		IAmb	00 36 08.8	
	comp=Z,2.4nm,0.9s							
I30M	**Mount Dempster**	**85.78**	**15**	P		**P**	**00 36 10.8**	**+0.7**
I30M				IAmb		IAmb	00 36 10.8	
	comp=Z,4.3nm,1.1s							
BMAR	**Burnt Mountain**	**85.87**	**11**	P		**P**	**00 36 11.8**	**+1.4**
D22K	**Ayikyak River**	**85.93**	**8**	P		**P**	**00 36 11.6**	**+0.9**
H29M	**Whitestone**	**86.12**	**14**	P		**P**	**00 36 11.8**	**+0.2**
H29M				IAmb		IAmb	00 36 41.0	
	comp=Z,7.3nm,1.4s							
B20K	**Meade River**	**86.50**	**6**	P		**P**	**00 36 12.0**	**-1.3**
G29M	**Pine Creek**	**86.77**	**13**	P		**P**	**00 36 15.8**	**+1.0**
G29M				IAmb		IAmb	00 36 35.2	
	comp=Z,6.6nm,1.4s							
RSSD	**Black Hills**	**87.33**	**43**	P		**P**	**00 36 19.1**	**+0.8**
RSSD				IAmb		IAmb	00 36 44.3	
	comp=Z,4.2nm,1.3s							
G31M	**Satah River**	**87.66**	**15**	P		**P**	**00 36 19.0**	**0.0**
YKA	**Yellowknife Ar**	**90.84**	**24**	P		**P**	**00 36 34.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=237,slow=5.0,SNR=5.8							
	comp=Z,0.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**92.05**	**288**	P		**P**	**00 36 41.4**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=113,slow=6.9,SNR=4.7							
	comp=Z,3nm,0.3s							
MKAR	**Makanchi Array**	**110.62**	**314**	PKiKP		**PKiKP**	**00 42 01.8**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=88,slow=0.2,SNR=4.1							
KMBO	**Kilima Mbogo**	**144.64**	**244**	PKP		**PKPab**	**00 43 06.4**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=53,slow=7.9,SNR=9.1							
BRTR	**Keskin Array B**	**146.05**	**320**	PKPbc		**PKPdf**	**00 43 10.6**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=133,slow=4.0,SNR=7.9							
GERES	**GERESS Array B**	**146.50**	**351**	PKPbc		**PKPdf**	**00 43 11.8**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=57,slow=4.9,SNR=5.5							
CONA	**Conrad Observa**	**146.99**	**348**	*i* PKP		**PKPbc**	**00 43 13.6**	**+0.3**
	comp=Z,0.3nm,0.3s							
ARSA	**Arzberg**	**147.71**	**348**	*e*PKP		**PKPdf**	**00 43 13.9**	**+1.6**
	comp=Z,1.8nm,0.7s							
MMAI	**Mount Meron Ar**	**148.27**	**308**	PKPbc		**PKPbc**	**00 43 16.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=66,slow=7.0,SNR=2.8							
KBA	**Koelnbreinsper**	**148.28**	**350**	*i* PKP		**PKPbc**	**00 43 16.2**	**-0.7**
	comp=Z,0.7nm,0.4s							
WTTA	**Wattenberg**	**148.34**	**352**	*i* PKP		**PKPbc**	**00 43 17.1**	**0.0**
	comp=Z,2.1nm,0.4s							
SQTA	**Sankt Quirin**	**148.44**	**353**	*e*PKP		**PKPbc**	**00 43 17.5**	**+0.2**
	comp=Z,1.3nm,0.7s							
OBKA	**Obir**	**148.61**	**348**	*i* PKiKP		**PKiKP**	**00 43 19.5**	**+0.3**
	comp=Z,0.5nm,0.3s							
MYKA	**Terra Mystica**	**148.66**	**350**	*i* PKP		**PKPbc**	**00 43 16.9**	**-0.9**
	comp=Z,1.3nm,0.5s							
FETA	**Feichten**	**148.69**	**354**	*i* PKP		**PKPbc**	**00 43 18.4**	**+0.4**
	comp=Z,0.6nm,0.5s							
ABTA	**Abfaltersbach**	**148.73**	**351**	*i* PKP		**PKPdf**	**00 43 15.8**	**+1.7**
	comp=Z,1.9nm,0.7s							
ESDC	**Sonseca Array**	**154.81**	**18**	PKPbc		**PKPbc**	**00 43 30.5**	**-1.7**
	comp=Z,0.5nm,1.0s,baz=337,slow=1.9,SNR=2.1							
ESDC				PKPab		**PKPab**	**00 43 47.6**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=344,slow=5.4,SNR=5.1							
TORD	**Torodi Ar. Bea**	**175.17**	**124**	PKP		**PKPdf**	**00 43 39.6**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=159,slow=0.7,SNR=2.8							
TORD				PKPab		**PKPab**	**00 45 16.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=227,slow=3.2,SNR=2.3							

IDC ***22*** *00:25:32.6±1.0, 37.°50N×77.°84E, h0km, mb3.8/13, mbtmp3.7/18, ML3.0/4, MS3.0/2, Error ellipse: s-maj=21.4km s-min=17.6km az=3.0*
NNC ***22*** *00:25:37.3±0.8, 37.°78N×77.°81E, h13km±4km, mb4.6, mpv4.3, Error ellipse: s-maj=6.1km s-min=5.2km az=128.0*
NEIC ***22*** *00:25:38.4±1.2, 37.°60N±0.°05×78.°10E±0.°10, h38km±11km, mb4.1/10, Error ellipse: s-maj=12.7km s-min=1.9km az=59.0*

ISC 22 00:25:36.7±0.5, 37.°66N±0.°04×77.°94E±0.°06, h17km, n90, σ2s40/90, mb3.9/17, 6C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**4.06**	**339**	Pn	**Pn**	**00 26 39.3**	**+1.0**
TARG	**Taragay, Kyrgy**	**4.07**	**359**		**Pn**	**00 26 39.4**	**+0.9**
PRZ	**Przheval'sk**	**4.83**	**4**	Pn	**Pn**	**00 26 50.9**	**+2.1**
ARSB	**Arslanbob**	**5.30**	**315**		**Pn**	**00 26 56.1**	**+0.9**
SATY	**Saty**	**5.41**	**4**	Pg	**Pb**	**00 27 14.1**	**+3.4**
	56nm,0.4s						
SATY				Lg	Lg	00 28 26.2	
	95nm,0.4s						
TNSS	**Tian-Shan**	**5.42**	**352**	Pg	**Pb**	**00 27 14.1**	**+2.9**
	38nm,0.3s						
TNSS				Lg	Lg	00 28 26.0	
	32nm,0.4s						
IZV	**Izvestkoviy**	**5.46**	**350**	Pg	**Pb**	**00 27 14.9**	**+3.1**
	12nm,0.3s						
IZV				Lg	Lg	00 28 27.3	
	52nm,0.3s						
ZHN	**Zhinishke**	**5.52**	**4**	Pg	**Pb**	**00 27 15.9**	**+3.3**
	21nm,0.3s						
ZHN				Lg	Lg	00 28 28.6	
	34nm,0.3s						
NIL	**Nilore**	**5.53**	**225**		**Pn**	**00 26 60.0**	**+1.7**
AML	**Almayashu**	**5.53**	**325**	⇑Pn	**Pn**	**00 26 57.4**	**-1.2**
	0.3nm,0.5s						
AML				⇓Pg	**Pb**	**00 27 12.7**	**-0.3**
	1.4nm,0.5s						
AML				⇓Lg	Lg	00 28 27.1	
	10nm,0.7s						
MDOK	**Medeo**	**5.54**	**353**	⇓Pg	**Pb**	**00 27 13.6**	**+0.6**
	20nm,0.5s						
MDOK				Pg	Pg	00 27 16.3	-6.4
	22nm,0.3s						
MDOK				⇑Lg	Lg	00 28 27.6	
	74nm,0.7s						
MDOK				Lg	Lg	00 28 30.0	
	67nm,0.3s						
UZB	**Uzynbulak**	**5.54**	**8**	Pg	**Pb**	**00 27 16.3**	**+3.2**
	15nm,0.3s						
UZB				Lg	Lg	00 28 29.4	
	32nm,0.3s						
TKM2	**Tokmak 2**	**5.55**	**342**	⇓Pn	**Pn**	**00 26 58.3**	**-0.5**
	2.2nm,0.5s						
TKM2				⇑Pg	**Pb**	**00 27 15.3**	**+2.1**
	7.6nm,0.5s						
TKM2				⇑Lg	Lg	00 28 26.7	
	32nm,0.7s						
DHRM	**DHARAMSHALA**	**5.56**	**194**	*e*P	**Pn**	**00 27 02.0**	**+3.1**
DHRM				*e*S	**Sn**	**00 28 07.3**	**+4.8**
DHRM				AMP		00 28 18.5	
	comp=E,388nm,0.4s						
DHRM				IAML		00 28 18.6	
	comp=N,58nm,0.2s						
KST	**Kastek**	**5.58**	**345**	Pg	**Pb**	**00 27 16.8**	**+3.0**
	comp=N,13nm,0.2s						
KST				Lg	Lg	00 28 30.8	
	comp=N,46nm,0.6s						
MTBS	**Maitube**	**5.58**	**349**	Pg	**Pb**	**00 27 16.9**	**+3.1**
	comp=N,8.9nm,0.3s						
MTBS				Lg	Lg	00 28 30.8	
	comp=N,30nm,0.2s						
AAA	**Alma-Ata**	**5.60**	**352**	Pg	**Pb**	**00 27 17.8**	**+3.8**
	comp=N,51nm,0.2s						
AAA				Lg	Lg	00 28 32.4	
	comp=N,115nm,0.3s						
KNDC	**Almaty**	**5.60**	**353**	⇓Pg	**Pb**	**00 27 15.3**	**+1.3**
	comp=N,43nm,0.5s						
KNDC				⇓Lg	Lg	00 28 30.2	
	comp=N,46nm,0.6s						
KOTS	**Kotyrbulak**	**5.60**	**354**	Pg	**Pb**	**00 27 17.6**	**+3.5**
	comp=N,29nm,0.4s						
KOTS				Lg	Lg	00 28 32.3	
	comp=N,111nm,0.4s						
SHLS	**Shalkode**	**5.61**	**11**	Pg	**Pb**	**00 27 18.6**	**+4.4**
	comp=N,53nm,0.5s						
SHLS				Lg	Lg	00 28 33.6	
	comp=N,53nm,0.4s						
AAK	**Ala-Archa**	**5.63**	**333**		**Pn**	**00 27 01.5**	**+1.7**
AAK	**Ala-Archa**	**5.63**	**333**	Pn	**Pn**	**00 27 02.0**	**+2.3**
	comp=N,1.6nm,0.3s,baz=137,slow=7.1,SNR=9.9						
AAK				Pg	**Pb**	**00 27 17.9**	**+3.4**
	comp=N,4.8nm,0.3s,baz=118,slow=5.5,SNR=9.8						
AAK				Lg	Lg	00 28 30.3	
	comp=N,3.7nm,0.3s,baz=233,slow=20,SNR=1.9						
AAK				LR	LR	00 29 12.7	
	comp=N,28nm,20.4s,baz=142,slow=38						
	comp=N,4.1nm,0.4s						
PDGK	**Podgornoye**	**5.79**	**11**	Pg	**Pb**	**00 27 20.9**	**+3.7**
	comp=N,9.7nm,0.3s						
PDGK				Lg	Lg	00 28 37.7	
	comp=N,18nm,0.6s						
DGS	**Degeres**	**5.82**	**344**	Pg	**Pb**	**00 27 21.3**	**+3.6**
	comp=N,26nm,0.3s						
DGS				Lg	Lg	00 28 38.5	
	comp=N,29nm,0.5s						
KURS	**Kuram**	**5.83**	**2**	Pg	**Pb**	**00 27 21.7**	**+3.8**
	comp=N,20nm,0.5s						
KURS				Lg	Lg	00 28 39.3	
	comp=N,49nm,0.6s						
KPKS	**Kokpek**	**5.83**	**5**	Pg	**Pb**	**00 27 21.4**	**+3.5**
	comp=N,21nm,0.3s						
KPKS				Lg	Lg	00 28 38.4	
	comp=N,63nm,0.3s						
CHMS	**Chumysh**	**5.86**	**336**	⇑Pg	**Pb**	**00 27 20.2**	**+1.7**
	comp=N,9.5nm,0.5s						
CHMS				⇓Lg	Lg	00 28 37.6	
	comp=N,42nm,0.8s						
BTK	**Batken**	**6.05**	**296**	Pn	**Pn**	**00 27 07.5**	**+2.0**
KTMS	**Ketmen**	**6.07**	**17**	Pg	**Pb**	**00 27 26.3**	**+4.3**
	comp=N,8.2nm,0.4s						
KTMS				Lg	Lg	00 28 47.0	
	comp=N,14nm,0.3s						
KTBS	**Karatobe**	**6.12**	**351**	Pg	**Pb**	**00 27 27.2**	**+4.3**
	comp=N,18nm,0.4s						
KTBS				Lg	Lg	00 28 48.4	
	comp=N,38nm,0.4s						
CHKK	**Chushkaly**	**6.23**	**354**	Pg	**Pb**	**00 27 28.9**	**+4.2**
	comp=N,12nm,0.3s						
CHKK				Lg	Lg	00 28 51.6	
	comp=N,39nm,0.3s						
MRKS	**Merke**	**6.23**	**326**	Pg	**Pb**	**00 27 29.1**	**+4.4**
	comp=N,12nm,0.3s						
MRKS				Lg	Lg	00 28 51.8	
	comp=N,30nm,0.4s						
KRBS	**Karabastau**	**6.27**	**345**	Pg	**Pb**	**00 27 29.9**	**+4.5**
	comp=N,11nm,0.3s						
KRBS				Lg	Lg	00 28 53.2	
	comp=N,23nm,0.5s						
SGDS	**Sogindy**	**6.31**	**338**	Pg	**Pb**	**00 27 30.5**	**+4.4**
	comp=N,8.7nm,0.3s						
SGDS				Lg	Lg	00 28 54.4	
	comp=N,28nm,0.5s						
KUU	**Kurty**	**6.34**	**349**	Pg	**Pb**	**00 27 31.1**	**+4.5**
	comp=N,21nm,0.4s						
KUU				Lg	Lg	00 28 55.4	
	comp=N,46nm,0.6s						
SMLA	**Simla**	**6.55**	**186**	*e*P	**Pn**	**00 27 13.2**	**+1.1**
SMLA				*e*S	**Sn**	**00 28 28.3**	**+1.9**
SMLA				AMP		00 28 32.7	
	comp=N,246nm,0.2s						
SMLA				AMP		00 28 33.0	
	comp=E,450nm,0.5s						
ARXS	**Arharly**	**6.55**	**359**	Pg	Pb	00 27 35.1	+5.0
	comp=E,21nm,0.3s						
ARXS				Lg	Lg	00 29 02.2	
	comp=E,29nm,0.3s						
KNOS	**Konyrlen**	**6.76**	**8**	Pg	Pb	00 27 38.9	+5.1
	comp=E,13nm,0.4s						
KNOS				Lg	Lg	00 29 08.7	
	comp=E,16nm,0.5s						
DJR	**Jarkent**	**6.81**	**11**	Pg	Pb	00 27 39.8	+5.2
	comp=E,7.5nm,0.2s						
DJR				Lg	Lg	00 29 10.3	
	comp=E,15nm,0.4s						
TDK	**Taldyqorghan**	**7.34**	**3**	Pg	Pb	00 27 49.7	+6.1
	comp=E,43nm,0.4s						
TDK				Lg	Lg	00 29 26.9	
	comp=E,44nm,0.3s						
KAPS	**Kapalarasan**	**7.69**	**7**	Pg	Pb	00 27 56.2	+6.6
	comp=E,4.6nm,0.3s						
KAPS				Lg	Lg	00 29 38.3	
	comp=E,8.3nm,0.3s						
KBL	**Kabul**	**7.84**	**249**	Pn	**Pn**	**00 27 30.2**	**0.0**
KK31	**Karatay Array**	**7.85**	**316**	⇓Pg	**Pb**	**00 27 56.9**	**+4.6**
	comp=E,0.5nm,0.3s,baz=131,slow=11,SNR=5.6						
KK31				⇓Lg	Lg	00 29 40.3	
	comp=E,2.2nm,0.4s,baz=131,slow=11,SNR=5.6						
KK31	**Karatay Array**	**7.85**	**316**	Pn	**Pn**	**00 27 33.1**	**+3.0**
KKAR	**Karatay Array**	**7.85**	**316**	Pn	**Pn**	**00 27 30.2**	**0.0**
KKAR	**Karatay Array**	**7.85**	**316**	Pn	**Pn**	**00 27 30.8**	**+0.7**
PTH	**Pithoragarh**	**8.31**	**166**	*e*P	**Pn**	**00 27 35.8**	**-0.7**
PTH				*e*S	**Sn**	**00 29 09.4**	**-0.7**
PTH				AMP		00 29 10.3	
	comp=N,46nm,0.5s						
PTH				AMP		00 29 10.5	
	comp=E,54nm,0.2s						
KUDL	**Kundal**	**9.57**	**188**	*ex*	x	00 27 41.7	
KUDL				*ex*	x	00 29 34.2	
MAKZ	**Makanchi**	**9.62**	**17**	⇓Pn	**Pn**	**00 27 54.8**	**+0.5**
	comp=E,1.6nm,0.3s						
MAKZ				⇓Sn	**Sn**	**00 29 40.7**	**-1.3**
	comp=E,7.6nm,1.2s						
MAKZ	**Makanchi**	**9.62**	**17**	Pn	**Pn**	**00 27 54.1**	**-0.2**
MK31	**Makanchi Array**	**9.68**	**18**	Pn	**Pn**	**00 27 55.1**	**0.0**
	comp=E,1.2nm,0.3s,baz=200,slow=12,SNR=113						
MK31				⇓Sn	**Sn**	**00 29 44.2**	**+0.7**
	comp=E,2.5nm,0.5s,baz=154,slow=40,SNR=3.5						
MK31	**Makanchi Array**	**9.68**	**18**	Pn	**Pn**	**00 27 55.0**	**-0.2**
MKAR	**Makanchi Array**	**9.68**	**18**	Pn	**Pn**	**00 27 55.1**	**0.0**
	comp=E,3.7nm,0.4s,baz=204,slow=13,SNR=57						
MKAR				Sn	**Sn**	**00 29 39.1**	**-4.4**
	comp=E,1.0nm,0.3s,baz=194,slow=22,SNR=5.9						
KHET	**Khetri**	**9.72**	**191**	*e*P	**Pn**	**00 27 57.8**	**+1.9**
KHET				*ex*	x	00 29 38.6	
ZSN	**Zaisan**	**11.03**	**25**	P	Pn	00 28 55.4	+42
	comp=E,4.8nm,0.3s						
OTUK	**Ortayu**	**11.34**	**341**	Pg	Pn	00 29 04.2	+46
	comp=E,2.1nm,1.3s						
OTUK	**Ortayu**	**11.34**	**341**	⇑Lg	Lg	00 31 32.3	
	comp=E,20nm,1.4s						
AJM	**Ajmer**	**11.49**	**195**	*e*P	**Pn**	**00 28 21.1**	**+1.0**
AJM				*e*S	**Sn**	**00 30 27.9**	**-0.1**
KURBB	**Kurchatov Arra**	**12.97**	**2**	Pn	**Pn**	**00 28 40.0**	**-0.1**
	baz=194,slow=9.8,SNR=1.3						
KURBB				Lg	Lg	00 32 23.9	
	baz=174,slow=27,SNR=2.4						
	comp=E,0.4nm,0.9s						
GEYT	**Alibeck**	**15.68**	**277**	Pn	**Pn**	**00 29 18.2**	**+1.5**
GEYT	**Alibeck**	**15.68**	**277**	Pn	**Pn**	**00 29 11.6**	**-5.2**
	comp=E,0.2nm,0.3s,baz=106,slow=11,SNR=1.7						
GYA0B	**ALIBECK ARRAY**	**15.68**	**277**	Pn	**Pn**	**00 29 18.5**	**+1.8**
GYA0B				IAmb	IAmb	00 29 21.7	
	comp=Z,4.6nm,0.7s						
BVAR	**Borovoye Array**	**16.24**	**344**	Pn	**P**	**00 29 27.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=147,slow=11,SNR=26						
BVAR				Lg	Lg	00 34 11.1	
	baz=235,slow=36,SNR=2.8						
BRVK	**Borovoye**	**16.30**	**343**		**Pn**	**00 29 24.8**	**+0.2**
BRVK				IAmb	IAmb	00 29 37.8	
	comp=Z,7.4nm,0.9s						
ZAA0	**Zalesovo Array**	**16.97**	**14**	P	**Pn**	**00 29 33.1**	**0.0**
ZALV	**Zalesovo Beam**	**16.97**	**14**		**Pn**	**00 29 33.8**	**+0.7**
ZALV	**Zalesovo Beam**	**16.97**	**14**	P	**P**	**00 29 34.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=198,slow=14,SNR=3.1						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**17.41**	**317**			**00 29 39.3**	**+0.6**
AKTO	**Aktyubinsk**	**19.11**	**318**	P	**P**	**00 29 57.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=10,SNR=2.7						
	comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**23.12**	**55**	P	**P**	**00 30 42.1**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=253,slow=10,SNR=6.7						
	comp=Z,0.7nm,0.5s						
BRTR	**Keskin Array B**	**34.38**	**287**	P	**P**	**00 32 21.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=52,slow=7.8,SNR=1.8						
	comp=Z,0.2nm,0.3s						
MMAI	**Mount Meron Ar**	**34.79**	**275**	P	**P**	**00 32 23.6**	**-2.8**
	comp=Z,0.4nm,0.4s,baz=67,slow=11,SNR=1.6						
	comp=Z,0.4nm,0.4s						
AKASG	**Malin Array Be**	**36.63**	**307**	P	**P**	**00 32 40.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=78,slow=9.1,SNR=4.5						
	comp=Z,0.2nm,0.3s						
KSRS	**Korea Array**	**39.24**	**74**	P	**P**	**00 33 03.7**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=271,slow=8.3,SNR=2.2						
	comp=Z,0.6nm,0.5s						
FINES	**FINESS Array B**	**39.73**	**324**	P	**P**	**00 33 07.5**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=111,slow=10.0,SNR=15						
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**42.29**	**336**	P	**P**	**00 33 28.5**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=83,slow=11,SNR=1.2						
	comp=Z,3.5nm,1.1s						
HFS	**Hagfors**	**45.63**	**321**	P	**P**	**00 33 55.2**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=96,slow=11,SNR=13						
	comp=Z,2.6nm,0.5s						
NC405	**NORSAR Array S**	**46.59**	**322**	P	**P**	**00 34 03.5**	**+0.1**
NC602	**NORSAR Array S**	**46.69**	**322**	P	**P**	**00 34 03.6**	**-0.6**
NC602				IAmb	IAmb	00 34 13.3	
	comp=Z,5.1nm,1.1s						
NB201	**NORSAR Array S**	**46.80**	**322**	P	**P**	**00 34 04.7**	**-0.3**
NB201				IAmb	IAmb	00 34 10.8	
	comp=Z,6.9nm,0.9s						
KHC	**Kasperske Hory**	**46.82**	**306**	P	**P**	**00 34 05.1**	**-0.3**
KHC				IAmb	IAmb	00 34 10.6	
	comp=Z,1.1nm,1.1s						
NB2	**NORSAR Subarra**	**46.84**	**322**	P	**P**	**00 34 05.2**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**46.84**	**322**	P	**P**	**00 34 04.8**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=89,slow=7.7,SNR=7.0						
	comp=Z,1.7nm,0.6s						
NAO01	**NORSAR Array S**	**47.00**	**322**	P	**P**	**00 34 06.4**	**-0.2**
NC204	**NORSAR Array S**	**47.05**	**323**	P	**P**	**00 34 06.8**

APQ2				*i* S		**Sn**	**00 36 35.6**	**+1.4**	
APQ2				IAML			00 36 38.5		
	comp=Z,2μm,1.0s								
WILN	**Americas 2**	**1.11**	**20**	*i* P		**Pn**	**00 36 18.6**	**-0.6**	
WILN				*i* S		**Sn**	**00 36 35.6**	**+1.3**	
WILN				IAML			00 36 43.8		
	comp=Z,1μm,1.0s								
ELI1	**Hacienda Flor**	**1.11**	**115**⇑	*i* P		**Pn**	**00 36 19.0**	**-0.4**	
VRLE	**La Escondida,**	**1.24**	**105**	*i* PA			00 36 21.1		
VRLE				IAML			00 36 40.3		
	comp=Z,480nm,1.0s								
GPS3	**Bodega del ICE**	**1.25**	**107**	*eP*		**Pg**	**00 36 21.8**	**-0.5**	
GPS3				*eS*		**Sn**	**00 36 39.5**	**+1.7**	
LEVN	**Ruinas Leon Vi**	**1.28**	**358**	*i* P		**Pn**	**00 36 20.9**	**-0.7**	
LEVN				*i* S		**Sn**	**00 36 38.9**	**+0.4**	
LEVN				IAML			00 36 47.2		
	comp=Z,2μm,1.0s								
MOMN	**Momotombo**	**1.28**	**2**	*i* P		**Pn**	**00 36 21.1**	**-0.6**	
MOMN				*i* S		**Sg**	**00 36 38.4**	**-1.3**	
MOMN				IAML			00 36 45.5		
	comp=Z,36nm,1.0s								
MOM2	**El Cardon**	**1.32**	**4**	*i* PA			00 36 21.4		
MOM2				*i* SA			00 36 40.2		
MOM2				IAML			00 36 43.3		
	comp=Z,540nm,1.0s								
ORTG	**Ortega, Santa**	**1.33**	**124**	*i* PA			00 36 21.2		
ORTG				IAML			00 36 49.5		
	comp=Z,280nm,1.0s								
MACN	**El Madrono**	**1.34**	**356**	*i* P		**Pn**	**00 36 21.8**	**-0.7**	
MACN				IAML			00 36 25.7		
	comp=Z,510nm,1.0s								
SAJU	**San Juanillo,**	**1.35**	**141**	*i* P		**Pn**	**00 36 19.4**	**-3.2**	
CNGA	**Al SSO del Vol**	**1.37**	**355**	*i* PA			00 36 22.2		
CNGA				IAML			00 36 22.4		
	comp=Z,780nm,1.0s								
CNGN	**Cerro Negro**	**1.38**	**355**⇑	*eP*		**Pn**	**00 36 22.0**	**-1.1**	
CNGN	**Cerro Negro**	**1.38**	**355**	*i* PA			00 36 22.4		
CNGN				IAML			00 36 44.7		
	comp=Z,930nm,1.0s								
JUD3	**Juan Diaz 3**	**1.39**	**133**	*eP*		**Pn**	**00 36 20.4**	**-2.8**	
ROCN	**Rota Cerro Neg**	**1.40**	**354**	*i* P		**Pn**	**00 36 19.1**	**-4.2**	
CAMAV	**Centro de Prod**	**1.42**	**107**	*eP*		**Pn**	**00 36 22.5**	**-1.2**	
COLC	**Colonia**	**1.43**	**108**	*eP*		**Pn**	**00 36 22.5**	**-1.2**	
PLVR	**Palo Verde**	**1.43**	**122**	*eP*		**Pn**	**00 36 23.4**	**-0.4**	
PLVR				*eS*		**Sg**	**00 36 44.7**	**+0.3**	
CUI	**Cuipilapa**	**1.47**	**108**	*eP*		**Pn**	**00 36 23.4**	**-0.8**	
CUI				*eS*		**Sb**	**00 36 43.9**	**+0.2**	
VMAR	**Armenia, Volca**	**1.47**	**102**	*eP*		**Pn**	**00 36 23.6**	**-0.7**	
VMAR	**Armenia, Volca**	**1.47**	**102**	*i* P		**Pg**	**00 36 26.7**	**+0.2**	
NICO	**Nicoya**	**1.48**	**131**	*eP*		**Pg**	**00 36 28.5**	**+1.8**	
DUNO	**Dulce Nombre,**	**1.49**	**134**	*i* P		**Pg**	**00 36 28.0**	**+1.2**	
TELN	**Telica**	**1.50**	**351**	*i* PA			00 36 23.5		
TELN				*i* SA			00 36 44.2		
TELN				IAML			00 36 50.0		
	comp=Z,61nm,1.0s								
HERN	**Volcan Telica**	**1.50**	**351**	*i* PA			00 36 23.8		
HERN				*i* SA			00 36 45.5		
HERN				IAML			00 36 52.8		
	comp=Z,470nm,1.0s								
CMARA	**Lajas Hojancha**	**1.58**	**134**	*eP*		**Pg**	**00 36 28.5**	**0.0**	
PKGN	**Cerro Pekin**	**1.59**	**346**	*i* PA			00 36 24.9		
PKGN				*i* SA			00 36 46.9		
PKGN				IAML			00 36 50.4		
	comp=Z,2μm,1.0s								
BOAB	**BOACO BROADBAN**	**.60**	**34**	*i* PA			00 36 25.2		
BOAB				IAML			00 36 50.5		
	comp=Z,290nm,1.0s								
BRAN	**Las Pilas**	**1.61**	**8**	*i* P		Pn	00 36 15.9	-10	
BRAN				*i* S		Sn	00 36 32.5	-14	
ACON	**Acoyapa**	**1.62**	**58**	*eP*		**Pn**	**00 36 24.8**	**-1.4**	
ACON				*eS*		**Sn**	**00 36 47.1**	**+0.2**	
ACON	**Acoyapa**	**1.62**	**58**	*i* PA			00 36 25.6		
ACON				IAML			00 36 55.4		
	comp=Z,180nm,1.0s								
CRIN	**San Cristobal**	**1.64**	**344**	*eP*		**Pn**	**00 36 25.5**	**-1.1**	
CRIN	**San Cristobal**	**1.64**	**344**	*i* P		**Pn**	**00 36 24.0**	**-2.6**	
VERA	**Finca Concepci**	**1.70**	**99**	*eP*		**Pn**	**00 36 27.2**	**-0.2**	
NYURE	**Nandayure**	**1.72**	**130**	*eP*		**Pb**	**00 36 29.0**	**-0.5**	
JTS	**Las Juntas de**	**1.80**	**117**	*eP*		**Pn**	**00 36 27.9**	**-0.9**	
MATN	**Matagalpa**	**1.91**	**20**⇑	*iP*		**Pn**	**00 36 29.7**	**-0.8**	
MATN	**Matagalpa**	**1.91**	**20**	*i* PA			00 36 29.8		
MATN				IAML			00 36 59.1		
	comp=Z,96nm,1.0s								
ARE1	**Arenal 1**	**1.94**	**109**⇑	*iP*		**Pb**	**00 36 32.1**	**-1.3**	
ARE1				*eS*		**Sg**	**00 36 59.6**	**-1.1**	
LIMN	**Finca el Limon**	**1.94**	**6**	*i* PA			00 36 30.0		
LIMN				IAML			00 36 58.1		
	comp=Z,280nm,1.0s								
VACR	**Volcan Arenal**	**1.98**	**109**	*eP*		**Pb**	**00 36 33.5**	**-0.4**	
SOCE	**Pocosol**	**2.06**	**111**	*eP*		**Pb**	**00 36 33.8**	**-1.7**	
SOCE	**Pocosol**	**2.06**	**111**	*i* P		**Pb**	**00 36 34.3**	**-1.1**	
CSGN	**Cosiguina Volc**	**2.08**	**333**	*i* PA			00 36 31.4		
CSGN				IAML			00 37 06.0		
	comp=Z,640nm,1.0s								
CBL1	**Cabuya**	**2.11**	**136**	*eP*		**Pb**	**00 36 35.0**	**-1.2**	
CBL1				*eS*		**Sg**	**00 37 13.8**	**+7.7**	
JACO	**JACO, Garabito**	**2.38**	**127**	*i* P		**Pb**	**00 36 39.4**	**-1.4**	
AMPH	**Amapala**	**2.40**	**334**	*i* PA			00 36 36.0		
RCPN	**Sur Rio San Ju**	**2.44**	**11**	*i* PA			00 36 36.9		
RCPN				IAML			00 36 51.3		
	comp=Z,0.9nm,1.0s								
CNCH	**Conchagua**	**2.47**	**330**	*i* PA			00 36 37.2		
CNCH				IAML			00 37 20.8		
	comp=Z,210nm,1.0s								
YUSH	**Yuscaran**	**2.83**	**355**	*i* PA			00 36 43.1		
TECO	**Alcaldia de Te**	**3.23**	**318**	*i* P		**Pn**	**00 36 50.5**	**+2.1**	
PEZE	**Perez Zeledon,**	**3.34**	**121**	*i* P		**Pn**	**00 36 47.3**	**-2.7**	
COMHN	**El Horno**	**3.44**	**344**	*i* PA			00 36 50.9		

NEIC ***22*** *00:53:26.9±1.9, 10.˚55S±0.˚05×74.˚92W±0.˚06, h114km±4km, mb5.0/617, Error ellipse: s-maj=8.4km s-min=7.5km az=105.0*

MOS ***22*** *00:53:26.4±1.3, 10.˚46S×74.˚91W, h125km, mb4.9/40, Error ellipse: s-maj=10.6km s-min=5.2km az=108.1*

IDC ***22*** *00:53:27.1±0.3, 10.˚50S×74.˚93W, h119km±3km, mb4.5/20, mbtmp4.9/26, MS3.7/18, Error ellipse: s-maj=8.6km s-min=6.9km az=111.0*

VAO ***22*** *00:53:28.7±0.6, 10.˚62S×74.˚89W, h128km, mb5.0*

GCMT ***22*** *00:53:28.9±0.2, 10.˚42S±0.˚02×74.˚82W±0.˚02, h124km±2km, MW5.0/112, Moment Tensor Solution. s52,c57; s112,c150; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.54±.08; Mθθ0.48±.10; Mϕϕ3.06±.12; Mrθ0.49±.09; Mθϕ-2.07±.11; Mϕr0.45±.11; Best double couple: M₀3.94600×10¹⁶ NP1:ϕs163.00000°, δ47.00000°, λ-73.00000°. NP2:ϕs319.00000°, δ45.00000°, λ-107.00000°. Principal axes: T 4.2120, Plg1.0000°, Azm241.0000°; N -0.5330, Plg12.0000°, Azm331.0000°; P -3.6810, Plg78.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 00:53:26.9±0.2, 10.˚54S±0.˚03×74.˚91W±0.˚04, h119km±2km, h119km:pP-P,n1360,σ0s95/1603,mb5.0/339,10C-16D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NNA	**Nana**	**2.38**	**233**		Pn	**Pn**	**00 54 05.2**	**+0.1**
NNA					Sn	**Sn**	**00 54 34.2**	**-0.4**
NNA	**Nana**	**2.38**	**233**	P		**Pn**	**00 54 05.3**	**+0.1**
	985nm,0.3s,baz=72,slow=7.8,SNR=788							
NNA				S		**Sn**	**00 54 34.8**	**+0.3**
	2μm,0.3s,baz=60,slow=20,SNR=22							
NNA				LR		LR	00 55 02.7	
	comp=Z,2μm,19.2s,baz=290,slow=40							
NNA	**Nana**	**2.38**	**233**	*eP*		**Pn**	**00 54 05.3**	**+0.2**
CZSB	**Cruzeiro do Su**	**3.54**	**38**		Pn	**Pn**	**00 54 21.2**	**+1.0**
CZSB					Sn	**Sn**	**00 55 01.8**	**+0.1**
CZSB	**Cruzeiro do Su**	**3.54**	**38**⇑	*iP*		**Pn**	**00 54 21.3**	**+1.0**
ATAH	**Atahualpa**	**4.83**	**314**	P		**Pn**	**00 54 38.1**	**+0.2**
	229nm,0.7s,baz=151,slow=4.8,SNR=182							
ATAH				S		**Sn**	**00 55 31.7**	**-1.3**
	308nm,0.6s,baz=120,slow=16,SNR=5.9							
MCRA	**Macar, Loja**	**7.91**	**320**			**Pn**	**00 55 15.4**	**-3.8**
MCRA					Sn	**Sn**	**00 56 40.3**	**-7.0**
MCRA	**Macar, Loja**	**7.91**	**320**	*eP*		**Pn**	**00 55 15.6**	**-3.7**
BOSC	**San Juan Bosco**	**8.16**	**334**			**Pn**	**00 55 19.0**	**-3.7**
BOSC					Sn	**Sn**	**00 56 46.5**	**-6.9**
ETMB	**Extrema**	**8.59**	**86**	Pn		**Pn**	**00 55 27.3**	**-1.1**
ARNL	**Arenillas**	**8.63**	**323**			**Pn**	**00 55 27.2**	**-1.6**
ARNL					Sn	**Sn**	**00 57 00.1**	**-4.4**
LPAZ	**La Paz**	**8.72**	**132**	Pn		**Pn**	**00 55 30.9**	**+0.2**
LPAZ	**La Paz**	**8.72**	**132**	*eP*		**Pn**	**00 55 30.9**	**+0.2**
PB18	**Visviri**	**8.77**	**144**	Pn		**Pn**	**00 55 31.1**	**-0.1**
COHC	**Cochancay**	**9.11**	**331**			**Pn**	**00 55 35.1**	**-0.3**
COHC	**Cochancay**	**9.11**	**331**	*eP*		**Pn**	**00 55 35.4**	**0.0**
PB12	**IPOC Station P**	**9.17**	**152**	Pn		**Pn**	**00 55 34.3**	**-2.0**
PB16	**IPOC Station P**	**9.35**	**147**	Pn		**Pn**	**00 55 39.1**	**0.0**
CHSH	**Refugio Sur-Vo**	**9.81**	**336**			**Pn**	**00 55 45.7**	**+0.2**
SLOR	**San Lorenzo -**	**10.38**	**340**			**Pn**	**00 55 53.1**	**+0.1**
PB11	**IPOC Station P**	**10.47**	**152**	Pn		**Pn**	**00 55 53.3**	**-0.7**
GO01	**Chusmiza**	**10.62**	**149**			**Pn**	**00 55 55.7**	**-0.5**
PTLC	**Puerto Leguiza**	**10.64**	**1**	*eP*		Pn	00 55 50.1	-6.0
PPLP	**Puerto Lopez**	**10.67**	**327**	*eP*		**Pn**	**00 55 57.3**	**+0.7**
TA02	**Huaquique**	**10.71**	**155**			**Pn**	**00 56 56.0**	**-1.1**
PB08	**IPOC Station P**	**11.04**	**151**			**Pn**	**00 56 00.6**	**-1.2**
PULU	**Pululahua**	**11.08**	**341**			**Pn**	**00 56 02.6**	**+0.2**
BONI	**La Bonita**	**11.23**	**346**	*eP*		**Pn**	**00 56 04.5**	**+0.3**
IMBA	**Imbabura, San**	**11.23**	**343**			**Pn**	**00 56 05.6**	**+1.1**
OTAV	**Otavalo**	**11.27**	**342**			**Pn**	**00 56 04.8**	**-0.2**
OTAV	**Otavalo**	**11.27**	**342**	P		**Pn**	**00 56 04.8**	**-0.2**
OTAV	**Otavalo**	**11.27**	**342**	*eP*		**Pn**	**00 56 05.5**	**+0.5**
PAC1	**Pacto, Paraso**	**11.41**	**340**	*eP*		**Pn**	**00 56 09.0**	**+2.5**
TULM	**Tulcn-Chalpat**	**11.54**	**345**			**Pn**	**00 56 08.1**	**-0.5**
SAML	**Samuel**	**11.66**	**83**	Pn		**Pn**	**00 56 07.9**	**-1.9**
SAML	**Samuel**	**11.66**	**83**	P		**Pn**	**00 56 07.9**	**-1.9**
SAML	**Samuel**	**11.66**	**83**	*eP*		**Pn**	**00 56 07.0**	**-2.8**
PB01	**IPOC Station P**	**11.67**	**154**			**Pn**	**00 56 06.9**	**-3.0**
PB02	**IPOC Station P**	**11.75**	**156**			**Pn**	**00 56 08.0**	**-3.0**
PB07	**IPOC Station P**	**12.12**	**157**			**Pn**	**00 56 16.6**	**+0.7**
CRUC	**La Cruz**	**12.20**	**350**	*eP*		**Pn**	**00 56 17.9**	**+0.8**
PB09	**IPOC Station P**	**12.44**	**155**			**Pn**	**00 56 20.4**	**+0.2**
GARC	**Garzon, Huila**	**12.66**	**357**	*eP*		**Pn**	**00 56 22.8**	**-0.2**
BBAC	**Balboa, Cauca**	**12.69**	**349**	*eP*		**Pn**	**00 56 24.5**	**+1.1**
PB05	**IPOC Station P**	**13.05**	**160**			**Pn**	**00 56 27.1**	**-0.8**
PB06	**IPOC Station P**	**13.13**	**158**			**Pn**	**00 56 25.1**	**-3.9**
BETC	**Betania**	**13.14**	**358**	*eP*		**Pn**	**00 56 29.2**	**0.0**
LVC	**Limon Verde**	**13.30**	**155**			**Pn**	**00 56 30.8**	**-0.8**
LVC	**Limon Verde**	**13.30**	**155**	P		**Pn**	**00 56 33.1**	**+1.6**
	8.2nm,0.9s,baz=285,slow=14,SNR=4.1							
LVC				S		**Sn**	**00 58 51.1**	**-7.3**
	5.7nm,0.7s,baz=276,slow=19,SNR=2.1							
LVC	**Limon Verde**	**13.30**	**155**	*eP*		**Pn**	**00 56 31.8**	**+0.3**
PB15	**IPOC Station P**	**13.63**	**158**	P		**Pn**	**00 56 34.3**	**-1.2**
JAMC	**Jamundi, Valle**	**13.78**	**353**	*eP*		**P**	**00 56 41.4**	**-0.6**
GR1C	**Gorgona, Isla**	**13.84**	**346**	*eP*		**P**	**00 56 41.6**	**-0.9**
AF01	**San Pedro de A**	**13.92**	**153**	P		**P**	**00 56 40.9**	**+1.2**
PRAC	**Prado**	**14.16**	**0**	*eP*		**P**	**00 56 45.2**	**-0.8**
ORTC	**Ortega, Tolima**	**14.36**	**359**	*eP*		**Pn**	**00 56 44.8**	**0.0**
YOTC	**Yotoco, Valle**	**14.50**	**354**	*eP*		**P**	**00 56 49.1**	**-0.8**
SIV	**San Ignacio**	**14.51**	**113**	P		**Pn**	**00 56 46.4**	**-0.4**
	57nm,0.8s,baz=290,slow=12,SNR=102							
SIV				S		**Sn**	**00 59 25.6**	**-1.6**
	32nm,0.7s,baz=0.0,slow=20,SNR=1.5							
VILC	**Villavicencio,**	**14.61**	**5**	*eP*		**Pn**	**00 56 48.8**	**+0.8**
PB14	**IPOC Station P**	**14.65**	**164**			**Pn**	**00 56 46.8**	**-1.9**
PTGC	**Puerto Gaitan,**	**14.90**	**11**	*eP*		**Pn**	**00 56 50.4**	**-1.2**
ROSC	**El Rosal**	**15.29**	**2**	P		**P**	**00 56 59.2**	**+0.2**
ROSC				IAmb		IAmb	00 57 25.3	
	comp=Z,59nm,0.8s							
ROSC	**El Rosal**	**15.29**	**2**	P		**Pn**	**00 56 57.8**	**+0.9**
	comp=Z,10nm,0.6s,baz=217,slow=10,SNR=5.4							
ROSC				S		**Sn**	**00 59 48.0**	**+1.6**
	comp=Z,24nm,0.9s,baz=234,slow=21,SNR=1.4							
ROSC				LR		LR	01 03 43.2	
	comp=Z,85nm,20.0s,baz=240,slow=40							
ROSC	**El Rosal**	**15.29**	**2**	*eP*		**P**	**00 57 02.4**	**+3.4**
BBSD	**Serra de San D**	**15.37**	**117**	*eP*		**Pn**	**00 56 57.6**	**+0.1**
GO02	**Mina Guanaco**	**15.40**	**162**	Pn		**Pn**	**00 56 55.7**	**-2.4**
GO02				IAmb		IAmb	00 57 04.1	
	comp=Z,52nm,0.8s							
PLMC	**San Jos del P**	**15.40**	**355**	*eP*		**P**	**00 57 02.1**	**+2.2**
GUY2C	**Guyana, Caldas**	**15.67**	**358**	*eP*		**P**	**00 57 04.6**	**+1.3**
MACA	**Manacapuru-AM**	**15.90**	**64**	Pn		**Pn**	**00 57 01.7**	**-2.5**
AC01	**Pan de Azucar**	**16.05**	**166**			**Pn**	**00 57 03.9**	**-2.0**
SPBC	**San Pablo de B**	**16.11**	**3**	*eP*		**P**	**00 57 11.4**	**+3.7**
PTLB	**Pontes e Lacer**	**16.12**	**109**	Pn		**Pn**	**00 57 05.8**	**-1.0**
BBRB	**Robore, Bolivi**	**16.52**	**119**	*eP*		**Pn**	**00 57 11.8**	**+0.1**
PTBC	**PUERTO BERRIO,**	**16.97**	**2**	*eP*		**Pn**	**00 57 17.9**	**+0.7**
BARC	**Barichara**	**17.11**	**6**	*eP*		**Pn**	**00 57 21.6**	**+2.5**
TAMC	**Tame, Arauca**	**17.15**	**11**	*eP*		**Pn**	**00 57 20.8**	**+1.4**
AC06	**Mina Casimiro**	**17.27**	**166**			**P**	**00 57 18.6**	**-1.8**
AC06				IAmb		IAmb	00 57 24.5	
	comp=Z,80nm,1.1s							
DBBC	**Dabeiba**	**17.49**	**356**	*eP*		**Pn**	**00 57 25.7**	**+2.1**
GO03	**Copiap**	**17.53**	**166**	P		**P**	**00 57 22.0**	**-1.3**
PAMC	**Pamplona, Colo**	**17.90**	**7**	*eP*		**Pn**	**00 57 30.5**	**+1.6**
AC04	**Llanos de Chal**	**17.94**	**169**	P		**P**	**00 57 25.6**	**-2.2**
UREC	**San Jos de Ur**	**18.18**	**358**	*eP*		**Pn**	**00 57 33.9**	**+2.1**
AC05	**El Transito**	**18.71**	**167**	P		**P**	**00 57 36.4**	**0.0**
OCAC	**Ocana**	**18.72**	**5**	*eP*		**P**	**00 57 37.4**	**+0.8**
LCO	**Las Campanas**	**18.80**	**168**	P		**P**	**00 57 36.7**	**-0.7**
LCO				IAmb		IAmb	00 57 43.0	
	comp=Z,56nm,1.0s							
LCO	**Las Campanas**	**18.80**	**168**	*eP*		**P**	**00 57 36.7**	**-0.7**
BOAV	**Boa Vista**	**19.24**	**49**	P		**P**	**00 57 41.8**	**-0.3**
SALV	**Santo Antonio**	**19.45**	**108**	*eP*		**P**	**00 57 45.3**	**+1.0**
CO05	**La Serena**	**19.58**	**170**	P		**P**	**00 57 45.7**	**+0.1**
CO05				IAmb		IAmb	00 57 51.7	
	comp=Z,50nm,0.7s							
SDV	**Santo Domingo**	**19.76**	**13**	P		**P**	**00 57 48.0**	**+0.1**
SDV				IAmb		IAmb	00 57 50.0	
	comp=Z,91nm,1.1s							
SDV	**Santo Domingo**	**19.76**	**13**	P		**P**	**00 57 48.3**	**+0.4**
	comp=Z,61nm,0.9s,baz=200,slow=9.7,SNR=38							
SDV				S		**S**	**01 01 23.8**	**-0.6**
	comp=Z,5.7nm,0.7s,baz=168,slow=20,SNR=1.0							
SDV	**Santo Domingo**	**19.76**	**13**	*eP*		**P**	**00 57 48.6**	**+0.7**
CO01	**Juntas del Tor**	**19.86**	**168**	P		**P**	**00 57 48.0**	**-0.9**
GO04	**Tololo Observa**	**19.91**	**169**	P		**P**	**00 57 48.4**	**-1.1**
MURT	**Porto Murtinho**	**19.94**	**126**	*eP*		**P**	**00 57 49.9**	**+0.3**
BDQN	**Bodoquena, MS**	**20.06**	**122**	*eP*		**P**	**00 57 50.8**	**-0.2**
CO06	**Fray Jorge**	**20.27**	**172**	P		**P**	**00 57 52.2**	**-0.8**
CO06				IAmb		IAmb	00 57 55.4	
	comp=Z,62nm,0.9s							
SJCC	**San Jacinto, C**	**20.30**	**359**	*eP*		Pn	00 57 55.2	-1.5
BAUV	**El Baul**	**20.53**	**20**	P		**P**	**00 57 55.4**	**-0.5**
CO03	**El Pedregal**	**20.58**	**170**	P		**P**	**00 57 56.9**	**+0.4**
CO03				IAmb		IAmb	00 57 59.0	
	comp=Z,76nm,0.9s							
PP1B	**Ponte de Pedra**	**20.65**	**112**	*eP*		**P**	**00 57 57.8**	**+0.6**
BRU2	**Volcan**	**20.71**	**338**	P		**P**	**00 57 58.9**	**+0.8**
CO02	**Combarbal**	**20.88**	**171**	P		**P**	**00 57 59.7**	**-0.1**
CO02				IAmb		IAmb	00 58 04.3	
	comp=Z,107nm,0.9s							
AQDB	**Aquidauana**	**20.96**	**120**	P		**P**	**00 57 59.9**	**-0.7**
AQDB	**Aquidauana**	**20.96**	**120**	*eP*		**P**	**00 58 00.8**	**+0.2**
RVDE	**Rio Verde (Bra**	**21.05**	**116**	*eP*		**P**	**00 58 02.0**	**+0.3**
DRK0	**Durika**	**21.35**	**337**	P		**P**	**00 58 04.5**	**-0.5**
DRK0				IAmb		IAmb	00 58 32.0	
	comp=Z,102nm,1.1s							
ANTJ	**Antonio Joao (**	**21.40**	**125**	*eP*		**P**	**00 58 05.1**	**-0.2**
SMRC	**Santa Marta, M**	**21.57**	**2**	*eP*		**P**	**00 58 10.0**	**+2.8**
VACA	**Villa Angela C**	**21.63**	**144**	*eP*		**P**	**00 58 07.6**	**-0.1**
CFA	**Coronel Fontan**	**21.86**	**165**	P		**P**	**00 58 11.1**	**+1.0**
	comp=Z,61nm,1.0s,baz=340,slow=9.5,SNR=60							
	comp=Z,61nm,1.0s							
RIMA	**Rio Macho**	**22.05**	**336**	P		**P**	**00 58 11.8**	**-0.6**
LCR2	**La Lucha 2**	**22.09**	**336**	P		**P**	**00 58 12.3**	**-0.5**
VA06	**Catapilco**	**22.17**	**172**	P		**P**	**00 58 12.8**	**-0.5**
VA06				IAmb		IAmb	00 58 16.8	
	comp=Z,85nm,1.1s							
JACO	**JACO, Garabito**	**22.29**	**334**	P		**P**	**00 58 14.7**	**0.0**
HDC	**Heredia**	**22.37**	**336**	P		**P**	**00 58 15.8**	**+0.2**
HDC				IAmb		IAmb	00 58 45.3	
	comp=Z,94nm,1.1s							
VA03	**San Esteban**	**22.48**	**170**	P		**P**	**00 58 16.8**	**+0.2**
VA03				IAmb		IAmb	00 58 20.4	
	comp=Z,109nm,1.2s							
VA01	**Torpederas**	**22.58**	**173**	P		**P**	**00 58 16.3**	**-1.0**
VA01				IAmb		IAmb	00 58 21.0	
	comp=Z,82nm,1.1s							
ROC1	**El Roble**	**22.62**	**171**	P		**P**	**00 58 17.4**	**-0.6**
RPRD	**Ribas do Rio P**	**22.67**	**118**	*eP*		**P**	**00 58 18.9**	**+0.4**
PEL	**Peldehue**	**22.83**	**171**	P		**P**	**00 58 19.7**	**-0.2**
PEL				IAmb		IAmb	00 58 22.5	
	comp=Z,52nm,1.0s							
PEL	**Peldehue**	**22.83**	**171**	P		**P**	**00 58 19.7**	**-0.2**
PEL				pmax		pmax		
	comp=Z,52nm,1.0s							
C2SB	**Chapadao do Su**	**22.85**	**114**	*eP*		**P**	**00 58 21.2**	**+1.0**
CPUP	**Villa Florida**	**22.86**	**136**	P		**P**	**00 58 19.6**	**-0.6**
CPUP				IAmb		IAmb	00 58 21.9	
	comp=Z,78nm,1.1s							
CPUP	**Villa Florida**	**22.86**	**136**	P		**P**	**00 58 19.7**	**-0.6**
CPUP				pmax		pmax		
	comp=Z,78nm,1.1s							
CPUP	**Villa Florida**	**22.86**	**136**	P		**P**	**00 58 19.6**	**-0.6**
	comp=Z,54nm,1.1s,baz=320,slow=9.6,SNR=31							
	comp=Z,54nm,1.1s							
CPUP	**Villa Florida**	**22.86**	**136**	*eP*		**P**	**00 58 20.7**	**+0.5**
MT02	**Curacav**	**22.88**	**172**	P		**P**	**00 58 20.4**	**+0.1**
MT02				IAmb		IAmb	00 58 24.5	
	comp=Z,57nm,0.9s							
SOCE	**Pocosol**	**22.92**	**335**	P		**P**	**00 58 21.6**	**+0.7**
SOCE				IAmb		IAmb	00 58 50.8	
	comp=Z,61nm,0.9s							
JTS	**Las Juntas de**	**22.98**	**334**			**P**	**00 58 21.7**	**+0.2**
JTS	**Las Juntas de**	**22.98**	**334**	P		**P**	**00 58 21.7**	**+0.2**
JTS				pmax		pmax		
	comp=Z,54nm,1.3s							
ARE1	**Arenal 1**	**23.03**	**335**	P		**P**	**00 58 22.6**	**+0.6**
ARE1				IAmb		IAmb	00 58 26.3	
	comp=Z,89nm,1.3s							
MT05	**Renca**	**23.07**	**171**			**P**	**00 58 21.6**	**-0.6**
MT05				IAmb		IAmb	00 58 50.4	
	comp=Z,131nm,1.4s							
COVE	**Coope Vega, Sa**	**23.13**	**336**	P		**P**	**00 58 23.0**	**+0.1**
COVE				IAmb		IAmb	00 58 52.1	
	comp=Z,122nm,1.2s							
MT16	**CCHEN**	**23.14**	**171**	P		**P**	**00 58 22.5**	**-0.4**
MT03	**Universidad Ad**	**23.20**	**171**	P		**P**	**00 58 23.2**	**-0.3**
MT03				IAmb		IAmb	00 58 27.6	
	comp=Z,98nm,1.4s							
SNDB	**Serra Nova Dou**	**23.20**	**96**	*eP*		**P**	**00 58 24.3**	**+0.7**
VA05	**Santo Domingo**	**23.21**	**173**	P		**P**	**00 58 22.6**	**-0.8**
VA05				IAmb		IAmb	00 58 27.0	
	comp=Z,82nm,1.4s							
ORTG	**Ortega, Santa**	**23.27**	**333**	P		**P**	**00 58 23.7**	**-0.5**
VA04	**Juan Fernndez**	**23.27**	**188**	P		**P**	**00 58 24.6**	**+0.6**
VA04				IAmb		IAmb	00 58 42.2	
	comp=Z,108nm,1.1s							
MT09	**Talagante**	**23.41**	**172**	P		**P**	**00 58 24.2**	**-1.2**
MT01	**Popeta**	**23.46**	**172**	P		**P**	**00 58 24.4**	**-1.3**
MT13	**San Alfonso**	**23.48**	**170**	P		**P**	**00 58 25.9**	**-0.2**
MT13				IAmb		IAmb	00 58 30.9	
	comp=Z,69nm,1.0s							
LMEL	**Las

baz=168,SNR=7.9
250A Grady 43.65 346 P **P** **01 01 19.0 -0.8**
250A IAmb IAmb 01 01 37.1
comp=Z,27nm,1.1s
NHSC New Hope 43.69 354 P **P** **01 01 19.7 -0.3**
NHSC New Hope 43.69 354 P **P** **01 01 19.4 -0.7**
baz=173,SNR=6.6
NHSC New Hope 43.69 354 P **P** **01 01 20.8 +0.7**
baz=173,SNR=6.6
HBVL Hebbronville 43.92 329 P **P** **01 01 21.0 -1.0**
HBVL IAmb IAmb 01 01 24.9
comp=Z,27nm,0.9s
152A Waverly Hall 43.97 348 P **P** **01 01 21.6 -0.8**
152A IAmb IAmb 01 01 38.6
comp=Z,23nm,0.9s
152A Waverly Hall 43.97 348 P **P** **01 01 21.9 -0.5**
baz=166,SNR=6.8
HAW Hawthorne Fire 44.12 352 P **P** **01 01 23.8 +0.3**
baz=171,SNR=8.0
Y58A Scranton 44.43 354 P **P** **01 01 26.0 +0.1**
Y58A IAmb IAmb 01 01 55.4
comp=Z,37nm,1.0s
GOGA Godfrey 44.46 350 P **P** **01 01 24.6 -1.6**
GOGA IAmb IAmb 01 01 41.9
comp=Z,26nm,1.1s
GOGA Godfrey 44.46 350 P **P** **01 01 24.8 -1.4**
baz=168,SNR=5.9
GOGA Godfrey 44.46 350 P **P** **01 01 26.1 -0.1**
baz=168,SNR=5.9
GOGA Godfrey 44.46 350 P **P** **01 01 24.6 -1.6**
GOGA pmax pmax
comp=Z,26nm,1.1s
Y57A Sumter 44.61 354 P **P** **01 01 27.2 -0.2**
Y57A IAmb IAmb 01 01 41.3
comp=Z,36nm,0.9s
Z51A Franklin 44.70 348 P **P** **01 01 26.5 -1.6**
Z51A IAmb IAmb 01 01 44.6
comp=Z,29nm,1.4s
Z51A Franklin 44.70 348 P **P** **01 01 28.4 +0.3**
baz=166
LRAL Lakeview Retre 44.84 346 P **P** **01 01 28.1 -1.1**
LRAL Lakeview Retre 44.84 346 P **P** **01 01 28.8 -0.4**
baz=163,SNR=9.9
LRAL Lakeview Retre 44.84 346 P **P** **01 01 29.0 -0.2**
baz=163,SNR=9.9
735A Kenedy 44.98 331 P **P** **01 01 30.6 +0.2**
JSC Jenkinsville 44.98 353 P **P** **01 01 29.7 -0.6**
JSC Jenkinsville 44.98 353 P **P** **01 01 29.7 -0.6**
JSC pmax pmax
comp=Z,13nm,1.1s
Y52A Lilburn 45.01 349 P **P** **01 01 30.2 -0.4**
Y52A IAmb IAmb 01 01 46.3
comp=Z,22nm,1.1s
Y52A Lilburn 45.01 349 P **P** **01 01 30.4 -0.1**
baz=167
Y52A P **P** **01 01 30.4 -0.1**
baz=167
146A Union 45.01 343 P **P** **01 01 29.9 -0.7**
146A IAmb IAmb 01 01 31.6
comp=Z,19nm,0.9s
146A Union 45.01 343 P **P** **01 01 31.1 +0.5**
baz=160
HKT Hockley 45.02 334*de***P P** **01 01 31.5 +0.9**
HKT pmax pmax
comp=Z,13nm,1.1s
HKT Hockley 45.02 334 P **P** **01 01 32.2 +1.6**
HKT pP **pP** **01 01 59.9 +1.8**
HKT sP **sP** **01 02 11.4 0.0**
VBMS Vicksburg 45.06 341 P **P** **01 01 30.2 -0.8**
baz=158
HODGE Hodges 45.07 351 P **P** **01 01 30.4 -0.6**
HODGE Hodges 45.07 351 P **P** **01 01 31.3 +0.3**
baz=170
BIRD Birdtown, Kers 45.24 354 P **P** **01 01 32.5 +0.1**
BIRD IAmb IAmb 01 01 46.3
comp=Z,17nm,0.9s
BIRD Birdtown, Kers 45.24 354 P **P** **01 01 32.9 +0.5**
baz=172
833A Chaparral WMA, 45.32 329 P **P** **01 01 33.0 -0.1**
833A IAmb IAmb 01 01 35.4
comp=Z,20nm,0.9s
833A Chaparral WMA, 45.32 329 P **P** **01 01 32.8 -0.3**
baz=145
833A Chaparral WMA, 45.32 329 P **P** **01 01 35.0 +1.9**
baz=145
EF01 Eagle Ford 01 45.48 331 P **P** **01 01 33.6 -0.8**
EF01 IAmb IAmb 01 01 37.2
comp=Z,22nm,0.9s
W59A Clinton 45.58 356 P **P** **01 01 34.7 -0.3**
W59A **pP** **01 02 01.3 -1.2**
W59A IAmb IAmb 01 02 04.7
comp=Z,18nm,0.8s
PAULI Pauline 45.58 352 P **P** **01 01 34.6 -0.5**
PAULI pP **pP** **01 02 02.3 -0.3**
PAULI Pauline 45.58 352 P **P** **01 01 35.2 +0.1**
baz=171,SNR=5.7
CNNC Cliffs of the 45.62 357 P **P** **01 01 35.5 +0.2**
CNNC **pP** **01 02 02.5 -0.2**
CNNC IAmb IAmb 01 02 04.5
comp=Z,43nm,1.1s
CNNC Cliffs of the 45.62 357 P **P** **01 01 35.1 -0.2**
baz=176
W57A Gilead 45.70 354 P **P** **01 01 34.4 -1.6**
W57A IAmb IAmb 01 01 37.8
comp=Z,26nm,1.1s
W57A **pP** **01 02 03.2 -0.3**
W57A Gilead 45.70 354 P **P** **01 01 36.3 +0.3**
baz=173,SNR=10
W57A P **P** **01 01 36.3 +0.3**
baz=173,SNR=10
KMSC Kings Mountain 45.84 353 P **P** **01 01 35.2 -1.8**
KMSC Kings Mountain 45.84 353 P **P** **01 01 37.5 +0.4**
baz=171
X51A Calhoun 45.84 349 P **P** **01 01 36.2 -0.9**
X51A Calhoun 45.84 349 P **P** **01 01 36.9 -0.2**
baz=166
X51A P **P** **01 01 36.9 -0.2**
baz=166
BG3 Lake Jocassee 45.92 351 P **P** **01 01 37.3 -0.4**
CASEE Lake Jocassee 45.92 351 P **P** **01 01 37.9 +0.2**
baz=169,SNR=7.0
FPAL Fort Paine 45.97 348 P **P** **01 01 37.5 -0.7**
FPAL IAmb IAmb 01 01 54.3
comp=Z,19nm,0.9s
V61A Roper 46.11 358 P **P** **01 01 39.1 -0.1**
V61A **pP** **01 02 07.1 +0.5**
NATX Nacogdoches 46.12 336 P **P** **01 01 40.3 +1.0**
NATX **pP** **01 02 07.1 +0.3**
NATX Nacogdoches 46.12 336 P **P** **01 01 40.3 +1.0**
baz=153,SNR=7.4
NATX Nacogdoches 46.12 336 P **P** **01 01 40.9 +1.6**
baz=153,SNR=7.4
W52A Murphy 46.18 350 P **P** **01 01 38.9 -0.9**
W52A IAmb IAmb 01 01 55.5
comp=Z,34nm,1.1s
W52A Murphy 46.18 350 P **P** **01 01 39.9 +0.1**
baz=168
X48A Hartselle 46.20 346 P **P** **01 01 38.6 -1.4**
HNDO Hondo 46.25 330 P **P** **01 01 40.5 +0.1**
V58A Windy Hill, Pi 46.25 355 P **P** **01 01 39.5 -0.8**
V58A IAmb IAmb 01 01 53.3
comp=Z,22nm,1.1s
V58A **pP** **01 02 07.3 -0.5**
V58A Windy Hill, Pi 46.25 355 P **P** **01 01 40.6 +0.3**
baz=174
V58A P **P** **01 01 40.6 +0.3**
baz=174
Y45A Yeager Farm, C 46.30 343 P **P** **01 01 39.6 -1.1**
Y45A IAmb IAmb 01 01 41.8
comp=Z,34nm,1.0s
Y45A Yeager Farm, C 46.30 343 P **P** **01 01 40.7 -0.1**
baz=160,SNR=5.6
435B Jarrell 46.50 333 P **P** **01 01 42.4 +0.1**
baz=149
V55A Taylorsville 46.52 353 P **P** **01 01 42.1 -0.4**
V55A Taylorsville 46.52 353 P **P** **01 01 42.9 +0.5**
baz=172
V55A P **P** **01 01 42.9 +0.5**
baz=172
W50A Signal Mountai 46.54 348 P **P** **01 01 41.7 -0.9**
W50A IAmb IAmb 01 01 58.8
comp=Z,30nm,0.9s
W50A Signal Mountai 46.54 348 P **P** **01 01 42.1 -0.6**
baz=166,SNR=10
V53A Saluda 46.56 351 P **P** **01 01 42.2 -0.6**
V53A IAmb IAmb 01 01 57.4
comp=Z,15nm,0.7s
V53A Saluda 46.56 351 P **P** **01 01 42.7 -0.1**
baz=169,SNR=5.6
V53A P **P** **01 01 42.7 -0.1**
baz=169,SNR=5.6
CPCT Cooper Cave 46.63 349 P **P** **01 01 42.4 -0.9**
CPCT IAmb IAmb 01 01 59.0
comp=Z,17nm,0.8s
SWET Sewanee 46.69 348 P **P** **01 01 42.4 -1.4**
TKL Tuckaleechee C 46.70 350 P **P** **01 01 43.3 -0.6**
TKL IAmb IAmb 01 01 59.1
comp=Z,22nm,1.1s
TKL Tuckaleechee C 46.70 350 P **P** **01 01 43.1 -0.7**
baz=168,SNR=7.3
TKL Tuckaleechee C 46.70 350 P **P** **01 01 43.3 -0.6**
TKL pmax pmax
comp=Z,22nm,1.1s
U59A Littleton 46.72 357 P **P** **01 01 44.1 +0.2**
U59A **pP** **01 02 11.8 +0.3**
U59A IAmb IAmb 01 02 13.4
comp=Z,21nm,0.9s
237A Washetta, Mont 46.79 335 P **P** **01 01 44.6 0.0**
DRIO Del Rio 46.83 329 P **P** **01 01 45.1 +0.1**
DRIO IAmb IAmb 01 01 47.3
comp=Z,32nm,1.2s
DRIO pP **pP** **01 02 12.3 -0.3**
V52A Sevierville 46.85 350 P **P** **01 01 44.6 -0.4**
V52A Sevierville 46.85 350 P **P** **01 01 44.8 -0.3**
baz=168,SNR=14
OXF Oxford 46.87 344 P **P** **01 01 44.5 -0.6**
baz=160
OXF Oxford 46.87 344 P **P** **01 01 45.0 -0.2**
baz=160
U56A King 46.92 354 P **P** **01 01 45.1 -0.4**
U56A IAmb IAmb 01 01 47.3
comp=Z,22nm,0.9s
U56A **pP** **01 02 13.1 0.0**
U56A King 46.92 354 P **P** **01 01 46.4 +0.9**
baz=173,SNR=6.3
U56A P **P** **01 01 46.4 +0.9**
baz=173,SNR=6.3
V51A Loudon 46.95 349 P **P** **01 01 44.6 -1.1**
V51A IAmb IAmb 01 02 01.3
comp=Z,31nm,0.9s
V51A Loudon 46.95 349 P **P** **01 01 45.5 -0.3**
baz=167,SNR=7.8
PLAL Pickwick Lake 46.96 345 P **P** **01 01 44.3 -1.5**
U54A Nelsons Funny 47.26 352 P **P** **01 01 47.9 -0.3**
U54A IAmb IAmb 01 02 02.9
comp=Z,23nm,0.9s
U54A Nelsons Funny 47.26 352 P **P** **01 01 48.5 +0.3**
baz=171,SNR=7.1
U54A P **P** **01 01 48.5 +0.3**
baz=171,SNR=7.1
WLAR White Oak Lake 47.27 339 P **P** **01 01 48.8 +0.6**
WLAR **pP** **01 02 17.1 +1.2**
WLAR IAmb IAmb 01 02 18.6
comp=Z,37nm,1.1s
JCT Junction City 47.29 330 P **P** **01 01 48.9 +0.4**
JCT Junction City 47.29 330 P **P** **01 01 48.6 +0.1**
baz=146
JCT Junction City 47.29 330 P **P** **01 01 48.9 +0.4**
JCT pmax pmax
comp=Z,9.0nm,1.1s
T59A Double "B" Far 47.32 357 P **P** **01 01 48.6 0.0**
T59A pP **pP** **01 02 17.2 +1.0**
T59A Double "B" Far 47.32 357 P **P** **01 01 49.4 +0.7**
baz=176
T59A P **P** **01 01 49.4 +0.7**
baz=176
V48A Smith Brothers 47.38 347 P **P** **01 01 48.2 -0.9**
V48A IAmb IAmb 01 01 49.4
comp=Z,20nm,0.6s
V48A Smith Brothers 47.38 347 P **P** **01 01 48.3 -0.9**
baz=164,SNR=16
T60A Surry 47.46 358 P **P** **01 01 49.6 0.0**
T60A IAmb IAmb 01 02 02.0
comp=Z,17nm,0.8s
T60A Surry 47.46 358 P **P** **01 01 50.8 +1.2**
baz=178
T60A P **P** **01 01 50.8 +1.2**
baz=178
T57A Hurt 47.46 355 P **P** **01 01 49.5 -0.2**
T57A IAmb IAmb 01 02 03.0
comp=Z,29nm,0.8s
T57A Hurt 47.46 355 P **P** **01 01 49.8 +0.1**
baz=174,SNR=10
T57A P **P** **01 01 49.8 +0.1**
baz=174,SNR=10
WHTX Lake Whitney, 47.48 334 P **P** **01 01 49.9 0.0**
WHTX Lake Whitney, 47.48 334 P **P** **01 01 50.5 +0.6**
baz=149,SNR=9.0
WHTX Lake Whitney, 47.48 334 P **P** **01 01 51.1 +1.2**
baz=149,SNR=9.0
TZTN Tazewell 47.53 351 P **P** **01 01 49.9 -0.4**
TZTN IAmb IAmb 01 02 05.4
comp=Z,34nm,0.9s
TZTN Tazewell 47.53 351 P **P** **01 01 50.7 +0.4**
baz=169,SNR=5.8
TZTN Tazewell 47.53 351 P **P** **01 01 50.0 -0.4**
baz=169
Z38A Mt. Pleasant 47.57 337 P **P** **01 01 50.9 +0.3**
Z38A Mt. Pleasant 47.57 337 P **P** **01 01 51.6 +1.0**
baz=153,SNR=5.0
BRDY Brady 47.57 332 P **P** **01 01 50.7 -0.1**
MET Memphis--Engin 47.59 343 P **P** **01 01 49.4 -1.3**
CLTN Cedars of Leba 47.61 347 P **P** **01 01 49.8 -1.1**
FW16 Waxahatchie 47.66 335 P **P** **01 01 51.3 0.0**
FW14 Alvarado 47.71 334 P **P** **01 01 52.0 +0.3**
HPIG 47.74 322 P **P** **01 01 51.9 -0.4**
FW13 Cleburne 47.77 334 P **P** **01 01 51.7 -0.5**
FW13 IAmb IAmb 01 01 54.6
comp=Z,39nm,0.9s
BLA Blacksburg 47.78 354 P **P** **01 01 51.1 -1.1**
BLA **pP** **01 02 19.9 0.0**
BLA IAmb IAmb 01 02 21.5
comp=Z,22nm,1.0s
BLA Blacksburg 47.78 354 P **P** **01 01 52.2 -0.1**
baz=173
U49A Red Boiling Sp 47.91 348 P **P** **01 01 52.2 -0.9**
S61A Accomac 47.97 359 P **P** **01 01 53.4 -0.2**
WVT Waverly 47.99 346 P **P** **01 01 52.0 -1.8**
WVT Waverly 47.99 346 P **P** **01 01 52.7 -1.1**
baz=163
WVT Waverly 47.99 346 P **P** **01 01 52.3 -1.5**
baz=163,SNR=9.0
WVT Waverly 47.99 346 P **P** **01 01 52.0 -1.8**
WVT pmax pmax
comp=Z,10.0nm,0.9s
WVT Waverly 47.99 346 P **P** **01 01 52.2 -1.6**
SAND Sanderson 48.04 328 P **P** **01 01 54.8 +0.4**
S57A Dark Hollow, R 48.19 356 P **P** **01 01 55.1 -0.2**
S57A IAmb IAmb 01 02 08.7
comp=Z,33nm,1.1s
S57A Dark Hollow, R 48.19 356 P **P** **01 01 56.0 +0.7**
baz=175,SNR=6.2
S57A P **P** **01 01 56.0 +0.7**
baz=175,SNR=6.2
HBAR Harrisburg 48.20 343 P **P** **01 01 55.2 -0.2**
T50A Nancy 48.22 349 P **P** **01 01 54.9 -0.7**
FW07 Weatherford 48.23 334 P **P** **01 01 55.7 0.0**
OZNA Ozona 48.30 329 P **P** **01 01 55.7 -0.7**
OZNA IAmb IAmb 01 01 57.9
comp=Z,36nm,1.4s
R58B Mineral 48.33 357 pP **pP** 01 02 24.5 +0.4
FW06 Azle 48.36 334 P **P** **01 01 56.9 +0.1**
TX31 Lajitas Ar. Si 48.38 326 P **P** **01 01 57.0 -0.1**
TX31 Lajitas Ar. Si 48.38 326 P **P** **01 01 57.6 +0.5**
baz=141,SNR=14
TXAR Lajitas Array 48.38 326 P **P** **01 01 57.5 +0.4**
comp=Z,4.5nm,0.9s,baz=144,slow=8.8,SNR=28
TXAR PP **PP** **01 03 53.3 +2.4**
comp=Z,2.0nm,0.8s,baz=140,slow=9.9,SNR=3.9
comp=Z,4.5nm,0.9s
UTMT University of 48.45 345 P **P** **01 01 56.4 -0.9**
WHAR Wooly Hollow 48.46 341 P **P** **01 01 53.6 -3.8**
WHAR IAmb IAmb 01 01 58.1
comp=Z,19nm,1.1s
S54A Dingess, Becki 48.46 353 P **P** **01 01 57.4 0.0**
S54A Dingess, Becki 48.46 353 P **P** **01 01 57.4 0.0**
baz=172,SNR=7.5
S54A P **P** **01 01 57.4 0.0**
baz=172,SNR=7.5
Z35A Perchaven, San 48.54 335 P **P** **01 01 58.5 +0.4**
Z35A **pP** **01 02 26.5 +0.6**
baz=150,SNR=11
PLPT Palo Pinto 48.55 333 P **P** **01 01 58.3 +0.1**
PLPT IAmb IAmb 01 02 00.1
comp=Z,24nm,0.9s
PLPT pP **pP** **01 02 27.4 +1.4**
S51A Beattyville 48.61 351 P **P** **01 01 57.8 -0.8**
S51A IAmb IAmb 01 02 13.9
comp=Z,31nm,0.9s
R61A Willards 48.62 360 **P** **01 01 58.3 -0.2**
FW03 Perrin-Whitt E 48.64 334 P **P** **01 01 59.1 +0.3**
FW03 IAmb IAmb 01 02 28.3
comp=Z,22nm,0.7s
T47A Sharon Grove 48.64 347 P **P** **01 01 57.7 -1.1**
T47A Sharon Grove 48.64 347 P **P** **01 01 57.9 -0.9**
baz=164,SNR=6.1
HICK Hickman 48.73 345 P **P** **01 01 58.7 -0.8**
LCAR Lake Charles 48.83 342 P **P** **01 01 59.3 -1.0**
LCAR IAmb IAmb 01 02 00.5
comp=Z,21nm,1.2s
LCAR pP **pP** **01 02 26.9 -1.0**
LCAR Lake Charles 48.83 342 P **P** **01 01 59.2 -1.0**
baz=159,SNR=10.0
FCAR Ozark Folk Cen 48.95 341 P **P** **01 01 59.8 -1.4**
PARMO Parma 48.98 344 P **P** **01 02 00.8 -0.6**
ABTX Abilene, Hawle 48.99 332 P **P** **01 02 01.4 -0.2**
baz=147,SNR=16
ABTX Abilene, Hawle 48.99 332 P **P** **01 02 02.3 +0.7**
baz=147,SNR=16
T45A Paducah 49.04 345 P **P** **01 01 59.9 -1.9**
LOOK Love County 49.09 335 **P** **01 02 02.5 +0.3**
LOOK IAmb IAmb 01 02 04.4
comp=Z,36nm,1.0s
SGCY Sterling City 49.11 330 P **P** **01 02 02.6 0.0**
ALPN Alpine 49.17 327 P **P** **01 02 03.1 -0.1**
ALPN IAmb IAmb 01 02 05.6
comp=Z,29nm,1.3s
PBMO Poplar Bluff 49.28 344 P **P** **01 02 02.6 -1.1**
PBMO IAmb IAmb 01 02 03.8
comp=Z,20nm,1.0s
PBMO Poplar Bluff 49.28 344 P **P** **01 02 03.0 -0.7**
baz=160,SNR=8.6
R50A Paris 49.36 350 P **P** **01 02 03.3 -0.9**
R50A IAmb IAmb 01 02 19.4
comp=Z,18nm,1.0s
R50A Paris 49.36 350 P **P** **01 02 03.4 -0.9**
baz=168,SNR=9.0
R50A P **P** **01 02 03.4 -0.9**
baz=168,SNR=9.0
WTFS Witchita Falls 49.43 334 **P** **01 02 04.3 -0.6**
MNHN Monahans 49.47 328 P **P** **01 02 04.0 -1.3**
MNHN IAmb IAmb 01 02 07.1
comp=Z,21nm,1.0s
MNHN **pP** **01 02 33.7 +0.5**
Q56A Snyder Ridge, 49.48 356 P **P** **01 02 05.2 0.0**
Q56A IAmb IAmb 01 02 19.3
comp=Z,26nm,1.1s
Q56A **pP** **01 02 32.1 -1.0**
R49A Shelbyville 49.51 349 P **P** **01 02 04.5 -0.9**
R49A IAmb IAmb 01 02 20.6
comp=Z,18nm,1.1s
R49A Shelbyville 49.51 349 P **P** **01 02 04.6 -0.8**
baz=167,SNR=6.9
R49A P **P** **01 02 04.6 -0.8**
baz=167,SNR=6.9
CGM3 Cape Girardeau 49.56 345 P **P** **01 02 04.2 -1.5**
CGM3 IAmb IAmb 01 02 05.8
comp=Z,22nm,1.1s
Q54A Coxs Mills 49.57 354 P **P** **01 02 04.2 -1.6**
Q54A IAmb IAmb 01 02 20.0
comp=Z,28nm,1.1s
SSFO Shawnee State 49.59 351 P **P** **01 02 04.9 -1.1**
U40A Yellville 49.61 341 P **P** **01 02 06.0 -0.2**
baz=157,SNR=7.9
U40A P **P** **01 02 06.0 -0.2**
baz=157,SNR=7.9
WCI Wyandotte Cave 49.67 348 P **P** **01 02 05.7 -0.9**
WCI IAmb IAmb 01 02 22.1
comp=Z,34nm,1.1s
WCI Wyandotte Cave 49.67 348 P **P** **01 02 05.6 -0.9**
baz=165
WCI Wyandotte Cave 49.67 348 P **P** **01 02 05.4 -1.2**
baz=165,SNR=9.2
WCI Wyandotte Cave 49.67 348 P **P** **01 02 05.7 -0.9**
WCI pmax pmax
comp=Z,34nm,1.1s
WCI Wyandotte Cave 49.67 348 P **P** **01 02 05.5 -1.1**
USIN University of 49.71 347 P **P** **01 02 05.8 -1.1**
Q52A Bidwell 49.72 352 P **P** **01 02 06.2 -0.8**
Q52A Bidwell 49.72 352 P **P** **01 02 06.9 -0.1**
baz=171,SNR=6.0
Q52A P **P** **01 02 06.9 -0.1**
baz=171,SNR=6.0
SN01 Snyder 1 49.77 331 P **P** **01 02 07.7 +0.2**
SN01 IAmb IAmb 01 02 09.2
comp=Z,19nm,0.9s
APMT Aspermont 49.80 332 P **P** **01 02 08.2 +0.5**
S44A Carbondale 49.83 345 P **P** **01 02 06.6 -1.2**
S44A Carbondale 49.83 345 P **P** **01 02 06.8 -1.0**
baz=162,SNR=6.5
SIUC Southern Illin 49.84 345 P **P** **01 02 06.4 -1.5**
X34A Smith Ranch, M 49.88 335 **P** **01 02 08.8 +0.5**
HHAR Hobbs 49.91 340 P **P** **01 02 07.6 -0.8**
HHAR IAmb IAmb 01 02 09.4
comp=Z,23nm,1.0s
HHAR pP **pP** **01 02 35.3 -1.0**
Q51A Peebles 49.93 351 P **P** **01 02 07.4 -1.2**
Q51A IAmb IAmb 01 02 23.1
comp=Z,14nm,0.9s
P61A Hammonton 49.95 0 P **P** **01 02 09.2 +0.5**
W35A Tecumseh 49.97 336 P **P** **01 02 09.0 0.0**
W35A IAmb IAmb 01 02 09.8
comp=Z,31nm,1.0s
ODSA Odessa 49.98 329 P **P** **01 02 08.9 -0.3**
PECS Pecos 50.07 327 P **P** **01 02 09.4 -0.4**
PECS IAmb IAmb 01 02 11.8
comp=Z,21nm,1.2s
PECS **pP** **01 02 38.1 +0.3**
P53A Whipple 50.13 353 P **P** **01 02 09.6 -0.5**
P53A **pP** **01 02 37.7 -0.3**
MCWV Mont Chateau 50.15 355 P **P** **01 02 09.9 -0.3**
MCWV IAmb IAmb 01 02 23.9
comp=Z,18nm,0.8s
MCWV Mont Chateau 50.15 355 P **P** **01 02 10.0 -0.2**
baz=174,SNR=5.1
MGMO Mountain Grove 50.16 342 P **P** **01 02 10.0 -0.4**
RLO Rose Lookout 50.18 339 P **P** **01 02 10.1 -0.4**
RLO IAmb IAmb 01 02 11.9
comp=Z,34nm,0.8s
U38A Gravette 50.20 340 P **P** **01 02 09.8 -0.8**
U38A IAmb IAmb 01 02 11.6
comp=Z,14nm,1.0s
U38A pP **pP** **01 02 38.7 +0.1**
U38A Gravette 50.20 340 P **P** **01 02 10.7 +0.1**
baz=155,SNR=7.9
PSUB Penn St. - Bra 50.21 359 P **P** **01 02 10.9 +0.2**
baz=179
WUPA West Chester U 50.22 359 P **P** **01 02 10.7 0.0**
VHRN Van Horn 50.23 326 P **P** **01 02 11.2 0.0**
VHRN IAmb IAmb 01 02 12.9
comp=Z,26nm,1.1s
VHRN pP **pP** **01 02 39.3 +0.2**
TUL3 Leonard 50.23 338 **P** **01 02 10.8 -0.1**
TUL3 Leonard 50.23 338 P **P** **01 02 10.8 -0.1**
baz=153,SNR=16
TUL3 Leonard 50.23 338 P **P** **01 02 11.2 +0.3**
baz=153,SNR=16
POST Post 50.23 331 P **P** **01 02 11.1 0.0**
POST **pP** **01 02 40.4 +1.4**
FNO Franklin 50.27 336 **P** **01 02 11.2 0.0**
MVL Millersville 50.30 359 P **P** **01 02 11.5 +0.2**
MVL **pP** **01 02 39.6 +0.4**
P51A Williamsport 50.34 352 P **P** **01 02 09.9 -1.7**
P51A IAmb IAmb 01 02 25.4
comp=Z,12nm,0.8s
P51A pP **pP** **01 02 38.8 -0.7**
P51A Williamsport 50.34 352 P **P** **01 02 11.1 -0.5**
baz=170
P51A P **P** **01 02 11.1 -0.5**
baz=170
P52A Corning 50.37 353 P **P** **01 02 11.1 -0.8**
P52A Corning 50.37 353 P **P** **01 02 11.7 -0.1**
baz=171,SNR=8.0
WMOK Wichita Mounta 50.40 334 **P** **01 02 11.0 -1.2**
WMOK pP **pP** **01 02 40.4 +0.2**

WMOK	Wichita Mounta	50.40	334	P		P	01 02 11.6	-0.6
	baz=149							
WMOK	Wichita Mounta	50.40	334	P		P	01 02 11.0	-1.2
WMOK				*PP		pP	01 02 40.4	+0.2
WMOK				pmax		pmax		
	comp=Z,11nm,1.3s							
FVM	French Village	50.41	344	P		P	01 02 11.5	-0.6
FVM	French Village	50.41	344	P		P	01 02 11.6	-0.6
	baz=160,SNR=14							
FVM	French Village	50.41	344	P		P	01 02 11.5	-0.6
FVM				pmax		pmax		
	comp=Z,40nm,1.1s							
OKCSW	OKLAHOMA CITY	50.42	336	P		P	01 02 12.2	-0.1
DEOK	Depew	50.43	337	P		P	01 02 12.0	-0.4
TUPA	Temple Univers	50.45	360	P		P	01 02 13.5	+1.1
	baz=180,SNR=6.5							
DKNS	Dickens	50.45	332	P		P	01 02 13.1	+0.4
OLIL	Olney	50.54	347	P		P	01 02 12.4	-0.8
OLIL				IAmb		IAmb	01 02 13.1	
	comp=Z,26nm,0.9s							
OLIL	Olney	50.54	347	P		P	01 02 12.0	-1.2
	baz=163,SNR=7.1							
BLO	Bloomington	50.62	348	P		P	01 02 12.3	-1.5
BLO	Bloomington	50.62	348	P		P	01 02 12.3	-1.5
BLO				pmax		pmax		
	comp=Z,74nm,1.3s							
P49A	Miami Univ. Ec	50.64	350	P		P	01 02 11.9	-2.0
P49A				IAmb		IAmb	01 02 13.7	
	comp=Z,20nm,0.9s							
P49A	Miami Univ. Ec	50.64	350	P		P	01 02 13.3	-0.5
	baz=168							
P49A	Miami Univ. Ec	50.64	350	P		P	01 02 13.4	-0.5
	baz=168							
PANJ	Princeton	50.66	0	P		P	01 02 15.1	+1.2
	baz=180,SNR=7.2							
OK052	Battle Ridge R	50.68	337			P	01 02 13.9	-0.4
OK052						pP	01 02 42.7	+0.4
P48A	Milroy	50.70	349	P		P	01 02 12.7	-1.6
P48A				IAmb		IAmb	01 02 13.9	
	comp=Z,16nm,0.8s							
P48A	Milroy	50.70	349	P		P	01 02 12.4	-2.0
	baz=167,SNR=7.5							
P48A				P		P	01 02 12.4	-2.0
	baz=167,SNR=7.5							
CCM	Cathedral Cave	50.70	343	P		P	01 02 13.2	-1.2
CCM				IAmb		IAmb	01 02 14.5	
	comp=Z,15nm,1.1s							
CCM						pP	01 02 40.5	-1.9
CCM	Cathedral Cave	50.70	343	P		P	01 02 13.4	-0.9
	baz=159							
CCM	Cathedral Cave	50.70	343	P		P	01 02 13.5	-0.9
	baz=159,SNR=8.7							
CCM	Cathedral Cave	50.70	343	P		P	01 02 13.2	-1.2
CCM				*PP		pP	01 02 40.5	-1.9
CCM				pmax		pmax		
	comp=Z,15nm,1.1s							
CCM	Cathedral Cave	50.70	343	P		P	01 02 13.5	-0.9
CCM				pP		pP	01 02 42.3	-0.1
CCM				sP		sP	01 02 55.3	-0.3
CCM				PcP		PcP	01 03 29.9	-0.1
OK029	Liberty Lake	50.77	336			P	01 02 14.5	-0.4
CLNB	Carlsbad	50.78	328			P	01 02 15.1	-0.1
OK033	Mehan	50.78	337			P	01 02 14.6	-0.4
OK033						pP	01 02 43.0	0.0
QUOK	Quay	50.80	337	P		P	01 02 15.1	-0.1
QUOK				IAmb		IAmb	01 02 16.4	
	comp=Z,32nm,1.1s							
QUOK				pP		pP	01 02 43.9	+0.7
O52A	Adamsville	50.80	353	P		P	01 02 13.8	-1.3
O52A						pP	01 02 42.6	-0.5
O52A	Adamsville	50.80	353	P		P	01 02 15.2	+0.1
	baz=171							
O52A				P		P	01 02 15.2	+0.1
	baz=171							
O53A	New Philadelph	50.87	354	P		P	01 02 14.7	-0.9
O53A				IAmb		IAmb	01 02 29.6	
	comp=Z,18nm,0.8s							
O53A	New Philadelph	50.87	354	P		P	01 02 14.8	-0.8
	baz=172,SNR=5.7							
LUPA	Lehigh Univers	50.88	360	P		P	01 02 15.8	+0.1
LUPA				IAmb		IAmb	01 02 17.7	
	comp=Z,24nm,1.2s							
LUPA						pP	01 02 44.3	+0.6
Q44A	Meyer Farm, Va	50.91	346	P		P	01 02 14.8	-1.2
Q44A	Meyer Farm, Va	50.91	346	P		P	01 02 14.9	-1.1
	baz=162,SNR=16							
SLM	Saint Louis	50.97	345	P		P	01 02 16.0	-0.4
SLM				IAmb		IAmb	01 02 16.7	
	comp=Z,20nm,0.8s							
SLM	Saint Louis	50.97	345	P		P	01 02 16.0	-0.4
SLM				pmax		pmax		
	comp=Z,20nm,0.8s							
S39A	Bolivar	50.99	341	P		P	01 02 15.6	-0.9
S39A				IAmb		IAmb	01 02 17.1	
	comp=Z,24nm,1.1s							
S39A	Bolivar	50.99	341	P		P	01 02 15.6	-0.9
	baz=157,SNR=14							
SSPA	Standing Stone	50.99	357	P		P	01 02 17.1	+0.6
	baz=176							
SSPA	Standing Stone	50.99	357	P		P	01 02 17.1	+0.6
	baz=176							
SSPA	Standing Stone	50.99	357	P		P	01 02 16.8	+0.3
SSPA				pP		pP	01 02 45.4	+0.9
SSPA				PcP		PcP	01 03 31.2	+0.2
ACSO	Alum Creek Sta	51.06	352	P		P	01 02 16.2	-0.9
ACSO				IAmb		IAmb	01 02 31.4	
	comp=Z,19nm,0.9s							
ACSO						pP	01 02 44.3	-0.8
ACSO	Alum Creek Sta	51.06	352	P		P	01 02 16.4	-0.7
	baz=170,SNR=6.4							
ACSO	Alum Creek Sta	51.06	352	P		P	01 02 16.4	-0.7
	baz=170,SNR=6.4							
OK048	Pawnee Station	51.11	337	P		P	01 02 17.9	+0.4
OK048						pP	01 02 46.5	+1.0
CSTR	Hydro, Custer	51.13	335			P	01 02 17.3	-0.4
CSTR						pP	01 02 46.6	+0.9
MNTX	Cornudas Mount	51.14	326	P		P	01 02 16.9	-0.9
	baz=140							
OK051	E0350 and S346	51.15	337	P		P	01 02 17.8	0.0
N58A	Sunbury	51.15	358	P		P	01 02 17.8	+0.1
N58A						pP	01 02 45.9	+0.2
P46A	Rosedale	51.19	348	P		P	01 02 17.0	-1.0
P46A	Rosedale	51.19	348	P		P	01 02 17.0	-1.0
	baz=164,SNR=9.4							
R40A	Maddies Statio	51.21	342	P		P	01 02 17.0	-1.2
R40A				IAmb		IAmb	01 02 18.4	
	comp=Z,19nm,1.2s							
R40A						pP	01 02 45.0	-1.3
R40A	Maddies Statio	51.21	342	P		P	01 02 17.2	-1.1
	baz=158,SNR=8.9							
O49A	Covington	51.22	351	P		P	01 02 17.1	-1.2
O49A				IAmb		IAmb	01 02 32.6	
	comp=Z,19nm,0.8s							
O49A						pP	01 02 45.7	-0.5
N62A	Caumsett State	51.23	1	P		P	01 02 18.5	+0.3
N62A				IAmb		IAmb	01 02 20.4	
	comp=Z,38nm,1.4s							
PAL	Palisades	51.29	1	P		P	01 02 18.6	-0.1
PAL				IAmb		IAmb	01 02 29.6	
	comp=Z,14nm,1.0s							
PAL	Palisades	51.29	1	P		P	01 02 18.7	0.0
	baz=181							
PAL	Palisades	51.29	1	P		P	01 02 18.6	-0.1
PAL				pmax		pmax		
	comp=Z,14nm,1.0s							
SMWD	Samnorwood	51.34	333	P		P	01 02 19.4	+0.1
SMWD						pP	01 02 48.6	+1.3
ODNJ	Ogdensburg	51.36	0	P		P	01 02 18.0	-1.3
ODNJ						pP	01 02 46.1	-1.2
N53A	Lisbon	51.38	354	P		P	01 02 19.4	-0.1
T35A	Sooner Cattle	51.39	338	P		P	01 02 19.3	-0.3
T35A						pP	01 02 48.4	+0.8
T35B	Sooner Cattle	51.39	338	P		P	01 02 19.3	-0.3
	baz=153,SNR=7.5							
O48B	Farmland	51.42	350	P		P	01 02 18.1	-1.6
O48B						pP	01 02 46.7	-1.1
O48B	Farmland	51.42	350	P		P	01 02 18.7	-1.0
	baz=167,SNR=12							
O48B	Farmland	51.42	350	P		P	01 02 18.0	-1.8
	baz=167,SNR=12							
TRNY	Table Rock, Ra	51.43	1	P		P	01 02 19.1	-0.7
TRNY				IAmb		IAmb	01 02 21.5	
	comp=Z,19nm,1.1s							
TRNY						pP	01 02 47.1	-0.8
WSPT	Westport, CT	51.47	2	P		P	01 02 20.5	+0.4
WSPT				IAmb		IAmb	01 02 21.7	
	comp=Z,33nm,1.1s							
BLOK	Blackwell	51.52	337			P	01 02 20.7	+0.2
BLOK				pP		pP	01 02 49.2	+0.7
MSTX	Muleshoe	51.58	330	P		P	01 02 20.6	-0.6
MSTX				IAmb		IAmb	01 02 22.3	
	comp=Z,19nm,0.9s							
MSTX				pP		pP	01 02 48.9	-0.4
MSTX	Muleshoe	51.58	330	P		P	01 02 20.2	-1.0
	baz=144							
CROK	Carrier	51.59	336	P		P	01 02 20.5	-0.6
YLE	Yale	51.63	2	P		P	01 02 20.9	-0.2
M57A	Sunshine Farm,	51.66	358	P		P	01 02 21.7	+0.2
M57A				IAmb		IAmb	01 02 34.1	
	comp=Z,9.0nm,0.7s							
M57A						pP	01 02 50.1	+0.6
N51A	Ashland	51.66	353	P		P	01 02 19.9	-1.6
N51A				IAmb		IAmb	01 02 34.9	
	comp=Z,14nm,0.5s							
P43A	Skaggs, Pawnee	51.74	346	P		P	01 02 21.5	-0.6
P43A	Skaggs, Pawnee	51.74	346	P		P	01 02 21.1	-1.0
	baz=182,SNR=28							
M63A	Gales Ferry	51.75	3	P		P	01 02 22.1	0.0
M63A	Gales Ferry	51.75	3	P		P	01 02 23.1	+1.0
	baz=184,SNR=5.3							
M63A				P		P	01 02 23.1	+1.0
	baz=184,SNR=5.3							
ELIS	Ellis County	51.80	335	P		P	01 02 23.2	+0.5
ELIS				pP		pP	01 02 51.9	+1.1
AMTX	Amarillo	51.81	332	P		P	01 02 22.7	-0.1
AMTX				IAmb		IAmb	01 02 23.3	
	comp=Z,23nm,1.4s							
AMTX				pP		pP	01 02 50.8	-0.1
AMTX	Amarillo	51.81	332	P		P	01 02 21.9	-0.9
	baz=146							
KAN13	South Haven SW	51.84	337			P	01 02 23.4	+0.5
KAN13				pP		pP	01 02 51.3	+0.3
KSPA	Keystone Colle	51.84	359	P		P	01 02 22.3	-0.5
KSPA				IAmb		IAmb	01 02 24.9	
	comp=Z,31nm,1.5s							
KSPA						pP	01 02 51.7	+0.8
KSPA	Keystone Colle	51.84	359	P		P	01 02 23.9	+1.0
	baz=179							
M55A	Ridgway	51.87	356	P		P	01 02 23.0	0.0
M55A				IAmb		IAmb	01 02 36.5	
	comp=Z,20nm,0.9s							
M55A						pP	01 02 51.4	+0.3
OK038	West end E0370	51.87	336	P		P	01 02 22.4	-0.8
OK038				IAmb		IAmb	01 02 24.2	
	comp=Z,33nm,1.1s							
U32A	Winter Ranch,	51.89	335			P	01 02 23.0	-0.4
U32A				pP		pP	01 02 52.9	+1.5
SFIN	Lafayette	51.90	348	P		P	01 02 21.3	-2.0
SFIN				IAmb		IAmb	01 02 22.8	
	comp=Z,27nm,1.1s							
SFIN						pP	01 02 49.6	-1.8
SFIN	Lafayette	51.90	348	P		P	01 02 21.9	-1.4
	baz=165,SNR=7.9							
SFIN	Lafayette	51.90	348	P		P	01 02 21.8	-1.4
	baz=165,SNR=7.9							
N49A	Columbus Grove	51.91	351	P		P	01 02 22.2	-1.2
N49A				pP		pP	01 02 50.5	-1.0
N49A	Columbus Grove	51.91	351	P		P	01 02 22.2	-1.2
	baz=168,SNR=7.5							
N49A				P		P	01 02 22.2	-1.2
	baz=168,SNR=7.5							
OK032	Salt Plains WL	51.94	336	P		P	01 02 23.8	+0.1
OK032				IAmb		IAmb	01 02 24.8	
	comp=Z,33nm,1.1s							
OK032				pP		pP	01 02 52.0	+0.2
KAN17	Caldwell West	51.98	337			P	01 02 24.2	+0.3
KAN14	Manchester OK	51.98	337			P	01 02 24.2	+0.3
KAN14				IAmb		IAmb	01 02 25.7	
	comp=Z,27nm,1.3s							
KAN14				pP		pP	01 02 52.0	0.0
O44A	Mansfield	51.98	347	P		P	01 02 22.0	-1.9
O44A				IAmb		IAmb	01 02 23.6	
	comp=Z,26nm,1.1s							
O44A						pP	01 02 50.8	-1.2
O44A	Mansfield	51.98	347	P		P	01 02 22.6	-1.3
	baz=163,SNR=6.0							
M65A	Busby, Falmout	51.99	4	P		P	01 02 23.8	-0.1
	baz=185							
M53A	WI Miller and	51.99	354	P		P	01 02 23.3	-0.6
	baz=173,SNR=11							
KAN09	Caldwell North	52.00	337	P		P	01 02 23.9	-0.2
KAN01	Argonia South	52.07	337			P	01 02 25.0	+0.4
KAN01				pP		pP	01 02 53.5	+0.8
KAN05	Bluff City Nor	52.07	337	P		P	01 02 24.9	+0.2
N47A	Urbana	52.12	350	P		P	01 02 23.5	-1.5
N47A				pP		pP	01 02 52.3	-0.7
N47A				IAmb		IAmb	01 02 52.8	
	comp=Z,25nm,0.8s							
N47A	Urbana	52.12	350	P		P	01 02 23.4	-1.5
	baz=167,SNR=9.9							
N47A				P		P	01 02 23.4	-1.5
	baz=167,SNR=9.9							
KS21	Milan North St	52.15	337	P		P	01 02 26.0	+0.8
ALLY	Alegheny Colle	52.15	355	P		P	01 02 24.7	-0.4
ALLY	Alegheny Colle	52.15	355	P		P	01 02 24.7	-0.4
	baz=174,SNR=7.7							
KAN10	Anthony SW Sta	52.17	337	P		P	01 02 25.6	+0.2
KAN06	Argonia West S	52.19	337	P		P	01 02 24.9	-0.6
KAN08	Anthony NE Sta	52.21	337	P		P	01 02 25.8	+0.1
KAN08				IAmb		IAmb	01 02 27.8	
	comp=Z,22nm,0.8s							
M50A	Fremont	52.22	352	P		P	01 02 24.9	-0.7
M50A						pP	01 02 52.8	-1.0
M50A				IAmb		IAmb	01 02 54.4	
	comp=Z,22nm,0.8s							
KAN12	Harper NE Stat	52.29	337	P		P	01 02 27.3	+1.1
P40A	Paris	52.30	343	P		P	01 02 25.2	-1.0
P40A				IAmb		IAmb	01 02 44.0	
	comp=Z,23nm,1.1s							
P40A	Paris	52.30	343	P		P	01 02 25.3	-1.0
	baz=159,SNR=6.7							
L59A	Walton	52.47	360	P		P	01 02 27.6	+0.1
L59A						pP	01 02 55.7	+0.1
L59A	Walton	52.47	360	P		P	01 02 28.2	+0.7
	baz=180,SNR=5.3							
L59A				P		P	01 02 28.2	+0.7
	baz=180,SNR=5.3							
L56A	Greenwood	52.47	358	P		P	01 02 26.7	-0.9
L56A				IAmb		IAmb	01 02 39.9	
	comp=Z,13nm,0.7s							
L56A						pP	01 02 55.2	-0.5
BINY	Binghamton	52.49	359	P		P	01 02 28.3	+0.7
BINY						pP	01 02 55.7	0.0
BINY	Binghamton	52.49	359	P		P	01 02 27.2	-0.4
	baz=179,SNR=5.1							
BINY	Binghamton	52.49	359	P		P	01 02 28.0	+0.4
	baz=179,SNR=5.1							
HDIL	Hopedale	52.55	346	P		P	01 02 26.8	-1.3
HDIL				IAmb		IAmb	01 02 27.8	
	comp=Z,16nm,0.6s							
HDIL						pP	01 02 54.9	-1.4
HDIL	Hopedale	52.55	346	P		P	01 02 27.0	-1.1
	baz=162,SNR=5.5							
HDIL	Hopedale	52.55	346	P		P	01 02 26.8	-1.3
	baz=162,SNR=5.5							
ERPA	Erie	52.60	355	P		P	01 02 28.0	-0.4
ERPA	Erie	52.60	355	P		P	01 02 28.4	-0.1
	baz=174							
L61B	Northampton	52.77	2	P		P	01 02 30.3	+0.7
L61B				IAmb		IAmb	01 02 31.9	
	comp=Z,33nm,1.4s							
L61B	Northampton	52.77	2	P		P	01 02 29.7	+0.1
	baz=183							
WVNY	West Valley, N	52.79	357	P		P	01 02 29.7	-0.2
WVNY				IAmb		IAmb	01 02 42.8	
	comp=Z,11nm,0.8s							
WVNY				pP		pP	01 02 57.9	-0.1
P38A	Dawn	52.82	342	P		P	01 02 28.8	-1.3
P38A				IAmb		IAmb	01 02 30.5	
	comp=Z,21nm,1.1s							
P38A	Dawn	52.82	342	P		P	01 02 29.2	-0.9
	baz=157,SNR=8.6							
HRV	Adam Dziewonsk	52.87	3	P		P	01 02 30.4	0.0
HRV				IAmb		IAmb	01 02 32.4	
	comp=Z,31nm,1.1s							
HRV	Adam Dziewonsk	52.87	3	P		P	01 02 30.7	+0.3
	baz=184							
HRV	Adam Dziewonsk	52.87	3	P		P	01 02 31.4	+1.0
	baz=184							
HRV	Adam Dziewonsk	52.87	3	P		P	01 02 30.4	0.0
HRV				pmax		pmax		
	comp=Z,31nm,1.1s							
HRV	Adam Dziewonsk	52.87	3	P		P	01 02 31.6	+1.2
HRV				pP		pP	01 02 59.6	+1.0
HRV				sP		sP	01 03 13.4	+1.6
L48A	N Adams	52.95	351	P		P	01 02 29.9	-1.1
L48A				IAmb		IAmb	01 02 45.1	
	comp=Z,14nm,0.9s							
HCNY	Howe Caverns	52.98	0	P		P	01 02 32.9	+1.7
	baz=181							
TRY	Troy	53.02	1	P		P	01 02 31.8	+0.3
TRY				IAmb		IAmb	01 02 34.2	
	comp=Z,16nm,1.0s							
K57A	Scipio Center	53.03	359	P		P	01 02 31.9	+0.3
K57A				pP		pP	01 02 59.7	-0.1
N41A	Harden Midland	53.08	345	P		P	01 02 30.8	-1.1
121A	Cookes Peak, D	53.10	325	P		P	01 02 33.0	+0.5
121A				IAmb		IAmb	01 02 35.0	
	comp=Z,19nm,1.0s							
121A	Cookes Peak, D	53.10	325	P		P	01 02 32.3	-0.3
	baz=138,SNR=9.5							
121A	Cookes Peak, D	53.10	325	P		P	01 02 33.6	+1.1
	baz=138,SNR=9.5							
319A	Douglas	53.12	323	P		P	01 02 33.6	+0.9
319A				IAmb		IAmb	01 02 34.8	
	comp=Z,25nm,1.0s							
319A				pP		pP	01 03 02.0	+1.1
AAM	Ann Arbor	53.19	352	P		P	01 02 32.9	+0.2
	baz=169							
L46A	Eue Claire	53.33	349	P		P	01 02 31.9	-1.9
L46A				IAmb		IAmb	01 02 33.0	
	comp=Z,18nm,1.1s							
KSU1	Kansas State U	53.36	339	P		P	01 02 33.3	-0.8
KSU1				IAmb		IAmb	01 02 54.3	
	comp=Z,14nm,0.8s							
KSU1	Kansas State U	53.36	339	P		P	01 02 34.1	+0.1
	baz=153,SNR=5.6							
KSU1	Kansas State U	53.36	339	P		P	01 02 34.0	0.0
	baz=153,SNR=5.6							
K50A	Casco	53.52	353	P		P	01 02 33.8	-1.4
R32A	Long Quarter,	53.54	337	P		P	01 02 35.1	-0.4
R32A	Long Quarter,	53.54	337	P		P	01 02 36.1	+0.7
	baz=151							
RTBA	Rita Blanca	53.57	332	P		P	01 02 35.7	-0.1
RTBA				pP		pP	01 03 01.7	-2.4
J56A	Wolcott	53.58	358	P		P	01 02 34.8	-0.8
J56A				IAmb		IAmb	01 02 36.7	
	comp=Z,19nm,1.1s							
J56A				pP		pP	01 03 03.6	-0.2
J55A	Hilton	53.61	357	P		P	01 02 35.7	-0.1
J55A				pP		pP	01 03 04.2	+0.2
J55A				IAmb		IAmb	01 03 04.9	
	comp=Z,16nm,0.8s							
J58A	Remsen	53.64	360	P		P	01 02 36.9	+0.8
J61A	Chester	53.67	2	P		P	01 02 36.2	0.0
J61A				IAmb		IAmb	01 02 38.6	
	comp=Z,27nm,1.2s							
ACCN	Adirondack Com	53.67	1	P		P	01 02 35.6	-0.7
ACCN				IAmb		IAmb	01 02 38.4	
	comp=Z,17nm,1.2s							
BNM	Barren Site	53.69	327	P		P	01 02 37.0	+0.1
J57A	Williamstown	53.70	359	P		P	01 02 36.0	-0.4
J57A				IAmb		IAmb	01 02 37.8	
	comp=Z,20nm,1.1s							
J57A				pP		pP	01 03 04.4	-0.3
J57A	Williamstown	53.70	359	P		P	01 02 36.1	-0.4
	baz=179,SNR=5.2							
J57A				P		P	01 02 36.1	-0.4
	baz=179,SNR=5.2							
J59A	Piesco	53.74	0	P		P	01 02 36.8	0.0
J59A				IAmb		IAmb	01 02 38.7	
	comp=Z,24nm,1.1s							
J59A						pP	01 03 05.2	+0.1
L44A	Lake County Fo	53.80	348	P		P	01 02 35.5	-1.7
L44A				IAmb		IAmb	01 02 37.0	
	comp=Z,16nm,1.1s							
L44A	Lake County Fo	53.80	348	P		P	01 02 36.2	-1.0
	baz=164							
N38A	Joes South For	53.81	343	P		P	01 02 36.3	-1.0
N38A						pP	01 03 05.3	-0.4
N38A	Joes South For	53.81	343	P		P	01 02 36.4	-1.0
	baz=158,SNR=5.9							
DUN6	Lazy B Ranch	53.87	324	P		P	01 02 37.6	-0.5
DUN6				pP		pP	01 03 08.5	+2.2
L42A	Oliver, Polo	54.01	346	P		P	01 02 36.8	-2.0
L42A				IAmb		IAmb	01 02 38.5	
	comp=Z,23nm,1.1s							
ANMO	Albuquerque	54.21	328	P		P	01 02 40.4	-0.2
ANMO				pP		pP	01 03 09.9	+1.0
ANMO	Albuquerque	54.21	328	P		P	01 02 40.1	-0.5
	baz=141							
ANMO	Albuquerque	54.21	328	P		P	01 02 41.4	+0.8
	baz=141,SNR=11							
ANMO	Albuquerque	54.21	328	P		P	01 02 40.4	-0.2
ANMO				*PP		pP	01 03 09.9	+1.0
ANMO				pmax		pmax		
	comp=Z,14nm,1.2s							
ANMO	Albuquerque	54.21	328	P		P	01 02 41.4	+0.8
ANMO				pP		pP	01 03 10.5	+1.5
ANMO				PcP		PcP	01 03 43.8	+0.2
NCB	Newcomb	54.25	1	P		P	01 02 40.1	-0.4
NCB						pP	01 03 08.4	-0.4
J47A	Sunmer	54.28	351	P		P	01 02 39.3	-1.4
J47A						pP	01 03 07.2	-1.7
J47A	Sunmer	54.28	351	P		P	01 02 39.5	-1.1
	baz=168,SNR=7.1							
J47A				P		P	01 02 39.5	-1.1
	baz=168,SNR=7.1							
CBKS	Cedar Bluff	54.28	336	P		P	01 02 40.9	0.0
CBKS				pP		pP	01 03 09.9	+0.8
CBKS	Cedar Bluff	54.28	336	P		P	01 02 40.8	0.0
	baz=150,SNR=8.3							
CBKS	Cedar Bluff	54.28	336	P		P	01 02 41.1	+0.2
	baz=150,SNR=8.3							
CBKS	Cedar Bluff	54.28	336	P		P	01 02 40.9	0.0
CBKS				*PP		pP	01 03 09.9	+0.8
CBKS				pmax		pmax		
	comp=Z,33nm,0.9s							
K43A	Burlington	54.39	348	P		P	01 02 39.4	-2.1
K43A				IAmb		IAmb	01 02 41.0	
	comp=Z,25nm,1.0s							
K43A						pP	01 03 08.8	-1.0
K43A	Burlington	54.39	348	P		P	01 02 39.7	-1.8
	baz=164,SNR=7.1							
L40A	Anamosa	54.45	345	P		P	01 02 40.0	-2.0
L40A				pP		pP	01 03 09.2	-1.0
L40A	Anamosa	54.45	345	P		P	01 02 40.4	-1.5
	baz=160,SNR=14							
LBNH	Lisbon	54.59	3	P		P	01 02 43.3	+0.4
	baz=184							
N35A	Tabor	54.61	341	P		P	01 02 42.1	-1.1
N35A	Tabor	54.61	341	P		P	01 02 42.8	-0.4
	baz=155,SNR=9.5							
TUC	Tucson	54.69	323	P		P	01 02 43.9	-0.1
TUC						pP	01 03 13.5	+1.2
TUC	Tucson	54.69	323	P		P	01 02 43.6	-0.4
	baz=135							
TUC	Tucson

baz=162,SNR=8.1
JFWS Jewell Farm 55.01 346 P P 01 02 44.5 -1.5
JFWS pmax pmax
comp=Z,16nm,1.0s
N33A J Bar K, Exete 55.11 339 P P 01 02 46.8 +0.1
BMNY Brushton-Moira 55.12 0 P P 01 02 47.5 +0.9
baz=180,SNR=5.4
FRNY Flat Rock 55.13 1 P P 01 02 47.1 +0.4
FRNY IAmb IAmb 01 02 48.7
comp=Z,27nm,1.1s
FRNY pP pP **01 03 14.5 -0.6**
FRNY Flat Rock 55.13 1 P P 01 02 47.4 +0.6
baz=182,SNR=8.5
WBO Williamsburg 55.28 360 P P 01 02 47.5 -0.3
WBO IAmb IAmb 01 02 48.7
comp=Z,13nm,1.1s
WBO pP **01 03 15.9 -0.3**
K38A Parkersburg 55.40 344 P P 01 02 47.8 -1.0
K38A IAmb IAmb 01 02 48.4
comp=Z,22nm,1.2s
K38A pP **01 03 16.3 -0.9**
G62A West of Eustis 55.64 4 P P 01 02 50.5 +0.1
G62A IAmb IAmb 01 02 53.0
comp=Z,28nm,1.1s
G62A pP pP **01 03 18.9 0.0**
G62A West of Eustis 55.64 4 P P 01 02 51.6 +1.1
baz=185,SNR=6.0
G62A P P **01 02 51.6 +1.1**
baz=185,SNR=6.0
I42A Draeger Farm, 55.65 348 P P 01 02 49.7 -0.8
I42A IAmb IAmb 01 02 50.8
comp=Z,30nm,1.1s
I42A pP **01 03 18.5 -0.4**
KSCO Kaye Shedlock' 55.65 334 P P 01 02 50.4 -0.4
KSCO pP **01 03 20.6 +1.4**
214A Organ Pipe Nat 55.68 321 P P 01 02 51.3 +0.2
214A IAmb IAmb 01 02 53.2
comp=Z,17nm,1.1s
214A pP pP **01 03 18.4 -1.1**
214A Organ Pipe Nat 55.68 321 P P 01 02 49.9 -1.2
baz=133,SNR=7.6
PKME Peaks-Kenny Pk 55.77 5 P P 01 02 51.1 -0.2
baz=187
MNTQ Montreal, Queb 55.79 1 P P 01 02 52.5 +1.0
MNTQ pP **01 03 20.6 +0.6**
X18A Snowflake 55.79 325 P P 01 02 52.4 +0.4
X18A pP **01 03 20.5 0.0**
GLMI Grayling 55.80 352 P P 01 02 51.4 -0.2
baz=168
L34A Svendsen Farm, 55.85 341 P P 01 02 51.4 -0.6
SDCO Great Sand Dun 55.93 331 P P 01 02 53.2 +0.2
SDCO IAmb IAmb 01 02 54.8
comp=Z,25nm,0.9s
SDCO pP pP **01 03 21.7 +0.3**
SDCO Great Sand Dun 55.93 331 P P 01 02 52.1 -0.9
baz=143,SNR=40
SDCO Great Sand Dun 55.93 331 P P 01 02 53.4 +0.4
baz=143,SNR=40
BGNE Belgrade 55.95 339 P P 01 02 52.1 -0.7
BGNE pP **01 03 21.5 +0.3**
BGNE Belgrade 55.95 339 P P 01 02 51.8 -1.0
baz=152
H43A Windswept, Lux 55.98 349 P P 01 02 51.2 -1.6
H43A IAmb IAmb 01 02 52.7
comp=Z,22nm,1.1s
H43A pP **01 03 20.6 -0.7**
I40A Norwalk 56.02 346 P P 01 02 52.1 -1.1
I40A IAmb IAmb 01 02 53.2
comp=Z,24nm,0.9s
W18A Petrified Fore 56.10 326 P P 01 02 53.3 -0.9
W18A IAmb IAmb 01 02 56.3
comp=Z,25nm,1.1s
W18A pP pP **01 03 23.1 +0.4**
W18A Petrified Fore 56.10 326 P P 01 02 52.9 -1.3
baz=138,SNR=6.7
G45A Suttons Bay 56.17 351 P P 01 02 53.6 -0.6
G45A IAmb IAmb 01 03 22.9
comp=Z,20nm,0.9s
TRQ Mont Tremblant 56.50 0 P P 01 02 56.4 -0.3
TRQ pP pP **01 03 25.2 0.0**
TRQ IAmb IAmb 01 03 26.1
comp=Z,14nm,1.1s
X16A Lo Mia Camp, P 56.57 324 P P 01 02 57.3 -0.2
X16A pP **01 03 25.1 -0.9**
S22A 4UR Ranch, Cre 56.57 330 P P 01 02 56.7 -0.9
S22A pP pP **01 03 24.4 -1.8**
S22A 4UR Ranch, Cre 56.57 330 P P 01 02 56.8 -0.8
baz=142,SNR=7.5
Q24A Divide 56.74 332 P P 01 02 57.8 -0.9
Q24A IAmb IAmb 01 03 00.2
comp=Z,14nm,1.1s
Q24A pP **01 03 26.6 -0.7**
Q24A Divide 56.74 332 P P 01 02 58.3 -0.5
baz=144,SNR=6.5
113A Mohawk Valley, 56.82 321 P P 01 02 59.5 +0.5
113A pP pP **01 03 25.8 -1.8**
MVCO Mesa Verde 57.01 328 P P 01 03 00.8 +0.2
MVCO IAmb IAmb 01 03 02.2
comp=Z,16nm,1.3s
MVCO pP pP **01 03 30.4 +1.2**
MVCO Mesa Verde 57.01 328 P P 01 02 59.9 -0.7
baz=140
OGNE Ogallala 57.02 336 P P 01 02 59.8 -0.6
OGNE Ogallala 57.02 336 P P 01 03 00.8 +0.3
baz=148
E62A Clayton Lake 57.10 4 P P 01 03 01.8 +1.0
E62A pP **01 03 30.3 +1.0**
Y14A Wickenburg 57.15 322 P P 01 03 01.0 -0.5
Y14A pP **01 03 30.2 +0.2**
G40A Rib Lake 57.24 347 P P 01 03 00.3 -1.5
E46A Sault Ste Mari 57.27 352 P P 01 03 00.8 -1.2
E46A IAmb IAmb 01 03 15.6
comp=Z,23nm,0.9s
F42A Maple Grove Fa 57.29 349 P P 01 03 01.2 -0.9
F42A IAmb IAmb 01 03 02.6
comp=Z,24nm,1.2s
WUAZ Wupatki 57.31 325 P P 01 03 03.3 +0.6
WUAZ IAmb IAmb 01 03 05.0
comp=Z,20nm,1.0s
WUAZ Wupatki 57.31 325 P P 01 03 02.5 -0.3
baz=136,SNR=8.5
ECSD EROS Data Cent 57.52 341 P P 01 03 02.8 -1.0
ECSD IAmb IAmb 01 03 04.9
comp=Z,19nm,1.1s
ECSD EROS Data Cent 57.52 341 P P 01 03 03.4 -0.4
baz=155
K30B Basset 57.58 339 P P 01 03 04.5 +0.2
D62A Allapoint, All 57.60 5 P P 01 03 04.4 +0.2
D62A IAmb IAmb 01 03 06.3
comp=Z,30nm,1.1s
D62A pP **01 03 32.9 +0.1**
ISCO Idaho Springs 57.62 332 P P 01 03 04.3 -0.7
ISCO IAmb IAmb 01 03 06.5
comp=Z,12nm,1.1s
ISCO pP pP **01 03 33.3 -0.3**
ISCO Idaho Springs 57.62 332 P P 01 03 04.5 -0.5
baz=144,SNR=13
ISCO Idaho Springs 57.62 332 P P 01 03 05.7 +0.8
baz=144,SNR=13
ISCO Idaho Springs 57.62 332 P P 01 03 04.3 -0.7
ISCO *PP pP **01 03 33.3 -0.3**
ISCO pmax pmax
comp=Z,12nm,1.1s
GLA Glamis 57.67 320 P P 01 03 04.8 -0.3
baz=132
BRIGG Briggsdale 57.68 334 P P 01 03 05.3 +0.2
E43A Lone Tree Farm 57.68 350 P P 01 03 03.5 -1.3
E43A IAmb IAmb 01 03 04.5
comp=Z,16nm,1.1s
E43A pP **01 03 30.9 -2.5**
PV01 Paradox Valley 57.75 329 P P 01 03 05.9 +0.1
PV01 IAmb IAmb 01 03 07.7
comp=Z,23nm,0.9s
SMAI San Martin Ant 57.76 177 P P 01 03 06.4 +1.4
SMCO Snowmass 57.77 331 P P 01 03 06.0 -0.1
SMCO IAmb IAmb 01 03 08.5
comp=Z,14nm,0.9s
SMCO pP **01 03 35.5 +0.8**
SPMN Marine on St. 57.81 345 P P 01 03 04.4 -1.4
SPMN pP **01 03 32.8 -1.6**
SPMN Marine on St. 57.81 345 P P 01 03 05.2 -0.6
baz=159,SNR=7.8
SPMN Marine on St. 57.81 345 P P 01 03 05.0 -0.8
baz=159,SNR=7.8

COWI Conover 57.81 348 P P 01 03 04.2 -1.6
COWI IAmb IAmb 01 03 06.0
comp=Z,13nm,0.9s
COWI pP **pP 01 03 33.0 -1.4**
COWI Conover 57.81 348 P P 01 03 04.9 -0.9
baz=164
PV15 Paradox Valley 57.86 329 P P 01 03 07.1 +0.5
PV15 pP **pP 01 03 36.3 +1.1**
PV02 Paradox Valley 57.89 329 P P 01 03 06.9 +0.1
PV02 IAmb IAmb 01 03 08.5
comp=Z,25nm,1.0s
PV02 pP **pP 01 03 35.7 +0.3**
BLYC Blythe 57.95 321 P P 01 03 07.0 0.0
BLYC IAmb IAmb 01 03 09.2
comp=Z,13nm,1.1s
BLYC pP **pP 01 03 37.6 +2.0**
LMQ La Malbaie 57.97 4 P P 01 03 06.7 -0.1
PV05 Paradox Valley 57.97 328 P P 01 03 07.1 -0.3
PV05 IAmb IAmb 01 03 08.7
comp=Z,22nm,1.0s
PV05 pP **pP 01 03 36.6 +0.6**
PV03 Paradox Valley 57.98 329 P P 01 03 07.2 -0.1
PV03 IAmb IAmb 01 03 09.6
comp=Z,30nm,1.4s
PV03 pP **pP 01 03 36.9 +0.9**
PV12 Saucer Basin, 58.00 329 P P 01 03 07.8 +0.3
PV12 IAmb IAmb 01 03 09.4
comp=Z,40nm,1.5s
PV12 pP **pP 01 03 36.4 +0.1**
PV18 Skein Mesa, Pa 58.00 329 P P 01 03 06.8 -0.7
PV18 IAmb IAmb 01 03 09.2
comp=Z,21nm,1.2s
PV18 pP **pP 01 03 37.5 +1.3**
PDMCI Parker Dam,Lak 58.09 322 P P 01 03 07.3 -0.6
baz=133
PV19 Morning Glory 58.09 329 P P 01 03 07.2 -0.9
PV19 IAmb IAmb 01 03 10.4
comp=Z,12nm,1.1s
BATG Bathurst New B 58.09 7 P P 01 03 08.1 +0.4
PV04 Paradox Valley 58.11 329 P P 01 03 08.1 -0.2
PV14 Lion Creek, Pa 58.16 329 P P 01 03 08.2 -0.4
PV22 Blue Mesa, Par 58.16 329 P P 01 03 08.7 +0.1
PV22 IAmb IAmb 01 03 10.2
comp=Z,13nm,1.0s
PV10 Paradox Valley 58.17 329 P P 01 03 08.0 -0.7
PV10 IAmb IAmb 01 03 09.6
comp=Z,12nm,1.0s
PV23 Carpenter Ridg 58.21 329 P P 01 03 08.1 -1.0
SWSC Sam W. Stewart 58.22 320 P P 01 03 08.7 -0.1
baz=131
IKP In-Ko-Pah, Jac 58.22 319 P P 01 03 08.7 -0.4
baz=130
PV21 Cone Mtn., Par 58.28 329 P P 01 03 08.9 -0.6
LDAQ Lac Daran 58.33 3 P P 01 03 09.1 -0.3
LDAQ IAmb IAmb 01 03 11.8
comp=Z,30nm,1.2s
LDAQ pP **pP 01 03 37.1 -1.0**
VLDQ Val d'Or 58.44 358 P P 01 03 10.0 0.0
BC3 Big Chuckawall 58.46 320 P P 01 03 10.5 -0.2
baz=132,SNR=7.7
W13A Hualapai Mount 58.48 323 P P 01 03 10.8 -0.2
W13A pP **01 03 39.6 -0.1**
U15A North Rim 58.48 325 P P 01 03 10.2 -0.8
U15A IAmb IAmb 01 03 13.3
comp=Z,11nm,1.1s
U15A pP **01 03 40.0 +0.3**
MONP2 Monument Peak 58.58 319 P P 01 03 11.8 +0.1
baz=130
F36A Milaca 58.59 345 P P 01 03 10.4 -0.8
F36A IAmb IAmb 01 03 12.0
comp=Z,32nm,1.4s
F36A Milaca 58.59 345 P P 01 03 10.4 -0.8
baz=158,SNR=13
IRM Iron Mountain 58.60 321 P P 01 03 12.0 +0.4
baz=132,SNR=13
N23A Red Feather La 58.65 333 P P 01 03 11.1 -0.9
N23A Red Feather La 58.65 333 P P 01 03 11.3 -0.8
baz=144
HMU Henry Mountain 58.73 327 P P 01 03 12.3 -0.3
HMU IAmb IAmb 01 03 15.8
comp=Z,12nm,1.1s
PHWY Pilot Hill 58.76 333 P P 01 03 13.0 +0.2
PHWY IAmb IAmb 01 03 14.4
comp=Z,19nm,1.2s
PHWY pP **01 03 41.0 -0.6**
SUSD Miller 58.91 340 P P 01 03 12.5 -1.0
109C Camp Elliot, M 59.02 319 P P 01 03 15.3 +0.9
109C IAmb IAmb 01 03 17.3
comp=Z,16nm,1.1s
BELC Belle Mtn. Jos 59.03 320 P P 01 03 14.7 +0.1
baz=131
TPFO Pinon Flats 59.06 320 P P 01 03 15.4 +0.5
baz=131
PFO Pinyon Flats O 59.07 320 P P 01 03 14.2 -0.7
PFO Pinyon Flats O 59.07 320 P P 01 03 16.2 +1.3
baz=131
PFO Pinyon Flats O 59.07 320 eP P 01 03 15.0 +0.1
PFO pmax pmax
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 59.07 320 P P 01 03 16.1 +1.1
PFO pP **pP 01 03 46.1 +2.4**
PFO sP **sP 01 03 58.6 +1.8**
O20A White River Ci 59.12 331 P P 01 03 14.8 -0.5
O20A IAmb IAmb 01 03 16.9
comp=Z,16nm,1.0s
O20A White River Ci 59.12 331 P P 01 03 16.2 +1.0
baz=141,SNR=9.4
KNB Kanab 59.20 325 IAmb IAmb 01 03 18.4
comp=Z,28nm,1.4s
PKCU Pink Cliffs 59.22 326 P P 01 03 15.5 -0.7
PKCU IAmb IAmb 01 03 41.4
comp=Z,18nm,1.1s
F33A 5 Mile Ranch, 59.33 343 P P 01 03 15.2 -1.0
F33A IAmb IAmb 01 03 16.6
comp=Z,19nm,1.2s
GMRC Granite Mounta 59.34 321 P P 01 03 18.2 +1.4
baz=132,SNR=5.3
V12A Nelson 59.48 323 P P 01 03 17.1 -0.6
V12A IAmb IAmb 01 03 19.8
comp=Z,13nm,1.3s
V12A pP **pP 01 03 45.8 -0.7**
SRU San Rafael Swe 59.48 328 P P 01 03 17.3 -0.5
SRU IAmb IAmb 01 03 19.3
comp=Z,14nm,1.1s
SRU pP **pP 01 03 47.4 +0.8**
MURC Murrieta 59.53 319 P P 01 03 18.8 +0.8
baz=130
MTPU Mount Pierson 59.58 326 P P 01 03 18.5 -0.2
Q16A Castle Valley 59.68 328 P P 01 03 19.0 -0.1
Q16A IAmb IAmb 01 03 21.9
comp=Z,18nm,1.4s
P18A Preston Nutter 59.73 329 P P 01 03 19.4 -0.2
P18A IAmb IAmb 01 03 21.3
comp=Z,10nm,1.1s
SZCU Shurtz Canyon 59.76 325 P P 01 03 17.4 -2.4
SZCU pP **01 03 50.1 +1.5**
HEC Hector,Ludlow 59.78 321 P P 01 03 20.6 +0.8
baz=131,SNR=6.2
RWWY Rawlins 59.86 332 P P 01 03 20.8 +0.5
RWWY IAmb IAmb 01 03 22.9
comp=Z,21nm,1.1s
RWWY pP **01 03 49.1 -0.1**
P17A Butcher Ranch, 59.87 328 P P 01 03 20.6 +0.2
P17A IAmb IAmb 01 03 21.9
comp=Z,21nm,1.1s
P17A pP **01 03 49.5 +0.4**
WTNK Soaring Height 59.89 323 P P 01 03 20.9 +0.5
MSU Marysvale 59.92 327 P P 01 03 20.8 0.0
MSU Marysvale 59.92 327 P P 01 03 20.8 0.0
MSU Marysvale 59.93 327 P P 01 03 21.3 +0.4
MVU pP **01 03 49.3 -0.4**
TUQ Turquoise Moun 59.93 322 P P 01 03 21.6 +0.8
baz=132,SNR=5.7
TMUT Trail Mountain 59.98 328 P P 01 03 21.2 -0.1
TMUT pP **01 03 47.6 -2.5**
EYMN Ely 60.06 347 P P 01 03 20.0 -1.3
EYMN IAmb IAmb 01 03 37.3
comp=Z,13nm,1.1s
RDMU Red Mountain 60.10 330 P P 01 03 21.7 -0.3
RDMU pP **pP 01 03 50.8 -0.1**
TCRU Three Creeks R 60.13 327 P P 01 03 22.7 +0.4
TCRU pP **01 03 51.4 +0.2**
SHPR Sheep Range 60.20 323 P P 01 03 22.7 0.0
SHPR pP **pP 01 03 51.6 +0.1**

BFSC Mount Baldy Ra 60.23 320 P P 01 03 23.9 +0.9
baz=130
K22A Casper 60.32 334 P P 01 03 22.7 -0.7
K22A IAmb IAmb 01 03 24.8
comp=Z,16nm,1.1s
K22A pP **01 03 52.5 +0.3**
K22A Casper 60.32 334 P P 01 03 23.5 +0.1
baz=144,SNR=5.7
K22A Casper 60.32 334 P P 01 03 23.3 -0.1
baz=144,SNR=5.7
GSC Goldstone, Bar 60.39 321 P P 01 03 24.0 +0.1
GSC pP **pP 01 03 53.4 +0.6**
GSC Goldstone, Bar 60.39 321 P P 01 03 24.6 +0.7
baz=131,SNR=6.0
SHOC Shoshone, Teco 60.45 322 P P 01 03 24.8 +0.5
baz=132
RSSD Black Hills 60.49 336 P P 01 03 23.7 -0.8
RSSD IAmb IAmb 01 03 26.2
comp=Z,20nm,1.2s
RSSD pP **pP 01 03 53.4 0.0**
RSSD Black Hills 60.49 336 P P 01 03 26.1 +1.6
baz=147
RSSD Black Hills 60.49 336 P P 01 03 24.5 -0.1
baz=147,SNR=9.6
RSSD Black Hills 60.49 336 P P 01 03 23.7 -0.8
RSSD *PP **pP 01 03 53.4 0.0**
RSSD pmax pmax
comp=Z,20nm,1.2s
RSSD Black Hills 60.49 336 P P 01 03 24.5 -0.1
RSSD pP **pP 01 03 55.1 +1.6**
PASC Pasadena Art C 60.53 319 P P 01 03 24.4 -0.4
PASC pP **pP 01 03 54.5 +0.8**
BSUT Blindstream Ca 60.67 329 P P 01 03 25.9 -0.1
BSUT IAmb IAmb 01 03 28.4
comp=Z,21nm,1.0s
DECC Green Verdugo 60.68 319 P P 01 03 27.1 +1.3
baz=129
D32A Dogwood Acres, 60.71 343 P P 01 03 25.4 -0.3
MPU Maple Canyon 60.73 328 P P 01 03 26.1 -0.2
MPU pP **01 03 55.1 0.0**
PRN Pahroc Range 60.75 324 P P 01 03 24.5 -1.9
SNCC San Nicolas Is 60.83 318 P P 01 03 27.3 +0.5
baz=128
EDW2 Edwards Air Fo 60.86 320 P P 01 03 27.5 +0.5
baz=130
QSM Queen of Sheba 60.86 322 P P 01 03 26.4 -0.6
QSM pP **01 03 56.2 +0.2**
GWY Greenwater Val 60.88 322 P P 01 03 27.4 +0.1
GWY pP **pP 01 03 57.2 +0.9**
NLU North Lily Min 60.91 328 P P 01 03 27.6 +0.1
NLU pP **pP 01 03 54.6 -1.9**
B35A Bob, Littlefor 60.96 346 P P 01 03 26.1 -1.3
CCAC Calif City Air 61.05 320 P P 01 03 27.9 -0.4
LRMC Laurel Mtn Rad 61.05 321 P P 01 03 28.9 +0.5
baz=130,SNR=5.4
TPNV Topopah Spring 61.14 323 P P 01 03 29.0 -0.1
TPNV IAmb IAmb 01 03 31.6
comp=Z,14nm,1.2s
TPNV pP **pP 01 03 57.2 -0.8**
TPNV Topopah Spring 61.14 323 P P 01 03 29.6 +0.6
baz=132,SNR=7.5
FURC Furnace Creek, 61.19 322 P P 01 03 29.8 +0.7
baz=132
WCT Wildcat Mounta 61.26 322 P P 01 03 29.9 +0.2
WCT pP **pP 01 03 59.7 +0.9**
CTU Camp Tracy 61.29 329 P P 01 03 30.0 0.0
MPMC Manual Prospec 61.30 321 P P 01 03 30.7 +0.5
baz=131
S11A Rachel 61.31 324 P P 01 03 31.5 +1.4
SCZ2 Santa Cruz Isl 61.36 318 P P 01 03 31.3 +0.9
baz=128
E28A Huff 61.36 340 P P 01 03 30.5 +0.3
E28A pP **01 03 58.5 -0.7**
E28A Huff 61.36 340 P P 01 03 30.9 +0.7
baz=151,SNR=12
TCUT Toone Canyon 61.43 329 P P 01 03 31.4 +0.3
TCUT pP **pP 01 03 58.5 -1.5**
SPR3 Spring Creek 3 61.44 326 P P 01 03 30.0 -1.2
SPR3 pP **pP 01 03 58.8 -1.4**
AGMN Agassiz Nation 61.45 344 P P 01 03 29.7 -1.0
AGMN IAmb IAmb 01 03 31.3
comp=Z,14nm,0.8s
AGMN Agassiz Nation 61.45 344 P P 01 03 31.3 +0.6
baz=156,SNR=9.1
AGMN Agassiz Nation 61.45 344 P P 01 03 30.0 -0.7
baz=156,SNR=9.1
DUG Dugway, Tooele 61.48 328 P P 01 03 31.7 +0.5
DUG IAmb IAmb 01 03 33.4
comp=Z,21nm,1.0s
DUG pP **pP 01 03 59.4 -0.8**
DUG Dugway, Tooele 61.48 328 P P 01 03 32.2 +1.0
baz=137,SNR=20
DUG Dugway, Tooele 61.48 328 P P 01 03 31.7 +0.5
DUG *PP **pP 01 03 59.4 -0.8**
DUG pmax pmax
comp=Z,21nm,1.0s
ISA Isabella, Lake 61.66 320 P P 01 03 31.7 -0.7
ISA Isabella, Lake 61.66 320 P P 01 03 32.9 +0.5
baz=130
ISA Isabella, Lake 61.66 320 P P 01 03 31.7 -0.7
ISA pmax pmax
comp=Z,7.0nm,1.0s
R11B Troy Canyon, C 61.70 324 P P 01 03 32.9 +0.1
R11B pP **pP 01 04 02.9 +1.2**
R11B Troy Canyon, C 61.70 324 P P 01 03 33.3 +0.5
baz=133,SNR=15
Q12A Willow Creek R 61.75 325 P P 01 03 33.4 +0.2
Q12A IAmb IAmb 01 03 35.3
comp=Z,25nm,1.4s
Q12A pP **pP 01 04 01.0 -1.1**
BW06 Boulder Array 61.79 332 P P 01 03 33.1 -0.3
BW06 IAmb IAmb 01 03 34.9
comp=Z,18nm,1.2s
BW06 pP **pP 01 04 02.0 -0.3**
BW06 Boulder Array 61.79 332 P P 01 03 33.0 -0.3
baz=141,SNR=14
PD31 Pinedale Array 61.79 332 P P 01 03 32.6 -0.7
PD31 IAmb IAmb 01 03 35.0
comp=Z,16nm,1.2s
PD31 pP **pP 01 04 02.3 0.0**
PDAR Pinedale Array 61.79 332 P P 01 03 33.0 -0.3
PDAR pP **pP 01 04 00.9 -1.5**
PDAR Pinedale Array 61.79 332 P P 01 03 33.0 -0.3
comp=Z,6.3nm,1.0s,baz=142,slow=7.5,SNR=32
PDAR pP **pP 01 04 02.4 0.0**
comp=Z,9.6nm,1.1s,baz=134,slow=6.4,SNR=6.7
PDAR LR LR 01 31 45.0
comp=Z,44nm,19.1s,baz=145,slow=37
comp=Z,6.3nm,1.0s
HWUT Hardware Ranch 61.88 329 P P 01 03 33.4 -0.6
HWUT IAmb IAmb 01 03 35.2
comp=Z,24nm,0.9s
CWC Cottonwood Cre 61.91 321 P P 01 03 34.4 +0.2
baz=130
GMN Gold Mountain 61.98 323 P P 01 03 35.0 +0.3
GMN pP **01 04 04.2 +0.4**
SPUT South Promonto 62.10 329 P P 01 03 35.4 0.0
SPUT IAmb IAmb 01 03 37.0
comp=Z,19nm,1.3s
SPUT pP **01 04 04.8 +0.4**
BGU Big Grassy Mou 62.12 328 P P 01 03 35.4 -0.2
MDND Maddock 62.13 341 P P 01 03 34.7 -0.6
MDND pP **pP 01 04 04.7 +0.5**
MDND Maddock 62.13 341 P P 01 03 35.7 +0.5
baz=152,SNR=22
MDND Maddock 62.13 341 P P 01 03 35.9 +0.7
baz=152,SNR=22
VES Vestal, Richgr 62.15 320 P P 01 03 35.3 -0.3
baz=129
MZP Montezuma Peak 62.31 323 P P 01 03 36.8 -0.2
MZP pP **pP 01 04 06.3 +0.2**
TIN Tinemaha, Big 62.40 322 P P 01 03 37.7 +0.3
baz=131
SMMC Simmler 62.41 319 P P 01 03 37.5 +0.1
baz=128
TPH Tonopah 62.47 323 P P 01 03 37.6 -0.4
TPH pP **01 04 06.4 -0.6**
TPH Tonopah 62.47 323 P P 01 03 37.6 -0.4
TPH *PP **pP 01 04 06.4 -0.6**
TPH pmax pmax
comp=Z,55nm,1.2s
AHID Auburn Hatcher 62.52 331 P P 01 03 38.5 +0.3
AHID IAmb IAmb 01 03 39.2
comp=Z,15nm,0.9s

AHID pP **01 04 06.7 -0.5**
MBO M'Bour 62.57 68 P P **01 03 39.1 +0.3**
HVU Hansel Valley 62.61 329 P P **01 03 38.7 -0.1**
HVU pP pP **01 04 08.5 +0.6**
REDW Red Top Meadow 62.85 331 P P **01 03 40.3 -0.2**
REDW pP pP **01 04 09.9 +0.4**
SNOW Snow King Moun 62.88 331 P P **01 03 39.5 -1.2**
LOHW Long Hollow 62.92 332 P P **01 03 40.8 -0.2**
LOHW pP **01 04 10.3 +0.3**
TPAW Teton Pass 62.99 331 P P **01 03 40.7 -0.8**
MOOW Moose Ponds 63.09 332 P P **01 03 41.0 -1.0**
MOOW pP pP **01 04 10.8 -0.3**
FXWY Fox Creek 63.14 331 P P **01 03 42.1 -0.3**
FXWY pP **01 04 11.3 -0.2**
ELK Elko 63.17 327 P P **01 03 42.3 -0.3**
ELK pP pP **01 04 12.3 +0.7**
OMMB Old Mammoth Mi 63.23 322 P P **01 03 43.2 +0.1**
OMMB IAmb IAmb 01 03 45.2
comp=Z,19nm,1.0s
OMMB pP pP **01 04 11.6 -0.7**
ULM Lac du Bonnet 63.25 345 P P **01 03 41.3 -1.3**
ULM IAmb IAmb 01 03 42.9
comp=Z,22nm,0.9s
ULM pP pP **01 04 10.8 -0.8**
ULM Lac du Bonnet 63.25 345 P P **01 03 41.7 -0.9**
comp=Z,22nm,0.9s,baz=155,slow=6.2,SNR=30
ULM pP pP **01 04 10.6 -1.1**
comp=Z,14nm,0.8s,baz=154,slow=5.0,SNR=6.1
comp=Z,22nm,0.9s
NV11 Mina Array Sit 63.25 323 P P **01 03 43.8 +0.7**
MDPB Devils Postpil 63.29 322 P P **01 03 42.2 -1.3**
MDPB pP **01 04 13.0 +0.4**
IMW Indian Meadow 63.30 332 P P **01 03 42.2 -1.3**
IMW IAmb IAmb 01 03 45.0
comp=Z,18nm,1.1s
IMW pP pP **01 04 12.4 -0.2**
FLWY Flagg Ranch 63.33 332 P P **01 03 43.5 -0.1**
FLWY IAmb IAmb 01 03 45.5
comp=Z,32nm,1.0s
FLWY pP pP **01 04 13.6 +0.9**
NVAR Mina Array Bea 63.34 323 P P **01 03 44.3 +0.5**
NVAR pP **01 04 13.8 +0.9**
NVAR Mina Array Bea 63.34 323 P P **01 03 44.1 +0.4**
comp=Z,3.6nm,0.9s,baz=143,slow=6.6,SNR=18
NVAR pP pP **01 04 14.1 +1.3**
comp=Z,5.6nm,0.9s,baz=151,slow=6.8,SNR=8.3
comp=Z,3.6nm,0.9s
LAO LASA Array 63.48 336 P P **01 03 44.9 +0.6**
LAO pP pP **01 04 13.9 +0.5**
LAO LASA Array 63.48 336 P P **01 03 44.8 +0.5**
baz=145
RLMT Red Lodge 63.49 333 P P **01 03 43.3 -1.3**
RLMT pP pP **01 04 13.1 -0.6**
RLMT Red Lodge 63.49 333 P P **01 03 44.9 +0.3**
baz=142,SNR=7.2
H17A Grant Village 63.51 332 P P **01 03 44.6 -0.2**
H17A Grant Village 63.51 332 P P **01 03 45.1 +0.2**
baz=140
YPP Pitchstone Pla 63.52 332 P P **01 03 45.2 +0.3**
YPP pP pP **01 04 15.3 +1.2**
YMP Mirror Lake Pl 63.59 333 P P **01 03 45.5 +0.1**
YMP IAmb IAmb 01 03 57.2
comp=Z,15nm,1.1s
RYN Ryan 63.60 323 P P **01 03 44.0 -1.4**
KVN Kaiserville 63.63 323 P P **01 03 45.9 +0.3**
KVN pP **01 04 14.8 +0.1**
KVN Kaiserville 63.63 323 P P **01 03 45.9 +0.3**
KVN *PP pP **01 04 14.8 +0.1**
KVN pmax pmax
comp=Z,9.0nm,1.2s
YFT Old Faithful 63.67 332 P P **01 03 46.6 +0.8**
YFT IAmb IAmb 01 03 48.8
comp=Z,18nm,1.3s
YFT pP pP **01 04 13.6 -1.4**
YNR Norris Junctio 63.80 332 P P **01 03 47.1 +0.3**
YNR pP **01 04 16.9 +1.0**
BBGB Big Mountain B 63.85 320 P P **01 03 48.2 +1.2**
BBGB IAmb IAmb 01 03 53.0
comp=Z,29nm,1.2s
YHH Holmes Hill 63.94 332 P P **01 03 47.8 +0.1**
YHH pP pP **01 04 17.7 +0.9**
BMN Battle Mountai 64.05 325 P P **01 03 48.8 +0.5**
BMN pP **01 04 18.7 +1.3**
WAKR Walker 64.06 322 P P **01 03 48.8 +0.2**
WAKR pP pP **01 04 18.0 +0.3**
YHL Hebgen Lake 64.14 332 P P **01 03 49.2 +0.3**
DGMT Dagmar 64.21 339 P P **01 03 49.7 +0.7**
DGMT IAmb IAmb 01 03 50.9
comp=Z,31nm,1.0s
DGMT pP pP **01 04 15.8 -2.3**
DGMT Dagmar 64.21 339 P P **01 03 50.0 +1.0**
baz=148,SNR=8.8
DGMT Dagmar 64.21 339 P P **01 03 49.6 +0.6**
baz=148,SNR=8.8
QLMT Earthquake Lak 64.24 332 P P **01 03 50.3 +0.8**
QLMT pP **01 04 19.3 +0.6**
YERR Yerington 64.26 323 P P **01 03 49.9 +0.1**
YERR IAmb IAmb 01 03 52.1
comp=Z,21nm,1.2s
YERR pP pP **01 04 18.9 0.0**
CMB Columbia Colle 64.34 321 P P **01 03 50.0 -0.1**
CMB Columbia Colle 64.34 321 P P **01 03 50.0 -0.1**
CMB pmax pmax
comp=Z,6.0nm,1.2s
PNTR Pine Nut 64.54 323 P P **01 03 51.4 -0.2**
PNTR IAmb IAmb 01 03 54.1
comp=Z,17nm,1.2s
HLID Hailey 64.74 329 P P **01 03 53.0 +0.3**
HLID pP pP **01 04 22.1 +0.1**
HLID Hailey 64.74 329 P P **01 03 53.6 +0.9**
baz=136,SNR=10
PAHR Pah Rah Range 64.81 323 P P **01 03 53.8 +0.5**
PAHR IAmb IAmb 01 03 55.8
comp=Z,23nm,1.1s
PAHR pP pP **01 04 23.0 +0.5**
MCMT McKenzie Canyo 64.90 331 P P **01 03 54.1 +0.2**
MCMT pP pP **01 04 24.3 +1.2**
BOZ Bozeman (W) 64.91 332 P P **01 03 53.7 -0.1**
BOZ IAmb IAmb 01 03 55.4
comp=Z,16nm,1.1s
BOZ pP pP **01 04 23.1 +0.1**
BOZ Bozeman (W) 64.91 332 P P **01 03 54.2 +0.4**
baz=140,SNR=13
BOZ Bozeman (W) 64.91 332 P P **01 03 53.7 -0.1**
BOZ *PP pP **01 04 23.1 +0.1**
BOZ pmax pmax
comp=Z,16nm,1.1s
AFDM Forest Hills D 65.27 322 P P **01 03 55.9 -0.2**
AFDM pP pP **01 04 25.0 -0.4**
MFID Camas Ranch 65.35 328 P P **01 03 57.1 +0.5**
MFID pP PcP **01 04 27.2 -0.7**
LRM Limekiln Ridge 65.46 332 P P **01 03 57.0 -0.5**
LRM pP pP **01 04 26.8 +0.1**
SCHQ Schefferville 65.48 5 P P **01 03 56.9 -0.2**
SCHQ Schefferville 65.48 5 P P **01 03 55.6 -1.5**
comp=Z,8.3nm,0.9s,baz=211,slow=7.6,SNR=6.7
SCHQ pP pP **01 04 26.6 +0.3**
comp=Z,12nm,1.0s,baz=142,slow=6.2,SNR=4.7
comp=Z,8.3nm,0.9s
PLTX Planet X, Gerl 65.51 324 P P **01 03 58.2 +0.6**
PLTX IAmb IAmb 01 04 00.3
comp=Z,42nm,1.3s
ORV Oroville 65.97 322 P P **01 04 00.9 +0.4**
ORV pP pP **01 04 29.5 -0.4**
ORV Oroville 65.97 322 P P **01 04 01.0 +0.4**
ORV *PP pP **01 04 29.5 -0.4**
ORV pmax pmax
comp=Z,35nm,1.1s
EGMT Eagleton 65.98 335 P P **01 03 59.8 -0.8**
EGMT IAmb IAmb 01 04 01.8
comp=Z,15nm,1.1s
EGMT Eagleton 65.98 335 P P **01 04 00.8 +0.2**
baz=142,SNR=7.0
WVOR Wild Horse Val 66.18 326 P P **01 04 01.7 -0.3**
WVOR pP **01 04 31.8 +0.5**
WVOR Wild Horse Val 66.18 326 P P **01 04 01.7 -0.3**
WVOR *PP pP **01 04 31.8 +0.5**
WVOR pmax pmax
comp=Z,13nm,1.2s
BPMT Black Pine Rid 66.38 332 P P **01 04 03.3 -0.1**
BPMT PcP **01 04 31.9 -0.3**
MSO Missoula 66.90 332 P P **01 04 06.0 -0.4**
MSO IAmb IAmb 01 04 09.1
comp=Z,35nm,1.1s
MSO pP pP **01 04 35.4 -0.4**
MSO Missoula 66.90 332 P P **01 04 06.9 +0.4**
baz=138,SNR=17
BMO Blue Mountains 67.12 329 P P **01 04 08.4 +0.5**
BMO Blue Mountains 67.12 329 P P **01 04 08.4 +0.5**
BMO pmax pmax
comp=Z,5.0nm,1.0s
I07A Izee 67.75 327 P P **01 04 11.9 0.0**
I07A IAmb IAmb 01 04 14.1
comp=Z,29nm,1.1s
F10A Beach Ranch, E 67.86 330 P P **01 04 12.8 +0.3**
F10A IAmb IAmb 01 04 14.7
comp=Z,25nm,1.3s
G08A Pilot Rock 68.27 328 P P **01 04 14.9 -0.2**
PINE Pine Mountain 68.34 326 P P **01 04 16.8 +1.1**
PINE IAmb IAmb 01 04 18.7
comp=Z,28nm,1.1s
E09A Wood Farm, Sta 68.69 329 P P **01 04 17.8 +0.3**
FFC Flin Flon 68.91 344 P P **01 04 17.9 -0.8**
FFC Flin Flon 68.91 344 P P **01 04 17.9 -0.8**
FFC pmax pmax
comp=Z,9.0nm,1.0s
FFC Flin Flon 68.91 344 P P **01 04 18.6 -0.1**
FFC pP pP **01 04 48.9 +0.7**
FFC sP sP **01 05 01.5 +0.4**
F07A Phinny Hill Vi 69.18 328 P P **01 04 20.7 +0.1**
HAWA Hanford 69.31 329 P P **01 04 21.8 +0.4**
NEW Newport 69.42 331 P P **01 04 21.8 -0.3**
NEW pP pP **01 04 49.8 -1.9**
NEW Newport 69.42 331 P P **01 04 23.0 +0.9**
baz=135,SNR=7.6
D08A Wollman Farm, 69.46 330 P P **01 04 21.8 -0.4**
E07A Sunnyside 69.59 329 P P **01 04 23.7 +0.6**
E07A IAmb IAmb 01 04 25.5
comp=Z,26nm,1.0s
C09A Chrisman Ranch 69.65 330 P P **01 04 24.2 +0.7**
MXC Moxie City 69.83 328 P P **01 04 24.6 0.0**
LTY Liberty 70.47 329 P P **01 04 29.3 +0.8**
FCC Fort Churchill 70.80 350 P P **01 04 29.8 -0.3**
FCC IAmb IAmb 01 04 31.1
comp=Z,20nm,1.2s
FCC Fort Churchill 70.80 350 P P **01 04 29.8 -0.3**
FCC pmax pmax
comp=Z,20nm,1.2s
EDM Edmonton 71.46 337 P P **01 04 34.5 +0.1**
EDM IAmb IAmb 01 04 35.1
comp=Z,36nm,0.9s
EDM pP pP **01 05 03.0 -1.0**
EDM Edmonton 71.46 337 P P **01 04 34.5 +0.1**
EDM *PP pP **01 05 03.1 -1.0**
EDM pmax pmax
comp=Z,37nm,0.9s
LIC Lamto 71.54 80⇑ *i*P P **01 04 35.6 0.0**
comp=Z,32nm,1.2s
TIC Toumodi 71.64 79⇑ *e*P P **01 04 31.9 -4.4**
comp=Z,31nm,0.9s
B06A Marblemount 71.72 329 P P **01 04 35.8 -0.2**
B06A IAmb IAmb 01 04 37.4
comp=Z,29nm,1.0s
B06A pP pP **01 05 04.3 -1.4**
DBIC Dimbokro 71.80 79 P P **01 04 37.0 -0.2**
DBIC IAmb IAmb 01 04 38.3
comp=Z,34nm,1.1s
DBIC Dimbokro 71.80 79 P P **01 04 36.6 -0.6**
comp=Z,34nm,1.2s,baz=246,slow=5.6,SNR=24
DBIC pP pP **01 05 06.0 -1.2**
comp=Z,15nm,1.1s,baz=243,slow=6.0,SNR=3.7
comp=Z,34nm,1.2s
DBIC Dimbokro 71.80 79 ⇓P P **01 04 37.3 +0.1**
DBIC pP pP **01 05 06.6 -0.6**
DBIC sP sP **01 05 19.2 -0.9**
KIC Kosan Boka 71.84 80⇓ *i*P P **01 04 37.3 -0.2**
comp=Z,45nm,1.0s
VNA3 Neumayer Olymp 72.23 162 ⇓P P **01 04 39.7 +1.0**
comp=Z,20nm,1.1s
VNA1 Neumayer--Stat 72.47 161 ⇓P P **01 04 41.1 +1.0**
comp=Z,45nm,0.9s
PGC Sidney 72.80 329 P P **01 04 42.5 +0.1**
PGC IAmb IAmb 01 04 44.2
comp=Z,59nm,1.4s
VNA2 Neumayer--Watz 72.83 161 ⇓P P **01 04 43.1 +0.8**
comp=Z,24nm,0.7s,baz=289,slow=6.0
BRLDA Berland Lookou 73.72 336 P P **01 04 46.7 -1.2**
BRLDA IAmb IAmb 01 04 48.6
comp=Z,30nm,0.9s
BRLDA pP pP **01 05 16.4 -1.3**
FRB Frobisher Bay 74.22 3 LR LR 01 38 34.6
comp=Z,32nm,19.4s,baz=197,slow=36
SNAA Sanae 74.44 162 P P **01 04 52.2 +0.5**
SNAA IAmb IAmb 01 04 53.7
comp=Z,40nm,1.0s
SNAA Sanae 74.44 162 ⇓P P **01 04 52.5 +0.8**
comp=Z,632nm,0.9s
SNAA Sanae 74.44 162 *de*P P **01 04 52.3 +0.5**
SNAA pmax pmax
comp=Z,43nm,1.0s
TROLL Troll, Antarti 76.16 162 ⇓P P **01 05 02.7 +1.0**
comp=Z,917nm,0.8s
HILA High Level 76.84 339 P P **01 05 04.8 -0.7**
HILA pP **01 05 35.7 +0.2**
MORF Marmelete 78.11 48 *e*P P **01 05 16.0 +2.9**
comp=Z,46nm,1.5s
MORF *e*pP pP **01 05 44.5 +1.1**
PNCL Nicolau / Gran 78.52 48 *e*P P **01 05 15.9 +0.7**
PNCL *e*pP pP **01 05 45.6 0.0**
PCVE Castro Verde 78.69 48 *e*P P **01 05 18.0 +1.8**
comp=Z,22nm,1.7s
PCVE *e*pP pP **01 05 44.8 -1.8**
PBEJ Beja 78.96 48 *e*P P **01 05 19.5 +1.8**
YKA Yellowknife Ar 79.03 342 P P **01 05 17.1 -0.3**
YKA Yellowknife Ar 79.03 342 P P **01 05 17.0 -0.5**
comp=Z,10nm,1.0s,baz=137,slow=5.9,SNR=85
YKA pP pP **01 05 47.7 0.0**
comp=Z,8.7nm,1.0s,baz=137,slow=6.3,SNR=9.4
comp=Z,10nm,1.0s
EVO Evora 79.05 47 *e*P P **01 05 19.6 +1.4**
PMTG Montargil 79.11 47 *e*P P **01 05 19.9 +1.5**
comp=Z,32nm,1.3s
PCAS Casmilo, Conde 79.31 46 *e*P P **01 05 20.9 +1.4**
COI Coimbra 79.43 46 *e*P P **01 05 22.4 +2.3**
comp=Z,48nm,1.4s
COI Coimbra 79.43 46 P P **01 05 20.6 +0.5**
COI IAmb IAmb 01 05 22.8
comp=Z,32nm,1.1s
COI Coimbra 79.43 46 P P **01 05 20.6 +0.5**
COI pmax pmax
comp=Z,32nm,1.1s
PESTR Estremoz 79.49 47 *e*P P **01 05 22.5 +2.0**
comp=Z,30nm,1.7s
PESTR *e*pP pP **01 05 51.2 +0.3**
PESTR Estremoz 79.49 47 P P **01 05 19.9 -0.6**
PESTR IAmb IAmb 01 05 23.4
comp=Z,29nm,1.3s
MDT Midelt 79.57 54 LR LR 01 38 58.0
comp=Z,43nm,19.4s,baz=276,slow=34
TOA0 Torodi Ar. Sit 79.58 74 P P **01 05 21.3 -0.2**
TOA0 IAmb IAmb 01 05 22.7
comp=Z,32nm,0.9s
TORD Torodi Ar. Bea 79.58 74 P P **01 05 20.7 -0.8**
TORD IAmb IAmb 01 05 22.7
comp=Z,28nm,0.9s
TORD Torodi Ar. Bea 79.58 74 P P **01 05 21.5 0.0**
comp=Z,30nm,1.0s,baz=283,slow=5.1,SNR=107
TORD pP pP **01 05 51.0 -1.0**
comp=Z,16nm,0.8s,baz=280,slow=5.3,SNR=8.3
comp=Z,30nm,1.0s
QSPA South Pole Qui 79.59 180 P P **01 05 21.6 +0.8**
QSPA IAmb IAmb 01 05 23.2
comp=Z,48nm,1.2s
QSPA South Pole Qui 79.59 180 P P **01 05 21.6 +0.8**
comp=Z,28nm,1.1s,baz=146,slow=2.9,SNR=39
comp=Z,28nm,1.1s
DY2G Dye2 79.63 11 *i* P P **01 05 18.2 -2.8**
DY2G IAmb IAmb 01 05 52.9
comp=Z,14nm,0.8s
PTO Porto 79.67 45 *e*P P **01 05 22.8 +1.4**
PCBR Castelo Branco 79.94 46 *e*P P **01 05 24.6 +1.7**
PVIS Viseu 79.99 45 *e*P P **01 05 22.1 -1.2**
PVIS *e*pP pP **01 05 53.1 -0.5**
POLO Lamas de Olo 80.32 45 *e*P P **01 05 24.8 -0.3**
FLDN Fort Liard 80.38 338 P P **01 05 26.1 +1.3**
baz=132
U35K Hyder 80.42 332 P P **01 05 25.9 +0.8**
baz=125
KOTAN Kotaneelee Air 80.52 337 P P **01 05 27.1 +1.5**
baz=131
MVO Moncorvo 80.77 45 *e*P P **01 05 28.7 +1.3**
comp=Z,27nm,1.8s
MVO *e*pP pP **01 05 57.6 -0.3**
T35M Bob Quinn 81.14 333 P P **01 05 29.0 +0.1**
T35M pP **01 05 59.4 +0.1**
T35M Bob Quinn 81.14 333 P P **01 05 29.7 +0.7**
baz=125,SNR=6.0
ILULI Ilulissat 81.29 8 P P **01 05 28.6 -0.9**
ILULI Ilulissat 81.29 8 P P **01 05 28.6 -0.9**
ILULI pmax pmax
comp=Z,61nm,1.1s
CRAG Craig 81.63 331 P **01 05 29.5 -2.0**
DLBC Dease Lake 81.88 334 P P **01 05 33.0 +0.1**
DLBC Dease Lake 81.88 334 P P **01 05 33.6 +0.7**
baz=126,SNR=5.2
U33K Whale Pass 81.97 331 P P **01 05 34.0 +0.7**
baz=122
S34M Telegraph Cree 82.06 333 P P **01 05 34.4 +0.7**
baz=124
PAB San Pablo 82.08 47 P P **01 05 34.9 +0.5**
PAB IAmb IAmb 01 05 38.5
comp=Z,30nm,1.2s
PAB San Pablo 82.08 47 P P **01 05 34.9 +0.5**
PAB pmax pmax
comp=Z,30nm,1.2s
WTLY Watson Lake, Y 82.36 336 P P **01 05 35.9 +0.6**
baz=127
WRGLY Wrigley 82.37 340 P P **01 05 33.9 -1.3**
WRGLY IAmb IAmb 01 05 37.5
comp=Z,34nm,1.4s
WRGLY Wrigley 82.37 340 P P **01 05 36.2 +1.0**
baz=132
ESDC Sonseca Array 82.40 47 P P **01 05 36.0 0.0**
ESDC IAmb IAmb 01 05 39.0
comp=Z,25nm,1.3s
ESDC Sonseca Array 82.40 47 P P **01 05 37.5 +1.4**
comp=Z,15nm,1.1s,baz=257,slow=5.1,SNR=36
ESDC pP pP **01 06 07.0 +0.4**
comp=Z,4.7nm,1.1s,baz=256,slow=4.5,SNR=2.9
comp=Z,15nm,1.1s
ESBB Sonseca Array 82.40 47 P P **01 05 36.2 +0.1**
ESBB IAmb IAmb 01 05 39.7
comp=Z,25nm,1.2s
ELIB Princess Elisa 82.61 162 *d*P P **01 05 37.1 +0.4**
comp=Z,13nm,1.0s
ELIB *d*pP pP **01 06 09.0 +1.7**
R33M Jennings River 82.83 335 P P **01 05 37.6 -0.3**
R33M Jennings River 82.83 335 P P **01 05 38.7 +0.8**
baz=125
Q32M Nakina River 83.14 334 P P **01 05 38.1 -1.5**
Q32M Nakina River 83.14 334 P P **01 05 40.5 +0.9**
baz=124
ICESG Greenland Ices 83.19 12 *i* P P **01 05 37.6 -2.2**
ICESG IAML 01 06 14.9
comp=Z,20nm,1.0s
ICESG IAmb IAmb 01 06 14.9
comp=Z,20nm,1.0s
S32K Killisnoo 83.37 332 P P **01 05 41.2 +0.7**
baz=121
SIT Sitka 83.51 331 P P **01 05 41.8 +0.6**
baz=121
R32K Eaglecrest 83.77 333 P P **01 05 43.5 +0.9**
baz=122
P33M Teslin, Yukon 84.06 335 P P **01 05 43.7 -0.4**
P33M IAmb IAmb 01 05 46.0
comp=Z,19nm,1.2s
P33M pP **01 06 15.4 +0.8**
P33M Teslin, Yukon 84.06 335 P P **01 05 45.0 +0.9**
baz=123,SNR=7.4
BESE Bessie Mountai 84.08 333 P P **01 05 42.6 -1.6**
BESE IAmb IAmb 01 05 59.5
comp=Z,20nm,1.1s
BESE pP pP **01 06 14.1 -0.7**
P32M Atlin 84.11 334 P P **01 05 44.5 +0.2**
P32M Atlin 84.11 334 P P **01 05 44.8 +0.4**
baz=122
S31K Pelican 84.39 332 P P **01 05 46.4 +0.7**
baz=120
N32M Quiet Lake 84.69 336 IAmb IAmb 01 05 49.0
comp=Z,18nm,0.9s
N32M Quiet Lake 84.69 336 P P **01 05 48.0 +0.8**
baz=123
WHY Whitehorse 85.17 335 P P **01 05 48.6 -1.1**
WHY pP **01 06 19.8 -0.5**
WHY Whitehorse 85.17 335 P P **01 05 50.4 +0.7**
baz=121,SNR=5.2
TAM Tamanrasset 85.36 66 IAmb IAmb 01 05 54.3
comp=Z,29nm,1.2s
TAM pP pP 01 06 23.1 +0.7
FARO Faro, Yukon 85.38 336 P P **01 05 51.1 +0.5**
FARO Faro, Yukon 85.38 336 P P **01 05 51.4 +0.8**
baz=123,SNR=11
O30N Mendenhall 85.74 334 IAmb IAmb 01 05 54.5
comp=Z,20nm,1.4s
O30N Mendenhall 85.74 334 P P **01 05 53.1 +0.6**
baz=120,SNR=7.9
M31M Drury Creek, Y 85.78 336 P P **01 05 52.6 0.0**
baz=122
P30M Million Dollar 85.79 334 P P **01 05 53.3 +0.6**
baz=120
P29M Windy Craggy 85.89 333 P P **01 05 54.0 +0.8**
baz=119
N31M Braeburn, Yuko 85.97 335 P P **01 05 53.8 +0.2**
N31M IAmb IAmb 01 05 55.5
comp=Z,22nm,1.1s
N31M Braeburn, Yuko 85.97 335 P P **01 05 54.2 +0.6**
baz=121
SUMG Summit 86.27 10 P P **01 05 55.9 +0.6**
SUMG Summit 86.27 10 P P **01 05 55.9 +0.6**
SUMG pmax pmax
comp=Z,43nm,1.1s
SUMG Summit 86.27 10 *i* P P **01 05 53.4 -1.8**
SUMG IAmb IAmb 01 05 58.5
comp=Z,16nm,0.9s
HYT Haines Junctio 86.37 334 P P **01 05 56.4 +0.7**
baz=119
N30M Aishikik Lake 86.50 335 IAmb IAmb 01 05 58.6
comp=Z,21nm,1.3s
N30M Aishikik Lake 86.50 335 P P **01 05 57.1 +0.9**
baz=120
VNDA Vanda 86.55 191 P P **01 05 56.2 0.0**
VNDA Vanda 86.55 191 P P **01 05 57.6 +1.4**
comp=Z,6.2nm,0.9s,baz=84,slow=2.8,SNR=8.6
comp=Z,6.2nm,0.9s
O29M Mount Kennedy 86.58 333 P P **01 05 57.3 +0.6**
baz=118
YUK6 Outpost Mounta 86.79 334 P P **01 05 58.3 +0.4**
baz=118,SNR=6.0
M30M Minto, Yukon 86.93 336 pP 01 06 25.8 -3.2
M30M Minto, Yukon 86.93 336 P P **01 05 59.1 +0.8**
baz=120
YUK4 Talbot Arm 87.10 334 P P **01 05 59.9 +0.6**
baz=118,SNR=8.1
PINM Pinnacle 87.23 333 P P **01 05 59.8 0.0**
baz=117
M29M Somme Creek 87.55 335 P P **01 06 01.2 -0.1**
baz=118
YUK8 Steele Glacier 87.56 334 P P **01 06 01.6 0.0**
baz=117,SNR=6.5
L29M L29M 87.73 336 P P **01 06 01.8 -0.2**
baz=119,SNR=28
J30M Hart River 87.76 338 IAmb IAmb 01 06 04.1
comp=Z,13nm,1.1s
J30M Hart River 87.76 338 P P **01 06 02.2 -0.1**
baz=120
K29M Barlow Dome 87.84 337 IAmb IAmb 01 06 04.2
comp=Z,14nm,1.1s
K29M Barlow Dome 87.84 337 P P **01 06 02.4 -0.3**
baz=119
YUK3 Moose Creek 88.07 334 P P **01 06 04.2 +0.3**
baz=116,SNR=8.3
CTGM Chitina Glacie 88.09 333 IAmb IAmb 01 06 06.0
comp=Z,28nm,1.2s
CTG Chitna Glacier 88.10 333 P P **01 06 04.8 +0.8**
baz=116
I30M Mount Dempster 88.10 338 IAmb IAmb 01 06 05.5
comp=Z,22nm,1.1s
I30M Mount Dempster 88.10 338 P P **01 06 04.0 +0.2**
baz=120
G31M Satah River 88.25 340 IAmb IAmb 01 06 05.5
comp=Z,15nm,0.9s
G31M Satah River 88.25 340 P P **01 06 04.5 +0.2**
baz=122,SNR=10.0
BARN Barnard Glacie 88.28 333 P P **01 06 04.2 -0.7**
BARN IAmb IAmb 01 06 20.1

comp=Z,23nm,1.3s
F31M Tsiigehtchic 88.36 341 IAmb IAmb 01 06 06.0
comp=Z,26nm,1.1s
F31M Tsiigehtchic 88.36 341 P **P** **01 06 04.9 +0.1**
baz=123,SNR=8.3
J29N Klondike Camp 88.41 337 P **P** **01 06 05.4 +0.1**
baz=119
BVCY Beaver Creek 88.53 335 P **P** **01 06 05.9 +0.1**
baz=116,SNR=5.1
DAWY Dawson 88.68 337 IAmb IAmb 01 06 07.8
comp=Z,14nm,1.0s
DAWY Dawson 88.68 337 P **P** **01 06 06.3 -0.2**
baz=118,SNR=9.9
A36M Sachs Harbour 88.71 346 P **P** **01 06 06.3 -0.1**
baz=131,SNR=27
INK Inuvik 88.76 341 P **P** **01 06 06.3 -0.4**
baz=123,SNR=22
EPYK Eagle Plains 88.80 339 P **P** **01 06 07.0 -0.1**
baz=120,SNR=6.1
I29M Ogilvie Camp, 88.88 338 IAmb IAmb 01 06 08.7
comp=Z,16nm,1.0s
I29M Ogilvie Camp, 88.88 338 P **P** **01 06 07.4 0.0**
baz=118,SNR=6.6
NEEM North Greenlan 88.89 5 *i* P **P** **01 06 06.6 -1.0**
NEEM IAmb IAmb 01 06 10.4
comp=Z,29nm,0.9s
TSUM Tsumeb 88.91 109 P **P** **01 06 09.8 +1.0**
TSUM Tsumeb 88.91 109 LR LR 01 44 04.9
comp=Z,24nm,18.9s,baz=200,slow=34
M27K Edge Creek, AK 88.93 335 IAmb IAmb 01 06 09.6
comp=Z,15nm,1.1s
M27K Edge Creek, AK 88.93 335 P **P** **01 06 08.1 +0.3**
baz=115
G30M tAoh Zraii Nji 88.94 340 P **P** **01 06 07.5 -0.2**
baz=120
KAIM Kayak Island 89.06 332 P **P** **01 06 08.6 +0.3**
baz=113
F30M Barrier River 89.11 340 P **P** **01 06 09.4 +0.9**
baz=121
SUR Sutherland 89.20 123 LR LR 01 41 38.8
comp=Z,36nm,19.5s,baz=233,slow=32
L27K Beaver Creek, 89.21 335 IAmb IAmb 01 06 10.8
comp=Z,13nm,1.1s
L27K Beaver Creek, 89.21 335 P **P** **01 06 09.5 +0.5**
baz=115
H29M Whitestone 89.31 339 IAmb IAmb 01 06 10.7
comp=Z,21nm,1.1s
H29M Whitestone 89.31 339 P **P** **01 06 09.5 +0.1**
baz=118
M26K Nabesna, AK 89.42 334 P **P** **01 06 10.1 0.0**
baz=114
G29M Pine Creek 89.52 339 IAmb IAmb 01 06 11.6
comp=Z,23nm,1.1s
G29M Pine Creek 89.52 339 P **P** **01 06 10.3 -0.1**
baz=119
I28M Miner Creek 89.52 338 P **P** **01 06 10.8 +0.3**
baz=117
BMRM Bremner River 89.55 333 P **P** **01 06 10.7 0.0**
baz=113
EGAK Eagle 89.68 337 IAmb IAmb 01 06 12.9
comp=Z,14nm,1.1s
EGAK Eagle 89.68 337 P **P** **01 06 11.7 +0.5**
baz=116,SNR=10
K27K Chicken 89.72 336 pP pP 01 06 44.1 +1.9
K27K Chicken 89.72 336 P **P** **01 06 11.5 +0.1**
baz=115,SNR=16
N25K Chitina, Valde 89.80 333 P **P** **01 06 12.1 +0.3**
baz=113
L26K Log Cabin Wild 89.82 335 P **P** **01 06 12.1 +0.2**
baz=114
EYAK Cordova Ski Ar 89.91 332 P **P** **01 06 12.7 +0.4**
baz=112
E29M Blow River 90.19 341 IAmb IAmb 01 06 14.6
comp=Z,20nm,1.1s
E29M Blow River 90.19 341 P **P** **01 06 14.2 +0.8**
baz=119
I27K Kandik River 90.22 338 P **P** **01 06 13.9 +0.2**
baz=116
KLU Klutina 90.34 333 P **P** **01 06 13.6 -0.8**
KLU IAmb IAmb 01 06 15.6
comp=Z,19nm,1.0s
KLU Klutina 90.34 333 P **P** **01 06 14.3 -0.1**
baz=114,SNR=5.8
HARP HAARP 90.34 334 P **P** **01 06 14.3 0.0**
baz=112
H27K Steamboat Moun 90.45 338 P **P** **01 06 15.3 +0.5**
baz=116
SCRK Sand Creek 90.47 336 P **P** **01 06 15.0 0.0**
baz=113,SNR=9.0
F28M Old Crow 90.48 340 P **P** **01 06 15.5 +0.6**
baz=117,SNR=10
J26L Joseph Creek 90.51 336 IAmb IAmb 01 06 16.4
comp=Z,10nm,1.0s
J26L Joseph Creek 90.51 336 P **P** **01 06 15.8 +0.7**
baz=114
GLI Glacier Island 90.65 332 P **P** **01 06 15.3 -0.5**
baz=111
EUNU Eureka 90.66 358 P **P** **01 06 16.1 +0.6**
EUNU **pP** **01 06 45.8 -0.6**
I26K Coal Creek Min 90.68 337 IAmb IAmb 01 06 17.5
comp=Z,16nm,1.5s
I26K Coal Creek Min 90.68 337 P **P** **01 06 15.2 -0.6**
baz=114,SNR=9.1
M24K Tolsona, Glenn 90.68 334 pP 01 06 43.7 -3.1
M24K Tolsona, Glenn 90.68 334 P **P** **01 06 15.5 -0.4**
baz=111,SNR=5.1
PAX Paxson 90.69 334 P **P** **01 06 16.1 +0.1**
baz=112,SNR=5.9
RIDG Independent Ri 90.73 335 IAmb IAmb 01 06 20.6
comp=Z,11nm,1.1s
RIDG Independent Ri 90.73 335 P **P** **01 06 15.8 -0.4**
baz=113,SNR=7.7
E28M Babbage River 90.83 341 P **P** **01 06 16.5 +0.1**
baz=117
D28M Stokes Point 90.91 341 P **P** **01 06 16.5 -0.2**
baz=118
SCM Sheep Creek Mo 91.09 333 P **P** **01 06 18.3 +0.4**
SCM **pP** **01 06 47.3 -1.4**
SCM Sheep Creek Mo 91.09 333 P **P** **01 06 17.5 -0.3**
baz=110
SCM Sheep Creek Mo 91.09 333 P **P** **01 06 18.3 +0.4**
SCM *PP **pP** **01 06 47.3 -1.4**
SCM pmax pmax
comp=Z,33nm,1.4s
K24K Donnelly Dome 91.14 335 P **P** **01 06 17.8 -0.2**
baz=112
M23K Glacier View 91.25 333 P **P** **01 06 17.8 -0.7**
baz=110
J25K Salcha River, 91.27 336 IAmb IAmb 01 06 19.8
comp=Z,9.7nm,1.1s
J25K Salcha River, 91.27 336 P **P** **01 06 18.4 -0.3**
baz=112
E27K Coleen River 91.32 340 P **P** **01 06 18.4 -0.3**
baz=116
KNK Knik Glacier 91.45 333 P **P** **01 06 19.2 -0.3**
baz=109
SEW Seward 91.49 331 P **P** **01 06 19.4 -0.2**
baz=109
SML Sawmill 91.53 333 P **P** **01 06 19.8 -0.1**
SML IAmb IAmb 01 06 27.4
comp=Z,20nm,1.3s
SML **pP** **01 06 46.9 -3.9**
SML Sawmill 91.53 333 P **P** **01 06 19.6 -0.3**
baz=110,SNR=5.5
WAT6 Susitna Watana 91.53 334 P **P** **01 06 19.7 -0.3**
baz=110,SNR=10
DHY Denali Highway 91.54 334 P **P** **01 06 19.7 -0.3**
baz=110
G26K Porcupine Rive 91.58 338 P **P** **01 06 20.4 +0.5**
baz=114
D27M Malcolm River 91.58 341 IAmb IAmb 01 06 21.4
comp=Z,6.7nm,0.9s
D27M Malcolm River 91.58 341 P **P** **01 06 19.9 0.0**
baz=116
PRP Porcupine Dome 91.67 337 IAmb IAmb 01 06 21.8
comp=Z,9.6nm,1.1s
PRP pP 01 06 50.0 -1.5
PRP Porcupine Dome 91.67 337 P **P** **01 06 20.5 -0.1**
baz=112,SNR=7.9
PMR Palmer 91.82 333 P **P** **01 06 21.1 0.0**
baz=109
HDA Harding Lake 91.83 336 P **P** **01 06 20.3 -0.9**
HDA **pP** **01 06 50.5 -1.6**
HDA Harding Lake 91.83 336 P **P** **01 06 21.7 +0.5**
baz=111
RC01 Rabbit Creek A 91.94 332 P **P** **01 06 21.9 +0.2**
baz=108
IL31 91.94 336 P **P** **01 06 21.2 -0.3**
IL31 IAmb IAmb 01 06 24.2
comp=Z,12nm,1.4s
ILAR Eielson Array 91.94 336 P **P** **01 06 19.8 -1.9**
ILAR Eielson Array 91.94 336 P **P** **01 06 21.1 -0.6**
comp=Z,1.8nm,0.9s,baz=145,slow=3.7,SNR=14
ILAR pP **pP** **01 06 51.3 -1.2**
comp=Z,3.6nm,0.8s,baz=156,slow=3.4,SNR=12
ILAR PP **PP** **01 09 58.6 -4.0**
comp=Z,0.7nm,1.0s,baz=116,slow=6.8,SNR=4.2
comp=Z,1.8nm,0.9s
FYU Fort Yukon 91.96 338 P **P** **01 06 21.8 +0.2**
WAT1 Susitna Watana 91.97 334 P **P** **01 06 21.7 -0.2**
baz=109
BRSE Bradley Lake S 92.00 331 P **P** **01 06 21.6 -0.5**
baz=108
F26K Sheenjek River 92.00 339 P **P** **01 06 22.2 +0.3**
baz=113
BMAR Burnt Mountain 92.05 339 P **P** **01 06 22.5 +0.3**
CCB Clear Creek Bu 92.26 336 IAmb IAmb 01 06 24.4
comp=Z,9.5nm,1.1s
POKR Poker Plat Res 92.28 336 IAmb IAmb 01 06 24.4
comp=Z,9.3nm,1.0s
POKR Poker Plat Res 92.28 336 P **P** **01 06 23.9 +0.7**
baz=110,SNR=6.9
KDAK Kodiak Island 92.35 328 LR LR 01 47 57.5
comp=Z,38nm,18.4s,baz=173,slow=35
G25K Bearman Lake 92.35 338 P **P** **01 06 24.0 +0.6**
baz=111
COLA College 92.36 336 P **P** **01 06 24.3 +0.8**
COLA IAmb IAmb 01 06 24.5
comp=Z,13nm,0.9s
COLA **pP** **01 06 54.9 +0.5**
COLA College 92.36 336 P **P** **01 06 23.9 +0.3**
baz=110
COLA College 92.36 336 P **P** **01 06 24.3 +0.8**
COLA *PP **pP** **01 06 54.9 +0.5**
COLA pmax pmax
comp=Z,13nm,1.0s
HOM Homer 92.41 330 P **P** **01 06 23.7 -0.2**
baz=107
MCK McKinley 92.43 335 P **P** **01 06 24.4 +0.4**
baz=109
JMIC Jan Mayen 92.45 17 LR LR 01 45 52.0
comp=Z,7.9nm,19.6s,baz=292,slow=34
Q20K Shuyak Island 92.48 329 P **P** **01 06 24.1 -0.1**
baz=106
F25K Christian Rive 92.49 339 P **P** **01 06 24.3 +0.1**
baz=112
SUA Susitna One 92.51 332 P **P** **01 06 24.8 +0.2**
baz=107
CUT Chulitna 92.58 333 P **P** **01 06 24.3 -0.4**
baz=108
E25K Arctic Village 92.66 339 P **P** **01 06 25.2 +0.3**
baz=112,SNR=6.4
H24K Noodor Dome 92.70 337 IAmb IAmb 01 06 26.4
comp=Z,11nm,1.1s
H24K Noodor Dome 92.70 337 P **P** **01 06 25.4 +0.2**
baz=110
NEA2 Nenana 92.76 335 IAmb IAmb 01 06 26.3
comp=Z,13nm,1.2s
NEA2 Nenana 92.76 335 P **P** **01 06 26.1 +0.7**
baz=109,SNR=7.9
BWN Browne 92.79 335 P **P** **01 06 24.8 -0.7**
G24K Hadweenzic Riv 92.84 338 IAmb IAmb 01 06 27.4
comp=Z,12nm,1.2s
G24K Hadweenzic Riv 92.84 338 P **P** **01 06 26.0 +0.3**
baz=110
TRF Thorofare Moun 92.91 334 P **P** **01 06 26.1 -0.3**
baz=108
O20K Slope Mountain 93.00 331 P **P** **01 06 26.2 -0.6**
baz=106
SKT Skwentna 93.02 333 P **P** **01 06 26.1 -0.7**
SKT Skwentna 93.02 333 P **P** **01 06 26.6 -0.1**
baz=107,SNR=8.3
I23K Minto, Yukon-K 93.06 336 P **P** **01 06 27.1 +0.4**
baz=108
N20K Mount Spurr 93.11 332 P **P** **01 06 26.8 -0.4**
baz=106
P19K Oil Pt 93.18 330 P **P** **01 06 27.2 -0.3**
baz=105
Q19K Cape Douglas, 93.20 329 P **P** **01 06 26.1 -1.5**
baz=105
KTH Kantishna Hill 93.21 334 P **P** **01 06 26.1 -1.5**
F24K Squaw Lake 93.27 338 P **P** **01 06 27.4 -0.4**
baz=110
D25K Kavik River 93.37 340 IAmb IAmb 01 06 29.5
comp=Z,8.0nm,1.1s
D25K Kavik River 93.37 340 P **P** **01 06 27.8 -0.4**
baz=111
BPAW Bear Paw Mtn. 93.40 335 P **P** **01 06 27.7 -0.7**
BPAW IAmb IAmb 01 06 29.1
comp=Z,8.3nm,1.0s
BPAW pP **pP** **01 06 58.2 -1.1**
BPAW Bear Paw Mtn. 93.40 335 P **P** **01 06 28.7 +0.3**
baz=107,SNR=8.3
PPLA Pirkeypile 93.58 333 P **P** **01 06 29.6 +0.2**
baz=106
E24K Your Creek 93.67 339 P **P** **01 06 29.9 +0.3**
baz=109
CAST Castle Rocks 93.67 334 P **P** **01 06 28.0 -1.7**
CAST IAmb IAmb 01 06 30.2
comp=Z,12nm,1.0s
CAST **pP** **01 06 59.0 -1.6**
CAST Castle Rocks 93.67 334 P **P** **01 06 29.7 0.0**
baz=106,SNR=9.4
M20K Styx River 93.72 332 P **P** **01 06 29.4 -0.7**
baz=105
BOSA Boshof 93.78 120 P **P** **01 06 30.8 -0.5**
comp=Z,8.3nm,1.1s,baz=352,slow=1.9,SNR=4.7
comp=Z,8.3nm,1.1s
G23K Bananza Creek 93.80 337 P **P** **01 06 30.0 -0.2**
G23K IAmb IAmb 01 06 31.3
comp=Z,6.4nm,1.2s
G23K Bananza Creek 93.80 337 P **P** **01 06 30.8 +0.5**
baz=108
O19K Port Alsworth 93.85 331 P **P** **01 06 31.0 +0.5**
baz=104
CHUM Lake Minchumin 93.90 334 P **P** **01 06 30.8 +0.1**
baz=106
COLD Coldfoot 94.03 338 P **P** **01 06 31.8 +0.6**
baz=108
DAVOX Davos/Dischmat 94.05 43 LR LR 01 45 25.3
comp=Z,45nm,18.3s,baz=264,slow=33
E23K Chandalar 94.07 339 P **P** **01 06 32.2 +0.7**
baz=108
H22K Ishtalitna Cre 94.08 336 P **P** **01 06 31.7 +0.2**
baz=107
N19K Bonanza Creek 94.08 331 P **P** **01 06 32.0 +0.3**
baz=104
I21K Tanana 94.12 336 P **P** **01 06 32.7 +1.0**
baz=106
D24K Happy Valley 94.14 340 P **P** **01 06 32.5 +0.8**
baz=109
Q17K Contact Creek 94.17 328 P **P** **01 06 32.5 +0.3**
baz=103
L20K Farewell, AK 94.22 333 P **P** **01 06 32.2 -0.1**
baz=105
C24K Franklin Bluff 94.28 340 P **P** **01 06 32.6 +0.3**
baz=109
M19K Big River Lodg 94.31 332 P **P** **01 06 32.2 -0.4**
baz=104
G22K Bettles 94.42 337 P **P** **01 06 33.7 +0.7**
baz=106
K20K Telida 94.52 334 P **P** **01 06 33.3 -0.3**
baz=104
H21K Melozitna Rive 94.58 336 P **P** **01 06 34.5 +0.7**
baz=105
L19K White Mountain 94.58 332 P **P** **01 06 34.3 +0.4**
baz=104
FETA Feichten 94.67 43 *i* PcP **PcP** **01 06 36.2 +1.0**
comp=Z,7.6nm,1.2s
N18K Kilae Creek 94.72 331 P **P** **01 06 35.2 +0.7**
baz=103
J20K Nowinta River 94.76 334 P **P** **01 06 35.5 +0.9**
baz=104
RETA Reutte 94.77 43 *e*PcP **PcP** **01 06 36.1 +0.6**
comp=Z,5.5nm,1.1s
F22K John River 94.84 338 P **P** **01 06 35.1 +0.2**
baz=106
M18K Stony River 94.87 332 P **P** **01 06 35.6 +0.4**
baz=103
R16K Pilot Point 94.90 328 P **P** **01 06 35.7 +0.3**
baz=102
MOTA Moosalm 94.98 43 *i* PcP **PcP** **01 06 37.1 +0.6**
comp=Z,8.8nm,1.3s
SQTA Sankt Quirin 95.02 43 *i* P **P** **01 06 36.9 +0.5**
comp=Z,6.6nm,1.1s
G21K Allakaket 95.08 337 P **P** **01 06 36.7 +0.6**
baz=105
CHGN Chignik 95.10 326 P **P** **01 06 35.9 -0.4**
baz=101
O17K Koliganek Bris 95.11 330 P **P** **01 06 37.0 +0.7**
baz=102
CTI Castel Tesino 95.12 44 P **P** **01 06 35.7 -1.2**
CTI IAmb IAmb 01 06 38.4
comp=Z,9.9nm,1.0s
CTI Castel Tesino 95.12 44 P **P** **01 06 35.7 -1.2**
CTI pmax pmax
comp=Z,10.0nm,1.0s
F21K Alatna River 95.25 337 P **P** **01 06 37.5 +0.7**
baz=105
TTA Tatalina 95.28 333 P **P** **01 06 37.3 +0.2**
baz=103
WATA Walderalm 95.29 43 *i* PcP **PcP** **01 06 38.8 +0.9**
comp=Z,9.9nm,1.5s
N17K Nushagak Hills 95.31 331 P **P** **01 06 37.8 +0.6**
baz=102
WTTA Wattenberg 95.32 43 *i* PcP **PcP** **01 06 38.3 +0.3**
comp=Z,11nm,1.2s
J19K Poorman 95.34 334 P **P** **01 06 37.5 +0.2**
baz=103
H20K Anotleneega Mo 95.38 336 P **P** **01 06 37.8 +0.3**
baz=104
D22K Ayikyak River 95.39 339 P **P** **01 06 37.5 0.0**
baz=105
P16K Nushagak River 95.41 329 P **P** **01 06 37.5 -0.1**
baz=101
L18K Granite Mounta 95.43 332 P **P** **01 06 38.0 +0.3**
baz=102
CHNA Chernabura Isl 95.48 325 P **P** **01 06 38.1 0.0**
baz=100
M17K Holitna River 95.61 331 P **P** **01 06 37.9 -0.7**
baz=102
J18K Innoko River 95.70 333 P **P** **01 06 38.1 -0.9**
baz=102
S14K Fog Glacier 95.72 326 P **P** **01 06 38.1 -1.2**
baz=100
ABTA Abfaltersbach 95.83 44 *i* P **P** **01 06 39.6 -0.4**
comp=Z,8.0nm,1.3s
B22K Teshekpuk Lake 96.01 341 P **P** **01 06 40.7 +0.6**
baz=104
H19K Roundabout Mou 96.02 336 P **P** **01 06 41.0 +0.7**
baz=102
CLUD Cludinico 96.03 44 P **P** **01 06 41.2 +0.3**
LESA Schwarzleotal 96.04 43 *i* P **P** **01 06 40.5 -0.5**
comp=Z,5.8nm,1.1s
F20K Avaraart Lake 96.06 337 P **P** **01 06 40.8 +0.4**
baz=103
SDPT Sand Point 96.07 325 P **P** **01 06 40.7 0.0**
baz=100
L17K Donlin 96.16 332 P **P** **01 06 41.2 +0.2**
baz=101
C21K Knifeblade Rid 96.19 339 P **P** **01 06 42.1 +1.0**
baz=103
B21K Ikpikpuk River 96.24 340 P **P** **01 06 41.0 -0.2**
B21K IAmb IAmb 01 06 44.6
comp=Z,6.4nm,1.1s
B21K **pP** **01 07 11.6 -0.6**
B21K Ikpikpuk River 96.24 340 P **P** **01 06 42.3 +1.1**
baz=103
M16K Timber Creek 96.26 331 P **P** **01 06 41.7 +0.2**
baz=100
K17K Iditarod 96.27 333 P **P** **01 06 42.2 +0.7**
baz=101
G19K Purcell Mounta 96.41 336 P **P** **01 06 40.2 -1.8**
G19K IAmb IAmb 01 06 43.0
comp=Z,11nm,1.4s
G19K Purcell Mounta 96.41 336 P **P** **01 06 42.6 +0.5**
baz=101
KBA Koelnbreinsper 96.44 43 *i* PcP **PcP** **01 06 43.9 +0.8**
comp=Z,6.0nm,1.2s
E20K Nigu River 96.49 338 P **P** **01 06 43.3 +0.8**
baz=102
PRED Cave del Predi 96.50 44 P **P** **01 06 42.8 -0.3**
MYKA Terra Mystica 96.58 44 *e*P **P** **01 06 43.5 +0.1**
comp=Z,7.5nm,1.3s
E19K Redstone River 96.72 337 P **P** **01 06 43.6 +0.1**
baz=101
BIOA Bad Ischl, Aus 96.73 43 *i* PcP **PcP** **01 06 44.9 +0.7**
comp=Z,11nm,1.6s
H18K Honhosa River 96.74 335 P **P** **01 06 44.9 +1.2**
baz=100
D20K Etivluk River 96.74 339 P **P** **01 06 44.2 +0.6**
baz=102
F19K Shaleruckik Mo 96.81 337 P **P** **01 06 45.0 +1.1**
baz=101
CLL Collm 96.83 39 *e*P **P** **01 06 44.0 -0.3**
CLL Collm 96.83 39 *e*P **P** **01 06 44.0 -0.3**
GERES GERESS Array B 96.93 42 P **P** **01 06 45.4 +0.4**
comp=Z,1.0nm,0.9s,baz=227,slow=5.2,SNR=3.6
GERES pP **pP** **01 07 15.2 -0.8**
comp=Z,0.3nm,0.6s,baz=247,slow=2.8,SNR=2.8
comp=Z,1.0nm,0.9s
G18K Tagagawik 96.99 336 P **P** **01 06 45.3 +0.6**
baz=100
MOA Molln 97.17 43 *i* PcP Pdif 01 06 46.8 +0.7
comp=Z,12nm,1.4s
OBKA Obir 97.18 44 *e*PcP Pdif 01 06 47.1 +0.9
comp=Z,10nm,1.9s
D19K Kuna River 97.24 338 P **P** **01 06 45.7 -0.2**
D19K IAmb IAmb 01 06 47.0
comp=Z,6.7nm,1.2s
D19K Kuna River 97.24 338 P Pdif 01 06 46.7 +0.7
baz=100
NB2 NORSAR Subarra 97.26 29 P Pdif 01 06 47.2 +1.0
comp=Z,1.0nm,0.8s,baz=262,slow=4.8
NOA NORSAR Array B 97.26 29 P Pdif 01 06 46.5 +0.4
comp=Z,3.2nm,1.0s,baz=259,slow=4.8,SNR=4.2
NOA pP pP 01 07 18.0 +0.9
comp=Z,2.3nm,0.9s,baz=259,slow=4.6,SNR=4.0
NOA LR LR 01 47 24.5
comp=Z,18nm,20.8s,baz=260,slow=33
comp=Z,3.2nm,1.0s
URZ Urewera 97.29 229 LR LR 01 40 58.6
comp=Z,64nm,19.5s,baz=118,slow=29
BRG Berggiesshubel 97.36 40 *e*P Pdif 01 06 48.1 +1.3
BRG Amp 01 06 49.6
comp=Z,3.9nm,1.1s
BRG Berggiesshubel 97.36 40 *e*P Pdif 01 06 48.1 +1.3
BRG pmax pmax
comp=Z,4.0nm,1.1s
J16K Anvik River 97.40 333 P Pdif 01 06 47.1 +0.5
baz=99
I17K Unalakleet 97.53 334 P Pdif 01 06 47.7 +0.5
baz=98
SOKA Soboth 97.53 44 *e*P Pdif 01 06 48.2 +0.4
comp=Z,4.2nm,1.2s
L15K Ungalak Mounta 97.57 331 P Pdif 01 06 48.7 +1.2
baz=98
M14K Bethel 97.67 330 P Pdif 01 06 48.8 +0.9
baz=98
K15K Wolf Creek Mou 97.68 332 P Pdif 01 06 48.5 +0.5
baz=98
G17K Kiwalik Mounta 97.74 335 P Pdif 01 06 48.4 +0.3
baz=98
C19K Lookout Ridge 97.87 339 P Pdif 01 06 49.5 +0.7
baz=99
ARSA Arzberg 97.94 43 *e*PcP Pdif 01 06 49.7 +0.2
comp=Z,2.1nm,1.1s
E18K Tukpahlearik C 98.00 337 P **P** **01 06 48.9 -0.3**
E18K Tukpahlearik C 98.00 337 P Pdif 01 06 50.0 +0.8
baz=98
L14K Kuka Creek 98.09 331 P **P** **01 06 49.5 -0.2**
baz=97
F17K Baldwin Pennin 98.12 336 P Pdif 01 06 50.2 +0.4
baz=98
CONA Conrad Observa 98.24 43 *i* Pdiff Pdif 01 06 52.0 +1.0
comp=Z,6.9nm,1.6s
H16K Elim 98.30 334 P Pdif 01 06 51.0 +0.4
baz=97
M13K Dall Lake 98.31 330 P Pdif 01 06 51.6 +0.9
baz=97
HFS Hagfors 98.36 30 P Pdif 01 06 51.4 +0.4
comp=Z,2.3nm,0.9s,baz=300,slow=6.5,SNR=2.7
comp=Z,2.3nm,0.9s
C18K Utukok River 98.38 338 P Pdif 01 06 51.7 +0.7
baz=97
G16K Koyuk River 98.43 335 P Pdif 01 06 51.4 +0.2
baz=97
RONA Rosalia, Austr 98.51 43 *e*Pdiff Pdif 01 06 52.2 +0.2
comp=Z,3.0nm,0.8s
A19K Wainwright 98.54 340 P Pdif 01 06 52.6 +1.1
baz=97
B18K Kokolik River 98.69 339 P Pdif 01 06 52.9 +0.7
baz=97
C17K DeLong Mountai 99.09 338 P **Pdif** **01 06 53.9 -0.2**

	baz=96								
G15K	**Niukluk**				P		**Pdif**	**01 06 54.1**	**-0.1**
	baz=95								
ZST	**Bratislava**		**99.10**	**43**	*eP*		**Pdif**	**01 06 53.3**	**-1.3**
ZST	**Bratislava**		**99.10**	**43**	*e*PDIFF		**Pdif**	**01 06 53.3**	**-1.3**
MODS	**Modra-Piesok**		**99.23**	**42**	*eP*		**Pdif**	**01 06 53.9**	**-1.3**
MODS	**Modra-Piesok**		**99.23**	**42**	*e*PDIFF		**Pdif**	**01 06 53.9**	**-1.3**
UNV	**Unalaska Valle**		**99.36**	**323**	P		**Pdif**	**01 06 55.5**	**0.0**
	baz=95								
F15K	**North Star Dit**		**99.42**	**335**	P		**Pdif**	**01 06 55.7**	**+0.1**
	baz=95								
RPZ	**Rata Peaks**		**99.52**	**222**	LR		LR	01 42 10.9	
	comp=Z,90nm,21.4s,baz=99,slow=29								
ANM	**Nome**		**99.63**	**334**	P		**Pdif**	**01 06 56.3**	**-0.3**
	baz=94								
LSZ	**Lusaka**		**99.64**	**108**	LR		LR	01 52 46.9	
	comp=Z,24nm,18.0s,baz=199,slow=36								
C16K	**Lisburne Hills**		**99.87**	**338**	P		**Pdif**	**01 06 57.5**	**-0.1**
	baz=94								
F14K	**Arctic Creek**		**100.10**	**335**	P		**Pdif**	**01 06 58.4**	**-0.3**
	baz=93								
VYHS	**Vyhne**		**100.28**	**42**	*eP*		**Pdif**	**01 06 58.5**	**-1.4**
VYHS	**Vyhne**		**100.28**	**42**	*e*PDIFF		**Pdif**	**01 06 58.5**	**-1.4**
TNA	**Tín City**		**100.76**	**335**	P		**Pdif**	**01 07 01.7**	**+0.1**
	baz=92								
P08K	**Saint George I**		**101.27**	**326**	P		**Pdif**	**01 07 03.1**	**-0.9**
	baz=92								
SPIA	**Saint Paul Isl**		**101.67**	**326**	P		**Pdif**	**01 07 05.3**	**-0.5**
	baz=91								
TIXI	**Tiksi**		**117.22**	**352**	⇑*i*	PKIKP	**PKPdf**	**01 11 56.6**	**-0.9**
KBZ	**Khabaz**		**117.24**	**46**		PKP	**PKiKP**	**01 11 58.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=251,slow=3.0,SNR=5.5								
SEY	**Seymchan**		**117.82**	**338**	⇓*i*	PKIKP	**PKiKP**	**01 11 59.3**	**+0.4**
SEY						pmax	pmax		
	comp=Z,23nm,2.5s								
BELG	**Belogornoye**		**117.88**	**36**		PKIKP	**PKPdf**	**01 11 59.0**	**-0.3**
BELG	**Belogornoye**		**117.88**	**36**		PKP	**PKPdf**	**01 11 59.0**	**-0.3**
	comp=Z,5.5nm,0.8s,baz=243,slow=4.5,SNR=2.9								
AKTO	**Aktyubinsk**		**124.61**	**35**		PKP	**PKiKP**	**01 12 12.5**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=288,slow=2.4,SNR=12								
STKA	**Stephens Creek**		**125.24**	**218**			**PKPdf**	**01 12 13.6**	**-0.6**
STKA	**Stephens Creek**		**125.24**	**218**		PKP	**PKiKP**	**01 12 14.3**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=133,slow=10,SNR=11								
YAK	**Yakutsk**		**125.58**	**346**	*d*	iPKIKP	**PKPdf**	**01 12 13.2**	**-0.6**
YAK						pmax	pmax		
	comp=Z,7.0nm,0.5s								
ABKAR	**Akbulak array**		**126.28**	**35**		PKPdf	**PKiKP**	**01 12 16.3**	**+0.2**
BRVK	**Borovoye**		**129.21**	**26**		PKPdf	**PKiKP**	**01 12 22.2**	**+0.4**
BRVK	**Borovoye**		**129.21**	**26**		PKIKP	**PKiKP**	**01 12 22.2**	**+0.4**
BVAR	**Borovoye Array**		**129.28**	**26**		PKP	**PKiKP**	**01 12 22.0**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=301,slow=1.0,SNR=18								
GEYT	**Alibeck**		**129.93**	**49**		PKP	**PKiKP**	**01 12 23.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=284,slow=6.0,SNR=4.2								
ZALV	**Zalesovo Beam**		**133.78**	**16**		PKPdf	**PKPdf**	**01 12 29.9**	**+0.3**
ZALV						pPKPdf	**pPKPdf**	**01 13 03.2**	**+1.4**
ZALV	**Zalesovo Beam**		**133.78**	**16**		PKP	**PKPdf**	**01 12 29.9**	**+0.3**
	comp=Z,3.5nm,0.4s,baz=295,slow=1.9,SNR=34								
ZALV						pPKP	**pPKPdf**	**01 13 01.6**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=268,slow=1.8,SNR=5.1								
HRA	**Herat**		**134.30**	**52**		PKPdf	**PKPdf**	**01 12 30.8**	**-0.8**
KURK	**Kurchatov**		**134.42**	**23**		PKPdf	**PKPdf**	**01 12 31.1**	**+0.1**
KURK	**Kurchatov**		**134.42**	**23**		PKIKP	**PKPdf**	**01 12 31.2**	**+0.2**
KURK								01 13 04.0	
KURBB	**Kurchatov Arra**		**134.46**	**24**		PKP	**PKPdf**	**01 12 31.2**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=309,slow=2.6,SNR=23								
KURBB						pPKP	**pPKPdf**	**01 13 04.0**	**+0.7**
	comp=Z,2.1nm,1.1s,baz=319,slow=2.7,SNR=3.5								
KLR	**Kul'dur**		**135.51**	**335**	⇑*i*	PKIKP	**PKPdf**	**01 12 33.4**	**+0.3**
KLR						pmax	pmax		
	comp=Z,4.0nm,1.0s								
ASAR	**Alice Springs**		**135.84**	**219**		PKP	**PKPdf**	**01 12 34.7**	**+0.1**
	comp=Z,7.3nm,0.8s,baz=123,slow=2.0,SNR=32								
ASAR						pPKP	**pPKPdf**	**01 13 07.5**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=110,slow=2.0,SNR=5.8								
HEH	**HeiHe**		**136.33**	**339**	*e*	PKP	**PKPdf**	**01 12 34.4**	**-0.1**
WRA	**Warramunga Arr**		**138.21**	**224**		PKP	**PKPdf**	**01 12 39.3**	**+0.3**
	comp=Z,7.8nm,0.7s,baz=138,slow=1.6,SNR=27								
WRA						pPKP	**pPKPdf**	**01 13 12.2**	**+0.7**
	comp=Z,8.5nm,1.0s,baz=136,slow=1.7,SNR=6.8								
DGZ	**Jazzator, Alta**		**138.30**	**17**	⇑*i*	PKIKP	**PKiKP**	**01 12 39.5**	**-1.0**
AAK	**Ala-Archa**		**138.35**	**34**	*c i*	PKIKP	**PKiKP**	**01 12 40.5**	**-0.4**
AAK						pmax	pmax		
	comp=Z,6.0nm,1.3s								
AAK	**Ala-Archa**		**138.35**	**34**		PKP	**PKPdf**	**01 12 39.6**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=11,slow=0.9,SNR=7.0								
AAK						pPKP	**pPKPdf**	**01 13 11.9**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=312,slow=4.6,SNR=2.5								
MAKZ	**Makanchi**		**138.88**	**24**		PKPdf	**PKPdf**	**01 12 39.8**	**+0.4**
MAKZ	**Makanchi**		**138.88**	**24**		PKIKP	**PKPdf**	**01 12 39.8**	**+0.4**
MK31	**Makanchi Array**		**139.01**	**24**	*c i*	PKIKP	**PKPdf**	**01 12 39.8**	**+0.1**
MKAR	**Makanchi Array**		**139.01**	**24**		PKhKP	PKPpre	01 12 33.1	
	comp=Z,0.4nm,0.7s,baz=324,slow=3.0,SNR=4.2								
MKAR						PKP	**PKPdf**	**01 12 39.5**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=321,slow=3.4,SNR=4.3								
USRK	**Ussuriysk Ar.**		**139.20**	**330**		PKP	**PKPdf**	**01 12 40.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=64,slow=11,SNR=4.3								
USRK						pPKP	**pPKPdf**	**01 13 12.6**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=4.4,slow=2.5,SNR=2.7								
NRN	**Naryn**		**139.99**	**35**		PKPdf	**PKPdf**	**01 12 40.0**	**-2.0**
NRN	**Naryn**		**139.99**	**35**		PKIKP	**PKPdf**	**01 12 40.0**	**-2.0**
ZAK	**Zakamensk**		**140.25**	**2**	*e*	PKIKP	**PKPdf**	**01 12 42.3**	**+0.4**
ZAK						pmax	pmax		
	comp=Z,4.0nm,1.3s								
MJAR	**Matsushiro Arr**		**140.44**	**316**		PKhKP	PKPpre	01 12 34.3	
	comp=Z,0.6nm,0.4s,baz=103,slow=3.8,SNR=3.4								
KSH	**Kashi**		**141.23**	**37**		PKP	**PKPdf**	**01 12 44.1**	**+0.1**
ULN	**Ulaanbaatar**		**142.76**	**358**		PKPdf	**PKPdf**	**01 12 44.5**	**-2.0**
ULN	**Ulaanbaatar**		**142.76**	**358**	‖ *e*	PKIKP	**PKPdf**	**01 12 45.2**	**-1.4**
SONM	**Songino Array**		**142.81**	**359**		PKPdf	**PKPdf**	**01 12 46.9**	**+0.3**
SONM	**Songino Array**		**142.81**	**359**		PKIKP	**PKPdf**	**01 12 46.9**	**+0.3**
SONM	**Songino Array**		**142.81**	**359**		PKhKP	PKPpre	01 12 43.1	
	comp=Z,1.8nm,0.7s,baz=329,slow=1.5,SNR=9.1								
WMQ	**Urumqi**		**143.57**	**21**	*e*	PKP	**PKPdf**	**01 12 47.8**	**-0.2**
XLT	**XiLinHaoTe**		**145.42**	**346**	*e*	PKPbc	**PKPbc**	**01 12 51.3**	**-0.1**
KSRS	**Korea Array**		**146.23**	**326**		PKPbc	**PKPbc**	**01 12 53.6**	**-0.3**
	comp=Z,13nm,0.9s,baz=42,slow=2.6,SNR=33								
KSRS						pPKPbc	**pPKPbc**	**01 13 24.7**	**-0.3**
	comp=Z,20nm,1.0s,baz=33,slow=3.3,SNR=12								
KSAR	**Wonju Array Be**		**146.26**	**326**		PKPdf	**PKPdf**	**01 12 52.6**	**-0.1**
KSAR							pPKPbc	01 13 25.7	-0.2
TJN	**Taejon**		**147.32**	**325**	*d*	iPKP2	**PKPbc**	**01 12 57.5**	**+0.5**
JNU	**Nakatsue**		**147.34**	**317**			**PKPdf**	**01 12 55.1**	**+0.4**
BJI	**Beijing**		**149.01**	**343**		PKPbc	**PKPbc**	**01 13 01.3**	**0.0**
BJT	**Baijiatuau**		**149.04**	**343**		PKPbc	**PKPbc**	**01 13 01.7**	**+0.3**
BJT	**Baijiatuau**		**149.04**	**343**		PKP2	**PKPbc**	**01 13 01.7**	**+0.3**
HHC	**Hu-ho-hao-te**		**149.27**	**350**	*e*	PKPbc	**PKPdf**	**01 12 59.5**	**+1.8**
BTO	**Baotou**		**149.74**	**353**	*e*	PKPbc	**PKPdf**	**01 12 59.6**	**+1.1**
BTO						PKPab	**PKPab**	**01 13 13.1**	**+4.3**
BTO						PP	**PP**	**01 16 40.5**	**+4.3**
BTO						SS	SS	01 35 49.0	+7.8
FAKI	**Fak Fak**		**149.84**	**245**		PKPbc	**PKiKP**	**01 13 05.4**	**+0.3**
GTA	**Gaotai**		**150.87**	**8**		PKPbc	**PKPdf**	**01 13 01.6**	**+1.3**
GTA						PKPab	**PKPab**	**01 13 13.0**	**-0.5**
GTA						sPKP		01 13 39.6	
HNS	**HongShan**		**151.89**	**344**	⇓	PKPbc	**PKiKP**	**01 13 08.6**	**0.0**
HNS						pPKP	**pPKPbc**	**01 13 41.5**	**+1.1**
SOEI	**Soe**		**152.24**	**224**		PKPbc	**PKiKP**	**01 13 10.2**	**0.0**
GOMU	**GeErMu**		**152.81**	**18**		PKPbc	**PKPdf**	**01 13 05.3**	**+1.7**
LZH	**Lanzhou**		**154.54**	**2**	*e*	PKPbc	**PKiKP**	**01 13 15.8**	**+1.4**
LZH						pPKP	pPKPdf	01 13 40.8	+2.6
NJ2	**Nanjing**		**155.10**	**331**	*e*	PKP	**PKPdf**	**01 13 06.0**	**-0.5**
XAN	**Xi'an**		**156.35**	**352**		PKP	**PKPdf**	**01 13 08.6**	**+0.4**
CD2	**Chengdu**		**159.69**	**3**		PKP	**PKPdf**	**01 13 11.3**	**-1.1**
PZH	**PanZhiHua**		**163.81**	**11**		PKP	**PKPdf**	**01 13 16.6**	**-0.2**
CMAR	**Chiang Mai Arr**		**170.13**	**36**		PKP	**PKPdf**	**01 13 21.1**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=302,slow=1.8,SNR=14								
CMAR						pPKP	**pPKPdf**	**01 13 54.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=292,slow=1.8,SNR=1.7								
CMAR						PKPab	**PKPab**	**01 14 38.2**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=320,slow=6.7,SNR=5.3								

ANF ***22*** *01:20:52.3±0.2, 33°.21N×115°.97W, h13km±2km, ML2.5/17, Error ellipse: s-maj=1.8km s-min=1.2km az=126.0*

ISC 22 01:20:52.3±0.9, 33°.21N±0°.02×115°.97W±0°.03, h15km±8km, n22, σ0s.83/35, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.30**	**151**	P	**Pg**	**01 20 58.9**	**+0.3**
	baz=331,SNR=68						
SWSC				S	**Sg**	**01 21 02.9**	**0.0**
	baz=331						
MONP2	**Monument Peak**	**0.49**	**230**	P	**Pb**	**01 21 02.7**	**-0.1**
	baz=50,SNR=8.6						
MONP2				S	**Sg**	**01 21 09.3**	**+0.4**
	baz=50						
IKP	**In-Ko-Pah, Jac**	**0.57**	**192**	P	**Pb**	**01 21 03.8**	**-0.2**
	baz=12,SNR=23						
IKP				S	**Sg**	**01 21 11.4**	**+0.3**
	baz=12						
PFO	**Pinyon Flats O**	**0.57**	**315**	P	**Pb**	**01 21 04.0**	**-0.1**
	baz=135,SNR=61						
PFO				S	**Sb**	**01 21 11.9**	**-0.2**
	baz=135						
BC3	**Big Chuckawall**	**0.62**	**44**	P	**Pg**	**01 21 04.8**	**+0.2**
	baz=224,SNR=26						
BC3				S	**Sg**	**01 21 13.2**	**+0.4**
	baz=224						
BELC	**Belle Mtn. Jos**	**0.79**	**358**	P	**Pb**	**01 21 08.0**	**+0.2**
	baz=178						
BELC				S	**Sb**	**01 21 18.6**	**+0.3**
	baz=178						
TJIG	**Tijuana**	**0.97**	**218**	*i* P	**Pb**	**01 21 11.0**	**+0.2**
TJIG				*i* S	**Sb**	**01 21 23.3**	**-0.1**
109C	**Camp Elliot, M**	**1.00**	**252**	P	**Pb**	**01 21 11.4**	**0.0**
	baz=71,SNR=15						
109C				S	**Sb**	**01 21 24.4**	**0.0**
	baz=71						
MBIG	**Mexicali**	**1.03**	**141**	*i* S	**Sb**	**01 21 23.5**	**-1.5**
MURC	**Murrieta**	**1.10**	**291**	P	**Pn**	**01 21 13.3**	**+0.2**
	baz=111,SNR=36						
MURC				S	**Sn**	**01 21 28.1**	**+0.2**
	baz=111						
IRM	**Iron Mountain**	**1.17**	**36**	P	**Pn**	**01 21 14.1**	**0.0**
	baz=216,SNR=17						
IRM				S	**Sn**	**01 21 30.4**	**+0.6**
	baz=216						
BBRC	**Big Bear Solar**	**1.32**	**323**	Pb	**Pb**	**01 21 17.0**	**+0.2**
	baz=143						
BBRC				S	**Sn**	**01 21 34.5**	**+0.8**
	baz=143						
GMRC	**Granite Mounta**	**1.59**	**9**	P	**Pn**	**01 21 19.5**	**-0.5**
	baz=189,SNR=14						
GMRC				Sb	**Sg**	**01 21 43.3**	**-0.4**
	baz=189						
HEC	**Hector,Ludlow**	**1.65**	**350**	Sb	**Sg**	**01 21 44.8**	**-0.6**
	baz=169						
RRX	**Edison Barstow**	**1.87**	**333**	Sb	**Sg**	**01 21 52.3**	**-0.2**
	baz=153						
PDMCI	**Parker Dam,Lak**	**1.88**	**54**	Sb	**Sb**	**01 21 51.1**	**+1.7**
	baz=235						
NEE2	**Needles Airpor**	**1.92**	**35**	Sb	**Sg**	**01 21 52.7**	**-1.3**
	baz=216						
CIS	**Catalina Islan**	**2.06**	**276**	Sb	**Sb**	**01 21 56.6**	**+2.0**
	baz=95						
SPIG	**San Pedro Mart**	**2.20**	**169**	*e* P	**Pg**	**01 21 33.3**	**-1.2**
SPIG				*i* S	**Sb**	**01 22 00.0**	**+1.0**
GSC	**Goldstone, Bar**	**2.20**	**342**	Sb	**Sg**	**01 22 01.9**	**-1.1**
	baz=162						
TUQ	**Turquoise Moun**	**2.22**	**1**	Sb	**Sg**	**01 22 03.1**	**-0.7**
	baz=181						
EDW2	**Edwards Air Fo**	**2.37**	**315**	Sb	**Sg**	**01 22 06.5**	**-1.9**
	baz=134						

SOME ***22*** *02:33:23.0, 45°.45N×84°.70E, h15km*
NNC ***22*** *02:33:25.2±1.2, 45°.43N×84°.57E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=10.2km s-min=4.5km az=118.0*

ISC 22 02:33:25.0±1.6, 45°.45N±0°.06×84°.53E±0°.09, h10km, n40, σ2s.56/56, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.02**	**7**	Pg	**Pn**	**02 34 00.1**	**+1.0**
	23nm,0.2s						
ZSN				Lg	Lg	02 34 27.4	
	26nm,0.4s						
ZSN	**Zaisan**	**2.02**	**7**	*eP*	**Pn**	**02 34 00.1**	**+1.0**
	23nm,0.2s						
ZSN				⇑*i* S	**Sb**	**02 34 27.4**	**+0.4**
	26nm,0.4s						
MK31	**Makanchi Array**	**2.06**	**312**	Pn	**Pb**	**02 34 02.6**	**+0.1**
	2.0nm,0.4s,baz=123,slow=17,SNR=91						
MK31				⇑Lg	Lg	02 34 31.9	
	29nm,0.6s,baz=134,slow=20,SNR=54						
MAKZ	**Makanchi**	**2.24**	**308**	⇑Pn	**Pb**	**02 34 05.6**	**+0.1**
	6.9nm,1.0s						
MAKZ				⇑Lg	Lg	02 34 37.3	
	27nm,0.8s						
DJR	**Jarkent**	**3.55**	**253**	Pg	**Pb**	**02 34 29.5**	**+1.7**
	1.6nm,0.2s						
DJR				Lg	Lg	02 35 17.4	
	4.5nm,0.3s						
DJR	**Jarkent**	**3.55**	**253**	*eP*	**Pb**	**02 34 29.5**	**+1.7**
	1.6nm,0.2s						
DJR				*eS*	**Sg**	**02 35 17.4**	**-1.4**
	4.5nm,0.3s						
KTMS	**Ketmen**	**3.60**	**238**	Pg	**Pb**	**02 34 30.0**	**+1.3**
	0.5nm,0.1s						
KTMS				Lg	Lg	02 35 18.3	
	8.4nm,0.3s						
KTMS	**Ketmen**	**3.60**	**238**	*eP*	**Pb**	**02 34 30.1**	**+1.3**
	0.5nm,0.1s						
KTMS				*eS*	**Sg**	**02 35 18.3**	**-2.2**
	8.4nm,0.3s						
KAPS	**Kapalarasan**	**3.65**	**269**	Pg	**Pb**	**02 34 31.5**	**+2.0**
	1.6nm,0.2s						
KAPS				Lg	Lg	02 35 21.2	
	8.2nm,0.3s						
KAPS	**Kapalarasan**	**3.65**	**269**	*eP*	**Pb**	**02 34 31.6**	**+2.0**
	1.6nm,0.2s						
KAPS				*eS*	**Sg**	**02 35 21.2**	**-0.9**
	8.2nm,0.3s						
KNOS	**Konyrlen**	**3.95**	**256**	Pg	**Pb**	**02 34 37.0**	**+2.2**
	2.8nm,0.2s						
KNOS				Lg	Lg	02 35 30.3	
	8.1nm,0.2s						
PDGK	**Podgornoye**	**4.18**	**241**	Pg	**Pb**	**02 34 41.2**	**+2.4**
	0.9nm,0.3s						
PDGK				Lg	Lg	02 35 37.1	
	3.7nm,0.3s						
SHLS	**Shalkode**	**4.30**	**240**	Pg	**Pb**	**02 34 39.0**	**-1.6**
	4.7nm,0.2s						
SHLS				Lg	Lg	02 35 33.6	
	10nm,0.3s						
SHLS	**Shalkode**	**4.30**	**240**	*eP*	**Pb**	**02 34 39.0**	**-1.6**
	4.7nm,0.2s						
SHLS				*eS*	**Sb**	**02 35 33.6**	**+1.1**
	10nm,0.3s						
TDK	**Taldyqorghan**	**4.35**	**266**	Pg	**Pb**	**02 34 44.6**	**+3.2**
	22nm,0.3s						
TDK				Lg	Lg	02 35 43.2	
	33nm,0.3s						
TDK	**Taldyqorghan**	**4.35**	**266**	*eP*	**Pb**	**02 34 44.6**	**+3.2**
	22nm,0.3s						
TDK				*eS*	**Sg**	**02 35 43.2**	**-1.3**
	33nm,0.3s						
BLB	**Baldybastay**	**4.51**	**255**	Pg	**Pb**	**02 34 47.8**	**+3.5**
	3.8nm,0.2s						
BLB				Lg	Lg	02 35 49.0	
	5.4nm,0.1s						
UZB	**Uzynbulak**	**4.57**	**242**	Pg	**Pb**	**02 34 48.6**	**+3.3**
	4.6nm,0.2s						
UZB				Lg	Lg	02 35 50.3	
	4.6nm,0.4s						
UZB	**Uzynbulak**	**4.57**	**242**	*eP*	**Pb**	**02 34 48.6**	**+3.3**
	4.6nm,0.2s						
UZB				*eS*	**Sg**	**02 35 50.3**	**-1.4**
	4.6nm,0.4s						
KPKS	**Kokpek**	**4.63**	**247**	Pg	**Pb**	**02 34 49.8**	**+3.5**
	1.7nm,0.3s						
KPKS				Lg	Lg	02 35 52.1	
	12nm,0.3s						
KPKS	**Kokpek**	**4.63**	**247**	*eP*	**Pb**	**02 34 49.8**	**+3.5**
	1.7nm,0.3s						
KPKS				*eS*	**Sg**	**02 35 52.1**	**-1.4**
	12nm,0.3s						
ARXS	**Arharly**	**4.92**	**258**	Pg	**Pb**	**02 34 55.3**	**+4.0**
	1.3nm,0.2s						
ARXS				Lg	Lg	02 36 01.8	
	9.9nm,0.3s						
ARXS	**Arharly**	**4.92**	**258**	*eP*	**Pb**	**02 34 55.3**	**+4.0**
	1.3nm,0.2s						
ARXS				*eS*	**Sg**	**02 36 01.8**	**-1.2**
	9.9nm,0.3s						
KURS	**Kuram**	**4.95**	**249**	Pg	**Pb**	**02 34 55.6**	**+3.8**
	1.4nm,0.2s						
KURS				Lg	Lg	02 36 01.9	
	4.1nm,0.3s						
KURS	**Kuram**	**4.95**	**249**	*eP*	**Pb**	**02 34 55.6**	**+3.8**
	1.4nm,0.2s						
KURS				*eS*	**Sg**	**02 36 01.9**	**-2.0**
	4.1nm,0.3s						
SATY	**Saty**	**5.00**	**244**	Pg	**Pb**	**02 34 56.5**	**+3.8**
	1.4nm,0.2s						
SATY				Lg	Lg	02 36 03.6	
	7.3nm,0.3s						
SATY	**Saty**	**5.00**	**244**	*eP*	**Pb**	**02 34 56.5**	**+3.8**
	1.4nm,0.2s						
SATY				*eS*	**Sg**	**02 36 03.6**	**-1.9**
	7.3nm,0.3s						
CHKK	**Chushkaly**	**5.61**	**256**	Pg	**Pg**	**02 35 09.8**	**-2.5**
	1.5nm,0.0s						
CHKK				Lg	Lg	02 36 26.2	
	4.5nm,0.1s						
CHKK	**Chushkaly**	**5.61**	**256**	*eP*	**Pg**	**02 35 09.8**	**-2.5**
	1.5nm,0.0s						
CHKK				*eS*	**Sg**	**02 36 26.2**	**+1.3**
	4.5nm,0.1s						
KOTS	**Kotyrbulak**	**5.76**	**250**	Pg	**Pg**	**02 35 12.4**	**-2.8**
	1.4nm,0.3s						
KOTS				Lg	Lg	02 36 31.2	
	6.4nm,0.5s						
KOTS	**Kotyrbulak**	**5.76**	**250**	*eP*	**Pg**	**02 35 12.4**	**-2.8**
	1.4nm,0.3s						
KOTS				*eS*	**Sg**	**02 36 31.2**	**+1.4**
	6.4nm,0.5s						
KTBS	**Karatobe**	**5.87**	**256**	Pg	**Pg**	**02 35 14.1**	**-3.2**
	0.7nm,0.2s						
KTBS				Lg	Lg	02 36 33.7	
	4.9nm,0.4s						
KTBS	**Karatobe**	**5.87**	**256**	*eP*	**Pg**	**02 35 14.1**	**-3.2**
	0.7nm,0.2s						
KTBS				*eS*	**Sg**	**02 36 33.7**	**+0.5**
	4.9nm,0.4s						
KUU	**Kurty**	**6.04**	**258**	Pg	**Pg**	**02 35 18.1**	**-2.5**
	2.7nm,0.8s						
KUU				Lg	Lg	02 36 40.7	
	3.1nm,0.6s						
KUU	**Kurty**	**6.04**	**258**	*eP*	**Pg**	**02 35 18.1**	**-2.5**
	2.7nm,0.8s						
KUU				*eS*	**Sg**	**02 36 40.7**	**+1.9**
	3.1nm,0.6s						
KURK	**Kurchatov**	**6.59**	**325**	⇓	Lg	02 36 54.9	
	3.5nm,0.5s						
KST	**Kastek**	**6.60**	**252**	Pg	**Pg**	**02 35 27.9**	**-3.5**
	1.7nm,0.3s						
KST				Lg	Lg	02 36 58.0	
	4.1nm,0.4s						
KST	**Kastek**	**6.60**	**252**	*eP*	**Pg**	**02 35 27.9**	**-3.5**
	1.7nm,0.3s						
KST				*eS*	**Sg**	**02 36 58.0**	**+1.2**
	4.1nm,0.4s						
DGS	**Degeres**	**6.65**	**254**	Pg	**Pg**	**02 35 28.9**	**-3.4**
	1.1nm,0.3s						
DGS				Lg	Lg	02 36 59.2	
	2.8nm,0.3s						
DGS	**Degeres**	**6.65**	**254**	*eP*	**Pg**	**02 35 28.9**	**-3.4**
	1.1nm,0.3s						
DGS				*eS*	**Sg**	**02 36 59.2**	**+0.8**
	2.8nm,0.3s						

IDC ***22*** *02:46:07.2±0.9, 20°.20S×65°.30W, h329km±9km, mb3.3/10, mbtmp4.1/15, Error ellipse: s-maj=15.0km s-min=10.5km az=144.0*
SCB ***22*** *02:46:08.2±1.3, 20°.29S×65°.52W, h350km±8km, ML4.3/4, MW4.7, Error ellipse: s-maj=5.5km s-min=5.2km az=2.0*
NEIC ***22*** *02:46:08.6±1.5, 20°.26S±0°.08×65°.34W±0°.09, h341km±8km, mb4.0/25, Error ellipse: s-maj=11.7km s-min=11.1km az=67.0*
VAO ***22*** *02:46:09.8±0.5, 20°.12S×65°.34W, h347km, mb4.1*

ISC 22 02:46:08.7±0.4, 20°.24S±0°.05×65°.37W±0°.05, h350km, n143, σ1s.27/150, mb4.0/18, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.03**	**194**	Pg	**Pn**	**02 46 55.2**	**+0.1**
MOCB	**Mochara**	**1.03**	**194**	Pg	**Pn**	**02 46 55.3**	**+0.1**
MOCB				Sg	**S**	**02 47 30.2**	**-2.1**
MOCB				IAML		02 47 31.5	
	426nm,0.6s						
SOTI	**Planta Incahua**	**1.67**	**76**	Pg	**Pn**	**02 46 58.2**	**+0.2**
SOET	**ToroToro**	**2.16**	**349**	Pg	**Pn**	**02 47 01.

ITQB	Itaqui	12.28	142	*e*P		Pn	02 48 55.7	+1.9
CRSM	Crissiumal (Br	12.62	127	*e*P		Pn	02 48 59.7	+1.8
FRBT	Francisco Belt	12.68	119	*e*P		Pn	02 49 00.0	+1.5
UNIS	Unistalda (Bra	12.83	135	*e*P		Pn	02 49 01.8	+1.5
PTGB	Pitanga	13.08	112	*e*P		Pn	02 49 04.5	+1.2
PCMB	Pacaembu	13.26	98	*e*P		Pn	02 49 06.0	+0.6
VA03	San Esteban	13.30	199	P		P	02 49 04.4	-0.3
LDASE	Londrina, Braz	13.60	106	*e*P		Pn	02 49 09.9	+0.4
RODS	Rosario do Sul	13.62	140	*e*P		Pn	02 49 10.5	+1.0
ROC1	El Roble	13.64	201	P		Pn	02 49 09.2	-0.8
NNA	Nana	13.73	305	S		S	02 51 40.0	+0.4
	3.2nm,0.3s,baz=209,slow=21,SNR=1.7							
MT02	Curacav	13.94	200	P		Pn	02 49 12.4	-0.9
ITAB	Concordia	13.97	122	P		Pn	02 49 12.4	-1.2
ITAB	Concordia	13.97	122	*e*P		Pn	02 49 14.1	+0.5
ALGR	Alto Alegre (B	14.09	130	*e*P		Pn	02 49 15.2	+0.2
ITRB	Iturama	14.13	90	*e*P		Pn	02 49 16.4	+0.8
MT09	Talagante	14.37	199	P		P	02 49 16.4	-0.2
BO04	La Punta	14.46	198	P		Pn	02 49 18.8	-0.5
MT01	Popeta	14.54	200	P		P	02 49 18.6	+0.4
CPSB	Cacapava Do Su	14.78	136	*e*P		Pn	02 49 22.0	-0.9
BO01	Tunca	14.97	199	P		P	02 49 22.8	-0.2
FRTB	Fartura	15.00	105	*e*P		Pn	02 49 26.5	+0.8
BO02	Sierra Bellavi	15.26	197	P		P	02 49 27.1	+1.0
BO02				IAmb		IAmb	02 49 36.7	
	comp=Z,18nm,1.4s							
PLTB	Pedras Altas	15.59	140	P		P	02 49 29.6	-0.1
PLTB				IAmb		IAmb	02 49 33.0	
	comp=Z,6.3nm,0.9s							
PLTB	Pedras Altas	15.59	140	*e*P		P	02 49 29.5	-0.2
GO05	Huala	15.81	200	P		P	02 49 32.6	+0.6
GO05				IAmb		IAmb	02 49 41.2	
	comp=Z,19nm,1.2s							
SNDB	Serra Nova Dou	15.82	61	*e*P		P	02 49 32.7	+0.3
CNLB	Canela	15.97	127	*e*P		Pn	02 49 37.2	+0.4
IPMB	Ipameri, GO	16.37	85	*e*P		P	02 49 39.2	+0.8
BDFB	Brasilia	17.14	77	P		P	02 49 46.7	0.0
BDFB				IAmb		IAmb	02 49 53.7	
	comp=Z,13nm,1.3s							
BDFB	Brasilia	17.14	77	P		P	02 49 47.2	+0.6
	comp=Z,2.7nm,0.3s,baz=237,slow=8.4,SNR=11							
PET01	Itanhaem-SP	17.23	107	*e*P		P	02 49 49.2	+1.7
MACA	Manacapuru-AM	17.58	16	*e*P		P	02 49 51.6	+0.3
PMNB	Patos De Minas	17.94	88	*e*P		P	02 49 56.0	+0.6
TRQA	Tornquist	17.99	171	P		P	02 49 55.3	-0.2
TRQA				IAmb		IAmb	02 50 17.2	
	comp=Z,9.0nm,1.4s							
ITTB	Itaituba	18.36	32	*e*P		P	02 49 59.7	+0.1
PARB	Paraibuna	18.60	103	*e*P		P	02 50 02.8	+0.6
BSCB	Bom Sucesso	19.30	96	*e*P		P	02 50 10.9	+1.3
DIAM	Diamantina, MG	20.58	88	*e*P		P	02 50 22.6	+0.2
JANB	Januaria	20.71	79	*e*P		P	02 50 23.4	-0.1
PLCA	Paso Flores	20.90	191	P		P	02 50 26.1	+1.2
PLCA	Paso Flores	20.90	191	P		P	02 50 26.4	+1.5
	comp=Z,3.0nm,0.8s,baz=8.6,slow=11,SNR=7.9							
	comp=Z,3.0nm,0.8s							
PLCA	Paso Flores	20.90	191	*e*P		P	02 50 26.8	+1.9
MCRA	Macar, Loja	21.23	316	P		P	02 50 28.3	+0.2
MALB	Monte Alegre	21.26	32	*e*P		P	02 50 28.6	+0.3
BOSC	San Juan Bosco	21.27	321	P		P	02 50 30.4	+1.8
BOSC				IAmb		IAmb	02 50 31.9	
	comp=Z,4.1nm,0.5s							
COHC	Cochancay	22.27	321	P		P	02 50 40.6	+3.1
GUA01	Guaratinga, BA	24.52	86	*e*P		P	02 50 58.3	+0.4
CELP	Cerrillos	38.10	358	P		P	02 52 55.0	-0.3
TEIG	Tepich	46.05	329	P		P	02 53 59.0	+0.2
TKL	Tuckaleechee C	58.27	342	P		P	02 55 27.8	+0.1
TKL				IAmb		IAmb	02 55 53.9	
	comp=Z,10nm,1.5s							
CLTN	Cedars of Leba	59.44	340	P		P	02 55 35.0	-0.7
CLTN				IAmb		IAmb	02 56 03.3	
	comp=Z,8.3nm,1.5s							
WVT	Waverly	59.96	339	P		P	02 55 38.9	-0.3
WVT				IAmb		IAmb	02 55 39.7	
	comp=Z,5.9nm,0.9s							
LCAR	Lake Charles	61.09	336	P		P	02 55 46.9	+0.2
TXAR	Lajitas Array	61.59	322	P		P	02 55 51.2	+0.9
	comp=Z,0.2nm,0.4s,baz=146,slow=9.8,SNR=1.5							
	comp=Z,0.2nm,0.4s							
SNAA	Sanae	62.40	162	P		P	02 55 56.3	+1.3
	comp=Z,2.0nm,1.0s,baz=270,slow=19,SNR=1.5							
	comp=Z,2.0nm,1.0s							
S39A	Bolivar	63.35	335	P		P	02 56 02.1	+0.5
S39A				IAmb		IAmb	02 56 02.8	
	comp=Z,3.0nm,0.7s							
VHRN	Van Horn	63.43	322	P		P	02 56 02.5	+0.1
R40A	Maddies Statio	63.47	337	P		P	02 56 02.3	0.0
R40A				IAmb		IAmb	02 56 17.8	
	comp=Z,5.2nm,1.3s							
DBIC	Dimbokro	65.20	72	P		P	02 56 13.3	-0.7
	comp=Z,3.8nm,0.6s,baz=229,slow=5.6,SNR=11							
	comp=Z,3.8nm,0.6s							
F64A	Sherman	65.85	358	P		P	02 56 18.6	+1.2
E62A	Clayton Lake	66.65	357	P		P	02 56 24.0	+1.5
TOA0	Torodi Ar. Sit	73.82	69	P		P	02 57 05.7	-0.5
TORD	Torodi Ar. Bea	73.82	69	P		P	02 57 05.6	-0.7
TORD	Torodi Ar. Bea	73.82	69	P		P	02 57 05.7	-0.5
	comp=Z,4.5nm,0.4s,baz=256,slow=5.3,SNR=103							
TORD				pP		pP	02 58 23.6	-1.7
	comp=Z,0.9nm,0.8s,baz=272,slow=3.2,SNR=4.0							
	comp=Z,4.5nm,0.4s							
BW06	Boulder Array	74.75	328	P		P	02 57 12.2	+1.0
PD31	Pinedale Array	74.75	328	P		P	02 57 11.8	+0.6
PDAR	Pinedale Array	74.75	328	P		P	02 57 12.8	+1.6
	comp=Z,0.4nm,0.4s,baz=122,slow=8.4,SNR=9.0							
	comp=Z,0.4nm,0.4s							
ULM	Lac du Bonnet	75.19	340	P		P	02 57 13.5	+0.3
	comp=Z,1.9nm,0.8s,baz=123,slow=7.8,SNR=3.1							
	comp=Z,1.9nm,0.8s							
NVAR	Mina Array Bea	76.61	320	P		P	02 57 23.1	+1.3
	comp=Z,0.6nm,0.8s,baz=162,slow=7.3,SNR=2.9							
	comp=Z,0.6nm,0.8s							
KVN	Kaiserville	76.88	320	P		P	02 57 25.0	+1.8
KVN				IAmb		IAmb	02 57 26.1	
	comp=Z,1.0nm,0.6s							
HLID	Hailey	77.81	326	P		P	02 57 30.9	+2.7
HLID				IAmb		IAmb	02 57 32.3	
	comp=Z,2.3nm,1.2s							
PPT	Papeete	78.83	255	P		P	02 57 36.0	+1.8
	comp=Z,42nm,0.9s,baz=109,slow=18,SNR=2.8							
BOSA	Boshof	81.09	117	P		P	02 57 45.8	-0.4
	comp=Z,1.7nm,0.8s,baz=277,slow=8.1,SNR=1.5							
	comp=Z,1.7nm,0.8s							
YKA	Yellowknife Ar	91.14	339	P		P	02 58 34.0	0.0
	comp=Z,0.1nm,0.5s,baz=119,slow=3.9,SNR=4.7							
	comp=Z,0.1nm,0.5s							
MKAR	Makanchi Array	142.66	37	PKP		PKPdf	03 04 59.0	-1.5
	comp=Z,0.2nm,0.6s,baz=301,slow=3.0,SNR=2.0							
SONM	Songino Array	151.68	12	PKPbc		PKPbc	03 05 21.4	-0.8
	comp=Z,0.3nm,0.4s,baz=354,slow=2.9,SNR=2.5							

*IDC **22** 02:50:26.8±5.7, 7.°63S×127.°57E, h136km±56km, mb3.5/8, mbtmp4.1/11, Error ellipse: s-maj=42.8km s-min=20.7km az=52.0*

ISC 22 02:50:28.3±0.7, 7.°6S±0.°1×127.°8E±0.°1, h150km, n23, σ1§51/23, mb3.7/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	4.14	238	P	Pn	02 51 37.0	+6.4
KDU	Kakadu	6.83	138	P	Pn	02 52 06.3	+0.2
KNRA	Kununurra	8.11	174	P	Pn	02 52 24.5	+1.4
WRA	Warramunga Arr	13.82	154	P	Pn	02 53 37.0	-0.9
	12nm,0.7s,baz=322,slow=15,SNR=41						
WRA				S	Sn	02 56 02.1	-9.0
	11nm,0.6s,baz=338,slow=22,SNR=9.7						
WB1	Warramunga Ar.	13.84	154	P	Pn	02 53 37.7	-0.5
ASAR	Alice Springs	17.03	161	P	Pn	02 54 18.9	+1.3
	23nm,0.6s,baz=343,slow=12,SNR=316						
ASAR				S	S	02 57 22.4	-4.5
	2.5nm,0.6s,baz=340,slow=24,SNR=6.4						
AS01	Alice Springs	17.04	161	P	Pn	02 54 19.9	+2.1
QIS	Mount Isa	17.21	140	P	Pn	02 54 20.2	+0.4
WRKA	Warakurna	17.37	179	P	Pn	02 54 23.9	+2.2
MTSU	Mount Surprise	19.17	125	P	P	02 54 41.1	+0.7
PMG	Port Moresby	19.19	97	P	Pn	02 54 43.7	+0.4
	12nm,0.6s,baz=323,slow=18,SNR=4.7						
OOD	Oodnadatta	21.44	161	P	P	02 55 06.0	+1.3
CTA	Charters Tower	21.75	127	P	P	02 55 08.5	+0.4
	2.8nm,0.5s,baz=328,slow=7.9,SNR=5.2						
	2.8nm,0.5s						
INKA	Innaminka	23.49	150	P	P	02 55 26.0	+1.4
STKA	Stephens Creek	27.37	154	P	P	02 55 59.9	+0.4
	1.4nm,0.5s,baz=340,slow=12,SNR=3.5						
	1.4nm,0.5s						
CMAR	Chiang Mai Arr	38.50	313	P	P	02 57 35.5	-0.7
	0.8nm,0.3s,baz=125,slow=7.8,SNR=1.4						
	0.8nm,0.3s						
SONM	Songino Array	58.33	343	P	P	03 00 08.3	+0.6
	0.3nm,0.5s,baz=175,slow=7.1,SNR=1.6						
	0.3nm,0.5s						
MKAR	Makanchi Array	67.55	328	P	P	03 01 08.0	-0.5
	0.4nm,0.4s,baz=121,slow=8.4,SNR=11						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	71.17	335	P	P	03 01 29.5	-0.9
	0.6nm,0.3s,baz=126,slow=5.2,SNR=4.0						
	0.6nm,0.3s						
KURBB	Kurchatov Arra	71.89	329	P	P	03 01 34.3	-0.6
	0.7nm,0.5s,baz=131,slow=5.1,SNR=9.6						
	0.7nm,0.5s						
BVAR	Borovoye Array	77.42	329	P	P	03 02 05.2	-1.5
	0.3nm,0.5s,baz=132,slow=2.1,SNR=1.9						
	0.3nm,0.5s						
TORD	Torodi Ar. Bea	126.81	281	PKP	PKPdf	03 09 14.4	-0.7
	0.4nm,0.8s,baz=66,slow=2.5,SNR=2.6						
TXAR	Lajitas Array	127.06	59	PKP	PKiKP	03 09 17.0	+1.1
	0.8nm,1.0s,baz=253,slow=9.2,SNR=3.5						

*TEH **22** 03:04:56.3, 36.°12N×45.°45E, h16km±20km, ML3.1*

ISC 22 03:04:57.3±1.0, 36.°15N±0.°04×45.°52E±0.°04, h16km±6km, n23, σ1§83/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDS1	Sardasht. Az.	0.03	280	Pg	Pg	03 05 00.0	-0.4
SDS1				Sg	Sg	03 05 03.4	+0.9
MAHB	Mahabad	0.64	14	Pg	Pg	03 05 09.0	-0.9
IAZR	Azarshahr	1.57	13	Pg	Pb	03 05 26.1	-0.1
KGS1	Ghasr-e-Shirin	1.64	178	Pg	Pb	03 05 26.2	-0.9
IHSH	Hashtrud	1.82	50	Pn	Pn	03 05 29.0	+0.8
CUKT	Cukurca	1.89	306	*e*P	Pg	03 05 32.4	-1.2
IGHG	Ghaleghazi	2.00	154	Pn	Pb	03 05 31.1	-2.3
ISHB	Shabestar	2.14	2	Pn	Pb	03 05 34.8	-1.0
ITBZ	Tabriz	2.14	13	Pn	Pb	03 05 34.3	-1.6
ISRB	Sarab	2.40	45	Pn	Pb	03 05 38.5	-1.7
IHRS	Heris	2.49	29	Pn	Pn	03 05 38.7	+1.4
IALM	Almabolaq	2.51	120	Pn	Pn	03 05 39.5	+1.8
QSDN	Sirdan	2.97	82	Pn	Pn	03 05 46.4	+2.4
AKDM	Akdamar-Van	2.98	318	*e*P	Pb	03 05 48.8	-1.2
VANB	Van	2.98	326	*e*P	Pb	03 05 48.5	-1.5
HSAM	Samen	3.18	126	Pn	Pn	03 05 48.1	+1.2
HAGD	Aghdareh	3.24	113	Pn	Pn	03 05 49.6	+2.0
IKFM	Kafar-mosalman	3.24	143	Pn	Pn	03 05 48.7	+1.3
GRMI	Germi	3.26	35	Pn	Pn	03 05 50.4	+2.6
MAKU	Maku	3.27	349	Pn	Pn	03 05 49.3	+1.2
AGRB	Hanur-Agry	3.97	330	*e*P	Pb	03 06 04.1	-2.8
SVAN	Silvan-Diyarba	3.99	301	*e*P	Pn	03 06 00.7	+2.9
MAZI	Mazidag	4.28	289	*e*P	Pn	03 06 03.8	+2.0

*IDC **22** 03:22:47.4±1.3, 4.°35S×129.°20E, h0km, mb4.0/6, mbtmp4.1/8, ML4.4/2, Error ellipse: s-maj=106.8km s-min=23.8km az=73.0*
*DJA **22** 03:22:53.3±0.4, 4.°S×13.°0E±.°, h56km±9km, M4.2/12, mb4.3/3, mB5.4/1, MLv4.2/12, Mw(mB)4.8/1*
*NEIC **22** 03:22:54.7±1.6, 4.°25S±0.°08×130.°5E±0.°1, h79km±10km, mb4.1/11, Error ellipse: s-maj=16.1km s-min=12.0km az=80.0*

ISC 22 03:22:52.8±0.7, 4.°08S±0.°06×130.°35E±0.°05, h50km, n37, σ1§51/39, mb4.1/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	0.63	225	P	Pn	03 23 08.0	+2.4
BNDI				S	Sn	03 23 18.6	+3.7
KRAI	Karang Ratu	2.09	291	P	Pn	03 23 26.5	+1.0
FAKI	Fak Fak	2.22	59		Pn	03 23 29.4	+2.2
FAKI	Fak Fak	2.22	59	P	Pn	03 23 29.3	+2.2
FAKI				S	Sn	03 23 53.3	-0.1
SIJI	Sorong	3.32	16	P	Pn	03 23 42.5	+0.2
SWI	Sorong	3.32	16	P	Pn	03 23 42.7	+0.4
NLAI	Namlea	3.35	284	P	Pn	03 23 43.1	+0.4
KMPI	Kaimana, Papua	3.37	83	P	Pn	03 23 44.6	+1.6
LBMI	Labuha	4.45	320	P	Pn	03 23 58.2	+0.4
SANI	Sanana	4.80	295	P	Pn	03 24 01.5	-1.1
MWPI	Manokwari, Pap	4.83	50	P	Pn	03 24 02.1	-1.0
TNTI	Ternate	5.67	328	Pn	Pn	03 24 20.6	+6.1
TNTI	Ternate	5.67	328	P	Pn	03 24 15.3	+0.8
	48nm,0.6s,3µm0.5nm						
MTN	Manton Dam	8.74	175	Pn	Pn	03 24 57.1	+0.4
KNRA	Kununurra	11.63	188	Pn	Pn	03 25 34.6	-1.6
FITZ	Fitzroy Crossi	14.68	198	Pn	Pn	03 26 16.7	-0.8
COEN	Coen	16.01	129		Pn	03 26 33.9	-1.0
COEN				IAmb	IAmb	03 26 58.6	
	comp=Z,21nm,1.4s						
WB0	Warramunga Arr	16.08	166		Pn	03 26 33.9	-1.8
WB0				IAmb	IAmb	03 26 55.2	
	comp=Z,16nm,1.4s						
WRA	Warramunga Arr	16.24	166		Pn	03 26 37.9	+0.1
WRA	Warramunga Arr	16.24	166	Pn	Pn	03 26 36.9	-0.8
	comp=Z,1.3nm,0.3s,baz=338,slow=12,SNR=30						
WRA				Sn	Sn	03 29 22.9	-14
	comp=Z,0.1nm,0.3s,baz=246,slow=28,SNR=1.2						
	comp=Z,1.3nm,0.4s						
WB2	Warramunga Arr	16.24	166		Pn	03 26 37.1	-0.7
WB2				IAmb	IAmb	03 27 15.5	
	comp=Z,12nm,1.1s						
WR0	Warramunga Ar	16.30	166		Pn	03 26 37.6	-0.9
AS31	Alice Springs	19.77	170		P	03 27 19.0	+0.1
ASAR	Alice Springs	19.77	170		P	03 27 18.6	-0.4
ASAR	Alice Springs	19.77	170	P	P	03 27 19.4	+0.4
	comp=Z,1.7nm,0.3s,baz=351,slow=11,SNR=114						
ASAR				S	S	03 30 55.0	-4.3
	comp=Z,1.0nm,0.7s,baz=347,slow=18,SNR=5.1						
	comp=Z,6.5nm,0.4s						
KSRS	Korea Array	41.38	357	P	P	03 30 37.6	+3.5
	comp=Z,0.6nm,0.6s,baz=198,slow=6.6,SNR=1.5						
	comp=Z,0.6nm,0.6s						
SONM	Songino Array	55.81	341	P	P	03 32 25.2	+0.1
	comp=Z,0.6nm,0.7s,baz=162,slow=7.5,SNR=4.2						
	comp=Z,0.6nm,0.7s						
MK31	Makanchi Array	66.00	326	P	P	03 33 33.3	-0.9
MK31				IAmb	IAmb	03 33 34.4	
	comp=Z,1.6nm,0.6s						
MKAR	Makanchi Array	66.00	326	P	P	03 33 33.6	-0.6
MKAR	Makanchi Array	66.00	326	P	P	03 33 33.8	-0.4
	comp=Z,1.9nm,0.5s,baz=116,slow=8.0,SNR=46						
	comp=Z,1.9nm,0.5s						
MAKZ	Makanchi	66.19	326	P	P	03 33 35.0	-0.3
MAKZ				IAmb	IAmb	03 33 35.5	
	comp=Z,2.7nm,0.5s						
ZALV	Zalesovo Beam	69.14	333	P	P	03 33 52.7	-1.1
	comp=Z,1.0nm,0.6s,baz=123,slow=5.5,SNR=6.7						
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	70.23	328	P	P	03 34 00.1	-0.5
	comp=Z,2.3nm,0.6s,baz=128,slow=5.5,SNR=30						
	comp=Z,2.3nm,0.6s						
KURK	Kurchatov	70.23	328	P	P	03 34 00.6	0.0
KURK				IAmb	IAmb	03 34 01.2	
	comp=Z,3.5nm,0.8s						
BVAR	Borovoye Array	75.80	327	P	P	03 34 32.8	-0.7
	comp=Z,0.9nm,0.5s,baz=130,slow=6.2,SNR=7.9						
	comp=Z,0.9nm,0.5s						
BRVK	Borovoye	75.87	327	P	P	03 34 33.4	-0.5
BRVK				IAmb	IAmb	03 34 38.7	
	comp=Z,1.2nm,0.8s						
ABKAR	Akbulak array	80.46	321	P	P	03 34 57.7	-1.6

*THE **22** 03:33:48.4, 34.°88N×26.°35E, h0km±1km, ML3.6/4, Error ellipse: s-maj=2.3km s-min=0.8km az=166.0*
*AFAD **22** 03:33:49.6±0.0, 35.°38N×25.°99E, h5km±2km, ML3.1*
*ATH **22** 03:33:50.1, 34.°93N×26.°33E, h6km±2km, ML3.7/7, Error ellipse: s-maj=5.1km s-min=1.9km az=341.0*
*ISK **22** 03:33:50.9, 35.°26N×26.°26E, h5km, ML3.4/18*
*IDC **22** 03:33:51.4±1.8, 34.°69N×26.°35E, h42km±19km, mb3.5/13, mbtmp3.7/21, ML3.4/8, MS3.1/2, Error ellipse: s-maj=17.6km s-min=11.5km az=5.0*
*GII **22** 03:33:52.6±0.4, 34.°406N±0.°001×26.°879E±0.°002, h0km, Mws3.5, confirmed*

ISC 22 03:33:46.4±1.3, 34.°76N±0.°04×26.°40E±0.°03, h2km±8km, n102, σ1§38/123, mb3.7/13, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.39	338	Pg	Pg	03 33 54.1	+0.3
ZKR				Sg	Sg	03 33 57.9	-0.9
ZKR	Zakros	0.39	338	P	Pg	03 33 54.1	+0.3
ZKR				S	Sg	03 33 58.1	-0.7
ZKR	Zakros	0.39	338	P	Pg	03 33 54.1	+0.3
ZKR				S	Sg	03 33 57.6	-1.2
ZKR				AML	AML	03 33 58.2	
ZKR				AML	AML	03 33 59.3	
	comp=N,49733µm,0.3s						
FRMA	Ierapetra Chan	0.60	295	P	Pg	03 33 56.9	-1.1
FRMA				S	Sg	03 34 04.0	-1.8
	comp=N,6µm,0.3s						
FRMA	Ierapetra Chan	0.60	295	P	Pg	03 33 56.9	-1.1
FRMA				S	Sg	03 34 03.9	-1.9
FRMA				AML	AML	03 34 04.3	
	comp=N,40437µm,0.2s						
FRMA				AML	AML	03 34 04.3	
	comp=E,32156µm,0.4s						
KARP	Karpathos	1.01	38	Pg	Pn	03 34 07.3	-0.4
KARP				Sg	Sg	03 34 19.0	+0.2
KARP	Karpathos	1.01	38	P	Pb	03 34 07.0	+0.4
KARP				S	Sb	03 34 20.9	+0.6
	comp=E,7µm,0.5s						
KARP	Karpathos	1.01	38	P	Pn	03 34 07.3	-0.4
KARP				AML	AML	03 34 23.8	
	comp=N,15350µm,0.6s						
KARP				AML	AML	03 34 24.8	
	comp=E,12518µm,0.5s						
HRKL	Herakleio	1.20	298	Pg	Pb	03 34 09.8	0.0
HRKL				Sg	Sg	03 34 24.0	-0.9
HRKL	Herakleio	1.20	298	P	Pg	03 34 09.2	-0.2
HRKL				S	Sb	03 34 26.2	+0.4
	comp=E,7µm,0.8s						
HRKL	Herakleio	1.20	298	P	Pb	03 34 10.0	+0.1
HRKL				AML	AML	03 34 35.6	
	comp=N,33594µm,0.6s						
HRKL				AML	AML	03 34 36.1	
	comp=E,46140µm,0.9s						
IACM	Heraklion	1.22	297	P	Pg	03 34 09.9	+0.1
IACM	Heraklion	1.22	297	P	Pn	03 34 11.2	+0.7
IDI	Anoyia	1.34	294	P	Pg	03 34 11.5	-0.7
IDI				S	Sb	03 34 30.1	0.0
	comp=E,900nm,0.6s						
IDI	Anoyia	1.34	294	LR	LR	03 35 00.1	
	comp=E,276nm,18.8s,baz=80,slow=51						
IDI	Anoyia	1.34	294	P	Pg	03 34 11.7	-0.5
IDI				AML	AML	03 34 39.4	
	comp=N,2432µm,0.5s						
IDI				AML	AML	03 34 41.1	
	comp=E,1833µm,0.5s						
TMBK	Timbaki Herakl	1.38	284	P	Pb	03 34 13.6	+0.7
SNT5	Nea Kammeni, S	1.83	334	P	Pn	03 34 18.6	-0.4
GVD	Gavdhos	1.90	273	Pn	Pg	03 34 24.6	+1.7
GVD	Gavdhos	1.90	273	P	Pb	03 34 22.3	+0.4
ARG	Arkhangelos	2.03	44	Pn	Pb	03 34 24.0	0.0
ARG	Arkhangelos	2.03	44	P	Pb	03 34 23.3	-0.7
CHAN	Chania	2.07	292	P	Pb	03 34 24.0	-0.8
CHAN				AML	AML	03 35 00.6	
	comp=E,2188µm,0.6s						
CHAN				AML	AML	03 35 03.2	
	comp=N,1720µm,0.6s						
IMMV	Iera Moni Meta	2.10	290	Pn	Pb	03 34 25.2	-0.1
IMMV	Iera Moni Meta	2.10	290	P	Pn	03 34 24.1	+1.4
IMMV				AML	AML	03 34 55.5	
	comp=E,2119µm,0.9s						
IMMV				AML	AML	03 34 55.5	
	comp=N,1796µm,0.4s						
YAZI	Mula-Dat§a-	2.10	24	P	Pn	03 34 23.3	+0.6
YAZI				S	Sn	03 34 47.4	-2.1
DAT	Datca	2.19	26	Pn	Pn	03 34 24.7	+0.7
DAT	Datca	2.19	26	P	Pn	03 34 24.4	+0.4
DAT				S	Sn	03 34 50.5	-1.3
DATC	Datca-Mugla	2.25	27	Pn	Pn	03 34 25.3	+0.7
RODP	Rodopos	2.31	291	Pn	Pb	03 34 28.4	-0.4
APE	Apeiranthos	2.41	343	Pn	Pn	03 34 26.0	-1.0
APE	Apeiranthos	2.41	343	P	Pn	03 34 26.8	-0.2
APE	Apeiranthos	2.41	343	P	Pn	03 34 26.5	-0.5
BODT	Bodrum	2.42	18	Pn	Pn	03 34 26.9	-0.1
BDRM	Kayabasi	2.45	20	P	Pn	03 34 27.9	+0.4
RFTAA	Mazikoy-Bodrum	2.49	26	Pn	Pn	03 34 28.6	+0.6
TURN	Turunc	2.51	36	Pn	Pn	03 34 29.8	+1.5
TURN	Turunc	2.51	36	P	Pn	03 34 29.8	+1.5
TURN				S	Sb	03 35 01.8	-1.8
TURN				*i* AML	AML	03 35 12.0	
	comp=N,124nm,0.8s						
DALY	Dalyan (Mula)	2.75	41	Pn	Pn	03 34 33.9	+2.3
MLSB	Milas	2.77	23	Pn	Pn	03 34 33.1	+1.2
YER	Yerkesik	2.82	32	Pn	Pn	03 34 34.4	+1.8
IZZE	Mula-Seydike	2.85	53	P	Pn	03 34

AKASG	**Malin Array Be**	**16.07**	**7**	P		**Pn**	**03 37 34.5**	**+1.1**
	comp=N,0.5nm,0.3s,baz=195,slow=10,SNR=3.9							
	comp=N,0.2nm,0.4s							
GERES	**GERESS Array B**	**16.93**	**330**	P		**P**	**03 37 46.7**	**+0.1**
	comp=N,0.1nm,0.3s,baz=134,slow=5.6,SNR=1.8							
	comp=N,0.3nm,0.5s							
ESDC	**Sonseca Array**	**24.61**	**290**	P		**P**	**03 39 07.1**	**-1.0**
	comp=N,0.6nm,0.7s,baz=79,slow=9.4,SNR=13							
	comp=N,0.6nm,0.7s							
GEYT	**Alibeck**	**25.68**	**74**	P		**P**	**03 39 19.6**	**+1.7**
	comp=N,2.0nm,0.5s,baz=256,slow=6.0,SNR=3.9							
	comp=N,2.0nm,0.5s							
MDT	**Midelt**	**25.79**	**275**	LR		LR	03 51 30.8	
	comp=N,49nm,19.7s,baz=193,slow=41							
FINES	**FINESS Array B**	**26.70**	**360**	P		**P**	**03 39 26.8**	**0.0**
	comp=N,2.6nm,1.0s,baz=175,slow=36,SNR=0.8							
	comp=N,2.6nm,1.0s							
HFS	**Hagfors**	**26.70**	**346**	P		**P**	**03 39 27.3**	**+0.5**
	comp=N,0.5nm,0.5s,baz=156,slow=12,SNR=1.3							
	comp=N,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**31.03**	**232**	P		**P**	**03 40 05.4**	**-0.3**
	comp=N,1.7nm,0.9s,baz=37,slow=9.9,SNR=16							
	comp=N,1.7nm,0.9s							
ARCES	**ARCESS Array B**	**34.83**	**359**	P		**P**	**03 40 38.8**	**+0.3**
	comp=N,1.5nm,0.8s,baz=185,slow=8.9,SNR=1.4							
	comp=N,1.5nm,0.8s							
BVAR	**Borovoye Array**	**35.89**	**46**	P		**P**	**03 40 47.7**	**-0.1**
	comp=N,0.2nm,0.3s,baz=264,slow=5.7,SNR=1.4							
	comp=N,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**40.59**	**51**	P		**P**	**03 41 27.7**	**+0.4**
	comp=N,1.2nm,0.7s,baz=276,slow=8.8,SNR=12							
	comp=N,1.2nm,0.7s							
MKAR	**Makanchi Array**	**43.15**	**56**	P		**P**	**03 41 48.7**	**+0.3**
	comp=N,0.6nm,0.4s,baz=265,slow=8.1,SNR=12							
	comp=N,0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**44.55**	**46**	P		**P**	**03 41 58.9**	**-0.6**
	comp=N,1.1nm,0.5s,baz=266,slow=8.4,SNR=8.3							
	comp=N,1.1nm,0.5s							
SONM	**Songino Array**	**58.95**	**51**	P		**P**	**03 43 47.4**	**0.0**
	comp=N,0.4nm,0.4s,baz=277,slow=6.1,SNR=5.8							
	comp=N,0.4nm,0.4s							
YKA	**Yellowknife Ar**	**78.14**	**343**	P		**P**	**03 45 44.4**	**-2.4**
	comp=N,0.1nm,0.5s,baz=22,slow=5.0,SNR=1.9							
	comp=N,0.1nm,0.5s							
ILAR	**Eielson Array**	**80.66**	**357**	P		**P**	**03 45 58.7**	**-1.8**
	comp=N,0.1nm,0.6s,baz=10,slow=5.5,SNR=1.7							
	comp=N,0.1nm,0.6s							

*IDC **22** 03:38:36.5±4.7, 17.°73S×178.°18W, h626km±56km, mb3.0/7, mbtmp4.0/7, Error ellipse: s-maj=79.5km s-min=22.6km az=151.0*

ISC 22 03:38:34.7±1.4, 17.°6S±0.°6×178.°2W±0.°4, h600km, n12, σ1§33/14, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.94**	**241**	P		**P**	**03 45 10.8**	**+0.1**
	2.3nm,0.8s,baz=103,slow=12,SNR=4.2							
	2.3nm,0.8s							
WRA	**Warramunga Arr**	**44.85**	**259**	P		**P**	**03 45 57.4**	**+0.1**
	2.1nm,0.4s,baz=94,slow=7.1,SNR=37							
WRA				PcP		**PcP**	**03 47 24.6**	**-1.3**
	0.4nm,0.4s,baz=100,slow=3.4,SNR=2.6							
	2.1nm,0.4s							
ASAR	**Alice Springs**	**45.04**	**254**	P		**P**	**03 45 58.8**	**+0.2**
	5.9nm,0.6s,baz=90,slow=7.7,SNR=56							
ASAR				PcP		**PcP**	**03 47 24.9**	**-1.5**
	0.8nm,0.4s,baz=107,slow=3.7,SNR=6.8							
	5.9nm,0.6s							
NVAR	**Mina Array Bea**	**79.07**	**44**	P		**P**	**03 49 38.4**	**+0.1**
	0.4nm,0.6s,baz=231,slow=8.0,SNR=4.2							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**85.52**	**13**	P		**P**	**03 50 09.7**	**-0.2**
	0.3nm,0.4s,baz=228,slow=4.6,SNR=8.4							
	0.3nm,0.4s							
TXAR	**Lajitas Array**	**85.68**	**58**	P		**P**	**03 50 11.7**	**+0.1**
	0.6nm,0.7s,baz=223,slow=6.4,SNR=6.7							
	0.6nm,0.7s							
PDAR	**Pinedale Array**	**87.00**	**43**	P		**P**	**03 50 16.9**	**-0.8**
	0.5nm,0.8s,baz=192,slow=1.9,SNR=3.9							
	0.5nm,0.8s							
ARCES	**ARCESS Array B**	**126.01**	**350**	PKP		**PKPdf**	**03 56 27.6**	**-1.3**
	2.6nm,0.8s,baz=0.0,slow=2.4,SNR=5.1							
AKASG	**Malin Array Be**	**140.34**	**333**	PKP		**PKPdf**	**03 56 55.9**	**-0.3**
	0.3nm,0.4s,baz=54,slow=0.9,SNR=1.7							
BRTR	**Keskin Array B**	**144.66**	**315**	PKP		**PKPdf**	**03 57 04.0**	**-0.4**
	0.5nm,0.3s,baz=93,slow=2.8,SNR=3.1							
MMAI	**Mount Meron Ar**	**146.09**	**303**	PKPbc		**PKPdf**	**03 57 08.8**	**+1.9**
	1.2nm,0.6s,baz=64,slow=5.7,SNR=3.6							
GERES	**GERESS Array B**	**147.33**	**345**	PKPbc		**PKPdf**	**03 57 11.6**	**+3.1**
	0.8nm,0.6s,baz=354,slow=2.7,SNR=4.6							

*GUC **22** 03:51:45.8±0.8, 17.°79S×69.°64W, h126km±5km, ML3.3*
*IDC **22** 03:51:52.2±10.0, 17.°85S×69.°45W, h200km±97km, mb3.2/4, mbtmp3.7/4, Error ellipse: s-maj=58.4km s-min=31.2km az=136.0*

ISC 22 03:51:44.9±1.0, 17.°85S±0.°07×69.°8W±0.°1, h137km±7km, n15, σ1§27/24, mb3.3/3, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB18	**Visviri**	**0.38**	**46**	⇓*i*P		**Pn**	**03 52 04.4**	**-0.4**
PB16	**IPOC Station P**	**0.54**	**153**	⇑*i*P		**Pn**	**03 52 05.7**	**-0.1**
PB16				*e*S		**Sn**	**03 52 20.6**	**-0.9**
AP01	**Chacalluta**	**0.75**	**227**	*e*P		**Pn**	**03 52 06.7**	**+0.3**
AP01				*e*S		**Sn**	**03 52 23.4**	**+0.7**
PB12	**IPOC Station P**	**0.93**	**215**	*e*P		**Pn**	**03 52 08.1**	**+0.2**
PB12				*e*S		**Sn**	**03 52 25.7**	**+0.3**
PB12				IAML			03 52 26.6	
	comp=N,588nm,0.2s							
GO01	**Chusmiza**	**1.89**	**163**	*e*P		**Pn**	**03 52 19.3**	**+0.9**
GO01				*e*S		**Sn**	**03 52 44.8**	**+0.8**
GO01				IAML			03 52 49.7	
	comp=E,277nm,0.1s							
PB11	**IPOC Station P**	**1.90**	**177**	*e*P		**Pn**	**03 52 18.7**	**+0.4**
PB11				*e*S		**Sn**	**03 52 44.0**	**+0.1**
PB11				IAML			03 52 46.0	
	comp=N,204nm,0.2s							
PB08	**IPOC Station P**	**2.35**	**166**	*e*P		**Pn**	**03 52 24.8**	**+0.9**
PB08				*e*S		**Sn**	**03 52 54.5**	**+0.6**
PB08				IAML			03 52 56.7	
	comp=N,108nm,0.3s							
TA02	**Huaiquique**	**2.43**	**188**	*e*P		**Pn**	**03 52 24.6**	**+0.1**
TA02				*e*S		**Sn**	**03 52 54.6**	**-0.5**
PX03	**IPOC Station P**	**2.54**	**177**	*e*P		**Pn**	**03 52 25.8**	**-0.2**
TA01	**Diego Aracena**	**2.73**	**188**	*e*P		**Pn**	**03 52 28.2**	**-0.1**
TA01				*e*S		**Sn**	**03 52 59.6**	**-2.2**
TA01				IAML			03 53 02.0	
	comp=N,136nm,0.2s							
PATCX	**Punta Patache**	**2.98**	**187**	*e*S		**Pn**	**03 52 31.9**	**+0.4**
PATCX				*e*S		**Sn**	**03 53 03.4**	**-4.1**
PATCX				IAML			03 53 13.7	
	comp=N,60nm,0.3s							
BDFB	**Brasilia**	**20.95**	**87**	P		**P**	**03 56 16.8**	**-0.4**
	comp=N,1.3nm,0.4s,baz=276,slow=10,SNR=5.1							
	comp=N,1.3nm,0.4s							
PLCA	**Paso Flores**	**22.81**	**182**	P		**P**	**03 56 38.0**	**+2.0**
	comp=N,1.0nm,0.8s,baz=1.1,slow=8.3,SNR=3.1							
	comp=N,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.93**	**71**	P		**P**	**04 03 21.6**	**-1.2**
	comp=N,0.7nm,0.5s,baz=256,slow=5.5,SNR=26							
	comp=N,0.7nm,0.5s							
YKA	**Yellowknife Ar**	**87.50**	**341**	P		**P**	**04 04 17.2**	**+0.6**
	comp=N,0.2nm,0.7s,baz=139,slow=4.5,SNR=4.0							
	comp=N,0.2nm,0.7s							

*YARS **22** 03:53:59.8, 72.°12N×127.°85E, h3km*
*IDC **22** 03:54:01.2±1.0, 71.°99N×128.°08E, h0km, mb3.4/6, mbtmp3.4/6, MS3.6/1, Error ellipse: s-maj=20.1km s-min=8.3km az=53.0*

ISC 22 03:54:02.2±0.8, 72.°05N±0.°08×128.°0E±0.°1, h10km, n10, σ2§16/12, mb3.2/6, 1C, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIXI	**Tiksi**	**0.48**	**145**	⇑*i*Pg		**Pg**	**03 54 10.3**	**-1.3**
	12μm,0.5s							
TIXI				*i* Sg		**Sg**	**03 54 17.5**	**-0.4**
	31μm,0.4s							
TIXI				*i* Sg		**Sg**	**03 54 17.5**	**-0.4**
	38μm,0.4s							
TIXI	**Tiksi**	**0.48**	**145**	Pg		**Pg**	**03 54 10.0**	**-1.6**
	69nm,0.3s,baz=358,slow=10,SNR=195							
TIXI				Lg		Lg	03 54 15.6	
	490nm,0.3s,baz=356,slow=13,SNR=44							
SVZ	**Severnaya Zeml**	**9.62**	**330**	*e*P		**Pn**	**03 56 22.3**	**+1.9**
SVZ				S		**Sn**	**03 58 02.9**	**-5.4**
ZALV	**Zalesovo Beam**	**25.78**	**248**	P		**P**	**03 59 34.2**	**+1.6**
	0.6nm,0.4s,baz=22,slow=7.7,SNR=3.5							
	0.6nm,0.4s							
SONM	**Songino Array**	**26.26**	**214**	P		**P**	**03 59 37.9**	**+0.6**
	0.1nm,0.3s,baz=28,slow=6.5,SNR=1.8							
	0.1nm,0.3s							
ILAR	**Eielson Array**	**29.51**	**60**	P		**P**	**04 00 07.1**	**+1.1**
	0.2nm,0.5s,baz=318,slow=8.2,SNR=7.5							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**32.91**	**245**	P		**P**	**04 00 36.2**	**+0.1**
	0.2nm,0.5s,baz=38,slow=7.2,SNR=2.7							
	0.2nm,0.5s							
YKA	**Yellowknife Ar**	**39.13**	**41**	P		**P**	**04 01 29.7**	**+0.6**
	0.2nm,0.5s,baz=335,slow=8.2,SNR=6.6							
	0.2nm,0.5s							
OBN	**Obninsk**	**39.31**	**295**	LR		LR	04 20 13.7	
	comp=Z,75nm,19.3s,baz=191,slow=40							
AKASG	**Malin Array Be**	**45.28**	**298**	P		**P**	**04 02 19.5**	**+0.2**
	0.9nm,0.5s,baz=26,slow=8.8,SNR=5.3							
	0.9nm,0.5s							

IDC 22 04:05:06.7±2.3, 1.°27N×126.°76E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=257.5km s-min=23.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.35**	**161**	P		P	04 10 05.5	-1.0
	0.2nm,0.3s,baz=339,slow=12,SNR=1.4							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**25.74**	**165**	P		P	04 10 40.0	+0.9
	0.2nm,0.3s,baz=346,slow=11,SNR=1.4							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**59.59**	**326**	P		P	04 15 12.2	-0.2
	0.4nm,0.4s,baz=120,slow=8.2,SNR=8.8							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**63.82**	**328**	P		P	04 15 41.0	+0.1
	0.7nm,0.5s,baz=126,slow=6.5,SNR=5.9							
	0.7nm,0.5s							

*IDC **22** 04:26:52.6±0.8, 36.°90N×68.°37E, h0km, mb3.8/17, mbtmp3.9/23, ML3.4/6, MS3.0/7, Error ellipse: s-maj=16.1km s-min=12.7km az=155.0*
*NNC **22** 04:26:58.5±1.4, 37.°23N×68.°11E, h32km±14km, mb4.4, mpv4.0, Error ellipse: s-maj=11.8km s-min=8.5km az=176.0*

ISC 22 04:26:56.4±0.9, 37.°25N±0.°10×68.°16E±0.°06, h10km, n57, σ1§09/54, mb3.7/14, MS3.1/4, 6C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.12**	**16**	⇓Pn		**Pn**	**04 28 28.1**	**+1.2**
	1.1nm,0.3s,baz=194,slow=12,SNR=26							
KK31				⇑Pg		Pg	04 28 50.5	-3.0
	15nm,0.8s,baz=193,slow=16,SNR=5.9							
KK31				⇓Lg		Lg	04 30 13.6	
	27nm,0.7s,baz=198,slow=28,SNR=5.4							
AML	**Almayashu**	**6.48**	**40**	P		**Pn**	**04 28 33.1**	**+0.9**
	SNR=23							
AML	**Almayashu**	**6.48**	**40**	⇓Pn		**Pn**	**04 28 32.4**	**+0.2**
	1.1nm,0.6s							
AML				⇓Sn		**Sn**	**04 29 47.3**	**+1.0**
	3.2nm,0.6s							
AML				⇑Lg		Lg	04 30 25.5	
	10nm,0.8s							
KSH	**Kashi**	**6.54**	**67**	Pn		Pn	04 28 28.0	-4.8
KSH				Sn		Sn	04 29 39.8	-7.8
KSH				pmax		pmax		
	comp=Z,9.0nm,0.7s							
KSH				smax		smax		
	comp=N,64nm,0.8s							
KSH				smax		smax		
	comp=E,37nm,0.8s							
EKS2	**Erkin-Say**	**6.92**	**37**	P		**Pn**	**04 28 39.6**	**+1.7**
	SNR=5.4							
UCH	**Uchtor**	**6.98**	**43**	P		**Pn**	**04 28 40.0**	**+1.0**
	SNR=34							
AAK	**Ala-Archa**	**7.25**	**40**	P		**Pn**	**04 28 43.9**	**+1.3**
	SNR=18							
AAK	**Ala-Archa**	**7.25**	**40**	Pn		**Pn**	**04 28 42.8**	**+0.3**
	comp=E,3.1nm,0.3s,baz=208,slow=7.3,SNR=29							
AAK				Sn		**Sn**	**04 30 06.3**	**+1.2**
	baz=336,slow=23							
AAK				Lg		Lg	04 30 44.2	
	comp=E,0.3nm,0.3s,baz=27,slow=13,SNR=2.8							
AAK				LR		LR	04 31 27.2	
	comp=E,20nm,20.7s,baz=230,slow=37							
	comp=E,9.3nm,0.4s							
KBK	**Karagaybulak**	**7.51**	**42**	P		**Pn**	**04 28 47.5**	**+1.5**
	SNR=42							
CHMS	**Chumysh**	**7.65**	**39**	P		**Pn**	**04 28 48.4**	**+0.6**
	SNR=6.4							
CHMS	**Chumysh**	**7.65**	**39**	⇑Pn		**Pn**	**04 28 48.2**	**+0.4**
	comp=E,9.1nm,0.7s							
CHMS				⇓Sn		**Sn**	**04 30 15.4**	**+0.9**
	comp=E,23nm,1.0s							
CHMS				⇑Lg		Lg	04 31 01.6	
	comp=E,27nm,1.4s							
USP	**Ospenovka**	**7.72**	**37**	P		**Pn**	**04 28 49.8**	**+0.9**
	SNR=14							
SGDS	**Sogindy**	**7.92**	**37**	Lg		Lg	04 30 18.1	
	comp=E,7.0nm,0.5s							
ULHL	**Ulahol**	**7.98**	**49**	P		**Pn**	**04 28 54.0**	**+1.5**
	SNR=6.3							
GEYT	**Alibeck**	**8.00**	**278**	Pn		**Pn**	**04 28 53.1**	**+0.4**
	comp=E,1.0nm,0.3s,baz=113,slow=11,SNR=5.5							
GEYT				Sn		**Sn**	**04 30 22.7**	**-0.6**
	comp=E,1.4nm,0.3s,baz=126,slow=15,SNR=3.1							
	comp=E,2.6nm,0.5s							
TKM2	**Tokmak 2**	**8.04**	**43**	P		**Pn**	**04 28 54.1**	**+0.7**
	SNR=29							
TKM2	**Tokmak 2**	**8.04**	**43**	⇓Pn		**Pn**	**04 28 53.1**	**-0.2**
	comp=E,14nm,0.6s							
TKM2				⇓Sn		**Sn**	**04 30 22.2**	**-2.1**
	comp=E,12nm,0.9s							
DGS	**Degeres**	**8.35**	**42**	P		**Pn**	**04 28 58.0**	**+0.4**
	comp=E,7.7nm,0.7s							
KRBS	**Karabastau**	**8.62**	**39**	P		**Pn**	**04 29 00.8**	**-0.4**
	comp=E,5.2nm,0.6s							
MTBS	**Maitube**	**8.63**	**45**	P		**Pn**	**04 29 02.4**	**+1.0**
	comp=E,6.7nm,0.4s							
TNSS	**Tian-Shan**	**8.87**	**47**	P		**Pn**	**04 29 05.1**	**+0.2**
	comp=E,8.5nm,0.3s							
BTLS	**Baital**	**8.96**	**28**	P		**Pn**	**04 29 08.0**	**+2.2**
	comp=E,2.5nm,0.7s							
KOTS	**Kotyrbulak**	**9.09**	**46**	P		**Pn**	**04 29 07.7**	**0.0**
	comp=E,20nm,0.3s							
KUU	**Kurty**	**9.10**	**41**	P		**Pn**	**04 29 07.3**	**-0.4**
	comp=E,6.7nm,0.3s							
KTBS	**Karatobe**	**9.15**	**43**	P		**Pn**	**04 29 08.0**	**-0.5**
	comp=E,4.4nm,0.4s							
CHKK	**Chushkaly**	**9.41**	**43**	P		**Pn**	**04 29 12.6**	**+0.6**
	comp=E,3.7nm,0.4s							
KPKS	**Kokpek**	**10.15**	**49**	P		**Pn**	**04 29 22.0**	**-0.2**
	comp=E,8.2nm,0.7s							
BLB	**Baldybastay**	**10.40**	**46**	P		**Pn**	**04 29 25.6**	**-0.1**
	comp=E,4.9nm,0.4s							
KNOS	**Konyrlen**	**10.96**	**46**	P		**Pn**	**04 29 33.2**	**-0.1**
	comp=E,5.1nm,0.7s							
AB31	**Akbulak array**	**13.40**	**336**	⇓Pn		**Pn**	**04 30 05.3**	**-1.2**
	comp=E,1.3nm,0.5s,baz=155,slow=12,SNR=54							
AB31				⇓Sn		**Sn**	**04 32 34.9**	**-0.4**
	comp=E,2.2nm,0.7s							
MKAR	**Makanchi Array**	**14.17**	**43**	Pn		Pn	04 30 14.5	-2.5
	comp=E,0.1nm,0.3s,baz=230,slow=10,SNR=21							
MKAR				LR		LR	04 36 34.7	
	comp=E,45nm,18.6s,baz=232,slow=41							
	comp=E,4.3nm,1.0s							
AKTO	**Aktyubinsk**	**15.05**	**334**	⇑Pn		**Pn**	**04 30 28.1**	**-1.0**
	comp=E,2.9nm,0.8s							
AKTO				⇑Sn		**Sn**	**04 33 13.8**	**-2.0**
	comp=E,2.8nm,1.1s							
AKTO	**Aktyubinsk**	**15.05**	**334**	Pn		**Pn**	**04 30 28.4**	**-0.6**
	comp=E,0.3nm,0.3s,baz=157,slow=10.0,SNR=3.7							
	comp=E,1.4nm,0.5s							
KURBB	**Kurchatov Arra**	**15.29**	**26**	Pn		**Pn**	**04 30 29.2**	**-3.0**
	baz=215,slow=12,SNR=14							
KURBB				Lg		Lg	04 35 07.6	
	baz=212,slow=32,SNR=4.5							
	comp=E,2.1nm,0.9s							
BVAR	**Borovoye Array**	**15.85**	**5**	Pn		**Pn**	**04 30 38.2**	**-1.3**
	comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=9.5							
BVAR				Lg		Lg	04 35 24.9	
	baz=196,slow=31,SNR=1.4							
	comp=E,2.3nm,0.8s							
GNI	**Garni**	**18.49**	**286**	LR		LR	04 41 21.4	
	comp=E,34nm,20.3s,baz=66,slow=46							
KBZ	**Khabaz**	**20.23**	**297**	P		**P**	**04 31 33.0**	**+1.6**
	comp=E,1.5nm,1.0s,baz=105,slow=16,SNR=2.2							
	comp=E,1.5nm,1.0s							
ARU	**Arti**	**20.24**	**344**	P		**P**	**04 31 33.3**	**+1.8**
	comp=E,5.4nm,0.2s,baz=150,slow=8.3,SNR=5.1							
	comp=E,5.4nm,0.2s							
ZALV	**Zalesovo Beam**	**20.28**	**29**	P		**P**	**04 31 31.1**	**-0.9**
	comp=E,2.9nm,0.5s,baz=224,slow=10,SNR=19							
	comp=E,2.9nm,0.5s							
BELG	**Belogornoye**	**20.90**	**323**	P		**P**	**04 31 40.4**	**+1.8**
	comp=E,17nm,0.9s,baz=128,slow=6.2,SNR=1.8							
	comp=E,17nm,0.9s							
GOMU	**GeErMu**	**21.38**	**85**	P		**P**	**04 31 44.6**	**+0.2**
GOMU				pP		pP	04 31 48.3	+0.9
GOMU				sP		sP	04 31 50.1	+1.4
GOMU				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BRTR	**Keskin Array B**	**27.03**	**286**	P		**P**	**04 32 40.3**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=101,slow=10,SNR=1.3							
	comp=Z,0.2nm,0.3s							
EIL	**Elat**	**28.61**	**264**	LR		LR	04 46 49.7	
	comp=Z,40nm,21.1s,baz=99,slow=42							
SONM	**Songino Array**	**29.81**	**57**	P		**P**	**04 33 03.0**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=260,slow=8.6,SNR=3.2							
SONM				LR		LR	04 45 57.7	
	comp=Z,40nm,18.2s,baz=342,slow=38							
	comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**32.82**	**116**	P		P	04 33 26.0	-4.2
	comp=Z,1.5nm,0.3s,baz=122,slow=26,SNR=0.7							
	comp=Z,1.5nm,0.3s							
FINES	**FINESS Array B**	**35.59**	**326**	P		**P**	**04 33 53.7**	**0.0**
	comp=Z,3.3nm,1.0s,baz=54,slow=9.7,SNR=3.8							
	comp=Z,3.3nm,1.0s							
ARCES	**ARCESS Array B**	**39.59**	**338**	P		**P**	**04 34 27.6**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=104,slow=7.5,SNR=5.3							
	comp=Z,2.8nm,0.9s							
HFS	**Hagfors**	**41.07**	**322**	P		**P**	**04 34 39.2**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=82,slow=11,SNR=4.8							
	comp=Z,2.1nm,0.8s							
NOA	**NORSAR Array B**	**42.41**	**323**	P		**P**	**04 34 50.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=118,slow=4.6,SNR=1.1							
	comp=Z,0.4nm,0.6s							
KSRS	**Korea Array**	**46.79**	**71**	LR		LR	04 57 34.3	
	comp=Z,20nm,20.7s,baz=165,slow=39							
ESDC	**Sonseca Array**	**55.09**	**296**	P		**P**	**04 36 28.5**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=63,slow=8.6,SNR=3.2							
	comp=Z,0.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**63.47**	**267**	P		**P**	**04 37 25.7**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=54,slow=6.1,SNR=4.5							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**74.66**	**15**	P		**P**	**04 38 35.6**	**0.0**
	comp=Z,0.4nm,0.9s,baz=332,slow=5.1,SNR=9.3							
	comp=Z,0.4nm,0.9s							
YKA	**Yellowknife Ar**	**80.57**	**1**	P		**P**	**04 39 09.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=350,slow=5.4,SNR=13							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**84.33**	**120**	P		P	04 39 24.3	-4.5
	comp=Z,0.7nm,0.9s,baz=321,slow=5.1,SNR=1.3							
	comp=Z,0.7nm,0.9s							
ASAR	**Alice Springs**	**86.56**	**123**	P		P	04 39 35.5	-4.4
	comp=Z,1.0nm,1.0s,baz=313,slow=5.1,SNR=6.6							
	comp=Z,1.0nm,1.0s							
BBB	**Bella Bella**	**89.81**	**10**	LR		LR	05 23 59.4	
	comp=Z,50nm,18.1s,baz=260,slow=38							

*IDC **22** 04:42:38.1±1.0, 40.°66N×14.°67E, h320km±14km, mb2.9/4, mbtmp3.7/11, Error ellipse: s-maj=24.9km s-min=13.9km az=106.0*

ISC 22 04:42:37.4±0.9, 40.°78N±0.°08×14.°6E±0.°1, h300km, n11, σ1§63/12, mb3.2/4, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VAE	**Valguarnera**	**3.30**	**182**	P		**Pn**	**04 43 37.9**	**+1.6**
	10nm,0.4s,baz=360,slow=2.6,SNR=6.5							
VAE				S		**S**	**04 44 25.1**	**+1.8**
	13nm,0.8s,baz=156,slow=16,SNR=1.9							
VRAC	**Vranov**	**8.65**	**9**	P		**Pn**	**04 44 39.0**	**+0.2**
	2.4nm,0.5s,baz=200,slow=14,SNR=3.0							
MLR	**Muntele Rosu**	**9.55**	**57**	P		**Pn**	**04 44 51.3**	**+1.3**
	3.5nm,0.8s,baz=226,slow=6.8,SNR=5.0							
AKASG	**Malin Array Be**	**14.23**	**41**	P		**P**	**04 45 46.6**	**+0.9**
	0.6nm,0.3s,baz=231,slow=12,SNR=6.8							
BRTR	**Keskin Array B**	**14.60**	**88**	P		**P**	**04 45 49.4**	**-0.8**
	0.4nm,0.3s,baz=277,slow=11,SNR=2.1							
MMAI	**Mount Meron Ar**	**18.35**	**108**	P		**P**	**04 46 27.6**	**-3.3**
	0.5nm,0.3s,baz=268,slow=11,SNR=2.3							
HFS	**Hagfors**	**19.39**	**359**	P		**P**	**04 46 41.8**	**+0.3**
	0.8nm,1.1s,baz=166,slow=15,SNR=2.

RFTAA				Sg	Sb	04 58 51.1	+0.4
MLSB	**Milas**	**0.72**	**288**	Pg	Pb	04 58 40.9	-0.1
MLSB				Sg	Sb	04 58 51.4	+0.5
DAT	**Datca**	**0.91**	**248**	Pg	Pb	04 58 44.4	0.0
BODT	**Bodrum**	**1.06**	**270**	Pg	Pn	04 58 47.5	+0.3
GCAM	**G?zelcaml?**	**1.28**	**300**	Pn	Pb	04 58 50.8	+0.3

*IGIL **22** 05:07:04.4, 36°.88N×10°.81W, h26km, ML1.4*
*MDD **22** 05:07:04.0±1.4, 37°.03N×10°.60W, h0km, mb_Lg2.5/6, Error ellipse: s-maj=10.2km s-min=8.0km az=45.0*
*INMG **22** 05:07:04.3±1.1, 36°.89N×10°.86W, h31km±14km, ML1.8, Error ellipse: s-maj=12.7km s-min=3.7km az=67.0*
*CNRM **22** 05:07:08.7, 36°.74N×9°.80W, h30km*

ISC 22 05:07:01.1±2.3, 36°.86N±0°.06×10°.9W±0°.1, h35km, n46, σ1§53/72, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.67**	**80**	S	**Sn**	**05 07 47.5**	**-0.6**
PFVI				P	**Pn**	**05 07 28.4**	**+0.6**
MORF	**Marmelete**	**1.84**	**75**	*eP*	**Pn**	**05 07 31.9**	**+1.7**
MORF				*eS*	**Sn**	**05 07 52.5**	**+0.2**
MORF	**Marmelete**	**1.84**	**75**	*eP*	**Pn**	**05 07 31.9**	**+1.7**
MORF				*eS*	**Sn**	**05 07 52.2**	**-0.1**
MORF				IAML		05 07 53.5	
	comp=N,4.7nm,0.1s						
PTEO	**Sao Teotonio**	**1.86**	**68**	*eP*	**Pn**	**05 07 32.0**	**+1.6**
PTEO				*eS*	**Sn**	**05 07 52.8**	**+0.1**
PNCL	**Nicolau / Gran**	**2.25**	**56**	*eP*	**Pn**	**05 07 37.4**	**+1.5**
PNCL				*eS*	**Sn**	**05 08 02.0**	**-0.4**
PNCL				A	A	05 08 05.0	
	comp=N,3.1nm,0.5s						
MESJ	**Messejana**	**2.34**	**64**	*eP*	**Pn**	**05 07 39.0**	**+2.0**
MESJ				*eS*	**Sn**	**05 08 05.3**	**+0.7**
MESJ				A	A	05 08 08.1	
	comp=N,2.7nm,0.5s						
MESJ	**Messejana**	**2.34**	**64**	*eS*	**Sn**	**05 08 04.2**	**-0.3**
MESJ				IAML		05 08 05.7	
	comp=E,1.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.40**	**80**	*eP*	**Pn**	**05 07 39.4**	**+1.6**
PBDV				*eS*	**Sn**	**05 08 06.0**	**0.0**
PBDV				A	A	05 08 15.7	
	comp=E,3.7nm,0.8s						
PBDV	**Barranco-do-Ve**	**2.40**	**80**	P	**Pn**	**05 07 39.9**	**+2.1**
PBDV				S	**Sn**	**05 08 05.5**	**-0.5**
PCVE	**Castro Verde**	**2.40**	**70**	*eP*	**Pn**	**05 07 39.5**	**+1.6**
PCVE				*eS*	**Sn**	**05 08 05.9**	**-0.2**
PCVE				A	A	05 08 08.3	
	comp=E,2.2nm,0.2s						
PCVE	**Castro Verde**	**2.40**	**70**	P	**Pn**	**05 07 38.9**	**+1.0**
PCVE				S	**Sn**	**05 08 05.2**	**-0.8**
PMAFR	**Mafra**	**2.45**	**31**	*eP*	**Pn**	**05 07 39.7**	**+1.2**
PMAFR				*eS*	**Sn**	**05 08 06.6**	**-0.6**
PMAFR				A	A	05 08 08.0	
	comp=E,14nm,0.2s						
PMAFR	**Mafra**	**2.45**	**31**	S	**Sn**	**05 08 07.2**	**-0.1**
PACT	**Alcochete**	**2.51**	**40**	*eP*	**Pn**	**05 07 41.1**	**+1.8**
PACT				*eS*	**Sn**	**05 08 10.0**	**+1.4**
PVAQ	**Vaqueiros**	**2.59**	**77**	*eP*	**Pn**	**05 07 42.5**	**+2.0**
PVAQ				*eS*	**Sn**	**05 08 10.3**	**-0.5**
PVAQ	**Vaqueiros**	**2.59**	**77**	P	**Pn**	**05 07 42.1**	**+1.6**
PVAQ				S	**Sn**	**05 08 10.6**	**-0.1**
PBEJ	**Beja**	**2.67**	**63**	*eP*	**Pn**	**05 07 43.6**	**+2.0**
PBEJ				*eS*	**Sn**	**05 08 12.3**	**-0.5**
PBEJ				A	A	05 08 14.6	
	comp=E,2.3nm,0.2s						
EGRO	**El Granado**	**2.80**	**75**	S	**Sn**	**05 08 15.3**	**-0.6**
EGRO				*i* Vmb_Lg		05 08 17.6	
EVO	**Evora**	**2.83**	**53**	*eP*	**Pn**	**05 07 45.1**	**+1.4**
EVO				*eS*	**Sn**	**05 08 15.7**	**-0.9**
EVO				A	A	05 08 19.2	
	comp=E,3.2nm,0.3s						
PMTG	**Montargil**	**3.05**	**43**	*eP*	**Pn**	**05 07 47.7**	**+0.9**
PMTG				*eS*	**Sn**	**05 08 21.2**	**-0.8**
PESTR	**Estremoz**	**3.29**	**51**	*eP*	**Pn**	**05 07 51.9**	**+1.8**
PESTR				*eS*	**Sn**	**05 08 27.1**	**-0.9**
PESTR	**Estremoz**	**3.29**	**51**	S	**Sn**	**05 08 26.8**	**-1.3**
PESTR				P	**Pn**	**05 07 51.7**	**+1.5**
PESTR	**Estremoz**	**3.29**	**51**	P	**Pn**	**05 07 49.7**	**-0.5**
PESTR	**Estremoz**	**3.29**	**51**	S	**Sn**	**05 08 23.5**	**-4.5**
PBAR	**Barrancos**	**3.33**	**66**	*eP*	**Pn**	**05 07 52.5**	**+1.9**
PBAR				*eS*	**Sn**	**05 08 27.9**	**-1.1**
PBAR				A	A	05 08 29.2	
	comp=E,1.5nm,0.6s						
PBAR	**Barrancos**	**3.33**	**66**	P	**Pn**	**05 07 51.8**	**+1.1**
PBAR				S	**Sn**	**05 08 26.9**	**-2.1**
EMIN	**Mina Concepcio**	**3.48**	**74**	S	**Sn**	**05 08 31.7**	**-1.0**
EMIN				*i* Vmb_Lg		05 08 36.1	
EBAD	**Badajoz**	**3.61**	**57**	P	**Pn**	**05 07 55.3**	**+0.9**
EBAD				S	**Sn**	**05 08 33.2**	**-2.5**
EBAD	**Badajoz**	**3.61**	**57**	P	**Pn**	**05 07 55.9**	**+1.5**
EBAD				S	**Sn**	**05 08 34.3**	**-1.5**
EBAD				*i* Vmb_Lg		05 08 38.3	
PMRV	**Marv??o**	**3.77**	**46**	*eP*	**Pn**	**05 07 57.5**	**+0.9**
PMRV				*eS*	**Sn**	**05 08 38.3**	**-1.4**
PMRV				A	A	05 08 39.2	
	comp=E,1.6nm,0.3s						
ESPR	**Espera**	**4.04**	**88**	S	**Sn**	**05 08 46.3**	**0.0**
ESPR				*i* Vmb_Lg		05 08 46.8	
MTE	**Manteigas**	**4.40**	**36**	*eP*	**Pn**	**05 08 06.4**	**+1.0**
MTE				*eS*	**Sn**	**05 08 53.6**	**-1.8**
PVIS	**Viseu**	**4.50**	**30**	*eS*	**Sn**	**05 08 55.9**	**-2.1**
PVIS				A	A	05 09 00.1	
	comp=E,1.2nm,0.3s						
ECAB	**El Cabril**	**4.52**	**73**	P	**Pn**	**05 08 08.0**	**+1.0**
ECAB				S	**Sn**	**05 08 56.2**	**-2.1**
ECAB	**El Cabril**	**4.52**	**73**	P	**Pn**	**05 08 08.2**	**+1.2**
ECAB				S	**Sn**	**05 08 56.0**	**-2.3**
ECAB				*i* Vmb_Lg		05 09 02.4	
EADA	**Adamuz**	**5.18**	**74**	P	**Pn**	**05 08 17.7**	**+1.5**
EADA				S	**Sn**	**05 09 12.8**	**-1.9**
EADA				*i* Vmb_Lg		05 09 26.2	
MVO	**Moncorvo**	**5.25**	**34**	*eS*	**Sn**	**05 09 14.1**	**-2.2**
PGAV	**Gavieira, Arco**	**5.49**	**21**	*eS*	**Sn**	**05 09 20.1**	**-2.2**
PBRG	**Braganca**	**5.89**	**32**	*eS*	**Sn**	**05 09 29.1**	**-3.1**
EQES	**Quesada**	**6.30**	**79**	S	**Sn**	**05 09 41.4**	**-1.0**
MD31	**MD31**	**6.42**	**127**	P	**Pn**	**05 08 33.5**	**+0.3**
MD31	**MD31**	**6.42**	**127**	S	Sn	05 09 36.8	-8.5
MDT	**Midelt**	**6.55**	**126**	P	**Pn**	**05 08 35.4**	**+0.4**
MDT	**Midelt**	**6.55**	**126**	S	Sn	05 09 37.0	-12
OUZM	**OUZ**	**6.86**	**149**	P	**Pn**	**05 08 39.3**	**+0.1**
OUZM	**OUZ**	**6.86**	**149**	S	**Sn**	**05 09 53.0**	**-3.0**

IDC 22 05:24:08.9±1.6, 51°.62N×82°.57E, h0km, mbtmp2.1/2, ML1.7/2, Error ellipse: s-maj=19.2km s-min=12.7km az=132.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**2.70**	**30**	Pn	Pn	05 24 53.9	+0.3
	0.3nm,0.3s,baz=210,slow=16,SNR=5.5						
ZALV				Lg	Lg	05 25 33.8	
	0.2nm,0.3s,baz=198,slow=14,SNR=2.5						
	0.6nm,0.3s						
I46RU	**ZALESOVO INFRA**	**2.70**	**29**	I	I	05 40 30.0	
	baz=207,slow=345,SNR=0.5						
KURBB	**Kurchatov Arra**	**2.73**	**250**	Pg	Pb	05 24 57.9	-0.8
	baz=70,slow=16,SNR=3.9						
KURBB				Lg	Lg	05 25 33.9	
	0.1nm,0.3s,baz=76,slow=37,SNR=8.0						
MKAR	**Makanchi Array**	**4.83**	**182**	Pn	Pn	05 25 24.4	+1.5
	0.1nm,0.3s,baz=16,slow=11,SNR=2.0						
MKAR				Lg	Lg	05 26 41.6	
	0.1nm,0.3s,baz=14,slow=28,SNR=6.1						
	0.1nm,0.4s						

IDC 22 05:40:14.1±3.6, 54°.28N×87°.57E, h0km, mbtmp2.7/2, ML2.0/2, Error ellipse: s-maj=28.1km s-min=18.9km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**260**	I	I	05 48 10.0	
	baz=81,slow=340,SNR=7.5						
ZALV	**Zalesovo Beam**	**1.65**	**260**	Pg	Pn	05 40 42.5	-1.9
	2.2nm,0.3s,baz=77,slow=15,SNR=14						
ZALV				Lg	Lg	05 41 06.9	
	3.6nm,0.3s,baz=82,slow=20,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.63**	**240**	Pn	Pn	05 41 53.0	+0.3
	baz=54,slow=13,SNR=3.6						
KURBB				Sn	Sn	05 43 09.2	+0.3
	baz=59,slow=22						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**8.21**	**206**	Pn	Pn	05 42 15.5	+1.0
	baz=22,slow=12,SNR=1.7						
MKAR				Sn	Sn	05 43 48.5	+0.6
	baz=20,slow=26,SNR=1.8						
	0.1nm,0.2s						

TEH 22 05:51:54.1, 33°.80N×45°.67E, h9km±15km, ML3.6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.70**	**354**	Pg	Pb	05 52 08.3	-0.3
IGHG	**Ghaleghazi**	**0.91**	**55**	Pg	Pb	05 52 12.6	+0.3
IDHR	**Dehrash**	**1.07**	**33**	Pg	Pn	05 52 15.8	+0.3
ILIN	**Lien**	**1.54**	**43**	Pg	Pg	05 52 24.7	+1.0
IKFM	**Kafar-mosalman**	**1.83**	**98**	Pn	Pg	05 52 28.9	-0.3
IALM	**Almabolaq**	**2.32**	**62**	Pn	Pb	05 52 35.7	-0.6
SDS1	**Sardasht. Az.**	**2.35**	**356**	Pn	Pb	05 52 35.8	-0.9
HSAM	**Samen**	**2.47**	**80**	Pn	Pb	05 52 37.4	-1.4
MAHB	**Mahabad**	**2.96**	**1**	Pn	Pb	05 52 44.5	-2.6
HAGD	**Aghdareh**	**3.04**	**70**	Pn	Pn	05 52 45.5	+2.8
QSDN	**Sirdan**	**3.94**	**46**	Pn	Pn	05 52 57.7	+2.7
JHBN	**Jahan bin**	**4.48**	**109**	Pn	Pn	05 53 04.6	+2.1
IPIR	**Pirpir**	**4.51**	**103**	Pn	Pn	05 53 05.9	+2.9
ZNGN	**Zangian**	**4.67**	**110**	Pn	Pn	05 53 06.9	+1.7
QAMS	**Qamsar**	**4.77**	**89**	Pn	Pn	05 53 08.8	+2.4
IKLH	**Kolahrood**	**4.96**	**94**	Pn	Pn	05 53 12.3	+3.3
GRMI	**Germi**	**5.31**	**19**	Pn	Pn	05 53 16.1	+2.4
KRSH	**Karshahi**	**5.38**	**86**	Pn	Pn	05 53 17.3	+2.5
IDMV	**Damavand**	**5.53**	**70**	Pn	Pn	05 53 19.3	+2.4
IZEF	**Zefreh**	**5.64**	**97**	Pn	Pn	05 53 21.6	+3.1
KLNJ	**Kolanjah**	**5.73**	**117**	Pn	Pn	05 53 22.7	+3.0
IRAM	**Ramesheh**	**5.99**	**108**	Pn	Pn	05 53 25.2	+2.0
IFIR	**Firoozkooh**	**6.11**	**71**	Pn	Pn	05 53 28.1	+3.2

*IDC **22** 05:54:18.7±2.8, 13°.06N×145°.22E, h40km±22km, mb3.6/12, mbtmp3.8/12, MS3.5/13, Error ellipse: s-maj=29.4km s-min=17.6km az=91.0*
*NEIC **22** 05:54:18.6±1.3, 12°.99N±0°.08×145°.1E±0°.1, h40km±8km, mb4.3/5, Error ellipse: s-maj=18.1km s-min=8.5km az=60.0*

ISC 22 05:54:17.7±0.7, 13°.0N±0°.1×145°.2E±0°.1, h35km, n38, σ0§92/26, mb3.9/15, MS3.5/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.70**	**331**		**Pn**	**05 54 30.7**	**-0.4**
GUMO				Sn	**Sn**	**05 54 40.1**	**-0.7**
GUMO	**Guam**	**0.70**	**331**	Pn	**Pn**	**05 54 30.9**	**-0.2**
	450nm,0.3s,baz=71,slow=7.4,SNR=78						
GUMO				Sn	**Sn**	**05 54 40.4**	**-0.3**
	1µm,0.3s,baz=22,slow=21,SNR=22						
PATS	**Pohnpei**	**14.26**	**114**	Pn	**Pn**	**05 57 36.2**	**-1.1**
DAV	**Davao City (W)**	**20.20**	**255**	LR	LR	06 05 24.8	
	comp=Z,85nm,21.8s,baz=144,slow=33						
JOW	**Kunigami**	**21.03**	**313**	LR	LR	06 07 20.4	
	comp=Z,104nm,19.1s,baz=270,slow=37						
H11N1	**WAKE ISLAND Hy**	**21.84**	**69**	T	T	06 22 09.0	
	baz=257,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**21.84**	**69**	T	T	06 22 11.9	
	baz=257,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**21.85**	**69**	T	T	06 22 09.2	
	baz=257,slow=75,SNR=15						
PMG	**Port Moresby**	**22.32**	**175**	LR	LR	06 07 45.6	
	comp=Z,83nm,21.1s,baz=290,slow=36						
MJAR	**Matsushiro Arr**	**24.30**	**346**	LR	LR	06 08 13.8	
	comp=Z,55nm,18.5s,baz=153,slow=34						
HNR	**Honiara**	**26.64**	**146**	LR	LR	06 10 56.1	
	comp=Z,968nm,18.8s,baz=318,slow=37						
KSRS	**Korea Array**	**28.87**	**331**	P	**P**	**06 00 13.8**	**+0.8**
	0.7nm,0.4s,baz=137,slow=11,SNR=2.2						
	0.7nm,0.4s						
WR0	**Warramunga Arr**	**34.37**	**198**	P	**P**	**06 01 00.7**	**-0.9**
WR0				IAmb	IAmb	06 01 28.1	
	comp=Z,4.7nm,1.0s						
WRA	**Warramunga Arr**	**34.42**	**198**	P	**P**	**06 01 03.0**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=22,slow=9.8,SNR=9.4						
	comp=Z,1.9nm,0.7s						
KLR	**Kul'dur**	**37.82**	**346**	LR	LR	06 15 57.3	
	comp=Z,55nm,18.5s,baz=132,slow=34						
ASAR	**Alice Springs**	**38.06**	**197**	P	**P**	**06 01 31.7**	**-1.4**
ASAR	**Alice Springs**	**38.06**	**197**	P	**P**	**06 01 34.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=18,slow=11,SNR=4.6						
	comp=Z,0.6nm,0.6s						
DZM	**Mont Dzumac**	**40.58**	**149**	LR	LR	06 17 40.7	
	comp=Z,61nm,18.1s,baz=28,slow=34						
CMAR	**Chiang Mai Arr**	**44.79**	**283**	P	**P**	**06 02 29.2**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=82,slow=6.2,SNR=4.1						
CMAR				LR	LR	06 19 30.3	
	comp=Z,29nm,20.4s,baz=100,slow=34						
	comp=Z,1.2nm,0.3s						
SONM	**Songino Array**	**47.43**	**325**	P	**P**	**06 02 48.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=93,slow=12,SNR=1.9						
	comp=Z,0.4nm,0.7s						
RPZ	**Rata Peaks**	**61.15**	**159**	LR	LR	06 28 28.1	
	comp=Z,44nm,19.8s,baz=244,slow=34						
MK31	**Makanchi Array**	**62.17**	**316**	P	**P**	**06 04 34.7**	**-0.9**
MKAR	**Makanchi Array**	**62.17**	**316**	P	**P**	**06 04 35.5**	**-0.2**
MKAR	**Makanchi Array**	**62.17**	**316**	P	**P**	**06 04 34.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=88,slow=8.7,SNR=2.2						
	comp=Z,0.1nm,0.3s						
J19K	**Poorman**	**65.13**	**25**	P	**P**	**06 04 55.1**	**+0.3**
J19K				IAmb	IAmb	06 05 02.8	
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**65.27**	**320**	P	**P**	**06 04 55.3**	**-0.6**
KURK				IAmb	IAmb	06 05 24.0	
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**65.31**	**320**	P	**P**	**06 04 56.4**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=104,slow=6.8,SNR=5.6						
KURBB				LR	LR	06 35 06.7	
	comp=Z,52nm,18.6s,baz=166,slow=38						
	comp=Z,0.5nm,0.5s						
AAK	**Ala-Archa**	**67.17**	**311**	LR	LR	06 36 57.7	
	comp=Z,34nm,19.1s,baz=62,slow=38						
SCM	**Sheep Creek Mo**	**68.05**	**28**	P	**P**	**06 05 13.2**	**-0.4**
ILAR	**Eielson Array**	**68.97**	**25**	P	**P**	**06 05 18.3**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=250,slow=5.6,SNR=12						
	comp=Z,0.5nm,0.6s						
BMAR	**Burnt Mountain**	**70.53**	**23**	P	**P**	**06 05 30.0**	**+1.2**
BVAR	**Borovoye Array**	**70.62**	**322**	P	**P**	**06 05 30.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=95,slow=6.2,SNR=3.0						
BVAR				LR	LR	06 36 22.6	
	comp=Z,53nm,21.3s,baz=100,slow=36						
	comp=Z,0.5nm,0.3s						
BCAR	**Beaver Creek A**	**70.83**	**27**	P	**P**	**06 05 31.3**	**+0.6**
GEYT	**Alibeck**	**79.89**	**307**	LR	LR	06 46 02.2	
	comp=Z,20nm,18.8s,baz=5.5,slow=39						
YKA	**Yellowknife Ar**	**83.25**	**27**	P	**P**	**06 06 41.0**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=286,slow=5.2,SNR=5.4						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**87.03**	**51**	P	**P**	**06 07 02.0**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=270,slow=6.1,SNR=3.9						
	comp=Z,0.2nm,0.6s						
FINES	**FINESS Array B**	**91.86**	**335**	P	**P**	**06 07 20.6**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=48,slow=5.7,SNR=4.3						
	comp=Z,1.9nm,0.8s						
DBIC	**Dimbokro**	**144.44**	**302**	PKP	PKPbc	06 13 50.5	+0.7
	comp=Z,1.6nm,0.6s,baz=29,slow=2.5,SNR=5.9						

IDC 22 06:08:34.1±1.5, 1°.98S×141°.00E, h0km, mb3.6/4, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=66.7km s-min=25.6km az=97.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.01**	**200**	P	P	06 12 57.2	-0.5
	0.1nm,0.3s,baz=21,slow=12,SNR=2.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**22.63**	**197**	P	P	06 13 37.0	0.0
	0.6nm,0.5s,baz=29,slow=11,SNR=10						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**70.62**	**322**	P	P	06 19 51.9	+0.3
	0.8nm,0.9s,baz=106,slow=7.7,SNR=5.5						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**80.03**	**325**	P	P	06 20 45.3	-0.2
	0.6nm,0.6s,baz=103,slow=6.2,SNR=3.0						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**84.23**	**24**	P	P	06 21 07.4	0.0
	0.5nm,0.8s,baz=266,slow=5.2,SNR=5.2						
	0.5nm,0.8s						

*NOU **22** 06:20:53.7, 29°.44S×176°.90W, h375km, mb4.7/14, Kermadec Islands Region*
*NEIC **22** 06:21:29.2±1.6, 31°.96S±0°.09×179°.7W±0°.2, h368km±15km, mb4.1/17, Error ellipse: s-maj=21.6km s-min=13.0km az=102.0*
*IDC **22** 06:21:30.7±2.4, 31°.90S×179°.96W, h370km±23km, mb3.4/5, mbtmp4.4/8, Error ellipse: s-maj=32.1km s-min=20.5km az=168.0*
*WEL **22** 06:21:35.2±0.9, 32°.5S±7°×18°.0W±1°.8, h265km±15km, mB5.3/12, ML5.3/12, MLv5.2/16, Mw(mB)4.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=107.8, confirmed*

ISC 22 06:21:28.8±0.5, 31°.85S±0°.05×179°.73W±0°.09, h350km, n167, σ1§71/167, mb3.9/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.01**	**32**	P	**Pn**	**06 22 30.0**	**+1.7**
RAO	**Raoul Island**	**3.02**	**32**	Pn	**Pn**	**06 22 31.2**	**+2.7**
RAO	**Raoul Island**	**3.02**	**32**	S	**S**	**06 23 16.3**	**-0.1**
	315nm,0.3s,baz=114,slow=22,SNR=2.7						
RAO	**Raoul Island**	**3.02**	**32**	S	S	06 23 06.5	-10
RIZ	**Raoul Island**	**3.02**	**31**	S	**S**	**06 23 18.2**	**+1.8**
MXZ	**Matakaoa Point**	**5.93**	**195**		**Pn**	**06 23 00.9**	**+2.2**
MXZ				Sn	**S**	**06 24 12.8**	**+1.3**
MXZ	**Matakaoa Point**	**5.93**	**195**	P	**Pn**	**06 23 01.6**	**+3.0**
MXZ	**Matakaoa Point**	**5.93**	**195**	P	**Pn**	**06 23 02.4**	**+3.8**
MXZ				S	**S**	**06 24 12.2**	**+0.7**
GRZ	**Great Barrier**	**5.94**	**221**	P	Pn	06 23 03.9	+5.2
WMGZ	**Waiomatatini S**	**6.15**	**194**	P	**Pn**	**06 23 04.9**	**+3.7**
WMGZ				S	**S**	**06 24 16.4**	**+0.2**
KUZ	**Kuaotunu**	**6.17**	**216**	P	Pn	06 23 06.8	+5.4
KUZ	**Kuaotunu**	**6.17**	**216**	P	Pn	06 23 06.9	+5.5
WSRZ	**White Island S**	**6.20**	**203**	P	Pn	06 23 09.2	+7.3
WIZ	**White Island**	**6.21**	**203**	P	Pn	06 23 07.3	+5.5
HAZ	**Te Kaha**	**6.24**	**198**	P	**Pn**	**06 23 06.4**	**+4.2**
HAZ				S	**S**	**06 24 19.1**	**+1.1**
PKGZ	**Pakihiroa**	**6.29**	**196**	P	**Pn**	**06 23 05.4**	**+2.5**
PKGZ				S	**S**	**06 24 18.1**	**-1.2**
RUGZ	**Raukumara Rang**	**6.46**	**199**	P	**Pn**	**06 23 06.9**	**+2.0**
RUGZ				S	**S**	**06 24 20.4**	**-2.7**
OUZ	**Omahuta**	**6.51**	**237**	P	**Pn**	**06 23 09.2**	**+3.8**
OUZ	**Omahuta**	**6.51**	**237**	P	**Pn**	**06 23 08.5**	**+3.1**
TWGZ	**Tauwhareparae**	**6.59**	**196**	P	**Pn**	**06 23 08.9**	**+2.6**
TWGZ				S	**S**	**06 24 28.7**	**+3.2**
OPRZ	**Ohinepanea**	**6.72**	**206**	P	**Pn**	**06 23 11.7**	**+3.9**
TGRZ	**Tauranga**	**6.73**	**208**	P	Pn	06 23 12.3	+4.4
MWZ	**Matawai**	**6.85**	**198**	P	**Pn**	**06 23 10.9**	**+1.6**
MWZ				S	**S**	**06 24 32.5**	**+1.4**
URZ	**Urewera**	**6.90**	**201**	P	**Pn**	**06 23 11.0**	**+1.1**
URZ	**Urewera**	**6.90**	**201**	P	**Pn**	**06 23 10.8**	**+0.9**
	68nm,0.4s,baz=354,slow=4.6,SNR=58						
URZ				S	**S**	**06 24 31.9**	**-0.1**
	105nm,0.5s,baz=157,slow=20,SNR=3.0						
URZ	**Urewera**	**6.90**	**201**	P	**Pn**	**06 23 10.6**	**+0.7**
URZ				S	**S**	**06 24 31.4**	**-0.6**
KMRZ	**Kaimai**	**6.96**	**210**	P	Pn	06 23 15.3	+4.7
TOZ	**Tahuroa Road**	**7.06**	**212**	Pn	**Pn**	**06 23 14.1**	**+2.4**
TOZ	**Tahuroa Road**	**7.06**	**212**	P	Pn	06 23 16.4	+4.6
HSRZ	**Hossack Road**	**7.24**	**206**	P	Pn	06 23 20.0	+6.1
RTZ	**Ruatahuna**	**7.27**	**201**	Pn	**Pn**	**06 23 14.6**	**+0.3**
GRRZ	**Galatos Road**	**7.33**	**207**	P	**Pn**	**06 23 18.5**	**+3.6**
TLZ	**Tolley Road**	**7.54**	**210**	P	Pn	06 23 23.4	+5.9
KUTZ	**Kaahu Road**	**7.56**	**208**	P	Pn	06 23 22.5	+4.9
WHHZ	**Waihua**	**7.63**	**198**	P	**Pn**	**06 23 20.2**	**+1.8**
WHHZ				S	**S**	**06 24 46.1**	**-1.6**
BKZ	**Black Stump Fm**	**7.92**	**202**	Pn	**Pn**	**06 23 21.1**	**-0.9**
BKZ	**Black Stump Fm**	**7.92**	**202**	P	**Pn**	**06 23 23.3**	**+1.3**
RITZ	**Rihia Road**	**7.97**	**206**	P	**Pn**	**06 23 26.2**	**+3.6**
HIZ	**Hauiti**	**7.99**	**212**	Pn	**Pn**	**06 23 22.5**	**-0.2**
HIZ	**Hauiti**	**7.99**	**212**	P	**Pn**	**06 23 27.1**	**+4.4**
HIZ	**Hauiti**	**7.99**	**212**	P	Pn	06 23 27.2	+4.5
KATZ	**Kakaramea**	**8.03**	**206**	P	**P**	**06 23 27.3**	**+0.9**
TMVZ	**Te Maari**	**8.15**	**206**	P	**P**	**06 23 28.0**	**+0.3**
KRVZ	**Karewarewa**	**8.16**	**206**	P	**P**	**06 23 27.8**	**0.0**
ETVZ	**East Tongariro**	**8.17**	**206**	P	**P**	**06 23 26.7**	**-1.2**
WTVZ	**West Tongariro**	**8.19**	**206**	P	**P**	**06 23 28.1**	**0.0**
NNVZ	**North Ngauruho**	**8.20**	**206**	P	**P**	**06 23 28.3**	**0.0**
OTVZ	**

14nm,0.5s,baz=127,slow=24,SNR=13
FOZ Fox Glacier 14.29 212 P P 06 24 33.9 -1.5
PINNC Pines Island, 14.64 306 P **P 06 24 39.6 0.0**
ODZ Otahua Downs 15.16 207 P **P 06 24 44.6 -0.4**
JCZ Jackson Bay 15.18 213 P **P 06 24 46.5 +1.2**
OUENC Ouen Island, N 15.19 305 P **P 06 24 45.5 -0.1**
ONTNC Ouen Toro 15.53 304 P **P 06 24 47.9 -1.4**
DZM Mont Dzumac 15.70 305 P **P 06 24 51.1 -0.1**
DZM IAmb IAmb 06 24 56.3
comp=Z,14nm,0.8s
DZM Mont Dzumac 15.70 305 P **P 06 24 50.8 -0.4**
comp=Z,13nm,0.8s,baz=182,slow=22,SNR=13
MLZ Mavora Lakes 16.48 212 P **P 06 24 56.7 -2.6**
MLZ IAmb IAmb 06 25 14.2
comp=Z,15nm,1.3s
KOUNC Koumac, New Ca 18.21 304 P **P 06 25 17.3 -0.8**
KOUNC IAmb IAmb 06 25 32.3
comp=Z,20nm,1.3s
AFI Afiamalu 19.29 24 P **P 06 25 28.9 -0.7**
STKA Stephens Creek 32.73 260 P **P 06 27 30.4 +0.3**
STKA Stephens Creek 32.73 260 P **P 06 27 30.1 +0.1**
comp=Z,4nm,0.3s,baz=91,slow=9.6,SNR=7.9
comp=Z,2.4nm,0.3s
BBOO Buckleboo 37.17 256 P **P 06 28 05.8 -1.8**
BBOO IAmb IAmb 06 28 30.0
comp=Z,23nm,1.4s
AS31 Alice Springs 41.58 269 P **P 06 28 42.6 -1.2**
ASAR Alice Springs 41.58 269 P **P 06 28 42.7 -1.2**
ASAR Alice Springs 41.58 269 P **P 06 28 42.0 -1.9**
comp=Z,0.8nm,0.6s,baz=103,slow=7.6,SNR=11
ASAR ScP **ScP 06 33 47.3 -2.4**
comp=Z,0.8nm,0.9s,baz=113,slow=4.2,SNR=4.1
comp=Z,0.8nm,0.6s
WR0 Warramunga Arr 42.52 275 P **P 06 28 49.9 -1.5**
WR0 IAmb IAmb 06 29 05.2
comp=Z,16nm,1.4s
WB2 Warramunga Arr 42.69 275 P **P 06 28 51.0 -1.7**
WB2 IAmb IAmb 06 29 00.3
comp=Z,9.8nm,1.1s
WRAB Tennant Creek 42.70 275 P **P 06 28 49.9 -2.9**
WRA Warramunga Arr 42.70 275 P **P 06 28 51.5 -1.3**
WRA Warramunga Arr 42.70 275 P **P 06 28 51.1 -1.7**
comp=Z,1.8nm,0.5s,baz=111,slow=8.1,SNR=16
comp=Z,1.8nm,0.5s
WB0 Warramunga Arr 42.73 275 P **P 06 28 51.2 -1.8**
WB0 IAmb IAmb 06 29 15.7
comp=Z,16nm,1.5s
FORT Forrest 44.26 257 P **P 06 29 04.2 -0.7**
FORT IAmb IAmb 06 29 14.3
comp=Z,22nm,1.2s
KNRA Kununurra 49.37 277 P **P 06 29 41.8 -2.5**
FITZ Fitzroy Crossi 50.90 272 P **P 06 29 56.0 +0.3**
FITZ IAmb IAmb 06 29 57.2
comp=Z,1.6nm,1.1s
NVAR Mina Array Bea 90.31 44 P **P 06 33 52.7 +1.8**
comp=Z,0.5nm,0.7s,baz=219,slow=8.1,SNR=6.7
comp=Z,0.5nm,0.7s
ILAR Eielson Array 99.67 14 P **Pdif 06 34 33.0 +0.5**
comp=Z,0.4nm,0.8s,baz=216,slow=5.7,SNR=4.0
ILAR PKiKP **PKiKP 06 38 58.9 -0.2**
comp=Z,0.3nm,0.7s,baz=276,slow=2.9,SNR=5.2
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 107.39 26 PKiKP **PKiKP 06 39 12.4 -0.8**
comp=Z,0.2nm,0.7s,baz=252,slow=1.8,SNR=4.9
MKAR Makanchi Array 117.56 310 PKP **PKPdf 06 39 31.5 -1.7**
comp=Z,0.3nm,0.6s,baz=82,slow=3.1,SNR=2.8
KURBB Kurchatov Arra 121.00 313 PKP **PKPdf 06 39 38.5 -1.1**
comp=Z,0.3nm,0.3s,baz=107,slow=2.1,SNR=8.9
BVAR Borovoye Array 126.39 315 PKP **PKPdf 06 39 49.2 -0.7**
comp=Z,0.9nm,0.6s,baz=90,slow=3.0,SNR=5.3
SPITS Spitsbergen Ar 133.03 356 PKP **PKPdf 06 40 01.9 0.0**
comp=Z,8.0nm,1.0s,baz=90,slow=5.8,SNR=4.4
ARCES ARCESS Array B 139.67 347 PKhKP PKPpre 06 40 07.0
comp=Z,3.5nm,1.0s,baz=353,slow=3.6,SNR=4.2
FINES FINESS Array B 145.96 338 PKPbc **PKPdf 06 40 26.4 +0.9**
comp=Z,9.4nm,0.7s,baz=42,slow=3.2,SNR=29
NB2 NORSAR Subarra 149.93 349 PKP **PKPbc 06 40 37.3 -0.1**
comp=Z,1.3nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 149.93 349 PKPbc **PKPbc 06 40 36.9 -0.5**
comp=Z,0.5nm,0.5s,baz=33,slow=1.1,SNR=8.5
HFS Hagfors 150.33 346 PKPbc **PKPbc 06 40 38.0 -0.3**
comp=Z,2.3nm,0.5s,baz=27,slow=0.6,SNR=13
AKASG Malin Array Be 151.50 320 PKPbc **PKPdf 06 40 38.6 +3.8**
comp=Z,0.4nm,0.5s,baz=74,slow=1.5,SNR=4.9
BRTR Keskin Array B 151.94 296 PKPbc **PKPbc 06 40 41.6 -1.3**
comp=Z,0.4nm,0.3s,baz=134,slow=4.2,SNR=2.6
EKA Eskdalemuir Ar 156.40 5 PKPab **PKPab 06 41 11.0 -0.9**
comp=Z,2.2nm,0.8s,baz=342,slow=2.7,SNR=4.1

*MEX **22** 06:36:39.9±1.0, 17°.34N×96°.38W, h40km, MD4.6*
*NEIC **22** 06:36:39.5±2.3, 17°.40N±0°.07×96°.40W±0°.03, h10km±1km, mb4.1/56, Md4.6/59(MEX), Error ellipse: s-maj=11.6km s-min=4.9km az=186.0*
*IDC **22** 06:36:40.2±1.2, 17°.58N×96°.24W, h0km, mb4.1/10, mbtmp4.1/12, ML3.9/2, MS3.5/11, Error ellipse: s-maj=32.2km s-min=12.2km az=38.0*
*CATAC **22** 06:36:40.2±0.6, 18°.01N×96°.41W, h135km±19km, MB5.4, mb4.8, ML5.2*

ISC 22 06:36:38.7±1.1, 17°.46N±0°.02×96°.40W±0°.02, h5km±7km, n181, σ1s52/204, mb4.2/23, MS3.5/9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OXLC	**Oaxaca**	**0.49**	**216**	*i* P		**Pg**	**06 36 48.2**	**0.0**
OXLC				*i* S		**Sg**	**06 36 54.4**	**-0.2**
OXIG	**Oaxaca**	**0.50**	**219**			**Pg**	**06 36 48.1**	**-0.3**
OXIG						**Sg**	**06 36 54.5**	**-0.5**
VHO	**Vista Hermosa**	**0.50**	**219**	*i* P		**Pg**	**06 36 48.1**	**-0.3**
VHO				*i* S		**Sg**	**06 36 54.5**	**-0.5**
NEUV	**Arroyo Zacate**	**0.62**	**66**	*i* P		**Pg**	**06 36 51.2**	**+0.6**
NEUV				*i* S		**Sg**	**06 36 59.8**	**+1.0**
TOIG	**Toxpalan**	**0.89**	**315**			**Pg**	**06 36 56.0**	**+0.1**
TOIG						**Sg**	**06 37 07.7**	**+0.3**
TOIG	**Toxpalan**	**0.89**	**315**	*i* P		**Pg**	**06 36 56.0**	**+0.1**
TOIG				*e*S		**Sg**	**06 37 07.7**	**+0.3**
YOIG	**Yosondua**	**1.25**	**241**			**Pg**	**06 37 01.9**	**-0.8**
YOIG						**Sg**	**06 37 17.7**	**-1.3**
YOIG	**Yosondua**	**1.25**	**241**	*e*P		**Pg**	**06 37 01.9**	**-0.8**
YOIG				*e*S		**Sg**	**06 37 17.7**	**-1.3**
TPIG	**Tehuac#an**	**1.32**	**316**			**Pn**	**06 37 04.2**	**+0.2**
TPIG	**Tehuac#an**	**1.32**	**316**	*e*P		**Pn**	**06 37 04.2**	**+0.2**
TXIG	**Tlaxiaco**	**1.32**	**261**			**Pn**	**06 37 03.8**	**-0.4**
TXIG						**Sb**	**06 37 21.1**	**-0.5**
TXIG	**Tlaxiaco**	**1.32**	**261**	*e*P		**Pn**	**06 37 03.8**	**-0.4**
TXIG				*e*S		**Sb**	**06 37 21.1**	**-0.5**
HLIG	**Huajuapan de L**	**1.39**	**285**			**Pn**	**06 37 04.9**	**0.0**
HLIG						**Sb**	**06 37 22.6**	**-0.8**
HLIG	**Huajuapan de L**	**1.39**	**285**	*e*P		**Pn**	**06 37 04.9**	**0.0**
HLIG				*e*S		**Sb**	**06 37 22.6**	**-0.8**
CMIG	**Matias Romero**	**1.49**	**104**	Pg		**Pn**	**06 37 06.1**	**-0.2**
	220nm,0.3s,baz=283,slow=14,SNR=1.424							
CMIG				Lg		Lg	06 37 24.9	
	811nm,0.3s,baz=28,slow=21,SNR=46							
CMIG				LR		LR	06 37 50.9	
	comp=Z,354nm,19.9s,baz=98,slow=51							
CMIG	**Matias Romero**	**1.49**	**104**	*e*P		**Pn**	**06 37 06.1**	**-0.2**
CMIG				*e*S		**Sn**	**06 37 25.0**	**-1.1**
PMUV	**Sontecomapan**	**1.62**	**48**	*i* P		**Pn**	**06 37 07.8**	**-0.3**
PMUV				*e*S		Sn	06 37 19.4	-10
PEIG	**Puerto Escondi**	**1.62**	**206**			**Pn**	**06 37 08.3**	**+0.2**
PEIG						**Sb**	**06 37 29.7**	**-0.3**
PEIG	**Puerto Escondi**	**1.62**	**206**	*e*P		**Pn**	**06 37 08.3**	**+0.2**
PEIG				*e*S		**Sb**	**06 37 29.7**	**-0.3**
FTIG	**Fresnillo de T**	**1.71**	**285**			**Pb**	**06 37 11.1**	**+0.3**
FTIG	**Fresnillo de T**	**1.71**	**285**	*e*P		**Pb**	**06 37 11.1**	**+0.3**
NILT	**Santiago Nilte**	**1.93**	**117**	*i* P		**Pb**	**06 37 13.3**	**-1.0**
NILT				*i* S		**Sg**	**06 37 39.7**	**-0.9**
JAUV	**Jalcomulco**	**1.93**	**349**	*e*P		**Pn**	**06 37 12.7**	**+0.4**
JAUV				*i* S		**Sg**	**06 37 41.1**	**+0.3**
TUIG	**Tuzandepetl**	**1.97**	**73**	*e*P		**Pn**	**06 37 13.6**	**+0.9**
TLIG	**Tlapa**	**2.07**	**273**			**Pb**	**06 37 15.9**	**-1.0**
TLIG				Sn		**Sn**	**06 37 41.3**	**+0.7**
TLIG	**Tlapa**	**2.07**	**273**	*e*P		**Pb**	**06 37 17.3**	**+0.4**
TLIG				*e*S		**Sb**	**06 37 43.2**	**+0.3**
TLIG	**Tlapa**	**2.07**	**273**	*i* P		**Pb**	**06 37 17.4**	**+0.5**
TLIG				*i* S		**Sb**	**06 37 43.3**	**+0.3**
TLIG				IAML			06 37 44.9	
	comp=Z,6μm,1.0s							
UXUV	**UXUV**	**2.16**	**94**	*e*P		**Pn**	**06 37 16.0**	**+0.7**
PPM	**Popocatepetl**	**2.65**	**307**	*e*P		**Pb**	**06 37 26.8**	**-0.2**
PPIG	**Popocatepetl**	**2.65**	**307**			**Pb**	**06 37 26.8**	**-0.2**
CARR	**Arriaga**	**2.67**	**117**	*e*P		**Pn**	**06 37 24.4**	**+2.0**
CARR				*i* S		**Sn**	**06 37 55.9**	**+0.7**
CRIG	**Cruz Grande**	**2.71**	**255**			**Pn**	**06 37 24.1**	**+1.2**
CRIG	**Cruz Grande**	**2.71**	**255**	*e*P		**Pn**	**06 37 24.1**	**+1.2**
AMVM	**AMECAMECA**	**2.81**	**307**			**Pb**	**06 37 27.4**	**-2.2**
AMVM	**AMECAMECA**	**2.81**	**307**	*e*P		**Pb**	**06 37 27.4**	**-2.2**
YAIG	**Yautepec**	**2.89**	**299**			**Pb**	**06 37 29.0**	**-1.9**
YAIG						**Sb**	**06 38 05.7**	**-1.0**
YAIG	**Yautepec**	**2.89**	**299**	*e*P		**Pb**	**06 37 29.0**	**-1.9**
YAIG				*e*S		**Sb**	**06 38 05.7**	**-1.0**
MPVM	**San Francisco**	**3.02**	**305**	*e*P		**Pb**	**06 37 31.8**	**-1.5**
THVM	**De Xico**	**3.06**	**307**	*e*P		**Pn**	**06 37 30.3**	**+2.3**
PLIG	**Platanillo**	**3.10**	**288**			**Sn**	**06 38 08.4**	**+2.6**
PLIG	**Platanillo**	**3.10**	**288**	*e*P		**Pb**	**06 37 32.3**	**-2.1**
PLIG				*e*S		**Sn**	**06 38 08.4**	**+2.6**
XCVM	**Xochimilco**	**3.13**	**305**	*e*P		**Pb**	**06 37 33.8**	**-1.3**
DAIG	**Los Arroyos**	**3.14**	**262**			**Pn**	**06 37 31.4**	**+2.6**
DAIG	**Los Arroyos**	**3.14**	**262**	*e*P		**Pn**	**06 37 31.4**	**+2.6**
TLVM	**San Miguel Top**	**3.14**	**304**	*e*P		**Pb**	**06 37 33.2**	**-2.1**
TGIG		**3.21**	**102**			**Pn**	**06 37 31.6**	**+1.7**
TGIG						**Sn**	**06 38 09.1**	**+0.6**
TGIG		**3.21**	**102**	*e*P		**Pn**	**06 37 31.6**	**+1.7**
TGIG				*e*S		**Sn**	**06 38 09.1**	**+0.6**
VTVM	**Tizayuca**	**3.21**	**316**			**Pb**	**06 37 36.7**	**+0.1**
VTVM	**Tizayuca**	**3.21**	**316**	*e*P		**Pb**	**06 37 36.7**	**+0.1**
PBVM	**Pinon**	**3.22**	**308**	*e*P		**Pb**	**06 37 34.1**	**-2.3**
UNM	**Universidad Na**	**3.23**	**306**	Pn		**Pn**	**06 37 31.2**	**+0.9**
AOVM	**Tlapan**	**3.31**	**303**	*e*P		**Pb**	**06 37 35.9**	**-2.2**
PTVM	**Pico Tres Padr**	**3.33**	**310**			**Pb**	**06 37 35.6**	**-3.0**
PTVM	**Pico Tres Padr**	**3.33**	**310**	*e*P		**Pb**	**06 37 35.6**	**-3.0**
INVM	**La Marquesa**	**3.37**	**303**	*e*P		**Pb**	**06 37 36.1**	**-3.0**
ZUVM	**ZUMPANGO**	**3.46**	**313**	*e*P		**Pb**	**06 37 38.5**	**-2.1**
PCIG		**3.52**	**119**			**Pn**	**06 37 35.6**	**+1.6**
PCIG		**3.52**	**119**	*e*P		**Pn**	**06 37 35.6**	**+1.6**
TOVM	**TOLUCA**	**3.60**	**301**	*e*P		**Pb**	**06 37 39.9**	**-3.2**
CAIG	**El Cayaco**	**3.72**	**264**			**Pn**	**06 37 38.9**	**+2.1**
CAIG						**Sn**	**06 38 20.9**	**-0.2**
CAIG	**El Cayaco**	**3.72**	**264**	*e*P		**Pn**	**06 37 38.9**	**+2.1**
CAIG				*e*S		**Sn**	**06 38 20.9**	**-0.2**
DHIG	**Demacu**	**3.77**	**319**			**Pb**	**06 37 43.7**	**-2.2**
DEIG	**Demacu**	**3.77**	**319**	*e*P		**Pb**	**06 37 43.7**	**-2.2**
ARIG	**Puente Sto Nin**	**3.85**	**283**			**Pn**	**06 37 42.0**	**+3.4**
ARIG	**Puente Sto Nin**	**3.85**	**283**	*e*P		**Pn**	**06 37 42.0**	**+3.4**
CCIG	**Comitan**	**4.25**	**105**			**Pn**	**06 37 44.6**	**+0.3**
CCIG	**Comitan**	**4.25**	**105**	*i* P		**Pn**	**06 37 48.8**	**+4.5**
CCIG				IAML			06 38 58.4	
	comp=Z,1μm,1.0s							
CTUV	**Llano Grande**	**4.39**	**335**	*e*P		**Pn**	**06 37 47.2**	**+1.1**
SMCA	**Catarina**	**4.90**	**121**	*i* P		**Pn**	**06 37 54.6**	**+1.5**
SMCA				IAmb	IAmb		06 38 24.4	
	comp=Z,270nm,0.7s							
SMCA				IAML			06 39 27.6	
	comp=Z,1μm,1.0s							
JRQG	**Juriquilla Cam**	**5.00**	**311**	Pn		**Pn**	**06 37 56.8**	**+2.0**
MOIG	**Morelia**	**5.05**	**297**			**Pn**	**06 37 56.8**	**+1.5**
MOIG	**Morelia**	**5.05**	**297**	*i* P		Pn	06 37 48.8	-6.6
MOIG				IAML			06 39 32.1	
	comp=Z,650nm,1.0s							
HUEH	**Huehuetenango**	**5.16**	**114**			**Pn**	**06 37 57.1**	**+0.2**
HUEH	**Huehuetenango**	**5.16**	**114**	*i* P		**Pn**	**06 37 59.3**	**+2.4**
HUEH				IAmb	IAmb		06 38 24.2	
	comp=Z,250nm,0.8s							
HUEH				IVmB_BB			06 38 32.3	
	comp=Z,12μm,1.0s							
HUEH				*i* S		**Sn**	**06 38 59.2**	**+2.2**
HUEH				IAML			06 39 34.7	
	comp=Z,3μm,1.0s							
QUIS	**Sacapulas**	**5.53**	**112**	*i* P		**Pn**	**06 38 04.6**	**+2.7**
QUIS				IAmb	IAmb		06 38 23.3	
	comp=Z,160nm,0.9s							
QUIS				*i* S		**Sn**	**06 39 08.9**	**+2.8**
QUIS				IAML			06 39 41.5	
	comp=Z,840nm,1.0s							
PETF	**Flores**	**6.27**	**94**			**Pn**	**06 38 12.7**	**+0.8**
PETF	**Flores**	**6.27**	**94**	*i* P		**Pn**	**06 38 13.5**	**+1.6**
PETF				IAML			06 38 13.7	
	comp=Z,310nm,1.0s							
PETF				IVmB_BB			06 38 13.7	
	comp=Z,3μm,1.0s							
PETF				IAmb	IAmb		06 38 13.8	
	comp=Z,210nm,0.7s							
PETF				*i* S		**Sn**	**06 39 21.3**	**-2.7**
ESQI	**Esquipulas**	**7.38**	**112**	Pn		**Pn**	**06 38 26.4**	**-0.8**
MTO3	**Montecristo**	**7.42**	**113**			**Pn**	**06 38 27.7**	**-0.3**
MTO3	**Montecristo**	**7.42**	**113**	*i* P		**Pn**	**06 38 28.8**	**+0.8**
MTO3				IAmb	IAmb		06 38 53.3	
	comp=Z,12nm,0.8s							
MTO3				IAML			06 40 43.1	
	comp=Z,100nm,1.0s							
JAYA	**Jayaque - finc**	**7.69**	**119**	*i* P		**Pn**	**06 38 33.1**	**+1.5**
JAYA				IAmb	IAmb		06 38 51.2	
	comp=Z,43nm,1.6s							
JAYA				IAML			06 40 10.8	
	comp=Z,120nm,1.0s							
SARH	**Santa Rosa de**	**7.81**	**109**	*i* P		**Pn**	**06 38 34.5**	**+1.3**
ZAIG	**Zacatecas**	**7.84**	**313**	Pn		**Pn**	**06 38 35.5**	**+1.8**
TEIG	**Tepich**	**8.17**	**69**	Pn		**Pn**	**06 38 37.4**	**-0.6**
TEIG	**Tepich**	**8.17**	**69**	LR		LR	06 42 16.1	
	comp=Z,1μm,21.0s,baz=4.5,slow=42							
TGUH	**Tegucigalpa,Un**	**9.41**	**110**	Pn		**Pn**	**06 38 54.7**	**-0.6**
833A	**Chaparral WMA,**	**11.15**	**346**	Pn		**Pn**	**06 39 19.3**	**+0.4**
HNDO	**Hondo**	**12.30**	**348**	Pn		**Pn**	**06 39 35.8**	**+1.2**
DRIO	**Del Rio**	**12.52**	**343**	Pn		**Pn**	**06 39 40.1**	**+2.5**
ORTG	**Ortega, Santa**	**12.75**	**122**	Pn		**Pn**	**06 39 41.7**	**+0.8**
JTS	**Las Juntas de**	**13.20**	**121**	Pn		**Pn**	**06 39 48.4**	**+1.4**
JTS	**Las Juntas de**	**13.20**	**121**	Pn		**Pn**	**06 39 48.5**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=234,slow=20,SNR=2.2							
	comp=Z,1.5nm,0.3s							
435B	**Jarrell**	**13.30**	**356**			**Pn**	**06 39 49.9**	**+1.6**
JCT	**Junction City**	**13.32**	**347**	Pn		**Pn**	**06 39 50.8**	**+2.2**
TX31	**Lajitas Ar. Si**	**13.56**	**332**	Pn		**Pn**	**06 39 52.8**	**+0.8**
TXAR	**Lajitas Array**	**13.56**	**332**	Pn		**Pn**	**06 39 54.5**	**+2.6**
TXAR	**Lajitas Array**	**13.56**	**332**	Pn		**P**	**06 39 59.4**	**-1.8**
	baz=154,slow=12,SNR=4.1							
TXAR				Lg		Lg	06 43 52.1	
	baz=308,slow=28,SNR=1.2							
TXAR				LR		LR	06 45 04.2	
	comp=Z,36nm,18.3s,baz=214,slow=37							
SOR	**Soroa**	**13.64**	**65**	Pn		**Pn**	**06 39 51.5**	**-1.5**
JACO	**JACO, Garabito**	**13.79**	**123**	Pn		**Pn**	**06 39 55.2**	**+0.2**
BRDY	**Brady**	**13.96**	**351**	Pn		**Pn**	**06 39 58.4**	**+1.1**
LCR2	**La Lucha 2**	**14.28**	**121**	Pn		**Pn**	**06 40 01.6**	**-0.3**
RIMA	**Rio Macho**	**14.38**	**121**	Pn		**Pn**	**06 40 02.8**	**-0.5**
237A	**Washetta, Mont**	**14.48**	**2**	Pn		**Pn**	**06 40 05.3**	**+0.8**
WHTX	**Lake Whitney,**	**14.50**	**356**	Pn		**Pn**	**06 40 06.1**	**+1.4**
PEZE	**Perez Zeledon,**	**14.74**	**121**	Pn		**Pn**	**06 40 08.0**	**-0.2**
FW13	**Cleburne**	**14.85**	**357**	Pn		**Pn**	**06 40 11.2**	**+1.8**
FW14	**Alvarado**	**14.89**	**357**	Pn		**Pn**	**06 40 10.3**	**+0.4**
MNHN	**Monahans**	**14.97**	**338**	P		**P**	**06 40 16.1**	**-0.7**
MNHN				IAmb	IAmb		06 40 23.4	
	comp=Z,10nm,1.0s							
DRK0	**Durika**	**15.16**	**121**	Pn		**Pn**	**06 40 13.1**	**-0.8**
TREL	**Terrell**	**15.20**	**1**			**Pn**	**06 40 15.6**	**+1.4**
TREL				IAmb	IAmb		06 40 32.8	
	comp=Z,15nm,1.0s							
FW07	**Weatherford**	**15.22**	**356**	Pn		**Pn**	**06 40 17.0**	**+2.5**
PLPT	**Palo Pinto**	**15.38**	**354**	Pn		**Pn**	**06 40 18.6**	**+2.0**
APMT	**Aspermont**	**16.15**	**349**			**Pn**	**06 40 27.2**	**+0.8**
451A	**Vernon**	**16.30**	**35**	Pn		**Pn**	**06 40 28.9**	**+0.5**
250A	**Grady**	**17.12**	**31**	Pn		**Pn**	**06 40 37.7**	**-1.0**
X40A	**Basin Creek Fa**	**17.25**	**10**	Pn		**Pn**	**06 40 39.7**	**-0.8**
WMOK	**Wichita Mounta**	**17.34**	**353**	Pn		**Pn**	**06 40 41.5**	**-0.1**
656A	**Williston**	**17.37**	**44**	Pn		**Pn**	**06 40 40.8**	**-1.1**
352A	**Blakely**	**17.41**	**35**	Pn		**Pn**	**06 40 42.2**	**-0.2**
Y45A	**Yeager Farm, C**	**17.45**	**19**	Pn		**Pn**	**06 40 42.8**	**-0.2**
Y45A				IAmb	IAmb		06 41 04.4	
	comp=Z,15nm,0.7s							
W35A	**Tecumseh**	**17.62**	**359**	Pn		**Pn**	**06 40 44.3**	**-0.8**
W35A				IAmb	IAmb		06 41 13.5	
	comp=Z,16nm,1.2s							
LRAL	**Lakeview Retre**	**17.67**	**27**	Pn		**Pn**	**06 40 44.7**	**-0.9**
SMWD	**Samnorwood**	**17.90**	**350**			**Pn**	**06 40 48.7**	**+0.1**
SMWD				IAmb	IAmb		06 40 54.6	
	comp=Z,9.2nm,0.7s							
WHAR	**Wooly Hollow**	**18.13**	**11**	P		**Pn**	**06 40 50.8**	**-0.5**
121A	**Cookes Peak, D**	**18.19**	**328**	P		**Pn**	**06 40 52.0**	**-0.3**
121A				IAmb	IAmb		06 41 02.5	
	comp=Z,12nm,0.8s							
DEOK	**Depew**	**18.31**	**360**	P		**Pn**	**06 40 52.9**	**-0.6**
DEOK				IAmb	IAmb		06 40 59.6	
	comp=Z,18nm,1.3s							
TUL3	**Leonard**	**18.38**	**2**	P		**Pn**	**06 40 54.2**	**-0.2**
X48A	**Hartselle**	**18.87**	**25**	P		**P**	**06 40 60.0**	**+0.1**
PLAL	**Pickwick Lake**	**18.96**	**21**	P		**P**	**06 41 00.7**	**-0.2**
T35A	**Sooner Cattle**	**19.38**	**360**	P		**P**	**06 41 04.9**	**-0.5**
FPAL	**Fort Paine**	**19.55**	**27**	P		**P**	**06 41 07.3**	**0.0**
ANMO	**Albuquerque**	**19.59**	**335**	P		**Pn**	**06 41 10.5**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=232,slow=11,SNR=25							
	comp=Z,5.6nm,0.7s							
GOGA	**Godfrey**	**19.68**	**34**	P		**P**	**06 41 07.7**	**-1.0**
GOGA				IAmb	IAmb		06 41 20.9	
	comp=Z,13nm,1.4s							
MGMO	**Mountain Grove**	**19.95**	**10**	P		**P**	**06 41 10.9**	**-0.8**
MGMO				IAmb	IAmb		06 41 16.3	
	comp=Z,7.2nm,0.7s							
SWET	**Sewanee**	**19.99**	**26**	P		**P**	**06 41 11.3**	**-0.8**
SWET				IAmb	IAmb		06 41 16.1	
	comp=Z,7.8nm,0.5s							
WVT	**Waverly**	**20.09**	**21**	P		**P**	**06 41 12.4**	**-0.7**
WVT				IAmb	IAmb		06 41 14.9	
	comp=Z,12nm,1.4s							
V48A	**Smith Brothers**	**20.09**	**23**	P		**P**	**06 41 12.2**	**-1.1**
V48A				IAmb	IAmb		06 41 15.2	
	comp=Z,11nm,1.1s							
CLTN	**Cedars of Leba**	**20.59**	**24**	P		**P**	**06 41 17.3**	**-1.3**
CLTN				IAmb	IAmb		06 41 19.4	
	comp=Z,5.8nm,0.8s							
T25A	**Trinidad**	**20.83**	**342**	P		**P**	**06 41 22.1**	**+0.5**
T25A				IAmb	IAmb		06 41 28.4	
	comp=Z,13nm,1.2s							
CCM	**Cathedral Cave**	**21.01**	**11**	P		**P**	**06 41 22.2**	**-0.9**
CCM				IAmb	IAmb		06 41 31.6	
	comp=Z,12nm,1.3s							
R40A	**Maddies Statio**	**21.06**	**9**	P		**P**	**06 41 23.7**	**-0.1**
R40A				IAmb	IAmb		06 41 27.9	
	comp=Z,5.6nm,0.6s							
TKL	**Tuckaleechee C**	**21.31**	**29**	P		**P**	**06 41 25.8**	**-0.7**
TKL				IAmb	IAmb		06 41 49.7	
	comp=Z,10nm,1.4s							
TKL	**Tuckaleechee C**	**21.31**	**29**	P		**P**	**06 41 26.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=331,slow=13,SNR=1.4							
TKL				S		**S**	**06 45 15.7**	**-8.0**
	comp=Z,1.9nm,0.7s,baz=107,slow=23,SNR=2.3							
	comp=Z,2.2nm,0.9s							
KSU1	**Kansas State U**	**21.56**	**360**	P		**P**	**06 41 28.2**	**-0.9**
KSU1				IAmb	IAmb		06 41 32.7	
	comp=Z,13nm,1.3s							
SDCO	**Great Sand Dun**	**21.73**	**340**	P		**P**	**06 41 31.2**	**-0.1**
TZTN	**Tazewell**	**22.14**	**28**	P		**P**	**06 41 34.2**	**-1.2**
TZTN				IAmb	IAmb		06 42 02.3	
	comp=Z,11nm,1.2s							
P40A	**Paris**	**22.31**	**9**	P		**P**	**06 41 36.4**	**-0.8**
P40A				IAmb	IAmb		06 41 41.0	
	comp=Z,11nm,1.3s							
WUAZ	**Wupatki**	**22.38**	**326**	P		**P**	**06 41 38.5**	**+0.4**
WUAZ				IAmb	IAmb		06 41 44.2	
	comp=Z,8.0nm,0.7s							
PV14	**Lion Creek, Pa**	**23.58**	**335**	P		**P**	**06 41 49.4**	**-1.3**
PV14				IAmb	IAmb		06 41 55.9	
	comp=Z,7.5nm,0.9s							
ISCO	**Idaho Springs**	**23.65**	**342**	P		**P**	**06 41 51.6**	**+0.3**
ISCO				IAmb	IAmb		06 41 58.1	
	comp=Z,4.0nm,0.7s							
HMU	**Henry Mountain**	**23.97**	**331**	P		**P**	**06 41 55.5**	**+1.0**
HMU				IAmb	IAmb		06 42 02.9	
	comp=Z,12nm,1.3s							
PFO	**Pinyon Flats O**	**24.14**	**316**	LR		LR	06 52 28.7	
	comp=Z,144nm,18.2s,baz=149,slow=39							
S54A	**Dingess, Beckl**	**24.21**	**30**	P		**P**	**06 41 55.9**	**-0.5**
TULM	**Tulcn-Chalpat**	**24.74**	**130**	P		**P**	**06 41 59.2**	**-2.8**
IMBA	**Imbabura, San**	**24.75**	**132**	P		**P**

ACCO	**Cerro Coronel**	**2.52**	**212**	*i* P		**Pn**	**06 43 51.4**	**0.0**
ACCO				*e*S		**Sn**	**06 44 23.1**	**+0.2**
ACCO				IAML			06 44 23.9	
	comp=Z,187nm,0.2s							
AHML	**Horco Molle**	**2.55**	**50**	*i* P		**Pn**	**06 43 51.7**	**+0.2**
AHML				IAML			06 44 28.7	
	comp=Z,83nm,0.6s							
GO03	**Copiap**	**2.56**	**289**	*i* P		**Pn**	**06 43 51.1**	**-0.5**
LCO	**Las Campanas**	**2.86**	**258**	*i* P		**Pn**	**06 43 54.9**	**-0.6**
GO04	**Tololo Observa**	**3.34**	**238**	*i* P		**Pn**	**06 44 01.0**	**-0.8**
CO03	**El Pedregal**	**3.65**	**229**	*i* P		**Pn**	**06 44 04.9**	**-0.8**
CO03				IAML			06 44 50.1	
	comp=Z,115nm,0.2s							
VA03	**San Esteban**	**5.03**	**211**	*i* P		**Pn**	**06 44 23.3**	**-0.7**
VA03				IAML			06 45 57.3	
	comp=Z,32nm,1.1s							
CPUP	**Villa Florida**	**9.29**	**79**	P		**Pn**	**06 45 18.4**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=250,slow=16,SNR=2.3							
	comp=Z,2.3nm,0.8s							
SNAA	**Sanae**	**55.33**	**160**	P		**P**	**06 52 29.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=331,slow=10,SNR=1.6							
	comp=Z,1.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.62**	**68**	P		**P**	**06 54 58.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=251,slow=4.4,SNR=6.5							
	comp=Z,0.9nm,0.7s							
PDAR	**Pinedale Array**	**80.75**	**330**	P		**P**	**06 55 09.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=125,slow=6.7,SNR=3.8							
	comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**124.22**	**204**	PKP		**PKiKP**	**07 01 53.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=124,slow=1.1,SNR=5.5							
WRA	**Warramunga Arr**	**127.46**	**206**	PKP		**PKiKP**	**07 01 60.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=168,slow=1.7,SNR=2.4							
KURBB	**Kurchatov Arra**	**146.16**	**40**	PKPbc		**PKPab**	**07 02 35.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=316,slow=3.9,SNR=0.9							
ZALV	**Zalesovo Beam**	**147.49**	**31**	PKPbc		**PKiKP**	**07 02 39.2**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=302,slow=3.6,SNR=8.2							
MKAR	**Makanchi Array**	**150.14**	**44**	PKPbc		**PKiKP**	**07 02 46.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=312,slow=2.4,SNR=7.2							

IDC 22 07:05:04.7±2.9, **54.14N×86.48E, h0km, mbtmp2.7**/2, **ML2.4**/2, **Error ellipse: s-maj=23.0km s-min=13.8km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**259**	I	I	07 10 50.0	
	0.1nm,0.8s,baz=81,slow=342,SNR=12						
ZALV	**Zalesovo Beam**	**1.00**	**259**	Pg	Pg	07 05 22.3	-1.5
	0.8nm,0.3s,baz=76,slow=17,SNR=9.8						
ZALV				Lg	Lg	07 05 38.7	
	1.6nm,0.3s,baz=77,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	07 06 35.0	+0.3
	0.1nm,0.3s,baz=54,slow=13,SNR=2.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	07 07 01.3	+1.5
	0.1nm,0.3s,baz=25,slow=14,SNR=7.0						
	0.1nm,0.3s						

DJA ***22*** *07:15:12.1±0.5, 7°S×12°E, h202km±14km, M4.6/9, mb4.5/6, mB4.6/2, MLv4.7/9, Mw(mB)3.8/2*
IDC ***22*** *07:15:17.2±6.9, 7°S×127°E, h185km×65km, mb3.7/8, mbtmp4.2/10, Error ellipse: s-maj=43.3km s-min=13.8km az=71.0*
ISC 22 07:15:13.2±0.6, **7°46S**±0°07×**127°90E**±0°08, **h150km, n36,** σ1s**37**/37, **mb3.9**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.41**	**99**	P	**Pn**	**07 16 08.5**	**+2.7**
BNDI	**Bandanaira**	**3.54**	**34**	P	**Pn**	**07 16 06.4**	**-1.1**
KRAI	**Karang Ratu**	**4.15**	**7**	P	**Pn**	**07 16 15.1**	**-0.4**
SOEI	**Soe**	**4.25**	**237**	P	**Pn**	**07 16 18.2**	**+1.3**
MTN	**Manton Dam**	**6.22**	**149**	P	**Pn**	**07 16 42.9**	**0.0**
EDFI	**Ende, Flores**	**6.28**	**258**	P	**Pn**	**07 16 44.1**	**+0.3**
	66nm,0.8s,735nm0.2nm						
KDU	**Kakadu**	**6.87**	**139**	P	**Pn**	**07 16 51.5**	**-0.1**
BASI	**Baing, Sumba**	**7.74**	**249**	P	**Pn**	**07 17 02.9**	**-0.2**
	104nm,0.6s,0.6nm						
KNRA	**Kununurra**	**8.21**	**174**	P	**Pn**	**07 17 08.3**	**-1.1**
PLAI	**Plampang**	**10.11**	**262**	P	**Pn**	**07 17 34.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**10.80**	**192**	P	**Pn**	**07 17 44.6**	**+0.8**
WRA	**Warramunga Arr**	**13.89**	**154**	P	**Pn**	**07 18 21.4**	**-2.5**
	12nm,0.5s,baz=324,slow=14,SNR=41						
WRA				S	Sn	07 20 46.7	-11
	14nm,0.7s,baz=323,slow=24,SNR=12						
COEN	**Coen**	**16.33**	**115**	P	**Pn**	**07 18 50.0**	**-4.2**
ASAR	**Alice Springs**	**17.11**	**161**	P	**Pn**	**07 19 02.8**	**-0.8**
	4.6nm,0.6s,baz=332,slow=9.4,SNR=76						
ASAR				S	S	07 22 00.2	-13
	1.0nm,0.6s,baz=330,slow=20,SNR=4.1						
AS01	**Alice Springs**	**17.12**	**161**	P	**Pn**	**07 19 04.7**	**+1.0**
QIS	**Mount Isa**	**17.26**	**140**	P	**Pn**	**07 19 06.4**	**+1.1**
WRKA	**Warakurna**	**17.48**	**179**	P	**Pn**	**07 19 08.5**	**+0.5**
PMG	**Port Moresby**	**19.15**	**97**	P	**Pn**	**07 19 30.8**	**+3.1**
	22nm,0.6s,baz=280,slow=7.5,SNR=8.1						
MEEK	**Meekatharra**	**21.01**	**204**	P	**P**	**07 19 44.7**	**-0.4**
OOD	**Oodnadatta**	**21.52**	**161**	P	**P**	**07 19 52.1**	**+1.6**
FORT	**Forrest**	**23.20**	**180**	P	**P**	**07 20 07.6**	**+0.8**
MULG	**Mulgathing**	**23.42**	**166**	P	**P**	**07 20 10.1**	**+1.2**
LCRK	**Leigh Creek**	**24.83**	**158**	P	**P**	**07 20 22.8**	**+1.2**
BBOO	**Buckleboo**	**26.34**	**164**	P	**P**	**07 20 36.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**38.47**	**312**	PcP	**PcP**	**07 24 31.6**	**+0.6**
	1.3nm,0.3s,baz=180,slow=1.8,SNR=4.8						
KSRS	**Korea Array**	**44.68**	**0**	P	**P**	**07 23 11.6**	**+0.4**
	1.8nm,0.7s,baz=176,slow=8.8,SNR=6.3						
	1.8nm,0.7s						
SONM	**Songino Array**	**58.25**	**343**	P	**P**	**07 24 52.8**	**+0.8**
	0.5nm,0.5s,baz=162,slow=8.2,SNR=3.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.49**	**328**	P	**P**	**07 25 53.4**	**+0.3**
	0.8nm,0.5s,baz=116,slow=8.2,SNR=22						
MKAR				PcP	**PcP**	**07 26 18.4**	**-0.9**
	0.7nm,0.6s,baz=119,slow=6.3,SNR=5.6						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**71.09**	**335**	P	**P**	**07 26 14.5**	**-0.5**
	0.8nm,0.3s,baz=119,slow=6.0,SNR=4.7						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**71.83**	**329**	P	**P**	**07 26 19.6**	**+0.1**
	1.6nm,0.6s,baz=134,slow=5.1,SNR=26						
	1.6nm,0.6s						
VNDA	**Vanda**	**72.25**	**173**	P	**P**	**07 26 21.6**	**0.0**
	5.0nm,1.2s,baz=332,slow=7.7,SNR=7.2						
	5.0nm,1.2s						
BVAR	**Borovoye Array**	**77.36**	**329**	P	**P**	**07 26 50.5**	**-0.8**
	0.6nm,0.4s,baz=120,slow=11,SNR=5.5						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**82.52**	**180**	P	**P**	**07 27 19.2**	**+0.2**
	3.6nm,0.6s,baz=323,slow=1.7,SNR=11						
	3.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**126.85**	**281**	PKP	**PKPdf**	**07 33 58.8**	**-1.4**
	0.6nm,0.6s,baz=74,slow=2.9,SNR=4.2						
TXAR	**Lajitas Array**	**126.95**	**59**	PKP	**PKPdf**	**07 33 58.8**	**-1.3**
	0.2nm,0.6s,baz=198,slow=0.3,SNR=2.0						
CPUP	**Villa Florida**	**146.03**	**172**	PKPbc	**PKPbc**	**07 34 35.3**	**-0.9**
	1.3nm,0.4s,baz=175,slow=5.4,SNR=6.2						

UUSS ***22*** *07:19:54.1±1.3, 38°58N±0°01×112°28W±0°01, h-2km±2km, ML2.9/17, ML2.9/76(NEIC), Error ellipse: s-maj=2.2km s-min=0.9km az=212.0*
NEIC 22 07:19:53.8±1.1, **38°59N**±0°01×**112°28W**±0°02, **h1**km±2km, **Error ellipse: s-maj=2.1km s-min=1.7km az=217.0, Utah**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVU	**Marysvale**	**0.10**	**150**		Pg	07 19 56.4	+0.6
MVU				Sg	Sg	07 19 58.0	+0.7
MSU	**Marysvale**	**0.11**	**135**		Pg	07 19 56.6	+0.6
TCRU	**Three Creeks R**	**0.13**	**277**		Pg	07 19 58.0	+1.5
TCRU					Sg	07 20 00.2	+1.9
WCU	**Willow Creek**	**0.40**	**22**		Pg	07 20 02.6	+1.1
NMUT	**North Mineral**	**0.45**	**260**		Pg	07 20 03.5	+0.9
NMUT					Sg	07 20 10.2	+1.8
MTPU	**Mount Pierson**	**0.56**	**172**		Pg	07 20 05.3	+0.8
MTPU				Sg	Sg	07 20 13.0	+1.3
IMU	**Iron Mountain**	**0.69**	**274**		Pb	07 20 08.2	-0.5
DWU	**Dry Willow Pea**	**0.75**	**229**		Pb	07 20 09.0	-0.7
BTU	**Barney Top**	**0.90**	**159**		Pb	07 20 11.8	-0.6
Q16A	**Castle Valley**	**0.93**	**69**		Pg	07 20 11.9	+0.4
Q16A				IAML		07 20 28.5	
	comp=N,192nm,0.6s						
TMUT	**Trail Mountain**	**1.09**	**50**		Pg	07 20 15.2	+0.4
TMUT				IAML		07 20 38.3	
	comp=E,298nm,0.5s						
PKCU	**Pink Cliffs**	**1.15**	**181**		Pg	07 20 16.4	-0.2
PKCU				IAML		07 20 34.7	
	comp=N,329nm,0.6s						
SZCU	**Shurtz Canyon**	**1.18**	**213**		Pg	07 20 16.7	+0.2
SZCU				IAML		07 20 37.0	
	comp=E,326nm,0.3s						
SZCU				IAML		07 20 40.1	
	comp=N,263nm,0.3s						
ARUT	**Antelope Range**	**1.22**	**229**		Pb	07 20 17.9	+0.2
SUU	**Santaquin Cany**	**1.35**	**16**		Pb	07 20 20.7	+0.7
NLU	**North Lily Min**	**1.37**	**7**		Pb	07 20 20.4	0.0
NLU				IAML		07 20 42.3	
	comp=E,204nm,0.4s						
NLU				IAML		07 20 42.7	
	comp=N,152nm,0.7s						
HMU	**Henry Mountain**	**1.38**	**118**		Pg	07 20 19.9	-0.3
SRU	**San Rafael Swe**	**1.47**	**69**		Pn	07 20 21.5	0.0
SRU				IAML		07 20 44.8	
	comp=N,217nm,0.6s						
SRU				IAML		07 20 45.8	
	comp=E,158nm,0.5s						
P17A	**Butcher Ranch,**	**1.49**	**53**		Pn	07 20 21.7	-0.2
P17A				IAML		07 20 45.6	
	comp=E,90nm,0.7s						
P17A				IAML		07 20 46.0	
	comp=N,109nm,0.6s						
MPU	**Maple Canyon**	**1.51**	**19**		Pg	07 20 22.9	+0.2
MPU				IAML		07 20 48.6	
	comp=N,76nm,1.3s						
KNB	**Kanab**	**1.63**	**195**		Pb	07 20 24.6	-0.2
DUG	**Dugway, Tooele**	**1.65**	**346**		Pn	07 20 24.1	0.0
DUG				IAML		07 20 50.9	
	comp=N,203nm,0.9s						
SPR3	**Spring Creek 3**	**1.65**	**285**		Pn	07 20 24.5	+0.3
LCMT	**Little Creek M**	**1.75**	**206**		Pb	07 20 26.6	-0.3
LCMT				IAML		07 20 51.0	
	comp=N,140nm,0.2s						
P18A	**Preston Nutter**	**1.89**	**56**		Pb	07 20 28.9	-0.4
P18A				IAML		07 20 58.5	
	comp=N,149nm,0.6s						
P18A				IAML		07 21 01.5	
	comp=E,123nm,0.5s						
Q12A	**Willow Creek R**	**2.04**	**283**		Pn	07 20 30.3	+0.9
Q12A				IAML		07 21 09.8	
	comp=N,81nm,0.7s						
Q12A				IAML		07 21 13.4	
	comp=E,80nm,1.0s						
U15A	**North Rim**	**2.16**	**180**		Pb	07 20 33.4	-0.5
BSUT	**Blindstream Ca**	**2.27**	**31**		Pb	07 20 34.7	-1.0
BGU	**Big Grassy Mou**	**2.40**	**346**		Pn	07 20 34.2	-0.2
BGU				IAML		07 21 13.4	
	comp=N,39nm,0.4s						
BGU				IAML		07 21 17.4	
	comp=E,44nm,0.9s						
R11B	**Troy Canyon, C**	**2.61**	**266**		Pn	07 20 38.3	+1.1
SPUT	**South Promonto**	**2.71**	**357**	Pn	Pn	07 20 39.2	+0.5
SPUT				IAML		07 21 24.9	
	comp=N,42nm,0.8s						
SPUT				IAML		07 21 25.2	
	comp=E,44nm,0.6s						
HWUT	**Hardware Ranch**	**3.06**	**10**		Pn	07 20 44.1	+0.7
HWUT				IAML		07 21 39.1	
	comp=E,19nm,1.2s						
HWUT				IAML		07 21 45.7	
	comp=E,19nm,0.9s						
SHPR	**Sheep Range**	**3.10**	**229**		Pn	07 20 44.7	+0.7
ELK	**Elko**	**3.14**	**314**	Pn	Pn	07 20 45.4	+0.8
HVU	**Hansel Valley**	**3.21**	**353**		Pn	07 20 45.9	+0.5
HVU				IAML		07 21 40.2	
	comp=E,37nm,1.0s						
WTNK	**Soaring Height**	**3.24**	**223**		Pn	07 20 45.9	+0.1
TPNV	**Topopah Spring**	**3.55**	**244**	Pn	Pn	07 20 50.8	+0.7
TPNV				IAML		07 21 59.1	
	comp=E,19nm,1.6s						
TPNV				IAML		07 22 02.8	
	comp=E,24nm,2.8s						
W18A	**Petrified Fore**	**4.02**	**149**		Pn	07 20 56.8	+0.1
SMCO	**Snowmass**	**4.18**	**80**		Pn	07 21 01.6	+2.5
GWY	**Greenwater Val**	**4.24**	**237**		Pn	07 21 00.9	+1.2
GWY				IAML		07 22 11.3	
	comp=N,18nm,4.3s						
GWY				IAML		07 22 16.4	
	comp=E,18nm,1.1s						
KVN	**Kaiserville**	**4.57**	**278**		Pn	07 21 05.2	+1.0
KVN				IAML		07 22 29.0	
	comp=N,11nm,3.3s						
KVN				IAML		07 22 30.9	
	comp=E,9.3nm,4.5s						
BW06	**Boulder Array**	**4.65**	**26**		Pn	07 21 06.9	+1.4
BW06				IAML		07 21 38.4	
	comp=E,7.9nm,4.8s						
BW06				IAML		07 23 19.7	
	comp=E,9.6nm,4.9s						

IDC ***22*** *07:32:43.5±13.0, 22°70S×68°83W, h0km, mb3.6/2, mbtmp3.5/2, Error ellipse: s-maj=604.3km s-min=72.9km az=20.0*
SJA ***22*** *07:33:09.1±0.7, 21°02S×67°85W, h206km±5km, ML3.6, MW3.4*
SCB ***22*** *07:33:11.6±1.4, 21°05S×67°76W, h162km±14km, ML3.7/4, MW4.0, Error ellipse: s-maj=4.1km s-min=3.5km az=2.0*
ISC 22 07:33:11.6±0.9, **21°03S**±0°03×**67°81W**±0°04, **h177**km±7km, **n57**, σ0s**99**/89, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.54**	**240**	*e*P	**Pn**	**07 33 44.3**	**+0.5**
PB09				*e*S	**Sn**	**07 34 09.7**	**+0.9**
PB09	**IPOC Station P**	**1.54**	**240**	*e*P	**Pn**	**07 33 44.5**	**+0.5**
PB09				*e*S	**Sn**	**07 34 09.4**	**+0.6**
PB09				IAML		07 34 12.4	
	comp=N,140nm,0.2s						
PB09	**IPOC Station P**	**1.54**	**240**	Pg	**Pn**	**07 33 44.4**	**+0.5**
PB08	**IPOC Station P**	**1.54**	**305**	*e*P	**Pn**	**07 33 44.5**	**+0.3**
PB08				*e*S	**Sn**	**07 34 10.2**	**+1.0**
PB08	**IPOC Station P**	**1.54**	**305**	*i* P	**Pn**	**07 33 44.4**	**+0.3**
PB08				*e*S	**Sn**	**07 34 09.5**	**+0.3**
PB08				IAML		07 34 12.7	
	comp=N,155nm,0.3s						
PB08	**IPOC Station P**	**1.54**	**305**	Pg	**Pn**	**07 33 44.5**	**+0.3**
PB01	**IPOC Station P**	**1.57**	**269**	*e*P	**Pn**	**07 33 43.6**	**-0.5**
PB01				*e*S	**Sn**	**07 34 10.0**	**+0.9**
PB01				IAML		07 34 11.1	
	comp=Z,179nm,0.2s						
PB01	**IPOC Station P**	**1.57**	**269**	*e*P	**Pn**	**07 33 43.8**	**-0.3**
PB01				*e*S	**Sn**	**07 34 08.7**	**-0.4**
PB01				IAML		07 34 12.0	
	comp=E,267nm,0.2s						
PB01	**IPOC Station P**	**1.57**	**269**	Pg	**Pn**	**07 33 44.0**	**-0.1**
LVC	**Limon Verde**	**1.87**	**213**	*e*P	**Pn**	**07 33 47.5**	**0.0**
LVC				*e*S	**Sn**	**07 34 15.7**	**+0.4**
LVC	**Limon Verde**	**1.87**	**213**	*i* P	**Pn**	**07 33 47.3**	**-0.1**
LVC				*e*S	**Sn**	**07 34 14.9**	**-0.4**
LVC				IAML		07 34 17.1	
	comp=E,134nm,0.2s						
LVC	**Limon Verde**	**1.87**	**213**	Pg	**Pn**	**07 33 47.4**	**-0.1**
GO01	**Chusmiza**	**1.88**	**316**	*e*P	**Pn**	**07 33 47.8**	**0.0**
GO01	**Chusmiza**	**1.88**	**316**	*e*P	**Pn**	**07 33 47.6**	**-0.1**
GO01				*e*S	**Sn**	**07 34 17.3**	**+1.7**
GO01	**Chusmiza**	**1.88**	**316**	Pg	**Pn**	**07 33 47.8**	**0.0**
AF01	**San Pedro de A**	**1.94**	**190**	*e*P	**Pn**	**07 33 49.2**	**+1.1**
AF01	**San Pedro de A**	**1.94**	**190**	Pg	**Pn**	**07 33 47.0**	**-1.1**
PB02	**IPOC Station P**	**1.97**	**261**	*e*P	**Pn**	**07 33 48.1**	**-0.1**
PB02				*e*S	**Sn**	**07 34 16.7**	**0.0**
PB02				IAML		07 34 17.9	
	comp=Z,385nm,0.4s						
PB02	**IPOC Station P**	**1.97**	**261**	*e*P	**Pn**	**07 33 48.3**	**+0.1**
PB02				*e*S	**Sn**	**07 34 15.8**	**-0.8**
PB02				IAML		07 34 18.6	
	comp=E,360nm,0.3s						
PB02	**IPOC Station P**	**1.97**	**261**	Pg	**Pn**	**07 33 48.3**	**+0.1**
PB02				Sg	**Sn**	**07 34 16.6**	**0.0**
PB02				IAML		07 34 18.6	
	comp=E,320nm,0.2s						
MOCB	**Mochara**	**2.04**	**96**	Pg	**Pn**	**07 33 48.3**	**-1.1**
MOCB				Sg	**Sn**	**07 34 15.9**	**-2.7**
MOCB				IAML		07 34 24.2	
	comp=E,234nm,0.6s						
PB07	**IPOC Station P**	**2.05**	**250**	*e*P	**Pn**	**07 33 48.9**	**-0.4**
PB07				*e*S	**Sn**	**07 34 18.0**	**-0.5**
PB07				IAML		07 34 19.9	
	comp=Z,210nm,0.3s						
PB07	**IPOC Station P**	**2.05**	**250**	Pg	**Pn**	**07 33 49.3**	**0.0**
HMBC	**Humberstone**	**2.09**	**291**	*e*P	**Pn**	**07 33 48.7**	**-0.8**
HMBC				*e*S	**Sn**	**07 34 18.0**	**-1.0**
HMBC	**Humberstone**	**2.09**	**291**	Pg	**Pn**	**07 33 48.9**	**-0.7**
HMBC				Sg	**Sn**	**07 34 17.9**	**-1.0**
HMBC				IAML		07 34 20.2	
	comp=N,262nm,0.2s						
PB11	**IPOC Station P**	**2.15**	**306**	*e*P	**Pn**	**07 33 49.8**	**-0.4**
PB11				*e*S	**Sn**	**07 34 19.7**	**-0.5**
PB11				IAML		07 34 21.8	
	comp=Z,310nm,0.2s						
PB11	**IPOC Station P**	**2.15**	**306**	*e*P	**Pn**	**07 33 49.8**	**-0.4**
PB11				*e*S	**Sn**	**07 34 19.1**	**-1.1**
PB11	**IPOC Station P**	**2.15**	**306**	Pg	**Pn**	**07 33 49.9**	**-0.4**
PATCX	**Punta Patache**	**2.20**	**275**	*e*P	**Pn**	**07 33 50.4**	**-0.4**
PATCX				*e*S	**Sn**	**07 34 21.1**	**-0.1**
TA01	**Diego Aracena**	**2.27**	**281**	*e*P	**Pn**	**07 33 50.7**	**-0.8**
TA01				*e*S	**Sn**	**07 34 21.2**	**-1.1**
TA01	**Diego Aracena**	**2.27**	**281**	*e*P	**Pn**	**07 33 50.7**	**-0.8**
TA01				*e*S	**Sn**	**07 34 20.5**	**-1.8**
TA01				IAML		07 34 23.4	
	comp=E,233nm,0.3s						
TA02	**Huaiquique**	**2.30**	**289**	*e*P	**Pn**	**07 33 51.5**	**-0.4**
TA02				*e*S	**Sn**	**07 34 22.3**	**-0.8**
TA02	**Huaiquique**	**2.30**	**289**	Pg	**Pn**	**07 33 51.4**	**-0.4**
PB06	**IPOC Station P**	**2.33**	**224**	*e*P	**Pn**	**07 33 52.4**	**0.0**
PB06				*e*S	**Sn**	**07 34 24.5**	**+0.4**
PB06	**IPOC Station P**	**2.33**	**224**	Pg	**Pn**	**07 33 52.7**	**+0.3**
YJA	**Yavi**	**2.42**	**118**	*e*P	**Pn**	**07 33 52.8**	**-0.8**
YJA				*e*S	**Sn**	**07 34 24.0**	**-2.3**
SOEO	**Opoqueri**	**2.46**	**358**	Pg	**Pn**	**07 33 54.7**	**+0.5**
PB04	**IPOC Station P**	**2.53**	**239**	*e*P	**Pn**	**07 33 54.1**	**-0.6**
PB04				*e*S	**Sn**	**07 34 27.9**	**-0.3**
PB04				IAML		07 34 30.3	
	comp=Z,104nm,0.2s						
PB04	**IPOC Station P**	**2.53**	**239**	Pg	**Pn**	**07 33 54.4**	**-0.3**
PB15	**IPOC Station P**	**2.66**	**215**	*e*P	**Pn**	**07 33 56.8**	**+0.6**
PB15				*e*S	**Sn**	**07 34 31.3**	**+0.4**
PB15				IAML		07 34 37.3	
	comp=Z,236nm,0.2s						
PB15	**IPOC Station P**	**2.66**	**215**	Pg	**Pn**	**07 33 56.4**	**+0.2**
PB15				Sg	**Sn**	**07 34 30.5**	**-0.4**
PB15				IAML		07 34 34.3	
	comp=Z,360nm,0.4s						
PB05	**IPOC Station P**	**2.87**	**230**	*e*P	**Pn**	**07 33 58.2**	**-0.3**
PB05				*e*S	**Sn**	**07 34 35.0**	**-0.3**
PB05	**IPOC Station P**	**2.87**	**230**	Pg	**Pn**	**07 33 58.3**	**-0.3**
PB16	**IPOC Station P**	**3.13**	**329**	*e*P	**Pn**	**07 34 02.7**	**+0.4**
PB16	**IPOC Station P**	**3.13**	**329**	Pg	**Pn**	**07 34 02.9**	**+0.6**
PB12	**IPOC Station P**	**3.38**	**315**	*e*P	**Pn**	**07 34 02.9**	**-2.1**
PB12				*e*S	**Sn**	**07 34 43.9**	**-2.6**
SOEJ	**Jacaque**	**4.05**	**355**	Pg	**Pn**	**07 34 14.5**	**+0.6**
BBOE	**La Paz, Chanca**	**4.20**	**358**	Pg	**Pn**	**07 34 16.9**	**+1.1**
SLA	**San Lorenzo**	**4.24**	**150**	*e*P	**Pn**	**07 34 15.6**	**-0.3**
SLA				*e*S	**Sn**	**07 35 10.2**	**+4.0**
GO02	**Mina Guanaco**	**4.42**	**201**	*e*P	**Pn**	**07 34 17.1**	**-1.2**
GO02				*e*S	**Sn**	**07 35 07.7**	**-2.9**
BBOD	**La Paz, Gloria**	**4.44**	**350**	Pg	**Pn**	**07 34 19.5**	**+0.7**
LPAZ	**La Paz**	**4.73**	**356**	*e*P	**Pn**	**07 34 22.9**	**+0.1**
LPAZ	**La Paz**	**4.73**	**356**	Pg	**Pn**	**07 34 22.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.23**	**70**	P	**P**	**07 44 42.7**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=250,slow=5.5,SNR=1.5						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**91.09**	**340**	P	**P**	**07 45 55.2**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=131,slow=4.0,SNR=5.0						
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**144.66**	**36**	PKPbc	**PKPab**	**07 52 26.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=310,slow=3.2,SNR=6.3						

CATAC ***22*** *07:33:12.0±0.5, 11°80N×87°57W, h7km±4km, ML4.0*
SNET ***22*** *07:33:12.9±1.0, 11°91N×87°61W, h2km±14km, ML3.7*
NEIC ***22*** *07:33:15.2±1.7, 11°84N±0°05×87°45W±0°06, h35km±2km, mb4.2/81, Error ellipse: s-maj=9.7km s-min=8.0km az=247.0*
IDC ***22*** *07:33:17.5±2.0, 12°03N×87°17W, h73km±26km, mb3.6/10, mbtmp3.9/12, MS3.2/5, Error ellipse: s-maj=43.2km s-min=15.2km az=39.0*
ISC 22 07:33:16.3±0.9, **11°88N**±0°04×**87°47W**±0°04, **h59**km±9km, **n204**, σ1s**27**/216, **mb4.2**/42, **3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNN	**El Viejo**	**0.81**	**25**	*i* P	**Pn**	**07 33 30.3**	**-1.6**
CHNN				IAML		07 34 12.8	
	comp=Z,5μm,1.0s						
CRIN	**San Cristobal**	**0.91**	**27**		**Pn**	**07 33 31.5**	**-1.7**
CRIN	

TISN	**Laguna Tiscapa**	**1.21**	**78**	*i* P		**Pn**	**07 33 36.0**	**-1.0**
TISN				IAML			07 34 00.5	
	comp=Z,240nm,1.0s							
ADRN	**Diriamba**	**1.21**	**91**	*i* P		**Pn**	**07 33 35.7**	**-1.4**
ADRN				*i* S		**Sn**	**07 33 53.7**	**+1.1**
ADRN				IAML			07 34 07.7	
	comp=Z,8μm,1.0s							
ENAN	**Enatrel Managu**	**1.21**	**79**	*i* S		**Sn**	**07 33 55.2**	**+2.7**
MAFN	**Magfor**	**1.23**	**80**	*i* P		**Pn**	**07 33 36.1**	**-1.2**
MAFN				IAML			07 33 58.7	
	comp=Z,7μm,1.0s							
MGA1	**Managua**	**1.23**	**77**	*i* P		**Pn**	**07 33 36.3**	**-1.0**
MGA1				IAML			07 33 51.8	
	comp=Z,5μm,1.0s							
MAS3	**Al N del Volca**	**1.28**	**84**	*i* P		**Pn**	**07 33 36.5**	**-1.5**
MAS3				IAML			07 33 56.4	
	comp=Z,2μm,1.0s							
WILN	**Americas 2**	**1.29**	**78**	*i* P		**Pn**	**07 33 36.9**	**-1.2**
WILN				IAML			07 34 01.5	
	comp=Z,2μm,1.0s							
AERN	**Aeropuerto Man**	**1.30**	**78**	*i* P		**Pn**	**07 33 37.3**	**-1.0**
AERN				IAML			07 33 59.7	
	comp=Z,6μm,1.0s							
BRAN	**Las Pilas**	**1.38**	**53**	*i* S		**Sn**	**07 33 52.5**	**-4.1**
AMPH	**Amapala**	**1.41**	**353**	*eP*		**Pn**	**07 33 38.3**	**-1.4**
AMPH				*eS*		**Sn**	**07 33 57.9**	**+0.7**
AMPH	**Amapala**	**1.41**	**353**	*i* P		**Pn**	**07 33 38.4**	**-1.3**
CNCH	**Conchagua**	**1.43**	**346**	*eP*		**Pn**	**07 33 38.3**	**-1.9**
CNCH				*eS*		**Sn**	**07 33 58.1**	**+0.1**
CNCH	**Conchagua**	**1.43**	**346**	*i* P		**Pn**	**07 33 38.5**	**-1.7**
CNCH				IAML			07 34 07.8	
	comp=Z,5μm,1.0s							
LCND	**La Caada**	**1.47**	**344**	*eP*		**Pn**	**07 33 39.0**	**-1.6**
LCND				*eS*		**Sn**	**07 33 58.7**	**-0.3**
LCND				IAML			07 34 02.8	
	comp=Z,2μm,0.4s							
LCND	**La Caada**	**1.47**	**344**	*i* P		**Pn**	**07 33 39.2**	**-1.5**
LCND				IAML			07 34 02.3	
	comp=Z,2μm,1.0s							
JUCU	**Jucuarįn**	**1.56**	**331**	*eP*		**Pn**	**07 33 39.2**	**-2.6**
JUCU				*eS*		**Sn**	**07 34 00.9**	**-0.2**
LIMN	**Finca el Limon**	**1.59**	**43**	*i* P		**Pn**	**07 33 41.4**	**-1.0**
LIMN				IAML			07 34 06.9	
	comp=Z,1μm,1.0s							
CNRM	**Centro Naciona**	**1.72**	**337**	*eP*		**Pn**	**07 33 43.3**	**-0.7**
CNRM	**Centro Naciona**	**1.72**	**337**	*i* P		**Pn**	**07 33 42.9**	**-1.1**
CNRM				IAML			07 34 10.5	
	comp=Z,7μm,1.0s							
PACA	**Pacayal**	**1.78**	**332**	*i* P		**Pn**	**07 33 43.7**	**-1.2**
PACA				IAML			07 34 14.2	
	comp=Z,5μm,1.0s							
JAPN	**Al SSO del Vol**	**1.79**	**101**	*i* P		**Pn**	**07 33 44.7**	**-0.3**
MORN	**Al O del Volca**	**1.82**	**100**	*i* P		**Pn**	**07 33 43.5**	**-1.8**
MORN				IAML			07 34 12.5	
	comp=Z,2μm,1.0s							
MATN	**Matagalpa**	**1.83**	**55**			**Pn**	**07 33 44.6**	**-1.0**
MATN	**Matagalpa**	**1.83**	**55**	*i* P		**Pn**	**07 33 45.2**	**-0.4**
MATN				IAML			07 34 11.6	
	comp=Z,280nm,1.0s							
CONN	**Concepcion**	**1.84**	**100**	*i* P		**Pn**	**07 33 43.6**	**-2.0**
CONN				IAML			07 34 20.9	
	comp=Z,8μm,1.0s							
OMEN	**Al SSO del Vol**	**1.85**	**101**	*i* P		**Pn**	**07 33 43.8**	**-1.9**
OMEN				IAML			07 34 22.3	
	comp=Z,1μm,1.0s							
BOAB	**BOACO BROADBAN**	**.85**	**72**			**Pn**	**07 33 44.5**	**-1.3**
BOAB	**BOACO BROADBAN**	**.85**	**72**	*i* P		**Pn**	**07 33 44.4**	**-1.4**
BOAB				IAML			07 34 15.7	
	comp=Z,440nm,1.0s							
COEB	**Comit de Eme**	**1.91**	**327**	*eP*		**Pn**	**07 33 45.0**	**-1.6**
COEB				IAML			07 34 16.0	
	comp=Z,392nm,0.5s							
PQSS	**Presa 15 de Se**	**2.03**	**329**	*eP*		**Pn**	**07 33 46.8**	**-1.3**
PQSS	**Presa 15 de Se**	**2.03**	**329**	*i* P		**Pn**	**07 33 46.9**	**-1.3**
PQSS				IAML			07 34 23.8	
	comp=Z,210nm,1.0s							
YUSH	**Yuscaran**	**2.15**	**17**	*i* P		**Pn**	**07 33 49.5**	**-0.4**
UESV	**Universidad de**	**2.16**	**324**	*i* P		**Pn**	**07 33 48.3**	**-1.7**
UESV				IAML			07 34 28.2	
	comp=Z,740nm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.17**	**5**			**Pn**	**07 33 49.7**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.17**	**5**	*i* P		**Pn**	**07 33 49.7**	**-0.5**
TGUH				IAML			07 34 29.4	
	comp=Z,470nm,1.0s							
HZTE	**Horizontes, Gu**	**2.18**	**122**	Pn		**Pn**	**07 33 48.7**	**-1.5**
SCLA	**Alcaldia de Sa**	**2.18**	**326**	*eP*		**Pn**	**07 33 48.9**	**-1.4**
SCLA	**Alcaldia de Sa**	**2.18**	**326**	*i* P		**Pn**	**07 33 48.9**	**-1.4**
SCLA				IAML			07 34 23.1	
	comp=Z,330nm,1.0s							
COEG	**Centro de Oper**	**2.21**	**322**	*eP*		**Pn**	**07 33 48.9**	**-1.7**
COEG				IAML			07 34 22.1	
	comp=Z,466nm,0.4s							
COEG	**Centro de Oper**	**2.21**	**322**	*i* P		**Pn**	**07 33 49.1**	**-1.6**
COEG				IAML			07 34 21.8	
	comp=Z,440nm,1.0s							
ACON	**Acoyapa**	**2.25**	**88**			**Pn**	**07 33 50.0**	**-1.2**
ACON	**Acoyapa**	**2.25**	**88**	*i* P		**Pn**	**07 33 51.8**	**+0.6**
ACON				IAML			07 34 39.9	
	comp=Z,290nm,1.0s							
SJTE	**Alcalda de S**	**2.28**	**319**	*eP*		**Pn**	**07 33 49.6**	**-2.0**
PAVA	**Las Pavas**	**2.31**	**322**	*eP*		**Pn**	**07 33 50.8**	**-1.4**
PAVA	**Las Pavas**	**2.31**	**322**	*i* P		**Pn**	**07 33 50.9**	**-1.3**
PAVA				IAML			07 34 30.3	
	comp=Z,710nm,1.0s							
VRLE	**La Escondida,**	**2.34**	**118**	*i* P		**Pn**	**07 33 55.2**	**+2.7**
VRLE				IAML			07 34 58.4	
	comp=Z,260nm,1.0s							
UDBS	**Universidad Do**	**2.45**	**318**	*i* P		**Pn**	**07 33 57.2**	**+3.2**
SNET	**Serv Nac Est T**	**2.48**	**316**			**Pn**	**07 33 53.5**	**-1.0**
ORTG	**Ortega, Santa**	**2.49**	**127**			**Pn**	**07 33 52.4**	**-2.1**
ORTG	**Ortega, Santa**	**2.49**	**127**	*i* P		**Pn**	**07 33 53.2**	**-1.3**
ORTG				IAML			07 34 38.4	
	comp=Z,470nm,1.0s							
SAJU	**San Juanillo,**	**2.50**	**136**	*i* P		**Pn**	**07 33 52.0**	**-2.6**
SAJU				IAML			07 34 46.1	
	comp=Z,920nm,1.0s							
UEES	**Universidad Ev**	**2.51**	**317**	*i* P		**Pn**	**07 33 56.7**	**+1.9**
COMHN	**El Horno**	**2.54**	**358**	*i* P		**Pn**	**07 33 54.6**	**-0.8**
VMAR	**Armenia, Volca**	**2.55**	**114**	*i* P		**Pn**	**07 33 55.5**	**+0.2**
VMAR				IAML			07 34 45.9	
	comp=Z,700nm,1.0s							
PMON	**Piamonte**	**2.56**	**316**	*i* P		**Pn**	**07 33 54.7**	**-0.8**
JAYA	**Jayaque - finc**	**2.61**	**313**	*eP*		**Pn**	**07 33 54.6**	**-1.7**
JAYA	**Jayaque - finc**	**2.61**	**313**	*i* P		**Pn**	**07 33 54.6**	**-1.7**
JAYA				IAML			07 34 27.8	
	comp=Z,570nm,1.0s							
DUNO	**Dulce Nombre,**	**2.64**	**133**			**Pn**	**07 33 54.6**	**-2.0**
INDI	**Punta indio, G**	**2.79**	**136**	*i* P		**Pn**	**07 33 59.4**	**+0.9**
JTS	**Las Juntas de**	**2.94**	**122**	Pn		**Pn**	**07 34 00.5**	**-0.1**
JTS	**Las Juntas de**	**2.94**	**122**	P		**Pn**	**07 33 59.4**	**-1.2**
	comp=Z,6.1nm,0.3s,baz=292,slow=7.2,SNR=29							
JTS				S		**Sn**	**07 34 32.8**	**-2.0**
	comp=Z,27nm,0.4s,baz=19,slow=23,SNR=4.3							
JTS				LR		LR	07 35 07.5	
	comp=Z,147nm,20.0s,baz=284,slow=40							
NUBE	**Las Nubes**	**3.01**	**312**	*eP*		**Pn**	**07 34 00.1**	**-1.6**
NUBE	**Las Nubes**	**3.01**	**312**	*i* P		**Pn**	**07 34 00.2**	**-1.6**
NUBE				IAML			07 34 39.4	
	comp=Z,240nm,1.0s							
ARE1	**Arenal 1**	**3.05**	**117**	Pn		**Pn**	**07 34 02.2**	**0.0**
MTO3	**Montecristo**	**3.10**	**324**			**Pn**	**07 34 01.8**	**-1.2**
MTO3	**Montecristo**	**3.10**	**324**	*i* P		**Pn**	**07 34 01.6**	**-1.5**
MTO3				IAML			07 35 10.3	
	comp=Z,80nm,1.0s							
ESPN	**Las Esperanzas**	**3.12**	**84**	Pn		**Pn**	**07 34 01.2**	**-1.8**
ESPN	**Las Esperanzas**	**3.12**	**84**	*i* P		**Pn**	**07 34 06.7**	**+3.6**
SARH	**Santa Rosa de**	**3.14**	**337**	*i* P		**Pn**	**07 34 03.5**	**+0.1**
SOCE	**Pocosol**	**3.17**	**118**	Pn		**Pn**	**07 34 02.5**	**-1.4**
ESQI	**Esquipulas**	**3.22**	**326**			**Pn**	**07 34 04.0**	**-0.5**
ESQI	**Esquipulas**	**3.22**	**326**	*i* P		**Pn**	**07 34 05.6**	**+1.0**
COVE	**Coope Vega, Sa**	**3.23**	**111**	Pn		**Pn**	**07 34 02.4**	**-2.2**
JACO	**JACO, Garabito**	**3.54**	**128**	Pn		**Pn**	**07 34 09.1**	**+0.3**
HDC	**Heredia**	**3.79**	**119**	Pn		**Pn**	**07 34 11.8**	**-0.7**
LCR2	**La Lucha 2**	**4.02**	**122**			**Pn**	**07 34 15.7**	**+0.1**
RIMA	**Rio Macho**	**4.12**	**120**			**Pn**	**07 34 18.0**	**+1.0**
PEZE	**Perez Zeledon,**	**4.48**	**123**			**Pn**	**07 34 21.6**	**-0.3**
DRKO	**Durika**	**4.91**	**122**			**Pn**	**07 34 27.5**	**-0.2**
PETF	**Flores**	**5.51**	**335**			**Pn**	**07 34 35.7**	**-0.2**
CDITO	**Canoas**	**5.60**	**126**	Pn		**Pn**	**07 34 36.1**	**-0.9**
CCIG	**Comitan**	**6.29**	**315**	Pn		**Pn**	**07 34 46.9**	**+0.2**
TEIG	**Tepich**	**8.33**	**355**	LR		LR	07 38 39.5	
	comp=Z,682nm,21.9s,baz=294,slow=39							
CMIG	**Matias Romero**	**8.85**	**307**	P		Pn	07 35 26.4	+4.8
	comp=Z,1.4nm,0.7s,baz=126,slow=20,SNR=2.9							
CMIG				S		**Sn**	**07 37 01.4**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=263,slow=20,SNR=1.7							
CMIG				LR		LR	07 39 17.0	
	comp=Z,174nm,20.8s,baz=136,slow=40							
TLIG	**Tlapa**	**12.12**	**299**	Pn		**Pn**	**07 36 08.0**	**+1.6**
HBVL	**Hebbronville**	**18.41**	**327**	P		**Pn**	**07 37 29.0**	**+1.6**
HBVL				IAmb		IAmb	07 37 29.8	
	comp=Z,17nm,1.1s							
BAUV	**El Baul**	**19.33**	**97**	P		**P**	**07 37 37.1**	**+0.1**
BAUV				IAmb		IAmb	07 37 46.6	
	comp=Z,28nm,1.5s							
833A	**Chaparral WMA,**	**19.79**	**327**	P		**P**	**07 37 42.5**	**+0.6**
833A				IAmb		IAmb	07 37 43.4	
	comp=Z,16nm,0.9s							
250A	**Grady**	**20.03**	**3**	P		**P**	**07 37 44.6**	**+0.2**
250A				IAmb		IAmb	07 37 49.1	
	comp=Z,15nm,1.1s							
146A	**Union**	**20.71**	**356**	P		**P**	**07 37 51.5**	**-0.3**
146A				IAmb		IAmb	07 38 10.0	
	comp=Z,7.8nm,0.8s							
HNDO	**Hondo**	**20.71**	**330**	P		**P**	**07 37 52.3**	**+0.4**
DRIO	**Del Rio**	**21.32**	**327**			**P**	**07 37 59.3**	**+1.0**
GOGA	**Godfrey**	**21.74**	**9**	P		**P**	**07 38 03.5**	**+0.7**
GOGA				IAmb		IAmb	07 38 07.7	
	comp=Z,15nm,1.4s							
JCT	**Junction City**	**21.75**	**330**	P		**P**	**07 38 04.0**	**+1.0**
Y49A	**Blount Mountai**	**21.89**	**2**	P		**P**	**07 38 03.4**	**-1.1**
Y49A				IAmb		IAmb	07 38 18.7	
	comp=Z,19nm,1.4s							
WHTX	**Lake Whitney,**	**22.02**	**337**	P		**P**	**07 38 06.0**	**+0.1**
Y52A	**Lilburn**	**22.10**	**8**	P		**P**	**07 38 07.8**	**+1.1**
Y52A				IAmb		IAmb	07 38 14.2	
	comp=Z,11nm,1.2s							
FW13	**Cleburne**	**22.34**	**337**	P		**P**	**07 38 10.1**	**+0.8**
FW13				IAmb		IAmb	07 38 17.5	
	comp=Z,15nm,1.1s							
OZNA	**Ozona**	**22.77**	**328**	P		**P**	**07 38 14.8**	**+0.7**
FW07	**Weatherford**	**22.78**	**337**	P		**P**	**07 38 15.3**	**+1.3**
FW07				IAmb		IAmb	07 38 15.5	
	comp=Z,6.2nm,0.7s							
FW06	**Azle**	**22.94**	**338**	P		**P**	**07 38 16.3**	**+0.7**
FW06				IAmb		IAmb	07 38 17.4	
	comp=Z,6.3nm,0.6s							
TXAR	**Lajitas Array**	**23.00**	**321**	P		**P**	**07 38 17.0**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=136,slow=9.7,SNR=37							
TXAR				LR		LR	07 47 19.6	
	comp=Z,19nm,20.5s,baz=98,slow=36							
	comp=Z,2.5nm,0.6s							
TX31	**Lajitas Ar. Si**	**23.00**	**321**	P		**P**	**07 38 17.0**	**+0.6**
PLPT	**Palo Pinto**	**23.09**	**336**	P		**P**	**07 38 18.0**	**+0.9**
PLPT				IAmb		IAmb	07 38 18.6	
	comp=Z,6.4nm,0.7s							
Z35A	**Perchaven, San**	**23.15**	**339**	P		**P**	**07 38 18.7**	**+1.0**
SWET	**Sewanee**	**23.27**	**3**	P		**P**	**07 38 19.0**	**+0.1**
W50A	**Signal Mountai**	**23.30**	**4**	P		**P**	**07 38 20.2**	**+1.1**
W50A				IAmb		IAmb	07 38 22.7	
	comp=Z,10nm,1.5s							
BG3	**Lake Jocassee**	**23.37**	**9**	P		**P**	**07 38 20.8**	**+1.0**
BG3				IAmb		IAmb	07 38 31.9	
	comp=Z,9.9nm,1.3s							
CPCT	**Cooper Cave**	**23.61**	**6**	P		**P**	**07 38 22.4**	**+0.3**
CPCT				IAmb		IAmb	07 38 36.5	
	comp=Z,11nm,1.5s							
WHAR	**Wooly Hollow**	**23.71**	**350**	P		**P**	**07 38 23.2**	**+0.3**
ALPN	**Alpine**	**23.73**	**323**	P		**P**	**07 38 23.1**	**-0.2**
KMSC	**Kings Mountain**	**23.82**	**13**	P		**P**	**07 38 24.0**	**+0.1**
TKL	**Tuckaleechee C**	**23.91**	**7**	P		**P**	**07 38 25.2**	**+0.5**
TKL				IAmb		IAmb	07 38 34.9	
	comp=Z,13nm,1.4s							
TKL	**Tuckaleechee C**	**23.91**	**7**	P		**P**	**07 38 24.0**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=144,slow=7.6,SNR=8.0							
	comp=Z,1.7nm,0.4s							
MNHN	**Monahans**	**23.96**	**326**	P		**P**	**07 38 26.4**	**+1.0**
V51A	**Loudon**	**23.98**	**6**	P		**P**	**07 38 26.0**	**+0.6**
V53A	**Saluda**	**24.05**	**9**	P		**P**	**07 38 26.8**	**+0.7**
V53A				IAmb		IAmb	07 38 28.9	
	comp=Z,4.4nm,0.8s							
CLTN	**Cedars of Leba**	**24.12**	**2**	P		**P**	**07 38 26.3**	**-0.4**
W57A	**Gilead**	**24.14**	**15**	P		**P**	**07 38 26.8**	**0.0**
W57A				IAmb		IAmb	07 38 28.6	
	comp=Z,7.5nm,1.2s							
WVT	**Waverly**	**24.14**	**359**	P		**P**	**07 38 26.1**	**-0.7**
ODSA	**Odessa**	**24.46**	**328**	P		**P**	**07 38 31.6**	**+1.7**
ODSA				IAmb		IAmb	07 38 34.4	
	comp=Z,13nm,1.1s							
U49A	**Red Boiling Sp**	**24.57**	**3**	P		**P**	**07 38 31.2**	**+0.4**
U49A				IAmb		IAmb	07 38 34.9	
	comp=Z,9.1nm,1.5s							
POST	**Post**	**24.70**	**331**	P		**P**	**07 38 32.8**	**+0.8**
POST				IAmb		IAmb	07 38 34.4	
	comp=Z,7.8nm,0.9s							
TZTN	**Tazewell**	**24.81**	**8**	P		**P**	**07 38 33.5**	**+0.6**
TZTN				IAmb		IAmb	07 38 42.9	
	comp=Z,13nm,1.3s							
PBMO	**Poplar Bluff**	**24.93**	**354**	P		**P**	**07 38 33.2**	**-0.8**
FNO	**Franklin**	**24.95**	**340**	P		**P**	**07 38 34.3**	**0.0**
WMOK	**Wichita Mounta**	**24.97**	**338**	P		**P**	**07 38 35.1**	**+0.7**
V58A	**Windy Hill, Pi**	**24.98**	**16**	P		**P**	**07 38 35.0**	**+0.6**
V58A				IAmb		IAmb	07 38 35.6	
	comp=Z,6.3nm,0.7s							
TUL3	**Leonard**	**25.08**	**344**	P		**P**	**07 38 35.3**	**-0.1**
TUL3				IAmb		IAmb	07 38 37.9	
	comp=Z,10nm,1.1s							
GDL2	**Guadalupe Moun**	**25.50**	**325**	P		**P**	**07 38 39.1**	**-0.3**
OK033	**Mehan**	**25.53**	**342**	P		**P**	**07 38 38.3**	**-1.1**
QUOK	**Quay**	**25.58**	**342**	P		**P**	**07 38 38.6**	**-1.3**
S44A	**Carbondale**	**25.75**	**357**	P		**P**	**07 38 42.4**	**+1.0**
S44A				IAmb		IAmb	07 38 48.3	
	comp=Z,6.0nm,0.9s							
SMWD	**Samnorwood**	**25.86**	**335**	P		**P**	**07 38 43.5**	**+0.9**
SMWD				IAmb		IAmb	07 38 46.7	
	comp=Z,7.3nm,0.8s							
S51A	**Beattyville**	**25.88**	**7**	P		**P**	**07 38 43.6**	**+1.0**
MSTX	**Muleshoe**	**26.05**	**330**	P		**P**	**07 38 44.7**	**+0.4**
T35A	**Sooner Cattle**	**26.22**	**343**	P		**P**	**07 38 46.0**	**+0.3**
T35A				IAmb		IAmb	07 39 13.8	
	comp=Z,8.9nm,1.3s							
S39A	**Bolivar**	**26.23**	**349**	P		**P**	**07 38 45.6**	**-0.2**
S39A				IAmb		IAmb	07 38 46.2	
	comp=Z,13nm,1.5s							
CCM	**Cathedral Cave**	**26.28**	**353**	P		**P**	**07 38 45.9**	**-0.3**
OK032	**Salt Plains WL**	**26.63**	**341**	P		**P**	**07 38 49.5**	**+0.1**
R40A	**Maddies Statio**	**26.64**	**352**	P		**P**	**07 38 49.5**	**0.0**
Q51A	**Peebles**	**27.28**	**7**	P		**P**	**07 38 55.6**	**+0.4**
Q51A				IAmb		IAmb	07 38 57.2	
	comp=Z,5.4nm,0.7s							
ETMB	**Extrema**	**30.19**	**135**	P		**P**	**07 39 20.7**	**-0.6**
ETMB				IAmb		IAmb	07 39 23.4	
	comp=Z,4.8nm,0.8s							
KSCO	**Kaye Shedlock'**	**30.19**	**336**	P		**P**	**07 39 21.1**	**-0.1**
SAML	**Samuel**	**31.80**	**130**	P		**P**	**07 39 35.3**	**-0.2**
SAML				IAmb		IAmb	07 39 36.9	
	comp=Z,3.1nm,0.8s							
ECSD	**EROS Data Cent**	**32.70**	**348**	P		**P**	**07 39 42.1**	**-1.1**
ECSD				IAmb		IAmb	07 39 42.6	
	comp=Z,4.1nm,0.9s							
PFO	**Pinyon Flats O**	**34.18**	**314**	LR		LR	07 54 54.9	
	comp=Z,64nm,18.1s,baz=234,slow=38							
F33A	**5 Mile Ranch,**	**34.66**	**349**	P		**P**	**07 39 59.0**	**-1.1**
PD31	**Pinedale Array**	**36.26**	**332**	P		**P**	**07 40 15.1**	**+0.9**
PDAR	**Pinedale Array**	**36.26**	**332**	P		**P**	**07 40 14.4**	**+0.2**
PDAR	**Pinedale Array**	**36.26**	**332**	P		**P**	**07 40 14.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=123,slow=11,SNR=6.2							
	comp=Z,0.7nm,0.7s							
HWUT	**Hardware Ranch**	**36.34**	**329**	P		**P**	**07 40 16.0**	**+1.2**
HWUT				IAmb		IAmb	07 40 26.2	
	comp=Z,3.6nm,0.8s							
REDW	**Red Top Meadow**	**37.32**	**331**	P		**P**	**07 40 23.9**	**+0.7**
SNOW	**Snow King Moun**	**37.35**	**332**	P		**P**	**07 40 24.7**	**+1.2**
LOHW	**Long Hollow**	**37.40**	**332**	P		**P**	**07 40 26.4**	**+2.6**
LOHW				IAmb		IAmb	07 40 34.0	
	comp=Z,3.0nm,1.1s							
TPAW	**Teton Pass**	**37.46**	**332**	P		**P**	**07 40 26.1**	**+1.6**
TPAW				IAmb		IAmb	07 40 35.3	
	comp=Z,3.6nm,0.9s							
MOOW	**Moose Ponds**	**37.57**	**332**	P		**P**	**07 40 26.3**	**+1.1**
NVAR	**Mina Array Bea**	**38.11**	**319**	P		**P**	**07 40 31.4**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=131,slow=10,SNR=4.2							
	comp=Z,0.7nm,0.8s							
ULM	**Lac du Bonnet**	**38.87**	**351**	P		**P**	**07 40 33.9**	**-2.0**
	comp=Z,3.9nm,0.8s,baz=170,slow=9.7,SNR=6.0							
	comp=Z,3.9nm,0.8s							
YBH	**Yreka Blue Hor**	**42.77**	**321**	P		**P**	**07 41 07.1**	**-1.1**
	comp=Z,3.4nm,0.9s,baz=173,slow=4.4,SNR=3.3							
	comp=Z,3.4nm,0.9s							
SCHQ	**Schefferville**	**45.82**	**17**	P		**P**	**07 41 30.9**	**-1.4**
SCHQ	**Schefferville**	**45.82**	**17**	P		**P**	**07 41 30.4**	**-1.9**
	comp=Z,1.8nm,0.4s,baz=220,slow=7.2,SNR=15							
	comp=Z,1.8nm,0.4s							
FCC	**Fort Churchill**	**47.05**	**355**	P		**P**	**07 41 41.0**	**-0.7**
BDFB	**Brasilia**	**47.68**	**124**	P		**P**	**07 41 46.8**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=235,slow=13,SNR=3.7							
	comp=Z,2.2nm,0.8s							
YKA	**Yellowknife Ar**	**54.15**	**345**	P		**P**	**07 42 35.5**	**+0.3**
YKA	**Yellowknife Ar**	**54.15**	**345**	P		**P**	**07 42 34.1**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=137,slow=7.5,SNR=16							
	comp=Z,0.8nm,0.8s							
LL05	**Los Muermos**	**54.57**	**167**	P		**P**	**07 42 40.1**	**+1.5**
G31M	**Satah River**	**63.12**	**341**	P		**P**	**07 43 36.8**	**-0.7**
INK	**Inuvik**	**63.74**	**343**	P		**P**	**07 43 42.1**	**+0.6**
BCAR	**Beaver Creek A**	**63.76**	**336**	P		**P**	**07 43 42.5**	**+0.6**
A36M	**Sachs Harbour**	**64.20**	**348**	P		**P**	**07 43 43.5**	**-1.0**
A36M				IAmb		IAmb	07 43 46.3	
	comp=Z,2.1nm,1.0s							
GO09	**Cerro Castillo**	**64.25**	**170**	P		**P**	**07 43 43.8**	**-1.3**
SCRK	**Sand Creek**	**65.05**	**336**	P		**P**	**07 43 51.6**	**+1.2**
E29M	**Blow River**	**65.10**	**342**	P		**P**	**07 43 51.1**	**+0.6**
E29M				IAmb		IAmb	07 44 01.2	
	comp=Z,3.2nm,1.5s							
F28M	**Old Crow**	**65.31**	**340**	P		**P**	**07 43 52.5**	**+0.6**
F28M				IAmb		IAmb	07 43 53.4	
	comp=Z,2.2nm,0.8s							
ILAR	**Eielson Array**	**66.53**	**336**	P		**P**	**07 44 00.3**	**+0.5**
ILAR	**Eielson Array**	**66.53**	**336**	P		**P**	**07 43 59.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=157,slow=4.2,SNR=6.9							
	comp=Z,0.4nm,0.8s							
BMAR	**Burnt Mountain**	**66.80**	**339**	P		**P**	**07 44 02.3**	**+0.8**
D25K	**Kavik River**	**68.23**	**341**	P		**P**	**07 44 10.4**	**-0.1**

KRSC 22 07:33:22.8±1.0, 55.12N×166.38E, h33km±10km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.25**	**290**	*eP*	Pn	07 33 30.2	0.0
BKI				*eS*	Sn	07 33 35.7	+1.0
TUMD	**Tumrok D**	**3.43**	**274**	*eP*	Pn	07 34 17.1	+3.1
TUMD				*eS*	Sn	07 34 57.2	+3.7
KMNR	**Kamenistaya**	**3.56**	**283**	*eP*	Pn	07 34 20.0	+4.3
KMNR				*eS*	Sb	07 35 02.5	-5.3
TUMR	**Tumrok**	**3.58**	**275**	*eP*	Pn	07 34 19.5	+3.4
TUMR				*eS*	Sn	07 35 02.0	+4.9
SMAR	**Somma**	**4.82**	**250**	*eP*	Pn	07 34 37.7	+4.4
UGLR	**Uglovaya**	**4.83**	**250**	*eP*	Pn	07 34 37.1	+3.8
AVH	**Avacha**	**4.86**	**251**	*eP*	Pn	07 34 38.6	+5.0
KRX	**Arik**	**4.86**	**252**	*eP*	Pn	07 34 38.5	+4.7
KOK	**Koryaka**	**4.90**	**251**	*eP*	Pn	07 34 39.0	+4.8
KRMR	**Karymshinskiy**	**5.38**	**248**	*eP*	Pn	07 34 45.1	+4.4
KRMR				*eS*	Sn	07 35 47.0	+5.5
MTVR	**Mutnovka**	**5.53**	**245**	*eP*	Pn	07 34 48.0	+5.2
MTVR				*eS*

HVU				IAML		07 36 28.8		
	comp=E,13nm,1.0s							
HVU				IAML		07 36 32.0		
	comp=N,18nm,0.8s							
MVCO	**Mesa Verde**	**3.25**	**113**	Pn	Pn	07 35 35.3	+1.3	
O20A	**White River Ci**	**3.48**	**62**	Pn	Pn	07 35 38.3	+1.4	
V12A	**Nelson**	**3.52**	**217**	Pn	Pn	07 35 38.8	+1.4	
V12A				IAML		07 36 11.7		
	comp=N,5.8nm,4.8s							
V12A				IAML		07 36 40.7		
	comp=E,5.5nm,4.5s							
W13A	**Hualapai Mount**	**3.70**	**201**	Pn	Pn	07 35 41.6	+1.6	
W13A				IAML		07 36 43.0		
	comp=E,5.4nm,3.5s							
W13A				IAML		07 36 48.6		
	comp=N,5.6nm,3.4s							
TPH	**Tonopah**	**3.95**	**264**	Pn	Pn	07 35 44.6	+1.1	
MZP	**Montezuma Peak**	**4.14**	**260**	Pn	Pn	07 35 47.4	+1.2	
MZP				IAML		07 37 08.6		
	comp=N,3.2nm,3.5s							
MZP				IAML		07 37 34.5		
	comp=E,4.9nm,4.9s							
SMCO	**Snowmass**	**4.16**	**80**	Pn	Pn	07 35 48.3	+1.8	
SMCO				IAML		07 38 28.0		
	comp=E,9.6nm,5.0s							
GMN	**Gold Mountain**	**4.16**	**254**	Pn	Pn	07 35 47.4	+1.0	
GMN				IAML		07 36 57.7		
	comp=E,5.8nm,5.0s							
GMN				IAML		07 36 59.1		
	comp=N,7.4nm,3.1s							
X16A	**Lo Mia Camp, P**	**4.19**	**171**	Pn	Pn	07 35 49.4	+2.6	
X16A				IAML		07 36 58.5		
	comp=N,8.9nm,2.2s							
X16A				IAML		07 37 01.2		
	comp=E,8.6nm,0.9s							
GWY	**Greenwater Val**	**4.25**	**237**	Pn	Pn	07 35 48.8	+1.2	
GWY				IAML		07 37 03.6		
	comp=N,7.1nm,4.9s							
S22A	**4UR Ranch, Cre**	**4.34**	**99**	Pn	Pn	07 35 50.4	+1.4	
S22A				IAML		07 37 19.5		
	comp=N,3.3nm,4.8s							
X18A	**Snowflake**	**4.43**	**155**	Pn	Pn	07 35 51.1	+1.0	
KVN	**Kaiserville**	**4.60**	**278**	Pn	Pn	07 35 54.1	+1.7	
KVN				IAML		07 37 23.8		
	comp=N,6.6nm,3.4s							
PDAR	**Pinedale Array**	**4.67**	**25**	Pn	Pn	07 35 55.1	+1.7	
RYN	**Ryan**	**4.92**	**273**	Pn	Pn	07 35 57.9	+1.1	
RYN				IAML		07 36 34.4		
	comp=N,5.2nm,4.5s							
PAHR	**Pah Rah Range**	**5.67**	**284**	Pn	Pn	07 36 10.3	+3.2	

*BJI **22** 07:37:54.4±0.0, 17°.86N×95°.95E, h10km, mb4.5/44, mB4.9/24, Ms4.5/23, Ms7 4.2/21*
*IDC **22** 07:37:57.2±0.5, 18°.28N×95°.94E, h0km, mb4.3/26, mbtmp4.3/27, ML4.3/1, MS3.6/19, Error ellipse: s-maj=16.0km s-min=10.8km az=24.0*
*MOS **22** 07:37:57.5±1.3, 18°.30N×96°.00E, h14km, mb4.7/19, Error ellipse: s-maj=13.8km s-min=7.4km az=119.6*
*NEIC **22** 07:37:59.3±1.9, 18°.29N±0°.05×96°.07E±0°.04, h10km±1km, mb4.7/63, Error ellipse: s-maj=9.5km s-min=4.3km az=139.0*
*NDI **22** 07:38:03.3±4.1, 18°.29N×95°.60E, h10km±47km, mb4.7, mb4.7(NEIC)*

ISC 22 07:37:58.9±0.3, **18°.18N**±0°.04×**96°.00E**±0°.04, **h10**km, **n207, σ1966**/210, **mb4.7**/92, **MS3.6**/22, **16C-12D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.81**	**84**		**Pn**	**07 38 42.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**2.81**	**84**		**Pn**	**07 38 41.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**2.81**	**84**	*i* P	**Pn**	**07 38 42.0**	**-2.0**
CMAR				pmax	pmax		
	comp=Z,30nm,0.4s						
CMAR	**Chiang Mai Arr**	**2.81**	**84**	Pn	**Pn**	**07 38 42.2**	**-1.8**
	comp=Z,13nm,0.3s,baz=266,slow=14,SNR=102						
CMAR				Pg	**Pb**	**07 38 48.1**	**-1.2**
	comp=Z,266nm,0.3s,baz=262,slow=18,SNR=56						
CMAR				Sn	**Sb**	**07 39 22.1**	**-1.6**
	comp=Z,54nm,0.3s,baz=264,slow=17,SNR=5.5						
CMAR				Lg	Lg	07 39 28.9	
	comp=Z,129nm,0.3s,baz=205,slow=33,SNR=2.9						
	comp=Z,28nm,0.4s						
CHTO	**Chiang Mai**	**2.86**	**77**		**Pn**	**07 38 42.7**	**-2.0**
MND	**Mandalay**	**3.81**	**2**	Pn	**Pn**	**07 38 55.3**	**-2.5**
CRAI	**Chiangrai**	**4.61**	**63**	Pn	**Pn**	**07 39 06.7**	**-2.0**
SAIH	**SAIHA**	**5.13**	**327**	*eP*	**Pn**	**07 39 17.7**	**+1.7**
DGPR	**DIGLIPUR**	**5.79**	**211**	*eP*	**Pn**	**07 39 27.8**	**+2.8**
DGPR				*eS*	**Sn**	**07 40 33.1**	**+1.7**
AZL	**Aizawl**	**6.33**	**331**	*eP*	**Pn**	**07 39 33.5**	**+1.0**
AZL				*eS*	**Sn**	**07 40 42.3**	**-2.7**
IMP	**Imphal**	**6.88**	**344**	*eP*	**Pn**	**07 39 43.0**	**+3.0**
TNCH	**TengChong**	**7.20**	**19**	Pg	**Pg**	**07 40 16.4**	**-0.6**
TNCH				Sg	**Sg**	**07 41 47.8**	**-2.5**
TNCH				smax	smax		
	comp=N,850nm,1.0s						
TNCH				smax	smax		
	comp=E,630nm,1.3s						
TNCH				LR	LR		
	comp=N,3μm,3.8s						
TNCH				LR	LR		
	comp=E,2μm,4.3s						
TNCH				LR	LR		
	comp=Z,870nm,8.8s						
PBA	**Port Blair**	**7.21**	**206**	Pn	**Pn**	**07 39 45.4**	**+0.9**
KOHI	**KOHIMA**	**7.70**	**347**	*eP*	**Pn**	**07 39 55.2**	**+3.8**
MOKO	**MOKOCHONG**	**8.21**	**351**	*eP*	Pn	07 40 02.5	+4.2
SHL	**Shillong**	**8.28**	**333**		**Pn**	**07 39 58.0**	**-1.3**
SHL	**Shillong**	**8.28**	**333**	*eP*	**Pn**	**07 39 58.8**	**-0.6**
KMI	**Kunming**	**9.32**	**41**	⇓P	**Pn**	**07 40 15.0**	**+1.3**
KMI				pP		07 40 18.6	
KMI				S	**Sn**	**07 42 03.1**	**+4.3**
KMI				LR	LR		
	comp=Z,2μm,10.5s						
KMI				LR	LR		
	comp=Z,1μm,9.0s						
KMI				LR	LR		
	comp=Z,480nm,8.8s						
UBPT	**Khong Chiam**	**9.52**	**106**	Pn	**Pn**	**07 40 15.5**	**-0.7**
PZH	**PanZhiHua**	**9.84**	**32**	P	Pn	07 40 25.3	+4.7
PZH				S	**Sn**	**07 42 16.0**	**+4.8**
PZH				pmax	pmax		
	comp=Z,20nm,1.2s						
PZH				pmax	pmax		
	comp=Z,140nm,5.3s						
PZH				LR	LR		
	comp=Z,690nm,6.9s						
PZH				LR	LR		
	comp=Z,960nm,7.1s						
PZH				LR	LR		
	comp=Z,810nm,7.8s						
LSA	**Lhasa**	**12.29**	**340**	Pn	**Pn**	**07 40 53.0**	**-1.5**
GYA	**Guiyang**	**12.85**	**48**	⇑P	Pn	07 41 06.5	+4.7
GYA				S	**Sn**	**07 43 30.8**	**+5.8**
GYA				pmax	pmax		
	comp=Z,21nm,0.6s						
GYA				pmax	pmax		
	comp=Z,230nm,5.7s						
GYA				LR	LR		
	comp=Z,820nm,8.9s						
GYA				LR	LR		
	comp=Z,850nm,8.3s						
QIZ	**Qiongzhong**	**13.15**	**84**	P	**Pn**	**07 41 04.4**	**-1.5**
QIZ				S	**Sn**	**07 43 30.5**	**-1.9**
QIZ				LR	LR		
	comp=Z,250nm,6.3s						
QIZ				LR	LR		
	comp=Z,380nm,9.4s						
QIZ				LR	LR		
	comp=Z,550nm,12.4s						
RPSI	**Rantau Prapat**	**15.66**	**169**	Pn	**Pn**	**07 41 42.6**	**+2.8**
GSI	**Gunungsitoli**	**16.85**	**175**	Pn	**Pn**	**07 41 55.4**	**+0.3**
LGTI	**Lohaghat**	**18.24**	**311**	*eP*	**P**	**07 42 14.0**	**+1.6**
PALK	**Pallekele**	**18.43**	**236**	LR	LR	07 49 51.2	
	comp=Z,137nm,18.6s,baz=168,slow=39						
LZH	**Lanzhou**	**19.14**	**20**	⇑P	**Pn**	**07 42 25.5**	**+2.2**
LZH				pP	sP	07 42 34.3	+7.5
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				LR	LR		
	comp=Z,370nm,8.3s						
LZH				LR	LR		
	comp=Z,600nm,11.7s						
XAN	**Xi'an**	**19.57**	**34**	P	**Pn**	**07 42 29.8**	**+1.4**
XAN				pP	sP	07 42 33.8	+2.5
XAN				pmax	pmax		
	comp=Z,25nm,1.1s						
XAN				LR	LR		
	comp=Z,820nm,11.1s						
XAN				LR	LR		
	comp=Z,810nm,11.3s						
XAN				LR	LR		
	comp=Z,470nm,12.8s						
KOD	**Kodaikanal**	**19.61**	**249**	*eP*	**Pn**	**07 42 31.3**	**+2.0**
KOD				IAmb	IAmb	07 42 37.0	
	comp=Z,19nm,0.6s						
WHN	**Wuhan**	**20.72**	**50**	⇑P	Pn	07 42 41.6	-0.4
SMLA	**Simla**	**21.38**	**311**	*eP*	**P**	**07 42 46.5**	**-0.2**
SMLA				IAmb	IAmb	07 42 55.2	
	comp=Z,42nm,1.6s						
AJM	**Ajmer**	**21.39**	**296**	*eP*	**P**	**07 42 48.7**	**+1.8**
AJM				IAmb	IAmb	07 42 51.4	
	comp=Z,25nm,0.6s						
GTA	**Gaotai**	**21.41**	**8**	P	**P**	**07 42 47.3**	**+0.2**
GTA				sP	sP	07 42 58.4	+7.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LYN	**LuoYang**	**21.94**	**39**	*eP*	**P**	**07 42 53.3**	**+0.6**
LYN				pP	sP	07 42 57.1	+0.1
LYN				S	Sn	07 46 58.3	-6.7
LYN				pmax	pmax		
	comp=Z,16nm,0.5s						
LYN				pmax	pmax		
	comp=Z,340nm,4.6s						
LYN				LR	LR		
	comp=Z,1μm,12.3s						
LYN				LR	LR		
	comp=Z,1μm,9.9s						
LYN				LR	LR		
	comp=Z,670nm,10.4s						
SBUM	**Sibu**	**22.30**	**133**	P	**P**	**07 42 54.0**	**-2.8**
THN	**Thein Dam**	**23.13**	**312**	*ex*	**P**	**07 43 04.1**	**-1.1**
THN				IAmb	IAmb	07 43 06.7	
	comp=Z,37nm,0.7s						
NJ2	**Nanjing**	**24.81**	**52**	*eP*	**P**	**07 43 21.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,15nm,1.0s						
HNS	**HongShan**	**25.22**	**37**	⇓P	**P**	**07 43 26.6**	**+1.7**
HNS				*eS*	**S**	**07 47 58.0**	**+7.6**
HNS				pmax	pmax		
	comp=Z,25nm,1.1s						
HNS				LR	LR		
	comp=Z,470nm,14.3s						
HNS				LR	LR		
	comp=Z,450nm,15.1s						
BTO	**Baotou**	**25.40**	**25**	*eP*	**P**	**07 43 28.1**	**+1.4**
BTO				pP	**sP**	**07 43 32.3**	**+1.2**
BTO				sP	**pP**	**07 43 35.0**	**+5.2**
BTO				PP	**PnPn**	**07 44 09.0**	**+7.3**
BTO				S	**S**	**07 47 56.8**	**+3.4**
BTO				pmax	pmax		
	comp=Z,70nm,0.8s						
BTO				pmax	pmax		
	comp=Z,360nm,4.9s						
BTO				LR	LR		
	comp=Z,470nm,6.5s						
BTO				LR	LR		
	comp=Z,330nm,7.7s						
BTO				LR	LR		
	comp=Z,450nm,11.3s						
NIL	**Nilore**	**25.52**	**312**	P	**P**	**07 43 27.8**	**0.0**
NIL				IAmb	IAmb	07 43 32.9	
	comp=Z,19nm,0.8s						
HHC	**Hu-ho-hao-te**	**26.25**	**27**	*eP*	**P**	**07 43 34.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,4.9s						
HHC				LR	LR		
	comp=Z,370nm,8.4s						
HHC				LR	LR		
	comp=Z,430nm,8.4s						
HHC				LR	LR		
	comp=Z,450nm,8.4s						
WMQ	**Urumqi**	**26.50**	**346**	*eP*	**P**	**07 43 35.8**	**-0.8**
WMQ				pP	sP	07 43 45.3	+4.3
WMQ				sP	pP	07 43 50.8	+11
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
KSH	**Kashi**	**27.44**	**325**	P	**P**	**07 43 44.8**	**-0.4**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KAAM	**Kaadhehdhoo**	**28.63**	**235**	P	**P**	**07 43 56.8**	**+0.9**
KBL	**Kabul**	**29.00**	**309**	P	**P**	**07 43 59.9**	**+0.6**
KBL				IAmb	IAmb	07 44 03.8	
	comp=Z,18nm,1.4s						
AAK	**Ala-Archa**	**30.46**	**328**	P	**P**	**07 44 09.9**	**-2.1**
AAK	**Ala-Archa**	**30.46**	**328**	*i* P	**P**	**07 44 11.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK31	**Makanchi Array**	**30.69**	**341**	P	**P**	**07 44 13.3**	**-0.6**
MK31	**Makanchi Array**	**30.69**	**341**	*ceP*	**P**	**07 44 12.9**	**-1.0**
MKAR	**Makanchi Array**	**30.69**	**341**	P	**P**	**07 44 12.8**	**-1.1**
MKAR	**Makanchi Array**	**30.69**	**341**	*i* P	**P**	**07 44 13.0**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**30.69**	**341**	P	**P**	**07 44 13.0**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=148,slow=9.2,SNR=32						
MKAR				PcP	**PcP**	**07 47 11.3**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=216,slow=2.2,SNR=2.5						
MKAR				ScP	**ScP**	**07 50 54.0**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=157,slow=4.7,SNR=3.3						
	comp=Z,3.2nm,0.6s						
SONM	**Songino Array**	**30.77**	**14**	P	**P**	**07 44 14.5**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=207,slow=8.7,SNR=4.8						
SONM				LR	LR	07 58 10.9	
	comp=Z,42nm,21.9s,baz=316,slow=40						
	comp=Z,1.1nm,0.9s						
BTK	**Batken**	**30.78**	**320**	P	**P**	**07 44 14.6**	**-0.2**
MAKZ	**Makanchi**	**30.80**	**341**	P	**P**	**07 44 13.0**	**-1.9**
DAV	**Davao City (W)**	**30.85**	**107**	LR	LR	07 57 12.7	
	comp=Z,94nm,19.2s,baz=312,slow=37						
ULN	**Ulaanbaatar**	**30.95**	**15**	*i* P	**P**	**07 44 16.5**	**+0.2**
JOW	**Kunigami**	**30.96**	**68**	LR	LR	07 59 01.5	
	comp=Z,88nm,18.1s,baz=306,slow=41						
SIMJ	**Simiganj**	**31.11**	**317**	P	**P**	**07 44 17.0**	**-0.8**
SIMJ				IAmb	IAmb	07 44 22.1	
	comp=Z,18nm,1.4s						
DGZ	**Jazzator, Alta**	**32.19**	**350**	*i* P	**P**	**07 44 26.7**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZAK	**Zakamensk**	**32.65**	**9**	*eP*	**P**	**07 44 31.6**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
SNY	**Shenyang**	**33.30**	**39**	⇑P	P	07 44 23.8	-13
SNY				pmax	pmax		
	comp=Z,24nm,2.3s						
KSRS	**Korea Array**	**33.91**	**49**	LR	LR	08 00 07.5	
	comp=Z,150nm,19.1s,baz=235,slow=39						
JNU	**Nakatsue**	**34.60**	**58**	LR	LR	07 59 35.3	
	comp=Z,86nm,18.9s,baz=230,slow=38						
KURBB	**Kurchatov Arra**	**35.24**	**341**	P	**P**	**07 44 52.5**	**-1.0**
	comp=Z,4.3nm,0.6s,baz=150,slow=8.5,SNR=37						
KURBB				PcP	**PcP**	**07 47 24.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=160,slow=2.6,SNR=7.9						
KURBB				ScP	**ScP**	**07 51 09.3**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=155,slow=3.2,SNR=4.4						
	comp=Z,4.3nm,0.6s						
KURK	**Kurchatov**	**35.29**	**341**	P	**P**	**07 44 53.2**	**-0.7**
KURK				IAmb	IAmb	07 44 58.3	
	comp=Z,5.9nm,0.7s						
KURK	**Kurchatov**	**35.29**	**341**	*ceP*	**P**	**07 44 52.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CN2	**Changchun**	**35.58**	**38**	P	**P**	**07 44 55.0**	**-1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZAA0	**Zalesovo Array**	**36.73**	**349**	P	**P**	**07 45 05.9**	**-0.3**
ZAA0				IAmb	IAmb	07 45 07.8	
	comp=Z,14nm,0.9s						
ZALV	**Zalesovo Beam**	**36.73**	**349**		**P**	**07 45 05.7**	**-0.5**
ZALV	**Zalesovo Beam**	**36.73**	**349**	P	**P**	**07 45 05.5**	**-0.7**
	comp=Z,12nm,0.8s,baz=168,slow=7.6,SNR=29						
	comp=Z,12nm,0.8s						
BNX	**BinXian**	**37.85**	**36**	⇓P	**P**	**07 45 16.9**	**+1.1**
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
BNX				pmax	pmax		
	comp=Z,120nm,4.9s						
GEYT	**Alibeck**	**38.44**	**309**	P	**P**	**07 45 22.1**	**+1.1**
GEYT				IAmb	IAmb	07 45 28.2	
	comp=Z,20nm,1.1s						
GEYT	**Alibeck**	**38.44**	**309**	P	**P**	**07 45 22.3**	**+1.3**
	comp=Z,12nm,0.8s,baz=141,slow=9.6,SNR=20						
GYA0B	**ALIBECK ARRAY**	**38.44**	**309**	P	**P**	**07 45 21.4**	**+0.3**
GYA0B				IAmb	IAmb	07 45 28.2	
	comp=Z,19nm,0.9s						
SOEI	**Soe**	**39.36**	**133**	P	**P**	**07 45 28.8**	**-0.3**
SOEI				IAmb	IAmb	07 45 42.9	
	comp=Z,19nm,0.8s						
USA0B	**Ussuriysk Arra**	**39.76**	**41**		**P**	**07 45 31.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**39.76**	**41**		**P**	**07 45 31.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**39.76**	**41**	P	**P**	**07 45 32.2**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=239,slow=10.0,SNR=4.5						
USRK				LR	LR	08 03 23.1	
	comp=Z,70nm,18.2s,baz=198,slow=38						
	comp=Z,2.3nm,0.7s						
BVAR	**Borovoye Array**	**40.09**	**336**	P	**P**	**07 45 33.0**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=140,slow=7.5,SNR=5.2						
	comp=Z,1.4nm,0.6s						
BRVK	**Borovoye**	**40.16**	**336**	*ce*P	**P**	**07 45 34.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**41.33**	**55**	P	**P**	**07 45 46.3**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=261,slow=10,SNR=3.1						
MJAR				LR	LR	08 05 02.7	
	comp=Z,63nm,19.7s,baz=216,slow=39						
	comp=Z,1.5nm,0.5s						
KLR	**Kul'dur**	**42.27**	**35**	*i* P	**P**	**07 45 53.0**	**+0.5**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KLR	**Kul'dur**	**42.27**	**35**	LR	LR	08 06 22.9	
	comp=Z,78nm,19.8s,baz=229,slow=40						
ABKAR	**Akbulak array**	**42.45**	**325**	P	**P**	**07 45 53.5**	**-0.4**
KNRA	**Kununurra**	**46.62**	**134**	P	**P**	**07 46 27.5**	**-0.2**
ARU	**Arti**	**47.37**	**333**	P	**P**	**07 46 31.9**	**-1.1**
ARU				IAmb	IAmb	07 46 38.8	
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**47.37**	**333**	*c* *i* P	**P**	**07 46 32.2**	**-0.8**
ARU						07 48 15.7	
ARU				S	**S**	**07 53 28.7**	**+1.9**
ARU				SS	**SS**	**07 56 49.2**	**-5.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GNI	**Garni**	**49.06**	**308**	*i* P	**P**	**07 46 48.3**	**+1.7**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKH	**Akhalkalaki**	**50.23**	**309**	P	**P**	**07 46 54.5**	**-1.1**
ONI	**Oni**	**50.50**	**311**	P	**P**	**07 46 56.6**	**-0.8**
ONI				IAmb	IAmb	07 47 08.0	
	comp=Z,5.9nm,0.8s						
BELG	**Belogornoye**	**50.80**	**324**	*i* P	**P**	**07 46 58.0**	**-1.3**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**51.14**	**312**	*i* P	**P**	**07 47 02.4**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KBZ	**Khabaz**	**51.14**	**312**	P	**P**	**07 47 02.3**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=97,slow=6.7,SNR=6.3						
	comp=Z,2.9nm,0.9s						
KIV	**Kislovodsk**	**51.34**	**312**	P	**P**	**07 47 03.2**	**-0.5**
KIV	**Kislovodsk**	**51.34**	**312**	*eP*	**P**	**07 47 05.0**	**+1.3**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
KIV				MLR	MLR		
	comp=Z,51nm,17.0s						
NRIK	**Noril'sk**	**51.41**	**356**	P	**P**	**07 47 03.0**	**-0.7**
NRIK	**Noril'sk**	**51.41**	**356**	*ce*P	**P**	**07 47 02.7**	**-1.0**
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NRIK	**Noril'sk**	**51.41**	**356**	P	**P**	**07 47 02.1**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=161,slow=8.5,SNR=4.3						
	comp=Z,1.7nm,0.4s						
KIRV	**Kirov**	**52.67**	**331**	*i* P	**P**	**07 47 13.5**	**+0.3**
WRA	**Warramunga Arr**	**53.39**	**133**	P	**P**	**07 47 19.7**	**+0.6**
	comp=Z,5.1nm,0.9s,baz=321,slow=7.4,SNR=14						
	comp=Z,5.1nm,0.9s						
WB2	**Warramunga Arr**	**53.40**	**133**	P	**P**	**07 47 19.4**	**+0.2**
WB2				IAmb	IAmb	07 47 20.4	
	comp=Z,9.0nm,0.9s						
WR0	**Warramunga Arr**	**53.54**	**133**	P	**P**	**07 47 20.6**	**+0.3**
VRH	**Novokhopyorsk**	**53.82**	**321**	*eP*	**P**	**07 47 19.4**	**-2.4**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VORD	**Divnogorie**	**55.23**	**320**	*eP*	**P**	**07 47 29.8**	**-2.3**
VORD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VSR	**Storozhevoye**	**55.37**	**320**	*eP*	**P**	**07 47 30.4**	**-2.7**
VSR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
VORR	**Voronezh**	**55.46**	**321**	*eP*	**P**	**07 47 30.8**	**-3.0**
VORR				pmax	pmax		
	comp=Z,70nm,0.4s						
AS31	**Alice Springs**	**55.67**	**137**	P	**P**	**07 47 36.1**	**+0.4**
ASAR	**Alice Springs**	**55.67**	**137**	P	**P**	**07 47 36.2**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=317,slow=6.9,SNR=23						
	comp=Z,2.7nm,0.8s						
MMAI	**Mount Meron Ar**	**55.92**	**298**	LR	LR	08 18 55.7	
	comp=Z,35nm,19.7s,baz=27,slow=44						
TIXI	**Tiksi**	**56.83**	**12**	P	**P**	**07 47 41.9**	**-1.3**
TIXI				IAmb	IAmb	07 47 46.7	
	comp=Z,14nm,1.4s						
TIXI	**Tiksi**	**56.83**	**12**	*i* P	**P**	**07 47 42.3**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MA2	**Magadan**	**56.90**	**30**	*ce*P	**P**	**07 47 44.7**	**+0.8**
MA2				pmax	pmax		
	comp=Z,28nm,2.5s						
BRTR	**Keskin Array B**	**57.48**	**306**	P	**P**	**07 47 48.2**	**-0.4**
BRTR	**Keskin Array B**	**57.48**	**306**	*i* P	**P**	**07 47 48.4**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**57.48**	**306**	P	**P**	**07 47 48.0**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=112,slow=4.3,SNR=8.9						
	comp=Z,2.7nm,0.9s						
OBN	**Obninsk**	**57.88**	**324**	*i* P	**P**	**07 47 50.9**	**0.0**
OBN				*i*		07 50 01.2	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ANTO	**Ankara**	**58.14**	**306**	P	**P**	**07 47 51.3**	**-1.8**
KMBO	**Kilima Mbogo**	**60.85**	**258**	P	**P**	**07 48 13.5**	**+1.1**
KMBO				IAmb	IAmb	07 48 14.7	
	comp=Z,8.5nm,1.4s						
KMBO	**Kilima Mbogo**	**60.85**	**258**	*i* P	**P**	**07 48 12.5**	**+0.1**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KMBO	**Kilima Mbogo**	**60.85**	**258**	P	**P**	**07 48 10.7**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=50,slow=12,SNR=3.4						
KMBO				LR	LR	08 11 18.5	
	comp=Z,31nm,20.8s,baz=86,slow=33						
	comp=Z,0.9nm,0.3s						
LODK	**Lodwar**	**61.07**	**264**	P	**P**	**07 48 12.5**	**-1.2**
LODK				IAmb	IAmb	07 48 16.1	
	comp=Z,11nm,1.3s						
AKASG	**Malin Array Be**	**61.46**	**318**

FINES	**FINESS Array B**	**64.61**	**330**	P		**P**		**07 48 35.6**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=94,slow=4.1,SNR=8.5								
	comp=Z,3.3nm,0.7s								
MARR	**Marisel-Cluj**	**65.31**	**314**	⇑P		**P**		**07 48 41.7**	**+0.2**
DRGR		**65.59**	**314**	⇓P		**P**		**07 48 43.3**	**+0.1**
DRGR		**65.59**	**314**	⇓P		**P**		**07 48 43.3**	**+0.1**
STKA	**Stephens Creek**	**66.24**	**138**	P		**P**		**07 48 46.9**	**-0.5**
STKA	**Stephens Creek**	**66.24**	**138**	P		**P**		**07 48 48.1**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=340,slow=9.4,SNR=4.5								
	comp=Z,1.3nm,0.6s								
ARCES	**ARCESS Array B**	**66.30**	**339**	P		**P**		**07 48 45.6**	**-1.6**
ARCES	**ARCESS Array B**	**66.30**	**339**	P		**P**		**07 48 46.7**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=92,slow=5.7,SNR=9.5								
	comp=Z,3.1nm,0.6s								
SIRR	**Siria**	**66.33**	**313**	⇓P		**P**		**07 48 47.1**	**-0.8**
CRVS	**Cervenica-Dubn**	**66.40**	**316**	*e*P		**P**		**07 48 50.2**	**+1.9**
CRVS	**Cervenica-Dubn**	**66.40**	**316**	*e*P		**P**		**07 48 50.2**	**+1.9**
MBAR	**Mbarara**	**66.76**	**261**	P		**P**		**07 48 52.3**	**+1.0**
MBAR	**Mbarara**	**66.76**	**261**	*c*eP		**P**		**07 48 52.9**	**+1.6**
MBAR				pmax		pmax			
	comp=Z,16nm,1.3s								
SHEM	**Shemya Is, Ala**	**68.57**	**40**	LR		LR		08 20 21.5	
	comp=Z,20nm,19.0s,baz=306,slow=37								
CONA	**Conrad Observa**	**70.18**	**315**	*i* pP		**P**		**07 49 13.4**	**+1.3**
	comp=Z,5.1nm,1.4s								
SPITS	**Spitsbergen Ar**	**70.20**	**348**	P		**P**		**07 49 10.3**	**-1.2**
	comp=Z,19nm,1.1s,baz=105,slow=6.1,SNR=5.7								
	comp=Z,19nm,1.1s								
ARSA	**Arzberg**	**70.47**	**315**	*i* P		**P**		**07 49 14.1**	**+0.3**
	comp=Z,1.5nm,0.7s								
HFS	**Hagfors**	**70.59**	**328**	P		**P**		**07 49 13.4**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=79,slow=7.7,SNR=10								
HFS				LR		LR		08 22 32.9	
	comp=Z,87nm,20.6s,baz=247,slow=38								
	comp=Z,3.8nm,0.7s								
OBKA	**Obir**	**71.22**	**314**	*e*pP		**P**		**07 49 20.2**	**+1.7**
	comp=Z,7.0nm,0.8s								
NC405	**NORSAR Array S**	**71.51**	**329**	P		**P**		**07 49 19.5**	**-0.3**
GEC2	**GERESS Array S**	**71.52**	**316**	P		**P**		**07 49 19.9**	**-0.3**
GEC2				IAmb		IAmb		07 49 25.9	
	comp=Z,3.4nm,0.8s								
GERES	**GERESS Array B**	**71.52**	**316**	P		**P**		**07 49 20.0**	**-0.2**
GERES	**GERESS Array B**	**71.52**	**316**	P		**P**		**07 49 19.8**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=79,slow=6.9,SNR=10								
	comp=Z,3.8nm,0.7s								
CLL	**Collm**	**71.69**	**319**	*i* P		**P**		**07 49 24.4**	**+3.4**
CLL	**Collm**	**71.69**	**319**	*i* Px		Px		07 49 24.4	
NB2	**NORSAR Subarra**	**71.76**	**329**	P		**P**		**07 49 20.1**	**-1.2**
	comp=Z,7.6nm,1.2s,baz=85,slow=6.2								
NOA	**NORSAR Array B**	**71.76**	**329**	P		**P**		**07 49 20.3**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=90,slow=5.8,SNR=6.0								
NOA				LR		LR		08 22 14.9	
	comp=Z,36nm,18.5s,baz=245,slow=37								
	comp=Z,2.7nm,0.9s								
ABTA	**Abfaltersbach**	**72.58**	**314**	*i* P		**P**		**07 49 25.4**	**-1.3**
	comp=Z,8.5nm,1.3s								
FDMO	**Fiordimonte**	**72.73**	**310**	P		**P**		**07 49 27.3**	**-0.2**
SQTA	**Sankt Quirin**	**73.39**	**315**	*e*P		**P**		**07 49 31.7**	**+0.3**
	comp=Z,3.8nm,0.6s								
MOTA	**Moosalm**	**73.44**	**315**	*i* P		**P**		**07 49 32.3**	**+0.5**
	comp=Z,7.4nm,0.8s								
RETA	**Reutte**	**73.65**	**315**	*e*P		**P**		**07 49 32.2**	**-0.7**
	comp=Z,6.9nm,1.0s								
FETA	**Feichten**	**73.75**	**315**	*e*P		**P**		**07 49 32.6**	**-1.0**
	comp=Z,4.9nm,1.2s								
LSZ	**Lusaka**	**74.61**	**248**	P		**P**		**07 49 40.6**	**+1.6**
LSZ	**Lusaka**	**74.61**	**248**	LR		LR		08 19 58.3	
	comp=Z,39nm,19.7s,baz=138,slow=34								
G16K	**Koyuk River**	**78.39**	**25**	P		**P**		**07 49 59.7**	**+0.2**
G16K				IAmb		IAmb		07 50 05.2	
	comp=Z,15nm,1.4s								
E18K	**Tukpahlearik C**	**78.40**	**23**	P		**P**		**07 49 59.9**	**+0.4**
E18K				IAmb		IAmb		07 50 03.9	
	comp=Z,3.4nm,0.8s								
F17K	**Baldwin Pennin**	**78.48**	**24**	P		**P**		**07 49 59.7**	**-0.3**
F17K				IAmb		IAmb		07 50 04.5	
	comp=Z,4.9nm,0.8s								
EKA	**Eskdalemuir Ar**	**80.32**	**325**	P		**P**		**07 50 08.5**	**-1.7**
	comp=Z,2.9nm,0.7s,baz=79,slow=6.2,SNR=5.7								
	comp=Z,2.9nm,0.7s								
LBTB	**Lobatse**	**80.86**	**240**	LR		LR		08 24 08.5	
	comp=Z,53nm,19.4s,baz=174,slow=34								
K17K	**Iditarod**	**80.98**	**27**	P		**P**		**07 50 13.7**	**+0.1**
H21K	**Melozitna Rive**	**81.96**	**23**	P		**P**		**07 50 18.8**	**0.0**
H21K				IAmb		IAmb		07 50 24.2	
	comp=Z,5.5nm,0.9s								
D25K	**Kavik River**	**82.34**	**19**	P		**P**		**07 50 20.5**	**-0.3**
K20K	**Telida**	**82.49**	**25**	P		**P**		**07 50 22.0**	**+0.4**
K20K				IAmb		IAmb		07 50 24.6	
	comp=Z,8.3nm,1.3s								
BOSA	**Boshof**	**82.65**	**237**	P		**P**		**07 50 24.3**	**+1.1**
BOSA	**Boshof**	**82.65**	**237**	P		**P**		**07 50 23.7**	**+0.6**
	comp=Z,6.0nm,0.7s,baz=75,slow=3.4,SNR=8.2								
	comp=Z,6.0nm,0.7s								
E25K	**Arctic Village**	**83.23**	**19**	P		**P**		**07 50 23.5**	**-1.9**
E25K				IAmb		IAmb		07 50 41.9	
	comp=Z,7.8nm,1.4s								
CAST	**Castle Rocks**	**83.26**	**25**	P		**P**		**07 50 23.9**	**-1.7**
CAST				IAmb		IAmb		07 50 31.3	
	comp=Z,9.9nm,1.2s								
BPAW	**Bear Paw Mtn.**	**83.37**	**24**	P		**P**		**07 50 26.2**	**+0.1**
BPAW				IAmb		IAmb		07 50 50.2	
	comp=Z,10nm,1.5s								
BMAR	**Burnt Mountain**	**83.92**	**20**	P		**P**		**07 50 29.4**	**+0.5**
D27M	**Malcolm River**	**83.97**	**17**	P		**P**		**07 50 29.1**	**0.0**
SUMG	**Summit**	**84.54**	**348**	P		**P**		**07 50 31.4**	**-1.0**
ILAR	**Eielson Array**	**84.58**	**23**	P		**P**		**07 50 30.8**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=284,slow=4.0,SNR=7.0								
	comp=Z,0.7nm,0.9s								
PRP	**Porcupine Dome**	**84.66**	**22**	P		**P**		**07 50 32.3**	**-0.6**
PRP				IAmb		IAmb		07 50 38.6	
	comp=Z,8.1nm,1.0s								
E29M	**Blow River**	**85.38**	**17**	P		**P**		**07 50 35.1**	**-1.1**
E29M				IAmb		IAmb		07 50 40.7	
	comp=Z,5.0nm,1.4s								
TSUM	**Tsumeb**	**85.47**	**248**	LR		LR		08 24 54.4	
	comp=Z,29nm,20.2s,baz=339,slow=33								
A36M	**Sachs Harbour**	**85.85**	**12**			**P**		**07 50 37.7**	**-0.7**
A36M				IAmb		IAmb		07 50 44.1	
	comp=Z,7.0nm,0.8s								
J26L	**Joseph Creek**	**85.92**	**22**	P		**P**		**07 50 38.7**	**-0.4**
J26L				IAmb		IAmb		07 50 44.0	
	comp=Z,6.2nm,0.9s								
ESDC	**Sonseca Array**	**85.97**	**310**	P		**P**		**07 50 39.1**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=47,slow=5.6,SNR=5.0								
	comp=Z,0.7nm,0.8s								
SCRK	**Sand Creek**	**86.07**	**23**	P		**P**		**07 50 38.7**	**-1.2**
SCRK				IAmb		IAmb		07 50 44.3	
	comp=Z,3.6nm,0.9s								
SUR	**Sutherland**	**87.69**	**235**	LR		LR		08 29 55.9	
	comp=Z,66nm,18.8s,baz=176,slow=36								
C36M	**Paulatuk**	**88.17**	**13**	P		**P**		**07 50 48.2**	**-1.6**
C36M				IAmb		IAmb		07 51 10.9	
	comp=Z,6.7nm,1.4s								
TORD	**Torodi Ar. Bea**	**89.97**	**284**	P		**P**		**07 50 58.9**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=59,slow=5.3,SNR=7.1								
TORD				PP		**PP**		**07 54 30.7**	**-1.5**
	comp=Z,1.4nm,1.1s,baz=48,slow=6.5,SNR=4.9								
	comp=Z,1.3nm,0.9s								
DLBC	**Dease Lake**	**94.78**	**22**	LR		LR		08 38 19.7	
	comp=Z,146nm,18.5s,baz=168,slow=38								
TXAR	**Lajitas Array**	**129.09**	**22**	PKP		**PKPdf**		**07 57 07.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=187,slow=2.1,SNR=6.0								
BDFB	**Brasilia**	**145.51**	**269**	PKPbc		**PKPab**		**07 57 39.3**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=48,slow=2.9,SNR=13								

NEIC 22 07:50:35.5±1.6, 7.75S±0.05×78.8W±0.1, h125km±20km, mb4.0/4, Error ellipse: s-maj=18.7km s-min=7.3km az=84.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**3.54**	**342**	Pn	Pn	07 51 28.9	-0.2
MCRA				Sn	Sn	07 52 08.7	-1.9
ARNL	**Arenillas**	**4.36**	**344**	Pn	Pn	07 51 39.4	-0.5
BOSC	**San Juan Bosco**	**4.58**	**4**	Pn	Pn	07 51 43.5	+0.3
BOSC				Sn	Sn	07 52 33.7	-2.1
NNA	**Nana**	**4.64**	**155**	Pn	Pn	07 51 43.8	0.0
COHC	**Cochancay**	**5.27**	**355**	Pn	Pn	07 51 52.9	+0.7
CZSB	**Cruzeiro do Su**	**6.07**	**90**	Pn	Pn	07 52 03.3	+0.3
CHSH	**Refugio Sur-Vo**	**6.22**	**360**	Pn	Pn	07 52 05.8	+0.3
SLOR	**San Lorenzo -**	**6.99**	**3**	Pn	Pn	07 52 15.2	-0.5
OTAV	**Otavalo**	**7.95**	**3**	Pn	Pn	07 52 28.5	-0.2
ETMB	**Extrema**	**12.64**	**100**	Pn	Pn	07 53 28.5	-2.5
PB16	**IPOC Station P**	**13.89**	**140**	Pn	Pn	07 53 48.1	+0.5
PB11	**IPOC Station P**	**14.89**	**144**	Pn	Pn	07 53 57.1	-2.8
SAML	**Samuel**	**15.53**	**95**	Pn	Pn	07 54 08.5	+0.7
JACO	**JACO, Garabito**	**18.25**	**341**	P	P	07 54 39.1	-0.3
JACO				IAmb	IAmb	07 54 43.0	
	comp=Z,9.2nm,0.9s						
MACA	**Manacapuru-AM**	**18.63**	**77**	P	P	07 54 42.6	-0.9
MACA				IAmb	IAmb	07 55 09.4	
	comp=Z,6.0nm,0.7s						
BAUV	**El Baul**	**19.77**	**33**	P	Pn	07 54 58.0	-0.6

IDC 22 07:51:49.8±3.0, 53.70N×88.15E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.3km s-min=18.5km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**279**	I	I	08 03 00.0	
	baz=96,slow=344,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.99**	**279**	Pn	Pn	07 52 25.0	+0.3
	1.1nm,0.3s,baz=92,slow=13,SNR=20						
ZALV				Lg	Lg	07 52 52.8	
	2.8nm,0.3s,baz=96,slow=27,SNR=15						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	Pn	07 53 29.4	+0.5
	0.1nm,0.3s,baz=62,slow=14,SNR=8.8						
KURBB				Lg	Lg	07 55 22.4	
	baz=58,slow=30,SNR=5.1						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.86**	**211**	Pn	Pn	07 53 46.3	+1.0
	0.1nm,0.3s,baz=27,slow=12,SNR=6.5						
MKAR				Lg	Lg	07 55 59.0	
	baz=36,slow=35,SNR=2.6						
	0.1nm,0.3s						

IDC 22 07:57:50.0±4.0, 35.44N×34.55W, h0km, mb3.4/5, mbtmp3.4/5, MS3.7/1, Error ellipse: s-maj=130.6km s-min=35.1km az=173.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**45.67**	**36**	LR	LR	08 22 16.3	
	comp=Z,83nm,18.9s,baz=58,slow=32						
YKA	**Yellowknife Ar**	**54.78**	**326**	P	P	08 07 21.5	+0.3
	0.2nm,0.8s,baz=75,slow=7.1,SNR=3.5						
	0.2nm,0.8s						
PDAR	**Pinedale Array**	**56.90**	**302**	P	P	08 07 36.3	-0.7
	0.3nm,0.7s,baz=70,slow=7.8,SNR=2.5						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**57.62**	**285**	P	P	08 07 42.4	+0.2
	0.3nm,0.7s,baz=79,slow=7.8,SNR=4.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**76.05**	**37**	P	P	08 09 39.0	-0.1
	0.3nm,0.6s,baz=313,slow=6.0,SNR=4.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**80.44**	**38**	P	P	08 10 03.7	+0.2
	0.3nm,0.7s,baz=325,slow=4.0,SNR=3.2						
	0.3nm,0.7s						

IDC 22 08:06:54.9±2.5, 54.17N×86.36E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=20.5km s-min=11.6km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**257**	I	I	08 12 30.0	
	0.2nm,0.8s,baz=74,slow=340,SNR=26						
ZALV	**Zalesovo Beam**	**0.93**	**257**	Pg	Pg	08 07 11.3	-1.5
	1.5nm,0.3s,baz=74,slow=17,SNR=21						
ZALV				Lg	Lg	08 07 26.7	
	5.2nm,0.3s,baz=78,slow=30,SNR=8.9						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	08 08 25.5	+1.1
	0.1nm,0.3s,baz=51,slow=14,SNR=4.2						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	08 08 51.0	+1.1
	0.2nm,0.3s,baz=24,slow=13,SNR=11						
MKAR				Lg	Lg	08 11 01.8	
	baz=34,slow=37,SNR=2.4						
	0.2nm,0.3s						

IDC 22 08:15:33.4±8.1, 6.50N×94.33E, h112km±75km, mb3.7/10, mbtmp4.0/11, MS2.8/2, Error ellipse: s-maj=43.4km s-min=14.8km az=56.0

ISC 22 08:15:32.0±1.0, 6.4N±0.1×94.3E±0.2, h100km, n21, σ05.51/11, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.78**	**20**	P	**Pn**	**08 18 30.6**	**+0.5**
	1.0nm,0.3s,baz=218,slow=14,SNR=7.8						
CMAR				LR	LR	08 24 33.5	
	comp=Z,13nm,18.0s,baz=315,slow=42						
H08S3	**Diego Garcia H**	**25.84**	**238**	T	T	08 48 02.1	
	baz=56,slow=76,SNR=30						
H08S2	**Diego Garcia H**	**25.84**	**238**	T	T	08 48 00.4	
	baz=56,slow=76,SNR=31						
H08S1	**Diego Carcia H**	**25.86**	**238**	T	T	08 48 01.3	
	baz=56,slow=76,SNR=4.6						
AAK	**Ala-Archa**	**40.07**	**337**	LR	LR	08 43 35.6	
	comp=Z,34nm,18.2s,baz=297,slow=42						
MKAR	**Makanchi Array**	**41.50**	**348**	P	**P**	**08 23 08.7**	**-0.6**
	1.8nm,0.8s,baz=162,slow=7.9,SNR=11						
	1.8nm,0.8s						
GEYT	**Alibeck**	**45.35**	**319**	P	**P**	**08 23 40.2**	**-0.3**
	1.0nm,0.3s,baz=142,slow=12,SNR=2.0						
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**45.96**	**346**	P	**P**	**08 23 44.6**	**-0.3**
	0.9nm,0.6s,baz=170,slow=7.0,SNR=11						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**47.34**	**125**	P	**P**	**08 23 55.5**	**-0.6**
	1.2nm,0.7s,baz=304,slow=9.0,SNR=9.0						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**47.98**	**352**	P	**P**	**08 24 00.2**	**-0.4**
	1.0nm,0.3s,baz=172,slow=7.0,SNR=8.4						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**48.91**	**129**	P	**P**	**08 24 08.5**	**+0.3**
	1.4nm,0.6s,baz=299,slow=7.9,SNR=26						
	1.4nm,0.6s						
BVAR	**Borovoye Array**	**50.38**	**341**	P	**P**	**08 24 18.3**	**-0.6**
	0.5nm,0.5s,baz=142,slow=7.5,SNR=3.7						
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**53.26**	**332**	P	**P**	**08 24 40.6**	**+0.3**
	1.0nm,0.5s,baz=118,slow=6.7,SNR=3.8						
	1.0nm,0.5s						
H04N2	**CROZET ISLANDS**	**64.58**	**211**	T	T	09 36 38.7	
	baz=50						
H04N1	**CROZET ISLANDS**	**64.59**	**211**	T	T	09 36 40.5	
	baz=50,slow=75						
H04N3	**CROZET ISLANDS**	**64.60**	**211**	T	T	09 36 34.4	
	baz=50,slow=75						
H04S1	**CROZET ISLANDS**	**64.98**	**211**	T	T	09 37 04.1	
	baz=49						
H04S3	**CROZET ISLANDS**	**64.98**	**211**	T	T	09 36 56.9	
	baz=49						
H04S2	**CROZET ISLANDS**	**64.99**	**211**	T	T	09 37 05.7	
	baz=49						
FINES	**FINESS Array B**	**74.03**	**332**	P	**P**	**08 26 56.9**	**+0.2**
	0.7nm,0.4s,baz=90,slow=5.6,SNR=9.0						
	0.7nm,0.4s						
BOSA	**Boshof**	**74.95**	**238**	P	**P**	**08 27 03.2**	**+0.4**
	1.8nm,0.6s,baz=119,slow=5.8,SNR=4.1						
	1.8nm,0.6s						

SJA 22 08:17:52.9±0.8, 29.60S×71.67W, h40km±6km, ML4.2, MW4.2

IDC 22 08:17:54.9±0.7, 29.66S×71.58W, h35km±4km, mb3.9/7, mbtmp3.9/12, ML3.7/5, MS3.3/6, Error ellipse: s-maj=24.1km s-min=13.9km az=53.0

GUC 22 08:17:54.4±0.9, 29.625×71.49W, h49km±4km, ML4.3

ISC 22 08:17:52.5±0.8, 29.59S±0.02×71.65W±0.04, h23km±5km, n96, σ1946/129, mb4.0/8, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.49**	**133**	*e*P	**Pn**	**08 18 04.9**	**+0.8**
CO05				*e*S	**Sn**	**08 18 11.8**	**0.0**
CO05				IAML		08 18 12.6	
	comp=E,55μm,0.4s						
GO04	**Tololo Observa**	**0.94**	**128**	*e*P	**Pn**	**08 18 11.1**	**+0.5**
GO04				*e*S	**Sn**	**08 18 24.1**	**+0.7**
GO04	**Tololo Observa**	**0.94**	**128**	*e*P	**Pn**	**08 18 11.0**	**+0.5**
GO04				*e*S	**Sn**	**08 18 22.9**	**-0.6**
LCO	**Las Campanas**	**1.01**	**56**	*e*P	**Pn**	**08 18 11.9**	**+0.4**
LCO				*e*S	**Sn**	**08 18 25.9**	**+0.8**
LCO				IAML		08 18 27.6	
	comp=Z,29μm,0.8s						
LCO	**Las Campanas**	**1.01**	**56**	*e*P	**Pn**	**08 18 11.7**	**+0.2**
LCO				*i* S	**Sn**	**08 18 25.1**	**0.0**
CO06	**Fray Jorge**	**1.08**	**179**	⇑*e*P	**Pb**	**08 18 13.3**	**+0.8**
CO06				*e*S	**Sn**	**08 18 27.1**	**+0.6**
CO06				IAML		08 18 28.9	
	comp=N,5μm,0.2s						
CO01	**Juntas del Tor**	**1.41**	**106**	*e*P	**Pb**	**08 18 18.0**	**-0.3**
CO01				*e*S	**Sb**	**08 18 35.3**	**-0.6**
CO01				IAML		08 18 36.1	
	comp=Z,2μm,0.5s						
CO01	**Juntas del Tor**	**1.41**	**106**	*e*P	**Pb**	**08 18 18.1**	**-0.1**
CO01				*e*S	**Sn**	**08 18 34.2**	**-0.8**
AC05	**El Transito**	**1.42**	**58**	*e*P	**Pb**	**08 18 18.5**	**+0.2**
AC05				*e*S	**Sb**	**08 18 36.8**	**+0.8**
AC05	**El Transito**	**1.42**	**58**	*e*P	**Pb**	**08 18 18.5**	**+0.2**
AC05				*e*S	**Sn**	**08 18 35.1**	**+0.1**
AC04	**Llanos de Chal**	**1.47**	**20**	*e*P	**Pb**	**08 18 18.4**	**-0.7**
AC04	**Llanos de Chal**	**1.47**	**20**	*e*P	**Pb**	**08 18 19.0**	**-0.1**
AC04				*e*S	**Sb**	**08 18 37.6**	**+0.3**
CO03	**El Pedregal**	**1.50**	**146**	*e*P	**Pn**	**08 18 18.8**	**+0.7**
CO03				*e*S	**Sn**	**08 18 36.9**	**-0.2**
CO03				IAML		08 18 38.4	
	comp=Z,2μm,0.3s						
CO03	**El Pedregal**	**1.50**	**146**	*e*P	**Pb**	**08 18 18.9**	**-0.8**
CO03				*e*S	**Sn**	**08 18 36.3**	**-0.7**
CO03				IAML		08 18 37.0	
	comp=N,5μm,0.3s						
CO02	**Combarbal**	**1.71**	**161**	*e*P	**Pb**	**08 18 22.2**	**-1.0**
CO02				*e*S	**Sb**	**08 18 43.3**	**-1.0**
CO02				IAML		08 18 45.2	
	comp=Z,2μm,0.6s						
CO02	**Combarbal**	**1.71**	**161**	*e*P	**Pb**	**08 18 22.3**	**-1.0**
CO02				*e*S	**Sn**	**08 18 42.5**	**+0.4**
CO02				IAML		08 18 47.3	
	comp=E,10μm,0.2s						
AROD	**Rodeo**	**1.98**	**108**	*e*P	**Pb**	**08 18 27.6**	**-0.4**
ACDV	**Cuesta del Vie**	**2.27**	**105**	*e*P	**Pb**	**08 18 31.8**	**-1.1**
ACDV				*e*S	Sn	08 18 44.9	-11
ACDV				IAML		08 18 50.2	
	comp=Z,869nm,0.6s						
GO03	**Copiap**	**2.34**	**32**	*e*P	**Pn**	**08 18 31.4**	**+1.7**
GO03	**Copiap**	**2.34**	**32**	*e*P	**Pn**	**08 18 31.0**	**+1.3**
GO03				IAML		08 19 11.8	
	comp=N,2μm,0.4s						
ACCO	**Cerro Coronel**	**2.45**	**115**	*e*P	**Pb**	**08 18 34.9**	**-1.2**
ACCO				IAML		08 19 18.2	
	comp=Z,679nm,0.3s						
AC06	**Mina Casimiro**	**2.50**	**28**	*e*P	**Pn**	**08 18 33.0**	**+1.2**
AC06				*e*S	**Sn**	**08 19 02.1**	**+0.6**
AC06				IAML		08 19 18.5	
	comp=E,896nm,0.5s						
DOCA	**Reserva Natura**	**2.60**	**122**	*e*P	**Pb**	**08 18 36.7**	**-2.0**
DOCA				*e*S	Sn	08 18 50.8	-14
AGUA	**GUANDACOL**	**2.76**	**89**	*e*P	**Pb**	**08 18 39.5**	**-1.7**
AGUA				IAML		08 19 32.4	
	comp=Z,824nm,0.5s						
VA06	**Catapilco**	**2.98**	**174**	⇓*i* P	**Pn**	**08 18 39.5**	**+1.2**
VA06				*e*S	**Sn**	**08 19 13.3**	**-0.1**
VA06				IAML		08 19 17.2	
	comp=E,2μm,0.6s						
RTLS	**Leoncito**	**3.00**	**138**	*e*P	**Pb**	**08 18 42.8**	**-2.6**
RTLS				IAML		08 19 35.1	
	comp=Z,2μm,0.5s						
VCA	**Vinchina**	**3.13**	**75**	*e*P	**Pb**	**08 18 45.6**	**-1.9**
VCA				*e*S	**Sb**	**08 19 24.6**	**-0.7**
VCA				IAML		08 19 43.6	
	comp=Z,913nm,0.6s						
VCA	**Vinchina**	**3.13**	**75**	*e*P	**Pb**	**08 18 45.6**	**-1.9**
VCA				*e*S	**Sb**	**08 19 22.9**	**-2.5**
VCA				IAML		08 19 42.6	
	comp=N,1μm,0.5s						
RTLL	**Cerro Villicun**	**3.25**	**123**	*e*P	**Pn**	**08 18 45.0**	**+2.9**
RTLL				IAML		08 19 44.5	
	comp=Z,409nm,0.4s						
VA03	**San Esteban**	**3.30**	**164**	*e*P	**Pn**	**08 18 44.7**	**+1.8**
VA03				IAML		08 19 31.7	
	comp=Z,532nm,0.7s						
VA03	**San Esteban**	**3.30**	**164**	*e*P	**Pn**	**08 18 45.1**	**+2.3**
VA03				*e*S	**Sn**	**08 19 21.5**	**0.0**
VA03				IAML		08 19 24.2	
	comp=E,1μm,0.2s						
ROCH	**El Roble**	**3.42**	**171**	*e*P	**Pn**	**08 18 46.0**	**+1.4**
ROCH				⇑*e*P	**Pn**	**08 18 46.0**	**+1.4**
ROCH				*e*S	**Sn**	**08 19 24.7**	**+0.2**
ROCH				*e*S	**Sn**	**08 19 24.7**	**+0.2**
ROCH				IAML		08 19 46.7	
	comp=E,808nm,0.3s						
ROC1	**El Roble**	**3.42**	**171**	*e*P	**Pn**	**08 18 46.0**	**+1.4**
ROC1				*e*S	**Sn**	**08 19 25.1**	**+0.5**
VA01	**Torpederas**	**3.42**	**180**	*e*P	Pn	08 18 30.3	-14
VA01				IAML		08 19 45.0	
	comp=Z,256nm,0.6s					

ACHE	**Chepes**	**4.59**	**111**	*eP*		**Pn**	**08 19 03.5**	**+2.9**
GO02	**Mina Guanaco**	**4.77**	**23**	*eP*		**Pn**	**08 19 04.0**	**+0.7**
GO02	**Mina Guanaco**	**4.77**	**23**	*eP*		**Pn**	**08 19 04.0**	**+0.7**
BO01	**Tunca**	**4.81**	**174**	*eP*		**Pn**	**08 19 04.3**	**+0.7**
BO01				IAML			08 20 29.5	
	comp=Z,106nm,0.8s							
BO03	**Pichilemu**	**4.90**	**183**	*eP*		**Pn**	**08 19 04.4**	**-0.4**
BO02	**Sierra Bellavi**	**5.24**	**172**	*eP*		**Pn**	**08 19 11.1**	**+1.6**
BO02				*eS*		**Sn**	**08 20 10.7**	**+1.4**
BO02				IAML			08 20 40.8	
	comp=Z,182nm,0.7s							
CYA	**Chova**	**5.25**	**79**	*eP*		**Pn**	**08 19 11.5**	**+1.9**
H03N1	**Juan Fernandez**	**7.29**	**236**	T		T	08 27 19.9	
	baz=64,slow=72,SNR=2404							
H03N2	**Juan Fernandez**	**7.30**	**236**	T		T	08 27 20.4	
	baz=64,slow=72,SNR=2835							
H03N3	**Juan Fernandez**	**7.31**	**236**	T		T	08 27 19.0	
	baz=64,slow=72,SNR=2466							
LVC	**Limon Verde**	**7.37**	**20**	Pn		**Pn**	**08 19 39.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=200,slow=14,SNR=2.0							
LVC				Sn		**Sn**	**08 20 59.2**	**-3.0**
	comp=Z,1.8nm,0.3s,baz=139,slow=23,SNR=1.6							
LVC				Lg		Lg	08 21 40.0	
	comp=Z,4.7nm,0.3s,baz=283,slow=11,SNR=6.4							
LVC				LR		LR	08 22 24.5	
	comp=Z,158nm,19.0s,baz=234,slow=36							
	comp=Z,1.4nm,0.4s							
PLCA	**Paso Flores**	**11.16**	**176**	Pn		**Pn**	**08 20 29.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=311,slow=10,SNR=6.0							
PLCA				LR		LR	08 25 11.5	
	comp=Z,150nm,20.1s,baz=22,slow=39							
	comp=Z,0.5nm,0.5s							
CPUP	**Villa Florida**	**13.07**	**79**	Pn		**Pn**	**08 20 58.8**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=18,slow=20,SNR=1.5							
CPUP				LR		LR	08 26 25.7	
	comp=Z,126nm,18.6s,baz=218,slow=39							
	comp=Z,0.8nm,0.3s							
SIV	**San Ignacio**	**16.67**	**38**	Pn		**Pn**	**08 21 44.6**	**-0.1**
	baz=206,slow=9.6,SNR=11							
SIV				LR		LR	08 27 33.7	
	comp=Z,61nm,18.9s,baz=111,slow=35							
	comp=Z,1.8nm,0.5s							
NNA	**Nana**	**18.17**	**344**	LR		LR	08 27 19.2	
	comp=Z,57nm,20.4s,baz=182,slow=31							
BDFB	**Brasilia**	**25.79**	**63**	P		**P**	**08 23 19.9**	**-2.1**
	comp=Z,1.6nm,0.5s,baz=238,slow=15,SNR=3.5							
QSPA	**South Pole Qui**	**60.64**	**180**	P		**P**	**08 28 01.6**	**+0.2**
	comp=Z,1.5nm,0.2s,baz=155,slow=3.0,SNR=6.5							
	comp=Z,1.5nm,0.2s							
TXAR	**Lajitas Array**	**66.08**	**330**	P		**P**	**08 28 39.2**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=152,slow=8.7,SNR=7.8							
	comp=Z,0.6nm,0.7s							
MAW	**Mawson**	**77.31**	**164**	P		**P**	**08 29 44.7**	**0.0**
	comp=Z,3.0nm,0.5s,baz=203,slow=6.7,SNR=6.6							
	comp=Z,3.0nm,0.5s							
PDAR	**Pinedale Array**	**80.00**	**333**	P		**P**	**08 30 01.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=158,slow=6.9,SNR=4.0							
	comp=Z,0.3nm,0.6s							
ELK	**Elko**	**80.80**	**328**	LR		LR	09 02 00.2	
	comp=Z,31nm,18.6s,baz=247,slow=33							
BOSA	**Boshof**	**81.84**	**118**	P		**P**	**08 30 09.2**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=216,slow=5.2,SNR=3.6							
	comp=Z,2.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**82.41**	**70**	P		**P**	**08 30 12.6**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=276,slow=5.8,SNR=8.3							
TORD				pP		**sP**	**08 30 23.7**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=285,slow=4.0,SNR=5.7							
	comp=Z,0.8nm,0.7s							
YKA	**Yellowknife Ar**	**98.00**	**341**	P		**P**	**08 31 25.9**	**-0.2**
	comp=Z,0.1nm,0.8s,baz=134,slow=3.5,SNR=2.3							
	comp=Z,0.1nm,0.8s							
WRA	**Warramunga Arr**	**124.75**	**210**	PKP		**PKPdf**	**08 36 50.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=157,slow=1.9,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**126.05**	**272**	T		T	10 55 54.6	
	baz=115,slow=74,SNR=12							
H11S1	**WAKE ISLAND Hy**	**126.06**	**272**	T		T	10 55 51.7	
	baz=115,slow=74,SNR=40							
H11S3	**WAKE ISLAND Hy**	**126.07**	**272**	T		T	10 55 53.4	
	baz=115,slow=74,SNR=29							
BVAR	**Borovoye Array**	**143.74**	**39**	PKP		PKPbc	08 37 23.2	+0.3
	comp=Z,0.4nm,0.4s,baz=293,slow=1.1,SNR=2.8							
KURBB	**Kurchatov Arra**	**149.32**	**38**	PKPbc		**PKPbc**	**08 37 39.5**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=303,slow=3.1,SNR=17							
AAK	**Ala-Archa**	**149.92**	**55**	PKPbc		**PKiKP**	**08 37 42.1**	**+0.1**
	comp=Z,4.5nm,0.4s,baz=204,slow=2.1,SNR=9.9							
ZALV	**Zalesovo Beam**	**150.26**	**28**	PKPbc		**PKiKP**	**08 37 41.7**	**-0.3**
	comp=Z,14nm,0.5s,baz=302,slow=3.2,SNR=48							
ZALV				pPKPbc		**pPKPab**	**08 37 54.5**	**-0.3**
	comp=Z,10nm,0.6s,baz=296,slow=2.9,SNR=14							
MKAR	**Makanchi Array**	**153.45**	**42**	PKPbc		**PKPbc**	**08 37 48.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=316,slow=2.2,SNR=8.2							
MKAR				pPKPbc		**PKPab**	**08 38 01.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=319,slow=1.9,SNR=7.2							

IDC 22 08:24:30.2±2.8, 53°.97N×86°.56E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=23.5km s-min=13.5km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**269**	I	I	08 30 10.0	
	baz=89,slow=338,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.03**	**269**	Pg	Pg	08 24 48.8	-1.2
	0.3nm,0.3s,baz=86,slow=17,SNR=4.1						
ZALV				Lg	Lg	08 25 04.6	
	1.1nm,0.3s,baz=89,slow=30,SNR=3.8						
KURBB	**Kurchatov Arra**	**5.96**	**239**	Pn	Pn	08 26 00.8	+1.2
	baz=54,slow=13,SNR=3.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	08 26 24.2	+0.8
	0.1nm,0.3s,baz=26,slow=12,SNR=5.0						
MKAR				Lg	Lg	08 28 36.6	
	0.1nm,0.3s,baz=34,slow=31,SNR=2.6						
	0.1nm,0.3s						

IDC 22 08:25:00.2±0.6, 11°.92N×125°.83E, h0km, mb4.1/18, mbtmp4.1/18, MS3.7/3, Error ellipse: s-maj=35.1km s-min=14.1km az=68.0

ISC 22 08:25:04.7±0.6, 11°.9N±0°.1×125°.8E±0°.2, h28km, n28, σ0s62/22, mb4.1/18, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.81**	**182**	LR	LR	08 28 39.4	
	comp=Z,322nm,19.3s,baz=350,slow=45						
KSRS	**Korea Array**	**25.51**	**4**	P	**P**	**08 30 30.5**	**-0.3**
	1.1nm,0.6s,baz=189,slow=9.9,SNR=4.3						
	1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.68**	**287**	P	**P**	**08 30 42.5**	**+0.8**
	1.2nm,0.3s,baz=84,slow=8.3,SNR=4.8						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**32.75**	**165**	P	**P**	**08 31 34.4**	**-1.0**
	0.6nm,0.6s,baz=346,slow=9.2,SNR=1.6						
WRA				PcP	**PcP**	**08 34 20.2**	**-0.3**
	0.8nm,0.5s,baz=337,slow=2.9,SNR=4.7						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**36.24**	**167**	P	**P**	**08 32 06.0**	**+0.4**
	0.9nm,0.4s,baz=342,slow=6.8,SNR=32						
ASAR				PcP	**PcP**	**08 34 30.2**	**-0.3**
	0.8nm,0.5s,baz=349,slow=3.0,SNR=8.2						
	0.9nm,0.4s						
SONM	**Songino Array**	**39.32**	**339**	P	**P**	**08 32 31.4**	**-0.1**
	0.5nm,0.4s,baz=146,slow=8.5,SNR=3.0						
	0.5nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**39.95**	**75**	T	T	09 15 50.0	
	baz=276,slow=74,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**39.97**	**75**	T	T	09 15 47.2	
	baz=276,slow=74,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**39.97**	**75**	T	T	09 15 53.4	
	baz=276,slow=74,SNR=4.8						
HNR	**Honiara**	**40.04**	**121**	LR	LR	08 50 17.5	
	comp=Z,572nm,18.0s,baz=308,slow=38						
H11N1	**WAKE ISLAND Hy**	**40.23**	**74**	T	T	09 15 49.7	
	baz=266,slow=74,SNR=33						
H11N2	**WAKE ISLAND Hy**	**40.24**	**74**	T	T	09 15 53.1	
	baz=266,slow=74,SNR=21						
H11N3	**WAKE ISLAND Hy**	**40.25**	**74**	T	T	09 15 49.7	
	baz=266,slow=74,SNR=29						
PALK	**Pallekele**	**44.64**	**268**	LR	LR	08 50 48.3	
	comp=Z,29nm,19.6s,baz=227,slow=35						
STKA	**Stephens Creek**	**46.10**	**161**	P	**P**	**08 33 26.8**	**+0.3**
	0.7nm,0.3s,baz=1.7,slow=8.0,SNR=6.3						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**50.44**	**322**	P	**P**	**08 34 00.7**	**+0.8**
	3.5nm,0.9s,baz=117,slow=8.7,SNR=30						
MKAR				PcP	**PcP**	**08 35 17.7**	**-0.3**
	0.9nm,0.6s,baz=108,slow=4.9,SNR=6.0						
	3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**52.97**	**331**	P	**P**	**08 34 18.1**	**-0.5**
	0.8nm,0.6s,baz=120,slow=8.8,SNR=5.6						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**54.46**	**325**	P	**P**	**08 34 30.2**	**+0.6**
	4.4nm,0.8s,baz=125,slow=7.3,SNR=30						
	4.4nm,0.8s						
BVAR	**Borovoye Array**	**60.05**	**325**	P	**P**	**08 35 09.3**	**+0.3**
	2.2nm,0.8s,baz=135,slow=6.2,SNR=8.3						
	2.2nm,0.8s						
ILAR	**Eielson Array**	**78.19**	**26**	P	**P**	**08 37 01.5**	**+0.2**
	0.2nm,0.8s,baz=244,slow=7.4,SNR=4.2						
	0.2nm,0.8s						
SPITS	**Spitsbergen Ar**	**82.33**	**349**	P	**P**	**08 37 23.9**	**+0.5**
	8.3nm,0.9s,baz=89,slow=5.9,SNR=5.4						
	8.3nm,0.9s						
ARCES	**ARCESS Array B**	**82.50**	**340**	P	**P**	**08 37 24.7**	**+0.2**
	7.5nm,1.1s,baz=64,slow=5.5,SNR=7.8						
	7.5nm,1.1s						
BRTR	**Keskin Array B**	**84.12**	**309**	P	**P**	**08 37 32.9**	**-0.7**
	1.1nm,0.6s,baz=76,slow=5.2,SNR=5.2						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**84.23**	**332**	P	**P**	**08 37 32.6**	**-0.8**
	1.9nm,0.7s,baz=103,slow=4.3,SNR=6.0						
	1.9nm,0.7s						
AKASG	**Malin Array Be**	**85.00**	**321**	P	**P**	**08 37 37.0**	**-0.6**
	0.7nm,0.4s,baz=66,slow=4.2,SNR=6.1						
	0.7nm,0.4s						
HFS	**Hagfors**	**90.38**	**332**	P	**P**	**08 38 02.4**	**-0.9**
	5.5nm,1.1s,baz=42,slow=6.8,SNR=2.4						
	5.5nm,1.1s						
YKA	**Yellowknife Ar**	**92.47**	**24**	P	**P**	**08 38 13.5**	**+0.7**
	0.1nm,0.6s,baz=303,slow=5.0,SNR=2.4						
	0.1nm,0.6s						
PLCA	**Paso Flores**	**147.89**	**156**	PKPbc	**PKPdf**	**08 44 45.5**	**+0.9**
	3.9nm,1.2s,baz=229,slow=3.3,SNR=4.2						

IDC 22 08:34:41.2±3.5, 54°.58N×86°.46E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.7km s-min=16.5km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.15**	**237**	I	I	08 41 00.0	
	baz=55,slow=335,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.15**	**237**	Pg	Pg	08 35 02.1	-1.2
	1.4nm,0.3s,baz=54,slow=16,SNR=15						
ZALV				Lg	Lg	08 35 19.6	
	3.5nm,0.3s,baz=58,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.25**	**234**	Pn	Pn	08 36 15.3	+0.8
	0.1nm,0.3s,baz=52,slow=14,SNR=7.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.23**	**200**	Pn	Pn	08 36 42.8	+0.9
	0.1nm,0.3s,baz=23,slow=12,SNR=2.4						
	0.1nm,0.3s						

IDC 22 08:43:33.9±52.0, 17°.06S×177°.12W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=957.2km s-min=181.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.11**	**241**	P	P	08 51 12.2	+0.7
	1.4nm,0.7s,baz=90,slow=5.1,SNR=3.3						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**46.00**	**259**	P	P	08 51 58.9	-0.5
	0.4nm,0.7s,baz=96,slow=8.0,SNR=1.5						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**46.21**	**253**	P	P	08 52 00.6	-0.5
	1.5nm,0.5s,baz=89,slow=8.1,SNR=30						
	1.5nm,0.5s						

NNC 22 08:56:13.2±1.5, 51°.87N×75°.44E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=22.7km s-min=7.8km az=25.0, Suspected Mining explosion.
IDC 22 08:56:19.5±1.1, 51°.77N×75°.89E, h0km, mbtmp2.6/3, ML1.6/3, Error ellipse: s-maj=25.3km s-min=8.3km az=31.0

ISC 22 08:56:16.7±1.1, 51°.7N±0°.1×75°.42E±0°.09, h0km, n12, σ1s05/11, 7C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.25**	**118**	⇑Pg	**Pn**	**08 56 55.8**	**+0.7**
	5.3nm,0.8s						
KURBB				⇑Lg	Lg	08 57 26.5	
	20nm,0.6s						
KURBB	**Kurchatov Arra**	**2.25**	**118**	Pg	**Pn**	**08 56 55.1**	**0.0**
	0.2nm,0.3s,baz=305,slow=19,SNR=20						
KURBB				Lg	Lg	08 57 24.9	
	0.3nm,0.3s,baz=307,slow=31,SNR=16						
KURK	**Kurchatov**	**2.25**	**115**	⇑Pg	**Pn**	**08 56 53.9**	**-1.2**
	6.3nm,1.1s						
KURK				⇓Lg	Lg	08 57 25.1	
	15nm,1.0s						
BVA0	**Borovoye Array**	**3.35**	**295**	⇓Lg	Lg	08 57 57.4	
	4.0nm,0.8s,baz=117,slow=26,SNR=5.5						
BVAR	**Borovoye Array**	**3.35**	**295**	Pn	**Pb**	**08 57 17.0**	**+0.1**
	baz=95,slow=12,SNR=3.2						
BVAR				Sn	**Sb**	**08 57 58.0**	**-0.2**
	0.1nm,0.3s,baz=109,slow=25,SNR=7.6						
	0.7nm,0.4s						
BRVK	**Borovoye**	**3.42**	**295**	⇓Lg	Lg	08 57 59.8	
	6.1nm,0.9s						
OTUK	**Ortayu**	**4.01**	**211**	⇑Lg	Lg	08 58 24.0	
	3.1nm,1.1s						
I46RU	**ZALESOVO INFRA**	**6.12**	**65**	I	I	09 34 50.0	
	baz=249,slow=316,SNR=4.3						
ZALV	**Zalesovo Beam**	**6.12**	**65**	Pn	**Pn**	**08 57 48.4**	**+0.2**
	0.1nm,0.3s,baz=259,slow=15,SNR=2.3						
	0.5nm,0.3s						
MAKZ	**Makanchi**	**6.53**	**136**	⇑Sn	**Sn**	**08 59 11.0**	**+2.0**
	1.7nm,0.8s						
MAKZ				⇓Lg	Lg	08 59 43.8	
	3.0nm,0.8s						
MK31	**Makanchi Array**	**6.67**	**135**	⇑Pn	**Pn**	**08 57 55.7**	**-0.3**
	0.4nm,0.7s,baz=310,slow=10,SNR=3.5						
MK31				⇓Sn	**Sn**	**08 59 11.1**	**-1.5**
	0.5nm,0.6s,baz=65,slow=36,SNR=4.1						
MK31				⇑Lg	Lg	08 59 45.9	
	2.4nm,0.9s,baz=326,slow=27,SNR=7.5						
MKAR	**Makanchi Array**	**6.67**	**135**	Pn	**Pn**	**08 57 56.4**	**+0.4**
	baz=327,slow=10,SNR=4.2						
MKAR				Sn	**Sn**	**08 59 12.3**	**-0.3**
	0.1nm,0.3s,baz=307,slow=27,SNR=2.3						
MKAR				Lg	Lg	08 59 42.6	
	0.1nm,0.3s,baz=316,slow=22,SNR=9.0						
	0.3nm,0.7s						

AEIC 22 09:00:51.2±1.6, 54°.15N±0°.05×162°.48W±0°.06, h9km±5km, Error ellipse: s-maj=7.0km s-min=4.8km az=174.0
NEIC 22 09:00:53.5±2.2, 54°.20N±0°.07×162°.48W±0°.08, h48km±9km, mb3.5/5, ML3.8/12, ML3.5(AEIC), Error ellipse: s-maj=11.0km s-min=5.8km az=160.0
IDC 22 09:00:54.6±3.3, 54°.44N×162°.48W, h47km±30km, mb3.7/15, mbtmp3.9/18, ML3.3/3, MS3.2/6, Error ellipse: s-maj=35.1km s-min=17.9km az=169.0

ISC 22 09:00:53.5±1.2, 54°.21N±0°.08×162°.39W±0°.05, h47km±11km, n85, σ1s29/83, mb4.0/15, MS3.3/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.88**	**318**		**Pn**	**09 01 08.5**	**-1.0**
FALS					**Sn**	**09 01 19.9**	**-1.3**
FALS	**False Pass**	**0.88**	**318**	P	**Pn**	**09 01 08.4**	**-1.0**
DT1	**Dutton Round H**	**0.90**	**4**		**Pn**	**09 01 08.8**	**-1.0**
BRPK	**Brown Peak**	**0.90**	**299**		**Pn**	**09 01 08.5**	**-1.2**
ISLZ	**Isanotski Laza**	**0.93**	**304**		**Pn**	**09 01 08.8**	**-1.4**
ISLZ					**Sn**	**09 01 20.5**	**-1.9**
ISNN	**Isanotski Nort**	**1.02**	**308**		**Pn**	**09 01 11.1**	**-0.3**
ISNN					**Sn**	**09 01 24.1**	**-0.6**
SSLS	**Shishaldin Sou**	**1.07**	**299**		**Pn**	**09 01 11.5**	**-0.6**
SSLS					**Sn**	**09 01 25.3**	**-0.5**
SSLN	**Shishaldin Nor**	**1.11**	**303**		**Pn**	**09 01 12.5**	**-0.2**
PN7A	**Pavlof North-7**	**1.25**	**10**		**Pn**	**09 01 15.5**	**+1.0**
PN7A					**Sn**	**09 01 33.6**	**+3.5**
PS1A	**Pavlof South-1**	**1.27**	**17**		**Pn**	**09 01 15.0**	**+0.3**
WECS	**Westdahl Cape**	**1.43**	**284**		**Pn**	**09 01 16.3**	**-0.7**
WECS					**Sn**	**09 01 36.9**	**+2.2**
SDPT	**Sand Point**	**1.59**	**43**	Pn	**Pn**	**09 01 20.0**	**+1.0**
SDPT				IAML		09 01 45.5	
	comp=N,1μm,0.9s						
SDPT	**Sand Point**	**1.59**	**43**	P	**Pn**	**09 01 20.1**	**+1.0**
CNBA	**Chernabura Isl**	**1.74**	**68**		**Pn**	**09 01 20.8**	**-0.3**
AKSA	**Akutan Strait**	**1.95**	**269**		**Pn**	**09 01 23.0**	**-1.0**
AKUT	**Akutan**	**1.99**	**269**	Pn	**Pn**	**09 01 24.6**	**0.0**
AKUT				IAML		09 01 53.2	
	comp=E,548nm,0.5s						
AHB	**Akutan Harbor**	**2.02**	**269**		**Pn**	**09 01 24.7**	**-0.3**
AKBBA	**Akutan Broad B**	**2.09**	**268**		**Pn**	**09 01 25.6**	**-0.3**
AKBBA					**Sn**	**09 01 53.3**	**+2.6**
AKV	**Akutan Volcano**	**2.10**	**269**		**Pn**	**09 01 25.5**	**-0.7**
ZRO	**Akutan Zero**	**2.12**	**268**		**Pn**	**09 01 25.9**	**-0.5**
UNV	**Unalaska Valle**	**2.46**	**263**		**Pn**	**09 01 30.0**	**-0.9**
UNV	**Unalaska Valle**	**2.46**	**263**	P	**Pn**	**09 01 30.1**	**-0.9**
MNAT	**Makushin Natee**	**2.55**	**264**		**Pn**	**09 01 31.7**	**-0.7**
MSW	**Makushin Switc**	**2.61**	**265**		**Pn**	**09 01 32.4**	**-0.7**
VNFG	**Fog Glacier, M**	**2.64**	**37**		**Pn**	**09 01 35.4**	**+1.8**
MGOD	**Makushin Gods**	**2.68**	**263**		**Pn**	**09 01 33.5**	**-0.5**
MAPS	**Pakushin South**	**2.72**	**263**		**Pn**	**09 01 33.3**	**-1.3**
CHGN	**Chignik**	**3.09**	**46**		**Pn**	**09 01 40.2**	**+0.5**
CHGN				IAML		09 02 33.8	
	comp=N,193nm,0.6s						
CHGN				IAML		09 02 33.9	
	comp=E,278nm,0.6s						
O14K	**Tigyukauivet M**	**5.09**	**7**	Pn	**Pn**	**09 02 08.7**	**+1.6**
O14K				IAML		09 03 20.5	
	comp=E,49nm,3.2s						
O14K				IAML		09 04 01.7	
	comp=N,49nm,2.4s						
OHAK	**Old Harbor**	**5.96**	**56**	Pn	**Pn**	**09 02 18.8**	**-0.2**
OHAK	**Old Harbor**	**5.96**	**56**	P	**Pn**	**09 02 19.5**	**+0.5**
KDAK	**Kodiak Island**	**6.56**	**53**	Pn	**Pn**	**09 02 29.6**	**+2.4**
KDAK	**Kodiak Island**	**6.56**	**53**	P	**Pn**	**09 02 27.2**	**0.0**
	comp=N,0.4nm,0.3s,baz=181,slow=5.9,SNR=13						
KDAK				S	**Sn**	**09 03 36.5**	**-4.1**
	comp=N,6.4nm,0.7s,baz=189,slow=22,SNR=7.5						
	comp=N,7.3nm,0.8s						
M16K	**Timber Creek**	**7.07**	**14**	Pn	**Pn**	**09 02 35.8**	**+1.5**
L14K	**Kuka Creek**	**7.15**	**359**	Pn	**Pn**	**09 02 36.6**	**+1.3**
CNPM	**China Poot**	**8.10**	**44**	Pn	**Pn**	**09 02 50.5**	**+2.2**
K15K	**Wolf Creek Mou**	**8.12**	**3**	Pn	**Pn**	**09 02 50.6**	**+2.0**
RSO	**Redoubt South**	**8.14**	**36**	Pn	**Pn**	**09 02 51.8**	**+2.7**
L18K	**Granite Mounta**	**8.57**	**18**	Pn	**Pn**	**09 02 56.1**	**+1.4**
ADK	**Adak**	**8.92**	**261**	P	**Pn**	**09 02 59.8**	**+0.2**
M20K	**Styx River**	**9.12**	**29**	Pn	**Pn**	**09 03 05.2**	**+2.9**
SUA	**Susitna One**	**9.55**	**36**	Pn	**Pn**	**09 03 09.2**	**+0.9**
SKT	**Skwentna**	**9.67**	**32**	Pn	**Pn**	**09 03 11.2**	**+1.4**
CAST	**Castle Rocks**	**10.65**	**26**	Pn	**Pn**	**09 03 24.3**	**+1.1**
SCM	**Sheep Creek Mo**	**11.03**	**40**	Pn	**Pn**	**09 03 28.1**	**-0.3**
KLU	**Klutina**	**11.38**	**44**	Pn	**Pn**	**09 03 32.8**	**-0.4**
RIDG	**Independent Ri**	**13.10**	**36**	Pn	**Pn**	**09 03 57.4**	**+0.7**
IL31		**13.15**	**30**	Pn	**Pn**	**09 03 56.1**	**-1.0**
ILAR	**Eielson Array**	**13.15**	**30**	P	**Pn**	**09 03 55.9**	**-1.3**
	comp=N,0.1nm,0.3s,baz=222,slow=13,SNR=5.4						
	comp=N,0.2nm,0.4s						
LOGN	**Logan Glacier**	**13.22**	**51**	Pn	**Pn**	**09 03 57.3**	**-1.1**
M27K	**Edge Creek, AK**	**13.47**	**45**	Pn	**Pn**	**09 04 02.5**	**+0.7**
SCRK	**Sand Creek**	**13.55**	**36**	Pn	**Pn**	**09 04 01.9**	**-0.9**
PNL	**Peninsula**	**13.65**	**57**	P	**Pn**	**09 04 05.8**	**+1.7**
EGAK	**Eagle**	**15.02**	**37**	Pn	**Pn**	**09 04 21.3**	**-0.9**
EGAK				IAmb	IAmb	09 04 58.1	
	comp=Z,7.7nm,1.4s						
DAWY	**Dawson**	**15.29**	**41**	Pn	**Pn**	**09 04 26.3**	**+0.4**
DAWY				IAmb	IAmb	09 04 54.1	
	comp=Z,2.5nm,0.8s						
BMAR	**Burnt Mountain**	**15.75**	**26**	Pn	**Pn**	**09 04 32.5**	**+0.7**
J30M	**Hart River**	**16.70**	**41**		**P**	**09 04 45.7**	**0.0**
H29M	**Whitestone**	**16.80**	**35**		**P**	**09 04 46.4**	**-0.2**
H29M				IAmb	IAmb	09 05 05.9	
	comp=Z,3.0nm,0.8s						
G31M	**Satah River**	**18.56**	**36**		**P**	**09 05 05.8**	**-0.1**
INK	**Inuvik**	**19.52**	**32**	P	**P**	**09 05 15.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=9.1						
INK				LR	LR	09 13 19.7	
	comp=Z,90nm,18.6s,baz=312,slow=38						
	comp=Z,3.1nm,1.1s						
PETK	**Petropavlovsk-**	**23.46**	**284**	P	**P**	**09 05 58.5**	**0.0**
	comp=Z,3.2nm,0.4s,baz=86,slow=13,SNR=18						
	comp=Z,3.2nm,0.4s						
MA2	**Magadan**	**25.69**	**301**	LR	LR	09 16 12.0	
	comp=Z,29nm,18.4s,baz=134

KURBB	**Kurchatov Arra**	**6.00**	**238**	⇓Pn	**Pn**	**09 06 39.5**	**+0.2**
	0.5nm,0.2s						
KURBB				⇑Lg	Lg	09 08 21.3	
	3.4nm,0.6s						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	**Pn**	**09 06 40.5**	**+1.2**
	0.1nm,0.3s,baz=55,slow=13,SNR=8.4						
KURBB				Lg	Lg	09 08 23.4	
	baz=54,slow=31,SNR=5.7						
	0.9nm,0.4s						
MK31	**Makanchi Array**	**7.77**	**202**	⇑Pn	**Pn**	**09 07 03.9**	**+0.3**
	0.1nm,0.2s,baz=24,slow=13						
MK31				⇑Sn	**Sn**	**09 08 31.3**	**-0.9**
	0.2nm,0.5s						
MK31				⇑Lg	Lg	09 09 15.2	
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	**Pn**	**09 07 05.2**	**+1.6**
	0.3nm,0.3s,baz=25,slow=13,SNR=20						
MKAR				Sn	**Sn**	**09 08 31.5**	**-0.7**
	0.1nm,0.3s,baz=22,slow=28,SNR=4.8						
MKAR				Lg	Lg	09 09 14.7	
	baz=22,slow=30,SNR=2.8						
	0.4nm,0.2s						

TAP ***22*** *09:09:55.9,23.74N×121.40E,h19km,ML3.5,B*
JMA ***22*** *09:09:55.8±0.1,23.7N±0.4×12.2E±,h12km±1km, MV3.1/14,TAIWAN REGION*
ASIES ***22*** *09:09:55.9,23.74N×121.40E,h19km,ML3.5,Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.25; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.76; $M_{r\theta}$0.32; $M_{\theta\phi}$-0.40; $M_{\phi r}$-0.48; Fault plane solution: $M_0$1.25172×10^{21} NP1: ϕ_s180.38000°,δ57.45000°,λ65.81000°. NP2:ϕ_s40.25000°, δ39.74000°,λ122.70000°. Principal axes: T Plg67.5390°, Azm41.0750°; N Plg20.2050°, Azm193.9760°; P Plg9.4000°, Azm287.4690°;*

ISC 22 09:09:55.7±0.8,23.74N±0.01×121.42E±0.02,h19km±2km, n149,σ0.54/220,16C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WARBT	**Fenglin Townsh**	**0.04**	**237**	⇑*i*P		**Pg**	**09 09 59.3**	**+0.3**
	baz=209							
WARBT				*i*S		**Sg**	**09 10 01.3**	**0.0**
	baz=209							
EGFH	**Guangfu**	**0.07**	**174**	⇓P		**Pg**	**09 09 59.5**	**+0.3**
	baz=163							
EGFH				*e*S		**Sg**	**09 10 01.9**	**+0.3**
	baz=163							
ESL	**Shilin**	**0.08**	**9**	⇓*i*P		**Pg**	**09 09 59.7**	**+0.4**
	baz=28							
ESL				*i*S		**Sg**	**09 10 02.0**	**+0.2**
	baz=28							
TEGC	**Jichi Village**	**0.11**	**105**	P		**Pg**	**09 10 00.7**	**+1.0**
	baz=104							
TEGC				S		**Sg**	**09 10 04.4**	**+2.2**
	baz=104							
SHUL	**Shoufeng**	**0.14**	**69**	⇓*i*P		**Pg**	**09 10 00.8**	**+0.9**
	baz=73							
SHUL				S		**Sg**	**09 10 04.2**	**+1.5**
	baz=73							
ETM	**Tongmen**	**0.24**	**16**	*e*P		**Pg**	**09 10 01.5**	**+0.2**
	baz=20							
ETM				*e*S		**Sg**	**09 10 05.1**	**0.0**
	baz=20							
HGSD	**Ruisui**	**0.24**	**179**	P		**Pg**	**09 10 02.1**	**+0.7**
	baz=181							
EHY	**Hungye**	**0.25**	**201**	⇓*i*P		**Pb**	**09 10 01.4**	**0.0**
	baz=196							
EHY				*i*S		**Sg**	**09 10 05.7**	**+0.3**
	baz=196							
VWDT	**VWDT**	**0.26**	**274**	⇑*i*P		**Pg**	**09 10 02.2**	**+0.6**
	baz=267							
VWDT				*i*S		**Sg**	**09 10 06.1**	**+0.6**
	baz=267							
LXIB	**Xiulin Townshi**	**0.28**	**359**	⇓*i*P		**Pg**	**09 10 02.3**	**+0.1**
	baz=7.0							
LXIB				*i*S		**Sb**	**09 10 06.4**	**-0.2**
	baz=7.0							
HWA	**Hwalien**	**0.29**	**35**	*e*P		**Pb**	**09 10 02.8**	**+0.4**
	baz=35							
HWA				S		**Sb**	**09 10 08.6**	**+1.8**
	baz=35							
OWD	**Renai**	**0.31**	**314**	⇓*i*P		**Pb**	**09 10 02.8**	**+0.1**
	baz=315							
OWD				S		**Sg**	**09 10 07.0**	**-0.2**
	baz=315							
YULB	**Yu-li**	**0.36**	**198**	P		**Pg**	**09 10 02.1**	**-1.3**
YULB	**Yu-li**	**0.36**	**198**	⇓P		**Pg**	**09 10 02.9**	**-0.5**
	baz=191							
YULB				S		**Sg**	**09 10 08.9**	**+0.3**
	baz=191							
WUSB	**Renai**	**0.38**	**312**	⇓*i*P		**Pb**	**09 10 04.0**	**0.0**
	baz=313							
WUSB				*e*S		**Sg**	**09 10 08.3**	**-0.8**
	baz=313							
TWD	**Chiawan**	**0.38**	**25**	*e*P		**Pg**	**09 10 03.5**	**-0.1**
	baz=28							
TWD				S		**Sg**	**09 10 09.2**	**+0.2**
	baz=28							
CHGB	**Renai**	**0.39**	**325**	⇓*i*P		**Pb**	**09 10 04.4**	**0.0**
	baz=333							
CHGB				*i*S		**Sg**	**09 10 09.4**	**-0.2**
	baz=333							
EYUL	**Yuli**	**0.40**	**193**	P		**Pg**	**09 10 04.2**	**+0.1**
	baz=194							
EYUL				*e*S		**Sb**	**09 10 10.7**	**+0.6**
	baz=194							
TWF1	**Yuli**	**0.40**	**196**	⇓P		**Pg**	**09 10 03.5**	**-0.6**
	baz=193							
TWF1				S		**Sg**	**09 10 10.1**	**+0.4**
	baz=193							
ECBN	**Changbin**	**0.42**	**176**	P		**Pb**	**09 10 05.3**	**+0.6**
	baz=161							
SSLB	**Suanglung**	**0.43**	**277**	P		**Pg**	**09 10 03.9**	**-0.7**
SSLB	**Suanglung**	**0.43**	**277**	⇑P		**Pg**	**09 10 04.5**	**0.0**
	baz=284							
SSLB				*i*S		**Sg**	**09 10 09.9**	**-0.7**
	baz=284							
WHF	**Hehuan Shan**	**0.43**	**341**	⇓*i*P		**Pg**	**09 10 04.8**	**0.0**
	baz=343							
WHF				*i*S		**Sg**	**09 10 10.6**	**-0.3**
	baz=343							
ETL	**Fush Village**	**0.46**	**24**	*e*P		**Pg**	**09 10 04.8**	**-0.3**
	baz=27							
NACB	**Ninganchiao**	**0.46**	**20**	P		**Pg**	**09 10 04.9**	**-0.3**
NACB	**Ninganchiao**	**0.46**	**20**	⇑*i*P		**Pg**	**09 10 04.7**	**-0.5**
	baz=22							
NACB				*i*S		**Sg**	**09 10 11.6**	**0.0**
	baz=22							
ETLH	**Xiulin Townshi**	**0.47**	**7**	⇑P		**Pg**	**09 10 05.1**	**-0.3**
	baz=17							
ETLH				S		**Sg**	**09 10 11.8**	**-0.1**
	baz=17							
SMLT	**Sun Moon Lake**	**0.50**	**287**	⇓*i*P		**Pb**	**09 10 06.0**	**0.0**
	baz=291							
SMLT				*i*S		**Sb**	**09 10 12.6**	**-0.4**
	baz=291							
WHYT	**Xinyi Township**	**0.52**	**266**	*e*P		**Pb**	**09 10 06.5**	**+0.2**
	baz=266							
WHYT				*e*S		**Sb**	**09 10 13.3**	**-0.1**
	baz=266							
TYC	**Yuchr**	**0.54**	**288**	⇓*i*P		**Pg**	**09 10 06.6**	**0.0**
	baz=295							
TYC				*i*S		**Sb**	**09 10 13.5**	**-0.4**
	baz=295							
CHKH	**Chenggong**	**0.54**	**182**	*e*P		**Pb**	**09 10 06.1**	**-0.5**
	baz=167							
FULB	**Fuli**	**0.55**	**192**	*e*P		**Pg**	**09 10 07.5**	**+0.7**
	baz=201							
FULB				*e*S		**Sn**	**09 10 16.1**	**-1.1**
	baz=201							
TWT	**Tachien**	**0.56**	**337**	⇓*i*P		**Pg**	**09 10 07.4**	**+0.4**
	baz=336							
TWT				S		**Sb**	**09 10 14.2**	**-0.5**
	baz=336							
WCS	**Beigang Elemen**	**0.56**	**304**	⇓P		**Pg**	**09 10 07.2**	**+0.2**
	baz=310							
WCS				*i*S		**Sg**	**09 10 14.5**	**-0.1**
	baz=310							
TDCB	**Techi**	**0.57**	**335**	⇓*i*P		**Pg**	**09 10 07.5**	**+0.3**
	baz=336							
TDCB				*i*S		**Sb**	**09 10 14.1**	**-0.7**
	baz=336							
ALS	**Alishan**	**0.61**	**248**	⇑*i*P		**Pg**	**09 10 08.3**	**+0.3**
	baz=247							
ALS				*i*S		**Sg**	**09 10 16.0**	**-0.1**
	baz=247							
EHD	**Haiduan**	**0.62**	**199**	P		**Pb**	**09 10 07.7**	**-0.2**
	baz=190							
EHD				S		**Sb**	**09 10 16.3**	**+0.1**
	baz=190							
CHKT	**Chengkung**	**0.64**	**184**	⇑*i*P		**Pb**	**09 10 08.1**	**-0.1**
	baz=172							
CHKT				*e*S		**Sg**	**09 10 17.4**	**+0.4**
	baz=172							
WJS	**Zhushan**	**0.64**	**278**	*e*P		**Pn**	**09 10 09.3**	**-0.5**
	baz=278							
WJS				*e*S		**Sn**	**09 10 18.5**	**-0.9**
	baz=278							
EHP	**Heping Village**	**0.64**	**27**	*e*P		**Pb**	**09 10 07.5**	**-0.8**
	baz=29							
EHP				*e*S		**Sb**	**09 10 17.0**	**+0.2**
	baz=29							
EAHA	**Aohua**	**0.66**	**26**	*e*P		**Pb**	**09 10 08.1**	**-0.5**
	baz=27							
EAHA				*e*S		**Sg**	**09 10 17.7**	**+0.2**
	baz=27							
ELDTW	**Lidau**	**0.66**	**214**	⇑*i*P		**Pb**	**09 10 08.3**	**-0.3**
	baz=205							
ELDTW				S		**Sg**	**09 10 17.6**	**0.0**
	baz=205							
ECS	**Chishang**	**0.67**	**196**	*e*P		**Pb**	**09 10 08.7**	**0.0**
	baz=193							
NNSB	**Datong**	**0.69**	**357**	⇑*i*P		**Pb**	**09 10 09.2**	**+0.1**
	baz=7.0							
NNSB				S		**Sb**	**09 10 18.4**	**0.0**
	baz=7.0							
NNSH	**Datong**	**0.69**	**357**	⇑P		**Pb**	**09 10 09.1**	**-0.1**
	baz=6.0							
NNSH				S		**Sb**	**09 10 18.3**	**0.0**
	baz=6.0							
WNT	**Mingjian**	**0.69**	**282**	P		**Pn**	**09 10 10.3**	**-0.2**
	baz=283							
WNT				S		**Sn**	**09 10 21.0**	**+0.3**
	baz=283							
WHP	**Taichung City**	**0.69**	**321**	*e*P		**Pg**	**09 10 09.5**	**+0.1**
	baz=322							
WHP				*e*S		**Sg**	**09 10 18.6**	**-0.1**
	baz=322							
CHN5	**Tsauling**	**0.69**	**258**	⇑*i*P		**Pn**	**09 10 10.1**	**-0.5**
	baz=252							
CHN5				S		**Sn**	**09 10 19.9**	**-1.0**
	baz=252							
WNT1	**Nantou City**	**0.70**	**284**	*e*P		**Pg**	**09 10 09.6**	**+0.2**
	baz=284							
NNS	**Nan Shan**	**0.70**	**357**	⇑*i*P		**Pb**	**09 10 09.5**	**+0.1**
	baz=7.0							
NNS				S		**Sb**	**09 10 18.7**	**0.0**
	baz=7.0							
WWF	**Wufeng**	**0.73**	**295**	*e*P		**Pn**	**09 10 11.1**	**0.0**
	baz=300							
ENA	**Nanau**	**0.75**	**23**	*e*P		**Pb**	**09 10 09.4**	**-0.8**
	baz=26							
EDH	**Donghe**	**0.77**	**188**	*e*P		**Pb**	**09 10 10.3**	**-0.2**
	baz=184							
EWUT	**Wuta**	**0.78**	**25**	*e*P		**Pb**	**09 10 09.7**	**-1.0**
	baz=27							
WGK	**Gukeng**	**0.79**	**266**	*e*P		**Pb**	**09 10 10.8**	**-0.1**
	baz=267							
WGK				*e*S		**Sn**	**09 10 23.2**	**+0.1**
	baz=267							
TCU	**Taichung**	**0.79**	**301**	*e*P		**Pn**	**09 10 11.9**	**0.0**
	baz=302							
LATG	**Datong**	**0.80**	**7**	⇑P		**Pb**	**09 10 10.6**	**-0.6**
	baz=7.0							
LATG				S		**Sb**	**09 10 21.4**	**-0.2**
	baz=7.0							
WYL	**Yuanlin Townsh**	**0.80**	**286**	*e*P		**Pg**	**09 10 11.5**	**+0.1**
	baz=287							
WYL				*e*S		**Sn**	**09 10 23.9**	**+0.5**
	baz=287							
WCKO	**Fanlu**	**0.81**	**248**	*e*P		**Pg**	**09 10 11.5**	**0.0**
	baz=259							
WDLH	**Douliu**	**0.81**	**267**	*e*P		**Pn**	**09 10 12.4**	**+0.3**
	baz=268							
WDLH				*e*S		**Sn**	**09 10 24.1**	**+0.4**
	baz=268							
STYH	**Taoyuan**	**0.82**	**226**	*e*P		**Pg**	**09 10 11.6**	**-0.2**
	baz=223							
STYT	**Tauyuan**	**0.83**	**227**	⇑P		**Pg**	**09 10 12.2**	**+0.2**
	baz=226							
STYT				*e*S		**Sg**	**09 10 23.3**	**+0.1**
	baz=226							
TPUB	**Ta-pu**	**0.85**	**239**	P		**Pn**	**09 10 12.9**	**+0.2**
TPUB	**Ta-pu**	**0.85**	**239**	P		**Pn**	**09 10 12.7**	**0.0**
	baz=238							
TPUB				S		**Sg**	**09 10 23.7**	**+0.3**
	baz=238							
TWQ1	**Liyutan**	**0.85**	**316**	*e*P		**Pn**	**09 10 13.0**	**+0.3**
	baz=316							
TWQ1				*e*S		**Sn**	**09 10 23.9**	**-0.8**
	baz=316							
CHN4	**Tsaushan**	**0.85**	**243**	⇑*i*P		**Pn**	**09 10 13.0**	**+0.3**
	baz=233							
CHN4				S		**Sn**	**09 10 24.2**	**-0.5**
	baz=233							
WCHH	**Zhanghua**	**0.86**	**294**	*e*P		**Pn**	**09 10 12.7**	**-0.1**
	baz=293							
NDT	**Datong Townshi**	**0.86**	**6**	*e*P		**Pb**	**09 10 12.3**	**+0.1**
	baz=13							
NDT				*e*S		**Sb**	**09 10 23.5**	**+0.1**
	baz=13							
LONT	**Longtian**	**0.87**	**198**	*e*P		**Pb**	**09 10 12.0**	**-0.2**
	baz=181							
WTP	**Ta-pu**	**0.89**	**237**	⇑*e*P		**Pn**	**09 10 13.4**	**+0.1**
	baz=236							
WTP				*e*S		**Sg**	**09 10 24.9**	**+0.1**
	baz=236							
NSY	**Sanyi**	**0.90**	**318**	⇓P		**Pn**	**09 10 14.6**	**+1.1**
	baz=320							
EOS4	**EOS4**	**0.91**	**65**	*e*P		**Pb**	**09 10 12.3**	**-0.3**
	baz=67							
ENTT	**Nioudou**	**0.91**	**8**	*e*P		**Pb**	**09 10 12.4**	**-0.5**
	baz=23							
ESAO	**Su ao**	**0.92**	**25**	*e*P		**Pb**	**09 10 13.5**	**+0.4**
	baz=27							
YHNB	**Yeheng**	**0.93**	**358**	P		**Pg**	**09 10 14.0**	**+0.1**
YHNB	**Yeheng**	**0.93**	**358**	*e*P		**Pb**	**09 10 13.2**	**-0.1**
	baz=358							
YHNB				S		**Sb**	**09 10 25.4**	**+0.1**
	baz=358							
NDS	**Dongshan**	**0.93**	**17**	*e*P		**Pn**	**09 10 13.9**	**+0.1**
	baz=27							
NDS				*e*S		**Sb**	**09 10 25.7**	**+0.4**
	baz=27							
NFF	**Wufeng Townshi**	**0.93**	**343**	*e*P		**Pn**	**09 10 13.8**	**-0.1**
	baz=351							
NFF				*e*S		**Sg**	**09 10 25.6**	**-0.6**
	baz=351							
NSK	**Sanguang**	**0.94**	**357**	*e*P		**Pn**	**09 10 13.8**	**-0.2**
	baz=357							
NSK				S		**Sb**	**09 10 25.4**	**0.0**
	baz=357							
WDJ	**Dajia District**	**0.94**	**311**	*e*P		**Pg**	**09 10 14.8**	**+0.8**
	baz=311							
WTK	**Tuku**	**0.95**	**267**	*e*P		**Pg**	**09 10 14.4**	**+0.2**
	baz=268							
WTK				*e*S		**Sn**	**09 10 28.1**	**+1.1**
	baz=268							
TWC	**Suao**	**0.95**	**24**	*e*P		**Pb**	**09 10 13.3**	**-0.4**
	baz=27							
TWG	**Pinlang**	**0.97**	**199**	*e*P		**Pb**	**09 10 13.5**	**-0.4**
	baz=183							
NSTT	**Nanjuang**	**0.97**	**337**	⇓P		**Pg**	**09 10 14.7**	**+0.1**
	baz=337							
NSTT				S		**Sg**	**09 10 26.8**	**-0.6**
	baz=337							
TWGBT	**Beinan**	**0.97**	**199**	P		**Pb**	**09 10 14.1**	**+0.2**
TWGBT	**Beinan**	**0.97**	**199**	P		**Pb**	**09 10 13.7**	**-0.2**
	baz=186							
TWGBT				*e*S		**Sg**	**09 10 27.3**	**0.0**
	baz=186							
WRL	**Guolierlin Hig**	**0.97**	**280**	*e*P		**Pn**	**09 10 14.1**	**-0.2**
	baz=280							
TWK	**Hsinying**	**0.97**	**241**	*e*P		**Pg**	**09 10 15.1**	**+0.4**
	baz=242							
TWK				S		**Sn**	**09 10 28.0**	**+0.2**
	baz=242							
LIOB	**Emei**	**0.98**	**338**	⇓P		**Pg**	**09 10 15.2**	**+0.5**
	baz=328							
NMLH	**Miaoli**	**0.98**	**324**	*e*P		**Pg**	**09 10 15.6**	**+0.8**
	baz=326							
RLNB	**Erlin**	**0.98**	**279**	P		**Pg**	**09 10 15.1**	**+0.3**
	baz=280							
RLNB				S		**Sn**	**09 10 28.8**	**+0.9**
	baz=280							
EOS3	**EOS3**	**0.99**	**56**	*e*P		**Pb**	**09 10 13.9**	**-0.3**
	baz=56							
CHN1	**Nanshi**	**0.99**	**236**	*e*P		**Pg**	**09 10 15.5**	**+0.6**
	baz=237							
CHN1				*e*S		**Sn**	**09 10 28.5**	**+0.4**
	baz=237							
SNST	**Tainan City**	**0.99**	**239**	*e*P		**Pg**	**09 10 15.5**	**+0.5**
	baz=240							
SNST				*e*S		**Sn**	**09 10 28.6**	**+0.4**
	baz=240							
EOS2	**EOS2**	**1.00**	**47**	*e*P		**Pn**	**09 10 15.2**	**+0.5**
	baz=63							
TWE	**Neicheng**	**1.00**	**13**	*e*P		**Pb**	**09 10 14.0**	**-0.6**
	baz=28							
SGST	**Jiashian**	**1.01**	**230**	*e*P		**Pb**	**09 10 14.3**	**-0.3**
	baz=237							
SGST				*e*S		**Sg**	**09 10 28.8**	**+0.2**
	baz=237							
SLGT	**Liugui**	**1.03**	**224**	*e*P		**Pn**	**09 10 15.1**	**-0.1**
	baz=224							
SLGT				*e*S		**Sg**	**09 10 29.7**	**+0.5**
	baz=224							
FUSB	**Fushanzhiwuyua**	**1.03**	**9**	*e*P		**Pb**	**09 10 14.3**	**-0.7**
	baz=8.0							
FUSB				S		**Sb**	**09 10 28.6**	**+0.5**
	baz=8.0							
NWLT	**Wulai**	**1.04**	**4**	*e*P		**Pn**	**09 10 15.5**	**+0.2**
	baz=19							
LDUT	**Ludao**	**1.06**	**178**	*e*P		**Pb**	**09 10 13.5**	**-2.0**
	baz=174							
HSN1	**Hsinchu**	**1.10**	**341**	*e*P		**Pg**	**09 10 17.0**	**0.0**
	baz=332							
WSF	**Szhu**	**1.10**	**265**	*e*P		**Pn**	**09 10 16.3**	**+0.1**
	baz=264							
ICHU	**Yijhu**	**1.11**	**250**	*e*P		**Pg**	**09 10 17.2**	**-0.1**
	baz=248							
SBCB	**Hsinchu**	**1.12**	**339**	*e*P		**Pg**	**09 10 17.5**	**0.0**
	baz=330							
CHN8	**Yiju**	**1.18**	**251**	*e*P		**Pb**	**09 10 17.7**	**+0.2**
	baz=249							
ECL	**Taimali**	**1.21**	**201**	*e*P		**Pn**	**09 10 17.8**	**0.0**
	baz=182							
NHDH	**Xindian Distri**	**1.22**	**4**	*e*P		**Pb**	**09 10 18.8**	**+0.5**
	baz=16							
SSD	**Sandimen**	**1.23**	**216**	*e*P		**Pn**	**09 10 17.5**	**-0.4**
	baz=211							
TATO	**Taipei**	**1.23**	**3**	P		**Pb**	**09 10 18.7**	**+0.2**
TATO	**Taipei**	**1.23**	**3**	*e*P		**Pb**	**09 10 18.4**	**0.0**
	baz=16							
TATO				S		**Sg**	**09 10 35.5**	**-0.2**
	baz=16							
NCUH	**Zhongli**	**1.24**	**350**	*e*P		**Pb**	**09 10 19.1**	**+0.5**
	baz=335							
TSMG	**Majia**	**1.25**	**215**	*e*P		**Pn**	**09 10 18.3**	**0.0**
	baz=204							
TIPB	**Shuangxi**	**1.28**	**17**	*e*P		**Pn**	**09 10 19.1**	**+0.3**
	baz=16							
TIPB				*e*S		**Sb**	**09 10 36.2**	**+0.7**
	baz=16							
MASBT	**Mashibuluo**	**1.33**	**213**	*e*P		**Pn**	**09 10 19.7**	**+0.3**
	baz=204							
TWS1	**Kuangyinshan**	**1.36**	**360**	*e*P		**Pg**	**09 10 22.0**	**+0.1**
	baz=26							
TSCK	**Chigu Township**	**1.36**	**245**	*e*P		**Pb**	**09 10 20.6**	**0.0**
	baz=242							
NWF	**Wu-fen Shan**	**1.37**	**14**	*e*P		**Pb**	**09 10 21.1**	**+0.3**
	baz=28							
TWB1	**Santiao Chiao**	**1.37**	**22**	*e*P		**Pg**	**09 10 21.8**	**-0.3**
	baz=26							
WFSB	**Wu-fen Shan**	**1.37**	**14**	*e*P		**Pb**	**09 10 20.5**	**-0.3**
	baz=27							
YM01	**YM01**	**1.41**	**6**	*e*P		**Pb**	**09 10 21.2**	**-0.3**
	baz=29							
SXI1	**Grass Mountain**	**1.41**	**17**	*e*P		**Pn**	**09 10 20.4**	**-0.2**
	baz=21							
TNOU	**National Taiwa**	**1.44**	**13**	*e*P		**Pn**	**09 10 20.0**	**-0.8**
	baz=31							
ANP	**Anpu**	**1.45**	**4**	*e*P		**Pb**	**09 10 21.9**	**-0.3**
	baz=27							
EAST	**Anshuo**	**1.45**	**201**	*e*P		**Pb**	**09 10 21.8**	**-0.3**
	baz=184							
YM08	**YM08**	**1.45**	**6**	*e*P		**Pn**	**09 10 21.1**	**+0.1**
	baz=28							
TAWH	**Dawu Township**	**1.48**	**199**	*e*P		**Pb**	**09 10 22.9**	**+0.3**
	baz=184							
TWY	**Chenhua**	**1.54**	**6**	*e*P		**Pg**	**09 10 24.7**	**-0.7**
	baz=29							
SCZT	**Fangliau**	**1.55**	**209**	*e*P		**Pb**	**09 10 23.9**	**+0.1**
	baz=202							
JYNG	**Yonagunijimaku**	**1.56**	**63**	*e*P		**Pn**	**09 10 22.8**	**+0.3**
SLIU	**Shizi**	**1.62**	**201**	*e*P		**Pb**	**09 10 24.9**	**-0.1**
	baz=184							
YOJ	**Yonaguni jima**	**1.62**	**63**	P		**Pn**	**09 10 23.6**	**+0.3**
YOJ	**Yonaguni jima**	**1.62**	**63**	*e*P		**Pn**	**09 10 23.7**	**+0.4**
YOJ	**Yonaguni jima**	**1.62**	**63**	*e*P		**Pn**	**09 10 22.6**	**-0.8**
	baz=66							
WDGT	**Dungji**	**1.68**	**254**	*e*P		**Pn**	**09 10 24.0**	**-0.2**
	baz=252							
PHUB	**P'eng-hu**	**1.71**	**263**	*e*P		**Pn**	**09 10 25.0**	**+0.4**
	baz=249							
PHUB				*e*S		**Sn**	**09 10 46.1**	**+0.3**
	baz=249							
PNG	**Penghu**	**1.72**	**265**	*e*P		**Pn**	**09 10 24.6**	**0.0**
	baz=264							
LYUB	**Lan-yu**	**1.73**	**175**	*e*P		**Pn**	**09 10 22.1**	**-2.8**
	baz=170							
VCHM	**Qimei**	**1.90**	**254**	*e*P		**Pn**	**09 10 27.3**	**+0.1**
	baz=253							
VWUC	**VWUC**	**2.19**	**305**	*e*P		**Pn**	**09 10 31.0**	**-0.1**
	baz=304							
IRIF	**Iriomote-Funau**	**2.19**	**74**	P		**Pn**	**09 10 31.4**	**+0.2**
HATJ	**Hateruma jima**	**2.21**	**81**	*e*S		**Sn**	**09 10 57.4**	**-0.8**
JKRS	**Kuro-shima**	**2.42**	**78**	*e*P		**Pn**	**09 10 34.9**	**+0.6**
JKRS				*e*S		**Sn**	**09 11 03.9**	**+0.5**
JIJ	**Ishigaki jima**	**2.57**	**75**	P		**Pn**	**09 10 36.2**	**-0.1**
JIJ				S		**Sn**	**09 11 06.1**	**-1.0**
MATB	**Ma-tsu**	**2.75**	**331**	*e*P		**Pn**	**09 10 39.1**	**+0.2**
	baz=333							
JISG	**Ishigakijimahi**	**2.77**	**72**	*e*P		**Pn**	**09 10 39.0**	**-0.1**
JISG				*e*S		**Sn**	**09 11 11.5**	**-0.6**
MSUT	**Lienchiang**	**2.78**	**331**	*e*P		**Pn**	**09 10 39.8**	**+0.6**
	baz=333							
KNM	**Kinmen**	**2.81**	**285**	*e*P		**Pn**	**09 10 41.6**	**+1.9**
	baz=272							
KNMB	**Chin-men Tao**	**2.86**	**285**	*e*P		**Pn**	**09 10 40.6**	**+0.2**
	baz=273							

IDC ***22*** *09:12:21.1±1.3,38.22N×22.61E,h0km,mb3.5/6, mbtmp3.5/7,ML2.8/1,MS3.2/1,Error ellipse: s-maj=40.7km s-min=21.3km az=160.0*
THE ***22*** *09:12:22.3,38.40N×22.48E,h7km,ML3.3/19,Error ellipse: s-maj=0.8km s-min=0.3km az=232.0*
ATH ***22*** *09:12:22.5,38.39N×22.49E,h6km±1km,ML3.4/18,Error ellipse: s-maj=1.7km s-min=0.7km az=4.0*
TIR ***22*** *09:12:22.1,38.72N×22.62E,h3km±2km,Md3.6,Ml3.4*
*

comp=N,55586µm,0.5s
KLV Kalavryta, Ach 0.45 223 P **Pg** **09 12 30.3 -0.6**
KLV Kalavryta, Ach 0.45 223 P **Pg** **09 12 30.4 -0.6**
KLV S **Sg** **09 12 36.6 -0.3**
KLV AML AML 09 12 39.0
comp=E,3981µm,0.3s
KLV AML AML 09 12 39.5
comp=N,4806µm,0.3s
EFP Efpalio 0.50 276 P **Pg** **09 12 30.6 -1.2**
EFP S **Sg** **09 12 37.8 -0.5**
comp=N,5µm,0.4s
EFP Efpalio 0.50 276 P **Pg** **09 12 31.0 -0.8**
EFP S **Sg** **09 12 38.0 -0.3**
EFP AML AML 09 12 39.7
comp=N,9132µm,0.3s
EFP AML AML 09 12 41.5
comp=E,8497µm,0.4s
LOUT Loutraki 0.52 139 P **Pb** **09 12 32.9 -0.8**
LOUT S **Sb** **09 12 40.9 -0.7**
comp=E,4µm,0.6s
LOUT Loutraki 0.52 139 P **Pb** **09 12 33.0 -0.8**
LOUT S **Sb** **09 12 41.0 -0.7**
ANX Ano Chora 0.53 294 P **Pg** **09 12 31.3 -1.1**
ANX S **Sg** **09 12 38.5 -0.8**
comp=E,9µm,0.3s
ANX Ano Chora 0.53 294 P **Pg** **09 12 31.5 -0.9**
ANX S **Sg** **09 12 39.1 -0.2**
ANX AML AML 09 12 41.4
comp=N,21714µm,0.3s
ANX AML AML 09 12 41.6
comp=E,12602µm,0.3s
UPR University Cam 0.60 261 P **Pg** **09 12 32.5 -1.2**
UPR S **Sg** **09 12 41.0 -0.5**
AGG Agios Georgios 0.66 346 P **Pg** **09 12 33.8 -1.1**
AGG S **Sg** **09 12 43.1 -0.5**
comp=E,2µm,0.4s
AGG Agios Georgios 0.66 346 P **Pg** **09 12 34.0 -0.9**
AGG AML AML 09 12 43.3
comp=E,7223µm,0.4s
AGG AML AML 09 12 45.6
comp=N,5015µm,0.4s
MAKR Makrakomi, Fth 0.71 333 P **Pg** **09 12 34.9 -0.9**
MAKR S **Sg** **09 12 44.9 -0.1**
comp=N,4µm,0.7s
MAKR Makrakomi, Fth 0.71 333 P **Pg** **09 12 35.1 -0.7**
MAKR AML AML 09 12 46.6
comp=N,8723µm,0.7s
MAKR AML AML 09 12 51.1
comp=E,7815µm,0.7s
EVR Evrytania 0.78 313 P **Pg** **09 12 36.4 -0.9**
EVR S **Sg** **09 12 47.1 -0.4**
comp=E,4µm,0.6s
EVR Evrytania 0.78 313 P **Pg** **09 12 36.9 -0.4**
EVR S **Sg** **09 12 47.3 -0.1**
EVR AML AML 09 12 49.0
comp=E,6798µm,0.7s
EVR AML AML 09 12 49.4
comp=N,7410µm,0.5s
PVO Paravola 0.83 287 P **Pg** **09 12 37.2 -0.9**
PVO S **Sg** **09 12 48.9 0.0**
comp=N,4µm,0.4s
PVO Paravola 0.83 287 P **Pg** **09 12 36.8 -1.3**
RLS Riolos of Patr 0.90 250 P **Pg** **09 12 39.0 -0.5**
RLS AML AML 09 12 55.1
comp=E,2776µm,0.6s
RLS AML AML 09 12 55.9
comp=N,2161µm,0.6s
ATH Athens Observa 1.01 113 P **Pn** **09 12 42.3 -0.7**
ATH S **Sn** **09 12 57.2 -0.5**
comp=N,2µm,0.4s
ATH Athens Observa 1.01 113 P **Pn** **09 12 42.5 -0.5**
ATH AML AML 09 12 58.4
comp=N,3016µm,0.4s
ATH AML AML 09 13 01.7
comp=E,4783µm,0.4s
ATHU Athens Univers 1.06 112 P **Pn** **09 12 43.1 -0.7**
ATHU S **Sn** **09 12 58.7 -0.3**
comp=E,588nm,0.5s
ATHU Athens Univers 1.06 112 P **Pn** **09 12 43.2 -0.5**
PTL Penteli 1.09 107 P **Pn** **09 12 44.3 +0.1**
PTL S **Sn** **09 13 00.9 +1.1**
comp=E,1µm,0.6s
KRND KRANIDI 1.11 154 P **Pg** **09 12 43.2 -0.2**
KRND S **Sn** **09 13 00.7 +0.8**
comp=E,4µm,0.6s
KRND KRANIDI 1.11 154 P **Pg** **09 12 43.6 +0.2**
KRND AML AML 09 13 02.5
comp=E,6947µm,0.6s
KRND AML AML 09 13 02.5
comp=N,7788µm,0.6s
XOR Xorichti 1.11 27 P **Pg** **09 12 43.1 -0.4**
XOR AML AML 09 13 02.5
comp=E,1762µm,0.4s
XOR AML AML 09 13 06.7
comp=N,3374µm,0.5s
VLY Voula,Athens 1.12 118 P **Pn** **09 12 44.2 -0.3**
VLY S **Sn** **09 13 00.9 +0.6**
comp=N,1µm,0.4s
VLY Voula,Athens 1.12 118 P **Pn** **09 12 44.3 -0.2**
VLY AML AML 09 13 01.3
comp=E,2630µm,0.3s
VLY AML AML 09 13 07.8
comp=N,2870µm,0.5s
DION Dionisos Attik 1.14 105 P **Pn** **09 12 45.1 +0.3**
DION S **Sn** **09 13 01.7 +0.9**
comp=N,3µm,0.7s
DION Dionisos Attik 1.14 105 P **Pn** **09 12 44.7 -0.1**
DION AML AML 09 13 06.3
comp=E,4162µm,0.5s
DION AML AML 09 13 07.2
comp=N,3827µm,0.4s
KYMI Kymi, Euboea I 1.25 78 P **Pn** **09 12 45.8 -0.5**
KYMI S **Sn** **09 13 04.2 +0.6**
comp=N,695nm,0.6s
KYMI Kymi, Euboea I 1.25 78 P **Pn** **09 12 46.0 -0.3**
KYMI AML AML 09 13 07.6
comp=N,1558µm,0.5s
KYMI AML AML 09 13 12.0
comp=E,1289µm,0.5s
THL Klokotos Trika 1.25 341 P **Pg** **09 12 44.6 -1.6**
THL S **Sg** **09 13 02.2 -0.3**
comp=E,585nm,0.6s
THL Klokotos Trika 1.25 341 P **Pg** **09 12 44.9 -1.3**
THL AML AML 09 13 05.1
comp=E,1625µm,0.8s
THL AML AML 09 13 05.6
comp=N,708µm,0.4s
LKD2 Lefkada island 1.53 286 P **Pb** **09 12 52.3 +1.2**
baz=274
LKD2 S **Sg** **09 13 15.1 +3.7**
baz=274
LKD2 AMP
comp=N,2.1nm,0.5s,baz=274
VLS Valsamata 1.55 263 P **Pn** **09 12 49.2 -1.2**
PYL PYLOS 1.61 203 P **Pn** **09 12 50.7 -0.5**
VLI Veliai 1.69 169 P **Pn** **09 12 51.8 -0.5**
VLI S **Sn** **09 13 14.6 +0.3**
comp=N,578nm,0.8s
VLI Veliai 1.69 169 P **Pn** **09 12 52.1 -0.2**
VLI AML AML 09 13 19.0
comp=N,1194µm,0.7s
VLI AML AML 09 13 22.1
comp=E,946µm,0.5s
KPRO Kipourio 1.82 330 P **Pn** **09 12 53.8 -0.4**
KTI Kastanea 2.04 351 P **Pn** **09 12 56.0 -1.3**
IGT Igoumenitsa 2.07 304 P **Pn** **09 12 59.4 +1.8**
baz=296
IGT S **Sb** **09 13 28.2 +2.0**
baz=296
IGT Igoumenitsa 2.07 304 *e*Pn **Pg** **09 13 03.1 +1.2**
IGT eSn **Sg** **09 13 29.0 +0.3**
LSK Leskovik 2.32 320 P **Pb** **09 13 04.2 -0.4**
baz=314
LSK S **Sn** **09 13 32.8 +2.7**
baz=314
LSK AMP
comp=E,1.6nm,0.6s,baz=314
SRN Sarande 2.48 308 P **Pn** **09 13 05.2 +2.0**
baz=301
SRN S **Sb** **09 13 38.6 +0.6**
baz=301
SRN AMP
comp=E,0.4nm,0.7s,baz=301
FNA Florina 2.56 340 P **Pn** **09 13 04.3 -0.1**
baz=336
FNA S **Sn** **09 13 36.4 +0.4**
baz=336
FNA AMP
comp=N,0.2nm,0.5s,baz=336
FNA Florina 2.56 340 P **Pn** **09 13 03.4 -1.1**
FNA S **Sn** **09 13 36.0 0.0**
comp=N,142nm,0.5s
FNA Florina 2.56 340 *e*Pn **Pn** **09 13 04.5 0.0**
FNA *e*Sn **Sn** **09 13 36.1 0.0**
OHR Ohrid 3.04 334 *e*Pn **Pn** **09 13 11.9 +0.9**
OHR *e*Sn **Sn** **09 13 50.7 +2.9**
PRVS Prvonek 4.14 355 *e*Pn **Pn** **09 13 25.6 -0.5**
PRVS *e*Sn **Sn** **09 14 12.9 -2.0**
BARS Barje 4.47 353 *e*Pn **Pn** **09 13 30.4 -0.2**
SELS Selova 4.95 348 *e*Pn **Pn** **09 13 36.7 -0.6**
ZAGS Zajecar 5.43 358 *e*Pn **Pn** **09 13 43.1 -0.7**
IVAS Ivanjica 5.50 342 *e*Pn **Pn** **09 13 44.5 -0.3**
DIVS Divibare 6.03 342 *e*Pn **Pn** **09 13 52.4 +0.3**
BRTR Keskin Array B 8.74 78 Pn **Pn** **09 14 30.6 +1.2**
comp=N,0.1nm,0.3s,baz=269,slow=15,SNR=3.1
comp=N,0.7nm,0.6s
ESDC Sonseca Array 20.61 282 P **P** **09 17 01.6 -0.6**
comp=N,0.6nm,0.7s,baz=71,slow=12,SNR=2.8
comp=N,0.6nm,0.7s
EKA Eskdalemuir Ar 24.20 323 P **P** **09 17 41.4 +1.9**
comp=N,1.0nm,0.6s,baz=114,slow=8.6,SNR=2.1
comp=N,1.0nm,0.6s
TORD Torodi Ar. Bea 31.21 222 P **P** **09 18 41.7 -0.9**
comp=N,0.9nm,0.7s,baz=30,slow=9.3,SNR=5.2
comp=N,0.9nm,0.7s
KURBB Kurchatov Arra 40.83 54 P **P** **09 20 04.8 +0.2**
comp=N,0.4nm,0.7s,baz=273,slow=7.9,SNR=2.0
comp=N,0.4nm,0.7s
MKAR Makanchi Array 43.84 59 P **P** **09 20 27.9 -1.3**
comp=N,0.3nm,0.6s,baz=289,slow=6.2,SNR=2.8
MKAR LR LR 09 40 38.4
comp=N,27nm,19.6s,baz=26,slow=39
comp=N,0.3nm,0.6s
ZALV Zalesovo Beam 44.37 48 P **P** **09 20 34.0 +0.7**
comp=N,0.8nm,0.6s,baz=293,slow=11,SNR=3.6
comp=N,0.8nm,0.6s

*SJA **22** 09:13:01.5±0.8,21.°10S×69.°02W,h117km±6km, ML3.6, MW3.5*
*GUC **22** 09:13:03.2±0.6,21.°09S×68.°94W,h109km±4km, ML3.5*
ISC 22 09:13:03.6±1.5,21.°10S±0.°03×69.°05W±0.°05,
h109km±11km,n33,σ0.°70/50,2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.41**	**278**	*e*P	**Pn**	**09 13 19.4**	**-0.5**
PB01				IAML		09 13 33.9	
	comp=Z,2µm,0.2s						
PB01	**IPOC Station P**	**0.41**	**278**	*e*P	**Pn**	**09 13 19.5**	**-0.5**
PB01				*i* S	**Sn**	**09 13 32.1**	**-0.1**
PB01				IAML		09 13 33.0	
	comp=N,4µm,0.3s						
PB09	**IPOC Station P**	**0.72**	**194**	*e*P	Pn	09 13 16.4	-5.8
PB09				IAML		09 13 39.5	
	comp=Z,800nm,0.5s						
PB09	**IPOC Station P**	**0.72**	**194**⇓	*e*P	**Pn**	**09 13 22.0**	**-0.3**
PB09				*e*S	**Sn**	**09 13 37.2**	**+1.0**
PB09				IAML		09 13 40.1	
	comp=E,1µm,0.2s						
PB02	**IPOC Station P**	**0.82**	**254**	*e*P	**Pn**	**09 13 23.1**	**+0.1**
PB02				IAML		09 13 40.6	
	comp=Z,2µm,0.4s						
PB02	**IPOC Station P**	**0.82**	**254**	*e*P	**Pn**	**09 13 23.2**	**+0.1**
PB02				*e*S	**Sn**	**09 13 38.4**	**+0.7**
PB02				IAML		09 13 40.5	
	comp=E,3µm,0.3s						
PB08	**IPOC Station P**	**0.96**	**354**	*e*P	**Pn**	**09 13 23.7**	**-1.0**
PB08				*e*S	**Sn**	**09 13 41.0**	**+0.4**
PB08	**IPOC Station P**	**0.96**	**354**	*e*P	**Pn**	**09 13 24.3**	**-0.5**
PB08				*e*S	**Sn**	**09 13 40.3**	**-0.3**
PB08				IAML		09 13 41.5	
	comp=E,832nm,0.5s						
PB07	**IPOC Station P**	**1.00**	**231**	*e*P	**Pn**	**09 13 23.4**	**-1.5**
PB07				IAML		09 13 49.9	
	comp=Z,560nm,0.4s						
PB07	**IPOC Station P**	**1.00**	**231**	*e*P	**Pn**	**09 13 24.8**	**-0.1**
PB07				*e*S	**Sn**	**09 13 41.7**	**+0.8**
PB07				IAML		09 13 44.1	
	comp=N,948nm,0.2s						
PATCX	**Punta Patache**	**1.07**	**285**	*e*P	**Pn**	**09 13 25.7**	**+0.2**
PATCX	**Punta Patache**	**1.07**	**285**	*e*P	**Pn**	**09 13 25.7**	**+0.2**
PATCX				*e*S	**Sn**	**09 13 42.8**	**+0.8**
PATCX				IAML		09 13 44.4	
	comp=E,2µm,0.1s						
HMBC	**Humberstone**	**1.13**	**316**	*e*P	**Pn**	**09 13 25.7**	**-0.6**
HMBC	**Humberstone**	**1.13**	**316**	*e*P	**Pn**	**09 13 25.8**	**-0.4**
HMBC				*e*S	**Sn**	**09 13 43.2**	**-0.2**
HMBC				IAML		09 13 46.8	
	comp=N,1µm,0.3s						
TA01	**Diego Aracena**	**1.18**	**296**	*e*P	**Pn**	**09 13 26.5**	**-0.2**
TA01				*e*S	**Sn**	**09 13 44.8**	**+0.7**
TA01				IAML		09 13 45.2	
	comp=Z,321nm,0.2s						
TA01	**Diego Aracena**	**1.18**	**296**	*e*P	**Pn**	**09 13 26.4**	**-0.2**
TA01				*i* S	**Sn**	**09 13 44.6**	**+0.5**
TA01				IAML		09 13 46.0	
	comp=E,1µm,0.3s						
TA02	**Huaiquique**	**1.30**	**309**	*e*P	**Pn**	**09 13 27.7**	**-0.4**
TA02				IAML		09 13 52.8	
	comp=Z,472nm,0.1s						
GO01	**Chusmiza**	**1.43**	**355**	*e*P	**Pn**	**09 13 29.7**	**-0.4**
GO01				*e*S	**Sn**	**09 13 50.1**	**+0.1**
GO01	**Chusmiza**	**1.43**	**355**	*e*P	**Pn**	**09 13 29.6**	**-0.4**
GO01				*e*S	**Sn**	**09 13 49.7**	**-0.3**
GO01				IAML		09 13 53.1	
	comp=N,868nm,0.1s						
PB11	**IPOC Station P**	**1.45**	**337**	*e*P	**Pn**	**09 13 29.2**	**-0.7**
PB11	**IPOC Station P**	**1.45**	**337**⇓	*e*P	**Pn**	**09 13 29.2**	**-0.7**
PB11				*i* S	**Sn**	**09 13 49.6**	**-0.2**
PB11				IAML		09 13 51.1	
	comp=E,571nm,0.2s						
LVC	**Limon Verde**	**1.51**	**175**	*e*P	**Pn**	**09 13 30.1**	**-0.8**
LVC				*e*S	**Sn**	**09 13 51.2**	**-0.3**
LVC	**Limon Verde**	**1.51**	**175**	*e*P	**Pn**	**09 13 30.4**	**-0.5**
LVC				*e*S	**Sn**	**09 13 51.4**	**-0.1**
LVC				IAML		09 13 54.5	
	comp=E,1µm,0.3s						
PB04	**IPOC Station P**	**1.60**	**220**	*e*P	**Pn**	**09 13 31.0**	**-0.7**
PB04				*e*S	**Sn**	**09 13 54.7**	**+1.6**
PB04				IAML		09 13 59.0	
	comp=Z,334nm,0.2s						
PB04	**IPOC Station P**	**1.60**	**220**	*e*P	**Pn**	**09 13 31.5**	**-0.2**
PB04				*i* S	**Sn**	**09 13 53.5**	**+0.4**
PB04				IAML		09 14 00.0	
PB06	**IPOC Station P**	**1.67**	**197**	*e*P	**Pn**	**09 13 32.5**	**-0.1**
PB06				IAML		09 13 57.2	
	comp=Z,359nm,0.4s						
PB05	**IPOC Station P**	**2.05**	**211**	*e*P	**Pn**	**09 13 36.4**	**-0.9**
PB15	**IPOC Station P**	**2.14**	**190**	*e*P	**Pn**	**09 13 38.9**	**+0.4**
PB15				IAML		09 14 10.5	
	comp=Z,692nm,0.2s						
PB12	**IPOC Station P**	**2.75**	**334**	*e*P	**Pn**	**09 13 44.9**	**-1.5**
PB16	**IPOC Station P**	**2.78**	**351**	*e*P	**Pn**	**09 13 47.6**	**+0.4**
YJA	**Yavi**	**3.46**	**109**	*e*P	**Pn**	**09 13 56.0**	**-0.1**
YJA				*e*S	**Sn**	**09 14 37.5**	**+0.9**
GO02	**Mina Guanaco**	**4.08**	**187**	*e*P	**Pn**	**09 14 02.5**	**-1.7**
LPAZ	**La Paz**	**4.86**	**10**	*e*P	**Pn**	**09 14 16.3**	**+1.2**

*IDC **22** 09:21:50.5±3.2,53.°78N×90.°88E, h0km, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=27.1km s-min=23.4km az=58.0*
*NNC **22** 09:21:51.9±2.8,53.°79N×90.°60E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=21.7km s-min=17.1km az=43.0, Suspected Mining explosion.*
ISC 22 09:21:52.4±4.0,53.7N±0.°1×90.6E±0.°2,h0km,n10,
σ1.°07/14,7C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.45**	**276**	I	I	09 42 20.0	
	0.1nm,1.2s,baz=90,slow=345,SNR=8.0						
ZAA0	**Zalesovo Array**	**3.45**	**276**	⇑Pg	**Pb**	**09 22 52.6**	**-1.7**
ZAA0	0.9nm,0.7s			⇓Lg	Lg	09 23 43.2	
	6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**3.45**	**276**	Pn	**Pn**	**09 22 49.2**	**+1.9**
	2.0nm,0.5s,baz=92,slow=14,SNR=3.8						
ZALV				Pg	**Pb**	**09 22 53.0**	**-1.3**
	0.9nm,0.3s,baz=90,slow=16,SNR=16						
ZALV				Lg	Lg	09 23 44.2	
	2.9nm,0.3s,baz=88,slow=25,SNR=10						
KURK	**Kurchatov**	**7.97**	**253**	⇓Pn	**Pn**	**09 23 50.3**	**+0.9**
	4.3nm,1.4s						
KURK				⇓Sn	**Sn**	**09 25 20.6**	**+0.4**
	8.1nm,1.3s						
KURK				⇑Lg	Lg	09 26 04.1	
	25nm,1.1s						
KURBB	**Kurchatov Arra**	**8.07**	**252**	⇑Pn	**Pn**	**09 23 50.8**	**0.0**
	2.9nm,0.6s						
KURBB				⇑Sn	**Sn**	**09 25 23.2**	**+0.7**
	16nm,0.8s						
KURBB				⇓Lg	Lg	09 26 07.2	
	18nm,0.8s						
KURBB	**Kurchatov Arra**	**8.07**	**252**	Pn	**Pn**	**09 23 50.7**	**0.0**
	0.1nm,0.3s,baz=65,slow=15,SNR=16						
KURBB				Sn	**Sn**	**09 25 22.5**	**0.0**
	baz=60,slow=24,SNR=1.2						
KURBB				Lg	Lg	09 26 11.7	
	0.1nm,0.3s,baz=64,slow=31,SNR=2.7						
	1.6nm,0.5s						
MK31	**Makanchi Array**	**8.77**	**221**	⇑Pn	**Pn**	**09 24 00.2**	**-0.2**
	0.7nm,0.6s,baz=40,slow=13,SNR=9.1						
MK31				⇓Sn	**Sn**	**09 25 39.8**	**0.0**
	2.8nm,0.8s						
MK31				⇑Lg	Lg	09 26 32.0	
	10nm,1.1s,baz=33,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**8.77**	**221**	Pn	**Pn**	**09 24 00.5**	**+0.2**
	0.2nm,0.3s,baz=40,slow=14,SNR=10.0						
MKAR				Sn	**Sn**	**09 25 41.3**	**+1.5**
	0.1nm,0.3s,baz=34,slow=21,SNR=5.0						
MKAR				Lg	Lg	09 26 29.8	
	0.1nm,0.3s,baz=38,slow=26,SNR=3.8						
	0.4nm,0.5s						
MAKZ	**Makanchi**	**8.88**	**222**	⇑Pn	**Pn**	**09 24 02.7**	**+0.8**
	0.8nm,0.7s						
MAKZ				⇓Lg	Lg	09 26 35.1	
	6.5nm,1.4s						
SONM	**Songino Array**	**11.59**	**114**	Lg	Lg	09 27 48.4	
	baz=302,slow=22						

AUST 22 09:58:38.3±3.5,30.°68S×152.°79E,h0km,Error ellipse: s-maj=29.6km s-min=14.3km az=50.0,Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARMA	**Armidale**	**1.03**	**284**	P	Pb	09 58 58.7	-0.4
	baz=1.0,SNR=184						
ARMA				S	Sb	09 59 12.5	-0.8
	baz=1.0						
AUPHS	**Peel High Scho**	**1.69**	**255**	P	Pn	09 59 07.9	-1.1
	baz=1.7						
AUPHS				S	Sb	09 59 31.8	-0.2
	baz=1.7						
MGCD	**Mangrove Creek**	**2.90**	**209**	P	Pn	09 59 25.2	-0.5
	baz=2.9						
MGCD				S	Sn	10 00 03.5	+2.2
	baz=2.9						
RIV	**Riverview**	**3.43**	**203**	P	Pn	09 59 34.1	+1.1
	baz=3.4						
YNG	**Young**	**5.18**	**225**	P	Pn	09 59 56.6	-0.4
	baz=5.2						
YNG				S	Sn	10 01 01.8	+4.3
	baz=5.2						
CNB	**Canberra Magne**	**5.45**	**211**	P	Pn	09 59 59.8	-1.0
	baz=5.5						
CMSA	**Cobar Meteorol**	**6.15**	**260**	P	Pn	10 00 06.7	-3.7
	baz=6.1						

IDC 22 09:58:43.7±1.7,1.°27N×125.°85E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=180.2km s-min=22.7km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.67**	**159**	P	P	10 03 46.6	-0.3
	0.4nm,0.5s,baz=337,slow=11,SNR=6.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**26.00**	**163**	P	P	10 04 18.8	+0.3
	0.1nm,0.3s,baz=347,slow=7.8,SNR=4.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.08**	**327**	P	P	10 08 46.5	+0.7
	0.2nm,0.4s,baz=113,slow=8.5,SNR=4.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.34**	**328**	P	P	10 09 13.8	-0.7
	0.3nm,0.5s,baz=128,slow=5.6,SNR=5.0						
	0.3nm,0.5s						

*IDC **22** 10:07:59.1±1.2,12.°37N×143.°91E,h0km,mb3.8/7, mbtmp3.7/7,MS3.4/1,Error ellipse: s-maj=44.9km s-min=32.6km az=108.0*
ISC 22 10:08:03.3±1.0,12.°4N±0.°2×143.°9E±0.°3,h27km,n14,
σ1.°32/7,mb3.7/7,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**22.43**	**277**	LR	LR	10 20 28.4	
	comp=Z,93nm,21.0s,baz=342,slow=33						
H11S3	**WAKE ISLAND Hy**	**22.77**	**72**	T	T	10 37 04.7	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**22.79**	**72**	T	T	10 37 07.4	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**22.79**	**72**	T	T	10 37 09.2	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**23.25**	**69**	T	T	10 37 37.4	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**23.26**	**69**	T	T	10 37 36.9	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**23.27**	**69**	T	T	10 37 26.6	
	baz=254						
WRA	**Warramunga Arr**	**33.45**	**196**	P	**P**	**10 14 40.3**	**+0.2**
	0.8nm,0.8s,baz=22,slow=9.8,SNR=2.5						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**64.97**	**320**	P	**P**	**10 18 39.4**	**-1.2**
	0.1nm,0.4s,baz=104,slow=7.2,SNR=2.2						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**70.08**	**25**	P	**P**	**10 19 12.9**	**+0.2**
	0.2nm,0.6s,baz=259,slow=6.1,SNR=6.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**70.32**	**322**	P	**P**	**10 19 15.1**	**+0.7**
	0.5nm,0.5s,baz=92,slow=7.1,SNR=4.0						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**84.38**	**27**	P	**P**	**10 20 34.5**	**+1.5**
	0.3nm,0.5s,baz=287,slow=5.3,SNR=9.2						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**88.42**	**51**	P	**P**	**10 20 52.0**	**-1.6**
	0.1nm,0.2s,baz=258,slow=4.5,SNR=1.7						
	0.1nm,0.2s						
FINES	**FINESS Array B**	**91.88**	**335**	P	**P**	**10 21 08.9**	**0.0**
	2.3nm,0.9s,baz=61,slow=4.0,SNR=6.1						
	2.3nm,0.9s						

KRSC 22 10:10:57.3±0.9,55.°63N×162.°58E,h24km±28km,MI3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.63**	**6**	*e*P	Pb	10 11 10.0	+0.4
KBG				*e*S	Sn	10 11 19.2	-0.7
ZLN	**Zelenaya**	**1.08**	**292**	*e*P	Pb	10 11 17.6	+0.4
ZLN				*e*S	Sn	10 11 31.9	+0.7
BZGR	**Bezymyannyi-Gr**	**1.11**	**287**	*e*P	Pb	10 11 17.9	+0.1
BZGR				*e*S	Sn	10 11 32.5	+0.5
SMKR	**Semkarok**	**1.14**	**327**	*e*P	Pn	10 11 17.8	0.0
SMKR				*e*S	Sn	10 11 31.9	-0.8
CIRR	**Tsirk**	**1.14**	**296**	*e*P	Pb	10 11 19.3	+0.8
CIRR				*e*S	Sn	10 11 32.6	-0.2
BZP	**Bezymyannyi-Pe**	**1.19**	**285**	*e*P	Pn	10 11 18.8	+0.3
BZP				*e*S	Sn	10 11 33.6	-0.4
BDR	**Baidarnaya**	**1.22**	**321**	*e*P	Pn	10 11 19.1	+0.3
BZMR	**Bezymyannaya**	**1.22**	**285**	*e*P	Pb	10 11 19.4	-0.4
BZMR				*e*S	Sn	10 11 32.8	-1.9
BZWR	**Bezymyannyi-We**	**1.23**	**287**	*e*P	Pb	10 11 19.6	-0.3
KLY	**Klyuchi**	**1.28**	**303**	*e*P	Pn	10 11 18.5	-1.2
KLY				*e*S	Sn	10 11 33.2	-2.9
SRKR	**Sorokina**	**1.30**	**323**	*e*P	Pn	10 11 20.4	+0.5
SRKR				*e*S	Sn	10 11 36.4	-0.1
KIRR	**Kirishev**	**1.31**	**285**	*e*P	Pb	10 11 21.1	-0.1
KIRR				*e*S	Sb	10 11 38.6	+1.0
TUMD	**Tumrok D**	**1.32**	**252**	*e*P	Pb	10 11 21.7	+0.4
TUMD				*e*S	Sb	10 11 39.3	+1.6
KMNR	**Kamenistaya**	**1.33**	**276**	*e*P	Pb	10 11 22.2	+0.5

KMNR				eS	Sb	10 11 40.0	+1.7
KPT	**Kopyto**	**1.38**	**285**	eP	Pb	10 11 22.3	-0.1
KPT				eS	Sb	10 11 41.4	+1.9
TUMR	**Tumrok**	**1.43**	**257**	eP	Pb	10 11 24.3	+1.0
TUMR				eS	Sb	10 11 43.3	+2.1
KOZ	**Kozyrevsk**	**1.59**	**287**	eP	Pb	10 11 26.0	+0.1
KOZ				eS	Sb	10 11 46.4	+0.8
SRDR	**Sredinnyy**	**1.75**	**294**	eP	Pb	10 11 27.7	-1.1
SRDR				eS	Sb	10 11 49.9	-0.5
BKI	**Bering**	**1.98**	**101**	eP	Pb	10 11 32.0	-0.6
BKI				eS	Sb	10 11 56.4	-0.3
ESO	**Esso**	**2.21**	**279**	eP	Pb	10 11 35.3	-1.3
ESO				eS	Sn	10 12 00.7	+1.6
KII	**Karymskiy**	**2.42**	**230**	eP	Pb	10 11 38.2	-1.8
KII				eS	Sb	10 12 08.5	-0.9
SPN	**Mys Shipunski**	**2.94**	**212**	eP	Pn	10 11 45.4	+2.9
SPN				eS	Sn	10 12 17.9	+0.9
KRX	**Arik**	**3.23**	**227**	eP	Pn	10 11 49.9	+3.4
SMAR	**Somma**	**3.24**	**225**	eP	Pn	10 11 49.8	+3.0
SMAR				eS	Sb	10 12 29.4	-3.8
AVH	**Avacha**	**3.26**	**225**	eP	Pn	10 11 50.3	+3.4
AVH				eS	Sb	10 12 30.8	-3.0
UGLR	**Uglovaya**	**3.27**	**224**	eP	Pn	10 11 50.3	+3.3
KOK	**Koryaka**	**3.28**	**226**	eP	Pn	10 11 50.4	+3.1
DALK	**Dalny**	**3.44**	**222**	eP	Pn	10 11 51.8	+2.7
DALK				eS	Sn	10 12 32.0	+3.0
PET	**Petropavlovsk**	**3.48**	**223**	eP	Pn	10 11 53.1	+3.3
PET				eS	Sn	10 12 33.0	+2.8
KRMR	**Karymshinskiy**	**3.83**	**225**	eP	Pn	10 11 58.3	+3.6
KRMR				eS	Sb	10 12 45.0	-5.0
RUS	**Russkaya**	**4.00**	**219**	eP	Pn	10 11 59.4	+2.4
GRL	**Gorelyy**	**4.07**	**223**	eP	Pn	10 12 01.7	+3.6
GRL				eS	Sn	10 12 50.3	+5.4
MTVR	**Mutnovka**	**4.08**	**221**	eP	Pn	10 12 01.8	+3.6
MTVR				eS	Sn	10 12 50.9	+5.7
ASAK	**Asacha**	**4.27**	**222**	eP	Pn	10 12 04.3	+3.6
ASAK				eS	Sb	10 12 56.6	-6.0

JMA 22 10:25:04.3±0.3, 28°N±2°×14°1E±°, h175km, MV3.8/10, NEAR CHICHIJIMA ISLAND, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.19**	**119**	P	Pn	10 25 33.3	+0.2
CBIJ				S	Sn	10 25 54.7	-0.4
JHH2	**Haha-jima-NKT2**	**1.47**	**135**	P	Pn	10 25 35.6	+0.1
JHH2				eS	Sn	10 26 00.2	+0.6
BSO3	**Boso 3**	**7.12**	**357**	P	Pn	10 26 46.4	+0.8
JAG	**Ashikaga**	**8.83**	**352**	eP	Pn	10 27 06.2	-2.2

*IDC **22** 10:32:41.6±1.0, 13°.10N×145°.33E, h0km, mb3.6/7, mbtmp3.6/7, MS3.0/3, Error ellipse: s-maj=28.4km s-min=16.4km az=60.0*

ISC 22 10:32:46.9±1.1, 13°.1N±0°.1×145°.3E±0°.2, h35km, n15, σ0§60/9, mb3.6/7, MS2.9/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.64**	**322**	Pn	**Pn**	**10 32 59.2**	**-0.4**
GUMO	167nm,0.3s,baz=147,slow=23,SNR=21			Sn	**Sn**	**10 33 09.1**	**+0.6**
JHJ	**Hachijo jima 2**	**20.57**	**347**	LR	LR	10 44 28.4	
	comp=Z,48nm,19.4s,baz=19,slow=34						
H11N1	**WAKE ISLAND Hy**	**21.75**	**69**	T	T	11 00 41.7	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**21.76**	**69**	T	T	11 00 39.9	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**21.77**	**69**	T	T	11 00 39.1	
	baz=257						
MJAR	**Matsushiro Arr**	**24.21**	**346**	LR	LR	10 47 08.2	
	comp=Z,35nm,18.6s,baz=172,slow=36						
HNR	**Honiara**	**26.69**	**146**	LR	LR	10 47 56.2	
	comp=Z,736nm,20.4s,baz=320,slow=34						
WRA	**Warramunga Arr**	**34.53**	**198**	P	**P**	**10 39 31.8**	**-0.4**
	1.5nm,0.9s,baz=21,slow=9.6,SNR=4.0						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**38.17**	**197**	P	**P**	**10 40 03.9**	**+0.6**
	0.5nm,0.9s,baz=21,slow=7.5,SNR=3.1						
	0.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.81**	**283**	LR	LR	10 58 18.0	
	comp=Z,12nm,20.0s,baz=290,slow=34						
MKAR	**Makanchi Array**	**62.13**	**316**	P	**P**	**10 43 04.0**	**-0.5**
	0.1nm,0.5s,baz=94,slow=7.6,SNR=1.8						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**65.27**	**320**	P	**P**	**10 43 24.8**	**-0.3**
	0.2nm,0.4s,baz=104,slow=6.9,SNR=2.6						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**68.86**	**25**	P	**P**	**10 43 47.2**	**-0.5**
	0.3nm,0.5s,baz=253,slow=5.7,SNR=12						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**70.57**	**322**	P	**P**	**10 43 58.7**	**+0.3**
	0.4nm,0.4s,baz=111,slow=7.8,SNR=4.6						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**83.13**	**27**	P	**P**	**10 45 09.6**	**+0.6**
	0.6nm,1.0s,baz=291,slow=5.9,SNR=5.6						
	0.6nm,1.0s						

*IDC **22** 10:45:30.5±1.1, 36°.24N×97°.67W, h0km, mbtmp3.2/4, ML3.7/3, Error ellipse: s-maj=14.1km s-min=11.6km az=137.0*

*TUL **22** 10:45:33.3±0.4, 36°.15N±0°.01×97°.661W±0°.009, h7km±5km, ML3.6, mb_Lg3.3/130(NEIC), ML3.5/48(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=174.0*

*ANF **22** 10:45:33.3±0.3, 36°.17N×97°.66W, h5km, ML4.1/11, Error ellipse: s-maj=3.7km s-min=2.3km az=134.0*

*NEIC **22** 10:45:33.3±0.5, 36°.14N±0°.01×97°.67W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=276.0*

ISC 22 10:45:33.5±1.1, 36°.16N±0°.02×97°.65W±0°.02, h6km±10km, n115, σ0§93/68, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**157**		**Pg**	**10 45 41.1**	**-0.1**
OK029				Sg	**Sg**	**10 45 46.4**	**0.0**
CROK	**Carrier**	**0.44**	**322**		**Pg**	**10 45 42.1**	**+0.2**
CROK				IAML		10 45 51.6	
	comp=E,4μm,0.3s						
CROK				IAML		10 45 53.5	
	comp=N,4μm,0.2s						
ADOK	**Arcadia Dam**	**0.56**	**156**		**Pg**	**10 45 44.0**	**-0.2**
ADOK				Sg	**Sg**	**10 45 51.8**	**+0.3**
OK033	**Mehan**	**0.59**	**101**		**Pg**	**10 45 45.0**	**+0.2**
OK033				Sg	**Sg**	**10 45 53.1**	**+0.6**
OK033				IAML		10 45 55.8	
	comp=N,3μm,0.5s						
BLOK	**Blackwell**	**0.69**	**30**		**Pb**	**10 45 47.4**	**-0.6**
GC02	**Grant County #**	**0.71**	**346**		**Pg**	**10 45 47.3**	**+0.1**
OK051	**E0350 and S346**	**0.74**	**62**		**Pg**	**10 45 48.0**	**+0.3**
OK051				IAML		10 46 03.8	
	comp=N,2μm,0.2s						
OK051				IAML		10 46 09.4	
	comp=N,2μm,0.2s						
QUOK	**Quay**	**0.76**	**89**		**Pg**	**10 45 48.3**	**+0.1**
QUOK				IAML		10 45 59.0	
	comp=N,2μm,0.3s						
QUOK				IAML		10 46 02.7	
	comp=E,1μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**167**		**Pg**	**10 45 48.1**	**-0.2**
OKCSW				Sg	**Sg**	**10 45 58.4**	**0.0**
OKCSW				IAML		10 46 01.2	
	comp=N,2μm,0.3s						
OKCSW				IAML		10 46 06.3	
	comp=E,2μm,0.5s						
OK032	**Salt Plains WL**	**0.79**	**325**		**Pg**	**10 45 48.1**	**-0.5**
OK032				IAML		10 46 01.6	
	comp=E,2μm,0.3s						
OK032				IAML		10 46 08.1	
	comp=E,2μm,0.2s						
KAN14	**Manchester OK**	**0.83**	**342**		**Pg**	**10 45 49.4**	**-0.1**
KAN14				Sg	**Sg**	**10 46 00.1**	**-0.2**
KAN14				IAML		10 46 00.9	
	comp=N,2μm,0.2s						
KAN14				IAML		10 46 02.2	
	comp=E,1μm,0.2s						
KAN13	**South Haven SW**	**0.86**	**9**		**Pg**	**10 45 50.2**	**+0.2**
KAN17	**Caldwell West**	**0.89**	**354**	IAML		10 46 14.9	
	comp=N,2μm,0.3s						
FNO	**Franklin**	**0.93**	**167**		**Pg**	**10 45 50.7**	**-0.5**
FNO				IAmb_Lg		10 46 03.3	
	comp=Z,210nm,1.1s						
OK038	**West end E0370**	**0.94**	**290**		**Pg**	**10 45 51.1**	**-0.4**
KAN09	**Caldwell North**	**0.97**	**1**		**Pg**	**10 45 52.2**	**0.0**
CSTR	**Hydro, Custer**	**0.99**	**239**		**Pg**	**10 45 52.0**	**-0.5**
KAN08	**Anthony NE Sta**	**1.09**	**346**		**Pg**	**10 45 54.2**	**-0.3**
KAN08				IAML		10 46 11.7	
	comp=E,908nm,0.3s						
KAN08				IAML		10 46 13.0	
	comp=N,939nm,0.3s						
KAN06	**Argonia West S**	**1.10**	**351**		**Pg**	**10 45 54.3**	**-0.3**
KAN06				IAML		10 46 09.9	
	comp=E,1μm,0.3s						
KAN06				IAML		10 46 10.8	
	comp=N,886nm,0.2s						
U32A	**Winter Ranch,**	**1.11**	**282**		**Pg**	**10 45 54.2**	**-0.7**
U32A				IAML		10 46 13.4	
	comp=E,838nm,0.3s						
U32A				IAML		10 46 16.9	
	comp=N,2μm,0.7s						
U32A	**Winter Ranch,**	**1.11**	**282**	P	**Pg**	**10 45 54.0**	**-0.9**
	baz=102,SNR=10						
T35A	**Sooner Cattle**	**1.19**	**50**	IAML		10 46 16.4	
	comp=E,1μm,0.5s						
T35B	**Sooner Cattle**	**1.19**	**50**	P	**Pg**	**10 45 55.9**	**-0.4**
	baz=231,SNR=370						
T35B				S	**Sg**	**10 46 11.9**	**+0.2**
	baz=231						
W35A	**Tecumseh**	**1.19**	**148**	Pg	**Pg**	**10 45 55.2**	**-1.1**
W35A				IAML		10 46 16.6	
	comp=N,1μm,0.4s						
ELIS	**Ellis County**	**1.44**	**267**		**Pn**	**10 45 60.0**	**-0.1**
TUL3	**Leonard**	**1.53**	**99**	IAmb_Lg		10 46 25.5	
	comp=Z,190nm,0.7s						
TUL3	**Leonard**	**1.53**	**99**	P	**Pn**	**10 46 01.0**	**-0.3**
	baz=279,SNR=180						
TUL3				S	**Sb**	**10 46 22.0**	**+0.2**
	baz=279						
WMOK	**Wichita Mounta**	**1.69**	**213**		**Pn**	**10 46 03.4**	**-0.2**
WMOK	**Wichita Mounta**	**1.69**	**213**	P	**Pn**	**10 46 03.1**	**-0.5**
	baz=32,SNR=167						
WMOK				S	**Sn**	**10 46 25.8**	**+0.2**
	baz=32						
LOOK	**Love County**	**2.20**	**170**		**Pn**	**10 46 11.3**	**+0.8**
LOOK				IAmb_Lg		10 46 46.4	
	comp=Z,128nm,0.8s						
SMWD	**Samnorwood**	**2.36**	**244**		**Pn**	**10 46 13.8**	**+1.0**
SMWD				IAmb_Lg		10 46 46.0	
	comp=Z,112nm,0.8s						
WTFS	**Witchita Falls**	**2.48**	**196**		**Pn**	**10 46 15.1**	**+0.7**
U38A	**Gravette**	**2.65**	**83**		**Pn**	**10 46 17.5**	**+0.7**
U38A	**Gravette**	**2.65**	**83**	P	**Pn**	**10 46 17.3**	**+0.5**
	baz=265,SNR=66						
Z35A	**Perchasen, San**	**2.84**	**173**	S	**Sn**	**10 46 56.3**	**+2.4**
	baz=353						
HHAR	**Hobbs**	**3.00**	**87**	Pn	**Pn**	**10 46 22.0**	**+0.4**
HHAR	**Hobbs**	**3.00**	**87**	P	**Pn**	**10 46 21.9**	**+0.3**
	baz=268						
KSU1	**Kansas State U**	**3.05**	**15**	Pn	**Pn**	**10 46 23.4**	**+1.2**
KSU1				IAmb_Lg		10 47 12.5	
	comp=Z,82nm,1.0s						
KSU1	**Kansas State U**	**3.05**	**15**	P	**Pn**	**10 46 23.1**	**+0.8**
	baz=196,SNR=25						
CBKS	**Cedar Bluff**	**3.13**	**329**	IAmb_Lg		10 47 15.2	
	comp=Z,106nm,1.0s						
FW03	**Perrin-Whitt E**	**3.13**	**186**		**Pn**	**10 46 24.4**	**+1.0**
FW06	**Azle**	**3.18**	**179**		**Pn**	**10 46 25.5**	**+1.4**
PLPT	**Palo Pinto**	**3.39**	**190**		**Pn**	**10 46 27.9**	**+1.0**
FW07	**Weatherford**	**3.45**	**182**		**Pn**	**10 46 28.1**	**+0.3**
APMT	**Aspermont**	**3.49**	**216**		**Pn**	**10 46 29.2**	**+0.9**
AMTX	**Amarillo**	**3.53**	**250**		**Pn**	**10 46 31.1**	**+2.2**
Z38A	**Mt. Pleasant**	**3.63**	**142**	IAmb_Lg		10 47 38.1	
	comp=Z,116nm,0.8s						
DKNS	**Dickens**	**3.67**	**228**	IAmb_Lg		10 47 33.1	
	comp=Z,73nm,0.7s						
S39A	**Bolivar**	**3.79**	**65**	IAmb_Lg		10 47 37.1	
	comp=Z,79nm,0.7s						
S39A	**Bolivar**	**3.79**	**65**	P	**Pn**	**10 46 33.0**	**+0.6**
	baz=247,SNR=34						
U40A	**Yellville**	**3.88**	**86**	P	**Pn**	**10 46 33.3**	**-0.4**
	baz=268						
U40A				P	**Pn**	**10 46 33.3**	**-0.4**
	baz=268						
RTBA	**Rita Blanca**	**4.12**	**275**		**Pn**	**10 46 37.9**	**+0.8**
WHTX	**Lake Whitney,**	**4.16**	**178**	P	**Pn**	**10 46 37.8**	**+0.2**
	baz=358,SNR=11						
SN01	**Snyder 1**	**4.24**	**220**	IAmb_Lg		10 47 50.2	
	comp=Z,99nm,0.8s						
237A	**Washetta, Mont**	**4.42**	**159**	P	**Pn**	**10 46 40.8**	**-0.3**
	baz=340,SNR=5.8						
POST	**Post**	**4.43**	**227**	IAmb_Lg		10 48 05.1	
	comp=Z,47nm,0.8s						
MGMO	**Mountain Grove**	**4.44**	**76**		**Pn**	**10 46 41.9**	**+0.6**
WHAR	**Wooly Hollow**	**4.45**	**100**	Pn	**Pn**	**10 46 42.0**	**+0.6**
WHAR				IAmb_Lg		10 47 57.8	
	comp=Z,53nm,0.8s						
WLAR	**White Oak Lake**	**4.47**	**122**	IAmb_Lg		10 48 07.2	
	comp=Z,53nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.49**	**92**	IAmb_Lg		10 47 58.0	
	comp=Z,68nm,0.9s						
N33A	**J Bar K, Exete**	**4.57**	**2**	IAmb_Lg		10 48 02.1	
	comp=Z,78nm,0.8s						
P38A	**Dawn**	**4.75**	**42**	IAmb_Lg		10 48 03.3	
	comp=Z,47nm,0.8s						
R40A	**Maddies Statio**	**4.79**	**62**	P	**Pn**	**10 46 46.4**	**+0.2**
	baz=245,SNR=30						
KSCO	**Kaye Shedlock'**	**4.87**	**307**	IAmb_Lg		10 48 20.6	
	comp=Z,48nm,0.7s						
NATX	**Nacogdoches**	**5.04**	**150**	IAmb_Lg		10 48 27.5	
	comp=Z,44nm,0.9s						
SGCY	**Sterling City**	**5.13**	**215**	IAmb_Lg		10 48 29.4	
	comp=Z,85nm,0.9s						
LCAR	**Lake Charles**	**5.26**	**89**	IAmb_Lg		10 48 24.5	
	comp=Z,45nm,0.8s						
435B	**Jarrell**	**5.37**	**179**	IAmb_Lg		10 48 27.4	
	comp=Z,81nm,0.8s						
CCM	**Cathedral Cave**	**5.46**	**68**	IAmb_Lg		10 48 27.3	
	comp=Z,49nm,0.8s						
T25A	**Trinidad**	**5.52**	**282**	IAmb_Lg		10 48 37.4	
	comp=Z,78nm,0.8s						
P40A	**Paris**	**5.56**	**51**	IAmb_Lg		10 48 35.7	
	comp=Z,81nm,0.8s						
OGNE	**Ogalala**	**5.88**	**326**	IAmb_Lg		10 48 46.0	
	comp=Z,76nm,0.7s						
JCT	**Junction City**	**5.95**	**198**	IAmb_Lg		10 48 45.4	
	comp=Z,72nm,0.8s						
OZNA	**Ozona**	**5.98**	**210**	IAmb_Lg		10 48 45.0	
	comp=Z,62nm,1.2s						
FVM	**French Village**	**6.05**	**70**	IAmb_Lg		10 49 00.3	
	comp=Z,41nm,1.2s						
FVM	**French Village**	**6.05**	**70**	P	**Pn**	**10 47 03.8**	**+0.3**
	baz=255,SNR=5.3						
SLM	**Saint Louis**	**6.40**	**65**	IAmb_Lg		10 48 56.8	
	comp=Z,42nm,0.7s						
MNHN	**Monahans**	**6.42**	**223**	IAmb_Lg		10 49 02.0	
	comp=Z,29nm,0.8s						
CGM3	**Cape Girardeau**	**6.52**	**78**	IAmb_Lg		10 48 57.1	
	comp=Z,41nm,0.7s						
Q24A	**Divide**	**6.58**	**297**	IAmb_Lg		10 49 11.2	
	comp=Z,28nm,0.8s						
K30B	**Basset**	**6.68**	**347**	IAmb_Lg		10 49 18.5	
	comp=Z,65nm,0.7s						
HNDO	**Hondo**	**6.75**	**192**		**Pn**	**10 47 12.9**	**-0.3**
BRIGG	**Briggsdale**	**6.85**	**312**	IAmb_Lg		10 49 23.7	
	comp=Z,61nm,1.1s						
S44A	**Carbondale**	**6.89**	**75**	IAmb_Lg		10 49 22.4	
	comp=Z,54nm,0.8s						
SIUC	**Southern Illin**	**6.93**	**75**	IAmb_Lg		10 49 20.3	
	comp=Z,59nm,0.8s						
Y45A	**Yeager Farm, C**	**7.03**	**107**	IAmb_Lg		10 49 35.9	
	comp=Z,50nm,1.0s						
EF01	**Eagle Ford 01**	**7.04**	**185**	IAmb_Lg		10 49 33.6	
	comp=Z,33nm,0.9s						
DRIO	**Del Rio**	**7.17**	**201**	IAmb_Lg		10 49 21.8	
	comp=Z,26nm,0.8s						
SAND	**Sanderson**	**7.24**	**213**	IAmb_Lg		10 49 31.9	
	comp=Z,39nm,0.8s						
ISCO	**Idaho Springs**	**7.26**	**302**	IAmb_Lg		10 49 33.6	
	comp=Z,24nm,0.8s						
ANMO	**Albuquerque**	**7.28**	**263**	Pg	**Pb**	**10 47 43.2**	**+2.8**
ANMO	comp=Z,0.3nm,0.3s,baz=173,slow=15,SNR=6.2			Lg	Lg	10 49 17.9	
	comp=Z,0.9nm,0.3s,baz=206,slow=10,SNR=2.2						
ECSD	**EROS Data Cent**	**7.61**	**6**	Pn	**Pn**	**10 47 25.6**	**+0.7**
ALPN	**Alpine**	**7.64**	**223**		**Pn**	**10 47 25.3**	**-0.2**
MNTX	**Cornudas Mount**	**7.82**	**238**	IAmb_Lg		10 49 46.4	
	comp=Z,23nm,1.1s						
Y22D	**IRIS PASSCAL I**	**7.88**	**257**	IAmb_Lg		10 50 01.3	
	comp=Z,44nm,0.9s						
PLAL	**Pickwick Lake**	**7.89**	**96**	IAmb_Lg		10 49 46.8	
	comp=Z,31nm,1.1s						
146A	**Union**	**7.92**	**114**	IAmb_Lg		10 49 52.8	
	comp=Z,25nm,1.0s						
833A	**Chaparral WMA,**	**7.95**	**191**	IAmb_Lg		10 49 54.8	
	comp=Z,46nm,1.0s						
OLIL	**Olney**	**8.02**	**68**	IAmb_Lg		10 49 54.9	
	comp=Z,44nm,1.1s						
USIN	**University of**	**8.18**	**74**	IAmb_Lg		10 49 58.2	
	comp=Z,34nm,0.9s						
O44A	**Mansfield**	**8.26**	**58**	IAmb_Lg		10 50 15.2	
	comp=Z,40nm,0.7s						
SUSD	**Miller**	**8.33**	**354**	IAmb_Lg		10 50 02.9	
	comp=Z,30nm,0.8s						
TXAR	**Lajitas Array**	**8.48**	**218**	Pn	**Pn**	**10 47 34.6**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=38,slow=12,SNR=8.6						
TXAR				Pg	Pb	10 48 05.9	+5.0
	comp=Z,1.1nm,0.3s,baz=38,slow=15,SNR=10						
TXAR				Lg	Lg	10 49 51.5	
	comp=Z,0.8nm,0.3s,baz=46,slow=35,SNR=2.0						
	comp=Z,0.4nm,0.5s						
L42A	**Oliver, Polo**	**8.52**	**44**	IAmb_Lg		10 50 04.9	
	comp=Z,43nm,0.8s						
JFWS	**Jewell Farm**	**8.84**	**38**	P	**Pn**	**10 47 42.5**	**+0.7**
	baz=223,SNR=5.2						
M44A	**Midewin, Midew**	**9.13**	**52**	IAmb_Lg		10 50 30.7	
	comp=Z,29nm,0.9s						
RSSD	**Black Hills**	**9.33**	**330**	IAmb_Lg		10 50 42.2	
	comp=Z,19nm,1.1s						
I40A	**Norwalk**	**9.41**	**33**	IAmb_Lg		10 50 35.6	
	comp=Z,21nm,0.7s						
K22A	**Casper**	**9.44**	**316**	IAmb_Lg		10 50 46.0	
	comp=Z,30nm,0.9s						
K43A	**Burlington**	**9.72**	**45**	IAmb_Lg		10 50 43.7	
	comp=Z,38nm,0.9s						
SPMN	**Marine on St.**	**9.77**	**21**	IAmb_Lg		10 50 42.9	
	comp=Z,31nm,1.1s						
TKL	**Tuckaleechee C**	**11.27**	**88**	Pn	**Pn**	**10 48 11.8**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=282,slow=19,SNR=1.6						
TKL				Lg	Lg	10 51 18.3	
	comp=Z,0.5nm,0.3s,baz=324,slow=19,SNR=5.3						
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**11.32**	**309**	Pn	**Pn**	**10 48 14.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=121,slow=16,SNR=2.6						
PDAR				Pg		10 49 02.1	
	comp=Z,0.3nm,0.3s,baz=116,slow=20,SNR=5.2						
PDAR				Lg	Lg	10 51 18.7	
	comp=Z,0.5nm,0.3s,baz=121,slow=29,SNR=2.0						
	comp=Z,0.1nm,0.3s						
ULM	**Lac du Bonnet**	**14.14**	**5**	Pn	Pn	10 48 44.3	-10
	comp=Z,1.2nm,0.8s,baz=183,slow=13,SNR=1.4						
ULM				Sn	Sn	10 51 16.8	-15
	comp=Z,0.2nm,0.3s,baz=89,slow=15,SNR=1.5						
ULM				Lg	Lg	10 52 48.6	
	comp=Z,0.2nm,0.3s,baz=236,slow=16,SNR=2.2						
SADO	**Sadowa**	**16.47**	**53**	Lg	Lg	10 54 02.6	
	comp=Z,0.3nm,0.3s,baz=142,slow=4.8,SNR=1.1						

SJA 22 10:49:07.3±0.7, 27°.11S×67°.21W, h169km±3km, ML3.6, MW3.5, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TINO	**Tinogasta**	**1.00**	**199**	eP	Pn	10 49 34.1	+0.1
TINO				eS	Sn	10 49 54.8	+0.1
FSA	**Cafayete**	**1.48**	**48**	eP	Pn	10 49 38.9	+0.5
AHML	**Horco Molle**	**1.70**	**79**	eP	Pn	10 49 41.2	+0.8
AHML				eS	Sn	10 50 05.8	-0.2
CYA	**Choya**	**1.82**	**137**	eP	Pn	10 49 42.5	+0.8
CYA				eS	Sn	10 50 07.0	-1.2
VCA	**Vinchina**	**1.84**	**208**	eP	Pn	10 49 43.4	+1.4
VCA				eS	Sn	10 50 09.0	0.0
VCA				IAML		10 50 11.4	
	comp=Z,294nm,0.6s						
GUSE	**Guasayan**	**2.23**	**111**	eP	Pn	10 49 46.9	+0.7
ACLC	**CERRO LA CRUZ**	**2.31**	**175**	eP	Pn	10 49 48.4	+1.0
ACLC				eS	Sn	10 50 18.1	-0.4
AGUA	**GUANDACOL**	**2.62**	**205**	eP	Pn	10 49 48.3	-2.6
AGUA				IAML		10 50 27.4	
	comp=Z,142nm,0.6s						
GO03	**Copiap**	**2.74**	**259**	eP	Pn	10 49 52.8	+0.5
GO03				eS	Sn	10 50 25.9	-1.3
SLA	**San Lorenzo**	**2.83**	**33**	eP	Pn	10 49 55.6	+2.0
GO02	**Mina Guanaco**	**2.89**	**312**	eP	Pn	10 49 55.9	+1.5
GO02				eS	Sn	10 50 33.0	+2.0
AC05	**El Transito**	**3.21**	**237**	eP	Pn	10 49 59.1	+0.9
AC05				eS	Sn	10 50 37.1	-0.6
AC05				IAML		10 50 38.8	
	comp=Z,249nm,0.8s						
ACDV	**Cuesta del Vie**	**3.48**	**208**	eP	Pn	10 50 02.9	+1.4
ACDV				eS	Sn	10 50 46.7	+2.8
AVFE	**Valle Fertil**	**3.54**	**183**	eP	Pn	10 50 03.4	+1.1
AVFE				eS	Sn	10 50 44.4	-0.8
AC04	**Llanos de Chal**	**3.60**	**252**	eP	Pn	10 50 02.8	-0.1
AC04				eS	Sn	10 50 43.6	-2.7
AC04				IAML		10 50 48.5	
	comp=Z,78nm,0.5s						
LCO	**Las Campanas**	**3.62**	**238**	eP	Pn	10 50 04.0	+0.5
LCO				eS	Sn	10 50 45.7	-1.5
LCO				IAML		10 50 47.5	
	comp=Z,147nm,0.3s						
AROD	**Rodeo**	**3.64**	**213**	eP	Pn	10 50 05.3	+1.6
AROD				eS	Sn	10 50 49.1	+1.4
ACCO	**Cerro Coronel**	**3.83**	**205**	eP	Pn	10 50 07.3	+1.2
ACCO				eS	Sn	10 50 52.5	+0.4
ACCO				IAML		10 50 54.1	
	comp=Z,78nm,0.7s						
DOCA	**Reserva Natura**	**4.16**	**203**	eP	Pn	10 50 11.1	+0.7
D

	26nm,0.6s,baz=134,slow=22,SNR=21								
MKAR	**Makanchi Array**	**9.64**	**31**	P		**Pn**		**10 55 54.7**	**+0.9**
	0.2nm,0.3s,baz=212,slow=14,SNR=6.9								
	0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**12.12**	**11**	P		**Pn**		**10 56 24.9**	**-1.4**
	1.0nm,0.7s,baz=199,slow=12,SNR=6.7								
BVAR	**Borovoye Array**	**14.61**	**349**	P		**Pn**		**10 56 59.7**	**+1.6**
	0.1nm,0.3s,baz=158,slow=12,SNR=17								
	2.3nm,0.5s								
AB31	**Akbulak array**	**15.05**	**319**	⇓Pn		**P**		**10 57 06.7**	**+1.4**
	0.3nm,0.4s,baz=131,slow=12,SNR=9.8								
ZALV	**Zalesovo Beam**	**16.60**	**21**	P		**P**		**10 57 22.6**	**+0.2**
	0.4nm,0.3s,baz=215,slow=12,SNR=6.7								
	1.1nm,0.4s								
SONM	**Songino Array**	**24.43**	**58**	P		**P**		**10 58 42.5**	**-1.0**
	0.4nm,0.7s,baz=248,slow=11,SNR=2.4								
	0.4nm,0.7s								

IDC ***22*** *10:57:44.9±2.5,5°.81S×130°.71E,h0km,mb3.3/1, mbtmp3.2/3,ML3.1/2,Error ellipse: s-maj=124.5km s-min=33.4km az=71.0*

ISC 22 10:58:02.5±1.6,6°.8S±0°.1×130°.0E±0°.2,h150km,n6, σ3°40/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**6.17**	**169**	P	**Pn**	**10 59 35.2**	**+3.7**
	baz=4.8						
MTN				S	**Sn**	**11 00 42.8**	**+1.7**
	baz=4.8						
KDU	**Kakadu**	**6.40**	**157**	P	**Pn**	**10 59 37.4**	**+2.8**
	baz=5.0						
KDU				S	**Sn**	**11 00 47.3**	**+0.6**
	baz=5.0						
KNRA	**Kununurra**	**8.95**	**187**	P	**Pn**	**11 00 10.6**	**+2.0**
	baz=7.8						
KNRA				S	**Sn**	**11 01 46.9**	**-1.2**
	baz=7.8						
WRA	**Warramunga Arr**	**13.79**	**162**	Pn	**Pn**	**11 01 12.9**	**+1.1**
	0.1nm,0.3s,baz=347,slow=11,SNR=1.2						
WRA				Sn	**Sn**	**11 03 39.1**	**-5.6**
	0.2nm,0.3s,baz=338,slow=22,SNR=1.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.24**	**168**	P	**Pn**	**11 01 56.0**	**+1.5**
	0.1nm,0.3s,baz=343,slow=11,SNR=7.0						
ASAR				S	**S**	**11 05 00.8**	**-5.0**
	0.3nm,0.8s,baz=351,slow=28,SNR=0.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**11 08 43.7**	**-1.8**
	0.2nm,0.4s,baz=126,slow=7.0,SNR=2.1						
	0.2nm,0.4s						

RSNC 22 11:07:00.1±4.5,2°.28N×76°.55W,h8km,ML2.8,Mw3.5, 3C-2D,Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POPC	**Popayan, Colom**	**0.29**	**334**⇑	*i* P	Pg	11 07 03.9	-2.1
POPC				*e*S	Sg	11 07 08.2	-1.8
BBAC	**Balboa, Cauca**	**0.74**	**250**⇓	*i* P	Pg	11 07 12.6	-1.8
BBAC				*e*S	Sg	11 07 23.1	-1.0
BBAC				*i*		11 07 23.4	
	comp=Z,605nm,0.2s						
CRUC	**La Cruz**	**0.81**	**210**	*e*P	Pg	11 07 14.2	-1.6
CRUC				*e*S	Sg	11 07 25.9	-0.4
JAMC	**Jamundi, Valle**	**0.94**	**352**⇑	*e*P	Pg	11 07 15.2	-3.1
JAMC				*e*S	Sg	11 07 28.4	-2.2
JAMC				*i*		11 07 29.8	
	comp=Z,240nm,0.3s						
GARC	**Garzon, Huila**	**1.06**	**95**	*e*P	Pg	11 07 18.9	-1.6
GARC				*e*S	Sb	11 07 35.7	+0.7
GARC				*i*		11 07 40.6	
	comp=Z,291nm,0.2s						
BETC	**Betania**	**1.18**	**70**	*e*P	Pg	11 07 21.2	-1.6
BETC				*e*S	Sg	11 07 37.4	-0.7
BETC				*i*		11 07 39.0	
	comp=Z,112nm,0.2s						
GCUF	**Volcan Galeras**	**1.31**	**217**	*e*P	Pn	11 07 22.8	-2.4
GCUF				*e*S	Sg	11 07 41.2	-1.1
GCUF				*i*		11 07 45.2	
	comp=Z,143nm,0.3s						
YOTC	**Yotoco, Valle**	**1.71**	**7**⇑	*e*P	Pn	11 07 27.5	-2.9
YOTC				*e*S	Sn	11 07 49.1	-3.3
YOTC				*i*		11 07 54.2	
	comp=Z,71nm,0.7s						
MALC	**Bahia Malaga**	**1.90**	**336**	*e*P	Pn	11 07 33.6	+0.8
BONI	**La Bonita**	**2.06**	**208**	*e*P	Pb	11 07 38.5	+0.6
BONI				*e*S	Sg	11 08 05.6	-0.7
BONI				*i*		11 08 07.6	
	comp=Z,56nm,0.4s						
ORTC	**Ortega, Tolima**	**2.08**	**39**	*e*P	Pb	11 07 36.8	-1.4
ORTC				*e*S	Sb	11 08 05.0	+0.8
ORTC				*i*		11 08 08.8	
	comp=Z,89nm,0.6s						
PRAC	**Prado**	**2.19**	**49**⇓	*e*P	Pn	11 07 38.4	+1.5
PRAC				*e*S	Sb	11 08 07.7	+0.2
PRAC				*i*		11 08 12.2	
	comp=Z,52nm,0.2s						
PLMC	**San Jos del P**	**2.63**	**6**	*e*P	Pn	11 07 43.0	0.0
PLMC				*e*S	Sn	11 08 17.4	+2.4
PLMC				*i*		11 08 22.3	
	comp=Z,52nm,0.3s						
PTLC	**Puerto Leguiza**	**2.73**	**140**	*e*P	Pb	11 07 48.5	-0.7
PTLC				*e*S	Sg	11 08 25.8	-2.0
PTLC				*i*		11 08 41.8	
	comp=Z,89nm,0.4s						
PAC1	**Pacto, Paraso**	**3.00**	**228**	*e*P	Pb	11 07 54.1	+0.1
PAC1				*i*		11 08 36.0	
	comp=Z,39nm,0.4s						
GUY2C	**Guyana, Caldas**	**3.16**	**22**	*e*P	Pn	11 07 53.5	+2.9
GUY2C				*i*		11 08 45.0	
	comp=Z,14nm,0.6s						
CVER	**Cruz Verde, Cu**	**3.33**	**48**	*e*P	Pb	11 08 00.1	+0.3
CBOC	**Ciudad Bolivar**	**3.60**	**9**	*e*P	Pn	11 07 58.8	+2.3
CBOC				*e*S	Sb	11 08 44.4	-3.9
PTBC	**PUERTO BERRIO,**	**4.72**	**26**	*e*P	Pn	11 08 13.8	+2.1
UREC	**San Jos de Ur**	**5.53**	**11**	*e*P	Pn	11 08 25.9	+3.0

IDC 22 11:08:07.5±1.4,25°.49S×70°.61E,h0km,mb3.8/5, mbtmp3.8/5,MS3.3/9,Error ellipse: s-maj=44.1km s-min=33.2km az=164.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.84**	**6**	T	T	11 31 11.1	
	baz=188,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**17.84**	**6**	T	T	11 31 05.2	
	baz=188,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**17.86**	**6**	T	T	11 31 09.4	
	baz=188,slow=76,SNR=24						
H04N2	**CROZET ISLANDS**	**25.53**	**211**	T	T	11 39 23.5	
	baz=42,slow=74,SNR=550						
H04N1	**CROZET ISLANDS**	**25.54**	**211**	T	T	11 39 22.1	
	baz=42,slow=74,SNR=534						
H04N3	**CROZET ISLANDS**	**25.55**	**211**	T	T	11 39 22.9	
	baz=42,slow=74,SNR=514						
PALK	**Pallekele**	**34.02**	**18**	LR	LR	11 25 40.6	
	comp=Z,49nm,20.0s,baz=301,slow=31						
H01W2	**Cape Leeuwin H**	**38.52**	**115**	T	T	11 56 34.5	
	baz=271,slow=75,SNR=10						
H01W3	**Cape Leeuwin H**	**38.52**	**115**	T	T	11 56 33.7	
	baz=271,slow=75,SNR=9.1						
H01W1	**Cape Leeuwin H**	**38.53**	**115**	T	T	11 56 35.2	
	baz=271,slow=75,SNR=6.7						
BOSA	**Boshof**	**40.33**	**255**	P	P	11 15 46.9	-0.1
	2.2nm,0.9s,baz=117,slow=2.3,SNR=1.7						
BOSA				LR	LR	11 28 40.1	
	comp=Z,63nm,20.6s,baz=174,slow=31						
	2.2nm,0.9s						
LBTB	**Lobatse**	**40.56**	**261**	LR	LR	11 28 53.2	
	comp=Z,62nm,20.2s,baz=141,slow=31						
LSZ	**Lusaka**	**40.89**	**276**	LR	LR	11 30 51.2	
	comp=Z,53nm,18.4s,baz=194,slow=33						
SUR	**Sutherland**	**43.80**	**249**	LR	LR	11 30 47.2	
	comp=Z,66nm,20.6s,baz=148,slow=31						
TSUM	**Tsumeb**	**49.18**	**266**	LR	LR	11 35 26.4	
	comp=Z,33nm,18.1s,baz=154,slow=33						
KAPI	**Kappang**	**51.23**	**75**	LR	LR	11 37 29.2	
	comp=Z,17nm,19.6s,baz=221,slow=34						
CMAR	**Chiang Mai Arr**	**51.66**	**35**	P	P	11 17 16.0	-0.2
	1.0nm,0.3s,baz=219,slow=7.0,SNR=2.7						
CMAR				LR	LR	11 35 16.5	
	comp=Z,18nm,21.2s,baz=205,slow=32						
	1.0nm,0.3s						

ASAR	**Alice Springs**	**57.10**	**103**	P		P		11 17 56.0	0.0
	0.6nm,1.0s,baz=254,slow=6.7,SNR=5.5								
	0.6nm,1.0s								
MKAR	**Makanchi Array**	**72.72**	**8**	P		P		11 19 37.4	+0.3
	0.5nm,0.8s,baz=195,slow=6.3,SNR=5.0								
	0.5nm,0.8s								
KURBB	**Kurchatov Arra**	**76.10**	**5**	P		P		11 19 56.6	-0.1
	0.3nm,0.6s,baz=206,slow=6.2,SNR=1.9								
	0.3nm,0.6s								
KSRS	**Korea Array**	**82.58**	**42**	LR		LR		11 58 02.4	
	comp=Z,8.0nm,18.0s,baz=225,slow=36								

SKHL ***22*** *11:30:59.8±0.5,45°.90N×144°.80E,h318km±8km,mb4.3/8, msha4.7/6*

IDC ***22*** *11:31:01.2±1.6,45°.98N×144°.34E,h309km±15km,mb2.9/6, mbtmp3.6/8,Error ellipse: s-maj=26.7km s-min=16.2km az=92.0*

JMA ***22*** *11:31:01.9±0.6,46°.4°.4°.5E±°,h310km,MV3.0/17, SOUTHERN SEA OF OKHOTSK*

ISC 22 11:30:59.8±0.8,45°.83N±0°.06×144°.66E±0°.08,h308km±7km, n29,σ1°32/37,mb3.2/6,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**1.73**	**311**	*i* P	**Pn**	**11 31 45.8**	**+0.6**
YSS				AMB	AMB	11 31 46.4	
	60nm,0.3s						
YSS				*e*S	**S**	**11 32 21.2**	**-0.2**
YSS				A	A	11 32 23.0	
	20nm,0.6s						
YSS				A	A	11 32 23.0	
	20nm,0.6s						
JRA	**Rausu**	**1.92**	**170**	*e*P	**Pn**	**11 31 49.2**	**+2.4**
JTKR	**Abashiri--Toko**	**1.93**	**196**	*e*P	**Pn**	**11 31 48.6**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**1.98**	**154**	*i* P	**Pn**	**11 31 47.5**	**+0.3**
YUK				AMB	AMB	11 31 48.5	
	90nm,0.5s						
YUK				*e*S	**S**	**11 32 25.0**	**0.0**
YUK				A	A	11 32 31.8	
	190nm,0.6s						
YUK				A	A	11 32 31.8	
	110nm,0.6s						
JWK2	**Keihoku**	**2.01**	**256**	*e*P	**Pn**	**11 31 48.4**	**+1.1**
ASAJ	**Asahikawa**	**2.25**	**221**	P	**Pn**	**11 31 50.6**	**+1.2**
	24nm,0.6s,baz=308,slow=4.2,SNR=24						
JKK2	**Kamakawa 2**	**2.38**	**216**	*e*P	**Pn**	**11 31 51.8**	**+1.3**
SHO	**Shikotan**	**2.49**	**141**	*e*P	**Pn**	**11 31 52.3**	**+0.9**
SHO				AMB	AMB	11 31 53.2	
	20nm,0.2s						
SHO				*i* S	**S**	**11 32 32.9**	**+0.3**
SHO				A	A	11 32 34.0	
	100nm,0.2s						
SHO				A	A	11 32 34.0	
	80nm,0.2s						
NMR	**Nemuro--Hokkai**	**2.57**	**162**	*i* P	**Pn**	**11 31 52.6**	**+0.4**
NMR				*e*S	**S**	**11 32 33.3**	**-0.7**
NEM2	**Nemuro 2**	**2.58**	**162**	*e*P	**Pn**	**11 31 52.5**	**+0.3**
NEM2				*e*S	**S**	**11 32 33.1**	**-1.0**
JAR	**Ashorobuto**	**2.61**	**194**	*e*P	**Pn**	**11 31 54.1**	**+1.6**
AKK	**Akkeshi**	**2.81**	**177**	*e*P	**Pn**	**11 31 54.5**	**+0.1**
JAK	**Akkeshi**	**2.83**	**179**	*e*P	**Pn**	**11 31 54.9**	**+0.3**
JAK				*e*S	**S**	**11 32 36.9**	**-1.4**
JHR	**Hokuryu**	**2.95**	**226**	*e*P	**Pn**	**11 31 56.8**	**+1.1**
JFR	**Furan**	**3.05**	**210**	*e*P	**Pn**	**11 31 58.1**	**+1.4**
JCH	**Churui**	**3.34**	**197**	*e*P	**Pn**	**11 31 59.4**	**-0.3**
JCH				*e*S	**S**	**11 32 44.7**	**-2.7**
JBT2	**Biratori 2**	**3.46**	**209**	*e*P	**Pn**	**11 32 01.9**	**+1.1**
UGL	**Uglegorsk**	**3.70**	**333**	*e*P	**Pn**	**11 32 04.4**	**+1.3**
UGL				AMB	AMB	11 32 05.6	
	30nm,0.6s						
JEW	**Eniwo**	**3.77**	**219**	*e*P	**Pn**	**11 32 05.7**	**+1.7**
JNBK	**Urakawa-nobuka**	**3.80**	**202**	*e*P	**Pn**	**11 32 04.1**	**-0.3**
TYV	**Tymovskoe**	**5.21**	**346**	*e*P	**Pn**	**11 32 20.9**	**+1.0**
TYV				AMB	AMB	11 32 22.2	
	50nm,0.6s						
NKL	**Nikolayevsk**	**7.77**	**342**	*e*P	**Pn**	**11 32 50.2**	**-0.3**
SEY	**Seymchan**	**17.70**	**12**	P	**Pn**	**11 34 46.2**	**-2.9**
	1.6nm,0.6s,baz=192,slow=9.3,SNR=6.9						
ILAR	**Eielson Array**	**40.89**	**38**	P	**P**	**11 38 13.1**	**+0.9**
	0.1nm,0.6s,baz=259,slow=5.7,SNR=2.2						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**42.08**	**295**	P	**P**	**11 38 21.1**	**-0.9**
	0.4nm,0.8s,baz=79,slow=6.9,SNR=4.2						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**43.00**	**301**	P	**P**	**11 38 28.1**	**-1.2**
	0.4nm,0.5s,baz=76,slow=8.8,SNR=6.1						
KURBB				PcP	**PcP**	**11 40 13.4**	**+0.1**
	0.1nm,0.5s,baz=85,slow=2.0,SNR=1.9						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**62.21**	**332**	P	**P**	**11 40 48.5**	**-0.3**
	0.9nm,0.6s,baz=51,slow=7.3,SNR=4.6						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**66.12**	**191**	P	**P**	**11 41 15.7**	**+1.2**
	0.6nm,0.8s,baz=8.0,slow=6.7,SNR=1.7						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**69.85**	**191**	P	**P**	**11 41 39.9**	**+2.4**
	1.0nm,0.9s,baz=2.2,slow=5.4,SNR=13						
	1.0nm,0.9s						

IDC ***22*** *11:43:55.1±1.1,34°.81N×138°.10E,h0km,mb3.4/5, mbtmp3.5/6,ML3.5/1,Error ellipse: s-maj=30.1km s-min=12.3km az=84.0*

JMA ***22*** *11:43:56.2±0.2,35°.6N±0°.6×140°.1E±0°.8,h66km±2km, MV2.7/32,CENTRAL CHIBA PREF*

ISC 22 11:43:57.1±1.0,35°.52N±0°.06×140°.09E±0°.07,h69km±7km, n22,σ0°79/21,mb3.5/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.13**	**138**	P	**Pn**	**11 44 06.8**	**-0.5**
JCN				S	**Sn**	**11 44 15.3**	**+0.6**
TOK	**Tokyo**	**0.32**	**302**	*e*P	**Pn**	**11 44 07.9**	**-0.3**
TOK				*e*S	**Sn**	**11 44 17.5**	**+1.2**
BSO3	**Boso 3**	**0.79**	**154**	P	**Pn**	**11 44 12.1**	**-0.6**
JOD2	**Odawara 2**	**0.86**	**253**	P	**Pn**	**11 44 13.1**	**-0.6**
JOD2				S	**Sn**	**11 44 25.3**	**-0.9**
JAG	**Ashikaga**	**1.04**	**330**	P	**Pn**	**11 44 14.7**	**-1.3**
JRY	**Ryogami san**	**1.09**	**298**	P	**Pn**	**11 44 16.3**	**-0.3**
BSO1	**Boso 1**	**1.13**	**140**	P	**Pn**	**11 44 15.7**	**-0.9**
JFNN	**Fujinakano**	**1.20**	**255**	P	**Pn**	**11 44 17.7**	**-0.2**
JFNN				S	**Sn**	**11 44 33.3**	**-0.3**
JYN	**Shimob**	**1.26**	**269**	P	**Pn**	**11 44 18.5**	**-0.4**
MJAR	**Matsushiro Arr**	**1.84**	**304**	Pg	**Pn**	**11 44 26.0**	**-0.5**
	1.3nm,0.3s,baz=193,slow=22,SNR=46						
MJAR				Lg	Lg	11 44 49.3	
	1.2nm,0.3s,baz=276,slow=5.1,SNR=3.4						
JHJ	**Hachijo jima 2**	**2.41**	**186**	Pn	**Pn**	**11 44 34.4**	**+0.2**
	28nm,0.3s,baz=307,slow=20,SNR=5.5						
JHJ				Sn	**Sn**	**11 45 02.2**	**-0.4**
	18nm,0.3s,baz=85,slow=22,SNR=1.7						
	266nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	12 19 36.7	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	12 19 35.9	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	12 19 34.3	
	baz=308						
H11S3	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	12 19 48.9	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	12 19 50.9	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	12 19 51.8	
	baz=312						
ZALV	**Zalesovo Beam**	**42.16**	**314**	P	**P**	**11 51 44.0**	**+1.5**
	0.3nm,0.3s,baz=99,slow=7.4,SNR=2.1						
	1.8nm,0.3s						
MKAR	**Makanchi Array**	**44.04**	**303**	P	**P**	**11 51 57.5**	**-0.3**
	0.4nm,0.8s,baz=93,slow=6.4,SNR=2.2						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**46.11**	**309**	P	**P**	**11 52 14.2**	**+0.1**
	0.2nm,0.3s,baz=81,slow=7.5,SNR=1.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**55.43**	**187**	P	**P**	**11 53 23.8**	**-0.6**
	0.4nm,0.7s,baz=0.7,slow=7.6,SNR=6.2						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**59.15**	**187**	P	**P**	**11 53 51.6**	**+0.9**
	0.2nm,0.7s,baz=20,slow=12,SNR=4.6						
	0.2nm,0.7s						

ROM 22 11:53:22.1±0.2,37°.731N±0°.008×14°.95E±0°.01,h0km,

ML2.3/12,1C-1D,Error ellipse: s-maj=1.3km s-min=0.8km az=248.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.04**	**148**	⇑P	Pg	11 53 22.6	-0.4
ESLN				S	Sg	11 53 24.2	+0.6
ESLN				AML	AML		
	comp=N,12968μm,0.5s						
ESLN				AML	AML		
	comp=E,11004μm,0.5s						
EMSG	**Monte Spagnolo**	**0.09**	**3**	P	Pg	11 53 24.2	+0.3
EMSG				AML	AML		
	comp=E,6680μm,0.7s						
EMSG				AML	AML		
	comp=N,6250μm,0.9s						
EMSG				AML	AML		
	comp=N,6250μm,1.1s						
EMSG				AML	AML		
	comp=N,5457μm,0.5s						
EMSG				AML	AML		
	comp=E,6573μm,0.3s						
EPZF	**Pizzo Felice**	**0.12**	**323**	P	Pg	11 53 24.5	+0.1
EPZF				AML	AML		
	comp=E,4725μm,0.5s						
EPZF				AML	AML		
	comp=N,4840μm,0.9s						
EPZF				AML	AML		
	comp=E,4725μm,1.5s						
EPZF				AML	AML		
	comp=N,3966μm,0.5s						
EPZF				AML	AML		
	comp=E,4725μm,0.5s						
ESML	**S. M. di Licod**	**0.12**	**206**	⇓P	Pg	11 53 24.4	-0.1
ESML				S	Sg	11 53 27.9	+1.8
ESML				AML	AML		
	comp=E,4450μm,0.4s						
ESML				AML	AML		
	comp=N,3775μm,0.5s						
ESML				AML	AML		
	comp=E,4450μm,1.6s						
ESML				AML	AML		
	comp=N,3778μm,0.5s						
ESML				AML	AML		
	comp=E,4685μm,0.5s						
EPOZ	**Pozzillo**	**0.24**	**153**	P	Pg	11 53 26.8	0.0
EPOZ				AML	AML		
	comp=E,1040μm,0.7s						
EPOZ				AML	AML		
	comp=N,902μm,0.8s						
EPOZ				AML	AML		
	comp=E,1041μm,0.7s						
EPOZ				AML	AML		
	comp=N,783μm,0.6s						
GALF	**Gagliano Caste**	**0.30**	**266**	P	Pg	11 53 28.8	+0.9
GALF				AML	AML		
	comp=E,556μm,0.9s						
GALF				AML	AML		
	comp=N,686μm,0.5s						
GALF				AML	AML		
	comp=N,686μm,0.5s						
GALF				AML	AML		
	comp=E,837μm,0.8s						
MUCR	**Ucria**	**0.32**	**350**	P	Pb	11 53 29.5	-1.2
MUCR				AML	AML		
	comp=E,444μm,0.4s						
MUCR				AML	AML		
	comp=N,490μm,0.6s						
MUCR				AML	AML		
	comp=N,490μm,0.6s						
MUCR				AML	AML		
	comp=E,444μm,0.4s						

ROM 22 11:53:50.4±0.1,37°.715N±0°.005×14°.95E±0°.01,h0km, ML2.8/8,Error ellipse: s-maj=0.9km s-min=0.6km az=258.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.03**	**140**	P	Pg	11 53 50.8	-0.2
ESLN				S	Sg	11 53 52.0	+0.7
ESLN				AML	AML		
	comp=N,44830μm,0.3s						
ESLN				AML	AML		
	comp=E,37612μm,0.3s						
EMSG	**Monte Spagnolo**	**0.10**	**359**	P	Pg	11 53 52.7	+0.2
EMSG				AML	AML		
	comp=E,16500μm,1.2s						
EMSG				AML	AML		
	comp=N,18500μm,0.5s						
EMSG				AML	AML		
	comp=E,16500μm,0.8s						
EMSG				AML	AML		
	comp=N,18500μm,1.5s						
EMSG				AML	AML		
	comp=N,18521μm,0.5s						
EMSG				AML	AML		
	comp=E,15852μm,0.6s						
ESML	**S. M. di Licod**	**0.11**	**211**	P	Pg	11 53 52.7	+0.1
ESML				S	Sg	11 53 55.1	+1.1
ESML				AML	AML		
	comp=E,11660μm,1.5s						
ESML				AML	AML		
	comp=N,10600μm,0.5s						
ESML				AML	AML		
	comp=E,11660μm,0.5s						
ESML				AML	AML		
	comp=E,11206μm,0.7s						
EPZF	**Pizzo Felice**	**0.13**	**326**	P	Pg	11 53 53.4	+0.4
EPZF				AML	AML		
	comp=N,12300μm,1.2s						
EPZF				AML	AML		
	comp=E,9890μm,0.6s						
EPZF				AML	AML		
	comp=N,12300μm,0.8s						
EPZF				AML	AML		
	comp=N,10824μm,0.6s						
EPZF				AML	AML		
	comp=E,9883μm,0.6s						
EPOZ	**Pozzillo**	**0.23**	**153**	P	Pg	11 53 55.4	+0.6
GALF	**Gagliano Caste**	**0.30**	**269**	P	Pb	11 53 57.5	-1.2
MUCR	**Ucria**	**0.33**	**349**	P	Pg	11 53 57.6	+0.8
AIO	**Antillo**	**0.34**	**41**	P	Pg	11 53 58.1	+1.1
NOV	**Novara**	**0.34**	**25**	P	Pg	11 53 57.9	+0.9
HLNI	**Lentini**	**0.37**	**190**	P	Pb	11 53 58.7	-1.1
MSFR	**San Fratello**	**0.43**	**318**	P	Pb	11 54 00.3	-0.6
MSFR				AML	AML		
	comp=E,302μm,1.4s						
MSFR				AML	AML		
	comp=N,272μm,1.5s						
MSFR				AML	AML		
	comp=E,302μm,0.6s						
MSFR				AML	AML		
	comp=N,272μm,0.5s						
MSFR				AML	AML		
	comp=N,415μm,1.8s						
MSFR				AML	AML		
	comp=E,302μm,1.4s						
HAGA	**Augusta**	**0.46**	**159**	P	Pg	11 53 59.8	+0.6

IDC ***22*** *12:19:17.2±0.7,5°.14S×151°.04E,h140km±14km,mb3.3/4, mbtmp3.7/5,Error ellipse: s-maj=59.4km s-min=11.7km az=127.0*

ISC 22 12:19:16.8±1.5,5°.3S±0°.3×151°.3E±0°.3,h150km,n7, σ0°73/9,mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.25**	**35**	P	**Pn**	**12 19 43.9**	**0.0**
	baz=270,slow=20						
KRVT				S	**Sn**	**12 20 04.2**	**-0.4**
	baz=253,slow=20						
PMG	**Port Moresby**	**5.77**	**225**	P	**Pn**	**12 20 39.5**	**-0.9**
	4.3nm,0.4s,baz=39,slow=7.0,SNR=1.9						
PMG				S	**Sn**	**12 21 46.8**	**+0.9**
	43nm,0.8s,baz=344,slow=19,SNR=15						

MKAR	**Makanchi Array**	**79.76**	**319**	P		**P**	**12 31 08.1**	**-0.1**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.3							
	0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.05**	**287**	PKPbc		**PKPbc**	**12 38 48.1**	**-0.2**
	0.8nm,0.6s,baz=62,slow=3.8,SNR=6.0							

*IDC **22** 12:23:36.3±2.9, 16°.24N×41°.25E, h0km, mb3.6/7, mbtmp3.6/7, MS3.6/4, Error ellipse: s-maj=68.4km s-min=28.8km az=160.0*
*SGS **22** 12:23:37.2, 16°.46N×41°.10E, h18km, Ml2.8*
ISC 22 12:23:39.5±1.5, 16°.6N±0°.2×41°.14E±0°.06, h10km, n27, σ1°63/24, mb3.5/7, MS3.6/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FRSS2	**Sair Farasan I**	**0.66**	**71**	S	**Sg**		**12 24 01.9**	**+0.9**
FRSS2	**Sair Farasan I**	**0.66**	**71**	P	**Pg**		**12 23 51.3**	**-1.0**
FRSS	**Farasan al Kab**	**0.94**	**84**	P	**Pg**		**12 23 55.2**	**-2.4**
FRSS	**Farasan al Kab**	**0.94**	**84**	S	**Sg**		**12 24 08.5**	**-1.3**
DRBS	**Ad Darb**	**1.62**	**43**	P	**Pn**		**12 24 09.1**	**+0.9**
BRK03	**Al Birk**	**1.69**	**25**	P	**Pn**		**12 24 06.9**	**-2.3**
BRK04	**Al Birk**	**2.08**	**18**	P	**Pn**		**12 24 12.9**	**-1.7**
ASIR3	**ASIR3**	**2.36**	**30**	P	**Pn**		**12 24 18.0**	**-0.6**
QNF02	**Al Qunfudhah**	**2.43**	**8**	P	**Pn**		**12 24 17.6**	**-1.8**
QNF01	**Al Qunfudhah**	**2.75**	**3**	P	**Pn**		**12 24 22.0**	**-1.7**
QNFDS	**Al Qunfudhah**	**3.15**	**357**	P	**Pn**		**12 24 26.9**	**-2.3**
WASQA	**WASQA**	**3.49**	**355**	P	**Pn**		**12 24 32.6**	**-1.2**
TATS	**Tathlith**	**3.65**	**37**	P	**Pn**		**12 24 36.2**	**+0.1**
LTHS	**Al Lith**	**3.69**	**349**	P	**Pn**		**12 24 33.9**	**-2.7**
NLITH	**NLITH**	**3.92**	**344**	P	**Pn**		**12 24 37.4**	**-2.4**
GHMGH	**GHMGH**	**3.98**	**351**	P	**Pn**		**12 24 40.0**	**-0.5**
FRAS	**Faraa**	**4.44**	**352**	P	**Pn**		**12 24 47.8**	**+0.6**
BRTR	**Keskin Array B**	**23.92**	**346**	P	**P**		**12 28 54.9**	**+1.1**
	0.4nm,0.6s,baz=172,slow=11,SNR=1.4							
BRTR				LR	LR		12 37 43.1	
	comp=Z,82nm,18.4s,baz=266,slow=35							
	0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**38.24**	**270**	P	**P**		**12 30 59.1**	**-1.0**
	0.7nm,0.8s,baz=74,slow=9.9,SNR=4.6							
	0.7nm,0.8s							
AAK	**Ala-Archa**	**38.47**	**41**	LR	LR		12 48 20.0	
	comp=Z,56nm,18.5s,baz=272,slow=38							
GERES	**GERESS Array B**	**39.14**	**331**	P	**P**		**12 31 09.0**	**+1.6**
	0.7nm,0.6s,baz=126,slow=9.9,SNR=2.7							
	0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**45.21**	**33**	P	**P**		**12 31 57.0**	**+0.3**
	0.6nm,0.7s,baz=237,slow=8.0,SNR=4.5							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**45.35**	**39**	P	**P**		**12 31 58.0**	**0.0**
	0.3nm,0.7s,baz=227,slow=3.4,SNR=2.7							
	0.3nm,0.7s							
FINES	**FINESS Array B**	**46.03**	**350**	P	**P**		**12 32 05.4**	**+2.4**
	1.5nm,0.8s,baz=171,slow=9.8,SNR=1.8							
	1.5nm,0.8s							
ZALV	**Zalesovo Beam**	**50.26**	**32**	P	**P**		**12 32 36.3**	**+0.5**
	1.6nm,0.8s,baz=247,slow=7.7,SNR=8.0							
	1.6nm,0.8s							
SUR	**Sutherland**	**52.48**	**202**	LR	LR		12 54 52.0	
	comp=Z,74nm,18.5s,baz=193,slow=36							
NRIK	**Noril'sk**	**59.96**	**17**	LR	LR		13 02 21.5	
	comp=Z,60nm,19.3s,baz=356,slow=39							

*IDC **22** 12:28:21.2±2.1, 33°.79N×45°.61E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=58.5km s-min=27.4km az=156.0*
*TEH **22** 12:28:23.6, 33°.72N×45°.80E, h9km±59km, ML3.4*
ISC 22 12:28:22.9±1.2, 33°.68N±0°.09×45°.76E±0°.07, h10km, n19, σ1°81/19, mb3.5/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.84**	**350**	Pg	**Pg**		**12 28 38.9**	**-0.3**
IGHG	**Ghaleghazi**	**0.94**	**46**	Pg	**Pb**		**12 28 41.3**	**-0.1**
IDHR	**Dehrash**	**1.15**	**27**	Pg	**Pg**		**12 28 44.4**	**-0.7**
ILIN	**Lien**	**1.59**	**38**	Pg	**Pg**		**12 28 53.0**	**-0.4**
IKFM	**Kafar-mosalman**	**1.75**	**94**	Pg	**Pb**		**12 28 55.8**	**+0.7**
IALM	**Almabolaq**	**2.32**	**59**	Pn	**Pb**		**12 29 03.9**	**-1.1**
HSAM	**Samen**	**2.42**	**76**	Pn	**Pn**		**12 29 04.3**	**+1.5**
SDS1	**Sardasht. Az.**	**2.48**	**355**	Pn	**Pn**		**12 29 05.6**	**+2.0**
HAGD	**Aghdareh**	**3.02**	**67**	Pn	**Pn**		**12 29 12.4**	**+1.3**
MAHB	**Mahabad**	**3.08**	**359**	Pn	**Pn**		**12 29 14.7**	**+2.9**
QSDN	**Sirdan**	**3.97**	**44**	Pn	**Pn**		**12 29 25.9**	**+1.7**
ISHB	**Shabestar**	**4.60**	**359**	Pn	**Pn**		**12 29 36.2**	**+3.5**
QAMS	**Qamsar**	**4.70**	**88**	Pn	**Pn**		**12 29 35.7**	**+1.5**
IKLH	**Kolahrood**	**4.87**	**93**	Pn	**Pn**		**12 29 39.6**	**+3.1**
AKASG	**Malin Array Be**	**20.89**	**329**	P	**P**		**12 33 03.3**	**-1.8**
	0.4nm,0.3s,baz=140,slow=9.9,SNR=6.4							
	0.4nm,0.3s							
BVAR	**Borovoye Array**	**26.14**	**35**	P	**P**		**12 33 56.4**	**-0.7**
	0.5nm,0.6s,baz=232,slow=7.3,SNR=4.6							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**30.52**	**54**	P	**P**		**12 34 37.1**	**+0.7**
	0.5nm,0.6s,baz=246,slow=6.9,SNR=6.6							
	0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**34.11**	**42**	P	**P**		**12 35 06.6**	**-1.0**
	0.3nm,0.3s,baz=248,slow=7.6,SNR=1.9							
	0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**44.89**	**254**	P	**P**		**12 36 36.9**	**-1.1**
	0.4nm,0.8s,baz=46,slow=10,SNR=2.3							
	0.4nm,0.8s							

IDC 22 12:37:37.7±2.2, 23°.45S×179°.27W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=156.9km s-min=34.8km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**35.51**	**248**	P	P		12 44 36.0	-0.3
	1.4nm,0.5s,baz=87,slow=12,SNR=5.2							
	1.4nm,0.5s							
ASAR	**Alice Springs**	**42.77**	**260**	P	P		12 45 36.9	-0.4
	0.5nm,0.4s,baz=87,slow=6.7,SNR=23							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**43.10**	**265**	P	P		12 45 40.2	+0.2
	2.8nm,0.6s,baz=104,slow=8.0,SNR=28							
	2.8nm,0.6s							
TXAR	**Lajitas Array**	**89.63**	**58**	P	P		12 50 37.8	0.0
	0.3nm,0.7s,baz=224,slow=3.8,SNR=2.2							
	0.3nm,0.7s							

*NEIC **22** 12:41:07.8±0.5, 36°.146N±0°.009×97°.68W±0°.01, h4km±4km, Error ellipse: s-maj=1.5km s-min=1.3km az=124.0*
TUL 22 12:41:08.1±0.6, 36°.151N±0°.006×97°.67W±0°.01, h5km±4km, ML2.7, mb_Lg2.6/48(NEIC), ML2.9/50(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=74.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OK029	**Liberty Lake**	**0.40**	**153**	Pg	Pg		12 41 16.1	+0.4
OK029				Sg	Sg		12 41 21.1	+0.2
CROK	**Carrier**	**0.43**	**325**	Pg	Pg		12 41 16.8	+0.4
CROK				Sg	Sg		12 41 22.7	+0.5
CROK				IAML			12 41 27.6	
	comp=N,993nm,0.3s							
CROK				IAML			12 41 31.8	
	comp=E,773nm,0.3s							
ADOK	**Arcadia Dam**	**0.56**	**154**		Pg		12 41 17.8	-1.0
OK033	**Mehan**	**0.60**	**100**		Pg		12 41 20.0	+0.3
OK033				IAML			12 41 39.6	
	comp=E,762nm,0.5s							
OK048	**Pawnee Station**	**0.65**	**66**		Pg		12 41 20.6	+0.1
BLOK	**Blackwell**	**0.71**	**31**		Pg		12 41 21.9	+0.1
GC02	**Grant County #**	**0.71**	**348**		Pg		12 41 21.9	0.0
OK052	**Battle Ridge R**	**0.72**	**102**		Pg		12 41 22.0	+0.1
OK052				IAML			12 41 45.5	
	comp=E,575nm,0.5s							
OK051	**E0350 and S346**	**0.76**	**62**	Pg	Pg		12 41 22.8	0.0
OK051				IAML			12 41 44.6	
	comp=E,524nm,0.2s							
OK051				IAML			12 41 47.6	
	comp=E,483nm,0.2s							
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**		Pg		12 41 22.9	+0.1
OKCSW				IAML			12 41 40.9	
	comp=N,626nm,0.4s							
OKCSW				IAML			12 41 48.3	
	comp=E,401nm,0.2s							
QUOK	**Quay**	**0.78**	**88**		Pg		12 41 23.1	0.0
QUOK				IAML			12 41 42.8	
	comp=E,322nm,0.2s							
QUOK				IAML			12 41 45.1	
	comp=N,511nm,0.3s							
OK032	**Salt Plains WL**	**0.78**	**326**		Pg		12 41 23.1	0.0
OK032				IAML			12 41 44.4	
	comp=N,572nm,0.2s							
KAN14	**Manchester OK**	**0.84**	**344**		Pg		12 41 23.4	-0.7
KAN14				IAML			12 41 49.6	
	comp=N,502nm,0.1s							
KAN17	**Caldwell West**	**0.89**	**355**	Pg	Pg		12 41 24.8	-0.5
FNO	**Franklin**	**0.92**	**166**		Pg		12 41 25.1	-0.6
OK038	**West end E0370**	**0.92**	**291**		Pg		12 41 25.4	-0.4
CSTR	**Hydro, Custer**	**0.97**	**239**	Pg	Pg		12 41 26.3	-0.4
DEOK	**Depew**	**1.00**	**108**		Pg		12 41 27.0	-0.2
DEOK				IAML			12 41 54.6	
	comp=E,311nm,0.2s							
DEOK				IAML			12 41 54.7	
	comp=N,375nm,0.2s							
KAN01	**Argonia South**	**1.00**	**356**	Pg	Pg		12 41 26.7	-0.7
KAN01				IAML			12 41 44.6	
	comp=E,319nm,0.1s							
KAN01				IAML			12 41 48.4	
	comp=N,289nm,0.1s							
U32A	**Winter Ranch,**	**1.10**	**282**		Pg		12 41 28.1	-1.1
U32A				IAML			12 41 48.7	
	comp=E,311nm,0.2s							
KAN06	**Argonia West S**	**1.10**	**352**		Pg		12 41 28.1	-1.2
KAN06				IAML			12 41 55.8	
	comp=E,367nm,0.2s							
KAN06				IAML			12 41 59.9	
	comp=N,322nm,0.1s							
KS21	**Milan North St**	**1.13**	**0**	Pg	Pg		12 41 29.4	-0.4
T35A	**Sooner Cattle**	**1.21**	**50**		Pg		12 41 30.6	-0.6
T35A				IAML			12 42 02.0	
	comp=E,276nm,0.4s							
TUL3	**Leonard**	**1.54**	**98**		Pn		12 41 35.5	-0.8
TUL3				IAmb_Lg			12 41 59.3	
	comp=Z,51nm,0.9s							
X34A	**Smith Ranch, M**	**1.55**	**185**		Pb		12 41 36.9	-0.5
WMOK	**Wichita Mounta**	**1.68**	**213**		Pn		12 41 38.2	+0.1
RLO	**Rose Lookout**	**2.14**	**89**		Pn		12 41 44.8	+0.2
LOOK	**Love County**	**2.19**	**169**		Pn		12 41 46.1	+0.9
SMWD	**Samnorwood**	**2.34**	**244**		Pn		12 41 47.1	-0.2
SMWD				IAmb_Lg			12 42 27.4	
	comp=Z,33nm,0.8s							
Z35A	**Perchaven, San**	**2.83**	**173**	IAmb_Lg			12 42 45.0	
	comp=Z,13nm,0.8s							
DKNS	**Dickens**	**3.64**	**228**	IAmb_Lg			12 43 12.4	
	comp=Z,12nm,0.9s							
S39A	**Bolivar**	**3.81**	**65**	IAmb_Lg			12 43 12.7	
	comp=Z,12nm,0.8s							
RTBA	**Rita Blanca**	**4.10**	**275**	IAmb_Lg			12 43 21.0	
	comp=Z,9.8nm,0.8s							
SN05	**Snyder 5**	**4.21**	**220**	IAmb_Lg			12 43 24.9	
	comp=Z,16nm,0.7s							
SN01	**Snyder 1**	**4.22**	**220**	IAmb_Lg			12 43 25.0	
	comp=Z,14nm,0.9s							
X40A	**Basin Creek Fa**	**4.29**	**111**	IAmb_Lg			12 43 28.8	
	comp=Z,15nm,0.9s							
POST	**Post**	**4.41**	**227**	IAmb_Lg			12 43 39.4	
	comp=Z,11nm,0.9s							
WHAR	**Wooly Hollow**	**4.46**	**100**	IAmb_Lg			12 43 32.5	
	comp=Z,14nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.50**	**92**	IAmb_Lg			12 43 32.7	
	comp=Z,13nm,0.8s							
P38A	**Dawn**	**4.77**	**42**	IAmb_Lg			12 43 44.0	
	comp=Z,9.5nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.86**	**307**	IAmb_Lg			12 43 47.1	
	comp=Z,9.4nm,0.8s							
BRDY	**Brady**	**4.98**	**193**	IAmb_Lg			12 43 58.1	
	comp=Z,8.3nm,0.7s							
SGCY	**Sterling City**	**5.11**	**215**	IAmb_Lg			12 44 00.0	
	comp=Z,16nm,0.7s							
LCAR	**Lake Charles**	**5.28**	**89**	IAmb_Lg			12 44 10.6	
	comp=Z,8.5nm,0.8s							
T25A	**Trinidad**	**5.51**	**282**	IAmb_Lg			12 44 12.1	
	comp=Z,14nm,0.8s							
OZNA	**Ozona**	**5.96**	**210**	IAmb_Lg			12 44 32.5	
	comp=Z,111nm,0.9s							
FVM	**French Village**	**6.08**	**70**	IAmb_Lg			12 44 24.1	
	comp=Z,7.5nm,0.7s							
MNHN	**Monahans**	**6.40**	**223**	IAmb_Lg			12 44 48.2	
	comp=Z,6.3nm,0.8s							
PECS	**Pecos**	**7.02**	**229**	IAmb_Lg			12 44 58.7	
	comp=Z,10nm,1.3s							
SAND	**Sanderson**	**7.22**	**212**	IAmb_Lg			12 45 15.8	
	comp=Z,8.8nm,1.0s							

*SOME **22** 12:41:16.3, 44°.12N×82°.78E, h10km*
*NNC **22** 12:41:18.2±0.8, 44°.30N×82°.68E, h3km±4km, mb3.7, mpv3.7, Error ellipse: s-maj=7.6km s-min=3.3km az=127.0*
*IDC **22** 12:41:19.9±2.5, 44°.58N×82°.64E, h0km, mbtmp3.4/5, ML2.9/4, Error ellipse: s-maj=25.5km s-min=20.2km az=44.0*
ISC 22 12:41:17.0±1.7, 44°.28N±0°.05×82°.72E±0°.05, h2km±11km, n42, σ2°30/62, 12C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KTMS	**Ketmen**	**1.90**	**245**	Pg	**Pn**		**12 41 52.4**	**+1.8**
	16nm,0.1s							
KTMS				Lg	Lg		12 42 18.2	
	104nm,0.2s							
KTMS	**Ketmen**	**1.90**	**245**	*eP*	**Pn**		**12 41 51.9**	**+1.3**
	5.0nm,0.2s							
KTMS				*eS*	**Sb**		**12 42 17.2**	**+0.5**
	137nm,0.3s							
DJR	**Jarkent**	**2.10**	**273**	Pg	**Pb**		**12 41 57.1**	**+1.3**
	5.2nm,0.2s							
DJR				Lg	Lg		12 42 26.6	
	102nm,0.2s							
DJR	**Jarkent**	**2.10**	**273**	*eP*	**Pb**		**12 41 57.1**	**+1.3**
	5.2nm,0.2s							
DJR				*eS*	**Sg**		**12 42 26.6**	**+2.1**
	102nm,0.2s							
PDGK	**Podgornoye**	**2.52**	**249**	Pg	**Pb**		**12 42 02.9**	**-0.1**
	5.3nm,0.2s							
PDGK				Lg	Lg		12 42 36.6	
	80nm,0.3s							
MK31	**Makanchi Array**	**2.54**	**353**	⇓Pn	**Pn**		**12 42 00.4**	**+1.2**
	1.5nm,0.3s,baz=176,slow=15,SNR=736							
MK31				⇑Pg	**Pb**		**12 42 04.1**	**+0.9**
	20nm,0.3s,baz=166,slow=17,SNR=7.7							
MK31				⇑Lg	Lg		12 42 35.9	
	208nm,0.6s,baz=171,slow=27,SNR=12							
MKAR	**Makanchi Array**	**2.54**	**353**	Pn	**Pn**		**12 42 00.8**	**+1.6**
	11nm,0.3s,baz=176,slow=14,SNR=77							
MKAR				Lg	Lg		12 42 31.4	
	21nm,0.3s,baz=177,slow=28,SNR=11							
	23nm,0.3s							
KNOS	**Konyrlen**	**2.54**	**273**	Pg	**Pb**		**12 42 04.8**	**+1.4**
	14nm,0.1s							
KNOS				Lg	Lg		12 42 39.9	
	96nm,0.2s							
MAKZ	**Makanchi**	**2.58**	**349**	⇑Pn	**Pn**		**12 42 00.9**	**+1.1**
	2.1nm,0.5s							
MAKZ				⇑Pg	**Pb**		**12 42 04.6**	**+0.5**
	9.8nm,0.3s							
MAKZ				⇑Sn	**Sn**		**12 42 32.4**	**+0.6**
	38nm,0.5s							
MAKZ				⇓Lg	Lg		12 42 38.0	
	21nm,0.4s							
KAPS	**Kapalarasan**	**2.60**	**294**	Pg	**Pb**		**12 42 05.9**	**+1.7**
	6.2nm,0.1s							
KAPS				Lg	Lg		12 42 41.5	
	183nm,0.3s							
KAPS	**Kapalarasan**	**2.60**	**294**	*eP*	**Pb**		**12 42 05.9**	**+1.7**
	6.2nm,0.1s							
KAPS				*eS*	**Sg**		**12 42 41.5**	**+1.1**
	183nm,0.3s							
SHLS	**Shalkode**	**2.61**	**246**	Pg	**Pn**		**12 42 00.3**	**0.0**
	36nm,0.2s							
SHLS				Lg	Lg		12 42 32.1	
	1µm,0.2s							
SHLS	**Shalkode**	**2.61**	**246**	*eP*	**Pn**		**12 41 59.8**	**-0.5**
	16nm,0.1s							
SHLS				*eS*	**Sn**		**12 42 30.8**	**-1.8**
	1µm,0.2s							
UZB	**Uzynbulak**	**2.91**	**248**	Pg	**Pb**		**12 42 09.8**	**+0.2**
	4.6nm,0.2s							
UZB				Lg	Lg		12 42 48.3	
	72nm,0.2s							
UZB	**Uzynbulak**	**2.91**	**248**	*eP*	**Pb**		**12 42 09.8**	**+0.2**
	4.6nm,0.2s							
UZB				*eS*	**Sb**		**12 42 48.3**	**+2.6**
	72nm,0.2s							
KPKS	**Kokpek**	**3.03**	**256**	Pg	**Pb**		**12 42 12.0**	**+0.4**
	16nm,0.1s							
KPKS				Lg	Lg		12 42 52.0	
	239nm,0.2s							
KPKS	**Kokpek**	**3.03**	**256**	*eP*	**Pb**		**12 42 12.0**	**+0.4**
	16nm,0.1s							
KPKS				*eS*	**Sb**		**12 42 52.0**	**+3.0**
	239nm,0.2s							
BLB	**Baldybastay**	**3.05**	**268**	Pg	**Pb**		**12 42 13.2**	**+1.2**
	28nm,0.1s							
BLB				Lg	Lg		12 42 54.3	
	78nm,0.3s							
TDK	**Taldyqorghan**	**3.16**	**285**	Pg	**Pb**		**12 42 15.8**	**+1.9**
	38nm,0.2s							
TDK				Lg	Lg		12 42 58.5	
	136nm,0.2s							
TDK	**Taldyqorghan**	**3.16**	**285**	*eP*	**Pb**		**12 42 15.8**	**+1.9**
	38nm,0.2s							
TDK				*eS*	**Sg**		**12 42 58.5**	**0.0**
	136nm,0.2s							
SATY	**Saty**	**3.36**	**250**	Pg	**Pb**		**12 42 17.5**	**+0.3**
	2.8nm,0.1s							
SATY				Lg	Lg		12 43 01.7	
	64nm,0.1s							
SATY	**Saty**	**3.36**	**250**	*eP*	**Pb**		**12 42 17.5**	**+0.3**
	2.8nm,0.1s							
SATY				*eS*	**Sb**		**12 43 01.7**	**+3.2**
	64nm,0.1s							
ZSN	**Zaisan**	**3.51**	**25**	Pg	**Pb**		**12 42 20.6**	**+0.7**
	27nm,0.1s							
ZSN				Lg	Lg		12 43 06.5	
	72nm,0.2s							
ZSN	**Zaisan**	**3.51**	**25**	*eP*	**Pb**		**12 42 20.6**	**+0.7**
	27nm,0.1s							
ZSN				*eS*	**Sb**		**12 43 06.5**	**+3.6**
	72nm,0.2s							
ARXS	**Arharly**	**3.51**	**271**	Pg	**Pb**		**12 42 22.2**	**+2.3**
	5.4nm,0.1s							
ARXS				Lg	Lg		12 43 09.7	
	69nm,0.3s							
ARXS	**Arharly**	**3.51**	**271**	*eP*	**Pb**		**12 42 22.2**	**+2.3**
	5.4nm,0.1s							
ARXS				*eS*	**Sg**		**12 43 09.7**	**-0.1**
	69nm,0.3s							
MDOK	**Medeo**	**4.26**	**257**	⇓Pn	**Pn**		**12 42 26.1**	**+3.1**
	2.1nm,0.7s							
MDOK				Pg	**Pb**		**12 42 35.1**	**+2.5**
	4.3nm,0.2s							
MDOK				⇑Pg	**Pg**		**12 42 36.8**	**-1.7**
	8.1nm,0.6s							
MDOK				Lg	Lg		12 43 31.7	
	30nm,0.3s							
MDOK				⇑Lg	Lg		12 43 34.8	
	24nm,0.6s							
MDOK	**Medeo**	**4.26**	**257**	*eP*	**Pb**		**12 42 35.1**	**+2.5**
	4.3nm,0.2s							
MDOK				*eS*	**Sg**		**12 43 31.6**	**-2.0**
	30nm,0.3s							
TNSS	**Tian-Shan**	**4.37**	**256**	Pg	**Pb**		**12 42 37.2**	**+2.6**
	2.3nm,0.2s							
TNSS				Lg	Lg		12 43 35.4	
	7.9nm,0.3s							
TNSS	**Tian-Shan**	**4.37**	**256**	*eP*	**Pb**		**12 42 37.2**	**+2.6**
	2.3nm,0.2s							
TNSS				*eS*	**Sg**		**12 43 35.4**	**-1.8**
	7.9nm,0.3s							
KTBS	**Karatobe**	**4.39**	**265**	Pg	**Pg**		**12 42 38.9**	**-2.2**
	2.7nm,0.2s							
KTBS				Lg	Lg		12 43 38.3	
	55nm,0.2s							
KTBS	**Karatobe**	**4.39**	**265**	*eP*	**Pb**		**12 42 38.4**	**+3.6**
	1.3nm,0.2s							
KTBS				*eS*	**Sg**		**12 43 37.0**	**-1.0**
	33nm,0.5s							
TKM2	**Tokmak 2**	**5.34**	**258**	⇓Pg	**Pb**		**12 42 55.8**	**+4.6**
	3.3nm,0.5s							
TKM2				⇓Lg	Lg		12 44 08.8	
	26nm,0.8s							
CHMS	**Chumysh**	**5.92**	**260**	⇑Pg	**Pg**		**12 43 06.5**	**-3.8**
	5.1nm,1.1s							
CHMS				⇓Lg	Lg		12 44 25.7	
	14nm,0.8s							
AML	**Almayashu**	**6.93**	**255**	⇑Pn	**Pn**		**12 43 02.1**	**+2.2**
	0.2nm,0.7s							
AML				⇑Pg	Pg		12 43 24.9	-4.9
	1.4nm,1.3s							
AML				Lg	Lg		12 44 58.3	
	1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**6.95**	**337**	⇑Pn	**Pn**		**12 43 00.3**	**+0.5**
	2.0nm,0.8s							
KURBB				⇑Sn	**Sn**		**12 44 20.4**	**+1.0**
	9.5nm,0.6s							
KURBB				⇓Lg	Lg		12 44 56.1	
	26nm,0.6s							
KURBB	**Kurchatov Arra**	**6.95**	**337**	Pn	**Pn**		**12 42 59.6**	**-0.1**
	0.2nm,0.3s,baz=152,slow=14,SNR=9.8							
KURBB				Sn	**Sn**		**12 44 15.2**	**-4.2**
	0.3nm,0.3s,baz=150,slow=25,SNR=6.0							
KURBB				Lg	Lg		12 44 52.5	
	0.2nm,0.3s,baz=154,slow=32,SNR=2.5							
	0.5nm,0.3s							
OTUK	**Ortayu**	**8.21**	**303**	⇓Lg	Lg		12 45 36.3	
	11nm,0.8s							
KK31	**Karatay Array**	**8.92**	**267**	Lg	Lg		12 46 02.7	
	2.5nm,0.5s,baz=70,slow=30,SNR=3.8							
ZALV	**Zalesovo Beam**	**9.78**	**7**	Pn	**Pn**		**12 43 37.7**	**-0.7**
	0.4nm,0.3s,baz=188,slow=14,SNR=8.9							
ZALV				Sn	**Sn**		**12 45 24.1**	**-4.7**
	0.9nm,0.3s,baz=189,slow=24,SNR=11							
ZALV				Lg	Lg		12 46 21.7	
	0.1nm,0.3s,baz=190,slow=23,SNR=2.1							
	1.3nm,0.4s							
BVAR	**Borovoye Array**	**11.95**	**321**	Pn	**Pn**		**12 44 07.8**	**-0.4**
	baz=126,slow=13,SNR=5.4							
BVAR				Sn	**Sn**		**12 46 14.0**	**-7.9**
	baz=127,slow=25,S

MTHZ	**Maungataniwha**	**1.10**	**141**	P	**Pn**	**13 07 48.8**	**+2.0**
MTHZ				S	**S**	**13 08 18.3**	**-1.6**
BKZ	**Black Stump Fm**	**1.24**	**160**	P	**Pn**	**13 07 49.1**	**+1.6**
BKZ	**Black Stump Fm**	**1.24**	**160**	P	**Pn**	**13 07 49.2**	**+1.6**
BKZ				S	**S**	**13 08 19.5**	**-1.6**
MWZ	**Matawai**	**1.28**	**106**	P	**Pn**	**13 07 48.9**	**+1.1**
MWZ				S	**S**	**13 08 19.1**	**-2.5**
SNGZ	**Shannon Statio**	**1.34**	**126**	P	**Pn**	**13 07 49.8**	**+1.7**
RUGZ	**Raukumara Rang**	**1.36**	**89**	P	**Pn**	**13 07 48.5**	**+0.1**
WIAZ	**Waiheke Island**	**1.37**	**331**	P	**Pn**	**13 07 48.3**	**-0.1**
AWAZ	**Awhitu Peninsu**	**1.40**	**311**	P	**Pn**	**13 07 50.5**	**+2.0**
MOVZ	**Moawhango**	**1.41**	**186**	P	**Pn**	**13 07 50.1**	**+1.6**
MTVZ	**Mangateitei**	**1.43**	**195**	P	**Pn**	**13 07 50.5**	**+1.8**
HAZ	**Te Kaha**	**1.47**	**81**	P	**Pn**	**13 07 49.0**	**+0.1**
KWHZ	**Kaweka Forest**	**1.47**	**166**	P	**Pn**	**13 07 50.9**	**+2.0**
BHHZ	**Black Hill Sta**	**1.49**	**177**	P	**Pn**	**13 07 50.7**	**+1.7**
ARHZ	**Aropaoanui**	**1.50**	**147**	P	**Pn**	**13 07 51.1**	**+2.1**
MCHZ	**McNeill Hill**	**1.56**	**158**	P	**Pn**	**13 07 51.6**	**+2.2**
RIGZ	**Rimuhau**	**1.59**	**117**	P	**Pn**	**13 07 51.9**	**+2.3**
RVAZ	**Riverhead Bore**	**1.65**	**318**	P	**Pn**	**13 07 52.0**	**+1.9**
KRHZ	**Kereru**	**1.67**	**169**	P	**Pn**	**13 07 52.0**	**+1.8**
WAZ	**Wanganui**	**1.91**	**203**	P	**Pn**	**13 07 53.8**	**+2.0**
PNHZ	**Pukenui**	**1.92**	**174**	P	**Pn**	**13 07 53.6**	**+1.6**
KAHZ	**Kahuranaki**	**1.93**	**158**	P	**Pn**	**13 07 54.3**	**+2.2**
WMGZ	**Waiomatatini S**	**1.96**	**85**	P	**Pn**	**13 07 53.7**	**+1.4**
TSZ	**Takapari Road**	**2.06**	**180**	P	**Pn**	**13 07 54.6**	**+1.6**
TSZ				S	**S**	**13 08 30.6**	**-0.5**
PXZ	**Pawanui**	**2.15**	**161**	P	**Pn**	**13 07 55.7**	**+2.0**
OHWZ	**Ohakea**	**2.26**	**193**	P	**Pn**	**13 07 57.0**	**+2.4**
DVHZ	**Dannevirke**	**2.30**	**176**	P	**Pn**	**13 07 56.6**	**+1.6**
PRHZ	**Porangahau**	**2.33**	**167**	P	**Pn**	**13 07 57.2**	**+2.0**
WCZ	**Waipu Caves**	**2.43**	**327**	P	**Pn**	**13 07 58.0**	**+1.8**
ANWZ	**Angora Road**	**2.49**	**171**	P	**Pn**	**13 07 58.8**	**+2.1**
PRWZ	**Pori Road**	**2.55**	**180**	P	**Pn**	**13 07 59.0**	**+1.8**
MRZ	**Mangatainoka R**	**2.67**	**186**	P	**Pn**	**13 07 59.7**	**+1.4**
BFZ	**Birch Farm**	**2.69**	**175**	P	**Pn**	**13 08 00.1**	**+1.7**
BFZ	**Birch Farm**	**2.69**	**175**	P	**Pn**	**13 08 00.1**	**+1.7**
OGWZ	**Otaki Gorge**	**2.88**	**192**	P	**Pn**	**13 08 01.7**	**+1.5**
HOWZ	**Holdsworth Sta**	**2.91**	**187**	P	**Pn**	**13 08 01.8**	**+1.2**
KIW	**Kapiti Island**	**2.97**	**195**	P	**Pn**	**13 08 02.3**	**+1.2**
TMWZ	**Te Maipa**	**3.10**	**181**	P	**Pn**	**13 08 04.0**	**+1.6**
MTW	**Mount Morrison**	**3.17**	**186**	P	**Pn**	**13 08 04.4**	**+1.3**
CAW	**Cannon Point**	**3.18**	**192**	P	**Pn**	**13 08 04.3**	**+1.2**
DUWZ	**D'Urville Isla**	**3.21**	**209**	P	**Pn**	**13 08 04.8**	**+1.2**
WEL	**Wellington**	**3.41**	**195**	P	**Pn**	**13 08 07.2**	**+1.7**
TCW	**Tory Channel**	**3.46**	**201**	P	**Pn**	**13 08 07.6**	**+1.6**
BHW	**Baring Head**	**3.50**	**193**	P	**Pn**	**13 08 08.2**	**+1.7**
PLWZ	**Palliser**	**3.60**	**188**	P	**Pn**	**13 08 08.8**	**+1.2**
TUWZ	**Tuamarina**	**3.76**	**204**	P	**Pn**	**13 08 10.5**	**+1.3**
NNZ	**Nelson**	**3.78**	**211**	P	**Pn**	**13 08 10.2**	**+0.8**
QRZ	**Quartz Range**	**3.87**	**222**	P	**Pn**	**13 08 11.3**	**+0.9**
QRZ	**Quartz Range**	**3.87**	**222**	P	**Pn**	**13 08 10.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**4.04**	**203**	P	**Pn**	**13 08 13.9**	**+1.7**
MRNZ	**Matariki Terra**	**4.20**	**215**	P	**Pn**	**13 08 14.3**	**+0.4**
THZ	**Tophouse**	**4.43**	**211**	P	**Pn**	**13 08 17.7**	**+1.1**
KHZ	**Kahutara**	**4.78**	**202**	P	**Pn**	**13 08 21.9**	**+1.4**
KHZ	**Kahutara**	**4.78**	**202**	P	**Pn**	**13 08 21.8**	**+1.3**
DSZ	**Denniston Nort**	**4.92**	**219**	P	**Pn**	**13 08 22.2**	**+0.1**
GVZ	**Greta Valley S**	**5.44**	**203**	P	**Pn**	**13 08 29.1**	**+1.0**
LTZ	**Lake Taylor**	**5.54**	**209**	P	**Pn**	**13 08 30.0**	**+0.7**
INZ	**Inchbonnie**	**5.84**	**215**	P	**Pn**	**13 08 33.4**	**+0.6**
OXZ	**Oxford**	**6.10**	**208**	P	**Pn**	**13 08 36.0**	**+0.2**
OKCZ	**Okains Bay**	**6.12**	**200**	P	**Pn**	**13 08 37.4**	**+1.2**
MQZ	**McQueen's Vall**	**6.22**	**203**	P	**Pn**	**13 08 37.8**	**+0.4**
MHCZ	**Mount Hutt**	**6.45**	**210**	P	**Pn**	**13 08 40.4**	**+0.3**
WACZ	**Wakanui South**	**6.70**	**206**	P	**Pn**	**13 08 44.2**	**+1.1**
RPZ	**Rata Peaks**	**6.81**	**211**	P	**Pn**	**13 08 45.0**	**+0.5**
RPZ	**Rata Peaks**	**6.81**	**211**	P	**Pn**	**13 08 44.9**	**+0.5**
ARCZ	**Arundel**	**6.95**	**210**	P	**Pn**	**13 08 46.9**	**+0.7**
FOZ	**Fox Glacier**	**7.23**	**218**	P	**Pn**	**13 08 49.6**	**+0.2**
TMZ	**Timaru**	**7.39**	**209**	P	**Pn**	**13 08 52.3**	**+0.9**
ODZ	**Otahua Downs**	**8.08**	**208**	P	**Pn**	**13 09 01.5**	**+1.6**
WKZ	**Wanaka**	**8.58**	**215**	P	**Pn**	**13 09 06.0**	**0.0**

IDC ***22*** *13:37:10.1±1.2,29.°50N×51.°36E,h0km,mb3.8/14, mbtmp3.9/17,ML3.2/3,MS3.0/2,Error ellipse: s-maj=25.9km s-min=19.7km az=161.0*

NEIC ***22*** *13:37:10.8±1.4,29.°3N±0.°1×51.°3E±0.°1,h10km±1km, mb4.4/24,Error ellipse: s-maj=20.9km s-min=11.7km az=221.0*

TEH ***22*** *13:37:12.0,29.°56N×51.°37E,h8km±23km,ML3.6*

ISC 22 13:37:11.4±0.5,**29.°53N**±0.°03×**51.°35E**±0.°04,**h10km**,**n87**, σ1§**71**/86,**mb4.2**/24,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHBU	**AHRAM**	**0.67**	**184**	Pg	**Pg**	**13 37 25.1**	**+0.8**
AHBU				Sg	**Sg**	**13 37 36.1**	**+1.6**
SHI	**Shiraz**	**1.02**	**84**	Pg	**Pg**	**13 37 31.3**	**+0.2**
DSBU	**Dashti - Bushe**	**1.17**	**184**	Pg	**Pg**	**13 37 34.9**	**+1.0**
ABEH	**Behbahan**	**1.43**	**319**	Pg	**Pg**	**13 37 39.5**	**+0.7**
KLNJ	**Kolanjah**	**1.48**	**8**	Pg	**Pg**	**13 37 40.0**	**0.0**
QIR1	**Qir**	**1.82**	**125**	Pn	**Pb**	**13 37 45.5**	**+0.6**
JHRM	**Jahrom**	**2.20**	**117**	Pn	**Pb**	**13 37 50.7**	**-0.8**
IBRJ	**Brojen**	**2.37**	**358**	Pn	**Pb**	**13 37 53.1**	**-1.3**
IRAM	**Ramesheh**	**2.44**	**21**	Pn	**Pb**	**13 37 54.3**	**-1.2**
ZNGN	**Zangian**	**2.61**	**351**	Pn	**Pn**	**13 37 56.2**	**+2.2**
JHBN	**Jahan bin**	**2.75**	**348**	Pn	**Pn**	**13 37 58.4**	**+2.5**
IGAR	**Gharneh**	**2.92**	**12**	Pn	**Pn**	**13 38 01.1**	**+2.9**
ISAD	**Sadrabad**	**3.11**	**40**	Pn	**Pn**	**13 38 03.5**	**+2.7**
IPIR	**Pirpir**	**3.17**	**353**	Pn	**Pn**	**13 38 03.8**	**+2.2**
IMEH	**Mehriz**	**3.37**	**56**	Pn	**Pn**	**13 38 07.2**	**+2.8**
IZEF	**Zefreh**	**3.46**	**14**	Pn	**Pn**	**13 38 08.1**	**+2.5**
ICHK	**Chekchek**	**3.77**	**43**	Pn	**Pn**	**13 38 11.9**	**+2.0**
IKLH	**Kolahrood**	**3.78**	**3**	Pn	**Pn**	**13 38 12.7**	**+2.6**
ANAR	**Anarak**	**4.17**	**29**	Pn	**Pn**	**13 38 17.7**	**+2.4**
IBAF	**Bafgh**	**4.18**	**60**	Pn	**Pn**	**13 38 17.7**	**+2.3**
QAMS	**Qamsar**	**4.19**	**1**	Pn	**Pn**	**13 38 17.8**	**+2.2**
KRSH	**Karshahi**	**4.47**	**8**	Pn	**Pn**	**13 38 20.9**	**+1.4**
KHGB	**Koh Gabri**	**4.53**	**78**	Pn	**Pn**	**13 38 22.8**	**+2.5**
NGRK	**Negar Kerman**	**4.69**	**87**	Pn	**Pn**	**13 38 25.2**	**+2.6**
ISFB	**Sefidab**	**4.86**	**9**	Pn	**Pn**	**13 38 27.1**	**+2.4**
IQOM	**Qom**	**5.30**	**358**	Pn	**Pn**	**13 38 33.1**	**+2.2**
CHMN	**Cheshme madani**	**5.40**	**85**	Pn	**Pn**	**13 38 34.1**	**+1.7**
IVRN	**Varamin**	**5.46**	**3**	Pn	**Pn**	**13 38 35.2**	**+2.3**
HAGD	**Aghdareh**	**5.60**	**341**	Pn	**Pn**	**13 38 37.4**	**+2.4**
TPRV	**Parvadeh(Tabas**	**5.75**	**51**	Pn	**Pn**	**13 38 39.2**	**+2.3**
IALM	**Almabolaq**	**5.96**	**334**	Pn	**Pn**	**13 38 42.3**	**+2.4**
UOSS	**Minazif**	**6.29**	**135**	Pn	**Pn**	**13 38 42.5**	**-1.8**
TNSJ	**Nastanj**	**6.29**	**44**	Pn	**Pn**	**13 38 46.7**	**+2.3**
IDHR	**Dehrash**	**6.65**	**322**	Pn	**Pn**	**13 38 52.1**	**+2.7**
KLST	**Kelardasht - M**	**6.97**	**358**	Pn	**Pn**	**13 38 56.7**	**+2.8**
IKOO	**Kooshah**	**7.18**	**344**	Pn	**Pn**	**13 38 59.8**	**+2.1**
QSDN	**Sirdan**	**7.19**	**346**	Pn	**Pn**	**13 38 58.8**	**+2.0**
WSAR	**Wadi Sarin**	**9.05**	**132**	Pn	**Pn**	**13 39 20.6**	**-1.6**
	0.1nm,0.3s,baz=266,slow=9.4,SNR=1.9						
WSAR				Sn	**Sn**	**13 41 00.0**	**-4.2**
	0.4nm,0.3s,baz=23,slow=17,SNR=1.5						
	8.1nm,0.9s						
GHAJ	**Ghor Haditha**	**13.73**	**281**	Pn	**Pn**	**13 40 25.0**	**-1.3**
ONI	**Oni**	**14.50**	**336**	Pn	**Pn**	**13 40 39.4**	**+2.6**
KBZ	**Khabaz**	**15.69**	**337**	Pn	**P**	**13 40 55.5**	**-1.2**
	0.1nm,0.3s,baz=156,slow=5.7,SNR=6.2						
	4.5nm,1.0s						
BRTR	**Keskin Array B**	**17.74**	**310**	P	**Pn**	**13 41 19.5**	**+0.8**
	0.1nm,0.3s,baz=128,slow=13,SNR=6.2						
	1.0nm,0.6s						
KKAR	**Karatay Array**	**20.48**	**43**	P	Pn	13 41 50.7	-0.8
ABKAR	**Akbulak array**	**20.76**	**16**	P	**P**	**13 41 53.4**	**+1.1**
AKTO	**Aktyubinsk**	**21.48**	**12**	P	**P**	**13 42 00.7**	**+0.6**
	1.5nm,0.5s,baz=197,slow=11,SNR=9.1						
	1.5nm,0.5s						
IDI	**Anoyia**	**23.03**	**291**	LR	LR	13 52 46.7	
	comp=Z,50nm,21.7s,baz=276,slow=41						
AKASG	**Malin Array Be**	**26.89**	**328**	P	**P**	**13 42 52.2**	**-0.2**
	0.6nm,0.4s,baz=132,slow=9.1,SNR=4.0						
	0.6nm,0.4s						
AKBB	**Malin Array Si**	**26.89**	**328**	P	**P**	**13 42 50.9**	**-1.5**
AKBB				IAmb	IAmb	13 43 20.0	
	comp=Z,9.9nm,1.4s						
BURAR	**Bucovina Array**	**27.07**	**319**	P	**P**	**13 42 53.2**	**-1.0**
BUR08	**Bucovina Ar. S**	**27.09**	**319**	P	**P**	**13 42 53.2**	**-1.2**
BUR08				IAmb	IAmb	13 43 07.8	
	comp=Z,6.9nm,1.4s						
KURBB	**Kurchatov Arra**	**29.32**	**36**	P	**P**	**13 43 14.4**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=237,slow=9.0,SNR=3.8						
	comp=Z,0.9nm,0.8s						
MK31	**Makanchi Array**	**29.55**	**46**	P	**P**	**13 43 15.7**	**-0.6**
MKAR	**Makanchi Array**	**29.55**	**46**	P	**P**	**13 43 17.7**	**+1.4**
MKAR	**Makanchi Array**	**29.55**	**46**	P	**P**	**13 43 15.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=241,slow=6.5,SNR=2.7						
	comp=Z,0.4nm,0.6s						
ZAA0	**Zalesovo Array**	**34.38**	**35**	P	**P**	**13 43 59.4**	**+0.9**
ZAA0				IAmb	IAmb	13 44 03.0	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**34.38**	**35**	P	**P**	**13 43 59.4**	**+0.9**
ZALV	**Zalesovo Beam**	**34.38**	**35**	P	**P**	**13 43 59.8**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=247,slow=8.5,SNR=10						
	comp=Z,2.4nm,0.8s						
GERES	**GERESS Array B**	**34.51**	**315**	P	**P**	**13 44 00.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=118,slow=7.9,SNR=2.0						
	comp=Z,0.4nm,0.5s						
BNI	**Bardonecchia**	**38.26**	**306**	P	**P**	**13 44 31.5**	**-0.4**
BNI				IAmb	IAmb	13 44 58.9	
	comp=Z,12nm,1.4s						
HFS	**Hagfors**	**39.66**	**331**	P	**P**	**13 44 43.0**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=123,slow=11,SNR=9.1						
	comp=Z,2.3nm,0.6s						
SSB	**Saint Sauveur**	**39.78**	**306**	P	**P**	**13 44 44.1**	**-0.5**
SSB				IAmb	IAmb	13 45 06.9	
	comp=Z,27nm,1.5s						
NC405	**NORSAR Array S**	**41.01**	**332**	P	**P**	**13 44 54.6**	**+0.1**
NC405				IAmb	IAmb	13 45 06.2	
	comp=Z,14nm,1.2s						
NB201	**NORSAR Array S**	**41.15**	**332**	P	**P**	**13 44 55.6**	**0.0**
NOA	**NORSAR Array B**	**41.17**	**332**	P	**P**	**13 44 55.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=121,slow=8.2,SNR=3.4						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**42.70**	**347**	P	**P**	**13 45 08.0**	**-0.2**
ARCES	**ARCESS Array B**	**42.70**	**347**	P	**P**	**13 45 08.7**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=137,slow=11,SNR=6.5						
	comp=Z,1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.59**	**93**	LR	LR	14 06 30.8	
	comp=Z,15nm,18.6s,baz=280,slow=40						
EKA	**Eskdalemuir Ar**	**46.24**	**320**	P	**P**	**13 45 36.6**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=79,slow=7.5,SNR=1.2						
	comp=Z,2.0nm,0.3s						
TOA0	**Torodi Ar. Sit**	**48.67**	**261**	P	**P**	**13 45 53.4**	**-2.7**
TOA0				IAmb	IAmb	13 46 36.3	
	comp=Z,3.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**48.67**	**261**	P	**P**	**13 45 53.8**	**-2.3**
TORD				IAmb	IAmb	13 46 15.6	
	comp=Z,3.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**48.67**	**261**	P	**P**	**13 45 55.7**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=56,slow=8.4,SNR=10						
	comp=Z,0.9nm,0.4s						
SPB2	**Spitsbergen Ar**	**51.16**	**351**	P	**P**	**13 46 14.7**	**+0.6**
SPITS	**Spitsbergen Ar**	**51.16**	**351**	P	**P**	**13 46 15.5**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=155,slow=10,SNR=6.1						
	comp=Z,1.7nm,0.5s						
DBIC	**Dimbokro**	**57.45**	**258**	P	**P**	**13 46 58.7**	**-2.1**
DBIC	**Dimbokro**	**57.45**	**258**	P	**P**	**13 47 02.5**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=79,slow=8.8,SNR=2.0						
	comp=Z,1.1nm,0.4s						
A36M	**Sachs Harbour**	**78.73**	**359**	P	**P**	**13 49 12.0**	**-1.5**
A36M				IAmb	IAmb	13 49 18.3	
	comp=Z,4.4nm,0.8s						
C18K	**Utukok River**	**79.20**	**12**	P	**P**	**13 49 17.2**	**+0.8**
E19K	**Redstone River**	**80.94**	**11**	P	**P**	**13 49 25.7**	**0.0**
E19K				IAmb	IAmb	13 49 35.2	
	comp=Z,2.8nm,1.4s						
F20K	**Avaraart Lake**	**81.56**	**10**	P	**P**	**13 49 30.0**	**+1.1**
BMAR	**Burnt Mountain**	**82.59**	**6**	P	**P**	**13 49 35.1**	**+0.7**
H19K	**Roundabout Mou**	**82.84**	**11**	P	**P**	**13 49 35.7**	**+0.1**
IMAR	**Indian Mountai**	**82.85**	**10**	P	**P**	**13 49 34.5**	**-1.2**
F31M	**Tsiigehtchic**	**83.25**	**2**	P	**P**	**13 49 38.4**	**+0.6**
J16K	**Anvik River**	**84.07**	**14**	P	**P**	**13 49 40.4**	**-1.7**
J16K				IAmb	IAmb	13 50 01.5	
	comp=Z,5.9nm,1.4s						
J20K	**Nowinta River**	**84.47**	**11**	P	**P**	**13 49 44.0**	**-0.1**
ILAR	**Eielson Array**	**84.93**	**8**	P	**P**	**13 49 47.0**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=326,slow=3.8,SNR=4.1						
	comp=Z,0.3nm,0.8s						
BCAR	**Beaver Creek A**	**87.13**	**6**	P	**P**	**13 49 58.6**	**+1.2**

DNK ***22*** *13:45:46.2±2.0,58.°17N×13.°47E,h4km±3km,ML2.8, Probable volcanic*

UPP ***22*** *13:45:46.3±0.1,58.°17N×13.°51E,h6km±2km,ML2.5, Confirmed Earthquake*

BER ***22*** *13:45:47.1±2.4,58.°16N×13.°48E,h0km±4km,ML2.2, ML2.5(UPP),Confirmed Earthquake*

IDC ***22*** *13:45:48.3±1.8,58.°28N×13.°56E,h0km,mbtmp3.6/2, ML2.2/3,Error ellipse: s-maj=14.8km s-min=10.2km az=32.0*

ISC 22 13:45:44.7±0.8,**58.°20N**±0.°01×**13.°51E**±0.°01,**h12km**±6km, **n73**,σ1§**22**/166,**3C-18D**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKPU	**Falk**	**0.12**	**109**	⇓P	**Pb**	**13 45 48.5**	**-0.4**
FKPU				S	**Sg**	**13 45 50.0**	**0.0**
FKPU	**Falk**	**0.12**	**109**	⇓P	**Pb**	**13 45 48.5**	**-0.4**
FKPU				S	**Sg**	**13 45 50.0**	**0.0**
FKPU	**Falk**	**0.12**	**109**	⇓P	**Pb**	**13 45 48.5**	**-0.4**
FKPU				S	**Sg**	**13 45 50.0**	**0.0**
BORU	**Boraas**	**0.69**	**215**	⇑P	**Pb**	**13 45 58.7**	**+0.1**
BORU				S	**Sg**	**13 46 07.4**	**+0.4**
BORU	**Boraas**	**0.69**	**215**	*i* P	**Pg**	**13 45 58.3**	**+0.3**
BORU				⇑P	**Pb**	**13 45 58.7**	**+0.1**
BORU				*i* S	**Sg**	**13 46 06.7**	**-0.4**
BORU				S	**Sg**	**13 46 07.4**	**+0.4**
BORU	**Boraas**	**0.69**	**215**	⇑P	**Pb**	**13 45 58.7**	**+0.1**
BORU				S	**Sg**	**13 46 07.4**	**+0.4**
NASU	**Vaermlandsnaes**	**0.75**	**347**	⇓P	**Pn**	**13 46 00.7**	**-0.3**
NASU				S	**Sn**	**13 46 11.7**	**-0.7**
NASU	**Vaermlandsnaes**	**0.75**	**347**	⇓P	**Pn**	**13 46 00.7**	**-0.3**
NASU				S	**Sn**	**13 46 11.7**	**-0.7**
NASU	**Vaermlandsnaes**	**0.75**	**347**	⇓P	**Pn**	**13 46 00.7**	**-0.3**
NASU				S	**Sn**	**13 46 11.7**	**-0.7**
VANU	**Vaenersborg**	**0.81**	**292**	⇓P	**Pn**	**13 46 01.6**	**-0.2**
VANU				S	**Sb**	**13 46 12.4**	**+0.9**
VANU	**Vaenersborg**	**0.81**	**292**	⇓P	**Pn**	**13 46 01.6**	**-0.2**
VANU				S	**Sb**	**13 46 12.4**	**+0.9**
VANU	**Vaenersborg**	**0.81**	**292**	⇓P	**Pn**	**13 46 01.6**	**-0.2**
VANU				S	**Sb**	**13 46 12.4**	**+0.9**
GNOU	**Gnosjoe**	**0.92**	**172**	⇓P	**Pg**	**13 46 02.5**	**+0.1**
GNOU				S	**Sg**	**13 46 14.1**	**-0.2**
GNOU	**Gnosjoe**	**0.92**	**172**	⇓P	**Pg**	**13 46 02.5**	**+0.1**
GNOU				S	**Sg**	**13 46 14.1**	**-0.2**
GNOU	**Gnosjoe**	**0.92**	**172**	⇓P	**Pg**	**13 46 02.5**	**+0.1**
GNOU				S	**Sg**	**13 46 14.1**	**-0.2**
ASKU	**Askersund**	**0.98**	**44**	⇓P	**Pn**	**13 46 04.8**	**+0.5**
ASKU				S	**Sn**	**13 46 18.1**	**0.0**
ASKU	**Askersund**	**0.98**	**44**	⇓P	**Pn**	**13 46 04.8**	**+0.5**
ASKU				S	**Sn**	**13 46 18.1**	**0.0**
ASKU	**Askersund**	**0.98**	**44**	⇓P	**Pn**	**13 46 04.8**	**+0.5**
ASKU				S	**Sn**	**13 46 18.1**	**0.0**
TJOU	**Tjoern**	**1.01**	**261**	P	**Pn**	**13 46 04.8**	**+0.2**
TJOU				S	**Sn**	**13 46 18.4**	**-0.4**
TJOU	**Tjoern**	**1.01**	**261**	P	**Pn**	**13 46 04.8**	**+0.2**
TJOU				S	**Sn**	**13 46 18.4**	**-0.4**
TJOU	**Tjoern**	**1.01**	**261**	P	**Pn**	**13 46 04.8**	**+0.2**
TJOU				S	**Sn**	**13 46 18.4**	**-0.4**
LNKU	**Linkoeping**	**1.06**	**88**	P	**Pn**	**13 46 05.7**	**+0.4**
LNKU				S	**Sn**	**13 46 19.6**	**-0.3**
LNKU	**Linkoeping**	**1.06**	**88**	P	**Pn**	**13 46 05.7**	**+0.4**
LNKU				S	**Sn**	**13 46 19.6**	**-0.3**
LNKU	**Linkoeping**	**1.06**	**88**	P	**Pn**	**13 46 05.7**	**+0.4**
LNKU				S	**Sn**	**13 46 19.6**	**-0.3**
ONAU	**Onsala**	**1.17**	**227**	P	**Pg**	**13 46 07.4**	**+0.2**
ONAU				S	**Sg**	**13 46 22.6**	**+0.2**
ONAU	**Onsala**	**1.17**	**227**	*i* P	**Pg**	**13 46 07.3**	**+0.2**
ONAU				P	**Pg**	**13 46 07.4**	**+0.2**
ONAU				S	**Sg**	**13 46 22.6**	**+0.2**
ONAU				*i* S	**Sn**	**13 46 24.4**	**+1.8**
ONAU	**Onsala**	**1.17**	**227**	P	**Pg**	**13 46 07.4**	**+0.2**
ONAU				S	**Sg**	**13 46 22.6**	**+0.2**
FABU	**Falkenberg**	**1.27**	**200**	P	**Pg**	**13 46 08.9**	**-0.2**
FABU				S	**Sn**	**13 46 25.0**	**-0.1**
FABU	**Falkenberg**	**1.27**	**200**	*i* P	**Pg**	**13 46 08.9**	**-0.2**
FABU				P	**Pg**	**13 46 08.9**	**-0.2**
FABU				S	**Sn**	**13 46 25.0**	**-0.1**
FABU				*i* S	**Sn**	**13 46 25.0**	**-0.1**
FABU	**Falkenberg**	**1.27**	**200**	P	**Pg**	**13 46 08.9**	**-0.2**
FABU				S	**Sg**	**13 46 25.0**	**-0.1**
FINU	**Finntorp**	**1.32**	**336**	P	**Pg**	**13 46 10.9**	**+0.8**
FINU				S	**Sg**	**13 46 28.7**	**+1.5**
FINU	**Finntorp**	**1.32**	**336**	P	**Pg**	**13 46 10.9**	**+0.8**
FINU				S	**Sg**	**13 46 28.7**	**+1.5**
FINU	**Finntorp**	**1.32**	**336**	P	**Pg**	**13 46 10.9**	**+0.8**
FINU				S	**Sg**	**13 46 28.7**	**+1.5**
STRU	**Stroemstad**	**1.48**	**306**	⇓P	**Pg**	**13 46 13.5**	**+0.5**
STRU				S	**Sg**	**13 46 33.5**	**+1.3**
STRU	**Stroemstad**	**1.48**	**306**	*i* P	**Pg**	**13 46 13.2**	**+0.1**
STRU				⇓P	**Pg**	**13 46 13.5**	**+0.5**
STRU				*i* S	**Sg**	**13 46 33.2**	**+1.1**
STRU				S	**Sg**	**13 46 33.5**	**+1.3**
STRU	**Stroemstad**	**1.48**	**306**	⇓P	**Pg**	**13 46 13.5**	**+0.5**
STRU				S	**Sg**	**13 46 33.5**	**+1.3**
VXJU	**Vaexsjoe**	**1.50**	**148**	P	**Pb**	**13 46 12.8**	**+0.5**
VXJU				S	**Sg**	**13 46 32.4**	**-0.3**
VXJU	**Vaexsjoe**	**1.50**	**148**	P	**Pb**	**13 46 12.8**	**+0.5**
VXJU				S	**Sg**	**13 46 32.4**	**-0.3**
VXJU	**Vaexsjoe**	**1.50**	**148**	P	**Pb**	**13 46 12.8**	**+0.5**
VXJU				S	**Sg**	**13 46 32.4**	**-0.3**
NRAU	**Nora**	**1.59**	**29**	P	**Pg**	**13 46 15.9**	**+0.7**
NRAU				S	**Sg**	**13 46 37.2**	**+1.4**
NRAU	**Nora**	**1.59**	**29**	P	**Pg**	**13 46 15.9**	**+0.7**
NRAU				S	**Sg**	**13 46 37.2**	**+1.4**
NRAU	**Nora**	**1.59**	**29**	P	**Pg**	**13 46 15.9**	**+0.7**
NRAU				S	**Sg**	**13 46 37.2**	**+1.4**
VSTU	**Vaestervik**	**1.70**	**107**	P	**Pb**	**13 46 16.6**	**+0.7**
VSTU				S	**Sg**	**13 46 39.0**	**-0.4**
VSTU	**Vaestervik**	**1.70**	**107**	P	**Pb**	**13 46 16.6**	**+0.7**
VSTU				P	**Pb**	**13 46 16.6**	**+0.7**
VSTU				S	**Sg**	**13 46 39.0**	**-0.4**
VSTU	**Vaestervik**	**1.70**	**107**	P	**Pb**	**13 46 16.6**	**+0.7**
VSTU				S	**Sg**	**13 46 39.0**	**-0.4**
VIKU	**Vikbolandet**	**1.71**	**78**	P	**Pg**	**13 46 17.2**	**-0.2**
VIKU				S	**Sg**	**13 46 40.0**	**+0.4**
VIKU	**Vikbolandet**	**1.71**	**78**	P	**Pg**	**13 46 17.2**	**-0.2**
VIKU				S	**Sg**	**13 46 40.0**	**+0.4**
VIKU	**Vikbolandet**	**1.71**	**78**	P	**Pg**	**13 46 17.2**	**-0.2**
VIKU				S	**Sg**	**13 46 40.0**	**+0.4**
DEL	**Delary**	**1.74**	**173**	*i* P	**Pb**	**13 46 16.0**	**-0.5**
DEL		

GTOI	**Gorontalo**	**3.07**	**52**	P		**Pn**	**13 46 37.0**	**+0.5**
KAPI	**Kappang**	**3.81**	**193**	Pn		**Pn**	**13 46 47.8**	**+1.0**
	7.5nm,0.3s,baz=323,slow=10,SNR=11							
KAPI				Sn		**Sn**	**13 47 28.6**	**-2.3**
	2.7nm,0.3s,baz=0.5,slow=20,SNR=1.2							
KAPI				LR		LR	13 48 35.0	
	comp=Z,119nm,18.1s,baz=16,slow=42							
	30nm,0.5s							
BKSI	**Bulukumba**	**4.04**	**187**	P		**Pn**	**13 46 49.7**	**-0.3**
BBSI	**Bau Bau**	**4.62**	**155**	P		**Pn**	**13 46 57.1**	**-0.8**
SANI	**Sanana**	**5.43**	**98**	P		**Pn**	**13 47 07.7**	**-1.4**
	8.9nm,0.7s,0.1nm							
NLAI	**Namlea**	**6.77**	**107**	P		**Pn**	**13 47 27.1**	**-0.5**
	10nm,0.8s,0.1nm							
LBMI	**Labuha**	**6.92**	**85**	P		**Pn**	**13 47 30.1**	**+0.5**
KKM	**Kota Kinabalu**	**8.49**	**329**	Pn		**Pn**	**13 47 53.7**	**+2.4**
KULM	**Kulim**	**20.97**	**288**	P		**P**	**13 50 32.6**	**+1.4**
WB0	**Warramunga Arr**	**22.80**	**145**	P		**P**	**13 50 51.1**	**+0.3**
WB0				IAmb		IAmb	13 51 25.6	
	comp=Z,22nm,1.4s							
WRA	**Warramunga Arr**	**22.90**	**145**	P		**P**	**13 50 52.6**	**+0.7**
WRA	**Warramunga Arr**	**22.90**	**145**	P		**P**	**13 50 51.9**	**0.0**
	comp=Z,1.1nm,0.9s,baz=325,slow=10,SNR=3.4							
	comp=Z,1.1nm,0.9s							
WB2	**Warramunga Arr**	**22.91**	**145**	P		**P**	**13 50 52.9**	**+1.0**
WB2				IAmb		IAmb	13 50 53.4	
	comp=Z,11nm,1.1s							
WR0	**Warramunga Arr**	**23.03**	**145**	P		**P**	**13 50 54.6**	**+1.4**
WR0				IAmb		IAmb	13 51 25.6	
	comp=Z,19nm,1.3s							
ASAR	**Alice Springs**	**25.72**	**151**	P		**P**	**13 51 19.4**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=337,slow=9.1,SNR=7.2							
ASAR				PcP		**PcP**	**13 54 48.0**	**-0.4**
	comp=Z,0.3nm,1.0s,baz=349,slow=2.6,SNR=0.7							
	comp=Z,0.4nm,0.8s							
MORW	**Morawa**	**27.98**	**189**	P		**P**	**13 51 37.9**	**-0.7**
MORW				IAmb		IAmb	13 52 14.7	
	comp=Z,12nm,1.1s							
JOW	**Kunigami**	**28.91**	**14**	LR		LR	14 04 24.5	
	comp=Z,17nm,19.5s,baz=42,slow=39							
CMAR	**Chiang Mai Arr**	**28.96**	**314**	P		**P**	**13 51 47.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=138,slow=7.5,SNR=4.6							
	comp=Z,0.5nm,0.3s							
BBOO	**Buckleboo**	**34.57**	**157**	P		**P**	**13 52 37.4**	**+0.8**
LSA	**Lhasa**	**41.72**	**320**	P		**P**	**13 53 38.2**	**+0.8**
LSA				IAmb		IAmb	13 53 39.8	
	comp=Z,4.3nm,0.3s							
CAN	**Canberra**	**42.95**	**145**	P		**P**	**13 53 48.3**	**+1.4**
SONM	**Songino Array**	**50.46**	**348**	P		**P**	**13 54 43.8**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=166,slow=8.5,SNR=1.8							
	comp=Z,0.3nm,0.6s							
MK31	**Makanchi Array**	**58.48**	**330**	P		**P**	**13 55 43.6**	**-0.2**
MK31				IAmb		IAmb	13 55 47.7	
	comp=Z,1.2nm,0.8s							
MKAR	**Makanchi Array**	**58.48**	**330**	P		**P**	**13 55 43.8**	**0.0**
MKAR	**Makanchi Array**	**58.48**	**330**	P		**P**	**13 55 42.2**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=133,slow=7.9,SNR=5.7							
	comp=Z,0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**62.52**	**337**	P		**P**	**13 56 10.1**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=132,slow=6.6,SNR=2.5							
	comp=Z,0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**62.90**	**331**	P		**P**	**13 56 12.6**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=141,slow=6.4,SNR=5.0							
	comp=Z,0.7nm,0.7s							
JTS	**Las Juntas de**	**153.07**	**70**	PKPbc		**PKPbc**	**14 05 46.4**	**0.0**
	comp=Z,19nm,0.7s,baz=22,slow=19,SNR=2.2							

*MDD **22** 13:50:39.2±0.8,36°.82N×10°.69W,h30km,mb_Lg3.2/10,*
Error ellipse: s-maj=6.4km s-min=4.8km az=52.0
*INMG **22** 13:50:40.0±1.2,36°.78N×10°.71W,h32km±9km,ML2.5,*
Error ellipse: s-maj=6.9km s-min=3.2km az=61.0
*IGIL **22** 13:50:40.5,36°.78N×10°.71W,h31km,ML2.2*
*CNRM **22** 13:50:41.3,36°.60N×10°.36W,h71km,ML2.1*

ISC 22 13:50:37.6±1.8,36.79N±0.05×10.67W±0.09,h35km,n73,
σ1s88/117,3C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PFVI	**Vila Bisbo**	**1.51**	**77**	⇑*i* P	**Pn**	**13 51 03.9**	**+1.7**	
PFVI				*e*S	**Sn**	**13 51 21.7**	**+1.1**	
PFVI				A	A	13 51 22.7		
	27nm,0.2s							
PFVI	**Vila Bisbo**	**1.51**	**77**	Sn	**Sn**	**13 51 20.9**	**+0.3**	
PFVI	**Vila Bisbo**	**1.51**	**77**	P	**Pn**	**13 51 04.0**	**+1.9**	
MORF	**Marmelete**	**1.69**	**72**	⇑*i* P	**Pn**	**13 51 06.4**	**+1.8**	
MORF				*e*S	**Sn**	**13 51 25.9**	**+0.8**	
MORF				A	A	13 51 26.4		
	28nm,0.1s							
MORF	**Marmelete**	**1.69**	**72**	*e*P	**Pn**	**13 51 06.4**	**+1.8**	
MORF				*e*S	**Sn**	**13 51 25.3**	**+0.2**	
MORF				IAML		13 51 25.9		
	comp=N,42nm,0.1s							
PTEO	**Sao Teotonio**	**1.73**	**64**	*e*P	**Pn**	**13 51 06.9**	**+1.8**	
PTEO				*e*S	**Sn**	**13 51 26.8**	**+0.9**	
PTEO				A	A	13 51 29.1		
	comp=N,24nm,0.3s							
PNCL	**Nicolau / Gran**	**2.15**	**52**	*e*P	**Pn**	**13 51 12.6**	**+1.7**	
PNCL				*e*S	**Sn**	**13 51 36.9**	**+0.5**	
PNCL				A	A	13 51 39.6		
	comp=N,24nm,0.2s							
PNCL	**Nicolau / Gran**	**2.15**	**52**	Pn	**Pn**	**13 51 12.6**	**+1.7**	
PNCL				Sn	**Sn**	**13 51 36.4**	**0.0**	
MESJ	**Messejana**	**2.21**	**61**	*e*P	**Pn**	**13 51 13.5**	**+1.7**	
MESJ				*e*S	**Sn**	**13 51 38.6**	**+0.7**	
MESJ				A	A	13 51 45.5		
	comp=N,13nm,0.3s							
MESJ	**Messejana**	**2.21**	**61**	*e*P	**Pn**	**13 51 13.4**	**+1.6**	
MESJ				*e*S	**Sn**	**13 51 37.8**	**-0.1**	
MESJ				IAML		13 51 38.8		
	comp=N,5.8nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.24**	**78**	*e*P	**Pn**	**13 51 14.3**	**+2.2**	
PBDV				*e*S	**Sn**	**13 51 39.5**	**+1.0**	
PBDV				A	A	13 51 54.2		
	comp=N,9.0nm,0.2s							
PCVE	**Castro Verde**	**2.26**	**67**	⇑*i* P	**Pn**	**13 51 14.3**	**+1.9**	
PCVE				*e*S	**Sn**	**13 51 39.6**	**+0.5**	
PCVE				A	A	13 51 40.5		
	comp=N,12nm,0.2s							
PCVE	**Castro Verde**	**2.26**	**67**	Pn	**Pn**	**13 51 14.3**	**+1.9**	
PCVE				Sn	**Sn**	**13 51 38.7**	**-0.3**	
PMAFR	**Mafra**	**2.42**	**27**	*e*P	**Pn**	**13 51 15.9**	**+1.2**	
PMAFR				*e*S	**Sn**	**13 51 43.3**	**+0.2**	
PMAFR				A	A	13 51 45.7		
	comp=N,35nm,0.2s							
PMAFR	**Mafra**	**2.42**	**27**	Pn	**Pn**	**13 51 15.8**	**+1.1**	
PMAFR				Sn	**Sn**	**13 51 42.9**	**-0.2**	
PVAQ	**Vaqueiros**	**2.44**	**75**	*e*P	**Pn**	**13 51 17.0**	**+2.1**	
PVAQ				*e*S	**Sn**	**13 51 44.4**	**+1.0**	
PVAQ	**Vaqueiros**	**2.44**	**75**	Pn	**Pn**	**13 51 17.0**	**+2.1**	
PVAQ				Sn	**Sn**	**13 51 43.4**	**0.0**	
PVAQ	**Vaqueiros**	**2.44**	**75**	P	**Pn**	**13 51 17.2**	**+2.3**	
PACT	**Alcochete**	**2.45**	**36**	*e*P	**Pn**	**13 51 16.8**	**+1.8**	
PACT				*e*S	**Sn**	**13 51 45.0**	**+1.3**	
PBEJ	**Beja**	**2.55**	**60**	*e*P	**Pn**	**13 51 18.0**	**+1.6**	
PBEJ				*e*S	**Sn**	**13 51 46.5**	**+0.3**	
PBEJ				A	A	13 51 47.6		
	comp=N,9.5nm,0.3s							
EGRO	**El Granado**	**2.65**	**73**	Pn	**Pn**	**13 51 19.7**	**+1.9**	
EGRO				Sn	**Sn**	**13 51 47.5**	**-1.2**	
EGRO	**El Granado**	**2.65**	**73**	P	**Pn**	**13 51 19.4**	**+1.6**	
EGRO				S	**Sn**	**13 51 47.0**	**-1.7**	
EGRO				*i* Vmb_Lg		13 51 51.6		
EVO	**Evora**	**2.73**	**50**	*e*P	**Pn**	**13 51 20.6**	**+1.7**	
EVO				*e*S	**Sn**	**13 51 50.9**	**+0.2**	
EVO				A	A	13 51 52.9		
	comp=N,28nm,0.1s							
EVO	**Evora**	**2.73**	**50**	Pn	**Pn**	**13 51 20.6**	**+1.7**	
EVO				Sn	**Sn**	**13 51 50.6**	**0.0**	
PMTG	**Montargil**	**2.98**	**40**	*e*P	**Pn**	**13 51 23.7**	**+1.4**	
PMTG				*e*S	**Sn**	**13 51 56.9**	**0.0**	
PMTG				A	A	13 52 00.4		
	comp=N,6.0nm,0.1s							
PESTR	**Estremoz**	**3.20**	**49**	*e*P	**Pn**	**13 51 27.0**	**+1.7**	
PESTR				*e*S	**Sn**	**13 52 02.1**	**-0.1**	
PESTR				A	A	13 52 03.7		
	comp=N,4.1nm,0.4s							
PESTR	**Estremoz**	**3.20**	**49**	Pn	**Pn**	**13 51 26.8**	**+1.4**	
PESTR				Sn	**Sn**	**13 52 01.4**	**-0.9**	
PESTR	**Estremoz**	**3.20**	**49**	P	**Pn**	**13 51 28.4**	**+3.1**	
PESTR	**Estremoz**	**3.20**	**49**	S	**Sn**	**13 52 03.5**	**+1.2**	
PBAR	**Barrancos**	**3.20**	**63**	*e*P	**Pn**	**13 51 27.0**	**+1.7**	
PBAR				*e*S	**Sn**	**13 52 02.3**	**+0.1**	
PBAR				A	A	13 52 04.4		
	comp=N,5.6nm,0.3s							
PBAR	**Barrancos**	**3.20**	**63**	Pn	**Pn**	**13 51 27.1**	**+1.8**	
PBAR				Sn	**Sn**	**13 52 01.4**	**-0.8**	
EMIN	**Mina Concepcio**	**3.33**	**72**	Pn	**Pn**	**13 51 28.8**	**+1.6**	
EMIN				Sn	**Sn**	**13 52 05.2**	**-0.4**	
EMIN	**Mina Concepcio**	**3.33**	**72**	P	**Pn**	**13 51 28.6**	**+1.4**	
EMIN				S	**Sn**	**13 52 05.1**	**-0.4**	
EBAD	**Badajoz**	**3.50**	**55**	Pn	**Pn**	**13 51 30.5**	**+1.0**	
EBAD				Sn	**Sn**	**13 52 08.9**	**-0.6**	
EBAD	**Badajoz**	**3.50**	**55**	P	**Pn**	**13 51 30.4**	**+1.0**	
EBAD				S	**Sn**	**13 52 08.7**	**-0.9**	
EBAD				*i* Vmb_Lg		13 52 10.2		
PCAS	**Casmilo, Conde**	**3.67**	**27**	*e*P	**Pn**	**13 51 33.3**	**+1.4**	
PCAS				*e*S	**Sn**	**13 52 13.6**	**-0.3**	
PCAS				A	A	13 52 17.4		
	comp=N,4.8nm,0.3s							
PMRV	**Marv??o**	**3.69**	**44**	*e*P	**Pn**	**13 51 33.2**	**+1.1**	
PMRV				*e*S	**Sn**	**13 52 12.9**	**-1.4**	
PMRV				A	A	13 52 15.9		
	comp=N,5.8nm,0.1s							
ESPR	**Espera**	**3.86**	**87**	Pn	**Pn**	**13 51 36.6**	**+2.2**	
ESPR				Sn	**Sn**	**13 52 18.9**	**+0.3**	
ESPR	**Espera**	**3.86**	**87**	P	**Pn**	**13 51 36.2**	**+1.7**	
ESPR				S	**Sn**	**13 52 18.3**	**-0.3**	
ESPR				*i* Vmb_Lg		13 52 20.2		
PCBR	**Castelo Branco**	**3.94**	**39**	*e*P	**Pn**	**13 51 37.2**	**+1.6**	
PCBR				*e*S	**Sn**	**13 52 19.4**	**-1.2**	
PCBR				A	A	13 52 23.6		
	comp=N,2.9nm,0.3s							
MTE	**Manteigas**	**4.35**	**33**	*e*S	**Sn**	**13 52 29.3**	**-1.5**	
MTE				A	A	13 52 33.9		
	comp=N,5.1nm,0.6s							
ECAB	**El Cabril**	**4.37**	**71**	Pn	**Pn**	**13 51 43.1**	**+1.6**	
ECAB				Sn	**Sn**	**13 52 29.2**	**-1.9**	
ECAB	**El Cabril**	**4.37**	**71**	P	**Pn**	**13 51 42.7**	**+1.2**	
ECAB				S	**Sn**	**13 52 29.2**	**-1.9**	
ECAB				*i* Vmb_Lg		13 52 35.7		
PVIS	**Viseu**	**4.48**	**28**	*e*S	**Sn**	**13 52 32.8**	**-1.0**	
PVIS				A	A	13 52 35.1		
	comp=N,6.6nm,0.1s							
ZHG	**ZHG**	**4.70**	**134**	P	**Pn**	**13 51 46.7**	**+0.7**	
ZHG	**ZHG**	**4.70**	**134**	S	**Sn**	**13 52 36.8**	**-2.5**	
EPLA	**Plasencia**	**4.86**	**46**	P	**Pn**	**13 51 49.7**	**+1.4**	
EPLA				S	**Sn**	**13 52 41.2**	**-2.1**	
EPLA				*i* Vmb_Lg		13 52 45.7		
EADA	**Adamuz**	**5.04**	**72**	Pn	**Pn**	**13 51 52.3**	**+1.7**	
EADA				Sn	**Sn**	**13 52 45.5**	**-2.1**	
EADA	**Adamuz**	**5.04**	**72**	P	**Pn**	**13 51 51.8**	**+1.2**	
EADA				S	**Sn**	**13 52 45.1**	**-2.5**	
EADA				*i* Vmb_Lg		13 52 49.4		
POLO	**Lamas de Olo**	**5.09**	**25**	*e*S	**Sn**	**13 52 46.9**	**-2.1**	
POLO				A	A	13 52 47.0		
	comp=N,1.9nm,0.4s							
MVO	**Moncorvo**	**5.20**	**32**	*e*P	**Pn**	**13 51 54.3**	**+1.3**	
MVO				*e*S	**Sn**	**13 52 49.4**	**-2.4**	
MVO				A	A	13 52 52.2		
	comp=N,3.9nm,0.3s							
ELOB	**Lobios**	**5.45**	**21**	P	**Pn**	**13 51 57.1**	**+0.6**	
ELOB				S	**Sn**	**13 52 54.3**	**-3.7**	
ELOB				*i* Vmb_Lg		13 55 21.7		
PGAV	**Gavieira, Arco**	**5.49**	**19**	*e*P	**Pn**	**13 51 57.9**	**+1.0**	
PGAV				*e*S	**Sn**	**13 52 56.7**	**-2.1**	
PGAV				A	A	13 52 58.9		
	comp=N,2.2nm,0.2s							
EZAM	**Zamans**	**5.56**	**15**	S	**Sn**	**13 52 55.8**	**-4.7**	
PAB	**San Pablo**	**5.69**	**59**	P	**Pn**	**13 52 00.9**	**+1.3**	
PAB				S	**Sn**	**13 53 00.1**	**-3.6**	
PAB				*i* Vmb_Lg		13 55 33.1		
PBRG	**Braganca**	**5.86**	**30**	*e*S	**Sn**	**13 53 05.1**	**-2.7**	
PBRG				A	A	13 53 07.5		
	comp=N,2.4nm,0.3s							
PMPST	**Porto Santo, M**	**5.95**	**233**	*e*P	**Pn**	**13 52 02.7**	**-0.4**	
PMPST				*e*S	Sn	13 52 59.5	-11	
ECAL	**Calabor**	**5.97**	**29**	Pn	**Pn**	**13 52 04.2**	**+0.6**	
ECAL				Sn	**Sn**	**13 53 07.9**	**-2.9**	
AKLM	**AKL**	**5.99**	**110**	P	Pn	13 52 01.1	-2.7	
AKLM	**AKL**	**5.99**	**110**	S	**Sn**	**13 53 06.3**	**-4.9**	
OUK	**Oukaimeden**	**6.04**	**157**	P	**Pn**	**13 52 06.1**	**+1.4**	
OUK	**Oukaimeden**	**6.04**	**157**	S	**Sn**	**13 53 10.1**	**-2.6**	
MD31	**MD31**	**6.24**	**127**	P	**Pn**	**13 52 08.2**	**+0.9**	
MD31	**MD31**	**6.24**	**127**	S	**Sn**	**13 53 12.5**	**-4.9**	
EMAZ	**Mazaricos**	**6.28**	**11**	P	**Pn**	**13 52 07.6**	**-0.2**	
EMAZ				S	Sn	13 53 12.0	-6.3	
EMAZ				*i* Vmb_Lg		13 53 15.3		
EAGO	**Agolada(Pontev**	**6.32**	**18**	S	**Sn**	**13 53 14.9**	**-4.3**	
MDT	**Mídelt**	**6.37**	**127**	P	**Pn**	**13 52 09.7**	**+0.6**	
MDT	**Mídelt**	**6.37**	**127**	S	**Sn**	**13 53 15.6**	**-5.0**	
GUD	**Guadarrama**	**6.38**	**51**	S	**Sn**	**13 53 17.4**	**-3.4**	
TTIG	**Tnine Tigouga,**	**6.50**	**163**	P	Pn	13 52 08.3	-2.6	
OUZM	**OUZ**	**6.71**	**150**	P	**Pn**	**13 52 15.0**	**+1.3**	
OUZM	**OUZ**	**6.71**	**150**	S	**Sn**	**13 53 25.3**	**-3.7**	
EPON	**Pontenova**	**7.06**	**21**	P	**Pn**	**13 52 19.1**	**+0.7**	
EPON				S	**Sn**	**13 53 34.4**	**-3.0**	

*TEH **22** 13:54:33.1,34°.57N×45°.68E,h9km±56km,ML3.2*
*ISN **22** 13:54:34.8±1.2,34°.55N×45°.75E,h23km±999km,ML3.3*

ISC 22 13:54:34.5±1.1,34°.53N±0°.04×45°.72E±0°.04,h5km±10km,
n17,σ0s89/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KGS1	**Ghasr-e-Shirin**	**0.11**	**256**	Pg	**Pg**	**13 54 36.3**	**-0.4**	
KGS1				Sg	**Sg**	**13 54 39.1**	**+0.8**	
IDHR	**Dehrash**	**0.58**	**73**	Pg	**Pg**	**13 54 45.4**	**-0.3**	
IGHG	**Ghaleghazi**	**0.73**	**106**	Pg	**Pg**	**13 54 48.8**	**+0.2**	
IGHG				Sg	**Sn**	**13 55 01.9**	**-1.7**	
ILIN	**Lien**	**1.10**	**69**	Pg	**Pg**	**13 54 55.4**	**-0.2**	
IBDR	**Badra**	**1.43**	**173**	*e*Pn	**Pn**	**13 55 01.5**	**+0.4**	
IBDR				*e*Sn	**Sn**	**13 55 20.0**	**-0.3**	
IBDR				AML	AML	13 55 26.1		
	comp=E,738nm,0.8s							
IBDR				AML	AML	13 55 28.0		
	comp=N,454nm,0.5s							
SDS1	**Sardasht. Az.**	**1.62**	**353**	Pg	**Pn**	**13 55 04.6**	**+0.6**	
BHD	**Baghdad**	**1.68**	**222**	*e*Pn	**Pn**	**13 55 05.0**	**+0.4**	
BHD				*e*Sn	**Sn**	**13 55 27.0**	**+0.6**	
BHD				AML	AML	13 55 37.0		
	comp=E,518nm,0.4s							
IKFM	**Kafar-mosalman**	**2.04**	**119**	Pn	**Pb**	**13 55 11.2**	**-0.9**	
IALM	**Almabolaq**	**2.05**	**80**	Pn	**Pb**	**13 55 11.5**	**-0.9**	
MAHB	**Mahabad**	**2.23**	**360**	Pn	**Pn**	**13 55 13.0**	**+0.7**	
HSAM	**Samen**	**2.41**	**97**	Pn	**Pn**	**13 55 16.0**	**+1.1**	
RAFI	**Al-Rafai**	**2.82**	**173**	*e*Pn	**Pn**	**13 55 20.5**	**+0.2**	
RAFI				*e*Sn	**Sn**	**13 55 55.0**	**+0.3**	
RAFI				AML	AML	13 56 08.3		
	comp=E,195nm,0.6s							
RAFI				AML	AML	13 56 13.7		
	comp=N,154nm,0.5s							
HAGD	**Aghdareh**	**2.84**	**83**	Pn	**Pn**	**13 55 22.5**	**+1.8**	
ISRB	**Sarab**	**3.65**	**25**	Pn	**Pn**	**13 55 33.1**	**+1.3**	
ISHB	**Shabestar**	**3.74**	**359**	Pn	**Pn**	**13 55 33.5**	**+0.3**	
GRMI	**Germi**	**4.61**	**22**	Pn	**Pn**	**13 55 45.2**	**+0.2**	
KLNJ	**Kolanjah**	**6.07**	**124**	Pn	**Pn**	**13 56 06.3**	**+1.0**	

IDC 22 13:55:02.2±1.9,5°.21S×145°.66E,h0km,mb3.2/2,
mbtmp3.3/4,ML2.9/1,MS2.7/1,Error ellipse:
s-maj=54.4km s-min=28.6km az=101.0,Eastern New
Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PMG	**Port Moresby**	**4.43**	**160**	Pn	Pn	13 56 12.0	+1.3	
	4.2nm,0.7s,baz=266,slow=15,SNR=2.3							
PMG				Sn	Sn	13 57 02.3	-0.7	
	0.8nm,0.3s,baz=66,slow=9.3,SNR=1.8							
PMG				LR	LR	13 58 05.8		
	comp=Z,88nm,19.1s,baz=56,slow=41							
WRA	**Warramunga Arr**	**18.33**	**216**	P	Pn	13 59 17.3	-0.8	
	baz=39,slow=12,SNR=2.1							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**21.57**	**211**	P	P	13 59 53.5	0.0	
	0.4nm,0.8s,baz=42,slow=11,SNR=1.9							
	0.4nm,0.8s							
ILAR	**Eielson Array**	**85.29**	**23**	P	P	14 07 40.7	0.0	
	0.4nm,0.7s,baz=236,slow=6.4,SNR=4.4							
	0.4nm,0.7s							

*IDC **22** 13:56:48.9±2.8,18°.28S×69°.24W,h123km±24km,mb3.7/7,*
mbtmp4.1/9,Error ellipse: s-maj=28.8km s-min=15.6km

az=131.0
*VAO **22** 13:56:48.8±0.7,18°.13S×69°.47W,h124km,mb4.3*
*NEIC **22** 13:56:49.0±0.8,18°.29S±0°.05×69°.6W±0°.1,h137km±8km,*
Error ellipse: s-maj=20.6km s-min=6.3km az=99.0
*GUC **22** 13:56:50.6±0.6,18°.36S×69°.46W,h123km±9km,ML3.9*

ISC 22 13:56:48.7±0.6,18°.30S±0°.04×69°.45W±0°.06,h129km±5km,
n92,σ1s31/108,mb4.0/8,3C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PB16	**IPOC Station P**	**0.07**	**241**	Pn	**Pn**	**13 57 08.2**	**+1.3**	
PB16				Sn	**Sn**	**13 57 22.0**	**+1.4**	
PB16	**IPOC Station P**	**0.07**	**241**	⇓*i* P	**Pn**	**13 57 08.2**	**+1.3**	
PB16				*e*S	**Sn**	**13 57 21.9**	**+1.3**	
PB16				IAML		13 57 23.0		
	comp=N,10μm,0.3s							
PB18	**Visviri**	**0.71**	**357**	Pn	**Pn**	**13 57 11.3**	**+1.6**	
PB18	**Visviri**	**0.71**	**357**	*i* P	**Pn**	**13 57 11.6**	**+1.9**	
PB18				*e*S	**Sn**	**13 57 27.7**	**+2.1**	
AP01	**Chacalluta**	**0.85**	**265**		**Pn**	**13 57 10.6**	**+0.4**	
AP01				Sn	**Sn**	**13 57 26.4**	**0.0**	
AP01	**Chacalluta**	**0.85**	**265**	⇑*i* P	**Pn**	**13 57 10.6**	**+0.4**	
AP01				*e*S	**Sn**	**13 57 26.7**	**+0.3**	
PB12	**IPOC Station P**	**0.89**	**250**	Pn	**Pn**	**13 57 10.7**	**0.0**	
PB12				Sn	**Sn**	**13 57 26.6**	**-0.6**	
PB12	**IPOC Station P**	**0.89**	**250**	⇑*i* P	**Pn**	**13 57 10.9**	**+0.2**	
PB12				*e*S	**Sn**	**13 57 27.2**	**-0.1**	
PB12				IAML		13 57 28.3		
	comp=N,3μm,0.2s							
PX02	**IPOC Station P**	**0.97**	**227**	*i* P	**Pn**	**13 57 11.1**	**-0.2**	
PX02				*e*S	**Sn**	**13 57 27.9**	**-0.7**	
PX02				IAML		13 57 28.7		
	comp=N,4μm,0.3s							
GO01	**Chusmiza**	**1.38**	**170**		**Pn**	**13 57 18.0**	**+2.1**	
GO01	**Chusmiza**	**1.38**	**170**	⇓*i* P	**Pn**	**13 57 17.8**	**+1.9**	
GO01				*e*S	**Sn**	**13 57 37.1**	**+0.5**	
PB11	**IPOC Station P**	**1.46**	**188**	Pn	**Pn**	**13 57 19.1**	**+1.5**	
PB11	**IPOC Station P**	**1.46**	**188**	⇑*i* P	**Pn**	**13 57 18.0**	**+1.5**	
PB11				*e*S	**Sn**	**13 57 39.3**	**+1.6**	
PB08	**IPOC Station P**	**1.85**	**171**		**Pn**	**13 57 23.3**	**+2.1**	
PB08	**IPOC Station P**	**1.85**	**171**	*i* P	**Pn**	**13 57 23.1**	**+1.9**	
PB08				*e*S	**Sn**	**13 57 48.4**	**+2.4**	
PB08				IAML		13 57 52.8		
	comp=N,573nm,0.2s							
TA02	**Huaiquique**	**2.06**	**198**		**Pn**	**13 57 24.3**	**+1.0**	
TA02	**Huaiquique**	**2.06**	**198**	*i* P	**Pn**	**13 57 23.4**	**+0.1**	
PX03	**IPOC Station P**	**2.10**	**185**	*i* P	**Pn**	**13 57 24.3**	**+0.3**	
PX03				*e*S	**Sn**	**13 57 50.1**	**-0.8**	
PX03				IAML		13 57 53.2		
	comp=N,838nm,0.6s							
TA01	**Diego Aracena**	**2.35**	**197**	Pn	**Pn**	**13 57 27.4**	**+0.4**	
TA01	**Diego Aracena**	**2.35**	**197**	*i* P	**Pn**	**13 57 27.3**	**+0.3**	
TA01				*e*S	**Sn**	**13 57 55.0**	**-1.5**	
LPAZ	**La Paz**	**2.37**	**32**	Pn	**Pn**	**13 57 29.7**	**+1.9**	
PATCX	**Punta Patache**	**2.59**	**195**		**Pn**	**13 57 30.6**	**+0.5**	
PATCX	**Punta Patache**	**2.59**	**195**	*i* P	**Pn**	**13 57 30.4**	**+0.2**	
PATCX				*e*S	**Sn**	**13 58 00.2**	**-1.8**	
PATCX				IAML		13 58 05.8		
	comp=E,362nm,0.4s							
PB01	**IPOC Station P**	**2.73**	**181**		**Pn**	**13 57 33.1**	**+1.3**	
PB01	**IPOC Station P**	**2.73**	**181**	*i* P	**Pn**	**13 57 31.8**	**0.0**	
PB01				*e*S	**Sn**	**13 58 04.2**	**-0.9**	
PB02	**IPOC Station P**	**3.03**	**188**		**Pn**	**13 57 36.3**	**+0.5**	
PB02	**IPOC Station P**	**3.03**	**188**	*i* P	**Pn**	**13 57 35.6**	**-0.2**	
PB02				*e*S	**Sn**	**13 58 10.9**	**-1.3**	
PB07	**IPOC Station P**	**3.43**	**187**		**Pn**	**13 57 41.7**	**+0.6**	
PB07	**IPOC Station P**	**3.43**	**187**	*i* P	**Pn**	**13 57 41.5**	**+0.4**	
PB07				IAML		13 58 22.3

comp=Z,0.9nm,0.7s,baz=134,slow=4.6,SNR=11
YKA pP **pP** **14 09 58.2 -0.1**
comp=Z,0.6nm,0.7s,baz=134,slow=4.8,SNR=6.9
comp=Z,0.9nm,0.7s

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*IDC **22** 13:57:60.0±0.9, 16°.49N×83°.12W, h0km, mb3.7/7, mbtmp3.9/11, ML3.5/4, MS3.9/47, Error ellipse: s-maj=31.1km s-min=18.3km az=60.0*

*NEIC **22** 13:58:02.3±1.5, 16°.42N±0°.07×83°.27W±0°.07, h10km±1km, mb4.5/58, Error ellipse: s-maj=11.7km s-min=11.2km az=276.0*

*GCMT **22** 13:58:04.3±0.3, 16°.47N±0°.02×83°.31W±0°.02, h12km, MW4.7/75, Moment Tensor Solution. s7,c8; s75,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.13±.06; Mθθ -0.75±.05; Mφφ 0.62±.06; Mrθ 0.31±.19; Mθφ 1.17±.04; Mrφ 0.45±.16; Best double couple: Mo 1.46600×10^16 NP1: θ=77.00000°, δ 76.00000°, λ 17.00000° NP2: φ=343.00000°, δ 74.00000°, λ 165.00000°. Principal axes: T 1.5060, Plg22.0000°, Azm300.0000°; N -0.0820, Plg68.0000°, Azm115.0000°; P -1.4250, Plg2.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*CATAC **22** 13:58:05.7±0.6, 16°.88N×82°.93W, h10km, MB5.6, mb5.6, ML5.6*

ISC 22 13:58:01.5±0.4, 16°.41N±0°.04×83°.22W±0°.03, h10km, n190, σ 2.9 s 03/178, mb 4.5/30, MS 3.9/41, 1C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PRVC	**Isla de Provid**	**3.51**	**149**	*e*P		**Pn**	**13 58 57.2**	**+1.1**
PRVC				*e*S		**Sb**	**13 59 48.4**	**+2.0**
PRVC				*i*			14 00 05.5	
	comp=Z,696nm,0.8s							
RCFN	**Al S de San Ju**	**4.07**	**226**	*i* P		**Pb**	**13 59 10.4**	**-3.0**
RCFN				*i* S		**Sb**	**13 59 59.5**	**-3.3**
YUSH	**Yuscaran**	**4.27**	**236**	*i* P		**Pn**	**13 59 03.2**	**-3.5**
YUSH				*i* S		**Sb**	**14 00 07.2**	**-1.2**
ESPN	**Las Esperanzas**	**4.32**	**194**	Pn		**Pn**	**13 59 06.9**	**-0.4**
NISHN	**Nisperales Com**	**4.53**	**263**	*i* P		**Pn**	**13 59 09.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**4.56**	**240**			**Pn**	**13 59 10.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.56**	**240**	*e*P		**Pb**	**13 59 24.3**	**+2.5**
TGUH	**Tegucigalpa,Un**	**4.56**	**240**	*i* P		**Pb**	**13 59 20.2**	**-1.6**
TGUH				IVmB_BB			13 59 28.4	
	comp=Z,9μm,1.0s							
TGUH				IAmb	IAmb		13 59 28.8	
	comp=Z,880nm,0.7s							
TGUH				*i* S		**Sb**	**14 00 19.5**	**+2.6**
TGUH				IAML			14 00 33.7	
	comp=Z,4μm,1.0s							
BOAB	**BOACO BROADBAN**	**4.60**	**211**	Pn		**Pn**	**13 59 11.0**	**-0.2**
COMHN	**El Horno**	**4.62**	**246**	*i* P		Pb	13 59 17.7	-5.1
COMHN				*i* S		**Sb**	**14 00 19.0**	**+0.3**
ACON	**Acoyapa**	**4.81**	**204**	Pn		**Pn**	**13 59 13.9**	**-0.1**
ACON	**Acoyapa**	**4.81**	**204**	*e*P		**Pb**	**13 59 23.9**	**-1.9**
HUEN		**4.96**	**216**	*i* P		**Pb**	**13 59 26.1**	**-2.4**
HUEN				IVmB_BB			13 59 34.4	
	comp=Z,8μm,1.0s							
HUEN				IAmb	IAmb		13 59 34.8	
	comp=Z,700nm,0.9s							
HUEN				*i* S		**Sb**	**14 00 31.3**	**+3.1**
HUEN				IAML			14 00 58.4	
	comp=Z,5μm,1.0s							
MOM2	**El Cardon**	**5.06**	**219**	*i* P		**Pb**	**13 59 27.6**	**-2.6**
MOM2				IVmB_BB			13 59 37.8	
	comp=Z,6μm,1.0s							
MOM2				IAmb	IAmb		13 59 38.4	
	comp=Z,700nm,1.3s							
MOM2				*i* S		**Sb**	**14 00 33.3**	**+2.1**
MOM2				IAML			14 01 18.2	
	comp=Z,3μm,1.0s							
WILN	**Americas 2**	**5.11**	**215**	*i* P		**Pb**	**13 59 29.3**	**-1.8**
WILN				IVmB_BB			13 59 37.2	
	comp=Z,10μm,1.0s							
WILN				IAmb	IAmb		13 59 38.3	
	comp=Z,1μm,1.0s							
WILN				*i* S		**Sb**	**14 00 37.5**	**+4.9**
WILN				IAML			14 01 04.0	
	comp=Z,2μm,1.0s							
MOMN	**Momotombo**	**5.12**	**219**	*i* P		**Pb**	**13 59 26.8**	**-4.4**
MOMN				IVmB_BB			13 59 39.6	
	comp=Z,310nm,1.0s							
MOMN				IAmb	IAmb		13 59 39.8	
	comp=Z,24nm,0.8s							
MOMN				*i* S		**Sb**	**14 00 35.2**	**+2.4**
MOMN				IAML			14 00 45.8	
	comp=Z,69nm,1.0s							
CNGN	**Cerro Negro**	**5.15**	**221**			**Pn**	**13 59 18.7**	**0.0**
CNGN	**Cerro Negro**	**5.15**	**221**	*e*P		**Pb**	**13 59 30.9**	**-0.8**
CNGN	**Cerro Negro**	**5.15**	**221**	*i* P		**Pb**	**13 59 31.0**	**-0.7**
CNGN				IVmB_BB			13 59 48.0	
	comp=Z,10μm,1.0s							
CNGN				IAmb	IAmb		13 59 48.4	
	comp=Z,540nm,0.5s							
CNGN				*i* S		**Sb**	**14 00 37.5**	**+3.8**
CNGN				IAML			14 00 58.3	
	comp=Z,3μm,1.0s							
CNGA	**AI SSO del Vol**	**5.15**	**221**	*i* P		**Pb**	**13 59 28.3**	**-3.5**
CNGA				IVmB_BB			13 59 41.3	
	comp=Z,5μm,1.0s							
CNGA				*i* S		**Sb**	**14 00 34.7**	**+0.9**
CNGA				IAML			14 00 47.1	
	comp=Z,540nm,1.0s							
INTHN	**La Esperanza I**	**5.16**	**247**	*i* S		**Sb**	**14 00 36.9**	**+2.8**
APQ2	**Apoyeque**	**5.16**	**216**	*i* P		**Pb**	**13 59 32.5**	**+0.6**
APQ2				IVmB_BB			13 59 44.1	
	comp=Z,5μm,1.0s							
APQ2				IAmb	IAmb		13 59 58.3	
	comp=Z,280nm,0.6s							
APQ2				*i* S		**Sb**	**14 00 36.9**	**+2.9**
APQ2				IAML			14 00 50.2	
	comp=Z,1μm,1.0s							
ROCN	**Rota Cerro Neg**	**5.16**	**222**	*i* P		**Pb**	**13 59 29.5**	**-2.4**
ROCN				IVmB_BB			13 59 43.2	
	comp=Z,4μm,1.0s							
ROCN				IAmb	IAmb		13 59 43.6	
	comp=Z,290nm,0.6s							
ROCN				*i* S		**Sb**	**14 00 35.2**	**+1.2**
ROCN				IAML			14 01 01.4	
	comp=Z,1μm,1.0s							
TISN	**Laguna Tiscapa**	**5.17**	**215**	*i* P		**Pb**	**13 59 32.0**	**-0.1**
TISN				IVmB_BB			13 59 37.3	
	comp=Z,760nm,1.0s							
TISN				IAmb	IAmb		13 59 37.9	
	comp=Z,65nm,0.7s							
TISN				*i* S		**Sb**	**14 00 34.2**	**-0.2**
TISN				IAML			14 00 51.5	
	comp=Z,140nm,1.0s							
MAS3	**AI N del Volca**	**5.22**	**214**	*i* P		**Pb**	**13 59 33.5**	**+0.6**
MAS3				IAmb	IAmb		13 59 44.3	
	comp=Z,540nm,0.6s							
MAS3				IVmB_BB			14 00 12.6	
	comp=Z,14μm,1.0s							
MAS3				*i* S		**Sb**	**14 00 38.9**	**+3.2**
MAS3				IAML			14 01 09.7	
	comp=Z,2μm,1.0s							
SAPS	**Ciudad Sandino**	**5.23**	**217**	*i* P		**Pb**	**13 59 33.7**	**+0.7**
SAPS				IAmb	IAmb		13 59 38.0	
	comp=Z,470nm,0.8s							
SAPS				*i* S		**Sb**	**14 00 41.2**	**+5.3**
SAPS				IAML			14 01 09.5	
	comp=Z,2μm,1.0s							
CRIN	**San Cristobal**	**5.23**	**226**	*e*P		**Pb**	**13 59 33.7**	**+0.5**
AMPH	**Amapala**	**5.30**	**235**	*i* P		**Pb**	**13 59 32.0**	**-2.3**
AMPH				*i* S		**Sb**	**14 00 43.1**	**+5.1**
CONN	**Concepcion**	**5.36**	**206**	*i* P		**Pb**	**13 59 31.8**	**-3.4**
CONN				IVmB_BB			13 59 45.2	
	comp=Z,63μm,1.0s							
CONN				IAmb	IAmb		13 59 45.7	
	comp=Z,6μm,1.1s							
CONN				*i* S		**Sb**	**14 00 42.9**	**+3.3**
CONN				IAML			14 01 04.7	
	comp=Z,15μm,1.0s							
POTN	**Potosi Cosigui**	**5.36**	**231**	*i* P		**Pb**	**13 59 36.0**	**+0.7**
POTN				IAmb	IAmb		13 59 41.2	
	comp=Z,150nm,0.8s							
POTN				IVmB_BB			13 59 45.6	
	comp=Z,1μm,1.0s							
POTN				*i* S		**Sb**	**14 00 45.1**	**+5.4**
POTN				IAML			14 00 58.6	
	comp=Z,320nm,1.0s							
CSGN	**Cosiguina Volc**	**5.41**	**231**	*i* P		**Pb**	**13 59 36.7**	**+0.4**
CSGN				IVmB_BB			13 59 48.5	
	comp=Z,8μm,1.0s							
CSGN				IAmb	IAmb		13 59 50.5	
	comp=Z,800nm,0.5s							
CSGN				*i* S		**Sb**	**14 00 39.6**	**-1.8**
CSGN				IAML			14 01 04.9	
	comp=Z,2μm,1.0s							
CNCH	**Conchagua**	**5.45**	**236**	*i* P		**Pb**	**13 59 38.4**	**+1.6**
CNCH				*i* S		**Sb**	**14 00 45.8**	**+3.5**
LCND	**La Caada**	**5.47**	**236**	*i* P		**Pb**	**13 59 39.7**	**+2.5**
SARH	**Santa Rosa de**	**5.58**	**254**	*i* P		**Pb**	**13 59 39.1**	**-0.1**
MTDJ	**Mount Denham**	**5.72**	**71**	Pn		**Pn**	**13 59 27.5**	**+0.9**
MTDJ	**Mount Denham**	**5.72**	**71**	*i* P		**Pn**	**13 59 28.1**	**+1.5**
MTDJ				*i* S		**Sg**	**14 01 11.1**	**+5.9**
MTDJ	**Mount Denham**	**5.72**	**71**	*e*P		**Pn**	**13 59 26.5**	**-0.1**
MTDJ				*e*S		**Sn**	**14 00 30.8**	**-1.6**
PACA	**Pacayal**	**5.74**	**240**	*i* P		**Pb**	**13 59 46.5**	**+4.7**
SCLA	**Alcaldia de Sa**	**5.97**	**244**	*i* P		**Pg**	**13 59 53.7**	**-2.1**
TEIG	**Tepich**	**6.12**	**309**	Pn		**Pn**	**13 59 29.8**	**-2.3**
TEIG	**Tepich**	**6.12**	**309**	*e*P		**Pn**	**13 59 29.9**	**-2.2**
TEIG				*e*S		**Sn**	**14 00 35.3**	**-6.9**
TEIG				*i*			14 00 39.9	
	comp=Z,125nm,0.5s							
COEG	**Centro de Oper**	**6.14**	**244**	*i* P		**Pb**	**13 59 53.2**	**+4.6**
MTO3	**Montecristo**	**6.25**	**252**			**Pn**	**13 59 32.7**	**-1.4**
MTO3	**Montecristo**	**6.25**	**252**	*i* P		**Pb**	**13 59 54.7**	**+4.0**
MTO3				*i* S		**Sb**	**14 01 12.6**	**+6.9**
JTS	**Las Juntas de**	**6.31**	**196**			**Pn**	**13 59 34.4**	**-0.4**
JTS	**Las Juntas de**	**6.31**	**196**	Pn		**Pn**	**13 59 36.3**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=3.6,slow=16,SNR=2.2							
JTS				Pg		**Pb**	**13 59 53.0**	**+1.4**
	comp=Z,6.7nm,0.3s,baz=340,slow=18,SNR=7.7							
JTS				Lg	Lg		14 01 10.1	
	comp=Z,10nm,0.3s,baz=277,slow=16,SNR=3.6							
	comp=Z,6.8nm,0.7s							
JTS	**Las Juntas de**	**6.31**	**196**	*e*P		**Pb**	**13 59 53.3**	**+1.7**
STH	**Stony Hill**	**6.34**	**74**	*i* P		**Pn**	**13 59 37.0**	**+1.8**
STH	**Stony Hill**	**6.34**	**74**	*e*P		**Pn**	**13 59 36.4**	**+1.3**
SOR	**Soroa**	**6.35**	**2**			**Pn**	**13 59 35.4**	**+0.2**
HOJ	**Hope**	**6.38**	**75**	*i* P		**Pn**	**13 59 38.0**	**+2.4**
ORTG	**Ortega, Santa**	**6.40**	**200**			**Pn**	**13 59 36.5**	**+0.6**
GWJ	**Greenwich**	**6.42**	**74**	*i* P		**Pn**	**13 59 38.8**	**+2.6**
MGV	**Manicaragua**	**6.44**	**28**	*e*P		**Pn**	**13 59 36.5**	**+0.1**
MGV				*e*S		**Sn**	**14 00 48.0**	**-2.0**
PILO	**Pilon**	**6.53**	**57**	*e*P		**Pn**	**13 59 37.7**	**+0.1**
PILO				*e*S		**Sn**	**14 00 46.2**	**-6.0**
RIMA	**Rio Macho**	**6.63**	**186**			**Pn**	**13 59 39.1**	**-0.2**
DUNO	**Dulce Nombre,**	**6.67**	**200**			**Pn**	**13 59 39.9**	**+0.2**
NUBE	**Las Nubes**	**6.81**	**249**	*i* P		**Pb**	**14 00 02.8**	**+2.7**
NUBE				*i* S		**Sb**	**14 01 27.2**	**+5.5**
JACO	**JACO, Garabito**	**6.85**	**192**	Pn		**Pn**	**13 59 43.2**	**+1.1**
LMGC	**Las Mercedes**	**6.93**	**57**	*e*P		**Pn**	**13 59 43.2**	**0.0**
LMGC				*e*S		Sn	14 00 54.6	-7.5
CCCC	**Cccc**	**7.02**	**46**	*e*P		Pn	13 59 50.6	+6.2
DRK0	**Durika**	**7.10**	**180**	Pn		**Pn**	**13 59 44.9**	**-0.8**
SRBA	**San Rafael, Bu**	**7.14**	**181**			**Pn**	**13 59 45.4**	**-0.7**
CHIV	**Chivirico**	**7.37**	**60**	*e*P		**Pn**	**13 59 48.6**	**-0.6**
MARVS	**Santiago de Cu**	**7.81**	**62**	*e*P		**Pn**	**13 59 54.3**	**-1.0**
RCC	**Rio Carpintero**	**7.99**	**62**	*e*P		**Pn**	**13 59 58.5**	**+0.9**
RCC				*e*S		Sn	14 01 18.1	-10
RCC				IVMs_BB	IVMs_BB		14 01 28.3	
	comp=E,619nm,4.0s							
RCC				IVMs_BB	IVMs_BB		14 01 28.9	
	comp=N,190nm,3.7s							
GTBY	**Guantanamo Bay**	**8.46**	**64**	*e*P		**Pn**	**14 00 06.4**	**+2.2**
GTMO	**Guantanamo**	**8.50**	**63**	*e*P		**Pn**	**14 00 05.8**	**+1.2**
GTMO				*e*S		**Sn**	**14 01 39.5**	**-1.1**
CCIG	**Comitan**	**8.57**	**270**			**Pn**	**14 00 04.3**	**-1.5**
SJCC	**San Jacinto, C**	**10.15**	**129**	*e*P		**Pn**	**14 00 27.7**	**+0.2**
CMIG	**Matias Romero**	**11.20**	**275**	Pn		**Pn**	**14 00 41.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=127,slow=7.4,SNR=4.8							
CMIG				LR	LR		14 05 08.9	
	comp=N,1μm,19.5s,baz=111,slow=38							
	comp=N,1.0nm,0.4s							
CRJC	**Cerrejon, Guaj**	**11.38**	**117**	*e*P		**Pn**	**14 00 43.1**	**-1.2**
UREC	**San Jos de Ur**	**11.42**	**138**	*e*P		**Pn**	**14 00 46.5**	**+1.7**
PAMC	**Pamplona, Colo**	**13.67**	**130**	*e*P		Pn	14 01 21.1	+5.0
BARC	**Barichara**	**13.84**	**134**	*e*P		**Pn**	**14 01 18.2**	**+0.1**
YOTC	**Yotoco, Valle**	**14.07**	**151**	*e*P		**P**	**14 01 29.0**	**0.0**
SDV	**Santo Domingo**	**14.37**	**120**	Pn		**Pn**	**14 01 24.3**	**-1.0**
SDV	**Santo Domingo**	**14.37**	**120**	Pn		**Pn**	**14 01 23.7**	**-1.6**
	comp=N,5.2nm,0.3s,baz=328,slow=7.1,SNR=29							
SDV				LR	LR		14 08 10.3	
	comp=N,211nm,19.5s,baz=295,slow=43							
	comp=N,24nm,0.5s							
SDV	**Santo Domingo**	**14.37**	**120**	*e*P		**Pn**	**14 01 26.5**	**+1.2**
ROSC	**El Rosal**	**14.44**	**142**	LR	LR		14 07 58.1	
	comp=N,420nm,21.4s,baz=312,slow=41							
SJG	**San Juan**	**16.39**	**82**	LR	LR		14 07 57.5	
	comp=N,677nm,21.4s,baz=342,slow=37							
IGPR	**InterUniversit**	**16.42**	**82**	Pn		**Pn**	**14 01 53.7**	**+1.5**
BAUV	**El Baul**	**16.55**	**115**			**Pn**	**14 01 53.4**	**-0.5**
BAUV				IAmb	IAmb		14 01 59.5	
	comp=Z,44nm,0.9s							
GOGA	**Godfrey**	**16.93**	**359**	Pn		**Pn**	**14 01 58.7**	**+0.1**
FPAL	**Fort Paine**	**18.18**	**354**			**Pn**	**14 02 14.6**	**+0.5**
BG3	**Lake Jocassee**	**18.51**	**1**			**P**	**14 02 18.4**	**+0.4**
W50A	**Signal Mountai**	**18.81**	**355**	P		**P**	**14 02 22.0**	**+0.8**
EF01	**Eagle Ford 01**	**18.84**	**315**	P		**Pn**	**14 02 22.8**	**+0.7**
EF01				IAmb	IAmb		14 02 25.3	
	comp=Z,26nm,0.7s							
833A	**Chaparral WMA,**	**19.06**	**311**			**Pn**	**14 02 25.1**	**+0.2**
833A				IAmb	IAmb		14 02 39.2	
	comp=Z,33nm,1.3s							
PCRV	**Puerto La Cruz**	**19.11**	**107**	LR	LR		14 11 22.9	
	comp=Z,528nm,18.4s,slow=42							
TKL	**Tuckaleechee C**	**19.18**	**359**	P		**P**	**14 02 25.2**	**0.0**
TKL	**Tuckaleechee C**	**19.18**	**359**	P		**P**	**14 02 22.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=207,slow=9.0,SNR=3.4							
TKL				LR	LR		14 09 49.9	
	comp=Z,407nm,18.8s,baz=181,slow=37							
	comp=Z,5.8nm,0.9s							
V53A	**Saluda**	**19.18**	**1**	P		**P**	**14 02 25.4**	**0.0**
V52A	**Sevierville**	**19.36**	**359**	P		**P**	**14 02 28.5**	**+1.2**
HNDO	**Hondo**	**19.70**	**314**	P		**P**	**14 02 32.0**	**+0.9**
HNDO				IAmb	IAmb		14 03 04.6	
	comp=Z,28nm,1.3s							
BRDY	**Brady**	**20.64**	**319**	P		**P**	**14 02 40.8**	**-0.6**
BRDY				IAmb	IAmb		14 02 54.7	
	comp=Z,20nm,1.2s							
JCT	**Junction City**	**20.64**	**316**	P		**P**	**14 02 42.1**	**+0.7**
JCT				IAmb	IAmb		14 02 54.5	
	comp=Z,39nm,1.4s							
T57A	**Hurt**	**20.80**	**9**	P		**P**	**14 02 44.3**	**+1.3**
BLA	**Blacksburg**	**20.87**	**6**	P		**P**	**14 02 44.8**	**+1.1**
BLA				IAmb	IAmb		14 02 53.1	
	comp=Z,35nm,1.4s							
FCAR	**Ozark Folk Cen**	**20.96**	**339**	P		**P**	**14 02 45.1**	**+0.4**
T59A	**Double "B" Far**	**21.09**	**13**	P		**P**	**14 02 46.8**	**+0.8**
S51A	**Beattyville**	**21.15**	**359**	P		**P**	**14 02 47.9**	**+1.1**
S51A				IAmb	IAmb		14 02 50.2	
	comp=Z,20nm,1.0s							
PLPT	**Palo Pinto**	**21.29**	**323**	P		**P**	**14 02 47.6**	**-0.7**
PLPT				IAmb	IAmb		14 03 00.9	
	comp=Z,29nm,1.1s							
S57A	**Dark Hollow, R**	**21.60**	**9**	P		**P**	**14 02 51.4**	**-0.2**
S57A				IAmb	IAmb		14 03 20.0	
	comp=Z,21nm,1.4s							
R50A	**Paris**	**21.81**	**358**	P		**P**	**14 02 53.7**	**-0.1**
R50A				IAmb	IAmb		14 02 57.4	
	comp=Z,22nm,1.1s							
OZNA	**Ozona**	**21.81**	**315**	P		**P**	**14 02 53.9**	**-0.1**
OZNA				IAmb	IAmb		14 03 08.1	
	comp=Z,36nm,1.4s							
R53A	**Hurricane**	**21.87**	**3**	P		**P**	**14 02 54.6**	**+0.2**
R53A				IAmb	IAmb		14 03 02.0	
	comp=Z,23nm,1.3s							
SAND	**Sanderson**	**21.95**	**311**	P		**P**	**14 02 55.3**	**-0.2**
SAND				IAmb	IAmb		14 03 01.7	
	comp=Z,17nm,1.2s							
SSFO	**Shawnee State**	**22.20**	**0**	P		**P**	**14 02 58.5**	**+0.5**
Q51A	**Peebles**	**22.53**	**360**	P		**P**	**14 03 00.1**	**-1.5**
CCM	**Cathedral Cave**	**22.69**	**343**	P		**P**	**14 03 04.0**	**+0.7**
CCM				IAmb	IAmb		14 03 24.2	
	comp=Z,14nm,1.1s							
APMT	**Aspermont**	**22.72**	**321**	P		**P**	**14 03 03.3**	**-0.4**
APMT				IAmb	IAmb		14 03 25.7	
	comp=Z,19nm,1.0s							
TXAR	**Lajitas Array**	**22.77**	**308**	P		**P**	**14 03 03.4**	**-0.9**
TXAR	**Lajitas Array**	**22.77**	**308**	P		**P**	**14 03 04.0**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=126,slow=8.4,SNR=7.2							
TXAR				LR	LR		14 14 25.9	
	comp=Z,92nm,19.8s,baz=120,slow=43							
	comp=Z,1.3nm,1.0s							
TX31	**Lajitas Ar. Si**	**22.77**	**308**	P		**P**	**14 03 03.1**	**-1.2**
TX31				IAmb	IAmb		14 03 27.1	
	comp=Z,28nm,1.5s							
Q56A	**Snyder Ridge,**	**22.82**	**8**	P		**P**	**14 03 02.7**	**-2.0**
Q56A				IAmb	IAmb		14 03 21.5	
	comp=Z,18nm,1.3s							
SN01	**Snyder 1**	**22.89**	**319**	P		**P**	**14 03 05.7**	**+0.2**
WMOK	**Wichita Mounta**	**22.97**	**326**	P		**P**	**14 03 06.3**	**+0.1**
WMOK				IAmb	IAmb		14 03 18.9	
	comp=Z,16nm,1.1s							
P53A	**Whipple**	**23.05**	**4**	P		**P**	**14 03 06.5**	**-0.4**
ALPN	**Alpine**	**23.28**	**310**	P		**P**	**14 03 08.2**	**-1.4**
OK048	**Pawnee Station**	**23.36**	**331**	P		**P**	**14 03 10.1**	**-0.2**
POST	**Post**	**23.41**	**318**	P		**P**	**14 03 10.4**	**-0.4**
POST				IAmb	IAmb		14 03 41.7	
	comp=Z,13nm,0.9s							
ATAH	**Atahualpa**	**23.88**	**168**	LR	LR		14 12 21.2	
	comp=Z,198nm,18.4s,baz=358,slow=36							
ELIS	**Ellis County**	**24.31**	**327**	P		**P**	**14 03 18.2**	**-1.2**
VHRN	**Van Horn**	**24.49**	**310**	P		**P**	**14 03 21.1**	**0.0**
VHRN				IAmb	IAmb		14 03 52.9	
	comp=Z,14nm,1.5s							
LPIG	**La Paz**	**26.51**	**291**	LR	LR		14 15 09.8	
	comp=Z,331nm,18.7s,baz=44,slow=39							
ANMO	**Albuquerque**	**27.80**	**316**	LR	LR		14 18 17.2	
	comp=Z,174nm,18.7s,baz=216,slow=44							
SADO	**Sadowa**	**28.48**	**6**	LR	LR		14 15 39.2	
	comp=Z,331nm,18.2s,baz=269,slow=37							
MDP	**Montagnes des**	**32.02**	**107**	LR	LR		14 19 26.9	
	comp=Z,191nm,18.6s,baz=280,slow=40							
PFO	**Pinon Flats O**	**34.45**	**306**	LR	LR		14 21 37.1	
	comp=Z,248nm,18.8s,baz=135,slow=41							
PDAR	**Pinedale Array**	**34.58**	**325**	P		**P**	**14 04 51.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=140,slow=7.1,SNR=2.8							
PDAR				LR	LR		14 20 41.2	
	comp=Z,90nm,19.2s,baz=130,slow=39							
	comp=Z,0.3nm,0.6s							
REDW	**Red Top Meadow**	**35.69**	**325**	P		**P**	**14 05 00.0**	**-0.3**
ELK	**Elko**	**36.79**	**318**	LR	LR		14 24 12.2	
	comp=Z,73nm,18.0s,baz=125,slow=43							
TPH	**Tonopah**	**36.84**	**313**	P		**P**	**14 05 10.0**	**-0.2**
NVAR	**Mina Array Bea**	**37.76**	**312**	P		**P**	**14 05 17.7**	**-0.3**
NVAR	**Mina Array Bea**	**37.76**	**312**	P		**P**	**14 05 18.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=111,slow=8.1,SNR=4.5							
NVAR				LR	LR		14 24 46.6	
	comp=Z,192nm,18.6s,baz=112,slow=43							
	comp=Z,0.6nm,0.8s							
PB11	**IPOC Station P**	**38.34**	**159**	P		**P**	**14 05 23.1**	**+0.2**
PB11				IAmb	IAmb		14 05 30.6	
	comp=Z,10nm,0.9s							
GO01	**Chusmiza**	**38.41**	**158**	P		**P**	**14 05 24.1**	**+0.2**
GO01				IAmb	IAmb		14 05 31.4	
	comp=Z,10.0nm,1.1s							
SIV	**San Ignacio**	**38.91**	**145**	P		**P**	**14 05 27.8**	**+0.1**
	comp=Z,11nm,1.0s,baz=334,slow=10,SNR=8.4							
SIV				LR	LR		14 22 55.0	
	comp=Z,176nm,18.3s,baz=291,slow=38							
	comp=Z,11nm,1.0s							
PTLB	**Pontes e Lacer**	**39.59**	**142**	P		**P**	**14 05 33.4**	**+0.1**
WVOR	**Wild Horse Val**	**39.85**	**318**	P		**P**	**14 05 35.3**	**-0.1**
WVOR				IAmb	IAmb		14 05 51.2	
	comp=Z,14nm,1.2s							
SCHQ	**Schefferville**	**40.38**	**15**	P		**P**	**14 05 38.5**	**-0.9**
	comp=Z,4.1nm,1.0s,baz=229,slow=18,SNR=2.2							
SCHQ				LR	LR		14 22 51.1	
	comp=Z,378nm,18.1s,baz=273,slow=37							
	comp=Z,4.1nm,1.0s							
LVC	**Limon Verde**	**41.23**	**160**	LR	LR		14 23 44.5	
	comp=Z,136nm,21.7s,baz=310,slow=37							
NEW	**Newport**	**42.17**	**326**	LR	LR		14 26 14.0	
	comp=Z,105nm,18.1s,baz=148,slow=40							
YBH	**Yreka Blue Hor**	**42.22**	**315**	LR	LR		14 25 21.5	
	comp=Z,61nm,19.8s,baz=116,slow=39							
BDFB	**Brasilia**	**47.13**	**131**	LR	LR		14 29 34.9	
	comp=Z,186nm,18.2s,baz=327,slow=40							
FRB	**Frobisher Bay**	**48.36**	**9**	LR	LR		14 27 14.9	
	comp=Z,180nm,18.2s,baz=214,slow=36							
CPUP	**Villa Florida**	**49.38**	**149**	LR	LR		14 29 18.8	
	comp=Z,143nm,19.9s,baz=326,slow=38							
RPN	**Rapa Nui**	**50.16**	**211**	LR	LR		14 23 09.0	
	comp=Z,101nm,19.7

mb4.3/1,MLv4.0/13
*IDC **22** 14:08:01.2±3.4,9.14S×120.67E,h111km±30km,mb3.6/6, mbtmp4.0/9,MS2.2/1,Error ellipse: s-maj=80.2km s-min=13.0km az=63.0*
ISC 22 14:07:58.8±0.6,9.49S±0.05×120.25E±0.04,h100km,n38, σ2°09/44,mb3.8/6,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.79**	**156**	P	**Pn**	**14 08 16.2**	**-0.9**
EDFI	**Ende, Flores**	**1.60**	**63**	P	**Pn**	**14 08 25.2**	**-1.1**
EDFI				S	**Sn**	**14 08 44.5**	**-2.8**
MMRI	**Maumere**	**2.13**	**67**	P	**Pn**	**14 08 33.7**	**+0.6**
MMRI	**Maumere**	**2.13**	**67**	P	**Pn**	**14 08 33.0**	**-0.1**
MMRI				S	**Sn**	**14 08 57.8**	**-1.6**
DBNI	**Kabupaten Domp**	**2.15**	**297**	P	**Pn**	**14 08 33.3**	**0.0**
DBNI				S	**Sn**	**14 08 58.4**	**-1.4**
PLAI	**Plampang**	**2.53**	**285**	P	**Pn**	**14 08 38.0**	**-0.3**
PLAI	**Plampang**	**2.53**	**285**	P	**Pn**	**14 08 37.7**	**-0.6**
PLAI				S	**Sn**	**14 09 06.4**	**-2.3**
TWSI	**Taliwang, Sumb**	**3.41**	**282**	P	**Pn**	**14 08 50.3**	**+0.3**
SOEI	**Soe**	**3.97**	**94**	P	**Pn**	**14 08 58.8**	**+1.2**
SOEI	**Soe**	**3.97**	**94**	P	**Pn**	**14 08 59.2**	**+1.6**
BKSI	**Bulukumba**	**4.14**	**358**	P	**Pn**	**14 08 59.3**	**-0.6**
MKS	**Makassar**	**4.31**	**350**	P	**Pn**	**14 09 00.8**	**-1.4**
KAPI	**Kappang**	**4.47**	**354**	P	**Pn**	**14 09 04.5**	**+0.1**
	36nm,0.2s,baz=172,slow=4.6,SNR=16						
KAPI				S	**Sn**	**14 09 51.1**	**-4.2**
	24nm,0.4s,baz=71,slow=20,SNR=1.9						
KAPI				LR	LR	14 10 51.2	
	comp=Z,31nm,19.2s,baz=244,slow=40						
BBSI	**Bau Bau**	**4.59**	**30**	P	**Pn**	**14 09 05.5**	**-0.5**
JAGI	**Jajag, Banyuwa**	**6.11**	**279**	P	**Pn**	**14 09 24.4**	**-2.2**
JAGI	**Jajag, Banyuwa**	**6.11**	**279**	P	**Pn**	**14 09 23.8**	**-2.8**
UGM	**Wanagama**	**9.75**	**278**	P	**Pn**	**14 10 16.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.03**	**149**	P	**Pn**	**14 10 18.0**	**-1.9**
KNRA	**Kununurra**	**10.33**	**127**	P	**Pn**	**14 10 23.3**	**-0.8**
MTN	**Manton Dam**	**11.18**	**108**	P	**Pn**	**14 10 34.5**	**-1.1**
PSA00	**Pilbara Seismi**	**12.02**	**182**	P	**Pn**	**14 10 45.1**	**-1.7**
KDU	**Kakadu**	**12.41**	**106**	P	**Pn**	**14 10 51.7**	**-0.2**
GIRL	**Giralia**	**14.30**	**203**	P	**Pn**	**14 11 16.3**	**-0.3**
WRA	**Warramunga Arr**	**17.12**	**129**	P	**Pn**	**14 11 52.3**	**+0.3**
	1.0nm,0.6s,baz=279,slow=14,SNR=18						
WRA				S	Sn	14 14 49.8	-13
	0.9nm,0.5s,baz=305,slow=23,SNR=6.9						
MEEK	**Meekatharra**	**17.13**	**185**	P	**P**	**14 11 52.7**	**+0.5**
WRKA	**Warakurna**	**17.26**	**155**	P	**Pn**	**14 11 54.4**	**+0.8**
ASAR	**Alice Springs**	**19.21**	**139**	P	**Pn**	**14 12 17.4**	**+0.4**
	1.6nm,0.5s,baz=311,slow=10.0,SNR=41						
ASAR				S	**S**	**14 15 38.9**	**-8.6**
	0.5nm,0.7s,baz=314,slow=22,SNR=3.6						
AS01	**Alice Springs**	**19.24**	**139**	P	**Pn**	**14 12 17.8**	**+0.5**
QIS	**Mount Isa**	**21.66**	**123**	P	**P**	**14 12 43.8**	**+2.4**
OOD	**Oodnadatta**	**23.31**	**143**	P	**P**	**14 13 00.3**	**+2.3**
MULG	**Mulgathing**	**24.38**	**150**	P	**P**	**14 13 10.4**	**+2.7**
STKA	**Stephens Creek**	**29.80**	**141**	P	**P**	**14 13 57.4**	**+1.2**
	0.9nm,0.4s,baz=333,slow=6.9,SNR=6.1						
	0.9nm,0.4s						
HHC	**Hu-ho-hao-te**	**50.72**	**351**	*eP*	**P**	**14 16 51.1**	**+2.6**
SONM	**Songino Array**	**58.38**	**349**	P	**P**	**14 17 44.2**	**+0.4**
	0.4nm,0.5s,baz=152,slow=7.8,SNR=2.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**65.46**	**332**	P	**P**	**14 18 32.1**	**+1.1**
	0.8nm,0.4s,baz=140,slow=7.5,SNR=9.7						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**69.94**	**339**	P	**P**	**14 18 58.7**	**-0.3**
	1.5nm,0.3s,baz=142,slow=4.9,SNR=9.0						
	1.5nm,0.3s						
KURBB	**Kurchatov Arra**	**69.95**	**333**	P	**P**	**14 18 59.8**	**+0.6**
	0.3nm,0.4s,baz=140,slow=5.6,SNR=8.3						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**80.51**	**180**	P	**P**	**14 20 02.7**	**+3.0**
	0.7nm,0.6s,baz=261,slow=0.9,SNR=8.9						
	0.7nm,0.6s						

*IDC **22** 14:12:33.9±3.1,8.47S×118.80E,h0km,mb3.4/2, mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=276.5km s-min=29.4km az=51.0*
*DJA **22** 14:12:53.5±0.5,9.5S±6.1×11.9E±°,h148km±7km,M3.9/8, mb4.2/1,MLv3.7/8*
ISC 22 14:12:53.3±1.1,8.64S±0.09×119.45E±0.05,h150km,n13, σ0°67/16,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBNI	**Kabupaten Domp**	**1.13**	**277**	P	**Pn**	**14 13 20.1**	**+0.8**
DBNI				S	**Sn**	**14 13 38.9**	**-0.2**
PLAI	**Plampang**	**1.67**	**263**	P	**Pn**	**14 13 25.6**	**+0.9**
PLAI				S	**Sn**	**14 13 48.8**	**+0.1**
BASI	**Baing, Sumba**	**1.93**	**145**	P	**Pn**	**14 13 27.9**	**+0.3**
BASI				S	**Sn**	**14 13 53.3**	**-0.7**
EDFI	**Ende, Flores**	**2.22**	**93**	P	**Pn**	**14 13 31.1**	**-0.1**
TWSI	**Taliwang, Sumb**	**2.54**	**267**	P	**Pn**	**14 13 34.8**	**-0.2**
TWSI				S	**Sn**	**14 14 06.8**	**-0.3**
MMRI	**Maumere**	**2.76**	**90**	P	**Pn**	**14 13 38.2**	**+0.6**
BKSI	**Bulukumba**	**3.36**	**11**	P	**Pn**	**14 13 45.3**	**0.0**
SRBI	**Singaraja**	**4.23**	**277**	P	**Pn**	**14 13 57.0**	**+0.4**
SOEI	**Soe**	**4.88**	**104**	P	**Pn**	**14 14 06.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**5.24**	**271**	P	**Pn**	**14 14 08.5**	**-1.5**
WRA	**Warramunga Arr**	**18.27**	**130**	P	**P**	**14 16 55.3**	**-0.5**
	0.3nm,0.3s,baz=300,slow=13,SNR=1.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**20.37**	**139**	P	**P**	**14 17 18.9**	**+0.5**
	1.6nm,0.5s,baz=314,slow=8.8,SNR=14						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**64.34**	**333**	P	P	14 23 08.5	-4.5
	0.1nm,0.5s,baz=150,slow=6.9,SNR=2.6						
	0.1nm,0.5s						

*IDC **22** 14:22:54.6±1.8,37.17N×139.27E,h181km±11km,mb3.1/4, mbtmp3.5/4,Error ellipse: s-maj=46.2km s-min=25.8km az=80.0*
*JMA **22** 14:22:57.1±0.2,35.19N±0.5×139.9E±0.7,h105km±1km, MV3.7/40,NORTHERN CHIBA PREF*
ISC 22 14:22:56.5±1.1,35.89N±0.04×139.87E±0.05,h115km±8km, n18,σ0°81/29,mb3.6/4,6D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.22**	**203**	P	**Pn**	**14 23 13.3**	**+0.8**
TOK				S	**Sn**	**14 23 26.2**	**+1.5**
JYT	**Yasato**	**0.43**	**38**	*i* P	**Pn**	**14 23 12.9**	**-0.6**
JYT				S	**Sn**	**14 23 25.0**	**-1.3**
JAG	**Ashikaga**	**0.63**	**328**	*i* P	**Pn**	**14 23 14.7**	**-0.1**
JAG				S	**Sn**	**14 23 27.9**	**-0.8**
JRY	**Ryogami san**	**0.79**	**279**	*i* P	**Pn**	**14 23 16.9**	**+0.7**
JOD2	**Odawara 2**	**0.89**	**226**	⇓ *i* P	**Pn**	**14 23 16.8**	**-0.4**
JOD2				⇓S	**Sn**	**14 23 31.6**	**-1.1**
JKT	**Katashina**	**1.00**	**330**	*i* P	**Pn**	**14 23 18.4**	**+0.1**
JKT				S	**Sn**	**14 23 34.9**	**+0.1**
JYN	**Shimob**	**1.15**	**250**	⇓ *i* P	**Pn**	**14 23 20.0**	**+0.3**
JYN				⇓S	**Sn**	**14 23 37.5**	**+0.2**
JFNN	**Fujinakano**	**1.19**	**234**	P	**Pn**	**14 23 20.4**	**+0.3**
JFNN				S	**Sn**	**14 23 38.1**	**+0.2**
BSO3	**Boso 3**	**1.21**	**154**	⇓P	**Pn**	**14 23 20.0**	**0.0**
BSO3				⇓S	**Sn**	**14 23 39.0**	**+1.1**
JIM2	**Oshima 3**	**1.23**	**197**	P	**Pn**	**14 23 19.9**	**-0.7**
JIM2				S	**Sn**	**14 23 37.6**	**-1.2**
MJAR	**Matsushiro Arr**	**1.49**	**296**	P	**Pn**	**14 23 23.5**	**-0.1**
	10nm,0.2s,baz=80,slow=13,SNR=122						
MJAR				S	**Sn**	**14 23 44.5**	**+0.5**
	22nm,0.4s,baz=90,slow=19,SNR=5.8						
MAT	**Matsushiro**	**1.49**	**296**	*i* P	**Pn**	**14 23 24.1**	**+0.6**
MAT				*eS*	**Sn**	**14 23 45.4**	**+1.3**
BSO1	**Boso 1**	**1.54**	**143**	P	**Pn**	**14 23 23.8**	**+0.3**
BSO1				S	**Sn**	**14 23 45.8**	**+1.7**
JOTO	**OTAMA OYAMA**	**1.71**	**13**	*i* P	**Pn**	**14 23 26.3**	**+0.2**
JOTO				S	**Sn**	**14 23 49.1**	**+0.3**
MKAR	**Makanchi Array**	**43.68**	**303**	P	P	14 30 32.6	-17
	0.3nm,0.7s,baz=79,slow=7.5,SNR=2.3						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**55.78**	**186**	P	**P**	**14 32 20.8**	**-0.7**
	1.1nm,0.5s,baz=1.3,slow=7.5,SNR=17						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**59.50**	**186**	P	**P**	**14 32 47.5**	**0.0**
	0.2nm,0.3s,baz=17,slow=12,SNR=9.3						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**91.81**	**51**	P	P	14 35 39.5	-12
	0.1nm,0.3s,baz=280,slow=1.7,SNR=3.8						
	0.1nm,0.3s						

IDC 22 14:32:54.3±2.4,6.48S×129.14E,h0km,mb3.2/1, mbtmp3.2/3,ML2.9/2,Error ellipse: s-maj=158.0km s-min=33.4km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.30**	**160**	Pn	Pn	14 36 17.6	-0.8
	baz=338,slow=13,SNR=2.3						
WRA				Sn	Sn	14 38 45.5	-12
	0.2nm,0.3s,baz=337,slow=22,SNR=1.3						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**17.69**	**165**	P	Pn	14 37 02.8	+0.5
	0.1nm,0.3s,baz=345,slow=9.6,SNR=10						
ASAR				S	Sn	14 40 10.1	-10
	0.3nm,0.9s,baz=343,slow=23,SNR=1.1						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**67.33**	**327**	P	P	14 43 51.2	0.0
	0.1nm,0.4s,baz=129,slow=7.7,SNR=2.0						
	0.1nm,0.4s						

KRSC 22 14:44:47.3±1.7,55.23N×166.64E,h34km±11km,MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.39**	**266**	*eP*	Pn	14 44 56.8	+0.3
BKI				*eS*	Sn	14 45 03.2	+0.8
SMKR	**Semkarok**	**3.21**	**297**	*eP*	Pn	14 45 38.3	+3.0
SMKR				*eS*	Sn	14 46 16.5	+4.1
BZP	**Bezymyannyi-Pe**	**3.53**	**284**	*eP*	Pn	14 45 43.4	+3.6
KLY	**Klyuchi**	**3.55**	**290**	*eP*	Pn	14 45 41.2	+1.4
KLY				*eS*	Sn	14 46 21.7	+1.1
BZMR	**Bezymyannaya**	**3.56**	**284**	*eP*	Pn	14 45 44.0	+3.8
BZWR	**Bezymyannyi-We**	**3.56**	**284**	*eP*	Pn	14 45 44.1	+3.9
TUMD	**Tumrok D**	**3.58**	**272**	*eP*	Pn	14 45 44.2	+3.9
TUMD				*eS*	Sn	14 46 25.6	+4.3
KMNR	**Kamenistaya**	**3.68**	**281**	*eP*	Pn	14 45 46.5	+4.8
KMNR				*eS*	Sb	14 46 30.6	-5.2
TUMR	**Tumrok**	**3.72**	**273**	*eP*	Pn	14 45 47.1	+4.8
TUMR				*eS*	Sb	14 46 31.7	-5.2
KOZ	**Kozyrevsk**	**3.92**	**285**	*eP*	Pn	14 45 49.5	+4.4
KOZ				*eS*	Sb	14 46 36.8	-5.8
SRDR	**Sredinnyy**	**4.06**	**288**	*eP*	Pn	14 45 50.8	+3.8
SRDR				*eS*	Sb	14 46 40.2	-6.3
KII	**Karymskiy**	**4.35**	**257**	*eP*	Pn	14 45 55.8	+4.9
SPN	**Mys Shipunski**	**4.44**	**244**	*eS*	Sn	14 46 45.6	+3.2
OSSR	**Ossora**	**4.47**	**336**	*eS*	Sn	14 46 49.7	+6.4
SMAR	**Somma**	**5.00**	**250**	*eP*	Pn	14 46 04.7	+4.6
UGLR	**Uglovaya**	**5.01**	**249**	*eP*	Pn	14 46 05.1	+5.0
UGLR				*eS*	Sn	14 47 01.2	+4.3
AVH	**Avacha**	**5.04**	**250**	*eP*	Pn	14 46 05.6	+5.3
AVH				*eS*	Sn	14 47 02.9	+5.6
KRX	**Arik**	**5.04**	**251**	*eP*	Pn	14 46 05.3	+4.7
KRX				*eS*	Sn	14 47 02.8	+5.1
KOK	**Koryaka**	**5.08**	**251**	*eP*	Pn	14 46 05.9	+4.9
DALK	**Dalny**	**5.14**	**248**	*eP*	Pn	14 46 06.4	+4.8
DALK				*eS*	Sn	14 47 03.0	+3.3
KRMR	**Karymshinskiy**	**5.56**	**248**	*eP*	Pn	14 46 12.8	+5.3
KRMR				*eS*	Sn	14 47 15.1	+4.9
MTVR	**Mutnovka**	**5.71**	**245**	*eP*	Pn	14 46 14.7	+5.0
MTVR				*eS*	Sn	14 47 18.6	+4.5
GRL	**Gorelyy**	**5.73**	**246**	*eP*	Pn	14 46 15.8	+5.8
GRL				*eS*	Sn	14 47 20.7	+6.2
ASAK	**Asacha**	**5.91**	**245**	*eP*	Pn	14 46 18.1	+5.7
ASAK				*eS*	Sn	14 47 24.0	+5.1
KDTR	**Khodutka, Kamc**	**6.15**	**240**	*eS*	Sn	14 47 28.2	+3.6

*IDC **22** 14:50:02.6±1.1,24.42N×125.93E,h0km,mb3.5/7, mbtmp3.6/8,ML3.1/1,MS2.8/1,Error ellipse: s-maj=41.3km s-min=21.3km az=70.0*
*JMA **22** 14:50:07.1±0.2,24.7N±2.2×12.6E±°,h75km±4km,MV3.5/22, NEAR MIYAKOJIMA ISLAND*
*NIED **22** 14:50:07.1,24.30N×126.37E,h75km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.26; Mθθ-0.28; Mφφ0.02; Mrθ0.89; Mθφ-0.55; Mφr0.18; Fault plane solution: M₀1.08000×10¹⁵ NP1:φs82.00000°, δ81.00000°,λ116.00000°. NP2:φs191.00000°,δ28.00000°, λ21.00000°.*
ISC 22 14:50:09.8±1.4,24.5N±0.1×126.31E±0.07,h69km±12km, n27,σ1°08/34,mb3.5/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.88**	**291**	P	**Pn**	**14 50 26.2**	**-0.6**
JOGS				*eS*	**Sn**	**14 50 40.0**	**+0.7**
JMJ2	**Miyako jima3**	**0.94**	**288**	P	**Pn**	**14 50 26.6**	**-0.9**
JMJ2				S	**Sn**	**14 50 41.3**	**+0.8**
JIKM	**Ikemajima**	**1.07**	**296**	P	**Pn**	**14 50 28.8**	**-0.4**
JIKM				S	**Sn**	**14 50 44.9**	**+1.3**
JIRB	**Irabujima**	**1.10**	**290**	P	**Pn**	**14 50 28.6**	**-0.9**
JIRB				S	**Sn**	**14 50 45.0**	**+0.8**
JTJ	**Tarama**	**1.47**	**278**	P	**Pn**	**14 50 33.5**	**-0.9**
JTJ				*eS*	**Sn**	**14 50 53.2**	**+0.3**
JISG	**Ishigakijimahi**	**1.82**	**275**	P	**Pn**	**14 50 38.6**	**-0.5**
JKE	**Kume jima 2**	**1.92**	**13**	P	**Pn**	**14 50 38.9**	**-0.5**
JKE				*eS*	**Sn**	**14 51 04.6**	**+1.0**
JIJ	**Ishigaki jima**	**1.98**	**268**	P	**Pn**	**14 50 39.8**	**-1.3**
JKRS	**Kuro-shima**	**2.11**	**265**	P	**Pn**	**14 50 41.7**	**-1.2**
JJT3	**Tamagusuku3**	**2.15**	**38**	*eP*	**Pn**	**14 50 42.7**	**-0.9**
JJT3				*eS*	**Sn**	**14 51 08.8**	**-0.5**
JAGN	**Aguni-jima**	**2.29**	**21**	*eP*	**Pn**	**14 50 45.9**	**+0.5**
HATJ	**Hateruma jima**	**2.32**	**261**	*eS*	**Sn**	**14 51 11.6**	**-1.6**
IRIF	**Iriomote-Funau**	**2.35**	**268**	P	**Pn**	**14 50 45.0**	**-1.2**
JNTH	**Nagotoyohara**	**2.58**	**37**	*eP*	**Pn**	**14 50 49.4**	**+0.1**
JOW	**Kunigami**	**2.96**	**36**	P	**Pn**	**14 50 54.6**	**0.0**
JOW	**Kunigami**	**2.96**	**36**	Pn	**Pn**	**14 50 54.2**	**-0.3**
	4.2nm,0.3s,baz=104,slow=24,SNR=12						
JOW				Sn	**Sn**	**14 51 25.6**	**-3.4**
	8.8nm,0.3s,baz=222,slow=13,SNR=4.4						
	12nm,0.3s						
JYRO	**Yoronjima**	**3.21**	**37**	*eP*	**Pn**	**14 50 57.3**	**-0.6**
JOKE	**Okinoerabujima**	**3.54**	**35**	P	**Pn**	**14 51 02.6**	**+0.1**
JTK	**Tokunoshima**	**4.09**	**35**	P	**Pn**	**14 51 09.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**26.13**	**262**	LR	LR	15 05 20.4	
	comp=Z,22nm,19.4s,baz=120,slow=36						
SONM	**Songino Array**	**28.18**	**331**	P	**P**	**14 55 55.6**	**-0.3**
	0.3nm,0.4s,baz=138,slow=12,SNR=2.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**41.47**	**314**	P	**P**	**14 57 49.7**	**-0.2**
	0.3nm,0.5s,baz=99,slow=10,SNR=1.9						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**42.65**	**325**	P	**P**	**14 57 59.5**	**+0.1**
	1.4nm,0.6s,baz=107,slow=7.9,SNR=6.1						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**44.81**	**169**	P	**P**	**14 58 18.7**	**+1.5**
	1.2nm,0.9s,baz=349,slow=8.8,SNR=4.1						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**48.39**	**171**	P	**P**	**14 58 47.0**	**+1.8**
	0.3nm,0.8s,baz=355,slow=14,SNR=2.7						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**50.47**	**320**	P	**P**	**14 59 00.4**	**-0.3**
	0.2nm,0.4s,baz=64,slow=6.6,SNR=1.8						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**76.75**	**308**	P	**P**	**15 01 54.1**	**-0.1**
	0.4nm,0.7s,baz=94,slow=3.6,SNR=1.4						
	0.4nm,0.7s						

*PAS **22** 14:54:01.0±1.7,34.703N±0.009×116.23W±0.01, h3km±1km,ML3.0/126,ML2.6/71(NEIC),Error ellipse: s-maj=1.4km s-min=1.3km az=113.0*
*ANF **22** 14:54:00.1±0.1,34.69N×116.22W,h10km±1km,ML2.9/26, Error ellipse: s-maj=0.9km s-min=0.7km az=61.0*
NEIC 22 14:54:00.4±1.8,34.697N±0.009×116.22W±0.01, h2km±1km,Error ellipse: s-maj=1.3km s-min=1.2km az=213.0,Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HEC	**Hector,Ludlow**	**0.16**	**325**		Pg	14 54 04.3	+0.7
HEC	**Hector,Ludlow**	**0.16**	**325**	P	Pg	14 54 04.2	+0.6
	baz=146,SNR=1000						
HEC				S	Sg	14 54 06.7	+1.0
	baz=146						
GTM	**Goat Mountain**	**0.42**	**195**		Pg	14 54 09.1	+0.7
GTM					Sg	14 54 15.1	+1.3
DSCC	**Desert Studies**	**0.46**	**13**		Pg	14 54 09.6	+0.4
DSCC					Sg	14 54 16.0	+0.9
GMRC	**Granite Mounta**	**0.47**	**79**		Pg	14 54 10.1	+0.5
GMRC					Sg	14 54 16.6	+1.0
GMRC	**Granite Mounta**	**0.47**	**79**	P	Pg	14 54 10.0	+0.5
	baz=260,SNR=42						
GMRC				S	Sg	14 54 16.6	+0.9
	baz=260						
TPC	**Twentynine Pal**	**0.61**	**166**		Pg	14 54 12.7	+0.6
BLAC	**Blackrock camp**	**0.64**	**192**		Pg	14 54 13.2	+0.5
BLAC					Sg	14 54 22.2	+1.2
RRX	**Edison Barstow**	**0.66**	**286**		Pg	14 54 13.5	+0.4
RRX					Sg	14 54 22.5	+0.9
RRX	**Edison Barstow**	**0.66**	**286**	P	Pg	14 54 13.3	+0.2
	baz=105,SNR=7.5						
RRX				S	Sg	14 54 22.4	+0.7
	baz=105						
DANC	**Danby, Needles**	**0.70**	**95**		Pg	14 54 14.5	+0.7
DANC					Sb	14 54 24.3	-1.1
BELC	**Belle Mtn. Jos**	**0.72**	**165**		Pg	14 54 14.7	+0.5
BELC					Sg	14 54 24.8	+1.3
BELC	**Belle Mtn. Jos**	**0.72**	**165**	P	Pg	14 54 14.7	+0.5
	baz=345,SNR=122						
BELC				S	Sg	14 54 24.2	+0.7
	baz=345						
BBRC	**Big Bear Solar**	**0.72**	**233**		Pg	14 54 14.7	+0.4
BBRC					Sg	14 54 24.6	+1.0
BBRC	**Big Bear Solar**	**0.72**	**233**	P	Pg	14 54 14.5	+0.3
	baz=52,SNR=16						
BBRC				S	Sg	14 54 24.4	+0.8
	baz=52						
GSC	**Goldstone, Bar**	**0.77**	**322**	Pg	Pg	14 54 15.3	+0.1
GSC	**Goldstone, Bar**	**0.77**	**322**		Sg	14 54 26.2	+1.0
GSC	**Goldstone, Bar**	**0.77**	**322**	P	Pg	14 54 15.5	+0.3
	baz=142,SNR=323						
GSC				S	Sg	14 54 26.2	+1.0
	baz=142						
EW2	**E Wide Canyon**	**0.77**	**191**		Pg	14 54 15.5	+0.3
EW2					Sg	14 54 26.2	+1.0
TUQ	**Turquoise Moun**	**0.78**	**18**		Pg	14 54 15.5	+0.1
TUQ					Sg	14 54 26.0	+0.5
TUQ	**Turquoise Moun**	**0.78**	**18**	P	Pg	14 54 15.5	+0.2
	baz=199,SNR=91						
TUQ				S	Sg	14 54 26.0	+0.5
	baz=199						
DEVC	**Devers**	**0.81**	**201**		Pg	14 54 15.8	-0.3
VTV	**Victorville**	**0.92**	**262**		Pg	14 54 17.4	-0.7
VTV					Sg	14 54 30.4	+0.4
MTPC	**Mountain Pass**	**0.96**	**35**		Pb	14 54 19.6	-0.3
IRM	**Iron Mountain**	**1.04**	**121**		Pg	14 54 20.2	-0.3
IRM					Sg	14 54 34.4	+0.5
IRM	**Iron Mountain**	**1.04**	**121**	P	Pg	14 54 20.1	-0.3
	baz=302,SNR=114						
IRM				S	Sg	14 54 34.5	+0.6
	baz=302						
CTCC	**Cactus City**	**1.06**	**169**		Pb	14 54 21.3	-0.2
PFO	**Pinyon Flats O**	**1.10**	**190**	Pg	Pg	14 54 21.0	-0.5
PFO				IAML		14 54 39.8	
	260nm,0.5s						
PFO				IAML		14 54 40.0	
	120nm,0.4s						
PFO	**Pinyon Flats O**	**1.10**	**190**		Pg	14 54 21.5	-0.1
PFO					Sb	14 54 36.8	-0.3
PFO	**Pinyon Flats O**	**1.10**	**190**	P	Pg	14 54 21.3	-0.2
	baz=9.7,SNR=43						
PFO				S	Sg	14 54 36.3	+0.5
	baz=9.7						
XPFO	**Pion Flat**	**1.10**	**190**		Pg	14 54 21.5	-0.1
XPFO					Sg	14 54 36.4	+0.6
PEC	**Perris**	**1.12**	**224**		Pb	14 54 22.3	-0.2
HYS	**Haystack Butte**	**1.12**	**279**		Pg	14 54 21.5	-0.4
HYS					Sb	14 54 37.2	-0.4
POB	**Polly Butte**	**1.16**	**210**		Pg	14 54 22.8	+0.1
SS2	**San Sevaine**	**1.16**	**246**		Pb	14 54 23.4	+0.2
DNR	**Dunn Ranch,Anz**	**1.18**	**197**		Pb	14 54 23.3	-0.3
HMTC	**Hemet**	**1.18**	**213**		Pb	14 54 23.5	-0.1
HMTC					Sg	14 54 38.6	+0.3
SNDA	**J Saunders Pla**	**1.19**	**196**		Pb	14 54 23.7	0.0
SHOC	**Shoshone, Teco**	**1.20**	**358**		Pg	14 54 22.6	-0.8
SHOC	**Shoshone, Teco**	**1.20**	**358**	P	Pg	14 54 22.7	-0.8
	baz=178,SNR=85						
SHOC				S	Sg	14 54 39.3	+0.3
	baz=178						
CRY	**Cary Ranch**	**1.21**	**201**		Pg	14 54 23.4	-0.2
BC3	**Big Chuckawall**	**1.22**	**148**		Pg	14 54 23.8	0.0
BC3					Sn	14 54 41.4	-0.4
BC3	**Big Chuckawall**	**1.22**	**148**	P	Pg	14 54 23.3	-0.5
	baz=329,SNR=71						
BC3				S	Sb	14 54 40.7	+0.1
	baz=329						
DGR	**Domenigoni Val**	**1.23**	**212**		Pg	14 54 23.8	-0.3
FRD	**Ford Ranch, An**	**1.24**	**195**		Pn	14 54 24.9	0.0
FRD	**

	baz=22						
W13A	**Hualapai Mount**	**1.96**	**78**		Pn	14 54 33.5	-1.5
W13A				IAML		14 55 09.4	
	comp=E,36nm,0.4s						
W13A				IAML		14 55 09.7	
	comp=N,55nm,0.4s						
SHPR	**Sheep Range**	**2.00**	**25**		Pn	14 54 33.9	-1.6
GLA	**Glamis**	**2.01**	**144**	Pg	Pb	14 54 38.3	+0.5
	baz=325						
IKP	**In-Ko-Pah, Jac**	**2.04**	**177**	Sb	Sg	14 55 05.3	-0.8
	baz=357						
BAR	**Barrett**	**2.05**	**191**		Pn	14 54 35.0	-0.9
BAR				IAML		14 55 07.2	
	comp=N,37nm,0.2s						
BAR				IAML		14 55 07.7	
	comp=E,53nm,0.6s						
YUH	**Yuha Desert**	**2.06**	**173**	Pn	Pn	14 54 34.3	-1.8
ISA	**Isabella, Lake**	**2.08**	**298**	Pn	Pn	14 54 34.6	-1.8
ISA				IAML		14 55 11.3	
	comp=E,35nm,0.6s						
ISA				IAML		14 55 15.4	
	comp=N,26nm,0.8s						
ISA	**Isabella, Lake**	**2.08**	**298**	P	Pn	14 54 35.3	-1.2
	baz=117,SNR=19						
ISA				Sb	Sb	14 55 06.0	+0.7
	baz=117						
WCT	**Wildcat Mounta**	**2.12**	**351**		Pn	14 54 35.9	-1.1
UABX	**UABC, Campus M**	**2.16**	**162**	Pn	Pn	14 54 37.1	-0.4
ARVC	**Arvin**	**2.18**	**282**	Pg	Pg	14 54 41.8	-0.5
	baz=100						
CIS	**Catalina Islan**	**2.23**	**235**	Sb	Sb	14 55 10.8	+1.2
	baz=54						
TPNV	**Topopah Spring**	**2.25**	**359**	Pn	Pn	14 54 38.0	-0.9
TPNV				IAML		14 55 14.2	
	comp=N,60nm,0.4s						
TPNV				IAML		14 55 15.6	
	comp=N,47nm,0.5s						
TPNV	**Topopah Spring**	**2.25**	**359**	P	Pn	14 54 37.7	-1.1
	baz=180,SNR=19						
TPNV				Sb	Sg	14 55 12.4	-0.2
	baz=180						
CGO	**Cerro Gordo**	**2.25**	**326**		Pb	14 54 42.4	+0.4
SGV	**South Grapevin**	**2.37**	**344**		Pn	14 54 39.6	-1.0
CBX	**Cerro Bola**	**2.41**	**189**	Pn	Pn	14 54 40.2	-0.8
GRAC	**Grapevine Rang**	**2.48**	**338**	Pn	Pn	14 54 40.7	-1.1
GRAC				IAML		14 55 25.1	
	comp=N,49nm,0.5s						
GRAC				IAML		14 55 27.6	
	comp=E,51nm,0.7s						
GRAC	**Grapevine Rang**	**2.48**	**338**	P	Pn	14 54 41.3	-0.5
	baz=158,SNR=9.1						
ESJX	**Sierra Juarez**	**2.69**	**175**	Pn	Pn	14 54 44.9	-0.1
GMN	**Gold Mountain**	**2.73**	**342**	Pn	Pn	14 54 45.0	-0.6
Y14A	**Wickenburg**	**2.77**	**105**	Pn	Pn	14 54 44.4	-1.6
Y14A				IAML		14 55 32.4	
	comp=E,33nm,0.4s						
PRN	**Pahroc Range**	**2.87**	**19**		Pn	14 54 46.4	-1.0
PRN				IAML		14 55 40.6	
	comp=E,24nm,1.7s						
PRN				IAML		14 55 43.8	
	comp=N,23nm,0.6s						
MZP	**Montezuma Peak**	**3.14**	**343**	Pn	Pn	14 54 51.2	0.0
LCMT	**Little Creek M**	**3.35**	**45**		Pn	14 54 52.5	-1.5
KNB	**Kanab**	**3.60**	**49**		Pn	14 54 57.1	-0.5
KNB				IAML		14 56 01.7	
	comp=E,8.4nm,1.7s						
KNB				IAML		14 56 18.9	
	comp=N,11nm,4.0s						
U15A	**North Rim**	**3.64**	**61**		Pn	14 54 57.9	-0.2
U15A				IAML		14 56 01.7	
	comp=N,8.4nm,0.8s						
U15A				IAML		14 56 30.7	
	comp=E,8.2nm,4.2s						
MDPB	**Devils Postpil**	**3.73**	**323**	Pn	Pn	14 54 59.2	-0.1
MDPB				IAML		14 56 02.2	
	comp=N,12nm,4.8s						
MDPB				IAML		14 56 17.6	
	comp=E,11nm,4.4s						
X16A	**Lo Mia Camp, P**	**3.96**	**93**	Pn	Pn	14 55 01.9	-0.4
X16A				IAML		14 56 17.6	
	comp=E,7.1nm,1.2s						
X16A				IAML		14 56 18.9	
	comp=N,8.9nm,2.5s						
LHV	**Little Huntoon**	**3.99**	**333**	Pn	Pn	14 55 02.7	+0.1
LHV				IAML		14 55 37.8	
	comp=N,14nm,4.8s						
NV11	**Mina Array Sit**	**4.04**	**338**	Pn	Pn	14 55 03.3	-0.1
NV11				IAML		14 55 30.7	
	comp=N,12nm,4.8s						
NV11				IAML		14 57 34.7	
	comp=E,10.0nm,4.3s						
NVAR	**Mina Array Bea**	**4.08**	**336**	Pn	Pn	14 55 03.9	-0.2
PKCU	**Pink Cliffs**	**4.19**	**48**	Pn	Pn	14 55 05.5	-0.1
KVN	**Kaiserville**	**4.60**	**341**	Pn	Pn	14 55 09.1	-2.1

IDC ***22*** *15:06:27.8±5.0,23˚.24N×122˚.08E, h0km, mb3.3/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=116.6km s-min=42.2km az=174.0*

TAP ***22*** *15:06:40.4, 24˚.16N×122˚.12E, h45km, ML4.1, B*

JMA ***22*** *15:06:40.2±0.1, 24˚.1N±0˚.5×122˚.2E±0˚.2, h42km±1km, MV3.5/19, TAIWAN REGION*

ASIES ***22*** *15:06:40.4, 24˚.16N×122˚.12E, h45km, ML4.1, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.65; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-2.78; $M_{r\theta}$0.82; $M_{\theta\phi}$-0.67; $M_{\phi r}$-1.66; Fault plane solution: M_o3.35643×10^{21} NP1: ϕ_s172.62000°, δ61.85000°, λ69.41000°. NP2:ϕ_{ss}31.15000°, δ34.37000°, λ123.32000°. Principal axes: T Plg66.5230°, Azm43.9890°; N Plg18.0660°, Azm182.6660°; P Plg14.4830°, Azm277.4990°;*

ISC 22 15:06:40.7±0.9, 24˚.15N±0˚.02×122˚.16E±0˚.02, h42km±5km, n177,σ1$29/293, 15C-15D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.14**	**102**	*i* P	**Pn**	**15 06 47.5**	**+0.1**
	baz=108						
EOS4				*i* S	**Sn**	**15 06 52.8**	**+0.8**
	baz=108						
EOS3	**EOS3**	**0.19**	**47**	*i* P	**Pn**	**15 06 48.3**	**+0.2**
	baz=37						
EOS3				*i* S	**Sn**	**15 06 54.0**	**+0.9**
	baz=37						
EOS2	**EOS2**	**0.27**	**13**	P	**Pn**	**15 06 49.0**	**+0.2**
	baz=1.0						
EOS2				*e*S	**Sn**	**15 06 55.9**	**+1.5**
	baz=1.0						
EHP	**Heping Village**	**0.42**	**292**	*e*P	**Pn**	**15 06 50.4**	**-0.1**
	baz=294						
EHP				S	**Sn**	**15 06 57.7**	**+0.3**
	baz=294						
EAHA	**Aohua**	**0.42**	**295**	⇑P	**Pn**	**15 06 50.1**	**-0.5**
	baz=296						
EAHA				S	**Sn**	**15 06 58.1**	**+0.6**
	baz=296						
EWUT	**Wuta**	**0.46**	**310**	⇑*i*P	**Pn**	**15 06 50.6**	**-0.4**
	baz=321						
EWUT				S	**Sn**	**15 06 57.7**	**-0.6**
	baz=321						
ENA	**Nanau**	**0.47**	**306**	⇑*i*P	**Pn**	**15 06 50.8**	**-0.4**
	baz=317						
ENA				*i* S	**Sn**	**15 06 58.7**	**+0.1**
	baz=317						
ETL	**Fush Village**	**0.49**	**271**	⇑*i*P	**Pn**	**15 06 50.9**	**-0.6**
	baz=270						
ESAO	**Su ao**	**0.51**	**325**	⇑P	**Pn**	**15 06 51.0**	**-0.8**
	baz=336						
ESAO				*e*S	**Sn**	**15 06 58.1**	**-1.3**
	baz=336						
NACB	**Ninganchiao**	**0.52**	**272**	P	**Pn**	**15 06 51.2**	**-0.6**
NACB	**Ninganchiao**	**0.52**	**272**	⇑*i*P	**Pn**	**15 06 51.2**	**-0.6**
	baz=264						
NACB				*e*S	**Sn**	**15 06 56.9**	**-2.7**
	baz=264						
TWD	**Chiawan**	**0.52**	**262**	⇑*i*P	**Pn**	**15 06 51.2**	**-0.6**
	baz=253						
TWD				*i* S	**Sn**	**15 06 58.9**	**-0.8**
	baz=253						
TWC	**Suao**	**0.54**	**328**	⇑*i*P	**Pn**	**15 06 51.4**	**-0.7**
	baz=337						
TWC				*i* S	**Sn**	**15 06 58.8**	**-1.2**
	baz=337						
HWA	**Hwalien**	**0.54**	**251**	⇑P	**Pn**	**15 06 51.9**	**-0.1**
	baz=249						
HWA				*e*S	**Sn**	**15 07 00.5**	**+0.4**
	baz=249						
ETLH	**Xiulin Townshi**	**0.62**	**275**	*e*P	**Pn**	**15 06 52.7**	**-0.6**
	baz=275						
ETLH				S	**Sn**	**15 07 01.4**	**-0.9**
	baz=275						
NDS	**Dongshan**	**0.63**	**320**	⇑*i*P	**Pn**	**15 06 53.1**	**-0.2**
	baz=324						
NDS				S	**Sn**	**15 07 01.5**	**-0.7**
	baz=324						
ETM	**Tongmen**	**0.64**	**253**	⇑*i*P	**Pn**	**15 06 52.7**	**-0.7**
	baz=249						
ETM				*e*S	**Sn**	**15 07 01.5**	**-1.0**
	baz=249						
SHUL	**Shoufeng**	**0.66**	**237**	⇑*i*P	**Pn**	**15 06 53.5**	**-0.2**
	baz=232						
SHUL				S	**Sn**	**15 07 03.0**	**+0.1**
	baz=232						
LATG	**Datong**	**0.69**	**303**	⇓P	**Pn**	**15 06 53.9**	**-0.3**
	baz=305						
LATG				S	**Sn**	**15 07 03.5**	**-0.4**
	baz=305						
LXIB	**Xiulin Townshi**	**0.70**	**259**	⇑*i*P	**Pn**	**15 06 53.7**	**-0.7**
	baz=258						
LXIB				*i* S	**Sn**	**15 07 03.0**	**-1.1**
	baz=258						
ILA	**Ilan**	**0.72**	**328**	*e*P	**Pn**	**15 06 54.8**	**+0.3**
	baz=331						
TEGC	**Jichi Village**	**0.72**	**232**	*e*P	**Pn**	**15 06 54.3**	**-0.2**
	baz=222						
TEGC				S	**Sn**	**15 07 04.8**	**+0.4**
	baz=222						
TWE	**Neicheng**	**0.72**	**322**	⇑*i*P	**Pn**	**15 06 54.5**	**0.0**
	baz=324						
TWE				*e*S	**Sn**	**15 07 03.5**	**-1.0**
	baz=324						
ENTT	**Nioudou**	**0.73**	**312**	*e*P	**Pn**	**15 06 54.4**	**-0.3**
	baz=308						
ENTT				S	**Sn**	**15 07 04.0**	**-0.7**
	baz=308						
NDT	**Datong Townshi**	**0.74**	**307**	*e*P	**Pn**	**15 06 54.7**	**-0.1**
	baz=308						
NDT				*e*S	**Sn**	**15 07 04.8**	**-0.1**
	baz=308						
ESL	**Shilin**	**0.75**	**243**	⇑*i*P	**Pn**	**15 06 54.2**	**-0.7**
	baz=241						
ESL				S	**Sn**	**15 07 04.3**	**-0.8**
	baz=241						
NNSB	**Datong**	**0.76**	**291**	⇓*i*P	**Pn**	**15 06 54.8**	**-0.4**
	baz=292						
NNSB				*e*S	**Sn**	**15 07 04.5**	**-1.2**
	baz=292						
NNSH	**Datong**	**0.76**	**291**	*e*P	**Pn**	**15 06 54.8**	**-0.4**
	baz=292						
NNSH				S	**Sn**	**15 07 04.9**	**-0.8**
	baz=292						
JYNG	**Yonagunijimaku**	**0.77**	**67**	*i* P	**Pn**	**15 06 55.2**	**0.0**
JYNG				S	**Sn**	**15 07 05.9**	**+0.2**
JYNG	**Yonagunijimaku**	**0.77**	**67**	A	A	15 06 55.2	
	comp=E,4.0nm,2.4s,comp=N,5.0nm,4.6s						
NNS	**Nan Shan**	**0.78**	**292**	⇓P	**Pn**	**15 06 54.9**	**-0.5**
	baz=292						
NNS				S	**Sn**	**15 07 05.4**	**-0.5**
	baz=292						
FUSB	**Fushanzhiwuyua**	**0.80**	**319**	P	**Pn**	**15 06 55.6**	**-0.1**
	baz=321						
FUSB				S	**Sn**	**15 07 06.2**	**-0.2**
	baz=321						
WHF	**Hehuan Shan**	**0.82**	**270**	*e*P	**Pn**	**15 06 56.0**	**-0.2**
	baz=260						
EGFH	**Guangfu**	**0.83**	**235**	*e*P	**Pn**	**15 06 55.3**	**-0.7**
	baz=227						
WARBT	**Fenglin Townsh**	**0.83**	**239**	*e*P	**Pn**	**15 06 55.4**	**-0.7**
	baz=230						
YOJ	**Yonaguni jima**	**0.83**	**68**	P	**Pn**	**15 06 56.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.83**	**68**	P	**Pn**	**15 06 56.0**	**-0.1**
YOJ				S	**Sn**	**15 07 07.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.83**	**68**	⇓*i*P	**Pn**	**15 06 55.9**	**-0.1**
	baz=69						
YOJ				*e*S	**Sn**	**15 07 06.9**	**-0.3**
	baz=69						
FUSS	**Fushou**	**0.84**	**277**	*e*P	**Pn**	**15 06 56.0**	**-0.4**
	baz=269						
NWLT	**Wulai**	**0.86**	**316**	⇓P	**Pn**	**15 06 56.6**	**+0.1**
	baz=317						
NWLT				*i* S	**Sn**	**15 07 07.5**	**-0.5**
	baz=317						
TWB1	**Santiao Chiao**	**0.87**	**349**	*e*P	**Pn**	**15 06 56.1**	**-0.4**
	baz=352						
TWB1				*e*S	**Sn**	**15 07 07.7**	**-0.3**
	baz=352						
TIPB	**Shuangxi**	**0.87**	**339**	*e*P	**Pn**	**15 06 56.9**	**+0.3**
	baz=341						
TIPB				S	**Sn**	**15 07 08.0**	**-0.1**
	baz=341						
YHNB	**Yeheng**	**0.88**	**306**	P	**Pn**	**15 06 56.7**	**-0.1**
YHNB	**Yeheng**	**0.88**	**306**	⇓*i*P	**Pn**	**15 06 56.7**	**-0.1**
	baz=298						
YHNB				*i* S	**Sn**	**15 07 07.3**	**-1.2**
	baz=298						
NSK	**Sanguang**	**0.90**	**306**	⇓*i*P	**Pn**	**15 06 56.8**	**-0.2**
	baz=297						
NSK				S	**Sn**	**15 07 07.8**	**-1.1**
	baz=297						
TWT	**Tachien**	**0.91**	**277**	*e*P	**Pn**	**15 06 57.6**	**+0.4**
	baz=267						
TWT				*i* S	**Sn**	**15 07 09.1**	**-0.1**
	baz=267						
CHGB	**Renai**	**0.91**	**264**	*e*P	**Pn**	**15 06 57.2**	**-0.1**
	baz=255						
CHGB				S	**Sn**	**15 07 07.7**	**-1.6**
	baz=255						
OWD	**Renai**	**0.92**	**258**	P	**Pn**	**15 06 57.1**	**-0.3**
	baz=257						
OWD				*e*S	**Sn**	**15 07 08.1**	**-1.5**
	baz=257						
TDCB	**Techi**	**0.92**	**276**	*e*P	**Pn**	**15 06 57.1**	**-0.3**
	baz=267						
TDCB				S	**Sn**	**15 07 08.5**	**-1.1**
	baz=267						
HGSD	**Ruisui**	**0.94**	**226**	*e*P	**Pn**	**15 06 57.0**	**-0.6**
	baz=219						
HGSD				S	**Sn**	**15 07 09.2**	**-0.6**
	baz=219						
WUSB	**Renai**	**0.97**	**261**	*e*P	**Pn**	**15 06 57.8**	**-0.2**
	baz=260						
WUSB				S	**Sn**	**15 07 09.9**	**-0.7**
	baz=260						
SXI1	**Grass Mountain**	**0.97**	**344**	*e*P	**Pn**	**15 06 57.6**	**-0.4**
	baz=357						
SXI1				S	**Sn**	**15 07 10.9**	**+0.2**
	baz=357						
NWF	**Wu-fen Shan**	**0.98**	**339**	*e*P	**Pn**	**15 06 58.2**	**+0.1**
	baz=353						
NWF				*e*S	**Sn**	**15 07 11.3**	**+0.4**
	baz=353						
WFSB	**Wu-fen Shan**	**0.98**	**339**	*e*P	**Pn**	**15 06 58.1**	**+0.1**
	baz=353						
WFSB				S	**Sn**	**15 07 11.3**	**+0.6**
	baz=353						
NHDH	**Xindian Distri**	**0.99**	**324**	*e*P	**Pn**	**15 06 58.8**	**+0.5**
	baz=326						
NHDH				S	**Sn**	**15 07 11.5**	**+0.4**
	baz=326						
EHY	**Hungye**	**1.00**	**230**	*e*P	**Pn**	**15 06 57.8**	**-0.6**
	baz=238						
VWDT	**VWDT**	**1.01**	**247**	*e*P	**Pn**	**15 06 58.5**	**0.0**
	baz=238						
VWDT				*e*S	**Sn**	**15 07 10.9**	**-0.7**
	baz=238						
TATO	**Taipei**	**1.02**	**323**	P	**Pn**	**15 06 59.1**	**+0.5**
TATO	**Taipei**	**1.02**	**323**	⇓*e*P	**Pn**	**15 06 58.9**	**+0.3**
	baz=324						
TATO				*i* S	**Sn**	**15 07 12.3**	**+0.5**
	baz=324						
TNOU	**National Taiwa**	**1.05**	**340**	*e*P	**Pn**	**15 06 58.2**	**-0.9**
	baz=353						
ECBN	**Changbin**	**1.06**	**218**	*e*P	**Pn**	**15 06 59.1**	**0.0**
	baz=207						
ECBN				*e*S	**Sn**	**15 07 11.7**	**-0.9**
	baz=207						
NFF	**Wufeng Townshi**	**1.07**	**297**	*e*P	**Pn**	**15 07 00.4**	**+1.1**
	baz=297						
NFF				*e*S	**Sn**	**15 07 12.9**	**-0.1**
	baz=297						
TAP	**Taipei**	**1.07**	**326**	*e*P	**Pn**	**15 06 59.3**	**+0.1**
	baz=327						
TAP				*e*S	**Sn**	**15 07 13.7**	**+0.8**
	baz=327						
YULB	**Yu-li**	**1.10**	**227**	P	**Pn**	**15 06 59.3**	**-0.4**
YULB	**Yu-li**	**1.10**	**227**	*e*P	**Pn**	**15 06 59.0**	**-0.6**
	baz=236						
WPL	**Puli Township**	**1.11**	**263**	*e*P	**Pn**	**15 07 00.2**	**+0.3**
	baz=257						
WPL				*e*S	**Sn**	**15 07 13.7**	**-0.3**
	baz=257						
EYUL	**Yuli**	**1.11**	**224**	*e*P	**Pn**	**15 06 59.8**	**-0.1**
	baz=235						
EYUL				*e*S	**Sn**	**15 07 14.2**	**+0.1**
	baz=235						
WHP	**Taichung City**	**1.12**	**277**	*e*P	**Pn**	**15 07 00.7**	**+0.7**
	baz=269						
WHP				*e*S	**Sn**	**15 07 14.2**	**-0.1**
	baz=269						
TWF1	**Yuli**	**1.12**	**225**	*e*P	**Pn**	**15 06 59.5**	**-0.5**
	baz=235						
YM01	**YM01**	**1.13**	**332**	*e*P	**Pn**	**15 07 00.3**	**+0.2**
	baz=333						
YM01				S	**Sn**	**15 07 14.7**	**+0.2**
	baz=333						
DPDB	**Guoxing**	**1.14**	**264**	*e*P	**Pn**	**15 07 00.6**	**+0.4**
	baz=264						
NJD	**Zhudong**	**1.14**	**301**	*e*P	**Pn**	**15 07 01.1**	**+0.9**
	baz=301						
NJD				*e*S	**Sn**	**15 07 15.8**	**+1.2**
	baz=301						
WCS	**Beigang Elemen**	**1.15**	**266**	*e*P	**Pn**	**15 07 00.8**	**+0.5**
	baz=260						
NTY	**Taoyuan**	**1.15**	**317**	*e*P	**Pn**	**15 07 00.4**	**0.0**
	baz=328						
LIOB	**Emei**	**1.16**	**295**	⇓P	**Pn**	**15 07 01.3**	**+0.9**
	baz=296						
LIOB				*e*S	**Sn**	**15 07 15.8**	**+0.7**
	baz=296						
YM08	**YM08**	**1.16**	**333**	*e*P	**Pn**	**15 06 59.9**	**-0.5**
	baz=334						
NSTT	**Nanjuang**	**1.16**	**294**	⇓*i*P	**Pn**	**15 07 01.4**	**+0.9**
	baz=295						
NSTT				*i* S	**Sn**	**15 07 15.4**	**+0.2**
	baz=295						
TWS1	**Kuangyinshan**	**1.16**	**324**	⇓*e*P	**Pn**	**15 07 00.8**	**+0.2**
	baz=334						
TWS1				S	**Sn**	**15 07 16.0**	**+0.8**
	baz=334						
SSLB	**Suanglung**	**1.16**	**252**	P	**Pn**	**15 07 00.8**	**+0.2**
SSLB	**Suanglung**	**1.16**	**252**	*e*P	**Pn**	**15 07 00.6**	**0.0**
	baz=242						
ANP	**Anpu**	**1.18**	**331**	*e*P	**Pn**	**15 07 00.9**	**0.0**
	baz=332						
SMLT	**Sun Moon Lake**	**1.19**	**257**	P	**Pn**	**15 07 01.2**	**+0.3**
	baz=249						
SMLT				S	**Sn**	**15 07 16.1**	**+0.1**
	baz=249						
NTST	**Danshui**	**1.20**	**327**	*e*P	**Pn**	**15 07 01.3**	**+0.3**
	baz=339						
NTST				*e*S	**Sn**	**15 07 17.0**	**+0.8**
	baz=339						
NCU	**National Centr**	**1.21**	**313**	*e*P	**Pn**	**15 07 01.5**	**+0.4**
	baz=313						
NCUH	**Zhongli**	**1.21**	**313**	*e*P	**Pn**	**15 07 01.5**	**+0.4**
	baz=313						
NCUH				*e*S	**Sn**	**15 07 17.4**	**+1.1**
	baz=313						
HSN1	**Hsinchu**	**1.22**	**301**	*e*P	**Pn**	**15 07 01.9**	**+0.6**
	baz=302						
HSN1				S	**Sn**	**15 07 18.3**	**+1.7**
	baz=302						
TYC	**Yuchr**	**1.22**	**259**	⇓P	**Pn**	**15 07 01.6**	**+0.3**
	baz=251						
TYC				*e*S	**Sn**	**15 07 16.8**	**+0.2**
	baz=251						
TWY	**Chenhua**	**1.23**	**336**	*e*P	**Pn**	**15 07 02.5**	**+1.0**
	baz=337						
TWY				*e*S	**Sn**	**15 07 17.6**	**+0.8**
	baz=337						
FULB	**Fuli**	**1.24**	**220**	*e*P	**Pn**	**15 07 00.9**	**-0.7**
	baz=211						
SBCB	**Hsinchu**	**1.25**	**301**	*e*P	**Pn**	**15 07 02.0**	**+0.3**
	baz=301						
CHKT	**Chengkung**	**1.28**	**215**	P	**Pn**	**15 07 01.1**	**-1.0**
	baz=204						
CHKT				*i* S	**Sn**	**15 07 15.5**	**-2.6**
	baz=204						
WHYT	**Xinyi Township**	**1.28**	**250**	*e*P	**Pn**	**15 07 03.0**	**+0.7**
	baz=242						
WHYT				S	**Sn**	**15 07 18.8**	**+0.6**
	baz=242						
TWQ1	**Liyutan**	**1.28**	**279**	⇓*i*P	**Pn**	**15 07 03.4**	**+1.2**
	baz=279						
TWQ1				*i* S	**Sn**	**15 07 19.4**	**+1.2**
	baz=279						
NJN	**Zhunan**	**1.29**	**294**	*e*P	**Pn**	**15 07 02.7**	**+0.4**
	baz=295						
NJN				*e*S	**Sn**	**15 07 19.4**	**+1.0**
	baz=295						
NMLH	**Miaoli**	**1.31**	**287**	*e*P	**Pn**	**15 07 03.3**	**+0.8**
	baz=287						
EHD	**Haiduan**	**1.33**	**221**	*e*P	**Pn**	**15 07 01.8**	**-1.1**
	baz=231						
WWF	**Wufeng**	**1.34**	**266**	P	**Pn**	**15 07 04.7**	**+1.7**
	baz=265						
WWF				*e*S	**Sn**	**15 07 22.2**	**+2.6**
	baz=265						
WJS	**Zhushan**	**1.35**	**256**	*e*P	**Pn**	**15 07 04.8**	**+1.7**
	baz=255						
TCU	**Taichung**	**1.36**	**270**	P	**Pn**	**15 07 04.7**	**+1.5**
	baz=270						
TCU				*e*S	**Sn**	**15 07 22.2**	**+2.1**
	baz=270						
ECS	**Chishang**	**1.36**	**220**	*e*P	**Pn**	**15 07 03.8**	**+0.5**
	baz=218						
WNT1	**Nantou City**	**1.38**	**260**	P	**Pn**	**15 07 05.2**	**+1.7**
	baz=260						
WNT1				S	**Sn**	**15 07 22.8**	**+2.3**
	baz=260						
WNT	**Mingjian**	**1.38**	**259**	*e*P	**Pn**	**15 07 05.1**	**+1.6**
	baz=258						
WNT				*e*S	**Sn**	**15 07 22.0**	**+1.5**
	baz=258						
ALS	**Alishan**	**1.40**	**243**	*e*P	**Pn**	**15 07 05.0**	**+1.0**
	baz=233						
ALS				*e*S	**Sn**	**15 07 22.1**	**+0.6**
	baz=233						
WDJ	**Dajia District**	**1.40**	**278**	P	**Pn**	**15 07 04.9**	**+1.1**
	baz=278						
WDJ				*e*S	**Sn**	**15 07 22.3**	**+1.1**
	baz=278						
EDH	**Donghe**	**1.41**	**214**	*e*P	**Pn**	**15 07 02.5**	**-1.6**
	baz=205						
EDH				*e*S	**Sn**	**15 07 19.2**	**-2.2**
	baz=205						
ELDTW	**Lidau**	**1.42**	**228**	*e*P	**Pn**	**15 07 03.8**	**-0.4**
	baz=226						
IRIF	**Iriomote-Funau**	**1.44**	**82**	P	**Pn**	**15 07 04.5**	**+0.2**
IRIF				S	**Sn**	**15 07 22.2**	**+0.1**
WYL	**Yuanlin Townsh**	**1.46**	**263**	*e*P	**Pn**	**15 07 06.1**	**+1.5**
	baz=262						
CHN5	**Tsauling**	**1.47**	**248**	*e*P	**Pn**	**15 07 05.9**	**+1.1**
	baz=238						
CHN5				*e*S	**Sn**	**15 07 23.9**	**+1.1**
	baz=238						
WCHH	**Zhanghua**	**1.47**	**267**	*e*P	**Pn**	**15 07 06.0**	**+1.3**
	baz=267						
WCHH				*e*S	**Sn**	**15 07 24.7**	**+2.0**
	baz=267						
PCYT	**Pengchaiyu**	**1.47**	**357**	*e*P	**Pn**	**15 07 06.8**	**+1.9**
	baz=348						
HATJ	**Hateruma jima**	**1.50**	**93**	P	**Pn**	**15 07 06.0**	**+0.8**
HATJ				S	**Sn**	**15 07 24.5**	**+0.9**
WGK	**Gukeng**	**1.54**	**253**	*e*P	**Pn**	**15 07 07.0**	**+1.3**
	baz=241						
WGK				*e*S	**Sn**	**15 07 27.3**	**+2.9**
	baz=241						
WDLH	**Douliu**	**1.56**	**253**	*e*P	**Pn**	**15 07 07.5**	**+1.6**
	baz=241						
WDLH				*e*S	**Sn**	**15 07 28.2**	**+3.2**
	baz=241						
LONT	**Longtian**	**1.56**	**218**	*e*P	**Pn**	**15 07 05.5**	**-0.6**
	baz=216						
WCKO	**F

STYT	**Tauyuan**	**1.62**	**233**	*e*P	**Pn**	**15 07 07.8 +0.9**
	baz=224					
STYT				S	**Sn**	**15 07 27.4 +0.7**
	baz=224					
TPUB	**Ta-pu**	**1.64**	**239**	P	**Pn**	**15 07 08.6 +1.5**
TPUB	**Ta-pu**	**1.64**	**239**	P	**Pn**	**15 07 08.5 +1.3**
	baz=238					
TPUB				*e*S	**Sn**	**15 07 28.5 +1.4**
	baz=238					
CHN4	**Tsaushan**	**1.65**	**241**	*e*P	**Pn**	**15 07 08.8 +1.7**
	baz=231					
CHN4				*e*S	**Sn**	**15 07 30.2 +3.1**
	baz=231					
WRL	**Guolierlin Hig**	**1.65**	**262**	*e*P	**Pn**	**15 07 08.6 +1.3**
	baz=261					
WRL				*e*S	**Sn**	**15 07 29.4 +2.1**
	baz=261					
TWGBT	**Beinan**	**1.66**	**217**	P	**Pn**	**15 07 07.9 +0.5**
TWGBT	**Beinan**	**1.66**	**217**	*e*P	**Pn**	**15 07 06.2 -1.1**
	baz=216					
TWGBT				*e*S	**Sn**	**15 07 19.3 -8.1**
	baz=216					
TWG	**Pinlang**	**1.66**	**217**	*e*P	**Pn**	**15 07 06.4 -1.0**
	baz=216					
CHN2	**Minshiung**	**1.66**	**249**	*e*P	**Pn**	**15 07 09.2 +1.7**
	baz=248					
CHN2				*e*S	**Sn**	**15 07 30.4 +2.9**
	baz=248					
RLNB	**Erlin**	**1.67**	**261**	P	**Pn**	**15 07 08.7 +1.3**
	baz=261					
RLNB				S	**Sn**	**15 07 29.4 +1.7**
	baz=261					
WTP	**Ta-pu**	**1.68**	**238**	P	**Pn**	**15 07 09.0 +1.3**
	baz=237					
WTP				S	**Sn**	**15 07 29.4 +1.2**
	baz=237					
JKRS	**Kuro-shima**	**1.69**	**87**	P	**Pn**	**15 07 08.8 +1.0**
JKRS				S	**Sn**	**15 07 29.1 +0.9**
WTK	**Tuku**	**1.69**	**254**	*e*P	**Pn**	**15 07 09.7 +1.9**
	baz=244					
WTK				S	**Sn**	**15 07 31.1 +2.9**
	baz=244					
WTCT	**Ta-ch'eng**	**1.75**	**261**	*e*P	**Pn**	**15 07 09.6 +1.1**
	baz=261					
WTCT				S	**Sn**	**15 07 31.2 +1.6**
	baz=261					
TWK	**Hsinying**	**1.77**	**240**	P	**Pn**	**15 07 10.2 +1.2**
	baz=239					
TWK				S	**Sn**	**15 07 31.9 +1.6**
	baz=239					
CHN1	**Nanshi**	**1.78**	**238**	*e*P	**Pn**	**15 07 10.6 +1.5**
	baz=237					
CHN1				*e*S	**Sn**	**15 07 32.9 +2.4**
	baz=237					
SNST	**Tainan City**	**1.79**	**239**	*e*P	**Pn**	**15 07 10.7 +1.5**
	baz=238					
SNST				*e*S	**Sn**	**15 07 32.6 +2.0**
	baz=238					
SGST	**Jiashian**	**1.80**	**234**	⇓*i*P	**Pn**	**15 07 10.0 +0.7**
	baz=233					
SGST				*i* S	**Sn**	**15 07 32.1 +1.2**
	baz=233					
SLGT	**Liugui**	**1.81**	**231**	*e*P	**Pn**	**15 07 11.4 +2.0**
	baz=239					
SLGT				*e*S	**Sn**	**15 07 33.2 +2.1**
	baz=239					
JIJ	**Ishigaki jima**	**1.82**	**83**	P	**Pn**	**15 07 09.6 0.0**
JIJ				S	**Sn**	**15 07 30.3 -1.1**
WSF	**Szhu**	**1.85**	**254**	*e*P	**Pn**	**15 07 11.2 +1.2**
	baz=267					
WSF				*e*S	**Sn**	**15 07 34.7 +2.6**
	baz=267					
WSL	**Shuilin Townsh**	**1.88**	**251**	*e*P	**Pn**	**15 07 12.0 +1.6**
	baz=250					
WSL				*e*S	**Sn**	**15 07 34.8 +1.9**
	baz=250					
ICHU	**Yijhu**	**1.90**	**246**	*e*P	**Pn**	**15 07 12.1 +1.5**
	baz=245					
ICHU				*e*S	**Sn**	**15 07 35.8 +2.5**
	baz=245					
ECL	**Taimali**	**1.91**	**216**	*e*P	**Pn**	**15 07 10.1 -0.7**
	baz=215					
CHN8	**Yiju**	**1.96**	**246**	*e*P	**Pn**	**15 07 12.7 +1.2**
	baz=246					
CHN8				*e*S	**Sn**	**15 07 36.5 +1.6**
	baz=246					
SCST	**Cishan**	**1.98**	**231**	*e*P	**Pn**	**15 07 14.5 +2.7**
	baz=242					
SCST				*e*S	**Sn**	**15 07 38.5 +3.1**
	baz=242					
SSD	**Sandimen**	**1.98**	**225**	*e*P	**Pn**	**15 07 12.6 +0.8**
	baz=219					
SSD				*i* S	**Sn**	**15 07 37.0 +1.5**
	baz=219					
TSMG	**Majia**	**2.00**	**224**	*e*P	**Pn**	**15 07 13.9 +1.8**
	baz=218					
TSMG				*e*S	**Sn**	**15 07 37.9 +1.9**
	baz=218					
JISG	**Ishigakijimahi**	**2.01**	**77**	P	**Pn**	**15 07 11.9 -0.2**
JISG				S	**Sn**	**15 07 35.4 -0.6**
SHHT	**Tainan City**	**2.01**	**236**	*e*P	**Pn**	**15 07 14.5 +2.4**
	baz=248					
SCLT	**Jiali**	**2.05**	**242**	*e*P	**Pn**	**15 07 14.3 +1.5**
	baz=241					
SCLT				*e*S	**Sn**	**15 07 38.7 +1.6**
	baz=241					
TWM1	**Shoushan**	**2.07**	**231**	*e*P	**Pn**	**15 07 15.7 +2.6**
	baz=240					
TWM1				*e*S	**Sn**	**15 07 41.2 +3.5**
	baz=240					
MASBT	**Mashibuluo**	**2.08**	**223**	*e*P	**Pn**	**15 07 14.3 +1.2**
	baz=219					
MASBT				*e*S	**Sn**	**15 07 39.4 +1.6**
	baz=219					
SGLT	**Jiouru**	**2.09**	**228**	*e*P	**Pn**	**15 07 16.2 +2.9**
	baz=217					
EAST	**Anshuo**	**2.14**	**215**	*e*P	**Pn**	**15 07 15.3 +1.3**
	baz=206					
TAWH	**Dawu Township**	**2.15**	**213**	*e*P	**Pn**	**15 07 15.5 +1.4**
	baz=212					
TAWH				*e*S	**Sn**	**15 07 37.7 -1.9**
	baz=212					
LYUB	**Lan-yu**	**2.21**	**194**	*e*P	**Pn**	**15 07 13.7 -1.2**
	baz=193					
SCZT	**Fangliau**	**2.27**	**219**	*e*P	**Pn**	**15 07 16.8 +1.1**
	baz=214					
SLIU	**Shizi**	**2.30**	**213**	*e*P	**Pn**	**15 07 17.7 +1.5**
	baz=206					
JTJ	**Tarama**	**2.37**	**78**	P	**Pn**	**15 07 17.8 +0.8**
JTJ				*e*S	**Sn**	**15 07 45.2 +0.3**
PHUB	**P'eng-hu**	**2.46**	**256**	*e*P	**Pn**	**15 07 18.1 -0.2**
	baz=270					
PHUB				*e*S	**Sn**	**15 07 46.6 -0.5**
	baz=270					
PNG	**Penghu**	**2.46**	**257**	*e*P	**Pn**	**15 07 18.2 -0.2**
	baz=257					
PNG				*e*S	**Sn**	**15 07 47.2 +0.1**
	baz=257					
WDGT	**Dungji**	**2.46**	**249**	*e*P	**Pn**	**15 07 18.9 +0.5**
	baz=249					
TWKBT	**Hengchun**	**2.53**	**210**	*e*P	**Pn**	**15 07 21.3 +2.0**
	baz=203					
VWUC	**VWUC**	**2.61**	**289**	⇓*e*P	**Pn**	**15 07 19.6 -0.7**
	baz=289					
VCHM	**Qimei**	**2.68**	**250**	*e*P	**Pn**	**15 07 21.2 -0.1**
	baz=250					
VCHM				*e*S	**Sn**	**15 07 51.9 -0.7**
	baz=250					
JIRB	**Irabujima**	**2.82**	**76**	*e*S	**Sn**	**15 07 56.4 +0.2**
MATB	**Ma-tsu**	**2.83**	**315**	*e*P	**Pn**	**15 07 22.6 -0.8**
	baz=315					
MATB				*e*S	**Sn**	**15 07 53.4 -2.9**
	baz=315					
MSUT	**Lienchiang**	**2.85**	**315**	*e*P	**Pn**	**15 07 23.1 -0.7**
	baz=315					
JIKM	**Ikemajima**	**2.91**	**74**	*e*S	**Sn**	**15 07 58.4 +0.1**
JMJ	**Miyako jima 2**	**2.93**	**76**	*e*P	**Pn**	**15 07 25.9 +1.2**
	baz=77					
JMJ2	**Miyako jima3**	**2.94**	**78**	P	**Pn**	**15 07 26.1 +1.1**
JMJ2				*e*S	**Sn**	**15 07 59.2 +0.1**
JOGS	**Gusukube**	**3.02**	**78**	*e*S	**Sn**	**15 08 02.1 +1.1**
KNM	**Kinmen**	**3.41**	**275**	*e*P	**Pn**	**15 07 32.7 +1.2**
	baz=264					
KNMB	**Chin-men Tao**	**3.46**	**276**	*e*P	**Pn**	**15 07 31.4 -0.7**
	baz=265					
JOW	**Kunigami**	**6.13**	**63**	Pn	**Pn**	**15 08 06.6 -2.2**
	comp=N,2.6nm,0.3s,baz=197,slow=20,SNR=6.0					
	comp=N,23nm,1.0s					
KSRS	**Korea Array**	**14.15**	**19**	Pn	**Pn**	**15 10 01.5 +3.1**
	baz=198,slow=12,SNR=3.1					
	comp=N,1.2nm,0.5s					
MKAR	**Makanchi Array**	**38.98**	**316**	P	**P**	**15 14 00.6 -2.4**
	comp=N,0.1nm,0.4s,baz=107,slow=9.2,SNR=1.4					
	comp=N,0.1nm,0.4s					
YKA	**Yellowknife Ar**	**82.65**	**23**	P	**P**	**15 18 57.6 -1.9**
	comp=N,0.3nm,0.8s,baz=308,slow=4.8,SNR=5.9					
	comp=N,0.3nm,0.8s					

IDC ***22*** *15:07:52.2±1.1,55.°69N×110.°48E,h0km,mb3.4/4, mbtmp3.3/9,ML3.0/4,Error ellipse: s-maj=25.0km s-min=19.4km az=152.0*
MOS ***22*** *15:07:52.9±1.2,55.°74N×110.°33E,h10km,mb3.5/1,Error ellipse: s-maj=11.9km s-min=7.8km az=64.9*
BYKL ***22*** *15:07:54.6±0.2,55.°71N×110.°35E*
ISC 22 15:07:52.6±0.8,55.78N±0.°02×110.19E±0.°02,h3km±5km, n64,σ2≥61/123,mb3.5/4,3C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
NIZB	**Nizh Angarsk**	**0.36**	**269**	*e*Pg		**Pb**	**15 08 03.7**	**+2.1**
NIZB				*e*Sg		**Sb**	**15 08 10.3**	**+2.6**
NIZB				Pmax				
	217nm,0.3s							
NIZB				Smax				
	849nm,0.3s							
NIZB	**Nizh Angarsk**	**0.36**	**269**	*e*PG		**Pb**	**15 08 03.7**	**+2.1**
NIZB				*e*			15 08 10.4	
NIZB				pmax	pmax			
	comp=Z,215nm,0.3s							
NIZB				smax	smax			
	comp=N,850nm,0.3s							
KMO	**Kumora**	**0.58**	**79**	⇑*i*Pg		**Pg**	**15 08 04.0**	**+0.2**
KMO				*e*Sg		**Sg**	**15 08 10.7**	**-0.6**
KMO				Pmax				
	comp=N,253nm,0.2s							
KMO				Smax				
	comp=N,2μm,0.3s							
YOA	**Uoyan**	**0.94**	**67**	*e*Pg		**Pg**	**15 08 11.0**	**+0.5**
YOA				*e*Sg		**Sb**	**15 08 23.5**	**-0.7**
YOA				*e*Sb		**Sn**	**15 08 29.4**	**+2.9**
YOA				Pmax				
	comp=N,482nm,0.2s							
YOA				max				
	comp=N,4μm,0.3s							
YOA	**Uoyan**	**0.94**	**67**	*e*PG		**Pg**	**15 08 11.0**	**+0.5**
YOA				*e*			15 08 22.0	
YOA				pmax	pmax			
	comp=Z,180nm,0.2s							
YOA				smax	smax			
	comp=E,3μm,0.3s							
YLYR	**Ulyunkhan**	**1.06**	**148**	⇑*i*Pg		**Pg**	**15 08 12.3**	**-0.6**
YLYR				*e*Sg		**Sg**	**15 08 25.2**	**-1.5**
YLYR				Pmax				
	comp=E,869nm,0.1s							
YLYR				Smax				
	comp=E,1μm,0.2s							
YLYR	**Ulyunkhan**	**1.06**	**148**	*e*PG		**Pg**	**15 08 12.3**	**-0.6**
YLYR				*e*			15 08 24.7	
YLYR				pmax	pmax			
	comp=Z,874nm,0.1s							
YLYR				smax	smax			
	comp=N,1μm,0.1s							
SVKR	**Severomuysk**	**1.93**	**78**	*e*Pn		**Pn**	**15 08 27.4**	**+1.1**
SVKR				*e*Pg		**Pb**	**15 08 28.8**	**+0.5**
SVKR				*e*Sn		**Sn**	**15 08 50.6**	**-0.4**
SVKR				*e*Sg		**Sb**	**15 08 52.4**	**-0.4**
SVKR				*e*			15 09 01.3	
SVKR				Pmax				
	comp=N,254nm,0.4s							
SVKR				Smax				
	comp=N,3μm,0.5s							
SVKR	**Severomuysk**	**1.93**	**78**	*e*Pn		**Pn**	**15 08 27.4**	**+1.1**
SVKR				*e*			15 08 28.2	
SVKR				*e*			15 08 50.9	
SVKR				pmax	pmax			
	comp=Z,258nm,0.4s							
SVKR				smax	smax			
	comp=N,3μm,0.7s							
UKT	**Uakit**	**1.97**	**97**	⇑*i*Pg		**Pn**	**15 08 27.7**	**+0.8**
UKT				*e*Sg		**Sn**	**15 08 52.6**	**+0.4**
UKT				Pmax				
	comp=N,264nm,0.7s							
UKT				Smax				
	comp=N,935nm,0.4s							
UKT	**Uakit**	**1.97**	**97**	*e*PN		**Pn**	**15 08 27.6**	**+0.7**
UKT				*e*			15 08 52.0	
UKT				pmax	pmax			
	comp=Z,264nm,0.4s							
UKT				smax	smax			
	comp=N,896nm,0.4s							
SYVR	**Suvo**	**2.13**	**183**	*e*Pg		**Pb**	**15 08 31.8**	**+0.1**
SYVR				*e*Sg		**Sb**	**15 08 59.3**	**+0.8**
SYVR				Pmax				
	comp=N,690nm,0.5s							
SYVR				Smax				
	comp=N,2μm,0.7s							
SYVR	**Suvo**	**2.13**	**183**	*e*PN		**Pb**	**15 08 31.8**	**+0.1**
SYVR				*e*			15 08 59.7	
SYVR				pmax	pmax			
	comp=Z,704nm,0.5s							
SYVR				smax	smax			
	comp=E,2μm,0.7s							
OGRR	**Ongureny**	**2.61**	**216**	*e*Pn		**Pn**	**15 08 37.5**	**+1.9**
OGRR				*e*Pg		**Pb**	**15 08 41.5**	**+1.5**
OGRR				*e*Sg		**Sb**	**15 09 15.4**	**+2.9**
OGRR				Pmax				
	comp=E,62nm,0.4s							
OGRR				Smax				
	comp=E,248nm,0.2s							
OGRR	**Ongureny**	**2.61**	**216**	*e*PN		**Pn**	**15 08 37.0**	**+1.4**
OGRR				*e*			15 08 41.4	
OGRR				*e*			15 09 15.4	
OGRR				pmax	pmax			
	comp=Z,62nm,0.4s							
OGRR				smax	smax			
	comp=E,294nm,0.5s							
MXMB	**Maximikha**	**2.66**	**199**	*e*Pg		**Pb**	**15 08 42.5**	**+1.8**
MXMB				*e*Sn		**Sn**	**15 09 09.6**	**+0.7**
MXMB				*e*Sg		**Sg**	**15 09 17.3**	**-0.5**
MXMB				*e*SgSg		**SbSb**	**15 09 20.5**	**+1.7**
UZR	**Uzur**	**2.84**	**211**	*e*Pn		**Pn**	**15 08 40.7**	**+1.9**
UZR				*e*Pg		**Pb**	**15 08 45.6**	**+1.7**
UZR				*e*PgPg		**PbPb**	**15 08 51.0**	**+4.0**
UZR				*e*Sn		**Sn**	**15 09 14.6**	**+1.1**
UZR				*e*Sg		**Sb**	**15 09 22.1**	**+3.1**
UZR				*e*SgSg		**SbSb**	**15 09 30.4**	**+6.3**
UZR				max				
	comp=E,35nm,0.4s							
UZR				Smax				
	comp=E,267nm,0.5s							
BOD	**Bodaibo**	**2.93**	**44**	*e*Pn		**Pn**	**15 08 41.6**	**+1.6**
BOD				*e*Pg		**Pb**	**15 08 46.0**	**+0.6**
BOD				*e*Sn		**Sn**	**15 09 16.3**	**+0.7**
BOD				*e*Sg		**Sb**	**15 09 23.5**	**+1.9**
BOD				Pmax				
	comp=E,41nm,0.6s							
BOD				Smax				
	comp=E,522nm,0.3s							
BOD	**Bodaibo**	**2.93**	**44**	*e*PN		**Pn**	**15 08 41.1**	**+1.1**
BOD				*e*			15 08 46.2	
BOD				*e*			15 09 23.5	
BOD				pmax	pmax			
	comp=Z,35nm,0.4s							
BOD				smax	smax			
	comp=N,520nm,0.3s							
GORB	**Goryachinsk**	**3.01**	**202**	*e*Pn		**Pn**	**15 08 42.3**	**+1.2**
GORB				*e*Pg		**Pb**	**15 08 47.8**	**+1.0**
GORB				*e*Sg		**Sb**	**15 09 27.9**	**+4.0**
NLYR	**Nelyaty**	**3.17**	**75**	*e*Pn		**Pn**	**15 08 44.0**	**+0.7**
NLYR				*e*Pg		**Pb**	**15 08 50.2**	**+0.7**
NLYR				*e*			15 08 55.4	
NLYR				*e*Sg		**Sb**	**15 09 30.3**	**+1.8**
NLYR				*e*SgSg			15 09 38.3	
NLYR				max				
	comp=N,65nm,0.5s							
NLYR				max				
	comp=N,345nm,0.9s							
NLYR	**Nelyaty**	**3.17**	**75**	*e*PN		**Pn**	**15 08 43.8**	**+0.5**
NLYR				*e*			15 08 50.1	
NLYR				*e*			15 09 30.5	
NLYR				pmax	pmax			
	comp=Z,65nm,0.7s							
NLYR				smax	smax			
	comp=N,343nm,1.2s							
KELR	**Kotokel**	**3.27**	**203**	*e*Sg		**Sb**	**15 09 35.0**	**+3.8**
TRG	**Tyrgan**	**3.77**	**218**	*e*Pn		**Pn**	**15 08 54.0**	**+2.5**
TRG				*e*			15 08 57.7	
TRG				*e*			15 09 41.5	
TRG				*e*Sg		**Sg**	**15 09 51.4**	**-2.1**
TRG				max				
	comp=N,33nm,0.6s							
TRG				Smax				
	comp=N,184nm,0.5s							
TRG	**Tyrgan**	**3.77**	**218**	*e*PN		**Pn**	**15 08 54.1**	**+2.5**
TRG				*e*			15 09 03.2	
TRG				*e*			15 09 51.9	
TRG				pmax	pmax			
	comp=Z,23nm,0.3s							
TRG				smax	smax			
	comp=E,184nm,0.5s							
VTMR	**Vitim**	**3.89**	**18**	*e*Pn		**Pn**	**15 08 54.7**	**+1.6**
VTMR				*e*Pg		**Pg**	**15 09 05.2**	**-1.8**
VTMR				*e*Sn		**Sn**	**15 09 40.7**	**+1.6**
VTMR				*e*Sg		**Sg**	**15 09 55.1**	**-2.2**
UUDB	**Ulan-Yde**	**4.19**	**202**	*e*Pn		**Pn**	**15 08 58.6**	**+1.2**
UUDB				*e*Pg		**Pb**	**15 09 09.8**	**+2.9**
UUDB				*e*			15 09 14.2	
UUDB				*e*Sn		**Sn**	**15 09 45.3**	**-1.5**
UUDB				*e*Sg		**Sb**	**15 10 03.7**	**+5.8**
UUDB				max				
	comp=E,27nm,0.7s							
UUDB				Smax				
	comp=E,126nm,0.5s							
FFNB	**Fofonovo**	**4.25**	**210**	*e*Sg		**Sb**	**15 10 05.0**	**+5.5**
CIT	**Chita**	**4.26**	**151**	*e*Pg		**Pb**	**15 09 09.7**	**+1.7**
CIT				*e*			15 09 56.3	
CIT				*e*Sg		**Sb**	**15 10 03.8**	**+4.0**
CIT				Pmax				
	comp=E,128nm,0.5s							
CIT				Smax				
	comp=E,296nm,0.4s							
KAB	**Kabansk**	**4.28**	**211**	*e*Sg		**Sg**	**15 10 07.1**	**-2.8**
KAB				Smax				
	comp=E,502nm,1.9s							
HRMR	**Khuramsha**	**4.58**	**206**	*e*Pn		**Pn**	**15 09 04.6**	**+1.9**
HRMR				*e*Pg		**Pb**	**15 09 15.2**	**+1.7**
HRMR				*e*Sg		**Sb**	**15 10 15.2**	**+6.2**
HRMR				Pmax				
	comp=E,50nm,0.5s							
HRMR				Smax				
	comp=E,435nm,0.5s							
CRS	**Chara**	**4.64**	**73**	*e*Pn		**Pn**	**15 09 04.3**	**+0.8**
CRS				*e*Pg		**Pb**	**15 09 16.7**	**+2.2**
CRS				*e*			15 09 23.0	
CRS				*e*Sn		**Sn**	**15 09 55.6**	**-2.1**
CRS				*e*Sg		**Sb**	**15 10 15.8**	**+5.1**
CRS				max				
	comp=E,62nm,1.0s							
CRS				Smax				
	comp=E,176nm,1.4s							
CRS	**Chara**	**4.64**	**73**	*e*PN		**Pn**	**15 09 04.2**	**+0.8**
CRS				*e*			15 09 17.8	
CRS				*e*			15 10 14.9	
CRS				pmax	pmax			
	comp=Z,62nm,0.7s							
CRS				smax	smax			
	comp=E,102nm,0.7s							
BGT	**Bolshoye Golou**	**4.69**	**219**	*e*Pn		**Pn**	**15 09 04.9**	**+0.8**
BGT				*e*			15 09 07.4	
BGT				*e*			15 09 09.6	
BGT				*e*Sn		**Sn**	**15 09 57.8**	**-1.1**
BGT				*e*Sg		**Sb**	**15 10 18.9**	**+6.8**
BGT				max				
	comp=E,20nm,0.5s							
BGT				Smax				
	comp=E,125nm,0.8s							
IRK	**Irkutsk**	**4.97**	**227**	*e*Pg		**Pg**	**15 09 25.0**	**-2.7**
IRK				*e*Sn		**Sn**	**15 10 06.3**	**+0.3**
IRK				*e*Sg		**Sg**	**15 10 29.5**	**-2.6**
IRK				Pmax				
	comp=E,168nm,0.1s							
IRK				Smax				
	comp=E,128nm,0.4s							
IRK	**Irkutsk**	**4.97**	**227**	*e*PN		Pb	15 09 24.2	+4.1
IRK				*e*S		**Sn**	**15 10 06.2**	**+0.3**
IRK				*e*			15 10 29.8	
IRK				pmax	pmax			
	comp=Z,165nm,0.1s							
IRK				smax	smax			
	comp=N,326nm,0.8s							
LSTR	**Listvyanka**	**5.04**	**221**	*e*Pn		**Pn**	**15 09 11.2**	**+2.2**
LSTR				*e*			15 09 15.0	
LSTR				*e*			15 09 18.5	
LSTR				*e*Sn		**Sn**	**15 10 06.9**	**-0.7**
LSTR				*e*Sg		**Sg**	**15 10 30.6**	**-3.7**
LSTR				max				
	comp=N,19nm,0.8s							
LSTR				Smax				
	comp=N,93nm,1.2s							
IVK	**Ivanovka**	**5.25**	**223**	*e*		**Sn**	**15 10 12.2**	**-0.6**
IVK				*e*Sg		**Sg**	**15 10 36.9**	**-4.2**
IVK				Smax				
	comp=N,86nm,0.8s							
TLY	**Talaya**	**5.65**	**226**	*e*Pn		**Pn**	**15 09 20.3**	**+3.0**
TLY				*e*Pg		Pb	15 09 37.2	+5.5
TLY				*e*Sn		**Sn**	**15 10 22.1**	**-0.6**
TLY				*e*Sg		**Sg**	**15 10 48.8**	**-5.0**
TLY				*e*			15 11 01.0	
TLY				Pmax				
	comp=N,12nm,0.7s							
TLY				max				
	comp=N,96nm,0.2s							
TUP	**Tupik**	**5.77**	**100**	*e*Pn		**Pn**	**15 09 18.6**	**-0.4**
TUP				*e*Pg		**Pb**	**15 09 36.1**	**+2.3**
TUP				*e*Sn		**Sn**	**15 10 22.7**	**-2.9**
TUP				*e*Sg		**Sb**	**15 10 49.6**	**+6.4**
TUP				*e*			15 11 05.9	
TUP				Pmax				
	comp=N,19nm,0.8s							
TUP				max				
	comp=N,206nm,1.2s							
TUP	**Tupik**	**5.77**	**100**	*e*PN		**Pn**	**15 09 17.9**	**-1.1**
TUP				*e*			15 09 36.0	
TUP				*e*S		**Sn**	**15 10 20.0**	**-5.6**
TUP				*e*			15 10 49.3	
TUP				pmax	pmax			
	comp=Z,19nm,0.5s							
TUP				smax	smax			
	comp=E,185nm,0.6s							
ARS	**Arshan**	**6.00**	**233**	*e*Pn		**Pn**	**15 09 23.9**	**+1.7**
ARS				*e*Sn		**Sn**	**15 10 29.8**	**-1.6**
ARS				*e*Sg		**Sg**	**15 11 01.9**	**-3.3**
ARS				max				
	comp=E,26nm,0.5s							
ARS				Smax				
	comp=E,87nm,0.9s							
ARS	**Arshan**	**6.00**	**233**	*e*PN		**Pn**	**15 09 24.8**	**+2.6**
KPC	**Khapcheranga**	**6.23**	**167**	*e*Pn		**Pn**	**15 09 24.9**	**-0.4**
KPC				*e*			15 09 31.9	
KPC				*e*Pg		Pb	15 09 45.2	+3.6
KPC				*e*Sn		**Sn**	**15 10 32.7**	**-4.3**
KPC				*e*Sg		Sb	15 11 04.7	+8.2
KPC				Pmax				
	comp=E,17nm,1.2s							
KPC				Smax				
	comp=E,74nm,0.8s							
KPC	**Khapcheranga**	**6.23**	**167**	*e*PN		**Pn**	**15 09 24.4**	**-0.9**
KPC				*e*			15 09 43.3	
KPC				*e*S		**Sn**	**15 10 32.6**	**-4.4**
KPC				*e*			15 11 02.6	
KPC				pmax	pmax			
	comp=Z,11nm,0.5s							
KPC				smax	smax			
	comp=E,74nm,1.0s							
YKLR	**Yuktali**	**6.46**	**78**	*e*Pn		**Pn**	**15 09 28.9**	**+0.5**
YKLR				*e*Pg		Pb	15 09 49.3	+3.9
YKLR				*e*Sn		**Sn**	**15 10 38.6**	**-3.9**
YKLR				*e*Sg		Sb	15 11 11.2	+8.3
ZAK	**Zakamensk**	**6.82**	**220**	*e*		Pn	15 09 38.0	+4.5
ZAK				*e*Pg		Pb	15 09 56.9	+5.2
ZAK				*e*			15 11 00.3	
ZAK				*e*Sg		**Sg**	**15 11 25.0**	**-6.3**
ZAK				Pmax				
	comp=E,10.0nm,1.3s							

ZAK Smax
comp=E,45nm,1.1s
ZAK Zakamensk 6.82 220 *e*PN Pn 15 09 40.2 +6.7
ZAK *e* 15 11 24.5
ZAK pmax pmax
comp=Z,6.0nm,0.7s
ZAK smax smax
comp=E,45nm,0.9s
MOY Mondy 6.83 237 *e*Pn **Pn** **15 09 36.7 +3.0**
MOY *e*Pg Pb 15 09 58.4 +6.5
MOY *e*Sn **Sn** **15 10 51.8 -0.1**
MOY *e*Sg **Sg** **15 11 28.1 -3.7**
MOY Pmax
comp=E,52nm,0.6s
MOY Smax
comp=E,53nm,1.1s
MOY Mondy 6.83 237 *e*PN Pn 15 09 37.3 +3.6
MOY *e* 15 09 58.6
ORL Orlik 6.90 246 *e*Pn **Pn** **15 09 37.4 +2.8**
ORL *e* 15 09 46.9
ORL *e*Sn **Sn** **15 10 53.9 +0.3**
ORL *e*Sg **Sg** **15 11 30.7 -3.3**
ORL max
comp=E,14nm,0.8s
ORL Smax
comp=E,47nm,1.2s
ORL Orlik 6.90 246 *e*PN Pn 15 09 38.3 +3.7
ORL *e* 15 10 00.3
ORL *e*S **Sn** **15 10 55.3 +1.7**
ORL *e* 15 11 29.2
ORL pmax pmax
comp=Z,13nm,0.8s
ORL smax smax
comp=N,48nm,1.4s
SONM Songino Array 8.29 198 Pn **Pn** **15 09 55.1 +1.3**
comp=N,0.3nm,0.3s,baz=9.6,slow=9.5,SNR=3.6
SONM Lg Lg 15 12 12.2
comp=N,1.6nm,0.3s,baz=16,slow=27,SNR=13
comp=N,0.5nm,0.5s
YAK Yakutsk 11.84 50 Sn Sn 15 12 39.8 -15
comp=N,1.2nm,0.3s,baz=168,slow=20,SNR=1.5
YAK Lg Lg 15 13 56.8
comp=N,0.4nm,0.3s,baz=286,slow=20,SNR=4.7
KLR Kul'dur 14.64 108 Pn **Pn** **15 11 17.4 -2.9**
comp=N,0.1nm,0.3s,baz=327,slow=15,SNR=2.1
KLR Lg Lg 15 15 19.6
comp=N,0.1nm,0.3s,baz=249,slow=14,SNR=4.0
comp=N,0.5nm,0.3s
ZALV Zalesovo Beam 14.70 273 Pn **Pn** **15 11 21.4 +0.3**
comp=N,0.1nm,0.3s,baz=71,slow=14,SNR=2.6
comp=N,0.3nm,0.4s
TIXI Tiksi 17.80 19 P **Pn** **15 11 57.8 -3.0**
comp=N,1.4nm,0.3s,baz=247,slow=5.2,SNR=6.4
TIXI Lg Lg 15 17 08.9
comp=N,0.1nm,0.3s,baz=152,slow=22,SNR=3.6
KURK Kurchatov 19.45 268 P **Pn** **15 12 23.3 +2.2**
MKAR Makanchi Array 19.51 254 P **P** **15 12 21.9 +1.2**
comp=N,0.1nm,0.3s,baz=74,slow=6.2,SNR=2.4
comp=N,0.2nm,0.4s
KURBB Kurchatov Arra 19.54 268 P **Pn** **15 12 23.3 +1.1**
comp=N,0.5nm,0.5s,baz=65,slow=11,SNR=4.4
BVAR Borovoye Array 23.11 280 P **P** **15 13 01.8 +2.5**
comp=N,0.6nm,0.5s,baz=65,slow=10,SNR=6.1
comp=N,0.6nm,0.5s
MJAR Matsushiro Arr 27.03 124 P **P** **15 13 34.5 -1.2**
comp=N,0.8nm,0.6s,baz=311,slow=6.3,SNR=2.4
comp=N,0.8nm,0.6s
ILAR Eielson Array 46.27 35 P **P** **15 16 19.1 +0.4**
comp=N,0.5nm,0.9s,baz=314,slow=8.4,SNR=5.1
comp=N,0.5nm,0.9s
YKA Yellowknife Ar 57.00 23 P **P** **15 17 38.3 -0.5**
comp=N,0.2nm,0.6s,baz=327,slow=7.7,SNR=4.1
comp=N,0.2nm,0.6s

ISN ***22*** *15:16:26.8±2.1, 34.°64N×45.°74E, h25km, ML2.5*
TEH ***22*** *15:16:26.0, 34.°64N×45.°73E, h17km±33km, ML2.9*
ISC 22 15:16:26.8±1.5, 34.°62N±0.°09×45.°76E±0.°06, h10km, n7, σ0s85/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**230**	Pg	**Pg**	**15 16 30.4**	**-0.3**
KGS1				Sg	**Sg**	**15 16 34.4**	**+1.1**
IDHR	**Dehrash**	**0.52**	**81**	Pg	**Pg**	**15 16 36.8**	**-0.3**
IGHG	**Ghaleghazi**	**0.73**	**113**	Pg	**Pg**	**15 16 40.4**	**-0.6**
ILIN	**Lien**	**1.03**	**73**	Pg	**Pn**	**15 16 47.0**	**-0.6**
IBDR	**Badra**	**1.52**	**175**	*e*Pg	**Pn**	**15 16 53.0**	**-1.0**
	baz=354						
IBDR				*e*Sg	**Sg**	**15 17 16.0**	**+0.4**
IBDR				AML	AML	15 17 25.2	
	comp=N,70nm,0.6s						
IBDR				AML	AML	15 17 28.2	
	comp=E,68nm,0.3s						
IKFM	**Kafar-mosalman**	**2.05**	**122**	Pn	**Pn**	**15 17 02.0**	**+0.7**
HSAM	**Samen**	**2.39**	**99**	Pn	**Pn**	**15 17 07.1**	**+0.8**

IDC 22 15:21:36.7±7.4, 22.°07N×143.°48E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=301.5km s-min=24.7km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.70**	**193**	P	P	15 29 35.5	0.0
	0.5nm,0.8s,baz=16,slow=8.9,SNR=7.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**46.40**	**192**	P	P	15 30 04.9	-0.3
	0.3nm,1.0s,baz=14,slow=6.5,SNR=4.2						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**54.65**	**312**	P	P	15 31 05.9	-1.5
	0.1nm,0.5s,baz=103,slow=6.2,SNR=1.5						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**57.44**	**317**	P	P	15 31 27.6	+0.4
	0.5nm,0.6s,baz=88,slow=7.2,SNR=4.4						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**62.57**	**319**	P	P	15 32 03.0	+0.6
	0.7nm,0.5s,baz=88,slow=7.8,SNR=4.1						
	0.7nm,0.5s						

IDC ***22*** *15:37:32.3±1.8, 5.°14S×145.°02E, h0km, mb3.3/3, mbtmp3.3/5, ML2.2/2, MS2.2/1, Error ellipse: s-maj=62.2km s-min=29.2km az=107.0*
ISC 22 15:37:40.9±1.5, 5.°4S±0.°1×145.°2E±0.°2, h68km, n5, σ1s86/6, mb3.4/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.41**	**154**	Pn	**Pn**	**15 38 45.0**	**-0.4**
	0.9nm,0.3s,baz=69,slow=23,SNR=2.2						
PMG				Sn	**Sn**	**15 39 35.2**	**-0.3**
	1.6nm,0.3s,baz=145,slow=22,SNR=1.7						
PMG				LR	LR	15 40 45.0	
	comp=Z,24nm,20.1s,baz=47,slow=41						
	2.9nm,0.4s						
WRA	**Warramunga Arr**	**17.89**	**215**	P	**P**	**15 41 42.8**	**-2.2**
	baz=40,slow=12,SNR=1.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**21.15**	**210**	P	**P**	**15 42 21.4**	**+0.8**
	0.5nm,1.0s,baz=45,slow=7.9,SNR=2.5						
	0.5nm,1.0s						
STKA	**Stephens Creek**	**26.53**	**187**	P	**P**	**15 43 14.5**	**+2.1**
	0.6nm,0.5s,baz=345,slow=12,SNR=1.4						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**85.66**	**23**	P	**P**	**15 50 11.7**	**-0.2**
	0.3nm,0.7s,baz=253,slow=5.1,SNR=5.0						
	0.3nm,0.7s						

NEIC ***22*** *15:38:06.8±1.6, 18.°4S±0.°1×177.°7W±0.°2, h482km±5km, mb4.1/13, Error ellipse: s-maj=22.7km s-min=17.9km az=115.0*
IDC ***22*** *15:38:13.9±13.0, 18.°68S×177.°86W, h564km±112km, mb3.0/4, mbtmp3.9/6, Error ellipse: s-maj=145.3km s-min=24.8km az=41.0*
ISC 22 15:38:07.2±0.7, 18.°4S±0.°1×177.°7W±0.°1, h500km, n25, σ0s90/27, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.20**	**53**	P	**P**	**15 39 55.4**	**-0.2**
NIUE	**Niue**	**7.38**	**97**	P	**P**	**15 39 57.4**	**+0.1**
RAO	**Raoul Island**	**10.83**	**181**	P	**P**	**15 40 33.8**	**+0.5**
PINNC	**Pines Island,**	**14.56**	**251**	P	**P**	**15 41 11.7**	**-1.1**
DZM	**Mont Dzumac**	**15.35**	**253**	P	**P**	**15 41 24.3**	**+3.0**
	2.6nm,0.8s,baz=18,slow=20,SNR=1.9						
URZ	**Urewera**	**20.33**	**192**	P	**P**	**15 42 07.8**	**-0.9**
	2.0nm,0.6s,baz=25,slow=17,SNR=1.0						
KHZ	**Kahutara**	**25.11**	**195**	P	**P**	**15 42 51.0**	**-0.4**
FOZ	**Fox Glacier**	**27.21**	**200**	P	**P**	**15 43 10.1**	**+0.1**
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**15 44 50.4**	**+0.1**
	0.5nm,0.3s,baz=76,slow=8.3,SNR=2.8						
	0.5nm,0.3s						
WR0	**Warramunga Arr**	**45.04**	**260**	P	**P**	**15 45 38.6**	**+0.5**
WR0				IAmb	IAmb	15 45 43.9	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**45.20**	**260**	P	**P**	**15 45 39.5**	**+0.2**
WB2	**Warramunga Arr**	**45.22**	**260**	P	**P**	**15 45 39.5**	**+0.1**
WB2				IAmb	IAmb	15 45 45.9	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**45.23**	**260**	P	**P**	**15 45 39.6**	**+0.2**
WRA	**Warramunga Arr**	**45.23**	**260**	P	**P**	**15 45 39.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=99,slow=6.7,SNR=14						
WRA				PcP	**PcP**	**15 47 07.5**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=100,slow=3.8,SNR=2.7						
	comp=Z,0.8nm,0.4s						
AS31	**Alice Springs**	**45.34**	**255**	P	**P**	**15 45 40.1**	**-0.2**
ASAR	**Alice Springs**	**45.34**	**255**	P	**P**	**15 45 40.2**	**-0.1**
ASAR	**Alice Springs**	**45.34**	**255**	P	**P**	**15 45 40.8**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=92,slow=7.8,SNR=41						
ASAR				PcP	**PcP**	**15 47 08.3**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=109,slow=3.6,SNR=6.8						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**15 48 38.0**	**+0.2**
QSPA				IAmb	IAmb	15 48 39.7	
	comp=Z,5.7nm,1.4s						
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**15 48 38.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=312,slow=1.6,SNR=12						
	comp=Z,1.1nm,0.7s						
J16K	**Anvik River**	**82.48**	**8**	P	**P**	**15 49 37.4**	**+1.1**
J16K				IAmb	IAmb	15 50 04.4	
	comp=Z,8.9nm,1.5s						
K20K	**Telida**	**83.53**	**10**	P	**P**	**15 49 41.8**	**+0.1**
K20K				IAmb	IAmb	15 50 17.0	
	comp=Z,12nm,1.5s						
TRF	**Thorofare Moun**	**84.31**	**12**	P	**P**	**15 49 45.4**	**-0.4**
TRF				IAmb	IAmb	15 49 52.4	
	comp=Z,5.9nm,1.3s						
J26L	**Joseph Creek**	**86.68**	**14**	P	**P**	**15 49 58.1**	**+1.1**
D22K	**Ayikyak River**	**88.86**	**9**	P	**P**	**15 50 07.2**	**+0.1**
D22K				IAmb	IAmb	15 50 38.1	
	comp=Z,2.9nm,1.4s						
BURAR	**Bucovina Array**	**145.35**	**332**	PKPbc	**PKPbc**	**15 56 48.7**	**-0.2**

IDC 22 15:44:28.8±1.9, 9.°06S×127.°80E, h0km, mb3.4/2, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=254.5km s-min=28.9km az=62.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.53**	**150**	Pn	Pn	15 47 28.1	-0.6
	0.1nm,0.3s,baz=329,slow=13,SNR=5.5						
WRA				Sn	Sn	15 49 41.7	-7.4
	0.2nm,0.3s,baz=330,slow=23,SNR=2.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**15.66**	**159**	Pn	Pn	15 48 11.0	0.0
	baz=336,slow=9.4,SNR=5.2						
ASAR				Sn	Sn	15 51 01.6	-3.7
	baz=344,slow=26,SNR=0.9						
	0.2nm,0.6s						
STKA	**Stephens Creek**	**26.07**	**153**	P	P	15 50 04.4	+0.2
	0.7nm,0.4s,baz=330,slow=20,SNR=3.1						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**68.78**	**328**	P	P	15 55 34.8	0.0
	0.1nm,0.3s,baz=148,slow=8.2,SNR=1.0						
	0.1nm,0.3s						

IDC 22 16:01:04.0±4.5, 3.°70S×135.°22E, h0km, mb3.2/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=217.2km s-min=33.0km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.17**	**183**	Pn	Pn	16 04 50.7	-2.1
	0.1nm,0.3s,baz=2.1,slow=13,SNR=2.8						
WRA				Sn	Sn	16 07 41.2	-12
	baz=8.9,slow=21,SNR=1.7						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**19.89**	**184**	P	Pn	16 05 38.0	-0.7
	0.1nm,0.3s,baz=5.8,slow=12,SNR=14						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**68.48**	**324**	P	P	16 12 08.1	0.0
	0.2nm,0.7s,baz=103,slow=6.5,SNR=1.5						
	0.2nm,0.7s						

SOME ***22*** *16:41:35.7, 40.°32N×76.°97E, h15km*
KRNET ***22*** *16:41:37.2±0.1, 40.°51N×76.°99E, h18km, mb3.3*
NNC ***22*** *16:41:38.9±0.7, 40.°47N×77.°04E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=5.0km s-min=3.7km az=155.0*
ISC 22 16:41:39.2±1.6, 40.°49N±0.°05×77.°02E±0.°03, h5km±11km, n84, σ1s21/125, 41C-20D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.22**	**321**	⇑*e*P	**Pb**	**16 41 59.8**	**-3.2**
	baz=20						
NRN				⇑*e*S	**Sb**	**16 42 16.0**	**-3.1**
	baz=20						
TARG	**Taragay, Kyrgy**	**1.37**	**25**	⇑*e*P	**Pn**	**16 42 02.8**	**-2.6**
	baz=27						
TARG				⇑*e*S	**Sb**	**16 42 21.4**	**-2.2**
	baz=27						
KDJ	**Kajisay**	**1.64**	**4**	⇑*e*P	**Pn**	**16 42 07.3**	**-1.6**
	baz=5.0						
KDJ				⇑*e*S	**Sn**	**16 42 29.0**	**-1.5**
	baz=5.0						
ULHL	**Ulahol**	**1.85**	**342**	P	**Pn**	**16 42 12.7**	**+0.9**
	SNR=6.4						
ULHL	**Ulahol**	**1.85**	**342**	⇑*e*P	**Pn**	**16 42 10.9**	**-0.9**
	baz=42						
ULHL				⇑*i*S	**Sn**	**16 42 35.5**	**-0.1**
	baz=42						
PRZ	**Przheval'sk**	**2.24**	**27**	⇓*e*P	**Pn**	**16 42 17.5**	**+0.3**
	baz=28						
PRZ				⇓*e*S	**Sn**	**16 42 46.7**	**+1.4**
	baz=28						
ANVS	**Anan'yevo**	**2.34**	**12**	⇓*e*P	**Pn**	**16 42 18.5**	**0.0**
	baz=12						
ANVS				⇓*e*S	**Sn**	**16 42 48.3**	**+0.6**
	baz=12						
ARLS	**Aral**	**2.46**	**305**	⇑*e*P	**Pn**	**16 42 19.8**	**-0.3**
	baz=5.0						
ARLS				⇑*e*S	**Sn**	**16 42 50.7**	**+0.2**
	baz=5.0						
TNSS	**Tian-Shan**	**2.54**	**359**	Pg	**Pb**	**16 42 25.5**	**-0.1**
	10nm,0.2s						
TNSS				Lg	Lg	16 43 01.6	
	24nm,0.2s						
TNSS	**Tian-Shan**	**2.54**	**359**	*e*P	**Pb**	**16 42 25.5**	**-0.1**
	10nm,0.2s						
TNSS				*e*S	**Sg**	**16 43 01.6**	**+0.6**
	24nm,0.2s						
IZV	**Izvestkoviy**	**2.56**	**353**	Pg	**Pb**	**16 42 26.0**	**+0.3**
	3.7nm,0.2s						
IZV				Lg	Lg	16 43 02.1	
	53nm,0.5s						
IZV	**Izvestkoviy**	**2.56**	**353**	*e*P	**Pb**	**16 42 26.0**	**+0.3**
	3.7nm,0.2s						
IZV				*e*S	**Sg**	**16 43 02.1**	**+0.5**
	53nm,0.5s						
UCH	**Uchtor**	**2.57**	**313**	P	**Pb**	**16 42 25.1**	**-0.9**
	SNR=6.1						
UCH	**Uchtor**	**2.57**	**313**	⇑*e*P	**Pn**	**16 42 21.7**	**-0.1**
	baz=13						
UCH				⇑*i*S	**Sn**	**16 42 53.8**	**+0.2**
	baz=13						
TKM2	**Tokmak 2**	**2.65**	**337**	P	**Pn**	**16 42 25.6**	**+2.7**
	SNR=13						
TKM2	**Tokmak 2**	**2.65**	**337**	⇑Pn	**Pn**	**16 42 25.3**	**+2.5**
	5.8nm,0.4s						
TKM2				⇓Lg	Lg	16 43 03.7	
	30nm,0.7s						
TKM2	**Tokmak 2**	**2.65**	**337**	⇑*e*P	**Pn**	**16 42 22.7**	**-0.1**
	baz=37						
TKM2				⇑*e*S	**Sn**	**16 42 55.5**	**+0.1**
	baz=37						
KBK	**Karagaybulak**	**2.67**	**325**	P	**Pb**	**16 42 26.9**	**-0.6**
	SNR=40						
KBK	**Karagaybulak**	**2.67**	**325**	⇑*e*P	**Pn**	**16 42 22.9**	**-0.1**
	baz=25						
KBK				⇑*e*S	**Sn**	**16 42 55.9**	**+0.2**
	baz=25						
KST	**Kastek**	**2.67**	**343**	Pg	**Pb**	**16 42 27.9**	**+0.3**
	12nm,0.2s						
KST				Lg	Lg	16 43 05.6	
	37nm,0.5s						
KST	**Kastek**	**2.67**	**343**	*e*P	**Pb**	**16 42 27.9**	**+0.3**
	12nm,0.2s						
KST				*e*S	**Sg**	**16 43 05.6**	**+0.6**
	37nm,0.5s						
MDOK	**Medeo**	**2.67**	**0**	⇑Pg	**Pb**	**16 42 27.8**	**+0.2**
	17nm,0.6s						
MDOK				Pg	**Pb**	**16 42 28.0**	**+0.4**
	8.7nm,0.3s						
MDOK				Lg	Lg	16 43 04.9	
	76nm,1.0s						
MDOK				Lg	Lg	16 43 05.8	
	43nm,0.3s						
MDOK	**Medeo**	**2.67**	**0**	*e*P	**Pb**	**16 42 28.0**	**+0.4**
	8.7nm,0.3s						
MDOK				*e*S	**Sg**	**16 43 05.8**	**+0.8**
	43nm,0.3s						
MTBS	**Maitube**	**2.67**	**351**	Pg	**Pb**	**16 42 27.4**	**-0.2**
	4.1nm,0.2s						
MTBS				Lg	Lg	16 43 04.6	
	41nm,0.3s						
MTBS	**Maitube**	**2.67**	**351**	*e*P	**Pb**	**16 42 27.4**	**-0.2**
	4.1nm,0.2s						
MTBS				*e*S	**Sg**	**16 43 04.7**	**-0.5**
	41nm,0.3s						
AAA	**Alma-Ata**	**2.72**	**358**	Pg	**Pb**	**16 42 29.3**	**+0.9**
	23nm,0.1s						
AAA				Lg	Lg	16 43 07.7	
	68nm,0.1s						
AAA	**Alma-Ata**	**2.72**	**358**	*e*P	**Pb**	**16 42 29.2**	**+0.9**
	23nm,0.1s						
AAA				*e*S	**Sg**	**16 43 07.7**	**+1.2**
	68nm,0.1s						
KNDC	**Almaty**	**2.73**	**359**	⇑Pg	**Pb**	**16 42 28.8**	**+0.4**
	22nm,0.5s						
KNDC				⇓Lg	Lg	16 43 07.3	
	155nm,0.7s						
SFK	**Sufi-Kurgan**	**2.74**	**261**	⇑*e*P	**Pn**	**16 42 23.3**	**-0.7**
	baz=61						
SFK				⇑*e*S	**Sn**	**16 42 57.5**	**0.0**
	baz=61						
KASK	**Kaskelen**	**2.74**	**354**	⇓Pg	**Pb**	**16 42 28.9**	**+0.2**
KASK				⇑Lg	Lg	16 43 06.8	
KOTS	**Kotyrbulak**	**2.74**	**1**	Pg	**Pb**	**16 42 29.3**	**+0.5**
	9.0nm,0.1s						
KOTS				Lg	Lg	16 43 07.9	
	148nm,0.5s						
KOTS	**Kotyrbulak**	**2.74**	**1**	*e*P	**Pb**	**16 42 29.3**	**+0.5**
	9.0nm,0.1s						
KOTS				*e*S	**Sg**	**16 43 07.9**	**+0.6**
	148nm,0.5s						
SATY	**Saty**	**2.77**	**21**	Pg	**Pb**	**16 42 29.1**	**-0.2**
	8.3nm,0.2s						
SATY				Lg	Lg	16 43 07.4	
	67nm,0.3s						
SATY	**Saty**	**2.77**	**21**	*e*P	**Pb**	**16 42 29.1**	**-0.2**
	8.3nm,0.2s						
SATY				*e*S	**Sg**	**16 43 07.4**	**-0.7**
	67nm,0.3s						
AAK	**Ala-Archa**	**2.86**	**319**	P	**Pb**	**16 42 33.1**	**+2.2**
	SNR=30						
AAK	**Ala-Archa**	**2.86**	**319**	⇓*e*P	**Pn**	**16 42 25.6**	**-0.1**
	baz=19						
AAK				⇓*e*S	**Sn**	**16 43 00.6**	**0.0**
	baz=19						
DGS	**Degeres**	**2.90**	**342**	Pg	**Pb**	**16 42 31.7**	**+0.2**
	15nm,0.7s						
DGS				Lg	Lg	16 43 12.2	
	27nm,0.3s						
DGS	**Degeres**	**2.90**	**342**	*e*P	**Pb**	**16 42 31.7**	**+0.2**
	15nm,0.7s						
DGS				*e*S	**Sg**	**16 43 12.2**	**-0.4**
	27nm,0.3s						
FRU1	**Bishkek**	**2.93**	**323**	⇑*e*P	**Pn**	**16 42 26.8**	**+0.3**
	baz=23						
FRU1				⇑*e*S	**Sn**	**16 43 02.6**	**+0.5**
	baz=23						
AML	**Almayashu**	**3.00**	**304**	P	**Pn**	**16 42 29.6**	**+1.9**
	SNR=15						
AML	**Almayashu**	**3.00**	**304**	⇓Pn	**Pn**	**16 42 28.9**	**+1.2**
	1.5nm,0.6s						
AML				⇑Lg	Lg	16 43 14.4	
	20nm,0.8s						
AML	**Almayashu**	**3.00**	**304**	⇓*e*P	**Pn**	**16 42 27.6**	**-0.1**
	baz=4.0						
AML				⇓*e*S	**Sn**	**16 43 04.1**	**-0.1**
	baz=4.0						
CHMS	**Chumysh**	**3.03**	**327**	P	**Pn**	**16 42 30.2**	**+2.4**
	SNR=5.9						
CHMS	**Chumysh**	**3.03**	**327**	⇑Pn	**Pn**	**16 42 29.7**	**+1.8**
	18nm,0.9s						
CHMS				⇓Lg	Lg	16 43 15.1	
	29nm,0.6s						
CHMS	**Chumysh**	**3.03**	**327**	⇑*e*P	**Pn**	**16 42 27.7**	**-0.1**
	baz=27						
CHMS				⇑*e*S	**Sn**	**16 43 04.3**	**-0.1**
	baz=27						
UZB	**Uzynbulak**	**3.05**	**29**	Pg	**Pb**	**16 42 34.3**	**+0.3**
	8.9nm,0.3s						
UZB				Lg	Lg	16 43 16.4	
	28nm,0.3s						
UZB	**Uzynbulak**	**3.05**	**29**	*e*P	**Pb**	**16 42 34.3**	**+0.3**
	8.9nm,0.3s						
UZB				*e*S	**Sg**	**16 43 16.4**	**-0.7**
	28nm,0.3s						
KURS	**Kuram**	**3.12**	**16**	Pg	**Pb**	**16 42 35.8**	**+0.7**
	11nm,0.4s						
KURS				Lg	Lg	16 43 19.0	
	25nm,0.6s						
KURS	**Kuram**	**3.12**	**16**	*e*P	**Pb**	**16 42 35.8**	**+0.7**
	11nm,0.4s						
KURS				*e*S	**Sg**	**16 43 19.0**	**-0.3**
	25nm,0.6s						
ARSB	**Arslanbob**	**3.17**	**287**	⇑*e*P	**Pn**	**16 42 29.8**	**-0.1**
	baz=86						
ARSB				⇑*e*S	**Sn**	**16 43 08.0**	**-0.2**
	baz=86						
KPKS	**Kokpek**	**3.22**	**22**	Pg	**Pb**	**16 42 37.0**	**0.0**
	8.6nm,0.2s						
KPKS				Lg	Lg	16 43 21.1	
	103nm,0.3s						
KPKS	**Kokpek**	**3.22**	**22**	*e*P	**Pb**	**16 42 37.0**	**0.0**
	8.6nm,0.2s						
KPKS				*e*S	**Sg**	**16 43 21.1**	**-1.5**
	103nm,0.3s						
SHLS	**Shalkode**	**3.23**	**34**	Pg	**Pg**	**16 42 40.9**	**-0.2**
	12nm,0.3s						
SHLS				Lg	Lg	16 43 27.6	
	51nm,1.6s						
SHLS	**Shalkode**	**3.23**	**34**	*e*P	**Pg**	**16 42 40.9**	**-0.2**
	12nm,0.3s						
SHLS				*e*S	**Sg**	**16 43 27.6**	**+4.7**
	51nm,1.6s						
KTBS	**Karatobe**	**3.23**	**356**	Pg	**Pb**	**16 42 37.4**	**+0.3**
	8.3nm,0.3s						
KTBS				Lg	Lg	16 43 22.0	
	68nm,0.6s						
KTBS	**Karatobe**	**3.23**	**356**	*e*P	**Pb**	**16 42 37.4**	**+0.3**
	8.3nm,0.3s						
KTBS				*e*S	**Sg**	**16 43 22.0**	**-1.0**
	68nm,0.6s						
OHH	**Osh**	**3.23**	**272**	⇓*e*P	**Pn**	**16 42 30.5**	**-0.1**
	baz=72						
OHH				⇓*e*S	**Sn**	**16 43 09.2**	**-0.3**
	baz=72						
EKS2	**Erkin-Say**	**3.26**	**313**	P	**Pn**	**16 42 34.3**	**+3.2**
	SNR=8.5						
EKS2	**Erkin-Say**	**3.26**	**313**	⇑*e*P	**Pn**	**16 42 31.1**	**0.0**
	baz=13						
EKS2				⇑*e*S	**Sn**	**16 43 10.1**	**-0.2**
	baz=13						
USP	**Ospenovka**	**3.35**	**327**	P	Pn	**16 42 43.6**	**+0.1**
	SNR=14						
USP	**Ospenovka**	**3.35**	**327**	⇓*e*P	**Pn**	**16 42 32.3**	**0.0**
	baz=27						
USP				⇓*e*S	**Sn**	**16 43 12.0**	**-0.5**
	baz=27						
KRBS	**Karabastau**	**3.36**	**343**	Pg	**Pb**	**16 42 40.1**	**+0.8**
	9.6nm,0.3s

	9.6nm,0.3s								
KRBS					*e*S		**Sg**	**16 43 26.6**	**-0.5**
	23nm,0.5s								
CHKK	**Chushkaly**	**3.36**	**360**		Pg		**Pb**	**16 42 39.9**	**+0.6**
	6.3nm,0.3s								
CHKK					Lg		Lg	16 43 26.1	
	30nm,0.3s								
CHKK	**Chushkaly**	**3.36**	**360**		*e*P		**Pb**	**16 42 39.9**	**+0.6**
	6.3nm,0.3s								
CHKK					*e*S		**Sg**	**16 43 26.1**	**-1.0**
	30nm,0.3s								
PDGK	**Podgornoye**	**3.38**	**32**		Pg		**Pb**	**16 42 40.3**	**+0.6**
	7.8nm,0.3s								
PDGK					Lg		Lg	16 43 26.6	
	28nm,0.6s								
PDGK	**Podgornoye**	**3.38**	**32**		⇓Lg		Lg	16 43 26.3	
	111nm,0.8s								
KUU	**Kurty**	**3.44**	**352**		Pg		**Pb**	**16 42 40.5**	**-0.1**
	4.4nm,0.3s								
KUU					Lg		Lg	16 43 27.3	
	30nm,0.5s								
KUU	**Kurty**	**3.44**	**352**		*e*P		**Pb**	**16 42 40.5**	**-0.1**
	4.4nm,0.3s								
KUU					*e*S		**Sg**	**16 43 27.2**	**-2.4**
	30nm,0.5s								
SGDS	**Sogindy**	**3.46**	**330**		Pg		**Pb**	**16 42 40.8**	**-0.2**
	2.4nm,0.3s								
SGDS					Lg		Lg	16 43 27.6	
	14nm,0.5s								
MRKS	**Merke**	**3.63**	**310**		Pg		**Pb**	**16 42 43.2**	**-0.7**
	6.3nm,0.3s								
MRKS					Lg		Lg	16 43 31.8	
	27nm,0.3s								
MRKS	**Merke**	**3.63**	**310**		*e*P		**Pb**	**16 42 43.2**	**-0.7**
	6.3nm,0.3s								
MRKS					*e*S		**Sb**	**16 43 31.8**	**+3.5**
	27nm,0.3s								
BLB	**Baldybastay**	**3.76**	**16**		Pg		**Pb**	**16 42 47.0**	**+0.8**
	7.6nm,0.2s								
BLB					Lg		Lg	16 43 38.1	
	26nm,0.4s								
KTMS	**Ketmen**	**3.86**	**39**		Pg		**Pb**	**16 42 48.9**	**+1.1**
	2.3nm,0.2s								
KTMS					Lg		Lg	16 43 41.6	
	14nm,0.4s								
KTMS	**Ketmen**	**3.86**	**39**		*e*P		**Pb**	**16 42 48.9**	**+1.1**
	2.3nm,0.2s								
KTMS					*e*S		**Sg**	**16 43 41.6**	**-1.5**
	14nm,0.4s								
DRK	**Karamyk**	**4.14**	**258**⇑		*e*P		**Pn**	**16 42 43.2**	**-0.1**
	baz=57								
DRK				⇑	*e*S		**Sn**	**16 43 31.7**	**-0.5**
	baz=57								
KNOS	**Konyrlen**	**4.18**	**22**		Pg		**Pb**	**16 42 56.0**	**+2.6**
	5.3nm,0.3s								
KNOS					Lg		Lg	16 43 53.6	
	10nm,0.7s								
DJR	**Jarkent**	**4.35**	**27**		Pg		**Pb**	**16 42 57.6**	**+1.4**
	2.2nm,0.1s								
DJR					Lg		Lg	16 43 56.6	
	16nm,0.3s								
DJR	**Jarkent**	**4.35**	**27**		*e*P		**Pb**	**16 42 57.6**	**+1.4**
	2.2nm,0.1s								
DJR					*e*S		**Sg**	**16 43 56.6**	**-2.3**
	16nm,0.3s								
BTK	**Batken**	**4.77**	**267**⇑		*e*P		**Pn**	**16 42 51.5**	**-0.2**
	baz=66								
BTK				⇑	*e*S		**Sn**	**16 43 46.3**	**-1.1**
	baz=66								
KK31	**Karatay Array**	**5.52**	**300**		Pn		**Pn**	**16 43 03.6**	**+1.6**
	0.5nm,0.4s,baz=137,slow=12,SNR=12								
KK31				⇑	Pg		**Pb**	**16 43 18.7**	**+2.6**
	2.9nm,0.6s,baz=131,slow=17,SNR=13								
KK31				⇑	Lg		Lg	16 44 36.2	
	3.7nm,0.5s,baz=126,slow=28,SNR=7.1								
MAKZ	**Makanchi**	**7.26**	**28**	⇑	Pn		**Pn**	**16 43 27.5**	**+1.6**
	2.2nm,1.1s								
MAKZ				⇑	Lg		Lg	16 45 30.6	
	2.7nm,0.8s								
MK31	**Makanchi Array**	**7.37**	**29**	⇓	Pn		**Pn**	**16 43 28.0**	**+0.6**
	0.4nm,0.4s,baz=202,slow=12,SNR=13								
MK31				⇓	Lg		Lg	16 45 31.8	
	5.2nm,1.2s,baz=202,slow=12,SNR=13								
KURK	**Kurchatov**	**10.29**	**6**	⇑	Lg		Lg	16 47 04.2	
	6.7nm,1.4s								

IDC 22 16:44:40.7±49.0, 22°43S×175°63W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=910.9km s-min=158.8km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.00**	**247**	P	P	16 52 07.9	-1.1
	0.8nm,0.4s,baz=91,slow=10,SNR=6.1						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**46.26**	**258**	P	P	16 53 08.2	0.0
	0.9nm,0.7s,baz=96,slow=7.6,SNR=19						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**46.55**	**263**	P	P	16 53 11.0	+0.5
	1.2nm,0.6s,baz=100,slow=8.1,SNR=17						
	1.2nm,0.6s						

IDC 22 16:58:02.2±5.8, 17°27S×168°22E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=270.7km s-min=37.9km az=146.0

NOU 22 16:58:15.0, 19°34S×169°23E, h98km, MLv4.7/11, Vanuatu Islands

ISC 22 16:58:14.3±1.3, 19°3S±0°1×169°2E±0°1, h150km, n33, σ1§13/26, mb3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.33**	**230**	P	**Pn**	**16 58 51.5**	**-1.8**
YATNC	**Mamie plateau,**	**3.48**	**217**	P	**Pn**	**16 59 06.1**	**-1.6**
PINNC	**Pines Island,**	**3.67**	**205**	P	**Pn**	**16 59 09.6**	**-0.7**
DZM	**Mont Dzumac**	**3.75**	**222**	P	**Pn**	**16 59 11.0**	**-0.4**
OUENC	**Ouen Island, N**	**3.79**	**214**	P	**Pn**	**16 59 12.1**	**+0.3**
NOUC	**Port Laguerre**	**3.87**	**223**	P	**Pn**	**16 59 12.7**	**-0.1**
ONTNC	**Ouen Toro**	**3.92**	**219**	P	**Pn**	**16 59 13.5**	**0.0**
KOUNC	**Koumac, New Ca**	**4.74**	**254**	P	**Pn**	**16 59 25.3**	**+1.0**
OUZ	**Omahuta**	**16.36**	**167**	P	**P**	**17 01 56.1**	**+0.7**
GRZ	**Great Barrier**	**17.79**	**163**	P	**Pn**	**17 02 13.6**	**+1.1**
HAZ	**Te Kaha**	**19.89**	**160**	P	**Pn**	**17 02 35.7**	**-1.5**
MXZ	**Matakaoa Point**	**19.89**	**158**	P	**Pn**	**17 02 38.0**	**+0.8**
RUGZ	**Raukumara Rang**	**20.05**	**160**	P	**P**	**17 02 36.9**	**+1.1**
URZ	**Urewera**	**20.14**	**162**	P	Pn	17 02 38.5	-1.6
WMGZ	**Waiomatatini S**	**20.16**	**158**	P	**P**	**17 02 38.2**	**+1.3**
MWZ	**Matawai**	**20.34**	**161**	P	Pn	17 02 40.9	-1.6
TWGZ	**Tauwhareparae**	**20.34**	**160**	P	**P**	**17 02 38.7**	**-0.1**
MRHZ	**Matea Rd**	**20.48**	**164**	P	Pn	17 02 45.0	+0.8
ETVZ	**East Tongariro**	**20.59**	**165**	P	Pn	17 02 48.8	+3.2
OTVZ	**Oturere**	**20.60**	**165**	P	Pn	17 02 46.0	+0.2
MTHZ	**Maungataniwha**	**20.61**	**163**	P	**P**	**17 02 42.5**	**+0.8**
NMHZ	**Naumai**	**20.83**	**163**	P	Pn	17 02 49.1	+0.6
BHHZ	**Black Hill Sta**	**21.01**	**165**	P		17 02 48.1	
KWHZ	**Kaweka Forest**	**21.04**	**164**	P	**P**	**17 02 47.6**	**+1.3**
KRHZ	**Kereru**	**21.23**	**164**	P	**P**	**17 02 50.9**	**+2.6**
KAHZ	**Kahuranaki**	**21.50**	**164**	P	**P**	**17 02 51.2**	**-0.1**
PXZ	**Pawanui**	**21.72**	**164**	P	**P**	**17 02 54.8**	**+1.3**
PRHZ	**Porangahau**	**21.88**	**164**	P	**P**	**17 02 55.8**	**+0.6**
THZ	**Tophouse**	**22.64**	**173**	P	**P**	**17 03 01.4**	**-1.2**
KHZ	**Kahutara**	**23.36**	**172**	P	**P**	**17 03 08.5**	**-0.7**
WRA	**Warramunga Arr**	**32.76**	**263**	P	**P**	**17 04 32.7**	**-0.5**
	0.9nm,1.1s,baz=89,slow=8.1,SNR=2.1						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**33.03**	**256**	P	**P**	**17 04 36.4**	**+0.8**
	0.8nm,0.6s,baz=83,slow=8.8,SNR=30						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**90.30**	**17**	P	**P**	**17 10 57.0**	**-0.6**
	0.1nm,0.4s,baz=220,slow=3.5,SNR=4.3						
	0.1nm,0.4s						

NEIC 22 17:02:21.0±1.8, 20°16N±0°04×155°78W±0°05, h26km±9km, Error ellipse: s-maj=8.7km s-min=3.5km az=48.0

HVO 22 17:02:22.1±1.7, 20°22N±0°04×155°79W±0°01, h11km±6km, ML2.9/3, ML2.7/22(NEIC), Error ellipse: s-maj=5.8km s-min=1.7km az=169.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.11**	**253**		Pg	17 02 25.4	+0.4
HPAH	**Hawaii Prepara**	**0.21**	**156**		Pg	17 02 26.3	-0.3
POHA	**Pohakuloa**	**0.52**	**152**	Sg	Sg	17 02 36.7	-2.6
HUH	**Hualalai**	**0.54**	**185**		Pg	17 02 31.7	-0.9
HUH					Sg	17 02 38.3	-1.5
KHLU	**Kahalu`u**	**0.63**	**189**		Pg	17 02 31.5	-3.0
KHLU					Sg	17 02 40.8	-2.0
KHLU	**Kahalu`u**	**0.63**	**189**	IAML		17 02 47.5	
	comp=E,265nm,2.3s						
HMH	**Humu'ula Sheep**	**0.68**	**155**		Pg	17 02 33.7	-1.7
HMH	**Humu'ula Sheep**	**0.68**	**155**	IAML		17 02 48.0	
	comp=N,260nm,3.8s						
HMH	**Humu'ula Sheep**	**0.68**	**155**		Sg	17 02 41.5	-2.9
ALEP	**Alea Permanent**	**0.69**	**169**		Pg	17 02 34.0	-1.5
ALEP					Sg	17 02 42.7	-2.0
MLOA	**Mauna Loa Obse**	**0.71**	**164**	Sg	Sg	17 02 44.3	-1.0
MWH	**Moku'aweowe**	**0.75**	**166**	IAML		17 02 53.2	
	comp=N,283nm,0.7s						
MWH				IAML		17 02 58.1	
	comp=E,345nm,1.2s						
MWH	**Moku'aweowe**	**0.75**	**166**		Pg	17 02 34.6	-2.2
MWH					Sg	17 02 45.7	-1.0
MLH	**Mauna Loa**	**0.82**	**152**		Pg	17 02 35.5	-2.5
MLH	**Mauna Loa**	**0.82**	**152**	IAML		17 02 42.5	
	comp=N,308nm,2.9s						
MLH				IAML		17 02 54.3	
	comp=E,237nm,3.1s						
MLH	**Mauna Loa**	**0.82**	**152**		Sg	17 02 45.4	-3.3
RSD	**Rainshed**	**0.89**	**147**	Pg	Pg	17 02 37.2	-2.2
RSD				IAML		17 02 59.8	
	comp=N,391nm,2.6s						
AIN	**Ainahou**	**0.90**	**160**		Pg	17 02 36.6	-2.9
AIN					Sg	17 02 47.8	-3.5
AIN	**Ainahou**	**0.90**	**160**	IAML		17 03 05.3	
	comp=E,286nm,3.9s						
AIN				IAML		17 03 07.5	
	comp=N,327nm,2.6s						
KHU	**Kahuku**	**0.98**	**170**	Pg	Pg	17 02 39.7	-1.4
KHU				IAML		17 02 59.5	
	comp=E,280nm,2.9s						
KHU				IAML		17 03 13.6	
	comp=N,294nm,4.1s						
PUH	**Pauahi**	**1.00**	**147**	Pg	Pg	17 02 39.5	-1.9
PUH				IAML		17 02 51.2	
	comp=E,283nm,4.0s						
KNHH	**Kane Nui o Ham**	**1.02**	**145**		Pg	17 02 38.1	-3.7
HLP	**Hilina Pali**	**1.02**	**154**	Pg	Pg	17 02 39.6	-2.3
JOKA	**Jonika Flow**	**1.08**	**137**		Pb	17 02 38.8	-4.0

NEIC 22 17:03:49.4±1.9, 46°49N±0°01×87°68W±0°02, h0km±1km, ML2.2/6, ML2.5(OTT), Error ellipse: s-maj=2.9km s-min=2.3km az=330.0

OTT 22 17:03:51.2±0.3, 46°49N×87°68W, h0km, MN2.5/8, Blast, Michigan, U.S. 246km southeast from Thunder Bay, On Mining explosion.

ISC 22 17:03:49.5±1.0, 46°45N±0°03×87°67W±0°03, h0km, n25, σ1§05/42, Michigan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E43A	**Lone Tree Farm**	**0.47**	**99**	Pg	**Pg**	**17 03 57.8**	**-0.8**
E43A				IAML		17 04 11.2	
	comp=N,150nm,0.1s						
F42A	**Maple Grove Fa**	**0.76**	**205**	Pg	**Pg**	**17 04 04.0**	**-0.1**
F42A				IAML		17 04 20.5	
	comp=E,94nm,0.1s						
D41A	**Chassel**	**0.87**	**315**	Pg	**Pg**	**17 04 06.1**	**-0.1**
D41A				IAML		17 04 26.3	
	comp=E,100nm,0.1s						
D41A				IAML		17 04 26.8	
	comp=N,88nm,0.1s						
H43A	**Windswept, Lux**	**1.98**	**182**	Pn	**Pn**	**17 04 24.0**	**-0.2**
H43A					**Sn**	**17 04 50.4**	**+0.6**
G45A	**Suttons Bay**	**1.99**	**134**	Pn	**Pn**	**17 04 24.2**	**-0.3**
G40A	**Rib Lake**	**2.13**	**237**	Pn	**Pn**	**17 04 26.5**	**+0.2**
G40A					**Sn**	**17 04 54.2**	**+0.7**
E46A	**Sault Ste Mari**	**2.33**	**91**	Pn	**Pn**	**17 04 29.7**	**+0.6**
E46A					**Sn**	**17 04 59.8**	**+1.4**
E46A	**Sault Ste Mari**	**2.33**	**91**	PN	**Pn**	**17 04 29.7**	**+0.6**
E46A				SN	**Sn**	**17 04 59.8**	**+1.4**
E46A				Trac		17 05 05.0	
	comp=N,3.9nm,0.1s						
PNPO	**Pukaskwa Natio**	**2.34**	**23**	Pn	**Pn**	**17 04 29.9**	**+0.6**
PNPO					**Sn**	**17 04 58.6**	**-0.2**
PNPO	**Pukaskwa Natio**	**2.34**	**23**	PN	**Pn**	**17 04 29.9**	**+0.6**
PNPO				SN	**Sn**	**17 04 58.6**	**-0.2**
PNPO				Trac		17 05 07.5	
	comp=N,4.9nm,0.1s						
TBO	**Thunder Bay**	**2.50**	**332**	Pn	**Pn**	**17 04 32.0**	**+0.6**
TBO					**Sn**	**17 05 02.7**	**+0.1**
TBO	**Thunder Bay**	**2.50**	**332**	PN	**Pn**	**17 04 32.0**	**+0.6**
TBO				SN	**Sn**	**17 05 02.7**	**+0.1**
TBO				Trac		17 05 12.9	
	comp=N,5.4nm,0.1s						
I42A	**Draeger Farm,**	**2.70**	**199**	Pn	**Pn**	**17 04 34.2**	**0.0**
EYMN	**Ely**	**3.01**	**301**	Pn	**Pn**	**17 04 38.0**	**-0.4**
EYMN	**Ely**	**3.01**	**301**	PN	**Pn**	**17 04 38.3**	**-0.2**
EYMN				SN	**Sn**	**17 05 15.2**	**0.0**
GTO	**Geraldton**	**3.33**	**8**	Pn	**Pn**	**17 04 44.0**	**+1.1**
GTO					**Sn**	**17 05 23.3**	**+0.2**
GTO	**Geraldton**	**3.33**	**8**	PN	**Pn**	**17 04 44.0**	**+1.1**
GTO				SN	**Sn**	**17 05 23.3**	**+0.2**
GTO				Trac		17 05 37.5	
	comp=N,2.2nm,0.1s						
GTOO	**Geraldton**	**3.33**	**8**	Pn	**Pn**	**17 04 43.8**	**+0.9**
GTOO					**Sn**	**17 05 22.7**	**-0.5**
GTOO	**Geraldton**	**3.33**	**8**	PN	**Pn**	**17 04 43.8**	**+0.9**
GTOO				SN	**Sn**	**17 05 22.7**	**-0.5**
GTOO				Trac		17 05 37.8	
	comp=N,2.3nm,0.1s						
ATKO	**Atikokan Iron**	**3.56**	**313**	Pn	**Pn**	**17 04 47.5**	**+1.4**
ATKO					**Sn**	**17 05 27.8**	**-1.1**
ATKO	**Atikokan Iron**	**3.56**	**313**	PN	**Pn**	**17 04 47.5**	**+1.4**
ATKO				SN	**Sn**	**17 05 27.8**	**-1.1**
ATKO				Trac		17 05 39.6	
	comp=N,2.9nm,0.2s						
KAPO	**Kapuskasing**	**4.59**	**47**	Pn	**Pn**	**17 05 00.8**	**+0.7**
KAPO	**Kapuskasing**	**4.59**	**47**	PN	**Pn**	**17 05 00.8**	**+0.7**
KAPO				SN	**Sn**	**17 05 50.4**	**-3.7**
KAPO				Trac		17 06 20.3	
	comp=N,8.1nm,0.5s						
SOLO	**Sioux Lookout**	**4.63**	**322**	Pn	**Pn**	**17 05 01.8**	**+1.1**
SOLO	**Sioux Lookout**	**4.63**	**322**	PN	**Pn**	**17 05 01.8**	**+1.1**
SOLO				SN	**Sn**	**17 05 52.6**	**-2.6**
SOLO				Trac		17 06 10.5	
	comp=N,0.8nm,0.1s						

IDC 22 17:08:01.4±3.0, 22°68N×12°21W, h0km, mb3.7/5, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=98.7km s-min=29.7km az=83.0

ISC 22 17:08:02.0±2.2, 22°6N±0°2×12°3W±0°4, h10km, n11, σ0§67/9, mb3.7/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I11CV	**MAIO ISLAND IN**	**12.65**	**237**	I	I	18 28 00.0	
	0.1nm,0.6s,baz=50,slow=316,SNR=2.1						
TORD	**Torodi Ar. Bea**	**16.26**	**123**	Pn	**Pn**	**17 11 50.6**	**0.0**
	0.1nm,0.3s,baz=328,slow=10,SNR=3.1						
	0.6nm,0.6s						
DBIC	**Dimbokro**	**17.37**	**155**	P	**P**	**17 12 06.0**	**0.0**
	0.3nm,0.3s,baz=251,slow=11,SNR=1.9						
	1.0nm,0.4s						
I42PT	**GRACIOSA ISLAN**	**21.19**	**324**	I	I	19 22 10.0	
	baz=141,slow=325,SNR=1.6						
GERES	**GERESS Array B**	**33.31**	**32**	P	**P**	**17 14 39.1**	**-0.8**
	0.9nm,0.8s,baz=236,slow=8.2,SNR=2.7						
	0.9nm,0.8s						
HFS	**Hagfors**	**41.70**	**19**	P	**P**	**17 15 50.8**	**+0.1**
	1.1nm,0.7s,baz=216,slow=7.1,SNR=1.3						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**46.89**	**24**	P	**P**	**17 16 32.2**	**0.0**
	1.4nm,0.7s,baz=235,slow=6.7,SNR=4.1						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**73.36**	**42**	P	**P**	**17 19 34.6**	**+0.6**
	0.4nm,0.5s,baz=286,slow=6.2,SNR=3.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**76.86**	**45**	P	**P**	**17 19 55.5**	**+1.2**
	0.4nm,0.7s,baz=278,slow=6.5,SNR=8.4						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**148.80**	**91**	PKPbc	**PKPbc**	**17 27 50.3**	**-0.3**
	0.7nm,0.8s,baz=289,slow=3.1,SNR=1.4						
ASAR	**Alice Springs**	**148.91**	**99**	PKPbc	**PKiKP**	**17 27 51.6**	**-0.5**
	0.4nm,0.7s,baz=286,slow=2.2,SNR=7.9						

IDC 22 17:21:23.8±0.8, 8°84N×126°24E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=32.8km s-min=12.3km az=93.0

NEIC 22 17:21:29.1±1.4, 8°94N±0°05×126°3E±0°2, h43km±9km, mb4.2/22, Error ellipse: s-maj=22.3km s-min=7.7km az=89.0

ISC 22 17:21:28.2±0.6, 8°89N±0°07×126°2E±0°2, h35km, n44, σ1§40/39, mb4.2/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.92**	**200**	Pn	**Pn**	**17 22 00.4**	**+1.9**
DAV	**Davao City (W)**	**1.92**	**200**	Pn	**Pn**	**17 21 56.9**	**-1.6**
	baz=44,slow=13						
DAV				Lg	Lg	17 22 24.7	
	29nm,0.3s,baz=336,slow=19,SNR=3.9						
TOLI2	**Tolitoli**	**9.45**	**215**	Pn	**Pn**	**17 23 42.5**	**+0.6**
SBUM	**Sibu**	**15.34**	**246**		**Pn**	**17 25 02.7**	**+0.5**
NACB	**Ninganchiao**	**15.83**	**344**	IAmb	IAmb	17 25 05.0	
	comp=Z,18nm,0.8s						
NACB				Pn	**Pn**	**17 25 06.5**	**-2.0**
GSI	**Gunungsitoli**	**29.50**	**257**	P	P	17 27 24.9	-4.6
WRA	**Warramunga Arr**	**29.75**	**164**	P	**P**	**17 27 32.1**	**+0.6**
WRA	**Warramunga Arr**	**29.75**	**164**	P	**P**	**17 27 29.7**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=347,slow=9.1,SNR=1.6						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**33.22**	**167**	P	**P**	**17 28 02.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=348,slow=7.4,SNR=22						
ASAR				PcP	**PcP**	**17 30 45.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=350,slow=2.9,SNR=5.7						
	comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.53**	**7**	P	**P**	**17 28 19.3**	**-2.5**
USRK	**Ussuriysk Ar.**	**35.53**	**7**	P	**P**	**17 28 23.6**	**+1.8**
	comp=Z,4.7nm,0.7s,baz=176,slow=7.2,SNR=7.1						
	comp=Z,4.7nm,0.7s						
MORW	**Morawa**	**39.00**	**194**	P	**P**	**17 28 50.3**	**-1.1**
FORT	**Forrest**	**39.48**	**178**	P	**P**	**17 28 55.8**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**40.36**	**72**	T	T	18 12 01.7	
	baz=262,slow=75,SNR=99						
H11S1	**WAKE ISLAND Hy**	**40.38**	**72**	T	T	18 12 03.5	
	baz=262,slow=75,SNR=72						
H11S2	**WAKE ISLAND Hy**	**40.38**	**72**	T	T	18 12 03.9	
	baz=262,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**40.74**	**70**	T	T	18 12 36.9	
	baz=266,slow=74,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.75**	**70**	T	T	18 12 38.3	
	baz=266,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hy**	**40.76**	**70**	T	T	18 12 38.3	
	baz=266,slow=74,SNR=24						
BBOO	**Buckleboo**	**42.52**	**168**	P	**P**	**17 29 19.7**	**-0.7**
STKA	**Stephens Creek**	**43.12**	**161**	P	**P**	**17 29 24.5**	**-0.8**
MK31	**Makanchi Array**	**53.10**	**323**	P	**P**	**17 30 42.3**	**0.0**
MK31				IAmb	IAmb	17 30 45.6	
	comp=Z,2.2nm,1.1s						
MKAR	**Makanchi Array**	**53.10**	**323**	P	**P**	**17 30 43.5**	**+1.2**
MKAR	**Makanchi Array**	**53.10**	**323**	P	**P**	**17 30 44.2**	**+1.9**
	comp=Z,1.6nm,0.6s,baz=123,slow=7.7,SNR=21						
MKAR				PcP	**PcP**	**17 31 51.5**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=98,slow=5.8,SNR=4.3						
	comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	**53.29**	**323**	P	**P**	**17 30 45.5**	**+1.8**
MAKZ				IAmb	IAmb	17 30 46.2	
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**55.81**	**332**	P	**P**	**17 31 02.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=119,slow=5.4,SNR=5.0						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**57.18**	**326**	P	**P**	**17 31 10.2**	**-1.4**
KURK				IAmb	IAmb	17 31 14.3	
	comp=Z,3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**57.18**	**326**	P	**P**	**17 31 12.5**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=126,slow=6.3,SNR=13						
	comp=Z,0.9nm,0.6s						
KK31	**Karatay Array**	**59.19**	**315**	P	**P**	**17 31 23.3**	**-2.6**
KK31				IAmb	IAmb	17 31 43.3	
	comp=Z,2.1nm,1.4s						
KKAR	**Karatay Array**	**59.19**	**315**	P	**P**	**17 31 23.4**	**-2.5**
TIXI	**Tiksi**	**62.72**	**1**	P	**P**	**17 31 50.5**	**+1.2**
TIXI				IAmb	IAmb	17 31 51.6	
	comp=Z,4.1nm,1.2s						
BRVK	**Borovoye**	**62.84**	**326**	P	**P**	**17 31 49.6**	**-0.8**
BRVK				IAmb	IAmb	17 32 12.7	
	comp=Z,2.2nm,0.5s						
NRIK	**Noril'sk**	**65.33**	**346**	P	**P**	**17 32 07.7**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=140,slow=5.9,SNR=4.6						
	comp=Z,1.5nm,0.4s						
ABKAR	**Akbulak array**	**67.89**	**320**	P	**P**	**17 32 23.0**	**-0.2**
ABKAR	**Akbulak array**	**67.89**	**320**	P	**P**	**17 32 22.7**	**-0.5**
ABKAR				IAmb	IAmb	17 32 50.2	
	comp=Z,1.5nm,1.1s						
K15K	**Wolf Creek Mou**	**73.94**	**28**	P	**P**	**17 32 58.3**	**-1.4**
C18K	**Utukok River**	**75.45**	**21**		**P**	**17 33 07.8**	**-0.6**
C18K				IAmb	IAmb	17 33 47.0	
	comp=Z,4.4nm,1.4s						
C19K	**Lookout Ridge**	**76.11**	**21**	P	**P**	**17 33 11.9**	**-0.3**
C19K				IAmb	IAmb	17 33 15.9	
	comp=Z,2.4nm,1.0s						
D19K	**Kuna River**	**76.52**	**22**	P	**P**	**17 33 13.5**	**-1.0**
D19K				IAmb	IAmb	17 33 22.7	
	comp=Z,5.3nm,1.5s						
B21K	**Ikpikpuk River**	**77.94**	**21**	P	**P**	**17 33 22.3**	**0.0**
D22K	**Ayikyak River**	**78.54**	**21**	P	**P**	**17 33 25.8**	**+0.1**
D22K				IAmb	IAmb	17 34 03.2	
	comp=Z,4.6nm,1.5s						
ILAR	**Eielson Array**	**80.69**	**26**	P	**P

	comp=N,705nm,0.2s							
OK035	**E0210 Rd and N**	**0.99**	**317**		Pg	Pg	17 22 52.2	-0.1
OK035					IAML		17 23 10.4	
	comp=N,692nm,0.2s							
OK035					IAML		17 23 12.3	
	comp=N,655nm,0.3s							
U32A	**Winter Ranch,**	**0.99**	**293**			Pg	17 22 52.1	-0.4
U32A					IAML		17 23 08.0	
	comp=E,334nm,0.1s							
U32A					IAML		17 23 08.9	
	comp=N,403nm,0.1s							
DEOK	**Depew**	**1.12**	**97**			Pg	17 22 54.1	-0.8
DEOK					IAML		17 23 14.4	
	comp=E,380nm,0.2s							
DEOK					IAML		17 23 14.4	
	comp=N,398nm,0.2s							
W35A	**Tecumseh**	**1.17**	**135**		Pg	Pg	17 22 55.0	-0.8
ELIS	**Ellis County**	**1.25**	**274**		IAmb_Lg		17 23 14.4	
	comp=Z,45nm,0.8s							
KAN06	**Argonia West S**	**1.26**	**1**			Pg	17 22 57.0	-0.6
KS21	**Milan North St**	**1.31**	**7**			Pn	17 22 57.7	-0.6
KAN12	**Harper NE Stat**	**1.31**	**356**		IAmb_Lg		17 23 17.2	
	comp=Z,36nm,0.8s							
X34A	**Smith Ranch, M**	**1.38**	**179**			Pn	17 22 59.3	-0.1
T35A	**Sooner Cattle**	**1.44**	**49**			Pn	17 22 60.0	-0.2
WMOK	**Wichita Mounta**	**1.45**	**211**			Pn	17 22 59.5	-0.9
TUL3	**Leonard**	**1.69**	**92**			Pn	17 23 03.5	-0.1
TUL3					IAmb_Lg		17 23 30.8	
	comp=Z,56nm,0.8s							
LOOK	**Love County**	**2.07**	**164**		Pn	Pn	17 23 08.9	+0.1
LOOK					IAmb_Lg		17 23 41.2	
	comp=Z,21nm,0.8s							
SMWD	**Samnorwood**	**2.12**	**246**			Pn	17 23 09.2	-0.5
WTFS	**Witchita Falls**	**2.27**	**193**		Pn	Pn	17 23 11.6	+0.1
RLO	**Rose Lookout**	**2.31**	**85**		Pn	Pn	17 23 11.9	-0.3
R32A	**Long Quarter,**	**2.52**	**345**			Pn	17 23 14.6	-0.4
U38A	**Gravette**	**2.86**	**80**			Pn	17 23 19.5	-0.1
FW06	**Azle**	**3.02**	**175**		IAmb_Lg		17 24 13.9	
	comp=Z,32nm,0.7s							
CBKS	**Cedar Bluff**	**3.19**	**333**		Pn	Pn	17 23 23.9	-0.3
CBKS					IAmb_Lg		17 24 22.3	
	comp=Z,21nm,0.7s							
PLPT	**Palo Pinto**	**3.19**	**187**			Pn	17 23 24.4	+0.2
HHAR	**Hobbs**	**3.20**	**84**			Pn	17 23 24.4	+0.1
APMT	**Aspermont**	**3.24**	**216**		Pn	Pn	17 23 24.8	-0.1
KSU1	**Kansas State U**	**3.27**	**18**			Pn	17 23 25.6	+0.4
FW07	**Weatherford**	**3.28**	**179**		IAmb_Lg		17 24 18.0	
	comp=Z,19nm,0.7s							
AMTX	**Amarillo**	**3.30**	**252**		Pn	Pn	17 23 25.4	-0.4
AMTX					IAmb_Lg		17 24 19.8	
	comp=Z,25nm,0.8s							
DKNS	**Dickens**	**3.42**	**228**		Pn	Pn	17 23 26.8	-0.6
RTBA	**Rita Blanca**	**3.96**	**278**		IAmb_Lg		17 24 48.2	
	comp=Z,13nm,1.0s							
SN01	**Snyder 1**	**3.99**	**220**		IAmb_Lg		17 24 42.0	
	comp=Z,15nm,0.9s							
S39A	**Bolivar**	**4.03**	**64**			Pn	17 23 35.5	-0.2
S39A					IAmb_Lg		17 24 42.1	
	comp=Z,26nm,0.8s							
POST	**Post**	**4.18**	**227**		IAmb_Lg		17 24 51.2	
	comp=Z,18nm,0.8s							
X40A	**Basin Creek Fa**	**4.39**	**108**			Pn	17 23 40.4	-0.3
WHAR	**Wooly Hollow**	**4.60**	**97**			Pn	17 23 43.4	-0.2
WHAR					IAmb_Lg		17 25 09.2	
	comp=Z,11nm,0.8s							
MGMO	**Mountain Grove**	**4.66**	**74**		Pn	Pn	17 23 43.4	-1.0
MGMO					IAmb_Lg		17 25 01.2	
	comp=Z,23nm,0.9s							
BRDY	**Brady**	**4.78**	**192**			Pn	17 23 45.0	-1.1
KSCO	**Kaye Shedlock'**	**4.84**	**310**		IAmb_Lg		17 25 14.8	
	comp=Z,14nm,0.8s							
SGCY	**Sterling City**	**4.88**	**215**			Pn	17 23 44.2	-3.3
SGCY					IAmb_Lg		17 25 19.3	
	comp=Z,19nm,0.8s							
P38A	**Dawn**	**5.00**	**42**		IAmb_Lg		17 25 13.3	
	comp=Z,11nm,0.7s							
R40A	**Maddies Statio**	**5.03**	**61**		IAmb_Lg		17 25 11.5	
	comp=Z,22nm,0.8s							
T25A	**Trinidad**	**5.39**	**284**		Pn	Pn	17 23 53.7	-0.9
T25A					IAmb_Lg		17 25 36.6	
	comp=Z,11nm,0.9s							
CCM	**Cathedral Cave**	**5.69**	**67**		IAmb_Lg		17 25 42.7	
	comp=Z,12nm,0.8s							
JCT	**Junction City**	**5.73**	**197**		IAmb_Lg		17 25 43.6	
	comp=Z,13nm,0.8s							
PBMO	**Poplar Bluff**	**6.06**	**80**		IAmb_Lg		17 25 55.2	
	comp=Z,14nm,0.7s							
MNHN	**Monahans**	**6.17**	**223**		IAmb_Lg		17 25 54.2	
	comp=Z,12nm,1.2s							

IDC 22 17:33:23.8±19.0, 22°62N×12°47W, h0km, mbtmp3.1/1, ML3.0/1, Error ellipse: s-maj=220.5km s-min=192.2km az=161.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I11CV	**MAIO ISLAND IN**	**12.50**	**236**	I	I	18 51 30.0	
	0.3nm,0.5s,baz=50,slow=315,SNR=2.3						
TORD	**Torodi Ar. Bea**	**16.43**	**123**	Pn	Pn	17 37 15.9	0.0
	0.1nm,0.3s,baz=315,slow=11,SNR=1.8						
	0.2nm,0.3s						
I17CI	**DIMBOKRO INFRA**	**17.47**	**154**	I	I	19 27 50.0	
	baz=335,slow=319,SNR=1.4						
I42PT	**GRACIOSA ISLAN**	**21.07**	**325**	I	I	19 43 31.4	
	baz=140,slow=324,SNR=1.9						

*TEH **22** 17:37:40.8, 33°.66N×45°.69E, h10km, ML2.6*
*ISN **22** 17:37:40.5±1.6, 33°.64N×45°.75E, h12km±7km, ML2.7*
ISC 22 17:37:41.5±1.0, 33°.63N±0°.05×45°.70E±0°.06, h10km, n6, σ0.50/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.55**	**160**	*e*Pg	**Pg**	**17 37 52.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**17 37 59.0**	**-0.3**
IBDR				AML	AML	17 38 09.3	
	comp=N,380nm,0.5s						
IBDR				AML	AML	17 38 17.6	
	comp=E,384nm,0.5s						
BHD	**Baghdad**	**1.16**	**253**	*e*Pg	**Pg**	**17 38 04.0**	**+0.2**
BHD				*e*Sg	**Sn**	**17 38 20.0**	**+0.3**
IDHR	**Dehrash**	**1.21**	**28**	Pg	**Pn**	**17 38 04.0**	**-0.7**
IDHR				Sg	**Sn**	**17 38 21.2**	**0.0**
IKFM	**Kafar-mosalman**	**1.79**	**93**	Pg	**Pb**	**17 38 14.3**	**-0.1**
RAFI	**Al-Rafai**	**1.93**	**170**	*e*Pn	**Pn**	**17 38 14.0**	**-0.3**
RAFI				*e*Sn	**Sb**	**17 38 41.0**	**+0.2**
RAFI				AML	AML	17 38 52.3	
	comp=E,125nm,0.4s						
RAFI				AML	AML	17 38 52.5	
	comp=N,94nm,0.6s						
HSAM	**Samen**	**2.48**	**76**	Pn	**Pn**	**17 38 23.1**	**+0.9**

IDC 22 17:43:26.8±2.4, 8°.10S×130°.09E, h0km, mb3.0/1, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=129.4km s-min=34.7km az=68.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.47**	**161**	Pn	Pn	17 46 24.9	-0.8
	0.1nm,0.3s,baz=344,slow=14,SNR=3.0						
WRA				Sn	Sn	17 48 40.9	-4.6
	0.1nm,0.3s,baz=334,slow=22,SNR=2.0						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**15.90**	**167**	Pn	Pn	17 47 13.2	+1.0
	baz=347,slow=9.2,SNR=2.3						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**69.19**	**327**	P	P	17 54 35.3	0.0
	0.1nm,0.7s,baz=126,slow=7.3,SNR=1.4						
	0.1nm,0.7s						

*IDC **22** 18:04:32.8±3.3, 4°.36S×134°.91E, h0km, mb3.2/1, mbtmp3.6/3, ML3.6/2, MS3.4/1, Error ellipse: s-maj=143.1km s-min=33.1km az=79.0*
ISC 22 18:04:41.3±3.4, 4°.7S±0°.2×134°.4E±0°.4, h35km, n12, σ3.9/41/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.81**	**309**	P	**Pn**	**18 05 21.9**	**-1.9**
KDU	**Kakadu**	**8.16**	**194**	P	**Pn**	**18 06 39.8**	**+2.5**
MTN	**Manton Dam**	**8.72**	**202**	P	Pn	18 06 48.2	+3.3
KNRA	**Kununurra**	**12.24**	**207**	P	**Pn**	**18 07 35.1**	**+1.9**
WRA	**Warramunga Arr**	**15.14**	**180**	Pn	**Pn**	**18 08 10.8**	**-1.9**
	0.2nm,0.3s,baz=1.6,slow=13,SNR=4.7						
WRA				Sn	**Sn**	**18 10 56.0**	**-3.4**
	0.2nm,0.3s,baz=7.3,slow=22,SNR=4.6						
	0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.85**	**212**	P	**P**	**18 08 24.0**	**-1.2**
MTSU	**Mount Surprise**	**16.47**	**145**	P	P	18 08 38.4	+6.1
	6.5nm,1.1s						
AS01	**Alice Springs**	**18.85**	**181**	P	**Pn**	**18 09 01.5**	**+2.3**
ASAR	**Alice Springs**	**18.85**	**182**	P	**Pn**	**18 08 59.2**	**0.0**
	0.6nm,0.3s,baz=6.3,slow=9.8,SNR=34						
ASAR				S	**Sn**	**18 12 23.1**	**-6.3**
	0.3nm,0.7s,baz=4.1,slow=27,SNR=1.8						
ASAR				LR	LR	18 17 03.7	
	comp=Z,97nm,18.9s,baz=19,slow=39						
	5.1nm,0.7s						
WRKA	**Warakurna**	**21.05**	**196**	P	**P**	**18 09 25.2**	**+2.7**
OOD	**Oodnadatta**	**22.99**	**177**	P	P	18 09 48.8	+5.8
MKAR	**Makanchi Array**	**68.84**	**324**	P	P	18 15 39.3	-3.0
	0.2nm,0.7s,baz=114,slow=6.8,SNR=1.7						
	0.2nm,0.7s						

*IDC **22** 18:12:40.4±1.3, 5°.18S×145°.50E, h0km, mb3.5/5, mbtmp3.6/7, ML3.2/1, MS3.1/1, Error ellipse: s-maj=43.6km s-min=23.6km az=93.0*
ISC 22 18:12:47.0±1.1, 5°.3S±0°.1×145°.5E±0°.2, h50km, n7, σ0.90/8, mb3.5/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.37**	**158**	Pn	**Pn**	**18 13 50.2**	**-0.7**
	7.8nm,0.4s,baz=280,slow=18,SNR=2.2						
PMG				Sn	**Sn**	**18 14 40.7**	**+0.1**
	1.2nm,0.3s,baz=325,slow=23,SNR=1.2						
WRA	**Warramunga Arr**	**18.16**	**216**	P	**P**	**18 16 54.9**	**-0.6**
	0.1nm,0.3s,baz=39,slow=12,SNR=4.5						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**21.41**	**210**	P	**P**	**18 17 30.8**	**+0.1**
	0.7nm,0.7s,baz=39,slow=11,SNR=6.0						
ASAR				LR	LR	18 27 15.7	
	comp=Z,46nm,18.7s,baz=146,slow=41						
	0.7nm,0.7s						
STKA	**Stephens Creek**	**26.68**	**187**	P	**P**	**18 18 23.0**	**+1.6**
	2.0nm,0.8s,baz=5.2,slow=11,SNR=3.0						
	2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**51.64**	**298**	P	**P**	**18 21 48.5**	**-0.6**
	0.2nm,0.7s,baz=121,slow=6.5,SNR=2.3						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**85.36**	**324**	P	**P**	**18 25 19.4**	**+0.6**
	0.2nm,0.6s,baz=95,slow=3.5,SNR=1.7						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**85.44**	**23**	P	**P**	**18 25 18.9**	**-0.1**
	0.5nm,0.7s,baz=249,slow=4.3,SNR=7.0						
	0.5nm,0.7s						

*IDC **22** 18:36:54.1±2.2, 5°.29S×129°.78E, h0km, mb3.2/1, mbtmp3.7/3, ML4.1/2, Error ellipse: s-maj=94.6km s-min=32.0km az=69.0*
ISC 22 18:37:18.8±1.5, 6°.2S±0°.1×129°.7E±0°.3, h250km, n10, σ2.3/43/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.16**	**38**	P	Pn	18 38 17.5	-7.0
MTN	**Manton Dam**	**6.76**	**168**	P	**Pn**	**18 38 55.7**	**-0.8**
KDU	**Kakadu**	**7.02**	**157**	P	**Pn**	**18 38 59.2**	**-0.5**
KNRA	**Kununurra**	**9.46**	**185**	P	**Pn**	**18 39 30.2**	**-0.4**
WRA	**Warramunga Arr**	**14.40**	**162**	Pn	**P**	**18 40 31.9**	**-0.1**
	0.6nm,0.3s,baz=343,slow=12,SNR=19						
WRA				Sn	**S**	**18 43 07.6**	**-3.6**
	0.2nm,0.3s,baz=281,slow=23,SNR=1.9						
	0.5nm,0.3s						
QIS	**Mount Isa**	**17.23**	**147**	P	**Pn**	**18 41 07.0**	**+1.6**
ASAR	**Alice Springs**	**17.84**	**167**	P	**Pn**	**18 41 13.6**	**+1.0**
	1.0nm,0.3s,baz=349,slow=12,SNR=67						
ASAR				S	**S**	**18 44 27.0**	**+5.3**
	0.3nm,0.6s,baz=340,slow=14,SNR=1.9						
	4.6nm,0.6s						
AS01	**Alice Springs**	**17.85**	**167**	P	**Pn**	**18 41 13.9**	**+1.2**
WRKA	**Warakurna**	**18.78**	**184**	P	**Pn**	**18 41 23.3**	**-0.3**
MKAR	**Makanchi Array**	**67.38**	**327**	P	**P**	**18 47 46.9**	**-0.4**
	0.1nm,0.4s,baz=118,slow=8.2,SNR=2.8						
	0.1nm,0.4s						

IDC 22 18:46:58.9±5.0, 5°.37S×129°.21E, h288km±55km, mb3.0/2, mbtmp3.5/4, Error ellipse: s-maj=107.1km s-min=14.8km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.32**	**161**	P	P	18 50 19.4	-0.8
	0.8nm,0.7s,baz=341,slow=11,SNR=9.7						
WRA				S	S	18 53 03.3	-4.1
	0.8nm,0.9s,baz=334,slow=24,SNR=1.6						
ASAR	**Alice Springs**	**18.75**	**167**	P	P	18 50 57.8	+0.4
	0.4nm,0.4s,baz=343,slow=9.7,SNR=17						
ASAR				S	S	18 54 16.6	+1.3
	0.4nm,0.8s,baz=354,slow=24,SNR=2.1						
MKAR	**Makanchi Array**	**66.44**	**327**	P	P	18 57 17.8	+0.1
	0.2nm,0.4s,baz=114,slow=7.5,SNR=5.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**70.72**	**329**	P	P	18 57 43.8	-0.1
	0.3nm,0.4s,baz=124,slow=6.1,SNR=4.1						
	0.3nm,0.4s						

TEH 22 18:48:38.1, 29°.84N×49°.50E, h11km±16km, ML3.6, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**1.00**	**40**	Pg	Pn	18 48 58.1	-0.1
AHWZ	**Ahwaz**	**1.66**	**334**	Pg	Pg	18 49 10.6	+0.6
AHWZ				Sg	Sg	18 49 33.8	+2.2
AHBU	**AHRAM**	**1.84**	**121**	Pn	Pg	18 49 13.5	0.0
DSBU	**Dashti - Bushe**	**2.13**	**133**	Pn	Pb	18 49 16.7	0.0
KLNJ	**Kolanjah**	**2.15**	**57**	Pn	Pb	18 49 17.5	+0.2
ZNGN	**Zangian**	**2.56**	**27**	Pn	Pb	18 49 23.0	-1.1
IBRJ	**Brojen**	**2.56**	**36**	Pn	Pb	18 49 23.8	-0.5
JHBN	**Jahan bin**	**2.59**	**22**	Pn	Pb	18 49 23.5	-1.2
IPIR	**Pirpir**	**3.08**	**22**	Pn	Pb	18 49 30.4	-2.7
IRAM	**Rameseh**	**3.17**	**51**	Pn	Pb	18 49 31.7	-2.8
IGAR	**Gharneh**	**3.36**	**40**	Pn	Pb	18 49 34.4	-3.5
IZEF	**Zefreh**	**3.90**	**38**	Pn	Pn	18 49 41.1	+2.9
IKLH	**Kolahrood**	**3.90**	**27**	Pn	Pn	18 49 41.6	+3.3
IKFM	**Kafar-mosalman**	**3.94**	**339**	Pn	Pn	18 49 41.2	+2.8
QAMS	**Qamsar**	**4.21**	**22**	Pn	Pn	18 49 46.1	+3.6
HSAM	**Samen**	**4.43**	**350**	Pn	Pn	18 49 48.2	+2.7
KRSH	**Karshahi**	**4.69**	**28**	Pn	Pn	18 49 52.3	+3.3
ANAR	**Anarak**	**4.92**	**46**	Pn	Pn	18 49 54.6	+2.4
HAGD	**Aghdareh**	**4.98**	**357**	Pn	Pn	18 49 56.1	+3.0
ISFB	**Sefidab**	**5.07**	**27**	Pn	Pn	18 49 57.1	+3.0
IDHR	**Dehrash**	**5.52**	**332**	Pn	Pn	18 50 02.7	+2.2

*SOME **22** 18:57:03.8, 39°.35N×71°.27E, h10km*
*KRNET **22** 18:57:08.5±0.1, 39°.24N×71°.45E, h9km, mb3.0*
*NNC **22** 18:57:10.3±3.0, 39°.11N×71°.93E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=24.3km s-min=16.1km az=168.0*
ISC 22 18:57:14.2±1.5, 39°.46N±0°.08×71°.49E±0°.04, h10km, n49, σ3.9/07/77, 16C-17D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.24**	**85**	⇓*e*P	**Pg**	**18 57 15.5**	**-3.8**
	baz=48						
DRK				⇓*e*S	**Sg**	**18 57 21.3**	**-1.5**
	baz=48						
BTK	**Batken**	**0.79**	**320**	⇑*e*P	**Pg**	**18 57 27.2**	**-2.2**
	baz=29						
BTK				⇑*e*S	**Sg**	**18 57 40.3**	**+0.5**
	baz=29						
OHH	**Osh**	**1.46**	**43**	⇓*e*P	**Pn**	**18 57 39.7**	**-1.0**
	baz=38						
OHH				⇓*e*S	**Sg**	**18 58 02.1**	**+1.0**
	baz=38						
TRKS	**Terek-Say**	**2.09**	**353**	⇑*e*P	**Pn**	**18 57 48.7**	**-0.7**
	baz=55						
TRKS				⇑*e*S	**Sb**	**18 58 18.4**	**+0.1**
	baz=55						
ARSB	**Arslanbob**	**2.19**	**31**	⇑*e*P	**Pn**	**18 57 51.0**	**+0.3**
	baz=29						
ARSB				⇑*e*S	**Sb**	**18 58 22.1**	**+1.0**
	baz=29						
ARK	**Arkit**	**2.37**	**9**	⇑*e*P	**Pn**	**18 57 53.7**	**+0.5**
	baz=9.0						
ARK				⇑*e*S	**Sb**	**18 58 27.2**	**+1.0**
	baz=9.0						
AML	**Almayashu**	**3.15**	**31**	P	**Pb**	**18 58 07.0**	**-3.5**
	SNR=12						
AML	**Almayashu**	**3.15**	**31**	⇓Pn	**Pn**	**18 58 04.0**	**-0.3**
	0.1nm,0.2s						
AML				⇓Lg	Lg	18 58 56.6	
	2.5nm,0.6s						
AML	**Almayashu**	**3.15**	**31**	⇑*e*P	**Pn**	**18 58 04.6**	**+0.4**
	baz=30						
AML				⇑*e*S	**Sn**	**18 58 45.6**	**+3.5**
	baz=30						
CHM	**Chimkent**	**3.19**	**334**	*e*P	**Pn**	**18 58 03.4**	**-1.1**
	16nm,0.1s						
CHM				*e*S	**Sn**	**18 58 45.3**	**+2.7**
	48nm,0.2s						
ARLS	**Aral**	**3.23**	**41**	⇓*e*P	**Pn**	**18 58 05.1**	**0.0**
	baz=39						
ARLS				⇓*e*S	**Sn**	**18 58 46.9**	**+3.3**
	baz=39						
DZA	**Taraz**	**3.43**	**358**	*e*P	**Pn**	**18 58 08.8**	**+1.1**
	18nm,0.1s						
DZA				*e*S	**Sb**	**18 58 54.8**	**-2.1**
	29nm,0.2s						
MRKS	**Merke**	**3.54**	**21**	*e*P	**Pn**	**18 58 11.5**	**+2.3**
	1.8nm,0.2s						
MRKS				*e*S	**Sb**	**18 58 59.5**	**-0.4**
	15nm,0.4s						
UCH	**Uchtor**	**3.59**	**39**	P	**Pn**	**18 58 13.3**	**+2.9**
	SNR=12						
UCH	**Uchtor**	**3.59**	**39**	⇑*e*P	**Pn**	**18 58 10.6**	**+0.2**
	baz=37						
UCH				⇑*e*S	**Sn**	**18 58 56.1**	**+3.0**
	baz=37						
EKS2	**Erkin-Say**	**3.64**	**28**	P	**Pb**	**18 58 15.0**	**-3.7**
	SNR=6.0						
KK31	**Karatay Array**	**3.71**	**349**	Pn	**Pn**	**18 58 13.7**	**+2.1**
	1.5nm,0.2s,baz=178,slow=13,SNR=92						
KK31				⇓Sn	**Sb**	**18 59 04.6**	**-0.3**
	5.8nm,0.6s,baz=168,slow=23,SNR=4.9						
KKAR	**Karatay Array**	**3.71**	**349**	⇓*i*P	**Pn**	**18 58 12.2**	**+0.6**
	baz=50						
KKAR				⇓*e*S	**Sn**	**18 58 58.9**	**+3.4**
	baz=50						
AAK	**Ala-Archa**	**3.91**	**35**	P	**Pn**	**18 58 17.4**	**+3.0**
	SNR=12						
AAK	**Ala-Archa**	**3.91**	**35**	⇓*e*P	**Pn**	**18 58 14.8**	**+0.4**
	baz=33						
AAK				⇓*e*S	**Sn**	**18 59 03.4**	**+3.0**
	baz=33						
NRN	**Naryn**	**3.97**	**59**	⇓*e*P	**Pn**	**18 58 14.5**	**-0.9**
	baz=56						
NRN				⇓*e*S	**Sn**	**18 59 02.8**	**+0.6**
	baz=56						
CHMS	**Chumysh**	**4.31**	**34**	P	**Pn**	**18 58 22.8**	**+3.0**
	SNR=7.2						
CHMS	**Chumysh**	**4.31**	**34**	⇑Pn	**Pn**	**18 58 21.6**	**+1.8**
	2.5nm,0.3s						
CHMS				⇑Sn	**Sn**	**18 59 16.6**	**+6.4**
	8.9nm,0.6s						
USP	**Ospenovka**	**4.43**	**30**	P	**Pn**	**18 58 23.8**	**+2.3**
	SNR=18						
SGDS	**Sogindy**	**4.64**	**30**	Pg	**Pb**	**18 58 32.3**	**-3.3**
	2.1nm,0.3s						
SGDS				Lg	Lg	18 59 34.7	
	14nm,0.5s						
TKM2	**Tokmak 2**	**4.64**	**41**	P	**Pn**	**18 58 26.7**	**+2.1**
	SNR=5.0						
TKM2	**Tokmak 2**	**4.64**	**41**	⇓Pn	**Pn**	**18 58 25.5**	**+0.9**
	1.3nm,0.5s						
TKM2				⇑Pg	**Pg**	**18 58 39.3**	**-3.8**
	1.4nm,0.3s						
TKM2				⇓Sn	**Sn**	**18 59 19.8**	**+1.1**
	5.8nm,0.9s						
TKM2				⇑Lg	Lg	18 59 41.4	
	6.2nm,0.8s						
KST	**Kastek**	**4.92**	**42**	Pg	**Pb**	**18 58 37.3**	**-3.2**
	2.3nm,0.3s						
KST				Lg	Lg	18 59 43.8	
	4.7nm,0.5s						
KST	**Kastek**	**4.92**	**42**	*e*P	**Pb**	**18 58 37.3**	**-3.2**
	2.3nm,0.3s						
KST				*e*S	**Sb**	**18 59 43.8**	**+4.0**
	4.7nm,0.5s						
DGS	**Degeres**	**4.97**	**39**	Pg	**Pb**	**18 58 38.4**	**-2.9**
	4.5nm,0.4s						
DGS				Lg	Lg	18 59 46.1	
	6.4nm,0.3s						
DGS	**Degeres**	**4.97**	**39**	*e*P	**Pb**	**18 58 38.4**	**-2.9**
	4.5nm,0.4s						
DGS				*e*S	**Sb**	**18 59 46.1**	**+4.9**
	6.4nm,0.3s						
MTBS	**Maitube**	**5.23**	**44**	Pg	**Pb**	**18 58 43.6**	**-2.1**
	1.5nm,0.3s						
MTBS				Lg	Lg	18 59 54.9	
	2.9nm,0.3s						
MTBS	**Maitube**	**5.23**	**44**	*e*P	**Pb**	**18 58 43.6**	**-2.1**
	1.5nm,0.3s						
MTBS				*e*S	**Sb**	**18 59 54.9**	**+6.4**
	2.9nm,0.3s						
KRBS	**Karabastau**	**5.27**	**35**	Pg	**Pb**	**18 58 44.5**	**-2.0**
	1.5nm,0.4s						
KRBS				Lg	Lg	18 59 56.6	
	3.4nm,0.4s						
KRBS	**Karabastau**	**5.27**	**35**	*e*P	**Pb**	**18 58 44.5**	**-2.0**
	1.5nm,0.4s						
KRBS				*e*S	**Sb**	**18 59 56.6**	**+6.8**
	3.4nm,0.4s						
TNSS	**Tian-Shan**	**5.45**	**47**	Pg	**Pb**	**18 58 47.8**	**-1.9**
	1.6nm,0.2s						
TNSS				Lg	Lg	19 00 02.8	
	2.5nm,0.5s						
TNSS	**Tian-Shan**	**5.45**	**47**	*e*P	**Pb**	**18 58 47.8**	**-1.9**
	1.6nm,0.2s						
TNSS				*e*S	**Sb**	**19 00 02.8**	**+7.5**
	2.5nm,0.5s						
MDOK	**Medeo**	**5.59**	**47**	Lg	Lg	19 00 09.1	
	7.2nm,1.2s						
KOTS	**Kotyrbulak**	**5.67**	**46**	Pg	**Pb**	**18 58 52.7**	**-0.6**
	1.8nm,0.4s						
KOTS				Lg	Lg	19 00 11.5	
	9.6nm,0.4s						
KOTS	**Kotyrbulak**	**5.67**	**46**	*e*P	**Pb**	**18 58 52.7**	**-0.6**
	0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.16**	**318**	*e*P	Pn	19 02 43.6	-0.8
PCRV				*e*S	Sb	19 02 58.2	-1.2
CRUV	**Carupano**	**1.48**	**24**	*e*P	Pn	19 02 48.4	-0.4
CRUV				*e*S	Sn	19 03 06.6	-1.2
MERV	**Las Mercedes**	**2.42**	**269**	*e*P	Pn	19 03 00.4	-1.4
MERV				*e*S	Sn	19 03 29.6	-1.5
CACV	**CAICARA DEL OR**	**3.18**	**237**	*e*P	Pn	19 03 05.3	-6.8
CACV				*e*S	Sn	19 03 38.1	-12
TACV	**Tcata**	**3.24**	**285**	*e*P	Pn	19 03 12.2	-0.9
TACV				*e*S	Sn	19 03 48.3	-3.1
BENV	**Beln**	**3.76**	**280**	*e*P	Pn	19 03 19.5	-0.7
BENV				*e*S	Sn	19 04 01.4	-2.8
TURV	**Turiamo**	**4.10**	**286**	*e*P	Pn	19 03 24.2	-0.6
TURV				*e*S	Sn	19 04 07.7	-4.7
BAUV	**El Baul**	**4.16**	**265**	*e*P	Pn	19 03 23.6	-2.1
BAUV				*e*S	Sn	19 04 09.6	-4.5
TEPV	**Terepaima**	**5.31**	**277**	*e*P	Pn	19 03 40.0	-1.6
TEPV				*e*S	Sn	19 04 37.5	-5.0
CURV	**Curarigua**	**6.07**	**277**	*e*P	Pn	19 03 50.9	-1.1
SOCV	**Socops**	**7.00**	**262**	*e*P	Pn	19 04 02.8	-2.0

NEIC ***22*** *19:36:25.7±2.5,5.8N±0.2×33.28W±0.10,h10km±1km, mb4.3/10, Error ellipse: s-maj=37.1km s-min=13.1km az=162.0*

IDC ***22*** *19:36:27.0±1.0,5.69N×32.89W,h0km,mb4.0/8, mbtmp4.0/9,ML3.3/1, Error ellipse: s-maj=32.9km s-min=24.2km az=95.0*

ISC 22 19:36:26.4±0.6,5.8N±0.1×33.32W±0.10,h10km,n26, σ1.983/22,mb4.2/14,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.88**	**193**	Pn	**Pn**	**19 39 16.3**	**+0.4**
	0.2nm,0.3s,baz=37,slow=15,SNR=1.0 2.8nm,0.7s						
SACV	**Santiago Islan**	**13.16**	**46**	Pn	**Pn**	**19 39 31.4**	**-2.2**
H10N3	**ASCENSION HYDR** baz=305,slow=75,SNR=53	**23.17**	**126**	T	T	20 05 00.8	
H10N2	**ASCENSION HYDR** baz=305,slow=75,SNR=58	**23.18**	**126**	T	T	20 05 01.1	
H10N1	**ASCENSION HYDR** baz=305,slow=75,SNR=73	**23.19**	**126**	T	T	20 05 02.3	
DBIC	**Dimbokro**	**28.30**	**87**	P	**P**	**19 42 19.0**	**-1.5**
	2.1nm,0.8s,baz=281,slow=7.0,SNR=3.3 2.1nm,0.8s						
SAML	**Samuel**	**33.20**	**244**	P	**P**	**19 43 01.6**	**-2.2**
SAML				IAmb	IAmb	19 43 11.6	
	comp=Z,10nm,1.5s						
CELP	**Cerrillos**	**34.66**	**293**	P	**P**	**19 43 14.3**	**-2.2**
TOA0	**Torodi Ar. Sit**	**35.25**	**76**	P	**P**	**19 43 20.1**	**-1.4**
TOA0				IAmb	IAmb	19 43 27.9	
	comp=Z,2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**35.25**	**76**	P	**P**	**19 43 20.1**	**-1.4**
TORD	**Torodi Ar. Bea**	**35.25**	**76**	P	**P**	**19 43 21.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=278,slow=8.3,SNR=11						
TORD				PcP	**PcP**	**19 45 54.5**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=297,slow=3.0,SNR=4.7 comp=Z,1.2nm,0.7s						
ETMB	**Extrema**	**36.28**	**245**	P	**P**	**19 43 29.7**	**-0.7**
ETMB				IAmb	IAmb	19 43 37.1	
	comp=Z,5.1nm,1.3s						
LPAZ	**La Paz**	**40.87**	**237**	P	P	19 44 05.9	-3.7
PRAC	**Prado**	**41.47**	**269**	P	P	19 44 11.0	-3.0
PRAC				IAmb	IAmb	19 44 56.5	
	comp=Z,9.7nm,1.3s						
OTAV	**Otavalo**	**45.39**	**265**	P	P	19 44 41.3	-4.9
COHC	**Cochancay**	**46.62**	**261**	P	**P**	**19 44 54.7**	**-0.6**
COHC				IAmb	IAmb	19 45 01.8	
	comp=Z,2.3nm,1.1s						
MCRA	**Macar, Loja**	**47.66**	**259**	P	**P**	**19 45 02.2**	**-1.4**
Q56A	**Snyder Ridge,**	**52.92**	**316**	P	**P**	**19 45 41.9**	**-1.1**
Q56A				IAmb	IAmb	19 45 44.6	
	comp=Z,6.0nm,1.1s						
NOA	**NORSAR Array B**	**64.31**	**22**	P	**P**	**19 47 03.5**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=212,slow=9.4,SNR=3.7 comp=Z,1.2nm,0.8s						
BOSA	**Boshof**	**65.92**	**125**	P	**P**	**19 47 11.7**	**-1.4**
	comp=Z,4.1nm,0.9s,baz=281,slow=6.1,SNR=5.8 comp=Z,4.1nm,0.9s						
AKASG	**Malin Array Be**	**68.30**	**37**	P	**P**	**19 47 28.6**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=251,slow=6.8,SNR=4.2 comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**70.61**	**26**	P	**P**	**19 47 43.6**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=261,slow=5.5,SNR=3.5 comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**79.90**	**171**	P	**P**	**19 48 36.9**	**+1.8**
	comp=Z,2.3nm,0.8s,baz=344,slow=7.4,SNR=3.2 comp=Z,2.3nm,0.8s						
YKA	**Yellowknife Ar**	**80.82**	**332**	P	**P**	**19 48 44.1**	**+3.9**
	comp=Z,0.2nm,0.6s,baz=91,slow=4.8,SNR=4.4 comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**127.10**	**62**	PKP	**PKiKP**	**19 55 34.2**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=289,slow=4.1,SNR=5.6						
ASAR	**Alice Springs**	**158.43**	**147**	PKP	**PKPdf**	**19 56 27.2**	**+2.2**
	comp=Z,1.6nm,1.1s,baz=149,slow=2.0,SNR=6.0						
ASAR				PKPab	**PKPab**	**19 56 59.1**	**-0.3**
	comp=Z,1.3nm,1.1s,baz=221,slow=6.4,SNR=4.3						

IDC ***22*** *19:39:56.7±0.5,5.65N×32.80W,h0km,mb4.3/27, mbtmp4.3/29,ML4.0/2,MS4.2/72, Error ellipse: s-maj=15.3km s-min=12.8km az=140.0*

MOS ***22*** *19:39:57.8±1.2,5.64N×32.88W,h22km,mb5.0/33, Error ellipse: s-maj=11.3km s-min=7.0km az=46.0*

NEIC ***22*** *19:39:58.1±2.1,5.63N±0.08×32.88W±0.08,h10km±1km, mb5.0/130, Error ellipse: s-maj=14.7km s-min=12.3km az=238.0*

INMG ***22*** *19:40:01.0,5.22N×32.73W,h10km*

GCMT ***22*** *19:40:02.1±0.2,5.78N±0.02×32.84W±0.01,h12km, MW5.0/120, Moment Tensor Solution. s54,c63; s120,c181; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.62±.08; Mθθ-0.02±.09; Mϕϕ3.64±.07; Mrθ1.57±.35; Mθϕ-0.60±.07; Mrϕ0.75±.25; Best double couple: M₀4.04200×10¹⁶ NP1:ϕs192.00000°,δ53.00000°, λ-63.00000°. NP2:ϕs331.00000°,δ45.00000°, λ-121.00000°. Principal axes: T 3.7720, Plg4.0000°, Azm263.0000°; N 0.5440, Plg21.0000°, Azm354.0000°; P -4.3130, Plg68.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 19:39:58.1±0.3,5.63N±0.06×32.86W±0.06,h12km,n377, σ1.938/296,mb4.8/120,MS4.2/75,7D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBCL	**Cascavel-CE**	**11.19**	**209**	*e*P	**Pn**	**19 42 37.6**	**-0.5**
NBMO	**Morrinhos-CE**	**11.42**	**219**	*e*P	**Pn**	**19 42 39.8**	**-1.3**
RCBR	**Riachuelo**	**11.78**	**195**	Pn	**Pn**	**19 42 45.7**	**-0.5**
	1.0nm,0.3s,baz=19,slow=16,SNR=9.8						
RCBR				Sn	Sn	19 44 47.5	-10
	0.2nm,0.3s,baz=74,slow=20,SNR=1.1						
RCBR				LR	LR	19 46 17.9	
	comp=Z,559nm,20.6s,baz=36,slow=32 5.6nm,0.5s						
RCBR	**Riachuelo**	**11.78**	**195**	*e*P	**Pn**	**19 42 46.2**	**0.0**
NBPB	**Pedra_Branca-C**	**12.97**	**211**	*e*P	**Pn**	**19 43 01.8**	**-0.6**
SACV	**Santiago Islan**	**12.99**	**44**		**Pn**	**19 42 59.9**	**-2.8**
NBPS	**Pedro II - PI**	**13.14**	**221**	*e*P	**Pn**	**19 43 04.0**	**-0.8**
NBLV	**Livramento - P**	**13.53**	**197**	*e*P	**Pn**	**19 43 18.3**	**+0.3**
NBCA	**Caruaru-PE**	**14.12**	**193**	*e*P	**Pn**	**19 43 18.9**	**+0.7**
NBMA	**Muriti-CE**	**14.19**	**205**	*e*P	**Pn**	**19 43 18.4**	**-0.8**
NBTA	**Tacaratu-PE**	**15.55**	**200**	*e*P	**Pn**	**19 43 36.0**	**-1.3**
TMAB	**Tom-Au,PA,Br**	**17.17**	**243**	*e*P	**Pn**	**19 43 58.4**	**+0.3**
MBO	**M'Bour**	**17.91**	**60**		**Pn**	**19 44 06.5**	**-0.7**
MBO				IAmb	IAmb	19 44 14.7	
	comp=Z,166nm,1.4s						
NBPN	**Ponto Novo - B**	**17.93**	**204**	*e*P	**Pn**	**19 44 06.9**	**-0.6**
MDP	**Montagnes des**	**19.70**	**269**	P	**Pn**	**19 44 28.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=83,slow=12,SNR=3.2						
MDP				LR	LR	19 50 27.3	
	comp=Z,681nm,21.8s,baz=94,slow=32 comp=Z,18nm,0.9s						
GDU01	**Guandu, BA**	**20.35**	**199**	*e*P	**P**	**19 44 35.3**	**+0.7**
SMTB	**Santa Maria do**	**20.56**	**226**	*e*P	**P**	**19 44 36.9**	**-0.1**
NBIT	**Itapeh - BA**	**21.44**	**198**	*e*P	**P**	**19 44 46.2**	**-0.3**
CMC01	**Camacan, BA**	**21.88**	**197**	*e*P	**P**	**19 44 51.0**	**0.0**
MALB	**Monte Alegre**	**22.63**	**251**	*e*P	**P**	**19 44 59.7**	**+0.5**

H10N3	**ASCENSION HYDR** baz=305,slow=75,SNR=91	**22.68**	**126**	T	T	20 08 34.1	
H10N2	**ASCENSION HYDR** baz=305,slow=75,SNR=78	**22.69**	**126**	T	T	20 08 34.4	
H10N1	**ASCENSION HYDR** baz=305,slow=75,SNR=91	**22.70**	**126**	T	T	20 08 35.6	
GUA01	**Guaratinga, BA**		**23.12 197**	*e*P	**P**	**19 45 03.4**	**-0.9**
NAN01	**Guarapari, ES**		**24.41 197**	*e*P	**P**	**19 45 17.2**	**+0.5**
ITTB	**Itaituba**		**24.91 247**	*e*P	**P**	**19 45 21.4**	**+0.1**
SNDB	**Serra Nova Dou**		**25.34 226**	*e*P	**P**	**19 45 26.0**	**+0.8**
SJMB	**Sao Joao De Ma**		**25.54 199**	*e*P	**P**	**19 45 27.7**	**+0.9**
RIB01	**Linhares ES**		**25.88 196**	*e*P	**P**	**19 45 29.8**	**-0.1**
BDFB	**Brasilia**		**25.92 215**	P	**P**	**19 45 30.3**	**-0.3**
BDFB	**Brasilia**		**25.92 215**	P	**P**	**19 45 30.3**	**-0.3**
BDFB				pmax	pmax		
	comp=Z,16nm,1.2s						
BDFB	**Brasilia**		**25.92 215**	P	**P**	**19 45 31.3**	**+0.7**
	comp=Z,6.2nm,1.1s,baz=51,slow=4.1,SNR=3.9						
BDFB				LR	LR	19 54 33.1	
	comp=Z,893nm,20.8s,baz=8.3,slow=34 comp=Z,6.2nm,1.1s						
BDFB	**Brasilia**		**25.92 215**	*e*P	**P**	**19 45 30.7**	**+0.1**
DIAM	**Diamantina, MG**		**26.06 204**	*e*P	**P**	**19 45 33.2**	**+1.4**
DBIC	**Dimbokro**		**27.86 86**	P	**P**	**19 45 46.4**	**-1.6**
DBIC	**Dimbokro**		**27.86 86**		**P**	**19 45 46.9**	**-1.1**
DBIC	**Dimbokro**		**27.86 86**	P	**P**	**19 45 46.4**	**-1.6**
DBIC	**Dimbokro**		**27.86 86**	P	**P**	**19 45 47.9**	**-0.1**
	comp=Z,11nm,0.8s,baz=258,slow=10,SNR=12						
DBIC				LR	LR	19 54 25.7	
	comp=Z,862nm,21.4s,baz=251,slow=31 comp=Z,11nm,0.8s						
H05S1	**Guadeloupe/Mar** SNR=31	**28.87**	**290**	T	T	20 15 55.4	
FUL	**Funchal**	**30.73**	**27**	*e*T	T	20 18 05.1	
PMOZ	**Porto Moniz, M**	**30.74**	**26**	*e*LR	LR	19 54 21.6	
	comp=Z,282nm,18.0s						
PMOZ	**Porto Moniz, M**	**30.74**	**26**	*e*T	T	20 18 04.6	
PMAR	**Madeira**	**30.79**	**27**	*e*T	T	20 18 01.8	
PP1B	**Ponte de Pedra**		**31.71 223**	*e*P	**P**	**19 46 24.1**	**+2.0**
PCRV	**Puerto La Cruz**		**31.78 280**	LR	LR	19 58 40.6	
	comp=Z,621nm,21.1s,slow=35						
SPB	**Sao Paulo**		**32.34 206**	*e*P	**P**	**19 46 28.9**	**+1.4**
PTLB	**Pontes e Lacer**		**33.41 231**	P	**P**	**19 46 37.3**	**+0.4**
PTLB				IAmb	IAmb	19 46 46.0	
	comp=Z,23nm,1.6s						
SAML	**Samuel**		**33.52 245**	P	**P**	**19 46 38.3**	**+0.4**
SAML				IAmb	IAmb	19 46 40.3	
	comp=Z,24nm,1.4s						
SAML	**Samuel**		**33.52 245**	P	**P**	**19 46 38.3**	**+0.4**
SAML				pmax	pmax		
	comp=Z,24nm,1.4s						
SAML	**Samuel**		**33.52 245**	*e*P	**P**	**19 46 39.1**	**+1.1**
SJG	**San Juan**		**34.78 294**	LR	LR	19 58 09.7	
	comp=Z,608nm,21.5s,baz=88,slow=31						
TOA0	**Torodi Ar. Sit**		**34.87 75**	P	**P**	**19 46 49.0**	**-0.7**
TORD	**Torodi Ar. Bea**		**34.87 75**	P	**P**	**19 46 48.1**	**-1.5**
TORD	**Torodi Ar. Bea**		**34.87 75**	P	**P**	**19 46 49.5**	**-0.2**
	comp=Z,7.5nm,1.0s,baz=274,slow=7.7,SNR=20						
TORD				PcP	**PcP**	**19 49 23.4**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=298,slow=1.0,SNR=11						
TORD				LR	LR	19 59 03.8	
	comp=Z,952nm,21.7s,baz=310,slow=33 comp=Z,7.5nm,1.0s						
BAUV	**El Baul**		**35.04 278**	P	**P**	**19 46 49.4**	**-1.8**
SIV	**San Ignacio**		**35.23 232**	LR	LR	20 00 16.3	
	comp=Z,687nm,21.1s,baz=103,slow=35						
BBSD	**Serra de San D**		**35.58 230**	*e*P	**P**	**19 46 57.3**	**+1.5**
BBRB	**Robore, Bolivi**		**35.65 228**	*e*P	**P**	**19 46 58.1**	**+1.8**
MURT	**Porto Murtinho**		**36.39 221**	*e*P	**P**	**19 47 02.9**	**+0.3**
ETMB	**Extrema**		**36.60 245**	P	**P**	**19 47 03.8**	**-0.7**
ETMB	**Extrema**		**36.60 245**	*e*P	**P**	**19 47 04.2**	**-0.4**
SDV	**Santo Domingo**		**37.60 277**	P	**P**	**19 47 11.8**	**-1.4**
SDV	**Santo Domingo**		**37.60 277**	LR	LR	20 02 32.3	
	comp=Z,370nm,20.6s,baz=100,slow=36						
SDV	**Santo Domingo**		**37.60 277**	*e*P	**P**	**19 47 13.8**	**+0.6**
MDT	**Midelt**		**37.74 41**	LR	LR	20 02 04.6	
	comp=Z,635nm,18.1s,baz=243,slow=35						
CPUP	**Villa Florida**		**39.65 216**	P	**P**	**19 47 31.2**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=90,slow=3.6,SNR=3.4						
CPUP				LR	LR	20 03 37.6	
	comp=Z,562nm,18.8s,baz=42,slow=36 comp=Z,3.2nm,0.8s						
PMRV	**Marv??o**		**40.75 31**	*e*LR	LR	19 58 35.1	
	comp=Z,312nm,22.0s						
TAM	**Tamanrasset**		**40.76 61**	P	**P**	**19 47 40.6**	**+1.0**
TAM	**Tamanrasset**		**40.76 61**	P	**P**	**19 47 40.6**	**+1.0**
TAM				pmax	pmax		
	comp=Z,27nm,1.8s						
LPAZ	**La Paz**		**41.13 237**	P	**P**	**19 47 41.7**	**-1.5**
LPAZ	**La Paz**		**41.13 237**	*e*P	**P**	**19 47 41.7**	**-1.5**
ROSC	**El Rosal**		**41.29 271**	P	**P**	**19 47 42.6**	**-1.7**
ROSC				IAmb	IAmb	19 48 00.3	
	comp=Z,74nm,1.7s						
ROSC	**El Rosal**		**41.29 271**	P	**P**	**19 47 42.6**	**-1.7**
ROSC				pmax	pmax		
	comp=Z,74nm,1.7s						
ROSC	**El Rosal**		**41.29 271**	P	**P**	**19 47 46.5**	**+2.2**
	comp=Z,7.9nm,0.4s,baz=104,slow=18,SNR=4.9						
ROSC				LR	LR	20 05 25.8	
	comp=Z,489nm,19.7s,baz=74,slow=37 comp=Z,7.9nm,0.4s						
MTE	**Manteigas**		**41.41 30**	*e*LR	LR	19 59 33.8	
	comp=Z,374nm,20.0s						
CZSB	**Cruzeiro do Su**		**41.90 252**	P	**P**	**19 47 47.9**	**-1.0**
CZSB				IAmb	IAmb	19 47 49.8	
	comp=Z,37nm,1.0s						
MVO	**Moncorvo**		**42.25 29**	*e*LR	LR	19 59 48.1	
	comp=Z,334nm,20.0s						
PGAV	**Gavieira, Arco**		**42.28 27**	*e*LR	LR	19 59 56.8	
	comp=Z,276nm,20.0s						
ESDC	**Sonseca Array**		**42.74 33**	P	**P**	**19 47 56.4**	**+1.0**
ESDC	**Sonseca Array**		**42.74 33**	P	**P**	**19 47 57.1**	**+1.7**
	comp=Z,1.7nm,1.0s,baz=228,slow=8.6,SNR=7.9 comp=Z,1.7nm,1.0s						
PB16	**IPOC Station P**		**43.28 236**	P	**P**	**19 47 59.5**	**-1.2**
LVC	**Limon Verde**		**45.07 230**	LR	LR	20 07 43.6	
	comp=Z,335nm,21.1s,baz=43,slow=37						
PB07	**IPOC Station P**		**45.34 232**	P	**P**	**19 48 16.6**	**-0.1**
OTAV	**Otavalo**		**45.83 265**	P	**P**	**19 48 19.2**	**-1.8**
OTAV	**Otavalo**		**45.83 265**	P	**P**	**19 48 19.2**	**-1.8**
OTAV				pmax	pmax		
	comp=Z,12nm,1.4s						
PB15	**IPOC Station P**		**45.83 230**	P	**P**	**19 48 19.8**	**-0.8**
PB15				IAmb	IAmb	19 48 25.7	
	comp=Z,24nm,1.2s						
BOSC	**San Juan Bosco**		**46.41 260**	P	**P**	**19 48 23.6**	**-1.6**
COHC	**Cochancay**		**47.03 261**	P	**P**	**19 48 29.0**	**-0.9**
GO02	**Mina Guanaco**		**47.03 228**	P	**P**	**19 48 29.7**	**-0.4**
NNA	**Nana**		**47.11 248**	LR	LR	20 08 32.8	
	comp=Z,488nm,18.0s,baz=80,slow=36						
ATAH	**Atahualpa**		**47.17 255**	LR	LR	20 08 48.0	
	comp=Z,884nm,18.2s,baz=90,slow=37						
MCRA	**Macar, Loja**		**48.07 259**	P	**P**	**19 48 35.5**	**-2.6**
KEST	**Kesra**		**48.97 46**	LR	LR	20 09 22.3	
	comp=Z,648nm,19.6s,baz=190,slow=36						
CFA	**Coronel Fontan**		**50.09 220**	LR	LR	20 10 02.3	
	comp=Z,218nm,19.3s,slow=36						
CO01	**Juntas del Tor**		**50.28 223**	P	**P**	**19 48 52.9**	**-2.0**
CO01				IAmb	IAmb	19 49 14.2	
	comp=Z,23nm,1.6s						
BATG	**Bathurst New B**		**50.32 331**	P	**P**	**19 48 55.1**	**+0.4**
PAL	**Palisades**		**50.82 320**	P	**P**	**19 48 59.6**	**+1.0**
PAL				IAmb	IAmb	19 49 02.1	
	comp=Z,18nm,0.9s						
PAL	**Palisades**		**50.82 320**	P	**P**	**19 48 59.6**	**+1.0**
PAL				pmax	pmax		
	comp=Z,19nm,0.9s						
TRNY	**Table Rock, Ra**		**51.09 320**	P	**P**	**19 49 01.7**	**+1.0**
TRNY				IAmb	IAmb	19 49 09.1	
	comp=Z,32nm,1.4s						
W59A	**Clinton**		**51.20 311**	P	**P**	**19 49 02.2**	**+0.6**
U59A	**Littleton**		**51.22 313**	P	**P**	**19 49 01.2**	**-0.5**
T59A	**Double "B" Far**		**51.32 314**	P	**P**	**19 49 03.0**	**+0.6**
T59A				IAmb	IAmb	19 49 17.2	
	comp=Z,36nm,1.9s						
D62A	**Allapoint, All**		**51.68 329**	P	**P**	**19 49 06.2**	**+1.3**
D62A				IAmb	IAmb	19 49 13.6	
	comp=Z,26nm,1.2s						
JTS	**Las Juntas de**		**51.75 279**	LR	LR	20 12 22.9	
	comp=Z,205nm,19.9s,baz=78,slow=38						
MVL	**Millersville**		**51.90 318**	P	**P**	**19 49 06.2**	**-0.5**
V58A	**Windy Hill, Pi**		**51.96 312**	P	**P**	**19 49 05.9**	**-1.4**
V58A				IAmb	IAmb	19 49 16.2	
	comp=Z,22nm,1.2s						
T57A	**Hurt**		**52.56 313**	P	**P**	**19 49 11.4**	**-0.3**

VAE	**Valguarnera**	**53.40**	**47**	LR	LR	20 11 38.9	
	comp=Z,572nm,20.6s,baz=317,slow=36						
BLA	**Blacksburg**	**53.49**	**313**	P	**P**	**19 49 20.1**	**+1.4**
BLA				IAmb	IAmb	19 50 26.6	
	comp=Z,15nm,0.8s						
BLA	**Blacksburg**	**53.49**	**313**	P	**P**	**19 49 20.1**	**+1.4**
BLA				pmax	pmax		
	comp=Z,15nm,0.8s						
HODGE	**Hodges**	**53.76**	**309**	P	**P**	**19 49 19.4**	**-1.2**
HODGE				IAmb	IAmb	19 49 29.8	
	comp=Z,35nm,1.7s						
MCWV	**Mont Chateau**	**54.12**	**316**	P	**P**	**19 49 22.6**	**-0.6**
EKA	**Eskdalemuir Ar**	**54.97**	**20**	P	**P**	**19 49 29.3**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=212,slow=6.7,SNR=6.7 comp=Z,2.9nm,0.9s						
DAVOX	**Davos/Dischmat**	**55.03**	**35**	LR	LR	20 12 51.9	
	comp=Z,216nm,18.1s,baz=263,slow=36						
DAVA	**Damuels**	**55.32**	**34**	*i* P	**P**	**19 49 32.9**	**+1.0**
	comp=Z,9.9nm,1.1s						
TKL	**Tuckaleechee C**	**55.42**	**310**	LR	LR	20 08 37.9	
	comp=Z,176nm,21.1s,baz=124,slow=31						
TSUM	**Tsumeb**	**55.45**	**118**	P	**P**	**19 49 33.1**	**-0.1**
TSUM				IAmb	IAmb	19 49 36.0	
	comp=Z,16nm,1.1s						
TSUM	**Tsumeb**	**55.45**	**118**	LR	LR	20 07 49.1	
	comp=Z,558nm,21.6s,baz=326,slow=30						
TEIG	**Tepich**	**55.67**	**291**	LR	LR	20 10 30.5	
	comp=Z,1µm,21.6s,baz=194,slow=33						
SQTA	**Sankt Quirin**	**56.03**	**35**	*e*P	**P**	**19 49 37.4**	**+0.5**
	comp=Z,7.4nm,1.3s						
SADO	**Sadowa**	**56.06**	**322**	LR	LR	20 08 26.5	
	comp=Z,148nm,21.4s,baz=90,slow=30						
SCHQ	**Schefferville**	**56.15**	**337**	P	**P**	**19 49 37.7**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=222,slow=3.0,SNR=5.6						
SCHQ				LR	LR	20 09 46.2	
	comp=Z,109nm,20.6s,baz=88,slow=32 comp=Z,4.5nm,0.8s						
WTTA	**Wattenberg**	**56.30**	**35**	*e*P	**P**	**19 49 39.6**	**+0.6**
	comp=Z,8.2nm,1.5s						
WATA	**Walderalm**	**56.30**	**35**	*i* P	**P**	**19 49 39.3**	**+0.3**
	comp=Z,4.5nm,0.6s						
P51A	**Williamsport**	**56.30**	**314**	P	**P**	**19 49 40.0**	**+1.1**
Q51A	**Peebles**	**56.33**	**314**	P	**P**	**19 49 38.6**	**-0.6**
ABTA	**Abfaltersbach**	**56.53**	**36**	*e*P	**P**	**19 49 41.6**	**+1.2**
	comp=Z,16nm,1.4s						
R50A	**Paris**	**56.76**	**313**	P	**P**	**19 49 42.5**	**+0.3**
R50A				IAmb	IAmb	19 49 50.7	
	comp=Z,29nm,1.6s						
LESA	**Schwarzleotal**	**56.98**	**35**	*e*P	**P**	**19 49 44.4**	**+0.7**
	comp=Z,8.2nm,1.2s						
MYKA	**Terra Mystica**	**57.13**	**37**	*e*P	**P**	**19 49 46.2**	**+1.4**
	comp=Z,17nm,1.8s						
KBA	**Koelnbreinsper**	**57.19**	**36**	*e*P	**P**	**19 49 46.2**	**+0.9**
	comp=Z,10nm,1.4s						
U49A	**Red Boiling Sp**	**57.23**	**310**	P	**P**	**19 49 44.6**	**-1.0**
GO06	**Currarehue**	**57.38**	**215**	P	**P**	**19 49 46.0**	**-0.6**
OBKA	**Obir**	**57.61**	**37**	*e*P	**P**	**19 49 49.6**	**+1.4**
	comp=Z,11nm,1.8s						
PLCA	**Paso Flores**	**57.65**	**213**	*e*P	**P**	**19 49 51.8**	**+3.3**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PLCA	**Paso Flores**	**57.65**	**213**	LR	LR	20 14 36.6	
	comp=Z,559nm,19.8s,baz=48,slow=36						
BIOA	**Bad Ischl, Aus**	**57.67**	**35**	*e*P	**P**	**19 49 48.8**	**+0.2**
	comp=Z,5.8nm,1.0s						
V48A	**Smith Brothers**	**57.79**	**309**	P	**P**	**19 49 47.4**	**-2.1**
V48A				IAmb	IAmb	19 50 59.8	
	comp=Z,15nm,1.2s						
SOKA	**Soboth**	**57.98**	**37**	*e*P	**P**	**19 49 52.0**	**+1.2**
	comp=Z,20nm,2.0s						
MOA	**Molln**	**58.12**	**36**	*i* P	**P**	**19 49 51.9**	**+0.2**
	comp=Z,8.6nm,1.4s						
GERES	**GERESS Array B**	**58.32**	**34**	P	**P**	**19 49 53.0**	**-0.1**
GERES	**GERESS Array B**	**58.32**	**34**	P	**P**	**19 49 53.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=258,slow=6.4,SNR=9.2						
GERES				LR	LR	20 14 04.8	
	comp=Z,197nm,18.2s,baz=266,slow=35 comp=Z,1.7nm,0.8s						
T47A	**Sharon Grove**	**58.40**	**310**	P	**P**	**19 49 53.0**	**-0.7**
KHC	**Kasperske Hory**	**58.40**	**34**	P	**P**	**19 49 52.8**	**-0.8**
KHC	**Kasperske Hory**	**58.40**	**34**	*e*P	**P**	**19 49 54.3**	**+0.7**
KHC				*ep*P	**pwP**	**19 50 00.5**	**-0.4**
KHC	**Kasperske Hory**	**58.40**	**34**	*e*P	**P**	**19 49 54.3**	**+0.7**
KHC				*e*		19 50 00.5	
PLAL	**Pickwick Lake**	**58.54**	**308**	P	**P**	**19

LSZ Lusaka 63.93 110 P **P** 19 50 32.1 +0.4
LSZ IAmb IAmb 19 50 34.5
comp=Z,11nm,1.2s
LSZ Lusaka 63.93 110 P **P** 19 50 32.2 +0.4
LSZ pmax pmax
comp=Z,11nm,1.2s
LSZ Lusaka 63.93 110 LR LR 20 14 49.7
comp=Z,192nm,18.7s,baz=298,slow=33
NB2 NORSAR Subarra 64.33 22 P **P** 19 50 33.7 +0.2
comp=Z,1.2nm,0.6s,baz=231,slow=6.9
NOA NORSAR Array B 64.33 22 P **P** 19 50 34.0 +0.5
comp=Z,1.8nm,0.7s,baz=231,slow=6.5,SNR=7.6
NOA LR LR 20 16 16.1
comp=Z,161nm,18.8s,baz=245,slow=34
comp=Z,1.8nm,0.7s
MLR Muntele Rosu 64.41 42 P **P** 19 50 35.5 +1.0
MLR Muntele Rosu 64.41 42 P **P** 19 50 35.5 +1.0
MLR pmax pmax
comp=Z,53nm,1.6s
MLR Muntele Rosu 64.41 42 P **P** 19 50 34.5 0.0
comp=Z,14nm,1.1s,baz=320,slow=7.2,SNR=6.0
MLR LR LR 20 16 20.1
comp=Z,165nm,21.9s,baz=242,slow=34
comp=Z,14nm,1.1s
LBTB Lobatse 64.45 121 LR LR 20 14 32.1
comp=Z,284nm,18.6s,baz=286,slow=32
HFS Hagfors 64.73 24 P **P** 19 50 35.1 -1.0
comp=Z,3.2nm,0.8s,baz=192,slow=5.5,SNR=7.2
HFS LR LR 20 15 15.1
comp=Z,79nm,20.1s,baz=246,slow=33
comp=Z,3.2nm,0.8s
BOSA Boshof 65.44 125 P **P** 19 50 41.6 +0.2
BOSA IAmb IAmb 19 50 45.0
comp=Z,12nm,0.9s
BOSA Boshof 65.44 125 P **P** 19 50 41.6 +0.2
BOSA pmax pmax
comp=Z,12nm,0.9s
BOSA Boshof 65.44 125 P **P** 19 50 41.6 +0.2
comp=Z,10nm,0.8s,baz=310,slow=6.3,SNR=12
BOSA LR LR 20 13 23.0
comp=Z,256nm,21.3s,baz=298,slow=31
comp=Z,10nm,0.8s
BRDY Brady 66.73 302 P **P** 19 50 49.4 -0.2
BRDY IAmb IAmb 19 50 57.1
comp=Z,23nm,1.7s
JMIC Jan Mayen 67.09 8 LR LR 20 14 40.2
comp=Z,69nm,20.1s,baz=232,slow=31
EIL Elat 67.97 60 LR LR 20 21 05.9
comp=Z,327nm,20.4s,baz=250,slow=36
LODK Lodwar 68.02 89 P **P** 19 50 58.7 +0.6
AKASG Malin Array Be 68.19 37 P **P** 19 50 57.2 -1.2
AKASG IAmb IAmb 19 51 06.2
comp=Z,18nm,1.5s
AKASG Malin Array Be 68.19 37 P **P** 19 50 58.6 +0.2
comp=Z,3.6nm,0.8s,baz=251,slow=6.3,SNR=12
AKASG LR LR 20 20 29.0
comp=Z,105nm,20.0s,baz=228,slow=36
comp=Z,3.6nm,0.8s
AKBB Malin Array Si 68.19 37 *i* P **P** 19 50 58.3 -0.1
AKBB pmax pmax
comp=Z,18nm,1.5s
BRTR Keskin Array B 68.40 50 *e*P **P** 19 51 03.0 +2.8
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 68.40 50 P **P** 19 51 00.9 +0.7
comp=Z,2.0nm,0.9s,baz=208,slow=5.0,SNR=6.0
BRTR LR LR 20 23 00.9
comp=Z,124nm,18.0s,baz=248,slow=38
comp=Z,2.0nm,0.9s
ULM Lac du Bonnet 68.61 322 LR LR 20 15 51.4
comp=Z,132nm,21.4s,baz=112,slow=31
MNK Minsk 68.72 33 *i* P **P** 19 50 59.5 -2.2
MNK *i* 19 53 32.1
MNK *i* PPP PPP 19 55 09.2
MNK *i* S **S** **20 00 02.6 -2.1**
MNK *i* SS **SS** **20 04 27.6 -1.8**
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK MLR MLR
comp=E,30nm,13.0s
MNK MLR MLR
comp=Z,117nm,14.0s
MNK MLR MLR
comp=N,106nm,16.0s
MMAI Mount Meron Ar 68.74 57 LR LR 20 25 14.8
comp=N,106nm,18.1s,baz=242,slow=40
SAND Sanderson 69.25 300 P **P** 19 51 04.1 -1.5
SAND IAmb IAmb 19 51 09.3
comp=Z,13nm,1.5s
KMBO Kilima Mbogo 70.33 93 P **P** 19 51 12.4 -0.3
comp=Z,0.5nm,0.4s,baz=41,slow=16,SNR=4.0
KMBO LR LR 20 19 40.8
comp=Z,290nm,19.1s,baz=289,slow=34
comp=Z,0.5nm,0.4s
TXAR Lajitas Array 70.53 299 P **P** 19 51 15.1 +1.6
comp=Z,0.4nm,0.6s,baz=112,slow=9.6,SNR=4.9
comp=Z,0.4nm,0.6s
FCC Fort Churchill 70.56 331 P **P** 19 51 12.6 -0.2
FCC Fort Churchill 70.56 331 P **P** 19 51 12.6 -0.2
FCC pmax pmax
comp=Z,42nm,1.8s
FINES FINESS Array B 70.59 26 P **P** 19 51 13.6 +0.5
comp=Z,4.6nm,0.8s,baz=266,slow=5.7,SNR=8.7
FINES LR LR 20 21 59.9
comp=Z,85nm,18.1s,baz=238,slow=36
comp=Z,4.6nm,0.8s
OGNE Ogallala 70.63 311 P **P** 19 51 13.2 -0.6
VHRN Van Horn 71.79 300 P **P** 19 51 24.2 +3.1
Q24A Divide 72.72 309 P **P** 19 51 29.6 +2.8
baz=97
SDCO Great Sand Dun 72.85 308 P **P** 19 51 28.2 +0.6
baz=96
ISCO Idaho Springs 73.17 310 IAmb IAmb 19 51 38.7
comp=Z,22nm,1.4s
ISCO Idaho Springs 73.17 310 P **P** 19 51 30.5 +1.1
baz=97
ANMO Albuquerque 73.35 305 P **P** 19 51 29.5 -1.0
ANMO IAmb IAmb 19 51 39.9
comp=Z,14nm,1.4s
ANMO Albuquerque 73.35 305 P **P** 19 51 31.6 +1.2
baz=95
ANMO Albuquerque 73.35 305 *i* P **P** 19 51 31.9 +1.4
ANMO pmax pmax
comp=Z,12nm,1.5s
ANMO Albuquerque 73.35 305 LR LR 20 19 50.1
comp=Z,261nm,21.5s,baz=187,slow=33
FFC Flin Flon 73.43 326 P **P** 19 51 29.6 -0.6
FFC Flin Flon 73.43 326 P **P** 19 51 29.6 -0.6
FFC pmax pmax
comp=Z,37nm,1.5s
DGMT Dagmar 73.46 319 P **P** 19 51 33.2 +2.6
baz=100
SOC Sochi 73.53 46 *e*P **P** 19 51 30.1 -0.9
SOC *e* 19 54 13.6
SOC *e*PPP PPP 19 55 58.5
SOC *e*S **S** **20 01 01.1 +0.2**
SOC *e*SS **SS** **20 05 39.9 -3.8**
N23A Red Feather La 73.55 311 P **P** 19 51 34.5 +2.9
baz=97
OBN Obninsk 73.70 34 *i* P **P** 19 51 32.2 +0.5
OBN *i* 19 51 44.4
OBN pmax pmax
comp=Z,16nm,1.5s
OBN MLR MLR
comp=Z,145nm,17.0s
S22A 4UR Ranch, Cre 73.90 308 IAmb IAmb 19 51 43.1
comp=Z,16nm,1.4s
S22A 4UR Ranch, Cre 73.90 308 P **P** 19 51 35.7 +2.0
baz=95
ARCES ARCESS Array B 74.05 18 P **P** 19 51 32.9 -0.7
comp=Z,6.4nm,1.1s,baz=348,slow=5.3,SNR=3.8
ARCES LR LR 20 20 44.6
comp=Z,58nm,19.6s,baz=244,slow=33
comp=Z,6.4nm,1.1s
SMCO Snowmass 74.15 309 IAmb IAmb 19 51 44.5
comp=Z,18nm,1.4s
121A Cookes Peak, D 74.28 302 P **P** 19 51 39.5 +3.5
baz=93
VSR Storozhevoye 74.40 38 *e*P **P** 19 51 33.6 -2.4
VSR pmax pmax
comp=Z,10.0nm,1.1s
MOS Moscow 74.43 34 *e*P **P** 19 51 33.9 -2.1

VORD Divnogorie 74.43 39 *e*P **P** 19 51 35.5 -0.6
VORD pmax pmax
comp=Z,20nm,0.6s
LPSR Galich'ya Gora 74.52 37 *e*P **P** 19 51 35.5 -1.1
LPSR pmax pmax
comp=Z,9.0nm,0.8s
LAO LASA Array 74.52 317 P **P** 19 51 40.5 +3.6
baz=98
ATD Arta Tunnel 74.92 80 LR LR 20 24 09.0
comp=Z,11nm,18.6s,baz=288,slow=35
MVCO Mesa Verde 75.18 307 P **P** 19 51 39.4 -1.8
MVCO IAmb IAmb 19 51 50.6
comp=Z,26nm,1.8s
O20A White River Ci 75.22 310 IAmb IAmb 19 51 51.0
comp=Z,28nm,1.3s
O20A White River Ci 75.22 310 P **P** 19 51 43.1 +1.9
baz=95
SHA1 Shidzhatmaz 75.67 46 *i* P **P** 19 51 44.3 +0.5
KIV Kislovodsk 75.71 46 *e*P **P** 19 51 43.5 -0.3
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,65nm,18.0s
KBZ Khabaz 75.84 46 *i* P **P** 19 51 45.3 +0.9
KBZ pmax pmax
comp=Z,13nm,1.8s
KBZ Khabaz 75.84 46 P **P** 19 51 45.3 +0.9
comp=Z,2.2nm,0.9s,baz=234,slow=3.8,SNR=2.8
KBZ LR LR 20 28 02.3
comp=Z,58nm,19.2s,baz=284,slow=38
comp=Z,2.2nm,0.9s
APA Apatity 75.89 21 ⇓*i* P 19 51 36.6 -7.6
APA pmax pmax
comp=Z,10.0nm,1.1s
APA MLR MLR
comp=Z,800nm,19.0s
PYA1 Pyatigorsk 76.02 46 *i* P **P** 19 51 46.9 +1.4
ONI Oni 76.14 48 P **P** 19 51 45.9 -0.4
ONI Oni 76.14 48 P **P** 19 51 45.9 -0.4
ONI pmax pmax
comp=Z,4.0nm,0.8s
LPIG La Paz 76.27 293 LR LR 20 26 07.7
comp=Z,59nm,18.7s,baz=34,slow=36
NCK Nalchik 76.32 47 *i* P **P** 19 51 48.1 +0.9
NCK pmax pmax
comp=Z,5.0nm,0.9s
PDAR Pinedale Array 76.43 313 P **P** 19 51 48.3 +0.1
comp=Z,1.6nm,1.0s,baz=104,slow=6.3,SNR=9.6
PDAR LR LR 20 20 52.8
comp=Z,181nm,21.7s,baz=118,slow=32
comp=Z,1.6nm,1.0s
BW06 Boulder Array 76.43 313 P **P** 19 51 51.7 +3.5
baz=95
KLMR Klimovskoe 76.56 29 *e*P **P** 19 51 46.6 -1.5
KLMR pmax pmax
comp=Z,38nm,1.9s
P18A Preston Nutter 76.71 309 IAmb IAmb 19 51 59.1
comp=Z,19nm,1.4s
SPITS Spitsbergen Ar 76.74 9 LR LR 20 20 13.7
comp=Z,64nm,18.8s,baz=199,slow=32
TUC Tucson 76.81 302 P **P** 19 51 48.2 -2.0
TUC IAmb IAmb 19 51 55.1
comp=Z,13nm,1.6s
TUC Tucson 76.81 302 P **P** 19 51 48.3 -2.0
TUC pmax pmax
comp=Z,13nm,1.6s
SRU San Rafael Swe 76.90 309 IAmb IAmb 19 51 59.9
comp=Z,17nm,1.5s
GNI Garni 76.92 50 LR LR 20 26 53.9
comp=Z,98nm,21.5s,baz=256,slow=37
YMP Mirror Lake Pl 77.03 314 IAmb IAmb 19 52 10.6
comp=Z,24nm,1.5s
EGMT Eagleton 77.07 318 P **P** 19 51 53.7 +2.2
baz=96
BSUT Blindstream Ca 77.17 310 IAmb IAmb 19 52 00.9
comp=Z,15nm,1.4s
LOHW Long Hollow 77.26 313 IAmb IAmb 19 52 01.4
comp=Z,15nm,1.2s
WUAZ Wupatki 77.40 305 IAmb IAmb 19 52 03.4
comp=Z,26nm,1.5s
WUAZ Wupatki 77.40 305 P **P** 19 51 55.7 +2.0
baz=92
RES Resolute Bay 77.41 346 IAmb IAmb 19 52 01.2
comp=Z,21nm,1.4s
X16A Lo Mia Camp, P 77.42 304 P **P** 19 51 53.0 -0.9
X16A IAmb IAmb 19 52 03.7
comp=Z,10nm,1.2s
REDW Red Top Meadow 77.42 313 P **P** 19 51 52.4 -1.4
YFT Old Faithful 77.49 314 pP 19 51 56.6 -0.3
TPAW Teton Pass 77.50 313 IAmb IAmb 19 52 03.0
comp=Z,28nm,1.5s
IMW Indian Meadow 77.53 314 IAmb IAmb 19 52 03.8
comp=Z,23nm,1.3s
YHH Holmes Hill 77.53 314 P **P** 19 51 53.3 -1.1
FXWY Fox Creek 77.57 313 IAmb IAmb 19 51 58.0
comp=Z,14nm,1.6s
TCUT Toone Canyon 77.69 311 IAmb IAmb 19 52 04.0
comp=Z,18nm,1.2s
HWUT Hardware Ranch 77.84 311 IAmb IAmb 19 52 04.6
comp=Z,35nm,1.6s
VNA1 Neumayer--Stat 77.89 172 ⇓P **P** 19 51 57.6 +2.2
comp=Z,15nm,1.0s
NLU North Lily Min 78.14 310 IAmb IAmb 19 52 07.6
comp=Z,20nm,1.3s
VNA3 Neumayer Olymp 78.25 173 ⇓P **P** 19 51 58.2 +0.8
comp=Z,8.6nm,0.8s
VNA2 Neumayer--Watz 78.27 172 ⇓P **P** 19 51 58.6 +1.1
comp=Z,6.0nm,0.9s,baz=13,slow=6.0
KNB Kanab 78.62 306 IAmb IAmb 19 53 04.6
comp=Z,22nm,1.9s
DUG Dugway, Tooele 78.72 310 IAmb IAmb 19 52 10.1
comp=Z,24nm,1.4s
DUG Dugway, Tooele 78.72 310 P **P** 19 52 02.2 +1.3
baz=92
HVU Hansel Valley 78.75 311 IAmb IAmb 19 52 09.4
comp=Z,19nm,1.7s
SZCU Shurtz Canyon 78.85 307 IAmb IAmb 19 52 11.1
comp=Z,12nm,1.2s
BGU Big Grassy Mou 78.91 310 IAmb IAmb 19 52 10.7
comp=Z,28nm,1.4s
SNAA Sanae 79.62 171 P **P** 19 52 05.8 +0.9
SNAA IAmb IAmb 19 52 13.8
comp=Z,37nm,1.8s
SNAA Sanae 79.62 171 *i* P **P** 19 52 06.1 +1.1
SNAA pmax pmax
comp=Z,11nm,1.1s
SNAA Sanae 79.62 171 P **P** 19 52 05.9 +0.9
comp=Z,2.1nm,0.3s,baz=325,slow=9.3,SNR=6.6
comp=Z,2.1nm,0.3s
BELG Belogornoye 79.75 38 LR LR 20 27 33.4
comp=Z,77nm,18.0s,baz=281,slow=36
HLID Hailey 80.02 313 P **P** 19 52 09.3 +1.3
baz=92
IRM Iron Mountain 80.48 304 P **P** 19 52 12.1 +1.6
baz=90
ELK Elko 80.58 310 P **P** 19 52 12.1 +1.0
ELK IAmb IAmb 19 52 20.1
comp=Z,16nm,1.4s
ELK Elko 80.58 310 P **P** 19 52 12.1 +1.0
ELK pmax pmax
comp=Z,16nm,1.4s
ELK Elko 80.58 310 LR LR 20 25 20.2
comp=Z,112nm,19.7s,baz=96,slow=34
RPN Rapa Nui 80.60 241 LR LR 20 23 48.3
comp=Z,114nm,21.3s,baz=116,slow=33
TROLL Troll, Antarti 80.83 169 ⇓P **P** 19 52 11.9 +0.3
comp=Z,188nm,0.6s
R11B Troy Canyon, C 80.83 308 P **P** 19 52 15.4 +3.0
baz=90
KIRV Kirov 81.19 32 *i* P **P** 19 52 14.5 +0.9
KIRV Kirov 81.19 32 LR LR 20 26 36.9
comp=Z,87nm,19.2s,baz=263,slow=34
YKA Yellowknife Ar 81.22 332 P **P** 19 52 13.2 -0.5
comp=Z,1.3nm,1.0s,baz=94,slow=5.6,SNR=11
YKA LR LR 20 25 39.6
comp=Z,112nm,19.1s,baz=340,slow=34
comp=Z,1.3nm,1.0s
TPNV Topopah Spring 81.36 306 P **P** 19 52 14.1 -1.2
TPNV Topopah Spring 81.36 306 P **P** 19 52 17.7 +2.4
baz=90
TPNV Topopah Spring 81.36 306 P **P** 19 52 14.1 -1.2
TPNV pmax pmax
comp=Z,5.0nm,0.7s
PFO Pinyon Flats O 81.59 303 LR LR 20 26 29.5
comp=Z,120nm,19.6s,baz=81,slow=34
WCT Wildcat Mounta 81.67 306 IAmb IAmb 19 52 26.6
comp=Z,18nm,1.3s

GWY Greenwater Val 81.71 306 IAmb IAmb 19 52 26.1
comp=Z,18nm,1.3s
NEW Newport 82.01 318 P **P** 19 52 20.7 +2.4
baz=90
NEW Newport 82.01 318 LR LR 20 27 13.4
comp=Z,78nm,18.1s,baz=74,slow=35
BMN Battle Mountai 82.09 310 IAmb IAmb 19 52 28.0
comp=Z,12nm,1.2s
BMO Blue Mountains 82.12 314 IAmb IAmb 19 52 27.8
comp=Z,23nm,1.8s
MPMC Manual Prospec 82.38 306 P **P** 19 52 22.6 +1.9
baz=89
LRMC Laurel Mtn Rad 82.55 305 P **P** 19 52 23.5 +1.9
baz=88
EDW2 Edwards Air Fo 82.82 304 P **P** 19 52 23.7 +0.8
baz=88
NVAR Mina Array Bea 82.97 308 P **P** 19 52 25.3 +1.6
comp=Z,1.0nm,0.7s,baz=96,slow=5.6,SNR=8.8
NVAR LR LR 20 25 37.9
comp=Z,76nm,21.7s,baz=98,slow=33
comp=Z,1.0nm,0.7s
ISA Isabella, Lake 83.19 305 P **P** 19 52 25.1 +0.3
ISA IAmb IAmb 19 52 34.6
comp=Z,9.6nm,1.1s
ISA Isabella, Lake 83.19 305 P **P** 19 52 27.9 +3.2
baz=88
ISA Isabella, Lake 83.19 305 P **P** 19 52 25.1 +0.3
ISA pmax pmax
comp=Z,10.0nm,1.1s
BELA Belgrano 2 83.40 180 P **P** 19 52 25.2 +0.4
WRGLY Wrigley 85.28 333 P **P** 19 52 35.5 +0.9
baz=87
ELIB Princess Elisa 85.42 165 *d*P **P** 19 52 36.7 +1.4
A36M Sachs Harbour 85.42 342 IAmb IAmb 19 52 43.4
comp=Z,11nm,1.1s
A36M Sachs Harbour 85.42 342 P **P** 19 52 35.4 +0.1
baz=86
KOTAN Kotaneelee Air 85.75 330 P **P** 19 52 37.9 +0.8
baz=86
ARU Arti 86.14 34 P **P** 19 52 40.1 +1.0
ARU Arti 86.14 34 *d*P **P** 19 52 40.1 +1.0
ARU S **SKSac** **20 03 06.2 +1.2**
ARU SS **SS** **20 08 56.2 +4.5**
ARU pmax pmax
comp=Z,28nm,2.8s
ARU Arti 86.14 34 LR LR 20 30 22.2
comp=Z,147nm,20.3s,baz=120,slow=35
AKTO Aktyubinsk 86.26 40 LR LR 20 29 38.9
comp=Z,78nm,21.9s,baz=346,slow=35
GEYT Alibeck 87.35 52 P **P** 19 52 46.0 +0.6
comp=Z,0.8nm,0.3s,baz=268,slow=10,SNR=4.2
GEYT LR LR 20 37 14.9
comp=Z,66nm,18.3s,baz=313,slow=39
comp=Z,0.8nm,0.3s
ABKAR Akbulak array 87.61 41 P **P** 19 52 46.6 +0.2
INK Inuvik 88.74 339 LR LR 20 29 36.8
comp=Z,56nm,19.8s,baz=26,slow=34
F31M Tsiigehtchic 89.00 338 P **P** 19 52 53.3 +0.7
baz=78
G31M Satah River 89.31 337 P **P** 19 52 54.5 +0.4
baz=77
M31M Drury Creek, Y 90.41 333 P **P** 19 53 00.9 +1.5
baz=77
I30M Mount Dempster 90.55 336 P **P** 19 53 00.6 +0.5
baz=75
H29M Whitestone 91.08 337 P **P** 19 53 04.2 +1.8
baz=74
D27M Malcolm River 91.10 340 P **P** 19 53 03.9 +1.4
baz=71
E27K Coleen River 91.66 339 P **P** 19 53 05.7 +0.6
baz=70
DAWY Dawson 92.12 335 P **P** 19 53 07.3 0.0
DAWY IAmb IAmb 19 53 10.3
comp=Z,13nm,1.4s
F26K Sheenjek River 92.74 339 P **P** 19 53 11.1 +1.0
baz=68
D25K Kavik River 92.86 341 P **P** 19 53 11.7 +1.1
baz=66
F25K Christian Rive 93.31 339 P **P** 19 53 13.9 +1.1
baz=67
BRVK Borovoye 93.38 36 *i* P **P** 19 53 13.9 +0.6
BRVK pmax pmax
comp=Z,1.0nm,0.7s
J26L Joseph Creek 93.69 336 IAmb IAmb 19 53 17.3
comp=Z,5.5nm,1.1s
J26L Joseph Creek 93.69 336 P **P** 19 53 15.0 +0.4
baz=69
D24K Happy Valley 93.72 341 P **P** 19 53 15.8 +1.3
baz=64
D23K Nanushuk River 94.40 341 P **P** 19 53 19.0 +1.3
baz=62
ILAR Eielson Array 94.91 337 P **P** 19 53 20.1 0.0
comp=Z,1.1nm,0.8s,baz=61,slow=4.3,SNR=10
ILAR LR LR 20 35 05.1
comp=Z,101nm,18.5s,baz=86,slow=35
comp=Z,1.1nm,0.8s
NRIK Noril'sk 95.03 18 LR LR 20 34 14.0
comp=Z,82nm,21.4s,baz=330,slow=34
D22K Ayikyak River 95.08 342 P **P** 19 53 22.1 +1.3
baz=60
B21K Ikpikpuk River 95.29 343 P **P** 19 53 23.9 +2.2
baz=58
QSPA South Pole Qui 95.67 180 LR LR 20 28 57.5
comp=Z,27nm,21.9s,baz=168,slow=31
G21K Allakaket 96.54 340 P **P** 19 53 30.0 +2.5
baz=60
MAW Mawson 97.36 157 LR LR 20 31 18.2
comp=Z,81nm,18.2s,baz=224,slow=32
AAK Ala-Archa 98.82 45 LR LR 20 44 49.0
comp=Z,59nm,18.5s,baz=293,slow=39
SONM Songino Array 115.85 29 PKP **PKPdf** **19 58 41.9 +0.7**
comp=Z,0.2nm,0.5s,baz=107,slow=1.5,SNR=2.3
LSA Lhasa 115.87 53 **PKiKP** **19 58 37.7 -4.4**
LSA Lhasa 115.87 53 PKiKP **PKiKP** **19 58 37.7 -4.4**
BTO Baotou 122.75 33 *e*PKP **PKPdf** **19 58 54.1 -0.5**
BTO sPKP 19 59 08.3
BTO PP PP 20 00 49.9 +18
MND Mandalay 123.00 59 PKPdf **PKPdf** **19 58 53.8 -1.6**
HHC Hu-ho-hao-te 123.41 32 *e*P **PKPdf** **19 58 51.8 -4.0**
CD2 Chengdu 124.88 46 PKP **PKPdf** **19 58 58.0 -0.9**
PZH PanZhiHua 125.66 52 PKP **PKPdf** **19 59 00.1 -0.5**
XAN Xi'an 126.51 40 *e*PKP **PKiKP** **19 59 05.4 +3.0**
CHTO Chiang Mai 126.67 62 PKPdf **PKPdf** **19 59 00.5 -2.0**
CHTO Chiang Mai 126.67 62 PKiKP **PKPdf** **19 59 00.5 -2.0**
CMAR Chiang Mai Arr 126.80 62 PKP **PKiKP** **19 59 03.9 +0.6**
comp=Z,3.2nm,0.8s,baz=289,slow=3.4,SNR=15
GYA Guiyang 129.45 49 *e*P **PKiKP** **19 59 09.0 +0.5**
GYA pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 133.85 34 *e*P **PKPdf** **19 59 15.3 -0.5**
NJ2 pmax pmax
comp=Z,11nm,0.9s
STKA Stephens Creek 153.38 169 PKPbc **PKiKP** **19 59 57.4 +0.2**
comp=Z,5.9nm,1.1s,baz=346,slow=1.6,SNR=5.7
ASAR Alice Springs 158.00 146 PKP **PKPdf** **19 59 56.3 +0.4**
comp=Z,4.8nm,1.1s,baz=216,slow=1.0,SNR=15
ASAR PKPab **PKPab** **20 00 27.9 -1.1**
comp=Z,1.9nm,0.9s,baz=209,slow=4.7,SNR=6.5

CATAC ***22*** *19:45:31.5±0.5, 13°.10N×90°.07W, h5km±2km, ML3.7*
SNET ***22*** *19:45:33.0±1.3, 13°.16N×90°.09W, h17km, ML3.7*
GCG ***22*** *19:45:48.7±0.3, 14°.51N×90°.67W, h51km±16km, MD3.6*

ISC 22 19:45:31.5±1.7, 13°.07N±0°.07×90°.11W±0°.04, h21km±4km, n48, σ0°.54/79, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.86**	**48**	*e*P		**Pb**	**19 45 48.0**	**+0.1**
JAYA				*e*S		**Sb**	**19 45 59.5**	**+0.4**
JAYA	**Jayaque - finc**	**0.86**	**48**	*i*P		**Pb**	**19 45 47.8**	**-0.1**
JAYA				*i*S		**Sb**	**19 45 59.4**	**+0.3**
JAYA				IAML			19 46 00.9	
	comp=Z,9μm,1.0s							
LALI	**Alcalda de L**	**0.87**	**62**	*i*S		**Sb**	**19 45 59.0**	**-0.1**
NUBE	**Las Nubes**	**0.89**	**21**	*e*P		**Pb**	**19 45 48.0**	**-0.3**
NUBE				*e*S		**Sb**	**19 45 59.8**	**0.0**
NUBE	**Las Nubes**	**0.89**	**21**	*i*P		**Pb**	**19 45 48.0**	**-0.3**
NUBE				*i*S		**Sb**	**19 45 59.4**	**-0.3**
NUBE				IAML			19 46 05.9	
	comp=Z,2μm,1.0s							
CEVE	**Cerro Verde**	**0.89**	**32**	*e*P		**Pb**	**19 45 48.5**	**+0.1**
CEVE				*e*S		**Sn**	**19 46 01.6**	**+0.2**
CEVE	**Cerro Verde**	**0.89**	**32**	*i*P		**Pb**	**19 45 48.1**	**-0.2**
CEVE				*i*S		**Sn**	**19 46 01.0**	**-0.3**
CEVE				IAML			19 46 04.1	

comp=Z,2μm,1.0s
SBLS San Blas 0.90 32 *e*P **Pb 19 45 48.4 -0.1**
SNJE San Jose 0.93 32 *e*P **Pb 19 45 48.9 -0.2**
RTR El Retiro 0.94 29 *e*P **Pb 19 45 49.1 0.0**
LOAL Lomas de Alarc 0.97 19 *i*P **Pb 19 45 49.6 -0.1**
LOAL *i*S **Sb 19 46 02.5 +0.3**
LOAL IAML 19 46 04.0
comp=Z,6μm,1.0s
SLOZ Alcaldia de Sa 1.00 18 *e*P **Pb 19 45 50.0 -0.2**
SLOZ *e*S **Sb 19 46 02.7 -0.2**
PMON Piamonte 1.00 50 *i*P **Pb 19 45 49.9 -0.3**
PMON *i*S **Sn 19 46 04.2 +0.2**
PMON IAML 19 46 07.0
comp=Z,4μm,1.0s
CEDA San Andres 1.00 44 *i*P **Pb 19 45 49.8 -0.4**
CEDA *i*S **Sb 19 46 03.8 +0.8**
CEDA IAML 19 46 08.7
comp=Z,3μm,1.0s
MAGS Ministerio de 1.00 53 *i*P **Pb 19 45 50.2 -0.1**
MAGS *i*S **Sb 19 46 03.3 +0.2**
MAGS IAML 19 46 04.8
comp=Z,2μm,1.0s
BOQS Boqueron 1.04 51 *i*P **Pb 19 45 51.1 +0.1**
BOQS *e*S **Sn 19 46 05.2 +0.1**
SNET Serv Nac Est T 1.05 54 *i*P **Pn 19 45 49.9 -1.2**
SNET *i*S **Sn 19 46 05.2 +0.1**
SNET IAML 19 46 08.7
comp=Z,3μm,1.0s
PANCS Alcalda de 1.05 59 *i*P **Pn 19 45 50.2 -0.9**
PANCS *i*S **Sb 19 46 04.1 -0.3**
PANCS IAML 19 46 05.6
comp=Z,4μm,1.0s
UNIC Universidad Ca 1.06 31 *i*P **Pn 19 45 50.8 -0.3**
UNIC *i*S **Sb 19 46 04.6 +0.1**
UNIC IAML 19 46 05.7
comp=Z,590nm,1.0s
UEES Universidad Ev 1.06 53 *i*P **Pn 19 45 51.0 -0.2**
UEES *i*S **Sb 19 46 04.8 +0.1**
UEES IAML 19 46 12.4
comp=Z,1μm,1.0s
LOMA Loma Larga 1.07 58 *i*P **Pn 19 45 51.2 -0.3**
LOMA *i*S **Sb 19 46 05.5 +0.4**
LOMA IAML 19 46 09.3
comp=Z,1μm,1.0s
QUEZ Alcaldia de Qu 1.11 47 *i*P **Pn 19 45 51.5 -0.4**
QUEZ *i*S **Sn 19 46 06.9 +0.3**
QUEZ IAML 19 46 14.7
comp=Z,5μm,1.0s
IGN Direccin Gen 1.11 55 *i*P **Pb 19 45 52.8 +0.7**
IGN IAML 19 46 14.1
comp=Z,5μm,1.0s
LFRS El Faro 1.16 62 *e*P **Pn 19 45 52.3 -0.3**
SJTE Alcalda de S 1.20 63 *e*S **Sn 19 46 08.4 -0.4**
SJTE Alcalda de S 1.20 63 *i*P **Pn 19 45 52.9 -0.2**
SJTE *i*S **Sn 19 46 08.8 0.0**
SJTE IAML 19 46 10.6
comp=Z,740nm,1.0s
PAVA Las Pavas 1.31 61 *i*P **Pn 19 45 54.7 +0.1**
PAVA IAML 19 46 18.8
comp=Z,1μm,1.0s
COEG Centro de Oper 1.31 65 *e*P **Pn 19 45 54.8 +0.2**
COEG Centro de Oper 1.31 65 *i*P **Pn 19 45 54.8 +0.1**
COEG IAML 19 46 16.4
comp=Z,910nm,1.0s
TECO Alcaldia de Te 1.37 70 *i*P **Pb 19 45 55.9 -0.6**
TECO *i*S **Sb 19 46 14.4 +0.8**
TECO IAML 19 46 17.9
comp=Z,390nm,1.0s
PCG Pacaya 1.40 340 *e*P **Pb 19 45 57.7 +0.6**
UESV Universidad de 1.40 66 *i*P **Pn 19 45 56.0 +0.1**
UESV *i*S **Sn 19 46 13.8 0.0**
UESV IAML 19 46 21.5
comp=Z,530nm,1.0s
JAMO Monjas 1.43 9 *i*P **Pb 19 45 56.9 -0.6**
JAMO *i*S **Sb 19 46 15.9 +0.5**
JAMO IAML 19 46 25.7
comp=Z,1μm,1.0s
SCLA Alcaldia de Sa 1.48 65 *i*P **Pn 19 45 57.0 0.0**
SCLA *i*S **Sb 19 46 17.7 +1.0**
SCLA IAML 19 46 25.7
comp=Z,280nm,1.0s
MTO3 Montecristo 1.51 29 *e*P **Pn 19 45 57.9 +0.5**
MTO3 *e*S **Sb 19 46 17.8 +0.2**
MTO3 Montecristo 1.51 29 *i*P **Pb 19 45 58.0 -0.9**
MTO3 *i*S **Sb 19 46 17.5 -0.1**
MTO3 IAML 19 46 18.6
comp=Z,1μm,1.0s
NBG Las Nubes 1.52 351 *e*P **Pb 19 45 59.1 -0.1**
GUNB GUNB 1.53 351 *i*P **Pb 19 45 58.7 -0.7**
GUNB IAML 19 46 22.8
comp=Z,490nm,1.0s
FUG Fuego 3 1.54 333 *e*P **Pn 19 45 57.6 -0.3**
LLGN La Laguna 1.57 46 *i*P **Pn 19 45 58.6 +0.4**
LLGN IAML 19 46 04.8
comp=Z,650nm,1.0s
LLGN *i*S **Sb 19 46 19.7 +0.4**
PQSS Presa 15 de Se 1.60 70 *i*P **Pb 19 46 00.2 -0.2**
PQSS *i*S **Sn 19 46 18.8 +0.1**
PQSS IAML 19 46 22.9
comp=Z,330nm,1.0s
ESQI Esquipulas 1.66 27 *i*P **Pn 19 46 00.1 +0.7**
ESQI *i*S **Sb 19 46 22.2 +0.4**
ESQI IAML 19 46 23.3
comp=Z,1μm,1.0s
PACA Pacayal 1.78 77 *i*P **Pb 19 46 02.8 -0.7**
PACA *i*S **Sb 19 46 24.8 -0.7**
PACA IAML 19 46 32.3
comp=Z,3μm,1.0s
RTAL Retalhuleu 2.11 313 *i*P **Pb 19 46 09.3 +0.2**
SARH Santa Rosa de 2.14 38 *i*P **Pb 19 46 08.3 -1.3**
STG3 Santiaguito 3, 2.16 319 *e*P **Pn 19 46 05.7 -0.8**
LCND La Caada 2.17 84 *i*P **Pn 19 46 07.9 +1.5**
LCND *i*S **Sb 19 46 35.5 -1.1**
CNCH Conchagua 2.22 84 *i*P **Pn 19 46 08.7 +1.4**
CNCH *i*S **Sb 19 46 36.9 -1.3**
CNCH IAML 19 46 43.4
comp=Z,570nm,1.0s

ROM 22 19:48:06.5±0.1, 42.763N±0.004×13.226E±0.005, h9km, ML1.4/16, Error ellipse: s-maj=0.4km s-min=0.3km az=228.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.01**	**253**	P		Pg	19 48 08.1	-0.2
T1214				S		Sg	19 48 08.9	-0.7
NRCA	**Norcia**	**0.11**	**311**	P		Pg	19 48 09.7	+0.5
NRCA				S		Sg	19 48 11.8	+0.7
NRCA				AML		AML		
	comp=E,322μm,1.4s							
NRCA				AML		AML		
	comp=N,366μm,0.9s							
NRCA				AML		AML		
	comp=N,306μm,0.2s							
NRCA				AML		AML		
	comp=E,293μm,0.8s							
NRCA				AML		AML		
	comp=E,322μm,0.6s							
MTRA	**Matera**	**0.13**	**93**	P		Pg	19 48 10.0	+0.6
MTRA				S		Sg	19 48 12.2	+0.7
MTRA				AML		AML		
	comp=E,686μm,0.6s							
MTRA				AML		AML		
	comp=N,568μm,0.2s							
MTRA				AML		AML		
	comp=E,596μm,0.6s							
MTRA				AML		AML		
	comp=E,596μm,1.4s							
MTRA				AML		AML		
	comp=E,686μm,1.4s							
MTRA				AML		AML		
	comp=N,576μm,0.1s							
MMO1	**Montemonaco**	**0.15**	**29**	P		Pg	19 48 10.4	+0.5
MMO1				S		Sg	19 48 13.4	+1.1
SMA1	**SAN MARTINO**	**0.15**	**149**	P		Pg	19 48 10.4	+0.5
SMA1				S		Sg	19 48 13.2	+0.9
SMA1				AML		AML		
	comp=E,119μm,1.3s							
SMA1				AML		AML		
	comp=N,139μm,0.5s							
SMA1				AML		AML		
	comp=E,119μm,0.7s							
GAVE	**Gavelli**	**0.25**	**254**	P		Pg	19 48 12.4	+0.8
GAVE				S		Sb	19 48 16.8	-1.1
GAVE				AML		AML		
	comp=E,84μm,0.1s							
GAVE				AML		AML		
	comp=N,79μm,0.8s							
GAVE				AML		AML		
	comp=N,79μm,0.8s							
RM33	**Pellescritta (**	**0.25**	**182**	P		Pb	19 48 12.5	-0.8
RM33				S		Sb	19 48 16.9	-1.0
MF5	**Montefalcone A**	**0.28**	**37**	P		Pb	19 48 13.5	-0.3
MF5				AML		AML		
	comp=E,82μm,1.3s							
MF5				AML		AML		
	comp=N,69μm,1.6s							
MF5				AML		AML		
	comp=E,82μm,0.7s							
FDMO	**Fiordimonte**	**0.29**	**340**	P		Pg	19 48 13.0	+0.7
T1221	**Campello sul C**	**0.29**	**289**	P		Pg	19 48 13.1	+0.6
TERO	**Teramo**	**0.31**	**117**	P		Pg	19 48 13.0	+0.3
TERO				S		Sb	19 48 18.2	-1.2
CSP1	**Cessapalombo**	**0.33**	**357**	P		Pb	19 48 13.9	-0.8
CESI	**CESI - Serrava**	**0.34**	**316**	P		Pg	19 48 13.9	+0.7
EL6	**Elcito**	**0.57**	**351**	P		Pg	19 48 18.1	+0.4

*IDC **22** 19:54:08.0±1.0, 12.595S×70.768W, h0km, mb3.4/5, mbtmp3.5/7, ML3.7/2, Error ellipse: s-maj=43.7km s-min=21.6km az=38.0*
ISC 22 19:54:13.2±0.7, 12.6S±0.1×70.6W±0.1, h35km, n13, σ0§92/14, mb3.4/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**9.84**	**111**	Pn		**Pn**	**19 56 33.3**	**+1.0**
	0.1nm,0.3s,baz=286,slow=10,SNR=3.6							
SIV				Sn		**Sn**	**19 58 20.5**	**-1.1**
	0.2nm,0.3s,baz=249,slow=8.1,SNR=2.1							
SIV				Lg		Lg	19 59 23.9	
	0.1nm,0.3s,baz=245,slow=21,SNR=1.7							
	0.7nm,0.4s							
LVC	**Limon Verde**	**10.11**	**171**	Pn		**Pn**	**19 56 36.9**	**+0.6**
	0.5nm,0.3s,baz=315,slow=13,SNR=2.1							
	1.7nm,0.4s							
TXAR	**Lajitas Array**	**52.49**	**323**	P		**P**	**20 03 23.7**	**+0.6**
	0.2nm,0.6s,baz=148,slow=7.5,SNR=1.8							
	0.2nm,0.6s							
PDAR	**Pinedale Array**	**65.63**	**329**	P		**P**	**20 04 54.5**	**+0.4**
	0.2nm,0.5s,baz=138,slow=6.9,SNR=3.6							
	0.2nm,0.5s							
NVAR	**Mina Array Bea**	**67.54**	**321**	P		**P**	**20 05 07.0**	**+0.6**
	0.2nm,0.4s,baz=150,slow=7.3,SNR=3.6							
	0.2nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.09**	**73**	P		**P**	**20 05 58.4**	**+0.4**
	0.5nm,0.5s,baz=258,slow=4.5,SNR=6.2							
	0.5nm,0.5s							
YKA	**Yellowknife Ar**	**82.28**	**341**	P		**P**	**20 06 30.5**	**-0.3**
	0.1nm,0.5s,baz=140,slow=5.1,SNR=2.4							
	0.1nm,0.5s							
STKA	**Stephens Creek**	**126.10**	**214**	PKP		**PKPdf**	**20 13 11.9**	**-0.6**
	0.6nm,0.5s,baz=72,slow=3.2,SNR=3.0							
ZALV	**Zalesovo Beam**	**134.37**	**20**	PKP		**PKPdf**	**20 13 27.3**	**-0.1**
	0.3nm,0.4s,baz=0.0,slow=0.3,SNR=4.1							
ASAR	**Alice Springs**	**136.73**	**214**	PKP		**PKPdf**	**20 13 31.2**	**-1.7**
	0.4nm,0.7s,baz=119,slow=1.2,SNR=2.7							
WRA	**Warramunga Arr**	**139.42**	**218**	PKP		**PKPdf**	**20 13 36.6**	**-1.3**
	1.1nm,0.8s,baz=134,slow=1.4,SNR=5.8							
SONM	**Songino Array**	**144.76**	**4**	PKP		**PKPdf**	**20 13 46.1**	**-0.6**
	0.5nm,0.6s,baz=325,slow=3.1,SNR=5.0							
MJAR	**Matsushiro Arr**	**144.81**	**318**	PKP		**PKPab**	**20 13 45.6**	**-0.3**
	0.9nm,0.6s,baz=70,slow=5.5,SNR=4.2							

*ECX **22** 19:58:01.0±0.4, 30.720N×114.412W, h12km±9km, ML3.0*
*MEX **22** 19:58:05.0±0.8, 30.532N×114.444W, h5km, MD3.0*
ISC 22 19:58:03.4±1.9, 30.3N±0.1×114.26W±0.05, h12km±12km, n8, σ1§49/14, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.86**	**324**	*e*P		**Pg**	**19 58 19.8**	**-0.2**
SFX				*e*S		**Sg**	**19 58 32.5**	**+1.1**
SFX	**San Felipe**	**0.86**	**324**	*e*P		**Pg**	**19 58 19.4**	**-0.6**
SFX				*e*S		**Sb**	**19 58 33.1**	**+1.4**
SFX				⇓*e*			19 58 33.5	
SFX				IAML			19 58 33.5	
	comp=E,172nm,0.3s							
SPIG	**San Pedro Mart**	**1.25**	**304**	*e*P		**Pn**	**19 58 25.9**	**-1.0**
SPIG				*e*S		**Sb**	**19 58 43.4**	**0.0**
SPIG	**San Pedro Mart**	**1.25**	**304**	*e*P		**Pn**	**19 58 26.1**	**-0.9**
SPIG				*e*S		**Sn**	**19 58 45.5**	**+1.5**
ECBX	**El Chinero**	**1.32**	**329**	*e*P		**Pn**	**19 58 26.6**	**-1.0**
PIX	**Pinacate**	**1.40**	**29**	*e*P		**Pn**	**19 58 26.0**	**-2.7**
SQX	**San Quintin**	**1.41**	**280**	*e*P		**Pn**	**19 58 27.2**	**-1.7**
SQX				*e*S		**Sn**	**19 58 48.0**	**+0.6**
SQX				⇑*e*			19 58 50.0	
SQX				IAML			19 58 50.0	
	comp=E,272nm,0.4s							
SQX				IAML			19 58 50.5	
	comp=N,380nm,0.4s							
SQX				⇑*e*			19 58 50.5	
LAPR	**La Primavera**	**1.69**	**84**	*e*P		**Pg**	**19 58 36.1**	**+0.4**
LAPR				*i*S		**Sb**	**19 58 57.1**	**+1.6**

IDC 22 19:59:35.0±53.0, 19.77S×178.51W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=966.5km s-min=161.1km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.68**	**243**	P		P	20 06 51.8	-0.5
	2.2nm,0.9s,baz=94,slow=13,SNR=3.0							
	2.2nm,0.9s							
ASAR	**Alice Springs**	**44.23**	**256**	P		P	20 07 46.5	+0.1
	3.2nm,0.5s,baz=95,slow=7.6,SNR=60							
	3.2nm,0.5s							
WRA	**Warramunga Arr**	**44.23**	**261**	P		P	20 07 46.2	-0.2
	1.2nm,0.4s,baz=96,slow=7.6,SNR=36							
	1.2nm,0.4s							

*SOME **22** 20:01:13.4, 39.738N×71.725E, h10km*
*KRNET **22** 20:01:18.4±0.1, 39.731N×71.747E, h10km, mb3.0*
*NNC **22** 20:01:19.3±2.6, 39.722N×71.763E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=19.7km s-min=13.6km az=2.0*
ISC 22 20:01:20.9±1.6, 39.743N±0.108×71.745E±0.104, h10km, n30, σ2§62/51, 15C-22D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.28**	**79**	⇓*e*P		**Pg**	**20 01 24.5**	**-2.2**
	baz=55							
DRK				⇓*e*S		**Sg**	**20 01 29.2**	**-1.3**
	baz=55							
BTK	**Batken**	**0.80**	**323**	⇑*e*P		**Pg**	**20 01 35.9**	**-0.4**
	baz=26							
BTK				⇑*e*S		**Sb**	**20 01 48.6**	**+0.8**
	baz=26							
OHH	**Osh**	**1.50**	**43**	⇑*e*P		**Pb**	**20 01 48.2**	**-0.8**
	baz=39							
OHH				⇑*e*S		**Sg**	**20 02 09.9**	**+0.6**
	baz=39							
TRKS	**Terek-Say**	**2.11**	**354**	⇓*e*P		**Pb**	**20 01 58.0**	**-1.4**
	baz=54							
TRKS				⇓*e*S		**Sb**	**20 02 26.8**	**+1.0**
	baz=54							
ARSB	**Arslanbob**	**2.23**	**31**	⇓*e*P		**Pb**	**20 02 00.2**	**-1.2**
	baz=29							
ARSB				⇓*e*S		**Sb**	**20 02 30.5**	**+1.4**
	baz=29							
ARK	**Arkit**	**2.40**	**9**	⇓*e*P		**Pb**	**20 02 02.9**	**-1.4**
	baz=8.0							
ARK				⇓*e*S		**Sb**	**20 02 35.3**	**+1.3**
	baz=8.0							
AML	**Almayashu**	**3.19**	**32**	⇓Pn		**Pn**	**20 02 12.9**	**+1.3**
	0.7nm,0.6s							
AML				⇑Lg		Lg	20 03 01.7	
	2.6nm,0.6s							
AML	**Almayashu**	**3.19**	**32**	⇑*e*P		**Pn**	**20 02 13.6**	**+2.0**
	baz=30							
AML				⇑*e*S		**Sb**	**20 02 54.0**	**-3.1**
	baz=30							
ARLS	**Aral**	**3.27**	**41**	⇓*e*P		**Pn**	**20 02 14.3**	**+1.9**
	baz=40							
ARLS				⇓*e*S		**Sn**	**20 02 54.8**	**+3.3**
	baz=40							
DZA	**Taraz**	**3.46**	**359**	Pg		**Pb**	**20 02 19.0**	**-3.3**
	44nm,0.2s							
DZA				Lg		Lg	20 03 06.3	
	48nm,0.4s							
DZA	**Taraz**	**3.46**	**359**	*e*P		**Pb**	**20 02 19.0**	**-3.3**
	44nm,0.2s							
DZA				*e*S		**Sb**	**20 03 06.3**	**+1.9**
	48nm,0.4s							
MRKS	**Merke**	**3.58**	**22**	Pg		**Pb**	**20 02 19.8**	**-4.5**
	2.9nm,0.3s							
MRKS				Lg		Lg	20 03 07.9	
	18nm,0.4s							
MRKS	**Merke**	**3.58**	**22**	*e*P		**Pb**	**20 02 21.1**	**-3.2**
	3.2nm,0.3s							
MRKS				*e*S		**Sb**	**20 03 09.6**	**+1.8**
	13nm,0.5s							
UCH	**Uchtor**	**3.64**	**39**	⇓*e*P		**Pn**	**20 02 19.7**	**+2.0**
	baz=37							
UCH				⇓*e*S		**Sn**	**20 03 04.5**	**+3.6**
	baz=37							
EKS2	**Erkin-Say**	**3.68**	**28**	⇓*e*P		**Pn**	**20 02 20.3**	**+2.3**
	baz=27							
EKS2				⇓*e*S		**Sn**	**20 03 05.4**	**+3.9**
	baz=27							
KK31	**Karatay Array**	**3.74**	**349**	⇑Pn		**Pn**	**20 02 21.4**	**+2.6**
	1.9nm,0.3s,baz=185,slow=15,SNR=25							
KK31				⇓Sn		**Sb**	**20 03 10.0**	**-2.4**
	3.3nm,0.4s,baz=176,slow=26,SNR=4.5							
KK31				⇓Lg		Lg	20 03 25.8	
	9.3nm,0.5s,baz=172,slow=28,SNR=6.1							
KKAR	**Karatay Array**	**3.74**	**349**	⇑*e*P		**Pn**	**20 02 21.3**	**+2.6**
	baz=49							
KKAR				⇑*e*S		**Sn**	**20 03 07.4**	**+4.6**
	baz=49							
AAK	**Ala-Archa**	**3.95**	**35**	⇓*e*P		**Pn**	**20 02 23.9**	**+2.2**
	baz=34							
AAK				⇓*e*S		**Sn**	**20 03 11.7**	**+3.5**
	baz=34							
NRN	**Naryn**	**4.01**	**59**	⇑*e*P		**Pn**	**20 02 23.9**	**+1.2**
	baz=57							
NRN				⇑*e*S		**Sn**	**20 03 11.5**	**+1.6**
	baz=57							
CHMS	**Chumysh**	**4.35**	**34**	⇑Pn		**Pn**	**20 02 29.8**	**+2.6**
	3.3nm,0.5s							
CHMS				⇑Sn		**Sn**	**20 03 23.1**	**+5.2**
	7.2nm,0.6s							
CHMS				⇑Lg		Lg	20 03 41.9	
	10nm,0.7s							
TKM2	**Tokmak 2**	**4.69**	**41**	⇓Pn		**Pn**	**20 02 34.6**	**+2.7**
	1.6nm,0.5s							
TKM2				⇓Sn		**Sn**	**20 03 29.2**	**+2.7**
	5.5nm,0.9s							
TKM2				⇓Lg		Lg	20 03 50.6	
	4.3nm,0.8s							
KST	**Kastek**	**4.96**	**42**	*e*P		**Pb**	**20 02 47.8**	**-0.2**
	1.7nm,0.5s							
KST				*e*S		**Sg**	**20 03 55.7**	**-4.5**
	3.7nm,0.6s							
DGS	**Degeres**	**5.01**	**39**	Pg		**Pb**	**20 02 48.5**	**-0.3**
	2.1nm,0.3s							
DGS				Lg		Lg	20 03 57.1	
	6.4nm,0.5s							
DGS	**Degeres**	**5.01**	**39**	*e*P		**Pb**	**20 02 48.5**	**-0.3**
	2.1nm,0.3s							
DGS				*e*S		**Sg**	**20 03 57.1**	**-4.7**
	6.4nm,0.5s							
KRBS	**Karabastau**	**5.31**	**35**	Pg		**Pb**	**20 02 55.0**	**+1.1**
	1.0nm,0.2s							
KRBS				Lg		Lg	20 04 08.3	
	2.6nm,0.5s							
KRBS	**Karabastau**	**5.31**	**35**	*e*P		**Pb**	**20 02 55.0**	**+1.1**
	1.0nm,0.2s							
KRBS				*e*S		**Sg**	**20 04 08.3**	**-3.2**
	2.6nm,0.5s							
TNSS	**Tian-Shan**	**5.49**	**47**	Pg		**Pb**	**20 02 58.2**	**+1.0**
	0.5nm,0.1s							
TNSS				Lg		Lg	20 04 13.7	
	2.4nm,0.6s							
TNSS	**Tian-Shan**	**5.49**	**47**	*e*P		**Pb**	**20 02 58.2**	**+1.0**
	0.5nm,0.1s							
TNSS				*e*S		**Sg**	**20 04 13.7**	**-3.6**
	2.4nm,0.6s							
MDOK	**Medeo**	**5.63**	**47**	Lg		Lg	20 04 18.4	
	4.8nm,0.9s							
AB31	**Akbulak array**	**12.80**	**324**	Pn		**Pn**	**20 04 20.9**	**-2.0**
	0.6nm,0.4s,baz=146,slow=12,SNR=24							

*ISN **22** 20:43:20.1±0.5, 33.785N×46.715E, h13km±3km, ML2.8*
*TEH **22** 20:43:32.9, 33.771N×46.722E, h20km±104km, ML2.7*
ISC 22 20:43:26.2±1.2, 33.55N±0.07×46.10E±0.09, h10km, n8, σ1§08/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.46**	**198**	*e*Pg		Pg	20 43 32.5	-2.6
IBDR				*e*Sg		**Sg**	**20 43 41.0**	**-0.1**
IGHG	**Ghaleghazi**	**0.87**	**26**	Pg		**Pn**	**20 43 46.4**	**+1.6**
IGHG				Sg		**Sn**	**20 43 57.2**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**1.05**	**336**	Pg		Pn	20 43 51.3	+4.4
IKFM	**Kafar-mosalman**	**1.46**	**90**	Pg		Pg	20 43 59.0	+4.8
BHD	**Baghdad**	**1.46**	**260**	*e*Pg		Pn	20 43 49.5	-3.1
BHD				*e*Sg		**Sn**	**20 44 11.0**	**-0.8**
RAFI	**Al-Rafai**	**1.82**	**180**	*e*Pn		Pn	20 43 55.0	-2.5
RAFI				*e*Sn		**Sn**	**20 44 21.0**	**+0.4**
RAFI				AML		AML	20 44 34.5	
	comp=E,144nm,0.3s							
RAFI				AML		AML	20 44 34.6	
	comp=N,76nm,0.3s							
HSAM	**Samen**	**2.19**	**72**	Pn		**Pg**	**20 44 07.6**	**-0.5**
HAGD	**Aghdareh**	**2.82**	**62**	Pn		**Pb**	**20 44 16.1**	**-0.8**

*TEH **22** 20:45:03.9, 33.785N×45.771E, h13km±59km, ML3.3*
*ISN **22** 20:45:03.1±0.5, 33.780N×45.772E, h10km±2km, ML3.4*
ISC 22 20:45:04.0±0.9, 33.81N±0.04×45.70E±0.05, h10km, n11, σ0§97/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.70**	**352**	Pg		**Pg**	**20 45 16.7**	**-0.8**
IBDR	**Badra**	**0.73**	**165**	*e*Pg		**Pg**	**20 45 17.0**	**-1.0**
IBDR				*e*Sg		**Sg**	**20 45 27.0**	**-0.5**
IGHG	**Ghaleghazi**	**0.88**	**54**	Pg		**Pg**	**20 45 20.3**	**-0.8**
IDHR	**Dehrash**	**1.05**	**32**	Pg		**Pg**	**20 45 23.3**	**-1.0**
BHD	**Baghdad**	**1.23**	**244**	*e*Pg		**Pn**	**20 45 27.0**	**-0.2**
BHD				*e*Sg		**Sb**	**20 45 44.0**	**+0.7**
BHD				AML		AML	20 45 46.2	
	comp=E,899nm,0.6s							
ILIN	**Lien**	**1.52**	**43**	Pg		**Pb**	**20 45 32.0**	**-0.4**
IKFM	**Kafar-mosalman**	**1.81**	**99**	Pn		**Pb**	**20 45 36.8**	**-0.4**
RAFI	**Al-Rafai**	**2.11**	**170**	*e*Pn		**Pn**	**20 45 40.0**	**+0.6**
RAFI				*e*Sn		**Sn**	**20 46 07.5**	**+1.8**
SDS1	**Sardasht. Az.**	**2.34**	**356**	Pn		**Pn**	**20 45 43.0**	**+0.3**
MAHB	**Mahabad**	**2.95**	**0**	Pn		**Pn**	**20 45 52.3**	**+1.2**
HAGD	**Aghdareh**	**3.02**	**70**	Pn		**Pn**	**20 45 52.8**	**+0.7**

*SKO **22** 20:47:29.8, 40.793N×22.775E, h16km, ML2.6*
*ATH **22** 20:47:31.3, 40.797N×22.774E, h6km±2km, ML2.3/7, Error ellipse: s-maj=2.0km s-min=0.9km az=50.0*
*THE **22** 20:47:31.5, 40.797N×22.776E, h4km±1km, ML2.2/7, Error ellipse: s-maj=1.0km s-min=0.4km az=21.0*
*BEO **22** 20:47:33.2±0.5, 41.106N×22.666E, h0km, ML1.9/8*
ISC 22 20:47:30.5±0.8, 40.99N±0.02×22.77E±0.02, h16km±6km, n51, σ0§66/92, 4C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.20**	**30**	P		**Pb**	**20 47 35.8**	**0.0**
KNT				S		**Sg**	**20 47 38.8**	**+0.3**
KNT	**Kendrikon**	**0.20**	**30**	P		**Pb**	**20 47 35.8**	**0.0**
KNT				S		**Sg**	**20 47 38.5**	**0.0**
KNT				AML		AML	20 47 38.9	
	comp=E,5460μm,0.1s							
KNT				AML		AML	20 47 39.0	
	comp=N,6116μm,0.2s							
KNT	**Kendrikon**	**0.20**	**30**	⇑*i*Pg		**Pb**	**20 47 35.8**	**0.0**
KNT				*i* Sg		**Sg**	**20 47 38.8**	**+0.3**
GRG	**Griva**	**0.28**	**264**	P		**Pg**	**20 47 36.5**	**0.0**
GRG				S		**Sg**	**20 47 40.9**	**+0.3**
	comp=N,1μm,0.1s							
GRG	**Griva**	**0.28**	**264**	P		**Pg**	**20 47 36.5**	**0.0**
GRG				S		**Sg**	**20 47 39.5**	**-1.1**
GRG				AML		AML	20 47 42.5	

	comp=N,1978μm,0.1s							
GRG					AML	AML	20 47 42.5	
	comp=E,2643μm,0.1s							
GRG	**Griva**	**0.28**	**264**	⇓*i*	Pg	**Pg**	**20 47 36.5**	**0.0**
GRG				*i*	Sg	**Sg**	**20 47 40.9**	**+0.3**
VAY	**Valandovo**	**0.36**	**336**	⇑*i*	Pg	**Pb**	**20 47 38.5**	**-0.2**
VAY				*i*	Sg	**Sb**	**20 47 43.8**	**-0.3**
VAY				*e*	Lg	Lg	20 47 43.8	
	comp=E,469nm,0.3s							
VAY				*e*	Lg	Lg	20 47 44.0	
	comp=N,423nm,0.3s							
THE	**Thessaloniki**	**0.39**	**157**		P	**Pb**	**20 47 38.6**	**-0.4**
THE					S	**Sb**	**20 47 43.7**	**-1.0**
	comp=N,410nm,0.1s							
THE	**Thessaloniki**	**0.39**	**157**		P	**Pb**	**20 47 38.6**	**-0.4**
THE					S	**Sg**	**20 47 43.4**	**-0.3**
THE					AML	AML	20 47 44.2	
	comp=E,1013μm,0.1s							
THE					AML	AML	20 47 44.9	
	comp=N,577μm,0.2s							
THE	**Thessaloniki**	**0.39**	**157**	⇑*i*	Pg	**Pb**	**20 47 38.6**	**-0.4**
THE				*i*	Sg	**Sb**	**20 47 44.0**	**-0.7**
HORT	**Hortiatis**	**0.47**	**147**		P	**Pb**	**20 47 40.3**	**-0.1**
HORT					S	**Sb**	**20 47 47.2**	**+0.2**
	comp=N,320nm,0.2s							
HORT	**Hortiatis**	**0.47**	**147**		P	**Pb**	**20 47 40.3**	**-0.1**
HORT					S	**Sb**	**20 47 46.9**	**-0.2**
HORT					AML	AML	20 47 48.4	
	comp=N,676μm,0.3s							
HORT					AML	AML	20 47 49.4	
	comp=E,592μm,0.2s							
SOH	**Sokhos**	**0.47**	**110**		P	**Pb**	**20 47 40.6**	**+0.1**
SOH					S	**Sb**	**20 47 47.4**	**+0.1**
	comp=E,522nm,0.2s							
SOH	**Sokhos**	**0.47**	**110**		P	**Pb**	**20 47 40.7**	**+0.1**
SOH					S	**Sb**	**20 47 46.3**	**-1.0**
SOH					AML	AML	20 47 48.9	
	comp=E,1283μm,0.2s							
SOH					AML	AML	20 47 50.9	
	comp=N,1347μm,0.4s							
SOH	**Sokhos**	**0.47**	**110**	⇓*i*	Pg	**Pb**	**20 47 40.6**	**+0.1**
SOH				*i*	Sg	**Sb**	**20 47 47.6**	**+0.3**
STIP	**Stip**	**0.83**	**328**	⇓*i*	Pg	**Pg**	**20 47 45.9**	**-0.7**
STIP				*i*	Sg	**Sg**	**20 47 56.7**	**-0.9**
KKB	**Krupnik**	**0.90**	**18**	⇑*i*	Pg	**Pn**	**20 47 48.0**	**-0.4**
KKB				*i*	Sg	**Sb**	**20 47 59.9**	**+0.5**
NVR	**Nevrokopi**	**0.90**	**66**		P	**Pn**	**20 47 49.4**	**+0.8**
NVR					S	**Sn**	**20 48 02.2**	**+0.9**
	comp=N,110nm,0.3s							
NVR	**Nevrokopi**	**0.90**	**66**		P	**Pn**	**20 47 49.4**	**+0.8**
NVR					S	**Sn**	**20 48 00.9**	**-0.4**
NVR					AML	AML	20 48 03.1	
	comp=N,224μm,0.4s							
NVR					AML	AML	20 48 03.3	
	comp=E,210μm,0.3s							
MMB	**Musomishta**	**0.93**	**53**	*i*	Pg	**Pn**	**20 47 48.8**	**-0.1**
MMB				*i*	Sg	**Sn**	**20 48 01.4**	**-0.6**
KOKK	**Kokkinochori,**	**0.95**	**100**		P	**Pn**	**20 47 48.9**	**-0.3**
KOKK					S	**Sn**	**20 48 02.8**	**+0.4**
KOKK	**Kokkinochori,**	**0.95**	**100**		P	**Pn**	**20 47 48.9**	**-0.3**
KOKK					S	**Sn**	**20 48 02.6**	**+0.2**
FNA	**Florina**	**1.07**	**259**		P	**Pb**	**20 47 50.6**	**-0.2**
FNA	**Florina**	**1.07**	**259**	*e*	Pg	**Pb**	**20 47 50.5**	**-0.2**
FNA				*e*	Sg	**Sg**	**20 48 05.2**	**-0.1**
FNA	**Florina**	**1.07**	**259**	*i*	Pg	**Pb**	**20 47 50.7**	**0.0**
FNA				*i*	Sg	**Sg**	**20 48 05.3**	**0.0**
OUR	**Ouranopolis**	**1.13**	**125**		P	**Pg**	**20 47 52.9**	**+0.5**
OUR					S	**Sn**	**20 48 09.5**	**+2.6**
	comp=E,205nm,0.4s							
OUR	**Ouranopolis**	**1.13**	**125**		P	**Pg**	**20 47 52.5**	**+0.1**
OUR					S	**Sn**	**20 48 07.7**	**+0.8**
OUR					AML	AML	20 48 10.9	
	comp=E,437μm,0.4s							
OUR					AML	AML	20 48 10.9	
	comp=N,388μm,0.4s							
PAIG	**Paliouri**	**1.27**	**146**		P	**Pg**	**20 47 54.3**	**-0.6**
PAIG					S	**Sg**	**20 48 13.3**	**+1.8**
KAVA	**Kavala**	**1.32**	**89**		P	**Pg**	**20 47 55.5**	**-0.5**
KAVA	**Kavala**	**1.32**	**89**		P	**Pg**	**20 47 55.8**	**-0.1**
KAVA					S	**Sg**	**20 48 12.9**	**-0.3**
SKO	**Skopje**	**1.40**	**315**	*e*	Pg	**Pb**	**20 47 56.4**	**+0.1**
SKO				*e*	Sg	**Sb**	**20 48 14.8**	**+0.9**
NEST	**Nestorio**	**1.43**	**247**		P	**Pb**	**20 47 57.2**	**+0.4**
NEST	**Nestorio**	**1.43**	**247**		P	**Pb**	**20 47 56.7**	**0.0**
PENT	**Pentalofos**	**1.47**	**238**		P	**Pb**	**20 47 57.9**	**+0.4**
PENT	**Pentalofos**	**1.47**	**238**		P	**Pb**	**20 47 57.6**	**+0.1**
KPRO	**Kipourio**	**1.49**	**227**		P	**Pg**	**20 47 58.3**	**-0.8**
KPRO	**Kipourio**	**1.49**	**227**		P	**Pn**	**20 47 56.7**	**+0.1**
OHR	**Ohrid**	**1.49**	**275**	*e*	Pg	**Pb**	**20 47 57.6**	**-0.3**
OHR				*e*	Sg	**Sg**	**20 48 18.2**	**-0.5**
BOSS	**Bosilegrad**	**1.52**	**352**	*e*	Pg	**Pg**	**20 47 59.5**	**-0.3**
BOSS				*e*	Sg	**Sg**	**20 48 19.0**	**-0.6**
THAS	**Thassos island**	**1.53**	**104**		P	**Pg**	**20 47 59.3**	**-0.6**
THAS					S	**Sg**	**20 48 19.7**	**-0.1**
	comp=N,55nm,0.3s							
THAS	**Thassos island**	**1.53**	**104**		P	**Pg**	**20 47 59.1**	**-0.8**
THAS					S	**Sg**	**20 48 18.1**	**-1.7**
THL	**Klokotos Trika**	**1.53**	**202**		P	**Pb**	**20 47 58.6**	**+0.1**
THL					S	**Sg**	**20 48 19.7**	**-0.2**
THL	**Klokotos Trika**	**1.53**	**202**		P	**Pb**	**20 47 58.0**	**-0.6**
PRVS	**Prvonek**	**1.60**	**341**	*e*	Pg	**Pg**	**20 48 05.4**	**-0.9**
PRVS				*e*	Sg	**Sb**	**20 48 20.6**	**+0.8**
VTS	**Vitosha**	**1.67**	**12**	*e*	Pg	**Pg**	**20 48 01.7**	**-0.8**
VTS				*e*	Sg	**Sb**	**20 48 22.6**	**+0.9**
PLD	**Plovdiv**	**1.88**	**51**	*e*	Pn	**Pg**	**20 48 06.3**	**-0.4**
PLD				*e*	Sn	**Sg**	**20 48 30.3**	**-0.8**
PLD	**Plovdiv**	**1.88**	**51**	*i*	Pn	**Pg**	**20 48 06.7**	**0.0**
BARS	**Barje**	**1.96**	**339**	*e*	Pn	**Pb**	**20 48 05.3**	**-0.5**
BARS				*e*	Sn	**Sb**	**20 48 30.8**	**+0.8**
AGG	**Agios Georgios**	**1.99**	**190**		P	**Pn**	**20 48 04.8**	**+1.2**
AGG					S	**Sb**	**20 48 30.8**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.03**	**194**		P	**Pb**	**20 48 05.7**	**-1.4**
MAKR					S	**Sb**	**20 48 32.1**	**0.0**
ZAPS	**Zavoj**	**2.29**	**358**	*e*	Pn	**Pb**	**20 48 12.5**	**+1.1**
ZAPS				*e*	Sn	**Sb**	**20 48 38.9**	**-0.5**

DJA ***22*** *20:49:57.7±0.2, 9°S±4′×11°0E±°, h75km±9km, M4.2/8, mb3.9/3, mB5.7/2, MLv4.4/8, Mw(mB)5.2/2*

NEIC ***22*** *20:49:58.9±1.7, 8.96S±0.04×110.01E±0.07, h78km±7km, mb4.4/38, Error ellipse: s-maj=11.4km s-min=4.9km az=114.0*

IDC ***22*** *20:50:01.7±2.0, 8.57S×110.39E, h90km±19km, mb4.0/16, mbtmp4.3/17, Error ellipse: s-maj=20.7km s-min=11.2km az=55.0*

ISC 22 20:49:60.0±0.4, 9.02S±0.06×110.09E±0.04, h100km, n113, σ2s03/123, mb4.4/32, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.18**	**22**			**Pn**	**20 50 19.6**	**-2.8**
UGM	**Wanagama**	**1.18**	**22**	P		**Pn**	**20 50 19.8**	**-2.7**
UGM	**Wanagama**	**1.18**	**22**	P		**Pn**	**20 50 19.7**	**-2.8**
UGM				S		**Sn**	**20 50 35.5**	**-3.9**
YOGI	**Yogyakarta**	**1.21**	**10**	P		**Pn**	**20 50 19.9**	**-2.9**
SMRI	**Semarang**	**1.99**	**10**			**Pn**	**20 50 32.0**	**-0.5**
SMRI	**Semarang**	**1.99**	**10**	P		**Pn**	**20 50 32.2**	**-0.2**
SMRI	**Semarang**	**1.99**	**10**	P		**Pn**	**20 50 32.1**	**-0.3**
SMRI				S		**Sn**	**20 50 56.3**	**-0.9**
KPJI	**Karang Pucung**	**2.03**	**326**	P		**Pn**	**20 50 31.5**	**-1.4**
KPJI				S		**Sn**	**20 50 56.2**	**-1.9**
CMJI	**Cimerak**	**2.03**	**307**	P		**Pn**	**20 50 30.3**	**-2.7**
CMJI				S		**Sn**	**20 50 54.8**	**-3.4**
SJI	**Sawahan**	**2.10**	**53**	P		**Pn**	**20 50 32.5**	**-1.4**
SJI				S		**Sn**	**20 50 58.4**	**-1.4**
NGJI	**Ngawi**	**2.13**	**40**	P		**Pn**	**20 50 35.8**	**+1.5**
KRKI	**Karangkates**	**2.49**	**70**	P		**Pn**	**20 50 37.1**	**-1.9**
KRKI				S		**Sn**	**20 51 07.0**	**-1.9**
BBJI	**Bungbulang**	**2.86**	**302**	P		**Pn**	**20 50 41.6**	**-2.4**
BBJI	**Bungbulang**	**2.86**	**302**	P		**Pn**	**20 50 41.4**	**-2.6**
BBJI				S		**Sn**	**20 51 15.0**	**-2.9**
JCJI	**Jatiwangi**	**3.09**	**324**	P		**Pn**	**20 50 42.6**	**-4.3**
JCJI				S		**Sn**	**20 51 17.7**	**-5.4**
GRJI	**Gresik**	**3.16**	**49**	P		**Pn**	**20 50 47.2**	**-0.7**
GRJI				S		**Sn**	**20 51 24.6**	**-0.3**
LEM	**Lembang**	**3.27**	**312**	P		**Pn**	**20 50 49.8**	**+0.2**
	42nm,0.3s,baz=84,slow=18,SNR=7.0							
LEM				S		**Sn**	**20 51 29.6**	**+1.8**
	100nm,0.6s,baz=103,slow=22,SNR=4.9							
LEM	**Lembang**	**3.27**	**312**	P		**Pn**	**20 50 47.5**	**-2.1**
CNJI	**Cibinong**	**3.38**	**300**	P		**Pn**	**20 50 48.4**	**-2.5**
CNJI				S		**Sn**	**20 51 28.0**	**-2.2**
BLJI	**Banyuglugur**	**3.70**	**70**	P		**Pn**	**20 50 54.8**	**-0.3**
BLJI				S		**Sn**	**20 51 35.1**	**-2.6**
SKJI	**Sukabumi**	**4.03**	**300**	P		**Pn**	**20 50 58.7**	**-0.8**
SKJI				S		**Sn**	**20 51 44.1**	**-1.6**
BWJI	**Bawean**	**4.05**	**39**	P		**Pn**	**20 50 59.7**	**-0.2**
JAGI	**Jajag, Banyuwa**	**4.06**	**83**			**Pn**	**20 50 58.2**	**-1.7**
JAGI	**Jajag, Banyuwa**	**4.06**	**83**	P		**Pn**	**20 50 58.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**4.06**	**83**	P		**Pn**	**20 50 58.5**	**-1.5**
JAGI				S		**Sn**	**20 51 42.0**	**-4.5**
DBJI	**Dramaga**	**4.11**	**306**	P		**Pn**	**20 50 58.9**	**-1.8**
ABJI	**Asem Bagus**	**4.28**	**74**	P		**Pn**	**20 51 02.2**	**-0.8**
ABJI				S		**Sn**	**20 51 50.4**	**-1.5**
BYJI	**Banyuwangi**	**4.30**	**80**	P		**Pn**	**20 51 02.3**	**-0.9**
KMMI	**Kalianget**	**4.31**	**63**	P		**Pn**	**20 51 02.0**	**-1.4**
XMI	**Christmas Isla**	**4.56**	**251**	P		**Pn**	**20 51 03.9**	**-2.9**
XMIS	**Christmas Isla**	**4.61**	**251**	Pn		**Pn**	**20 51 04.3**	**-3.2**
XMIS						Sn	20 51 48.9	-11
XMIS	**Christmas Isla**	**4.61**	**251**	P		**Pn**	**20 51 04.2**	**-3.2**
DNP	**Denpasar**	**5.08**	**87**	P		**Pn**	**20 51 12.1**	**-1.6**
SRBI	**Singaraja**	**5.16**	**80**	P		**Pn**	**20 51 13.6**	**-1.2**
KASI	**Kota Agung**	**6.54**	**302**	P		**Pn**	**20 51 33.0**	**-0.7**
TWSI	**Taliwang, Sumb**	**6.72**	**88**	P		**Pn**	**20 51 35.4**	**-0.7**
LWLI	**Liwa**	**7.18**	**303**	P		**Pn**	**20 51 41.5**	**-1.0**
LWLI				S		**Sn**	**20 53 01.9**	**-0.7**
PLAI	**Plampang**	**7.60**	**89**	P		**Pn**	**20 51 47.3**	**-0.8**
PLAI	**Plampang**	**7.60**	**89**	P		**Pn**	**20 51 46.9**	**-1.2**
PLAI				S		**Sn**	**20 53 06.7**	**-6.0**
DBNI	**Kabupaten Domp**	**8.15**	**87**	P		**Pn**	**20 51 54.6**	**-1.0**
EGSI	**Enggano, Bengk**	**8.56**	**295**	P		**Pn**	**20 51 58.8**	**-2.3**
BASI	**Baing, Sumba**	**10.41**	**97**	P		**Pn**	**20 52 23.8**	**-2.6**
SOEI	**Soe**	**14.01**	**94**	Pn		**Pn**	**20 53 12.3**	**-2.0**
GIRL	**Giralia**	**14.12**	**164**	Pn		**Pn**	**20 53 11.4**	**-4.1**
GIRL	**Giralia**	**14.12**	**164**	P		**Pn**	**20 53 13.4**	**-2.1**
PSA00	**Pilbara Seismi**	**15.62**	**144**	Pn		**Pn**	**20 53 31.9**	**-2.7**
PSA00				IAmb		IAmb	20 54 14.1	
	comp=Z,21nm,1.2s							
PSA00	**Pilbara Seismi**	**15.62**	**144**	Pn		**Pn**	**20 53 31.9**	**-2.7**
PSA00	**Pilbara Seismi**	**15.62**	**144**	P		**Pn**	**20 53 33.6**	**-1.0**
GSI	**Gunungsitoli**	**16.14**	**309**	Pn		**Pn**	**20 53 34.3**	**-6.8**
SOEI	**Soe**	**14.01**	**94**	P		**Pn**	**20 53 12.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**17.60**	**122**	P		**P**	**20 53 58.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.60**	**122**	P		**Pn**	**20 54 00.0**	**+1.1**
KNRA	**Kununurra**	**19.40**	**112**	P		**P**	**20 54 19.2**	**+0.9**
KNRA				IAmb		IAmb	20 55 00.0	
	comp=Z,56nm,1.4s							
MTN	**Manton Dam**	**21.01**	**102**	P		**P**	**20 54 36.6**	**+0.9**
WRKA	**Warakurna**	**23.55**	**135**	P		**P**	**20 55 04.3**	**+2.7**
WB0	**Warramunga Arr**	**25.82**	**117**	P		**P**	**20 55 23.3**	**+1.2**
WB0				IAmb		IAmb	20 55 57.5	
	comp=Z,15nm,1.2s							
WRA	**Warramunga Arr**	**25.83**	**118**	P		**P**	**20 55 23.2**	**+0.9**
WRA	**Warramunga Arr**	**25.83**	**118**	P		**P**	**20 55 24.2**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=288,slow=12,SNR=12							
WRA					PcP	**PcP**	**20 58 52.3**	**+2.9**
	comp=Z,0.7nm,1.0s,baz=322,slow=1.7,SNR=1.8							
	comp=Z,1.0nm,0.6s							
WB2	**Warramunga Arr**	**25.84**	**118**	P		**P**	**20 55 23.8**	**+1.4**
WB2				IAmb		IAmb	20 56 02.1	
	comp=Z,19nm,1.4s							
WR0	**Warramunga Arr**	**26.02**	**117**	P		**P**	**20 55 24.3**	**+0.4**
WR0				IAmb		IAmb	20 55 40.9	
	comp=Z,24nm,1.5s							
AS31	**Alice Springs**	**27.04**	**125**	P		**P**	**20 55 34.1**	**+1.0**
ASAR	**Alice Springs**	**27.04**	**125**	P		**P**	**20 55 35.6**	**+2.5**
	comp=Z,1.1nm,0.6s,baz=303,slow=9.2,SNR=12							
ASAR					PcP	**PcP**	**20 58 55.4**	**+3.2**
	comp=Z,0.4nm,0.5s,baz=335,slow=2.0,SNR=6.1							
	comp=Z,1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**29.43**	**338**	P		**P**	**20 55 54.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=171,slow=8.1,SNR=5.7							
	comp=Z,0.4nm,0.4s							
STKA	**Stephens Creek**	**37.03**	**132**	P		**P**	**20 57 02.1**	**+1.8**
STKA	**Stephens Creek**	**37.03**	**132**	P		**P**	**20 57 03.0**	**+2.7**
	comp=Z,2.6nm,0.7s,baz=323,slow=9.3,SNR=6.8							
	comp=Z,2.6nm,0.7s							
H08S2	**Diego Garcia H**	**37.21**	**269**	T		T	21 36 22.8	
	baz=94,slow=75,SNR=5.8							
H08S3	**Diego Garcia H**	**37.22**	**269**	T		T	21 36 18.9	
	baz=94,slow=75,SNR=5.7							
H08S1	**Diego Carcia H**	**37.23**	**269**	T		T	21 36 18.1	
	baz=94,slow=75,SNR=4.5							
LSA	**Lhasa**	**42.59**	**335**	P		**P**	**20 57 47.3**	**+0.5**
KSRS	**Korea Array**	**49.16**	**19**	P		**P**	**20 58 37.4**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=199,slow=6.6,SNR=4.6							
	comp=Z,1.7nm,0.7s							
MJAR	**Matsushiro Arr**	**52.46**	**29**	P		**P**	**20 59 02.0**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=196,slow=7.6,SNR=9.3							
	comp=Z,4.0nm,0.8s							
NIL	**Nilore**	**55.00**	**322**	P		**P**	**20 59 20.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**56.56**	**19**	P		**P**	**20 59 31.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**56.56**	**19**	P		**P**	**20 59 30.3**	**-1.8**
	comp=Z,5.7nm,0.8s,baz=204,slow=3.2,SNR=5.8							
	comp=Z,5.7nm,0.8s							
BNX	**BinXian**	**56.68**	**14**	⇓P		**P**	**20 59 34.0**	**+1.1**
BNX					pmax	pmax		
	comp=Z,10.0nm,0.9s							
BNX					pmax	pmax		
	comp=Z,97nm,3.5s							
SONM	**Songino Array**	**56.70**	**357**	P		**P**	**20 59 33.7**	**+0.5**
SONM					IAmb	IAmb	20 59 34.9	
	comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**56.70**	**357**	P		**P**	**20 59 33.8**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=177,slow=8.5,SNR=23							
SONM					PcP	**PcP**	**21 00 29.8**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=168,slow=2.7,SNR=2.6							
	comp=Z,1.3nm,0.5s							
KBL	**Kabul**	**58.19**	**320**	P		**P**	**20 59 44.0**	**0.0**
KBL					IAmb	IAmb	20 59 46.0	
	comp=Z,3.1nm,0.8s							
TARG	**Taragay, Kyrgy**	**58.54**	**332**	P		**P**	**20 59 47.7**	**+1.1**
TARG					IAmb	IAmb	21 00 21.2	
	comp=Z,4.6nm,1.4s							
NRN	**Naryn**	**59.17**	**331**	P		**P**	**20 59 50.7**	**-0.2**
NRN					IAmb	IAmb	20 59 51.8	
	comp=Z,2.0nm,0.6s							
JKA	**Kamikawa-asahi**	**60.53**	**26**	P		**P**	**20 59 58.4**	**-1.3**
AAK	**Ala-Archa**	**60.81**	**331**	P		**P**	**21 00 01.5**	**-0.4**
AAK					IAmb	IAmb	21 00 12.2	
	comp=Z,2.3nm,1.2s							
MK31	**Makanchi Array**	**60.84**	**338**	P		**P**	**21 00 02.6**	**+0.9**
MKAR	**Makanchi Array**	**60.84**	**338**	P		**P**	**21 00 02.0**	**+0.3**
MKAR	**Makanchi Array**	**60.84**	**338**	P		**P**	**21 00 02.5**	**+0.7**
	comp=Z,4.9nm,0.5s,baz=150,slow=7.4,SNR=137							
	comp=Z,4.9nm,0.5s							
BTK	**Batken**	**60.85**	**326**	P		**P**	**21 00 00.8**	**-1.2**
BTK					IAmb	IAmb	21 00 03.6	
	comp=Z,1.7nm,0.7s							
SIMJ	**Simiganj**	**60.91**	**324**	P		**P**	**21 00 00.4**	**-2.2**
SIMJ					IAmb	IAmb	21 00 11.9	
	comp=Z,3.9nm,1.4s							
HEH	**HeiHe**	**60.93**	**13**	*e*P		**P**	**21 00 02.6**	**+0.4**
HEH					pmax	pmax		
	comp=Z,17nm,0.8s							
MAKZ	**Makanchi**	**60.97**	**338**	P		**P**	**21 00 03.5**	**+0.8**
H04N2	**CROZET ISLANDS**	**61.78**	**222**	T		T	22 07 52.4	
	baz=70,slow=75							
H04N1	**CROZET ISLANDS**	**61.79**	**222**	T		T	22 07 52.6	
	baz=70,slow=75							
H04N3	**CROZET ISLANDS**	**61.80**	**222**	T		T	22 07 51.3	
	baz=70,slow=75							
KURBB	**Kurchatov Arra**	**65.41**	**338**	P		**P**	**21 00 32.5**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=155,slow=5.4,SNR=20							
	comp=Z,2.5nm,0.5s							
KURK	**Kurchatov**	**65.45**	**339**	P		**P**	**21 00 33.0**	**+0.9**
KURK					IAmb	IAmb	21 00 33.6	
	comp=Z,4.6nm,0.8s							
ZAA0	**Zalesovo Array**	**66.27**	**344**	P		**P**	**21 00 37.5**	**+0.3**
ZAA0					IAmb	IAmb	21 00 38.4	
	comp=Z,5.0nm,1.0s							
ZALV	**Zalesovo Beam**	**66.27**	**344**	P		**P**	**21 00 36.7**	**-0.6**
ZALV	**Zalesovo Beam**	**66.27**	**344**	P		**P**	**21 00 37.6**	**+0.3**
	comp=Z,2.6nm,0.4s,baz=152,slow=4.3,SNR=20							
	comp=Z,2.6nm,0.4s							
MAW	**Mawson**	**66.36**	**198**	P		P	21 00 44.6	+6.9
	comp=Z,8.9nm,0.3s,baz=238,slow=11,SNR=16							
	comp=Z,8.9nm,0.3s							
GEYT	**Alibeck**	**67.30**	**318**	P		**P**	**21 00 45.2**	**+1.0**
GEYT					IAmb	IAmb	21 00 46.1	
	comp=Z,1.7nm,0.6s							
GEYT	**Alibeck**	**67.30**	**318**	P		**P**	**21 00 45.4**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=115,slow=9.7,SNR=3.5							
	comp=Z,1.9nm,0.8s							
BVAR	**Borovoye Array**	**70.43**	**336**	P		**P**	**21 01 04.2**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=137,slow=8.3,SNR=17							
	comp=Z,2.9nm,0.7s							
BRVK	**Borovoye**	**70.49**	**336**	P		**P**	**21 01 02.8**	**-0.9**
ABKAR	**Akbulak array**	**72.71**	**328**	P		**P**	**21 01 17.4**	**+0.4**
ABKAR				IAmb		IAmb	21 01 18.6	
	comp=Z,4.7nm,0.5s							
PEA0B	**Petropavlovsk-**	**73.91**	**28**	P		**P**	**21 01 24.9**	**+0.9**
PETK	**Petropavlovsk-**	**73.91**	**28**	P		**P**	**21 01 24.0**	**0.0**
	comp=Z,4.5nm,0.9s,baz=225,slow=9.7,SNR=4.4							
	comp=Z,4.5nm,0.9s							
TIXI	**Tiksi**	**81.46**	**6**	P		**P**	**21 02 06.1**	**+0.6**
TIXI				IAmb		IAmb	21 02 06.6	
	comp=Z,4.6nm,0.9s							
BRTR	**Keskin Array B**	**85.44**	**311**	P		**P**	**21 02 26.7**	**-0.2**
BRTR	**Keskin Array B**	**85.44**	**311**	P		**P**	**21 02 28.6**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=130,slow=5.5,SNR=6.3							
	comp=Z,1.4nm,0.7s							
SNAA	**Sanae**	**88.51**	**197**	P		**P**	**21 02 42.5**	**+1.4**
BELA	**Belgrano 2**	**91.05**	**187**	P		**P**	**21 02 55.9**	**+3.1**
G16K	**Koyuk River**	**97.11**	**25**	P		Pdif	21 03 23.2	+2.6
H17K	**Granite Mounta**	**98.10**	**25**	P		Pdif	21 03 27.7	+2.6
E19K	**Redstone River**	**99.29**	**23**			**Pdif**	**21 03 31.9**	**+1.6**
E19K				IAmb		IAmb	21 03 35.5	
	comp=Z,1.8nm,1.1s							
TXAR	**Lajitas Array**	**142.47**	**53**	PKhKP		PKPpre	21 09 20.3	
	comp=Z,0.1nm,0.5s,baz=268,slow=2.3,SNR=2.0							

IDC 22 21:07:25.2±2.5, 7.18S×127.61E, h0km, mb3.2/1, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=270.5km s-min=33.4km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.27**	**153**	P		Pn	21 10 47.6	-1.1
	0.4nm,0.3s,baz=328,slow=15,SNR=22							
WRA						Sn	21 13 15.2	-13
	0.7nm,0.3s,baz=335,slow=23,SNR=5.3							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**17.47**	**160**	P		P	21 11 31.4	-0.5
	0.2nm,0.3s,baz=349,slow=12,SNR=4.3							
ASAR				S		Sn	21 14 37.4	-8.4
	0.5nm,0.7s,baz=356,slow=27,SNR=1.3							
	0.8nm,0.7s							
MKAR	**Makanchi Array**	**67.10**	**328**	P		P	21 18 20.6	0.0
	0.1nm,0.5s,baz=112,slow=6.2,SNR=2.0							
	0.1nm,0.5s							

CATAC 22 21:13:28.9±0.6, 9.59N×84.02W, h25km±5km, ML1.8, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.15**	**7**	*i* P		Pn	21 13 35.7	-0.1
LCR2					IAML		21 13 35.9	
	comp=Z,810nm,1.0s							
LCR2				*i* S		Sb	21 13 40.3	+2.5
TBLN	**Tablon, Guarco**	**0.23**	**6**	*i* P		Pn	21 13 36.6	-0.4
TBLN				*i* S		Sb	21 13 41.6	+2.2
TBLN					IAML		21 13 41.9	
	comp=Z,350nm,1.0s							
CDM	**Cerro de Muert**	**0.26**	**99**	*i* P		Pn	21 13 37.2	-0.4
CDM				*i* S		Sn	21 13 42.7	-0.3
CDM					IAML		21 13 43.6	
	comp=Z,75nm,1.0s							
OCM	**Ochomogo**	**0.31**	**12

ARHZ	**Aropaoanui**	**1.14**	**155**	P	Pn	21 17 40.1	+1.1
TUVZ	**Tukino**	**1.17**	**208**	P	Pn	21 17 40.4	+0.9
TKGZ	**Te Karaka**	**1.18**	**101**	P	Pn	21 17 39.1	-0.4
KWHZ	**Kaweka Forest**	**1.19**	**178**	P	Pn	21 17 40.5	+0.9
RIGZ	**Rimuhau**	**1.19**	**114**	P	Pn	21 17 39.7	+0.1
FWVZ	**Far West T-bar**	**1.20**	**212**	P	Pn	21 17 40.5	+0.6
MAVZ	**Matarangi**	**1.21**	**211**	P	Pn	21 17 40.5	+0.5
WHVZ	**Whangaehu Hut**	**1.21**	**210**	P	Pn	21 17 40.7	+0.7
HAZ	**Te Kaha**	**1.22**	**67**	P	Pn	21 17 37.4	-2.4
MCHZ	**McNeill Hill**	**1.24**	**168**	P	Pn	21 17 41.4	+1.4
TRVZ	**Turoa**	**1.24**	**211**	P	Pn	21 17 40.9	+0.5
WNVZ	**Wahianoa**	**1.25**	**209**	P	Pn	21 17 41.0	+0.7
MOVZ	**Moawhango**	**1.27**	**202**	P	Pn	21 17 40.7	+0.3
TWGZ	**Tauwhareparae**	**1.27**	**88**	P	Pn	21 17 39.7	-0.7
BHHZ	**Black Hill Sta**	**1.28**	**191**	P	Pn	21 17 41.0	+0.5
KNZ	**Kokohu**	**1.29**	**128**	P	Pn	21 17 40.9	+0.4
MTVZ	**Mangateitei**	**1.35**	**211**	P	Pn	21 17 42.0	+0.8
PRGZ	**Paritu Road**	**1.37**	**121**	P	Pn	21 17 41.6	+0.2
PKGZ	**Pakihiroa**	**1.39**	**76**	P	Pn	21 17 40.0	-1.7
KRHZ	**Kereru**	**1.41**	**180**	P	Pn	21 17 42.4	+0.6
CNGZ	**Carnagh Statio**	**1.47**	**100**	P	Pn	21 17 42.3	-0.1
MKAZ	**Moumakai**	**1.48**	**319**	P	Pn	21 17 40.5	-2.0
PUZ	**Puketiti**	**1.50**	**84**	P	Pn	21 17 41.2	-1.5
MHGZ	**Mahia Peninsul**	**1.52**	**128**	P	Pn	21 17 43.3	+0.4
CKHZ	**Cape Kidnapper**	**1.53**	**159**	P	Pn	21 17 43.9	+0.9
VRZ	**Vera Road**	**1.54**	**234**	P	Pn	21 17 43.9	+0.7
KAHZ	**Kahuranaki**	**1.61**	**166**	P	Pn	21 17 44.9	+0.9
WMGZ	**Waiomatatini S**	**1.67**	**76**	P	Pn	21 17 42.9	-1.8
MXZ	**Matakaoa Point**	**1.67**	**67**	P	Pn	21 17 42.8	-1.9
PNHZ	**Pukenui**	**1.68**	**184**	P	Pn	21 17 45.0	+0.2
WIAZ	**Waiheke Island**	**1.74**	**325**	P	Pn	21 17 43.0	-2.4
AWAZ	**Awhitu Peninsu**	**1.80**	**310**	P	Pn	21 17 43.9	-2.2
WPHZ	**Waipukurau**	**1.83**	**178**	P	Pn	21 17 46.7	+0.2
PXZ	**Pawanui**	**1.84**	**168**	P	Pn	21 17 46.8	+0.3
TSZ	**Takapari Road**	**1.85**	**190**	P	Pn	21 17 46.7	0.0
WAZ	**Wanganui**	**1.86**	**215**	P	Pn	21 17 47.2	+0.3
MBAZ	**Motutapu North**	**1.87**	**321**	P	Pn	21 17 44.6	-2.4
PRHZ	**Porangahau**	**2.04**	**174**	P	Pn	21 17 49.0	0.0
NEZ	**North Egmont**	**2.06**	**239**	P	Pn	21 17 50.3	+1.1
DVHZ	**Dannevirke**	**2.07**	**184**	P	Pn	21 17 48.9	-0.4
POWZ	**Post Office Ro**	**2.21**	**192**	P	Pn	21 17 50.4	-0.5
ANWZ	**Angora Road**	**2.23**	**178**	P	Pn	21 17 51.2	0.0
PRWZ	**Pori Road**	**2.34**	**187**	P	Pn	21 17 52.5	-0.1
BFZ	**Birch Farm**	**2.45**	**182**	P	Pn	21 17 53.3	-0.7
MRZ	**Mangatainoka R**	**2.50**	**194**	P	Pn	21 17 53.6	-1.0
TIWZ	**Tintock**	**2.57**	**188**	P	Pn	21 17 54.7	-0.8
CPWZ	**Castlepoint**	**2.68**	**183**	P	Pn	21 17 56.8	0.0
HOWZ	**Holdsworth Sta**	**2.74**	**194**	P	Pn	21 17 56.3	-1.4
OGWZ	**Otaki Gorge**	**2.74**	**199**	P	Pn	21 17 56.4	-1.2
KIW	**Kapiti Island**	**2.86**	**203**	P	Pn	21 17 57.4	-1.8
TMWZ	**Te Maipa**	**2.89**	**187**	P	Pn	21 17 58.3	-1.3
MTW	**Mount Morrison**	**3.00**	**193**	P	Pn	21 17 59.1	-1.8
CAW	**Cannon Point**	**3.04**	**199**	P	Pn	21 17 59.7	-1.8
DUWZ	**D'Urville Isla**	**3.19**	**216**	P	Pn	21 18 01.1	-2.3
TRWZ	**Traveller**	**3.21**	**189**	P	Pn	21 18 01.8	-1.8
PAWZ	**Paruwai Farm**	**3.23**	**193**	P	Pn	21 18 01.8	-2.1
WEL	**Wellington**	**3.29**	**202**	P	Pn	21 18 02.6	-2.1
BHW	**Baring Head**	**3.37**	**199**	P	Pn	21 18 03.3	-2.5
TCW	**Tory Channel**	**3.38**	**208**	P	Pn	21 18 03.4	-2.4
PLWZ	**Palliser**	**3.44**	**194**	P	Pn	21 18 04.2	-2.5
TUWZ	**Tuamarina**	**3.70**	**210**	P	Pn	21 18 07.2	-2.7
NNZ	**Nelson**	**3.77**	**217**	P	Pn	21 18 08.3	-2.6
TKNZ	**Takaka Hill**	**3.84**	**222**	P	Pn	21 18 09.1	-2.7
QRZ	**Quartz Range**	**3.94**	**228**	P	Pn	21 18 09.9	-3.3
BSWZ	**Blackbirch Sta**	**3.97**	**208**	P	Pn	21 18 11.1	-2.5
MRNZ	**Matariki Terra**	**4.21**	**220**	P	Pn	21 18 13.6	-3.2
THZ	**Tophouse**	**4.42**	**216**	P	Pn	21 18 15.5	-3.0
KHZ	**Kahutara**	**4.70**	**206**	P	Pn	21 18 20.0	-3.3
GVZ	**Greta Valley S**	**5.37**	**207**	P	Pn	21 18 28.1	-4.0
LTZ	**Lake Taylor**	**5.51**	**213**	P	Pn	21 18 29.8	-4.3
OKCZ	**Okains Bay**	**6.03**	**203**	P	Pn	21 18 36.6	-4.4
MQZ	**McQueen's Vall**	**6.15**	**206**	P	Pn	21 18 37.3	-5.2
AKCZ	**Akaroa Harbour**	**6.21**	**204**	P	Pn	21 18 38.9	-4.5
MHCZ	**Mount Hutt**	**6.42**	**213**	P	Pn	21 18 42.1	-4.2
TMZ	**Timaru**	**7.35**	**212**	P	Pn	21 18 54.3	-4.4

*ISN **22** 21:46:10.9±0.6, 34°.53N×45°.83E, h0km±329km, ML3.4*
*IDC **22** 21:46:10.7±2.1, 34°.56N×45°.77E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=49.7km s-min=27.4km az=165.0*
*TEH **22** 21:46:12.3, 34°.52N×45°.85E, h8km±33km, ML3.5*
ISC 22 21:46:12.5±0.7, 34°.53N±0°.03×45°.85E±0°.03, h10km, n34, σ1§75/38, mb3.7/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**265**	Pg	**Pg**	**21 46 17.1**	**+0.2**
IDHR	**Dehrash**	**0.48**	**68**	Pg	**Pg**	**21 46 21.6**	**-0.2**
IGHG	**Ghaleghazi**	**0.63**	**108**	Pg	**Pg**	**21 46 24.5**	**-0.1**
IGHG				Sg	**Sb**	**21 46 34.6**	**0.0**
ILIN	**Lien**	**1.00**	**67**	Pg	**Pg**	**21 46 31.2**	**-0.5**
IBDR	**Badra**	**1.41**	**177**	*e*Pn	**Pg**	**21 46 40.0**	**+0.4**
IBDR				*e*Sn	**Sg**	**21 47 00.5**	**+2.6**
SDS1	**Sardasht. Az.**	**1.65**	**350**	Pg	**Pg**	**21 46 43.9**	**-0.2**
BHD	**Baghdad**	**1.75**	**225**	*e*Pn	**Pb**	**21 46 44.0**	**-0.6**
BHD				*e*Sn	**Sg**	**21 47 08.5**	**-0.2**
BHD				AML	AML	21 47 18.6	
	comp=E,654nm,0.4s						
IKFM	**Kafar-mosalman**	**1.94**	**120**	Pn	**Pb**	**21 46 47.6**	**-0.2**
IALM	**Almabolaq**	**1.94**	**79**	Pn	**Pb**	**21 46 48.2**	**+0.2**
MAHB	**Mahabad**	**2.24**	**357**	Pn	**Pb**	**21 46 52.1**	**-1.0**
HSAM	**Samen**	**2.30**	**97**	Pn	**Pb**	**21 46 52.3**	**-1.9**
HAGD	**Aghdareh**	**2.73**	**83**	Pn	**Pb**	**21 46 59.0**	**-2.5**
RAFI	**Al-Rafai**	**2.80**	**175**	*e*Pn	**Pn**	**21 46 59.0**	**+1.7**
RAFI				*e*Sn	**Sb**	**21 47 34.5**	**-2.5**
RAFI				AML	AML	21 47 48.9	
	comp=E,170nm,0.6s						
RAFI				AML	AML	21 47 49.6	
	comp=N,181nm,0.5s						
IHSH	**Hashtrud**	**3.00**	**22**	Pn	**Pn**	**21 47 03.0**	**+2.6**
QSDN	**Sirdan**	**3.35**	**53**	Pn	**Pn**	**21 47 07.6**	**+2.5**
IRAZ	**Razeghan**	**3.46**	**74**	Pn	**Pn**	**21 47 09.3**	**+2.7**
ISHB	**Shabestar**	**3.75**	**357**	Pn	**Pn**	**21 47 12.4**	**+1.7**
JIR1	**Jirandeh**	**3.89**	**55**	Pn	**Pn**	**21 47 14.9**	**+2.5**
IHRS	**Heris**	**3.91**	**14**	Pn	**Pn**	**21 47 15.6**	**+2.8**
IQOM	**Qom**	**4.31**	**84**	Pn	**Pn**	**21 47 20.0**	**+1.6**
GRMI	**Germi**	**4.58**	**20**	Pn	**Pn**	**21 47 24.1**	**+2.2**
IPIR	**Pirpir**	**4.59**	**112**	Pn	**Pn**	**21 47 23.2**	**+1.0**
QAMS	**Qamsar**	**4.67**	**98**	Pn	**Pn**	**21 47 25.4**	**+2.1**
ZNGN	**Zangian**	**4.83**	**118**	Pn	**Pn**	**21 47 27.4**	**+1.8**
MAKU	**Maku**	**4.91**	**349**	Pn	**Pn**	**21 47 29.2**	**+2.7**
IKLH	**Kolahrood**	**4.91**	**103**	Pn	**Pn**	**21 47 28.9**	**+2.3**
IDMV	**Damavand**	**5.18**	**77**	Pn	**Pn**	**21 47 32.3**	**+2.0**
KLNJ	**Kolanjah**	**5.97**	**124**	Pn	**Pn**	**21 47 43.0**	**+1.7**
IRAM	**Ramesheh**	**6.11**	**115**	Pn	**Pn**	**21 47 45.0**	**+2.0**
AKASG	**Malin Array Be**	**20.20**	**328**	P	**P**	**21 50 46.4**	**-0.8**
	comp=N,0.1nm,0.3s,baz=142,slow=9.1,SNR=4.0 comp=N,0.1nm,0.3s						
MKAR	**Makanchi Array**	**29.97**	**55**	P	**P**	**21 52 20.6**	**-0.3**
	comp=N,0.4nm,0.6s,baz=255,slow=10.0,SNR=6.1 comp=N,0.4nm,0.6s						
HFS	**Hagfors**	**33.04**	**331**	P	**P**	**21 52 46.7**	**-1.0**
	comp=N,1.2nm,0.4s,baz=116,slow=9.8,SNR=8.2 comp=N,1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**33.44**	**42**	P	**P**	**21 52 51.5**	**+0.3**
	comp=N,1.0nm,0.6s,baz=264,slow=9.7,SNR=7.3 comp=N,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**45.21**	**253**	P	**P**	**21 54 29.3**	**-0.6**
	comp=N,0.4nm,0.8s,baz=60,slow=8.7,SNR=2.0 comp=N,0.4nm,0.8s						

*ISN **22** 21:48:39.6±0.8, 34°.52N×45°.86E, h0km±280km, ML3.0*
*TEH **22** 21:48:42.1, 34°.54N×45°.88E, h8km±36km, ML3.3*
ISC 22 21:48:42.5±1.1, 34°.53N±0°.04×45°.85E±0°.03, h6km±11km, n16, σ1§08/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**264**	Pg	**Pg**	**21 48 46.6**	**-0.2**
KGS1				Sg	**Sg**	**21 48 51.4**	**+1.6**
IDHR	**Dehrash**	**0.47**	**69**	Pg	**Pg**	**21 48 51.1**	**-0.6**
IGHG	**Ghaleghazi**	**0.62**	**108**	Pg	**Pg**	**21 48 54.1**	**-0.4**
IGHG				Sg	**Sb**	**21 49 03.8**	**-1.2**
ILIN	**Lien**	**0.99**	**67**	Pg	**Pg**	**21 49 00.8**	**-0.8**
IBDR	**Badra**	**1.42**	**177**	*e*Pn	**Pn**	**21 49 08.0**	**-0.7**
IBDR				*e*Sn	**Sg**	**21 49 29.0**	**+1.0**
IBDR				AML	AML	21 49 32.5	
	comp=E,283nm,0.5s						
IBDR				AML	AML	21 49 45.3	
	comp=N,331nm,0.6s						
SDS1	**Sardasht. Az.**	**1.65**	**350**	Pg	**Pg**	**21 49 13.5**	**-0.5**
BHD	**Baghdad**	**1.75**	**225**	*e*Pn	**Pn**	**21 49 13.0**	**-0.4**
BHD				*e*Sn	**Sb**	**21 49 37.5**	**+0.2**
IALM	**Almabolaq**	**1.94**	**79**	Pn	**Pb**	**21 49 17.6**	**-0.7**
IKFM	**Kafar-mosalman**	**1.94**	**121**	Pn	**Pb**	**21 49 17.0**	**-1.1**
MAHB	**Mahabad**	**2.24**	**357**	Pn	**Pb**	**21 49 21.9**	**-1.5**
HSAM	**Samen**	**2.29**	**97**	Pn	**Pn**	**21 49 21.9**	**+0.8**
HAGD	**Aghdareh**	**2.72**	**83**	Pn	**Pn**	**21 49 28.8**	**+1.9**
RAFI	**Al-Rafai**	**2.81**	**175**	*e*Pn	**Pn**	**21 49 28.0**	**+0.2**
RAFI				*e*Sn	**Sn**	**21 50 03.0**	**+1.0**
RAFI				AML	AML	21 50 18.1	
	comp=E,94nm,0.3s						
RAFI				AML	AML	21 50 18.4	
	comp=N,87nm,0.4s						
ISHB	**Shabestar**	**3.75**	**357**	Pn	**Pn**	**21 49 41.9**	**+0.8**
QAMS	**Qamsar**	**4.66**	**98**	Pn	**Pn**	**21 49 54.9**	**+1.2**
IKLH	**Kolahrood**	**4.91**	**103**	Pn	**Pn**	**21 49 58.3**	**+1.3**

*IDC **22** 21:57:18.5±0.8, 12°.51S×166°.96E, h210km±6km, mb3.5/10, mbtmp4.0/11, Error ellipse: s-maj=25.7km s-min=13.5km az=137.0*
*NEIC **22** 21:57:20±1.2, 12°.5S±0°.1×167°.1E±0°.2, h219km±9km, mb4.4/36, Error ellipse: s-maj=26.8km s-min=10.1km az=122.0*
ISC 22 21:57:19.1±0.5, 12°.55S±0°.07×167°.0E±0°.1, h220km, n59, σ1§29/64, mb4.3/27, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**8.18**	**179**		**Pn**	**21 59 14.1**	**-0.5**
KOUNC	**Koumac, New Ca**	**8.38**	**198**	Pn	**Pn**	**21 59 17.9**	**+0.6**
DZM	**Mont Dzumac**	**9.49**	**183**	Pn	**Pn**	**21 59 34.4**	**+2.9**
DZM	**Mont Dzumac**	**9.49**	**183**	P	**Pn**	**21 59 33.1**	**+1.6**
	5.3nm,0.5s,baz=358,slow=22,SNR=8.3						
DZM				S	**S**	**22 01 14.1**	**-4.1**
	1.5nm,0.7s,baz=214,slow=22,SNR=0.9						
OUENC	**Ouen Island, N**	**9.82**	**181**	Pn	**Pn**	**21 59 38.1**	**+2.4**
EIDS	**Eidsvold**	**19.73**	**227**	P	**P**	**22 01 34.1**	**+1.8**
EIDS				IAmb	IAmb	22 01 35.3	
	comp=Z,7.1nm,0.8s						
CTA	**Charters Tower**	**21.30**	**247**	P	**P**	**22 01 48.9**	**0.0**
	comp=Z,7.6nm,0.8s,baz=73,slow=11,SNR=6.1 comp=Z,7.6nm,0.8s						
COEN	**Coen**	**23.27**	**264**	P	**P**	**22 02 08.9**	**+1.6**
THZ	**Tophouse**	**29.55**	**171**	P	**P**	**22 03 04.0**	**+0.8**
THZ				IAmb	IAmb	22 03 05.4	
	comp=Z,6.1nm,0.7s						
LTZ	**Lake Taylor**	**30.46**	**172**	P	**P**	**22 03 12.5**	**+1.2**
WB0	**Warramunga Arr**	**32.13**	**253**	P	**P**	**22 03 25.9**	**-0.2**
WB0				IAmb	IAmb	22 03 41.0	
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**32.20**	**253**	P	**P**	**22 03 26.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=85,slow=9.1,SNR=7.6 comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**33.30**	**246**	P	**P**	**22 03 36.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=72,slow=9.6,SNR=12						
ASAR				pP	**pP**	**22 04 17.6**	**-2.8**
	comp=Z,2.1nm,0.8s,baz=74,slow=9.4,SNR=8.8						
ASAR				ScP	**ScP**	**22 09 36.2**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=86,slow=3.8,SNR=6.6 comp=Z,0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.24**	**257**	P	**P**	**22 04 35.6**	**+0.7**
GSTR	**Great Sitkin T**	**66.02**	**11**	P	**P**	**22 07 38.5**	**-3.4**
QSPA	**South Pole Qui**	**77.46**	**180**	P	**P**	**22 08 50.3**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=47,slow=1.0,SNR=4.4 comp=Z,1.4nm,0.6s						
M16K	**Timber Creek**	**78.14**	**16**	P	**P**	**22 08 54.9**	**+1.4**
K15K	**Wolf Creek Mou**	**78.55**	**14**	P	**P**	**22 08 57.4**	**+1.7**
K15K				IAmb	IAmb	22 08 57.7	
	comp=Z,6.9nm,0.7s						
J16K	**Anvik River**	**79.62**	**14**	P	**P**	**22 09 03.3**	**+1.9**
J16K				IAmb	IAmb	22 09 05.3	
	comp=Z,17nm,1.3s						
L18K	**Granite Mounta**	**79.74**	**16**	P	**P**	**22 09 02.7**	**+0.6**
SONM	**Songino Array**	**80.62**	**323**	P	**P**	**22 09 07.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=106,slow=3.7,SNR=2.5 comp=Z,0.2nm,0.6s						
J18K	**Innoko River**	**80.75**	**16**	P	**P**	**22 09 07.8**	**+0.3**
H17K	**Granite Mounta**	**81.18**	**14**	P	**P**	**22 09 10.8**	**+1.0**
KNK	**Knik Glacier**	**81.62**	**20**	P	**P**	**22 09 12.8**	**+0.6**
SML	**Sawmill**	**81.95**	**20**	P	**P**	**22 09 14.4**	**+0.5**
J20K	**Nowinta River**	**82.00**	**16**	P	**P**	**22 09 15.7**	**+1.6**
SCM	**Sheep Creek Mo**	**82.30**	**20**	P	**P**	**22 09 16.5**	**+0.7**
TRF	**Thorofare Moun**	**82.55**	**18**	P	**P**	**22 09 16.6**	**-0.5**
TRF				IAmb	IAmb	22 09 54.9	
	comp=Z,19nm,1.5s						
BPAW	**Bear Paw Mtn.**	**82.83**	**17**	P	**P**	**22 09 20.4**	**+2.0**
M24K	**Tolsona, Glenn**	**82.88**	**20**	P	**P**	**22 09 19.4**	**+0.6**
N25K	**Chitina, Valde**	**83.08**	**21**	P	**P**	**22 09 20.6**	**+0.7**
N25K				IAmb	IAmb	22 09 21.2	
	comp=Z,9.7nm,1.1s						
DHY	**Denali Highway**	**83.17**	**19**	P	**P**	**22 09 20.6**	**+0.2**
DHY				IAmb	IAmb	22 09 28.5	
	comp=Z,6.9nm,1.2s						
VRDI	**Verde Repeater**	**83.23**	**22**	P	**P**	**22 09 21.1**	**+0.3**
GLB	**Gilahina Butte**	**83.25**	**21**	P	**P**	**22 09 21.3**	**+0.7**
GLB				IAmb	IAmb	22 10 00.3	
	comp=Z,12nm,1.3s						
F19K	**Shaleruckik Mo**	**83.25**	**13**	P	**P**	**22 09 21.1**	**+0.7**
IMAR	**Indian Mountai**	**83.53**	**15**	P	**P**	**22 09 23.3**	**+1.4**
E19K	**Redstone River**	**83.89**	**13**	P	**P**	**22 09 25.2**	**+1.5**
E19K				IAmb	IAmb	22 09 26.7	
	comp=Z,4.0nm,0.7s						
C18K	**Utukok River**	**84.08**	**11**	P	**P**	**22 09 25.9**	**+1.2**
C18K				IAmb	IAmb	22 09 27.0	
	comp=Z,8.7nm,1.5s						
CCB	**Clear Creek Bu**	**84.17**	**18**	P	**P**	**22 09 25.2**	**+0.1**
CCB				IAmb	IAmb	22 09 25.9	
	comp=Z,5.3nm,0.6s						
HDA	**Harding Lake**	**84.26**	**18**	P	**P**	**22 09 26.1**	**+0.5**
RIDG	**Independent Ri**	**84.45**	**19**	P	**P**	**22 09 27.2**	**+0.6**
RIDG				IAmb	IAmb	22 09 28.4	
	comp=Z,4.0nm,0.7s						
IL31		**84.53**	**18**	P	**P**	**22 09 27.1**	**+0.1**
IL31				IAmb	IAmb	22 09 28.9	
	comp=Z,3.5nm,0.7s						
ILAR	**Eielson Array**	**84.53**	**18**	P	**P**	**22 09 26.9**	**0.0**
	comp=Z,3.8nm,0.6s,baz=246,slow=4.7,SNR=106						
ILAR				pP	**pP**	**22 10 19.1**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=225,slow=5.9,SNR=2.4 comp=Z,3.8nm,0.6s						
M27K	**Edge Creek, AK**	**84.54**	**21**	P	**P**	**22 09 27.7**	**+0.5**
M27K				IAmb	IAmb	22 09 53.5	
	comp=Z,13nm,1.4s						
POKR	**Poker Plat Res**	**84.62**	**18**	P	**P**	**22 09 27.1**	**-0.4**
POKR				IAmb	IAmb	22 09 28.2	
	comp=Z,5.2nm,0.6s						
J25K	**Salcha River,**	**84.89**	**19**	P	**P**	**22 09 29.1**	**+0.3**
J25K				IAmb	IAmb	22 09 30.5	
	comp=Z,5.4nm,0.6s						
SCRK	**Sand Creek**	**84.90**	**20**	P	**P**	**22 09 29.6**	**+0.6**
BCAR	**Beaver Creek A**	**85.03**	**21**	P	**P**	**22 09 30.7**	**+1.1**
NVAR	**Mina Array Bea**	**86.03**	**49**	P	**P**	**22 09 36.0**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=209,slow=7.2,SNR=1.6						
NVAR				pP	**pP**	**22 10 27.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=236,slow=4.2,SNR=1.5 comp=Z,0.3nm,0.7s						
D22K	**Ayikyak River**	**86.06**	**14**	P	**P**	**22 09 35.9**	**+1.4**
D22K				IAmb	IAmb	22 09 37.5	
	comp=Z,7.1nm,1.1s						
TXAR	**Lajitas Array**	**95.43**	**61**	P	**P**	**22 10 19.6**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=220,slow=6.8,SNR=4.7 comp=Z,0.5nm,0.8s						
MK31	**Makanchi Array**	**95.48**	**317**	P	**P**	**22 10 19.9**	**+1.0**
MKAR	**Makanchi Array**	**95.48**	**317**	P	**P**	**22 10 19.9**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=87,slow=6.5,SNR=10						
MKAR				pP	**pP**	**22 11 10.4**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=94,slow=5.5,SNR=2.6 comp=Z,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**95.72**	**27**	P	**P**	**22 10 18.7**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=260,slow=5.2,SNR=9.1						
YKA				pP	**pP**	**22 11 12.7**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=264,slow=4.0,SNR=2.4 comp=Z,0.3nm,0.6s						
H03S2	**Juan Fernandez**	**102.20**	**129**	T	T	00 04 16.1	
	baz=242,slow=74,SNR=7.6						
H03S1	**Juan Fernandez**	**102.21**	**129**	T	T	00 04 16.9	
	baz=242,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**102.22**	**129**	T	T	00 04 15.9	
	baz=242,slow=74,SNR=7.8						
ARCES	**ARCESS Array B**	**118.10**	**346**	PKP	**PKPdf**	**22 15 39.5**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=90,slow=1.8,SNR=7.6						
ESDC	**Sonseca Array**	**151.84**	**345**	PKPbc	**PKiKP**	**22 16 48.9**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=355,slow=2.8,SNR=10.0						
ESDC				PKPab	**PKPab**	**22 16 59.1**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=11,slow=3.7,SNR=6.7						

*IDC **22** 22:03:00.8±0.8, 5°.78N×32°.80W, h0km, mb4.0/9, mbtmp4.0/9, MS3.8/48, Error ellipse: s-maj=29.7km s-min=24.9km az=54.0*
*GCMT **22** 22:03:05.0±0.5, 5°.71N±0°.06×32°.74W±0°.03, h20km±1km, MW4.7/69, Moment Tensor Solution. s20,c23; s69,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.52±.17; $M_{\theta\theta}$-0.00±.10; $M_{\phi\phi}$1.52±.12; $M_{r\theta}$0.01±.25; $M_{r\phi}$-0.17±.07; $M_{\theta\phi}$-0.57±.18; Best double couple: $M_0$1.63300×10^{16} NP1:ϕ_s355.00000°, δ55.00000°, λ-88.00000°. NP2: ϕ_s172.00000°, δ35.00000°, λ-93.00000°. Principal axes: T 1.6420, Plg10.0000°, Azm84.0000°; N -0.0210, Plg2.0000°, Azm174.0000°; P -1.6240, Plg80.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 22 22:03:02.4±0.8, 5.7N±0°.2×32°.8W±0°.2, h10km, n59, σ1§13/14, mb3.9/9, MS3.8/46, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.89**	**195**	LR	LR	22 09 22.2	
	comp=Z,141nm,20.6s,baz=37,slow=32						
MDP	**Montagnes des**	**19.76**	**269**	LR	LR	22 13 30.5	
	comp=Z,157nm,21.2s,baz=68,slow=32						
H10N3	**ASCENSION HYDR**	**22.70**	**126**	T	T	22 31 32.6	
	baz=305,slow=75,SNR=21						
H10N2	**ASCENSION HYDR**	**22.70**	**126**	T	T	22 31 38.2	
	baz=305,slow=75,SNR=17						
H10N1	**ASCENSION HYDR**	**22.72**	**126**	T	T	22 31 39.5	
	baz=305,slow=75,SNR=18						
H10S3	**ASCENSION HYDR**	**23.23**	**129**	T	T	22 32 21.2	
	baz=305,slow=74,SNR=16						
H10S2	**ASCENSION HYDR**	**23.25**	**129**	T	T	22 32 25.1	
	baz=275,slow=74,SNR=11						
BDFB	**Brasilia**	**26.03**	**215**	LR	LR	22 17 47.6	
	comp=Z,220nm,19.1s,baz=13,slow=34						
DBIC	**Dimbokro**	**27.80**	**87**	P	**P**	**22 08 51.0**	**-1.0**
	2.3nm,0.8s,baz=277,slow=10.0,SNR=2.5						
DBIC				LR	LR	22 17 30.2	
	comp=Z,168nm,21.7s,baz=225,slow=31 2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**34.79**	**75**	P	**P**	**22 09 53.9**	**+0.2**
	0.9nm,0.6s,baz=281,slow=8.3,SNR=8.7						
TORD				PcP	**PcP**	**22 12 27.7**	**+0.5**
	0.5nm,0.7s,baz=297,slow=4.4,SNR=3.4						
TORD				LR	LR	22 22 08.1	
	comp=Z,238nm,21.2s,baz=318,slow=33 0.9nm,0.6s						
SJG	**San Juan**	**34.79**	**294**	LR	LR	22 21 03.3	
	comp=Z,117nm,21.8s,baz=66,slow=31						
SIV	**San Ignacio**	**35.33**	**232**	LR	LR	22 23 40.9	
	comp=Z,152nm,19.1s,baz=102,slow=35						
MDT	**Midelt**	**37.63**	**41**	LR	LR	22 24 50.9	
	comp=Z,147nm,19.2s,baz=262,slow=35						
SDV	**Santo Domingo**	**37.64**	**277**	LR

ASAR				PKPab		**PKPab**	**22 23 33.2**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=203,slow=6.1,SNR=4.6								

*IDC **22** 22:39:00.5±4.4, 3°.33S×138°.98E, h0km, mb3.7/5, mbtmp3.8/6, ML4.0/1, MS3.5/1, Error ellipse: s-maj=197.3km s-min=25.6km az=88.0*
*NEIC **22** 22:39:11.5±1.4, 3°.52S±0°.08×138°.4E±0°.1, h77km±7km, mb4.1/15, Error ellipse: s-maj=18.4km s-min=11.5km az=95.0*
ISC 22 22:39:13.3±0.8, **3°.70S**±0°.07×**138°.3E**±0°.1, **h100**km, **n29**, σ1ᵍ**83**/28, **mb4.0**/10, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**6.10**	**277**	Pn	**Pn**	**22 40 42.7**	**+1.6**
COEN	**Coen**	**11.27**	**155**	Pn	**Pn**	**22 41 50.1**	**-1.2**
MTN	**Manton Dam**	**11.53**	**218**	Pn	**Pn**	**22 41 57.9**	**+3.0**
TNTI	**Ternate**	**11.81**	**292**	Pn	**Pn**	**22 41 54.3**	**-4.3**
KNRA	**Kununurra**	**15.17**	**218**		**P**	**22 42 45.1**	**+0.1**
WB0	**Warramunga Arr**	**16.42**	**193**	Pn	**Pn**	**22 42 58.6**	**+0.7**
WB0				IAmb	IAmb	22 43 20.0	
	comp=Z,17nm,1.3s						
WR0	**Warramunga Arr**	**16.58**	**193**	Pn	**Pn**	**22 43 00.5**	**+0.6**
WR0				IAmb	IAmb	22 43 37.3	
	comp=Z,24nm,1.5s						
WB2	**Warramunga Arr**	**16.60**	**193**		**P**	**22 43 01.8**	**+0.9**
WB2				IAmb	IAmb	22 43 15.2	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**16.60**	**193**	Pn	**Pn**	**22 43 00.7**	**+0.5**
WRA	**Warramunga Arr**	**16.60**	**193**	P	**Pn**	**22 43 00.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=17,slow=13,SNR=17						
WRA				S	**Sn**	**22 45 58.7**	**-5.8**
	comp=Z,2.3nm,0.7s,baz=14,slow=22,SNR=6.2						
	comp=Z,1.7nm,0.5s						
CTA	**Charters Tower**	**18.04**	**155**	P	**Pn**	**22 43 19.1**	**+1.5**
	comp=Z,3.4nm,0.6s,baz=344,slow=19,SNR=9.0						
GUMO	**Guam**	**18.37**	**21**	LR	LR	22 49 14.5	
	comp=Z,176nm,21.4s,baz=154,slow=34						
AS31	**Alice Springs**	**20.30**	**192**	P	Pn	22 43 45.5	+1.2
ASAR	**Alice Springs**	**20.30**	**192**		**P**	**22 43 41.7**	**+0.3**
ASAR	**Alice Springs**	**20.30**	**192**	P	Pn	22 43 43.9	-0.4
	comp=Z,0.8nm,0.3s,baz=15,slow=10,SNR=14						
ASAR				S	**S**	**22 47 27.2**	**+3.5**
	comp=Z,0.3nm,0.5s,baz=13,slow=27,SNR=1.8						
	comp=Z,0.8nm,0.3s						
UGM	**Wanagama**	**27.96**	**260**	P	**P**	**22 44 54.8**	**0.0**
SONM	**Songino Array**	**58.44**	**335**	P	**P**	**22 48 59.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=157,slow=5.7,SNR=3.0						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**70.33**	**323**	P	**P**	**22 50 15.9**	**-0.3**
MKAR	**Makanchi Array**	**70.33**	**323**	P	**P**	**22 50 17.0**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=111,slow=8.0,SNR=11						
	comp=Z,1.2nm,0.8s						
MAKZ	**Makanchi**	**70.53**	**323**	P	**P**	**22 50 17.4**	**-0.1**
KURK	**Kurchatov**	**74.30**	**325**	P	**P**	**22 50 39.8**	**+0.1**
KURK				IAmb	IAmb	22 51 05.4	
	comp=Z,3.4nm,1.4s						
KURBB	**Kurchatov Arra**	**74.31**	**325**	P	**P**	**22 50 39.8**	**0.0**
	comp=Z,0.2nm,0.4s,baz=111,slow=4.3,SNR=4.9						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**79.89**	**325**	P	**P**	**22 51 11.1**	**0.0**
	comp=Z,1.5nm,0.7s,baz=90,slow=9.1,SNR=5.8						
	comp=Z,1.5nm,0.7s						
C18K	**Utukok River**	**83.09**	**19**	P	**P**	**22 51 27.3**	**-0.4**
C18K				IAmb	IAmb	22 51 42.0	
	comp=Z,4.6nm,1.4s						
C19K	**Lookout Ridge**	**83.82**	**19**	P	**P**	**22 51 31.4**	**0.0**
C19K				IAmb	IAmb	22 51 32.3	
	comp=Z,1.9nm,1.0s						
E19K	**Redstone River**	**83.87**	**20**	P	**P**	**22 51 31.1**	**-0.6**
E19K				IAmb	IAmb	22 51 33.7	
	comp=Z,2.7nm,0.8s						
D19K	**Kuna River**	**84.02**	**19**	P	**P**	**22 51 32.0**	**-0.3**
D19K				IAmb	IAmb	22 52 13.5	
	comp=Z,4.6nm,1.5s						
B20K	**Meade River**	**84.98**	**18**	P	**P**	**22 51 37.3**	**+0.2**
B20K				IAmb	IAmb	22 51 47.3	
	comp=Z,2.2nm,1.1s						
F21K	**Alatna River**	**85.11**	**21**	P	**P**	**22 51 37.9**	**+0.1**

IDC 22 22:43:44.7±45.0, **9°.32S×109°.23E, h0km, mb3.6**/4, **mbtmp3.6**/4, **Error ellipse: s-maj=1002.0km s-min=193.0km az=157.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**56.96**	**358**	P	P	22 53 32.0	0.0
	0.3nm,0.5s,baz=180,slow=8.1,SNR=3.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**60.82**	**339**	P	P	22 53 58.7	-0.1
	0.3nm,0.4s,baz=158,slow=8.1,SNR=5.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**65.38**	**339**	P	P	22 54 29.3	+0.3
	0.2nm,0.4s,baz=158,slow=5.1,SNR=2.2						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**66.33**	**345**	P	P	22 54 34.7	-0.3
	0.4nm,0.4s,baz=143,slow=7.7,SNR=3.0						
	0.4nm,0.4s						

*ISK **22** 23:14:01.8, 38°.42N×27°.71E, h9km, ML2.6/11*
*AFAD **22** 23:14:02.0±0.0, 38°.39N×27°.74E, h7km±2km, ML2.4*
*THE **22** 23:14:03.1, 38°.35N×27°.66E, h3km±1km, ML2.6/3, Error ellipse: s-maj=1.7km s-min=0.6km az=244.0*
ISC 22 23:14:02.1±0.9, **38°.39N**±0°.02×**27°.72E**±0°.02, **h11**km±9km, **n24**, σ0ᵍ**25**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZMR	**zmir-demi**	**0.32**	**145**	P	**Pg**	**23 14 08.7**	**+0.2**
IZMR				S	**Sg**	**23 14 12.9**	**+0.3**
IZMR				*i* AML	AML	23 14 13.0	
	comp=N,370nm,0.3s						
IZMR				*i* AML	AML	23 14 14.0	
	comp=E,436nm,0.6s						
GOMA	**Golmarmara-Man**	**0.35**	**26**	Pg	**Pg**	**23 14 08.9**	**-0.2**
GOMA				Sg	**Sg**	**23 14 13.9**	**+0.1**
AKHS	**Akhisar**	**0.49**	**8**	P	**Pg**	**23 14 11.6**	**-0.1**
AKHS				S	**Sg**	**23 14 18.5**	**+0.3**
AKHS				*i* AML	AML	23 14 19.0	
	comp=E,335nm,0.2s						
AKS	**Akhisar**	**0.49**	**8**	Pg	**Pg**	**23 14 11.3**	**-0.4**
BLCB	**Balcova**	**0.53**	**269**	Pg	**Pg**	**23 14 12.5**	**0.0**
BLCB				Sg	**Sg**	**23 14 19.9**	**+0.3**
BLCB	**Balcova**	**0.53**	**269**	P	**Pg**	**23 14 12.6**	**0.0**
BLCB				S	**Sg**	**23 14 19.8**	**+0.2**
KIRA	**zmir-Kiraz**	**0.57**	**110**	P	**Pg**	**23 14 13.2**	**0.0**
KIRA				S	**Sg**	**23 14 20.4**	**-0.4**
KIRA				*i* AML	AML	23 14 23.0	
	comp=E,206nm,0.3s						
KIRA				*i* AML	AML	23 14 24.0	
	comp=N,220nm,0.4s						
DGB	**zmir**	**0.74**	**243**	P	**Pb**	**23 14 16.8**	**-0.3**
DGB				S	**Sg**	**23 14 25.9**	**-0.3**
DGB				*i* AML	AML	23 14 29.0	
	comp=N,239nm,0.6s						
DGB				*i* AML	AML	23 14 32.0	
	comp=E,156nm,0.4s						
KULA	**Kula-Manisa**	**0.75**	**80**	Pg	**Pb**	**23 14 17.1**	**-0.1**
ESEN	**Aydn-Nazilli**	**0.77**	**140**	P	**Pg**	**23 14 17.0**	**-0.1**
ESEN				S	**Sg**	**23 14 27.4**	**+0.2**
ESEN				*i* AML	AML	23 14 31.0	
	comp=N,234nm,0.3s						
ESEN				*i* AML	AML	23 14 31.0	
	comp=E,317nm,0.5s						
GCAM	**G?zelcaml?**	**0.79**	**209**	P	**Pg**	**23 14 17.3**	**-0.1**
GCAM				S	**Sg**	**23 14 27.6**	**-0.2**
GCAM				*i* AML	AML	23 14 29.0	
	comp=E,152nm,0.4s						
GCAM				*i* AML	AML	23 14 31.0	
	comp=N,126nm,0.8s						
FOCM	**Foa**	**0.84**	**293**	Pg	**Pg**	**23 14 18.3**	**0.0**
RFT7	**Candarli**	**0.84**	**312**	Pg	**Pg**	**23 14 18.2**	**-0.2**
RFT7				Sg	**Sb**	**23 14 29.9**	**-0.2**
URLA	**Izmir**	**0.89**	**268**	Pg	**Pg**	**23 14 18.9**	**-0.3**
CAND	**Candarli**	**0.91**	**308**	Pg	**Pg**	**23 14 19.2**	**-0.5**
CAND				Sg	**Sb**	**23 14 32.4**	**+0.3**
DKL	**Dikili**	**0.93**	**317**	Pg	**Pb**	**23 14 20.2**	**-0.1**
DKL				Sg	**Sb**	**23 14 32.9**	**+0.3**
SMG	**Samos**	**0.98**	**226**	P	**Pb**	**23 14 20.9**	**-0.2**
SMG				S	**Sb**	**23 14 34.2**	**+0.2**
	410nm,0.2s						
DDIM	**Aydin, Didim**	**1.01**	**202**	P	**Pn**	**23 14 22.3**	**0.0**
DDIM				*i* AML	AML	23 14 42.0	
	comp=N,264nm,1.5s						
DDIM				*i* AML	AML	23 14 46.0	
	comp=E,177nm,1.3s						
SIMA	**Simav-Kutahya**	**1.20**	**55**	Pn	**Pg**	**23 14 24.8**	**-0.5**
BALB	**Balikesir**	**1.25**	**6**	Pn	**Pn**	**23 14 25.9**	**+0.3**
CHOS	**Chios island**	**1.31**	**270**	P	**Pn**	**23 14 26.4**	**-0.1**
CHOS				S	**Sn**	**23 14 44.1**	**+0.1**
	158nm,0.3s						
YER	**Yerkesik**	**1.33**	**160**	P	**Pn**	**23 14 26.8**	**0.0**
YER				S	**Sg**	**23 14 45.0**	**-0.1**
DST	**Dursunbey**	**1.40**	**30**	Pn	**Pn**	**23 14 27.8**	**+0.2**
PRK	**Paraskevi**	**1.42**	**307**	P	**Pn**	**23 14 28.2**	**+0.4**
PRK				S	**Sg**	**23 14 47.9**	**+0.2**
	222nm,1.0s						

*IDC **22** 23:14:57.2±0.5, 52°.84S×25°.76E, h0km, mb4.5/16, mbtmp4.5/16, MS3.8/35, Error ellipse: s-maj=20.8km s-min=13.7km az=83.0*
*NEIC **22** 23:14:59.3±1.4, 52°.9S±0°.1×25°.7E±0°.2, h10km±1km, mb5.0/43, Error ellipse: s-maj=24.6km s-min=18.6km az=81.0*
ISC 22 23:14:58.9±0.4, **52°.88S**×0°.07×**25°.8E**±0°.1, **h10**km, **n154**, σ1ᵍ**04**/123, **mb4.8**/44, **MS3.8**/35, **5D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04S2	**CROZET ISLANDS**	**17.82**	**81**	T	T	23 37 21.2	
	baz=241,slow=74,SNR=195						
H04S3	**CROZET ISLANDS**	**17.82**	**81**	T	T	23 37 07.4	
	baz=241,slow=74,SNR=334						
H04S1	**CROZET ISLANDS**	**17.83**	**81**	T	T	23 37 24.1	
	baz=241,slow=74,SNR=263						
GRHM	**Grahamstown, E**	**19.59**	**1**	P	**Pn**	**23 19 28.3**	**-0.2**
MATJ	**Matjiesfontein**	**19.96**	**347**	*eP*	**Pn**	**23 19 34.2**	**+1.4**
CER	**Ceres**	**20.06**	**344**	*eP*	Pn	23 19 34.5	+0.6
SOE	**Somerset East**	**20.15**	**359**	P	**P**	**23 19 34.0**	**+0.7**
SOE				IAmb	IAmb	23 19 40.4	
	comp=Z,124nm,1.9s						
MERW	**Merweville**	**20.43**	**350**	*eP*	Pn	23 19 38.5	+0.1
MERW				IAmb	IAmb	23 19 45.6	
	comp=Z,99nm,1.5s						
ROOI	**Rooidraai Farm**	**20.43**	**355**	*eP*	Pn	23 19 38.7	+0.3
ROOI				IAmb	IAmb	23 19 43.4	
	comp=Z,757nm,3.0s						
GRAF	**Camdeboo Natio**	**20.61**	**357**	*eP*	Pn	23 19 43.7	+3.3
GRAN	**Grantham**	**20.73**	**351**	*eP*	Pn	23 19 41.6	-0.2
GRAN				IAmb	IAmb	23 19 43.3	
	comp=Z,9.7nm,0.9s						
SUR	**Sutherland**	**20.80**	**348**		**P**	**23 19 41.6**	**+1.2**
SUR				IAmb	IAmb	23 19 47.3	
	comp=Z,115nm,1.8s						
SUR	**Sutherland**	**20.80**	**348**	*eP*	**P**	**23 19 41.5**	**+1.1**
SUR				IAmb	IAmb	23 19 49.8	
	comp=Z,628nm,2.9s						
SUR	**Sutherland**	**20.80**	**348**	P	**P**	**23 19 41.0**	**+0.6**
	comp=Z,21nm,0.9s,baz=153,slow=9.0,SNR=11						
SUR				LR	LR	23 25 46.7	
	comp=Z,343nm,21.7s,baz=178,slow=31						
	comp=Z,21nm,0.9s						
BFON	**Badsfontein, M**	**21.12**	**355**	*eP*	**P**	**23 19 44.6**	**+0.9**
BFON				IAmb	IAmb	23 19 46.0	
	comp=Z,30nm,0.9s						
FRAZ	**Fraserburg**	**21.17**	**350**	*eP*	**P**	**23 19 44.5**	**+0.2**
FRAZ				IAmb	IAmb	23 20 22.9	
	comp=Z,168nm,2.1s						
BRAK	**Brakfontein**	**21.19**	**353**	*eP*	**P**	**23 19 45.4**	**+0.9**
BRAK				IAmb	IAmb	23 19 50.3	
	comp=Z,290nm,2.4s						
TROLL	**Troll, Antarti**	**21.71**	**199**	⇓P	**P**	**23 19 52.0**	**+2.1**
	comp=Z,461nm,0.8s						
CVNA	**Calvinia**	**21.82**	**346**	*eP*	**P**	**23 19 53.3**	**+2.0**
CVNA				IAmb	IAmb	23 20 02.2	
	comp=Z,28nm,0.9s						
SNAA	**Sanae**	**22.66**	**203**	P	**P**	**23 20 00.4**	**+0.5**
SNAA	**Sanae**	**22.66**	**203**	*eP*	**P**	**23 20 00.6**	**+0.7**
SNAA	**Sanae**	**22.66**	**203**	⇓P	**P**	**23 20 01.1**	**+1.2**
	comp=Z,152nm,0.7s						
SNAA	**Sanae**	**22.66**	**203**	P	**P**	**23 19 59.9**	**0.0**
	comp=Z,7.7nm,1.1s,baz=49,slow=12,SNR=6.9						
SNAA				LR	LR	23 26 30.9	
	comp=Z,252nm,21.6s,baz=52,slow=31						
	comp=Z,7.7nm,1.1s						
MAW	**Mawson**	**23.08**	**144**	LR	LR	23 27 11.4	
	comp=Z,154nm,21.7s,baz=294,slow=32						
VNA2	**Neumayer--Watz**	**23.38**	**207**	⇓P	**P**	**23 20 09.8**	**+2.5**
	comp=Z,5.2nm,0.8s,baz=45,slow=10						
VNA1	**Neumayer--Stat**	**23.47**	**208**	⇓P	**P**	**23 20 13.8**	**+5.6**
	comp=Z,19nm,1.3s						
VNA3	**Neumayer Olymp**	**24.17**	**207**	⇓P	**P**	**23 20 15.8**	**+0.9**
BOSA	**Boshof**	**24.24**	**359**	P	**P**	**23 20 16.1**	**+0.1**
BOSA	**Boshof**	**24.24**	**359**	*eP*	**P**	**23 20 15.7**	**-0.4**
BOSA				IAmb	IAmb	23 20 39.8	
	comp=Z,106nm,2.1s						
BOSA	**Boshof**	**24.24**	**359**	P	**P**	**23 20 13.7**	**-2.3**
	comp=Z,6.6nm,0.8s,baz=165,slow=12,SNR=6.9						
BOSA				LR	LR	23 27 46.6	
	comp=Z,254nm,21.9s,baz=168,slow=32						
	comp=Z,6.6nm,0.8s						
KEIM	**Keimoes**	**24.41**	**350**	*eP*	**P**	**23 20 17.5**	**0.0**
KEIM				IAmb	IAmb	23 20 50.4	
	comp=Z,72nm,2.1s						
UPI	**Upington**	**24.72**	**350**	*eP*	**P**	**23 20 20.4**	**+0.1**
UPI				IAmb	IAmb	23 20 22.6	
	comp=Z,23nm,0.9s						
SWZ	**Schweizer**	**25.67**	**359**	*eP*	**P**	**23 20 28.3**	**-0.6**
SWZ				IAmb	IAmb	23 20 45.7	
	comp=Z,164nm,2.4s						
HRAO	**HartRAO**	**26.99**	**4**	*eP*	**P**	**23 20 41.1**	**+0.1**
KSR	**Koster**	**27.00**	**2**	*eP*	**P**	**23 20 39.9**	**-1.2**
KSR				IAmb	IAmb	23 21 06.3	
	comp=Z,12nm,1.1s						
NYAT	**Nyati, Northwe**	**27.50**	**3**	*eP*	**P**	**23 20 45.5**	**0.0**
NYAT				IAmb	IAmb	23 20 56.8	
	comp=Z,14nm,1.1s						
DULL	**Dullstroom, Mp**	**27.67**	**9**	*eP*	**P**	**23 20 46.0**	**-1.1**
LBTB	**Lobatse**	**27.82**	**360**	P	**P**	**23 20 48.6**	**+0.2**
LBTB				IAmb	IAmb	23 21 09.9	
	comp=Z,46nm,1.9s						
LBTB	**Lobatse**	**27.82**	**360**	*eP*	**P**	**23 20 46.6**	**-1.8**
LBTB				IAmb	IAmb	23 20 47.6	
	comp=Z,118nm,2.7s						
LBTB	**Lobatse**	**27.82**	**360**	P	**P**	**23 20 47.1**	**-1.3**
	comp=Z,4.3nm,0.8s,baz=177,slow=14,SNR=6.7						
LBTB				LR	LR	23 29 54.7	
	comp=Z,240nm,21.5s,baz=167,slow=32						
	comp=Z,4.3nm,0.8s						
LEPH	**Lephalale, Lim**	**29.01**	**4**	*eP*	**P**	**23 20 58.4**	**-0.6**
LEPH				IAmb	IAmb	23 21 00.0	
	comp=Z,13nm,0.9s						
MUSN	**Musina, Limpop**	**30.70**	**7**	*eP*	**P**	**23 21 13.9**	**+0.2**
MUSN				IAmb	IAmb	23 21 15.3	
	comp=Z,7.7nm,0.8s						
WIN	**Windhoek**	**30.98**	**344**	P	**P**	**23 21 17.6**	**+1.1**
BELA	**Belgrano 2**	**32.79**	**200**	P	**P**	**23 21 30.6**	**-1.0**
BELA				IAmb	IAmb	23 21 33.1	
	comp=Z,18nm,1.5s						
TSUM	**Tsumeb**	**34.21**	**346**	P	**P**	**23 21 44.2**	**-0.5**
TSUM	**Tsumeb**	**34.21**	**346**	P	**P**	**23 21 44.2**	**-0.5**
	comp=Z,8.3nm,0.7s,baz=169,slow=7.4,SNR=12						
TSUM				LR	LR	23 33 31.8	
	comp=Z,143nm,21.2s,baz=170,slow=33						
	comp=Z,8.3nm,0.7s						
QSPA	**South Pole Qui**	**37.34**	**180**	P	**P**	**23 22 10.8**	**-0.4**
	comp=Z,13nm,0.9s,baz=242,slow=4.8,SNR=27						
QSPA				LR	LR	23 36 15.9	
	comp=Z,228nm,22.0s,baz=237,slow=34						
	comp=Z,13nm,0.9s						
LSZ	**Lusaka**	**37.56**	**4**	P	**P**	**23 22 13.5**	**+0.1**
	comp=Z,1.3nm,0.2s,baz=178,slow=10,SNR=3.8						
LSZ				LR	LR	23 35 41.5	
	comp=Z,269nm,21.6s,baz=166,slow=33						
	comp=Z,1.3nm,0.2s						
SHEL	**Horse Pasture**	**44.42**	**314**	P	**P**	**23 23 09.7**	**-0.2**
VNDA	**Vanda**	**47.05**	**168**	LR	LR	23 43 08.0	
	comp=Z,116nm,19.4s,baz=209,slow=36						
KMBO	**Kilima Mbogo**	**52.45**	**15**	LR	LR	23 44 33.6	
	comp=Z,82nm,20.3s,baz=74,slow=34						
H10S2	**ASCENSION HYDR**	**54.63**	**308**	T	T	00 23 53.2	
	baz=71,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**54.65**	**308**	T	T	00 23 51.1	
	baz=149,slow=74,SNR=23						
TRQA	**Tornquist**	**59.55**	**246**	P	**P**	**23 25 01.7**	**-0.6**
TRQA				IAmb	IAmb	23 25 03.8	
	comp=Z,15nm,1.1s						
PLCA	**Paso Flores**	**62.22**	**239**	P	**P**	**23 25 19.7**	**-0.8**
PLCA	**Paso Flores**	**62.22**	**239**	P	**P**	**23 25 20.3**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=135,slow=4.8,SNR=4.1						
	comp=Z,3.0nm,0.9s						
ITQB	**Itaqui**	**62.52**	**256**	P	**P**	**23 25 22.8**	**+0.1**
GO06	**Curarrehue**	**63.54**	**239**	P	**P**	**23 25 30.7**	**+1.3**
GO06				IAmb	IAmb	23 25 42.2	
	comp=Z,9.9nm,1.2s						
DBIC	**Dimbokro**	**64.77**	**326**	P	**P**	**23 25 36.9**	**-0.6**
DBIC				IAmb	IAmb	23 25 38.5	
	comp=Z,12nm,0.9s						
DBIC	**Dimbokro**	**64.77**	**326**	P	**P**	**23 25 37.2**	**-0.3**
	comp=Z,7.8nm,0.6s,baz=146,slow=7.7,SNR=12						
DBIC				LR	LR	23 47 42.5	
	comp=Z,84nm,19.5s,baz=171,slow=30						
	comp=Z,7.8nm,0.6s						
NWAO	**Narrogin (SRO)**	**65.33**	**112**	LR	LR	23 50 30.6	
	comp=Z,75nm,18.4s,baz=124,slow=33						
CPUP	**Villa Florida**	**65.42**	**258**	P	**P**	**23 25 41.1**	**-0.5**
CPUP				IAmb	IAmb	23 25 43.1	
	comp=Z,16nm,1.1s						
CPUP	**Villa Florida**	**65.42**	**258**	P	**P**	**23 25 41.8**	**+0.1**
	comp=Z,8.8nm,1.0s,baz=140,slow=7.5,SNR=7.6						
CPUP				LR	LR	23 49 38.3	
	comp=Z,61nm,20.4s,baz=190,slow=32						
	comp=Z,8.8nm,1.0s						
MT13	**San Alfonso**	**67.28**	**244**	P	**P**	**23 25 53.6**	**-0.1**
BDFB	**Brasilia**	**67.92**	**273**	P	**P**	**23 25 57.2**	**-0.7**
BDFB				IAmb	IAmb	23 25 59.5	
	comp=Z,8.2nm,1.0s						
BDFB	**Brasilia**	**67.92**	**273**	P	**P**	**23 25 58.0**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=118,slow=7.4,SNR=7.0						
BDFB				LR	LR	23 49 23.8	
	comp=Z,57nm,21.3s,baz=149,slow=30						
	comp=Z,4.8nm,0.8s						
RCBR	**Riachuelo**	**68.52**	**290**	LR	LR	23 51 30.7	
	comp=Z,82nm,18.1s,baz=117,slow=32						
AQDB	**Aquidauana**	**68.86**	**264**	P	**P**	**23 26 03.1**	**-0.5**
AQDB				IAmb	IAmb	23 26 05.1	
	comp=Z,17nm,1.4s						
TOA0	**Torodi Ar. Sit**	**68.95**	**335**	P	**P**	**23 26 03.8**	**-0.2**
TOA0				IAmb	IAmb	23 26 05.7	
	comp=Z,9.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.95**	**335**	P	**P**	**23 26 04.7**	**+0.6**
TORD				IAmb	IAmb	23 26 05.6	
	comp=Z,8.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.95**	**335**	P	**P**	**23 26 04.2**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=161,slow=5.5,SNR=36						
TORD				LR	LR	23 49 36.1	
	comp=Z,55nm,21.5s,baz=148,slow=30						
	comp=Z,6.6nm,0.8s						
CO01	**Juntas del Tor**	**70.03**	**247**	P	**P**	**23 26 10.8**	**-0.3**
CO06	**Fray Jorge**	**70.35**	**245**	P	**P**	**23 26 11.9**	**-0.9**
LCO	**Las Campanas**	**71.11**	**247**	P	**P**	**23 26 17.6**	**-0.1**
LCO				IAmb	IAmb	23 28 08.4	
	comp=Z,12nm,1.2s						
GO02	**Mina Guanaco**	**73.45**	**250**	P	**P**	**23 26 31.7**	**-0.1**
GO02				IAmb	IAmb	23 26 33.2	
	comp=Z,11nm,1.1s						
PTLB	**Pontes e Lacer**	**74.80**	**264**	P	**P**	**23 26 39.3**	**0.0**
PTLB				IAmb	IAmb	23 26 40.9	
	comp=Z,12nm,1.2s						
LVC	**Limon Verde**	**75.04**	**252**	P	**P**	**23 26 41.0**	**-0.2**
LVC	**Limon Verde**	**75.04**	**252**	LR	LR	23 57 05.8	
	comp=Z,50nm,19.1s,baz=206,slow=34						
PALK	**Pallekele**	**75.78**	**57**	LR	LR	23 52 00.5	
	comp=Z,74nm,19.8s,baz=309,slow=29						
TOO	**Toolangi**	**75.86**	**135**	P	**P**	**23 26 46.1**	**+0.8**
TOO				IAmb	IAmb	23 28 42.6	
	comp=Z,29nm,1.6s						
PB07	**IPOC Station P**	**76.29**	**252**	P	**P**	**23 26 48.6**	**+0.5**
VILB	**Vilhena**	**77.38**	**265**	P	**P**	**23 26 52.8**	**-1.3**
VILB				IAmb	IAmb	23 27 09.2	
	comp=Z,7.7nm,0.8s						
TAM	**Tamanrasset**	**77.39**	**341**	P	**P**	**23 26 54.9**	**+1.0**
GO01	**Chusmiza**	**77.50**	**254**	P	**P**	**23 26 55.2**	**-0.1**
GO01				IAmb	IAmb	23 26 57.0	
	comp=Z,10nm,1.0s						
PB11	**IPOC Station P**	**77.69**	**254**	P	**P**	**23 26 55.3**	**-0.7**
PB11				IAmb	IAmb	23 26 57.6	
	comp=Z,19nm,0.9s						
PB16	**IPOC Station P**	**78.72**	**255**	P	**P**	**23 27 01.5**	**-0.7**
PB16				IAmb	IAmb	23 27 06.5	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**78.84**	**129**	P	**P**	**23 27 01.7**	**-0.3**
STKA	**Stephens Creek**	**78.84**	**129**	P	**P**	**23 27 02.6**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=215,slow=11,SNR=4.0						
	comp=Z,2.1nm,0.8s						
RPZ	**Rata Peaks**	**79.25**	**155**	P	**P**	**23 27 04.3**	**+0.2**
RPZ				IAmb	IAmb	23 27 06.0	
	comp=Z,28nm,1.6s						
RPZ	**Rata Peaks**	**79.25**	**155**	LR	LR	00 01 05.8	
	comp=Z,78nm,19.2s,baz=182,slow=35						
CAN	**Canberra**	**79.26**	**136**	P	**P**	**23 27 04.2**	**-0.1**
LPAZ	**La Paz**	**79.52**	**257**	P	**P**	**23 27 06.3**	**-0.3**
MQZ	**McQueen's Vall**	**79.66**	**156**	P	**P**	**23 27 07

ULM	**Lac du Bonnet**	**144.50**	**290**	PKP	**PKPab**	**23**	**34**	**33.0 +0.2**
	comp=Z,7.1nm,0.8s,baz=181,slow=1.3,SNR=7.6							
WUAZ	**Wupatki**	**145.35**	**257**	P	**PKPdf**	**23**	**34**	**37.7 +1.1**
	baz=134							
MDND	**Maddock**	**145.52**	**284**	P	**PKPab**	**23**	**34**	**37.2 +0.4**
	baz=119							
IKP	**In-Ko-Pah, Jac**	**146.04**	**249**	P	**PKiKP**	**23**	**34**	**40.9 -1.1**
	baz=138							
RSSD	**Black Hills**	**146.24**	**276**	P	**PKPab**	**23**	**34**	**40.0 +0.1**
	baz=123							
IRM	**Iron Mountain**	**146.59**	**252**	P	**PKPab**	**23**	**34**	**41.0 -0.3**
	baz=136							
GMRC	**Granite Mounta**	**147.34**	**252**	P	**PKPbc**	**23**	**34**	**42.6 +0.2**
	baz=136							
HEC	**Hector,Ludlow**	**147.76**	**251**	P	**PKiKP**	**23**	**34**	**45.0 -0.5**
	baz=136							
TUQ	**Turquoise Moun**	**147.95**	**252**	P	**PKiKP**	**23**	**34**	**45.3 -0.6**
	baz=135							
BFSC	**Mount Baldy Ra**	**148.09**	**249**	P	**PKiKP**	**23**	**34**	**45.7 -0.5**
	baz=137							
GSC	**Goldstone, Bar**	**148.37**	**251**	P	**PKiKP**	**23**	**34**	**46.4 -0.2**
	baz=136							
EDW2	**Edwards Air Fo**	**148.74**	**249**	P	**PKPbc**	**23**	**34**	**44.4 -1.6**
	baz=136							
BW06	**Boulder Array**	**148.83**	**269**	P	**PKPbc**	**23**	**34**	**45.6 -0.7**
	baz=125							
PDAR	**Pinedale Array**	**148.83**	**269**	PKPbc	**PKPbc**	**23**	**34**	**45.2 -1.0**
	comp=Z,4.7nm,0.8s,baz=111,slow=3.7,SNR=11							
TPNV	**Topopah Spring**	**149.19**	**254**	P	**PKiKP**	**23**	**34**	**48.6 +0.1**
	baz=134							
DUG	**Dugway, Tooele**	**149.27**	**262**	P	**PKiKP**	**23**	**34**	**48.3 -0.2**
	baz=128							
MPMC	**Manual Prospec**	**149.29**	**252**	P	**PKiKP**	**23**	**34**	**48.8 +0.1**
	baz=135							
ISA	**Isabella, Lake**	**149.58**	**250**	P	**PKiKP**	**23**	**34**	**49.7 +0.6**
	baz=136							
R11B	**Troy Canyon, C**	**149.74**	**257**	P	**PKiKP**	**23**	**34**	**49.5 -0.1**
	baz=132							
GRAC	**Grapevine Rang**	**149.88**	**253**	P	**PKiKP**	**23**	**34**	**50.5 +0.8**
	baz=134							
CWC	**Cottonwood Cre**	**149.90**	**251**	P	**PKiKP**	**23**	**34**	**50.6 +0.7**
	baz=135							
RLMT	**Red Lodge**	**149.94**	**273**	P	**PKiKP**	**23**	**34**	**49.8 0.0**
	baz=122							
TIN	**Tinemaha, Big**	**150.41**	**252**	P	**PKiKP**	**23**	**34**	**51.9 +1.0**
	baz=134							
SEY	**Seymchan**	**150.76**	**49**	PKP	**PKPdf**	**23**	**34**	**43.5 -0.9**
	comp=Z,0.8nm,0.3s,baz=347,slow=1.9,SNR=6.2							
SEY				PKPbc	**PKPbc**	**23**	**34**	**49.9 -0.1**
	comp=Z,8.9nm,1.0s,baz=232,slow=4.7,SNR=11							
NVAR	**Mina Array Bea**	**151.39**	**254**	PKP	**PKPdf**	**23**	**34**	**46.3 -0.1**
	comp=Z,1.8nm,0.8s,baz=156,slow=2.9,SNR=13							
NVAR				PKPbc	**PKPbc**	**23**	**34**	**52.3 -0.3**
	comp=Z,5.7nm,0.8s,baz=151,slow=3.2,SNR=25							
PETK	**Petropavlovsk-**	**151.48**	**70**	PKPbc	**PKPbc**	**23**	**34**	**51.4 -0.5**
	comp=Z,2.8nm,0.9s,baz=193,slow=2.6,SNR=1.6							
EGMT	**Eagleton**	**151.64**	**278**	P	**PKiKP**	**23**	**34**	**53.5 +0.5**
	baz=117							
HLID	**Hailey**	**152.22**	**267**	P	**PKiKP**	**23**	**34**	**55.3 +0.8**
	baz=124							
YKA	**Yellowknife Ar**	**157.11**	**310**	PKP	**PKPdf**	**23**	**34**	**53.1 -0.3**
	comp=Z,0.1nm,0.5s,baz=42,slow=2.3,SNR=4.0							
YKA				PKPab	**PKPab**	**23**	**35**	**24.0 -0.1**
	comp=Z,3.1nm,0.9s,baz=82,slow=4.7,SNR=22							
ILAR	**Eielson Array**	**167.49**	**345**	PKPab	**PKPab**	**23**	**36**	**07.7 -1.8**
	comp=Z,0.1nm,0.4s,baz=356,slow=2.7,SNR=2.9							

*TIR **22** 23:52:41.7, 41.42N×20.08E, h13km±1km, Md2.5, Ml1.9*
*SKO **22** 23:52:43.0, 41.37N×20.01E, h4km, ML1.8*
*BEO **22** 23:52:44.1±0.3, 41.38N×20.08E, h2km±3km, ML1.6/6*

ISC 22 23:52:43.1±1.0, **41.40N**±0.03×**20.07E**±0.02, **h6**km±9km, **n22**, σ=**86**/42, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.17**	**252**	P	**Pg**	**23 52 46.5**	**0.0**
	baz=246						
TIR				S	**Sg**	**23 52 49.1**	**+0.5**
	baz=246						
TIR				AMP			
	comp=E,0.2nm,0.1s,baz=246						
TIR	**Tirane**	**0.17**	**252**	*e*Pg	**Pg**	**23 52 46.4**	**0.0**
TIR				*e*Sg	**Sg**	**23 52 50.2**	**+1.6**
PHP	**Peshkopia**	**0.40**	**44**	P	**Pg**	**23 52 49.8**	**-1.0**
	baz=45						
PHP				S	**Sg**	**23 52 55.7**	**-0.4**
	baz=45						
PHP				AMP			
	comp=N,0.7nm,0.3s,baz=45						
OHR	**Ohrid**	**0.62**	**117**	*e*Pg	**Pg**	**23 52 54.9**	**0.0**
OHR				*e*Sg	**Sb**	**23 53 04.2**	**-1.1**
OHR	**Ohrid**	**0.62**	**117**	*i* Pg	**Pg**	**23 52 55.0**	**0.0**
OHR				*i* Sg	**Sb**	**23 53 04.9**	**-0.4**
OHR				*e*Lg	Lg	23 53 05.4	
	comp=N,48nm,0.5s						
OHR				*e*Lg	Lg	23 53 06.7	
	comp=E,29nm,0.4s						
PUK	**Puka**	**0.66**	**348**	P	**Pg**	**23 52 54.9**	**-0.9**
	baz=348						
PUK				S	**Sg**	**23 53 04.3**	**0.0**
	baz=348						
PUK				AMP			
	comp=N,0.5nm,0.2s,baz=348						
ULC	**Ulcinj**	**0.84**	**313**	*i* Pg	**Pg**	**23 52 57.3**	**-1.9**
KBN	**Korca**	**0.94**	**145**	P	**Pb**	**23 53 01.5**	**-0.4**
	baz=145						
KBN				S	**Sn**	**23 53 16.7**	**-0.2**
	baz=145						
BCI	**Bajram Curri**	**0.97**	**360**	P	**Pg**	**23 53 00.1**	**-1.6**
	baz=0.0						
BCI				S	**Sg**	**23 53 14.2**	**-0.1**
	baz=0.0						
BCI				AMP			
	comp=E,0.2nm,0.3s,baz=0.0						
FNA	**Florina**	**1.16**	**122**	P	**Pg**	**23 53 04.2**	**-1.2**
	baz=122						
FNA				S	**Sn**	**23 53 21.6**	**-0.5**
	baz=122						
FNA				AMP			
	comp=E,0.0nm,0.2s,baz=122						
FNA	**Florina**	**1.16**	**122**	*e*Pg	**Pg**	**23 53 04.2**	**-1.2**
FNA				*e*Sg	**Sb**	**23 53 21.4**	**+0.5**
FNA	**Florina**	**1.16**	**122**	*i* Pg	**Pg**	**23 53 04.5**	**-0.8**
FNA				*i* Sg	**Sg**	**23 53 19.6**	**-0.8**
SKO	**Skopje**	**1.17**	**60**	*e*Pg	**Pg**	**23 53 05.4**	**-0.2**
SKO				*e*Sg	**Sg**	**23 53 20.9**	**+0.1**
SKO	**Skopje**	**1.17**	**60**	*i* Pg	**Pg**	**23 53 05.2**	**-0.3**
SKO				*i* Sg	**Sb**	**23 53 21.7**	**+0.5**
STIP	**Stip**	**1.61**	**79**	*i* Pn	**Pg**	**23 53 16.3**	**+2.3**
PRVS	**Prvonek**	**1.86**	**53**	*e*Pn	**Pb**	**23 53 17.4**	**-0.1**
PRVS				*e*Sn	**Sb**	**23 53 41.4**	**+0.3**
SJES	**Sjenica**	**1.86**	**358**	*e*Pn	**Pn**	**23 53 16.7**	**+1.0**
SJES				*e*Sn	**Sb**	**23 53 42.1**	**+0.9**
DBRK	**Dubrovnik**	**1.92**	**312**	*e*Pn	**Pn**	**23 53 16.4**	**+0.1**
DBRK				Sn	**Sn**	**23 53 41.5**	**+0.7**
SELS	**Selova**	**1.98**	**23**	*e*Pn	**Pn**	**23 53 17.5**	**+0.3**
SELS				*e*Sn	**Sn**	**23 53 43.7**	**+1.4**
IVAS	**Ivanjica**	**2.18**	**2**	*e*Pn	**Pn**	**23 53 20.9**	**+0.9**
IVAS				*e*Sn	**Sb**	**23 53 50.1**	**-0.1**
STON	**Ston**	**2.30**	**311**	*e*Pn	**Pn**	**23 53 21.1**	**-0.4**
STON				Sn	**Sn**	**23 53 50.4**	**+0.3**
RICI	**Ricice**	**3.02**	**315**	*e*Pn	**Pn**	**23 53 31.5**	**0.0**
RICI				Sn	**Sn**	**23 54 08.3**	**+0.3**

*AZER **23** 00:17:42.9, 38.46N×47.09E, h8km, ml2.5*
*TEH **23** 00:17:44.6, 38.43N×47.09E, h12km±21km, ML2.6*

ISC 23 00:17:44.9±1.0, **38.45N**±0.03×**47.06E**±0.02, **h17**km±8km, **n23**, σ=**34**/39, **Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.13**	**186**	Pg	**Pg**	**00 17 48.0**	**-1.0**
GRMI	**Germi**	**0.75**	**61**	Pg	**Pb**	**00 17 59.1**	**-0.5**
ITBZ	**Tabriz**	**0.75**	**254**	Pg	**Pb**	**00 17 59.7**	**+0.1**
ISRB	**Sarab**	**0.79**	**142**	Pg	**Pb**	**00 17 59.6**	**-0.7**
ORD	**Ordubad**	**0.96**	**300**	P	**Pn**	**00 18 03.6**	**-0.2**
ORD				S	**Sn**	**00 18 16.8**	**-0.3**
LRK	**Lerik**	**1.02**	**79**	P	**Pn**	**00 18 04.2**	**-0.5**
LRK				S	**Sn**	**00 18 18.8**	**0.0**
QRD	**Qoradiz**	**1.03**	**11**	P	**Pn**	**00 18 05.1**	**+0.4**
QRD				S	**Sn**	**00 18 19.9**	**+1.1**
YRD	**Yardimli**	**1.04**	**63**	P	**Pn**	**00 18 04.3**	**-0.6**
YRD				S	**Sn**	**00 18 19.3**	**+0.2**

IMRD	**Marand**	**1.09**	**284**	Pg	**Pn**	**00**	**18**	**06.5 +0.8**
ISHB	**Shabestar**	**1.15**	**262**	Pg	**Pn**	**00**	**18**	**06.8 +0.4**
IHSH	**Hashtrud**	**1.15**	**172**	Pg	**Pn**	**00**	**18**	**06.5 -0.2**
GLBA	**Clilabad**	**1.31**	**52**	P	**Pg**	**00**	**18**	**10.4 +0.2**
GLBA				S	**Sg**	**00**	**18**	**30.4 +3.1**
BLQ	**Beylaqan**	**1.33**	**17**	Pn	**Pg**	**00**	**18**	**10.8 +0.3**
BLQ				Sn	**Sg**	**00**	**18**	**30.0 +2.1**
ASTR	**Astara**	**1.36**	**85**	Pn	**Pg**	**00**	**18**	**10.5 -0.7**
ASTR				Sn	**Sg**	**00**	**18**	**30.3 +1.3**
LKRN	**Lenkeran, Azer**	**1.37**	**79**	Pn	**Pg**	**00**	**18**	**10.7 -0.7**
LKRN				Sn	**Sg**	**00**	**18**	**30.9 +1.6**
NAX	**Nakhchivan**	**1.42**	**301**	Pn	**Pg**	**00**	**18**	**12.6 +0.3**
NAX				Sn	**Sg**	**00**	**18**	**32.2 +1.4**
SBZ	**Shahbuz**	**1.51**	**309**	Pn	**Pg**	**00**	**18**	**13.6 -0.4**
SBZ				Sn	**Sg**	**00**	**18**	**34.9 +1.3**
AGDM	**Agdam**	**1.66**	**1**	Pn	**Pg**	**00**	**18**	**16.3 -0.5**
AGDM				Sn	**Sg**	**00**	**18**	**40.6 +2.2**
ZRD	**Zardab**	**1.89**	**15**	Pn	**Pg**	**00**	**18**	**19.3 -1.9**
ZRD				Sn	**Sg**	**00**	**18**	**48.4 +2.6**
HYR	**Heyderabad**	**2.13**	**307**	Pn	**Pb**	**00**	**18**	**23.5 +0.3**
HYR				Sn	**Sg**	**00**	**18**	**52.0 -1.6**
GANJ	**Ganja**	**2.27**	**346**	Pn	**Pb**	**00**	**18**	**24.5 -1.0**
GANJ				Sn	**Sg**	**00**	**18**	**55.8 -2.0**
QBL	**Gabala**	**2.57**	**13**	Pn	**Pb**	**00**	**18**	**28.5 -2.0**
QBL				Sn	**Sb**	**00**	**19**	**02.8 +0.9**
SEKA	**Sheki**	**2.76**	**2**	Pn	**Pb**	**00**	**18**	**31.2 -2.6**
SEKA				Sn	**Sb**	**00**	**19**	**07.4 -0.1**

*IDC **23** 00:27:49.4±2.2, 17.15N×83.61W, h0km, mb3.6/6, mbtmp3.7/6, Error ellipse: s-maj=56.2km s-min=34.3km az=11.0*

ISC 23 00:27:50.5±1.9, **17.1N**±0.3×**83.6W**±0.2, **h10**km, **n8**, σ=**37**/8, **mb3.9**/6, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.07**	**307**	P	**P**	**00 32 47.3**	**+1.5**
	0.3nm,0.8s,baz=138,slow=7.7,SNR=3.7						
	0.3nm,0.8s						
SCHQ	**Schefferville**	**39.81**	**15**	P	**P**	**00 35 23.9**	**+0.2**
	2.3nm,0.6s,baz=213,slow=6.9,SNR=7.2						
	2.3nm,0.6s						
YKA	**Yellowknife Ar**	**50.26**	**342**	P	**P**	**00 36 45.5**	**-1.2**
	0.2nm,0.7s,baz=127,slow=7.5,SNR=3.1						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**63.38**	**335**	P	**P**	**00 38 19.9**	**+0.1**
	1.1nm,0.7s,baz=115,slow=5.0,SNR=16						
	1.1nm,0.7s						
ESDC	**Sonseca Array**	**71.41**	**53**	P	**P**	**00 39 13.0**	**+1.8**
	0.6nm,0.7s,baz=298,slow=6.1,SNR=7.1						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**84.17**	**27**	P	**P**	**00 40 20.3**	**-1.4**
	0.7nm,0.5s,baz=310,slow=7.1,SNR=3.9						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**143.98**	**259**	PKP	**PKPdf**	**00 47 26.4**	**-0.8**
	0.7nm,0.9s,baz=88,slow=3.1,SNR=5.2						
ASAR	**Alice Springs**	**144.33**	**253**	PKP	**PKPdf**	**00 47 27.6**	**-0.1**
	1.1nm,0.6s,baz=95,slow=3.6,SNR=12						

*JMA **23** 00:54:39.4±0.2, 24.1N×122.6E±0.6, h25km±3km, MV2.7/14, NW OFF ISHIGAKIJIMA IS*
*TAP **23** 00:54:40.6, 24.14N×122.59E, h30km, ML3.3, C*

ISC 23 00:54:39.6±1.0, **24.06N**±0.03×**122.62E**±0.02, **h28**km±11km, **n87**, σ=**92**/111, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.29**	**283**	*e*P	**Pn**	**00 54 47.8**	**+0.2**
	baz=265						
EOS3	**EOS3**	**0.36**	**309**	*i* P	**Pn**	**00 54 48.8**	**-0.1**
	baz=298						
EOS3				*i* S	**Sn**	**00 54 55.1**	**+0.1**
	baz=298						
JYNG	**Yonagunijimaku**	**0.49**	**37**	P	**Pb**	**00 54 49.6**	**-0.2**
JYNG				*e*S	**Sb**	**00 54 56.5**	**-0.3**
EOS2	**EOS2**	**0.51**	**315**	P	**Pn**	**00 54 51.0**	**+0.1**
	baz=303						
YOJ	**Yonaguni jima**	**0.54**	**41**	P	**Pb**	**00 54 50.3**	**-0.3**
YOJ				S	**Sb**	**00 54 57.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.54**	**41**	*e*P	**Pb**	**00 54 50.6**	**0.0**
	baz=54						
YOJ				*e*S	**Sb**	**00 54 58.4**	**+0.4**
	baz=54						
EAHA	**Aohua**	**0.85**	**289**	*e*P	**Pn**	**00 54 56.1**	**+0.4**
	baz=284						
EWUT	**Wuta**	**0.86**	**297**	P	**Pn**	**00 54 56.1**	**+0.1**
	baz=292						
ESAO	**Su ao**	**0.88**	**306**	*e*P	**Pn**	**00 54 56.2**	**+0.1**
	baz=303						
ESAO				*e*S	**Sn**	**00 55 08.3**	**+0.3**
	baz=303						
ENA	**Nanau**	**0.89**	**295**	P	**Pn**	**00 54 56.4**	**+0.1**
	baz=290						
TWC	**Suao**	**0.89**	**308**	P	**Pn**	**00 54 56.2**	**-0.1**
	baz=305						
ETL	**Fush Village**	**0.92**	**277**	*e*P	**Pb**	**00 54 57.1**	**+0.1**
	baz=271						
TWD	**Hsiawan**	**0.94**	**272**	*e*P	**Pn**	**00 54 56.9**	**-0.1**
	baz=266						
NACB	**Ninganchiao**	**0.95**	**277**	P	**Pn**	**00 54 56.8**	**-0.3**
	baz=272						
SHUL	**Shoufeng**	**1.01**	**255**	*e*S	**Sb**	**00 55 11.9**	**+0.6**
	baz=250						
ETM	**Tongmen**	**1.04**	**265**	*e*P	**Pn**	**00 54 57.9**	**-0.4**
	baz=250						
IRIF	**Iriomote-Funau**	**1.05**	**74**	P	**Pn**	**00 54 58.8**	**+0.4**
IRIF				S	**Sb**	**00 55 12.7**	**+0.2**
ETLH	**Xiulin Townshi**	**1.05**	**278**	*e*P	**Pn**	**00 54 58.7**	**+0.1**
	baz=274						
HATJ	**Hateruma jima**	**1.08**	**90**	*e*P	**Pn**	**00 54 58.1**	**-0.8**
TWE	**Neicheng**	**1.09**	**307**	P	**Pb**	**00 54 59.7**	**-0.2**
	baz=305						
LXIB	**Xiulin Townshi**	**1.11**	**268**	P	**Pn**	**00 54 59.3**	**-0.1**
	baz=264						
LATG	**Datong**	**1.11**	**296**	P	**Pn**	**00 54 59.8**	**+0.4**
	baz=292						
TWB1	**Santiao Chiao**	**1.11**	**329**	*i* P	**Pn**	**00 54 58.9**	**-0.4**
	baz=328						
ENTT	**Nioudou**	**1.12**	**301**	P	**Pb**	**00 55 00.3**	**-0.2**
	baz=298						
NDT	**Datong Townshi**	**1.15**	**298**	*e*P	**Pb**	**00 55 00.9**	**0.0**
	baz=295						
EGFH	**Guangfu**	**1.16**	**251**	*e*P	**Pn**	**00 55 00.2**	**+0.2**
	baz=247						
EGFH				S	**Sn**	**00 55 15.1**	**+0.1**
	baz=247						
TIPB	**Shuangxi**	**1.17**	**322**	P	**Pn**	**00 55 00.3**	**+0.2**
	baz=328						
FUSB	**Fushanzhiwuyua**	**1.18**	**307**	*e*P	**Pb**	**00 55 01.4**	**0.0**
	baz=320						
WARBT	**Fenglin Townsh**	**1.18**	**254**	*e*P	**Pn**	**00 54 59.9**	**-0.5**
	baz=250						
WARBT				*e*S	**Sn**	**00 55 15.5**	**0.0**
	baz=250						
NNSB	**Datong**	**1.19**	**288**	*e*P	**Pn**	**00 55 01.2**	**+0.6**
	baz=285						
NNS	**Nan Shan**	**1.20**	**289**	*e*P	**Pn**	**00 55 01.3**	**+0.5**
	baz=285						
HGSD	**Ruisui**	**1.23**	**243**	*e*P	**Pn**	**00 55 00.6**	**-0.4**
	baz=239						
SXI1	**Grass Mountain**	**1.24**	**327**	P	**Pn**	**00 55 01.0**	**-0.2**
	baz=339						
SXI1				*e*S	**Sn**	**00 55 17.0**	**0.0**
	baz=339						
WHF	**Hehuan Shan**	**1.24**	**274**	*e*P	**Pn**	**00 55 01.8**	**+0.3**
	baz=270						
NWLT	**Wulai**	**1.25**	**305**	*e*P	**Pb**	**00 55 02.3**	**-0.3**
	baz=317						
NWF	**Wu-fen Shan**	**1.27**	**323**	P	**Pb**	**00 55 02.3**	**-0.6**
	baz=323						
NWF				*e*S	**Sb**	**00 55 18.6**	**-0.3**
	baz=323						
WFSB	**Wu-fen Shan**	**1.27**	**323**	P	**Pn**	**00 55 01.9**	**+0.4**
	baz=321						
JKRS	**Kuro-shima**	**1.28**	**82**	P	**Pn**	**00 55 02.2**	**+0.5**
JKRS				*e*S	**Sb**	**00 55 20.0**	**+0.9**
YHNB	**Yeheng**	**1.29**	**298**	P	**Pn**	**00 55 02.7**	**+0.8**
	baz=282						
NSK	**Sanguang**	**1.31**	**298**	P	**Pn**	**00 55 02.7**	**+0.6**
	baz=297						
NSK				*e*S	**Sn**	**00 55 19.0**	**+0.3**
	baz=297						
EHY	**Hungye**	**1.31**	**246**	*e*P	**Pn**	**00 55 02.0**	**-0.1**
	baz=241						

CHGB	**Renai**	**1.32**	**270**	P	**Pn**	**00**	**55**	**02.9 +0.4**
	baz=255							
OWD	**Renai**	**1.33**	**266**	P	**Pn**	**00**	**55**	**02.8 +0.3**
	baz=251							
TWT	**Tachien**	**1.34**	**279**	*e*P	**Pn**	**00**	**55**	**03.5 +0.9**
	baz=263							
TDCB	**Techi**	**1.35**	**279**	P	**Pn**	**00**	**55**	**03.7 +0.9**
	baz=264							
WUSB	**Renai**	**1.38**	**268**	*e*P	**Pn**	**00**	**55**	**03.7 +0.6**
	baz=254							
YULB	**Yu-li**	**1.38**	**242**	P	**Pn**	**00**	**55**	**03.3 +0.2**
	baz=238							
EYUL	**Yuli**	**1.39**	**240**	*e*P	**Pn**	**00**	**55**	**03.8 +0.6**
	baz=236							
VWDT	**VWDT**	**1.39**	**258**	P	**Pn**	**00**	**55**	**03.8 +0.6**
	baz=255							
VWDT				*e*S	**Sn**	**00**	**55**	**21.5 +0.9**
	baz=255							
TWF1	**Yuli**	**1.40**	**240**	*e*P	**Pn**	**00**	**55**	**03.8 +0.5**
	baz=236							
CHKH	**Chenggong**	**1.42**	**233**	*e*P	**Pb**	**00**	**55**	**05.2 -0.2**
	baz=218							
CHKH				*e*S	**Sn**	**00**	**55**	**19.7 -1.6**
	baz=218							
JIJ	**Ishigaki jima**	**1.42**	**77**	P	**Pn**	**00**	**55**	**03.5 -0.1**
JIJ				S	**Sn**	**00**	**55**	**21.7 +0.3**
YM08	**YM08**	**1.47**	**320**	*e*P	**Pn**	**00**	**55**	**04.8 +0.5**
	baz=330							
NFF	**Wufeng Townshi**	**1.49**	**293**	*e*P	**Pb**	**00**	**55**	**06.3 -0.3**
	baz=280							
FULB	**Fuli**	**1.49**	**235**	*e*P	**Pn**	**00**	**55**	**05.8 +1.2**
	baz=232							
CHKT	**Chengkung**	**1.50**	**231**	*e*P	**Pb**	**00**	**55**	**06.4 -0.4**
	baz=216							
CHKT				*e*S	**Sn**	**00**	**55**	**21.1 -2.1**
	baz=216							
WHP	**Taichung City**	**1.55**	**278**	*e*P	**Pb**	**00**	**55**	**07.7 0.0**
	baz=265							
SSLB	**Suanglung**	**1.55**	**260**	P	**Pn**	**00**	**55**	**06.5 +1.0**
	baz=246							
WCS	**Beigang Elemen**	**1.56**	**270**	*e*P	**Pn**	**00**	**55**	**06.8 +1.3**
	baz=267							
LIOB	**Emei**	**1.58**	**292**	*e*P	**Pb**	**00**	**55**	**07.6 -0.6**
	baz=289							
NSTT	**Nanjuang**	**1.58**	**291**	*e*P	**Pb**	**00**	**55**	**07.9 -0.4**
	baz=289							
SMLT	**Sun Moon Lake**	**1.58**	**264**	*e*P	**Pn**	**00**	**55**	**07.0 +1.0**
	baz=261							
EDH	**Donghe**	**1.62**	**229**	*e*P	**Pb**	**00**	**55**	**08.5 -0.4**
	baz=216							
EDH				*e*S	**Sn**	**00**	**55**	**24.4 -2.0**
	baz=216							
TYC	**Yuchr**	**1.62**	**265**	*e*P	**Pn**	**00**	**55**	**07.4 +1.0**
	baz=262							
JISG	**Ishigakijimahi**	**1.63**	**71**	*e*P	**Pn**	**00**	**55**	**06.4 0.0**
JISG				S	**Sn**	**00**	**55**	**26.1 -0.4**
PCYT	**Pengchaiyu**	**1.64**	**342**	*e*P	**Pn**	**00**	**55**	**06.7 0.0**
	baz=343							
WHYT	**Xinyi Township**	**1.66**	**258**	*e*P	**Pb**	**00**	**55**	**08.7 -0.9**
	baz=246							
ELDTW	**Lidau**	**1.71**	**240**	*e*P	**Pn**	**00**	**55**	**08.1 +0.4**
	baz=237							
ELDTW				*e*S	**Sn**	**00**	**55**	**28.3 -0.4**
	baz=237							
TWQ1	**Liyutan**	**1.71**	**280**	*e*P	**Pb**	**00**	**55**	**09.6 -0.8**
	baz=277							
ALS	**Alishan**	**1.75**	**252**	P	**Pn**	**00**	**55**	**09.8 +1.4**
	baz=249							
ALS				*e*S	**Sn**	**00**	**55**	**31.3 +1.3**
	baz=249							
LONT	**Longtian**	**1.79**	**230**	*e*S	**Sn**	**00**	**55**	**30.1 -0.4**
	baz=220							
CHN5	**Tsauling**	**1.84**	**256**	*e*P	**Pn**	**00**	**55**	**11.4 +1.9**
	baz=243							
CHN5				*e*S	**Sb**	**00**	**55**	**35.1 -0.2**
	baz=243							
WCKO	**Fanlu**	**1.95**	**252**	*e*P	**Pb**	**00**	**55**	**13.6 -0.9**
	baz=249							
WCKO				*e*S	**Sb**	**00**	**55**	**37.8 -0.6**
	baz=249							
TPUB	**Ta-pu**	**1.98**	**248**	*e*P	**Pb**	**00**	**55**	**13.8 -1.2**
	baz=245							
CHN4	**Tsaushan**	**1.99**	**250**	*e*P	**Pb**	**00**	**55**	**14.1 -1.1**
	baz=246							
WTP	**Ta-pu**	**2.01**	**247**	*e*P	**Pn**	**00**	**55**	**13.7 +2.0**
	baz=244							
WRL	**Guolierlin Hig**	**2.06**	**266**	*e*P	**Pn**	**00**	**55**	**14.6 +2.2**
	baz=264							
WRL				*e*S	**Sb**	**00**	**55**	**40.7 -0.9**
	baz=264							
SLGT	**Liugui**	**2.10**	**240**	*e*P	**Pb**	**00**	**55**	**16.0 -1.1**
	baz=228							
CHN1	**Nanshi**	**2.11**	**246**	*e*P	**Pn**	**00**	**55**	**15.4 +2.3**
	baz=243							
TWK	**Hsinying**	**2.11**	**249**	*e*P	**Pn**	**00**	**55**	**15.5 +2.4**
	baz=246							
TWK				*e*S	**Sb**	**00**	**55**	**41.7 -1.3**
	baz=246							
TSMG	**Majia**	**2.26**	**234**	*e*P	**Pb**	**00**	**55**	**18.2 -1.6**
	baz=223							
MASBT	**Mashibuluo**	**2.33**	**232**	*e*P	**Pn**	**00**	**55**	**18.6 +2.5**
	baz=222							
EAST	**Anshuo**	**2.33**	**225**	*e*P	**Pn**	**00**	**55**	**18.3 +2.1**
	baz=221							
SCZT	**Fangliau**	**2.49**	**228**	*e

CHM *e*S **Sn 01 26 47.5 +5.8**
14µm,0.4s
TRKS Terek-Say 1.53 85⇑*e*P Pg 01 26 38.4 +0.8
baz=88
TRKS ⇑*e*S **Sg 01 26 59.9 +2.4**
baz=88
DZI Dzhizak 1.63 217 P Pn 01 26 37.6 +0.7
DZI S **Sb 01 26 59.5 +0.6**
MINT Mingtut 1.70 123 P Pb 01 26 39.3 -0.3
MINT S **Sg 01 27 02.4 -0.6**
BTK Batken 1.88 136 Pb 01 26 42.1 -0.6
BTK Sn **Sb 01 27 06.5 +0.3**
BTK Batken 1.88 136 PN **Pb 01 26 42.1 -0.6**
BTK 01 27 06.5
BTK Batken 1.88 136⇓*i*P Pg 01 26 43.7 -0.6
baz=35
BTK ⇓*i*S **Sg 01 27 07.9 -0.8**
baz=35
NAM Namangan 1.97 102 P Pb 01 26 44.3 +0.2
NAM S **Sg 01 27 10.9 -0.6**
KK31 Karatay Array 1.98 31 Pn **Pb 01 26 44.5 +0.1**
281nm,0.3s,baz=220,slow=16,SNR=3413
KK31 ⇑Sn **Sg 01 27 13.1 +1.2**
1µm,0.5s,baz=217,slow=23,SNR=20
KK31 Karatay Array 1.98 31 Pn Pb 01 26 44.2 -0.1
KK31 Sn **Sb 01 27 09.1 +0.1**
KK31 Karatay Array 1.98 31 PN Pb 01 26 44.4 +0.1
KK31 01 27 13.1
KKAR Karatay Array 1.98 31 Pn **Pb 01 26 44.0 -0.2**
KKAR Karatay Array 1.98 31 Pb 01 26 44.2 -0.2
KKAR Karatay Array 1.98 31 PN **Pb 01 26 44.1 -0.2**
KKAR Karatay Array 1.98 31⇑*i*P Pb 01 26 44.9 +0.6
baz=33
KKAR ⇑*i*S **Sb 01 27 09.7 +0.7**
baz=33
ARK Arkit 2.17 79⇑*i*P Pb 01 26 47.4 -0.3
baz=79
ARK ⇑*i*S **Sg 01 27 16.1 -2.0**
baz=79
DZA Taraz 2.21 48 *e*P Pg 01 26 50.9 +0.2
774nm,0.3s
DZA *e*S **Sg 01 27 18.5 -0.8**
2µm,0.4s
FRG Fergana 2.28 116 P Pb 01 26 48.6 -0.8
FRG S **Sg 01 27 19.5 -2.0**
SAM Samarkand 2.41 224 P Pb 01 26 50.1 -1.5
SAM S **Sb 01 27 22.4 +1.1**
AGL Agalyk 2.55 223 P Pn 01 26 52.1 +2.4
AGL S **Sb 01 27 26.3 +0.8**
TSTA Tashata 2.68 107 P Pb 01 26 54.5 -1.8
TSTA S **Sb 01 27 30.8 +1.6**
NUT Nurota 2.74 253 P Pn 01 26 55.0 +2.8
NUT S **Sb 01 27 31.8 +0.9**
SIMJ Simiganj 2.76 182 Pn **Pn 01 26 54.5 +1.9**
DRK Karamyk 2.82 132⇓*e*P Pb 01 26 56.7 -2.1
baz=32
DRK ⇓*e*S **Sb 01 27 31.1 -2.4**
baz=32
KTAB Kitab 2.85 217 P Pn 01 26 56.4 +2.7
KTAB S **Sb 01 27 34.2 +0.1**
ARSB Arslanbob 2.91 91 Pn **Pn 01 26 56.9 +2.2**
ARSB Arslanbob 2.91 91 PN **Pn 01 26 56.9 +2.2**
ARSB Arslanbob 2.91 91⇑*e*P Pb 01 26 58.1 -2.2
baz=91
ARSB ⇑*e*S **Sb 01 27 33.6 -2.4**
baz=91
OHH Osh 2.92 107⇑*i*P Pb 01 26 58.1 -2.3
baz=6.0
OHH ⇑*i*S **Sb 01 27 33.6 -2.6**
baz=6.0
MRKS Merke 3.34 65 Pg **Pg 01 27 11.2 -1.0**
379nm,0.6s
MRKS Lg Lg 01 27 53.7
498nm,0.3s
MRKS Merke 3.34 65 *e*P Pg 01 27 11.2 -1.0
378nm,0.3s
MRKS *e*S **Sg 01 27 53.7 -1.7**
498nm,0.3s
TMD Tamdy-Bulak 3.37 277 P Pn 01 27 04.5 +3.6
TMD S **Sb 01 27 50.2 +1.2**
AML Almayashu 3.50 77 P Pn 01 27 05.6 +2.6
SNR=76
AML Almayashu 3.50 77 ⇓Pn **Pn 01 27 05.4 +2.4**
0.9nm,0.4s
AML ⇓Pg **Pg 01 27 13.7 -1.6**
35nm,0.6s
AML ⇑Lg Lg 01 28 02.1
68nm,0.6s
AML Almayashu 3.50 77 PN **Pn 01 27 05.4 +2.4**
AML 01 27 13.7
PKMR Pachkamar 3.55 217 P Pn 01 27 06.4 +3.0
PKMR S **Sb 01 27 54.3 0.0**
SFK Sufi-Kurgan 3.62 111⇑*e*P Pn 01 27 07.9 +3.4
baz=11
SFK ⇑*e*S **Sn 01 27 50.6 +3.2**
baz=11
EKS2 Erkin-Say 3.69 69 P Pn 01 27 09.1 +3.8
SNR=16
ARLS Aral 3.93 82⇓*e*P Pn 01 27 12.3 +3.6
baz=82
ARLS ⇓*e*S **Sn 01 27 58.2 +3.3**
baz=82
BUXR Bukhara 4.00 247 P Pn 01 27 12.8 +3.3
BUXR S **Sb 01 28 07.3 +0.2**
UCH Uchtor 4.12 77 P Pn 01 27 14.3 +2.8
SNR=16
AAK Ala-Archa 4.19 71 P Pn 01 27 15.8 +3.5
SNR=31
AAK Ala-Archa 4.19 71 Pn **Pn 01 27 15.6 +3.3**
AAK Ala-Archa 4.19 71 Pn **Pn 01 27 16.0 +3.7**
7.4nm,0.3s,baz=229,slow=4.5,SNR=78
AAK Pg **Pg 01 27 25.8 -2.7**
38nm,0.3s,baz=248,slow=8.8,SNR=42
AAK Sn **Sn 01 28 05.9 +4.6**
17nm,0.3s,baz=197,slow=11,SNR=3.9
AAK Lg Lg 01 28 23.4
36nm,0.3s,baz=141,slow=18,SNR=2.2
AAK LR LR 01 29 16.2
comp=Z,126nm,20.0s,baz=293,slow=44
18nm,0.4s
FRU1 Bishkek 4.33 69 Pn **Pn 01 27 17.5 +3.3**
FRU1 Bishkek 4.33 69 PN **Pn 01 27 17.5 +3.3**
FRU1 Bishkek 4.33 69⇓*e*P Pn 01 27 17.7 +3.5
baz=70
FRU1 ⇓*e*S **Sn 01 28 07.3 +2.6**
baz=70
DZN Dzhankel'dy 4.40 264 P Pn 01 27 18.6 +3.6
DZN S **Sb 01 28 20.3 +1.8**
USP Ospenovka 4.40 63 P Pn 01 27 17.4 +2.4
SNR=18
CHMS Chumysh 4.48 67 P Pn 01 27 18.8 +2.7
SNR=8.6
CHMS Chumysh 4.48 67 ⇑Pn **Pn 01 27 18.4 +2.3**
2.9nm,0.3s
CHMS ⇑Pg **Pg 01 27 31.1 -2.9**
81nm,0.5s
CHMS ⇓Lg Lg 01 28 31.0
159nm,0.5s
GZLY Gazly 4.49 255 P Pn 01 27 19.8 +3.6
GZLY S **Sb 01 28 23.2 +2.0**
KBK Karagaybulak 4.52 72 P Pn 01 27 20.4 +3.6
SNR=34
SGDS Sogindy 4.56 62 Pg **Pg 01 27 32.6 -3.0**
72nm,0.3s
SGDS Lg Lg 01 28 29.5
274nm,0.6s
SGDS Sogindy 4.56 62 *e*Pn **Pn 01 27 19.3 +1.9**
baz=61
SGDS *e*Pg **Pg 01 27 32.7 -2.9**
baz=61
SGDS Sogindy 4.56 62 *e*PN **Pn 01 27 19.2 +1.9**
SGDS *e* 01 27 32.7
TKM2 Tokmak 2 5.05 71 P Pn 01 27 27.2 +3.1
SNR=20
TKM2 Tokmak 2 5.05 71 ⇓Pn **Pn 01 27 26.1 +1.9**
6.6nm,0.4s
TKM2 ⇑Pg **Pg 01 27 40.8 -4.2**
79nm,0.6s
TKM2 ⇑Lg Lg 01 28 49.2
124nm,0.7s
TKM2 Tokmak 2 5.05 71 PN **Pn 01 27 26.0 +1.9**
TKM2 01 27 40.7
BTLS Baital 5.11 43 Pg **Pg 01 27 45.2 -0.9**
94nm,0.6s
BTLS Lg Lg 01 28 51.8
157nm,0.6s
BTLS Baital 5.11 43 *e*Pn **Pn 01 27 26.6 +1.8**
baz=43
BTLS *e*Pb **Pb 01 27 37.9 +0.2**
baz=43
BTLS *e*Pg **Pg 01 27 42.9 -3.2**
baz=43
BTLS Baital 5.11 43 *e*P **Pg 01 27 45.2 -0.9**
94nm,0.4s
BTLS *e*S **Sg 01 28 51.8 -0.4**
157nm,0.3s
BTLS Baital 5.11 43 *e*PN **Pn 01 27 26.5 +1.8**
BTLS *e* 01 27 42.8
NRN Naryn 5.18 88 Pn **Pn 01 27 27.8 +1.8**
NRN Naryn 5.18 88 PN **Pn 01 27 27.8 +1.8**
NRN Naryn 5.18 88⇑*e*P Pn 01 27 29.1 +3.1
baz=88
NRN ⇑*e*S **Sn 01 28 27.2 +1.3**
baz=88
DGS Degeres 5.26 68 Pg **Pg 01 27 45.7 -3.3**
102nm,0.5s
DGS Lg Lg 01 28 54.6
272nm,0.8s
DGS Degeres 5.26 68 *e*P Pg 01 27 45.7 -3.3
102nm,0.3s
DGS *e*S **Sg 01 28 52.5 -4.7**
272nm,0.8s
KST Kastek 5.34 70 Pg **Pg 01 27 48.5 -2.0**
149nm,0.5s
KST Lg Lg 01 28 57.1
235nm,0.6s
KST Kastek 5.34 70 *e*P Pg 01 27 47.3 -3.3
149nm,0.5s
KST *e*S **Sg 01 28 54.9 -4.8**
235nm,0.6s
KRBS Karabastau 5.35 63 Pg **Pg 01 27 48.5 -2.3**
77nm,0.6s
KRBS Lg Lg 01 28 57.1
KRBS Karabastau 5.35 63 *e*P Pg 01 27 48.5 -2.3
81nm,0.4s
KRBS *e*S **Sg 01 28 57.1 -3.0**
84nm,0.4s
ULHL Ulahol 5.39 79 P **Pn 01 27 32.1 +3.2**
SNR=19
KSH Kashi 5.57 108 Pn **Pn 01 27 31.6 +0.4**
KSH Sn **Sn 01 28 35.1 -0.1**
KSH pmax pmax
comp=Z,20nm,0.4s
KSH smax smax
comp=N,170nm,0.9s
KSH smax smax
comp=E,120nm,0.9s
MTBS Maitube 5.69 70 Pg **Pg 01 27 53.8 -3.5**
comp=E,65nm,0.5s
MTBS Lg Lg 01 29 05.8
comp=E,138nm,0.6s
MTBS Maitube 5.69 70 *e*P Pg 01 27 53.8 -3.5
comp=E,65nm,0.5s
MTBS *e*S **Sg 01 29 05.8 -5.1**
comp=E,138nm,0.6s
KUU Kurty 5.87 63 Pg **Pg 01 27 57.9 -2.8**
comp=E,89nm,0.5s
KUU Lg Lg 01 29 13.0
comp=E,121nm,0.6s
KUU Kurty 5.87 63 *e*Pn **Pn 01 27 36.3 +1.0**
baz=62
KUU *e*Pg **Pg 01 27 56.7 -4.0**
baz=62
KUU Kurty 5.87 63 *e*P Pg 01 27 57.9 -2.8
comp=E,90nm,0.4s
KUU *e*S **Sg 01 29 13.0 -3.8**
comp=E,121nm,0.6s
KUU Kurty 5.87 63 *e*PN **Pn 01 27 36.2 +1.0**
KUU *e* 01 27 56.7
TNSS Tian-Shan 6.04 72 Pg **Pg 01 28 00.2 -3.6**
comp=E,51nm,0.7s
TNSS Lg Lg 01 29 21.0
comp=E,40nm,0.7s
TNSS Tian-Shan 6.04 72 *e*Pn **Pn 01 27 40.4 +2.5**
baz=71
TNSS *e*Pg **Pg 01 28 00.3 -3.6**
baz=71
TNSS Tian-Shan 6.04 72 *e*P Pg 01 28 00.2 -3.6
comp=E,51nm,0.7s
TNSS *e*S **Sg 01 29 16.9 -5.2**
comp=E,40nm,0.7s
TNSS Tian-Shan 6.04 72 *e*PN **Pn 01 27 40.3 +2.5**
TNSS *e* 01 28 00.3
KTBS Karatobe 6.04 65 Pg **Pg 01 28 00.2 -3.7**
comp=E,64nm,0.6s
KTBS Lg Lg 01 29 17.1
comp=E,1.2nm,0.9s
KTBS Karatobe 6.04 65 *e*P Pg 01 28 00.2 -3.7
comp=E,64nm,0.6s
KTBS *e*S **Sg 01 29 17.1 -5.1**
comp=E,288nm,0.4s
AAA Alma-Ata 6.05 70 Pg **Pg 01 28 01.3 -2.9**
comp=E,126nm,0.5s
AAA Lg Lg 01 29 20.8
comp=E,92nm,0.5s
AAA Alma-Ata 6.05 70 *e*Pn **Pn 01 27 39.6 +1.7**
baz=70
AAA *e*Pg **Pg 01 27 59.9 -4.3**
baz=70
AAA Alma-Ata 6.05 70 *e*P Pg 01 28 01.9 -2.3
comp=E,125nm,0.3s
AAA *e*S **Sg 01 29 20.8 -1.8**
comp=E,92nm,0.2s
AAA Alma-Ata 6.05 70 *e*PN **Pn 01 27 39.5 +1.7**
AAA *e* 01 27 59.9
KDJ Kajisay 6.07 81⇓*e*P Pn 01 27 41.6 +3.4
baz=81
KDJ ⇓*e*S **Sn 01 28 49.3 +1.5**
baz=81
KNDC Almaty 6.09 70 ⇓Pg **Pg 01 28 01.6 -3.3**
comp=E,187nm,0.7s
KNDC ⇑Lg Lg 01 29 25.2
comp=E,437nm,0.9s
MDOK Medeo 6.14 71 Pg **Pg 01 28 01.3 -4.5**
comp=E,72nm,0.7s
MDOK Lg Lg 01 29 18.7
comp=E,120nm,0.6s
MDOK Medeo 6.14 71 *e*Pn **Pn 01 27 41.8 +2.7**
baz=70
MDOK *e*Pg **Pg 01 28 01.0 -4.8**
baz=70
MDOK *e*Lg Lg 01 29 25.8
baz=70
MDOK Medeo 6.14 71 *e*P Pg 01 28 01.3 -4.5
comp=E,72nm,0.7s
MDOK *e*S **Sg 01 29 18.7 -6.5**
comp=E,120nm,0.6s
MDOK Medeo 6.14 71 *e*PN **Pn 01 27 41.7 +2.7**
MDOK *e* 01 28 01.0
KOTS Kotyrbulak 6.20 70 Pg **Pg 01 28 03.4 -3.6**
comp=E,66nm,0.7s
KOTS Lg Lg 01 29 22.7
comp=E,208nm,0.8s
KOTS Kotyrbulak 6.20 70 *e*P Pg 01 28 03.4 -3.6
comp=E,66nm,0.7s
KOTS *e*S **Sg 01 29 22.7 -4.6**
comp=E,208nm,0.8s
CHKK Chushkaly 6.30 65 Pg **Pg 01 28 05.6 -3.3**
comp=E,33nm,0.5s
CHKK Lg Lg 01 29 26.5
comp=E,114nm,0.7s
CHKK Chushkaly 6.30 65 *e*Pn **Pn 01 27 43.3 +2.2**
baz=64
CHKK *e*Pg **Pg 01 28 04.4 -4.4**
baz=64
CHKK Chushkaly 6.30 65 *e*P Pg 01 28 05.6 -3.3
comp=E,33nm,0.5s
CHKK *e*S **Sg 01 29 26.5 -3.9**
comp=E,114nm,0.7s
CHKK Chushkaly 6.30 65 *e*PN **Pn 01 27 43.3 +2.2**
CHKK *e* 01 28 04.4
ANVS Anan'yevo 6.51 75⇑*e*P Pn 01 27 47.3 +3.2
baz=75
ANVS ⇑*e*S **Sn 01 28 59.0 +0.5**
baz=75
TARG Taragay, Kyrgy 6.53 84 Pn 01 27 47.4 +2.8
TARG Taragay, Kyrgy 6.53 84 PN **Pn 01 27 47.4 +2.8**
KBL Kabul 6.87 180 Pn **Pn 01 27 50.4 +1.3**
KBL Kabul 6.87 180 PN **Pn 01 27 50.4 +1.3**
ARXS Arharly 6.99 64 Pg **Pg 01 28 17.8 -4.3**
comp=E,40nm,0.7s
ARXS Lg Lg 01 29 47.6
comp=E,120nm,0.7s
ARXS Arharly 6.99 64 *e*P Pg 01 28 19.2 -2.8
comp=E,54nm,0.7s
ARXS *e*S **Sg 01 29 49.4 -3.1**
comp=E,119nm,0.3s
PRZ Przheval'sk 7.01 78 Pn **Pn 01 27 53.0 +2.0**
PRZ Przheval'sk 7.01 78 PN **Pn 01 27 53.0 +2.0**
KURS Kuram 7.01 70 Pg **Pg 01 28 17.8 -4.7**
comp=E,20nm,0.5s
KURS Lg Lg 01 29 47.1
comp=E,59nm,0.8s
KURS Kuram 7.01 70 *e*P Pg 01 28 17.8 -4.7
comp=E,20nm,0.5s
KURS *e*S **Sg 01 29 47.0 -6.2**
comp=E,59nm,0.8s
SATY Saty 7.09 74 Pg **Pg 01 28 20.4 -3.5**
comp=E,60nm,0.9s
SATY Lg Lg 01 29 51.5
comp=E,92nm,0.4s
SATY Saty 7.09 74 *e*Pn **Pn 01 27 53.9 +1.8**
baz=73
SATY *e*Pg Pg 01 28 19.0 -5.0
baz=73
SATY Saty 7.09 74 *e*P Pg 01 28 20.4 -3.5
comp=E,60nm,0.9s
SATY *e*S **Sg 01 29 51.5 -4.3**
comp=E,92nm,0.4s
SATY Saty 7.09 74 *e*PN **Pn 01 27 53.8 +1.8**
SATY *e* 01 28 18.9
ZHN Zhinishke 7.13 73 Pg **Pg 01 28 24.7 -0.1**
comp=E,21nm,0.7s
ZHN Lg Lg 01 29 58.2
comp=E,30nm,0.4s
ZHN Zhinishke 7.13 73 *e*Pn **Pn 01 27 54.3 +1.7**
baz=72
ZHN *e*Pg Pg 01 28 19.8 -4.9
baz=72
ZHN Zhinishke 7.13 73 *e*P Pg 01 28 21.6 -3.1
comp=E,21nm,0.3s
ZHN *e*S **Sg 01 29 53.7 -3.4**
comp=E,30nm,0.4s
ZHN Zhinishke 7.13 73 *e*P Pn 01 27 54.3 +1.7
KPKS Kokpek 7.37 71 Pg **Pg 01 28 23.6 -5.7**
comp=E,53nm,0.8s
KPKS Lg Lg 01 29 57.3
comp=E,106nm,0.4s
KPKS Kokpek 7.37 71 *e*Pn **Pn 01 27 57.1 +1.2**
baz=70
KPKS *e*Pg Pg 01 28 23.6 -5.7
baz=70
KPKS Kokpek 7.37 71 *e*P Pg 01 28 23.6 -5.7
comp=E,53nm,0.8s
KPKS *e*S **Sg 01 29 57.3 -7.4**
comp=E,107nm,0.3s
KPKS Kokpek 7.37 71 *e*P Pn 01 27 57.1 +1.2
BLB Baldybastay 7.39 66 Pg **Pg 01 28 25.2 -4.6**
comp=E,61nm,0.5s
BLB Lg Lg 01 30 00.4
comp=E,78nm,0.6s
UZB Uzynbulak 7.55 73 Pg **Pg 01 28 28.9 -3.8**
comp=E,19nm,0.8s
UZB Lg Lg 01 30 07.8
comp=E,53nm,1.0s
UZB Uzynbulak 7.55 73 *e*Pn **Pn 01 28 00.4 +2.0**
baz=73
UZB *e*Pg Pg 01 28 27.0 -5.7
baz=73
UZB Uzynbulak 7.55 73 *e*P Pg 01 28 28.9 -3.8
comp=E,19nm,0.8s
UZB *e*S **Sg 01 30 07.8 -2.7**
comp=E,53nm,1.0s
UZB Uzynbulak 7.55 73 *e*P Pn 01 28 00.4 +2.0
TDK Taldyqorghan 7.67 59 Pg **Pg 01 28 33.5 -1.7**
comp=E,236nm,0.6s
TDK Lg Lg 01 30 12.7
comp=E,328nm,0.7s
TDK Taldyqorghan 7.67 59 *e*Pn **Pn 01 28 02.3 +2.3**
baz=59
TDK *e*Pg Pg 01 28 29.3 -5.8
baz=59
TDK *e*Lg Lg 01 30 15.4
baz=59
TDK Taldyqorghan 7.67 59 *e*P Pg 01 28 32.2 -3.0
comp=E,236nm,0.6s
TDK *e*S **Sg 01 30 12.7 -1.7**
comp=E,328nm,0.7s
TDK Taldyqorghan 7.67 59 *e*P Pn 01 28 02.3 +2.3
SHLS Shalkode 7.87 74 Pg **Pg 01 28 40.6 +1.8**
comp=E,42nm,0.6s
SHLS Lg Lg 01 30 26.0
comp=E,40nm,0.6s
SHLS Shalkode 7.87 74 *e*Pg **Pg 01 28 38.2 -0.7**
baz=74
SHLS Shalkode 7.87 74 *e*P Pg 01 28 40.6 +1.8
comp=E,42nm,0.6s
SHLS *e*S **Sg 01 30 26.0 +5.3**
comp=E,40nm,0.6s
PDGK Podgornoye 7.92 73 Pg **Pg 01 28 37.4 -2.4**
comp=E,17nm,0.6s
PDGK Lg Lg 01 30 20.6
comp=E,27nm,0.8s
PDGK Podgornoye 7.92 73 ⇓Lg Lg 01 30 25.9
comp=E,63nm,0.8s
KNOS Konyrlen 7.95 65 Pg **Pg 01 28 35.9 -4.7**
comp=E,43nm,0.8s
KNOS Lg Lg 01 30 20.6
comp=E,64nm,0.5s
DJR Jarkent 8.36 66 Pg Pg 01 28 41.7 -6.6
comp=E,13nm,0.5s
DJR Lg Lg 01 30 28.4
comp=E,55nm,0.9s
DJR Jarkent 8.36 66 *e*P Pg 01 28 43.7 -4.6
comp=E,9.3nm,0.4s
DJR *e*S **Sg 01 30 31.3 -5.3**
comp=E,38nm,0.6s
KAPS Kapalarasan 8.40 59 Pg **Pg 01 28 45.6 -3.5**
comp=E,18nm,0.5s
KAPS Lg Lg 01 30 34.9
comp=E,89nm,0.6s
KAPS Kapalarasan 8.40 59 *e*P Pg 01 28 45.6 -3.5
comp=E,18nm,0.5s
KAPS *e*S **Sg 01 30 34.9 -3.0**
comp=E,89nm,0.6s
NIL Nilore 8.42 156 Pn **Pn 01 28 10.8 +0.5**
NIL Nilore 8.42 156 P **Pn 01 28 10.8 +0.5**
KTMS Ketmen 8.56 73 Pg **Pg 01 28 47.5 -4.5**
comp=E,8.6nm,0.6s
KTMS Lg Lg 01 30 38.2
comp=E,14nm,0.8s
KTMS Ketmen 8.56 73 *e*P Pg 01 28 47.5 -4.5
comp=E,8.6nm,0.6s
KTMS *e*S **Sg 01 30 38.2 -4.6**
comp=E,14nm,0.8s
HRA Herat 8.87 220 Pn **Pn 01 28 15.4 -1.2**
BRZS Berezniki 8.92 15 *e*Pn **Pn 01 28 18.7 +1.6**
baz=16
BRZS Berezniki 8.92 15 *e*P Pn 01 28 18.6 +1.6
GEYT Alibeck 9.16 251 Pn **Pn 01 28 19.8 -0.7**
GEYT Alibeck 9.16 251 P **Pn 01 28 19.8 -0.7**
GEYT Alibeck 9.16 251 Pn **Pn 01 28 17.6 -2.9**
comp=E,3.8nm,0.3s,baz=74,slow=11,SNR=38
GEYT Sn **Sn 01 29 57.2 -6.4**
comp=E,18nm,0.3s,baz=263,slow=35,SNR=4.5
GEYT LR LR 01 31 57.4
comp=E,42nm,21.4s,baz=128,slow=39
comp=E,11nm,0.5s
GYA0B ALIBECK ARRAY 9.16 251 Pn **Pn 01 28 19.8 -0.7**
AB31 Akbulak array 10.15 324 ⇑Pn **Pn 01 28 31.9 -1.9**
comp=E,5.6nm,0.5s,baz=147,slow=12,SNR=222
AB31 ⇑Sn Sn 01 30 18.1 -9.5
comp=E,20nm,0.6s,baz=246,slow=38,SNR=5.3
AB31 Akbulak array 10.15 324 *e*P **Pn 01 28 31.9 -1.9**
AB31 01 30 18.0
ABKAR Akbulak array 10.15 324 Pn **Pn 01 28 31.6 -2.2**
ABKAR Akbulak array 10.15 324 Pn **Pn 01 28 31.8 -2.0**
MAKZ Makanchi 10.70 55 ⇑Pn **Pn 01 28 41.5 +0.1**
comp=E,4.7nm,0.6s
MAKZ ⇑Lg Lg 01 31 51.4
comp=E,30nm,0.7s
MAKZ Makanchi 10.70 55 Pn **Pn 01 28 41.9 +0.5**
MAKZ Makanchi 10.70 55 P **Pn 01 28 41.9 +0.5**
MK31 Makanchi Array 10.89 56 Pn **Pn 01 28 45.4 +1.4**
comp=E,0.5nm,0.4s,baz=244,slow=15,SNR=102
MK31 ⇑Lg Lg 01 31 54.7
comp=E,16nm,0.7s
MK31 Makanchi Array 10.89 56 Pn **Pn 01 28 44.8 +0.7**
MK31 Makanchi Array 10.89 56 *i*P **Pn 01 28 45.4 +1.4**
MKAR Makanchi Array 10.89 56 Pn **Pn 01 28 44.8 +0.7**

MKAR Makanchi Array 10.89 56 Pn **Pn** **01 28 45.6 +1.6**
comp=E,0.4nm,0.3s,baz=242,slow=15,SNR=15
MKAR Lg Lg 01 31 54.2
comp=E,1.2nm,0.3s,baz=258,slow=25,SNR=1.8
MKAR LR LR 01 33 20.2
comp=E,113nm,18.0s,baz=280,slow=39
comp=E,1.4nm,0.5s
KURBB Kurchatov Arra 11.29 32 ⇓Pn **Pn** **01 28 49.5 +0.1**
comp=E,6.2nm,0.7s
KURBB ⇓Lg Lg 01 32 05.9
comp=E,119nm,0.7s
KURBB Kurchatov Arra 11.29 32 P **Pn** **01 28 49.4 +0.1**
KURBB Kurchatov Arra 11.29 32 Pn **Pn** **01 28 49.2 -0.2**
comp=E,0.2nm,0.3s,baz=223,slow=13,SNR=11
KURBB Sn **Sn** **01 31 01.0 +5.5**
comp=E,0.2nm,0.3s,baz=226,slow=17,SNR=4.7
KURBB Lg Lg 01 32 08.7
comp=E,0.6nm,0.3s,baz=222,slow=29,SNR=13
KURBB LR LR 01 33 41.7
comp=E,104nm,19.9s,baz=150,slow=40
comp=E,0.7nm,0.3s
KURK Kurchatov 11.39 32 Pn **Pn** **01 28 50.4 -0.5**
KURK Kurchatov 11.39 32 *i* P **Pn** **01 28 50.5 -0.4**
BVA0 Borovoye Array 11.64 4 ⇑Pn **Pn** **01 28 53.4 -0.9**
comp=E,5.7nm,0.6s,baz=172,slow=14,SNR=46
BVA0 Borovoye Array 11.64 4 *i* P **Pn** **01 28 53.4 -0.9**
BVAR Borovoye Array 11.64 4 Pn **Pn** **01 28 53.8 -0.5**
comp=E,0.2nm,0.3s,baz=169,slow=13,SNR=34
BVAR Sn Sn 01 30 53.4 -11
comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=1.6
BVAR LR LR 01 34 06.8
comp=E,58nm,19.1s,baz=218,slow=41
comp=E,4.9nm,0.6s
BRVK Borovoye 11.67 3 ⇑Pn **Pn** **01 28 53.1 -1.6**
comp=E,7.3nm,0.5s
BRVK ⇑Sn **Sn** **01 31 01.3 -3.6**
comp=E,13nm,0.6s
BRVK Borovoye 11.67 3 Pn **Pn** **01 28 53.4 -1.3**
BRVK Borovoye 11.67 3 P **Pn** **01 28 53.0 -1.6**
BRVK 01 31 01.2
AKTO Aktyubinsk 11.86 323 Pn **Pn** **01 28 55.5 -1.8**
comp=E,0.6nm,0.3s,baz=128,slow=14,SNR=9.1
AKTO Sn **Sn** **01 31 01.6 -8.0**
comp=E,3.3nm,0.3s,baz=2.8,slow=18,SNR=7.0
comp=E,2.6nm,0.3s
SEM Semipalatinsk 11.86 37 *e*Pn **Pn** **01 28 59.4 +1.9**
baz=37
SEM Semipalatinsk 11.86 37 *e*P **Pn** **01 28 59.4 +1.9**
WMQ Urumqi 13.89 74 *e*P **P** **01 29 29.9 -3.5**
DGZ Jazzator, Alta 15.24 51 *i* P **Pn** **01 29 44.2 +0.7**
ZAA0 Zalesovo Array 16.35 35 Pn **Pn** **01 29 57.9 +0.3**
ZALV Zalesovo Beam 16.35 35 Pn **Pn** **01 29 56.8 -0.8**
ZALV Zalesovo Beam 16.35 35 *i* P **P** **01 30 02.5 +2.0**
ZALV pmax pmax
comp=E,4.0nm,0.5s
ZALV Zalesovo Beam 16.35 35 Pn **Pn** **01 29 57.6 0.0**
comp=E,0.4nm,0.3s,baz=238,slow=14,SNR=5.7
ZALV Sn **Sn** **01 32 51.6 -7.2**
comp=E,0.2nm,0.3s,baz=220,slow=24,SNR=1.9
ZALV LR LR 01 36 44.2
comp=Z,67nm,18.8s,baz=6.0,slow=39
comp=Z,2.0nm,0.4s
SVE Sverdlovsk 16.37 343 *e*P **Pn** **01 29 55.5 -2.3**
SVE *e*S **Sn** **01 32 55.7 -3.6**
SVE pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 16.51 339 Pn **Pn** **01 29 57.8 -1.9**
ARU Arti 16.51 339 *c i*P **Pn** **01 29 57.6 -2.1**
ARU S **Sn** **01 33 01.7 -1.1**
ARU pmax pmax
comp=Z,10.0nm,1.5s
ARU Arti 16.51 339 Pn **Pn** **01 29 57.5 -2.2**
comp=Z,0.9nm,0.3s,baz=128,slow=9.2,SNR=5.2
ARU Sn **Sn** **01 32 53.6 -9.2**
comp=Z,0.4nm,0.3s,baz=107,slow=19,SNR=1.5
comp=Z,2.5nm,0.3s
BELG Belogornoye 18.26 314 *i* P **Pn** **01 30 19.2 -2.2**
BELG pmax pmax
comp=Z,2.0nm,0.6s
BELG Belogornoye 18.26 314 P **Pn** **01 30 18.6 -2.8**
comp=Z,7.5nm,0.4s,baz=139,slow=19,SNR=13
GNI Garni 18.49 274 P **P** **01 30 22.1 -2.3**
comp=Z,0.2nm,0.3s,baz=221,slow=19,SNR=1.2
comp=Z,3.6nm,0.9s
ZEI Tsey 18.74 283 *e*P **P** **01 30 27.0 -0.2**
ZEI pmax pmax
comp=Z,3.0nm,0.7s
NCK Nalchik 18.92 285 *i* P **P** **01 30 28.9 -0.1**
NCK pmax pmax
comp=Z,37nm,1.7s
ONI Oni 19.09 282 P **P** **01 30 30.9 +0.1**
ONI Oni 19.09 282 P **P** **01 30 31.0 +0.1**
ONI pmax pmax
comp=Z,6.0nm,0.9s
AKH Akhalkalaki 19.20 278 P **P** **01 30 32.3 0.0**
AKH IAmb IAmb 01 30 39.6
comp=Z,18nm,0.8s
AKH Akhalkalaki 19.20 278 P **P** **01 30 32.3 0.0**
AKH pmax pmax
comp=Z,18nm,0.8s
PYA1 Pyatigorsk 19.27 287 *i* P **P** **01 30 32.1 -0.7**
KBZ Khabaz 19.42 286 *i* P **P** **01 30 34.3 -0.1**
KBZ pmax pmax
comp=Z,16nm,2.2s
KBZ Khabaz 19.42 286 P **P** **01 30 33.5 -1.0**
comp=Z,0.3nm,0.3s,baz=154,slow=4.8,SNR=9.9
comp=Z,1.5nm,0.5s
KVAR Kislovodsk Arr 19.56 286 P **P** **01 30 36.5 +0.4**
baz=270,slow=20
comp=Z,2.6nm,0.4s
KIV Kislovodsk 19.56 286 P **P** **01 30 36.7 +0.6**
KIV IAmb IAmb 01 30 43.1
comp=Z,11nm,0.6s
KIV Kislovodsk 19.56 286 *e*P **P** **01 30 36.5 +0.4**
KIV pmax pmax
comp=Z,12nm,1.0s
SHA1 Shidzhatmaz 19.59 286 *i* P **P** **01 30 37.0 +0.4**
ARXR Arkhyz 20.61 285 *i* P **P** **01 30 47.7 +0.2**
GURO Guroymak-BITLI 20.92 271 P **P** **01 30 50.1 -0.8**
VRH Novokhopyorsk 21.19 307 *e*P **P** **01 30 52.1 -1.4**
VRH pmax pmax
comp=Z,30nm,0.6s
KIRV Kirov 21.20 331 P **P** **01 30 56.2 +2.6**
comp=Z,10nm,0.5s,baz=109,slow=1.2,SNR=5.5
comp=Z,10nm,0.5s
SOC Sochi 21.73 286 *e*P **P** **01 30 56.9 -2.6**
SOC *e*PPP PPP 01 31 24.8
SOC *e*S **S** **01 34 53.9 -5.9**
SOC *e*SSS SSS 01 35 34.9
SOC pmax pmax
comp=Z,21nm,1.0s
LPSR Galich'ya Gora 23.25 309 *e*P **P** **01 31 14.8 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
GTA Gaotai 23.41 85 *e*P **P** **01 31 21.1 +3.8**
GTA pP sP 01 31 24.8 +2.7
GTA pmax pmax
comp=Z,2.0nm,0.8s
SHL Shillong 24.60 123 P **P** **01 31 28.9 +0.2**
SHL IAmb IAmb 01 31 34.4
comp=Z,9.3nm,0.8s
SHL Shillong 24.60 123 P **P** **01 31 28.9 +0.2**
SHL pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 25.35 314 ⇑*e*P **P** **01 31 33.5 -1.5**
OBN *e* 01 32 07.7
OBN pmax pmax
comp=Z,12nm,1.5s
OBN MLR MLR
comp=Z,115nm,15.0s
KLMR Klimovskoe 26.51 327 *e*P **P** **01 31 39.6 -5.9**
KLMR pmax pmax
comp=Z,23nm,1.8s
BR131 Keskin Array S 26.89 278 P **P** **01 31 52.8 +3.5**
BR131 Keskin Array S 26.89 278 P **P** **01 31 52.8 +3.5**
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 26.89 278 P **P** **01 31 49.7 +0.4**
comp=Z,1.7nm,0.7s,baz=87,slow=6.4,SNR=5.6
comp=Z,1.7nm,0.7s
SONM Songino Array 27.10 64 P **P** **01 31 52.5 +1.4**
comp=Z,0.8nm,0.8s,baz=265,slow=10,SNR=8.2
comp=Z,0.8nm,0.8s
AKASG Malin Array Be 28.88 302 *ce*P P 01 32 12.3 +5.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s

AKASG Malin Array Be 28.88 302 P **P** **01 32 06.6 -0.2**
comp=Z,0.1nm,0.3s,baz=77,slow=7.5,SNR=2.6
comp=Z,0.1nm,0.3s
AKBB Malin Array Si 28.88 302 P **P** **01 32 07.4 +0.6**
AKBB IAmb IAmb 01 32 25.9
comp=Z,8.6nm,1.4s
AKBB Malin Array Si 28.88 302 P **P** **01 32 07.4 +0.6**
AKBB pmax pmax
comp=Z,9.0nm,1.4s
KIEV Kiev 28.89 302 P **P** **01 32 07.3 +0.4**
KIEV IAmb IAmb 01 32 25.9
comp=Z,7.0nm,1.4s
KIEV Kiev 28.89 302 P **P** **01 32 07.3 +0.4**
KIEV pmax pmax
comp=Z,7.0nm,1.4s
PZH PanZhiHua 30.67 109 P **P** **01 32 25.4 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
BURAR Bucovina Array 31.57 296 P **P** **01 32 30.4 -0.4**
HHC Hu-ho-hao-te 31.75 77 *e*P **P** **01 32 35.8 +3.4**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.8s
FIA1 FINESS Array S 32.63 323 P **P** **01 32 39.9 +0.2**
FINES FINESS Array B 32.63 323 P **P** **01 32 39.6 -0.1**
FINES FINESS Array B 32.63 323 P **P** **01 32 40.4 +0.6**
comp=Z,2.0nm,0.3s,baz=115,slow=8.9,SNR=45
comp=Z,2.0nm,0.3s
KOLS Kolonicke sedl 33.41 299 *e*P **P** **01 32 48.4 +1.6**
KOLS Kolonicke sedl 33.41 299 *e*P **P** **01 32 48.4 +1.6**
CRVS Cervenica-Dubn 33.95 299 *e*P **P** **01 32 55.3 +3.8**
CRVS Cervenica-Dubn 33.95 299 *e*P **P** **01 32 55.3 +3.8**
VYHS Vyhne 35.73 299 *e*P **P** **01 33 08.4 +1.6**
VYHS Vyhne 35.73 299 *e*P **P** **01 33 08.4 +1.6**
ARCES ARCESS Array B 36.05 336 P **P** **01 33 09.9 +0.6**
ARCES IAmb IAmb 01 33 11.1
comp=Z,7.4nm,0.8s
ARCES ARCESS Array B 36.05 336 P **P** **01 33 09.9 +0.6**
comp=Z,5.6nm,0.6s,baz=107,slow=8.2,SNR=29
comp=Z,5.6nm,0.6s
VRAC Vranov 37.08 301 LR LR 01 52 27.9
comp=Z,74nm,18.1s,baz=340,slow=43
HFS Hagfors 38.35 318 P **P** **01 33 29.1 +0.1**
comp=Z,3.5nm,0.3s,baz=104,slow=9.3,SNR=52
comp=Z,3.5nm,0.3s
GERES GERESS Array B 39.03 300 P **P** **01 33 36.1 +1.2**
comp=Z,0.5nm,0.5s,baz=66,slow=9.8,SNR=3.5
comp=Z,0.5nm,0.5s
NC405 NORSAR Array S 39.38 320 P **P** **01 33 37.0 -0.6**
NC405 IAmb IAmb 01 33 54.8
comp=Z,20nm,1.3s
NB2 NORSAR Subarra 39.62 320 P **P** **01 33 39.5 -0.1**
comp=Z,1.2nm,0.6s,baz=93,slow=8.6
NOA NORSAR Array B 39.62 320 P **P** **01 33 39.9 +0.3**
comp=Z,2.4nm,0.7s,baz=106,slow=6.5,SNR=8.1
comp=Z,2.4nm,0.7s
SABO M.te Sabotino 39.70 296 P **P** **01 33 40.1 -0.4**
SABO IAmb IAmb 01 33 45.1
comp=Z,23nm,1.5s
NC204 NORSAR Array S 39.85 320 P **P** **01 33 41.9 +0.3**
NC204 IAmb IAmb 01 33 49.1
comp=Z,8.6nm,1.1s
NJ2 Nanjing 40.47 87 *e*P **P** **01 33 49.1 +2.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,5.7s
YAK Yakutsk 40.94 39 *e*P **P** **01 33 51.4 +1.0**
YAK *e* 01 35 51.1
YAK *e*S **S** **01 40 04.3 +2.6**
YAK *e**SS **sS** **01 40 10.1 +2.5**
YAK *e*SS **SS** **01 43 06.4 +3.4**
YAK *e* 01 43 58.2
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=Z,271nm,5.3s
YAK pmax pmax
comp=N,226nm,4.9s
YAK smax smax
comp=E,111nm,5.6s
YAK smax smax
comp=N,105nm,4.9s
TIXI Tiksi 41.83 24 P **P** **01 33 58.3 +0.7**
TIXI Tiksi 41.83 24 *ce*P **P** **01 33 58.3 +0.7**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
SPITS Spitsbergen Ar 42.37 346 P **P** **01 34 02.8 +0.8**
comp=Z,2.5nm,0.5s,baz=131,slow=10,SNR=10
comp=Z,2.5nm,0.5s
MDJ Mudanjiang 43.45 65 P **P** **01 34 12.4 +1.3**
MDJ pmax pmax
comp=Z,17nm,2.2s
MDJ pmax pmax
comp=Z,390nm,6.0s
KLR Kul'dur 43.59 58 *i* P **P** **01 34 12.9 +0.7**
KLR pmax pmax
comp=Z,1.0nm,0.8s
BNI Bardonecchia 44.64 297 P **P** **01 34 20.7 -0.2**
BNI Bardonecchia 44.64 297 P **P** **01 34 20.7 -0.2**
BNI pmax pmax
comp=Z,21nm,1.4s
EKA Eskdalemuir Ar 47.80 313 P **P** **01 34 45.6 +0.2**
comp=Z,2.0nm,0.6s,baz=86,slow=8.0,SNR=7.8
comp=Z,2.0nm,0.6s
SEY Seymchan 51.22 36 *i* P **P** **01 35 12.2 +0.9**
ESDC Sonseca Array 53.98 294 P **P** **01 35 31.6 -0.6**
comp=Z,0.5nm,0.6s,baz=65,slow=7.4,SNR=5.8
comp=Z,0.5nm,0.6s
SUMG Summit 55.94 340 P **P** **01 35 47.0 +0.6**
SUMG Summit 55.94 340 P **P** **01 35 47.0 +0.6**
B20K Meade River 63.89 16 P **P** **01 36 41.6 +1.1**
B20K IAmb IAmb 01 36 42.6
comp=Z,3.6nm,0.8s
B22K Teshekpuk Lake 64.37 15 P **P** **01 36 45.0 +1.4**
TORD Torodi Ar. Bea 64.51 265 P **P** **01 36 43.7 -1.7**
TORD Torodi Ar. Bea 64.51 265 P **P** **01 36 44.3 -1.1**
comp=Z,1.5nm,0.6s,baz=46,slow=7.5,SNR=9.1
comp=Z,1.5nm,0.6s
B21K Ikpikpuk River 64.73 16 P **P** **01 36 47.4 +1.4**
B21K IAmb IAmb 01 36 48.1
comp=Z,6.8nm,1.1s
D19K Kuna River 64.89 17 P **P** **01 36 48.1 +0.9**
D19K IAmb IAmb 01 36 48.8
comp=Z,3.6nm,0.8s
D22K Ayikyak River 65.73 15 P **P** **01 36 52.8 +0.2**
D22K IAmb IAmb 01 36 59.4
comp=Z,7.9nm,1.2s
A36M Sachs Harbour 66.44 5 P **P** **01 36 57.3 +0.3**
D25K Kavik River 66.51 13 P **P** **01 36 58.7 +1.1**
D25K IAmb IAmb 01 37 03.5
comp=Z,8.1nm,1.4s
H17K Granite Mounta 67.28 20 P **P** **01 37 03.4 +0.9**
H17K IAmb IAmb 01 37 13.4
comp=Z,2.4nm,1.1s
D27M Malcolm River 67.43 11 P **P** **01 37 04.6 +1.1**
E25K Arctic Village 67.72 13 P **P** **01 37 05.8 +0.6**
E25K IAmb IAmb 01 37 07.9
comp=Z,3.9nm,1.1s
IMAR Indian Mountai 67.93 17 P **P** **01 37 07.0 +0.5**
E28M Babbage River 68.23 11 P **P** **01 37 09.4 +1.0**
BMAR Burnt Mountain 68.51 13 P **P** **01 37 11.8 +1.6**
E29M Blow River 68.66 10 P **P** **01 37 12.0 +1.0**
E29M IAmb IAmb 01 37 13.3
comp=Z,3.6nm,0.7s
F28M Old Crow 69.10 11 P **P** **01 37 14.0 +0.2**
C36M Paulatuk 69.12 5 P **P** **01 37 14.2 +0.3**
INK Inuvik 69.28 9 P **P** **01 37 15.8 +0.9**
INK Inuvik 69.28 9 P **P** **01 37 15.9 +0.9**
INK pmax pmax
comp=Z,9.0nm,1.3s
J20K Nowinta River 69.35 19 P **P** **01 37 16.3 +0.9**
J20K IAmb IAmb 01 37 17.3
comp=Z,6.3nm,1.1s
K17K Iditarod 69.49 21 P **P** **01 37 17.2 +0.8**
K17K IAmb IAmb 01 37 23.9
comp=Z,5.1nm,1.1s
L16K Owhat River 69.97 22 P **P** **01 37 20.7 +1.4**
F31M Tsiigehtchic 70.08 9 P **P** **01 37 20.9 +1.0**
G31M Satah River 70.52 10 P **P** **01 37 23.1 +0.6**
G31M IAmb IAmb 01 37 33.6
comp=Z,4.8nm,1.4s
H29M Whitestone 70.62 11 P **P** **01 37 24.4 +1.2**
H29M IAmb IAmb 01 37 29.1
comp=Z,4.0nm,0.7s
I28M Miner Creek 71.09 12 P **P** **01 37 26.9 +0.7**
I28M IAmb IAmb 01 37 27.7
comp=Z,2.8nm,0.7s
SKT Skwentna 71.85 19 P **P** **01 37 31.4 +0.6**
SUA Susitna One 72.49 19 P **P** **01 37 34.4 -0.3**
SML Sawmill 72.76 18 P **P** **01 37 36.0 -0.2**
SCM Sheep Creek Mo 72.96 17 P **P** **01 37 36.8 -0.7**
SCM Sheep Creek Mo 72.96 17 P **P** **01 37 36.8 -0.7**
SCM pmax pmax
comp=Z,40nm,1.5s
BCAR Beaver Creek A 72.97 14 P **P** **01 37 38.6 +1.1**
KLU Klutina 73.57 17 P **P** **01 37 41.3 +0.3**
M30M Minto, Yukon 74.28 12 P **P** **01 37 45.7 +0.6**
M30M IAmb IAmb 01 37 50.9
comp=Z,6.3nm,1.4s
M31M Drury Creek, Y 75.00 11 P **P** **01 37 50.3 +1.0**
M31M IAmb IAmb 01 37 55.9
comp=Z,4.2nm,1.1s
O30N Mendenhall 76.10 12 P **P** **01 37 56.5 +0.8**
O30N IAmb IAmb 01 38 01.5
comp=Z,3.1nm,0.8s
YKA Yellowknife Ar 76.39 2 P **P** **01 37 56.6 -0.6**
YKA Yellowknife Ar 76.39 2 P **P** **01 37 57.8 +0.6**
comp=Z,0.6nm,0.6s,baz=352,slow=6.2,SNR=14
comp=Z,0.6nm,0.6s
P33M Teslin, Yukon 77.14 11 P **P** **01 38 01.6 +0.1**
P33M IAmb IAmb 01 38 10.7
comp=Z,8.4nm,1.4s
FCC Fort Churchill 79.21 351 P **P** **01 38 13.4 +0.5**
FCC IAmb IAmb 01 38 24.1
comp=Z,3.5nm,1.2s
FCC Fort Churchill 79.21 351 P **P** **01 38 13.4 +0.5**
FCC pmax pmax
comp=Z,3.0nm,1.2s
WRA Warramunga Arr 85.81 121 P **P** **01 38 47.5 -0.4**
comp=Z,1.0nm,0.7s,baz=312,slow=5.8,SNR=6.7
comp=Z,1.0nm,0.7s
ASAR Alice Springs 88.24 124 P **P** **01 39 00.3 +0.6**
comp=Z,0.5nm,0.8s,baz=319,slow=5.2,SNR=2.9
comp=Z,0.5nm,0.8s

TRN 23 01:32:09.3, 14.57N×60.31W, h53km, MD3.8, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPOM	**Morne Pois Mar**	**0.55**	**257**	*e*P	Pn	01 32 22.5	+1.2
MPOM				*e*S	Sn	01 32 32.1	+2.1
MVM	**Montagne Vaucl**	**0.57**	**268**	*e*P	Pn	01 32 22.8	+1.2
ILAM	**Ilet Lapin Mar**	**0.59**	**290**	*e*P	Pn	01 32 23.1	+1.4
ILAM				*e*S	Sn	01 32 32.8	+2.0
LPMF	**Morne Lapointe**	**0.64**	**270**	*e*P	Pn	01 32 23.5	+1.1
ZAM	**Aeronautique**	**0.70**	**270**	*e*P	Pn	01 32 24.2	+1.1
TRMF	**Trois Ilets**	**0.72**	**267**	*e*P	Pn	01 32 24.7	+1.2
BIM	**Bigot**	**0.74**	**266**	*e*P	Pn	01 32 25.1	+1.4
BIM				*e*S	Sn	01 32 37.0	+2.7
FDF	**Fort de France**	**0.83**	**281**	*e*P	Pn	01 32 26.1	+1.2
FDF				*e*S	Sn	01 32 38.2	+1.8
SLBI	**Saint Lucia, B**	**0.85**	**230**	*e*P	Pn	01 32 25.4	+0.4
SLBI				*e*S	Sn	01 32 37.4	+0.8
BAMF	**Morne Balai**	**0.85**	**287**	*e*P	Pn	01 32 26.6	+1.4
GBMF	**Grand Be**	**0.86**	**285**	*e*P	Pn	01 32 26.5	+1.2
SLCP	**Castries, St.**	**0.87**	**230**	*e*P	Pn	01 32 26.4	+1.1
SLCP				*e*S	Sn	01 32 38.7	+1.6
CXM	**Morne La Croix**	**0.87**	**286**	*e*P	Pn	01 32 27.2	+1.7
PML	**Morne Lenard**	**0.88**	**284**	*e*P	Pn	01 32 26.8	+1.3
SVN	**Savane Anatole**	**0.88**	**288**	*e*P	Pn	01 32 27.1	+1.6
SVN				*e*S	Sn	01 32 40.0	+2.6
PCM	**Pelee Case Pet**	**0.91**	**286**	*e*P	Pn	01 32 27.2	+1.3
SSV	**Crater Summit**	**1.51**	**215**	*e*P	Pn	01 32 34.8	+0.7
SVB	**Belmont**	**1.58**	**216**	*e*P	Pn	01 32 35.8	+0.8
SVB				*e*S	Sn	01 32 55.3	+0.9
BBGH	**Gun Hill**	**1.59**	**153**	*e*P	Pn	01 32 36.5	+1.4
BBGH				*e*S	Sn	01 32 57.0	+2.4
MAGL	**Barre de l'ile**	**1.66**	**326**	*e*P	Pn	01 32 36.9	+0.8
SVOC	**Richmond Hill,**	**1.67**	**212**	*e*P	Pn	01 32 36.4	+0.3
SVOC				*e*S	Sn	01 32 58.1	+1.7
TDBA	**Terre de Bas,**	**1.81**	**315**	*e*P	Pn	01 32 39.5	+1.5
CBE	**Ff, Capester**	**1.95**	**320**	*e*P	Pn	01 32 41.4	+1.4
CBE				*e*S	Sn	01 33 05.2	+1.9
ABD	**La Joyeuse, An**	**2.21**	**329**	*e*P	Pn	01 32 45.4	+1.9
ABD				*e*S	Sn	01 33 11.9	+2.2
GCMP	**Grenada, Carri**	**2.34**	**208**	*e*P	Pn	01 32 46.9	+1.5
GCMP				*e*S	Sn	01 33 14.5	+1.6
GRHS	**Sauteurs**	**2.67**	**209**	*e*P	Pn	01 32 51.2	+1.4
GRHS				*e*S	Sn	01 33 22.8	+1.8
GRW	**Mount Saint Ca**	**2.74**	**209**	*e*P	Pn	01 32 52.5	+1.7
GRW				*e*S	Sn	01 33 24.4	+1.7
GRGR	**Grenville**	**2.76**	**209**	*e*P	Pn	01 32 53.5	+2.5
GRGR				*e*S	Sn	01 33 25.1	+1.9
MLYT	**Lee's Yard**	**2.81**	**320**	*e*P	Pn	01 32 54.0	+2.3
MLYT				*e*S	Sn	01 33 25.8	+1.4
ANBD	**Bethesda, Anti**	**2.84**	**330**	*e*P	Pn	01 32 53.1	+1.0
ANBD				*e*S	Sn	01 33 25.1	0.0
GRFF	**Grenada Fort F**	**2.87**	**209**	*e*P	Pn	01 32 54.6	+2.1
GRFF				*e*S	Sn	01 33 26.2	+0.3
TRN	**Trinidad (W)**	**4.04**	**195**	*e*P	Pn	01 33 09.8	+1.1

IDC 23 01:52:10.8±3.6, 7.28S×154.51E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=125.2km s-min=33.4km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**235**	P	P	01 57 19.8	-0.4
	2.4nm,0.9s,baz=57,slow=8.9,SNR=7.4						
	2.4nm,0.9s						
ASAR	**Alice Springs**	**25.62**	**228**	P	P	01 57 41.9	-0.3
	0.4nm,0.6s,baz=58,slow=9.0,SNR=7.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**83.30**	**319**	P	P	02 04 40.2	+0.6
	0.5nm,0.8s,baz=101,slow=6.3,SNR=3.9						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**84.14**	**326**	P	P	02 04 44.3	+0.6
	0.4nm,0.5s,baz=101,slow=6.2,SNR=1.7						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**152.63**	**285**	PKPbc	PKPbc	02 12 09.9	-0.6
	0.8nm,0.9s,baz=90,slow=2.9,SNR=4.5						

IDC 23 01:56:07.4±38.0, 4.82N×126.50E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=639.9km s-min=158.3km az=160.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.79**	**163**	P	P	02 01 40.0	-0.3
	0.2nm,0.3s,baz=342,slow=10,SNR=15						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**29.22**	**166**	P	P	02 02 11.6	+0.5
	0.4nm,0.4s,baz=353,slow=8.2,SNR=9.1						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**39.22**	**159**	P	P	02 03 37.4	-0.2
	0.8nm,0.3s,baz=5.4,slow=7.8,SNR=4.9						
	0.8nm,0.3s						

ISN ***23*** *02:03:23.8±1.2, 33.62N×45.67E, h12km±6km, ML3.2*
TEH ***23*** *02:03:25.3, 33.70N×45.72E, h8km±42km, ML3.4*
ISC 23 02:03:24.9±0.9, 33.63N±0.03×45.65E±0.04, h13km, n20, α2°03/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.57**	**156**	*e*Pg	**Pg**	**02 03 35.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**02 03 42.5**	**-1.2**
IBDR				AML	AML	02 03 51.5	
	comp=E,2μm,0.4s						
IBDR				AML	AML	02 03 57.8	
	comp=N,1μm,0.6s						
KGS1	**Ghasr-e-Shirin**	**0.87**	**357**	Pg	**Pg**	**02 03 41.2**	**-0.6**
BHD	**Baghdad**	**1.12**	**251**	*e*Pg	**Pb**	**02 03 46.0**	**-0.1**
BHD				*e*Sg	**Sb**	**02 04 01.0**	**+0.4**
BHD				AML	AML	02 04 15.5	
	comp=E,672nm,0.8s						
IDHR	**Dehrash**	**1.23**	**30**	Pg	**Pb**	**02 03 47.0**	**-1.1**
ILIN	**Lien**	**1.68**	**40**	Pg	**Pg**	**02 03 56.3**	**-0.9**
IKFM	**Kafar-mosalman**	**1.84**	**93**	Pg	**Pb**	**02 03 58.3**	**0.0**
RAFI	**Al-Rafai**	**1.94**	**168**	*e*Pn	**Pn**	**02 03 57.5**	**-0.1**

RAFI					*e*Sn		**Sb**	**02 04 24.0**	**-0.3**
IALM	**Almabolaq**	**2.42**	**59**		Pn		**Pb**	**02 04 06.8**	**-1.6**
SDS1	**Sardasht. Az.**	**2.51**	**357**		Pn		**Pb**	**02 04 07.9**	**-2.0**
HSAM	**Samen**	**2.52**	**76**		Pn		**Pb**	**02 04 07.4**	**-2.8**
HAGD	**Aghdareh**	**3.12**	**67**		Pn		**Pn**	**02 04 16.1**	**+2.0**
MAHB	**Mahabad**	**3.13**	**1**		Pn		**Pn**	**02 04 16.0**	**+2.0**
IRAZ	**Razeghan**	**3.95**	**62**		Pn		**Pn**	**02 04 28.1**	**+2.8**
IPIR	**Pirpir**	**4.50**	**101**		Pn		**Pn**	**02 04 35.4**	**+2.4**
ZNGN	**Zangian**	**4.63**	**108**		Pn		**Pn**	**02 04 37.8**	**+3.0**
QAMS	**Qamsar**	**4.79**	**87**		Pn		**Pn**	**02 04 38.8**	**+1.8**
IKLH	**Kolahrood**	**4.96**	**92**		Pn		**Pn**	**02 04 42.1**	**+2.7**
IVRN	**Varamin**	**5.21**	**73**		Pn		**Pn**	**02 04 45.0**	**+2.5**
IRAM	**Ramesheh**	**5.96**	**106**		Pn		**Pn**	**02 04 55.3**	**+2.3**
DSBU	**Dashti - Bushe**	**7.13**	**136**		Pn		**Pn**	**02 05 12.2**	**+3.3**

***IDC* 23 02:20:45.2±3.5, 6°.45S×149°.62E, *h*0km, *mb*3.2/1, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=121.6km s-min=39.2km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**219**	Pn	Pn	02 21 46.8	+1.6
	18nm,0.4s,baz=43,slow=10,SNR=7.4						
PMG				Sn	Sn	02 22 32.9	+2.1
	14nm,0.3s,baz=52,slow=22,SNR=12						
WRA	**Warramunga Arr**	**20.00**	**226**	P	P	02 25 19.7	+0.1
	0.4nm,0.3s,baz=52,slow=11,SNR=12						
	1.6nm,0.4s						
ASAR	**Alice Springs**	**22.83**	**220**	P	P	02 25 48.8	-1.3
	0.6nm,0.6s,baz=48,slow=9.7,SNR=6.0						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.72**	**284**	PKPbc	PKPbc	02 40 32.6	-0.4
	0.4nm,0.7s,baz=58,slow=3.9,SNR=3.2						

SJA ***23*** *02:36:22.8±0.7, 22°.62S×70°.29W, h69km±3km, ML3.4, MW3.5*
GUC ***23*** *02:36:24.3±0.9, 22°.61S×70°.30W, h62km±4km, ML3.5*
ISC 23 02:36:22.8±1.3, 22°.64S±0°.03×70°.46W±0°.06, *h*67km±8km, n34, σ0°.90/59, 5C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.31**	**132**	*e*P	**Pn**	**02 36 34.5**	**+0.5**
PB05				IAML		02 36 43.4	
	comp=Z,884nm,0.1s						
PB05	**IPOC Station P**	**0.31**	**132**	⇓*i*P	**Pn**	**02 36 34.7**	**+0.7**
PB05				*i* S	**Sn**	**02 36 42.0**	**0.0**
PB05				IAML		02 36 42.9	
	comp=N,3μm,0.2s						
PB04	**IPOC Station P**	**0.42**	**43**	*e*P	**Pn**	**02 36 35.2**	**+0.4**
PB04				*e*S	**Sn**	**02 36 43.5**	**-0.1**
PB04				IAML		02 36 46.1	
	comp=Z,5μm,0.2s						
PB04	**IPOC Station P**	**0.42**	**43**	⇓*i*P	**Pn**	**02 36 35.5**	**+0.6**
PB04				*i* S	**Sn**	**02 36 43.6**	**0.0**
PB04				IAML		02 36 43.9	
	comp=N,7μm,0.2s						
PB06	**IPOC Station P**	**0.82**	**95**	*e*P	**Pn**	**02 36 38.8**	**-0.3**
PB06				*e*S	**Sn**	**02 36 50.0**	**-1.1**
PB06				IAML		02 36 50.2	
	comp=Z,2μm,0.2s						
PB06	**IPOC Station P**	**0.82**	**95**	⇓*i*P	**Pn**	**02 36 39.0**	**-0.1**
PB06				*i* S	**Sn**	**02 36 49.6**	**-1.5**
PB06				IAML		02 36 50.2	
	comp=E,6μm,0.2s						
PB07	**IPOC Station P**	**1.05**	**30**	*e*P	**Pn**	**02 36 41.9**	**-0.2**
PB07				*e*S	**Pn**	**02 36 42.5**	**+0.5**
PB07				IAML		02 36 58.7	
	comp=Z,568nm,0.1s						
PB07	**IPOC Station P**	**1.05**	**30**	⇑*i*P	**Pn**	**02 36 42.5**	**+0.5**
PB07				*i* S	**Sn**	**02 36 55.8**	**-0.5**
PB07				IAML		02 36 57.4	
	comp=E,1μm,0.3s						
PB15	**IPOC Station P**	**1.07**	**122**	*e*P	**Pn**	**02 36 42.3**	**0.0**
PB15				*e*S	**Sn**	**02 36 56.0**	**-0.7**
PB15	**IPOC Station P**	**1.07**	**122**	*e*P	**Pn**	**02 36 42.3**	**0.0**
PB15				*i* S	**Sn**	**02 36 55.2**	**-1.5**
PB09	**IPOC Station P**	**1.41**	**53**	*e*P	Pn	02 36 28.2	-18
PB09				*e*S	**Sn**	**02 37 04.7**	**+0.2**
PB09				IAML		02 37 06.4	
	comp=Z,411nm,0.4s						
PB09	**IPOC Station P**	**1.41**	**53**	*e*P	**Pn**	**02 36 47.5**	**+0.9**
PB09				*i* S	**Sn**	**02 37 03.6**	**-0.8**
PB09				IAML		02 37 06.7	
	comp=N,446nm,0.2s						
PB02	**IPOC Station P**	**1.42**	**22**	*e*P	**Pn**	**02 36 47.2**	**+0.5**
PB02				*e*S	**Sn**	**02 37 04.6**	**0.0**
PB02				IAML		02 37 06.7	
	comp=Z,1μm,0.3s						
PB02	**IPOC Station P**	**1.42**	**22**	⇑*i*P	**Pn**	**02 36 47.3**	**+0.6**
PB02				*i* S	**Sn**	**02 37 04.2**	**-0.4**
PB02				IAML		02 37 06.7	
	comp=E,964nm,0.4s						
LVC	**Limon Verde**	**1.43**	**89**	*e*P	**Pn**	**02 36 48.0**	**+0.9**
LVC				*e*S	**Sn**	**02 37 03.9**	**-1.4**
LVC				IAML		02 37 05.4	
	comp=Z,768nm,0.4s						
LVC	**Limon Verde**	**1.43**	**89**	*e*P	**Pn**	**02 36 47.5**	**+0.4**
LVC				*i* S	**Sn**	**02 37 04.9**	**-0.4**
LVC				IAML		02 37 05.7	
	comp=Z,5μm,0.2s						
PB01	**IPOC Station P**	**1.83**	**30**	*e*P	**Pn**	**02 36 53.1**	**+0.9**
PB01				*e*S	**Sn**	**02 37 14.6**	**+0.2**
PB01				IAML		02 37 14.7	
	comp=Z,257nm,0.2s						
PB01	**IPOC Station P**	**1.83**	**30**	⇑*i*P	**Pn**	**02 36 53.1**	**+0.9**
PB01				*i* S	**Sn**	**02 37 14.4**	**-0.1**
PB01				IAML		02 37 14.8	
	comp=E,649nm,0.2s						
PATCX	**Punta Patache**	**1.83**	**9**	*e*P	**Pn**	**02 36 52.6**	**+0.3**
PATCX	**Punta Patache**	**1.83**	**9**	⇑*i*P	**Pn**	**02 36 52.7**	**+0.4**
PATCX				*i* S	**Sn**	**02 37 14.0**	**-0.6**
PATCX				IAML		02 37 15.3	
	comp=E,383nm,0.2s						
PB14	**IPOC Station P**	**1.98**	**179**	*e*P	**Pn**	**02 36 54.9**	**+0.6**
PB14				*e*S	**Sn**	**02 37 17.6**	**-0.8**
PB14				IAML		02 37 17.8	
	comp=Z,408nm,0.1s						
PB14	**IPOC Station P**	**1.98**	**179**	⇓*i*P	**Pn**	**02 36 54.9**	**+0.6**
PB14				*i* S	**Sn**	**02 37 17.5**	**-0.8**
TA01	**Diego Aracena**	**2.08**	**7**	*e*P	**Pn**	**02 36 55.0**	**-0.5**
TA01				IAML		02 37 21.2	
	comp=Z,122nm,0.1s						
TA02	**Huaiquique**	**2.38**	**7**	*e*P	**Pn**	**02 37 00.8**	**+1.2**
TA02				IAML		02 37 32.0	
	comp=Z,158nm,0.1s						
HMBC	**Humberstone**	**2.41**	**13**	*e*P	**Pn**	**02 37 00.5**	**+0.4**
HMBC	**Humberstone**	**2.41**	**13**	*e*P	**Pn**	**02 37 00.5**	**+0.4**
HMBC				*i* S	**Sn**	**02 37 27.6**	**-1.0**
HMBC				IAML		02 37 32.6	
	comp=N,166nm,0.2s						
GO02	**Mina Guanaco**	**2.63**	**163**	*e*P	**Pn**	**02 37 04.6**	**+1.3**
GO02				*e*S	**Sn**	**02 37 36.2**	**+2.0**
GO02	**Mina Guanaco**	**2.63**	**163**	⇑*i*P	**Pn**	**02 37 04.5**	**+1.3**
GO02				*i* S	**Sn**	**02 37 34.9**	**+0.6**
GO02				IAML		02 37 36.6	
	comp=N,628nm,0.1s						
PB08	**IPOC Station P**	**2.77**	**26**	*e*P	**Pn**	**02 37 06.4**	**+1.2**
PB11	**IPOC Station P**	**2.96**	**15**	*e*P	**Pn**	**02 37 07.8**	**+0.1**
PB11				*e*S	**Sn**	**02 37 41.1**	**-1.0**
PB11				IAML		02 37 46.6	
	comp=Z,73nm,0.3s						
GO01	**Chusmiza**	**3.19**	**22**	*e*P	**Pn**	**02 37 12.4**	**+1.4**
AC01	**Pan de Azucar**	**3.49**	**182**	*e*P	**Pn**	**02 37 14.3**	**-0.4**
AC01				*e*S	**Sn**	**02 37 52.7**	**-2.2**
AC01				IAML		02 37 54.5	
	comp=Z,54nm,0.6s						
PB12	**IPOC Station P**	**4.01**	**2**	*e*P	**Pn**	**02 37 22.1**	**+0.2**
PB12				*e*S	**Sn**	**02 38 05.5**	**-2.2**
PB12				IAML		02 38 08.2	
	comp=Z,40nm,0.3s						
PB16	**IPOC Station P**	**4.38**	**12**	*e*P	**Pn**	**02 37 28.7**	**+1.4**

CATAC ***23*** *02:44:15.2±0.3, 10°.15N×83°.91W, h5km±3km, ML3.1*
UCR ***23*** *02:44:15.0±0.9, 10°.17N×83°.97W, h6km±5km, MW3.6*
ISC 23 02:44:15.4±0.9, 10°.16N±0°.02×83°.95W±0°.02, *h*16km±6km, n74, σ0°.71/69, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVIMO	**Finca Echandi**	**0.14**	**175**	*e*P	**Pg**	**02 44 18.8**	**-0.7**
RIFO	**Rio Frio, Sara**	**0.16**	**11**	*e*P	**Pg**	**02 44 19.0**	**-0.5**
RIFO	**Rio Frio, Sara**	**0.16**	**11**	*i* PA		02 44 19.0	
RIFO				IAML		02 44 24.9	
	comp=Z,12μm,1.0s						
CORON	**Coronado**	**0.19**	**194**	*e*P	**Pg**	**02 44 19.7**	**-0.5**
VICA	**Volcano Irazu**	**0.21**	**149**	*e*P	**Pg**	**02 44 20.1**	**-0.5**
VICA				*e*S	**Sg**	**02 44 23.7**	**-0.3**
HAYA	**Volcan Irazu**	**0.21**	**149**	*i* P	**Pg**	**02 44 19.2**	**-1.4**
HAYA				IAML		02 44 24.7	
	comp=Z,10μm,1.0s						
HDC3	**Heredia 3**	**0.22**	**224**	*e*P	**Pg**	**02 44 19.8**	**-0.8**
HDC3	**Heredia 3**	**0.22**	**224**	*i* P	**Pg**	**02 44 20.2**	**-0.4**
HDC3				IAML		02 44 24.5	
	comp=Z,2μm,1.0s						
HDC	**Heredia**	**0.23**	**225**	*e*P	**Pg**	**02 44 19.7**	**-0.9**
VTRT	**Volcan Turrial**	**0.23**	**135**	*e*P	**Pg**	**02 44 20.6**	**-0.2**
VTRT				*e*S	**Sg**	**02 44 24.5**	**+0.1**
TIBA	**Tibas**	**0.23**	**210**	*e*P	**Pg**	**02 44 20.1**	**-0.6**
VTLA	**Turrialba Volc**	**0.24**	**132**	*e*P	**Pg**	**02 44 20.9**	**-0.1**
VTLA				*e*S	**Sg**	**02 44 25.1**	**+0.4**
CVTR	**Volcan Turrial**	**0.24**	**126**	*e*P	**Pg**	**02 44 20.9**	**-0.1**
VTR0	**Volcan Turrial**	**0.24**	**127**	*e*P	**Pg**	**02 44 21.1**	**+0.1**
SJS	**Escuela Geolog**	**0.24**	**204**	*e*P	**Pg**	**02 44 20.3**	**-0.6**
SJS				*e*S	**Sg**	**02 44 24.3**	**-0.3**
SJS3	**Mercedes San J**	**0.24**	**203**	*e*P	**Pg**	**02 44 20.4**	**-0.4**
SJS3				*e*S	**Sg**	**02 44 24.4**	**-0.2**
VTLO	**VTLO**	**0.25**	**118**	*e*P	**Pg**	**02 44 21.1**	**0.0**
MEXI	**Barrio Mexico**	**0.26**	**211**	*e*P	**Pg**	**02 44 20.5**	**-0.6**
CVTV	**Tajo**	**0.26**	**128**	*e*P	**Pg**	**02 44 21.1**	**-0.1**
TRIO	**Tres Rios**	**0.26**	**189**	*e*P	**Pg**	**02 44 20.6**	**-0.6**
LUJA	**Lujan**	**0.26**	**206**	*e*P	**Pb**	**02 44 21.6**	**-0.3**
OCM	**Ochomogo**	**0.27**	**181**	*e*P	**Pg**	**02 44 20.7**	**-0.7**
OCM	**Ochomogo**	**0.27**	**181**	*i* PA		02 44 20.7	
OCM				IAML		02 44 25.0	
	comp=Z,7μm,1.0s						
AMPA	**Desamparados**	**0.28**	**202**	*e*P	**Pb**	**02 44 21.8**	**-0.4**
AMPA				*e*S	**Sg**	**02 44 26.0**	**+0.2**
VTCV	**VTCV, Calle Va**	**0.29**	**128**	*e*P	**Pg**	**02 44 21.6**	**-0.1**
CARI	**Cariari**	**0.29**	**47**	*e*P	**Pb**	**02 44 21.8**	**-0.5**
SARA	**Sarapiqu**	**0.29**	**347**	*e*P	**Pg**	**02 44 21.0**	**-0.6**
BELE	**Belen**	**0.30**	**231**	*e*P	**Pg**	**02 44 21.9**	**+0.1**
VERB	**Verbena**	**0.34**	**130**	*e*P	**Pb**	**02 44 22.8**	**-0.3**
REPA	**Paraso**	**0.34**	**166**	*e*P	**Pb**	**02 44 23.4**	**+0.1**
TCS1	**Tacares**	**0.36**	**251**	*e*P	**Pg**	**02 44 22.5**	**-0.4**
TCS1	**Tacares**	**0.36**	**251**	*i* PA		02 44 22.8	
TCS1				IAML		02 44 30.9	
	comp=Z,6μm,1.0s						
RVLA	**Villa Bonita**	**0.36**	**98**	*e*P	**Pb**	**02 44 23.5**	**-0.1**
LCOCO	**El Coco**	**0.40**	**101**	*e*P	**Pb**	**02 44 23.9**	**-0.2**
ACOS	**Acosta**	**0.42**	**210**	*e*P	**Pg**	**02 44 23.1**	**-0.8**
LCR2	**La Lucha 2**	**0.42**	**187**	*e*P	**Pg**	**02 44 23.3**	**-0.7**
LCR2	**La Lucha 2**	**0.42**	**187**	*i* PA		02 44 23.3	
LCR2				IAML		02 44 29.1	
	comp=Z,3μm,1.0s						
ITAL	**Pital**	**0.42**	**313**	*e*P	**Pg**	**02 44 23.2**	**-0.8**
CPMI	**Catarata Coope**	**0.44**	**286**	*i* PA		02 44 25.0	
CPMI				IAML		02 44 31.7	
	comp=Z,610nm,1.0s						
IRES	**Siquirres**	**0.45**	**98**	*e*P	**Pb**	**02 44 25.0**	**0.0**
ABE2	**San Pablo**	**0.47**	**192**	*e*P	**Pg**	**02 44 23.9**	**-0.9**
RAZU	**San Marcos de**	**0.51**	**188**	*e*P	**Pg**	**02 44 24.6**	**-0.9**
CDM	**Cerro de Muert**	**0.63**	**163**	*e*P	**Pg**	**02 44 27.5**	**-0.5**
CDM	**Cerro de Muert**	**0.63**	**163**	*i* PA		02 44 27.6	
CDM				IAML		02 44 36.5	
	comp=Z,860nm,1.0s						
BUS1	**Rivas**	**0.64**	**161**	*e*P	**Pg**	**02 44 27.5**	**-0.6**
SOCE	**Pocosol**	**0.69**	**289**	*e*P	**Pg**	**02 44 28.2**	**-0.7**
SOCE	**Pocosol**	**0.69**	**289**	*i* PA		02 44 29.3	
SOCE				IAML		02 44 38.1	
	comp=Z,670nm,1.0s						
LLNJ	**Naranjito**	**0.70**	**192**	*e*P	**Pg**	**02 44 28.8**	**-0.3**
COVE	**Coope Vega, Sa**	**0.71**	**322**	*e*P	**Pg**	**02 44 28.0**	**-1.2**
COVE	**Coope Vega, Sa**	**0.71**	**322**	*i* P	**Pb**	**02 44 29.5**	**+0.1**
COVE				IAML		02 44 41.7	
	comp=Z,960nm,1.0s						
VACR	**Volcan Arenal**	**0.78**	**294**	*e*P	**Pg**	**02 44 29.6**	**-1.0**
VACR	**Volcan Arenal**	**0.78**	**294**	*i* PA		02 44 31.6	
VACR				IAML		02 44 43.9	
	comp=Z,800nm,1.0s						
ARE1	**Arenal 1**	**0.81**	**292**	*e*P	**Pg**	**02 44 30.1**	**-1.1**
PEZE	**Perez Zeledon,**	**0.82**	**161**	*e*P	**Pg**	**02 44 30.4**	**-1.0**
PEZE	**Perez Zeledon,**	**0.82**	**161**	*i* PA		02 44 30.7	
PEZE				IAML		02 44 41.9	
	comp=Z,640nm,1.0s						
JACO	**JACO, Garabito**	**0.85**	**234**	*e*P	**Pg**	**02 44 30.5**	**-1.5**
JACO	**JACO, Garabito**	**0.85**	**234**	IAML		02 44 31.3	
	comp=Z,220nm,1.0s						
JACO				*i* P	**Pg**	**02 44 32.1**	**+0.1**
JTS	**Las Juntas de**	**0.99**	**277**	*e*P	**Pg**	**02 44 32.8**	**-1.9**
LAFE	**Finca La Fe, P**	**1.01**	**250**	*i* P	**Pb**	**02 44 35.4**	**+0.9**
LAFE				IAML		02 44 58.1	
	comp=Z,1.3nm,1.0s						
OCHAL	**Ojochal**	**1.10**	**164**	*i* P	**Pg**	**02 44 35.9**	**-0.8**
OCHAL				*i* S	**Sb**	**02 44 50.8**	**+0.5**
OCHAL				IAML		02 44 54.7	
	comp=Z,9.9nm,1.0s						
DRK0	**Durika**	**1.14**	**142**	*e*P	**Pg**	**02 44 35.9**	**-1.5**
CBL1	**Cabuya**	**1.26**	**243**	*e*P	**Pn**	**02 44 37.8**	**-0.5**
VMAR	**Armenia, Volca**	**1.31**	**300**	*i* PA		02 44 40.0	
VMAR				IAML		02 45 00.2	
	comp=Z,410nm,1.0s						
POTG	**Potrero Grande**	**1.38**	**143**	*i* P	**Pn**	**02 44 39.9**	**-0.2**
POTG				IAML		02 44 44.7	
	comp=Z,630nm,1.0s						
PLVR	**Palo Verde**	**1.39**	**278**	*e*P	**Pn**	**02 44 40.4**	**+0.1**
ORTG	**Ortega, Santa**	**1.49**	**278**	*i* PA		02 44 42.3	
ORTG				IAML		02 45 04.9	
	comp=Z,58nm,1.0s						
INDI	**Punta indio, G**	**1.55**	**259**	*e*P	**Pn**	**02 44 42.1**	**-0.3**
INDI	**Punta indio, G**	**1.55**	**259**	*i* P	**Pn**	**02 44 43.5**	**+1.1**
INDI				*i* S	**Sb**	**02 45 04.9**	**+1.6**
INDI				IAML		02 45 07.7	
	comp=Z,89nm,1.0s						
HZTE	**Horizontes, Gu**	**1.71**	**289**	*e*P	**Pn**	**02 44 45.1**	**+0.6**
HZTE	**Horizontes, Gu**	**1.71**	**289**	*i* PA		02 44 46.2	
HZTE				IAML		02 44 49.6	
	comp=Z,120nm,1.0s						
SAJU	**San Juanillo,**	**1.73**	**267**	*i* PA		02 44 46.5	
SAJU				IAML		02 45 17.1	
	comp=Z,65nm,1.0s						
BLUN	**Bluefields**	**1.84**	**5**	*i* PA		02 44 47.6	
BLUN				IAML		02 45 16.0	
	comp=Z,610nm,1.0s						
BRU2	**Volcan**	**1.84**	**137**	*i* P	**Pn**	**02 44 46.5**	**-0.1**
BRU2				*i* S	**Sn**	**02 45 10.2**	**+0.5**
BRU2				IAML		02 45 18.7	
	comp=Z,190nm,1.0s						
ACON	**Acoyapa**	**2.16**	**326**	*e*P	**Pn**	**02 44 51.5**	**+0.7**

IDC ***23*** *03:16:28.8±0.6, 34°.84S×108°.70W, h0km, mb4.6/12, mbtmp4.5/12, MS4.3/41, Error ellipse: s-maj=23.6km s-min=17.0km az=75.0*
NEIC ***23*** *03:16:29.9±1.3, 34°.95S±0°.1×108°.8W±0°.2, h10km±1km, mb4.9/191, Error ellipse: s-maj=23.5km s-min=18.4km az=301.0*
GCMT ***23*** *03:16:31.9±0.2, 34°.90S±0°.02×108°.47W±0°.01, h12km, MW5.0/110, Moment Tensor Solution. s66,c81; s110,c165; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.57±.12; Mθθ-1.17±.13; Mϕϕ4.73±.09; Mrθ-0.75±.41; Mθϕ-1.61±.10; Mϕr-0.18±.30; Best double couple: M=4.48700×10^16^ NP1=ϕ1148.00000°, δ48.00000°, λ-116.00000°. NP2=ϕ24.00000°, δ48.00000°, λ-64.00000°. Principal axes: T 5.1410, Plg0.0000°, Azm256.0000°; N -1.3180, Plg19.0000°, Azm166.0000°; P -3.8330, Plg71.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 03:16:30.3±0.4, 34°.90S±0°.09×108°.60W±0°.07, *h*10km, n345, σ1°.11/238, *mb*4.9/103, *MS*4.4/42, 25C-2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**24.48**	**96**	T	T	03 47 07.1	
	baz=284,slow=76,SNR=17						
H03S1	**Juan Fernandez**	**24.49**	**96**	T	T	03 47 06.5	
	baz=284,slow=76,SNR=27						
H03S3	**Juan Fernandez**	**24.49**	**96**	T	T	03 47 06.5	
	baz=284,slow=76,SNR=28						
H03N2	**Juan Fernandez**	**24.55**	**95**	T	T	03 47 18.5	
	baz=270,slow=74,SNR=4.9						
H03N3	**Juan Fernandez**	**24.55**	**95**	T	T	03 47 15.4	
	baz=270,slow=74,SNR=5.9						
H03N1	**Juan Fernandez**	**24.57**	**95**	T	T	03 47 19.8	
	baz=270,slow=74,SNR=4.2						
GO06	**Curarrehue**	**29.78**	**110**	P	**P**	**03 22 37.8**	**+0.6**
GO06				IAmb	IAmb	03 22 48.5	
	comp=Z,20nm,1.1s						
GO08	**Villa O'Higgin**	**29.84**	**128**	P	**P**	**03 22 38.0**	**+0.5**
GO08				IAmb	IAmb	03 23 18.2	
	comp=Z,38nm,1.6s						
PLCA	**Paso Flores**	**30.45**	**112**	P	**P**	**03 22 43.4**	**+0.4**
PLCA				IAmb	IAmb	03 22 52.5	
	comp=Z,14nm,1.1s						
PLCA	**Paso Flores**	**30.45**	**112**	P	**P**	**03 22 44.5**	**+1.5**
	comp=Z,9.6nm,0.9s,baz=268,slow=7.8,SNR=18						
PLCA				LR	LR	03 32 10.0	
	comp=Z,338nm,18.2s,baz=280,slow=31						
	comp=Z,9.6nm,0.9s						
LMEL	**Las Melosas**	**31.58**	**99**	P	**P**	**03 22 54.2**	**+1.0**
LMEL				IAmb	IAmb	03 23 01.8	
	comp=Z,26nm,1.2s						
CO02	**Combarbal**	**31.61**	**94**	P	**P**	**03 22 55.3**	**+1.9**
CFA	**Coronel Fontan**	**33.75**	**96**	LR	LR	03 33 28.6	
	comp=Z,2μm,18.9s,baz=271,slow=30						
LVC	**Limon Verde**	**36.66**	**81**	P	**P**	**03 23 38.3**	**+0.7**
LVC	**Limon Verde**	**36.66**	**81**	LR	LR	03 34 42.1	
	comp=Z,914nm,19.5s,baz=244,slow=30						
NNA	**Nana**	**36.74**	**59**	LR	LR	03 34 35.7	
	comp=Z,1μm,21.5s,baz=230,slow=30						
PB09	**IPOC Station P**	**36.78**	**80**	P	**P**	**03 23 39.4**	**+0.9**
PB09				IAmb	IAmb	03 24 02.5	
	comp=Z,43nm,1.4s						
PB01	**IPOC Station P**	**36.96**	**79**	P	**P**	**03 23 40.3**	**+0.4**
TBI	**Tubuai**	**37.27**	**277**	*e*S	**S**	**03 29 32.9**	**+3.1**
	comp=Z,795nm,29.5s						
TBI				*e*LR	LR	03 33 46.2	
	comp=Z,10μm,27.0s						
TBI				*e*LR	LR	03 33 48.6	
	comp=Z,4μm,27.5s						
TRQA	**Tornquist**	**37.31**	**109**	P	**P**	**03 23 43.3**	**+0.6**
PB12	**IPOC Station P**	**37.56**	**74**	P	**P**	**03 23 44.1**	**-1.0**
PB12				IAmb	IAmb	03 23 54.5	
	comp=Z,23nm,1.0s						
GO01	**Chusmiza**	**37.90**	**77**	P	**P**	**03 23 50.4**	**+2.1**
ATAH	**Atahualpa**	**39.18**	**52**	LR	LR	03 35 58.4	
	comp=Z,590nm,18.9s,baz=229,slow=30						
PPT2	**Papeete2**	**40.27**	**285**	*e*S	**S**	**03 30 20.7**	**+5.4**
	comp=Z,164nm,25.2s						
PPT2				*e*SS	**SS**	**03 33 09.8**	**-3.9**
	comp=Z,547nm,27.8s						
PPT2				*e*LR	LR	03 35 01.3	
	comp=Z,2μm,25.8s						
PPT2				*e*LR	LR	03 35 08.3	
	comp=Z,1μm,26.8s						
PPT	**Papeete**	**40.29**	**285**	LR	LR	03 35 59.3	
	comp=Z,1μm,19.8s,baz=112,slow=29						
LPAZ	**La Paz**	**40.60**	**73**	P	**P**	**03 24 11.7**	**+0.7**
ARNL	**Arenillas**	**40.91**	**47**	P	**P**	**03 24 12.9**	**+0.1**
ARNL				IAmb	IAmb	03 24 24.6	
	comp=Z,22nm,0.6s						
BOSC	**San Juan Bosco**	**42.17**	**48**	P	**P**	**03 24 22.9**	**-0.6**
COHC	**Cochancay**	**42.25**	**47**	P	**P**	**03 24 23.9**	**0.0**
CHSH	**Refugio Sur-Vo**	**43.26**	**46**	P	**P**	**03 24 32.1**	**-0.7**
ITQB	**Itaqui**	**43.85**	**98**	P	**P**	**03 24 35.9**	**-0.9**
CPUP	**Villa Florida**	**44.54**	**93**	P	**P**	**03 24 41.6**	**-0.7**
	comp=Z,5.2nm,1.1s,baz=252,slow=6.9,SNR=3.9						
CPUP				LR	LR	03 40 17.6	
	comp=Z,609nm,18.4s,baz=248,slow=32						
	comp=Z,5.2nm,1.1s						
PLTB	**Pedras Altas**	**45.57**	**102**	P	**P**	**03 24 50.2**	**-0.3**
PLTB				IAmb	IAmb	03 24 51.1	
	comp=Z,21nm,1.1s						
ETMB	**Extrema**	**45.99**	**67**	P	**P**	**03 24 54.7**	**+0.8**
SIV	**San Ignacio**	**46.39**	**78**	LR	LR	03 42 01.6	
	comp=Z,286nm,20.2s,baz=282,slow=33						
RAR	**Rarotonga**	**46.71**	**273**	LR	LR	03 39 34.3	
	comp=Z,291nm,20.1s,baz=151,slow=30						
PTLB	**Pontes e Lacer**	**48.24**	**79**	P	**P**	**03 25 10.6**	**-1.0**
PTLB				IAmb	IAmb	03 25 27.8	
	comp=Z,13nm,1.3s						
AQDB	**Aquidauana**	**48.48**	**87**	P	**P**	**03 25 13.3**	**0.0**
AQDB				IAmb	IAmb	03 25 13.9	
	comp=Z,9.9nm,0.9s						
TRCB	**Terra Rica**	**49.91**	**92**	P	**P**	**03 25 23.8**	**-0.5**
JTS	**Las Juntas de**	**50.22**	**31**	LR	LR	03 41 22.5	
	comp=Z,483nm,19.8s,baz=196,slow=30						
ROSC	**El Rosal**	**51.02**	**46**	P	**P**	**03 25 34.4**	**+1.3**
ROSC

OZNA **Ozona** 65.85 7 P P 03 27 15.8 -0.1
OZNA IAmb IAmb 03 27 19.4
comp=Z,8.7nm,1.1s
MDP **Montagnes des** 65.92 65 LR LR 03 52 58.7
comp=Z,762nm,18.9s,baz=247,slow=33
319A **Douglas** 65.93 359 P P 03 27 16.6 +0.1
319A IAmb IAmb 03 27 26.7
comp=Z,11nm,1.1s
MNHN **Monahans** 66.12 5 P P 03 27 18.1 +0.4
435B **Jarrell** 66.15 10 P P 03 27 17.7 -0.1
435B **Jarrell** 66.15 10 P P 03 27 18.4 +0.6
baz=190
MNTX **Cornudas Mount** 66.32 3 P P 03 27 19.7 +0.8
baz=183
SJG **San Juan** 66.37 44 LR LR 03 54 25.3
comp=Z,128nm,19.0s,baz=226,slow=34
BRDY **Brady** 66.45 9 P P 03 27 19.4 -0.3
BRDY IAmb IAmb 03 27 23.2
comp=Z,7.9nm,1.0s
214A **Organ Pipe Nat** 66.62 356 P P 03 27 20.9 +0.1
baz=176
SGCY **Sterling City** 66.83 7 P P 03 27 22.1 -0.1
TUC **Tucson** 66.89 358 P P 03 27 22.8 +0.3
baz=178
121A **Cookes Peak, D** 67.08 1 P P 03 27 23.3 -0.6
121A **Cookes Peak, D** 67.08 1 P P 03 27 23.9 0.0
baz=181
DUN6 **Lazy B Ranch** 67.10 360 P P 03 27 23.2 -0.8
WHTX **Lake Whitney,** 67.36 10 P P 03 27 25.2 -0.3
WHTX **Lake Whitney,** 67.36 10 P P 03 27 25.4 0.0
baz=190,SNR=8.0
YUH **Yuha Desert** 67.55 353 P P 03 27 26.4 -0.2
IKP **In-Ko-Pah, Jac** 67.57 353 P P 03 27 27.2 +0.4
baz=174
NATX **Nacogdoches** 67.59 13 P P 03 27 26.6 -0.4
NATX **Nacogdoches** 67.59 13 P P 03 27 27.2 +0.2
baz=192
237A **Washetta, Mont** 67.63 12 P P 03 27 25.8 -1.3
BAR **Barrett** 67.65 353 P P 03 27 26.6 -0.8
ABTX **Abilene, Hawle** 67.69 8 P P 03 27 27.1 -0.5
ABTX IAmb IAmb 03 27 31.1
comp=Z,6.8nm,0.9s
ABTX **Abilene, Hawle** 67.69 8 P P 03 27 27.6 0.0
baz=188
DWPF **Disney Wildern** 67.73 26 P P 03 27 27.6 -0.2
baz=204
SN01 **Snyder 1** 67.79 7 P P 03 27 27.4 -0.9
SN01 IAmb IAmb 03 27 31.7
comp=Z,12nm,1.0s
SWSC **Sam W. Stewart** 67.83 353 P P 03 27 28.4 0.0
baz=174
MONP2 **Monument Peak** 67.84 353 P P 03 27 28.7 0.0
baz=173
POST **Post** 67.94 6 P P 03 27 28.3 -0.9
POST IAmb IAmb 03 27 32.8
comp=Z,7.9nm,1.0s
PLPT **Palo Pinto** 68.05 9 P P 03 27 29.4 -0.4
ELIB **Princess Elisa** 68.29 166 *d*P P 03 27 31.2 0.0
comp=Z,3.6nm,0.9s
FW06 **Azle** 68.31 10 P P 03 27 31.4 0.0
APMT **Aspermont** 68.33 8 P P 03 27 31.2 -0.5
APMT IAmb IAmb 03 27 36.0
comp=Z,8.4nm,1.0s
BC3 **Big Chuckawall** 68.50 354 P P 03 27 32.6 -0.2
baz=174
TPFO **Pinon Flats** 68.55 353 P P 03 27 33.2 +0.1
baz=173
PFO **Pinyon Flats O** 68.55 353 P P 03 27 31.9 -1.2
PFO IAmb IAmb 03 27 38.6
comp=Z,14nm,1.3s
PFO **Pinyon Flats O** 68.55 353 P P 03 27 33.2 +0.1
baz=173
PFO **Pinyon Flats O** 68.55 353 LR LR 03 50 09.5
comp=Z,112nm,18.8s,baz=138,slow=30
PMD **Palm Desert** 68.58 353 P P 03 27 32.7 -0.5
PMD IAmb IAmb 03 27 37.3
comp=Z,17nm,1.5s
DKNS **Dickens** 68.59 7 P P 03 27 33.1 -0.1
DKNS IAmb IAmb 03 27 42.5
comp=Z,11nm,1.5s
Y14A **Wickenburg** 68.61 356 P P 03 27 32.0 -1.3
Y14A IAmb IAmb 03 27 37.8
comp=Z,9.3nm,1.3s
MURC **Murrieta** 68.62 352 P P 03 27 33.7 +0.3
baz=173
Z35A **Perchaven, San** 68.70 10 P P 03 27 32.8 -1.1
MSTX **Muleshoe** 68.73 5 P P 03 27 32.7 -1.5
MSTX **Muleshoe** 68.73 5 P P 03 27 34.1 -0.1
baz=185,SNR=7.9
BELC **Belle Mtn. Jos** 68.89 353 P P 03 27 35.1 -0.1
baz=174
IRM **Iron Mountain** 68.97 354 P P 03 27 36.1 +0.5
baz=174
X16A **Lo Mia Camp, P** 69.01 357 P P 03 27 35.1 -0.9
PDMCI **Parker Dam,Lak** 69.04 355 P P 03 27 37.0 +1.0
baz=175
X18A **Snowflake** 69.08 359 P P 03 27 35.3 -1.1
X18A IAmb IAmb 03 27 41.0
comp=Z,10nm,1.1s
BBRC **Big Bear Solar** 69.24 353 P P 03 27 38.1 +0.5
baz=173
BFSC **Mount Baldy Ra** 69.30 352 P P 03 27 38.2 +0.4
baz=172
ANMO **Albuquerque** 69.52 2 P P 03 27 39.1 0.0
ANMO **Albuquerque** 69.52 2 P P 03 27 39.6 +0.5
baz=182
ANMO **Albuquerque** 69.52 2 LR LR 03 54 18.1
comp=Z,69nm,20.3s,baz=235,slow=33
GMRC **Granite Mounta** 69.64 354 P P 03 27 40.4 +0.5
baz=174
AMTX **Amarillo** 69.72 6 P P 03 27 41.0 +0.7
baz=186
HEC **Hector,Ludlow** 69.75 353 P P 03 27 41.2 +0.7
baz=174
WLAR **White Oak Lake** 69.76 14 P P 03 27 39.6 -0.8
W13A **Hualapai Mount** 69.81 355 P P 03 27 40.2 -0.8
W13A IAmb IAmb 03 28 03.0
comp=Z,14nm,1.8s
WMOK **Wichita Mounta** 69.89 9 P P 03 27 42.7 +1.5
baz=189
EDW2 **Edwards Air Fo** 69.97 352 P P 03 27 43.1 +1.3
baz=172
SMWD **Samnorwood** 70.08 7 P P 03 27 41.4 -1.0
SMWD IAmb IAmb 03 27 46.7
comp=Z,9.8nm,1.0s
WUAZ **Wupatki** 70.10 358 P P 03 27 43.5 +0.8
baz=178
BCW **Bitter Crk WRg** 70.21 351 P P 03 27 42.3 -1.0
PKM **Mcpherson Peak** 70.22 350 P P 03 27 43.9 +0.5
baz=170
GSC **Goldstone, Bar** 70.26 353 IAmb IAmb 03 27 48.6
comp=Z,14nm,1.2s
GSC **Goldstone, Bar** 70.26 353 P P 03 27 45.1 +1.5
baz=173
TUQ **Turquoise Moun** 70.31 354 P P 03 27 44.9 +0.9
baz=174,SNR=8.2
ARVC **Arvin** 70.32 351 P P 03 27 45.0 +1.1
baz=171
V12A **Nelson** 70.51 355 IAmb IAmb 03 27 48.2
comp=Z,12nm,1.6s
LRMC **Laurel Mtn Rad** 70.53 352 P P 03 27 46.6 +1.3
baz=172,SNR=10
LRAL **Lakeview Retre** 70.55 19 P P 03 27 46.7 +1.4
baz=199
SHOC **Shoshone, Teco** 70.80 353 P P 03 27 48.0 +1.2
baz=174,SNR=5.5
ISA **Isabella, Lake** 70.80 351 IAmb IAmb 03 27 51.9
comp=Z,15nm,1.1s
ISA **Isabella, Lake** 70.80 351 P P 03 27 48.4 +1.5
baz=172,SNR=8.6
152A **Waverly Hall** 70.86 21 IAmb IAmb 03 27 56.9
comp=Z,12nm,1.1s
U15A **North Rim** 71.05 357 IAmb IAmb 03 27 51.7
comp=Z,17nm,1.5s
VES **Vestal, Richgr** 71.06 351 P P 03 27 49.0 +0.7
baz=171
MPMC **Manual Prospec** 71.08 352 P P 03 27 49.4 +0.6
baz=173
GWY **Greenwater Val** 71.12 353 IAmb IAmb 03 27 50.7
comp=Z,11nm,1.3s
RTBA **Rita Blanca** 71.19 5 IAmb IAmb 03 27 52.2
comp=Z,23nm,1.7s
OXF **Oxford** 71.35 17 P P 03 27 51.5 +1.4
baz=197
FURC **Furnace Creek,** 71.42 353 P P 03 27 51.9 +1.4
baz=173
TUL3 **Leonard** 71.45 11 P P 03 27 50.7 0.0
baz=191
CWC **Cottonwood Cre** 71.53 352 P P 03 27 51.6 +0.2
baz=172
KNB **Kanab** 71.66 356 IAmb IAmb 03 27 55.9
comp=Z,12nm,1.4s
WCT **Wildcat Mounta** 71.72 353 IAmb IAmb 03 27 57.0
comp=Z,30nm,1.9s
MVCO **Mesa Verde** 71.75 0 P P 03 27 53.2 +0.5
baz=180,SNR=6.0
T25A **Trinidad** 71.78 4 P P 03 27 53.9 +0.9
baz=184
TPNV **Topopah Spring** 71.84 354 IAmb IAmb 03 27 58.4
comp=Z,8.6nm,1.0s
TPNV **Topopah Spring** 71.84 354 P P 03 27 54.6 +1.3
baz=174,SNR=7.6
GOGA **Godfrey** 71.93 22 P P 03 27 55.0 +1.4
baz=202
GRAC **Grapevine Rang** 72.00 353 P P 03 27 55.3 +1.3
baz=173
U38A **Gravette** 72.20 12 IAmb IAmb 03 27 59.4
comp=Z,13nm,1.1s
S22A **4UR Ranch, Cre** 72.30 1 P P 03 27 56.9 +0.8
baz=182
SDCO **Great Sand Dun** 72.34 3 P P 03 27 57.0 +0.6
baz=183
LCAR **Lake Charles** 72.46 15 IAmb IAmb 03 28 02.0
comp=Z,24nm,1.6s
S11A **Rachel** 72.48 354 IAmb IAmb 03 28 10.8
comp=Z,13nm,1.0s
HMU **Henry Mountain** 72.50 358 IAmb IAmb 03 28 00.8
comp=Z,24nm,1.5s
RCBR **Riachuelo** 72.50 85 LR LR 03 59 09.1
comp=Z,226nm,18.6s,baz=242,slow=35
OMMB **Old Mammoth Mi** 72.79 351 IAmb IAmb 03 28 02.2
comp=Z,14nm,1.5s
V48A **Smith Brothers** 73.16 18 IAmb IAmb 03 28 01.9
comp=Z,18nm,1.4s
R11B **Troy Canyon, C** 73.17 354 P P 03 28 02.2 +1.0
baz=174,SNR=9.7
TCRU **Three Creeks R** 73.23 357 IAmb IAmb 03 28 06.8
comp=Z,14nm,1.3s
CMB **Columbia Colle** 73.39 350 IAmb IAmb 03 28 13.5
comp=Z,14nm,1.4s
Q16A **Castle Valley** 73.49 358 IAmb IAmb 03 28 06.5
comp=Z,16nm,1.2s
NV11 **Mina Array Sit** 73.50 352 IAmb IAmb 03 28 08.6
comp=Z,12nm,1.0s
NVAR **Mina Array Bea** 73.52 352 P P 03 28 04.5 +1.2
comp=Z,8.7nm,0.9s,baz=181,slow=6.7,SNR=41
NVAR LR LR 03 55 04.5
comp=Z,122nm,18.3s,baz=158,slow=32
comp=Z,8.7nm,0.9s
BG3 **Lake Jocassee** 73.56 22 IAmb IAmb 03 28 05.5
comp=Z,12nm,1.1s
SPR3 **Spring Creek 3** 73.72 355 IAmb IAmb 03 28 08.4
comp=Z,10nm,1.1s
RYN **Ryan** 73.74 352 IAmb IAmb 03 28 07.4
comp=Z,12nm,1.3s
PAULI **Pauline** 73.74 23 IAmb IAmb 03 28 06.6
comp=Z,14nm,1.1s
KSCO **Kaye Shedlock'** 73.75 5 P P 03 28 05.3 +0.7
baz=185
DZM **Mont Dzumac** 73.75 254 LR LR 03 52 46.8
comp=Z,283nm,20.1s,baz=188,slow=30
CBKS **Cedar Bluff** 73.81 7 P P 03 28 05.2 +0.4
baz=188
TKL **Tuckaleechee C** 73.92 21 LR LR 03 55 13.1
comp=Z,202nm,20.8s,baz=199,slow=32
P17A **Butcher Ranch,** 74.03 358 IAmb IAmb 03 28 08.0
comp=Z,16nm,1.4s
KVN **Kaiserville** 74.11 352 IAmb IAmb 03 28 09.6
comp=Z,16nm,1.2s
P18A **Preston Nutter** 74.17 359 IAmb IAmb 03 29 31.9
comp=Z,19nm,1.8s
YERR **Yerington** 74.17 351 IAmb IAmb 03 28 12.1
comp=Z,16nm,1.3s
KMSC **Kings Mountain** 74.19 23 IAmb IAmb 03 28 11.4
comp=Z,12nm,1.0s
KMSC **Kings Mountain** 74.19 23 P P 03 28 07.5 +0.5
baz=203
V53A **Saluda** 74.22 22 IAmb IAmb 03 28 08.7
comp=Z,17nm,1.4s
T47A **Sharon Grove** 74.27 18 IAmb IAmb 03 28 11.2
comp=Z,14nm,0.9s
EMB **Emerald Bay** 74.28 351 IAmb IAmb 03 28 12.7
comp=Z,13nm,1.0s
PNTR **Pine Nut** 74.32 351 IAmb IAmb 03 28 13.4
comp=Z,12nm,0.9s
CCM **Cathedral Cave** 74.36 14 P P 03 28 08.0 +0.1
baz=195
AFDM **Forest Hills D** 74.37 350 IAmb IAmb 03 28 12.0
comp=Z,34nm,2.0s
ISCO **Idaho Springs** 74.38 2 P P 03 28 08.8 +0.4
baz=183
FVM **French Village** 74.45 15 IAmb IAmb 03 28 09.0
comp=Z,11nm,1.2s
NLU **North Lily Min** 74.56 357 P P 03 28 08.4 -0.8
MPK **Martis Peak** 74.58 351 IAmb IAmb 03 28 13.1
comp=Z,16nm,0.9s
O20A **White River Ci** 74.67 0 IAmb IAmb 03 28 13.5
comp=Z,18nm,1.6s
O20A **White River Ci** 74.67 0 P P 03 28 10.8 +0.9
baz=181
TZTN **Tazewell** 74.81 21 P P 03 28 12.0 +1.4
baz=201
DUG **Dugway, Tooele** 74.83 357 P P 03 28 11.4 +0.6
baz=177
PAHR **Pah Rah Range** 74.90 351 IAmb IAmb 03 28 14.2
comp=Z,12nm,1.3s
BSUT **Blindstream Ca** 75.09 358 IAmb IAmb 03 28 15.2
comp=Z,15nm,1.1s
RDMU **Red Mountain** 75.11 359 IAmb IAmb 03 28 15.0
comp=Z,19nm,1.3s
N23A **Red Feather La** 75.47 2 P P 03 28 15.3 +0.7
baz=182
ELK **Elko** 75.52 355 LR LR 03 56 13.4
comp=Z,58nm,19.3s,baz=120,slow=32
BGU **Big Grassy Mou** 75.57 357 IAmb IAmb 03 28 19.1
comp=Z,15nm,1.5s
OGNE **Ogallala** 75.72 5 P P 03 28 16.9 +1.1
baz=186
PHWY **Pilot Hill** 75.89 2 IAmb IAmb 03 28 40.3
comp=Z,20nm,1.8s
BLA **Blacksburg** 76.38 23 P P 03 28 20.8 +1.1
baz=204
HDIL **Hopedale** 77.17 15 P P 03 28 25.0 +1.1
baz=196
Q51A **Pebbles** 77.18 20 IAmb IAmb 03 28 26.3
comp=Z,9.6nm,0.8s
K22A **Casper** 77.20 2 IAmb IAmb 03 28 25.9
comp=Z,17nm,1.4s
K22A **Casper** 77.20 2 P P 03 28 25.0 +0.7
baz=182
BW06 **Boulder Array** 77.30 359 IAmb IAmb 03 28 28.4
comp=Z,8.2nm,0.9s
BW06 **Boulder Array** 77.30 359 P P 03 28 25.5 +0.6
baz=179
PD31 **Pinedale Array** 77.30 359 IAmb IAmb 03 28 28.4
comp=Z,7.9nm,1.0s
PDAR **Pinedale Array** 77.30 359 P P 03 28 24.6 -0.3
comp=Z,4.9nm,0.9s,baz=159,slow=4.6,SNR=21
PDAR LR LR 03 57 24.6
comp=Z,114nm,19.6s,baz=60,slow=32
comp=Z,4.9nm,0.9s
YBH **Yreka Blue Hor** 77.35 349 LR LR 03 54 23.9
comp=Z,101nm,20.7s,baz=167,slow=29
WVOR **Wild Horse Val** 77.51 352 IAmb IAmb 03 28 28.8
comp=Z,14nm,1.2s
TPAW **Teton Pass** 78.05 358 IAmb IAmb 03 28 32.9
comp=Z,11nm,1.1s
P52A **Corning** 78.09 21 P P 03 28 29.8 +0.7
baz=202
LOHW **Long Hollow** 78.16 359 IAmb IAmb 03 28 31.9
comp=Z,18nm,1.6s
HLID **Hailey** 78.27 356 IAmb IAmb 03 28 35.3
comp=Z,15nm,1.1s
HLID **Hailey** 78.27 356 P P 03 28 30.4 +0.2
baz=175
ACSO **Alum Creek Sta** 78.41 20 P P 03 28 31.6 +0.8
baz=201
J08A **Circle Bar Ran** 78.41 353 IAmb IAmb 03 28 35.8
comp=Z,9.9nm,1.0s
FLWY **Flagg Ranch** 78.63 358 IAmb IAmb 03 28 34.5
comp=Z,26nm,1.5s
J05D **Fort Rock, OR** 78.67 351 P P 03 28 30.6 -1.8
J05D IAmb IAmb 03 28 35.8
comp=Z,13nm,0.9s
RSSD **Black Hills** 78.76 3 P P 03 28 32.5 -0.5
RSSD IAmb IAmb 03 28 36.3
comp=Z,27nm,1.8s
RSSD **Black Hills** 78.76 3 P P 03 28 33.6 +0.6
baz=184
O53A **New Philadelph** 78.93 21 P P 03 28 34.4 +0.7
baz=203
ECSD **EROS Data Cent** 79.02 9 P P 03 28 34.9 +0.8
baz=190
PINE **Pine Mountain** 79.12 351 IAmb IAmb 03 28 39.9
comp=Z,14nm,0.9s
I07A **Izee** 79.23 352 IAmb IAmb 03 28 38.9
comp=Z,12nm,0.9s
SUSD **Miller** 79.46 7 P P 03 28 37.6 +1.1
baz=188
RLMT **Red Lodge** 79.65 360 P P 03 28 38.1 +0.2
baz=180
AAM **Ann Arbor** 80.16 19 P P 03 28 40.8 +0.5
baz=201
M53A **WI Miller and** 80.18 21 P P 03 28 41.1 +0.6
baz=203
F10A **Beach Ranch, E** 80.88 354 IAmb IAmb 03 28 44.9
comp=Z,18nm,1.4s
ERPA **Erie** 81.01 21 P P 03 28 45.9 +1.0
baz=204
LAO **LASA Array** 81.25 2 IAmb IAmb 03 28 50.5
comp=Z,12nm,1.2s
LAO **LASA Array** 81.25 2 P P 03 28 46.8 +0.7
baz=182
MSO **Missoula** 81.50 356 IAmb IAmb 03 28 53.5
comp=Z,23nm,1.9s
MSO **Missoula** 81.50 356 P P 03 28 48.8 +1.3
baz=176
F36A **Milaca** 81.54 11 IAmb IAmb 03 28 58.0
comp=Z,12nm,1.1s
PAL **Palisades** 82.00 26 P P 03 28 51.2 +1.1
baz=208
GLMI **Grayling** 82.28 17 P P 03 28 52.3 +0.7
baz=200
BINY **Binghamton** 82.34 24 P P 03 28 53.1 +1.1
baz=207
EGMT **Eagleton** 82.56 359 P P 03 28 53.7 +0.6
baz=179
MDND **Maddock** 82.77 6 P P 03 28 54.6 +0.5
baz=188
DGMT **Dagmar** 83.09 3 P P 03 28 56.7 +0.9
baz=184
NEW **Newport** 83.14 354 IAmb IAmb 03 28 58.8
comp=Z,11nm,1.2s
NEW **Newport** 83.14 354 P P 03 28 56.6 +0.6
baz=173
AGMN **Agassiz Nation** 83.61 9 P P 03 28 59.6 +1.2
baz=191
SADO **Sadowa** 83.68 21 LR LR 04 00 30.1
comp=Z,171nm,21.5s,baz=269,slow=32
ULM **Lac du Bonnet** 85.53 8 P P 03 29 07.3 -0.7
comp=Z,11nm,1.0s,baz=184,slow=4.3,SNR=12
comp=Z,11nm,1.0s
HNR **Honiara** 85.86 261 LR LR 03 59 37.4
comp=Z,2µm,22.0s,baz=150,slow=30
STKA **Stephens Creek** 86.42 233 LR LR 04 01 38.9
comp=Z,239nm,18.3s,baz=180,slow=31
FFC **Flin Flon** 89.45 4 P P 03 29 25.4 -1.4
FFC IAmb IAmb 03 29 29.8
comp=Z,5.4nm,1.0s
CTA **Charters Tower** 90.42 245 LR LR 04 04 35.2
comp=Z,166nm,18.5s,baz=94,slow=32
SIT **Sitka** 94.36 346 P P 03 29 49.3 -0.2
baz=158
PMG **Port Moresby** 96.15 254 LR LR 04 04 25.6
comp=Z,105nm,21.4s,baz=151,slow=30
SCHQ **Schefferville** 96.31 23 LR LR 04 06 51.5
comp=Z,194nm,21.3s,baz=264,slow=31
ASAR **Alta Springs** 96.93 235 P P 03 30 01.5 -0.8
comp=Z,0.4nm,0.6s,baz=134,slow=4.0,SNR=2.9
ASAR LR LR 04 12 42.0
comp=Z,161nm,18.1s,baz=138,slow=35
comp=Z,0.4nm,0.6s
YKA **Yellowknife Ar** 97.18 357 P P 03 30 01.2 -1.0
comp=Z,0.7nm,0.8s,baz=173,slow=4.1,SNR=9.8
YKA LR LR 04 09 50.2
comp=Z,106nm,19.9s,baz=330,slow=33
comp=Z,0.7nm,0.8s
H01W1 **Cape Leeuwin H** 99.89 215 T T 05 22 22.0
baz=143,slow=76,SNR=15
H01W2 **Cape Leeuwin H** 99.90 214 T T 05 22 22.6
baz=143,slow=76,SNR=18
H01W3 **Cape Leeuwin H** 99.91 214 T T 05 22 23.4
baz=143,slow=76,SNR=16
NWAO **Narrogin (SRO)** 99.99 218 LR LR 04 08 22.7
comp=Z,99nm,19.1s,baz=267,slow=31
TORD **Torodi Ar. Bea** 113.98 90 PP PP 03 36 03.8 -0.4
comp=Z,1.0nm,0.8s,baz=262,slow=7.0,SNR=5.3
ESDC **Sonseca Array** 121.50 61 PKP PKPdf 03 35 23.6 -0.3
comp=Z,0.5nm,0.6s,baz=274,slow=1.3,SNR=6.8
DAVA **Damuels** 133.16 55 *e*PKP PKPdf 03 35 46.6 +0.5
comp=Z,1.5nm,0.7s
FETA **Feichten** 133.70 56 *e*PKP PKPdf 03 35 46.8 -0.3
comp=Z,4.2nm,1.2s
RETA **Reutte** 133.78 55 *i* PKP PKPdf 03 35 46.5 -0.6
comp=Z,6.2nm,1.6s
MOTA **Moosalm** 133.99 55 *e*PKP PKPdf 03 35 47.9 +0.3
comp=Z,6.0nm,1.0s
SQTA **Sankt Quirin** 134.05 55 *i* PKP PKPdf 03 35 47.9 +0.2
comp=Z,7.9nm,1.2s
WATA **Walderalm** 134.31 55 *i* PKP PKiKP 03 35 49.0 -0.5
comp=Z,4.1nm,1.0s
WTTA **Wattenberg** 134.34 55 *i* PKP PKPdf 03 35 47.9 -0.4
comp=Z,5.7nm,1.2s
ABTA **Abfaltersbach** 134.88 56 *i* PKiKP PKiKP 03 35 51.3 +0.6
comp=Z,5.1nm,1.2s
LESA **Schwarzleotal** 135.06 55 *i* PKP PKiKP 03 35 50.5 -0.4
comp=Z,7.8nm,1.6s
HFS **Hagfors** 135.47 37 PKP PKPdf 03 35 50.2 +0.4
comp=Z,3.6nm,0.8s,baz=178,slow=4.5,SNR=3.7
KBA **Koelnbreinsper** 135.48 56 *e*PKP PKPdf 03 35 49.6 -0.8
comp=Z,8.3nm,1.7s
CLL **Collm** 135.54 50 *i* PKPdf PKPdf 03 35 50.9 +0.8
comp=Z,8.0nm,1.1s
KHC **Kasperske Hory** 135.81 53 *e*PKP PKiKP 03 35 53.4 +1.0
GERES **GERESS Array B** 135.87 53 PKP PKiKP 03 35 51.9 -0.7
comp=Z,0.7nm,0.6s,baz=232,slow=1.5,SNR=5.0
MOA **Molln** 136.17 55 *ep*PKP pPKPdf 03 35 55.5 +1.7
comp=Z,5.4nm,1.5s
ZVC **Zvikov** 136.22 52 *e*PKP PKiKP 03 35 53.0 -0.2
CKRC **Cesky Krumlov** 136.27 53 *e*PKP PKiKP 03 35 53.8 +0.5
ARSA **Arzberg** 136.97 56 *e*PKP PKPdf 03 35 53.2 +0.2
comp=Z,3.7nm,0.9s
CONA **Conrad Observa** 137.25 55 *e*PKP PKPdf 03 35 54.3 +0.8
comp=Z,3.3nm,1.1s
OSTC **Ostas** 137.56 51 *e*PKP PKiKP 03 35 57.1 +1.2
DPC **Dobruska-Polom** 137.63 51 *e*PKP PKiKP 03 35 57.2 +1.1
KRLC **Kraliky** 137.92 52 *e*PKP PKiKP 03 35 55.7 -1.0
MODS **Modra-Piesok** 138.22 54 *e*PKP PKiKP 03 35 57.5 +0.2
VYHS **Vyhne** 139.25 54 *e*PKP PKiKP 03 35 58.9 -0.5
NJ2 **Nanjing** 140.60 280 *e*P PKPdf 03 35 59.3 -0.8
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
FINES **FINESS Array B** 141.00 33 PKhKP PKPpre 03 35 53.2
comp=Z,1.3nm,0.8s,baz=0.0,slow=1.5,SNR=2.1
SURR **Surduc** 141.45 58 ⇑P PKPdf 03 35 55.2 -6.0
ARR **Arges** 143.21 59 ⇑P PKPbc 03 36 01.3 -0.1
VOIR 143.50 59 ⇑P PKPbc 03 36 02.9 +0.7
BURAR **Bucovina Array** 143.56 55 ⇑P PKPbc 03 36 03.3 +0.9
OZUR 144.01 58 ⇑P PKPbc 03 36 04.5 +0.8
MLR **Muntele Rosu** 144.13 59 ⇑P PKPbc 03 36 04.8 +0.5
TURR **Turia** 144.17 58 ⇑P PKPbc 03 36 04.6 +0.4
NRIK **Noril'sk** 144.36 350 PKhKP PKPpre 03 36 01.6
comp=Z,2.3nm,0.5s,baz=297,slow=1.7,SNR=4.4
NEHR **Nehoiu** 144.38 59 ⇑P PKPdf 03 36 06.3 -0.1
LOZB **Loznitsa** 144.59 62 ⇑P PKPab 03 36 04.0 -1.4
TESR **Tescani** 144.59 57 ⇑P PKPdf 03 36 06.5 -0.2
PLOR **Plostina** 144.62 58 ⇑P PKPbc 03 36 06.0 +0.3
VRI **Vrincioaia** 144.67 58 ⇑P PKPab 03 36 05.2 -0.5
ODBI **Odobesti** 144.91 58 ⇑P PKPdf 03 36 07.4 +0.1
GHRR 145.14 58 ⇑P PKPdf 03 36 08.6 +0.9
HNS **HongShan** 145.17 287 ⇓PKPbc PKPbc 03 36 07.4 -0.2
HARR **Harsova** 145.56 60 ⇑P PKPbc 03 36 08.7 +0.1
SORM **Soroca** 145.61 54 ⇑P PKPab 03 36 08.8 -0.1
CFR **Carcaliu** 145.69 59 ⇑P PKPdf 03 36 08.2 -0.4
KIEV **Kiev** 145.77 49 ⇑P PKPdf 03 36 08.6 +0.1
AKASG **Malin Array Be** 145.78 49 PKPbc PKPdf 03 36 07.5 -1.1
comp=Z,7.6nm,0.9s,baz=276,slow=3.6,SNR=18
TPGR **Topolog** 145.90 60 ⇑P PKPdf 03 36 09.2 +0.1
TIRR **Tirgusor** 145.90 61 ⇑P PKPab 03 36 11.3 +1.2
MILM **Milestii Mici** 146.05 56 ⇑P PKPbc 03 36 10.1 +0.1
HHC **Hu-ho-hao-te** 147.95 293 *e*P PKPdf 03 36 06.4 -6.3
XAN **Xi'an** 149.17 279 PKPbc PKPbc 03 36 19.1 0.0

XAN				pPKP	sPKPab	03 36 30.8	+4.3	
BRTR	**Keskin Array B**	**149.73**	**70**	PKP	**PKPdf**	**03 36 16.1**	**+0.4**	
	comp=Z,9.4nm,1.0s,baz=212,slow=2.1,SNR=19							
BRTR				PKPbc	**PKPbc**	**03 36 20.6**	**+0.1**	
	comp=Z,9.4nm,1.0s,baz=217,slow=2.6,SNR=18							
CMAR	**Chiang Mai Arr**	**150.58**	**243**	PKPbc	**PKPbc**	**03 36 22.5**	**-0.4**	
	comp=Z,9.5nm,0.9s,baz=186,slow=1.7,SNR=39							
SONM	**Songino Array**	**150.99**	**307**	PKPbc	**PKPbc**	**03 36 22.2**	**-0.9**	
	comp=Z,4.0nm,0.8s,baz=150,slow=1.7,SNR=18							
CD2	**Chengdu**	**152.61**	**271**	PKPbc	**PKPdf**	**03 36 19.0**	**-1.3**	
PZH	**PanZhiHua**	**152.68**	**261**	PKPbc	**PKPdf**	**03 36 19.5**	**-1.1**	
LZH	**Lanzhou**	**153.62**	**282**	*eP*	**PKPab**	**03 36 45.5**	**+3.3**	
LZH				pP	sPKPab	03 36 49.6	+4.5	
LZH				pmax	pmax			
	comp=Z,18nm,1.5s							
GTA	**Gaotai**	**156.96**	**290**	*eP*	**PKPab**	**03 36 57.0**	**+0.7**	
GTA				pP	sPKPab	03 37 04.9	+5.7	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.3s							
ZALV	**Zalesovo Beam**	**158.75**	**338**	PKPab	**PKPab**	**03 37 03.1**	**-0.2**	
	comp=Z,0.9nm,0.6s,baz=20,slow=4.7,SNR=5.3							
BVAR	**Borovoye Array**	**161.87**	**2**	PKPab	**PKPab**	**03 37 16.4**	**-0.4**	
	comp=Z,1.6nm,0.8s,baz=318,slow=1.9,SNR=7.1							
KURBB	**Kurchatov Arra**	**163.45**	**344**	PKPab	**PKPab**	**03 37 21.9**	**-1.9**	
	comp=Z,0.8nm,0.8s,baz=22,slow=3.9,SNR=5.3							
WMQ	**Urumqi**	**164.59**	**310**	*eP*	**PKPdf**	**03 36 33.8**	**-0.3**	

SCB 23 03:27:09.3±1.0, 18°30S×68°13W, h218km±10km, ML3.2/3, MW3.5, Error ellipse: s-maj=6.0km s-min=4.2km az=1.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**0.35**	**139**	Pg	Pn	03 27 38.7	+0.1
PB16	**IPOC Station P**	**1.31**	**268**	Pg	Pn	03 27 44.6	+0.8
BBOE	**La Paz, Chanca**	**1.48**	**5**	Pg	Pn	03 27 45.6	+0.4
BBOD	**La Paz, Gloria**	**1.71**	**345**	Pg	Pn	03 27 47.6	+0.5
LPAZ	**La Paz**	**2.00**	**360**	Pg	Pn	03 27 49.6	-0.3
PB11	**IPOC Station P**	**2.05**	**225**	Pg	Pn	03 27 50.2	+0.4
PB08	**IPOC Station P**	**2.07**	**208**	Pg	Pn	03 27 51.4	+1.1
PB12	**IPOC Station P**	**2.11**	**261**	Pg	Pn	03 27 50.8	+0.4
HMBC	**Humberstone**	**2.58**	**220**	Pg	Pn	03 27 56.0	+0.7
HMBC				Sg	S	03 28 30.1	-1.0
HMBC				IAML		03 28 31.8	
	28nm,0.8s						
PB01	**IPOC Station P**	**3.02**	**205**	Pg	Pn	03 28 00.8	+0.6
PB02	**IPOC Station P**	**3.44**	**209**	Pg	Pn	03 28 06.0	+0.9
PB02				Sg	S	03 28 48.4	-0.3
PB02				IAML		03 28 51.6	
	31nm,0.2s						
PB09	**IPOC Station P**	**3.63**	**197**	Pg	Pn	03 28 08.7	+1.2
MOCB	**Mochara**	**3.76**	**142**	Pg	Pn	03 28 09.9	+0.7
PB07	**IPOC Station P**	**3.79**	**206**	Pg	Pn	03 28 10.2	+0.8
LVC	**Limon Verde**	**4.35**	**190**	Pg	Pn	03 28 16.8	+0.4
PB06	**IPOC Station P**	**4.59**	**197**	Pg	Pn	03 28 19.7	+0.5
PB05	**IPOC Station P**	**4.93**	**203**	Pg	Pn	03 28 23.5	+0.1
PB15	**IPOC Station P**	**5.04**	**194**	Pg	Pn	03 28 25.3	+0.4
PB15				Sg	S	03 29 22.4	-2.2
PB15				IAML		03 29 30.9	
	35nm,0.3s						

ISN 23 03:37:59.7±2.4, 34°.77N×45°.65E, h25km, ML2.4
TEH 23 03:37:58.3, 34°.85N×45°.60E, h8km±22km, ML2.6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.34**	**182**	Pg	Pg	03 38 05.4	+0.3
IDHR	**Dehrash**	**0.66**	**103**	Pg	Pg	03 38 11.5	+0.4
IDHR				Sg	Sb	03 38 21.4	-0.2
IGHG	**Ghaleghazi**	**0.95**	**123**	Pg	Pg	03 38 16.6	+0.1
IBDR	**Badra**	**1.75**	**171**	*e*Pg	Pn	03 38 28.0	-0.9
	baz=352						
IBDR				*e*Sg	Sb	03 38 53.0	+0.2
IBDR				AML	AML	03 39 05.0	
	comp=E,49nm,0.6s						
IBDR				AML	AML	03 39 05.4	
	comp=N,51nm,0.7s						
IKFM	**Kafar-mosalman**	**2.28**	**125**	Pn	Pb	03 38 38.4	-1.3

MOS 23 03:45:12.9±1.1, 33°.53N×46°.84E, h11km, mb4.7/39, Error ellipse: s-maj=5.0km s-min=3.5km az=101.7
TEH 23 03:45:13.4, 33°.57N×46°.85E, h1km±27km, ML4.4
ISN 23 03:45:13.3±0.3, 33°.47N×46°.84E, h19km±2km, ML4.5
NEIC 23 03:45:14.2±1.6, 33°.45N±0°.07×46°.92E±0°.08, h10km±1km, mb4.7/106, Error ellipse: s-maj=12.5km s-min=11.4km az=179.0
GII 23 03:45:17.4±0.5, 33°.55N×46°.98E, h10km, Mws4.8, confirmed
OMAN 23 03:45:17.9±1.2, 33°.53N×47°.39E, h10km±11km, mb4.6/39, ms3.4/2, Error ellipse: s-maj=10.6km s-min=6.5km az=99.0
IDC 23 03:45:18.4±2.9, 33°.64N×46°.75E, h33km±21km, mb4.1/25, mbtmp4.3/32, ML3.5/7, MS3.6/23, Error ellipse: s-maj=18.5km s-min=11.5km az=154.0
NAO 23 03:45:37.9, 34°.90N×43°.58E, h33km, mb4.7
ISC 23 03:45:14.5±0.7, 33°.53N±0°.03×46°.86E±0°.03, h10km±4km, n519, σ1§52/503, mb4.7/144, MS3.7/16, 22C-22D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.82**	**90**	Pg	**Pb**	**03 45 30.3**	**-0.5**
IGHG	**Ghaleghazi**	**0.83**	**343**	Pg	**Pg**	**03 45 29.2**	**-1.4**
IBDR	**Badra**	**0.89**	**242**	*e*Pg	**Pg**	**03 45 29.0**	**-2.5**
IBDR				*e*Sg	**Sg**	**03 45 40.5**	**-2.5**
IDHR	**Dehrash**	**1.23**	**341**	Pg	**Pb**	**03 45 35.9**	**-2.1**
ILIN	**Lien**	**1.39**	**3**	Pg	**Pn**	**03 45 39.9**	**-0.2**
ILIN				Sg	**Sg**	**03 45 59.8**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**1.44**	**313**	Pg	**Pb**	**03 45 41.0**	**-0.4**
KGS1				Sg	**Sg**	**03 46 02.2**	**+1.5**
HSAM	**Samen**	**1.60**	**64**	Pg	**Pb**	**03 45 44.0**	**-0.2**
HSAM				Sg	**Sg**	**03 46 08.8**	**+2.9**
IALM	**Almabolaq**	**1.71**	**39**	Pg	**Pb**	**03 45 45.8**	**-0.4**
IALM				Sg	**Sg**	**03 46 11.6**	**+2.0**
RAFI	**Al-Rafai**	**1.91**	**200**	*e*Pn	**Pn**	**03 45 46.0**	**-1.0**
BHD	**Baghdad**	**2.09**	**264**	*e*Pn	**Pn**	**03 45 49.0**	**-0.5**
BHD				*e*Sn	**Sn**	**03 46 15.0**	**-0.6**
BHD				AML	AML	03 46 38.9	
	comp=E,4μm,0.7s						
HAGD	**Aghdareh**	**2.29**	**55**	Pn	**Pb**	**03 45 54.0**	**-1.9**
AHWZ	**Ahwaz**	**2.66**	**145**	Pn	**Pn**	**03 45 59.8**	**+2.4**
SDS1	**Sardasht. Az.**	**2.85**	**337**	Pn	**Pn**	**03 46 01.2**	**+1.1**
IRAZ	**Razeghan**	**3.15**	**53**	Pn	**Pn**	**03 46 06.0**	**+1.7**
MAHB	**Mahabad**	**3.37**	**344**	Pn	**Pn**	**03 46 08.4**	**+1.2**
JHBN	**Jahan bin**	**3.45**	**111**	Pn	**Pn**	**03 46 10.5**	**+1.9**
IPIR	**Pirpir**	**3.48**	**103**	Pn	**Pn**	**03 46 10.9**	**+1.9**
ZNGN	**Zangian**	**3.64**	**112**	Pn	**Pn**	**03 46 12.4**	**+1.2**
IQOM	**Qom**	**3.73**	**68**	Pn	**Pn**	**03 46 13.6**	**+1.3**
IHSH	**Hashtrud**	**3.78**	**5**	Pn	**Pn**	**03 46 14.4**	**+1.4**
QAMS	**Qamsar**	**3.79**	**86**	Pn	**Pn**	**03 46 15.0**	**+1.8**
IMHD	**Mahdasht**	**3.81**	**55**	Pn	**Pn**	**03 46 15.2**	**+1.9**
IKLH	**Kolahrood**	**3.95**	**92**	Pn	**Pn**	**03 46 17.3**	**+2.0**
JIR1	**Jirandeh**	**3.98**	**36**	Pn	**Pn**	**03 46 17.1**	**+1.4**
IBRJ	**Brojen**	**4.04**	**112**	Pn	**Pn**	**03 46 18.5**	**+1.8**
ABEH	**Behbahan**	**4.10**	**135**	Pn	**Pn**	**03 46 19.1**	**+1.9**
IAZR	**Azarshahr**	**4.20**	**350**	Pn	**Pn**	**03 46 19.6**	**+0.8**
IVRN	**Varamin**	**4.29**	**69**	Pn	**Pn**	**03 46 21.2**	**+1.4**
ISRB	**Sarab**	**4.34**	**8**	Pn	**Pn**	**03 46 21.9**	**+1.3**
KBD	**Kabd**	**4.40**	**170**	P	**Pn**	**03 46 24.4**	**+3.1**
KBD				S	**Sn**	**03 47 16.6**	**+4.1**
KRSH	**Karshahi**	**4.42**	**83**	Pn	**Pn**	**03 46 23.4**	**+1.7**
LHJ2	**Lahijan - Gila**	**4.47**	**35**	Pn	**Pn**	**03 46 23.5**	**+1.2**
IGAR	**Gharneh**	**4.50**	**103**	Pn	**Pn**	**03 46 24.4**	**+1.6**
ISFB	**Sefidab**	**4.55**	**78**	Pn	**Pn**	**03 46 25.0**	**+1.6**
KLST	**Kelardasht - M**	**4.55**	**48**	Pn	**Pn**	**03 46 25.2**	**+1.5**
CUKT	**Cukurca**	**4.58**	**325**	P	**Pn**	**03 46 24.5**	**+0.8**
IZEF	**Zefreh**	**4.63**	**96**	Pn	**Pn**	**03 46 26.3**	**+1.7**
KLNJ	**Kolanjah**	**4.73**	**121**	Pn	**Pn**	**03 46 28.1**	**+1.9**
IDMV	**Damavand**	**4.73**	**63**	Pn	**Pn**	**03 46 27.4**	**+1.3**
IHRS	**Heris**	**4.78**	**2**	Pn	**Pn**	**03 46 27.4**	**+0.6**
MZPU	**Pul - Mazandar**	**4.83**	**52**	Pn	**Pn**	**03 46 29.0**	**+1.5**
ISHB	**Shabestar**	**4.85**	**348**	Pn	**Pn**	**03 46 27.9**	**+0.2**
IRAM	**Ramesheh**	**4.96**	**109**	Pn	**Pn**	**03 46 31.0**	**+1.8**
GAS1	**Astara - Iran**	**5.11**	**18**	Pn	**Pn**	**03 46 32.0**	**+1.0**
IPRN	**Peran**	**5.25**	**57**	Pn	**Pn**	**03 46 34.3**	**+1.2**
IMRD	**Marand**	**5.26**	**350**	Pn	**Pn**	**03 46 34.4**	**+1.1**
IFIR	**Firoozkooh**	**5.30**	**65**	Pn	**Pn**	**03 46 34.8**	**+1.0**
GRMI	**Germi**	**5.33**	**9**	Pn	**Pn**	**03 46 35.9**	**+1.7**
ILAS	**Lasjerd**	**5.37**	**68**	Pn	**Pn**	**03 46 36.3**	**+1.5**
AKDM	**Akdamar-Van**	**5.73**	**328**	*e*P	**Pn**	**03 46 41.0**	**+1.3**
ANAR	**Anarak**	**5.76**	**91**	Pn	**Pn**	**03 46 41.6**	**+1.6**
VANB	**Van**	**5.78**	**332**	P	**Pn**	**03 46 40.6**	**+0.2**
AHBU	**AHRAM**	**6.00**	**140**	Pn	**Pn**	**03 46 45.5**	**+2.2**
MAKU	**Maku**	**6.07**	**344**	Pn	**Pn**	**03 46 45.6**	**+1.1**
GURO	**Guroymak-BITLI**	**6.36**	**323**	*e*P	**Pn**	**03 46 48.7**	**+0.4**
GURO	**Guroymak-BITLI**	**6.36**	**323**	Pn	**Pn**	**03 46 49.8**	**+1.5**
DSBU	**Dashti - Bushe**	**6.39**	**143**	Pn	**Pn**	**03 46 50.8**	**+2.1**
IGLO	**Ghaloghah**	**6.44**	**61**	Pn	**Pn**	**03 46 51.3**	**+1.8**
ICHK	**Chekchek**	**6.47**	**99**	Pn	**Pn**	**03 46 51.2**	**+1.2**
SVAN	**Silvan-Diyarba**	**6.51**	**317**	*e*P	**Pn**	**03 46 50.6**	**+0.2**
MAZI	**Mazidag**	**6.54**	**309**	*e*P	**Pn**	**03 46 50.6**	**-0.2**
MLAZ	**Malazgirt-MUS**	**6.59**	**329**	*e*P	**Pn**	**03 46 53.3**	**+1.7**
TASB	**TASBURUN-IGDIR**	**6.78**	**343**	*e*P	**Pn**	**03 46 58.3**	**+4.3**
AGRB	**Hanur-Agry**	**6.79**	**334**	*e*P	**Pn**	**03 46 56.7**	**+2.4**
GNI	**Garni**	**6.82**	**346**	Pn	**Pn**	**03 46 55.5**	**+0.8**
GNI	**Garni**	**6.82**	**346**	P	**Pn**	**03 46 55.5**	**+0.8**
GNI	**Garni**	**6.82**	**346**	Pn	**Pn**	03 47 01.0	+6.3
	comp=E,0.5nm,0.3s,baz=231,slow=19,SNR=4.8						
GNI				Lg	Lg	03 48 48.9	
	baz=69,slow=23						
GNI				LR	LR	03 49 30.1	
	comp=E,193nm,19.3s,baz=170,slow=38						
DYBB	**Diyarbakir**	**7.03**	**311**	*e*P	**Pn**	**03 46 57.6**	**+0.2**
VRTB	**Varto-Mus**	**7.11**	**324**	*e*P	**Pn**	**03 46 59.5**	**+0.8**
BNGB	**Bingl**	**7.39**	**319**	*e*P	**Pn**	**03 47 03.6**	**+1.1**
KARO	**Karliova-Bingo**	**7.43**	**323**	*e*P	**Pn**	**03 47 03.6**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**7.60**	**330**	*e*P	**Pn**	**03 47 07.2**	**+1.8**
URFA	**Urfa**	**7.63**	**303**	*e*P	**Pn**	**03 47 06.5**	**+0.8**
KARS	**Kars**	**7.70**	**338**	Pn	**Pn**	**03 47 07.4**	**+0.6**
KARS	**Kars**	**7.70**	**338**	P	**Pn**	**03 47 07.4**	**+0.6**
YEDI	**Yedisu-Bingol**	**7.79**	**321**	*e*P	**Pn**	**03 47 09.1**	**+1.2**
PTK	**Pertek**	**8.06**	**314**	*e*P	**Pn**	**03 47 11.8**	**0.0**
TNSJ	**Nastanj**	**8.13**	**84**	Pn	**Pn**	**03 47 14.0**	**+1.4**
TPRV	**Parvadeh(Tabas**	**8.24**	**91**	Pn	**Pn**	**03 47 15.3**	**+1.1**
AKH	**Akhalkalaki**	**8.31**	**342**	Pn	**Pn**	**03 47 17.5**	**+2.4**
AKH	**Akhalkalaki**	**8.31**	**342**	P	**Pn**	**03 47 17.5**	**+2.4**
SHMA	**Al-Shehemyia**	**8.44**	**154**	P	**Pn**	**03 47 19.3**	**+2.5**
SHMA				S	**Sn**	**03 48 53.4**	**+1.4**
ASF	**Jabal al Asfar**	**8.49**	**264**	Pn	**Pn**	**03 47 18.1**	**+0.5**
	comp=E,1.0nm,0.3s,baz=67,slow=23,SNR=6.7						
ASF				Lg	Lg	03 49 39.9	
	comp=E,1.8nm,0.3s,baz=343,slow=19,SNR=3.0 comp=E,6.9nm,0.9s						
TKDS	**Koohdasht(Taba**	**8.56**	**87**	Pn	**Pn**	**03 47 19.8**	**+1.2**
GAZ	**Gaziantep**	**8.68**	**297**	*e*P	**Pn**	**03 47 20.4**	**+0.3**
GAZ	**Gaziantep**	**8.68**	**297**	Pn	**Pn**	**03 47 21.2**	**+1.1**
ARPR	**Arapgir-MALATY**	**8.84**	**311**		**Pn**	**03 47 23.6**	**+1.3**
KMRS	**Kahramanmaras**	**9.04**	**299**	*e*P	**Pn**	**03 47 24.9**	**-0.1**
DARE	**Darende-Malaty**	**9.11**	**306**	*e*P	**Pn**	**03 47 24.9**	**-1.1**
NATI	**Neve Ativ**	**9.31**	**271**	P	**Pn**	03 47 33.8	+5.1
MAK	**Makhachkala**	**9.43**	**3**	*e*P	**Pn**	**03 47 26.9**	**-3.4**
MAK				*e*S	**Sn**	**03 49 10.3**	**-6.0**
MAK				pmax	pmax		
	comp=Z,214nm,1.8s						
MAK				MLR	MLR		
	comp=Z,272nm,14.0s						
ONI	**Oni**	**9.44**	**344**	Pn	**Pn**	**03 47 32.4**	**+1.9**
ONI	**Oni**	**9.44**	**344**	P	**Pn**	**03 47 32.4**	**+1.9**
ZEI	**Tsey**	**9.53**	**347**	*e*P	**Pn**	**03 47 35.7**	**+3.8**
ZEI				pmax	pmax		
	comp=Z,23nm,1.7s						
TRNA	**Turayna**	**9.55**	**155**	P	**Pn**	**03 47 33.3**	**+1.3**
TRNA				S	**Sn**	**03 49 22.0**	**+2.6**
MMAI	**Mount Meron Ar**	**9.61**	**270**	Lg	Lg	03 50 20.7	
	comp=Z,1.7nm,0.3s,baz=98,slow=32,SNR=4.1						
MMAI				LR	LR	03 52 12.3	
	comp=Z,163nm,19.2s,baz=51,slow=44						
HMDT	**Nahal Hemdat**	**9.62**	**265**	P	**Pn**	**03 47 37.3**	**+4.4**
GROC	**Groznyy**	**9.70**	**355**	*e*P	**Pn**	03 47 39.5	+5.6
JRN	**Qarnain Island**	**10.03**	**147**	P	**Pn**	**03 47 40.4**	**+1.9**
JRN				S	**Sn**	**03 49 32.1**	**+1.1**
GEYT	**Alibeck**	**10.15**	**61**		**Pn**	**03 47 40.9**	**+0.7**
GEYT	**Alibeck**	**10.15**	**61**	Pn	**Pn**	**03 47 43.8**	**+3.6**
	comp=Z,0.6nm,0.3s,baz=250,slow=17,SNR=4.6						
GEYT				LR	LR	03 52 08.7	
	comp=Z,590nm,19.1s,baz=268,slow=40 comp=Z,2.7nm,0.6s						
YTIR	**Yattir**	**10.16**	**261**	P	Pn	03 47 45.1	+4.7
NCK	**Nalchik**	**10.27**	**347**	*i* P	**Pn**	**03 47 42.5**	**+0.6**
SLWR	**Sila**	**10.33**	**155**	P	**Pn**	**03 47 43.9**	**+1.2**
SLWR				S	**Sn**	**03 49 39.6**	**+1.0**
BNN	**Bunyan**	**10.36**	**304**	Pn	**Pn**	**03 47 44.0**	**+0.7**
PRNI	**Paran**	**10.56**	**256**	P	Pn	03 47 51.0	+5.1
KBZ	**Khabaz**	**10.64**	**344**	Pn	**Pn**	**03 47 50.7**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=6.1						
KBZ				LR	LR	03 52 22.9	
	comp=Z,174nm,19.5s,baz=149,slow=40 comp=Z,5.7nm,1.0s						
HRFI	**Mount Harif**	**10.65**	**254**	S	**Sn**	**03 49 52.7**	**+6.3**
HRFI	**Mount Harif**	**10.65**	**254**	P	**Pn**	**03 47 51.7**	**+4.6**
MBRI	**Mt Berech**	**10.84**	**253**	P	Pn	03 47 59.2	+9.4
EIL	**Elat**	**10.86**	**252**	Pn	**Pn**	**03 47 50.1**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=124,slow=7.6,SNR=9.7						
EIL				LR	LR	03 53 12.7	
	comp=Z,340nm,19.0s,baz=72,slow=44 comp=Z,2.9nm,0.4s						
EIL	**Elat**	**10.86**	**252**	P	**Pn**	**03 47 53.5**	**+3.6**
KRMI	**Paran Flat**	**10.87**	**255**	P	Pn	**03 47 54.8**	**+4.6**
GHWR	**Ruwais**	**10.89**	**150**	P	**Pn**	**03 47 51.5**	**+1.1**
GHWR				S	**Sn**	**03 49 51.8**	**-0.5**
KIV	**Kislovodsk**	**10.91**	**344**		**Pn**	**03 47 52.4**	**+1.7**
KIV	**Kislovodsk**	**10.91**	**344**	*e*P	**Pn**	**03 47 51.8**	**+1.2**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV				MLR	MLR		
	comp=Z,62nm,13.0s						
PYA1	**Pyatigorsk**	**10.92**	**346**	*i* P	**Pn**	**03 47 52.1**	**+1.4**
SHME	**Shamm** SNR=16	**10.97**	**130**	*i* Pn	**Pn**	**03 47 52.4**	**+0.9**
SHME	**Shamm** SNR=16	**10.97**	**130**	P	**Pn**	**03 47 51.6**	**0.0**
SHME				S	**Sn**	**03 49 52.8**	**-1.6**
UMQ	**Umm Al-Quwin** SNR=6.3	**11.06**	**134**	*i* Pn	**Pn**	**03 47 53.8**	**+1.1**
UMQ	**Umm Al-Quwin** SNR=6.9	**11.06**	**134**	P	**Pn**	**03 47 52.5**	**-0.1**
BANOM	**Banah**	**11.16**	**130**	Pn	**Pn**	**03 47 54.7**	**+0.5**
BANOM	**Banah**	**11.16**	**130**	P	**Pn**	**03 47 54.6**	**+0.5**
BANOM				S	**Sn**	**03 49 57.2**	**-1.9**
TBJM	**Torbat-e-JAM**	**11.26**	**77**	Pn	**Pn**	**03 47 57.5**	**+1.8**
AJN	**Ajban** SNR=6.7	**11.41**	**139**	*i* Pn	**Pn**	**03 47 59.2**	**+1.7**
AJN	**Ajban** SNR=8.8	**11.41**	**139**	P	**Pn**	**03 47 59.0**	**+1.5**
AJN				S	**Sn**	**03 50 05.0**	**-0.1**
NAZ	**Nazwa, Dubai** SNR=48	**11.46**	**136**	*i* Pn	**Pn**	**03 47 59.2**	**+1.1**
NAZ	**Nazwa, Dubai** SNR=5.6	**11.46**	**136**	P	**Pn**	**03 47 59.5**	**+1.3**
NAZ				S	**Sn**	**03 50 03.8**	**-2.4**
MASF	**Masafi** SNR=61	**11.47**	**133**	P	**Pn**	**03 47 58.9**	**+0.5**
MASF				S	**Sn**	**03 50 04.2**	**-2.5**
	SNR=8.3						
MSFE	**Esma-Masafi** SNR=61	**11.48**	**133**	*i* Pn	**Pn**	**03 47 58.6**	**+0.1**
SOC	**Sochi**	**11.48**	**333**	*e*P	**Pn**	**03 47 58.5**	**+0.1**
SOC				*e*		03 50 09.0	
SOC				pmax	pmax		
	comp=Z,36nm,1.0s						
SOC				MLR	MLR		
	comp=Z,204nm,15.0s						
MZWR	**Madinat Zayed**	**11.52**	**146**	P	**Pn**	**03 48 00.1**	**+1.2**
MZWR				S	**Sn**	**03 50 07.7**	**+0.1**
ASUD	**Al Ashush, Dub** SNR=16	**11.55**	**138**	*i* Pn	**Pn**	**03 48 01.1**	**+1.6**
ASUD	**Al Ashush, Dub** SNR=7.2	**11.55**	**138**	P	**Pn**	**03 48 00.2**	**+0.8**
ASUD				S	**Sn**	**03 50 06.3**	**-2.2**
FAQ	**Al Faqa, Dubai** SNR=12	**11.61**	**137**	*i* Pn	**Pn**	**03 48 00.8**	**+0.6**
FAQ	**Al Faqa, Dubai** SNR=12	**11.61**	**137**	P	**Pn**	**03 48 01.2**	**+1.0**
FAQ				S	**Sn**	**03 50 06.9**	**-3.0**
MDH	**Madha** SNR=12	**11.61**	**132**	*i* Pn	**Pn**	**03 48 00.5**	**+0.3**
MDH	**Madha** SNR=16	**11.61**	**132**	P	**Pn**	**03 48 01.0**	**+0.8**
MDH				S	**Sn**	**03 50 06.0**	**-3.9**
HATD	**Hatta, Dubai** SNR=50	**11.86**	**135**	*i* Pn	**Pn**	**03 48 04.2**	**+0.5**
HATD	**Hatta, Dubai**	**11.86**	**135**	P	**Pn**	**03 48 04.3**	**+0.6**
	SNR=50						
HATD				S	**Sn**	**03 50 11.0**	**-5.1**
	SNR=10.0						
ASHO	**Ashiyiah** SNR=110	**11.92**	**135**	*i* Pn	**Pn**	**03 48 04.6**	**+0.1**
ASHO	**Ashiyiah** SNR=86	**11.92**	**135**	P	**Pn**	**03 48 04.5**	**-0.1**
ASHO				S	**Sn**	**03 50 14.6**	**-3.1**
MZR	**Muzera**	**11.99**	**149**	P	**Pn**	**03 48 06.1**	**+0.6**
MZR				S	**Sn**	**03 50 18.2**	**-1.2**
ALNE	**Al Ain** SNR=9.4	**12.23**	**138**	*i* Pn	**Pn**	**03 48 10.0**	**+1.2**
ALNE	**Al Ain** SNR=9.5	**12.23**	**138**	P	**Pn**	**03 48 10.2**	**+1.4**
ALNE				S	**Sn**	**03 50 23.5**	**-1.7**
BR131	**Keskin Array S**	**12.29**	**304**		**Pn**	**03 48 11.0**	**+1.4**
BR131	**Keskin Array S**	**12.29**	**304**	*i* P	**Pn**	**03 48 11.5**	**+1.9**
BRTR	**Keskin Array B**	**12.29**	**304**	Pn	**Pn**	**03 48 10.9**	**+1.4**
BRTR	**Keskin Array B**	**12.29**	**304**	Pn	**Pn**	**03 48 11.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=129,slow=11,SNR=14 comp=Z,4.3nm,1.0s						
SOHO	**SOHO** SNR=7.9	**12.62**	**135**	*i* Pn	**Pn**	**03 48 13.2**	**-0.9**
SOHO	**SOHO**	**12.62**	**135**	P	**Pn**	**03 48 13.6**	**-0.5**
SOHO				S	**Sn**	**03 50 31.5**	**-3.3**
HRA	**Herat**	**12.80**	**82**	Pn	**Pn**	**03 48 15.6**	**-1.1**
UMZA	**Um Al Zommool**	**13.02**	**144**	P	**Pn**	**03 48 19.8**	**+0.3**
UMZA				S	**Sn**	**03 50 40.3**	**-4.2**
ARQ	**Araqi**	**13.23**	**138**	P	**Pn**	**03 48 22.2**	**-0.3**
ARQ				P	P	03 48 22.2	-10
	SNR=9.6						
BIDO	**Bidbid**	**14.04**	**132**	P	**Pn**	**03 48 32.6**	**-0.9**
BSY	**Bisya** SNR=9.6	**14.08**	**137**	P	**Pn**	**03 48 33.1**	**-1.0**
BSY				S	**Sn**	**03 51 06.9**	**-3.5**
ELL	**Elmali**	**14.24**	**288**	Pn	**Pn**	**03 48 37.2**	**+0.9**
ELL	**Elmali**	**14.24**	**288**	P	**Pn**	**03 48 37.2**	**+0.9**
SMDO	**Samad** SNR=8.2	**14.34**	**134**	P	**Pn**	**03 48 37.0**	**-0.6**
SMDO				S	**Sn**	**03 51 13.0**	**-3.8**
WSAR	**Wadi Sarin**	**14.56**	**132**	Pn	**Pn**	**03 48 38.6**	**-2.0**
	comp=Z,2.0nm,0.3s,baz=328,slow=13,SNR=4.9						
WSAR				LR	LR	03 54 57.1	
	comp=Z,108nm,21.8s,baz=250,slow=39						
WSAR	**Wadi Sarin** SNR=12	**14.56**	**132**	P	**Pn**	**03 48 38.8**	**-1.9**
WSAR				S	**Sn**	**03 51 17.5**	**-4.6**
JMDO	**Jabal Madar**	**14.89**	**135**	P	**Pn**	**03 48 45.4**	**+0.2**
JMDO				S	**Sn**	**03 51 29.3**	**-1.0**
SIM	**Simferopol'**	**15.06**	**323**	P	**P**	**03 48 52.5**	**-0.1**
SIM				pmax	pmax		
	comp=Z,40nm,1.1s						
WBK	**Wadi Bani Khal**	**15.23**	**132**	P	**Pn**	**03 48 48.2**	**-1.5**
WBK				S	**Sn**	**03 51 34.4**	**-4.2**
JLN	**Jalan Bani Buh**	**15.85**	**132**	P	**Pn**	**03 48 55.9**	**-1.7**
MHTO	**MHTO** SNR=10	**15.91**	**139**	P	**Pn**	**03 48 56.5**	**-1.9**
DOK	**Doka** SNR=9.8	**16.21**	**155**	P	**Pn**	**03 49 00.8**	**-1.6**
DQM	**DQM** SNR=6.6	**16.55**	**142**	P	**Pn**	**03 49 05.2**	**-1.5**
WHFO	**Wadi Hawf** SNR=6.8	**16.74**	**157**	P	**P**	**03 49 11.2**	**-0.1**
ABTO	**Aybut**	**17.11**	**159**	P	**Pn**	**03 49 14.9**	**+1.0**
RBK	**Rabkut**	**17.27**	**156

DZA Taraz 21.32 57 *e*P P 03 50 01.3 -0.1
baz=57
DZA Taraz 21.32 57 *e*P P 03 50 01.3 -0.1
LOT Lotru 21.35 311 ⇑P P 03 50 02.7 +0.9
BLKB Belogradchik 21.36 305 ⇓P P 03 50 04.6 +2.8
TGMR Targu Mures 21.39 314 ⇓P P 03 50 03.3 +1.2
AKASG Malin Array Be 21.48 328 P P 03 50 02.1 -1.0
AKASG Malin Array Be 21.48 328 P P 03 50 02.6 -0.4
comp=Z,9.5nm,0.8s,baz=140,slow=10,SNR=28
comp=Z,9.5nm,0.8s
AKBB Malin Array Si 21.48 328 P P 03 50 02.1 -1.0
AKBB Malin Array Si 21.48 328 P P 03 50 02.1 -1.0
AKBB pmax pmax
comp=Z,54nm,1.1s
KIEV Kiev 21.49 328 P P 03 50 01.9 -1.2
KIEV lAmb lAmb 03 50 05.6
comp=Z,48nm,1.1s
KIEV Kiev 21.49 328 P P 03 50 01.9 -1.2
KIEV pmax pmax
comp=Z,48nm,1.1s
FNA Florina 21.52 297 P P 03 50 02.9 -0.7
FNA Florina 21.52 297 P P 03 50 02.9 -0.7
FNA pmax pmax
comp=Z,17nm,1.3s
BURAR Bucovina Array 21.54 317 ⇑P P 03 50 04.3 +0.4
BURAR Bucovina Array 21.54 317 P P 03 50 03.2 -0.7
BURAR Bucovina Array 21.54 317 P P 03 50 04.3 +0.4
BUR08 Bucovina Ar. S 21.57 317 P P 03 50 03.7 -0.5
BUR08 lAmb lAmb 03 50 24.2
comp=Z,28nm,1.1s
ARCR ARCALIA 21.76 315 ⇑P P 03 50 06.4 +0.3
DJES Djerdap 21.84 308 P P 03 50 07.0 0.0
KBN Korca 21.93 296 P P 03 50 07.5 -0.6
KBN Korca 21.93 296 P P 03 50 07.5 -0.6
KBN pmax pmax
comp=Z,88nm,1.5s
GZR Gura Zlata 21.96 310 ⇑P P 03 50 09.5 +1.2
NIL Nilore 21.97 82 P P 03 50 08.7 +0.2
NIL P P 03 50 08.7 +0.2
HERR Herculane 21.99 308 ⇓P P 03 50 10.0 +1.5
BOVS Bovan 22.03 305 ⇑P P 03 50 10.4 +1.5
CJR Cluj-Napoca 22.03 314 ⇑P P 03 50 10.2 +1.1
CJR Cluj-Napoca 22.03 314 P P 03 50 10.2 +1.1
ARSB Arslanbob 22.10 62 P P 03 50 09.1 -0.9
ARSB Arslanbob 22.10 62 P P 03 50 09.1 -0.9
ARSB pmax pmax
comp=Z,12nm,1.2s
MARR Marisel-Cluj 22.31 313 ⇑P P 03 50 12.4 +0.3
MDVR Moldovita 22.42 307 ⇓P P 03 50 14.7 +1.5
SURR Surduc 22.52 310 ⇓P P 03 50 15.2 +0.9
DRGR 22.61 313 ⇓P P 03 50 15.4 +0.1
DRGR 22.61 313 P P 03 50 17.5 +2.2
MESR Meseseni 22.63 314 ⇓P P 03 50 16.8 +1.4
OBN Obninsk 22.75 345 *de*P P 03 50 18.3 +1.7
OBN *e* 03 50 40.6
OBN pmax pmax
comp=Z,30nm,1.0s
OBN MLR MLR
comp=Z,204nm,17.0s
AML Almayashu 22.80 60 P P 03 50 16.4 -1.3
PUK Puka 22.88 300 P P 03 50 17.4 -0.8
SIRR Siria 23.03 311 ⇑P P 03 50 21.4 +1.8
MOS Moscow 23.12 347 *e*P P 03 50 17.1 -3.3
MOS *e* 03 50 47.1
MOS pmax pmax
comp=Z,32nm,0.7s
LVV L'vov 23.43 321 *e*P P 03 50 23.5 -0.2
AAK Ala-Archa 23.49 59 P P 03 50 23.5 -1.0
AAK Ala-Archa 23.49 59 *i*P P 03 50 25.3 +0.8
AAK pmax pmax
comp=Z,8.0nm,1.1s
AAK Ala-Archa 23.49 59 LR LR 04 01 08.6
comp=Z,170nm,21.5s,baz=268,slow=40
SGDS Sogindy 23.79 57 *e*P P 03 50 27.3 0.0
comp=Z,20nm,1.8s,baz=58
SGDS Sogindy 23.79 57 *e*P P 03 50 27.3 0.0
SGDS pmax pmax
comp=Z,20nm,1.8s
FRGS Fruska Gora 23.81 307 ⇑P P 03 50 28.7 +1.3
BTLS Baital 23.86 53 *e*P P 03 50 28.2 +0.3
comp=Z,13nm,1.5s,baz=53
BTLS Baital 23.86 53 *e*P P 03 50 28.2 +0.3
BTLS pmax pmax
comp=Z,13nm,1.5s
KOLS Kolonicke sedl 23.91 317 *e*P P 03 50 29.4 +1.1
KOLS pmax pmax
comp=Z,30nm,1.4s
KOLS Kolonicke sedl 23.91 317 *e*P P 03 50 29.4 +1.1
KWP Kalwaria Pacla 24.04 319 P P 03 50 30.0 +0.5
KWP lAmb lAmb 03 50 55.5
comp=Z,24nm,1.1s
KWP Kalwaria Pacla 24.04 319 P P 03 50 30.0 +0.5
KWP pmax pmax
comp=Z,24nm,1.1s
KSH Kashi 24.08 67 P P 03 50 28.5 -1.7
KSH pmax pmax
comp=Z,12nm,1.2s
ARU Arti 24.28 16 P P 03 50 31.3 -0.4
ARU lAmb lAmb 03 51 14.5
comp=Z,20nm,1.2s
ARU Arti 24.28 16 *c i*P P 03 50 32.0 +0.3
ARU 03 50 59.8
ARU S S 03 54 52.8 +2.5
ARU SS SnSn 03 55 36.7 +4.0
ARU pmax pmax
comp=Z,20nm,1.3s
ARU Arti 24.28 16 P P 03 50 32.2 +0.6
comp=Z,2.0nm,0.3s,baz=188,slow=7.2,SNR=7.6
comp=Z,2.0nm,0.3s
CRVS Cervenica-Dubn 24.36 317 *e*P P 03 50 33.4 +0.9
CRVS pmax pmax
comp=Z,32nm,1.4s
CRVS Cervenica-Dubn 24.36 317 *e*P P 03 50 33.4 +0.9
BOOM Boomskoye usch 24.50 60 lAmb lAmb 03 51 15.9
comp=Z,20nm,1.4s
PSZ Piszkesteto 24.82 313 ⇓P P 03 50 37.5 +0.7
PSZ Piszkesteto 24.82 313 P P 03 50 36.1 -0.7
PSZ lAmb lAmb 03 50 39.3
comp=Z,26nm,1.4s
PSZ Piszkesteto 24.82 313 P P 03 50 37.5 +0.7
TIP Timpagrande 24.82 292 ⇑P P 03 50 37.9 +1.0
MNK Minsk 24.86 333 *i*P P 03 50 35.7 -1.3
comp=N,53nm,1.6s
MNK *i*P P 03 50 35.8 -1.3
comp=Z,26nm,0.7s,baz=139
MNK *i*P P 03 50 35.9 -1.1
comp=E,9.0nm,1.0s
MNK *i*PP PnPn 03 51 06.0 -3.5
MNK *i*S S 03 55 00.2 +0.5
MNK *i*SS SnSn 03 55 46.9 -0.2
MNK *i*LQ LQ 03 58 04.6
MNK *i*LR LR 04 00 13.5
MNK Minsk 24.86 333 *i*P P 03 50 35.7 -1.3
MNK *i*S S 03 55 00.2 +0.5
MNK *i*SS SnSn 03 55 46.9 -0.2
MNK pmax pmax
comp=N,53nm,1.6s
MNK pmax pmax
comp=Z,26nm,0.7s
MNK pmax pmax
comp=E,9.0nm,1.0s
MORH Mrgy, Hungar 24.95 309 ⇓P P 03 50 38.6 +0.8
MATE Matera 25.00 295 ⇑P P 03 50 39.3 +1.0
KUU Kurty 25.10 57 *e*P P 03 50 39.2 -0.2
comp=E,13nm,1.1s,baz=57
KUU Kurty 25.10 57 *e*P P 03 50 39.1 -0.2
KUU pmax pmax
comp=Z,13nm,1.1s
KIRV Kirov 25.12 3 P P 03 50 39.6 +0.4
comp=Z,9.8nm,0.6s,baz=180,slow=13,SNR=4.3
KIRV LR LR 04 02 22.6
comp=Z,213nm,19.6s,baz=190,slow=41
comp=Z,9.8nm,0.6s
BRZS Berezniki 25.14 41 *e*P P 03 50 39.8 +0.3
comp=Z,8.0nm,0.9s,baz=42
BRZS Berezniki 25.14 41 *e*P P 03 50 39.8 +0.3
BRZS pmax pmax
comp=Z,8.0nm,0.9s
SVE Sverdlovsk 25.14 18 *e*P P 03 50 39.9 +0.4
SVE pmax pmax
comp=Z,46nm,1.3s
TNSS Tian-Shan 25.34 59 *e*P P 03 50 42.4 +0.5
baz=59
TNSS Tian-Shan 25.34 59 *e*P P 03 50 42.4 +0.5

AAA Alma-Ata 25.35 59 *e*P P 03 50 41.8 +0.2
baz=59
AAA Alma-Ata 25.35 59 *e*P P 03 50 41.8 +0.2
MDOK Medeo 25.44 59 *e*P P 03 50 42.7 +0.2
baz=59
MDOK *e*S S 03 55 10.2 +0.8
baz=59
MDOK Medeo 25.44 59 *e*P P 03 50 42.7 +0.2
MDOK *e*S S 03 55 10.2 +0.8
CHKK Chushkaly 25.55 57 *e*P P 03 50 43.6 +0.3
baz=58
CHKK Chushkaly 25.55 57 *e*P P 03 50 43.6 +0.3
NACGM Naroch 25.59 333 *e*P P 03 50 40.2 -3.3
LANS Liptovska Anna 25.63 316 *e*P P 03 50 45.3 +1.3
LANS pmax pmax
comp=Z,11nm,1.2s
LANS Liptovska Anna 25.63 316 *e*P P 03 50 45.3 +1.3
VYHS Vyhne 25.71 314 *e*P P 03 50 45.8 +1.0
VYHS Vyhne 25.71 314 *e*P P 03 50 45.8 +1.0
BRVK Borovoye 25.71 34 P P 03 50 43.8 -0.9
BRVK lAmb lAmb 03 50 50.0
comp=Z,23nm,1.1s
BRVK Borovoye 25.71 34 *ce*P P 03 50 44.6 -0.1
BRVK pmax pmax
comp=Z,45nm,1.7s
BRVK Borovoye 25.71 34 P P 03 50 45.6 +0.9
BVA0 Borovoye Array 25.74 34 *i*P P 03 50 44.9 -0.1
BVAR Borovoye Array 25.74 34 P P 03 50 45.7 +0.8
comp=Z,13nm,0.7s,baz=223,slow=7.9,SNR=29
BVAR ScP ScP 03 57 51.5 -2.8
comp=Z,2.0nm,0.9s,baz=281,slow=2.3,SNR=5.1
BVAR LR LR 04 02 06.7
comp=Z,87nm,20.5s,baz=230,slow=39
comp=Z,13nm,0.7s
SRO Srobarova 25.75 312 *e*P P 03 50 46.1 +1.0
SRO pmax pmax
comp=Z,26nm,1.5s
SRO Srobarova 25.75 312 *e*P P 03 50 46.1 +1.0
ISAL Salakas 26.34 333 *e*P P 03 50 52.3 +2.0
SATY Saty 26.39 60 *e*P P 03 50 51.1 0.0
comp=Z,19nm,1.9s,baz=60
SATY Saty 26.39 60 *e*P P 03 50 51.1 0.0
SATY pmax pmax
comp=Z,19nm,1.9s
ZHN Zhinishke 26.43 59 *e*P P 03 50 52.1 +0.5
baz=60
ZHN Zhinishke 26.43 59 *e*P P 03 50 52.0 +0.5
JAVC Velka Javorina 26.57 314 *e*P P 03 50 55.6 +3.0
KOGS Kog 26.59 308 *i*P P 03 50 53.0 +0.3
MODS Modra-Piesok 26.61 313 *e*P P 03 50 53.8 +0.9
MODS pmax pmax
comp=Z,105nm,1.7s
MODS Modra-Piesok 26.61 313 *e*P P 03 50 53.8 +0.9
KPKS Kokpek 26.67 59 *e*P P 03 50 53.9 +0.3
baz=59
KPKS Kokpek 26.67 59 *e*P P 03 50 53.9 +0.3
TDK Taldyqorghan 26.81 55 *e*P P 03 50 54.7 -0.1
comp=Z,7.7nm,0.8s,baz=56
TDK Taldyqorghan 26.81 55 *e*P P 03 50 54.6 -0.1
TDK pmax pmax
comp=Z,8.0nm,0.8s
UZB Uzynbulak 26.85 60 *e*P P 03 50 55.5 +0.2
baz=60
UZB Uzynbulak 26.85 60 *e*P P 03 50 55.5 +0.2
RONA Rosalia, Austr 26.97 311 *i*P P 03 50 57.3 +1.0
comp=Z,13nm,1.6s
BOJS Bojanci 26.98 306 *i*P P 03 50 56.5 +0.2
MORC Moravsky Berou 27.03 316 *e*P P 03 50 56.7 0.0
PABE Paberze 27.14 331 P P 03 50 57.2 -0.3
PABE Paberze 27.14 331 *e*P P 03 50 57.1 -0.4
SHLS Shalkode 27.17 60 *e*P P 03 51 01.7 +3.5
comp=Z,11nm,1.5s,baz=60
SHLS Shalkode 27.17 60 *e*P P 03 51 01.6 +3.5
SHLS pmax pmax
comp=Z,11nm,1.5s
INTR Introdacqua 27.26 298 lAmb lAmb 03 51 14.9
comp=Z,22nm,1.2s
ARSA Arzberg 27.31 309 *i*P P 03 51 00.4 +1.1
comp=Z,13nm,1.6s
CONA Conrad Observa 27.33 311 *e*P P 03 50 59.6 +0.1
comp=Z,16nm,1.7s
VRAC Vranov 27.40 314 *e*P P 03 51 00.4 +0.4
VRAC Vranov 27.40 314 P P 03 50 59.9 -0.1
comp=Z,1.9nm,0.7s,baz=101,slow=9.9,SNR=5.6
comp=Z,1.9nm,0.7s
KRUC Moravsky 27.42 314 *e*P P 03 51 00.6 +0.5
SOKA Soboth 27.46 308 *e*P P 03 51 01.3 +0.7
comp=Z,7.7nm,1.3s
VSVD Vaisvydziai 27.49 332 *e*P P 03 51 01.0 +0.4
KRLC Kraliky 27.60 316 *e*P P 03 51 04.2 +2.3
KRLC Kraliky 27.60 316 *e*P P 03 51 04.2 +2.3
OBKA Obir 27.73 307 *i*P P 03 51 04.0 +0.9
comp=Z,12nm,1.4s
KLMR Klimovskoe 27.75 352 *e*P P 03 51 00.2 -2.8
KLMR pmax pmax
comp=Z,49nm,1.4s
NRCA Norcia 27.95 299 lAmb lAmb 03 51 16.5
comp=Z,15nm,1.0s
DPC Dobruska-Polom 27.99 316 *e*P P 03 51 04.5 -0.8
DPC Dobruska-Polom 27.99 316 *e*P P 03 51 04.5 -0.8
OSTC Ostas 28.14 316 *e*P P 03 51 07.5 +0.9
OSTC Ostas 28.14 316 *e*P P 03 51 07.5 +0.9
SABO M.te Sabotino 28.22 306 lAmb lAmb 03 51 09.0
comp=Z,39nm,1.4s
CHVC Chvalec 28.25 316 *e*P P 03 51 07.1 -0.5
CHVC Chvalec 28.25 316 *e*P P 03 51 07.1 -0.5
MOA Molln 28.31 310 *i*P P 03 51 09.1 +0.9
comp=Z,14nm,1.7s
MYKA Terra Mystica 28.36 307 *e*P P 03 51 10.9 +2.2
comp=Z,5.3nm,0.9s
VSU Vasula 28.36 338 *i*P P 03 51 08.6 +0.2
VSU Vasula 28.36 338 *e*P P 03 51 08.8 +0.4
PRED Cave del Predi 28.36 307 lAmb lAmb 03 51 21.5
comp=Z,16nm,1.3s
CKRC Cesky Krumlov 28.61 312 *e*P P 03 51 15.6 +4.8
CKRC Cesky Krumlov 28.61 312 *e*P P 03 51 15.6 +4.8
BIOA Bad Ischl, Aus 28.67 309 *i*P P 03 51 12.2 +0.9
comp=Z,0.3nm,0.2s
KBA Koelnbreinsper 28.68 308 *i*P P 03 51 12.3 +0.6
comp=Z,16nm,1.4s
KURBB Kurchatov Arra 28.76 44 P P 03 51 13.3 +1.2
comp=Z,3.0nm,0.7s,baz=249,slow=9.1,SNR=15
comp=Z,3.0nm,0.7s
CLUD Cludinico 28.82 307 lAmb lAmb 03 51 15.9
comp=Z,14nm,1.2s
KURK Kurchatov 28.85 44 P P 03 51 10.5 -2.4
KURK Kurchatov 28.85 44 P P 03 51 13.3 +0.5
KURK Kurchatov 28.85 44 P P 03 51 13.4 +0.5
PRU Pruhonice 28.89 314 *e*P P 03 51 23.4 +10
PRU Pruhonice 28.89 314 *e*P P 03 51 23.4 +10
STAL STALIGIAL 28.89 306 lAmb lAmb 03 51 19.6
comp=Z,21nm,1.3s
ZVC Zvikov 28.90 313 *e*P P 03 51 14.1 +0.8
GERES GERESS Array B 28.99 312 P P 03 51 16.7 +2.4
comp=Z,0.8nm,0.8s,baz=134,slow=19,SNR=3.7
ABTA Abfaltersbach 29.14 307 *e*P P 03 51 16.6 +1.0
comp=Z,12nm,1.4s
KHC Kasperske Hory 29.16 312 *e*P P 03 51 22.1 +6.3
KHC Kasperske Hory 29.16 312 *e*P P 03 51 22.1 +6.3
LESA Schwarzleotal 29.21 309 *i*P P 03 51 16.7 +0.4
comp=Z,15nm,1.6s
CTI Castel Tesino 29.56 306 lAmb lAmb 03 51 25.0
comp=Z,12nm,1.0s
MAKZ Makanchi 29.67 53 P P 03 51 17.7 -2.6
MAKZ Makanchi 29.67 53 P P 03 51 17.7 -2.6
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
SEM Semipalatinsk 29.68 45 *e*P P 03 51 20.9 +0.3
baz=46
SEM Semipalatinsk 29.68 45 *e*P P 03 51 20.9 +0.3
WTTA Wattenberg 29.85 308 *i*P P 03 51 21.6 -0.5
comp=Z,15nm,1.2s
MK31 Makanchi Array 29.88 53 *i*P P 03 51 22.6 +0.5
MKAR Makanchi Array 29.88 53 *ce*P P 03 51 22.8 +0.7
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 29.88 53 P P 03 51 22.4 +0.3
comp=Z,3.5nm,0.8s,baz=248,slow=6.4,SNR=21
MKAR LR LR 04 05 06.0
comp=Z,156nm,19.8s,baz=243,slow=40
comp=Z,3.5nm,0.8s
WATA Walderalm 29.91 308 *e*P P 03 51 22.1 -0.4
comp=Z,19nm,1.3s,SNR=5.9
SQTA Sankt Quirin 30.13 308 *i*P P 03 51 24.2 -0.2
comp=Z,19nm,1.7s

MOTA Moosalm 30.23 308 *i*P P 03 51 24.7 -0.7
comp=Z,11nm,1.1s
CLL Collm 30.30 316 *e*P P 03 51 28.0 +2.3
CLL Collm 30.30 316 *e*P P 03 51 28.0 +2.3
FETA Feichten 30.40 307 *e*P P 03 51 26.4 -0.4
comp=Z,23nm,1.6s,SNR=8.9
RETA Reutte 30.48 308 *i*P P 03 51 26.6 -0.9
comp=Z,9.6nm,1.2s
FINES FINESS Array B 30.97 341 P P 03 51 30.3 -1.2
comp=Z,2.8nm,0.8s,baz=160,slow=10,SNR=3.3
FINES PcP PcP 03 54 27.3 -0.2
comp=Z,4.4nm,1.0s,baz=204,slow=3.0,SNR=1.7
FINES LR LR 04 05 47.0
comp=Z,194nm,18.7s,baz=186,slow=40
comp=Z,2.8nm,0.8s
DAVA Damuels 31.02 307 *e*P P 03 51 31.6 -0.7
comp=Z,18nm,1.2s,SNR=7.5
ZSN Zaisan 31.73 53 *e*P P 03 51 36.1 -2.4
comp=Z,6.4nm,1.2s,baz=53
ZSN Zaisan 31.73 53 *e*P P 03 51 36.0 -2.4
ZSN pmax pmax
comp=Z,6.0nm,1.2s
LODK Lodwar 31.82 202 P P 03 51 38.5 -1.0
LODK lAmb lAmb 03 51 44.1
comp=Z,16nm,1.5s
RAF Rauma 31.95 337 *e*P P 03 51 40.1 0.0
ECH Echery 33.01 308 lAmb lAmb 03 51 53.4
comp=Z,12nm,1.1s
WMQ Urumqi 33.20 60 *e*P P 03 51 52.8 +1.4
WMQ pmax pmax
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 33.62 41 *i*P P 03 51 58.9 +4.1
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 33.62 41 P P 03 51 55.2 +0.4
comp=Z,3.0nm,0.7s,baz=247,slow=8.8,SNR=9.8
ZALV LR LR 04 06 56.8
comp=Z,52nm,18.2s,baz=239,slow=39
comp=Z,3.0nm,0.7s
DGZ Jazzator, Alta 33.89 49 *i*P P 03 51 58.2 +0.7
DGZ pmax pmax
comp=Z,8.0nm,1.6s
HFS Hagfors 34.32 331 P P 03 52 00.3 -0.5
comp=Z,10nm,0.6s,baz=127,slow=9.4,SNR=34
comp=Z,10nm,0.6s
KMBO Kilima Mbogo 35.64 197 LR LR 04 06 24.9
comp=Z,101nm,18.0s,baz=90,slow=36
NB2 NORSAR Subarra 35.84 331 P P 03 52 12.3 -1.7
comp=Z,18nm,1.7s,baz=127,slow=9.3
NOA NORSAR Array B 35.84 331 P P 03 52 12.8 -1.2
comp=Z,2.0nm,0.8s,baz=125,slow=8.6,SNR=8.3
comp=Z,2.0nm,0.8s
TAM Tamanrasset 37.76 264 P P 03 52 30.7 -0.3
TAM lAmb lAmb 03 52 35.1
comp=Z,17nm,1.2s
TAM Tamanrasset 37.76 264 P P 03 52 30.7 -0.3
TAM pmax pmax
comp=Z,17nm,1.2s
ARCES ARCESS Array B 37.98 348 P P 03 52 31.4 -0.7
comp=Z,9.0nm,1.2s,baz=122,slow=13,SNR=3.8
ARCES LR LR 04 08 28.8
comp=Z,109nm,18.4s,baz=222,slow=37
comp=Z,9.0nm,1.2s
GOMU GeErMu 39.12 72 P P 03 52 40.0 -2.5
GOMU pP pP 03 52 44.3 -1.7
GOMU sP sP 03 52 45.9 -1.5
GOMU pmax pmax
comp=Z,7.0nm,0.5s
EKA Eskdalemuir Ar 40.73 318 P P 03 52 53.9 -1.3
comp=Z,3.2nm,0.6s,baz=101,slow=8.3,SNR=9.6
comp=Z,3.2nm,0.6s
ESBB Sonseca Array 40.81 294 P P 03 52 56.6 +0.5
ESDC Sonseca Array 40.81 294 P P 03 52 56.1 -0.1
ESDC Sonseca Array 40.81 294 P P 03 52 56.6 +0.4
comp=Z,5.1nm,1.2s,baz=68,slow=8.7,SNR=12
comp=Z,5.1nm,1.2s
NRIK Noril'sk 42.37 20 P P 03 53 08.3 -0.1
NRIK Noril'sk 42.37 20 *ce*P P 03 53 09.3 +0.8
NRIK pmax pmax
comp=Z,18nm,1.6s
NRIK Noril'sk 42.37 20 P P 03 53 08.9 +0.5
comp=Z,1.6nm,0.4s,baz=239,slow=7.2,SNR=8.1
NRIK LR LR 04 14 51.8
comp=Z,149nm,19.6s,baz=278,slow=42
comp=Z,1.6nm,0.4s
GTA Gaotai 42.48 66 P P 03 53 10.9 +1.0
GTA pP sP 03 53 17.3 +2.5
GTA pmax pmax
comp=Z,6.0nm,1.3s
PBRG Braganca 42.63 297 *e*P P 03 53 12.0 +1.0
comp=Z,34nm,1.7s
MVO Moncorvo 42.93 296 *e*P P 03 53 14.7 +1.2
comp=Z,21nm,1.2s
PBAR Barrancos 43.42 292 *e*P P 03 53 18.4 +1.0
comp=Z,22nm,1.6s
MTE Manteigas 43.43 295 *e*P P 03 53 18.9 +1.4
comp=Z,27nm,1.4s
PVRL Vila Real 43.43 297 *e*P P 03 53 17.1 -0.4
comp=Z,33nm,1.6s
PCBR Castelo Branco 43.47 295 *e*P P 03 53 18.7 +1.0
comp=Z,28nm,1.5s
POLO Lamas de Olo 43.47 297 *e*P P 03 53 19.1 +1.2
comp=Z,17nm,1.4s
PVIS Viseu 43.65 296 *e*P P 03 53 20.9 +1.7
PGAV Gavieira, Arco 43.75 298 *e*P P 03 53 22.1 +2.0
comp=Z,48nm,1.6s
EVO Evora 44.11 293 *e*P P 03 53 24.3 +1.4
comp=Z,19nm,1.6s
PNCL Nicolau / Gran 44.59 292 *e*P P 03 53 28.3 +1.5
comp=Z,18nm,1.5s
PFVI Vila Bisbo 45.03 291 *e*pP pP 03 53 34.6 +0.7
PFVI A A 03 53 34.8
comp=Z,54nm,1.3s
TOAO Torodi Ar. Sit 45.74 255 P P 03 53 35.0 -1.2
TORD Torodi Ar. Bea 45.74 255 P P 03 53 34.6 -1.6
TORD Torodi Ar. Bea 45.74 255 P P 03 53 36.7 +0.6
comp=Z,13nm,1.1s,baz=46,slow=7.0,SNR=45
comp=Z,13nm,1.1s
SONM Songino Array 46.24 54 P P 03 53 40.9 +1.0
comp=Z,0.3nm,0.4s,baz=306,slow=3.5,SNR=4.6
comp=Z,0.3nm,0.4s
LZH Lanzhou 46.28 70 *e*P P 03 53 40.0 -0.4
LZH sP sP 03 53 50.6 +5.2
LZH pmax pmax
comp=Z,15nm,1.3s
SPITS Spitsbergen Ar 46.66 352 P P 03 53 42.8 +0.2
comp=Z,12nm,1.0s,baz=141,slow=9.7,SNR=14
comp=Z,12nm,1.0s
ULN Ulaanbaatar 46.68 53 P P 03 53 42.3 -1.1
ULN lAmb lAmb 03 53 46.6
comp=Z,11nm,1.4s
ULN Ulaanbaatar 46.68 53 *i*P P 03 53 44.2 +0.8
ULN pmax pmax
comp=Z,10.0nm,1.4s
PZH PanZhiHua 47.57 83 P P 03 53 53.1 +2.5
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
XAN Xi'an 50.85 71 P P 03 54 15.3 -0.2
XAN pP pP 03 54 18.6 -0.5
XAN pmax pmax
comp=Z,16nm,1.0s
HHC Hu-ho-hao-te 51.02 62 *e*P P 03 54 17.8 +1.0
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,380nm,5.3s
OPO Ambohidratompo 51.81 180 LR LR 04 17 15.4
comp=Z,68nm,19.0s,baz=180,slow=37
PMOZ Porto Moniz, M 52.82 288 *e*P P 03 54 31.4 +1.1
DBIC Dimbokro 54.73 253 P P 03 54 44.0 -0.3
DBIC Dimbokro 54.73 253 P P 03 54 44.1 -0.3
comp=Z,7.4nm,1.0s,baz=48,slow=8.4,SNR=4.6
comp=Z,7.4nm,1.0s
TIXI Tiksi 56.06 22 P P 03 54 52.6 -0.4
TIXI lAmb lAmb 03 54 53.4
comp=Z,12nm,1.4s
TIXI Tiksi 56.06 22 *i*P P 03 54 52.7 -0.4
TIXI pmax pmax
comp=Z,10.0nm,1.2s
SUMG Summit 56.99 339 P P 03 55 00.5 +0.3
SUMG Summit 56.99 339 P P 03 55 00.5 +0.3
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG Summit 56.99 339 *i*P P 03 55 00.0 -0.2
SUMG lAmb lAmb 03 55 02.0

	comp=Z,8.1nm,1.5s								
YAK	**Yakutsk**	**57.72**	**34**	*e*P		**P**		**03 55 05.5**	**+0.5**
YAK				*e**PP		**pP**		**03 55 08.2**	**-0.4**
YAK				*e*				03 55 58.6	
YAK				*e*				03 57 15.7	
YAK				*e*S		**S**		**04 03 04.3**	**+0.9**
YAK				*e*SS		**SS**		**04 06 51.1**	**-2.1**
YAK				pmax		pmax			
	comp=Z,17nm,1.4s								
YAK				pmax		pmax			
	comp=N,4.0nm,1.4s								
YAK				pmax		pmax			
	comp=E,13nm,1.6s								
YAK				pmax		pmax			
	comp=Z,197nm,4.8s								
YAK				pmax		pmax			
	comp=E,103nm,4.3s								
YAK				pmax		pmax			
	comp=N,114nm,4.5s								
YAK				smax		smax			
	comp=N,261nm,5.3s								
YAK				smax		smax			
	comp=E,113nm,5.3s								
YAK	**Yakutsk**	**57.72**	**34**	LR		LR		04 24 34.5	
	comp=E,117nm,20.6s,baz=118,slow=41								
ICESG	**Greenland Ices**	**57.90**	**335**	*i* P		**P**		**03 55 05.4**	**-1.2**
ICESG				IAmb		IAmb		03 55 10.3	
	comp=Z,6.6nm,0.8s								
ZEA	**Zeya**	**58.32**	**43**	*e*P		**P**		**03 55 08.2**	**-1.2**
ZEA				pmax		pmax			
	comp=Z,20nm,0.6s								
NJ2	**Nanjing**	**59.36**	**70**	*e*P		**P**		**03 55 18.1**	**+1.2**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,280nm,5.5s								
HEH	**HeiHe**	**59.36**	**47**	*e*P		**P**		**03 55 16.9**	**+0.2**
UPNV	**Upernavik**	**62.04**	**341**	*i* P		P		03 55 25.1	-9.4
UPNV				Amb				03 55 38.8	
	comp=Z,5.8nm,1.0s								
KLR	**Kul'dur**	**62.36**	**47**	*i* P		**P**		**03 55 36.6**	**-0.5**
KLR				pmax		pmax			
	comp=Z,16nm,2.0s								
KLR	**Kul'dur**	**62.36**	**47**	LR		LR		04 23 23.3	
	comp=Z,114nm,19.9s,baz=88,slow=37								
MDJ	**Mudanjiang**	**62.59**	**53**	P		**P**		**03 55 39.1**	**+0.4**
MDJ				pmax		pmax			
	comp=Z,28nm,2.5s								
MDJ				pmax		pmax			
	comp=Z,890nm,4.1s								
KSRS	**Korea Array**	**64.14**	**61**	P		**P**		**03 55 48.5**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=285,slow=6.8,SNR=7.7								
KSRS				LR		LR		04 26 04.3	
	comp=Z,36nm,18.6s,baz=90,slow=38								
	comp=Z,2.4nm,0.5s								
BOSA	**Boshof**	**65.11**	**201**	P		**P**		**03 55 56.1**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=120,slow=8.6,SNR=4.2								
	comp=Z,3.2nm,0.9s								
SEY	**Seymchan**	**67.25**	**29**	*i* P		**P**		**03 56 09.2**	**+0.5**
SEY				pmax		pmax			
	comp=Z,16nm,1.1s								
BILL	**Bilibino**	**69.20**	**21**	P		P		03 56 26.3	+5.4
SUR	**Sutherland**	**70.00**	**203**	LR		LR		04 28 25.7	
	comp=Z,111nm,21.3s,baz=184,slow=37								
A36M	**Sachs Harbour**	**74.63**	**357**	IAmb		IAmb		03 57 00.7	
	comp=Z,6.8nm,0.8s								
SCHQ	**Schefferville**	**75.27**	**327**	P		**P**		**03 56 56.8**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=76,slow=1.5,SNR=5.5								
	comp=Z,3.3nm,0.8s								
B20K	**Meade River**	**75.30**	**8**	IAmb		IAmb		03 56 58.4	
	comp=Z,6.2nm,0.9s								
B22K	**Teshekpuk Lake**	**75.39**	**7**	IAmb		IAmb		03 56 58.9	
	comp=Z,13nm,1.2s								
B21K	**Ikpikpuk River**	**75.96**	**8**	IAmb		IAmb		03 57 02.3	
	comp=Z,5.9nm,0.9s								
C18K	**Utukok River**	**76.02**	**10**	IAmb		IAmb		03 57 02.3	
	comp=Z,6.3nm,1.0s								
D19K	**Kuna River**	**76.59**	**9**	IAmb		IAmb		03 57 08.7	
	comp=Z,10.0nm,1.1s								
D22K	**Ayikyak River**	**76.87**	**7**	IAmb		IAmb		03 57 20.1	
	comp=Z,7.1nm,1.1s								
D25K	**Kavik River**	**76.99**	**5**	IAmb		IAmb		03 57 14.1	
	comp=Z,5.1nm,0.9s								
C36M	**Paulatuk**	**77.21**	**357**	IAmb		IAmb		03 57 10.9	
	comp=Z,6.3nm,1.1s								
D27M	**Malcolm River**	**77.37**	**3**	P		**P**		**03 57 09.6**	**+0.5**
E19K	**Redstone River**	**77.69**	**9**	IAmb		IAmb		03 57 19.4	
	comp=Z,5.7nm,0.9s								
F15K	**North Star Dit**	**78.12**	**13**	IAmb		IAmb		03 57 44.5	
	comp=Z,9.1nm,1.5s								
E25K	**Arctic Village**	**78.23**	**5**	IAmb		IAmb		03 57 18.0	
	comp=Z,11nm,1.4s								
E29M	**Blow River**	**78.33**	**2**	IAmb		IAmb		03 57 18.5	
	comp=Z,9.4nm,1.1s								
F21K	**Alatna River**	**78.38**	**8**	IAmb		IAmb		03 57 23.7	
	comp=Z,5.1nm,0.9s								
E27K	**Coleen River**	**78.40**	**3**	IAmb		IAmb		03 57 15.9	
	comp=Z,5.7nm,1.0s								
INK	**Inuvik**	**78.47**	**0**	P		**P**		**03 57 14.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=354,slow=9.9,SNR=5.3								
	comp=Z,0.6nm,0.6s								
G19K	**Purcell Mounta**	**78.94**	**10**	IAmb		IAmb		03 57 18.5	
	comp=Z,7.8nm,1.0s								
G18K	**Tagagawik**	**78.95**	**10**	IAmb		IAmb		03 57 34.5	
	comp=Z,7.5nm,1.4s								
ANM	**Nome**	**79.00**	**14**	P		**P**		**03 57 17.4**	**-0.8**
ANM				IAmb		IAmb		03 57 22.3	
	comp=Z,9.2nm,1.3s								
ANM	**Nome**	**79.00**	**14**	P		**P**		**03 57 17.4**	**-0.8**
ANM				pmax		pmax			
	comp=Z,9.0nm,1.3s								
G21K	**Allakaket**	**79.05**	**8**	IAmb		IAmb		03 57 26.9	
	comp=Z,9.0nm,1.2s								
F31M	**Tsiigehtchic**	**79.34**	**0**	IAmb		IAmb		03 57 23.5	
	comp=Z,5.7nm,0.9s								
G30M	**tAoh Zraii Nji**	**79.78**	**1**	IAmb		IAmb		03 57 39.1	
	comp=Z,9.1nm,1.2s								
G31M	**Satah River**	**79.86**	**0**	IAmb		IAmb		03 57 56.3	
	comp=Z,10nm,1.1s								
H21K	**Melozitna Rive**	**79.96**	**8**	IAmb		IAmb		03 57 24.7	
	comp=Z,8.2nm,1.1s								
EPYK	**Eagle Plains**	**80.38**	**1**	IAmb		IAmb		03 57 26.0	
	comp=Z,9.1nm,1.2s								
J19K	**Poorman**	**81.19**	**10**	IAmb		IAmb		03 57 47.0	
	comp=Z,8.5nm,1.2s								
J20K	**Nowinta River**	**81.22**	**9**	IAmb		IAmb		03 57 39.1	
	comp=Z,5.7nm,0.9s								
D62A	**Allapoint, All**	**81.26**	**322**	P		**P**		**03 57 30.3**	**-0.4**
D62A				IAmb		IAmb		03 57 32.8	
	comp=Z,11nm,1.1s								
ILAR	**Eielson Array**	**81.43**	**6**	P		**P**		**03 57 30.9**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=340,slow=4.4,SNR=5.9								
	comp=Z,0.8nm,1.0s								
I30M	**Mount Dempster**	**81.54**	**1**	IAmb		IAmb		03 57 54.1	
	comp=Z,9.5nm,1.2s								
J25K	**Salcha River,**	**81.71**	**5**	IAmb		IAmb		03 57 47.1	
	comp=Z,7.8nm,1.4s								
EGAK	**Eagle**	**81.82**	**3**	IAmb		IAmb		03 57 33.8	
	comp=Z,11nm,1.3s								
J30M	**Hart River**	**82.19**	**1**	IAmb		IAmb		03 57 44.2	
	comp=Z,9.0nm,1.4s								
CAST	**Castle Rocks**	**82.21**	**8**	P		**P**		**03 57 35.5**	**0.0**
SCRK	**Sand Creek**	**82.44**	**5**	P		**P**		**03 57 37.0**	**+0.2**
SCRK				IAmb		IAmb		03 57 37.8	
	comp=Z,11nm,1.2s								
SHEM	**Shemya Is, Ala**	**82.59**	**29**	LR		LR		04 38 32.4	
	comp=Z,42nm,18.7s,baz=222,slow=39								
YKA	**Yellowknife Ar**	**83.15**	**351**	P		**P**		**03 57 39.5**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=15,slow=5.1,SNR=13								
	comp=Z,1.7nm,1.0s								
WRGLY	**Wrigley**	**83.26**	**356**	P		**P**		**03 57 41.1**	**+0.2**

*IDC **23** 04:05:13.5±2.5, 54°.11N×86°.34E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=20.2km s-min=11.9km az=60.0, Southwestern Siberia*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**261**	I	I	04 11 03.9	
	0.1nm,0.9s,baz=81,slow=351,SNR=14						
ZALV	**Zalesovo Beam**	**0.91**	**261**	Pg	Pg	04 05 30.2	-0.8
	0.7nm,0.3s,baz=81,slow=17,SNR=8.4						
ZALV				Lg	Lg	04 05 43.9	
	1.3nm,0.3s,baz=77,slow=30,SNR=9.8						
KURBB	**Kurchatov Arra**	**5.92**	**237**	Pn	Pn	04 06 43.8	+1.4
	0.1nm,0.3s,baz=55,slow=14,SNR=4.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.76**	**201**	Pn	Pn	04 07 08.4	+0.7
	0.1nm,0.3s,baz=18,slow=14,SNR=9.4						
MKAR				Sn	Sn	04 08 31.5	-4.8
	baz=30,slow=32,SNR=1.6						
	0.2nm,0.3s						

*CATAC **23** 04:18:01.5±0.3, 9°.98N×85°.52W, h13km±2km, ML3.3*
*UCR **23** 04:18:02.4±0.9, 10°.00N×85°.51W, h28km±2km, MW3.5*
ISC 23 04:18:02.3**±1.2, **9°.95N**±0°.04×**85°.53W**±0°.05, **h29**km±6km, **n66**, σ0**s74/59**, **Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.09**	**163**	*e*P	**Pb**	**04 18 07.6**	**+0.2**
INDI				*e*S	**Sb**	**04 18 11.8**	**+0.9**
INDI	**Punta indio, G**	**0.09**	**163**	*i* P	**Pb**	**04 18 06.1**	**-1.3**
INDI				IAML		04 18 07.6	
	comp=Z,17µm,1.0s						
DUNO	**Dulce Nombre,**	**0.13**	**15**	*e*P	**Pb**	**04 18 07.6**	**-0.1**
DUNO	**Dulce Nombre,**	**0.13**	**15**	*i* P	**Pb**	**04 18 05.9**	**-1.8**
DUNO				IAML		04 18 07.6	
	comp=Z,53µm,1.0s						
NICO	**Nicoya**	**0.20**	**24**	*e*P	**Pb**	**04 18 08.2**	**-0.1**
NICO				*e*S	**Sb**	**04 18 12.8**	**+0.3**
SAJU	**San Juanillo,**	**0.21**	**303**	*i* P	**Pb**	**04 18 07.2**	**-1.3**
SAJU				IAML		04 18 13.6	
	comp=Z,10µm,1.0s						
JUD3	**Juan Diaz 3**	**0.21**	**357**	*e*P	**Pb**	**04 18 08.3**	**-0.3**
JUD3				*e*S	**Sb**	**04 18 13.1**	**+0.2**
NYURE	**Nandayure**	**0.28**	**81**	*e*P	**Pb**	**04 18 09.1**	**-0.2**
NYURE				*e*S	**Sb**	**04 18 14.4**	**+0.4**
ORTG	**Ortega, Santa**	**0.41**	**10**	*e*P	**Pb**	**04 18 10.8**	**-0.5**
ORTG				*e*S	**Sb**	**04 18 17.5**	**-0.1**
ORTG	**Ortega, Santa**	**0.41**	**10**	*i* P	**Pb**	**04 18 10.1**	**-1.3**
ORTG				*i* S	**Sb**	**04 18 16.3**	**-1.2**
ORTG				IAML		04 18 17.6	
	comp=Z,3µm,1.0s						
PLVR	**Palo Verde**	**0.43**	**24**	*e*P	**Pb**	**04 18 11.1**	**-0.7**
PLVR				*e*S	**Sb**	**04 18 17.8**	**-0.3**
DELF	**Filadelfia**	**0.49**	**357**	*e*P	**Pb**	**04 18 12.1**	**-0.4**
DELF				*e*S	**Sb**	**04 18 20.1**	**+0.6**
CBL1	**Cabuya**	**0.56**	**130**	*e*P	**Pb**	**04 18 13.1**	**-0.6**
LAFE	**Finca La Fe, P**	**0.63**	**103**	*e*P	**Pb**	**04 18 13.6**	**-1.2**
LAFE	**Finca La Fe, P**	**0.63**	**103**	IAML		04 18 13.7	
	comp=Z,78nm,1.0s						
LAFE				*i* P	**Pb**	**04 18 14.3**	**-0.5**
LAFE				*i* S	**Sb**	**04 18 22.4**	**-0.8**
JUNT	**Juntas**	**0.65**	**60**	*e*P	**Pb**	**04 18 14.5**	**-0.7**
JTS	**Las Juntas de**	**0.66**	**59**	*e*P	**Pb**	**04 18 14.4**	**-0.9**
ELI1	**Hacienda Flor**	**0.69**	**358**	*e*P	**Pb**	**04 18 15.6**	**-0.3**
HZTE	**Horizontes, Gu**	**0.76**	**355**	*e*P	**Pb**	**04 18 16.5**	**-0.5**
COLC	**Colonia**	**0.78**	**24**	*e*P	**Pb**	**04 18 16.5**	**-0.8**
CUI	**Cuipilapa**	**0.79**	**27**	*e*P	**Pb**	**04 18 17.4**	**-0.1**
GPS3	**Bodega del ICE**	**0.81**	**11**	*e*P	**Pb**	**04 18 17.4**	**-0.5**
VRLE	**La Escondida,**	**0.85**	**11**	*e*P	**Pb**	**04 18 17.5**	**-1.1**
VRLE	**La Escondida,**	**0.85**	**11**	*i* PA		04 18 17.4	
VRLE				IAML		04 18 30.0	
	comp=Z,990nm,1.0s						
ARZA	**Esparza**	**0.85**	**87**	*e*P	**Pb**	**04 18 18.5**	**0.0**
GB1A	**Borinquen Arri**	**0.87**	**8**	*e*P	**Pb**	**04 18 17.9**	**-1.1**
JACO	**JACO, Garabito**	**0.90**	**108**	*e*P	**Pb**	**04 18 18.0**	**-1.4**
JACO	**JACO, Garabito**	**0.90**	**108**	*i* P	**Pb**	**04 18 19.1**	**-0.3**
JACO				IAML		04 18 35.4	
	comp=Z,480nm,1.0s						
ARE1	**Arenal 1**	**0.94**	**58**	*e*P	**Pb**	**04 18 19.6**	**-0.5**
VMAR	**Armenia, Volca**	**0.95**	**26**	*e*P	**Pb**	**04 18 19.6**	**-0.6**
VMAR	**Armenia, Volca**	**0.95**	**26**	*i* PA		04 18 19.5	
VMAR				IAML		04 18 45.9	
	comp=Z,450nm,1.0s						
VACR	**Volcan Arenal**	**0.98**	**58**	*e*P	**Pb**	**04 18 20.2**	**-0.6**
VACR	**Volcan Arenal**	**0.98**	**58**	*i* S	**Sn**	**04 18 33.7**	**+0.4**
SOCE	**Pocosol**	**0.99**	**64**	*e*P	**Pb**	**04 18 20.0**	**-1.0**
SOCE	**Pocosol**	**0.99**	**64**	*i* PA		04 18 20.0	
SOCE				IAML		04 18 34.2	
	comp=Z,3µm,1.0s						
SRA1	**San Ramn**	**1.04**	**83**	*e*P	**Pb**	**04 18 20.6**	**-1.2**
ZARE	**Zarcero**	**1.15**	**78**	*e*P	**Pn**	**04 18 23.0**	**+0.4**
CPMI	**Catarata Coope**	**1.18**	**74**	*e*P	**Pn**	**04 18 23.1**	**+0.1**
CPMI	**Catarata Coope**	**1.18**	**74**	*i* S	**Sn**	**04 18 39.4**	**+1.1**
TCS1	**Tacares**	**1.21**	**86**	*e*P	**Pn**	**04 18 23.5**	**+0.1**
TCS1	**Tacares**	**1.21**	**86**	*i* PA		04 18 23.6	
TCS1				IAML		04 18 45.1	
	comp=Z,5µm,1.0s						
POA5	**Crater Von Fra**	**1.30**	**79**	*e*P	**Pn**	**04 18 25.1**	**+0.2**
COVE	**Coope Vega, Sa**	**1.35**	**55**	*i* PA		04 18 25.2	
COVE				IAML		04 18 47.2	
	comp=Z,410nm,1.0s						
ABE2	**San Pablo**	**1.47**	**99**	*e*P	**Pn**	**04 18 27.0**	**-0.2**
LCR2	**La Lucha 2**	**1.52**	**98**	*e*P	**Pn**	**04 18 27.5**	**-0.2**
LCR2	**La Lucha 2**	**1.52**	**98**	*i* PA		04 18 27.6	
LCR2				IAML		04 19 01.9	
	comp=Z,200nm,1.0s						
OCM	**Ochomogo**	**1.55**	**92**	*e*P	**Pn**	**04 18 28.3**	**+0.2**
OCM	**Ochomogo**	**1.55**	**92**	*i* PA		04 18 28.4	
OCM				IAML		04 18 35.4	
	comp=Z,210nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.62**	**77**	*e*P	**Pn**	**04 18 29.7**	**+0.7**
RIFO	**Rio Frio, Sara**	**1.62**	**77**	*i* PA		04 18 29.8	
RIFO				IAML		04 18 57.6	
	comp=Z,440nm,1.0s						
VICA	**Volcano Irazu**	**1.66**	**89**	*e*P	**Pn**	**04 18 30.6**	**+0.7**
HAYA	**Volcan Irazu**	**1.66**	**89**	*i* PA		04 18 30.8	
HAYA				IAML		04 18 44.5	
	comp=Z,260nm,1.0s						
CDM	**Cerro de Muert**	**1.79**	**103**	*e*P	**Pn**	**04 18 31.6**	**0.0**
CDM	**Cerro de Muert**	**1.79**	**103**	*i* PA		04 18 31.5	
CDM				IAML		04 18 55.1	
	comp=Z,200nm,1.0s						
BUS1	**Rivas**	**1.80**	**103**	*e*P	**Pn**	**04 18 31.5**	**-0.3**
ACON	**Acoyapa**	**2.03**	**10**	*i* P	**Pn**	**04 18 35.1**	**+0.4**
ACON				IAML		04 19 12.9	
	comp=Z,120nm,1.0s						
NANN	**Nandasmo**	**2.06**	**344**	*i* P	**Pn**	**04 18 35.4**	**+0.4**
NANN				IAML		04 19 17.7	
	comp=Z,2µm,1.0s						
SAPS	**Ciudad Sandino**	**2.37**	**339**	*i* PA		04 18 40.0	
SAPS				IAML		04 18 51.9	
	comp=Z,190nm,1.0s						
COPN	**Copaltepe**	**2.45**	**335**	*i* PA		04 18 40.7	
COPN				IAML		04 19 13.1	
	comp=Z,170nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.48**	**357**	*i* PA		04 18 40.7	
BOAB				IAML		04 19 23.0	
	comp=Z,38nm,1.0s						
POTG	**Potrero Grande**	**2.54**	**110**	*i* PA		04 18 42.7	
POTG				IAML		04 19 14.3	
	comp=Z,140nm,1.0s						
PIRO	**Carate, Puerto**	**2.66**	**125**	*i* PA		04 18 44.3	
PIRO				IAML		04 18 44.4	
	comp=Z,260nm,1.0s						
BLUN	**Bluefields**	**2.67**	**40**	*i* P	**Pn**	**04 18 44.0**	**+0.6**
BLUN				IAML		04 19 03.2	
	comp=Z,86nm,1.0s						
MACN	**El Madrono**	**2.74**	**336**	*i* PA		04 18 45.0	
MACN				IAML		04 19 18.8	
	comp=Z,69nm,1.0s						
ROCN	**Rota Cerro Neg**	**2.82**	**335**	*i* P	**Pn**	**04 18 45.8**	**+0.3**
ROCN				IAML		04 19 19.6	
	comp=Z,43nm,1.0s						
CDITO	**Canoas**	**2.96**	**117**	*i* P	**Pn**	**04 18 48.3**	**+0.9**
CDITO				IAML		04 20 07.6	
	comp=Z,360nm,1.0s						

*IDC **23** 04:25:27.8±1.3, 3°.49S×131°.36E, h0km, mb4.0/8, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=96.9km s-min=20.3km az=68.0*
*DJA **23** 04:25:33.3±0.3, 3°.5±3°×13°.1E±°, h59km±7km, M4.2/10, mb4.2/7, MLv4.2/10*
ISC 23 04:25:32.6**±0.7, **3°.47S**±0°.06×**131°.23E**±0°.06, **h30**km, **n33**, σ1**s51/31**, **mb4.1/8**, **Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.16**	**62**	P	**Pn**	**04 25 53.9**	**+1.1**
FAKI	**Fak Fak**	**1.16**	**62**	P	**Pn**	**04 25 53.9**	**+1.1**
BNDI	**Bandanaira**	**1.68**	**232**	P	**Pb**	**04 26 02.5**	**-0.4**
KMPI	**Kaimana, Papua**	**2.48**	**94**	P	**Pn**	**04 26 12.7**	**+1.8**
SIJI	**Sorong**	**2.59**	**1**	P	**Pn**	**04 26 10.8**	**-1.6**
SWI	**Sorong**	**2.59**	**1**	P	**Pn**	**04 26 11.0**	**-1.5**
KRAI	**Karang Ratu**	**2.83**	**273**	P	**Pn**	**04 26 15.2**	**-0.6**
NLAI	**Namlea**	**4.13**	**273**	P	**Pn**	**04 26 34.2**	**+0.6**
SAUI	**Saumlaki**	**4.48**	**179**	P	**Pn**	**04 26 35.6**	**-2.9**
LBMI	**Labuha**	**4.67**	**307**	P	**Pn**	**04 26 39.3**	**-1.8**
SANI	**Sanana**	**5.42**	**285**	P	**Pn**	**04 26 52.9**	**+1.5**
SANI	**Sanana**	**5.42**	**285**	P	**Pn**	**04 26 49.8**	**-1.6**
	38nm,0.8s,0.2nm						
TNTI	**Ternate**	**5.72**	**317**	P	**Pn**	**04 26 55.0**	**-0.5**
GTOI	**Gorontalo**	**9.17**	**296**	P	**Pn**	**04 27 43.9**	**+1.0**
	5.5nm,0.9s						
KDU	**Kakadu**	**9.24**	**172**	P	**Pn**	**04 27 44.1**	**+0.3**
MTN	**Manton Dam**	**9.31**	**181**	P	**Pn**	**04 27 45.7**	**+0.9**
KNRA	**Kununurra**	**12.37**	**191**	P	**Pn**	**04 28 24.3**	**-2.4**
FITZ	**Fitzroy Crossi**	**15.53**	**200**	P	**Pn**	**04 29 07.1**	**-2.4**
COEN	**Coen**	**15.74**	**132**	P	**Pn**	**04 29 12.2**	**0.0**
	18nm,1.7s						
WRA	**Warramunga Arr**	**16.65**	**170**	Pn	**Pn**	**04 29 20.0**	**-3.8**
	0.4nm,0.3s,baz=353,slow=13,SNR=7.7						
WRA				Sn	Sn	04 32 15.6	-12
	0.3nm,0.3s,baz=357,slow=23,SNR=2.3						
	1.0nm,0.5s						
QIS	**Mount Isa**	**18.84**	**155**	P	**Pn**	**04 29 51.6**	**+0.7**
ASAR	**Alice Springs**	**20.24**	**173**	P	Pn	04 30 06.8	-0.8
	4.3nm,0.5s,baz=352,slow=11,SNR=26						
AS01	**Alice Springs**	**20.25**	**173**	P	Pn	04 30 07.3	-0.4
WRKA	**Warakurna**	**21.62**	**187**	P	**P**	**04 30 21.2**	**+0.8**
OOD	**Oodnadatta**	**24.56**	**170**	P	**P**	**04 30 50.9**	**+1.1**
STKA	**Stephens Creek**	**29.89**	**162**	P	**P**	**04 31 36.1**	**-1.6**
	0.5nm,0.2s,baz=340,slow=12,SNR=2.7						
	0.5nm,0.2s						
CMAR	**Chiang Mai Arr**	**38.55**	**306**	P	**P**	**04 32 53.4**	**+0.5**
	1.3nm,0.3s,baz=134,slow=7.7,SNR=5.2						
	1.3nm,0.3s						
SONM	**Songino Array**	**55.54**	**340**	P	**P**	**04 35 05.6**	**+0.4**
	0.7nm,1.0s,baz=145,slow=5.3,SNR=2.8						
	0.7nm,1.0s						
MKAR	**Makanchi Array**	**66.00**	**325**	P	**P**	**04 36 16.9**	**+0.7**
	0.8nm,0.4s,baz=117,slow=8.1,SNR=14						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**69.00**	**333**	P	**P**	**04 36 35.1**	**+0.1**
	0.5nm,0.4s,baz=134,slow=6.4,SNR=4.8						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**70.19**	**327**	P	**P**	**04 36 42.9**	**+0.5**
	1.6nm,0.5s,baz=126,slow=5.5,SNR=22						
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**75.77**	**327**	P	**P**	**04 37 15.9**	**+0.4**
	2.5nm,0.8s,baz=130,slow=6.0,SNR=11						
	2.5nm,0.8s						
VNDA	**Vanda**	**75.78**	**173**	P	**P**	**04 37 16.6**	**+1.4**
	1.7nm,0.9s,baz=326,slow=11,SNR=2.1						
	1.7nm,0.9s						

*TEH **23** 04:33:21.3, 26°.49N×56°.45E, h22km±31km, ML3.3*
*OMAN **23** 04:33:24.5±1.6, 26°.39N×56°.56E, h4km±5km, mb5.1/1, ml3.0/17, Error ellipse: s-maj=10.7km s-min=5.5km az=164.0*
*DSN **23** 04:33:26.3±2.1, 26°.22N×56°.55E, h10km, ML3.0/11, Error ellipse: s-maj=22.2km s-min=6.7km az=4.0*
ISC 23 04:33:22.7**±1.2, **26°.47N**±0°.03×**56°.46E**±0°.04, **h10**km±10km, **n55**, σ1**s31/78**, **Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**0.51**	**215**	P	**Pg**	**04 33 32.6**	**0.0**
SHME				S	**Sb**	**04 33 40.6**	**-0.8**
SHME	**Shamm**	**0.51**	**215**	Pg	**Pb**	**04 33 32.9**	**-0.9**
SHME	**Shamm**	**0.51**	**215**	P	**Pb**	**04 33 32.8**	**-1.1**
	SNR=13						
SHME				S	**Sb**	**04 33 40.0**	**-1.3**
BANOM	**Banah**	**0.57**	**195**	*e*P	**Pg**	**04 33 33.7**	**-0.1**
	SNR=42						
BANOM	**Banah**	**0.57**	**195**	P	**Pg**	**04 33 34.0**	**+0.3**
BANOM				S	**Sb**	**04 33 41.8**	**-1.1**
GENO	**Geno**	**0.96**	**344**	Pg	**Pg**	**04 33 40.6**	**-0.6**
IBND	**Bandar-abas**	**0.97**	**4**	Pg	**Pb**	**04 33 40.9**	**-0.8**
MASF	**Masafi**	**1.13**	**194**	P	**Pb**	**04 33 44.2**	**-0.2**
	SNR=24						
MASF				S	**Sn**	**04 34 00.7**	**+0.4**
MSFE	**Esma-Masafi**	**1.14**	**194**	*e*P	**Pb**	**04 33 43.7**	**-0.9**
	SNR=24						
MDH	**Madha**	**1.18**	**187**	*e*P	**Pb**	**04 33 42.7**	**-2.5**
	SNR=12						
MDH	**Madha**	**1.18**	**187**	P	**Pb**	**04 33 45.0**	**-0.2**
MDH				S	**Sn**	**04 34 01.6**	**+0.1**
UMQ	**Umm Al-Quwin**	**1.19**	**218**	*e*P	**Pg**	**04 33 46.3**	**+0.8**
	SNR=9.1						
UMQ	**Umm Al-Quwin**	**1.19**	**218**	Pg	**Pg**	**04 33 47.2**	**+1.7**
UMQ	**Umm Al-Quwin**	**1.19**	**218**	P	**Pg**	**04 33 47.4**	**+1.9**
	SNR=9.5						

PMG	**Port Moresby**	**8.04**	**245**	LR		LR	05 01 13.2	
	comp=Z,28nm,20.0s,baz=11,slow=31							
WRA	**Warramunga Arr**	**24.01**	**233**	P		P	05 02 20.7	+1.5
	1.2nm,0.4s,baz=60,slow=10.0,SNR=9.5							
	1.2nm,0.4s							
ASAR	**Alice Springs**	**26.48**	**226**	P		P	05 02 40.9	-0.8
	0.9nm,0.4s,baz=67,slow=8.7,SNR=9.4							
	0.9nm,0.4s							
MKAR	**Makanchi Array**	**82.36**	**319**	P		P	05 09 25.9	-0.5
	0.3nm,0.4s,baz=98,slow=6.4,SNR=4.0							
	0.3nm,0.4s							

IDC ***23*** *05:04:37.1±0.9,5.55N×124.76E,h0km,mb4.0/6, mbtmp4.0/6,Error ellipse: s-maj=38.4km s-min=17.8km az=64.0*

DJA ***23*** *05:04:58.5±0.4,5.1N±4.2×12.6E±.,h229km±6km,M4.6/9, mB5.7/4,mb4.4/9,MLv4.5/9,Mw(mB)5.2/4*

ISC 23 05:04:58.7±1.2,5.32N±0.09×126.0E±0.1,h250km,n16, σ1§13/12,mb3.6/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.78**	**348**	P	**Pn**	**05 05 37.2**	**-2.1**
TNTI	**Ternate**	**4.73**	**163**	P	**Pn**	**05 06 10.3**	**-0.9**
KMSI	**Cibinong**	**5.10**	**203**	P	**Pn**	**05 06 14.1**	**-1.7**
	225nm,0.9s,0.9nm						
GTOI	**Gorontalo**	**5.50**	**212**	P	**Pn**	**05 06 20.8**	**+0.2**
	47nm,0.6s,548nm0.2nm						
GTOI				S	**S**	**05 07 25.4**	**-0.6**
	47nm,0.6s,548nm0.2nm						
LBMI	**Labuha**	**6.11**	**165**	P	**Pn**	**05 06 28.0**	**-0.3**
	57nm,0.7s,0.6nm						
LUWI	**Luwuk**	**7.07**	**207**	P	**Pn**	**05 06 40.4**	**+0.1**
	53nm,0.8s,0.2nm						
SANI	**Sanana**	**7.32**	**180**	P	**Pn**	**05 06 42.8**	**-0.6**
	163nm,0.5s,6μm1.2nm						
NLAI	**Namlea**	**8.57**	**172**	P	**Pn**	**05 07 00.6**	**+1.3**
MTKI	**Muara Teweh, K**	**12.67**	**241**	P	Pn	05 07 44.9	-5.8
GUMO	**Guam**	**20.38**	**65**	P	Pn	05 09 26.6	+4.3
	160nm,0.3s,baz=330,slow=9.5,SNR=23						
WRA	**Warramunga Arr**	**26.42**	**162**	P	P	05 10 21.1	+8.4
	0.6nm,0.4s,baz=341,slow=11,SNR=11						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**29.83**	**165**	P	P	05 10 52.0	+9.0
	1.8nm,0.6s,baz=341,slow=7.0,SNR=23						
	1.8nm,0.6s						
STKA	**Stephens Creek**	**39.88**	**159**	P	P	05 12 17.1	+8.7
	1.3nm,0.5s,baz=345,slow=6.7,SNR=4.3						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**55.82**	**325**	P	**P**	**05 14 10.7**	**+0.4**
	0.7nm,0.6s,baz=119,slow=7.7,SNR=8.5						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**59.99**	**327**	P	**P**	**05 14 39.5**	**+0.5**
	0.9nm,0.4s,baz=117,slow=6.6,SNR=6.1						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**65.58**	**327**	P	**P**	**05 15 16.4**	**+0.7**
	0.6nm,0.5s,baz=126,slow=7.5,SNR=3.9						
	0.6nm,0.5s						

ROM 23 05:09:56.0±0.1,42.447N±0.004×13.301E±0.005, h12km±1km,ML1.6/13,2C-1D,Error ellipse: s-maj=0.4km s-min=0.2km az=218.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.09**	**314**	⇓P	Pg	05 09 59.2	+0.4
RM33				S	Sg	05 10 01.2	+0.4
RM33				AML	AML		
	comp=E,532μm,0.2s						
RM33				AML	AML		
	comp=N,805μm,0.2s						
RM33				AML	AML		
	comp=E,568μm,0.2s						
RM33				AML	AML		
	comp=N,792μm,0.2s						
RM33				AML	AML		
	comp=E,2270μm,0.2s						
RM33				AML	AML		
	comp=N,3760μm,0.2s						
RM33				AML	AML		
	comp=E,2455μm,0.2s						
RM33				AML	AML		
	comp=N,3615μm,0.2s						
RM33				AML	AML		
	comp=E,2275μm,0.2s						
RM33				AML	AML		
	comp=E,568μm,0.2s						
RM33				AML	AML		
	comp=N,805μm,0.2s						
RM33				AML	AML		
	comp=E,415μm,0.2s						
RM33				AML	AML		
	comp=N,793μm,0.2s						
CAMP	**Campotosto**	**0.12**	**42**	⇑P	Pg	05 09 59.7	+0.5
CAMP				S	Sg	05 10 02.2	+0.7
CAMP				AML	AML		
	comp=E,964μm,0.4s						
CAMP				AML	AML		
	comp=N,1820μm,0.4s						
CAMP				AML	AML		
	comp=E,162μm,0.3s						
CAMP				AML	AML		
	comp=N,353μm,0.4s						
SMA1	**SAN MARTINO**	**0.18**	**8**	P	Pg	05 10 00.6	+0.5
SMA1				S	Sg	05 10 04.2	+1.1
SMA1				AML	AML		
	comp=E,3780μm,0.4s						
SMA1				AML	AML		
	comp=N,3320μm,0.4s						
SMA1				AML	AML		
	comp=N,648μm,0.4s						
SMA1				AML	AML		
	comp=E,840μm,0.4s						
GIGS	**Gran Sasso**	**0.20**	**89**	P	Pg	05 10 00.5	+0.2
GIGS				S	Sg	05 10 04.0	+0.7
GIGS				AML	AML		
	comp=N,481μm,0.2s						
GIGS				AML	AML		
	comp=E,234μm,0.7s						
GIGS				AML	AML		
	comp=E,24μm,0.2s						
FIAM	**Fiamignano**	**0.23**	**217**	P	Pg	05 10 01.2	+0.4
FIAM				S	Sg	05 10 05.1	+1.0
FIAM				AML	AML		
	comp=E,438μm,0.2s						
FIAM				AML	AML		
	comp=N,419μm,1.1s						
FIAM				AML	AML		
	comp=E,80μm,0.2s						
FAGN	**Fagnano**	**0.28**	**131**	P	Pb	05 10 02.4	-0.6
FAGN				AML	AML		
	comp=E,956μm,0.3s						
FAGN				AML	AML		
	comp=N,824μm,0.3s						
FAGN				AML	AML		
	comp=E,957μm,0.3s						
FAGN				AML	AML		
	comp=N,825μm,0.3s						
TERO	**Teramo**	**0.28**	**52**	P	Pg	05 10 02.0	+0.1
TERO				S	Sg	05 10 06.6	+0.8
TERO				AML	AML		
	comp=E,294μm,0.7s						
TERO				AML	AML		
	comp=N,198μm,1.5s						
TERO				AML	AML		
	comp=E,294μm,0.7s						
TERO				AML	AML		
	comp=N,199μm,1.5s						
TERO				AML	AML		
	comp=E,352μm,0.4s						
TERO				AML	AML		
	comp=N,423μm,0.4s						
MTRA	**Matera**	**0.32**	**13**	⇑P	Pg	05 10 02.5	0.0
MTRA				S	Sg	05 10 07.5	+0.7
MTRA				AML	AML		
	comp=E,1250μm,0.6s						
MTRA				AML	AML		
	comp=E,1350μm,0.6s						
MTRA				AML	AML		
	comp=N,1605μm,0.1s						
MTRA				AML	AML		
	comp=E,1255μm,0.6s						
MTRA				AML	AML		
	comp=N,1585μm,0.1s						
MTRA				AML	AML		
	comp=E,262μm,0.1s						
T1214	**Arquata del Tr**	**0.32**	**348**	P	Pg	05 10 02.7	+0.1
T1214				S	Sb	05 10 08.4	-0.7
T1214				AML	AML		
	comp=E,339μm,0.8s						
T1214				AML	AML		
	comp=N,290μm,0.6s						
T1214				AML	AML		
	comp=E,338μm,0.8s						
T1214				AML	AML		
	comp=N,47μm,0.1s						
GAVE	**Gavelli**	**0.39**	**309**	AML	AML		
	comp=N,319μm,0.3s						
GAVE				AML	AML		
	comp=E,304μm,0.2s						
GAVE				AML	AML		
	comp=E,304μm,0.2s						
VCEL	**Villa Celiera**	**0.40**	**97**	P	Pg	05 10 04.5	+0.4
VCEL				AML	AML		
	comp=N,356μm,0.9s						
VCEL				AML	AML		
	comp=E,412μm,0.7s						
VCEL				AML	AML		
	comp=N,356μm,0.9s						
NRCA	**Norcia**	**0.41**	**340**	P	Pg	05 10 04.2	0.0
NRCA				S	Sg	05 10 10.4	+0.7
NRCA				AML	AML		
	comp=E,1067μm,0.1s						
NRCA				AML	AML		
	comp=N,683μm,0.9s						
NRCA				AML	AML		
	comp=E,1125μm,0.1s						
NRCA				AML	AML		
	comp=E,1068μm,0.1s						
NRCA				AML	AML		
	comp=N,684μm,0.9s						
NRCA				AML	AML		
	comp=N,595μm,0.1s						
ARRO	**Arrone**	**0.42**	**289**	P	Pg	05 10 04.1	-0.1
ARRO				S	Sb	05 10 10.8	-0.8
ARRO				AML	AML		
	comp=E,177μm,0.9s						
ARRO				AML	AML		
	comp=N,250μm,0.7s						
T0110	**Collepietro**	**0.42**	**122**	P	Pg	05 10 04.6	+0.3
T0110				AML	AML		
	comp=N,352μm,0.4s						
T0110				AML	AML		
	comp=E,304μm,0.5s						
MMO1	**Montemonaco**	**0.45**	**2**	P	Pg	05 10 05.0	0.0
MMO1				S	Sb	05 10 12.0	-0.8
T1221	**Campello sul C**	**0.53**	**321**	P	Pg	05 10 06.4	0.0
CERT	**Cerreto**	**0.55**	**206**	AML	AML		
	comp=N,84μm,1.3s						
CERT				AML	AML		
	comp=E,88μm,0.5s						
MF5	**Montefalcone A**	**0.55**	**12**	P	Pg	05 10 07.1	+0.3
MF5				AML	AML		
	comp=E,191μm,1.3s						
MF5				AML	AML		
	comp=N,174μm,0.4s						
MF5				AML	AML		
	comp=E,192μm,1.3s						
CESX	**Cesi**	**0.56**	**287**	AML	AML		
	comp=N,125μm,0.3s						
CESX				AML	AML		
	comp=E,110μm,0.3s						
OFFI	**Offida**	**0.56**	**30**	P	Pb	05 10 07.8	-0.1
OFFI				AML	AML		
	comp=E,268μm,1.4s						
OFFI				AML	AML		
	comp=N,233μm,0.5s						
FDMO	**Fiordimonte**	**0.61**	**345**	P	Pg	05 10 07.7	-0.2
FDMO				AML	AML		
	comp=N,114μm,1.3s						
FDMO				AML	AML		
	comp=E,106μm,0.2s						
FDMO				AML	AML		
	comp=N,114μm,1.3s						
GUMA	**Gualdo di Mace**	**0.62**	**2**	AML	AML		
	comp=E,476μm,0.3s						
GUMA				AML	AML		
	comp=N,340μm,0.2s						
INTR	**Introdacqua**	**0.62**	**134**	P	Pb	05 10 08.7	-0.3
INTR				AML	AML		
	comp=E,89μm,0.6s						
INTR				AML	AML		
	comp=N,130μm,0.7s						
CESI	**CESI - Serrava**	**0.63**	**332**	P	Pg	05 10 08.2	-0.1
CESI				AML	AML		
	comp=E,101μm,1.2s						
CESI				AML	AML		
	comp=N,199μm,0.3s						
MOMA	**Monte Martano**	**0.65**	**304**	P	Pg	05 10 08.7	+0.1
MOMA				AML	AML		
	comp=E,144μm,0.2s						
MOMA				AML	AML		
	comp=E,143μm,0.2s						
MOMA				AML	AML		
	comp=N,134μm,0.3s						
CSP1	**Cessapalombo**	**0.65**	**354**	P	Pg	05 10 08.3	-0.3
CSP1				AML	AML		
	comp=E,70μm,0.8s						
CSP1				AML	AML		
	comp=N,31μm,1.5s						
CSP1				AML	AML		
	comp=E,70μm,0.8s						
ASSB	**Assisi San Ben**	**0.76**	**322**	AML	AML		
	comp=N,83μm,0.4s						
ASSB				AML	AML		
	comp=E,75μm,1.4s						

ROM 23 05:10:04.5±0.1,42.437N±0.004×13.293E±0.009, h13km±1km,ML1.9/32,5C-2D,Error ellipse: s-maj=0.6km s-min=0.1km az=267.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.01**	**40**	P	Pg	05 10 07.2	+0.3
T1247				S	Sg	05 10 09.2	+0.8
RM33	**Pellescritta (**	**0.09**	**321**	⇓P	Pg	05 10 07.7	+0.2
RM33				S	Sg	05 10 09.8	+0.2
RM33				AML	AML		
	comp=E,2275μm,0.2s						
RM33				AML	AML		
	comp=N,3760μm,0.2s						
RM33				AML	AML		
	comp=E,2455μm,0.2s						
RM33				AML	AML		
	comp=N,3615μm,0.2s						
RM33				AML	AML		
	comp=E,2192μm,0.2s						
RM33				AML	AML		
	comp=E,2100μm,0.2s						
RM33				AML	AML		
	comp=N,3613μm,0.2s						
RM33				AML	AML		
	comp=N,2230μm,0.1s						
CAMP	**Campotosto**	**0.13**	**41**	P	Pg	05 10 08.2	+0.2
CAMP				S	Sg	05 10 10.7	+0.3
SMA1	**SAN MARTINO**	**0.20**	**9**	P	Pg	05 10 09.1	+0.2
SMA1				S	Sg	05 10 12.6	+0.6
GIGS	**Gran Sasso**	**0.20**	**86**	⇑P	Pg	05 10 09.2	+0.2
GIGS				S	Sg	05 10 12.7	+0.6
GIGS				AML	AML		
	comp=E,234μm,0.7s						
GIGS				AML	AML		
	comp=E,234μm,1.3s						
GIGS				AML	AML		
	comp=N,481μm,0.2s						
GIGS				AML	AML		
	comp=E,186μm,0.3s						
GIGS				AML	AML		
	comp=N,481μm,0.2s						
FIAM	**Fiamignano**	**0.21**	**218**	P	Pg	05 10 09.6	+0.5
FIAM				S	Sg	05 10 13.2	+0.8
FAGN	**Fagnano**	**0.28**	**128**	P	Pb	05 10 11.0	-0.3
TERO	**Teramo**	**0.30**	**51**	⇓P	Pg	05 10 10.5	-0.1
TERO				S	Sg	05 10 15.2	+0.5
TERO				AML	AML		
	comp=E,352μm,0.4s						
TERO				AML	AML		
	comp=N,423μm,0.4s						
TERO				AML	AML		
	comp=N,342μm,0.1s						
TERO				AML	AML		
	comp=E,206μm,0.2s						
TERO				AML	AML		
	comp=N,182μm,0.1s						
TERO				AML	AML		
	comp=E,290μm,0.1s						
T1214	**Arquata del Tr**	**0.33**	**349**	⇑P	Pg	05 10 11.3	+0.1
T1214				S	Sb	05 10 16.8	-0.8
T1214				AML	AML		
	comp=E,338μm,0.8s						
T1214				AML	AML		
	comp=E,338μm,0.8s						
T1214				AML	AML		
	comp=N,290μm,0.6s						
T1214				AML	AML		
	comp=E,338μm,1.2s						
T1214				AML	AML		
	comp=N,225μm,0.1s						
T1214				AML	AML		
	comp=E,305μm,0.2s						
T1214				AML	AML		
	comp=E,297μm,0.2s						
T1214				AML	AML		
	comp=N,253μm,0.1s						
MTRA	**Matera**	**0.33**	**13**	⇑P	Pg	05 10 11.0	-0.2
MTRA				S	Sg	05 10 15.9	+0.2
MTRA				AML	AML		
	comp=N,1605μm,0.1s						
MTRA				AML	AML		
	comp=E,1250μm,0.6s						
MTRA				AML	AML		
	comp=N,1585μm,0.1s						
MTRA				AML	AML		
	comp=E,1350μm,0.6s						
MTRA				AML	AML		
	comp=N,1605μm,1.9s						
MTRA				AML	AML		
	comp=N,1585μm,1.9s						
MTRA				AML	AML		
	comp=E,1255μm,0.6s						
MTRA				AML	AML		
	comp=E,1207μm,0.1s						
MTRA				AML	AML		
	comp=N,1608μm,0.1s						
MTRA				AML	AML		
	comp=E,1181μm,0.1s						
MTRA				AML	AML		
	comp=N,1584μm,0.1s						
VCEL	**Villa Celiera**	**0.41**	**96**	AML	AML		
	comp=E,412μm,0.7s						
VCEL				AML	AML		
	comp=N,356μm,0.9s						
ARRO	**Arrone**	**0.41**	**290**	P	Pg	05 10 12.7	-0.1
ARRO				S	Sb	05 10 19.2	-0.7
T0110	**Collepietro**	**0.42**	**120**	P	Pg	05 10 13.1	+0.3
PTQR	**Pietraquaria**	**0.42**	**169**	P	Pg	05 10 13.1	+0.2
PTQR				S	Sb	05 10 20.1	-0.1
PTQR				AML	AML		
	comp=E,85μm,1.5s						
PTQR				AML	AML		
	comp=N,56μm,0.8s						
PTQR				AML	AML		
	comp=E,85μm,0.5s						
PTQR				AML	AML		
	comp=N,48μm,0.2s						
PTQR				AML	AML		
	comp=E,57μm,0.2s						
MMO1	**Montemonaco**	**0.46**	**3**	P	Pg	05 10 13.4	-0.3
T1221	**Campello sul C**	**0.54**	**322**	P	Pg	05 10 14.8	-0.3
T1221				S	Sb	05 10 22.9	-0.6
CESX	**Cesi**	**0.56**	**288**	P	Pg	05 10 14.9	-0.4
CESX				S	Sg	05 10 23.3	+0.6
MF5	**Montefalcone A**	**0.56**	**13**	P	Pg	05 10 15.5	-0.1
MF5				S	Sb	05 10 24.6	+0.3
OFFI	**Offida**	**0.58**	**30**	P	Pb	05 10 16.3	-0.2
OFFI				S	Sn	05 10 26.5	-1.3
FDMO	**Fiordimonte**	**0.62**	**346**	P	Pg	05 10 16.2	-0.4
FDMO				S	Sb	05 10 25.7	-0.1
FDMO				AML	AML		
	comp=E,106μm,0.2s						
FDMO				AML	AML		
	comp=N,114μm,1.3s						
FDMO				AML	AML		
	comp=N,114μm,0.7s						
FDMO				AML	AML		
	comp=E,106μm,0.2s						
FDMO				AML	AML		
	comp=N,112μm,0.2s						
INTR	**Introdacqua**	**0.62**	**133**	P	Pb	05 10 17.1	-0.1
GUMA	**Gualdo di Mace**	**0.63**	**3**	P	Pg	05 10 16.6	-0.1
GUMA				S	Sb	05 10 26.5	+0.5
CESI	**CESI - Serrava**	**0.64**	**333**	P	Pg	05 10 16.7	-0.2
CESI				S	Sb	05 10 26.7	+0.3
CSP1	**Cessapalombo**	**0.66**	**354**	P	Pg	05 10 16.9	-0.5
ASSB	**Assisi San Ben**	**0.77**	**323**	P	Pg	05 10 18.9	-0.4
LPEL	**Lama dei Pelig**	**0.77**	**120**	P	Pg	05 10 18.3	-1.0
LPEL				AML	AML		
	comp=E,116μm,1.4s						
LPEL				AML	AML		
	comp=N,90μm,0.5s						
LPEL				AML	AML		
	comp=E,116μm,0.6s						
LPEL				AML	AML		
	comp=E,76μm,0.3s						
LPEL				AML	AML		
	comp=N,84μm,0.2s						
EL6	**Elcito**	**0.90**	**351**	⇑P	Pg	05 10 21.2	-0.8
EL6				AML	AML		
	comp=E,96μm,1.6s						
EL6				AML	AML		
	comp=N,116μm,0.4s						
EL6				AML	AML		
	comp=E,96μm,0.4s						
EL6				AML	AML		
	comp=E,92μm,0.3s						
EL6				AML	AML		
	comp=N,85μm,0.1s						
CING	**Cingoli**	**0.94**	**356**	⇑P	Pg	05 10 22.0	-0.6
CING				S	Sn	05 10 36.6	-0.2
CING				AML	AML		
	comp=E,61μm,0.1s						
CING				AML	AML		
	comp=N,66μm,0.2s						

IDC 23 05:12:19.8±7.2,27.57S×23.15E,h0km,mbtmp1.6/1, ML1.7/1,Error ellipse: s-maj=45.2km s-min=42.4km az=27.0,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I47ZA	**BOSHOF INFRASO**	**2.12**	**120**	I	I	05 24 54.3	
	0.2nm,0.9s,baz=300,slow=321,SNR=7.9						
BOSA	**Boshof**	**2.13**	**120**	Pn	Pn	05 12 56.8	0.0
	0.1nm,0.3s,baz=302,slow=18,SNR=0.7						
BOSA				Lg	Lg	05 13 27.7	
	1.1nm,0.3s,baz=219,slow=16,SNR=16						
BOSA				Rg	Rg	05 13 41.0	
	16nm,1.0s,baz=280,slow=3.3,SNR=7.9						
	0.4nm,0.3s						
I35NA	**TSUMEB INFRASO**	**9.78**	**327**	I	I	06 11 05.0	
	baz=153,slow=319,SNR=2.6						

NNC 23 05:16:51.5±5.8,36.93N×70.53E,h0km,mb3.6,mpv3.2, 4C-1D,Error ellipse: s-maj=49.5km s-min=43.5km az=111.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.74**	**24**	⇓P	Pn	05 18 18.7	+0.3
	0.6nm,0.5s						
AML				⇑S	Sn	05 19 25.9	+0.8
	1.1nm,0.6s						
KK31	**Karatay Array**	**6.16**	**360**	P	Pn	05 18 25.4	+1.5
	1.5nm,0.5s,baz=178,slow=12,SNR=14						
KK31				⇑S	Sn	05 19 35.6	+0.6
	0.8nm,0.5s						
TKM2	**Tokmak 2**	**7.13**	**31**	⇑P	Pn	05 18 35.5	-1.8
	2.2nm,0.6s						
TKM2				⇑S	Sn	05 20 01.8	+2.6
	0.7nm,0.7s						

IDC 23 05:23:57.7±2.6,53.74N×86.66E,h0km,mbtmp2.5/2, ML2.2/2,Error ellipse: s-maj=22.8km s-min=13.3km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**282**	I	I	05 30 50.5	
	baz=99,slow=353,SNR=7.9						
ZALV	**Zalesovo Beam**	**1.11**	**282**	Pg	Pg	05 24 18.2	-0.7
	0.4nm,0.3s,baz=105,slow=16,SNR=7.9						
ZALV				Lg	Lg	05 24 34.2	
	0.7nm,0.3s,baz=101,slow=28,SNR=9.5						
KURBB	**Kurchatov Arra**	**5.89**	**241**	Pn	Pn	05 25 27.7	+1.6
	baz=56,slow=13,SNR=3.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.49**	**204**	Pn	Pn	05 25 49.0	+0.8
	0.1nm,0.3s,baz=25,slow=13,SNR=6.2						
	0.1nm,0.2s						

IDC ***23*** *05:31:31.3±0.6, 8.°04N×75.°04W, h37km±4km, mb4.0/15, mbtmp4.2/18, ML4.3/3, MS3.5/20, Error ellipse: s-maj=18.3km s-min=11.2km az=51.0*

RSNC ***23*** *05:31:33.1±1.7, 8.°14N×75.°05W, h12km±6km, ML4.2, Mw4.3, Fault plane solution: NP1:φs130.00000°, δ10.00000°, λ-125.00000°.*

INMG ***23*** *05:31:34.0, 8.°23N×75.°00W, h55km*

NEIC ***23*** *05:31:34.2±2.5, 8.°23N±0.°08×75.°00W±0.°07, h55km±8km, mb4.5/69, Error ellipse: s-maj=12.0km s-min=9.1km az=207.0*

VAO ***23*** *05:31:35.6±0.5, 8.°09N×74.°97W, h90km±5km, mb4.7*

ISC 23 05:31:32.3±0.4,**8.°15N**±0.°03×**75.°05W**±0.°03,**h47**km±4km, **h47**km:**pP-P,n218,**σ2**s15**/229,**mb4.4**/48,**MS3.5**/13,**9C-7D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UREC	**San Jos de Ur**	**0.62**	**231**	*i*Pg	**Pn**	**05 31 44.4**	**-0.6**
UREC				*e*Sg	**Sn**	**05 31 53.6**	**-0.5**
UREC				*i*		05 31 54.7	
	comp=Z,22μm,0.2s						
LCBC	**Los crdobas,**	**1.49**	**298**	*e*P	**Pn**	**05 31 58.4**	**+1.8**
LCBC				*e*S	**Sn**	**05 32 20.2**	**+5.3**
LCBC				*i*		05 32 26.6	
	comp=Z,5μm,0.5s						
APAC	**Apartado, Choc**	**1.54**	**261**	*i*P	**Pn**	**05 31 59.3**	**+1.9**
APAC				*e*S	**Sn**	**05 32 19.1**	**+2.8**
APAC				*i*		05 32 28.0	
	comp=Z,4μm,0.4s						
DBBC	**Dabeiba**	**1.61**	**226**	*e*P	**Pn**	**05 32 00.2**	**+1.8**
DBBC				*e*S	**Sn**	**05 32 21.5**	**+3.5**
DBBC				*i*		05 32 23.6	
	comp=Z,3μm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.70**	**160**	*i*P	**Pn**	**05 32 00.7**	**+1.1**
PTBC				*e*S	**Sn**	**05 32 22.9**	**+2.7**
PTBC				*i*		05 32 24.7	
	comp=Z,3μm,0.5s						
OCAC	**Ocana**	**1.71**	**87**	*i*P	**Pn**	**05 32 01.0**	**+1.1**
OCAC				*e*S	**Sn**	**05 32 22.7**	**+2.1**
SJCC	**San Jacinto, C**	**1.74**	**356**	*e*P	**Pn**	**05 32 01.2**	**+0.9**
SJCC				*e*S	**Sn**	**05 32 26.2**	**+4.8**
ARGC	**Ariguani, Magd**	**1.88**	**25**	*e*P	**Pn**	**05 32 03.5**	**+1.5**
ARGC				*e*S	**Sn**	**05 32 29.5**	**+5.0**
CAPC	**Capurgana**	**2.33**	**282**	*i*P	**Pn**	**05 32 08.6**	**+0.3**
CAPC				*e*S	**Sn**	**05 32 36.1**	**+0.4**
CAPC				*i*		05 32 51.9	
	comp=Z,485nm,0.7s						
LL6C	**La Loma 6 Bece**	**2.36**	**48**	*i*P	**Pn**	**05 32 10.3**	**+1.6**
LL6C				*e*S	**Sn**	**05 32 39.7**	**+3.3**
LL6C				*i*		05 32 58.8	
	comp=Z,458nm,0.5s						
BARC	**Barichara**	**2.41**	**130**	*i*P	**Pn**	**05 32 11.9**	**+2.4**
BARC				*e*S	**Sn**	**05 32 42.9**	**+5.0**
PAMC	**Pamplona, Colo**	**2.46**	**109**	*i*P	**Pn**	**05 32 12.8**	**+2.4**
PAMC				*e*S	**Sn**	**05 32 43.1**	**+3.6**
PAMC				*i*		05 32 53.7	
	comp=Z,2μm,0.3s						
CBOC	**Ciudad Bolivar**	**2.46**	**203**	*e*P	**Pn**	**05 32 11.6**	**+1.4**
CBOC				*e*S	**Sn**	**05 32 42.6**	**+3.4**
CBOC				*i*		05 33 04.4	
	comp=Z,782nm,0.6s						
SPBC	**San Pablo de B**	**2.66**	**159**	*e*P	**Pn**	**05 32 14.3**	**+1.4**
SPBC				*e*S	**Sn**	**05 32 45.4**	**+1.5**
SPBC				*i*		05 32 59.1	
	comp=Z,794nm,0.4s						
PTAC	**Punta Ardita,**	**2.91**	**250**	*e*P	**Pn**	**05 32 17.6**	**+1.3**
PTAC				*e*S	**Sn**	**05 32 51.8**	**+1.7**
PTAC				*i*		05 32 56.3	
	comp=Z,369nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.92**	**186**	*e*P	**Pn**	**05 32 18.8**	**+2.0**
GUY2C				*e*S	**Sn**	**05 32 54.0**	**+3.1**
GUY2C				*i*		05 33 06.9	
	comp=Z,1μm,0.5s						
UPD2	**Meteti**	**2.97**	**278**	*e*P	**Pn**	**05 32 17.8**	**+0.9**
UPD2				*e*S	**Sn**	**05 32 53.2**	**+1.9**
UPD2				*i*		05 32 58.4	
	comp=Z,1μm,0.5s						
SOLC	**Bahia Solano**	**3.02**	**231**	*e*P	**Pn**	**05 32 18.7**	**+0.9**
SOLC				*e*S	**Sn**	**05 32 55.5**	**+2.8**
SMRC	**Santa Marta, M**	**3.11**	**15**	*e*P	**Pn**	**05 32 20.3**	**+1.4**
ROSC	**El Rosal**	**3.36**	**168**	P	**Pn**	**05 32 25.1**	**+2.3**
	comp=Z,19nm,0.3s,baz=318,slow=18,SNR=17						
ROSC				Sn	**Sn**	**05 33 07.1**	**+5.4**
	comp=Z,100nm,0.3s,baz=22,slow=23,SNR=9.6						
ROSC				LR	LR	05 33 48.8	
	comp=Z,648nm,19.3s,baz=280,slow=42						
ROSC	**El Rosal**	**3.36**	**168**	*e*P	**Pn**	**05 32 24.7**	**+2.0**
ROSC				*e*S	**Sn**	**05 33 03.7**	**+2.1**
ROSC				*i*		05 33 31.7	
	comp=Z,748nm,0.5s						
PLMC	**San Jos del P**	**3.45**	**201**	*e*P	**Pn**	**05 32 25.7**	**+2.1**
PLMC				*i*		05 33 30.9	
	comp=Z,431nm,0.6s						
CRJC	**Cerrejon, Guaj**	**3.56**	**37**	*e*P	**Pn**	**05 32 27.1**	**+1.9**
CRJC				*e*S	**Sn**	**05 33 10.7**	**+4.5**
CRJC				*i*		05 33 31.0	
	comp=Z,434nm,0.5s						
TAMC	**Tame, Arauca**	**3.65**	**118**	*i*P	**Pn**	**05 32 29.2**	**+2.8**
TAMC				*e*S	**Sn**	**05 33 15.0**	**+6.8**
TAMC				*i*		05 33 38.2	
	comp=Z,853nm,0.6s						
CVER	**Cruz Verde, Cu**	**3.73**	**165**	*e*P	**Pn**	**05 32 29.8**	**+2.0**
CVER				*e*S	**Sn**	**05 33 15.2**	**+4.4**
CVER				*i*		05 33 24.4	
	comp=Z,558nm,0.4s						
PIZC	**Pizarro, Choco**	**3.91**	**216**	*e*P	**Pn**	**05 32 31.2**	**+1.3**
PIZC				*i*		05 33 41.3	
	comp=Z,135nm,0.5s						
ORTC	**Ortega, Tolima**	**4.21**	**183**	*e*P	**Pn**	**05 32 36.7**	**+2.5**
ORTC				*e*S	Sn	05 33 34.0	+12
ORTC				*i*		05 33 48.6	
	comp=Z,805nm,0.5s						
VILC	**Villavicencio,**	**4.23**	**161**	*e*P	**Pn**	**05 32 36.0**	**+1.6**
VILC				*e*S	**Sn**	**05 33 27.3**	**+4.7**
VILC				*i*		05 33 45.0	
	comp=Z,714nm,0.5s						
YOTC	**Yotoco, Valle**	**4.33**	**197**	*e*P	**Pn**	**05 32 38.2**	**+2.3**
PRAC	**Prado**	**4.41**	**178**	*e*P	**Pn**	**05 32 39.1**	**+2.3**
PRAC				*e*S	**Sn**	**05 33 31.5**	**+4.6**
SDV	**Santo Domingo**	**4.42**	**80**	Pn	**Pn**	**05 32 39.6**	**+2.4**
SDV	**Santo Domingo**	**4.42**	**80**	Pn	**Pn**	**05 32 39.9**	**+2.7**
	comp=Z,33nm,0.3s,baz=266,slow=7.8,SNR=232						
SDV				Sn	**Sn**	**05 33 31.3**	**+3.8**
	comp=Z,39nm,0.3s,baz=257,slow=14,SNR=3.1						
SDV				LR	LR	05 34 48.0	
	comp=Z,817nm,21.7s,baz=265,slow=44						
SDV	**Santo Domingo**	**4.42**	**80**	*i*P	**Pn**	**05 32 39.9**	**+2.7**
SDV				*e*S	**Sn**	**05 33 31.1**	**+3.6**
SDV				*i*		05 34 01.1	
	comp=Z,268nm,0.6s						
SDV	**Santo Domingo**	**4.42**	**80**	*e*P	**Pn**	**05 32 40.0**	**+2.8**
MALC	**Bahia Malaga**	**4.70**	**209**	*e*P	Pn	05 32 50.0	+9.2
BCIP	**Isla Barro Col**	**4.85**	**282**	Pn	**Pn**	**05 32 42.7**	**-0.1**
BCIP	**Isla Barro Col**	**4.85**	**282**	*i*P	**Pn**	**05 32 44.0**	**+1.3**
BCIP				*e*S	**Sn**	**05 33 39.0**	**+1.4**
BCIP				*i*		05 33 55.1	
	comp=Z,179nm,0.8s						
PTGC	**Puerto Gaitan,**	**4.87**	**143**	*e*P	**Pn**	**05 32 44.1**	**+1.0**
PTGC				*e*S	**Sn**	**05 33 39.7**	**+1.4**
PTGC				*i*		05 34 09.1	
	comp=Z,284nm,0.6s						
JAMC	**Jamundi, Valle**	**5.16**	**198**	*e*P	**Pn**	**05 32 51.6**	**+4.3**
JAMC				*i*		05 34 26.3	
	comp=Z,58nm,0.7s						
AZU	**Azuero**	**5.19**	**266**	*e*P	**Pn**	**05 32 49.2**	**+1.6**
AZU				*e*S	**Sn**	**05 33 45.8**	**-0.3**
AZU				*i*		05 33 49.5	
	comp=Z,103nm,0.4s						
BETC	**Betania**	**5.44**	**184**	*e*P	Pn	05 32 59.7	+8.6
BETC				*i*		05 34 30.0	
	comp=Z,108nm,0.6s						
CACAO	**El Cacao, Vera**	**5.82**	**263**	*e*P	**Pn**	**05 32 57.1**	**+1.0**
GMAL	**Guarumal, Vera**	**6.14**	**267**	*e*P	**Pn**	**05 33 02.8**	**+2.2**
GMAL				*e*S	**Sn**	**05 34 11.8**	**+2.2**
BBAC	**Balboa, Cauca**	**6.47**	**200**	*e*P	**Pn**	**05 33 09.1**	**+3.9**
CRUC	**La Cruz**	**6.80**	**196**	*e*P	**Pn**	**05 33 12.6**	**+2.6**
BAUV	**El Baul**	**6.97**	**83**	Pn	**Pn**	**05 33 11.7**	**-0.3**
GCUF	**Volcan Galeras**	**7.25**	**199**	*e*P	**Pn**	05 33 27.6	+11
BRU2	**Volcan**	**7.59**	**275**		**Pn**	**05 33 22.5**	**+1.8**
CDITO	**Canoas**	**7.76**	**274**		**Pn**	**05 33 26.2**	**+3.4**
TULM	**Tulcn-Chalpat**	**7.87**	**200**		**Pn**	**05 33 28.9**	**+4.2**
TULM	**Tulcn-Chalpat**	**7.87**	**200**	*e*P	Pn	05 33 35.5	+11
PTLC	**Puerto Leguiza**	**7.93**	**178**	*e*P	**Pn**	**05 33 29.5**	**+4.4**
PTLC				*i*		05 35 58.5	
	comp=Z,42nm,0.5s						
DRK0	**Durika**	**8.18**	**278**	Pn	**Pn**	**05 33 30.4**	**+1.7**
OTAV	**Otavalo**	**8.56**	**204**		**Pn**	**05 33 37.0**	**+2.8**
OTAV	**Otavalo**	**8.56**	**204**	*e*P	**Pn**	**05 33 38.2**	**+4.1**
OTAV				*e*S	**Sn**	**05 35 11.2**	**+1.5**
OTAV	**Otavalo**	**8.56**	**204**	*e*P	**Pn**	**05 33 37.4**	**+3.2**
PEZE	**Perez Zeledon,**	**8.62**	**279**		**Pn**	**05 33 37.5**	**+2.8**
PULU	**Pululahua**	**8.78**	**203**		**Pn**	**05 33 40.8**	**+3.7**
RIMA	**Rio Macho**	**8.86**	**281**	Pn	**Pn**	**05 33 39.9**	**+1.8**
LCR2	**La Lucha 2**	**8.99**	**281**		**Pn**	**05 33 40.2**	**+0.3**
HDC	**Heredia**	**9.14**	**282**	*e*P	**Pn**	**05 33 45.9**	**+4.0**
SLOR	**San Lorenzo -**	**9.46**	**201**	Pn	**Pn**	**05 33 49.8**	**+3.2**
COVE	**Coope Vega, Sa**	**9.58**	**286**		**Pn**	**05 33 47.4**	**-0.3**
SOCE	**Pocosol**	**9.71**	**284**	Pn	**Pn**	**05 33 50.6**	**+1.1**
ARE1	**Arenal 1**	**9.82**	**284**		**Pn**	**05 33 51.5**	**+0.4**
ESPN	**Las Esperanzas**	**9.96**	**295**	Pn	**Pn**	**05 33 52.1**	**-0.8**
JTS	**Las Juntas de**	**10.01**	**283**	Pn	**Pn**	**05 33 54.9**	**+1.3**
JTS	**Las Juntas de**	**10.01**	**283**	Pn	**Pn**	**05 33 54.0**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=74,slow=16,SNR=6.9						
JTS				LR	LR	05 38 23.8	
	comp=Z,268nm,19.5s,baz=106,slow=41						
	comp=Z,15nm,0.9s						
CHSH	**Refugio Sur-Vo**	**10.31**	**202**		Pn	05 34 03.1	+4.8
PCRV	**Puerto La Cruz**	**10.47**	**78**	Pn	**Pn**	**05 33 59.7**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=318,slow=3.8,SNR=15						
PCRV				Sn	**Sn**	**05 35 56.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=110,slow=13,SNR=3.9						
PCRV				LR	LR	05 39 11.8	
	comp=Z,326nm,20.0s,slow=44						
	comp=Z,5.4nm,0.4s						
ORTG	**Ortega, Santa**	**10.51**	**283**		**Pn**	**05 34 04.4**	**+3.8**
ACON	**Acoyapa**	**10.67**	**292**		**Pn**	**05 34 02.2**	**-0.5**
BOAB	**BOACO BROADBAN**	**11.29**	**293**		**Pn**	**05 34 11.7**	**+0.5**
MATN	**Matagalpa**	**11.71**	**295**		**Pn**	**05 34 17.5**	**+0.6**
SJG	**San Juan**	**13.15**	**40**	Pn	**Pn**	**05 34 34.6**	**-1.9**
	comp=Z,2.1nm,0.3s,baz=208,slow=14,SNR=5.7						
SJG				LR	LR	05 39 35.2	
	comp=Z,88nm,21.4s,baz=228,slow=37						
	comp=Z,5.1nm,0.4s						
TBTG	**Tabatinga, AM**	**13.28**	**157**	*e*P	**Pn**	**05 34 39.4**	**+1.0**
MCRA	**Macar, Loja**	**13.36**	**202**		**Pn**	**05 34 40.2**	**+0.6**
MTO3	**Montecristo**	**15.35**	**295**		**P**	**05 35 09.9**	**-0.2**
MTO3				IAmb	IAmb	05 35 13.1	
	comp=Z,25nm,0.9s						
ATAH	**Atahualpa**	**15.54**	**192**	Pn	**P**	**05 35 11.0**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=20,slow=8.3,SNR=4.2						
ATAH				LR	LR	05 42 12.4	
	comp=Z,242nm,19.3s,baz=12,slow=42						
BOAV	**Boa Vista**	**15.54**	**111**		**Pn**	**05 35 07.6**	**-0.9**
BOAV	**Boa Vista**	**15.54**	**111**	*e*P	**Pn**	**05 35 08.9**	**+0.4**
TEFE	**Tefe**	**15.55**	**138**	*e*P	**Pn**	**05 35 07.3**	**-1.3**
CZSB	**Cruzeiro do Su**	**15.94**	**172**	*e*P	**Pn**	**05 35 15.0**	**+1.4**
TEIG	**Tepich**	**17.55**	**315**	LR	LR	05 43 42.0	
	comp=Z,552nm,20.2s,baz=194,slow=41						
MACA	**Manacapuru-AM**	**18.20**	**128**	P	**P**	**05 35 40.8**	**-0.7**
MACA				IAmb	IAmb	05 35 52.9	
	comp=Z,32nm,0.6s						
MACA	**Manacapuru-AM**	**18.20**	**128**	*e*P	**P**	**05 35 40.3**	**-1.2**
ETMB	**Extrema**	**19.89**	**154**	P	**P**	**05 35 59.8**	**-0.2**
ETMB	**Extrema**	**19.89**	**154**	*e*P	**P**	**05 35 59.4**	**-0.7**
SAML	**Samuel**	**20.69**	**145**	P	**P**	**05 36 05.8**	**-2.9**
SAML				IAmb	IAmb	05 36 16.7	
	comp=Z,20nm,1.1s						
SAML	**Samuel**	**20.69**	**145**	*e*P	**P**	**05 36 06.6**	**-2.1**
CMIG	**Matias Romero**	**21.29**	**297**	LR	LR	05 45 06.4	
	comp=Z,88nm,19.5s,baz=130,slow=38						
MDP	**Mdagnes des**	**22.46**	**96**	LR	LR	05 45 32.9	
	comp=Z,192nm,19.2s,baz=274,slow=38						
ITTB	**Itaituba**	**22.92**	**122**	*e*P	**P**	**05 36 30.2**	**-2.4**
MALB	**Monte Alegre**	**22.98**	**115**	*e*P	**P**	**05 36 31.9**	**-1.2**
MCPB	**Macapa, AP**	**24.42**	**109**	*e*P	**P**	**05 36 44.7**	**-2.1**
NPGB	**Novo Progresso**	**24.76**	**127**	*e*P	**P**	**05 36 47.7**	**-2.1**
LPAZ	**La Paz**	**25.22**	**164**	P	**P**	**05 36 54.3**	**-0.4**
VILB	**Vilhena**	**25.63**	**145**	P	**P**	**05 36 58.1**	**+0.4**
VILB				IAmb	IAmb	05 37 08.8	
	comp=Z,17nm,0.7s						
VILB	**Vilhena**	**25.63**	**145**	*e*P	**P**	**05 36 56.8**	**-0.9**
PDRB	**Porto dos Gac**	**26.78**	**137**	*e*P	**P**	**05 37 06.2**	**-1.9**
CLDB	**Colider**	**26.91**	**134**	*e*P	**P**	**05 37 07.0**	**-2.2**
VBST	**Vila Bela da S**	**27.02**	**146**	*e*P	**P**	**05 37 08.8**	**-1.4**
SIV	**San Ignacio**	**27.69**	**150**	P	**P**	**05 37 14.4**	**-1.8**
	comp=Z,4.4nm,0.8s,baz=320,slow=9.5,SNR=24						
SIV				pP	**pP**	**05 37 25.1**	**-3.6**
	comp=Z,7.1nm,0.6s,baz=313,slow=8.0,SNR=16						
SIV				LR	LR	05 49 12.0	
	comp=Z,132nm,20.9s,baz=290,slow=38						
	comp=Z,4.4nm,0.8s						
GO01	**Chusmiza**	**28.23**	**168**	P	**P**	**05 37 21.1**	**-0.4**
GO01				IAmb	IAmb	05 37 31.9	
	comp=Z,10nm,0.7s						
PB11	**IPOC Station P**	**28.23**	**169**	P	**P**	**05 37 21.8**	**+0.6**
PTLB	**Pontes e Lacer**	**28.25**	**146**	*e*P	**P**	**05 37 17.9**	**-3.3**
TMAB	**Tom-Au,PA,Br**	**28.84**	**110**	*e*P	**P**	**05 37 23.5**	**-3.1**
BBSD	**Serra de San D**	**28.94**	**150**	*e*P	**P**	**05 37 25.3**	**-2.1**
NBRS	**Nobres**	**29.39**	**139**	*e*P	**P**	**05 37 30.0**	**-1.4**
PB01	**IPOC Station P**	**29.52**	**169**	IAmb	IAmb	05 37 43.3	
	comp=Z,8.3nm,0.9s						
BBRB	**Robore, Bolivi**	**30.26**	**150**	*e*P	**P**	**05 37 35.8**	**-3.2**
BBLB	**La Banda, Boli**	**31.09**	**149**	*e*P	**P**	**05 37 45.4**	**-1.0**
LVC	**Limon Verde**	**31.15**	**169**	LR	LR	05 51 57.0	
	comp=Z,79nm,19.2s,baz=260,slow=40						
BRDY	**Brady**	**32.08**	**319**	P	**P**	**05 37 54.9**	**-0.1**
SMTB	**Santa Maria do**	**32.15**	**121**	*e*P	**P**	**05 37 55.5**	**-0.3**
ARAG	**Araguaiana, MT**	**33.03**	**136**	*e*P	**P**	**05 38 01.4**	**-2.1**
CCM	**Cathedral Cave**	**33.18**	**336**	P	**P**	**05 38 05.2**	**+0.7**
U38A	**Gravette**	**33.22**	**331**	P	**P**	**05 38 04.0**	**-1.0**
U38A				IAmb	IAmb	05 38 06.0	
	comp=Z,7.3nm,0.9s						
DVLD	**Doverlandia**	**33.45**	**137**	*e*P	**P**	**05 38 06.5**	**-0.7**
S39A	**Bolivar**	**33.75**	**333**	IAmb	IAmb	05 38 11.2	
	comp=Z,8.0nm,1.1s						
TXAR	**Lajitas Array**	**34.16**	**312**	P	**P**	**05 38 14.1**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=126,slow=8.7,SNR=24						
TXAR				LR	LR	05 55 12.0	
	comp=Z,14nm,18.2s,baz=104,slow=42						
	comp=Z,2.7nm,0.9s						
MURT	**Porto Murtinho**	**34.21**	**150**	*e*P	**P**	**05 38 11.7**	**-1.9**
AQDB	**Aquidauana**	**34.22**	**146**	*e*P	**P**	**05 38 12.1**	**-1.6**
WMOK	**Wichita Mounta**	**34.29**	**324**	IAmb	IAmb	05 38 29.7	
	comp=Z,6.9nm,0.9s						
MNHN	**Monahans**	**34.64**	**316**	IAmb	IAmb	05 38 32.2	
	comp=Z,3.2nm,0.7s						
ANTJ	**Antonio Joao (**	**35.30**	**148**	*e*P	**P**	**05 38 22.4**	**-0.7**
SMWD	**Samnorwood**	**35.40**	**323**	P	**P**	**05 38 24.0**	**+0.1**
SMWD				pP	**pP**	**05 38 36.8**	**+0.4**
PECS	**Pecos**	**35.43**	**315**	P	**P**	**05 38 24.2**	**0.0**
PECS					**pP**	**05 38 38.4**	**+1.7**
BDFB	**Brasilia**	**35.72**	**131**	P	**P**	**05 38 25.1**	**-1.7**
BDFB	**Brasilia**	**35.72**	**131**	P	**P**	**05 38 25.8**	**-1.1**
	comp=Z,6.6nm,0.8s,baz=298,slow=11,SNR=9.2						
BDFB				pP	**pP**	**05 38 36.4**	**-3.0**
	comp=Z,5.6nm,0.5s,baz=303,slow=11,SNR=6.6						
BDFB				LR	LR	05 54 01.2	
	comp=Z,195nm,18.3s,baz=318,slow=38						
	comp=Z,6.6nm,0.8s						
BDFB	**Brasilia**	**35.72**	**131**	*e*P	**P**	**05 38 24.3**	**-2.6**
NBPS	**Pedro II - PI**	**35.75**	**109**	*e*P	**P**	**05 38 25.8**	**-1.4**
VHRN	**Van Horn**	**35.90**	**313**	P	**P**	**05 38 28.7**	**+0.3**
VHRN				IAmb	IAmb	05 38 29.6	
	comp=Z,5.0nm,1.0s						
MSTX	**Muleshoe**	**36.23**	**319**	IAmb	IAmb	05 38 33.4	
	comp=Z,9.0nm,1.2s						
SDBA	**SAO DESIDERIO**	**36.26**	**124**	*e*P	**P**	**05 38 30.5**	**-0.9**
AMBA	**Amambai (Brazi**	**36.59**	**148**	*e*P	**P**	**05 38 30.9**	**-3.3**
TICA	**Tres Isletas**	**37.16**	**158**	*e*P	**P**	**05 38 38.6**	**-0.3**
LPIG	**La Paz**	**37.26**	**299**	LR	LR	05 54 23.5	
	comp=Z,62nm,21.7s,baz=48,slow=37						
PCMB	**Pacaembu**	**37.67**	**142**	*e*P	**P**	**05 38 41.6**	**-1.7**
RTBA	**Rita Blanca**	**37.80**	**322**	P	**P**	**05 38 43.4**	**-1.0**
RTBA				IAmb	IAmb	05 38 46.2	
	comp=Z,8.6nm,1.0s						
RTBA				pP	**pP**	**05 38 58.4**	**+1.4**
CPUP	**Villa Florida**	**38.35**	**154**	LR	LR	05 56 01.9	
	comp=Z,124nm,18.6s,baz=291,slow=38						
PMNB	**Patos De Minas**	**38.73**	**133**	*e*P	**P**	**05 38 51.3**	**-1.1**
121A	**Cookes Peak, D**	**38.85**	**313**	IAmb	IAmb	05 38 57.5	
	comp=Z,4.9nm,0.9s						
ANMO	**Albuquerque**	**39.25**	**317**	P	**P**	**05 38 57.5**	**+0.8**
ANMO				pP	**pP**	**05 39 12.2**	**+2.8**
ANMO	**Albuquerque**	**39.25**	**317**	LR	LR	05 58 38.9	
	comp=Z,28nm,18.4s,baz=242,slow=41						
NBMA	**Muriti-CE**	**39.31**	**112**	*e*P	**P**	**05 38 55.9**	**-1.4**
NBPN	**Ponto Novo - B**	**39.48**	**118**	*e*P	**P**	**05 38 57.3**	**-1.3**
SDCO	**Great Sand Dun**	**40.33**	**322**	P	**P**	**05 39 06.7**	**+1.0**
SDCO				IAmb	IAmb	05 39 08.1	
	comp=Z,7.3nm,1.2s						
SDCO				pP	**pP**	**05 39 19.1**	**+0.7**
K30B	**Basset**	**40.61**	**332**	P	**P**	**05 39 06.9**	**-0.8**
K30B				pP	**pP**	**05 39 22.2**	**+1.8**
RCLB	**Rio Claro- Sao**	**40.61**	**139**	*e*P	**P**	**05 39 07.7**	**-0.3**
MECA	**Mercedes**	**40.62**	**157**	*e*P	**P**	**05 39 05.5**	**-2.3**
CRSM	**Crissiumal (Br**	**40.85**	**151**	*e*P	**P**	**05 39 06.2**	**-3.6**
GDU01	**Guandu, BA**	**41.37**	**121**	*e*P	**P**	**05 39 13.0**	**-1.3**
RCBR	**Riachuelo**	**41.43**	**108**	LR	LR	05 55 51.8	
	comp=Z,73nm,20.3s,baz=255,slow=35						
ITQB	**Itaqui**	**41.57**	**156**	*e*P	**P**	**05 39 12.0**	**-3.6**
NBLA	**Lagarto - SE**	**41.66**	**117**	*e*P	**P**	**05 39 13.7**	**-2.9**
ISCO	**Idaho Springs**	**41.71**	**324**	P	**P**	**05 39 17.4**	**+0.3**
NBAN	**Anadia - AL**	**42.47**	**114**	*e*P	**P**	**05 39 21.7**	**-1.6**
WUAZ	**Wupatki**	**42.94**	**315**	P	**P**	**05 39 28.1**	**+1.1**
WUAZ				IAmb	IAmb	05 39 29.5	
	comp=Z,7.7nm,0.8s						
HMU	**Henry Mountain**	**43.79**	**318**	IAmb	IAmb	05 39 36.5	
	comp=Z,10nm,0.9s						
BSUT	**Blindstream Ca**	**45.27**	**321**	P	**P**	**05 39 45.9**	**+0.1**
BSUT				IAmb	IAmb	05 39 48.2	
	comp=Z,6.4nm,1.1s						
ULM	**Lac du Bonnet**	**45.41**	**341**	P	**P**	**05 39 46.1**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=161,slow=11,SNR=4.4						
	comp=Z,2.6nm,0.8s						
MPU	**Maple Canyon**	**45.52**	**320**	IAmb	IAmb	05 39 49.8	
	comp=Z,5.4nm,1.0s						
PFO	**Pinyon Flats O**	**45.80**	**310**	LR	LR	06 01 19.6	
	comp=Z,38nm,19.4s,baz=112,slow=39						
BW06	**Boulder Array**	**45.90**	**324**	IAmb	IAmb	05 39 52.3	
	comp=Z,5.9nm,1.2s						
PD31	**Pinedale Array**	**45.90**	**324**	P	**P**	**05 39 50.4**	**-0.2**
PDAR	**Pinedale Array**	**45.90**	**324**	P	**P**	**05 39 50.5**	**0.0**
PDAR	**Pinedale Array**	**45.90**	**324**	P	**P**	**05 39 51.4**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=131,slow=8.4,SNR=13						
PDAR				PcP	**PcP**	**05 41 27.0**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=128,slow=5.8,SNR=3.1						
	comp=Z,1.8nm,0.9s						
TCUT	**Toone Canyon**	**46.01**	**321**	IAmb	IAmb	05 39 53.8	
	comp=Z,8.6nm,0.9s						
BGU	**Big Grassy Mou**	**46.91**	**320**	P	**P**	**05 39 59.4**	**+0.9**
BGU				pP	**pP**	**05 40 12.9**	**+1.5**
BGU				IAmb	IAmb	05 40

comp=Z,1.7nm,0.9s,baz=283,slow=8.7,SNR=2.4
SNAA pP **pP** **05 44 47.8 -2.7**
comp=Z,2.0nm,0.8s,baz=286,slow=6.7,SNR=3.7
comp=Z,1.7nm,0.9s
MKAR Makanchi Array 121.70 18 PKP **PKiKP** **05 50 20.9 -0.5**
comp=Z,0.1nm,0.5s,baz=296,slow=2.7,SNR=1.8
ASAR Alice Springs 148.27 288 PKPbc **PKPbc** **05 51 13.5 -0.8**
comp=Z,1.7nm,0.7s,baz=119,slow=3.5,SNR=13
WRA Warramunga Arr 149.24 244 PKPbc **PKPbc** **05 51 16.3 -0.5**
comp=Z,2.4nm,0.9s,baz=107,slow=3.2,SNR=7.8
CMAR Chiang Mai Arr 152.91 13 PKPbc **PKiKP** **05 51 25.8 +0.2**
comp=Z,0.8nm,0.3s,baz=0.0,slow=2.7,SNR=4.7

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*JMA **23** 05:51:24.5±0.1,24°.2N±0°.8×122°.1E±0°.5, h45km±2km, MV2.8/13,TAIWAN REGION*
*TAP **23** 05:51:24.1,24°.27N×122°.13E, h39km, ML3.7, C*
*ASIES **23** 05:51:24.1,24°.27N×122°.13E, h39km, ML3.7, Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}3.63; $M_{\theta\theta}$-2.88; $M_{\phi\phi}$-0.69; $M_{r\theta}$0.97; $M_{\theta\phi}$-2.74; $M_{\phi r}$6.27; Fault plane solution: M_o7.66579×10^{20} NP1:ϕ_s20.67000°, δ75.85000°, λ66.64000°. NP2:ϕ_s261.16000°, δ27.11000°, λ147.56000°. Principal axes: T Plg53.3470°, Azm262.6380°; N Plg22.6180°, Azm26.6890°; P Plg27.1660°, Azm129.0340°;*

ISC 23 05:51:24.5±0.9,24°.26N±0°.02×122°.13E±0°.02,h26km±4km, n115,σ1§26/188,3C-14D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.17**	**81**	⇑*i*	*e*	P	**Pn**	**05 51 30.9**	**-0.4**
	baz=79								
EOS3					*e*	S	**Sn**	**05 51 35.7**	**+2.3**
	baz=79								
EOS2	**EOS2**	**0.18**	**30**	*i*	P		**Pn**	**05 51 30.7**	**-0.8**
	baz=353								
EOS2				*i*	S		**Sn**	**05 51 35.7**	**+2.1**
	baz=353								
EOS4	**EOS4**	**0.22**	**129**	⇑*i*	*e*	P	**Pn**	**05 51 31.0**	**-0.8**
	baz=136								
EOS4					*e*	S	**Sn**	**05 51 36.3**	**+2.3**
	baz=136								
EAHA	**Aohua**	**0.37**	**281**		*e*	P	**Pb**	**05 51 32.2**	**-0.4**
	baz=280								
EAHA					*e*	S	**Sb**	**05 51 38.0**	**-0.1**
	baz=280								
EWUT	**Wuta**	**0.37**	**300**	⇓*i*	*e*	P	**Pb**	**05 51 32.0**	**-0.7**
	baz=306								
EWUT					*e*	S	**Sb**	**05 51 37.7**	**-0.6**
	baz=306								
ENA	**Nanau**	**0.40**	**295**	⇓*i*	*e*	P	**Pb**	**05 51 32.4**	**-0.7**
	baz=301								
ENA					*e*	S	**Sb**	**05 51 37.8**	**-1.1**
	baz=301								
ESAO	**Su ao**	**0.41**	**320**	⇓	*e*	P	**Pb**	**05 51 32.7**	**-0.6**
	baz=323								
ESAO					*e*	S	**Sb**	**05 51 38.2**	**-1.1**
	baz=323								
TWC	**Suao**	**0.43**	**323**	⇓	*e*	P	**Pb**	**05 51 33.0**	**-0.7**
	baz=327								
TWC					*e*	S	**Sb**	**05 51 38.6**	**-1.3**
	baz=327								
ETL	**Fush Village**	**0.48**	**258**		*e*	P	**Pb**	**05 51 34.8**	**+0.4**
	baz=257								
ETL					*e*	S	**Sb**	**05 51 42.3**	**+1.2**
	baz=257								
NACB	**Ninganchiao**	**0.50**	**260**		P		**Pb**	**05 51 35.0**	**+0.2**
NACB	**Ninganchiao**	**0.50**	**260**		P		**Pb**	**05 51 34.7**	**-0.1**
	baz=259								
NACB					*e*	S	**Sb**	**05 51 43.0**	**+1.3**
	baz=259								
TWD	**Chiawan**	**0.52**	**250**	⇓	P		**Pb**	**05 51 35.2**	**+0.1**
	baz=249								
TWD					*e*	S	**Sb**	**05 51 43.1**	**+0.7**
	baz=249								
NDS	**Dongshan**	**0.53**	**314**	⇓	P		**Pb**	**05 51 34.8**	**-0.5**
	baz=314								
HWA	**Hwalien**	**0.56**	**240**		*e*	P	**Pb**	**05 51 36.0**	**+0.2**
	baz=238								
ETLH	**Xiulin Townshi**	**0.60**	**265**		*e*	P	**Pn**	**05 51 36.4**	**-1.0**
	baz=264								
ETLH					*e*	S	**Sb**	**05 51 45.5**	**+0.9**
	baz=264								
ILA	**Ilan**	**0.61**	**325**		*e*	P	**Pn**	**05 51 36.6**	**-1.0**
	baz=326								
TWE	**Neicheng**	**0.62**	**317**	⇓*i*	*e*	P	**Pn**	**05 51 36.4**	**-1.3**
	baz=318								
ENTT	**Nioudou**	**0.64**	**306**		*e*	P	**Pn**	**05 51 36.6**	**-1.3**
	baz=297								
ETM	**Tongmen**	**0.66**	**243**		*e*	P	**Pn**	**05 51 37.0**	**-1.2**
	baz=236								
ETM					*e*	S	**Sb**	**05 51 46.8**	**+0.7**
	baz=236								
NDT	**Datong Townshi**	**0.66**	**301**		*e*	P	**Pn**	**05 51 37.3**	**-1.0**
	baz=294								
NDT					*e*	S	**Sb**	**05 51 47.2**	**+0.9**
	baz=294								
LXIB	**Xiulin Townshi**	**0.70**	**250**		*e*	P	**Pn**	**05 51 37.8**	**-1.1**
	baz=240								
LXIB					*e*	S	**Sb**	**05 51 47.8**	**+0.3**
	baz=240								
FUSB	**Fushanzhiwuyua**	**0.70**	**315**	⇓	P		**Pn**	**05 51 38.0**	**-0.9**
	baz=314								
FUSB					*e*	S	**Sn**	**05 51 46.3**	**-2.7**
	baz=314								
SHUL	**Shoufeng**	**0.70**	**228**		*e*	P	**Pn**	**05 51 37.9**	**-0.9**
	baz=219								
NNSB	**Datong**	**0.70**	**284**	⇓	P		**Pn**	**05 51 38.2**	**-0.7**
	baz=283								
NNSB					*e*	S	**Sb**	**05 51 48.8**	**+1.1**
	baz=283								
NNS	**Nan Shan**	**0.72**	**285**	⇓	P		**Pn**	**05 51 38.3**	**-0.8**
	baz=284								
NNS					*e*	S	**Sn**	**05 51 49.0**	**-0.4**
	baz=284								
TWB1	**Santiao Chiao**	**0.76**	**350**	⇓	*e*	P	**Pn**	**05 51 39.2**	**-0.4**
	baz=350								
TWB1					*e*	S	**Sn**	**05 51 49.1**	**-1.0**
	baz=350								
TIPB	**Shuangxi**	**0.76**	**338**	⇓*i*	*e*	P	**Pn**	**05 51 39.1**	**-0.6**
	baz=342								
TIPB					*e*	S	**Sn**	**05 51 48.6**	**-1.8**
	baz=342								
JYNG	**Yonagunijimaku**	**0.76**	**75**		*e*	P	**Pn**	**05 51 39.8**	**+0.1**
JYNG					*e*	S	**Sn**	**05 51 50.9**	**+0.5**
NWLT	**Wulai**	**0.77**	**312**		*e*	P	**Pn**	**05 51 39.1**	**-0.7**
	baz=312								
ESL	**Shilin**	**0.78**	**235**		*e*	P	**Pn**	**05 51 38.4**	**-1.4**
	baz=223								
WHF	**Hehuan Shan**	**0.80**	**262**		*e*	P	**Pn**	**05 51 39.8**	**-0.7**
	baz=254								
WHF					*e*	S	**Sn**	**05 51 51.0**	**-0.9**
	baz=254								
YHNB	**Yeheng**	**0.80**	**301**		P		**Pn**	**05 51 39.8**	**-0.5**
YHNB	**Yeheng**	**0.80**	**301**	⇓	P		**Pn**	**05 51 39.7**	**-0.5**
	baz=300								
YHNB					*e*	S	**Sn**	**05 51 51.0**	**-0.4**
	baz=300								
NSK	**Sanguang**	**0.82**	**301**		*e*	P	**Pn**	**05 51 39.9**	**-0.6**
	baz=300								
NSK					*e*	S	**Sn**	**05 51 50.5**	**-1.3**
	baz=300								
YOJ	**Yonaguni jima**	**0.82**	**76**		P		**Pn**	**05 51 40.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.82**	**76**		P		**Pn**	**05 51 40.8**	**+0.3**
YOJ					*e*	S	**Sn**	**05 51 52.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.82**	**76**		*e*	P	**Pn**	**05 51 40.8**	**+0.3**
	baz=76								
YOJ					*e*	S	**Sn**	**05 51 52.4**	**+0.5**
	baz=76								
SXI1	**Grass Mountain**	**0.86**	**344**	⇑	P		**Pn**	**05 51 40.9**	**-0.2**
	baz=356								
SXI1					*e*	S	**Sn**	**05 51 52.7**	**-0.2**
	baz=356								
NWF	**Wu-fen Shan**	**0.87**	**338**		*e*	P	**Pn**	**05 51 41.4**	**+0.2**
	baz=352								
WFSB	**Wu-fen Shan**	**0.87**	**338**		*e*	P	**Pn**	**05 51 41.3**	**+0.2**
	baz=350								
WARBT	**Fenglin Townsh**	**0.87**	**232**	⇓	P		**Pn**	**05 51 39.7**	**-1.4**
	baz=231								
WARBT					*e*	S	**Sn**	**05 51 51.5**	**-1.5**
	baz=231								
EGFH	**Guangfu**	**0.87**	**228**		*e*	P	**Pn**	**05 51 40.5**	**-0.7**
	baz=218								
EGFH					*e*	S	**Sn**	**05 51 52.5**	**-0.5**
	baz=218								
TWT	**Tachien**	**0.87**	**270**		*e*	P	**Pn**	**05 51 41.5**	**+0.1**
	baz=264								
TWT					*e*	S	**Sn**	**05 51 53.2**	**-0.1**
	baz=264								
TDCB	**Techi**	**0.89**	**270**		*e*	P	**Pn**	**05 51 41.6**	**+0.1**
	baz=262								
NHDH	**Xindian Distri**	**0.89**	**322**		*e*	P	**Pn**	**05 51 42.0**	**+0.6**
	baz=321								
CHGB	**Renai**	**0.90**	**257**		*e*	P	**Pn**	**05 51 41.0**	**-0.7**
	baz=246								
CHGB					*e*	S	**Sn**	**05 51 53.4**	**-0.6**
	baz=246								
TATO	**Taipei**	**0.92**	**321**		P		**Pn**	**05 51 42.8**	**+1.0**
OWD	**Renai**	**0.93**	**251**		*e*	P	**Pn**	**05 51 42.1**	**+0.1**
	baz=250								
OWD					*e*	S	**Sn**	**05 51 53.4**	**-1.2**
	baz=250								
TNOU	**National Taiwa**	**0.94**	**340**		*e*	P	**Pn**	**05 51 41.9**	**-0.3**
	baz=351								
TAP	**Taipei**	**0.96**	**324**		*e*	P	**Pn**	**05 51 42.8**	**+0.4**
	baz=324								
WUSB	**Renai**	**0.97**	**254**		*e*	P	**Pn**	**05 51 42.3**	**-0.3**
	baz=245								
WUSB					*e*	S	**Sn**	**05 51 54.8**	**-0.7**
	baz=245								
NFF	**Wufeng Townshi**	**1.00**	**292**		*e*	P	**Pn**	**05 51 43.4**	**+0.5**
	baz=291								
NFF					*e*	S	**Sn**	**05 51 57.6**	**+1.4**
	baz=291								
HGSD	**Ruisui**	**1.00**	**220**		*e*	P	**Pn**	**05 51 41.6**	**-1.3**
	baz=212								
YM01	**YM01**	**1.02**	**330**		*e*	P	**Pn**	**05 51 44.0**	**+0.7**
	baz=342								
YM01					*e*	S	**Sn**	**05 51 56.5**	**-0.3**
	baz=342								
VWDT	**VWDT**	**1.04**	**241**		*e*	P	**Pn**	**05 51 43.0**	**-0.5**
	baz=230								
VWDT					*e*	S	**Sn**	**05 51 55.9**	**-1.2**
	baz=230								
YM08	**YM08**	**1.05**	**332**		*e*	P	**Pn**	**05 51 44.2**	**+0.6**
	baz=343								
YM08					*e*	S	**Sn**	**05 51 56.5**	**-0.9**
	baz=343								
EHY	**Hungye**	**1.06**	**225**		*e*	P	**Pn**	**05 51 42.2**	**-1.5**
	baz=234								
TWS1	**Kuangyinshan**	**1.06**	**322**		*e*	P	**Pn**	**05 51 44.1**	**+0.4**
	baz=322								
WHP	**Taichung City**	**1.08**	**271**		*e*	P	**Pn**	**05 51 44.9**	**+0.7**
	baz=270								
WHP					*e*	S	**Sn**	**05 51 59.1**	**+0.7**
	baz=270								
LIOB	**Emei**	**1.09**	**291**		*e*	P	**Pn**	**05 51 45.1**	**+1.0**
	baz=290								
LIOB					*e*	S	**Sn**	**05 52 00.2**	**+1.9**
	baz=290								
NTST	**Danshui**	**1.09**	**325**		*e*	P	**Pn**	**05 51 45.0**	**+0.8**
	baz=339								
NSTT	**Nanjuang**	**1.10**	**290**		*e*	P	**Pn**	**05 51 44.9**	**+0.7**
	baz=289								
NSTT					*e*	S	**Sn**	**05 52 00.0**	**+1.4**
	baz=289								
NCUH	**Zhongli**	**1.11**	**309**		*e*	P	**Pn**	**05 51 44.9**	**+0.5**
	baz=309								
TWY	**Chenhua**	**1.12**	**334**		*e*	P	**Pn**	**05 51 45.8**	**+1.2**
	baz=346								
TWY					*e*	S	**Sn**	**05 51 60.0**	**+0.8**
	baz=346								
WCS	**Beigang Elemen**	**1.13**	**260**		*e*	P	**Pn**	**05 51 45.4**	**+0.6**
	baz=253								
WCS					*e*	S	**Sn**	**05 52 00.9**	**+1.5**
	baz=253								
YULB	**Yu-li**	**1.15**	**222**		P		**Pn**	**05 51 43.7**	**-1.4**
YULB	**Yu-li**	**1.15**	**222**		*e*	P	**Pn**	**05 51 43.5**	**-1.6**
	baz=232								
SBCB	**Hsinchu**	**1.17**	**297**		*e*	P	**Pn**	**05 51 46.2**	**+0.9**
	baz=296								
SSLB	**Suanglung**	**1.18**	**247**		P		**Pn**	**05 51 45.2**	**-0.2**
SSLB	**Suanglung**	**1.18**	**247**		*e*	P	**Pn**	**05 51 45.0**	**-0.4**
	baz=245								
TWF1	**Yuli**	**1.19**	**220**		*e*	P	**Pn**	**05 51 44.2**	**-1.3**
	baz=231								
SMLT	**Sun Moon Lake**	**1.19**	**252**		*e*	P	**Pn**	**05 51 45.7**	**+0.1**
	baz=244								
SMLT					*e*	S	**Sn**	**05 52 01.0**	**0.0**
	baz=244								
TYC	**Yuchr**	**1.22**	**253**		*e*	P	**Pn**	**05 51 46.1**	**+0.2**
	baz=244								
TWQ1	**Liyutan**	**1.24**	**274**		*e*	P	**Pn**	**05 51 47.5**	**+1.2**
	baz=273								
TWQ1					*e*	S	**Sn**	**05 52 04.2**	**+2.0**
	baz=273								
NMLH	**Miaoli**	**1.25**	**283**		*e*	P	**Pn**	**05 51 47.8**	**+1.4**
	baz=282								
NMLH					*e*	S	**Sn**	**05 52 04.0**	**+1.5**
	baz=282								
CHKH	**Chenggong**	**1.26**	**213**		*e*	P	**Pn**	**05 51 45.1**	**-1.4**
	baz=203								
CHKH					*e*	S	**Sn**	**05 51 59.9**	**-2.6**
	baz=203								
NSY	**Sanyi**	**1.26**	**277**		*e*	P	**Pn**	**05 51 48.4**	**+1.9**
	baz=276								
WHYT	**Xinyi Township**	**1.30**	**245**		*e*	P	**Pn**	**05 51 48.6**	**+1.5**
	baz=244								
WHYT					*e*	S	**Sn**	**05 52 03.8**	**+0.2**
	baz=244								
FULB	**Fuli**	**1.31**	**216**		*e*	P	**Pn**	**05 51 46.6**	**-0.5**
	baz=204								
FULB					*e*	S	**Sn**	**05 52 03.8**	**0.0**
	baz=204								
TCU	**Taichung**	**1.33**	**265**		*e*	P	**Pn**	**05 51 48.4**	**+0.9**
	baz=264								
TCU					*e*	S	**Sn**	**05 52 06.6**	**+2.1**
	baz=264								
CHKT	**Chengkung**	**1.35**	**212**		*e*	P	**Pn**	**05 51 46.0**	**-1.8**
	baz=201								
CHKT					*e*	S	**Sn**	**05 52 01.6**	**-3.3**
	baz=201								
WJS	**Zhushan**	**1.36**	**252**		*e*	P	**Pn**	**05 51 49.0**	**+1.2**
	baz=244								
WJS					*e*	S	**Sn**	**05 52 08.0**	**+3.0**
	baz=244								
PCYT	**Pengchaiyu**	**1.36**	**358**		*e*	P	**Pn**	**05 51 48.0**	**0.0**
	baz=348								
WNT	**Mingjian**	**1.38**	**254**		*e*	P	**Pn**	**05 51 50.1**	**+2.0**
	baz=254								
WNT					*e*	S	**Sn**	**05 52 07.9**	**+2.4**
	baz=254								
ALS	**Alishan**	**1.43**	**239**		*e*	P	**Pn**	**05 51 49.4**	**+0.3**
	baz=227								
ELDTW	**Lidau**	**1.48**	**224**		*e*	P	**Pn**	**05 51 48.7**	**-0.9**
	baz=223								
CHN5	**Tsauling**	**1.49**	**244**		*e*	P	**Pn**	**05 51 50.7**	**+1.0**
	baz=232								
CHN5					*e*	S	**Sn**	**05 52 10.8**	**+2.4**
	baz=232								
EDH	**Donghe**	**1.49**	**211**		*e*	P	**Pn**	**05 51 49.4**	**-0.3**
	baz=202								
EDH					*e*	S	**Sn**	**05 52 06.2**	**-2.1**
	baz=202								
WGK	**Gukeng**	**1.55**	**249**		*e*	P	**Pn**	**05 51 51.5**	**+1.0**
	baz=247								
WDLH	**Douliu**	**1.57**	**249**		*e*	S	**Sn**	**05 52 12.6**	**+2.4**
	baz=249								
WCKO	**Fanlu**	**1.62**	**240**		*e*	P	**Pn**	**05 51 50.8**	**-0.6**
	baz=240								
WCKO					*e*	S	**Sn**	**05 52 14.3**	**+2.8**
	baz=240								
LONT	**Longtian**	**1.63**	**215**		*e*	P	**Pn**	**05 51 51.3**	**-0.3**
	baz=215								
LONT					*e*	S	**Sn**	**05 52 10.1**	**-1.7**
	baz=215								
WRL	**Guolierlin Hig**	**1.64**	**258**		*e*	P	**Pn**	**05 51 53.2**	**+1.4**
	baz=257								
WRL					*e*	S	**Sn**	**05 52 14.3**	**+2.2**
	baz=257								
STYH	**Taoyuan**	**1.65**	**229**		*e*	P	**Pn**	**05 51 52.1**	**+0.3**
	baz=222								
STYH					*e*	S	**Sn**	**05 52 12.8**	**+0.6**
	baz=222								
CHN4	**Tsaushan**	**1.68**	**238**		*e*	P	**Pn**	**05 51 53.3**	**+1.0**
	baz=226								
CHN4					*e*	S	**Sn**	**05 52 15.6**	**+2.7**
	baz=226								
LDUT	**Ludao**	**1.69**	**201**		*e*	P	**Pn**	**05 51 50.0**	**-2.4**
	baz=201								
LDUT					*e*	S	**Sn**	**05 52 10.1**	**-3.2**
	baz=201								
WTK	**Tuku**	**1.69**	**251**		*e*	P	**Pn**	**05 51 53.7**	**+1.3**
	baz=250								
WTK					*e*	S	**Sn**	**05 52 15.4**	**+2.1**
	baz=250								
JKRS	**Kuro-shima**	**1.71**	**90**		P		**Pn**	**05 51 53.7**	**+1.1**
JKRS					*e*	S	**Sn**	**05 52 15.5**	**+1.8**
TWGBT	**Beinan**	**1.73**	**214**		*e*	P	**Pn**	**05 51 52.4**	**-0.6**
	baz=213								
TWG	**Pinlang**	**1.73**	**214**		*e*	P	**Pn**	**05 51 52.0**	**-1.0**
	baz=214								
TWG					*e*	S	**Sn**	**05 52 12.7**	**-1.6**
	baz=214								
CHN1	**Nanshi**	**1.82**	**234**		*e*	P	**Pn**	**05 51 55.1**	**+0.9**
	baz=234								
CHN1					*e*	S	**Sn**	**05 52 18.2**	**+1.8**
	baz=234								
JIJ	**Ishigaki jima**	**1.84**	**86**		P		**Pn**	**05 51 55.1**	**+0.7**
JIJ					*e*	S	**Sn**	**05 52 17.2**	**+0.4**
SLGT	**Liugui**	**1.86**	**228**		*e*	P	**Pn**	**05 51 55.6**	**+0.9**
	baz=228								
SLGT					*e*	S	**Sn**	**05 52 19.7**	**+2.3**
	baz=228								
JISG	**Ishigakijimahi**	**2.01**	**80**		*e*	P	**Pn**	**05 51 57.3**	**+0.5**
JISG					S		**Sn**	**05 52 22.0**	**+0.9**
SCST	**Cishan**	**2.03**	**228**		*e*	P	**Pn**	**05 51 59.2**	**+2.1**
	baz=228								
SCST					*e*	S	**Sn**	**05 52 24.2**	**+2.5**
	baz=228								
TSMG	**Majia**	**2.06**	**222**		*e*	P	**Pn**	**05 51 58.9**	**+1.4**
	baz=221								
MASBT	**Mashibuluo**	**2.14**	**220**		*e*	P	**Pn**	**05 51 59.6**	**+1.0**
	baz=220								
MASBT					*e*	S	**Sn**	**05 52 25.0**	**+0.6**
	baz=220								
LAY	**Lan-yu**	**2.27**	**194**		*e*	P	**Pn**	**05 51 58.5**	**-2.0**
	baz=184								
SCZT	**Fangliau**	**2.34**	**217**		*e*	P	**Pn**	**05 52 01.9**	**+0.5**
	baz=206								
SCZT					*e*	S	**Sn**	**05 52 30.6**	**+1.4**
	baz=206								
JTJ	**Tarama**	**2.37**	**80**		*e*	S	**Sn**	**05 52 29.3**	**-0.7**
PNG	**Penghu**	**2.46**	**254**		*e*	S	**Sn**	**05 52 31.8**	**-0.3**
	baz=254								
VWUC	**VWUC**	**2.55**	**287**		*e*	P	**Pn**	**05 52 03.7**	**-0.5**
	baz=285								
VWUC					*e*	S	**Sn**	**05 52 32.9**	**-1.5**
	baz=285								
XPSS	**Dashiqiu**	**3.19**	**327**		*e*	P	**Pn**	**05 52 12.8**	**-0.2**
	baz=337								
KNMB	**Chin-men Tao**	**3.42**	**274**		*e*	P	**Pn**	**05 52 15.1**	**-1.1**
	baz=272								
KNMB					*e*	S	**Sn**	**05 52 53.2**	**-2.8**
	baz=272								
AXDP	**Jialang**	**3.84**	**280**		*e*	P	**Pn**	**05 52 21.5**	**-0.5**
	baz=278								
AXDP					*e*	S	**Sn**	**05 53 03.8**	**-2.5**
	baz=278								

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*NEIC **23** 05:52:53.0±1.3,3°.1S±0°.1×151°.5E±0°.1, h10km±1km, mb4.5/21,Error ellipse: s-maj=25.2km s-min=4.5km az=41.0*
*IDC **23** 05:53:37.8±4.6,3°.71S×151°.11E,h459km±56km,mb3.3/8, mbtmp4.0/9,Error ellipse: s-maj=43.3km s-min=23.7km az=120.0*

ISC 23 05:52:51.9±0.7,3°.03S±0°.10×151°.5E±0°.1,h10km,n35, σ1§51/33,mb4.4/18,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.35**	**149**		Pn		**Pn**	**05 53 17.1**	**+0.3**
MANU	**Manus Island**	**4.22**	**283**		Pn		**Pn**	**05 53 57.1**	**+0.8**
CTA	**Charters Tower**	**17.71**	**196**		P		P	05 57 10.7	+11
	14nm,0.7s,baz=16,slow=11,SNR=15								
WR0	**Warramunga Arr**	**23.59**	**223**		P		**P**	**05 58 03.2**	**+0.1**
WR0					IAmb		IAmb	05 58 13.3	
	comp=Z,22nm,1.4s								
WB2	**Warramunga Arr**	**23.71**	**224**		P		**P**	**05 58 04.4**	**+0.1**
WB2					IAmb		IAmb	05 58 23.2	
	comp=Z,18nm,1.3s								
DZM	**Mont Dzumac**	**23.87**	**144**		P		**P**	**05 58 07.3**	**+1.4**
ASAR	**Alice Springs**	**26.64**	**218**		P		**P**	**05 58 30.8**	**-0.3**
ASAR	**Alice Springs**	**26.64**	**218**		P		**P**	**05 58 31.2**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=49,slow=8.0,SNR=16								
	comp=Z,1.1nm,0.4s								
ARMA	**Armidale**	**27.24**	**180**		P		**P**	**05 58 38.4**	**+1.9**
ARMA					IAmb		IAmb	05 58 41.4	
	comp=Z,14nm,1.3s								
BBOO	**Buckleboo**	**32.97**	**204**		P		**P**	**05 59 26.2**	**-0.9**
PETK	**Petropavlovsk-**	**56.17**	**5**		P		P	06 02 37.7	+5.9
	comp=Z,1.4nm,0.5s,baz=158,slow=4.0,SNR=6.7								
	comp=Z,1.4nm,0.5s								
SONM	**Songino Array**	**64.13**	**328**		P		**P**	**06 03 29.3**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=133,slow=6.0,SNR=2.3								
	comp=Z,0.3nm,0.4s								
E19K	**Redstone River**	**78.91**	**18**		P		**P**	**06 04 57.4**	**+2.1**
E19K					IAmb		IAmb	06 04 58.2	
	comp=Z,3.3nm,0.8s								
C19K	**Lookout Ridge**	**79.26**	**16**		P		**P**	**06 04 59.3**	**+2.1**
C19K					IAmb		IAmb	06 05 00.1	
	comp=Z,5.3nm,1.1s								
D19K	**Kuna River**	**79.29**	**17**		P		**P**	**06 04 59.0**	**+1.7**
DHY	**Denali Highway**	**80.06**	**24**		P		**P**	**06 05 03.1**	**+1.3**
M24K	**Tolsona, Glenn**	**80.12**	**25**		P		**P**	**06 05 03.4**	**+1.4**
G23K	**Bananza Creek**	**80.83**	**20**		P		**P**	**06 05 07.5**	**+1.8**
HDA	**Harding Lake**	**80.84**	**23**		P		**P**	**06 05 05.8**	**0.0**
HDA					IAmb		IAmb	06 05 08.1	
	comp=Z,5.9nm,1.3s								
VRDI	**Verde Repeater**	**80.92**	**26**		P		**P**	**06 05 08.3**	**+1.7**
IL31		**81.03**	**22**		P		**P**	**06 05 06.5**	**-0.2**
IL31					IAmb		IAmb	06 05 07.7	
	comp=Z,6.4nm,1.1s								
ILAR	**Eielson Array**	**81.03**	**22**		P		**P**	**06 05 07.1**	**+0.3**
ILAR	**Eielson Array**	**81.03**	**22**		P		**P**	**06 05 06.5**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=248,slow=5.4,SNR=24								
	comp=Z,1.7nm,0.7s								
J25K	**Salcha River,**	**81.54**	**23**		P		**P**	**06 05 10.4**	**+0.8**
F24K	**Squaw Lake**	**81.96**	**20**		P		**P**	**06 05 13.2**	**+1.4**
K29M	**Barlow Dome**	**84.43**	**25**		P		**P**	**06 05 25.7**	**+1.0**
D27M	**Malcolm River**	**85.02**	**19**		P		**P**	**06 05 28.6**	**+1.2**
D27M					IAmb		IAmb	06 05

*NEIC **23** 05:59:56.4±1.6,5.°90S±0.°08×154.°73E±0.°08,h139km±4km, mb5.1/291,Mww5.2/23 Error ellipse: s-maj=12.4km s-min=10.2km az=219.0*

*GCMT **23** 05:59:57.4±0.2,5.°99S±0.°02×154.°72E±0.°02,h147km±1km, MW5.2/97,Moment Tensor Solution. s81,c107; s97,c146; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr0.63±.19; Mθθ-1.47±.26; Mφφ0.83±.27; Mrθ-4.91±.17; Mrφ0.09±.30; Mθφ-6.14±.16; Best double couple: M₀7.94600×10¹⁶ NP1:φs220.00000°,δ89.00000°, λ82.00000° NP2:φs121.00000°,δ8.00000°,λ171.00000°. Principal axes: T 8.2610, Plg46.0000°, Azm122.0000°; N -0.6320, Plg8.0000°, Azm220.0000°; P -7.6320, Plg43.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 05:59:56.5±0.3,5.°87S±0.°03×154.°72E±0.°04,h151km±2km, h151km:pP-P,n910,c117/822,mb5.2/266,20C-11D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.04**	**303**		**Pn**	**06 00 44.4**	**-0.2**
RABL	**Rabaul**	**3.04**	**303**	P	**Pn**	**06 00 45.1**	**+0.6**
I40PG	**Keravat**	**3.12**	**300**	P	**Pn**	**06 00 45.4**	**-0.1**
	baz=138,slow=18,SNR=0.7						
I40PG				I	I	06 18 20.0	
	baz=124,slow=310,SNR=1.9						
KAVG	**Kavieng**	**5.09**	**310**	P	**Pn**	**06 01 12.8**	**+1.6**
HNR	**Honiara**	**6.27**	**125**	Pn	**Pn**	**06 01 26.0**	**-0.9**
HNR	**Honiara**	**6.27**	**125**	P	**Pn**	**06 01 26.8**	**-0.1**
	2µm,0.5s,baz=154,slow=1.6,SNR=6.7						
HNR				S	**Sn**	**06 02 39.7**	**+2.0**
	14µm,0.8s,baz=193,slow=5.3,SNR=6.6						
MANU	**Manus Island**	**8.26**	**297**	Pn	**Pn**	**06 01 53.3**	**-0.2**
PMG	**Port Moresby**	**8.27**	**244**		**Pn**	**06 01 54.9**	**+1.3**
PMG	**Port Moresby**	**8.27**	**244**	P	**Pn**	**06 01 54.9**	**+1.3**
PMG	**Port Moresby**	**8.27**	**244**	P	**Pn**	**06 01 56.6**	**+3.0**
	390nm,0.7s,baz=72,slow=7.5,SNR=18						
PMG				S	**Sn**	**06 03 28.5**	**+2.7**
	847nm,0.9s,baz=234,slow=23,SNR=4.2						
PATS	**Pohnpei**	**13.12**	**16**	Pn	**Pn**	**06 02 59.0**	**+1.6**
COEN	**Coen**	**13.91**	**234**	P	**P**	**06 03 09.4**	**-1.4**
	baz=14						
COEN	**Coen**	**13.91**	**234**	P	**P**	**06 03 09.5**	**-1.3**
MMPI	**Merauke**	**14.45**	**259**	P	**Pn**	**06 03 14.5**	**+0.3**
	727nm,0.7s,39µm						
GENI	**Genyem**	**14.87**	**282**	P	**Pn**	**06 03 19.3**	**-0.1**
	234nm,0.8s,5µm						
MTSU	**Mount Surprise**	**15.86**	**219**	P	**P**	**06 03 34.4**	**+2.0**
	baz=16,SNR=20						
CTA	**Charters Tower**	**16.35**	**209**	P	**P**	**06 03 40.3**	**+2.6**
CTA	**Charters Tower**	**16.35**	**209**	P	**P**	**06 03 40.4**	**+2.6**
	38nm,0.7s,baz=30,slow=11,SNR=46						
CTA				S	**S**	**06 06 37.0**	**-2.3**
	4.5nm,0.5s,baz=315,slow=1.4,SNR=1.0						
KOUNC	**Koumac, New Ca**	**17.30**	**148**	P	**P**	**06 03 48.5**	**+0.4**
KOUNC	**Koumac, New Ca**	**17.30**	**148**	P	**Pn**	**06 03 49.0**	**0.0**
RK1H	**Rockhampton Ha**	**17.88**	**193**	P	**Pn**	**06 03 56.2**	**+0.2**
LIFNC	**LIFOU**	**19.16**	**142**	P	**P**	**06 04 08.6**	**+0.2**
LIFNC	**LIFOU**	**19.16**	**142**	P	**P**	**06 04 08.5**	**+0.1**
TARA	**Tarawa**	**19.55**	**69**	P	**P**	**06 04 13.8**	**+1.0**
NOUC	**Port Laguerre**	**19.64**	**146**	P	**P**	**06 04 14.0**	**+0.4**
DZM	**Mont Dzumac**	**19.69**	**146**	P	**P**	**06 04 14.5**	**+0.2**
DZM	**Mont Dzumac**	**19.69**	**146**	P	**P**	**06 04 14.7**	**+0.3**
DZM	**Mont Dzumac**	**19.69**	**146**	*e*P	**P**	**06 04 13.0**	**-1.3**
	2µm,0.9s						
DZM				*e*S	**S**	**06 07 45.8**	**-2.6**
	804nm,26.0s						
DZM	**Mont Dzumac**	**19.69**	**146**	P	**P**	**06 04 14.7**	**+0.3**
	580nm,0.5s,baz=292,slow=7.2,SNR=1046						
DZM				LR	LR	06 10 39.5	
	comp=Z,463nm,20.1s,baz=12,slow=33						
EIDS	**Eidsvold**	**19.70**	**190**	P	**P**	**06 04 15.7**	**+1.5**
	baz=20,SNR=66						
EIDS	**Eidsvold**	**19.70**	**190**	P	**P**	**06 04 15.4**	**+1.2**
EIDS	**Eidsvold**	**19.70**	**190**	P	**P**	**06 04 15.7**	**+1.5**
ONTNC	**Ouen Toro**	**19.89**	**146**	P	**P**	**06 04 16.6**	**+0.3**
ONTNC	**Ouen Toro**	**19.89**	**146**	P	**P**	**06 04 16.5**	**+0.2**
YATNC	**Mamie plateau,**	**19.94**	**145**	P	**P**	**06 04 16.6**	**-0.3**
OUENC	**Ouen Island, N**	**20.19**	**146**	P	**P**	**06 04 19.5**	**-0.1**
OUENC	**Ouen Island, N**	**20.19**	**146**	P	**P**	**06 04 19.6**	**0.0**
PINNC	**Pines Island,**	**20.69**	**145**	P	**P**	**06 04 24.4**	**-0.5**
QIS	**Mount Isa**	**20.69**	**224**	P	**P**	**06 04 26.2**	**+1.2**
	baz=21,SNR=25						
QIS	**Mount Isa**	**20.69**	**224**	P	**P**	**06 04 25.9**	**+0.9**
KMPI	**Kaimana, Papua**	**21.05**	**275**	P	**P**	**06 04 28.2**	**-0.7**
	556nm,0.6s,5µm						
MWPI	**Manokwari, Pap**	**21.21**	**283**	P	**P**	**06 04 29.2**	**-1.4**
	1µm,0.9s						
RMQ	**Roma**	**21.27**	**195**	P	**P**	**06 04 32.4**	**+1.3**
	baz=21,SNR=55						
RMQ	**Roma**	**21.27**	**195**	P	**P**	**06 04 32.4**	**+1.3**
GUMO	**Guam**	**21.67**	**333**	P	**P**	**06 04 33.4**	**-2.0**
	165nm,0.9s,baz=193,slow=14,SNR=4.8						
	165nm,0.9s						
GC1S	**Gold Coast 1 S**	**22.20**	**183**	P	**P**	**06 04 42.0**	**+1.3**
FAKI	**Fak Fak**	**22.59**	**276**	P	**P**	**06 04 44.5**	**-0.2**
FAKI	**Fak Fak**	**22.59**	**276**	P	**P**	**06 04 44.9**	**+0.2**
FAKI	**Fak Fak**	**22.59**	**276**	P	**P**	**06 04 43.5**	**-1.2**
	662nm,0.9s,6µm						
QLP	**Quilpie**	**22.89**	**205**	P	**P**	**06 04 47.8**	**+0.5**
	baz=23,SNR=12						
KDU	**Kakadu**	**22.96**	**251**	P	**P**	**06 04 48.1**	**+0.1**
	baz=23,SNR=62						
KDU	**Kakadu**	**22.96**	**251**	P	**P**	**06 04 48.1**	**+0.1**
SAUI	**Saumlaki**	**23.34**	**263**	P	**P**	**06 04 51.5**	**-0.1**
SAUI	**Saumlaki**	**23.34**	**263**	P	**P**	**06 04 51.7**	**+0.2**
	1µm,1.0s,13µm						
SIJI	**Sorong**	**23.93**	**281**	P	**P**	**06 04 56.5**	**-0.4**
	164nm,0.9s,2µm						
SWI	**Sorong**	**23.93**	**281**	P	**P**	**06 04 56.1**	**-0.8**
	235nm,0.8s,3µm						
WR0	**Warramunga Arr**	**24.10**	**233**	P	**P**	**06 04 59.4**	**+1.0**
WB0	**Warramunga Arr**	**24.11**	**233**	P	**P**	**06 04 58.7**	**+0.2**
WB0				IAmb	IAmb	06 05 01.2	
	comp=Z,106nm,0.9s						
WRAB	**Tennant Creek**	**24.23**	**233**	P	**P**	**06 04 59.2**	**-0.4**
WRAB				IAmb	IAmb	06 05 02.4	
	comp=Z,94nm,0.8s						
WRAB	**Tennant Creek**	**24.23**	**233**	P	**P**	**06 04 59.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,94nm,0.9s						
WB2	**Warramunga Arr**	**24.24**	**233**	P	**P**	**06 05 00.1**	**+0.5**
WB2				IAmb	IAmb	06 05 02.0	
	comp=Z,93nm,0.8s						
WRA	**Warramunga Arr**	**24.25**	**233**	P	**P**	**06 04 59.1**	**-0.6**
WRA	**Warramunga Arr**	**24.25**	**233**	P	**P**	**06 05 00.6**	**+0.8**
	comp=Z,61nm,0.5s,baz=57,slow=10.0,SNR=220						
WRA				S	**S**	**06 09 06.1**	**-1.5**
	comp=Z,8.9nm,0.9s,baz=55,slow=15,SNR=4.7						
WRA				ScP	**ScP**	**06 11 59.4**	**-1.5**
	comp=Z,6.4nm,0.8s,baz=50,slow=2.7,SNR=6.2						
	comp=Z,61nm,0.5s						
MTN	**Manton Dam**	**24.27**	**252**	P	**P**	**06 05 00.8**	**+0.8**
	baz=24,SNR=22						
MTN	**Manton Dam**	**24.27**	**252**	P	**P**	**06 05 00.6**	**+0.7**
MTN	**Manton Dam**	**24.27**	**252**	P	**P**	**06 05 00.8**	**+0.8**
FUNA	**Funafuti**	**24.43**	**98**	P	**P**	**06 05 01.0**	**-0.4**
ARMA	**Armidale**	**24.59**	**186**	P	**P**	**06 05 03.9**	**+1.1**
	baz=25,SNR=164						
ARMA	**Armidale**	**24.59**	**186**	P	**P**	**06 05 03.5**	**+0.6**
ARMA	**Armidale**	**24.59**	**186**	P	**P**	**06 05 03.9**	**+1.1**
BNDI	**Bandanaira**	**24.75**	**272**	P	**P**	**06 05 05.8**	**+1.5**
BNDI	**Bandanaira**	**24.75**	**272**	P	**P**	**06 05 04.6**	**+0.3**
	comp=Z,722nm,0.7s,comp=Z,8µm						
LHI	**Lord Howe Isla**	**25.84**	**171**	P	**P**	**06 05 14.2**	**+0.3**
	baz=26,SNR=11						
KRAI	**Karang Ratu**	**26.36**	**274**	P	**P**	**06 05 19.3**	**+0.4**
	comp=Z,222nm,0.8s,comp=Z,4µm						
AS01	**Alice Springs**	**26.69**	**226**	P	**P**	**06 05 22.0**	**+0.2**
AS31	**Alice Springs**	**26.72**	**226**	P	**P**	**06 05 22.0**	**-0.1**
ASAR	**Alice Springs**	**26.72**	**226**	P	**P**	**06 05 21.9**	**-0.3**
ASAR	**Alice Springs**	**26.72**	**226**	P	**P**	**06 05 22.3**	**+0.2**
	comp=Z,4.3nm,0.3s,baz=57,slow=8.8,SNR=70						
ASAR				PcP	**PcP**	**06 08 42.0**	**+0.2**
	comp=Z,6.6nm,0.5s,baz=62,slow=2.2,SNR=5.7						
ASAR				S	**S**	**06 09 45.3**	**-1.5**
	comp=Z,7.5nm,1.0s,baz=32,slow=25,SNR=4.6						
ASAR				ScP	**ScP**	**06 12 07.8**	**-0.1**
	comp=Z,6.4nm,0.7s,baz=53,slow=2.7,SNR=8.6						
ASAR				LR	LR	06 15 13.7	
	comp=Z,184nm,18.8s,baz=60,slow=34						
	comp=Z,4.3nm,0.3s						
CMSA	**Cobar Meteorol**	**26.90**	**197**	P	**P**	**06 05 23.5**	**0.0**
	baz=27,SNR=139						
CMSA	**Cobar Meteorol**	**26.90**	**197**	P	**P**	**06 05 23.8**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**26.94**	**26**	T	T	06 34 00.8	
	baz=204,SNR=192						
H11S2	**WAKE ISLAND Hy**	**26.94**	**26**	T	T	06 34 06.6	
	baz=204,slow=74,SNR=54						
H11S1	**WAKE ISLAND Hy**	**26.96**	**26**	T	T	06 34 13.3	
	baz=204,slow=74,SNR=18						
KNRA	**Kununurra**	**27.26**	**247**	P	**P**	**06 05 27.2**	**+0.3**
	baz=27,SNR=12						
KNRA	**Kununurra**	**27.26**	**247**	P	**P**	**06 05 26.9**	**0.0**
KNRA	**Kununurra**	**27.26**	**247**	P	**P**	**06 05 27.3**	**+0.4**
MGCD	**Mangrove Creek**	**27.41**	**187**	P	**P**	**06 05 28.6**	**+0.6**
	baz=28,SNR=20						
MGCD	**Mangrove Creek**	**27.41**	**187**	P	**P**	**06 05 29.1**	**+1.1**
NLAI	**Namlea**	**27.65**	**274**	P	**P**	**06 05 31.2**	**+0.7**
	comp=Z,244nm,0.6s						
LBMI	**Labuha**	**27.66**	**280**	P	**P**	**06 05 31.4**	**+0.9**
	comp=Z,1µm,1.0s,comp=Z,10µm						
RIV	**Riverview**	**28.01**	**186**	P	**P**	**06 05 34.3**	**+1.0**
	baz=28,SNR=6.5						
RIV	**Riverview**	**28.01**	**186**	P	**P**	**06 05 34.7**	**+1.3**
TNTI	**Ternate**	**28.09**	**283**	P	**P**	**06 05 34.2**	**-0.2**
	comp=Z,148nm,0.8s,comp=Z,4µm						
H11N1	**WAKE ISLAND Hy**	**28.11**	**25**	T	T	06 35 45.4	
	baz=211,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**28.12**	**25**	T	T	06 35 36.8	
	baz=211,slow=74,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.12**	**25**	T	T	06 35 41.5	
	baz=211,slow=74,SNR=6.3						
OOD	**Oodnadatta**	**28.32**	**218**	P	**P**	**06 05 36.3**	**+0.1**
STKA	**Stephens Creek**	**28.64**	**204**	P	**P**	**06 05 38.9**	**-0.1**
	baz=29,SNR=24						
STKA	**Stephens Creek**	**28.64**	**204**	P	**P**	**06 05 38.9**	**-0.1**
STKA	**Stephens Creek**	**28.64**	**204**	P	**P**	**06 05 39.1**	**+0.1**
STKA	**Stephens Creek**	**28.64**	**204**	P	**P**	**06 05 38.8**	**-0.1**
	comp=Z,20nm,0.8s,baz=12,slow=9.3,SNR=32						
STKA				ScP	**ScP**	**06 12 13.2**	**-0.4**
	comp=Z,9.7nm,0.7s,baz=61,slow=7.7,SNR=8.3						
STKA				LR	LR	06 18 17.2	
	comp=Z,103nm,18.4s,baz=18,slow=38						
	comp=Z,20nm,0.8s						
SANI	**Sanana**	**28.91**	**276**	P	**P**	**06 05 42.2**	**+0.6**
SANI	**Sanana**	**28.91**	**276**	P	**P**	**06 05 41.4**	**-0.2**
	comp=Z,414nm,1.1s,comp=Z,4µm						
LCRK	**Leigh Creek**	**28.96**	**210**	P	**P**	**06 05 41.8**	**0.0**
CNB	**Canberra Magne**	**29.71**	**189**	P	**P**	**06 05 49.4**	**+0.8**
	baz=30,SNR=13						
CNB	**Canberra Magne**	**29.71**	**189**	P	**P**	**06 05 49.4**	**+0.8**
CAN	**Canberra**	**29.78**	**189**	P	**P**	**06 05 50.1**	**+1.0**
CAN				IAmb	IAmb	06 05 51.0	
	comp=Z,35nm,0.9s						
CAN	**Canberra**	**29.78**	**189**	P	**P**	**06 05 50.3**	**+1.2**
CAN	**Canberra**	**29.78**	**189**	P	**P**	**06 05 50.1**	**+1.0**
CAN				pmax	pmax		
	comp=Z,35nm,0.9s						
SOEI	**Soe**	**30.40**	**261**	P	**P**	**06 05 56.3**	**+1.3**
SOEI	**Soe**	**30.40**	**261**	P	**P**	**06 05 55.0**	**0.0**
	comp=Z,148nm,1.1s						
SGSI	**Sangihe**	**30.66**	**287**	P	**P**	**06 05 57.3**	**+0.2**
	comp=Z,1µm,1.1s,comp=Z,13µm						
FITZ	**Fitzroy Crossi**	**30.87**	**244**	P	**P**	**06 05 58.1**	**-0.8**
	baz=31,SNR=61						
FITZ	**Fitzroy Crossi**	**30.87**	**244**	IAmb	IAmb	06 05 59.4	
	comp=Z,23nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.87**	**244**	P	**P**	**06 05 58.5**	**-0.4**
HTT	**Hallett**	**31.10**	**206**	P	**P**	**06 06 01.0**	**+0.1**
	baz=31,SNR=12						
HTT	**Hallett**	**31.10**	**206**	P	**P**	**06 06 00.9**	**+0.1**
MULG	**Mulgathing**	**31.11**	**216**	P	**P**	**06 06 00.3**	**-0.5**
KMSI	**Cibinong**	**31.35**	**281**	P	**P**	**06 06 03.5**	**+0.4**
	comp=Z,2µm,0.6s,comp=Z,23µm						
MILA	**Mila**	**31.45**	**189**	P	**P**	**06 06 04.1**	**+0.3**
	baz=32,SNR=5.0						
MILA	**Mila**	**31.45**	**189**	P	**P**	**06 06 05.1**	**+1.3**
WRKA	**Warakurna**	**31.69**	**230**	P	**P**	**06 06 05.6**	**-0.4**
	baz=32,SNR=164						
WRKA	**Warakurna**	**31.69**	**230**	P	**P**	**06 06 05.4**	**-0.6**
DAV	**Davao City (W)**	**31.79**	**293**	LR	LR	06 19 28.0	
	comp=Z,86nm,18.2s,baz=129,slow=37						
BBOO	**Buckleboo**	**31.95**	**211**	P	**P**	**06 06 07.9**	**-0.3**
	baz=32,SNR=14						
BBOO	**Buckleboo**	**31.95**	**211**	P	**P**	**06 06 07.2**	**-1.0**
BBOO				IAmb	IAmb	06 06 09.2	
	comp=Z,28nm,0.8s						
BBOO	**Buckleboo**	**31.95**	**211**	P	**P**	**06 06 07.9**	**-0.3**
LUWI	**Luwuk**	**32.24**	**277**	P	**P**	**06 06 11.1**	**+0.2**
	comp=Z,863nm,1.2s,comp=Z,8µm						
GTOI	**Gorontalo**	**32.31**	**281**	P	**P**	**06 06 13.0**	**+1.4**
	comp=Z,576nm,0.7s,comp=Z,4µm						
MMRI	**Maumere**	**32.33**	**263**	P	**P**	**06 06 11.7**	**0.0**
MMRI	**Maumere**	**32.33**	**263**	P	**P**	**06 06 12.7**	**+1.0**
MMRI	**Maumere**	**32.33**	**263**	P	**P**	**06 06 12.2**	**+0.5**
	comp=Z,577nm,0.6s						
TOO	**Toolangi**	**32.65**	**194**	P	**P**	**06 06 15.0**	**+0.7**
	baz=33,SNR=9.4						
TOO	**Toolangi**	**32.65**	**194**	P	**P**	**06 06 14.8**	**+0.5**
TOO				IAmb	IAmb	06 06 15.9	
	comp=Z,19nm,0.8s						
TOO	**Toolangi**	**32.65**	**194**	P	**P**	**06 06 15.1**	**+0.8**
TOO	**Toolangi**	**32.65**	**194**	P	**P**	**06 06 14.8**	**+0.5**
TOO				pmax	pmax		
	comp=Z,19nm,0.8s						
EDFI	**Ende, Flores**	**32.88**	**263**	P	**P**	**06 06 15.4**	**-1.2**
	comp=Z,224nm,0.8s,comp=Z,2µm						
ARPS	**Mount Arapiles**	**32.93**	**199**	P	**P**	**06 06 17.2**	**+0.5**
	baz=33,SNR=28						
ARPS	**Mount Arapiles**	**32.93**	**199**	P	**P**	**06 06 17.1**	**+0.4**
MRSI	**Marisa**	**33.33**	**280**	P	**P**	**06 06 19.7**	**-0.7**
	comp=Z,357nm,0.8s,comp=Z,3µm						
AFI	**Afiamalu**	**33.92**	**106**	P	**P**	**06 06 25.3**	**-0.3**
OUZ	**Omahuta**	**34.00**	**152**	P	**P**	**06 06 27.2**	**+1.3**
BASI	**Baing, Sumba**	**34.06**	**260**	P	**P**	**06 06 27.6**	**+0.8**
	comp=Z,938nm,0.9s,comp=Z,8µm						
TOLI2	**Tolitoli**	**34.59**	**281**	P	**P**	**06 06 30.7**	**-0.6**
TOLI2	**Tolitoli**	**34.59**	**281**	P	**P**	**06 06 30.9**	**-0.4**
KAPI	**Kappang**	**34.81**	**270**	P	**P**	**06 06 32.9**	**-0.4**
KAPI	**Kappang**	**34.81**	**270**	P	**P**	**06 06 32.9**	**-0.4**
KAPI				pmax	pmax		
	comp=Z,111nm,0.9s						
KAPI	**Kappang**	**34.81**	**270**	LR	LR	06 23 09.5	
	comp=Z,22nm,18.1s,baz=80,slow=40						
TTSI	**Tana Toraja**	**34.90**	**273**	P	**P**	**06 06 36.3**	**+2.3**
	comp=Z,71nm,1.2s						
FORT	**Forrest**	**35.22**	**222**	P	**P**	**06 06 36.7**	**+0.2**
	baz=35,SNR=14						
FORT	**Forrest**	**35.22**	**222**	P	**P**	**06 06 35.7**	**-0.8**
FORT				IAmb	IAmb	06 07 45.2	
	comp=Z,50nm,0.7s						
FORT	**Forrest**	**35.22**	**222**	P	**P**	**06 06 35.3**	**-1.2**
MPSI	**Mapaga**	**35.30**	**279**	P	**P**	**06 06 37.4**	**-0.1**
	comp=Z,989nm,0.8s,comp=Z,11µm						
GLAD	**Gladstone**	**35.47**	**189**	P	**P**	**06 06 39.8**	**+1.3**
MMSI	**Mamuju**	**35.84**	**274**	P	**P**	**06 06 43.4**	**+1.3**
	comp=Z,81nm,0.9s,comp=Z,3µm						
DBNI	**Kabupaten Domp**	**36.20**	**264**	P	**P**	**06 06 44.7**	**-0.5**
	comp=Z,53nm,0.5s,comp=Z,2µm						
KUZ	**Kuaotunu**	**36.24**	**151**	P	**P**	**06 06 46.0**	**+0.9**
PLAI	**Plampang**	**36.74**	**263**	P	**P**	**06 06 48.5**	**-1.2**
PLAI	**Plampang**	**36.74**	**263**	P	**P**	**06 06 48.3**	**-1.4**
	comp=Z,222nm,0.9s,comp=Z,2µm						
TOZ	**Tahuroa Road**	**36.93**	**152**	P	**P**	**06 06 52.2**	**+1.3**
MOO	**Moorlands**	**37.02**	**189**	P	**P**	**06 06 53.3**	**+1.6**
	baz=37,SNR=12						
MOO	**Moorlands**	**37.02**	**189**	P	**P**	**06 06 53.2**	**+1.5**
PSA00	**Pilbara Seismi**	**37.17**	**242**	P	**P**	**06 06 52.2**	**-1.0**
PSA00				IAmb	IAmb	06 06 53.7	
	comp=Z,60nm,1.0s						
PSA00	**Pilbara Seismi**	**37.17**	**242**	IAmb	IAmb	06 06 53.7	
	comp=Z,20nm,0.8s						
PSA00	**Pilbara Seismi**	**37.17**	**242**	P	**P**	**06 06 52.7**	**-0.5**
HIZ	**Hauiti**	**37.27**	**154**	P	**P**	**06 06 55.6**	**+1.8**
TAU	**Tasmania Unive**	**37.46**	**189**	P	**P**	**06 06 55.9**	**+0.6**
TAU	**Tasmania Unive**	**37.46**	**189**	P	**P**	**06 06 56.7**	**+1.4**
TAU	**Tasmania Unive**	**37.46**	**189**	P	**P**	**06 06 55.9**	**+0.6**
TAU				pmax	pmax		
	comp=Z,307nm,1.5s						
KHEZ	**Kahui Hut**	**37.56**	**155**	P	**P**	**06 06 58.2**	**+1.9**
TWSI	**Taliwang, Sumb**	**37.62**	**263**	P	**P**	**06 06 57.0**	**-0.1**
	comp=Z,81nm,0.6s,comp=Z,878nm						
BKB	**Balikpapan**	**38.01**	**275**	P	**P**	**06 07 03.6**	**+3.2**
URZ	**Urewera**	**38.11**	**151**	P	**P**	**06 07 01.4**	**+0.5**
MXZ	**Matakaoa Point**	**38.17**	**149**	P	**P**	**06 07 01.6**	**+0.2**
QRZ	**Quartz Range**	**38.28**	**158**	P	**P**	**06 07 03.5**	**+1.2**
BKZ	**Black Stump Fm**	**38.55**	**152**	P	**P**	**06 07 04.8**	**+0.2**
IGBI	**Denpasar**	**39.34**	**263**	P	**P**	**06 07 10.5**	**-1.0**
	comp=Z,241nm,0.4s,comp=Z,4µm						
SNZO	**South Karori**	**39.54**	**156**	P	**P**	**06 07 12.7**	**-0.1**
SNZO	**South Karori**	**39.54**	**156**	P	**P**	**06 07 12.6**	**-0.1**
SNZO	**South Karori**	**39.54**	**156**	P	**P**	**06 07 12.6**	**-0.1**
BFZ	**Birch Farm**	**39.67**	**154**	P	**P**	**06 07 13.3**	**-0.5**
BBKI	**Banjar Baru**	**39.81**	**272**	P	**P**	**06 07 16.6**	**+1.2**
	comp=Z,289nm,0.7s						
KMBL	**Kambalda**	**39.86**	**226**	P	**P**	**06 07 15.5**	**0.0**
	baz=40,SNR=26						
KMBL	**Kambalda**	**39.86**	**226**	P	**P**	**06 07 15.4**	**-0.1**
JCZ	**Jackson Bay**	**40.00**	**164**	P	**P**	**06 07 17.4**	**+0.8**
MTKI	**Muara Teweh, K**	**40.04**	**276**	P	**P**	**06 07 18.0**	**+0.7**
KHZ	**Kahutara**	**40.04**	**158**	P	**P**	**06 07 16.2**	**-0.6**
KHZ	**Kahutara**	**40.04**	**158**	P	**P**	**06 07 16.4**	**-0.4**
BYJI	**Banyuwangi**	**40.11**	**264**	P	**P**	**06 07 18.4**	**+0.5**
	comp=Z,139nm,0.8s						
MEEK	**Meekatharra**	**40.12**	**235**	P	**P**	**06 07 17.7**	**0.0**
	baz=40,SNR=62						
MEEK	**Meekatharra**	**40.12**	**235**	P	**P**	**06 07 17.5**	**-0.3**
KKM	**Kota Kinabalu**	**40.22**	**286**	P	**P**	**06 07 18.8**	**-0.1**
KKM	**Kota Kinabalu**	**40.22**	**286**	P	**P**	**06 07 20.4**	**+1.6**
KKM	**Kota Kinabalu**	**40.22**	**286**	P	**P**	**06 07 19.0**	**+0.2**
	comp=Z,147nm,1.0s,comp=Z,1µm						
JAGI	**Jajag, Banyuwa**	**40.32**	**264**	P	**P**	**06 07 17.2**	**-2.4**
JAGI	**Jajag, Banyuwa**	**40.32**	**264**	P	**P**	**06 07 18.1**	**-1.5**
JAGI	**Jajag, Banyuwa**	**40.32**	**264**	P	**P**	**06 07 17.8**	**-1.8**
	comp=Z,111nm,0.7s						
GVZ	**Greta Valley S**	**40.34**	**159**	P	**P**	**06 07 19.2**	**-0.1**
RPZ	**Rata Peaks**	**40.34**	**162**	P	**P**	**06 07 19.6**	**+0.3**
RPZ	**Rata Peaks**	**40.34**	**162**	LR	LR	06 24 02.8	
	comp=Z,164nm,18.1s,baz=324,slow=36						
AMCZ	**Amberley**	**40.39**	**160**	P	**P**	**06 07 19.7**	**0.0**
LBZ	**Lake Benmore**	**40.69**	**163**	P	**P**	**06 07 21.4**	**-0.8**
WKZ	**Wanaka**	**40.77**	**164**	IAmb	IAmb	06 07 24.0	
	comp=Z,83nm,0.9s						
MQZ	**McQueen's Vall**	**40.85**	**160**	P	**P**	**06 07 23.2**	**-0.3**
BLJI	**Banyuglugur**	**40.86**	**265**	P	**P**	**06 07 24.0**	**0.0**
	comp=Z,95nm,0.7s						
DCZ	**Deep Cove**	**40.90**	**167**	P	**P**	**06 07 23.7**	**-0.1**
DCZ				IAmb	IAmb	06 07 25.0	
	comp=Z,70nm,0.9s						
MLZ	**Mavora Lakes**	**41.04**	**166**	P	**P**	**06 07 25.1**	**+0.1**
JOW	**Kunigami**	**41.38**	**323**	P	**P**	**06 07 28.5**	**+0.4**
JOW				IAmb	IAmb	06 07 30.2	
	comp=Z,61nm,0.7s						
ODZ	**Otahua Downs**	**41.42**	**163**	IAmb	IAmb	06 07 29.6	
	comp=Z,66nm,0.8s						
ODZ	**Otahua Downs**	**41.42**	**163**	P	**P**	**06 07 27.9**	**-0.2**
WHZ	**Wether Hill Ro**	**41.49**	**166**	IAmb	IAmb	06 07 29.2	
	comp=Z,69nm,0.9s						
KRKI	**Karangkates**	**42.00**	**264**	P	**P**	**06 07 34.6**	**+1.3**
	comp=Z,212nm,0.6s,comp=Z,20µm						
SYZ	**Scrubby Hill**	**42.38**	**165**	P	**P**	**06 07 35.7**	**-0.2**
GIRL	**Giralia**	**42.44**	**243**	P	**P**	**06 07 36.4**	**-0.4**
	baz=42,SNR=5.4						
GIRL	**Giralia**	**42.44**	**243**	P	**P**	**06 07 37.4**	**+0.6**
GIRL	**Giralia**	**42.44**	**243**	P	**P**	**06 07 38.3**	**+1.5**
SJI	**Sawahan**	**42.68**	**265**	P	**P**	**06 07 39.0**	**+0.1**
	comp=Z,128nm,0.7s,comp=Z,5µm						
KLBR	**Kellerberrin

comp=Z,72nm,1.1s,comp=Z,1µm
CNSH ChangSha 52.62 312 ⇓P **P** **06 08 57.1 +1.9**
CNSH pmax pmax
comp=Z,82nm,0.9s
WHN Wuhan 52.95 316 ⇓*i*P **P** **06 08 58.6 +1.0**
WHN pP **pP** **06 09 30.5 -1.0**
WHN pmax pmax
comp=Z,120nm,0.8s
UBPT Khong Chiam 53.12 294 IAmb IAmb 06 09 01.1
comp=Z,58nm,1.0s
YSS Yuzh-Sakhalins 53.66 350*ce*P **P** **06 09 03.4 +1.0**
YSS pmax pmax
comp=Z,32nm,0.8s
USA0B Ussuriysk Arra 53.89 340 *i*P **P** **06 09 04.4 +0.2**
USRK Ussuriysk Ar. 53.89 340 P **P** **06 09 05.0 +0.8**
comp=Z,16nm,0.8s,baz=201,slow=5.4,SNR=16
comp=Z,16nm,0.8s
DL2 Dalian 54.08 328 P **P** **06 09 05.8 +0.2**
DL2 pmax pmax
comp=Z,39nm,0.8s
PDSI Padang 54.36 273 P **P** **06 09 06.5 -1.7**
comp=Z,134nm,0.7s
MDJ Mudanjiang 55.10 338 P **P** **06 09 15.1 +2.2**
MDJ pP pP 06 09 50.5 +2.7
MDJ PP **PP** **06 11 19.0 +1.0**
MDJ PcS **PcS** **06 14 15.8 +3.4**
MDJ S **S** **06 16 45.8 +1.9**
MDJ sS sS 06 17 47.3 +2.8
MDJ pmax pmax
comp=Z,20nm,2.5s
MDJ pmax pmax
comp=Z,630nm,5.0s
MDJ Mudanjiang 55.10 338 P **P** **06 09 13.5 +0.6**
KULM Kulim 55.11 281 IAmb IAmb 06 09 14.1
comp=Z,34nm,0.9s
KULM Kulim 55.11 281 P **P** **06 09 13.0 -0.6**
comp=Z,40nm,0.6s,comp=Z,579nm
SKLT Songkhla 55.51 283 P **P** **06 09 16.6 +0.2**
comp=Z,180nm,1.0s
PPT2 Papeete2 55.59 107 *e*P **P** **06 09 15.0 -2.0**
comp=Z,91nm,25.0s
PPT2 *e*S **S** **06 16 47.1 -4.3**
comp=Z,107nm,25.2s
PPT2 *e*SS **SS** **06 20 40.3 +1.4**
comp=Z,77nm,25.5s
CN2 Changchun 56.07 335 P **P** **06 09 20.3 +0.5**
CN2 PcP **PcP** **06 10 15.6 -0.6**
CN2 pmax pmax
comp=Z,30nm,1.1s
RPSI Rantau Prapat 56.36 277 IAmb IAmb 06 09 23.3
comp=Z,18nm,0.9s
TBI Tubuai 56.38 114 *e*P **P** **06 09 25.0 +2.5**
comp=Z,466nm,29.8s
TBI *e*S **S** **06 17 00.8 -0.8**
comp=Z,498nm,30.5s
TBI *e*LR LR 06 26 06.7
comp=Z,2µm,38.0s
PSI Prapat 56.38 277 P **P** **06 09 21.6 -1.2**
comp=Z,23nm,0.6s,comp=Z,365nm
GYA Guiyang 56.56 307 ⇑P **P** **06 09 25.1 +1.3**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,200nm,5.2s
LYN LuoYang 56.60 318 ⇓P **P** **06 09 24.1 +0.3**
LYN pmax pmax
comp=Z,38nm,1.0s
LYN pmax pmax
comp=Z,430nm,4.4s
SRIT Nakonsritamara 56.80 284 IAmb IAmb 06 09 26.6
comp=Z,52nm,1.1s
BNX BinXian 56.88 337 ⇑P **P** **06 09 25.8 +0.3**
BNX pmax pmax
comp=Z,38nm,0.6s
BNX pmax pmax
comp=Z,180nm,3.5s
HNS HongShan 56.95 322 ⇓P **P** **06 09 26.6 +0.4**
HNS pP **pP** **06 09 58.8 -1.7**
HNS PcP **sP** **06 10 16.4 -0.3**
HNS pmax pmax
comp=Z,41nm,1.5s
COCO West Island 57.42 259 P **P** **06 09 29.9 0.0**
COCO West Island 57.42 259 P **P** **06 09 29.9 0.0**
COCO pmax pmax
comp=Z,640nm,1.5s
TYV Tymovskoe 57.46 351 *e*P **P** **06 09 30.7 +1.2**
TYV pmax pmax
comp=Z,28nm,0.7s
TYV pmax pmax
comp=Z,300nm,3.9s
GSI Gunungsitoli 57.50 275 P **P** **06 09 29.4 -1.1**
comp=Z,84nm,0.9s,comp=Z,4µm
KCSI Kotacane, Aceh 57.63 278 P **P** **06 09 31.2 -0.3**
comp=Z,39nm,0.7s
BJT Baijiatuau 57.83 326 IAmb IAmb 06 09 34.2
comp=Z,10nm,0.7s
BJT Baijiatuau 57.83 326 P **P** **06 09 32.4 +0.1**
BJI Beijing 57.84 326 P **P** **06 09 32.3 -0.1**
BJI pmax pmax
comp=Z,7.0nm,0.7s
KLR Kul'dur 58.42 343*ce*P **P** **06 09 36.9 +0.7**
KLR pmax pmax
comp=Z,40nm,1.0s
SRDT SRDT 58.69 291 P **P** **06 09 39.8 +1.1**
comp=Z,664nm,0.9s,comp=Z,8µm
XAN Xi'an 58.71 316 ⇓*i*P **P** **06 09 38.9 +0.2**
XAN pP pP 06 10 12.1 -1.1
XAN pmax pmax
comp=Z,95nm,0.7s
XAN Xi'an 58.71 316 P **P** **06 09 38.8 +0.1**
XAN pP **pP** **06 10 11.9 -1.3**
LHMI Lhok Sumawe 58.72 280 P **P** **06 09 39.2 +0.2**
comp=Z,140nm,0.8s
PET Petropavlovsk 58.77 3 P **P** **06 09 38.4 -0.1**
PET Petropavlovsk 58.77 3 P **P** **06 09 39.7 +1.2**
PEA0B Petropavlovsk- 58.81 2 P **P** **06 09 40.2 +1.3**
PEA0B Petropavlovsk- 58.81 2 P **P** **06 09 40.2 +1.3**
PEA0B pmax pmax
comp=Z,70nm,1.2s
PETK Petropavlovsk- 58.81 2 P **P** **06 09 39.6 +0.7**
PETK Petropavlovsk- 58.81 2 P **P** **06 09 40.1 +1.2**
comp=Z,28nm,0.7s,baz=166,slow=5.4,SNR=75
PETK pP **pP** **06 10 12.8 -1.5**
comp=Z,17nm,0.7s,baz=170,slow=6.6,SNR=4.4
PETK LR LR 06 34 44.9
comp=Z,32nm,19.5s,baz=157,slow=36
comp=Z,28nm,0.7s
MLSI Meulaboh, Aceh 59.09 278 P **P** **06 09 39.9 -1.7**
comp=Z,77nm,1.0s
KMI Kunming 59.17 304 ⇑P **P** **06 09 43.5 +1.3**
KMI pP pP 06 10 15.8 -1.5
KMI pmax pmax
comp=Z,52nm,0.9s
KMI pmax pmax
comp=Z,160nm,4.8s
CM31 Chiang Mai Arr 60.06 295 P **P** **06 09 49.5 +1.4**
CMAR Chiang Mai Arr 60.06 295 P **P** **06 09 49.2 +1.1**
CMAR Chiang Mai Arr 60.06 295 P **P** **06 09 49.5 +1.4**
comp=Z,60nm,0.9s,baz=113,slow=5.0,SNR=218
CMAR PKP2bc 06 39 22.2
comp=Z,1.4nm,0.3s,baz=290,slow=4.8,SNR=5.0
comp=Z,60nm,0.9s
CMMT Chiang Mai 60.16 295 P **P** **06 09 49.4 +0.5**
comp=Z,173nm,1.1s,comp=Z,2µm
CHTO Chiang Mai 60.17 295 P **P** **06 09 49.1 +0.2**
CHTO Chiang Mai 60.17 295 P **P** **06 09 49.6 +0.8**
CHTO pP **pP** **06 10 22.6 -1.6**
CHTO Chiang Mai 60.17 295 P **P** **06 09 49.4 +0.5**
comp=Z,64nm,1.1s,comp=Z,651nm
PZH PanZhiHua 60.55 305 P **P** **06 09 54.6 +3.1**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.6s
XLT XiLinHaoTe 60.56 329 *e*P **P** **06 09 51.6 +0.4**
XLT pmax pmax
comp=Z,98nm,0.8s
XLT pmax pmax
comp=Z,280nm,4.8s
SHEM Shemya Is, Ala 60.66 13 P **P** **06 09 53.1 +1.6**
comp=Z,41nm,0.5s,baz=264,slow=7.4,SNR=2.8
SHEM LR LR 06 33 34.7
comp=Z,115nm,19.1s,baz=130,slow=33
comp=Z,41nm,0.5s
HEH HeiHe 60.69 340 *e*P **P** **06 09 51.9 +0.1**
HEH pP **PcP** **06 10 32.6 -1.8**
HEH pmax pmax
comp=Z,16nm,0.6s
CD2 Chengdu 60.88 310 *e*P **P** **06 09 54.0 +0.5**
HHC Hu-ho-hao-te 61.03 324 ⇓P **P** **06 09 55.0 +0.6**
HHC pmax pmax
comp=Z,41nm,0.7s
HHC pmax pmax
comp=Z,370nm,4.5s
DRV Dumont d'Urvil 61.54 187 ⇑P **P** **06 09 57.8 +0.6**
DRV pP **pP** **06 10 32.4 +1.1**
KIWB Kanaga Island 62.33 19 P **P** **06 10 03.7 +0.9**
ADK Adak 62.51 20 P **P** **06 10 05.3 +1.4**
ADK Adak 62.51 20 P **P** **06 10 05.3 +1.4**
ADK pmax pmax
comp=Z,54nm,0.8s
ADK Adak 62.51 20 P **P** **06 10 05.2 +1.4**
ADK pP **pP** **06 10 39.0 -0.1**
HIA Hailar 62.80 335 IAmb IAmb 06 10 07.5
comp=Z,32nm,0.8s
HIA Hailar 62.80 335 P **P** **06 10 06.5 +0.6**
HIA pP **pP** **06 10 41.8 +0.8**
HIA sP **sP** **06 10 56.6 -0.5**
LZH Lanzhou 63.33 315 ⇓P **P** **06 10 10.9 +1.0**
LZH pP pP 06 10 44.9 -0.2
LZH sP sP 06 11 07.8 +6.6
LZH pmax pmax
comp=Z,68nm,1.4s
ATKA Atka Island 63.63 21 P **P** **06 10 12.1 +0.8**
ZEA Zeya 63.73 342 *e*P **P** **06 10 12.9 +1.0**
ZEA *e* 06 10 46.6
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,30nm,1.3s
MA2 Magadan 65.32 358 P **P** **06 10 22.1 0.0**
MA2 IAmb IAmb 06 10 24.1
comp=Z,34nm,0.7s
MA2 Magadan 65.32 358*ce*P **P** **06 10 22.4 +0.3**
MA2 pmax pmax
comp=Z,30nm,0.6s
MA2 Magadan 65.32 358 P **P** **06 10 22.6 +0.5**
MA2 pP **pP** **06 10 56.7 -1.5**
CASY Casey 67.57 198 P **P** **06 10 36.3 0.0**
CASY IAmb IAmb 06 10 37.0
comp=Z,21nm,0.8s
CASY Casey 67.57 198 P **P** **06 10 36.5 +0.1**
CASY pP **pP** **06 11 12.2 +1.1**
GTA Gaotai 67.74 317 ⇓P **P** **06 10 39.3 +1.2**
GTA pP pP 06 11 13.4 -0.3
GTA pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 67.92 328 P **P** **06 10 40.4 +1.3**
ULN IAmb IAmb 06 10 41.2
comp=Z,29nm,0.9s
ULN Ulaanbaatar 67.92 328 P **P** **06 10 40.4 +1.3**
ULN pmax pmax
comp=Z,29nm,0.9s
ULN Ulaanbaatar 67.92 328 P **P** **06 10 40.2 +1.1**
ULN PcP **PcP** **06 11 04.9 +0.5**
ULN pP **pP** **06 11 13.8 -1.0**
ULN Ulaanbaatar 67.92 328 P **P** **06 10 39.9 +0.8**
comp=Z,168nm,0.9s
SONM Songino Array 68.25 327 P **P** **06 10 42.0 +0.8**
SONM IAmb IAmb 06 10 43.1
comp=Z,35nm,1.0s
SONM Songino Array 68.25 327 P **P** **06 10 42.0 +0.8**
comp=Z,28nm,0.8s,baz=133,slow=5.4,SNR=118
SONM pP **pP** **06 11 16.4 -0.4**
comp=Z,3.9nm,0.5s,baz=151,slow=6.2,SNR=2.0
SONM PKP2bc 06 38 54.8
comp=Z,0.3nm,0.4s,baz=318,slow=2.0,SNR=3.9
comp=Z,28nm,0.8s
SEY Seymchan 68.63 359 *i*P **P** **06 10 43.6 +0.6**
SEY pmax pmax
comp=Z,21nm,1.4s
P08K Saint George I 68.78 20 P **P** **06 10 45.3 +1.3**
baz=218
SPIA Saint Paul Isl 69.00 20 P **P** **06 10 46.9 +1.5**
baz=218
GOMU GeErMu 69.89 312 P **P** **06 10 53.1 +1.3**
GOMU pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 70.41 348 P **P** **06 10 53.6 -0.3**
YAK Yakutsk 70.41 348 *e*P **P** **06 10 54.0 +0.1**
YAK *e* 06 11 14.9
YAK *e**PP **pP** **06 11 30.8 +0.4**
YAK *e* 06 13 31.9
YAK *e*S **S** **06 19 52.3 -1.8**
YAK *e* 06 20 42.5
YAK *e*SS **SS** **06 24 26.2 -2.1**
YAK pmax pmax
comp=Z,56nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=Z,379nm,5.8s
YAK smax smax
comp=E,234nm,4.0s
YAK smax smax
comp=N,189nm,3.8s
LSA Lhasa 70.42 304 IAmb IAmb 06 10 57.3
comp=Z,26nm,1.0s
LSA Lhasa 70.42 304 P **P** **06 10 56.1 +0.8**
LSA PcP **PcP** **06 11 15.8 0.0**
LSA pP **pP** **06 11 29.6 -1.7**
ZAK Zakamensk 71.40 328 *e*P **P** **06 11 00.0 -0.3**
ZAK *e* 06 11 35.5
ZAK pmax pmax
comp=Z,45nm,0.8s
ZAK pmax pmax
comp=Z,15nm,1.4s
CCD Concordia, Ant 71.47 188 P **P** **06 11 01.3 +0.6**
VNDA Vanda 71.70 178 P **P** **06 11 01.8 +0.2**
VNDA IAmb IAmb 06 11 03.3
comp=Z,45nm,1.2s
VNDA Vanda 71.70 178 P **P** **06 11 02.1 +0.6**
comp=Z,18nm,0.9s,baz=330,slow=5.5,SNR=21
VNDA PP **PP** **06 13 44.0 +1.4**
comp=Z,6.2nm,1.1s,baz=30,slow=10,SNR=3.2
comp=Z,18nm,0.9s
VNDA Vanda 71.70 178 P **P** **06 11 02.0 +0.5**
M11K Mekoryuk 72.82 19 P **P** **06 11 09.7 +1.4**
baz=221
MOY Mondy 73.32 328 *e*P **P** **06 11 11.4 -0.3**
MOY pmax pmax
comp=Z,32nm,1.5s
O14K Tigyukauivet M 73.72 22 IAmb IAmb 06 11 16.6
comp=Z,40nm,0.9s
O14K Tigyukauivet M 73.72 22 P **P** **06 11 15.4 +1.7**
baz=226
M13K Dall Lake 73.80 20 IAmb IAmb 06 11 17.1
comp=Z,36nm,0.7s
M13K Dall Lake 73.80 20 P **P** **06 11 15.5 +1.4**
baz=224,SNR=5.1
GAMB Gambell 73.91 15 P **P** **06 11 15.7 +1.1**
baz=215
N14K Kuskokwak Cree 74.03 21 P **P** **06 11 16.6 +1.2**
baz=226
BILL Bilibino 74.19 4 *i*P **P** **06 11 17.2 +0.9**
O15K Ungalikthiuk R 74.21 22 P **P** **06 11 17.7 +1.2**
baz=227
M14K Bethel 74.52 20 P **P** **06 11 19.5 +1.2**
M14K IAmb IAmb 06 11 20.8
comp=Z,32nm,0.6s
M14K Bethel 74.52 20 P **P** **06 11 19.9 +1.6**
baz=225,SNR=5.9
L14K Kuka Creek 74.69 20 IAmb IAmb 06 11 21.5
comp=Z,26nm,0.7s
L14K Kuka Creek 74.69 20 P **P** **06 11 20.8 +1.5**
baz=224
N15K Kwethluk River 74.78 22 IAmb IAmb 06 11 25.2
comp=Z,27nm,1.0s
N15K Kwethluk River 74.78 22 P **P** **06 11 21.0 +1.2**
baz=227
M15K Kasigluk River 74.93 21 P **P** **06 11 22.0 +1.4**
baz=226
PALK Pallekele 74.99 279 P **P** **06 11 22.2 +0.2**
PALK IAmb IAmb 06 11 23.5
comp=Z,55nm,0.8s
PALK Pallekele 74.99 279 *i*P **P** **06 11 22.3 +0.2**
PALK pmax pmax
comp=Z,73nm,0.8s
Q17K Contact Creek 75.17 25 P **P** **06 11 22.6 +0.4**
baz=231,SNR=5.3
J14K Nanvaranak Lak 75.43 18 P **P** **06 11 25.0 +1.5**
baz=223
N16K Nishlik Lake 75.47 22 P **P** **06 11 25.0 +1.1**
baz=228
OHAK Old Harbor 75.65 26 P **P** **06 11 26.5 +1.7**
baz=234
O17K Koliganek Bris 75.65 23 P **P** **06 11 25.5 +0.7**
baz=230
K15K Wolf Creek Mou 75.76 19 IAmb IAmb 06 11 28.1
comp=Z,36nm,0.6s
K15K Wolf Creek Mou 75.76 19 P **P** **06 11 27.1 +1.7**
baz=225
M16K Timber Creek 75.77 21 IAmb IAmb 06 11 28.2
comp=Z,29nm,0.7s
M16K Timber Creek 75.77 21 P **P** **06 11 27.0 +1.5**
baz=228
L16K Owhat River 76.06 21 IAmb IAmb 06 11 29.3
comp=Z,15nm,0.6s
L16K Owhat River 76.06 21 P **P** **06 11 28.0 +1.0**
baz=227,SNR=7.9
N17K Nushagak Hills 76.10 22 P **P** **06 11 28.7 +1.4**
baz=230
P18K Big Mountain, 76.14 24 P **P** **06 11 29.0 +1.3**
baz=232
ANM Nome 76.24 17 IAmb IAmb 06 11 30.6
comp=Z,18nm,0.6s
ANM Nome 76.24 17 P **P** **06 11 29.1 +1.0**
baz=221,SNR=18
KDAK Kodiak Island 76.28 26 P **P** **06 11 28.4 0.0**
comp=Z,16nm,1.1s,baz=191,slow=16,SNR=1.5
comp=Z,16nm,1.1s
TNA Tin City 76.32 15 P **P** **06 11 29.7 +1.3**
baz=218,SNR=7.3
O18K Koktuh Hills 76.44 23 P **P** **06 11 28.9 -0.4**
baz=232
M17K Holitna River 76.58 22 IAmb IAmb 06 11 54.2
comp=Z,138nm,2.0s
M17K Holitna River 76.58 22 P **P** **06 11 31.2 +1.2**
baz=229
F14K Arctic Creek 76.67 16 P **P** **06 11 31.7 +1.3**
baz=220,SNR=8.3
N18K Kilae Creek 76.69 23 IAmb IAmb 06 11 33.5
comp=Z,23nm,0.8s
N18K Kilae Creek 76.69 23 P **P** **06 11 32.4 +1.7**
baz=231
L17K Donlin 76.75 21 P **P** **06 11 32.8 +1.8**
baz=228
J16K Anvik River 76.76 19 IAmb IAmb 06 11 35.0
comp=Z,130nm,1.9s
J16K Anvik River 76.76 19 P **P** **06 11 32.6 +1.6**
baz=226
G15K Niukluk 76.94 17 P **P** **06 11 33.6 +1.6**
baz=222
O19K Port Alsworth 77.00 23 P **P** **06 11 33.3 +0.9**
baz=232
P19K Oil Pt 77.11 24 P **P** **06 11 34.1 +1.0**
baz=234
K17K Iditarod 77.14 20 P **P** **06 11 34.7 +1.5**
baz=228
I17K Unalakleet 77.15 19 IAmb IAmb 06 11 36.3
comp=Z,128nm,2.0s
I17K Unalakleet 77.15 19 P **P** **06 11 34.6 +1.5**
baz=226,SNR=12
H16K Elim 77.21 18 P **P** **06 11 34.4 +0.9**
baz=224,SNR=7.8
M18K Stony River 77.23 22 P **P** **06 11 35.0 +1.4**
baz=231
F15K North Star Dit 77.30 16 IAmb IAmb 06 11 36.6
comp=Z,49nm,1.6s
F15K North Star Dit 77.30 16 P **P** **06 11 35.2 +1.2**
baz=222
N19K Bonanza Creek 77.31 23 P **P** **06 11 35.5 +1.3**
baz=232
L18K Granite Mounta 77.38 21 P **P** **06 11 36.5 +2.0**
baz=230
G16K Koyuk River 77.72 17 IAmb IAmb 06 11 38.8
comp=Z,24nm,0.7s
G16K Koyuk River 77.72 17 P **P** **06 11 37.5 +1.3**
baz=224
WMQ Urumqi 77.82 317 *e*P **P** **06 11 38.1 +0.7**
WMQ pP pP 06 12 13.5 -0.5
WMQ sP sP 06 12 29.3 -0.5
WMQ pmax pmax
comp=Z,11nm,0.9s
M19K Big River Lodg 78.02 22 IAmb IAmb 06 12 17.6
comp=Z,71nm,1.6s
M19K Big River Lodg 78.02 22 P **P** **06 11 39.7 +1.6**
baz=232
L19K White Mountain 78.02 22 P **P** **06 11 39.4 +1.3**
baz=232
TTA Tatalina 78.08 21 P **P** **06 11 39.8 +1.4**
baz=230,SNR=8.3
H17K Granite Mounta 78.13 18 IAmb IAmb 06 11 40.7
comp=Z,15nm,0.6s
H17K Granite Mounta 78.13 18 P **P** **06 11 40.1 +1.5**
baz=226
J18K Innoko River 78.18 20 P **P** **06 11 40.1 +1.2**
baz=230
BRSE Bradley Lake S 78.19 25 P **P** **06 11 40.4 +1.3**
baz=236
G17K Kiwalik Mounta 78.30 17 P **P** **06 11 40.9 +1.4**
baz=226
M20K Styx River 78.48 22 P **P** **06 11 41.9 +1.2**
baz=233
L20K Farewell, AK 78.56 22 P **P** **06 11 42.9 +1.8**
baz=232
HYB Hyderabad 78.64 289 *e*P **P** **06 11 42.0 -0.4**
H18K Honhosa River 78.76 18 P **P** **06 11 42.7 +0.7**
baz=228
F17K Baldwin Pennin 78.79 17 IAmb IAmb 06 11 44.7
comp=Z,17nm,0.8s
F17K Baldwin Pennin 78.79 17 P **P** **06 11 43.7 +1.6**
baz=225
J19K Poorman 78.89 20 IAmb IAmb 06 11 45.7
comp=Z,69nm,1.9s
J19K Poorman 78.89 20 P **P** **06 11 44.4 +1.6**
baz=231
GCSA Galena City Sc 78.96 19 P **P** **06 11 44.6 +1.5**
baz=229
K20K Telida 79.03 21 IAmb IAmb 06 12 22.2
comp=Z,72nm,1.8s
K20K Telida 79.03 21 P **P** **06 11 44.8 +1.2**
baz=232
C16K Lisburne Hills 79.07 14 P **P** **06 11 44.5 +0.9**
baz=221
SKT Skwentna 79.15 23 P **P** **06 11 45.1 +0.8**
baz=235
SUA Susitna One 79.16 23 IAmb IAmb 06 12 22.9
comp=Z,17nm,0.7s
SUA Susitna One 79.16 23 P **P** **06 11 45.1 +0.7**
baz=236
G18K Tagagawik 79.17 18 IAmb IAmb 06 11 46.2
comp=Z,46nm,1.7s
G18K Tagagawik 79.17 18 P **P** **06 11 45.2 +1.0**
baz=227
D17K Noatak River 79.20 15 P **P** **06 11 45.6 +1.2**
baz=223
TIXI Tiksi 79.21 352 P **P** **06 11 42.8 -1.6**
TIXI Tiksi 79.21 352*ce*P **P** **06 11 45.1 +0.8**
TIXI pmax pmax
comp=Z,21nm,1.7s
RC01 Rabbit Creek A 79.36 24 IAmb IAmb 06 12 23.2
comp=Z,63nm,1.5s
RC01 Rabbit Creek A 79.36 24 P **P** **06 11 46.0 +0.7**
baz=236
PPLA Purkeypile 79.44 22 P **P** **06 11 47.0 +1.0**
baz=234
J20K Nowinta River 79.51 20 IAmb IAmb 06 12 25.5
comp=Z,21nm,0.8s
J20K Nowinta River 79.51 20 P **P** **06 11 47.2 +1.1**
baz=232
H19K Roundabout Mou 79.61 19 IAmb IAmb 06 11 50.5
comp=Z,22nm,0.8s
H19K Roundabout Mou 79.61 19 P **P** **06 11 47.8 +1.2**
baz=230
C17K DeLong Mountai 79.75 15 P **P** **06 11 48.6 +1.2**
baz=223
I20K Naaghedeneel 79.78 20 P **P** **06 11 48.5 +0.9**
baz=232
CAST Castle Rocks 79.79 21 P **P** **06 11 48.1 +0.4**
baz=234,SNR=13
G19K Purcell Mounta 79.81 18 IAmb IAmb 06 12 27.0
comp=Z,38nm,1.4s
G19K Purcell Mounta 79.81 18 P **P** **06 11 48.8 +1.1**
baz=229
PMR Palmer 79.88 24 P **P** **06 11 49.3 +1.2**
baz=237

CHUM **Lake Minchumin** 79.98 21 P P 06 11 49.5 +0.9
baz=234,SNR=14
KNK **Knik Glacier** 80.05 24 P P 06 11 49.8 +0.6
baz=238
GHO **Glory Hole Cre** 80.06 24 IAmb IAmb 06 12 27.7
comp=Z,21nm,0.9s
F19K **Shaleruckik Mo** 80.07 17 P P 06 11 49.9 +0.8
baz=228
DGZ **Jazzator, Alta** 80.09 323 *i*⇓ P P 06 11 49.8 0.0
DGZ pmax pmax
comp=Z,41nm,0.9s
H20K **Anotleneega Mo** 80.09 19 P P 06 11 50.2 +0.9
baz=231
SML **Sawmill** 80.32 24 IAmb IAmb 06 12 29.3
comp=Z,53nm,1.1s
SML **Sawmill** 80.32 24 P P 06 11 51.2 +0.6
baz=238
C18K **Utukok River** 80.38 15 P P 06 11 51.3 +0.5
baz=225
TRF **Thorofare Moun** 80.47 22 P P 06 11 52.2 +0.7
baz=236
M23K **Glacier View** 80.55 24 P P 06 11 52.9 +1.1
baz=238
BPAW **Bear Paw Mtn.** 80.58 21 P P 06 11 52.9 +1.0
baz=235
E19K **Redstone River** 80.64 17 IAmb IAmb 06 11 54.6
comp=Z,25nm,0.6s
E19K **Redstone River** 80.64 17 P P 06 11 53.4 +1.2
baz=229
SCM **Sheep Creek Mo** 80.74 24 P P 06 11 54.2 +1.3
baz=239
B18K **Kokolik River** 80.74 14 P P 06 11 53.8 +1.2
baz=224
WAT1 **Susitna Watana** 80.78 23 P P 06 11 53.4 +0.4
baz=237
F20K **Avaraart Lake** 80.82 18 P P 06 11 54.3 +1.3
baz=230
I21K **Tanana** 80.86 20 IAmb IAmb 06 12 32.6
comp=Z,23nm,0.9s
I21K **Tanana** 80.86 20 P P 06 11 54.6 +1.3
baz=234
H21K **Melozitna Rive** 80.87 19 P P 06 11 54.1 +0.7
baz=233
WAT6 **Susitna Watana** 80.96 23 P P 06 11 55.1 +0.9
baz=238
D19K **Kuna River** 81.09 16 P P 06 11 55.7 +1.2
baz=228
C19K **Lookout Ridge** 81.12 15 P P 06 11 55.9 +1.2
baz=226
MCK **McKinley** 81.13 22 P P 06 11 54.9 0.0
baz=237,SNR=18
KLU **Klutina** 81.14 25 IAmb IAmb 06 12 34.2
comp=Z,25nm,1.1s
KLU **Klutina** 81.14 25 P P 06 11 56.3 +1.3
baz=240
G21K **Allakaket** 81.17 19 P P 06 11 56.0 +1.1
baz=232
BWN **Browne** 81.17 22 IAmb IAmb 06 12 33.3
comp=Z,54nm,1.3s
M24K **Tolsona, Glenn** 81.34 24 IAmb IAmb 06 12 36.1
comp=Z,93nm,1.4s
M24K **Tolsona, Glenn** 81.34 24 P P 06 11 57.1 +1.1
baz=240
DHY **Denali Highway** 81.37 23 IAmb IAmb 06 12 34.8
comp=Z,36nm,1.4s
DHY **Denali Highway** 81.37 23 P P 06 11 58.2 +1.9
baz=238,SNR=7.1
BMRM **Bremner River** 81.44 25 P P 06 11 58.4 +1.9
baz=241
E20K **Nigu River** 81.47 17 P P 06 11 57.7 +1.1
baz=230
H22K **Ishtalitna Cre** 81.49 20 P P 06 11 58.0 +1.3
baz=234
A19K **Wainwright** 81.53 14 P P 06 11 58.0 +1.3
baz=224
NEA2 **Nenana** 81.55 21 P P 06 11 57.2 +0.2
baz=237,SNR=9.7
F21K **Alatna River** 81.61 18 P P 06 11 57.4 +0.1
baz=232
D20K **Etivluk River** 81.65 16 P P 06 11 57.9 +0.4
baz=229
N25K **Chitina, Valde** 81.75 25 P P 06 11 58.8 +0.6
baz=241
I23K **Minto, Yukon-K** 81.75 21 P P 06 11 58.9 +0.9
baz=236
HARP **HAARP** 81.90 24 P P 06 11 59.7 +0.7
baz=241
GLB **Gilahina Butte** 82.00 25 IAmb IAmb 06 12 38.5
comp=Z,41nm,1.2s
CCB **Clear Creek Bu** 82.04 22 IAmb IAmb 06 12 36.5
comp=Z,44nm,1.7s
G22K **Bettles** 82.05 19 P P 06 12 00.9 +1.3
baz=234
VRDI **Verde Repeater** 82.05 26 IAmb IAmb 06 12 38.9
comp=Z,38nm,1.3s
PAX **Paxson** 82.06 24 P P 06 12 00.8 +0.9
baz=240
COLA **College** 82.14 21 P P 06 11 59.9 -0.2
COLA IAmb IAmb 06 12 37.6
comp=Z,23nm,0.8s
COLA **College** 82.14 21 P P 06 12 00.1 +0.1
baz=238
COLA **College** 82.14 21 P P 06 11 59.9 -0.2
COLA pmax pmax
comp=Z,23nm,0.8s
F22K **John River** 82.19 18 P P 06 12 01.3 +1.0
baz=233
E21K **Killik River** 82.22 17 P P 06 12 01.3 +0.8
baz=232
HDA **Harding Lake** 82.23 22 IAmb IAmb 06 12 37.8
comp=Z,52nm,1.9s
HDA **Harding Lake** 82.23 22 P P 06 12 01.9 +1.4
baz=239
K24K **Donnelly Dome** 82.36 23 P P 06 12 02.8 +1.5
baz=240
B20K **Meade River** 82.36 15 P P 06 12 02.1 +1.0
baz=228
MK31 **Makanchi Array** 82.39 319 IAmb IAmb 06 12 03.4
comp=Z,37nm,0.8s
MK31 **Makanchi Array** 82.39 319 *i* P P 06 12 01.7 -0.1
MKAR **Makanchi Array** 82.39 319 P P 06 12 02.1 +0.3
comp=Z,41nm,0.7s,baz=102,slow=4.7,SNR=205
MKAR pP **pP** 06 12 38.4 -0.4
comp=Z,3.0nm,0.7s,baz=93,slow=8.0,SNR=2.4
MKAR S **S** 06 22 02.7 -2.7
comp=Z,1.1nm,1.3s,baz=172,slow=12,SNR=2.1
MKAR PKKPbc **PKKPbc** 06 30 27.8 -2.1
comp=Z,0.4nm,0.9s,baz=236,slow=6.4,SNR=3.8
comp=Z,41nm,0.7s
G23K **Bananza Creek** 82.41 19 P P 06 12 02.4 +1.0
baz=236
POKR **Poker Plat Res** 82.42 21 P P 06 12 02.0 +0.5
baz=238
ILAR **Eielson Array** 82.44 22 P P 06 12 01.2 -0.4
comp=Z,4.1nm,0.5s,baz=249,slow=5.6,SNR=62
ILAR pP **pP** 06 12 38.0 -0.8
comp=Z,5.5nm,0.8s,baz=240,slow=5.0,SNR=6.1
comp=Z,4.1nm,0.5s
C21K **Knifeblade Rid** 82.44 16 P P 06 12 03.0 +1.4
baz=231
MAKZ **Makanchi** 82.60 319 P P 06 12 02.7 -0.2
MAKZ IAmb IAmb 06 12 04.4
comp=Z,57nm,0.8s
MAKZ **Makanchi** 82.60 319 P P 06 12 02.8 -0.1
COLD **Coldfoot** 82.64 19 P P 06 12 03.9 +1.3
baz=235,SNR=9.2
H24K **Noodor Dome** 82.65 20 P P 06 12 03.6 +0.8
baz=238
RIDG **Independent Ri** 82.69 23 IAmb IAmb 06 12 41.8
comp=Z,34nm,1.2s
RIDG **Independent Ri** 82.69 23 P P 06 12 03.9 +0.8
baz=241
MENT **Mentasta** 82.75 24 IAmb IAmb 06 13 22.9
comp=Z,13nm,0.4s
B21K **Ikpikpuk River** 82.78 16 P P 06 12 04.4 +1.1
baz=231
M26K **Nabesna, AK** 82.79 25 P P 06 12 04.4 +0.8
baz=243
CTG **Chitna Glacier** 82.85 26 P P 06 12 05.5 +1.5
baz=244
CTGM **Chitina Glacie** 82.85 26 IAmb IAmb 06 12 43.3
comp=Z,39nm,1.3s
D22K **Ayikyak River** 82.86 17 IAmb IAmb 06 12 05.9
comp=Z,17nm,0.6s
D22K **Ayikyak River** 82.86 17 P P 06 12 04.9 +1.1
baz=233
J25K **Salcha River,** 82.92 22 IAmb IAmb 06 12 42.7
comp=Z,45nm,1.2s

J25K **Salcha River,** 82.92 22 P P 06 12 04.6 +0.4
baz=240
L26K **Log Cabin Wild** 82.94 24 P P 06 12 04.8 +0.5
baz=242,SNR=7.6
PINM **Pinnacle** 82.97 27 P P 06 12 05.2 +0.7
baz=245
ZAA0 **Zalesovo Array** 83.10 326 IAmb IAmb 06 12 05.4
comp=Z,38nm,0.8s
ZALV **Zalesovo Beam** 83.10 326 P P 06 12 04.4 -0.9
comp=Z,39nm,0.7s,baz=111,slow=5.6,SNR=166
ZALV pP **pP** 06 12 40.6 -2.0
comp=Z,7.6nm,0.7s,baz=117,slow=5.2,SNR=3.1
ZALV S **S** 06 22 08.5 -3.8
comp=Z,0.7nm,0.7s,baz=100,slow=8.1,SNR=4.2
comp=Z,39nm,0.7s
SCRK **Sand Creek** 83.14 23 IAmb IAmb 06 12 44.2
comp=Z,23nm,1.2s
SCRK **Sand Creek** 83.14 23 P P 06 12 06.1 +0.7
baz=242
M27K **Edge Creek, AK** 83.23 25 IAmb IAmb 06 12 45.6
comp=Z,50nm,1.1s
M27K **Edge Creek, AK** 83.23 25 P P 06 12 07.2 +1.2
baz=244
G24K **Hadweenzic Riv** 83.25 20 P P 06 12 07.3 +1.5
baz=238
E23K **Chandalar** 83.30 18 P P 06 12 07.6 +1.4
baz=236
SHLS **Shalkode** 83.34 315 *e*P P 06 12 05.3 -1.7
baz=315
SHLS **Shalkode** 83.34 315 *e*P P 06 12 05.2 -1.7
A21K **Barrow** 83.37 14 P P 06 12 07.2 +0.9
baz=229
D23K **Nanushuk River** 83.50 17 P P 06 12 08.4 +1.3
baz=235
J26L **Joseph Creek** 83.55 23 P P 06 12 08.5 +1.1
baz=242
F24K **Squaw Lake** 83.55 19 P P 06 12 08.5 +1.1
baz=238
B22K **Teshekpuk Lake** 83.55 16 IAmb IAmb 06 12 08.5
comp=Z,12nm,0.6s
B22K **Teshekpuk Lake** 83.55 16 P P 06 12 08.3 +1.1
baz=232
A22K **Sinclair Lake** 83.57 15 P P 06 12 08.2 +0.9
baz=230
L27K **Beaver Creek,** 83.57 24 P P 06 12 08.9 +1.4
baz=244
YUK3 **Moose Creek** 83.58 26 P P 06 12 09.0 +1.1
baz=245
UZB **Uzynbulak** 83.65 314 *e*P P 06 12 08.4 -0.1
baz=314
UZB **Uzynbulak** 83.65 314 *e*P P 06 12 08.4 -0.1
YUK8 **Steele Glacier** 83.68 26 P P 06 12 09.9 +1.5
baz=246
BVCY **Beaver Creek** 83.69 25 P P 06 12 10.1 +1.9
baz=244
G25K **Bearman Lake** 83.75 20 P P 06 12 10.0 +1.7
baz=239
O29M **Mount Kennedy** 83.82 27 P P 06 12 10.5 +1.5
baz=247
K27K **Chicken** 83.91 23 IAmb IAmb 06 12 49.1
comp=Z,21nm,1.1s
K27K **Chicken** 83.91 23 P P 06 12 11.4 +2.2
baz=243
PRZ **Pheval'sk** 83.93 314 IAmb IAmb 06 12 12.8
comp=Z,42nm,0.9s
FYU **Fort Yukon** 83.95 20 IAmb IAmb 06 14 31.3
comp=Z,44nm,1.7s
KPKS **Kokpek** 83.97 315 *e*P P 06 12 09.8 -0.3
baz=315
KPKS **Kokpek** 83.97 315 *e*P P 06 12 09.8 -0.3
SATY **Saty** 84.06 314 *e*P P 06 12 10.6 -0.1
baz=314
SATY **Saty** 84.06 314 *e*P P 06 12 10.5 -0.1
ZHN **Zhinishke** 84.07 314 *e*P P 06 12 10.4 -0.3
baz=314
ZHN **Zhinishke** 84.07 314 *e*P P 06 12 10.3 -0.4
I26K **Coal Creek Min** 84.08 22 P P 06 12 11.4 +1.3
baz=242
QSPA **South Pole Qui** 84.09 180 P P 06 12 10.5 +0.2
QSPA IAmb IAmb 06 12 11.0
comp=Z,37nm,0.7s
QSPA **South Pole Qui** 84.09 180 P P 06 12 10.5 +0.2
comp=Z,39nm,0.8s,baz=347,slow=1.2,SNR=92
QSPA pP **pP** 06 12 45.9 -1.8
comp=Z,7.9nm,0.5s,baz=229,slow=2.7,SNR=2.0
comp=Z,39nm,0.8s
D24K **Happy Valley** 84.15 17 IAmb IAmb 06 12 50.0
comp=Z,18nm,0.9s
D24K **Happy Valley** 84.15 17 P P 06 12 11.5 +1.2
baz=236
YUK6 **Outpost Mounta** 84.17 27 P P 06 12 12.1 +1.2
baz=247
YUK4 **Tatot Arm** 84.20 26 P P 06 12 12.9 +2.0
baz=247
F25K **Christian Rive** 84.33 19 P P 06 12 13.2 +1.9
baz=240
P30M **Million Dollar** 84.49 28 P P 06 12 13.6 +1.3
baz=248
C24K **Franklin Bluff** 84.50 17 P P 06 12 13.7 +1.6
baz=236
HYT **Haines Junctio** 84.51 27 IAmb IAmb 06 12 52.2
comp=Z,49nm,1.4s
HYT **Haines Junctio** 84.51 27 P P 06 12 13.9 +1.5
baz=248
TDK **Taldyqorghan** 84.53 316 *e*P P 06 12 12.8 0.0
baz=316
TDK **Taldyqorghan** 84.53 316 *e*P P 06 12 12.8 0.0
EGAK **Eagle** 84.60 23 P P 06 12 13.9 +1.3
baz=244,SNR=9.7
E25K **Arctic Village** 84.62 19 IAmb IAmb 06 12 15.1
comp=Z,36nm,1.9s
E25K **Arctic Village** 84.62 19 P P 06 12 13.5 +0.8
baz=240,SNR=5.6
G26K **Porcupine Rive** 84.64 20 P P 06 12 14.6 +1.8
baz=241
M29M **Somme Creek** 84.71 25 P P 06 12 14.9 +1.4
baz=247
I27K **Kandik River** 84.79 22 P P 06 12 15.5 +1.8
baz=244
F26K **Sheenjek River** 84.87 20 P P 06 12 15.8 +1.8
baz=241
N30M **Aishikik Lake** 84.93 27 P P 06 12 16.0 +1.5
baz=248
D25K **Kavik River** 84.98 18 P P 06 12 15.3 +0.8
baz=239
DAWY **Dawson** 84.99 24 IAmb IAmb 06 12 54.5
comp=Z,35nm,1.7s
DAWY **Dawson** 84.99 24 P P 06 12 16.0 +1.3
baz=246
SKAG **Skagway** 85.02 29 P P 06 12 16.2 +1.3
baz=250
MDOK **Medeo** 85.06 314 *e*P P 06 12 15.7 0.0
baz=314
MDOK **Medeo** 85.06 314 *e*P P 06 12 15.6 0.0
KSH **Kashi** 85.08 310 P P 06 12 17.5 +1.7
KSH pmax pmax
comp=Z,26nm,0.8s
H27K **Steamboat Moun** 85.10 21 P P 06 12 16.6 +1.4
baz=244
TNSS **Tian-Shan** 85.10 314 *e*P P 06 12 16.2 -0.1
baz=314
TNSS **Tian-Shan** 85.10 314 *e*P P 06 12 16.1 -0.1
L29M **L29M** 85.12 25 IAmb IAmb 06 12 55.2
comp=Z,44nm,1.6s
L29M **L29M** 85.12 25 P P 06 12 16.6 +1.3
baz=247
O30N **Mendenhall** 85.13 27 P P 06 12 16.6 +1.1
baz=249
AAA **Alma-Ata** 85.16 314 *e*P P 06 12 16.4 +0.3
comp=Z,16nm,0.4s,baz=314
AAA **Alma-Ata** 85.16 314 *e*P P 06 12 16.3 +0.3
AAA pmax pmax
comp=Z,16nm,0.4s
CHKK **Chushkaly** 85.25 315 *e*P P 06 12 16.6 +0.2
baz=315
CHKK **Chushkaly** 85.25 315 *e*P P 06 12 16.6 +0.2
MAW **Mawson** 85.32 203 P P 06 12 16.5 +0.3
comp=Z,20nm,0.6s,baz=102,slow=5.0,SNR=16
comp=Z,20nm,0.6s
I28M **Mier Creek** 85.35 22 P P 06 12 17.7 +1.1
baz=245
ULHL **Ulahol** 85.44 313 P P 06 12 17.8 +0.1
SNR=14
M30M **Minto, Yukon** 85.48 26 P P 06 12 18.6 +1.4
baz=248
N31M **Braeburn, Yuko** 85.53 27 IAmb IAmb 06 12 57.3
comp=Z,57nm,1.6s
N31M **Braeburn, Yuko** 85.53 27 P P 06 12 18.8 +1.4
baz=249
WRAK **Wrangell Islan** 85.54 32 P P 06 12 19.2 +1.7
baz=252
J29N **Klondike Camp** 85.61 24 IAmb IAmb 06 12 57.9
comp=Z,50nm,1.7s
J29N **Klondike Camp** 85.61 24 P P 06 12 20.2 +2.4
baz=247,SNR=9.6
WHY **Whitehorse** 85.65 28 P P 06 12 19.9 +1.8
baz=250
K29M **Barlow Dome** 85.66 24 IAmb IAmb 06 12 22.8
comp=Z,14nm,0.8s
K29M **Barlow Dome** 85.66 24 P P 06 12 19.4 +1.3
baz=247,SNR=12
BOOM **Boomskoye usch** 85.71 313 IAmb IAmb 06 12 24.5
comp=Z,25nm,0.8s
KURK **Kurchatov** 85.78 322 P P 06 12 17.9 -0.9
KURK IAmb IAmb 06 12 19.1
comp=Z,34nm,1.2s
KURK **Kurchatov** 85.78 322 P P 06 12 18.4 -0.4
KURK *PP **pP** 06 12 53.6 -2.5
KURBB **Kurchatov Arra** 85.82 322 P P 06 12 18.4 -0.6
comp=Z,10nm,0.7s,baz=106,slow=4.1,SNR=95
KURBB pP **pP** 06 12 53.6 -2.6
comp=Z,3.5nm,0.8s,baz=109,slow=4.2,SNR=2.0
KURBB PKKPbc **PKKPbc** 06 30 19.5 -2.4
comp=Z,0.4nm,0.2s,baz=316,slow=2.6,SNR=5.7
comp=Z,10nm,0.7s
I29M **Ogilvie Camp,** 85.94 23 IAmb IAmb 06 12 58.5
comp=Z,31nm,1.4s
I29M **Ogilvie Camp,** 85.94 23 P P 06 12 20.4 +1.0
baz=247,SNR=11
E27K **Coleen River** 85.96 20 IAmb IAmb 06 12 21.9
comp=Z,19nm,0.9s
E27K **Coleen River** 85.96 20 P P 06 12 20.9 +1.6
baz=243
TKM2 **Tokmak 2** 86.05 314 P P 06 12 20.5 -0.1
SNR=22
TKM2 **Tokmak 2** 86.05 314 P P 06 12 20.1 -0.5
NIL **Nilore** 86.15 304 P P 06 12 20.9 -0.2
NIL IAmb IAmb 06 12 25.5
comp=Z,23nm,0.7s
NIL **Nilore** 86.15 304 P P 06 12 20.9 -0.2
NIL pmax pmax
comp=Z,23nm,0.7s
MAYO **Mayo, Yukon** 86.24 25 IAmb IAmb 06 13 22.3
comp=Z,26nm,0.9s
MAYO **Mayo, Yukon** 86.24 25 P P 06 12 22.6 +1.8
baz=249
H29M **Whitestone** 86.26 22 P P 06 12 22.6 +1.7
baz=246
F28M **Old Crow** 86.29 20 P P 06 12 22.1 +1.0
baz=245,SNR=12
M31M **Drury Creek, Y** 86.39 26 P P 06 12 22.6 +0.9
baz=250
J30M **Hart River** 86.41 24 IAmb IAmb 06 12 26.0
comp=Z,12nm,0.8s
J30M **Hart River** 86.41 24 P P 06 12 23.0 +1.2
baz=248,SNR=13
KBK **Karagaybulak** 86.46 313 P P 06 12 22.9 +0.3
SNR=6.0
P33M **Teslin, Yukon** 86.47 28 P P 06 12 23.2 +1.1
baz=252
S34M **Telegraph Cree** 86.61 31 P P 06 12 23.9 +1.2
baz=253
D27M **Malcolm River** 86.63 19 IAmb IAmb 06 13 02.6
comp=Z,17nm,0.8s
D27M **Malcolm River** 86.63 19 P P 06 12 24.2 +1.4
baz=244
I30M **Mount Dempster** 86.64 23 P P 06 12 23.6 +0.7
baz=248
N32M **Quiet Lake** 86.64 28 P P 06 12 24.4 +1.5
baz=252
G29M **Pine Creek** 86.66 21 IAmb IAmb 06 13 21.4
comp=Z,23nm,1.1s
G29M **Pine Creek** 86.66 21 P P 06 12 23.6 +0.8
baz=247
CHMS **Chumysh** 86.67 314 P P 06 12 23.2 -0.2
SNR=10
UCH **Uchtor** 86.69 313 P P 06 12 24.5 +0.4
SNR=7.7
AAK **Ala-Archa** 86.79 313 P P 06 12 24.1 -0.1
SNR=13
AAK **Ala-Archa** 86.79 313 P P 06 12 24.0 -0.1
AAK IAmb IAmb 06 12 25.5
comp=Z,11nm,0.7s
AAK **Ala-Archa** 86.79 313 *ce*P P 06 12 24.3 +0.1
AAK pmax pmax
comp=Z,11nm,0.7s
E28M **Babbage River** 86.83 20 P P 06 12 24.6 +1.0
baz=245
SGDS **Sogindy** 86.84 314 *e*P P 06 12 24.6 +0.2
baz=314
SGDS **Sogindy** 86.84 314 *e*P P 06 12 24.5 +0.2
FARO **Faro, Yukon** 86.86 26 P P 06 12 24.8 +0.9
baz=251
USP **Ospenovka** 86.90 314 P P 06 12 24.3 -0.2
SNR=24
EPYK **Eagle Plains** 86.93 22 IAmb IAmb 06 13 03.6
comp=Z,30nm,0.9s
EPYK **Eagle Plains** 86.93 22 P P 06 12 25.4 +1.2
baz=248,SNR=14
R33M **Jennings River** 87.12 30 P P 06 12 26.6 +1.3
baz=254
AML **Almayashu** 87.28 313 P P 06 12 27.0 +0.2
SNR=29
AML **Almayashu** 87.28 313 P P 06 12 26.5 -0.3
E29M **Blow River** 87.29 20 P P 06 12 27.0 +1.2
baz=247
EKS2 **Erkin-Say** 87.31 313 P P 06 12 27.0 +0.3
SNR=13
DLBC **Dease Lake** 87.32 31 P P 06 12 27.6 +1.3
baz=254
G30M **tAoh Zraii Nji** 87.34 22 IAmb IAmb 06 13 05.2
comp=Z,19nm,1.2s
G30M **tAoh Zraii Nji** 87.34 22 P P 06 12 27.4 +1.3
baz=248
D28M **Stokes Point** 87.39 19 P P 06 12 27.4 +1.2
baz=246
BTLS **Baital** 87.56 316 *e*P P 06 12 27.1 -0.6
baz=316
BTLS **Baital** 87.56 316 *e*P P 06 12 27.0 -0.6
NRIK **Noril'sk** 87.59 341 IAmb IAmb 06 12 27.4
comp=Z,30nm,0.7s
NRIK **Noril'sk** 87.59 341 *ce*P P 06 12 26.7 -0.5
NRIK pmax pmax
comp=Z,29nm,0.6s
NRIK **Noril'sk** 87.59 341 P P 06 12 26.9 -0.3
comp=Z,24nm,0.6s,baz=111,slow=4.7,SNR=57
comp=Z,24nm,0.6s
F30M **Barrier River** 87.73 21 P P 06 12 29.1 +1.2
baz=249
G31M **Satah River** 88.04 22 IAmb IAmb 06 13 08.6
comp=Z,19nm,0.8s
G31M **Satah River** 88.04 22 P P 06 12 30.6 +1.2
baz=250,SNR=7.3
YBH **Yreka Blue Hor** 88.35 48 P P 06 12 32.1 +0.5
comp=Z,3.2nm,0.9s,baz=141,slow=6.5,SNR=3.8
comp=Z,3.2nm,0.9s
WTLY **Watson Lake, Y** 88.37 29 P P 06 12 32.5 +1.4
baz=255
F31M **Tsiigehtchic** 88.41 21 IAmb IAmb 06 13 11.0
comp=Z,62nm,1.9s
F31M **Tsiigehtchic** 88.41 21 P P 06 12 31.8 +0.8
baz=251
INK **Inuvik** 88.77 21 P P 06 12 33.4 +0.6
baz=251
BTK **Batken** 89.08 310 IAmb IAmb 06 12 35.7
comp=Z,10nm,0.8s
DZA **Taraz** 89.12 313 *e*P P 06 12 35.4 +0.3
baz=313
DZA **Taraz** 89.12 313 *e*P P 06 12 35.4 +0.3
BRZS **Berezniki** 89.35 320 *e*P P 06 12 36.2 +0.2
baz=320
BRZS **Berezniki** 89.35 320 *e*P P 06 12 36.1 +0.2
KK31 **Karatay Array** 89.75 313 *i* P P 06 12 36.5 -1.5
MPK **Martis Peak** 90.01 51 IAmb IAmb 06 12 43.2
comp=Z,15nm,1.2s
SIMJ **Simiganj** 90.28 309 P P 06 12 39.4 -1.4
SIMJ IAmb IAmb 06 12 41.8
comp=Z,13nm,0.9s
CHM **Chimkent** 90.31 312 *e*P P 06 12 40.6 0.0
baz=312
CHM **Chimkent** 90.31 312 *e*P P 06 12 40.6 0.0
PNTR **Pine Nut** 90.32 51 P P 06 12 41.3 +0.3
VES **Vestal, Richgr** 90.32 54 P P 06 12 41.5 +0.7
baz=263
YERR **Yerington** 90.58 51 IAmb IAmb 06 12 46.8
comp=Z,29nm,1.9s

CIS	Catalina Islan	90.59	57	P	P	06 12 42.7	+0.6
	baz=263						
KOTAN	Kotaneelee Air	90.69	30	P	P	06 12 43.3	+1.4
	baz=260						
MLAC	Mammoth, Mammc	90.74	52	P	P	06 12 43.7	+0.7
	baz=263						
ISA	Isabella, Lake	90.80	54	P	P	06 12 44.5	+1.4
	baz=263						
RYN	Ryan	91.10	51	IAmb	IAmb	06 12 47.4	
	comp=Z,8.5nm,0.9s						
EDW2	Edwards Air Fo	91.10	55	P	P	06 12 45.7	+1.2
	baz=264						
CWC	Cottonwood Cre	91.20	54	P	P	06 12 45.9	+0.8
	baz=264						
BVA0	Borovoye Array	91.24	323	*i* P	P	06 12 42.9	-1.8
BVAR	Borovoye Array	91.24	323	P	P	06 12 43.2	-1.4
	comp=Z,32nm,0.8s,baz=99,slow=5.2,SNR=162						
BVAR				pP	pP	06 13 20.2	-2.3
	comp=Z,11nm,0.8s,baz=107,slow=5.1,SNR=4.4						
	comp=Z,32nm,0.8s						
NVAR	Mina Array Bea	91.25	52	P	P	06 12 47.1	+1.8
	comp=Z,9.3nm,0.9s,baz=254,slow=6.3,SNR=51						
NVAR				pP	pwP	06 13 24.4	-0.8
	comp=Z,2.3nm,0.9s,baz=253,slow=6.2,SNR=2.8						
	comp=Z,9.3nm,0.9s						
BFSC	Mount Baldy Ra	91.30	56	P	P	06 12 47.2	+1.7
	baz=264						
BRVK	Borovoye	91.31	323	P	P	06 12 43.9	-1.1
BRVK				IAmb	IAmb	06 12 44.5	
	comp=Z,19nm,0.8s						
BRVK	Borovoye	91.31	323	*ce*P	P	06 12 43.9	-1.1
BRVK				pmax	pmax		
	comp=Z,23nm,0.9s						
NV11	Mina Array Sit	91.36	52	IAmb	IAmb	06 12 49.2	
	comp=Z,13nm,1.0s						
LRMC	Laurel Mtn Rad	91.42	55	P	P	06 12 47.6	+1.5
	baz=264						
KVN	Kaiserville	91.47	51	IAmb	IAmb	06 12 49.0	
	comp=Z,8.6nm,1.0s						
WRGLY	Wrigley	91.52	27	P	P	06 12 47.4	+1.7
	baz=260						
PNT	Penticton	91.58	41	P	P	06 12 41.3	-5.1
PNT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MURC	Murrieta	91.62	57	P	P	06 12 48.4	+1.5
	baz=264						
109C	Camp Elliot, M	91.62	57	P	P	06 12 48.5	+1.7
	baz=264						
MPMC	Manual Prospec	91.64	54	P	P	06 12 48.9	+1.8
	baz=264						
J08A	Circle Bar Ran	91.67	47	IAmb	IAmb	06 16 24.1	
	comp=Z,22nm,1.9s						
GRAC	Grapevine Rang	91.83	53	P	P	06 12 49.7	+1.8
	baz=264						
RRX	Edison Barstow	91.91	55	P	P	06 12 50.0	+1.8
	baz=264						
BBRC	Big Bear Solar	91.92	56	P	P	06 12 49.9	+1.4
	baz=264						
GSC	Goldstone, Bar	92.11	55	P	P	06 12 51.0	+1.7
	baz=264						
Q09A	Carvers	92.16	51	IAmb	IAmb	06 12 52.4	
	comp=Z,28nm,0.9s						
FURC	Furnace Creek,	92.18	54	P	P	06 12 51.7	+2.3
	baz=264,SNR=6.0						
MONP2	Monument Peak	92.19	57	P	P	06 12 51.6	+1.8
	baz=264						
PFO	Pinyon Flats O	92.23	57	P	P	06 12 49.9	0.0
PFO				IAmb	IAmb	06 12 52.9	
	comp=Z,7.3nm,0.9s						
PFO	Pinyon Flats O	92.23	57	P	P	06 12 51.3	+1.5
	baz=264						
PFO	Pinyon Flats O	92.23	57	P	P	06 12 49.9	0.0
PFO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TPFO	Pinon Flats	92.24	57	P	P	06 12 51.4	+1.5
	baz=264						
PMD	Palm Desert	92.30	57	IAmb	IAmb	06 13 34.3	
	comp=Z,8.8nm,1.1s						
C36M	Paulatuk	92.36	21	P	P	06 12 50.2	+0.8
	baz=260,SNR=5.7						
WCT	Wildcat Mounta	92.40	53	IAmb	IAmb	06 12 53.5	
	comp=Z,7.5nm,0.9s						
IKP	In-Ko-Pah, Jac	92.43	58	P	P	06 12 52.9	+2.1
	baz=265						
HEC	Hector,Ludlow	92.45	55	P	P	06 12 52.2	+1.4
	baz=265						
A36M	Sachs Harbour	92.47	18	IAmb	IAmb	06 12 54.0	
	comp=Z,8.5nm,0.8s						
A36M	Sachs Harbour	92.47	18	P	P	06 12 50.2	+0.3
	baz=259,SNR=9.9						
SHOC	Shoshone, Teco	92.60	54	P	P	06 12 51.4	0.0
	baz=263						
BELC	Belle Mtn. Jos	92.65	56	P	P	06 12 53.6	+1.8
	baz=265						
BMO	Blue Mountains	92.66	45	IAmb	IAmb	06 13 58.9	
	comp=Z,18nm,1.9s						
TPNV	Topopah Spring	92.72	53	IAmb	IAmb	06 13 31.6	
	comp=Z,11nm,1.2s						
TPNV	Topopah Spring	92.72	53	P	P	06 12 53.9	+1.8
	baz=265,SNR=5.4						
SWSC	Sam W. Stewart	92.72	57	P	P	06 12 53.9	+1.9
	baz=265						
TUQ	Turquoise Moun	92.84	55	P	P	06 12 54.5	+1.8
	baz=265						
GMRC	Granite Mounta	93.00	56	P	P	06 12 55.2	+1.8
	baz=265						
BC3	Big Chuckawall	93.07	57	P	P	06 12 55.7	+1.9
	baz=265						
NEW	Newport	93.11	42	P	P	06 12 54.0	+0.6
	baz=265						
NEW	Newport	93.11	42	P	P	06 12 53.5	+0.1
	comp=Z,5.5nm,1.0s,baz=307,slow=5.1,SNR=5.6						
	comp=Z,5.5nm,1.0s						
R11B	Troy Canyon, C	93.36	52	P	P	06 12 57.3	+2.2
	baz=265,SNR=14						
IRM	Iron Mountain	93.37	56	P	P	06 12 57.0	+2.0
	baz=265						
PRN	Pahroc Range	93.71	53	IAmb	IAmb	06 12 59.8	
	comp=Z,9.9nm,1.0s						
ELK	Elko	93.82	50	P	P	06 12 57.5	+0.3
ELK	Elko	93.82	50	P	P	06 12 58.6	+1.4
	comp=Z,1.7nm,0.9s,baz=243,slow=12,SNR=5.9						
	comp=Z,1.7nm,0.9s						
NEE2	Needles Airpor	93.85	56	P	P	06 12 58.8	+1.6
	baz=266						
Q12A	Willow Creek R	94.01	51	IAmb	IAmb	06 13 01.0	
	comp=Z,14nm,1.1s						
PDMCI	Parker Dam,Lak	94.21	56	P	P	06 13 01.0	+2.2
	baz=266						
SPR3	Spring Creek 3	94.39	51	IAmb	IAmb	06 13 05.3	
	comp=Z,10nm,1.0s						
W13A	Hualapai Mount	94.48	55	IAmb	IAmb	06 13 44.9	
	comp=Z,6.2nm,1.0s						
HLID	Hailey	94.63	47	IAmb	IAmb	06 16 31.4	
	comp=Z,14nm,1.9s						
HLID	Hailey	94.63	47	P	P	06 13 01.9	+1.1
	baz=266						
SZCU	Shurtz Canyon	95.28	53	IAmb	IAmb	06 13 43.8	
	comp=Z,11nm,1.5s						
KNB	Kanab	95.46	53	IAmb	IAmb	06 13 09.6	
	comp=Z,7.4nm,1.1s						
YKA	Yellowknife Ar	95.48	28	P	P	06 13 04.4	+0.5
	comp=Z,1.6nm,0.8s,baz=270,slow=4.6,SNR=23						
YKA				pP	pP	06 13 40.4	-1.5
	comp=Z,1.4nm,0.9s,baz=268,slow=4.7,SNR=3.8						
	comp=Z,1.6nm,0.8s						
DUG	Dugway, Tooele	95.63	50	P	P	06 13 06.2	+0.8
	baz=267						
HVU	Hansel Valley	95.74	49	IAmb	IAmb	06 13 08.1	
	comp=Z,4.0nm,0.8s						
U15A	North Rim	95.85	54	IAmb	IAmb	06 13 46.8	
	comp=Z,16nm,1.6s						
MTPU	Mount Pierson	96.02	52	IAmb	IAmb	06 13 11.2	
	comp=Z,6.6nm,1.1s						
ELIB	Princess Elisa	96.22	194	*d*P	P	06 13 06.6	-0.8
	comp=Z,6.8nm,0.9s						
WUAZ	Wupatki	96.55	55	IAmb	IAmb	06 14 16.8	
	comp=Z,8.3nm,1.4s						
WUAZ	Wupatki	96.55	55	P	P	06 13 11.6	+1.9
	baz=268						
TUC	Tucson	96.90	58	P	P	06 13 12.4	+1.2
	baz=267						
HMU	Henry Mountain	97.15	53	IAmb	IAmb	06 13 51.8	
	comp=Z,16nm,1.6s						
H17A	Grant Village	97.43	46	P	Pdif	06 13 14.7	+1.1
	baz=269						
AB31	Akbulak array	97.53	319	*i* P	P	06 13 10.8	-2.7
ABKAR	Akbulak array	97.53	319	P	P	06 13 11.0	-2.5
ABKAR	Akbulak array	97.53	319	IAmb	IAmb	06 13 12.0	
	comp=Z,4.6nm,0.8s						
RDMU	Red Mountain	98.12	50	IAmb	IAmb	06 13 19.2	
	comp=Z,6.9nm,0.9s						
BW06	Boulder Array	98.15	48	P	Pdif	06 13 17.2	+0.4
	baz=270						
PD31	Pinedale Array	98.16	48	IAmb	IAmb	06 14 05.9	
	comp=Z,8.4nm,1.9s						
PDAR	Pinedale Array	98.16	48	P	Pdif	06 13 16.9	+0.1
	comp=Z,1.7nm,0.7s,baz=241,slow=2.9,SNR=20						
	comp=Z,1.7nm,0.7s						
ARU	Arti	98.27	326	*c i* P	P	06 13 13.3	-3.3
ARU						06 17 13.4	
ARU				S	SKSac	06 23 36.3	-3.8
ARU				pmax	pmax		
	comp=Z,11nm,0.9s						
RLMT	Red Lodge	98.37	45	P	Pdif	06 13 18.5	+0.8
	baz=270						
MVCO	Mesa Verde	98.92	53	P	Pdif	06 13 20.9	+0.6
	baz=269						
O20A	White River Ci	99.14	50	P	Pdif	06 13 21.7	+0.5
	baz=270						
121A	Cookes Peak, D	99.44	58	P	Pdif	06 13 23.0	+0.3
	baz=269						
TROLL	Troll, Antarti	100.19	188	⇑Pdiff	Pdif	06 13 24.3	-0.8
	comp=Z,94nm,0.7s						
K22A	Casper	100.39	48	P	Pdif	06 13 27.2	+0.5
	baz=272						
LAO	LASA Array	100.46	44	P	Pdif	06 13 27.6	+0.8
	baz=273						
N23A	Red Feather La	100.88	50	P	Pdif	06 13 29.8	+0.8
	baz=272						
SNAA	Sanae	101.21	187	⇑Pdiff	Pdif	06 13 28.4	-1.2
	comp=Z,31nm,0.7s						
SDCO	Great Sand Dun	101.30	53	P	Pdif	06 13 31.6	+0.6
	baz=271						
DGMT	Dagmar	101.72	42	P	Pdif	06 13 33.3	+1.0
	baz=274						
RSSD	Black Hills	102.14	46	P	Pdif	06 13 34.5	0.0
	baz=274						
VNA3	Neumayer Olymp	102.34	185	⇑Pdiff	Pdif	06 13 34.1	-0.5
	comp=Z,2.0nm,0.6s						
VNA2	Neumayer--Watz	102.43	186	⇑Pdiff	Pdif	06 13 34.1	-0.9
	comp=Z,1.6nm,0.8s,baz=278,slow=3.0						
APA	Apatity	106.99	340	⇓*i* P	Pdif	06 14 03.2	+8.0
APA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
APA				MLR	MLR		
	comp=Z,1μm,26.0s						
KLMR	Klimovskoe	107.22	332	*e*P	Pdif	06 13 53.0	-3.3
KLMR				pmax	pmax		
	comp=Z,30nm,2.0s						
ECSD	EROS Data Cent	107.51	46	P	PKiKP	06 18 05.1	-0.5
	baz=279						
ARCES	ARCESS Array B	108.44	343	PKiKP	PKiKP	06 18 07.9	+1.2
	comp=Z,3.7nm,1.0s,baz=64,slow=2.1,SNR=4.3						
SOC	Sochi	112.05	315	*i* PKIKP	PKiKP	06 18 12.1	-2.1
SOC				*e*		06 18 57.7	
SOC				*e*PPP	PPP	06 21 23.4	
SOC				*e*SS	SS	06 34 24.5	-2.0
SOC				*e*SSS	SSS	06 38 37.9	
FINES	FINESS Array B	112.81	336	Pdiff	Pdif	06 14 19.5	-1.7
	comp=Z,1.9nm,1.0s,baz=54,slow=7.1,SNR=3.8						
MNK	Minsk	115.49	329	*i* PKIKP	PKPdf	06 18 20.7	+0.2
MNK				*i*		06 19 00.5	
MNK				*i*		06 19 24.5	
MNK				*i*		06 25 18.5	
MNK				*i* SSS	SSS	06 39 25.1	
MNK				pmax	pmax		
	comp=E,5.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,11nm,0.7s						
MNK				pmax	pmax		
	comp=N,20nm,0.9s						
WVT	Waverly	115.53	53	P	PKPdf	06 18 20.3	-0.8
	baz=282						
WCI	Wyandotte Cave	116.25	50	P	PKPdf	06 18 22.2	-0.2
	baz=284						
AKASG	Malin Array Be	116.47	325	PKP	PKPdf	06 18 21.3	-1.1
	comp=N,2.4nm,0.7s,baz=63,slow=2.0,SNR=8.1						
O48B	Farmland	116.59	48	P	PKPdf	06 18 22.6	-0.4
	baz=286						
LRAL	Lakeview Retre	116.82	56	P	PKPdf	06 18 23.3	-0.4
	baz=281						
BRTR	Keskin Array B	117.44	312	PKP	PKPdf	06 18 23.8	-1.1
	comp=N,0.5nm,0.6s,baz=128,slow=3.6,SNR=3.8						
ACSO	Alum Creek Sta	118.19	47	P	PKPdf	06 18 25.6	-0.6
	baz=288						
NB2	NORSAR Subarra	118.56	341	PKPdf	PKPdf	06 18 25.1	-1.2
	comp=Z,0.6nm,0.6s,baz=44,slow=1.9						
NOA	NORSAR Array B	118.56	341	PKIKP	PKPdf	06 18 25.0	-1.2
NOA	NORSAR Array B	118.56	341	PKP	PKPdf	06 18 25.0	-1.3
	comp=Z,1.0nm,0.7s,baz=46,slow=2.1,SNR=4.6						
TZTN	Tazewell	118.79	51	P	PKPdf	06 18 26.9	-0.5
	baz=285						
P52A	Corning	118.99	48	P	PKPdf	06 18 27.2	-0.4
	baz=288						
M53A	WI Miller and	119.46	45	P	PKPdf	06 18 27.6	-0.9
	baz=290						
GOGA	Godfrey	119.63	55	P	PKPdf	06 18 28.6	-0.4
	baz=284						
BOSA	Boshof	120.50	232	PKIKP	PKPdf	06 18 31.0	-0.1
BOSA	Boshof	120.50	232	PKP	PKPdf	06 18 31.0	-0.1
	comp=Z,2.3nm,0.5s,baz=122,slow=2.4,SNR=11						
KMSC	Kings Mountain	120.90	52		PKPdf	06 18 30.6	-0.9
KMSC	Kings Mountain	120.90	52	P	PKPdf	06 18 31.2	-0.3
	baz=286						
SCHQ	Scheiderville	120.91	27	PKP	PKPdf	06 18 30.1	-0.8
	comp=Z,2.3nm,0.8s,baz=222,slow=12,SNR=3.7						
BLA	Blacksburg	121.01	50	P	PKPdf	06 18 31.0	-0.7
	baz=288						
SSPA	Standing Stone	121.72	45	P	PKPdf	06 18 32.9	0.0
	baz=292						
VYHS	Vyhne	123.43	326	*e*PKIKP	PKPdf	06 18 35.7	-0.3
VYHS	Vyhne	123.43	326	*e*PKP	PKPdf	06 18 35.6	-0.4
KRLC	Kraliky	123.61	329	*e*PKPDF	PKPdf	06 18 35.7	-0.6
KRLC	Kraliky	123.61	329	*e*PKIKP	PKPdf	06 18 35.7	-0.6
PAL	Palisades	124.34	43	P	PKPdf	06 18 37.8	-0.1
	baz=286						
MODS	Modra-Piesok	124.36	327	*e*PKIKP	PKiKP	06 18 39.8	+1.7
MODS	Modra-Piesok	124.36	327	*e*PKP	PKiKP	06 18 39.8	+1.7
CLL	Collm	124.70	332	*i* PKIKP	PKPdf	06 18 38.0	-0.3
CLL				*e*		06 19 18.0	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CLL	Collm	124.70	332	*i* PKPdf	PKPdf	06 18 38.0	-0.3
	comp=Z,5.0nm,0.7s						
CLL				*ep*PKPdf	pPKPdf	06 19 18.0	-0.2
HRV	Adam Dziewonsk	125.23	41	P	PKPdf	06 18 39.1	-0.4
	baz=298						
PKME	Peaks-Kenny Pk	125.26	37	P	PKPdf	06 18 39.2	-0.3
	baz=302						
ZVC	Zvikov	125.33	329	*e*PKPDF	PKPdf	06 18 39.5	-0.1
CONA	Conrad Observa	125.38	327	*e*PKP	PKPdf	06 18 38.6	-1.2
	comp=Z,2.1nm,0.9s						
CKRC	Cesky Krumlov	125.66	329	*e*PKPDF	PKPdf	06 18 40.4	+0.2
CKRC	Cesky Krumlov	125.66	329	*e*PKIKP	PKPdf	06 18 40.4	+0.2
FNA	Florina	125.78	317		PKPdf	06 18 40.2	-0.6
FNA	Florina	125.78	317	PKIKP	PKPdf	06 18 40.2	-0.6
KHC	Kasperske Hory	125.84	329	*e*PKPDF	PKPdf	06 18 40.1	-0.5
KHC	Kasperske Hory	125.84	329	*e*PKIKP	PKPdf	06 18 40.1	-0.5
GERES	GERESS Array B	125.95	329	PKP	PKPdf	06 18 40.7	-0.2
	comp=Z,2.7nm,0.7s,baz=64,slow=3.1,SNR=9.8						
SOKA	Soboh	126.58	326	*e*PKP	PKPdf	06 18 41.1	-1.1
	comp=Z,3.3nm,1.1s						
OBKA	Obir	126.95	326	*e*PKiKP	PKiKP	06 18 43.9	+0.5
	comp=Z,6.5nm,1.2s						
KBA	Koelnbreinsper	127.25	328	*e*PKP	PKPdf	06 18 43.0	-0.6
	comp=Z,4.2nm,0.7s						
LESA	Schwarzleotal	127.39	328	*e*PKP	PKPdf	06 18 42.4	-1.3
	comp=Z,4.6nm,1.1s						
ABTA	Abfaltersbach	127.91	328	*e*PKP	PKPdf	06 18 44.1	-0.6
	comp=Z,3.1nm,0.6s						
WTTA	Wattenberg	128.03	329	*e*PKP	PKPdf	06 18 44.3	-0.8
	comp=Z,5.3nm,0.7s						
MOTA	Moosalm	128.25	329	*e*PKP	PKPdf	06 18 45.1	-0.3
	comp=Z,5.0nm,0.8s						
FETA	Feichten	128.66	329	*e*PKP	PKPdf	06 18 45.2	-1.0
	comp=Z,5.8nm,0.9s						
DAVA	Damuels	128.91	330	*e*PKP	PKPdf	06 18 46.8	+0.2
	comp=Z,3.8nm,0.6s						
PB11	IPOC Station P	129.46	121	PKPdf	PKPpre	06 18 44.0	
PB08	IPOC Station P	129.72	122		PKiKP	06 18 49.7	-0.4
CZSB	Cruzeiro do Su	130.80	105	PKPdf	PKPdf	06 18 50.5	-0.5
CZSB	Cruzeiro do Su	130.80	105	*e*P	SKPbc	06 22 01.3	0.0
SDV	Santo Domingo	134.95	83		PKPdf	06 18 58.0	-1.0
CPUP	Villa Florida	135.39	137	SKP	SKPbc	06 22 17.3	+0.8
	comp=Z,2.1nm,0.6s,baz=207,slow=5.0,SNR=4.6						
KEST	Kesra	136.48	318	SKP	SKPbc	06 22 18.2	-1.5
	comp=Z,10nm,1.0s,baz=333,slow=1.2,SNR=3.7						
SAML	Samuel	139.45	111		PKPpre	06 18 56.9	
SAML	Samuel	139.45	111	PKHKP	PKPpre	06 18 56.9	
PTLB	Pontes e Lacer	140.33	123		PKPpre	06 19 01.4	
ESDC	Sonseca Array	141.25	333	PKHKP	PKPpre	06 19 03.2	
	comp=Z,0.4nm,0.6s,baz=359,slow=1.5,SNR=4.5						
MVO	Moncorvo	141.26	338	*e*PKPdf	PKPpre	06 19 07.5	
PVIS	Viseu	141.97	338	*e*PKPdf	PKPpre	06 19 06.3	
MTE	Manteigas	142.11	338	*e*PKPdf	PKPpre	06 19 08.7	
PCBR	Castelo Branco	142.57	337	*e*PKP	PKPpre	06 19 08.8	
PMRV	Marv??o	142.90	337	*e*PKP	PKPpre	06 19 09.3	
PESTR	Estremoz	143.46	337	*e*PKP	PKPab	06 19 10.4	+0.2
MACA	Manacapuru-AM	143.52	103	PKPdf	PKPbc	06 19 11.7	-0.5
PMTG	Montargil	143.53	337	*e*PKP	PKPab	06 19 10.5	+0.1
PBAR	Barrancos	143.82	335	*e*PKP	PKPab	06 19 11.7	+0.1
EVO	Evora	143.91	337	*e*PKP	PKPbc	06 19 12.7	+0.1
PMAFR	Mafra	144.02	339	*e*PKP	PKPbc	06 19 13.3	+0.4
PBEJ	Beja	144.29	336	*e*PKP	PKPbc	06 19 14.1	+0.4
PNCL	Nicolau / Gran	144.48	337	*e*PKP	PKPbc	06 19 14.6	+0.3
MESJ	Messejana	144.59	336	*e*PKP	PKPbc	06 19 15.1	+0.4
MESJ	Messejana	144.59	336	*e*PKP	PKPab	06 19 14.6	+0.1
BOAV	Boa Vista	144.69	94		PKPab	06 19 15.3	-0.3
PCVE	Castro Verde	144.70	336	*e*PKP	PKPbc	06 19 15.2	+0.2
PVAQ	Vaqueiros	144.76	335	*e*PKP	PKPdf	06 19 15.8	-0.1
PVAQ	Vaqueiros	144.76	335		PKPab	06 19 14.6	-0.5
PBDV	Barranco-do-Ve	144.99	335	*e*PKP	PKPbc	06 19 14.6	-1.4
PTEO	Sao Teotonio	145.05	337	*e*PKP	PKPdf	06 19 16.4	0.0
MORF	Marmelete	145.23	336	*e*PKP	PKPbc	06 19 14.7	-2.0
MORF	Marmelete	145.23	336		PKPab	06 19 17.2	+0.3
MORF	Marmelete	145.23	336	*e*PKP	PKPdf	06 19 16.8	0.0
MORF	Marmelete	145.23	336	PKIKP	PKPab	06 19 17.2	+0.3
PFVI	Vila Bisbo	145.44	336	*e*PKP	PKPab	06 19 18.0	+0.3
TAM	Tamanrasset	145.86	303		PKPbc	06 19 19.1	-0.2
TAM	Tamanrasset	145.86	303	PKP2	PKPbc	06 19 19.1	-0.2
AVE	Averroes	148.05	331		PKPbc	06 19 24.0	-0.9
BDFB	Brasilia	148.96	134		PKPdf	06 19 24.9	+1.3
BDFB	Brasilia	148.96	134	PKP	PKPdf	06 19 24.5	+0.8
	comp=Z,11nm,0.8s,baz=177,slow=1.8,SNR=18						
BDFB				PKPbc	PKPbc	06 19 27.5	-0.3
	comp=Z,18nm,0.7s,baz=248,slow=1.3,SNR=12						
TOA0	Torodi Ar. Sit	152.45	287	PKPdf	PKPdf	06 19 27.6	-1.3
TORD	Torodi Ar. Bea	152.45	287		PKPdf	06 19 27.5	-1.4
TORD	Torodi Ar. Bea	152.45	287	PKP	PKPdf	06 19 27.6	-1.3
	comp=Z,1.6nm,0.9s,baz=34,slow=2.6,SNR=10						
TORD				PKPbc	PKPbc	06 19 35.2	-0.8
	comp=Z,9.1nm,0.8s,baz=49,slow=3.5,SNR=40						
TORD				PKPab	PKPab	06 19 46.5	-0.2
	comp=Z,11nm,0.9s,baz=58,slow=5.4,SNR=12						
TORD				pPKPbc	pPKPbc	06 20 14.9	-0.8
	comp=Z,3.0nm,0.6s,baz=55,slow=4.1,SNR=2.4						
KIC	Kosan Boka	159.57	272	⇑*i* PKP2	PKPab	06 20 16.8	-0.6
	comp=Z,12nm,0.5s						
DBIC	Dimbokro	159.68	273	PKPab	PKPab	06 20 17.0	-0.8
	comp=Z,4.4nm,0.7s,baz=81,slow=6.6,SNR=8.4						
TIC	Toumodi	159.84	273	⇑*e*PKP2	PKPab	06 20 18.0	-0.6
	comp=Z,15nm,0.8s						
LIC	Lamto	159.85	272	⇑*e*PKP2	PKPab	06 20 18.0	-0.6
	comp=Z,17nm,0.7s						

IDC 23 06:06:10.8±3.0, 54°.16N×86°.46E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=23.1km s-min=13.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.99	258	I	I	06 12 00.3	
	baz=80,slow=354,SNR=8.6						
ZALV	Zalesovo Beam	0.99	258	Pg	Pg	06 06 27.8	-1.9
	1.1nm,0.3s,baz=77,slow=17,SNR=15						
ZALV				Lg	Lg	06 06 44.1	
	1.9nm,0.3s,baz=72,slow=29,SNR=9.6						
KURBB	Kurchatov Arra	6.01	237	Pn	Pn	06 07 42.5	+1.7
	0.1nm,0.3s,baz=54,slow=13,SNR=6.1						
	0.4nm,0.4s						
MKAR	Makanchi Array	7.84	201	Pn	Pn	06 08 06.3	+0.4
	0.2nm,0.3s,baz=25,slow=14,SNR=1.9						
	0.2nm,0.3s						

JMA 23 06:07:53.1±0.1, 42°.8N±0°.4×144°.2E±0°.4, h80km±1km, MV2.7/35, SE OFF TOKACHI
SKHL 23 06:07:54.4±0.1, 42°.50N×144°.70E, h75km±4km, mb4.6/2
ISC 23 06:07:52.2±1.7, 42°.75N±0°.06×144°.25E±0°.04, h84km±11km, n18, σ0°.83/32, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOB	Onbets	0.35	297	*e*P	Pn	06 08 05.6	+0.5
JOB				*e*S	Sn	06 08 14.5	-0.2
JAK	Akkeshi	0.41	52	*e*P	Pn	06 08 06.1	+0.5
JAK				*e*S	Sn	06 08 15.6	0.0
JAR	Ashorobuto	0.66	328	*e*P	Pn	06 08 07.8	+0.1
JAR				*e*S	Sn	06 08 18.4	-0.9
JCH	Churui	0.67	259	*e*P	Pn	06 08 08.3	+0.5
JCH				*e*S	Sn	06 08 18.9	-0.6
JKHN	Kushirohamanak	0.75	63	P	Pn	06 08 09.5	+0.9

OKWE	**Okmok W'ng Wal**	**2.13**	**6**			**Pn**	**06 12 24.6**	**-0.4**
MGOD	**Makushin Gods**	**2.66**	**23**			**Pn**	**06 12 32.0**	**-0.3**
MREP	**Makushin Rep't**	**2.70**	**24**			**Pn**	**06 12 32.5**	**-0.5**
MNAT	**Makushin Natee**	**2.78**	**24**			**Pn**	**06 12 33.8**	**-0.2**
MNAT						**Sn**	**06 13 06.7**	**-0.2**
MSW	**Makushin Switc**	**2.79**	**23**			**Pn**	**06 12 33.9**	**-0.2**
UNV	**Unalaska Valle**	**2.80**	**26**			**Pn**	**06 12 33.9**	**-0.3**
AKV	**Akutan Volcano**	**3.20**	**29**			**Pn**	**06 12 40.0**	**+0.2**
ATKA	**Atka Island**	**3.58**	**286**			**Pn**	**06 12 44.3**	**-0.7**
ATKA						**Sn**	**06 13 25.0**	**-1.5**
ATKA	**Atka Island**	**3.58**	**286**	IAML			06 13 38.1	
	comp=N,117nm,4.3s							
KOWE	**Korovin West**	**3.65**	**288**			**Pn**	**06 12 45.9**	**-0.1**
ISLZ	**Isanotski Laza**	**4.48**	**39**			**Pn**	**06 12 57.2**	**-0.1**
ISNN	**Isanotski Nort**	**4.53**	**38**			**Pn**	**06 12 57.9**	**-0.1**
GSMY	**Great Sitkin M**	**4.70**	**281**			**Pn**	**06 12 59.4**	**-0.9**
GSCK	**Great Sitkin C**	**4.76**	**281**			**Pn**	**06 13 00.8**	**-0.4**
ADK	**Adak**	**5.07**	**279**			**Pn**	**06 13 04.4**	**-1.0**
ADK	**Adak**	**5.07**	**279**	IAML			06 14 38.8	
	comp=N,56nm,4.2s							
KIWB	**Kanaga Island**	**5.36**	**279**			**Pn**	**06 13 08.3**	**-1.1**
TASE	**Tanaga Southea**	**5.91**	**278**			**Pn**	**06 13 15.8**	**-1.2**
CNBA	**Chernabura Isl**	**6.43**	**54**	Pn		**Pn**	**06 13 23.4**	**-0.7**
CEPE	**Semis' Perret**	**7.34**	**279**			**Pn**	**06 13 34.6**	**-2.0**
OHAK	**Old Harbor**	**10.69**	**51**	Pn		**Pn**	**06 14 22.0**	**-0.4**
P18K	**Big Mountain,**	**11.05**	**38**	Pn		**Pn**	**06 14 28.9**	**+1.5**
KDAK	**Kodiak Island**	**11.28**	**49**	Pn		**Pn**	**06 14 29.4**	**-1.1**
	comp=N,0.8nm,0.3s,baz=233,slow=10,SNR=27							
KDAK				Sn		**Sn**	**06 16 28.7**	**-7.1**
	comp=N,0.2nm,0.3s,baz=280,slow=17,SNR=1.2							
Q19K	**Cape Douglas,**	**11.41**	**43**	Pn		**Pn**	**06 14 32.5**	**+0.2**
SUA	**Susitna One**	**14.09**	**37**	Pn		**Pn**	**06 15 07.6**	**-1.3**
GHO	**Glory Hole Cre**	**14.97**	**38**	Pn		**Pn**	**06 15 19.5**	**-1.4**
KTH	**Kantishna Hill**	**15.41**	**31**	Pn		**Pn**	**06 15 26.1**	**-0.5**
KTH				IAmb		IAmb	06 15 31.4	
	comp=Z,9.2nm,1.2s							
G23K	**Bananza Creek**	**17.99**	**24**	P		**P**	**06 15 59.8**	**+0.3**
M29M	**Somme Creek**	**19.64**	**44**	P		**Pn**	**06 16 20.2**	**+1.0**
M29M				IAmb		IAmb	06 16 23.6	
	comp=Z,6.7nm,0.8s							
DAWY	**Dawson**	**19.89**	**39**	P		**Pn**	**06 16 21.3**	**-0.8**
L29M	**L29M**	**20.02**	**42**	P		Pn	06 16 24.5	+0.9
L29M				IAmb		IAmb	06 16 30.2	
	comp=Z,14nm,1.2s							
H29M	**Whitestone**	**21.28**	**34**	P		**P**	**06 16 37.0**	**+1.6**
H29M				IAmb		IAmb	06 16 40.0	
	comp=Z,8.6nm,0.9s							
G29M	**Pine Creek**	**21.75**	**33**	P		**P**	**06 16 41.8**	**+1.3**
G29M				IAmb		IAmb	06 16 53.0	
	comp=Z,9.3nm,1.1s							
EPYK	**Eagle Plains**	**21.94**	**35**	P		**P**	**06 16 44.6**	**+2.1**
G30M	**tAoh Zraii Nji**	**22.41**	**34**	P		**P**	**06 16 49.0**	**+1.6**
E29M	**Blow River**	**22.58**	**29**	P		**P**	**06 16 51.4**	**+2.2**
E29M				IAmb		IAmb	06 17 06.2	
	comp=Z,4.6nm,1.2s							
INK	**Inuvik**	**23.94**	**32**	IAmb		IAmb	06 17 09.1	
	comp=Z,8.6nm,1.3s							
YKA	**Yellowknife Ar**	**30.56**	**48**	P		**P**	**06 18 03.5**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=271,slow=8.2,SNR=3.2							
	comp=Z,0.6nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**36.98**	**221**	T		T	06 58 07.9	
	baz=26,slow=76,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**36.99**	**220**	T		T	06 58 09.1	
	baz=26,slow=76,SNR=6.8							
H11N1	**WAKE ISLAND Hy**	**37.00**	**221**	T		T	06 58 09.3	
	baz=26,slow=76,SNR=6.3							
NVAR	**Mina Array Bea**	**37.17**	**90**	P		**P**	**06 19 01.5**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=295,slow=9.0,SNR=7.7							
	comp=Z,1.0nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**38.16**	**220**	T		T	06 59 37.7	
	baz=24							
H11S2	**WAKE ISLAND Hy**	**38.17**	**220**	T		T	06 59 38.9	
	baz=24							
H11S3	**WAKE ISLAND Hy**	**38.18**	**220**	T		T	06 59 37.8	
	baz=24							
PDAR	**Pinedale Array**	**40.13**	**78**	P		**P**	**06 19 25.1**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=311,slow=4.2,SNR=5.6							
	comp=Z,0.7nm,0.7s							
TXAR	**Lajitas Array**	**52.28**	**89**	P		**P**	**06 20 59.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=296,slow=6.1,SNR=5.7							
	comp=Z,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**63.56**	**319**	P		**P**	**06 22 22.4**	**+3.2**
	comp=Z,0.6nm,0.6s,baz=48,slow=6.1,SNR=5.2							
	comp=Z,0.6nm,0.6s							
BVAR	**Borovoye Array**	**64.81**	**325**	P		**P**	**06 22 29.2**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=48,slow=7.3,SNR=5.6							
	comp=Z,0.9nm,0.6s							
ASAR	**Alice Springs**	**90.12**	**231**	P		**P**	**06 24 48.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=29,slow=4.5,SNR=6.2							
	comp=Z,0.5nm,0.6s							

ROM 23 06:26:25.2±0.1, 43°.065N±0°.002×13°.030E±0°.004, h10km, ML1.7/34, 6C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=273.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.05**	**124**	P	Pg	06 26 27.2	0.0
FDMO				S	Sg	06 26 28.2	-0.3
FDMO				AML	AML		
	comp=E,2170μm,0.2s						
FDMO				AML	AML		
	comp=N,2040μm,0.2s						
FEMA	**Monte Fema**	**0.10**	**172**	P	Pg	06 26 28.3	+0.4
FEMA				S	Sg	06 26 30.5	+0.7
FEMA				AML	AML		
	comp=N,1100μm,0.3s						
FEMA				AML	AML		
	comp=N,1100μm,0.3s						
FEMA				AML	AML		
	comp=E,1525μm,0.2s						
CESI	**CESI - Serrava**	**0.11**	**237**	⇑P	Pg	06 26 28.5	+0.6
CESI				S	Sg	06 26 30.6	+0.8
CESI				AML	AML		
	comp=E,450μm,0.4s						
CESI				AML	AML		
	comp=N,500μm,0.3s						
CESI				AML	AML		
	comp=E,450μm,1.6s						
CSP1	**Cessapalombo**	**0.13**	**78**	⇑P	Pg	06 26 28.6	+0.4
CSP1				S	Sg	06 26 31.0	+0.5
CSP1				AML	AML		
	comp=E,426μm,0.3s						
CSP1				AML	AML		
	comp=N,179μm,1.5s						
CSP1				AML	AML		
	comp=E,427μm,0.3s						
CSP1				AML	AML		
	comp=N,178μm,1.5s						
CSP1				AML	AML		
	comp=N,178μm,0.5s						
MDAR	**Monte D'Aria**	**0.15**	**33**	P	Pg	06 26 29.1	+0.5
GAG1	**Gagliole**	**0.17**	**9**	P	Pg	06 26 29.8	+0.8
MC2	**Monte Cornacci**	**0.19**	**142**	P	Pg	06 26 30.0	+0.7
SNTG	**Esanatoglia**	**0.20**	**341**	P	Pg	06 26 30.0	+0.7
SNTG				S	Sg	06 26 33.5	+1.3
SNTG				AML	AML		
	comp=E,120μm,0.8s						
SNTG				AML	AML		
	comp=N,147μm,0.1s						
GUMA	**Gualdo di Mace**	**0.22**	**90**	⇑P	Pg	06 26 30.6	+0.8
GUMA				S	Sg	06 26 34.7	+1.9
GUMA				AML	AML		
	comp=E,912μm,0.2s						
GUMA				AML	AML		
	comp=N,746μm,0.2s						
GUMA				AML	AML		
	comp=E,912μm,1.8s						
GUMA				AML	AML		
	comp=N,746μm,1.8s						
NRCA	**Norcia**	**0.24**	**165**	⇑P	Pg	06 26 30.6	+0.6
NRCA				S	Sg	06 26 34.8	+1.5
NRCA				AML	AML		
	comp=E,629μm,0.4s						
NRCA				AML	AML		
	comp=N,690μm,0.6s						
NRCA				AML	AML		
	comp=N,660μm,1.5s						
NRCA				AML	AML		
	comp=E,622μm,0.5s						
T1221	**Campello sul C**	**0.24**	**213**	P	Pg	06 26 30.9	+0.8
T1221				S	Sg	06 26 35.0	+1.5
EL6	**Elcito**	**0.27**	**11**	⇑P	Pg	06 26 31.2	+0.5
EL6				S	Sb	06 26 35.8	-1.1
EL6				AML	AML		
	comp=E,400μm,1.4s						
EL6				AML	AML		
	comp=N,278μm,0.5s						
MF5	**Montefalcone A**	**0.33**	**103**	⇓P	Pb	06 26 32.7	-0.5
T1214	**Arquata del Tr**	**0.33**	**157**	⇓P	Pg	06 26 32.4	+0.6
T1214				S	Sb	06 26 37.9	-0.9
CING	**Cingoli**	**0.33**	**21**	P	Pg	06 26 32.3	+0.5
CING				S	Sb	06 26 38.0	-0.7
CING				AML	AML		
	comp=E,339μm,0.2s						
CING				AML	AML		
	comp=N,210μm,0.4s						
GAVE	**Gavelli**	**0.39**	**195**	⇑P	Pg	06 26 33.3	+0.5
GAVE				AML	AML		
	comp=E,154μm,0.4s						
GAVE				AML	AML		
	comp=N,124μm,0.9s						
GAVE				AML	AML		
	comp=E,154μm,1.6s						

ROM 23 06:27:18.5±0.1, 42°.438N±0°.004×13°.294E±0°.006, h11km, ML2.3/82, 13C-2D, Error ellipse: s-maj=0.5km s-min=0.1km az=239.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.01**	**45**	⇓P	Pg	06 27 21.3	+0.8
RM33	**Pellescritta (**	**0.09**	**320**	⇓P	Pg	06 27 21.7	+0.5
RM33				S	Sg	06 27 23.9	+0.7
RM33				AML	AML		
	comp=N,9820μm,0.2s						
RM33				AML	AML		
	comp=E,5940μm,1.1s						
RM33				AML	AML		
	comp=N,10165μm,0.2s						
RM33				AML	AML		
	comp=E,5945μm,1.1s						
RM33				AML	AML		
	comp=N,10160μm,0.2s						
RM33				AML	AML		
	comp=E,6160μm,1.1s						
RM33				AML	AML		
	comp=N,10160μm,1.8s						
RM33				AML	AML		
	comp=E,5945μm,0.9s						
RM33				AML	AML		
	comp=E,6160μm,0.9s						
RM33				AML	AML		
	comp=N,9820μm,1.8s						
CAMP	**Campotosto**	**0.13**	**41**	⇑P	Pg	06 27 22.2	+0.5
CAMP				S	Sg	06 27 24.7	+0.7
SMA1	**SAN MARTINO**	**0.20**	**9**	⇑P	Pg	06 27 23.1	+0.4
SMA1				S	Sg	06 27 26.8	+1.1
SMA1				AML	AML		
	comp=E,8330μm,0.4s						
SMA1				AML	AML		
	comp=N,7800μm,0.4s						
GIGS	**Gran Sasso**	**0.20**	**87**	⇑P	Pg	06 27 23.3	+0.4
GIGS				S	Sg	06 27 26.7	+0.9
GIGS				AML	AML		
	comp=E,572μm,0.7s						
GIGS				AML	AML		
	comp=E,572μm,0.7s						
GIGS				AML	AML		
	comp=N,1315μm,0.2s						
GIGS				AML	AML		
	comp=E,572μm,1.3s						
FIAM	**Fiamignano**	**0.21**	**218**	⇑P	Pg	06 27 23.7	+0.6
FIAM				S	Sg	06 27 27.4	+1.2
FIAM				AML	AML		
	comp=E,1070μm,0.2s						
FIAM				AML	AML		
	comp=N,814μm,0.7s						
FAGN	**Fagnano**	**0.28**	**129**	P	Pg	06 27 24.8	+0.7
FAGN				S	Sb	06 27 30.1	-0.1
FAGN				AML	AML		
	comp=E,2390μm,0.3s						
FAGN				AML	AML		
	comp=N,2085μm,0.3s						
TERO	**Teramo**	**0.29**	**51**	P	Pg	06 27 24.5	0.0
TERO				S	Sg	06 27 29.1	+0.6
TERO				AML	AML		
	comp=E,1135μm,0.4s						
TERO				AML	AML		
	comp=N,865μm,1.3s						
TERO				AML	AML		
	comp=N,865μm,0.7s						
MTRA	**Matera**	**0.33**	**13**	⇑P	Pg	06 27 25.0	-0.1
MTRA				S	Sg	06 27 29.9	+0.4
MTRA				AML	AML		
	comp=N,3595μm,0.1s						
MTRA				AML	AML		
	comp=N,3595μm,0.1s						
MTRA				AML	AML		
	comp=E,2615μm,0.1s						
MTRA				AML	AML		
	comp=N,3590μm,0.1s						
MTRA				AML	AML		
	comp=E,2645μm,0.1s						
T1214	**Arquata del Tr**	**0.33**	**349**	⇑P	Pg	06 27 25.3	+0.1
T1214				S	Sg	06 27 30.6	+1.0
VCEL	**Villa Celiera**	**0.41**	**96**	P	Pg	06 27 26.9	+0.4
VCEL				S	Sb	06 27 33.7	-0.4
VCEL				AML	AML		
	comp=N,820μm,0.9s						
VCEL				AML	AML		
	comp=E,1022μm,0.6s						
VCEL				AML	AML		
	comp=N,820μm,1.1s						
ARRO	**Arrone**	**0.41**	**290**	⇑P	Pg	06 27 26.7	0.0
ARRO				S	Sb	06 27 33.2	-1.0
ARRO				AML	AML		
	comp=N,584μm,0.6s						
ARRO				AML	AML		
	comp=E,448μm,1.0s						
ARRO				AML	AML		
	comp=N,584μm,1.4s						
NRCA	**Norcia**	**0.42**	**342**	⇑P	Pg	06 27 26.7	-0.1
NRCA				S	Sg	06 27 33.0	+0.7
NRCA				AML	AML		
	comp=E,2135μm,0.1s						
NRCA				AML	AML		
	comp=E,2255μm,0.1s						
NRCA				AML	AML		
	comp=N,1685μm,0.1s						
NRCA				AML	AML		
	comp=N,1585μm,0.1s						
T0110	**Collepietro**	**0.42**	**120**	⇑P	Pg	06 27 27.0	+0.2
T0110				S	Sb	06 27 34.2	-0.1
T0110				AML	AML		
	comp=E,882μm,0.5s						
T0110				AML	AML		
	comp=N,822μm,0.3s						
T0110				AML	AML		
	comp=N,822μm,0.3s						
T0110				AML	AML		
	comp=E,882μm,0.5s						
PTQR	**Pietraquaria**	**0.42**	**169**	P	Pg	06 27 27.0	+0.2
PTQR				S	Sb	06 27 33.9	-0.6
PTQR				AML	AML		
	comp=E,168μm,0.9s						
PTQR				AML	AML		
	comp=N,154μm,1.1s						
PTQR				AML	AML		
	comp=N,154μm,0.9s						
MMO1	**Montemonaco**	**0.46**	**3**	⇑P	Pg	06 27 27.4	-0.2
MMO1				S	Sg	06 27 34.5	+0.8
MC2	**Monte Cornacci**	**0.48**	**351**	P	Pg	06 27 27.9	-0.1
MC2				S	Sb	06 27 35.7	-0.6
T1221	**Campello sul C**	**0.54**	**322**	⇑P	Pg	06 27 28.8	-0.2
T1221				S	Sb	06 27 37.0	-0.8
T1221				AML	AML		
	comp=E,238μm,1.0s						
T1221				AML	AML		
	comp=N,196μm,0.3s						
CERT	**Cerreto**	**0.54**	**205**	P	Pg	06 27 29.1	+0.1
CERT				AML	AML		
	comp=N,245μm,0.4s						
CERT				AML	AML		
	comp=E,290μm,0.3s						
CESX	**Cesi**	**0.56**	**288**	P	Pg	06 27 29.0	-0.3
CESX				S	Sb	06 27 37.5	-0.7
CESX				AML	AML		
	comp=E,322μm,0.4s						
CESX				AML	AML		
	comp=N,284μm,0.5s						
MF5	**Montefalcone A**	**0.56**	**13**	⇑P	Pg	06 27 29.6	+0.1
MF5				S	Sb	06 27 38.6	0.0
MF5				AML	AML		
	comp=E,477μm,1.4s						
MF5				AML	AML		
	comp=E,478μm,1.4s						
MF5				AML	AML		
	comp=N,454μm,0.4s						
MF5				AML	AML		
	comp=N,454μm,1.6s						
MF5				AML	AML		
	comp=E,478μm,0.6s						
OFFI	**Offida**	**0.57**	**30**	P	Pb	06 27 30.3	-0.3
OFFI				S	Sb	06 27 40.2	+1.4
OFFI				AML	AML		
	comp=N,514μm,0.6s						
OFFI				AML	AML		
	comp=N,514μm,1.4s						
OFFI				AML	AML		
	comp=E,458μm,0.6s						
FDMO	**Fiordimonte**	**0.62**	**346**	P	Pg	06 27 30.1	-0.4
FDMO				S	Sb	06 27 39.7	-0.4
FDMO				AML	AML		
	comp=N,268μm,0.2s						
FDMO				AML	AML		
	comp=E,239μm,0.8s						
VVLD	**Villa Vallelon**	**0.62**	**157**	P	Pg	06 27 30.4	-0.1
VVLD				AML	AML		
	comp=E,160μm,0.4s						
VVLD				AML	AML		
	comp=N,120μm,0.5s						
INTR	**Introdacqua**	**0.62**	**133**	P	Pg	06 27 30.4	-0.2
INTR				AML	AML		
	comp=E,226μm,0.6s						
INTR				AML	AML		
	comp=N,315μm,0.6s						
INTR				AML	AML		
	comp=N,270nm,0.6s						
INTR				AML	AML		
	comp=E,236nm,0.6s						
GUMA	**Gualdo di Mace**	**0.62**	**3**	P	Pg	06 27 30.8	+0.2
GUMA				S	Sb	06 27 40.8	+0.5
GUMA				AML	AML		
	comp=E,1103μm,0.3s						
GUMA				AML	AML		
	comp=E,1103μm,1.7s						
GUMA				AML	AML		
	comp=N,878μm,0.5s						
CESI	**CESI - Serrava**	**0.64**	**333**	P	Pg	06 27 30.5	-0.3
CESI				S	Sb	06 27 40.5	-0.1
CESI				AML	AML		
	comp=N,376μm,0.4s						
CESI				AML	AML		
	comp=N,376μm,1.6s						
CESI				AML	AML		
	comp=E,178μm,0.2s						
MOMA	**Monte Martano**	**0.65**	**305**	P	Pg	06 27 30.8	-0.3
MOMA				S	Sb	06 27 40.9	-0.1
MOMA				AML	AML		
	comp=E,322μm,0.2s						
MOMA				AML	AML		
	comp=N,422μm,0.3s						
CSP1	**Cessapalombo**	**0.66**	**354**	⇑P	Pg	06 27 30.8	-0.5
CSP1				S	Sb	06 27 40.7	-0.6
CSP1				AML	AML		
	comp=E,152μm,0.9s						
CSP1				AML	AML		
	comp=N,64μm,0.6s						
CSP1				AML	AML		
	comp=N,64μm,1.4s						
LPEL	**Lama dei Pelig**	**0.77**	**120**	P	Pg	06 27 32.3	-1.0
LPEL				S	Sg	06 27 43.5	+0.1
LPEL				AML	AML		
	comp=E,230μm,0.3s						
LPEL				AML	AML		
	comp=N,202μm,1.0s						
SNTG	**Esanatoglia**	**0.86**	**342**	P	Pg	06 27 34.6	-0.4
SNTG				AML	AML		
	comp=E,77μm,1.1s						
SNTG				AML	AML		
	comp=N,78μm,1.6s						
SNTG				AML	AML		
	comp=E,77μm,0.9s						
SNTG				AML	AML		
	comp=N,78μm,0.4s						
EL6	**Elcito**	**0.90**	**351**	P	Pg	06 27 35.2	-0.7
EL6				S	Sb	06 27 49.3	+1.0
EL6				AML	AML		
	comp=N,206μm,1.4s						
EL6				AML	AML		
	comp=N,206μm,0.6s						
EL6				AML	AML		
	comp=E,248μm,0.9s						
CING	**Cingoli**	**0.94**	**356**	P	Pg	06 27 35.6	-1.0
CING				S	Sn	06 27 50.5	-0.8
CING				AML	AML		
	comp=E,186μm,1.6s						
CING				AML	AML		
	comp=N,144μm,0.6s						
CING				AML	AML		
	comp=N,144μm,1.4s						
CING				AML	AML		
	comp=E,186μm,0.4s						
MGAB	**Montegabbione**	**0.99**	**299**	P	Pg	06 27 37.2	-0.4
MGAB				AML	AML		
	comp=E,206μm,0.5s						
MGAB				AML	AML		
	comp=N,149μm,1.1s						
MGAB				AML	AML		
	comp=E,200μm,0.5s						
MGAB				AML	AML		
	comp=N,157μm,1.1s						
MGAB				AML	AML		
	comp=N,149μm,0.9s						
MGAB				AML	AML		
	comp=N,157μm,0.9s						
ARVD	**Arcevia**	**1.09**	**346**	P	Pb	06 27 39.1	-0.3
ARVD				S	Sn	06 27 55.5	+0.6
ARVD				AML	AML		
	comp=E,57μm,0.5s						
ARVD				AML	AML		
	comp=N,57μm,1.5s						
ARVD				AML	AML		
	comp=N,57μm,0.5s						

*TUL **23** 06:33:23.9±0.3, 36°.96N±0°.02×97°.36W±0°.02, h8km±1km, ML3.0, mb_Lg2.9/57(NEIC), ML3.1/46(NEIC), Error ellipse: s-maj=2.7km s-min=1.6km az=217.0*

*NEIC **23** 06:33:23.1±0.4, 36°.94N±0°.02×97°.377W±0°.006, h2km±6km, Error ellipse: s-maj=3.3km s-min=0.6km az=185.0*

*ANF **23** 06:33:24.9±1.4, 36°.89N×97°.31W, h3km, ML3.5/12, Error ellipse: s-maj=15.9km s-min=11.8km az=1.0*

ISC 23 06:33:23.6±0.8, 36°.94N±0°.02×97°.39W±0°.02, h10km, n73, σ1s28/48, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.10**	**319**	Pg	**Pg**	**06 33 26.3**	**0.0**
BLOK	**Blackwell**	**0.23**	**141**	Pg	**Pg**	**06 33 28.2**	**0.0**
BLOK				IAML		06 33 31.8	
	comp=E,5μm,0.3s						
KAN09	**Caldwell North**	**0.27**	**318**	Pg	**Pg**	**06 33 29.1**	**0.0**
KAN09				IAML		06 33 34.3	
	comp=E,5μm,0.2s						
KAN17	**Caldwell West**	**0.32**	**290**	Pg	**Pg**	**06 33 30.2**	**+0.3**
KAN17				IAML		06 33 35.0	
	comp=E,2μm,0.2s						
KAN01	**Argonia South**	**0.36**	**307**	Pg	**Pg**	**06 33 31.0**	**+0.2**
KAN01				IAML		06 33 36.4	
	comp=E,3μm,0.1s						
GC02	**Grant County #**	**0.38**	**257**	Pg	**Pg**	**06 33 31.4**	**+0.2**
KS21	**Milan North St**	**0.41**	**328**	Pg	**Pg**	**06 33 31.7**	**0.0**
KAN14	**Manchester OK**	**0.46**	**273**	Pg	**Pg**	**06 33 32.8**	**+0.3**
KAN14				IAML		06 33 41.3	
	comp=N,1μm,0.2s						
KAN06	**Argonia West S**	**0.48**	**310**		**Pg**	**06 33 33.1**	**0.0**
KAN10	**Anthony SW Sta**	**0.59**	**289**		**Pg**	**06 33 35.2**	**+0.1**
KAN12	**Harper NE Stat**	**0.60**	**307**		**Pg**	**06 33 35.4**	**0.0**
KAN12				IAML		06 33 52.8	
	comp=N,932nm,0.3s						
KAN12				IAML		06 33 53.1	
	comp=E,1μm,0.3s						
OK051	**E0350 and S346**	**0.62**	**134**		**Pg**	**06 33 35.4**	**-0.2**

OK051 IAML 06 33 47.5
comp=E,1μm,0.2s
OK048 Pawnee Station 0.63 145 Pg Pg 06 33 35.6 -0.2
CROK Carrier 0.64 228 Pg Pb 06 33 36.3 -0.6
CROK IAML 06 33 47.5
comp=N,2μm,0.3s
OK032 Salt Plains WL 0.67 259 Pg Pg 06 33 36.7 +0.1
OK032 IAML 06 33 47.1
comp=N,858nm,0.1s
OK032 IAML 06 33 49.0
comp=N,876nm,0.2s
T35A Sooner Cattle 0.71 91 Pg Pg 06 33 36.7 -0.6
T35A IAML 06 33 46.3
comp=N,797nm,0.4s
T35B Sooner Cattle 0.71 91 P Pg 06 33 36.7 -0.6
baz=272,SNR=113
T35B S Sg **06 33 45.8 -0.8**
baz=272
QUOK Quay 0.94 144 IAML 06 33 59.1
comp=E,461nm,0.2s
QUOK IAML 06 33 59.4
comp=N,455nm,0.3s
OK033 Mehan 0.96 157 IAML 06 33 59.5
comp=N,452nm,0.2s
OK033 IAML 06 33 59.8
comp=N,610nm,0.2s
OK052 Battle Ridge R 1.05 153 IAML 06 34 01.9
comp=N,418nm,0.2s
OK052 IAML 06 34 02.5
comp=N,379nm,0.2s
OK029 Liberty Lake 1.14 183 IAML 06 34 01.6
comp=N,456nm,0.2s
OK029 IAML 06 34 03.9
comp=N,569nm,0.3s
DEOK Depew 1.31 146 IAML 06 34 08.4
comp=N,412nm,0.3s
DEOK IAML 06 34 08.5
comp=E,328nm,0.3s
U32A Winter Ranch, 1.41 247 P **Pb 06 33 49.7 -0.3**
baz=66
U32A S **Sg 06 34 09.0 +0.1**
baz=66
TUL3 Leonard 1.65 128 P **Pn 06 33 52.4 -0.3**
baz=310,SNR=134
TUL3 S **Sb 06 34 15.1 +0.2**
baz=310
CSTR Hydro, Custer 1.66 219 Pb 06 33 53.9 -0.4
FNO Franklin 1.68 180 Pb 06 33 53.7 -0.9
R32A Long Quarter, 1.81 325 Pb 06 33 56.1 -0.9
R32A Long Quarter, 1.81 325 P **Pb 06 33 56.0 -0.9**
baz=144
R32A S **Sb 06 34 20.1 +0.3**
baz=144
RLO Rose Lookout 2.06 111 Pn **Pb 06 33 59.4 -1.7**
KSU1 Kansas State U 2.25 16 Pn **Pn 06 34 01.7 +0.8**
KSU1 Kansas State U 2.25 16 P **Pn 06 34 01.9 +1.0**
baz=196
KSU1 S **Sb 06 34 31.9 -0.3**
baz=196
WMOK Wichita Mounta 2.47 208 Pn **Pn 06 34 04.8 +0.9**
WMOK Wichita Mounta 2.47 208 P **Pn 06 34 04.9 +1.0**
baz=27,SNR=16
WMOK S **Sb 06 34 36.7 -1.8**
baz=27
U38A Gravette 2.47 101 Pn **Pn 06 34 04.9 +1.0**
U38A Gravette 2.47 101 P **Pn 06 34 04.9 +1.0**
baz=283,SNR=31
CBKS Cedar Bluff 2.64 316 P **Pn 06 34 07.6 +1.3**
baz=134
HHAR Hobbs 2.85 102 Pn 06 34 10.3 +1.1
HHAR Hobbs 2.85 102 S **Sn 06 34 45.8 +2.1**
baz=284
SMWD Samnorwood 2.94 232 IAmb_Lg 06 35 00.8
comp=Z,24nm,0.8s
S39A Bolivar 3.33 76 IAmb_Lg 06 35 15.4
comp=Z,24nm,0.8s
S39A Bolivar 3.33 76 P **Pn 06 34 15.9 +0.2**
baz=258
U40A Yellville 3.70 98 P **Pn 06 34 21.8 +1.0**
baz=280,SNR=5.9
U40A P **Pn 06 34 21.8 +1.0**
baz=280,SNR=5.9
U40A Sb **Sb 06 35 17.4 +3.5**
baz=280
U40A Sb **Sb 06 35 17.4 +3.5**
baz=280
N33A J Bar K, Exete 3.80 359 IAmb_Lg 06 35 21.7
comp=Z,27nm,0.9s
AMTX Amarillo 4.04 241 IAmb_Lg 06 35 34.7
comp=Z,20nm,0.8s
AMTX Amarillo 4.04 241 S **Sg 06 35 30.2 -3.1**
baz=58
P38A Dawn 4.05 47 IAmb_Lg 06 35 34.3
comp=Z,23nm,0.7s
MGMO Mountain Grove 4.11 85 IAmb_Lg 06 35 32.9
comp=Z,27nm,0.7s
N35A Tabor 4.15 19 S **Sg 06 35 33.4 -3.4**
baz=199
Z38A Mt. Pleasant 4.17 151 IAmb_Lg 06 35 46.0
comp=Z,26nm,0.9s
R40A Maddies Stadio 4.29 70 IAmb_Lg 06 35 41.1
comp=Z,21nm,1.0s
RTBA Rita Blanca 4.32 265 Pn 06 34 30.7 +1.2
FCAR Ozark Folk Cen 4.38 102 IAmb_Lg 06 35 42.4
comp=Z,32nm,0.7s
X40A Basin Creek Pa 4.44 122 IAmb_Lg 06 35 46.5
comp=Z,17nm,0.7s
BGNE Belgrade 4.50 353 IAmb_Lg 06 35 53.0
comp=Z,33nm,0.8s
KSCO Kaye Shedlock' 4.62 298 IAmb_Lg 06 36 00.5
comp=Z,20nm,0.7s
UALR University of 4.63 116 IAmb_Lg 06 36 01.7
comp=Z,16nm,0.7s
WLAR White Oak Lake 4.77 132 IAmb_Lg 06 36 04.8
comp=Z,27nm,1.1s
P40A Paris 4.94 57 IAmb_Lg 06 36 11.4
comp=Z,23nm,1.1s
CCM Cathedral Cave 5.01 75 IAmb_Lg 06 36 05.8
comp=Z,15nm,0.7s
N38A Joes South For 5.04 39 IAmb_Lg 06 36 12.4
comp=Z,28nm,0.7s
237A Washetta, Mont 5.09 165 P **Pn 06 34 40.2 +0.2**
baz=346,SNR=6.5
OGNE Ogallala 5.39 319 IAmb_Lg 06 36 20.2
comp=Z,17nm,0.8s
PBMO Poplar Bluff 5.59 90 IAmb_Lg 06 36 18.0
comp=Z,19nm,0.8s
HBAR Harrisburg 5.62 102 IAmb_Lg 06 36 19.0
comp=Z,26nm,0.8s
T25A Trinidad 5.62 274 IAmb_Lg 06 36 31.1
comp=Z,20nm,1.0s
FVM French Village 5.64 77 IAmb_Lg 06 36 19.2
comp=Z,19nm,0.9s
SLM Saint Louis 5.92 71 IAmb_Lg 06 36 30.6
comp=Z,20nm,0.7s
K30B Basset 5.98 344 IAmb_Lg 06 36 46.5
comp=Z,23nm,0.9s
CGM3 Cape Girardeau 6.19 84 IAmb_Lg 06 36 39.1
comp=Z,20nm,0.9s
S44A Carbondale 6.53 81 IAmb_Lg 06 36 48.9
comp=Z,21nm,0.8s
JCT Junction City 6.75 198 IAmb_Lg 06 37 11.6
comp=Z,14nm,0.8s
Q44A Meyer Farm, Va 6.91 71 IAmb_Lg 06 37 05.2
comp=Z,20nm,0.9s
M44A Midewin, Midew 8.51 56 IAmb_Lg 06 38 01.9
comp=Z,15nm,0.9s

*NEIC **23** 06:34:54.1, 7.˚10S×105.˚95E, h46km*
*NEIC **23** 06:34:55.0±2.9, 7.˚09S±0.˚05×105.˚96E±0.˚05, h48km±3km, mb5.9/224, Ms_20 5.6/314, Mww5.9/36, Error ellipse: s-maj=8.3km s-min=7.3km az=144.0*
*MOS **23** 06:34:54.0±1.0, 6.˚32S×106.˚11E, h44km, mb6.1/49, MS5.4/29, Error ellipse: s-maj=8.2km s-min=4.1km az=116.8*
*NEIC **23** 06:34:54.1, 7.˚40S×105.˚75E, h46km, Moment Tensor Solution. Duration: 48s7 Moment tensor: Scale 1017Nm; Mrr=0.65; Mθθ-2.81; Mφφ3.46; Mrθ6.90; Mrφ-2.98; Mθφ5.69; Fault plane solution: M09.51000×1017 NP1:φs39.44000°, δ89.01000°, λ67.62000°. NP2:φs307.03000°, δ22.40000°, λ177.39000°. Principal axes: T 7.8245, Plg42.0000°, Azm288.0000°; N 3.3721, Plg22.0000°, Azm40.0000°; P -11.1966, Plg40.0000°, Azm150.0000°;*
*BJI **23** 06:34:54.0±0.0, 7.˚00S×106.˚10E, h60km, mb5.5/81, mB5.6/61, Ms5.8/85, Ms7 5.7/80*
*IPGP **23** 06:34:54.0, 7.˚20S×105.˚92E, h48km, Mw6.0, Fault plane solution: NP1:φs55.00000°, δ81.00000°, λ57.00000°. NP2:φs311.00000°, δ34.00000°, λ164.00000°.*
*DJA **23** 06:34:54.3±0.2, 7.˚5S±2.˚1×107.˚6E±.˚1, h46km±2km, M6.0/96, mB6.4/89, mb6.0/96, MLv6.7/25, Mw(mB)6.1/89, MwMwp5.8/74, Mwp5.8/74*
*IDC **23** 06:34:55.3±0.8, 6.˚70S×106.˚32E, h57km±6km, mb5.5/45, mbtmp5.7/45, MS5.4/68, Error ellipse: s-maj=10.4km s-min=6.7km az=57.0*
*GCMT **23** 06:34:57.0±0.1, 7.˚18S±0.˚01×106.˚16E±0.˚01, h53km, MW6.0/160, Moment Tensor Solution. s160,c353; s147,c451; Duration: 2s5 Moment tensor: Scale 1018 Nm; Mrr=0.22±.01; Mθθ-1.02±.01; Mφφ0.79±.01; Mrθ0.82±.01; Mrφ-0.17±.01; Mθφ0.57±.01; Best double couple: M01.35100×1018 NP1:φs47.00000°, δ85.00000°, λ49.00000°. NP2:φs311.00000°, δ41.00000°, λ172.00000°. Principal axes: T 1.1980, Plg37.0000°, Azm282.0000°; N 0.3020, Plg40.0000°, Azm51.0000°; P -1.5030, Plg28.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 23 06:34:54.8±0.2, 6˚91S±0.˚03×106˚12E±0.˚02, h57km±1km, h57km:pP-P,n2068,σ1s68/2122, mb5.9/268, MS5.6/287, 136C-72D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.44**	**103**	P	**Pn**	**06 35 05.1**	**-0.8**
DBJI	**Dramaga**	**0.72**	**61**	P	**Pn**	**06 35 10.5**	**+1.5**
DBJI				S	**Sn**	**06 35 23.7**	**+4.2**
SBJI	**Serang**	**0.78**	**1**	P	**Pn**	**06 35 11.7**	**+1.9**
CBJI	**Citeko**	**0.87**	**56**	P	**Pn**	**06 35 11.8**	**+0.8**
TNG	**Tangerang**	**0.90**	**36**	P	**Pn**	**06 35 13.5**	**+2.2**
TNG				S	**Sn**	**06 35 29.0**	**+5.5**
CNJI	**Cibinong**	**1.08**	**112**	P	**Pn**	**06 35 12.5**	**-1.2**
LEM	**Lembang**	**1.49**	**87**	P	**Pn**	**06 35 21.0**	**+1.6**
LEM	**Lembang**	**1.49**	**87**	P	**Pn**	**06 35 20.9**	**+1.6**
	106μm,0.7s,baz=290,slow=3.0,SNR=742						
LEM				LR	LR	06 36 05.9	
	comp=Z,216μm,19.4s,baz=287,slow=55						
LEM	**Lembang**	**1.49**	**87**	P	**Pn**	**06 35 20.5**	**+1.1**
BBJI	**Bungbulang**	**1.61**	**110**	P	**Pn**	**06 35 20.6**	**-0.4**
BBJI	**Bungbulang**	**1.61**	**110**	P	**Pn**	**06 35 20.3**	**-0.7**
BBJI				S	**Sn**	**06 35 39.1**	**-1.7**
KASI	**Kota Agung**	**2.12**	**310**	P	**Pn**	**06 35 28.8**	**+1.0**
JCJI	**Jatiwangi**	**2.17**	**79**	P	**Pn**	**06 35 29.3**	**+0.7**
CMJI	**Cimerak**	**2.47**	**111**	P	**Pn**	**06 35 31.6**	**-1.0**
CMJI				S	**Sn**	**06 35 59.1**	**-2.5**
LWLI	**Liwa**	**2.78**	**312**	P	**Pn**	**06 35 39.3**	**+2.4**
LWLI				S	**Sn**	**06 36 13.1**	**+3.7**
KPJI	**Karang Pucung**	**2.82**	**99**	P	**Pn**	**06 35 38.3**	**+0.9**
XMI	**Christmas Isla**	**3.55**	**187**	P	Pn	06 35 42.5	-4.9
XMIS	**Christmas Isla**	**3.58**	**187**		Pn	06 35 42.1	-5.8
XMIS	**Christmas Isla**	**3.58**	**187**	P	Pn	06 35 42.7	-5.2
LHSI	**Lahat**	**4.00**	**320**	P	**Pn**	**06 35 57.6**	**+4.0**
EGSI	**Enggano, Bengk**	**4.12**	**292**	P	**Pn**	**06 35 56.2**	**+1.0**
EGSI				S	**Sn**	**06 35 59.9**	**-2.3**
PMBI	**Palembang**	**4.17**	**341**		**Pn**	**06 35 59.4**	**+3.5**
PMBI	**Palembang**	**4.17**	**341**	P	**Pn**	**06 36 00.0**	**+4.0**
PMBI	**Palembang**	**4.17**	**341**	⇓P	**Pn**	**06 35 59.9**	**+3.9**
PMBI	**Palembang**	**4.17**	**341**	P	**Pn**	**06 36 00.2**	**+4.2**
YOGI	**Yogyakarta**	**4.24**	**103**	P	**Pn**	**06 35 57.0**	**+0.2**
SMRI	**Semarang**	**4.29**	**92**	Pn	**Pn**	**06 35 59.6**	**+2.0**
SMRI	**Semarang**	**4.29**	**92**	P	**Pn**	**06 35 59.9**	**+2.3**
SMRI	**Semarang**	**4.29**	**92**	⇑P	**Pn**	**06 35 59.6**	**+2.0**
SMRI	**Semarang**	**4.29**	**92**	P	**Pn**	**06 35 59.1**	**+1.5**
UGM	**Wanagama**	**4.48**	**103**		**Pn**	**06 36 01.2**	**+1.0**
UGM	**Wanagama**	**4.48**	**103**	P	**Pn**	**06 36 01.3**	**+1.1**
UGM	**Wanagama**	**4.48**	**103**	P	**Pn**	**06 36 00.5**	**+0.3**
UGM				S	**Sn**	**06 36 49.9**	**-1.2**
UBSI	**University, Be**	**4.94**	**309**	P	**Pn**	**06 36 08.5**	**+2.0**
	2μm,0.6s,82μm74μm40nm						
NGJI	**Ngawi**	**5.32**	**95**	P	**Pn**	**06 36 14.5**	**+2.8**
	3μm,1.2s,83μm148μm46nm						
SJI	**Sawahan**	**5.66**	**99**	P	**Pn**	**06 36 18.8**	**+2.4**
	3μm,0.6s,53μm65μm55nm						
GRJI	**Gresik**	**6.31**	**90**	P	**Pn**	**06 36 27.3**	**+2.0**
	6μm,0.9s,61μm69μm24nm						
KRKI	**Karangkates**	**6.40**	**102**	P	**Pn**	**06 36 28.0**	**+1.5**
	5μm,0.7s,65μm83nm						
DSRI	**Dabo**	**6.57**	**346**	P	**Pn**	**06 36 32.5**	**+3.7**
	1μm,1.0s,32μm77μm12nm						
BWJI	**Banwean**	**6.58**	**81**	P	**Pn**	**06 36 31.1**	**+2.1**
	2μm,0.6s,35μm48μm32nm						
KRJI	**Kerinci**	**6.67**	**316**	P	**Pn**	**06 36 32.4**	**+2.2**
	8μm,1.0s,82μm77μm46nm						
PPSI	**Pulau Pagai**	**7.35**	**304**	P	**Pn**	**06 36 39.2**	**-0.3**
	9μm,0.8s,87μm44μm36nm						
BLJI	**Banyuglugur**	**7.46**	**97**	P	**Pn**	**06 36 42.7**	**+1.7**
	2μm,0.9s,33μm61μm15nm						
KMMI	**Kalianget**	**7.79**	**92**	P	**Pn**	**06 36 49.0**	**+3.5**
	884nm,1.2s,21μm56μm5.8nm						
TPRI	**Tanjung Pinang**	**7.93**	**348**	P	**Pn**	**06 36 52.2**	**+4.7**
	2μm,1.2s,16μm57μm						
ABJI	**Asem Bagus**	**8.10**	**97**	P	**Pn**	**06 36 53.1**	**+3.4**
	5μm,0.7s,57μm53μm						
JAGI	**Jajag, Banyuwa**	**8.11**	**102**	Pn	**Pn**	**06 36 51.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**8.11**	**102**	P	**Pn**	**06 36 52.1**	**+2.2**
JAGI	**Jajag, Banyuwa**	**8.11**	**102**	P	**Pn**	**06 36 51.2**	**+1.3**
	3μm,1.2s,36μm64μm						
PDSI	**Padang**	**8.20**	**316**	P	**Pn**	**06 36 51.6**	**+0.4**
BYJI	**Banyuwangi**	**8.27**	**100**	P	**Pn**	**06 36 55.8**	**+3.7**
STKI	**Sintang**	**8.75**	**38**	P	**Pn**	**06 37 01.9**	**+3.2**
	571nm,0.9s,21μm						
BKNI	**Bangkinang**	**8.79**	**325**		**Pn**	**06 37 00.5**	**+1.2**
BKNI	**Bangkinang**	**8.79**	**325**	P	**Pn**	**06 37 01.1**	**+1.8**
BKNI	**Bangkinang**	**8.79**	**325**	S	**Sn**	**06 38 40.8**	**+3.8**
BKNI				P	**Pn**	**06 36 59.5**	**+0.2**
BKNI	**Bangkinang**	**8.79**	**325**	⇑P	**Pn**	**06 37 00.5**	**+1.2**
BKNI	**Bangkinang**	**8.79**	**325**	P	**Pn**	**06 37 00.7**	**+1.4**
	815nm,0.9s,15μm46μm						
MYKOM	**Kota Tinggi**	**8.93**	**345**		**Pn**	**06 37 04.1**	**+2.9**
MYKOM	**Kota Tinggi**	**8.93**	**345**	⇑P	**Pn**	**06 37 05.6**	**+4.4**
MYKOM	**Kota Tinggi**	**8.93**	**345**	P	**Pn**	**06 37 04.3**	**+3.1**
	660nm,1.1s,17μm54μm						
SISI	**Saibi**	**8.94**	**308**	P	**Pn**	**06 36 59.8**	**-1.4**
	2μm,0.8s,33μm44μm						
SRBI	**Singaraja**	**9.09**	**98**	P	**Pn**	**06 37 04.6**	**+1.2**
	3μm,0.7s,25μm35μm						
IGBI	**Denpasar**	**9.14**	**103**	P	**Pn**	**06 37 04.5**	**+0.5**
	1μm,0.6s,27μm17μm						
DNP	**Denpasar**	**9.18**	**102**	P	**Pn**	**06 37 06.2**	**+1.7**
	5μm,0.7s,88μm34μm						
KSM	**Kuching**	**9.31**	**27**		**Pn**	**06 37 10.3**	**+3.8**
KSM	**Kuching**	**9.31**	**27**	P	Pn	06 37 11.8	+5.4
KSM	**Kuching**	**9.31**	**27**	⇑P	Pn	06 37 11.7	+5.3
KSM	**Kuching**	**9.31**	**27**	P	**Pn**	**06 37 09.6**	**+3.2**
	256nm,1.2s,3μm25μm						
BBKI	**Banjar Baru**	**9.33**	**69**	P	**Pn**	**06 37 09.8**	**+3.1**
	758nm,1.1s,13μm						
PBSI	**Pulau Batu**	**10.37**	**311**	P	**Pn**	**06 37 19.0**	**-1.8**
	3μm,1.2s,31μm36μm						
I06AU	**Cocos Islands**	**10.55**	**240**	I	I	07 38 40.0	
	baz=58,slow=288,SNR=0.7						
COCO	**West Island**	**10.55**	**239**		**Pn**	**06 37 19.1**	**-4.3**
COCO	**West Island**	**10.55**	**239**	P	**Pn**	**06 37 19.1**	**-4.3**
MTKI	**Muara Teweh, K**	**10.57**	**56**	P	**Pn**	**06 37 26.5**	**+2.9**
	353nm,1.4s,11μm						
TWSI	**Taliwang, Sumb**	**10.82**	**100**	P	**Pn**	**06 37 27.3**	**+0.3**
	1μm,1.1s,12μm33μm						
SBUM	**Sibu**	**11.11**	**33**	Pn	**Pn**	**06 37 34.6**	**+3.7**
SBUM	**Sibu**	**11.11**	**33**	P	**Pn**	**06 37 35.7**	**+4.7**
	290nm,1.0s,5μm11μm						
PLAI	**Plampang**	**11.70**	**100**	P	**Pn**	**06 37 38.8**	**-0.3**
PLAI	**Plampang**	**11.70**	**100**	P	**Pn**	**06 37 37.7**	**-1.4**
	1μm,0.9s,13μm29μm						
GSI	**Gunungsitoli**	**11.80**	**313**		**Pn**	**06 37 37.1**	**-3.3**
GSI	**Gunungsitoli**	**11.80**	**313**	P	**Pn**	**06 37 37.6**	**-2.8**
GSI	**Gunungsitoli**	**11.80**	**313**	P	**Pn**	**06 37 36.9**	**-3.5**
	782nm,0.6s,11μm31μm						
RPSI	**Rantau Prapat**	**11.94**	**323**		**Pn**	**06 37 39.8**	**-2.5**
PSI	**Prapat**	**12.02**	**323**	P	**Pn**	**06 37 40.8**	**-2.8**
PSI	**Prapat**	**12.02**	**323**	P	**Pn**	**06 37 39.8**	**-3.8**
PSI	**Prapat**	**12.02**	**323**	P	**Pn**	**06 37 40.2**	**-3.4**
	181nm,1.6s,4μm9μm						
BKB	**Balikpapan**	**12.12**	**63**		**Pn**	**06 37 49.0**	**+4.2**
BKB	**Balikpapan**	**12.12**	**63**	P	P	06 37 50.7	-5.0
BKB	**Balikpapan**	**12.12**	**63**	P	**Pn**	**06 37 47.9**	**+3.1**
	388nm,0.8s,12μm16μm						
DBNI	**Kabupaten Domp**	**12.19**	**98**	P	**Pn**	**06 37 44.4**	**-1.3**
	500nm,0.9s,8μm						
SMKI	**Samarinda**	**12.79**	**60**	P	**Pn**	**06 37 58.3**	**+4.4**
	912nm,1.1s,17μm18μm						
PMSI	**Majene**	**13.18**	**76**	P	**Pn**	**06 38 02.9**	**+3.6**
	554nm,1.4s,22μm29μm						
KULM	**Kulim**	**13.29**	**336**	Pn	**Pn**	**06 38 01.4**	**+0.6**
KULM	**Kulim**	**13.29**	**336**	⇑P	**Pn**	**06 38 01.1**	**+0.4**
KULM	**Kulim**	**13.29**	**336**	P	**Pn**	**06 38 01.1**	**+0.4**
	289nm,1.4s,10μm31μm						
KCSI	**Kotacane, Aceh**	**13.29**	**321**	P	**Pn**	**06 37 56.5**	**-4.3**
MKS	**Makassar**	**13.38**	**84**	P	**Pn**	**06 38 03.0**	**+1.0**
	297nm,1.2s,16μm18μm						
MMSI	**Mamuju**	**13.41**	**72**	P	**Pn**	**06 38 05.7**	**+3.2**
	214nm,2.5s,10μm13μm						
SNSI	**Sinabang, Aceh**	**13.46**	**313**	P	**Pn**	**06 37 59.2**	**-3.9**
KAPI	**Kappang**	**13.69**	**83**	Pn	**Pn**	**06 38 09.1**	**+2.9**
KAPI	**Kappang**	**13.69**	**83**	P	**Pn**	**06 38 09.1**	**+2.9**
KAPI	**Kappang**	**13.69**	**83**	P	**Pn**	**06 38 09.6**	**+3.4**
	85nm,0.8s,baz=255,slow=12,SNR=22						
KAPI				LR	LR	06 44 08.9	
	comp=Z,33μm,18.4s,baz=256,slow=41						
KAPI				ScP	**ScP**	**06 46 55.8**	**-0.7**
	9.2nm,0.4s,baz=90,slow=13,SNR=4.4						
BKSI	**Bulukumba**	**14.01**	**84**	P	**Pn**	**06 38 12.9**	**+2.4**
	575nm,1.2s,18μm23μm						
TTSI	**Tana Toraja**	**14.17**	**75**	P	**P**	**06 38 18.0**	**-0.5**
	502nm,2.0s,24μm23μm						
BASI	**Baing, Sumba**	**14.67**	**104**	P	**Pn**	**06 38 15.7**	**-3.5**
	3μm,1.3s,33μm23μm						
MLSI	**Meulaboh, Aceh**	**14.74**	**319**	P	Pn	06 38 15.0	-5.1
SKLT	**Songkhla**	**15.02**	**338**	P	**Pn**	**06 38 23.2**	**-0.5**
LHMI	**Lhok Sumawe**	**15.14**	**323**		**Pn**	**06 38 24.3**	**-0.9**
LHMI	**Lhok Sumawe**	**15.14**	**323**	P	**Pn**	**06 38 24.2**	**-1.0**
LHMI	**Lhok Sumawe**	**15.14**	**323**	P	**Pn**	**06 38 20.2**	**-5.0**
MPSI	**Mapaga**	**15.52**	**63**	P	**P**	**06 38 33.8**	**+0.3**
	452nm,1.8s,9μm16μm						
EDFI	**Ende, Flores**	**15.53**	**98**	P	**Pn**	**06 38 25.2**	**-5.3**
MMRI	**Maumere**	**16.06**	**97**	P	**P**	**06 38 39.5**	**-0.1**
MMRI	**Maumere**	**16.06**	**97**	P	**Pn**	**06 38 34.1**	**-3.0**
	2μm,0.9s,26μm20μm						
KKM	**Kota Kinabalu**	**16.34**	**38**	P	**P**	**06 38 44.5**	**+1.8**
KKM				IAmb	IAmb	06 38 48.4	
	comp=Z,572nm,0.9s						
KKM	**Kota Kinabalu**	**16.34**	**38**	P	**P**	**06 38 44.9**	**+2.2**
KKM	**Kota Kinabalu**	**16.34**	**38**	⇑P	**P**	**06 38 43.6**	**+0.9**
KKM	**Kota Kinabalu**	**16.34**	**38**	P	**P**	**06 38 43.9**	**+1.2**
	comp=Z,687nm,1.6s,comp=Z,1μm						
BBSI	**Bau Bau**	**16.41**	**86**	P	**P**	**06 38 42.8**	**-0.7**
	comp=Z,784nm,0.9s,comp=Z,11μmcomp=Z,20μm						
TOLI2	**Tolitoli**	**16.66**	**62**	P	**P**	**06 38 48.5**	**+2.3**
TOLI2	**Tolitoli**	**16.66**	**62**	P	**P**	**06 38 49.4**	**+3.2**
SRIT	**Nakonsritamara**	**16.71**	**337**	Pn	**Pn**	**06 38 44.6**	**-0.7**
SRIT	**Nakonsritamara**	**16.71**	**337**	P	**Pn**	**06 38 45.7**	**+0.5**
SURA	**Surathani**	**17.23**	**338**	P	**Pn**	**06 38 50.8**	**-0.8**
MRSI	**Marisa**	**17.41**	**66**	P	**P**	**06 38 56.7**	**+2.3**
	comp=Z,574nm,1.0s,comp=Z,13μmcomp=Z,20μm						
GIRL	**Giralia**	**17.49**	**154**	P	**Pn**	**06 38 51.9**	**-2.9**
	baz=17,SNR=233						
GIRL	**Giralia**	**17.49**	**154**	P	**Pn**	**06 38 52.4**	**-2.4**
GIRL	**Giralia**	**17.49**	**154**	P	**Pn**	**06 38 53.6**	**-1.2**
LUWI	**Luwuk**	**17.60**	**71**	P	**P**	**06 38 59.8**	**+3.2**
LUWI	**Luwuk**	**17.60**	**71**	P	**P**	**06 39 00.8**	**+4.3**
LUWI	**Luwuk**	**17.60**	**71**	P	**P**	**06 38 57.5**	**+0.9**
LUWI	**Luwuk**	**17.60**	**71**	⇓P	**P**	**06 38 58.3**	**+1.8**
LUWI	**Luwuk**	**17.60**	**71**	P	**P**	**06 38 58.1**	**+1.6**
	comp=Z,1μm,1.1s,comp=Z,24μmcomp=Z,22μm						
SOEI	**Soe**	**18.18**	**100**	P	**P**	**06 39 03.2**	**+0.1**
SOEI				IAmb	IAmb	06 39 14.9	
	comp=Z,1μm,0.8s						
SOEI	**Soe**	**18.18**	**100**	P	**Pn**	**06 39 04.5**	**+1.1**
SOEI	**Soe**	**18.18**	**100**	P	**P**	**06 38 59.5**	**-3.6**
SOEI				S	**Sn**	**06 42 24.2**	**-1.5**
SOEI	**Soe**	**18.18**	**100**	P	**P**	**06 39 01.1**	**-2.0**
	comp=Z,2μm,1.0s,comp=Z,28μmcomp=Z,24μm						
GTOI	**Gorontalo**	**18.44**	**67**	P	**Pn**	**06 39 06.4**	**-0.1**
	comp=Z,161nm,1.2s,comp=Z,6μmcomp=Z,9μm						
DLV	**T Lat**	**18.87**	**7**	P	**Pn**	**06 39 13.7**	**+1.8**
DLV	**T Lat**	**18.87**	**7**	P	**Pn**	**06 39 13.7**	**+1.8**
DLV	**T Lat**	**18.87**	**7**	⇑P	**Pn**	**06 39 13.0**	**+1.1**
KMSI	**Cibinong**	**19.31**	**68**	P	**P**	**06 39 15.4**	**+0.1**
	comp=Z,2μm,1.0s,comp=Z,28μmcomp=Z,12μm						
PSA00	**Pilbara Seismi**	**19.71**	**139**	P	**P**	**06 39 19.7**	**0.0**
PSA00				IAmb	IAmb	06 39 22.4	
	comp=Z,893nm,0.8s						
PSA00	**Pilbara Seismi**	**19.71**	**139**	P	**P**	**06 39 19.9**	**+0.2**
PSA00				IAmb	IAmb	06 39 22.4	
	comp=Z,826nm,0.9s						
PSA00	**Pilbara Seismi**	**19.71**	**139**	P	**P**	**06 39 20.5**	**+0.8**
SANI	**Sanana**	**20.38**	**77**	P	**P**	**06 39 28.0**	**+1.0**
SANI	**Sanana**	**20.38**	**77**	P	Pn	06 39 28.8	-0.7
SANI				S	**S**	**06 43 13.8**	**+1.4**
SANI	**Sanana**	**20.38**	**77**	P	**P**	**06 39 27.3**	**+0.3**
	comp=Z,327nm,0.9s,comp=Z,8μmcomp=Z,19μm						
NLAI	**Namlea**	**21.21**	**81**	P	**P**	**06 39 37.5**	**+1.5**
	comp=Z,312nm,0.8s,comp=Z,12μm						
NAYO	**Nakonayok**	**21.61**	**347**	P	**P**	**06 39 41.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**22.04**	**122**	P	**P**	**06 39 44.4**	**-0.4**
	baz=22,SNR=161						
FITZ	**Fitzroy Crossi**	**22.04**	**122**	P	**P**	**06 39 44.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.04**	**122**	P	**P**	**06 39 44.9**	**+0.1**
SGSI	**Sangihe**	**22.05**	**62**	P	**P**	**06 39 48.6**	**+3.7**
	comp=Z,336nm,0.7s,comp=Z,14μmcomp=Z,8μm						
UBPT	**Khong Chiam**	**22.05**	**358**	P	**P**	**06 39 45.9**	**+1.0**
UBPT	**Khong Chiam**	**22.05**	**358**	P	**P**	**06 39 45.7**	**+0.8**
UBPT	**Khong Chiam**	**22.05**	**358**	⇑P	**P**	**06 39 44.1**	**-0.8**
LBMI	**Labuha**	**22.21**	**75**	P	**P**	**06 39 48.7**	**+1.9**
	comp=Z,1μm,1.0s,comp=Z,15μm						
SRDT	**SRDT**	**22.23**	**342**	P	**P**	**06 39 48.1**	**+1.3**
KRAI	**Karang Ratu**	**22.47**	**82**	P	**P**	**06 39 47.3**	**-2.2**
	comp=Z,123nm,0.8s,comp=Z,3μm						
TNTI	**Ternate**	**22.53**	**71**	IAmb	IAmb	06 39 54.3	
	comp=Z,776nm,1.2s						
TNTI	**Ternate**	**22.53**	**71**	P	**P**	**06 39 53.2**	**+3.0**
TNTI	**Ternate**	**22.53**	**71**	P	**P**	**06 39 52.1**	**+1.9**
	comp=Z,548nm,1.4s,comp=Z,8μmcomp=Z,5μm						
MEEK	**Meekatharra**	**22.95**	**150**	P	**P**	**06 39 53.

QIZ LR LR
comp=Z,11µm,18.4s
QIZ LR LR
comp=Z,23µm,15.9s
QIZ Qiongzhong 26.03 8 IAMs_20 IAMs_20 06 51 51.7
comp=Z,24µm,19.0s
QIZ Qiongzhong 26.03 8 P **P** **06 40 26.6 +3.8**
CM31 Chiang Mai Arr 26.18 344 P **P** **06 40 24.5 +0.3**
CM31 Chiang Mai Arr 26.18 344 P **P** **06 40 23.5 -0.7**
SNR=28
CM31 P **P** **06 40 23.5 -0.7**
SNR=28
CM31 S **S** **06 44 53.1 +0.9**
CM31 S **S** **06 44 53.1 +0.9**
CMAR Chiang Mai Arr 26.18 344 P **P** **06 40 23.6 -0.5**
CMAR Chiang Mai Arr 26.18 344 P **P** **06 40 22.7 -1.5**
comp=Z,23nm,0.7s,baz=180,slow=8.1,SNR=17
CMAR PcP **PcP** **06 43 52.1 +1.9**
comp=Z,32nm,1.0s,baz=214,slow=3.2,SNR=7.0
CMAR ScP **ScP** **06 47 26.4 +1.1**
comp=Z,14nm,0.9s,baz=203,slow=3.1,SNR=11
comp=Z,23nm,0.7s
FAKI Fak Fak 26.33 83 P **P** **06 40 26.9 +1.3**
FAKI Fak Fak 26.33 83 ⇓P **P** **06 40 24.4 -1.2**
FAKI Fak Fak 26.33 83 P **P** **06 40 25.2 -0.4**
comp=Z,230nm,0.9s,comp=Z,6µmcomp=Z,8µm
CHTO Chiang Mai 26.52 345 P **P** **06 40 26.1 -1.1**
CHTO Chiang Mai 26.52 345 IAMs_20 IAMs_20 06 52 00.2
comp=Z,14µm,20.0s
CHTO Chiang Mai 26.52 345 P **P** **06 40 26.6 -0.6**
CHTO Chiang Mai 26.52 345 ⇑P **P** **06 40 25.6 -1.6**
CHTO Chiang Mai 26.52 345 P **P** **06 40 26.1 -1.1**
CHTO pmax pmax
comp=Z,72nm,1.1s
CHTO MLR MLR
comp=Z,14µm,20.0s
CHTO Chiang Mai 26.52 345 P **P** **06 40 25.8 -1.4**
CHTO P **P** **06 40 25.8 -1.4**
CHTO S **S** **06 44 54.1 -3.5**
CHTO S **S** **06 44 54.1 -3.5**
KDU Kakadu 26.58 105 P **P** **06 40 26.5 -1.3**
baz=27,SNR=80
KDU Kakadu 26.58 105 P **P** **06 40 27.3 -0.6**
KDU Kakadu 26.58 105 ⇑P **P** **06 40 26.6 -1.3**
MUN Mundaring 26.66 161 P **P** **06 40 28.4 0.0**
baz=27,SNR=58
MUN Mundaring 26.66 161 P **P** **06 40 28.6 +0.2**
KLBR Kellerberrin 26.86 158 P **P** **06 40 30.1 -0.1**
baz=27,SNR=12
KLBR Kellerberrin 26.86 158 P **P** **06 40 30.4 +0.2**
CRAI Chiangrai 27.55 348 P **P** **06 40 36.2 -0.3**
KMPI Kaimana, Papua 27.65 85 P **P** **06 40 37.5 0.0**
comp=Z,778nm,0.9s,comp=Z,9µmcomp=Z,9µm
WRKA Warakurna 27.84 133 P **P** **06 40 38.6 -0.5**
baz=28,SNR=178
WRKA Warakurna 27.84 133 P **P** **06 40 39.2 +0.1**
WRKA Warakurna 27.84 133 ⇑P **P** **06 40 38.5 -0.5**
NWAO Narrogin (SRO) 27.88 160 P **P** **06 40 39.6 +0.3**
baz=28,SNR=27
NWAO P **P** **06 40 39.6 +0.3**
baz=28,SNR=27
NWAO Narrogin (SRO) 27.88 160 P **P** **06 40 39.3 0.0**
NWAO Narrogin (SRO) 27.88 160 P **P** **06 40 39.4 +0.1**
comp=Z,146nm,0.9s,baz=326,slow=9.8,SNR=52
NWAO LR LR 06 50 26.3
comp=Z,23µm,21.7s,baz=330,slow=33
comp=Z,146nm,0.9s
KMBL Kambalda 28.45 151 P **P** **06 40 43.7 -0.7**
baz=28,SNR=225
KMBL Kambalda 28.45 151 P **P** **06 40 44.0 -0.4**
HALK Hakmana 28.48 296 ⇑P **P** **06 40 47.1 +2.3**
H01W3 Cape Leeuwin H 28.81 166 P **P** **06 40 48.7 +1.5**
baz=354,slow=5.8,SNR=9.1
H01W3 T T 07 11 13.7
baz=345
H01W1 Cape Leeuwin H 28.82 166 P **P** **06 40 48.4 +1.0**
baz=354,slow=5.8,SNR=14
H01W1 T T 07 11 13.7
baz=345,SNR=4318
H01W2 Cape Leeuwin H 28.82 166 P **P** **06 40 49.2 +1.8**
baz=354,slow=5.8,SNR=7.8
H01W2 T T 07 11 14.3
baz=345
PALK Pallekele 29.00 299 P **P** **06 40 51.3 +1.8**
PALK IAmb IAmb 06 40 54.0
comp=Z,320nm,1.2s
PALK Pallekele 29.00 299 P **P** **06 40 51.1 +1.5**
comp=Z,137nm,1.0s,baz=217,slow=9.4,SNR=46
PALK ScP **ScP** **06 47 34.7 +0.5**
comp=Z,46nm,1.1s,baz=206,slow=5.1,SNR=8.3
PALK LR LR 06 51 08.6
comp=Z,18µm,21.4s,baz=225,slow=34
comp=Z,137nm,1.0s
RKGY Rocky Gully 29.33 162 P **P** **06 40 52.5 +0.3**
baz=29,SNR=24
RKGY Rocky Gully 29.33 162 P **P** **06 40 52.7 +0.5**
MALK Mahakanadarawa 29.69 300 P **P** **06 40 57.2 +1.6**
MALK S **S** **06 45 49.4 +1.8**
MALK Mahakanadarawa 29.69 300 ⇑P **P** **06 40 58.5 +3.0**
WRA Warramunga Arr 30.29 118 P **P** **06 41 00.5 -0.4**
comp=Z,597nm,0.8s,baz=292,slow=10,SNR=573
WRA S **S** **06 45 54.0 -3.1**
comp=Z,68nm,1.4s,baz=286,slow=19,SNR=5.7
WRA ScP **ScP** **06 47 38.9 +0.8**
comp=Z,42nm,1.1s,baz=323,slow=2.5,SNR=7.6
WRA LR LR 06 53 60.0
comp=Z,3µm,21.3s,baz=288,slow=38
WRA P3KPbc 07 12 56.0
comp=Z,4.4nm,1.0s,baz=114,slow=4.3,SNR=6.5
WRAB Tennant Creek 30.29 118 P **P** **06 41 00.9 0.0**
WRAB Tennant Creek 30.29 118 P **P** **06 41 00.9 0.0**
WRAB pmax pmax
comp=Z,797nm,1.0s
MND Mandalay 30.37 341 P **P** **06 41 00.3 -1.2**
FORT Forrest 31.41 142 P **P** **06 41 10.6 0.0**
baz=31,SNR=76
FORT Forrest 31.41 142 P **P** **06 41 09.9 -0.7**
FORT IAmb IAmb 06 41 12.7
comp=Z,318nm,0.9s
FORT Forrest 31.41 142 P **P** **06 41 11.4 +0.8**
AS31 Alice Springs 31.45 125 P **P** **06 41 10.8 -0.4**
ASAR Alice Springs 31.45 125 P **P** **06 41 10.8 -0.3**
comp=Z,297nm,1.0s,baz=300,slow=8.0,SNR=611
ASAR S **S** **06 46 12.6 -2.8**
comp=Z,25nm,0.9s,baz=294,slow=15,SNR=8.5
ASAR LR LR 06 53 32.4
comp=Z,6µm,21.5s,baz=296,slow=36
ASAR P3KPbc 07 12 49.4
comp=Z,1.0nm,0.9s,baz=124,slow=4.2,SNR=7.2
ASAR P3KP 07 14 04.3
comp=Z,5.6nm,1.0s,baz=52,slow=3.6,SNR=13
comp=Z,297nm,1.0s
AS01 Alice Springs 31.49 125 P **P** **06 41 11.7 +0.2**
SAIH SAIHA 31.92 337 *e*P **P** **06 41 13.6 -1.7**
SAIH *i* x x 06 50 19.0
KMI Kunming 32.01 354 ⇑P **P** **06 41 17.1 +1.0**
KMI PP **PP** **06 42 30.6 +1.2**
KMI pmax pmax
comp=Z,71nm,1.2s
KMI LR LR
comp=Z,20µm,15.8s
KMI LR LR
comp=Z,10µm,12.3s
KMI LR LR
comp=Z,27µm,16.1s
GULI GuiLin 32.27 7 ⇑P **P** **06 41 14.3 -3.8**
GULI S **S** **06 46 24.6 -3.1**
GULI pmax pmax
comp=Z,20nm,1.1s
GULI LR LR
comp=N,8µm,18.4s
GULI LR LR
comp=E,6µm,17.9s
GULI LR LR
comp=Z,12µm,16.3s
MDRS Chennai 32.47 308 *e*P **P** **06 41 21.6 +1.5**
MDRS IAmb IAmb 06 41 23.8
comp=Z,1µm,1.2s
TNCH TengChong 32.59 347 P **P** **06 41 20.3 -0.9**
TNCH pP pP 06 41 37.5 +2.0
TNCH S **S** **06 46 33.8 +0.6**
TNCH sS sS 06 46 59.0 +1.5
TNCH pmax pmax
comp=Z,97nm,0.7s
TNCH pmax pmax
comp=Z,570nm,3.5s
TNCH LR LR
comp=Z,9µm,13.3s
TNCH LR LR
comp=Z,4µm,11.3s
TNCH LR LR
comp=Z,14µm,17.0s
TRD Trivandrum 32.86 297 *e*P **P** **06 41 26.8 +3.4**
TRD *i* x x 06 50 14.1
AZL Aizawl 33.16 337 *e*P **P** **06 41 22.7 -3.4**
GYA Guiyang 33.17 1 ⇑P **P** **06 41 25.5 -0.7**
GYA sP sP 06 41 46.4 -0.8
GYA PP **PP** **06 42 40.1 -2.1**
GYA S **S** **06 46 41.1 -0.9**
GYA pmax pmax
comp=Z,78nm,0.8s
GYA pmax pmax
comp=Z,720nm,12.2s
GYA LR LR
comp=Z,14µm,14.0s
GYA LR LR
comp=Z,8µm,14.6s
GYA LR LR
comp=Z,21µm,14.2s
KOD Kodaikanal 33.23 301 *e*P **P** **06 41 28.9 +1.8**
VIS Vishakhapatnam 33.25 318 *e*P **P** **06 41 27.2 +0.4**
SALM Salem 33.34 303 ⇑*i*P **P** **06 41 30.5 +2.9**
SALM *i* x x 06 50 37.0
H08S2 Diego Garcia H 33.36 267 P **P** **06 41 30.5 +2.9**
baz=44,slow=13,SNR=4.5
H08S2 T T 07 16 56.1
baz=91,slow=76,SNR=139
H08S3 Diego Garcia H 33.37 267 P **P** **06 41 28.5 +0.8**
baz=44,slow=13,SNR=2.7
H08S3 T T 07 16 58.8
baz=91,slow=76,SNR=643
H08S1 Diego Garcia H 33.38 267 P **P** **06 41 31.0 +3.3**
baz=44,slow=13,SNR=4.1
H08S1 T T 07 16 59.6
baz=91,slow=76,SNR=790
DGAR Diego Garcia 33.41 267 IAMs_20 IAMs_20 06 52 09.6
comp=Z,10µm,21.0s
PZH PanZhiHua 33.48 353 P **P** **06 41 28.3 -0.6**
PZH pP **sP** **06 41 47.6 -2.3**
PZH PP **PP** **06 42 46.4 +0.8**
PZH sS **sS** **06 47 12.1 +0.9**
PZH pmax pmax
comp=Z,50nm,1.3s
PZH pmax pmax
comp=Z,220nm,5.7s
PZH LR LR
comp=Z,21µm,15.7s
PZH LR LR
comp=Z,11µm,15.5s
PZH LR LR
comp=Z,26µm,18.4s
YULB Yu-li 33.57 26 P **P** **06 41 29.5 0.0**
YULB IAmb IAmb 06 41 54.6
comp=Z,162nm,1.0s
YULB Yu-li 33.57 26 P **P** **06 41 31.9 +2.4**
IMP Imphal 33.70 340 *e*P **P** **06 41 27.9 -2.9**
SSLB Suanglung 33.77 25 P **P** **06 41 32.2 +0.9**
SSLB IAmb IAmb 06 41 52.7
comp=Z,242nm,1.1s
SSLB Suanglung 33.77 25 P **P** **06 41 33.9 +2.6**
KAAM Kaadhehdhoo 33.86 281 IAMs_20 IAMs_20 06 52 30.8
comp=Z,19µm,22.0s
KAAM Kaadhehdhoo 33.86 281 ⇑P **P** **06 41 35.4 +3.2**
KAAM Kaadhehdhoo 33.86 281 P **P** **06 41 35.5 +3.2**
SNR=5.3
KAAM Kaadhehdhoo 33.86 281 P **P** **06 41 34.5 +2.3**
comp=Z,470nm,1.2s,comp=Z,8µm
QZH Quanzhou 33.91 21 ⇑*i*P **P** **06 41 33.6 +1.2**
QZH S **S** **06 46 54.9 +1.7**
QZH pmax pmax
comp=Z,2µm,6.7s
QZH LR LR
comp=Z,6µm,22.7s
QZH LR LR
comp=Z,4µm,16.5s
QZH LR LR
comp=Z,8µm,27.5s
MMPI Merauke 33.98 95 P **P** **06 41 32.2 -1.1**
comp=Z,960nm,0.7s
GENI Genyem 34.19 84 P **P** **06 41 35.0 -0.1**
GENI Genyem 34.19 84 P **P** **06 41 34.2 -0.9**
comp=Z,157nm,1.0s,comp=Z,4µm
RAGD RAYAGADA 34.26 320 *e*P **P** **06 41 34.5 -1.1**
VJD Vijayawada 34.30 313 *e*P **P** **06 41 36.0 +0.1**
NACB Ninganchiao 34.38 26 P **P** **06 41 37.5 +0.9**
NACB IAmb IAmb 06 41 58.3
comp=Z,103nm,1.0s
NACB Ninganchiao 34.38 26 P **P** **06 41 37.9 +1.3**
OOD Oodnadatta 34.87 130 P **P** **06 41 41.0 +0.2**
MOKO MOKOCHONG 34.90 342 *e*P **P** **06 41 40.1 -1.1**
MOKO IAmb IAmb 06 41 41.4
comp=Z,244nm,1.3s
MOKO *i* x x 06 43 15.8
MULG Mulgathing 35.05 135 P **P** **06 41 42.5 +0.2**
SHL Shillong 35.12 337 *e*P **P** **06 41 40.9 -2.3**
SHL Shillong 35.12 337 P **P** **06 41 41.2 -1.9**
SNR=34
QIS Mount Isa 35.15 116 P **P** **06 41 43.4 0.0**
baz=35,SNR=253
QIS Mount Isa 35.15 116 P **P** **06 41 43.8 +0.4**
LKP Lekhapani 35.46 344 *e*P **P** **06 41 45.1 -0.7**
CNSH ChangSha 35.50 10 ⇑P P 06 41 38.9 -7.2
CNSH S S 06 47 03.9 -14
CNSH pmax pmax
comp=Z,560nm,7.6s
CNSH LR LR
comp=N,10µm,16.2s
CNSH LR LR
comp=E,3µm,12.8s
CNSH LR LR
comp=Z,10µm,16.4s
HMDM Hanimaadhoo 35.56 292 IAMs_20 IAMs_20 06 54 08.6
comp=Z,14µm,21.0s
HMDM Hanimaadhoo 35.56 292 P **P** **06 41 51.1 +4.2**
SNR=8.1
HMDM Hanimaadhoo 35.56 292 P **P** **06 41 49.1 +2.2**
comp=Z,555nm,1.4s,comp=Z,9µm
TEZP TEZPUR 35.74 339 *e*P **P** **06 41 46.1 -2.1**
ITAN ITANAGAR 35.92 341 *e*P **P** **06 41 48.2 -1.5**
JHSG JHARSUGUGA 35.94 323 *e*P **P** **06 41 49.8 -0.3**
MNCI Minicoy 36.25 294 ⇑P **P** **06 41 56.0 +3.2**
BOK Bokaro 36.35 328 *e*P **P** **06 41 53.3 -0.2**
BOK IAmb IAmb 06 41 56.5
comp=Z,360nm,1.3s
HYB Hyderabad 36.41 312 ⇑*e*P **P** **06 41 54.8 +0.6**
HYB IVmB_BB 06 41 56.3
comp=Z,4µm,1.7s
HYB *e*S **S** **06 47 33.2 +1.2**
HYB IVMs_BB IVMs_BB 06 56 10.8
comp=Z,2µm,20.8s
MNGI Mangalore 36.82 302 ⇑*i*P **P** **06 41 59.6 +2.0**
MNGI IAmb IAmb 06 42 01.6
comp=Z,397nm,0.9s
MNGI *i* pP **pP** **06 42 11.7 -0.4**
COEN Coen 37.07 104 P **P** **06 41 58.9 -0.9**
COEN IAmb IAmb 06 42 01.4
comp=Z,171nm,0.8s
COEN Coen 37.07 104 P **P** **06 41 59.5 -0.3**
COEN Coen 37.07 104 ⇑P **P** **06 41 59.2 -0.7**
ENH Enshi 37.10 5 IAMs_20 IAMs_20 06 57 49.1
comp=Z,16µm,21.0s
ENH Enshi 37.10 5 P **P** **06 41 59.4 -0.5**
CD2 Chengdu 37.67 357 P **P** **06 42 03.4 -1.3**
CD2 sP sP 06 42 23.3 -2.5
CD2 PP **PnPn** **06 43 37.9 +4.7**
CD2 S **S** **06 47 55.6 +4.8**
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,790nm,9.8s
CD2 LR LR
comp=Z,21µm,15.3s
CD2 LR LR
comp=Z,13µm,13.3s
CD2 LR LR
comp=Z,16µm,15.9s
BBOO Buckleboo 37.91 137 P **P** **06 42 06.5 -0.2**
baz=38,SNR=35
BBOO Buckleboo 37.91 137 P **P** **06 42 05.8 -0.9**
BBOO IAmb IAmb 06 42 08.5
comp=Z,231nm,1.0s
BBOO Buckleboo 37.91 137 P **P** **06 42 06.5 -0.2**
WHN Wuhan 38.06 12 ⇓*i*P **P** **06 42 08.8 +0.9**
WHN pP **pP** **06 42 20.8 -1.8**
WHN sP **sP** **06 42 25.5 -3.8**
WHN PP **PnPn** **06 43 45.3 +7.4**
WHN S **S** **06 47 56.5 -0.1**
WHN pmax pmax
comp=Z,230nm,1.3s
WHN pmax pmax
comp=Z,3µm,7.2s
WHN LR LR
comp=Z,14µm,12.6s
WHN LR LR
comp=Z,25µm,20.3s
WHN LR LR
comp=Z,29µm,15.3s
LCRK Leigh Creek 38.13 132 P **P** **06 42 08.8 +0.2**
INKA Innaminka 38.79 126 P **P** **06 42 15.6 +1.5**
MTSU Mount Surprise 38.84 110 P **P** **06 42 14.9 +0.2**
baz=39,SNR=186
MTSU Mount Surprise 38.84 110 P **P** **06 42 15.2 +0.5**
GOA Goa 38.97 305 *e*P **P** **06 42 17.3 +1.6**
WHYH Whyalla 39.08 136 P **P** **06 42 17.0 +0.5**
LSA Lhasa 39.14 339 IAmb IAmb 06 42 21.9
comp=Z,106nm,0.8s
LSA Lhasa 39.14 339 *i* P **P** **06 42 16.6 -0.9**
SNR=33
LSA Lhasa 39.14 339 P **P** **06 42 16.8 -0.7**
EVN Everest 39.36 333 ⇓P **P** **06 42 16.9 -2.7**
PTPS Port Pirie 39.45 136 P **P** **06 42 20.2 +0.6**
AKL Akola 39.63 314 ⇑*i*P **P** **06 42 20.1 -1.1**
AKL IAmb IAmb 06 42 23.7
comp=Z,180nm,0.8s
KAD Karad 39.69 308 *e*P **P** **06 42 22.7 +0.9**
ALBI Allahabad 39.81 324 *e*P **P** **06 42 20.7 -1.9**
ALBI IAmb IAmb 06 42 25.4
comp=Z,352nm,1.2s
JOW Kunigami 39.82 32 P **P** **06 42 23.6 +0.9**
JOW IAmb IAmb 06 42 42.9
comp=Z,154nm,1.0s
JOW Kunigami 39.82 32 P **P** **06 42 24.7 +2.0**
JOW Kunigami 39.82 32 ⇑P **P** **06 42 24.4 +1.7**
JOW Kunigami 39.82 32 ScP **ScP** **06 48 12.9 +0.6**
comp=Z,96nm,1.1s,baz=161,slow=4.3,SNR=7.2
JOW LR LR 07 01 50.7
comp=Z,2µm,18.5s,baz=218,slow=41
AIS Amsterdam Isla 40.20 216 IAMs_20 IAMs_20 06 55 14.1
comp=Z,9µm,20.0s
HTT Hallett 40.24 135 P **P** **06 42 26.1 -0.1**
baz=40,SNR=40
HTT Hallett 40.24 135 P **P** **06 42 26.6 +0.4**
HTT Hallett 40.24 135 ⇓P **P** **06 42 26.1 -0.1**
VLK Valmikinagar 40.27 329 *e*P **P** **06 42 25.7 -0.6**
SSE Sheshan 40.44 20 P **P** **06 42 28.4 +0.6**
SSE sP **sP** **06 42 49.3 +0.1**
SSE S **S** **06 48 34.3 +1.9**
SSE pmax pmax
comp=Z,21nm,1.0s
SSE pmax pmax
comp=Z,430nm,9.4s
SSE LR LR
comp=Z,2µm,29.4s
NJ2 Nanjing 40.60 17 ⇓P **P** **06 42 29.8 +0.8**
NJ2 sP **sP** **06 42 49.5 -0.9**
NJ2 S **S** **06 48 40.0 +5.3**
NJ2 sS **sS** **06 49 03.3 +3.9**
NJ2 ScS **ScS** **06 52 28.8 -0.9**
NJ2 pmax pmax
comp=Z,46nm,1.1s
NJ2 pmax pmax
comp=Z,510nm,6.0s
NJ2 LR LR
comp=Z,4µm,16.7s
NJ2 LR LR
comp=Z,4µm,14.7s
NJ2 LR LR
comp=Z,6µm,18.9s
POO Poona 40.64 309 *e*P **P** **06 42 30.6 +0.9**
POO IAmb IAmb 06 42 32.6
comp=Z,520nm,1.2s
PMG Port Moresby 40.68 96 P **P** **06 42 30.1 +0.1**
PMG Port Moresby 40.68 96 P **P** **06 42 30.1 +0.1**
PMG pmax pmax
comp=Z,810nm,1.1s
PMG MLR MLR
comp=Z,4µm,21.0s
PMG Port Moresby 40.68 96 P **P** **06 42 30.2 +0.1**
PMG pP **pP** **06 42 43.3 -1.4**
PMG sP **sP** **06 42 48.6 -2.7**
PMG ScP **ScP** **06 48 16.7 +0.8**
XAN Xi'an 40.81 4 ⇑P **P** **06 42 29.9 -0.9**
XAN pP pP 06 42 42.0 -3.5
XAN PP **PnPn** **06 44 11.8 +1.4**
XAN pmax pmax
comp=Z,150nm,1.1s
XAN pmax pmax
comp=Z,1µm,9.0s
XAN LR LR
comp=Z,20µm,20.6s
XAN LR LR
comp=Z,11µm,18.8s
XAN LR LR
comp=Z,33µm,19.1s
XAN Xi'an 40.81 4 P **P** **06 42 29.8 -1.0**
XAN pP **pP** **06 42 43.3 -2.2**
GHSS Government Hou 40.86 138 P **P** **06 42 32.6 +1.4**
CTA Charters Tower 41.04 113 LR LR 07 00 57.1
comp=Z,5µm,21.8s,baz=280,slow=38
QLP Quilpie 41.18 123 P **P** **06 42 34.2 +0.2**
baz=41,SNR=28
QLP Quilpie 41.18 123 P **P** **06 42 35.3 +1.3**
QLP Quilpie 41.18 123 ⇓P **P** **06 42 35.0 +1.0**
STKA Stephens Creek 41.35 132 P **P** **06 42 35.7 +0.3**
baz=41,SNR=351
STKA Stephens Creek 41.35 132 P **P** **06 42 35.8 +0.3**
STKA IAmb IAmb 06 42 38.8
comp=Z,276nm,1.5s
STKA Stephens Creek 41.35 132 P **P** **06 42 35.9 +0.5**
STKA Stephens Creek 41.35 132 P **P** **06 42 35.6 +0.3**
comp=Z,292nm,0.6s,baz=302,slow=8.6,SNR=459
STKA S **S** **06 48 44.8 -1.3**
comp=Z,19nm,0.9s,baz=52,slow=19,SNR=2.7
STKA LR LR 07 00 34.0
comp=Z,8µm,20.9s,baz=292,slow=37
comp=Z,292nm,0.6s
TV1H Townsville Har 41.36 111 P **P** **06 42 36.5 +0.9**
MANU Manus Island 41.39 85 P **P** **06 42 36.6 +0.7**
LYN LuoYang 41.67 8 ⇓*e*P **P** **06 42 38.3 +0.5**
LYN pP pP 06 42 51.3 -1.2
LYN S **S** **06 48 56.3 +5.8**
LYN pmax pmax
comp=Z,290nm,1.0s
LYN LR LR
comp=Z,7µm,18.6s
LYN LR LR
comp=Z,9µm,16.5s
LYN LR LR
comp=Z,9µm,18.5s
AUAYR Ayr State High 42.00 112 P **P** **06 42 42.4 +1.6**
LZH Lanzhou 42.82 357 ⇑P **P** **06 42 47.3 0.0**
LZH pmax pmax
comp=Z,120nm,1.4s
LZH pmax pmax
comp=Z,720nm,5.2s
LZH LR LR
comp=Z,11µm,15.8s
LZH LR LR
comp=Z,10µm,14.4s
LZH LR LR
comp=Z,14µm,15.8s
PTH Pithoragarh 43.98 327 *e*P **P** **06 42 55.4 -1.5**
ARPS Mount Arapiles 44.07 138 P **P** **06 42 58.4 +1.1**
baz=44,SNR=57
ARPS Mount Arapiles 44.07 138 P **P** **06 42 58.5 +1.1**
TIA Tai'an 44.12 13 ⇑P **P** **06 42 56.5 -1.1**
TIA S **S** **06 49 24.8 -1.6**
TIA SS **SS** **06 52 39.5 -6.4**
TIA pmax pmax
comp=Z,36nm,1.1s
TIA pmax pmax
comp=Z,450nm,9.0s
TIA LR LR
comp=Z,4µm,14.9s
TIA LR LR
comp=Z,2µm,17.1s

TIA LR LR
comp=Z,5μm,16.2s
GOMU GeErMu 44.17 347 P **P** **06 42 57.6 -0.9**
GOMU PP **PcP** **06 44 42.8 +0.2**
GOMU pmax pmax
comp=Z,53nm,0.9s
GOMU LR LR
comp=Z,8μm,16.5s
GOMU LR LR
comp=Z,2μm,17.6s
GOMU LR LR
comp=Z,11μm,16.4s
CMSA Cobar Meteorol 44.30 129 P **P** **06 42 59.9 +0.6**
baz=44,SNR=329
CMSA Cobar Meteorol 44.30 129 P **P** **06 43 00.4 +1.1**
KAVG Kavieng 44.72 87 P **P** **06 43 03.3 +0.5**
TIY Taiyuan 44.78 7 ⇓P **P** **06 43 02.9 0.0**
TIY PP **PP** **06 44 53.0 +4.5**
TIY pmax pmax
comp=Z,130nm,0.9s
TIY pmax pmax
comp=Z,1μm,7.7s
TIY LR LR
comp=Z,8μm,15.1s
TIY LR LR
comp=Z,3μm,17.2s
TIY LR LR
comp=Z,8μm,15.8s
HNS HongShan 44.80 10 ⇓P **P** **06 43 02.3 -0.7**
HNS pP **pP** **06 43 14.5 -3.4**
HNS ScS ScS 06 52 54.3 -1.1
HNS pmax pmax
comp=Z,59nm,0.9s
HNS LR LR
comp=Z,5μm,18.6s
HNS LR LR
comp=Z,3μm,17.2s
HNS LR LR
comp=Z,8μm,17.9s
RMQ Roma 44.96 121 P **P** **06 43 06.2 +1.6**
baz=45,SNR=33
RMQ Roma 44.96 121 P **P** **06 43 06.0 +1.4**
NDI New Delhi 45.04 323 *e*P **P** **06 43 02.7 -2.4**
NDI IAmb IAmb 06 43 05.9
comp=Z,228nm,0.7s
KUDL Kundal 45.09 322 *e*P **P** **06 43 03.9 -1.6**
AJM Ajmer 45.09 319 *e*P **P** **06 43 04.7 -0.9**
AJM IAmb IAmb 06 43 07.4
comp=Z,520nm,1.0s
AUHPC Hawkesdale P12 45.14 139 P **P** **06 43 07.5 +1.8**
AULRC Lightning Ridg 45.30 125 P **P** **06 43 08.9 +1.7**
RK1H Rockhampton Ha 45.64 116 P **P** **06 43 10.7 +0.7**
RABL Rabaul 45.89 89 IAmb IAmb 06 44 12.1
comp=Z,292nm,1.2s
RABL Rabaul 45.89 89 P **P** **06 43 14.3 +2.1**
BRAT Ballarat 45.90 137 P **P** **06 43 13.5 +1.7**
JNU Nakatsue 46.24 29 P **P** **06 43 15.2 +0.6**
JNU Nakatsue 46.24 29 P **P** **06 43 16.1 +1.6**
JNU Nakatsue 46.24 29 ⇓P **P** **06 43 15.1 +0.5**
JNU Nakatsue 46.24 29 P **P** **06 43 14.4 -0.1**
comp=Z,9.5nm,0.5s,baz=239,slow=5.4,SNR=6.2
JNU LR LR 07 04 31.1
comp=Z,836nm,18.4s,baz=219,slow=39
comp=Z,9.5nm,0.5s
GD1S Gladstone Soft 46.35 116 P **P** **06 43 16.9 +1.4**
GTA Gaotai 46.45 353 P **P** **06 43 15.8 -0.4**
GTA pP pP 06 43 30.6 -0.6
GTA PP **PP** **06 45 10.8 +4.6**
GTA PcS **PcS** **06 48 43.6 -1.3**
GTA S **S** **06 49 58.5 -1.8**
GTA ScS **ScS** **06 53 04.3 -2.1**
GTA pmax pmax
comp=Z,110nm,1.1s
GTA pmax pmax
comp=Z,720nm,12.0s
GTA LR LR
comp=Z,7μm,20.7s
GTA LR LR
comp=Z,8μm,19.1s
GTA LR LR
comp=Z,10μm,21.1s
GEXS Deakin Univers 46.49 138 P **P** **06 43 18.8 +2.4**
BHUJ Bhuj 46.57 311 *e*P **P** **06 43 19.2 +2.0**
BHUJ IAmb IAmb 06 43 21.1
comp=Z,672nm,1.2s
EIDS Eidsvold 46.65 118 P **P** **06 43 18.3 +0.4**
baz=47,SNR=25
EIDS Eidsvold 46.65 118 P **P** **06 43 18.3 +0.4**
EIDS IAmb IAmb 06 43 22.2
comp=Z,438nm,1.6s
EIDS Eidsvold 46.65 118 P **P** **06 43 19.1 +1.2**
EIDS Eidsvold 46.65 118 ⇓P **P** **06 43 18.5 +0.6**
AUDCS Dubbo College 46.87 128 P **P** **06 43 20.6 +1.1**
SMLA Simla 46.88 325 *e*P **P** **06 43 17.9 -1.7**
SMLA IAmb IAmb 06 43 19.7
comp=Z,170nm,0.9s
SMLA *i* x x 06 57 57.2
TOO Toolangi 46.97 136 P **P** **06 43 22.2 +1.9**
baz=47,SNR=30
TOO Toolangi 46.97 136 P **P** **06 43 22.8 +2.5**
TOO Toolangi 46.97 136 ⇓P **P** **06 43 22.4 +2.1**
TJN Taejon 47.45 23 ⇓*e*P **P** **06 43 24.4 +0.6**
YNG Young 47.53 131 P **P** **06 43 26.0 +1.3**
BJT Baijiatuau 47.60 10 IAmb IAmb 06 44 56.6
comp=Z,129nm,0.9s
BJT Baijiatuau 47.60 10 IAMs_20 IAMs_20 07 05 33.1
comp=Z,6μm,19.0s
BJT Baijiatuau 47.60 10 P **P** **06 43 25.3 +0.3**
BJT Baijiatuau 47.60 10 P **P** **06 43 24.5 -0.5**
BJT pP **pP** **06 43 38.1 -1.9**
BJT sP **sP** **06 43 44.3 -2.3**
BJT PcP **PcP** **06 44 54.7 +0.7**
BJT ScP **ScP** **06 48 44.0 +0.5**
BJI Beijing 47.62 10 P **P** **06 43 24.8 -0.3**
BJI pP **pP** **06 43 36.8 -3.4**
BJI PcS **PcS** **06 48 45.8 -3.7**
BJI pmax pmax
comp=Z,41nm,1.0s
BJI LR LR
comp=Z,2μm,16.5s
BJI LR LR
comp=Z,2μm,17.5s
BJI LR LR
comp=Z,5μm,15.1s
HHC Hu-ho-hao-te 47.78 6 ⇑*i*P **P** **06 43 26.5 0.0**
HHC pP pP 06 43 41.4 -0.1
HHC S **S** **06 50 21.3 +2.2**
HHC ScS **ScS** **06 53 11.0 -4.0**
HHC pmax pmax
comp=Z,140nm,1.1s
HHC pmax pmax
comp=Z,930nm,5.5s
HHC LR LR
comp=Z,14μm,13.7s
HHC LR LR
comp=Z,8μm,14.3s
HHC LR LR
comp=Z,14μm,13.5s
DL2 Dalian 47.80 16 P **P** **06 43 25.9 -0.6**
DL2 PcP **PcP** **06 44 55.4 +0.7**
DL2 pmax pmax
comp=Z,35nm,1.1s
DL2 pmax pmax
comp=Z,600nm,6.7s
DL2 LR LR
comp=Z,3μm,19.6s
DL2 LR LR
comp=Z,5μm,19.6s
DL2 LR LR
comp=Z,4μm,30.0s
JASL Jaisalmer 47.90 316 *e*P **P** **06 43 27.9 +0.4**
DHRM DHARAMSHALA 48.21 326 *e*P **P** **06 43 28.3 -1.8**
DHRM IAmb IAmb 06 43 31.2
comp=Z,219nm,0.9s
AUPHS Peel High Scho 48.24 126 P **P** **06 43 31.7 +1.5**
CAN Canberra 48.42 132 IAMs_20 IAMs_20 07 03 30.5
comp=Z,12μm,22.0s
CAN Canberra 48.42 132 P **P** **06 43 32.9 +1.4**
CAN Canberra 48.42 132 ⇑P **P** **06 43 32.6 +1.1**
CAN Canberra 48.42 132 P **P** **06 43 32.5 +0.9**
CAN ScP **ScP** **06 48 48.4 +1.1**
JCJ Chichijima 48.60 44 LR LR 07 03 22.4
comp=Z,1μm,21.4s,baz=222,slow=35
KSRS Korea Array 48.60 23 P **P** **06 43 32.6 -0.1**
comp=Z,20nm,0.9s,baz=214,slow=8.7,SNR=24
KSRS PcP **PcP** **06 44 58.6 +1.0**
comp=Z,64nm,1.0s,baz=205,slow=3.5,SNR=18
KSRS ScP **ScP** **06 48 47.1 -0.7**
comp=Z,22nm,1.0s,baz=212,slow=4.0,SNR=13
KSRS LR LR 07 05 23.6
comp=Z,1μm,19.0s,baz=215,slow=38
comp=Z,20nm,0.9s
ARMA Armidale 48.61 125 P **P** **06 43 34.0 +0.8**
baz=49,SNR=51
ARMA Armidale 48.61 125 P **P** **06 43 35.0 +1.8**
ARMA Armidale 48.61 125 ⇑P **P** **06 43 34.8 +1.6**
AUSMG Snowy Mountain 48.61 133 P **P** **06 43 33.8 +0.7**
KS19 Wonju Array Si 48.62 23 IAmb IAmb 06 45 00.1
comp=Z,100nm,1.1s
CNB Canberra Magne 48.68 132 P **P** **06 43 34.6 +1.0**
baz=49,SNR=15
CNB Canberra Magne 48.68 132 P **P** **06 43 34.5 +0.9**
SYDH Sydney Hard Ro 49.10 129 P **P** **06 43 38.2 +1.5**
MGCD Mangrove Creek 49.17 128 P **P** **06 43 38.8 +1.5**
baz=49,SNR=35
MGCD Mangrove Creek 49.17 128 P **P** **06 43 39.1 +1.8**
MILA Mila 49.29 134 P **P** **06 43 39.2 +1.0**
baz=49,SNR=3.9
MILA Mila 49.29 134 ⇓P **P** **06 43 40.0 +1.8**
RIV Riverview 49.44 129 P **P** **06 43 40.6 +1.3**
baz=49,SNR=6.5
RIV Riverview 49.44 129 P **P** **06 43 41.0 +1.7**
RIV Riverview 49.44 129 ⇓P **P** **06 43 41.2 +1.9**
WOLH Wollongong Har 49.45 130 P **P** **06 43 40.9 +1.5**
GC1S Gold Coast 1 S 49.49 121 P **P** **06 43 41.4 +1.6**
AUUHS Ulladulla High 49.52 131 P **P** **06 43 41.6 +1.7**
AULHS Lilydale High 50.01 140 P **P** **06 43 45.1 +1.5**
CORO Coronation Par 50.07 140 P **P** **06 43 45.9 +1.9**
JWT Wachi 50.22 31 P **P** **06 43 45.2 0.0**
GLAD Gladstone 50.39 139 P **P** **06 43 47.7 +1.3**
MSEY Mahe Island 50.41 270 P **P** **06 43 46.8 -0.3**
MSEY IAmb IAmb 06 43 50.4
comp=Z,163nm,1.2s
MSEY Mahe Island 50.41 270 IAMs_20 IAMs_20 07 00 27.8
comp=Z,9μm,22.0s
MSEY Mahe Island 50.41 270 *i* P **P** **06 43 48.6 +1.5**
SNR=6.1
MSEY Mahe Island 50.41 270 P **P** **06 43 46.8 -0.3**
MSEY pmax pmax
comp=Z,163nm,1.2s
MSEY Mahe Island 50.41 270 P **P** **06 43 49.4 +2.3**
MSEY S **S** **06 51 00.3 +3.4**
MOO Moorlands 50.63 141 P **P** **06 43 48.8 +0.6**
baz=51,SNR=8.0
MOO Moorlands 50.63 141 P **P** **06 43 50.5 +2.3**
RER Riviere de l'E 50.66 248 ⇓P **P** **06 43 51.8 +2.9**
RER Riviere de l'E 50.66 248 P **P** **06 43 51.6 +2.7**
RER Riviere de l'E 50.66 248 P **P** **06 43 51.6 +2.7**
RER PcP **PcP** **06 45 08.0 +2.2**
RER ScP **ScP** **06 49 01.4 +4.1**
TAU Tasmania Unive 50.96 141 P **P** **06 43 48.6 -2.1**
TAU IAmb IAmb 06 44 04.2
comp=Z,269nm,1.5s
TAU Tasmania Unive 50.96 141 P **P** **06 43 52.5 +1.8**
TAU Tasmania Unive 50.96 141 ⇓P **P** **06 43 52.3 +1.6**
TAU Tasmania Unive 50.96 141 P **P** **06 43 48.6 -2.1**
TAU pmax pmax
comp=Z,269nm,1.5s
TAU Tasmania Unive 50.96 141 P **P** **06 43 52.2 +1.6**
NIL Nilore 50.97 324 P **P** **06 43 49.4 -1.5**
NIL Nilore 50.97 324 P **P** **06 43 49.4 -1.5**
NIL pmax pmax
comp=Z,279nm,0.9s
NIL Nilore 50.97 324 P **P** **06 43 49.4 -1.5**
NIL pP **pP** **06 44 03.6 -2.3**
NIL ScP **ScP** **06 48 58.5 +0.3**
JHJ Hachijo jima 2 51.06 37 LR LR 07 05 41.5
comp=Z,1μm,20.6s,baz=278,slow=36
SNY Shenyang 51.06 17 ⇓P **P** **06 43 50.1 -1.2**
SNY pmax pmax
comp=Z,32nm,0.9s
SNY LR LR
comp=Z,2μm,15.6s
SNY LR LR
comp=Z,3μm,18.5s
SNY LR LR
comp=Z,4μm,19.2s
MAJO Matsushiro 52.66 33 P **P** **06 44 04.5 +1.1**
MAJO Matsushiro 52.66 33 ⇑*e*P **P** **06 44 01.5 -1.9**
MAJO pmax pmax
comp=Z,187nm,3.7s
MAJO MLR MLR
comp=Z,2μm,20.0s
MJAR Matsushiro Arr 52.66 33 P **P** **06 44 01.4 -1.9**
comp=Z,23nm,1.1s,baz=208,slow=7.3,SNR=18
MJAR PcP **PcP** **06 45 13.8 +1.1**
comp=Z,32nm,1.0s,baz=196,slow=4.4,SNR=6.7
MJAR ScP **ScP** **06 49 04.5 -0.9**
comp=Z,57nm,1.2s,baz=214,slow=4.3,SNR=16
MJAR LR LR 07 08 55.3
comp=Z,1μm,19.0s,baz=220,slow=39
comp=Z,23nm,1.1s
WMQ Urumqi 53.17 343 *e*P **P** **06 44 06.4 -0.7**
WMQ pP pP 06 44 23.4 +1.1
WMQ S **S** **06 51 30.8 -3.0**
WMQ ScS **ScS** **06 53 45.8 -5.9**
WMQ pmax pmax
comp=Z,70nm,1.3s
WMQ pmax pmax
comp=Z,370nm,5.3s
WMQ LR LR
comp=Z,6μm,19.5s
WMQ LR LR
comp=Z,5μm,21.5s
WMQ LR LR
comp=Z,6μm,22.5s
HNR Honiara 53.30 97 P **P** **06 44 08.5 0.0**
HNR Honiara 53.30 97 P **P** **06 44 09.8 +1.3**
HNR Honiara 53.30 97 ⇓P **P** **06 44 07.8 -0.7**
HNR Honiara 53.30 97 P **P** **06 44 08.5 0.0**
HNR pmax pmax
comp=Z,912nm,1.1s
HNR MLR MLR
comp=Z,1μm,21.0s
HNR Honiara 53.30 97 P **P** **06 44 08.2 -0.3**
HNR pP **pP** **06 44 21.1 -2.5**
CN2 Changchun 53.42 17 P **P** **06 44 07.5 -1.3**
CN2 pP pP 06 44 24.1 +0.1
CN2 PcP **PcP** **06 45 15.6 +0.2**
CN2 S **S** **06 51 35.8 -1.2**
CN2 pmax pmax
comp=Z,100nm,1.0s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,3μm,21.0s
WUS Wushi 53.86 335 P **P** **06 44 11.0 -1.3**
KBU Kabul Universi 54.02 322 P **P** **06 44 12.1 -1.6**
KBU S **S** **06 51 38.1 -7.8**
KBL Kabul 54.09 322 P **P** **06 44 13.1 -1.1**
KBL Kabul 54.09 322 P **P** **06 44 13.1 -1.1**
KBL Kabul 54.09 322 P **P** **06 44 12.9 -1.3**
SNR=173
KBL P **P** **06 44 12.9 -1.3**
SNR=173
KBL S **S** **06 51 42.2 -4.7**
KBL S **S** **06 51 42.2 -4.7**
JLN Jalan Bani Buh 54.10 304 P **P** **06 44 15.4 +1.2**
SNR=12
JLN S **S** **06 51 49.8 +2.8**
NGCH Negor - Chabah 54.23 308 P **P** **06 44 16.3 +1.2**
SNR=11
SONM Songino Array 54.50 0 P **P** **06 44 16.6 -0.3**
SONM IAmb IAmb 06 45 21.7
comp=Z,100nm,0.8s
SONM Songino Array 54.50 0 P **P** **06 44 16.5 -0.3**
comp=Z,28nm,0.6s,baz=172,slow=7.2,SNR=235
SONM PcP **PcP** **06 45 20.4 +0.7**
comp=Z,114nm,1.0s,baz=180,slow=3.7,SNR=14
SONM ScP **ScP** **06 49 12.7 -0.6**
comp=Z,11nm,0.7s,baz=180,slow=2.5,SNR=7.3
SONM LR LR 07 10 30.7
comp=Z,13μm,18.7s,baz=181,slow=39
SONM PKPPKP **P'P'df** **07 14 21.4 -5.7**
comp=Z,2.0nm,1.1s,baz=328,slow=1.4,SNR=4.5
comp=Z,28nm,0.6s
ULN Ulaanbaatar 54.54 1 P **P** **06 44 16.7 -0.4**
ULN IAmb IAmb 06 45 21.8
comp=Z,72nm,0.8s
ULN Ulaanbaatar 54.54 1 ⇑P **P** **06 44 16.7 -0.4**
ULN Ulaanbaatar 54.54 1 *c* *i* P **P** **06 44 16.8 -0.4**
ULN pmax pmax
comp=Z,54nm,0.8s
ULN MLR MLR
comp=Z,13μm,17.0s
ULN Ulaanbaatar 54.54 1 P **P** **06 44 16.4 -0.8**
ULN Ulaanbaatar 54.54 1 P **P** **06 44 16.6 -0.4**
ULN PcP **PcP** **06 45 19.6 -0.2**
ULN ScP **ScP** **06 49 14.4 +0.9**
WBK Wadi Bani Khal 54.67 304 P **P** **06 44 19.8 +1.4**
SNR=16
WBK P **P** **06 44 19.8 +1.4**
SNR=16
DQM DQM 54.73 300 P **P** **06 44 20.7 +1.9**
SNR=11
DQM S **S** **06 51 58.5 +3.1**
MHTO MHTO 54.80 302 P **P** **06 44 19.8 +0.5**
SNR=21
MHTO S **S** **06 51 58.2 +1.9**
LHI Lord Howe Isla 55.03 124 P **P** **06 44 20.9 +0.1**
baz=55,SNR=9.9
LHI Lord Howe Isla 55.03 124 P **P** **06 44 21.9 +1.0**
LHI IAmb IAmb 06 44 24.4
comp=Z,226nm,1.1s
LHI Lord Howe Isla 55.03 124 P **P** **06 44 22.8 +1.9**
LHI Lord Howe Isla 55.03 124 ⇓P **P** **06 44 22.4 +1.5**
WSAR Wadi Sarin 55.23 304 P **P** **06 44 23.9 +1.5**
comp=Z,63nm,0.6s,baz=190,slow=4.9,SNR=43
WSAR LR LR 07 06 03.8
comp=Z,9μm,20.4s,baz=146,slow=34
comp=Z,63nm,0.6s
WSAR Wadi Sarin 55.23 304 P **P** **06 44 24.3 +1.9**
SNR=24
WSAR S **S** **06 52 05.4 +3.2**
PRZ Przheval'sk 55.27 335 IAmb IAmb 06 45 40.0
comp=Z,145nm,1.3s
JMDO Jabal Madar 55.28 303 P **P** **06 44 24.0 +1.2**
SNR=22
JMDO P **P** **06 44 24.0 +1.2**
SNR=22
JMDO S **S** **06 52 04.3 +1.4**
JMDO S **S** **06 52 04.3 +1.4**
SHLS Shalkode 55.40 336 ⇑*i*P **P** **06 44 21.2 -2.2**
comp=Z,68nm,0.9s,baz=337
SHLS *e*S **S** **06 52 02.2 -1.8**
baz=337
SHLS Shalkode 55.40 336 *c* *i* P **P** **06 44 21.2 -2.2**
SHLS *e*S **S** **06 52 02.1 -1.8**
SHLS pmax pmax
comp=Z,68nm,0.9s
NRN Naryn 55.46 333 IAmb IAmb 06 45 40.3
comp=Z,139nm,1.1s
MDJ Mudanjiang 55.47 20 P **P** **06 44 28.0 +4.3**
MDJ sP sP 06 44 46.0 +0.5
MDJ PP **PP** **06 46 33.3 +5.0**
MDJ pmax pmax
comp=Z,29nm,2.4s
MDJ pmax pmax
comp=Z,1μm,9.6s
MDJ LR LR
comp=Z,4μm,20.6s
MDJ LR LR
comp=Z,3μm,19.9s
MDJ LR LR
comp=Z,4μm,20.6s
MDJ Mudanjiang 55.47 20 IAMs_20 IAMs_20 07 12 56.8
comp=Z,4μm,18.0s
MDJ Mudanjiang 55.47 20 P **P** **06 44 23.9 +0.2**
MDJ Mudanjiang 55.47 20 P **P** **06 44 23.3 -0.4**
MDJ PcP **PcP** **06 45 22.7 -0.5**
PDGK Podgornoye 55.53 337 P **P** **06 44 22.1 -2.2**
UZB Uzynbulak 55.56 336 ⇑*i*P **P** **06 44 23.4 -1.3**
comp=Z,37nm,0.8s,baz=336
UZB Uzynbulak 55.56 336 *c* *i*P **P** **06 44 23.3 -1.3**
UZB pmax pmax
comp=Z,37nm,0.8s
SMDO Samad 55.63 304 P **P** **06 44 26.9 +1.5**
SNR=28
SMDO P **P** **06 44 26.9 +1.5**
SNR=28
SMDO S **S** **06 52 09.9 +2.3**
SMDO S **S** **06 52 09.9 +2.3**
SHAO Shalim 55.65 297 *i* P **P** **06 44 25.8 +0.3**
SNR=6.4
SHAO Shalim 55.65 297 P **P** **06 44 27.3 +1.8**
SHAO P **P** **06 44 27.3 +1.8**
SATY Saty 55.74 336 ⇑*i*P **P** **06 44 24.5 -1.3**
baz=336
SATY Saty 55.74 336 *c* *i*P **P** **06 44 24.5 -1.3**
BNX BinXian 55.76 18 ⇓P **P** **06 44 25.4 -0.4**
BNX pP **pP** **06 44 41.8 +0.7**
BNX sP **sP** **06 44 48.8 +1.2**
BNX PP **PP** **06 46 32.8 +1.9**
BNX S **S** **06 52 09.3 +0.9**
BNX sS **sS** **06 52 35.9 +1.9**
BNX pmax pmax
comp=Z,28nm,0.8s
BNX pmax pmax
comp=Z,520nm,4.3s
BNX LR LR
comp=Z,1μm,12.6s
BNX LR LR
comp=Z,2μm,18.4s
BNX LR LR
comp=Z,3μm,18.8s
BIDO Bidbid 55.77 304 P **P** **06 44 28.1 +1.8**
SNR=45
BIDO S **S** **06 52 11.6 +2.3**
ZHN Zhinishke 55.82 336 ⇑*i*P **P** **06 44 24.8 -1.6**
baz=336
ZHN Zhinishke 55.82 336 *c* *i*P **P** **06 44 24.8 -1.6**
KPKS Kokpek 55.97 336 ⇑*i*P **P** **06 44 25.9 -1.6**
baz=336
KPKS Kokpek 55.97 336 *c* *i*P **P** **06 44 25.8 -1.6**
USA08 Ussuriysk Arra 55.97 22 *i* P **P** **06 44 25.4 -1.9**
USRK Ussuriysk Ar. 55.97 22 P **P** **06 44 26.3 -1.0**
comp=Z,38nm,0.9s,baz=218,slow=5.4,SNR=24
USRK LR LR 07 10 06.6
comp=Z,2μm,18.9s,baz=218,slow=38
comp=Z,38nm,0.9s
ULHL Ulahol 56.00 334 P **P** **06 44 26.6 -1.3**
SNR=27
DMTO DMTO 56.14 297 P **P** **06 44 30.6 +1.6**
DMTO P **P** **06 44 30.6 +1.6**
DMTO S **S** **06 52 16.0 +1.7**
DMTO S **S** **06 52 16.0 +1.7**
BSY Bisya 56.20 303 P **P** **06 44 30.9 +1.5**
SNR=29
BSY P **P** **06 44 30.9 +1.5**
SNR=29
TNSS Tian-Shan 56.33 335 *e*P **P** **06 44 28.6 -1.8**
baz=334
TNSS Tian-Shan 56.33 335 *e*P **P** **06 44 28.6 -1.8**
MDOK Medeo 56.39 335 *i* P **P** **06 44 29.0 -1.6**
baz=335
MDOK LR LR 07 09 38.0
comp=Z,2μm,16.5s,baz=335
MDOK Medeo 56.39 335 P **P** **06 44 28.9 -1.6**
AAA Alma-Ata 56.48 335 *e*P **P** **06 44 29.6 -1.5**
comp=Z,28nm,0.6s,baz=334
AAA LR LR 07 09 53.0
baz=334
AAA Alma-Ata 56.48 335 *e*P **P** **06 44 29.6 -1.5**
AAA pmax pmax
comp=Z,28nm,0.6s
RBK Rabkut 56.72 296 P **P** **06 44 34.8 +1.6**
SNR=17
RBK P **P** **06 44 34.8 +1.6**
SNR=17
RBK S **S** **06 52 24.5 +2.3**
RBK S **S** **06 52 24.5 +2.3**
UCH Uchtor 56.77 332 P **P** **06 44 32.5 -1.1**
SNR=29
TKM2 Tokmak 2 56.83 334 P **P** **06 44 32.2 -1.5**
SNR=134
TKM2 Tokmak 2 56.83 334 P **P** **06 44 31.6 -2.1**
KBK Karagaybulak 56.91 333 P **P** **06 44 33.3 -0.9**
SNR=53
SIMJ Simiganj 56.94 326 P **P** **06 44 32.1 -2.3**
SIMJ Simiganj 56.94 326 P **P** **06 44 32.1 -2.3**
SIMJ ScP **ScP** **06 49 24.2 -0.1**
CHKK Chushkaly 56.98 335 *e*P **P** **06 44 32.9 -1.7**
baz=335
CHKK Chushkaly 56.98 335 *e*P **P** **06 44 32.8 -1.7**

ARQ	**Araqi**		**57.01**	**303**	P	**P**	**06 44 36.5**	**+1.4**
	SNR=20								
ARQ					P	**P**	**06 44 36.5**	**+1.4**
	SNR=20								
ARQ					S	**S**	**06 52 26.4**	**+0.6**
ARQ					S	**S**	**06 52 26.4**	**+0.6**
JASK	**Jask - Hormozg**		**57.06**	**307**	P	**P**	**06 44 38.0**	**+2.6**
	SNR=34								
JASK					S	**S**	**06 52 28.0**	**+1.7**
AML	**Almayashu**		**57.08**	**332**	P	**P**	**06 44 33.8**	**-1.9**
	SNR=51								
AML	**Almayashu**		**57.08**	**332**	P	**P**	**06 44 33.5**	**-2.2**
AAK	**Ala-Archa**		**57.10**	**333**	P	**P**	**06 44 34.2**	**-1.3**
	SNR=34								
AAK	**Ala-Archa**		**57.10**	**333**	P	**P**	**06 44 34.5**	**-1.1**
AAK					IAmb	IAmb	06 45 47.1		
	comp=Z,75nm,0.9s								
AAK	**Ala-Archa**		**57.10**	**333**	*i* P	**P**	**06 44 33.9**	**-1.7**
	SNR=46								
AAK	**Ala-Archa**		**57.10**	**333**	⇑P	**P**	**06 44 34.0**	**-1.5**
AAK	**Ala-Archa**		**57.10**	**333**	*ce*P	**P**	**06 44 34.5**	**-1.1**
AAK					pmax	pmax			
	comp=Z,36nm,1.0s								
AAK					MLR	MLR			
	comp=Z,7μm,21.0s								
AAK	**Ala-Archa**		**57.10**	**333**	LR	LR	07 11 40.5		
	comp=Z,7μm,20.9s,baz=155,slow=39								
AAK	**Ala-Archa**		**57.10**	**333**	P	**P**	**06 44 34.4**	**-1.1**
AAK					ScP	**ScP**	**06 49 24.0**	**-0.9**
ZAK	**Zakamensk**		**57.11**	**358**	*e*P	**P**	**06 44 34.3**	**-1.1**
ZAK					pmax	pmax			
	comp=Z,26nm,1.2s								
FRU1	**Bishkek**		**57.17**	**333**	IAmb	IAmb	06 45 47.6		
	comp=Z,127nm,1.0s								
DOK	**Doka**		**57.19**	**297**	P	**P**	**06 44 37.5**	**+1.1**
	SNR=11								
DOK					P	**P**	**06 44 37.5**	**+1.1**
	SNR=11								
DOK					S	**S**	**06 52 28.7**	**+0.5**
DOK					S	**S**	**06 52 28.7**	**+0.5**
HIA	**Hailar**		**57.19**	**11**	P	**P**	**06 44 35.1**	**-0.8**
HIA	**Hailar**		**57.19**	**11**	P	**P**	**06 44 34.7**	**-1.3**
HIA					PcP	**PcP**	**06 45 30.4**	**+0.5**
HIA					ScP	**ScP**	**06 49 25.6**	**+0.7**
WHFO	**Wadi Hawf**		**57.26**	**296**	P	**P**	**06 44 38.1**	**+1.1**
	SNR=8.7								
WHFO					P	**P**	**06 44 38.1**	**+1.1**
	SNR=8.7								
WHFO					S	**S**	**06 52 29.6**	**+0.4**
WHFO					S	**S**	**06 52 29.6**	**+0.4**
CHMS	**Chumysh**		**57.26**	**333**	P	**P**	**06 44 35.1**	**-1.5**
	SNR=16								
ZSN	**Zaisan**		**57.30**	**343**	⇑*i*P	**P**	**06 44 35.7**	**-1.0**
	comp=Z,43nm,0.9s,baz=342								
ZSN	**Zaisan**		**57.30**	**343**	*c i*P	**P**	**06 44 35.7**	**-1.0**
ZSN					pmax	pmax			
	comp=Z,43nm,0.9s								
SOHO	**SOHO**		**57.35**	**304**	*i* P	**P**	**06 44 37.8**	**+0.4**
	SNR=27								
SOHO	**SOHO**		**57.35**	**304**	P	**P**	**06 44 38.5**	**+1.0**
SOHO					P	**P**	**06 44 38.5**	**+1.0**
SOHO					S	**S**	**06 52 32.2**	**+2.0**
SOHO					S	**S**	**06 52 32.2**	**+2.0**
TDK	**Taldyqorghan**		**57.36**	**337**	*e*P	**P**	**06 44 35.2**	**-2.0**
	comp=Z,36nm,0.7s,baz=337								
TDK					LR	LR	07 10 06.7		
	comp=Z,3μm,22.3s,baz=337								
TDK	**Taldyqorghan**		**57.36**	**337**	*e*P	**P**	**06 44 35.1**	**-2.0**
TDK					pmax	pmax			
	comp=Z,36nm,0.7s								
TDK					MLR	MLR			
	comp=Z,3μm,22.0s								
EKS2	**Erkin-Say**		**57.45**	**332**	P	**P**	**06 44 36.9**	**-1.1**
	SNR=88								
ABTO	**Aybut**		**57.48**	**296**	P	**P**	**06 44 40.2**	**+1.6**
	SNR=28								
ABTO					S	**S**	**06 52 33.2**	**+1.0**
MK31	**Makanchi Array**		**57.51**	**341**	P	**P**	**06 44 36.7**	**-1.5**
MK31	**Makanchi Array**		**57.51**	**341**	P	**P**	**06 44 36.7**	**-1.5**
MK31					pmax	pmax			
	comp=Z,48nm,0.8s								
MKAR	**Makanchi Array**		**57.51**	**341**	P	**P**	**06 44 36.5**	**-1.7**
	comp=Z,63nm,0.5s,baz=146,slow=7.0,SNR=339								
MKAR					ScP	**ScP**	**06 49 26.9**	**+0.5**
	comp=Z,11nm,1.1s,baz=184,slow=4.3,SNR=3.6								
MKAR					LR	LR	07 13 02.3		
	comp=Z,7μm,21.2s,baz=166,slow=40								
MKAR					PKPPKP	**P'P'df**	**07 14 21.9**	**-1.0**	
	comp=Z,0.9nm,0.9s,baz=327,slow=2.0,SNR=4.2								
MKAR					P4KPbc		07 21 49.4		
	comp=Z,1.4nm,0.7s,baz=155,slow=6.0,SNR=8.0								
	comp=Z,63nm,0.5s								
USP	**Ospenovka**		**57.59**	**333**	P	**P**	**06 44 37.1**	**-1.8**
	SNR=28								
MAKZ	**Makanchi**		**57.62**	**341**	IAMs_20	IAMs_20	07 13 08.4		
	comp=Z,4μm,20.0s								
MAKZ	**Makanchi**		**57.62**	**341**	P	**P**	**06 44 37.4**	**-1.6**
MAKZ	**Makanchi**		**57.62**	**341**	P	**P**	**06 44 37.1**	**-1.9**
MAKZ					ScP	**ScP**	**06 49 28.1**	**+1.2**
SGDS	**Sogindy**		**57.68**	**333**	*e*P	**P**	**06 44 37.5**	**-2.1**
	baz=333								
SGDS	**Sogindy**		**57.68**	**333**	*e*P	**P**	**06 44 37.4**	**-2.1**
KOUNC	**Koumac, New Ca**		**57.83**	**110**	P	**P**	**06 44 41.7**	**+0.8**
KOUNC					IAmb	IAmb	06 45 12.6		
	comp=Z,129nm,1.1s								
KOUNC	**Koumac, New Ca**		**57.83**	**110**	P	**P**	**06 44 42.1**	**+1.2**
KOUNC	**Koumac, New Ca**		**57.83**	**110**	⇓P	**P**	**06 44 42.1**	**+1.2**
UMZA	**Um Al Zommool**		**57.89**	**302**	P	**P**	**06 44 42.3**	**+1.0**
UMZA					P	**P**	**06 44 42.3**	**+1.0**
UMZA					S	**S**	**06 52 39.0**	**+1.8**
UMZA					S	**S**	**06 52 39.0**	**+1.8**
ALNE	**Al Ain**		**57.96**	**304**	*i* P	**P**	**06 44 43.2**	**+1.4**
	SNR=16								
ALNE	**Al Ain**		**57.96**	**304**	P	**P**	**06 44 43.0**	**+1.2**
	SNR=48								
ALNE					P	**P**	**06 44 43.0**	**+1.2**
	SNR=48								
ALNE					S	**S**	**06 52 39.7**	**+1.4**
ALNE					S	**S**	**06 52 39.7**	**+1.4**
ASHO	**Ashiyiah**		**57.98**	**305**	*i* P	**P**	**06 44 42.6**	**+0.6**
	SNR=73								
ASHO	**Ashiyiah**		**57.98**	**305**	P	**P**	**06 44 43.3**	**+1.4**
	SNR=50								
ASHO					S	**S**	**06 52 39.4**	**+0.8**
HATD	**Hatta, Dubai**		**57.98**	**305**	*i* P	**P**	**06 44 42.2**	**+0.3**
	SNR=72								
HATD	**Hatta, Dubai**		**57.98**	**305**	P	**P**	**06 44 43.4**	**+1.4**
	SNR=65								
HATD					P	**P**	**06 44 43.4**	**+1.4**
	SNR=65								
HATD					S	**S**	**06 52 40.0**	**+1.5**
HATD					S	**S**	**06 52 40.0**	**+1.5**
MDH	**Madha**		**58.06**	**305**	*i* P	**P**	**06 44 42.2**	**-0.3**
	SNR=19								
MDH	**Madha**		**58.06**	**305**	P	**P**	**06 44 42.6**	**+0.2**
	SNR=26								
MDH					P	**P**	**06 44 42.6**	**+0.2**
	SNR=26								
MDH					S	**S**	**06 52 38.9**	**-0.6**
MDH					S	**S**	**06 52 38.9**	**-0.6**
MSFE	**Esma-Masafi**		**58.20**	**305**	*i* P	**P**	**06 44 44.6**	**+1.1**
	SNR=52								
MASF	**Masafi**		**58.20**	**305**	P	**P**	**06 44 44.7**	**+1.2**
	SNR=60								
MASF					S	**S**	**06 52 41.5**	**+0.1**
HRA	**Herat**		**58.35**	**318**	P	**P**	**06 44 43.7**	**-0.9**
FAQ	**Al Faqa, Dubai**		**58.39**	**304**	*i* P	**P**	**06 44 46.0**	**+1.2**
	SNR=93								
FAQ	**Al Faqa, Dubai**		**58.39**	**304**	P	**P**	**06 44 45.7**	**+1.0**
	SNR=68								
FAQ					P	**P**	**06 44 45.7**	**+1.0**
	SNR=68								
FAQ					S	**S**	**06 52 44.0**	**+0.3**
FAQ					S	**S**	**06 52 44.0**	**+0.3**
ABPO	**Ambohimpanom**		**58.40**	**252**	P	**P**	**06 44 45.8**	**+0.6**
ABPO					IAmb	IAmb	06 44 48.9		
	comp=Z,92nm,1.0s								
ABPO	**Ambohimpanom**		**58.40**	**252**	P	**P**	**06 44 45.8**	**+0.6**
ABPO					pmax	pmax			
	comp=Z,92nm,1.0s								
ABPO	**Ambohimpanom**		**58.40**	**252**	P	**P**	**06 44 47.0**	**+1.8**
ABPO					sP	**sP**	**06 45 06.2**	**-0.6**
ABPO					PcP	**PcP**	**06 45 36.6**	**+1.0**
NAZ	**Nazwa, Dubai**		**58.44**	**305**	*i* P	**P**	**06 44 45.6**	**+0.5**
	SNR=37								
NAZ	**Nazwa, Dubai**		**58.44**	**305**	P	**P**	**06 44 46.1**	**+1.0**
	SNR=54								
NAZ					P	**P**	**06 44 46.1**	**+1.0**
	SNR=54								
NAZ					S	**S**	**06 52 44.4**	**0.0**
NAZ					S	**S**	**06 52 44.4**	**0.0**
MOY	**Mondy**		**58.51**	**356**	*e*P	**P**	**06 44 44.9**	**-0.3**
MOY					*e*		06 45 36.7		
MOY					pmax	pmax			
	comp=Z,64nm,1.5s								
SHME	**Shamm**		**58.52**	**306**	*i* P	**P**	**06 44 46.5**	**+0.8**
	SNR=37								
SHME	**Shamm**		**58.52**	**306**	P	**P**	**06 44 46.6**	**+0.9**
	SNR=29								
SHME					S	**S**	**06 52 46.1**	**+0.7**
ASUD	**Al Ashush, Dub**		**58.55**	**304**	*i* P	**P**	**06 44 47.0**	**+1.1**
	SNR=43								
ASUD	**Al Ashush, Dub**		**58.55**	**304**	P	**P**	**06 44 47.4**	**+1.5**
	SNR=29								
ASUD					P	**P**	**06 44 47.4**	**+1.5**
	SNR=29								
ASUD					S	**S**	**06 52 47.6**	**+1.7**
ASUD					S	**S**	**06 52 47.6**	**+1.7**
UMQ	**Umm Al-Quwin**		**58.67**	**305**	*i* P	**P**	**06 44 47.9**	**+1.2**
	SNR=11								
UMQ	**Umm Al-Quwin**		**58.67**	**305**	P	**P**	**06 44 48.4**	**+1.7**
	SNR=12								
UMQ					P	**P**	**06 44 48.4**	**+1.7**
	SNR=12								
UMQ					S	**S**	**06 52 49.2**	**+1.8**
UMQ					S	**S**	**06 52 49.2**	**+1.8**
DGZ	**Jazzator, Alta**		**58.68**	**346**	*c i*P	**P**	**06 44 45.6**	**-0.9**
DGZ					pmax	pmax			
	comp=Z,113nm,0.6s								
DGZ					MLR	MLR			
	comp=Z,12μm,17.0s								
DZA	**Taraz**		**58.79**	**331**	*e*P	**P**	**06 44 45.7**	**-1.5**
	baz=330								
DZA	**Taraz**		**58.79**	**331**	*e*P	**P**	**06 44 45.7**	**-1.5**
AJN	**Ajban**		**58.81**	**304**	*i* P	**P**	**06 44 47.8**	**+0.2**
	SNR=12								
AJN	**Ajban**		**58.81**	**304**	P	**P**	**06 44 48.4**	**+0.7**
	SNR=24								
AJN					P	**P**	**06 44 48.4**	**+0.7**
	SNR=24								
AJN					S	**S**	**06 52 48.9**	**-0.3**
AJN					S	**S**	**06 52 48.9**	**-0.3**
VOI	**Vohitsoka**		**59.03**	**249**	IAMs_20	IAMs_20	07 06 50.8		
	comp=Z,4μm,18.0s								
VOI	**Vohitsoka**		**59.03**	**249**	P	**P**	**06 44 51.6**	**+2.2**
VOI	**Vohitsoka**		**59.03**	**249**	⇑P	**P**	**06 44 51.0**	**+1.6**
VOI	**Vohitsoka**		**59.03**	**249**	P	**P**	**06 44 51.8**	**+2.4**
	SNR=10								
BTLS	**Baital**		**59.19**	**334**	⇑*i*P	**P**	**06 44 47.7**	**-2.2**
	baz=334								
BTLS	**Baital**		**59.19**	**334**	*c i*P	**P**	**06 44 47.7**	**-2.2**
CHM	**Chimkent**		**59.23**	**329**	LR	LR	07 11 31.9		
	baz=329								
KK31	**Karatay Array**		**59.34**	**330**	*i* P	**P**	**06 44 48.8**	**-2.3**
KKAR	**Karatay Array**		**59.34**	**330**	⇑P	**P**	**06 44 48.8**	**-2.3**
CASY	**Casey**		**59.36**	**178**	P	**P**	**06 44 50.6**	**-0.1**
CASY					IAmb	IAmb	06 44 52.1		
	comp=Z,72nm,0.8s								
CASY	**Casey**		**59.36**	**178**	⇑P	**P**	**06 44 51.2**	**+0.4**
CASY	**Casey**		**59.36**	**178**	P	**P**	**06 44 51.0**	**+0.3**
MZWR	**Madinat Zayed**		**59.39**	**303**	P	**P**	**06 44 52.8**	**+1.0**
MZWR					P	**P**	**06 44 52.8**	**+1.0**
MZWR					S	**S**	**06 52 56.5**	**-0.3**
MZWR					S	**S**	**06 52 56.5**	**-0.3**
MZR	**Muzera**		**59.42**	**302**	P	**P**	**06 44 53.3**	**+1.3**
NOUC	**Port Laguerre**		**59.83**	**111**	P	**P**	**06 44 55.6**	**+0.8**
NOUC	**Port Laguerre**		**59.83**	**111**	P	**P**	**06 44 54.7**	**-0.1**
HEH	**HeiHe**		**59.85**	**16**	*e*P	**P**	**06 44 53.0**	**-1.4**
HEH					ScP	**ScP**	**06 49 35.8**	**-0.9**
HEH					pmax	pmax			
	comp=Z,91nm,1.1s								
HEH					pmax	pmax			
	comp=Z,1μm,5.4s								
HEH					LR	LR			
	comp=Z,3μm,20.0s								
HEH					LR	LR			
	comp=Z,3μm,19.2s								
HEH					LR	LR			
	comp=Z,4μm,19.8s								
DZM	**Mont Dzumac**		**59.96**	**111**	IAmb	IAmb	06 45 10.5		
	comp=Z,57nm,0.9s								
DZM	**Mont Dzumac**		**59.96**	**111**	P	**P**	**06 44 57.0**	**+1.2**
DZM	**Mont Dzumac**		**59.96**	**111**	*e*P	**P**	**06 44 55.2**	**-0.6**
	comp=Z,890nm,26.8s								
DZM	**Mont Dzumac**		**59.96**	**111**	*e*PP	**PP**	**06 47 10.3**	**+1.6**
	comp=Z,674nm,22.6s								
DZM					*e*S	**S**	**06 53 07.5**	**+3.0**
	comp=Z,1μm,25.4s								
DZM					*e*SS	**SS**	**06 57 01.9**	**+0.1**
	comp=Z,2μm,25.9s								
DZM					*e*LR	LR	07 02 39.1		
	comp=Z,10μm,32.6s								
DZM	**Mont Dzumac**		**59.96**	**111**	⇓P	**P**	**06 44 56.8**	**+0.9**
DZM	**Mont Dzumac**		**59.96**	**111**	LR	LR	07 13 14.3		
	comp=Z,3μm,18.9s,baz=275,slow=38								
DZM	**Mont Dzumac**		**59.96**	**111**	P	**P**	**06 44 56.5**	**+0.6**
DZM					pP	**pP**	**06 45 09.9**	**-1.4**
DZM					sP	**sP**	**06 45 16.5**	**-1.3**
ONTNC	**Ouen Toro**		**59.99**	**112**	P	**P**	**06 44 58.4**	**+2.5**
ONTNC	**Ouen Toro**		**59.99**	**112**	⇑P	**P**	**06 44 57.0**	**+1.1**
KLR	**Kul'dur**		**60.22**	**19**	*ce*P	**P**	**06 44 55.8**	**-1.1**
KLR					pmax	pmax			
	comp=Z,55nm,1.0s								
KLR	**Kul'dur**		**60.22**	**19**	ScP	**ScP**	**06 49 37.8**	**-0.6**
	comp=Z,9.8nm,1.1s,baz=225,slow=2.9,SNR=4.3								
KLR					LR	LR	07 10 19.2		
	comp=Z,3μm,21.9s,baz=215,slow=35								
GHWR	**Ruwais**		**60.31**	**302**	P	**P**	**06 44 59.1**	**+1.1**
GHWR					P	**P**	**06 44 59.1**	**+1.1**
GHWR					S	**S**	**06 53 08.0**	**-0.6**
GHWR					S	**S**	**06 53 08.0**	**-0.6**
OUENC	**Ouen Island, N**		**60.36**	**112**	IAmb	IAmb	06 45 13.4		
	comp=Z,59nm,0.8s								
OUENC	**Ouen Island, N**		**60.36**	**112**	P	**P**	**06 44 59.9**	**+1.5**
YATNC	**Mamie plateau,**		**60.37**	**111**	P	**P**	**06 45 00.5**	**+1.9**
ASAJ	**Asahikawa**		**60.52**	**29**	P	**P**	**06 44 58.0**	**-1.0**
	comp=Z,28nm,1.0s,baz=246,slow=20,SNR=5.6								
ASAJ					LR	LR	07 12 38.3		
	comp=Z,1μm,20.3s,baz=195,slow=38								
	comp=Z,28nm,1.0s								
LIFNC	**LIFOU**		**60.60**	**110**	P	**P**	**06 45 00.1**	**0.0**
LIFNC	**LIFOU**		**60.60**	**110**	P	**P**	**06 45 03.6**	**+3.5**
JRN	**Qarnain Island**		**60.73**	**303**	P	**P**	**06 45 01.8**	**+1.0**
	SNR=15								
JRN					S	**S**	**06 53 12.6**	**-1.3**
H04N2	**CROZET ISLANDS**		**60.77**	**220**	P	**P**	**06 45 04.2**	**+3.7**
	baz=278,slow=74,SNR=2.6								
H04N2					T	T	07 51 11.0		
	baz=67,slow=75,SNR=895								
H04N1	**CROZET ISLANDS**		**60.78**	**220**	P	**P**	**06 45 05.2**	**+4.6**
	baz=60,slow=74,SNR=2.5								
H04N1					T	T	07 51 06.5		
	baz=67,slow=75,SNR=980								
H04N3	**CROZET ISLANDS**		**60.78**	**220**	P	**P**	**06 45 04.5**	**+3.8**
H04N3					T	T	07 51 07.0		
	baz=67,slow=75,SNR=1167								
CRZF	**Crozet Islands**		**60.83**	**220**	IAMs_20	IAMs_20	07 05 19.2		
	comp=Z,5μm,20.0s								
H04S1	**CROZET ISLANDS**		**60.96**	**220**	T	T	07 51 20.0		
	baz=67,slow=76,SNR=975								
H04S3	**CROZET ISLANDS**		**60.97**	**220**	T	T	07 51 17.1		
	baz=67,slow=76,SNR=428								
H04S2	**CROZET ISLANDS**		**60.98**	**220**	T	T	07 51 22.4		
	baz=67,slow=76,SNR=542								
SEM	**Semipalatinsk**		**61.33**	**341**	*e*P	**P**	**06 45 02.8**	**-2.0**
	comp=Z,39nm,0.8s,baz=341								
SEM					LR	LR	07 12 45.0		
	comp=Z,3μm,18.8s,baz=341								
SEM	**Semipalatinsk**		**61.33**	**341**	*e*P	**P**	**06 45 02.7**	**-2.0**
SEM					pmax	pmax			
	comp=Z,39nm,0.8s								
SEM					MLR	MLR			
	comp=Z,3μm,19.0s								
SLWR	**Sila**		**61.35**	**302**	P	**P**	**06 45 06.2**	**+1.1**
SLWR					P	**P**	**06 45 06.2**	**+1.1**
TRNA	**Turayna**		**62.01**	**303**	P	**P**	**06 45 10.4**	**+0.9**
	SNR=20								
TRNA					S	**S**	**06 53 29.5**	**-0.7**
KURBB	**Kurchatov Arra**		**62.07**	**340**	P	**P**	**06 45 08.0**	**-1.4**
	comp=Z,48nm,0.7s,baz=152,slow=6.2,SNR=166								
KURBB					ScP	**ScP**	**06 49 47.1**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=152,slow=3.9,SNR=5.2								
KURBB					PKPPKP		07 14 19.9		
	comp=Z,1.6nm,1.1s,baz=315,slow=2.2,SNR=4.4								
KURBB					LR	LR	07 15 20.4		
	comp=Z,7μm,20.3s,baz=150,slow=39								
KURBB					P4KPbc		07 22 09.3		
	comp=Z,1.1nm,0.9s,baz=154,slow=3.1,SNR=4.7								
	comp=Z,48nm,0.7s								
KURK	**Kurchatov**		**62.12**	**341**	*c i*P	**P**	**06 45 08.3**	**-1.4**
KURK					pmax	pmax			
	comp=Z,133nm,1.0s								
KURK					MLR	MLR			
	comp=Z,6μm,17.0s								
KURK	**Kurchatov**		**62.12**	**341**	P	**P**	**06 45 08.1**	**-1.6**
KURK					P	**P**	**06 45 08.1**	**-1.6**
KURK					S	**S**	**06 53 30.0**	**-0.6**
KURK					S	**S**	**06 53 30.0**	**-0.6**
KURK	**Kurchatov**		**62.12**	**341**	P	**P**	**06 45 08.3**	**-1.4**
KURK					pP	**pP**	**06 45 22.0**	**-3.2**
SMRA	**Abu-Samra**		**62.34**	**302**	P	**P**	**06 45 12.7**	**+0.9**
	SNR=32								
SMRA					S	**S**	**06 53 34.5**	**+0.2**
OTUK	**Ortayu**		**62.43**	**335**	P	**P**	**06 45 09.9**	**-2.1**
SHMA	**Al-Shehemyia**		**62.66**	**304**	P	**P**	**06 45 14.7**	**+0.9**
	SNR=32								
SHMA					S	**S**	**06 53 38.4**	**+0.1**
YSS	**Yuzh-Sakhalins**		**62.69**	**27**	P	**P**	**06 45 12.9**	**-0.7**
YSS					IAmb	IAmb	06 45 14.8		
	comp=Z,169nm,1.1s								
YSS	**Yuzh-Sakhalins**		**62.69**	**27**	P	**P**	**06 45 12.9**	**-0.7**
YSS	**Yuzh-Sakhalins**		**62.69**	**27**	⇓P	**P**	**06 45 13.0**	**-0.7**
YSS	**Yuzh-Sakhalins**		**62.69**	**27**	⇓*e*P	**P**	**06 45 12.9**	**-0.7**
YSS					*e*S	**S**	**06 53 35.3**	**-2.6**
YSS					*e*PPS	PPS	06 54 10.2		
YSS					*e*SSS	SSS	07 00 29.0		
YSS					pmax	pmax			
	comp=Z,140nm,1.0s								
YSS					pmax	pmax			
	comp=N,50nm,1.1s								
YSS					pmax	pmax			
	comp=Z,900nm,5.8s								
YSS	**Yuzh-Sakhalins**		**62.69**	**27**	P	**P**	**06 45 12.8**	**-0.9**
ZEA	**Zeya**		**62.99**	**14**	*e*P	**P**	**06 45 15.5**	**0.0**
ZEA					*e**PP	**pP**	**06 45 31.5**	**+0.3**
ZEA					*e*S	**S**	**06 53 42.1**	**+0.6**
ZEA					*e*SS	**SS**	**06 57 38.4**	**-10**
ZEA					pmax	pmax			
	comp=E,20nm,1.0s								
ZEA					pmax	pmax			
	comp=N,40nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,60nm,1.0s								
ZEA					pmax	pmax			
	comp=Z,300nm,5.6s								
ZEA					smax	smax			
	comp=E,400nm,7.2s								
ZEA					MLR	MLR			
	comp=E,1μm,15.0s								
ZEA					MLR	MLR			
	comp=N,2μm,14.0s								
ZEA					MLR	MLR			
	comp=Z,2μm,15.0s								
SAKB	**Bahrain**		**63.06**	**304**	P	**P**	**06 45 17.3**	**+0.8**
SAKB					S	**S**	**06 53 42.1**	**-1.3**
GEYT	**Alibeck**		**63.12**	**319**	P	**P**	**06 45 16.9**	**+0.1**
	comp=Z,380nm,1.0s,baz=134,slow=6.4,SNR=285								
GEYT					S	**S**	**06 53 39.7**	**-4.1**
	comp=Z,1.6nm,0.4s,baz=58,slow=14,SNR=4.1								
GEYT					LR	LR	07 16 37.8		
	comp=Z,3μm,19.1s,baz=138,slow=40								
	comp=Z,380nm,1.0s								
GYA0	**ALIBECK ARRAY**		**63.12**	**319**	P	**P**	**06 45 16.3**	**-0.4**
GRNR	**Gornyy**		**63.12**	**21**	⇑*i*P	**P**	**06 45 15.8**	**-0.7**
GRNR					pmax	pmax			
	comp=N,10.0nm,1.0s								
GRNR					pmax	pmax			
	comp=Z,30nm,1.2s								
ZALV	**Zalesovo Beam**		**63.23**	**346**	P	**P**	**06 45 15.1**	**-2.0**
	comp=Z,16nm,0.4s,baz=157,slow=4.2,SNR=81								
ZALV					PKPPKP		07 14 16.5		
	comp=Z,2.7nm,0.9s,baz=270,slow=3.0,SNR=7.2								
ZALV					LR	LR	07 15 26.0		
	comp=Z,6μm,19.5s,baz=163,slow=38								
	comp=Z,16nm,0.4s								
MCQ	**Macquarie Isla**		**63.46**	**149**	P	**P**	**06 45 20.9**	**+2.3**
	baz=63,SNR=4.8								
MCQ	**Macquarie Isla**		**63.46**	**149**	P	**P**	**06 45 19.0**	**+0.4**
BRZS	**Berezniki**		**63.67**	**337**	*i*P	**P**	**06 45 19.7**	**-0.4**
	baz=336								
BRZS	**Berezniki**		**63.67**	**337**	*c i*P	**P**	**06 45 19.6**	**-0.4**
DRV	**Dumont d'Urvil**		**64.03**	**166**	P	**P**	**06 45 21.9**	**-0.2**
HARA	**HARA**		**64.65**	**284**	*e*P	P	06 45 18.2	-9.3
HARA					*e*S	**S**	**06 54 10.6**	**+6.7**
HARA	**HARA**		**64.65**	**284**	*e*P	P	06 45 35.5	+8.0
HARA					*e*S	S	06 54 17.5	+14
BOD	**Bodaibo**		**64.82**	**5**	*e*P	**P**	**06 45 25.1**	**-2.3**
BOD					pmax	pmax			
	comp=Z,78nm,1.3s								
PYZ	**Puysegur Point**		**64.85**	**138**	IAmb	IAmb	06 45 32.4		
	comp=Z,111nm,0.8s								
PYZ	**Puysegur Point**		**64.85**	**138**	P	**P**	**06 45 28.8**	**+0.9**
DCZ	**Deep Cove**		**64.96**	**137**	IAmb	IAmb	06 45 32.2		
	comp=Z,142nm,1.0s								
ATD	**Arta Tunnel**		**65.55**	**286**	IAmb	IAmb	06 45 38

MAW Mawson 67.20 197 P **P** **06 45 44.0 +1.4**
comp=Z,74nm,0.9s,baz=56,slow=5.3,SNR=26
MAW LR LR 07 08 45.6
comp=Z,3µm,22.0s,baz=36,slow=30
MAW PKP2ab 07 14 09.3
comp=Z,17nm,0.9s,baz=261,slow=7.2,SNR=5.6
comp=Z,74nm,0.9s
RPZ Rata Peaks 67.22 135 P **P** **06 45 43.6 +0.4**
RPZ Rata Peaks 67.22 135 P **P** **06 45 45.1 +1.9**
RPZ Rata Peaks 67.22 135 LR LR 07 14 00.6
comp=Z,13µm,21.8s,baz=276,slow=35
INZ Inchbonnie 67.28 133 IAmb IAmb 06 45 44.9
comp=Z,157nm,0.8s
DSZ Denniston Nort 67.35 132 IAmb IAmb 06 45 45.9
comp=Z,135nm,0.8s
QRZ Quartz Range 67.71 131 IAmb IAmb 06 45 48.6
comp=Z,177nm,0.8s
QRZ IAMs_20 IAMs_20 07 14 27.3
comp=Z,5µm,20.0s
OXZ Oxford 67.83 134 IAmb IAmb 06 45 48.8
comp=Z,124nm,0.7s
LTZ Lake Taylor 67.89 133 IAmb IAmb 06 45 49.8
comp=Z,79nm,0.7s
KIBK Kibwezi 67.96 270 IAmb IAmb 06 45 51.2
comp=Z,95nm,1.1s
KIBK IAMs_20 IAMs_20 07 09 41.9
comp=Z,6µm,22.0s
KIBK Kibwezi 67.96 270 P **P** **06 45 48.0 -0.5**
KIBK Kibwezi 67.96 270 P **P** **06 45 50.2 +1.6**
SNR=18
MQZ McQueen's Vall 68.35 134 IAmb IAmb 06 45 54.2
comp=Z,139nm,1.0s
NNZ Nelson 68.41 132 IAmb IAmb 06 48 01.6
comp=Z,77nm,0.5s
GVZ Greta Valley S 68.48 133 IAmb IAmb 06 45 54.5
comp=Z,98nm,0.9s
DESE Dese 68.54 285 *e*P **P** **06 45 54.9 +2.5**
DESE *e*S S 06 55 03.0 +12
KHEZ Kahui Hut 68.58 129 P **P** **06 45 53.8 +1.9**
KHZ Kahutara 68.74 133 IAmb IAmb 06 45 54.0
comp=Z,118nm,0.7s
CCD Concordia, Ant 68.86 175 P **P** **06 45 54.9 +1.5**
AB31 Akbulak array 68.89 330 *i* P **P** **06 45 52.2 -1.3**
ABKAR Akbulak array 68.89 330 P **P** **06 45 52.6 -0.8**
KMBO Kilima Mbogo 68.89 271 P **P** **06 45 55.6 +1.1**
KMBO IAmb IAmb 06 45 58.1
comp=Z,121nm,1.2s
KMBO Kilima Mbogo 68.89 271 *i* P **P** **06 45 55.6 +1.1**
SNR=39
KMBO Kilima Mbogo 68.89 271 P **P** **06 45 55.7 +1.1**
KMBO pmax pmax
comp=Z,121nm,1.2s
KMBO Kilima Mbogo 68.89 271 P **P** **06 45 53.5 -1.0**
comp=Z,70nm,1.1s,baz=65,slow=8.7,SNR=53
KMBO LR LR 07 10 44.6
comp=Z,6µm,21.9s,baz=94,slow=31
KMBO Kilima Mbogo 68.89 271 P **P** **06 45 56.3 +1.8**
KMBO Kilima Mbogo 68.89 271 *e*P P 06 45 46.5 -8.0
KMBO *e*S **S** **06 55 00.8 +5.5**
KMBO Kilima Mbogo 68.89 271 *e*P **P** **06 45 55.8 +1.1**
KMBO *e*S **S** **06 54 57.1 +1.9**
KMBO Kilima Mbogo 68.89 271 P **P** **06 45 56.0 +1.5**
KMBO pP **pP** **06 46 10.3 +0.1**
DILA Dilla 68.96 280 *e*P P 06 45 43.3 -12
DILA Dilla 68.96 280 *e*P **P** **06 45 56.6 +1.7**
FURI Furi 69.02 282 *e*P P 06 45 43.9 -12
FURI *e*S **S** **06 54 54.3 -2.6**
FURI Furi 69.02 282 *e*P **P** **06 45 58.1 +2.6**
FURI *e*S **S** **06 55 05.4 +8.5**
WLRA Wolmera 69.04 282 *e*P P 06 45 42.5 -13
WLRA *e*S **S** **06 54 56.8 -0.5**
WLRA Wolmera 69.04 282 *e*P **P** **06 45 58.9 +3.3**
HIZ Hauiti 69.11 129 IAmb IAmb 06 46 05.9
comp=Z,182nm,1.0s
HIZ IAMs_20 IAMs_20 07 14 18.7
comp=Z,5µm,22.0s
SNZO South Karori 69.41 131 P **P** **06 45 56.5 -0.4**
SNZO IAmb IAmb 06 45 57.6
comp=Z,131nm,0.8s
SNZO South Karori 69.41 131 P **P** **06 45 57.8 +0.9**
SNZO South Karori 69.41 131 P **P** **06 45 56.6 -0.4**
BHW Baring Head 69.55 132 IAMs_20 IAMs_20 07 14 21.0
comp=Z,5µm,22.0s
KUZ Kuaotunu 69.57 127 P **P** **06 45 59.7 +1.7**
PLWZ Palliser 69.86 132 P **P** **06 46 00.1 +0.3**
MRZ Mangatainoka R 69.97 131 IAmb IAmb 06 46 28.6
comp=Z,97nm,0.9s
BKZ Black Stump Fm 70.46 129 IAmb IAmb 06 46 05.1
comp=Z,131nm,0.9s
BKZ Black Stump Fm 70.46 129 P **P** **06 46 04.1 +0.5**
BFZ Birch Farm 70.47 131 IAmb IAmb 06 46 05.6
comp=Z,133nm,0.8s
BFZ Birch Farm 70.47 131 P **P** **06 46 04.4 +0.9**
AKTO Aktyubinsk 70.60 330 P **P** **06 46 03.0 -1.0**
AKTO Aktyubinsk 70.60 330 S **S** **06 55 09.5 -4.0**
comp=Z,1.7nm,0.7s,baz=281,slow=11,SNR=6.9
URZ Urewera 70.84 128 LR LR 07 17 55.5
comp=Z,4µm,21.0s,baz=356,slow=36
YAK Yakutsk 71.11 11 IAMs_20 IAMs_20 07 20 58.0
comp=Z,3µm,18.0s
YAK Yakutsk 71.11 11 *c i* P **P** **06 46 05.0 -1.8**
YAK *e**PP **pP** **06 46 20.0 -2.7**
YAK *e* 06 46 24.4
YAK *e* 06 48 42.7
YAK *e*S **S** **06 55 17.7 -1.2**
YAK *e**SS **sS** **06 55 45.5 0.0**
YAK *e* 06 56 04.7
YAK *e*SS **SS** **06 59 48.6 -5.0**
YAK pmax pmax
comp=Z,236nm,0.9s
YAK pmax pmax
comp=E,47nm,1.1s
YAK pmax pmax
comp=N,67nm,1.0s
YAK pmax pmax
comp=Z,70nm,1.4s
YAK pmax pmax
comp=E,31nm,1.5s
YAK pmax pmax
comp=N,48nm,1.7s
YAK smax smax
comp=E,61nm,1.8s
YAK smax smax
comp=N,33nm,1.5s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=N,2µm,18.0s
YAK Yakutsk 71.11 11 P **P** **06 46 05.2 -1.6**
comp=N,193nm,0.9s,baz=198,slow=0.7,SNR=53
YAK LR LR 07 20 40.0
comp=N,2µm,18.5s,baz=204,slow=39
comp=N,193nm,0.9s
LODK Lodwar 71.37 276 IAmb IAmb 06 46 14.3
comp=Z,313nm,1.6s
LODK IAMs_20 IAMs_20 07 12 29.1
comp=Z,3µm,21.0s
LODK Lodwar 71.37 276 P **P** **06 46 11.8 +2.3**
SNR=72
LODK Lodwar 71.37 276 *e*P P 06 45 56.2 -13
LODK *e*S **S** **06 55 15.3 -8.6**
LODK Lodwar 71.37 276 *e*P **P** **06 46 11.2 +1.7**
LODK *e*S **S** **06 55 29.2 +5.3**
MXZ Matakaoa Point 71.71 127 IAmb IAmb 06 46 20.2
comp=Z,81nm,0.7s
MXZ Matakaoa Point 71.71 127 P **P** **06 46 13.2 +2.2**
SKR Severo-Kuril's 71.71 31 ⇓ *i* P **P** **06 46 11.1 +0.5**
FUNA Funafuti 72.33 97 P **P** **06 46 17.3 +2.1**
FUNA IAmb IAmb 06 46 31.0
comp=Z,178nm,1.0s
FUNA Funafuti 72.33 97 P **P** **06 46 17.5 +2.3**
DGTI Dogotuki 72.41 105 P **P** **06 46 16.4 +0.8**
MAK Makhachkala 72.64 319 *d i* P **P** **06 46 16.4 0.0**
MAK *e**PP **PcP** **06 46 33.8 +0.2**
MAK *e* 06 48 59.6
MAK *e*PPP PPP 06 50 43.5
MAK *e*S **S** **06 55 37.6 +0.4**
MAK *e**SS **sS** **06 56 06.8 +3.0**
MAK *e*SS **SS** **07 00 19.9 +2.2**
MAK pmax pmax
comp=Z,439nm,1.3s
MAK MLR MLR
comp=Z,1µm,14.0s
GRD1 Great Renaissa 72.95 284 *e*P **P** **06 46 19.9 +0.9**
GRD1 *e*S **SKiKP** **06 55 47.3 -0.1**

GNI Garni 73.27 315 P **P** **06 46 21.3 +0.9**
GNI IAmb IAmb 06 46 41.4
comp=Z,232nm,1.2s
GNI Garni 73.27 315 P **P** **06 46 20.5 +0.1**
GNI Garni 73.27 315 P **P** **06 46 21.3 +0.9**
GNI pmax pmax
comp=Z,232nm,1.3s
GNI Garni 73.27 315 P **P** **06 46 20.5 +0.1**
comp=Z,91nm,1.0s,baz=147,slow=3.7,SNR=16
GNI LR LR 07 20 46.8
comp=Z,1µm,21.8s,baz=108,slow=38
comp=Z,91nm,1.0s
GNI Garni 73.27 315 P **P** **06 46 21.5 +1.1**
SVE Sverdlovsk 73.57 336 *de*P **P** **06 46 21.4 -0.2**
SVE *e*S **SKiKP** **06 55 43.9 -3.1**
SVE pmax pmax
comp=Z,352nm,1.1s
SVE MLR MLR
comp=Z,4µm,22.0s
LKBA Tubou, Lakemba 73.72 107 P **P** **06 46 23.8 +0.5**
GROC Groznyy 73.86 319 *e*P **P** **06 46 24.3 +0.7**
GROC *e* 06 46 43.8
GROC *e*S **SKiKP** **06 55 47.3 -0.5**
GROC *e**SS **SKSac** **06 56 25.5 -0.5**
GROC pmax pmax
comp=Z,668nm,1.2s
PEA0B Petropavlovsk- 73.94 29 ⇑ *i* P **P** **06 46 22.8 -1.1**
PETK Petropavlovsk- 73.94 29 P **P** **06 46 23.3 -0.6**
PETK Petropavlovsk- 73.94 29 P **P** **06 46 23.3 -0.6**
PETK Petropavlovsk- 73.94 29 P **P** **06 46 23.1 -0.7**
comp=Z,27nm,0.9s,baz=169,slow=1.0,SNR=19
PETK LR LR 07 21 16.5
comp=Z,484nm,19.6s,baz=239,slow=38
comp=Z,27nm,0.9s
ARU Arti 74.16 335 P **P** **06 46 24.0 -1.1**
ARU IAmb IAmb 06 46 27.3
comp=Z,341nm,1.2s
ARU Arti 74.16 335 *c i* P **P** **06 46 24.7 -0.4**
ARU 06 46 38.7
ARU *PP **pP** **06 46 42.4 +1.4**
ARU 06 49 06.1
ARU PPP PPP 06 50 54.2
ARU S **S** **06 55 56.5 +2.6**
ARU 06 56 23.8
ARU SS **SS** **07 00 37.7 -2.7**
ARU pmax pmax
comp=Z,363nm,1.3s
ARU MLR MLR
comp=Z,5µm,27.0s
ARU Arti 74.16 335 P **P** **06 46 25.1 0.0**
comp=Z,76nm,0.5s,baz=124,slow=2.2,SNR=82
ARU LR LR 07 22 11.5
comp=Z,4µm,21.9s,baz=132,slow=38
comp=Z,76nm,0.5s
PET Petropavlovsk 74.36 30 P **P** **06 46 26.0 -0.3**
PET Petropavlovsk 74.36 30 *e*P **P** **06 46 26.0 -0.3**
PET *e*S **S** **06 55 57.0 +0.8**
PET *e*PS 06 56 31.7
PET pmax pmax
comp=Z,184nm,1.4s
PET pmax pmax
comp=Z,500nm,13.4s
PET MLR MLR
comp=Z,800nm,18.0s
PET MLR MLR
comp=Z,800nm,18.0s
RAO Raoul Island 74.42 118 LR LR 07 20 21.7
comp=Z,3µm,20.4s,baz=224,slow=37
GURO Guroymak-BITLI 74.57 313 IAmb IAmb 06 46 48.5
comp=Z,167nm,1.2s
ZEI Tsey 74.94 318 *e*P **P** **06 46 29.8 -0.4**
ZEI pmax pmax
comp=Z,222nm,1.5s
MA2 Magadan 75.13 22 P **P** **06 46 30.2 -0.4**
MA2 Magadan 75.13 22 P **P** **06 46 29.8 -0.8**
comp=Z,44nm,0.9s,baz=200,slow=5.5,SNR=18
MA2 LR LR 07 19 53.3
comp=Z,837nm,21.7s,baz=233,slow=36
comp=Z,44nm,0.9s
ONI Oni 75.16 317 IAmb IAmb 06 46 49.4
comp=Z,113nm,1.1s
MBAR Mbarara 75.42 271 P **P** **06 46 34.7 +1.2**
MBAR IAmb IAmb 06 46 37.2
comp=Z,181nm,1.2s
MBAR Mbarara 75.42 271 IAMs_20 IAMs_20 07 14 34.6
comp=Z,4µm,21.0s
MBAR Mbarara 75.42 271 *c i* P **P** **06 46 35.3 +1.8**
MBAR pmax pmax
comp=Z,170nm,1.1s
MBAR MLR MLR
comp=Z,1µm,18.0s
MBAR Mbarara 75.42 271 P **P** **06 46 35.3 +1.8**
MBAR Mbarara 75.42 271 *e*P **P** **06 46 34.6 +1.2**
NCK Nalchik 75.44 318 *ce*P **P** **06 46 33.6 +0.8**
NCK pmax pmax
comp=Z,47nm,0.5s
NCK MLR MLR
comp=Z,958nm,25.0s
BCA Borcka 75.96 316 ⇓ P **P** **06 46 36.0 +0.2**
KBZ Khabaz 76.00 318 P **P** **06 46 36.3 +0.4**
comp=Z,154nm,0.9s,baz=106,slow=4.7,SNR=70
KBZ LR LR 07 24 39.7
comp=Z,713nm,21.9s,baz=105,slow=39
comp=Z,154nm,0.9s
CTZ Chatham Island 76.06 133 P **P** **06 46 37.1 +0.8**
VNDA Vanda 76.22 169 P **P** **06 46 37.1 +0.5**
VNDA Vanda 76.22 169 P **P** **06 46 37.5 +0.9**
comp=Z,49nm,0.9s,baz=305,slow=5.9,SNR=65
VNDA LR LR 07 15 54.0
comp=Z,4µm,21.5s,baz=318,slow=32
comp=Z,49nm,0.9s
KVAR Kislovodsk Arr 76.22 318 P **P** **06 46 38.0 +0.7**
comp=Z,14nm,0.6s,baz=83,slow=23,SNR=26
KVAR LR LR 07 23 07.1
comp=Z,916nm,20.5s,baz=335,slow=38
comp=Z,14nm,0.6s
KIV Kislovodsk 76.23 318 ⇓ P **P** **06 46 39.2 +1.8**
KIV Kislovodsk 76.23 318 P **P** **06 46 36.6 -0.8**
KIV Kislovodsk 76.23 318 *i* P **P** **06 46 37.6 +0.2**
SNR=25
KIV Kislovodsk 76.23 318 *e*P **P** **06 46 37.5 +0.2**
KIV *e* 06 49 26.0
KIV *e*S **S** **06 56 18.3 +0.7**
KIV *e*SS **SS** **07 01 09.4 -3.1**
KIV pmax pmax
comp=Z,119nm,1.1s
KIV pmax pmax
comp=Z,357nm,4.4s
KIV Kislovodsk 76.23 318 P **P** **06 46 37.8 +0.4**
KIV S **S** **06 56 17.5 -0.1**
ASF Jabal al Asfar 76.39 305 P **P** **06 46 40.3 +1.8**
comp=Z,205nm,1.0s,baz=133,slow=2.3,SNR=68
comp=Z,205nm,1.0s
GOF Gofitskoye 76.45 319 *ce*P **P** **06 46 39.0 +0.5**
LSZ Lusaka 76.61 256 P **P** **06 46 41.5 +1.3**
LSZ IAmb IAmb 06 46 43.4
comp=Z,127nm,1.0s
LSZ IAMs_20 IAMs_20 07 15 23.8
comp=Z,5µm,21.0s
LSZ Lusaka 76.61 256 P **P** **06 46 41.5 +1.3**
LSZ pmax pmax
comp=Z,127nm,1.0s
LSZ Lusaka 76.61 256 LR LR 07 15 45.3
comp=Z,5µm,21.0s,baz=101,slow=32
LSZ Lusaka 76.61 256 P **P** **06 46 41.7 +1.5**
LSZ S **S** **06 56 24.0 +1.1**
BELG Belogornoye 77.08 328 *c i* P **P** **06 46 41.4 -0.4**
BELG pmax pmax
comp=Z,94nm,0.9s
BELG Belogornoye 77.08 328 S **S** **06 56 22.0 -4.2**
comp=Z,9.6nm,0.5s,baz=130,slow=21,SNR=6.9
BELG LR LR 07 26 50.7
comp=Z,1µm,18.9s,baz=119,slow=40
NRIK Noril'sk 77.15 353 P **P** **06 46 40.8 -1.2**
comp=Z,98nm,0.9s,baz=148,slow=4.9,SNR=78
NRIK S **S** **06 56 22.2 -4.3**
comp=Z,5.7nm,1.0s,baz=345,slow=22,SNR=10
NRIK LR LR 07 24 23.2
comp=Z,8µm,18.2s,baz=164,slow=39
comp=Z,98nm,0.9s
EIL Elat 77.29 302 P **P** **06 46 44.7 +1.2**
comp=Z,160nm,1.0s,baz=92,slow=0.9,SNR=55
EIL LR LR 07 19 07.6
comp=Z,4µm,20.9s,baz=114,slow=34
comp=Z,160nm,1.0s
SBA Scott Base 77.30 169 IAMs_20 IAMs_20 07 16 35.4
comp=Z,3µm,21.0s
ARPR Arapgir-MALATY 77.46 312 IAMs_20 IAMs_20 07 22 24.4
comp=Z,2µm,21.0s
GAZ Gaziantep 77.67 310 IAmb IAmb 06 47 05.1
comp=Z,166nm,0.9s
LABN Labinsk 77.79 318 *e*P **P** **06 46 44.6 -1.4**
LABN *e**PP **pP** **06 47 00.5 -1.5**
LABN *e*S **S** **06 56 35.4 +1.0**
LABN pmax pmax
comp=Z,369nm,1.2s
MMAI Mount Meron Ar 77.84 306 P **P** **06 46 48.5 +1.9**
comp=Z,120nm,0.9s,baz=96,slow=8.6,SNR=31
MMAI LR LR 07 21 32.4
comp=Z,6µm,20.9s,baz=82,slow=36
comp=Z,120nm,0.9s
SEY Seymchan 78.01 20 P **P** **06 46 46.3 -0.5**
comp=Z,26nm,1.0s,baz=236,slow=5.5,SNR=21
SEY LR LR 07 21 26.9
comp=Z,939nm,22.0s,baz=239,slow=36
comp=Z,26nm,1.0s
SOC Sochi 78.07 317 *e*P **P** **06 46 45.8 -1.8**
SOC *e**PP **pP** **06 47 00.5 -3.0**
SOC *e**SP **sP** **06 47 05.7 -4.1**
SOC *e* 06 49 41.5
SOC *e*PPP PPP 06 51 29.4
SOC *e*S **S** **06 56 32.5 -4.9**
SOC *e*SS **SS** **07 01 36.1 -4.0**
SOC pmax pmax
comp=Z,175nm,0.9s
SOC MLR MLR
comp=Z,2µm,21.0s
ERBR Yeremizino-Bor 78.36 319 *e*P **P** **06 46 49.4 +0.2**
ERBR *e**PP **sP** **06 47 09.1 -2.3**
ERBR *e*S **S** **06 56 44.5 +4.0**
ERBR pmax pmax
comp=Z,421nm,1.6s
ERBR MLR MLR
comp=Z,2µm,22.0s
LBTB Lobatse 78.55 246 LR LR 07 18 36.0
comp=Z,1µm,18.1s,baz=94,slow=33
BOSA Boshof 78.73 242 P **P** **06 46 51.7 0.0**
BOSA Boshof 78.73 242 P **P** **06 46 53.0 +1.2**
BOSA Boshof 78.73 242 P **P** **06 46 53.0 +1.2**
comp=Z,57nm,1.1s,baz=90,slow=7.0,SNR=37
BOSA PKKPbc **PKKPbc** **07 05 47.8 +1.1**
comp=Z,1.8nm,0.8s,baz=256,slow=1.1,SNR=3.9
comp=Z,57nm,1.1s
KIRV Kirov 79.41 334 P **P** **06 46 55.1 +0.5**
comp=Z,397nm,0.6s,baz=124,slow=2.8,SNR=120
KIRV S **S** **06 56 49.9 -1.2**
comp=Z,9.0nm,0.6s,baz=282,slow=23,SNR=15
KIRV LR LR 07 26 52.3
comp=Z,3µm,19.9s,baz=130,slow=39
comp=Z,397nm,0.6s
VRH Novokhopyorsk 79.80 325 *e*P **P** **06 46 56.8 -0.1**
VRH *e*S **S** **06 56 49.5 -6.0**
VRH pmax pmax
comp=Z,560nm,1.0s
VRH pmax pmax
comp=Z,870nm,1.2s
VRH smax smax
comp=E,490nm,1.3s
VRH MLR MLR
comp=Z,2µm,21.0s
TIXI Tiksi 79.82 7 IAMs_20 IAMs_20 07 26 26.6
comp=Z,4µm,18.0s
TIXI Tiksi 79.82 7 ⇑ *i* P **P** **06 46 54.7 -1.9**
TIXI pmax pmax
comp=Z,62nm,0.8s
TIXI Tiksi 79.82 7 P **P** **06 46 54.6 -1.9**
comp=Z,50nm,0.7s,baz=196,slow=2.8,SNR=73
TIXI LR LR 07 26 38.0
comp=Z,3µm,18.1s,baz=226,slow=39
comp=Z,50nm,0.7s
CSS Mathiatis 80.03 307 IAMs_20 IAMs_20 07 23 31.3
comp=Z,4µm,20.0s
ANN Anapa 80.04 318 *e*P P 06 46 45.7 -13
ANN *e**PP **PcP** **06 47 03.1 -2.5**
ANN pmax pmax
comp=Z,148nm,1.5s
AFI Afiamalu 80.73 103 P **P** **06 47 04.6 +1.8**
AFI IAmb IAmb 06 47 19.2
comp=Z,180nm,1.1s
AFI Afiamalu 80.73 103 P **P** **06 47 04.1 +1.3**
AFI Afiamalu 80.73 103 P **P** **06 47 04.6 +1.8**
AFI pmax pmax
comp=Z,180nm,1.1s
VORD Divnogorie 81.11 324 *e*P **P** **06 47 03.5 -0.4**
VORD pmax pmax
comp=Z,430nm,1.4s
BR131 Keskin Array S 81.11 312 P **P** **06 47 04.2 -0.2**
BR131 IAmb IAmb 06 47 06.5
comp=Z,138nm,0.8s
BR131 Keskin Array S 81.11 312 *c i* P **P** **06 47 04.2 -0.2**
BR131 Keskin Array S 81.11 312 P **P** **06 47 04.5 +0.1**
SNR=40
BRTR Keskin Array B 81.11 312 P **P** **06 47 04.2 -0.2**
comp=Z,76nm,0.8s,baz=136,slow=5.7,SNR=200
BRTR PP **PP** **06 50 10.2 0.0**
comp=Z,16nm,1.0s,baz=123,slow=9.0,SNR=5.2
BRTR PKKPbc **PKKPbc** **07 05 40.0 -2.3**
comp=Z,2.3nm,1.0s,baz=202,slow=1.3,SNR=4.3
BRTR LR LR 07 25 17.7
comp=Z,6µm,20.8s,baz=119,slow=37
comp=Z,76nm,0.8s
ELIB Princess Elisa 81.23 198 *d* P **P** **06 47 05.2 +0.7**
comp=Z,68nm,0.9s
VSR Storozhevoye 81.28 324 *e*P **P** **06 47 04.3 -0.5**
VSR *e*S **S** **06 57 02.4 -8.6**
VSR pmax pmax
comp=Z,750nm,1.3s
VSR pmax pmax
comp=Z,1µm,1.7s
VSR smax smax
comp=N,1µm,5.9s
VORR Voronezh 81.43 325 *e*P **P** **06 47 05.8 +0.2**
VORR pmax pmax
comp=Z,803nm,1.2s
ANTO Ankara 81.78 312 ⇓ P **P** **06 47 08.5 +0.7**
ANTO Ankara 81.78 312 P **P** **06 47 08.3 +0.4**
ANTO Ankara 81.78 312 IAMs_20 IAMs_20 07 25 17.2
comp=Z,4µm,21.0s
ANTO Ankara 81.78 312 P **P** **06 47 08.5 +0.7**
ANTO Ankara 81.78 312 P **P** **06 47 08.1 +0.3**
BR231 Keskin MP Arra 81.79 312 IAmb IAmb 06 47 29.1
comp=Z,316nm,1.3s
LPSR Galich'ya Gora 81.95 325 *e*P **P** **06 47 07.7 -0.6**
LPSR *e*S **S** **06 57 09.0 -8.8**
LPSR pmax pmax
comp=Z,570nm,1.2s
LPSR pmax pmax
comp=Z,710nm,1.2s
LPSR smax smax
comp=E,970nm,4.8s
SIM Simferopol' 82.32 317 *α i* P **P** **06 47 11.1 +0.7**
SIM *e*S **SKSac** **06 57 24.0 -2.5**
SIM pmax pmax
comp=Z,240nm,1.0s
SIM smax smax
comp=E,300nm,12.0s
SUR Sutherland 82.39 238 LR LR 07 19 35.5
comp=E,2µm,18.4s,baz=96,slow=32
SUR Sutherland 82.39 238 P **P** **06 47 14.0 +2.5**
SHEM Shemya Is, Ala 82.44 35 LR LR 07 24 44.8
comp=E,235nm,20.2s,baz=277,slow=36
ISP Isparta 82.96 309 IAMs_20 IAMs_20 07 23 59.4
comp=Z,3µm,22.0s
QSPA South Pole Qui 83.08 180 P **P** **06 47 14.5 +0.3**
QSPA IAmb IAmb 06 47 17.6
comp=Z,147nm,1.1s
QSPA South Pole Qui 83.08 180 P **P** **06 47 15.2 +1.0**
comp=Z,128nm,1.1s,baz=306,slow=2.4,SNR=81
QSPA S **S** **06 57 26.2 -3.1**
comp=Z,1.8nm,0.4s,baz=36,slow=24,SNR=7.4
QSPA PKKPbc **PKKPbc** **07 05 35.4 -3.5**
comp=Z,8.2nm,0.8s,baz=144,slow=1.1,SNR=12
QSPA PKPPKP P'P'df 07 13 32.3 -9.1
comp=Z,5.0nm,1.0s,baz=221,slow=1.0,SNR=6.2
QSPA LR LR 07 23 46.0
comp=Z,1µm,18.2s,baz=342,slow=35
comp=Z,128nm,1.1s
MOS Moscow 83.84 328 *e*P **P** **06 47 15.5 -2.5**
MOS *e**PP **pP** **06 47 32.2 -1.9**
MOS *e*S **S** **06 57 32.4 -4.5**
MOS pmax pmax
comp=Z,651nm,1.6s

MOS pmax pmax
comp=N,168nm,1.1s
MOS pmax pmax
comp=E,234nm,1.2s
MOS pmax pmax
comp=Z,2µm,2.2s
MOS pmax pmax
comp=E,600nm,2.0s
MOS pmax pmax
comp=N,300nm,1.5s
OBN Obninsk 84.17 327 ⇑P **P 06 47 20.0 +0.3**
OBN Obninsk 84.17 327 P **P 06 47 20.1 +0.3**
OBN Obninsk 84.17 327*c i*P **P 06 47 19.9 +0.2**
OBN *e* 06 50 35.3
OBN *e*PPP PPP 06 52 23.3
OBN pmax pmax
comp=Z,886nm,1.7s
OBN MLR MLR
comp=Z,2µm,24.0s
OBN Obninsk 84.17 327 LR LR 07 32 24.3
comp=Z,1µm,18.6s,baz=116,slow=41
KULA Kula-Manisa 84.55 310 P **P 06 47 22.1 -0.1**
KLMR Klimovskoe 84.90 333 *e*P **P 06 47 19.6 -3.7**
KLMR *e**PP **pP 06 47 36.8 -2.6**
KLMR S **SKSac 06 57 36.7 -6.0**
KLMR pmax pmax
comp=Z,948nm,1.3s
KLMR MLR MLR
comp=Z,3µm,23.0s
NVL N'lazarevskaya 84.95 199 *e*P **P 06 47 22.8 -0.6**
NVL *e**PP **pP 06 47 39.3 +0.1**
NVL *e*S **SKSac 06 57 40.4 -2.4**
NVL pmax pmax
comp=Z,23nm,1.1s
NVL smax smax
comp=N,1µm,11.4s
KARP Karpathos 85.07 307 P **P 06 47 25.9 +1.1**
PURM Purcari 85.61 318 ⇑P **P 06 47 28.0 +0.8**
BILL Bilibino 85.69 19 IAMs_20 IAMs_20 07 32 19.8
comp=Z,2µm,18.0s
BILL Bilibino 85.69 19 *i*P **P 06 47 25.8 -1.3**
BLCB Balcova 85.76 309 P **P 06 47 29.2 +1.1**
TLCR 86.00 316 ⇑P **P 06 47 30.4 +1.2**
TLCR 86.00 316 P **P 06 47 30.3 +1.2**
TIRR Tirgusor 86.10 315 ⇑P **P 06 47 30.1 +0.5**
TIRR Tirgusor 86.10 315 IAMs_20 IAMs_20 07 31 46.8
comp=Z,4µm,21.0s
TIRR Tirgusor 86.10 315 P **P 06 47 30.1 +0.5**
TPGR Topolog 86.19 316 ⇑P **P 06 47 30.2 +0.1**
TLBR Topalu 86.38 315 ⇑P **P 06 47 32.4 +1.4**
TSUM Tsumeb 86.39 251 P **P 06 47 32.1 +0.3**
TSUM IAmb IAmb 06 47 35.1
comp=Z,65nm,1.1s
TSUM Tsumeb 86.39 251 LR LR 07 23 07.8
comp=Z,4µm,18.9s,baz=86,slow=33
MILM Milestii Mici 86.41 318 ⇓P **P 06 47 31.4 +0.3**
MILM Milestii Mici 86.41 318*i*P **P 06 47 31.4 +0.3**
comp=Z,480nm,2.0s
MILM Milestii Mici 86.41 318 *i*PP PP 06 50 40.0 -13
MILM *i*S **S 06 58 04.0 +1.3**
MILM *e*L L 07 25 52.0
MILM LRM MLR 07 30 15.0
comp=Z,1µm,19.5s
MILM Milestii Mici 86.41 318*c i*P **P 06 47 31.4 +0.3**
MILM *i* 06 47 45.0
MILM *i*S **S 06 58 04.0 +1.3**
MILM pmax pmax
comp=Z,480nm,2.0s
MILM MLR MLR
comp=Z,1µm,19.5s
KIS Kishinev 86.43 318⇑*i*P **P 06 47 31.5 +0.3**
comp=Z,570nm,4.0s
ICOR Ion Corvin 86.45 315 ⇑P **P 06 47 32.5 +1.1**
CFR Carcaliu 86.46 316 ⇓P **P 06 47 31.5 +0.1**
CFR Carcaliu 86.46 316 P **P 06 47 31.5 +0.1**
WIN Windhoek 86.49 248 IAmb IAmb 06 47 35.9
comp=Z,63nm,1.2s
WIN IAMs_20 IAMs_20 07 21 48.0
comp=Z,2µm,20.0s
HARR Harsova 86.49 316 ⇓P **P 06 47 32.8 +1.3**
HARR Harsova 86.49 316 P **P 06 47 32.8 +1.3**
PRD Provadia 86.51 314 P **P 06 47 32.0 +0.3**
VLDR Vladesti 86.65 317 ⇑P **P 06 47 33.4 +1.0**
SCTR Scanteiesti 86.67 317 ⇑P **P 06 47 33.5 +1.0**
LEOM Leova 86.69 317 ⇑P **P 06 47 33.9 +1.5**
LEOM Leova 86.69 317 P **P 06 47 33.9 +1.5**
EDRB Edirne 86.71 313 P **P 06 47 33.3 +0.6**
NEGRR Negrea 86.72 316 ⇑P **P 06 47 34.2 +1.5**
SCHLR Schela 86.74 316 ⇑P **P 06 47 34.4 +1.7**
IZVR Izvoarele 86.80 316 ⇓P **P 06 47 33.8 +0.7**
IDI Anoyia 86.84 306 P **P 06 47 34.7 +1.1**
IDI Anoyia 86.84 306 P **P 06 47 34.1 +0.5**
IDI Anoyia 86.84 306 LR LR 07 27 34.1
comp=Z,2µm,22.0s,baz=90,slow=36
TUDR 86.88 316 ⇑P **P 06 47 34.9 +1.5**
SORM Soroca 87.01 319 ⇑P **P 06 47 34.0 0.0**
SORM Soroca 87.01 319 P **P 06 47 33.9 0.0**
ALN Alexandroupoli 87.03 312 IAmb IAmb 06 47 36.5
comp=Z,121nm,1.1s
ALN Alexandroupoli 87.03 312 P **P 06 47 34.5 +0.2**
VASR Vaslui 87.03 317 ⇑P **P 06 47 35.2 +1.0**
BIR Birlad 87.06 317 ⇓P **P 06 47 35.4 +1.0**
BIR Birlad 87.06 317 P **P 06 47 35.3 +1.0**
AKASG Malin Array Be 87.08 322 P **P 06 47 33.6 -0.7**
AKASG Malin Array Be 87.08 322 P **P 06 47 33.8 -0.5**
comp=Z,49nm,0.8s,baz=85,slow=4.9,SNR=117
AKASG PP **PP 06 50 52.6 -5.8**
comp=Z,6.9nm,0.8s,baz=99,slow=6.7,SNR=3.8
AKASG LR LR 07 34 04.4
comp=Z,1µm,18.1s,baz=94,slow=41
comp=Z,49nm,0.8s
AKBB Malin Array Si 87.08 322 IAmb IAmb 06 47 37.1
comp=Z,98nm,0.8s
AKBB Malin Array Si 87.08 322*c i*P **P 06 47 33.8 -0.5**
AKBB pmax pmax
comp=Z,114nm,0.9s
KIEV Kiev 87.09 322 ⇑P **P 06 47 33.9 -0.4**
KIEV Kiev 87.09 322 P **P 06 47 33.9 -0.4**
KIEV IAmb IAmb 06 47 37.1
comp=Z,94nm,0.9s
KIEV Kiev 87.09 322 IAMs_20 IAMs_20 07 34 03.1
comp=Z,2µm,20.0s
KIEV Kiev 87.09 322 *i*P **P 06 47 33.2 -1.1**
SNR=7.2
KIEV Kiev 87.09 322 P **P 06 47 33.9 -0.4**
LOZB Loznitsa 87.14 314 ⇓P **P 06 47 35.2 +0.4**
GHRR 87.16 317 ⇑P **P 06 47 36.5 +1.7**
PGOR Pogoanele 87.19 316 ⇓P **P 06 47 37.2 +2.2**
RAZG Razgrad 87.24 314 ⇑P **P 06 47 36.1 +0.8**
PANC Panciu 87.29 317 ⇑P **P 06 47 36.9 +1.4**
GRER 87.30 316 ⇓P **P 06 47 37.4 +1.9**
ODBI Odobesti 87.33 317 ⇑P **P 06 47 37.3 +1.6**
RDO Rodhopi 87.46 312 IAmb IAmb 06 47 38.4
comp=Z,103nm,1.1s
RDO Rodhopi 87.46 312 P **P 06 47 36.6 +0.3**
BISRR Bisoca 87.52 316 ⇑P **P 06 47 38.4 +1.7**
ISR Istrita 87.55 316 ⇓P **P 06 47 38.7 +1.9**
ISR Istrita 87.55 316 P **P 06 47 38.7 +1.9**
ADK Adak 87.56 37 P **P 06 47 36.2 -0.4**
ADK IAmb IAmb 06 47 44.9
comp=Z,56nm,1.0s
ADK Adak 87.56 37 P **P 06 47 38.2 +1.7**
ADK Adak 87.56 37 P **P 06 47 36.2 -0.4**
ADK pmax pmax
comp=Z,56nm,1.0s
ELND Elena 87.56 314 ⇑P **P 06 47 37.7 +0.8**
VRI Vrincioaia 87.58 317 ⇑P **P 06 47 38.2 +1.3**
VRI Vrincioaia 87.58 317 P **P 06 47 38.1 +1.3**
IMMV Iera Moni Meta 87.60 306 P **P 06 47 38.5 +1.3**
PLOR Plostina 87.63 317 ⇑P **P 06 47 38.3 +1.1**
PLOR Plostina 87.63 317 P **P 06 47 38.2 +1.1**
TROLL Troll, Antarti 87.65 198 ⇓P **P 06 47 38.8 +2.0**
comp=Z,1µm,0.9s
SULR 87.65 315 ⇑P **P 06 47 38.2 +1.0**
TESR Tescani 87.77 317 ⇑P **P 06 47 38.0 +0.3**
NEHR Nehoiu 87.78 316 ⇑P **P 06 47 39.3 +1.4**
COVR Voineasa-Covas 87.93 316 ⇑P **P 06 47 39.9 +1.3**
MLR Muntele Rosu 88.04 316 ⇑P **P 06 47 40.1 +0.9**
MLR Muntele Rosu 88.04 316 IAMs_20 IAMs_20 07 28 48.0
comp=Z,2µm,20.0s
MLR Muntele Rosu 88.04 316 P **P 06 47 40.1 +0.9**
MLR Muntele Rosu 88.04 316 LR LR 07 32 01.4
comp=Z,2µm,21.8s,baz=80,slow=39
DION Dionisos Attik 88.10 309 P **P 06 47 40.6 +1.1**

TURR Turia 88.10 317 ⇑P **P 06 47 40.2 +0.8**
PTL Penteli 88.15 308 P **P 06 47 40.9 +1.1**
RZN Rozhen 88.15 312 P **P 06 47 40.6 +0.7**
KAVA Kavala 88.19 311 P **P 06 47 40.5 +0.7**
ATHU Athens Univers 88.20 308 P **P 06 47 40.8 +0.8**
ANKY Antikythira Is 88.22 306 P **P 06 47 38.5 -1.6**
PLD Plovdiv 88.23 313 P **P 06 47 40.8 +0.8**
PRAR RASCA 88.23 318 ⇑P **P 06 47 41.1 +1.2**
ATH Athens Observa 88.25 308 P **P 06 47 40.4 +0.2**
OZUR 88.27 317 ⇑P **P 06 47 40.5 +0.3**
COPA Copaceanca 88.27 315 ⇑P **P 06 47 40.4 +0.2**
DOPR Dopca 88.51 316 ⇓P **P 06 47 42.3 +1.0**
HUMR Humele 88.52 315 ⇓P **P 06 47 42.4 +1.1**
KOKK Kokkinochori, 88.54 311 P **P 06 47 41.6 +0.1**
PLVB Pleven 88.55 314 ⇑P **P 06 47 42.4 +0.9**
MTUR Matau 88.59 316 ⇑P **P 06 47 42.0 +0.2**
MTUR Matau 88.59 316 P **P 06 47 41.9 +0.2**
STFAR Stefanesti-Arg 88.59 315 ⇑P **P 06 47 43.3 +1.6**
VOIR 88.64 316 ⇑P **P 06 47 42.1 +0.1**
VOIR 88.64 316 P **P 06 47 42.1 +0.1**
EPID Epidavros 88.66 308 P **P 06 47 41.8 -0.4**
NVR Nevrokopi 88.73 312 P **P 06 47 43.6 +1.1**
MNK Minsk 88.80 325 *i*P **P 06 47 42.9 +0.5**
MNK *i**PP **pP 06 47 57.6 -1.0**
MNK *i* 06 51 09.8
MNK *i*PPP PPP 06 53 05.2
MNK *i*S **SKSac 06 58 06.3 -0.6**
MNK *i*SS **SS 07 04 21.3 +3.0**
MNK *i*SSS SSS 07 07 47.2
MNK pmax pmax
comp=Z,522nm,1.4s
MNK pmax pmax
comp=E,131nm,1.4s
MNK pmax pmax
comp=N,68nm,0.8s
VLAD Vladila 88.82 314 ⇑P **P 06 47 44.0 +1.2**
LOUT Loutraki 88.83 308 P **P 06 47 42.3 -0.7**
PUL Pulkovo 88.84 331⇑*eP* **P 06 47 43.8 +1.4**
PUL pmax pmax
comp=Z,749nm,1.2s
MMB Musomishta 88.85 312 P **P 06 47 43.3 +0.3**
ARR Arges 88.92 316 ⇓P **P 06 47 44.0 +0.7**
BURAR Bucovina Array 88.95 318 ⇓⇑P **P 06 47 44.5 +1.1**
BURAR Bucovina Array 88.95 318 IAmb IAmb 06 47 47.1
comp=Z,81nm,0.8s
BURAR Bucovina Array 88.95 318 P **P 06 47 44.5 +1.1**
BUR08 Bucovina Ar. S 88.97 318 P **P 06 47 44.7 +1.2**
BUR08 IAmb IAmb 06 47 46.9
comp=Z,69nm,0.8s
ATKA Atka Island 89.12 37 IAmb IAmb 06 47 44.5
comp=Z,106nm,1.0s
ATKA Atka Island 89.12 37 P **P 06 47 43.8 -0.1**
MPEP Malo Peshtene 89.18 314 P **P 06 47 45.4 +0.9**
AXAR Agios Charalam 89.20 309 P **P 06 47 44.5 -0.2**
GUR Goura 89.31 308 P **P 06 47 45.5 +0.1**
SNAA Sanae 89.36 197 P **P 06 47 46.0 +1.2**
SNAA IAmb IAmb 06 47 49.6
comp=Z,94nm,1.2s
SNAA Sanae 89.36 197 ⇓P **P 06 47 46.9 +2.1**
comp=Z,1µm,1.1s
SNAA ⇓SKSac **SKSac 06 58 08.6 -1.3**
comp=Z,42nm,0.9s
SNAA Sanae 89.36 197*d i*P **P 06 47 47.0 +2.1**
SNAA pmax pmax
comp=Z,103nm,1.2s
SNAA MLR MLR
comp=Z,22µm,63.0s
SNAA Sanae 89.36 197 P **P 06 47 46.4 +1.6**
comp=Z,70nm,1.1s,baz=104,slow=5.2,SNR=47
SNAA LR LR 07 21 58.9
comp=Z,4µm,21.7s,baz=66,slow=32
comp=Z,70nm,1.1s
KKB Krupnik 89.36 312 P **P 06 47 41.3 -4.1**
VTS Vitosha 89.42 313 P **P 06 47 46.5 +0.7**
KNT Kendrikon 89.42 311 P **P 06 47 45.5 -0.1**
ARCR ARCALIA 89.43 317 ⇑P **P 06 47 46.9 +1.3**
VALD Valchedram 89.46 314 P **P 06 47 46.2 +0.5**
KLV Kalavryta, Ach 89.48 308 P **P 06 47 46.4 +0.3**
LVZ Lovozero 89.49 339 P **P 06 47 44.8 -0.7**
LVZ Lovozero 89.49 339 P **P 06 47 44.9 -0.5**
AGG Agios Georgios 89.50 309 IAmb IAmb 06 47 49.4
comp=Z,98nm,1.1s
AGG Agios Georgios 89.50 309 P **P 06 47 45.9 -0.2**
LOT Lotru 89.53 316 ⇑P **P 06 47 47.0 +0.8**
PYL PYLOS 89.62 307 P **P 06 47 46.9 +0.2**
MAKR Makrakomi, Fth 89.65 309 P **P 06 47 46.9 +0.1**
VAY Valandovo 89.69 312 *i*P **P 06 47 46.8 -0.1**
EFP Efpalio 89.73 309 P **P 06 47 47.6 +0.5**
ANX Ano Chora 89.75 309 P **P 06 47 47.9 +0.5**
GRG Griva 89.75 311 P **P 06 47 47.2 -0.1**
SRE Strehaia 89.79 315 ⇑P **P 06 47 48.8 +1.5**
SRE Strehaia 89.79 315 P **P 06 47 48.7 +1.5**
THL Klokotos Trika 89.83 310 P **P 06 47 47.8 +0.3**
APA Apatity 89.83 339⇓*i*P **P 06 47 44.5 -2.4**
APA *i* 06 58 09.0
APA *i*S **S 06 58 28.0 -6.4**
APA *i*PS **PnS 06 59 44.0 -3.5**
APA pmax pmax
comp=Z,68nm,1.2s
APA MLR MLR
comp=Z,6µm,27.0s
CJR Cluj-Napoca 89.87 317 ⇑P **P 06 47 49.4 +1.7**
CJR Cluj-Napoca 89.87 317 P **P 06 47 49.4 +1.7**
KTI Kastanea 89.88 311 P **P 06 47 48.0 0.0**
EVR Evrytania 89.88 309 P **P 06 47 49.6 +1.6**
BLKB Belogradchik 89.99 314 ⇑P **P 06 47 49.2 +0.9**
ISAL Salakas 90.02 326 *eP* **P 06 47 49.4 +1.4**
PVO Paravola 90.06 309 P **P 06 47 49.9 +1.2**
BMR Baia Mare 90.11 318 ⇓P **P 06 47 49.9 +1.2**
BMR Baia Mare 90.11 318 P **P 06 47 49.9 +1.2**
LVV L'vov 90.14 320 *eP* **P 06 47 49.5 +0.7**
MARR Marisel-Cluj 90.19 317 ⇓P **P 06 47 50.5 +1.2**
DEV Deva 90.20 316 ⇓P **P 06 47 50.9 +1.7**
DEV Deva 90.20 316 P **P 06 47 50.9 +1.7**
GZR Gura Zlata 90.21 316 ⇑P **P 06 47 50.8 +1.5**
GZR Gura Zlata 90.21 316 P **P 06 47 50.8 +1.5**
DJES Djerdap 90.27 315 ⇑P **P 06 47 50.4 +0.9**
DJES Djerdap 90.27 315 IAMs_20 IAMs_20 07 15 43.4
comp=Z,2µm,18.0s
VSU Vasula 90.31 329*c i*P **P 06 47 49.4 0.0**
VSU pmax pmax
comp=Z,269nm,1.0s
VSU Vasula 90.31 329 *eP* **P 06 47 50.0 +0.6**
HERR Herculane 90.38 315 ⇓P **P 06 47 51.2 +1.2**
KPRO Kipourio 90.38 310 P **P 06 47 49.9 -0.4**
DRGR 90.49 317 ⇑P **P 06 47 51.4 +0.8**
DRGR 90.49 317 P **P 06 47 51.4 +0.8**
SKO Skopje 90.63 312 *i*P **P 06 47 51.1 -0.2**
BOVS Bovan 90.69 314 ⇓P **P 06 47 51.0 -0.5**
NEST Nestorio 90.69 310 P **P 06 47 51.6 -0.1**
NYDR Nydri-Lefkada 90.71 309 P **P 06 47 52.4 +0.7**
SURR Surduc 90.72 316 ⇑P **P 06 47 52.1 +0.5**
JAN Janina 90.73 310 P **P 06 47 53.8 +2.0**
LKD2 Lefkada island 90.75 309 P **P 06 47 52.8 +0.8**
MDVR Moldovita 90.86 315 ⇑P **P 06 47 53.0 +0.7**
KWP Kalwaria Pacla 90.96 320 IAMs_20 IAMs_20 07 36 39.3
comp=Z,2µm,19.0s
OHR Ohrid 90.98 311 *i*P **P 06 47 52.8 -0.2**
LSK Leskovik 90.99 310 P **P 06 47 53.9 +0.8**
VNA2 Neumayer--Watz 91.00 198 ⇓P **P 06 47 54.3 +1.9**
comp=Z,42nm,0.7s,baz=105,slow=4.0
VNA2 ⇓SKSac **SKSac 06 58 16.9 -2.4**
comp=Z,0.7nm,0.6s,baz=0.0,slow=16
BZS Buzias 91.05 316 ⇓P **P 06 47 52.9 -0.3**
BZS Buzias 91.05 316 P **P 06 47 52.8 -0.3**
IGT Igoumenitsa 91.11 310 P **P 06 47 54.1 +0.5**
SIRR Siria 91.12 316 ⇑P **P 06 47 54.2 +0.7**
KOLS Kolonicke sedl 91.12 319 *eP* **P 06 47 54.8 +1.4**
KOLS pmax pmax
comp=Z,110nm,1.0s
KOLS Kolonicke sedl 91.12 319 *eP* **P 06 47 54.8 +1.4**
PABE Paberze 91.21 326 IAMs_20 IAMs_20 07 36 37.2
comp=Z,3µm,20.0s
PABE Paberze 91.21 326 *eP* **P 06 47 54.1 +0.5**
FINES FINESS Array B 91.28 332 P **P 06 47 53.8 0.0**
comp=Z,78nm,1.0s,baz=104,slow=6.1,SNR=66
FINES LR LR 07 34 19.2
comp=Z,2µm,20.1s,baz=102,slow=39
comp=Z,78nm,1.0s
VSVD Vaisvydziai 91.32 326 *eP* **P 06 47 54.7 +0.6**
PHP Peshkopia 91.32 312 P **P 06 47 54.0 -0.6**
RAR Rarotonga 91.34 111 LR LR 07 28 09.3

comp=Z,1µm,21.8s,baz=248,slow=35
VNA1 Neumayer--Stat 91.38 198 ⇓P **P 06 47 56.5 +2.3**
comp=Z,67nm,1.0s
SRN Sarande 91.41 310 P **P 06 47 55.4 +0.5**
VNA3 Neumayer Olymp 91.53 197 ⇓P **P 06 47 56.5 +1.6**
comp=Z,26nm,0.9s
KEK Kerkira 91.54 310 P **P 06 47 54.5 -1.1**
CRVS Cervenica-Dubn 91.65 319 *eP* **P 06 47 56.8 +0.9**
CRVS pmax pmax
comp=Z,160nm,2.3s
CRVS Cervenica-Dubn 91.65 319 *eP* **P 06 47 56.8 +0.9**
TIR Tirane 91.71 311 IAmb IAmb 06 47 59.2
comp=Z,128nm,1.4s
PUK Puka 91.78 312 IAmb IAmb 06 48 18.4
comp=Z,145nm,1.6s
MEF Metsahovi 91.84 330 *eP* **P 06 47 57.5 +1.1**
MTSE Matsula 91.86 329 *eP* **P 06 47 57.0 +0.5**
STHS Stebnicka Huta 91.86 319 *eP* **P 06 47 57.1 +0.2**
STHS pmax pmax
comp=Z,33nm,0.9s
STHS Stebnicka Huta 91.86 319 *eP* **P 06 47 57.1 +0.2**
SJES Sjenica 91.88 313 *eP* **P 06 47 58.0 +0.8**
VADS Vadso 91.97 341 *eP* **P 06 47 55.9 -0.9**
VADS IVmB_BB 06 47 56.6
comp=Z,842nm,0.7s
VADS *e*PP **PP 06 51 39.3 +2.4**
VADS *e*SKSac **SKSac 06 58 23.7 -0.9**
VADS IVMs_BB IVMs_BB 07 27 54.1
comp=Z,2µm,13.6s
KECS Kecovo 92.23 318 *eP* **P 06 47 59.0 +0.5**
KECS pmax pmax
comp=Z,25nm,1.0s
KECS Kecovo 92.23 318 *eP* **P 06 47 59.0 +0.5**
FRGS Fruska Gora 92.25 315 ⇓P **P 06 47 59.1 +0.4**
FRGS Fruska Gora 92.25 315 *eP* **P 06 47 58.4 -0.3**
SPIA Saint Paul Isl 92.30 33 P **P 06 47 58.3 -0.3**
baz=261
DRME Dracevica, Mon 92.32 312 *eP* **P 06 47 59.2 +0.1**
RUDO Rudo 92.36 313 *eP* **P 06 47 58.3 -1.0**
TEKS Tekeris 92.37 314 *eP* **P 06 47 56.9 -2.4**
BBLS Lazići 92.37 314 *eP* **P 06 47 59.8 +0.4**
PBUR Paburge 92.43 326 *eP* **P 06 47 59.9 +0.7**
NIKH Nikolski High 92.47 37 P **P 06 47 59.0 -0.5**
baz=262
NIE Niedzica 92.48 319 *eP* **P 06 48 00.7 +1.0**
PSZ Piszkesteto 92.55 318 ⇑P **P 06 48 01.0 +0.9**
PSZ Piszkesteto 92.55 318 P **P 06 48 01.0 +0.9**
P08K Saint George I 92.59 33 P **P 06 47 59.7 -0.2**
baz=262
UPM Unac-Piva 92.65 313 *eP* **P 06 47 59.8 -1.0**
KEV Kevo 92.68 340 P **P 06 47 58.8 -1.3**
KEV IAMs_20 IAMs_20 07 36 10.3
comp=Z,3µm,21.0s
KEV Kevo 92.68 340 P **P 06 47 58.8 -1.3**
KEV pmax pmax
comp=Z,138nm,1.4s
GAMB Gambell 92.69 26 P **P 06 48 00.5 +0.3**
baz=260
HAPS Han Pijesak,Bl 92.72 314 *eP* **P 06 48 01.8 +0.7**
HCY Herceg Novi 92.86 312 *eP* **P 06 48 00.7 -0.9**
BRY Bratogost 92.88 313 *eP* **P 06 48 00.6 -1.3**
OJC Ojcow 92.90 320 *eP* **P 06 48 03.5 +1.9**
LANS Liptovska Anna 92.98 319 *eP* **P 06 48 03.1 +1.0**
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 92.98 319 *eP* **P 06 48 03.1 +1.0**
ARA0 ARCESS Array S 93.14 340 *eP* **P 06 48 02.0 -0.3**
ARA0 IVmBBB 06 48 03.9
comp=Z,1µm,1.5s
ARA0 *e*SKSac **SKSac 06 58 28.0 -3.3**
ARA0 IVMs_BB IVMs_BB 07 26 35.0
comp=Z,1µm,5.0s
ARCES ARCESS Array B 93.14 340 P **P 06 48 01.6 -0.7**
comp=Z,131nm,1.1s,baz=92,slow=3.8,SNR=78
ARCES LR LR 07 35 39.5
comp=Z,3µm,19.4s,baz=106,slow=39
comp=Z,131nm,1.1s
MORH Mrgy, Hungar 93.19 316 ⇑P **P 06 48 03.2 +0.2**
KLNR Kaliningrad 93.21 324*deP* **P 06 48 02.9 +0.1**
KLNR pmax pmax
comp=Z,83nm,0.7s
KLNR MLR MLR
comp=Z,1µm,19.0s
NEVS Nevesinje 93.24 313 *eP* **P 06 48 02.1 -1.3**
RAF Rauma 93.25 331 *eP* **P 06 48 04.1 +1.1**
VYHS Vyhne 93.32 318 *eP* **P 06 48 04.1 +0.5**
VYHS pmax pmax
comp=Z,26nm,1.2s
VYHS Vyhne 93.32 318 *eP* **P 06 48 04.1 +0.5**
VYHS *e*PP **PP 06 51 47.8 -0.3**
STON Ston 93.49 313 *eP* **P 06 48 03.8 -0.6**
SRO Srobarova 93.59 318 *eP* **P 06 48 05.9 +1.1**
SRO pmax pmax
comp=Z,93nm,1.6s
SRO Srobarova 93.59 318 *eP* **P 06 48 05.9 +1.1**
TIP Timpagrande 93.82 309 ⇑P **P 06 48 08.0 +1.9**
TIP Timpagrande 93.82 309 IAMs_20 IAMs_20 07 34 15.4
comp=Z,2µm,21.0s
KTK1 Kautokeino 93.85 339 *eP* **P 06 48 04.6 -1.0**
KTK1 IVmB_BB 06 48 05.0
comp=Z,688nm,1.0s
KTK1 *i* 06 58 29.8
KTK1 IVMs_BB IVMs_BB 07 25 51.5
comp=Z,1µm,21.6s
OKC Ostrava-Krasne 93.92 320 AMS AMS 07 37 40.0
comp=Z,1µm,21.4s
HAMF Hammerfest 93.96 341 *eP* **P 06 48 05.4 -0.5**
HAMF IVmBBB 06 48 06.5
comp=Z,1µm,1.5s
HAMF *e*SKSac **SKSac 06 58 32.2 -3.4**
HAMF IVMs_BB IVMs_BB 07 27 22.8
comp=Z,2µm,49.7s
UNV Unalaska Valle 93.97 36 P **P 06 48 06.3 0.0**
baz=264
BLY Banja Luka 94.05 314 *eP* **P 06 48 07.2 +0.2**
MGRS Mrkonjic Grad 94.09 314 *eP* **P 06 48 07.7 +0.4**
JAVC Velka Javorina 94.13 319 *eP* **P 06 48 08.2 +0.9**
A051A Mrakovica 94.27 315 *eP* **P 06 48 07.7 -0.4**
MORC Moravsky Berou 94.30 319 ⇑P **P 06 48 08.3 +0.2**
MORC Moravsky Berou 94.30 319 P **P 06 48 08.1 0.0**
MORC Moravsky Berou 94.30 319 *eP* **P 06 48 08.0 -0.1**
MORC Moravsky Berou 94.30 319 P **P 06 48 08.3 +0.2**
MODS Modra-Piesok 94.34 318 *eP* **P 06 48 09.0 +0.7**
MODS pmax pmax
comp=Z,338nm,2.6s
MODS Modra-Piesok 94.34 318 *eP* **P 06 48 09.0 +0.7**
MODS *e*PP **PP 06 51 55.7 -0.4**
CEL Celeste 94.40 308 IAmb IAmb 06 48 11.7
comp=Z,82nm,1.2s
ZST Bratislava 94.44 318 *eP* **P 06 48 09.2 +0.5**
ZST pmax pmax
comp=Z,56nm,1.1s
ZST Bratislava 94.44 318 *eP* **P 06 48 09.2 +0.5**
ZST *e*PP **PP 06 51 57.1 +0.3**
A050A Klekovaca 94.49 314 *eP* **P 06 48 07.9 -1.2**
TNA Tin City 94.56 25 P **P 06 48 08.8 -0.1**
baz=264
HOPEN Hopen 94.59 347 *e*SKSac **SKSac 06 58 37.7 -1.1**
HOPEN IVMs_BB IVMs_BB 07 37 17.3
comp=Z,3µm,21.2s
M11K Mekoryuk 94.80 30 P **P 06 48 10.1 +0.1**
baz=265
KRLC Kraliky 94.82 320 *eP* **P 06 48 09.9 -0.6**
KRLC AMS AMS 07 33 40.0
comp=Z,2µm,28.3s
KRLC Kraliky 94.82 320 *eP* **P 06 48 09.9 -0.6**
KRLC MLR MLR
comp=Z,2µm,28.3s
SGRT San Giovanni R 94.83 311 IAmb IAmb 06 48 13.2
comp=Z,76nm,1.6s
KOGS Kog 94.86 316 *i*P **P 06 48 10.9 +0.2**
KOGS *i* 06 48 11.9
KOGS *i*PP **PP 06 52 01.6 +1.4**
VRAC Vranov 94.87 319 *eP* **P 06 48 11.1 +0.4**
VRAC *e*PP **PP 06 52 00.4 +0.2**
VRAC Vranov 94.87 319 PP **PP 06 51 59.9 -0.3**
comp=Z,11nm,0.9s,baz=90,slow=7.7,SNR=5.9
VRAC LR LR 07 38 09.5
comp=Z,832nm,18.3s,baz=82,slow=40
JETT Jettan, Norway 94.92 339 *eP* **P 06 48 09.9 -0.6**
JETT IVmB_BB 06 48 11.2
comp=Z,1µm,1.1s
JETT *e*SKSac **SKSac 06 58 37.7 -3.2**
JETT IVMs_BB IVMs_BB 07 28 20.4

comp=Z,1µm,5.5s
RONA Rosalia, Austr 94.93 317 *i* P **P** **06 48 11.4 +0.3**
comp=Z,6.9nm,1.1s
RONA *e*PP **PP** **06 52 01.6 +0.8**
comp=Z,30nm,1.6s
KRUC Moravsky 94.98 319 *e*P **P** **06 48 11.2 0.0**
KRUC *e*PP **PP** **06 52 01.3 +0.3**
DPC Dobruska-Polom 95.13 320 *e*P **P** **06 48 12.6 +0.7**
DPC AMS AMS 07 34 00.0
comp=Z,3µm,42.1s
DPC Dobruska-Polom 95.13 320 *e*P **P** **06 48 12.6 +0.7**
DPC MLR MLR
comp=Z,3µm,42.1s
F14K Arctic Creek 95.21 25 P **P** **06 48 12.2 +0.3**
baz=265
OSTC Ostas 95.22 320 *e*P **P** **06 48 11.9 -0.4**
OSTC AMS AMS 07 34 30.0
comp=Z,2µm,25.5s
OSTC Ostas 95.22 320 *e*P **P** **06 48 11.9 -0.4**
OSTC MLR MLR
comp=Z,2µm,25.5s
CONA Conrad Observa 95.25 318 *i* P **P** **06 48 12.5 -0.1**
comp=Z,7.1nm,1.1s
CONA *i* PP **PP** **06 52 04.3 +1.1**
comp=Z,37nm,1.4s
CONA *e*SKS **SKSac** **06 58 47.8 +4.1**
comp=Z,4.4nm,1.3s
CHVC Chvalec 95.32 320 *e*P **P** **06 48 12.5 -0.2**
CHVC AMS AMS 07 34 30.0
comp=Z,2µm,22.8s
CHVC Chvalec 95.32 320 *e*P **P** **06 48 12.5 -0.2**
CHVC MLR MLR
comp=Z,2µm,22.8s
UPC Upice 95.34 320 AMS AMS 07 34 20.0
comp=Z,2µm,24.6s
CRES Cresnjev 95.36 315 *e*P **P** **06 48 11.5 -1.5**
ARSA Arzberg 95.42 317 *e*P **P** **06 48 13.6 +0.3**
comp=Z,20nm,1.4s,SNR=7.1
ARSA *e*PP **PP** **06 52 05.1 +0.6**
comp=Z,57nm,1.5s,SNR=5.7
TRO Tromso 95.44 339 *e*P **P** **06 48 11.9 -0.8**
TRO *e*SKSac **SKSac** **06 58 39.7 -3.9**
TRO IVMs_BB IVMs_BB 07 29 37.9
comp=Z,1µm,5.4s
BOJS Bojanci 95.48 315 *i* P **P** **06 48 13.6 +0.1**
BOJS *e*SKSac **SKSac** **06 58 42.9 -1.9**
BOJS Bojanci 95.48 315 *e*P **P** **06 48 13.2 -0.3**
VAE Valguarnera 95.50 307 LR LR 07 40 32.8
comp=Z,340nm,18.2s,baz=106,slow=41
RAFF Raffo Rosso 95.52 307 IAMs_20 IAMs_20 07 32 13.8
comp=Z,2µm,20.0s
ANM Nome 95.54 26 IAMs_20 IAMs_20 07 38 06.5
comp=Z,2µm,21.0s
ANM Nome 95.54 26 P **P** **06 48 14.2 +0.8**
baz=266
TREC Trest 95.59 319 AMS AMS 07 37 40.0
comp=Z,2µm,20.6s
SOKA Soboth 95.72 316 *i* P **P** **06 48 15.2 +0.5**
comp=Z,31nm,1.2s,SNR=17
SOKA *e*PP **PP** **06 52 08.4 +1.5**
comp=Z,54nm,1.7s,SNR=7.2
SOKA *e*SKS **SKSac** **06 58 48.7 +2.4**
comp=Z,4.2nm,1.1s
C16K Lisburne Hills 95.82 22 IAMs_20 IAMs_20 07 40 25.6
comp=Z,2µm,19.0s
C16K Lisburne Hills 95.82 22 P **P** **06 48 15.2 +0.7**
baz=266
F15K North Star Dit 95.92 25 IAmb IAmb 06 48 18.5
comp=Z,53nm,1.4s
F15K North Star Dit 95.92 25 P **P** **06 48 15.7 +0.6**
baz=266
LJU Ljubljana 96.02 316 *i* P **P** **06 48 16.6 +0.6**
LJU *i* 06 48 17.5
LJU *e*pP **pP** **06 48 33.2 +0.9**
LJU *e*PP **PP** **06 52 10.6 +1.4**
OBKA Obir 96.04 316 *i* PcP **PcP** **06 48 17.3 +1.0**
comp=Z,12nm,1.1s
OBKA *i* PP **PP** **06 52 11.6 +2.2**
comp=Z,31nm,1.4s
OBKA *e*SKS **SKSac** **06 58 52.0 +4.0**
comp=Z,7.4nm,1.5s
OBKA Obir 96.04 316 *e*P **P** **06 48 17.1 +0.9**
CEY Cerknica 96.07 315 *e*P **P** **06 48 15.1 -1.2**
GOPC GO Pecny, Ondr 96.09 319 *e*P **P** **06 48 11.5 -4.7**
GOPC AMS AMS 07 34 40.0
comp=Z,2µm,24.9s
GOPC GO Pecny, Ondr 96.09 319 *e*P **P** **06 48 11.5 -4.7**
GOPC MLR MLR
comp=Z,2µm,24.9s
M13K Dall Lake 96.21 30 P **P** **06 48 16.7 +0.2**
baz=267
J14K Nanvaranak Lak 96.24 28 P **P** **06 48 16.9 +0.4**
baz=267
PRU Pruhonice 96.25 320 AMS AMS 07 34 50.0
comp=Z,2µm,22.6s
PVCC Panska Ves 96.26 320 AMS AMS 07 34 50.0
comp=Z,2µm,23.3s
MOA Molln 96.31 317 *e*PcP **PcP** **06 48 19.9 +2.4**
comp=Z,11nm,1.2s
MOA *e*PP **PP** **06 52 11.4 0.0**
comp=Z,73nm,1.2s,SNR=7.8
PRA Prague 96.33 320 AMS AMS 07 35 00.0
comp=Z,2µm,22.3s
CKRC Cesky Krumlov 96.34 318 *e*P **P** **06 48 17.8 +0.4**
CKRC Cesky Krumlov 96.34 318 *e*P **P** **06 48 17.8 +0.4**
ZVC Zvikov 96.45 319 *e*P **P** **06 48 20.6 +2.7**
ZVC AMS AMS 07 32 30.0
comp=Z,2µm,21.2s
CLTB Caltabellotta 96.46 307 IAMs_20 IAMs_20 07 35 24.3
comp=Z,3µm,22.0s
RICC Richard 96.56 320 AMS AMS 07 34 00.0
comp=Z,2µm,28.3s
L14K Kuka Creek 96.58 29 IAmb IAmb 06 51 45.4
comp=Z,26nm,0.4s
L14K Kuka Creek 96.58 29 P **P** **06 48 18.6 +0.4**
baz=268
C17K DeLong Mountai 96.63 22 P **P** **06 48 18.6 +0.3**
baz=268
D17K Noatak River 96.64 23 P **P** **06 48 18.6 +0.3**
baz=268
FAUS Fauske 96.64 337 *e*P **P** **06 48 17.5 -0.8**
FAUS *e*SKSac **SKSac** **06 58 47.8 -2.2**
FAUS *e* 07 06 41.3
FAUS IVMs_BB IVMs_BB 07 37 00.7
comp=Z,2µm,21.6s
SPA0 Spitsbergen Ar 96.66 348 *e*P **P** **06 48 17.5 -0.7**
SPA0 IVmBBB 06 48 18.8
comp=Z,1µm,2.8s
SPA0 *e*SKSac **SKSac** **06 58 45.7 -4.2**
SPA0 *e*SS **SS** **07 06 16.4 +6.4**
SPA0 IVMs_BB IVMs_BB 07 39 03.6
comp=Z,3µm,14.8s
SPITS Spitsbergen Ar 96.66 348 P **P** **06 48 17.8 -0.4**
comp=Z,57nm,0.8s,baz=119,slow=6.9,SNR=34
SPITS LR LR 07 39 33.8
comp=Z,5µm,18.4s,baz=76,slow=40
comp=Z,57nm,0.8s
MYKA Terra Mystica 96.67 316 *i* PcP **PcP** **06 48 20.7 +1.6**
comp=Z,18nm,1.7s
MYKA *e*PP **PP** **06 52 14.4 +0.2**
comp=Z,20nm,1.1s
MYKA *e*SKS **SKSac** **06 58 52.5 +1.3**
comp=Z,1.0nm,0.5s
BRG Berggiesshubel 96.68 320 *e*P **P** **06 48 18.7 -0.1**
BRG Amp 06 48 21.4
comp=Z,5.7nm,0.8s
BRG Berggiesshubel 96.68 320 P P 06 48 25.9 +7.1
BRG Amp 06 48 26.3
comp=Z,9.7nm,0.9s
BRG Berggiesshubel 96.68 320 SS SS 07 06 10.0 -1.4
BRG Amp 07 39 40.0
comp=Z,2.5nm,18.3s
BRG Amp 07 39 44.0
comp=E,1.6nm,19.7s
BRG Amp 07 39 55.0
comp=N,0.8nm,15.4s
BRG Berggiesshubel 96.68 320 *e*P **P** **06 48 18.7 -0.1**
BRG 06 48 33.9
BRG 06 52 14.5
BRG S **S** **06 59 35.0 -0.8**
BRG SS **SS** **07 06 10.0 -1.4**
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,34nm,1.3s
BRG pmax pmax
comp=Z,5.0nm,1.0s
STEI Steigen 96.68 338 *e*P **P** **06 48 17.7 -0.8**
STEI *e*SKSac **SKSac** **06 58 50.4 +0.3**
STEI IVMs_BB IVMs_BB 07 35 58.6
comp=Z,2µm,20.3s
BIOA Bad Ischl, Aus 96.72 317 *e*P **P** **06 48 20.0 +0.8**
comp=Z,2.6nm,0.6s
BIOA *e*PP **PP** **06 52 15.4 +0.8**
comp=Z,11nm,0.9s
BIOA *e*SKS **SKSac** **06 58 53.6 +2.2**
comp=Z,0.4nm,0.3s
GERES GERESS Array B 96.74 318 P **P** **06 48 19.4 +0.1**
comp=Z,6.1nm,1.0s,baz=93,slow=4.8,SNR=16
GERES LR LR 07 36 52.8
comp=Z,1µm,20.8s,baz=82,slow=38
comp=Z,6.1nm,1.0s
KHC Kasperske Hory 96.83 319 *e*P **P** **06 48 19.6 -0.1**
KHC *ex* x 06 48 29.5
KHC AMS AMS 07 31 40.0
comp=Z,2µm,23.7s
KHC Kasperske Hory 96.83 319 *e*P **P** **06 48 19.6 -0.1**
KHC *e* 06 48 29.5
KHC MLR MLR
comp=Z,2µm,23.7s
G16K Koyuk River 96.86 25 IAmb IAmb 06 48 22.8
comp=Z,38nm,1.1s
G16K Koyuk River 96.86 25 P **P** **06 48 19.7 +0.3**
baz=269
H16K Elim 96.89 26 P **P** **06 48 19.7 +0.2**
baz=269
KBA Koelnbreinsper 96.89 317 *i* P **P** **06 48 20.2 0.0**
comp=Z,4.1nm,0.7s
KBA *i* PP **PP** **06 52 17.9 +1.8**
comp=Z,38nm,1.4s
KBA *e*SKS **SKSac** **06 58 54.8 +2.2**
comp=Z,8.9nm,1.1s
M14K Bethel 96.91 30 IAmb IAmb 06 48 23.9
comp=Z,50nm,1.3s
M14K Bethel 96.91 30 P **P** **06 48 19.8 +0.2**
baz=268
MOR8 Moi Rana 96.95 336 *e*P **P** **06 48 18.7 -1.0**
MOR8 IVmBBB 06 48 20.5
comp=Z,1µm,1.1s
MOR8 *e*SKSac **SKSac** **06 58 49.1 -2.6**
MOR8 IVMs_BB IVMs_BB 07 40 46.8
comp=Z,1µm,16.5s
HSKC Hora Svate Kat 96.99 320 AMS AMS 07 38 10.0
comp=Z,2µm,20.7s
N14K Kuskokwak Cree 97.03 30 P Pdif 06 48 20.3 +0.1
baz=268
HFS Hagfors 97.15 330 P Pdif 06 48 20.8 0.0
comp=Z,35nm,1.0s,baz=132,slow=2.2,SNR=17
HFS LR LR 07 38 16.4
comp=Z,2µm,18.3s,baz=87,slow=39
comp=Z,35nm,1.0s
B18K Kokolik River 97.15 21 P Pdif 06 48 21.1 +0.5
baz=270
K15K Wolf Creek Mou 97.16 28 P Pdif 06 48 21.8 +1.0
baz=269
L15K Ungalak Mounta 97.17 29 P **P** **06 48 20.8 0.0**
baz=269
RGN Rugen 97.20 324 IAMs_20 IAMs_20 07 38 46.9
comp=Z,2µm,20.0s
O14K Tigyukauivet M 97.22 31 P Pdif 06 48 21.3 +0.1
baz=269
CLL Collm 97.29 321 IAMs_20 IAMs_20 07 41 04.1
comp=Z,2µm,20.0s
CLL Collm 97.29 321 *e*P Pdif 06 48 22.0 +0.3
CLL *i* *PP pP 06 48 36.4 -1.5
CLL *e* 06 58 54.0
CLL *e*S **S** **06 59 39.0 -2.0**
CLL MLR MLR
comp=Z,1µm,20.2s
CLL Collm 97.29 321 *e*P Pdif 06 48 22.0 +0.3
CLL *i* pP pP 06 48 36.4 -1.5
CLL *i* x x 06 48 39.3
CLL *i* sP sP 06 48 44.1 -0.1
CLL *e*PP **PP** **06 52 13.0 -5.8**
CLL *e*SKSac **SKSac** **06 58 54.0 0.0**
CLL *e*SKKSac **SKKSac** **06 59 18.0 -3.4**
CLL *e*S **S** **06 59 39.0 -2.0**
CLL *e*PS PS 07 01 11.0 +0.7
CLL *e*SS **SS** **07 06 18.0 -2.0**
CLL *ex* x 07 07 30.0
CLL *ex* x 07 11 18.0
CLL AMS AMS 07 45 00.0
comp=Z,1µm,20.2s
STAL STALIGIAL 97.30 316 IAmb IAmb 06 48 23.2
comp=Z,33nm,1.2s
LOF Lofoten 97.32 338 *e*P **P** **06 48 19.6 -1.7**
LOF IVmB_BB 06 48 23.6
comp=Z,1µm,1.8s
LOF *e*SKSac **SKSac** **06 58 50.9 -2.6**
LOF IVMs_BB IVMs_BB 07 36 03.8
comp=Z,2µm,3.8s
F17K Baldwin Pennin 97.33 24 IAMs_20 IAMs_20 07 40 35.8
comp=Z,2µm,20.0s
F17K Baldwin Pennin 97.33 24 P Pdif 06 48 21.7 +0.2
baz=270
C18K Utukok River 97.36 22 IAmb IAmb 06 48 24.4
comp=Z,48nm,1.8s
C18K Utukok River 97.36 22 P Pdif 06 48 21.9 +0.2
baz=270
LESA Schwarzleotal 97.36 317 *e*P Pdif 06 48 22.3 +0.1
comp=Z,4.2nm,0.6s
LESA *e*PP **PP** **06 52 18.2 -1.4**
comp=Z,26nm,1.4s
LESA *e*SKS **SKSac** **06 58 52.6 -2.2**
comp=Z,17nm,1.4s
A19K Wainwright 97.40 20 P Pdif 06 48 21.9 +0.2
baz=270
ABTA Abfaltersbach 97.45 316 *i* P **P** **06 48 22.0 -0.6**
comp=Z,3.6nm,0.7s
ABTA *i* PP **PP** **06 52 17.1 -3.1**
comp=Z,27nm,1.2s
ABTA *e*SKS **SKSac** **06 58 53.1 -2.2**
comp=Z,15nm,1.4s
KONS Konsvik 97.48 336 *e*P **P** **06 48 22.1 0.0**
STOK Stokkvaagen 97.53 336 *e*P **P** **06 48 21.8 -0.5**
STOK IVmBBB 06 48 23.2
comp=Z,693nm,1.5s
KBS Kingsbay 97.54 349 *e*P **P** **06 48 21.2 -0.9**
KBS IVmB_BB 06 48 23.1
comp=Z,1µm,3.8s
KBS *e*SKSac **SKSac** **06 58 53.9 -0.4**
KBS *e*SS **SS** **07 06 29.9 +7.7**
KBS IVMs_BB IVMs_BB 07 39 18.2
comp=Z,2µm,12.7s
M15K Kasigluk River 97.54 30 P Pdif 06 48 22.8 +0.3
baz=269
I17K Unalakleet 97.56 26 P Pdif 06 48 22.8 +0.2
baz=270
SDPT Sand Point 97.57 35 P Pdif 06 48 23.2 +0.4
baz=269
G17K Kiwalik Mounta 97.58 25 P Pdif 06 48 23.2 +0.5
baz=270
J16K Anvik River 97.60 27 IAmb IAmb 06 48 26.6
comp=Z,99nm,1.8s
J16K Anvik River 97.60 27 P Pdif 06 48 23.2 +0.4
baz=270
NKC Novy Kostel 97.61 320 AMS AMS 07 38 30.0
comp=Z,2µm,18.4s
N15K Kwethluk River 97.83 30 P Pdif 06 48 24.8 +0.9
baz=270
H17K Granite Mounta 97.89 25 P Pdif 06 48 25.2 +1.1
baz=271
C19K Lookout Ridge 97.94 21 IAMs_20 IAMs_20 07 40 44.6
comp=Z,2µm,22.0s
C19K Lookout Ridge 97.94 21 P Pdif 06 48 24.9 +0.6
baz=272,SNR=9.0
O15K Ungalikthiuk R 97.96 31 P Pdif 06 48 25.0 +0.5
baz=270
NSS Namsos 97.98 334 *e*P Pdif 06 48 24.7 +0.3
WTTA Wattenberg 98.07 317 *e*P **P** **06 48 24.5 -0.9**
comp=Z,10.0nm,1.1s
WTTA *i* PP **PP** **06 52 22.6 -2.5**
comp=Z,47nm,1.6s
WTTA *e*SKS **SKSac** **06 58 58.9 +0.3**
comp=Z,10.0nm,1.0s
CHNA Chernabura Isl 98.07 36 P Pdif 06 48 25.8 +0.8
baz=270
WATA Walderalm 98.11 317 *i* P Pdif 06 48 25.7 +0.1
comp=Z,14nm,1.2s
WATA *i* PP **PP** **06 52 23.3 -2.0**
comp=Z,33nm,1.1s
WATA *e*SKS **SKSac** **06 59 01.9 +3.2**
comp=Z,11nm,1.2s
L16K Owhat River 98.12 29 P Pdif 06 48 25.9 +0.7
L16K IAmb IAmb 06 49 09.5
comp=Z,53nm,1.7s
L16K Owhat River 98.12 29 P Pdif 06 48 26.1 +0.9
baz=271
NC405 NORSAR Array S 98.13 331 IAmb IAmb 06 48 28.0
comp=Z,45nm,1.2s
NC602 NORSAR Array S 98.22 330 *e*Pdif Pdif 06 48 26.1 +0.5
NC602 *e*SKSac **SKSac** **06 58 58.9 +0.5**
NC602 IVMs_BB IVMs_BB 07 32 18.4
comp=Z,2µm,4.3s
SQTA Sankt Quirin 98.36 317 *i* Pdiff **P** **06 48 26.3 -0.4**
comp=Z,3.3nm,0.6s
SQTA *i* PP **PP** **06 52 24.3 -2.9**
comp=Z,41nm,1.6s
SQTA *i* SKS **SKSac** **06 59 01.5 +1.5**
comp=Z,18nm,1.4s
NB2 NORSAR Subarra 98.38 331 P **P** **06 48 26.1 -0.2**
comp=Z,60nm,1.4s,baz=85,slow=4.6
NB2 NORSAR Subarra 98.38 331 P **P** **06 48 26.1 -0.2**
baz=85,slow=4.6
NOA NORSAR Array B 98.38 331 P **P** **06 48 26.1 -0.2**
comp=Z,16nm,1.1s,baz=88,slow=4.6,SNR=9.0
NOA LR LR 07 39 11.8
comp=Z,1µm,19.2s,baz=70,slow=39
comp=Z,16nm,1.1s
M16K Timber Creek 98.38 29 P Pdif 06 48 26.9 +0.5
baz=271
GRA1 Grafenberg Arr 98.39 319 IAMs_20 IAMs_20 07 38 45.1
comp=Z,2µm,22.0s
GRFO Grafenberg 98.39 319 P Pdif 06 48 28.0 +1.3
GRFO IAMs_20 IAMs_20 07 38 57.1
comp=Z,2µm,22.0s
GRFO Grafenberg 98.39 319 P Pdif 06 48 28.0 +1.4
GRFO pmax pmax
comp=Z,18nm,1.0s
G18K Tagagawik 98.40 24 IAMs_20 IAMs_20 07 41 10.9
comp=Z,2µm,21.0s
G18K Tagagawik 98.40 24 P Pdif 06 48 27.1 +0.8
baz=272
MOTA Moosalm 98.43 317 *i* Pdiff **P** **06 48 26.5 -0.5**
comp=Z,13nm,1.0s
MOTA *i* PP **PP** **06 52 25.8 -2.0**
comp=Z,30nm,1.3s
MOTA *e*SKS **SKSac** **06 58 59.2 -1.2**
comp=Z,10nm,1.3s
N16K Nishlik Lake 98.49 30 P Pdif 06 48 27.1 +0.3
baz=271
D19K Kuna River 98.50 22 IAMs_20 IAMs_20 07 41 06.6
comp=Z,3µm,21.0s
D19K Kuna River 98.50 22 P Pdif 06 48 27.4 +0.6
baz=273
NAO01 NORSAR Array S 98.54 330 IAmb IAmb 06 48 29.1
comp=Z,70nm,1.4s
H18K Honhosa River 98.55 25 IAMs_20 IAMs_20 07 40 16.8
comp=Z,1µm,19.0s
H18K Honhosa River 98.55 25 P **P** **06 48 26.7 -0.3**
baz=272
NBO00 NORSAR Array S 98.59 331 IAmb IAmb 06 52 01.4
comp=Z,122nm,1.6s
NC204 NORSAR Array S 98.59 331 IAmb IAmb 06 48 29.4
comp=Z,85nm,1.3s
K17K Iditarod 98.65 28 P **P** **06 48 27.4 -0.1**
baz=272
RETA Reutte 98.67 317 *i* Pdiff **P** **06 48 27.7 -0.3**
comp=Z,12nm,1.1s
RETA *e*PP **PP** **06 52 27.5 -2.0**
comp=Z,10nm,1.2s
RETA *i* SKS **SKSac** **06 59 00.7 -0.7**
comp=Z,11nm,1.2s
L17K Donlin 98.67 28 P **P** **06 48 27.5 -0.1**
baz=272
FETA Feichten 98.68 316 *i* Pdiff **P** **06 48 28.0 -0.2**
comp=Z,10.0nm,1.2s
FETA *i* PP **PP** **06 52 26.2 -3.6**
comp=Z,28nm,1.1s
FETA *e*SKS **SKSac** **06 58 57.6 -4.1**
comp=Z,8.9nm,1.3s
F19K Shaleruckik Mo 98.71 23 IAmb IAmb 06 48 30.4
comp=Z,46nm,1.6s
F19K Shaleruckik Mo 98.71 23 P Pdif 06 48 28.1 +0.4
baz=273
B20K Meade River 98.75 20 IAmb IAmb 06 52 19.0
comp=Z,18nm,0.4s
B20K IAMs_20 IAMs_20 07 41 55.1
comp=Z,2µm,19.0s
B20K Meade River 98.75 20 P Pdif 06 48 28.0 +0.3
baz=274
TBLU Trondheim 98.77 333 *e*SKSac **SKSac** **06 59 02.1 +1.2**
TBLU IVMs_BB IVMs_BB 07 38 41.6
comp=Z,2µm,5.3s
A21K Barrow 98.83 19 P Pdif 06 48 28.3 +0.3
baz=275
O16K Kokwok River B 98.84 31 P Pdif 06 48 28.6 +0.2
baz=272
E19K Redstone River 98.89 23 IAMs_20 IAMs_20 07 42 29.0
comp=Z,2µm,19.0s
E19K Redstone River 98.89 23 P Pdif 06 48 28.6 +0.2
baz=274
P16K Nushagak River 98.91 31 P Pdif 06 48 28.9 +0.2
baz=272
FUORN Ofenpass-Fuorn 99.00 316 P Pdif 06 48 29.7 0.0
G19K Purcell Mounta 99.03 24 IAmb IAmb 06 48 32.4
comp=Z,74nm,1.9s
G19K IAMs_20 IAMs_20 07 42 49.7
comp=Z,2µm,21.0s
G19K Purcell Mounta 99.03 24 P **Pdif** **06 48 29.2 +0.2**
baz=274
D20K Etivluk River 99.03 22 P **Pdif** **06 48 29.6 +0.5**
baz=274
M17K Holitna River 99.11 29 P **Pdif** **06 48 29.9 +0.3**
baz=272
GCSA Galena City Sc 99.19 26 P **Pdif** **06 48 30.2 +0.4**
baz=273
E20K Nigu River 99.23 22 P **Pdif** **06 48 30.3 +0.3**
baz=275
DAVOX Davos/Dischmat 99.26 316 LR LR 07 40 04.8
comp=Z,1µm,21.1s,baz=66,slow=39
DAVA Damuels 99.26 317 *i* Pdiff **Pdif** **06 48 31.1 +0.3**
comp=Z,21nm,1.2s
DAVA *e*PP **PP** **06 52 30.3 -3.9**
comp=Z,29nm,1.2s
N17K Nushagak Hills 99.27 30 P **Pdif** **06 48 31.0 +0.7**
baz=272
H19K Roundabout Mou 99.33 25 IAMs_20 IAMs_20 07 41 51.7
comp=Z,2µm,21.0s
H19K Roundabout Mou 99.33 25 P **Pdif** **06 48 30.8 +0.4**
baz=274
J18K Innoko River 99.34 27 IAmb IAmb 06 48 33.6
comp=Z,49nm,1.8s
J18K Innoko River 99.34 27 P **Pdif** **06 48 31.3 +0.8**
baz=273
O17K Koliganek Bris 99.34 31 P **Pdif** **06 48 31.7 +1.1**
baz=272
A22K Sinclair Lake 99.39 19 P **Pdif** **06 48 31.6 +1.1**
baz=276
L18K Granite Mounta 99.42 28 IAMs_20 IAMs_20 07 41 10.6
comp=Z,1µm,21.0s
L18K Granite Mounta 99.42 28 P **Pdif** **06 48 31.8 +0.9**
baz=273
KEST Kesra 99.48 305 P **Pdif** **06 48 33.7 +1.8**
comp=Z,10nm,0.9s,baz=269,slow=7.2,SNR=4.8
KEST PP **PP** **06 52 38.9 +2.7**
comp=Z,17nm,1.0s,baz=332,slow=7.6,SNR=6.0
comp=Z,10nm,0.9s
KEST Kesra 99.48 305 P **Pdif** **06 48 34.5 +2.6**
F20K Avaraart Lake 99.50 23 IAMs_20 IAMs_20 07 40 50.3
comp=Z,2µm,18.0s
F20K Avaraart Lake 99.50 23 P **Pdif** **06 48 32.0 +0.9**
baz=275
TUE Stuetta 99.63 316 IAMs_20 IAMs_20 07 42 42.7
comp=Z,2µm,21.0s
C21K Knifeblade Rid 99.65 21 P **Pdif** **06 48 32.4 +0.6**
baz=276
B21K Ikpikpuk River 99.66 21 IAMs_20 IAMs_20 07 42 36.4
comp=Z,2µm,19.0s
B21K Ikpikpuk River 99.66 21 P **Pdif** **06 48 32.6 +0.8**
baz=276
TTA Tatalina 99.69 27 P **Pdif** **06 48 32.5 +0.3**
baz=274
J19K Poorman 99.79 26 P **Pdif** **06 48 33.0 +0.4**
baz=274
H20K Anofleneega Mo 99.98 25 P **Pdif** **06 48 33.5 +0.1**
baz=275

B22K	**Teshekpuk Lake** baz=278	99.98	20	P		Pdif	06 48 33.2	0.0	
Q17K	**Contact Creek** baz=273	100.04	32	P		Pdif	06 48 34.0	+0.1	
I20K	**Naaghedeneel** baz=276	100.22	25	P		Pdif	06 48 33.8	-0.5	
L19K	**White Mountain** baz=275	100.28	28	P		Pdif	06 48 34.5	-0.3	
P18K	**Big Mountain,** baz=274	100.31	31	P		Pdif	06 48 35.3	+0.3	
F21K	**Alatna River** comp=Z,2µm,20.0s	100.36	23	IAMs_20	IAMs_20		07 41 25.8		
F21K	**Alatna River** baz=277	100.36	23	P		Pdif	06 48 34.6	-0.4	
BYL	**Byron's Ledge** comp=Z,3µm,21.0s	100.36	72	IAMs_20	IAMs_20		07 39 07.6		
TBI	**Tubuai** comp=Z,750nm,30.8s	100.38	115	*e*P		Pdif	06 48 31.5	-4.6	
TBI	**Tubuai** comp=Z,1µm,27.2s	100.38	115	*e*PP		PP	06 52 37.8	-5.2	
TBI	comp=Z,6µm,30.8s			*e*S		Sdif	07 00 02.1	-6.1	
TBI	comp=Z,4µm,35.5s			*e*SS		SS	07 07 10.1	+5.7	
TBI	comp=Z,14µm,38.5s			*e*LQ		LQ	07 17 08.8		
TBI	comp=Z,6µm,22.7s			*e*LR		LR	07 21 20.7		
TBI	comp=Z,22µm,23.2s			*e*LR		LR	07 21 27.7		
TBI	comp=Z,6µm,25.0s			*e*LR		LR	07 21 30.6		
J20K	**Nowinta River** baz=276	100.42	26	P		Pdif	06 48 35.0	-0.4	
G21K	**Allakaket** comp=Z,2µm,22.0s	100.43	24	IAMs_20	IAMs_20		07 42 29.9		
G21K	**Allakaket** baz=277	100.43	24	P		Pdif	06 48 35.2	-0.1	
D22K	**Ayikyak River** comp=Z,3µm,20.0s	100.44	21	IAMs_20	IAMs_20		07 43 07.9		
D22K	**Ayikyak River** baz=278	100.44	21	P		Pdif	06 48 35.5	+0.1	
NPOC	**North of Pu'u** comp=Z,3µm,21.0s	100.50	72	IAMs_20	IAMs_20		07 30 33.3		
M19K	**Big River Lodg** comp=Z,2µm,20.0s	100.53	28	IAMs_20	IAMs_20		07 42 47.7		
M19K	**Big River Lodg** baz=275	100.53	28	P		Pdif	06 48 36.5	+0.6	
K20K	**Telida** baz=276	100.54	27	P		Pdif	06 48 36.3	+0.4	
N19K	**Bonanza Creek** baz=275	100.58	29	P		Pdif	06 48 36.6	+0.3	
O19K	**Port Alsworth** baz=275	100.71	30	P		Pdif	06 48 37.0	+0.4	
F22K	**John River** baz=278	100.82	23	P		Pdif	06 48 37.8	+0.8	
H21K	**Melozitna Rive** comp=Z,1µm,20.0s	100.82	24	IAMs_20	IAMs_20		07 42 45.9		
H21K	**Melozitna Rive** baz=277	100.82	24	P		Pdif	06 48 37.5	+0.4	
M20K	**Styx River** baz=276	101.12	28	P		Pdif	06 48 38.9	+0.2	
D23K	**Nanushuk River** baz=280	101.14	21	P		Pdif	06 48 38.9	+0.4	
G22K	**Bettles** baz=279	101.17	23	P		Pdif	06 48 39.0	+0.5	
I21K	**Tanana** comp=Z,1µm,20.0s	101.23	25	IAMs_20	IAMs_20		07 43 00.7		
I21K	**Tanana** baz=278	101.23	25	P		Pdif	06 48 39.2	+0.3	
P19K	**Oil Pt** baz=276	101.31	31	P		Pdif	06 48 39.6	+0.2	
H22K	**Ishtalitna Cre** baz=279	101.37	24	P		Pdif	06 48 39.6	0.0	
PAE	**Paea** comp=Z,562nm,22.7s	101.41	110	*e*LR		LR	07 21 56.1		
CAST	**Castle Rocks** baz=278	101.42	27	P		Pdif	06 48 40.3	+0.4	
PPT2	**Papeete2** comp=Z,167nm,26.2s	101.42	109	*e*P		Pdif	06 48 44.1	+3.2	
PPT2	**Papeete2** comp=Z,314nm,27.8s	101.42	109	*e*PP		PP	06 52 47.1	-4.1	
PPT2	comp=Z,914nm,25.8s			*e*S		Sdif	07 00 10.5	-6.8	
PPT2	comp=Z,1µm,25.2s			*e*SS		SS	07 07 11.5	-7.9	
PPT2	**Papeete2** comp=Z,7µm,37.5s	101.42	109	*e*LQ		LQ	07 17 37.6		
PPT2	comp=Z,2µm,22.8s			*e*LR		LR	07 21 52.0		
PPT2	comp=Z,3µm,22.5s			*e*LR		LR	07 21 58.1		
PPT2	comp=Z,1000nm,23.8s			*e*LR		LR	07 22 02.1		
PPLA	**Purkeypile** baz=277	101.44	27	P		Pdif	06 48 40.0	-0.1	
OHAK	**Old Harbor** baz=275	101.51	33	P		Pdif	06 48 41.0	+0.8	
BNI	**Bardonecchia** comp=Z,2µm,21.0s	101.52	314	IAMs_20	IAMs_20		07 37 35.7		
COLD	**Coldfoot** baz=280	101.62	23	P		Pdif	06 48 41.0	+0.4	
N20K	**Mount Spurr** baz=277	101.64	29	P		Pdif	06 48 40.8	-0.1	
BTNL	**Ternell**	101.64	320	*d*P		PP	06 52 51.4	-0.5	
C24K	**Franklin Bluff** baz=282	101.69	20	P		Pdif	06 48 41.6	+0.8	
E23K	**Chandalar** baz=281	101.69	22	P		Pdif	06 48 41.5	+0.5	
TVO	**Taravao** comp=Z,669nm,23.8s	101.69	110	*e*LR		LR	07 22 08.5		
MEM	**Membach**	101.72	320	*d*PP		PP	06 52 49.9	-2.6	
D24K	**Happy Valley** comp=Z,2µm,19.0s	101.76	21	IAMs_20	IAMs_20		07 42 28.8		
D24K	**Happy Valley** baz=282	101.76	21	P		Pdif	06 48 41.4	+0.2	
G23K	**Bananza Creek** comp=Z,2µm,20.0s	101.78	23	IAMs_20	IAMs_20		07 44 23.4		
G23K	**Bananza Creek** baz=280	101.78	23	P		Pdif	06 48 41.8	+0.5	
BPAW	**Bear Paw Mtn.** baz=279	101.81	26	P		Pdif	06 48 41.6	+0.1	
KDAK	**Kodiak Island** baz=276	101.83	32	P		Pdif	06 48 42.0	+0.3	
Q20K	**Shuyak Island** baz=276	101.84	32	P		Pdif	06 48 42.1	+0.3	
SKT	**Skwentna** baz=278	101.86	28	P		Pdif	06 48 41.8	0.0	
HOM	**Homer** baz=277	102.11	30	P		Pdif	06 48 43.0	+0.1	
BCLA	**Clavier**	102.18	320	*d*PP		PP	06 52 55.1	-0.8	
RCHB	**Rochefort**	102.25	320	*d*P		PP	06 52 53.1	-3.3	
SUA	**Susitna One** baz=278	102.30	29	P		Pdif	06 48 44.3	+0.4	
BGES	**Gesves**	102.32	320	*d*PP		PP	06 52 53.1	-3.9	
I23K	**Minto, Yukon-K** comp=Z,2µm,21.0s	102.32	25	IAMs_20	IAMs_20		07 44 55.7		
I23K	**Minto, Yukon-K** baz=280,SNR=6.5	102.32	25	P		Pdif	06 48 44.4	+0.6	
CUT	**Chulitna** baz=279	102.39	28	P		Pdif	06 48 44.8	+0.7	
TAM	**Tamanrasset** comp=Z,2µm,18.0s	102.39	292	IAMs_20	IAMs_20		07 39 02.9		
F24K	**Squaw Lake** comp=Z,2µm,21.0s	102.44	22	IAMs_20	IAMs_20		07 43 15.9		
F24K	**Squaw Lake** baz=282	102.44	22	P		Pdif	06 48 45.3	+1.0	
BMRD	**Maredsous**	102.53	320	*d*PP		PP	06 52 56.9	-1.6	
BRSE	**Bradley Lake S** baz=278	102.55	30	P		Pdif	06 48 45.8	+0.9	
D25K	**Kavik River** baz=284	102.58	20	P		Pdif	06 48 45.9	+1.0	
DOU	**Dourbes**	102.66	320	*d*PP		PP	06 52 56.4	-3.1	
MCK	**McKinley** baz=280	102.76	26	P		Pdif	06 48 46.8	+1.0	
G24K	**Hadweenzic Riv** comp=Z,2µm,21.0s	102.78	23	IAMs_20	IAMs_20		07 44 00.7		
G24K	**Hadweenzic Riv** baz=282	102.78	23	P		Pdif	06 48 47.5	+1.7	
H24K	**Noodor Dome** comp=Z,1µm,22.0s	102.80	24	IAMs_20	IAMs_20		07 44 14.1		
H24K	**Noodor Dome** baz=282	102.80	24	P		Pdif	06 48 47.4	+1.4	
RC01	**Rabbit Creek A** baz=279	102.84	29	P		Pdif	06 48 47.5	+1.3	
RND	**Reindeer** comp=Z,1µm,19.0s	102.86	26	IAMs_20	IAMs_20		07 42 42.8		
O22K	**Cooper Landing** baz=279	102.94	30	P		Pdif	06 48 47.8	+1.2	
SSB	**Saint Sauveur** comp=Z,1µm,21.0s	103.02	315	IAMs_20	IAMs_20		07 36 33.8		
PMR	**Palmer** baz=280	103.05	28	P		Pdif	06 48 48.4	+1.4	
CCB	**Clear Creek Bu** comp=Z,2µm,20.0s	103.07	25	IAMs_20	IAMs_20		07 45 31.4		
WAT1	**Susitna Watana** baz=281	103.10	27	P		Pdif	06 48 49.0	+1.7	
SEW	**Seward** baz=279	103.14	30	P		Pdif	06 48 49.1	+1.7	
E25K	**Arctic Village** comp=Z,2µm,18.0s	103.16	21	IAMs_20	IAMs_20		07 44 58.8		
E25K	**Arctic Village** baz=285	103.16	21	P		Pdif	06 48 48.1	+0.7	
F25K	**Christian Rive** baz=284	103.26	22	P		Pdif	06 48 48.9	+1.0	
G25K	**Bearnan Lake** baz=284	103.29	23	P		Pdif	06 48 48.7	+0.7	
SML	**Sawmill** baz=281	103.39	28	P		Pdif	06 48 49.1	+0.4	
KNK	**Knik Glacier** baz=280	103.40	28	P		Pdif	06 48 50.4	+1.7	
ILAR	**Eielson Array** comp=Z,1.1nm,1.1s,baz=258,slow=4.5,SNR=4.3	103.43	25	Pdiff		Pdif	06 48 52.6	+3.9	
ILAR	comp=Z,1.3nm,1.0s,baz=297,slow=7.6,SNR=2.9			PP		PP	06 53 01.4	-3.4	
ILAR	comp=Z,1.9nm,0.9s,baz=100,slow=2.3,SNR=7.6			PKKPbc		PKKPbc	07 04 44.0	-1.0	
ILAR	comp=Z,1.5nm,1.0s,baz=136,slow=1.4,SNR=4.6			SKKPbc	SKKPbc		07 08 18.6	-4.6	
ILAR	comp=Z,1.7nm,1.1s,baz=55,slow=1.6,SNR=7.0			PKPPKP		P'P'df	07 13 06.9	+5.3	
HDA	**Harding Lake** baz=282	103.48	25	P		Pdif	06 48 50.6	+1.7	
PMOR	**Pomariorio Ree** comp=Z,4µm,22.1s	103.50	107	*e*LR		LR	07 22 58.2		
WAT6	**Susitna Watana** baz=281	103.51	27	P		Pdif	06 48 50.6	+1.3	
DHY	**Denali Highway** baz=282	103.58	27	P		Pdif	06 48 51.5	+1.9	
VAH	**Vaihoa** comp=Z,16µm,28.8s	103.71	107	*e*SS		SS	07 07 47.1	-3.8	
VAH	**Vaihoa** comp=Z,39µm,35.8s	103.71	107	*e*LR		LR	07 22 55.8		
PRP	**Porcupine Dome** comp=Z,2µm,21.0s	103.82	24	IAMs_20	IAMs_20		07 44 44.2		
J25K	**Salcha River,** comp=Z,2µm,22.0s	104.10	25	IAMs_20	IAMs_20		07 44 38.7		
G26K	**Porcupine Rive** baz=286	104.13	22	P		Pdif	06 48 53.8	+2.1	
P23K	**Montague Islan** baz=281	104.17	30	P		Pdif	06 48 53.3	+1.3	
M24K	**Tolsona, Glenn** baz=283	104.32	28	P		Pdif	06 48 54.2	+1.4	
D27M	**Malcolm River** comp=Z,2µm,20.0s	104.44	20	IAMs_20	IAMs_20		07 45 32.6		
D27M	**Malcolm River** baz=289	104.44	20	P		Pdif	06 48 54.7	+1.5	
PAX	**Paxson** baz=284	104.45	27	P		Pdif	06 48 54.7	+1.3	
RIDG	**Independent Ri** comp=Z,1µm,18.0s	104.54	26	IAMs_20	IAMs_20		07 44 05.2		
RIDG	**Independent Ri** baz=284	104.54	26	P		Pdif	06 48 54.7	+1.0	
E27K	**Coleen River** comp=Z,2µm,20.0s	104.57	21	IAMs_20	IAMs_20		07 46 33.9		
E27K	**Coleen River** baz=288	104.57	21	P		Pdif	06 48 54.8	+1.1	
KLU	**Klutina** baz=283	104.58	28	P		Pdif	06 48 54.7	+0.7	
HARP	**HAARP** baz=284	104.72	27	P		PKiKP	06 53 10.0	+0.2	
I26K	**Coal Creek Min** comp=Z,2µm,21.0s	104.83	24	IAMs_20	IAMs_20		07 46 13.2		
I26K	**Coal Creek Min** baz=286	104.83	24	P		PKiKP	06 53 10.6	+0.8	
SCRK	**Sand Creek** comp=Z,1µm,22.0s	104.85	25	IAMs_20	IAMs_20		07 45 04.3		
SCRK	**Sand Creek** baz=285	104.85	25	P		PKiKP	06 53 10.7	+0.6	
EYAK	**Cordova Ski Ar** baz=283	104.86	29	P		PKiKP	06 53 10.0	0.0	
J26L	**Joseph Creek** comp=Z,3µm,22.0s	104.89	25	IAMs_20	IAMs_20		07 45 22.4		
J26L	**Joseph Creek** baz=286	104.89	25	P		PKiKP	06 53 10.6	+0.5	
E28M	**Babbage River** comp=Z,2µm,21.0s	105.15	20	IAMs_20	IAMs_20		07 45 05.2		
E28M	**Babbage River** baz=290	105.15	20	P		PKiKP	06 53 11.5	+1.2	
D28M	**Stokes Point** baz=292	105.16	19	P		PKiKP	06 53 11.6	+1.3	
N25K	**Chitina, Valde** baz=284	105.17	28	P		PKiKP	06 53 11.6	+0.9	
H27K	**Steamboat Moun** baz=288	105.20	23	P		PKiKP	06 53 12.3	+1.8	
BMRM	**Bremner River** baz=284	105.31	29	P		PKiKP	06 53 12.8	+1.9	
I27K	**Kandik River** baz=288	105.36	23	P		PKiKP	06 53 12.7	+1.8	
F28M	**Old Crow** comp=Z,2µm,18.0s	105.37	21	IAMs_20	IAMs_20		07 44 54.0		
F28M	**Old Crow** baz=290	105.37	21	P		PKiKP	06 53 12.6	+1.8	
L26K	**Log Cabin Wild** baz=285	105.37	26	P		PKiKP	06 53 12.7	+1.7	
TOB2	**Torodi Ar. Sit** comp=Z,3µm,20.0s	105.53	282	IAMs_20	IAMs_20		07 34 18.8		
TOB3	**Torodi Ar. Sit** comp=Z,3µm,20.0s	105.53	282	IAMs_20	IAMs_20		07 34 20.8		
TOA0	**Torodi Ar. Sit** comp=Z,3µm,20.0s	105.54	282	IAMs_20	IAMs_20		07 34 31.1		
TORD	**Torodi Ar. Bea** comp=Z,3µm,20.0s	105.54	282	IAMs_20	IAMs_20		07 34 21.1		
TORD	**Torodi Ar. Bea** comp=Z,5.9nm,1.1s,baz=47,slow=2.7,SNR=19	105.54	282	Pdiff		Pdif	06 49 00.0	+0.8	
TORD	comp=Z,3.9nm,1.0s,baz=42,slow=1.8,SNR=6.1			PKiKP		PKiKP	06 53 13.0	+0.4	
TORD	comp=Z,0.3nm,0.4s,baz=288,slow=3.7,SNR=4.4			PKKPbc		PKiKP	06 07 04 37.3	+0.3	
TOA3	**Torodi Ar. Sit** comp=Z,3µm,20.0s	105.54	282	IAMs_20	IAMs_20		07 34 21.1		
TOC7	**Torodi Ar. Sit** comp=Z,3µm,20.0s	105.56	282	IAMs_20	IAMs_20		07 36 16.5		
K27K	**Chicken** comp=Z,2µm,22.0s	105.64	25	IAMs_20	IAMs_20		07 45 46.4		
K27K	**Chicken** baz=287	105.64	25	P		PKiKP	06 53 13.4	+2.0	
M26K	**Nabesna, AK** baz=286	105.69	27	P		PKiKP	06 53 13.1	+1.5	
E29M	**Blow River** baz=292	105.79	20	P		PKiKP	06 53 12.9	+1.4	
EGAK	**Eagle** comp=Z,2µm,19.0s	105.80	24	IAMs_20	IAMs_20		07 46 12.7		
EGAK	**Eagle** baz=288	105.80	24	P		PKiKP	06 53 13.5	+1.9	
L27K	**Beaver Creek,** baz=287	106.03	26	P		PKiKP	06 53 13.6	+1.5	
I28M	**Miner Creek** comp=Z,1µm,20.0s	106.07	23	IAMs_20	IAMs_20		07 47 12.7		
I28M	**Miner Creek** baz=289	106.07	23	P		PKiKP	06 53 13.7	+1.4	
M27K	**Edge Creek, AK** baz=287	106.21	27	P		PKiKP	06 53 13.9	+1.2	
G29M	**Pine Creek** baz=292	106.29	22	P		PKiKP	06 53 14.1	+1.6	
H29M	**Whitestone** comp=Z,3µm,20.0s	106.41	22	IAMs_20	IAMs_20		07 47 14.6		
H29M	**Whitestone** baz=291	106.41	22	P		PKiKP	06 53 13.9	+1.1	
EKA	**Eskdalemuir Ar** comp=Z,5.5nm,0.8s,baz=91,slow=8.7,SNR=4.4	106.58	326	PKiKP		PKiKP	06 53 13.9	+0.6	
BVCY	**Beaver Creek** baz=285	106.64	27	P		PKiKP	06 53 14.6	+1.2	
I29M	**Ogilvie Camp,** comp=Z,2µm,18.0s	106.74	23	IAMs_20	IAMs_20		07 47 42.4		
I29M	**Ogilvie Camp,** baz=291	106.74	23	P		PKiKP	06 53 14.8	+1.4	
DAWY	**Dawson** baz=289	106.75	25	P		PKiKP	06 53 15.3	+1.8	
F30M	**Barrier River** baz=294	106.82	21	P		PKiKP	06 53 15.2	+1.7	
G30M	**tAoh Zraii Nji** comp=Z,2µm,20.0s	106.92	21	IAMs_20	IAMs_20		07 46 25.9		
G30M	**tAoh Zraii Nji** baz=293	106.92	21	P		PKiKP	06 53 15.0	+1.3	
EPYK	**Eagle Plains** baz=293	106.98	22	P		PKiKP	06 53 15.0	+1.2	
YUK3	**Moose Creek** baz=288	107.02	27	P		PKiKP	06 53 15.0	+0.7	
J29N	**Klondike Camp** comp=Z,2µm,22.0s	107.10	24	IAMs_20	IAMs_20		07 42 10.9		
J29N	**Klondike Camp** baz=291	107.10	24	P		PKiKP	06 53 15.3	+1.1	
INK	**Inuvik** baz=296	107.30	20	P		PKiKP	06 53 15.6	+1.3	
YUK8	**Steele Glacier** baz=288	107.49	28	P		PKiKP	06 53 16.2	+1.0	
I30M	**Mount Dempster** baz=293	107.55	23	P		PKiKP	06 53 16.6	+1.5	
K29M	**Barlow Dome** baz=291	107.61	25	P		PKiKP	06 53 16.0	+0.8	
F31M	**Tsiigehtchic** baz=296	107.61	20	P		PKiKP	06 53 16.0	+1.1	
L29M	**L29M** comp=Z,2µm,20.0s	107.61	25	IAMs_20	IAMs_20		07 47 15.7		
L29M	**L29M** baz=290	107.61	25	P		PKiKP	06 53 15.9	+0.8	
PINM	**Pinnacle** baz=287	107.62	29	P		PKiKP	06 53 15.8	+0.5	
G31M	**Satah River** comp=Z,2µm,22.0s	107.65	21	IAMs_20	IAMs_20		07 46 23.3		
G31M	**Satah River** baz=295	107.65	21	P		PKiKP	06 53 16.2	+1.2	
M29M	**Somme Creek** baz=290	107.69	26	P		PKiKP	06 53 15.7	+0.3	
J30M	**Hart River** comp=Z,1µm,20.0s	107.82	24	IAMs_20	IAMs_20		07 48 17.8		
J30M	**Hart River** baz=292	107.82	24	P		PKiKP	06 53 16.4	+0.8	
A36M	**Sachs Harbour** comp=Z,1µm,22.0s	107.84	15	IAMs_20	IAMs_20		07 40 25.7		
A36M	**Sachs Harbour** baz=306	107.84	15	P		PKiKP	06 53 16.5	+1.3	
YUK4	**Talbot Arm** baz=289	107.98	27	P		PKiKP	06 53 17.2	+1.1	
YUK6	**Outpost Mounta** baz=289	108.24	28	P		PKiKP	06 53 18.0	+1.4	
M30M	**Minto, Yukon** comp=Z,1µm,18.0s	108.37	26	IAMs_20	IAMs_20		07 47 47.6		
M30M	**Minto, Yukon** baz=291	108.37	26	P		PKiKP	06 53 17.9	+1.3	
NEEM	**North Greenlan**	108.47	355	*i* P		PKiKP	06 53 16.9	+0.2	
NEEM	comp=Z,6µm,27.2s			IAMs_20	IAMs_20		07 41 34.0		
N30M	**Aishikik Lake** comp=Z,2µm,22.0s	108.64	27	IAMs_20	IAMs_20		07 47 42.2		
N30M	**Aishikik Lake** baz=291	108.64	27	P		PKiKP	06 53 18.2	+1.0	
HYT	**Haines Junctio** baz=290	108.68	28	P		PKiKP	06 53 18.3	+1.0	
P29M	**Windy Craggy** baz=290	108.97	29	P		PKiKP	06 53 19.0	+1.3	
P30M	**Million Dollar** baz=290	109.17	28	P		PKiKP	06 53 19.6	+1.5	
N31M	**Braeburn, Yuko** comp=Z,2µm,20.0s	109.22	27	IAMs_20	IAMs_20		07 48 05.1		
N31M	**Braeburn, Yuko** baz=292	109.22	27	P		PKiKP	06 53 19.3	+1.2	
O30N	**Mendenhall** baz=292	109.34	27	P		PKiKP	06 53 19.7	+1.3	
M31M	**Drury Creek, Y** comp=Z,1µm,20.0s	109.55	26	IAMs_20	IAMs_20		07 46 50.7		
M31M	**Drury Creek, Y** baz=294	109.55	26	P		PKiKP	06 53 20.1	+1.3	
PLBC	**Pleasant Camp** baz=291	109.69	29	P		PKiKP	06 53 19.6	+0.5	
C36M	**Paulatuk** baz=306	109.70	17	P		PKiKP	06 53 19.6	+0.9	
ESDC	**Sonseca Array** comp=Z,3.8nm,0.9s,baz=70,slow=2.3,SNR=12	109.82	310	PKiKP		PKiKP	06 53 20.9	+0.9	
ESDC	comp=Z,9.3nm,1.2s,baz=67,slow=7.2,SNR=6.9			PP		PP	06 53 51.2	-1.4	
ESDC	comp=Z,1.7nm,1.0s,baz=286,slow=3.3,SNR=4.6			PKKP		PKKPab	07 04 37.5	+2.8	
ES15	**SONSECA Array** comp=Z,1µm,21.0s	109.85	310	IAMs_20	IAMs_20		07 38 12.2		
FARO	**Faro, Yukon** baz=295	109.98	25	P		PKiKP	06 53 20.4	+0.8	
SKAG	**Skagway** baz=292	110.18	29	P		PKiKP	06 53 21.4	+1.4	
S31K	**Pelican** baz=290	110.28	30	P		PKiKP	06 53 21.1	+1.0	
N32M	**Quiet Lake** comp=Z,1µm,20.0s	110.55	26	IAMs_20	IAMs_20		07 47 38.1		
N32M	**Quiet Lake** baz=294	110.55	26	P		PKiKP	06 53 21.7	+1.0	
P32M	**Atlin** baz=293	110.89	28	P		PKiKP	06 53 22.4	+1.0	
SUMG	**Summit**	110.95	349	*i* P		PKiKP	06 53 21.1	-0.6	
R32K	**Eaglecrest** baz=292	111.02	30	P		PKiKP	06 53 22.7	+1.1	
P33M	**Teslin, Yukon** baz=294	111.06	27	P		PKiKP	06 53 22.9	+1.2	
SIT	**Sitka** baz=291	111.06	31	P		PKiKP	06 53 22.7	+1.1	
MDT	**Midelt** comp=Z,5.3nm,1.1s,baz=84,slow=3.7,SNR=5.0	111.12	302	PKiKP		PKiKP	06 53 22.4	-0.3	
MDT	comp=Z,5.6nm,1.0s,baz=68,slow=9.5,SNR=3.9			PP		PP	06 53 59.9	-2.4	
S32K	**Killisnoo** baz=292	111.29	30	P		PKiKP	06 53 23.4	+1.3	
DBIC	**Dimbokro** comp=Z,1µm,21.0s	111.52	274	IAMs_20	IAMs_20		07 38 26.6		
DBIC	**Dimbokro** comp=Z,5.9nm,0.8s,baz=70,slow=2.5,SNR=4.8	111.52	274	PKiKP		PKiKP	06 53 24.3	+0.5	
DBIC	comp=Z,8.3nm,1.0s,baz=115,slow=8.9,SNR=3.8			PP		PP	06 54 01.9	-3.8	
Q32M	**Nakina River** baz=294	111.83	28	P		PKiKP	06 53 24.9	+1.6	
MVO	**Moncorvo**	111.90	312	*e*PKPdf		PKiKP	06 53 25.4	+1.5	
TAOE	**Nuku Hiva Isla** comp=Z,309nm,28.3s	112.12	102	*e*P		Pdif	06 49 23.5	-5.1	
TAOE	**Nuku Hiva Isla** comp=Z,981nm,31.2s	112.12	102	*e*S		Sdif	07 01 03.7	-43	
TAOE	**Nuku Hiva Isla** comp=Z,4µm,23.1s	112.12	102	*e*LR		LR	07 26 56.6		
R33M	**Jennings River** baz=296	112.25	28	P		PKiKP	06 53 25.9	+1.8	
PBAR	**Barrancos**	112.41	308	*e*PKPdf		PKiKP	06 53 25.9	+1.0	
MTE	**Manteigas**	112.42	311	*e*PKPdf		PKiKP	06 53 26.1	+1.2	
POLO	**Lamas de Olo**	112.43	312	*e*PKPdf		PKiKP	06 53 25.4	+0.5	
PCBR	**Castelo Branco**	112.47	310	*e*PKPdf		PKiKP	06 53 26.1	+1.2	
PMRV	**Marv??o**	112.48	310	*e*PKPdf		PKiKP	06 53 25.6	+0.6	
U33K	**Whale Pass** baz=293	112.54	31	P		PKiKP	06 53 26.1	+1.6	
PVIS	**Viseu**	112.63	311	*e*PKPdf		PKiKP	06 53 25.9	+0.6	
PGAV	**Gavieira, Arco**	112.67	313	*e*PKPdf		PKiKP	06 53 26.2	+0.8	
PESTR	**Estremoz**	112.72	309	*e*PKPdf		PKiKP	06 53 26.5	+1.0	
CRAG	**Craig** baz=292	112.79	32	P		PKiKP	06 53 26.4	+1.5	
S34M	**Telegraph Cree** baz=295	112.81	29	P		PKiKP	06 53 26.0	+1.0	
WRAK	**Wrangell Islan** baz=293	112.82	31	P		PKiKP	06 53 26.2	+1.1	
WTLY	**Watson Lake, Y** baz=298	112.90	26	P		PKiKP	06 53 27.0	+1.8	
DLBC	**Dease Lake** baz=296	113.11	28	P		PKiKP	06 53 27.3	+1.6	
DLBC	**Dease Lake** comp=Z,14nm,1.2s,baz=293,slow=3.5,SNR=6.4	113.11	28	PKiKP		PKiKP	06 53 25.6	0.0	
PMTG	**Montargil**	113.18	310	*e*PKPdf		PKiKP	06 53 27.5	+1.2	
PCAS	**Casmilo, Conde**	113.20	311	*e*PKPdf		PKiKP	06 53 26.7	+0.4	
PBDV	**Barranco-do-Ve**	113.26	308	*e*PKPdf		PKiKP	06 53 27.7	+1.2	
PCVE	**Castro Verde**	113.28	308	*e*PKPdf		PKiKP	06 53 27.3	+0.8	
UPNV	**Upernavik**	113.31	354	*i* P		PKiKP	06 53 25.6	+0.1	
MESJ	**Messejana**	113.39	308	*e*PKPdf		PKiKP	06 53 27.1	+0.4	
MESJ	**Messejana**	113.39	308	*e*PP		PP	06 54 18.3	+0.1	
MESJ	comp=Z,1µm,15.8s			IAMs_20	IAMs_20		07 38 38.2		
WRGLY	**Wrigley** baz=305	113.45	22	P		PKiKP	06 53 27.4	+1.4	
PNCL	**Nicolau / Gran**	113.58	309	*e*PKPdf		PKiKP	06 53 28.0	+0.9	
V35K	**Ketchikan** baz=294	113.63	32	P		PKiKP	06 53 27.8	+1.2	
T35M	**Bob Quinn** baz=296	113.64	30	P		PKiKP	06 53 28.2	+1.5	
MORF	**Marmelete**	113.82	308	*e*PP		PP	06 54 21.4	+0.1	
MORF	comp=Z

baz=295
UMMG Uummannaq 114.81 352 i P PKiKP 06 53 28.4 0.0
KOTAN Kotaneelee Air 114.94 25 P PKPdf 06 53 30.7 +1.7
baz=303
FLDN Fort Liard 115.12 25 PKPdf 06 53 30.5 +1.2
FLDN Fort Liard 115.12 25 P PKPdf 06 53 31.2 +1.9
baz=304
ANGG Ammassalik, Gr 116.17 344 i P PKPdf 06 53 31.6 +0.4
YKA Yellowknife Ar 117.07 20 PKP PKPdf 06 53 32.5 -0.5
comp=Z,7.4nm,1.0s,baz=352,slow=2.1,SNR=50
YKA SKP 06 57 03.0
comp=Z,9.3nm,1.0s,baz=304,slow=2.3,SNR=11
YKA PKKPbc PKKPbc 07 03 59.5 -1.0
comp=Z,4.0nm,0.9s,baz=126,slow=3.2,SNR=17
YKA SKKPbc SKKPbc 07 07 31.1 -12
comp=Z,1.3nm,1.1s,baz=176,slow=2.5,SNR=4.3
DY2G Dye2 117.55 348 i P PKPdf 06 53 33.3 -0.9
SFJD Kangerlussuaq 117.93 350 i P PKPdf 06 53 32.9 -1.7
NUUK Nuuk 120.67 349 i P PKiKP 06 53 40.0 0.0
BRLDA Berland Lookou 121.37 28 PKiKP 06 53 42.5 +0.6
NRS Narsarsuaq 121.85 344 i P PKPdf 06 53 42.0 -0.3
IVI Ivigtut 122.52 346 PKPdf 06 53 42.5 -1.0
IVI Ivigtut 122.52 346 i P PKPdf 06 53 42.6 -1.0
B08A Colville Reser 123.61 35 PKiKP 06 53 46.7 +0.4
MBO M'Bour 123.68 283 IAMs_20 IAMs_20 07 52 57.9
comp=Z,2µm,19.0s
G06A Carlson Farm, 124.41 39 PKiKP 06 53 48.5 +0.4
HAWA Hanford 124.51 37 PKiKP 06 53 48.8 +0.7
YBH Yreka Blue Hor 124.64 43 PKP PKiKP 06 53 48.6 -0.1
comp=Z,6.4nm,0.9s,baz=142,slow=3.9,SNR=7.1
NEW Newport 124.90 34 P PKiKP 06 53 49.4 +0.5
baz=304
NEW Newport 124.90 34 PKP PKiKP 06 53 49.6 +0.6
comp=Z,16nm,1.0s,baz=284,slow=1.2,SNR=21
E09A Wood Farm, Sta 125.27 36 PKiKP 06 53 50.0 +0.4
G08A Pilot Rock 125.41 38 PKiKP 06 53 50.7 +0.5
F10A Beach Ranch, E 126.09 36 PKiKP 06 53 51.8 +0.3
FFC Flin Flon 127.25 20 PKPdf 06 53 52.4 -0.4
FFC Flin Flon 127.25 20 PKIKP PKPdf 06 53 52.4 -0.4
PLID Pearl Lake 127.30 37 PKiKP 06 53 54.0 -0.1
MSO Missoula 127.49 34 P PKiKP 06 53 54.4 +0.2
baz=306
MFID Camas Ranch 128.31 38 PKiKP 06 53 56.7 +0.7
EGMT Eagleton 128.95 30 PKiKP 06 53 57.4 +0.3
EGMT Eagleton 128.95 30 P PKiKP 06 53 57.3 +0.2
baz=312
MLAC Mammoth, Mammt 129.08 46 P PKiKP 06 53 58.3 +0.4
baz=295
HLID Hailey 129.09 37 P PKiKP 06 53 58.1 +0.5
baz=304
NVAR Mina Array Bea 129.11 45 PKhKP PKPpre 06 53 45.2
comp=Z,0.3nm,0.6s,baz=291,slow=4.6,SNR=3.7
NVAR PKP PKiKP 06 53 59.4 +1.4
comp=Z,12nm,1.0s,baz=277,slow=1.8,SNR=42
NVAR SKPbc SKPbc 06 57 14.0 +0.2
comp=Z,16nm,1.0s,baz=270,slow=4.1,SNR=11
NVAR SKKPbc SKKPbc 07 07 01.3 -1.3
comp=Z,1.9nm,1.0s,baz=141,slow=5.8,SNR=4.7
SMMC Simmler 129.17 49 P PKiKP 06 53 58.5 +0.7
baz=293
NV11 Mina Array Sit 129.22 45 PKiKP 06 53 59.0 +1.0
VOG Valley Oaks Go 129.23 48 P PKiKP 06 53 59.0 +1.1
baz=294
PKM Mcpherson Peak 129.47 50 P PKiKP 06 53 59.9 +1.2
baz=292
VES Vestal, Richgr 129.64 48 P PKiKP 06 53 59.8 +1.1
baz=294
TIN Tinemaha, Big 129.76 47 P PKiKP 06 54 00.0 +0.9
baz=296
SCZ2 Santa Cruz Isl 129.94 51 P PKiKP 06 54 00.2 +0.8
baz=292
ELK Elko 130.08 41 PKP PKiKP 06 54 00.8 +1.0
comp=Z,13nm,1.0s,baz=305,slow=2.9,SNR=27
ELK SKPbc SKPbc 06 57 17.5 +0.3
comp=Z,44nm,1.2s,baz=311,slow=1.3,SNR=17
ARVC Arvin 130.12 49 P PKiKP 06 54 00.7 +1.0
baz=293
CWC Cottonwood Cre 130.13 47 P PKiKP 06 54 00.7 +0.8
baz=295
ISA Isabella, Lake 130.17 48 P PKiKP 06 54 00.4 +0.5
baz=294,SNR=6.3
SNCC San Nicolas Is 130.30 52 P PKiKP 06 54 00.9 +0.8
baz=291
OSI Osito Audit: C 130.40 50 P PKiKP 06 54 01.1 +0.7
baz=293
GRAC Grapevine Rang 130.41 46 P PKiKP 06 54 01.3 +1.0
baz=296,SNR=6.6
MPMC Manual Prospec 130.73 48 P PKiKP 06 54 02.2 +1.0
baz=295
LRMC Laurel Mtn Rad 130.83 48 P PKiKP 06 54 02.5 +1.1
baz=295,SNR=8.9
DECC Green Verdugo 130.84 50 P PKiKP 06 54 02.4 +1.1
baz=293
H17A Grant Village 130.84 34 P PKiKP 06 54 03.0 +1.8
baz=308
EDW2 Edwards Air Fo 130.85 49 P PKiKP 06 54 02.5 +1.2
baz=294,SNR=10
FLWY Flagg Ranch 130.96 35 PKiKP 06 54 02.1 +0.6
FLWY IAMs_20 IAMs_20 08 04 21.9
comp=Z,2µm,22.0s
PASC Pasadena Art C 130.99 50 PKiKP 06 54 01.5 0.0
FURC Furnace Creek, 131.01 47 P PKiKP 06 54 02.9 +1.5
baz=296,SNR=9.2
R11B Troy Canyon, C 131.04 44 IAMs_20 IAMs_20 08 04 19.1
comp=Z,1µm,21.0s
R11B Troy Canyon, C 131.04 44 P PKiKP 06 54 03.0 +1.2
baz=299
RLMT Red Lodge 131.10 33 P PKiKP 06 54 02.9 +1.2
baz=310
CIS Catalina Islan 131.11 51 P PKiKP 06 54 02.6 +0.8
baz=292
MOOW Moose Ponds 131.14 35 PKiKP 06 54 01.8 -0.1
TPAW Teton Pass 131.18 36 PKPdf 06 54 00.3 -0.7
TPNV Topopah Spring 131.23 46 P PKiKP 06 54 02.8 +0.6
baz=297,SNR=5.8
DGMT Dagmar 131.26 27 P PKiKP 06 54 03.0 +1.3
baz=318
BFSC Mount Baldy Ra 131.36 50 P PKiKP 06 54 03.0 +0.6
baz=294
GSC Goldstone, Bar 131.56 48 P PKiKP 06 54 03.5 +0.8
baz=295,SNR=14
RRX Edison Barstow 131.59 49 P PKiKP 06 54 03.7 +0.9
baz=295
LAO LASA Array 131.61 30 P PKiKP 06 54 03.5 +1.0
baz=315
SHOC Shoshone, Teco 131.69 47 P PKiKP 06 54 04.2 +1.3
baz=296,SNR=12
SCHQ Schefferville 131.88 355 PKP PKiKP 06 54 02.5 -0.1
comp=Z,14nm,0.6s,baz=33,slow=3.2,SNR=30
SCHQ SKPbc SKPbc 06 57 21.8 -1.1
comp=Z,117nm,1.0s,baz=14,slow=4.2,SNR=29
BBRC Big Bear Solar 131.91 49 P PKiKP 06 54 04.5 +0.8
baz=294
HWUT Hardware Ranch 131.93 38 PKPdf 06 54 02.6 +0.2
HWUT IAMs_20 IAMs_20 08 04 55.8
comp=Z,1µm,22.0s
DUG Dugway, Tooele 131.94 40 PKiKP 06 54 03.2 -0.2
DUG Dugway, Tooele 131.94 40 P PKiKP 06 54 04.3 +0.8
baz=303
DUG Dugway, Tooele 131.94 40 PKIKP PKiKP 06 54 03.2 -0.2
MURC Murrieta 131.97 50 P PKiKP 06 54 04.7 +1.2
baz=294
HEC Hector,Ludlow 132.11 48 P PKiKP 06 54 05.3 +1.4
baz=295,SNR=5.5
TUQ Turquoise Moun 132.15 48 P PKiKP 06 54 05.8 +1.8
baz=296,SNR=12
109C Camp Elliot, M 132.32 51 P PKiKP 06 54 05.4 +1.2
baz=293
BW06 Boulder Array 132.43 36 P PKiKP 06 54 05.0 +0.5
baz=308
PDAR Pinedale Array 132.43 36 PKhKP PKPpre 06 53 51.7
comp=Z,0.3nm,0.6s,baz=88,slow=3.6,SNR=3.9
PDAR PKP PKiKP 06 54 04.7 +0.2
comp=Z,5.2nm,0.6s,baz=117,slow=0.2,SNR=28
PDAR SKPbc SKPbc 06 57 24.2 -1.3
comp=Z,22nm,1.0s,baz=285,slow=0.9,SNR=15
PLCA Paso Flores 132.50 183 PKP PKiKP 06 54 04.4 -0.1
comp=Z,4.8nm,0.9s,baz=227,slow=1.8,SNR=7.9
PLCA PP PP 06 56 26.8 +0.9
comp=Z,7.9nm,1.1s,baz=167,slow=7.2,SNR=3.3
PLCA SKPbc SKPab 06 57 26.6 -0.3
comp=Z,12nm,0.9s,baz=167,slow=5.0,SNR=6.9
PFO Pinyon Flats O 132.52 50 PKiKP 06 54 04.6 -0.2
PFO Pinyon Flats O 132.52 50 P PKiKP 06 54 05.6 +0.8
baz=294
PFO Pinyon Flats O 132.52 50 PKP PKiKP 06 54 04.8 +0.1
comp=Z,7.1nm,0.9s,baz=273,slow=2.7,SNR=7.3
PFO SKPbc SKPab 06 57 26.7 -0.6
comp=Z,112nm,1.1s,baz=281,slow=3.6,SNR=25
TPFO Pinon Flats 132.53 50 P PKiKP 06 54 05.4 +0.6
baz=294
GMRC Granite Mounta 132.63 48 P PKiKP 06 54 05.7 +0.7
baz=296,SNR=18
BELC Belle Mtn. Jos 132.71 49 P PKiKP 06 54 05.5 +0.3
baz=295
MONP2 Monument Peak 132.84 51 P PKiKP 06 54 06.1 +0.5
baz=294
ULM Lac du Bonnet 133.04 19 PKhKP PKPpre 06 53 53.8
comp=Z,4.1nm,0.7s,baz=325,slow=3.7,SNR=6.2
ULM PKP PKPdf 06 54 04.2 +0.2
comp=Z,35nm,1.0s,baz=328,slow=3.1,SNR=23
ULM SKPbc SKPbc 06 57 25.3 -1.8
comp=Z,79nm,1.0s,baz=340,slow=4.0,SNR=24
IKP In-K-Pah, Jac 133.18 51 P PKiKP 06 54 06.6 +0.5
baz=294
BC3 Big Chuckawall 133.27 49 P PKiKP 06 54 06.6 +0.3
baz=295
IRM Iron Mountain 133.28 49 P PKiKP 06 54 06.0 -0.2
baz=296,SNR=6.0
SWSC Sam W. Stewart 133.30 51 P PKiKP 06 54 05.9 -0.3
baz=294
MDND Maddock 133.69 24 P PKiKP 06 54 06.6 0.0
baz=324
MDND Maddock 133.69 24 P PKPdf 06 54 05.8 +0.5
baz=324
TRQA Tornquist 133.91 193 PKPdf 06 54 06.1 0.0
TRQA Tornquist 133.91 193 PKIKP PKPdf 06 54 06.1 0.0
PDMCI Parker Dam,Lak 133.96 48 P PKiKP 06 54 06.9 -0.6
baz=297,SNR=6.1
K22A Casper 134.22 34 P PKiKP 06 54 07.9 -0.1
baz=312
K22A Casper 134.22 34 P PKPdf 06 54 07.2 +0.5
baz=312
RSSD Black Hills 134.52 30 P PKPdf 06 54 07.9 +0.6
baz=316
RSSD Black Hills 134.52 30 P PKPdf 06 54 07.8 +0.6
baz=316
AGMN Agassiz Nation 134.72 21 IAMs_20 IAMs_20 07 49 24.2
comp=Z,2µm,20.0s
AGMN Agassiz Nation 134.72 21 P PKiKP 06 54 08.4 -0.2
baz=329
O20A White River Ci 134.83 38 P PKiKP 06 54 09.0 -0.4
baz=308
D32B Dogwood Acres, 135.28 22 P PKPdf 06 54 08.2 -0.1
baz=326
WUAZ Wupatki 135.37 45 P PKiKP 06 54 10.3 -0.2
baz=301,SNR=9.3
N23A Red Feather La 135.70 35 P PKPdf 06 54 10.3 +0.7
baz=311
214A Organ Pipe Nat 136.01 50 P PKiKP 06 54 11.3 -0.5
baz=296
SMCO Snowmass 136.19 38 PKiKP 06 54 11.6 -0.8
SMCO IAMs_20 IAMs_20 08 07 47.6
comp=Z,1µm,21.0s
MVCO Mesa Verde 136.41 41 IAMs_20 IAMs_20 08 04 15.8
comp=Z,984nm,20.0s
MVCO Mesa Verde 136.41 41 P PKiKP 06 54 12.1 -0.6
baz=305,SNR=12
EYMN Ely 136.44 17 IAMs_20 IAMs_20 08 02 08.2
comp=Z,2µm,21.0s
EYMN Ely 136.44 17 P PKiKP 06 54 11.9 -0.2
baz=334
ISCO Idaho Springs 136.61 36 P PKiKP 06 54 12.8 -0.3
baz=311
SUSD Miller 136.68 26 P PKPdf 06 54 11.8 +0.9
baz=322
W18A Petrified Fore 136.72 44 P PKiKP 06 54 12.6 -0.8
baz=302
PLTB Pedras Altas 136.95 206 eP PKPdf 06 54 12.3 +0.4
S22A 4UR Ranch, Cre 137.16 39 P PKiKP 06 54 13.5 -0.8
baz=308,SNR=13
TUC Tucson 137.38 49 P PKPdf 06 54 13.7 +0.9
baz=298
Q24A Divide 137.42 37 P PKiKP 06 54 14.1 -0.8
baz=310
K30B Basset 137.75 28 P PKPdf 06 54 13.2 +0.2
baz=320,SNR=7.5
OGNE Ogallala 137.82 32 IAMs_20 IAMs_20 08 00 00.5
comp=Z,1µm,21.0s
OGNE Ogallala 137.82 32 P PKiKP 06 54 14.3 -1.0
baz=316
RIB01 Linhares ES 137.97 231 eP PKiKP 06 54 15.4 -0.7
SDCO Great Sand Dun 137.99 38 IAMs_20 IAMs_20 08 09 28.2
comp=Z,1µm,21.0s
SDCO Great Sand Dun 137.99 38 P PKPdf 06 54 14.4 +0.4
baz=309,SNR=21
SDCO Great Sand Dun 137.99 38 P PKPdf 06 54 14.9 +1.0
baz=309,SNR=21
CPSB Cacapava Do Su 138.04 207 eP PKPdf 06 54 13.9 0.0
ECSD ECROS Data Cent 138.25 25 P PKPdf 06 54 14.1 +0.2
baz=325
SPMN Marine on St. 138.44 20 P PKiKP 06 54 15.2 -1.0
baz=331
RODS Rosario do Sul 138.85 205 eP PKPdf 06 54 15.7 +0.3
KSCO Kaye Shedlock' 138.85 35 P PKPdf 06 54 16.3 +1.0
baz=314
SJMB Sao Joao De Ma 138.93 231 eP PKPdf 06 54 16.1 +0.3
T25A Trinidad 139.04 38 P PKPdf 06 54 16.5 +0.7
baz=310,SNR=10
ANMO Albuquerque 139.06 42 PKPpre 06 54 07.9
ANMO Albuquerque 139.06 42 P PKPdf 06 54 16.6 +0.7
baz=305
ANMO Albuquerque 139.06 42 PKhKP PKPpre 06 54 08.6
comp=Z,3.9nm,1.0s,baz=282,slow=3.3,SNR=7.1
ANMO PKP PKiKP 06 54 17.6 -0.5
comp=Z,16nm,1.0s,baz=302,slow=3.9,SNR=23
ANMO SKPbc SKPbc 06 57 46.9 +0.6
comp=Z,86nm,1.2s,baz=4.7,slow=3.3,SNR=24
Y22D IRIS PASSCAL I 139.24 44 IAMs_20 IAMs_20 08 05 20.9
comp=Z,1µm,22.0s
Y22D IRIS PASSCAL I 139.24 44 P PKPdf 06 54 16.9 +0.7
baz=304
Y22F Passcal Instru 139.24 44 P PKPdf 06 54 16.1 -0.1
baz=304
CMC01 Camacan, BA 139.40 237 eP PKPdf 06 54 15.9 -0.8
BGNE Belgrade 139.42 28 P PKPdf 06 54 16.7 +0.6
baz=321
ITQB Itaqui 140.03 204 PKPdf 06 54 13.5 -4.1
RCBR Riachuelo 140.05 252 IAMs_20 IAMs_20 08 02 58.9
comp=Z,1µm,19.0s
PEL Pelehue 140.06 184 IAMs_20 IAMs_20 07 51 14.3
comp=Z,2µm,20.0s
SPB Sao Paulo 140.17 220 IAMs_20 IAMs_20 07 47 18.6
comp=Z,1µm,19.0s
BSCB Bom Sucesso 140.18 225 eP PKPdf 06 54 17.4 -0.8
GDU01 Guandu, BA 140.25 239 eP PKPdf 06 54 16.5 -1.8
CBKS Cedar Bluff 140.58 32 P PKPdf 06 54 19.6 +1.3
baz=317
K38A Parkersburg 140.69 22 P PKPpre 06 54 11.7
baz=330,SNR=6.7
I42A Draeger Farm, 140.87 17 P PKPpre 06 54 10.4
baz=336
GLMI Grayling 141.09 12 IAMs_20 IAMs_20 08 06 47.7
comp=Z,2µm,20.0s
GLMI Grayling 141.09 12 P PKPdf 06 54 20.3 +1.3
baz=343
JFWS Jewell Farm 141.34 19 P PKPpre 06 54 13.4
baz=334
R32A Long Quarter, 141.41 32 P PKPpre 06 54 15.1
baz=318,SNR=20
PKME Peaks-Kenny Pk 141.58 355 P PKPpre 06 54 14.1
baz=7.7,SNR=6.3
MNTX Cornudas Mount 141.63 46 IAMs_20 IAMs_20 08 12 04.7
comp=Z,2µm,21.0s
MNTX Cornudas Mount 141.63 46 P PKPpre 06 54 16.7
baz=303,SNR=29
FRTB Fartura 141.68 218 eP PKPdf 06 54 19.9 -0.8
L40A Anamosa 141.76 21 P PKPpre 06 54 14.9
baz=329,SNR=11
KSU1 Kansas State U 141.96 29 IAMs_20 IAMs_20 08 07 10.6
comp=Z,2µm,22.0s
KSU1 Kansas State U 141.96 29 P PKPpre 06 54 15.2
baz=322,SNR=19
PTGB Pitanga 142.06 213 eP PKPdf 06 54 21.4 -0.1
MSTX Muleshoe 142.08 41 P PKPpre 06 54 17.7
baz=309,SNR=6.1
AMTX Amarillo 142.19 39 P PKPpre 06 54 17.2
baz=311,SNR=8.4
BMNY Brushton-Moira 142.21 1 P PKPpre 06 54 16.2
baz=359,SNR=14
FRNY Flat Rock 142.22 360 P PKPpre 06 54 16.4
baz=0.8
I49A Point Hope 142.29 11 P PKPpre 06 54 16.0
baz=346
I49A P PKPpre 06 54 16.0
baz=346
L42A Oliver, Polo 142.34 19 P PKPpre 06 54 15.7
baz=334,SNR=9.2
H62A Milan 142.40 357 P PKPpre 06 54 16.6
baz=4.8
H62A P PKPpre 06 54 16.6
baz=4.8
VHRN Van Horn 142.41 47 PKPpre 06 54 19.3
LONY Lake Ozonia 142.43 1 IAMs_20 IAMs_20 08 01 56.4
comp=Z,1µm,21.0s
J47A Sunmer 142.55 13 P PKPpre 06 54 17.7
baz=342
J47A P PKPpre 06 54 17.7
baz=342
LDASE Londrina, Braz 142.56 216 eP PKPpre 06 54 19.9
VT1 Waterbury 142.71 359 IAMs_20 IAMs_20 08 01 45.8
comp=Z,2µm,22.0s
U32A Winter Ranch, 142.75 34 P PKPpre 06 54 18.2
baz=316
LBNH Lisbon 142.77 358 IAMs_20 IAMs_20 08 06 09.4
comp=Z,1µm,21.0s
LBNH Lisbon 142.77 358 P PKPpre 06 54 18.7
baz=3.5,SNR=5.6
LBNH Lisbon 142.77 358 P PKPpre 06 54 17.4
baz=3.5,SNR=5.6
OK038 West end E0370 142.82 34 IAMs_20 IAMs_20 08 07 37.7
comp=Z,1µm,21.0s
I63A Otisfield 142.89 356 P PKPpre 06 54 16.1
baz=5.8,SNR=7.6
I63A P PKPpre 06 54 16.1
baz=5.8,SNR=7.6
P38A Dawn 142.94 26 P PKPpre 06 54 18.9
baz=327,SNR=30
WCNY West Carthage 143.04 2 P PKPpre 06 54 18.2
baz=357,SNR=8.5
N41A Harden Midland 143.08 22 P PKPab 06 54 18.3 +0.2
baz=331,SNR=22
NCB Newcomb 143.08 0 P PKPab 06 54 18.6 +0.6
baz=360,SNR=33
MCVT Middlebury Col 143.09 359 P PKPab 06 54 18.6 +0.5
baz=1.8
I62A Tamworth 143.11 357 P PKPbc 06 54 19.3 -0.2
baz=4.6,SNR=6.2
I62A P PKPbc 06 54 19.3 -0.2
baz=4.6,SNR=6.2
CPUP Villa Florida 143.26 205 PKPbc 06 54 21.5 +1.0
CPUP Villa Florida 143.26 205 PKP PKPdf 06 54 22.2 -1.2
comp=Z,39nm,1.1s,baz=133,slow=2.4,SNR=28
CPUP SKP 06 57 56.0
comp=Z,22nm,1.0s,baz=88,slow=2.2,SNR=6.0
HNH Hanover 143.32 358 IAMs_20 IAMs_20 08 05 40.7
comp=Z,2µm,21.0s
L46A Eue Claire 143.34 16 P PKPab 06 54 19.3 +0.2
baz=339,SNR=6.2
L46A P PKPab 06 54 19.3 +0.2
baz=339,SNR=6.2
VACA Villa Angela C 143.37 200 eP PKPdf 06 54 22.6 -1.0
M44A Midewin, Midew 143.42 18 P PKPbc 06 54 20.0 -0.5
baz=336,SNR=9.8
K50A Casco 143.45 11 P PKPbc 06 54 20.6 +0.1
baz=346,SNR=7.8
K50A P PKPbc 06 54 20.6 +0.1
baz=346,SNR=7.8
JANB Januaria 143.46 233 eP PKPbc 06 54 22.2 +0.7
J54A Appleton 143.54 6 P PKPbc 06 54 21.0 +0.3
baz=352,SNR=8.9
J54A P PKPbc 06 54 21.0 +0.3
baz=352,SNR=8.9
J59A Piesco 143.58 1 P PKPab 06 54 20.5 +0.4
baz=359
J59A P PKPab 06 54 20.5 +0.4
baz=359
J57A Williamstown 143.59 3 P PKPab 06 54 19.9 -0.1
baz=357,SNR=35
J57A P PKPab 06 54 19.9 -0.1
baz=357,SNR=35
J55A Hilton 143.62 5 P PKPab 06 54 20.1 0.0
baz=354
J55A P PKPab 06 54 20.1 0.0
baz=354
P40A Paris 143.64 24 P PKPab 06 54 20.8 +0.4
baz=329,SNR=150
ACCN Adirondack Com 143.67 360 P PKPab 06 54 20.4 +0.1
baz=0.7,SNR=34
J58A Remsen 143.67 2 P PKPab 06 54 20.3 -0.1
baz=358,SNR=33
J58A P PKPab 06 54 20.3 -0.1
baz=358,SNR=33
MNHN Monahans 143.68 44 PKPbc 06 54 22.6 +0.9
J56A Wolcott 143.68 4 P PKPab 06 54 20.4 +0.1
baz=355,SNR=10
J56A P PKPab 06 54 20.4 +0.1
baz=355,SNR=10
J61A Chester 143.69 358 P PKPbc 06 54 20.9 -0.3
baz=2.6,SNR=19
J61A P PKPbc 06 54 20.9 -0.3
baz=2.6,SNR=19
T35B Sooner Cattle 143.69 31 P PKPbc 06 54 21.5 0.0
baz=320,SNR=40
AAM Ann Arbor 143.70 12 P PKPbc 06 54 21.6 +0.3
baz=344
HDIL Hopedale 143.77 20 IAMs_20 IAMs_20 08 08 19.5
comp=Z,1µm,21.0s
HDIL Hopedale 143.77 20 P PKPab 06 54 21.2 +0.4
baz=334
HDIL Hopedale 143.77 20 P PKPab 06 54 21.1 +0.3
baz=334
OK051 E0350 and S346 143.84 32 IAMs_20 IAMs_20 08 09 56.3
comp=Z,1µm,20.0s
OK048 Pawnee Station 143.85 32 IAMs_20 IAMs_20 08 12 37.6
comp=Z,1µm,21.0s
UNH University of 143.86 356 P PKPab 06 54 21.3 +0.2
baz=5.4,SNR=9.7
L48A N Adams 143.87 13 P PKPab 06 54 21.3 +0.1
baz=342,SNR=43
L48A P PKPab 06 54 21.3 +0.1
baz=342,SNR=43
OK029 Liberty Lake 144.03 34 IAMs_20 IAMs_20 08 12 25.7
comp=Z,1µm,22.0s
WMOK Wichita Mounta 144.04 36 P PKPbc 06 54 22.6 0.0
baz=315
WMOK Wichita Mounta 144.04 36 P PKPbc 06 54 22.3 -0.3
baz=315,SNR=56
TX31 Lajitas Ar. Si 144.15 48 P PKPbc 06 54 23.6 +0.4
baz=303
TXAR Lajitas Array 144.15 48 PKP PKPbc 06 54 23.6 +0.3
comp=Z,54nm,1.0s,baz=273,slow=1.2,SNR=150
TXAR SKPbc SKPbc 06 57 59.2 -0.2
comp=Z,22nm,1.0s,baz=259,slow=1.3,SNR=8.6
LCO Las Campanas 144.16 185 PKPdf 06 54 24.7 -0.6
LCO Las Campanas 144.16 185 PKIKP PKPdf 06 54 24.7 -0.6
OK052 Battle Ridge R 144.24 33 IAMs_20 IAMs_20 08 13 49.0
comp=Z,2µm,22.0s
K57A Scipio Center 144.24 3 P PKPab 06 54 22.4 -0.1
baz=356,SNR=100
TRY Troy 144.32 360 IAMs_20 IAMs_20 08 00 45.2
comp=Z,1µm,21.0s
TRY Troy 144.32 360 P PKPbc 06 54 23.0 -0.1
baz=0.7,SNR=29
HCNY Howe Caverns 144.35 1 P PKPab 06 54 22.7 -0.3
baz=360,SNR=76
K62A Royalston 144.36 358 P PKPbc 06 54 23.3 0.0
baz=3.2,SNR=33
K62A P PKPbc 06 54 23.3 0.0
baz=3.2,SNR=33
WVNY West Valley, N 144.40 6 P PKPab 06 54 23.0 -0.2
baz=352,SNR=37
O44A Mansfield 144.41 19 P PKPab 06 54 22.9 -0.3
baz=335,SNR=56
TICA Tres Isletas 144.41 201 eP PKPdf 06 54 24.8 -0.7
HRV Adam Dziewonsk 144.49 357 PKPab 06 54 23.4 0.0
HRV Adam Dziewonsk 144.49 357 IAMs_20 IAMs_20 08 04 55.5
comp=Z,1µm,21.0s
HRV Adam Dziewonsk 144.49 357 P PKPab 06 54 23.2 -0.3
baz=4.3
HRV Adam Dziewonsk 144.49 357 P PKPab 06 54 23.4 0.0
baz=4.3,SNR=26
HRV Adam Dziewonsk 144.49 357 PKIKP PKPab 06 54 23.4 0.0
P43A Skaggs, Pawnee 144.50 21 P PKPab 06 54 23.5 -0.1
baz=333,SNR=137
ERPA Erie 144.52 8 P PKPab 06 54 23.6 0.0
baz=350,SNR=90
ERPA Erie 144.52 8 P PKPab 06 54 23.3 -0.3
baz=350,SNR=90
N47A Urbana 144.56 16 P PKPab 06 54 23.4 -0.4
baz=340,SNR=66
N47A P PKPab 06 54 23.4 -0.4
baz=340,SNR=66

L61B	**Northampton** baz=2.4,SNR=24	144.59	358	P		**PKPab**	06 54 23.8	-0.1
L61B	**Northampton** baz=2.4,SNR=24	144.59	358	P		**PKPab**	06 54 23.2	-0.6
IPMB	**Ipameri, GO**	144.59	225	eP		PKPbc	06 54 25.2	+0.4
R40A	**Maddies Statio** baz=328,SNR=506	144.59	25	P		**PKPab**	06 54 23.6	-0.4
S39A	**Bolivar** baz=325,SNR=192	144.63	27	P		**PKPab**	06 54 24.1	-0.1
SFIN	**Lafayette** baz=337,SNR=170	144.63	18	P		**PKPab**	06 54 24.1	+0.1
SFIN	**Lafayette** baz=337,SNR=170	144.63	18	P		**PKPab**	06 54 23.8	-0.2
BCX	**Boston College** comp=Z,2µm,21.0s	144.63	357	IAMs_20	IAMs_20		08 07 54.4	
M50A	**Fremont** baz=344,SNR=72	144.69	12	P		**PKPab**	06 54 23.8	-0.4
M50A	baz=344,SNR=72			P		**PKPab**	06 54 23.8	-0.4
QUA2	**Belchertown** comp=Z,2µm,19.0s	144.75	358	IAMs_20	IAMs_20		08 09 07.4	
QUA2	**Belchertown** baz=3.0,SNR=71	144.75	358	P		**PKPab**	06 54 23.7	-0.7
L56A	**Greenwood** baz=354,SNR=82	144.76	5	P		**PKPab**	06 54 24.0	-0.5
L56A	baz=354,SNR=82			P		**PKPab**	06 54 24.0	-0.5
BINY	**Binghamton** baz=357,SNR=136	144.80	3	P		**PKPab**	06 54 24.4	-0.3
BINY	**Binghamton** baz=357,SNR=136	144.80	3	P		**PKPab**	06 54 24.3	-0.4
TUL3	**Leonard** comp=Z,2µm,21.0s	144.84	32	IAMs_20	IAMs_20		08 14 17.1	
TUL3	**Leonard** baz=320	144.84	32	P		**PKPab**	06 54 24.8	-0.1
TUL3	**Leonard** baz=320	144.84	32	P		**PKPab**	06 54 24.8	-0.1
L59A	**Walton** baz=358,SNR=82	144.85	2	P		**PKPab**	06 54 24.7	-0.2
L59A	baz=358,SNR=82			P		**PKPab**	06 54 24.7	-0.2
ITRB	**Iturama**	144.85	221	eP		PKPbc	06 54 26.0	+0.4
M52A	**Chesterland** baz=347,SNR=152	144.87	10	P		**PKPab**	06 54 24.9	0.0
M52A	baz=347,SNR=152			P		**PKPab**	06 54 24.9	0.0
N49A	**Columbus Grove** baz=342,SNR=160	144.90	14	P		**PKPab**	06 54 24.7	-0.3
N49A	baz=342,SNR=160			P		**PKPab**	06 54 24.7	-0.3
ABTX	**Abilene, Hawle** baz=311	144.95	40	P		**PKPdf**	06 54 26.2	-0.1
ABTX	**Abilene, Hawle** baz=311,SNR=92	144.95	40	P		PKPbc	06 54 25.9	+0.3
ALLY	**Alegheny Colle** baz=349,SNR=46	144.96	8			**PKPab**	06 54 24.8	-0.4
ALLY	**Alegheny Colle** baz=349,SNR=46	144.96	8	P		**PKPab**	06 54 24.8	-0.4
ESFA	**Espinillo Form**	144.96	205	eP		**PKPdf**	06 54 27.9	+1.5
L64A	**Middleborough** baz=5.6,SNR=16	145.01	356	P		**PKPab**	06 54 25.4	0.0
L64A	baz=5.6,SNR=16			P		**PKPab**	06 54 25.4	0.0
M53A	**WI Miller and** baz=348,SNR=204	145.08	9	P		**PKPbc**	06 54 25.2	-0.4
SLM	**Saint Louis** baz=331,SNR=59	145.12	23	P		**PKPbc**	06 54 25.2	-0.7
PAOC	**Oil Creek Stat** baz=350	145.15	8	P		**PKPbc**	06 54 25.6	-0.3
CCM	**Cathedral Cave**	145.22	24			**PKPbc**	06 54 25.0	-1.2
CCM	**Cathedral Cave** comp=Z,1µm,21.0s	145.22	24	IAMs_20	IAMs_20		08 11 07.2	
CCM	**Cathedral Cave** baz=329	145.22	24	P		**PKPbc**	06 54 25.5	-0.6
CCM	**Cathedral Cave** baz=329,SNR=313	145.22	24	P		**PKPbc**	06 54 25.7	-0.5
CCM	**Cathedral Cave**	145.22	24	PKIKP		**PKPbc**	06 54 25.0	-1.2
O48B	**Farmland** comp=Z,2µm,21.0s	145.29	15	IAMs_20	IAMs_20		08 11 45.2	
O48B	**Farmland** baz=340,SNR=170	145.29	15	P		**PKPbc**	06 54 25.7	-0.7
O48B	**Farmland** baz=340,SNR=170	145.29	15	P		**PKPbc**	06 54 25.9	-0.4
N51A	**Ashland** baz=345,SNR=208	145.29	11	P		**PKPbc**	06 54 26.1	-0.3
N51A	baz=345,SNR=208			P		**PKPbc**	06 54 26.1	-0.3
NPNY	**Mohonk Preserv** baz=360,SNR=89	145.29	0	P		**PKPbc**	06 54 25.8	-0.5
P46A	**Rosedale** baz=337,SNR=116	145.29	18	P		**PKPbc**	06 54 25.9	-0.5
M55A	**Ridgway** baz=352,SNR=157	145.31	6	P		**PKPbc**	06 54 26.1	-0.3
M55A	baz=352,SNR=157			P		**PKPbc**	06 54 26.1	-0.3
Q44A	**Meyer Farm, Va** baz=333,SNR=289	145.34	21	P		**PKPbc**	06 54 26.0	-0.5
M65A	**Busby, Falmout** baz=6.0	145.37	356	P		**PKPbc**	06 54 25.9	-0.6
SDBA	**SAO DESIDERIO**	145.39	236	eP		**PKPbc**	06 54 27.1	-0.3
KSPA	**Keystone Colle** baz=357,SNR=255	145.45	2	P		**PKPdf**	06 54 26.7	-0.1
O49A	**Covington** baz=342,SNR=196	145.56	14	P		**PKPdf**	06 54 26.9	-0.2
O49A	baz=342,SNR=196			P		**PKPdf**	06 54 26.9	-0.2
M57A	**Sunshine Farm,** baz=355,SNR=325	145.59	4	P		**PKPbc**	06 54 27.2	-0.1
M57A	baz=355,SNR=325			P		**PKPbc**	06 54 27.2	-0.1
M63A	**Gales Ferry** baz=3.6,SNR=31	145.61	358	P		**PKPdf**	06 54 26.8	-0.2
M63A	baz=3.6,SNR=31			P		**PKPdf**	06 54 26.8	-0.2
FVM	**French Village** baz=330,SNR=159	145.61	23	P		**PKPdf**	06 54 27.0	-0.2
BRNY	**Black Rk. Fore** baz=0.1,SNR=75	145.64	0	P		**PKPbc**	06 54 27.4	0.0
PSDB	**Penn State Uni** baz=352	145.65	7	P		**PKPab**	06 54 28.3	+0.5
PLPT	**Palo Pinto**	145.65	38			**PKPab**	06 54 27.9	-0.2
PAMR	**Moraine State** baz=349	145.66	8	P		**PKPdf**	06 54 27.3	+0.1
N53A	**Lisbon** baz=348,SNR=221	145.68	9	P		**PKPdf**	06 54 27.4	+0.2
N53A	baz=348,SNR=221			P		**PKPdf**	06 54 27.4	+0.2
YLE	**Yale** comp=Z,1µm,19.0s	145.72	359	IAMs_20	IAMs_20		08 09 48.2	
OLIL	**Olney** baz=334,SNR=254	145.81	20	P		**PKPbc**	06 54 28.0	0.0
ACSO	**Alum Creek Sta** comp=Z,2µm,22.0s	145.83	12	IAMs_20	IAMs_20		08 04 17.3	
ACSO	**Alum Creek Sta** baz=344	145.83	12	P		**PKPdf**	06 54 27.6	+0.1
ACSO	**Alum Creek Sta** baz=344	145.83	12	P		**PKPbc**	06 54 27.8	-0.2
WSPT	**Westport, CT** comp=Z,2µm,22.0s	145.88	359	IAMs_20	IAMs_20		08 07 33.4	
Z35A	**Perchaven, San** baz=315,SNR=133	145.93	36	P		**PKPbc**	06 54 28.5	0.0
U40A	**Yellville** baz=325	145.94	28	P		**PKPdf**	06 54 27.8	0.0
U40A	baz=325			P		**PKPdf**	06 54 27.8	0.0
ODNJ	**Ogdensburg** baz=359,SNR=153	145.96	1	P		**PKPdf**	06 54 27.9	+0.3
P48A	**Milroy** baz=340,SNR=190	145.96	16	P		**PKPdf**	06 54 27.9	+0.2
P48A	baz=340,SNR=190			P		**PKPdf**	06 54 27.9	+0.2
BDFB	**Brasilia** comp=Z,87nm,0.9s,baz=104,slow=2.3,SNR=75	145.97	229	PKPbc		**PKPab**	06 54 30.1	+0.3
BDFB	comp=Z,17nm,1.0s,baz=350,slow=2.5,SNR=3.4			SKPbc		**SKiKP**	06 58 04.3	0.0
PAL	**Palisades** baz=0.3,SNR=73	146.04	0	P		**PKPbc**	06 54 28.4	-0.2
PAL	**Palisades** baz=0.3,SNR=73	146.04	0	P		**PKPdf**	06 54 28.2	+0.4
P49A	**Miami Univ. Ec** baz=341,SNR=273	146.08	15	P		**PKPdf**	06 54 28.3	+0.4
P49A	**Miami Univ. Ec** baz=341,SNR=273	146.08	15	P		**PKPdf**	06 54 28.4	+0.4
N58A	**Sunbury** baz=355,SNR=274	146.12	4	P		**PKPbc**	06 54 28.6	-0.3
N58A	baz=355,SNR=274			P		**PKPbc**	06 54 28.6	-0.3
N62A	**Caumsett State** baz=1.1,SNR=9.6	146.12	359	P		**PKPbc**	06 54 29.1	+0.3
N62A	baz=1.1,SNR=9.6			P		**PKPbc**	06 54 29.1	+0.3
UPAO	**U. Pittsburgh** baz=349	146.12	8	P		**PKPbc**	06 54 29.0	0.0
O53A	**New Philadelph** baz=347,SNR=163	146.16	10	P		**PKPbc**	06 54 28.9	-0.2
T42A	**Van Buren** baz=328	146.16	25	P		**PKPbc**	06 54 29.2	+0.1
O52A	**Adamsville** baz=346,SNR=167	146.17	11	P		**PKPdf**	06 54 28.6	+0.5
O52A	baz=346,SNR=167			P		**PKPdf**	06 54 28.6	+0.5
FOR	**Fordham** baz=0.3,SNR=32	146.19	0	P		**PKPbc**	06 54 29.2	+0.1
JCT	**Junction City**	146.22	43			**PKPbc**	06 54 29.7	+0.1
JCT	**Junction City** baz=309,SNR=346	146.22	43	P		**PKPbc**	06 54 29.5	-0.1
JCT	**Junction City** baz=309,SNR=346	146.22	43	P		**PKPbc**	06 54 29.7	+0.1
JCT	**Junction City**	146.22	43	PKP2		**PKPbc**	06 54 29.7	+0.1
SSPA	**Standing Stone**	146.22	5			**PKPbc**	06 54 28.7	-0.5
SSPA	**Standing Stone** baz=353	146.22	5	P		**PKPbc**	06 54 29.1	-0.1
SSPA	**Standing Stone** baz=353,SNR=259	146.22	5	P		**PKPdf**	06 54 28.0	-0.1
S44A	**Carbondale** baz=332,SNR=59	146.32	22	P		**PKPbc**	06 54 29.0	-0.6
RPRD	**Ribas do Rio P**	146.32	216	eP		**PKPdf**	06 54 28.2	-0.7
ANTJ	**Antonio Joao (**	146.35	211	eP		**PKPdf**	06 54 26.3	-2.7
O54A	**Avella** baz=349,SNR=180	146.36	9	P		**PKPbc**	06 54 29.5	-0.2
O54A	baz=349,SNR=180			P		**PKPbc**	06 54 29.5	-0.2
BRNJ	**Basking Ridge** baz=359,SNR=43	146.36	1	P		**PKPdf**	06 54 28.6	+0.2
P51A	**Williamsport** baz=344,SNR=130	146.53	13	P		**PKPdf**	06 54 29.0	+0.3
P51A	baz=344,SNR=130			P		**PKPdf**	06 54 29.0	+0.3
P52A	**Corning** comp=Z,2µm,22.0s	146.58	12	IAMs_20	IAMs_20		08 06 36.9	
P52A	**Corning** baz=345,SNR=168	146.58	12	P		**PKPdf**	06 54 29.5	+0.7
PBMO	**Poplar Bluff** baz=329	146.65	25	P		**PKPdf**	06 54 29.6	+0.6
FCAR	**Ozark Folk Cen**	146.66	28			**PKPdf**	06 54 29.4	+0.4
PANJ	**Princeton** baz=359,SNR=41	146.66	1	P		**PKPdf**	06 54 29.6	+0.7
WHTX	**Lake Whitney,** baz=314	146.74	38	P		**PKPbc**	06 54 30.6	-0.4
WHTX	**Lake Whitney,** baz=314	146.74	38	P		**PKPbc**	06 54 31.2	+0.2
WCI	**Wyandotte Cave**	146.85	18			**PKPdf**	06 54 29.8	+0.5
WCI	**Wyandotte Cave** comp=Z,2µm,20.0s	146.85	18	IAMs_20	IAMs_20		08 13 00.6	
WCI	**Wyandotte Cave** baz=337	146.85	18	P		**PKPbc**	06 54 30.2	-0.9
WCI	**Wyandotte Cave** baz=337,SNR=96	146.85	18	P		**PKPdf**	06 54 29.4	+0.2
WCI	**Wyandotte Cave**	146.85	18	PKIKP		**PKPdf**	06 54 29.8	+0.5
TUPA	**Temple Univers** baz=358,SNR=40	146.86	2	P		**PKPdf**	06 54 29.6	+0.4
P53A	**Whipple** baz=347,SNR=84	146.86	11	P		**PKPdf**	06 54 29.3	+0.1
P53A	baz=347,SNR=84			P		**PKPdf**	06 54 29.3	+0.1
Q51A	**Peebles** baz=343,SNR=201	146.90	14	P		**PKPdf**	06 54 29.8	+0.5
Q51A	baz=343,SNR=201			P		**PKPdf**	06 54 29.8	+0.5
LCAR	**Lake Charles** baz=328	146.94	26	P		**PKPbc**	06 54 30.9	-0.5
MCWV	**Mont Chateau** baz=349,SNR=88	146.95	8	P		**PKPbc**	06 54 30.9	-0.5
MCWV	**Mont Chateau** baz=349,SNR=88	146.95	8	P		**PKPdf**	06 54 30.0	+0.6
PSUB	**Penn St. - Bra** baz=358	147.09	2	P		**PKPdf**	06 54 29.6	0.0
R49A	**Shelbyville** baz=339,SNR=134	147.12	16	P		**PKPdf**	06 54 30.8	+1.1
R49A	baz=339,SNR=134			P		**PKPdf**	06 54 30.8	+1.1
T45B	**Paducah** baz=332,SNR=14	147.14	22	P		**PKPdf**	06 54 30.9	+1.1
Q52A	**Bidwell** baz=345,SNR=138	147.20	12	P		**PKPbc**	06 54 31.0	-1.0
Q52A	baz=345,SNR=138			P		**PKPbc**	06 54 31.0	-1.0
GEDE	**Greenville** baz=357,SNR=96	147.20	2	P		**PKPdf**	06 54 30.5	+0.8
Z38A	**Mt. Pleasant** baz=319,SNR=27	147.27	34	P		**PKPdf**	06 54 31.0	+0.9
P57A	**Homestead Farm** baz=353,SNR=95	147.35	6	P		**PKPdf**	06 54 30.8	+0.7
P57A	baz=353,SNR=95			P		**PKPdf**	06 54 30.8	+0.7
R50A	**Paris** baz=341,SNR=84	147.36	15	P		**PKPdf**	06 54 30.4	+0.3
R50A	baz=341,SNR=84			P		**PKPdf**	06 54 30.4	+0.3
P61A	**Hammonton** baz=359,SNR=27	147.37	1	P		**PKPdf**	06 54 31.0	+0.9
P61A	baz=359,SNR=27			P		**PKPdf**	06 54 31.0	+0.9
AQDB	**Aquidauana**	147.44	213			**PKPdf**	06 54 31.9	+1.1
AQDB	**Aquidauana**	147.44	213	eP		**PKPdf**	06 54 31.2	+0.5
Q54A	**Coxs Mills** baz=347,SNR=107	147.45	10	P		**PKPdf**	06 54 31.0	+0.7
Q54A	baz=347,SNR=107			P		**PKPdf**	06 54 31.0	+0.7
435B	**Jarrell** baz=312	147.48	40	P		**PKPbc**	06 54 32.4	-0.7
435B	**Jarrell** baz=312,SNR=15	147.48	40	P		**PKPbc**	06 54 32.5	-0.6
SDMD	**Soldier's Deli** baz=355,SNR=36	147.53	4	P		**PKPdf**	06 54 31.0	+0.6
Q56A	**Snyder Ridge,** baz=350,SNR=59	147.65	8	P		**PKPdf**	06 54 31.6	+1.0
Q56A	baz=350,SNR=59			P		**PKPdf**	06 54 31.6	+1.0
T47A	**Sharon Grove** baz=335	147.72	20	P		**PKPdf**	06 54 31.5	+0.7
237A	**Washetta, Mont** baz=316,SNR=114	147.73	36	P		**PKPbc**	06 54 32.6	-1.1
833A	**Chaparral WMA,** baz=307	147.81	45	P		**PKPbc**	06 54 33.0	-1.1
833A	**Chaparral WMA,** baz=307	147.81	45	P		**PKPbc**	06 54 32.8	-1.3
R53A	**Hurricane** baz=345,SNR=73	147.87	12	P		**PKPbc**	06 54 32.5	-1.4
R53A	baz=345,SNR=73			P		**PKPbc**	06 54 32.5	-1.4
BDQN	**Bodoquena, MS**	148.02	211	eP		**PKPdf**	06 54 31.2	-0.5
S51A	**Beattyville** baz=342,SNR=71	148.16	15	P		**PKPdf**	06 54 31.5	+0.1
S51A	baz=342,SNR=71			P		**PKPdf**	06 54 31.5	+0.1
WVT	**Waverly**	148.23	22			**PKPdf**	06 54 31.9	+0.3
WVT	**Waverly** baz=333	148.23	22	P		**PKPbc**	06 54 34.2	-0.7
WVT	**Waverly** baz=333,SNR=282	148.23	22	P		**PKPdf**	06 54 32.3	+0.7
WVT	**Waverly**	148.23	22	PKIKP		**PKPdf**	06 54 31.9	+0.3
R55A	**Marlinton** baz=348,SNR=45	148.26	9	P		**PKPdf**	06 54 32.4	+0.7
R55A	baz=348,SNR=45			P		**PKPdf**	06 54 32.4	+0.7
T50A	**Nancy** baz=339	148.40	17	P		**PKPdf**	06 54 31.9	0.0
T50A	baz=339			P		**PKPdf**	06 54 31.9	0.0
CCAR	**Cane Creek** baz=325	148.43	29	P		**PKPbc**	06 54 35.9	+0.4
S54A	**Dingess, Beckl** baz=346,SNR=12	148.51	11	P		**PKPbc**	06 54 35.3	-0.4
S54A	baz=346,SNR=12			P		**PKPbc**	06 54 35.3	-0.4
NATX	**Nacogdoches** baz=318	148.57	35	P		**PKPdf**	06 54 33.8	+1.5
735A	**Kenedy** baz=310,SNR=14	148.59	43	P		**PKPdf**	06 54 33.1	+0.7
U49A	**Red Boiling Sp** baz=337,SNR=88	148.59	19	P		**PKPdf**	06 54 32.8	+0.6
CBN	**Corbin Frederi** baz=354,SNR=5.2	148.68	5	P		**PKPdf**	06 54 33.4	+1.1
CBN	**Corbin Frederi** baz=354,SNR=5.2	148.68	5	P		**PKPdf**	06 54 33.9	+1.6
R58B	**Mineral** baz=353,SNR=26	148.87	6	P		**PKPdf**	06 54 33.5	+0.9
R58B	baz=353,SNR=26			P		**PKPdf**	06 54 33.5	+0.9
S57A	**Dark Hollow, R** baz=351,SNR=27	148.94	8	P		**PKPdf**	06 54 33.7	+1.0
S57A	baz=351,SNR=27			P		**PKPdf**	06 54 33.7	+1.0
V48A	**Smith Brothers**	148.94	21			**PKPdf**	06 54 32.5	-0.3
V48A	**Smith Brothers** baz=335,SNR=70	148.94	21	P		**PKPdf**	06 54 33.0	+0.2
OXF	**Oxford** baz=329	149.01	25	P		**PKPdf**	06 54 33.9	+1.0
OXF	**Oxford** baz=329,SNR=21	149.01	25	P		**PKPbc**	06 54 37.2	+0.1
HKT	**Hockley** baz=314	149.15	39	P		**PKPdf**	06 54 34.9	+1.7
TZTN	**Tazewell** baz=341	149.20	15	P		**PKPdf**	06 54 34.1	+0.9
TZTN	**Tazewell** baz=341,SNR=68	149.20	15	P		**PKPdf**	06 54 33.4	+0.2
BLA	**Blacksburg** baz=348	149.25	10	P		**PKPdf**	06 54 34.2	+0.9
BLA	**Blacksburg** baz=348,SNR=16	149.25	10	P		**PKPdf**	06 54 33.8	+0.5
PP1B	**Ponte de Pedra**	149.26	217	eP		**PKPdf**	06 54 34.4	+0.6
S61A	**Accomac** baz=357,SNR=9.8	149.32	3	P		**PKPdf**	06 54 33.5	+0.1
S61A	baz=357,SNR=9.8			P		**PKPdf**	06 54 33.5	+0.1
Y45A	**Yeager Farm, C** baz=328,SNR=85	149.51	26	P		**PKPdf**	06 54 34.9	+1.2
U54A	**Nelsons Funny** baz=345,SNR=20	149.64	13	P		**PKPdf**	06 54 35.0	+1.0
U54A	baz=345,SNR=20			P		**PKPdf**	06 54 35.0	+1.0
T57A	**Hurt** baz=350,SNR=32	149.65	9	P		**PKPdf**	06 54 34.9	+1.0
T57A	baz=350,SNR=32			P		**PKPdf**	06 54 34.9	+1.0
V51A	**Loudon**	149.68	17			**PKPdf**	06 54 33.3	-0.6
V51A	**Loudon** baz=339,SNR=59	149.68	17	P		**PKPdf**	06 54 34.8	+0.8
T60A	**Surry** baz=355,SNR=14	149.79	5	P		**PKPdf**	06 54 35.2	+1.2
T60A	baz=355,SNR=14			P		**PKPdf**	06 54 35.2	+1.2
V52A	**Sevierville** baz=341,SNR=121	149.85	16	P		**PKPdf**	06 54 35.0	+0.8
T59A	**Double "B" Far** baz=353,SNR=79	149.89	6	P		**PKPdf**	06 54 35.4	+1.2
T59A	baz=353,SNR=79			P		**PKPdf**	06 54 35.4	+1.2
W50A	**Signal Mountai** baz=337,SNR=64	149.94	19	P		**PKPdf**	06 54 34.8	+0.3
TKL	**Tuckaleechee C** baz=340,SNR=92	149.98	16	P		**PKPdf**	06 54 35.4	+0.9
X48A	**Hartselle** baz=333,SNR=73	150.01	22	P		**PKPdf**	06 54 34.3	-0.2
U56A	**King** baz=347,SNR=12	150.10	11	P		**PKPdf**	06 54 35.4	+0.8
U56A	baz=347,SNR=12			P		**PKPdf**	06 54 35.4	+0.8
441A	**DeRidder** baz=319,SNR=15	150.16	35	P		**PKiKP**	06 54 41.9	+1.1
V53A	**Saluda** baz=342,SNR=117	150.22	15	P		**PKPdf**	06 54 34.9	0.0
V53A	baz=342,SNR=117			P		**PKPdf**	06 54 34.9	0.0
LVC	**Limon Verde** comp=Z,2µm,22.0s	150.27	189	IAMs_20	IAMs_20		07 58 45.4	
LVC	**Limon Verde** comp=Z,27nm,1.0s,baz=249,slow=0.3,SNR=8.9	150.27	189	PKP		**PKPdf**	06 54 38.2	+2.4
LVC	comp=Z,75nm,1.0s,baz=243,slow=1.2,SNR=36			PKPbc		**PKiKP**	06 54 43.6	+1.9
LVC	**Limon Verde**	150.27	189	eP		**PKPdf**	06 54 37.6	+1.9
V55A	**Taylorsville** baz=346,SNR=29	150.41	12	P		**PKPdf**	06 54 35.1	0.0
V55A	baz=346,SNR=29			P		**PKPdf**	06 54 35.1	0.0
VBMS	**Vicksburg** baz=325	150.42	29	P		**PKPdf**	06 54 36.1	+0.9
VBMS	**Vicksburg** baz=325	150.42	29	P		**PKiKP**	06 54 41.1	-0.1
W52A	**Murphy** baz=340,SNR=58	150.46	17	P		**PKPbc**	06 54 40.7	+0.1
U59A	**Littleton** baz=352,SNR=29	150.47	6	P		**PKiKP**	06 54 41.0	-0.2
U59A	baz=352,SNR=29			P		**PKiKP**	06 54 41.0	-0.2
X51A	**Calhoun** baz=338,SNR=28	150.67	19	P		**PKPdf**	06 54 35.6	0.0
X51A	baz=338,SNR=28			P		**PKPdf**	06 54 35.6	0.0
SNDB	**Serra Nova Dou**	150.74	230	eP		**PKPdf**	06 54 35.6	-0.6
146A	**Union** baz=328,SNR=70	150.76	27	P		**PKPdf**	06 54 36.8	+1.1
Y49A	**Blount Mountai** baz=334,SNR=33	150.78	22	P		**PKPdf**	06 54 36.5	+0.7
CASEE	**Lake Jocassee** baz=342,SNR=57	150.83	15	P		**PKPdf**	06 54 36.9	+1.1
V58A	**Windy Hill, Pi** baz=350,SNR=15	150.85	9	P		**PKPdf**	06 54 36.5	+0.7
V58A	baz=350,SNR=15			P		**PKPdf**	06 54 36.5	+0.7
SALV	**Santo Antonio**	151.06	218	eP		**PKPdf**	06 54 37.2	+0.6
KMSC	**Kings Mountain** baz=345,SNR=61	151.07	13	P		**PKPdf**	06 54 36.9	+0.7
KMSC	**Kings Mountain** baz=345,SNR=61	151.07	13	P		**PKPdf**	06 54 37.0	+0.8
V61A	**Roper** baz=355,SNR=20	151.14	5	P		**PKPdf**	06 54 36.7	+0.5
V61A	baz=355,SNR=20			P		**PKPdf**	06 54 36.7	+0.5
PAULI	**Pauline** baz=344,SNR=48	151.27	14	P		**PKPdf**	06 54 37.4	+1.0
LRAL	**Lakeview Retre**	151.29	23			**PKPdf**	06 54 36.2	-0.3
LRAL	**Lakeview Retre** baz=332,SNR=50	151.29	23	P		**PKPdf**	06 54 36.9	+0.3
LRAL	**Lakeview Retre** baz=332,SNR=50	151.29	23	P		**PKPdf**	06 54 37.3	+0.7
W57A	**Gilead** baz=348,SNR=27	151.33	10	P		**PKPdf**	06 54 37.1	+0.6
W57A	baz=348,SNR=27			P		**PKPdf**	06 54 37.1	+0.6
BBRB	**Robore, Bolivi**	151.38	209	eP		**PKPdf**	06 54 36.4	-0.7
CNNC	**Cliffs of the** baz=352,SNR=9.8	151.56	7	P		**PKPdf**	06 54 37.5	+0.6
CNNC	**Cliffs of the** baz=352,SNR=9.8	151.56	7	P		**PKPdf**	06 54 39.2	+2.4
W59A	**Clinton** baz=351,SNR=10	151.56	8	P		**PKPdf**	06 54 38.4	+1.5
Y52A	**Lilburn** baz=339,SNR=55	151.57	18	P		**PKPdf**	06 54 38.4	+1.4
Y52A	baz=339,SNR=55			P		**PKPdf**	06 54 38.4	+1.4
346A	**Big Creek Wild** baz=326,SNR=8.5	151.62	29	P		**PKPdf**	06 54 38.5	+1.4
Z51A	**Franklin** baz=336,SNR=19	151.71	20	P		**PKPdf**	06 54 37.8	+0.6
HODGE	**Hodges** baz=343,SNR=27	151.73	15	P		**PKPdf**	06 54 38.3	+1.2
BIRD	**Birdtown, Kers** baz=346,SNR=24	151.74	12	P		**PKPdf**	06 54 38.5	+1.4
JSC	**Jenkinsville** baz=345,SNR=19	151.92	13	P		**PKPdf**	06 54 38.4	+0.9
X58A	**Rowland** baz=349,SNR=7.7	152.03	10	P		**PKiKP**	06 54 44.5	-0.1
X58A	baz=349,SNR=7.7			P		**PKiKP**	06 54 44.5	-0.1
GOGA	**Godfrey** baz=340,SNR=20	152.17	17	P		**PKPdf**	06 54 38.9	+1.1
GOGA	**Godfrey** baz=340,SNR=20	152.17	17	P		**PKPdf**	06 54 38.4	+0.5
PATCX	**Punta Patache**	152.21	187	PKPdf		**PKPdf**	06 54 37.8	-0.6
Y57A	**Sumter** baz=346,SNR=8.5	152.36	12	P		**PKPdf**	06 54 39.3	+1.2
Y57A	baz=346,SNR=8.5			P		**PKPdf**	06 54 39.3	+1.2
152A	**Waverly Hall** baz=336,SNR=16	152.45	20	P		**PKPdf**	06 54 39.1	+0.8
UNM	**Universidad Na** comp=

BBSD	**Serra de San D**	**152.70**	**209**	*eP*		**PKPdf**	**06 54 38.6**	**-0.5**
HAW	**Hawthorne Fire**	**152.72**	**14**	P		**PKPdf**	**06 54 39.7**	**+1.0**
	baz=343							
BRAL	**Brewton**	**152.90**	**25**	P		**PKPdf**	**06 54 40.3**	**+1.3**
	baz=330,SNR=9.1							
BRAL	**Brewton**	**152.90**	**25**	P		**PKPdf**	**06 54 40.6**	**+1.7**
	baz=330,SNR=9.1							
154A	**Montrose**	**153.02**	**17**	P		**PKPdf**	**06 54 40.4**	**+1.2**
	baz=340,SNR=11							
BBSR	**BB Station**	**153.26**	**343**	IAMs_20		IAMs_20	08 12 01.3	
	comp=Z,1μm,21.0s							
BBSR	**BB Station**	**153.26**	**343**	P		**PKPdf**	**06 54 40.4**	**+0.9**
	baz=21							
NHSC	**New Hope**	**153.28**	**12**	IAMs_20		IAMs_20	08 19 03.5	
	comp=Z,1μm,20.0s							
NHSC	**New Hope**	**153.28**	**12**	P		**PKPdf**	**06 54 40.8**	**+1.3**
	baz=346							
PTLB	**Pontes e Lacer**	**153.42**	**213**	*eP*		**PKPdf**	**06 54 40.0**	**-0.1**
352A	**Blakely**	**153.46**	**21**	P		**PKPdf**	**06 54 39.6**	**-0.2**
	baz=335							
TLIG	**Tlapa**	**153.69**	**64**	IAMs_20		IAMs_20	08 04 07.7	
	comp=Z,1μm,20.0s							
255A	**Hazlehurst**	**153.84**	**17**	P		**PKPdf**	**06 54 41.6**	**+1.3**
	baz=341,SNR=8.0							
SIV	**San Ignacio**	**153.96**	**209**	PKP		**PKPdf**	**06 54 42.4**	**+1.5**
	comp=Z,14nm,1.0s,baz=114,slow=1.8,SNR=40							
SIV				PKPbc		**PKiKP**	**06 54 49.5**	**+0.4**
	comp=Z,29nm,1.0s,baz=150,slow=1.1,SNR=29							
SIV				PKPab		**sPKPdf**	**06 55 04.4**	**+0.6**
	comp=Z,78nm,0.9s,baz=127,slow=5.8,SNR=20							
TIGA	**Tifton**	**153.96**	**19**	P		**PKPdf**	**06 54 41.9**	**+1.4**
	baz=338,SNR=6.1							
TIGA	**Tifton**	**153.96**	**19**	P		**PKPdf**	**06 54 41.9**	**+1.4**
	baz=338,SNR=6.1							
VILB	**Vilhena**	**156.04**	**215**	*eP*		**PKPdf**	**06 54 43.9**	**0.0**
MCPB	**Macapa, AP**	**157.06**	**253**	*eP*		**PKPdf**	**06 54 44.3**	**-0.9**
DWPF	**Disney Wildern**	**157.73**	**18**	P		**PKPdf**	**06 54 46.7**	**+1.0**
	baz=340							
MALB	**Monte Alegre**	**158.58**	**247**	*eP*		**PKPdf**	**06 54 46.3**	**-0.7**
ITTB	**Itaituba**	**158.71**	**239**	*eP*		**PKPdf**	**06 54 46.4**	**-0.8**
TEIG	**Tepich**	**160.76**	**45**	*eP*		**PKPdf**	**06 54 49.5**	**+0.2**
SAML	**Samuel**	**160.98**	**214**	*eP*		**PKPdf**	**06 54 50.8**	**+1.0**
NNA	**Nana**	**161.00**	**171**	PKP		**PKPdf**	**06 54 51.8**	**+1.9**
	comp=Z,15nm,0.9s,baz=298,slow=5.8,SNR=6.0							
ETMB	**Extrema**	**161.72**	**205**	*eP*		**PKPdf**	**06 54 49.9**	**-0.6**
PAYG	**Puerto Ayora**	**161.98**	**114**	*eP*		**PKPdf**	**06 54 52.2**	**+1.3**
TGUH	**Tegucigalpa,Un**	**165.04**	**61**	*eP*		**PKPdf**	**06 54 53.8**	**0.0**
ATAH	**Atahualpa**	**165.34**	**162**	PKP		**PKPdf**	**06 54 56.5**	**+2.0**
	comp=Z,19nm,1.0s,baz=324,slow=1.8,SNR=17							
CZSB	**Cruzeiro do Su**	**165.41**	**185**	*eP*		**PKPdf**	**06 54 54.0**	**0.0**
CZSB	**Cruzeiro do Su**	**165.41**	**185**	*eP*		**PKPdf**	**06 54 53.4**	**-0.7**
BOAV	**Boa Vista**	**165.96**	**252**	*eP*		**PKPdf**	**06 54 54.8**	**+0.3**
BOAV	**Boa Vista**	**165.96**	**252**	*eP*		**PKPdf**	**06 54 53.8**	**-0.7**
TEFE	**Tefe**	**166.14**	**222**	*eP*		**PKPdf**	**06 54 53.8**	**-0.8**
SJG	**San Juan**	**166.55**	**327**	*eP*		**PKPdf**	**06 54 53.6**	**-1.1**
CELP	**Cerrillos**	**166.81**	**328**			**PKPdf**	**06 54 54.6**	**-0.4**
SDDR	**Presa de Saban**	**167.73**	**348**	*eP*		**PKPdf**	**06 54 56.3**	**+0.6**
ACON	**Acoyapa**	**167.78**	**65**	*eP*		**PKPdf**	**06 54 55.6**	**-0.2**
COHC	**Cochancay**	**169.25**	**150**	*eP*		**PKPdf**	**06 54 58.5**	**+1.6**
HDC	**Heredia**	**169.42**	**72**	*eP*		**PKPdf**	**06 54 56.7**	**-0.4**
OTAV	**Otavalo**	**171.96**	**145**	*eP*		**PKPdf**	**06 55 00.5**	**+1.7**
CUSE	**Cuicocha Este**	**172.04**	**145**	*eP*		**PKPdf**	**06 55 00.1**	**+1.2**
GMAL	**Guarumal, Vera**	**172.66**	**83**	*eP*		**PKPdf**	**06 54 58.2**	**-0.4**
GCUF	**Volcan Galeras**	**173.38**	**148**	*eP*		**PKPdf**	**06 55 00.5**	**+1.0**
UPA	**Univ. de Panam**	**174.03**	**69**	*eP*		**PKPdf**	**06 54 57.3**	**-1.7**
BBAC	**Balboa, Cauca**	**174.10**	**145**	*eP*		**PKPdf**	**06 54 59.7**	**+0.3**
JAMC	**Jamundi, Valle**	**175.40**	**143**	*eP*		**PKPdf**	**06 54 58.9**	**-0.9**
UPD2	**Meteti**	**175.59**	**68**	*eP*		**PKPdf**	**06 54 58.8**	**-0.8**
CRJC	**Cerrejon, Guaj**	**175.79**	**347**[1]	*eP*		**PKPdf**	**06 54 57.2**	**-2.5**
PTAC	**Punta Ardita,**	**176.09**	**86**	*eP*		**PKPdf**	**06 54 54.7**	**-4.9**
CAPC	**Capurgana**	**176.15**	**63**	*eP*		**PKPdf**	**06 55 00.0**	**+0.3**
YOTC	**Yotoco, Valle**	**176.20**	**140**	*eP*		**PKPdf**	**06 54 59.1**	**-0.7**
SDV	**Santo Domingo**	**176.23**	**302**			**PKPdf**	**06 54 59.7**	**-0.2**
SDV				PKP		**PKPab**	**06 56 40.3**	**-0.1**
SDV	**Santo Domingo**	**176.23**	**302**	PKP		**PKPdf**	**06 54 59.7**	**-0.2**
	comp=Z,8.3nm,0.8s,baz=156,slow=1.1,SNR=13							
SDV				PKPab		**PKPab**	**06 56 40.7**	**+0.3**
	comp=Z,29nm,0.8s,baz=71,slow=3.3,SNR=9.5							
SDV				PP		**PP**	**07 00 33.7**	**+0.7**
	comp=Z,132nm,1.2s,baz=24,slow=7.0,SNR=28							
PRAC	**Prado**	**176.68**	**162**	*eP*		**PKPdf**	**06 54 59.3**	**-0.6**
ORTC	**Ortega, Tolima**	**176.73**	**155**	*eP*		**PKPdf**	**06 54 59.5**	**-0.4**
SJCC	**San Jacinto, C**	**176.76**	**23**	*eP*		**PKPdf**	**06 55 00.4**	**+0.5**
PLMC	**San Jos del P**	**176.89**	**130**	*eP*		**PKPdf**	**06 54 59.5**	**-0.4**
ARGC	**Ariguani, Magd**	**177.04**	**7**	*eP*		**PKPdf**	**06 55 00.9**	**+1.1**
LL6C	**La Loma 6 Bece**	**177.12**	**348**	*eP*		**PKPdf**	**06 54 59.9**	**0.0**
APAC	**Apartado, Choc**	**177.15**	**70**	*eP*		**PKPdf**	**06 54 58.9**	**-1.0**
ROSC	**El Rosal**	**177.90**	**168**	PKP		**PKPdf**	**06 55 01.6**	**+1.1**
	comp=Z,26nm,1.0s,baz=40,slow=1.3,SNR=15							
ROSC	**El Rosal**	**177.90**	**168**	*eP*		**PKPdf**	**06 55 00.0**	**-0.5**
UREC	**San Jos de Ur**	**178.16**	**63**	*eP*		**PKPdf**	**06 54 59.1**	**-0.9**
OCAC	**Ocana**	**178.56**	**337**	*eP*		**PKPdf**	**06 55 00.2**	**0.0**
SPBC	**San Pablo de B**	**178.74**	**171**	*eP*		**PKPdf**	**06 54 58.5**	**-1.7**
PTBC	**PUERTO BERRIO**	**179.32**	**122**	*eP*		**PKPdf**	**06 54 58.5**	**-1.6**

CNRM ***23*** *06:37:49.3,37°.73N×7°.57W,h119km,ML0.6*
SFS 23 06:37:50.3,37°.79N×6°.85W,h0km,ML2.0/11**,ML2.0**/11**, MLv1.9**/11**, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIN	**Mina Concepcio**	**0.14**	**98**	Pg	Pg	06 37 52.1	-1.0
EMIN				Sg	Sg	06 37 54.6	-0.3
PBAR	**Barrancos**	**0.41**	**339**	Sg	Sg	06 38 03.6	0.0
PBAR				Pg	Pg	06 37 58.0	-0.2
EGRO	**El Granado**	**0.56**	**243**	Pg	Pg	06 38 00.7	-0.3
EGRO				Sg	Sg	06 38 07.7	-0.6
PVAQ	**Vaqueiros**	**0.79**	**241**	Pg	Pg	06 38 05.1	-0.3
PVAQ				Sg	Sg	06 38 15.2	-0.4
PVAQ	**Vaqueiros**	**0.79**	**241**	P	Pb	06 38 06.8	-0.1
PVAQ	**Vaqueiros**	**0.79**	**241**	S	Sb	06 38 19.1	+1.0
PCVE	**Castro Verde**	**0.95**	**261**	Pg	Pg	06 38 07.6	-1.0
PCVE				Sg	Sg	06 38 21.3	+0.3
EBAD	**Badajoz**	**0.97**	**353**	Pg	Pg	06 38 08.4	-0.6
EBAD				Sg	Sg	06 38 21.1	-0.6
PBDV	**Barranco-do-Ve**	**1.02**	**238**	Pg	Pg	06 38 09.2	-0.6
ECAB	**El Cabril**	**1.17**	**75**	Pg	Pg	06 38 11.1	-1.6
EVO	**Evora**	**1.18**	**309**	Sn	Sb	06 38 29.5	+0.1
EVO				Pn	Pg	06 38 11.6	-1.3
ESPR	**Espera**	**1.21**	**139**	Pn	Pg	06 38 13.4	-0.1
PESTR	**Estremoz**	**1.23**	**332**	Pn	Pg	06 38 13.8	-0.1
PESTR				Sn	Sg	06 38 30.1	+0.4
PESTR	**Estremoz**	**1.23**	**332**	P	Pb	06 38 12.1	-1.7
PESTR	**Estremoz**	**1.23**	**332**	S	Sb	06 38 31.2	+0.5
PNCL	**Nicolau / Gran**	**1.36**	**284**	Pn	Pg	06 38 14.9	-1.5
PNCL				Sn	Sg	06 38 33.6	-0.6
EADA	**Adamuz**	**1.84**	**77**	Sn	Sn	06 38 46.4	-0.7
EADA				Pn	Pn	06 38 21.5	-1.7
MD31	**MD31**	**5.20**	**160**	P	Pn	06 39 08.5	-0.9
MDT	**Midelt**	**5.29**	**159**	P	Pn	06 39 07.7	-3.0

ANF ***23*** *06:42:16.8±0.2,36°.93N×97°.38W,h5km,ML3.4/9,Error ellipse: s-maj=2.2km s-min=1.7km az=8.0*
NEIC ***23*** *06:42:16.5±0.4,36°.95N±0°.01×97°.36W±0°.01,h6km±6km, Error ellipse: s-maj=2.0km s-min=1.5km az=211.0*
TUL ***23*** *06:42:16.7±0.4,36°.95N±0°.01×97°.37W±0°.01,h8km±5km, ML3.0,mb_Lg2.9/70(NEIC),ML3.1/46(NEIC),Error ellipse: s-maj=1.9km s-min=1.5km az=197.0*
ISC 23 06:42:16.8±1.2,36.94N±0°.03×97.36W±0°.02,h6km±10km, n71,σ0s58/44,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.12**	**308**	**Pg**	**Pg**	**06 42 19.6**	**+0.3**
BLOK	**Blackwell**	**0.22**	**147**	Pg	**Pg**	**06 42 21.5**	**+0.5**
BLOK				IAML		06 42 25.6	
	comp=E,6μm,0.2s						
KAN09	**Caldwell North**	**0.28**	**314**	Pg	**Pg**	**06 42 22.5**	**+0.1**
KAN09				IAML		06 42 28.7	
	comp=N,5μm,0.2s						
KAN17	**Caldwell West**	**0.34**	**288**	Pg	**Pg**	**06 42 23.5**	**+0.1**
KAN17				IAML		06 42 30.0	
	comp=E,2μm,0.3s						
KAN01	**Argonia South**	**0.38**	**304**	Pg	**Pg**	**06 42 24.3**	**+0.1**
KAN01				IAML		06 42 29.6	
	comp=E,3μm,0.3s						
GC02	**Grant County #**	**0.41**	**258**	Pg	**Pg**	**06 42 24.8**	**+0.1**
KS21	**Milan North St**	**0.42**	**325**	Pg	**Pg**	**06 42 25.0**	**0.0**
KAN14	**Manchester OK**	**0.48**	**272**	Pg	**Pg**	**06 42 26.0**	**-0.1**
KAN06	**Argonia West S**	**0.50**	**308**		**Pg**	**06 42 26.5**	**0.0**
KAN08	**Anthony NE Sta**	**0.56**	**301**	Pg	**Pg**	**06 42 27.7**	**0.0**
KAN08				IAML		06 42 35.4	
	comp=N,1μm,0.3s						
OK051	**E0350 and S346**	**0.61**	**136**		**Pg**	**06 42 28.6**	**+0.2**
OK051				IAML		06 42 43.2	
	comp=N,1μm,0.2s						
OK051				IAML		06 42 45.3	
	comp=N,819nm,0.1s						
KAN10	**Anthony SW Sta**	**0.61**	**288**		**Pg**	**06 42 28.5**	**-0.1**
KAN12	**Harper NE Stat**	**0.62**	**305**		**Pg**	**06 42 28.6**	**-0.2**
KAN12				IAML		06 42 46.0	
	comp=N,1μm,0.3s						
KAN12				IAML		06 42 46.3	
	comp=E,1μm,0.3s						
OK048	**Pawnee Station**	**0.62**	**147**	Pg	**Pg**	**06 42 28.9**	**+0.2**
CROK	**Carrier**	**0.66**	**229**	Pg	**Pg**	**06 42 29.5**	**0.0**
CROK				IAML		06 42 40.9	
	comp=N,1μm,0.3s						
T35A	**Sooner Cattle**	**0.68**	**92**	Pg	**Pg**	**06 42 29.8**	**-0.1**
T35A				IAML		06 42 39.3	
	comp=E,725nm,0.2s						
T35A				IAML		06 42 39.5	
	comp=N,981nm,0.4s						
T35B	**Sooner Cattle**	**0.68**	**92**	P	**Pg**	**06 42 30.0**	**0.0**
	baz=273						
T35B				S	**Sg**	**06 42 39.1**	**+0.2**
	baz=273						
OK032	**Salt Plains WL**	**0.69**	**259**	Pg	**Pg**	**06 42 29.9**	**-0.2**
OK032				IAML		06 42 42.3	
	comp=N,774nm,0.2s						
OK032				IAML		06 42 43.3	
	comp=N,766nm,0.2s						
QUOK	**Quay**	**0.93**	**145**	IAML		06 42 51.8	
	comp=N,490nm,0.2s						
QUOK				IAML		06 42 52.4	
	comp=E,510nm,0.2s						
OK033	**Mehan**	**0.96**	**159**	IAML		06 42 52.9	
	comp=E,553nm,0.3s						
OK033				IAML		06 42 58.1	
	comp=E,446nm,0.2s						
OK052	**Battle Ridge R**	**1.05**	**154**		**Pg**	**06 42 36.4**	**-0.5**
OK052				IAML		06 42 55.0	
	comp=E,460nm,0.5s						
OK052				IAML		06 42 55.1	
	comp=E,632nm,0.3s						
DEOK	**Depew**	**1.30**	**147**		**Pn**	**06 42 40.7**	**-0.8**
DEOK				IAML		06 43 01.6	
	comp=N,423nm,0.3s						
DEOK				IAML		06 43 01.7	
	comp=E,345nm,0.3s						
U32A	**Winter Ranch,**	**1.43**	**247**	P	**Pn**	**06 42 42.7**	**-0.6**
	baz=66						
U32A				S	**Sn**	**06 43 02.3**	**-0.2**
	baz=66						
OKCSW	**OKLAHOMA CITY**	**1.53**	**182**		**Pn**	**06 42 44.5**	**-0.2**
TUL3	**Leonard**	**1.63**	**129**		**Pn**	**06 42 46.0**	**-0.1**
TUL3	**Leonard**	**1.63**	**129**	P	**Pb**	**06 42 46.5**	**-0.8**
	baz=310						
TUL3				S	**Sb**	**06 43 08.3**	**+0.2**
	baz=310						
CSTR	**Hydro, Custer**	**1.68**	**220**		**Pn**	**06 42 47.2**	**+0.5**
R32A	**Long Quarter,**	**1.82**	**325**		**Pn**	**06 42 49.2**	**+0.4**
R32A	**Long Quarter,**	**1.82**	**325**	P	**Pn**	**06 42 49.2**	**+0.4**
	baz=144						
R32A				S	**Sb**	**06 43 13.5**	**-0.3**
	baz=144						
KSU1	**Kansas State U**	**2.24**	**15**	Pn	**Pn**	**06 42 54.3**	**-0.1**
KSU1	**Kansas State U**	**2.24**	**15**	P	**Pn**	**06 42 54.9**	**+0.5**
	baz=196						
KSU1				S	**Sb**	**06 43 23.7**	**-1.9**
	baz=196						
X34A	**Smith Ranch, M**	**2.37**	**189**	IAmb_Lg		06 43 38.1	
	comp=Z,38nm,0.8s						
U38A	**Gravette**	**2.44**	**101**	Pn	**Pn**	**06 42 57.9**	**+0.7**
U38A	**Gravette**	**2.44**	**101**	P	**Pn**	**06 42 58.1**	**+0.8**
	baz=283						
WMOK	**Wichita Mounta**	**2.48**	**208**	Pn	**Pn**	**06 42 57.7**	**-0.1**
WMOK	**Wichita Mounta**	**2.48**	**208**	P	**Pn**	**06 42 58.0**	**+0.2**
	baz=27						
WMOK				S	**Sn**	**06 43 30.0**	**+1.6**
	baz=27						
CBKS	**Cedar Bluff**	**2.65**	**316**	S	**Sn**	**06 43 33.9**	**+1.3**
	baz=134						
LOOK	**Love County**	**2.95**	**177**	IAmb_Lg		06 43 54.6	
	comp=Z,29nm,0.8s						
SMWD	**Samnorwood**	**2.97**	**233**	Pn	**Pn**	**06 43 05.2**	**+0.7**
SMWD				IAmb_Lg		06 43 54.1	
	comp=Z,26nm,0.8s						
S39A	**Bolivar**	**3.31**	**76**	P	**Pn**	**06 43 09.2**	**+0.1**
	baz=258						
Z35A	**Perchaven, San**	**3.60**	**179**	IAmb_Lg		06 44 21.0	
	comp=Z,21nm,1.1s						
U40A	**Yellville**	**3.67**	**98**	P	**Pn**	**06 43 14.7**	**+0.5**
	baz=281						
U40A				P	**Pn**	**06 43 14.7**	**+0.5**
	baz=281						
N33A	**J Bar K, Exete**	**3.79**	**359**	IAmb_Lg		06 44 21.7	
	comp=Z,26nm,0.8s						
FW03	**Perrin-Whitt E**	**3.94**	**189**	IAmb_Lg		06 44 29.3	
	comp=Z,19nm,0.8s						
P38A	**Dawn**	**4.03**	**47**	IAmb_Lg		06 44 34.0	
	comp=Z,19nm,0.9s						
AMTX	**Amarillo**	**4.06**	**241**	IAmb_Lg		06 44 27.5	
	comp=Z,21nm,0.9s						
MGMO	**Mountain Grove**	**4.08**	**85**	IAmb_Lg		06 44 26.1	
	comp=Z,32nm,0.7s						
Z38A	**Mt. Pleasant**	**4.16**	**151**	IAmb_Lg		06 44 35.5	
	comp=Z,30nm,0.9s						
PLPT	**Palo Pinto**	**4.19**	**191**	IAmb_Lg		06 44 33.8	
	comp=Z,16nm,0.7s						
R40A	**Maddies Statio**	**4.26**	**70**	IAmb_Lg		06 44 30.9	
	comp=Z,20nm,0.9s						
X40A	**Basin Creek Fa**	**4.42**	**122**	IAmb_Lg		06 44 43.4	
	comp=Z,20nm,0.8s						
UALR	**University of**	**4.61**	**116**	IAmb_Lg		06 44 52.4	
	comp=Z,20nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.64**	**298**	IAmb_Lg		06 44 53.6	
	comp=Z,23nm,0.7s						
WLAR	**White Oak Lake**	**4.75**	**132**	IAmb_Lg		06 45 00.5	
	comp=Z,30nm,1.2s						
P40A	**Paris**	**4.92**	**57**	IAmb_Lg		06 44 51.6	
	comp=Z,18nm,0.7s						
CCM	**Cathedral Cave**	**4.99**	**75**	IAmb_Lg		06 44 56.8	
	comp=Z,17nm,0.7s						
OGNE	**Ogallala**	**5.41**	**319**	IAmb_Lg		06 45 16.2	
	comp=Z,20nm,0.8s						
FVM	**French Village**	**5.62**	**77**	IAmb_Lg		06 45 13.8	
	comp=Z,18nm,0.8s						
T25A	**Trinidad**	**5.64**	**274**	IAmb_Lg		06 45 24.3	
	comp=Z,23nm,1.0s						
435B	**Jarrell**	**6.14**	**182**	IAmb_Lg		06 45 44.9	
	comp=Z,16nm,0.7s						
CGM3	**Cape Girardeau**	**6.17**	**84**	IAmb_Lg		06 45 32.7	
	comp=Z,19nm,0.8s						
N41A	**Harden Midland**	**6.32**	**52**	IAmb_Lg		06 45 38.4	
	comp=Z,18nm,0.7s						
Q24A	**Divide**	**6.47**	**291**	IAmb_Lg		06 45 49.3	
	comp=Z,14nm,0.9s						
BRIGG	**Briggsdale**	**6.54**	**306**	IAmb_Lg		06 45 47.5	
	comp=Z,20nm,1.0s						
HDIL	**Hopedale**	**7.26**	**58**	IAmb_Lg		06 46 15.5	
	comp=Z,18nm,0.8s						
HNDO	**Hondo**	**7.56**	**193**	IAmb_Lg		06 46 25.7	
	comp=Z,14nm,0.9s						
O44A	**Mansfield**	**7.67**	**63**	IAmb_Lg		06 46 26.2	
	comp=Z,12nm,0.8s						
WVT	**Waverly**	**7.72**	**93**	IAmb_Lg		06 46 24.5	
	comp=Z,8.6nm,1.0s						
PLAL	**Pickwick Lake**	**7.78**	**102**	IAmb_Lg		06 46 27.0	
	comp=Z,8.3nm,0.9s						
RSSD	**Black Hills**	**8.79**	**327**	IAmb_Lg		06 47 04.3	
	comp=Z,6.4nm,1.1s						
TEIG	**Tepich**	**18.45**	**152**	IAmb_Lg		06 46 37.2	
	comp=Z,11nm,1.2s						

DJA ***23*** *06:50:06.1±0.7,7°S±4°×10°6E±°,h19km±6km,M4.1/12, MLv4.1/12*
IDC ***23*** *06:50:11.1±5.6,6°.72S×106°.20E,h95km±42km,mb3.4/5, mbtmp3.7/5,Error ellipse: s-maj=88.1km s-min=19.5km az=53.0*
ISC 23 06:50:07.5±1.1,7°.11S±0°.08×106°.09E±0°.06,h50km,n19, σ1s61/19**,mb3.6/5,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.48**	**77**	P	**Pn**	**06 50 17.7**	**-0.8**
SKJI				S	**Sn**	**06 50 25.6**	**-0.8**
DBJI	**Dramaga**	**0.86**	**50**	P	**Pn**	**06 50 23.7**	**+0.3**
DBJI				S	**Sn**	**06 50 35.8**	**+0.8**
SBJI	**Serang**	**0.99**	**2**	P	**Pn**	**06 50 25.4**	**+0.3**
CBJI	**Citeko**	**1.02**	**48**	P	**Pn**	**06 50 24.5**	**-1.1**
CNJI	**Cibinong**	**1.05**	**101**	P	Pn	06 50 25.2	-0.7
TNG	**Tangerang**	**1.09**	**31**	P	**Pn**	**06 50 26.9**	**+0.5**
LEM	**Lembang**	**1.55**	**80**	P	**Pn**	**06 50 35.1**	**+2.3**
	130nm,0.4s,baz=313,slow=19,SNR=9.6						
LEM				S	**Sn**	**06 50 55.4**	**+3.6**
	171nm,0.4s,baz=138,slow=23,SNR=4.8						
LEM	**Lembang**	**1.55**	**80**	P	**Pn**	**06 50 34.6**	**+1.8**
BBJI	**Bungbulang**	**1.59**	**103**	P	**Pn**	**06 50 32.9**	**-0.4**
KASI	**Kota Agung**	**2.23**	**315**	P	**Pn**	**06 50 43.4**	**+1.3**
CMJI	**Cimerak**	**2.44**	**106**	P	**Pn**	**06 50 44.3**	**-0.5**
KPJI	**Karang Pucung**	**2.83**	**95**	P	**Pn**	**06 50 51.5**	**+1.3**
EGSI	**Enggano, Bengk**	**4.17**	**295**	P	**Pn**	**06 51 10.0**	**+1.3**
UGM	**Wanagama**	**4.47**	**101**	P	**Pn**	**06 51 13.2**	**+0.4**
WRA	**Warramunga Arr**	**30.22**	**118**	P	P	06 56 13.2	-0.5
	0.4nm,0.5s,baz=294,slow=11,SNR=1.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**31.36**	**125**	P	**P**	**06 56 23.8**	**0.0**
	0.2nm,0.3s,baz=302,slow=8.2,SNR=6.5						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**41.24**	**131**	P	**P**	**06 57 48.8**	**+0.9**
	1.8nm,0.3s,baz=308,slow=6.3,SNR=8.0						
	1.8nm,0.3s						
MKAR	**Makanchi Array**	**57.69**	**341**	P	P	06 59 49.3	-3.6
	0.4nm,0.4s,baz=149,slow=8.5,SNR=10						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.25**	**341**	P	**P**	**07 00 20.9**	**-3.2**
	0.2nm,0.4s,baz=131,slow=5.2,SNR=1.7						
	0.2nm,0.4s						

IDC ***23*** *06:52:41.5±7.0,5°.63S×106°.04E,h84km±40km,mb3.5/3, mbtmp3.8/3,Error ellipse: s-maj=185.9km s-min=55.7km az=37.0*
DJA ***23*** *06:52:44.1±0.9,7°S±4°×10°6E±°,h20km±9km,M4.3/12, MLv4.3/12*
ISC 23 06:52:45.3±1.3,7°.14S±0°.08×105°.95E±0°.08,h50km,n17, σ1s60/18**,mb3.6/3,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.61**	**77**	P	**Pn**	**06 52 56.5**	**-1.5**
DBJI	**Dramaga**	**0.98**	**54**	P	**Pn**	**06 53 01.8**	**-1.0**
DBJI				S	**Sn**	**06 53 14.3**	**-1.4**
SBJI	**Serang**	**1.03**	**10**	P	**Pn**	**06 53 03.0**	**-0.5**
CBJI	**Citeko**	**1.14**	**51**	P	**Pn**	**06 53 03.2**	**-1.8**
CNJI	**Cibinong**	**1.18**	**98**	P	**Pn**	**06 53 04.0**	**-1.5**
TNG	**Tangerang**	**1.18**	**36**	P	**Pn**	**06 53 05.0**	**-0.5**
LEM	**Lembang**	**1.68**	**79**	P	**Pn**	**06 53 13.2**	**+0.8**
	487nm,0.4s,baz=317,slow=5.1,SNR=53						
LEM				S	**Sn**	**06 53 37.9**	**+4.9**
	453nm,0.6s,baz=298,slow=22,SNR=10						
LEM	**Lembang**	**1.68**	**79**	P	**Pn**	**06 53 13.1**	**+0.6**
BBJI	**Bungbulang**	**1.71**	**101**	P	**Pn**	**06 53 11.7**	**-1.1**
KASI	**Kota Agung**	**2.16**	**318**	P	**Pn**	**06 53 19.2**	**+0.3**
CMJI	**Cimerak**	**2.56**	**105**	P	**Pn**	**06 53 23.7**	**-0.6**
KPJI	**Karang Pucung**	**2.96**	**94**	P	**Pn**	**06 53 29.7**	**-0.1**
EGSI	**Enggano, Bengk**	**4.07**	**296**	P	Pn	06 53 47.4	+2.4
UGM	**Wanagama**	**4.59**	**100**	P	**Pn**	**06 53 52.2**	**-0.1**
WRA	**Warramunga Arr**	**30.32**	**118**	P	**P**	**06 58 51.9**	**-0.5**
	1.1nm,0.8s,baz=289,slow=10.0,SNR=6.5						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**31.46**	**125**	P	**P**	**06 59 02.0**	**-0.4**
	0.3nm,0.4s,baz=310,slow=9.0,SNR=7.3						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**41.32**	**131**	P	**P**	**07 00 26.4**	**0.0**
	1.4nm,0.4s,baz=315,slow=7.3,SNR=6.9						
	1.4nm,0.4s						

UCR ***23*** *06:54:47.7±0.7,8°.19N×84°.38W,h17km±3km,MW3.7*
CATAC ***23*** *06:54:54.1±1.1,8°.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.44**	**289**	Pg	**Pn**	**07 02 44.5**	**-0.7**
ZKR				Sg	**Sn**	**07 02 52.3**	**-0.7**
ZKR	**Zakros**	**0.44**	**289**	P	**Pn**	**07 02 44.5**	**-0.7**
ZKR				S	**Sn**	**07 02 52.2**	**-0.7**
ZKR	**Zakros**	**0.44**	**289**	P	**Pn**	**07 02 44.5**	**-0.7**
ZKR				S	**Sn**	**07 02 51.7**	**-1.2**
ZKR				AML	AML	07 02 52.6	
	comp=N,4010μm,0.3s						
ZKR				AML	AML	07 02 54.4	
	comp=E,8487μm,0.3s						
KARP	**Karpathos**	**0.67**	**32**	Pg	**Pg**	**07 02 46.8**	**+0.2**
KARP				Sg	**Sg**	**07 02 55.9**	**+0.4**
KARP	**Karpathos**	**0.67**	**32**	P	**Pg**	**07 02 46.7**	**+0.2**
KARP				S	**Sg**	**07 02 55.4**	**-0.1**
KARP	**Karpathos**	**0.67**	**32**	P	**Pg**	**07 02 46.6**	**0.0**
KARP				S	**Sg**	**07 02 54.7**	**-0.8**
FRMA	**Ierapetra Chan**	**0.82**	**273**	P	**Pg**	**07 02 49.4**	**+0.1**
FRMA	**Ierapetra Chan**	**0.82**	**273**	P	**Pg**	**07 02 49.3**	**0.0**
FRMA				S	**Sn**	**07 03 01.4**	**-0.8**
FRMA				AML	AML	07 03 07.2	
	comp=N,3188μm,0.3s						
FRMA				AML	AML	07 03 08.9	
	comp=E,5148μm,0.6s						
KSTL	**Kastelli Herak**	**1.40**	**284**	P	**Pn**	**07 02 57.9**	**-0.5**
IDI	**Anoyia**	**1.54**	**282**	Pn	**Pg**	**07 03 02.8**	**-0.2**
IDI	**Anoyia**	**1.54**	**282**	P	**Pg**	**07 03 03.6**	**+0.6**
ARG	**Arkhangelos**	**1.68**	**42**	Pn	**Pn**	**07 03 02.4**	**+0.1**
ARG	**Arkhangelos**	**1.68**	**42**	P	**Pb**	**07 03 04.1**	**+0.1**
THR6	**Thira Island,**	**1.75**	**322**	P	**Pb**	**07 03 05.3**	**0.0**
SNT5	**Nea Kammeni, S**	**1.79**	**323**	P	**Pb**	**07 03 05.5**	**-0.4**
THR3	**Thira Island,**	**1.79**	**323**	P	**Pb**	**07 03 05.3**	**-0.6**
YAZI	**Mula-Dat§a-**	**1.80**	**19**	P	**Pn**	**07 03 03.8**	**-0.1**
YAZI				S	**Sn**	**07 03 24.2**	**-2.3**
YAZI				*i* AML	AML	07 03 33.0	
	comp=E,69nm,1.2s						
DAT	**Datca**	**1.88**	**21**	Pn	**Pn**	**07 03 05.7**	**+0.6**
DAT	**Datca**	**1.88**	**21**	P	**Pn**	**07 03 06.3**	**+1.1**
DAT				S	**Sn**	**07 03 28.3**	**-0.3**
DAT				*i* AML	AML	07 03 37.0	
	comp=E,93nm,0.8s						
TURN	**Turunc**	**2.18**	**34**	Pn	**Pn**	**07 03 09.8**	**+0.7**
TURN	**Turunc**	**2.18**	**34**	P	**Pb**	**07 03 11.2**	**-1.3**
TURN				S	**Sb**	**07 03 39.0**	**-0.4**
RFTAA	**Mazikoy-Bodrum**	**2.18**	**22**	Pn	**Pn**	**07 03 09.9**	**+0.8**
APE	**Apeiranthos**	**2.30**	**335**	Pn	**Pn**	**07 03 12.2**	**+1.3**
APE	**Apeiranthos**	**2.30**	**335**	P	**Pn**	**07 03 12.2**	**+1.3**
DALY	**Dalyan (Mula)**	**2.41**	**40**	Pn	**Pn**	**07 03 13.3**	**+1.0**
MLSB	**Milas**	**2.47**	**20**	Pn	**Pn**	**07 03 13.9**	**+0.8**
YER	**Yerkesik**	**2.50**	**30**	Pn	**Pn**	**07 03 13.5**	**0.0**
IZZE	**Mula-Seydike**	**2.50**	**54**	P	**Pn**	**07 03 12.8**	**-0.8**
IZZE				S	**Sn**	**07 03 40.6**	**-3.2**
IZZE				*i* AML	AML	07 03 45.0	
	comp=E,84nm,0.4s						
FETY	**Fethiye**	**2.53**	**48**	Pn	**Pn**	**07 03 14.5**	**+0.5**
CAME	**Cameli-Denizli**	**2.87**	**46**	Pn	**Pn**	**07 03 19.6**	**+0.9**
CAEL	**Denizli, Camel**	**3.00**	**44**	P	**Pn**	**07 03 19.4**	**-1.2**
CAEL				*i* AML	AML	07 04 03.0	
	comp=E,75nm,0.6s						
CAEL				*i* AML	AML	07 04 23.0	
	comp=E,79nm,1.0s						
TAVA	**DENIZLI_Tavas**	**3.05**	**35**	P	**Pn**	**07 03 21.0**	**-0.2**
TAVA				S	**Sn**	**07 03 58.6**	**+1.1**
ESEN	**Aydn-Nazilli**	**3.11**	**24**	P	**Pn**	**07 03 21.8**	**-0.1**
ESEN				*i* AML	AML	07 05 02.0	
	comp=E,35nm,2.9s						
GOLH	**Golhisar**	**3.22**	**45**	P	**Pn**	**07 03 24.2**	**+0.7**
GOLH				S	**Sn**	**07 04 01.0**	**-0.6**
GOLH				*i* AML	AML	07 04 24.0	
	comp=E,65nm,1.9s						
KIRA	**zmir-Kiraz**	**3.49**	**22**	P	**Pn**	**07 03 27.5**	**+0.3**
INCE	**Denizli-Bozkur**	**3.57**	**39**	P	**Pn**	**07 03 29.2**	**+0.9**
VAE	**Valguarnera**	**10.26**	**288**	LR	LR	07 08 14.9	
	comp=E,305nm,20.6s,baz=323,slow=37						
TORD	**Torodi Ar. Bea**	**31.37**	**232**	P	**P**	**07 08 55.5**	**+1.8**
	comp=E,0.2nm,0.4s,baz=30,slow=8.9,SNR=4.8						
	comp=E,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**40.24**	**51**	P	**P**	**07 10 09.9**	**+0.6**
	comp=E,0.5nm,0.5s,baz=277,slow=8.9,SNR=8.3						
	comp=E,0.5nm,0.5s						
MKAR	**Makanchi Array**	**42.80**	**57**	P	**P**	**07 10 31.4**	**+0.9**
	comp=E,0.3nm,0.4s,baz=267,slow=8.9,SNR=4.7						
	comp=E,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**44.21**	**46**	P	**P**	**07 10 40.4**	**-1.2**
	comp=E,0.5nm,0.4s,baz=266,slow=8.9,SNR=2.9						
	comp=E,0.5nm,0.4s						

NEIC 23 07:06:43.8±0.8, 35°68N±0.01×97°41W±0.01, h7km±1km, ML2.0/38, Error ellipse: s-maj=1.8km s-min=1.5km az=117.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.04**	**129**	Pg	Pg	07 06 45.6	+0.3
ADOK				Sg	Sg	07 06 46.8	+0.6
OK029	**Liberty Lake**	**0.12**	**343**	Pg	Pg	07 06 47.1	+0.6
OK029				Sg	Sg	07 06 49.4	+1.1
OK029				IAML		07 06 49.6	
	722nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.27**	**185**	Pg	Pg	07 06 49.5	+0.3
OKCSW				Sg	Sg	07 06 53.8	+0.9
OKCSW				IAML		07 06 54.0	
	comp=E,124nm,0.4s						
OKCSW				IAML		07 06 56.3	
	comp=N,235nm,0.3s						
FNO	**Franklin**	**0.42**	**179**	Pg	Pg	07 06 52.3	+0.3
FNO				Sg	Sg	07 06 58.5	+1.0
FNO				IAML		07 07 01.1	
	comp=E,127nm,0.5s						
OK033	**Mehan**	**0.53**	**46**	Pg	Pg	07 06 54.5	+0.4
OK033				IAML		07 07 12.4	
	comp=E,154nm,0.1s						
OK052	**Battle Ridge R**	**0.58**	**57**	Pg	Pg	07 06 55.5	+0.4
OK052				Sg	Sg	07 07 03.8	+1.1
OK052				IAML		07 07 04.1	
	comp=E,64nm,0.2s						
OK052				IAML		07 07 04.4	
	comp=E,84nm,0.3s						
W35A	**Tecumseh**	**0.68**	**140**	Pg	Pg	07 06 57.1	+0.1
W35A				Sg	Sg	07 07 06.3	+0.5
W35A				IAML		07 07 06.8	
	comp=N,55nm,0.4s						
W35A				IAML		07 07 07.0	
	comp=E,46nm,0.4s						
QUOK	**Quay**	**0.75**	**49**	Pg	Pg	07 06 58.1	-0.2
QUOK				Sg	Sg	07 07 08.8	+0.7
QUOK				IAML		07 07 09.2	
	comp=E,39nm,0.3s						
QUOK				IAML		07 07 09.5	
	comp=N,41nm,0.4s						
DEOK	**Depew**	**0.76**	**77**	Pg	Pg	07 06 58.3	-0.1
DEOK				Sg	Sg	07 07 08.9	+0.6
DEOK				IAML		07 07 09.2	
	comp=E,63nm,0.2s						
DEOK				IAML		07 07 12.0	
	comp=N,112nm,0.3s						
OK048	**Pawnee Station**	**0.83**	**27**	Pg	Pg	07 06 59.6	-0.2
OK048				Sg	Sg	07 07 11.0	+0.5
CROK	**Carrier**	**0.95**	**331**	Pg	Pg	07 07 01.2	-0.8
OK051	**E0350 and S346**	**0.95**	**29**	Pg	Pg	07 07 01.6	-0.4
OK051				IAML		07 07 17.3	
	comp=N,40nm,0.2s						
OK051				IAML		07 07 17.8	
	comp=N,60nm,0.2s						
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	07 07 04.8	0.0
X34A	**Smith Ranch, M**	**1.13**	**198**	Pg	Pg	07 07 05.4	-0.1
X34A				IAML		07 07 19.4	
	comp=E,23nm,4.9s						
X34A				IAML		07 07 25.0	
	comp=N,27nm,4.0s						
GC02	**Grant County #**	**1.23**	**343**	Pg	Pg	07 07 06.5	-0.8
OK032	**Salt Plains WL**	**1.30**	**330**		Pn	07 07 07.5	-0.9
KAN13	**South Haven SW**	**1.33**	**358**		Pn	07 07 07.2	-1.8
TUL3	**Leonard**	**1.34**	**80**		Pn	07 07 08.1	-0.9
TUL3				IAML		07 07 33.0	
	comp=N,30nm,1.1s						
OK038	**West end E0370**	**1.34**	**307**		Pn	07 07 08.3	-0.7
T35A	**Sooner Cattle**	**1.43**	**30**		Pn	07 07 09.9	-0.4
WMOK	**Wichita Mounta**	**1.46**	**231**		Pn	07 07 10.4	-0.3
U32A	**Winter Ranch,**	**1.47**	**299**		Pn	07 07 10.8	-0.1

JMA 23 07:13:03.7±0.3, 44°N±1°×14°8E±°, h11km, MV3.6/10, SE OFF ETOROFU
SKHL 23 07:13:06.0±0.1, 44°.50N×148°.00E, h41km±5km, mb4.1/3
ISC 23 07:13:01.5±3.9, 44°4N±0°.1×148°1E±0°2, h14km±19km, n10, σ1§45/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.85**	**347**	*e*P	**Pn**	**07 13 19.5**	**+0.5**
KUR				AMB	AMB	07 13 20.0	
	60nm,0.2s						
KUR				*i* S	**Sg**	**07 13 29.5**	**+0.3**
KUR				A	A	07 13 32.4	
	150nm,0.3s						
KUR				A	A	07 13 32.4	
	290nm,0.3s						
SHO	**Shikotan**	**1.07**	**241**	*i* P	**Pn**	**07 13 22.7**	**+0.7**
SHO				AMB	AMB	07 13 25.6	
	10.0nm,0.1s						
SHO				*e*S	**Sb**	**07 13 35.2**	**-0.5**
SHO				A	A	07 13 39.4	
	110nm,0.2s						
SHO				A	A	07 13 39.4	
	160nm,0.2s						
YUK	**Yuzn-Kuril'sk**	**1.67**	**258**	*e*P	**Pb**	**07 13 31.4**	**-0.5**
YUK				AMB	AMB	07 13 34.3	
	140nm,0.2s						
YUK				*e*S	**Sn**	**07 13 50.5**	**-0.9**
YUK				A	A	07 13 54.4	
	150nm,0.2s						
YUK				A	A	07 13 54.4	
	100nm,0.2s						
NEM2	**Nemuro 2**	**2.01**	**240**	*e*P	**Pn**	**07 13 35.6**	**+0.7**
NEM2				*e*S	**Sn**	**07 13 58.5**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.02**	**240**	*e*P	**Pn**	**07 13 36.0**	**+1.0**
NMR				*e*S	**Sn**	**07 13 58.6**	**-1.4**
JRA	**Rausu**	**2.21**	**259**	*e*P	**Pb**	**07 13 40.1**	**-1.1**
JNSB	**Nemuroshibetsu**	**2.34**	**256**	*e*P	**Pb**	**07 13 41.8**	**-1.4**
AKK	**Akkeshi**	**2.75**	**241**	*e*P	**Pn**	**07 13 46.9**	**+1.8**
JAK	**Akkeshi**	**2.86**	**242**	*e*P	**Pn**	**07 13 47.7**	**+1.1**
JAK				*e*S	**Sn**	**07 14 20.1**	**-0.6**
JAR	**Ashorobuto**	**3.34**	**252**	*e*P	**Pn**	**07 13 56.2**	**+3.0**
JAR				*e*S	**Sn**	**07 14 34.5**	**+1.8**

CNRM 23 07:27:29.0, 36°.49N×4°.60W, h86km, ML2.3
SFS 23 07:27:29.6, 36°.53N×4°.45W, h94km, ML3.7/23, MLv3.0/23
MDD 23 07:27:30.2±0.2, 36°.51N×4°.46W, h85km±3km, Mb3.4/50, Error ellipse: s-maj=2.1km s-min=1.5km az=157.0
INMG 23 07:27:30.0±1.9, 36°.52N×4°.44W, h90km±3km, ML2.6, Error ellipse: s-maj=3.0km s-min=2.6km az=136.0
IGIL 23 07:27:31.3, 36°.51N×4°.46W, h85km, ML2.5
ISC 23 07:27:27.9±1.1, 36°52N±0°.02×4°45W±0°.02, h100km±6km, n124, σ1§70/202, 44C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.24**	**4**	Pg	**Pn**	**07 27 43.0**	**+0.8**
EMAL				Sg	**Sn**	**07 27 52.2**	**-0.8**
EMIJ	**Mijas**	**0.26**	**280**	Pg	**Pn**	**07 27 42.4**	**+0.1**
EMIJ				Sg	**Sn**	**07 27 52.3**	**-0.9**
EMIJ	**Mijas**	**0.26**	**280**	⇓P	**Pn**	**07 27 42.7**	**+0.4**
EMIJ				S	**Sn**	**07 27 51.9**	**-1.2**
EGOR	**Sierra Gorda,**	**0.65**	**25**	Pg	**Pn**	**07 27 44.9**	**-0.1**
EGOR	**Sierra Gorda,**	**0.65**	**25**	⇑P	**Pn**	**07 27 46.3**	**+1.3**
EGOR				S	**Sn**	**07 27 58.6**	**+0.7**
ELGU	**Los Guajares,**	**0.75**	**62**	Pg	**Pn**	**07 27 45.6**	**-0.2**
ELGU	**Los Guajares,**	**0.75**	**62**	⇓P	**Pn**	**07 27 46.0**	**+0.2**
ELGU				S	**Sn**	**07 27 58.5**	**-0.8**
EJIF	**Jimena Fronter**	**0.82**	**265**	P	**Pn**	**07 27 48.3**	**+1.9**
EJIF				S	**Sn**	**07 28 00.5**	**+0.1**
CEU	**Ceuta**	**0.97**	**230**	Pg	**Pn**	**07 27 47.9**	**0.0**
ECEU	**Ceuta**	**0.97**	**231**	P	**Pn**	**07 27 49.6**	**+1.6**
ECEU				S	**Sn**	**07 28 03.4**	**+0.3**
EQTA	**Presa de Quent**	**1.06**	**49**	Pn	**Pn**	**07 27 50.6**	**+1.5**
EQUE	**Quentar**	**1.06**	**50**	P	**Pn**	**07 27 50.7**	**+1.7**
EQUE				⇑*i*Vmb_V		07 27 52.5	
	625nm,SNR=9.9						
EQUE				S	**Sn**	**07 28 04.6**	**-0.5**
SMIR	**Smir Dam**	**1.12**	**222**	P	**Pn**	**07 27 48.8**	**-0.9**
SMIR	**Smir Dam**	**1.12**	**222**	S	**Sn**	**07 28 03.8**	**-2.3**
ESPR	**Espera**	**1.18**	**288**	Pn	**Pn**	**07 27 51.3**	**+1.0**
ESPR	**Espera**	**1.18**	**288**	P	**Pn**	**07 27 52.2**	**+1.9**
ESPR				S	**Sn**	**07 28 08.4**	**+1.2**
EALB	**Alboran**	**1.28**	**116**	Pn	**Pn**	**07 27 51.3**	**-0.2**
EALB				Sn	**Sn**	**07 28 07.5**	**-1.9**
EALB	**Alboran**	**1.28**	**116**	P	**Pn**	**07 27 51.5**	**0.0**
EALB				⇑*i*Vmb_V		07 27 51.9	
	833nm,SNR=2.8						
EALB				S	**Sn**	**07 28 07.7**	**-1.7**
EBER	**Berja**	**1.31**	**73**	Pn	**Pn**	**07 27 52.6**	**+0.6**
EBER	**Berja**	**1.31**	**73**	⇑P	**Pn**	**07 27 52.9**	**+0.9**
EBER				S	**Sn**	**07 28 09.9**	**-0.4**
PALE	**Palemas**	**1.37**	**162**	P	**Pn**	**07 27 52.6**	**+0.1**
PALE	**Palemas**	**1.37**	**162**	S	**Sn**	**07 28 14.0**	**+2.8**
EADA	**Adamuz**	**1.65**	**357**	Pn	**Pn**	**07 27 57.2**	**+1.3**
EADA				Sn	**Sn**	**07 28 16.3**	**-1.1**
EADA	**Adamuz**	**1.65**	**357**	⇑P	**Pn**	**07 27 57.3**	**+1.3**
EADA				⇑*i*Vmb_V		07 27 57.4	
	5μm,SNR=98						
EADA				S	**Sn**	**07 28 16.6**	**-0.8**
EQES	**Quesada**	**1.69**	**40**	⇑P	**Pn**	**07 27 58.0**	**+1.4**
EQES				⇑*i*Vmb_V		07 28 01.6	
	908nm,SNR=12						
EQES				S	**Sn**	**07 28 17.3**	**-1.1**
EMEL	**Melilla**	**1.72**	**135**	⇑*i*Vmb_V		07 27 59.4	
	3μm,SNR=2.0						
EMEL				S	**Sn**	**07 28 17.8**	**-1.1**
ECAB	**El Cabril**	**1.73**	**334**	Pn	**Pn**	**07 27 57.8**	**+0.8**
ECAB				Sn	**Sn**	**07 28 17.7**	**-1.6**
ECAB	**El Cabril**	**1.73**	**334**	⇑P	**Pn**	**07 27 57.9**	**+0.8**
ECAB				⇑*i*Vmb_V		07 27 58.4	
	980nm,SNR=18						
ECAB				S	**Sn**	**07 28 18.2**	**-1.1**
GOG	**Mont Gurugu**	**1.75**	**137**	P	**Pn**	**07 27 58.0**	**+0.6**
GOG				P		07 27 58.1	
GOG	**Mont Gurugu**	**1.75**	**137**	S	**Sn**	**07 28 18.9**	**-1.0**
ENIJ	**Nijar**	**1.86**	**75**	Pn	**Pn**	**07 27 59.7**	**+1.1**
ENIJ	**Nijar**	**1.86**	**75**	P	**Pn**	**07 27 59.8**	**+1.2**
ENIJ				⇑*i*Vmb_V		07 28 02.5	
	282nm,SNR=3.2						
ENIJ				S	**Sn**	**07 28 21.1**	**-1.1**
RSA	**Sarsar**	**1.98**	**215**	P	**Pn**	**07 28 02.4**	**+2.1**
RSA	**Sarsar**	**1.98**	**215**	S	**Sn**	**07 28 23.2**	**-1.6**
AKLM	**AKL**	**2.06**	**166**	P	**Pn**	**07 28 03.3**	**+2.0**
AKLM	**AKL**	**2.06**	**166**	S	**Sn**	**07 28 25.2**	**-1.7**
CHAS	**Isla Isabel II**	**2.12**	**128**	Pn	**Pn**	**07 28 02.3**	**+0.4**
CHAS				Sn	**Sn**	**07 28 25.9**	**-2.1**
EMIN	**Mina Concepcio**	**2.17**	**306**	Pn	**Pn**	**07 28 03.6**	**+1.0**
EMIN				Sn	**Sn**	**07 28 27.3**	**-1.8**
EMIN	**Mina Concepcio**	**2.17**	**306**	P	**Pn**	**07 28 03.6**	**+1.0**
EMIN				⇑*i*Vmb_V		07 28 05.7	
	306nm,SNR=5.5						
EMIN				S	**Sn**	**07 28 27.9**	**-1.2**
SICH	**Sidi Chahed**	**2.51**	**197**	P	**Pn**	**07 28 09.1**	**+2.0**
SICH	**Sidi Chahed**	**2.51**	**197**	S	**Sn**	**07 28 38.7**	**+1.4**
EZAR	**Zarzadilla de**	**2.58**	**58**	P	**Pn**	**07 28 07.8**	**-0.4**
EZAR				⇑*i*Vmb_V		07 28 08.1	
	296nm,SNR=2.8						
EZAR				S	**Sn**	**07 28 39.1**	**0.0**
EGRO	**El Granado**	**2.63**	**294**	Pn	**Pn**	**07 28 09.9**	**+1.2**
EGRO				Sn	**Sn**	**07 28 38.3**	**-1.7**
EGRO	**El Granado**	**2.63**	**294**	P	**Pn**	**07 28 10.0**	**+1.4**
EGRO				⇑*i*Vmb_V		07 28 10.7	
	729nm,SNR=8.3						
EGRO				S	**Sn**	**07 28 38.5**	**-1.4**
PBAR	**Barrancos**	**2.64**	**309**	*e*P	**Pn**	**07 28 10.2**	**+1.4**
PBAR				*e*S	**Sn**	**07 28 39.1**	**-1.2**
PBAR				A	A	07 28 42.0	
	23nm,0.1s						
PBAR	**Barrancos**	**2.64**	**309**	Pn	**Pn**	**07 28 10.4**	**+1.5**
PBAR				Sn	**Sn**	**07 28 38.6**	**-1.7**
JBK	**JBK**	**2.67**	**144**	P	**Pn**	**07 28 10.6**	**+1.2**
JBK				P		07 28 10.6	
JBK	**JBK**	**2.67**	**144**	S	**Sn**	**07 28 42.1**	**+0.8**
PVAQ	**Vaqueiros**	**2.76**	**290**	*e*P	**Pn**	**07 28 12.1**	**+1.7**
PVAQ				*e*S	**Sn**	**07 28 41.5**	**-1.6**
PVAQ	**Vaqueiros**	**2.76**	**290**	Pn	**Pn**	**07 28 11.9**	**+1.5**
PVAQ				Sn	**Sn**	**07 28 41.1**	**-2.0**
PVAQ	**Vaqueiros**	**2.76**	**290**	P	**Pn**	**07 28 11.1**	**+0.7**
PBDV	**Barranco-do-Ve**	**2.88**	**286**	⇑*e*P	**Pn**	**07 28 13.7**	**+1.6**
PBDV				*e*S	**Sn**	**07 28 46.1**	**0.0**
PBDV				A	A	07 28 47.9	
	6.8nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.88**	**286**	Pn	**Pn**	**07 28 13.6**	**+1.6**
PBDV				Sn	**Sn**	**07 28 44.9**	**-1.2**
EMUR	**La Murta**	**2.88**	**62**	P	**Pn**	**07 28 14.9**	**+2.8**
EMUR				⇑*i*Vmb_V		07 28 18.4	
	114nm,SNR=1.4						
EMUR				S	**Sn**	**07 28 46.3**	**+0.1**
EBAD	**Badajoz**	**3.02**	**318**	Pn	**Pn**	**07 28 15.0**	**+1.1**
EBAD				Sn	**Sn**	**07 28 47.8**	**-1.5**
EBAD	**Badajoz**	**3.02**	**318**	⇑P	**Pn**	**07 28 15.3**	**+1.5**
EBAD				⇑*i*Vmb_V		07 28 17.3	
	1μm,SNR=20						
EBAD				S	**Sn**	**07 28 48.2**	**-1.1**
PAB	**San Pablo**	**3.02**	**2**	⇑P	**Pn**	**07 28 15.1**	**+1.2**
PAB				⇑*i*Vmb_V		07 28 16.9	
	356nm,SNR=5.7						
PAB				S	**Sn**	**07 28 47.5**	**-1.9**
PAB	**San Pablo**	**3.02**	**2**	P	**Pn**	**07 28 15.2**	**+1.2**
IFR	**Ifrane**	**3.05**	**191**	Pn	**Pn**	**07 28 15.3**	**+0.8**
IFR				Sn	**Sn**	**07 28 48.3**	**-2.0**
PCVE	**Castro Verde**	**3.08**	**292**	*e*P	**Pn**	**07 28 15.9**	**+1.3**
PCVE				*e*S	**Sn**	**07 28 49.4**	**-1.2**
PCVE				A	A	07 28 51.9	
	14nm,0.2s						
PCVE	**Castro Verde**	**3.08**	**292**	Pn	**Pn**	**07 28 15.8**	**+1.3**
PBEJ	**Beja**	**3.11**	**300**	*e*S	**Sn**	**07 28 50.3**	**-1.2**
PBEJ				A	A	07 28 52.7	
	15nm,0.2s						
ETOB	**Tobarra**	**3.13**	**47**	Pn	**Pn**	**07 28 16.6**	**+1.1**
ETOB				Sn	**Sn**	**07 28 49.7**	**-2.5**
ETOB	**Tobarra**	**3.13**	**47**	⇑P	**Pn**	**07 28 16.7**	**+1.2**
ETOB				⇑*i*Vmb_V		07 28 16.9	
	640nm,SNR=5.5						
ETOB				S	**Sn**	**07 28 49.6**	**-2.5**
ESDC	**Sonseca Array**	**3.17**	**7**	P	**Pn**	**07 28 17.2**	**+1.2**
ESDC				⇑*i*Vmb_V		07 28 20.4	
	232nm,SNR=3.0						
ESDC				S	**Sn**	**07 28 51.3**	**-1.8**
RTC	**Rabat Centre**	**3.20**	**219**	Pn	**Pn**	**07 28 17.5**	**+1.1**
RTC				Sn	**Sn**	**07 28 52.9**	**-0.8**
MESJ	**Messejana**	**3.28**	**295**	⇓*e*P	**Pn**	**07 28 18.9**	**+1.5**
MESJ				*e*S	**Sn**	**07 28 54.0**	**-1.7**
MESJ				A	A	07 28 55.7	
	12nm,0.5s						
MESJ	**Messejana**	**3.28**	**295**	*e*P	**Pn**	**07 28 18.9**	**+1.5**
MESJ				*e*S	**Sn**	**07 28 53.5**	**-2.1**
MESJ				IAML		07 28 56.5	
	comp=N,12nm,0.2s						
ETRV	**Los Montesinos**	**3.30**	**62**	⇑*i*Vmb_V		07 28 20.2	
	comp=N,2μm,SNR=1.8						
ETRV				S	**Sn**	**07 28 57.6**	**+1.5**
PESTR	**Estremoz**	**3.42**	**314**	*e*P	**Pn**	**07 28 20.9**	**+1.7**
PESTR				*e*S	**Sn**	**07 28 57.4**	**-1.5**
PESTR				A	A	07 28 58.9	
	comp=N,10nm,0.3s						
PESTR	**Estremoz**	**3.42**	**314**	Pn	**Pn**	**07 28 20.5**	**+1.3**
PESTR				Sn	**Sn**	**07 28 57.1**	**-1.8**
PESTR	**Estremoz**	**3.42**	**314**	P	**Pn**	**07 28 19.3**	**+0.1**
MORF	**Marmelete**	**3.46**	**284**	⇓*e*P	**Pn**	**07 28 21.2**	**+1.4**
MORF				*e*S	**Sn**	**07 28 58.4**	**-1.4**
MORF				A	A	07 29 07.7	
	comp=N,10nm,0.2s						
MORF	**Marmelete**	**3.46**	**284**	*e*P	**Pn**	**07 28 21.1**	**+1.4**
MORF				*e*S	**Sn**	**07 28 57.6**	**-2.2**
MORF				IAML		07 28 60.0	
	comp=N,13nm,0.2s						
EVO	**Evora**	**3.47**	**306**	*e*S	**Sn**	**07 28 59.0**	**-1.1**
ZHG	**ZHG**	**3.56**	**211**	P	**Pn**	**07 28 21.8**	**+0.6**
PFVI	**Vila Bisbo**	**3.56**	**281**	*e*P	**Pn**	**07 28 22.3**	**+1.2**
PFVI				*e*S	**Sn**	**07 29 00.6**	**-1.7**
PFVI				A	A	07 29 11.6	
	comp=N,7.5nm,0.6s						
PFVI	**Vila Bisbo**	**3.56**	**281**	Pn	**Pn**	**07 28 22.3**	**+1.2**
PFVI				Sn	**Sn**	**07 29 00.5**	**-1.9**
PFVI	**Vila Bisbo**	**3.56**	**281**	P	**Pn**	**07 28 21.3**	**+0.1**
PFVI	**Vila Bisbo**	**3.56**	**281**	S	**Sn**	**07 28 59.1**	**-3.2**
PTEO	**Sao Teotonio**	**3.57**	**288**	⇓*i*P		**07 28 23.3**	**+2.1**
PTEO				*e*S	**Sn**	**07 29 01.2**	**-1.2**
PTEO				A	A	07 29 04.8	
	comp=N,7.1nm,0.4s						
PNCL	**Nicolau / Gran**	**3.62**	**297**	⇓*e*P	**Pn**	**07 28 23.4**	**+1.5**
PNCL				*e*S	**Sn**	**07 29 01.7**	**-1.9**
PNCL				A	A	07 29 04.6	
	comp=N,7.8nm,0.4s						
PNCL	**Nicolau / Gran**	**3.62**	**297**	Pn	**Pn**	**07 28 23.0**	**+1.2**
PNCL				Sn	**Sn**	**07 29 01.2**	**-2.4**
MD31	**MD31**	**3.65**	**184**	P	**Pn**	**07 28 23.7**	**+1.2**
MD31	**MD31**	**3.65**	**184**	S	**Sn**	**07 29 03.0**	**-1.7**
MDT	**

PBRG	**Braganca**	**5.57**	**342**	*eP*		**Pn**	**07 28 50.8**	**+2.5**
PBRG				*eS*		**Sn**	**07 29 49.6**	**-1.4**
PBRG				A		A	07 29 52.5	
	comp=N,3.2nm,0.2s							
ECAL	**Calabor**	**5.70**	**343**	P		**Pn**	**07 28 52.4**	**+2.3**
ECAL				⇑*iVmb_V*			07 28 53.0	
	comp=N,115nm,SNR=1.0							
ECAL				S		**Sn**	**07 29 53.7**	**-0.4**
PCAB	**Cabril**	**5.88**	**333**	*eP*		**Pn**	**07 28 55.0**	**+2.5**
PCAB				*eS*		**Sn**	**07 29 55.5**	**-3.0**
PCAB				A		A	07 29 57.3	
	comp=N,6.2nm,0.4s							
OUZM	**OUZ**	**5.92**	**200**	P		**Pn**	**07 28 54.8**	**+1.6**
ELOB	**Lobios**	**6.03**	**333**	P		**Pn**	**07 28 56.8**	**+2.2**
ELOB				⇑*iVmb_V*			07 28 57.6	
	comp=N,135nm,SNR=1.0							
ELOB				S		**Sn**	**07 29 59.0**	**-3.2**
TIO	**Tiouine**	**6.05**	**204**	Sn		**Sn**	**07 30 00.0**	**-2.9**
TIO				Pn		**Pn**	**07 28 56.2**	**+1.2**
PGAV	**Gavieira, Arco**	**6.19**	**333**	*eP*		**Pn**	**07 28 59.4**	**+2.6**
PGAV				*eS*		**Sn**	**07 30 03.2**	**-3.0**
PGAV				A		A	07 30 06.1	
	comp=N,2.7nm,0.4s							
EPOB	**Poblet**	**6.47**	**40**	P		**Pn**	**07 29 02.3**	**+1.8**
EPOB				⇑*iVmb_V*			07 29 07.7	
	comp=N,121nm,SNR=1.1							
EPOB				S		**Sn**	**07 30 09.2**	**-3.8**
ELAN	**Lanestosa**	**6.75**	**6**	P		**Pn**	**07 29 07.2**	**+2.9**
ELAN				⇑*iVmb_V*			07 29 08.9	
	comp=N,183nm,SNR=0.8							
ELAN				S		**Sn**	**07 30 18.9**	**-0.7**
EARI	**Arriondas**	**6.80**	**355**	P		**Pn**	**07 29 07.9**	**+2.9**
EARI				⇑*iVmb_V*			07 29 09.7	
	comp=N,298nm,SNR=1.3							
EAGO	**Agolada(Pontev**	**6.87**	**337**	S		**Sn**	**07 30 20.3**	**-2.3**
EALK	**Alkurruntz**	**7.06**	**18**	P		**Pn**	**07 29 12.2**	**+3.6**
EALK				⇑*iVmb_V*			07 29 21.8	
	comp=N,304nm,SNR=1.3							
EALK				S		**Sn**	**07 30 25.4**	**-2.0**
ECHI	**Chisagues Biel**	**7.11**	**29**	P		**Pn**	**07 29 11.0**	**+1.8**
ECHI				⇑*iVmb_V*			07 29 11.9	
	comp=N,118nm,SNR=1.4							
ECHI				S		**Sn**	**07 30 27.4**	**-1.1**
EPON	**Pontenova**	**7.11**	**344**	P		**Pn**	**07 29 11.4**	**+2.2**
EPON				⇑*iVmb_V*			07 29 16.9	
	comp=N,258nm,SNR=1.2							
EPON				S		**Sn**	**07 30 25.2**	**-3.1**

TRN 23 07:35:04.1, 12°.65N×59°.87W, h61km, MD3.8, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCHC	**Barbados, Cave**	**0.53**	**26**	*eP*	Pn	07 35 17.9	+1.4
BCHC				*eS*	Sn	07 35 27.6	+2.1
BBGH	**Gun Hill**	**0.57**	**32**	*eP*	Pn	07 35 18.4	+1.4
BBGH				*eS*	Sn	07 35 27.6	+1.3
SVOC	**Richmond Hill,**	**1.41**	**291**	*eP*	Pn	07 35 28.6	+1.0
SVOC				*eS*	Sn	07 35 46.6	+1.3
SVB	**Belmont**	**1.48**	**295**	*eP*	Pn	07 35 30.0	+1.4
SVB				*eS*	Sn	07 35 49.5	+2.4
GCMP	**Grenada, Carri**	**1.53**	**264**	*eP*	Pn	07 35 30.6	+1.4
GCMP				*eS*	Sn	07 35 50.2	+2.0
SLB	**Belfond**	**1.63**	**316**	*eP*	Pn	07 35 33.4	+2.7
SLB				*eS*	Sn	07 35 53.9	+3.1
SLCP	**Castries, St.**	**1.73**	**321**	*eP*	Pn	07 35 32.6	+0.6
SLCP				*eS*	Sn	07 35 54.4	+1.3
SLBI	**Saint Lucia, B**	**1.73**	**322**	*eP*	Pn	07 35 33.0	+1.0
SLBI				*eS*	Sn	07 35 54.1	+1.0
GRHS	**Sauteurs**	**1.78**	**256**	*eP*	Pn	07 35 33.8	+1.2
GRHS				*eS*	Sn	07 35 55.9	+1.6
GRGR	**Grenville**	**1.82**	**254**	*eP*	Pn	07 35 34.1	+1.0
GRGR				*eS*	Sn	07 35 57.0	+1.8
GRFF	**Grenada Fort F**	**1.92**	**252**	*eP*	Pn	07 35 36.1	+1.5
GRFF				*eS*	Sn	07 35 58.9	+1.2
MPOM	**Morne Pois Mar**	**2.02**	**332**	*eP*	Pn	07 35 36.9	+1.0
MPOM				*eS*	Sn	07 36 00.6	+0.4
MVM	**Montagne Vaucl**	**2.14**	**332**	*eP*	Pn	07 35 36.5	-1.0
LPMF	**Morne Lapointe**	**2.19**	**331**	*eP*	Pn	07 35 39.8	+1.6
BIM	**Bigot**	**2.19**	**328**	*eP*	Pn	07 35 39.8	+1.6
BIM				*eS*	Sn	07 36 04.4	+0.1
ZAM	**Aeronautique**	**2.22**	**330**	*eP*	Pn	07 35 40.0	+1.4
FDF	**Fort de France**	**2.41**	**329**	*eP*	Pn	07 35 43.5	+2.2
GBMF	**Grand Be**	**2.48**	**330**	*eP*	Pn	07 35 44.6	+2.4
BAMF	**Morne Balai**	**2.48**	**330**	*eP*	Pn	07 35 44.2	+1.9
TRN	**Trinidad (W)**	**2.50**	**217**	*eP*	Pn	07 35 44.3	+1.9
TRN				*eS*	Sn	07 36 12.0	+0.3
PCM	**Pelee Case Pet**	**2.51**	**329**	*eP*	Pn	07 35 44.9	+2.3
SVN	**Savane Anatole**	**2.51**	**330**	*eP*	Pn	07 35 44.6	+1.9
CBE	**Ff, Capester**	**3.79**	**334**	*eP*	Pn	07 36 01.6	+1.4
CBE				*eS*	Sn	07 36 43.8	+0.3
ANBD	**Bethesda, Anti**	**4.74**	**337**	*eP*	Pn	07 36 14.7	+1.6
ANBD	**Bethesda, Anti**	**4.74**	**337**	*eS*	Sn	07 37 06.1	-0.6
BAUV	**El Baul**	**8.83**	**246**	*eP*	Pn	07 37 10.0	+0.8
BAUV	**El Baul**	**8.83**	**246**	*eS*	Sn	07 38 43.6	-3.8

*IDC **23** 07:52:02.4±3.9, 17°.98S×178°.45W, h540km±44km, mb3.2/9, mbtmp4.1/10, Error ellipse: s-maj=21.7km s-min=19.5km az=26.0*
*NEIC **23** 07:52:04.3±1.6, 18°.1S±0°.1×178°.4W±0°.1, h559km±13km, mb4.6/24, Error ellipse: s-maj=23.1km s-min=17.1km az=222.0*

ISC 23 07:52:05.3±0.6, 18°.1S±0°.1×178°.47W±0°.09, h579km, n49, σ0s99/52, mb4.5/21, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.64**	**58**	P	**P**	**07 53 59.5**	**-1.2**
NIUE	**Niue**	**8.16**	**98**	P	**P**	**07 54 03.3**	**-2.2**
LIFNC	**LIFOU**	**13.75**	**256**	P	**P**	**07 54 59.8**	**-2.1**
PINNC	**Pines Island,**	**13.96**	**249**	P	**P**	**07 55 02.0**	**-2.0**
DZM	**Mont Dzumac**	**14.72**	**252**	P	**P**	**07 55 11.0**	**-0.6**
DZM	**Mont Dzumac**	**14.72**	**252**	P	**P**	**07 55 11.0**	**-0.6**
	5.3nm,0.5s,baz=97,slow=23,SNR=11						
KOUNC	**Koumac, New Ca**	**16.47**	**259**	P	**P**	**07 55 28.7**	**+0.8**
KOUNC				IAmb	IAmb	07 55 29.7	
	comp=Z,12nm,0.7s						
MXZ	**Matakaoa Point**	**19.64**	**188**	P	**P**	**07 55 54.8**	**-1.7**
URZ	**Urewera**	**20.50**	**190**	P	**P**	**07 56 02.5**	**-1.8**
	comp=Z,4.9nm,0.3s,baz=143,slow=2.4,SNR=14						
	comp=Z,4.9nm,0.3s						
RTZ	**Ruatahuna**	**20.86**	**190**	P	**P**	**07 56 06.4**	**-1.2**
RTZ				IAmb	IAmb	07 56 43.9	
	comp=Z,16nm,1.4s						
MRZ	**Mangatainoka R**	**23.10**	**192**	P	**P**	**07 56 26.4**	**-1.1**
MRZ				IAmb	IAmb	07 56 48.3	
	comp=Z,29nm,1.5s						
TCW	**Tory Channel**	**23.90**	**194**	P	**P**	**07 56 35.4**	**+0.8**
QRZ	**Quartz Range**	**23.98**	**197**	P	**P**	**07 56 35.3**	**0.0**
PLWZ	**Palliser**	**24.04**	**192**	P	**P**	**07 56 34.7**	**-1.2**
THZ	**Tophouse**	**24.75**	**196**	P	**P**	**07 56 41.3**	**-0.9**
THZ				IAmb	IAmb	07 57 00.2	
	comp=Z,29nm,1.5s						
DSZ	**Denniston Nort**	**25.03**	**197**	P	**P**	**07 56 44.2**	**-0.5**
LTZ	**Lake Taylor**	**25.87**	**196**	P	**P**	**07 56 51.2**	**-0.9**
LTZ				IAmb	IAmb	07 56 54.1	
	comp=Z,10.0nm,0.6s						
INZ	**Inchbonnie**	**26.04**	**197**	P	**P**	**07 56 53.1**	**-0.4**
INZ				IAmb	IAmb	07 56 55.0	
	comp=Z,25nm,1.3s						
OXZ	**Oxford**	**26.44**	**196**	P	**P**	**07 56 55.8**	**-1.2**
OXZ				IAmb	IAmb	07 56 56.9	
	comp=Z,14nm,0.6s						
FOZ	**Fox Glacier**	**27.26**	**199**	P	**P**	**07 57 03.9**	**-0.2**
WKZ	**Wanaka**	**28.67**	**199**	P	**P**	**07 57 15.4**	**-1.1**
WHZ	**Wether Hill Ro**	**29.96**	**199**	P	**P**	**07 57 27.4**	**-0.1**
WHZ				IAmb	IAmb	07 57 33.0	
	comp=Z,31nm,1.4s						
TOO	**Toolangi**	**37.03**	**231**	P	**P**	**07 58 27.9**	**+0.8**
COEN	**Coen**	**37.05**	**271**	P	**P**	**07 58 27.8**	**+0.3**
COEN				IAmb	IAmb	07 58 44.6	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**07 58 39.6**	**+0.5**
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**07 58 40.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=77,slow=6.0,SNR=4.7						
	comp=Z,0.6nm,0.3s						
BBOO	**Buckleboo**	**43.28**	**241**	P	**P**	**07 59 16.2**	**-0.7**
BBOO				IAmb	IAmb	07 59 43.7	
	comp=Z,22nm,1.5s						
WB0	**Warramunga Arr**	**44.52**	**260**	P	**P**	**07 59 26.1**	**-0.5**
WB0				IAmb	IAmb	08 00 08.2	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**07 59 26.1**	**-0.8**
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**07 59 26.2**	**-0.6**
	comp=Z,0.6nm,0.2s,baz=91,slow=7.8,SNR=20						
WRA				PcP	**PcP**	**08 00 57.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=93,slow=3.7,SNR=4.8						
	comp=Z,0.6nm,0.2s						
AS31	**Alice Springs**	**44.69**	**254**	P	**P**	**07 59 28.2**	**+0.2**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**07 59 28.2**	**+0.2**
ASAR				PcP	**PcP**	**08 00 57.2**	**-0.6**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**07 59 28.4**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=87,slow=8.4,SNR=44						
ASAR				PcP	**PcP**	**08 00 57.4**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=100,slow=4.0,SNR=8.2						
	comp=Z,2.7nm,0.5s						
FORT	**Forrest**	**49.89**	**245**	P	**P**	**08 00 06.3**	**-0.4**
FORT				IAmb	IAmb	08 00 40.0	
	comp=Z,16nm,1.0s						
VNDA	**Vanda**	**60.29**	**185**	P	**P**	**08 01 19.2**	**+1.0**
VNDA	**Vanda**	**60.29**	**185**	P	**P**	**08 01 20.1**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=11,slow=4.9,SNR=6.4						
	comp=Z,0.8nm,0.5s						
MORW	**Morawa**	**60.37**	**246**	P	**P**	**08 01 20.2**	**+0.7**
JOW	**Kunigami**	**68.27**	**310**	P	**P**	**08 02 09.3**	**-0.2**
QSPA	**South Pole Qui**	**72.00**	**180**	P	**P**	**08 02 32.2**	**+1.2**
	comp=Z,7.3nm,0.8s,baz=27,slow=0.5,SNR=15						
	comp=Z,7.3nm,0.8s						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**08 03 13.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=229,slow=11,SNR=5.7						
	comp=Z,0.4nm,0.6s						
BELA	**Belgrano 2**	**82.02**	**173**	P	**P**	**08 03 25.0**	**-0.1**
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**08 03 47.8**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=219,slow=7.1,SNR=7.3						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**87.50**	**43**	P	**P**	**08 03 52.1**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=226,slow=3.9,SNR=4.0						
	comp=Z,0.4nm,0.7s						
TROLL	**Troll, Antarti**	**90.16**	**180**	⇑P	**P**	**08 04 04.3**	**+0.1**
	comp=Z,110nm,0.5s						
VNA3	**Neumayer Olymp**	**90.59**	**176**	⇑P	**P**	**08 04 06.3**	**+0.2**
	comp=Z,5.5nm,0.6s						
VNA2	**Neumayer--Watz**	**91.03**	**177**	⇑P	**P**	**08 04 09.0**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=160,slow=6.0						
VNA1	**Neumayer--Stat**	**91.26**	**177**	⇑P	**P**	**08 04 10.0**	**+0.9**
	comp=Z,8.3nm,0.7s						
BRTR	**Keskin Array B**	**144.85**	**315**	PKP	**PKPdf**	**08 10 37.8**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=109,slow=3.5,SNR=4.2						
GERES	**GERESS Array B**	**147.74**	**345**	PKPbc	**PKPbc**	**08 10 45.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=0.0,slow=5.2,SNR=3.2						

*DJA **23** 07:56:11.9±0.5, 7°.5S±3°×10°.6E±°, h32km±8km, M4.9/16, mb5.1/6, mB5.5/1, MLv4.8/16, Mw(mB)5.0/1*
*IDC **23** 07:56:13.7±4.3, 6°.80S×106°.13E, h72km±35km, mb3.8/12, mbtmp4.1/12, Error ellipse: s-maj=58.5km s-min=14.2km az=56.0*

ISC 23 07:56:12.0±1.3, 7°.15S±0°.08×106°.07E±0°.07, h59km±11km, n51, σ1s49/44, mb4.0/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.50**	**74**	P	**Pn**	**07 56 22.7**	**-1.1**
DBJI	**Dramaga**	**0.89**	**49**	P	**Pn**	**07 56 28.6**	**0.0**
DBJI				S	**Sn**	**07 56 41.1**	**+0.2**
SBJI	**Serang**	**1.02**	**3**	P	**Pn**	**07 56 30.5**	**+0.2**
SBJI				S	**Sn**	**07 56 44.4**	**+0.6**
CBJI	**Citeko**	**1.06**	**47**	P	**Pn**	**07 56 29.5**	**-1.2**
CNJI	**Cibinong**	**1.06**	**99**	P	**Pn**	**07 56 29.9**	**-0.9**
CNJI				S	**Sn**	**07 56 42.9**	**-1.8**
TNG	**Tangerang**	**1.12**	**30**	P	**Pn**	**07 56 31.9**	**+0.3**
TNG				S	**Sn**	**07 56 47.0**	**+0.8**
LEM	**Lembang**	**1.56**	**78**	P	**Pn**	**07 56 38.4**	**+0.7**
	2μm,0.4s,baz=302,slow=7.4,SNR=126						
LEM				S	**Sn**	**07 57 01.9**	**+4.8**
	2μm,0.5s,baz=167,slow=23,SNR=7.5						
LEM	**Lembang**	**1.56**	**78**	P	**Pn**	**07 56 38.1**	**+0.4**
BBJI	**Bungbulang**	**1.59**	**101**	P	**Pn**	**07 56 37.7**	**-0.3**
BBJI				S	**Sn**	**07 56 56.0**	**-1.6**
BLSI	**Bandar Lampung**	**1.95**	**335**	P	**Pn**	**07 56 43.6**	**+0.8**
KASI	**Kota Agung**	**2.25**	**316**	P	**Pn**	**07 56 48.2**	**+1.4**
JCJI	**Jatiwangi**	**2.28**	**74**	P	**Pn**	**07 56 46.7**	**-0.5**
CMJI	**Cimerak**	**2.44**	**105**	P	**Pn**	**07 56 48.9**	**-0.5**
KPJI	**Karang Pucung**	**2.84**	**94**	P	**Pn**	**07 56 56.1**	**+1.2**
LWLI	**Liwa**	**2.91**	**316**	P	**Pn**	**07 56 58.0**	**+2.0**
LHSI	**Lahat**	**4.16**	**322**	P	Pn	07 57 15.1	+2.1
EGSI	**Enggano, Bengk**	**4.17**	**295**	P	**Pn**	**07 57 15.0**	**+1.8**
YOGI	**Yogyakarta**	**4.24**	**99**	P	**Pn**	**07 57 13.7**	**-0.4**
SMRI	**Semarang**	**4.33**	**89**	P	**Pn**	**07 57 15.1**	**-0.3**
PMBI	**Palembang**	**4.39**	**343**	P	**Pn**	**07 57 17.6**	**+1.5**
UGM	**Yanagama**	**4.48**	**100**	P	**Pn**	**07 57 17.6**	**+0.2**
UBSI	**University, Be**	**5.06**	**311**	P	**Pn**	**07 57 26.6**	**+1.2**
	471nm,1.6s,2.6nm						
SJI	**Sawahan**	**5.68**	**96**	P	**Pn**	**07 57 33.9**	**0.0**
	84nm,0.6s,5μm1.4nm						
DSRI	**Dabo**	**6.79**	**347**	P	**Pn**	**07 57 50.7**	**+1.7**
	29nm,0.5s,0.2nm						
PPSI	**Pulau Pagai**	**7.45**	**305**	P	**Pn**	**07 57 58.0**	**0.0**
	287nm,0.5s,1.7nm						
JAGI	**Jajag, Banyuwa**	**8.11**	**100**	P	**Pn**	**07 58 07.9**	**+0.7**
H01W3	**Cape Leeuwin H**	**28.59**	**166**	T	T	08 31 41.3	
	baz=345,slow=76,SNR=36						
H01W1	**Cape Leeuwin H**	**28.60**	**166**	T	T	08 31 40.2	
	baz=345,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**28.60**	**166**	T	T	08 31 41.4	
	baz=345,slow=76,SNR=6.5						
WRA	**Warramunga Arr**	**30.22**	**118**	P	**P**	**08 02 18.5**	**+1.2**
	1.1nm,0.4s,baz=302,slow=8.9,SNR=14						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**31.36**	**125**	P	**P**	**08 02 28.6**	**+1.3**
	0.8nm,0.3s,baz=302,slow=8.2,SNR=22						
	0.8nm,0.3s						
H08S2	**Diego Garcia H**	**33.30**	**267**	T	T	08 38 15.5	
	baz=91,slow=76,SNR=62						
H08S3	**Diego Garcia H**	**33.31**	**267**	T	T	08 38 16.7	
	baz=91,slow=76,SNR=94						
H08S1	**Diego Garcia H**	**33.32**	**267**	T	T	08 38 17.4	
	baz=91,slow=76,SNR=75						
STKA	**Stephens Creek**	**41.23**	**131**	P	**P**	**08 03 53.5**	**+2.1**
	5.9nm,0.4s,baz=314,slow=7.5,SNR=52						
	5.9nm,0.4s						
SONM	**Songino Array**	**54.74**	**0**	P	**P**	**08 05 34.3**	**-1.2**
	0.6nm,0.3s,baz=172,slow=7.0,SNR=2.9						
SONM				PcP	**PcP**	**08 06 37.2**	**-0.3**
	0.8nm,0.4s,baz=179,slow=4.3,SNR=3.0						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**57.72**	**341**	P	**P**	**08 05 54.5**	**-2.1**
	1.3nm,0.5s,baz=148,slow=8.2,SNR=17						
	1.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.55**	**220**	T	T	09 12 25.1	
	baz=68,SNR=115						
H04N1	**CROZET ISLANDS**	**60.57**	**220**	T	T	09 12 26.8	
	baz=68						
H04N3	**CROZET ISLANDS**	**60.57**	**220**	T	T	09 12 24.5	
	baz=68						
H04S1	**CROZET ISLANDS**	**60.74**	**220**	T	T	09 12 34.5	
	baz=67,slow=76,SNR=18						
H04S3	**CROZET ISLANDS**	**60.76**	**220**	T	T	09 12 34.2	
	baz=67,slow=76,SNR=9.8						
H04S2	**CROZET ISLANDS**	**60.76**	**220**	T	T	09 12 35.8	
	baz=67,slow=76,SNR=11						
KURBB	**Kurchatov Arra**	**62.28**	**341**	P	**P**	**08 06 25.7**	**-2.1**
	0.6nm,0.5s,baz=151,slow=6.4,SNR=8.1						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**63.45**	**346**	P	**P**	**08 06 32.8**	**-2.7**
	0.6nm,0.4s,baz=166,slow=7.2,SNR=3.9						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**67.15**	**338**	P	**P**	**08 06 57.9**	**-1.6**
	1.0nm,0.4s,baz=133,slow=8.5,SNR=11						
	1.0nm,0.4s						
AKTO	**Aktyubinsk**	**70.78**	**330**	P	**P**	**08 07 20.8**	**-1.3**
	1.2nm,0.6s,baz=114,slow=7.6,SNR=4.3						
	1.2nm,0.6s						
VNDA	**Vanda**	**76.00**	**169**	P	**P**	**08 07 54.4**	**+2.1**
	1.8nm,0.9s,baz=331,slow=6.0,SNR=2.4						
	1.8nm,0.9s						
BRTR	**Keskin Array B**	**81.24**	**312**	P	**P**	**08 08 21.8**	**-0.3**
	1.4nm,0.6s,baz=134,slow=7.3,SNR=7.0						
	1.4nm,0.6s						
AKASG	**Malin Array Be**	**87.24**	**322**	P	**P**	**08 08 51.4**	**-0.6**
	0.5nm,0.6s,baz=87,slow=4.2,SNR=2.3						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**144.35**	**48**	PKP	PKPbc	08 15 41.4	+0.6
	0.2nm,0.5s,baz=221,slow=1.2,SNR=4.5						

*IDC **23** 07:58:49.1±6.8, 6°.98S×105°.75E, h45km±58km, mb3.7/8, mbtmp3.9/8, MS4.0/2, Error ellipse: s-maj=56.8km s-min=19.0km az=55.0*
*DJA **23** 07:58:50.7±0.6, 7°.5S±3°×10°.6E±°, h27km±5km, M4.3/11, MLv4.3/11*

ISC 23 07:58:48.4±3.3, 7°.2S±0°.1×105°.9E±0°.2, h40km±27km, n36, σ1s90/27, mb3.9/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.71**	**72**	P	**Pn**	**07 59 01.7**	**-0.2**
SKJI				S	**Sn**	**07 59 10.0**	**-1.7**
DBJI	**Dramaga**	**1.09**	**52**	P	**Pn**	**07 59 07.7**	**+0.5**
DBJI				S	**Sn**	**07 59 20.3**	**-0.9**
SBJI	**Serang**	**1.13**	**13**	P	**Pn**	**07 59 09.6**	**+1.9**
CNJI	**Cibinong**	**1.24**	**94**	P	**Pn**	**07 59 08.8**	**-0.5**
CNJI				S	**Sn**	**07 59 21.7**	**-3.2**
CBJI	**Citeko**	**1.25**	**50**	P	**Pn**	**07 59 08.6**	**-0.8**
TNG	**Tangerang**	**1.29**	**36**	P	**Pn**	**07 59 10.9**	**+0.9**
TNG				S	**Sn**	**07 59 26.1**	**0.0**
LEM	**Lembang**	**1.77**	**77**	P	**Pn**	**07 59 18.9**	**+2.2**
	644nm,0.4s,baz=59,slow=21,SNR=4.5						
LEM				S	**Sn**	**07 59 41.1**	**+3.0**
	893nm,0.7s,baz=349,slow=23,SNR=4.2						
LEM	**Lembang**	**1.77**	**77**	P	**Pn**	**07 59 18.2**	**+1.5**
BBJI	**Bungbulang**	**1.77**	**98**	P	**Pn**	**07 59 16.6**	**0.0**
BBJI				S	**Sn**	**07 59 35.1**	**-2.9**
KASI	**Kota Agung**	**2.18**	**321**	P	Pn	07 59 27.3	+5.2
CMJI	**Cimerak**	**2.61**	**102**	P	**Pn**	**07 59 28.3**	**+0.3**
KPJI	**Karang Pucung**	**3.03**	**92**	P	**Pn**	**07 59 35.5**	**+1.7**
EGSI	**Enggano, Bengk**	**4.04**	**297**	P	Pn	07 59 54.3	+6.6
NWAO	**Narrogin (SRO)**	**27.66**	**159**	LR	LR	08 14 12.9	
	comp=Z,109nm,20.5s,baz=3.5,slow=33						
H01W3	**Cape Leeuwin H**	**28.56**	**166**	T	T	08 35 13.2	
	baz=345						
H01W1	**Cape Leeuwin H**	**28.57**	**166**	T	T	08 35 13.7	
	baz=345						
H01W2	**Cape Leeuwin H**	**28.57**	**166**	T	T	08 35 14.0	
	baz=345,SNR=8.1						
WRA	**Warramunga Arr**	**30.35**	**117**	P	**P**	**08 04 58.0**	**+1.4**
	0.4nm,0.4s,baz=303,slow=9.5,SNR=4.8						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**31.47**	**124**	P	**P**	**08 05 10.0**	**+3.5**
	0.3nm,0.3s,baz=302,slow=8.3,SNR=2.8						
	0.3nm,0.3s						
H08S2	**Diego Garcia H**	**33.10**	**267**	T	T	08 40 52.3	
	baz=90,slow=74,SNR=31						
H08S3	**Diego Garcia H**	**33.11**	**267**	T	T	08 40 53.5	
	baz=90,slow=74,SNR=30						
H08S1	**Diego Carcia H**	**33.12**	**267**	T	T	08 40 55.4	
	baz=90						
STKA	**Stephens Creek**	**41.32**	**131**	P	**P**	**08 06 32.4**	**+2.0**
	0.9nm,0.4s,baz=314,slow=6.5,SNR=4.9						
	0.9nm,0.4s						
SONM	**Songino Array**	**54.82**	**0**	P	**P**	**08 08 13.0**	**-1.5**
	0.4nm,0.4s,baz=165,slow=6.0,SNR=1.9						
SONM				PcP	**PcP**	**08 09 16.3**	**-0.2**
	0.6nm,0.4s,baz=167,slow=4.4,SNR=3.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.73**	**341**	P	**P**	**08 08 33.7**	**-1.5**
	1.0nm,0.5s,baz=150,slow=8.4,SNR=12						
	1.0nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.37**	**220**	T	T	09 15 03.9	
	baz=67,slow=75,SNR=47						
H04N1	**CROZET ISLANDS**	**60.38**	**220**	T	T	09 15 04.4	
	baz=67,slow=75,SNR=152						
H04N3	**CROZET ISLANDS**	**60.39**	**220**	T	T	09 15 03.2	
	baz=67,slow=75,SNR=171						
H04S1	**CROZET ISLANDS**	**60.56**	**220**	T	T	09 15 15.0	
	baz=66,slow=74,SNR=13						
H04S3	**CROZET ISLANDS**	**60.57**	**220**	T	T	09 15 13.8	
	baz=66,slow=74,SNR=4.2						
H04S2	**CROZET ISLANDS**	**60.58**	**220**	T	T	09 15 15.0	
	baz=66						
KURBB	**Kurchatov Arra**	**62.29**	**341**	P	**P**	**08 09 04.3**	**-2.0**
	0.8nm,0.2s,baz=154,slow=6.8,SNR=5.7						
	0.8nm,0.2s						
ZALV	**Zalesovo Beam**	**63.48**	**346**	P	**P**	**08 09 13.

baz=61,slow=13,SNR=2.7
2.1nm,0.2s

MKAR	**Makanchi Array**	**7.63**	**205**	Pn	Pn	09 06 43.4	+0.8
	0.1nm,0.3s,baz=19,slow=11,SNR=2.2						
	0.1nm,0.2s						

IDC ***23*** *09:05:03.7±5.6, 43.˚56N×126.˚86W, h0km, mb2.5/1, mbtmp2.9/3, ML3.3/2, Error ellipse: s-maj=81.4km s-min=31.1km az=66.0*

NEIC ***23*** *09:05:04.0±1.7, 43.˚41N±0.˚07×127.˚12W±0.˚09, h10km±2km, mb4.0/14, ML3.2/72, Error ellipse: s-maj=14.5km s-min=8.0km az=222.0*

ISC 23 09:05:04.1±1.2, 43.˚40N±0.˚07×127.˚2W±0.˚1, h14km, n85, σ0s89/85, mb4.0/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.13**	**103**	Pn	**Pn**	**09 05 37.6**	**-1.7**
KEBM				IAML		09 06 07.2	
	comp=E,124nm,3.1s						
KEBM				IAML		09 06 08.7	
	comp=N,107nm,2.1s						
J01E	**Myrtle Point**	**2.37**	**95**	Pn	**Pn**	**09 05 41.0**	**-1.5**
J01E				IAML		09 06 29.3	
	comp=E,88nm,2.7s						
K02D	**Willamette Mer**	**2.65**	**104**	Pn	**Pn**	**09 05 45.1**	**-1.5**
I03D	**Drain, OR**	**2.78**	**83**		**Pn**	**09 05 47.3**	**-0.9**
DBO	**Dodson Butte**	**2.87**	**94**		**Pn**	**09 05 48.6**	**-0.9**
KSXB	**Camp Six Broad**	**2.88**	**122**	Pn	**Pn**	**09 05 49.0**	**-0.7**
L02F	**Cave Junction**	**2.93**	**115**	Pn	**Pn**	**09 05 50.3**	**0.0**
COR	**Corvallis**	**3.02**	**66**	Pn	**Pn**	**09 05 51.4**	**-0.1**
COR				IAML		09 06 10.9	
	comp=E,64nm,2.9s						
COR				IAML		09 06 44.2	
	comp=E,54nm,2.2s						
HEBO	**Mount Hebo**	**3.04**	**52**	Pn	**Pn**	**09 05 51.0**	**-0.7**
BUCK	**Buck Mountain**	**3.12**	**74**		**Pn**	**09 05 53.0**	**0.0**
BUCK				IAML		09 07 15.6	
	comp=E,94nm,4.8s						
BUCK				IAML		09 07 30.1	
	comp=N,64nm,3.7s						
HUMO	**Hull Mountain**	**3.18**	**103**		**Pn**	**09 05 52.8**	**-0.9**
G03D	**McMinnville, O**	**3.33**	**56**		**Pn**	**09 05 55.2**	**-0.4**
G03D				IAML		09 06 42.3	
	comp=E,56nm,2.2s						
G03D				IAML		09 07 55.7	
	comp=N,62nm,3.0s						
H04D	**Lebanon**	**3.38**	**69**		**Pn**	**09 05 56.7**	**+0.3**
H04D				IAML		09 06 25.1	
	comp=N,48nm,2.5s						
H04D				IAML		09 06 53.4	
	comp=E,57nm,3.3s						
I04A	**Tendick Farm,**	**3.47**	**82**		**Pn**	**09 05 58.0**	**+0.4**
F03A	**Seaside**	**3.60**	**44**		**Pn**	**09 05 59.3**	**-0.1**
YBH	**Yreka Blue Hor**	**3.68**	**115**	Pn	**Pn**	**09 06 01.3**	**+0.6**
L04D	**Klamath Falls**	**3.76**	**107**	Pn	**Pn**	**09 06 02.9**	**+1.1**
L04D				IAML		09 06 42.8	
	comp=N,34nm,4.3s						
L04D				IAML		09 06 53.7	
	comp=E,45nm,4.6s						
H04A	**Detroit Lake**	**3.80**	**69**		**Pn**	**09 06 02.9**	**+0.6**
H04A				IAML		09 06 27.9	
	comp=N,23nm,0.5s						
H04A				IAML		09 06 27.9	
	comp=E,24nm,0.4s						
RADR	**Rader Ridge**	**3.84**	**37**	Pn	**Pn**	**09 06 02.4**	**-0.5**
F04D	**Rainier, OR**	**3.99**	**46**		**Pn**	**09 06 04.8**	**0.0**
E03A	**Lebam**	**4.04**	**38**		**Pn**	**09 06 05.0**	**-0.5**
F04A	**Amboy**	**4.22**	**52**		**Pn**	**09 06 08.5**	**+0.5**
F04A				IAML		09 07 02.4	
	comp=N,38nm,0.7s						
F04A				IAML		09 07 06.6	
	comp=E,40nm,0.9s						
I05D	**Terrebonne, OR**	**4.31**	**75**		**Pn**	**09 06 09.6**	**+0.3**
I05D				IAML		09 07 49.7	
	comp=E,39nm,4.8s						
I05D				IAML		09 08 58.6	
	comp=N,40nm,4.9s						
J05D	**Fort Rock, OR**	**4.32**	**90**		**Pn**	**09 06 09.1**	**-0.4**
J05D				IAML		09 07 27.3	
	comp=E,23nm,4.7s						
J05D				IAML		09 08 33.3	
	comp=N,36nm,4.9s						
HOOD	**Mount Hood Mea**	**4.39**	**62**		**Pn**	**09 06 11.2**	**+0.9**
HOOD				IAML		09 06 47.6	
	comp=E,39nm,2.9s						
HOOD				IAML		09 06 56.6	
	comp=N,33nm,4.7s						
WISH	**Wishkah**	**4.42**	**32**	Pn	**Pn**	**09 06 11.4**	**+0.8**
PINE	**Pine Mountain**	**4.53**	**83**		**Pn**	**09 06 12.6**	**+0.2**
PINE				IAML		09 08 17.6	
	comp=E,29nm,4.7s						
PINE				IAML		09 08 17.8	
	comp=N,23nm,4.9s						
G05A	**Wamic**	**4.57**	**64**		**Pn**	**09 06 12.9**	**+0.1**
NLWA	**Neilton Lookou**	**4.61**	**29**	Pn	**Pn**	**09 06 13.4**	**+0.1**
K05A	**Summer Lake**	**4.64**	**96**	Pn	**Pn**	**09 06 14.3**	**+0.4**
K05A				IAML		09 07 22.5	
	comp=N,24nm,4.8s						
K05A				IAML		09 08 15.7	
	comp=E,25nm,4.9s						
G06A	**Carlson Farm,**	**5.02**	**66**		**Pn**	**09 06 19.7**	**+0.6**
G06A				IAML		09 06 55.9	
	comp=E,16nm,4.8s						
G06A				IAML		09 08 12.8	
	comp=N,17nm,4.4s						
LON	**Longmire**	**5.05**	**47**		**Pn**	**09 06 20.5**	**+1.0**
LON				IAML		09 07 21.0	
	comp=N,14nm,1.6s						
LON				IAML		09 07 27.9	
	comp=E,11nm,3.0s						
GNW	**Green Mountain**	**5.16**	**35**	Pn	**Pn**	**09 06 20.6**	**-0.2**
GNW				IAML		09 07 37.1	
	comp=N,16nm,4.7s						
GNW				IAML		09 09 36.9	
	comp=E,23nm,4.6s						
D05A	**Enumclaw**	**5.25**	**42**		**Pn**	**09 06 23.3**	**+1.1**
I07A	**Izee**	**5.58**	**80**		**Pn**	**09 06 27.3**	**+0.5**
F07A	**Phinny Hill Vi**	**5.72**	**62**		**Pn**	**09 06 28.1**	**-0.5**
MXC	**Moxie City**	**5.81**	**55**		**Pn**	**09 06 30.8**	**+1.0**
CLRS	**Cowichan Lake**	**5.81**	**20**	Pn	**Pn**	**09 06 29.1**	**-0.7**
PGC	**Sidney**	**5.85**	**25**	Pn	**Pn**	**09 06 30.3**	**0.0**
LTY	**Liberty**	**5.98**	**48**		**Pn**	**09 06 33.2**	**+1.1**
E07A	**Sunnyside**	**6.06**	**56**		**Pn**	**09 06 33.3**	**0.0**
G08A	**Pilot Rock**	**6.17**	**69**	Pn	**Pn**	**09 06 35.3**	**+0.4**
HAWA	**Hanford**	**6.18**	**58**	Pn	**Pn**	**09 06 36.0**	**+1.0**
PLTX	**Planet X, Gerl**	**6.32**	**113**	Pn	**Pn**	**09 06 35.9**	**-1.1**
J08A	**Circle Bar Ran**	**6.33**	**87**	Pn	**Pn**	**09 06 38.1**	**+1.1**
WVOR	**Wild Horse Val**	**6.33**	**96**	Pn	**Pn**	**09 06 35.8**	**-1.2**
B06A	**Marblemount**	**6.46**	**36**		**Pn**	**09 06 37.7**	**-1.0**
E08A	**Dider Farm, El**	**6.52**	**59**		**Pn**	**09 06 38.2**	**-1.3**
D08A	**Wollman Farm,**	**6.87**	**55**	Pn	**Pn**	**09 06 43.5**	**-0.8**
PAHR	**Pah Rah Range**	**6.90**	**120**	Pn	**Pn**	**09 06 44.8**	**-0.2**
EMB	**Emerald Bay**	**6.92**	**127**	Pn	**Pn**	**09 06 45.5**	**+0.3**
E09A	**Wood Farm, Sta**	**7.11**	**61**	Pn	**Pn**	**09 06 46.8**	**-0.8**
PNTR	**Pine Nut**	**7.14**	**125**	Pn	**Pn**	**09 06 48.8**	**+0.6**
BMO	**Blue Mountains**	**7.23**	**75**	Pn	**Pn**	**09 06 49.6**	**+0.2**
YERR	**Yerington**	**7.42**	**124**	Pn	**Pn**	**09 06 54.7**	**+2.6**
CMB	**Columbia Colle**	**7.43**	**134**	Pn	**Pn**	**09 06 53.8**	**+1.7**
F10A	**Beach Ranch, E**	**7.53**	**67**		**Pn**	**09 06 53.2**	**-0.3**
C09A	**Chrisman Ranch**	**7.62**	**52**	Pn	**Pn**	**09 06 55.2**	**+0.5**
PLID	**Pearl Lake**	**8.18**	**74**	Pn	**Pn**	**09 07 04.0**	**+1.4**
BBGB	**Big Mountain B**	**8.27**	**143**	Pn	**Pn**	**09 07 02.9**	**-0.9**
NVAR	**Mina Array Bea**	**8.34**	**124**	Pn	**Pn**	**09 07 06.7**	**+1.9**
	comp=E,0.1nm,0.3s,baz=302,slow=14,SNR=3.0						
	comp=E,0.3nm,0.7s						
MDPB	**Devils Postpil**	**8.43**	**130**	Pn	**Pn**	**09 07 05.3**	**-0.7**
NEW	**Newport**	**8.52**	**52**		**Pn**	**09 07 06.2**	**-0.8**
MSO	**Missoula**	**9.95**	**65**	Pn	**Pn**	**09 07 26.0**	**-0.7**
YHL	**Hebgen Lake**	**11.57**	**77**	Pn	**Pn**	**09 07 51.2**	**+2.1**
YHH	**Holmes Hill**	**11.81**	**78**	Pn	**Pn**	**09 07 52.9**	**+0.6**
PDAR	**Pinedale Array**	**12.88**	**87**	Pn	**Pn**	**09 08 09.8**	**+2.8**
	comp=E,0.1nm,0.3s,baz=279,slow=8.1,SNR=4.4						
	comp=E,0.9nm,1.0s						
N32M	**Quiet Lake**	**18.13**	**351**	P	**P**	**09 09 15.3**	**-0.3**
O30N	**Mendenhall**	**18.21**	**346**	P	**P**	**09 09 16.3**	**-0.1**
BCPM	**Bancas Point**	**18.23**	**340**	P	**P**	**09 09 16.8**	**+0.1**
FFC	**Flin Flon**	**19.89**	**46**	P	**P**	**09 09 35.3**	**+0.5**
YKAB2	**New Yellowknif**	**20.43**	**17**	P	**P**	**09 09 40.0**	**-0.7**
YKA	**Yellowknife Ar**	**20.49**	**17**	P	**P**	**09 09 40.5**	**-0.7**
	comp=E,0.1nm,0.6s,baz=202,slow=10.0,SNR=4.6						
	comp=E,0.1nm,0.6s						
BCAR	**Beaver Creek A**	**21.45**	**342**	P	**P**	**09 09 51.1**	**-0.7**

ECSD	**EROS Data Cent**	**22.07**	**79**	P	**P**	**09 09 58.2**	**-0.3**
ECSD				IAmb	IAmb	09 10 01.6	
	comp=Z,5.6nm,1.2s						
H29M	**Whitestone**	**23.68**	**349**	P	**P**	**09 10 15.2**	**+0.2**
H29M				IAmb	IAmb	09 10 16.4	
	comp=Z,6.1nm,1.2s						
G29M	**Pine Creek**	**24.29**	**350**	P	**P**	**09 10 20.9**	**+0.2**
G29M				IAmb	IAmb	09 10 22.4	
	comp=Z,8.3nm,1.4s						
F31M	**Tsiigehtchic**	**24.35**	**354**	P	**P**	**09 10 21.6**	**+0.4**
L18K	**Granite Mounta**	**25.58**	**328**	P	**P**	**09 10 32.8**	**+0.4**
J20K	**Nowinta River**	**25.85**	**333**	P	**P**	**09 10 35.0**	**+0.3**
J20K				IAmb	IAmb	09 10 56.8	
	comp=Z,4.2nm,1.4s						
IMAR	**Indian Mountai**	**26.94**	**336**	P	**P**	**09 10 44.6**	**0.0**
D19K	**Kuna River**	**29.90**	**338**	P	**P**	**09 11 11.5**	**+0.4**
D19K				IAmb	IAmb	09 11 21.4	
	comp=Z,6.6nm,1.4s						
C19K	**Lookout Ridge**	**30.71**	**338**	P	**P**	**09 11 18.8**	**+0.6**
C19K				IAmb	IAmb	09 11 28.0	
	comp=Z,3.9nm,1.4s						
C18K	**Utukok River**	**30.87**	**336**	P	**P**	**09 11 19.9**	**+0.2**
C18K				IAmb	IAmb	09 11 25.7	
	comp=Z,2.4nm,1.2s						
C16K	**Lisburne Hills**	**31.93**	**334**	P	**P**	**09 11 28.9**	**+0.1**
C16K				IAmb	IAmb	09 11 30.1	
	comp=Z,2.4nm,1.0s						

DJA 23 09:15:08.8±0.5, 7˚S±3˚×107˚6E±˚, h37km±10km, M4.2/13, mb4.3/1, MLv4.1/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.52**	**63**	P	Pn	09 15 19.6	-0.1
DBJI	**Dramaga**	**0.94**	**44**	P	Pn	09 15 25.7	+0.1
DBJI				S	Sn	09 15 38.2	+0.3
CNJI	**Cibinong**	**1.03**	**94**	P	Pn	09 15 27.0	+0.3
CNJI				S	Sn	09 15 40.3	+0.4
CBJI	**Citeko**	**1.11**	**43**	P	Pn	09 15 26.4	-1.4
SBJI	**Serang**	**1.11**	**2**	P	Pn	09 15 27.3	-0.5
TNG	**Tangerang**	**1.20**	**28**	P	Pn	09 15 29.0	0.0
TNG				S	Sn	09 15 44.0	0.0
BBJI	**Bungbulang**	**1.56**	**98**	P	Pn	09 15 34.7	+0.6
BBJI				S	Sn	09 15 53.7	+0.6
LEM	**Lembang**	**1.57**	**75**	P	Pn	09 15 36.2	+1.9
KASI	**Kota Agung**	**2.33**	**317**	P	Pn	09 15 45.0	+0.5
KASI				S	Sn	09 16 11.2	-0.7
CMJI	**Cimerak**	**2.40**	**103**	P	Pn	09 15 46.2	+0.7
CMJI				S	Sn	09 16 13.3	-0.4
KPJI	**Karang Pucung**	**2.82**	**92**	P	Pn	09 15 53.7	+2.4
LWLI	**Liwa**	**2.99**	**317**	P	Pn	09 15 55.5	+1.7
EGSI	**Enggano, Bengk**	**4.23**	**296**	P	Pn	09 16 11.7	+1.0
EGSI				S	Sn	09 16 55.6	-3.3
UGM	**Wanagama**	**4.45**	**99**	P	Pn	09 16 14.5	+0.8
UGM				S	Sn	09 17 04.8	+0.5
JAGI	**Jajag, Banyuwa**	**8.08**	**99**	P	Pn	09 17 05.0	+1.3

BJI ***23*** *09:31:37.6±0.0, 56.˚00N×149.˚10W, h10km, mb6.9/68, mB7.6/80, Ms8.2/99, Ms7 8.0/96*

MOS ***23*** *09:31:38.8±1.0, 55.˚93N×149.˚13W, h10km, mb7.1/70, MS7.7/92, Error ellipse: s-maj=7.3km s-min=3.7km az=101.5 Broadband fault plane solution: P waves. NP1:ϕs71.00000°, δ86.00000°, λ11.00000°. NP2: ϕs340.00000°, δ79.00000°, λ176.00000°. Principal axes: T Plg10.0000°, Azm296.0000°; N Plg78.0000°, Azm90.0000°; P Plg5.0000°, Azm205.0000°;*

IDC ***23*** *09:31:39.4±0.3, 55.˚96N×149.˚19W, h0km, mb6.1/56, mbtmp6.1/62, ML5.6/6, MS7.6/89 Error ellipse: s-maj=8.8km s-min=5.6km az=21.0*

IPGP ***23*** *09:31:40.0, 56.˚06N×149.˚10W, h17km, Mw8.0, Fault plane solution: NP1:ϕs163.00000°, δ67.00000°, λ161.00000°. NP2:ϕs261.00000°, δ72.00000°, λ24.00000°.*

NEIC ***23*** *09:31:40.9±1.6, 56.˚00N±0.˚06×149.˚17W±0.˚09, h14km±2km, mb7.0/395, ML7.4/44, Ms_20 7.8/978, Mwc7.9/150, Mww7.9/81, ML7.0(AEIC), Error ellipse: s-maj=8.8km s-min=7.0km az=189.0*

NEIC ***23*** *09:31:42.4, 56.˚01N×149.˚16W, h36km, Moment Tensor Solution. Duration: 47s3 Moment tensor: Scale 10^20 Nm; Mrr2.04; Mθθ-4.88; Mφφ2.84; Mrθ-0.45; Mθφ8.06; Mφr-2.34; Fault plane solution: M0 9.34000×10^20 NP1: ϕs165.59000°, δ79.98000°, λ163.65000°. NP2: ϕs258.51000°, δ73.90000°, λ10.43000°. Principal axes: T 8.6652, Plg19.0000°, Azm121.0000°; N 1.3566, Plg71.0000°, Azm315.0000°; P -10.0218, Plg4.0000°, Azm213.0000°;*

NEIC ***23*** *09:31:42.2, 55.˚97N×149.˚17W, h25km*

NEIC ***23*** *09:31:42.4, 56.˚01N×149.˚16W, h36km*

AEIC ***23*** *09:31:43.3±2.7, 55.˚91N±0.˚06×149.˚05W±0.˚09, h10km±2km, Error ellipse: s-maj=8.8km s-min=7.2km az=187.0*

GCMT ***23*** *09:32:03.9±0.1, 56.˚22N×149.˚12W, h34km, MW7.9/173, Moment Tensor Solution. s170,c434; s173,c900; Duration: 22s3 Moment tensor: Scale 10^21 Nm; Mrr0.24±.00; Mθθ-0.48±.00; Mφφ0.25±.00; Mrθ0.19±.01; Mθφ0.79±.00; Mφr-0.36±.01; Best double couple: M0 0.96000×10^21 NP1:ϕs165.00000°, δ86.00000°, λ154.00000°. NP2:ϕs257.00000°, δ64.00000°, λ4.00000°. Principal axes: T 0.8320, Plg21.0000°, Azm118.0000°; N 0.2580, Plg64.0000°, Azm338.0000°; P -1.0880, Plg15.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*

NEIC ***23*** *09:32:20.6, 56.˚59N×149.˚23W, h32km, Moment Tensor Solution. Duration: 51s5 Moment tensor: Scale 10^21 Nm; Mrr0.29; Mθθ-0.52; Mφφ0.23; Mrθ-0.12; Mθφ0.84; Mφr-0.32; Fault plane solution: M0 1.00000×10^21 NP1: ϕs261.04000°, δ68.78000°, λ17.59000°. NP2: ϕs164.49000°, δ73.64000°, λ157.84000°. Principal axes: T 0.9419, Plg27.0000°, Azm122.0000°; N 0.1243, Plg63.0000°, Azm310.0000°; P -1.0662, Plg3.0000°, Azm214.0000°;*

ISC 23 09:31:40.9±0.3, 55.˚93N±0.˚02×149.˚19W±0.˚02, h9km±1km, h10km:pP-P, n3267, σ2s15/4122, mb6.9/491, MS7.8/673, 214C-141D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.61**	**301**		**Pn**	**09 32 20.4**	**-2.7**
OHAK					**Sn**	**09 32 51.8**	**-3.2**
OHAK	**Old Harbor**	**2.61**	**301**	P	**Pn**	**09 32 21.8**	**-1.4**
OHAK	**Old Harbor**	**2.61**	**301**	P	**Pn**	**09 32 20.5**	**-2.7**
	baz=118,SNR=1000						
KDAK	**Kodiak Island**	**2.63**	**316**		**Pn**	**09 32 21.3**	**-2.1**
KDAK					**Sn**	**09 32 52.4**	**-3.1**
KDAK	**Kodiak Island**	**2.63**	**316**	P	**Pn**	**09 32 21.5**	**-2.0**
	baz=133						
KDAK	**Kodiak Island**	**2.63**	**316**	⇑P	**Pn**	**09 32 20.9**	**-2.5**
KDAK	**Kodiak Island**	**2.63**	**316**	*i*P	**Pn**	**09 32 21.0**	**-2.5**
KDAK	**Kodiak Island**	**2.63**	**316**	Pn	**Pn**	**09 32 20.8**	**-2.6**
	3µm,0.3s,baz=134,slow=5.2,SNR=8231						
	8µm,0.3s						
Q20K	**Shuyak Island**	**3.20**	**328**	P	**Pn**	**09 32 29.1**	**-2.2**
	baz=145,SNR=1000						
SYI	**Shuyak Island**	**3.20**	**328**		**Pn**	**09 32 29.2**	**-2.1**
CNPM	**China Poot**	**3.77**	**344**		**Pn**	**09 32 36.8**	**-2.3**
CNPM				IAML		09 33 37.8	
	comp=N,350µm,1.0s						
CNPM				IAML		09 33 54.3	
	comp=E,426µm,1.6s						
Q23K	**Middleton Isla**	**3.82**	**22**		**Pn**	**09 32 36.9**	**-3.0**
Q23K				IAML		09 33 46.4	
	comp=E,318µm,0.8s						
Q23K	**Middleton Isla**	**3.82**	**22**	P	**Pn**	**09 32 37.1**	**-2.7**
	baz=204,SNR=787						
MID	**Middleton Isla**	**3.83**	**22**		**Pn**	**09 32 37.2**	**-2.6**
MID	**Middleton Isla**	**3.83**	**22**	P	**Pn**	**09 32 38.8**	**-1.0**
MID	**Middleton Isla**	**3.83**	**22**	P	**Pn**	**09 32 37.2**	**-2.6**
Q19K	**Cape Douglas,**	**3.85**	**323**		**Pn**	**09 32 39.3**	**-1.0**
Q19K	**Cape Douglas,**	**3.85**	**323**	P	**Pn**	**09 32 38.7**	**-1.6**
	baz=139,SNR=1000						
KAHG	**Katmai Hook Gl**	**3.88**	**314**		**Pn**	**09 32 39.8**	**-0.9**
KAHG					**Sn**	**09 33 24.3**	**-2.2**
BRSE	**Bradley Lake S**	**3.91**	**348**		**Pn**	**09 32 40.2**	**-0.9**
BRSE	**Bradley Lake S**	**3.91**	**348**	P	**Pn**	**09 32 38.2**	**-2.9**
	baz=166						

HOM	**Homer**	**3.96**	**342**		**Pn**	**09 32 40.1**	**-1.7**
HOM				IAML		09 34 00.8	
	comp=E,949µm,1.2s						
HOM	**Homer**	**3.96**	**342**	P	**Pn**	**09 32 40.0**	**-1.7**
	baz=159,SNR=994						
KCG	**Knife Ck. Glac**	**4.01**	**309**		**Pn**	**09 32 41.1**	**-1.4**
ACHA	**Angle Creek He**	**4.05**	**307**		**Pn**	**09 32 42.1**	**-1.0**
AU22	**Augustine Moun**	**4.11**	**329**		**Pn**	**09 32 42.7**	**-1.1**
AU22					**Sn**	**09 33 28.1**	**-3.9**
ANCK	**Angle Creek**	**4.12**	**306**		**Pn**	**09 32 42.5**	**-1.6**
AUCH	**Augustine Cone**	**4.13**	**328**		**Pn**	**09 32 42.5**	**-1.6**
AUL	**Augustine Lava**	**4.14**	**328**		**Pn**	**09 32 43.1**	**-1.2**
P23K	**Montague Islan**	**4.19**	**12**	P	**Pn**	**09 32 42.1**	**-2.7**
	baz=193,SNR=1000						
SEW	**Seward**	**4.19**	**358**	P	**Pn**	**09 32 42.5**	**-2.3**
	baz=177,SNR=1000						
P19K	**Oil Pt**	**4.31**	**332**		**Pn**	**09 32 45.2**	**-1.4**
P19K				IAML		09 33 52.1	
	comp=N,558µm,0.8s						
P19K				IAML		09 34 12.4	
	comp=E,572µm,1.3s						
P19K	**Oil Pt**	**4.31**	**332**	P	**Pn**	**09 32 44.6**	**-2.0**
	baz=147						
Q17K	**Contact Creek**	**4.34**	**305**	P	**Pn**	**09 32 45.5**	**-1.6**
	baz=120,SNR=1000						
PLK1	**Peulik 1**	**4.48**	**298**		**Pn**	**09 32 47.4**	**-1.5**
O20K	**Slope Mountain**	**4.54**	**338**	P	**Pn**	**09 32 47.4**	**-2.4**
	baz=154,SNR=530						
PLBL	**Peulik Blue Cr**	**4.55**	**296**		**Pn**	**09 32 49.1**	**-0.8**
O22K	**Cooper Landing**	**4.57**	**357**		**Pn**	**09 32 48.1**	**-2.0**
O22K	**Cooper Landing**	**4.57**	**357**	P	**Pn**	**09 32 47.9**	**-2.3**
	baz=175,SNR=842						
HIN	**Hinchinbrook I**	**4.70**	**17**		**Pn**	**09 32 49.5**	**-2.4**
HIN				IAML		09 33 53.8	
	comp=N,317µm,1.1s						
HIN				IAML		09 34 07.8	
	comp=E,357µm,0.9s						
KAIM	**Kayak Island**	**4.74**	**30**		**Pn**	**09 32 50.1**	**-2.3**
KAIM				IAML		09 34 07.5	
	comp=N,447µm,1.0s						
KAIM				IAML		09 34 13.1	
	comp=E,334µm,0.7s						
KAIM	**Kayak Island**	**4.74**	**30**	P	**Pn**	**09 32 49.7**	**-2.8**
	baz=214						
P18K	**Big Mountain,**	**4.75**	**319**		**Pn**	**09 32 50.9**	**-1.7**
P18K	**Big Mountain,**	**4.75**	**319**	P	**Pn**	**09 32 50.2**	**-2.4**
	baz=134,SNR=1000						
Q16K	**King Salmon**	**4.90**	**307**	P	**Pn**	**09 32 53.0**	**-1.6**
	baz=121,SNR=1000						
R16K	**Pilot Point**	**4.90**	**293**	P	**Pn**	**09 32 52.9**	**-1.7**
	baz=106						
RDSO	**Redoubt South**	**4.91**	**339**		**Pn**	**09 32 51.5**	**-3.4**
RSO	**Redoubt South**	**4.92**	**339**		**Pn**	**09 32 51.8**	**-3.2**
RDT	**Redoubt**	**4.96**	**341**		**Pn**	**09 32 51.8**	**-3.6**
CAPN	**Captain Cook N**	**4.96**	**349**		**Pn**	**09 32 54.3**	**-1.1**
CAPN	**Captain Cook N**	**4.96**	**349**	P	**Pn**	**09 32 54.1**	**-1.3**
	baz=166,SNR=501						
EYAK	**Cordova Ski Ar**	**4.97**	**20**	P	**Pn**	**09 32 54.4**	**-1.2**
EYAK	**Cordova Ski Ar**	**4.97**	**20**	P	**Pn**	**09 32 53.3**	**-2.3**
	baz=202						
FID	**Port Fidalgo**	**5.04**	**15**		**Pn**	**09 32 54.5**	**-2.0**
FID				IAML		09 34 03.7	
	comp=N,150µm,0.5s						
FID				IAML		09 34 23.1	
	comp=E,171µm,1.0s						
RAGM	**Ragged Mountai**	**5.07**	**26**	Pn	**Pn**	**09 32 55.0**	**-1.9**
RAGM				IAML		09 34 25.9	
	comp=E,367µm,0.8s						
O19K	**Port Alsworth**	**5.07**	**330**		**Pn**	**09 32 54.6**	**-2.3**
O19K	**Port Alsworth**	**5.07**	**330**	P	**Pn**	**09 32 54.7**	**-2.3**
	baz=145,SNR=1000						
O18K	**Koktuh Hills**	**5.08**	**323**		**Pn**	**09 32 54.6**	**-2.5**
O18K				IAML		09 34 20.4	
	comp=N,192µm,0.9s						
O18K				IAML		09 34 25.1	
	comp=E,145µm,1.7s						
O18K	**Koktuh Hills**	**5.08**	**323**	P	**Pn**	**09 32 54.8**	**-2.3**
	baz=138,SNR=872						
P17K	**Kvichak River**	**5.09**	**313**	P	**Pn**	**09 32 55.9**	**-1.4**
	baz=126,SNR=1000						
CHGN	**Chignik**	**5.18**	**278**		**Pn**	**09 32 56.4**	**-2.0**
CHGN				IAML		09 34 04.8	
	comp=N,154µm,1.3s						
CHGN				IAML		09 34 08.4	
	comp=E,148µm,1.2s						
CHGN	**Chignik**	**5.18**	**278**	P	**Pn**	**09 32 56.4**	**-2.0**
	baz=90,SNR=1000						
RC01	**Rabbit Creek A**	**5.18**	**357**		**Pn**	**09 32 56.3**	**-2.2**
RC01				IAML		09 34 23.8	
	comp=E,187µm,0.7s						
RC01				IAML		09 34 24.2	
	comp=N,156µm,1.3s						
RC01	**Rabbit Creek A**	**5.18**	**357**	P	**Pn**	**09 32 56.0**	**-2.5**
	baz=176,SNR=1000						
BERG	**Berg Lake**	**5.33**	**31**		**Pn**	**09 32 58.1**	**-2.4**
BERG				IAML		09 34 27.5	
	comp=N,326µm,1.0s						
SNH	**Sunshine Point**	**5.43**	**36**		**Pn**	**09 32 59.7**	**-2.3**
SNH				IAML		09 34 28.1	
	comp=E,204µm,1.1s						
SNH				IAML		09 34 46.5	
	comp=N,222µm,1.2s						
KNK	**Knik Glacier**	**5.51**	**4**		**Pn**	**09 33 00.9**	**-2.1**
KNK	**Knik Glacier**	**5.51**	**4**	P	**Pn**	**09 33 00.9**	**-2.1**
	baz=184						
N20K	**Mount Spurr**	**5.51**	**345**	P	**Pn**	**09 33 00.7**	**-2.5**
	baz=161,SNR=1000						
BMRM	**Bremner River**	**5.59**	**24**	P	**Pn**	**09 33 01.6**	**-2.6**
	baz=207

	baz=232								
M24K	Tolsona, Glenn	6.39	13			Pn	09 33 13.8	-1.2	
M24K	Tolsona, Glenn	6.39	13	P		Pn	09 33 13.9	-1.2	
	baz=195,SNR=1000								
SDPT	Sand Point	6.42	269	Pn		Pn	09 33 13.2	-2.3	
SDPT	Sand Point	6.42	269	P		Pn	09 33 15.9	+0.4	
SDPT	Sand Point	6.42	269	P		Pn	09 33 13.9	-1.6	
	baz=80,SNR=622								
PNL	Peninsula	6.43	50	P		Pn	09 33 14.6	-1.1	
PNL	Peninsula	6.43	50	P		Pn	09 33 13.9	-1.8	
	baz=238								
BARN	Barnard Glacie	6.48	34			Pn	09 33 13.9	-2.6	
BCPM	Bancas Point	6.49	48			Pn	09 33 14.0	-2.5	
CTG	Chitna Glacier	6.51	36	P		Pn	09 33 15.0	-1.9	
	baz=222								
CUT	Chulitna	6.52	356			Pn	09 33 15.6	-1.2	
CUT	Chulitna	6.52	356	P		Pn	09 33 14.6	-2.2	
	baz=174								
M18K	Stony River	6.56	331	P		Pn	09 33 14.5	-2.9	
	baz=145,SNR=1000								
M19K	Big River Lodg	6.57	338			Pn	09 33 14.4	-3.1	
M19K	Big River Lodg	6.57	338	P		Pn	09 33 14.5	-3.0	
	baz=153,SNR=1000								
O15K	Ungalikthiuk R	6.58	304	P		Pn	09 33 16.1	-1.6	
	baz=115,SNR=1000								
WAT6	Susitna Watana	6.71	6	P		Pn	09 33 18.3	-1.3	
	baz=186								
WAT6				S		Sn	09 34 30.0	-6.2	
	baz=186								
N16K	Nishlik Lake	6.81	316	P		Pn	09 33 19.7	-1.2	
	baz=128,SNR=1000								
HARP	HAARP	6.81	16	P		Pn	09 33 19.6	-1.2	
	baz=199,SNR=1000								
L19K	White Mountain	6.91	337			Pn	09 33 18.6	-3.6	
L19K	White Mountain	6.91	337	P		Pn	09 33 19.7	-2.6	
	baz=152,SNR=1000								
L19K				S		Sn	09 34 38.7	-2.2	
	baz=152								
WAT1	Susitna Watana	6.93	2	P		Pn	09 33 21.4	-1.1	
	baz=182								
WAT1				S		Sn	09 34 39.3	-2.0	
	baz=182								
M17K	Holitna River	6.97	325			Pn	09 33 20.4	-2.6	
M17K	Holitna River	6.97	325	P		Pn	09 33 21.1	-1.9	
	baz=138								
L20K	Farewell, AK	6.99	342	P		Pn	09 33 20.8	-2.5	
	baz=157,SNR=455								
L20K				S		Sn	09 34 38.3	-4.6	
	baz=157								
O29M	Mount Kennedy	7.12	48			Pn	09 33 23.6	-1.6	
O29M	Mount Kennedy	7.12	48	P		Pn	09 33 23.8	-1.4	
	baz=236,SNR=1000								
PPLA	Purkeypile	7.15	349	P		Pn	09 33 23.9	-1.8	
	baz=166								
P29M	Windy Craggy	7.15	54	P		Pn	09 33 23.8	-1.8	
	baz=243								
N15K	Kwethluk River	7.17	311			Pn	09 33 25.0	-0.9	
N15K	Kwethluk River	7.17	311	P		Pn	09 33 25.2	-0.7	
	baz=121								
M26K	Nabesna, AK	7.22	24	P		Pn	09 33 26.2	-0.3	
	baz=208								
DHY	Denali Highway	7.22	7			Pn	09 33 24.5	-2.2	
DHY	Denali Highway	7.22	7	P		Pn	09 33 25.7	-1.0	
	baz=188,SNR=1000								
DHY				S		Sn	09 34 43.8	-5.0	
	baz=188								
M16K	Timber Creek	7.23	319			Pn	09 33 24.6	-2.0	
M16K	Timber Creek	7.23	319	P		Pn	09 33 24.7	-1.8	
	baz=130,SNR=785								
YUK8	Steele Glacier	7.28	39	P		Pn	09 33 26.0	-1.5	
	baz=226,SNR=1000								
O14K	Tigyukauivet M	7.29	302			Pn	09 33 25.7	-1.7	
O14K	Tigyukauivet M	7.29	302	P		Pn	09 33 26.3	-1.1	
	baz=112,SNR=958								
PAX	Paxson	7.31	13	P		Pn	09 33 26.4	-1.3	
	baz=196,SNR=1000								
S31K	Pelican	7.37	69			Pn	09 33 24.2	-4.3	
S31K	Pelican	7.37	69	P		Pn	09 33 25.0	-3.5	
	baz=259,SNR=960								
L18K	Granite Mounta	7.39	332			Pn	09 33 25.8	-3.0	
L18K	Granite Mounta	7.39	332	P		Pn	09 33 26.2	-2.6	
	baz=145,SNR=476								
YUK3	Moose Creek	7.40	34	P		Pn	09 33 27.7	-1.5	
	baz=221,SNR=1000								
M27K	Edge Creek, AK	7.46	27			Pn	09 33 28.1	-1.7	
M27K	Edge Creek, AK	7.46	27	P		Pn	09 33 28.2	-1.7	
	baz=213,SNR=1000								
RND	Reindeer	7.50	1			Pn	09 33 29.6	-0.8	
RND	Reindeer	7.50	1	P		Pn	09 33 29.6	-0.8	
MENT	Mentasta	7.56	19			Pn	09 33 29.4	-1.7	
MENT	Mentasta	7.56	19	P		Pn	09 33 30.0	-1.1	
TRF	Thorofare Moun	7.56	356			Pn	09 33 29.2	-2.1	
TRF	Thorofare Moun	7.56	356	P		Pn	09 33 30.0	-1.3	
	baz=175,SNR=612								
YUK6	Outpost Mounta	7.58	44	P		Pn	09 33 30.4	-1.2	
	baz=233,SNR=1000								
CAST	Castle Rocks	7.65	350			Pn	09 33 31.0	-1.4	
CAST	Castle Rocks	7.65	350	P		Pn	09 33 30.7	-1.7	
	baz=167,SNR=1000								
KTH	Kantishna Hill	7.70	354			Pn	09 33 31.3	-1.8	
M15K	Kasigluk River	7.71	313	P		Pn	09 33 31.8	-1.3	
	baz=123,SNR=1000								
L26K	Log Cabin Wild	7.71	20			Pn	09 33 31.6	-1.6	
L26K	Log Cabin Wild	7.71	20	P		Pn	09 33 32.5	-0.7	
	baz=205,SNR=1000								
R31K	City Hall, Gus	7.72	66	P		Pn	09 33 30.8	-2.5	
	baz=257,SNR=159								
YUK4	Talbot Arm	7.72	41	P		Pn	09 33 34.0	+0.5	
	baz=229,SNR=1000								
PLBC	Pleasant Camp	7.72	58	P		Pn	09 33 31.2	-2.2	
	baz=248,SNR=1000								
P30M	Million Dollar	7.73	52	P		Pn	09 33 31.9	-1.6	
	baz=242								
SIT	Sitka	7.76	76			Pn	09 33 29.4	-4.4	
SIT	Sitka	7.76	76	P		Pn	09 33 33.8	0.0	
SIT	Sitka	7.76	76	P		Pn	09 33 30.5	-3.3	
	baz=267,SNR=289								
SIT	Sitka	7.76	76	P		Pn	09 33 29.4	-4.4	
N14K	Kuskokwak Cree	7.76	306	P		Pn	09 33 32.6	-1.2	
	baz=115,SNR=1000								
BVCY	Beaver Creek	7.78	30	P		Pn	09 33 32.9	-1.2	
	baz=216,SNR=1000								
L17K	Donlin	7.79	327	P		Pn	09 33 32.2	-2.0	
	baz=139								
MCK	McKinley	7.83	1	P		Pn	09 33 34.2	-0.6	
	baz=180,SNR=1000								
TTA	Tatalina	7.83	336			Pn	09 33 31.4	-3.5	
TTA	Tatalina	7.83	336	P		Pn	09 33 32.3	-2.6	
TTA	Tatalina	7.83	336	P		Pn	09 33 31.8	-3.1	
	baz=150,SNR=1000								
TTA	Tatalina	7.83	336	P		Pn	09 33 31.4	-3.5	
K20K	Telida	7.85	344			Pn	09 33 31.7	-3.3	
K20K	Telida	7.85	344	P		Pn	09 33 32.6	-2.5	
	baz=159								
HYT	Haines Junctio	7.85	47			Pn	09 33 33.2	-2.1	
HYT	Haines Junctio	7.85	47	P		Pn	09 33 33.7	-1.6	
	baz=236,SNR=1000								
L16K	Owhat River	7.87	322			Pn	09 33 32.8	-2.6	
L16K	Owhat River	7.87	322	P		Pn	09 33 33.4	-2.0	
	baz=132,SNR=1000								
L27K	Beaver Creek,	8.07	25			Pn	09 33 35.4	-2.7	
L27K	Beaver Creek,	8.07	25	P		Pn	09 33 36.8	-1.3	
	baz=210								
K24K	Donnelly Dome	8.08	11	P		Pn	09 33 38.0	-0.3	
	baz=193,SNR=1000								
CHUM	Lake Minchumin	8.13	350	P		Pn	09 33 36.9	-2.0	
	baz=167,SNR=1000								
RIDG	Independent Ri	8.13	14			Pn	09 33 37.9	-1.1	
RIDG	Independent Ri	8.13	14	P		Pn	09 33 38.0	-1.0	
	baz=197								
FALS	False Pass	8.18	268	P		Pn	09 33 39.4	-0.1	
FALS	False Pass	8.18	268	P		Pn	09 33 38.2	-1.3	
	baz=77								
S32K	Killisnoo	8.19	73			Pn	09 33 36.0	-3.7	
S32K	Killisnoo	8.19	73	P		Pn	09 33 36.6	-3.1	
	baz=265,SNR=373								
S32K				S		Sn	09 35 04.0	-8.3	
	baz=265								
SKAG	Skagway	8.22	59			Pn	09 33 38.1	-2.0	
SKAG	Skagway	8.22	59	P		Pn	09 33 39.5	-0.6	
SKAG	Skagway	8.22	59	P		Pn	09 33 38.7	-1.5	
	baz=250,SNR=1000								
SKAG				S		Sn	09 35 08.6	-4.3	
	baz=250								
SKAG	Skagway	8.22	59	⇓P		Pn	09 33 38.1	-2.0	
K17K	Iditarod	8.24	329			Pn	09 33 37.4	-3.0	
K17K	Iditarod	8.24	329	P		Pn	09 33 38.1	-2.4	
	baz=141,SNR=1000								
BWN	Browne	8.27	359			Pn	09 33 39.9	-0.9	
M14K	Bethel	8.27	311			Pn	09 33 39.2	-1.6	
M14K	Bethel	8.27	311	P		Pn	09 33 40.0	-0.8	
	baz=120,SNR=1000								
R32K	Eaglecrest	8.32	68			Pn	09 33 39.5	-2.1	
R32K	Eaglecrest	8.32	68	P		Pn	09 33 39.6	-2.0	
	baz=260,SNR=77								
R32K				S		Sn	09 35 08.8	-6.8	
	baz=260								
N30M	Aishikik Lake	8.38	44			Pn	09 33 40.2	-2.2	
N30M	Aishikik Lake	8.38	44	P		Pn	09 33 40.4	-2.0	
	baz=234,SNR=1000								
N30M				S		Sn	09 35 15.7	-1.4	
	baz=234								
JIS	Juneau Island	8.39	68			Pn	09 33 39.4	-3.2	
JIS	Juneau Island	8.39	68	P		Pn	09 33 42.1	-0.4	
O30N	Mendenhall	8.42	49			Pn	09 33 41.3	-1.6	
O30N	Mendenhall	8.42	49	P		Pn	09 33 41.8	-1.1	
	baz=240,SNR=1000								
O30N				S		Sn	09 35 16.2	-1.8	
	baz=240								
J18K	Innoko River	8.45	336			Pn	09 33 40.5	-2.9	
J18K	Innoko River	8.45	336	P		Pn	09 33 41.2	-2.1	
	baz=150,SNR=1000								
J18K				S		Sn	09 35 13.4	-5.4	
	baz=150								
SCRK	Sand Creek	8.48	16			Pn	09 33 41.8	-2.0	
SCRK	Sand Creek	8.48	16	P		Pn	09 33 42.4	-1.5	
	baz=200,SNR=1000								
SCRK				S		Sn	09 35 21.1	+1.6	
	baz=200								
M29M	Somme Creek	8.53	36			Pn	09 33 42.2	-2.3	
M29M	Somme Creek	8.53	36	P		Pn	09 33 43.6	-1.0	
	baz=224								
WRH	Wood River Hil	8.59	3			Pn	09 33 45.2	+0.1	
L15K	Ungalak Mounta	8.59	317	P		Pn	09 33 44.0	-1.2	
	baz=126,SNR=778								
J20K	Nowinta River	8.63	345			Pn	09 33 42.5	-3.3	
J20K	Nowinta River	8.63	345	P		Pn	09 33 42.8	-3.0	
	baz=161,SNR=1000								
J20K				S		Sn	09 35 17.2	-6.0	
	baz=161								
NEA2	Nenana	8.69	0			Pn	09 33 44.2	-2.4	
NEA2	Nenana	8.69	0	P		Pn	09 33 45.4	-1.2	
	baz=180,SNR=1000								
NEA2				S		Sn	09 35 17.5	-7.1	
	baz=180								
J19K	Poorman	8.70	341			Pn	09 33 43.7	-3.1	
J19K	Poorman	8.70	341	P		Pn	09 33 44.2	-2.6	
	baz=155								
J19K				S		Sn	09 35 20.8	-4.0	
	baz=155								
M13K	Dall Lake	8.72	307	Pn		Pn	09 33 45.5	-1.5	
M13K	Dall Lake	8.72	307	P		Pn	09 33 46.3	-0.7	
	baz=115,SNR=785								
K27K	Chicken	8.86	21	P		Pn	09 33 48.7	-0.3	
	baz=206								
L14K	Kuka Creek	8.88	313			Pn	09 33 47.1	-2.0	
L14K	Kuka Creek	8.88	313	P		Pn	09 33 48.2	-0.9	
	baz=122,SNR=1000								
WHY	Whitehorse	8.89	52			Pn	09 33 48.1	-1.5	
WHY	Whitehorse	8.89	52	P		Pn	09 33 48.0	-1.5	
	baz=244,SNR=1000								
WHY				S		Sn	09 35 25.4	-4.3	
	baz=244								
J25K	Salcha River,	8.91	11			Pn	09 33 46.5	-3.2	
J25K	Salcha River,	8.91	11	P		Pn	09 33 47.8	-1.9	
	baz=194,SNR=1000								
J25K				S		Sn	09 35 24.4	-5.7	
	baz=194								
N31M	Braeburn, Yuko	8.92	46	P		Pn	09 33 48.1	-1.7	
	baz=237,SNR=1000								
N31M				S		Sn	09 35 25.7	-4.5	
	baz=237								
IL31		8.94	6			Pn	09 33 47.7	-2.3	
ILAR	Eielson Array	8.94	6			Pn	09 33 46.5	-3.5	
ILAR	Eielson Array	8.94	6	Pn		Pn	09 33 48.1	-1.9	
	comp=N,36nm,0.3s,baz=189,slow=13,SNR=372								
ILAR				Sn		Sn	09 35 25.6	-5.1	
	comp=N,862nm,0.3s,baz=186,slow=24,SNR=5.1								
ILAR				LR		LR	09 37 33.3		
	comp=N,2059µm,20.0s,baz=283,slow=40								
	comp=N,707nm,0.5s								
K15K	Wolf Creek Mou	8.99	320			Pn	09 33 49.5	-1.1	
K15K	Wolf Creek Mou	8.99	320	P		Pn	09 33 49.3	-1.4	
	baz=129,SNR=825								
COLA	College	9.00	4			Pn	09 33 48.9	-1.9	
COLA	College	9.00	4	P		Pn	09 33 49.3	-1.5	
COLA	College	9.00	4	P		Pn	09 33 49.2	-1.6	
	baz=184								
COLA				S		Sn	09 35 28.5	-3.5	
	baz=184								
COLA	College	9.00	4	P		Pn	09 33 48.9	-1.9	
I53US	FAIRBANKS INFR	9.00	4	Pn		Pn	09 33 52.3	+1.6	
	baz=192,slow=22								
I53US				I		I	09 50 50.0		
	baz=210,slow=326,SNR=1.1								
U33K	Whale Pass	9.00	82			Pn	09 33 46.5	-4.4	
U33K	Whale Pass	9.00	82	P		Pn	09 33 47.9	-2.9	
	baz=275,SNR=134								
U33K				S		Sn	09 35 30.2	-2.0	
	baz=275								
J26L	Joseph Creek	9.04	16			Pn	09 33 49.5	-2.0	
J26L	Joseph Creek	9.04	16	P		Pn	09 33 50.1	-1.3	
	baz=200								
J26L				S		Sn	09 35 31.5	-1.7	
	baz=200								
P32M	Atlin	9.04	60			Pn	09 33 49.1	-2.4	
P32M	Atlin	9.04	60	P		Pn	09 33 49.6	-1.9	
	baz=252,SNR=1000								
P32M				S		Sn	09 35 31.2	-2.1	
	baz=252								
T33K	Petersburg	9.05	78	P		Pn	09 33 49.5	-2.0	
	baz=271,SNR=217								
T33K				S		Sn	09 35 29.4	-4.0	
	baz=271								
CRAG	Craig	9.09	86			Pn	09 33 49.2	-2.8	
CRAG	Craig	9.09	86	P		Pn	09 33 53.2	+1.2	
CRAG	Craig	9.09	86	P		Pn	09 33 47.9	-4.1	
	baz=279,SNR=80								
CRAG				S		Sn	09 35 24.7	-10	
	baz=279								
CRAG	Craig	9.09	86	⇑P		Pn	09 33 46.8	-5.2	
L29M	L29M	9.12	33			Pn	09 33 51.2	-1.3	
L29M	L29M	9.12	33	P		Pn	09 33 51.5	-1.0	
	baz=222,SNR=1000								
M30M	Minto, Yukon	9.19	38			Pn	09 33 51.4	-2.1	
M30M	Minto, Yukon	9.19	38	P		Pn	09 33 52.8	-0.7	
	baz=229,SNR=1000								
I23K	Minto, Yukon-K	9.25	360			Pn	09 33 52.5	-1.7	
I23K	Minto, Yukon-K	9.25	360	P		Pn	09 33 53.2	-1.0	
	baz=179,SNR=1000								
I23K				S		Sn	09 35 31.5	-6.8	
	baz=179								
POKR	Poker Plat Res	9.26	5			Pn	09 33 53.5	-0.9	
POKR	Poker Plat Res	9.26	5	P		Pn	09 33 52.9	-1.4	
	baz=186								
POKR				S		Sn	09 35 30.6	-7.9	
	baz=186								
I20K	Naaghedeneel	9.27	346	P		Pn	09 33 52.0	-2.4	
	baz=161								
J16K	Anvik River	9.36	327			Pn	09 33 53.0	-2.8	
J16K	Anvik River	9.36	327	P		Pn	09 33 53.5	-2.2	
	baz=136,SNR=1000								
J16K				S		Sn	09 35 35.5	-5.5	
	baz=136								
I21K	Tanana	9.38	353			Pn	09 33 53.7	-2.4	
I21K	Tanana	9.38	353	P		Pn	09 33 54.0	-2.0	
	baz=170,SNR=1000								
I21K				S		Sn	09 35 33.8	-7.7	
	baz=170								
WRAK	Wrangell Islan	9.41	80			Pn	09 33 54.7	-1.7	
WRAK	Wrangell Islan	9.41	80	P		Pn	09 33 53.7	-2.7	
	baz=274,SNR=126								
WRAK				S		Sn	09 35 34.4	-7.7	
	baz=274								
DAWY	Dawson	9.51	27			Pn	09 33 56.0	-1.9	
DAWY	Dawson	9.51	27	P		Pn	09 33 56.7	-1.2	
	baz=215,SNR=1000								
DAWY				S		Sn	09 35 33.7	-11	
	baz=215								
Q32M	Nakina River	9.61	65			Pn	09 33 56.7	-2.6	
Q32M	Nakina River	9.61	65	P		Pn	09 33 57.4	-2.0	
	baz=259,SNR=359								
Q32M				S		Sn	09 35 42.7	-4.7	
	baz=259								
GCSA	Galena City Sc	9.62	340	P		Pn	09 33 56.5	-2.8	
	baz=153,SNR=1000								
GCSA				S		Sn	09 35 40.1	-7.2	
	baz=153								
P33M	Teslin, Yukon	9.67	57			Pn	09 33 57.6	-2.4	
P33M	Teslin, Yukon	9.67	57	P		Pn	09 33 57.8	-2.3	
	baz=250,SNR=1000								
P33M				S		Sn	09 35 50.5	+1.9	
	baz=250								
AKUT	Akutan	9.69	266			Pn	09 33 59.2	-1.1	
AKUT	Akutan	9.69	266	P		Pn	09 34 01.2	+0.9	
AKUT	Akutan	9.69	266	⇑P		Pn	09 33 59.2	-1.1	
EGAK	Eagle	9.71	21			Pn	09 33 59.0	-1.6	
EGAK	Eagle	9.71	21	P		Pn	09 33 59.1	-1.5	
	baz=207,SNR=884								
EGAK				S		Sn	09 35 48.8	-0.8	
	baz=207								
EGAK	Eagle	9.71	21	⇑P		Pn	09 33 58.9	-1.8	
I17K	Unalakleet	9.83	329			Pn	09 33 60.0	-2.2	
I17K	Unalakleet	9.83	329	P		Pn	09 34 00.0	-2.2	
	baz=139,SNR=1000								
K29M	Barlow Dome	9.85	32	Pn		Pn	09 34 00.6	-2.0	
K29M	Barlow Dome	9.85	32	P		Pn	09 34 01.1	-1.5	
	baz=221,SNR=1000								
I26K	Coal Creek Min	9.86	15	P		Pn	09 34 01.3	-1.2	
	baz=200								
I26K				S		Sn	09 35 54.0	+0.8	
	baz=200								
M31M	Drury Creek, Y	9.86	44			Pn	09 34 01.6	-1.0	
M31M	Drury Creek, Y	9.86	44	P		Pn	09 34 01.6	-1.0	
	baz=237,SNR=1000								
N32M	Quiet Lake	9.90	52	P		Pn	09 34 01.6	-1.6	
	baz=245								
N32M				S		Sn	09 35 59.0	+4.8	
	baz=245								
H21K	Melozitna Rive	9.91	351			Pn	09 34 00.8	-2.5	
H21K	Melozitna Rive	9.91	351	P		Pn	09 34 00.9	-2.5	
	baz=168								
H21K				S		Sn	09 35 47.9	-6.7	
	baz=168								
V35K	Ketchikan	9.96	86			Pn	09 34 01.6	-2.3	
V35K	Ketchikan	9.96	86	P		Pn	09 34 01.3	-2.7	
	baz=281,SNR=90								
V35K				S		Sn	09 35 48.7	-7.0	
	baz=281								
H24K	Noodor Dome	9.96	3			Pn	09 34 01.7	-2.4	
H24K	Noodor Dome	9.96	3	P		Pn	09 34 02.4	-1.6	
	baz=184,SNR=1000								
H24K				S		Sn	09 35 48.3	-7.5	
	baz=184								
H20K	Anotleneega Mo	9.98	346	P		Pn	09 34 01.8	-2.5	
	baz=161,SNR=417								
H20K				S		Sn	09 35 49.4	-6.9	
	baz=161								
J14K	Nanvaranak Lak	10.01	319			Pn	09 34 03.4	-1.2	
J14K	Nanvaranak Lak	10.01	319	P		Pn	09 34 04.1	-0.5	
	baz=126,SNR=410								
J14K				S		Sn	09 36 04.1	+7.3	
	baz=126								
M11K	Mekoryuk	10.03	303	P		Pn	09 34 03.3	-1.5	
	baz=109,SNR=430								
H22K	Ishtalitna Cre	10.05	355	P		Pn	09 34 03.3	-2.0	
	baz=172,SNR=1000								
H22K				S		Sn	09 35 52.4	-5.6	
	baz=172								
S34M	Telegraph Cree	10.07	71			Pn	09 34 03.5	-1.9	
S34M	Telegraph Cree	10.07	71	P		Pn	09 34 03.6	-1.8	
	baz=266,SNR=197								
S34M				S		Sn	09 35 55.2	-3.2	
	baz=266								
J29N	Klondike Camp	10.12	28			Pn	09 34 04.7	-1.7	
J29N	Klondike Camp	10.12	28	P		Pn	09 34 04.8	-1.5	
	baz=217,SNR=1000								
J29N				S		Sn	09 36 03.3	+3.5	
	baz=217								
MAYO	Mayo, Yukon	10.18	36			Pn	09 34 05.6	-1.4	
MAYO	Mayo, Yukon	10.18	36	P		Pn	09 34 05.5	-1.5	
	baz=227,SNR=892								
UNV	Unalaska Valle	10.19	265	P		Pn	09 34 07.8	+0.6	
UNV	Unalaska Valle	10.19	265	P		Pn	09 34 06.1	-1.1	
	baz=71,SNR=216								
UNV				S		Sn	09 35 54.2	-7.2	
	baz=71								
H19K	Roundabout Mou	10.25	343	P		Pn	09 34 04.9	-3.1	
	baz=156								
H19K				S		Sn	09 35 55.4	-7.4	
	baz=156								
H18K	Honhosa River	10.28	338			Pn	09 34 05.5	-2.9	
H18K	Honhosa River	10.28	338	P		Pn	09 34 06.2	-2.2	
	baz=150								
H18K				S		Sn	09 35 60.0	-3.6	
	baz=150								
FARO	Faro, Yukon	10.29	46			Pn	09 34 07.5	-1.0	
FARO	Faro, Yukon	10.29	46	P		Pn	09 34 07.0	-1.5	
	baz=239,SNR=1000								
FARO				S		Sn	09 36 03.4	-0.4	
	baz=239								
IMAR	Indian Mountai	10.32	350			Pn	09 34 05.5	-3.4	
R33M	Jennings River	10.35	63			Pn	09 34 07.1	-2.4	
R33M	Jennings River	10.35	63	P		Pn	09 34 07.6	-1.9	
	baz=258								
R33M				S		Sn	09 36 02.0	-3.6	
	baz=258								
I27K	Kandik River	10.38	18	P		Pn	09 34 08.7	-1.0	
	baz=204,SNR=692								
I27K				S		Sn	09 36 06.5	+0.5	
	baz=204								
H17K	Granite Mounta	10.45	334			Pn	09 34 07.5	-3.3	
H17K	Granite Mounta	10.45	334	P		Pn	09 34 07.8	-3.0	
	baz=144,SNR=830								
H17K				S		Sn	09 36 03.8	-4.0	
	baz=144								
T35M	Bob Quinn	10.53	76			Pn	09 34 11.3	-0.5	
T35M	Bob Quinn	10.53	76	P		Pn	09 34 09.3	-2.5	
	baz=272,SNR=98								
T35M				S		Sn	09 36 06.0	-3.8	
	baz=272		

RUBB Prince Rupert 10.96 91 Pn 09 34 15.8 -1.9
H27K Steamboat Moun 10.97 17 P Pn 09 34 16.6 -1.2
baz=203
G25K Bearman Lake 10.97 6 P Pn 09 34 15.9 -1.9
baz=189
G18K Tagagawik 10.99 339 Pn 09 34 14.9 -3.2
G18K Tagagawik 10.99 339 P Pn 09 34 15.7 -2.4
baz=151,SNR=442
G18K S Sn 09 36 18.7 -2.2
baz=151
G22K Bettles 11.08 355 P Pn 09 34 16.7 -2.6
baz=173
G22K S Sn 09 36 15.2 -8.0
baz=173
G17K Kiwalik Mounta 11.10 334 P Pn 09 34 16.8 -2.7
baz=144,SNR=151
G17K S Sn 09 36 18.3 -5.2
baz=144
HG4B Hotspring 11.16 102 Pn 09 34 17.7 -2.8
I30M Mount Dempster 11.22 29 P Pn 09 34 19.7 -1.6
baz=220
GRNB Grenville Isla 11.27 93 Pn 09 34 19.8 -2.1
P08K Saint George I 11.34 282 P Pn 09 34 20.6 -2.2
baz=85,SNR=12
P08K S Sn 09 36 26.0 -3.4
baz=85
COLD Coldfoot 11.35 358 P Pn 09 34 20.8 -2.1
baz=177
COLD S Sn 09 36 22.5 -7.1
baz=177
G26K Porcupine Rive 11.35 11 P Pn 09 34 20.9 -2.0
baz=195
G26K S Sn 09 36 24.5 -5.1
baz=195
G16K Koyuk River 11.45 331 P Pn 09 34 22.5 -1.8
baz=140
F21K Alatna River 11.51 352 P Pn 09 34 22.2 -3.0
baz=168
H29M Whitestone 11.55 22 P Pn 09 34 24.4 -1.4
baz=211
F20K Avaraart Lake 11.57 347 P Pn 09 34 23.7 -2.3
baz=161
F20K S Sn 09 36 27.9 -7.2
baz=161
WTLY Watson Lake, Y 11.58 60 Pn 09 34 24.6 -1.5
WTLY Watson Lake, Y 11.58 60 P Pn 09 34 24.7 -1.5
baz=257,SNR=414
WTLY S Sn 09 36 31.2 -4.2
baz=257
G15K Niukluk 11.64 327 P Pn 09 34 26.0 -0.9
baz=134
F24K Squaw Lake 11.65 2 P Pn 09 34 25.1 -2.0
baz=183
F24K S Sn 09 36 28.9 -8.1
baz=183
F19K Shaleruckik Mo 11.67 343 Pn 09 34 25.2 -2.1
F19K Shaleruckik Mo 11.67 343 P Pn 09 34 24.9 -2.5
baz=155
F19K S Sn 09 36 33.5 -4.0
baz=155
SPIA Saint Paul Isl 11.68 285 P Pn 09 34 28.1 +0.6
SPIA Saint Paul Isl 11.68 285 P Pn 09 34 26.2 -1.3
baz=87,SNR=138
BMAR Burnt Mountain 11.74 9 Pn 09 34 26.0 -2.3
ANM Nome 11.77 324 Pn 09 34 27.1 -1.7
ANM Nome 11.77 324 P Pn 09 34 27.5 -1.3
baz=130,SNR=351
ANM S Sn 09 36 38.0 -2.1
baz=130
ANM Nome 11.77 324 P Pn 09 34 27.1 -1.7
NIKH Nikolski High 11.82 264 P Pn 09 34 29.9 +0.5
NIKH Nikolski High 11.82 264 P Pn 09 34 28.8 -0.6
baz=68
NIKH S Sn 09 36 34.6 -6.6
baz=68
F25K Christian Rive 11.82 7 P Pn 09 34 27.5 -2.0
baz=189
F25K S Sn 09 36 34.4 -6.9
baz=189
F17K Baldwin Pennin 12.01 336 P Pn 09 34 30.1 -1.9
baz=145
F26K Sheenjek River 12.04 9 P Pn 09 34 32.6 +0.2
baz=193
EPYK Eagle Plains 12.05 25 Pn 09 34 31.1 -1.5
EPYK Eagle Plains 12.05 25 P Pn 09 34 30.9 -1.6
baz=215,SNR=1000
EPYK S Sn 09 36 50.4 +3.6
baz=215
E19K Redstone River 12.16 345 Pn 09 34 31.9 -2.2
E19K Redstone River 12.16 345 P Pn 09 34 32.3 -1.8
baz=158
E19K S Sn 09 36 41.0 -8.6
baz=158
E23K Chandalar 12.17 359 P Pn 09 34 35.1 +0.8
baz=178
G29M Pine Creek 12.21 21 P Pn 09 34 32.6 -2.2
baz=211
G29M S Sn 09 36 53.2 +2.3
baz=211
F15K North Star Dit 12.32 329 P Pn 09 34 34.4 -1.9
baz=135
E25K Arctic Village 12.35 6 Pn 09 34 34.6 -2.0
E25K Arctic Village 12.35 6 P Pn 09 34 35.7 -0.9
baz=189,SNR=685
E25K S Sn 09 36 45.1 -9.1
baz=189
CLES Cleveland East 12.46 264 Pn 09 34 37.7 -0.4
F28M Old Crow 12.50 17 Pn 09 34 37.4 -1.3
F28M Old Crow 12.50 17 P Pn 09 34 37.5 -1.2
baz=204,SNR=1000
F28M S Sn 09 37 00.5 +2.6
baz=204
G30M tAoh Zraii Nji 12.66 24 Pn 09 34 39.0 -1.9
G30M tAoh Zraii Nji 12.66 24 P Pn 09 34 39.0 -1.9
baz=215
G30M S Sn 09 36 59.0 -2.8
baz=215
F14K Arctic Creek 12.68 326 P Pn 09 34 40.2 -0.9
baz=131
F14K S Sn 09 37 04.8 +2.7
baz=131
E20K Nigu River 12.78 348 P Pn 09 34 41.3 -1.3
baz=162
E27K Coleen River 12.79 13 P Pn 09 34 40.8 -1.8
baz=199
E27K S Sn 09 37 08.2 +3.3
baz=199
BBB Bella Bella 12.92 98 Pn 09 34 41.7 -2.7
BBB Bella Bella 12.92 98 ⇑P Pn 09 34 40.1 -4.4
BBB Bella Bella 12.92 98 Pn 09 34 43.3 -1.2
comp=N,7.5nm,0.3s,baz=301,slow=14,SNR=28
BBB Sn Sn 09 37 10.1 +1.9
comp=N,59nm,0.3s,baz=202,slow=20,SNR=3.9
BBB LR LR 09 38 39.2
comp=N,4330µm,21.7s,baz=205,slow=32
comp=N,219nm,0.9s
G31M Satah River 13.08 27 Pn 09 34 45.2 -1.4
G31M Satah River 13.08 27 P Pn 09 34 45.6 -1.0
baz=219,SNR=1000
G31M S Sn 09 37 14.9 +3.0
baz=219
D22K Ayikyak River 13.09 354 P Pn 09 34 45.5 -1.3
baz=171
D22K S Sn 09 37 08.8 -3.6
baz=171
TNA Tin City 13.24 324 P Pn 09 34 48.2 -0.6
baz=128,SNR=583
TNA S Sn 09 37 17.4 +1.4
baz=128
D19K Kuna River 13.25 346 P Pn 09 34 46.6 -2.4
baz=157
D19K S Sn 09 37 10.2 -6.1
baz=157
D20K Etivluk River 13.27 348 P Pn 09 34 46.4 -2.8
baz=161,SNR=1000
D20K S Sn 09 37 16.0 -0.5
baz=161
D24K Happy Valley 13.27 1 P Pn 09 34 48.9 -0.3
baz=181
D24K S Sn 09 37 10.8 -5.9
baz=181
F30M Barrier River 13.28 23 P Pn 09 34 48.3 -1.0
baz=214
D17K Noatak River 13.46 337 P Pn 09 34 49.5 -2.2
baz=144
D17K S Sn 09 37 20.4 -0.8
baz=144
E28M Babbage River 13.46 15 P Pn 09 34 50.1 -1.6
baz=204
E28M S Sn 09 37 22.6 +1.3
baz=204
D25K Kavik River 13.50 4 Pn 09 34 51.5 -0.8
D25K Kavik River 13.50 4 P Pn 09 34 52.3 0.0
baz=186
D25K S Sn 09 37 14.5 -7.8
baz=186
C21K Knifeblade Rid 13.51 351 P Pn 09 34 50.0 -2.5
baz=166
C21K S Sn 09 37 15.8 -6.8
baz=166
E29M Blow River 13.53 18 P Pn 09 34 52.6 -0.1
baz=208
E29M S Sn 09 37 24.0 +1.0
baz=208
F31M Tsiigehtchic 13.61 26 Pn 09 34 52.1 -1.7
F31M Tsiigehtchic 13.61 26 P Pn 09 34 52.2 -1.7
baz=219,SNR=1000
F31M S Sn 09 37 24.8 -0.1
baz=219
HOLB Holberg 13.64 104 Pn Pn 09 34 52.5 -1.8
GAMB Gambell 13.71 314 P Pn 09 34 54.4 -0.7
baz=114,SNR=104
GAMB S Sn 09 37 28.8 +1.5
baz=114
C24K Franklin Bluff 13.84 1 P Pn 09 34 57.7 +0.7
baz=181,SNR=1000
C24K S Sn 09 37 25.8 -4.8
baz=181
D27M Malcolm River 13.87 12 P Pn 09 34 58.3 +1.0
baz=199
C18K Utukok River 13.89 341 Pn 09 34 55.4 -2.3
C18K Utukok River 13.89 341 P Pn 09 34 55.5 -2.1
baz=151,SNR=831
C18K S Sn 09 37 28.6 -3.1
baz=151
KOTAN Kotaneelee Air 13.92 62 P Pn 09 34 57.4 -0.7
baz=263,SNR=770
KOTAN S Sn 09 37 32.6 0.0
baz=263
B21K Ikpikpuk River 13.95 352 Pn 09 34 54.9 -3.5
B21K Ikpikpuk River 13.95 352 P Pn 09 34 55.9 -2.5
baz=167
B21K S Sn 09 37 26.4 -6.8
baz=167
C19K Lookout Ridge 14.03 345 Pn 09 34 58.0 -1.6
C19K Lookout Ridge 14.03 345 P Pn 09 34 56.8 -2.8
baz=155
C19K S Sn 09 37 28.6 -6.6
baz=155
C17K DeLong Mountai 14.12 339 P Pn 09 34 59.1 -1.7
baz=146,SNR=1000
C17K S Sn 09 37 35.4 -1.9
baz=146
FLDN Fort Liard 14.22 62 Pn 09 35 02.0 -0.2
FLDN Fort Liard 14.22 62 P Pn 09 35 01.9 -0.2
baz=263,SNR=1000
FLDN S Sn 09 37 42.5 +2.7
baz=263
D28M Stokes Point 14.24 15 P Pn 09 35 03.4 +1.0
baz=204
INK Inuvik 14.34 24 Pn 09 35 01.8 -2.0
INK Inuvik 14.34 24 P Pn 09 35 02.0 -1.8
baz=218,SNR=1000
INK S Sn 09 37 39.5 -3.2
baz=218
INK Inuvik 14.34 24 ⇑P Pn 09 35 01.1 -2.7
INK Inuvik 14.34 24 Pn Pn 09 35 01.5 -2.3
comp=N,8.1nm,0.3s,baz=208,slow=14,SNR=436
INK Sn Sn 09 37 40.8 -2.0
baz=312,slow=16
INK LR LR 09 40 51.9
comp=N,2487µm,21.4s,baz=204,slow=39
comp=N,2µm,0.9s
C16K Lisburne Hills 14.43 335 Pn Pn 09 35 03.1 -1.9
C16K Lisburne Hills 14.43 335 P Pn 09 35 03.1 -1.9
baz=141,SNR=1000
C16K S Sn 09 37 44.3 -0.6
baz=141
B20K Meade River 14.56 349 Pn 09 35 03.9 -2.9
B20K Meade River 14.56 349 P Pn 09 35 03.7 -3.1
baz=162
B20K S Sn 09 37 39.6 -8.4
baz=162
B22K Teshekpuk Lake 14.58 354 P Pn 09 35 05.7 -1.4
baz=170
B18K Kokolik River 14.62 342 P Pn 09 35 05.5 -2.1
baz=151,SNR=314
B18K S Sn 09 37 47.5 -1.9
baz=151
WRGLY Wrigley 14.85 50 Pn 09 35 10.0 -0.8
WRGLY Wrigley 14.85 50 P Pn 09 35 11.1 +0.3
baz=252,SNR=1000
WRGLY S Sn 09 37 55.0 -0.2
baz=252
ATKA Atka Island 15.12 266 Pn Pn 09 35 10.6 -3.8
ATKA Atka Island 15.12 266 P Pn 09 35 14.5 +0.2
A19K Wainwright 15.25 345 P Pn 09 35 13.9 -2.1
baz=154
A22K Sinclair Lake 15.34 353 P Pn 09 35 14.8 -2.4
baz=167,SNR=1000
CBB Campbell River 15.47 102 Pn 09 35 17.6 -1.5
A21K Barrow 15.78 351 P Pn 09 35 19.8 -3.1
baz=164,SNR=1000
A21K S Sn 09 38 07.7 -10
baz=164
OZB Mount Ozzard 15.99 106 Pn 09 35 24.6 -1.3
ADK Adak 16.65 267 Pn 09 35 31.8 -2.3
ADK Adak 16.65 267 P Pn 09 35 33.7 -0.4
ADK Adak 16.65 267 ⇑P Pn 09 35 31.3 -2.8
ADK Adak 16.65 267 P Pn 09 35 31.8 -2.3
ADK pmax pmax
comp=Z,5µm,1.2s
CLRS Cowichan Lake 16.81 105 Pn 09 35 36.1 -0.2
KIWB Kanaga Island 16.92 268 Pn 09 35 35.3 -2.4
C03A Quillayute Air 17.08 108 P Pn 09 35 39.4 -0.3
C03A IAmb IAmb 09 35 47.2
comp=Z,19µm,1.9s
PGC Sidney 17.28 104 P Pn 09 35 41.3 -0.8
HILA High Level 17.51 68 P Pn 09 35 42.2 -2.8
C36M Paulatuk 17.52 30 P Pn 09 35 41.6 -3.4
C36M Paulatuk 17.52 30 P Pn 09 35 42.3 -2.6
baz=232,SNR=1000
C36M S Sn 09 38 55.0 -4.7
baz=232
NLWA Neilton Lookou 17.80 108 P Pn 09 35 47.0 -1.6
NLWA Neilton Lookou 17.80 108 ⇑P Pn 09 35 48.0 -0.6
WISH Wishkah 18.02 109 P Pn 09 35 50.8 -0.5
BRLDA Berland Lookou 18.24 82 P Pn 09 35 54.0 -0.1
GNW Green Mountain 18.25 106 P Pn 09 35 53.1 -1.0
B06A Marblemount 18.43 102 P P 09 35 55.9 -0.4
RADR Rader Ridge 18.45 110 P P 09 35 56.0 -0.6
RADR IAmb IAmb 09 36 03.3
comp=Z,16µm,1.9s
E03A Lebam 18.49 110 P P 09 35 56.5 -0.5
YKA Yellowknife Ar 18.70 55 P P 09 35 57.6 -1.5
YKA Yellowknife Ar 18.70 55 P P 09 35 58.0 -1.0
comp=Z,13nm,0.3s,baz=265,slow=9.7,SNR=259
YKA S Sn 09 39 26.7 -1.6
comp=Z,80nm,0.8s,baz=256,slow=23,SNR=1.1
YKA LR LR 09 43 27.9
comp=Z,2158µm,18.4s,baz=262,slow=38
YKA P3KPbc 10 10 31.8
comp=Z,1.9nm,0.8s,baz=87,slow=5.3,SNR=1.3
comp=Z,246nm,0.7s
F03A Seaside 18.89 111 P P 09 36 00.5 -0.9
D05A Enumclaw 18.93 106 P P 09 36 02.0 +0.2
A36M Sachs Harbour 18.98 23 P P 09 36 00.9 -1.3
A36M Sachs Harbour 18.98 23 P P 09 36 01.0 -1.2
baz=224,SNR=1000
A36M S Sn 09 39 35.0 -0.1
baz=224
F04D Rainier, OR 19.08 110 P P 09 36 03.2 -0.3
AMKA Amchitka 19.12 269 P P 09 36 02.0 -1.9
HEBO Mount Hebo 19.27 113 P P 09 36 05.3 -0.4
LON Longmire 19.30 107 P P 09 36 05.2 -0.7
LON Longmire 19.30 107 P P 09 36 05.2 -0.7
LON pmax pmax
comp=Z,2µm,1.1s
F04A Amboy 19.49 110 P P 09 36 08.1 +0.1
G03D McMinnville, O 19.53 112 P P 09 36 08.7 +0.4
G03D IAmb IAmb 09 36 15.4
comp=Z,13µm,1.4s
LTY Liberty 19.61 104 P P 09 36 08.2 -1.1
B08A Colville Reser 19.70 100 P P 09 36 09.2 -1.1
COR Corvallis 19.94 114 P P 09 36 13.2 +0.4
COR IAmb IAmb 09 36 19.5
comp=Z,12µm,1.4s
COR Corvallis 19.94 114 P P 09 36 13.2 +0.4
COR pmax pmax
comp=Z,12µm,1.4s
HOOD Mount Hood Mea 20.30 110 IAMs_20 IAMs_20 09 42 28.4
comp=Z,3401µm,20.0s
BUCK Buck Mountain 20.37 114 IAMs_20 IAMs_20 09 42 24.5
comp=Z,3426µm,18.0s
H04A Detroit Lake 20.45 112 P P 09 36 17.8 -0.7
H04A IAmb IAmb 09 36 25.9
comp=Z,12µm,1.4s
E07A Sunnyside 20.48 105 P P 09 36 18.0 -0.7
HAWA Hanford 20.75 105 P P 09 36 20.9 -0.9
HAWA IAmb IAmb 09 36 32.4
comp=Z,15µm,1.8s
HAWA IAMs_20 IAMs_20 09 42 47.2
comp=Z,3246µm,19.0s
HAWA Hanford 20.75 105 ⇓P P 09 36 20.8 -0.9
EDM Edmonton 20.80 82 P P 09 36 21.6 -0.6
EDM IAmb IAmb 09 36 36.8
comp=Z,13µm,1.6s
EDM IAMs_20 IAMs_20 09 44 06.8
comp=Z,2835µm,19.0s
EDM Edmonton 20.80 82 P P 09 36 21.6 -0.6
EDM pmax pmax
comp=Z,13µm,1.6s
EDM MLR MLR
comp=Z,2834µm,19.0s
F07A Phinny Hill Vi 20.85 106 P P 09 36 22.2 -0.5
F07A IAMs_20 IAMs_20 09 42 51.7
comp=Z,3507µm,21.0s
G06A Carlson Farm, 20.90 109 P P 09 36 22.6 -0.7
I04A Tendick Farm, 20.95 114 P P 09 36 23.1 -0.8
I04A IAmb IAmb 09 36 31.8
comp=Z,8µm,1.2s
I04A IAMs_20 IAMs_20 09 42 42.8
comp=Z,3061µm,19.0s
E08A Dider Farm, El 20.95 104 P P 09 36 22.4 -1.4
E08A IAmb IAmb 09 36 34.2
comp=Z,10µm,1.5s
E08A IAMs_20 IAMs_20 09 42 53.2
comp=Z,2673µm,19.0s
I56US NEWPORT INFRAS 20.98 98 P Pn 09 36 28.5 +1.7
baz=290,slow=15,SNR=0.8
NEW Newport 20.99 98 P P 09 36 23.6 -0.6
NEW IAmb IAmb 09 36 38.4
comp=Z,2µm,1.1s
NEW Newport 20.99 98 P P 09 36 24.5 +0.3
baz=304,SNR=555
NEW S Sn 09 40 25.7 +1.9
baz=304
NEW Newport 20.99 98 ⇓P P 09 36 23.7 -0.6
NEW Newport 20.99 98 P P 09 36 24.3 0.0
comp=Z,475nm,1.1s,baz=304,slow=9.2,SNR=77
NEW S S 09 40 20.1 +2.2
comp=Z,173nm,1.1s,baz=297,slow=13,SNR=1.2
comp=Z,475nm,1.1s
K02D Willamette Mer 21.11 118 IAMs_20 IAMs_20 09 42 43.3
comp=Z,4003µm,19.0s
KBO Bosley Butte 21.19 120 IAMs_20 IAMs_20 09 42 42.6
comp=Z,3858µm,18.0s
SHEM Shemya Is, Ala 21.48 277 P P 09 36 28.5 -0.9
comp=Z,2µm,0.9s,baz=28,slow=4.0,SNR=46
SHEM S S 09 40 24.3 -3.1
comp=Z,540nm,1.1s,baz=321,slow=10,SNR=1.4
SHEM LR LR 09 44 45.0
comp=Z,2587µm,20.9s,baz=70,slow=37
comp=Z,2µm,0.9s
HUMO Hull Mountain 21.53 117 IAMs_20 IAMs_20 09 42 59.3
comp=Z,3318µm,19.0s
HUMO Hull Mountain 21.53 117 ⇑P P 09 36 29.7 -0.4
L02F Cave Junction 21.58 119 IAMs_20 IAMs_20 09 42 57.9
comp=Z,4145µm,19.0s
KSXB Camp Six Broad 21.65 120 IAMs_20 IAMs_20 09 42 57.8
comp=Z,3101µm,18.0s
G08A Pilot Rock 21.76 107 IAMs_20 IAMs_20 09 43 30.8
comp=Z,3070µm,20.0s
KRMB Red Mountain 21.87 121 IAMs_20 IAMs_20 09 43 04.6
comp=Z,2939µm,19.0s
J05D Fort Rock, OR 21.91 113 IAMs_20 IAMs_20 09 43 15.3
comp=Z,2866µm,19.0s
KRPM Rodgers 22.09 121 IAMs_20 IAMs_20 09 43 10.6
comp=Z,4707µm,18.0s
K04D Chiloquin, OR 22.12 115 IAMs_20 IAMs_20 09 43 20.9
comp=Z,4146µm,21.0s
L04D Klamath Falls 22.14 117 IAMs_20 IAMs_20 09 43 19.5
comp=Z,3163µm,21.0s
I07A Izee 22.27 110 IAMs_20 IAMs_20 09 43 58.4
comp=Z,3190µm,18.0s
F10A Beach Ranch, E 22.27 103 ⇑P P 09 36 36.6 -1.5
YBH Yreka Blue Hor 22.30 118 IAMs_20 IAMs_20 09 43 22.8
comp=Z,3434µm,19.0s
YBH Yreka Blue Hor 22.30 118 P P 09 36 38.7 +0.2
comp=Z,277nm,1.0s,baz=332,slow=6.0,SNR=63
YBH S S 09 40 43.0 -0.6
comp=Z,66nm,1.1s,baz=70,slow=6.7,SNR=1.1
YBH LR LR 09 42 39.9
comp=Z,381µm,19.7s,baz=326,slow=30
comp=Z,277nm,1.0s
JCC Jacoby Creek, 22.36 122 IAMs_20 IAMs_20 09 43 18.5
comp=Z,5120µm,18.0s
KHMM Horse Mountain 22.45 121 P P 09 36 40.2 +0.1
KHMM IAmb IAmb 09 36 57.6
comp=Z,12µm,1.9s
KHMM IAMs_20 IAMs_20 09 43 23.1
comp=Z,5311µm,18.0s
K05A Summer Lake 22.49 114 P P 09 36 39.6 -1.0
BMO Blue Mountains 22.94 105 IAMs_20 IAMs_20 09 44 17.0
comp=Z,3014µm,19.0s
BMO Blue Mountains 22.94 105 ⇓P P 09 36 44.0 -1.2
J08A Circle Bar Ran 23.31 110 IAMs_20 IAMs_20 09 44 31.9
comp=Z,2285µm,18.0s
KCPM Cahto Peak 23.45 123 P P 09 36 50.4 -0.1
KCPM IAmb IAmb 09 37 13.6
comp=Z,8µm,1.6s
KCPM IAMs_20 IAMs_20 09 43 21.7
comp=Z,3845µm,21.0s
PLID Pearl Lake 23.50 103 P P 09 36 49.5 -1.5
BILL Bilibino 23.54 319 eP P 09 36 50.5 -0.5
MSO Missoula 23.58 98 P P 09 36 50.2 -1.5
MSO IAMs_20 IAMs_20 09 44 52.6
comp=Z,2906µm,22.0s
MSO Missoula 23.58 98 P P 09 36 51.1 -0.5
baz=306,SNR=383
MSO S S 09 41 06.7 +0.9
baz=306
MSO Missoula 23.58 98 ⇑P P 09 36 50.1 -1.5
WVOR Wild Horse Val 23.87 112 P P 09 36 53.5 -0.9
WVOR IAMs_20 IAMs_20 09 44 32.8
comp=Z,2293µm,21.0s
WVOR Wild Horse Val 23.87 112 P P 09 36 53.6 -0.9
WVOR pmax pmax
comp=Z,14µm,1.7s
WVOR MLR MLR
comp=Z,2293µm,21.0s
BPMT Black Pine Rid 24.08 98 P P 09 36 55.7 -1.0
HOPS Hopland Field 24.24 123 P P 09 36 57.7 -0.2
HOPS IAmb IAmb 09 37 17.7
comp=Z,6µm,1.6s
HOPS IAMs_20 IAMs_20 09 44 14.6
comp=Z,2697µm,20.0s
LYMT Lyon Mountain 24.42 96 P P 09 36 58.9 -0.8
GDXM Geysers 24.52 123 P P 09 37 00.1 -0.5
GDXM IAMs_20 IAMs_20 09 44 25.0
comp=Z,3342µm,20.0s
ORV Oroville 24.55 120 P P 09 36 58.9 -1.9
ORV IAMs_20 IAMs_20 09 44 33.6
comp=Z,2862µm,20.0s
ORV Oroville 24.55 120 P P 09 36 58.9 -1.9
ORV pmax pmax
comp=Z,2µm,1.2s
ORV MLR MLR
comp=Z,2862µm,20.0s
MFID Camas Ranch 24.68 106 P P 09 37 00.7 -1.4
MFID IAMs_20 IAMs_20 09 45 22.3
comp=Z,2557µm,19.0s
PLTX Planet X, Gerl 24.69 116 P P 09 37 02.2 +0.1
PLTX IAmb IAmb 09 37 21.4
comp=Z,8µm,1.3s
PLTX IAMs_20 IAMs_20 09 45 13.9
comp=Z,3040µm,19.0s
MCCM Marconi Confer 25.01 124 P P 09 37 04.2 -0.7
MCCM IAMs_20 IAMs_20 09 44 33.1
comp=Z,1920µm,18.0s

MCCM	Marconi Confer	25.01	124	⇑P		P		09 37 04.1	-0.7	
EGMT	Eagleton	25.25	92	IAMs_20		IAMs_20		09 46 12.7		
	comp=Z,4999µm,20.0s									
EGMT	Eagleton	25.25	92	P		P		09 37 05.8	-1.3	
	baz=303,SNR=227									
EGMT				S		S		09 41 29.2	-3.3	
	baz=303									
EGMT	Eagleton	25.25	92	⇑P		P		09 37 05.6	-1.4	
AFDM	Forest Hills D	25.29	120	IAMs_20		IAMs_20		09 44 55.0		
	comp=Z,2771µm,20.0s									
HLID	Hailey	25.35	104	IAMs_20		IAMs_20		09 45 43.9		
	comp=Z,2157µm,20.0s									
HLID	Hailey	25.35	104	P		P		09 37 08.6	+0.5	
	baz=312,SNR=466									
HLID				S		S		09 41 32.1	-2.4	
	baz=312									
HLID	Hailey	25.35	104	⇑P		P		09 37 07.5	-0.6	
MPK	Martis Peak	25.48	118	IAMs_20		IAMs_20		09 45 06.9		
	comp=Z,2874µm,20.0s									
PAHR	Pah Rah Range	25.48	117	IAMs_20		IAMs_20		09 45 19.9		
	comp=Z,3290µm,20.0s									
EMB	Emerald Bay	25.69	119	IAMs_20		IAMs_20		09 45 11.6		
	comp=Z,2794µm,20.0s									
PNTR	Pine Nut	25.85	118	IAMs_20		IAMs_20		09 45 31.7		
	comp=Z,3254µm,20.0s									
BMN	Battle Mountai	26.05	113	P		P		09 37 13.6	-0.9	
BMN				IAmb		IAmb		09 37 49.7		
	comp=Z,8µm,1.6s									
BMN				IAMs_20		IAMs_20		09 46 01.6		
	comp=Z,1947µm,19.0s									
BMN	Battle Mountai	26.05	113	P		P		09 37 13.6	-0.9	
BMN				pmax		pmax				
	comp=Z,8µm,1.6s									
BMN				MLR		MLR				
	comp=Z,1947µm,19.0s									
YERR	Yerington	26.11	118	P		P		09 37 13.1	-1.9	
YERR				IAmb		IAmb		09 37 36.8		
	comp=Z,5µm,1.2s									
YERR				IAMs_20		IAMs_20		09 45 39.5		
	comp=Z,3578µm,20.0s									
CMB	Columbia Colle	26.29	121	P		P		09 37 14.8	-1.7	
CMB				IAmb		IAmb		09 37 53.4		
	comp=Z,6µm,1.8s									
CMB				IAMs_20		IAMs_20		09 45 36.5		
	comp=Z,3615µm,19.0s									
CMB	Columbia Colle	26.29	121	P		P		09 37 14.8	-1.7	
CMB				pmax		pmax				
	comp=Z,6µm,1.8s									
CMB				MLR		MLR				
	comp=Z,3615µm,19.0s									
YHL	Hebgen Lake	26.31	99	P		P		09 37 15.8	-1.1	
WAKR	Walker	26.38	119	P		P		09 37 17.1	-0.4	
WAKR				IAmb		IAmb		09 37 39.8		
	comp=Z,3µm,1.3s									
WAKR				IAMs_20		IAMs_20		09 45 46.9		
	comp=Z,2976µm,20.0s									
FFC	Flin Flon	26.48	73	P		P		09 37 17.0	-1.0	
FFC				IAmb		IAmb		09 37 48.6		
	comp=Z,7µm,1.8s									
FFC	Flin Flon	26.48	73	IAMs_20		IAMs_20		09 47 09.8		
	comp=Z,3148µm,22.0s									
FFC	Flin Flon	26.48	73	⇑P		P		09 37 18.6	+0.5	
FFC	Flin Flon	26.48	73	P		P		09 37 17.0	-1.0	
FFC				pmax		pmax				
	comp=Z,7µm,1.8s									
FFC				MLR		MLR				
	comp=Z,3148µm,22.0s									
KVN	Kaiserville	26.63	116	IAMs_20		IAMs_20		09 45 58.3		
	comp=Z,2429µm,20.0s									
RYN	Ryan	26.74	117	P		P		09 37 19.9	-0.8	
RYN				IAMs_20		IAMs_20		09 46 01.3		
	comp=Z,2934µm,20.0s									
SAO	San Andreas Ge	26.80	124	P		P		09 37 20.5	-0.6	
SAO				IAMs_20		IAMs_20		09 45 26.3		
	comp=Z,2556µm,21.0s									
SAO	San Andreas Ge	26.80	124	⇑P		P		09 37 20.2	-0.8	
SAO	San Andreas Ge	26.80	124	P		P		09 37 20.5	-0.6	
SAO				pmax		pmax				
	comp=Z,3µm,1.9s									
ELK	Elko	26.86	110	P		P		09 37 21.0	-0.8	
ELK				IAmb		IAmb		09 37 40.4		
	comp=Z,2µm,1.2s									
ELK				IAMs_20		IAMs_20		09 46 10.9		
	comp=Z,1602µm,20.0s									
ELK	Elko	26.86	110	⇓P		P		09 37 21.3	-0.6	
ELK	Elko	26.86	110	P		P		09 37 21.8	0.0	
	comp=Z,335nm,1.1s,baz=314,slow=9.0,SNR=96									
ELK				S		S		09 41 55.1	-3.3	
	comp=Z,82nm,1.1s,baz=333,slow=7.6,SNR=1.1									
ELK				LR		LR		09 46 21.5		
	comp=Z,1320µm,18.8s,baz=322,slow=33									
	comp=Z,335nm,1.1s									
H17A	Grant Village	26.93	99	P		P		09 37 22.6	+0.1	
H17A				IAmb		IAmb		09 37 50.5		
	comp=Z,5µm,1.6s									
H17A	Grant Village	26.93	99	P		P		09 37 23.1	+0.6	
	baz=309,SNR=256									
H17A				S		S		09 42 03.8	+4.3	
	baz=309									
YMP	Mirror Lake Pl	26.95	98	P		P		09 37 21.3	-1.4	
YMP				IAmb		IAmb		09 38 01.3		
	comp=Z,9µm,1.6s									
NVAR	Mina Array Bea	27.00	117	P		P		09 37 21.9	-1.2	
NVAR	Mina Array Bea	27.00	117	P		P		09 37 22.4	-0.8	
	comp=Z,261nm,0.8s,baz=308,slow=7.7,SNR=232									
NVAR				PcP		PcP		09 40 46.8	+2.4	
	comp=Z,212nm,1.0s,baz=305,slow=3.2,SNR=3.5									
NVAR				S		S		09 42 09.4	+8.7	
	comp=Z,12nm,0.6s,baz=320,slow=17,SNR=1.1									
NVAR				LR		LR		09 46 32.3		
	comp=Z,3152µm,19.1s,baz=308,slow=33									
NVAR				P3KPbc				10 09 54.4		
	comp=Z,0.8nm,0.8s,baz=145,slow=4.0,SNR=1.2									
	comp=Z,261nm,0.8s									
LHV	Little Huntoon	27.04	118	P		P		09 37 23.4	+0.2	
LHV				IAmb		IAmb		09 37 55.9		
	comp=Z,6µm,1.5s									
LHV				IAMs_20		IAMs_20		09 46 11.2		
	comp=Z,3638µm,21.0s									
IMW	Indian Meadow	27.05	100	P		P		09 37 22.2	-1.4	
FLWY	Flagg Ranch	27.06	100	P		P		09 37 22.5	-1.1	
FLWY				IAmb		IAmb		09 38 00.8		
	comp=Z,7µm,1.4s									
NV11	Mina Array Sit	27.07	117	P		P		09 37 22.5	-1.2	
NV11				IAMs_20		IAMs_20		09 46 11.1		
	comp=Z,3036µm,21.0s									
BBGB	Big Mountain B	27.14	124	IAMs_20		IAMs_20		09 45 37.3		
	comp=Z,2366µm,21.0s									
RLMT	Red Lodge	27.21	96	IAMs_20		IAMs_20		09 47 09.7		
	comp=Z,2506µm,21.0s									
RLMT	Red Lodge	27.21	96	P		P		09 37 24.7	-0.2	
	baz=308,SNR=189									
RLMT				S		S		09 42 04.2	+0.4	
	baz=308									
RLMT	Red Lodge	27.21	96	⇑P		P		09 37 24.5	-0.4	
MDPB	Devils Postpil	27.24	120	IAMs_20		IAMs_20		09 46 10.6		
	comp=Z,2436µm,20.0s									
Q09A	Carvers	27.26	115	IAMs_20		IAMs_20		09 47 05.9		
	comp=Z,2305µm,18.0s									
OMMB	Old Mammoth Mi	27.29	119	IAMs_20		IAMs_20		09 46 13.0		
	comp=Z,2634µm,20.0s									
MLAC	Mammoth, Mammo	27.36	119	P		P		09 37 27.1	+0.8	
	baz=322,SNR=215									
MLAC				S		S		09 42 11.3	+5.0	
	baz=322									
HVU	Hansel Valley	27.45	106	IAMs_20		IAMs_20		09 47 01.2		
	comp=Z,2035µm,20.0s									
AHID	Auburn Hatcher	27.70	102	⇑P		P		09 37 28.8	-0.6	
TPH	Tonopah	27.82	116	P		P		09 37 29.7	-0.7	
TPH	Tonopah	27.82	116	P		P		09 37 29.7	-0.7	
TPH				pmax		pmax				
	comp=Z,16µm,1.4s									
TPH				MLR		MLR				
	comp=Z,8053µm,18.0s									
RES	Resolute Bay	27.85	28	P		P		09 37 28.5	-1.6	
RES	Resolute Bay	27.85	28	P		P		09 37 28.5	-1.6	
RES				pmax		pmax				
	comp=Z,15µm,2.0s									
RES	Resolute Bay	27.85	28	LR		LR		09 49 13.0		
	comp=Z,1388µm,19.3s,baz=254,slow=38									
RES				P3KPbc				10 09 55.1		
	comp=Z,10nm,0.9s,baz=108,slow=3.2,SNR=3.9									
BGU	Big Grassy Mou	27.91	107	P		P		09 37 30.1	-1.1	
BGU				IAmb		IAmb		09 38 08.6		
	comp=Z,4µm,1.7s									
BGU				IAMs_20		IAMs_20		09 47 15.5		
	comp=Z,1763µm,19.0s									
SPUT	South Promonto	27.95	106	IAMs_20		IAMs_20		09 47 17.6		
	comp=Z,1867µm,20.0s									
LAO	LASA Array	27.99	91	P		P		09 37 31.1	-0.6	
LAO				IAmb		IAmb		09 38 11.5		
	comp=Z,7µm,1.9s									
LAO				IAMs_20		IAMs_20		09 48 00.1		
	comp=Z,4070µm,20.0s									
LAO	LASA Array	27.99	91	P		P		09 37 31.6	-0.2	
	baz=305,SNR=145									
LAO				S		S		09 42 15.1	-0.6	
	baz=305									
LAO	LASA Array	27.99	91	P		P		09 37 27.0	-4.7	
	baz=305,SNR=145									
LAO				S		S		09 42 16.6	+0.8	
	baz=305									
LAO	LASA Array	27.99	91	⇑P		P		09 37 31.5	-0.2	
TIN	Tinemaha, Big	28.11	119	P		P		09 37 34.0	+1.0	
	baz=322,SNR=62									
TIN				S		S		09 42 20.5	+2.6	
	baz=322									
DGMT	Dagmar	28.13	86	P		P		09 37 32.2	-0.8	
DGMT				IAmb		IAmb		09 38 32.4		
	comp=Z,3µm,1.2s									
DGMT	Dagmar	28.13	86	IAMs_20		IAMs_20		09 48 16.8		
	comp=Z,3728µm,19.0s									
DGMT	Dagmar	28.13	86	P		P		09 37 33.2	+0.3	
	baz=302,SNR=127									
DGMT				S		S		09 42 17.9	-0.1	
	baz=302									
DGMT	Dagmar	28.13	86	P		P		09 37 26.4	-6.6	
	baz=302,SNR=127									
DGMT	Dagmar	28.13	86	⇑P		P		09 37 33.2	+0.3	
VOG	Valley Oaks Go	28.13	122	P		P		09 37 33.1	+0.1	
	baz=324,SNR=20									
VOG				S		S		09 42 21.6	+3.6	
	baz=324									
HWUT	Hardware Ranch	28.23	105	P		P		09 37 33.4	-0.7	
HWUT				IAmb		IAmb		09 38 15.4		
	comp=Z,8µm,1.9s									
HWUT				IAMs_20		IAMs_20		09 47 28.9		
	comp=Z,1841µm,21.0s									
HWUT	Hardware Ranch	28.23	105	⇑P		P		09 37 33.8	-0.2	
Q12A	Willow Creek R	28.32	112	IAMs_20		IAMs_20		09 47 43.6		
	comp=Z,2183µm,19.0s									
GMN	Gold Mountain	28.40	118	IAMs_20		IAMs_20		09 47 15.1		
	comp=Z,1822µm,19.0s									
R11B	Troy Canyon, C	28.44	114	P		P		09 37 34.6	-1.3	
R11B				IAmb		IAmb		09 38 14.0		
	comp=Z,5µm,1.8s									
R11B				IAMs_20		IAMs_20		09 47 30.1		
	comp=Z,1989µm,19.0s									
R11B	Troy Canyon, C	28.44	114	P		P		09 37 36.4	+0.4	
	baz=319,SNR=1000									
R11B				S		S		09 42 24.9	+1.6	
	baz=319									
DUG	Dugway, Tooele	28.54	108	P		P		09 37 35.6	-1.2	
DUG				IAmb		IAmb		09 38 15.8		
	comp=Z,4µm,1.6s									
DUG	Dugway, Tooele	28.54	108	P		P		09 37 37.1	+0.3	
	baz=316,SNR=236									
DUG				S		S		09 42 24.7	0.0	
	baz=316									
DUG	Dugway, Tooele	28.54	108	⇓P		P		09 37 36.0	-0.8	
DUG	Dugway, Tooele	28.54	108	P		P		09 37 35.6	-1.2	
DUG				pmax		pmax				
	comp=Z,4µm,1.7s									
DUG				MLR		MLR				
	comp=Z,1542µm,21.0s									
BW06	Boulder Array	28.55	101	P		P		09 37 35.3	-1.6	
BW06	Boulder Array	28.55	101	P		P		09 37 36.5	-0.4	
	baz=311,SNR=210									
BW06				S		S		09 42 30.2	+5.2	
	baz=311									
BW06	Boulder Array	28.55	101	⇓P		P		09 37 35.5	-1.5	
PD31	Pinedale Array	28.55	101	P		P		09 37 35.1	-1.9	
PDAR	Pinedale Array	28.55	101	P		P		09 37 34.9	-2.1	
PDAR	Pinedale Array	28.55	101	P		P		09 37 36.3	-0.6	
	comp=Z,90nm,0.6s,baz=319,slow=4.4,SNR=348									
PDAR				S		S		09 42 33.2	+8.2	
	comp=Z,16nm,1.0s,baz=311,slow=17,SNR=0.7									
PDAR				LR		LR		09 48 39.0		
	comp=Z,589µm,19.3s,baz=317,slow=36									
PDAR				P3KPbc				10 09 52.6		
	comp=Z,8.7nm,1.0s,baz=134,slow=5.2,SNR=12									
	comp=Z,90nm,0.6s									
GRAC	Grapevine Rang	28.58	118	P		P		09 37 37.8	+0.8	
	baz=322,SNR=71									
GRAC				S		S		09 42 28.7	+3.5	
	baz=322									
SPR3	Spring Creek 3	28.61	112	IAMs_20		IAMs_20		09 47 55.3		
	comp=Z,2201µm,18.0s									
TCUT	Toone Canyon	28.65	105	IAMs_20		IAMs_20		09 47 42.0		
	comp=Z,1876µm,20.0s									
SMMC	Simmler	28.66	124	P		P		09 37 39.0	+1.3	
	baz=325,SNR=122									
SMMC				S		S		09 42 25.5	-0.9	
	baz=325									
VES	Vestal, Richgr	28.66	122	P		P		09 37 38.0	+0.3	
	baz=324,SNR=103									
VES				S		S		09 42 30.4	+4.0	
	baz=324									
CWC	Cottonwood Cre	28.67	120	P		P		09 37 39.0	+1.0	
	baz=323									
CWC				S		S		09 42 28.7	+1.9	
	baz=323									
CTU	Camp Tracy	28.76	106	IAMs_20		IAMs_20		09 47 53.0		
	comp=Z,1748µm,18.0s									
S11A	Rachel	28.89	115	IAMs_20		IAMs_20		09 47 33.2		
	comp=Z,2000µm,20.0s									
PKM	Mcpherson Peak	29.09	124	P		P		09 37 42.7	+0.9	
	baz=326,SNR=137									
PKM				S		S		09 42 31.9	-1.7	
	baz=326									
ISA	Isabella, Lake	29.10	121	P		P		09 37 40.3	-1.4	
ISA				IAMs_20		IAMs_20		09 46 58.0		
	comp=Z,2576µm,22.0s									
ISA	Isabella, Lake	29.10	121	P		P		09 37 42.1	+0.4	
	baz=324,SNR=159									
ISA				S		S		09 42 35.0	+1.6	
	baz=324									
ISA	Isabella, Lake	29.10	121	P		P		09 37 40.3	-1.4	
ISA				pmax		pmax				
	comp=Z,2µm,1.4s									
NLU	North Lily Min	29.11	108	P		P		09 37 40.1	-1.8	
WCT	Wildcat Mounta	29.11	117	P		P		09 37 40.6	-1.3	
WCT				IAmb		IAmb		09 38 24.3		
	comp=Z,3µm,1.2s									
FCC	Fort Churchill	29.16	61	P		P		09 37 40.6	-1.3	
FCC				IAmb		IAmb		09 38 03.8		
	comp=Z,7µm,1.4s									
FCC	Fort Churchill	29.16	61	P		P		09 37 40.6	-1.3	
FCC				pmax		pmax				
	comp=Z,7µm,1.5s									
TPNV	Topopah Spring	29.18	117	P		P		09 37 41.2	-1.3	
TPNV				IAmb		IAmb		09 38 16.2		
	comp=Z,5µm,1.4s									
TPNV				IAMs_20		IAMs_20		09 47 41.6		
	comp=Z,1515µm,19.0s									
TPNV	Topopah Spring	29.18	117	P		P		09 37 42.0	-0.6	
	baz=321,SNR=418									
TPNV				S		S		09 42 38.8	+4.0	
	baz=321									
TPNV	Topopah Spring	29.18	117	⇑P		P		09 37 42.2	-0.3	
TPNV	Topopah Spring	29.18	117	P		P		09 37 41.2	-1.3	
TPNV				pmax		pmax				
	comp=Z,5µm,1.5s									
TPNV				MLR		MLR				
	comp=Z,1515µm,19.0s									
FURC	Furnace Creek,	29.25	118	P		P		09 37 43.7	+0.9	
	baz=322,SNR=354									
FURC				S		S		09 42 37.9	+2.4	
	baz=322									
MPMC	Manual Prospec	29.26	119	P		P		09 37 43.6	+0.3	
	baz=323,SNR=400									
MPU	Maple Canyon	29.30	107	IAMs_20		IAMs_20		09 48 09.4		
	comp=Z,1666µm,19.0s									
ARVC	Arvin	29.36	122	P		P		09 37 42.8	-1.2	
	baz=325,SNR=75									
ARVC				S		S		09 42 40.7	+3.3	
	baz=325									
PRN	Pahroc Range	29.43	115	IAMs_20		IAMs_20		09 48 01.3		
	comp=Z,2063µm,19.0s									
SBC	Santa Barbara	29.51	124	P		P		09 37 46.0	+0.8	
	baz=326,SNR=10.0									
SBC				S		S		09 42 40.4	+0.8	
	baz=326									
SEY	Seymchan	29.56	308	*c i*P		P		09 37 44.9	-0.5	
SEY				pmax		pmax				
	comp=Z,3µm,1.3s									
SEY				MLR		MLR				
	comp=Z,1898µm,14.0s									
SEY	Seymchan	29.56	308	LR		LR		09 50 25.9		
	comp=Z,3084µm,19.9s,baz=104,slow=38									
SEY				P3KPbc				10 09 49.8		
	comp=Z,8.0nm,0.8s,baz=234,slow=4.9,SNR=5.5									
GWY	Greenwater Val	29.57	118	IAMs_20		IAMs_20		09 47 40.1		
	comp=Z,2563µm,20.0s									
LRMC	Laurel Mtn Rad	29.63	120	P		P		09 37 47.2	+0.7	
	baz=324,SNR=344									
LRMC				S		S		09 42 48.7	+6.8	
	baz=324									
QSM	Queen of Sheba	29.64	119	P		P		09 37 46.2	-0.2	
QSM				IAmb		IAmb		09 38 21.3		
	comp=Z,8µm,1.8s									
CCAC	Calif City Air	29.73	121	P		P		09 37 46.3	-1.0	
CCAC				IAMs_20		IAMs_20		09 47 18.7		
	comp=Z,2076µm,21.0s									
OSI	Osito Audit: C	29.83	123	P		P		09 37 48.2	0.0	
	baz=325,SNR=19									
OSI				S		S		09 42 51.4	+6.5	
	baz=325									
PET	Petropavlovsk	29.85	287	P		P		09 37 47.2	-0.9	
PET				IAmb		IAmb		09 38 18.3		
	comp=Z,5µm,1.2s									
PET				IAMs_20		IAMs_20		09 49 38.4		
	comp=Z,1877µm,20.0s									
PET	Petropavlovsk	29.85	287	P		P		09 37 48.8	+0.7	
PET	Petropavlovsk	29.85	287	⇑P		P		09 37 47.7	-0.4	
PET	Petropavlovsk	29.85	287	*e*P		P		09 37 47.7	-0.4	
PET				*e*				09 38 54.6		
PET				pmax		pmax				
	comp=Z,2µm,1.3s									
PET				pmax		pmax				
	comp=Z,90µm,11.8s									
PET				MLR		MLR				
	comp=Z,884µm,19.0s									
TCRU	Three Creeks R	29.89	110	P		P		09 37 48.1	-0.7	
TCRU				IAmb		IAmb		09 38 30.8		
	comp=Z,3µm,1.3s									
SCZ2	Santa Cruz Isl	29.91	125	P		P		09 37 48.4	-0.5	
	baz=326,SNR=14									
SCZ2				S		S		09 42 49.7	+3.6	
	baz=326									
EDW2	Edwards Air Fo	29.96	122	P		P		09 37 48.5	-0.8	
	baz=324,SNR=128									
EDW2				S		S		09 42 50.0	+3.1	
	baz=324									
SHOC	Shoshone, Teco	29.99	118	P		P		09 37 50.0	+0.5	
	baz=322,SNR=281									
SHOC				S		S		09 42 55.0	+7.7	
	baz=322									
RDMU	Red Mountain	30.03	104	IAMs_20		IAMs_20		09 48 37.4		
	comp=Z,1661µm,20.0s									
GSC	Goldstone, Bar	30.20	119	IAMs_20		IAMs_20		09 48 08.0		
	comp=Z,2223µm,19.0s									
GSC	Goldstone, Bar	30.20	119	P		P		09 37 52.5	+1.1	
	baz=323,SNR=211									
GSC				S		S		09 42 54.2	+3.5	
	baz=323									
SZCU	Shurtz Canyon	30.30	112	IAMs_20		IAMs_20		09 48 58.2		
	comp=Z,1570µm,18.0s									
K22A	Casper	30.31	98	P		P		09 37 50.6	-1.8	
K22A				IAmb		IAmb		09 38 14.4		
	comp=Z,3µm,1.6s									
K22A				IAMs_20		IAMs_20		09 49 01.4		
	comp=Z,1812µm,21.0s									
K22A	Casper	30.31	98	P		P		09 37 51.3	-1.2	
	baz=311,SNR=163									
K22A				S		S		09 42 54.6	+2.1	
	baz=311									
K22A	Casper	30.31	98	P		P		09 37 50.9	-1.6	
	baz=311,SNR=163									
K22A				S		S		09 42 50.9	-1.6	
	baz=311									
DECC	Green Verdugo	30.31	123	P		P		09 37 52.7	+0.3	
	baz=325,SNR=39									
DECC				S		S		09 42 54.8	+2.4	
	baz=325									
P18A	Preston Nutter	30.33	106	IAMs_20		IAMs_20		09 48 45.4		
	comp=Z,1489µm,19.0s									
PEA0B	Petropavlovsk-	30.33	287	*c i*P		P		09 37 53.3	+0.9	
PETK	Petropavlovsk-	30.33	287	P		P		09 37 52.0	-0.4	
PETK	Petropavlovsk-	30.33	287	P		P		09 37 52.4	0.0	
	comp=Z,245nm,0.8s,baz=79,slow=9.5,SNR=83									
PETK				S		S		09 42 55.0	+2.8	
	comp=Z,34nm,0.8s,baz=101,slow=13,SNR=1.1									
PETK				LR		LR		09 51 50.9		
	comp=Z,809µm,18.4s,baz=86,slow=40									
PETK				P3KPbc				10 09 41.3		
	comp=Z,6.4nm,1.1s,baz=232,slow=1.6,SNR=2.0									
	comp=Z,245nm,0.8s									
WTNK	Soaring Height	30.39	116	P		P		09 37 52.7	-0.4	
MTPU	Mount Pierson	30.45	110	P		P		09 37 53.1	-0.9	
MTPU				IAmb		IAmb		09 38 33.8		
	comp=Z,5µm,1.9s									
PASC	Pasadena Art C	30.45	123	P		P		09 37 53.6	0.0	
PASC	Pasadena Art C	30.45	123	IAMs_20		IAMs_20		09 48 13.8		
	comp=Z,1356µm,18.0s									
RRX	Edison Barstow	30.45	120	P		P		09 37 54.2	+0.7	
	baz=324,SNR=62									
RRX				S		S		09 43 00.8	+6.3	
	baz=324									
TUQ	Turquoise Moun	30.53	118	P		P		09 37 54.3	-0.1	
	baz=323,SNR=128									
TUQ				S		S		09 42 58.1	+2.2	
	baz=323									
SRU	San Rafael Swe	30.55	107	P		P		09 37 54.0	-0.7	
SRU				IAmb		IAmb		09 38 36.8		
	comp=Z,4µm,1.3s									
SRU	San Rafael Swe	30.55	107	P		P		09 37 54.0	-0.7	
SRU				pmax		pmax				
	comp=Z,4µm,1.3s									
SRU				MLR		MLR				
	comp=Z,1208µm,19.0s									
RWWY	Rawlins	30.57

baz=326
BBRC Big Bear Solar 30.98 121 P P 09 37 59.3 +0.7
baz=324,SNR=46
BBRC S S 09 43 03.1 -0.2

baz=324
MDND Maddock 31.05 84 P P 09 37 58.0 -0.8
MDND IAMs_20 IAMs_20 09 50 21.1

comp=Z,2907µm,20.0s
MDND Maddock 31.05 84 P P 09 37 57.8 -1.0
baz=304,SNR=590
MDND S S 09 43 03.1 -0.6

baz=304
MDND Maddock 31.05 84 P P 09 37 55.6 -3.2
baz=304,SNR=590
MDND S S 09 43 02.6 -1.1

baz=304
O20A White River Ci 31.06 103 P P 09 37 57.8 -1.4
O20A IAmb IAmb 09 38 28.6

comp=Z,2µm,1.0s
O20A White River Ci 31.06 103 P P 09 37 58.6 -0.6
baz=314,SNR=602
O20A S S 09 43 03.9 -0.5

baz=314
E28A Huff 31.16 87 IAMs_20 IAMs_20 09 50 14.2
comp=Z,2905µm,20.0s
E28A Huff 31.16 87 P P 09 37 59.7 -0.1
baz=306,SNR=129
GMRC Granite Mounta 31.18 119 P P 09 37 59.9 -0.3
baz=323,SNR=251
GMRC S S 09 43 04.7 -1.4

baz=323
ELS Elsinore Mount 31.24 122 P P 09 37 60.0 -0.7
ELS IAmb IAmb 09 38 45.9

comp=Z,2µm,1.4s
HMU Henry Mountain 31.29 109 P P 09 38 00.3 -1.0
HMU IAmb IAmb 09 38 39.6

comp=Z,3µm,1.2s
MA2 Magadan 31.29 302 P P 09 38 00.6 -0.1
MA2 IAmb IAmb 09 38 22.6

comp=Z,5µm,1.3s
MA2 IAMs_20 IAMs_20 09 51 35.3

comp=Z,1515µm,20.0s
MA2 Magadan 31.29 302 P P 09 38 01.3 +0.6
MA2 Magadan 31.29 302 ⇑P P 09 38 01.0 +0.2
MA2 Magadan 31.29 302 *c i*P **P 09 38 00.8 +0.1**
MA2 pmax pmax

comp=Z,9µm,2.0s
MA2 MLR MLR

comp=Z,1411µm,18.0s
MURC Murrieta 31.39 122 P P 09 38 01.3 -0.6
baz=325,SNR=76
MURC S S 09 43 01.5 -7.7

baz=325
U15A North Rim 31.60 112 P P 09 38 02.9 -1.2
U15A IAmb IAmb 09 38 58.8

comp=Z,6µm,1.8s
U15A IAMs_20 IAMs_20 09 49 49.7

comp=Z,1479µm,18.0s
BELC Belle Mtn. Jos 31.64 120 P P 09 38 04.6 +0.4
baz=324,SNR=90
BELC S S 09 43 12.9 -0.5

baz=324
NEE2 Needles Airpor 31.71 117 P P 09 38 05.1 +0.5
baz=323,SNR=156
NEE2 S S 09 43 17.4 +3.3

baz=323
PFO Pinyon Flats O 31.73 121 P P 09 38 04.3 -0.8
PFO IAmb IAmb 09 38 45.7

comp=Z,2µm,1.4s
PFO Pinyon Flats O 31.73 121 IAMs_20 IAMs_20 09 49 24.7
comp=Z,1557µm,18.0s
PFO Pinyon Flats O 31.73 121 P P 09 38 05.6 +0.6
baz=325,SNR=101
PFO S S 09 43 14.5 -0.2

baz=325
PFO Pinyon Flats O 31.73 121 P P 09 38 05.2 +0.2
comp=Z,201nm,1.1s,baz=326,slow=8.1,SNR=64
PFO S S 09 43 17.2 +2.5
comp=Z,35nm,1.1s,baz=174,slow=0.6,SNR=1.2
PFO LR LR 09 49 37.9
comp=Z,1533µm,18.4s,baz=322,slow=34
comp=Z,201nm,1.1s
TPFO Pinon Flats 31.74 121 P P 09 38 04.4 -0.7
baz=325,SNR=121
TPFO S S 09 43 09.2 -5.7

baz=325
PMD Palm Desert 31.74 121 P P 09 38 04.2 -0.8
PMD IAmb IAmb 09 38 22.2

comp=Z,3µm,1.6s
PMD IAMs_20 IAMs_20 09 49 27.6

comp=Z,1506µm,18.0s
I10CA LAC DU BONNET 31.77 78 P P 09 38 09.9 +4.9
baz=319,slow=7.8,SNR=2.2
PHWY Pilot Hill 31.80 99 P P 09 38 04.7 -1.1
N23A Red Feather La 31.80 100 P P 09 38 04.7 -1.1
N23A IAmb IAmb 09 38 39.6

comp=Z,5µm,1.6s
N23A Red Feather La 31.80 100 P P 09 38 05.6 -0.2
baz=313,SNR=128
N23A S S 09 43 16.0 -0.1

baz=313
W13A Hualapai Mount 31.82 116 P P 09 38 05.1 -0.8
W13A IAMs_20 IAMs_20 09 49 17.5

comp=Z,3297µm,20.0s
ULM Lac du Bonnet 31.83 77 P P 09 38 05.0 -0.5
ULM IAmb IAmb 09 38 38.7

comp=Z,5µm,1.4s
ULM IAMs_20 IAMs_20 09 51 05.5

comp=Z,2582µm,19.0s
ULM Lac du Bonnet 31.83 77 ⇑P P 09 38 05.6 0.0
ULM Lac du Bonnet 31.83 77 P P 09 38 05.9 +0.3
comp=Z,248nm,1.1s,baz=296,slow=8.9,SNR=50
ULM S S 09 43 18.4 +2.7
comp=Z,174nm,1.1s,baz=117,slow=12,SNR=1.7
ULM LR LR 09 51 07.3
comp=Z,2392µm,18.9s,baz=292,slow=37
ULM P3KPbc 10 09 38.0
comp=Z,32nm,0.9s,baz=153,slow=9.0,SNR=15
comp=Z,248nm,1.1s
IRM Iron Mountain 31.93 119 P P 09 38 07.2 +0.5
baz=324,SNR=724
IRM S S 09 43 22.7 +4.9

baz=324
109C Camp Elliot, M 32.01 123 P P 09 38 07.9 +0.5
109C IAmb IAmb 09 38 46.4

comp=Z,3µm,1.4s
109C Camp Elliot, M 32.01 123 P P 09 38 08.2 +0.8
baz=326,SNR=67
109C S S 09 43 17.1 -1.8

baz=326
BC3 Big Chuckawall 32.18 120 P P 09 38 09.3 +0.3
baz=324,SNR=114
BC3 S S 09 43 20.9 -0.9

baz=324
PDMCI Parker Dam,Lak 32.31 117 P P 09 38 09.7 -0.2
baz=323,SNR=214
PDMCI S S 09 43 22.8 -0.8

baz=323
MONP2 Monument Peak 32.34 122 P P 09 38 10.6 +0.1
baz=326,SNR=158
MONP2 S S 09 43 22.3 -2.0

baz=326
TJX Tijuana 32.35 123 P P 09 38 10.0 -0.3
TJX IAmb IAmb 09 38 49.6

comp=Z,4µm,1.2s
SKR Severo-Kuril's 32.36 284 *e*P **P 09 38 09.0 -1.2**
SKR *e* 09 39 15.0
SKR pmax pmax

comp=Z,48µm,7.8s
SKR MLR MLR

comp=Z,802µm,17.0s
BAR Barrett 32.39 122 P P 09 38 11.3 +0.6
BAR IAmb IAmb 09 38 49.7

comp=Z,3µm,1.5s
SMCO Snowmass 32.43 103 P P 09 38 10.4 -1.1
SMCO IAMs_20 IAMs_20 09 50 08.9

comp=Z,1322µm,20.0s
SMCO Snowmass 32.43 103 ⇑P P 09 38 10.4 -1.1
BLYC Blythe 32.57 118 IAMs_20 IAMs_20 09 49 57.5
comp=Z,1371µm,18.0s
SWSC Sam W. Stewart 32.59 121 P P 09 38 13.0 +0.5
baz=325,SNR=108
SWSC S S 09 43 29.4 +1.5

baz=325
IKP In-Ko-Pah, Jac 32.68 122 P P 09 38 14.2 +0.8
baz=326,SNR=122
IKP S S 09 43 31.1 +1.5

baz=326
ISCO Idaho Springs 32.74 101 P P 09 38 14.1 +0.1
baz=314,SNR=94
ISCO S S 09 43 31.5 +0.7

baz=314
ISCO Idaho Springs 32.74 101 P P 09 38 13.2 -0.8
baz=314,SNR=94
ISCO Idaho Springs 32.74 101 ⇑P P 09 38 13.6 -0.5
WUAZ Wupatki 32.78 113 P P 09 38 13.7 -0.5
WUAZ IAMs_20 IAMs_20 09 50 37.8

comp=Z,1691µm,18.0s
WUAZ Wupatki 32.78 113 P P 09 38 14.6 +0.4
baz=321,SNR=473
WUAZ S S 09 43 34.0 +2.8

baz=321
WUAZ Wupatki 32.78 113 ⇓P P 09 38 13.9 -0.3
AGMN Agassiz Nation 32.88 81 P P 09 38 14.2 -0.6
AGMN IAmb IAmb 09 38 48.0

comp=Z,2µm,1.2s
AGMN IAMs_20 IAMs_20 09 51 31.3

comp=Z,2385µm,19.0s
AGMN Agassiz Nation 32.88 81 P P 09 38 14.9 +0.1
baz=304,SNR=177
AGMN S S 09 43 32.9 +0.6

baz=304
AGMN Agassiz Nation 32.88 81 P P 09 38 14.2 -0.6
baz=304,SNR=177
AGMN S S 09 43 30.3 -2.0

baz=304
AGMN Agassiz Nation 32.88 81 ⇑P P 09 38 14.8 -0.1
D32A Dogwood Acres, 32.90 83 IAMs_20 IAMs_20 09 51 27.0
comp=Z,2177µm,20.0s
D32B Dogwood Acres, 32.90 83 P P 09 38 14.1 -0.9
baz=305,SNR=178
D32B S S 09 43 29.0 -3.5

baz=305
BRIGG Briggsdale 32.92 99 P 09 38 15.3 -0.1
GLA Glamis 32.98 119 P P 09 38 16.1 +0.2
baz=324
GLA S S 09 43 38.4 +4.4

baz=324
MVCO Mesa Verde 33.02 107 P P 09 38 15.2 -1.3
MVCO IAmb IAmb 09 38 54.8

comp=Z,2µm,1.3s
MVCO Mesa Verde 33.02 107 P P 09 38 15.7 -0.7
baz=318,SNR=204
MVCO S S 09 43 39.2 +4.1

baz=318
MVCO Mesa Verde 33.02 107 ⇓P P 09 38 15.1 -1.3
Y14A Wickenburg 33.17 116 P P 09 38 16.2 -1.4
Y14A IAMs_20 IAMs_20 09 49 55.6

comp=Z,2445µm,21.0s
SUSD Miller 33.42 89 P P 09 38 19.5 -0.1
baz=308,SNR=244
SUSD S S 09 43 40.2 -0.4

baz=308
SUSD Miller 33.42 89 P P 09 38 19.0 -0.6
baz=308,SNR=244
S22A 4UR Ranch, Cre 33.53 105 P P 09 38 20.0 -1.0
S22A IAMs_20 IAMs_20 09 50 42.3

comp=Z,1429µm,20.0s
S22A 4UR Ranch, Cre 33.53 105 P P 09 38 22.1 +1.1
baz=317,SNR=156
S22A S S 09 43 43.5 +0.3

baz=317
Q24A Divide 33.58 102 P P 09 38 22.3 +0.8
baz=315,SNR=241
Q24A S S 09 43 47.0 +3.1

baz=315
X16A Lo Mia Camp, P 33.59 114 P P 09 38 20.7 -0.8
X16A IAmb IAmb 09 38 46.7

comp=Z,2µm,1.0s
113A Mohawk Valley, 33.73 118 IAMs_20 IAMs_20 09 50 16.4
comp=Z,1168µm,18.0s
W18A Petrified Fore 33.94 111 IAMs_20 IAMs_20 09 51 23.4
comp=Z,1291µm,18.0s
W18A Petrified Fore 33.94 111 P P 09 38 25.0 +0.6
baz=320,SNR=175
W18A S S 09 43 53.0 +3.7

baz=320
OGNE Ogallala 33.95 96 P P 09 38 23.4 -0.9
OGNE IAMs_20 IAMs_20 09 51 17.1

comp=Z,1893µm,21.0s
OGNE Ogallala 33.95 96 P P 09 38 24.0 -0.3
baz=312,SNR=122
OGNE S S 09 43 49.2 +0.1

baz=312
OGNE Ogallala 33.95 96 P P 09 38 23.8 -0.6
baz=312,SNR=122
OGNE Ogallala 33.95 96 ⇑P P 09 38 24.0 -0.3
B35A Bob, Littlefor 34.03 79 P P 09 38 25.1 +0.2
B35A IAmb IAmb 09 38 57.0

comp=Z,5µm,1.9s
B35A IAMs_20 IAMs_20 09 52 12.8

comp=Z,2792µm,19.0s
B35A Bob, Littlefor 34.03 79 P P 09 38 26.7 +1.8
baz=304,SNR=102
B35A S S 09 43 49.4 -0.7

baz=304
F33A 5 Mile Ranch, 34.06 84 P P 09 38 24.1 -1.0
F33A IAmb IAmb 09 38 58.4

comp=Z,3µm,1.4s
F33A 5 Mile Ranch, 34.06 84 P P 09 38 24.3 -0.9
baz=307,SNR=231
I18DK QAANAAQ INFRAS 34.08 23 P P 09 38 26.9 +2.0
baz=264,slow=18,SNR=3.7
K30B Basset 34.17 92 P P 09 38 25.3 -0.9
K30B IAMs_20 IAMs_20 09 51 46.1

comp=Z,2354µm,20.0s
K30B Basset 34.17 92 P P 09 38 25.5 -0.7
baz=310,SNR=210
K30B S S 09 43 55.0 +2.7

baz=310
MIDW Midway 34.26 228 P P 09 38 26.3 -0.6
MIDW IAmb IAmb 09 39 16.2

comp=Z,4µm,1.4s
MIDW Midway 34.26 228 P P 09 38 29.4 +2.5
comp=Z,2µm,1.1s
MIDW Midway 34.26 228 ⇓P P 09 38 27.4 +0.5
SDCO Great Sand Dun 34.26 103 P P 09 38 26.2 -1.1
SDCO IAMs_20 IAMs_20 09 51 19.6

comp=Z,1513µm,19.0s
SDCO Great Sand Dun 34.26 103 P P 09 38 28.1 +0.8
baz=316,SNR=392
SDCO S S 09 43 53.8 -0.6

baz=316
SDCO Great Sand Dun 34.26 103 P P 09 38 27.5 +0.2
baz=316,SNR=392
SDCO S S 09 43 58.8 +4.5

baz=316
SDCO Great Sand Dun 34.26 103 ⇑P P 09 38 26.8 -0.5
X18A Snowflake 34.28 112 P P 09 38 26.8 -0.6
X18A IAMs_20 IAMs_20 09 51 27.5

comp=Z,1771µm,18.0s
TULEG Thule 34.34 24 P P 09 38 26.5 -0.7
TULEG Thule 34.34 24 ⇓P P 09 38 27.9 +0.7
TULEG Thule 34.34 24 *i*P **P 09 38 28.6 +1.4**
TULEG IAmb IAmb 09 39 01.0

comp=Z,265nm,1.0s
SFX San Felipe 34.62 122 P P 09 38 30.5 +0.4
SFX IAmb IAmb 09 39 13.6

comp=Z,4µm,1.9s
214A Organ Pipe Nat 34.86 118 P P 09 38 31.5 -0.8
214A IAmb IAmb 09 39 07.2

comp=Z,6µm,1.6s
214A IAMs_20 IAMs_20 09 51 17.3

comp=Z,1676µm,18.0s
214A Organ Pipe Nat 34.86 118 P P 09 38 32.7 +0.4
baz=324,SNR=242
214A S S 09 44 06.9 +3.7

baz=324
PIX Pinacate 34.86 119 P P 09 38 31.0 -1.1
PIX IAmb IAmb 09 38 51.9

comp=Z,5µm,1.7s
KSCO Kaye Shedlock' 34.95 99 P P 09 38 31.9 -1.2
KSCO Kaye Shedlock' 34.95 99 P P 09 38 33.5 +0.5
baz=315,SNR=245
KSCO S S 09 44 08.7 +4.1

baz=315
KSCO Kaye Shedlock' 34.95 99 P P 09 38 32.3 -0.7
baz=315,SNR=245
KSCO S S 09 44 08.6 +4.0

baz=315
KIP Kipapa 35.08 194 P P 09 38 38.0 +3.8
KIP Kipapa 35.08 194 P P 09 38 37.9 +3.8
ECSD EROS Data Cent 35.18 88 P P 09 38 33.5 -1.4
baz=309,SNR=203
ECSD S S 09 44 08.4 +0.6

baz=309
ECSD EROS Data Cent 35.18 88 P P 09 38 33.2 -1.7
baz=309,SNR=203
ECSD S S 09 44 05.7 -2.2

baz=309
ECSD EROS Data Cent 35.18 88 ⇑P P 09 38 33.5 -1.4
T25A Trinidad 35.30 103 P P 09 38 34.9 -1.3
T25A IAmb IAmb 09 39 16.9

comp=Z,2µm,1.2s
T25A IAMs_20 IAMs_20 09 52 04.8

comp=Z,1298µm,18.0s
T25A Trinidad 35.30 103 P P 09 38 37.0 +0.8
baz=317,SNR=152
T25A S S 09 44 12.5 +2.3

baz=317
KHLH Kahului Airpor 35.40 192 IAMs_20 IAMs_20 09 50 18.3
comp=Z,1131µm,19.0s
EYMN Ely 35.50 78 IAMs_20 IAMs_20 09 52 35.3
comp=Z,2622µm,22.0s
EYMN Ely 35.50 78 P P 09 38 38.3 +0.7
baz=305,SNR=83
EYMN S S 09 44 13.3 +0.6

baz=305
EYMN Ely 35.50 78 P P 09 38 38.1 +0.5
baz=305,SNR=83
EYMN S S 09 44 10.0 -2.7

baz=305
EYMN Ely 35.50 78 ⇑P P 09 38 37.8 +0.2
TUC Tucson 35.59 115 P P 09 38 38.8 +0.1
TUC IAmb IAmb 09 39 13.8

comp=Z,4µm,1.7s
TUC IAMs_20 IAMs_20 09 51 22.6

comp=Z,1259µm,21.0s
TUC Tucson 35.59 115 P P 09 38 39.8 +1.2
baz=323
TUC S S 09 44 16.4 +1.8

baz=323
TUC Tucson 35.59 115 ⇑P P 09 38 38.7 +0.1
TUC Tucson 35.59 115 P P 09 38 38.8 +0.1
TUC pmax pmax

comp=Z,4µm,1.7s
F36A Milaca 35.60 82 IAMs_20 IAMs_20 09 52 23.4
comp=Z,1686µm,19.0s
F36A Milaca 35.60 82 P P 09 38 37.8 -0.6
baz=307,SNR=210
F36A S S 09 44 14.1 -0.1

baz=307
ANMO Albuquerque 35.81 108 P P 09 38 40.0 -0.6
ANMO IAmb IAmb 09 39 18.0

comp=Z,1µm,1.4s
ANMO Albuquerque 35.81 108 P P 09 38 41.0 +0.4
baz=319
ANMO S S 09 44 22.0 +3.9

baz=319
ANMO Albuquerque 35.81 108 P P 09 38 40.5 -0.1
baz=319,SNR=330
ANMO S S 09 44 22.9 +4.9

baz=319
ANMO Albuquerque 35.81 108 ⇑P P 09 38 40.0 -0.6
ANMO Albuquerque 35.81 108 P P 09 38 40.3 -0.3
comp=Z,88nm,1.0s,baz=44,slow=11,SNR=85
ANMO PcP **PcP 09 41 10.1 +2.1**
comp=Z,255nm,1.1s,baz=48,slow=3.5,SNR=2.7
ANMO LR LR 09 52 03.6
comp=Z,508µm,20.0s,baz=47,slow=34
comp=Z,88nm,1.0s
BGNE Belgrade 35.82 92 P P 09 38 39.8 -0.6
BGNE Belgrade 35.82 92 P P 09 38 40.8 +0.3
baz=312,SNR=98
BGNE S S 09 44 19.8 +2.0

baz=312
BGNE Belgrade 35.82 92 P P 09 38 40.2 -0.2
baz=312,SNR=98
BGNE S S 09 44 16.8 -1.0

baz=312
TIXI Tiksi 36.00 328 P P 09 38 40.9 -0.6
TIXI IAmb IAmb 09 39 23.8

comp=Z,2µm,1.1s
TIXI Tiksi 36.00 328 IAMs_20 IAMs_20 09 54 27.8
comp=Z,1221µm,21.0s
TIXI Tiksi 36.00 328 ⇑P P 09 38 41.1 -0.4
TIXI Tiksi 36.00 328 *c i*P **P 09 38 41.1 -0.4**
TIXI pmax pmax

comp=Z,2µm,1.3s
TIXI MLR MLR

comp=Z,1093µm,16.0s
TIXI Tiksi 36.00 328 P3KPbc 10 09 20.9
comp=Z,6.5nm,0.8s,baz=289,slow=2.6,SNR=4.0
HPAH Hawaii Prepara 36.18 190 P P 09 38 44.0 +0.4
Y22D IRIS PASSCAL I 36.23 109 P P 09 38 44.5 +0.4
Y22D IAMs_20 IAMs_20 09 52 03.9

comp=Z,1485µm,20.0s
Y22D IRIS PASSCAL I 36.23 109 P P 09 38 44.8 +0.7
baz=320,SNR=58
Y22D S S 09 44 27.2 +2.9

baz=320
Y22D IRIS PASSCAL I 36.23 109 P P 09 38 44.5 +0.4
baz=320,SNR=58
Y22D S S 09 44 31.7 +7.4

baz=320
Y22F Passcal Instru 36.23 109 P P 09 38 44.8 +0.7
baz=320,SNR=56
Y22F S S 09 44 28.0 +3.7

baz=320
E38A The Farm, Brul 36.25 80 P P 09 38 43.7 -0.3
E38A IAmb IAmb 09 39 09.4

comp=Z,3µm,1.1s
E38A The Farm, Brul 36.25 80 P P 09 38 44.8 +0.8
baz=306,SNR=122
E38A S S 09 44 23.5 -0.6

baz=306
DUN6 Lazy B Ranch 36.27 113 P P 09 38 44.3 -0.1
Y22A Socorro 36.31 109 P P 09 38 44.1 -0.7
baz=320,SNR=243
Y22A S S 09 44 32.5 +6.9

baz=320
SPMN Marine on St. 36.39 83 P P 09 38 44.8 -0.4
SPMN IAmb IAmb 09 39 22.3

comp=Z,3µm,1.4s
SPMN IAMs_20 IAMs_20 09 53 34.3

comp=Z,2401µm,18.0s
SPMN Marine on St. 36.39 83 P P 09 38 45.6 +0.4
baz=308,SNR=91
SPMN S S 09 44 24.3 -2.0

baz=308
SPMN Marine on St. 36.39 83 P P 09 38 45.2 0.0
baz=308,SNR=91
SPMN S S 09 44 25.1 -1.2

baz=308
POHA Pohakuloa 36.43 190 P P 09 38 46.0 0.0
POHA IAmb IAmb 09 39 40.0

comp=Z,5µm,1.4s
POHA Pohakuloa 36.43 190 P P 09 38 49.7 +3.7
POHA Pohakuloa 36.43 190 ⇑P P 09 38 47.6 +1.6
L34A Svendsen Farm, 36.45 90 P P 09 38 44.2 -1.6
L34A IAmb IAmb 09 39 32.5

comp=Z,4µm,1.1s
L34A IAMs_20 IAMs_20 09 53 15.4

comp=Z,2469µm,20.0s
L34A Svendsen Farm, 36.45 90 P P 09 38 45.3 -0.5
baz=311,SNR=122
L34A S S 09 44 26.2 -1.2

baz=311
N33A J Bar K, Exete 36.66 92 P P 09 38 46.6 -1.0
N33A IAmb IAmb 09 39 09.3

comp=Z,6µm,1.3s
N33B J Bar K, Exete 36.66 92 P P 09 38 46.6 -1.0
baz=312,SNR=31
N33B S S 09 44 30.8 +0.2

baz=312
CBKS Cedar Bluff 36.70 97 P P 09 38 46.8 -1.1
CBKS IAMs_20 IAMs_20 09 53 03.8

comp=Z,1636µm,18.0s
CBKS Cedar Bluff 36.70 97 P P 09 38 47.8 -0.1
baz=314,SNR=113
CBKS S S 09 44 31.5 +0.3

baz=314
CBKS Cedar Bluff 36.70 97 P P 09 38 47.6 -0.3
baz=314,SNR=113
CBKS S S 09 44 34.1 +2.9

baz=314
CBKS Cedar Bluff 36.70 97 ⇑P P 09 38 47.6 -0.3
CBKS Cedar Bluff 36.70 97 P P 09 38 46.8 -1.1
CBKS pmax pmax

comp=Z,10µm,1.5s
CBKS MLR MLR

comp=Z,1636µm,18.0s
I37A Lemond, Waseca 36.81 85 IAMs_20 IAMs_20 09 53 58.5
comp=Z,2459µm,20.0s
I37B Waseca 36.81 85 P **P** **09 38 48.4 -0.4**
baz=309,SNR=164
I37B S **S** **09 44 33.4 +0.6**
baz=309
KHU Kahuku 36.95 190 P **P** **09 38 50.2 -0.1**
KHU Kahuku 36.95 190 P **P** **09 38 50.3 -0.1**
KHU pmax pmax
comp=Z,9µm,1.3s
121A Cookes Peak, D 36.97 112 IAMs_20 IAMs_20 09 53 28.6
comp=Z,1072µm,18.0s
121A Cookes Peak, D 36.97 112 P **P** **09 38 51.4 +0.9**
baz=322,SNR=331
121A S **S** **09 44 37.7 +2.0**
baz=322
121A Cookes Peak, D 36.97 112 P **P** **09 38 51.0 +0.6**
baz=322,SNR=331
121A S **S** **09 44 40.0 +4.3**
baz=322
319A Douglas 37.11 115 P **P** **09 38 51.8 +0.2**
319A IAmb IAmb 09 39 26.5
comp=Z,3µm,1.3s
319A IAMs_20 IAMs_20 09 52 43.5
comp=Z,1358µm,19.0s
R32A Long Quarter, 37.54 96 P **P** **09 38 54.4 -0.7**
R32A IAmb IAmb 09 39 17.3
comp=Z,3µm,1.3s
R32A IAMs_20 IAMs_20 09 53 30.7
comp=Z,1562µm,22.0s
R32A Long Quarter, 37.54 96 P **P** **09 38 55.0 -0.2**
baz=315,SNR=171
R32A S **S** **09 44 43.3 -0.8**
baz=315
N35A Tabor 37.59 91 P **P** **09 38 53.6 -1.8**
N35A IAMs_20 IAMs_20 09 53 32.7
comp=Z,2549µm,20.0s
N35A Tabor 37.59 91 P **P** **09 38 55.2 -0.3**
baz=312,SNR=200
N35A S **S** **09 44 42.2 -2.6**
baz=312
D41A Chassel 37.63 77 P **P** **09 38 58.7 +3.0**
baz=307,SNR=16
D41A S **S** **09 44 43.9 -1.2**
baz=307
G40A Rib Lake 37.81 81 P **P** **09 38 56.6 -0.7**
G40A IAMs_20 IAMs_20 09 54 11.9
comp=Z,2272µm,19.0s
G40A Rib Lake 37.81 81 P **P** **09 38 56.8 -0.5**
baz=308,SNR=89
G40A S **S** **09 44 48.2 +0.1**
baz=308
NEEM North Greenlan 37.89 21 *i* P **P** **09 38 58.9 +1.0**
NEEM IAmb IAmb 09 39 17.6
comp=Z,2µm,0.9s
K38A Parkersburg 38.03 86 P **P** **09 38 58.8 -0.4**
K38A Parkersburg 38.03 86 P **P** **09 38 57.9 -1.3**
baz=310,SNR=52
K38A S **S** **09 44 50.0 -1.4**
baz=310
HSIG 38.18 119 P **P** **09 39 00.4 -0.2**
HSIG IAmb IAmb 09 39 35.4
comp=Z,7µm,1.9s
HSIG IAMs_20 IAMs_20 09 53 16.2
comp=Z,1023µm,18.0s
HSIG 38.18 119 ⇑P **P** **09 39 00.3 -0.2**
KIDD KIDD Seismic O 38.23 111 P **P** **09 39 01.3 +0.2**
baz=322,SNR=66
KIDD S **S** **09 45 00.6 +5.8**
baz=322
KSU1 Kansas State U 38.25 93 P **P** **09 39 00.3 -0.7**
KSU1 IAmb IAmb 09 39 22.9
comp=Z,3µm,1.1s
KSU1 Kansas State U 38.25 93 P **P** **09 39 00.8 -0.2**
baz=314,SNR=76
KSU1 S **S** **09 44 55.9 +1.2**
baz=314
KSU1 Kansas State U 38.25 93 P **P** **09 39 00.5 -0.6**
baz=314,SNR=76
KSU1 S **S** **09 44 54.2 -0.6**
baz=314
KSU1 Kansas State U 38.25 93 ⇑P **P** **09 39 00.3 -0.7**
SCIA State Center 38.27 87 P **P** **09 39 00.6 -0.6**
SCIA IAmb IAmb 09 39 39.4
comp=Z,3µm,1.2s
SCIA State Center 38.27 87 P **P** **09 39 00.8 -0.4**
baz=311
SCIA S **S** **09 44 53.4 -1.6**
baz=311
SCIA State Center 38.27 87 P **P** **09 39 01.8 +0.6**
baz=311,SNR=17
SCIA S **S** **09 44 50.6 -4.4**
baz=311
SCIA State Center 38.27 87 ⇑P **P** **09 39 01.0 -0.2**
I40A Norwalk 38.44 83 P **P** **09 39 02.0 -0.6**
I40A IAmb IAmb 09 39 23.2
comp=Z,3µm,1.1s
I40A Norwalk 38.44 83 P **P** **09 39 02.6 -0.1**
baz=310,SNR=133
I40A S **S** **09 44 57.1 -0.5**
baz=310
AMTX Amarillo 38.45 103 P **P** **09 39 01.8 -1.1**
AMTX IAMs_20 IAMs_20 09 53 56.5
comp=Z,1501µm,19.0s
AMTX Amarillo 38.45 103 P **P** **09 39 02.6 -0.3**
baz=318
AMTX S **S** **09 45 01.2 +3.2**
baz=318
AMTX Amarillo 38.45 103 P **P** **09 39 02.2 -0.6**
baz=318,SNR=200
AMTX S **S** **09 44 59.9 +1.8**
baz=318
AMTX Amarillo 38.45 103 ⇓P **P** **09 39 02.0 -0.8**
MSTX Muleshoe 38.54 105 IAMs_20 IAMs_20 09 54 04.8
comp=Z,1363µm,18.0s
MSTX Muleshoe 38.54 105 P **P** **09 39 03.0 -0.6**
baz=319,SNR=149
MSTX S **S** **09 45 02.1 +2.7**
baz=319
MSTX Muleshoe 38.54 105 P **P** **09 39 02.7 -1.0**
baz=319,SNR=149
MSTX S **S** **09 45 02.9 +3.5**
baz=319
FRB Frobisher Bay 38.64 45 ⇑P **P** **09 39 02.5 -1.5**
FRB Frobisher Bay 38.64 45 LR LR 09 55 34.3
comp=Z,1079µm,18.5s,baz=296,slow=37
F42A Maple Grove Fa 38.65 79 P **P** **09 39 04.8 +0.5**
F42A IAmb IAmb 09 39 26.4
comp=Z,7µm,1.8s
F42A Maple Grove Fa 38.65 79 P **P** **09 39 05.5 +1.2**
baz=308,SNR=35
F42A S **S** **09 44 59.2 -1.5**
baz=308
UPNV Upernavik 38.72 28 *i* P **P** **09 39 06.3 +1.7**
UPNV IAmb IAmb 09 39 26.1
comp=Z,1µm,0.9s
KAN08 Anthony NE Sta 38.80 97 **P** **09 39 04.9 -0.8**
KAN08 IAmb IAmb 09 39 27.7
comp=Z,4µm,1.3s
U32A Winter Ranch, 38.84 99 P **P** **09 39 05.3 -0.7**
baz=316,SNR=116
U32A S **S** **09 45 04.4 +0.8**
baz=316
MNTX Cornudas Mount 38.88 110 IAMs_20 IAMs_20 09 54 11.4
comp=Z,1705µm,19.0s
MNTX Cornudas Mount 38.88 110 P **P** **09 39 06.6 +0.2**
baz=322,SNR=316
MNTX S **S** **09 45 06.8 +2.4**
baz=322
MNTX Cornudas Mount 38.88 110 P **P** **09 39 07.1 +0.7**
baz=322,SNR=316
MNTX S **S** **09 45 05.0 +0.5**
baz=322
E43A Lone Tree Farm 38.90 77 IAMs_20 IAMs_20 09 54 40.6
comp=Z,1937µm,20.0s
E43A Lone Tree Farm 38.90 77 P **P** **09 39 06.9 +0.5**
baz=308,SNR=28
E43A S **S** **09 45 05.0 +0.6**
baz=308
OK038 West end E0370 38.91 98 IAMs_20 IAMs_20 09 55 00.1
comp=Z,996µm,20.0s
SRIG Santa Rosalia 38.97 122 IAMs_20 IAMs_20 09 52 56.3
comp=Z,974µm,19.0s
SRIG Santa Rosalia 38.97 122 ⇑P **P** **09 39 06.9 -0.2**
OK032 Salt Plains WL 38.97 97 IAMs_20 IAMs_20 09 54 26.6
comp=Z,1106µm,20.0s
N38A Joes South For 39.00 89 P **P** **09 39 06.2 -1.0**
baz=312,SNR=155
N38A S **S** **09 45 05.4 -0.5**
baz=312
NKL Nikolayevsk 39.19 296 *e*P **P** **09 39 07.2 -1.5**
NKL *e*S **S** **09 45 01.7 -6.8**
NKL pmax pmax
comp=N,2µm,1.4s
NKL pmax pmax
comp=E,3µm,1.3s
NKL pmax pmax
comp=Z,9µm,1.3s
NKL smax smax
comp=E,6µm,3.6s
NKL smax smax
comp=N,9µm,5.6s
NKL MLR MLR
comp=N,579µm,15.0s
NKL MLR MLR
comp=E,1630µm,15.0s
NKL MLR MLR
comp=Z,1848µm,16.0s
JFWS Jewell Farm 39.27 84 IAMs_20 IAMs_20 09 55 13.5
comp=Z,2355µm,20.0s
JFWS Jewell Farm 39.27 84 P **P** **09 39 08.2 -1.4**
baz=310,SNR=84
JFWS S **S** **09 45 08.2 -1.9**
baz=310
JFWS Jewell Farm 39.27 84 P **P** **09 39 07.4 -2.2**
baz=310,SNR=84
JFWS S **S** **09 45 10.9 +0.8**
baz=310
JFWS Jewell Farm 39.27 84 ⇑P **P** **09 39 08.7 -0.9**
L40A Anamosa 39.28 86 P **P** **09 39 08.7 -1.0**
baz=311,SNR=124
L40A S **S** **09 45 05.4 -4.9**
baz=311
CROK Carrier 39.31 98 IAMs_20 IAMs_20 09 54 38.7
comp=Z,973µm,20.0s
I42A Draeger Farm, 39.39 82 IAMs_20 IAMs_20 09 55 24.8
comp=Z,1867µm,22.0s
I42A Draeger Farm, 39.39 82 P **P** **09 39 12.1 +1.5**
baz=310,SNR=103
I42A S **S** **09 45 09.6 -2.3**
baz=310
TYV Tymovskoe 39.45 292 *e*P **P** **09 39 12.0 +1.0**
TYV *e*S **S** **09 45 17.4 +4.8**
TYV pmax pmax
comp=Z,49µm,3.6s
TYV pmax pmax
comp=Z,2µm,1.6s
TYV smax smax
comp=N,187µm,10.5s
TYV smax smax
comp=E,150µm,10.5s
BLOK Blackwell 39.56 97 IAMs_20 IAMs_20 09 54 44.1
comp=Z,1568µm,20.0s
P38A Dawn 39.62 90 P **P** **09 39 10.9 -1.6**
P38A Dawn 39.62 90 P **P** **09 39 11.9 -0.6**
baz=313,SNR=186
P38A S **S** **09 45 09.1 -6.2**
baz=313
YAK Yakutsk 39.66 313 P **P** **09 39 11.0 -1.5**
YAK IAmb IAmb 09 39 49.1
comp=Z,3µm,0.8s
YAK Yakutsk 39.66 313 IAMs_20 IAMs_20 09 56 09.9
comp=Z,2183µm,22.0s
YAK Yakutsk 39.66 313 ⇑P **P** **09 39 11.7 -0.9**
YAK Yakutsk 39.66 313 *e*P **P** **09 39 11.6 -0.9**
YAK *e* 09 40 50.7
YAK *e* 09 41 19.4
YAK *e*SS SS 09 48 11.2 +1.2
YAK *e* 09 49 26.3
YAK pmax pmax
comp=Z,2µm,1.0s
YAK pmax pmax
comp=N,716nm,1.1s
YAK pmax pmax
comp=E,1µm,1.1s
YAK pmax pmax
comp=Z,167µm,8.3s
YAK pmax pmax
comp=E,130µm,9.1s
YAK pmax pmax
comp=N,20µm,3.6s
YAK MLR MLR
comp=Z,2163µm,21.0s
YAK MLR MLR
comp=E,1865µm,23.0s
YAK MLR MLR
comp=N,2093µm,21.0s
H43A Windswept, Lux 39.66 80 IAMs_20 IAMs_20 09 55 36.8
comp=Z,2272µm,19.0s
H43A Windswept, Lux 39.66 80 P **P** **09 39 14.5 +1.7**
baz=309,SNR=28
H43A S **S** **09 45 10.0 -5.9**
baz=309
DKNS Dickens 39.78 103 P **P** **09 39 13.0 -0.9**
VHRN Van Horn 39.81 110 P **P** **09 39 13.9 -0.4**
T35A Sooner Cattle 39.84 96 **P** **09 39 13.4 -1.0**
T35A IAMs_20 IAMs_20 09 55 02.5
comp=Z,1567µm,22.0s
T35B Sooner Cattle 39.84 96 P **P** **09 39 13.4 -0.9**
baz=316,SNR=190
T35B S **S** **09 45 12.9 -5.8**
baz=316
POST Post 39.91 105 P **P** **09 39 13.6 -1.5**
PECS Pecos 39.94 109 P **P** **09 39 14.8 -0.6**
OK051 E0350 and S346 39.95 97 P **P** **09 39 14.2 -1.1**
OK051 IAMs_20 IAMs_20 09 54 55.6
comp=Z,1329µm,21.0s
OK048 Pawnee Station 39.96 97 **P** **09 39 14.7 -0.7**
OK048 IAMs_20 IAMs_20 09 55 05.7
comp=Z,1360µm,21.0s
KUR Kuril'sk 40.02 282 *e*P **P** **09 39 15.6 -0.1**
KUR 09 40 49.0
KUR *e*PPP PPP 09 41 17.0
KUR S **S** **09 45 24.2 +3.0**
KUR pmax pmax
comp=Z,121µm,13.0s
KUR pmax pmax
comp=Z,8µm,1.5s
KUR MLR MLR
comp=N,849µm,16.0s
KUR MLR MLR
comp=Z,576µm,16.0s
KUR MLR MLR
comp=E,84µm,14.0s
ODSA Odessa 40.07 107 P **P** **09 39 15.8 -0.6**
ODSA IAmb IAmb 09 39 40.9
comp=Z,3µm,1.3s
OK029 Liberty Lake 40.12 98 IAMs_20 IAMs_20 09 55 14.1
comp=Z,894µm,19.0s
WMOK Wichita Mounta 40.16 100 **P** **09 39 15.8 -1.3**
WMOK IAmb IAmb 09 39 39.5
comp=Z,5µm,1.4s
WMOK Wichita Mounta 40.16 100 IAMs_20 IAMs_20 09 55 44.6
comp=Z,987µm,18.0s
WMOK Wichita Mounta 40.16 100 P **P** **09 39 17.8 +0.7**
baz=318,SNR=41
WMOK S **S** **09 45 24.3 +0.8**
baz=318
WMOK Wichita Mounta 40.16 100 P **P** **09 39 17.3 +0.2**
baz=318,SNR=41
WMOK S **S** **09 45 30.0 +6.4**
baz=318
WMOK Wichita Mounta 40.16 100 P **P** **09 39 15.8 -1.3**
WMOK pmax pmax
comp=Z,5µm,1.4s
WMOK MLR MLR
comp=Z,987µm,18.0s
L42A Oliver, Polo 40.20 84 P **P** **09 39 15.8 -1.4**
baz=311,SNR=130
L42A S **S** **09 45 20.0 -3.9**
baz=311
OK033 Mehan 40.23 97 IAMs_20 IAMs_20 09 55 14.9
comp=Z,1261µm,18.0s
QUOK Quay 40.27 97 IAMs_20 IAMs_20 09 55 15.8
comp=Z,1242µm,20.0s
OK052 Battle Ridge R 40.34 97 IAMs_20 IAMs_20 09 55 09.9
comp=Z,1197µm,22.0s
E46A Sault Ste Mari 40.38 75 IAMs_20 IAMs_20 09 55 37.6
comp=Z,1968µm,20.0s
E46A Sault Ste Mari 40.38 75 P **P** **09 39 20.1 +1.4**
baz=308,SNR=45
E46A S **S** **09 45 25.7 -0.9**
baz=308
N41A Harden Midland 40.39 87 P **P** **09 39 17.9 -0.9**
baz=312,SNR=245
N41A S S 09 45 11.7 -15
baz=312
OKCSW OKLAHOMA CITY 40.41 98 IAMs_20 IAMs_20 09 55 24.9
comp=Z,1595µm,21.0s
G45A Suttons Bay 40.47 78 IAMs_20 IAMs_20 09 55 30.0
comp=Z,1778µm,19.0s
G45A Suttons Bay 40.47 78 P **P** **09 39 21.7 +2.2**
baz=309,SNR=19
G45A P **P** **09 39 21.7 +2.2**
baz=309,SNR=19
G45A S **S** **09 45 26.5 -1.4**
baz=309
G45A S **S** **09 45 26.5 -1.4**
baz=309
APMT Aspermont 40.47 103 P **P** **09 39 18.4 -1.3**
K43A Burlington 40.48 83 P **P** **09 39 18.5 -1.1**
K43A IAmb IAmb 09 39 32.6
comp=Z,4µm,1.1s
K43A Burlington 40.48 83 P **P** **09 39 18.6 -1.1**
baz=311,SNR=59
K43A S **S** **09 45 26.7 -1.5**
baz=311
P40A Paris 40.52 89 P **P** **09 39 18.6 -1.4**
P40A IAmb IAmb 09 39 41.1
comp=Z,4µm,1.3s
P40A Paris 40.52 89 P **P** **09 39 19.1 -0.8**
baz=313,SNR=146
P40A S **S** **09 45 22.0 -6.8**
baz=313
FNO Franklin 40.54 98 P **P** **09 39 19.1 -1.1**
FNO IAmb IAmb 09 39 42.3
comp=Z,6µm,1.4s
DEOK Depew 40.62 97 IAMs_20 IAMs_20 09 55 27.2
comp=Z,1242µm,18.0s
X34A Smith Ranch, M 40.78 99 IAMs_20 IAMs_20 09 56 22.8
comp=Z,1126µm,19.0s
I45A Fountain 40.79 80 P **P** **09 39 23.9 +1.8**
baz=310,SNR=19
I45A P **P** **09 39 23.9 +1.8**
baz=310,SNR=19
I45A S **S** **09 45 32.7 0.0**
baz=310
I45A S **S** **09 45 32.7 0.0**
baz=310
UGL Uglegorsk 40.81 290 *e*P **P** **09 39 21.2 -1.0**
UGL *e* 09 40 55.7
UGL *e*S **S** **09 45 26.3 -6.5**
UGL pmax pmax
comp=Z,700nm,1.0s
UGL pmax pmax
comp=Z,131µm,8.6s
UGL smax smax
comp=N,193µm,11.0s
UGL smax smax
comp=E,186µm,11.0s
UGL MLR MLR
comp=N,825µm,18.0s
UMMG Uummannaq 40.85 30 *i* P **P** **09 39 24.9 +2.6**
UMMG IAmb IAmb 09 39 34.4
comp=Z,240nm,0.8s
TUL3 Leonard 40.97 96 IAMs_20 IAMs_20 09 55 36.8
comp=Z,1401µm,21.0s
TUL3 Leonard 40.97 96 P **P** **09 39 22.6 -1.1**
baz=317,SNR=91
TUL3 S **S** **09 45 34.1 -1.4**
baz=317
TUL3 Leonard 40.97 96 P **P** **09 39 23.1 -0.6**
baz=317,SNR=91
TUL3 S **S** **09 45 33.4 -2.1**
baz=317
WTFS Witchita Falls 41.05 101 **P** **09 39 23.5 -0.9**
WTFS IAmb IAmb 09 39 46.5
comp=Z,3µm,1.2s
L44A Lake County Fo 41.06 83 P **P** **09 39 23.4 -1.0**
L44A IAmb IAmb 09 39 33.0
comp=Z,6µm,1.4s
L44A Lake County Fo 41.06 83 P **P** **09 39 23.2 -1.1**
baz=311,SNR=56
L44A S **S** **09 45 34.4 -2.4**
baz=311
L44A Lake County Fo 41.06 83 P **P** **09 39 23.3 -1.0**
baz=311,SNR=56
L44A S **S** **09 45 34.6 -2.2**
baz=311
S39A Bolivar 41.08 92 P **P** **09 39 22.1 -2.6**
S39A Bolivar 41.08 92 P **P** **09 39 22.2 -2.4**
baz=315,SNR=110
S39A S **S** **09 45 31.9 -5.3**
baz=315
GLMI Grayling 41.17 77 P **P** **09 39 26.1 +0.8**
GLMI IAmb IAmb 09 40 08.9
comp=Z,3µm,1.0s
GLMI IAMs_20 IAMs_20 09 56 35.5
comp=Z,1676µm,19.0s
GLMI Grayling 41.17 77 P **P** **09 39 24.6 -0.7**
baz=310,SNR=36
GLMI S **S** **09 45 40.0 +1.6**
baz=310
GLMI Grayling 41.17 77 P **P** **09 39 26.2 +0.8**
baz=310,SNR=36
GLMI S **S** **09 45 40.1 +1.6**
baz=310
GLMI Grayling 41.17 77 ⇑P **P** **09 39 25.4 +0.1**
RLO Rose Lookout 41.21 95 P **P** **09 39 24.1 -1.6**
RLO IAmb IAmb 09 39 47.1
comp=Z,3µm,1.3s
RLO IAMs_20 IAMs_20 09 56 06.7
comp=Z,1768µm,19.0s
R40A Maddies Statio 41.25 91 P **P** **09 39 24.0 -2.1**
baz=314,SNR=176
R40A S **S** **09 45 36.5 -3.2**
baz=314
ABTX Abilene, Hawle 41.27 103 P **P** **09 39 25.4 -0.9**
baz=320,SNR=210
ABTX S **S** **09 45 39.3 -0.8**
baz=320
ABTX Abilene, Hawle 41.27 103 P **P** **09 39 25.9 -0.3**
baz=320,SNR=210
ABTX S **S** **09 45 36.9 -3.2**
baz=320
HDIL Hopedale 41.37 86 P **P** **09 39 25.5 -1.5**
baz=313,SNR=312
HDIL S **S** **09 45 41.9 +0.5**
baz=313
HDIL Hopedale 41.37 86 P **P** **09 39 26.5 -0.5**
baz=313,SNR=312
HDIL S **S** **09 45 40.7 -0.7**
baz=313
HDIL Hopedale 41.37 86 ⇓P **P** **09 39 25.4 -1.5**
U38A Gravette 41.37 94 IAMs_20 IAMs_20 09 56 11.0
comp=Z,2092µm,20.0s
U38A Gravette 41.37 94 P **P** **09 39 26.3 -0.8**
baz=316,SNR=202
U38A S **S** **09 45 37.3 -4.3**
baz=316
M44A Midewin, Midew 41.51 84 IAMs_20 IAMs_20 09 56 42.9
comp=Z,2152µm,20.0s
M44A Midewin, Midew 41.51 84 P **P** **09 39 27.3 -0.8**
baz=312,SNR=85
M44A S **S** **09 45 38.0 -5.5**
baz=312
LOOK Love County 41.60 100 IAMs_20 IAMs_20 09 56 59.3
comp=Z,969µm,19.0s
TX31 Lajitas Ar. Si 41.65 110 P **P** **09 39 28.7 -0.8**
TX31 Lajitas Ar. Si 41.65 110 P **P** **09 39 29.6 +0.1**
baz=323,SNR=316
TXAR Lajitas Array 41.65 110 P **P** **09 39 29.4 -0.1**
comp=Z,185nm,1.0s,baz=322,slow=4.8,SNR=112
TXAR PcP **PcP** **09 41 28.1 +1.9**
comp=Z,124nm,1.0s,baz=325,slow=4.5,SNR=1.1
TXAR S **S** **09 45 38.8 -7.2**
comp=Z,11nm,1.0s,baz=294,slow=13,SNR=1.2
TXAR LR LR 09 56 12.1
comp=Z,925µm,18.9s,baz=317,slow=35
TXAR P3KP 10 10 34.9
comp=Z,1.0nm,0.7s,baz=114,slow=4.0,SNR=2.1
TXAR PKPPKP **P'P'df** **10 11 36.1 -1.2**
comp=Z,7.2nm,1.1s,baz=127,slow=2.4,SNR=4.0
comp=Z,185nm,1.0s
YSS Yuzh-Sakhalins 41.73 287 P **P** **09 39 29.8 -0.1**
YSS IAmb IAmb 09 40 11.0
comp=Z,6µm,1.6s
YSS IAMs_20 IAMs_20 09 57 21.4
comp=Z,2133µm,20.0s
YSS Yuzh-Sakhalins 41.73 287 P **P** **09 39 30.2 +0.4**

YSS	**Yuzh-Sakhalins**	**41.73**	**287**	⇓P		**P**		**09 39 30.5**	**+0.7**
YSS	**Yuzh-Sakhalins**	**41.73**	**287**	*ce* P		**P**		**09 39 27.3**	**-2.5**
YSS				*e*				09 41 23.0	
YSS				*e* PPP		PPP		09 41 36.4	
YSS				*e* S		**S**		**09 45 39.8**	**-6.8**
YSS				pmax		pmax			
	comp=Z,21µm,5.3s								
YSS				pmax		pmax			
	comp=N,8µm,5.4s								
YSS				pmax		pmax			
	comp=E,6µm,5.2s								
HHAR	**Hobbs**	**41.74**	**94**	P		**P**		**09 39 28.0**	**-2.0**
HHAR				IAmb		IAmb		09 39 50.9	
	comp=Z,3µm,1.4s								
HHAR				IAMs_20		IAMs_20		09 56 22.6	
	comp=Z,2056µm,20.0s								
HHAR	**Hobbs**	**41.74**	**94**	S		**S**		**09 45 40.8**	**-6.2**
	baz=316								
OZNA	**Ozona**	**41.76**	**106**	P		**P**		**09 39 29.2**	**-1.2**
OZNA				IAmb		IAmb		09 39 54.6	
	comp=Z,3µm,1.3s								
FW03	**Perrin-Whitt E**	**41.82**	**101**	P		**P**		**09 39 29.2**	**-1.5**
PLPT	**Palo Pinto**	**41.85**	**102**	P		**P**		**09 39 29.3**	**-1.7**
PLPT				IAmb		IAmb		09 39 52.9	
	comp=Z,3µm,1.2s								
P43A	**Skaggs, Pawnee**	**41.87**	**87**	P		**P**		**09 39 29.6**	**-1.4**
P43A				IAmb		IAmb		09 39 44.0	
	comp=Z,3µm,0.9s								
P43A	**Skaggs, Pawnee**	**41.87**	**87**	P		**P**		**09 39 30.2**	**-0.8**
	baz=313,SNR=88								
P43A				S		**S**		**09 45 43.9**	**-4.9**
	baz=313								
YUK	**Yuzh-Kuril'sk**	**41.89**	**282**	*c i* P		**P**		**09 39 31.9**	**+0.8**
YUK				*i*				09 41 06.1	
YUK				*i* PPP		PPP		09 41 35.9	
YUK				*i* S		**S**		**09 45 49.3**	**+0.3**
YUK				*i* SSS		SSS		09 49 29.7	
YUK				pmax		pmax			
	comp=Z,21µm,3.8s								
YUK				pmax		pmax			
	comp=Z,13µm,1.4s								
YUK				pmax		pmax			
	comp=N,9µm,1.2s								
YUK				pmax		pmax			
	comp=E,10µm,1.2s								
ILULI	**Ilulissat**	**41.94**	**32**	P		**P**		**09 39 29.1**	**-2.1**
ILULI				IAMs_20		IAMs_20		09 56 52.9	
	comp=Z,957µm,18.0s								
ILULI	**Ilulissat**	**41.94**	**32**	⇓P		**P**		**09 39 31.8**	**+0.6**
ILULI	**Ilulissat**	**41.94**	**32**	P		**P**		**09 39 29.1**	**-2.1**
ILULI				pmax		pmax			
	comp=Z,1µm,1.0s								
ILULI				MLR		MLR			
	comp=Z,956µm,18.0s								
ILULI	**Ilulissat**	**41.94**	**32**	*i* P		**P**		**09 39 32.2**	**+1.0**
ILULI				IAmb		IAmb		09 39 40.4	
	comp=Z,144nm,0.8s								
CCM	**Cathedral Cave**	**41.99**	**90**	P		**P**		**09 39 30.0**	**-2.1**
CCM				IAmb		IAmb		09 39 52.5	
	comp=Z,3µm,1.1s								
CCM	**Cathedral Cave**	**41.99**	**90**	P		**P**		**09 39 30.2**	**-1.8**
	baz=315								
CCM				S		**S**		**09 45 48.0**	**-2.7**
	baz=315								
CCM	**Cathedral Cave**	**41.99**	**90**	P		**P**		**09 39 30.5**	**-1.6**
	baz=315,SNR=148								
CCM				S		**S**		**09 45 49.9**	**-0.9**
	baz=315								
CCM	**Cathedral Cave**	**41.99**	**90**	P		**P**		**09 39 30.0**	**-2.1**
CCM				pmax		pmax			
	comp=Z,3µm,1.2s								
CCM				MLR		MLR			
	comp=Z,2470µm,20.0s								
Z35A	**Perchaven, San**	**42.05**	**100**	IAMs_20		IAMs_20		09 56 53.4	
	comp=Z,1223µm,18.0s								
Z35A	**Perchaven, San**	**42.05**	**100**	P		**P**		**09 39 32.3**	**-0.3**
	baz=319,SNR=73								
Z35A				S		**S**		**09 45 51.8**	**+0.2**
	baz=319								
L46A	**Eue Claire**	**42.07**	**82**	IAMs_20		IAMs_20		09 56 58.7	
	comp=Z,1881µm,21.0s								
L46A	**Eue Claire**	**42.07**	**82**	P		**P**		**09 39 32.4**	**-0.3**
	baz=312,SNR=49								
L46A				P		**P**		**09 39 32.4**	**-0.3**
	baz=312,SNR=49								
L46A				S		**S**		**09 45 48.5**	**-3.2**
	baz=312								
L46A				S		**S**		**09 45 48.5**	**-3.2**
	baz=312								
J47A	**Sunmer**	**42.08**	**79**	P		**P**		**09 39 33.1**	**+0.4**
	baz=311,SNR=89								
J47A				P		**P**		**09 39 33.1**	**+0.4**
	baz=311,SNR=89								
J47A				S		**S**		**09 45 53.8**	**+1.8**
	baz=311								
J47A				S		**S**		**09 45 53.8**	**+1.8**
	baz=311								
JOHN	**Johnston Islan**	**42.09**	**210**	P		**P**		**09 39 31.7**	**-1.3**
JOHN				IAmb		IAmb		09 39 57.6	
	comp=Z,5µm,1.4s								
JOHN	**Johnston Islan**	**42.09**	**210**	P		**P**		**09 39 35.6**	**+2.6**
JOHN	**Johnston Islan**	**42.09**	**210**	⇓P		**P**		**09 39 33.5**	**+0.6**
O44A	**Mansfield**	**42.11**	**86**	IAMs_20		IAMs_20		09 57 03.8	
	comp=Z,2093µm,20.0s								
O44A	**Mansfield**	**42.11**	**86**	P		**P**		**09 39 32.0**	**-1.0**
	baz=313,SNR=116								
O44A				S		**S**		**09 45 44.2**	**-8.2**
	baz=313								
SLM	**Saint Louis**	**42.16**	**89**	P		**P**		**09 39 32.1**	**-1.3**
	baz=314,SNR=72								
SLM				S		S		09 45 43.9	-9.2
	baz=314								
X37A	**Clayton**	**42.16**	**97**	S		**S**		**09 45 46.2**	**-7.1**
	baz=318								
U40A	**Yellville**	**42.29**	**93**	P		**P**		**09 39 33.0**	**-1.6**
	baz=316,SNR=141								
U40A				P		**P**		**09 39 33.0**	**-1.6**
	baz=316,SNR=141								
U40A				S		S		09 45 42.2	-13
	baz=316								
U40A				S		S		09 45 42.2	-13
	baz=316								
FVM	**French Village**	**42.50**	**89**	P		**P**		**09 39 34.0**	**-2.3**
FVM				IAmb		IAmb		09 39 57.0	
	comp=Z,4µm,1.2s								
FVM	**French Village**	**42.50**	**89**	P		**P**		**09 39 34.8**	**-1.5**
	baz=315,SNR=182								
FVM	**French Village**	**42.50**	**89**	P		**P**		**09 39 34.0**	**-2.3**
FVM				pmax		pmax			
	comp=Z,4µm,1.2s								
FVM				MLR		MLR			
	comp=Z,2435µm,21.0s								
HPIG		**42.55**	**115**	P		**P**		**09 39 36.1**	**-0.9**
HPIG		**42.55**	**115**	⇑P		**P**		**09 39 36.9**	**-0.1**
LPIG	**La Paz**	**42.61**	**122**	P		**P**		**09 39 37.2**	**0.0**
	comp=Z,1µm,1.1s,baz=209,slow=0.6,SNR=34								
LPIG				PP		**PP**		**09 41 15.6**	**-0.2**
	comp=Z,308nm,1.0s,baz=116,slow=8.1,SNR=0.8								
LPIG				LR		LR		09 55 07.9	
	comp=Z,723µm,19.5s,baz=330,slow=33								
	comp=Z,1µm,1.1s								
Q44A	**Meyer Farm, Va**	**42.66**	**87**	⇑ P		**P**		**09 39 35.9**	**-1.5**
	baz=314,SNR=173								
GRNR	**Gornyy**	**42.72**	**296**	⇑ *i* P		**P**		**09 39 37.7**	**-0.1**
GRNR				*e*				09 41 20.6	
GRNR				*e* S		**S**		**09 46 03.7**	**+2.6**
GRNR				*e* SS		**ScS**		**09 49 46.5**	**+7.8**
GRNR				pmax		pmax			
	comp=N,110nm,0.7s								
GRNR				pmax		pmax			
	comp=E,130nm,0.7s								
GRNR				pmax		pmax			
	comp=Z,320nm,0.8s								
GRNR				smax		smax			
	comp=E,9.0nm,0.7s								
GRNR				MLR		MLR			
	comp=E,464µm,16.0s								
GRNR				MLR		MLR			
	comp=N,468µm,18.0s								
GRNR				MLR		MLR			
	comp=Z,615µm,18.0s								
SFIN	**Lafayette**	**42.72**	**84**	P		**P**		**09 39 35.9**	**-2.1**
SFIN				IAmb		IAmb		09 39 46.8	
	comp=Z,3µm,1.3s								
SFIN	**Lafayette**	**42.72**	**84**	P		**P**		**09 39 37.9**	**-0.1**
	baz=313,SNR=104								
SFIN				S		**S**		**09 45 58.6**	**-2.8**
	baz=313								
SFIN	**Lafayette**	**42.72**	**84**	P		**P**		**09 39 37.4**	**-0.6**
	baz=313,SNR=104								
I49A	**Point Hope**	**42.73**	**77**	IAMs_20		IAMs_20		09 56 58.8	
	comp=Z,1570µm,20.0s								
I49A	**Point Hope**	**42.73**	**77**	P		**P**		**09 39 39.0**	**+1.0**
	baz=311,SNR=37								
I49A				P		**P**		**09 39 39.0**	**+1.0**
	baz=311,SNR=37								
I49A				S		**S**		**09 46 02.3**	**+0.9**
	baz=311								
I49A				S		**S**		**09 46 02.3**	**+0.9**
	baz=311								
FW14	**Alvarado**	**42.78**	**101**	P		**P**		**09 39 37.7**	**-0.8**
FW14				IAmb		IAmb		09 39 59.4	
	comp=Z,3µm,1.1s								
JCT	**Junction City**	**42.82**	**105**	P		**P**		**09 39 37.8**	**-1.1**
JCT				IAmb		IAmb		09 39 58.5	
	comp=Z,5µm,1.2s								
JCT				IAMs_20		IAMs_20		09 57 34.4	
	comp=Z,1418µm,18.0s								
JCT	**Junction City**	**42.82**	**105**	P		**P**		**09 39 37.9**	**-1.0**
	baz=321,SNR=318								
JCT				S		**S**		**09 46 01.9**	**-1.2**
	baz=321								
JCT	**Junction City**	**42.82**	**105**	P		**P**		**09 39 38.5**	**-0.5**
	baz=321,SNR=318								
JCT				S		**S**		**09 46 01.8**	**-1.4**
	baz=321								
JCT	**Junction City**	**42.82**	**105**	⇓P		**P**		**09 39 37.9**	**-1.1**
JCT	**Junction City**	**42.82**	**105**	P		**P**		**09 39 37.8**	**-1.1**
JCT				pmax		pmax			
	comp=Z,5µm,1.2s								
JCT				MLR		MLR			
	comp=Z,1418µm,18.0s								
WHTX	**Lake Whitney,**	**42.95**	**102**	IAMs_20		IAMs_20		09 56 51.2	
	comp=Z,1484µm,20.0s								
WHTX	**Lake Whitney,**	**42.95**	**102**	P		**P**		**09 39 39.5**	**-0.4**
	baz=320,SNR=142								
WHTX				S		**S**		**09 46 06.8**	**+2.0**
	baz=320								
WHTX	**Lake Whitney,**	**42.95**	**102**	P		**P**		**09 39 40.1**	**+0.2**
	baz=320,SNR=142								
WHTX				S		S		09 45 45.4	-19
	baz=320								
VLDQ	**Val d'Or**	**42.97**	**69**	P		**P**		**09 39 36.8**	**-3.1**
VLDQ				IAMs_20		IAMs_20		09 57 23.2	
	comp=Z,1246µm,18.0s								
FCAR	**Ozark Folk Cen**	**43.04**	**93**	P		**P**		**09 39 37.8**	**-2.8**
SLBS	**Sierra La Lagu**	**43.13**	**122**	P		**P**		**09 39 41.4**	**-0.2**
SLBS				IAmb		IAmb		09 40 06.4	
	comp=Z,4µm,1.4s								
SLBS	**Sierra La Lagu**	**43.13**	**122**	IAMs_20		IAMs_20		09 55 13.4	
	comp=Z,827µm,18.0s								
SLBS	**Sierra La Lagu**	**43.13**	**122**	⇑P		**P**		**09 39 41.7**	**+0.1**
L48A	**N Adams**	**43.15**	**81**	IAMs_20		IAMs_20		09 57 33.3	
	comp=Z,1688µm,20.0s								
L48A	**N Adams**	**43.15**	**81**	P		**P**		**09 39 42.7**	**+1.2**
	baz=312,SNR=119								
L48A				P		**P**		**09 39 42.7**	**+1.2**
	baz=312,SNR=119								
L48A				S		**S**		**09 46 06.4**	**-1.3**
	baz=312								
L48A				S		**S**		**09 46 06.4**	**-1.3**
	baz=312								
N47A	**Urbana**	**43.17**	**83**	P		**P**		**09 39 38.5**	**-3.1**
	baz=313,SNR=131								
N47A				P		**P**		**09 39 38.5**	**-3.1**
	baz=313,SNR=131								
N47A				S		**S**		**09 46 06.3**	**-1.7**
	baz=313								
N47A				S		**S**		**09 46 06.3**	**-1.7**
	baz=313								
P46A	**Rosedale**	**43.18**	**85**	P		**P**		**09 39 40.9**	**-0.8**
P46A				IAmb		IAmb		09 39 50.6	
	comp=Z,4µm,1.2s								
P46A	**Rosedale**	**43.18**	**85**	P		**P**		**09 39 40.9**	**-0.8**
	baz=314,SNR=28								
P46A				S		**S**		**09 46 05.8**	**-2.3**
	baz=314								
DRIO	**Del Rio**	**43.21**	**107**	P		**P**		**09 39 40.9**	**-1.1**
DRIO				IAmb		IAmb		09 40 03.7	
	comp=Z,3µm,1.2s								
SUMG	**Summit**	**43.27**	**24**	P		**P**		**09 39 41.5**	**-1.0**
SUMG				IAmb		IAmb		09 40 10.9	
	comp=Z,5µm,1.0s								
SUMG	**Summit**	**43.27**	**24**	P		**P**		**09 39 46.3**	**+3.9**
SUMG				S		**S**		**09 46 09.5**	**0.0**
SUMG	**Summit**	**43.27**	**24**	⇑P		**P**		**09 39 41.6**	**-0.8**
SUMG	**Summit**	**43.27**	**24**	P		**P**		**09 39 41.5**	**-1.0**
SUMG				pmax		pmax			
	comp=Z,5µm,1.0s								
SUMG				MLR		MLR			
	comp=Z,561µm,20.0s								
SUMG	**Summit**	**43.27**	**24**	*i* P		**P**		**09 39 42.9**	**+0.5**
SUMG				IAmb		IAmb		09 40 09.2	
	comp=Z,2µm,0.9s								
OLIL	**Olney**	**43.29**	**87**	P		**P**		**09 39 41.2**	**-1.4**
OLIL				IAmb		IAmb		09 39 55.8	
	comp=Z,5µm,1.0s								
OLIL	**Olney**	**43.29**	**87**	P		**P**		**09 39 42.9**	**+0.3**
	baz=314,SNR=287								
OLIL				S		**S**		**09 46 06.4**	**-3.4**
	baz=314								
AAM	**Ann Arbor**	**43.35**	**80**	P		**P**		**09 39 42.1**	**-0.9**
	baz=312,SNR=31								
AAM				S		**S**		**09 46 10.8**	**+0.3**
	baz=312								
AAM	**Ann Arbor**	**43.35**	**80**	P		**P**		**09 39 43.6**	**+0.6**
	baz=312,SNR=31								
AAM				S		S		09 46 00.9	-10
	baz=312								
AAM	**Ann Arbor**	**43.35**	**80**	⇑P		**P**		**09 39 43.2**	**+0.2**
SFJD	**Kangerlussuaq**	**43.35**	**34**	IAMs_20		IAMs_20		09 57 25.4	
	comp=Z,1346µm,20.0s								
SFJD	**Kangerlussuaq**	**43.35**	**34**	⇑P		**P**		**09 39 42.2**	**-0.5**
SFJD	**Kangerlussuaq**	**43.35**	**34**	LR		LR		09 57 37.3	
	comp=Z,1351µm,20.9s,baz=317,slow=36								
SFJD	**Kangerlussuaq**	**43.35**	**34**	*i* P		**P**		**09 39 45.4**	**+2.6**
SFJD				IAmb		IAmb		09 39 55.7	
	comp=Z,483nm,0.9s								
PBMO	**Poplar Bluff**	**43.35**	**91**	P		**P**		**09 39 40.9**	**-2.2**
PBMO	**Poplar Bluff**	**43.35**	**91**	P		**P**		**09 39 40.9**	**-2.2**
	baz=316,SNR=106								
PBMO				S		**S**		**09 46 02.3**	**-8.4**
	baz=316								
Z38A	**Mt. Pleasant**	**43.36**	**98**	P		**P**		**09 39 42.8**	**-0.4**
	baz=318,SNR=74								
Z38A				S		**S**		**09 46 12.8**	**+1.9**
	baz=318								
S44A	**Carbondale**	**43.37**	**89**	P		**P**		**09 39 42.1**	**-1.2**
	baz=315,SNR=118								
S44A				S		**S**		**09 46 08.5**	**-2.4**
	baz=315								
WHAR	**Wooly Hollow**	**43.38**	**94**	P		**P**		**09 39 41.0**	**-2.4**
LCAR	**Lake Charles**	**43.45**	**92**	P		**P**		**09 39 41.5**	**-2.4**
LCAR	**Lake Charles**	**43.45**	**92**	P		**P**		**09 39 43.0**	**-0.9**
	baz=316,SNR=89								
LCAR				S		**S**		**09 46 06.6**	**-5.6**
	baz=316								
K50A	**Casco**	**43.60**	**78**	IAMs_20		IAMs_20		09 57 59.0	
	comp=Z,1489µm,18.0s								
K50A	**Casco**	**43.60**	**78**	P		**P**		**09 39 46.4**	**+1.3**
	baz=312,SNR=93								
K50A				P		**P**		**09 39 46.4**	**+1.3**
	baz=312,SNR=93								
K50A				S		**S**		**09 46 16.5**	**+2.2**
	baz=312								
K50A				S		**S**		**09 46 16.5**	**+2.2**
	baz=312								
JKA	**Kamikawa-asahi**	**43.62**	**284**	P		**P**		**09 39 44.3**	**-0.9**
JKA				IAmb		IAmb		09 40 35.1	
	comp=Z,4µm,1.1s								
JKA				IAMs_20		IAMs_20		10 00 08.9	
	comp=Z,1141µm,18.0s								
ASAJ	**Asahikawa**	**43.63**	**284**	P		**P**		**09 39 46.0**	**+0.7**
ASAJ	**Asahikawa**	**43.63**	**284**	P		**P**		**09 39 44.3**	**-1.0**
ASAJ				pmax		pmax			
	comp=Z,4µm,1.1s								
ASAJ				MLR		MLR			
	comp=Z,1141µm,18.0s								
ASAJ	**Asahikawa**	**43.63**	**284**	LR		LR		10 00 28.1	
	comp=Z,1096µm,18.0s,baz=68,slow=40								
X40A	**Basin Creek Fa**	**43.66**	**95**	P		**P**		**09 39 43.7**	**-2.0**
X40A				IAMs_20		IAMs_20		09 57 32.5	
	comp=Z,1498µm,20.0s								
X40A	**Basin Creek Fa**	**43.66**	**95**	P		**P**		**09 39 44.5**	**-1.1**
	baz=317,SNR=62								
X40A				P		**P**		**09 39 44.5**	**-1.1**
	baz=317,SNR=62								
X40A				S		**S**		**09 46 10.3**	**-5.0**
	baz=317								
X40A				S		**S**		**09 46 10.3**	**-5.0**
	baz=317								
435B	**Jarrell**	**43.80**	**103**	IAMs_20		IAMs_20		09 57 14.9	
	comp=Z,1768µm,20.0s								
435B	**Jarrell**	**43.80**	**103**	P		**P**		**09 39 47.3**	**+0.5**
	baz=321								
435B				S		**S**		**09 46 20.3**	**+2.9**
	baz=321								
435B	**Jarrell**	**43.80**	**103**	P		**P**		**09 39 46.5**	**-0.3**
	baz=321,SNR=94								
435B				S		S		09 46 04.8	-13
	baz=321								
237A	**Washetta, Mont**	**43.85**	**100**	IAMs_20		IAMs_20		09 58 00.0	
	comp=Z,840µm,20.0s								
237A	**Washetta, Mont**	**43.85**	**100**	P		**P**		**09 39 47.0**	**-0.1**
	baz=319,SNR=36								
237A				S		**S**		**09 46 22.2**	**+4.2**
	baz=319								
O48B	**Farmland**	**43.89**	**83**	P		**P**		**09 39 44.9**	**-2.5**
O48B	**Farmland**	**43.89**	**83**	P		**P**		**09 39 46.5**	**-0.9**
	baz=313,SNR=126								
O48B				S		**S**		**09 46 16.1**	**-2.4**
	baz=313								
O48B	**Farmland**	**43.89**	**83**	P		**P**		**09 39 45.7**	**-1.7**
	baz=313,SNR=126								
O48B				S		**S**		**09 46 17.5**	**-1.0**
	baz=313								
N49A	**Columbus Grove**	**43.98**	**82**	IAMs_20		IAMs_20		09 56 55.2	
	comp=Z,1187µm,18.0s								
N49A	**Columbus Grove**	**43.98**	**82**	P		**P**		**09 39 47.2**	**-1.0**
	baz=313,SNR=113								
N49A				P		**P**		**09 39 47.2**	**-1.0**
	baz=313,SNR=113								
N49A				S		**S**		**09 46 16.6**	**-3.2**
	baz=313								
N49A				S		**S**		**09 46 16.6**	**-3.2**
	baz=313								
WLAR	**White Oak Lake**	**44.09**	**96**	P		**P**		**09 39 48.0**	**-1.1**
WLAR				IAMs_20		IAMs_20		09 57 36.1	
	comp=Z,1226µm,20.0s								
HBAR	**Harrisburg**	**44.10**	**92**	P		**P**		**09 39 47.5**	**-1.7**
	baz=316,SNR=16								
HBAR				S		**S**		**09 46 19.1**	**-2.6**
	baz=316								
SCHQ	**Schefferville**	**44.15**	**55**	P		**P**		**09 39 47.6**	**-1.7**
SCHQ				IAmb		IAmb		09 40 14.2	
	comp=Z,3µm,1.4s								
SCHQ	**Schefferville**	**44.15**	**55**	P		**P**		**09 39 48.6**	**-0.7**
	comp=Z,210nm,0.9s,baz=311,slow=8.6,SNR=51								
SCHQ				PP		**PP**		**09 41 32.5**	**+0.6**
	comp=Z,212nm,0.8s,baz=287,slow=14,SNR=0.7								
SCHQ				S		**S**		**09 46 23.5**	**+1.5**
	comp=Z,68nm,0.8s,baz=59,slow=19,SNR=1.7								
SCHQ				LR		LR		09 58 23.0	
	comp=Z,668µm,19.9s,baz=313,slow=36								
	comp=Z,210nm,0.9s								
T45B	**Paducah**	**44.19**	**89**	P		**P**		**09 39 48.9**	**-0.9**
	baz=315,SNR=66								
T45B				S		**S**		**09 46 22.1**	**-0.8**
	baz=315								
SADO	**Sadowa**	**44.20**	**74**	P		**P**		**09 39 49.4**	**-0.5**
SADO				IAMs_20		IAMs_20		09 58 17.5	
	comp=Z,932µm,18.0s								
SADO	**Sadowa**	**44.20**	**74**	⇑P		**P**		**09 39 50.0**	**+0.2**
SADO	**Sadowa**	**44.20**	**74**	LR		LR		09 57 49.0	
	comp=Z,1144µm,18.1s,baz=328,slow=36								
P48A	**Milroy**	**44.29**	**84**	P		**P**		**09 39 48.7**	**-1.9**
P48A				IAmb		IAmb		09 40 09.9	
	comp=Z,5µm,1.4s								
P48A	**Milroy**	**44.29**	**84**	P		**P**		**09 39 49.1**	**-1.6**
	baz=314,SNR=164								
P48A				P		**P**		**09 39 49.1**	**-1.6**
	baz=314,SNR=164								
P48A				S		**S**		**09 46 22.6**	**-1.7**
	baz=314								
P48A				S		**S**		**09 46 22.6**	**-1.7**
	baz=314								
M50A	**Fremont**	**44.29**	**80**	P		**P**		**09 39 50.5**	**-0.1**
	baz=313,SNR=52								
M50A				P		**P**		**09 39 50.5**	**-0.1**
	baz=313,SNR=52								
M50A				S		**S**		**09 46 24.5**	**+0.3**
	baz=313								
M50A				S		**S**		**09 46 24.5**	**+0.3**
	baz=313								
LNXT	**Lenox**	**44.37**	**91**	P		**P**		**09 39 51.1**	**-0.2**
	baz=316,SNR=24								
LNXT				S		**S**		**09 46 25.2**	**-0.3**
	baz=316								
O49A	**Covington**	**44.40**	**82**	P		**P**		**09 39 52.2**	**+0.8**
	baz=313,SNR=62								
O49A				P		**P**		**09 39 52.2**	**+0.8**
	baz=313,SNR=62								
O49A				S		**S**		**09 46 23.0**	**-2.9**
	baz=313								
O49A				S		**S**		**09 46 23.0**	**-2.9**
	baz=313								
P49A	**Miami Univ. Ec**	**44.63**	**83**	P		**P**		**09 39 51.3**	**-2.0**
	baz=314,SNR=78								
P49A				S		**S**		**09 46 26.6**	**-2.8**
	baz=314								
P49A	**Miami Univ. Ec**	**44.63**	**83**	P		**P**		**09 39 51.4**	**-2.0**
	baz=314,SNR=78								
P49A				S		**S**		**09 46 26.4**	**-3.0**
	baz=314								
EF01	**Eagle Ford 01**	**44.65**	**105**	P		**P**		**09 39 53.0**	**-0.6**
EF01				IAmb		IAmb		09 40 27.5	
	comp=Z,7µm,1.9s								
WCI	**Wyandotte Cave**	**44.66**	**86**	P		**P**		**09 39 52.0**	**-1.6**
WCI				IAmb		IAmb		09 40 14.3	
	comp=Z,2µm,1.2s								
WCI	**Wyandotte Cave**	**44.66**	**86**	P		**P**		**09 39 52.2**	**-1.3**
	baz=315								
WCI				S		**S**		**09 46 29.7**	**0.0**
	baz=315								
WCI	**Wyandotte Cave**	**44.66**	**86**	P		**P**		**09 39 52.4**	**-1.3**
	baz=315,SNR=131								
WCI				S		**S**		**09 46 28.3**	**-1.4**
	baz=315								
WCI	**Wyandotte Cave**	**44.66**	**86**	⇑P		**P**		**09 39 52.3**	**-1.3**
WCI	**Wyandotte Cave**	**44.66**	**86**	P		**P**		**09 39 52.0**	**-1.6**
WCI				pmax		pmax			
	comp=Z,2µm,1.2s								
WCI				MLR		MLR			
	comp=Z,2622µm,19.0s								
NATX	**Nacogdoches**	**44.67**	**99**	P		**P**		**09 39 52.7**	**-1.1**
NATX				IAmb		IAmb		09 40 16.2	
	comp=Z,5µm,1.5s								
NATX				IAMs_20		IAMs_20		09 59 04.0	
	comp=Z,756µm,18.0s								
NATX	**Nacogdoches**	**44.67**	**99**	P		**P**		**09 39 54

833A IAMs_20 IAMs_20 09 59 08.8
comp=Z,777µm,18.0s
833A Chaparral WMA, 44.73 107 P **P** **09 39 54.3 +0.1**
baz=322,SNR=106
833A S **S** **09 46 32.0 +1.1**
baz=322
833A Chaparral WMA, 44.73 107 P **P** **09 39 53.3 -1.0**
baz=322,SNR=106
833A S **S** **09 46 33.2 +2.3**
baz=322
HDBT Hernando Brdge 44.73 92 IAMs_20 IAMs_20 09 58 04.8
comp=Z,1965µm,21.0s
KBS Kingsbay 44.92 5 IAMs_20 IAMs_20 09 58 24.0
comp=Z,1064µm,20.0s
KBS Kingsbay 44.92 5 *e*P **P** **09 39 56.3 +1.0**
KBS epP **pwP** **09 40 02.4 -0.1**
KBS IVmBBB 09 40 04.0
comp=Z,34µm,1.9s
KBS *e*S **S** **09 46 36.8 +4.1**
KBS *e*SS **SS** **09 50 04.0 +11**
KBS IVMs_BB IVMs_BB 09 58 23.0
comp=Z,336µm,20.4s
KBS Kingsbay 44.92 5 ⇓P **P** **09 39 56.2 +1.0**
KBS Kingsbay 44.92 5 P **P** **09 39 55.0 -0.2**
KBS pmax pmax
comp=Z,2µm,1.1s
KBS MLR MLR
comp=Z,1064µm,20.0s
KBS Kingsbay 44.92 5 *i* P **P** **09 39 58.1 +2.9**
HNVL Huntsville, TX 44.98 101 P **P** **09 39 55.9 -0.4**
N51A Ashland 44.99 80 P **P** **09 39 55.3 -0.9**
N51A IAmb IAmb 09 40 15.3
comp=Z,5µm,1.4s
N51A IAMs_20 IAMs_20 09 58 40.8
comp=Z,1882µm,20.0s
N51A Ashland 44.99 80 P **P** **09 39 55.6 -0.6**
baz=313,SNR=166
N51A P **P** **09 39 55.6 -0.6**
baz=313,SNR=166
N51A S **S** **09 46 33.7 -0.7**
baz=313
N51A S **S** **09 46 33.7 -0.7**
baz=313
DY2G Dye2 45.04 34 *i* P **P** **09 39 59.6 +3.0**
DY2G IAmb IAmb 09 40 17.6
comp=Z,490nm,0.8s
T47A Sharon Grove 45.08 88 P **P** **09 39 56.2 -0.8**
T47A IAmb IAmb 09 40 17.9
comp=Z,2µm,1.1s
T47A Sharon Grove 45.08 88 P **P** **09 39 56.1 -0.8**
baz=316,SNR=196
T47A S **S** **09 46 34.4 -1.4**
baz=316
ACSO Alum Creek Sta 45.12 81 P **P** **09 39 55.3 -1.9**
ACSO IAmb IAmb 09 40 18.1
comp=Z,4µm,1.2s
ACSO IAMs_20 IAMs_20 09 57 39.1
comp=Z,1099µm,18.0s
ACSO Alum Creek Sta 45.12 81 P **P** **09 39 55.4 -1.8**
baz=313,SNR=291
ACSO S **S** **09 46 38.1 +1.7**
baz=313
ACSO Alum Creek Sta 45.12 81 P **P** **09 39 58.0 +0.7**
baz=313,SNR=291
ACSO S **S** **09 46 36.5 +0.1**
baz=313
ACSO Alum Creek Sta 45.12 81 ⇓P **P** **09 39 56.0 -1.3**
M52A Chesterland 45.13 79 P **P** **09 39 56.6 -0.7**
M52A IAmb IAmb 09 40 09.9
comp=Z,1µm,0.9s
M52A IAMs_20 IAMs_20 09 58 57.4
comp=Z,1823µm,19.0s
M52A Chesterland 45.13 79 P **P** **09 39 56.9 -0.4**
baz=313,SNR=70
M52A P **P** **09 39 56.9 -0.4**
baz=313,SNR=70
M52A S **S** **09 46 35.5 -1.0**
baz=313
M52A S **S** **09 46 35.5 -1.0**
baz=313
735A Kenedy 45.17 105 IAMs_20 IAMs_20 09 59 06.4
comp=Z,1339µm,20.0s
735A Kenedy 45.17 105 P **P** **09 39 58.0 +0.2**
baz=322,SNR=81
735A S **S** **09 46 42.3 +5.0**
baz=322
DELO Deloro Mine 45.18 73 IAMs_20 IAMs_20 10 00 11.5
comp=Z,995µm,18.0s
R49A Shelbyville 45.24 85 P **P** **09 39 56.8 -1.5**
R49A Shelbyville 45.24 85 P **P** **09 39 55.4 -2.9**
baz=315,SNR=89
R49A P **P** **09 39 55.4 -2.9**
baz=315,SNR=89
R49A S **S** **09 46 36.9 -1.3**
baz=315
R49A S **S** **09 46 36.9 -1.3**
baz=315
ICESG Greenland Ices 45.26 28 *i* P **P** **09 40 00.5 +2.2**
ICESG IAmb IAmb 09 40 20.4
comp=Z,2µm,0.9s
WVT Waverly 45.28 89 P **P** **09 39 57.4 -1.2**
WVT IAmb IAmb 09 40 11.2
comp=Z,6µm,1.9s
WVT Waverly 45.28 89 P **P** **09 39 58.3 -0.3**
baz=316
WVT S **S** **09 46 38.8 +0.1**
baz=316
WVT Waverly 45.28 89 P **P** **09 39 56.3 -2.3**
baz=316,SNR=145
WVT S **S** **09 46 39.1 +0.3**
baz=316
WVT Waverly 45.28 89 P **P** **09 39 57.4 -1.2**
WVT pmax pmax
comp=Z,6µm,2.0s
WVT MLR MLR
comp=Z,2973µm,20.0s
ZEA Zeya 45.38 304 *e*P **P** **09 39 58.5 -0.6**
ZEA *e* 09 41 51.6
ZEA *e*S **S** **09 46 39.9 +0.1**
ZEA pmax pmax
comp=E,200nm,1.0s
ZEA pmax pmax
comp=N,180nm,1.1s
ZEA pmax pmax
comp=Z,470nm,1.7s
ZEA pmax pmax
comp=E,27µm,13.5s
ZEA pmax pmax
comp=N,22µm,13.9s
ZEA pmax pmax
comp=Z,57µm,11.7s
ZEA pmax pmax
comp=E,27µm,12.5s
ZEA pmax pmax
comp=N,21µm,13.3s
ZEA pmax pmax
comp=Z,44µm,10.9s
ZEA smax smax
comp=N,89µm,12.8s
ZEA smax smax
comp=E,97µm,12.3s
ZEA MLR MLR
comp=E,340µm,15.0s
ZEA MLR MLR
comp=N,430µm,17.0s
ZEA MLR MLR
comp=Z,580µm,16.0s
HKT Hockley 45.40 102 P **P** **09 39 58.7 -0.8**
HKT IAmb IAmb 09 40 22.8
comp=Z,10µm,1.6s
HKT Hockley 45.40 102 S **S** **09 46 40.2 -0.2**
baz=321
HKT Hockley 45.40 102 ⇓P **P** **09 39 59.3 -0.2**
HKT Hockley 45.40 102 P **P** **09 39 58.7 -0.8**
HKT pmax pmax
comp=Z,10µm,1.6s
HKT MLR MLR
comp=Z,2054µm,20.0s
J54A Appleton 45.45 75 P **P** **09 39 59.4 -0.5**
J54A IAmb IAmb 09 40 21.2
comp=Z,3µm,1.2s
J54A IAMs_20 IAMs_20 09 58 19.8
comp=Z,1467µm,20.0s
J54A Appleton 45.45 75 P **P** **09 40 01.0 +1.1**
baz=312,SNR=38
J54A P **P** **09 40 01.0 +1.1**
baz=312,SNR=38
J54A S **S** **09 46 36.5 -4.6**
baz=312
J54A S **S** **09 46 36.5 -4.6**
baz=312
ERPA Erie 45.49 77 P **P** **09 40 00.6 +0.4**
baz=312,SNR=77
ERPA S **S** **09 46 40.1 -1.7**
baz=312
ERPA Erie 45.49 77 P **P** **09 40 01.3 +1.1**
baz=312,SNR=77
ERPA S **S** **09 46 40.0 -1.7**
baz=312
ERPA Erie 45.49 77 ⇓P **P** **09 40 00.5 +0.4**
GAC Glen Almond 45.55 70 ⇑P **P** **09 39 58.9 -1.6**
OXF Oxford 45.56 92 P **P** **09 39 59.0 -1.8**
OXF Oxford 45.56 92 P **P** **09 39 59.4 -1.4**
baz=317,SNR=113
OXF S **S** **09 46 41.2 -1.7**
baz=317
OXF Oxford 45.56 92 P **P** **09 39 59.4 -1.4**
baz=317,SNR=113
OXF S **S** **09 46 43.5 +0.6**
baz=317
OXF Oxford 45.56 92 ⇑P **P** **09 40 00.6 -0.2**
OXF Oxford 45.56 92 P **P** **09 39 59.0 -1.8**
OXF pmax pmax
comp=Z,6µm,1.1s
OXF MLR MLR
comp=Z,2581µm,20.0s
M53A WI Miller and 45.57 78 P **P** **09 39 59.9 -1.0**
baz=313,SNR=159
M53A S **S** **09 46 44.0 +1.1**
baz=313
P51A Williamsport 45.59 82 IAMs_20 IAMs_20 09 59 06.9
comp=Z,1996µm,22.0s
P51A Williamsport 45.59 82 P **P** **09 40 01.2 +0.2**
baz=314,SNR=216
P51A P **P** **09 40 01.2 +0.2**
baz=314,SNR=216
P51A S **S** **09 46 42.3 -1.0**
baz=314
P51A S **S** **09 46 42.3 -1.0**
baz=314
TRQ Mont Tremblant 45.70 69 P **P** **09 40 00.2 -1.6**
TRQ IAMs_20 IAMs_20 09 58 34.1
comp=Z,1529µm,22.0s
R50A Paris 45.72 84 P **P** **09 40 01.1 -1.0**
baz=315,SNR=311
R50A P **P** **09 40 01.1 -1.0**
baz=315,SNR=311
R50A S **S** **09 46 42.8 -2.3**
baz=315
R50A S **S** **09 46 42.8 -2.3**
baz=315
ALLY Alegheny Colle 45.72 78 P **P** **09 40 01.8 -0.3**
ALLY Alegheny Colle 45.72 78 P **P** **09 40 03.2 +1.2**
baz=313,SNR=82
ALLY S **S** **09 46 42.9 -2.2**
baz=313
Q51A Peebles 45.75 83 P **P** **09 40 00.8 -1.5**
Q51A Peebles 45.75 83 P **P** **09 40 02.0 -0.3**
baz=314,SNR=438
Q51A P **P** **09 40 02.0 -0.3**
baz=314,SNR=438
Q51A S **S** **09 46 42.0 -3.5**
baz=314
Q51A S **S** **09 46 42.0 -3.5**
baz=314
O52A Adamsville 45.84 81 P **P** **09 40 02.3 -0.7**
O52A IAMs_20 IAMs_20 09 58 58.3
comp=Z,1473µm,21.0s
O52A Adamsville 45.84 81 P **P** **09 40 04.0 +1.0**
baz=314,SNR=226
O52A P **P** **09 40 04.0 +1.0**
baz=314,SNR=226
O52A S **S** **09 46 44.5 -2.3**
baz=314
O52A S **S** **09 46 44.5 -2.3**
baz=314
SPA0 Spitsbergen Ar 45.85 4 *e*P **P** **09 40 02.3 -0.3**
SPA0 epP **pwP** **09 40 08.6 -1.4**
SPA0 IVmB_BB 09 40 10.2
comp=Z,35µm,1.6s
SPA0 *e*S **S** **09 46 44.1 -2.1**
SPA0 *i* 09 50 21.6
SPA0 IVMs_BB IVMs_BB 09 59 11.7
comp=Z,288µm,18.9s
SPITS Spitsbergen Ar 45.85 4 P **P** **09 40 02.2 -0.4**
comp=Z,501nm,0.9s,baz=64,slow=7.5,SNR=65
SPITS S **S** **09 46 41.2 -5.0**
comp=Z,23nm,0.9s,baz=27,slow=8.1,SNR=1.0
SPITS LR LR 09 59 43.6
comp=Z,871µm,19.2s,baz=322,slow=37
comp=Z,501nm,0.9s
SPB2 Spitsbergen Ar 45.86 4 P **P** **09 40 01.7 -0.9**
J55A Hilton 45.91 75 IAMs_20 IAMs_20 09 58 33.8
comp=Z,1246µm,21.0s
J55A Hilton 45.91 75 P **P** **09 40 04.3 +0.9**
baz=312,SNR=42
J55A P **P** **09 40 04.3 +0.9**
baz=312,SNR=42
J55A S **S** **09 46 43.7 -3.9**
baz=312
J55A S **S** **09 46 43.7 -3.9**
baz=312
N53A Lisbon 45.91 79 P **P** **09 40 04.1 +0.6**
baz=313,SNR=181
N53A P **P** **09 40 04.1 +0.6**
baz=313,SNR=181
N53A S **S** **09 46 45.7 -2.1**
baz=313
N53A S **S** **09 46 45.7 -2.1**
baz=313
Y45A Yeager Farm, C 45.96 93 P **P** **09 40 02.2 -1.8**
baz=318,SNR=47
Y45A S **S** **09 46 45.9 -2.8**
baz=318
PLAL Pickwick Lake 45.97 91 P **P** **09 40 02.0 -2.1**
P52A Corning 46.01 81 IAMs_20 IAMs_20 09 59 18.8
comp=Z,1214µm,22.0s
P52A Corning 46.01 81 P **P** **09 40 02.8 -1.5**
baz=314,SNR=290
P52A S **S** **09 46 48.3 -0.8**
baz=314
KLR Kul'dur 46.03 297 *c i* P **P** **09 40 05.3 +0.9**
KLR pmax pmax
comp=Z,4µm,1.3s
KLR MLR MLR
comp=Z,985µm,16.0s
KLR Kul'dur 46.03 297 LR LR 10 02 13.0
comp=Z,701µm,18.4s,baz=57,slow=40
WVNY West Valley, N 46.05 76 P **P** **09 40 03.7 -0.9**
WVNY West Valley, N 46.05 76 P **P** **09 40 05.4 +0.7**
baz=313,SNR=127
WVNY S **S** **09 46 48.3 -1.6**
baz=313
PAOC Oil Creek Stat 46.07 78 S **S** **09 46 48.0 -2.0**
baz=313
O53A New Philadelph 46.09 80 P **P** **09 40 04.4 -0.5**
baz=314,SNR=167
O53A S **S** **09 46 50.6 +0.2**
baz=314
WBO Williamsburg 46.12 71 P **P** **09 40 03.7 -1.3**
WBO IAmb IAmb 09 40 25.8
comp=Z,1µm,1.0s
V48A Smith Brothers 46.13 89 P **P** **09 40 05.0 -0.3**
baz=316,SNR=420
V48A S **S** **09 46 50.2 -0.8**
baz=316
KVTX Kingsville 46.15 106 IAMs_20 IAMs_20 10 02 42.7
comp=Z,684µm,18.0s
KVTX Kingsville 46.15 106 P **P** **09 40 07.1 +1.6**
baz=323,SNR=26
KVTX S **S** **09 46 56.6 +5.1**
baz=323
KVTX Kingsville 46.15 106 ⇑P **P** **09 40 06.8 +1.3**
U49A Red Boiling Sp 46.16 87 P **P** **09 40 05.3 -0.2**
baz=316,SNR=284
U49A S **S** **09 46 50.8 -0.7**
baz=316
PAMR Moraine State 46.23 79 P **P** **09 40 05.3 -0.8**
baz=313
PAMR S **S** **09 46 48.9 -3.6**
baz=313
441A DeRidder 46.25 99 P **P** **09 40 06.4 +0.1**
baz=320,SNR=130
441A S **S** **09 46 56.4 +3.6**
baz=320
TEY Ternei 46.25 289 ⇑*e*P **P** **09 40 05.4 -0.7**
LDAQ Lac Daran 46.28 65 P **P** **09 40 04.8 -1.7**
LDAQ IAMs_20 IAMs_20 09 59 49.3
comp=Z,1089µm,19.0s
JOT Ohata 46.30 282 P **P** **09 40 06.3 -0.2**
T50A Nancy 46.33 86 P **P** **09 40 05.5 -1.3**
baz=316
T50A P **P** **09 40 05.5 -1.3**
baz=316
T50A S **S** **09 46 52.2 -1.7**
baz=316
T50A S **S** **09 46 52.2 -1.7**
baz=316
Q52A Bidwell 46.40 82 IAMs_20 IAMs_20 09 59 33.2
comp=Z,1722µm,22.0s
Q52A Bidwell 46.40 82 P **P** **09 40 06.9 -0.4**
baz=314,SNR=500
Q52A P **P** **09 40 06.9 -0.4**
baz=314,SNR=500
Q52A S **S** **09 46 49.7 -5.1**
baz=314
Q52A S **S** **09 46 49.7 -5.1**
baz=314
J56A Wolcott 46.42 74 IAMs_20 IAMs_20 09 58 22.3
comp=Z,852µm,19.0s
J56A Wolcott 46.42 74 P **P** **09 40 08.4 +0.9**
baz=312,SNR=49
J56A P **P** **09 40 08.4 +0.9**
baz=312,SNR=49
J56A S **S** **09 46 55.1 +0.2**
baz=312
J56A S **S** **09 46 55.1 +0.2**
baz=312
P53A Whipple 46.52 81 IAMs_20 IAMs_20 09 59 28.4
comp=Z,1524µm,21.0s
P53A Whipple 46.52 81 P **P** **09 40 08.8 +0.5**
baz=314,SNR=281
P53A P **P** **09 40 08.8 +0.5**
baz=314,SNR=281
P53A S **S** **09 46 53.8 -2.7**
baz=314
P53A S **S** **09 46 53.8 -2.7**
baz=314
S51A Beattyville 46.59 84 P **P** **09 40 07.6 -1.3**
baz=315,SNR=170
S51A P **P** **09 40 07.6 -1.3**
baz=315,SNR=170
S51A S **S** **09 46 49.3 -8.2**
baz=315
S51A S **S** **09 46 49.3 -8.2**
baz=315
UPAO U. Pittsburgh 46.59 79 P **P** **09 40 07.8 -1.1**
baz=314
UPAO S **S** **09 46 58.7 +1.2**
baz=314
WCNY West Carthage 46.59 72 P **P** **09 40 09.6 +0.8**
baz=312,SNR=92
WCNY S **S** **09 46 57.0 -0.4**
baz=312
O54A Avella 46.60 79 P **P** **09 40 09.5 +0.5**
baz=314,SNR=224
O54A P **P** **09 40 09.5 +0.5**
baz=314,SNR=224
O54A S **S** **09 46 58.0 +0.3**
baz=314
O54A S **S** **09 46 58.0 +0.3**
baz=314
M55A Ridgway 46.60 77 P **P** **09 40 09.5 +0.5**
baz=313,SNR=164
M55A P **P** **09 40 09.5 +0.5**
baz=313,SNR=164
M55A S **S** **09 46 59.2 +1.4**
baz=313
M55A S **S** **09 46 59.2 +1.4**
baz=313
BMNY Brushton-Moira 46.63 71 P **P** **09 40 10.7 +1.5**
baz=312,SNR=81
BMNY S **S** **09 46 55.7 -2.3**
baz=312
VBMS Vicksburg 46.64 95 IAMs_20 IAMs_20 09 59 26.9
comp=Z,1435µm,21.0s
VBMS Vicksburg 46.64 95 P **P** **09 40 09.5 +0.3**
baz=319,SNR=47
VBMS S **S** **09 46 58.8 +0.5**
baz=319
VBMS Vicksburg 46.64 95 P **P** **09 40 08.8 -0.5**
baz=319,SNR=47
VBMS S **S** **09 46 58.4 +0.1**
baz=319
VBMS Vicksburg 46.64 95 ⇑P **P** **09 40 09.1 -0.2**
MNTQ Montreal, Queb 46.66 69 IAMs_20 IAMs_20 09 59 42.5
comp=Z,1207µm,19.0s
JTM Tenmabayashi 46.70 282 P **P** **09 40 08.9 -0.8**
JTM IAMs_20 IAMs_20 09 58 53.4
comp=Z,1127µm,22.0s
JTM Tenmabayashi 46.70 282 P **P** **09 40 09.6 -0.1**
JTM Tenmabayashi 46.70 282 ⇑P **P** **09 40 09.2 -0.4**
LONY Lake Ozonia 46.74 71 IAMs_20 IAMs_20 09 59 45.4
comp=Z,1515µm,18.0s
LONY Lake Ozonia 46.74 71 P **P** **09 40 09.6 -0.4**
baz=312,SNR=84
LONY S **S** **09 47 01.1 +1.5**
baz=312
LONY Lake Ozonia 46.74 71 ⇑P **P** **09 40 09.9 -0.1**
J57A Williamstown 46.79 73 IAMs_20 IAMs_20 10 00 33.2
comp=Z,1207µm,19.0s
J57A Williamstown 46.79 73 P **P** **09 40 11.4 +1.1**
baz=312,SNR=59
J57A P **P** **09 40 11.4 +1.1**
baz=312,SNR=59
J57A S **S** **09 46 59.2 -1.2**
baz=312
J57A S **S** **09 46 59.2 -1.2**
baz=312
L56A Greenwood 46.81 76 P **P** **09 40 10.5 -0.1**
L56A IAMs_20 IAMs_20 09 59 22.7
comp=Z,1620µm,19.0s
L56A Greenwood 46.81 76 P **P** **09 40 11.8 +1.1**
baz=313,SNR=195
L56A P **P** **09 40 11.8 +1.1**
baz=313,SNR=195
L56A S **S** **09 47 01.2 +0.5**
baz=313
L56A S **S** **09 47 01.2 +0.5**
baz=313
H06N1 SOCORRO T-PHAS 46.81 127 P **P** **09 40 11.5 +0.8**
SNR=24
H06N1 T T 10 30 36.7
SNR=1.8
PSDB Penn State Uni 46.84 77 S **S** **09 47 02.6 +1.4**
baz=313
H06S1 SOCORRO T 46.93 127 P **P** **09 40 11.9 +0.2**
SNR=459
H06S1 T T 10 30 58.7
SNR=3.8
X48A Hartselle 46.94 90 P **P** **09 40 09.8 -1.9**
X48A Hartselle 46.94 90 P **P** **09 40 10.8 -0.8**
baz=317,SNR=269
X48A S **S** **09 46 57.8 -4.8**
baz=317
K57A Scipio Center 46.97 74 IAMs_20 IAMs_20 09 58 49.9
comp=Z,925µm,18.0s
K57A Scipio Center 46.97 74 P **P** **09 40 13.5 +1.7**
baz=313,SNR=89
K57A S **S** **09 47 03.7 +0.7**
baz=313
HSPB Hornsund (broa 46.98 5 *e*P **P** **09 40 11.2 -0.2**
HSPB *e*PP PP 09 42 14.8 +13
HSPB *e*S **S** **09 47 05.1 +2.9**
HSPB *e*L L 09 59 58.8
comp=Z,1182µm,20.0s
R53A Hurricane 47.02 82 P **P** **09 40 11.7 -0.6**
baz=315,SNR=445
R53A P **P** **09 40 11.7 -0.6**
baz=315,SNR=445
R53A S **S** **09 47 00.7 -3.0**
baz=315
R53A S **S** **09 47 00.7 -3.0**
baz=315
LMQ La Malbaie 47.02 65 P **P** **09 40 11.0 -1.2**
LMQ IAMs_20 IAMs_20 10 00 11.8
comp=Z,898µm,19.0s
FRNY Flat Rock 47.12 70 IAMs_20 IAMs_20 09 59 15.7
comp=Z,1370µm,22.0s
FRNY Flat Rock 47.12 70 P **P** **09 40 14.8 +1.8**
baz=312,SNR=70

FRNY S **S** **09 47 05.5 +0.4**
baz=312
146A Union 47.14 94 P **P** **09 40 11.4 -1.8**
146A Union 47.14 94 P **P** **09 40 12.5 -0.8**
baz=318,SNR=50
146A S **S** **09 47 05.7 +0.1**
baz=318
Q54A Coxs Mills 47.18 81 IAMs_20 IAMs_20 09 59 42.8
comp=Z,1507µm,21.0s
Q54A Coxs Mills 47.18 81 P **P** **09 40 12.6 -0.9**
baz=315,SNR=218
Q54A P **P** **09 40 12.6 -0.9**
baz=315,SNR=218
Q54A S **S** **09 47 05.1 -0.8**
baz=315
Q54A S **S** **09 47 05.1 -0.8**
baz=315
J58A Remsen 47.21 73 IAMs_20 IAMs_20 09 58 55.1
comp=Z,1043µm,18.0s
J58A Remsen 47.21 73 P **P** **09 40 14.5 +0.8**
baz=313,SNR=140
J58A P **P** **09 40 14.5 +0.8**
baz=313,SNR=140
J58A S **S** **09 46 58.4 -8.0**
baz=313
J58A S **S** **09 46 58.4 -8.0**
baz=313
MCWV Mont Chateau 47.26 80 P **P** **09 40 14.0 -0.1**
baz=314,SNR=256
MCWV S **S** **09 47 06.2 -0.8**
baz=314
MCWV Mont Chateau 47.26 80 ⇑P **P** **09 40 13.2 -0.9**
NCB Newcomb 47.37 71 P **P** **09 40 13.3 -1.6**
NCB IAmb IAmb 09 40 36.1
comp=Z,2µm,1.0s
NCB Newcomb 47.37 71 P **P** **09 40 16.5 +1.6**
baz=312,SNR=94
NCB S **S** **09 47 07.4 -1.2**
baz=312
W50A Signal Mountai 47.37 88 P **P** **09 40 13.5 -1.5**
W50A Signal Mountai 47.37 88 P **P** **09 40 14.0 -1.1**
baz=317,SNR=358
W50A S **S** **09 47 10.4 +1.5**
baz=317
TZTN Tazewell 47.39 85 P **P** **09 40 15.4 +0.2**
baz=316,SNR=136
TZTN S **S** **09 47 08.3 -0.8**
baz=316
TZTN Tazewell 47.39 85 P **P** **09 40 14.3 -0.8**
baz=316,SNR=136
TZTN S **S** **09 47 00.7 -8.4**
baz=316
TZTN Tazewell 47.39 85 ⇑P **P** **09 40 14.3 -0.8**
V51A Loudon 47.47 87 P **P** **09 40 15.2 -0.6**
baz=316,SNR=215
V51A S **S** **09 47 08.3 -1.9**
baz=316
JOM Ohasama 47.48 280 P **P** **09 40 16.0 +0.1**
HEH HeiHe 47.52 300 *e*P **P** **09 40 14.3 -1.7**
HEH pP **pwP** **09 40 22.4 -0.9**
HEH S **S** **09 47 06.9 -3.6**
HEH pmax pmax
comp=Z,320nm,2.0s
HEH pmax pmax
comp=Z,86µm,7.5s
HEH LR LR
comp=Z,850µm,17.1s
HEH LR LR
comp=Z,1362µm,18.6s
HEH LR LR
comp=Z,1627µm,19.0s
PABK Blue Knob Stat 47.53 78 P **P** **09 40 15.0 -1.2**
baz=314
PABK S **S** **09 47 05.6 -5.4**
baz=314
J59A Piesco 47.56 72 P **P** **09 40 14.8 -1.6**
J59A IAmb IAmb 09 40 37.4
comp=Z,2µm,1.2s
J59A Piesco 47.56 72 P **P** **09 40 17.8 +1.4**
baz=313
J59A P **P** **09 40 17.8 +1.4**
baz=313
J59A S **S** **09 47 08.8 -2.6**
baz=313
J59A S **S** **09 47 08.8 -2.6**
baz=313
ZAIG Zacatecas 47.56 115 P **P** **09 40 15.8 -1.1**
ZAIG Zacatecas 47.56 115 ⇑P **P** **09 40 16.8 -0.2**
M57A Sunshine Farm, 47.59 76 P **P** **09 40 17.4 +0.7**
baz=314,SNR=251
M57A P **P** **09 40 17.4 +0.7**
baz=314,SNR=251
M57A S **S** **09 47 11.3 -0.5**
baz=314
M57A S **S** **09 47 11.3 -0.5**
baz=314
BINY Binghamton 47.62 74 IAMs_20 IAMs_20 09 59 35.9
comp=Z,1264µm,18.0s
BINY Binghamton 47.62 74 P **P** **09 40 17.5 +0.6**
baz=313,SNR=159
BINY S **S** **09 47 15.4 +3.1**
baz=313
BINY Binghamton 47.62 74 P **P** **09 40 18.3 +1.4**
baz=313,SNR=159
BINY S **S** **09 47 13.7 +1.5**
baz=313
BINY Binghamton 47.62 74 ⇑P **P** **09 40 15.9 -1.0**
SSPA Standing Stone 47.66 77 P **P** **09 40 16.5 -0.7**
SSPA Standing Stone 47.66 77 P **P** **09 40 15.9 -1.3**
baz=314
SSPA S **S** **09 47 12.5 -0.2**
baz=314
SSPA Standing Stone 47.66 77 P **P** **09 40 17.1 -0.1**
baz=314,SNR=182
SSPA S **S** **09 47 10.5 -2.3**
baz=314
SSPA Standing Stone 47.66 77 ⇑P **P** **09 40 16.5 -0.7**
Y49A Blount Mountai 47.73 90 P **P** **09 40 17.1 -0.7**
baz=318,SNR=144
Y49A S **S** **09 47 12.4 -1.6**
baz=318
S54A Dingess, Beckl 47.75 82 P **P** **09 40 18.0 0.0**
baz=315,SNR=282
S54A P **P** **09 40 18.0 0.0**
baz=315,SNR=282
S54A S **S** **09 47 15.5 +1.3**
baz=315
S54A S **S** **09 47 15.5 +1.3**
baz=315
HOPEN Hopen 47.77 2 *e*P **P** **09 40 17.6 0.0**
HOPEN *e*pP **pwP** **09 40 23.7 -1.3**
HOPEN IVmB_BB 09 40 25.4
comp=Z,43µm,1.6s
HOPEN *e*PP **PP** **09 42 10.7 +1.8**
HOPEN *e*S **S** **09 47 12.3 -1.2**
HOPEN *e*SS **SS** **09 50 47.4 +6.3**
HOPEN IVMs_BB IVMs_BB 10 03 49.3
comp=Z,157µm,15.9s
IVI Ivigtut 47.84 40 P **P** **09 40 19.1 +0.8**
IVI IAmb IAmb 09 41 05.2
comp=Z,3µm,1.3s
IVI Ivigtut 47.84 40 *i* P **P** **09 40 23.0 +4.8**
IVI IAmb IAmb 09 40 39.6
comp=Z,420nm,1.0s
346A Big Creek Wild 47.85 95 P **P** **09 40 18.4 -0.4**
baz=319,SNR=54
346A S **S** **09 47 15.1 -0.6**
baz=319
V52A Sevierville 47.87 86 P **P** **09 40 19.1 +0.2**
V52A IAmb IAmb 09 40 36.8
comp=Z,2µm,1.1s
V52A Sevierville 47.87 86 P **P** **09 40 17.7 -1.2**
baz=316,SNR=158
V52A S **S** **09 47 15.2 -0.6**
baz=316
ISOG Isortoq, Green 47.88 32 *i* P **P** **09 40 19.6 +1.1**
ISOG IAmb IAmb 09 40 42.4
comp=Z,1µm,0.7s
TKL Tuckaleechee C 47.90 86 P **P** **09 40 18.3 -0.9**
TKL IAmb IAmb 09 40 55.8
comp=Z,2µm,1.1s
TKL Tuckaleechee C 47.90 86 P **P** **09 40 18.1 -1.0**
baz=316,SNR=171
TKL S **S** **09 47 16.2 -0.1**
baz=316
TKL Tuckaleechee C 47.90 86 P **P** **09 40 19.0 -0.1**
comp=Z,542nm,1.1s,baz=229,slow=3.1,SNR=44
TKL PP **PP** **09 42 11.7 +0.8**
comp=Z,222nm,0.8s,baz=212,slow=7.6,SNR=1.3
TKL S **S** **09 47 14.9 -1.4**
comp=Z,60nm,1.1s,baz=212,slow=9.1,SNR=1.7
TKL LR LR 10 00 45.6
comp=Z,3423µm,19.1s,baz=324,slow=36
comp=Z,542nm,1.1s
VT1 Waterbury 47.90 70 P **P** **09 40 19.5 +0.4**
VT1 IAmb IAmb 09 41 02.5
comp=Z,2µm,1.4s
VT1 Waterbury 47.90 70 P **P** **09 40 19.2 +0.1**
baz=312,SNR=59
VT1 S **S** **09 47 17.5 +1.3**
baz=312
D62A Allapoint, All 47.98 65 IAMs_20 IAMs_20 10 00 06.2
comp=Z,1414µm,21.0s
D62A Allapoint, All 47.98 65 P **P** **09 40 19.5 -0.1**
baz=312,SNR=80
D62A P **P** **09 40 19.5 -0.1**
baz=312,SNR=80
D62A S **S** **09 47 13.5 -3.7**
baz=312
D62A S **S** **09 47 13.5 -3.7**
baz=312
LRAL Lakeview Retre 48.01 91 P **P** **09 40 19.5 -0.4**
baz=318,SNR=108
LRAL S **S** **09 47 17.4 -0.4**
baz=318
LRAL Lakeview Retre 48.01 91 P **P** **09 40 19.2 -0.7**
baz=318,SNR=108
LRAL S **S** **09 47 08.9 -8.9**
baz=318
LRAL Lakeview Retre 48.01 91 ⇑P **P** **09 40 18.4 -1.6**
SOEG Soedalen 48.03 26 *i* P **P** **09 40 22.1 +2.4**
SOEG IAmb IAmb 09 40 50.5
comp=Z,834nm,0.8s
MCVT Middlebury Col 48.03 71 P **P** **09 40 20.7 +0.6**
baz=313,SNR=42
MCVT S **S** **09 47 20.1 +2.1**
baz=313
E62A Clayton Lake 48.05 66 IAMs_20 IAMs_20 10 00 07.0
comp=Z,1046µm,20.0s
E62A Clayton Lake 48.05 66 P **P** **09 40 20.0 -0.1**
baz=312,SNR=66
E62A P **P** **09 40 20.0 -0.1**
baz=312,SNR=66
E62A S **S** **09 47 16.6 -1.6**
baz=312
E62A S **S** **09 47 16.6 -1.6**
baz=312
Q56A Snyder Ridge, 48.05 80 P **P** **09 40 20.6 +0.3**
baz=315,SNR=69
Q56A P **P** **09 40 20.6 +0.3**
baz=315,SNR=69
Q56A S **S** **09 47 16.2 -2.2**
baz=315
Q56A S **S** **09 47 16.2 -2.2**
baz=315
ACCN Adirondack Com 48.06 72 P **P** **09 40 19.3 -0.9**
ACCN Adirondack Com 48.06 72 P **P** **09 40 20.7 +0.5**
baz=313,SNR=94
ACCN S **S** **09 47 19.3 +0.9**
baz=313
R55A Marlinton 48.07 81 IAMs_20 IAMs_20 10 00 05.4
comp=Z,1212µm,20.0s
R55A Marlinton 48.07 81 P **P** **09 40 20.5 0.0**
baz=315,SNR=111
R55A P **P** **09 40 20.5 0.0**
baz=315,SNR=111
R55A S **S** **09 47 17.3 -1.6**
baz=315
R55A S **S** **09 47 17.3 -1.6**
baz=315
X51A Calhoun 48.09 88 P **P** **09 40 20.3 -0.2**
baz=317,SNR=336
X51A P **P** **09 40 20.3 -0.2**
baz=317,SNR=336
X51A S **S** **09 47 18.9 -0.1**
baz=317
X51A S **S** **09 47 18.9 -0.1**
baz=317
HCNY Howe Caverns 48.14 73 P **P** **09 40 21.7 +0.8**
baz=313,SNR=166
HCNY S **S** **09 47 21.0 +1.5**
baz=313
L59A Walton 48.14 74 IAMs_20 IAMs_20 09 59 24.8
comp=Z,804µm,20.0s
L59A Walton 48.14 74 P **P** **09 40 22.2 +1.3**
baz=313,SNR=132
L59A P **P** **09 40 22.2 +1.3**
baz=313,SNR=132
L59A S **S** **09 47 22.9 +3.3**
baz=313
L59A S **S** **09 47 22.9 +3.3**
baz=313
N58A Sunbury 48.16 76 P **P** **09 40 20.8 -0.2**
baz=314,SNR=181
N58A P **P** **09 40 20.8 -0.2**
baz=314,SNR=181
N58A S **S** **09 47 14.1 -5.7**
baz=314
N58A S **S** **09 47 14.1 -5.7**
baz=314
KSPA Keystone Colle 48.18 75 IAMs_20 IAMs_20 10 00 53.9
comp=Z,1119µm,18.0s
KSPA Keystone Colle 48.18 75 P **P** **09 40 22.0 +0.8**
baz=314,SNR=109
KSPA S **S** **09 47 17.1 -3.0**
baz=314
PSWB Penn State Wil 48.22 75 P **P** **09 40 22.8 +1.3**
baz=314
PSWB S **S** **09 47 22.5 +1.8**
baz=314
W52A Murphy 48.22 87 P **P** **09 40 20.1 -1.5**
W52A Murphy 48.22 87 P **P** **09 40 21.1 -0.5**
baz=317,SNR=205
W52A S **S** **09 47 18.5 -2.4**
baz=317
ANGG Ammassalik, Gr 48.23 31 *i* P **P** **09 40 24.0 +2.8**
ANGG IAmb IAmb 09 40 40.4
comp=Z,874nm,0.8s
545A Edgard 48.30 97 IAMs_20 IAMs_20 10 02 12.5
comp=Z,857µm,19.0s
545B Wilberts Farm, 48.30 97 P **P** **09 40 22.4 +0.2**
baz=320
U54A Nelsons Funny 48.38 84 IAMs_20 IAMs_20 10 00 55.6
comp=Z,1696µm,20.0s
U54A Nelsons Funny 48.38 84 P **P** **09 40 23.0 +0.1**
baz=316,SNR=359
U54A P **P** **09 40 23.0 +0.1**
baz=316,SNR=359
U54A S **S** **09 47 23.9 +0.7**
baz=316
U54A S **S** **09 47 23.9 +0.7**
baz=316
SCO Scoresbysund 48.39 21 *i* P **P** **09 40 24.0 +1.6**
SCO IAmb IAmb 09 40 45.1
comp=Z,340nm,0.8s
P57A Homestead Farm 48.39 78 P **P** **09 40 22.5 -0.3**
baz=315,SNR=173
P57A P **P** **09 40 22.5 -0.3**
baz=315,SNR=173
P57A S **S** **09 47 21.8 -1.4**
baz=315
P57A S **S** **09 47 21.8 -1.4**
baz=315
LBNH Lisbon 48.40 70 P **P** **09 40 22.9 0.0**
baz=313,SNR=56
LBNH S **S** **09 47 25.4 +2.1**
baz=313
LBNH Lisbon 48.40 70 P **P** **09 40 23.5 +0.6**
baz=313,SNR=56
LBNH S **S** **09 47 25.7 +2.4**
baz=313
LBNH Lisbon 48.40 70 ⇓P **P** **09 40 23.7 +0.8**
V53A Saluda 48.43 86 P **P** **09 40 21.5 -1.8**
baz=316,SNR=425
V53A P **P** **09 40 21.5 -1.8**
baz=316,SNR=425
V53A S **S** **09 47 26.9 +2.9**
baz=316
V53A S **S** **09 47 26.9 +2.9**
baz=316
NRIK Noril'sk 48.45 337 P **P** **09 40 22.6 -0.3**
comp=Z,261nm,0.9s,baz=52,slow=6.2,SNR=118
NRIK PP **PP** **09 42 16.1 +0.9**
comp=Z,348nm,1.0s,baz=25,slow=4.5,SNR=0.8
NRIK S **S** **09 47 24.3 +1.0**
comp=Z,70nm,1.2s,baz=340,slow=8.2,SNR=1.3
NRIK LR LR 10 02 58.8
comp=Z,2899µm,21.5s,baz=44,slow=39
comp=Z,261nm,0.9s
G62A West of Eustis 48.47 68 IAMs_20 IAMs_20 10 00 18.2
comp=Z,1265µm,18.0s
G62A West of Eustis 48.47 68 P **P** **09 40 24.8 +1.3**
baz=313,SNR=45
G62A P **P** **09 40 24.8 +1.3**
baz=313,SNR=45
G62A S **S** **09 47 22.5 -1.7**
baz=313
G62A S **S** **09 47 22.5 -1.7**
baz=313
BOD Bodaibo 48.50 315 ⇑*i* P **P** **09 40 23.1 -0.4**
BOD pmax pmax
comp=Z,4µm,2.2s
TRY Troy 48.51 72 IAMs_20 IAMs_20 09 59 44.4
comp=Z,818µm,22.0s
TRY Troy 48.51 72 P **P** **09 40 24.6 +0.9**
baz=313,SNR=54
TRY S **S** **09 47 29.3 +4.6**
baz=313
HNH Hanover 48.58 70 IAMs_20 IAMs_20 10 00 51.2
comp=Z,1538µm,18.0s
HNH Hanover 48.58 70 P **P** **09 40 25.1 +0.8**
baz=313,SNR=45
HNH S **S** **09 47 29.0 +3.4**
baz=313
H62A Milan 48.58 69 P **P** **09 40 24.5 +0.2**
baz=313,SNR=68
H62A P **P** **09 40 24.5 +0.2**
baz=313,SNR=68
H62A S **S** **09 47 23.4 -2.3**
baz=313
H62A S **S** **09 47 23.4 -2.3**
baz=313
BLA Blacksburg 48.66 82 P **P** **09 40 25.4 +0.3**
baz=316,SNR=174
BLA S **S** **09 47 27.0 -0.1**
baz=316
BLA Blacksburg 48.66 82 P **P** **09 40 24.4 -0.7**
baz=316,SNR=174
BLA S **S** **09 47 24.9 -2.2**
baz=316
BLA Blacksburg 48.66 82 ⇑P **P** **09 40 24.6 -0.5**
J61A Chester 48.68 71 P **P** **09 40 25.8 +0.8**
baz=313,SNR=117
J61A P **P** **09 40 25.8 +0.8**
baz=313,SNR=117
J61A S **S** **09 47 29.7 +2.5**
baz=313
J61A S **S** **09 47 29.7 +2.5**
baz=313
E63A Oxbow 48.75 65 P **P** **09 40 25.3 -0.2**
baz=312,SNR=119
E63A P **P** **09 40 25.3 -0.2**
baz=312,SNR=119
E63A S **S** **09 47 29.7 +1.7**
baz=312
E63A S **S** **09 47 29.7 +1.7**
baz=312
H11N2 WAKE ISLAND Hy 48.75 240 P **P** **09 40 27.7 +2.1**
baz=2.9,slow=2.8,SNR=42
H11N2 T T 10 32 10.1
baz=31,slow=76
H11N3 WAKE ISLAND Hy 48.76 240 P **P** **09 40 27.7 +2.1**
baz=2.9,slow=2.8,SNR=71
H11N3 T T 10 32 10.7
baz=31,slow=76
H11N1 WAKE ISLAND Hy 48.77 240 P **P** **09 40 27.7 +2.0**
baz=2.9,slow=2.8,SNR=35
H11N1 T T 10 32 17.8
baz=31,slow=76
PQI Presque Isle 48.79 65 IAMs_20 IAMs_20 10 01 18.4
comp=Z,897µm,18.0s
Z51A Franklin 48.82 90 P **P** **09 40 23.7 -2.6**
Z51A Franklin 48.82 90 P **P** **09 40 24.5 -1.7**
baz=318,SNR=181
Z51A S **S** **09 47 28.0 -1.4**
baz=318
NRS Narsarsuaq 48.85 39 *i* P **P** **09 40 28.9 +2.8**
NRS IAmb IAmb 09 40 58.7
comp=Z,507nm,0.9s
CASEE Lake Jocassee 48.86 86 P **P** **09 40 25.5 -1.0**
baz=317,SNR=317
CASEE S **S** **09 47 31.4 +1.6**
baz=317
F63A Nahmakanta, Br 48.88 66 IAMs_20 IAMs_20 10 00 41.1
comp=Z,848µm,18.0s
F63A Nahmakanta, Br 48.88 66 P **P** **09 40 26.1 -0.5**
baz=313,SNR=130
F63A P **P** **09 40 26.1 -0.5**
baz=313,SNR=130
F63A S **S** **09 47 32.3 +2.3**
baz=313
F63A S **S** **09 47 32.3 +2.3**
baz=313
JMM Marumori 48.89 279 P **P** **09 40 25.1 -1.7**
JMM IAmb IAmb 09 40 51.7
comp=Z,3µm,1.0s
JMM Marumori 48.89 279 P **P** **09 40 27.1 +0.4**
JMM Marumori 48.89 279 P **P** **09 40 26.8 0.0**
JMM Marumori 48.89 279 ⇑P **P** **09 40 25.4 -1.4**
NPNY Mohonk Preserv 48.92 74 P **P** **09 40 27.7 +0.8**
baz=314,SNR=84
NPNY S **S** **09 47 29.8 -0.8**
baz=314
MVL Millersville 48.94 77 P **P** **09 40 26.2 -0.9**
MVL IAmb IAmb 09 41 01.6
comp=Z,1µm,1.0s
I62A Tamworth 48.96 70 P **P** **09 40 26.3 -0.9**
baz=313,SNR=18
I62A P **P** **09 40 26.3 -0.9**
baz=313,SNR=18
I62A S **S** **09 47 33.2 +2.1**
baz=313
I62A S **S** **09 47 33.2 +2.1**
baz=313
Y52A Lilburn 49.05 88 P **P** **09 40 27.0 -0.9**
baz=318,SNR=344
Y52A P **P** **09 40 27.0 -0.9**
baz=318,SNR=344
Y52A S **S** **09 47 34.8 +2.3**
baz=318
Y52A S **S** **09 47 34.8 +2.3**
baz=318
LUPA Lehigh Univers 49.06 75 IAMs_20 IAMs_20 10 01 16.3
comp=Z,1484µm,19.0s
PKME Peaks-Kenny Pk 49.08 67 IAMs_20 IAMs_20 10 01 26.3
comp=Z,1059µm,18.0s
PKME Peaks-Kenny Pk 49.08 67 P **P** **09 40 28.4 +0.3**
baz=313,SNR=50
PKME S **S** **09 47 34.6 +1.8**
baz=313
PKME Peaks-Kenny Pk 49.08 67 P **P** **09 40 28.7 +0.6**
baz=313,SNR=50
PKME S **S** **09 47 35.2 +2.4**
baz=313
PKME Peaks-Kenny Pk 49.08 67 ⇑P **P** **09 40 27.1 -1.0**
S57A Dark Hollow, R 49.09 81 P **P** **09 40 30.0 +1.8**
baz=316,SNR=15
S57A P **P** **09 40 30.0 +1.8**
baz=316,SNR=15
S57A S **S** **09 47 31.9 -1.1**
baz=316
S57A S **S** **09 47 31.9 -1.1**
baz=316
SDMD Soldier's Deli 49.09 78 IAMs_20 IAMs_20 10 01 21.2
comp=Z,1236µm,18.0s
SDMD Soldier's Deli 49.09 78 P **P** **09 40 28.6 +0.4**
baz=315,SNR=81
SDMD S **S** **09 47 32.4 -0.6**
baz=315
ODNJ Ogdensburg 49.14 74 IAMs_20 IAMs_20 09 59 58.3
comp=Z,889µm,19.0s
ODNJ Ogdensburg 49.14 74 P **P** **09 40 29.6 +1.0**
baz=314,SNR=106
ODNJ S **S** **09 47 36.8 +3.1**
baz=314
F64A Sherman 49.16 66 P **P** **09 40 26.4 -2.2**
F64A IAMs_20 IAMs_20 10 00 52.4
comp=Z,1254µm,20.0s
F64A Sherman 49.16 66 P **P** **09 40 29.2 +0.5**

baz=313,SNR=86
F64A P **P** **09 40 29.2 +0.5**
baz=313,SNR=86
F64A S **S** **09 47 30.1 -3.8**
baz=313
F64A S **S** **09 47 30.1 -3.8**
baz=313
V55A Taylorsville 49.20 84 P **P** **09 40 28.2 -0.9**
V55A Taylorsville 49.20 84 P **P** **09 40 29.0 -0.2**
baz=316,SNR=241
V55A P **P** **09 40 29.0 -0.2**
baz=316,SNR=241
V55A S **S** **09 47 36.5 +1.9**
baz=316
V55A S **S** **09 47 36.5 +1.9**
baz=316
250A Grady 49.20 92 P **P** **09 40 28.9 -0.3**
baz=319,SNR=259
250A S **S** **09 47 33.8 -0.9**
baz=319
L61B Northampton 49.23 72 P **P** **09 40 30.3 +1.0**
baz=314,SNR=45
L61B S **S** **09 47 33.4 -1.5**
baz=314
L61B Northampton 49.23 72 P **P** **09 40 30.2 +1.0**
baz=314,SNR=45
L61B S **S** **09 47 33.1 -1.8**
baz=314
BRNY Black Rk. Fore 49.23 74 P **P** **09 40 30.5 +1.2**
baz=314,SNR=124
BRNY S **S** **09 47 34.8 -0.1**
baz=314
I63A Otisfield 49.24 69 IAMs_20 IAMs_20 10 00 17.7
comp=Z,1044µm,22.0s
I63A Otisfield 49.24 69 P **P** **09 40 30.3 +1.0**
baz=313,SNR=36
I63A P **P** **09 40 30.3 +1.0**
baz=313,SNR=36
I63A S **S** **09 47 34.6 -0.4**
baz=313
I63A S **S** **09 47 34.6 -0.4**
baz=313
USA0B Ussuriysk Arra 49.25 291 P **P** **09 40 28.1 -1.3**
USA0B IAMs_20 IAMs_20 10 02 49.2
comp=Z,1226µm,21.0s
USA0B Ussuriysk Arra 49.25 291 *c* iP **P** **09 40 29.5 +0.1**
USRK Ussuriysk Ar. 49.25 291 P **P** **09 40 28.3 -1.1**
USRK Ussuriysk Ar. 49.25 291 P **P** **09 40 28.5 -0.9**
comp=Z,67nm,1.0s,baz=56,slow=7.4,SNR=36
USRK ScP **ScP** **09 45 49.2 +2.0**
comp=Z,37nm,1.1s,baz=48,slow=2.1,SNR=1.8
USRK S **S** **09 47 37.0 +1.9**
comp=Z,7.6nm,0.9s,baz=41,slow=18,SNR=1.3
USRK LR LR 10 01 42.2
comp=Z,1079µm,19.6s,baz=58,slow=37
comp=Z,67nm,1.0s
WAKE Wake Island 49.25 240 IAMs_20 IAMs_20 09 56 25.7
comp=Z,974µm,21.0s
WAKE Wake Island 49.25 240 P **P** **09 40 31.5 +1.9**
WAKE Wake Island 49.25 240 ⇓P **P** **09 40 30.7 +1.0**
KSCT Kent School, K 49.30 73 IAMs_20 IAMs_20 10 02 12.4
comp=Z,872µm,18.0s
TRNY Table Rock, Ra 49.30 74 IAMs_20 IAMs_20 10 00 13.6
comp=Z,844µm,21.0s
U56A King 49.30 83 P **P** **09 40 29.4 -0.5**
baz=316,SNR=198
U56A P **P** **09 40 29.4 -0.5**
baz=316,SNR=198
U56A S **S** **09 47 36.3 +0.2**
baz=316
U56A S **S** **09 47 36.3 +0.2**
baz=316
K62A Royalston 49.32 71 P **P** **09 40 31.2 +1.3**
baz=314,SNR=90
K62A P **P** **09 40 31.2 +1.3**
baz=314,SNR=90
K62A S **S** **09 47 32.2 -3.9**
baz=314
K62A S **S** **09 47 32.2 -3.9**
baz=314
BATG Bathurst New B 49.37 63 P **P** **09 40 28.4 -1.9**
BRAL Brewton 49.37 93 P **P** **09 40 31.4 +0.9**
baz=319,SNR=49
BRAL S **S** **09 47 40.2 +3.1**
baz=319
BRAL Brewton 49.37 93 P **P** **09 40 30.2 -0.3**
baz=319,SNR=49
BRAL S **S** **09 47 37.9 +0.8**
baz=319
BRAL Brewton 49.37 93 ⇑P **P** **09 40 30.5 0.0**
WVL Waterville 49.37 68 IAMs_20 IAMs_20 10 00 47.0
comp=Z,1137µm,20.0s
WVL Waterville 49.37 68 P **P** **09 40 30.6 +0.3**
baz=313,SNR=34
WVL S **S** **09 47 38.6 +1.8**
baz=313
WUPA West Chester U 49.40 76 IAMs_20 IAMs_20 10 01 04.3
comp=Z,1328µm,21.0s
BRNJ Basking Ridge 49.44 75 P **P** **09 40 31.2 +0.4**
baz=314,SNR=88
BRNJ S **S** **09 47 39.5 +1.7**
baz=314
T57A Hurt 49.47 82 P **P** **09 40 29.9 -1.2**
baz=316,SNR=91
T57A P **P** **09 40 29.9 -1.2**
baz=316,SNR=91
T57A S **S** **09 47 37.4 -0.9**
baz=316
T57A S **S** **09 47 37.4 -0.9**
baz=316
GEDE Greenville 49.47 76 P **P** **09 40 31.1 0.0**
baz=315,SNR=98
GEDE S **S** **09 47 37.5 -0.7**
baz=315
PSUB Penn St. - Bra 49.49 76 P **P** **09 40 31.8 +0.6**
baz=315
PSUB S **S** **09 47 37.0 -1.5**
baz=315
QUA2 Belchertown 49.52 72 P **P** **09 40 32.7 +1.2**
baz=314,SNR=78
QUA2 S **S** **09 47 42.8 +3.9**
baz=314
R58B Mineral 49.54 80 IAMs_20 IAMs_20 10 01 43.2
comp=Z,1373µm,20.0s
R58B Mineral 49.54 80 P **P** **09 40 30.4 -1.3**
baz=316,SNR=118
R58B P **P** **09 40 30.4 -1.3**
baz=316,SNR=118
R58B S **S** **09 47 36.8 -2.5**
baz=316
R58B S **S** **09 47 36.8 -2.5**
baz=316
152A Waverly Hall 49.56 90 P **P** **09 40 30.3 -1.6**
baz=318,SNR=93
152A S **S** **09 47 38.8 -1.0**
baz=318
PAL Palisades 49.57 74 IAMs_20 IAMs_20 10 00 20.7
comp=Z,936µm,21.0s
PAL Palisades 49.57 74 P **P** **09 40 32.6 +0.7**
baz=314,SNR=46
PAL S **S** **09 47 42.6 +2.9**
baz=314
PAL Palisades 49.57 74 P **P** **09 40 32.3 +0.4**
baz=314,SNR=46
PAL S **S** **09 47 41.1 +1.5**
baz=314
PANJ Princeton 49.58 75 P **P** **09 40 33.6 +1.7**
baz=315,SNR=64
PANJ S **S** **09 47 37.6 -2.2**
baz=315
BJO1 Bjornoya 49.60 4 *e*P **P** **09 40 32.8 +1.1**
BJO1 *e*pP **pwP** **09 40 38.1 -0.9**
BJO1 IVmBBB 09 40 39.6
comp=Z,36µm,3.3s
BJO1 *e*PP **PP** **09 42 29.6 +4.0**
BJO1 *e*S **S** **09 47 40.1 +0.7**
BJO1 *e*SS **SS** **09 51 20.3 +10**
BJO1 IVMs_BB IVMs_BB 10 01 14.3
comp=Z,246µm,19.2s
PAULI Pauline 49.61 86 P **P** **09 40 31.5 -0.7**
baz=317,SNR=141
PAULI S **S** **09 47 41.2 +0.9**
baz=317
KMSC Kings Mountain 49.65 85 P **P** **09 40 32.7 +0.1**
baz=317,SNR=226
KMSC S **S** **09 47 42.8 +1.9**
baz=317
KMSC Kings Mountain 49.65 85 P **P** **09 40 32.3 -0.3**
baz=317,SNR=226
KMSC S **S** **09 47 41.9 +1.0**
baz=317
CBN Corbin Frederi 49.65 79 P **P** **09 40 33.1 +0.7**
baz=316,SNR=27
CBN S **S** **09 47 42.6 +1.8**
baz=316
CBN Corbin Frederi 49.65 79 P **P** **09 40 32.2 -0.3**
baz=316,SNR=27
CBN S **S** **09 47 40.7 -0.1**
baz=316
CBN Corbin Frederi 49.65 79 ⇓P **P** **09 40 33.0 +0.6**
FOR Fordham 49.68 74 P **P** **09 40 34.5 +1.8**
baz=314,SNR=48
FOR S **S** **09 47 42.0 +0.8**
baz=314
CPNY Central Park 49.69 74 IAMs_20 IAMs_20 10 02 53.0
comp=Z,931µm,19.0s
GOGA Godfrey 49.72 88 P **P** **09 40 30.9 -2.1**
GOGA IAmb IAmb 09 40 54.0
comp=Z,3µm,1.1s
GOGA Godfrey 49.72 88 P **P** **09 40 31.9 -1.2**
baz=318,SNR=124
GOGA S **S** **09 47 41.8 0.0**
baz=318
GOGA Godfrey 49.72 88 P **P** **09 40 30.6 -2.4**
baz=318,SNR=124
GOGA S **S** **09 47 40.7 -1.2**
baz=318
GOGA Godfrey 49.72 88 ⇑P **P** **09 40 31.6 -1.5**
GOGA Godfrey 49.72 88 P **P** **09 40 31.0 -2.1**
GOGA pmax pmax
comp=Z,3µm,1.2s
GOGA MLR MLR
comp=Z,2688µm,19.0s
UNH University of 49.75 70 P **P** **09 40 35.4 +2.2**
baz=314,SNR=18
UNH S **S** **09 47 43.4 +1.3**
baz=314
WSPT Westport, CT 49.77 74 IAMs_20 IAMs_20 10 02 15.9
comp=Z,732µm,18.0s
HRV Adam Dziewonsk 49.79 71 IAMs_20 IAMs_20 10 00 57.3
comp=Z,1087µm,18.0s
HRV Adam Dziewonsk 49.79 71 P **P** **09 40 32.4 -1.1**
baz=314
HRV S **S** **09 47 43.3 +0.7**
baz=314
HRV Adam Dziewonsk 49.79 71 P **P** **09 40 33.1 -0.4**
baz=314,SNR=48
HRV S **S** **09 47 47.8 +5.1**
baz=314
HRV Adam Dziewonsk 49.79 71 ⇑P **P** **09 40 34.9 +1.4**
HRV Adam Dziewonsk 49.79 71 P **P** **09 40 35.4 +1.9**
HODGE Hodges 49.79 86 P **P** **09 40 33.3 -0.4**
baz=317,SNR=252
HODGE S **S** **09 47 40.9 -2.0**
baz=317
N62A Caumsett State 49.86 74 IAMs_20 IAMs_20 10 00 29.4
comp=Z,850µm,22.0s
N62A Caumsett State 49.86 74 P **P** **09 40 35.7 +1.6**
baz=314,SNR=10
N62A P **P** **09 40 35.7 +1.6**
baz=314,SNR=10
N62A S **S** **09 47 45.0 +1.3**
baz=314
N62A S **S** **09 47 45.0 +1.3**
baz=314
YLE Yale 49.88 73 IAMs_20 IAMs_20 10 01 57.9
comp=Z,720µm,20.0s
H11S1 WAKE ISLAND Hy 49.89 240 P **P** **09 40 34.5 +0.2**
baz=252,slow=3.2,SNR=68
H11S1 T T 10 35 15.8
baz=30,slow=76
H11S2 WAKE ISLAND Hy 49.90 240 P **P** **09 40 34.6 +0.2**
baz=252,slow=3.2,SNR=44
H11S2 T T 10 35 29.3
baz=30,slow=76
H11S3 WAKE ISLAND Hy 49.91 240 P **P** **09 40 35.0 +0.5**
baz=252,slow=3.2,SNR=49
H11S3 T T 10 35 16.3
baz=30,slow=76
WES Weston 50.00 71 IAMs_20 IAMs_20 10 01 03.8
comp=Z,1446µm,18.0s
WES Weston 50.00 71 P **P** **09 40 36.4 +1.3**
baz=314,SNR=80
WES S **S** **09 47 49.1 +3.5**
baz=314
G65A Princeton 50.02 66 IAMs_20 IAMs_20 10 01 27.1
comp=Z,1327µm,18.0s
G65A Princeton 50.02 66 P **P** **09 40 35.2 0.0**
baz=313,SNR=77
G65A P **P** **09 40 35.2 0.0**
baz=313,SNR=77
G65A S **S** **09 47 46.8 +1.0**
baz=313
G65A S **S** **09 47 46.8 +1.0**
baz=313
P61A Hammonton 50.02 76 P **P** **09 40 36.4 +1.1**
baz=315,SNR=23
P61A P **P** **09 40 36.4 +1.1**
baz=315,SNR=23
P61A S **S** **09 47 49.1 +3.1**
baz=315
P61A S **S** **09 47 49.1 +3.1**
baz=315
BCX Boston College 50.11 71 IAMs_20 IAMs_20 10 01 06.9
comp=Z,1310µm,19.0s
MDJ Mudanjiang 50.21 293 P **P** **09 40 35.8 -0.9**
MDJ sP pwP 09 40 46.9 +2.8
MDJ PcP **PcP** **09 41 55.5 -0.2**
MDJ PP **PP** **09 42 31.2 -0.5**
MDJ S **S** **09 47 46.3 -2.3**
MDJ pmax pmax
comp=Z,210nm,2.3s
MDJ pmax pmax
comp=Z,93µm,10.0s
MDJ LR LR
comp=Z,1971µm,24.7s
MDJ LR LR
comp=Z,1552µm,24.1s
MDJ LR LR
comp=Z,2160µm,24.9s
MDJ Mudanjiang 50.21 293 P **P** **09 40 36.0 -0.7**
MDJ Mudanjiang 50.21 293 P **P** **09 40 37.5 +0.8**
M63A Gales Ferry 50.30 72 P **P** **09 40 36.6 -0.8**
M63A IAMs_20 IAMs_20 10 00 40.8
comp=Z,814µm,21.0s
M63A Gales Ferry 50.30 72 P **P** **09 40 38.6 +1.3**
baz=315,SNR=79
M63A P **P** **09 40 38.6 +1.3**
baz=315,SNR=79
M63A S **S** **09 47 51.8 +2.1**
baz=315
M63A S **S** **09 47 51.8 +2.1**
baz=315
JSC Jenkinsville 50.31 86 P **P** **09 40 36.1 -1.5**
baz=317,SNR=112
JSC S **S** **09 47 51.0 +0.8**
baz=317
352A Blakely 50.33 91 P **P** **09 40 36.4 -1.4**
baz=319,SNR=50
352A S **S** **09 47 45.5 -5.0**
baz=319
JMIC Jan Mayen 50.34 16 *e*P **P** **09 40 38.5 +1.2**
JMIC *e*pP **pwP** **09 40 44.0 -0.7**
JMIC IVmBBB 09 40 45.2
comp=Z,45µm,3.8s
JMIC *e*S **S** **09 47 50.9 +1.2**
JMIC IVMs_BB IVMs_BB 09 57 12.2
comp=Z,203µm,41.4s
JMIC Jan Mayen 50.34 16 P **P** **09 40 37.8 +0.5**
comp=Z,118nm,0.9s,baz=104,slow=8.3,SNR=3.0
JMIC PP **PP** **09 42 35.9 +3.6**
comp=Z,137nm,0.9s,baz=258,slow=20,SNR=1.0
JMIC LR LR 10 03 44.1
comp=Z,295µm,19.8s,baz=336,slow=38
comp=Z,118nm,0.9s
JMI Jan Mayen 50.35 16 *e*P **P** **09 40 37.2 -0.2**
JMI *e*pP **pwP** **09 40 44.1 -0.7**
JMI IVmBBB 09 40 45.7
comp=Z,54µm,3.6s
JMI *e*PP **PP** **09 42 33.7 +1.3**
JMI *e*S **S** **09 47 53.1 +3.2**
JMI *e*SS SS 09 51 35.9 +13
JMI IVMs_BB IVMs_BB 09 57 11.2
comp=Z,196µm,48.0s
JNE Jan Mayen East 50.37 16 *e*P **P** **09 40 36.6 -0.9**
JNE *e*pP **pwP** **09 40 44.5 -0.4**
W57A Gilead 50.39 84 P **P** **09 40 37.5 -0.6**
baz=317,SNR=159
W57A P **P** **09 40 37.5 -0.6**
baz=317,SNR=159
W57A S **S** **09 47 52.8 +1.6**
baz=317
W57A S **S** **09 47 52.8 +1.6**
baz=317
V58A Windy Hill, Pi 50.41 83 P **P** **09 40 37.7 -0.6**
baz=317,SNR=119
V58A P **P** **09 40 37.7 -0.6**
baz=317,SNR=119
V58A S **S** **09 47 50.9 -0.7**
baz=317
V58A S **S** **09 47 50.9 -0.7**
baz=317
T59A Double "B" Far 50.43 80 IAMs_20 IAMs_20 10 01 40.8
comp=Z,869µm,21.0s
T59A Double "B" Far 50.43 80 P **P** **09 40 38.6 +0.2**
baz=316,SNR=110
T59A P **P** **09 40 38.6 +0.2**
baz=316,SNR=110
T59A S **S** **09 47 51.2 -0.5**
baz=316
T59A S **S** **09 47 51.2 -0.5**
baz=316
GGN Saint George 50.45 66 P **P** **09 40 36.6 -1.9**
GGN IAmb IAmb 09 41 03.8
comp=Z,4µm,1.3s
GGN IAMs_20 IAMs_20 10 01 40.4
comp=Z,1310µm,19.0s
BIRD Birdtown, Kers 50.50 85 P **P** **09 40 38.7 -0.3**
baz=317,SNR=68
BIRD S **S** **09 47 53.2 +0.5**
baz=317
154A Montrose 50.51 89 P **P** **09 40 38.8 -0.3**
baz=318,SNR=123
154A S **S** **09 47 52.2 -0.7**
baz=318
451A Vernon 50.52 92 P **P** **09 40 38.9 -0.3**
baz=319,SNR=14
451A S **S** **09 47 53.0 -0.1**
baz=319
BNX BinXian 50.56 296 ⇑P **P** **09 40 39.0 -0.3**
BNX pP **sP** **09 40 43.1 +1.7**
BNX sP **pwP** **09 40 46.7 0.0**
BNX PP **PP** **09 42 37.0 +2.2**
BNX S **S** **09 47 56.0 +2.7**
BNX sS sS 09 48 05.1 +9.2
BNX pmax pmax
comp=Z,140nm,1.5s
BNX pmax pmax
comp=Z,21µm,5.3s
BNX LR LR
comp=Z,1019µm,26.9s
BNX LR LR
comp=Z,759µm,27.4s
BNX LR LR
comp=Z,1028µm,25.3s
L64A Middleborough 50.57 71 P **P** **09 40 39.8 +0.4**
baz=314,SNR=22
L64A P **P** **09 40 39.8 +0.4**
baz=314,SNR=22
L64A S **S** **09 47 54.8 +1.3**
baz=314
L64A S **S** **09 47 54.8 +1.3**
baz=314
R61A Willards 50.68 78 P **P** **09 40 41.0 +0.7**
baz=316,SNR=40
R61A P **P** **09 40 41.0 +0.7**
baz=316,SNR=40
R61A S **S** **09 47 58.1 +2.9**
baz=316
R61A S **S** **09 47 58.1 +2.9**
baz=316
U59A Littleton 50.74 81 IAMs_20 IAMs_20 10 02 41.2
comp=Z,1320µm,19.0s
U59A Littleton 50.74 81 P **P** **09 40 40.6 -0.3**
baz=317,SNR=137
U59A P **P** **09 40 40.6 -0.3**
baz=317,SNR=137
U59A S **S** **09 47 50.0 -6.1**
baz=317
U59A S **S** **09 47 50.0 -6.1**
baz=317
T60A Surry 50.76 80 IAMs_20 IAMs_20 10 02 30.6
comp=Z,1505µm,19.0s
T60A Surry 50.76 80 P **P** **09 40 40.9 0.0**
baz=316,SNR=22
T60A P **P** **09 40 40.9 0.0**
baz=316,SNR=22
T60A S **S** **09 47 59.1 +2.8**
baz=316
T60A S **S** **09 47 59.1 +2.8**
baz=316
HAW Hawthorne Fire 50.80 87 P **P** **09 40 39.9 -1.3**
baz=318,SNR=126
HAW S **S** **09 47 55.6 -1.3**
baz=318
MSHR Mys Shultsa 50.81 290 *i* P **P** **09 40 43.0 +1.8**
MSHR pmax pmax
comp=Z,4µm,2.7s
MSHR MLR MLR
comp=Z,437µm,19.0s
MOIG Morelia 50.84 115 P **P** **09 40 41.7 -0.3**
MOIG Morelia 50.84 115 ⇑P **P** **09 40 42.1 +0.1**
M65A Busby, Falmout 50.93 71 P **P** **09 40 43.2 +1.0**
baz=315
M65A S **S** **09 48 03.4 +4.8**
baz=315
S61A Accomac 50.96 78 P **P** **09 40 44.4 +2.0**
baz=316,SNR=16
S61A P **P** **09 40 44.4 +2.0**
baz=316,SNR=16
S61A S **S** **09 48 00.6 +1.5**
baz=316
S61A S **S** **09 48 00.6 +1.5**
baz=316
LMN Caledonia Moun 50.97 64 IAMs_20 IAMs_20 10 05 42.2
comp=Z,926µm,18.0s
Y57A Sumter 51.00 85 P **P** **09 40 41.8 -0.9**
baz=318,SNR=74
Y57A P **P** **09 40 41.8 -0.9**
baz=318,SNR=74
Y57A S **S** **09 48 02.4 +2.7**
baz=318
Y57A S **S** **09 48 02.4 +2.7**
baz=318
TIGA Tifton 51.11 90 P **P** **09 40 42.9 -0.8**
baz=319,SNR=54
TIGA S **S** **09 48 01.5 +0.1**
baz=319
TIGA Tifton 51.11 90 P **P** **09 40 41.9 -1.8**
baz=319,SNR=54
TIGA S **S** **09 48 02.0 +0.6**
baz=319
X58A Rowland 51.19 84 IAMs_20 IAMs_20 10 01 55.1
comp=Z,1614µm,21.0s
X58A Rowland 51.19 84 P **P** **09 40 44.0 -0.2**
baz=317,SNR=49
X58A P **P** **09 40 44.0 -0.2**
baz=317,SNR=49
X58A S **S** **09 48 00.7 -1.6**
baz=317
X58A S **S** **09 48 00.7 -1.6**
baz=317
W59A Clinton 51.24 83 P **P** **09 40 45.7 +1.2**
baz=317,SNR=94
W59A S **S** **09 48 04.1 +1.1**
baz=317
MAJO Matsushiro 51.28 280 P **P** **09 40 45.3 +0.4**
MAJO Matsushiro 51.28 280 ⇓P **P** **09 40 44.7 -0.2**
MAJO Matsushiro 51.28 280 P **P** **09 40 45.3 +0.4**
MJAR Matsushiro Arr 51.28 280 P **P** **09 40 44.9 0.0**
comp=Z,169nm,0.8s,baz=43,slow=6.6,SNR=58
MJAR S **S** **09 48 04.6 +1.0**
comp=Z,5.8nm,1.0s,baz=60,slow=7.2,SNR=1.1
MJAR LR LR 10 02 58.7
comp=Z,437µm,20.3s,baz=52,slow=37
MJAR PKPPKP **P'P'df** **10 11 26.7 -2.4**
comp=Z,7.5nm,1.1s,baz=234,slow=4.2,SNR=5.4
comp=Z,169nm,0.8s
255A Hazlehurst 51.38 89 P **P** **09 40 43.3 -2.3**
255A IAmb IAmb 09 41 05.9
comp=Z,2µm,1.0s
255A Hazlehurst 51.38 89 P **P** **09 40 43.8 -1.8**
baz=319,SNR=81

255A S S 09 48 06.5 +1.6
baz=319
Y58A Scranton 51.48 85 P P 09 40 45.0 -1.4
baz=318,SNR=62
Y58A P P 09 40 45.0 -1.4
baz=318,SNR=62
Y58A S S 09 48 06.7 +0.3
baz=318
Y58A S S 09 48 06.7 +0.3
baz=318
CNNC Cliffs of the 51.50 82 P P 09 40 45.7 -0.8
baz=317,SNR=49
CNNC S S 09 48 09.7 +3.1
baz=317
CNNC Cliffs of the 51.50 82 P P 09 40 45.9 -0.6
baz=317,SNR=49
CNNC S S 09 48 07.7 +1.1
baz=317
CNNC Cliffs of the 51.50 82 ⇑P P 09 40 46.6 +0.1
553A Crawfordville 51.58 92 P P 09 40 46.1 -1.1
baz=320,SNR=69
553A S S 09 48 07.7 -0.1
baz=320
NHSC New Hope 51.79 86 P P 09 40 48.1 -0.6
baz=318,SNR=90
NHSC New Hope 51.79 86 P P 09 40 48.3 -0.4
baz=318,SNR=90
NHSC S S 09 48 11.3 +0.7
baz=318
NHSC New Hope 51.79 86 ⇑P P 09 40 48.3 -0.4
V61A Roper 51.83 81 IAMs_20 IAMs_20 10 02 32.9
comp=Z,847µm,18.0s
V61A Roper 51.83 81 P P 09 40 49.6 +0.6
baz=317,SNR=60
V61A P P 09 40 49.6 +0.6
baz=317,SNR=60
V61A S S 09 48 12.7 +1.6
baz=317
V61A S S 09 48 12.7 +1.6
baz=317
HIA Hailar 51.85 304 IAMs_20 IAMs_20 10 05 25.0
comp=Z,1238µm,19.0s
HIA Hailar 51.85 304 P P 09 40 49.3 +0.3
JGN Niukaw 52.00 280 P P 09 40 50.5 +0.2
DRLN Deer Lake 52.15 56 P P 09 40 50.3 -0.9
DRLN IAmb IAmb 09 41 30.4
comp=Z,2µm,1.1s
DRLN Deer Lake 52.15 56 ⇓P P 09 40 50.8 -0.4
257A Skidaway Islan 52.16 87 P P 09 40 51.8 +0.3
baz=319,SNR=18
257A S S 09 48 17.5 +1.8
baz=319
UNM Universidad Na 52.16 114 P P 09 40 51.3 -0.6
UNM IAMs_20 IAMs_20 10 02 33.1
comp=Z,1303µm,20.0s
UNM Universidad Na 52.16 114 P P 09 40 51.3 -0.6
UNM pmax pmax
comp=Z,7µm,1.7s
UNM MLR MLR
comp=Z,1303µm,20.0s
Y60A Bolivia 52.22 84 P P 09 40 51.4 -0.5
baz=318,SNR=28
Y60A P P 09 40 51.4 -0.5
baz=318,SNR=28
Y60A S S 09 48 17.4 +0.8
baz=318
Y60A S S 09 48 17.4 +0.8
baz=318
HAL Halifax 52.43 64 P P 09 40 53.2 -0.2
HAL IAmb IAmb 09 41 18.5
comp=Z,2µm,1.4s
HAL IAMs_20 IAMs_20 10 06 35.9
comp=Z,923µm,18.0s
HAL Halifax 52.43 64 P P 09 40 53.2 -0.2
HAL pmax pmax
comp=Z,2µm,1.4s
HAL MLR MLR
comp=Z,923µm,18.0s
JGF Kuroka 52.44 280 P P 09 40 53.3 -0.3
456A Hilliard 52.53 89 P P 09 40 52.6 -1.7
456A IAmb IAmb 09 41 14.8
comp=Z,2µm,1.0s
456A Hilliard 52.53 89 P P 09 40 54.2 -0.1
baz=319,SNR=16
456A S S 09 48 20.2 -0.7
baz=319
JSG Sagara 52.65 278 P P 09 40 56.6 +1.5
CIT Chita 52.70 310 *e*P P 09 40 56.6 +1.3
CIT *e* 09 42 08.0
CIT *e* 09 42 54.4
CIT *e* 09 44 03.0
CIT *e*S S 09 48 29.7 +6.9
CIT *e* 09 52 03.3
CIT pmax pmax
comp=Z,15µm,3.2s
INU Inuyama 52.81 280 P P 09 40 56.6 +0.3
INU Inuyama 52.81 280 ⇓P P 09 40 56.0 -0.3
JHJ2 Mitsune 52.90 276 P P 09 40 58.5 +1.6
CN2 Changchun 52.91 295 P P 09 40 55.3 -1.6
CN2 pP sP 09 40 59.8 +0.8
CN2 sP pwP 09 41 02.2 -2.1
CN2 PcP **PcP 09 42 08.4 +2.6**
CN2 S S 09 48 21.7 -4.1
CN2 pmax pmax
comp=Z,770nm,0.9s
CN2 pmax pmax
comp=Z,100µm,7.0s
CN2 LR LR
comp=Z,563µm,17.0s
CN2 LR LR
comp=Z,933µm,17.0s
CN2 LR LR
comp=Z,871µm,19.0s
JHJ Hachijo jima 2 52.91 276 LR LR 10 00 15.5
comp=Z,255µm,21.9s,baz=56,slow=32
GBN Guysborough 52.93 62 P P 09 40 55.3 -1.7
BORG Borgarnes 53.23 25 ⇓P P 09 41 00.3 +1.3
BORG Borgarnes 53.23 25 LR LR 10 04 43.7
comp=Z,486µm,19.2s,baz=332,slow=37
656A Willston 53.27 91 P P 09 40 58.2 -1.5
baz=320,SNR=37
656A S S 09 48 29.5 -1.5
baz=320
HAMF Hammerfest 53.62 3 *e*P P 09 41 01.7 -0.1
HAMF *e*pP **pwP 09 41 07.1 -2.0**
HAMF IVmB_BB 09 41 08.6
comp=Z,29µm,2.9s
HAMF *e*S S 09 48 32.0 -2.8
HAMF *e*SS **SS 09 52 13.8 -0.4**
HAMF IVMs_BB IVMs_BB 10 10 56.1
comp=Z,155µm,15.8s
JIE Ise 53.69 279 P P 09 41 03.3 +0.6
TLIG Tlapa 53.95 114 P P 09 41 03.9 -1.1
TLIG IAmb IAmb 09 41 25.1
comp=Z,3µm,1.4s
TLIG IAMs_20 IAMs_20 10 03 55.6
comp=Z,639µm,20.0s
XMAS Kiritimati 54.13 190 IAMs_20 IAMs_20 10 01 38.8
comp=Z,622µm,21.0s
XMAS Kiritimati 54.13 190 P P 09 41 09.7 +3.6
XMAS Kiritimati 54.13 190 ⇑P P 09 41 08.9 +2.8
VADS Vadso 54.25 1 *e*P P 09 41 06.4 +0.1
VADS *e*pP **pwP 09 41 12.4 -1.3**
VADS IVmB_BB 09 41 13.7
comp=Z,37µm,2.5s
VADS *e*S S 09 48 40.9 -2.3
VADS *e*SS **SS 09 52 29.7 +5.6**
VADS IVMs_BB IVMs_BB 10 04 39.9
comp=Z,193µm,18.6s
TRO Tromso 54.44 5 *e*P P 09 41 07.3 -0.5
TRO *e*pP **pwP 09 41 13.9 -1.3**
TRO IVmB_BB 09 41 15.4
comp=Z,28µm,2.9s
TRO *e*S S 09 48 45.3 -0.5
TRO IVMs_BB IVMs_BB 10 04 26.1
comp=Z,235µm,19.4s
KEV Kevo 54.59 2 P P 09 41 08.2 -0.6
KEV IAmb IAmb 09 41 28.8
comp=Z,3µm,1.5s
KEV IAMs_20 IAMs_20 10 08 27.2
comp=Z,519µm,18.0s
KEV Kevo 54.59 2 ⇑P P 09 41 08.7 -0.1
KEV Kevo 54.59 2 P P 09 41 08.2 -0.6
KEV pmax pmax
comp=Z,3µm,1.5s
KEV MLR MLR
comp=Z,519µm,18.0s
JETT Jettan, Norway 54.59 4 *e*P P 09 41 09.1 +0.2
JETT *e*pP **pwP 09 41 15.0 -1.3**
JETT IVmBBB 09 41 16.3
comp=Z,37µm,2.9s
JETT *e*S S 09 48 44.2 -3.7
JETT *i* 09 55 16.4
JETT IVMs_BB IVMs_BB 10 04 57.5
comp=Z,139µm,19.8s
HHU Hamhung 54.62 290 P P 09 41 10.3 +0.9
HHU S S 09 48 45.6 -3.3
ARA0 ARCESS Array S 54.78 2 *e*P P 09 41 09.9 -0.3
ARA0 *e*pP **pwP 09 41 15.7 -1.9**
ARA0 IVmB_BB 09 41 17.3
comp=Z,28µm,2.6s
ARA0 *e*ScP **ScP 09 46 07.9 -2.9**
ARA0 *e*S S 09 48 48.7 -1.7
ARA0 *e*SS **SS 09 52 40.4 +7.9**
ARA0 IVMs_BB IVMs_BB 10 07 53.0
comp=Z,151µm,19.2s
ARCES ARCESS Array B 54.78 2 P P 09 41 09.4 -0.8
ARCES IAmb IAmb 09 41 35.2
comp=Z,2µm,1.4s
ARCES ARCESS Array B 54.78 2 P P 09 41 09.4 -0.8
ARCES pmax pmax
comp=Z,2µm,1.4s
ARCES ARCESS Array B 54.78 2 P P 09 41 09.2 -1.0
comp=Z,124nm,0.8s,baz=359,slow=7.6,SNR=72
ARCES S S 09 48 46.9 -3.5
comp=Z,6.8nm,0.8s,baz=356,slow=16,SNR=0.9
ARCES PKPPKP **P'P'df 10 11 21.4 -7.8**
comp=Z,7.3nm,0.9s,baz=197,slow=3.7,SNR=4.3
ARCES P4KPbc 10 18 31.9
comp=Z,4.8nm,0.6s,baz=357,slow=1.9,SNR=8.3
comp=Z,124nm,0.8s
DWPF Disney Wildern 54.86 91 P P 09 41 10.0 -1.3
baz=321
DWPF Disney Wildern 54.86 91 P P 09 41 11.3 0.0
baz=321,SNR=32
DWPF S S 09 48 50.3 -2.1
baz=321
DWPF Disney Wildern 54.86 91 ⇑P P 09 41 10.2 -1.1
KTK1 Kautokeino 55.24 3 *e*P P 09 41 13.2 -0.3
KTK1 *e*pP **pwP 09 41 19.0 -2.0**
KTK1 IVmB_BB 09 41 20.7
comp=Z,20µm,1.8s
KTK1 *e*S S 09 48 53.6 -3.1
KTK1 *e*SS **SS 09 52 42.5 +2.7**
KTK1 IVMs_BB IVMs_BB 10 07 04.1
comp=Z,150µm,19.8s
SNY Shenyang 55.28 295 ⇑P P 09 41 14.0 -0.2
SNY pmax pmax
comp=Z,440nm,1.1s
SNY LR LR
comp=Z,1294µm,24.9s
SNY LR LR
comp=Z,912µm,22.0s
SNY LR LR
comp=Z,1209µm,24.9s
LOF Lofoten 55.59 8 *e*P P 09 41 16.3 +0.2
LOF *e*pP **pwP 09 41 21.5 -2.0**
LOF IVmB_BB 09 41 23.0
comp=Z,25µm,3.0s
LOF *e*S S 09 48 58.5 -2.8
LOF IVMs_BB IVMs_BB 09 59 27.0
comp=Z,153µm,45.1s
JMN Monobe 55.74 281 IAMs_20 IAMs_20 10 08 21.9
comp=Z,490µm,18.0s
JMN Monobe 55.74 281 P P 09 41 18.7 +1.0
JMN Monobe 55.74 281 ⇑P P 09 41 18.5 +0.8
STEI Steigen 55.91 7 *e*P P 09 41 18.6 +0.2
STEI *e*pP **pwP 09 41 24.4 -1.4**
STEI *e*S S 09 49 04.1 -1.4
STEI *i* 09 54 56.8
SUJ Sinuiju 56.08 293 P P 09 41 19.9 0.0
SUJ S S 09 49 04.7 -3.7
JCJ Chichijima 56.13 269 IAMs_20 IAMs_20 10 01 51.1
comp=Z,721µm,22.0s
JCJ Chichijima 56.13 269 P P 09 41 22.2 +1.7
JCJ Chichijima 56.13 269 ⇑P P 09 41 21.5 +1.0
JCJ Chichijima 56.13 269 P P 09 41 14.8 -5.7
comp=Z,246nm,0.6s,baz=38,slow=6.1,SNR=11
JCJ S S 09 49 00.6 -8.9
comp=Z,46nm,0.5s,baz=276,slow=20,SNR=1.6
JCJ LR LR 10 02 20.4
comp=Z,659µm,21.9s,baz=34,slow=33
PYAG Pyongyang 56.19 291 P P 09 41 20.8 +0.1
PYAG S S 09 49 06.6 -3.4
PYAG AmB
comp=Z,107nm,3.5s
PYAG AMS AMS
comp=Z,427µm,33.6s
KS19 Wonju Array Si 56.22 288 P P 09 41 20.5 -0.5
KS19 IAmb IAmb 09 41 48.9
comp=Z,2µm,1.4s
KSRS Korea Array 56.22 288 P P 09 41 21.9 +0.9
comp=Z,129nm,1.0s,baz=48,slow=6.4,SNR=56
KSRS S S 09 49 09.1 -1.3
comp=Z,1.8nm,0.8s,baz=251,slow=34,SNR=1.1
KSRS LR LR 10 04 01.3
comp=Z,647µm,21.8s,baz=55,slow=34
KSRS PKP2bc 10 11 29.5
comp=Z,3.4nm,0.8s,baz=292,slow=0.5,SNR=4.1
KSRS P4KPbc 10 18 35.0
comp=Z,1.6nm,0.9s,baz=46,slow=4.7,SNR=1.3
comp=Z,129nm,1.0s
KSAR Wonju Array Be 56.25 288 P P 09 41 20.5 -0.7
KSAR Wonju Array Be 56.25 288 P P 09 41 20.5 -0.7
CMIG Matias Romero 56.26 111 P P 09 41 21.6 +0.1
comp=Z,169nm,1.1s,baz=333,slow=7.1,SNR=60
CMIG S S 09 49 09.7 -1.6
comp=Z,4.7nm,0.8s,baz=27,slow=12,SNR=1.2
CMIG LR LR 10 04 53.0
comp=Z,593µm,19.5s,baz=326,slow=35
comp=Z,169nm,1.1s
060A Indiantown 56.29 91 P P 09 41 21.0 -0.6
060A IAmb IAmb 09 41 34.7
comp=Z,2µm,0.8s
060A Indiantown 56.29 91 P P 09 41 21.6 +0.1
baz=321,SNR=17
060A S S 09 49 10.9 -0.6
baz=321
IRK Irkutsk 56.40 315 *e*P P 09 41 21.5 -0.6
IRK pmax pmax
comp=Z,9µm,3.2s
LVZ Lovozero 56.45 358 P P 09 41 21.4 -0.9
LVZ IAMs_20 IAMs_20 10 07 16.6
comp=Z,513µm,19.0s
LVZ Lovozero 56.45 358 P P 09 41 22.7 +0.4
FAUS Fauske 56.46 7 *e*P P 09 41 23.0 +0.7
FAUS *e*pP **pwP 09 41 28.4 -1.3**
FAUS IVmB_BB 09 41 29.5
comp=Z,27µm,2.8s
FAUS *e* 09 45 04.0
FAUS *e*S S 09 49 10.6 -2.2
FAUS *e*SS **SS 09 53 01.7 +2.8**
FAUS *i* 09 55 09.4
FAUS IVMs_BB IVMs_BB 09 59 47.8
comp=Z,152µm,47.2s
APA Apatity 56.80 359 ⇓*i*P P 09 41 25.4 +0.7
APA *i* PPP PPP 09 44 55.0
APA *i*S S 09 49 14.0 -3.3
APA *i*PS PKiKP 09 49 32.0 +44
APA *i*SS **SS 09 52 59.0 -5.3**
APA pmax pmax
comp=Z,598nm,0.8s
061Z Ochoppi 56.89 92 IAMs_20 IAMs_20 10 05 45.6
comp=Z,1196µm,20.0s
061Z Ochoppi 56.89 92 P P 09 41 24.7 -1.2
baz=322,SNR=31
INCN Inchon 56.89 289 IAMs_20 IAMs_20 10 04 12.7
comp=Z,672µm,21.0s
INCN Inchon 56.89 289 P P 09 41 26.7 +0.9
INCN Inchon 56.89 289 ⇓P P 09 41 26.3 +0.5
INCN Inchon 56.89 289 P P 09 41 24.2 -1.6
INCN P P 09 41 24.2 -1.6
INCN S S 09 49 22.0 +2.6
INCN S S 09 49 22.0 +2.6
HJU Haeju 56.95 290 P P 09 41 26.1 -0.1
HJU S S 09 49 16.5 -3.6
KONS Konsvik 57.16 8 *e*P P 09 41 27.0 -0.2
KONS *e*S S 09 49 21.8 -0.3
TEIG Tepich 57.25 103 P P 09 41 26.9 -1.6
TEIG Tepich 57.25 103 ⇑P P 09 41 27.2 -1.2
TEIG Tepich 57.25 103 LR LR 10 08 26.0
comp=Z,3491µm,20.7s,baz=108,slow=38
STOK Stokkvaagen 57.32 8 *e*P P 09 41 28.5 +0.1
STOK *e*pP **pwP 09 41 34.5 -1.3**
STOK IVmB_BB 09 41 35.8
comp=Z,27µm,2.5s
STOK *e*S S 09 49 23.2 -0.9
STOK *e*SS **SS 09 53 14.9 +2.5**
STOK *i* 09 55 21.2
STOK IVMs_BB IVMs_BB 10 03 36.4
comp=Z,127µm,23.0s
TJN Taejon 57.32 288 P P 09 41 29.5 +0.7
TJN Taejon 57.32 288*c* *i*P P 09 41 29.0 +0.2
XLT XiLinHaoTe 57.48 301 *e*P P 09 41 29.7 -0.3
XLT pP pwP 09 41 40.8 +3.4
XLT sP sP 09 41 43.1 +11
XLT PP **PP 09 43 36.4 -0.7**
XLT S S 09 49 17.7 -9.4
XLT sS sS 09 49 41.2 +12
XLT pmax pmax
comp=Z,104µm,10.2s
XLT LR LR
comp=Z,1217µm,17.9s
XLT LR LR
comp=Z,1085µm,19.1s
MOR8 Moi Rana 57.59 8 *e*P P 09 41 29.6 -0.8
MOR8 *e*pP **pwP 09 41 35.4 -2.3**
MOR8 IVmB_BB 09 41 36.6
comp=Z,23µm,3.1s
MOR8 *e*S S 09 49 23.0 -4.8
MOR8 *e*SS **SS 09 53 19.1 +2.3**
MOR8 *i* 09 55 33.9
MOR8 IVMs_BB IVMs_BB 10 00 16.4
comp=Z,153µm,49.3s
JTU Tsushima 57.61 285 P P 09 41 31.5 +0.6
JTU Tsushima 57.61 285 ⇓P P 09 41 32.1 +1.3
JNU Nakatsue 57.85 283 P P 09 41 33.8 +1.1
JNU Nakatsue 57.85 283 LR LR 10 08 45.6
comp=Z,207µm,19.5s,baz=54,slow=38
MOY Mondy 58.14 316 *e*P P 09 41 35.3 +0.8
MOY pmax pmax
comp=Z,7µm,3.2s
ZAK Zakamensk 58.23 314 *e*P P 09 41 35.4 +0.2
ZAK pmax pmax
comp=Z,880nm,1.9s
CCIG Comitan 58.38 109 P P 09 41 36.5 -0.2
CCIG IAMs_20 IAMs_20 10 07 03.6
comp=Z,501µm,20.0s
DL2 Dalian 58.45 294 SS SS 09 53 25.9 -5.4
DL2 pmax pmax
comp=Z,56nm,1.1s
DL2 pmax pmax
comp=Z,8µm,7.3s
DL2 LR LR
comp=N,1374µm,27.2s
DL2 LR LR
comp=E,1138µm,27.0s
DL2 LR LR
comp=Z,1358µm,24.4s
DL2 Dalian 58.45 294 P P 09 41 36.2 -0.5
DL2 pP **pwP 09 41 48.3 +4.2**
DL2 PcP **PcP 09 42 23.5 -3.8**
DL2 PP **PP 09 43 51.2 +5.6**
DL2 S S 09 49 40.7 +1.0
DL2 pmax pmax
comp=Z,8µm,7.3s
DL2 LR LR
comp=Z,1374µm,27.2s
DL2 LR LR
comp=Z,1138µm,27.0s
DL2 LR LR
comp=Z,1358µm,24.4s
ULN Ulaanbaatar 58.60 310 P P 09 41 37.3 -0.6
ULN IAmb IAmb 09 42 07.2
comp=Z,1µm,1.1s
ULN Ulaanbaatar 58.60 310 ⇑P P 09 41 37.2 -0.6
ULN Ulaanbaatar 58.60 310*c* *i*P P 09 41 38.5 +0.6
ULN pmax pmax
comp=Z,4µm,2.7s
ULN MLR MLR
comp=Z,1854µm,18.0s
ULN Ulaanbaatar 58.60 310 P P 09 41 38.5 +0.6
ULN P P 09 41 38.5 +0.6
ULN P P 09 41 38.5 +0.6
ULN S S 09 49 45.4 +3.6
ULN S S 09 49 45.4 +3.6
ULN S S 09 49 45.4 +3.6
ULN Ulaanbaatar 58.60 310 P P 09 41 36.3 -1.6
comp=Z,5µm,1.6s,comp=Z,276µm
CAMR Camarioca 58.83 95 IAMs_20 IAMs_20 10 07 27.2
comp=Z,2026µm,20.0s
CAMR Camarioca 58.83 95 *e*P P 09 41 38.0 -1.5
CAMR *e*S S 09 49 41.8 -3.1
CAMR IAMs_20 IAMs_20 09 57 21.9
comp=E,485µm,18.2s
CAMR IAMs_20 IAMs_20 09 58 27.3
comp=N,179µm,20.6s
SONM Songino Array 58.91 310 P P 09 41 39.1 -0.9
SONM IAmb IAmb 09 41 59.2
comp=Z,2µm,0.9s
SONM Songino Array 58.91 310 P P 09 41 39.5 -0.5
comp=Z,142nm,0.8s,baz=45,slow=5.3,SNR=288
SONM S S 09 49 48.1 +2.3
comp=Z,6.6nm,0.9s,baz=355,slow=16,SNR=1.1
SONM LR LR 10 09 41.3
comp=Z,1037µm,18.5s,baz=31,slow=39
SONM PKPPKP **P'P'df 10 11 13.8 -7.2**
comp=Z,18nm,1.2s,baz=177,slow=1.1,SNR=5.2
SONM P4KPbc 10 18 46.2
comp=Z,1.2nm,1.1s,baz=48,slow=2.1,SNR=2.0
comp=Z,142nm,0.8s
NSS Namsos 59.00 9 *e*P P 09 41 40.5 +0.3
NSS *e*pP **pwP 09 41 46.0 -1.5**
NSS IVmB_BB 09 41 47.0
comp=Z,28µm,3.3s
NSS *e* 09 45 21.5
NSS *e*S S 09 49 43.2 -3.0
NSS *e*SS **SS 09 53 41.0 +2.1**
NSS *i* 09 56 12.1
NSS IVMs_BB IVMs_BB 10 12 11.4
comp=Z,134µm,15.7s
PETF Flores 59.08 106 P P 09 41 41.1 -0.2
PETF IAMs_20 IAMs_20 10 10 41.8
comp=Z,444µm,18.0s
HUEH Huehuetenango 59.52 109 P P 09 41 43.3 -1.4
RTAL Retalhuleu 60.07 110 P P 09 41 46.5 -1.7
RTAL IAmb IAmb 09 42 13.2
comp=Z,2µm,1.1s
TBLU Trondheim 60.09 11 *e*P P 09 41 47.3 -0.4
TBLU *e*pP **pwP 09 41 52.9 -2.2**
TBLU IVmB_BB 09 41 54.1
comp=Z,25µm,2.8s
TBLU *e* 09 45 37.4
TBLU *e*S S 09 49 55.9 -4.3
TBLU *e*SS **SS 09 53 55.9 0.0**
TBLU *i* 09 56 41.0
TBLU IVMs_BB IVMs_BB 10 08 09.6
comp=Z,94µm,20.2s
BJI Beijing 60.35 298 P P 09 41 49.3 -0.5
BJI PcP **PcP 09 42 36.5 +1.7**
BJI PP **PP 09 44 00.5 -1.9**
BJI ScP **ScP 09 46 33.7 -2.2**
BJI S S 09 50 01.7 -2.5
BJI LR LR
comp=Z,253µm,17.2s
BJI LR LR
comp=Z,689µm,21.0s
BJI LR LR
comp=Z,476µm,22.7s
MGV Manicaragua 60.36 94 *e*P P 09 41 49.4 -0.7
BJT Baijiatuao 60.37 298 P P 09 41 49.5 -0.4
BJT Baijiatuao 60.37 298 IAMs_20 IAMs_20 10 10 36.2
comp=Z,873µm,21.0s
BJT Baijiatuao 60.37 298 P P 09 41 50.0 0.0
BJT Baijiatuao 60.37 298 P P 09 41 49.6 -0.4
BJT pmax pmax
comp=Z,1µm,1.2s
BJT MLR MLR
comp=Z,873µm,21.0s
MOL Molde 60.45 12 *e*P P 09 41 51.9 +1.8
MOL *e*pP **pwP 09 41 56.5 -1.1**
MOL IVmB_BB 09 41 57.7
comp=Z,27µm,2.6s
MOL *e*S S 09 50 03.8 -1.0
MOL *i* 09 56 41.4

MOL IVMs_BB IVMs_BB 10 01 53.8
comp=Z,195µm,47.5s
AKN Aaknes 60.76 13 *e*P **P** **09 41 52.9 +0.5**
AKN *e*pP **pwP** **09 41 59.0 -0.7**
AKN IVmB_BB 09 42 00.0
comp=Z,29µm,2.9s
AKN *e*S **S** **09 50 07.1 -1.9**
AKN *e*SS **SS** **09 54 10.5 +3.9**
AKN *i* 09 56 42.0
AKN IVMs_BB IVMs_BB 10 02 23.9
comp=Z,205µm,44.3s
BBSR BB Station 60.91 75 P **P** **09 41 54.0 +0.3**
baz=320,SNR=87
BBSR BB Station 60.91 75 ⇓P **P** **09 41 53.0 -0.7**
FOO Floro 61.07 14 *e*P **P** **09 41 54.5 +0.1**
FOO *e*pP **pwP** **09 42 00.6 -1.2**
FOO IVmB_BB 09 42 01.6
comp=Z,16µm,2.8s
FOO *e* 09 45 46.4
FOO *e*S **S** **09 50 10.3 -2.6**
FOO *e*SS **SS** **09 54 11.2 -0.2**
FOO *i* 09 56 49.1
FOO IVMs_BB IVMs_BB 10 02 10.2
comp=Z,131µm,47.2s
DOMB Dombas 61.14 12 *e*P **P** **09 41 54.5 -0.4**
DOMB *e*pP **pwP** **09 42 00.9 -1.4**
DOMB IVmB_BB 09 42 02.2
comp=Z,22µm,2.4s
DOMB *e*S **S** **09 50 10.0 -3.8**
DOMB *e*SS **SS** **09 54 14.8 +2.3**
DOMB *i* 09 56 56.2
DOMB IVMs_BB IVMs_BB 10 02 12.3
comp=Z,156µm,52.6s
MTO3 Montecristo 61.42 107 P **P** **09 41 56.3 -1.4**
MTO3 IAmb IAmb 09 42 30.4
comp=Z,3µm,1.6s
SLOZ Alcaldia de Sa 61.51 108 *e*P **P** **09 41 58.2 +0.2**
LRW Lerwick 61.52 18 *e*P **P** **09 41 56.5 -1.0**
LRW IAMs_20 IAMs_20 10 07 38.9
comp=Z,624µm,21.5s
LRW Lerwick 61.52 18 ⇓P **P** **09 41 58.8 +1.3**
SUE Sulen 61.56 14 *e*P **P** **09 41 58.1 +0.4**
SUE *e*pP **pwP** **09 42 04.0 -1.1**
SUE IVmB_BB 09 42 05.1
comp=Z,19µm,2.5s
SUE *e* 09 45 47.4
SUE *e*S **S** **09 50 17.9 -1.1**
SUE *e*SS **SS** **09 54 20.5 +1.6**
SUE *i* 09 57 01.8
SUE IVMs_BB IVMs_BB 10 02 24.4
comp=Z,144µm,40.3s
NUBE Las Nubes 61.61 108 *e*P **P** **09 41 56.9 -2.0**
HYA Hoyanger 61.64 13 *e*P **P** **09 41 58.7 +0.5**
HYA *e*pP **pwP** **09 42 04.3 -1.4**
HYA *e*S **S** **09 50 19.6 -0.4**
HYA *e*SS **SS** **09 54 22.2 +2.0**
HYA *i* 09 57 02.1
SNJE San Jose 61.73 108 *e*P **P** **09 41 59.6 -0.1**
ZAA0 Zalesovo Array 61.88 327 P **P** **09 41 58.6 -1.4**
ZAA0 IAMs_20 IAMs_20 10 11 49.0
comp=Z,1113µm,20.0s
ZALV Zalesovo Beam 61.88 327 P **P** **09 41 58.2 -1.9**
ZALV Zalesovo Beam 61.88 327 P **P** **09 42 00.2 +0.2**
comp=Z,306nm,0.8s,baz=25,slow=6.1,SNR=155
ZALV S **S** **09 50 22.4 -1.0**
comp=Z,8.5nm,0.7s,baz=31,slow=8.7,SNR=1.5
ZALV PKPPKP 10 11 10.3
comp=Z,14nm,1.1s,baz=214,slow=0.5,SNR=5.3
ZALV LR LR 10 13 02.5
comp=Z,1040µm,18.9s,baz=14,slow=40
comp=Z,306nm,0.8s
CEDA San Andres 61.90 108 *e*P **P** **09 42 00.3 -0.3**
HHC Hu-ho-hao-te 61.97 302 ⇑*i*P **P** **09 42 01.1 +0.1**
HHC sP pwP 09 42 13.2 +4.8
HHC S **S** **09 50 28.5 +3.4**
HHC pmax pmax
comp=Z,450nm,1.6s
HHC pmax pmax
comp=Z,87µm,5.1s
HHC LR LR
comp=Z,1367µm,19.1s
HHC LR LR
comp=Z,1220µm,15.7s
HHC LR LR
comp=Z,1861µm,19.2s
NC204 NORSAR Array S 62.07 11 P **P** **09 41 60.0 -1.3**
NC204 IAmb IAmb 09 42 31.1
comp=Z,1µm,1.1s
ASK Askoy 62.17 14 *e*P **P** **09 42 04.8 +3.0**
ASK IVmB_BB 09 42 11.7
comp=Z,47µm,2.6s
PAVA Las Pavas 62.22 108 *e*P **P** **09 42 01.7 -1.2**
SJTE Alcalda de S 62.26 108 *e*P **P** **09 42 05.2 +2.0**
BER Bergen 62.28 14 *e*P **P** **09 42 03.3 +0.7**
BER *e*pP **pwP** **09 42 09.0 -1.0**
BER IVmBBB 09 42 10.2
comp=Z,23µm,2.8s
BER *e*S **S** **09 50 27.4 -0.9**
BER *e*SS **SS** **09 54 32.1 +1.7**
BER *i* 09 57 12.6
BER IVMs_BB IVMs_BB 10 02 41.6
comp=Z,134µm,47.7s
LEWI Lewis, Hebride 62.32 21 *e*P **P** **09 42 01.0 -1.8**
CCCC Cccc 62.32 93 *e*P **P** **09 42 02.2 -1.2**
CCCC *e*S S 09 50 05.5 -24
COEG Centro de Oper 62.33 108 *e*P **P** **09 42 05.4 +1.8**
SCLA Alcaldia de Sa 62.34 107 *e*P **P** **09 42 04.0 +0.4**
NB2 NORSAR Subarra 62.35 11 P **P** **09 42 02.4 -0.7**
comp=Z,14µm,3.3s,baz=347,slow=6.9
NB2 P'P' 10 11 07.7
comp=Z,2.2nm,1.0s,baz=145,slow=3.4
NB2 NORSAR Subarra 62.35 11 P **P** **09 42 02.4 -0.7**
baz=347,slow=6.9
NOA NORSAR Array B 62.35 11 P **P** **09 42 02.8 -0.4**
comp=Z,192nm,0.9s,baz=347,slow=6.8,SNR=120
NOA S **S** **09 50 27.4 -1.8**
comp=Z,5.0nm,0.9s,baz=350,slow=12,SNR=1.6
NOA LR LR 10 10 24.6
comp=Z,257µm,19.9s,baz=335,slow=37
NOA PKPPKP 10 11 08.9
comp=Z,28nm,1.0s,baz=140,slow=3.2,SNR=11
comp=Z,192nm,0.9s
CBCY The Bluff, Cay 62.37 95 IAMs_20 IAMs_20 10 10 30.2
comp=Z,1043µm,20.0s
SKAR Skarslia 62.38 12 *e*P **P** **09 42 03.5 +0.2**
SKAR *e*pP **pwP** **09 42 09.8 -1.0**
SKAR IVmB_BB 09 42 10.7
comp=Z,18µm,2.5s
SKAR *e*S **S** **09 50 28.4 -1.2**
SKAR *e*SS **SS** **09 54 33.3 +1.3**
SKAR *i* 09 57 23.4
SKAR IVMs_BB IVMs_BB 10 02 44.6
comp=Z,148µm,47.7s
TARA Tarawa 62.39 224 P **P** **09 42 05.5 +1.6**
TARA Tarawa 62.39 224 ⇓P **P** **09 42 04.1 +0.2**
PQSS Presa 15 de Se 62.49 107 *e*P **P** **09 42 06.0 +1.4**
BIGH Upper Bighouse 62.58 20 *e*P **P** **09 42 05.0 +0.4**
BIGH IAMs_20 IAMs_20 10 01 55.8
comp=Z,1188µm,49.1s
COEB Comit de Eme 62.62 107 *e*P **P** **09 42 08.0 +2.4**
LINV Loch Inver, As 62.65 21 *e*P **P** **09 42 05.0 -0.1**
LINV IAMs_20 IAMs_20 10 01 59.0
comp=Z,1347µm,52.8s
NC602 NORSAR Array S 62.68 11 *e*P **P** **09 42 05.2 0.0**
NC602 *e*pP **pwP** **09 42 11.0 -1.7**
NC602 IVmB_BB 09 42 12.7
comp=Z,22µm,2.6s
NC602 *e* 09 46 10.3
NC602 *e*S **S** **09 50 32.8 -0.5**
NC602 *e*SS **SS** **09 54 38.6 +2.0**
NC602 *i* 09 57 31.1
NC602 IVMs_BB IVMs_BB 10 11 09.2
comp=Z,136µm,19.8s
TIA Tai'an 62.81 295 ⇑P **P** **09 42 05.6 -0.9**
TIA PP **PP** **09 44 29.2 +4.9**
TIA S **S** **09 50 39.5 +3.9**
TIA SS **SS** **09 54 44.7 +4.9**
TIA pmax pmax
comp=Z,250nm,1.3s
TIA pmax pmax
comp=Z,48µm,11.3s
TIA LR LR
comp=Z,728µm,27.5s
TIA LR LR
comp=Z,731µm,31.4s
TIA LR LR
comp=Z,846µm,22.6s
TGUH Tegucigalpa,Un 62.83 106 IAMs_20 IAMs_20 10 11 09.5
comp=Z,591µm,20.0s
TGUH Tegucigalpa,Un 62.83 106 ⇑P **P** **09 42 06.5 -0.6**
BTO Baotou 62.89 303 *e*P **P** **09 42 06.1 -1.0**
BTO pP **pwP** **09 42 16.8 +2.3**
BTO sP *s*P 09 42 20.6 +11
BTO PP **PP** **09 44 25.9 +0.9**
BTO S **S** **09 50 32.7 -4.0**
BTO sS sS 09 50 47.1 +7.8
BTO SS **SS** **09 54 36.4 -4.6**
BTO pmax pmax
comp=Z,360nm,2.2s
BTO pmax pmax
comp=Z,80µm,11.2s
BTO LR LR
comp=Z,1887µm,14.8s
BTO LR LR
comp=Z,3019µm,19.5s
BTO LR LR
comp=Z,3348µm,20.8s
FIA1 FINESS Array S 62.91 3 P **P** **09 42 05.2 -1.5**
FIA1 IAMs_20 IAMs_20 10 11 20.1
comp=Z,478µm,21.0s
FINES FINESS Array B 62.91 3 P **P** **09 42 05.5 -1.2**
comp=Z,444nm,0.9s,baz=2.6,slow=8.4,SNR=107
FINES S **S** **09 50 40.2 +4.1**
comp=Z,14nm,0.9s,baz=0.7,slow=14,SNR=1.1
FINES PKPPKP 10 11 05.9
comp=Z,14nm,0.7s,baz=119,slow=1.7,SNR=6.3
FINES P4KPbc 10 19 02.4
comp=Z,2.6nm,0.5s,baz=321,slow=2.0,SNR=13
comp=Z,444nm,0.9s
ODD1 Odda 62.91 13 *e*P **P** **09 42 08.0 +1.1**
ODD1 *e*pP **pwP** **09 42 13.5 -0.8**
ODD1 IVmB_BB 09 42 14.5
comp=Z,26µm,2.5s
ODD1 *e*ScP **ScP** **09 46 39.6 -7.3**
ODD1 *e*S **S** **09 50 34.3 -2.0**
ODD1 *i* 09 57 29.6
ODD1 IVMs_BB IVMs_BB 10 03 23.9
comp=Z,137µm,44.3s
JUCU Jucuarįn 62.97 107 *e*P **P** **09 42 07.4 -0.5**
HNS HongShan 63.11 297 ⇑P **P** **09 42 08.4 -0.1**
HNS PcP **PcP** **09 42 41.2 -4.9**
HNS S **S** **09 50 43.9 +4.6**
HNS pmax pmax
comp=Z,990nm,1.1s
HNS pmax pmax
comp=Z,109µm,9.8s
HNS LR LR
comp=Z,602µm,15.7s
HNS LR LR
comp=Z,659µm,17.5s
HNS LR LR
comp=Z,981µm,16.7s
LCND La Caada 63.12 107 *e*P **P** **09 42 09.1 +0.3**
YUSH Yuscaran 63.15 105 *e*P **P** **09 42 09.3 +0.2**
RAF Rauma 63.17 5 *e*P **P** **09 42 09.9 +1.4**
AMPH Amapala 63.26 107 *e*P **P** **09 42 09.0 -0.7**
JMZ Minamidaito 2 63.27 277 P **P** **09 42 11.1 +1.4**
KPL Plockton 63.31 21 *e*P **P** **09 42 09.4 -0.1**
KPL IAMs_20 IAMs_20 10 09 55.0
comp=Z,688µm,21.1s
KLMR Klimovskoe 63.35 355*c* i P **P** **09 42 09.2 -0.5**
KLMR *e* 09 44 29.3
KLMR S **S** **09 50 45.4 +3.8**
KLMR pmax pmax
comp=Z,4µm,1.8s
BLS5 Blasjo 63.36 14 *e*P **P** **09 42 10.4 +0.5**
BLS5 *e*pP **pwP** **09 42 16.2 -1.1**
BLS5 IVmB_BB 09 42 17.8
comp=Z,24µm,2.5s
BLS5 *e*S **S** **09 50 39.8 -2.1**
BLS5 *e*SS **SS** **09 54 49.8 +2.5**
BLS5 *i* 09 57 43.5
BLS5 IVMs_BB IVMs_BB 10 03 37.8
comp=Z,149µm,45.9s
OSL Oslo 63.38 11 *e*P **P** **09 42 11.2 +1.4**
OSL *e*pP **pwP** **09 42 16.5 -0.8**
OSL IVmB_BB 09 42 17.7
comp=Z,27µm,3.1s
OSL *e*S **S** **09 50 38.9 -3.1**
OSL *e*SS **SS** **09 54 48.6 +1.2**
OSL *i* 09 57 58.7
OSL IVMs_BB IVMs_BB 10 03 11.6
comp=Z,114µm,56.6s
KMY Karmoy 63.40 14 *e*P **P** **09 42 10.7 +0.7**
KMY *e*pP **pwP** **09 42 16.4 -1.0**
KMY IVmB_BB 09 42 17.6
comp=Z,21µm,3.1s
KMY *e*S **S** **09 50 41.5 -0.7**
KMY *e*SS **SS** **09 54 51.5 +3.6**
KMY *i* 09 57 55.7
KMY IVMs_BB IVMs_BB 10 03 12.3
comp=Z,122µm,56.7s
HFS Hagfors 63.48 9 P **P** **09 42 10.7 0.0**
comp=Z,205nm,1.0s,baz=14,slow=3.1,SNR=71
HFS S **S** **09 50 37.8 -5.5**
comp=Z,18nm,0.8s,baz=50,slow=13,SNR=1.9
HFS LR LR 10 10 44.3
comp=Z,275µm,20.2s,baz=358,slow=37
HFS PKPPKP P'P'df 10 11 07.3 -7.9
comp=Z,18nm,1.0s,baz=127,slow=0.7,SNR=3.9
comp=Z,205nm,1.0s
HLGC Holguin 63.53 92 *e*P **P** **09 42 14.4 +2.9**
KONO Kongsberg 63.53 12 IAMs_20 IAMs_20 10 11 29.5
comp=Z,502µm,21.0s
KONO Kongsberg 63.53 12 *e*P **P** **09 42 11.2 +0.3**
KONO *e*pP **pwP** **09 42 17.4 -0.9**
KONO IVmB_BB 09 42 18.8
comp=Z,28µm,3.0s
KONO *e*S **S** **09 50 44.9 +1.0**
KONO *e*SS **SS** **09 54 51.4 +1.5**
KONO *i* 09 58 00.8
KONO IVMs_BB IVMs_BB 10 11 17.9
comp=Z,150µm,19.0s
KONO Kongsberg 63.53 12 ⇓P **P** **09 42 11.0 0.0**
KONO Kongsberg 63.53 12 P **P** **09 42 12.5 +1.6**
PILO Pilon 63.55 93 *e*P **P** **09 42 11.1 -0.6**
PILO *e*S S 09 50 24.8 -21
MCD Coleburn Disti 63.55 20 *e*P **P** **09 42 10.8 -0.4**
LMGC Las Mercedes 63.65 93 *e*P **P** **09 42 10.6 -1.7**
TIY Taiyuan 63.99 299 ⇓P **P** **09 42 15.0 +0.6**
TIY PP **PP** **09 44 41.2 +6.5**
TIY S **S** **09 50 53.1 +2.6**
TIY pmax pmax
comp=Z,130nm,1.6s
TIY pmax pmax
comp=Z,84µm,6.9s
TIY LR LR
comp=Z,1011µm,15.1s
TIY LR LR
comp=Z,792µm,22.7s
TIY LR LR
comp=Z,849µm,19.2s
PINC Pinares de May 64.00 92 *e*P **P** **09 42 13.5 -1.1**
PATS Pohnpei 64.03 241 IAMs_20 IAMs_20 10 06 16.1
comp=Z,984µm,20.0s
PATS Pohnpei 64.03 241 P **P** **09 42 17.2 +2.4**
CHIV Chivirico 64.06 92 *e*P **P** **09 42 14.2 -0.7**
CRIN San Cristobal 64.07 106 IAMs_20 IAMs_20 10 11 37.3
comp=Z,474µm,21.0s
MEF Metsahovi 64.08 4 *e*P **P** **09 42 16.2 +1.7**
JOW Kunigami 64.12 280 P **P** **09 42 16.2 +0.9**
JOW Kunigami 64.12 280 LR LR 10 08 52.2
comp=Z,239µm,22.0s,baz=64,slow=35
MARVS Santiago de Cu 64.33 92 *e*P **P** **09 42 17.3 +0.6**
DRUM Mains of Drumt 64.33 20 *e*P **P** **09 42 14.6 -1.6**
DRUM IAMs_20 IAMs_20 10 02 39.8
comp=Z,1449µm,55.5s
MOAC Moa 64.33 91 *e*P **P** **09 42 16.3 -0.4**
LAWE Loch Awe, Argy 64.37 21 *e*P **P** **09 42 15.5 -1.0**
LAWE IAMs_20 IAMs_20 10 10 37.6
comp=Z,765µm,19.7s
NMDO Nuevo Mundo 64.40 91 *e*P **P** **09 42 16.2 -1.0**
RCC Rio Carpintero 64.45 92 *e*P **P** **09 42 16.7 -0.8**
RCC IAMs_20 IAMs_20 09 58 31.8
comp=E,732µm,39.1s
RCC IAMs_20 IAMs_20 09 59 19.0
comp=N,404µm,33.5s
INVG Invergeldie, C 64.48 21 *e*P **P** **09 42 16.5 -0.7**
INVG IAMs_20 IAMs_20 10 10 50.2
comp=Z,638µm,19.6s
MATN Matagalpa 64.49 105 P **P** **09 42 16.9 -1.1**
MATN IAmb IAmb 09 42 42.3
comp=Z,2µm,1.0s
SNART Snartemo 64.52 14 *e*P **P** **09 42 17.6 +0.3**
SNART *e*pP **pwP** **09 42 23.5 -1.3**
SNART *e*S **S** **09 50 53.9 -2.2**
PUL Pulkovo 64.64 0⇑ *e*P **P** **09 42 19.8 +1.6**
PUL pmax pmax
comp=Z,3µm,0.8s
SSE Sheshan 64.66 288 P **P** **09 42 18.6 -0.2**
SSE PcP **PcP** **09 42 50.2 -2.3**
SSE S **S** **09 50 55.5 -3.2**
SSE SS **SS** **09 55 09.7 +0.9**
SSE pmax pmax
comp=Z,210nm,1.3s
SSE pmax pmax
comp=Z,20µm,5.2s
SSE LR LR
comp=Z,95µm,20.1s
SSE LR LR
comp=Z,224µm,19.8s
SSE LR LR
comp=Z,320µm,34.3s
DGZ Jazzator, Alta 64.68 323*c* i P **P** **09 42 19.5 +0.6**
DGZ MLR MLR
comp=Z,1594µm,15.0s
HOMB Homborsund 64.75 13 *e*P **P** **09 42 19.4 +0.5**
HOMB *e*pP **pwP** **09 42 25.4 -1.0**
HOMB IVmB_BB 09 42 26.8
comp=Z,32µm,2.8s
HOMB *e*S **S** **09 50 58.7 -0.2**
HOMB *e*SS **SS** **09 55 11.7 +2.9**
HOMB *i* 09 58 32.6
HOMB IVMs_BB IVMs_BB 10 03 52.8
comp=Z,143µm,49.0s
COPN Copaltepe 64.75 106 *i* P **P** **09 42 24.0 +4.5**
MTDJ Mount Denham 64.83 95 *i* P **P** **09 42 20.1 -0.1**
MTDJ Mount Denham 64.83 95 ⇑P **P** **09 42 19.5 -0.6**
MTDJ Mount Denham 64.83 95 *e*P **P** **09 42 19.8 -0.3**
GTBY Guantanamo Bay 64.83 91 *i* P **P** **09 42 20.7 +0.7**
GTBY Guantanamo Bay 64.83 91 ⇑P **P** **09 42 19.1 -0.9**
GTBY Guantanamo Bay 64.83 91 *e*P **P** **09 42 19.4 -0.6**
KIRV Kirov 64.86 349 P **P** **09 42 19.1 -0.5**
comp=Z,166nm,0.8s,baz=14,slow=5.9,SNR=48
KIRV PKPPKP 10 11 05.1
comp=Z,38nm,0.9s,baz=185,slow=1.0,SNR=9.3
KIRV LR LR 10 14 51.4
comp=Z,756µm,19.1s,baz=27,slow=40
comp=Z,166nm,0.8s
PGBU Glenifferbraes 64.97 21 *e*P **P** **09 42 18.6 -1.9**
PGBU IAMs_20 IAMs_20 10 11 05.1
comp=Z,700µm,20.0s
TAOE Nuku Hiva Isla 64.99 170 P **P** **09 42 24.0 +3.0**
BOAB BOACO BROADBA 65.03 105 P **P** **09 42 19.2 -2.1**
BOAB IAMs_20 IAMs_20 10 13 44.5
comp=Z,806µm,18.0s
BOAB BOACO BROADBA 65.03 105 P **P** **09 42 20.0 -1.3**
BOAB S **S** **09 51 09.7 +6.2**
BOAB BOACO BROADBA 65.03 105 ⇑P **P** **09 42 19.4 -1.9**
BOAB BOACO BROADBA 65.03 105 *i* P **P** **09 42 24.1 +2.8**
SVE Sverdlovsk 65.03 342*de* P **P** **09 42 20.9 +0.1**
SVE *i* S **S** **09 51 01.2 -1.4**
SVE *e*SS **SS** **09 55 17.1 +3.7**
SVE *e* 09 58 09.1
SVE pmax pmax
comp=Z,43µm,12.4s
SVE pmax pmax
comp=Z,4µm,1.4s
SVE MLR MLR
comp=E,842µm,20.0s
SVE MLR MLR
comp=N,540µm,18.0s
SVE MLR MLR
comp=Z,987µm,18.0s
MASC Masc 65.13 91 *e*P **P** **09 42 21.8 -0.1**
EDI Edinburgh 65.13 20 *e*P **P** **09 42 20.0 -1.4**
NJ2 Nanjing 65.15 291 ⇑P **P** **09 42 21.0 -0.9**
NJ2 pP **pwP** **09 42 28.9 -0.5**
NJ2 sP *s*P 09 42 34.1 +10
NJ2 PP **PP** **09 44 44.8 -0.1**
NJ2 S **S** **09 51 07.9 +3.2**
NJ2 sS sS 09 51 19.2 +12
NJ2 pmax pmax
comp=Z,280nm,2.1s
NJ2 pmax pmax
comp=Z,11µm,4.6s
NJ2 LR LR
comp=Z,502µm,22.5s
NJ2 LR LR
comp=Z,415µm,24.2s
NJ2 LR LR
comp=Z,438µm,24.5s
CLGH Cloghs, Cushen 65.31 22 *e*P **P** **09 42 22.6 0.0**
CLGH IAMs_20 IAMs_20 10 03 10.7
comp=Z,1757µm,70.9s
STH Stony Hill 65.36 94 *i* P **P** **09 42 23.2 -0.2**
STH Stony Hill 65.36 94 *e*P **P** **09 42 24.0 +0.6**
GUMO Guam 65.41 258 P **P** **09 42 25.7 +1.9**
GUMO Guam 65.41 258 P **P** **09 42 22.0 -1.9**
comp=Z,135nm,0.7s,baz=167,slow=6.7,SNR=13
GUMO LR LR 10 06 43.2
comp=Z,194µm,21.0s,baz=43,slow=32
comp=Z,135nm,0.7s
HOJ Hope 65.45 94 *i* P **P** **09 42 25.0 +0.9**
MTSE Matsula 65.57 4 *e*P **P** **09 42 25.9 +1.7**
NEWG New Galloway 65.67 21 *e*P **P** **09 42 24.1 -0.9**
NEWG IAMs_20 IAMs_20 10 11 15.3
comp=Z,816µm,20.0s
EKA Eskdalemuir Ar 65.69 21 P **P** **09 42 24.6 -0.4**
comp=Z,213nm,0.9s,baz=335,slow=5.1,SNR=60
EKA S **S** **09 51 06.9 -3.8**
comp=Z,7.1nm,1.1s,baz=0.0,slow=8.5,SNR=1.5
EKA PKPPKP P'P'df 10 11 02.9 -8.3
comp=Z,19nm,1.0s,baz=207,slow=1.7,SNR=7.5
comp=Z,213nm,0.9s
ACON Acoyapa 65.69 105 IAMs_20 IAMs_20 10 10 59.1
comp=Z,492µm,21.0s
ESK Eskdalemuir 65.69 21 IAMs_20 IAMs_20 10 11 18.6
comp=Z,449µm,19.0s
ESK Eskdalemuir 65.69 21 *e*P **P** **09 42 24.5 -0.6**
ESK IAMs_20 IAMs_20 10 03 22.4
comp=Z,1419µm,56.2s
ESK Eskdalemuir 65.69 21 P **P** **09 42 24.2 -0.9**
ESK pmax pmax
comp=Z,2µm,1.4s
ESK MLR MLR
comp=Z,449µm,19.0s
ARU Arti 65.75 344 P **P** **09 42 24.7 -0.8**
ARU IAmb IAmb 09 42 55.3
comp=Z,3µm,1.1s
ARU IAMs_20 IAMs_20 10 15 05.2
comp=Z,830µm,18.0s
ARU Arti 65.75 344*c* i P **P** **09 42 25.2 -0.3**
ARU 09 42 54.0
ARU PPP PPP 09 46 22.9
ARU S **S** **09 51 13.0 +1.6**
ARU 09 52 19.6
ARU SSS SSS 09 58 17.0
ARU pmax pmax
comp=Z,573nm,1.2s
ARU pmax pmax
comp=Z,50µm,14.2s
ARU MLR MLR
comp=Z,795µm,18.0s
ARU Arti 65.75 344 P **P** **09 42 25.2 -0.3**
comp=Z,94nm,0.5s,baz=8.3,slow=3.0,SNR=92
ARU S **S** **09 51 11.8 +0.4**
comp=Z,18nm,0.6s,baz=278,slow=9.7,SNR=1.7
ARU PKPPKP P'P'df 10 11 02.3 -8.9
comp=Z,48nm,1.0s,baz=194,slow=6.5,SNR=8.7
ARU LR LR 10 15 09.7
comp=Z,854µm,18.4s,baz=19,slow=40
comp=Z,94nm,0.5s
GAL1 Galloway 65.81 22 *e*P **P** **09 42 25.2 -0.7**
GAL1 IAMs_20 IAMs_20 10 11 07.1
comp=Z,743µm,21.7s
VSU Vasula 65.91 2*c* i P **P** **09 42 26.5 +0.1**
VSU pmax pmax
comp=Z,2µm,1.0s
VSU MLR MLR
comp=Z,620µm,20.0s
VSU Vasula 65.91 2 *e*P **P** **09 42 28.3 +1.9**
IGLA Glengowla, Co 66.12 25 P **P** **09 42 27.7 -0.2**
IGLA Glengowla, Co 66.12 25 *e*P **P** **09 42 27.6 -0.2**

IGLA IAMs_20 IAMs_20 10 03 48.8
comp=Z,1738µm,63.3s
ILTH Belurgan, Co L 66.25 23 P P 09 42 29.8 +1.1
ILTH Belurgan, Co L 66.25 23 *e*P P 09 42 29.1 +0.4
SEM Semipalatinsk 66.35 328 *e*P P 09 42 28.4 -1.3
comp=Z,5µm,2.9s,baz=328
SEM *e*S **S 09 51 19.0 -0.4**
baz=328
SEM LR LR 10 12 37.4
comp=Z,312µm,17.6s,baz=328
SEM Semipalatinsk 66.35 328 *e*P P 09 42 28.4 -1.3
SEM *e*S **S 09 51 18.9 -0.4**
SEM pmax pmax
comp=Z,5µm,2.9s
SEM MLR MLR
comp=Z,312µm,18.0s
EDMD Edmundbyers 66.39 20 *e*P P 09 42 30.4 +0.8
EDMD IAMs_20 IAMs_20 10 03 38.9
comp=Z,1422µm,64.7s
IOMK Kirk Michael 66.41 22 *e*P P 09 42 28.2 -1.5
LYN LuoYang 66.47 297 ⇓P P 09 42 29.1 -1.3
LYN sP pwP 09 42 43.9 +6.1
LYN PcS 09 47 00.5
LYN S **S 09 51 15.1 -5.6**
LYN sS sS 09 51 35.1 +12
LYN SS **SS 09 55 37.8 +1.1**
LYN pmax pmax
comp=Z,440nm,1.0s
LYN pmax pmax
comp=Z,73µm,4.8s
LYN LR LR
comp=Z,1674µm,25.8s
LYN LR LR
comp=Z,1567µm,26.1s
LYN LR LR
comp=Z,1292µm,28.5s
WIM Isle of Man 66.49 22 *e*P P 09 42 31.1 +0.8
HZTE Horizontes, Gu 66.50 106 *i* P P 09 42 30.0 -0.9
KURK Kurchatov 66.56 329 P P 09 42 29.7 -1.1
KURK IAmb IAmb 09 42 46.4
comp=Z,1µm,1.0s
KURK Kurchatov 66.56 329 P P 09 42 30.9 +0.2
KURK Kurchatov 66.56 329 P P 09 42 30.7 0.0
KURK P P 09 42 30.7 0.0
KURK P **P 09 42 30.7 0.0**
KURK S **S 09 51 22.6 +1.2**
KURK S **S 09 51 22.6 +1.2**
KURK S **S 09 51 22.6 +1.2**
SLIT Slitere, Latvi 66.58 5 *e*P P 09 42 32.5 +1.8
MUD Monsted U'grnd 66.60 13 *i* P P 09 42 36.0 +5.1
MUD IAmb IAmb 09 42 49.6
comp=Z,454nm,0.9s
BRVK Borovoye 66.62 335 P P 09 42 29.7 -1.4
BRVK pmax pmax
comp=Z,2µm,1.1s
BRVK MLR MLR
comp=Z,1387µm,21.0s
BRVK Borovoye 66.62 335 P P 09 42 30.3 -0.8
BRVK P **P 09 42 30.3 -0.8**
BRVK P **P 09 42 30.3 -0.8**
BVA0 Borovoye Array 66.62 335 *i* P P 09 42 31.0 -0.2
BVAR Borovoye Array 66.62 335 P P 09 42 30.3 -0.9
comp=Z,144nm,0.8s,baz=44,slow=6.6,SNR=151
BVAR S **S 09 51 20.6 -1.6**
comp=Z,6.6nm,0.8s,baz=46,slow=12,SNR=1.0
BVAR PKPPKP P'P'df 10 10 57.9 -12
comp=Z,34nm,1.1s,baz=184,slow=4.5,SNR=6.8
BVAR LR LR 10 15 00.0
comp=Z,1319µm,22.0s,baz=24,slow=39
comp=Z,144nm,0.8s
PRVC Isla de Provid 66.62 101 ⇑*i*P P 09 42 30.8 -0.8
PRVC *e*S **S 09 51 26.5 +3.5**
PRVC Isla de Provid 66.62 101 *e*P P 09 42 32.0 +0.4
KURBB Kurchatov Arra 66.67 329 P P 09 42 30.9 -0.6
comp=Z,164nm,0.9s,baz=28,slow=6.2,SNR=134
KURBB S **S 09 51 21.7 -0.9**
comp=Z,5.5nm,0.9s,baz=21,slow=12,SNR=1.3
KURBB PKPPKP P'P'df 10 11 01.1 -7.9
comp=Z,9.0nm,1.0s,baz=210,slow=3.0,SNR=5.1
KURBB LR LR 10 15 02.7
comp=Z,1439µm,21.0s,baz=24,slow=39
comp=Z,164nm,0.9s
ORTG Ortega, Santa 66.87 106 P P 09 42 30.5 -2.8
ORTG Ortega, Santa 66.87 106 *i* P P 09 42 32.4 -0.9
DSB Dublin 66.97 23 P P 09 42 33.6 +0.3
DSB Dublin 66.97 23 IAMs_20 IAMs_20 10 12 26.4
comp=Z,469µm,19.0s
DSB Dublin 66.97 23 P P 09 42 31.5 -1.8
DSB S S 09 51 35.9 +10
SAJU San Juanillo, 66.98 107 *i* P P 09 42 34.5 +0.6
GDLE Glaisdale, N Y 67.00 19 *e*P P 09 42 33.5 0.0
GDLE IAMs_20 IAMs_20 10 03 53.7
comp=Z,1317µm,61.1s
DUNO Dulce Nombre, 67.09 107 *i* PA 09 42 34.0
DUNO IAML 09 43 02.0
comp=Z,2µm,1.0s
JTS Las Juntas de 67.20 106 P P 09 42 32.0 -3.4
JTS Las Juntas de 67.20 106 *e*P P 09 42 35.2 -0.1
JTS *e*S S 09 51 39.7 +10
JTS Las Juntas de 67.20 106 *c i*P P 09 42 33.1 -2.2
JTS Las Juntas de 67.20 106 LR LR 10 15 40.4
comp=Z,276µm,18.1s,baz=318,slow=39
WPS Cemaes, Angles 67.23 22 *e*P P 09 42 35.3 +0.3
INDI Punta indio, G 67.26 107 *i* P P 09 42 36.1 +0.4
VAL Valentia 67.27 26 P P 09 42 34.8 -0.4
VAL Valentia 67.27 26 P P 09 42 34.5 -0.7
HPK Haverah Park 67.28 20 *e*P P 09 42 35.5 +0.2
HPK IAMs_20 IAMs_20 10 04 35.6
comp=Z,837µm,38.7s
WLF1 Llynfaes 67.36 22 *e*P P 09 42 35.3 -0.5
WLF1 IAMs_20 IAMs_20 10 12 02.0
comp=Z,1231µm,20.6s
JMJ Miyako jima 2 67.36 281 P P 09 42 37.6 +1.4
ZSN Zaisan 67.49 324 *e*P P 09 42 36.1 -0.7
comp=Z,2µm,1.6s,baz=324
ZSN *e*S **S 09 51 34.5 +1.8**
baz=324
ZSN Zaisan 67.49 324 *e*P P 09 42 37.0 +0.2
ZSN *e*S **S 09 51 34.5 +1.8**
ZSN pmax pmax
comp=Z,2µm,1.6s
PAPH Port-au-Prince 67.53 90 *e*P P 09 42 38.7 +1.3
YLL Llanberis 67.54 22 *e*P P 09 42 38.3 +1.4
SSRD Sdr. Stenderup 67.61 13 *i* P P 09 42 42.4 +5.1
SSRD IAmb IAmb 09 43 20.6
comp=Z,656nm,0.8s
IWEX Carrickbyrne, 67.69 24 P P 09 42 38.3 +0.4
IWEX Carrickbyrne, 67.69 24 *e*P P 09 42 38.2 +0.3
IWEX IAMs_20 IAMs_20 10 11 26.0
comp=Z,814µm,20.1s
SDDR Presa de Saban 67.73 89 P P 09 42 36.8 -1.9
SDDR IAMs_20 IAMs_20 10 11 32.4
comp=Z,718µm,21.0s
SDDR Presa de Saban 67.73 89 *e*P P 09 42 39.5 +0.8
LBWR Ladybower, Pea 67.79 20 *e*P P 09 42 39.2 +0.7
LBWR IAMs_20 IAMs_20 10 04 48.6
comp=Z,926µm,41.4s
JACO JACO, Garabito 67.88 106 IAMs_20 IAMs_20 10 15 00.5
comp=Z,388µm,19.0s
JACO JACO, Garabito 67.88 106 *i* P P 09 42 40.2 +0.6
HDC Heredia 67.90 105 *e*P P 09 42 37.9 -1.9
FOEL Foel Wylfa 67.98 21 *e*P P 09 42 39.3 -0.5
FOEL IAMs_20 IAMs_20 10 12 34.7
comp=Z,837µm,20.0s
STNC Stoke 67.99 21 *e*P P 09 42 39.4 -0.4
STNC IAMs_20 IAMs_20 10 04 57.3
comp=Z,795µm,40.6s
LMK Market Rasen 68.01 19 *e*P P 09 42 38.9 -0.9
LMK IAMs_20 IAMs_20 10 04 22.5
comp=Z,1048µm,53.8s
PBUR Paburge 68.17 5 *e*P P 09 42 42.6 +1.7
LCR2 La Lucha 2 68.17 105 *i* PA 09 42 43.5
LCR2 IAML 09 43 08.4
comp=Z,770nm,1.0s
VSVD Vaisvydziai 68.30 4 *e*P P 09 42 43.4 +1.7
HLM1 Long Mynd 68.40 21 *e*P P 09 42 41.4 -1.0
HLM1 IAMs_20 IAMs_20 10 12 46.0
comp=Z,848µm,20.3s
CDM Cerro de Muert 68.46 105 *i* PA 09 42 45.5
CDM IAML 09 42 58.7
comp=Z,890nm,1.0s
GTA Gaotai 68.50 309 ⇑P P 09 42 42.4 -1.0
GTA sP pwP 09 42 49.9 -0.9
GTA PP **PP 09 45 15.4 +1.4**

GTA S **S 09 51 47.4 +2.1**
GTA sS sS 09 51 59.7 +12
GTA pmax pmax
comp=Z,35µm,11.5s
GTA LR LR
comp=Z,1231µm,19.1s
GTA LR LR
comp=Z,1625µm,17.9s
GTA LR LR
comp=Z,1233µm,24.1s
CWF Charnwood Fore 68.50 20 *e*P P 09 42 42.7 -0.3
CWF IAMs_20 IAMs_20 10 05 07.0
comp=Z,903µm,43.0s
RSBS Rosebush, Pemb 68.53 23 *e*P P 09 42 41.8 -1.4
RSBS IAMs_20 IAMs_20 10 05 06.1
comp=Z,2148µm,69.2s
MOS Moscow 68.55 356 *e*P P 09 42 41.6 -1.6
MOS *e* 09 45 11.2
MOS *e*S **S 09 51 45.3 +0.2**
MOS *i* 09 52 35.4
MOS *e*SS **SS 09 56 09.6 +1.8**
MOS pmax pmax
comp=Z,20µm,3.6s
MOS pmax pmax
comp=N,15µm,3.9s
MOS pmax pmax
comp=Z,3µm,1.9s
MOS pmax pmax
comp=N,2µm,1.8s
MOS MLR MLR
comp=N,397µm,20.0s
MOS MLR MLR
comp=Z,445µm,20.0s
BSD Bornholm Skovb 68.56 10 *i* P P 09 42 48.3 +5.0
BSD IAmb IAmb 09 43 08.0
comp=Z,418nm,0.7s
XAN Xi'an 68.64 299 ⇑P P 09 42 43.3 -0.9
XAN pP pwP 09 42 51.2 -0.4
XAN S **S 09 51 45.1 -1.8**
XAN ScS **SKKSac 09 52 43.8 +0.3**
XAN pmax pmax
comp=Z,3µm,1.5s
XAN pmax pmax
comp=Z,132µm,9.0s
XAN LR LR
comp=Z,1606µm,17.3s
XAN LR LR
comp=Z,1297µm,18.2s
XAN LR LR
comp=Z,2163µm,18.4s
HLG Helgoland 68.65 14 *e*P P 09 42 45.1 +1.3
comp=Z,350nm,0.9s,baz=354,slow=5.9
PEZE Perez Zeledon, 68.65 105 P P 09 42 42.5 -2.0
PEZE IAMs_20 IAMs_20 10 14 55.7
comp=Z,369µm,18.0s
WHN Wuhan 68.69 293 SS SS 09 56 02.3 -9.0
WHN pmax pmax
comp=Z,3µm,2.2s
WHN pmax pmax
comp=Z,103µm,4.5s
WHN LR LR
comp=N,1960µm,20.0s
WHN LR LR
comp=E,1103µm,15.7s
WHN LR LR
comp=Z,2480µm,19.9s
WHN Wuhan 68.69 293 ⇑*i*P P 09 42 43.7 -0.8
WHN sP **pwP 09 42 51.3 -0.6**
WHN S **S 09 51 50.3 +2.8**
WHN pmax pmax
comp=Z,3µm,2.2s
WHN pmax pmax
comp=Z,103µm,4.5s
WHN LR LR
comp=Z,1960µm,20.0s
WHN LR LR
comp=Z,1103µm,15.7s
WHN LR LR
comp=Z,2480µm,19.9s
PABE Paberze 68.78 4 P P **09 42 42.9 -1.8**
PABE IAMs_20 IAMs_20 10 17 50.0
comp=Z,514µm,21.0s
PABE Paberze 68.78 4 *e*P P 09 42 46.5 +1.9
ISAL Salakas 68.79 3 *e*P P 09 42 48.6 +3.9
BRZS Berezniki 68.85 332 *e*P P 09 42 44.4 -0.9
comp=Z,5µm,3.5s,baz=332
BRZS *e*S **S 09 51 49.0 +0.1**
baz=332
BRZS Berezniki 68.85 332 *e*P P 09 42 44.4 -0.9
BRZS *e*S **S 09 51 49.0 +0.1**
BRZS pmax pmax
comp=Z,5µm,3.5s
MCH1 Michaelchurch 68.86 22 *e*P P 09 42 44.8 -0.4
MCH1 IAMs_20 IAMs_20 10 12 58.4
comp=Z,586µm,21.3s
WACR West Acre 68.88 19 *e*P P 09 42 42.5 -2.9
YOJ Yonaguni jima 68.90 283 P P 09 42 44.1 -1.7
YOJ IAmb IAmb 09 43 10.8
comp=Z,2µm,1.1s
YOJ Yonaguni jima 68.90 283 P P 09 42 46.8 +0.9
YOJ Yonaguni jima 68.90 283 P P 09 42 44.2 -1.7
YOJ pmax pmax
comp=Z,2µm,1.1s
MK31 Makanchi Array 68.91 325 P P 09 42 44.5 -1.3
MK31 IAmb IAmb 09 43 07.2
comp=Z,2µm,1.2s
MK31 Makanchi Array 68.91 325 *e*P P 09 42 45.6 -0.1
MKAR Makanchi Array 68.91 325 P P 09 42 43.3 -2.4
MKAR Makanchi Array 68.91 325 P P 09 42 45.5 -0.3
comp=Z,226nm,0.8s,baz=45,slow=5.5,SNR=202
MKAR S **S 09 51 48.0 -1.7**
comp=Z,11nm,1.1s,baz=39,slow=17,SNR=1.0
MKAR PKPPKP 10 10 58.9
comp=Z,15nm,0.9s,baz=202,slow=2.7,SNR=7.5
MKAR LR LR 10 16 33.2
comp=Z,914µm,18.5s,baz=23,slow=39
comp=Z,226nm,0.8s
RGN Rugen 68.95 11 *e*P P 09 42 49.1 +3.4
RGN Rugen 68.95 11 *e*P P 09 42 45.3 -0.4
comp=Z,430nm,1.0s,baz=354,slow=5.9
MAKZ Makanchi 69.00 325 P P 09 42 44.1 -2.2
MAKZ Makanchi 69.00 325 P P 09 42 44.6 -1.7
MONM Monmouth 69.05 22 *e*P P 09 42 46.5 +0.1
MONM IAMs_20 IAMs_20 10 13 05.4
comp=Z,672µm,21.0s
BSEG Bad Segeberg 69.21 13 *e*P P 09 42 48.1 +0.7
comp=Z,190nm,0.9s,baz=354,slow=5.9
OBN Obninsk 69.21 356 ⇑P P 09 42 49.2 +1.8
OBN Obninsk 69.21 356 P P 09 42 45.4 -2.0
OBN IAmb IAmb 09 43 30.2
comp=Z,6µm,1.3s
OBN IAMs_20 IAMs_20 10 16 46.6
comp=Z,505µm,21.0s
OBN Obninsk 69.21 356 *c i*P P 09 42 47.0 -0.3
OBN *e* 09 43 11.4
OBN *e* 09 45 24.0
OBN *i* S **S 09 51 59.0 +6.1**
OBN *e*SS **SS 09 56 20.1 +2.1**
OBN MLR MLR
comp=Z,540µm,22.0s
OBN Obninsk 69.21 356 P P **09 42 47.2 -0.1**
comp=Z,642nm,1.0s,baz=1.3,slow=1.0,SNR=50
OBN PKPPKP 10 10 55.4
comp=Z,30nm,0.5s,baz=152,slow=2.4,SNR=9.4
OBN LR LR 10 17 00.3
comp=Z,365µm,20.8s,baz=16,slow=39
comp=Z,642nm,1.0s
POTG Potrero Grande 69.23 105 *i* PA 09 42 52.2
POTG IVmB_BB 09 43 13.2
comp=Z,2µm,1.0s
POTG IAML 09 43 19.2
comp=Z,2µm,1.0s
STRD Stroud 69.24 21 *e*P P 09 42 46.8 -0.8
STRD IAMs_20 IAMs_20 10 13 22.5
comp=Z,850µm,20.4s
OLDB Oldbury-Upon-S 69.27 21 *e*P P 09 42 46.9 -0.9
OLDB IAMs_20 IAMs_20 10 13 11.6
comp=Z,694µm,20.9s
TATO Taipei 69.32 284 P P 09 42 50.1 +1.6
TATO Taipei 69.32 284 P P 09 42 47.9 -0.6
TATO P **P 09 42 47.9 -0.6**
TATO S **S 09 51 56.3 +1.2**
TATO S **S 09 51 56.3 +1.2**
FUNA Funafuti 69.37 214 P P 09 42 51.3 +2.5
LZH Lanzhou 69.41 304 ⇑P P 09 42 48.3 -0.9

LZH pP pwP 09 42 56.8 +0.3
LZH S S 09 52 07.1 +11
LZH sS SKiKP 09 52 32.1 -5.9
LZH Lanzhou 69.41 304 ⇑P P 09 42 48.2 -0.9
LZH pP pwP 09 42 56.3 -0.2
LZH sP sP 09 42 59.8 +8.5
LZH PcP **PcP 09 43 11.5 -1.0**
LZH ScP 09 47 15.3
LZH S **S 09 51 48.4 -7.8**
LZH sS sS 09 52 06.9 +8.1
LZH ScS **SKiKP 09 52 43.2 +5.2**
LZH SS **SS 09 56 20.3 -2.1**
LZH pmax pmax
comp=Z,140nm,1.4s
LZH pmax pmax
comp=Z,36µm,4.1s
LZH LR LR
comp=Z,1488µm,21.0s
LZH LR LR
comp=Z,1977µm,20.3s
LZH LR LR
comp=Z,2632µm,20.6s
NACGM Naroch 69.48 2⇑*e*P P 09 42 49.2 +0.2
KLNR Kaliningrad 69.48 7*d i*P P 09 42 49.5 +0.5
HTL Hartland 69.49 23 *e*P P 09 42 47.8 -1.3
HTL IAMs_20 IAMs_20 10 14 21.3
comp=Z,571µm,18.2s
ELMS Elmsett, Ipswi 69.55 19 *e*P P 09 42 50.2 +0.7
ELMS IAMs_20 IAMs_20 10 12 37.1
comp=Z,485µm,20.5s
SWN1 Swindon 69.57 21 *e*P P 09 42 50.4 +0.8
SWN1 IAMs_20 IAMs_20 10 13 33.2
comp=Z,801µm,20.5s
YHNB Yeheng 69.63 284 IAMs_20 IAMs_20 10 11 27.7
comp=Z,437µm,22.0s
YHNB Yeheng 69.63 284 P P 09 42 51.5 +1.0
WMQ Urumqi 69.65 320 ⇑P P 09 42 50.9 +0.5
WMQ pP pwP 09 42 58.5 +0.7
WMQ PcP **PcP 09 43 15.2 +1.9**
WMQ S **S 09 51 58.0 -0.6**
WMQ pmax pmax
comp=Z,380nm,2.1s
WMQ pmax pmax
comp=Z,25µm,4.1s
WMQ LR LR
comp=Z,669µm,19.3s
WMQ LR LR
comp=Z,572µm,22.9s
WMQ LR LR
comp=Z,440µm,24.3s
BRU2 Volcan 69.67 105 ⇑*i*P P 09 42 50.0 -0.9
SBD Saint Breward 69.85 23 *e*P P 09 42 51.6 +0.2
WOL Wolverton 69.87 21 *e*P P 09 42 51.7 +0.2
MNK Minsk 69.90 2 *i* P P 09 42 51.8 +0.1
comp=E,303nm,0.8s
MNK *i* P **P 09 42 51.8 +0.1**
comp=N,2µm,1.3s
MNK *i* P **P 09 42 51.8 +0.1**
comp=Z,2µm,0.9s,baz=359
MNK *i* PP **PP 09 45 25.7 +0.3**
MNK *i* PPP PPP 09 47 13.5
MNK *i* S **S 09 52 05.4 +4.3**
MNK *i* SS **SS 09 56 37.2 +8.6**
MNK *i* SSS SSS 09 59 39.5
MNK *i* LQ LQ 10 08 36.7
MNK *i* LR LR 10 12 25.5
MNK *i* LRM MLR 10 17 49.2
MNK *i* LRM MLR 10 19 05.9
MNK *i* LRM MLR 10 19 58.4
MNK Minsk 69.90 2 *i* P P 09 42 51.7 +0.1
MNK *i* 09 45 25.7
MNK *i* PPP PPP 09 47 13.5
MNK *i* S **S 09 52 05.3 +4.3**
MNK *i* SS **SS 09 56 37.2 +8.6**
MNK *i* SSS SSS 09 59 39.5
MNK pmax pmax
comp=Z,2µm,0.9s
MNK pmax pmax
comp=N,2µm,1.3s
MNK pmax pmax
comp=E,303nm,0.8s
MNK MLR MLR
comp=Z,202µm,20.0s
NACB Ninganchiao 69.90 283 P P 09 42 50.2 -1.9
NACB Ninganchiao 69.90 283 P P 09 42 53.1 +1.0
PTPM Petroterminale 70.06 105 ⇑*i*P P 09 42 53.5 +0.3
PTPM *e*S **S 09 52 10.4 +6.4**
CCA1 Carnmenellis 70.08 24 *e*P P 09 42 55.0 +2.2
CCA1 IAMs_20 IAMs_20 10 05 51.1
comp=Z,1639µm,63.3s
DYA Yadsworthy 70.14 23 *e*P P 09 42 51.0 -2.2
DYA IAMs_20 IAMs_20 10 04 19.5
comp=Z,1561µm,49.5s
IBBN Ibbenburen 70.46 15 *e*P P 09 42 55.9 +0.8
comp=Z,134nm,0.8s,baz=354,slow=5.9
OTUK Ortayu 70.54 332 P P 09 42 55.3 -0.4
SSLB Suanglung 70.56 284 IAMs_20 IAMs_20 10 19 43.5
comp=Z,535µm,19.0s
SSLB Suanglung 70.56 284 P P 09 42 57.0 +0.8
GKP Gorka Klasztor 70.59 9 *e*P P 09 42 56.7 +0.9
GKP *e*PcP **PcP 09 43 16.1 -0.8**
GKP *e*S **S 09 52 11.7 +2.5**
GKP *e*L L 10 14 57.7
comp=Z,459µm,22.4s
GKP Gorka Klasztor 70.59 9 *e*P P 09 42 57.9 +2.0
NRDL Niedersach Rie 70.59 13 *e*P P 09 42 56.0 +0.1
comp=Z,318nm,1.0s,baz=354,slow=5.9
HMNX Herstmonceux 70.60 20 *e*P P 09 42 54.6 -1.4
HMNX IAMs_20 IAMs_20 10 13 22.4
comp=Z,580µm,19.7s
YULB Yu-li 70.69 283 P P 09 42 58.5 +1.6
AOPR Arecibo Observ 70.79 86 IAMs_20 IAMs_20 10 14 55.7
comp=Z,357µm,19.0s
CRPR Cabo Rojo, PR 70.86 86 IAMs_20 IAMs_20 10 14 56.7
comp=Z,366µm,20.0s
FLTG Flechtingen 70.90 13 *e*P P 09 42 57.2 -0.6
comp=Z,195nm,0.9s,baz=354,slow=5.9
QZH Quanzhou 70.92 286 ⇑*i*P P 09 42 58.1 -0.2
QZH sP **pwP 09 43 08.7 +3.0**
QZH S **S 09 52 13.7 -0.1**
QZH SS **SS 09 56 47.1 +1.2**
QZH pmax pmax
comp=Z,2µm,2.4s
QZH pmax pmax
comp=Z,90µm,6.9s
QZH LR LR
comp=Z,254µm,13.4s
QZH LR LR
comp=Z,801µm,19.6s
QZH LR LR
comp=Z,986µm,31.9s
BCIP Isla Barro Col 70.93 102 IAMs_20 IAMs_20 10 15 40.8
comp=Z,370µm,20.0s
BCIP Isla Barro Col 70.93 102 ⇑*i*P P 09 42 55.8 -2.6
BCIP *e*S **S 09 52 22.2 +8.2**
BCIP Isla Barro Col 70.93 102 *e*P P 09 42 57.8 -0.6
MLPR Magueyes Islan 70.93 86 IAMs_20 IAMs_20 10 15 35.5
comp=Z,409µm,19.0s
ASSE Asse, Remlinge 71.02 13 *e*P P 09 42 58.8 +0.4
comp=Z,124nm,0.9s,baz=354,slow=5.9
RUE Ruedersdorf 71.04 11 *e*P P 09 43 01.3 +2.7
RUE Ruedersdorf 71.04 11 *e*P P 09 42 56.8 -1.8
comp=Z,426nm,0.9s,baz=354,slow=5.9
CELP Cerrillos 71.11 86 IAMs_20 IAMs_20 10 15 16.1
comp=Z,449µm,20.0s
OBIP Obispado Ponce 71.12 86 IAMs_20 IAMs_20 10 15 06.4
comp=Z,527µm,19.0s
TPUB Ta-pu 71.13 284 IAMs_20 IAMs_20 10 11 53.5
comp=Z,555µm,22.0s
TPUB Ta-pu 71.13 284 P P 09 43 00.6 +1.0
BELG Belogornoye 71.15 349 *c i*P P 09 42 58.6 -0.6
BELG pmax pmax
comp=Z,1µm,1.0s
BELG MLR MLR
comp=Z,166µm,20.0s
BELG Belogornoye 71.15 349 PKPPKP 10 10 50.0
comp=Z,44nm,1.1s,baz=121,slow=3.1,SNR=5.2
BELG LR LR 10 18 04.2
comp=Z,926µm,19.8s,baz=22,slow=39
PNME Penonome 71.22 103 ⇑*i*P P 09 42 59.0 -1.2
BUG Bochum--Univer 71.23 15 *e*P P 09 43 00.9 +1.2
comp=Z,240nm,0.8s,baz=354,slow=5.9
H07N1 FLORES T-PHASE 71.25 46 *e*P P 09 43 00.0 -0.1
comp=Z,2µm,1.2s
H07N1 FLORES T-PHASE 71.25 46 P **P 09 43 00.6 +0.5**

SNR=4.9
UPA Univ. de Panam 71.25 102⇑ *i*P **P** 09 42 58.8 -1.6
UPA *e*S **S** 09 52 14.4 -3.4
UPA Univ. de Panam 71.25 102 *e*P **P** 09 42 58.4 -1.9
TWGBT Beinan 71.27 283 P **P** 09 43 02.2 +1.8
CLZ Clausthal 71.27 13 *e*P **P** 09 43 00.3 +0.2
comp=Z,240nm,0.9s,baz=354,slow=5.9
SJG San Juan 71.32 85 IAMs_20 IAMs_20 10 15 17.7
comp=Z,605μm,21.0s
SJG San Juan 71.32 85 LR LR 10 15 47.8
comp=Z,359μm,18.6s,baz=317,slow=37
SJG San Juan 71.32 85 *e*P **P** 09 42 58.3 -2.5
SJG San Juan 71.32 85 *e*P **P** 09 43 00.5 -0.2
CNSH ChangSha 71.32 293⇑⇑ P **P** 09 43 00.0 -0.7
CNSH S **S** 09 52 17.5 -0.9
CNSH SS **SS** 09 56 47.0 -4.9
CNSH pmax pmax
comp=Z,190nm,1.5s
CNSH LR LR
comp=Z,371μm,17.5s
CNSH LR LR
comp=Z,487μm,18.5s
CNSH LR LR
comp=Z,1038μm,39.2s
GMAL Guarumal, Vera 71.32 104⇑ *i*P **P** 09 43 00.0 -0.8
GMAL *e*S **S** 09 52 21.2 +2.5
GMAL Guarumal, Vera 71.32 104 *e*P **P** 09 43 00.4 -0.5
ENH Enshi 71.40 296 P **P** 09 42 59.9 -1.3
ENH IAmb IAmb 09 43 49.0
comp=Z,3μm,1.2s
ENH IAMs_20 IAMs_20 10 15 38.9
comp=Z,759μm,20.0s
ENH Enshi 71.40 296 P **P** 09 43 01.1 -0.1
IGPR InterUniversit 71.46 85 P **P** 09 43 00.6 -1.0
IGPR IAMs_20 IAMs_20 10 15 29.4
comp=Z,577μm,19.0s
HUMP Col San Antoni 71.46 85 IAMs_20 IAMs_20 10 17 57.4
comp=Z,320μm,18.0s
H07S1 FLORES T-PHASE 71.48 46 *e*P **P** 09 43 05.7 +4.2
comp=Z,4μm,1.5s
H07S1 *e*S **S** 09 52 22.3 +2.3
H07S1 FLORES T-PHASE 71.48 46 P **P** 09 43 01.8 +0.2
SNR=65
GTTG Gottingen 71.50 14 *e*P **P** 09 43 01.6 +0.2
comp=Z,494nm,1.0s,baz=354,slow=5.9
BEBN Eben Emael 71.61 17 *d*P **P** 09 43 02.9 +0.8
BEBN *d*PcP **PcP** 09 43 17.5 -3.8
AKTO Aktyubinsk 71.61 342 P **P** 09 43 00.4 -1.7
AKTO Aktyubinsk 71.61 342 PKPPKP 10 10 50.3
comp=Z,13nm,1.0s,baz=238,slow=1.7,SNR=4.7
AKTO LR LR 10 19 48.7
comp=Z,608μm,19.0s,baz=20,slow=40
LPSR Galich'ya Gora 71.62 355 *e*P **P** 09 43 02.3 +0.2
LPSR *e* 09 43 04.2
LPSR *e*PPP PPP 09 47 30.5
LPSR *e*S **S** 09 52 19.0 -2.2
LPSR *e*SS **SS** 09 57 04.8 +10
LPSR smax smax
comp=N,50μm,10.2s
KASTN Kahler Asten 71.63 15 *e*P **P** 09 43 02.9 +0.7
comp=N,181nm,1.0s,baz=354,slow=5.9
JSA Saint Aubin 71.69 22 *e*P **P** 09 43 00.8 -1.8
JSA IAMs_20 IAMs_20 10 06 37.4
comp=Z,1884μm,60.0s
TDK Taldyqorghan 71.74 327 *e*P **P** 09 43 02.5 -0.6
comp=Z,2μm,1.5s,baz=326
TDK *e*S **S** 09 52 22.9 0.0
baz=326
TDK LR LR 10 15 34.2
comp=Z,351μm,15.5s,baz=326
TDK Taldyqorghan 71.74 327 *e*P **P** 09 43 02.4 -0.6
TDK *e*S **S** 09 52 22.9 0.0
TDK pmax pmax
comp=Z,2μm,1.5s
TDK MLR MLR
comp=Z,351μm,15.0s
BSTI Sart Tilman 71.80 17 *d*P **P** 09 43 02.5 -0.8
BSTI *d*PcP **PcP** 09 43 19.2 -3.0
AZU Azuero 71.82 103⇑ *i*P **P** 09 43 01.9 -1.9
AZU *e*S **S** 09 52 30.9 +6.5
AZU Azuero 71.82 103 *e*P **P** 09 43 02.1 -1.8
MEM Membach 71.84 16 *d*P **P** 09 43 01.4 -2.1
MEM *d*PcP **PcP** 09 43 18.8 -3.5
CACAO El Cacao, Vera 71.87 104⇑ *i*P **P** 09 43 03.0 -1.2
CACAO *e*S **S** 09 52 33.0 +8.0
CACAO El Cacao, Vera 71.87 104 *e*P **P** 09 43 02.4 -1.7
BTNL Ternell 71.89 16 *d*P **P** 09 43 02.8 -1.0
BTNL *d*PcP **PcP** 09 43 20.0 -2.6
BGES Gesves 71.91 17 *d*P **P** 09 43 04.6 +0.6
BCLA Clavier 71.91 17 *d*P **P** 09 43 03.6 -0.3
BCLA *d*PcP **PcP** 09 43 20.0 -2.6
BMRD Maredsous 71.94 17 *d*P **P** 09 43 02.8 -1.3
TOTI Torti 71.96 101⇑ *i*P **P** 09 43 01.5 -3.2
TOTI *e*S **S** 09 52 27.2 +1.2
NEUB Neuenburg 72.06 12 *e*P **P** 09 43 05.1 +0.3
comp=Z,285nm,0.9s,baz=354,slow=5.9
AHRW Bad Neuenahr-A 72.08 16 *e*P **P** 09 43 07.0 +2.1
comp=Z,98nm,0.9s,baz=354,slow=5.9
BHOU Houvegnez 72.09 16 *d*P **P** 09 43 06.1 +1.0
BHOU *d*PcP **PcP** 09 43 21.1 -2.3
BHOU *d*PP **PP** 09 45 41.3 -3.1
BHOU *d*SKiKP **SKiKP** 09 52 38.3 -3.1
DOU Dourbes 72.11 17 *d*P **P** 09 43 06.2 +1.1
DOU *d*SKiKP **SKiKP** 09 52 38.6 -2.8
CLL Collm 72.11 12 *e*P **P** 09 43 04.0 -1.1
CLL *i* *PP **pwP** 09 43 12.9 +0.4
CLL *e*S **S** 09 52 29.0 +2.2
CLL pmax pmax
comp=Z,2μm,1.2s
CLL Collm 72.11 12 *e*P **P** 09 43 04.0 -1.1
CLL *e*pP **sP** 09 43 07.0 -0.3
comp=Z,256nm,1.0s
CLL *e*Pmax 09 43 10.0
CLL *i* (sP) **pwP** 09 43 12.9 +0.4
CLL *i* x x 09 43 17.0
CLL *e*Plp 09 43 21.0
comp=Z,58μm,18.2s
CLL *i* Pmax 09 43 25.5
comp=Z,2μm,1.2s
CLL *e*PP **PP** 09 45 48.0 +3.5
CLL *e*PPmax 09 46 11.0
CLL *e*PPPmax 09 47 56.0
CLL *e*S **S** 09 52 29.0 +2.2
comp=N,85μm,31.2s
CLL *e*S **S** 09 52 29.0 +2.2
comp=E,234μm,29.2s
CLL *e*S **S** 09 52 29.0 +2.2
comp=Z,126μm,28.2s
CLL *e*PS **PnS** 09 53 01.0 +5.3
CLL *ex* x 09 53 45.0
comp=N,757μm,59.9s
CLL *ex* x 09 53 45.0
comp=E,119μm,37.0s
CLL *ex* x 09 53 45.0
comp=Z,103μm,41.2s
CLL *e*SS **SS** 09 57 00.0 -2.6
CLL *e*SSS SSS 10 00 30.0
CLL *ex* x 10 10 42.0
CLL *e*PKPPKPdf 10 10 53.0
CLL *i* x x 10 11 02.5
comp=Z,149nm,1.5s
CLL AMS AMS 10 16 00.0
CLL AMS AMS 10 16 00.0
comp=Z,325μm,21.7s
CLL R2 11 31 00.0
CLL R2 11 37 00.0
CLL R2 12 14 00.0
comp=Z,29μm,18.9s
CLL R3 12 32 00.0
CLL R3 12 43 00.0
CLL R3 12 59 00.0
CLL R4 14 02 00.0
CLL R5 15 02 00.0
CLL R6 16 34 00.0
CLL Collm 72.11 12 *e*P **P** 09 43 04.3 -0.8
comp=Z,172nm,0.9s,baz=354,slow=5.9
AFI Afiamalu 72.12 203 IAMs_20 IAMs_20 10 10 33.2
comp=Z,384μm,19.0s
AFI Afiamalu 72.12 203 P **P** 09 43 07.8 +2.3
RCHB Rochefort 72.16 17 *d*P **P** 09 43 04.4 -1.0
RCHB *d*SKiKP **SKiKP** 09 52 39.4 -2.0
UBBA Unterbreizbach 72.22 14 *e*P **P** 09 43 06.7 +1.0
comp=Z,1μm,1.8s,baz=354,slow=5.9
BEL Belsk 72.28 7 *e*P **P** 09 43 06.9 +0.8
BEL *e*S **S** 09 52 31.2 +2.5
BEL *e*L L 10 20 29.9
comp=Z,341μm,23.1s
AB31 Akbulak array 72.40 340 *i* P **P** 09 43 06.7 -0.1
ABKAR Akbulak array 72.40 340 P **P** 09 43 05.5 -1.4
ABKAR IAmb IAmb 09 43 23.4
comp=Z,1μm,0.8s
ABKAR Akbulak array 72.40 340 P **P** 09 43 05.3 -1.6
SMRC Santa Marta, M 72.41 96 *e*P **P** 09 43 06.8 -0.6
UPD2 Meteti 72.44 101⇑ *i*P **P** 09 43 05.5 -2.0
UPD2 *e*S **S** 09 52 31.7 +0.2
UPD2 Meteti 72.44 101 *e*P **P** 09 43 05.9 -1.7
VORR Voronezh 72.54 355 *e*P **P** 09 43 07.9 +0.3
VORR *e* 09 43 10.1
VORR *e*S **S** 09 52 29.5 -2.2
VORR smax smax
comp=N,6μm,6.0s
TNS Taunus Mts 72.59 15 *e*P **P** 09 43 09.6 +1.5
comp=N,102nm,0.9s,baz=354,slow=5.9
MOX Moxa 72.60 13 *e*P **P** 09 43 07.5 -0.6
comp=N,212nm,0.9s,baz=354,slow=5.9
MOX *e*S **S** 09 52 29.2 -3.3
MOX *e*L L 10 15 09.8
comp=N,245μm,19.5s
ARXS Arharly 72.63 327 *e*P P 09 43 01.9 -6.6
BRG Berggiesshubel 72.64 11 *i* P **P** 09 43 07.7 -0.7
BRG Amp 09 43 12.1
comp=Z,240nm,0.9s
BRG Berggiesshubel 72.64 11 SS SS 09 57 17.0 +6.2
BRG PKKP 10 03 36.4
BRG Amp 10 03 42.0
comp=Z,24nm,1.4s
BRG PKPPKP 10 10 44.3
BRG Amp 10 11 02.6
comp=Z,121nm,1.8s
BRG Berggiesshubel 72.64 11 *i* P **P** 09 43 07.6 -0.7
BRG 09 43 29.4
BRG S **SKiKP** 09 52 41.0 -1.2
BRG SS **SS** 09 57 17.0 +6.2
BRG pmax pmax
comp=Z,240nm,0.9s
BRG Berggiesshubel 72.64 11 *e*P **P** 09 43 07.8 -0.5
comp=Z,172nm,0.9s,baz=354,slow=5.9
CAPC Capurgana 72.74 100 *e*P **P** 09 43 06.7 -2.7
WLF Walferdange 72.78 16 P **P** 09 43 07.7 -1.4
WLF IAmb IAmb 09 43 56.7
comp=Z,2μm,1.4s
WLF IAMs_20 IAMs_20 10 16 13.8
comp=Z,458μm,20.0s
WLF Walferdange 72.78 16 *d*P **P** 09 43 09.6 +0.5
WLF Walferdange 72.78 16 P **P** 09 43 09.4 +0.3
WLF Walferdange 72.78 16 P **P** 09 43 07.7 -1.4
WLF pmax pmax
comp=Z,2μm,1.4s
WLF MLR MLR
comp=Z,458μm,20.0s
WLF Walferdange 72.78 16 *e*P **P** 09 43 11.0 +1.9
comp=Z,108nm,1.0s,baz=354,slow=5.9
HSKC Hora Svate Kat 72.85 11 *e*P **P** 09 43 09.7 +0.1
HSKC *e*S **S** 09 52 33.2 -2.2
HSKC AMS AMS 10 07 20.0
comp=Z,1113μm,50.1s
VRH Novokhopyorsk 72.85 353 *e*P **P** 09 43 09.3 -0.2
VRH *e* 09 43 11.1
VRH *e*PPP PPP 09 47 41.9
VRH *e*S **S** 09 52 33.3 -1.9
VRH smax smax
comp=E,108μm,14.1s
VRH MLR MLR
comp=Z,484μm,21.0s
SJCC San Jacinto, C 72.91 98 *e*P **P** 09 43 08.9 -1.5
KSP Ksiaz 72.91 10 *e*P **P** 09 43 09.3 -0.6
KSP *e*S **S** 09 52 39.0 +3.0
KSP *e*SS **SS** 09 57 23.9 +9.0
KSP *e*L L 10 12 57.4
comp=Z,342μm,25.2s
TANN Tannenbergstha 72.93 12 *e*P **P** 09 43 09.5 -0.5
comp=Z,121nm,0.9s,baz=354,slow=5.9
RICC Richard 72.99 11 *e*P **P** 09 43 11.2 +0.9
RICC *e*S **SKiKP** 09 52 40.3 -2.4
RICC AMS AMS 10 17 10.0
comp=Z,317μm,19.8s
VSR Storozhevoye 72.99 355 *e*P **P** 09 43 10.5 +0.2
VSR *e* 09 43 12.5
VSR *e*PPP PPP 09 47 41.9
VSR *e*S **S** 09 52 30.5 -6.4
VSR *e*SS **SS** 09 57 24.8 +8.7
VSR smax smax
comp=N,73μm,12.2s
BTLS Baital 73.01 329 *e*P **P** 09 43 09.8 -0.7
comp=N,4μm,3.2s,baz=329
BTLS *e*S **S** 09 52 37.0 -0.4
baz=329
BTLS Baital 73.01 329 *e*P **P** 09 43 09.8 -0.7
BTLS *e*S **S** 09 52 36.9 -0.4
BTLS pmax pmax
comp=Z,4μm,3.2s
SRBC Serra Branca 73.03 44 *e*P **P** 09 43 14.6 +3.8
comp=Z,8μm,1.6s
SRBC *e*S **S** 09 52 35.1 -2.7
KPKS Kokpek 73.03 326 *e*P **P** 09 43 10.8 -0.2
comp=Z,7μm,3.3s,baz=326
KPKS *e*S **S** 09 52 38.6 +0.7
baz=326
KPKS Kokpek 73.03 326 *e*P **P** 09 43 10.7 -0.2
KPKS *e*S **S** 09 52 38.6 +0.7
KPKS pmax pmax
comp=Z,7μm,3.3s
PVCC Panska Ves 73.05 11 *e*P **P** 09 43 11.4 +0.7
PVCC *e*S **S** 09 52 35.2 -2.4
PVCC AMS AMS 10 07 20.0
comp=Z,1003μm,49.9s
PVCC Panska Ves 73.05 11 *e*P **P** 09 43 11.4 +0.7
PVCC *e*S **S** 09 52 35.2 -2.4
PGRA Graciosa 73.06 44 *e*P P 09 43 21.3 +10
comp=Z,4μm,1.8s
PGRA *e*S **SKiKP** 09 52 48.7 +5.6
SHLS Shalkode 73.06 325 *e*P **P** 09 43 10.2 -0.9
comp=Z,3μm,1.6s,baz=325
SHLS *e*S **S** 09 52 36.9 -1.4
baz=325
SHLS Shalkode 73.06 325 *e*P **P** 09 43 10.2 -0.9
SHLS *e*S **S** 09 52 36.8 -1.4
SHLS pmax pmax
comp=Z,3μm,1.6s
SMRT St. Maarten 73.09 83 IAMs_20 IAMs_20 10 14 40.3
comp=Z,626μm,21.0s
LCBC Los crdobas, 73.10 99⇑ *i*P **P** 09 43 11.7 +0.3
LCBC *e*S **SKiKP** 09 52 41.4 -2.3
LCBC Los crdobas, 73.10 99 *e*P **P** 09 43 12.0 +0.5
NKC Novy Kostel 73.10 12 *e*P **P** 09 43 09.2 -1.9
NKC *e*S **S** 09 52 36.0 -2.3
NKC AMS AMS 10 07 20.0
comp=Z,1075μm,49.8s
NKC Novy Kostel 73.10 12 *e*P **P'P'df** 10 10 53.7 -4.6
NKC Novy Kostel 73.10 12 *e*P **P** 09 43 09.2 -1.9
NKC *e*S **S** 09 52 36.0 -2.3
PCED Cedros 73.12 45 *e*P **P** 09 43 13.1 +1.8
comp=Z,2μm,1.4s
PCED *e*S **S** 09 52 36.6 -2.2
CHVC Chvalec 73.14 10 *e*P **P** 09 43 12.5 +1.2
CHVC *e*S **S** 09 52 39.3 +0.6
CHVC AMS AMS 10 07 20.0
comp=Z,1277μm,55.6s
CHVC Chvalec 73.14 10 *e*P **P** 09 43 12.5 +1.2
CHVC *e*S **S** 09 52 39.3 +0.6
CALA Caldeira 73.17 45 *e*P **P** 09 43 13.8 +2.1
comp=Z,4μm,1.4s
CALA *e*S **S** 09 52 36.5 -2.9
OSTC Ostas 73.19 10 *e*P **P** 09 43 11.9 +0.3
OSTC *e*S **S** 09 52 34.0 -5.2
OSTC AMS AMS 10 07 20.0
comp=Z,1250μm,53.8s
OSTC Ostas 73.19 10 *e*P **P** 09 43 11.9 +0.3
OSTC *e*S **S** 09 52 34.0 -5.2
PPT Papeete 73.21 180 P **P** 09 43 12.5 +0.6
comp=Z,152nm,1.1s,baz=58,slow=13,SNR=7.2
PPT S **S** 09 52 39.2 -0.7
comp=Z,23nm,0.8s,baz=227,slow=15,SNR=1.3
PPT LR LR 10 08 18.9
comp=Z,354μm,21.7s,baz=358,slow=30
comp=Z,152nm,1.1s
UZB Uzynbulak 73.21 325 *e*P **P** 09 43 11.8 -0.3
comp=Z,6μm,3.1s,baz=325
UZB *e*S **S** 09 52 39.9 -0.2
baz=325
UZB Uzynbulak 73.21 325 *e*P **P** 09 43 11.7 -0.3
UZB *e*S **S** 09 52 39.8 -0.2
UZB pmax pmax
comp=Z,6μm,3.1s
CHKK Chushkaly 73.22 327 *e*P **P** 09 43 11.2 -0.7
baz=327
CHKK Chushkaly 73.22 327 *e*P **P** 09 43 11.1 -0.7
UPC Upice 73.22 10 *e*P **P** 09 43 11.3 -0.4
UPC *e*S **S** 09 52 40.0 +0.5
UPC AMS AMS 10 07 30.0
comp=Z,1238μm,54.6s
UPC Upice 73.22 10 *e*P **P** 09 43 11.3 -0.4
UPC *e*S **S** 09 52 40.0 +0.5
ROSA Rosais 73.23 44 *e*P **P** 09 43 13.6 +1.6
comp=Z,2μm,1.8s
ROSA *e*S **SKiKP** 09 52 43.7 +0.3
PPTF Pamatai, Papee 73.23 180 IAMs_20 IAMs_20 10 08 36.0
comp=Z,416μm,19.0s
PPTF Pamatai, Papee 73.23 180 P **P** 09 43 15.4 +3.3
VORD Divnogorie 73.24 354 *e*P **P** 09 43 11.3 -0.5
VORD *e* 09 43 13.5
VORD *e*PPP PPP 09 47 39.0
VORD *e*S **S** 09 52 36.2 -3.4
VORD smax smax
comp=N,16μm,8.2s
CRJC Cerrejon, Guaj 73.27 95 *e*P **P** 09 43 11.7 -0.9
MANZ Manzenberg 73.31 12 *e*P **P** 09 43 12.4 +0.1
comp=N,34nm,1.1s,baz=354,slow=5.9
SABA Saba 73.34 83 IAMs_20 IAMs_20 10 18 45.1
comp=Z,386μm,19.0s
PICO Pico 73.34 45 *e*P **P** 09 43 13.9 +1.2
comp=Z,4μm,1.6s
PICO *e*S **S** 09 52 42.5 +1.1
GOMU GeErMu 73.35 311 P **P** 09 43 12.9 -0.3
GOMU pP pwP 09 43 18.2 -2.4
GOMU sP sP 09 43 19.5 +4.1
GOMU PcP **PcP** 09 43 25.7 -3.8
GOMU S **SKiKP** 09 52 43.6 -0.5
GOMU sS sS 09 52 56.1 +11
GOMU SS **SS** 09 57 20.2 -2.9
GOMU pmax pmax
comp=Z,39μm,4.6s
GOMU LR LR
comp=Z,865μm,20.8s
GOMU LR LR
comp=Z,690μm,21.0s
GOMU LR LR
comp=Z,806μm,22.0s
PCAN Candelaria 73.35 45 *e*P **P** 09 43 14.9 +2.2
comp=Z,3μm,1.6s
PMAN Manadas 73.36 44 *e*P **P** 09 43 14.8 +2.1
comp=Z,2μm,1.5s
PMAN *e*S SKiKP 09 52 54.9 +11
KUU Kurty 73.38 327 *e*P **P** 09 43 11.9 -1.0
comp=Z,8μm,3.2s,baz=327
KUU *e*S **S** 09 52 41.4 -0.2
baz=327
KUU LR LR 10 16 37.0
comp=Z,550μm,16.4s,baz=327
KUU Kurty 73.38 327 *e*P **P** 09 43 11.8 -1.0
KUU *e*S **S** 09 52 41.4 -0.2
KUU pmax pmax
comp=Z,8μm,3.2s
KUU MLR MLR
comp=Z,550μm,16.0s
ZHN Zhinishke 73.38 326 *e*P **P** 09 43 12.8 -0.2
comp=Z,6μm,3.3s,baz=326
ZHN *e*S **S** 09 52 42.2 +0.3
baz=326
ZHN Zhinishke 73.38 326 *e*P **P** 09 43 12.7 -0.2
ZHN *e*S **S** 09 52 42.2 +0.3
ZHN pmax pmax
comp=Z,6μm,3.3s
DPC Dobruska-Polom 73.40 10 *e*P **P** 09 43 13.5 +0.6
DPC *e*S **SKiKP** 09 52 43.3 -0.1
DPC AMS AMS 10 07 00.0
comp=Z,1108μm,54.5s
DPC Dobruska-Polom 73.40 10 *e*P **P'P'df** 10 10 51.4 -6.5
DPC Dobruska-Polom 73.40 10 *e*P **P** 09 43 13.5 +0.6
DPC *e*S **SKiKP** 09 52 43.3 -0.1
PPNO Prainha do Nor 73.43 45 *e*P **P** 09 43 15.3 +2.0
comp=Z,2μm,1.4s
ARGC Ariguani, Magd 73.46 97 *e*P **P** 09 43 13.4 -0.2
GRA1 Grafenberg Arr 73.48 13 P **P** 09 43 12.3 -1.0
GRA1 IAmb IAmb 09 44 00.9
comp=Z,1μm,1.0s
GRA1 IAMs_20 IAMs_20 10 18 20.4
comp=Z,311μm,18.0s
GRF Grafenberg Arr 73.48 13 P **P** 09 43 12.3 -1.0
GRF pmax pmax
comp=Z,1μm,1.0s
GRF MLR MLR
comp=Z,311μm,18.0s
GRF Grafenberg Arr 73.48 13 *e*P **P** 09 43 13.8 +0.5
comp=Z,194nm,0.8s,baz=354,slow=5.9
GRF *e*S **S** 09 52 39.0 -3.6
GRF *e*L L 10 23 33.8
comp=Z,221μm,18.1s
GRFO Grafenberg 73.49 13 IAMs_20 IAMs_20 10 18 21.4
comp=Z,320μm,18.0s
PRA Prague 73.49 11 *e*P **P** 09 43 15.0 +1.7
PRA *e*S **S** 09 52 42.0 -0.6
PRA AMS AMS 10 07 30.0
comp=Z,1020μm,48.0s
PRA Prague 73.49 11 *e*P **P** 09 43 15.0 +1.7
PRA *e*S **S** 09 52 42.0 -0.6
SATY Saty 73.49 326 *e*P **P** 09 43 13.6 -0.1
comp=Z,6μm,2.7s,baz=326
SATY *e*S **S** 09 52 43.2 +0.1
baz=326
SATY Saty 73.49 326 *e*P **P** 09 43 13.5 -0.1
SATY *e*S **S** 09 52 43.2 +0.1
SATY pmax pmax
comp=Z,6μm,2.7s
PID Ribeirinha 73.52 45 *e*P **P** 09 43 15.3 +1.6
comp=Z,2μm,1.4s
PID *e*S S 09 52 22.3 -21
ROTZ Rotzenmuhle 73.53 12 *e*P **P** 09 43 13.1 -0.5
comp=Z,48nm,0.8s,baz=354,slow=5.9
PRU Pruhonice 73.58 11 *e*P **P** 09 43 14.4 +0.6
PRU *e*S **S** 09 52 46.4 +2.8
PRU AMS AMS 10 07 40.0
comp=Z,1126μm,47.9s
PRU Pruhonice 73.58 11 *e*P **P** 09 43 14.4 +0.6
PRU *e*S **S** 09 52 46.4 +2.8
PAGU Agualva, Azore 73.60 44 *e*P **P** 09 43 16.0 +1.8
comp=Z,2μm,1.8s
PAGU *e*S **S** 09 52 44.7 +0.5
AUA1 Aruba 73.68 92 *e*P **P** 09 43 15.8 +1.0
GOPC GO Pecny, Ondr 73.68 11 *e*P **P** 09 43 14.6 +0.1
GOPC *e*S **S** 09 52 47.5 +2.7
GOPC AMS AMS 10 07 40.0
comp=Z,1185μm,49.4s
GOPC GO Pecny, Ondr 73.68 11 *e*P **P** 09 43 14.6 +0.1
GOPC *e*S **S** 09 52 47.5 +2.7
PAYG Puerto Ayora 73.68 117 P **P** 09 43 14.2 -0.6
PSCM Serra do Cume 73.69 44 *e*P **P** 09 43 17.4 +2.7
comp=Z,2μm,2.0s
PSCM *e*S **S** 09 52 52.8 +7.6
CLF Chambon-Foret 73.69 20 IAMs_20 IAMs_20 10 18 30.0
comp=Z,520μm,18.0s
CD2 Chengdu 73.70 301⇑⇑ P **P** 09 43 13.9 -1.0
CD2 sP pwP 09 43 26.2 +3.8
CD2 S **SKiKP** 09 52 44.7 +0.3
CD2 SKS **SKSac** 09 53 17.4 -4.4
CD2 SS **SS** 09 57 28.4 +0.3
CD2 pmax pmax
comp=Z,1μm,0.8s
CD2 pmax pmax
comp=Z,73μm,6.2s
CD2 LR LR
comp=Z,598μm,20.6s
CD2 LR LR
comp=Z,589μm,21.0s
CD2 LR LR
comp=Z,620μm,20.6s
PTAC Punta Ardita, 73.71 102 *e*P **P** 09 43 14.2 -0.9
KRLC Kraliky 73.72 9 *e*P **P** 09 43 15.7 +1.0
KRLC *e*S **S** 09 52 46.0 +0.7
KRLC AMS AMS 10 13 10.0
comp=Z,220μm,23.0s
KRLC Kraliky 73.72 9 *e*P P'P'df 10 10 42.6 -15
KRLC Kraliky 73.72 9 *e*P **P** 09 43 15.7 +1.0

KRLC eS S 09 52 46.0 +0.7
KRLC MLR MLR
comp=Z,220µm,23.0s
AKASG **Malin Array Be 73.73 1** P P 09 43 13.2 -1.5
AKASG IAmb IAmb 09 43 47.1
comp=Z,3µm,1.2s
AKASG **Malin Array Be 73.73 1** P P 09 43 13.2 -1.5
AKASG pmax pmax
comp=Z,3µm,1.2s
AKASG **Malin Array Be 73.73 1** P P 09 43 13.0 -1.7
comp=Z,389nm,0.8s,baz=358,slow=5.7,SNR=106
AKASG S SKiKP 09 52 44.1 +0.3
comp=Z,6.5nm,0.9s,baz=356,slow=11,SNR=4.8
AKASG PKPPKP 10 10 49.7
comp=Z,12nm,1.1s,baz=230,slow=1.7,SNR=7.5
comp=Z,389nm,0.8s
AKBB Malin Array Si 73.73 1 P P 09 43 13.1 -1.6
AKBB IAMs_20 IAMs_20 10 20 13.9
comp=Z,571µm,22.0s
AKBB Malin Array Si 73.73 1*c* iP P 09 43 14.1 -0.6
AKBB pmax pmax
comp=Z,4µm,1.2s
AKBB MLR MLR
comp=Z,465µm,20.0s
KIEV Kiev 73.73 1 ⇑P P 09 43 15.8 +1.1
KIEV Kiev 73.73 1 P P 09 43 13.4 -1.3
KIEV Kiev 73.73 1 IAMs_20 IAMs_20 10 20 13.9
comp=Z,508µm,22.0s
KIEV Kiev 73.73 1 *i* P P 09 43 14.2 -0.5
SNR=264
KIEV Kiev 73.73 1 P P 09 43 15.8 +1.1
APAC Apartado, Choc 73.77 100 eP P 09 43 15.6 +0.1
KNDC Almaty 73.80 327 P P 09 43 15.0 -0.3
OJC Ojcow 73.82 7 eP P 09 43 14.3 -1.0
OJC eS S 09 52 48.6 +2.2
OJC eSS SS 09 57 37.5 +8.8
OJC eL L 10 21 58.5
comp=Z,483µm,20.3s
AAA Alma-Ata 73.82 327 eP P 09 43 15.4 -0.1
baz=327
AAA eS S 09 52 47.0 +0.3
baz=327
AAA LR LR 10 16 56.0
comp=Z,460µm,18.0s,baz=327
AAA Alma-Ata 73.82 327 eP P 09 43 15.3 -0.1
AAA eS S 09 52 47.0 +0.3
AAA MLR MLR
comp=Z,460µm,18.0s
MDOK Medeo 73.82 327 eP P 09 43 15.4 -0.3
baz=327
MDOK eS S 09 52 47.2 +0.3
baz=327
MDOK LR LR 10 16 52.2
comp=Z,275µm,17.2s,baz=327
MDOK Medeo 73.82 327 eP P 09 43 15.3 -0.3
MDOK eS S 09 52 47.2 +0.3
MDOK MLR MLR
comp=Z,275µm,17.0s
RAC Raciborz 73.83 8 eP P 09 43 16.6 +1.3
RAC eS SKiKP 09 52 44.0 0.0
RAC AMS AMS 10 25 27.7
comp=Z,453nm,19.9s
RAC Raciborz 73.83 8 eP P 09 43 16.6 +1.3
RAC eS SKiKP 09 52 44.0 0.0
TNSS Tian-Shan 73.97 327 eP P 09 43 16.3 -0.5
baz=327
TNSS Tian-Shan 73.97 327 eP P 09 43 16.2 -0.5
OKC Ostrava-Krasne 74.07 8 eP P 09 43 17.6 +0.9
OKC eS S 09 52 50.3 +1.1
OKC AMS AMS 10 21 50.0
comp=Z,356µm,18.3s
OKC Ostrava-Krasne 74.07 8 eP P 09 43 17.6 +0.9
OKC eS S 09 52 50.3 +1.1
OKC MLR MLR
comp=Z,356µm,18.3s
MORC Moravsky Berou 74.08 9 ⇓P P 09 43 18.2 +1.4
MORC Moravsky Berou 74.08 9 P P 09 43 16.1 -0.8
MORC Moravsky Berou 74.08 9 eP P 09 43 16.4 -0.5
MORC epP pwP 09 43 23.2 -1.1
MORC eS S 09 52 48.7 -0.7
MORC Moravsky Berou 74.08 9 eP P'P'df 10 10 27.9 -29
MORC Moravsky Berou 74.08 9 P P 09 43 18.2 +1.4
ZVC Zvikov 74.09 11 eP P 09 43 17.4 +0.6
ZVC eS S 09 52 49.1 -0.3
ZVC AMS AMS 10 07 50.0
comp=Z,852µm,43.9s
ZVC Zvikov 74.09 11 eP P'P'df 10 10 46.7 -10
STU Stuttgart 74.11 15 eP P 09 43 17.8 +0.8
comp=Z,183nm,0.9s,baz=354,slow=5.9
WET Wettzell 74.23 12 eP P 09 43 17.3 -0.4
comp=Z,107nm,0.9s,baz=354,slow=5.9
SGDS Sogindy 74.29 328 eP P 09 43 17.9 -0.3
comp=Z,6µm,3.5s,baz=328
SGDS eS S 09 52 52.7 +0.7
baz=328
SGDS Sogindy 74.29 328 eP P 09 43 17.9 -0.3
SGDS eS S 09 52 52.7 +0.7
SGDS pmax pmax
comp=Z,6µm,3.5s
KHC Kasperske Hory 74.32 12 eP P 09 43 18.5 +0.2
KHC ex x 09 43 27.3
KHC eS S 09 52 55.5 +3.4
KHC AMS AMS 10 08 10.0
comp=Z,1060µm,49.8s
KHC Kasperske Hory 74.32 12 eP P'P'df 10 10 50.9 -5.3
KHC Kasperske Hory 74.32 12 eP P 09 43 18.5 +0.2
KHC *e* 09 43 27.3
KHC eS S 09 52 55.5 +3.4
ECH Echery 74.35 16 P P 09 43 16.9 -1.5
ECH IAMs_20 IAMs_20 10 17 01.3
comp=Z,339µm,20.0s
ECH Echery 74.35 16 P P 09 43 16.9 -1.5
ECH pmax pmax
comp=Z,1µm,1.1s
ECH MLR MLR
comp=Z,339µm,20.0s
TREC Trest 74.36 10 eP P 09 43 17.4 -1.1
TREC eS S 09 52 50.3 -2.2
TREC AMS AMS 10 07 50.0
comp=Z,896µm,44.0s
TREC Trest 74.36 10 eP P 09 43 17.4 -1.1
TREC eS S 09 52 50.3 -2.2
BFO Black Forest 74.42 15 P P 09 43 16.9 -1.9
BFO IAmb IAmb 09 43 52.5
comp=Z,2µm,1.3s
BFO Black Forest 74.42 15 P P 09 43 16.9 -1.9
BFO pmax pmax
comp=Z,2µm,1.3s
BFO MLR MLR
comp=Z,280µm,19.0s
BFO Black Forest 74.42 15 eP P 09 43 20.2 +1.4
comp=Z,92nm,0.9s,baz=354,slow=5.9
VRAC Vranov 74.46 10 ⇓P P 09 43 20.1 +1.1
VRAC Vranov 74.46 10 eP P 09 43 18.3 -0.7
VRAC epP pwP 09 43 25.5 -1.0
VRAC eS S 09 52 53.3 -0.3
VRAC Vranov 74.46 10 eP P'P'df 10 10 31.9 -24
VRAC Vranov 74.46 10 P P 09 43 20.1 +1.1
VRAC Vranov 74.46 10 LR LR 10 20 05.1
comp=Z,138µm,18.1s,baz=10.0,slow=39
LVV L'vov 74.47 5 eP P 09 43 19.9 +0.9
LVV *e* 09 46 14.2
LVV eS S 09 52 50.8 -2.8
LVV eSS SS 09 57 48.1 +10
UREC San Jos de Ur 74.47 99⇑ *i*P P 09 43 16.3 -3.3
UREC eS S 09 52 57.8 +3.2
UREC San Jos de Ur 74.47 99 eP P 09 43 19.1 -0.5
TKM2 Tokmak 2 74.49 328 P P 09 43 19.6 0.0
SNR=249
TKM2 Tokmak 2 74.49 328 P P 09 43 19.6 0.0
USP Ospenovka 74.50 328 P P 09 43 20.3 +0.9
SNR=6.8
MAUC Maruska 74.51 9 eP P 09 43 20.2 +0.8
MAUC eS S 09 52 55.0 +0.8
MAUC Maruska 74.51 9 eP P'P'df 10 10 49.0 -6.9
KWP Kalwaria Pacla 74.59 5 eP P 09 43 20.2 +0.4
KWP epPcP PcP 09 43 32.8 -1.3
KWP eS S 09 52 56.2 +1.2
KWP eSS SS 09 57 52.7 +12
KWP eL L 10 19 27.5
comp=Z,485µm,22.3s
KWP Kalwaria Pacla 74.59 5 IAMs_20 IAMs_20 10 19 15.9
comp=Z,481µm,22.0s
GEC2 GERESS Array S 74.62 12 P P 09 43 18.9 -1.2
comp=Z,91nm,0.8s,baz=354,slow=5.9
GERES GERESS Array B 74.62 12 P P 09 43 18.9 -1.2
GERES GERESS Array B 74.62 12 P P 09 43 19.2 -0.8
comp=Z,79nm,0.7s,baz=358,slow=4.6,SNR=72
GERES PP PP 09 46 06.8 +0.8
comp=Z,42nm,1.0s,baz=61,slow=25,SNR=1.5
GERES S S 09 52 52.3 -3.2
comp=Z,2.5nm,0.9s,baz=356,slow=2.9,SNR=0.9
GERES PKPPKP 10 10 49.0
comp=Z,8.0nm,1.0s,baz=169,slow=2.0,SNR=6.9
GERES LR LR 10 19 35.5
comp=Z,262µm,18.7s,baz=3.0,slow=39
comp=Z,79nm,0.7s
ANBD Bethesda, Anti 74.63 82 eP P 09 43 17.1 -3.3
NIE Niedzica 74.65 7 eP P 09 43 20.4 +0.3
NIE epPcP PcP 09 43 33.8 -0.6
NIE eS S 09 53 01.3 +5.5
NIE eSS SS 09 57 48.9 +7.4
NIE eL L 10 22 44.5
comp=Z,214µm,23.0s
MLYT Lee's Yard 74.66 83 eP P 09 43 22.5 +1.9
CHMS Chumysh 74.67 328 P P 09 43 21.4 +1.0
SNR=99
KRUC Moravsky 74.69 10 eP P 09 43 20.0 -0.3
KRUC epP pwP 09 43 26.6 -1.2
KRUC eS S 09 52 57.3 +1.2
KRUC Moravsky 74.69 10 eP P'P'df 10 10 31.5 -24
DBBC Dabeiba 74.70 100 eP P 09 43 20.7 -0.3
CKRC Cesky Krumlov 74.71 11 eP P 09 43 19.8 -0.7
CKRC eS S 09 52 54.9 -1.5
CKRC Cesky Krumlov 74.71 11 eP P 09 43 19.8 -0.7
CKRC eS S 09 52 54.9 -1.5
STHS Stebnicka Huta 74.72 6 eP P 09 43 20.3 -0.2
STHS pmax pmax
comp=Z,468nm,0.9s
STHS Stebnicka Huta 74.72 6 eP P 09 43 20.3 -0.2
BOOM Boomskoye usch 74.77 327 P P 09 43 20.4 -0.8
BOOM IAmb IAmb 09 43 52.7
comp=Z,3µm,1.4s
BOOM Boomskoye usch 74.77 327 P P 09 43 20.4 -0.8
BOOM pmax pmax
comp=Z,3µm,1.4s
BOOM MLR MLR
comp=Z,1092µm,21.0s
LANS Liptovska Anna 74.86 8 eP P 09 43 22.2 +0.8
LANS pmax pmax
comp=Z,727nm,1.0s
LANS Liptovska Anna 74.86 8 eP P 09 43 22.2 +0.8
ULHL Ulahol 74.90 327 P P 09 43 22.8 +0.8
SNR=144
KBK Karagaybulak 74.92 328 P P 09 43 23.0 +1.0
SNR=128
FUR Furstenfeldbru 74.99 13 eP P 09 43 22.9 +0.8
comp=Z,276nm,0.8s,baz=354,slow=5.9
GULI GuiLin 75.00 293 ⇑P P 09 43 17.6 -4.9
GULI PP PP 09 46 08.4 -1.5
GULI S S 09 53 01.7 +1.5
GULI LR LR
comp=Z,314µm,17.9s
GULI LR LR
comp=Z,704µm,19.5s
GULI LR LR
comp=Z,343µm,20.1s
JAVC Velka Javorina 75.00 9 eP P 09 43 22.6 +0.4
JAVC epP pwP 09 43 29.5 -0.2
JAVC eS S 09 53 04.1 +4.4
JAVC Velka Javorina 75.00 9 eP P'P'df 10 10 33.7 -21
AAK Ala-Archa 75.08 328 P P 09 43 22.8 0.0
SNR=84
AAK Ala-Archa 75.08 328 *i* P P 09 43 23.4 +0.5
SNR=472
AAK Ala-Archa 75.08 328*c* iP P 09 43 22.9 0.0
AAK MLR MLR
comp=Z,1333µm,20.0s
AAK Ala-Archa 75.08 328 PKPPKP 10 10 48.4
comp=Z,11nm,1.1s,baz=222,slow=3.8,SNR=5.2
AAK LR LR 10 19 50.7
comp=Z,1131µm,21.2s,baz=20,slow=38
AAK Ala-Archa 75.08 328 P P 09 43 23.9 +1.0
AAK P P 09 43 23.9 +1.0
AAK S S 09 53 04.3 +3.3
AAK S S 09 53 04.3 +3.3
PCALD Caldeiras da R 75.10 43 eP P 09 43 21.2 -1.7
comp=Z,2µm,1.8s
PCALD eS S 09 53 17.2 +16
CMLA Cha da Macela 75.12 43 eP P 09 43 26.8 +3.8
comp=Z,4µm,1.8s
CMLA eS S 09 53 05.0 +3.8
PGRON Lagoa das Cont 75.17 43 eP P 09 43 27.4 +4.1
comp=Z,5µm,1.7s
PGRON eS S 09 53 13.1 +11
GZH Guangzhou 75.23 289 P P 09 43 20.8 -3.0
GZH pP pP 09 43 22.9 -2.5
GZH PP PP 09 46 06.6 -5.3
GZH S S 09 52 56.8 -6.0
GZH SS SS 09 57 46.6 -5.1
GZH LR LR
comp=Z,120µm,13.1s
GZH LR LR
comp=Z,149µm,17.3s
BART Pico Bartolome 75.24 43 eP P 09 43 25.9 +2.1
comp=Z,3µm,1.6s
BART eS S 09 53 09.0 +6.2
CRVS Cervenica-Dubn 75.24 6 eP P 09 43 24.1 +0.5
CRVS pmax pmax
comp=Z,6µm,1.8s
CRVS Cervenica-Dubn 75.24 6 eP P 09 43 24.0 +0.5
CRVS eS S 09 53 01.9 -0.4
CRVS eSS SS 09 57 47.1 -3.3
CRVS *e* 10 01 47.4
CRVS eL L 10 08 53.0
CRVS *e* 10 10 43.8
CRVS *e* 10 30 49.6
ABD La Joyeuse, An 75.25 82 P P 09 43 23.1 -0.9
ABD IAMs_20 IAMs_20 10 15 52.5
comp=Z,697µm,21.0s
ABD La Joyeuse, An 75.25 82 eP P 09 43 17.6 -6.4
GDHS Morne Mazeau, 75.26 83 P P 09 43 22.6 -1.5
GDHS IAMs_20 IAMs_20 10 15 44.4
comp=Z,659µm,21.0s
KOLS Kolonicke sedl 75.26 6 eP P 09 43 24.0 +0.3
KOLS pmax pmax
comp=Z,877nm,1.3s
KOLS Kolonicke sedl 75.26 6 eP P 09 43 24.0 +0.3
KOLS eS S 09 53 09.2 +6.7
EKS2 Erkin-Say 75.26 329 P P 09 43 24.0 +0.1
SNR=223
OCAC Ocana 75.31 97 eP P 09 43 24.1 -0.4
UBR Ueberruh 75.31 14 eP P 09 43 24.9 +0.9
comp=Z,122nm,0.9s,baz=354,slow=5.9
SMOL Smolenice 75.32 9 eP P 09 43 25.9 +1.9
SMOL pmax pmax
comp=Z,1µm,1.5s
UCH Uchtor 75.44 328 P P 09 43 25.5 +0.1
SNR=48
MODS Modra-Piesok 75.45 9 eP P 09 43 24.8 0.0
MODS pmax pmax
comp=Z,7µm,1.5s
MODS Modra-Piesok 75.45 9 eP P 09 43 24.8 0.0
MODS ePP PP 09 46 22.8 +10
MODS eS S 09 53 07.3 +2.7
MODS eSS SS 09 57 57.5 +3.9
MODS *e* 10 02 01.6
MODS eL L 10 08 54.7
MODS *e* 10 10 46.1
HKPS Hong Kong Po S 75.46 288 IAMs_20 IAMs_20 10 21 22.0
comp=Z,385µm,19.0s
HKPS Hong Kong Po S 75.46 288 P P 09 43 26.2 +1.0
VYHS Vyhne 75.46 8 eP P 09 43 25.3 +0.5
VYHS pmax pmax
comp=Z,3µm,1.6s
VYHS Vyhne 75.46 8 eP P 09 43 25.3 +0.5
VYHS ePP PP 09 46 22.7 +10
VYHS eS S 09 53 06.8 +2.0
VYHS eSS SS 09 58 05.6 +12
VYHS *e* 10 02 18.5
VYHS eL L 10 09 05.0
VYHS *e* 10 10 39.6
CBE Ff, Capester 75.51 83 P P 09 43 24.2 -1.4
CBE IAMs_20 IAMs_20 10 15 52.4
comp=Z,821µm,22.0s
CBE Ff, Capester 75.51 83 eP P 09 43 22.2 -3.3
RETA Reutte 75.59 14 *i* P P 09 43 26.7 +1.1
comp=Z,931nm,2.3s,SNR=43
RETA ePP PP 09 46 11.2 -3.0
comp=Z,208nm,1.5s
RETA eS S 09 53 02.4 -3.9
comp=Z,51nm,1.6s
RETA *i* P'P' 10 10 43.3
comp=Z,41nm,1.7s
KECS Kecovo 75.60 7 eP P 09 43 26.3 +0.7
KECS pmax pmax
comp=Z,2µm,1.6s
KECS Kecovo 75.60 7 eP P 09 43 26.3 +0.7
RJOB Jochberg 75.60 12 eP P 09 43 25.8 +0.1
comp=Z,156nm,0.8s,baz=354,slow=5.9
ZST Bratislava 75.61 9 eP P 09 43 26.8 +1.2
ZST pmax pmax
comp=Z,9µm,1.6s
ZST Bratislava 75.61 9 eP P 09 43 26.8 +1.2
ZST eS S 09 53 10.0 +3.7
ZST eSS SS 09 58 09.9 +13
ZST *e* 10 01 57.2
GDSD La Dsirade Is 75.61 82 IAMs_20 IAMs_20 10 16 12.1
comp=Z,605µm,21.0s
H05N1 Guadeloupe/Mar 75.62 82 P P 09 43 26.1 0.0
SNR=412
DAVA Damuels 75.66 15 *i* P P 09 43 26.9 +0.7
comp=Z,854nm,1.6s,SNR=59
DAVA PP PP 09 46 14.5 -0.4
comp=Z,160nm,1.3s
DAVA eS S 09 53 02.8 -4.5
comp=Z,30nm,1.3s
DAVA *i* P'P' 10 10 44.0
comp=Z,22nm,1.2s
MOA Molln 75.66 11 epP pP 09 43 27.4 -0.2
comp=Z,681nm,1.3s,SNR=83
MOA *i* PP PP 09 46 10.3 -4.5
comp=Z,232nm,1.6s
MOA eS S 09 53 03.3 -3.7
comp=Z,12nm,1.1s
MOA eP'P' 10 10 44.2
comp=Z,9.4nm,1.1s
BIOA Bad Ischl, Aus 75.75 12 *i* P P 09 43 26.4 -0.1
comp=Z,2µm,1.7s,SNR=112
BIOA PP PP 09 46 12.3 -3.2
comp=Z,190nm,1.2s
BIOA eS S 09 53 03.5 -4.5
comp=Z,63nm,1.8s
BIOA *i* P'P' 10 10 47.0
comp=Z,61nm,1.7s
DZA Taraz 75.75 330 eP P 09 43 26.5 -0.2
comp=Z,4µm,2.7s,baz=330
DZA Taraz 75.75 330 eP P 09 43 26.4 -0.2
DZA pmax pmax
comp=Z,4µm,2.7s
CONA Conrad Observa 75.75 10 eP P 09 43 26.3 -0.3
comp=Z,2µm,1.2s,SNR=126
CONA ePP PP 09 46 13.0 -2.6
comp=Z,396nm,1.7s
CONA eS S 09 53 03.4 -4.7
comp=Z,33nm,1.6s
CONA *i* P'P' 10 10 48.4
comp=Z,8.2nm,1.2s
CBOC Ciudad Bolivar 75.76 101 eP P 09 43 26.5 -0.7
PIZC Pizarro, Choco 75.76 102 eP P 09 43 28.0 +1.0
MOTA Moosalm 75.77 14 *i* P P 09 43 27.0 +0.2
comp=Z,1µm,1.3s,SNR=109
MOTA ePP PP 09 46 13.8 -2.0
comp=Z,207nm,1.1s
MOTA *i* S S 09 53 06.7 -1.8
comp=Z,77nm,1.6s
MOTA *i* P'P' 10 10 47.8
comp=Z,56nm,1.4s
AML Almayashu 75.78 329 P P 09 43 27.1 -0.1
SNR=187
AML Almayashu 75.78 329 P P 09 43 28.2 +1.0
KK31 Karatay Array 75.78 331 P P 09 43 26.1 -0.6
KK31 IAmb IAmb 09 43 42.6
comp=Z,1µm,1.1s
KK31 Karatay Array 75.78 331 P P 09 43 26.2 -0.6
KK31 pmax pmax
comp=Z,1µm,1.2s
KKAR Karatay Array 75.78 331 P P 09 43 26.1 -0.6
KKAR IAmb IAmb 09 43 42.6
comp=Z,1µm,1.1s
KKAR Karatay Array 75.78 331 P P 09 43 26.0 -0.8
KKAR Karatay Array 75.78 331 P P 09 43 26.2 -0.6
KKAR pmax pmax
comp=Z,1µm,1.2s
MAGL Barre de l'Ile 75.79 83 IAMs_20 IAMs_20 10 15 02.8
comp=Z,646µm,22.0s
WATA Walderalm 75.84 13 *i* P P 09 43 26.5 -0.7
comp=Z,2µm,2.0s,SNR=101
WATA ePP PP 09 46 15.8 -0.6
comp=Z,151nm,1.2s
WATA eS S 09 53 08.8 -0.5
comp=Z,63nm,1.8s
WATA eP'P' 10 10 44.9
comp=Z,38nm,1.3s
SZP Santa 75.85 280 P P 09 43 28.9 +1.5
KAVG Kavieng 75.87 243 P P 09 43 29.9 +2.4
LESA Schwarzleotal 75.90 13 *i* P P 09 43 28.1 +0.7
comp=Z,970nm,1.3s
LESA ePP PP 09 46 13.7 -3.1
comp=Z,119nm,1.1s
LESA eS S 09 53 09.8 0.0
comp=Z,46nm,1.7s
LESA eP'P' 10 10 44.6
comp=Z,20nm,1.7s
MCO Taipa Grande 75.90 288 P P 09 43 29.0 +1.3
SQTA Sankt Quirin 75.91 14 *i* P P 09 43 27.2 -0.3
comp=Z,1µm,1.1s,SNR=115
SQTA ePP PP 09 46 13.6 -3.4
comp=Z,267nm,1.1s
SQTA eS S 09 53 08.3 -1.7
comp=Z,33nm,1.3s
SQTA *i* P'P' 10 10 46.8
comp=Z,54nm,1.0s
WTTA Wattenberg 75.92 13 *i* P P 09 43 26.4 -1.3
comp=Z,3µm,1.7s,SNR=134
WTTA ePP PP 09 46 15.0 -2.1
comp=Z,295nm,2.4s
WTTA *i* S S 09 53 14.9 +4.7
comp=Z,44nm,1.6s
WTTA *i* P'P' 10 10 40.8
comp=Z,39nm,1.6s
GYA Guiyang 75.94 296 ⇓P P 09 43 27.8 -0.2
GYA sP PcP 09 43 39.7 -0.7
GYA PP PP 09 46 23.8 +5.9
GYA S S 09 53 09.5 -1.4
GYA sS sS 09 53 18.7 +5.2
GYA SKS SKSac 09 53 30.3 -8.5
GYA SS SS 09 58 03.7 +1.2
GYA pmax pmax
comp=Z,300nm,1.2s
GYA pmax pmax
comp=Z,36µm,5.8s
GYA LR LR
comp=Z,654µm,20.8s
GYA LR LR
comp=Z,588µm,22.1s
GYA LR LR
comp=Z,1172µm,20.5s
PSMA Santa Maria 75.94 43 eP P 09 43 28.9 +1.2
comp=Z,876nm,1.4s
PSMA eS SKSac 09 53 27.3 -11
PSMN Pico do Norte, 75.96 43 eP P 09 43 29.0 +1.2
comp=Z,3µm,1.7s
PSMN eS S 09 53 13.1 +2.5
RONA Rosalia, Austr 76.02 10 *i* P P 09 43 27.8 -0.3
comp=Z,1µm,2.2s,SNR=76
RONA ePP PP 09 46 16.0 -1.8
comp=Z,360nm,1.4s
RONA eS S 09 53 08.7 -2.4
comp=Z,46nm,1.9s
RONA *i* P'P' 10 10 46.3
comp=Z,34nm,1.8s
FETA Feichten 76.04 14 eP P 09 43 28.4 0.0
comp=Z,1µm,1.2s,SNR=102
FETA PP PP 09 46 16.9 -1.3
comp=Z,227nm,1.3s
FETA eS S 09 53 10.4 -1.1
comp=Z,53nm,1.4s
FETA eP'P' 10 10 45.1
comp=Z,28nm,1.3s
PTBC PUERTO BERRIO, 76.07 99 eP P 09 43 26.3 -2.4
SRO Srobarova 76.09 9 eP P 09 43 30.1 +1.7
SRO pmax pmax
comp=Z,1µm,1.5s

SRO	Srobarova	76.09	9	eP		P	09 43 30.1	+1.7		
PSZ	Piszkesteto	76.12	8	⇓P		P	09 43 30.1	+1.4		
PSZ	Piszkesteto	76.12	8	P		P	09 43 30.0	+1.4		
DRBR	Darabani	76.17	3	⇑P		P	09 43 30.7	+1.9		
SDV	Santo Domingo	76.28	94	P		P	09 43 28.3	-1.9		
SDV	comp=Z,3μm,1.6s			IAmb		IAmb	09 44 05.5			
SDV	Santo Domingo	76.28	94	P		P	09 43 29.7	-0.5		
SDV	comp=Z,113nm,0.9s,baz=349,slow=2.8,SNR=46			S		S	09 53 07.5	-7.5		
SDV	comp=Z,3.1nm,0.3s,baz=50,slow=22,SNR=0.8			LR		LR	10 20 05.8			
SDV	comp=Z,261μm,19.0s,baz=350,slow=38									
SDV	comp=Z,113nm,0.9s									
SORM	Santo Domingo	76.28	94	eP		P	09 43 29.9	-0.3		
SORM	Soroca	76.28	2	⇓P		P	09 43 30.8	+1.3		
SORM	Soroca	76.28	2	P		P	09 43 30.7	+1.3		
KBA	Koelnbreinsper	76.32	12	i P		P	09 43 29.5	-0.4		
KBA	comp=Z,2μm,1.2s,SNR=188			ePP		PP	09 46 20.3	-0.1		
KBA	comp=Z,232nm,1.3s			S		S	09 53 11.7	-2.9		
KBA	comp=Z,40nm,1.3s			ePKKP		PKKPbc	10 02 44.1	+3.5		
KBA				eP'P'			10 10 44.5			
FUORN	comp=Z,21nm,1.6s Ofenpass-Fuorn	76.37	14	P		P	09 43 28.5	-1.8		
FUORN	comp=Z,1μm,1.1s			IAmb		IAmb	09 43 53.2			
TUE	Stuetta	76.38	15	IAMs_20		IAMs_20	10 19 13.0			
PAMC	comp=Z,357μm,20.0s Pamplona, Colo	76.39	97	eP		P	09 43 29.7	-1.4		
ARSA	Arzberg	76.39	11	eP		P	09 43 30.1	-0.1		
ARSA	comp=Z,1μm,1.6s,SNR=78			ePP		PP	09 46 20.8	-0.1		
ARSA	comp=Z,132nm,1.2s			S		S	09 53 11.8	-3.3		
ARSA	comp=Z,28nm,1.6s			ePKKP		PKKPbc	10 02 45.1	+4.9		
ARSA				i P'P'			10 10 44.6			
PLMC	comp=Z,27nm,1.2s San Jos del P	76.41	102	eP		P	09 43 29.2	-1.5		
ABTA	Abfaltersbach	76.54	13	i P		P	09 43 31.8	+0.7		
ABTA	comp=Z,701nm,1.2s,SNR=85			ePP		PP	09 46 23.5	+1.3		
ABTA	comp=Z,323nm,1.3s			eS		S	09 53 12.9	-4.0		
ABTA	comp=Z,44nm,1.4s			ePKKP		PKKPbc	10 02 38.8	-1.2		
ABTA				i P'P'			10 10 46.3			
MALC	comp=Z,19nm,1.3s Bahia Malaga	76.57	103	eP		P	09 43 32.8	+1.3		
DGTI	Dogotuki	76.57	211	P		P	09 43 33.8	+2.5		
BMR	Baia Mare	76.58	5	⇓P		P	09 43 32.2	+0.9		
BMR	Baia Mare	76.58	5	P		P	09 43 32.1	+0.9		
RABL	Rabaul	76.58	241	P		P	09 43 29.9	-1.7		
RABL	comp=Z,3μm,1.7s			IAmb		IAmb	09 44 01.3			
RABL	comp=Z,543μm,22.0s			IAMs_20		IAMs_20	10 09 58.4			
RABL	Rabaul	76.58	241	P		P	09 43 33.8	+2.2		
GUY2C	Guyana, Caldas	76.65	101	eP		P	09 43 32.1	-0.4		
BURAR	Bucovina Array	76.72	4	⇓P		P	09 43 32.8	+0.6		
BURAR	Bucovina Array	76.72	4	P		P	09 43 30.3	-1.8		
BURAR	Bucovina Array	76.72	4	P		P	09 43 32.7	+0.6		
BARC	Barichara	76.73	98	eP		P	09 43 31.8	-1.0		
NIUE	Niue	76.75	200	IAMs_20		IAMs_20	10 16 57.1			
NIUE	comp=Z,378μm,18.0s Niue	76.75	200	P		P	09 43 35.2	+2.9		
CHM	Chimkent	76.75	331	eP		P	09 43 32.2	-0.1		
CHM	comp=Z,9μm,3.0s,baz=331			LR		LR	10 18 57.8			
CHM	comp=Z,213μm,18.9s,baz=331									
CHM	Chimkent	76.75	331	eP		P	09 43 32.2	-0.1		
CHM	comp=Z,9μm,3.0s			pmax		pmax				
CHM	comp=Z,213μm,19.0s			MLR		MLR				
SSB	Saint Sauveur	76.76	19	IAMs_20		IAMs_20	10 17 33.1			
SSB	comp=Z,492μm,22.0s Saint Sauveur	76.76	19	P		P	09 43 31.0	-1.3		
SSB	comp=Z,3μm,1.8s			pmax		pmax				
SSB	comp=Z,492μm,22.0s			MLR		MLR				
BSZH	Besenyszg	76.76	7	⇓P		P	09 43 34.3	+2.1		
MYKA	Terra Mystica	76.79	12	i P		P	09 43 32.0	-0.5		
MYKA	comp=Z,423nm,0.9s,SNR=61			ePP		PP	09 46 25.7	+1.3		
MYKA	comp=Z,247nm,1.6s			eS		S	09 53 10.0	-10		
MYKA	comp=Z,58nm,1.6s			ePKKP		PKKPbc	10 02 47.6	+8.2		
MYKA				i P'P'			10 10 45.1			
FDF	comp=Z,0.6nm,0.5s Fort de France	76.85	83	P		P	09 43 31.4	-1.8		
FDF				IAMs_20		IAMs_20	10 17 45.9			
FDF	comp=Z,666μm,20.0s Fort de France	76.85	83	P		P	09 43 31.4	-1.8		
FDF	comp=Z,4μm,1.3s			pmax		pmax				
FDF	comp=Z,666μm,20.0s			MLR		MLR				
FDF	Fort de France	76.85	83	eP		P	09 43 31.4	-1.8		
TAVE	Taveuni	76.85	210	P		P	09 43 35.3	+2.4		
CLUD	Cludinico	76.87	13	P		P	09 43 31.6	-1.3		
SOKA	Soboth	76.90	11	eP		P	09 43 32.6	-0.6		
SOKA	comp=Z,2μm,1.5s,SNR=195			i PP		PP	09 46 26.3	+1.0		
SOKA	comp=Z,188nm,1.1s			eS		S	09 53 16.0	-4.8		
SOKA	comp=Z,35nm,1.9s			ePKKP		PKKPdf	10 02 21.3	-3.1		
SOKA				i P'P'			10 10 42.6			
PERS	comp=Z,26nm,1.5s Pernice	76.95	11	i pP		pP	09 43 42.4	+7.4		
PERS				ePP		PP	09 46 31.9	+6.2		
PERS				eS		S	09 53 22.6	+1.3		
ILAM	Ilet Lapin Mar	76.97	83	eP		P	09 43 32.2	-1.6		
PGAV	Gavieira, Arco	77.00	29	eP		P	09 43 31.8	-2.0		
PGAV	comp=Z,2μm,1.6s Gavieira, Arco	77.00	29	ePP		PP	09 46 38.6	+12		
PGAV				eS		S	09 53 24.8	+2.7		
PGAV	Gavieira, Arco	77.00	29	eLR		LR	10 07 27.1			
PRAR	comp=Z,401μm,20.0s RASCA	77.00	3	⇑P		P	09 43 34.7	+1.1		
SPBC	San Pablo de B	77.01	99	eP		P	09 43 32.3	-1.9		
OBKA	Obir	77.02	11	i P		P	09 43 32.7	-1.1		
OBKA	comp=Z,626nm,0.8s,SNR=195			i PP		PP	09 46 27.0	+0.7		
OBKA	comp=Z,414nm,1.2s			eS		S	09 53 16.8	-5.3		
OBKA	comp=Z,46nm,1.6s			ePKKP		PKKPdf	10 02 29.0	+4.8		
OBKA				eP'P'			10 10 42.5			
OBKA	comp=Z,59nm,1.8s Obir	77.02	11	⇑i P		P	09 43 32.2	-1.6		
STAL	STALIGIAL	77.05	13	P		P	09 43 31.9	-1.9		
STAL	comp=Z,2μm,1.6s			IAmb		IAmb	09 44 27.8			
STAL	comp=Z,446μm,20.0s			IAMs_20		IAMs_20	10 20 38.6			
BIM	Bigot	77.07	83	IAMs_20		IAMs_20	10 17 01.8			
BIM	comp=Z,662μm,21.0s Bigot	77.07	83	eP		P	09 43 33.3	-1.1		
BORR	Bors	77.07	6	⇑P		P	09 43 36.7	+2.8		
MESR	Meseseni	77.08	5	⇑P		P	09 43 36.8	+2.8		
YOTC	Yotoco, Valle	77.14	102	eP		P	09 43 33.6	-1.3		
MANU	Manus Island	77.17	246	P		P	09 43 36.7	+1.8		
ARCR	ARCALIA	77.21	5	⇓P		P	09 43 36.6	+1.8		
IAS	Iasi	77.21	2	⇓P		P	09 43 36.8	+2.0		
IAS	Iasi	77.21	2	P		P	09 43 36.7	+2.0		
MPOM	Morne Pois Mar	77.24	83	P		P	09 43 34.2	-1.1		
MPOM	comp=Z,580μm,20.0s			IAMs_20		IAMs_20	10 17 26.4			
MPOM	Morne Pois Mar	77.24	83	eP		P	09 43 28.6	-6.7		
H05S1	Guadeloupe/Mar	77.27	83	P		P	09 43 34.9	-0.6		
BNI	SNR=197 Bardonecchia	77.35	17	IAMs_20		IAMs_20	10 19 59.6			
RAR	comp=Z,428μm,19.0s Rarotonga	77.36	190	IAMs_20		IAMs_20	10 19 01.3			
RAR	comp=Z,357μm,18.0s Rarotonga	77.36	190	P		P	09 43 39.1	+3.4		
RAR	Rarotonga	77.36	190	LR		LR	10 12 49.2			
	comp=Z,175μm,18.5s,baz=356,slow=32									
DRGR		77.42	6	⇑P		P	09 43 38.7	+2.6		
DRGR		77.42	6	P		P	09 43 38.6	+2.6		
KIS	Kishinev	77.43	1	eP		P	09 43 36.5	+0.6		
KIS	comp=Z,3μm,1.6s Kishinev	77.43	1	eP		P	09 43 36.0	+0.1		
KIS				e			09 43 48.0			
KIS				eS		S	09 53 26.0	-0.3		
KIS				ePS		PnS	09 53 58.0	-6.7		
KIS				pmax		pmax				
KIS	comp=Z,3μm,1.6s			MLR		MLR				
	comp=N,81μm,18.0s									
ECAL	Calabor	77.43	28	P		P	09 43 36.5	+0.3		
KSH	Kashi	77.47	326	P		P	09 43 39.3	+2.8		
KSH				pP		PcP	09 43 47.7	+0.8		
KSH				PP		PP	09 46 34.1	+3.7		
KSH				S		S	09 53 36.8	+9.5		
KSH				pmax		pmax				
KSH	comp=N,910nm,1.6s			pmax		pmax				
KSH	comp=N,86μm,6.9s			LR		LR				
KSH	comp=N,928μm,17.2s			LR		LR				
KSH	comp=N,2240μm,17.2s			LR		LR				
KSH	comp=N,956μm,19.2s									
LJU	Ljubljana	77.47	12	eP		P	09 43 36.6	+0.4		
LJU				epP		pwP	09 43 44.5	+0.8		
LJU				e			09 43 56.3			
LJU				e			09 44 08.7			
LJU				ePP		PP	09 46 35.0	+5.0		
LJU				e			09 49 37.0			
LJU				eS		S	09 53 27.9	+1.0		
LJU				eSS		SS	09 58 10.0	-14		
LJU				e			10 02 31.7			
LJU				e			10 03 59.4			
LJU				e			10 08 13.3			
MILM	Milestii Mici	77.51	1	⇑P		P	09 43 38.2	+1.9		
MILM	Milestii Mici	77.51	1	eP		P	09 43 35.0	-1.4		
MILM	comp=N,10μm,2.0s			eS		S	09 53 24.0	-3.1		
MILM	comp=N,34μm,4.4s	77.51	1	eP		P	09 43 35.0	-1.4		
MILM	Milestii Mici			e			09 43 48.0			
MILM				eS		S	09 53 24.0	-3.1		
MILM				ePS			09 53 59.0			
MILM				pmax		pmax				
MILM	comp=Z,10μm,2.0s			pmax		pmax				
MILM	comp=N,7μm,2.8s			pmax		pmax				
SLBI	comp=E,34μm,4.4s Saint Lucia, B	77.52	84	eP		P	09 43 33.7	-3.2		
SLCP	Castries, St.	77.53	84	eP		P	09 43 38.6	+1.7		
HNR	Honiara	77.53	232	IAMs_20		IAMs_20	10 11 53.1			
HNR	comp=Z,645μm,20.0s Honiara	77.53	232	P		P	09 43 38.7	+1.8		
HNR	Honiara	77.53	232	P		P	09 43 37.5	+0.7		
HNR	comp=Z,971nm,0.9s,baz=209,slow=14,SNR=8.3			LR		LR	10 11 53.8			
ROSC	comp=Z,8391μm,20.5s,baz=14,slow=31 El Rosal	77.55	100	P		P	09 43 34.6	-2.9		
ROSC	comp=Z,971nm,0.9s			IAmb		IAmb	09 44 22.3			
ROSC	comp=Z,2μm,1.2s El Rosal	77.55	100	P		P	09 43 38.8	+1.3		
ROSC	comp=Z,624nm,1.2s,baz=334,slow=6.9,SNR=23			S		S	09 53 26.8	-2.4		
ROSC	comp=Z,6.3nm,0.4s,baz=25,slow=22,SNR=1.2			PKKPbc		PKKPbc	10 02 41.1	+2.6		
ROSC	comp=Z,5.7nm,0.3s,baz=184,slow=6.1,SNR=1.2			LR		LR	10 20 56.4			
ROSC	comp=Z,141μm,21.3s,baz=0.0,slow=38 El Rosal	77.55	100	eP		P	09 43 37.0	-0.6		
CJR	comp=Z,624nm,1.2s Cluj-Napoca	77.55	5	⇓P		P	09 43 39.3	+2.6		
CJR	Cluj-Napoca	77.55	5	P		P	09 43 39.3	+2.6		
MARR	Marisel-Cluj	77.56	5	⇑P		P	09 43 39.2	+2.3		
PBRG	Braganca	77.56	28	⇓eP		P	09 43 33.8	-3.1		
YSA	comp=Z,2μm,1.6s Yasawairara	77.58	213	P		P	09 43 39.2	+2.2		
JAMC	Jamundi, Valle	77.59	103	eP		P	09 43 37.1	-0.5		
TUMC	Tumaco	77.63	105	eP		P	09 43 37.8	+0.3		
TAMC	Tame, Arauca	77.64	97	eP		P	09 43 38.0	+0.4		
SLDE	Delcer	77.65	84	eP		P	09 43 38.4	+0.7		
POLO	Lamas de Olo	77.68	29	⇓eP		P	09 43 37.2	-0.4		
BAUV	comp=Z,896nm,1.7s El Baul	77.69	92	P		P	09 43 35.5	-2.3		
BAUV	El Baul	77.69	92	eP		P	09 43 33.3	-4.6		
MORH	Mrgy, Hungar	77.71	9	⇓P		P	09 43 38.3	+0.7		
CEY	Cerknica	77.76	12	⇑P		P	09 43 36.3	-1.6		
VASR	Vasiui	77.77	2	⇑P		P	09 43 39.8	+1.9		
TGMR	Targu Mures	77.77	4	⇓P		P	09 43 39.8	+1.8		
CRES	Cresnjev	77.79	11	i P		P	09 43 38.3	+0.3		
CRES	Cresnjev	77.79	11	⇓i P		P	09 43 36.8	-1.2		
PVRL	Vila Real	77.80	29	eP		P	09 43 38.2	0.0		
ORTC	comp=Z,2μm,1.6s Ortega, Tolima	77.80	101	eP		P	09 43 37.2	-1.3		
TESR	Tescani	77.87	3	⇓P		P	09 43 39.5	+1.0		
SIRR	Siria	77.88	6	⇓P		P	09 43 40.4	+1.8		
SKDS	Skadanscina	77.91	12	⇓i P		P	09 43 38.2	-0.5		
PURM	Purcari	77.91	1	⇑P		P	09 43 39.8	+1.2		
LEOM	Leova	77.94	2	⇓P		P	09 43 40.4	+1.5		
LEOM	Leova	77.94	2	P		P	09 43 40.3	+1.5		
CVER	Cruz Verde, Cu	77.94	100	eP		P	09 43 38.4	-1.4		
SVV	Soufriere Volc	77.96	84	eP		P	09 43 34.9	-4.5		
SVB	Belmont	77.98	84	eP		P	09 43 36.2	-3.5		
MVO	Moncorvo	78.08	28	⇓eP		P	09 43 40.0	+0.2		
MVO	comp=Z,2μm,1.6s Moncorvo	78.08	28	ePP		PP	09 46 44.7	+9.4		
MVO				eS		S	09 53 38.3	+4.5		
MVO	Moncorvo	78.08	28	eLR		LR	10 08 02.4			
BOJS	comp=Z,331μm,22.0s Bojanci	78.09	11	⇓i P		P	09 43 35.7	-4.0		
SVOC	Richmond Hill,	78.09	84	eP		P	09 43 37.8	-2.2		
MDB	Medias	78.15	5	⇑P		P	09 43 42.5	+2.4		
MDB	Medias	78.15	5	P		P	09 43 42.4	+2.4		
PRAC	Prado	78.16	101	eP		P	09 43 39.9	-0.7		
OZUR		78.26	4	⇑P		P	09 43 43.4	+2.7		
BBAC	Balboa, Cauca	78.27	104	eP		P	09 43 41.1	-0.2		
BOSR	Bodos	78.27	4	⇑P		P	09 43 41.9	+1.2		
TURR	Turia	78.30	3	⇑P		P	09 43 43.1	+2.1		
DEV	Deva	78.34	6	⇓P		P	09 43 43.1	+2.1		
DEV	Deva	78.34	6	P		P	09 43 43.1	+2.1		
PZH	PanZhiHua	78.34	300	P		P	09 43 40.3	-1.2		
PZH				PcP		PcP	09 43 53.4	+2.6		
PZH				PP		PP	09 46 44.2	+6.2		
PZH				S		S	09 53 36.2	-0.8		
PZH				sS		sS	09 53 41.2	+1.6		
PZH				SKS		SKSac	09 53 50.9	-5.4		
PZH	comp=Z,1μm,1.3s			pmax		pmax				
PZH	comp=Z,71μm,9.8s			pmax		pmax				
PZH	comp=Z,594μm,20.0s			LR		LR				
PZH	comp=Z,460μm,20.2s			LR		LR				
PZH	comp=Z,833μm,20.4s			LR		LR				
GHRR		78.34	2	⇑P		P	09 43 44.2	+3.2		
DOPR	Dopca	78.37	4	⇑P		P	09 43 43.5	+2.3		
TGY	Tagaytay City	78.39	278	P		P	09 43 41.7	-0.1		
TGY	comp=Z,236nm,0.4s,baz=304,slow=3.7,SNR=22			LR		LR	10 16 38.5			
ERBR	comp=Z,149μm,20.6s,baz=32,slow=34 Yeremizino-Bor	78.40	353	eP		P	09 43 42.3	+0.9		
ERBR	comp=Z,236nm,0.4s			e*PP		pwP	09 43 48.3	-0.5		
ERBR				e			09 46 38.3			
ERBR				eS		S	09 53 41.1	+4.3		
ERBR				pmax		pmax				
SURR	comp=Z,910nm,1.0s Surduc	78.42	6	⇑P		P	09 43 43.7	+2.1		
VILC	Villavicencio,	78.49	100	eP		P	09 43 40.5	-2.0		
VARL	Varlezi	78.51	2	⇑P		P	09 43 45.0	+3.0		
VRI	Vrincioaia	78.52	3	⇑P		P	09 43 44.0	+1.9		
VRI	Vrincioaia	78.52	3	P		P	09 43 44.0	+1.9		
GCMP	Grenada, Carri	78.52	85	eP		P	09 43 39.6	-2.8		
BTK	Batken	78.52	330	P		P	09 43 41.0	-1.3		
BTK	comp=Z,3μm,1.2s			IAmb		IAmb	09 44 14.3			
BTK	Batken	78.52	330	P		P	09 43 41.0	-1.3		
BTK	comp=Z,3μm,1.3s			pmax		pmax				
COVR	Voineasa-Covas	78.52	3	⇓P		P	09 43 44.3	+2.2		
PANC	Panciu	78.52	3	⇑P		P	09 43 44.8	+2.8		
BZS	Buzias	78.53	7	⇑P		P	09 43 43.5	+1.4		
BZS	Buzias	78.53	7	P		P	09 43 43.5	+1.4		
PLOR	Plostina	78.53	3	⇑P		P	09 43 43.8	+1.6		
PLOR	Plostina	78.53	3	P		P	09 43 43.7	+1.6		
VLDR	Vladesti	78.57	2	⇑P		P	09 43 43.9	+1.6		
PCRV	Puerto La Cruz	78.60	89	P		P	09 43 42.8	-0.2		
PCRV	comp=Z,126nm,1.1s,baz=22,slow=7.5,SNR=15			S		S	09 53 37.9	-2.0		
PCRV	comp=Z,7.3nm,0.8s,baz=228,slow=21,SNR=1.3			LR		LR	10 19 50.6			
COI	comp=Z,430μm,19.1s,slow=37 Coimbra	78.60	30	eP		P	09 43 42.3	-0.3		
COI	comp=Z,126nm,1.1s Coimbra	78.60	30	IAMs_20		IAMs_20	10 18 04.8			
GRHS	comp=Z,3μm,1.6s Sauteurs	78.61	85	eP		P	09 43 35.4	-7.6		
ODBI	Odobesti	78.63	3	⇓P		P	09 43 45.0	+2.3		
GRW	Mount Saint Ca	78.65	85	eP		P	09 43 37.7	-5.6		
MTE	Manteigas	78.66	29	⇓eP		P	09 43 43.9	+0.9		
MTE	comp=Z,2μm,1.8s Manteigas	78.66	29	ePP		PP	09 46 57.4	+17		
MTE				eS		S	09 53 41.5	+1.6		
MTE	Manteigas	78.66	29	eLR		LR	10 08 13.8			
MTE	comp=Z,294μm,20.0s Manteigas	78.66	29	P		P	09 43 42.0	-1.0		
MTE	comp=Z,410μm,19.0s			IAMs_20		IAMs_20	10 18 37.9			
GRGR	Grenville	78.68	85	P		P	09 43 41.8	-1.5		
GRGR	comp=Z,2μm,0.9s			IAmb		IAmb	09 44 23.3			
GRGR	comp=Z,310μm,20.0s			IAMs_20		IAMs_20	10 22 28.2			
GRGR	Grenville	78.68	85	eP		P	09 43 40.5	-2.9		
GRFF	Grenada Fort F	78.70	85	eP		P	09 43 46.0	+2.6		
BETC	Betania	78.71	102	eP		P	09 43 40.4	-3.2		
PCAS	Casmilo, Conde	78.72	30	⇓eP		P	09 43 42.0	-1.3		
BANR	comp=Z,3μm,1.4s Banloc	78.73	7	⇑P		P	09 43 45.6	+2.4		
SCTR	Scanteiesti	78.74	2	⇓P		P	09 43 44.8	+1.6		
A051A	Mrakovica	78.75	10	⇓i P		P	09 43 43.4	0.0		
VLC	Villacollemand	78.80	15	P		P	09 43 43.9	+0.2		
TUDR		78.81	2	⇓P		P	09 43 45.1	+1.5		
TATR	Tatarca	78.81	2	⇓P		P	09 43 45.4	+1.8		
LOT	Lotru	78.82	5	⇑P		P	09 43 45.4	+1.6		
GZR	Gura Zlata	78.82	6	⇑P		P	09 43 46.0	+2.2		
GZR	Gura Zlata	78.82	6	P		P	09 43 46.0	+2.2		
BISRR	Bisoca	78.83	3	⇑P		P	09 43 45.8	+1.9		
CMBC	Cumbal	78.85	105	eP		P	09 43 45.2	+0.4		
GOF	Gofitskoye	78.85	351	ceP		P	09 43 44.0	+0.1		
GOF				eS		S	09 53 37.4	-4.3		
FRGS	Fruska Gora	78.86	8	⇑P		P	09 43 44.8	+0.9		
FRGS	Fruska Gora	78.86	8	⇓i P		P	09 43 41.3	-2.6		
IZVR	Izvoarele	78.86	2	⇑P		P	09 43 46.3	+2.4		
MLR	Muntele Rosu	78.86	3	⇓P		P	09 43 46.7	+2.5		
MLR	Muntele Rosu	78.86	3	IAMs_20		IAMs_20	10 23 40.8			
MLR	comp=Z,533μm,20.0s Muntele Rosu	78.86	3	P		P	09 43 46.6	+2.5		
MLR	Muntele Rosu	78.86	3	LR		LR	10 18 48.7			
NEGRR	comp=Z,411μm,21.0s,baz=7.5,slow=36 Negrea	78.87	2	⇓P		P	09 43 46.6	+2.7		
GCUF	Volcan Galeras	78.88	104	eP		P	09 43 44.7	-0.3		
VOIR		78.89	4	⇑P		P	09 43 45.2	+1.0		
VOIR		78.89	4	P		P	09 43 45.1	+1.0		
PAC1	Pacto, Paraso	78.89	106	eP		P	09 43 44.2	-0.5		
GIUM	Giurgiulesti	78.93	2	⇓P		P	09 43 46.3	+2.1		
ARR	Arges	78.94	4	⇑P		P	09 43 46.4	+1.9		
SCHLR	Schela	78.94	2	⇓P		P	09 43 46.0	+1.7		
GISR	Galati	78.97	2	⇑P		P	09 43 47.2	+2.7		
BCHC	Barbados, Cave	79.00	83	eP		P	09 43 46.2	+1.2		
KMI	Kunming	79.00	299	⇑P		P	09 43 44.0	-1.3		
KMI				pP		pwP	09 43 51.9	-0.9		
KMI				S		S	09 53 40.6	-3.8		
KMI				sS		SKSac	09 53 55.0	-6.3		
KMI				SS		SS	09 58 53.0	+4.1		
KMI				pmax		pmax				
KMI	comp=Z,690nm,1.6s			pmax		pmax				
KMI	comp=Z,67μm,6.9s			LR		LR				
KMI	comp=Z,994μm,27.0s			LR		LR				
KMI	comp=Z,974μm,26.9s			LR		LR				
BBGH	comp=Z,663μm,23.3s Gun Hill	79.03	83	eP		P	09 43 46.7	+1.4		
BLY	Banja Luka	79.03	10	⇓i P		P	09 43 45.0	+0.1		
TULM	Tulcn-Chalpat	79.06	105	eP		P	09 43 45.8	-0.3		
CUSE	Cuicocha Este	79.07	106	eP		P	09 43 45.5	-0.6		
GARC	Garzon, Huila	79.09	102	eP		P	09 43 44.7	-1.2		
OTAV	Otavalo	79.10	106	P		P	09 43 44.8	-1.4		
OTAV	comp=Z,4μm,1.6s			IAmb		IAmb	09 44 25.4			
OTAV	Otavalo	79.10	106	P		P	09 43 45.1	-1.1		
OTAV	Otavalo	79.10	106	eP		P	09 43 46.3	+0.1		
OTAV	Otavalo	79.10	106	eP		P	09 43 45.8	-0.4		
EJON	La Jonquera	79.17	21	P		P	09 43 43.6	-2.2		
PCBR	Castelo Branco	79.20	29	⇓eP		P	09 43 44.6	-1.3		
A050A	comp=Z,2μm,1.7s Klekovaca	79.23	10	⇓i P		P	09 43 45.2	-0.9		
CFR	Carcaliu	79.24	2	⇑P		P	09 43 47.5	+1.5		
CFR	Carcaliu	79.24	2	P		P	09 43 47.4	+1.5		
TLCR		79.24	1	⇓P		P	09 43 47.8	+1.8		
TLCR		79.24	1	P		P	09 43 47.8	+1.8		
ISR	Istrita	79.26	3	⇑P		P	09 43 48.4	+2.2		
ISR	Istrita	79.26	3	P		P	09 43 48.4	+2.2		
PTGC	Puerto Gaitan,	79.29	98	eP		P	09 43 45.3	-1.4		
HERR	Herculane	79.31	6	⇓P		P	09 43 47.3	+0.9		
MGRS	Mrkonjic Grad	79.35	10	eP		P	09 43 46.8	+0.1		
MDVR	Moldovita	79.36	7

SALI					IAmb	IAmb	09 44 11.1		
	comp=Z,2µm,1.2s								
LIS	**Lisbon**	**79.78**	**31**	*e*P	**P**	**09 43 48.2**	**-0.9**		
LIS				*e*S	**S**	**09 53 49.1**	**-2.6**		
LIS				IAMs_20	IAMs_20	10 10 18.7			
	comp=N,1445µm,66.7s								
LIS	**Lisbon**	**79.78**	**31**	*e*P	**P**	**09 43 48.1**	**-0.9**		
LIS				*e*S	**S**	**09 53 49.0**	**-2.6**		
AMRR	**Amara**	**79.79**	**3**	⇓P	**P**	**09 43 51.5**	**+2.5**		
AMRR	**Amara**	**79.79**	**3**	P	**P**	**09 43 51.5**	**+2.5**		
HUMR	**Humele**	**79.79**	**4**	⇓P	**P**	**09 43 50.5**	**+1.5**		
PACT	**Alcochete**	**79.82**	**30**	*e*P	**P**	**09 43 50.7**	**+1.4**		
	comp=N,5µm,1.6s								
HAPS	**Han Pijesak,BI**	**79.85**	**9**	⇓*i*P	**P**	**09 43 49.2**	**-0.3**		
UCM	**Universidad Co**	**79.86**	**26**	P	**P**	**09 43 50.4**	**+0.9**		
TIRR	**Tirgusor**	**79.96**	**2**	⇑P	**P**	**09 43 51.7**	**+1.8**		
TIRR	**Tirgusor**	**79.96**	**2**	P	**P**	**09 43 51.7**	**+1.8**		
KVAR	**Kislovodsk Arr**	**79.98**	**351**	LR	LR	10 24 19.8			
	comp=N,299µm,18.6s,baz=268,slow=40								
KIV	**Kislovodsk**	**79.98**	**351**	⇑P	**P**	**09 43 52.0**	**+1.8**		
KIV	**Kislovodsk**	**79.98**	**351**	P	**P**	**09 43 49.5**	**-0.7**		
KIV				IAmb	IAmb	09 44 28.3			
	comp=Z,1µm,0.9s								
KIV				IAMs_20	IAMs_20	10 20 45.4			
	comp=Z,693µm,22.0s								
KIV	**Kislovodsk**	**79.98**	**351**	*i*P	**P**	**09 43 50.5**	**+0.4**		
	SNR=77								
KIV	**Kislovodsk**	**79.98**	**351**	*e*P	**P**	**09 43 50.0**	**-0.2**		
KIV				*e*		09 46 51.5			
KIV				*e*S	**S**	**09 53 54.2**	**+0.3**		
KIV				*e*SS	**SS**	**09 59 06.8**	**+4.8**		
KIV				*e*SSS	SSS	10 02 30.6			
KIV				pmax	pmax				
	comp=Z,841nm,1.1s								
KIV				MLR	MLR				
	comp=Z,421µm,19.0s								
KIV	**Kislovodsk**	**79.98**	**351**	P	**P**	**09 43 51.0**	**+0.8**		
KIV				P	**P**	**09 43 51.0**	**+0.8**		
KIV				S	**S**	**09 53 55.0**	**+1.1**		
KIV				S	**S**	**09 53 55.0**	**+1.1**		
TRN	**Trinidad (W)**	**80.03**	**86**	*e*P	**P**	**09 43 47.5**	**-3.2**		
PESTR	**Estremoz**	**80.08**	**29**⇓	*e*P	**P**	**09 43 50.1**	**-0.6**		
	comp=Z,2µm,1.8s								
PESTR	**Estremoz**	**80.08**	**29**	IAMs_20	IAMs_20	10 18 58.6			
	comp=Z,613µm,19.0s								
PESTR	**Estremoz**	**80.08**	**29**	P	**P**	**09 43 50.4**	**-0.3**		
BBLS	**Lazići**	**80.11**	**8**	⇓*i*P	**P**	**09 43 50.1**	**-0.7**		
KBZ	**Khabaz**	**80.19**	**351**	P	**P**	**09 43 51.6**	**+0.5**		
	comp=Z,272nm,0.9s,baz=6.7,slow=3.3,SNR=76								
KBZ				PP	**PP**	**09 46 50.0**	**-2.5**		
	comp=Z,163nm,1.0s,baz=12,slow=18,SNR=1.5								
KBZ				S	**S**	**09 53 55.1**	**-0.7**		
	comp=Z,17nm,1.1s,baz=128,slow=3.7,SNR=1.7								
KBZ				PKKPbc	**PKKPbc**	**10 02 32.9**	**+1.0**		
	comp=Z,8.0nm,0.9s,baz=172,slow=7.3,SNR=4.4								
KBZ				PKPPKP		10 10 37.5			
	comp=Z,9.4nm,1.0s,baz=206,slow=2.7,SNR=7.0								
KBZ				LR	LR	10 24 41.3			
	comp=Z,266µm,18.8s,baz=12,slow=40								
	comp=Z,272nm,0.9s								
COPA	**Copaceanca**	**80.19**	**4**	⇑P	**P**	**09 43 53.1**	**+1.9**		
BAIL	**Bailesti**	**80.22**	**5**	⇑P	**P**	**09 43 52.7**	**+1.3**		
MFTR	**Murfatlar**	**80.24**	**2**	⇑P	**P**	**09 43 53.4**	**+1.9**		
FDMO	**Fiordimonte**	**80.27**	**13**	IAMs_20	IAMs_20	10 21 22.9			
	comp=Z,332µm,20.0s								
GUMA	**Gualdo di Mace**	**80.27**	**13**	IAMs_20	IAMs_20	10 22 54.1			
	comp=Z,349µm,19.0s								
EVO	**Evora**	**80.27**	**30**⇓	*e*P	**P**	**09 43 51.9**	**+0.2**		
	comp=Z,2µm,1.8s								
EVO	**Evora**	**80.27**	**30**	P	**P**	**09 43 51.7**	**0.0**		
TPP	**Pointe-a-Pierr**	**80.27**	**86**	*e*P	**P**	**09 43 52.4**	**+0.4**		
ESBB	**Sonseca Array**	**80.28**	**27**	P	**P**	**09 43 49.6**	**-2.3**		
ESBB				IAmb	IAmb	09 44 28.6			
	comp=Z,2µm,1.2s								
ESBB				IAMs_20	IAMs_20	10 20 31.7			
	comp=Z,392µm,20.0s								
ESDC	**Sonseca Array**	**80.28**	**27**	P	**P**	**09 43 51.6**	**-0.3**		
	comp=Z,182nm,1.0s,baz=337,slow=5.3,SNR=68								
ESDC				S	**S**	**09 53 59.3**	**+2.2**		
	comp=Z,6.0nm,1.2s,baz=354,slow=5.2,SNR=1.5								
ESDC				PKKPbc	**PKKPbc**	**10 02 32.3**	**+0.5**		
	comp=Z,7.7nm,1.0s,baz=166,slow=1.3,SNR=5.3								
ESDC				PKPPKP		10 10 38.7			
	comp=Z,20nm,1.1s,baz=211,slow=1.1,SNR=5.9								
ESDC				LR	LR	10 21 55.4			
	comp=Z,215µm,18.0s,baz=341,slow=38								
	comp=Z,182nm,1.0s								
ICOR	**Ion Corvin**	**80.29**	**2**	⇓P	**P**	**09 43 54.4**	**+2.7**		
PAB	**San Pablo**	**80.30**	**27**	P	**P**	**09 43 51.3**	**-0.7**		
PAB				IAmb	IAmb	09 44 37.9			
	comp=Z,4µm,2.0s								
PAB	**San Pablo**	**80.30**	**27**	IAMs_20	IAMs_20	10 21 14.4			
	comp=Z,324µm,20.0s								
PAB	**San Pablo**	**80.30**	**27**	P	**P**	**09 43 54.4**	**+2.4**		
SIMJ	**Simiganj**	**80.33**	**331**	P	**P**	**09 43 50.6**	**-1.6**		
SIMJ				IAmb	IAmb	09 44 11.7			
	comp=Z,2µm,1.1s								
EBAD	**Badajoz**	**80.34**	**29**	P	**P**	**09 43 51.7**	**-0.4**		
EFOR	**EFORIE**	**80.34**	**2**	⇑P	**P**	**09 43 54.8**	**+2.9**		
RUDO	**Rudo**	**80.35**	**8**	*e*P	**P**	**09 43 52.9**	**+0.8**		
NCK	**Nalchik**	**80.35**	**351***c*	*i*P	**P**	**09 43 54.0**	**+1.9**		
NCK				pmax	pmax				
	comp=Z,3µm,1.1s								
NCK				MLR	MLR				
	comp=Z,424µm,20.0s								
QIZ	**Qiongzhong**	**80.41**	**290**	P	**P**	**09 43 52.1**	**-0.6**		
QIZ				PP	**PP**	**09 46 53.1**	**-2.2**		
QIZ				S	**S**	**09 53 56.2**	**-2.7**		
QIZ				SS	**SS**	**09 59 08.6**	**-1.3**		
QIZ				pmax	pmax				
	comp=Z,390nm,1.3s								
QIZ				pmax	pmax				
	comp=Z,58µm,10.5s								
QIZ				LR	LR				
	comp=Z,288µm,16.7s								
QIZ				LR	LR				
	comp=Z,523µm,19.1s								
QIZ				LR	LR				
	comp=Z,358µm,22.1s								
QIZ	**Qiongzhong**	**80.41**	**290**	P	**P**	**09 43 52.0**	**-0.8**		
QIZ	**Qiongzhong**	**80.41**	**290**	IAMs_20	IAMs_20	10 19 52.7			
	comp=Z,366µm,22.0s								
QIZ	**Qiongzhong**	**80.41**	**290**	P	**P**	**09 43 53.3**	**+0.6**		
GROC	**Groznyy**	**80.42**	**349**	*e*P	**P**	**09 43 53.5**	**+1.0**		
GROC				*e*S	**S**	**09 53 58.4**	**0.0**		
GROC				pmax	pmax				
	comp=Z,948nm,1.7s								
LKP	**Lekhapani**	**80.43**	**305**	*e*P	**P**	**09 43 50.6**	**-2.2**		
MAK	**Makhachkala**	**80.47**	**348***c*	*i*P	**P**	**09 43 54.1**	**+1.4**		
MAK				*e*		09 46 55.3			
MAK				*e*PPP	PPP	09 48 45.9			
MAK				*e*S	**S**	**09 54 02.5**	**+3.7**		
MAK				*e*SS	**SS**	**09 59 18.2**	**+9.1**		
MAK				*e*SSS	SSS	10 02 28.8			
MAK				pmax	pmax				
	comp=Z,41µm,4.0s								
MAK				pmax	pmax				
	comp=Z,7µm,1.3s								
MAK				MLR	MLR				
	comp=Z,859µm,23.0s								
MAK				MLR	MLR				
	comp=N,1119µm,20.0s								
MAK				MLR	MLR				
	comp=E,578µm,18.0s								
NRCA	**Norcia**	**80.47**	**13**	P	**P**	**09 43 51.4**	**-1.4**		
NRCA				IAmb	IAmb	09 44 46.8			
	comp=Z,2µm,1.1s								
NRCA				IAMs_20	IAMs_20	10 21 29.2			
	comp=Z,356µm,20.0s								
LSA	**Lhasa**	**80.49**	**310**	P	**P**	**09 43 52.9**	**-0.7**		
LSA				IAmb	IAmb	09 44 13.9			
	comp=Z,2µm,1.3s								
LSA	**Lhasa**	**80.49**	**310**	P	**P**	**09 43 52.9**	**-0.7**		
LSA				pmax	pmax				
	comp=Z,2µm,1.3s								
LSA				MLR	MLR				
	comp=Z,1156µm,22.0s								
BOVS	**Bovan**	**80.50**	**7**	⇓P	**P**	**09 43 53.5**	**+0.6**		
PNCL	**Nicolau / Gran**	**80.52**	**30**⇓	*e*P	**P**	**09 43 52.3**	**-0.7**		
	comp=Z,2µm,1.7s								
PNCL	**Nicolau / Gran**	**80.52**	**30**	P	**P**	**09 43 52.4**	**-0.6**		
VALD	**Valchedram**	**80.55**	**5**	P	**P**	**09 43 53.1**	**0.0**		
NEVS	**Nevesinje**	**80.56**	**9**	*e*P	**P**	**09 43 53.3**	**0.0**		
SOC	**Sochi**	**80.57**	**353**	*e*P	P	09 43 48.1	-5.1		
SOC				*e*		09 46 58.7			
SOC				*e*S	**S**	**09 53 51.8**	**-8.1**		
SOC				*e*SS	**SS**	**09 59 08.6**	**-2.0**		
SOC				*e*SSS	SSS	10 02 40.4			
SOC				pmax	pmax				
	comp=Z,589nm,0.8s								
SOC				MLR	MLR				
	comp=Z,487µm,20.0s								
BLKB	**Belogradchik**	**80.58**	**6**	⇑P	**P**	**09 43 54.3**	**+0.9**		
MANR	**Mangalia**	**80.61**	**2**	⇑P	**P**	**09 43 55.3**	**+1.9**		
CESX	**Cesi**	**80.62**	**14**	P	**P**	**09 43 53.0**	**-0.6**		
CESX				IAmb	IAmb	09 44 48.4			
	comp=Z,2µm,1.4s								
PLE	**Pljevlja**	**80.64**	**8**	⇓*i*P	**P**	**09 43 53.9**	**+0.1**		
UPM	**Unac-Piva**	**80.72**	**9**	⇓*i*P	**P**	**09 43 54.3**	**-0.1**		
UPM	**Unac-Piva**	**80.72**	**9**	*e*P	**P**	**09 43 54.2**	**-0.1**		
DIBR	**DIBRUGARH**	**80.75**	**306**	*e*P	**P**	**09 43 55.9**	**+1.5**		
DIBR				IAmb	IAmb	09 44 03.6			
	comp=Z,2µm,1.3s								
SJES	**Sjenica**	**80.75**	**8**	⇑*i*P	**P**	**09 43 53.9**	**-0.5**		
PBEJ	**Beja**	**80.78**	**30**	*e*P	**P**	**09 43 55.1**	**+0.6**		
	comp=Z,1µm,1.7s								
CAMP	**Campotosto**	**80.80**	**13**	IAMs_20	IAMs_20	10 21 41.1			
	comp=Z,367µm,19.0s								
MESJ	**Messejana**	**80.86**	**30**	*e*P	**P**	**09 43 54.4**	**-0.5**		
	comp=Z,2µm,1.8s								
MESJ	**Messejana**	**80.86**	**30**	IAMs_20	IAMs_20	10 21 36.3			
	comp=Z,537µm,18.0s								
MESJ	**Messejana**	**80.86**	**30**	*e*P	**P**	**09 43 54.1**	**-0.8**		
MESJ				*e*S	**S**	**09 54 00.3**	**-2.8**		
MESJ				IAMs_20	IAMs_20	10 10 39.0			
	comp=Z,1024µm,50.7s								
MESJ	**Messejana**	**80.86**	**30**	*e*P	**P**	**09 43 54.1**	**-0.8**		
MESJ				*e*S	**S**	**09 54 00.3**	**-2.8**		
PBAR	**Barrancos**	**80.88**	**29**⇓	*e*P	**P**	**09 43 54.6**	**-0.4**		
	comp=Z,2µm,1.9s								
PBAR	**Barrancos**	**80.88**	**29**	P	**P**	**09 43 54.6**	**-0.4**		
MPEP	**Malo Peshtene**	**80.90**	**5**	P	**P**	**09 43 57.1**	**+2.1**		
PLVB	**Pleven**	**80.91**	**5**	⇑P	**P**	**09 43 56.2**	**+1.1**		
COHC	**Cochancay**	**80.93**	**108**	P	**P**	**09 43 53.6**	**-2.0**		
STON	**Ston**	**80.94**	**10**	⇓*i*P	**P**	**09 43 54.6**	**-0.6**		
PTEO	**Sao Teotonio**	**80.99**	**31**	*e*P	**P**	**09 43 56.5**	**+0.9**		
	comp=Z,2µm,1.9s								
BRY	**Bratogost**	**80.99**	**9**	⇓*i*P	**P**	**09 43 55.5**	**-0.2**		
BRY	**Bratogost**	**80.99**	**9**	*e*P	**P**	**09 43 54.1**	**-1.6**		
ZEI	**Tsey**	**81.03**	**350**	*e*P	**P**	**09 43 55.0**	**-1.0**		
ZEI				pmax	pmax				
	comp=Z,433nm,1.1s								
ECHE	**Chera**	**81.08**	**24**	P	**P**	**09 43 56.6**	**+0.4**		
PCVE	**Castro Verde**	**81.10**	**30**⇓	*e*P	**P**	**09 43 56.3**	**+0.1**		
	comp=Z,1µm,1.7s								
PCVE	**Castro Verde**	**81.10**	**30**	P	**P**	**09 43 55.3**	**-0.9**		
KOME	**Kolasin**	**81.12**	**8**	⇓*i*P	**P**	**09 43 56.7**	**+0.4**		
NEF	**NEVSHA**	**81.13**	**3**	P	**P**	**09 43 56.9**	**+0.6**		
IVA	**Berane**	**81.13**	**8**	⇓*i*P	**P**	**09 43 56.8**	**+0.4**		
TNCH	**TengChong**	**81.13**	**302**	⇑P	**P**	**09 43 57.4**	**+0.6**		
TNCH				pP	sP	09 44 00.1	+1.1		
TNCH				sP	pwP	09 44 05.4	+1.2		
TNCH				S	**S**	**09 54 01.7**	**-5.0**		
TNCH				sS	sS	09 54 11.6	+2.3		
TNCH				SS	**SS**	**09 59 18.5**	**-2.1**		
TNCH				pmax	pmax				
	comp=Z,6µm,4.4s								
TNCH				LR	LR				
	comp=Z,291µm,26.1s								
TNCH				LR	LR				
	comp=Z,223µm,26.5s								
TNCH				LR	LR				
	comp=Z,397µm,27.7s								
PTLC	**Puerto Leguiza**	**81.15**	**103**	*e*P	**P**	**09 43 58.3**	**+1.6**		
TREB	**Trebinje**	**81.16**	**9**	⇓*i*P	**P**	**09 43 55.8**	**-0.6**		
NKME	**Niksic**	**81.16**	**9**	⇓*i*P	**P**	**09 43 55.4**	**-1.1**		
ZIRO	**ZIRO**	**81.17**	**307**	*e*P	**P**	**09 43 57.0**	**0.0**		
MORF	**Marmelete**	**81.23**	**31**	*e*P	**P**	**09 43 55.7**	**-1.3**		
	comp=Z,2µm,1.8s								
MORF	**Marmelete**	**81.23**	**31**	IAMs_20	IAMs_20	10 22 21.3			
	comp=Z,418µm,18.0s								
MORF	**Marmelete**	**81.23**	**31**	*e*P	**P**	**09 43 56.3**	**-0.7**		
MORF				*e*S	**S**	**09 54 04.3**	**-2.8**		
MORF				IAMs_20	IAMs_20	10 10 38.2			
	comp=N,670µm,38.1s								
MORF	**Marmelete**	**81.23**	**31**	*e*P	**P**	**09 43 56.3**	**-0.7**		
MORF				*e*S	**S**	**09 54 04.3**	**-2.8**		
PRD	**Provadia**	**81.24**	**3**	P	**P**	**09 43 57.8**	**+1.0**		
ONI	**Oni**	**81.27**	**351**	IAMs_20	IAMs_20	10 26 39.4			
	comp=Z,581µm,21.0s								
PFVI	**Vila Bisbo**	**81.34**	**31**	*e*P	**P**	**09 43 57.4**	**-0.1**		
	comp=Z,2µm,2.0s								
PFVI	**Vila Bisbo**	**81.34**	**31**	IAMs_20	IAMs_20	10 22 13.2			
	comp=Z,360µm,18.0s								
PFVI	**Vila Bisbo**	**81.34**	**31**	P	**P**	**09 43 57.4**	**-0.1**		
EGRO	**El Granado**	**81.35**	**30**	P	**P**	**09 43 57.4**	**-0.1**		
EMIN	**Mina Concepcio**	**81.36**	**29**	P	**P**	**09 43 58.3**	**+0.7**		
CEME	**Cevo**	**81.38**	**9**	⇓*i*P	**P**	**09 43 57.5**	**-0.1**		
PVAQ	**Vaqueiros**	**81.41**	**30**	*e*P	**P**	**09 43 58.0**	**+0.2**		
	comp=Z,276nm,1.9s								
PVAQ	**Vaqueiros**	**81.41**	**30**	*e*S	**S**	**09 54 11.0**	**+2.2**		
PVAQ	**Vaqueiros**	**81.41**	**30**	*e*LR	LR	10 09 41.3			
	comp=Z,58µm,20.0s								
PVAQ	**Vaqueiros**	**81.41**	**30**	P	**P**	**09 43 58.3**	**+0.4**		
ARNL	**Arenillas**	**81.41**	**109**	P	**P**	**09 43 57.3**	**-0.7**		
ARNL				IAmb	IAmb	09 44 19.6			
	comp=Z,1µm,1.1s								
ECAB	**El Cabril**	**81.41**	**28**	P	**P**	**09 43 58.3**	**+0.4**		
PVY	**Plav**	**81.41**	**8**	⇓*i*P	**P**	**09 43 58.2**	**+0.3**		
GENI	**Genyem**	**81.42**	**252**	P	**P**	**09 43 59.8**	**+1.7**		
GENI	**Genyem**	**81.42**	**252**	P	**P**	**09 43 57.8**	**-0.3**		
	comp=Z,3µm,1.9s,comp=Z,112µmcomp=Z,173µm								
HCY	**Herceg Novi**	**81.44**	**9**	⇓*i*P	**P**	**09 43 57.4**	**-0.5**		
HCY	**Herceg Novi**	**81.44**	**9**	*e*P	**P**	**09 43 57.1**	**-0.8**		
PBDV	**Barranco-do-Ve**	**81.50**	**30**	*e*P	**P**	**09 43 58.6**	**+0.3**		
	comp=Z,3µm,1.8s								
PBDV	**Barranco-do-Ve**	**81.50**	**30**	P	**P**	**09 43 58.4**	**+0.1**		
DAV	**Davao City (W)**	**81.52**	**270**⇑	*e*P	**P**	**09 44 00.0**	**+1.3**		
DAV	**Davao City (W)**	**81.52**	**270**	IAMs_20	IAMs_20	10 16 23.7			
	comp=Z,369µm,21.0s								
DAV	**Davao City (W)**	**81.52**	**270**	P	**P**	**09 44 00.8**	**+2.1**		
DAV	**Davao City (W)**	**81.52**	**270**	P	**P**	**09 43 59.8**	**+1.1**		
	comp=Z,351nm,0.6s,baz=252,slow=2.1,SNR=9.6								
DAV				LR	LR	10 16 36.0			
	comp=Z,307µm,21.5s,baz=46,slow=33								
	comp=Z,351nm,0.6s								
DAV	**Davao City (W)**	**81.52**	**270**	P	**P**	**09 43 59.4**	**+0.7**		
DAV				S	**S**	**09 54 12.7**	**+2.2**		
DAV	**Davao City (W)**	**81.52**	**270**	P	**P**	**09 43 59.3**	**+0.7**		
	comp=Z,4µm,1.3s,comp=Z,109µmcomp=Z,181µm								
EADA	**Adamuz**	**81.54**	**27**	P	**P**	**09 43 58.7**	**+0.1**		
ITAN	**ITANAGAR**	**81.56**	**307**	*e*P	**P**	**09 43 59.0**	**+0.2**		
ITAN				IAmb	IAmb	09 44 19.5			
	comp=Z,23µm,3.5s								
VTS	**Vitosha**	**81.61**	**6**	P	**P**	**09 44 00.4**	**+1.4**		
BUM	**Brajici-Budva**	**81.62**	**9**	⇓*i*P	**P**	**09 43 58.7**	**-0.2**		
BCI	**Bajram Curri**	**81.65**	**8**	*i* P	**P**	**09 44 00.2**	**+1.1**		
JORH	**JORHAT**	**81.67**	**306**	*e*P	**P**	**09 43 58.1**	**-1.2**		
ETOS	**Mallorca**	**81.74**	**21**	P	**P**	**09 43 59.1**	**-0.5**		
DRME	**Dracevica, Mon**	**81.75**	**9**	⇓*i*P	**P**	**09 44 00.3**	**+0.7**		
DRME	**Dracevica, Mon**	**81.75**	**9**	*e*P	**P**	**09 43 59.1**	**-0.5**		
PGB	**Panagyurishte**	**81.76**	**5**	P	P	09 44 05.0	+5.3		
ETOB	**Tobarra**	**81.84**	**25**	P	**P**	**09 44 00.1**	**-0.1**		
JMB	**Yambol**	**81.88**	**3**	P	**P**	**09 44 01.7**	**+1.5**		
MAHO	**Mahon**	**81.91**	**20**	IAMs_20	IAMs_20	10 20 10.6			
	comp=Z,376µm,20.0s								
MAHO	**Mahon**	**81.91**	**20**	P	**P**	**09 44 04.1**	**+3.7**		
MOKO	**MOKOCHONG**	**81.91**	**306**	*e*P	**P**	**09 44 00.2**	**-0.6**		
BOSC	**San Juan Bosco**	**81.91**	**108**	P	**P**	**09 44 00.1**	**-0.8**		
PUK	**Puka**	**81.96**	**8**	IAMs_20	IAMs_20	10 23 07.5			
	comp=Z,330µm,22.0s								
PUK	**Puka**	**81.96**	**8**	*i* P	**P**	**09 44 00.9**	**+0.2**		
ARNO	**Arenosillo**	**81.97**	**29**	P	**P**	**09 44 02.5**	**+1.8**		
ULC	**Ulcinj**	**81.98**	**9**	⇓*i*P	**P**	**09 44 00.8**	**0.0**		
PLD	**Plovdiv**	**82.16**	**5**	P	**P**	**09 44 04.5**	**+2.8**		
DIM	**Dimitrovgrad**	**82.29**	**4**	P	**P**	**09 44 03.3**	**+0.9**		
PTCN	**Pitcairn Islan**	**82.30**	**163**	P	**P**	**09 44 05.0**	**+2.6**		
PHP	**Peshkopia**	**82.36**	**8**	*i* P	**P**	**09 44 03.3**	**+0.5**		
PHP	**Peshkopia**	**82.36**	**8**	P	**P**	**09 44 02.0**	**-0.8**		
KKB	**Krupnik**	**82.38**	**6**	P	**P**	**09 44 07.4**	**+4.5**		
TEZP	**TEZPUR**	**82.43**	**307**	*e*P	**P**	**09 44 02.3**	**-1.0**		
EDRB	**Edirne**	**82.53**	**3**	P	**P**	**09 44 04.0**	**+0.4**		
BCA	**Borcka**	**82.56**	**352**	⇑P	**P**	**09 44 05.0**	**+1.1**		
PMOZ	**Porto Moniz, M**	**82.59**	**39**	*e*P	**P**	**09 44 04.1**	**-0.2**		
	comp=Z,4µm,1.6s								
PMOZ	**Porto Moniz, M**	**82.59**	**39**	*e*PP	PP	09 47 22.0	+9.0		
PMOZ				*e*S	**SKSac**	**09 54 24.4**	**-1.2**		
PMOZ	**Porto Moniz, M**	**82.59**	**39**	*e*LR	LR	10 10 24.5			
	comp=Z,204µm,18.0s								
KOHI	**KOHIMA**	**82.61**	**306**	*e*P	**P**	**09 44 03.5**	**-1.0**		
RZN	**Rozhen**	**82.61**	**5**	P	**P**	**09 44 06.4**	**+2.1**		
TIR	**Tirane**	**82.64**	**8**	IAMs_20	IAMs_20	10 27 57.8			
	comp=Z,474µm,21.0s								
TIR	**Tirane**	**82.64**	**8**	*i* P	**P**	**09 44 06.8**	**+2.5**		
TIR	**Tirane**	**82.64**	**8**	P	**P**	**09 44 05.3**	**+1.0**		
PMPST	**Porto Santo, M**	**82.67**	**38**	*e*P	**P**	**09 44 03.8**	**-0.7**		
	comp=Z,6µm,1.5s								
PMPS	**Porto Santo**	**82.69**	**38**	*e*P	**P**	**09 44 05.0**	**+0.4**		
	comp=Z,7µm,1.6s								
KDZ	**Kurdzhali**	**82.70**	**4**	P	**P**	**09 44 06.8**	**+2.3**		
MMB	**Musomishta**	**82.71**	**5**	P	**P**	**09 44 07.6**	**+3.0**		
SFS	**San Fernando**	**82.71**	**29**	IAMs_20	IAMs_20	10 23 22.2			
	comp=Z,517µm,18.0s								
DIKM	**Dikmen**	**82.72**	**357**	⇑P	**P**	**09 44 07.0**	**+2.4**		
PMAR	**Madeira**	**82.78**	**39**	*e*P	**P**	**09 44 05.5**	**+0.2**		
	comp=Z,6µm,1.6s								
FUL	**Funchal**	**82.86**	**39**	*e*P	**P**	**09 44 06.8**	**+1.3**		
	comp=Z,4µm,1.7s								
NVR	**Nevrokopi**	**82.91**	**5**	P	**P**	**09 44 07.2**	**+1.5**		
OHR	**Ohrid**	**82.95**	**8**	*i* P	**P**	**09 44 06.4**	**+0.5**		
CART	**Cartagena**	**82.98**	**25**	IAMs_20	IAMs_20	10 17 33.3			
	comp=Z,317µm,21.0s								
KNT	**Kendrikon**	**83.04**	**6**	P	**P**	**09 44 07.2**	**+0.9**		
MATE	**Matera**	**83.04**	**11**	⇓P	**P**	**09 44 08.2**	**+1.9**		
KTUT	**Trabzon**	**83.15**	**353**	⇑P	**P**	**09 44 09.1**	**+2.2**		
RDO	**Rodhopi**	**83.19**	**4**	IAMs_20	IAMs_20	10 20 33.2			
	comp=Z,421µm,21.0s								
RDO	**Rodhopi**	**83.19**	**4**	P	**P**	**09 44 07.4**	**+0.4**		
VSL	**Villasalto**	**83.20**	**17**	IAMs_20	IAMs_20	10 21 03.8			
	comp=Z,473µm,21.0s								
GRG	**Griva**	**83.22**	**6**	P	**P**	**09 44 08.2**	**+0.9**		
KAVA	**Kavala**	**83.29**	**5**	P	**P**	**09 44 07.7**	**+0.1**		
FNA	**Florina**	**83.32**	**7**	*i* P	**P**	**09 44 07.1**	**-0.7**		
FNA	**Florina**	**83.32**	**7**	P	**P**	**09 44 07.7**	**-0.1**		
ISK	**Istanbul-Kandi**	**83.36**	**1**	P	**P**	**09 44 07.6**	**-0.3**		
SOH	**Sokhos**	**83.41**	**6**	P	**P**	**09 44 12.8**	**+4.5**		
KBN	**Korca**	**83.44**	**8**	IAMs_20	IAMs_20	10 22 50.8			
	comp=Z,408µm,21.0s								
KBN	**Korca**	**83.44**	**8**	*i* P	**P**	**09 44 11.8**	**+3.4**		
KBN	**Korca**	**83.44**	**8**	P	**P**	**09 44 10.3**	**+1.8**		
IMP	**Imphal**	**83.45**	**305**	*e*P	**P**	**09 44 08.1**	**-0.7**		
IMP				IAmb	IAmb	09 44 16.8			
	comp=Z,546nm,0.9s								
KOKK	**Kokkinochori,**	**83.45**	**5**	P	**P**	**09 44 08.5**	**+0.1**		
ALN	**Alexandroupoli**	**83.45**	**4**	IAMs_20	IAMs_20	10 26 27.3			
	comp=Z,330µm,21.0s								
ALN	**Alexandroupoli**

TIP	**Timpagrande**	**84.50**	**11**	IAMs_20	IAMs_20	10 24 44.0			**CHTO**	**Chiang Mai**	**86.19**	**298**	IAMs_20	IAMs_20	10 28 30.7			**IDI**	**Anoyia**	**89.00**	**5**	P	**P**	**09 44 37.7**	**+1.8**
	comp=Z,295µm,20.0s									comp=Z,601µm,20.0s								**IDI**	**Anoyia**	**89.00**	**5**	LR	LR	10 25 58.6	
ANTO	**Ankara**	**84.55**	**358**	⇑P	**P**	**09 44 16.3**	**+2.1**		**CHTO**	**Chiang Mai**	**86.19**	**298**	P	**P**	**09 44 22.1**	**-0.5**			comp=Z,106µm,20.7s,baz=357,slow=37							
ANTO	**Ankara**	**84.55**	**358**	P	**P**	**09 44 14.0**	**-0.1**		**CHTO**	**Chiang Mai**	**86.19**	**298**	P	**P**	**09 44 20.8**	**-1.8**		**TOLI2**	**Tolitoli**	**89.11**	**271**	P	**P**	**09 44 34.2**	**-2.3**
ANTO				IAmb	IAmb	09 44 50.2			CHTO				pmax	pmax				**TOLI2**	**Tolitoli**	**89.11**	**271**	P	**P**	**09 44 37.8**	**+1.2**
	comp=Z,983nm,0.8s									comp=Z,937nm,1.2s								**NLAI**	**Namlea**	**89.13**	**263**	P	**P**	**09 44 35.3**	**-1.3**
ANTO	**Ankara**	**84.55**	**358**	IAMs_20	IAMs_20	10 27 01.3			**CHTO**	**Chiang Mai**	**86.19**	**298**	P	**P**	**09 44 22.6**	**0.0**			comp=Z,398nm,1.9s,comp=Z,19µm							
	comp=Z,367µm,20.0s								CHTO				P	**P**	**09 44 22.6**	**0.0**		**TMBK**	**Timbaki Herakl**	**89.21**	**5**	P	**P**	**09 44 38.0**	**+1.2**
ANTO	**Ankara**	**84.55**	**358**	P	**P**	**09 44 16.2**	**+2.1**		**CHTO**	**Chiang Mai**	**86.19**	**298**	P	**P**	**09 44 21.5**	**-1.1**		**ZKR**	**Zakros**	**89.23**	**4**	P	**P**	**09 44 38.3**	**+1.4**
ANTO	**Ankara**	**84.55**	**358**	P	**P**	**09 44 15.4**	**+1.3**			comp=Z,526nm,1.3s,comp=Z,45µmcomp=Z,217µm								**FRMA**	**Ierapetra Chan**	**89.31**	**4**	P	**P**	**09 44 38.7**	**+1.5**
ANTO				P	**P**	**09 44 15.4**	**+1.3**		**PTL**	**Penteli**	**86.20**	**5**	P	**P**	**09 44 23.9**	**+1.5**		**GVD**	**Gavdhos**	**89.41**	**6**	P	**P**	**09 44 40.7**	**+3.0**
ANTO				S	**SKSac**	**09 54 37.6**	**-0.5**		**LOUT**	**Loutraki**	**86.21**	**6**	P	**P**	**09 44 22.5**	**+0.1**		**RPN**	**Rapa Nui**	**89.42**	**145**	LR	LR	10 16 15.5	
ANTO				S	**SKSac**	**09 54 37.6**	**-0.5**		**GUR**	**Goura**	**86.22**	**7**	P	**P**	**09 44 22.6**	**0.0**			comp=Z,193µm,20.7s,baz=347,slow=30							
BR131	**Keskin Array S**	**84.68**	**358**	P	**P**	**09 44 13.5**	**-1.4**		**MMPI**	**Merauke**	**86.24**	**249**	P	**P**	**09 44 22.6**	**-0.1**		**COEN**	**Coen**	**89.44**	**244**	P	**P**	**09 44 36.3**	**-1.7**
BR131				IAmb	IAmb	09 44 50.5				comp=Z,2µm,1.9s,comp=Z,78µm								COEN				IAmb	IAmb	09 45 37.7	
	comp=Z,686nm,0.9s								**ATH**	**Athens Observa**	**86.27**	**6**	P	**P**	**09 44 23.1**	**+0.5**			comp=Z,2µm,1.9s							
BR131	**Keskin Array S**	**84.68**	**358** *c*	*i* P	**P**	**09 44 15.0**	**+0.1**		**ATHU**	**Athens Univers**	**86.28**	**6**	P	**P**	**09 44 24.0**	**+1.3**		**COEN**	**Coen**	**89.44**	**244**	P	**P**	**09 44 39.7**	**+1.7**
BR131	**Keskin Array S**	**84.68**	**358**	P	**P**	**09 44 15.0**	**+0.1**		**BRCI**	**Bahraich**	**86.30**	**316**	*eP*	**P**	**09 44 23.7**	**+0.7**		**MDP**	**Montagnes des**	**89.48**	**82**	P	**P**	**09 44 36.7**	**-1.6**
	SNR=116								BRCI				*i* x	x	09 47 52.6				comp=Z,341nm,1.0s,baz=315,slow=4.6,SNR=18							
BR131				P	**P**	**09 44 15.0**	**+0.1**		**DZM**	**Mont Dzumac**	**86.31**	**221**	P	**P**	**09 44 24.9**	**+2.0**		MDP				PP	**PP**	**09 48 07.3**	**-2.1**
	SNR=116								**DZM**	**Mont Dzumac**	**86.31**	**221**	LR	LR	10 16 30.1				comp=Z,27nm,0.8s,baz=317,slow=13,SNR=1.5							
BR131				S	**S**	**09 54 39.4**	**-3.0**			comp=Z,270µm,20.8s,baz=34,slow=31								MDP				S	**SKSac**	**09 55 04.8**	**-4.0**
BR131				S	**S**	**09 54 39.4**	**-3.0**		**LTHK**	**Lithakia**	**86.34**	**8**	P	**P**	**09 44 24.4**	**+1.4**			comp=Z,12nm,0.9s,baz=103,slow=5.5,SNR=1.5							
BRTR	**Keskin Array B**	**84.68**	**358**	P	**P**	**09 44 13.5**	**-1.4**		**NOUC**	**Port Laguerre**	**86.39**	**221**	P	**P**	**09 44 25.7**	**+2.5**		MDP				LR	LR	10 23 28.9		
BRTR	**Keskin Array B**	**84.68**	**358**	*i* P	**P**	**09 44 14.8**	**-0.1**		**VLY**	**Voula,Athens**	**86.39**	**6**	P	**P**	**09 44 24.4**	**+1.1**			comp=Z,463µm,20.8s,baz=332,slow=35							
BRTR				pmax	pmax				**PINNC**	**Pines Island,**	**86.44**	**219**	IAMs_20	IAMs_20	10 14 16.5				comp=Z,341nm,1.0s							
	comp=Z,150nm,0.9s									comp=Z,319µm,22.0s								**LUWI**	**Luwuk**	**89.75**	**268**	P	**P**	**09 44 38.0**	**-1.6**
BRTR	**Keskin Array B**	**84.68**	**358**	P	**P**	**09 44 14.6**	**-0.3**		**PINNC**	**Pines Island,**	**86.44**	**219**	P	**P**	**09 44 26.4**	**+3.0**		LUWI				IAmb	IAmb	09 45 29.8		
	comp=Z,148nm,0.9s,baz=3.2,slow=2.2,SNR=75								**OUENC**	**Ouen Island, N**	**86.48**	**220**	IAMs_20	IAMs_20	10 21 43.5				comp=Z,1µm,1.1s							
BRTR				S	**SKSac**	**09 54 35.5**	**-3.6**			comp=Z,313µm,21.0s								**LUWI**	**Luwuk**	**89.75**	**268**	P	**P**	**09 44 40.2**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=94,slow=9.2,SNR=1.8								**OUENC**	**Ouen Island, N**	**86.48**	**220**	P	**P**	**09 44 26.6**	**+2.9**		**LUWI**	**Luwuk**	**89.75**	**268**	P	**P**	**09 44 38.7**	**-0.9**
BRTR				PKKPbc	**PKKPbc**	**10 02 22.4**	**+0.4**		**CM31**	**Chiang Mai Arr**	**86.49**	**298**	P	**P**	**09 44 23.4**	**-0.7**		**LUWI**	**Luwuk**	**89.75**	**268**	P	**P**	**09 44 37.2**	**-2.4**
	comp=Z,22nm,0.8s,baz=173,slow=4.3,SNR=21								**CM31**	**Chiang Mai Arr**	**86.49**	**298**	P	**P**	**09 44 23.4**	**-0.7**			comp=Z,890nm,1.9s,comp=Z,30µmcomp=Z,78µm							
BRTR				PKPPKP	P'P'df	10 10 28.4	-8.8			SNR=424								**TEFE**	**Tefe**	**89.82**	**96**	*eP*	**P**	**09 44 39.0**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=164,slow=4.9,SNR=6.9								CM31				P	**P**	**09 44 23.4**	**-0.7**		**AJM**	**Ajmer**	**89.84**	**322**	*eP*	**P**	**09 44 37.0**	**-2.9**
BRTR				LR	LR	10 23 22.8				SNR=424								AJM				IAmb	IAmb	09 44 47.9	
	comp=Z,276µm,21.8s,baz=23,slow=37								CM31				S	**SKSac**	**09 54 52.4**	**+1.7**			comp=Z,894nm,1.5s							
	comp=Z,148nm,0.9s								CM31				S	**SKSac**	**09 54 52.4**	**+1.7**		AJM				*i* x	x	09 48 09.4	
NONG	**Nongkai**	**84.70**	**294**	P	**P**	**09 44 15.1**	**0.0**		**CMAR**	**Chiang Mai Arr**	**86.49**	**298**	P	**P**	**09 44 22.6**	**-1.5**		**SRDT**	**SRDT**	**89.89**	**296**	P	**P**	**09 44 40.4**	**+0.2**
SMLA	**Simla**	**84.71**	**321**	*eP*	**P**	**09 44 15.1**	**+0.1**		**CMAR**	**Chiang Mai Arr**	**86.49**	**298**	P	**P**	**09 44 23.6**	**-0.5**		**SRDT**	**SRDT**	**89.89**	**296**	P	**P**	**09 44 37.9**	**-2.3**
SMLA				IAmb	IAmb	09 44 24.8				comp=Z,144nm,0.7s,baz=13,slow=5.1,SNR=190									comp=Z,2µm,1.8s,comp=Z,100µm							
	comp=Z,2µm,1.0s								CMAR				S	**SKSac**	**09 54 50.5**	**-0.2**		**NNA**	**Nana**	**90.20**	**111**	P	**P**	**09 44 39.1**	**-2.6**
SMLA				IAMs_20	IAMs_20	10 19 05.0				comp=Z,5.0nm,1.1s,baz=38,slow=4.6,SNR=1.7								NNA				IAmb	IAmb	09 45 02.0	
	comp=Z,220µm,20.0s								CMAR				PKKPbc	**PKKPbc**	**10 02 18.8**	**+1.4**			comp=Z,815nm,1.2s							
LIFNC	**LIFOU**	**84.83**	**220**	P	**P**	**09 44 13.5**	**-2.0**			comp=Z,9.0nm,0.9s,baz=222,slow=4.1,SNR=7.1								**NNA**	**Nana**	**90.20**	**111**	P	**P**	**09 44 40.2**	**-1.4**
LIFNC	**LIFOU**	**84.83**	**220**	P	**P**	**09 44 18.4**	**+2.9**		CMAR				PKPPKP	**P'P'df**	**10 10 29.9**	**-1.0**			comp=Z,103nm,0.9s,baz=338,slow=6.6,SNR=29							
MND	**Mandalay**	**84.84**	**302**	P	**P**	**09 44 16.6**	**+0.8**			comp=Z,4.0nm,0.8s,baz=225,slow=4.7,SNR=5.6								NNA				PP	**PP**	**09 48 13.1**	**-2.4**
OKGL	**Djebel Kef Gue**	**84.84**	**24**	P	P	09 44 26.0	+10		CMAR				LR	LR	10 26 45.0				comp=Z,11nm,0.4s,baz=343,slow=11,SNR=1.1							
XOR	**Xorichti**	**84.85**	**6**	P	**P**	**09 44 16.4**	**+0.8**			comp=Z,400µm,20.0s,baz=40,slow=38								NNA				LR	LR	10 22 54.9	
SWI	**Sorong**	**84.86**	**261**	P	**P**	**09 44 14.8**	**-1.1**			comp=Z,144nm,0.7s									comp=Z,122µm,21.8s,baz=345,slow=34							
	comp=Z,1µm,1.5s,comp=Z,44µmcomp=Z,105µm								**ONTNC**	**Ouen Toro**	**86.52**	**220**	P	**P**	**09 44 25.6**	**+1.7**			comp=Z,103nm,0.9s							
SIJI	**Sorong**	**84.86**	**261**	P	**P**	**09 44 13.4**	**-2.5**		**MDT**	**Midelt**	**86.58**	**29**	LR	LR	10 23 01.6			**MPSI**	**Mapaga**	**90.24**	**271**	P	**P**	**09 44 39.8**	**-2.0**
	comp=Z,1µm,1.2s,comp=Z,37µmcomp=Z,88µm									comp=Z,166µm,18.6s,baz=358,slow=36									comp=Z,261nm,1.4s,comp=Z,29µmcomp=Z,94µm							
USTO	**Oran**	**84.86**	**25**	P	P	09 44 27.0	+11		**EPID**	**Epidavros**	**86.59**	**6**	P	**P**	**09 44 24.4**	**+0.1**		**JHSG**	**JHARSUGUGA**	**90.60**	**312**	*eP*	**P**	**09 44 43.5**	**0.0**
NEO	**Neokhori**	**84.91**	**6**	P	**P**	**09 44 16.6**	**+0.7**		**ISP**	**Isparta**	**86.61**	**0**	P	**P**	**09 44 23.4**	**-1.1**		JHSG				IAmb	IAmb	09 44 51.8		
AZL	**Aizawl**	**84.96**	**306**	*eP*	**P**	**09 44 16.4**	**-0.1**		ISP				IAmb	IAmb	09 45 05.5				comp=Z,1µm,1.3s							
AZL				IAmb	IAmb	09 44 23.8				comp=Z,1µm,1.0s								**JASL**	**Jaisalmer**	**90.69**	**325**	*eP*	**P**	**09 44 43.7**	**-0.2**
	comp=Z,3µm,1.6s								**ISP**	**Isparta**	**86.61**	**0**	IAMs_20	IAMs_20	10 29 19.2			**SAUI**	**Saumlaki**	**90.72**	**257**	P	**P**	**09 44 45.3**	**+1.2**
PTH	**Pithoragarh**	**85.04**	**318**	*eP*	**P**	**09 44 16.1**	**-0.8**			comp=Z,402µm,21.0s								**SAUI**	**Saumlaki**	**90.72**	**257**	P	**P**	**09 44 46.2**	**+2.2**
PTH				*i* x	x	09 47 44.5			**ISP**	**Isparta**	**86.61**	**0**	P	**P**	**09 44 23.4**	**-1.1**		**SAUI**	**Saumlaki**	**90.72**	**257**	P	**P**	**09 44 43.6**	**-0.4**
PRK	**Paraskevi**	**85.11**	**4**	P	**P**	**09 44 17.9**	**+1.0**		ISP				pmax	pmax					comp=Z,3µm,1.3s,comp=Z,84µmcomp=Z,146µm							
LGTI	**Lohaghat**	**85.12**	**318**	*eP*	**P**	**09 44 17.6**	**+0.6**			comp=Z,1µm,1.0s								**MMAI**	**Mount Meron Ar**	**91.32**	**356**	P	**P**	**09 44 47.4**	**+0.6**
LGTI				IAmb	IAmb	09 44 26.2			**SMG**	**Samos**	**86.66**	**3**	P	**P**	**09 44 25.1**	**+0.5**			comp=Z,47nm,1.0s,baz=15,slow=6.9,SNR=12							
	comp=Z,2µm,1.5s								**LBMI**	**Labuha**	**86.77**	**264**	P	**P**	**09 44 25.0**	**-0.4**		MMAI				PP	**PP**	**09 48 21.1**	**-1.9**
LGTI				*i* x	x	09 47 46.5				comp=Z,2µm,2.1s,comp=Z,76µm									comp=Z,40nm,1.0s,baz=15,slow=6.0,SNR=2.7							
DDI	**Dehra Dun**	**85.13**	**320**	*eP*	**P**	**09 44 17.2**	**0.0**		**KRND**	**KRANIDI**	**86.82**	**6**	P	**P**	**09 44 25.6**	**+0.2**		MMAI				S	**SKSac**	**09 55 19.7**	**+0.5**
DDI				IAmb	IAmb	09 44 27.1			**KEST**	**Kesra**	**86.88**	**17**	P	**P**	**09 44 25.1**	**-0.7**			comp=Z,8.1nm,0.9s,baz=353,slow=6.1,SNR=1.0							
	comp=Z,2µm,1.0s								KEST				IAmb	IAmb	09 45 23.8			MMAI				LR	LR	10 31 31.4	
DDI				*i* x	x	09 47 37.0				comp=Z,1µm,1.1s									comp=Z,87µm,19.6s,baz=350,slow=39							
DDI				*ex*	x	09 54 47.8			KEST				IAMs_20	IAMs_20	10 23 30.9				comp=Z,47nm,1.0s							
DDI				IAMs_20	IAMs_20	10 19 15.2				comp=Z,306µm,20.0s								**MACA**	**Manacapuru-AM**	**91.75**	**93**	*eP*	**P**	**09 44 48.7**	**-0.2**
	comp=Z,427µm,25.8s								**KEST**	**Kesra**	**86.88**	**17**	P	**P**	**09 44 26.7**	**+0.9**		**ASF**	**Jabal al Asfar**	**92.09**	**355**	LR	LR	10 31 45.3	
SIGR	**SIGRI**	**85.13**	**4**	P	**P**	**09 44 20.8**	**+3.8**			comp=Z,106nm,0.9s,baz=298,slow=2.1,SNR=21									comp=Z,88µm,21.7s,baz=58,slow=39							
MAKR	**Makrakomi, Fth**	**85.13**	**7**	P	**P**	**09 44 16.7**	**-0.4**		KEST				S	**SKSac**	**09 54 52.2**	**-0.7**		**AUAYR**	**Ayr State High**	**92.17**	**238**	P	**P**	**09 44 52.9**	**+2.4**
AGG	**Agios Georgios**	**85.14**	**7**	P	**P**	**09 44 17.7**	**+0.6**			comp=Z,18nm,1.1s,baz=81,slow=14,SNR=1.4				PKKPbc	**PKKPbc**	**10 02 17.2**	**+0.5**			comp=Z,500nm,1.5s							
EVR	**Evrytania**	**85.21**	**7**	P	**P**	**09 44 20.2**	**+2.7**		KEST				LR	LR	10 23 52.1			**TV1H**	**Townsville Har**	**92.19**	**238**	P	**P**	**09 44 52.6**	**+2.0**
OJBR	**Djebel Berber**	**85.21**	**25**	P	P	09 44 23.0	+5.4			comp=Z,24nm,1.2s,baz=184,slow=8.2,SNR=2.3									comp=Z,149nm,1.2s							
LKD2	**Lefkada island**	**85.25**	**8**	P	**P**	**09 44 19.1**	**+1.5**			comp=Z,133µm,21.2s,baz=311,slow=36								**MTSU**	**Mount Surprise**	**92.42**	**241**	P	**P**	**09 44 54.1**	**+2.3**
LESV	**Lesvos island,**	**85.26**	**3**	P	**P**	**09 44 18.7**	**+1.1**			comp=Z,106nm,0.9s								**SBUM**	**Sibu**	**92.80**	**278**	P	**P**	**09 44 52.6**	**-1.2**
ATAH	**Atahualpa**	**85.31**	**110**	P	**P**	**09 44 18.2**	**-0.4**		**KEST**	**Kesra**	**86.88**	**17**	P	**P**	**09 44 27.3**	**+1.5**			comp=Z,201nm,2.5s,comp=Z,11µmcomp=Z,55µm							
	comp=Z,184nm,1.0s,baz=338,slow=7.1,SNR=34									SNR=32								**RAGD**	**RAYAGADA**	**92.97**	**311**	*eP*	**P**	**09 44 53.2**	**-1.2**
ATAH				LR	LR	10 21 10.8			KEST				P	**P**	**09 44 27.3**	**+1.5**		RAGD				IAmb	IAmb	09 45 03.2	
	comp=Z,150µm,20.6s,baz=345,slow=35									SNR=32									comp=Z,350nm,1.1s							
	comp=Z,184nm,1.0s								KEST				S	**SKSac**	**09 54 51.7**	**-1.1**		RAGD				*i* x	x	09 48 45.5	
CEL	**Celeste**	**85.32**	**12**	P	**P**	**09 44 16.7**	**-1.3**		KEST				S	**SKSac**	**09 54 51.7**	**-1.1**		**GHAJ**	**Ghor Haditha**	**93.02**	**356**	IAMs_20	IAMs_20	10 32 32.4	
CEL				IAmb	IAmb	09 44 50.6			**NDI**	**New Delhi**	**86.92**	**320**	*eP*	**P**	**09 44 24.6**	**-1.5**			comp=Z,284µm,22.0s							
	comp=Z,1µm,1.2s								NDI				*i* x	x	09 48 00.8			**TTSI**	**Tana Toraja**	**93.06**	**269**	P	**P**	**09 44 53.7**	**-1.2**
NYDR	**Nydri-Lefkada**	**85.33**	**8**	P	**P**	**09 44 19.1**	**+1.1**		NDI				IAMs_20	IAMs_20	10 18 59.2				comp=Z,880nm,1.7s,comp=Z,25µmcomp=Z,62µm							
AVE	**Averroes**	**85.33**	**31**	IAMs_20	IAMs_20	10 21 11.8				comp=Z,337µm,38.2s								**CTA**	**Charters Tower**	**93.15**	**238**	LR	LR	10 21 34.4	
	comp=Z,293µm,20.0s								**MACI**	**Morro de la Ar**	**86.98**	**41**	P	**P**	**09 44 25.5**	**-1.1**			comp=Z,298µm,20.5s,baz=31,slow=32							
ODJA	**Bouhanifia**	**85.34**	**25**	P	**P**	**09 44 22.0**	**+3.8**		**DLV**	**T Lat**	**87.00**	**287**	P	**P**	**09 44 26.1**	**-0.7**		**BKB**	**Balikpapan**	**93.24**	**273**	P	**P**	**09 44 56.9**	**+1.2**
DRAG	**Dragano-Lefkad**	**85.35**	**8**	P	**P**	**09 44 17.2**	**-0.9**		DLV				IAmb	IAmb	09 44 55.1			**BKB**	**Balikpapan**	**93.24**	**273**	P	**P**	**09 44 54.5**	**-1.2**
OJGS	**Djebel Guires**	**85.38**	**24**	P	P	09 44 24.0	+5.6			comp=Z,2µm,1.1s									comp=Z,1µm,1.9s,comp=Z,38µmcomp=Z,90µm							
GURO	**Guroymak-BITLI**	**85.40**	**351**	IAMs_20	IAMs_20	10 29 42.8			DLV				IAMs_20	IAMs_20	10 29 29.4			**MMSI**	**Mamuju**	**93.28**	**270**	P	**P**	**09 44 54.3**	**-1.7**
	comp=Z,364µm,21.0s									comp=Z,360µm,18.0s									comp=Z,243nm,2.2s,comp=Z,12µmcomp=Z,38µm							
SKY	**Skiros Island**	**85.41**	**5**	P	**P**	**09 44 20.8**	**+2.4**		**DLV**	**T Lat**	**87.00**	**287**	P	**P**	**09 44 27.7**	**+0.9**		**BBSI**	**Bau Bau**	**93.52**	**265**	P	**P**	**09 45 00.7**	**+3.7**
AXAR	**Agios Charalam**	**85.41**	**6**	P	**P**	**09 44 19.1**	**+0.7**		**GAZ**	**Gaziantep**	**87.10**	**355**	IAMs_20	IAMs_20	10 28 19.8				comp=Z,306nm,1.7s,comp=Z,12µmcomp=Z,40µm							
CAEH	**`Ain El Ouahch**	**85.42**	**19**	P	P	09 44 26.0	+7.5			comp=Z,289µm,21.0s								**PMSI**	**Majene**	**93.94**	**270**	P	**P**	**09 44 58.1**	**-0.9**
EVGI	**Lefkada island**	**85.42**	**8**	P	**P**	**09 44 19.5**	**+1.1**		**PYL**	**PYLOS**	**87.21**	**7**	P	**P**	**09 44 27.9**	**+0.6**			comp=Z,1µm,2.2s,comp=Z,38µmcomp=Z,63µm							
PVO	**Paravola**	**85.49**	**7**	P	**P**	**09 44 21.1**	**+2.3**		**APE**	**Apeiranthos**	**87.25**	**4**	⇓P	**P**	**09 44 29.9**	**+2.3**		**DGPR**	**DIGLIPUR**	**93.96**	**300**	*eP*	**P**	**09 44 59.4**	**+0.3**
AGT	**Agartala**	**85.49**	**307**	*eP*	**P**	**09 44 21.5**	**+2.5**		**APE**	**Apeiranthos**	**87.25**	**4**	P	**P**	**09 44 28.3**	**+0.7**		DGPR				IAmb	IAmb	09 45 06.7	
ANX	**Ano Chora**	**85.54**	**7**	P	**P**	**09 44 19.0**	**-0.2**		**APE**	**Apeiranthos**	**87.25**	**4**	P	**P**	**09 44 29.8**	**+2.3**			comp=Z,752nm,1.0s							
FSK	**Fiskardo**	**85.57**	**8**	P	**P**	**09 44 20.1**	**+0.9**		**YER**	**Yerkesik**	**87.27**	**2**	P	**P**	**09 44 28.8**	**+1.1**		**KDU**	**Kakadu**	**93.98**	**253**	P	**P**	**09 45 00.0**	**+1.0**
VLK	**Valmikinagar**	**85.62**	**315**	*eP*	**P**	**09 44 20.9**	**+1.3**		**BOAV**	**Boa Vista**	**87.28**	**90**	P	**P**	**09 44 26.1**	**-1.8**		**KBD**	**Kabd**	**94.02**	**345**	P	**P**	**09 45 00.7**	**+1.6**
VLK				IAmb	IAmb	09 44 28.7			BOAV				IAmb	IAmb	09 44 51.6			KBD				S	**SKSac**	**09 55 33.5**	**-0.7**
	comp=Z,2µm,1.2s									comp=Z,3µm,1.6s								**RK1H**	**Rockhampton Ha**	**94.03**	**233**	P	**P**	**09 45 01.6**	**+2.6**
VLK				*i* x	x	09 47 33.7			**BOAV**	**Boa Vista**	**87.28**	**90**	*eP*	**P**	**09 44 28.0**	**+0.1**			comp=Z,104nm,0.8s							
VLK				IAMs_20	IAMs_20	10 19 01.4			**BOAV**	**Boa Vista**	**87.28**	**90**	*eP*	**P**	**09 44 26.7**	**-1.2**		**MTKI**	**Muara Teweh, K**	**94.10**	**274**	P	**P**	**09 44 58.3**	**-1.4**
	comp=Z,340µm,23.8s								**VLI**	**Velial**	**87.47**	**6**	P	**P**	**09 44 28.7**	**+0.2**			comp=Z,681nm,2.3s,comp=Z,29µmcomp=Z,72µm							
KYMI	**Kymi, Euboea I**	**85.63**	**5**	P	**P**	**09 44 20.1**	**+0.6**		**MHLO**	**Agia Marina, M**	**87.58**	**5**	P	**P**	**09 44 29.7**	**+0.6**		**GD1S**	**Gladstone Soft**	**94.12**	**232**	P	**P**	**09 45 01.6**	**+2.2**
CMAH	**Djebel Manchou**	**85.67**	**19**	P	**P**	**09 44 22.4**	**+2.6**		**KKM**	**Kota Kinabalu**	**87.62**	**277**	P	**P**	**09 44 30.4**	**+0.8**		**ETMB**	**Extrema**	**94.14**	**101**	*eP*	**P**	**09 44 56.7**	**-3.1**
TNTI	**Ternate**	**85.68**	**265**	P	**P**	**09 44 18.8**	**-1.2**		**KKM**	**Kota Kinabalu**	**87.62**	**277**	P	**P**	**09 44 27.2**	**-2.4**		**AKL**	**Akola**	**94.25**	**317**	*eP*	**P**	**09 44 59.0**	**-1.4**
TNTI				IAmb	IAmb	09 45 26.1				comp=Z,626nm,1.6s,comp=Z,42µmcomp=Z,167µm								AKL				IAmb	IAmb	09 45 08.3	
	comp=Z,1µm,1.2s								**DAT**	**Datca**	**87.66**	**3**	P	**P**	**09 44 34.1**	**+4.5**			comp=Z,444nm,1.7s							
TNTI	**Ternate**	**85.68**	**265**	P	**P**	**09 44 21.4**	**+1.4**		**KUDL**	**Kundal**	**87.67**	**321**	*eP*	**P**	**09 44 29.0**	**-0.6**		AKL				*i* x	x	09 48 31.6	
TNTI	**Ternate**	**85.68**	**265**	P	**P**	**09 44 17.4**	**-2.6**		KUDL				IAMs_20	IAMs_20	10 19 04.3			**MALB**	**Monte Alegre**	**94.29**	**87**	*eP*	**P**	**09 45 00.3**	**-0.2**
	comp=Z,1µm,2.1s,comp=Z,30µmcomp=Z,56µm									comp=Z,19nm,40.0s								**MCPB**	**Macapa, AP**	**94.30**	**84**	*eP*	**P**	**09 44 59.0**	**-1.7**
EFP	**Efpalio**	**85.70**	**7**	P	**P**	**09 44 20.2**	**+0.4**		**KMSI**	**Cibinong**	**87.75**	**268**	P	**P**	**09 44 30.4**	**+0.3**		**VIS**	**Vishakhapatnam**	**94.38**	**311**	*eP*	**P**	**09 44 59.9**	**-1.1**
SET	**Setif**	**85.70**	**20**	P	**P**	**09 44 21.0**	**+1.0**			comp=Z,2µm,1.5s,comp=Z,47µmcomp=Z,93µm								VIS				*i* x	x	09 48 43.2	
KOUNC	**Koumac, New Ca**	**85.73**	**223**	P	**P**	**09 44 19.9**	**-0.1**		**VAR**	**Varanasi**	**87.76**	**314**	*eP*	**P**	**09 44 31.4**	**+1.3**		VIS				*ex*	x	09 52 44.4	
KOUNC				IAmb	IAmb	09 45 29.8			VAR				IAmb	IAmb	09 44 33.8			**SRIT**	**Nakonsritamara**	**94.51**	**292**	IAMs_20	IAMs_20	10 32 43.9	
	comp=Z,2µm,1.8s									comp=Z,633nm,0.7s									comp=Z,415µm,21.0s							
KOUNC	**Koumac, New Ca**	**85.73**	**223**	P	**P**	**09 44 22.4**	**+2.4**		VAR				*i* x	x	09 48 05.0			**SRIT**	**Nakonsritamara**	**94.51**	**292**	P	**P**	**09 45 02.9**	**+1.3**
KEF4	**Livadi, Kephal**	**85.76**	**8**	P	**P**	**09 44 22.1**	**+2.0**		VAR				IAMs_20	IAMs_20	10 19 05.7			**BHUJ**	**Bhuj**	**94.51**	**325**	*eP*	**P**	**09 45 02.7**	**+1.2**
DMLN	**Damoulianata-K**	**85.77**	**8**	P	**P**	**09 44 22.1**	**+1.9**			comp=Z,429µm,33.5s								BHUJ				IAmb	IAmb	09 45 26.5	
TRIZ	**Trizonia**	**85.77**	**7**	P	**P**	**09 44 21.1**	**+0.9**		**CMBO**	**Columbo, Santo**	**87.84**	**4**	P	**P**	**09 44 32.8**	**+2.5**			comp=Z,2µm,2.0s							
KEF3	**Kipouria, Keph**	**85.81**	**8**	P	**P**	**09 44 21.4**	**+1.0**		**BOK**	**Bokaro**	**87.91**	**311**	*eP*	**P**	**09 44 30.7**	**-0.2**		BHUJ				*i* x	x	09 48 45.8	
KMPI	**Kaimana, Papua**	**85.82**	**257**	P	**P**	**09 44 20.3**	**-0.4**		BOK				IAmb	IAmb	09 44 39.6			BHUJ				*ex*	x	09 56 20.9	
	comp=Z,2µm,1.3s,comp=Z,51µmcomp=Z,113µm									comp=Z,682nm,1.3s								**EIL**	**Elat**	**94.67**	**356**	LR	LR	10 35 51.8	
UBPT	**Khong Chiam**	**85.83**	**291**	IAMs_20	IAMs_20	10 26 59.8			BOK				*i* x	x	09 48 05.3				comp=Z,99µm,18.5s,baz=26,slow=41							
	comp=Z,298µm,20.0s								BOK				*ex*	x	09 55 12.1			**KSM**	**Kuching**	**94.67**	**280**	P	**P**	**09 45 01.8**	**-0.6**
UBPT	**Khong Chiam**	**85.83**	**

BANOM S **SKSac** **09 55 40.8 -2.1**
FGPP Fogo **95.66 53** *i* P P 09 45 12.3 +5.1
FGPP *eS* SKSac 09 55 25.9 -18
FGAF Fogo **95.73 53** *i* P P 09 45 13.2 +5.8
FGAF *eS* **SKSac** **09 55 52.1 +8.2**
STAG Santiago **95.81 52** *eP* P 09 45 13.0 +5.4
STAG *eS* SKSac 09 55 20.6 -24
SACV Santiago Islan **95.98 52** IAMs_20 IAMs_20 10 26 33.3
comp=Z,281µm,18.0s
SOEI Soe **96.07 262** P **P** **09 45 10.0 +1.2**
SOEI Soe **96.07 262** P **P** **09 45 09.5 +0.7**
SOEI Soe **96.07 262** P **P** **09 45 08.0 -0.8**
comp=Z,501nm,1.0s,comp=Z,16µmcomp=Z,52µm
UMQ Umm Al-Quwin **96.15 338** *i* P **P** **09 45 09.8 +0.8**
SNR=19
UMQ Umm Al-Quwin **96.15 338** P **P** **09 45 10.2 +1.2**
SNR=9.5
OUZ Omahuta **96.18 210** IAMs_20 IAMs_20 10 24 11.5
comp=Z,241µm,20.0s
OUZ Omahuta **96.18 210** P **P** **09 45 10.6 +2.0**
MASF Masafi **96.19 337** P **P** **09 45 09.0 -0.3**
SNR=33
BBKI Banjar Baru **96.20 273** P **P** **09 45 07.4 -1.9**
comp=Z,135nm,1.0s,comp=Z,18µmcomp=Z,62µm
MSFE Esma-Masafi **96.20 337** *i* P **P** **09 45 10.9 +1.7**
SNR=56
MDH Madha **96.23 337** *i* P **P** **09 45 09.9 +0.5**
SNR=9.1
MDH Madha **96.23 337** P **P** **09 45 08.8 -0.6**
SNR=23
MDH S **SKSac** **09 55 47.9 +1.8**
MMRI Maumere **96.28 264** P **P** **09 45 11.5 +1.9**
MMRI Maumere **96.28 264** P **P** **09 45 08.2 -1.4**
comp=Z,422nm,1.2s,comp=Z,11µmcomp=Z,42µm
VJD Vijayawada **96.58 312** *eP* **P** **09 45 11.5 +0.5**
VJD IAmb IAmb 09 45 20.1
comp=Z,354nm,1.2s
VJD *i* x x 09 49 22.2
UOSS Minazif **96.59 337** IAMs_20 IAMs_20 10 36 03.6
comp=Z,457µm,22.0s
HYB Hyderabad **96.63 315**⇑ *eP* **P** **09 45 10.4 -0.9**
HYB IVmB_BB 09 45 31.2
comp=Z,18µm,6.7s
HYB IVMs_BB IVMs_BB 10 33 23.3
comp=Z,292µm,17.3s
NAZ Nazwa, Dubai **96.67 337** *i* P **P** **09 45 10.8 -0.6**
SNR=13
NAZ Nazwa, Dubai **96.67 337** P **P** **09 45 11.3 -0.1**
SNR=33
NAZ S **SKSac** **09 55 47.5 -0.9**
EDFI Ende, Flores **96.68 264** P **P** **09 45 07.8 -3.8**
comp=Z,162nm,1.6s,comp=Z,9µmcomp=Z,38µm
SAKB Bahrain **96.70 342** P **P** **09 45 11.8 +0.3**
SAKB S **SKSac** **09 55 49.0 +0.6**
HATD Hatta, Dubai **96.72 337** *i* P **P** **09 45 11.7 +0.1**
SNR=13
HATD Hatta, Dubai **96.72 337** P **P** **09 45 11.4 -0.3**
SNR=34
HATD S **SKSac** **09 55 48.5 -0.2**
KULM Kulim **96.75 290** P **P** **09 45 11.6 -0.2**
comp=Z,210nm,1.7s,comp=Z,16µmcomp=Z,111µm
SHMA Al-Shehemyia **96.75 342** P **P** **09 45 12.3 +0.7**
SNR=21
SHMA S **SKSac** **09 55 46.7 -2.0**
QIS Mount Isa **96.81 243** P **P** **09 45 12.4 +0.5**
GC1S Gold Coast 1 S **96.87 228** P **P** **09 45 14.8 +2.9**
ASHO Ashiyiah **96.88 337** *i* P **P** **09 45 13.4 +1.0**
SNR=55
ASHO Ashiyiah **96.88 337** P **P** **09 45 12.4 0.0**
SNR=44
ASHO S **SKSac** **09 55 51.2 +1.6**
FAQ Al Faqa, Dubai **96.92 337** *i* P **P** **09 45 13.1 +0.6**
SNR=68
FAQ Al Faqa, Dubai **96.92 337** P **P** **09 45 12.3 -0.3**
SNR=37
KUZ Kuaotunu **97.04 208** P Pdif 09 45 14.7 +2.2
ASUD Al Ashush, Dub **97.09 338** *i* P **P** **09 45 13.2 -0.1**
SNR=36
ASUD Al Ashush, Dub **97.09 338** P **P** **09 45 13.2 -0.1**
SNR=39
MXZ Matakaoa Point **97.16 205** IAMs_20 IAMs_20 10 33 11.6
comp=Z,196µm,18.0s
AJN Ajban **97.23 338** *i* P Pdif 09 45 15.1 +1.1
SNR=41
AJN Ajban **97.23 338** P Pdif 09 45 14.0 0.0
SNR=19
AJN S **SKSac** **09 55 51.6 +0.4**
JRN Qarnain Island **97.29 340** P Pdif 09 45 14.2 0.0
SNR=17
JRN P Pdif 09 45 14.2 0.0
SNR=17
JRN S **SKSac** **09 55 53.5 +2.0**
JRN S **SKSac** **09 55 53.5 +2.0**
SOHO SOHO **97.30 336** *i* P **P** **09 45 12.9 -1.4**
SNR=55
SOHO SOHO **97.30 336** P **P** **09 45 13.4 -0.8**
SOHO S **SKSac** **09 55 53.5 +1.9**
POO Poona **97.42 319** *eP* **P** **09 45 13.4 -1.5**
POO IAmb IAmb 09 45 27.5
comp=Z,361nm,1.0s
POO *i* x x 09 49 09.8
RMQ Roma **97.49 233** P Pdif 09 45 16.7 +1.8
BIDO Bidbid **97.52 335** P Pdif 09 45 15.7 +0.4
SNR=15
BIDO S **SKSac** **09 55 54.5 +1.7**
ALNE Al Ain **97.55 337** *i* P Pdif 09 45 16.3 +0.8
SNR=7.8
ALNE Al Ain **97.55 337** P **P** **09 45 15.2 -0.2**
SNR=37
LHI Lord Howe Isla **97.61 223** IAMs_20 IAMs_20 10 21 59.3
comp=Z,362µm,22.0s
HOQ Hoqain **97.66 336** P Pdif 09 45 16.0 +0.1
SNR=25
HOQ P Pdif 09 45 16.0 +0.1
SNR=25
WSAR Wadi Sarin **97.67 334** LR LR 10 35 32.1
comp=Z,420µm,20.7s,baz=36,slow=39
WSAR Wadi Sarin **97.67 334** P Pdif 09 45 16.7 +0.7
SNR=19
TRNA Turayna **97.80 341** P Pdif 09 45 16.7 +0.2
SNR=12
SMRA Abu-Samra **97.86 342** P Pdif 09 45 17.0 +0.2
SNR=27
SMRA S **SKSac** **09 55 52.2 -2.2**
NPGB Novo Progresso **97.93 91** *eP* **P** **09 45 16.1 -1.1**
MYKOM Kota Tinggi **97.96 285** IAMs_20 IAMs_20 10 35 23.1
comp=Z,367µm,20.0s
MYKOM Kota Tinggi **97.96 285** P **P** **09 45 17.2 -0.1**
comp=Z,159nm,2.2s,comp=Z,13µmcomp=Z,92µm
SMDO Samad **97.99 335** P Pdif 09 45 17.8 +0.3
SNR=22
SMDO P Pdif 09 45 17.8 +0.3
SNR=22
TOZ Tahuroa Road **98.03 208** IAMs_20 IAMs_20 10 26 49.4
comp=Z,288µm,19.0s
ARQ Araqi **98.08 336** P Pdif 09 45 18.2 +0.4
SNR=34
ARQ P Pdif 09 45 18.2 +0.4
SNR=34
URZ Urewera **98.11 206** LR LR 10 26 20.0
comp=Z,117µm,18.0s,baz=102,slow=33
WBK Wadi Bani Khal **98.19 334** P Pdif 09 45 18.8 +0.5
SNR=12
WBK S **SKSac** **09 55 58.4 +2.1**
MZWR Madinat Zayed **98.23 339** P Pdif 09 45 18.9 +0.4
MZWR P Pdif 09 45 18.9 +0.4
MZWR S **SKSac** **09 55 56.0 -0.4**
MZWR S **SKSac** **09 55 56.0 -0.4**
GHWR Ruwais **98.24 340** P Pdif 09 45 19.1 +0.6
GHWR P Pdif 09 45 19.1 +0.6
GHWR S **SKSac** **09 55 56.7 +0.3**
GHWR S **SKSac** **09 55 56.7 +0.3**
TPRI Tanjung Pinang **98.32 284** P Pdif 09 45 22.7 +3.8
comp=Z,178nm,2.0s,comp=Z,14µmcomp=Z,87µm
SLWR Sila **98.36 341** P Pdif 09 45 19.7 +0.7
SLWR P Pdif 09 45 19.7 +0.7
DBNI Kabupaten Domp **98.38 267** P **P** **09 45 17.3 -1.8**
comp=Z,157nm,2.7s,comp=Z,9µmcomp=Z,45µm
KAD Karad **98.42 318** *eP* **P** **09 45 17.7 -1.7**
KAD IAmb IAmb 09 45 27.3
comp=Z,309nm,1.1s
KAD *i* x x 09 49 20.1
KNRA Kununurra **98.45 255** P Pdif 09 45 20.5 +1.2
BSY Bisya **98.49 335** P Pdif 09 45 19.9 +0.2
SNR=38
BSY P Pdif 09 45 19.9 +0.2
SNR=38
BASI Baing, Sumba **98.51 264** P **P** **09 45 19.6 -0.1**
comp=Z,779nm,1.5s,comp=Z,13µmcomp=Z,39µm
JLN Jalan Bani Buh **98.52 333** P Pdif 09 45 20.4 +0.7
SNR=11
JLN S **SKSac** **09 56 00.7 +2.8**
JMDO Jabal Madar **98.64 335** P Pdif 09 45 21.0 +0.7
SNR=26
JMDO S **SKSac** **09 56 00.5 +1.9**
TAM Tamanrasset **98.69 24** IAMs_20 IAMs_20 10 31 18.2
comp=Z,282µm,21.0s
LHMI Lhok Sumawe **98.74 293** IAMs_20 IAMs_20 10 34 21.9
comp=Z,474µm,20.0s
LHMI Lhok Sumawe **98.74 293** P Pdif 09 45 22.9 +2.1
comp=Z,195nm,0.9s,comp=Z,23µmcomp=Z,97µm
PB18 Visviri **98.76 108**⇑ *eP* **P** **09 45 20.8 -0.6**
PB18 *eS* **SKSac** **09 55 57.5 -2.5**
HIZ Hauiti **98.93 208** IAMs_20 IAMs_20 10 32 21.4
comp=Z,216µm,19.0s
PLAI Plampang **98.94 268** P Pdif 09 45 23.6 +2.0
PLAI Plampang **98.94 268** P **P** **09 45 19.3 -2.3**
comp=Z,171nm,0.9s,comp=Z,8µmcomp=Z,38µm
AP01 Chacalluta **98.95 109**⇑ *eP* **P** **09 45 17.9 -3.6**
AP01 *eS* **SKSac** **09 55 56.9 -2.7**
UMZA Um Al Zommool **98.98 337** P **P** **09 45 21.6 -0.2**
UMZA S **SKSac** **09 55 59.8 -0.3**
WRA Warramunga Arr **99.00 248** P Pdif 09 45 19.7 -2.1
comp=Z,12nm,1.0s,baz=38,slow=4.9,SNR=29
WRA PP **PP** **09 49 24.3 +0.2**
comp=Z,26nm,1.0s,baz=37,slow=8.2,SNR=2.3
WRA PKiKP **PKiKP** **09 49 53.3 +1.0**
comp=Z,44nm,1.1s,baz=18,slow=1.9,SNR=1.4
WRA S **SKSac** **09 55 56.5 -3.4**
comp=Z,4.5nm,0.8s,baz=19,slow=2.8,SNR=1.5
WRA PKKP **PKKPdf** **10 01 49.3 -0.4**
comp=Z,7.0nm,0.9s,baz=221,slow=2.6,SNR=6.2
WRA LR LR 10 26 16.1
comp=Z,337µm,20.3s,baz=30,slow=33
comp=Z,12nm,1.0s
BKZ Black Stump Fm **99.13 206** P **Pdif** **09 45 23.8 +1.9**
MBO M'Bour **99.35 47** IAMs_20 IAMs_20 10 31 32.7
comp=Z,202µm,19.0s
TWSI Taliwang, Sumb **99.38 268** P **Pdif** **09 45 21.4 -2.2**
comp=Z,112nm,1.2s,comp=Z,7µmcomp=Z,38µm
DSRI Dabo **99.45 283** P **Pdif** **09 45 26.4 +2.4**
comp=Z,214nm,1.4s,comp=Z,12µmcomp=Z,75µm
KMMI Kalianget **99.64 272** P **Pdif** **09 45 24.7 0.0**
comp=Z,335nm,2.2s,comp=Z,18µmcomp=Z,48µm
ARMA Armidale **99.64 229** IAMs_20 IAMs_20 10 20 59.7
comp=Z,319µm,22.0s
ARMA Armidale **99.64 229** P **Pdif** **09 45 26.6 +2.2**
QLP Quilpie **99.65 236** P **Pdif** **09 45 26.0 +1.6**
KCSI Kotacane, Aceh **99.75 291** P **Pdif** **09 45 27.4 +2.1**
comp=Z,60nm,0.8s,comp=Z,7µmcomp=Z,69µm
PSI Prapat **99.75 290** P **Pdif** **09 45 25.9 +0.4**
PSI Prapat **99.75 290** P **Pdif** **09 45 24.1 -1.4**
comp=Z,210nm,1.2s,comp=Z,6µmcomp=Z,20µm
SRBI Singaraja **99.78 270** P **Pdif** **09 45 24.1 -1.2**
comp=Z,227nm,1.2s,comp=Z,9µmcomp=Z,43µm
MDRS Chennai **99.84 311** *eP* **Pdif** **09 45 26.7 +1.0**
MDRS IAmb IAmb 09 45 34.3
comp=Z,79nm,1.1s
MDRS IAMs_20 IAMs_20 10 18 51.5
comp=Z,74µm,32.2s
PPBI Pangkal Pinang **99.99 281** P **Pdif** **09 45 26.0 -0.3**
comp=Z,168nm,1.2s,comp=Z,11µmcomp=Z,68µm
MHTO MHTO **100.00 334** P **Pdif** **09 45 26.1 -0.2**
SNR=29
MHTO S **SKSac** **09 56 06.3 +1.0**
ABJI Asem Bagus **100.09 271** P **Pdif** **09 45 24.1 -2.6**
comp=Z,94nm,1.3s,comp=Z,10µmcomp=Z,42µm
GOA Goa **100.21 318** *eP* **Pdif** **09 45 26.9 -0.4**
GOA IAmb IAmb 09 45 35.3
comp=Z,223nm,0.9s
GOA *i* x x 09 49 05.9
GRJI Gresik **100.36 273** P **Pdif** **09 45 30.8 +2.9**
comp=Z,271nm,1.4s,comp=Z,11µmcomp=Z,48µm
AULRC Lightning Ridg **100.37 232** P **Pdif** **09 45 29.6 +2.0**
BYJI Banyuwangi **100.37 271** P **Pdif** **09 45 26.0 -2.0**
comp=Z,243nm,1.9s,comp=Z,48µm
BLJI Banyuglugur **100.41 272** P **Pdif** **09 45 29.4 +1.2**
comp=Z,116nm,1.4s,comp=Z,9µmcomp=Z,39µm
AUPHS Peel High Scho **100.54 229** P **Pdif** **09 45 31.0 +2.7**
BFZ Birch Farm **100.62 206** IAMs_20 IAMs_20 10 30 18.1
comp=Z,208µm,20.0s
JAGI Jajag, Banyuwa **100.69 271** P **Pdif** **09 45 31.1 +1.7**
JAGI Jajag, Banyuwa **100.69 271** P **Pdif** **09 45 27.9 -1.5**
comp=Z,108nm,2.2s,comp=Z,6µmcomp=Z,36µm
BKNI Bangkinang **100.70 287** IAMs_20 IAMs_20 10 39 41.6
comp=Z,333µm,20.0s
BKNI Bangkinang **100.70 287** P **Pdif** **09 45 30.6 +1.1**
BKNI PKP PKiKP 09 49 46.4 -9.2
BKNI Bangkinang **100.70 287** P **Pdif** **09 45 29.7 +0.2**
comp=Z,191nm,1.0s,comp=Z,11µmcomp=Z,74µm
CLDB Colider **100.81 93** *eP* **Pdif** **09 45 30.1 +0.1**
UWJI Ujung Watu **100.81 275** P **Pdif** **09 45 28.9 -1.1**
comp=Z,271nm,1.4s,comp=Z,11µmcomp=Z,36µm
SBSI Sibolga **100.83 289** P **Pdif** **09 45 32.2 +2.1**
JMBI JAMBI **100.92 283** P **Pdif** **09 45 32.5 +2.0**
comp=Z,126nm,0.4s,comp=Z,8µmcomp=Z,32µm
PATCX Punta Patache **101.07 111** *eP* **Pdif** **09 45 17.0 -14**
DQM DQM **101.12 334** P **Pdif** **09 45 31.7 +0.4**
NGJI Ngawi **101.30 274** P **Pdif** **09 45 33.1 +1.0**
comp=Z,216nm,1.3s,comp=Z,14µmcomp=Z,49µm
PMBI Palembang **101.38 282** IAMs_20 IAMs_20 10 40 20.6
comp=Z,241µm,22.0s
SJI Sawahan **101.43 273** P **Pdif** **09 45 36.4 +3.6**
comp=Z,120nm,2.1s,comp=Z,9µmcomp=Z,33µm
SNSI Sinabang, Aceh **101.45 292** P **Pdif** **09 45 33.3 +0.4**
comp=Z,316nm,1.7s,comp=Z,14µmcomp=Z,72µm
SNZO South Karori **101.60 207** IAMs_20 IAMs_20 10 28 16.6
comp=Z,208µm,20.0s
SMRI Semarang **101.61 275** P **Pdif** **09 45 31.6 -2.0**
comp=Z,268nm,2.4s,comp=Z,12µmcomp=Z,47µm
QRZ Quartz Range **101.72 209** IAMs_20 IAMs_20 10 29 29.3
comp=Z,239µm,20.0s
GSI Gunungsitoli **101.73 290** IAMs_20 IAMs_20 10 36 53.7
comp=Z,382µm,22.0s
GSI Gunungsitoli **101.73 290** P **Pdif** **09 45 34.7 +0.6**
GSI Gunungsitoli **101.73 290** P **Pdif** **09 45 33.8 -0.3**
comp=Z,247nm,2.0s,comp=Z,17µmcomp=Z,73µm
CTZ Chatham Island **101.97 200** IAMs_20 IAMs_20 10 38 17.4
comp=Z,184µm,18.0s
SALM Salem **101.97 313** *eP* **Pdif** **09 45 34.0 -1.2**
SALM IAmb IAmb 09 45 43.6
comp=Z,76nm,1.2s
SIV San Ignacio **102.03 101** P **Pdif** **09 45 33.4 -2.0**
comp=Z,12nm,0.6s,baz=300,slow=3.9,SNR=30
SIV PP **PP** **09 49 47.3 +0.3**
comp=Z,79nm,1.0s,baz=326,slow=9.9,SNR=5.0
SIV PKKP **PKKPdf** **10 01 43.5 -0.3**
comp=Z,11nm,0.7s,baz=130,slow=6.1,SNR=9.8
SIV PKPPKP 10 09 58.6
comp=Z,1.9nm,0.9s,baz=215,slow=3.6,SNR=3.8
PDSI Padang **102.05 287** P **Pdif** **09 45 35.7 +0.1**
comp=Z,58nm,1.4s,comp=Z,9µmcomp=Z,61µm
MNGI Mangalore **102.16 316** *eP* **Pdif** **09 45 33.8 -2.2**
MNGI IAmb IAmb 09 45 44.1
comp=Z,191nm,1.1s
MNGI *i* x x 09 49 50.7
UGM Wanagama **102.28 274** P **Pdif** **09 45 36.1 -0.4**
comp=Z,459nm,2.1s,comp=Z,42µm
AS01 Alice Springs **102.28 246** P **Pdif** **09 45 36.9 +0.6**
INKA Innaminka **102.28 239** P **Pdif** **09 45 37.5 +1.4**
ASAR Alice Springs **102.30 246** P **Pdif** **09 45 36.2 -0.2**
comp=Z,3.9nm,0.9s,baz=33,slow=4.5,SNR=19
ASAR PP **PP** **09 49 48.8 -0.3**
comp=Z,42nm,1.1s,baz=17,slow=8.0,SNR=4.1
ASAR S **SKSac** **09 56 11.5 -4.4**
comp=Z,4.1nm,0.9s,baz=46,slow=6.0,SNR=1.3
ASAR PKKPbc **PKKPbc** **10 01 36.1 -0.3**
comp=Z,7.8nm,0.9s,baz=204,slow=1.8,SNR=3.2
ASAR PKPPKP **P'P'df** **10 09 57.1 +1.5**
comp=Z,2.5nm,1.0s,baz=180,slow=0.5,SNR=3.1
THZ Tophouse **102.49 208** IAMs_20 IAMs_20 10 29 14.2
comp=Z,219µm,20.0s
PBSI Pulau Batu **102.50 289** P **Pdif** **09 45 37.2 -0.3**
comp=Z,274nm,1.3s,comp=Z,15µmcomp=Z,69µm
KPJI Karang Pucung **102.69 276** P **Pdif** **09 45 37.0 -1.3**
comp=Z,97nm,1.0s,comp=Z,8µmcomp=Z,49µm
DSZ Denniston Nort **102.77 209** IAMs_20 IAMs_20 10 36 38.2
comp=Z,228µm,18.0s
KHZ Kahutara **102.94 207** IAMs_20 IAMs_20 10 29 02.0
comp=Z,227µm,20.0s
LEM Lembang **103.01 277** Pdiff **Pdif** **09 45 38.9 -1.1**
comp=Z,15nm,0.5s,baz=100,slow=22,SNR=1.6
LEM PP **PP** **09 49 56.8 +2.5**
comp=Z,24nm,0.4s,baz=24,slow=12,SNR=2.5
LEM PKKPbc **PKKPbc** **10 01 32.8 -1.2**
comp=Z,11nm,0.3s,baz=137,slow=11,SNR=1.3
LEM Lembang **103.01 277** P **Pdif** **09 45 41.0 +1.0**
comp=Z,55nm,2.1s,comp=Z,6µmcomp=Z,39µm
SISI Saibi **103.14 288** P **Pdif** **09 45 37.6 -2.7**
comp=Z,147nm,1.6s,comp=Z,9µmcomp=Z,69µm
DOK Doka **103.17 337** P **Pdif** **09 45 41.3 +0.9**
SNR=8.7
DOK S **SKSac** **09 56 20.0 -0.5**
CMSA Cobar Meteorol **103.19 233** P **Pdif** **09 45 42.1 +2.0**
LVC Limon Verde **103.19 111** Pdiff **Pdif** **09 45 39.6 -1.2**
comp=Z,24nm,0.9s,baz=309,slow=5.2,SNR=15
LVC PP **PP** **09 49 56.5 +0.4**
comp=Z,29nm,1.1s,baz=315,slow=5.9,SNR=2.7
LVC PKKP **PKKPdf** **10 01 42.1 -0.3**
comp=Z,13nm,0.7s,baz=71,slow=14,SNR=9.1
LVC PKPPKP 10 09 56.8
comp=Z,2.6nm,0.7s,baz=166,slow=3.4,SNR=5.4
DBJI Dramaga **103.27 278** P **Pdif** **09 45 48.1 +7.2**
SHAO Shalim **103.41 336** P **Pdif** **09 45 41.8 +0.3**
SHAO S **SKSac** **09 56 22.9 +1.2**
LWLI Liwa **103.50 281** P **Pdif** **09 45 41.6 -0.5**
comp=Z,73nm,0.6s,comp=Z,14µmcomp=Z,47µm
KOD Kodaikanal **103.55 313** *eP* **Pdif** **09 45 38.8 -3.8**
KOD IAmb IAmb 09 45 53.3
comp=Z,182nm,1.5s
KOD *i* x x 09 50 04.9
KOD IAMs_20 IAMs_20 10 19 03.5
comp=Z,119µm,26.7s
CNJI Cibinong **103.68 277** P **Pdif** **09 45 44.6 +1.9**
comp=Z,81nm,1.2s,comp=Z,2µmcomp=Z,17µm
INZ Inchbonnie **103.78 209** IAMs_20 IAMs_20 10 37 09.3
comp=Z,240µm,18.0s
DMTO DMTO **103.86 336** P **Pdif** **09 45 43.8 +0.3**
DMTO S **SKSac** **09 56 24.5 +0.8**
MALK Mahakanadarawa **103.89 309** P **Pdif** **09 45 43.7 0.0**
MALK PKP **PKiKP** **09 50 04.0 +2.7**
WHFO Wadi Hawf **103.92 338** P **Pdif** **09 45 44.3 +0.5**
SNR=6.5
WHFO S **SKSac** **09 56 25.2 +1.0**
OXZ Oxford **104.18 208** IAMs_20 IAMs_20 10 37 05.9
comp=Z,193µm,19.0s
RBK Rabkut **104.23 337** P **Pdif** **09 45 46.0 +0.8**
RBK S **SKSac** **09 56 26.0 +0.4**
ABTO Aybut **104.57 338** S **SKSac** **09 56 27.5 +0.4**
EGSI Enggano, Bengk **104.76 283** P **Pdif** **09 45 48.8 +1.3**
OOD Oodnadatta **104.80 242** P **Pdif** **09 45 49.8 +2.5**
RPZ Rata Peaks **104.81 209** IAMs_20 IAMs_20 10 32 28.4
comp=Z,257µm,20.0s
CAN Canberra **104.97 228** IAMs_20 IAMs_20 10 29 55.6
comp=Z,197µm,21.0s
TRD Trivandrum **105.32 312** *eP* **Pdif** **09 45 47.3 -2.7**
TRD IAmb IAmb 09 45 59.0
comp=Z,67nm,1.3s
TRD *i* x x 09 50 08.7
TRD *ex* x x 09 52 36.4
STKA Stephens Creek **105.34 236** P **Pdif** **09 45 51.2 +1.6**
STKA Stephens Creek **105.34 236** Pdiff **Pdif** **09 45 50.2 +0.6**
comp=Z,6.5nm,0.9s,baz=19,slow=5.7,SNR=7.3
STKA PP **PP** **09 50 11.6 -0.1**
comp=Z,49nm,1.0s,baz=3.7,slow=6.5,SNR=4.6
STKA Sdiff 09 56 29.9
comp=Z,7.3nm,1.0s,baz=229,slow=16,SNR=1.8
STKA PKKPbc **PKKPbc** **10 01 27.9 +0.3**
comp=Z,4.4nm,0.8s,baz=278,slow=2.7,SNR=1.7
LBZ Lake Benmore **105.66 209** IAMs_20 IAMs_20 10 40 10.7
comp=Z,231µm,18.0s
LCRK Leigh Creek **105.75 239** P **Pdif** **09 45 53.9 +2.4**
JCZ Jackson Bay **105.76 210** P **Pdif** **09 45 54.6 +3.3**
ODZ Otahua Downs **106.15 208** IAMs_20 IAMs_20 10 37 08.9
comp=Z,184µm,18.0s
ODZ Otahua Downs **106.15 208** P **Pdif** **09 45 55.6 +2.7**
WRKA Warakurna **106.34 250** P **Pdif** **09 45 56.0 +1.7**
WKZ Wanaka **106.39 210** IAMs_20 IAMs_20 10 33 56.4
comp=Z,226µm,18.0s
AC04 Llanos de Chal **106.64 116** *eP* **Pdif** **09 45 49.8 -5.8**
TORD Torodi Ar. Bea **106.98 30** IAMs_20 IAMs_20 10 36 15.1
comp=Z,194µm,19.0s
TORD Torodi Ar. Bea **106.98 30** Pdiff **Pdif** **09 45 57.8 +0.3**
comp=Z,0.4nm,0.5s,baz=344,slow=6.0,SNR=3.0
TORD PKiKP **PKiKP** **09 50 08.3 +1.2**
comp=Z,15nm,0.9s,baz=0.0,slow=1.3,SNR=4.5
TORD PP **PP** **09 50 24.3 +1.5**
comp=Z,23nm,0.9s,baz=357,slow=7.9,SNR=2.5
TORD Sdiff 09 56 39.6
comp=Z,7.0nm,1.1s,baz=324,slow=7.1,SNR=1.4
TORD PKKPbc **PKKPbc** **10 01 17.2 -4.7**
comp=Z,4.0nm,0.8s,baz=163,slow=2.6,SNR=5.4
TORD PKPPKP **P'P'df** **10 09 50.1 -3.4**
comp=Z,7.1nm,1.3s,baz=129,slow=0.4,SNR=4.1
H03N2 Juan Fernandez **107.12 125** T T 11 46 17.3
baz=325,slow=78
H03N1 Juan Fernandez **107.13 125** T T 11 46 18.4
baz=325,slow=78
H03N3 Juan Fernandez **107.14 125** T T 11 46 27.9
baz=325,slow=78
MLZ Mavora Lakes **107.14 210** IAMs_20 IAMs_20 10 34 28.2
comp=Z,185µm,20.0s
LCO Las Campanas **107.48 116**⇑ *eP* **Pdif** **09 45 57.0 -2.6**
DCZ Deep Cove **107.50 211** IAMs_20 IAMs_20 10 37 17.8
comp=Z,211µm,18.0s
RCBR Iracheto **107.74 74** IAMs_20 IAMs_20 10 31 20.2
comp=Z,253µm,20.0s
PSAC2 Pilbara Seismi **108.08 258** IAMs_20 IAMs_20 10 30 53.1
comp=Z,239µm,22.0s
PYZ Puysegur Point **108.28 211** IAMs_20 IAMs_20 10 37 41.3
comp=Z,245µm,18.0s
HMDM Hanimaadhoo **108.42 315** IAMs_20 IAMs_20 10 38 57.6
comp=Z,388µm,21.0s
BDFB Brasilia **109.06 90** IAMs_20 IAMs_20 10 35 02.6
comp=Z,287µm,20.0s
BDFB Brasilia **109.06 90** Pdiff **Pdif** **09 46 07.4 +0.7**
comp=Z,4.0nm,0.7s,baz=318,slow=2.8,SNR=4.3
BDFB PKiKP **PKiKP** **09 50 09.9 -1.1**
comp=Z,23nm,1.2s,baz=344,slow=4.3,SNR=3.5
BDFB PP **PP** **09 50 40.3 +1.3**
comp=Z,54nm,1.1s,baz=32,slow=7.6,SNR=3.9
BDFB Sdiff 09 56 48.1
comp=Z,17nm,1.0s,baz=251,slow=12,SNR=2.1
BDFB PKKPbc **PKKPbc** **10 01 14.1 -1.5**
comp=Z,3.0nm,0.8s,baz=194,slow=4.2,SNR=1.2
VA01 Torpederas **110.26 119** IAMs_20 IAMs_20 10 27 56.7
comp=Z,215µm,19.0s
ROCH El Roble **110.54 119**⇑ *eP* **Pdif** **09 46 12.8 -0.2**
MT02 Curacav **110.71 119** IAMs_20 IAMs_20 10 28 11.2
comp=Z,262µm,20.0s
VA05 Santo Domingo **110.79 119** IAMs_20 IAMs_20 10 27 25.6
comp=Z,245µm,20.0s
CFA Coronel Fontan **110.83 116** Pdiff **Pdif** **09 46 14.9 +0.8**
comp=Z,3.8nm,0.7s,baz=292,slow=2.9,SNR=7.4
CFA PKiKP **PKiKP** **09 50 13.9 +0.1**
comp=Z,14nm,1.0s,baz=301,slow=2.1,SNR=2.6
CFA PP **PP** **09 50 52.0 +0.2**
comp=Z,20nm,1.0s,baz=324,slow=9.0,SNR=4.1
CFA Sdiff 09 56 52.0
comp=Z,1.5nm,0.5s,baz=338,slow=9.2,SNR=0.8
CFA PKKPbc **PKKPbc** **10 01 09.3 -0.8**
comp=Z,5.7nm,0.7s,baz=161,slow=1.3,SNR=0.7
MT05 Renca **111.01 119** IAMs_20 IAMs_20 10 26 12.3
comp=Z,199µm,22.0s
DBIC Dimbokro **111.02 38** Pdiff **Pdif** **09 46 14.9 -0.6**
comp=Z,1.0nm,0.4s,baz=294,slow=4.6,SNR=1.4
DBIC PKiKP **PKiKP** **09 50 15.2 +0.5**
comp=Z,21nm,1.0s,baz=342,slow=2.9,SNR=2.1
DBIC PP **PP** **09 50 53.0 +0.7**
comp=Z,30nm,0.9s,baz=335,slow=9.0,SNR=4.1
DBIC Sdiff 09 56 57.4
comp=Z,29nm,1.1s,baz=17,slow=7.3,SNR=2.6
DBIC PKKPbc **PKKPbc** **10 01 05.0 -4.1**
comp=Z,4.9nm,0.9s,baz=130,slow=4.0,SNR=1.3
MT01 Popeta **111.14 119** IAMs_20 IAMs_20 10 27 51.7
comp=Z,230µm,20.0s
MT09 Talagante **111.20 119** IAMs_20 IAMs_20 10 28 24.2
comp=Z,253µm,21.0s
MT03 Universidad Ad **111.20 118** IAMs_20 IAMs_20 10 27 57.4
comp=Z,167µm,18.0s
MT13 San Alfonso **111.52 118** IAMs_20 IAMs_20 10 26 29.7
comp=Z,194µm,22.0s
BO04 La Punta **111.55 119** IAMs_20 IAMs_20 10 28 06.7
comp=Z,186µm,18.0s
LMEL Las Melosas **111.64 118** IAMs_20 IAMs_20 10 26 33.9
comp=Z,202µm,22.0s
BO01 Tunca **111.64 119** IAMs_20 IAMs_20 10 28 35.1
comp=Z,233µm,19.0s
GO05 Huala **111.73 120** IAMs_20 IAMs_20 10 27 35.4
comp=Z,235µm,22.0s

ATD	Arta Tunnel	112.04	347		IAMs_20	IAMs_20	10 47 21.0		
	comp=Z,251μm,20.0s								
ATD	Arta Tunnel	112.04	347	P		PKiKP	09 50 19.3	+2.6	
BO02	Sierra Bellavi	112.11	120		IAMs_20	IAMs_20	10 28 49.6		
	comp=Z,247μm,20.0s								
CPUP	Villa Florida	112.40	104	Pdiff		Pdif	09 46 21.4	+0.3	
	comp=Z,6.9nm,1.1s,baz=327,slow=8.1,SNR=3.8								
CPUP				PKiKP		PKiKP	09 50 17.3	+0.5	
	comp=Z,11nm,1.1s,baz=343,slow=8.8,SNR=3.3								
CPUP				PP		PP	09 51 03.6	+0.6	
	comp=Z,58nm,1.2s,baz=335,slow=9.0,SNR=6.1								
CPUP				Sdiff			09 57 02.4		
	comp=Z,3.9nm,1.0s,baz=188,slow=4.6,SNR=1.1								
CPUP				PKKPbc		PKKPbc	10 01 03.3	-1.5	
	comp=Z,7.1nm,0.9s,baz=120,slow=5.9,SNR=1.7								
BI05	Punta Hualpn	112.52	122		IAMs_20	IAMs_20	10 29 54.5		
	comp=Z,275μm,18.0s								
ML02	Panimavida	112.58	121		IAMs_20	IAMs_20	10 31 02.0		
	comp=Z,166μm,19.0s								
COCO	West Island	113.39	283		IAMs_20	IAMs_20	10 44 39.1		
	comp=Z,259μm,22.0s								
FURI	Furi	115.08	351		IAMs_20	IAMs_20	10 47 19.9		
	comp=Z,190μm,20.0s								
GO06	Curarrehue	115.60	123			PKPdf	09 50 21.8	-0.9	
GO06					IAMs_20	IAMs_20	10 29 31.9		
	comp=Z,159μm,20.0s								
SPB	Sao Paulo	115.73	94		IAMs_20	IAMs_20	10 41 37.9		
	comp=Z,406μm,21.0s								
LR05	Currie	115.86	124			PKPdf	09 50 22.9	-0.1	
LR05					IAMs_20	IAMs_20	10 29 08.8		
	comp=Z,184μm,20.0s								
LL05	Los Muermos	116.11	126		IAMs_20	IAMs_20	10 29 48.6		
	comp=Z,204μm,20.0s								
MORW	Morawa	116.14	256		IAMs_20	IAMs_20	10 38 54.6		
	comp=Z,292μm,20.0s								
LL06	Loncomilla	116.69	126		IAMs_20	IAMs_20	10 30 03.7		
	comp=Z,214μm,20.0s								
PLCA	Paso Flores	116.94	123	PKPdf		PKiKP	09 50 26.3	+1.1	
PLCA					IAMs_20	IAMs_20	10 32 09.3		
	comp=Z,223μm,19.0s								
PLCA	Paso Flores	116.94	123	PKiKP		PKiKP	09 50 26.3	+1.1	
PLCA	Paso Flores	116.94	123	Pdiff		Pdif	09 46 42.4	+1.3	
	comp=Z,1.9nm,1.1s,baz=319,slow=8.9,SNR=2.1								
PLCA				PKP		PKiKP	09 50 25.4	+0.2	
	comp=Z,48nm,1.1s,baz=322,slow=3.1,SNR=10								
PLCA				PP		PP	09 51 35.4	+0.2	
	comp=Z,35nm,1.0s,baz=294,slow=6.2,SNR=1.5								
PLCA				PKKPab		PKKPab	10 00 53.5	+1.0	
	comp=Z,17nm,1.0s,baz=83,slow=3.8,SNR=11								
PLCA				SKKPbc	SKKPbc		10 04 35.1	-1.8	
	comp=Z,10.0nm,1.0s,baz=119,slow=5.1,SNR=1.7								
LL07	Hotel Espejo d	117.24	127		IAMs_20	IAMs_20	10 30 20.4		
	comp=Z,242μm,20.0s								
LL01	San Ignacio de	117.37	126			PKPdf	09 50 25.2	-0.6	
LL01					IAMs_20	IAMs_20	10 30 28.8		
	comp=Z,178μm,21.0s								
LL01	San Ignacio de	117.37	126	*e*P		PKiKP	09 50 27.1	+1.2	
MCQ	Macquarie Isla	117.95	211		IAMs_20	IAMs_20	10 36 47.5		
	comp=Z,172μm,20.0s								
LL02	Futaleuf	118.26	126			PKPdf	09 50 26.2	-1.3	
LL02					IAMs_20	IAMs_20	10 33 15.4		
	comp=Z,183μm,19.0s								
NWAO	Narrogin (SRO)	118.47	253			PKPdf	09 50 27.5	-0.8	
NWAO	Narrogin (SRO)	118.47	253	PKiKP		PKPdf	09 50 27.5	-0.8	
PLTB	Pedras Altas	118.66	105			PKPdf	09 50 27.8	-0.9	
AY01	Puyuhuapi	118.86	127			PKPdf	09 50 27.4	-1.2	
AY01					IAMs_20	IAMs_20	10 31 09.2		
	comp=Z,207μm,20.0s								
TRQA	Tornquist	119.06	116			PKPdf	09 50 28.4	-0.9	
TRQA					IAMs_20	IAMs_20	10 33 54.2		
	comp=Z,243μm,19.0s								
TRQA	Tornquist	119.06	116	PKiKP		PKPdf	09 50 28.4	-0.9	
COYC	Coyhaique	120.01	128	PKPdf		PKiKP	09 50 32.0	+1.1	
COYC	Coyhaique	120.01	128		IAMs_20	IAMs_20	10 31 44.6		
	comp=Z,183μm,20.0s								
H10N2	ASCENSION HYDR	120.27	55	PKP		PKiKP	09 50 32.3	+0.3	
	baz=317								
H10N3	ASCENSION HYDR	120.27	55	PKP		PKiKP	09 50 32.4	+0.3	
	baz=317								
H10N1	ASCENSION HYDR	120.29	55	PKP		PKPdf	09 50 31.3	-0.8	
	baz=317								
ASCN	Ascension	120.42	55	PKPdf		PKPdf	09 50 30.5	-2.1	
LODK	Lodwar	120.73	355		IAMs_20	IAMs_20	10 54 07.7		
	comp=Z,232μm,21.0s								
LODK	Lodwar	120.73	355	P		PKiKP	09 50 35.8	+2.3	
	SNR=17								
AY03	Cochrane	121.08	129	PKPdf		PKPdf	09 50 32.5	-0.3	
AY03					IAMs_20	IAMs_20	10 33 19.0		
	comp=Z,195μm,19.0s								
H10S3	ASCENSION HYDR	121.18	55	PKP		PKiKP	09 50 36.9	+3.1	
	baz=22								
H10S2	ASCENSION HYDR	121.19	55	PKP		PKiKP	09 50 37.0	+3.1	
	baz=198								
H01W1	Cape Leeuwin H	121.62	254	PKP		PKiKP	09 50 37.2	+3.1	
	baz=344,slow=77,SNR=16								
H01W3	Cape Leeuwin H	121.63	254	PKP		PKiKP	09 50 36.1	+2.0	
	baz=344,slow=77,SNR=20								
H01W2	Cape Leeuwin H	121.64	254	PKP		PKiKP	09 50 36.7	+2.5	
	baz=344,slow=77,SNR=22								
GO08	Villa O'Higgin	122.03	130		IAMs_20	IAMs_20	10 33 49.9		
	comp=Z,257μm,18.0s								
MBAR	Mbarara	124.84	0		IAMs_20	IAMs_20	10 52 39.7		
	comp=Z,221μm,21.0s								
MBAR	Mbarara	124.84	0	P		PKPdf	09 50 41.5	+0.1	
MBAR	Mbarara	124.84	0	*e*Pdif		Pdif	09 48 24.1	+67	
MBAR	Mbarara	124.84	0	*e*P		Pdif	09 47 39.4	+22	
KMBO	Kilima Mbogo	125.12	352		IAMs_20	IAMs_20	10 50 39.1		
	comp=Z,273μm,22.0s								
KMBO	Kilima Mbogo	125.12	352	*i* P		PKiKP	09 50 42.8	+0.4	
	SNR=54								
KMBO	Kilima Mbogo	125.12	352	PKP		PKPdf	09 50 41.6	-0.5	
	comp=Z,31nm,1.0s,baz=356,slow=3.4,SNR=19								
KMBO				PP		PP	09 52 29.9	-0.2	
	comp=Z,58nm,1.2s,baz=29,slow=7.0,SNR=1.3								
KMBO				SKKPbc		SKKPbc	10 04 04.9	-0.9	
	comp=Z,5.0nm,1.0s,baz=146,slow=7.8,SNR=3.1								
KMBO	Kilima Mbogo	125.12	352	P		PKiKP	09 50 43.4	+1.0	
MSEY	Mahe Island	125.22	329		IAMs_20	IAMs_20	10 50 02.7		
	comp=Z,170μm,20.0s								
MSEY	Mahe Island	125.22	329	*i* P		PKiKP	09 50 44.6	+2.3	
	SNR=7.8								
MSEY	Mahe Island	125.22	329	P		PKPdf	09 50 42.0	+0.1	
MG04	Isla Riesco	125.74	133		IAMs_20	IAMs_20	10 34 39.2		
	comp=Z,159μm,19.0s								
GO10	Punta Arenas	126.17	133			PKiKP	09 50 43.4	+0.5	
GO10					IAMs_20	IAMs_20	10 36 35.6		
	comp=Z,171μm,18.0s								
KIBK	Kibwezi	126.25	351		IAMs_20	IAMs_20	10 55 15.7		
	comp=Z,214μm,20.0s								
KIBK	Kibwezi	126.25	351	PKP		PKiKP	09 50 49.9	+5.5	
KIBK	Kibwezi	126.25	351	P		PKiKP	09 50 45.1	+0.7	
	SNR=50								
MG02	Cerro Sombrero	126.66	132	*e*P		PKiKP	09 50 44.0	+0.2	
MG01	Puerto William	128.86	133		IAMs_20	IAMs_20	10 34 37.6		
	comp=Z,178μm,22.0s								
EFI	East Falkland	130.82	125		IAMs_20	IAMs_20	10 56 09.4		
	comp=Z,267μm,20.0s								
SHEL	Horse Pasture	131.35	50		IAMs_20	IAMs_20	10 44 54.3		
	comp=Z,153μm,20.0s								
SBA	Scott Base	136.24	192			PKPdf	09 51 00.7	0.0	
SBA	Scott Base	136.24	192		IAMs_20	IAMs_20	10 49 57.9		
	comp=Z,230μm,18.0s								
SBA	Scott Base	136.24	192	PKiKP		PKPdf	09 51 00.7	0.0	
SBA				MLR		MLR			
	comp=Z,230μm,18.0s								
ROCAM	Rodrigues Isla	136.43	313		IAMs_20	IAMs_20	10 52 46.2		
	comp=Z,293μm,22.0s								
PMSA	Palmer Station	136.59	142			PKPdf	09 51 01.1	-0.6	
PMSA	Palmer Station	136.59	142		IAMs_20	IAMs_20	10 40 24.1		
	comp=Z,180μm,19.0s								
PMSA	Palmer Station	136.59	142	PKhKP		PKPpre	09 50 57.6		
	comp=Z,34nm,0.9s,baz=222,slow=9.5,SNR=2.8								
PMSA				PP		PP	09 53 44.0	-0.7	
	comp=Z,35nm,1.0s,baz=315,slow=14,SNR=8.4								
VNDA	Vanda	136.59	194		IAMs_20	IAMs_20	10 48 33.3		
	comp=Z,162μm,19.0s								
VNDA	Vanda	136.59	194	PKhKP		PKPpre	09 50 55.0		
	comp=Z,4.8nm,0.9s,baz=338,slow=4.2,SNR=6.0								
VNDA				PP		PP	09 53 45.3	+0.8	
	comp=Z,16nm,0.9s,baz=321,slow=7.8,SNR=1.4								
VNDA				SKKPbc	SKKPbc		10 03 29.4	-1.2	
	comp=Z,16nm,1.1s,baz=244,slow=4.5,SNR=3.3								
SMAI	San Martin Ant	137.51	147		IAMs_20	IAMs_20	10 40 31.3		
	comp=Z,138μm,20.0s								
LSZ	Lusaka	139.38	4		IAMs_20	IAMs_20	11 06 15.8		
	comp=Z,285μm,20.0s								
LSZ	Lusaka	139.38	4	SKKPbc		SKKPbc	10 03 13.7	-1.0	
	comp=Z,4.5nm,0.5s,baz=127,slow=11,SNR=1.3								
LSZ	Lusaka	139.38	4	P		PKPdf	09 51 09.1	+0.5	
RER	Riviere de l'E	140.62	322		IAMs_20	IAMs_20	10 54 37.9		
	comp=Z,178μm,21.0s								
RER	Riviere de l'E	140.62	322	P		PKiKP	09 51 13.3	+0.1	
TSUM	Tsumeb	142.00	21		IAMs_20	IAMs_20	10 54 52.6		
	comp=Z,224μm,22.0s								
ORCD	Orcadas	142.09	129			PKPdf	09 51 10.1	-1.8	
VOI	Vohitsoka	144.00	334			PKPbc	09 51 15.0	+0.4	
VOI					IAMs_20	IAMs_20	11 01 16.3		
	comp=Z,192μm,20.0s								
VOI	Vohitsoka	144.00	334	PKP		PKPab	09 51 14.1	0.0	
VOI	Vohitsoka	144.00	334	P		PKPab	09 51 14.0	0.0	
WIN	Windhoek	145.16	23		IAMs_20	IAMs_20	10 56 55.5		
	comp=Z,290μm,22.0s								
H09N1	TRISTAN DA CUNI	145.55	75	PKPbc		PKPdf	09 51 17.6	-1.0	
	SNR=17								
H09W1	TRISTAN DA CUNI	145.56	75	PKPbc		PKPab	09 51 20.1	+1.0	
	SNR=224								
QSPA	South Pole Qui	145.72	180	PKPbc		PKPdf	09 51 18.3	+0.1	
	comp=Z,1μm,0.9s,baz=21,slow=0.2,SNR=73								
LBTB	Lobatse	148.88	9		IAMs_20	IAMs_20	11 07 10.6		
	comp=Z,171μm,20.0s								
BOSA	Boshof	152.41	11			PKPdf	09 51 28.9	-1.3	
BOSA				PKPbc		PKPbc	09 51 36.5	-0.5	
BOSA				PKPab		PKPab	09 51 44.9	-2.2	
BOSA	Boshof	152.41	11	PKPbc		PKPbc	09 51 36.5	-0.5	
	comp=Z,175nm,0.8s,baz=353,slow=1.6,SNR=34								
BOSA				PP		PP	09 55 19.4	+0.4	
	comp=Z,78nm,1.0s,baz=310,slow=10,SNR=1.3								
SUR	Sutherland	155.44	21	P		PKPdf	09 51 34.5	+0.1	
SOE	Somerset East	156.50	11			PKPdf	09 51 33.7	-2.0	
SOE				PKPab		PKPab	09 52 02.8	-1.6	
VNA3	Neumayer Olymp	157.02	147	⇑PKPdf		PKPdf	09 51 32.9	-2.2	
	comp=Z,95nm,1.0s								
VNA3				⇑PP		PP	09 55 47.7	+2.8	
	comp=Z,14nm,1.0s								
VNA1	Neumayer--Stat	157.66	146	⇑PKPdf		PKPdf	09 51 33.8	-2.0	
	comp=Z,76nm,1.0s								
VNA2	Neumayer--Watz	157.83	147	⇑PKPdf		PKPdf	09 51 33.6	-2.5	
	comp=Z,103nm,0.9s,baz=330,slow=2.0								
SNAA	Sanae	158.81	151			PKPdf	09 51 35.1	-2.2	
SNAA				PKPab		PKPab	09 52 12.7	-0.7	
SNAA	Sanae	158.81	151	⇑PKPdf		PKPdf	09 51 35.0	-2.4	
	comp=Z,1μm,1.1s								
SNAA				⇓PP		PP	09 56 05.2	+10	
	comp=Z,176μm,3.2s								
SNAA	Sanae	158.81	151	PKP		PKPdf	09 51 36.6	-0.7	
	comp=Z,51nm,1.0s,baz=122,slow=0.3,SNR=22								
SNAA				PKPab		PKPab	09 52 12.9	-0.5	
	comp=Z,125nm,1.1s,baz=54,slow=0.6,SNR=4.6								
SNAA				PP		PP	09 55 54.0	-0.8	
	comp=Z,47nm,0.9s,baz=217,slow=8.8,SNR=6.7								
TROLL	Troll, Antarti	160.00	154	⇑PKPdf		PKPdf	09 51 36.0	-2.8	
	comp=Z,920μm,6.9s								
MAW	Mawson	161.13	219	PKPdf		PKPdf	09 51 39.6	-0.3	
MAW				PKPab		PKPab	09 52 23.0	-0.5	
MAW	Mawson	161.13	219	PKP2		PKPab	09 52 23.0	-0.5	
MAW							10 51 39.6		
MAW	Mawson	161.13	219	PKP		PKPdf	09 51 38.6	-1.3	
	comp=Z,2.6nm,0.4s,baz=346,slow=8.2,SNR=11								
NVL	N'lazarevskaya	162.99	158	*e*PKiKP		PKPdf	09 51 38.3	-3.4	
NVL				*e*			09 56 16.8		
ELIB	Princess Elisa	163.62	172	*d*PKPdf		PKPdf	09 51 40.2	-2.3	
ELIB				*d*PP		PP	09 56 25.2	+4.8	
H04N2	CROZET ISLANDS	163.64	298	PKP		PKPdf	09 51 43.2	+0.4	
	baz=259								
H04N2				PKPab		pPKPab	09 52 36.5	0.0	
	baz=315								
H04N1	CROZET ISLANDS	163.65	298	PKP		PKPdf	09 51 43.0	+0.1	
	baz=259								
H04N1				PKPab		PKPab	09 52 35.4	+0.5	
	baz=315								
H04N3	CROZET ISLANDS	163.66	298	PKP		PKPdf	09 51 43.0	+0.1	
	baz=259								
H04N3				PKPab		pPKPab	09 52 35.9	-0.6	
	baz=315								
CRZF	Crozet Islands	163.79	297	PKPdf		PKPdf	09 51 41.6	-1.7	
CRZF				PKPab		PKPab	09 52 33.3	-2.4	
H04S1	CROZET ISLANDS	164.05	296	PKP		PKPdf	09 51 44.2	+0.9	
	baz=335								
H04S1				PKPab		PKPab	09 52 36.2	-0.5	
	baz=342								
H04S3	CROZET ISLANDS	164.06	296	PKP		PKPdf	09 51 47.3	+4.0	
	baz=335								
H04S3				PKPab		pPKPab	09 52 38.2	-0.2	
	baz=342								
H04S2	CROZET ISLANDS	164.07	296	PKP		PKPdf	09 51 44.7	+1.5	
	baz=335								
H04S2				PKPab		PKPab	09 52 37.0	+0.3	
	baz=342								

IDC 23 09:36:25.2±1.8, 54°48N×83°69E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=18.2km s-min=11.1km az=13.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.85	129	I	I	09 40 00.0	
	0.1nm,2.8s,baz=309,slow=332,SNR=7.0						
ZALV	Zalesovo Beam	0.85	129	Pg	Pg	09 36 41.5	0.0
	1.3nm,0.3s,baz=310,slow=15,SNR=14						
ZALV				Lg	Lg	09 36 53.8	
	1.9nm,0.3s,baz=314,slow=12,SNR=6.2						
ZALV				Rg	Rg	09 36 58.7	
	2.7nm,0.3s,baz=316,slow=28,SNR=12						
MKAR	Makanchi Array	7.75	187	Pn	Pn	09 38 19.5	+0.3
	baz=16,slow=12,SNR=1.9						
	0.1nm,0.3s						
BVAR	Borovoye Array	8.02	265	Pn	Pn	09 38 22.0	-0.9
	baz=64,slow=12,SNR=2.7						
	0.3nm,0.4s						

IDC 23 09:44:10.1±3.5, 56°21N×149°54W, h0km, mb4.3/2, mbtmp4.2/4, ML3.7/2, Error ellipse: s-maj=63.6km s-min=44.1km az=22.0
AEIC 23 09:44:12.4±2.0, 56°13N±0°08×149°5W±0°1, h1km±8km, Error ellipse: s-maj=11.0km s-min=9.4km az=162.0
NEIC 23 09:44:12.6±1.9, 56°24N±0°09×149°64W±0°10, h21km±10km, ML3.9/13, ML3.7(AEIC), Error ellipse: s-maj=13.7km s-min=7.3km az=193.0

ISC 23 09:44:10.9±1.7, 56°2N±0°2×149°66W±0°08, h10km, n56, σ1§13/59, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.25	299	Pn	Pn	09 44 47.9	-0.2
OHAK				Sn	Sn	09 45 14.7	-1.2
KDAK	Kodiak Island	2.26	316	Pn	Pn	09 44 47.7	-0.5
KDAK				Sn	Sn	09 45 15.3	-0.8
KDAK	Kodiak Island	2.26	316	Pn	Pn	09 44 47.1	-1.1
	37nm,0.3s,baz=110,slow=24,SNR=2.2						
KDAK				Sn	Sn	09 45 14.7	-1.3
	41nm,0.3s,baz=327,slow=19,SNR=3.6						
	71nm,0.4s						
SYI	Shuyak Island	2.84	330	Pn	Pn	09 44 56.2	+0.1
Q23K	Middleton Isla	3.69	27	Pn	Pn	09 45 06.7	-1.2
Q23K				IAML		09 47 23.8	
	comp=N,338nm,1.4s						
MID	Middleton Isla	3.69	27	Pn	Pn	09 45 06.6	-1.3
P19K	Oil Pt	3.96	333	Pn	Pn	09 45 08.4	-3.2
P19K				IAML		09 46 08.6	
	comp=N,71nm,0.2s						
P19K				IAML		09 46 09.4	
	comp=E,367nm,0.6s						
O22K	Cooper Landing	4.30	360	Pn	Pn	09 45 13.5	-2.7
P18K	Big Mountain,	4.38	319	Pn	Pn	09 45 16.2	-1.2
HIN	Hinchinbrook I	4.53	20	Pn	Pn	09 45 18.5	-1.0
RSO	Redoubt South	4.58	340	Pn	Pn	09 45 20.0	-0.3
KAIM	Kayak Island	4.66	34	Pn	Pn	09 45 20.8	-0.5
FID	Port Fidalgo	4.86	19	Pn	Pn	09 45 22.4	-1.6
CHGN	Chignik	4.89	275	Pn	Pn	09 45 25.0	+0.7
CHGN				IAML		09 46 14.2	
	comp=N,40nm,0.1s						
CHGN				IAML		09 46 31.4	
	comp=E,137nm,1.0s						
RAGM	Ragged Mountai	4.96	30	Pn	Pn	09 45 24.1	-1.2
RAGM				IAML		09 48 33.9	
	comp=N,138nm,0.3s						
BERG	Berg Lake	5.25	34	Pn	Pn	09 45 28.5	-0.8
BERG				IAML		09 46 16.8	
	comp=N,77nm,0.3s						
N19K	Bonanza Creek	5.28	333	Pn	Pn	09 45 31.5	+1.7
PMR	Palmer	5.42	3	Pn	Pn	09 45 31.7	+0.1
GHO	Glory Hole Cre	5.61	4	Pn	Pn	09 45 34.8	+0.5
KLU	Klutina	5.65	18	Pn	Pn	09 45 34.1	-0.8
SML	Sawmill	5.67	6	Pn	Pn	09 45 35.3	+0.1
SCM	Sheep Creek Mo	5.78	11	Pn	Pn	09 45 36.6	-0.1
VRDI	Verde Repeater	5.99	30	Pn	Pn	09 45 38.9	-0.8
N25K	Chitina, Valde	6.03	24	Pn	Pn	09 45 40.5	+0.4
GLB	Gilahina Butte	6.07	28	Pn	Pn	09 45 40.0	-0.7
SDPT	Sand Point	6.17	267	Pn	Pn	09 45 42.3	+0.4
M24K	Tolsona, Glenn	6.19	15	Pn	Pn	09 45 43.6	+1.3
BARN	Barnard Glacie	6.42	37	Pn	Pn	09 45 44.9	-0.6
CTGM	Chitina Glacie	6.46	39	Pn	Pn	09 45 44.9	-1.2
LOGN	Logan Glacier	6.49	41	Pn	Pn	09 45 45.8	-0.6
BCPM	Bancas Point	6.51	51	Pn	Pn	09 45 46.1	-0.5
M26K	Nabesna, AK	7.09	26	Pn	Pn	09 45 54.9	+0.3
P29M	Windy Craggy	7.22	57	Pn	Pn	09 45 55.0	-1.4
M27K	Edge Creek, AK	7.35	30	Pn	Pn	09 45 59.0	+0.8
MENT	Mentasta	7.40	22	Pn	Pn	09 45 59.2	+0.4
L26K	Log Cabin Wild	7.56	22	Pn	Pn	09 46 02.4	+1.4
RIDG	Independent Ri	7.94	16	Pn	Pn	09 46 06.9	+0.7
SKAG	Skagway	8.31	61	Pn	Pn	09 46 10.1	-1.2
N30M	Aishikik Lake	8.38	46	Pn	Pn	09 46 11.9	-0.4
M29M	Somme Creek	8.48	38	Pn	Pn	09 46 14.1	+0.4
ILAR	Eielson Array	8.71	8	Pn	Pn	09 46 13.8	-3.0
	comp=N,0.5nm,0.3s,baz=192,slow=13,SNR=1.1						
	comp=N,4.0nm,0.5s						
K27K	Chicken	8.71	23	Pn	Pn	09 46 16.2	-0.6
COLA	College	8.75	5	Pn	Pn	09 46 18.1	+0.8
J26L	Joseph Creek	8.86	17	Pn	Pn	09 46 19.1	+0.2
N31M	Braeburn, Yuko	8.93	48	Pn	Pn	09 46 19.9	+0.1
L29M	L29M	9.05	35	Pn	Pn	09 46 22.1	+0.7
H21K	Melozitna Rive	9.62	352	Pn	Pn	09 46 30.0	+0.9
P33M	Teslin, Yukon	9.75	59	Pn	Pn	09 46 30.1	-0.9
K29M	Barlow Dome	9.77	33	Pn	Pn	09 46 31.7	+0.3
M31M	Drury Creek, Y	9.86	46	Pn	Pn	09 46 32.9	+0.4
J29N	Klondike Camp	10.02	30	Pn	Pn	09 46 34.6	-0.1
G24K	Hadweenzic Riv	10.59	5	Pn	Pn	09 46 44.0	+1.5
FYU	Fort Yukon	10.62	10	Pn	Pn	09 46 43.4	+0.6
J30M	Hart River	10.66	33	Pn	Pn	09 46 45.2	+1.7
MKAR	Makanchi Array	68.54	324	P	P	09 55 15.1	+1.8
	comp=N,5.8nm,0.9s,baz=32,slow=6.0,SNR=1.9						
	comp=N,5.8nm,0.9s						
AKASG	Malin Array Be	73.47	1	P	P	09 55 42.8	-0.2
	comp=N,1.0nm,0.5s,baz=0.4,slow=5.8,SNR=1.2						
	comp=N,1.0nm,0.5s						

IDC 23 09:47:50.3±0.7, 56°24N×149°18W, h0km, mb4.7/26, mbtmp4.7/31, ML4.3/5, Error ellipse: s-maj=17.9km s-min=13.0km az=12.0
MOS 23 09:47:51.0±0.8, 56°30N×149°23W, h13km, mb5.5/14, Error ellipse: s-maj=14.3km s-min=5.7km az=95.6
NEIC 23 09:47:52.6±2.2, 56°15N±0°07×149°23W±0°08, h21km±6km, mb5.0/27, ML4.9/45, ML4.6(AEIC), Error ellipse: s-maj=11.0km s-min=6.0km az=185.0
AEIC 23 09:47:56.5±2.1, 56°15N±0°07×149°23W±0°07, h23km±5km, Error ellipse: s-maj=10.7km s-min=5.7km az=182.0

ISC 23 09:47:51.3±0.5, 56°17N±0°07×149°20W±0°04, h10km, n317, σ1§11/326, mb4.9/47, 8C-2D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.46	313	Pn	Pn	09 48 31.0	-0.3
KDAK	Kodiak Island	2.46	313		Sn	09 48 59.1	-2.3
KDAK	Kodiak Island	2.46	313	Pn	Pn	09 48 30.8	-0.6
	133nm,0.3s,baz=130,slow=4.9,SNR=20						
KDAK				Sn	Sn	09 48 58.0	-3.4
	93nm,0.3s,baz=242,slow=19,SNR=8.1						
	771nm,0.6s						
OHAK	Old Harbor	2.49	297		Pn	09 48 30.8	-1.0
OHAK					Sn	09 48 58.8	-3.4
OH

comp=N,499nm,0.7s
BERG Berg Lake 5.13 32 Pn 09 49 08.0 -0.1
BERG IAML 09 50 08.0
comp=N,1µm,0.9s
CHGN Chignik 5.14 275 Pn 09 49 07.5 -0.7
CHGN IAML 09 50 07.1
comp=N,648nm,0.6s
SNH Sunshine Point 5.24 37 Pn 09 49 10.0 +0.3
SNH IAML 09 50 35.5
comp=N,452nm,1.5s
KNK Knik Glacier 5.27 4 Pn Pn 09 49 09.0 -1.1
KNK IAML 09 50 18.7
comp=E,720nm,0.8s
KNK IAML 09 50 52.4
comp=N,332nm,0.9s
SUA Susitna One 5.37 352 Pn Pn 09 49 09.8 -1.6
SUA IAML 09 50 16.6
comp=N,776nm,1.0s
N19K Bonanza Creek 5.42 331 Pn 09 49 10.1 -2.0
PMR Palmer 5.44 0 Pn Pn 09 49 12.1 -0.2
PMR Palmer 5.44 0 P Pn 09 49 13.0 +0.7
PMR Palmer 5.44 0 P Pn 09 49 12.1 -0.2
STLK Strandline Lak 5.51 347 Pn 09 49 13.3 -0.2
KLU Klutina 5.60 16 Pn Pn 09 49 14.3 -0.3
GHO Glory Hole Cre 5.62 1 Pn Pn 09 49 15.4 +0.5
SML Sawmill 5.67 4 Pn Pn 09 49 15.6 0.0
N18K Kilae Creek 5.72 325 Pn 09 49 14.9 -1.3
SCM Sheep Creek Mo 5.76 9 Pn Pn 09 49 18.8 +2.0
SCM Sheep Creek Mo 5.76 9 P Pn 09 49 18.8 +2.0
O16K Kokwok River B 5.85 310 Pn 09 49 18.1 +0.1
VRDI Verde Repeater 5.89 28 Pn Pn 09 49 19.0 +0.4
N25K Chitina, Valde 5.95 22 Pn Pn 09 49 19.8 +0.4
SKT Skwentna 5.95 349 Pn Pn 09 49 20.6 +1.3
SVW2 Sparrevohn 5.96 329 Pn 09 49 19.0 -0.5
SVW2 Sparrevohn 5.96 329 P Pn 09 49 18.7 -0.7
GLB Gilahina Butte 5.98 26 Pn 09 49 19.6 -0.2
CNBA Chernabura Isl 6.06 261 Pn Pn 09 49 20.0 -0.8
N17K Nushagak Hills 6.06 319 Pn 09 49 20.5 -0.4
M20K Styx River 6.08 342 Pn 09 49 20.3 -0.9
YKU2 Yakutat 6.09 53 P Pn 09 49 22.3 +1.1
M24K Tolsona, Glenn 6.15 13 Pn Pn 09 49 23.0 +0.8
BARN Barnard Glacie 6.29 36 Pn Pn 09 49 24.3 +0.2
PNL Peninsula 6.29 52 P Pn 09 49 24.6 +0.6
CTGM Chitina Glacie 6.33 37 Pn 09 49 24.7 +0.1
BCPM Bancas Point 6.33 49 Pn Pn 09 49 24.9 +0.3
LOGN Logan Glacier 6.34 39 Pn 09 49 25.2 +0.4
M19K Big River Lodg 6.34 337 Pn 09 49 24.0 -0.7
SDPT Sand Point 6.42 267 Pn Pn 09 49 24.8 -0.9
SDPT Sand Point 6.42 267 P Pn 09 49 25.6 -0.2
L19K White Mountain 6.69 337 Pn Pn 09 49 28.4 -1.1
M17K Holitna River 6.77 324 Pn 09 49 30.1 -0.5
O29M Mount Kennedy 6.97 49 Pn Pn 09 49 32.8 -0.6
DHY Denali Highway 6.99 7 Pn Pn 09 49 33.5 -0.2
N15K Kwethluk River 7.01 309 Pn 09 49 34.4 +1.0
P29M Windy Craggy 7.02 56 Pn 09 49 34.4 +0.3
M16K Timber Creek 7.04 318 Pn 09 49 34.2 -0.1
O14K Tigyukauivet M 7.16 301 Pn 09 49 36.2 +0.3
L18K Granite Mounta 7.18 331 Pn Pn 09 49 34.9 -1.2
M27K Edge Creek, AK 7.25 28 Pn 09 49 35.7 -1.6
S31K Pelican 7.30 70 Pn Pn 09 49 36.2 -1.5
MENT Mentasta 7.33 20 Pn Pn 09 49 38.0 -0.3
CAST Castle Rocks 7.41 350 Pn Pn 09 49 39.5 +0.1
L26K Log Cabin Wild 7.49 21 Pn Pn 09 49 42.4 +2.0
TTA Tatalina 7.61 336 Pn Pn 09 49 40.8 -1.3
TTA Tatalina 7.61 336 P Pn 09 49 42.1 0.0
TTA Tatalina 7.61 336 P Pn 09 49 40.8 -1.3
K20K Telida 7.61 343 Pn Pn 09 49 42.1 -0.1
L16K Owhat River 7.68 321 Pn 09 49 42.6 -0.5
HYT Haines Junctio 7.70 48 Pn Pn 09 49 43.6 +0.2
L27K Beaver Creek, 7.85 25 Pn Pn 09 49 45.4 0.0
BCAR Beaver Creek A 7.87 25 Pn Pn 09 49 47.3 +1.6
RIDG Independent Ri 7.90 14 Pn 09 49 47.5 +1.4
K17K Iditarod 8.03 329 Pn 09 49 46.7 -1.1
SKAG Skagway 8.10 60 Pn 09 49 49.2 +0.3
SKAG Skagway 8.10 60 P Pn 09 49 49.5 +0.6
M14K Bethel 8.11 310 Pn 09 49 49.6 +0.7
FALS False Pass 8.18 267 P Pn 09 49 49.8 -0.1
N30M Aishikik Lake 8.21 45 Pn 09 49 49.9 -0.6
J18K Innoko River 8.23 336 Pn Pn 09 49 49.5 -1.1
R32K Eaglecrest 8.24 69 Pn Pn 09 49 50.8 +0.1
O30N Mendenhall 8.27 51 Pn Pn 09 49 51.5 +0.3
JIS Juneau Island 8.31 69 P Pn 09 49 51.4 -0.3
M29M Somme Creek 8.34 37 Pn Pn 09 49 53.2 +1.0
J20K Nowinta River 8.40 345 Pn Pn 09 49 52.4 -0.4
NEA2 Nenana 8.45 0 Pn 09 49 53.4 -0.2
J19K Poorman 8.47 340 Pn Pn 09 49 53.1 -0.8
M13K Dall Lake 8.57 306 Pn Pn 09 49 55.8 +0.6
IL31 8.70 7 Pn Pn 09 49 57.0 -0.1
ILAR Eielson Array 8.70 7 Pn Pn 09 49 52.5 -4.6
comp=N,0.7nm,0.3s,baz=192,slow=12,SNR=2.1
ILAR Sn Sn 09 51 27.0 -8.1
comp=N,3.6nm,0.3s,baz=210,slow=13,SNR=4.2
comp=N,4.9nm,0.7s
L14K Kuka Creek 8.71 312 Pn Pn 09 49 57.3 +0.2
WHY Whitehorse 8.75 53 Pn 09 49 56.9 -1.0
N31M Braeburn, Yuko 8.76 47 Pn 09 49 58.1 +0.3
COLA College 8.76 4 Pn 09 49 58.1 +0.3
COLA College 8.76 4 P Pn 09 49 58.7 +0.9
COLA College 8.76 4 P Pn 09 49 58.1 +0.3
K15K Wolf Creek Mou 8.80 319 Pn Pn 09 49 57.5 -0.9
J26L Joseph Creek 8.81 16 Pn Pn 09 49 59.8 +1.2
MDM Murphy Dome 8.83 3 Pn Pn 09 49 59.8 +0.9
L29M L29M 8.92 34 Pn Pn 09 50 01.4 +1.3
P32M Atlin 8.93 61 Pn 09 50 00.2 0.0
U33K Whale Pass 8.98 84 Pn Pn 09 49 59.9 -0.9
M30M Minto, Yukon 9.01 39 Pn Pn 09 50 03.0 +1.7
I23K Minto, Yukon-K 9.01 360 Pn 09 50 01.7 +0.5
POKR Poker Plat Res 9.02 5 Pn Pn 09 50 02.2 +0.8
I21K Tanana 9.14 353 Pn Pn 09 50 04.9 +1.8
J16K Anvik River 9.15 326 Pn Pn 09 50 04.6 +1.4
DAWY Dawson 9.30 28 Pn Pn 09 50 05.9 +0.7
EGAK Eagle 9.49 21 Pn Pn 09 50 08.3 +0.4
Q32M Nakina River 9.51 66 Pn Pn 09 50 10.0 +1.7
P33M Teslin, Yukon 9.54 58 Pn Pn 09 50 08.6 -0.1
K29M Barlow Dome 9.65 32 Pn Pn 09 50 11.2 +1.1
H21K Melozitna River 9.68 351 Pn Pn 09 50 11.5 +1.1
M31M Drury Creek, Y 9.70 45 Pn Pn 09 50 12.4 +1.7
AKUT Akutan 9.70 265 Pn Pn 09 50 09.7 -1.0
H24K Noodor Dome 9.72 3 Pn Pn 09 50 12.8 +1.7
N32M Quiet Lake 9.76 53 Pn Pn 09 50 13.1 +1.6
J29N Klondike Camp 9.92 29 Pn Pn 09 50 14.7 +1.0
MAYO Mayo, Yukon 9.99 36 Pn Pn 09 50 15.4 +0.7
H02S1 DAWSON INLET T 10.13 100 T T 09 59 45.2
SNR=7.1
FARO Faro, Yukon 10.13 47 Pn Pn 09 50 17.6 +1.0
UNV Unalaska Valle 10.21 264 P Pn 09 50 16.2 -1.5
R33M Jennings River 10.25 64 Pn Pn 09 50 18.5 +0.1
J30M Hart River 10.54 32 Pn Pn 09 50 23.0 +0.7
G23K Bananza Creek 10.59 358 Pn Pn 09 50 24.1 +1.3
G24K Hadweenzic Riv 10.60 4 Pn Pn 09 50 25.5 +2.5
DLBC Dease Lake 10.61 70 Pn Pn 09 50 22.1 -1.2
comp=N,2.9nm,0.3s,baz=261,slow=8.5,SNR=12
DLBC Sn **Sn 09 52 16.8 -5.3**
comp=N,1.6nm,0.3s,baz=293,slow=20,SNR=1.2
comp=N,17nm,0.5s
G18K Tagagawik 10.76 339 Pn Pn 09 50 25.4 +0.2
G16K Koyuk River 11.23 331 Pn Pn 09 50 30.6 -1.0
F21K Alatna River 11.27 351 Pn Pn 09 50 31.7 -0.5
F20K Avaraart Lake 11.34 347 Pn Pn 09 50 33.0 -0.1
F24K Squaw Lake 11.41 3 Pn Pn 09 50 35.7 +1.6
F19K Shaleruckik Mo 11.44 343 Pn Pn 09 50 34.7 +0.3
ANM Nome 11.58 323 Pn Pn 09 50 37.3 +0.9
ANM Nome 11.58 323 P Pn 09 50 37.3 +0.9
SPIA Saint Paul Isl 11.61 284 P Pn 09 50 36.5 -0.4
F17K Baldwin Pennin 11.79 336 Pn Pn 09 50 39.3 +0.1
E19K Redstone River 11.93 345 Pn Pn 09 50 41.3 +0.1
G29M Pine Creek 11.99 22 Pn Pn 09 50 45.0 +2.9
E25K Arctic Village 12.11 7 Pn Pn 09 50 44.7 +0.4
F15K North Star Dit 12.12 328 Pn Pn 09 50 43.6 -0.1
E27K Coleen River 12.55 13 Pn Pn 09 50 47.2 -2.5
D22K Ayikyak River 12.85 354 Pn Pn 09 50 51.9 -2.0
BBB Bella Bella 12.96 99 Pn Pn 09 50 55.3 0.0
D24K Happy Valley 13.03 1 Pn Pn 09 50 58.7 +2.5
F31M Tsiigehtchic 13.40 26 Pn Pn 09 51 03.0 +1.8
C18K Utukok River 13.65 341 Pn Pn 09 51 03.7 -1.1
B21K Ikpikpuk River 13.71 352 Pn Pn 09 51 06.6 +1.1
C19K Lookout Ridge 13.80 344 Pn Pn 09 51 06.6 -0.1
FLDN Fort Liard 14.12 63 Pn Pn 09 51 13.3 +2.3
INK Inuvik 14.13 24 Pn Pn 09 51 13.3 +2.2
INK Inuvik 14.13 24 Pn Pn 09 51 09.9 -1.3
comp=N,0.9nm,0.3s,baz=218,slow=13,SNR=3.4
comp=N,92nm,1.2s
C16K Lisburne Hills 14.21 335 Pn Pn 09 51 14.5 +2.2
B20K Meade River 14.33 349 Pn Pn 09 51 09.3 -4.6
B22K Teshekpuk Lake 14.34 354 Pn Pn 09 51 14.9 +0.9
WRGLY Wrigley 14.71 51 Pn Pn 09 51 21.0 +2.0
ATKA Atka Island 15.12 265 Pn Pn 09 51 24.0 -0.8
ADK Adak 16.65 267 Pn Pn 09 51 43.4 -1.1
ADK IAmb IAmb 09 51 50.8
comp=Z,184nm,1.1s
ADK Adak 16.65 267 P Pn 09 51 43.4 -1.1
ADK pmax pmax
comp=Z,183nm,1.1s
KIWB Kanaga Island 16.93 267 Pn Pn 09 51 47.6 -0.3
C36M Paulatuk 17.31 30 Pn Pn 09 51 51.4 -1.3
C36M IAmb IAmb 09 51 53.1
comp=Z,234nm,1.4s
YKA Yellowknife Ar 18.57 56 P P 09 52 07.8 -0.2
comp=Z,0.4nm,0.3s,baz=265,slow=12,SNR=7.2
comp=Z,23nm,1.0s
A36M Sachs Harbour 18.77 23 P P 09 52 11.5 +1.4
A36M IAmb IAmb 09 52 38.3
comp=Z,67nm,0.8s
AMKA Amchitka 19.12 269 P P 09 52 13.3 -0.8
F04A Amboy 19.58 110 P P 09 52 18.2 -1.0
H04A Detroit Lake 20.55 113 P P 09 52 31.3 +1.5
G05A Wamic 20.62 110 P P 09 52 31.1 +0.5
G05A IAmb IAmb 09 52 48.7
comp=Z,46nm,0.9s
I03D Drain, OR 20.65 116 P P 09 52 31.7 +0.8
I03D IAmb IAmb 09 52 47.8
comp=Z,114nm,1.4s
I04A Tendick Farm, 21.06 115 P P 09 52 36.9 +1.6
DBO Dodson Butte 21.12 117 P P 09 52 37.5 +1.4
K02D Willamette Mer 21.23 119 P P 09 52 36.5 -0.7
SHEM Shemya Is, Ala 21.45 276 P P 09 52 38.3 -1.0
comp=Z,87nm,0.9s,baz=21,slow=13,SNR=3.5
comp=Z,87nm,0.9s
HUMO Hull Mountain 21.64 118 P P 09 52 42.4 +0.8
HUMO IAmb IAmb 09 52 54.3
comp=Z,58nm,0.9s
PINE Pine Mountain 21.81 113 P P 09 52 42.2 -1.4
PINE IAmb IAmb 09 53 01.0
comp=Z,92nm,1.1s
J05D Fort Rock, OR 22.02 114 P P 09 52 44.1 -1.6
KRPM Rodgers 22.23 122 P P 09 52 47.0 -0.9
K04D Chiloquin, OR 22.23 116 P P 09 52 48.2 +0.1
F10A Beach Ranch, E 22.33 104 P P 09 52 49.5 +0.4
BILL Bilibino 23.35 318 *i* P **P 09 52 58.8 -0.6**
WVOR Wild Horse Val 23.96 112 P P 09 53 06.9 +1.2
WVOR Wild Horse Val 23.96 112 P P 09 53 06.9 +1.2
MFID Camas Ranch 24.76 107 P P 09 53 14.4 +1.4
MFID IAmb IAmb 09 53 30.7
comp=Z,27nm,1.0s
HLID Hailey 25.42 105 P P 09 53 18.1 -1.0
PAHR Pah Rah Range 25.60 117 P P 09 53 22.5 +1.8
YERR Yerington 26.23 118 P P 09 53 25.7 -0.7
WAKR Walker 26.50 119 P P 09 53 28.6 -0.3
NVAR Mina Array Bea 27.12 118 P P 09 53 36.0 +1.6
comp=Z,5.4nm,1.0s,baz=305,slow=9.5,SNR=3.8
comp=Z,9.4nm,1.0s
R11B Troy Canyon, C 28.55 114 P P 09 53 48.0 +0.8
R11B IAmb IAmb 09 53 59.6
comp=Z,40nm,1.1s
BW06 Boulder Array 28.60 101 P P 09 53 47.4 -0.3
PD31 Pinedale Array 28.60 101 P P 09 53 46.2 -1.5
PDAR Pinedale Array 28.60 101 P P 09 53 48.2 +0.5
PDAR Pinedale Array 28.60 101 P P 09 53 48.9 +1.2
comp=Z,2.6nm,0.8s,baz=316,slow=5.0,SNR=2.0
comp=Z,2.6nm,0.8s
S11A Rachel, 29.00 116 P P 09 53 50.6 -0.6
SEY Seymchan 29.41 307 ⇓ *i* P **P 09 53 54.2 -0.2**
SEY pmax pmax
comp=Z,17nm,0.8s
PRN Pahroc Range 29.54 115 P P 09 53 54.7 -1.3
PET Petropavlovsk 29.78 286 *eP* **P 09 53 58.4 +0.7**
PET pmax pmax
comp=Z,15nm,0.7s
TCRU Three Creeks R 29.98 110 P P 09 53 59.2 -0.7
PETK Petropavlovsk- 30.25 287 P P 09 54 00.0 -1.9
PETK Petropavlovsk- 30.25 287 P P 09 54 02.2 +0.2
comp=Z,23nm,0.9s,baz=58,slow=13,SNR=20
comp=Z,23nm,0.9s
LCMT Little Creek M 30.77 113 P P 09 54 06.7 -0.1
MA2 Magadan 31.16 302 P P 09 54 11.3 +1.4
MA2 Magadan 31.16 302 P P 09 54 11.3 +1.4
TIXI Tiksi 35.79 328 P P 09 54 50.5 +0.5
TIXI Tiksi 35.79 328 P P 09 54 50.5 +0.5
BGNE Belgrade 35.84 92 P P 09 54 49.6 -1.2
ANMO Albuquerque 35.89 108 *eP* **P** 09 55 01.3 +10
ANMO pmax pmax
comp=Z,16nm,1.3s
JFWS Jewell Farm 39.26 84 P P 09 55 20.5 +0.8
JFWS Jewell Farm 39.26 84 P P 09 55 20.5 +0.8
YAK Yakutsk 39.49 313 P P 09 55 22.2 +0.9
YAK Yakutsk 39.49 313 ⇓ *i* P **P 09 55 21.7 +0.3**
YAK pmax pmax
comp=Z,76nm,0.9s
ABTX Abilene, Hawle 41.33 103 P P 09 55 36.0 -1.0
ABTX IAmb IAmb 09 56 02.3
comp=Z,26nm,1.1s
TXAR Lajitas Array 41.74 111 P P 09 55 40.3 -0.2
comp=Z,5.4nm,1.1s,baz=324,slow=4.5,SNR=0.9
comp=Z,5.4nm,1.1s
OZNA Ozona 41.84 107 P P 09 55 40.1 -1.1
OZNA IAmb IAmb 09 56 00.9
comp=Z,36nm,1.4s
SUMG Summit 43.05 24 P P 09 55 50.2 -0.8
SUMG IAmb IAmb 09 56 14.1
comp=Z,44nm,1.2s
SPITS Spitsbergen Ar 45.62 4 P P 09 56 09.9 -1.2
comp=Z,15nm,0.8s,baz=349,slow=14,SNR=3.6
comp=Z,15nm,0.8s
SPB2 Spitsbergen Ar 45.62 4 P P 09 56 09.6 -1.4
SPB2 IAmb IAmb 09 56 12.8
comp=Z,22nm,0.9s
NRIK Noril'sk 48.23 337 P P 09 56 31.9 +0.4
NRIK IAmb IAmb 09 56 58.2
comp=Z,21nm,1.1s
NRIK Noril'sk 48.23 337 P P 09 56 31.7 +0.2
comp=Z,8.0nm,0.5s,baz=55,slow=6.7,SNR=7.5
comp=Z,8.0nm,0.5s
USRK Ussuriysk Ar. 49.16 291 P P 09 56 39.0 +0.1
USRK Ussuriysk Ar. 49.16 291 P P 09 56 39.0 +0.1
comp=Z,3.1nm,0.9s,baz=50,slow=2.5,SNR=1.8
comp=Z,3.1nm,0.9s
MDJ Mudanjiang 50.11 293 P P 09 56 46.6 +0.4
MDJ pmax pmax
comp=Z,24nm,2.4s
MDJ pmax pmax
comp=Z,8µm,7.2s
MSHR Mys Shultsa 50.72 290 *i* P **P 09 56 53.7 +2.9**
MSHR pmax pmax
comp=Z,137nm,1.8s
ARCES ARCESS Array B 54.54 2 P P 09 57 18.7 -0.1
comp=Z,5.2nm,0.6s,baz=4.4,slow=7.6,SNR=20
comp=Z,5.2nm,0.6s
KSRS Korea Array 56.14 288 P P 09 57 31.3 +0.6
comp=Z,3.2nm,0.8s,baz=46,slow=7.6,SNR=5.7
comp=Z,3.2nm,0.8s
SONM Songino Array 58.74 310 *eP* **P 09 57 50.8 +1.7**
SONM pmax pmax
comp=Z,23nm,0.9s
SONM Songino Array 58.74 310 P P 09 57 50.0 +0.9
comp=Z,23nm,0.8s,baz=46,slow=7.3,SNR=19
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 61.68 327 P P 09 58 09.8 +0.8
comp=Z,15nm,0.6s,baz=31,slow=6.8,SNR=21
comp=Z,15nm,0.6s
HHC Hu-ho-hao-te 61.83 302 *eP* **P 09 58 12.4 +2.1**
HHC pmax pmax
comp=Z,8µm,5.6s
NB2 NORSAR Subarra 62.11 11 P P 09 58 12.1 +0.3
comp=Z,2.9nm,0.6s,baz=347,slow=6.9
NOA NORSAR Array B 62.11 11 P P 09 58 11.9 +0.1
comp=Z,5.4nm,0.7s,baz=348,slow=6.7,SNR=11
comp=Z,5.4nm,0.7s
FINES FINESS Array B 62.67 3 P P 09 58 15.8 +0.4
comp=Z,14nm,0.7s,baz=357,slow=8.5,SNR=23
comp=Z,14nm,0.7s
HFS Hagfors 63.25 9 P P 09 58 19.3 0.0
comp=Z,3.7nm,0.6s,baz=5.7,slow=2.9,SNR=10
comp=Z,3.7nm,0.6s
NJ2 Nanjing 65.06 291 *eP* **P 09 58 29.5 -2.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
EKA Eskdalemuir Ar 65.47 21 P P 09 58 34.2 +0.3
comp=Z,3.8nm,0.8s,baz=329,slow=5.3,SNR=5.6
comp=Z,3.8nm,0.8s
VSU Vasula 65.67 2 ⇑ *iP* **P 09 58 35.8 +0.7**
VSU pmax pmax
comp=Z,41nm,0.7s
KURK Kurchatov 66.35 329 P P 09 58 40.4 +0.8
BRVK Borovoye 66.40 335 ⇑ *iP* **P 09 58 39.5 -0.4**
BVAR Borovoye Array 66.40 335 P P 09 58 39.7 -0.3
comp=Z,8.0nm,0.9s,baz=33,slow=6.2,SNR=5.1
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 66.46 329 P P 09 58 40.4 +0.1
comp=Z,5.8nm,0.7s,baz=27,slow=6.4,SNR=6.9
comp=Z,5.8nm,0.7s
MK31 Makanchi Array 68.71 325 *c iP* **P 09 58 54.9 +0.2**
MKAR Makanchi Array 68.71 325 P P 09 58 55.0 +0.3
comp=Z,9.1nm,0.6s,baz=32,slow=6.0,SNR=30
comp=Z,9.1nm,0.6s
OBN Obninsk 68.97 356 ⇑ *iP* **P 09 58 56.4 +0.3**
OBN *e* 09 59 20.4
OBN *e* 10 01 28.7
OBN *eS* S 10 08 20.5 +20
OBN pmax pmax
comp=Z,33nm,1.4s
OBN MLR MLR
comp=Z,206µm,16.0s
WMQ Urumqi 69.46 320 *eP* **P 09 59 01.4 +1.9**
WMQ pmax pmax
comp=Z,16nm,1.1s
MNK Minsk 69.66 2 *i* P **P 09 59 01.5 +1.1**
comp=E,27nm,1.4s
MNK *i* P **P 09 59 01.5 +1.1**
comp=N,55nm,1.6s
MNK *i* P **P 09 59 01.5 +1.1**
comp=Z,68nm,1.0s,baz=358
MNK *i* S **S 10 08 06.0 -2.4**
MNK Minsk 69.66 2 *i* P **P 09 59 01.5 +1.1**
MNK *i* S **S 10 08 06.0 -2.4**
MNK pmax pmax
comp=Z,68nm,1.0s
MNK pmax pmax
comp=E,27nm,1.4s
MNK pmax pmax
comp=N,55nm,1.5s
BELG Belogornoye 70.91 349 *i* P **P 09 59 08.8 +0.7**
BELG pmax pmax
comp=Z,11nm,1.5s
CLL Collm 71.88 12 *eP* **P 09 59 15.0 +1.1**
CLL Collm 71.88 12 *eP* **P 09 59 15.0 +1.1**
HSKC Hora Svate Kat 72.62 11 *eP* **P 09 59 19.2 +0.8**
PVCC Panska Ves 72.82 11 *eP* **P 09 59 20.6 +1.0**
PVCC Panska Ves 72.82 11 *eP* **P 09 59 20.6 +1.0**
NKC Novy Kostel 72.87 12 *eP* **P 09 59 20.2 +0.3**
NKC Novy Kostel 72.87 12 *eP* **P 09 59 20.2 +0.3**
DPC Dobruska-Polom 73.17 10 *eP* **P 09 59 22.5 +0.8**
DPC Dobruska-Polom 73.17 10 *eP* **P 09 59 22.5 +0.8**
KRLC Kraliky 73.48 9 *eP* **P 09 59 24.4 +0.8**
KRLC Kraliky 73.48 9 *eP* **P 09 59 24.4 +0.8**
AKASG Malin Array Be 73.49 1 P P 09 59 23.6 +0.1
comp=Z,12nm,0.7s,baz=359,slow=5.8,SNR=25
comp=Z,12nm,0.7s
AKBB Malin Array Si 73.49 1 ⇑ *iP* **P 09 59 23.5 0.0**
OKC Ostrava-Krasne 73.83 8 *eP* **P 09 59 24.8 -0.8**
OKC Ostrava-Krasne 73.83 8 *eP* **P 09 59 24.8 -0.8**
MORC Moravsky Berou 73.84 9 *eP* **P 09 59 26.2 +0.5**
ZVC Zvikov 73.85 11 *eP* **P 09 59 26.8 +1.1**
KHC Kasperske Hory 74.09 12 *eP* **P 09 59 26.9 -0.2**
KHC Kasperske Hory 74.09 12 *eP* **P 09 59 26.9 -0.2**
VRAC Vranov 74.22 10 *eP* **P 09 59 28.8 +0.9**
MAUC Maruska 74.28 9 *eP* **P 09 59 28.5 +0.3**
GERES GERESS Array B 74.38 12 P P 09 59 29.5 +0.5
comp=Z,2.4nm,0.6s,baz=349,slow=5.7,SNR=4.8
comp=Z,2.4nm,0.6s
KRUC Moravsky 74.45 10 *eP* **P 09 59 30.0 +0.8**
PZH PanZhiHua 78.21 300 P P 09 59 51.6 +0.5
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
KIV Kislovodsk 79.74 351 *eP* **P 09 59 58.7 -0.4**
KIV pmax pmax
comp=Z,17nm,1.1s
KBZ Khabaz 79.95 351 ⇑ *eP* **P 10 00 01.4 +1.3**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 79.95 351 P P 10 00 00.8 +0.8
comp=Z,7.1nm,0.9s,baz=301,slow=5.0,SNR=4.8
comp=Z,7.1nm,0.9s
ESDC Sonseca Array 80.07 27 P P 10 00 01.9 +0.9
comp=Z,3.0nm,0.8s,baz=337,slow=4.9,SNR=6.7
comp=Z,3.0nm,0.8s
GEYT Alibeck 83.43 339 P P 10 00 19.7 +1.0
comp=Z,3.4nm,0.7s,baz=355,slow=3.3,SNR=2.5
comp=Z,3.4nm,0.7s
BR131 Keskin Array S 84.44 358 ⇑ *iP* **P 10 00 24.6 +0.6**
BRTR Keskin Array B 84.44 358 P P 10 00 24.6 +0.6
comp=Z,4.4nm,0.8s,baz=14,slow=1.6,SNR=5.6
comp=Z,4.4nm,0.8s
CMAR Chiang Mai Arr 86.37 298 *eP* **P 10 00 34.3 +0.6**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 86.37 298 P P 10 00 34.1 +0.4
comp=Z,5.9nm,0.8s,baz=10.0,slow=4.1,SNR=11
comp=Z,5.9nm,0.8s
QSPA South Pole Qui 145.96 180 PKPbc **PKPdf 10 07 29.1 +0.3**
comp=Z,3.6nm,0.3s,baz=134,slow=2.6,SNR=1.5
LBTB Lobatse 148.64 9 PKPbc **PKPbc 10 07 38.5 +0.1**
comp=Z,11nm,0.8s,baz=278,slow=1.0,SNR=7.4
BOSA Boshof 152.18 10 PKPbc **PKPbc 10 07 46.3 -0.4**
comp=Z,6.5nm,0.8s,baz=29,slow=2.3,SNR=8.0
SNAA Sanae 159.02 151 ⇑ P PKPdf 10 07 38.5 -9.3
comp=Z,91nm,1.0s

IDC ***23*** *09:55:31.3±0.7,56.03N×149.66W,h0km,mb4.1/20, mbtmp4.2/26,ML4.3/6, Error ellipse: s-maj=19.7km s-min=13.0km az=30.0*
NEIC ***23*** *09:55:36.6±2.0,56.10N±0.07×149.48W±0.09,h34km±5km, mb4.4/24,ML4.5/42,ML4.5(AEIC),Error ellipse: s-maj=10.4km s-min=7.1km az=175.0*
AEIC ***23*** *09:55:38.2±2.1,56.11N±0.07×149.46W±0.09,h10km±4km, Error ellipse: s-maj=10.5km s-min=7.3km az=178.0*
ISC 23 09:55:35.0±2.6, 56.12N±0.06×149.53W±0.05,
h24km±19km,n407,σ1s15/414,mb4.3/30,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.35**	**300**		**Pn**	**09 56 12.4**	**+0.4**
OHAK					**Sn**	**09 56 39.1**	**-1.0**
OHAK				IAML		09 56 39.2	
	comp=N,1µm,0.5s						
OHAK				IAML		09 56 40.0	
	comp=E,1µm,0.8s						
OHAK	**Old Harbor**	**2.35**	**300**	P	**Pn**	**09 56 12.5**	**+0.5**
OHAK	**Old Harbor**	**2.35**	**300**	P	**Pn**	**09 56 12.4**	**+0.4**
	baz=116						
OHAK				S	**Sn**	**09 56 38.5**	**-1.6**
	baz=116						
KDAK	**Kodiak Island**	**2.36**	**316**		**Pn**	**09 56 13.0**	**+0.8**
KDAK	**Kodiak Island**	**2.36**	**316**		**Sn**	**09 56 39.5**	**-0.9**
KDAK				IAML		09 56 40.9	
	comp=E,1µm,0.5s						
KDAK	**Kodiak Island**	**2.36**	**316**	S	**Sn**	**09 56 39.3**	**-1.1**
	baz=133						
KDAK	**Kodiak Island**	**2.36**	**316**	Pn	**Pn**	**09 56 10.3**	**-1.9**
	comp=E,36nm,0.3s,baz=147,slow=7.4,SNR=9.5						
KDAK				Sn	**Sn**	**09 56 37.7**	**-2.7**
	comp=E,181nm,0.3s,baz=233,slow=23,SNR=24						
	comp=E,109nm,0.4s						
Q20K	**Shuyak Island**	**2.94**	**329**	P	**Pn**	**09 56 20.9**	**+0.7**
	baz=146						
Q20K				S	**Sn**	**09 56 54.5**	**-0.1**
	baz=146						
SYI	**Shuyak Island**	**2.94**	**329**		**Pn**	**09 56 20.7**	**+0.6**
SYI					**Sn**	**09 56 54.7**	**+0.1**
SYI				IAML		09 56 56.1	
	comp=E,1µm,0.5s						
CNPM	**China Poot**	**3.54**	**346**		**Pn**	**09 56 28.4**	**0.0**
CNPM					**Sn**	**09 57 08.2**	**-1.2**

CNPM IAML 09 57 10.3
comp=N,1µm,0.5s
Q19K Cape Douglas, 3.59 323 Pn Pn 09 56 27.5 -1.5
Q19K IAML 09 57 17.4
comp=N,1µm,1.2s
Q19K Cape Douglas, 3.59 323 P Pn 09 56 29.9 +0.9
baz=140
BRSE Bradley Lake S 3.69 350 Pn 09 56 30.2 -0.3
BRSE Sn 09 57 11.7 -1.5
BRSE Bradley Lake S 3.69 350 P Pn 09 56 30.2 -0.3
baz=169
BRSE S Sn 09 57 11.7 -1.5
baz=169
HOM Homer 3.73 343 Pn 09 56 30.4 -0.5
HOM IAML 09 57 17.3
comp=N,786nm,0.3s
HOM IAML 09 57 22.0
comp=E,741nm,0.9s
HOM Homer 3.73 343 P Pn 09 56 30.4 -0.5
baz=161
Q23K Middleton Isla 3.73 26 Pn Pn 09 56 30.8 -0.2
Q23K Middleton Isla 3.73 26 P Pn 09 56 30.6 -0.3
baz=208
MID Middleton Isla 3.73 26 Pn Pn 09 56 30.7 -0.3
MID IAML 09 58 11.0
comp=E,253nm,1.5s
MID Middleton Isla 3.73 26 P Pn 09 56 30.7 -0.3
AU22 Augustine Moun 3.85 329 Pn 09 56 33.3 +0.6
SEW Seward 4.00 1 Pn 09 56 34.6 -0.1
SEW Seward 4.00 1 P Pn 09 56 34.2 -0.5
baz=180
PLK3 Peulik 3 4.02 296 Pn 09 56 36.2 +1.3
P23K Montague Islan 4.05 15 Pn 09 56 34.8 -0.6
P23K Montague Islan 4.05 15 P Pn 09 56 34.8 -0.6
baz=196
P19K Oil Pt 4.06 332 Pn Pn 09 56 35.7 +0.2
P19K IAML 09 57 26.8
comp=E,1µm,0.4s
P19K IAML 09 57 27.8
comp=N,964nm,0.4s
CNTC Contact Creek 4.07 305 Pn 09 56 36.6 +0.8
Q17K Contact Creek 4.07 305 P Pn 09 56 35.5 -0.3
baz=119
PLK1 Peulik 1 4.23 296 Pn 09 56 39.3 +1.5
O22K Cooper Landing 4.38 359 Pn Pn 09 56 40.9 +1.0
P18K Big Mountain, 4.48 319 Pn 09 56 41.0 -0.3
P18K Big Mountain, 4.48 319 P Pn 09 56 41.5 +0.1
baz=134
HIN Hinchinbrook I 4.58 19 Pn 09 56 42.9 +0.3
HIN IAML 09 57 43.9
comp=E,335nm,1.1s
R16K Pilot Point 4.65 292 Pn 09 56 44.5 +0.9
R16K Pilot Point 4.65 292 P Pn 09 56 44.9 +1.3
baz=105
KAIM Kayak Island 4.69 33 Pn 09 56 44.5 +0.4
KAIM IAML 09 57 45.6
comp=E,360nm,0.3s
KAIM Kayak Island 4.69 33 P Pn 09 56 44.1 0.0
baz=217
O19K Port Alsworth 4.81 330 Pn Pn 09 56 45.9 +0.1
O18K Koktuh Hills 4.81 323 Pn 09 56 46.2 +0.3
O18K IAML 09 57 43.3
comp=N,254nm,0.5s
O18K Koktuh Hills 4.81 323 P Pn 09 56 46.0 +0.1
baz=138
EYAK Cordova Ski Ar 4.87 23 Pn 09 56 46.7 +0.1
EYAK Cordova Ski Ar 4.87 23 P Pn 09 56 46.7 +0.1
baz=205
FID Port Fidalgo 4.92 18 Pn 09 56 47.4 +0.1
FID IAML 09 57 41.3
comp=N,747nm,0.4s
FID IAML 09 57 43.0
comp=E,560nm,0.7s
CHGN Chignik 4.96 276 Pn 09 56 49.0 +1.1
CHGN IAML 09 57 46.6
comp=N,484nm,0.6s
CHGN IAML 09 57 50.7
comp=E,290nm,0.3s
CHGN Chignik 4.96 276 P Pn 09 56 48.6 +0.7
baz=88
RAGM Ragged Mountai 4.99 29 Pn 09 56 48.4 0.0
RAGM IAML 09 59 20.9
comp=E,660nm,0.5s
FIS Fire Island 5.06 356 Pn Pn 09 56 50.0 +0.9
FIS IAML 09 57 48.4
comp=N,772nm,0.5s
GOAT Goat Mountain 5.14 27 Pn 09 56 50.5 +0.1
BERG Berg Lake 5.28 33 Pn 09 56 52.4 +0.2
KNK Knik Glacier 5.34 6 Pn 09 56 54.8 +1.6
KNK IAML 09 57 54.9
comp=N,212nm,0.7s
KNK IAML 09 58 29.1
comp=E,87nm,0.6s
KNK Knik Glacier 5.34 6 P Pn 09 56 54.0 +0.9
baz=186
N19K Bonanza Creek 5.38 333 Pn 09 56 53.7 0.0
N19K Bonanza Creek 5.38 333 P Pn 09 56 53.3 -0.4
baz=149
DIV Divide 5.40 20 Pn 09 56 54.4 +0.5
SNH Sunshine Point 5.40 38 Pn 09 56 54.5 +0.6
SUA Susitna One 5.40 354 Pn Pn 09 56 54.1 +0.1
P16K Nushagak River 5.41 306 Pn 09 56 54.8 +0.8
P16K Nushagak River 5.41 306 P Pn 09 56 54.8 +0.8
baz=119
CYK Cape Yakataga 5.45 40 Pn 09 56 54.8 +0.2
PMR Palmer 5.50 2 Pn Pn 09 56 55.9 +0.7
BMRM Bremner River 5.50 26 Pn 09 56 55.8 +0.4
BMRM Bremner River 5.50 26 P Pn 09 56 55.6 +0.3
baz=210
N18K Kilae Creek 5.67 326 Pn Pn 09 56 58.0 +0.4
BARK Barkley Ridge 5.68 38 Pn 09 56 58.1 +0.2
GHO Glory Hole Cre 5.68 3 Pn 09 56 58.5 +0.6
KLU Klutina 5.71 18 Pn 09 56 58.8 +0.6
KLU Klutina 5.71 18 P Pn 09 56 58.4 +0.2
baz=200
SML Sawmill 5.74 6 Pn 09 56 59.6 +0.9
SML Sawmill 5.74 6 P Pn 09 56 58.9 +0.3
baz=186
O16K Kokwok River B 5.75 311 Pn Pn 09 57 00.4 +1.7
M23K Glacier View 5.77 9 Pn 09 56 59.5 +0.6
M23K Glacier View 5.77 9 P Pn 09 56 59.5 +0.6
baz=190
SCM Sheep Creek Mo 5.85 10 Pn Pn 09 57 01.4 +1.4
CHNA Chernabura Isl 5.87 261 P Pn 09 57 00.6 +0.3
baz=73
CNBA Chernabura Isl 5.87 261 Pn 09 57 00.8 +0.5
SVW2 Sparrevohn 5.91 330 Pn Pn 09 57 00.9 0.0
N17K Nushagak Hills 5.98 321 Pn Pn 09 57 03.0 +1.0
VRDI Verde Repeater 6.02 29 Pn 09 57 03.0 +0.3
N25K Chitina, Valde 6.07 23 Pn Pn 09 57 04.7 +1.5
M20K Styx River 6.07 344 Pn Pn 09 57 01.6 -1.6
KIAG Kiagna River 6.11 35 Pn 09 57 03.6 -0.2
GLB Gilahina Butte 6.11 27 Pn Pn 09 57 04.8 +1.1
SAMH Samovar Hills 6.13 45 Pn 09 57 05.1 +1.0
SDPT Sand Point 6.23 267 Pn 09 57 06.2 +0.8
SDPT Sand Point 6.23 267 P Pn 09 57 06.4 +1.1
SDPT Sand Point 6.23 267 P Pn 09 57 06.1 +0.8
baz=78
M24K Tolsona, Glenn 6.25 15 Pn 09 57 05.9 +0.3
M24K Tolsona, Glenn 6.25 15 P Pn 09 57 06.2 +0.6
baz=197
YKU2 Yakutat 6.27 53 Pn Pn 09 57 07.3 +1.5
YKU2 Yakutat 6.27 53 P Pn 09 57 06.8 +1.0
M18K Stony River 6.30 331 Pn 09 57 05.8 -0.4
M18K Stony River 6.30 331 P Pn 09 57 05.8 -0.4
baz=146
CUT Chulitna 6.32 357 Pn Pn 09 57 05.9 -0.6
O15K Ungalikthiuk R 6.32 303 Pn 09 57 07.7 +1.1
O15K Ungalikthiuk R 6.32 303 P Pn 09 57 07.7 +1.1
baz=114
M19K Big River Lodg 6.32 339 Pn Pn 09 57 06.3 -0.3
PCA Pinnacle 6.33 47 Pn 09 57 07.8 +1.1
PINM Pinnacle 6.33 47 P Pn 09 57 07.2 +0.4
baz=235
BARN Barnard Glacie 6.44 36 Pn 09 57 09.2 +0.8
PNL Peninsula 6.47 52 Pn 09 57 09.2 +0.7
PNL Peninsula 6.47 52 P Pn 09 57 09.2 +0.7
baz=241
CTGM Chitina Glacie 6.48 38 Pn 09 57 09.6 +0.7
LOGN Logan Glacier 6.50 40 Pn 09 57 09.7 +0.6
BCPM Bancas Point 6.51 50 Pn 09 57 10.2 +1.1
L19K White Mountain 6.67 338 Pn Pn 09 57 11.2 -0.2
HARP HAARP 6.69 18 Pn 09 57 11.2 -0.3
HARP HAARP 6.69 18 P Pn 09 57 11.2 -0.3
baz=201
M17K Holitna River 6.71 325 Pn Pn 09 57 12.4 +0.6
PS1A Pavlof South-1 6.93 269 Pn 09 57 15.6 +0.8
M16K Timber Creek 6.96 319 Pn Pn 09 57 15.4 +0.1
PVV Pavlof Volcano 6.96 269 Pn 09 57 15.7 +0.4
DHY Denali Highway 7.07 8 Pn 09 57 17.6 +0.8
PN7A Pavlof North-7 7.07 270 Pn 09 57 18.1 +1.2
M26K Nabesna, AK 7.13 25 Pn 09 57 19.2 +1.5
M26K Nabesna, AK 7.13 25 P Pn 09 57 18.5 +0.7
baz=210
L18K Granite Mounta 7.14 332 Pn Pn 09 57 18.4 +0.6
O29M Mount Kennedy 7.14 50 Pn 09 57 18.9 +1.0
O29M Mount Kennedy 7.14 50 P Pn 09 57 18.9 +1.0
baz=238
PAX Paxson 7.18 15 Pn Pn 09 57 19.9 +1.6
P29M Windy Craggy 7.20 56 Pn 09 57 19.2 +0.6
P29M Windy Craggy 7.20 56 P Pn 09 57 19.1 +0.4
baz=246
YUK8 Steele Glacier 7.26 40 Pn 09 57 20.4 +0.8
YUK8 Steele Glacier 7.26 40 P Pn 09 57 20.4 +0.8
baz=228
DT1 Dutton Round H 7.29 267 Pn 09 57 20.7 +0.8
RND Reindeer 7.32 2 Pn Pn 09 57 21.7 +1.4
YUK3 Moose Creek 7.36 36 Pn 09 57 21.9 +0.9
YUK3 Moose Creek 7.36 36 P Pn 09 57 21.8 +0.9
baz=223
M27K Edge Creek, AK 7.38 29 Pn 09 57 22.2 +1.0
M27K Edge Creek, AK 7.38 29 P Pn 09 57 22.2 +1.0
baz=215
CAST Castle Rocks 7.44 351 Pn Pn 09 57 24.1 +2.2
YUK7 Dusty Glacier 7.45 49 Pn 09 57 23.4 +1.2
MENT Mentasta 7.45 21 Pn 09 57 23.1 +1.0
MENT Mentasta 7.45 21 P Pn 09 57 24.1 +2.1
S31K Pelican 7.49 70 Pn 09 57 21.3 -1.1
S31K Pelican 7.49 70 P Pn 09 57 20.4 -2.1
baz=261
KTH Kantishna Hill 7.49 355 Pn Pn 09 57 24.3 +1.6
TTA Tatalina 7.58 337 Pn Pn 09 57 25.9 +2.0
L26K Log Cabin Wild 7.60 22 Pn 09 57 26.6 +2.5
L16K Owhat River 7.61 322 Pn 09 57 25.0 +0.8
L16K Owhat River 7.61 322 P Pn 09 57 24.8 +0.6
baz=133
K20K Telida 7.62 344 Pn Pn 09 57 25.6 +1.4
YUK4 Talbot Arm 7.71 43 P Pn 09 57 28.1 +2.3
baz=232
BVCY Beaver Creek 7.71 32 Pn 09 57 27.5 +1.8
BVCY Beaver Creek 7.71 32 P Pn 09 57 27.5 +1.8
baz=219
P30M Million Dollar 7.77 54 Pn 09 57 27.9 +1.5
P30M Million Dollar 7.77 54 P Pn 09 57 26.8 +0.4
baz=244
PLBC Pleasant Camp 7.79 59 Pn 09 57 27.2 +0.5
PLBC Pleasant Camp 7.79 59 P Pn 09 57 27.2 +0.5
baz=250
R31K City Hall, Gus 7.82 67 Pn 09 57 26.4 -0.6
R31K City Hall, Gus 7.82 67 P Pn 09 57 26.5 -0.6
baz=259
HYT Haines Junctio 7.87 48 Pn Pn 09 57 28.9 +1.0
HYT Haines Junctio 7.87 48 P Pn 09 57 28.5 +0.6
baz=238
SIT Sitka 7.90 77 Pn 09 57 25.2 -3.0
SIT Sitka 7.90 77 P Pn 09 57 25.6 -2.6
SIT Sitka 7.90 77 P Pn 09 57 25.1 -3.0
baz=269
L27K Beaver Creek, 7.98 26 Pn Pn 09 57 30.5 +1.2
K17K Iditarod 7.98 330 Pn Pn 09 57 29.8 +0.5
FALS False Pass 7.99 267 Pn 09 57 30.3 +0.9
FALS False Pass 7.99 267 P Pn 09 57 30.4 +0.9
baz=75
BCAR Beaver Creek A 8.00 26 Pn Pn 09 57 30.8 +1.3
RIDG Independent Ri 8.00 15 Pn 09 57 31.7 +2.2
BWN Browne 8.08 0 Pn Pn 09 57 31.2 +0.5
ISLZ Isanotski Laza 8.19 266 Pn 09 57 32.9 +0.7
J18K Innoko River 8.21 337 Pn Pn 09 57 33.3 +0.9
BRPK Brown Peak 8.23 266 Pn 09 57 33.6 +0.9
SKAG Skagway 8.29 60 Pn 09 57 34.1 +0.6
SKAG Skagway 8.29 60 P Pn 09 57 34.1 +0.6
SKAG Skagway 8.29 60 P Pn 09 57 33.4 -0.1
baz=252
S32K Killisnoo 8.32 74 Pn 09 57 32.3 -1.6
S32K Killisnoo 8.32 74 P Pn 09 57 32.1 -1.8
baz=267
SSLN Shishaldin Nor 8.33 267 Pn 09 57 35.3 +1.2
SCRK Sand Creek 8.36 17 Pn Pn 09 57 35.5 +1.0
SSLS Shishaldin Sou 8.36 266 Pn 09 57 35.5 +1.1
N30M Aishikik Lake 8.38 45 Pn 09 57 36.1 +1.3
N30M Aishikik Lake 8.38 45 P Pn 09 57 35.5 +0.6
baz=236
J20K Nowinta River 8.40 346 Pn Pn 09 57 36.2 +1.1
O30N Mendenhall 8.45 51 Pn 09 57 35.5 -0.2
O30N Mendenhall 8.45 51 P Pn 09 57 36.3 +0.6
baz=242
J19K Poorman 8.46 341 Pn Pn 09 57 35.3 -0.6
M29M Somme Creek 8.49 37 Pn 09 57 37.8 +1.4
JIS Juneau Island 8.50 69 Pn 09 57 36.3 -0.2
NEA2 Nenana 8.51 1 Pn Pn 09 57 36.6 +0.1
CCB Clear Creek Bu 8.60 5 Pn Pn 09 57 39.5 +1.8
K27K Chicken 8.76 22 Pn 09 57 41.5 +1.5
K27K Chicken 8.76 22 P Pn 09 57 40.3 +0.4
baz=208
J25K Salcha River, 8.77 12 Pn Pn 09 57 41.0 +0.9
IL31 8.78 7 Pn 09 57 40.9 +0.7
ILAR Eielson Array 8.78 7 Pn Pn 09 57 41.7 +1.5
ILAR Eielson Array 8.78 7 Pn Pn 09 57 38.7 -1.6
comp=E,2.6nm,0.3s,baz=193,slow=13,SNR=9.9
ILAR Sn Sn 09 59 15.3 -3.0
comp=E,6.0nm,0.3s,baz=0.8,slow=25,SNR=8.5
comp=E,6.4nm,0.4s
COLA College 8.82 5 Pn Pn 09 57 41.7 +0.9
MDM Murphy Dome 8.89 4 Pn Pn 09 57 42.6 +0.8
J26L Joseph Creek 8.91 17 Pn 09 57 42.5 +0.4
J26L Joseph Creek 8.91 17 P Pn 09 57 42.2 +0.1
baz=202
N31M Braeburn, Yuko 8.93 47 Pn 09 57 43.7 +1.4
WHY Whitehorse 8.93 53 Pn 09 57 43.5 +1.1
WHY Whitehorse 8.93 53 P Pn 09 57 43.0 +0.5
baz=246
I20K Naaghedeneel 9.04 346 Pn Pn 09 57 45.7 +1.9
I23K Minto, Yukon-K 9.06 0 Pn Pn 09 57 44.2 +0.1
L29M L29M 9.07 35 Pn 09 57 45.6 +1.3
L29M L29M 9.07 35 P Pn 09 57 44.9 +0.6
baz=224
POKR Poker Plat Res 9.09 6 Pn Pn 09 57 45.9 +1.5
J16K Anvik River 9.10 327 Pn Pn 09 57 47.1 +2.6
P32M Atlin 9.12 61 Pn 09 57 44.5 -0.4
P32M Atlin 9.12 61 P Pn 09 57 44.8 -0.1
baz=254
M30M Minto, Yukon 9.17 40 Pn Pn 09 57 46.5 +0.9
U33K Whale Pass 9.17 83 Pn 09 57 42.9 -2.6
U33K Whale Pass 9.17 83 P Pn 09 57 43.0 -2.6
baz=277
I21K Tanana 9.17 353 Pn Pn 09 57 47.1 +1.5
CRAG Craig 9.27 87 Pn Pn 09 57 44.0 -2.9
CRAG Craig 9.27 87 P Pn 09 57 44.5 -2.4
CRAG Craig 9.27 87 P Pn 09 57 44.0 -2.9
baz=281
DAWY Dawson 9.43 28 Pn Pn 09 57 50.2 +1.0
AKSA Akutan Strait 9.47 265 Pn 09 57 50.3 +0.5
AKUT Akutan 9.52 265 Pn Pn 09 57 50.9 +0.6
WRAK Wrangell Islan 9.56 81 Pn Pn 09 57 49.6 -1.4
EGAK Eagle 9.61 22 Pn Pn 09 57 53.9 +2.3
AKBBA Akutan Broad B 9.62 265 Pn 09 57 52.1 +0.4
ZRO Akutan Zero 9.64 265 Pn 09 57 52.2 +0.1
Q32M Nakina River 9.70 66 Pn Pn 09 57 53.6 +0.5
H21K Melozitna Rive 9.70 352 Pn Pn 09 57 53.2 +0.4
P33M Teslin, Yukon 9.73 58 Pn 09 57 53.5 +0.2
P33M Teslin, Yukon 9.73 58 P Pn 09 57 53.4 +0.1
baz=252
K29M Barlow Dome 9.79 33 Pn 09 57 55.4 +1.2
K29M Barlow Dome 9.79 33 P Pn 09 57 55.1 +0.9
baz=223
M31M Drury Creek, Y 9.86 46 Pn 09 57 56.7 +1.6
M31M Drury Creek, Y 9.86 46 P Pn 09 57 56.4 +1.3
baz=238
N32M Quiet Lake 9.94 53 Pn 09 57 57.6 +1.5
UNV Unalaska Valle 10.02 264 Pn 09 57 56.9 -0.3
UNV Unalaska Valle 10.02 264 P Pn 09 57 56.8 -0.4
baz=70
J29N Klondike Camp 10.05 29 Pn 09 57 59.6 +1.9
MAYO Mayo, Yukon 10.14 37 Pn 09 58 00.1 +1.3
S34M Telegraph Cree 10.19 72 Pn Pn 09 57 58.0 -1.5
FARO Faro, Yukon 10.30 47 Pn 09 58 02.9 +1.9
H02S1 DAWSON INLET T 10.30 99 T T 10 06 22.6
SNR=20
R33M Jennings River 10.44 64 Pn 09 58 03.8 +0.7
G21K Allakaket 10.61 351 Pn Pn 09 58 05.9 +0.7
G23K Bananza Creek 10.63 359 Pn Pn 09 58 08.7 +3.1
G24K Hadweenzic Riv 10.67 4 Pn Pn 09 58 08.1 +2.0
J30M Hart River 10.69 32 Pn Pn 09 58 08.8 +2.4
G18K Tagagawik 10.75 340 Pn Pn 09 58 08.0 +0.9
I29M Ogilvie Camp, 10.76 26 Pn Pn 09 58 08.9 +1.6
DLBC Dease Lake 10.80 70 Pn 09 58 08.4 +0.4
DLBC Dease Lake 10.80 70 Pn Pn 09 58 08.2 +0.2
comp=E,6.7nm,0.3s,baz=279,slow=6.6,SNR=35
comp=E,15nm,0.3s
I30M Mount Dempster 11.15 30 Pn Pn 09 58 14.7 +1.9
RUBB Prince Rupert 11.15 91 Pn Pn 09 58 10.9 -1.7
G16K Koyuk River 11.19 331 Pn Pn 09 58 14.2 +1.0
F21K Alatna River 11.30 352 Pn Pn 09 58 15.1 +0.4
F20K Avaraart Lake 11.35 348 Pn Pn 09 58 16.5 +1.2
F19K Shaleruckik Mo 11.44 343 Pn Pn 09 58 18.5 +2.0
H29M Whitestone 11.45 23 Pn Pn 09 58 16.8 +0.1
F24K Squaw Lake 11.47 3 Pn Pn 09 58 18.7 +1.7
ANM Nome 11.51 324 Pn Pn 09 58 19.2 +1.7
BMAR Burnt Mountain 11.59 10 Pn Pn 09 58 19.2 +0.6
WTLY Watson Lake, Y 11.65 61 Pn Pn 09 58 20.9 +1.4
E19K Redstone River 11.94 346 Pn Pn 09 58 25.1 +1.7
EPYK Eagle Plains 11.96 26 Pn Pn 09 58 23.4 -0.3
G29M Pine Creek 12.11 22 Pn Pn 09 58 26.6 +0.8
E25K Arctic Village 12.19 7 Pn Pn 09 58 27.7 +0.9
F28M Old Crow 12.38 17 Pn Pn 09 58 30.3 +0.8
E27K Coleen River 12.65 14 Pn Pn 09 58 33.3 +0.2
D22K Ayikyak River 12.89 355 Pn Pn 09 58 37.4 +1.0
G31M Satah River 13.00 27 Pn Pn 09 58 39.2 +1.3
D24K Happy Valley 13.09 1 Pn Pn 09 58 39.5 +0.4
BBB Bella Bella 13.14 98 Pn Pn 09 58 38.9 -0.9
comp=E,0.4nm,0.3s,baz=300,slow=17,SNR=1.4
comp=E,12nm,0.8s
D25K Kavik River 13.33 5 Pn Pn 09 58 43.4 +1.0
E29M Blow River 13.41 19 Pn Pn 09 58 46.6 +3.1
F31M Tsiigehtchic 13.53 27 Pn Pn 09 58 46.3 +1.2
D27M Malcolm River 13.72 13 Pn Pn 09 58 48.2 +0.3
INK Inuvik 14.25 25 Pn Pn 09 58 56.6 +1.7
INK Inuvik 14.25 25 Pn Pn 09 58 55.8 +0.8
comp=E,0.8nm,0.3s,baz=204,slow=13,SNR=8.0
comp=E,38nm,0.9s
FLDN Fort Liard 14.30 62 Pn 09 58 58.1 +2.5
B20K Meade River 14.35 349 Pn Pn 09 58 56.0 -0.2
B22K Teshekpuk Lake 14.38 355 Pn Pn 09 58 56.0 -0.7
WRGLY Wrigley 14.88 51 Pn Pn 09 59 06.4 +2.9
ATKA Atka Island 14.94 265 Pn Pn 09 59 03.8 -0.5
ADK Adak 16.46 266 Pn Pn 09 59 24.1 0.0
ADK Adak 16.46 266 P Pn 09 59 24.2 +0.1
KIWB Kanaga Island 16.74 267 Pn Pn 09 59 28.0 +0.4
C36M Paulatuk 17.45 31 Pn 09 59 36.6 +0.2
C36M IAmb IAmb 09 59 40.0
comp=Z,22nm,0.9s
YKAB2 New Yellowknif 18.74 56 Pn 09 59 53.0 +0.9
YKA Yellowknife Ar 18.75 56 P P 09 59 52.7 +1.0
comp=Z,0.8nm,0.3s,baz=325,slow=18,SNR=14
comp=Z,3.7nm,0.7s
A36M Sachs Harbour 18.89 23 P P 09 59 53.2 0.0
A36M IAmb IAmb 10 00 17.9
comp=Z,8.3nm,0.7s
LTY Liberty 19.84 104 P P 10 00 03.7 -0.1
EDM Edmonton 20.97 83 P P 10 00 15.4 -0.7
HAWA Hanford 20.99 105 P P 10 00 15.8 +0.5
I05D Terrebonne, OR 21.37 112 P P 10 00 20.2 -0.2
G08A Pilot Rock 22.00 107 P P 10 00 27.4 +0.1
F10A Beach Ranch, E 22.50 103 P P 10 00 32.0 -0.6
F10A IAmb IAmb 10 00 32.3
comp=Z,22nm,1.4s
K05A Summer Lake 22.74 114 P P 10 00 34.2 -1.1
BMO Blue Mountains 23.17 105 P P 10 00 39.8 +0.2
J08A Circle Bar Ran 23.55 110 P P 10 00 44.8 +1.4
WVOR Wild Horse Val 24.11 112 P P 10 00 49.0 +0.2
ORV Oroville 24.81 120 P P 10 00 55.1 +0.1
MFID Camas Ranch 24.92 106 P P 10 00 57.0 +0.9
AFDM Forest Hills D 25.54 120 P P 10 01 00.6 -1.0
PAHR Pah Rah Range 25.74 117 P P 10 01 03.4 -0.2
PNTR Pine Nut 26.11 118 P P 10 01 08.3 +1.3
YERR Yerington 26.36 118 P P 10 01 11.1 +1.9
YHL Hebgen Lake 26.52 99 P P 10 01 09.6 -1.2
WAKR Walker 26.64 119 P P 10 01 11.3 -0.4
KVN Kaiserville 26.88 116 P P 10 01 14.0 0.0
RYN Ryan 27.00 117 P P 10 01 15.9 +1.0
NVAR Mina Array Bea 27.26 117 P P 10 01 18.4 +1.1
NVAR Mina Array Bea 27.26 117 P P 10 01 18.6 +1.3
comp=Z,3.8nm,0.7s,baz=311,slow=9.0,SNR=15
comp=Z,3.8nm,0.7s
RES Resolute Bay 27.77 28 P P 10 01 18.6 -2.7
SPUT South Promonto 28.19 106 P P 10 01 27.3 +1.8
MZP Montezuma Peak 28.28 117 P P 10 01 27.8 +1.3
R11B Troy Canyon, C 28.69 114 P P 10 01 31.2 +1.1
BW06 Boulder Array 28.77 101 P P 10 01 28.8 -2.0
PD31 Pinedale Array 28.77 101 P P 10 01 30.9 +0.1
PDAR Pinedale Array 28.77 101 P P 10 01 31.5 +0.7
PDAR Pinedale Array 28.77 101 P P 10 01 31.3 +0.5
comp=Z,2.1nm,0.6s,baz=314,slow=5.0,SNR=17
comp=Z,2.1nm,0.6s
WCT Wildcat Mounta 29.36 117 P P 10 01 33.6 -2.4
TPNV Topopah Spring 29.43 117 P P 10 01 38.2 +1.5
TPNV IAmb IAmb 10 02 03.8
comp=Z,3.9nm,1.1s
BSUT Blindstream Ca 29.64 105 P P 10 01 38.9 +0.2
GWY Greenwater Val 29.82 118 P P 10 01 41.4 +1.3
QSM Queen of Sheba 29.90 119 P P 10 01 42.4 +1.8
PETK Petropavlovsk- 30.09 287 P P 10 01 41.9 -0.3
comp=Z,6.8nm,1.0s,baz=84,slow=13,SNR=1.9
comp=Z,6.8nm,1.0s
MSU Marysvale 30.34 110 P P 10 01 42.1 -2.7
P18A Preston Nutter 30.56 106 P P 10 01 44.4 -2.4
SRU San Rafael Swe 30.79 107 P P 10 01 46.2 -2.4
RSSD Black Hills 30.96 93 P P 10 01 51.5 +1.3
O20A White River Ci 31.29 103 P P 10 01 54.2 +1.1
HMU Henry Mountain 31.53 109 P P 10 01 55.8 +0.5
ULM Lac du Bonnet 31.98 78 P P 10 01 58.5 -0.2
N23A Red Feather La 32.02 100 P P 10 01 57.7 -1.9
PV17 East Wray Mesa 32.23 106 P P 10 02 02.5 +1.1
PV03 Paradox Valley 32.31 106 P P 10 02 02.3 +0.3
BLYC Blythe 32.82 118 P P 10 02 08.2 +1.9
X16A Lo Mia Camp, P 33.84 114 P P 10 02 14.0 -1.5
113A Mohawk Valley, 33.99 118 P P 10 02 15.1 -1.3
F33A 5 Mile Ranch, 34.24 85 P P 10 02 18.6 +3.1
SDCO Great Sand Dun 34.98 103 P P 10 02 22.9 +1.8
ECSD EROS Data Cent 35.36 88 P P 10 02 26.7 -1.6
EYMN Ely 35.65 78 P P 10 02 31.6 +0.9
121A Cookes Peak, D 37.21 112 P P 10 02 43.4 -1.0
I40A Norwalk 38.61 83 P P 10 02 56.7 +0.9
E43A Lone Tree Farm 39.05 77 P P 10 02 57.3 -2.2
E43A IAmb IAmb 10 03 09.6
comp=Z,10.0nm,0.9s
JFWS Jewell Farm 39.44 84 P P 10 03 01.5 -1.3
L40A Anamosa 39.46 86 P P 10 03 01.2 -1.8
S39A Bolivar 41.28 92 P P 10 03 14.8 -3.3
R40A Maddies Statio 41.45 91 P P 10 03 18.0 -1.4
ABTX Abilene, Hawle 41.49 103 P P 10 03 20.7 +0.8
HDIL Hopedale 41.55 86 P P 10 03 20.2 0.0
U38A Gravette 41.58 94 P P 10 03 20.6 +0.1
TXAR Lajitas Array 41.90 110 P P 10 03 22.6 -0.7
TXAR Lajitas Array 41.90 110 P P 10 03 23.1 -0.2
comp=Z,2.6nm,0.8s,baz=328,slow=4.4,SNR=4.1
comp=Z,2.6nm,0.8s
OZNA Ozona 42.00 106 P P 10 03 25.3 +1.2
OZNA IAmb IAmb 10 03 26.0
comp=Z,8.7nm,0.8s
MGMO Mountain Grove 42.25 92 P P 10 03 25.4 -0.7
FVM French Village 42.69 89 P P 10 03 29.3 -0.4
SFIN Lafayette 42.89 84 P P 10 03 32.0 +0.8
JCT Junction City 43.06 105 P P 10 03 33.0 +0.3
FCR Ozark Folk Cen 43.24 93 P P 10 03 35.5 -0.6
JKA Kamikawa-asahi 43.39 284 P P 10 03 29.4 -5.8
JKA IAmb IAmb 10 03 45.6
comp=Z,14nm,1.1s
DRIO Del Rio 43.44 107 P P 10 03 36.3 +0.5
WHAR Wooly Hollow 43.58 94 P P 10 03 36.3 -0.5
CGM3 Cape Girardeau 43.61 89 P P 10 03 36.8 -0.2
WVT Waverly 45.47 89 P P 10 03 52.0 +0.2
OXF Oxford 45.76 92 P P 10 03 54.2 0.0
OXF IAmb IAmb 10 04 06.5
comp=Z,9.1nm,0.9s
R50A Paris 45.89 84 P P 10 03 55.0 -0.3
Q51A Peebles 45.92 83 P P 10 03 56.5 +1.1
N53A Lisbon 46.07 79 P P 10 03 57.0 +0.4
PLAL Pickwick Lake 46.16 90 P P 10 03 57.9 +0.5

CLTN	**Cedars of Leba**	**46.34**	**88**	P	**P**	**10 04 00.2**	**+1.5**
CLTN				IAmb	IAmb	10 04 29.1	
	comp=Z,4.7nm,0.9s						
S51A	**Beattyville**	**46.76**	**84**	P	**P**	**10 04 02.6**	**+0.6**
X48A	**Hartselle**	**47.13**	**90**	P	**P**	**10 04 04.5**	**-0.4**
W50A	**Signal Mountai**	**47.55**	**88**	P	**P**	**10 04 08.8**	**+0.5**
CPCT	**Cooper Cave**	**47.81**	**87**	P	**P**	**10 04 10.0**	**-0.3**
FPAL	**Fort Paine**	**47.87**	**89**	P	**P**	**10 04 09.8**	**-1.0**
Y49A	**Blount Mountai**	**47.92**	**90**	P	**P**	**10 04 11.6**	**+0.5**
TKL	**Tuckaleechee C**	**48.08**	**86**	P	**P**	**10 04 11.2**	**-1.1**
V53A	**Saluda**	**48.61**	**86**	P	**P**	**10 04 16.6**	**+0.1**
F63A	**Nahmakanta, Br**	**48.98**	**66**	P	**P**	**10 04 19.2**	**+0.1**
HODGE	**Hodges**	**49.97**	**86**	P	**P**	**10 04 26.5**	**-0.3**
W57A	**Gilead**	**50.56**	**84**	P	**P**	**10 04 31.2**	**0.0**
553A	**Crawfordville**	**51.78**	**92**	P	**P**	**10 04 41.1**	**+0.7**
ARCES	**ARCESS Array B**	**54.60**	**2**	P	**P**	**10 05 00.7**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=16,slow=6.8,SNR=1.1						
	comp=Z,1.6nm,0.7s						
KSRS	**Korea Array**	**55.98**	**288**	P	**P**	**10 05 10.2**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=37,slow=6.2,SNR=2.5						
	comp=Z,2.1nm,0.9s						
SONM	**Songino Array**	**58.64**	**310**	P	**P**	**10 05 30.0**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=14,slow=6.4,SNR=2.2						
	comp=Z,1.8nm,0.8s						
ZAA0	**Zalesovo Array**	**61.62**	**327**	P	**P**	**10 05 49.0**	**-1.0**
ZALV	**Zalesovo Beam**	**61.62**	**327**	P	**P**	**10 05 48.8**	**-1.3**
ZALV	**Zalesovo Beam**	**61.62**	**327**	P	**P**	**10 05 51.1**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=44,slow=7.2,SNR=4.3						
	comp=Z,1.9nm,0.5s						
NOA	**NORSAR Array B**	**62.20**	**10**	P	**P**	**10 05 53.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=348,slow=6.8,SNR=1.3						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**62.73**	**2**	P	**P**	**10 05 57.3**	**0.0**
FINES	**FINESS Array B**	**62.73**	**2**	P	**P**	**10 05 58.0**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=8.2,slow=7.3,SNR=3.9						
	comp=Z,3.7nm,0.9s						
HFS	**Hagfors**	**63.33**	**9**	P	**P**	**10 06 01.4**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=336,slow=6.8,SNR=1.9						
	comp=Z,2.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**65.58**	**20**	P	**P**	**10 06 17.2**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=332,slow=4.4,SNR=2.1						
	comp=Z,2.3nm,0.8s						
KURK	**Kurchatov**	**66.30**	**329**	P	**P**	**10 06 21.6**	**+0.8**
BVAR	**Borovoye Array**	**66.38**	**335**	P	**P**	**10 06 22.0**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=36,slow=7.5,SNR=1.1						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**66.41**	**329**	P	**P**	**10 06 21.6**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=26,slow=7.1,SNR=1.9						
	comp=Z,0.9nm,0.4s						
MK31	**Makanchi Array**	**68.65**	**325**	P	**P**	**10 06 36.5**	**+0.7**
MK31				IAmb	IAmb	10 07 04.4	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**68.65**	**325**	P	**P**	**10 06 36.2**	**+0.4**
MKAR	**Makanchi Array**	**68.65**	**325**	P	**P**	**10 06 36.6**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=31,slow=6.3,SNR=11						
	comp=Z,1.3nm,0.5s						
YOJ	**Yonaguni jima**	**68.67**	**282**	P	**P**	**10 06 34.1**	**-2.0**
MAKZ	**Makanchi**	**68.74**	**325**	P	**P**	**10 06 36.5**	**+0.2**
MAKZ				IAmb	IAmb	10 06 54.6	
	comp=Z,2.5nm,1.0s						
KNMB	**Chin-men Tao**	**71.18**	**286**	P	**P**	**10 06 50.1**	**-1.5**
AKASG	**Malin Array Be**	**73.54**	**1**	P	**P**	**10 07 04.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=1.6,slow=6.5,SNR=3.3						
	comp=Z,1.1nm,0.5s						
GERES	**GERESS Array B**	**74.47**	**11**	P	**P**	**10 07 11.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=15,slow=4.1,SNR=1.5						
	comp=Z,0.4nm,0.3s						
KKAR	**Karatay Array**	**75.52**	**331**	P	**P**	**10 07 18.1**	**+1.1**
ESDC	**Sonseca Array**	**80.20**	**26**	P	**P**	**10 07 44.0**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=340,slow=6.4,SNR=3.4						
	comp=Z,1.2nm,0.8s						
NRCA	**Norcia**	**80.33**	**13**	P	**P**	**10 07 43.5**	**-0.2**
NRCA				IAmb	IAmb	10 08 00.0	
	comp=Z,10nm,1.3s						
MCRA	**Macar, Loja**	**82.40**	**109**	P	**P**	**10 07 54.9**	**-0.1**
BRTR	**Keskin Array B**	**84.49**	**358**	P	**P**	**10 08 06.5**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=14,slow=8.0,SNR=1.8						
	comp=Z,1.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**86.24**	**298**	P	**P**	**10 08 14.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=10,slow=5.6,SNR=1.8						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**145.91**	**180**	PKPbc	**PKPdf**	**10 15 10.1**	**0.0**
	comp=Z,5.6nm,0.6s,baz=126,slow=2.5,SNR=8.3						
BOSA	**Boshof**	**152.26**	**10**	PKPbc	**PKPbc**	**10 15 28.0**	**-0.3**
	comp=Z,10.0nm,1.2s,baz=306,slow=2.9,SNR=4.1						

*IDC **23** 09:57:18.6±1.1,56˚.29N×148˚.39W,h0km,mb4.0/10, mbtmp4.1/14,ML3.8/4,Error ellipse: s-maj=32.2km s-min=19.6km az=24.0*

*NEIC **23** 09:57:21.1±2.5,56˚.35N±0˚.06×148˚.51W±0˚.09,h20km±6km, mb4.4/3,ML4.2/40,ML4.3(AEIC),Error ellipse: s-maj=9.1km s-min=7.2km az=193.0*

*AEIC **23** 09:57:24.8±2.3,56˚.30N±0˚.07×148˚.47W±0˚.09,h12km±5km, Error ellipse: s-maj=10.9km s-min=6.9km az=174.0*

ISC 23 09:57:19.9±0.6,56˚.35N±0˚.06×148˚.51W±0˚.05,h10km, n149,σ1§26/160,mb4.1/11,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.65**	**304**		**Pn**	**09 58 03.1**	**+0.6**
KDAK					**Sn**	**09 58 32.9**	**-1.8**
KDAK	**Kodiak Island**	**2.65**	**304**	Pn	**Pn**	**09 58 03.0**	**+0.5**
	22nm,0.3s,baz=146,slow=7.4,SNR=1.5						
KDAK				Sn	**Sn**	**09 58 32.5**	**-2.1**
	37nm,0.3s,baz=54,slow=23,SNR=3.0						
	64nm,0.2s						
OHAK	**Old Harbor**	**2.77**	**290**		**Pn**	**09 58 04.4**	**+0.2**
OHAK					**Sn**	**09 58 34.2**	**-3.4**
OHAK	**Old Harbor**	**2.77**	**290**	P	**Pn**	**09 58 04.3**	**+0.1**
	baz=107						
OHAK				S	**Sn**	**09 58 34.5**	**-3.1**
	baz=107						
SYI	**Shuyak Island**	**3.08**	**319**		**Pn**	**09 58 09.0**	**+0.5**
SYI					**Sn**	**09 58 43.8**	**-1.6**
SYI				IAML		09 58 46.5	
	comp=E,285nm,0.3s						
SYI				IAML		09 58 49.8	
	comp=N,285nm,0.5s						
Q20K	**Shuyak Island**	**3.08**	**319**	P	**Pn**	**09 58 09.7**	**+1.1**
	baz=136						
Q20K				S	**Sn**	**09 58 44.5**	**-1.0**
	baz=136						
MID	**Middleton Isla**	**3.29**	**20**		**Pn**	**09 58 11.9**	**+0.5**
Q23K	**Middleton Isla**	**3.29**	**20**		**Pn**	**09 58 11.4**	**0.0**
Q23K					**Sn**	**09 58 48.1**	**-2.5**
Q23K	**Middleton Isla**	**3.29**	**20**	P	**Pn**	**09 58 11.7**	**+0.3**
	baz=201						
Q23K				S	**Sn**	**09 58 47.7**	**-2.9**
	baz=201						
CNPM	**China Poot**	**3.50**	**337**		**Pn**	**09 58 13.4**	**-0.9**
CNPM					**Sn**	**09 58 54.0**	**-1.7**
CNPM				IAML		09 58 56.8	
	comp=N,191nm,0.3s						
CNPM				IAML		09 59 02.5	
	comp=E,230nm,0.7s						
BRSE	**Bradley Lake S**	**3.60**	**342**		**Pn**	**09 58 16.4**	**+0.7**
BRSE					**Sn**	**09 58 56.5**	**-1.7**
BRSE	**Bradley Lake S**	**3.60**	**342**	P	**Pn**	**09 58 16.4**	**+0.7**
	baz=160						
BRSE				S	**Sn**	**09 58 56.5**	**-1.7**
	baz=160						
P23K	**Montague Islan**	**3.70**	**9**		**Pn**	**09 58 17.6**	**+0.6**
P23K	**Montague Islan**	**3.70**	**9**	P	**Pn**	**09 58 17.6**	**+0.6**
	baz=189						
HOM	**Homer**	**3.71**	**335**	Pn	**Pn**	**09 58 15.1**	**-2.0**
HOM				IAML		09 59 03.0	
	comp=E,497nm,0.3s						
HOM				IAML		09 59 03.1	
	comp=N,661nm,0.3s						
HOM	**Homer**	**3.71**	**335**	S	**Sn**	**09 59 00.1**	**-0.8**
	baz=152						
Q19K	**Cape Douglas,**	**3.78**	**315**	Pn	**Pn**	**09 58 17.7**	**-0.4**
Q19K				IAML		09 59 07.4	
	comp=E,846nm,1.0s						
Q19K				IAML		09 59 10.4	
	comp=N,855nm,0.7s						
SEW	**Seward**	**3.79**	**353**		**Pn**	**09 58 18.7**	**+0.4**
SEW	**Seward**	**3.79**	**353**	P	**Pn**	**09 58 18.7**	**+0.4**
	baz=172						
P19K	**Oil Pt**	**4.15**	**325**		**Pn**	**09 58 23.7**	**+0.4**
P19K				IAML		09 59 18.6	
	comp=E,405nm,0.8s						
P19K	**Oil Pt**	**4.15**	**325**	P	**Pn**	**09 58 23.7**	**+0.4**
	baz=141						
KAIM	**Kayak Island**	**4.19**	**29**		**Pn**	**09 58 23.7**	**-0.1**
KAIM				IAML		10 01 10.7	
	comp=E,156nm,0.3s						
KAIM	**Kayak Island**	**4.19**	**29**	P	**Pn**	**09 58 24.3**	**+0.6**
	baz=212						
O22K	**Cooper Landing**	**4.19**	**352**		**Pn**	**09 58 22.6**	**-1.1**
O22K	**Cooper Landing**	**4.19**	**352**	P	**Pn**	**09 58 24.7**	**+1.0**
	baz=171						
HIN	**Hinchinbrook I**	**4.19**	**14**		**Pn**	**09 58 23.8**	**0.0**
HIN				IAML		10 01 09.5	
	comp=E,468nm,1.3s						
SLKM	**Skilak Lake**	**4.26**	**349**		**Pn**	**09 58 25.2**	**+0.4**
CNTC	**Contact Creek**	**4.43**	**299**		**Pn**	**09 58 28.8**	**+1.6**
Q17K	**Contact Creek**	**4.43**	**299**	P	**Pn**	**09 58 28.7**	**+1.4**
	baz=113						
PLK3	**Peulik 3**	**4.45**	**291**		**Pn**	**09 58 28.7**	**+1.4**
EYAK	**Cordova Ski Ar**	**4.45**	**18**		**Pn**	**09 58 27.7**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.45**	**18**	P	**Pn**	**09 58 27.7**	**+0.4**
	baz=200						
RAGM	**Ragged Mountai**	**4.52**	**25**	Pn	**Pn**	**09 58 27.5**	**-0.9**
FID	**Port Fidalgo**	**4.54**	**13**	Pn	**Pn**	**09 58 29.0**	**+0.5**
FID				IAML		10 01 14.0	
	comp=N,336nm,0.5s						
FID				IAML		10 01 26.7	
	comp=E,266nm,0.8s						
CAPN	**Captain Cook N**	**4.64**	**344**	Pn	**Pn**	**09 58 28.8**	**-1.0**
P18K	**Big Mountain,**	**4.71**	**313**		**Pn**	**09 58 29.8**	**-1.1**
P18K	**Big Mountain,**	**4.71**	**313**	P	**Pn**	**09 58 31.1**	**+0.3**
	baz=128						
BERG	**Berg Lake**	**4.78**	**30**		**Pn**	**09 58 31.2**	**-0.6**
SNH	**Sunshine Point**	**4.87**	**36**	Pn	**Pn**	**09 58 34.7**	**+1.6**
SNH				IAML		10 01 34.4	
	comp=E,160nm,0.6s						
CYK	**Cape Yakataga**	**4.91**	**38**		**Pn**	**09 58 34.5**	**+0.8**
O19K	**Port Alsworth**	**4.92**	**324**	Pn	**Pn**	**09 58 31.8**	**-2.0**
O18K	**Koktuh Hills**	**4.99**	**317**	Pn	**Pn**	**09 58 34.8**	**0.0**
O18K				IAML		09 59 45.1	
	comp=N,75nm,0.8s						
O18K				IAML		10 01 40.4	
	comp=E,83nm,0.6s						
BMRM	**Bremner River**	**5.06**	**22**		**Pn**	**09 58 35.9**	**+0.2**
BMRM	**Bremner River**	**5.06**	**22**	P	**Pn**	**09 58 36.6**	**+0.9**
	baz=205						
KNK	**Knik Glacier**	**5.08**	**0**	Pn	**Pn**	**09 58 34.3**	**-1.6**
KNK				IAML		10 01 23.5	
	comp=N,197nm,0.7s						
BARK	**Barkley Ridge**	**5.15**	**35**		**Pn**	**09 58 38.0**	**+1.0**
PMR	**Palmer**	**5.26**	**357**	Pn	**Pn**	**09 58 40.5**	**+2.1**
PMR				IAML		10 01 36.4	
	comp=E,47nm,0.5s						
KLU	**Klutina**	**5.33**	**13**		**Pn**	**09 58 40.9**	**+1.5**
KLU				IAML		09 59 40.7	
	comp=E,248nm,1.0s						
KLU				IAML		09 59 42.5	
	comp=N,218nm,1.0s						
KLU	**Klutina**	**5.33**	**13**	P	**Pn**	**09 58 40.5**	**+1.0**
	baz=195						
GHO	**Glory Hole Cre**	**5.44**	**358**	Pn	**Pn**	**09 58 42.7**	**+1.7**
SML	**Sawmill**	**5.47**	**1**	Pn	**Pn**	**09 58 41.2**	**-0.2**
CHGN	**Chignik**	**5.51**	**274**	Pn	**Pn**	**09 58 43.1**	**+1.2**
VRDI	**Verde Repeater**	**5.55**	**26**		**Pn**	**09 58 44.0**	**+1.4**
N25K	**Chitina, Valde**	**5.64**	**19**		**Pn**	**09 58 44.5**	**+0.7**
N25K	**Chitina, Valde**	**5.64**	**19**	P	**Pn**	**09 58 45.0**	**+1.2**
	baz=202						
GLB	**Gilahina Butte**	**5.65**	**24**	Pn	**Pn**	**09 58 44.5**	**+0.6**
PCA	**Pinnacle**	**5.75**	**46**		**Pn**	**09 58 45.4**	**+0.1**
PINM	**Pinnacle**	**5.75**	**46**	P	**Pn**	**09 58 46.6**	**+1.3**
	baz=232						
PTPK	**Patty Peak**	**5.78**	**30**		**Pn**	**09 58 46.5**	**+0.8**
N18K	**Kilae Creek**	**5.81**	**321**		**Pn**	**09 58 45.9**	**-0.1**
N18K	**Kilae Creek**	**5.81**	**321**	P	**Pn**	**09 58 46.9**	**+0.9**
	baz=135						
PNL	**Peninsula**	**5.87**	**52**		**Pn**	**09 58 47.1**	**+0.2**
PNL	**Peninsula**	**5.87**	**52**	P	**Pn**	**09 58 47.1**	**+0.2**
	baz=239						
BARN	**Barnard Glacie**	**5.92**	**34**	Pn	**Pn**	**09 58 48.8**	**+1.2**
BCPM	**Bancas Point**	**5.92**	**49**	Pn	**Pn**	**09 58 47.2**	**-0.4**
LOGN	**Logan Glacier**	**5.96**	**38**	Pn	**Pn**	**09 58 47.2**	**-0.9**
M20K	**Styx River**	**6.03**	**339**	Pn	**Pn**	**09 58 48.8**	**-0.4**
O16K	**Kokwok River B**	**6.04**	**306**	Pn	**Pn**	**09 58 47.8**	**-1.4**
M19K	**Big River Lodg**	**6.33**	**334**	Pn	**Pn**	**09 58 51.7**	**-1.5**
M18K	**Stony River**	**6.39**	**327**		**Pn**	**09 58 54.6**	**+0.7**
M18K	**Stony River**	**6.39**	**327**	P	**Pn**	**09 58 54.6**	**+0.7**
	baz=141						
CHNA	**Chernabura Isl**	**6.46**	**261**	P	**Pn**	**09 58 55.1**	**+0.2**
	baz=72						
CNBA	**Chernabura Isl**	**6.47**	**261**		**Pn**	**09 58 55.0**	**+0.1**
O29M	**Mount Kennedy**	**6.56**	**49**	Pn	**Pn**	**09 58 58.1**	**+1.7**
P29M	**Windy Craggy**	**6.60**	**56**	Pn	**Pn**	**09 58 58.3**	**+1.4**
SDPT	**Sand Point**	**6.81**	**266**	Pn	**Pn**	**09 59 00.9**	**+1.2**
S31K	**Pelican**	**6.87**	**71**		**Pn**	**09 58 59.6**	**-1.0**
S31K	**Pelican**	**6.87**	**71**	P	**Pn**	**09 58 59.6**	**-1.0**
	baz=261						
HYT	**Haines Junctio**	**7.29**	**48**	Pn	**Pn**	**09 59 04.9**	**-1.5**
SIT	**Sitka**	**7.29**	**79**	Pn	**Pn**	**09 59 04.6**	**-1.7**
L27K	**Beaver Creek,**	**7.53**	**24**	Pn	**Pn**	**09 59 09.8**	**+0.2**
RIDG	**Independent Ri**	**7.63**	**12**	Pn	**Pn**	**09 59 10.4**	**-0.6**
JIS	**Juneau Island**	**7.89**	**70**	Pn	**Pn**	**09 59 15.9**	**+1.4**
WHY	**Whitehorse**	**8.33**	**53**		**Pn**	**09 59 18.7**	**-2.0**
N31M	**Braeburn, Yuko**	**8.35**	**47**	Pn	**Pn**	**09 59 20.5**	**-0.4**
ILAR	**Eielson Array**	**8.48**	**5**	Sn	**Sn**	**10 00 56.2**	**-2.1**
	comp=N,1.4nm,0.3s,baz=189,slow=21,SNR=7.0						
P32M	**Atlin**	**8.50**	**61**	Pn	**Pn**	**09 59 23.2**	**+0.2**
J26L	**Joseph Creek**	**8.53**	**15**	Pn	**Pn**	**09 59 21.2**	**-2.2**
L29M	**L29M**	**8.56**	**33**	Pn	**Pn**	**09 59 23.4**	**-0.3**
POKR	**Poker Plat Res**	**8.81**	**3**	Pn	**Pn**	**09 59 25.1**	**-2.0**
DAWY	**Dawson**	**8.96**	**27**	Pn	**Pn**	**09 59 28.8**	**-0.4**
I20K	**Naaghedeneel**	**8.96**	**343**	Pn	**Pn**	**09 59 27.5**	**-1.6**
WRAK	**Wrangell Islan**	**8.97**	**83**	Pn	**Pn**	**09 59 28.1**	**-1.1**
I21K	**Tanana**	**9.02**	**351**	Pn	**Pn**	**09 59 27.4**	**-2.5**
Q32M	**Nakina River**	**9.09**	**67**	Pn	**Pn**	**09 59 31.2**	**+0.1**
P33M	**Teslin, Yukon**	**9.12**	**58**	Pn	**Pn**	**09 59 33.3**	**+1.8**
K29M	**Barlow Dome**	**9.29**	**32**	Pn	**Pn**	**09 59 32.9**	**-0.9**
M31M	**Drury Creek, Y**	**9.29**	**45**	Pn	**Pn**	**09 59 35.6**	**+1.9**
PRP	**Porcupine Dome**	**9.31**	**8**		**Pn**	**09 59 32.8**	**-1.3**
H24K	**Noodor Dome**	**9.52**	**2**	Pn	**Pn**	**09 59 37.0**	**+0.1**
V35K	**Ketchikan**	**9.56**	**89**	Pn	**Pn**	**09 59 36.2**	**-1.1**
H21K	**Melozitna Rive**	**9.56**	**349**	Pn	**Pn**	**09 59 37.7**	**+0.3**
J29N	**Klondike Camp**	**9.57**	**28**	Pn	**Pn**	**09 59 38.4**	**+0.7**
FARO	**Faro, Yukon**	**9.72**	**46**	Pn	**Pn**	**09 59 38.9**	**-0.7**
DIB	**Dawson Inlet,**	**9.78**	**102**	Pn	**Pn**	**09 59 39.9**	**-0.5**
R33M	**Jennings River**	**9.82**	**65**	Pn	**Pn**	**09 59 40.4**	**-0.7**
J14K	**Nanvaranak Lak**	**9.95**	**316**	Pn	**Pn**	**09 59 42.4**	**-0.3**
IMAR	**Indian Mountai**	**9.98**	**348**	Pn	**Pn**	**09 59 45.1**	**+2.0**
I28M	**Miner Creek**	**10.02**	**21**	Pn	**Pn**	**09 59 45.8**	**+2.0**
T35M	**Bob Quinn**	**10.07**	**79**	Pn	**Pn**	**09 59 43.3**	**+0.8**
J30M	**Hart River**	**10.19**	**31**	Pn	**Pn**	**09 59 47.4**	**+1.3**
DLBC	**Dease Lake**	**10.19**	**71**	Pn	**Pn**	**09 59 48.3**	**+2.2**
DLBC	**Dease Lake**	**10.19**	**71**	Pn	**Pn**	**09 59 47.2**	**+1.1**
	comp=N,3.9nm,0.3s,baz=27,slow=14,SNR=2.8						
	comp=N,12nm,0.4s						
H17K	**Granite Mounta**	**10.25**	**332**	Pn	**Pn**	**09 59 45.3**	**-1.5**
G24K	**Hadweenzic Riv**	**10.40**	**2**	Pn	**Pn**	**09 59 49.2**	**+0.4**
G23K	**Bananza Creek**	**10.42**	**357**	Pn	**Pn**	**09 59 49.6**	**+0.4**
RUBB	**Prince Rupert**	**10.59**	**93**	Pn	**Pn**	**09 59 50.8**	**-0.7**
HG4B	**Hotspring**	**10.89**	**105**	Pn	**Pn**	**09 59 55.3**	**-0.3**
GRNB	**Grenville Isla**	**10.92**	**96**	Pn	**Pn**	**09 59 55.1**	**-0.9**
ANM	**Nome**	**11.67**	**322**	Pn	**Pn**	**10 00 04.3**	**-1.9**
F15K	**North Star Dit**	**12.17**	**327**	Pn	**Pn**	**10 00 13.2**	**+0.2**
G31M	**Satah River**	**12.53**	**27**	Pn	**Pn**	**10 00 19.8**	**+1.8**
FLDN	**Fort Liard**	**13.69**	**63**	Pn	**Pn**	**10 00 36.8**	**+3.0**
INK	**Inuvik**	**13.80**	**24**	Pn	**Pn**	**10 00 34.7**	**-0.6**
	comp=N,0.1nm,0.3s,baz=230,slow=7.1,SNR=1.6						
	comp=N,6.3nm,1.0s						
B22K	**Teshekpuk Lake**	**14.21**	**353**	Pn	**Pn**	**10 00 43.0**	**+2.3**
B20K	**Meade River**	**14.22**	**348**	Pn	**Pn**	**10 00 41.4**	**+0.4**
HILA	**High Level**	**17.00**	**69**		**Pn**	**10 01 19.1**	**+1.6**
ADK	**Adak**	**17.05**	**267**	Pn	**Pn**	**10 01 16.8**	**-1.2**
KIWB	**Kanaga Island**	**17.32**	**267**	Pn	**Pn**	**10 01 20.1**	**-1.4**
NLWA	**Neilton Lookou**	**17.58**	**110**	Pn	**Pn**	**10 01 22.2**	**-2.6**
NLWA				IAmb	IAmb	10 01 46.5	
	comp=Z,3.0nm,0.8s						
YKAB2	**New Yellowknif**	**18.14**	**56**		**Pn**	**10 01 31.3**	**-0.2**
YKA	**Yellowknife Ar**	**18.14**	**56**	P	**Pn**	**10 01 31.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=262,slow=12,SNR=4.0						
	comp=Z,2.0nm,0.7s						
A36M	**Sachs Harbour**	**18.45**	**23**		**P**	**10 01 34.5**	**-0.6**
A36M				IAmb	IAmb	10 01 47.2	
	comp=Z,34nm,0.8s						
LON	**Longmire**	**19.07**	**109**	P	**P**	**10 01 41.3**	**-0.9**
I07A	**Izee**	**22.06**	**112**	P	**P**	**10 02 16.8**	**+2.0**
PDAR	**Pinedale Array**	**28.26**	**102**	P	**P**	**10 03 12.4**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=292,slow=2.4,SNR=2.1						
	comp=Z,2.0nm,0.9s						
TCRU	**Three Creeks R**	**29.68**	**111**	P	**P**	**10 03 24.2**	**-1.7**
TXAR	**Lajitas Array**	**41.45**	**112**	P	**P**	**10 05 06.1**	**-0.5**
	comp=Z,2.3nm,1.1s,baz=358,slow=8.1,SNR=1.4						
	comp=Z,2.3nm,1.1s						
ARCES	**ARCESS Array B**	**54.34**	**3**	P	**P**	**10 06 45.6**	**-0.3**
	comp=Z,6.5nm,1.0s,baz=356,slow=5.8,SNR=2.8						
	comp=Z,6.5nm,1.0s						
SONM	**Songino Array**	**58.92**	**311**	P	**P**	**10 07 20.4**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=210,slow=5.2,SNR=3.4						
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**61.73**	**327**	P	**P**	**10 07 39.3**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=32,slow=5.8,SNR=2.2						
	comp=Z,1.5nm,0.8s						
FINES	**FINESS Array B**	**62.47**	**3**	P	**P**	**10 07 43.1**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=345,slow=3.3,SNR=2.2						
	comp=Z,2.4nm,0.9s						
MKAR	**Makanchi Array**	**68.78**	**325**	P	**P**	**10 08 23.9**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=39,slow=6.3,SNR=1.2						
	comp=Z,0.8nm,0.9s						
ABKAR	**Akbulak array**	**72.13**	**341**	P	**P**	**10 08 44.5**	**+0.4**
ABKAR				IAmb	IAmb	10 09 05.7	
	comp=Z,12nm,1.3s						
AKASG	**Malin Array Be**	**73.30**	**2**	P	**P**	**10 08 51.7**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=0.7,slow=6.1,SNR=2.5						
	comp=Z,0.7nm,0.5s						
ESDC	**Sonseca Array**	**79.73**	**27**	P	**P**	**10 09 29.3**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=345,slow=6.0,SNR=2.2						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**84.27**	**358**	P	**P**	**10 09 53.3**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=15,slow=7.4,SNR=2.1						
	comp=Z,1.0nm,0.8s						
QSPA	**South Pole Qui**	**146.15**	**180**	PKPbc	**PKPdf**	**10 16 57.7**	**+0.1**
	comp=Z,2.5nm,0.4s,baz=27,slow=2.7,SNR=2.8						
BOSA	**Boshof**	**151.92**	**12**	PKPbc	**PKPbc**	**10 17 14.8**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=96,slow=16,SNR=2.0						

*IDC **23** 09:59:05.3±4.2,55˚.83N×149˚.27W,h0km,mb4.1/2, mbtmp4.0/4,ML3.6/2,Error ellipse: s-maj=73.1km s-min=60.0km az=152.0*

*NEIC **23** 09:59:07.3±2.8,56˚.1N±0˚.1×149˚.2W±0˚.1,h21km±9km, mb4.3/3,ML4.1(AEIC),Error ellipse: s-maj=16.7km s-min=8.0km az=173.0*

*AEIC **23** 09:59:11.7±3.1,56˚.2N±0˚.1×149˚.2W±0˚.1,h10km±7km, Error ellipse: s-maj=16.5km s-min=9.9km az=194.0*

ISC 23 09:59:07.4±1.4,56˚.2N±0˚.1×149˚.14W±0˚.07,h10km,n30, σ1§49/32,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**311**	Pn	**Pn**	**09 59 47.5**	**+0.2**
	4.2nm,0.3s,baz=102,slow=9.3,SNR=0.9						
KDAK				Sn	**Sn**	**10 00 14.9**	**-2.3**
	18nm,0.3s,baz=58,slow=24,SNR=3.6						
	21nm,0.3s						
OHAK	**Old Harbor**	**2.49**	**295**		**Pn**	**09 59 47.2**	**-0.8**
SYI	**Shuyak Island**	**2.97**	**325**		**Pn**	**09 59 54.6**	**+0.2**
SYI					**Sn**	**10 00 28.0**	**-

SEW	Seward	3.97	358			Pn	10 00 56.3	-0.8
SEW	Seward	3.97	358	P		Pn	10 00 56.3	-0.8
	baz=177							
P23K	Montague Islan	3.98	13	P		Pn	10 00 56.4	-0.9
	baz=193,SNR=7.1							
ANCK	Angle Creek	4.00	304			Pn	10 00 56.6	-0.9
KAHC	Katmai Hardscr	4.02	311			Pn	10 00 57.1	-0.8
P19K	Oil Pt	4.12	330			Pn	10 00 57.9	-1.3
P19K					IAML		10 01 48.4	
	comp=E,1µm,1.4s							
P19K					IAML		10 01 49.8	
	comp=N,2µm,0.7s							
P19K	Oil Pt	4.12	330	P		Pn	10 00 57.6	-1.6
	baz=147							
PLK3	Peulik 3	4.17	295			Pn	10 00 59.0	-0.8
Q17K	Contact Creek	4.21	303	P		Pn	10 00 59.4	-1.2
	baz=118,SNR=11							
O20K	Slope Mountain	4.34	337			Pn	10 01 01.4	-0.9
O20K	Slope Mountain	4.34	337	P		Pn	10 01 01.9	-0.4
	baz=153,SNR=8.2							
O22K	Cooper Landing	4.36	357			Pn	10 01 01.7	-0.7
O22K	Cooper Landing	4.36	357	P		Pn	10 01 02.3	-0.2
	baz=175							
IVE	Iliamna Volcan	4.38	334			Pn	10 01 02.0	-0.8
PLK1	Peulik 1	4.38	295			Pn	10 01 01.6	-1.1
PLBL	Peulik Blue Cr	4.45	294			Pn	10 01 02.8	-1.0
HIN	Hinchinbrook I	4.49	17			Pn	10 01 03.2	-1.1
HIN					IAML		10 01 58.1	
	comp=E,966nm,0.9s							
KAIM	Kayak Island	4.56	32	Pn		Pn	10 01 04.5	-0.8
KAIM					IAML		10 01 58.2	
	comp=N,1µm,0.5s							
KAIM	Kayak Island	4.56	32	P		Pn	10 01 05.1	-0.2
	baz=214							
P18K	Big Mountain,	4.58	318	Pn		Pn	10 01 05.1	-0.5
P18K					IAML		10 02 01.4	
	comp=E,493nm,0.8s							
P18K	Big Mountain,	4.58	318	P		Pn	10 01 05.3	-0.3
	baz=133,SNR=6.1							
RED	Redoubt Volcan	4.68	338			Pn	10 01 06.2	-0.8
RDSO	Redoubt South	4.71	338			Pn	10 01 06.4	-0.9
RSO	Redoubt South	4.72	338			Pn	10 01 07.0	-0.6
CAPN	Captain Cook N	4.75	348			Pn	10 01 08.1	+0.3
CAPN					IAML		10 02 45.9	
	comp=E,1µm,1.5s							
CAPN	Captain Cook N	4.75	348	P		Pn	10 01 08.1	+0.3
	baz=166							
RDT	Redoubt	4.75	341			Pn	10 01 07.1	-0.8
RDWB	Redoubt West	4.76	338			Pn	10 01 07.0	-1.1
Q16K	King Salmon	4.76	305	P		Pn	10 01 08.2	+0.2
	baz=120,SNR=12							
EYAK	Cordova Ski Ar	4.77	21	P		Pn	10 01 07.8	-0.3
EYAK	Cordova Ski Ar	4.77	21	P		Pn	10 01 07.5	-0.6
	baz=202							
R16K	Pilot Point	4.81	291			Pn	10 01 07.7	-1.0
R16K					IAML		10 03 02.0	
	comp=E,545nm,1.4s							
R16K					IAML		10 03 12.1	
	comp=N,485nm,1.1s							
R16K	Pilot Point	4.81	291	P		Pn	10 01 08.6	0.0
	baz=105							
DFR	Drift River	4.82	339			Pn	10 01 08.1	-0.8
FID	Port Fidalgo	4.83	16			Pn	10 01 08.0	-1.0
FID					IAML		10 02 06.0	
	comp=E,555nm,0.7s							
RDJH	Redoubt Jeurge	4.84	338			Pn	10 01 08.3	-1.0
RAGM	Ragged Mountai	4.88	27			Pn	10 01 09.2	-0.5
O19K	Port Alsworth	4.88	328	Pn		Pn	10 01 09.4	-0.2
O19K					IAML		10 02 08.6	
	comp=E,1µm,1.5s							
O19K					IAML		10 02 08.6	
	comp=N,1µm,0.5s							
O19K	Port Alsworth	4.88	328	P		Pn	10 01 09.1	-0.5
	baz=144,SNR=5.6							
O18K	Koktuh Hills	4.90	322	Pn		Pn	10 01 09.4	-0.6
O18K					IAML		10 02 05.9	
	comp=N,1µm,1.0s							
O18K					IAML		10 02 07.5	
	comp=E,709nm,0.9s							
O18K	Koktuh Hills	4.90	322	P		Pn	10 01 09.2	-0.8
	baz=137							
P17K	Kvichak River	4.94	311			Pn	10 01 10.0	-0.5
P17K	Kvichak River	4.94	311	P		Pn	10 01 10.5	+0.1
	baz=125,SNR=11							
GOAT	Goat Mountain	5.03	26			Pn	10 01 10.1	-1.7
FIS	Fire Island	5.04	354			Pn	10 01 11.8	0.0
FIS					IAML		10 02 21.7	
	comp=E,559nm,0.5s							
FIS					IAML		10 02 27.0	
	comp=N,969nm,0.7s							
CHGN	Chignik	5.14	276			Pn	10 01 12.8	-0.4
CHGN	Chignik	5.14	276	P		Pn	10 01 12.1	-1.2
	baz=89,SNR=15							
BERG	Berg Lake	5.15	32	Pn		Pn	10 01 12.6	-0.8
SNH	Sunshine Point	5.26	37			Pn	10 01 12.8	-2.1
SNH					IAML		10 02 35.8	
	comp=N,524nm,1.3s							
SNH					IAML		10 02 46.8	
	comp=E,304nm,0.9s							
KNK	Knik Glacier	5.30	4			Pn	10 01 14.9	-0.5
KNK					IAML		10 02 13.4	
	comp=E,564nm,0.9s							
KNK					IAML		10 02 13.5	
	comp=N,286nm,0.7s							
KNK	Knik Glacier	5.30	4	P		Pn	10 01 14.8	-0.5
	baz=184							
N20K	Mount Spurr	5.30	344	P		Pn	10 01 14.5	-1.0
	baz=161,SNR=8.9							
SPCR	Spurr Chakacha	5.31	344			Pn	10 01 14.6	-1.0
DIV	Divide	5.31	18	Pn		Pn	10 01 15.1	-0.5
CYK	Cape Yakataga	5.32	39			Pn	10 01 14.0	-1.5
SPCN	Chakachatna No	5.33	344			Pn	10 01 14.7	-1.1
SPCP	Crater Peak Br	5.36	345			Pn	10 01 15.4	-1.0
SPCG	Spurr Capps Gl	5.37	345			Pn	10 01 15.4	-1.0
SUA	Susitna One	5.39	352			Pn	10 01 15.8	-1.0
SUA					IAML		10 02 23.9	
	comp=N,389nm,0.7s							
SUA	Susitna One	5.39	352	P		Pn	10 01 16.0	-0.8
	baz=170							
BMRM	Bremner River	5.40	25	Pn		Pn	10 01 16.3	-0.6
BMRM	Bremner River	5.40	25	P		Pn	10 01 16.1	-0.8
	baz=207							
N19K	Bonanza Creek	5.44	332			Pn	10 01 16.5	-0.9
N19K	Bonanza Creek	5.44	332	P		Pn	10 01 16.1	-1.3
	baz=147							
PMR	Palmer	5.46	0			Pn	10 01 17.2	-0.3
PMR	Palmer	5.46	0	P		Pn	10 01 17.5	-0.1
PMR	Palmer	5.46	0	P		Pn	10 01 17.4	-0.1
	baz=180,SNR=9.1							
PMR	Palmer	5.46	0	P		Pn	10 01 17.3	-0.3
STLK	Strandline Lak	5.54	347			Pn	10 01 17.7	-1.0
P16K	Nushagak River	5.54	305			Pn	10 01 17.9	-0.8
P16K	Nushagak River	5.54	305	P		Pn	10 01 18.4	-0.3
	baz=116,SNR=13							
SPNN	North Nagishla	5.54	342			Pn	10 01 17.8	-1.1
O17K	Koliganek Bris	5.55	314			Pn	10 01 18.2	-0.7
O17K	Koliganek Bris	5.55	314	P		Pn	10 01 18.6	-0.3
	baz=128							
KLU	Klutina	5.63	16	Pn		Pn	10 01 19.6	-0.3
KLU	Klutina	5.63	16	P		Pn	10 01 19.4	-0.5
	baz=198							
GHO	Glory Hole Cre	5.64	1			Pn	10 01 20.3	+0.1
SML	Sawmill	5.70	4			Pn	10 01 20.6	-0.3
SML	Sawmill	5.70	4	P		Pn	10 01 21.1	+0.2
	baz=184							
M23K	Glacier View	5.71	7	P		Pn	10 01 21.1	0.0
	baz=187,SNR=13							
N18K	Kilae Creek	5.74	325	Pn		Pn	10 01 20.9	-0.6
N18K	Kilae Creek	5.74	325	P		Pn	10 01 20.7	-0.9
	baz=139							
SCM	Sheep Creek Mo	5.79	9			Pn	10 01 22.7	+0.6
SCM	Sheep Creek Mo	5.79	9	P		Pn	10 01 22.2	0.0
	baz=189							
SCM	Sheep Creek Mo	5.79	9	P		Pn	10 01 22.7	+0.6
O16K	Kokwok River B	5.87	310			Pn	10 01 23.1	-0.1
O16K	Kokwok River B	5.87	310	P		Pn	10 01 22.9	-0.2
	baz=123							
VRDI	Verde Repeater	5.91	28			Pn	10 01 23.6	-0.4
N25K	Chitina, Valde	5.97	22			Pn	10 01 23.6	-1.1
N25K	Chitina, Valde	5.97	22	P		Pn	10 01 24.5	-0.2
	baz=204,SNR=28							
SKT	Skwentna	5.97	349	Pn		Pn	10 01 23.3	-1.4
SKT	Skwentna	5.97	349	P		Pn	10 01 24.6	-0.1
	baz=167							
SVW2	Sparrevohn	5.98	329			Pn	10 01 23.6	-1.1
SVW2	Sparrevohn	5.98	329	P		Pn	10 01 24.0	-0.7
SAMH	Samovar Hills	5.99	45			Pn	10 01 22.4	-2.5
GLB	Gilahina Butte	6.00	26			Pn	10 01 24.8	-0.3
CHNA	Chernabura Isl	6.05	262	P		Pn	10 01 23.7	-1.9
	baz=74							
CNBA	Chernabura Isl	6.05	262	Pn		Pn	10 01 23.8	-1.9
N17K	Nushagak Hills	6.08	320			Pn	10 01 25.9	-0.2
N17K	Nushagak Hills	6.08	320	P		Pn	10 01 25.0	-1.0
	baz=133							
M20K	Styx River	6.10	342			Pn	10 01 25.7	-0.7
M20K	Styx River	6.10	342	P		Pn	10 01 25.4	-1.1
	baz=158							
YKU2	Yakutat	6.11	53	Pn		Pn	10 01 26.4	0.0
PINM	Pinnacle	6.18	46	P		Pn	10 01 27.1	-0.4
	baz=233							
M24K	Tolsona, Glenn	6.18	13	Pn		Pn	10 01 27.7	+0.2
M24K	Tolsona, Glenn	6.18	13	P		Pn	10 01 27.7	+0.2
	baz=195,SNR=24							
CUT	Chulitna	6.30	355	Pn		Pn	10 01 31.2	+2.1
CUT	Chulitna	6.30	355	P		Pn	10 01 28.6	-0.5
	baz=174							
PNL	Peninsula	6.30	52	P		Pn	10 01 28.7	-0.5
	baz=239							
BARN	Barnard Glacie	6.31	36			Pn	10 01 29.1	-0.3
CTG	Chitna Glacier	6.34	37	P		Pn	10 01 29.4	-0.4
	baz=223							
CTGM	Chitina Glacie	6.35	37	Pn		Pn	10 01 29.6	-0.3
BCPM	Bancas Point	6.35	49			Pn	10 01 29.5	-0.3
LOGN	Logan Glacier	6.36	39	Pn		Pn	10 01 30.8	+0.7
M19K	Big River Lodg	6.36	337			Pn	10 01 28.4	-1.5
M19K	Big River Lodg	6.36	337	P		Pn	10 01 29.2	-0.8
	baz=152							
M18K	Stony River	6.37	330			Pn	10 01 29.2	-0.8
M18K	Stony River	6.37	330	P		Pn	10 01 29.1	-0.8
	baz=144							
SDPT	Sand Point	6.42	268	Pn		Pn	10 01 28.6	-2.1
SDPT	Sand Point	6.42	268	P		Pn	10 01 30.0	-0.7
SDPT	Sand Point	6.42	268	P		Pn	10 01 29.2	-1.5
	baz=79,SNR=7.5							
O15K	Ungalikthiuk R	6.46	302			Pn	10 01 30.5	-0.7
O15K	Ungalikthiuk R	6.46	302	P		Pn	10 01 30.6	-0.7
	baz=114							
WAT6	Susitna Watana	6.50	6	P		Pn	10 01 31.6	-0.3
	baz=186							
HARP	HAARP	6.60	17			Pn	10 01 31.7	-1.6
HARP	HAARP	6.60	17	P		Pn	10 01 33.9	+0.6
	baz=199,SNR=9.5							
N16K	Nishlik Lake	6.65	315	P		Pn	10 01 33.5	-0.4
	baz=127							
L19K	White Mountain	6.71	337			Pn	10 01 33.8	-1.0
L19K	White Mountain	6.71	337	P		Pn	10 01 34.0	-0.8
	baz=152							
WAT1	Susitna Watana	6.71	3	P		Pn	10 01 34.5	-0.3
	baz=182							
L20K	Farewell, AK	6.79	341	P		Pn	10 01 35.1	-0.7
	baz=157							
M17K	Holitna River	6.79	324			Pn	10 01 35.3	-0.5
M17K	Holitna River	6.79	324	P		Pn	10 01 34.9	-0.9
	baz=137,SNR=8.7							
PPLA	Purkeypile	6.94	349	P		Pn	10 01 38.2	+0.2
	baz=166							
O29M	Mount Kennedy	6.99	49			Pn	10 01 38.7	0.0
O29M	Mount Kennedy	6.99	49	P		Pn	10 01 38.9	+0.3
	baz=237							
DHY	Denali Highway	7.01	7			Pn	10 01 38.6	-0.4
DHY	Denali Highway	7.01	7	P		Pn	10 01 39.0	0.0
	baz=188							
N15K	Kwethluk River	7.03	309			Pn	10 01 39.0	-0.1
N15K	Kwethluk River	7.03	309	P		Pn	10 01 39.6	+0.5
	baz=120,SNR=6.8							
M26K	Nabesna, AK	7.03	24			Pn	10 01 41.4	+2.3
M26K	Nabesna, AK	7.03	24	P		Pn	10 01 40.4	+1.2
	baz=209							
P29M	Windy Craggy	7.04	56			Pn	10 01 39.0	-0.3
P29M	Windy Craggy	7.04	56	P		Pn	10 01 39.3	0.0
	baz=244							
M16K	Timber Creek	7.06	318			Pn	10 01 39.1	-0.4
M16K	Timber Creek	7.06	318	P		Pn	10 01 39.0	-0.5
	baz=130							
PAX	Paxson	7.10	14	P		Pn	10 01 40.6	+0.4
	baz=196							
PS1A	Pavlof South-1	7.11	269			Pn	10 01 38.8	-1.5
YUK2	White River	7.11	34			Pn	10 01 38.0	-2.3
YUK8	Steele Glacier	7.12	40	P		Pn	10 01 41.9	+1.4
	baz=227,SNR=10							
O14K	Tigyukauivet M	7.17	301			Pn	10 01 41.0	0.0
O14K	Tigyukauivet M	7.17	301	P		Pn	10 01 41.0	0.0
	baz=111							
L18K	Granite Mounta	7.20	331	Pn		Pn	10 01 39.5	-1.9
L18K	Granite Mounta	7.20	331	P		Pn	10 01 40.6	-0.8
	baz=144							
YUK3	Moose Creek	7.23	35	P		Pn	10 01 42.5	+0.4
	baz=221,SNR=17							
PN7A	Pavlof North-7	7.25	270			Pn	10 01 39.5	-2.8
M27K	Edge Creek, AK	7.27	28			Pn	10 01 43.3	+0.7
M27K	Edge Creek, AK	7.27	28	P		Pn	10 01 43.4	+0.9
	baz=213							
RND	Reindeer	7.29	1			Pn	10 01 42.8	+0.1
RND	Reindeer	7.29	1	P		Pn	10 01 42.8	+0.1
S31K	Pelican	7.30	70	Pn		Pn	10 01 40.5	-2.4
TRF	Thorofare Moun	7.35	356	Pn		Pn	10 01 43.1	-0.6
TRF	Thorofare Moun	7.35	356	P		Pn	10 01 43.4	-0.2
	baz=175							
MENT	Mentasta	7.36	20			Pn	10 01 43.5	-0.1
MENT	Mentasta	7.36	20	P		Pn	10 01 46.0	+2.4
YUK6	Outpost Mounta	7.43	45	P		Pn	10 01 45.6	+0.8
	baz=233,SNR=10							
CAST	Castle Rocks	7.44	350	Pn		Pn	10 01 44.4	-0.4
CAST	Castle Rocks	7.44	350	P		Pn	10 01 44.9	+0.1
	baz=167							
KTH	Kantishna Hill	7.48	354	Pn		Pn	10 01 45.4	0.0
L26K	Log Cabin Wild	7.51	21			Pn	10 01 45.5	-0.2
L26K	Log Cabin Wild	7.51	21	P		Pn	10 01 46.2	+0.5
	baz=205							
M15K	Kasigluk River	7.55	312			Pn	10 01 45.5	-0.8
M15K	Kasigluk River	7.55	312	P		Pn	10 01 46.1	-0.2
	baz=122							
YUK4	Talbot Arm	7.56	42	P		Pn	10 01 48.8	+2.2
	baz=230,SNR=6.6							
BVCY	Beaver Creek	7.59	31			Pn	10 01 44.9	-2.0
BVCY	Beaver Creek	7.59	31	P		Pn	10 01 47.4	+0.5
	baz=217							
P30M	Million Dollar	7.60	53	P		Pn	10 01 48.8	+1.7
	baz=243							
L17K	Donlin	7.61	326			Pn	10 01 46.2	-0.8
L17K	Donlin	7.61	326	P		Pn	10 01 46.6	-0.4
	baz=138							
MCK	McKinley	7.61	1	P		Pn	10 01 47.1	0.0
	baz=180							
PLBC	Pleasant Camp	7.62	59	P		Pn	10 01 47.8	+0.6
	baz=249,SNR=9.6							
N14K	Kuskokwak Cree	7.63	305	P		Pn	10 01 47.0	-0.2
	baz=115							
TTA	Tatalina	7.63	336	Pn		Pn	10 01 47.3	-0.1
TTA	Tatalina	7.63	336	P		Pn	10 01 46.6	-0.8
	baz=150							
TTA	Tatalina	7.63	336	P		Pn	10 01 47.3	-0.1
K20K	Telida	7.64	343			Pn	10 01 46.4	-1.0
K20K	Telida	7.64	343	P		Pn	10 01 47.0	-0.5
	baz=159							
L16K	Owhat River	7.70	321			Pn	10 01 46.8	-1.5
L16K	Owhat River	7.70	321	P		Pn	10 01 47.3	-1.0
	baz=132,SNR=9.8							
HYT	Haines Junctio	7.71	48			Pn	10 01 48.6	0.0
HYT	Haines Junctio	7.71	48	P		Pn	10 01 49.1	+0.5
	baz=237							
SIT	Sitka	7.72	77			Pn	10 01 46.1	-2.4
SIT	Sitka	7.72	77	P		Pn	10 01 46.1	-2.4
K24K	Donnelly Dome	7.87	11			Pn	10 01 49.1	-1.6
K24K	Donnelly Dome	7.87	11	P		Pn	10 01 51.5	+0.8
	baz=193,SNR=9.3							
L27K	Beaver Creek,	7.88	25			Pn	10 01 50.7	0.0
L27K	Beaver Creek,	7.88	25	P		Pn	10 01 50.8	0.0
	baz=211							
BCAR	Beaver Creek A	7.89	25	Pn		Pn	10 01 49.7	-1.3
CHUM	Lake Minchumin	7.92	350			Pn	10 01 50.4	-0.9
CHUM	Lake Minchumin	7.92	350	P		Pn	10 01 51.0	-0.2
	baz=167							
RIDG	Independent Ri	7.92	14	Pn		Pn	10 01 51.7	+0.3
RIDG	Independent Ri	7.92	14	P		Pn	10 01 51.9	+0.4
	baz=197							
K17K	Iditarod	8.05	329			Pn	10 01 51.9	-1.2
K17K	Iditarod	8.05	329	P		Pn	10 01 52.1	-1.0
	baz=141							
BWN	Browne	8.05	359	Pn		Pn	10 01 53.5	+0.4
SKAG	Skagway	8.12	60	Pn		Pn	10 01 54.0	0.0
SKAG	Skagway	8.12	60	P		Pn	10 01 58.9	+4.9
SKAG	Skagway	8.12	60	P		Pn	10 01 54.4	+0.4
	baz=251,SNR=6.5							
M14K	Bethel	8.12	310			Pn	10 01 55.1	+1.0
M14K	Bethel	8.12	310	P		Pn	10 01 53.3	-0.8
	baz=119,SNR=5.7							
BESE	Bessie Mountai	8.13	67			Pn	10 01 53.4	-0.9
S32K	Killisnoo	8.14	75			Pn	10 01 53.4	-0.9
S32K	Killisnoo	8.14	75	P		Pn	10 01 52.5	-1.7
	baz=266							
FALS	False Pass	8.18	267			Pn	10 01 53.5	-1.3
FALS	False Pass	8.18	267	P		Pn	10 01 53.7	-1.1
FALS	False Pass	8.18	267	P		Pn	10 01 53.5	-1.3
	baz=76							
N30M	Aishikik Lake	8.23	45			Pn	10 01 55.5	-0.2
N30M	Aishikik Lake	8.23	45	P		Pn	10 01 55.8	+0.1
	baz=234							
R32K	Eaglecrest	8.25	69	Pn		Pn	10 01 54.9	-0.9
R32K	Eaglecrest	8.25	69	P		Pn	10 01 55.2	-0.7
	baz=260							
J18K	Innoko River	8.25	336			Pn	10 01 54.5	-1.4
J18K	Innoko River	8.25	336	P		Pn	10 01 55.0	-0.9
	baz=149							
SCRK	Sand Creek	8.27	16			Pn	10 01 56.0	-0.2
SCRK	Sand Creek	8.27	16	P		Pn	10 01 56.1	-0.2
	baz=200							
O30N	Mendenhall	8.29	51	Pn		Pn	10 01 56.2	-0.2
O30N	Mendenhall	8.29	51	P		Pn	10 01 56.9	+0.5
	baz=241							
JIS	Juneau Island	8.32	69			Pn	10 01 54.8	-2.0
JIS	Juneau Island	8.32	69	P		Pn	10 02 02.3	+5.5
M29M	Somme Creek	8.36	37	Pn		Pn	10 01 57.5	+0.1
M29M	Somme Creek	8.36	37	P		Pn	10 01 58.3	+0.8
	baz=225							
WRH	Wood River Hil	8.37	3	Pn		Pn	10 01 56.1	-1.4
ISLZ	Isanotski Laza	8.37	266			Pn	10 01 56.0	-1.6
J20K	Nowinta River	8.42	345	Pn		Pn	10 01 57.6	-0.6
J20K	Nowinta River	8.42	345	P		Pn	10 01 57.6	-0.6
	baz=160							
L15K	Ungalak Mounta	8.43	316	P		Pn	10 01 58.2	0.0
	baz=126							
NEA2	Nenana	8.47	0			Pn	10 01 57.8	-1.2
NEA2	Nenana	8.47	0	P		Pn	10 01 58.9	0.0
	baz=180							
J19K	Poorman	8.50	341			Pn	10 01 58.1	-1.1
J19K	Poorman	8.50	341	P		Pn	10 01 58.8	-0.4
	baz=155							
CCB	Clear Creek Bu	8.56	4			Pn	10 01 59.6	-0.4
M13K	Dall Lake	8.59	306			Pn	10 01 58.4	-2.0
M13K	Dall Lake	8.59	306	P		Pn	10 02 00.2	-0.3
	baz=114							
K27K	Chicken	8.67	21	Pn		Pn	10 02 01.8	+0.3
K27K	Chicken	8.67	21	P		Pn	10 02 02.5	+0.9
	baz=207							
J25K	Salcha River,	8.70	11	Pn		Pn	10 02 01.9	-0.2
J25K	Salcha River,	8.70	11	P		Pn	10 02 02.2	+0.1
	baz=194							
L14K	Kuka Creek	8.72	312	Pn		Pn	10 02 03.8	+1.5
L14K	Kuka Creek	8.72	312	P		Pn	10 02 02.2	-0.1
	baz=121							
IL31		8.73	7	Pn		Pn	10 02 00.7	-1.7
ILAR	Eielson Array	8.73	7	Pn		Pn	10 02 02.0	-0.4
ILAR	Eielson Array	8.73	7	eP		Pn	10 02 03.1	+0.7
ILAR					pmax	pmax		
	comp=Z,30nm,0.5s							
ILAR	Eielson Array	8.73	7	Pn		Pn	10 02 00.9	-1.4
	comp=Z,5.8nm,0.3s,baz=192,slow=13,SNR=16							
ILAR					Sn	Sn	10 03 37.0	-3.7
	comp=Z,3.0nm,0.3s,baz=193,slow=22,SNR=6.9 comp=Z,27nm,0.5s							
WHY	Whitehorse	8.77	53	Pn		Pn	10 02 03.0	-0.1
WHY	Whitehorse	8.77	53	P		Pn	10 02 03.3	+0.3
	baz=244,SNR=6.6							
N31M	Braeburn, Yuko	8.77	47			Pn	10 02 00.4	-2.6
N31M	Braeburn, Yuko	8.77	47	P		Pn	10 02 03.5	+0.4
	baz=237							
COLA	College	8.78	4			Pn	10 02 02.6	-0.5
COLA	College	8.78	4	P		Pn	10 02 04.3	+1.2
COLA	College	8.78	4	P		Pn	10 02 03.5	+0.4
	baz=184							
COLA	College	8.78	4	P		Pn	10 02 02.6	-0.5
K15K	Wolf Creek Mou	8.82	319	Pn		Pn	10 02 03.5	-0.1
K15K	Wolf Creek Mou	8.82	319	P		Pn	10 02 03.1	-0.5
	baz=129							
J26L	Joseph Creek	8.83	16			Pn	10 02 01.4	-2.5
J26L	Joseph Creek	8.83	16	P		Pn	10 02 04.1	+0.2
	baz=200							
MDM	Murphy Dome	8.86	3	Pn		Pn	10 02 04.0	-0.2
P32M	Atlin	8.94	61	Pn		Pn	10 02 04.3	-1.0
P32M	Atlin	8.94	61	P		Pn	10 02 04.9	-0.5
	baz=253,SNR=5.4							
L29M	L29M	8.94	34			Pn	10 02 05.6	+0.2
L29M	L29M	8.94	34	P		Pn	10 02 05.6	+0.2
	baz=223							
T33K	Petersburg	9.02	79	P		Pn	10 02 06.4	+0.1
	baz=272							
M30M	Minto, Yukon	9.03	39	Pn		Pn	10 02 06.3	-0.2
M30M	Minto, Yukon	9.03	39	P		Pn	10 02 06.9	+0.4
	baz=229							
I23K	Minto, Yukon-K	9.03	360			Pn	10 02 06.1	-0.4
I23K	Minto, Yuk

baz=172
J14K Nanvaranak Lak 9.84 318 Pn 10 02 16.4 -1.2
J14K Nanvaranak Lak 9.84 318 P Pn 10 02 16.7 -0.8
baz=126
M11K Mekoryuk 9.90 302 P Pn 10 02 17.9 -0.5
baz=108
J29N Klondike Camp 9.94 29 Pn 10 02 19.3 +0.3
J29N Klondike Camp 9.94 29 P Pn 10 02 19.3 +0.3
baz=217
V35K Ketchikan 9.95 87 Pn 10 02 18.8 -0.3
V35K Ketchikan 9.95 87 P Pn 10 02 19.0 -0.1
baz=281
S34M Telegraph Cree 10.01 72 Pn Pn 10 02 22.7 +2.8
S34M Telegraph Cree 10.01 72 P Pn 10 02 20.0 +0.1
baz=267
MAYO Mayo, Yukon 10.01 36 Pn Pn 10 02 20.4 +0.4
MAYO Mayo, Yukon 10.01 36 P Pn 10 02 20.3 +0.4
baz=227
H19K Roundabout Mou 10.04 342 Pn Pn 10 02 21.5 +1.1
H19K Roundabout Mou 10.04 342 P Pn 10 02 19.3 -1.1
baz=156
H18K Honhosa River 10.08 337 Pn 10 02 19.4 -1.5
H18K Honhosa River 10.08 337 P Pn 10 02 20.2 -0.7
baz=149
IMAR Indian Mountai 10.11 349 Pn Pn 10 02 21.5 +0.2
DIB Dawson Inlet, 10.12 100 Pn Pn 10 02 22.1 +0.6
FARO Faro, Yukon 10.15 47 10 02 22.2 +0.4
FARO Faro, Yukon 10.15 47 P Pn 10 02 22.5 +0.6
baz=239
I27K Kandik River 10.17 18 P Pn 10 02 22.1 -0.2
baz=204
UNV Unalaska Valle 10.20 264 P Pn 10 02 20.6 -2.0
baz=71
H17K Granite Mounta 10.26 334 Pn Pn 10 02 22.7 -0.6
H17K Granite Mounta 10.26 334 P Pn 10 02 22.1 -1.2
baz=144
R33M Jennings River 10.26 64 Pn Pn 10 02 23.1 -0.4
R33M Jennings River 10.26 64 P Pn 10 02 23.5 0.0
baz=259
I28M Miner Creek 10.36 22 Pn 10 02 25.5 +0.7
I28M Miner Creek 10.36 22 P Pn 10 02 24.6 -0.1
baz=209
T35M Bob Quinn 10.49 78 Pn Pn 10 02 27.6 +1.0
T35M Bob Quinn 10.49 78 P Pn 10 02 27.1 +0.5
baz=273
J30M Hart River 10.56 32 Pn 10 02 27.9 +0.3
J30M Hart River 10.56 32 P Pn 10 02 27.7 +0.1
baz=222
G21K Allakaket 10.61 351 Pn Pn 10 02 28.3 +0.2
G21K Allakaket 10.61 351 P Pn 10 02 27.8 -0.3
baz=166
G23K Bananza Creek 10.61 358 Pn Pn 10 02 27.2 -0.9
G23K Bananza Creek 10.61 358 P Pn 10 02 27.9 -0.3
baz=177
DLBC Dease Lake 10.62 70 Pn Pn 10 02 29.7 +1.3
DLBC Dease Lake 10.62 70 P Pn 10 02 28.9 +0.5
baz=265
DLBC Dease Lake 10.62 70 Pn Pn 10 02 27.4 -1.1
comp=Z,2.5nm,0.3s,baz=285,slow=2.5,SNR=5.6
DLBC Sn Sn 10 04 22.9 -4.4
comp=Z,1.5nm,0.3s,baz=231,slow=24,SNR=1.3
comp=Z,7.6nm,0.4s
G24K Hadweenzic Riv 10.62 4 Pn Pn 10 02 28.6 +0.3
G24K Hadweenzic Riv 10.62 4 P Pn 10 02 29.1 +0.8
baz=185
FYU Fort Yukon 10.62 9 Pn 10 02 27.5 -0.8
I29M Ogilvie Camp, 10.65 25 Pn Pn 10 02 29.8 +1.1
I29M Ogilvie Camp, 10.65 25 P Pn 10 02 29.5 +0.8
baz=214
H16K Elim 10.66 328 P Pn 10 02 28.3 -0.4
baz=137
G19K Purcell Mounta 10.72 343 Pn Pn 10 02 29.6 0.0
G19K Purcell Mounta 10.72 343 P Pn 10 02 30.0 +0.4
baz=155
U35K Hyder 10.73 83 P Pn 10 02 31.4 +1.6
baz=278
G25K Bearman Lake 10.76 7 P Pn 10 02 30.5 +0.4
baz=189
H27K Steamboat Moun 10.76 17 P Pn 10 02 30.3 0.0
baz=203
G18K Tagagawik 10.78 339 Pn Pn 10 02 32.6 +2.1
G18K Tagagawik 10.78 339 P Pn 10 02 29.7 -0.8
baz=150
G22K Bettles 10.87 355 P Pn 10 02 31.3 -0.3
baz=173
G17K Kiwalik Mounta 10.90 334 P Pn 10 02 32.6 +0.5
baz=144
RUBB Prince Rupert 10.97 92 Pn Pn 10 02 32.9 -0.2
I30M Mount Dempster 11.04 29 Pn Pn 10 02 34.6 +0.5
I30M Mount Dempster 11.04 29 P Pn 10 02 34.3 +0.3
baz=220
COLD Coldfoot 11.13 358 P Pn 10 02 35.7 +0.4
baz=177
G26K Porcupine Rive 11.14 11 P Pn 10 02 35.4 +0.1
baz=195
HG4B Hotspring 11.22 103 Pn Pn 10 02 35.4 -1.1
G16K Koyuk River 11.26 331 Pn Pn 10 02 36.6 -0.3
G16K Koyuk River 11.26 331 P Pn 10 02 36.2 -0.7
baz=139
GRNB Grenville Isla 11.29 94 Pn Pn 10 02 36.2 -1.2
P08K Saint George I 11.29 281 P Pn 10 02 35.8 -1.6
baz=84
F21K Alatna River 11.29 351 Pn Pn 10 02 37.5 0.0
F21K Alatna River 11.29 351 P Pn 10 02 37.7 +0.2
baz=167
H29M Whitestone 11.35 23 P Pn 10 02 40.3 +2.0
baz=212
F20K Avaraart Lake 11.36 347 Pn Pn 10 02 38.3 -0.1
F20K Avaraart Lake 11.36 347 P Pn 10 02 38.5 +0.1
baz=161
F24K Squaw Lake 11.43 3 Pn Pn 10 02 40.2 +0.8
F24K Squaw Lake 11.43 3 P Pn 10 02 40.4 +1.0
baz=183
G15K Niukluk 11.45 327 P Pn 10 02 40.0 +0.4
baz=134
F19K Shaleruckik Mo 11.46 343 Pn 10 02 40.0 +0.3
F19K Shaleruckik Mo 11.46 343 P Pn 10 02 40.1 +0.3
baz=155
WTLY Watson Lake, Y 11.48 61 Pn Pn 10 02 41.1 +1.1
BMAR Burnt Mountain 11.53 9 Pn Pn 10 02 42.4 +1.7
ANM Nome 11.60 323 Pn 10 02 42.3 +0.7
ANM Nome 11.60 323 P Pn 10 02 41.6 0.0
baz=129
ANM Nome 11.60 323 P Pn 10 02 42.3 +0.7
F25K Christian Rive 11.61 7 P Pn 10 02 41.5 -0.3
baz=189
SPIA Saint Paul Isl 11.62 284 P Pn 10 02 43.1 +1.2
SPIA Saint Paul Isl 11.62 284 P Pn 10 02 42.3 +0.3
baz=87
F17K Baldwin Pennin 11.81 336 Pn Pn 10 02 43.5 -1.0
F17K Baldwin Pennin 11.81 336 P Pn 10 02 43.9 -0.6
baz=145
F26K Sheenjek River 11.83 9 P Pn 10 02 45.4 +0.7
baz=193
EPYK Eagle Plains 11.85 25 Pn Pn 10 02 44.0 -1.2
EPYK Eagle Plains 11.85 25 P Pn 10 02 45.3 +0.1
baz=215
E19K Redstone River 11.95 345 Pn 10 02 46.8 +0.3
E19K Redstone River 11.95 345 P Pn 10 02 46.3 -0.1
baz=158,SNR=6.9
E23K Chandalar 11.96 359 P Pn 10 02 46.9 +0.3
baz=178
G29M Pine Creek 12.02 22 Pn Pn 10 02 50.3 +2.9
G29M Pine Creek 12.02 22 P Pn 10 02 48.6 +1.2
baz=211
E25K Arctic Village 12.13 6 Pn 10 02 48.9 -0.1
E25K Arctic Village 12.13 6 P Pn 10 02 49.2 +0.3
baz=189
F15K North Star Dit 12.14 328 Pn Pn 10 02 49.0 +0.1
F15K North Star Dit 12.14 328 P Pn 10 02 49.1 +0.1
baz=135
F28M Old Crow 12.30 17 Pn Pn 10 02 53.6 +2.4
F28M Old Crow 12.30 17 P Pn 10 02 51.6 +0.5
baz=205
G30M tAoh Zraii Nji 12.47 24 P Pn 10 02 54.5 +1.0
baz=215
F14K Arctic Creek 12.49 325 P Pn 10 02 53.3 -0.5
baz=130
E20K Nigu River 12.57 348 P Pn 10 02 55.0 +0.1
baz=162
E27K Coleen River 12.58 13 Pn Pn 10 02 56.5 +1.4
E27K Coleen River 12.58 13 P Pn 10 02 56.1 +1.0
baz=199
D22K Ayikyak River 12.88 354 Pn Pn 10 02 58.9 -0.2
D22K Ayikyak River 12.88 354 P Pn 10 02 59.1 0.0
baz=171

G31M Satah River 12.89 27 Pn Pn 10 03 01.8 +2.5
G31M Satah River 12.89 27 P Pn 10 03 00.6 +1.3
baz=220,SNR=7.2
BBB Bella Bella 12.96 99 Pn Pn 10 02 59.6 -0.6
comp=Z,0.3nm,0.3s,baz=242,slow=23,SNR=2.0
comp=Z,24nm,1.0s
D19K Kuna River 13.04 345 Pn Pn 10 03 03.6 +2.2
D19K Kuna River 13.04 345 P Pn 10 03 00.9 -0.4
baz=157
D20K Etivluk River 13.05 348 P Pn 10 03 00.9 -0.6
baz=161
D24K Happy Valley 13.06 1 Pn Pn 10 03 02.7 +1.1
D24K Happy Valley 13.06 1 P Pn 10 03 02.4 +0.8
baz=181
TNA Tin City 13.06 324 P Pn 10 03 01.3 -0.3
baz=127
F30M Barrier River 13.08 23 P Pn 10 03 02.8 +0.9
baz=214
E28M Babbage River 13.26 16 Pn Pn 10 03 06.7 +2.4
E28M Babbage River 13.26 16 P Pn 10 03 05.3 +1.1
baz=204
D17K Noatak River 13.26 336 P Pn 10 03 04.7 +0.5
baz=144
D25K Kavik River 13.29 4 Pn Pn 10 03 05.5 +0.7
D25K Kavik River 13.29 4 P Pn 10 03 05.4 +0.7
baz=186
C21K Knifeblade Rid 13.30 351 P Pn 10 03 05.1 +0.3
baz=166
E29M Blow River 13.33 18 Pn Pn 10 03 05.8 +0.6
E29M Blow River 13.33 18 P Pn 10 03 06.3 +1.0
baz=208
F31M Tsiigehtchic 13.42 26 Pn 10 03 08.4 +1.9
F31M Tsiigehtchic 13.42 26 P Pn 10 03 07.9 +1.4
baz=219
GAMB Gambell 13.55 313 P Pn 10 03 08.0 -0.3
baz=114
C24K Franklin Bluff 13.63 1 P Pn 10 03 10.2 +0.9
baz=181
D27M Malcolm River 13.66 12 Pn Pn 10 03 11.3 +1.5
D27M Malcolm River 13.66 12 P Pn 10 03 10.6 +0.8
baz=199
C18K Utukok River 13.68 341 Pn Pn 10 03 10.9 +0.8
C18K Utukok River 13.68 341 P Pn 10 03 09.6 -0.5
baz=150
HOLB Holberg 13.70 105 Pn 10 03 10.7 +0.3
B21K Ikpikpuk River 13.74 352 Pn 10 03 10.2 -0.6
B21K Ikpikpuk River 13.74 352 P Pn 10 03 10.2 -0.6
baz=167
C19K Lookout Ridge 13.82 344 P Pn 10 03 11.3 -0.7
baz=155
KOTAN Kotaneelee Air 13.83 63 P Pn 10 03 14.0 +1.9
baz=264
C17K DeLong Mountai 13.92 338 P Pn 10 03 13.2 0.0
baz=146
D28M Stokes Point 14.04 15 P Pn 10 03 15.5 +0.6
baz=204
FLDN Fort Liard 14.13 63 P Pn 10 03 17.4 +1.2
baz=264
INK Inuvik 14.15 24 Pn 10 03 17.4 +0.9
INK Inuvik 14.15 24 P Pn 10 03 17.5 +1.1
baz=218,SNR=13
INK Inuvik 14.15 24 Pn Pn 10 03 17.1 +0.7
comp=Z,1.1nm,0.3s,baz=207,slow=14,SNR=18
comp=Z,120nm,1.0s
C16K Lisburne Hills 14.23 335 Pn Pn 10 03 15.8 -1.8
C16K Lisburne Hills 14.23 335 P Pn 10 03 18.3 +0.7
baz=141
B20K Meade River 14.35 349 Pn 10 03 17.4 -1.8
B20K Meade River 14.35 349 P Pn 10 03 17.8 -1.4
baz=162
B22K Teshekpuk Lake 14.37 354 P Pn 10 03 19.3 -0.1
baz=170
B18K Kokolik River 14.41 342 P Pn 10 03 20.0 0.0
baz=150
WRGLY Wrigley 14.72 51 P Pn 10 03 25.8 +1.5
baz=252
A19K Wainwright 15.04 344 P Pn 10 03 27.7 -0.8
baz=154
A22K Sinclair Lake 15.12 353 P Pn 10 03 27.7 -1.9
baz=167
ATKA Atka Island 15.12 265 Pn 10 03 26.9 -2.8
ATKA Atka Island 15.12 265 P Pn 10 03 31.1 +1.4
CBB Campbell River 15.53 103 Pn Pn 10 03 35.6 +0.5
A21K Barrow 15.56 351 P Pn 10 03 33.0 -2.4
baz=164,SNR=10
GSTR Great Sitkin T 16.21 267 Pn 10 03 44.1 +0.2
ADK Adak 16.65 267 Pn 10 03 48.1 -1.2
ADK Adak 16.65 267 P Pn 10 03 50.7 +1.3
ADK Adak 16.65 267 P Pn 10 03 48.2 -1.2
ADK pmax pmax
comp=Z,325nm,1.0s
CLRS Cowichan Lake 16.87 105 Pn Pn 10 03 51.8 -0.5
CLRS P 10 03 53.4 -1.0
KIWB Kanaga Island 16.92 267 Pn 10 03 51.9 -1.0
C36M Paulatuk 17.34 30 Pn 10 03 56.9 -1.1
C36M IAmb IAmb 10 04 01.4
comp=Z,105nm,1.0s
C36M Paulatuk 17.34 30 P Pn 10 03 56.8 -1.1
baz=232,SNR=11
HILA High Level 17.44 69 P Pn 10 04 00.3 +1.0
NLWA Neilton Lookou 17.87 109 P Pn 10 04 05.1 +0.3
NLWA IAmb IAmb 10 04 06.1
comp=Z,30nm,0.9s
WISH Wishkah 18.10 109 P Pn 10 04 08.4 +1.0
WISH IAmb IAmb 10 04 09.8
comp=Z,79nm,1.1s
BRLDA Berland Lookou 18.22 83 P Pn 10 04 09.8 +0.7
YKAB2 New Yellowknif 18.57 56 P Pn 10 04 14.3 +1.1
YKA Yellowknife Ar 18.58 56 P P 10 04 12.8 -0.2
YKA Yellowknife Ar 18.58 56 P P 10 04 13.8 +0.7
comp=Z,0.4nm,0.3s,baz=264,slow=9.9,SNR=8.2
comp=Z,10nm,1.0s
A36M Sachs Harbour 18.79 23 P P 10 04 15.5 +0.3
A36M IAmb IAmb 10 04 18.7
comp=Z,95nm,0.8s
A36M Sachs Harbour 18.79 23 P P 10 04 15.2 0.0
baz=224,SNR=12
D05A Enumclaw 19.00 107 P P 10 04 16.3 -1.5
LON Longmire 19.37 107 P P 10 04 20.5 -1.5
LON Longmire 19.37 107 P P 10 04 20.5 -1.5
F04A Amboy 19.57 110 P P 10 04 23.9 -0.2
LTY Liberty 19.67 105 P P 10 04 25.4 +0.2
B08A Colville Reser 19.75 101 P P 10 04 26.4 +0.3
H04D Lebanon 20.36 114 P P 10 04 33.5 +0.7
HOOD Mount Hood Mea 20.38 110 P P 10 04 33.4 +0.3
HOOD IAmb IAmb 10 04 48.4
comp=Z,40nm,1.1s
H04A Detroit Lake 20.54 113 P P 10 04 34.8 +0.1
E07A Sunnyside 20.54 105 P P 10 04 34.0 -0.6
E07A IAmb IAmb 10 04 38.7
comp=Z,57nm,1.1s
I03D Drain, OR 20.64 116 P P 10 04 35.6 -0.1
C09A Chrisman Ranch 20.65 101 P P 10 04 35.8 0.0
D08A Wollman Farm, 20.74 103 P P 10 04 36.8 0.0
J01E Myrtle Point 20.74 118 P P 10 04 36.0 -0.8
J01E IAmb IAmb 10 04 40.8
comp=Z,22nm,0.8s
EDM Edmonton 20.78 83 P P 10 04 37.2 0.0
EDM IAmb IAmb 10 04 50.8
comp=Z,95nm,1.1s
EDM Edmonton 20.78 83 P P 10 04 37.3 0.0
EDM pmax pmax
comp=Z,95nm,1.1s
HAWA Hanford 20.82 105 P P 10 04 38.3 +0.6
F07A Phinny Hill Vi 20.92 107 P P 10 04 37.3 -1.4
E08A Dider Farm, El 21.01 105 P P 10 04 39.1 -0.6
E08A IAmb IAmb 10 04 43.4
comp=Z,57nm,1.1s
NEW Newport 21.02 98 P P 10 04 40.6 +0.7
NEW Newport 21.02 98 P P 10 04 40.6 +0.7
baz=304
NEW Newport 21.02 98 P P 10 04 40.6 +0.7
NEW Newport 21.02 98 P P 10 04 40.1 +0.2
comp=Z,13nm,0.8s,baz=151,slow=22,SNR=6.6
comp=Z,13nm,0.8s
I04A Tendick Farm, 21.05 115 P P 10 04 40.8 +0.7
I04A IAmb IAmb 10 04 44.5
comp=Z,56nm,1.1s
I05D Terrebonne, OR 21.21 112 P P 10 04 42.4 +0.4
I05D IAmb IAmb 10 04 43.8
comp=Z,35nm,1.1s
K02D Willamette Mer 21.22 119 P P 10 04 42.9 +0.9
K02D IAmb IAmb 10 04 46.8
comp=Z,21nm,0.9s
SHEM Shemya Is, Ala 21.45 276 P P 10 04 44.4 +0.1

comp=Z,93nm,0.9s,baz=65,slow=10.0,SNR=4.5
comp=Z,93nm,0.9s
E09A Wood Farm, Sta 21.49 103 P P 10 04 45.0 +0.1
HUMO Hull Mountain 21.63 118 P P 10 04 48.0 +1.6
HUMO IAmb IAmb 10 04 56.6
comp=Z,48nm,1.1s
PINE Pine Mountain 21.80 113 P P 10 04 49.0 +0.5
PINE IAmb IAmb 10 05 07.6
comp=Z,18nm,0.8s
G08A Pilot Rock 21.83 107 P P 10 04 48.9 +0.2
G08A IAmb IAmb 10 04 49.5
comp=Z,26nm,1.2s
J05D Fort Rock, OR 22.01 114 P P 10 04 51.8 +1.2
J05D IAmb IAmb 10 04 52.3
comp=Z,48nm,0.9s
K04D Chiloquin, OR 22.22 116 P P 10 04 52.1 -0.8
K04D IAmb IAmb 10 05 03.7
comp=Z,82nm,1.1s
L04D Klamath Falls 22.25 117 P P 10 04 54.6 +1.5
F10A Beach Ranch, E 22.33 104 P P 10 04 54.3 +0.4
F10A IAmb IAmb 10 05 17.9
comp=Z,39nm,1.1s
I07A Izee 22.35 110 P P 10 04 54.7 +0.4
I07A IAmb IAmb 10 04 55.2
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 22.41 119 P P 10 04 55.7 +0.8
YBH Yreka Blue Hor 22.41 119 P P 10 04 55.7 +0.8
YBH Yreka Blue Hor 22.41 119 P P 10 04 54.9 +0.1
comp=Z,15nm,1.2s,baz=14,slow=21,SNR=5.2
comp=Z,15nm,1.2s
K05A Summer Lake 22.58 115 P P 10 04 57.4 +0.6
K05A IAmb IAmb 10 05 07.1
comp=Z,56nm,1.2s
BMO Blue Mountains 23.00 106 P P 10 05 01.5 +0.4
BMO Blue Mountains 23.00 106 P P 10 05 01.5 +0.4
BMO pmax pmax
comp=Z,9.0nm,1.1s
BILL Bilibino 23.37 318 eP P 10 05 06.0 +1.4
J08A Circle Bar Ran 23.39 110 P 10 05 06.1 +1.0
J08A IAmb IAmb 10 05 18.2
comp=Z,25nm,1.1s
MSO Missoula 23.61 98 P P 10 05 07.6 +0.3
baz=306
WVOR Wild Horse Val 23.95 112 P P 10 05 11.7 +1.1
WVOR IAmb IAmb 10 05 22.7
comp=Z,51nm,1.1s
WVOR Wild Horse Val 23.95 112 P P 10 05 11.7 +1.1
WVOR pmax pmax
comp=Z,51nm,1.1s
LYMT Lyon Mountain 24.45 96 P P 10 05 15.2 -0.1
MFID Camas Ranch 24.75 107 P P 10 05 18.6 +0.7
EGMT Eagleton 25.26 92 P P 10 05 22.4 0.0
baz=303
HLID Hailey 25.42 105 P P 10 05 24.3 +0.4
HLID IAmb IAmb 10 05 27.0
comp=Z,9.4nm,0.9s
HLID Hailey 25.42 105 P P 10 05 24.0 0.0
baz=312
MPK Martis Peak 25.59 119 P P 10 05 24.9 -0.7
MPK IAmb IAmb 10 05 53.2
comp=Z,21nm,1.1s
PAHR Pah Rah Range 25.59 117 P P 10 05 26.3 +0.8
PNTR Pine Nut 25.96 119 P P 10 05 29.2 +0.3
PNTR IAmb IAmb 10 05 42.2
comp=Z,23nm,0.9s
YERR Yerington 26.22 118 P P 10 05 32.0 +0.7
YERR IAmb IAmb 10 05 51.9
comp=Z,10nm,0.9s
CMB Columbia Colle 26.40 121 P P 10 05 33.0 +0.2
CMB Columbia Colle 26.40 121 P P 10 05 33.0 +0.2
WAKR Walker 26.49 119 P P 10 05 34.1 +0.3
WAKR IAmb IAmb 10 06 07.5
comp=Z,14nm,1.2s
KVN Kaiserville 26.73 117 P P 10 05 36.9 +1.0
KVN Kaiserville 26.73 117 P P 10 05 36.9 +1.0
RYN Ryan 26.85 118 P P 10 05 37.5 +0.6
ELK Elko 26.94 110 P P 10 05 38.3 +0.5
ELK Elko 26.94 110 P P 10 05 38.3 +0.5
H17A Grant Village 26.97 99 P P 10 05 38.3 +0.2
H17A Grant Village 26.97 99 P P 10 05 37.9 -0.2
baz=310
NVAR Mina Array Bea 27.11 118 P P 10 05 39.2 -0.2
NVAR Mina Array Bea 27.11 118 P P 10 05 40.0 +0.7
comp=Z,5.5nm,0.9s,baz=307,slow=9.1,SNR=10.0
comp=Z,5.5nm,0.9s
RLMT Red Lodge 27.24 97 P P 10 05 40.8 +0.3
baz=308
MDPB Devils Postpil 27.35 120 P P 10 05 42.3 +0.7
OMMB Old Mammoth Mi 27.41 120 P P 10 05 43.1 +0.9
OMMB IAmb IAmb 10 06 20.4
comp=Z,10.0nm,1.1s
MLAC Mammoth, Mammo 27.47 120 P P 10 05 43.5 +0.9
baz=322
RES Resolute Bay 27.66 28 P P 10 05 44.8 +1.1
comp=Z,6.7nm,0.6s,baz=257,slow=12,SNR=7.7
comp=Z,6.7nm,0.6s
LAO LASA Array 28.00 91 P P 10 05 46.9 -0.2
baz=306
Q12A Willow Creek R 28.41 112 P P 10 05 51.5 +0.6
R11B Troy Canyon, C 28.54 114 P P 10 05 52.8 +0.7
R11B Troy Canyon, C 28.54 114 P P 10 05 52.7 +0.6
baz=320
BW06 Boulder Array 28.59 101 P P 10 05 52.6 -0.1
PD31 Pinedale Array 28.59 101 P P 10 05 52.9 +0.3
PDAR Pinedale Array 28.59 101 P P 10 05 52.5 -0.2
comp=Z,1.4nm,0.6s,baz=318,slow=4.7,SNR=8.2
comp=Z,1.4nm,0.6s
DUG Dugway, Tooele 28.62 108 P P 10 05 52.7 0.0
baz=316
SPR3 Spring Creek 3 28.69 112 P P 10 05 55.4 +1.8
CWC Cottonwood Cre 28.78 120 P P 10 05 54.2 -0.1
baz=323
VES Vestal, Richgr 28.78 122 P P 10 05 54.9 +0.9
baz=324
FCC Fort Churchill 29.06 62 P P 10 05 57.6 +1.3
FCC Fort Churchill 29.06 62 P P 10 05 57.6 +1.3
NLU North Lily Min 29.18 108 P P 10 05 58.5 +0.6
WCT Wildcat Mounta 29.22 118 P P 10 05 59.2 +1.2
ISA Isabella, Lake 29.22 122 P P 10 05 59.3 +1.3
baz=324
PKM Mcpherson Peak 29.22 124 P P 10 05 59.0 +0.9
baz=326
TPNV Topopah Spring 29.28 117 P P 10 05 57.8 -0.9
TPNV Topopah Spring 29.28 117 P P 10 05 59.3 +0.6
baz=322
TPNV Topopah Spring 29.28 117 P P 10 05 57.8 -0.9
FURC Furnace Creek, 29.36 118 P P 10 06 00.3 +1.2
baz=322
MPU Maple Canyon 29.37 107 P P 10 05 59.6 +0.1
SEY Seymchan 29.42 308 eP P 10 06 00.1 +0.6
SEY pmax pmax
comp=Z,13nm,1.1s
BSUT Blindstream Ca 29.47 106 P P 10 06 01.2 +0.6
ARVC Arvin 29.48 123 P P 10 06 00.9 +0.6
baz=325
PRN Pahroc Range 29.53 115 P P 10 06 02.1 +1.3
PRN IAmb IAmb 10 06 28.3
comp=Z,12nm,1.1s
SBC Santa Barbara 29.64 125 P P 10 06 03.1 +1.5
baz=326
GWY Greenwater Val 29.68 119 P P 10 06 02.5 +0.3
LRMC Laurel Mtn Rad 29.75 121 P P 10 06 03.1 +0.3
baz=324
QSM Queen of Sheba 29.75 119 P P 10 06 03.5 +0.9
PET Petropavlovsk 29.78 286 P P 10 06 03.5 +0.8
PET IAmb IAmb 10 06 34.5
comp=Z,31nm,1.1s
PET Petropavlovsk 29.78 286 eP P 10 06 02.3 -0.4
PET pmax pmax
comp=Z,55nm,1.3s
TCRU Three Creeks R 29.97 110 P P 10 06 05.5 +0.7
RDMU Red Mountain 30.09 104 P P 10 06 03.3 -2.6
SHOC Shoshone, Teco 30.09 118 P P 10 06 05.3 -0.4
baz=323
MVU Marysvale 30.17 110 P P 10 06 07.4 +0.8
MVU IAmb IAmb 10 06 43.2
comp=Z,17nm,1.1s
SHPR Sheep Range 30.17 116 P P 10 06 07.4 +0.8
MSU Marysvale 30.18 110 P P 10 06 08.4 +1.8
MSU Marysvale 30.18 110 P P 10 06 08.5 +1.8
PETK Petropavlovsk- 30.26 287 P P 10 06 06.7 -0.2
PETK Petropavlovsk- 30.26 287 P P 10 06 07.8 +0.8
comp=Z,9.4nm,0.8s,baz=76,slow=14,SNR=7.2
comp=Z,9.4nm,0.8s
GSC Goldstone, Bar 30.31 120 P P 10 06 07.6 -0.1

	baz=324								
K22A	**Casper**	**30.35**	**98**	P		**P**	**10 06 07.9**	**-0.2**
	baz=311								
SZCU	**Shurtz Canyon**	**30.39**	**112**	P		**P**	**10 06 09.3**	**+0.8**
SRU	**San Rafael Swe**	**30.62**	**107**	P		**P**	**10 06 11.6**	**+1.1**
SRU	**San Rafael Swe**	**30.62**	**107**	P		**P**	**10 06 11.6**	**+1.1**
SRU				pmax	pmax				
	comp=Z,53nm,1.2s								
TUQ	**Turquoise Moun**	**30.64**	**118**	P		**P**	**10 06 11.0**	**+0.4**
	baz=323								
LCMT	**Little Creek M**	**30.76**	**113**	P		**P**	**10 06 12.1**	**+0.4**
BFSC	**Mount Baldy Ra**	**30.77**	**122**	P		**P**	**10 06 11.5**	**-0.2**
	baz=325								
RSSD	**Black Hills**	**30.78**	**94**	P		**P**	**10 06 12.5**	**+0.5**
RSSD	**Black Hills**	**30.78**	**94**	P		**P**	**10 06 11.7**	**-0.3**
	baz=309								
RSSD	**Black Hills**	**30.78**	**94**	P		**P**	**10 06 12.5**	**+0.5**
V12A	**Nelson**	**30.94**	**117**	P		**P**	**10 06 14.2**	**+0.9**
KNB	**Kanab**	**30.97**	**113**	P		**P**	**10 06 14.3**	**+0.7**
KNB	**Kanab**	**30.97**	**113**	P		**P**	**10 06 14.3**	**+0.7**
MDND	**Maddock**	**31.04**	**84**	P		**P**	**10 06 13.5**	**-0.4**
	baz=304								
O20A	**White River Ci**	**31.12**	**103**	P		**P**	**10 06 15.6**	**+0.7**
O20A				IAmb	IAmb		10 06 16.1		
	comp=Z,26nm,1.0s								
O20A	**White River Ci**	**31.12**	**103**	P		**P**	**10 06 14.3**	**-0.6**
	baz=315								
MA2	**Magadan**	**31.17**	**302**	⇓*e*P		**P**	**10 06 14.4**	**-0.5**
MA2				pmax	pmax				
	comp=Z,14nm,1.2s								
GMRC	**Granite Mounta**	**31.29**	**119**	P		**P**	**10 06 16.9**	**+0.5**
	baz=324								
HMU	**Henry Mountain**	**31.36**	**109**	P		**P**	**10 06 18.2**	**+1.0**
U15A	**North Rim**	**31.69**	**113**	P		**P**	**10 06 19.5**	**-0.7**
NEE2	**Needles Airpor**	**31.81**	**118**	P		**P**	**10 06 21.3**	**+0.4**
	baz=323								
IRM	**Iron Mountain**	**32.04**	**119**	P		**P**	**10 06 23.4**	**+0.5**
	baz=324								
BC3	**Big Chuckawall**	**32.30**	**120**	P		**P**	**10 06 24.7**	**-0.5**
	baz=324								
PDMCI	**Parker Dam,Lak**	**32.42**	**118**	P		**P**	**10 06 25.3**	**-0.8**
	baz=323								
MONP2	**Monument Peak**	**32.46**	**122**	P		**P**	**10 06 26.9**	**+0.1**
	baz=326								
BLYC	**Blythe**	**32.68**	**119**	P		**P**	**10 06 29.0**	**+0.6**
BLYC				IAmb	IAmb		10 06 48.2		
	comp=Z,5.2nm,0.8s								
SWSC	**Sam W. Stewart**	**32.71**	**121**	P		**P**	**10 06 29.0**	**+0.3**
	baz=325								
IKP	**In-Ko-Pah, Jac**	**32.80**	**122**	P		**P**	**10 06 30.1**	**+0.5**
	baz=324								
AGMN	**Agassiz Nation**	**32.86**	**81**	P		**P**	**10 06 30.4**	**+0.5**
AGMN	**Agassiz Nation**	**32.86**	**81**	P		**P**	**10 06 29.0**	**-0.8**
	baz=304								
WUAZ	**Wupatki**	**32.87**	**113**	P		**P**	**10 06 31.4**	**+1.1**
WUAZ				IAmb	IAmb		10 06 40.2		
	comp=Z,22nm,1.1s								
WUAZ	**Wupatki**	**32.87**	**113**	P		**P**	**10 06 30.3**	**0.0**
	baz=321								
D32A	**Dogwood Acres,**	**32.88**	**83**	P		**P**	**10 06 29.8**	**-0.3**
D32A				IAmb	IAmb		10 06 39.6		
	comp=Z,5.6nm,0.8s								
MVCO	**Mesa Verde**	**33.10**	**108**	P		**P**	**10 06 31.9**	**-0.4**
	baz=318								
Y14A	**Wickenburg**	**33.28**	**117**	P		**P**	**10 06 34.0**	**+0.3**
SUSD	**Miller**	**33.42**	**89**	P		**P**	**10 06 34.7**	**-0.2**
	baz=308								
S22A	**4UR Ranch, Cre**	**33.60**	**105**	P		**P**	**10 06 37.3**	**+0.5**
X16A	**Lo Mia Camp, P**	**33.69**	**114**	P		**P**	**10 06 39.3**	**+1.8**
X16A				IAmb	IAmb		10 06 48.0		
	comp=Z,14nm,1.0s								
OGNE	**Ogallala**	**33.98**	**96**	P		**P**	**10 06 39.2**	**-0.7**
	baz=313								
SDCO	**Great Sand Dun**	**34.32**	**104**	P		**P**	**10 06 44.1**	**+1.1**
SDCO	**Great Sand Dun**	**34.32**	**104**	P		**P**	**10 06 42.8**	**-0.2**
	baz=317								
X18A	**Snowflake**	**34.37**	**112**	P		**P**	**10 06 43.9**	**+0.5**
X18A				IAmb	IAmb		10 06 45.2		
	comp=Z,7.0nm,0.8s								
214A	**Organ Pipe Nat**	**34.97**	**118**	P		**P**	**10 06 48.9**	**+0.5**
	baz=325								
KSCO	**Kaye Shedlock'**	**34.99**	**99**	P		**P**	**10 06 48.4**	**-0.3**
	baz=315								
ECSD	**EROS Data Cent**	**35.18**	**88**	P		**P**	**10 06 49.6**	**-0.5**
ECSD	**EROS Data Cent**	**35.18**	**88**	P		**P**	**10 06 49.8**	**-0.3**
	baz=309								
T25A	**Trinidad**	**35.35**	**103**	P		**P**	**10 06 51.4**	**-0.6**
T25A				IAmb	IAmb		10 07 28.7		
	comp=Z,12nm,1.1s								
T25A	**Trinidad**	**35.35**	**103**	P		**P**	**10 06 51.3**	**-0.6**
	baz=317								
EYMN	**Ely**	**35.46**	**78**	P		**P**	**10 06 52.3**	**-0.1**
EYMN	**Ely**	**35.46**	**78**	P		**P**	**10 06 52.1**	**-0.4**
	baz=305								
TUC	**Tucson**	**35.70**	**116**	P		**P**	**10 06 54.1**	**-0.6**
	baz=323								
TIXI	**Tiksi**	**35.81**	**328**	P		**P**	**10 06 55.2**	**0.0**
TIXI	**Tiksi**	**35.81**	**328**	⇓*e*P		**P**	**10 06 56.6**	**+1.4**
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.9s								
ANMO	**Albuquerque**	**35.89**	**108**	P		**P**	**10 06 57.7**	**+1.2**
ANMO	**Albuquerque**	**35.89**	**108**	P		**P**	**10 06 55.6**	**-0.9**
	baz=320								
ANMO	**Albuquerque**	**35.89**	**108**	P		**P**	**10 06 57.7**	**+1.2**
121A	**Cookes Peak, D**	**37.05**	**112**	P		**P**	**10 07 06.2**	**-0.2**
	baz=322								
NEEM	**North Greenlan**	**37.69**	**21**	*i*P		**P**	**10 07 10.6**	**-0.9**
NEEM				IAmb	IAmb		10 07 14.0		
	comp=Z,24nm,0.9s								
AMTX	**Amarillo**	**38.51**	**103**	P		**P**	**10 07 19.3**	**+0.7**
AMTX	**Amarillo**	**38.51**	**103**	P		**P**	**10 07 18.5**	**-0.1**
	baz=318								
UPNV	**Upernavik**	**38.54**	**29**	*i*P		**P**	**10 07 18.1**	**-0.1**
UPNV				IAmb	IAmb		10 07 20.4		
	comp=Z,14nm,0.8s								
MSTX	**Muleshoe**	**38.60**	**105**	P		**P**	**10 07 19.6**	**+0.2**
MSTX	**Muleshoe**	**38.60**	**105**	P		**P**	**10 07 19.2**	**-0.2**
	baz=320								
MNTX	**Cornudas Mount**	**38.97**	**110**	P		**P**	**10 07 22.5**	**+0.2**
	baz=322								
JFWS	**Jewell Farm**	**39.26**	**84**	P		**P**	**10 07 23.9**	**-0.8**
	baz=311								
YAK	**Yakutsk**	**39.50**	**313**	⇓*i*P		**P**	**10 07 27.3**	**+0.8**
YAK				pmax	pmax				
	comp=Z,23nm,1.0s								
WMOK	**Wichita Mounta**	**40.20**	**100**	P		**P**	**10 07 32.4**	**-0.3**
WMOK	**Wichita Mounta**	**40.20**	**100**	P		**P**	**10 07 32.4**	**-0.3**
E46A	**Sault Ste Mari**	**40.33**	**76**	P		**P**	**10 07 34.9**	**+1.3**
ABTX	**Abilene, Hawle**	**41.32**	**103**	P		**P**	**10 07 40.6**	**-1.3**
	baz=320								
HDIL	**Hopedale**	**41.36**	**86**	P		**P**	**10 07 42.0**	**-0.1**
HDIL				IAmb	IAmb		10 08 36.9		
	comp=Z,18nm,1.1s								
HDIL	**Hopedale**	**41.36**	**86**	P		**P**	**10 07 41.6**	**-0.5**
	baz=313								
YSS	**Yuzh-Sakhalins**	**41.66**	**287**	⇑*e*P		**P**	**10 07 42.6**	**-1.9**
YSS				pmax	pmax				
	comp=Z,33nm,1.3s								
TX31	**Lajitas Ar. Si**	**41.73**	**111**	P		**P**	**10 07 45.0**	**-0.4**
TXAR	**Lajitas Array**	**41.74**	**111**	P		**P**	**10 07 45.6**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=319,slow=7.3,SNR=7.6								
	comp=Z,2.7nm,0.9s								
CCM	**Cathedral Cave**	**42.00**	**90**	P		**P**	**10 07 46.2**	**-1.2**
	baz=315								
SFIN	**Lafayette**	**42.71**	**85**	P		**P**	**10 07 51.9**	**-1.2**
	baz=313								
JCT	**Junction City**	**42.89**	**106**	P		**P**	**10 07 55.5**	**+0.7**
JCT	**Junction City**	**42.89**	**106**	P		**P**	**10 07 54.3**	**-0.4**
	baz=321								
JCT	**Junction City**	**42.89**	**106**	P		**P**	**10 07 55.5**	**+0.7**
JCT				pmax	pmax				
	comp=Z,4.0nm,0.9s								
WHTX	**Lake Whitney,**	**43.00**	**102**	P		**P**	**10 07 54.5**	**-1.1**
	baz=320								
SUMG	**Summit**	**43.07**	**24**	P		**P**	**10 07 57.4**	**+1.2**
SUMG				IAmb	IAmb		10 07 58.1		
	comp=Z,46nm,1.0s								
SUMG	**Summit**	**43.07**	**24**	P		**P**	**10 07 57.4**	**+1.2**
SUMG				pmax	pmax				
	comp=Z,46nm,1.0s								
SUMG	**Summit**	**43.07**	**24**	*i*P		**P**	**10 07 56.0**	**-0.2**
SUMG				IAmb	IAmb		10 07 58.4		
	comp=Z,20nm,0.9s								
SFJD	**Kangerlussuaq**	**43.18**	**35**	*i*P		**P**	**10 07 55.6**	**-0.9**
SFJD				IAmb	IAmb		10 07 58.3		
	comp=Z,10nm,0.8s								
DRIO	**Del Rio**	**43.28**	**107**	P		**P**	**10 07 58.2**	**+0.3**
JKA	**Kamikawa-asahi**	**43.56**	**284**	P		**P**	**10 08 01.5**	**+1.5**
ASAJ	**Asahikawa**	**43.57**	**284**	P		**P**	**10 08 01.5**	**+1.5**
ASAJ				pmax	pmax				
	comp=Z,61nm,1.0s								
435B	**Jarrell**	**43.86**	**103**	P		**P**	**10 08 02.3**	**-0.2**
	baz=321								
SCHQ	**Schefferville**	**44.03**	**56**	P		**P**	**10 08 04.0**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=279,slow=13,SNR=2.7								
	comp=Z,4.0nm,0.7s								
KBS	**Kingsbay**	**44.71**	**5**	*i*P		**P**	**10 08 10.1**	**+1.4**
DY2G	**Dye2**	**44.87**	**34**	*i*P		**P**	**10 08 09.4**	**-1.1**
DY2G				IAmb	IAmb		10 08 11.6		
	comp=Z,6.6nm,0.8s								
ICESG	**Greenland Ices**	**45.07**	**29**	*i*P		**P**	**10 08 11.7**	**-0.4**
ICESG				IAmb	IAmb		10 08 14.8		
	comp=Z,11nm,0.7s								
ACSO	**Alum Creek Sta**	**45.10**	**82**	P		**P**	**10 08 11.8**	**-0.5**
	baz=314								
SPITS	**Spitsbergen Ar**	**45.64**	**4**	P		**P**	**10 08 16.0**	**-0.2**
SPITS							10 08 17.3		
SPITS				pmax	pmax				
	comp=Z,41nm,1.1s								
SPITS	**Spitsbergen Ar**	**45.64**	**4**	P		**P**	**10 08 16.0**	**-0.2**
	comp=Z,23nm,0.9s,baz=133,slow=14,SNR=6.3								
	comp=Z,23nm,0.9s								
KLR	**Kul'dur**	**45.93**	**296**	⇓*e*P		**P**	**10 08 20.0**	**+1.2**
KLR				pmax	pmax				
	comp=Z,12nm,1.1s								
P52A	**Corning**	**45.98**	**82**	P		**P**	**10 08 19.7**	**+0.4**
	baz=314								
M55A	**Ridgway**	**46.56**	**77**	P		**P**	**10 08 24.6**	**+0.7**
S51A	**Beattyville**	**46.57**	**85**	P		**P**	**10 08 24.8**	**+0.8**
L56A	**Greenwood**	**46.76**	**76**	P		**P**	**10 08 26.6**	**+1.1**
R53A	**Hurricane**	**47.00**	**83**	P		**P**	**10 08 27.1**	**-0.2**
R53A				IAmb	IAmb		10 08 30.2		
	comp=Z,11nm,1.0s								
J58A	**Remsen**	**47.15**	**73**	P		**P**	**10 08 29.7**	**+1.2**
MCWV	**Mont Chateau**	**47.23**	**80**	P		**P**	**10 08 28.8**	**-0.3**
	baz=314								
W50A	**Signal Mountai**	**47.37**	**88**	P		**P**	**10 08 30.3**	**0.0**
W50A				IAmb	IAmb		10 09 27.5		
	comp=Z,5.4nm,1.1s								
CPCT	**Cooper Cave**	**47.63**	**87**	P		**P**	**10 08 31.9**	**-0.3**
ISOG	**Isortoq, Green**	**47.70**	**32**	*i*P		**P**	**10 08 31.2**	**-1.2**
ISOG				IAmb	IAmb		10 08 33.0		
	comp=Z,17nm,0.7s								
D62A	**Allapoint, All**	**47.90**	**65**	P		**P**	**10 08 34.6**	**+0.4**
E62A	**Clayton Lake**	**47.97**	**66**	P		**P**	**10 08 35.5**	**+0.8**
ANGG	**Ammassalik, Gr**	**48.05**	**31**	*i*P		**P**	**10 08 33.6**	**-1.5**
ANGG				IAmb	IAmb		10 08 35.9		
	comp=Z,18nm,0.8s								
L59A	**Walton**	**48.08**	**74**	P		**P**	**10 08 36.1**	**+0.3**
NRIK	**Noril'sk**	**48.25**	**337**	⇑*e*P		**P**	**10 08 37.7**	**+1.1**
NRIK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
NRIK	**Noril'sk**	**48.25**	**337**	P		**P**	**10 08 36.4**	**-0.2**
	comp=Z,3.3nm,0.4s,baz=157,slow=6.8,SNR=2.7								
	comp=Z,3.3nm,0.4s								
V53A	**Saluda**	**48.42**	**86**	P		**P**	**10 08 37.9**	**-0.6**
F63A	**Nahmakanta, Br**	**48.80**	**67**	P		**P**	**10 08 41.6**	**+0.4**
F63A				IAmb	IAmb		10 10 01.9		
	comp=Z,3.7nm,0.8s								
F64A	**Sherman**	**49.08**	**66**	P		**P**	**10 08 43.6**	**+0.3**
F64A				IAmb	IAmb		10 09 03.5		
	comp=Z,5.4nm,0.9s								
ODNJ	**Ogdensburg**	**49.09**	**75**	P		**P**	**10 08 43.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**49.16**	**291**	P		**P**	**10 08 42.5**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=58,slow=8.9,SNR=3.0								
	comp=Z,1.8nm,0.7s								
V55A	**Taylorsville**	**49.18**	**84**	P		**P**	**10 08 45.1**	**+0.8**
KSCT	**Kent School, K**	**49.24**	**73**	P		**P**	**10 08 45.5**	**+0.9**
K62A	**Royalston**	**49.26**	**72**	P		**P**	**10 08 46.2**	**+1.5**
GOGA	**Godfrey**	**49.72**	**88**	P		**P**	**10 08 47.6**	**-0.7**
	baz=318								
HODGE	**Hodges**	**49.79**	**87**	P		**P**	**10 08 49.4**	**+0.5**
HODGE				IAmb	IAmb		10 09 08.3		
	comp=Z,6.0nm,0.8s								
WES	**Weston**	**49.94**	**71**	P		**P**	**10 08 50.2**	**+0.3**
WES				IAmb	IAmb		10 08 59.9		
	comp=Z,6.0nm,0.7s								
WES	**Weston**	**49.94**	**71**	P		**P**	**10 08 50.2**	**+0.3**
WES				pmax	pmax				
	comp=Z,6.0nm,0.7s								
G65A	**Princeton**	**49.94**	**66**	P		**P**	**10 08 49.8**	**0.0**
T59A	**Double "B" Far**	**50.40**	**81**	P		**P**	**10 08 54.1**	**+0.6**
MJA0	**Matsu Arr-Jizo**	**51.21**	**280**	*e*P		**P**	**10 09 01.3**	**+1.6**
MJA0				pmax	pmax				
	comp=Z,4.0nm,0.9s								
MAJO	**Matsushiro**	**51.23**	**280**	⇑*e*P		**P**	**10 09 00.0**	**+0.2**
MAJO				pmax	pmax				
	comp=Z,23nm,1.2s								
MJAR	**Matsushiro Arr**	**51.23**	**280**	P		**P**	**10 09 00.3**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=354,slow=8.8,SNR=6.0								
	comp=Z,1.2nm,0.4s								
ARCES	**ARCESS Array B**	**54.56**	**2**	P		**P**	**10 09 23.5**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=6.4,slow=5.2,SNR=13								
	comp=Z,1.8nm,0.5s								
KSRS	**Korea Array**	**56.15**	**288**	P		**P**	**10 09 35.2**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=244,slow=26,SNR=5.5								
	comp=Z,3.7nm,0.9s								
LVZ	**Lovozero**	**56.23**	**358**	⇑*e*P		**P**	**10 09 35.1**	**-0.9**
LVZ				pmax	pmax				
	comp=Z,35nm,1.1s								
ULN	**Ulaanbaatar**	**58.46**	**310**	⇑*e*P		**P**	**10 09 52.6**	**+0.5**
ULN				pmax	pmax				
	comp=Z,6.0nm,0.9s								
SONM	**Songino Array**	**58.76**	**310**	P		**P**	**10 09 55.4**	**+1.2**
	comp=Z,7.9nm,0.9s,baz=41,slow=5.4,SNR=14								
	comp=Z,7.9nm,0.9s								
ZALV	**Zalesovo Beam**	**61.70**	**327**	P		**P**	**10 10 15.0**	**+1.0**
ZALV	**Zalesovo Beam**	**61.70**	**327**	P		**P**	**10 10 14.6**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=31,slow=6.5,SNR=9.1								
	comp=Z,4.3nm,0.7s								
HHC	**Hu-hao-te**	**61.85**	**302**	*e*P		**P**	**10 10 16.1**	**+0.7**
NC204	**NORSAR Array S**	**61.86**	**11**	P		**P**	**10 10 15.7**	**+0.6**
NC405	**NORSAR Array S**	**62.12**	**10**	P		**P**	**10 10 16.6**	**-0.2**
NB2	**NORSAR Subarra**	**62.14**	**11**	P		**P**	**10 10 17.2**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=348,slow=6.9								
NOA	**NORSAR Array B**	**62.14**	**11**	P		**P**	**10 10 16.5**	**-0.4**
	comp=Z,5.4nm,0.8s,baz=349,slow=6.7,SNR=12								
	comp=Z,5.4nm,0.8s								
FIA1	**FINESS Array S**	**62.69**	**3**	P		**P**	**10 10 21.2**	**+0.6**
FINES	**FINESS Array B**	**62.69**	**3**	P		**P**	**10 10 20.8**	**+0.3**
FINES	**FINESS Array B**	**62.69**	**3**	P		**P**	**10 10 20.8**	**+0.3**
FINES	**FINESS Array B**	**62.69**	**3**	P		**P**	**10 10 21.1**	**+0.6**
	comp=Z,13nm,0.8s,baz=4.9,slow=9.3,SNR=15								
	comp=Z,13nm,0.8s								
HFS	**Hagfors**	**63.27**	**9**	P		**P**	**10 10 24.1**	**-0.3**
	comp=Z,6.9nm,0.9s,baz=270,slow=3.0,SNR=6.9								
	comp=Z,6.9nm,0.9s								
DGZ	**Jazzator, Alta**	**64.51**	**323**	⇓*e*P		**P**	**10 10 34.1**	**+1.1**
DGZ				pmax	pmax				
	comp=Z,13nm,1.2s								
NJ2	**Nanjing**	**65.07**	**291**	*e*P		**P**	**10 10 36.1**	**-0.5**
NJ2				pmax	pmax				
	comp=Z,20nm,0.7s								
EKA	**Eskdalemuir Ar**	**65.49**	**21**	P		**P**	**10 10 38.6**	**-0.4**
	comp=Z,8.0nm,0.9s,baz=339,slow=4.5,SNR=7.5								
	comp=Z,8.0nm,0.9s								
ARU	**Arti**	**65.55**	**343**	P		**P**	**10 10 42.2**	**+2.8**
ARU				S		**S**	**10 19 29.0**	**+5.0**
ARU	**Arti**	**65.55**	**343**	P		**P**	**10 10 39.6**	**+0.2**
	comp=Z,5.0nm,0.5s,baz=275,slow=0.7,SNR=5.4								
	comp=Z,5.0nm,0.5s								
VSU	**Vasula**	**65.69**	**2**	⇑*e*P		**P**	**10 10 41.2**	**+0.9**
VSU				pmax	pmax				
	comp=Z,50nm,0.9s								
KURK	**Kurchatov**	**66.37**	**329**	P		**P**	**10 10 44.2**	**-0.6**
KURK	**Kurchatov**	**66.37**	**329**	P		**P**	**10 10 45.6**	**+0.8**
BRVK	**Borovoye**	**66.42**	**335**	P		**P**	**10 10 44.7**	**-0.4**
BRVK	**Borovoye**	**66.42**	**335**	⇓*e*P		**P**	**10 10 46.1**	**+1.0**
BRVK				pmax	pmax				
	comp=Z,13nm,1.2s								
BVAR	**Borovoye Array**	**66.42**	**335**	P		**P**	**10 10 45.5**	**+0.4**
	comp=Z,7.7nm,0.9s,baz=42,slow=2.3,SNR=4.1								
	comp=Z,7.7nm,0.9s								
KURBB	**Kurchatov Arra**	**66.48**	**329**	P		**P**	**10 10 45.6**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=31,slow=5.8,SNR=7.7								
	comp=Z,2.5nm,0.7s								
LCR2	**La Lucha 2**	**68.24**	**106**	P		**P**	**10 10 55.9**	**-1.4**
RIMA	**Rio Macho**	**68.29**	**105**			**P**	**10 10 55.3**	**-2.4**
MOS	**Moscow**	**68.33**	**356**	*e*P		**P**	**10 10 53.6**	**-3.5**
MOS				pmax	pmax				
	comp=Z,396nm,2.0s								
GTA	**Gaotai**	**68.36**	**309**	*e*P		P	10 11 04.5	+6.8	
GTA				pP	PcP		10 11 18.3	-4.9	
GTA				pmax	pmax				
	comp=Z,96nm,2.3s								
XAN	**Xi'an**	**68.52**	**299**	P		**P**	**10 10 58.0**	**-0.7**
XAN				pP	pwP		10 11 05.3	-1.2	
XAN				pmax	pmax				
	comp=Z,160nm,2.3s								
PABE	**Paberze**	**68.57**	**4**			**P**	**10 10 56.1**	**-2.5**
PEZE	**Perez Zeledon,**	**68.71**	**105**	P		**P**	**10 10 59.8**	**-0.4**
MK31	**Makanchi Array**	**68.73**	**325**	P		**P**	**10 10 59.4**	**-0.4**
MK31	**Makanchi Array**	**68.73**	**325**	P		**P**	**10 10 59.4**	**-0.4**
MK31				pmax	pmax				
	comp=Z,52nm,1.1s								
MKAR	**Makanchi Array**	**68.73**	**325**	P		**P**	**10 10 59.8**	**0.0**
MKAR	**Makanchi Array**	**68.73**	**325**	P		**P**	**10 10 59.8**	**0.0**
RGN	**Rugen**	**68.74**	**11**	P		**P**	**10 10 58.7**	**-0.9**
MAKZ	**Makanchi**	**68.82**	**325**	P		**P**	**10 10 58.0**	**-2.4**
MAKZ	**Makanchi**	**68.82**	**325**	P		**P**	**10 10 58.0**	**-2.4**
MAKZ				pmax	pmax				
	comp=Z,56nm,1.0s								
DRK0	**Durika**	**69.05**	**105**	P		**P**	**10 10 60.0**	**-2.4**
KLNR	**Kaliningrad**	**69.27**	**7**	⇓*e*P		**P**	**10 11 03.0**	**+0.1**
KLNR				pmax	pmax				
	comp=Z,230nm,1.3s								
LZH	**Lanzhou**	**69.28**	**304**	⇑P		**P**	**10 11 02.5**	**-1.1**
LZH				pP	sP		10 11 09.3	+3.3	
LZH				pmax	pmax				
	comp=Z,100nm,1.3s								
WMQ	**Urumqi**	**69.48**	**320**	*e*P		**P**	**10 11 06.6**	**+2.1**
WMQ				sP	pwP		10 11 16.9	+4.6	
WMQ				pmax	pmax				
	comp=Z,130nm,2.4s								
MNK	**Minsk**	**69.69**	**2**	*i*P		P	10 10 54.8	-11	
	comp=E,9.0nm,1.1s								
MNK				*i*P		P	10 10 54.8	-11	
	comp=N,34nm,1.1s								
MNK				*i*P		P	10 10 54.8	-11	
	comp=Z,105nm,1.1s,baz=358								
MNK				*i*S		S	10 19 56.5	-17	
MNK	**Minsk**	**69.69**	**2**	*i*P		P	10 10 54.8	-11	
MNK				pmax	pmax				
	comp=Z,105nm,1.1s								
MNK				pmax	pmax				
	comp=E,9.0nm,1.1s								
MNK				pmax	pmax				
	comp=N,34nm,1.1s								
BRU2	**Volcan**	**69.74**	**105**	P		**P**	**10 11 03.4**	**-3.1**
AKASG	**Malin Array Be**	**73.51**	**1**	P		**P**	**10 11 28.7**	**0.0**
	comp=N,13nm,1.0s,baz=0.2,slow=6.3,SNR=11								
	comp=N,13nm,1.0s								
AKBB	**Malin Array Si**	**73.51**	**1**	P		**P**	**10 11 28.7**	**+0.1**
AKBB				IAmb	IAmb		10 11 55.1		
	comp=Z,22nm,1.0s								
AKBB	**Malin Array Si**	**73.51**	**1**	P		**P**	**10 11 28.7**	**+0.1**
AKBB				pmax	pmax				
	comp=Z,22nm,1.0s								
KIEV	**Kiev**	**73.52**	**1**	P		**P**	**10 11 28.7**	**0.0**
KIEV				IAmb	IAmb		10 11 55.1		
	comp=Z,18nm,0.9s								
KIEV	**Kiev**	**73.52**	**1**	P		**P**	**10 11 28.7**	**0.0**
KIEV				pmax	pmax				
	comp=Z,18nm,1.0s								
KHC	**Kasperske Hory**	**74.11**	**12**	⇓*e*P		**P**	**10 11 34.2**	**+1.9**
KHC				pmax	pmax				
	comp=Z,46nm,1.3s								
RABL	**Rabaul**	**76.68**	**241**	P		**P**	**10 11 47.4**	**0.0**
PZH	**PanZhiHua**	**78.22**	**300**	P		**P**	**10 11 55.8**	**-0.3**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,100nm,5.1s								
ESDC	**Sonseca Array**	**80.09**	**27**	P		**P**	**10 12 06.7**	**+0.6**
	comp=Z,8.7nm,0.9s,baz=341,slow=4.4,SNR=1.6								
	comp=Z,8.7nm,0.9s								
FAKI	**Fak Fak**	**86.04**	**259**	P		**P**	**10 12 36.6**	**-0.4**
FAKI				IAmb	IAmb		10 13 06.7		
	comp=Z,21nm,1.1s								
CMAR	**Chiang Mai Arr**	**86.39**	**298**	P		**P**	**10 12 37.9**	**

comp=Z,0.2nm,0.3s,baz=35,slow=14,SNR=6.8
FINES Pg Pb 10 01 38.8 +0.8
comp=Z,0.3nm,0.3s,baz=29,slow=14,SNR=8.9
FINES Lg Lg 10 02 29.8
comp=Z,0.5nm,0.3s,baz=33,slow=23,SNR=1.8
comp=Z,0.8nm,0.5s
HEF Hetta 4.55 326 PN Pn 10 01 38.0 +0.6
HEF SG Sg 10 02 49.8 -3.6
KMNF Kaamanen 4.58 344 PN Pn 10 01 38.4 +0.6
TERR Teriberka 4.74 20 S Sn 10 02 32.9 -2.6
PRVG Vayda Guba 4.99 6 P Pn 10 01 44.5 +1.1
PRVG S Sn 10 02 41.3 -0.4
ARCES ARCESS Array B 5.14 340 P Pn 10 01 45.3 -0.2
ARCES S Sn 10 02 43.5 -1.9
ARCES ARCESS Array B 5.14 340 Pn Pn 10 01 45.6 +0.1
comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=38
ARCES Sn Sn 10 02 43.3 -2.1
comp=Z,0.1nm,0.3s,baz=151,slow=25,SNR=1.6
ARCES Lg Lg 10 03 06.0
comp=Z,0.4nm,0.3s,baz=151,slow=33,SNR=12
comp=Z,0.6nm,0.3s
I43RU DUBNA INFRASON 8.73 155 I I 10 55 10.0
baz=343,slow=336,SNR=3.1
HFS Hagfors 9.12 247 Pn Pn 10 02 41.4 +1.4
comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=0.9
comp=Z,2.1nm,0.8s
NOA NORSAR Array B 9.61 256 Pn Pn 10 02 46.8 0.0
baz=65,slow=19,SNR=1.1
comp=Z,1.1nm,1.0s

*IDC **23** 10:03:53.4±1.1,56°.26N×148°.37W,h0km,mb4.3/12, mbtmp4.3/17,ML4.3/4,Error ellipse: s-maj=30.2km s-min=18.9km az=14.0*
*NEIC **23** 10:03:55.7±1.3,56°.29N±0°.08×148°.3W±0°.1,h18km±7km, mb4.1/2,ML4.5/32,ML4.4(AEIC),Error ellipse: s-maj=12.5km s-min=8.7km az=165.0*
*AEIC **23** 10:03:58.8±1.8,56°.25N±0°.09×148°.3W±0°.1,h10km±6km, Error ellipse: s-maj=13.8km s-min=8.9km az=169.0*
ISC 23 10:03:54.9±0.6,56°.33N±0°.07×148°.29W±0°.05,h10km, n172,σ1§08/172,mb4.4/12,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.76**	**304**	S		**Sn**	**10 05 09.1**	**-3.4**
	baz=121							
KDAK	**Kodiak Island**	**2.76**	**304**	Pn		**Pn**	**10 04 38.6**	**-0.5**
	61nm,0.3s,baz=130,slow=4.6,SNR=11							
KDAK				Sn		**Sn**	**10 05 09.0**	**-3.4**
	47nm,0.3s,baz=93,slow=6.2,SNR=7.3							
	173nm,0.3s							
OHAK	**Old Harbor**	**2.89**	**290**			**Pn**	**10 04 40.5**	**-0.4**
OHAK	**Old Harbor**	**2.89**	**290**	P		**Pn**	**10 04 40.5**	**-0.4**
	baz=107							
OHAK				S		**Sn**	**10 05 11.6**	**-4.1**
	baz=107							
SYI	**Shuyak Island**	**3.18**	**318**			**Pn**	**10 04 45.0**	**+0.1**
SYI						**Sn**	**10 05 20.8**	**-2.1**
Q20K	**Shuyak Island**	**3.18**	**318**	P		**Pn**	**10 04 45.0**	**+0.1**
	baz=135							
Q20K				S		**Sn**	**10 05 20.8**	**-2.2**
	baz=135							
MID	**Middleton Isla**	**3.28**	**18**			**Pn**	**10 04 46.1**	**-0.2**
MID	**Middleton Isla**	**3.28**	**18**	IAML			10 05 23.0	
	comp=E,1µm,0.3s							
Q23K	**Middleton Isla**	**3.28**	**18**			**Pn**	**10 04 46.0**	**-0.3**
Q23K	**Middleton Isla**	**3.28**	**18**	IAML			10 05 23.0	
	comp=E,2µm,0.6s							
Q23K				IAML			10 05 24.0	
	comp=N,655nm,1.1s							
Q23K	**Middleton Isla**	**3.28**	**18**	P		**Pn**	**10 04 46.0**	**-0.3**
	baz=199							
Q23K				S		**Sn**	**10 05 22.3**	**-3.0**
	baz=199							
CNPM	**China Poot**	**3.57**	**335**			**Pn**	**10 04 50.2**	**-0.1**
CNPM	**China Poot**	**3.57**	**335**	IAML			10 07 03.3	
	comp=E,519nm,1.3s							
BRSE	**Bradley Lake S**	**3.66**	**340**			**Pn**	**10 04 51.5**	**-0.1**
BRSE	**Bradley Lake S**	**3.66**	**340**	P		**Pn**	**10 04 51.5**	**-0.1**
	baz=158							
BRSE				S		**Sn**	**10 05 31.7**	**-3.1**
	baz=158							
P23K	**Montague Islan**	**3.71**	**7**			**Pn**	**10 04 52.2**	**0.0**
P23K	**Montague Islan**	**3.71**	**7**	P		**Pn**	**10 04 52.2**	**0.0**
	baz=187							
P23K				S		**Sn**	**10 05 32.7**	**-3.3**
	baz=187							
HOM	**Homer**	**3.79**	**333**	Pn		**Pn**	**10 04 53.7**	**+0.5**
SEW	**Seward**	**3.84**	**351**			**Pn**	**10 04 53.8**	**-0.1**
SEW	**Seward**	**3.84**	**351**	P		**Pn**	**10 04 53.8**	**-0.1**
	baz=170							
Q19K	**Cape Douglas,**	**3.88**	**314**			**Pn**	**10 04 54.8**	**+0.2**
Q19K	**Cape Douglas,**	**3.88**	**314**	P		**Pn**	**10 04 54.8**	**+0.2**
	baz=131							
AU22	**Augustine Moun**	**4.08**	**321**			**Pn**	**10 04 57.7**	**+0.5**
KAIM	**Kayak Island**	**4.15**	**28**			**Pn**	**10 04 58.7**	**+0.4**
KAIM	**Kayak Island**	**4.15**	**28**	IAML			10 05 51.5	
	comp=N,670nm,1.4s							
KAIM				IAML			10 07 35.6	
	comp=E,489nm,1.0s							
KAIM	**Kayak Island**	**4.15**	**28**	P		**Pn**	**10 04 58.7**	**+0.4**
	baz=211							
P19K	**Oil Pt**	**4.24**	**324**			**Pn**	**10 04 59.7**	**+0.1**
P19K	**Oil Pt**	**4.24**	**324**	IAML			10 05 54.0	
	comp=N,944nm,0.4s							
P19K				IAML			10 07 11.0	
	comp=E,972nm,1.2s							
P19K	**Oil Pt**	**4.24**	**324**	P		**Pn**	**10 04 59.7**	**+0.1**
	baz=140							
O20K	**Slope Mountain**	**4.41**	**330**			**Pn**	**10 05 01.7**	**-0.1**
O20K	**Slope Mountain**	**4.41**	**330**	P		**Pn**	**10 05 01.7**	**-0.1**
	baz=147							
EYAK	**Cordova Ski Ar**	**4.44**	**16**			**Pn**	**10 05 02.4**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.44**	**16**	P		**Pn**	**10 05 02.4**	**+0.2**
	baz=198							
IVE	**Iliamna Volcan**	**4.46**	**328**			**Pn**	**10 05 02.5**	**-0.2**
RAGM	**Ragged Mountai**	**4.49**	**24**	Pn		**Pn**	**10 05 05.5**	**+2.5**
RAGM				IAML			10 06 02.0	
	comp=E,863nm,0.7s							
CNTC	**Contact Creek**	**4.55**	**298**			**Pn**	**10 05 04.2**	**+0.3**
Q17K	**Contact Creek**	**4.55**	**298**	P		**Pn**	**10 05 04.2**	**+0.3**
	baz=113							
PLK3	**Peulik 3**	**4.57**	**291**			**Pn**	**10 05 04.2**	**+0.2**
GOAT	**Goat Mountain**	**4.66**	**22**			**Pn**	**10 05 05.6**	**+0.3**
CAPN	**Captain Cook N**	**4.70**	**343**	Pn		**Pn**	**10 05 04.7**	**-1.0**
RSO	**Redoubt South**	**4.76**	**332**	Pn		**Pn**	**10 05 06.5**	**-0.4**
PLK1	**Peulik 1**	**4.77**	**291**			**Pn**	**10 05 06.9**	**+0.1**
RDWB	**Redoubt West**	**4.81**	**332**			**Pn**	**10 05 07.1**	**-0.3**
P18K	**Big Mountain,**	**4.81**	**313**			**Pn**	**10 05 07.2**	**-0.1**
P18K	**Big Mountain,**	**4.81**	**313**	P		**Pn**	**10 05 07.2**	**-0.1**
	baz=127							
SNH	**Sunshine Point**	**4.82**	**34**			**Pn**	**10 05 07.7**	**+0.2**
SNH	**Sunshine Point**	**4.82**	**34**	IAML			10 06 01.8	
	comp=N,227nm,0.3s							
NCT	**North Crescent**	**4.89**	**332**			**Pn**	**10 05 08.8**	**+0.2**
O19K	**Port Alsworth**	**5.01**	**323**			**Pn**	**10 05 09.9**	**-0.2**
O19K	**Port Alsworth**	**5.01**	**323**	P		**Pn**	**10 05 09.9**	**-0.2**
	baz=138							
Q16K	**King Salmon**	**5.09**	**301**			**Pn**	**10 05 11.4**	**+0.4**
Q16K	**King Salmon**	**5.09**	**301**	P		**Pn**	**10 05 11.4**	**+0.4**
	baz=115							
O18K	**Koktuh Hills**	**5.09**	**317**			**Pn**	**10 05 11.1**	**-0.1**
O18K	**Koktuh Hills**	**5.09**	**317**	IAML			10 06 42.5	
	comp=E,153nm,1.0s							
O18K				IAML			10 07 39.3	
	comp=N,316nm,1.3s							
O18K	**Koktuh Hills**	**5.09**	**317**	P		**Pn**	**10 05 11.1**	**-0.1**
	baz=131							
P17K	**Kvichak River**	**5.22**	**307**			**Pn**	**10 05 13.4**	**+0.4**
P17K	**Kvichak River**	**5.22**	**307**	P		**Pn**	**10 05 13.4**	**+0.4**
	baz=120							
R16K	**Pilot Point**	**5.23**	**288**			**Pn**	**10 05 13.1**	**0.0**
R16K	**Pilot Point**	**5.23**	**288**	IAML			10 07 12.1	
	comp=N,375nm,1.3s							
R16K				IAML			10 08 00.2	
	comp=E,334nm,1.1s							
R16K	**Pilot Point**	**5.23**	**288**	P		**Pn**	**10 05 13.1**	**0.0**
	baz=101							
SPCG	**Spurr Capps Gl**	**5.34**	**340**			**Pn**	**10 05 14.2**	**-0.5**
N19K	**Bonanza Creek**	**5.54**	**327**			**Pn**	**10 05 16.7**	**-0.7**
N19K	**Bonanza Creek**	**5.54**	**327**	P		**Pn**	**10 05 16.7**	**-0.7**
	baz=142							
YKU2	**Yakutat**	**5.59**	**52**	Pn		**Pn**	**10 05 19.2**	**+1.2**
YKU2	**Yakutat**	**5.59**	**52**	P		**Pn**	**10 05 20.2**	**+2.2**
GLB	**Gilahina Butte**	**5.63**	**23**	Pn		**Pn**	**10 05 20.0**	**+1.4**
CHGN	**Chignik**	**5.63**	**274**			**Pn**	**10 05 18.6**	**0.0**
CHGN	**Chignik**	**5.63**	**274**	P		**Pn**	**10 05 18.6**	**0.0**
	baz=86							
PCA	**Pinnacle**	**5.68**	**45**			**Pn**	**10 05 19.9**	**+0.5**
PINM	**Pinnacle**	**5.69**	**45**	P		**Pn**	**10 05 19.9**	**+0.5**
	baz=231							
O17K	**Koliganek Bris**	**5.81**	**310**			**Pn**	**10 05 20.9**	**-0.1**
O17K	**Koliganek Bris**	**5.81**	**310**	P		**Pn**	**10 05 20.9**	**-0.1**
	baz=123							
CTGM	**Chitina Glacie**	**5.90**	**35**	Pn		**Pn**	**10 05 22.7**	**+0.3**
N18K	**Kilae Creek**	**5.91**	**321**			**Pn**	**10 05 22.3**	**-0.1**
N18K	**Kilae Creek**	**5.91**	**321**	P		**Pn**	**10 05 22.3**	**-0.1**
	baz=135							
SVW2	**Sparrevohn**	**6.10**	**325**	Pn		**Pn**	**10 05 24.1**	**-1.0**
SVW2	**Sparrevohn**	**6.10**	**325**	P		**Pn**	**10 05 24.9**	**-0.2**
O16K	**Kokwok River B**	**6.16**	**306**	Pn		**Pn**	**10 05 26.1**	**+0.3**
N17K	**Nushagak Hills**	**6.29**	**316**			**Pn**	**10 05 27.2**	**-0.3**
N17K	**Nushagak Hills**	**6.29**	**316**	P		**Pn**	**10 05 27.2**	**-0.3**
	baz=129							
M18K	**Stony River**	**6.48**	**326**			**Pn**	**10 05 30.0**	**-0.2**
M18K	**Stony River**	**6.48**	**326**	P		**Pn**	**10 05 30.0**	**-0.2**
	baz=140							
O29M	**Mount Kennedy**	**6.49**	**48**			**Pn**	**10 05 31.5**	**+1.1**
P29M	**Windy Craggy**	**6.52**	**55**			**Pn**	**10 05 31.3**	**+0.5**
CHNA	**Chernabura Isl**	**6.58**	**262**	P		**Pn**	**10 05 31.7**	**+0.1**
	baz=73							
CNBA	**Chernabura Isl**	**6.58**	**261**			**Pn**	**10 05 31.7**	**+0.1**
L19K	**White Mountain**	**6.76**	**333**			**Pn**	**10 05 33.9**	**-0.3**
L19K	**White Mountain**	**6.76**	**333**	P		**Pn**	**10 05 33.9**	**-0.3**
	baz=148							
S31K	**Pelican**	**6.76**	**71**			**Pn**	**10 05 32.9**	**-1.2**
SDPT	**Sand Point**	**6.93**	**267**			**Pn**	**10 05 36.7**	**+0.3**
SDPT	**Sand Point**	**6.93**	**267**	P		**Pn**	**10 05 37.4**	**+1.0**
M17K	**Holitna River**	**6.95**	**321**			**Pn**	**10 05 36.4**	**-0.2**
M17K	**Holitna River**	**6.95**	**321**	P		**Pn**	**10 05 36.4**	**-0.2**
	baz=133							
PLBC	**Pleasant Camp**	**7.09**	**59**			**Pn**	**10 05 39.3**	**+0.7**
PLBC	**Pleasant Camp**	**7.09**	**59**	P		**Pn**	**10 05 39.3**	**+0.7**
	baz=248							
R31K	**City Hall, Gus**	**7.10**	**68**			**Pn**	**10 05 38.7**	**0.0**
R31K	**City Hall, Gus**	**7.10**	**68**	P		**Pn**	**10 05 38.7**	**0.0**
	baz=258							
SIT	**Sitka**	**7.18**	**79**			**Pn**	**10 05 38.4**	**-1.4**
SIT	**Sitka**	**7.18**	**79**	P		**Pn**	**10 05 38.8**	**-1.0**
HYT	**Haines Junctio**	**7.22**	**47**			**Pn**	**10 05 40.8**	**+0.3**
HYT	**Haines Junctio**	**7.22**	**47**	P		**Pn**	**10 05 40.8**	**+0.3**
	baz=236							
L18K	**Granite Mounta**	**7.30**	**327**			**Pn**	**10 05 41.1**	**-0.4**
L18K	**Granite Mounta**	**7.30**	**327**	P		**Pn**	**10 05 41.1**	**-0.4**
	baz=140							
N15K	**Kwethluk River**	**7.32**	**307**			**Pn**	**10 05 41.6**	**-0.1**
N15K	**Kwethluk River**	**7.32**	**307**	P		**Pn**	**10 05 41.6**	**-0.1**
	baz=117							
MCK	**McKinley**	**7.44**	**358**			**Pn**	**10 05 43.2**	**-0.1**
MCK	**McKinley**	**7.44**	**358**	P		**Pn**	**10 05 43.2**	**-0.1**
	baz=177							
O14K	**Tigyukauivet M**	**7.53**	**298**	Pn		**Pn**	**10 05 45.6**	**+1.1**
SKAG	**Skagway**	**7.59**	**60**			**Pn**	**10 05 46.6**	**+1.3**
SKAG	**Skagway**	**7.59**	**60**	P		**Pn**	**10 05 47.4**	**+2.0**
BESE	**Bessie Mountai**	**7.59**	**67**			**Pn**	**10 05 46.3**	**+0.7**
S32K	**Killisnoo**	**7.60**	**76**			**Pn**	**10 05 44.6**	**-1.0**
S32K	**Killisnoo**	**7.60**	**76**	P		**Pn**	**10 05 44.6**	**-1.0**
	baz=267							
PVV	**Pavlof Volcano**	**7.66**	**268**			**Pn**	**10 05 46.4**	**+0.1**
TTA	**Tatalina**	**7.69**	**333**	Pn		**Pn**	**10 05 48.0**	**+1.1**
TTA	**Tatalina**	**7.69**	**333**	P		**Pn**	**10 05 48.3**	**+1.5**
PS4A	**Pavlof South-4**	**7.70**	**268**			**Pn**	**10 05 47.2**	**+0.3**
R32K	**Eaglecrest**	**7.71**	**70**			**Pn**	**10 05 47.2**	**0.0**
R32K	**Eaglecrest**	**7.71**	**70**	P		**Pn**	**10 05 47.2**	**0.0**
	baz=261							
L17K	**Donlin**	**7.75**	**323**			**Pn**	**10 05 47.4**	**-0.3**
L17K	**Donlin**	**7.75**	**323**	P		**Pn**	**10 05 47.4**	**-0.3**
	baz=134							
JIS	**Juneau Island**	**7.78**	**70**			**Pn**	**10 05 48.0**	**0.0**
M15K	**Kasigluk River**	**7.82**	**309**			**Pn**	**10 05 48.5**	**-0.1**
M15K	**Kasigluk River**	**7.82**	**309**	P		**Pn**	**10 05 48.5**	**-0.1**
	baz=119							
L16K	**Owhat River**	**7.89**	**318**			**Pn**	**10 05 49.1**	**-0.4**
L16K	**Owhat River**	**7.89**	**318**	P		**Pn**	**10 05 49.1**	**-0.4**
	baz=128							
BPAW	**Bear Paw Mtn.**	**7.91**	**351**	Pn		**Pn**	**10 05 51.8**	**+1.9**
K17K	**Iditarod**	**8.17**	**326**			**Pn**	**10 05 52.8**	**-0.6**
K17K	**Iditarod**	**8.17**	**326**	P		**Pn**	**10 05 52.8**	**-0.6**
	baz=137							
WHY	**Whitehorse**	**8.25**	**53**			**Pn**	**10 05 55.8**	**+1.2**
J18K	**Innoko River**	**8.31**	**333**	Pn		**Pn**	**10 05 56.0**	**+0.7**
P32M	**Atlin**	**8.41**	**61**			**Pn**	**10 05 57.4**	**+0.7**
P32M	**Atlin**	**8.41**	**61**	P		**Pn**	**10 05 57.4**	**+0.7**
	baz=253							
U33K	**Whale Pass**	**8.46**	**85**			**Pn**	**10 05 56.0**	**-1.3**
U33K	**Whale Pass**	**8.46**	**85**	P		**Pn**	**10 05 56.1**	**-1.3**
	baz=277							
ILAR	**Eielson Array**	**8.50**	**4**	Pn		**Pn**	**10 05 56.9**	**-1.0**
	comp=E,1.1nm,0.4s,baz=188,slow=14,SNR=1.0							
CRAG	**Craig**	**8.57**	**89**	P		**Pn**	**10 05 57.6**	**-1.3**
FALS	**False Pass**	**8.69**	**267**	P		**Pn**	**10 06 01.3**	**+0.8**
SSLN	**Shishaldin Nor**	**9.03**	**267**			**Pn**	**10 06 05.1**	**-0.1**
P33M	**Teslin, Yukon**	**9.03**	**58**			**Pn**	**10 06 05.2**	**-0.1**
N32M	**Quiet Lake**	**9.26**	**52**	Pn		**Pn**	**10 06 09.8**	**+1.4**
V35K	**Ketchikan**	**9.44**	**89**	Pn		**Pn**	**10 06 09.8**	**-1.0**
J14K	**Nanvaranak Lak**	**10.05**	**316**	Pn		**Pn**	**10 06 20.2**	**+1.1**
DLBC	**Dease Lake**	**10.08**	**70**	Pn		**Pn**	**10 06 21.3**	**+1.6**
	comp=E,4.7nm,0.3s,baz=297,slow=9.0,SNR=19							
	comp=E,10nm,0.3s							
H17K	**Granite Mounta**	**10.33**	**331**	Pn		**Pn**	**10 06 23.6**	**+0.7**
UNV	**Unalaska Valle**	**10.73**	**264**	P		**Pn**	**10 06 28.3**	**-0.1**
SPIA	**Saint Paul Isl**	**12.07**	**283**	P		**Pn**	**10 06 48.6**	**+1.9**
BBB	**Bella Bella**	**12.49**	**101**	Pn		**Pn**	**10 06 52.4**	**-0.2**
	comp=E,0.5nm,0.3s,baz=238,slow=9.9,SNR=3.0							
BBB				Sn		**Sn**	**10 09 06.2**	**-5.4**
	comp=E,0.3nm,0.3s,baz=234,slow=19,SNR=1.1							
	comp=E,9.9nm,0.9s							
FLDN	**Fort Liard**	**13.59**	**63**			**Pn**	**10 07 08.8**	**+1.3**
ATKA	**Atka Island**	**15.64**	**266**	Pn		**Pn**	**10 07 33.7**	**-1.4**
ATKA				IAmb		IAmb	10 08 03.4	
	comp=Z,4.3nm,0.4s							
ADK	**Adak**	**17.17**	**267**	Pn		**Pn**	**10 07 54.2**	**-0.4**
ADK	**Adak**	**17.17**	**267**	P		**Pn**	**10 07 55.5**	**+0.9**
KIWB	**Kanaga Island**	**17.44**	**267**	P		**Pn**	**10 07 57.5**	**-0.5**
YKAB2	**New Yellowknif**	**18.05**	**56**	P		**Pn**	**10 08 06.4**	**+0.9**
YKA	**Yellowknife Ar**	**18.06**	**56**	P		**P**	**10 08 07.8**	**+1.9**
YKA	**Yellowknife Ar**	**18.06**	**56**	P		**Pn**	**10 08 06.5**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=264,slow=13,SNR=11							
	comp=Z,2.0nm,0.6s							
A36M	**Sachs Harbour**	**18.42**	**23**	P		**Pn**	**10 08 12.4**	**+2.5**
A36M				IAmb		IAmb	10 08 29.9	
	comp=Z,18nm,0.9s							
AMKA	**Amchitka**	**19.63**	**269**	P		**P**	**10 08 23.1**	**-0.2**
SONM	**Songino Array**	**59.03**	**311**	P		**P**	**10 13 56.2**	**+1.5**
	comp=Z,0.0nm,0.7s,baz=33,slow=9.0,SNR=1.5							
	comp=Z,2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**61.82**	**328**	P		**P**	**10 14 14.0**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=28,slow=7.8,SNR=1.5							
	comp=Z,1.6nm,0.6s							
BVAR	**Borovoye Array**	**66.47**	**336**	P		**P**	**10 14 44.2**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=45,slow=9.3,SNR=1.7							
	comp=Z,2.5nm,0.7s							
KURBB	**Kurchatov Arra**	**66.58**	**330**	P		**P**	**10 14 44.6**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=30,slow=6.6,SNR=2.0							
	comp=Z,1.2nm,0.6s							
MKAR	**Makanchi Array**	**68.87**	**325**	P		**P**	**10 14 59.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=39,slow=7.5,SNR=2.2							
	comp=Z,1.8nm,0.8s							
BELG	**Belogornoye**	**70.85**	**350**	P		**P**	**10 15 11.6**	**+0.3**
	comp=Z,31nm,1.1s,baz=32,slow=9.5,SNR=2.5							
	comp=Z,31nm,1.1s							
AKTO	**Aktyubinsk**	**71.39**	**343**	P		**P**	**10 15 14.7**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=59,slow=4.7,SNR=4.3							
	comp=Z,1.6nm,0.5s							
AKASG	**Malin Array Be**	**73.32**	**2**	P		**P**	**10 15 26.3**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=1.3,slow=6.1,SNR=4.8							
	comp=Z,0.8nm,0.3s							
ESDC	**Sonseca Array**	**79.70**	**27**	P		**P**	**10 16 03.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=342,slow=5.1,SNR=2.1							
	comp=Z,1.4nm,0.8s							
GEYT	**Alibeck**	**83.46**	**339**	P		**P**	**10 16 23.2**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=290,slow=6.0,SNR=2.2							
	comp=Z,1.4nm,0.4s							
BRTR	**Keskin Array B**	**84.30**	**359**	P		**P**	**10 16 26.8**	**0.0**
	comp=Z,1.5nm,0.9s,baz=307,slow=4.6,SNR=2.0							
	comp=Z,1.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**86.75**	**299**	P		**P**	**10 16 39.1**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=12,slow=4.7,SNR=8.9							
	comp=Z,2.4nm,0.7s							
QSPA	**South Pole Qui**	**146.12**	**180**	PKPbc		**PKPdf**	**10 23 33.8**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=139,slow=0.2,SNR=9.5							
BOSA	**Boshof**	**151.92**	**12**	PKPbc		**PKPbc**	**10 23 48.7**	**-1.1**
	comp=Z,4.5nm,0.8s,baz=10,slow=3.1,SNR=6.9							

*IDC **23** 10:05:17.2±0.8,56°.20N×149°.68W,h0km,mb4.4/25, mbtmp4.4/29,ML3.9/4,Error ellipse: s-maj=23.1km s-min=13.8km az=14.0*
*MOS **23** 10:05:19.4±1.4,56°.22N×149°.67W,h22km,mb4.8/8,Error ellipse: s-maj=17.9km s-min=7.5km az=95.0*
*NEIC **23** 10:05:19.6±2.6,56°.13N±0°.08×149°.8W±0°.1,h14km±6km, mb4.7/28,ML4.3/38,ML3.9(AEIC),Error ellipse: s-maj=11.6km s-min=8.0km az=175.0*
*AEIC **23** 10:05:21.6±3.2,56°.08N±0°.08×149°.6W±0°.1,h10km±5km, Error ellipse: s-maj=11.4km s-min=8.2km az=178.0*
ISC 23 10:05:19.1±0.5,56°.18N±0°.07×149°.70W±0°.05,h10km, n231,σ1§30/232,mb4.6/40,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.24**	**299**		Pn	**Pn**	**10 05 55.0**	**-1.1**
OHAK						**Sn**	**10 06 20.8**	**-2.9**
KDAK	**Kodiak Island**	**2.25**	**317**	Pn		**Pn**	**10 05 55.6**	**-0.7**
KDAK	**Kodiak Island**	**2.25**	**317**	P		**Pn**	**10 05 55.6**	**-0.7**
KDAK							10 06 22.5	
KDAK	**Kodiak Island**	**2.25**	**317**	Pn		**Pn**	**10 05 55.0**	**-1.3**
	28nm,0.3s,baz=162,slow=8.3,SNR=3.9							
KDAK				Sn		**Sn**	**10 06 21.9**	**-2.2**
	48nm,0.3s,baz=192,slow=22,SNR=3.7							
	152nm,0.5s							
SYI	**Shuyak Island**	**2.84**	**330**	Pn		**Pn**	**10 06 03.8**	**-0.5**
SYI						**Sn**	**10 06 37.6**	**-0.9**
SYI				IAML			10 06 39.9	
	comp=N,622nm,1.1s							
SYI				IAML			10 06 45.9	
	comp=E,570nm,0.9s							
CNPM	**China Poot**	**3.45**	**347**			**Pn**	**10 06 12.5**	**-0.3**
CNPM						**Sn**	**10 06 52.8**	**-0.9**
CNPM				IAML			10 06 58.8	
	comp=E,434nm,0.9s							
CNPM				IAML			10 07 02.6	
	comp=N,311nm,0.7s							
Q19K	**Cape Douglas,**	**3.48**	**324**			**Pn**	**10 06 12.9**	**-0.3**
KAHG	**Katmai Hook Gl**	**3.50**	**313**			**Pn**	**10 06 13.9**	**+0.3**
BRSE	**Bradley Lake S**	**3.61**	**352**			**Pn**	**10 06 12.3**	**-2.7**
HOM	**Homer**	**3.64**	**344**	Pn		**Pn**	**10 06 14.9**	**-0.4**
HOM				IAML			10 07 15.7	
	comp=N,1µm,1.2s							
HOM				IAML			10 07 23.4	
	comp=E,912nm,1.0s							
BRLK	**Bradley Lake**	**3.65**	**351**			**Pn**	**10 06 13.9**	**-1.6**
BRLK				IAML			10 07 01.1	
	comp=N,603nm,1.0s							
BRLK				IAML			10 07 01.9	
	comp=E,480nm,0.6s							
Q23K	**Middleton Isla**	**3.72**	**27**	Pn		**Pn**	**10 06 15.7**	**-0.7**
Q23K				IAML			10 07 17.9	
	comp=N,240nm,0.6s							
MID	**Middleton Isla**	**3.72**	**28**			**Pn**	**10 06 15.6**	**-0.8**
MID				IAML			10 07 06.2	
	comp=N,184nm,0.6s							
MID	**Middleton Isla**	**3.72**	**28**	P		**Pn**	**10 06 15.6**	**-0.8**
AU22	**Augustine Moun**	**3.75**	**330**			**Pn**	**10 06 17.6**	**+0.7**
KVTA	**Katmai Vly 10**	**3.75**	**308**			**Pn**	**10 06 17.0**	**+0.1**
P19K	**Oil Pt**	**3.96**	**333**	Pn		**Pn**	**10 06 19.6**	**-0.1**
P19K				IAML			10 07 12.8	
	comp=E,754nm,0.5s							
P19K				IAML			10 07 18.0	
	comp=N,867nm,1.0s							
P23K	**Montague Islan**	**4.02**	**17**			**Pn**	**10 06 19.3**	**-1.2**
O22K	**Cooper Landing**	**4.31**	**360**	Pn		**Pn**	**10 06 26.2**	**+1.7**
P18K	**Big Mountain,**	**4.37**	**320**	Pn		**Pn**	**10 06 24.1**	**-1.4**
HIN	**Hinchinb

L29M **L29M** 9.07 35 Pn **Pn** 10 07 30.9 +1.0
I21K **Tanana** 9.10 354 Pn **Pn** 10 07 32.8 +2.6
P32M **Atlin** 9.17 62 Pn **Pn** 10 07 30.8 -0.5
M30M **Minto, Yukon** 9.18 40 Pn **Pn** 10 07 32.0 +0.6
U33K **Whale Pass** 9.26 84 Pn **Pn** 10 07 31.1 -1.3
DAWY **Dawson** 9.42 29 Pn **Pn** 10 07 35.8 +1.1
EGAK **Eagle** 9.59 22 Pn **Pn** 10 07 39.1 +2.2
H21K **Melozitna Rive** 9.62 352 Pn **Pn** 10 07 39.0 +1.6
H24K **Noodor Dome** 9.73 4 Pn **Pn** 10 07 40.8 +1.9
P33M **Teslin, Yukon** 9.78 59 Pn **Pn** 10 07 39.3 -0.3
K29M **Barlow Dome** 9.79 33 Pn **Pn** 10 07 41.9 +2.0
H18K **Honhosa River** 9.94 338 Pn **Pn** 10 07 43.8 +2.0
IMAR **Indian Mountai** 10.03 350 Pn **Pn** 10 07 44.3 +1.4
J29N **Klondike Camp** 10.04 30 Pn **Pn** 10 07 45.0 +1.8
H17K **Granite Mounta** 10.10 334 Pn **Pn** 10 07 45.2 +1.2
G23K **Bananza Creek** 10.57 359 **Pn** 10 07 50.5 +0.2
G19K **Purcell Mounta** 10.60 343 Pn **Pn** 10 07 51.5 +0.8
G24K **Hadweenzic Riv** 10.61 5 **Pn** 10 07 51.5 +0.6
FYU **Fort Yukon** 10.63 10 Pn **Pn** 10 07 52.6 +1.4
J30M **Hart River** 10.68 33 Pn **Pn** 10 07 54.2 +2.2
I29M **Ogilvie Camp,** 10.74 26 Pn **Pn** 10 07 54.5 +1.8
DLBC **Dease Lake** 10.87 70 Pn **Pn** 10 07 55.7 +1.1
DLBC **Dease Lake** 10.87 70 Pn **Pn** 10 07 54.5 0.0
comp=E,1.2nm,0.3s,baz=270,slow=13,SNR=1.3
DLBC Sn **Sn** 10 09 51.4 -4.8
comp=E,0.1nm,0.3s,baz=172,slow=17,SNR=1.2
comp=E,4.7nm,0.3s
G16K **Koyuk River** 11.09 332 Pn **Pn** 10 08 00.4 +3.0
I30M **Mount Dempster** 11.14 30 Pn **Pn** 10 07 59.7 +1.4
F21K **Alatna River** 11.22 352 **Pn** 10 08 00.7 +1.4
RUBB **Prince Rupert** 11.25 91 Pn **Pn** 10 08 02.4 +2.7
F20K **Avaraart Lake** 11.27 348 Pn **Pn** 10 08 01.6 +1.7
F19K **Shaleruckik Mo** 11.35 344 Pn **Pn** 10 08 02.5 +1.5
ANM **Nome** 11.40 324 Pn **Pn** 10 08 02.9 +1.2
ANM **Nome** 11.40 324 P **Pn** 10 08 02.9 +1.2
F24K **Squaw Lake** 11.41 4 Pn **Pn** 10 08 03.2 +1.3
BMAR **Burnt Mountain** 11.54 10 Pn **Pn** 10 08 05.2 +1.6
GRNB **Grenville Isla** 11.57 93 Pn **Pn** 10 08 04.7 +0.7
F17K **Baldwin Pennin** 11.66 337 Pn **Pn** 10 08 05.8 +0.5
E19K **Redstone River** 11.85 346 Pn **Pn** 10 08 08.8 +1.0
F15K **North Star Dit** 11.96 329 Pn **Pn** 10 08 10.6 +1.2
G29M **Pine Creek** 12.09 22 Pn **Pn** 10 08 12.7 +1.5
E25K **Arctic Village** 12.13 7 Pn **Pn** 10 08 12.5 +0.8
F28M **Old Crow** 12.35 18 Pn **Pn** 10 08 16.9 +2.3
G30M **tAoh Zrali Nji** 12.55 25 Pn **Pn** 10 08 20.0 +2.6
E27K **Coleen River** 12.61 14 Pn **Pn** 10 08 18.7 +0.4
D22K **Ayikyak River** 12.82 355 Pn **Pn** 10 08 23.6 +2.5
G31M **Satah River** 12.99 28 Pn **Pn** 10 08 25.2 +1.8
D24K **Happy Valley** 13.03 1 Pn **Pn** 10 08 27.3 +3.4
BBB **Bella Bella** 13.24 99 Sn Sn 10 10 45.8 -8.2
comp=E,0.2nm,0.3s,baz=59,slow=12,SNR=1.9
D25K **Kavik River** 13.27 5 Pn **Pn** 10 08 30.2 +2.9
E28M **Babbage River** 13.30 16 **Pn** 10 08 29.2 +1.6
E29M **Blow River** 13.38 19 Pn **Pn** 10 08 31.0 +2.2
F31M **Tsiigehtchic** 13.52 27 Pn **Pn** 10 08 32.2 +1.7
B21K **Ikpikpuk River** 13.67 353 Pn **Pn** 10 08 32.5 -0.1
D27M **Malcolm River** 13.68 13 Pn **Pn** 10 08 33.5 +0.6
C19K **Lookout Ridge** 13.71 345 Pn **Pn** 10 08 33.7 +0.4
INK **Inuvik** 14.23 25 Pn **Pn** 10 08 41.4 +1.0
INK **Inuvik** 14.23 25 P **Pn** 10 08 41.4 +1.0
INK **Inuvik** 14.23 25 Pn **Pn** 10 08 40.6 +0.3
comp=E,0.2nm,0.3s,baz=215,slow=18,SNR=4.8
comp=E,36nm,1.2s
B22K **Teshekpuk Lake** 14.31 355 Pn **Pn** 10 08 42.5 +1.2
FLDN **Fort Liard** 14.36 63 Pn **Pn** 10 08 42.9 +0.8
WRGLY **Wrigley** 14.92 51 **Pn** 10 08 51.5 +1.8
ADK **Adak** 16.37 266 Pn **Pn** 10 09 07.7 -1.0
ADK IAmb IAmb 10 09 31.8
comp=Z,36nm,0.9s
ADK **Adak** 16.37 266 P **Pn** 10 09 07.7 -1.0
ADK pmax pmax
comp=Z,36nm,1.0s
C36M **Paulatuk** 17.45 31 **P** 10 09 24.2 +0.9
C36M IAmb IAmb 10 09 39.9
comp=Z,61nm,0.9s
YKAB2 **New Yellowknif** 18.79 56 P **Pn** 10 09 39.5 +1.0
YKA **Yellowknife Ar** 18.79 56 P **P** 10 09 38.8 +0.6
YKA **Yellowknife Ar** 18.79 56 *eP* **P** 10 09 39.2 +1.0
YKA **Yellowknife Ar** 18.79 56 P **P** 10 09 38.2 0.0
comp=Z,0.3nm,0.3s,baz=264,slow=11,SNR=14
comp=Z,17nm,1.1s
RADR **Rader Ridge** 18.80 110 P **P** 10 09 39.0 +0.5
RADR IAmb IAmb 10 09 45.2
comp=Z,74nm,1.3s
A36M **Sachs Harbour** 18.86 23 Pn **Pn** 10 09 40.8 +1.3
LTY **Liberty** 19.95 104 P **P** 10 09 51.1 +0.1
MXC **Moxie City** 20.57 105 P **P** 10 09 58.9 +1.1
MXC IAmb IAmb 10 10 02.6
comp=Z,36nm,1.3s
H04D **Lebanon** 20.64 113 P Pn 10 10 00.3 -0.4
HOOD **Mount Hood Mea** 20.66 110 P **P** 10 09 59.3 +0.4
HOOD IAmb IAmb 10 10 13.2
comp=Z,22nm,0.9s
H04A **Detroit Lake** 20.81 112 P **P** 10 10 01.1 +0.7
E07A **Sunnyside** 20.82 105 P **P** 10 10 02.0 +1.6
G05A **Wamic** 20.89 110 P **P** 10 10 02.1 +1.0
D08A **Wollman Farm,** 21.02 103 P **P** 10 10 02.7 +0.1
D08A IAmb IAmb 10 10 14.8
comp=Z,55nm,1.4s
HAWA **Hanford** 21.09 105 P **P** 10 10 04.6 +1.2
SHEM **Shemya Is, Ala** 21.17 276 P **P** 10 10 03.7 -0.4
comp=Z,76nm,1.1s,baz=68,slow=16,SNR=2.4
comp=Z,76nm,1.1s
F07A **Phinny Hill Vi** 21.20 106 P **P** 10 10 05.8 +1.3
F07A IAmb IAmb 10 10 13.6
comp=Z,59nm,1.3s
E08A **Dider Farm, El** 21.29 104 P **P** 10 10 04.9 -0.5
NEW **Newport** 21.31 98 P **P** 10 10 05.6 -0.1
NEW **Newport** 21.31 98 P **P** 10 10 05.6 -0.1
NEW **Newport** 21.31 98 P **P** 10 10 05.1 -0.6
comp=Z,18nm,1.3s,baz=286,slow=18,SNR=3.7
comp=Z,18nm,1.3s
I04A **Tendick Farm,** 21.31 114 P **P** 10 10 05.2 -0.6
I04A IAmb IAmb 10 10 15.1
comp=Z,47nm,1.3s
DBO **Dodson Butte** 21.38 117 P **P** 10 10 06.0 -0.6
DBO IAmb IAmb 10 10 25.6
comp=Z,16nm,0.8s
K02D **Willamette Mer** 21.48 118 P **P** 10 10 07.4 -0.3
I05D **Terrebonne, OR** 21.49 111 P **P** 10 10 06.5 -1.1
I05D IAmb IAmb 10 10 28.3
comp=Z,49nm,1.2s
E09A **Wood Farm, Sta** 21.77 103 P **P** 10 10 09.7 -1.0
E09A IAmb IAmb 10 10 19.6
comp=Z,67nm,1.2s
HUMO **Hull Mountain** 21.90 117 P **P** 10 10 11.1 -0.9
HUMO IAmb IAmb 10 10 22.0
comp=Z,26nm,1.1s
PINE **Pine Mountain** 22.07 112 P **P** 10 10 15.5 +1.4
G08A **Pilot Rock** 22.11 107 P **P** 10 10 15.0 +0.6
J05D **Fort Rock, OR** 22.28 113 P **P** 10 10 18.1 +1.8
K04D **Chiloquin, OR** 22.49 115 P **P** 10 10 19.1 +0.6
F10A **Beach Ranch, E** 22.61 103 **P** 10 10 17.9 -1.8
F10A IAmb IAmb 10 10 37.1
comp=Z,62nm,1.1s
I07A **Izee** 22.62 110 P **P** 10 10 19.6 -0.3
I07A IAmb IAmb 10 10 28.7
comp=Z,24nm,1.0s
YBH **Yreka Blue Hor** 22.67 118 P **P** 10 10 20.7 +0.3
comp=Z,3.4nm,0.9s,baz=184,slow=6.4,SNR=3.1
comp=Z,3.4nm,0.9s
K05A **Summer Lake** 22.85 114 P **P** 10 10 22.2 -0.3
BILL **Bilibino** 23.16 318 *eP* **P** 10 10 24.7 -0.5
BMO **Blue Mountains** 23.28 105 P **P** 10 10 24.7 -2.0
BMO **Blue Mountains** 23.28 105 P **P** 10 10 24.7 -2.0
BMO pmax pmax
comp=Z,12nm,1.0s
KMRM **Mail Ridge** 23.35 122 P **P** 10 10 26.9 -0.5
SEY **Seymchan** 29.18 307 *i* P **P** 10 11 19.9 -0.2
SEY pmax pmax
comp=Z,19nm,1.2s
PETK **Petropavlovsk-** 29.98 287 P **P** 10 11 27.0 -0.3
comp=Z,12nm,1.1s,baz=68,slow=13,SNR=2.1
comp=Z,12nm,1.1s
YAK **Yakutsk** 39.27 313 *i* P **P** 10 12 48.6 +1.3
YAK pmax pmax
comp=Z,18nm,0.9s
TXAR **Lajitas Array** 42.01 110 P **P** 10 13 10.0 -0.4
comp=Z,3.9nm,1.1s,baz=318,slow=3.6,SNR=2.0
comp=Z,3.9nm,1.1s
KLR **Kul'dur** 45.66 296 P **P** 10 13 40.1 +0.6
comp=Z,7.7nm,0.9s,baz=42,slow=9.5,SNR=3.3
comp=Z,7.7nm,0.9s

H11S1 **WAKE ISLAND Hy** 49.77 239 T T 11 08 22.4
baz=29
H11S2 **WAKE ISLAND Hy** 49.79 239 T T 11 08 21.6
baz=29
H11S3 **WAKE ISLAND Hy** 49.79 239 T T 11 08 19.5
baz=29
ARCES **ARCESS Array B** 54.54 2 P **P** 10 14 46.4 -0.1
comp=Z,14nm,1.2s,baz=359,slow=8.4,SNR=2.1
comp=Z,14nm,1.2s
KSRS **Korea Array** 55.87 288 P **P** 10 14 57.4 +0.9
comp=Z,2.9nm,1.0s,baz=64,slow=5.5,SNR=4.0
comp=Z,2.9nm,1.0s
SONM **Songino Array** 58.52 310 *eP* **P** 10 15 17.9 +2.6
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM **Songino Array** 58.52 310 P **P** 10 15 15.8 +0.5
comp=Z,7.5nm,0.9s,baz=45,slow=7.6,SNR=6.1
comp=Z,7.5nm,0.9s
ZALV **Zalesovo Beam** 61.52 327 *eP* **P** 10 15 39.0 +3.4
ZALV pmax pmax
comp=Z,6.0nm,1.0s
ZALV **Zalesovo Beam** 61.52 327 P **P** 10 15 35.4 -0.2
comp=Z,3.8nm,0.8s,baz=16,slow=6.6,SNR=3.8
comp=Z,3.8nm,0.8s
HHC **Hu-ho-hao-te** 61.59 302 *eP* **P** 10 15 37.1 +0.7
NOA **NORSAR Array B** 62.15 10 P **P** 10 15 39.8 -0.1
comp=Z,1.6nm,0.8s,baz=348,slow=6.8,SNR=2.2
comp=Z,1.6nm,0.8s
FINES **FINESS Array B** 62.67 2 *eP* **P** 10 15 45.2 +2.0
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES **FINESS Array B** 62.67 2 P **P** 10 15 42.9 -0.3
comp=Z,2.4nm,0.7s,baz=359,slow=9.3,SNR=5.7
comp=Z,2.4nm,0.7s
HFS **Hagfors** 63.28 9 P **P** 10 15 46.6 -0.7
comp=Z,4.5nm,0.9s,baz=80,slow=8.1,SNR=4.4
comp=Z,4.5nm,0.9s
NJ2 **Nanjing** 64.79 290 *eP* **P** 10 15 56.3 -1.3
NJ2 pmax pmax
comp=Z,21nm,0.5s
EKA **Eskdalemuir Ar** 65.55 20 P **P** 10 16 01.7 -0.5
comp=Z,2.6nm,0.8s,baz=13,slow=6.6,SNR=2.2
comp=Z,2.6nm,0.8s
VSU **Vasula** 65.67 2 *i* P **P** 10 16 03.6 +0.7
VSU pmax pmax
comp=Z,15nm,1.0s
BVAR **Borovoye Array** 66.28 335 P **P** 10 16 06.5 -0.5
comp=Z,6.7nm,0.9s,baz=323,slow=2.2,SNR=5.6
comp=Z,6.7nm,0.9s
KURBB **Kurchatov Arra** 66.30 329 P **P** 10 16 06.2 -0.9
comp=Z,3.8nm,0.9s,baz=30,slow=6.6,SNR=6.0
comp=Z,3.8nm,0.9s
MKAR **Makanchi Array** 68.54 324 *eP* **P** 10 16 23.0 +1.6
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR **Makanchi Array** 68.54 324 P **P** 10 16 20.6 -0.8
comp=Z,3.5nm,0.8s,baz=26,slow=5.9,SNR=5.7
comp=Z,3.5nm,0.8s
WMQ **Urumqi** 69.27 319 *eP* **P** 10 16 27.9 +1.9
BELG **Belogornoye** 70.85 349 *i* P **P** 10 16 37.5 +2.1
BELG pmax pmax
comp=Z,2.0nm,0.9s
AKTO **Aktyubinsk** 71.28 342 P **P** 10 16 38.2 0.0
comp=Z,6.0nm,1.0s,baz=352,slow=7.1,SNR=3.6
comp=Z,6.0nm,1.0s
AKASG **Malin Array Be** 73.48 1 P **P** 10 16 50.6 -0.6
comp=Z,1.2nm,0.6s,baz=1.7,slow=6.1,SNR=3.0
comp=Z,1.2nm,0.6s
VRAC **Vranov** 74.26 9 *eP* **P** 10 16 56.8 +0.9
GERES **GERESS Array B** 74.43 11 P **P** 10 16 56.6 -0.4
comp=Z,9.9nm,0.6s,baz=359,slow=4.9,SNR=2.4
comp=Z,0.9nm,0.6s
AAK **Ala-Archa** 74.71 328 P **P** 10 16 58.2 -0.6
comp=Z,4.6nm,1.0s,baz=225,slow=16,SNR=3.2
comp=Z,4.6nm,1.0s
ESDC **Sonseca Array** 80.18 26 P **P** 10 17 29.4 +0.1
comp=Z,1.6nm,0.9s,baz=353,slow=6.0,SNR=4.0
comp=Z,1.6nm,0.9s
GEYT **Ailbeck** 83.31 338 P **P** 10 17 46.0 +0.1
comp=Z,2.9nm,0.7s,baz=234,slow=7.1,SNR=3.7
comp=Z,2.9nm,0.7s
BR131 **Keskin Array S** 84.42 357 *eP* **P** 10 17 51.7 +0.1
BRTR **Keskin Array B** 84.42 357 P **P** 10 17 49.9 -1.7
comp=Z,1.6nm,0.9s,baz=42,slow=6.6,SNR=2.3
comp=Z,1.6nm,0.9s
CMAR **Chiang Mai Arr** 86.12 298 P **P** 10 17 59.1 -1.1
comp=Z,1.0nm,0.4s,baz=14,slow=5.2,SNR=5.3
comp=Z,1.0nm,0.4s
QSPA **South Pole Qui** 145.97 180 PKPbc **PKPdf** 10 24 55.9 -0.7
comp=Z,1.4nm,0.2s,baz=65,slow=1.7,SNR=3.1

TAP ***23*** *10:05:31.0,22.68N×121.27E,h32km,ML3.6,B*
JMA ***23*** *10:05:31.1±0.0,22.8N±0.1×121.4E±0.3,h19km,MV3.0/15,*
TAIWAN REGION
ISC 23 10:05:30.7±0.9,22.63N±0.02×121.33E±0.02,h30km±5km,
n145,σ1.25/266,21C-23D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.14**	**73**	⇓*iP*		**Pn**		**10 05 37.3**	**+0.5**
LDUT	baz=86			*i*	S	**Sb**		**10 05 42.0**	**+2.0**
TTN	**Taitung**	**0.20**	**306**	⇑*iP*		**Pn**		**10 05 37.7**	**0.0**
TTN	baz=291			*e*	S	**Sb**		**10 05 43.1**	**+2.0**
TWGBT	**Beinan**	**0.29**	**309**	⇓P		**Pb**		**10 05 37.6**	**-0.4**
TWGBT	baz=307				S	**Sb**		**10 05 42.2**	**-0.8**
TWG	**Pinlang**	**0.30**	**308**	⇓*iP*		**Pb**		**10 05 37.6**	**-0.5**
TWG	baz=307				S	**Sb**		**10 05 42.2**	**-1.0**
LONT	**Longtian**	**0.33**	**326**	P		**Pb**		**10 05 38.2**	**-0.3**
LONT	baz=318				S	**Sb**		**10 05 43.2**	**-0.6**
EDH	**Donghe**	**0.34**	**356**	⇓P		**Pb**		**10 05 38.7**	**0.0**
EDH	baz=1.0			*e*	S	**Sb**		**10 05 44.6**	**+0.6**
ECL	**Taimali**	**0.35**	**264**	*i* P		**Pb**		**10 05 38.1**	**-0.6**
ECL	baz=257			*i*	S	**Sb**		**10 05 43.3**	**-0.9**
CHKT	**Chengkung**	**0.47**	**4**	*i* P		**Pb**		**10 05 40.3**	**-0.2**
CHKT	baz=13			*i*	S	**Sb**		**10 05 47.4**	**+0.1**
ECS	**Chishang**	**0.47**	**348**	*i* P		**Pb**		**10 05 40.3**	**-0.4**
ECS	baz=344			*e*	S	**Sb**		**10 05 47.4**	**-0.1**
TAW	**Tawu**	**0.48**	**236**	⇓*iP*		**Pn**		**10 05 40.5**	**-1.0**
TAW	baz=232			*i*	S	**Sn**		**10 05 47.6**	**-1.4**
TAWH	**Dawu Township**	**0.50**	**234**	⇑*iP*		**Pn**		**10 05 41.0**	**-0.8**
TAWH	baz=232			*e*	S	**Sn**		**10 05 47.8**	**-1.7**
EAST	**Anshuo**	**0.51**	**241**	⇓*iP*		**Pn**		**10 05 40.8**	**-1.1**
EAST	baz=235			*i*	S	**Sn**		**10 05 47.9**	**-1.8**
EHD	**Haiduan**	**0.53**	**348**	⇑P		**Pb**		**10 05 40.3**	**-1.3**
EHD	baz=344			*e*	S	**Sb**		**10 05 46.7**	**-2.2**
CHKH	**Chenggong**	**0.56**	**6**	⇑*iP*		**Pb**		**10 05 41.5**	**-0.5**
CHKH	baz=13				S	**Sb**		**10 05 49.3**	**-0.6**
FULB	**Fuli**	**0.56**	**357**	⇓*eP*		**Pb**		**10 05 41.5**	**-0.6**
FULB	baz=352			*e*	S	**Sb**		**10 05 51.0**	**+1.0**
ELDTW	**Lidau**	**0.62**	**333**	⇑P		**Pb**		**10 05 41.7**	**-1.5**
LAY	**Lan-yu**	**0.63**	**161**	P		**Pn**		**10 05 43.3**	**-0.3**
LAY	baz=158			*e*	S	**Sn**		**10 05 53.1**	**+0.5**
TSMG	**Majia**	**0.63**	**277**	⇓*iP*		**Pb**		**10 05 42.5**	**-0.8**
TSMG	baz=272				S	**Sb**		**10 05 50.3**	**-1.6**
SLIU	**Shizi**	**0.64**	**230**	*eP*		**Pn**		**10 05 43.0**	**-0.8**
SLIU	baz=214			*e*	S	**Sn**		**10 05 51.1**	**-1.8**
MASBT	**Mashibuluo**	**0.64**	**268**	⇓*iP*		**Pb**		**10 05 42.8**	**-0.6**
MASBT	baz=263				S	**Sb**		**10 05 50.7**	**-1.4**
SSD	**Sandimen**	**0.65**	**280**	⇓*eP*		**Pb**		**10 05 41.6**	**-2.0**
SSD	baz=276			*e*	S	**Sb**		**10 05 49.1**	**-3.2**
LYUB	**Lan-yu**	**0.67**	**159**	⇑*eP*		**Pb**		**10 05 42.8**	**-1.1**
LYUB	baz=157			*e*	S	**Sb**		**10 05 51.5**	**-1.4**
ECBN	**Changbin**	**0.69**	**10**	⇑P		**Pb**		**10 05 43.6**	**-0.6**
ECBN	baz=6.0				S	**Sb**		**10 05 53.6**	**+0.1**
SCZT	**Fangliau**	**0.70**	**248**	*i* P		**Pn**		**10 05 44.0**	**-0.6**
SCZT	baz=242				S	**Sn**		**10 05 53.1**	**-1.4**
EYUL	**Yuli**	**0.71**	**359**	P		**Pb**		**10 05 43.5**	**-1.1**
TWF1	**Yuli**	**0.72**	**358**	*eP*		**Pb**		**10 05 42.9**	**-1.8**
SLGT	**Liugui**	**0.72**	**300**	P		**Pb**		**10 05 44.0**	**-0.8**
SLGT	baz=298				S	**Sb**		**10 05 53.7**	**-0.7**
STYH	**Taoyuan**	**0.74**	**317**	⇑P		**Pb**		**10 05 44.3**	**-0.8**
STYH	baz=321			*i*	S	**Sb**		**10 05 53.4**	**-1.5**
STYT	**Tauyuan**	**0.74**	**315**	*i* P		**Pb**		**10 05 44.2**	**-1.0**
STYT	baz=319			*e*	S	**Sb**		**10 05 53.5**	**-1.6**
YULB	**Yu-li**	**0.76**	**358**	*i* P		**Pb**		**10 05 43.3**	**-2.1**
SMST	**Manzhou Townsh**	**0.76**	**217**	⇑*iP*		**Pn**		**10 05 45.0**	**-0.4**
SMST	baz=204				S	**Sn**		**10 05 54.9**	**-1.0**
SGLT	**Jiouru**	**0.78**	**277**	S		**Sn**		**10 05 56.5**	**+0.2**
SCST	**Cishan**	**0.81**	**288**	⇑*iP*		**Pn**		**10 05 46.5**	**+0.4**
SCST	baz=285			*e*	S	**Sn**		**10 06 00.2**	**+3.1**
SGST	**Jiashian**	**0.82**	**303**	P		**Pb**		**10 05 45.6**	**-0.8**
SGST	baz=308			*i*	S	**Sn**		**10 05 57.4**	**0.0**
HEN	**Hengchun**	**0.83**	**221**	⇓P		**Pn**		**10 05 46.6**	**+0.3**
HEN	baz=204				S	**Sn**		**10 05 57.6**	**0.0**
TWKBT	**Hengchun**	**0.84**	**215**	⇑P		**Pn**		**10 05 46.0**	**-0.4**
TWKBT	baz=200			*i*	S	**Sn**		**10 05 57.5**	**-0.3**
TWK1	**Hengchun**	**0.84**	**215**	P		**Pn**		**10 05 46.0**	**-0.5**
TWK1	baz=200			*e*	S	**Sn**		**10 05 57.2**	**-0.6**
TWM1	**Shoushan**	**0.86**	**283**	*eP**		**Pb**		**10 05 48.1**	**+1.1**
SNW	**Nanwan**	**0.86**	**219**	*eS**		**Sn**		**10 05 59.4**	**+1.2**
HGSD	**Ruisui**	**0.86**	**6**	⇑P		**Pn**		**10 05 46.0**	**-0.8**
HGSD	baz=20			*e*	S	**Sn**		**10 05 59.7**	**+1.3**
EHY	**Hungye**	**0.87**	**360**	⇑P		**Pn**		**10 05 44.9**	**-2.0**
WTP	**Ta-pu**	**0.90**	**313**	P		**Pb**		**10 05 47.5**	**-0.3**
WTP	baz=312			*e*	S	**Sn**		**10 05 59.5**	**+0.1**
CHN1	**Nanshi**	**0.92**	**307**	P		**Pb**		**10 05 48.3**	**+0.3**
CHN1	baz=312			*e*	S	**Sn**		**10 06 00.2**	**+0.3**
SNJT	**Kaohsiung City**	**0.92**	**278**	*eP*		**Pb**		**10 05 51.4**	**+3.2**
SNJT	baz=273			*e*	S	**Sn**		**10 06 04.2**	**+4.2**
TPUB	**Ta-pu**	**0.93**	**316**	P		**Pb**		**10 05 48.0**	**-0.2**
TPUB	baz=315			*i*	S	**Sb**		**10 05 59.9**	**-0.2**
TWP	**Hsiaoliuchiu**	**0.94**	**252**	*eP*		**Pb**		**10 05 51.5**	**+3.1**
SNST	**Tainan City**	**0.96**	**308**	*eP*		**Pb**		**10 05 49.3**	**+0.5**
SNST	baz=313				S	**Sn**		**10 06 02.3**	**+1.4**
SHHT	**Tainan City**	**0.98**	**293**	*i* P		**Pb**		**10 05 49.7**	**+0.6**
SHHT	baz=290			*e*	S	**Sb**		**10 06 05.8**	**+4.1**
CHN4	**Tsaushan**	**0.98**	**317**	*eP*		**Pb**		**10 05 49.2**	**0.0**
CHN4	baz=316			*e*	S	**Sb**		**10 06 03.8**	**+2.0**
WSSB	**Gushan**	**0.98**	**271**	*eP*		**Pb**		**10 05 51.4**	**+2.2**
WSSB	baz=266			*e*	S	**Sn**		**10 06 05.9**	**+4.4**
CHN3	**Shinhua**	**0.99**	**297**	*eS*		**Sb**		**10 06 06.4**	**+4.4**
ALS	**Alishan**	**1.00**	**331**	P		**Pn**		**10 05 48.3**	**-0.7**
ALS	baz=332			*e*	S	**Sn**		**10 06 02.2**	**+0.1**
TWK	**Hsinying**	**1.00**	**309**	*eP*		**Pb**		**10 05 49.8**	**+0.3**
TWK	baz=308			*e*	S	**Sb**		**10 06 03.2**	**+1.0**
EGFH	**Guangfu**	**1.03**	**5**	*eP*		**Pn**		**10 05 49.2**	**0.0**
WCKO	**Fanlu**	**1.04**	**320**	⇑P		**Pb**		**10 05 50.2**	**+0.1**
WCKO	baz=320				S	**Sb**		**10 06 03.7**	**+0.3**
WARBT	**Fenglin Townsh**	**1.08**	**3**	⇓P		**Pn**		**10 05 47.8**	**-2.1**
WARBT	baz=6.0			*e*	S	**Sn**		**10 06 04.4**	**+0.5**
TEGC	**Jichi Village**	**1.09**	**10**	P		**Pn**		**10 05 50.0**	**+0.1**
TEGC	baz=2.0				S	**Sn**		**10 06 03.9**	**-0.1**
VWDT	**VWDT**	**1.13**	**351**	⇑P		**Pn**		**10 05 49.9**	**-0.6**
VWDT	baz=2.0			*e*	S	**Sn**		**10 06 05.6**	**+0.6**
CHN5	**Tsauling**	**1.13**	**328**	P		**Pn**		**10 05 50.9**	**+0.3**
CHN5	baz=341			*e*	S	**Sb**		**10 06 07.4**	**+1.4**
WHYT	**Xinyi Township**	**1.15**	**338**	⇑P		**Pb**		**10 05 51.5**	**-0.4**
WHYT	baz=342			*e*	S	**Sn**		**10 06 05.3**	**-0.2**
SHUL	**Shoufeng**	**1.17**	**11**	⇑P		**Pn**		**10 05 50.2**	**-0.8**
SHUL	baz=2.0			*e*	S	**Sn**		**10 06 06.4**	**+0.4**
ESL	**Shilin**	**1.18**	**5**	*eP**		**Pn**		**10 05 51.1**	**-0.1**
CHN2	**Minshiung**	**1.19**	**319**	*eS**		**Sb**		**10 06 09.5**	**+1.8**
SSLB	**Suanglung**	**1.20**	**343**	⇓P		**Pn**		**10 05 51.3**	**-0.2**
SSLB	baz=352				S	**Sn**		**10 06 07.5**	**+0.7**
ICHU	**Yijhu**	**1.21**	**307**	P		**Pb**		**10 05 52.3**	**-0.6**
ICHU	baz=305				S	**Sb**		**10 06 08.6**	**+0.4**
CHN8	**Yiju**	**1.25**	**305**	*eS**		**Sb**		**10 06 11.5**	**+2.2**
TSCK	**Chigu Township**	**1.25**	**294**	*eP*		**Pb**		**10 05 54.9**	**+1.2**
	baz=291								

TSCK					S		Sb	10 06 09.2 -0.3
	baz=291							
WGK	**Gukeng**	**1.26**	**326**		P		**Pb**	**10 05 53.7 -0.2**
WGK	baz=326				S		**Sb**	**10 06 10.7 +0.9**
	baz=326							
WDLH	**Douliu**	**1.28**	**326**		*e*P		**Pb**	**10 05 54.3 +0.2**
WDLH	baz=324				*e*S		**Sb**	**10 06 11.3 +1.1**
	baz=324							
SMLT	**Sun Moon Lake**	**1.30**	**343**		*i* P		**Pn**	**10 05 53.7 +0.6**
SMLT	baz=352				S		**Sb**	**10 06 11.2 +0.2**
	baz=352							
WJS	**Zhushan**	**1.31**	**335**	⇑	*i* P		**Pb**	**10 05 54.4 -0.2**
WJS	baz=335				*i* S		**Sb**	**10 06 11.7 +0.7**
	baz=335							
OWD	**Renai**	**1.32**	**354**	⇓	P		**Pn**	**10 05 52.4 -0.9**
OWD	baz=5.0				*e*S		**Sn**	**10 06 06.6 -3.4**
	baz=5.0							
ETM	**Tongmen**	**1.33**	**7**	⇑	P		**Pn**	**10 05 51.6 -1.7**
ETM	baz=9.0				*e*S		**Sn**	**10 06 09.2 -0.9**
	baz=9.0							
TYC	**Yuchr**	**1.34**	**341**		*e*P		**Pb**	**10 05 54.6 -0.5**
TYC	baz=342				S		**Sb**	**10 06 12.4 +0.6**
	baz=342							
WSL	**Shuilin Townsh**	**1.34**	**311**		*i* S		**Sb**	**10 06 11.8 -0.3**
	baz=293							
WTK	**Tuku**	**1.36**	**321**		P		**Pn**	**10 05 53.8 +0.1**
WTK	baz=319				S		**Sn**	**10 06 11.4 +0.8**
	baz=319							
HWA	**Hwalien**	**1.36**	**11**		P		**Pn**	**10 05 53.6 -0.1**
	baz=13							
WUSB	**Renai**	**1.37**	**352**	⇓	*e*P		**Pn**	**10 05 53.5 -0.3**
WUSB	baz=3.0				*e*S		**Sn**	**10 06 10.1 -1.0**
	baz=3.0							
WNT	**Mingjian**	**1.37**	**335**	⇓	P		**Pb**	**10 05 55.4 -0.3**
WNT	baz=335				*e*S		**Sb**	**10 06 13.6 +0.7**
	baz=335							
LXIB	**Xiulin Townshi**	**1.38**	**3**	⇑	*e*P		**Pn**	**10 05 52.4 -1.7**
LXIB	baz=16				S		**Sn**	**10 06 09.8 -1.7**
	baz=16							
CHGB	**Renai**	**1.43**	**354**		*e*P		**Pn**	**10 05 54.3 -0.5**
CHGB	baz=6.0				*e*S		**Sn**	**10 06 10.8 -1.9**
	baz=6.0							
TWD	**Chiawan**	**1.46**	**10**		*i* P		**Pn**	**10 05 54.3 -0.7**
TWD	baz=3.0				*e*S		**Sn**	**10 06 13.7 +0.5**
	baz=3.0							
WCS	**Beigang Elemen**	**1.47**	**345**	⇑	*i* P		**Pn**	**10 05 56.3 +1.1**
WCS	baz=345				*e*S		**Sb**	**10 06 16.3 +0.7**
	baz=345							
WHF	**Hehuan Shan**	**1.51**	**358**		P		**Pn**	**10 05 55.6 -0.5**
WHF	baz=10.0				*e*S		**Sn**	**10 06 13.8 -1.1**
	baz=10.0							
WRL	**Guolierlin Hig**	**1.54**	**326**		P		**Pn**	**10 05 57.0 +0.9**
WRL	baz=324				S		**Sn**	**10 06 15.4 +0.3**
	baz=324							
RLNB	**Erlin**	**1.54**	**325**		*e*S		**Sn**	**10 06 14.0 -1.0**
	baz=323							
ETL	**Fush Village**	**1.54**	**10**		*e*P		**Pn**	**10 05 54.5 -1.8**
ETL	baz=4.0				*e*S		**Sn**	**10 06 15.7 +0.4**
	baz=4.0							
NACB	**Ninganchiao**	**1.55**	**9**	⇓	P		**Pn**	**10 05 55.0 -1.3**
NACB	baz=12				*e*S		**Sn**	**10 06 14.8 -0.7**
	baz=12							
ETLH	**Xiulin Townshi**	**1.57**	**5**	⇓	*e*P		**Pn**	**10 05 55.3 -1.4**
ETLH	baz=17				*e*S		**Sn**	**10 06 16.4 +0.3**
	baz=17							
WCHH	**Zhanghua**	**1.60**	**334**		*e*S		**Sb**	**10 06 20.7 +1.2**
	baz=333							
FUSS	**Fushou**	**1.61**	**357**		*e*P		**Pn**	**10 05 57.2 -0.2**
FUSS	baz=9.0				*e*S		**Sn**	**10 06 16.0 -1.2**
	baz=9.0							
TWT	**Tachien**	**1.62**	**355**		*e*P		**Pb**	**10 05 59.0 -1.0**
TWT	baz=4.0				*e*S		**Sn**	**10 06 19.1 +1.8**
	baz=4.0							
TDCB	**Techi**	**1.62**	**355**		*e*P		**Pb**	**10 05 59.3 -0.8**
TDCB	baz=4.0				*e*S		**Sn**	**10 06 18.7 +1.4**
	baz=4.0							
TCU	**Taichung**	**1.62**	**338**		P		**Pb**	**10 05 59.0 -1.0**
TCU	baz=338				*e*S		**Sb**	**10 06 20.1 +0.1**
	baz=338							
WDGT	**Dungji**	**1.66**	**292**		P		**Pn**	**10 05 58.1 +0.3**
WDGT	baz=289				S		**Sn**	**10 06 17.4 -0.6**
	baz=289							
WHP	**Taichung City**	**1.67**	**348**		P		**Pb**	**10 05 59.9 -1.1**
WHP	baz=348				S		**Sb**	**10 06 22.1 +0.5**
	baz=348							
EAHA	**Aohua**	**1.73**	**13**		*e*P		**Pn**	**10 05 59.0 +0.2**
EAHA	baz=6.0				*e*S		**Sn**	**10 06 20.3 +0.4**
	baz=6.0							
EOS4	**EOS4**	**1.74**	**31**	⇓	P		**Pn**	**10 05 58.6 +0.1**
EOS4	baz=36				*e*S		**Sn**	**10 06 19.5 0.0**
	baz=36							
TWQ1	**Liyutan**	**1.78**	**344**		*e*P		**Pb**	**10 06 01.4 -1.3**
TWQ1	baz=342				*e*S		**Sb**	**10 06 24.0 -0.6**
	baz=342							
NNSB	**Datong**	**1.79**	**2**	⇓	P		**Pn**	**10 05 59.5 -0.2**
NNSB	baz=13				*e*S		**Sn**	**10 06 23.2 +1.8**
	baz=13							
WDJ	**Dajia District**	**1.82**	**340**		*e*P		**Pb**	**10 06 02.3 -1.1**
WDJ	baz=339				*e*S		**Sb**	**10 06 25.9 +0.2**
	baz=339							
ENA	**Nanau**	**1.83**	**12**		*e*P		**Pn**	**10 05 59.6 -0.4**
ENA	baz=2.0				*e*S		**Sn**	**10 06 21.8 -0.5**
	baz=2.0							
PHUB	**P'eng-hu**	**1.84**	**299**		P		**Pn**	**10 05 59.7 -0.5**
PHUB	baz=295				S		**Sn**	**10 06 21.8 -0.7**
	baz=295							
VCHM	**Qimei**	**1.84**	**289**		*e*P		**Pn**	**10 06 00.6 +0.3**
VCHM	baz=285				S		**Sn**	**10 06 22.3 -0.3**
	baz=285							
NSY	**Sanyi**	**1.85**	**344**		*e*P		**Pb**	**10 06 03.0 -0.8**
	baz=345							
EWUT	**Wuta**	**1.85**	**13**		*e*P		**Pn**	**10 06 00.4 0.0**
EWUT	baz=4.0				*e*S		**Sn**	**10 06 23.1 +0.3**
	baz=4.0							
PNG	**Penghu**	**1.88**	**300**	⇓	P		**Pn**	**10 06 00.9 +0.2**
PNG	baz=297				*e*S		**Sn**	**10 06 23.4 -0.1**
	baz=297							
EOS3	**EOS3**	**1.88**	**29**	⇓	P		**Pn**	**10 06 01.0 +0.3**
EOS3	baz=31				*e*S		**Sn**	**10 06 24.2 +0.9**
	baz=31							
LATG	**Datong**	**1.90**	**5**		*e*P		**Pn**	**10 06 00.8 -0.5**
LATG	baz=19				*e*S		**Sn**	**10 06 24.6 +0.3**
	baz=19							
EOS2	**EOS2**	**1.96**	**25**		*e*P		**Pn**	**10 06 02.7 +0.8**
EOS2	baz=38				*e*S		**Sn**	**10 06 27.6 +2.2**
	baz=38							
NDT	**Datong Townshi**	**1.97**	**5**		P		**Pn**	**10 06 02.1 +0.1**
NDT	baz=18				S		**Sn**	**10 06 25.7 -0.1**
	baz=18							

NFF	**Wufeng Townshi**	**2.00**	**355**		*e*P		**Pn**	**10 06 03.9 +1.4**
	baz=355							
NFF					S		**Sb**	**10 06 29.6 -1.3**
	baz=355							
ENTT	**Nioudou**	**2.01**	**6**		*e*P		**Pn**	**10 06 00.2 -2.4**
	baz=19							
ENTT					*e*S		**Sn**	**10 06 24.5 -2.3**
	baz=19							
NSTT	**Nanjuang**	**2.01**	**352**		P		**Pb**	**10 06 04.8 -1.8**
	baz=352							
NSTT					*e*S		**Sn**	**10 06 28.4 +1.6**
	baz=352							
LIOB	**Emei**	**2.02**	**352**		*e*P		**Pn**	**10 06 03.4 +0.6**
	baz=352							
LIOB					*e*S		**Sn**	**10 06 28.8 +1.6**
	baz=352							
TWC	**Suao**	**2.02**	**14**		P		**Pn**	**10 06 03.2 +0.4**
	baz=6.0							
TWC					*e*S		**Sn**	**10 06 28.0 +0.9**
	baz=6.0							
YHNB	**Yeheng**	**2.03**	**1**		*i* P		**Pn**	**10 06 03.4 +0.5**
	baz=17							
YHNB					*e*S		**Sn**	**10 06 26.3 -1.1**
	baz=17							
NSK	**Sanguang**	**2.03**	**1**		P		**Pn**	**10 06 03.5 +0.5**
	baz=16							
NSK					*e*S		**Sn**	**10 06 28.1 +0.7**
	baz=16							
TWE	**Neicheng**	**2.10**	**8**		*e*P		**Pn**	**10 06 04.9 +1.0**
	baz=10.0							
FUSB	**Fushanzhiwuyua**	**2.13**	**6**	⇓	P		**Pn**	**10 06 04.1 -0.2**
	baz=18							
FUSB					*e*S		**Sn**	**10 06 29.1 -0.8**
	baz=18							
NWLT	**Wulai**	**2.14**	**4**		P		**Pn**	**10 06 04.5 0.0**
	baz=16							
NWLT					*e*S		**Sn**	**10 06 30.1 +0.1**
	baz=16							
NHDH	**Xindian Distri**	**2.33**	**4**		P		**Pn**	**10 06 07.7 +0.7**
	baz=20							
NHDH					S		**Sn**	**10 06 34.5 -0.1**
	baz=20							
TATO	**Taipei**	**2.34**	**4**		*e*P		**Pn**	**10 06 08.0 +0.9**
	baz=16							
JYNG	**Yonagunijimaku**	**2.34**	**39**		P		**Pn**	**10 06 07.8 +0.7**
JYNG					S		**Sn**	**10 06 34.5 -0.5**
TIPB	**Shuangxi**	**2.37**	**11**		P		**Pn**	**10 06 08.1 +0.5**
	baz=13							
TIPB					*e*S		**Sn**	**10 06 36.3 +0.5**
	baz=13							
YOJ	**Yonaguni jima**	**2.39**	**40**		P		**Pn**	**10 06 08.3 +0.5**
YOJ					S		**Sn**	**10 06 35.8 -0.3**
YOJ	**Yonaguni jima**	**2.39**	**40**		*e*P		**Pn**	**10 06 08.5 +0.7**
	baz=55							
YOJ					*e*S		**Sn**	**10 06 35.9 -0.1**
	baz=55							
TWB1	**Santiao Chiao**	**2.44**	**14**		*e*P		**Pn**	**10 06 09.8 +1.3**
	baz=6.0							
TWB1					*e*S		**Sn**	**10 06 39.6 +2.2**
	baz=6.0							
NWF	**Wu-fen Shan**	**2.46**	**10**		*e*P		**Pn**	**10 06 09.2 +0.3**
	baz=10.0							
NWF					*e*S		**Sn**	**10 06 38.4 +0.4**
	baz=10.0							
WFSB	**Wu-fen Shan**	**2.46**	**10**		*e*P		**Pn**	**10 06 08.7 -0.2**
	baz=10.0							
WFSB					*e*S		**Sn**	**10 06 38.6 +0.7**
	baz=10.0							
SXI1	**Grass Mountain**	**2.50**	**11**		*e*P		**Pn**	**10 06 10.2 +0.8**
	baz=13							
SXI1					*e*S		**Sn**	**10 06 42.3 +3.3**
	baz=13							
YM01	**YM01**	**2.51**	**5**		*e*S		**Sn**	**10 06 41.1 +1.9**
	baz=22							
YM08	**YM08**	**2.56**	**5**		*e*P		**Pn**	**10 06 12.9 +2.8**
	baz=22							
YM08					*e*S		**Sn**	**10 06 38.6 -1.7**
	baz=22							
HATJ	**Hateruma jima**	**2.68**	**58**		*e*S		**Sn**	**10 06 43.5 +0.1**
VWUC	**VWUC**	**2.91**	**324**		*e*P		**Pn**	**10 06 13.3 -1.6**
	baz=324							
VWUC					*e*S		**Sn**	**10 06 46.8 -2.2**
	baz=324							
JKRS	**Kuro-shima**	**2.94**	**57**		P		**Pn**	**10 06 16.6 +1.3**
JKRS					S		**Sn**	**10 06 50.1 +0.5**
JIJ	**Ishigaki jima**	**3.11**	**56**		P		**Pn**	**10 06 18.8 +1.1**
JIJ					S		**Sn**	**10 06 53.7 -0.1**
KNM	**Kinmen**	**3.19**	**304**		*e*P		**Pn**	**10 06 21.0 +2.1**
	baz=300							
KNMB	**Chin-men Tao**	**3.25**	**305**		*e*P		**Pn**	**10 06 20.3 +0.6**
	baz=301							
KNMB					*e*S		**Sn**	**10 06 55.3 -2.2**
	baz=301							
JISG	**Ishigakijimahi**	**3.36**	**54**		P		**Pn**	**10 06 21.6 +0.5**
JISG					S		**Sn**	**10 06 59.5 -0.5**
JTJ	**Tarama**	**3.68**	**56**		P		**Pn**	**10 06 27.3 +1.7**
JTJ					*e*S		**Sn**	**10 07 08.5 +0.4**
MATB	**Ma-tsu**	**3.72**	**341**		*e*P		**Pn**	**10 06 25.4 -0.8**
	baz=339							
MATB					*e*S		**Sn**	**10 07 06.5 -2.5**
	baz=339							
AXDP	**Jialang**	**3.81**	**307**		*e*P		**Pn**	**10 06 26.5 -0.9**
	baz=303							
AXDP					*e*S		**Sn**	**10 07 09.1 -2.2**
	baz=303							
MHZQ	**Yeshan**	**4.04**	**329**		*e*P		**Pn**	**10 06 30.5 0.0**
	baz=328							
MHZQ					*e*S		**Sn**	**10 07 14.6 -2.2**
	baz=328							
JMJ2	**Miyako jima3**	**4.22**	**59**		P		**Pn**	**10 06 34.6 +1.6**
JMJ2					*e*S		**Sn**	**10 07 22.4 +0.9**

*AFAD **23** 10:07:24.9±0.0, 37.28N×31.88E, h7km±2km, ML2.5*
*ISK **23** 10:07:25.2, 37.27N×31.85E, h0km, ML2.0/5, Suspected Mining explosion.*

ISC 23 10:07:24.1±0.9,**37.24N**±0.03×**31.89E**±0.04,**h0**km,**n11,** σ0**s97**/20,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEYD	**Seydisehir-KON**	**0.17**	**347**	Pg	**Pg**	**10 07 28.2**	**+0.9**
SEYD				Sg	**Sg**	**10 07 31.5**	**+2.0**
SEDI	**Konya, Seydise**	**0.23**	**333**	P	**Pg**	**10 07 29.5**	**+0.9**
SEDI				*i* AML	AML	10 07 31.0	
	comp=E,624nm,1.3s						
SEDI				S	**Sg**	**10 07 32.7**	**+1.1**
SEDI				*i* AML	AML	10 07 46.0	
	comp=N,1μm,0.7s						
KEPZ	**Antalya-Kepez**	**0.41**	**213**	*i* AML	AML	10 07 32.0	
	comp=E,631nm,1.9s						
KEPZ				P	**Pb**	**10 07 34.4**	**+0.1**
KEPZ				*i* AML	AML	10 07 35.0	
	comp=N,426nm,1.5s						
KEPZ				S	**Sb**	**10 07 40.0**	**-1.1**
HDMB	**Hadim**	**0.56**	**120**	Pg	**Pb**	**10 07 36.9**	**0.0**
HDMB				Sg	**Sb**	**10 07 46.1**	**+0.6**
KONT	**Konya--Tatoy**	**0.80**	**28**	Pg	**Pb**	**10 07 40.8**	**-0.1**
KONT				Sg	**Sb**	**10 07 51.8**	**-0.4**
KKBE	**Karaman, Kazim**	**0.84**	**91**	P	**Pb**	**10 07 41.0**	**-0.7**
KKBE				S	**Sb**	**10 07 53.4**	**-0.3**
DOGA	**KONYA_Doganhis**	**0.88**	**349**	P	**Pg**	**10 07 41.1**	**+0.1**
DOGA				*i* AML	AML	10 07 48.0	
	comp=N,170nm,0.7s						
DOGA				S	**Sg**	**10 07 52.1**	**-0.3**
YVAC	**Isparta, Yalva**	**1.15**	**334**	P	**Pb**	**10 07 46.0**	**-0.9**
YVAC				*i* AML	AML	10 07 55.0	
	comp=N,155nm,0.7s						
YVAC				S	**Sg**	**10 07 58.5**	**-2.4**
KORT	**Korkueli**	**1.25**	**259**	Pn	**Pn**	**10 07 49.2**	**+0.2**
KDHN	**Kadinhani**	**1.29**	**8**	P	**Pn**	**10 07 49.4**	**-0.1**
KDHN				*i* AML	AML	10 08 02.0	
	comp=E,506nm,1.6s						
KDHN				S	**Sg**	**10 08 05.5**	**-0.1**
KDHN				*i* AML	AML	10 08 20.0	
	comp=N,324nm,0.9s						
KEBE	**Keben-Mersin**	**1.67**	**118**	Pn	**Pg**	**10 07 56.2**	**+0.1**

*IDC **23** 10:08:57.0±1.1, 55.87N×149.31W, h0km, mb4.0/9, mbtmp4.0/13, ML3.9/4, Error ellipse: s-maj=24.1km s-min=18.1km az=9.0*
*NEIC **23** 10:09:00.8±1.4, 55.98N±0.09×149.32W±0.09, h17km±6km, mb4.5/5, ML4.4/30, ML4.4(AEIC), Error ellipse: s-maj=13.5km s-min=7.4km az=169.0*

*AEIC **23** 10:09:04.2±1.0, 55.95N±0.04×149.3W±0.1, h8km±5km, Error ellipse: s-maj=9.4km s-min=4.7km az=58.0*

ISC 23 10:08:58.8±0.6,**55.96N**±0.07×**149.22W**±0.05,**h10**km, **n109,**σ1**s35**/115,**mb4.1**/10,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.58**	**301**		**Pn**	**10 09 41.1**	**+0.5**
OHAK					**Sn**	**10 10 09.3**	**-2.6**
OHAK	**Old Harbor**	**2.58**	**301**	P	**Pn**	**10 09 41.1**	**+0.5**
	baz=118						
OHAK				S	**Sn**	**10 10 09.3**	**-2.6**
	baz=118						
KDAK	**Kodiak Island**	**2.60**	**316**		**Pn**	**10 09 41.4**	**+0.6**
KDAK	**Kodiak Island**	**2.60**	**316**		**Sn**	**10 10 10.4**	**-1.9**
KDAK	**Kodiak Island**	**2.60**	**316**	IAML		10 11 19.7	
	2μm,0.4s						
KDAK				IAML		10 11 19.9	
	1μm,0.5s						
KDAK	**Kodiak Island**	**2.60**	**316**	S	**Sn**	**10 10 10.4**	**-1.9**
	baz=134						
KDAK	**Kodiak Island**	**2.60**	**316**	Pn	**Pn**	**10 09 39.1**	**-1.7**
	8.8nm,0.3s,baz=149,slow=8.3,SNR=1.6						
KDAK				Sn	**Sn**	**10 10 09.8**	**-2.5**
	53nm,0.3s,baz=18,slow=22,SNR=16						
	25nm,0.3s						
SYI	**Shuyak Island**	**3.16**	**328**		**Pn**	**10 09 49.5**	**+0.9**
SYI					**Sn**	**10 10 25.0**	**-1.3**
Q20K	**Shuyak Island**	**3.16**	**328**	P	**Pn**	**10 09 49.4**	**+0.9**
	baz=146						
Q20K				S	**Sn**	**10 10 25.0**	**-1.3**
	baz=146						
CNPM	**China Poot**	**3.73**	**344**		**Pn**	**10 09 57.3**	**+0.9**
CNPM					**Sn**	**10 10 39.1**	**-1.3**
Q23K	**Middleton Isla**	**3.80**	**23**		**Pn**	**10 09 58.4**	**+1.1**
Q23K	**Middleton Isla**	**3.80**	**23**	IAML		10 10 42.0	
	comp=E,580nm,0.8s						
Q23K	**Middleton Isla**	**3.80**	**23**	P	**Pn**	**10 09 58.4**	**+1.1**
	baz=206						
MID	**Middleton Isla**	**3.80**	**23**		**Pn**	**10 09 58.4**	**+1.1**
MID					**Sn**	**10 10 40.6**	**-1.4**
MID	**Middleton Isla**	**3.80**	**23**	IAML		10 10 42.0	
	comp=E,566nm,0.5s						
Q19K	**Cape Douglas,**	**3.81**	**323**		**Pn**	**10 09 56.9**	**-0.7**
Q19K	**Cape Douglas,**	**3.81**	**323**	P	**Pn**	**10 09 56.9**	**-0.7**
	baz=140						
KAHG	**Katmai Hook Gl**	**3.85**	**313**		**Pn**	**10 09 58.6**	**+0.5**
BRSE	**Bradley Lake S**	**3.88**	**349**		**Pn**	**10 09 58.9**	**+0.5**
BRSE	**Bradley Lake S**	**3.88**	**349**	P	**Pn**	**10 09 58.9**	**+0.5**
	baz=168						
BRLK	**Bradley Lake**	**3.92**	**348**		**Pn**	**10 09 59.6**	**+0.7**
BRLK	**Bradley Lake**	**3.92**	**348**	IAML		10 11 57.2	
	comp=N,404nm,0.5s						
HOM	**Homer**	**3.93**	**342**		**Pn**	**10 09 59.9**	**+0.8**
HOM					**Sn**	**10 10 43.8**	**-1.3**
HOM	**Homer**	**3.93**	**342**	IAML		10 11 57.9	
	comp=E,1μm,0.4s						
HOM	**Homer**	**3.93**	**342**	P	**Pn**	**10 09 59.9**	**+0.8**
	baz=160						
HOM				S	**Sn**	**10 10 43.8**	**-1.3**
	baz=160						
KCE	**Katmai Mt Cerb**	**3.98**	**308**		**Pn**	**10 10 00.2**	**+0.4**
SEW	**Seward**	**4.16**	**358**		**Pn**	**10 10 03.0**	**+0.8**
SEW	**Seward**	**4.16**	**358**	P	**Pn**	**10 10 03.0**	**+0.8**
	baz=179						
P23K	**Montague Islan**	**4.16**	**13**		**Pn**	**10 10 03.0**	**+0.8**
P23K	**Montague Islan**	**4.16**	**13**	P	**Pn**	**10 10 03.0**	**+0.8**
	baz=195						
CNTC	**Contact Creek**	**4.30**	**305**		**Pn**	**10 10 04.1**	**-0.2**
Q17K	**Contact Creek**	**4.30**	**305**	P	**Pn**	**10 10 04.1**	**-0.2**
	baz=120						
HIN	**Hinchinbrook I**	**4.67**	**17**		**Pn**	**10 10 10.4**	**+1.1**
P18K	**Big Mountain,**	**4.71**	**319**	Pn	**Pn**	**10 10 11.4**	**+1.5**
P18K				IAML		10 12 14.4	
	comp=N,220nm,0.9s						
KAIM	**Kayak Island**	**4.73**	**31**		**Pn**	**10 10 11.4**	**+1.3**
KAIM	**Kayak Island**	**4.73**	**31**	P	**Pn**	**10 10 11.4**	**+1.3**
	baz=215						
Q16K	**King Salmon**	**4.86**	**307**		**Pn**	**10 10 11.3**	**-0.6**
Q16K	**King Salmon**	**4.86**	**307**	P	**Pn**	**10 10 11.3**	**-0.6**
	baz=121						
R16K	**Pilot Point**	**4.87**	**293**		**Pn**	**10 10 12.1**	**+0.1**
R16K	**Pilot Point**	**4.87**	**293**	P	**Pn**	**10 10 12.1**	**+0.1**
	baz=106						
FID	**Port Fidalgo**	**5.01**	**16**	Pn	**Pn**	**10 10 16.7**	**+2.7**
FID				IAML		10 12 25.1	
	comp=N,414nm,0.7s						
FID				IAML		10 12 25.6	
	comp=E,355nm,0.6s						
P17K	**Kvichak River**	**5.06**	**313**		**Pn**	**10 10 13.9**	**-0.7**
P17K	**Kvichak River**	**5.06**	**313**	P	**Pn**	**10 10 13.9**	**-0.7**
	baz=127						
ANPB	**Aniakchak Plen**	**5.11**	**283**		**Pn**	**10 10 15.6**	**+0.4**
CHGN	**Chignik**	**5.15**	**278**	Pn	**Pn**	**10 10 15.9**	**+0.1**
CHGN				IAML		10 12 22.5	
	comp=N,332nm,0.5s						
CHGN				IAML		10 12 23.0	
	comp=E,303nm,0.5s						
P16K	**Nushagak River**	**5.64**	**307**		**Pn**	**10 10 22.0**	**-0.6**
P16K	**Nushagak River**	**5.64**	**307**	P	**Pn**	**10 10 22.0**	**-0.6**
	baz=120						
SCM	**Sheep Creek Mo**	**5.97**	**9**	Pn	**Pn**	**10 10 29.1**	**+1.9**
CHNA	**Chernabura Isl**	**6.02**	**263**	P	**Pn**	**10 10 27.3**	**-0.4**
	baz=25						
CNBA	**Chernabura Isl**	**6.02**	**263**		**Pn**	**10 10 27.3**	**-0.5**
M20K	**Styx River**	**6.27**	**343**	Pn	**Pn**	**10 10 33.2**	**+1.8**
SDPT	**Sand Point**	**6.40**	**269**		**Pn**	**10 10 33.3**	**+0.3**
SDPT	**Sand Point**	**6.40**	**269**	P	**Pn**	**10 10 33.8**	**+0.8**
SDPT	**Sand Point**	**6.40**	**269**	P	**Pn**	**10 10 33.3**	**+0.3**
	baz=80						
PNL	**Peninsula**	**6.43**	**51**		**Pn**	**10 10 35.5**	**+2.1**
PNL	**Peninsula**	**6.43**	**51**	P	**Pn**	**10 10 35.5**	**+2.1**
	baz=239						
BCPM	**Bancas Point**	**6.48**	**48**		**Pn**	**10 10 36.2**	**+2.1**
CTG	**Chitna Glacier**	**6.50**	**36**	P	**Pn**	**10 10 36.4**	**+1.9**
	baz=223						
CTGM	**Chitina Glacie**	**6.50**	**36**		**Pn**	**10 10 36.4**	**+1.9**
LOGN	**Logan Glacier**	**6.51**	**38**	Pn	**Pn**	**10 10 36.9**	**+2.3**
PS1A	**Pavlof South-1**	**7.10**	**271**		**Pn**	**10 10 43.2**	**+0.6**
PVV	**Pavlof Volcano**	**7.13**	**270**		**Pn**	**10 10 43.5**	**+0.5**
N15K	**Kwethluk River**	**7.14**	**311**		**Pn**	**10 10 43.4**	**+0.2**
N15K	**Kwethluk River**	**7.14**	**311**	P	**Pn**	**10 10 43.4**	**+0.2**
	baz=122						
P29M	**Windy Craggy**	**7.15**	**54**		**Pn**	**10 10 44.8**	**+1.5**
M16K	**Timber Creek**	**7.19**	**319**		**Pn**	**10 10 43.1**	**-0.8**
M16K	**Timber Creek**	**7.19**	**319**	P	**Pn**	**10 10 43.1**	**-0.8**
	baz=131						
PN7A	**Pavlof North-7**	**7.24**	**271**		**Pn**	**10 10 45.5**	**+0.9**
S31K	**Pelican**	**7.38**	**69**		**Pn**	**10 10 46.2**	**-0.1**
S31K	**Pelican**	**7.38**	**69**	P	**Pn**	**10 10 46.2**	**-0.1**
	baz=260						
DT1	**Dutton Round H**	**7.46**	**269**		**Pn**	**10 10 48.1**	**+0.5**
FALS	**False Pass**	**8.16**	**268**		**Pn**	**10 10 57.5**	**+0.5**
FALS	**False Pass**	**8.16**	**268**	P	**Pn**	**10 10 57.8**	**+0.7**
FALS	**False Pass**	**8.16**	**268**	P	**Pn**	**10 10 57.5**	**+0.5**
	baz=76						
S32K	**Killisnoo**	**8.20**	**73**		**Pn**	**10 10 57.4**	**-0.2**
S32K	**Killisnoo**	**8.20**	**73**	P	**Pn**	**10 10 57.4**	**-0.2**
	baz=266						
BESE	**Bessie Mountai**	**8.21**	**65**		**Pn**	**10 10 58.9**	**+1.0**
ISLZ	**Isanotski Laza**	**8.35**	**267**		**Pn**	**10 11 00.3**	**+0.5**
BRPK	**Brown Peak**	**8.39**	**267**		**Pn**	**10 11 00.6**

YKA	Yellowknife Ar	18.69	55	P		Pn	10 13 18.1	+0.9	
YKA	Yellowknife Ar	18.69	55	P		Pn	10 13 18.4	+1.2	
	comp=E,0.2nm,0.3s,baz=262,slow=11,SNR=4.7								
	comp=E,3.7nm,0.8s								
A36M	Sachs Harbour	18.96	23	P		Pn	10 13 21.1	+0.8	
A36M				IAmb		IAmb	10 13 35.8		
	comp=Z,17nm,0.8s								
COR	Corvallis	19.97	114	P		P	10 13 31.4	+0.5	
COR				IAmb		IAmb	10 13 39.4		
	comp=Z,83nm,1.4s								
F10A	Beach Ranch, E	22.30	103	P		P	10 13 57.5	+1.4	
F10A				IAmb		IAmb	10 14 04.6		
	comp=Z,12nm,1.4s								
PDAR	Pinedale Array	28.57	101	P		P	10 14 55.1	+0.1	
	comp=Z,4.2nm,1.2s,baz=350,slow=4.5,SNR=0.9								
	comp=Z,4.2nm,1.2s								
FCC	Fort Churchill	29.16	61	P		P	10 15 00.6	+1.0	
PETK	Petropavlovsk-	30.30	287	P		P	10 15 09.7	-0.1	
	comp=Z,1.8nm,0.7s,baz=66,slow=14,SNR=0.8								
	comp=Z,1.8nm,0.7s								
ARCES	ARCESS Array B	54.75	2	P		P	10 18 27.5	-0.2	
	comp=Z,2.9nm,0.7s,baz=359,slow=2.5,SNR=8.5								
	comp=Z,2.9nm,0.7s								
ZALV	Zalesovo Beam	61.85	327	P		P	10 19 17.4	-0.2	
	comp=Z,0.7nm,0.6s,baz=46,slow=6.2,SNR=3.4								
	comp=Z,0.7nm,0.6s								
NOA	NORSAR Array B	62.32	11	P		P	10 19 21.4	+0.7	
	comp=Z,1.5nm,0.8s,baz=346,slow=4.8,SNR=2.7								
	comp=Z,1.5nm,0.8s								
KURBB	Kurchatov Arra	66.63	329	P		P	10 19 49.3	+0.3	
	comp=Z,3.0nm,1.1s,baz=18,slow=3.0,SNR=4.1								
	comp=Z,3.0nm,1.1s								
MKAR	Makanchi Array	68.88	325	P		P	10 20 03.4	+0.2	
	comp=Z,0.2nm,0.4s,baz=27,slow=6.8,SNR=2.0								
	comp=Z,0.2nm,0.4s								
AKASG	Malin Array Be	73.70	1	P		P	10 20 32.4	+0.1	
	comp=Z,0.4nm,0.4s,baz=355,slow=5.1,SNR=2.8								
	comp=Z,0.4nm,0.4s								
CMAR	Chiang Mai Arr	86.46	298	P		P	10 21 41.1	-0.5	
	comp=Z,1.0nm,0.5s,baz=12,slow=5.4,SNR=4.4								
	comp=Z,1.0nm,0.5s								
QSPA	South Pole Qui	145.75	180	PKPbc		PKPdf	10 28 35.8	-0.1	
	comp=Z,4.2nm,0.9s,baz=11,slow=2.2,SNR=3.9								

IDC ***23*** *10:10:08.0±1.0,56.06N×149.31W,h0km,mb4.0/15, mbtmp4.1/20,ML3.8/5,Error ellipse: s-maj=25.1km s-min=13.8km az=22.0*

NEIC ***23*** *10:10:10.9±1.6,56.02N±0.10×149.4W±0.1,h19km±3km, mb4.3/6,ML4.5/24,ML4.3(AEIC),Error ellipse: s-maj=14.2km s-min=9.3km az=175.0*

AEIC ***23*** *10:10:14.0±1.6,56.0N±0.1×149.41W±0.08,h6km±6km, Error ellipse: s-maj=15.1km s-min=6.5km az=171.0*

ISC 23 10:10:09.4±0.6,56.04N±0.07×149.39W±0.05,h10km, n111,σ1$04/107,mb4.0/16,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.46	300				Pn	10 10 49.6	+0.1
OHAK	Old Harbor	2.46	300	IAML				10 11 18.4	
	comp=N,2μm,0.4s								
OHAK	Old Harbor	2.46	300	P			Pn	10 10 49.6	+0.1
	baz=118								
OHAK				S			Sn	10 11 17.6	-1.8
	baz=118								
KDAK	Kodiak Island	2.47	316				Pn	10 10 50.4	+0.7
KDAK	Kodiak Island	2.47	316	IAML				10 11 20.7	
	comp=N,1μm,0.5s								
KDAK	Kodiak Island	2.47	316	Pn			Pn	10 10 49.6	-0.1
	comp=N,65nm,0.3s,baz=122,slow=5.7,SNR=8.6								
KDAK				Sn			Sn	10 11 17.2	-2.6
	comp=N,234nm,0.3s,baz=1.3,slow=20,SNR=22								
	comp=N,165nm,0.3s								
SYI	Shuyak Island	3.05	329				Pn	10 10 58.6	+1.1
SYI							Sn	10 11 33.7	-0.3
SYI	Shuyak Island	3.05	329	IAML				10 11 35.9	
	comp=E,1μm,0.4s								
Q20K	Shuyak Island	3.05	329	P			Pn	10 10 58.6	+1.1
	baz=147								
Q20K				S			Sn	10 11 33.7	-0.3
	baz=147								
CNPM	China Poot	3.63	345				Pn	10 11 06.4	+0.8
CNPM	China Poot	3.63	345	IAML				10 11 50.3	
	comp=N,798nm,0.4s								
CNPM				IAML				10 11 50.3	
	comp=E,670nm,0.8s								
Q19K	Cape Douglas,	3.69	323				Pn	10 11 07.8	+1.3
Q19K	Cape Douglas,	3.69	323	IAML				10 11 56.0	
	comp=N,3μm,0.8s								
Q19K				IAML				10 11 56.2	
	comp=E,4μm,0.9s								
Q19K	Cape Douglas,	3.69	323	P			Pn	10 11 07.8	+1.3
	baz=140								
Q23K	Middleton Isla	3.77	24				Pn	10 11 08.6	+1.1
Q23K	Middleton Isla	3.77	24	IAML				10 11 57.9	
	comp=E,830nm,4.3s								
Q23K	Middleton Isla	3.77	24	P			Pn	10 11 08.6	+1.1
	baz=207								
MID	Middleton Isla	3.77	24				Pn	10 11 08.6	+1.1
MID	Middleton Isla	3.77	24	IAML				10 11 56.1	
	comp=E,936nm,4.7s								
MID				IAML				10 11 57.5	
	comp=N,1μm,5.0s								
BRSE	Bradley Lake S	3.78	350				Pn	10 11 07.8	+0.2
BRSE							Sn	10 11 51.2	-0.9
BRSE	Bradley Lake S	3.78	350	P			Pn	10 11 07.8	+0.2
	baz=169								
BRSE				S			Sn	10 11 51.2	-0.9
	baz=169								
BRLK	Bradley Lake	3.82	349				Pn	10 11 08.7	+0.5
BRLK	Bradley Lake	3.82	349	IAML				10 11 56.5	
	comp=E,532nm,0.5s								
HOM	Homer	3.82	343				Sn	10 11 53.3	+0.2
HOM	Homer	3.82	343	S			Sn	10 11 53.3	+0.2
	baz=161								
ACHA	Angle Creek He	3.90	306				Pn	10 11 09.6	+0.3
AU22	Augustine Moun	3.96	329				Pn	10 11 11.3	+1.2
SEW	Seward	4.08	360				Pn	10 11 12.2	+0.6
SEW	Seward	4.08	360	P			Pn	10 11 12.2	+0.6
	baz=180								
P23K	Montague Islan	4.11	14				Pn	10 11 13.4	+1.3
P23K	Montague Islan	4.11	14	P			Pn	10 11 13.4	+1.3
	baz=196								
PLK3	Peulik 3	4.12	296				Pn	10 11 12.4	+0.1
CNTC	Contact Creek	4.18	305				Pn	10 11 13.6	+0.4
Q17K	Contact Creek	4.18	305	P			Pn	10 11 13.6	+0.4
	baz=120								
P18K	Big Mountain,	4.59	319				Pn	10 11 19.0	+0.2
P18K	Big Mountain,	4.59	319	IAML				10 12 13.2	
	comp=N,306nm,4.6s								
P18K	Big Mountain,	4.59	319	P			Pn	10 11 19.0	+0.2
	baz=135								
HIN	Hinchinbrook I	4.63	18				Pn	10 11 20.1	+0.8
HIN	Hinchinbrook I	4.63	18	IAML				10 12 14.5	
	comp=E,1μm,4.5s								
HIN				IAML				10 12 16.9	
	comp=N,691nm,0.5s								
R16K	Pilot Point	4.75	292				Pn	10 11 20.5	-0.4
R16K	Pilot Point	4.75	292	IAML				10 12 10.7	
	comp=N,739nm,4.1s								
R16K	Pilot Point	4.75	292	P			Pn	10 11 20.5	-0.4
	baz=106								
O19K	Port Alsworth	4.92	330				Pn	10 11 24.0	+0.8
O19K	Port Alsworth	4.92	330	P			Pn	10 11 24.0	+0.8
	baz=146								
P16K	Nushagak River	5.52	306				Pn	10 11 32.2	+0.8
P16K	Nushagak River	5.52	306	P			Pn	10 11 32.2	+0.8
	baz=120								
N18K	Kilae Creek	5.77	326	Pn			Pn	10 11 35.3	+0.3
SML	Sawmill	5.81	5	Pn			Pn	10 11 32.4	-3.1
O16K	Kokwok River B	5.86	311	Pn			Pn	10 11 35.6	-0.5
SCM	Sheep Creek Mo	5.91	10	Pn			Pn	10 11 34.2	-2.7
SKT	Skwentna	6.06	350	Pn			Pn	10 11 38.8	-0.1
N17K	Nushagak Hills	6.09	321	Pn			Pn	10 11 38.9	-0.5
SDPT	Sand Point	6.31	268	P			Pn	10 11 41.1	-1.2
	baz=80								
PCA	Pinnacle	6.32	46				Pn	10 11 43.0	+0.3
PINM	Pinnacle	6.32	46	P			Pn	10 11 43.0	+0.3
	baz=234								
O15K	Ungalikthiuk R	6.43	304				Pn	10 11 44.7	+0.7
O15K	Ungalikthiuk R	6.43	304	P			Pn	10 11 44.7	+0.7
	baz=115								
CTGM	Chitina Glacie	6.49	37				Pn	10 11 45.2	+0.2
BCPM	Bancas Point	6.50	49				Pn	10 11 44.7	-0.2
LOGN	Logan Glacier	6.51	39				Pn	10 11 45.6	+0.3
N16K	Nishlik Lake	6.65	316				Pn	10 11 48.3	+1.3
N16K	Nishlik Lake	6.65	316	P			Pn	10 11 48.3	+1.3
	baz=128								
L19K	White Mountain	6.77	338				Pn	10 11 49.2	+0.6
L19K	White Mountain	6.77	338	P			Pn	10 11 49.2	+0.6
	baz=153								
M17K	Holitna River	6.81	325				Pn	10 11 50.7	+1.4
N15K	Kwethluk River	7.02	311				Pn	10 11 52.9	+0.9
N15K	Kwethluk River	7.02	311	P			Pn	10 11 52.9	+0.9
	baz=122								
O29M	Mount Kennedy	7.13	49				Pn	10 11 55.4	+1.6
O14K	Tigyukauivet M	7.14	302				Pn	10 11 54.0	+0.3
O14K	Tigyukauivet M	7.14	302	P			Pn	10 11 54.0	+0.3
	baz=112								
P29M	Windy Craggy	7.18	55				Pn	10 11 55.3	+1.0
M27K	Edge Creek, AK	7.41	28				Pn	10 11 59.2	+1.6
S31K	Pelican	7.44	70				Pn	10 11 57.3	-0.5
M15K	Kasigluk River	7.55	313				Pn	10 12 00.5	+1.2
M15K	Kasigluk River	7.55	313	P			Pn	10 12 00.5	+1.2
	baz=124								
L16K	Owhat River	7.71	322				Pn	10 12 02.0	+0.4
L16K	Owhat River	7.71	322	P			Pn	10 12 01.5	-0.1
	baz=133								
RIDG	Independent Ri	8.05	15				Pn	10 12 07.3	+1.0
FALS	False Pass	8.06	267				Pn	10 12 05.7	-0.7
FALS	False Pass	8.06	267	P			Pn	10 12 05.7	-0.7
	baz=76								
K17K	Iditarod	8.09	330				Pn	10 12 07.1	+0.4
K17K	Iditarod	8.09	330	P			Pn	10 12 07.1	+0.4
	baz=142								
S32K	Killisnoo	8.27	74				Pn	10 12 08.8	-0.3
S32K	Killisnoo	8.27	74	P			Pn	10 12 08.8	-0.3
	baz=266								
ILAR	Eielson Array	8.85	7	Pn			Pn	10 12 14.8	-2.3
	comp=N,0.5nm,0.3s,baz=187,slow=14,SNR=1.3								
ILAR				Sn			Sn	10 13 53.4	-3.4
	comp=N,2.7nm,0.3s,baz=187,slow=22,SNR=5.8								
	comp=N,2.0nm,0.5s								
DLBC	Dease Lake	10.76	69	Pn			Pn	10 12 44.6	+1.2
	comp=N,0.5nm,0.3s,baz=294,slow=12,SNR=1.7								
DLBC				Sn			Sn	10 14 41.2	-2.6
	comp=N,0.8nm,0.3s,baz=330,slow=20,SNR=1.4								
	comp=N,25nm,1.1s								
INK	Inuvik	14.29	24	Pn			Pn	10 13 32.5	+1.1
	comp=N,0.1nm,0.3s,baz=198,slow=9.2,SNR=3.0								
	comp=N,14nm,1.0s								
ADK	Adak	16.54	267	Pn			Pn	10 14 00.3	-0.8
ADK				IAmb			IAmb	10 14 35.7	
	comp=Z,74nm,1.3s								
KIWB	Kanaga Island	16.81	267	Pn			Pn	10 14 03.3	-1.4
C36M	Paulatuk	17.48	30	P			Pn	10 14 14.4	+1.6
C36M				IAmb			IAmb	10 14 16.9	
	comp=Z,13nm,0.8s								
HILA	High Level	17.58	68	P			Pn	10 14 14.7	+0.6
YKAB2	New Yellowknif	18.72	56	P			P	10 14 28.9	+1.2
YKA	Yellowknife Ar	18.73	56	P			P	10 14 28.6	+0.8
	comp=Z,0.2nm,0.3s,baz=263,slow=10,SNR=9.1								
	comp=Z,5.7nm,0.8s								
A36M	Sachs Harbour	18.93	23	P			P	10 14 31.2	+1.3
A36M				IAmb			IAmb	10 14 38.5	
	comp=Z,38nm,0.8s								
NEW	Newport	21.11	98	P			P	10 14 54.5	+0.5
NEW	Newport	21.11	98	P			P	10 14 54.0	+0.1
	comp=Z,4.0nm,0.8s,baz=328,slow=14,SNR=2.8								
	comp=Z,4.0nm,0.8s								
NVAR	Mina Array Bea	27.15	117	P			P	10 15 53.2	+0.4
	comp=Z,0.7nm,0.6s,baz=308,slow=10,SNR=2.4								
	comp=Z,0.7nm,0.6s								
RES	Resolute Bay	27.80	28	P			P	10 15 56.5	-1.5
	comp=Z,1.9nm,0.9s,baz=231,slow=14,SNR=1.3								
	comp=Z,1.9nm,0.9s								
PDAR	Pinedale Array	28.68	101	P			P	10 16 05.8	-0.7
	comp=Z,0.6nm,0.6s,baz=316,slow=5.0,SNR=4.6								
	comp=Z,0.6nm,0.6s								
PETK	Petropavlovsk-	30.19	287	P			P	10 16 20.1	+0.6
	comp=Z,3.5nm,0.9s,baz=71,slow=12,SNR=1.8								
	comp=Z,3.5nm,0.9s								
TXAR	Lajitas Array	41.80	110	P			P	10 17 58.8	-0.2
	comp=Z,1.6nm,0.9s,baz=319,slow=11,SNR=3.7								
	comp=Z,1.6nm,0.9s								
KLR	Kul'dur	45.88	296	P			P	10 18 33.3	+1.8
	comp=Z,2.4nm,0.6s,baz=56,slow=4.8,SNR=6.1								
	comp=Z,2.4nm,0.6s								
ZALV	Zalesovo Beam	61.73	327	P			P	10 20 29.6	+2.3
	comp=Z,0.7nm,0.4s,baz=48,slow=7.2,SNR=2.3								
	comp=Z,0.7nm,0.4s								
NOA	NORSAR Array B	62.26	11	P			P	10 20 30.6	-0.3
	comp=Z,1.5nm,0.8s,baz=348,slow=6.8,SNR=2.3								
	comp=Z,1.5nm,0.8s								
FINES	FINESS Array B	62.80	2	P			P	10 20 34.1	-0.2
	comp=Z,1.8nm,0.6s,baz=10,slow=8.5,SNR=3.3								
	comp=Z,1.8nm,0.6s								
BVAR	Borovoye Array	66.48	335	P			P	10 20 57.8	-0.7
	comp=Z,1.5nm,0.7s,baz=28,slow=6.5,SNR=1.9								
	comp=Z,1.5nm,0.7s								
KURBB	Kurchatov Arra	66.52	329	P			P	10 20 58.1	-0.7
	comp=Z,0.7nm,0.8s,baz=27,slow=6.2,SNR=1.2								
	comp=Z,0.7nm,0.8s								
MK31	Makanchi Array	68.76	325	P			P	10 21 12.9	-0.2
MK31				IAmb			IAmb	10 21 27.3	
	comp=Z,0.1nm,0.3s								
MKAR	Makanchi Array	68.76	325	P			P	10 21 12.8	-0.3
	comp=Z,0.6nm,0.7s,baz=51,slow=4.2,SNR=1.7								
	comp=Z,0.6nm,0.7s								
AKASG	Malin Array Be	73.62	1	P			P	10 21 41.3	-1.1
	comp=Z,1.3nm,0.5s,baz=0.1,slow=5.5,SNR=5.5								
	comp=Z,1.3nm,0.5s								
ESDC	Sonseca Array	80.23	26	P			P	10 22 19.4	-0.5
	comp=Z,1.4nm,0.7s,baz=337,slow=4.7,SNR=4.7								
	comp=Z,1.4nm,0.7s								

IDC ***23*** *10:16:01.7±0.6,56.33N×148.76W,h0km,mb4.5/35, mbtmp4.6/40,ML4.6/5,Error ellipse: s-maj=17.0km s-min=9.0km az=21.0*

BJI ***23*** *10:16:02.3±0.0,56.32N×149.15W,h8km,mb5.0/18, mB4.9/3*

MOS ***23*** *10:16:02.9±1.0,56.36N×148.71W,h15km,mb5.2/34, Error ellipse: s-maj=11.3km s-min=4.9km az=94.7*

NEIC ***23*** *10:16:03.0±1.9,56.26N±0.07×148.79W±0.08,h13km±5km, mb5.0/53,ML5.1/43,ML5.0(AEIC),Error ellipse: s-maj=10.7km s-min=6.5km az=177.0*

AEIC ***23*** *10:16:05.4±2.9,56.15N±0.07×148.71W±0.09,h12km±4km, Error ellipse: s-maj=10.7km s-min=7.5km az=178.0*

ISC 23 10:16:03.0±0.4,56.32N±0.06×148.66W±0.04,h10km, n736,σ1$32/751,mb4.8/102,25C-26D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.60	306	Pn			Pn	10 16 43.7	-1.4
KDAK	Kodiak Island	2.60	306	P			Pn	10 16 43.8	-1.2
	baz=126								
KDAK	Kodiak Island	2.60	306	Pn			Pn	10 16 43.6	-1.4
	68nm,0.3s,baz=134,slow=4.7,SNR=28								
KDAK				Sn			Sn	10 17 12.4	-4.2
	240nm,0.3s,baz=222,slow=21,SNR=26								
	148nm,0.3s								
OHAK	Old Harbor	2.71	292				Pn	10 16 44.1	-2.3
OHAK	Old Harbor	2.71	292	P			Pn	10 16 44.4	-2.1
OHAK	Old Harbor	2.71	292	P			Pn	10 16 44.2	-2.3
	baz=111,SNR=23								
SYI	Shuyak Island	3.06	320				Pn	10 16 50.7	-0.6
SYI				IAML				10 17 26.9	
	comp=E,4μm,0.9s								
SYI				IAML				10 17 27.1	
	comp=N,4μm,0.8s								
SYI	Shuyak Island	3.06	320				Sn	10 17 26.0	-2.0
Q20K	Shuyak Island	3.06	320	P			Pn	10 16 50.5	-0.8
	baz=140,SNR=14								
MID	Middleton Isla	3.36	21	Pn			Pn	10 16 55.3	-0.1
MID				IAML				10 17 34.1	
	comp=N,6μm,0.7s								
MID				IAML				10 17 34.7	
	comp=E,5μm,0.8s								
MID	Middleton Isla	3.36	21	P			Pn	10 16 55.6	+0.2
MID	Middleton Isla	3.36	21	P			Pn	10 16 55.3	-0.1
MID								10 17 33.4	
Q23K	Middleton Isla	3.36	21	Pn			Pn	10 16 55.2	-0.2
Q23K				IAML				10 17 34.1	
	comp=N,5μm,0.7s								
Q23K				IAML				10 17 34.7	
	comp=E,6μm,0.7s								
Q23K	Middleton Isla	3.36	21				Sn	10 17 33.1	-2.1
Q23K	Middleton Isla	3.36	21	P			Pn	10 16 55.3	-0.2
	baz=202,SNR=17								
CNPM	China Poot	3.50	338	Pn			Pn	10 16 56.7	-0.7
CNPM				IAML				10 17 43.6	
	comp=E,2μm,1.2s								
BRSE	Bradley Lake S	3.61	343				Pn	10 16 58.3	-0.7
BRSE	Bradley Lake S	3.61	343	P			Pn	10 16 58.3	-0.7
	baz=162,SNR=69								
BRLK	Bradley Lake	3.65	342				Pn	10 16 58.4	-1.1
HOM	Homer	3.71	336				Pn	10 17 00.4	+0.1
HOM				IAML				10 17 51.0	
	comp=N,6μm,0.9s								
HOM				IAML				10 17 52.4	
	comp=E,3μm,0.7s								
HOM	Homer	3.71	336	P			Pn	10 17 00.1	-0.1
	baz=155,SNR=20								
Q19K	Cape Douglas,	3.75	316	Pn			Pn	10 17 00.9	0.0
Q19K				IAML				10 17 46.9	
	comp=E,8μm,0.7s								
Q19K				IAML				10 17 58.7	
	comp=N,6μm,0.9s								
Q19K	Cape Douglas,	3.75	316				Sn	10 17 44.2	-0.8
Q19K	Cape Douglas,	3.75	316	P			Pn	10 17 00.8	-0.1
	baz=134,SNR=18								
P23K	Montague Islan	3.75	10				Pn	10 17 00.7	-0.2
P23K	Montague Islan	3.75	10	P			Pn	10 17 00.8	0.0
	baz=191,SNR=32								
SEW	Seward	3.82	354				Pn	10 17 01.1	-0.7
SEW	Seward	3.82	354	P			Pn	10 17 01.1	-0.7
	baz=174,SNR=110								
KAHG	Katmai Hook Gl	3.86	307				Pn	10 17 01.6	-0.9
AU22	Augustine Moun	3.96	323				Pn	10 17 03.8	+0.2
AUCH	Augustine Cone	3.98	322				Pn	10 17 03.4	-0.7
AUCH							Sn	10 17 48.5	-2.3
AUL	Augustine Lava	4.00	322				Pn	10 17 04.5	+0.3
KCE	Katmai Mt Cerb	4.03	301				Pn	10 17 05.4	+0.6
ACHA	Angle Creek He	4.09	300				Pn	10 17 05.0	-0.6
P19K	Oil Pt	4.14	326				Pn	10 17 06.0	-0.2
P19K				IAML				10 17 58.3	
	comp=E,6μm,0.6s								
P19K	Oil Pt	4.14	326	P			Pn	10 17 06.0	-0.2
	baz=144,SNR=19								
KAHC	Katmai Hardscr	4.15	307				Pn	10 17 06.2	-0.3
KVTA	Katmai Vly 10	4.15	303				Pn	10 17 06.4	0.0
ANCK	Angle Creek	4.16	300				Pn	10 17 05.7	-0.9
ANCK							Sn	10 17 49.8	-5.5
O22K	Cooper Landing	4.21	353				Pn	10 17 07.0	-0.2
O22K	Cooper Landing	4.21	353	P			Pn	10 17 07.1	-0.1
	baz=172,SNR=20								
HIN	Hinchinbrook I	4.25	15				Pn	10 17 07.7	0.0
HIN	Hinchinbrook I	4.25	15	IAML				10 17 55.9	
	comp=E,5μm,0.7s								
KAIM	Kayak Island	4.26	30				Pn	10 17 08.3	+0.5
KAIM	Kayak Island	4.26	30	P			Pn	10 17 08.6	+0.8
	baz=213,SNR=35								
SLKM	Skilak Lake	4.28	350				Pn	10 17 07.6	-0.6
O20K	Slope Mountain	4.32	333				Pn	10 17 08.2	-0.6
O20K	Slope Mountain	4.32	333	P			Pn	10 17 08.2	-0.6
	baz=151,SNR=13								
IVE	Iliamna Volcan	4.37	330				Pn	10 17 08.7	-0.8
CNTC	Contact Creek	4.38	299				Pn	10 17 08.7	-0.9
Q17K	Contact Creek	4.38	299	P			Pn	10 17 09.1	-0.5
	baz=116,SNR=24								
PLK3	Peulik 3	4.38	291				Pn	10 17 07.9	-1.6
EYAK	Cordova Ski Ar	4.51	19				Pn	10 17 11.6	+0.4
EYAK	Cordova Ski Ar	4.51	19	P			Pn	10 17 11.9	+0.6
EYAK	Cordova Ski Ar	4.51	19	P			Pn	10 17 11.8	+0.6
	baz=201,SNR=140								
PLK1	Peulik 1	4.59	292				Pn	10 17 11.0	-1.3
FID	Port Fidalgo	4.59	13				Pn	10 17 11.9	-0.5
FID	Port Fidalgo	4.59	13	IAML				10 18 02.7	
	comp=E,3μm,0.6s								
FID				IAML				10 18 06.6	
	comp=N,2μm,0.6s								
RED	Redoubt Volcan	4.65	334				Pn	10 17 12.1	-1.2
CAPN	Captain Cook N	4.65	345				Pn	10 17 13.8	+0.7
CAPN	Captain Cook N	4.65	345	P			Pn	10 17 13.7	+0.5
	baz=164,SNR=24								
P18K	Big Mountain,	4.67	314	Pn			Pn	10 17 12.5	-1.0
P18K	Big Mountain,	4.67	314	P			Pn	10 17 12.3	-1.3
	baz=130,SNR=12								
PLBL	Peulik Blue Cr	4.67	291				Pn	10 17 13.1	-0.4
RSO	Redoubt South	4.68	334				Pn	10 17 12.7	-1.1
RDT	Redoubt	4.70	337				Pn	10 17 12.8	-1.2
RDWB	Redoubt West	4.73	334				Pn	10 17 13.2	-1.2
DFR	Drift River	4.78	335				Pn	10 17 13.8	-1.2
RDJH	Redoubt Jeurge	4.81	335				Pn	10 17 14.4	-1.1
NCT	North Crescent	4.81	334				Pn	10 17 14.4	-1.1
RC01	Rabbit Creek A	4.82	354				Pn	10 17 15.4	-0.2
RC01				IAML				10 18 11.4	
	comp=E,2μm,0.8s								
RC01	Rabbit Creek A	4.82	354	P			Pn	10 17 15.5	0.0
	baz=173,SNR=30			

N18K Kilae Creek 5.79 322 Pn 10 17 27.6 -1.2
N18K Kilae Creek 5.79 322 P Pn 10 17 27.7 -1.2
baz=137
PCA Pinnacle 5.84 46 Pn 10 17 30.6 +1.0
PINM Pinnacle 5.84 46 P Pn 10 17 30.6 +1.0
baz=232
SKT Skwentna 5.87 347 Pn Pn 10 17 29.3 -0.7
SKT Skwentna 5.87 347 P Pn 10 17 29.5 -0.4
baz=165,SNR=24
M24K Tolsona, Glenn 5.95 11 Pn Pn 10 17 32.3 +1.3
M24K Tolsona, Glenn 5.95 11 P Pn 10 17 32.7 +1.6
baz=193,SNR=33
PNL Peninsula 5.96 52 Pn 10 17 32.0 +0.8
PNL Peninsula 5.96 52 P Pn 10 17 32.4 +1.2
PNL Peninsula 5.96 52 P Pn 10 17 32.2 +1.0
baz=238
BARN Barnard Glacie 5.99 35 Pn 10 17 32.7 +0.9
SVW2 Sparrevohn 6.00 326 Pn 10 17 30.6 -1.1
SVW2 Sparrevohn 6.00 326 P Pn 10 17 30.6 -1.1
O16K Kokwok River B 6.00 307 Pn Pn 10 17 31.1 -0.6
O16K Kokwok River B 6.00 307 P Pn 10 17 31.1 -0.6
baz=121,SNR=40
CTG Chitna Glacier 6.02 36 P Pn 10 17 32.9 +0.7
baz=222
CTGM Chitina Glacie 6.03 36 Pn 10 17 32.9 +0.7
M20K Styx River 6.04 339 P Pn 10 17 31.6 -0.8
baz=156,SNR=26
N17K Nushagak Hills 6.15 317 Pn 10 17 32.5 -1.3
N17K Nushagak Hills 6.15 317 P Pn 10 17 32.8 -1.0
baz=131
CUT Chulitna 6.16 353 Pn 10 17 34.1 +0.2
CUT Chulitna 6.16 353 P Pn 10 17 34.1 +0.2
baz=172,SNR=11
WAT6 Susitna Watana 6.30 4 P Pn 10 17 36.5 +0.5
baz=185
M19K Big River Lodg 6.33 335 Pn 10 17 35.0 -1.3
M19K Big River Lodg 6.33 335 P Pn 10 17 35.7 -0.6
baz=151
HARP HAARP 6.36 15 Pn 10 17 37.7 +1.1
HARP HAARP 6.36 15 P Pn 10 17 37.9 +1.3
baz=198,SNR=47
CHNA Chernabura Isl 6.38 261 P Pn 10 17 34.6 -2.3
baz=74,SNR=27
M18K Stony River 6.38 327 Pn 10 17 35.6 -1.3
M18K Stony River 6.38 327 P Pn 10 17 35.9 -1.0
baz=142,SNR=22
CNBA Chernabura Isl 6.38 261 Pn 10 17 33.8 -3.1
WAT1 Susitna Watana 6.53 0 P Pn 10 17 39.6 +0.5
baz=181
WAT7 Susitna Watana 6.54 359 Pn 10 17 40.1 +0.9
O15K Ungalikthiuk R 6.63 300 Pn 10 17 39.7 -0.6
O15K Ungalikthiuk R 6.63 300 P Pn 10 17 39.8 -0.5
baz=112,SNR=35
O29M Mount Kennedy 6.64 49 P Pn 10 17 42.1 +1.4
baz=236,SNR=108
L19K White Mountain 6.68 334 Pn 10 17 40.2 -0.9
L19K White Mountain 6.68 334 P Pn 10 17 39.9 -1.3
baz=150,SNR=30
P29M Windy Craggy 6.69 56 P Pn 10 17 42.6 +1.4
baz=244
L20K Farewell, AK 6.73 339 P Pn 10 17 41.0 -0.8
baz=155
SDPT Sand Point 6.73 267 Pn Pn 10 17 39.9 -1.8
SDPT Sand Point 6.73 267 P Pn 10 17 40.1 -1.6
SDPT Sand Point 6.73 267 P Pn 10 17 39.7 -2.1
baz=78,SNR=36
M26K Nabesna, AK 6.75 23 P Pn 10 17 42.9 +0.8
baz=208
N16K Nishlik Lake 6.75 312 Pn 10 17 41.2 -0.8
N16K Nishlik Lake 6.75 312 P Pn 10 17 41.4 -0.6
baz=125,SNR=30
YUK8 Steele Glacier 6.79 39 P Pn 10 17 44.4 +1.6
baz=226,SNR=32
DHY Denali Highway 6.81 5 Pn 10 17 43.6 +0.6
DHY Denali Highway 6.81 5 P Pn 10 17 43.8 +0.8
baz=186,SNR=46
M17K Holitna River 6.83 322 Pn 10 17 42.1 -1.0
M17K Holitna River 6.83 322 P Pn 10 17 42.6 -0.5
baz=136
PPLA Purkeypile 6.84 346 Pn 10 17 43.7 +0.3
PPLA Purkeypile 6.84 346 P Pn 10 17 43.6 +0.3
baz=164
PAX Paxson 6.87 12 Pn 10 17 44.5 +0.8
PAX Paxson 6.87 12 P Pn 10 17 44.8 +1.1
baz=195,SNR=24
PAX Paxson 6.87 12 P Pn 10 17 44.5 +0.8
YUK3 Moose Creek 6.91 34 P Pn 10 17 46.3 +1.8
baz=221,SNR=18
S31K Pelican 6.96 71 P Pn 10 17 44.2 -0.7
baz=260,SNR=59
M27K Edge Creek, AK 6.98 27 P Pn 10 17 46.5 +1.3
baz=212,SNR=21
YUK6 Outpost Mounta 7.09 45 P Pn 10 17 49.1 +2.1
baz=233,SNR=56
MENT Mentasta 7.10 19 P Pn 10 17 48.7 +1.9
M16K Timber Creek 7.14 316 P Pn 10 17 46.9 -0.5
baz=128,SNR=17
N15K Kwethluk River 7.16 307 P Pn 10 17 47.5 -0.2
baz=119
TRF Thorofare Moun 7.20 354 P Pn 10 17 48.9 +0.5
baz=173,SNR=15
L18K Granite Mounta 7.21 329 P Pn 10 17 46.7 -1.5
baz=143
YUK4 Talbot Arm 7.23 42 P Pn 10 17 52.3 +3.5
baz=229,SNR=44
L26K Log Cabin Wild 7.24 20 P Pn 10 17 50.7 +1.9
baz=204,SNR=27
P30M Million Dollar 7.26 53 P Pn 10 17 50.6 +1.6
baz=242
PLBC Pleasant Camp 7.27 59 P Pn 10 17 50.5 +1.4
baz=249,SNR=89
BVCY Beaver Creek 7.29 30 Pn 10 17 49.9 +0.4
BVCY Beaver Creek 7.29 30 P Pn 10 17 51.0 +1.5
baz=216,SNR=28
R31K City Hall, Gus 7.29 68 Pn 10 17 49.0 -0.4
R31K City Hall, Gus 7.29 68 P Pn 10 17 49.6 +0.2
baz=258,SNR=6.4
CAST Castle Rocks 7.33 348 P Pn 10 17 49.6 -0.3
baz=165,SNR=18
O14K Tigyukauivet M 7.35 299 Pn 10 17 49.2 -1.0
O14K Tigyukauivet M 7.35 299 P Pn 10 17 50.0 -0.2
baz=110,SNR=22
HYT Haines Junctio 7.37 48 Pn Pn 10 17 52.2 +1.5
HYT Haines Junctio 7.37 48 P Pn 10 17 51.7 +1.1
baz=236,SNR=26
SIT Sitka 7.38 79 P Pn 10 17 48.4 -2.3
SIT Sitka 7.38 79 P Pn 10 17 48.6 -2.1
baz=269,SNR=17
PS1A Pavlof South-1 7.42 268 Pn 10 17 48.5 -2.7
MCK McKinley 7.44 359 Pn 10 17 51.8 +0.3
MCK McKinley 7.44 359 P Pn 10 17 52.5 +1.0
baz=179,SNR=24
MCK McKinley 7.44 359 P Pn 10 17 51.8 +0.3
PN7A Pavlof North-7 7.56 269 Pn 10 17 51.6 -1.6
K20K Telida 7.57 341 Pn 10 17 51.7 -1.5
K20K Telida 7.57 341 P Pn 10 17 51.9 -1.3
baz=157,SNR=17
L27K Beaver Creek, 7.59 24 Pn 10 17 53.7 +0.1
L27K Beaver Creek, 7.59 24 P Pn 10 17 54.2 +0.6
baz=210,SNR=15
TTA Tatalina 7.60 334 P Pn 10 17 52.6 -1.2
TTA Tatalina 7.60 334 P Pn 10 17 52.5 -1.2
baz=148
BCAR Beaver Creek A 7.61 24 Pn Pn 10 17 54.0 +0.2
L17K Donlin 7.64 324 Pn 10 17 52.9 -1.3
L17K Donlin 7.64 324 P Pn 10 17 53.4 -0.9
baz=136
K24K Donnelly Dome 7.65 10 Pn 10 17 55.0 +0.7
K24K Donnelly Dome 7.65 10 P Pn 10 17 55.7 +1.3
baz=192,SNR=20
M15K Kasigluk River 7.67 310 P Pn 10 17 53.4 -1.2
baz=121,SNR=16
RIDG Independent Ri 7.69 13 P Pn 10 17 55.9 +1.1
baz=196
L16K Owhat River 7.77 319 P Pn 10 17 55.2 -0.7
baz=130,SNR=13
SKAG Skagway 7.77 61 Pn 10 17 56.2 +0.2
SKAG Skagway 7.77 61 P Pn 10 17 57.3 +1.4
SKAG Skagway 7.77 61 P Pn 10 17 56.9 +1.0
baz=251,SNR=37
N14K Kuskokwak Cree 7.78 303 Pn 10 17 55.2 -0.9
N14K Kuskokwak Cree 7.78 303 P Pn 10 17 55.7 -0.4
baz=113,SNR=41
DT1 Dutton Round H 7.79 267 Pn 10 17 54.0 -2.3
S32K Killisnoo 7.80 76 P Pn 10 17 55.1 -1.3
baz=266,SNR=22
CHUM Lake Minchumin 7.81 348 Pn 10 17 55.9 -0.5
CHUM Lake Minchumin 7.81 348 P Pn 10 17 56.0 -0.4
baz=165,SNR=36
BWN Browne 7.89 357 Pn 10 17 56.8 -0.9
BPAW Bear Paw Mtn. 7.89 353 P Pn 10 17 57.8 0.0
baz=171,SNR=25
N30M Aishikik Lake 7.90 45 P Pn 10 17 59.4 +1.6
baz=234,SNR=36
R32K Eaglecrest 7.91 70 Pn 10 17 58.2 +0.3
R32K Eaglecrest 7.91 70 P Pn 10 17 58.0 +0.1
baz=261,SNR=9.8
O30N Mendenhall 7.94 51 P Pn 10 17 59.8 +1.4
baz=240,SNR=17
JIS Juneau Island 7.98 70 P Pn 10 17 59.4 +0.6
SCRK Sand Creek 8.03 15 Pn 10 17 59.5 -0.2
SCRK Sand Creek 8.03 15 P Pn 10 18 00.7 +1.1
baz=199
M29M Somme Creek 8.04 36 P Pn 10 18 01.6 +1.8
baz=224
K17K Iditarod 8.07 327 Pn 10 17 58.7 -1.3
K17K Iditarod 8.07 327 P Pn 10 17 58.8 -1.3
baz=139,SNR=14
HDA Harding Lake 8.16 5 P Pn 10 18 02.1 +0.8
baz=187,SNR=20
J18K Innoko River 8.23 334 Pn 10 18 01.1 -1.2
J18K Innoko River 8.23 334 P Pn 10 18 01.2 -1.2
baz=148,SNR=12
M14K Bethel 8.25 308 Pn 10 18 02.9 +0.4
M14K Bethel 8.25 308 P Pn 10 18 02.0 -0.5
baz=118,SNR=18
NEA2 Nenana 8.31 359 P Pn 10 18 03.2 -0.1
baz=179,SNR=48
J20K Nowitna River 8.34 343 P Pn 10 18 03.0 -0.7
baz=159,SNR=14
CCB Clear Creek Bu 8.37 3 Pn 10 18 03.8 -0.4
K27K Chicken 8.40 20 Pn 10 18 05.4 +0.8
K27K Chicken 8.40 20 P Pn 10 18 05.2 +0.6
baz=206
WHY Whitehorse 8.42 53 Pn Pn 10 18 06.7 +1.7
WHY Whitehorse 8.42 53 P Pn 10 18 06.8 +1.7
baz=244,SNR=86
N31M Braeburn, Yuko 8.44 47 Pn 10 18 06.2 +1.0
N31M Braeburn, Yuko 8.44 47 P Pn 10 18 06.6 +1.5
baz=237,SNR=35
J19K Poorman 8.44 339 Pn 10 18 03.7 -1.5
J19K Poorman 8.44 339 P Pn 10 18 04.0 -1.2
baz=153
J25K Salcha River, 8.48 10 P Pn 10 18 06.4 +0.6
baz=192,SNR=11
FALS False Pass 8.49 266 Pn 10 18 03.4 -2.5
FALS False Pass 8.49 266 P Pn 10 18 04.2 -1.6
FALS False Pass 8.49 266 P Pn 10 18 03.6 -2.2
baz=75,SNR=26
L15K Ungalak Mounta 8.52 314 P Pn 10 18 05.9 -0.3
baz=124,SNR=13
ILAR Eielson Array 8.53 5 Pn Pn 10 18 05.8 -0.6
comp=N,5.3nm,0.3s,baz=187,slow=13,SNR=31
ILAR Sn Sn 10 19 38.6 -3.9
comp=N,11nm,0.3s,baz=186,slow=22,SNR=8.0
J26L Joseph Creek 8.59 15 Pn 10 18 07.4 +0.2
J26L Joseph Creek 8.59 15 P Pn 10 18 08.2 +1.0
baz=199,SNR=26
P32M Atlin 8.59 61 Pn Pn 10 18 08.0 +0.7
P32M Atlin 8.59 61 P Pn 10 18 08.1 +0.7
baz=253,SNR=60
COLA College 8.60 2 Pn 10 18 07.7 +0.5
COLA College 8.60 2 P Pn 10 18 08.0 +0.8
COLA College 8.60 2 P Pn 10 18 07.8 +0.5
baz=183
COLA College 8.60 2 P Pn 10 18 07.7 +0.5
L29M L29M 8.63 34 Pn 10 18 09.2 +1.3
L29M L29M 8.63 34 P Pn 10 18 10.3 +2.4
baz=222,SNR=26
U33K Whale Pass 8.66 85 Pn Pn 10 18 06.4 -1.8
U33K Whale Pass 8.66 85 P Pn 10 18 06.5 -1.7
baz=277,SNR=11
T33K Petersburg 8.69 80 P Pn 10 18 07.6 -1.0
baz=272,SNR=7.3
ISLZ Isanotski Laza 8.69 266 Pn 10 18 06.4 -2.3
M30M Minto, Yukon 8.70 39 Pn 10 18 09.2 +0.4
M30M Minto, Yukon 8.70 39 P Pn 10 18 10.2 +1.4
baz=229,SNR=7.1
BRPK Brown Peak 8.73 265 Pn 10 18 06.3 -2.9
M13K Dall Lake 8.74 304 Pn 10 18 08.5 -0.7
M13K Dall Lake 8.74 304 P Pn 10 18 09.2 0.0
baz=113,SNR=24
CRAG Craig 8.77 89 P Pn 10 18 07.1 -2.6
CRAG Craig 8.77 89 P Pn 10 18 07.9 -1.8
baz=281
SSLN Shishaldin Nor 8.82 267 Pn 10 18 07.8 -2.6
L14K Kuka Creek 8.84 310 Pn Pn 10 18 10.3 -0.2
L14K Kuka Creek 8.84 310 P Pn 10 18 09.9 -0.7
baz=120,SNR=44
POKR Poker Flat Res 8.85 3 P Pn 10 18 11.5 +0.7
baz=184,SNR=15
SSLS Shishaldin Sou 8.85 266 Pn 10 18 06.5 -4.4
I23K Minto, Yukon-K 8.87 358 P Pn 10 18 11.4 +0.4
baz=178,SNR=42
K15K Wolf Creek Mou 8.89 318 P Pn 10 18 11.8 +0.4
baz=128,SNR=7.9
I20K Naaghedeneel 8.97 344 P Pn 10 18 12.3 -0.1
baz=159
DAWY Dawson 9.03 27 P Pn 10 18 13.9 +0.7
baz=214,SNR=16
I21K Tanana 9.04 351 P Pn 10 18 13.1 -0.3
baz=168,SNR=19
WRAK Wrangell Islan 9.05 83 P Pn 10 18 12.6 -1.0
baz=275,SNR=12
Q32M Nakina River 9.18 66 Pn 10 18 16.2 +0.8
Q32M Nakina River 9.18 66 P Pn 10 18 15.8 +0.3
baz=259,SNR=16
J16K Anvik River 9.21 324 Pn 10 18 14.4 -1.3
J16K Anvik River 9.21 324 P Pn 10 18 15.2 -0.5
baz=135,SNR=12
P33M Teslin, Yukon 9.21 58 Pn Pn 10 18 16.7 +1.0
P33M Teslin, Yukon 9.21 58 P Pn 10 18 16.6 +0.8
baz=251,SNR=126
EGAK Eagle 9.25 20 Pn 10 18 16.4 +0.2
EGAK Eagle 9.25 20 P Pn 10 18 17.6 +1.4
baz=207,SNR=12
PRP Porcupine Dome 9.36 8 P Pn 10 18 18.6 +0.8
baz=191,SNR=13
K29M Barlow Dome 9.36 32 P Pn 10 18 19.5 +1.6
baz=221
GCSA Galena City Sc 9.37 338 Pn 10 18 16.8 -1.0
GCSA Galena City Sc 9.37 338 P Pn 10 18 16.8 -1.0
baz=151,SNR=14
M31M Drury Creek, Y 9.38 45 P Pn 10 18 20.1 +2.1
baz=237,SNR=28
I26K Coal Creek Min 9.41 14 Pn 10 18 19.2 +0.8
I26K Coal Creek Min 9.41 14 P Pn 10 18 19.8 +1.4
baz=199
N32M Quiet Lake 9.43 53 Pn 10 18 19.9 +1.2
N32M Quiet Lake 9.43 53 P Pn 10 18 20.4 +1.7
baz=245
H24K Noodor Dome 9.56 2 Pn 10 18 21.3 +0.8
H24K Noodor Dome 9.56 2 P Pn 10 18 21.8 +1.2
baz=183,SNR=30
H21K Melozitna Rive 9.58 350 Pn 10 18 19.9 -0.9
H21K Melozitna Rive 9.58 350 P Pn 10 18 20.1 -0.8
baz=166,SNR=49
J29N Klondike Camp 9.64 28 P Pn 10 18 23.4 +1.7
baz=217,SNR=17
V35K Ketchikan 9.64 89 Pn 10 18 19.3 -2.4
V35K Ketchikan 9.64 89 P Pn 10 18 20.4 -1.3
baz=282
I17K Unalakleet 9.66 327 Pn 10 18 20.3 -1.6
I17K Unalakleet 9.66 327 P Pn 10 18 21.2 -0.7
baz=137,SNR=8.9
S34M Telegraph Cree 9.67 73 P Pn 10 18 23.1 +1.2
baz=267,SNR=18
H20K Anotleneega Mo 9.69 344 Pn 10 18 21.3 -0.9
H20K Anotleneega Mo 9.69 344 P Pn 10 18 22.4 +0.2
baz=159
MAYO Mayo, Yukon 9.69 36 P Pn 10 18 24.3 +2.0
baz=226,SNR=14
H22K Ishtalitna Cre 9.70 353 P Pn 10 18 23.5 +1.1
baz=171,SNR=8.2
FARO Faro, Yukon 9.81 47 P Pn 10 18 25.9 +2.0
baz=239,SNR=21
R33M Jennings River 9.91 65 P Pn 10 18 26.7 +1.2
baz=259
I27K Kandik River 9.92 17 P Pn 10 18 27.0 +1.5
baz=203,SNR=18
J14K Nanvaranak Lak 9.92 317 P Pn 10 18 25.7 +0.3
baz=125,SNR=5.9
AKSA Akutan Strait 9.98 264 Pn 10 18 23.5 -2.7
H19K Roundabout Mou 9.98 341 P Pn 10 18 25.8 -0.4
baz=155
IMAR Indian Mountai 10.00 348 Pn Pn 10 18 25.8 -0.8
H18K Honhosa River 10.04 336 P Pn 10 18 26.3 -0.8
baz=148
AHB Akutan Harbor 10.05 264 Pn 10 18 24.4 -2.9
M11K Mekoryuk 10.07 301 P Pn 10 18 26.6 -0.9
baz=107
I28M Miner Creek 10.09 21 P Pn 10 18 29.1 +1.3
baz=209
T35M Bob Quinn 10.16 79 Pn Pn 10 18 29.3 +0.5
T35M Bob Quinn 10.16 79 P Pn 10 18 29.0 +0.3
baz=273,SNR=13
H17K Granite Mounta 10.24 332 P Pn 10 18 28.5 -1.3
baz=143,SNR=9.8
J30M Hart River 10.26 31 P Pn 10 18 31.4 +1.2
baz=222,SNR=11
DLBC Dease Lake 10.28 70 Pn Pn 10 18 31.1 +0.7
DLBC Dease Lake 10.28 70 P Pn 10 18 31.6 +1.1
baz=265,SNR=34
DLBC Dease Lake 10.28 70 Pn Pn 10 18 31.5 +1.1
comp=N,21nm,0.3s,baz=270,slow=7.1,SNR=91
DLBC Sn Sn 10 20 21.8 -3.8
comp=N,2.7nm,0.3s,baz=180,slow=20,SNR=1.1
comp=N,66nm,0.4s
I29M Ogilvie Camp, 10.37 25 P Pn 10 18 33.0 +1.5
baz=214,SNR=10
U35K Hyder 10.41 84 P Pn 10 18 32.0 -0.2
baz=279,SNR=18
G24K Hadweenzic Riv 10.44 3 Pn 10 18 33.2 +0.7
G24K Hadweenzic Riv 10.44 3 P Pn 10 18 33.2 +0.7
baz=184
G23K Bananza Creek 10.45 357 P Pn 10 18 33.6 +0.9
baz=176
G21K Allakaket 10.49 349 P Pn 10 18 34.1 +0.9
baz=165
H27K Steamboat Moun 10.51 16 P Pn 10 18 34.8 +1.2
baz=202
UNV Unalaska Valle 10.52 264 P Pn 10 18 30.7 -3.0
UNV Unalaska Valle 10.52 264 P Pn 10 18 30.9 -2.8
baz=70,SNR=8.7
G25K Bearman Lake 10.55 6 P Pn 10 18 34.9 +0.8
baz=188
G19K Purcell Mounta 10.65 341 P Pn 10 18 35.6 +0.2
baz=154
RUBB Prince Rupert 10.67 93 Pn 10 18 34.6 -1.1
H16K Elim 10.68 327 P Pn 10 18 35.2 -0.6
baz=136
G22K Bettles 10.73 354 P Pn 10 18 37.3 +0.9
baz=172
I30M Mount Dempster 10.74 29 P Pn 10 18 38.2 +1.5
baz=219
G18K Tagagawik 10.74 338 P Pn 10 18 36.3 -0.4
baz=149
G17K Kiwalik Mounta 10.88 333 P Pn 10 18 38.5 -0.1
baz=143
G26K Porcupine Rive 10.91 10 P Pn 10 18 39.5 +0.5
baz=194
HG4B Hotspring 10.96 104 Pn Pn 10 18 38.5 -1.2
COLD Coldfoot 10.97 357 P Pn 10 18 40.4 +0.5
baz=176
H29M Whitestone 11.08 22 P Pn 10 18 41.6 +0.3
baz=211
WTLY Watson Lake, Y 11.13 62 Pn 10 18 43.1 +1.1
WTLY Watson Lake, Y 11.13 62 P Pn 10 18 43.4 +1.4
baz=258,SNR=10
F21K Alatna River 11.18 350 P Pn 10 18 42.6 0.0
baz=166
F24K Squaw Lake 11.25 2 P Pn 10 18 44.2 +0.6
baz=182
G16K Koyuk River 11.26 329 P Pn 10 18 43.0 -0.7
baz=138
F20K Avaraart Lake 11.27 346 P Pn 10 18 43.9 +0.1
baz=160
F19K Shaleruckik Mo 11.39 341 P Pn 10 18 45.7 +0.2
baz=154
F25K Christian Rive 11.40 6 P Pn 10 18 45.8 0.0
baz=189
G15K Niukluk 11.48 325 P Pn 10 18 46.9 +0.1
baz=133
EPYK Eagle Plains 11.57 25 P Pn 10 18 48.7 +0.7
baz=215,SNR=6.1
F26K Sheenjek River 11.61 9 P Pn 10 18 49.2 +0.6
baz=193
ANM Nome 11.64 322 P Pn 10 18 49.0 0.0
baz=128,SNR=6.7
G29M Pine Creek 11.75 21 P Pn 10 18 51.8 +1.4
baz=210
F17K Baldwin Pennin 11.78 335 P Pn 10 18 50.3 -0.6
baz=144
E23K Chandalar 11.79 358 P Pn 10 18 52.4 +1.2
baz=178
E19K Redstone River 11.87 344 P Pn 10 18 52.4 +0.3
baz=157
SPIA Saint Paul Isl 11.88 283 P Pn 10 18 51.8 -0.4
SPIA Saint Paul Isl 11.88 283 P Pn 10 18 50.8 -1.4
baz=86
E25K Arctic Village 11.93 6 P Pn 10 18 53.9 +0.9
baz=188,SNR=12
F28M Old Crow 12.05 16 P Pn 10 18 56.7 +2.2
baz=204,SNR=11
F15K North Star Dit 12.15 327 P Pn 10 18 55.8 -0.2
baz=134
NIKH Nikolski High 12.16 262 P Pn 10 18 54.3 -1.8
NIKH Nikolski High 12.16 262 P Pn 10 18 53.6 -2.5
baz=67
G30M tAoh Zraii Nji 12.19 24 P Pn 10 18 58.1 +1.7
baz=214
E27K Coleen River 12.34 12 P Pn 10 18 59.3 +0.8
baz=199
E20K Nigu River 12.47 347 P Pn 10 19 01.0 +0.7
baz=161
F14K Arctic Creek 12.53 324 P Pn 10 19 01.0 -0.1
baz=129
G31M Satah River 12.60 27 Pn Pn 10 19 03.1 +1.0
G31M Satah River 12.60 27 P Pn 10 19 03.5 +1.4
baz=219
BBB Bella Bella 12.69 100 Pn Pn 10 19 04.1 +0.8
comp=N,0.5nm,0.3s,baz=288,slow=9.3,SNR=7.3
BBB Sn Sn 10 21 17.7 -6.8
comp=N,1.6nm,0.3s,baz=30,slow=20,SNR=6.6
comp=N,32nm,0.9s
D22K Ayikyak River 12.74 353 Pn 10 19 05.5 +1.5
D22K Ayikyak River 12.74 353 P Pn 10 19 04.9 +0.9
baz=170
F30M Barrier River 12.80 23 P Pn 10 19 06.7 +1.8
baz=214
D24K Happy Valley 12.89 360 Pn 10 19 08.4 +2.5
D24K Happy Valley 12.89 360 P Pn 10 19 07.0 +1.1
baz=180
D20K Etivluk River 12.95 347 P Pn 10 19 07.0 +0.1
baz=160
D19K Kuna River 12.96 344 Pn 10 19 07.1 +0.1
D19K Kuna River 12.96 344 P Pn 10 19 06.7 -0.2
baz=156
E28M Babbage River 13.01 15 P Pn 10 19 09.6 +2.0
baz=203
E29M Blow River 13.07 18 P Pn 10 19 11.0 +2.5
baz=207
D25K Kavik River 13.10 4 P Pn 10 19 10.5 +1.6
baz=186
TNA Tin City 13.11 323 P Pn 10 19 09.5 +0.6
baz=126
F31M Tsiigehtchic 13.14 26 Pn Pn 10 19 10.3 +1.0
F31M Tsiigehtchic 13.14 26 P Pn 10 19 10.7 +1.4
baz=219
C21K Knifeblade Rid 13.18 350 P Pn 10 19 10.2 +0.3
baz=165
D17K Noatak River 13.22 335 P Pn 10 19 10.5 -0.1
baz=143
D27M Malcolm River 13.42 12 P Pn 10 19 14.0 +0.7
baz=199
C24K Franklin Bluff 13.46 360 P Pn 10 19 14.9 +1.2
baz=180
KOTAN Kotaneelee Air 13.48 63 P Pn 10 19 16.6 +2.5
baz=264,SNR=44
B21K Ikpikpuk River 13.62 351 Pn 10 19 14.8 -1.0
B21K Ikpikpuk River 13.62 351 P Pn 10 19 15.9 +0.1
baz=166
C18K Utukok River 13.62 340 Pn 10 19 15.6 -0.3
C18K Utukok River 13.62 340 P Pn 10 19 16.4 +0.4
baz=150
GAMB Gambell 13.66 313 P Pn 10 19 16.6 +0.2
baz=113
C19K Lookout Ridge 13.74 343 Pn 10 19 16.4 -1.3
C19K Lookout Ridge 13.74 343 P Pn 10 19 17.1 -0.5

baz=154
FLDN Fort Liard 13.78 63 P Pn 10 19 21.3 +3.2
baz=264,SNR=51
D28M Stokes Point 13.79 15 P Pn 10 19 22.5 +4.3
baz=204
INK Inuvik 13.87 24 P Pn 10 19 22.3 +3.0
baz=217,SNR=17
INK Inuvik 13.87 24 Pn Pn 10 19 20.3 +1.0
comp=N,0.7nm,0.3s,baz=206,slow=14,SNR=25
INK Sn Sn 10 21 47.4 -5.7
comp=N,0.5nm,0.3s,baz=237,slow=12,SNR=2.1
comp=N,54nm,1.0s
C17K DeLong Mountai 13.87 337 P Pn 10 19 20.3 +1.0
baz=145
C16K Lisburne Hills 14.21 334 Pn 10 19 23.1 -0.9
C16K Lisburne Hills 14.21 334 P Pn 10 19 24.4 +0.4
baz=140
B22K Teshekpuk Lake 14.23 353 Pn 10 19 23.7 -0.5
B22K Teshekpuk Lake 14.23 353 P Pn 10 19 24.8 +0.6
baz=169
B20K Meade River 14.24 348 Pn 10 19 22.8 -1.6
B20K Meade River 14.24 348 P Pn 10 19 23.3 -1.1
baz=161
B18K Kokolik River 14.35 341 P Pn 10 19 25.2 -0.7
baz=150
WRGLY Wrigley 14.38 51 P Pn 10 19 28.5 +2.2
baz=252,SNR=16
A19K Wainwright 14.96 344 P Pn 10 19 33.6 -0.6
baz=153
A22K Sinclair Lake 14.99 352 P Pn 10 19 32.8 -1.7
baz=166,SNR=25
ATKA Atka Island 15.44 265 P Pn 10 19 37.9 -2.7
A21K Barrow 15.44 350 P Pn 10 19 38.2 -2.3
baz=163,SNR=12
GSTR Great Sitkin T 16.52 267 Pn 10 19 51.4 -3.3
ADK Adak 16.96 267 Pn Pn 10 19 56.8 -3.3
ADK Adak 16.96 267 P Pn 10 19 57.5 -2.6
ADK Adak 16.96 267 P Pn 10 19 56.8 -3.3
ADK pmax pmax
comp=Z,140nm,0.7s
C36M Paulatuk 17.03 30 Pn 10 19 60.0 -0.9
C36M Paulatuk 17.03 30 P Pn 10 20 01.0 +0.1
baz=232,SNR=9.2
KIWB Kanaga Island 17.24 267 Pn Pn 10 20 01.6 -2.0
BRLDA Berland Lookou 17.90 84 P Pn 10 20 12.6 +0.7
BRLDA IAmb IAmb 10 20 17.1
comp=Z,114nm,1.0s
GNW Green Mountain 18.08 108 P Pn 10 20 14.2 +0.2
YKA Yellowknife Ar 18.23 56 P Pn 10 20 16.7 +0.9
comp=Z,1.8nm,0.3s,baz=266,slow=10,SNR=84
YKA S Sn 10 23 33.6 -5.4
comp=Z,0.6nm,0.6s,baz=279,slow=11,SNR=1.2
comp=Z,14nm,0.7s
A36M Sachs Harbour 18.51 23 P P 10 20 19.1 +0.1
A36M IAmb IAmb 10 20 21.9
comp=Z,98nm,0.8s
A36M Sachs Harbour 18.51 23 P P 10 20 19.8 +0.8
baz=224,SNR=18
LTY Liberty 19.42 106 P Pn 10 20 30.5 +0.1
LTY IAmb IAmb 10 20 33.9
comp=Z,109nm,1.1s
AMKA Amchitka 19.43 269 P 10 20 28.1 -1.0
MXC Moxie City 20.05 107 P P 10 20 37.4 +1.4
MXC IAmb IAmb 10 20 41.4
comp=Z,113nm,1.1s
E07A Sunnyside 20.29 107 P P 10 20 39.9 +1.1
E07A IAmb IAmb 10 20 44.2
comp=Z,74nm,0.9s
H04A Detroit Lake 20.32 114 P 10 20 40.2 +1.1
G05A Wamic 20.39 111 P Pn 10 20 41.3 -0.5
G05A IAmb IAmb 10 20 55.5
comp=Z,134nm,1.3s
I03D Drain, OR 20.45 117 P Pn 10 20 41.9 -0.6
I03D IAmb IAmb 10 20 56.4
comp=Z,138nm,1.5s
EDM Edmonton 20.46 84 P 10 20 41.3 +0.8
EDM Edmonton 20.46 84 P P 10 20 41.3 +0.8
EDM pmax pmax
comp=Z,399nm,2.0s
D08A Wollman Farm, 20.48 104 P P 10 20 42.0 +1.2
D08A IAmb IAmb 10 20 46.7
comp=Z,58nm,1.1s
HAWA Hanford 20.57 107 P 10 20 42.7 +1.0
NEW Newport 20.75 99 P 10 20 45.0 +1.4
NEW IAmb IAmb 10 20 58.7
comp=Z,87nm,1.4s
NEW Newport 20.75 99 P P 10 20 43.0 -0.7
baz=304
NEW Newport 20.75 99 P P 10 20 45.1 +1.4
comp=Z,16nm,0.9s,baz=305,slow=7.9,SNR=12
comp=Z,16nm,0.9s
E08A Dider Farm, El 20.76 106 P P 10 20 44.8 +1.1
I04A Tendick Farm, 20.84 116 P P 10 20 45.9 +1.2
I04A IAmb IAmb 10 20 47.7
comp=Z,49nm,1.1s
I05D Terrebonne, OR 21.00 113 P P 10 20 47.9 +1.5
I05D IAmb IAmb 10 20 51.8
comp=Z,134nm,1.5s
E09A Wood Farm, Sta 21.24 105 P P 10 20 50.0 +1.1
E09A IAmb IAmb 10 20 56.5
comp=Z,60nm,1.1s
PINE Pine Mountain 21.59 114 P P 10 20 54.0 +1.1
PINE IAmb IAmb 10 21 00.1
comp=Z,96nm,1.3s
G08A Pilot Rock 21.59 108 P P 10 20 54.4 +1.6
SHEM Shemya Is, Ala 21.73 276 P P 10 20 54.3 +0.2
comp=Z,60nm,0.8s,baz=54,slow=6.7,SNR=4.6
comp=Z,60nm,0.8s
J05D Fort Rock, OR 21.80 115 P P 10 20 57.3 +2.2
F10A Beach Ranch, E 22.07 105 P P 10 20 58.9 +0.9
F10A IAmb IAmb 10 21 13.0
comp=Z,62nm,1.1s
I07A Izee 22.12 111 P P 10 21 00.0 +1.5
YBH Yreka Blue Hor 22.23 120 P P 10 21 01.5 +1.8
comp=Z,5.5nm,0.7s,baz=322,slow=4.4,SNR=5.6
comp=Z,5.5nm,0.7s
K05A Summer Lake 22.38 116 P P 10 21 03.2 +1.8
K05A IAmb IAmb 10 21 18.3
comp=Z,92nm,1.2s
BMO Blue Mountains 22.76 107 P P 10 21 05.6 +0.3
BMO Blue Mountains 22.76 107 P P 10 21 05.6 +0.3
BMO pmax pmax
comp=Z,20nm,1.1s
J08A Circle Bar Ran 23.16 111 P P 10 21 10.8 +1.3
MSO Missoula 23.34 99 P P 10 21 10.5 -0.8
baz=306
WVOR Wild Horse Val 23.74 113 P P 10 21 16.3 +1.1
WVOR IAmb IAmb 10 21 29.5
comp=Z,124nm,2.0s
WVOR Wild Horse Val 23.74 113 P P 10 21 16.3 +1.1
WVOR pmax pmax
comp=Z,124nm,2.0s
EGMT Eagleton 24.97 93 P P 10 21 26.5 0.0
EGMT IAmb IAmb 10 21 28.9
comp=Z,64nm,1.2s
EGMT Eagleton 24.97 93 P P 10 21 25.6 -0.9
baz=304
HLID Hailey 25.17 106 P P 10 21 27.8 -0.7
baz=312
PNTR Pine Nut 25.78 120 P P 10 21 35.2 +1.2
FFC Flin Flon 26.08 74 P P 10 21 37.5 +1.1
FFC IAmb IAmb 10 21 52.9
comp=Z,28nm,0.9s
FFC Flin Flon 26.08 74 P P 10 21 37.5 +1.1
FFC pmax pmax
comp=Z,28nm,1.0s
ELK Elko 26.72 111 P P 10 21 44.2 +1.6
comp=Z,5.3nm,1.0s,baz=296,slow=7.2,SNR=5.1
comp=Z,5.3nm,1.0s
NVAR Mina Array Bea 26.92 119 P P 10 21 45.7 +1.3
comp=Z,9.2nm,1.0s,baz=313,slow=7.9,SNR=9.2
NVAR PcP PcP 10 25 04.6 -1.5
comp=Z,0.4nm,0.5s,baz=290,slow=3.7,SNR=2.1
comp=Z,9.2nm,1.0s
MDPB Devils Postpil 27.18 121 P P 10 21 46.5 -0.2
PDAR Pinedale Array 28.33 102 P P 10 21 57.9 +0.9
comp=Z,2.4nm,0.7s,baz=318,slow=4.9,SNR=22
comp=Z,2.4nm,0.7s
R11B Troy Canyon, C 28.33 115 P P 10 21 55.4 -1.5
baz=320
FCC Fort Churchill 28.71 62 P P 10 22 01.5 +1.6
FCC IAmb IAmb 10 22 14.5
comp=Z,46nm,1.8s
FCC Fort Churchill 28.71 62 P P 10 22 01.5 +1.6
FCC pmax pmax
comp=Z,46nm,1.8s

TPNV Topopah Spring 29.09 118 P P 10 22 04.0 +0.3
baz=322
SEY Seymchan 29.56 307 ⇓ eP P 10 22 08.0 +0.6
SEY pmax pmax
comp=Z,61nm,2.5s
SEY Seymchan 29.56 307 P P 10 22 07.1 -0.3
comp=Z,7.8nm,0.8s,baz=93,slow=9.1,SNR=7.4
comp=Z,7.8nm,0.8s
PET Petropavlovsk 30.03 286 eP P 10 22 11.8 +0.2
PET pmax pmax
comp=Z,22nm,1.3s
RSSD Black Hills 30.49 94 P P 10 22 16.2 +0.1
RSSD IAmb IAmb 10 22 18.2
comp=Z,10.0nm,0.7s
RSSD Black Hills 30.49 94 P P 10 22 17.3 +1.2
baz=309
RSSD Black Hills 30.49 94 P P 10 22 16.2 +0.1
RSSD pmax pmax
comp=Z,10.0nm,0.7s
PETK Petropavlovsk- 30.50 287 P P 10 22 15.1 -0.8
comp=Z,15nm,0.7s,baz=71,slow=12,SNR=20
comp=Z,15nm,0.7s
MDND Maddock 30.72 85 P P 10 22 19.0 +1.2
baz=304
O20A White River Ci 30.86 104 P P 10 22 20.4 +0.9
baz=315
MA2 Magadan 31.34 302 ⇓ eP P 10 22 24.2 +1.1
MA2 pmax pmax
comp=Z,15nm,0.9s
MA2 Magadan 31.34 302 P P 10 22 22.6 -0.5
comp=Z,10nm,0.7s,baz=51,slow=11,SNR=6.6
comp=Z,10nm,0.7s
ULM Lac du Bonnet 31.46 78 P P 10 22 24.1 -0.2
comp=Z,13nm,1.1s,baz=292,slow=9.0,SNR=6.1
comp=Z,13nm,1.1s
IRM Iron Mountain 31.86 120 P P 10 22 29.9 +1.9
baz=324
BLYC Blythe 32.49 120 P P 10 22 35.2 +1.7
BLYC IAmb IAmb 10 22 47.1
comp=Z,25nm,1.1s
AGMN Agassiz Nation 32.53 82 P P 10 22 35.1 +1.3
baz=304
SWSC Sam W. Stewart 32.54 122 P P 10 22 35.2 +1.2
baz=326
WUAZ Wupatki 32.66 114 P P 10 22 36.9 +1.7
baz=321
MVCO Mesa Verde 32.86 108 P P 10 22 38.2 +1.2
baz=318
SUSD Miller 33.12 90 P P 10 22 39.6 +0.6
baz=309
Q24A Divide 33.37 103 P P 10 22 42.8 +1.2
baz=316
OGNE Ogallala 33.70 97 P P 10 22 44.8 +0.7
baz=313
SDCO Great Sand Dun 34.06 105 P P 10 22 48.6 +1.1
baz=317
KSCO Kaye Shedlock' 34.72 100 P P 10 22 53.0 -0.1
baz=315
214A Organ Pipe Nat 34.78 119 P P 10 22 52.9 -0.7
baz=325
ECSD EROS Data Cent 34.87 89 P P 10 22 53.0 -1.2
baz=310
T25A Trinidad 35.10 104 P P 10 22 56.9 +0.5
baz=317
EYMN Ely 35.13 79 P P 10 22 56.2 -0.1
baz=305
BGNE Belgrade 35.54 93 P P 10 23 01.0 +1.1
baz=312
ANMO Albuquerque 35.65 109 P P 10 23 02.3 +1.1
baz=320
ANMO Albuquerque 35.65 109 ⇓ eP P 10 23 02.3 +1.1
TIXI Tiksi 35.83 328 ⇓ eP P 10 23 04.1 +2.0
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 35.83 328 P P 10 23 02.9 +0.8
comp=Z,4.7nm,0.7s,baz=92,slow=5.8,SNR=6.7
comp=Z,4.7nm,0.7s
SPMN Marine on St. 36.05 84 P P 10 23 03.7 -0.5
baz=308
CBKS Cedar Bluff 36.45 98 P P 10 23 08.5 +0.7
baz=315
NEEM North Greenlan 37.42 21 i P P 10 23 16.5 +0.5
NEEM IAmb IAmb 10 23 18.6
comp=Z,12nm,0.9s
KSU1 Kansas State U 37.98 94 P P 10 23 20.8 +0.1
baz=314
UPNV Upernavik 38.24 29 i P P 10 23 24.0 +1.5
UPNV IAmb IAmb 10 23 35.2
comp=Z,15nm,0.9s
AMTX Amarillo 38.25 104 P P 10 23 23.8 +0.6
baz=319
MSTX Muleshoe 38.36 106 P P 10 23 25.0 +0.9
baz=320
MNTX Cornudas Mount 38.74 111 P P 10 23 28.6 +1.4
baz=322
JFWS Jewell Farm 38.94 85 P P 10 23 28.5 -0.2
baz=311
YAK Yakutsk 39.61 313 eP P 10 23 34.5 +0.4
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,11nm,1.5s
YAK Yakutsk 39.61 313 P P 10 23 34.4 +0.3
comp=E,28nm,0.7s,baz=148,slow=1.5,SNR=5.1
comp=E,28nm,0.7s
WMOK Wichita Mounta 39.94 101 P P 10 23 38.1 +0.9
WMOK Wichita Mounta 39.94 101 P P 10 23 38.1 +0.9
TUL3 Leonard 40.72 97 P P 10 23 42.3 -1.3
baz=317
HDIL Hopedale 41.05 87 P P 10 23 46.5 +0.3
HDIL Hopedale 41.05 87 P P 10 23 47.1 +0.8
baz=313,SNR=9.7
ABTX Abilene, Hawle 41.07 104 P P 10 23 45.6 -1.0
baz=320
TXAR Lajitas Array 41.51 111 P P 10 23 50.8 +0.4
comp=E,2.0nm,0.9s,baz=327,slow=5.3,SNR=5.9
TXAR PcP PcP 10 25 47.4 -0.3
comp=E,0.4nm,0.5s,baz=338,slow=0.8,SNR=3.9
comp=E,2.0nm,0.9s
CCM Cadral Cave 41.70 91 P P 10 23 50.4 -1.3
baz=315
YSS Yuzh-Sakhalins 41.90 287 ⇑ eP P 10 23 55.3 +2.1
YSS pmax pmax
comp=Z,28nm,1.1s
SFIN Lafayette 42.39 85 P P 10 23 56.7 -0.6
baz=313
JCT Junction City 42.64 106 P P 10 23 59.7 +0.2
JCT Junction City 42.64 106 P P 10 23 58.8 -0.6
baz=322
JCT Junction City 42.64 106 P P 10 23 59.7 +0.2
JCT pmax pmax
comp=Z,11nm,1.3s
SUMG Summit 42.79 25 i P P 10 24 01.7 +1.1
SUMG IAmb IAmb 10 24 14.0
comp=Z,24nm,0.9s
SFJD Kangerlussuaq 42.87 35 i P P 10 24 10.5 +10
SFJD IAmb IAmb 10 24 14.7
comp=Z,18nm,1.0s
DRIO Del Rio 43.04 108 P P 10 24 03.5 +0.8
O48B Farmland 43.55 84 P P 10 24 03.1 -3.6
baz=314
435B Jarrell 43.60 104 P P 10 24 07.9 +0.7
baz=321
SCHQ Schefferville 43.69 56 P P 10 24 07.8 +0.2
comp=Z,1.6nm,0.5s,baz=307,slow=9.7,SNR=4.6
comp=Z,1.6nm,0.5s
NUUK Nuuk 44.18 39 i P P 10 24 20.0 +8.6
ACSO Alum Creek Sta 44.77 82 P P 10 24 16.1 -0.3
baz=314
ICESG Greenland Ices 44.77 29 i P P 10 24 17.2 +0.7
ICESG IAmb IAmb 10 24 28.9
comp=Z,21nm,0.8s
WVT Waverly 44.98 90 P P 10 24 17.5 -0.6
baz=316
ERPA Erie 45.12 78 P P 10 24 19.5 +0.4
baz=313
M53A WI Miller and 45.21 79 P P 10 24 19.3 -0.6
baz=313
OXF Oxford 45.28 93 P P 10 24 19.0 -1.6
baz=318
ZEA Zeya 45.41 304 eP P 10 24 21.2 -0.1
ZEA pmax pmax
comp=Z,10.0nm,1.0s
SPITS Spitsbergen Ar 45.45 4 P P 10 24 21.8 +0.4
comp=Z,7.4nm,0.8s,baz=346,slow=10,SNR=2.3
comp=Z,7.4nm,0.8s

P52A Corning 45.66 82 P P 10 24 23.5 0.0
baz=314
O53A New Philadelph 45.73 81 P P 10 24 24.4 +0.3
baz=314
KLR Kul'dur 46.13 297 ⇓ eP P 10 24 27.9 +0.8
KLR pmax pmax
comp=Z,42nm,1.8s
R53A Hurricane 46.67 83 P P 10 24 32.0 +0.5
R53A IAmb IAmb 10 24 46.8
comp=Z,20nm,1.0s
MCWV Mont Chateau 46.90 80 P P 10 24 34.9 +1.7
baz=314
TZTN Tazewell 47.06 86 P P 10 24 34.9 +0.3
baz=316
BINY Binghamton 47.23 75 P P 10 24 37.1 +1.3
BINY Binghamton 47.23 75 P P 10 24 35.2 -0.7
baz=314
SSPA Standing Stone 47.28 78 P P 10 24 35.6 -0.6
baz=314
SOEG Soedalen 47.55 27 i P P 10 24 40.4 +2.5
SOEG IAmb IAmb 10 24 43.8
comp=Z,12nm,0.9s
LRAL Lakeview Retre 47.72 92 P P 10 24 39.4 -0.3
baz=318
NRIK Noril'sk 48.21 337 P P 10 24 44.0 +1.0
NRIK IAmb IAmb 10 24 53.9
comp=Z,23nm,1.1s
NRIK Noril'sk 48.21 337 P P 10 24 44.0 +1.0
NRIK pmax pmax
comp=Z,23nm,1.1s
NRIK Noril'sk 48.21 337 P P 10 24 43.2 +0.1
comp=Z,4.9nm,0.4s,baz=54,slow=8.6,SNR=7.0
comp=Z,4.9nm,0.4s
H11N2 WAKE ISLAND Hy 49.20 241 T T 11 18 13.2
baz=30,slow=76
H11N3 WAKE ISLAND Hy 49.21 241 T T 11 18 21.1
baz=30,slow=76
H11N1 WAKE ISLAND Hy 49.22 241 T T 11 18 06.7
baz=30,slow=76
KMSC Kings Mountain 49.32 86 P P 10 24 51.0 -1.0
baz=317
USRK Ussuriysk Ar. 49.39 291 P P 10 24 51.8 -0.6
comp=Z,2.6nm,0.9s,baz=55,slow=7.8,SNR=5.0
comp=Z,2.6nm,0.9s
GOGA Godfrey 49.41 89 P P 10 24 52.8 +0.1
baz=319
H11S1 WAKE ISLAND Hy 50.34 240 T T 11 20 00.7
baz=31
H11S2 WAKE ISLAND Hy 50.35 240 T T 11 19 36.6
baz=31,slow=74
H11S3 WAKE ISLAND Hy 50.36 240 T T 11 19 50.0
baz=31,slow=74
MSHR Mys Shultsa 50.95 290 ⇓ eP P 10 25 03.3 -1.0
MSHR pmax pmax
comp=Z,31nm,1.3s
NHSC New Hope 51.47 87 P P 10 25 08.3 +0.1
baz=318
MJAR Matsushiro Arr 51.50 280 P P 10 25 08.6 0.0
comp=Z,3.4nm,0.7s,baz=350,slow=6.4,SNR=5.0
comp=Z,3.4nm,0.7s
MAJO Matsushiro 51.50 280 ⇓ eP P 10 25 09.1 +0.6
MAJO pmax pmax
comp=Z,23nm,1.1s
CN2 Changchun 53.01 295 P P 10 25 19.5 -0.1
CN2 pmax pmax
comp=Z,20nm,0.8s
ARCES ARCESS Array B 54.38 3 P P 10 25 29.1 -0.3
comp=Z,3.2nm,0.6s,baz=2.4,slow=6.2,SNR=19
comp=Z,3.2nm,0.6s
KSRS Korea Array 56.38 288 P P 10 25 43.5 -0.6
comp=Z,3.3nm,1.0s,baz=43,slow=7.0,SNR=5.5
comp=Z,3.3nm,1.0s
ULN Ulaanbaatar 58.58 310 P P 10 26 00.2 +0.5
ULN IAmb IAmb 10 26 01.3
comp=Z,9.4nm,0.9s
ULN Ulaanbaatar 58.58 310 ⇓ i P P 10 26 00.9 +1.2
ULN pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 58.88 311 P P 10 26 03.1 +1.3
SONM IAmb IAmb 10 26 03.9
comp=Z,14nm,1.1s
SONM Songino Array 58.88 311 P P 10 26 03.1 +1.3
SONM pmax pmax
comp=Z,14nm,1.1s
SONM Songino Array 58.88 311 P P 10 26 02.2 +0.4
comp=Z,10.0nm,0.9s,baz=45,slow=7.3,SNR=32
comp=Z,10.0nm,0.9s
ZAA0 Zalesovo Array 61.72 327 P P 10 26 21.6 +0.7
ZALV Zalesovo Beam 61.72 327 i P P 10 26 22.8 +1.9
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 61.72 327 P P 10 26 21.4 +0.5
comp=Z,4.2nm,0.6s,baz=28,slow=5.8,SNR=15
comp=Z,4.2nm,0.6s
NB2 NORSAR Subarra 61.91 11 P P 10 26 22.9 +0.7
comp=Z,2.2nm,0.7s,baz=346,slow=6.9
NOA NORSAR Array B 61.91 11 P P 10 26 22.1 -0.1
comp=Z,4.0nm,0.8s,baz=348,slow=6.7,SNR=11
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 62.01 302 eP P 10 26 25.3 +2.1
FINES FINESS Array B 62.51 3 i P P 10 26 27.0 +1.0
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 62.51 3 P P 10 26 26.1 0.0
comp=Z,8.4nm,0.6s,baz=6.4,slow=8.2,SNR=44
comp=Z,8.4nm,0.6s
KLMR Klimovskoe 62.99 356 eP P 10 26 27.2 -2.1
KLMR pmax pmax
comp=Z,43nm,1.4s
HFS Hagfors 63.05 10 P P 10 26 29.4 -0.3
comp=Z,2.2nm,0.6s,baz=352,slow=3.3,SNR=7.9
comp=Z,2.2nm,0.6s
HNS HongShan 63.20 298 ⇓ P P 10 26 32.1 +1.1
HNS pmax pmax
comp=Z,23nm,0.9s
KIRV Kirov 64.54 350 ⇓ eP P 10 26 39.8 +0.3
DGZ Jazzator, Alta 64.55 323 ⇑ eP P 10 26 41.3 +1.3
DGZ pmax pmax
comp=Z,4.0nm,1.0s
EKA Eskdalemuir Ar 65.22 21 P P 10 26 44.0 0.0
EKA Eskdalemuir Ar 65.22 21 P P 10 26 44.0 0.0
comp=Z,2.6nm,0.7s,baz=315,slow=6.0,SNR=5.3
comp=Z,2.6nm,0.7s
NJ2 Nanjing 65.29 291 eP P 10 26 42.9 -1.9
NJ2 pmax pmax
comp=Z,15nm,0.5s
ARU Arti 65.47 344 P P 10 26 46.5 +0.9
ARU Arti 65.47 344 c iP P 10 26 46.2 +0.6
ARU S S 10 35 31.3 +1.5
ARU SS SS 10 39 46.8 +4.8
ARU pmax pmax
comp=Z,143nm,3.8s
VSU Vasula 65.51 3 ⇑ eP P 10 26 46.7 +0.9
VSU pmax pmax
comp=Z,25nm,0.9s
KURK Kurchatov 66.38 329 P P 10 26 51.7 +0.2
KURK Kurchatov 66.38 329 P P 10 26 51.7 +0.2
KURK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 66.39 336 ⇓ eP P 10 26 51.6 0.0
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 66.40 335 P P 10 26 52.0 +0.4
comp=Z,4.0nm,0.6s,baz=21,slow=8.4,SNR=17
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 66.49 329 P P 10 26 52.0 -0.2
comp=Z,1.4nm,0.7s,baz=29,slow=6.5,SNR=6.5
comp=Z,1.4nm,0.7s
XAN Xi'an 68.70 299 P P 10 27 06.9 +0.3
XAN pmax pmax
comp=Z,27nm,1.0s
MK31 Makanchi Array 68.77 325 P P 10 27 06.7 -0.1
MK31 Makanchi Array 68.77 325 P P 10 27 06.7 -0.1
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 68.77 325 i P P 10 27 09.1 +2.3
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 68.77 325 P P 10 27 06.8 0.0
comp=Z,2.8nm,0.7s,baz=28,slow=5.5,SNR=15
comp=Z,2.8nm,0.7s
OBN Obninsk 68.85 357 ⇑ eP P 10 27 06.8 -0.2
OBN e 10 27 32.0
OBN pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 68.85 325 P P 10 27 08.8 +1.5
MAKZ Makanchi 68.85 325 P P 10 27 08.8 +1.5

MAKZ pmax pmax
comp=Z,5.0nm,0.8s
KLNR Kaliningrad 69.06 7⇑ eP P 10 27 09.5 +1.1
KLNR pmax pmax
comp=Z,44nm,1.0s
WMQ Urumqi 69.54 320 *e*P P 10 27 18.0 +6.3
BELG Belogornoye 70.83 350⇑ *e*P **P 10 27 20.3 +1.1**
BELG pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 71.27 355 *e*P **P 10 27 21.4 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
MEM Membach 71.39 17 *d*P **P 10 27 24.4 +1.6**
BTNL Ternell 71.43 17 *d*P **P 10 27 24.3 +1.3**
BCLA Clavier 71.46 17 *d*P **P 10 27 23.9 +0.8**
BMRD Maredsous 71.48 18 *d*P **P 10 27 24.7 +1.5**
CLL Collm 71.67 12 *e*P **P 10 27 25.0 +0.6**
CLL Collm 71.67 12 *e*P **P 10 27 25.0 +0.6**
ABKAR Akbulak array 72.13 341 P **P 10 27 27.7 +0.4**
ABKAR IAmb IAmb 10 27 38.0
comp=Z,9.1nm,0.7s
BRG Berggiesshubel 72.21 11 *e*P **P 10 27 29.1 +1.5**
BRG Amp 10 27 30.0
comp=Z,12nm,1.1s
BRG Berggiesshubel 72.21 11 *e*P **P 10 27 29.1 +1.5**
BRG pmax pmax
comp=Z,12nm,1.1s
HSKC Hora Svate Kat 72.41 12 *e*P **P 10 27 30.2 +1.3**
VRH Novokhopyorsk 72.50 353 *e*P **P 10 27 29.3 -0.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 72.64 355 *e*P **P 10 27 32.3 +2.1**
VSR pmax pmax
comp=Z,30nm,0.7s
NKC Novy Kostel 72.66 13 *e*P **P 10 27 31.6 +1.2**
NKC *e*pP **pwP 10 27 36.9 -1.0**
NKC Novy Kostel 72.66 13 *e*P **P 10 27 31.6 +1.2**
NKC *e* 10 27 36.9
UPC Upice 72.78 10 *e*P **P 10 27 32.6 +1.5**
UPC Upice 72.78 10 *e*P **P 10 27 32.6 +1.5**
VORD Divnogorie 72.88 355 *e*P **P 10 27 31.1 -0.5**
VORD pmax pmax
comp=Z,20nm,0.7s
DPC Dobruska-Polom 72.97 10 *e*P **P 10 27 33.2 +0.9**
DPC Dobruska-Polom 72.97 10 *e*P **P 10 27 33.2 +0.9**
PRU Pruhonice 73.14 11 *e*P **P 10 27 33.3 +0.1**
PRU Pruhonice 73.14 11 *e*P **P 10 27 33.3 +0.1**
KRLC Kraliky 73.29 10 *e*P **P 10 27 35.6 +1.5**
KRLC Kraliky 73.29 10 *e*P **P 10 27 35.6 +1.5**
AKASG Malin Array Be 73.33 1 P **P 10 27 35.2 +0.9**
AKASG Malin Array Be 73.33 1 P **P 10 27 35.2 +0.9**
AKASG pmax pmax
comp=Z,3.0nm,1.1s
AKASG Malin Array Be 73.33 1 P **P 10 27 34.6 +0.3**
comp=Z,11nm,0.6s,baz=360,slow=5.8,SNR=39
comp=Z,11nm,0.6s
AKBB Malin Array Si 73.33 1 P **P 10 27 34.7 +0.4**
AKBB Malin Array Si 73.33 1⇓ *e*P **P 10 27 34.8 +0.5**
AKBB pmax pmax
comp=Z,16nm,0.9s
KIEV Kiev 73.34 1⇑ P **P 10 27 35.1 +0.8**
KIEV Kiev 73.34 1 P **P 10 27 34.2 -0.1**
KIEV Kiev 73.34 1⇑ P **P 10 27 35.1 +0.8**
ZVC Zvikov 73.65 12 *e*P **P 10 27 37.3 +1.1**
MORC Moravsky Berou 73.65 9⇑ P **P 10 27 37.3 +1.0**
MORC Moravsky Berou 73.65 9 *e*P **P 10 27 37.3 +1.0**
MORC Moravsky Berou 73.65 9⇑ P **P 10 27 37.3 +1.0**
KHC Kasperske Hory 73.88 12 *e*P **P 10 27 38.8 +1.2**
KHC *e*pP **pwP 10 27 43.3 -1.8**
KHC Kasperske Hory 73.88 12 *e*P **P 10 27 38.8 +1.2**
KHC *e* 10 27 43.3
VRAC Vranov 74.03 10 *e*P **P 10 27 39.1 +0.6**
MAUC Maruska 74.08 9 *e*P **P 10 27 40.7 +1.9**
GERES GERESS Array B 74.18 12 P **P 10 27 40.2 +0.8**
comp=Z,1.7nm,0.5s,baz=350,slow=6.8,SNR=6.2
comp=Z,1.7nm,0.5s
KRUC Moravsky 74.25 10 *e*P **P 10 27 39.7 -0.1**
LANS Liptovska Anna 74.44 8 *e*P **P 10 27 43.1 +2.2**
LANS Liptovska Anna 74.44 8 *e*P **P 10 27 43.1 +2.2**
JAVC Velka Javorina 74.57 9 *e*P **P 10 27 43.0 +1.3**
KOLS Kolonicke sedl 74.85 6 *e*P **P 10 27 45.9 +2.7**
KOLS Kolonicke sedl 74.85 6 *e*P **P 10 27 45.9 +2.7**
MODS Modra-Piesok 75.02 10 *e*P **P 10 27 46.1 +1.8**
MODS Modra-Piesok 75.02 10 *e*P **P 10 27 46.0 +1.8**
MODS *e* 10 30 45.9
VYHS Vyhne 75.04 9 *e*P **P 10 27 45.8 +1.5**
VYHS Vyhne 75.04 9 *e*P **P 10 27 45.8 +1.5**
VYHS *e* 10 30 43.8
RETA Reutte 75.14 14 *i*P **P 10 27 42.9 -2.1**
comp=Z,4.9nm,1.0s
RETA *i* PP **PP 10 30 32.5 +0.1**
comp=Z,18nm,1.7s
DAVA Damuels 75.21 15 *e*P **P 10 27 44.5 -1.1**
comp=Z,2.9nm,1.0s
DAVA *e*PP **PP 10 30 32.9 -0.2**
comp=Z,24nm,1.7s
BIOA Bad Ischl, Aus 75.31 12 *e*pP **P 10 27 47.3 +1.3**
comp=Z,2.5nm,0.5s
BIOA *i* PP **PP 10 30 33.2 -0.6**
comp=Z,31nm,1.8s
CONA Conrad Observa 75.32 11 *i* pP **P 10 27 47.7 +1.6**
comp=Z,6.2nm,0.8s
CONA *i* PP **PP 10 30 33.4 -0.5**
comp=Z,13nm,1.9s
MOTA Moosalm 75.33 14 *i* pP **P 10 27 47.7 +1.5**
comp=Z,5.1nm,1.0s
MOTA PP **PP 10 30 33.3 -0.7**
comp=Z,27nm,1.7s
WATA Walderalm 75.40 14 *i* pP **P 10 27 48.6 +2.0**
comp=Z,8.5nm,1.0s
WATA *e*PP **PP 10 30 34.1 -0.5**
comp=Z,9.8nm,1.2s
LESA Schwarzleotal 75.45 13 *i* pP **P 10 27 48.3 +1.5**
comp=Z,5.0nm,1.1s
LESA *i* PP **PP 10 30 33.4 -1.7**
comp=Z,22nm,1.5s
SQTA Sankt Quirin 75.46 14 *i* pP **P 10 27 48.7 +1.7**
comp=Z,16nm,1.5s
SQTA *e*PP **PP 10 30 31.9 -3.3**
comp=Z,31nm,1.7s
WTTA Wattenberg 75.48 14 *i* pP **P 10 27 48.6 +1.5**
comp=Z,13nm,1.2s
WTTA *e*PP **PP 10 30 34.1 -1.3**
comp=Z,31nm,2.0s
RONA Rosalia, Austr 75.59 10 *i* pP **P 10 27 49.4 +1.8**
comp=Z,3.7nm,0.9s
RONA *i* PP **PP 10 30 36.3 +0.1**
comp=Z,18nm,1.8s
FETA Feichten 75.59 14 *i* pP **P 10 27 49.4 +1.7**
comp=Z,7.0nm,1.1s
FETA *i* PP **PP 10 30 33.9 -2.4**
comp=Z,0.1nm,0.4s
KBA Koelnbreinsper 75.88 13 *i* pP **P 10 27 50.9 +1.5**
comp=Z,9.5nm,0.9s
KBA *i* PP **PP 10 30 36.3 -2.4**
comp=Z,28nm,1.7s
SORM Soroca 75.89 2⇓ P **P 10 27 49.8 +0.6**
SORM Soroca 75.89 2⇓ P **P 10 27 49.8 +0.6**
ARSA Arzberg 75.95 11 *i* pP **P 10 27 50.7 +1.1**
comp=Z,4.1nm,0.7s
ARSA *i* PP **PP 10 30 38.0 -1.2**
comp=Z,14nm,1.4s
ABTA Abfaltersbach 76.10 13 *i* pP **P 10 27 52.4 +1.9**
comp=Z,4.0nm,0.9s
ABTA *i* PP **PP 10 30 39.9 -0.6**
comp=Z,13nm,1.3s
BUR08 Bucovina Ar. S 76.28 4 P **P 10 27 53.2 +1.7**
BUR08 IAmb IAmb 10 29 01.2
comp=Z,22nm,1.6s
BURAR Bucovina Array 76.31 4⇑ P **P 10 27 53.1 +1.3**
BURAR Bucovina Array 76.31 4⇑ P **P 10 27 53.1 +1.3**
MYKA Terra Mystica 76.35 12 *i* pP **P 10 27 53.6 +1.6**
comp=Z,4.8nm,1.1s
MYKA *i* PP **PP 10 30 41.2 -1.4**
comp=Z,14nm,1.7s
SOKA Soboth 76.47 11 *i* pP **P 10 27 54.0 +1.3**
comp=Z,8.6nm,1.0s
SOKA *e*PP **PP 10 30 42.0 -1.6**
comp=Z,7.5nm,1.4s
OBKA Obir 76.58 12 *i* pP **P 10 27 54.5 +1.3**
comp=Z,11nm,0.8s
OBKA *i* PP **PP 10 30 44.6 +0.1**
comp=Z,16nm,1.8s
DRGR 77.01 6⇑ P **P 10 27 56.9 +1.2**
DRGR 77.01 6⇑ P **P 10 27 56.9 +1.2**

BIZ Bicaz 77.02 4⇑ P **P 10 27 57.6 +2.0**
BIZ Bicaz 77.02 4⇓ S S 10 37 29.9 -14
ODEU S **Sb 10 18 59.1 -0.3**
MARR Marisel-Cluj 77.14 6⇑ P **P 10 27 57.5 +1.0**
MORH Mrgy, Hungar 77.28 9⇓ P **P 10 27 58.3 +1.2**
SURR Surduc 78.00 7⇓ P **P 10 28 02.2 +1.0**
BZS Buzias 78.11 7⇑ P **P 10 28 02.9 +1.1**
BZS Buzias 78.11 7⇑ P **P 10 28 02.9 +1.1**
PLOR Plostina 78.12 3⇓ P **P 10 28 03.8 +1.9**
PLOR Plostina 78.12 3⇓ P **P 10 28 03.8 +1.9**
PZH PanZhiHua 78.40 300 P **P 10 28 03.6 -0.2**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.1s
GZR Gura Zlata 78.40 6⇓ P **P 10 28 04.2 +0.7**
GZR Gura Zlata 78.40 6⇓ S S 10 37 46.4 -12
GZR Gura Zlata 78.40 6⇓ P **P 10 28 04.2 +0.7**
MLR Muntele Rosu 78.46 4⇑ P **P 10 28 06.6 +2.7**
MLR Muntele Rosu 78.46 4⇑ P **P 10 28 06.6 +2.7**
CFR Carcaliu 78.84 2⇑ P **P 10 28 07.1 +1.4**
CFR Carcaliu 78.84 2⇑ P **P 10 28 07.1 +1.4**
KIV Kislovodsk 79.64 352 *e*P **P 10 28 11.3 +1.0**
KIV pmax pmax
comp=Z,23nm,1.0s
ESDC Sonseca Array 79.80 27 P **P 10 28 12.0 +0.8**
comp=Z,2.9nm,0.8s,baz=334,slow=5.2,SNR=12
comp=Z,2.9nm,0.8s
KBZ Khabaz 79.85 352 P **P 10 28 12.2 +0.9**
comp=Z,8.7nm,0.8s,baz=357,slow=2.5,SNR=11
comp=Z,8.7nm,0.8s
BOVS Bovan 80.09 7⇑ P **P 10 28 13.4 +0.8**
ZEI Tsey 80.69 351 *e*P P 10 28 23.9 +7.7
ZEI pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 84.30 358⇑ *e*P **P 10 28 37.3 +2.3**
BRTR Keskin Array B 84.31 358 P **P 10 28 36.0 +1.1**
comp=Z,2.5nm,0.8s,baz=346,slow=3.4,SNR=4.3
comp=Z,2.5nm,0.8s
CMAR Chiang Mai Arr 86.57 298 *i* P **P 10 28 46.7 +0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 86.57 298 P **P 10 28 46.4 -0.1**
comp=Z,2.8nm,0.6s,baz=15,slow=5.1,SNR=14
comp=Z,2.8nm,0.6s
QSPA South Pole Qui 146.11 180 PKPbc **PKPbc 10 35 41.3 -0.5**
comp=Z,7.9nm,0.7s,baz=65,slow=2.2,SNR=7.4
BOSA Boshof 151.97 11 PKPbc **PKPbc 10 35 57.6 -0.4**
comp=Z,3.3nm,0.7s,baz=315,slow=2.5,SNR=5.2

*IDC **23** 10:18:12.8±2.0,56°.87N×148°.98W,h0km,mb3.9/5, mbtmp3.9/6,Error ellipse: s-maj=105.0km s-min=19.7km az=30.0*
*NEIC **23** 10:18:15.7±1.6,56°.30N±0°.09×149°.91W±0°.08,h20km±8km, mb4.1/6,ML4.0/18,ML3.7(AEIC),Error ellipse: s-maj=13.1km s-min=6.4km az=171.0*
*AEIC **23** 10:18:16.6±4.3,56°.1N±0°.1×149°.7W±0°.1,h12km±7km, Error ellipse: s-maj=14.6km s-min=9.0km az=186.0*
ISC 23 10:18:13.5±1.0,56°.26N±0°.09×149°.93W±0°.05,h10km,n42, σ1§12/41,mb4.0/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.09**	**299**		**Pn**	**10 18 48.6**	**+0.1**
OHAK					**Sn**	**10 19 13.1**	**-1.4**
OHAK	**Old Harbor**	**2.09**	**299**	IAML		10 19 14.0	
	comp=N,882nm,0.7s						
KDAK	**Kodiak Island**	**2.10**	**317**		**Pn**	**10 18 49.7**	**+1.0**
KDAK				IAML		10 19 15.8	
	comp=N,912nm,0.3s						
KDAK				IAML		10 19 16.0	
	comp=N,1μm,0.3s						
KDAK	**Kodiak Island**	**2.10**	**317**		**Sn**	**10 19 14.5**	**-0.5**
KDAK	**Kodiak Island**	**2.10**	**317**	Pn	**Pn**	**10 18 49.9**	**+1.1**
	comp=N,46nm,0.2s,baz=329,slow=19,SNR=0.5						
KDAK				Sn	**Sn**	**10 19 14.7**	**-0.3**
	comp=N,182nm,0.3s,baz=28,slow=22,SNR=9.5						
SYI	**Shuyak Island**	**2.70**	**332**		**Pn**	**10 18 58.0**	**+1.0**
SYI	**Shuyak Island**	**2.70**	**332**	IAML		10 19 31.6	
	comp=N,640nm,0.5s						
SYI				IAML		10 19 32.9	
	comp=E,624nm,1.2s						
CNPM	**China Poot**	**3.35**	**348**		**Pn**	**10 19 06.0**	**+0.2**
CNPM					**Sn**	**10 19 45.1**	**-0.5**
CNPM	**China Poot**	**3.35**	**348**	IAML		10 19 47.0	
	comp=E,463nm,0.3s						
CNPM				IAML		10 19 48.6	
	comp=N,400nm,0.4s						
KAHG	**Katmai Hook Gl**	**3.35**	**314**		**Pn**	**10 19 07.7**	**+1.6**
BRSE	**Bradley Lake S**	**3.52**	**353**		**Pn**	**10 19 08.4**	**+0.2**
BRLK	**Bradley Lake**	**3.55**	**352**		**Pn**	**10 19 08.9**	**+0.2**
BRLK	**Bradley Lake**	**3.55**	**352**	IAML		10 19 52.4	
	comp=E,196nm,0.5s						
AU22	**Augustine Moun**	**3.62**	**331**		**Pn**	**10 19 10.6**	**+1.1**
AUL	**Augustine Lava**	**3.65**	**331**		**Pn**	**10 19 08.0**	**-1.9**
P19K	**Oil Pt**	**3.83**	**334**	Pn	**Pn**	**10 19 11.9**	**-0.6**
SEW	**Seward**	**3.86**	**4**		**Pn**	**10 19 12.5**	**-0.4**
P23K	**Montague Islan**	**3.98**	**19**		**Pn**	**10 19 13.3**	**-1.2**
P18K	**Big Mountain,**	**4.23**	**320**	Pn	**Pn**	**10 19 19.0**	**+1.0**
HIN	**Hinchinbrook I**	**4.52**	**22**	Pn	**Pn**	**10 19 22.4**	**+0.4**
HIN				IAML		10 20 13.8	
	comp=E,164nm,0.6s						
KAIM	**Kayak Island**	**4.69**	**36**	Pn	**Pn**	**10 19 24.4**	**0.0**
KAIM				IAML		10 21 45.5	
	comp=E,120nm,0.3s						
KLU	**Klutina**	**5.64**	**20**	Pn	**Pn**	**10 19 38.2**	**+0.8**
N25K	**Chitina, Valde**	**6.03**	**25**	Pn	**Pn**	**10 19 44.4**	**+1.7**
BCPM	**Bancas Point**	**6.59**	**52**	Pn	**Pn**	**10 19 51.1**	**+0.8**
O29M	**Mount Kennedy**	**7.22**	**51**	Pn	**Pn**	**10 19 58.3**	**-0.9**
P29M	**Windy Craggy**	**7.31**	**57**	Pn	**Pn**	**10 20 00.5**	**+0.2**
M29M	**Somme Creek**	**8.52**	**39**	Pn	**Pn**	**10 20 18.6**	**+1.8**
CLRS	**Cowichan Lake**	**17.29**	**105**	Pn	**Pn**	**10 22 15.1**	**+0.2**
CLRS				IAmb	IAmb	10 22 40.3	
	comp=Z,14nm,1.3s						
C36M	**Paulatuk**	**17.44**	**31**	P	**Pn**	**10 22 18.2**	**+1.7**
A36M	**Sachs Harbour**	**18.84**	**24**	P	**P**	**10 22 34.7**	**+1.6**
A36M				IAmb	IAmb	10 22 35.3	
	comp=Z,22nm,0.9s						
YKAB2	**New Yellowknif**	**18.85**	**56**	P	**P**	**10 22 32.5**	**-0.8**
BUCK	**Buck Mountain**	**20.88**	**114**	P	**P**	**10 22 55.9**	**+0.2**
H04A	**Detroit Lake**	**20.96**	**112**	P	**P**	**10 22 58.7**	**+2.3**
H04A				IAmb	IAmb	10 23 08.9	
	comp=Z,3.4nm,1.0s						
J01E	**Myrtle Point**	**21.16**	**117**	P	**P**	**10 22 59.2**	**+0.7**
J01E				IAmb	IAmb	10 23 15.3	
	comp=Z,15nm,1.1s						
D08A	**Wollman Farm,**	**21.16**	**103**	P	**P**	**10 22 58.4**	**-0.2**
EDM	**Edmonton**	**21.17**	**83**	P	**P**	**10 22 58.9**	**+0.2**
DBO	**Dodson Butte**	**21.53**	**116**	P	**P**	**10 23 04.1**	**+1.4**
NVAR	**Mina Array Bea**	**27.52**	**117**	P	**P**	**10 23 59.0**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=319,slow=9.5,SNR=1.8						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**29.02**	**100**	P	**P**	**10 24 11.6**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=320,slow=4.1,SNR=4.5						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**66.15**	**335**	P	**P**	**10 28 59.9**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=39,slow=9.3,SNR=2.4						
	comp=Z,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**66.17**	**329**	P	**P**	**10 28 59.5**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=32,slow=6.3,SNR=2.4						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**68.40**	**324**	P	**P**	**10 29 14.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=38,slow=7.6,SNR=2.6						
	comp=Z,0.7nm,0.5s						

*DNK **23** 10:18:16.8±0.6,63°.11N×21°.64E,h0km,ML3.6(UPP), Suspected explosion*
*UPP **23** 10:18:16.6±1.1,63°.12N×21°.65E,h6km±6km,ML3.6*
*HEL **23** 10:18:17.7±0.2,63°.17N×21°.60E,h0km,ML1.5,Explosion*
ISC 23 10:18:16.5±0.8,63°.15N±0°.02×21°.57E±0°.02,h0km,n26, σ0§64/45,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.52**	**102**	PG	**Pg**	**10 18 26.4**	**+0.1**
VAF				SG	**Sg**	**10 18 33.2**	**+0.2**
VAF				MSG		10 18 33.8	
	comp=Z,9.4nm,0.2s						
HUSU	**Husum**	**1.08**	**281**	P	**Pg**	**10 18 37.3**	**+0.1**
HUSU				S	**Sb**	**10 18 52.0**	**-0.5**
HUSU	**Husum**	**1.08**	**281**	P	**Pg**	**10 18 37.3**	**+0.1**
HUSU				S	**Sb**	**10 18 52.0**	**-0.5**
ODEU	**Stanfors**	**1.32**	**344**	P	**Pg**	**10 18 41.4**	**-0.3**
ODEU				S	**Sb**	**10 18 59.1**	**-0.3**
KPF	**Kankaanpaa**	**1.34**	**170**	PG	**Pb**	**10 18 42.5**	**0.0**
	baz=355						
KPF				SG	**Sb**	**10 19 00.2**	**0.0**
BURU	**Burvik**	**1.44**	**357**	P	**Pn**	**10 18 43.6**	**-0.2**
BURU				S	**Sn**	**10 19 03.4**	**+0.1**
BURU	**Burvik**	**1.44**	**357**	P	**Pn**	**10 18 43.6**	**-0.2**
BURU				S	**Sn**	**10 19 03.4**	**+0.1**
OBF8	**Ulkokalla**	**1.45**	**34**	PN	**Pg**	**10 18 44.1**	**-0.1**
OBF8				MSG		10 19 00.5	
	comp=Z,7.3nm,0.2s						
OBF8				SN	**Sn**	**10 19 03.6**	**0.0**
BREU	**Bredtraesk**	**1.53**	**300**	P	**Pb**	**10 18 45.5**	**-0.2**
BREU				S	**Sg**	**10 19 06.2**	**+0.6**
BREU	**Bredtraesk**	**1.53**	**300**	P	**Pb**	**10 18 45.5**	**-0.2**
BREU				S	**Sg**	**10 19 06.2**	**+0.6**
SVAU	**Svanoeiden**	**1.61**	**328**	P	**Pb**	**10 18 46.6**	**-0.4**
SVAU	**Svanoeiden**	**1.61**	**328**	P	**Pb**	**10 18 46.6**	**-0.4**
HEMU	**Hemsoen**	**1.69**	**255**	P	**Pn**	**10 18 47.1**	**0.0**
HEMU	**Hemsoen**	**1.69**	**255**	P	**Pn**	**10 18 47.1**	**0.0**
OBF0	**Syolatti, Pyha**	**1.80**	**40**	PG	**Pb**	**10 18 49.7**	**-0.5**
OBF0				MSG		10 19 10.6	
	comp=Z,3.6nm,0.2s						
OBF0				SN	**Sg**	**10 19 13.9**	**-0.2**
KEF	**Keuruu**	**1.82**	**121**	PG	**Pb**	**10 18 50.1**	**-0.4**
KEF				MSG		10 19 11.6	
	comp=Z,2.0nm,0.2s						
KEF				SG	**Sg**	**10 19 14.1**	**-0.7**
OUF	**Merijarvi**	**1.86**	**48**	PG	**Pb**	**10 18 50.7**	**-0.6**
OUF				MSG		10 19 12.4	
	comp=Z,2.6nm,0.2s						
OUF				SG	**Sg**	**10 19 15.6**	**-0.6**
RAF	**Rauma**	**2.14**	**177**	PG	**Pb**	**10 18 56.0**	**0.0**
	baz=359						
RAF				MSG		10 19 21.7	
	comp=Z,2.3nm,0.2s						
RAF				SG	**Sg**	**10 19 24.3**	**-0.8**
SUF	**Sumiainen**	**2.14**	**100**	PG	**Pb**	**10 18 55.5**	**-0.6**
SUF				MSG		10 19 20.7	
	comp=Z,4.7nm,0.2s						
SUF				SG	**Sb**	**10 19 23.8**	**+0.6**
OBF4	**Vikkela, Lumij**	**2.28**	**42**	PG	**Pn**	**10 18 56.7**	**+1.3**
OBF4				MSG		10 19 24.6	
	comp=Z,1.2nm,0.2s						
OBF4				SG	**Sb**	**10 19 27.0**	**-0.2**
KAF	**Kangasniemi**	**2.43**	**113**	PG	**Pb**	**10 18 59.8**	**-1.1**
KAF				MSG		10 19 29.2	
	comp=Z,5.4nm,0.2s						
KAF				SG	**Sb**	**10 19 31.8**	**+0.4**
FIA0	**FINESS Array S**	**2.72**	**127**	PN	**Pn**	**10 19 02.9**	**+1.6**
FIA0				MSG		10 19 37.8	
	comp=Z,0.7nm,0.2s						
FIA0				SB	**Sb**	**10 19 37.9**	**-1.8**
KALU	**Kalix**	**2.83**	**15**	SG	**Sb**	**10 19 42.8**	**0.0**
PAJU	**Pajala**	**3.94**	**9**	PN	**Pn**	**10 19 19.3**	**+1.1**
RNF	**Rovaniemi**	**3.95**	**27**	PN	**Pn**	**10 19 19.6**	**+1.3**
	baz=206						

*IDC **23** 10:19:40.4±1.2,56°.33N×149°.82W,h0km,mb3.8/12, mbtmp3.9/16,ML3.8/3,Error ellipse: s-maj=30.0km s-min=16.1km az=37.0*
*NEIC **23** 10:19:44.1±1.3,56°.46N±0°.09×149°.5W±0°.1,h19km±7km, ML3.6/14,ML3.5(AEIC),Error ellipse: s-maj=13.7km s-min=8.4km az=164.0*
*AEIC **23** 10:19:46.4±1.8,56°.39N±0°.09×149°.4W±0°.1,h8km±7km, Error ellipse: s-maj=13.2km s-min=8.5km az=165.0*
ISC 23 10:19:43.0±0.8,56°.51N±0°.09×149°.54W±0°.06,h10km,n48, σ1§00/46,mb4.0/12,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.09**	**309**		**Pn**	**10 20 18.6**	**+0.6**
KDAK	**Kodiak Island**	**2.09**	**309**		**Sn**	**10 20 43.9**	**-0.2**
KDAK	**Kodiak Island**	**2.09**	**309**	Pn	Pn	10 20 13.4	-4.7
	25nm,0.3s,baz=337,slow=18,SNR=0.7						
KDAK				Sn	**Sn**	**10 20 42.8**	**-1.3**
	28nm,0.3s,baz=205,slow=19,SNR=3.0						
OHAK	**Old Harbor**	**2.18**	**291**		**Pn**	**10 20 19.5**	**+0.3**
OHAK					**Sn**	**10 20 45.0**	**-1.3**
OHAK	**Old Harbor**	**2.18**	**291**	IAML		10 20 46.6	
	comp=N,292nm,0.2s						
SYI	**Shuyak Island**	**2.60**	**325**		**Pn**	**10 20 25.6**	**+0.6**
SYI					**Sn**	**10 20 57.0**	**+0.2**
SYI	**Shuyak Island**	**2.60**	**325**	IAML		10 21 01.0	
	comp=N,168nm,0.7s						
CNPM	**China Poot**	**3.15**	**344**		**Pn**	**10 20 33.7**	**+1.0**
CNPM					**Sn**	**10 21 09.9**	**-0.4**
CNPM	**China Poot**	**3.15**	**344**	IAML		10 21 13.0	
	comp=E,177nm,0.5s						
BRSE	**Bradley Lake S**	**3.30**	**349**		**Pn**	**10 20 35.0**	**+0.3**
BRLK	**Bradley Lake**	**3.34**	**348**		**Pn**	**10 20 35.9**	**+0.7**
BRLK	**Bradley Lake**	**3.34**	**348**	IAML		10 21 16.1	
	comp=E,149nm,0.6s						
BRLK				IAML		10 21 17.6	
	comp=N,132nm,0.6s						
Q23K	**Middleton Isla**	**3.38**	**29**		**Pn**	**10 20 35.7**	**0.0**
Q23K	**Middleton Isla**	**3.38**	**29**	IAML		10 22 41.5	
	comp=E,186nm,0.8s						
Q23K				IAML		10 22 44.5	
	comp=N,176nm,0.5s						
MID	**Middleton Isla**	**3.38**	**29**		**Pn**	**10 20 35.6**	**-0.2**
MID	**Middleton Isla**	**3.38**	**29**	IAML		10 22 44.5	
	comp=N,156nm,0.4s						
SEW	**Seward**	**3.60**	**1**		**Pn**	**10 20 38.8**	**+0.1**
P23K	**Montague Islan**	**3.67**	**17**		**Pn**	**10 20 39.8**	**0.0**
HIN	**Hinchinbrook I**	**4.21**	**21**	Pn	**Pn**	**10 20 48.0**	**+0.8**
KAIM	**Kayak Island**	**4.36**	**36**	Pn	**Pn**	**10 20 49.5**	**+0.3**
O18K	**Koktuh Hills**	**4.50**	**321**	Pn	**Pn**	**10 20 52.1**	**+0.9**
RAGM	**Ragged Mountai**	**4.65**	**31**	Pn	**Pn**	**10 20 54.3**	**+1.1**
BERG	**Berg Lake**	**4.95**	**36**	Pn	**Pn**	**10 20 58.0**	**+0.7**
SML	**Sawmill**	**5.35**	**6**	Pn	**Pn**	**10 21 04.0**	**+1.2**
GLB	**Gilahina Butte**	**5.76**	**29**	Pn	**Pn**	**10 21 10.4**	**+1.9**
CNBA	**Chernabura Isl**	**5.94**	**258**	Pn	**Pn**	**10 21 10.6**	**-0.2**
M27K	**Edge Creek, AK**	**7.04**	**30**	Pn	**Pn**	**10 21 25.9**	**-0.2**
NEA2	**Nenana**	**8.11**	**1**	Pn	**Pn**	**10 21 42.4**	**+1.8**
N30M	**Aishikik Lake**	**8.11**	**47**	Pn	**Pn**	**10 21 40.4**	**-0.4**
M29M	**Somme Creek**	**8.19**	**39**	Pn	**Pn**	**10 21 42.6**	**+0.9**
JIS	**Juneau Island**	**8.37**	**72**	Pn	**Pn**	**10 21 44.3**	**+0.1**
ILAR	**Eielson Array**	**8.39**	**8**	Pn	**Pn**	**10 21 43.5**	**-1.0**
	comp=N,0.8nm,0.3s,baz=190,slow=12,SNR=1.7						
ILAR				Sn	**Sn**	**10 23 15.7**	**-3.4**
	comp=N,0.9nm,0.3s,baz=92,slow=25,SNR=2.1						
	comp=N,3.4nm,0.4s						
J26L	**Joseph Creek**	**8.53**	**18**	Pn	**Pn**	**10 21 48.3**	**+1.7**
N31M	**Braeburn, Yuko**	**8.67**	**49**	Pn	**Pn**	**10 21 50.1**	**+1.8**
DLBC	**Dease Lake**	**10.68**	**71**	Pn	**Pn**	**10 22 16.8**	**+0.9**
	comp=N,1.2nm,0.3s,baz=250,slow=7.5,SNR=1.2						
	comp=N,12nm,0.8s						
YKA	**Yellowknife Ar**	**18.53**	**57**	P	**Pn**	**10 24 01.1**	**+1.7**
	comp=N,0.1nm,0.3s,baz=272,slow=12,SNR=3.0						
	comp=N,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**27.45**	**118**	P	**P**	**10 25 29.4**	**+0.3**
	comp=N,0.4nm,0.5s,baz=302,slow=8.4,SNR=1.6						
	comp=N,0.4nm,0.5s						
PDAR	**Pinedale Array**	**28.85**	**101**	P	**P**	**10 25 41.0**	**-0.6**
	comp=N,0.3nm,0.6s,baz=324,slow=5.7,SNR=3.6						
	comp=N,0.3nm,

AKASG	**Malin Array Be**	**73.15**	**1**	P		**P**		**10 31 12.9**	**-0.3**
	comp=N,1.2nm,0.6s,baz=1.0,slow=6.3,SNR=4.1								
	comp=N,1.2nm,0.6s								
GERES	**GERESS Array B**	**74.08**	**11**	P		**P**		**10 31 19.1**	**+0.1**
	comp=N,1.2nm,0.6s,baz=10,slow=7.0,SNR=4.0								
	comp=N,1.2nm,0.6s								

UPP ***23*** *10:21:12.8±1.2,64.27°N×23.79°E,h0km,ML4.0*
HEL ***23*** *10:21:12.6±0.1,64.23°N×23.84°E,h0km,ML1.5,Explosion*
DNK ***23*** *10:21:12.5±0.3,64.22°N×23.86°E,h0km,ML4.0(UPP),*
Suspected explosion
ISC 23 10:21:11.5±0.9, 64°21N±0.03×23°85E±0.03, h0km, n20, σ0§49/31, Finland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OBF8	**Ulkokalla**	**0.21**	**305**		*e*P		**Pg**	**10 21 16.1**	**+0.5**
OBF8					*e*S		**Sg**	**10 21 18.9**	**+0.6**
OBF0	**Syolatti, Pyha**	**0.34**	**30**		*e*P		**Pg**	**10 21 18.1**	**+0.2**
OBF0					*e*S		**Sg**	**10 21 22.3**	**+0.1**
OUF	**Merijarvi**	**0.42**	**67**		*e*P		**Pg**	**10 21 19.8**	**+0.4**
OUF					*e*S		**Sg**	**10 21 25.4**	**+0.6**
OBF4	**Vikkela, Lumij**	**0.81**	**41**		*e*P		**Pg**	**10 21 26.8**	**-0.2**
OBF4					*e*S		**Sg**	**10 21 37.4**	**-0.2**
BURU	**Burvik**	**1.14**	**290**		P		**Pg**	**10 21 33.1**	**-0.1**
BURU					S		**Sb**	**10 21 48.7**	**-0.6**
BURU	**Burvik**	**1.14**	**290**		P		**Pg**	**10 21 33.1**	**-0.1**
BURU					S		**Sb**	**10 21 48.7**	**-0.6**
OUL	**Oulu**	**1.25**	**44**		*e*P		**Pg**	**10 21 34.8**	**-0.5**
OUL					*e*S		**Sg**	**10 21 51.8**	**+0.4**
VAF	**Ylistaro**	**1.28**	**205**		*e*P		**Pn**	**10 21 37.0**	**+0.4**
ODEU	**Stanfors**	**1.38**	**280**		P		**Pb**	**10 21 37.7**	**-0.4**
ODEU					S		**Sb**	**10 21 56.0**	**-0.3**
ODEU	**Stanfors**	**1.38**	**280**		P		**Pb**	**10 21 37.7**	**-0.4**
ODEU					S		**Sb**	**10 21 56.0**	**-0.3**
SJUU	**Sjulsmark**	**1.62**	**325**		P		**Pb**	**10 21 41.5**	**-0.6**
SJUU					S		**Sn**	**10 22 02.7**	**0.0**
SJUU	**Sjulsmark**	**1.62**	**325**		P		**Pb**	**10 21 41.5**	**-0.6**
SJUU					S		**Sn**	**10 22 02.7**	**0.0**
KALU	**Kalix**	**1.67**	**353**		*e*P		**Pn**	**10 21 42.1**	**+0.2**
KALU					*e*S		**Sn**	**10 22 03.9**	**-0.1**
SUF	**Sumiainen**	**1.82**	**144**		*e*PG		**Pg**	**10 21 45.6**	**-0.6**
SUF					*e*SN		**Sg**	**10 22 10.9**	**+1.1**
SUF					MSN			10 22 12.6	
	comp=Z,1.6nm,0.1s								
SVAU	**Svanoeiden**	**1.88**	**281**		P		**Pb**	**10 21 46.2**	**-0.4**
SVAU	**Svanoeiden**	**1.88**	**281**		P		**Pb**	**10 21 46.2**	**-0.4**
TOF	**Tornio**	**1.89**	**6**		*e*PN		**Pn**	**10 21 45.7**	**+0.8**
TOF					*e*SN		**Sn**	**10 22 09.9**	**+0.5**
NIF	**Nilsia**	**1.94**	**113**		MSG			10 22 15.1	
	comp=Z,1.7nm,0.2s								
KEF	**Keuruu**	**2.10**	**167**		MSG			10 22 20.4	
	comp=Z,1.1nm,0.1s								
KAF	**Kangasniemi**	**2.38**	**151**		MSG			10 22 30.8	
	comp=Z,1.7nm,0.1s								

IDC ***23*** *10:21:31.7±0.7,56.05°N×149.79°W,h0km,mb4.3/25,*
mbtmp4.3/30,ML4.1/5,Error ellipse: s-maj=21.4km
s-min=11.3km az=34.0
MOS ***23*** *10:21:31.9±1.0,56.12°N×149.83°W,h10km,mb4.7/11,*
Error ellipse: s-maj=14.5km s-min=6.3km az=96.8
NEIC ***23*** *10:21:34.0±2.4,56.06°N±0.07°×149.84°W±0.09,h16km±1km,*
mb4.5/36,ML4.4/48,ML4.4(AEIC),Error ellipse:
s-maj=10.4km s-min=7.5km az=187.0
AEIC ***23*** *10:21:37.2±2.7,56.01°N±0.06°×149.82°W±0.09,h11km±4km,*
Error ellipse: s-maj=8.6km s-min=7.0km az=160.0
ISC 23 10:21:33.5±0.5, 56.10N±0.06°×149.75W±0.04, h10km, n410, σ1§15/408, mb4.4/51, 4C-8D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OHAK	**Old Harbor**	**2.25**	**301**				**Pn**	**10 22 09.6**	**-1.2**
OHAK							**Sn**	**10 22 35.7**	**-2.9**
OHAK	**Old Harbor**	**2.25**	**301**	P			**Pn**	**10 22 09.5**	**-1.3**
	baz=121								
OHAK				S			**Sn**	**10 22 35.3**	**-3.3**
	baz=121								
KDAK	**Kodiak Island**	**2.29**	**319**	Pn			**Pn**	**10 22 10.6**	**-0.7**
KDAK	**Kodiak Island**	**2.29**	**319**	Pn			**Pn**	**10 22 10.4**	**-0.9**
	100nm,0.3s,baz=148,slow=4.5,SNR=24								
KDAK				Sn			**Sn**	**10 22 37.0**	**-2.5**
	32nm,0.3s,baz=351,slow=21,SNR=7.7								
	268nm,0.3s								
SYI	**Shuyak Island**	**2.89**	**331**				**Pn**	**10 22 19.0**	**-0.6**
SYI							**Sn**	**10 22 52.8**	**-1.6**
Q20K	**Shuyak Island**	**2.89**	**331**	P			**Pn**	**10 22 19.5**	**-0.1**
	baz=151								
Q20K				S			**Sn**	**10 22 51.9**	**-2.5**
	baz=151								
CNPM	**China Poot**	**3.52**	**348**				**Pn**	**10 22 27.5**	**-0.8**
CNPM							**Sn**	**10 23 08.9**	**-1.1**
CNPM				IAML				10 23 11.4	
	comp=N,466nm,0.7s								
CNPM				IAML				10 23 11.5	
	comp=E,535nm,1.0s								
Q19K	**Cape Douglas,**	**3.53**	**325**				**Pn**	**10 22 28.6**	**+0.3**
Q19K	**Cape Douglas,**	**3.53**	**325**	P			**Pn**	**10 22 28.5**	**+0.1**
	baz=143								
KAHG	**Katmai Hook Gl**	**3.54**	**315**				**Pn**	**10 22 29.1**	**+0.6**
ACHA	**Angle Creek He**	**3.70**	**307**				**Pn**	**10 22 30.8**	**0.0**
HOM	**Homer**	**3.71**	**345**				**Pn**	**10 22 30.5**	**-0.2**
HOM							**Sn**	**10 23 13.7**	**-0.8**
HOM				IAML				10 23 22.8	
	comp=E,733nm,1.1s								
HOM				IAML				10 23 43.7	
	comp=N,918nm,1.0s								
HOM	**Homer**	**3.71**	**345**	S			**Sn**	**10 23 13.7**	**-0.8**
	baz=164								
BRLK	**Bradley Lake**	**3.72**	**351**				**Pn**	**10 22 29.6**	**-1.5**
BRLK				IAML				10 23 17.2	
	comp=N,429nm,1.2s								
BRLK				IAML				10 23 21.2	
	comp=E,465nm,1.2s								
ANCK	**Angle Creek**	**3.77**	**306**				**Pn**	**10 22 31.7**	**0.0**
KVTA	**Katmai Vly 10**	**3.78**	**309**				**Pn**	**10 22 31.7**	**-0.1**
Q23K	**Middleton Isla**	**3.80**	**27**	Pn			**Pn**	**10 22 31.5**	**-0.6**
Q23K				IAML				10 23 30.2	
	comp=E,337nm,0.9s								
Q23K	**Middleton Isla**	**3.80**	**27**	P			**Pn**	**10 22 31.4**	**-0.6**
	baz=210								
MID	**Middleton Isla**	**3.80**	**27**	Pn			**Pn**	**10 22 31.2**	**-0.9**
MID				IAML				10 23 16.4	
	comp=N,310nm,0.8s								
MID				IAML				10 23 26.7	
	comp=E,195nm,0.8s								
MID	**Middleton Isla**	**3.80**	**27**	P			**Pn**	**10 22 31.2**	**-0.9**
AUCH	**Augustine Cone**	**3.82**	**330**				**Pn**	**10 22 31.4**	**-1.0**
KAHC	**Katmai Hardscr**	**3.82**	**314**				**Pn**	**10 22 32.8**	**+0.3**
KAHC	**Katmai Hardscr**	**3.82**	**314**	P			**Pn**	**10 22 32.8**	**+0.3**
	baz=131								
PLK3	**Peulik 3**	**3.91**	**297**				**Pn**	**10 22 33.0**	**-0.7**
CNTC	**Contact Creek**	**3.98**	**306**				**Pn**	**10 22 34.5**	**-0.1**
Q17K	**Contact Creek**	**3.98**	**306**	P			**Pn**	**10 22 34.5**	**-0.1**
	baz=122								
P19K	**Oil Pt**	**4.01**	**334**				**Pn**	**10 22 33.8**	**-1.3**
P19K				IAML				10 23 28.6	
	comp=E,903nm,1.3s								
P19K	**Oil Pt**	**4.01**	**334**	P			**Pn**	**10 22 35.2**	**+0.1**
	baz=152								
SEW	**Seward**	**4.02**	**2**				**Pn**	**10 22 33.5**	**-1.5**
SEW	**Seward**	**4.02**	**2**	P			**Pn**	**10 22 34.9**	**-0.1**
	baz=183								
P23K	**Montague Islan**	**4.10**	**17**				**Pn**	**10 22 36.0**	**-0.2**
P23K	**Montague Islan**	**4.10**	**17**	P			**Pn**	**10 22 36.0**	**-0.2**
	baz=199								
PLK1	**Peulik 1**	**4.12**	**297**				**Pn**	**10 22 36.0**	**-0.5**
IVE	**Iliamna Volcan**	**4.29**	**338**				**Pn**	**10 22 39.0**	**0.0**
Q22K	**Cooper Landing**	**4.39**	**0**	Pn			**Pn**	**10 22 39.3**	**-0.9**
P18K	**Big Mountain,**	**4.41**	**321**				**Pn**	**10 22 40.1**	**-0.5**
P18K	**Big Mountain,**	**4.41**	**321**	P			**Pn**	**10 22 40.2**	**-0.3**
	baz=137								
Q16K	**King Salmon**	**4.54**	**308**				**Pn**	**10 22 41.8**	**-0.4**
Q16K	**King Salmon**	**4.54**	**308**	P			**Pn**	**10 22 41.8**	**-0.4**
	baz=123								
R16K	**Pilot Point**	**4.54**	**292**				**Pn**	**10 22 42.0**	**-0.2**
R16K				IAML				10 23 42.3	
	comp=E,625nm,1.5s								
R16K				IAML				10 25 03.6	
	comp=N,347nm,1.4s								
R16K	**Pilot Point**	**4.54**	**292**	P			**Pn**	**10 22 41.6**	**-0.6**
	baz=107								
HIN	**Hinchinbrook I**	**4.64**	**20**	Pn			**Pn**	**10 22 43.5**	**-0.1**
HIN				IAML				10 23 40.7	
	comp=E,526nm,1.3s								
HIN				IAML				10 23 52.5	
	comp=N,266nm,1.2s								
RSO	**Redoubt South**	**4.65**	**341**	Pn			**Pn**	**10 22 44.1**	**+0.2**
CAPN	**Captain Cook N**	**4.74**	**352**	Pn			**Pn**	**10 22 43.3**	**-1.6**
P17K	**Kvichak River**	**4.74**	**314**				**Pn**	**10 22 44.9**	**-0.1**
P17K	**Kvichak River**	**4.74**	**314**	P			**Pn**	**10 22 44.9**	**-0.1**
	baz=129								
O18K	**Koktuh Hills**	**4.75**	**325**				**Pn**	**10 22 43.3**	**-1.9**
O18K				IAML				10 23 42.0	
	comp=N,526nm,0.8s								
O18K				IAML				10 23 42.8	
	comp=E,288nm,0.8s								
O18K	**Koktuh Hills**	**4.75**	**325**	P			**Pn**	**10 22 44.6**	**-0.6**
	baz=141								
O19K	**Port Alsworth**	**4.76**	**331**	Pn			**Pn**	**10 22 43.8**	**-1.5**
O19K	**Port Alsworth**	**4.76**	**331**	P			**Pn**	**10 22 44.9**	**-0.4**
	baz=149								
KAIM	**Kayak Island**	**4.77**	**34**	Pn			**Pn**	**10 22 45.5**	**+0.1**
KAIM				IAML				10 23 43.3	
	comp=N,474nm,0.7s								
KAIM				IAML				10 23 51.4	
	comp=E,270nm,1.0s								
KAIM	**Kayak Island**	**4.77**	**34**	P			**Pn**	**10 22 45.3**	**-0.1**
	baz=218								
CHGN	**Chignik**	**4.84**	**276**				**Pn**	**10 22 44.1**	**-2.2**
CHGN				IAML				10 23 43.4	
	comp=E,422nm,0.6s								
CHGN				IAML				10 23 43.7	
	comp=N,488nm,0.6s								
EYAK	**Cordova Ski Ar**	**4.93**	**24**				**Pn**	**10 22 47.4**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.93**	**24**	P			**Pn**	**10 22 47.8**	**+0.2**
	baz=207								
FID	**Port Fidalgo**	**4.97**	**19**	Pn			**Pn**	**10 22 46.3**	**-1.9**
FID				IAML				10 23 42.1	
	comp=E,224nm,0.7s								
FID				IAML				10 23 42.4	
	comp=N,165nm,0.5s								
RC01	**Rabbit Creek A**	**5.00**	**0**				**Pn**	**10 22 47.7**	**-0.9**
RC01				IAML				10 23 47.7	
	comp=E,239nm,1.2s								
RC01				IAML				10 23 52.5	
	comp=N,154nm,0.9s								
FIS	**Fire Island**	**5.06**	**357**	Pn			**Pn**	**10 22 48.5**	**-0.9**
FIS				IAML				10 23 54.5	
	comp=N,412nm,0.5s								
RAGM	**Ragged Mountai**	**5.07**	**30**	Pn			**Pn**	**10 22 49.1**	**-0.4**
P16K	**Nushagak River**	**5.32**	**307**				**Pn**	**10 22 52.5**	**-0.4**
P16K	**Nushagak River**	**5.32**	**307**	P			**Pn**	**10 22 52.5**	**-0.4**
	baz=121								
N19K	**Bonanza Creek**	**5.34**	**334**				**Pn**	**10 22 51.6**	**-1.7**
N19K	**Bonanza Creek**	**5.34**	**334**	P			**Pn**	**10 22 52.7**	**-0.6**
	baz=151								
BERG	**Berg Lake**	**5.36**	**34**				**Pn**	**10 22 53.3**	**-0.2**
O17K	**Koliganek Bris**	**5.37**	**316**				**Pn**	**10 22 53.7**	**+0.1**
O17K	**Koliganek Bris**	**5.37**	**316**	P			**Pn**	**10 22 53.7**	**+0.1**
	baz=131								
KNK	**Knik Glacier**	**5.37**	**7**	Pn			**Pn**	**10 22 53.2**	**-0.4**
SUA	**Susitna One**	**5.40**	**355**	Pn			**Pn**	**10 22 53.3**	**-0.9**
SNH	**Sunshine Point**	**5.49**	**39**	Pn			**Pn**	**10 22 54.8**	**-0.5**
PMR	**Palmer**	**5.52**	**3**	Pn			**Pn**	**10 22 57.0**	**+1.4**
PMR	**Palmer**	**5.52**	**3**	P			**Pn**	**10 22 57.0**	**+1.4**
CYK	**Cape Yakataga**	**5.55**	**41**				**Pn**	**10 22 55.8**	**-0.3**
BMRM	**Bremner River**	**5.57**	**27**				**Pn**	**10 22 56.2**	**-0.3**
BMRM	**Bremner River**	**5.57**	**27**	P			**Pn**	**10 22 56.7**	**+0.3**
	baz=211								
N18K	**Kilae Creek**	**5.61**	**327**				**Pn**	**10 22 55.9**	**-1.0**
N18K	**Kilae Creek**	**5.61**	**327**	P			**Pn**	**10 22 56.1**	**-0.8**
	baz=143								
O16K	**Kokwok River B**	**5.66**	**312**	Pn			**Pn**	**10 22 57.5**	**-0.1**
O16K	**Kokwok River B**	**5.66**	**312**	P			**Pn**	**10 22 57.5**	**-0.1**
	baz=126								
GHO	**Glory Hole Cre**	**5.70**	**4**	Pn			**Pn**	**10 22 58.2**	**-0.1**
CHNA	**Chernabura Isl**	**5.74**	**261**	P			**Pn**	**10 22 56.1**	**-2.6**
	baz=74								
CNBA	**Chernabura Isl**	**5.74**	**261**				**Pn**	**10 22 56.1**	**-2.6**
KLU	**Klutina**	**5.76**	**19**	Pn			**Pn**	**10 22 59.8**	**+0.7**
SML	**Sawmill**	**5.77**	**7**	Pn			**Pn**	**10 22 59.4**	**+0.2**
SVW2	**Sparrevohn**	**5.86**	**331**				**Pn**	**10 22 59.0**	**-1.4**
SCM	**Sheep Creek Mo**	**5.88**	**11**	Pn			**Pn**	**10 22 59.5**	**-1.3**
SCM	**Sheep Creek Mo**	**5.88**	**11**	P			**Pn**	**10 22 59.5**	**-1.3**
N17K	**Nushagak Hills**	**5.92**	**322**				**Pn**	**10 23 00.9**	**-0.2**
N17K	**Nushagak Hills**	**5.92**	**322**	P			**Pn**	**10 23 00.9**	**-0.2**
	baz=136								
SKT	**Skwentna**	**5.97**	**352**	Pn			**Pn**	**10 23 00.2**	**-1.7**
M20K	**Styx River**	**6.05**	**345**	Pn			**Pn**	**10 23 02.4**	**-0.7**
VRDI	**Verde Repeater**	**6.10**	**30**	Pn			**Pn**	**10 23 03.3**	**-0.5**
SDPK	**Sand Point**	**6.11**	**267**	Pn			**Pn**	**10 22 59.1**	**-4.6**
N25K	**Chitina, Valde**	**6.13**	**24**	Pn			**Pn**	**10 23 03.8**	**-0.3**
GLB	**Gilahina Butte**	**6.18**	**28**	Pn			**Pn**	**10 23 04.8**	**0.0**
KIAG	**Kiagna River**	**6.19**	**36**				**Pn**	**10 23 05.4**	**+0.3**
O15K	**Ungalikthiuk R**	**6.22**	**304**				**Pn**	**10 23 05.0**	**-0.4**
O15K	**Ungalikthiuk R**	**6.22**	**304**	P			**Pn**	**10 23 04.9**	**-0.4**
	baz=116								
SAMH	**Samovar Hills**	**6.24**	**46**				**Pn**	**10 23 07.0**	**+1.4**
M18K	**Stony River**	**6.25**	**332**				**Pn**	**10 23 04.9**	**-0.9**
M18K	**Stony River**	**6.25**	**332**	P			**Pn**	**10 23 04.9**	**-0.9**
	baz=148								
M19K	**Big River Lodg**	**6.29**	**340**	Pn			**Pn**	**10 23 05.3**	**-1.0**
M24K	**Tolsona, Glenn**	**6.30**	**16**	Pn			**Pn**	**10 23 05.1**	**-1.3**
PCA	**Pinnacle**	**6.43**	**48**				**Pn**	**10 23 07.9**	**-0.3**
PINM	**Pinnacle**	**6.43**	**48**	P			**Pn**	**10 23 08.7**	**+0.5**
	baz=235								
N16K	**Nishlik Lake**	**6.46**	**316**				**Pn**	**10 23 09.0**	**+0.3**
N16K	**Nishlik Lake**	**6.46**	**316**	P			**Pn**	**10 23 09.0**	**+0.3**
	baz=130								
BARN	**Barnard Glacie**	**6.53**	**37**	Pn			**Pn**	**10 23 10.0**	**+0.3**
CTGM	**Chitina Glacie**	**6.57**	**39**	Pn			**Pn**	**10 23 10.6**	**+0.3**
PNL	**Peninsula**	**6.58**	**53**				**Pn**	**10 23 10.1**	**-0.1**
PNL	**Peninsula**	**6.58**	**53**	P			**Pn**	**10 23 10.1**	**-0.1**
	baz=241								
LOGN	**Logan Glacier**	**6.59**	**40**	Pn			**Pn**	**10 23 10.8**	**+0.2**
BCPM	**Bancas Point**	**6.62**	**50**				**Pn**	**10 23 10.7**	**0.0**
L19K	**White Mountain**	**6.64**	**339**	Pn			**Pn**	**10 23 09.3**	**-1.7**
M17K	**Holitna River**	**6.65**	**326**				**Pn**	**10 23 10.7**	**-0.5**
M17K	**Holitna River**	**6.65**	**326**	P			**Pn**	**10 23 11.2**	**+0.1**
	baz=140								
HARP	**HAARP**	**6.74**	**19**				**Pn**	**10 23 13.6**	**+1.1**
HARP	**HAARP**	**6.74**	**19**	P			**Pn**	**10 23 13.6**	**+1.1**
	baz=203								
N15K	**Kwethluk River**	**6.82**	**311**				**Pn**	**10 23 14.0**	**+0.4**
M16K	**Timber Creek**	**6.89**	**320**				**Pn**	**10 23 14.6**	**+0.1**
M16K	**Timber Creek**	**6.89**	**320**	P			**Pn**	**10 23 14.3**	**-0.2**
	baz=132								
O14K	**Tigyukauivet M**	**6.93**	**302**				**Pn**	**10 23 14.6**	**-0.4**
O14K	**Tigyukauivet M**	**6.93**	**302**	P			**Pn**	**10 23 14.4**	**-0.6**
	baz=113								
PN7A	**Pavlof North-7**	**6.94**	**270**				**Pn**	**10 23 14.0**	**-1.3**
L18K	**Granite Mounta**	**7.09**	**333**	Pn			**Pn**	**10 23 17.2**	**-0.1**
DHY	**Denali Highway**	**7.10**	**9**	Pn			**Pn**	**10 23 17.9**	**+0.4**
O29M	**Mount Kennedy**	**7.25**	**50**				**Pn**	**10 23 19.7**	**+0.2**
O29M	**Mount Kennedy**	**7.25**	**50**	P			**Pn**	**10 23 20.1**	**+0.6**
	baz=239								
P29M	**Windy Craggy**	**7.32**	**56**				**Pn**	**10 23 19.6**	**-0.8**
P29M	**Windy Craggy**	**7.32**	**56**	P			**Pn**	**10 23 20.0**	**-0.4**
	baz=246								
YUK2	**White River**	**7.33**	**35**				**Pn**	**10 23 21.7**	**+1.1**
RND	**Reindeer**	**7.34**	**3**	Pn			**Pn**	**10 23 20.2**	**-0.5**
RND	**Reindeer**	**7.34**	**3**	P			**Pn**	**10 23 20.3**	**-0.5**
YUK8	**Steele Glacier**	**7.35**	**41**				**Pn**	**10 23 22.3**	**+1.3**
YUK8	**Steele Glacier**	**7.35**	**41**	P			**Pn**	**10 23 22.3**	**+1.3**
	baz=229								
M15K	**Kasigluk River**	**7.36**	**313**				**Pn**	**10 23 20.9**	**0.0**
M15K	**Kasigluk River**	**7.36**	**313**	P			**Pn**	**10 23 20.9**	**0.0**
	baz=125								
YUK3	**Moose Creek**	**7.44**	**36**				**Pn**	**10 23 23.5**	**+1.3**
YUK3	**Moose Creek**	**7.44**	**36**	P			**Pn**	**10 23 23.5**	**+1.3**
	baz=224								
M27K	**Edge Creek, AK**	**7.46**	**30**	Pn			**Pn**	**10 23 21.2**	**-1.2**
L17K	**Donlin**	**7.47**	**328**				**Pn**	**10 23 22.0**	**-0.4**
L17K	**Donlin**	**7.47**	**328**	P			**Pn**	**10 23 22.0**	**-0.4**
	baz=141								
KTH	**Kantishna Hill**	**7.50**	**356**	Pn			**Pn**	**10 23 24.5**	**+1.6**
L16K	**Owhat River**	**7.54**	**322**	Pn			**Pn**	**10 23 22.9**	**-0.5**
L16K	**Owhat River**	**7.54**	**322**	P			**Pn**	**10 23 23.4**	**0.0**
	baz=135								
TTA	**Tatalina**	**7.55**	**338**	Pn			**Pn**	**10 23 21.6**	**-2.0**
TTA	**Tatalina**	**7.55**	**338**	P			**Pn**	**10 23 21.6**	**-2.0**
YUK7	**Dusty Glacier**	**7.55**	**49**				**Pn**	**10 23 24.6**	**+0.8**
K20K	**Telida**	**7.60**	**345**	Pn			**Pn**	**10 23 23.3**	**-0.9**
L26K	**Log Cabin Wild**	**7.67**	**22**	Pn			**Pn**	**10 23 22.7**	**-2.5**
BVCY	**Beaver Creek**	**7.79**	**32**				**Pn**	**10 23 27.9**	**+1.0**
BVCY	**Beaver Creek**	**7.79**	**32**	P			**Pn**	**10 23 27.9**	**+1.0**
	baz=220								
YUK4	**Talbot Arm**	**7.81**	**43**	P			**Pn**	**10 23 30.0**	**+2.7**
	baz=232								
M14K	**Bethel**	**7.92**	**311**				**Pn**	**10 23 27.1**	**-1.4**
M14K	**Bethel**	**7.92**	**311**	P			**Pn**	**10 23 27.8**	**-0.7**
	baz=122								
K17K	**Iditarod**	**7.93**	**330**				**Pn**	**10 23 28.6**	**-0.2**
YUK5	**Granite Creek**	**7.99**	**46**				**Pn**	**10 23 30.7**	**+1.0**
BPAW	**Bear Paw Mtn.**	**8.05**	**356**	Pn			**Pn**	**10 23 31.4**	**+1.0**
ISLZ	**Isanotski Laza**	**8.06**	**266**				**Pn**	**10 23 28.6**	**-2.0**
BCAR	**Beaver Creek A**	**8.06**	**27**	Pn			**Pn**	**10 23 30.5**	**-0.1**
ISNN	**Isanotski Nort**	**8.07**	**267**				**Pn**	**10 23 29.2**	**-1.5**
J18K	**Innoko River**	**8.17**	**337**	Pn			**Pn**	**10 23 30.9**	**-1.1**
SSLN	**Shishaldin Nor**	**8.20**	**267**				**Pn**	**10 23 30.9**	**-1.6**
SSLS	**Shishaldin Sou**	**8.23**	**266**				**Pn**	**10 23 31.0**	**-1.9**
M13K	**Dall Lake**	**8.37**	**307**				**Pn**	**10 23 34.9**	**+0.2**
J20K	**Nowinta River**	**8.39**	**347**	Pn			**Pn**	**10 23 33.8**	**-1.3**
SCRK	**Sand Creek**	**8.41**	**18**	Pn			**Pn**	**10 23 34.3**	**-1.1**
SKAG	**Skagway**	**8.41**	**60**	Pn			**Pn**	**10 23 34.4**	**-0.9**
WRH	**Wood River Hil**	**8.44**	**5**	Pn			**Pn**	**10 23 34.1**	**-1.6**
J19K	**Poorman**	**8.44**	**342**	Pn			**Pn**	**10 23 34.3**	**-1.5**
S32K	**Killisnoo**	**8.45**	**74**	Pn			**Pn**	**10 23 34.9**	**-0.9**
HDA	**Harding Lake**	**8.45**	**8**	Pn			**Pn**	**10 23 34.7**	**-1.2**
N30M	**Aishikik Lake**	**8.48**	**46**				**Pn**	**10 23 37.6**	**+1.2**
N30M	**Aishikik Lake**	**8.48**	**46**	P			**Pn**	**10 23 36.6**	**+0.2**
	baz=236								
L14K	**Kuka Creek**	**8.53**	**313**				**Pn**	**10 23 36.0**	**-0.8**
L14K	**Kuka Creek**	**8.53**	**313**	P			**Pn**	**10 23 36.8**	**0.0**
	baz=123								
R32K	**Eaglecrest**	**8.56**	**69**	Pn			**Pn**	**10 23 35.2**	**-2.2**
M29M	**Somme Creek**	**8.58**	**38**				**Pn**	**10 23 38.1**	**+0.3**
M29M	**Somme Creek**	**8.58**	**38**	P			**Pn**	**10 23 38.4**	**+0.6**
	baz=227								
JIS	**Juneau Island**	**8.63**	**69**	Pn			**Pn**	**10 23 38.3**	**0.0**
K15K	**Wolf Creek Mou**	**8.65**	**321**	Pn			**Pn**	**10 23 39.4**	**+0.7**
ILAR	**Eielson Array**	**8.81**	**8**	Pn			**Pn**	**10 23 37.4**	**-3.4**
	comp=N,0.8nm,0.3s,baz=191,slow=13,SNR=2.2								
ILAR							Sn	**Sn**	**10 25 14.8**	**-5.2**
	comp=N,0.8nm,0.3s,baz=21,slow=13,SNR=2.4								
	comp=N,1.6nm,0.3s								
MDM	**Murphy Dome**	**8.92**	**4**	Pn			**Pn**	**10 23 41.1**	**-1.2**
J26L	**Joseph Creek**	**8.96**	**17**	Pn			**Pn**	**10 23 44.8**	**+1.8**
N31M	**Braeburn, Yuko**	**9.03**	**48**	Pn			**Pn**	**10 23 45.0**	**+1.2**
J16K	**Anvik River**	**9.04**	**327**				**Pn**	**10 23 43.0**	**-0.9**
J16K	**Anvik River**	**9.04**	**327**	P			**Pn**	**10 23 43.4**	**-0.6**
	baz=138								
WHY	**Whitehorse**	**9.04**	**54**	Pn			**Pn**	**10 23 45.2**	**+1.1**
I23K	**Minto, Yukon-K**	**9.08**	**1**	Pn			**Pn**	**10 23 42.4**	**-2.1**
POKR	**Poker Plat Res**	**9.12**

NEW	Newport	21.32	98	P		P		10 26 21.1	+0.7
NEW	Newport	21.32	98	P		P		10 26 21.1	+0.7
NEW				pmax		pmax			
	comp=Z,9.0nm,1.0s								
NEW	Newport	21.32	98	P		P		10 26 19.9	-0.5
	comp=Z,3.6nm,0.9s,baz=284,slow=14,SNR=4.1								
	comp=Z,3.6nm,0.9s								
DBO	Dodson Butte	21.37	116	P		P		10 26 20.0	-1.0
DBO				IAmb		IAmb		10 26 25.3	
	comp=Z,17nm,1.1s								
I05D	Terrebonne, OR	21.48	111	P		P		10 26 22.4	+0.2
I05D				IAmb		IAmb		10 26 26.6	
	comp=Z,33nm,1.2s								
E09A	Wood Farm, Sta	21.79	103	P		P		10 26 25.6	+0.3
PINE	Pine Mountain	22.07	112	P		P		10 26 28.0	-0.6
PINE				IAmb		IAmb		10 26 38.5	
	comp=Z,12nm,0.9s								
G08A	Pilot Rock	22.11	106	P		P		10 26 28.8	-0.2
J05D	Fort Rock, OR	22.27	113	P		P		10 26 29.3	-1.5
J05D				IAmb		IAmb		10 26 42.6	
	comp=Z,13nm,1.0s								
F10A	Beach Ranch, E	22.62	103	P		P		10 26 34.3	-0.1
I07A	Izee	22.62	109	P		P		10 26 35.3	+0.8
I07A				IAmb		IAmb		10 26 54.0	
	comp=Z,10nm,1.2s								
K05A	Summer Lake	22.85	114	P		P		10 26 38.3	+1.4
KMRM	Mail Ridge	23.33	122	P		P		10 26 42.5	+0.8
J08A	Circle Bar Ran	23.66	109	P		P		10 26 45.0	0.0
J08A				IAmb		IAmb		10 27 05.0	
	comp=Z,17nm,1.4s								
PLID	Pearl Lake	23.85	103	P		P		10 26 47.6	+0.6
WVOR	Wild Horse Val	24.23	111	P		P		10 26 50.5	+0.1
WVOR	Wild Horse Val	24.23	111	P		P		10 26 50.5	+0.1
WVOR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ORV	Oroville	24.92	120	P		P		10 26 56.4	-0.1
ORV	Oroville	24.92	120	P		P		10 26 56.4	-0.1
MPK	Martis Peak	25.84	118	P		P		10 27 05.3	+0.1
PAHR	Pah Rah Range	25.85	117	P		P		10 27 05.1	0.0
EMB	Emerald Bay	26.05	119	P		P		10 27 05.4	-1.6
PNTR	Pine Nut	26.21	118	P		P		10 27 08.9	+0.4
PNTR				IAmb		IAmb		10 27 23.4	
	comp=Z,9.8nm,0.8s								
YERR	Yerington	26.47	117	P		P		10 27 12.5	+1.7
WAKR	Walker	26.74	118	P		P		10 27 13.6	+0.3
KVN	Kaiserville	26.99	116	P		P		10 27 15.4	-0.1
KVN	Kaiserville	26.99	116	P		P		10 27 15.4	-0.1
RYN	Ryan	27.10	117	P		P		10 27 17.1	+0.6
ELK	Elko	27.21	110	P		P		10 27 17.3	-0.3
	comp=Z,2.4nm,1.0s,baz=315,slow=16,SNR=5.8								
	comp=Z,2.4nm,1.0s								
NVAR	Mina Array Bea	27.36	117	P		P		10 27 19.3	+0.4
NVAR	Mina Array Bea	27.36	117	P		P		10 27 18.8	-0.2
	comp=Z,3.1nm,0.8s,baz=304,slow=9.0,SNR=15								
	comp=Z,3.1nm,0.8s								
IMW	Indian Meadow	27.39	100	P		P		10 27 19.7	+0.5
RES	Resolute Bay	27.84	28	P		P		10 27 23.8	+1.2
RES	Resolute Bay	27.84	28	P		P		10 27 23.8	+1.2
RES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
R11B	Troy Canyon, C	28.80	114	P		P		10 27 32.3	+0.6
BW06	Boulder Array	28.89	100	P		P		10 27 32.0	-0.5
PD31	Pinedale Array	28.89	100	P		P		10 27 32.0	-0.6
PDAR	Pinedale Array	28.89	100	P		P		10 27 31.9	-0.6
	comp=Z,0.7nm,0.6s,baz=317,slow=3.8,SNR=6.1								
	comp=Z,0.7nm,0.6s								
SEY	Seymchan	29.20	307	P		P		10 27 34.5	-0.3
	comp=Z,5.4nm,1.0s,baz=88,slow=10,SNR=5.6								
	comp=Z,5.4nm,1.0s								
FCC	Fort Churchill	29.35	61	P		P		10 27 36.2	+0.1
FCC	Fort Churchill	29.35	61	P		P		10 27 36.2	+0.1
TPNV	Topopah Spring	29.54	116	P		P		10 27 38.5	+0.3
TPNV	Topopah Spring	29.54	116	P		P		10 27 38.5	+0.3
PRN	Pahroc Range	29.79	114	P		P		10 27 40.3	-0.1
GWY	Greenwater Val	29.93	118	P		P		10 27 42.2	+0.6
MVU	Marysvale	30.45	109	P		P		10 27 48.0	+1.7
MSU	Marysvale	30.46	109	P		P		10 27 47.3	+0.9
MSU	Marysvale	30.46	109	P		P		10 27 47.3	+0.9
V12A	Nelson	31.20	116	P		P		10 27 53.8	+1.0
O20A	White River Ci	31.41	103	P		P		10 27 55.0	+0.2
Y14A	Wickenburg	33.54	116	P		P		10 28 14.0	+0.7
X16A	Lo Mia Camp, P	33.96	113	P		P		10 28 18.4	+1.3
X16A				IAmb		IAmb		10 28 18.8	
	comp=Z,2.5nm,0.7s								
TIXI	Tiksi	35.68	328	⇓ *e*P		P		10 28 32.1	+0.7
TIXI				pmax		pmax			
	comp=Z,12nm,1.6s								
TIXI	Tiksi	35.68	328	P		P		10 28 31.7	+0.3
	comp=Z,1.8nm,0.5s,baz=90,slow=9.3,SNR=4.0								
	comp=Z,1.8nm,0.5s								
NEEM	North Greenlan	37.84	21	*i* P		P		10 28 58.5	+8.5
NEEM				IAmb		IAmb		10 29 01.0	
	comp=Z,7.4nm,1.0s								
UPNV	Upernavik	38.72	28	*i* P		P		10 29 06.0	+8.8
UPNV				IAmb		IAmb		10 29 08.0	
	comp=Z,6.4nm,0.7s								
YAK	Yakutsk	39.31	313	P		P		10 29 02.4	+0.3
YAK	Yakutsk	39.31	313	⇓ *i* P		P		10 29 02.5	+0.4
YAK				pmax		pmax			
	comp=Z,25nm,0.8s								
YAK	Yakutsk	39.31	313	P		P		10 29 02.5	+0.4
	comp=Z,20nm,0.5s,baz=17,slow=5.3,SNR=4.4								
	comp=Z,20nm,0.5s								
VHRN	Van Horn	40.17	110	P		P		10 29 11.3	+1.5
R40A	Maddies Statio	41.57	90	P		P		10 29 20.3	-0.8
TX31	Lajitas Ar. Si	42.01	110	P		P		10 29 24.1	-0.8
TXAR	Lajitas Array	42.01	110	P		P		10 29 25.3	+0.4
TXAR	Lajitas Array	42.01	110	P		P		10 29 25.3	+0.4
TXAR	Lajitas Array	42.01	110	P		P		10 29 24.6	-0.3
	comp=Z,1.4nm,0.8s,baz=318,slow=6.5,SNR=9.4								
	comp=Z,1.4nm,0.8s								
OZNA	Ozona	42.12	106	P		P		10 29 25.9	+0.2
FW03	Perrin-Whitt E	42.16	101	P		P		10 29 25.8	-0.2
FW03				IAmb		IAmb		10 29 48.0	
	comp=Z,17nm,1.4s								
SUMG	Summit	43.24	24	P		P		10 29 34.9	+0.1
SUMG	Summit	43.24	24	P		P		10 29 34.9	+0.1
SUMG				pmax		pmax			
	comp=Z,19nm,1.0s								
SUMG	Summit	43.24	24	*i* P		P		10 29 37.0	+2.2
SUMG				IAmb		IAmb		10 29 45.9	
	comp=Z,9.0nm,0.7s								
DRIO	Del Rio	43.56	107	P		P		10 29 37.6	+0.2
DRIO				IAmb		IAmb		10 29 46.4	
	comp=Z,11nm,0.9s								
ZEA	Zeya	45.02	304	*e*P		P		10 29 49.7	+0.9
ICESG	Greenland Ices	45.26	28	*i* P		P		10 29 52.4	+1.4
ICESG				IAmb		IAmb		10 30 10.3	
	comp=Z,7.3nm,0.8s								
KLR	Kul'dur	45.67	296	⇑ *e*P		P		10 29 54.4	+0.4
KLR				pmax		pmax			
	comp=Z,19nm,1.7s								
W50A	Signal Mountai	47.68	88	P		P		10 30 10.1	+0.1
W50A				IAmb		IAmb		10 30 27.7	
	comp=Z,5.0nm,0.8s								
TZTN	Tazewell	47.69	85	P		P		10 30 10.8	+0.7
CPCT	Cooper Cave	47.94	87	P		P		10 30 11.4	-0.6
FPAL	Fort Paine	47.99	89	P		P		10 30 13.0	+0.6
FPAL				IAmb		IAmb		10 30 36.8	
	comp=Z,5.4nm,0.9s								
SOEG	Soedalen	48.02	26	*i* P		P		10 30 09.3	-2.8
SOEG				IAmb		IAmb		10 30 12.2	
	comp=Z,8.4nm,0.9s								
NRIK	Noril'sk	48.17	336	⇓ *i* P		P		10 30 14.5	+1.2
NRIK	Noril'sk	48.17	336	P		P		10 30 13.9	+0.7
	comp=Z,5.7nm,0.8s,baz=38,slow=5.5,SNR=7.6								
	comp=Z,5.7nm,0.8s								
H11N2	WAKE ISLAND Hy	48.56	240	T		T		11 23 07.1	
	baz=30								
H11N3	WAKE ISLAND Hy	48.57	240	T		T		11 23 09.6	
	baz=30								
H11N1	WAKE ISLAND Hy	48.58	240	T		T		11 23 04.0	
	baz=30								
H11S1	WAKE ISLAND Hy	49.70	239	T		T		11 24 33.4	
	baz=29								
H11S2	WAKE ISLAND Hy	49.72	239	T		T		11 24 36.3	
	baz=29								
H11S3	WAKE ISLAND Hy	49.72	239	T		T		11 24 28.4	
	baz=29								
CN2	Changchun	52.55	295	P		P		10 30 48.9	+2.1
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ARCES	ARCESS Array B	54.62	2	P		P		10 31 02.0	+0.4
	comp=Z,3.5nm,0.9s,baz=357,slow=7.3,SNR=4.6								
	comp=Z,3.5nm,0.9s								
ULN	Ulaanbaatar	58.25	310	⇓ *e*P		P		10 31 28.8	+0.9
SONM	Songino Array	58.55	310	P		P		10 31 29.8	-0.3
	comp=Z,3.0nm,0.9s,baz=42,slow=6.7,SNR=11								
	comp=Z,3.0nm,0.9s								
ZALV	Zalesovo Beam	61.57	327	*i* P		P		10 31 51.2	+0.8
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ZALV	Zalesovo Beam	61.57	327	P		P		10 31 50.2	-0.2
	comp=Z,3.1nm,0.8s,baz=33,slow=5.6,SNR=7.5								
	comp=Z,3.1nm,0.8s								
HHC	Hu-ho-hao-te	61.61	302	*e*P		P		10 31 52.6	+1.5
NB2	NORSAR Subarra	62.24	10	P		P		10 31 55.2	+0.3
	comp=Z,1.6nm,0.6s,baz=348,slow=6.5								
NOA	NORSAR Array B	62.24	10	P		P		10 31 54.6	-0.3
	comp=Z,1.5nm,0.8s,baz=349,slow=6.7,SNR=5.1								
	comp=Z,1.5nm,0.8s								
FINES	FINESS Array B	62.75	2	*i* P		P		10 32 00.7	+2.5
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
FINES	FINESS Array B	62.75	2	P		P		10 31 58.7	+0.5
	comp=Z,1.6nm,0.6s,baz=1.1,slow=9.5,SNR=5.5								
	comp=Z,1.6nm,0.6s								
HFS	Hagfors	63.37	9	P		P		10 32 03.5	+1.1
	comp=Z,0.8nm,0.5s,baz=48,slow=2.1,SNR=6.5								
	comp=Z,0.8nm,0.5s								
DGZ	Jazzator, Alta	64.36	323	⇑ *e*P		P		10 32 10.8	+1.6
NJ2	Nanjing	64.79	290	*e*P		P		10 32 12.5	+0.4
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
ARU	Arti	65.50	343	*d* P		P		10 32 17.0	+0.6
ARU				S		S		10 41 04.3	+3.6
ARU				SS		SS		10 45 11.8	-1.3
ARU				pmax		pmax			
	comp=Z,11nm,0.8s								
ARU	Arti	65.50	343	P		P		10 32 16.6	+0.3
	comp=Z,5.4nm,0.5s,baz=354,slow=4.4,SNR=7.7								
	comp=Z,5.4nm,0.5s								
KURK	Kurchatov	66.25	329	⇓ *e*P		P		10 32 21.7	+0.4
KURK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BRVK	Borovoye	66.33	335	P		P		10 32 21.8	0.0
BRVK	Borovoye	66.33	335	⇑ *e*P		P		10 32 22.0	+0.2
BVAR	Borovoye Array	66.33	335	P		P		10 32 21.0	-0.8
	comp=Z,4.5nm,0.7s,baz=38,slow=7.5,SNR=17								
	comp=Z,4.5nm,0.7s								
KURBB	Kurchatov Arra	66.36	329	P		P		10 32 20.9	-1.1
	comp=Z,1.8nm,0.9s,baz=29,slow=6.3,SNR=7.4								
	comp=Z,1.8nm,0.9s								
MK31	Makanchi Array	68.59	324	⇓ *e*P		P		10 32 35.7	-0.5
MKAR	Makanchi Array	68.59	324	P		P		10 32 36.3	+0.1
MKAR	Makanchi Array	68.59	324	P		P		10 32 36.3	+0.1
MKAR	Makanchi Array	68.59	324	P		P		10 32 34.7	-1.5
	comp=Z,2.3nm,0.8s,baz=46,slow=5.4,SNR=9.1								
	comp=Z,2.3nm,0.8s								
WMQ	Urumqi	69.31	319	*e*P		P		10 32 43.1	+2.3
BELG	Belogornoye	70.92	349	⇓ *e*P		P		10 32 50.9	+0.5
AKTO	Aktyubinsk	71.35	342	P		P		10 32 53.5	+0.4
	comp=Z,5.5nm,0.8s,baz=348,slow=4.2,SNR=10.0								
	comp=Z,5.5nm,0.8s								
CLL	Collm	72.01	11	*e*P		P		10 32 55.0	-2.0
CLL	Collm	72.01	11	*e*P		P		10 32 55.0	-2.0
ABKAR	Akbulak array	72.13	340	P		P		10 32 58.8	+1.0
BRG	Berggiesshuebel	72.54	11	*e*P		P		10 33 10.3	+10
BRG				pmax		pmax			
	comp=Z,22nm,1.4s								
AKASG	Malin Array Be	73.56	1	*i* P		P		10 33 07.9	+1.7
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AKASG	Malin Array Be	73.56	1	P		P		10 33 06.4	+0.2
	comp=Z,1.7nm,0.7s,baz=1.5,slow=5.9,SNR=5.5								
	comp=Z,1.7nm,0.7s								
MORC	Moravsky Berou	73.96	9	*e*P		P		10 33 10.2	+1.5
MORC				*e*				10 33 18.1	
VRAC	Vranov	74.34	9	*e*P		P		10 33 12.5	+1.6
VRAC				*e*				10 33 20.6	
GERES	GERESS Array B	74.51	11	P		P		10 33 12.7	+0.7
	comp=Z,0.8nm,0.6s,baz=340,slow=8.4,SNR=3.4								
	comp=Z,0.8nm,0.6s								
STHS	Stebnicka Huta	74.58	6	*e*P		P		10 33 13.4	+1.1
STHS	Stebnicka Huta	74.58	6	*e*P		P		10 33 13.4	+1.1
AAK	Ala-Archa	74.76	328	⇑ *e*P		P		10 33 13.3	-0.3
AAK				pmax		pmax			
	comp=Z,5.0nm,1.2s								
VYHS	Vyhne	75.34	8	*e*P		P		10 33 20.6	+4.0
VYHS	Vyhne	75.34	8	*e*P		P		10 33 20.6	+4.0
PZH	PanZhiHua	77.98	300	P		P		10 33 32.4	+0.4
PZH				pmax		pmax			
	comp=Z,8.0nm,0.9s								
PZH				pmax		pmax			
	comp=Z,100nm,4.7s								
ESDC	Sonseca Array	80.27	26	P		P		10 33 45.1	+0.8
	comp=Z,1.6nm,0.8s,baz=339,slow=5.1,SNR=4.5								
	comp=Z,1.6nm,0.8s								
GEYT	Alibeck	83.38	338	P		P		10 34 01.8	+1.1
	comp=Z,1.1nm,0.3s,baz=67,slow=11,SNR=2.4								
	comp=Z,1.1nm,0.3s								
CMAR	Chiang Mai Arr	86.13	298	P		P		10 34 14.1	-0.7
	comp=Z,0.6nm,0.4s,baz=4.1,slow=5.3,SNR=1.7								
	comp=Z,0.6nm,0.4s								
QSPA	South Pole Qui	145.89	180	PKPbc		PKPab		10 41 10.9	-1.2
	comp=Z,1.9nm,0.3s,baz=139,slow=0.6,SNR=4.6								

DJA 23 10:24:23.8±0.3, 9˚S±3˚×11˚E±˚, h10km, M4.4/14, mb4.3/1, MLv4.4/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	Wanagama	1.23	329	P	Pn	10 24 46.9	-0.1
UGM				S	Sb	10 25 02.1	-0.9
SJI	Sawahan	1.37	26	P	Pn	10 24 48.4	-0.6
SJI				S	Sb	10 25 05.6	-1.5
YOGI	Yogyakarta	1.43	323	P	Pn	10 24 49.6	-0.2
YOGI				S	Sn	10 25 08.0	-0.7
KRKI	Karangkates	1.51	58	P	Pn	10 24 49.6	-1.3
NGJI	Ngawi	1.62	11	P	Pg	10 24 54.5	-0.4
SMRI	Semarang	2.04	339	P	Pn	10 24 59.2	+1.0
GRJI	Gresik	2.42	33	P	Pn	10 25 03.7	+0.2
BLJI	Banyuglugur	2.70	63	P	Pn	10 25 07.8	+0.5
KPJI	Karang Pucung	2.74	306	P	Pn	10 25 09.4	+1.5
CMJI	Cimerak	2.93	294	P	Pn	10 25 09.8	-0.7
JAGI	Jajag, Banyuwa	3.00	81	P	Pn	10 25 10.8	-0.6
BYJI	Banyuwangi	3.25	77	P	Pn	10 25 15.3	+0.4
BBJI	Bungbulang	3.78	293	P	Pn	10 25 22.4	+0.1
CNJI	Cibinong	4.32	292	P	Pn	10 25 29.9	+0.3
TWSI	Taliwang, Sumb	5.66	88	P	Pn	10 25 48.4	+0.4
PLAI	Plampang	6.54	89	P	Pn	10 26 00.0	-0.1

*NEIC **23** 10:24:57.7±1.0, 56˚.17N±0˚.07×148˚.8W±0˚.1, h24km±8km, ML3.9/34, ML3.8(AEIC), Error ellipse: s-maj=10.8km s-min=8.8km az=155.0*

*AEIC **23** 10:25:00.5±1.0, 56˚.14N±0˚.10×148˚.8W±0˚.1, h12km±7km, Error ellipse: s-maj=13.9km s-min=8.7km az=182.0*

ISC 23 10:24:55.5±1.5, 56˚.19N±0˚.10×148˚.83W±0˚.07, h10km, n113, σ1§11/110, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.60	309		Pn	10 25 38.8	+1.3
KDAK				IAML		10 26 09.5	
	287nm,4.2s						
KDAK	Kodiak Island	2.60	309		Sn	10 26 07.2	-2.0
KDAK	Kodiak Island	2.60	309	S	Sn	10 26 07.2	-2.0
	baz=127						
OHAK	Old Harbor	2.67	295		Pn	10 25 39.3	+0.9
OHAK					Sn	10 26 08.7	-2.1
OHAK	Old Harbor	2.67	295	IAML		10 26 13.6	
	comp=N,242nm,3.8s						
OHAK	Old Harbor	2.67	295	P	Pn	10 25 39.3	+0.9
	baz=112						
OHAK				S	Sn	10 26 08.7	-2.1
	baz=112						
SYI	Shuyak Island	3.10	323		Pn	10 25 45.5	+1.2
SYI					Sn	10 26 21.0	-0.4
SYI	Shuyak Island	3.10	323	IAML		10 26 25.5	
	comp=E,315nm,4.5s						
Q20K	Shuyak Island	3.10	323	P	Pn	10 25 45.5	+1.1
	baz=140						
Q20K				S	Sn	10 26 21.0	-0.4
	baz=140						
Q23K	Middleton Isla	3.51	21		Pn	10 25 50.7	+0.7
Q23K	Middleton Isla	3.51	21	IAML		10 26 40.4	
	comp=N,172nm,1.3s						
Q23K				IAML		10 28 04.2	
	comp=E,135nm,1.4s						
Q23K	Middleton Isla	3.51	21	P	Pn	10 25 50.7	+0.7
	baz=203						
MID	Middleton Isla	3.51	21		Pn	10 25 50.4	+0.4
MID	Middleton Isla	3.51	21	IAML		10 26 30.4	
	comp=E,444nm,4.6s						
MID				IAML		10 26 40.4	
	comp=N,240nm,1.5s						
CNPM	China Poot	3.58	340		Pn	10 25 51.8	+0.8
CNPM					Sn	10 26 31.3	-2.1
BRSE	Bradley Lake S	3.70	345		Pn	10 25 53.5	+0.8
BRSE	Bradley Lake S	3.70	345	P	Pn	10 25 53.5	+0.8
	baz=163						
BRLK	Bradley Lake	3.75	344		Pn	10 25 54.0	+0.7
BRLK	Bradley Lake	3.75	344	IAML		10 26 42.5	
	comp=N,162nm,4.3s						
BRLK				IAML		10 26 53.7	
	comp=E,191nm,4.9s						
Q19K	Cape Douglas,	3.77	319		Pn	10 25 54.6	+0.9
Q19K					Sn	10 26 37.9	-0.3
Q19K	Cape Douglas,	3.77	319	IAML		10 26 40.9	
	comp=E,367nm,1.1s						
Q19K	Cape Douglas,	3.77	319	P	Pn	10 25 54.6	+0.9
	baz=135						
Q19K				S	Sn	10 26 37.9	-0.3
	baz=135						
HOM	Homer	3.79	338		Pn	10 25 55.1	+1.2
HOM	Homer	3.79	338	IAML		10 26 46.0	
	comp=N,328nm,0.7s						
HOM				IAML		10 26 46.2	
	comp=E,423nm,4.7s						
HOM	Homer	3.79	338	P	Pn	10 25 55.1	+1.2
	baz=155						
KAHG	Katmai Hook Gl	3.86	309		Pn	10 25 55.4	+0.4
P23K	Montague Islan	3.89	11		Pn	10 25 55.8	+0.5
P23K	Montague Islan	3.89	11	P	Pn	10 25 55.8	+0.5
	baz=191						
SEW	Seward	3.94	355		Pn	10 25 56.6	+0.7
SEW	Seward	3.94	355	P	Pn	10 25 56.6	+0.7
	baz=175						
AU22	Augustine Moun	4.00	325		Pn	10 25 58.3	+1.5
P19K	Oil Pt	4.19	328		Pn	10 26 01.0	+1.6
P19K	Oil Pt	4.19	328	P	Pn	10 26 01.0	+1.6
	baz=144						
HIN	Hinchinbrook I	4.39	15		Pn	10 26 02.8	+0.6
HIN	Hinchinbrook I	4.39	15	IAML		10 28 13.0	
	comp=N,109nm,4.4s						
KAIM	Kayak Island	4.42	30		Pn	10 26 03.3	+0.8
KAIM	Kayak Island	4.42	30	IAML		10 26 54.1	
	comp=N,127nm,0.4s						
KAIM	Kayak Island	4.42	30	P	Pn	10 26 03.3	+0.8
	baz=213						
IVE	Iliamna Volcan	4.43	332		Pn	10 26 03.6	+0.8
EYAK	Cordova Ski Ar	4.66	19		Pn	10 26 06.8	+0.9
EYAK	Cordova Ski Ar	4.66	19	P	Pn	10 26 06.8	+0.9
	baz=201						
P18K	Big Mountain,	4.69	316	Pn	Pn	10 26 08.1	+1.7
RED	Redoubt Volcan	4.72	336		Pn	10 26 07.1	+0.3
FID	Port Fidalgo	4.74	14		Pn	10 26 07.2	+0.4
FID	Port Fidalgo	4.74	14	IAML		10 27 04.0	
	comp=E,229nm,4.8s						
RAGM	Ragged Mountai	4.74	26	Pn	Pn	10 26 06.5	-0.5
RDWB	Redoubt West	4.80	336		Pn	10 26 08.4	+0.5
BERG	Berg Lake	5.01	31		Pn	10 26 11.4	+0.8
SNH	Sunshine Point	5.10	36	Pn	Pn	10 26 12.8	+0.8
SNH				IAML		10 27 09.3	
	comp=N,62nm,0.7s						
BMRM	Bremner River	5.28	23		Pn	10 26 14.8	+0.5
BMRM	Bremner River	5.28	23	P	Pn	10 26 14.9	+0.5
	baz=206						
CHGN	Chignik	5.35	275	Pn	Pn	10 26 15.3	0.0
CHGN				IAML		10 27 07.9	
	comp=E,63nm,1.3s						
CHGN				IAML		10 27 10.9	
	comp=N,33nm,0.9s						
SUA	Susitna One	5.38	350		Pn	10 26 16.8	+0.9
SUA	Susitna One	5.38	350	P	Pn	10 26 16.8	+0.9
	baz=168						
PMR	Palmer	5.42	358		Pn	10 26 17.3	+1.1
PMR	Palmer	5.42	358	P	Pn	10 26 17.3	+1.1
	baz=178						
N19K	Bonanza Creek	5.50	330		Pn	10 26 18.1	+0.6
N19K	Bonanza Creek	5.50	330	P	Pn	10 26 18.1	+0.6
	baz=145						
KLU	Klutina	5.53	15	Pn	Pn	10 26 17.4	-0.5
GHO	Glory Hole Cre	5.60	360	Pn	Pn	10 26 19.7	+0.9
SML	Sawmill	5.64	2		Pn	10 26 20.2	+0.8
SML	Sawmill	5.64	2	P	Pn	10 26 20.2	+0.8
	baz=183						
N18K	Kilae Creek	5.83	323	Pn	Pn	10 26 22.7	+0.8
GLB	Gilahina Butte	5.88	24	Pn	Pn	10 26 23.9	+1.3
PCA	Pinnacle	5.99	46		Pn	10 26 24.6	+0.4
PINM	Pinnacle	6.00	46	P	Pn	10 26 24.6	+0.4
	baz=232						
O16K	Kokwok River B	6.00	308	Pn	Pn	10 26 26.2	+2.0
PNL	Peninsula	6.12	51		Pn	10 26

mbtmp3.2/3,ML3.1/2,Error ellipse: s-maj=130.7km s-min=34.4km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**159**	Pn	Pn	10 28 31.4	-0.3
	0.1nm,0.3s,baz=337,slow=13,SNR=1.8						
WRA				Sn	Sn	10 30 55.4	-12
	0.2nm,0.3s,baz=87,slow=33,SNR=5.5						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**17.34**	**165**	P	Pn	10 29 16.2	+0.3
	0.1nm,0.3s,baz=348,slow=9.2,SNR=2.4						
ASAR				S	Sn	10 32 14.1	-16
	0.1nm,0.6s,baz=330,slow=27,SNR=1.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	10 36 10.9	0.0
	0.2nm,0.8s,baz=109,slow=7.8,SNR=1.3						
	0.2nm,0.8s						

*IDC **23** 10:27:44.3±2.5,56˚20N×148˚96W,h0km,mb3.8/4, mbtmp3.7/9,ML3.2/5,Error ellipse: s-maj=48.4km s-min=23.8km az=1.0*

*NEIC **23** 10:27:47.6±1.0,56˚42N±0˚09×148˚7W±0˚1,h20km±9km, ML3.7/40,ML3.5(AEIC),Error ellipse: s-maj=14.6km s-min=7.8km az=143.0*

*AEIC **23** 10:27:52.5±1.2,56˚5N±0˚1×148˚7W±0˚1,h12km±8km, Error ellipse: s-maj=16.3km s-min=9.1km az=160.0*

ISC 23 10:27:47.9±1.2,56˚57N±0˚09×148˚84W±0˚05,h10km,n91, σ1s09/95,mb4.0/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.37**	**302**		**Pn**	**10 28 27.5**	**+0.7**
KDAK					**Sn**	**10 28 54.2**	**-1.7**
KDAK	**Kodiak Island**	**2.37**	**302**	IAML		10 29 58.0	
	146nm,0.6s						
KDAK	**Kodiak Island**	**2.37**	**302**	Pn	**Pn**	**10 28 26.4**	**-0.4**
	7.1nm,0.3s,baz=143,slow=20,SNR=3.1						
KDAK				Sn	**Sn**	**10 28 54.9**	**-1.0**
	11nm,0.3s,baz=242,slow=23,SNR=13						
	17nm,0.3s						
OHAK	**Old Harbor**	**2.53**	**287**		**Pn**	**10 28 28.7**	**-0.2**
OHAK					**Sn**	**10 28 57.0**	**-2.7**
OHAK	**Old Harbor**	**2.53**	**287**	P	**Pn**	**10 28 28.7**	**-0.2**
	baz=104						
OHAK				S	**Sn**	**10 28 57.0**	**-2.7**
	baz=104						
SYI	**Shuyak Island**	**2.80**	**318**		**Pn**	**10 28 33.8**	**+1.2**
SYI					**Sn**	**10 29 06.3**	**-0.1**
Q20K	**Shuyak Island**	**2.80**	**318**	P	**Pn**	**10 28 33.8**	**+1.2**
	baz=135						
Q20K				S	**Sn**	**10 29 06.3**	**-0.1**
	baz=135						
Q23K	**Middleton Isla**	**3.16**	**24**		**Pn**	**10 28 37.9**	**+0.3**
Q23K					**Sn**	**10 29 13.7**	**-1.5**
Q23K	**Middleton Isla**	**3.16**	**24**	IAML		10 30 28.7	
	comp=N,86nm,1.1s						
Q23K	**Middleton Isla**	**3.16**	**24**	P	**Pn**	**10 28 37.8**	**+0.3**
	baz=204						
Q23K				S	**Sn**	**10 29 13.7**	**-1.5**
	baz=204						
MID	**Middleton Isla**	**3.16**	**24**		**Pn**	**10 28 37.9**	**+0.4**
MID					**Sn**	**10 29 13.2**	**-2.0**
MID	**Middleton Isla**	**3.16**	**24**	IAML		10 30 32.3	
	comp=E,86nm,1.3s						
CNPM	**China Poot**	**3.23**	**338**		**Pn**	**10 28 39.5**	**+1.0**
CNPM	**China Poot**	**3.23**	**338**	IAML		10 29 20.8	
	comp=N,93nm,1.1s						
CNPM				IAML		10 29 22.1	
	comp=E,85nm,0.4s						
BRSE	**Bradley Lake S**	**3.33**	**343**		**Pn**	**10 28 40.8**	**+0.7**
BRSE	**Bradley Lake S**	**3.33**	**343**	P	**Pn**	**10 28 40.8**	**+0.7**
	baz=161						
BRLK	**Bradley Lake**	**3.38**	**342**		**Pn**	**10 28 41.5**	**+0.9**
BRLK	**Bradley Lake**	**3.38**	**342**	IAML		10 29 24.7	
	comp=N,93nm,0.4s						
HOM	**Homer**	**3.43**	**335**		**Pn**	**10 28 42.6**	**+1.3**
HOM	**Homer**	**3.43**	**335**	IAML		10 29 27.2	
	comp=N,317nm,1.0s						
HOM				IAML		10 30 46.1	
	comp=E,267nm,1.4s						
HOM	**Homer**	**3.43**	**335**	P	**Pn**	**10 28 42.6**	**+1.3**
	baz=152						
Q19K	**Cape Douglas,**	**3.50**	**315**		**Pn**	**10 28 44.3**	**+2.0**
Q19K					**Sn**	**10 29 24.6**	**+1.0**
Q19K	**Cape Douglas,**	**3.50**	**315**	P	**Pn**	**10 28 44.3**	**+2.0**
	baz=131						
Q19K				S	**Sn**	**10 29 24.6**	**+1.0**
	baz=131						
P23K	**Montague Islan**	**3.52**	**12**		**Pn**	**10 28 43.2**	**+0.7**
P23K					**Sn**	**10 29 22.3**	**-1.8**
P23K	**Montague Islan**	**3.52**	**12**	P	**Pn**	**10 28 43.2**	**+0.7**
	baz=192						
P23K				S	**Sn**	**10 29 22.3**	**-1.8**
	baz=192						
SEW	**Seward**	**3.56**	**355**		**Pn**	**10 28 43.6**	**+0.6**
SEW	**Seward**	**3.56**	**355**	P	**Pn**	**10 28 43.6**	**+0.6**
	baz=174						
AU22	**Augustine Moun**	**3.70**	**321**		**Pn**	**10 28 46.5**	**+1.6**
AUL	**Augustine Lava**	**3.73**	**321**		**Pn**	**10 28 47.1**	**+1.7**
P19K	**Oil Pt**	**3.87**	**325**		**Pn**	**10 28 48.8**	**+1.4**
P19K	**Oil Pt**	**3.87**	**325**	IAML		10 29 35.5	
	comp=N,248nm,0.5s						
P19K	**Oil Pt**	**3.87**	**325**	P	**Pn**	**10 28 48.8**	**+1.4**
	baz=141						
O22K	**Cooper Landing**	**3.95**	**354**	Pn	**Pn**	**10 28 48.7**	**+0.3**
HIN	**Hinchinbrook I**	**4.03**	**17**		**Pn**	**10 28 49.7**	**+0.1**
HIN	**Hinchinbrook I**	**4.03**	**17**	IAML		10 29 35.7	
	comp=E,201nm,0.6s						
O20K	**Slope Mountain**	**4.05**	**332**		**Pn**	**10 28 50.5**	**+0.7**
O20K	**Slope Mountain**	**4.05**	**332**	P	**Pn**	**10 28 50.5**	**+0.7**
	baz=148						
KAIM	**Kayak Island**	**4.09**	**33**	Pn	**Pn**	**10 28 51.5**	**+1.0**
KAIM				IAML		10 29 42.4	
	comp=E,146nm,0.5s						
KAIM				IAML		10 30 10.6	
	comp=N,67nm,0.5s						
FID	**Port Fidalgo**	**4.37**	**15**		**Pn**	**10 28 54.2**	**+0.1**
FID	**Port Fidalgo**	**4.37**	**15**	IAML		10 29 45.2	
	comp=E,32nm,0.2s						
FID				IAML		10 29 49.4	
	comp=N,72nm,0.4s						
RED	**Redoubt Volcan**	**4.38**	**333**		**Pn**	**10 28 54.7**	**+0.3**
RDSO	**Redoubt South**	**4.40**	**334**		**Pn**	**10 28 55.1**	**+0.4**
RAGM	**Ragged Mountai**	**4.41**	**28**	Pn	**Pn**	**10 28 55.7**	**+1.0**
RAGM				IAML		10 31 03.4	
	comp=E,105nm,0.7s						
P18K	**Big Mountain,**	**4.42**	**312**		**Pn**	**10 28 55.5**	**+0.5**
P18K	**Big Mountain,**	**4.42**	**312**	P	**Pn**	**10 28 55.5**	**+0.5**
	baz=127						
RDT	**Redoubt**	**4.43**	**337**		**Pn**	**10 28 55.4**	**+0.3**
RDWB	**Redoubt West**	**4.45**	**334**		**Pn**	**10 28 56.2**	**+0.8**
DFR	**Drift River**	**4.51**	**335**		**Pn**	**10 28 56.6**	**+0.4**
NCT	**North Crescent**	**4.54**	**334**		**Pn**	**10 28 57.0**	**+0.3**
RC01	**Rabbit Creek A**	**4.55**	**354**	Pn	**Pn**	**10 28 57.1**	**+0.4**
RC01				IAML		10 29 50.8	
	comp=E,50nm,0.4s						
RC01				IAML		10 31 01.6	
	comp=N,30nm,0.5s						
O19K	**Port Alsworth**	**4.64**	**324**		**Pn**	**10 28 58.2**	**+0.4**
O19K	**Port Alsworth**	**4.64**	**324**	P	**Pn**	**10 28 58.2**	**+0.4**
	baz=139						
BERG	**Berg Lake**	**4.68**	**33**	Pn	**Pn**	**10 28 59.4**	**+0.9**
BERG				IAML		10 30 05.5	
	comp=E,92nm,0.5s						
SPCP	**Crater Peak Br**	**5.01**	**341**		**Pn**	**10 29 04.2**	**+1.1**
KLU	**Klutina**	**5.16**	**16**		**Pn**	**10 29 06.1**	**+1.0**
KLU	**Klutina**	**5.16**	**16**	IAML		10 30 07.6	
	comp=E,59nm,0.4s						
KLU				IAML		10 30 11.1	
	comp=N,20nm,0.3s						
KLU	**Klutina**	**5.16**	**16**	P	**Pn**	**10 29 06.1**	**+1.0**
	baz=197						
N19K	**Bonanza Creek**	**5.17**	**328**		**Pn**	**10 29 05.7**	**+0.4**
N19K	**Bonanza Creek**	**5.17**	**328**	P	**Pn**	**10 29 05.7**	**+0.4**
	baz=143						
SPNN	**North Nagishla**	**5.21**	**339**		**Pn**	**10 29 06.4**	**+0.6**
SML	**Sawmill**	**5.26**	**3**		**Pn**	**10 29 07.0**	**+0.6**
SML	**Sawmill**	**5.26**	**3**	P	**Pn**	**10 29 07.0**	**+0.6**
	baz=182						
N18K	**Kilae Creek**	**5.53**	**321**		**Pn**	**10 29 10.6**	**+0.5**
N18K	**Kilae Creek**	**5.53**	**321**	P	**Pn**	**10 29 10.6**	**+0.5**
	baz=135						
M24K	**Tolsona, Glenn**	**5.72**	**13**	Pn	**Pn**	**10 29 13.6**	**+0.8**
SVW2	**Sparrevohn**	**5.73**	**325**		**Pn**	**10 29 13.1**	**+0.2**
M20K	**Styx River**	**5.76**	**339**		**Pn**	**10 29 14.0**	**+0.5**
M20K	**Styx River**	**5.76**	**339**	P	**Pn**	**10 29 14.0**	**+0.5**
	baz=155						
N17K	**Nushagak Hills**	**5.90**	**316**		**Pn**	**10 29 16.0**	**+0.7**
N17K	**Nushagak Hills**	**5.90**	**316**	P	**Pn**	**10 29 16.0**	**+0.7**
	baz=129						
M18K	**Stony River**	**6.11**	**327**		**Pn**	**10 29 18.2**	**+0.1**
M18K	**Stony River**	**6.11**	**327**	P	**Pn**	**10 29 18.2**	**+0.1**
	baz=141						
L19K	**White Mountain**	**6.41**	**334**	Pn	**Pn**	**10 29 22.7**	**+0.4**
M17K	**Holitna River**	**6.57**	**321**		**Pn**	**10 29 25.2**	**+0.8**
M17K	**Holitna River**	**6.57**	**321**	P	**Pn**	**10 29 25.2**	**+0.8**
	baz=134						
M16K	**Timber Creek**	**6.89**	**315**		**Pn**	**10 29 29.4**	**+0.6**
M16K	**Timber Creek**	**6.89**	**315**	P	**Pn**	**10 29 29.4**	**+0.6**
	baz=126						
PN7A	**Pavlof North-7**	**7.47**	**267**		**Pn**	**10 29 37.0**	**+0.2**
L16K	**Owhat River**	**7.51**	**318**		**Pn**	**10 29 38.0**	**+0.7**
L16K	**Owhat River**	**7.51**	**318**	P	**Pn**	**10 29 38.0**	**+0.7**
	baz=129						
K17K	**Iditarod**	**7.80**	**326**		**Pn**	**10 29 41.5**	**+0.3**
K17K	**Iditarod**	**7.80**	**326**	P	**Pn**	**10 29 41.5**	**+0.3**
	baz=138						
ILAR	**Eielson Array**	**8.28**	**6**	Pn	**Pn**	**10 29 48.6**	**+0.8**
	comp=N,0.6nm,0.3s,baz=188,slow=13,SNR=4.2						
ILAR				Sn	**Sn**	**10 31 17.9**	**-3.5**
	comp=N,1.0nm,0.3s,baz=182,slow=22,SNR=16						
	comp=N,1.3nm,0.3s						
DLBC	**Dease Lake**	**10.29**	**72**	Pn	**Pn**	**10 30 17.7**	**+2.3**
	comp=N,0.1nm,0.3s,baz=355,slow=16,SNR=1.3						
	comp=N,1.2nm,0.4s						
INK	**Inuvik**	**13.68**	**25**	Pn	**Pn**	**10 31 03.8**	**+2.3**
	comp=N,0.1nm,0.3s,baz=221,slow=8.8,SNR=4.0						
	comp=N,3.3nm,1.0s						
YKA	**Yellowknife Ar**	**18.17**	**57**	P	**P**	**10 32 00.7**	**+0.5**
	baz=264,slow=11,SNR=3.5						
	comp=N,1.2nm,1.1s						
A36M	**Sachs Harbour**	**18.32**	**23**	P	**Pn**	**10 32 03.0**	**+1.4**
SONM	**Songino Array**	**58.64**	**310**	P	**P**	**10 37 45.7**	**+0.7**
	comp=N,0.9nm,0.8s,baz=55,slow=5.5,SNR=5.0						
	comp=N,0.9nm,0.8s						
BVAR	**Borovoye Array**	**66.12**	**335**	P	**P**	**10 38 34.0**	**-0.8**
	comp=N,0.9nm,0.8s,baz=20,slow=4.6,SNR=3.6						
	comp=N,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**66.22**	**329**	P	**P**	**10 38 34.8**	**-0.6**
	comp=N,0.2nm,0.5s,baz=30,slow=6.6,SNR=2.3						
	comp=N,0.2nm,0.5s						
AKASG	**Malin Array Be**	**73.08**	**1**	P	**P**	**10 39 16.4**	**-1.3**
	comp=N,0.9nm,0.5s,baz=0.7,slow=6.0,SNR=2.3						
	comp=N,0.9nm,0.5s						

*JMA **23** 10:28:18.6±0.1,24˚0N±0˚4×122˚4E±0˚2,h23km±1km, MV2.0/12,NW OFF ISHIGAKIJIMA IS*

*TAP **23** 10:28:19.4,24˚14N×122˚38E,h27km,ML2.8,C*

ISC 23 10:28:18.1±0.9,24˚04N±0˚02×122˚43E±0˚02,h32km±6km, n74,σ0s96/134,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.13**	**309**	*i* P	**Pb**	**10 28 23.8**	**+0.2**
	baz=251						
EOS4				S	**Sb**	**10 28 27.2**	**-0.1**
	baz=251						
EOS3	**EOS3**	**0.27**	**337**	P	**Pn**	**10 28 25.2**	**-0.6**
	baz=324						
EOS3				S	**Sb**	**10 28 29.7**	**-0.4**
	baz=324						
EOS2	**EOS2**	**0.42**	**335**	*i* P	**Pn**	**10 28 27.6**	**-0.3**
	baz=320						
EOS2				S	**Sb**	**10 28 33.6**	**-0.1**
	baz=320						
JYNG	**Yonagunijimaku**	**0.62**	**49**	P	**Pn**	**10 28 31.2**	**+0.5**
JYNG				S	**Sn**	**10 28 39.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.68**	**51**	*e*P	**Pn**	**10 28 32.2**	**+0.7**
YOJ				S	**Sn**	**10 28 41.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.68**	**51**	P	**Pn**	**10 28 32.1**	**+0.7**
	baz=59						
YOJ				*e*S	**Sn**	**10 28 42.2**	**+1.2**
	baz=59						
EAHA	**Aohua**	**0.69**	**295**	*e*P	**Pn**	**10 28 32.3**	**+0.5**
	baz=294						
EWUT	**Wuta**	**0.72**	**304**	P	**Pb**	**10 28 31.5**	**-0.8**
	baz=298						
EWUT				*e*S	**Sb**	**10 28 40.9**	**-1.0**
	baz=298						
ENA	**Nanau**	**0.74**	**302**	*e*P	**Pb**	**10 28 31.9**	**-0.8**
	baz=296						
ENA				*e*S	**Sb**	**10 28 41.6**	**-0.9**
	baz=296						
ETL	**Fush Village**	**0.75**	**279**	*e*P	**Pn**	**10 28 33.3**	**+0.8**
	baz=256						
ETL				*e*S	**Sn**	**10 28 42.9**	**+0.1**
	baz=256						
ESAO	**Su ao**	**0.76**	**315**	*e*P	**Pb**	**10 28 31.7**	**-1.2**
	baz=311						
ESAO				*e*S	**Sb**	**10 28 41.1**	**-1.9**
	baz=311						
TWD	**Chiawan**	**0.76**	**273**	*e*P	**Pb**	**10 28 32.5**	**-0.5**
	baz=265						
TWD				*e*S	**Sb**	**10 28 42.5**	**-0.6**
	baz=265						
NACB	**Ninganchiao**	**0.78**	**280**	P	**Pb**	**10 28 32.6**	**-0.6**
	baz=258						
NACB				*e*S	**Sb**	**10 28 43.0**	**-0.5**
	baz=258						
TWC	**Suao**	**0.78**	**317**	*e*P	**Pb**	**10 28 32.2**	**-1.0**
	baz=314						
TWC				*e*S	**Sb**	**10 28 41.0**	**-2.5**
	baz=314						
ETM	**Tongmen**	**0.86**	**265**	*e*P	**Pb**	**10 28 33.6**	**-1.1**
	baz=248						
ETM				*e*S	**Sb**	**10 28 44.9**	**-1.0**
	baz=248						
NDS	**Dongshan**	**0.88**	**312**	*e*P	**Pn**	**10 28 34.7**	**+0.3**
	baz=309						
NDS				*e*S	**Sb**	**10 28 46.3**	**-0.2**
	baz=309						
ETLH	**Xiulin Townshi**	**0.88**	**281**	P	**Pb**	**10 28 34.5**	**-0.5**
	baz=275						
ETLH				*e*S	**Sb**	**10 28 46.0**	**-0.6**
	baz=275						
LXIB	**Xiulin Townshi**	**0.93**	**269**	*e*P	**Pb**	**10 28 34.9**	**-1.0**
	baz=253						
LXIB				*e*S	**Sb**	**10 28 47.2**	**-0.8**
	baz=253						
ESL	**Shilin**	**0.94**	**257**	*e*S	**Sn**	**10 28 48.1**	**+0.6**
	baz=242						
LATG	**Datong**	**0.96**	**301**	*e*P	**Pn**	**10 28 36.2**	**+0.7**
	baz=296						
TWE	**Neicheng**	**0.97**	**315**	P	**Pn**	**10 28 36.1**	**+0.5**
	baz=312						
TWE				*e*S	**Sb**	**10 28 47.8**	**-1.3**
	baz=312						
ENTT	**Nioudou**	**0.99**	**307**	*e*P	**Pn**	**10 28 36.6**	**+0.8**
	baz=303						
ENTT				*e*S	**Sb**	**10 28 49.1**	**-0.5**
	baz=303						
WARBT	**Fenglin Townsh**	**1.01**	**252**	P	**Pb**	**10 28 35.7**	**-1.4**
	baz=236						
WARBT				S	**Sn**	**10 28 50.0**	**+0.8**
	baz=236						
NDT	**Datong Townshi**	**1.01**	**304**	P	**Pn**	**10 28 37.1**	**+1.0**
	baz=300						
NDT				*e*S	**Sb**	**10 28 49.1**	**-1.0**
	baz=300						
NNSB	**Datong**	**1.03**	**292**	*e*P	**Pb**	**10 28 36.9**	**-0.7**
	baz=287						
NNSB				*e*S	**Sb**	**10 28 50.1**	**-0.8**
	baz=287						
NNS	**Nan Shan**	**1.04**	**293**	P	**Pn**	**10 28 38.3**	**+1.6**
	baz=288						
NNS				*e*S	**Sb**	**10 28 50.8**	**-0.5**
	baz=288						
FUSB	**Fushanzhiwuyua**	**1.05**	**313**	P	**Pn**	**10 28 37.6**	**+0.8**
	baz=310						
FUSB				*e*S	**Sn**	**10 28 51.5**	**+1.1**
	baz=310						
HGSD	**Ruisui**	**1.07**	**240**	*e*P	**Pb**	**10 28 36.9**	**-1.3**
	baz=234						
WHF	**Hehuan Shan**	**1.07**	**276**	P	**Pb**	**10 28 37.7**	**-0.7**
	baz=270						
WHF				*e*S	**Sb**	**10 28 50.9**	**-1.4**
	baz=270						
TIPB	**Shuangxi**	**1.08**	**329**	P	**Pb**	**10 28 37.9**	**-0.5**
	baz=328						
TIPB				*e*S	**Sb**	**10 28 50.5**	**-1.7**
	baz=328						
FUSS	**Fushou**	**1.10**	**281**	*e*P	**Pb**	**10 28 38.4**	**-0.5**
	baz=276						
FUSS				*e*S	**Sb**	**10 28 51.7**	**-1.4**
	baz=276						
NWLT	**Wulai**	**1.12**	**311**	*e*P	**Pb**	**10 28 38.8**	**-0.2**
	baz=308						
NWLT				*e*S	**Sb**	**10 28 52.8**	**-0.5**
	baz=308						
EHY	**Hungye**	**1.15**	**243**	*e*P	**Pn**	**10 28 38.5**	**+0.5**
	baz=238						
EHY				*e*S	**Sn**	**10 28 54.3**	**+1.8**
	baz=238						
CHGB	**Renai**	**1.15**	**271**	P	**Pn**	**10 28 38.8**	**+0.6**
	baz=254						
CHGB				S	**Sb**	**10 28 53.7**	**-0.6**
	baz=254						
OWD	**Renai**	**1.15**	**266**	P	**Pn**	**10 28 38.7**	**+0.6**
	baz=261						
OWD				*e*S	**Sb**	**10 28 52.9**	**-1.4**
	baz=261						
YHNB	**Yeheng**	**1.15**	**303**	P	**Pb**	**10 28 38.9**	**-0.7**
	baz=286						
YHNB				*e*S	**Sn**	**10 28 54.4**	**+1.6**
	baz=286						
NSK	**Sanguang**	**1.17**	**303**	*e*P	**Pn**	**10 28 38.5**	**+0.2**
	baz=285						
NSK				*e*S	**Sb**	**10 28 53.4**	**-1.2**
	baz=285						
TWT	**Tachien**	**1.17**	**281**	*e*P	**Pn**	**10 28 38.5**	**+0.1**
	baz=263						
SXI1	**Grass Mountain**	**1.17**	**334**	*e*P	**Pn**	**10 28 38.4**	**+0.1**
	baz=334						
SXI1				*e*S	**Sb**	**10 28 52.8**	**-1.9**
	baz=334						
WUSB	**Renai**	**1.20**	**268**	*e*P	**Pb**	**10 28 40.2**	**-0.3**
	baz=263						
WUSB				*e*S	**Sb**	**10 28 54.0**	**-1.7**
	baz=263						
VWDT	**VWDT**	**1.21**	**257**	*e*P	**Pb**	**10 28 40.0**	**-0.5**
	baz=252						
VWDT				*e*S	**Sn**	**10 28 55.5**	**+1.3**
	baz=252						
YULB	**Yu-li**	**1.22**	**239**	*e*P	**Pn**	**10 28 39.5**	**+0.5**
	baz=223						
YULB				*e*S	**Sb**	**10 28 54.9**	**-1.2**
	baz=223						
TWF1	**Yuli**	**1.24**	**237**	*e*P	**Pn**	**10 28 40.0**	**+0.7**
	baz=222						
TWF1				*e*S	**Sn**	**10 28 57.0**	**+2.0**
	baz=222						
TATO	**Taipei**	**1.27**	**318**	*e*P	**Pb**	**10 28 41.2**	**-0.2**
	baz=315						
TATO				*e*S	**Sb**	**10 28 57.3**	**-0.2**
	baz=315						
FULB	**Fuli**	**1.33**	**232**	*e*P	**Pn**	**10 28 40.8**	**+0.2**
	baz=216						
FULB				*e*S	**Sb**	**10 28 58.4**	**-1.0**
	baz=216						
NFF	**Wufeng Townshi**	**1.34**	**297**	*e*P	**Pn**	**10 28 41.4**	**+0.8**
	baz=292						
NFF				*e*S	**Sn**	**10 28 58.4**	**+1.0**
	baz=292						
YM01	**YM01**	**1.35**	**325**	*e*P	**Pb**	**10 28 42.0**	**-0.9**
	baz=337						
YM01				*e*S	**Sb**	**10 28 59.7**	**-0.2**
	baz=337						
SSLB	**Suanglung**	**1.37**	**260**	*e*P	**Pn**	**10 28 42.1**	**+1.0**
	baz=256						
SSLB				*e*S	**Sb**	**10 28 59.7**	**-0.8**
	baz=256						
WHP	**Taichung City**	**1.38**	**280**	*e*P	**Pb**	**10 28 43.8**	**+0.5**
	baz=264						
WHP				*e*S	**Sn**	**10 28 59.7**	**+1.3**
	baz=264						
WCS	**Beigang Elemen**	**1.39**	**271**	*e*P	**Pb**	**10 28 42.5**	**-1.0**
	baz=267						
LIOB	**Emei**	**1.43**	**295**	*e*P	**Pb**	**10 28 43.7**	**-0.4**
	baz=291						
LIOB				*e*S	**Sn**	**10 29 00.4**	**+0.9**
	baz=291						
EHD	**Haiduan**	**1.43**	**232**	*e*P	**Pn**	**10 28 42.2**	**+0.4**
	baz=245						
EHD				*e*S	**Sn**	**10 29 00.0**	**+0.4**
	baz=245						
NSTT	**Nanjuang**	**1.43**	**295**	*e*P	**Pb**	**10 28 43.5**	**-0.7**
	baz=291						
TYC	**Yuchr**	**1.45**	**265**	*e*P	**Pb**	**10 28 44.9**	**+0.5**
	baz=261						
JKRS	**Kuro-shima**	**1.46**	**82**	S	**Sb**	**10 29 03.0**	**+0.2**
EDH	**Donghe**	**1.48**	**225**	*e*P	**Pn**	**10 28 41.6**	**-1.0**
	baz=222						
EDH				*e*S	**Sn**	**10 29 00.5**	**-0.3**
	baz=222						
WHYT	**Xinyi Township**	**1.48**	**257**	*e*P	**Pb**	**10 28 44.7**	**-0.4**
	baz=245						
ELDTW	**Lidau**	**1.55**	**237**	*e*P	**Pn**	**10 28 44.5**	**+0.9**
	baz=234						
ELDTW				*e*S	**Sn**	**10 29 03.7**	**+1.0**
	baz=234						
WJS	**Zhushan**	**1.57**	**263**	*e*P	**Pb**	**10 28 45.9**	**-0.7**
	baz=259						
ALS	**Alishan**	**1.58**	**251**	*e*P	**Pb**	**10 28 45.6**	**-1.3**
	baz=248						
ALS				*e*S	**Sb**	**10 29 05.3**	**-1.3**
	baz=248						
JIJ	**Ishigaki jima**	**1.60**	**78**	P	**Pb**	**10 28 46.5**	**-0.5**
JIJ				*e*S	**Sb**	**10 29 06.6**	**-0.2**
CHN5	**Tsauling**	**1.66**	**255**	P	**Pb**	**10 28 47.5**	**-0.7**
	baz=242						
CHN5				*e*S	**Sb**	**10 29 08.3**	**-0.6**
	baz=242						
TWGBT	**Beinan**	**1.74**	**226**	*e*P	**Pn**	**10 28 47.0**	**+0.9**
	baz=234						
STYH	**Taoyuan**	**1.75**	**241**	*e*P	**Pn**	**10 28 47.5**	**+1.3**
	baz=238						
STYH				*e*S	**Sb**	**10 29 10.4**	**-0.7**
	baz=238						
WCKO	**Fanlu**	**1.78**	**251**	*e*S	**Sb**	**10 29 12.3**	**+0.3**
	baz=238						
JISG	**Ishigakijimahi**	**1.80**	**72**	*e*P	**Pb**	**10 28 49.6**	**-0.9**
JISG				S	**Sb**	**10 29 11.4**	**-1.3**
TPUB	**Ta-pu**	**1.81**	**246**	P	**Pb**	**10 28 49.7**	**-0.9**
	baz=244						
TPUB				*e*S	**Sb**	**10 29 12.5**	**-0.4**
	baz=244						
CHN4	**Tsaushan**	**1.82**	**248**	*e*P	**Pb**	**10 28 50.2**	**-0.6**
	baz=236						
CHN4				*e*S	**Sb**	**10 29 13.1**	**-0.1**
	baz=236						
WTP	**Ta-pu**	**1.84**	**245**	*e*P	**Pb**	**10 28 50.1**	**-1.1**
	baz=243						
WTP				*e*S	**Sb**	**10 29 12.8**	**-1.1**
	baz=243						
SLGT	**Liugui**	**1.94**	**238**	*e*P	**Pb**	**10 28 51.8**	**-1.1**
	baz=227						
SLGT				*e*S	**Sb**	**10 29 16.1**	**-0.6**
	baz=227						
TWK	**Hsinying**	**1.94**	**247**	*e*P	**Pb**	**10 28 51.7**	**-

259nm,4.8s
OHAK Old Harbor 2.27 291 Pn Pn 10 29 33.3 +0.6
OHAK Sn **10 29 59.2 -1.5**
OHAK Old Harbor 2.27 291 IAML 10 30 17.0
comp=E,148nm,4.3s
OHAK Old Harbor 2.27 291 P **Pn 10 29 33.3 +0.6**
baz=109
OHAK S **Sn 10 29 59.2 -1.5**
baz=109
SYI Shuyak Island 2.68 324 Pn 10 29 39.3 +1.0
SYI **Sn 10 30 10.5 -0.3**
SYI Shuyak Island 2.68 324 IAML 10 30 33.6
comp=N,95nm,0.5s
Q20K Shuyak Island 2.68 324 P **Pn 10 29 39.3 +1.0**
baz=142
Q20K S **Sn 10 30 10.5 -0.3**
baz=142
CNPM China Poot 3.21 343 Pn 10 29 46.9 +1.3
CNPM **Sn 10 30 21.7 -2.1**
CNPM China Poot 3.21 343 IAML 10 30 36.2
comp=N,191nm,5.0s
Q23K Middleton Isla 3.36 27 Pn 10 29 47.4 -0.3
Q23K Middleton Isla 3.36 27 IAML 10 31 26.8
comp=E,325nm,3.8s
Q23K Middleton Isla 3.36 27 P **Pn 10 29 47.4 -0.3**
baz=209
MID Middleton Isla 3.37 28 Pn 10 29 47.5 -0.2
MID Middleton Isla 3.37 28 IAML 10 30 55.8
comp=N,99nm,1.4s
MID IAML 10 32 07.2
comp=E,177nm,4.1s
HOM Homer 3.40 340 S **Sn 10 30 27.9 -0.7**
baz=158
P23K Montague Islan 3.67 16 Pn 10 29 52.0 0.0
P23K Montague Islan 3.67 16 P **Pn 10 29 52.0 0.0**
baz=196
HIN Hinchinbrook I 4.20 20 Pn 10 29 59.5 +0.2
HIN Hinchinbrook I 4.20 20 IAML 10 30 50.2
comp=E,88nm,1.3s
HIN IAML 10 32 39.3
comp=N,71nm,0.9s
P18K Big Mountain, 4.27 316 Pn 10 30 01.0 +0.8
P18K Big Mountain, 4.27 316 P **Pn 10 30 01.0 +0.8**
baz=131
KAIM Kayak Island 4.33 35 Pn 10 30 01.4 +0.4
KAIM Kayak Island 4.33 35 IAML 10 32 39.8
comp=N,96nm,1.1s
KAIM IAML 10 32 47.4
comp=E,180nm,3.6s
KAIM Kayak Island 4.33 35 P **Pn 10 30 01.4 +0.4**
baz=218
EYAK Cordova Ski Ar 4.50 24 Pn 10 30 03.7 +0.4
EYAK Cordova Ski Ar 4.50 24 P **Pn 10 30 03.7 +0.4**
baz=206
FID Port Fidalgo 4.54 18 Pn 10 30 04.0 +0.1
FID Port Fidalgo 4.54 18 IAML 10 32 05.3
comp=E,148nm,4.9s
GOAT Goat Mountain 4.78 29 Pn 10 30 07.9 +0.7
BERG Berg Lake 4.92 35 Pn 10 30 09.5 +0.3
CHGN Chignik 5.02 272 Pn **Pn 10 30 11.2 +0.7**
CHGN IAML 10 32 53.5
comp=E,59nm,0.5s
SNH Sunshine Point 5.06 40 Pn **Pn 10 30 10.7 -0.3**
SNH IAML 10 32 39.1
comp=E,45nm,0.6s
CYK Cape Yakataga 5.12 42 Pn 10 30 12.0 +0.2
BARK Barkley Ridge 5.34 40 Pn 10 30 15.3 +0.3
O16K Kokwok River B 5.58 308 Pn **Pn 10 30 19.4 +1.3**
M24K Tolsona, Glenn 5.87 15 Pn **Pn 10 30 20.0 -2.2**
CNBA Chernabura Isl 6.02 258 Pn **Pn 10 30 25.1 +0.9**
PCA Pinnacle 6.02 49 Pn 10 30 24.7 +0.5
PINM Pinnacle 6.02 49 P **Pn 10 30 24.7 +0.4**
baz=236
BCPM Bancas Point 6.21 52 Pn 10 30 27.8 +0.9
N15K Kwethluk River 6.74 308 Pn **Pn 10 30 36.3 +2.2**
P29M Windy Craggy 6.93 58 Pn 10 30 36.8 +0.1
P29M Windy Craggy 6.93 58 P **Pn 10 30 36.8 +0.1**
baz=247
M27K Edge Creek, AK 7.02 30 Pn 10 30 39.7 +1.6
M27K Edge Creek, AK 7.02 30 P **Pn 10 30 39.7 +1.6**
baz=216
PN7A Pavlof North-7 7.16 267 Pn 10 30 41.7 +1.7
S31K Pelican 7.29 73 Pn 10 30 40.7 -0.9
S31K Pelican 7.29 73 P **Pn 10 30 40.7 -0.9**
baz=263
L16K Owhat River 7.38 319 Pn **Pn 10 30 44.0 +1.2**
O30N Mendenhall 8.15 53 Pn **Pn 10 30 54.7 +1.2**

*IDC **23** 10:30:33.6±2.0,56˚21N×149˚47W,h0km,mb3.7/5, mbtmp3.6/10,ML3.4/5,Error ellipse: s-maj=36.8km s-min=23.5km az=2.0*
*AEIC **23** 10:30:38.9±1.7,56˚2N±0˚1×149˚35W±0˚08,h11km±8km, Error ellipse: s-maj=17.9km s-min=4.3km az=165.0*
*NEIC **23** 10:30:38.0±1.5,56˚45N±0˚09×149˚5W±0˚1,h20km±10km, ML3.6/20,ML3.4(AEIC),Error ellipse: s-maj=14.2km s-min=7.8km az=154.0*

ISC 23 10:30:36.5±1.3,56˚5N±0˚1×149˚51W±0˚06,h10km,n34, σ0s87/36,mb3.9/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.14**	**310**		**Pn**	**10 31 13.1**	**+0.9**
KDAK					**Sn**	**10 31 38.6**	**-0.1**
KDAK	**Kodiak Island**	**2.14**	**310**	Pn	**Pn**	**10 31 10.4**	**-1.8**
	6.2nm,0.3s,baz=162,slow=19,SNR=1.7						
KDAK				Sn	**Sn**	**10 31 39.2**	**+0.5**
	12nm,0.3s,baz=84,slow=23,SNR=10 14nm,0.3s						
OHAK	**Old Harbor**	**2.21**	**292**		**Pn**	**10 31 12.6**	**-0.6**
OHAK					**Sn**	**10 31 40.1**	**-0.4**
SYI	**Shuyak Island**	**2.66**	**325**		**Pn**	**10 31 20.2**	**+0.9**
SYI					**Sn**	**10 31 52.3**	**+0.9**
CNPM	**China Poot**	**3.21**	**344**		**Pn**	**10 31 27.9**	**+1.0**
CNPM					**Sn**	**10 32 04.5**	**-0.7**
CNPM	**China Poot**	**3.21**	**344**	IAML		10 32 53.7	
	comp=E,232nm,0.3s						
CNPM				IAML		10 32 56.0	
	comp=N,159nm,0.4s						
BRSE	**Bradley Lake S**	**3.35**	**349**		**Pn**	**10 31 29.3**	**+0.4**
BRLK	**Bradley Lake**	**3.39**	**348**		**Pn**	**10 31 29.9**	**+0.4**
BRLK	**Bradley Lake**	**3.39**	**348**	IAML		10 32 22.4	
	comp=N,130nm,0.6s						
BRLK				IAML		10 33 01.1	
	comp=E,225nm,0.7s						
HOM	**Homer**	**3.40**	**341**		**Pn**	**10 31 31.2**	**+1.7**
Q23K	**Middleton Isla**	**3.42**	**28**		**Pn**	**10 31 29.4**	**-0.3**
Q23K	**Middleton Isla**	**3.42**	**28**	IAML		10 32 16.2	
	comp=N,140nm,1.1s						
MID	**Middleton Isla**	**3.42**	**28**		**Pn**	**10 31 29.4**	**-0.3**
MID	**Middleton Isla**	**3.42**	**28**	IAML		10 32 15.0	
	comp=N,97nm,1.2s						
HIN	**Hinchinbrook I**	**4.25**	**21**	Pn	**Pn**	**10 31 41.2**	**0.0**
KAIM	**Kayak Island**	**4.39**	**36**	Pn	**Pn**	**10 31 43.2**	**+0.1**
KAIM				IAML		10 32 45.3	
	comp=E,107nm,1.2s						
FID	**Port Fidalgo**	**4.58**	**19**	Pn	**Pn**	**10 31 45.7**	**-0.1**
BERG	**Berg Lake**	**4.98**	**35**	Pn	**Pn**	**10 31 50.8**	**-0.5**
PMR	**Palmer**	**5.15**	**2**	Pn	**Pn**	**10 31 54.9**	**+1.4**
KLU	**Klutina**	**5.37**	**19**	Pn	**Pn**	**10 31 56.7**	**0.0**
SML	**Sawmill**	**5.39**	**6**	Pn	**Pn**	**10 31 58.0**	**+1.0**
BCPM	**Bancas Point**	**6.28**	**52**		**Pn**	**10 32 09.8**	**+0.8**
O29M	**Mount Kennedy**	**6.91**	**52**	Pn	**Pn**	**10 32 19.1**	**+1.2**
P29M	**Windy Craggy**	**7.00**	**58**	Pn	**Pn**	**10 32 19.1**	**+0.1**
M29M	**Somme Creek**	**8.21**	**39**		**Pn**	**10 32 36.6**	**+0.9**
ILAR	**Eielson Array**	**8.43**	**8**	Pn	**Pn**	**10 32 37.6**	**-0.9**
	comp=E,0.5nm,0.3s,baz=198,slow=14,SNR=2.6						
ILAR				Sn	**Sn**	**10 34 11.8**	**-1.9**
	baz=187,slow=14 comp=E,1.0nm,0.4s						
DLBC	**Dease Lake**	**10.68**	**71**	Pn	**Pn**	**10 33 09.3**	**-0.1**
	comp=E,0.9nm,0.3s,baz=259,slow=8.0,SNR=12 comp=E,2.1nm,0.3s						
INK	**Inuvik**	**13.93**	**25**	Pn	**Pn**	**10 33 54.9**	**+1.3**
	comp=E,0.2nm,0.3s,baz=235,slow=7.1,SNR=3.8 comp=E,1.7nm,0.8s						
YKA	**Yellowknife Ar**	**18.54**	**57**	P	**P**	**10 34 52.2**	**-0.7**
	baz=262,slow=12,SNR=1.8 comp=E,0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**61.34**	**327**	P	**P**	**10 40 52.6**	**+0.8**
	comp=E,0.4nm,0.3s,baz=50,slow=9.8,SNR=2.1 comp=E,0.4nm,0.3s						
FINES	**FINESS Array B**	**62.38**	**2**	P	**P**	**10 40 58.7**	**0.0**
	comp=E,2.1nm,1.0s,baz=347,slow=10.0,SNR=3.4						
	comp=E,2.1nm,1.0s						
KURBB	**Kurchatov Arra**	**66.12**	**329**	P	**P**	**10 41 23.7**	**+0.3**
	comp=E,0.2nm,0.5s,baz=42,slow=5.8,SNR=2.0 comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.37**	**324**	P	**P**	**10 41 38.0**	**+0.2**
	comp=E,0.3nm,0.5s,baz=35,slow=6.5,SNR=6.1 comp=E,0.3nm,0.5s						
AKASG	**Malin Array Be**	**73.19**	**1**	P	**P**	**10 42 06.8**	**-0.2**
	comp=E,0.4nm,0.4s,baz=360,slow=5.4,SNR=1.9 comp=E,0.4nm,0.4s						

*IDC **23** 10:31:15.8±1.1,56˚18N×149˚32W,h0km,mb3.8/10, mbtmp3.8/15,ML3.7/5,Error ellipse: s-maj=24.5km s-min=16.1km az=26.0*
*NEIC **23** 10:31:16.9±2.5,56˚12N±0˚07×149˚3W±0˚1,h19km±6km, mb4.2/4,ML3.9/46,ML4.0(AEIC),Error ellipse: s-maj=10.3km s-min=8.0km az=170.0*
*AEIC **23** 10:31:19.9±2.5,56˚16N±0˚07×149˚28W±0˚10,h2km±3km, Error ellipse: s-maj=10.0km s-min=7.9km az=187.0*

ISC 23 10:31:16.6±0.6,56˚20N±0˚07×149˚13W±0˚05,h10km, n254,σ1s43/264,mb3.9/11,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**312**	Pn	**Pn**	**10 31 56.1**	**-0.7**
KDAK					**Sn**	**10 32 24.2**	**-2.7**
KDAK				IAML		10 32 24.9	
	197nm,0.5s						
KDAK	**Kodiak Island**	**2.47**	**312**	P	**Pn**	**10 31 56.2**	**-0.7**
	baz=131						
KDAK				S	**Sn**	**10 32 24.0**	**-2.9**
	baz=131						
KDAK	**Kodiak Island**	**2.47**	**312**	Pn	**Pn**	**10 31 55.4**	**-1.4**
	14nm,0.3s,baz=86,slow=9.7,SNR=4.9						
KDAK				Sn	**Sn**	**10 32 23.2**	**-3.8**
	26nm,0.3s,baz=345,slow=20,SNR=3.9 41nm,0.4s						
OHAK	**Old Harbor**	**2.51**	**296**		**Pn**	**10 31 56.1**	**-1.2**
OHAK					**Sn**	**10 32 24.1**	**-3.9**
OHAK	**Old Harbor**	**2.51**	**296**	P	**Pn**	**10 31 56.2**	**-1.2**
	baz=114						
OHAK				S	**Sn**	**10 32 24.1**	**-3.9**
	baz=114						
SYI	**Shuyak Island**	**2.99**	**325**		**Pn**	**10 32 03.4**	**-0.6**
SYI					**Sn**	**10 32 38.3**	**-1.6**
SYI				IAML		10 32 40.0	
	comp=E,410nm,0.7s						
SYI				IAML		10 32 40.2	
	comp=N,374nm,0.4s						
Q20K	**Shuyak Island**	**2.99**	**325**	P	**Pn**	**10 32 03.5**	**-0.5**
	baz=144						
Q20K				S	**Sn**	**10 32 38.0**	**-2.0**
	baz=144						
MID	**Middleton Isla**	**3.57**	**24**	Pn	**Pn**	**10 32 11.9**	**+0.1**
MID				IAML		10 33 27.5	
	comp=N,66nm,0.9s						
MID				IAML		10 34 21.5	
	comp=E,66nm,0.8s						
Q23K	**Middleton Isla**	**3.57**	**24**	Pn	**Pn**	**10 32 11.7**	**-0.1**
Q23K				IAML		10 33 00.0	
	comp=N,60nm,0.3s						
Q23K				IAML		10 34 14.1	
	comp=E,83nm,0.9s						
Q23K	**Middleton Isla**	**3.57**	**24**	P	**Pn**	**10 32 11.8**	**-0.1**
	baz=207						
BRSE	**Bradley Lake S**	**3.66**	**347**		**Pn**	**10 32 12.9**	**-0.3**
BRSE					**Sn**	**10 32 54.2**	**-2.1**
BRSE	**Bradley Lake S**	**3.66**	**347**	P	**Pn**	**10 32 12.9**	**-0.3**
	baz=167						
BRSE				S	**Sn**	**10 32 54.2**	**-2.1**
	baz=167						
Q19K	**Cape Douglas,**	**3.66**	**320**	Pn	**Pn**	**10 32 11.3**	**-1.9**
BRLK	**Bradley Lake**	**3.70**	**346**		Pn	10 32 08.4	-5.3
BRLK				IAML		10 32 59.5	
	comp=N,121nm,0.6s						
BRLK				IAML		10 32 59.6	
	comp=E,258nm,1.5s						
HOM	**Homer**	**3.72**	**340**	Pn	**Pn**	**10 32 11.3**	**-2.7**
HOM				IAML		10 33 19.7	
	comp=N,304nm,0.8s						
KAHG	**Katmai Hook Gl**	**3.73**	**310**		**Pn**	**10 32 13.2**	**-1.0**
P23K	**Montague Islan**	**3.92**	**13**		**Pn**	**10 32 16.8**	**0.0**
P23K	**Montague Islan**	**3.92**	**13**	P	**Pn**	**10 32 16.8**	**0.0**
	baz=195						
SEW	**Seward**	**3.92**	**358**	Pn	**Pn**	**10 32 13.4**	**-3.3**
ANCK	**Angle Creek**	**4.00**	**303**		**Pn**	**10 32 16.5**	**-1.4**
P19K	**Oil Pt**	**4.10**	**329**	Pn	**Pn**	**10 32 16.7**	**-2.5**
P19K				IAML		10 33 08.5	
	comp=E,183nm,0.4s						
P19K				IAML		10 33 23.1	
	comp=N,190nm,0.7s						
P19K	**Oil Pt**	**4.10**	**329**	P	**Pn**	**10 32 18.6**	**-0.6**
	baz=147						
CNTC	**Contact Creek**	**4.21**	**302**		**Pn**	**10 32 19.4**	**-1.5**
Q17K	**Contact Creek**	**4.21**	**302**	P	**Pn**	**10 32 19.4**	**-1.5**
	baz=118						
O22K	**Cooper Landing**	**4.31**	**356**		**Pn**	**10 32 21.0**	**-1.1**
O22K	**Cooper Landing**	**4.31**	**356**	P	**Pn**	**10 32 21.7**	**-0.3**
	baz=177						
O20K	**Slope Mountain**	**4.31**	**336**		**Pn**	**10 32 21.6**	**-0.6**
O20K	**Slope Mountain**	**4.31**	**336**	P	**Pn**	**10 32 21.6**	**-0.6**
	baz=154						
IVE	**Iliamna Volcan**	**4.35**	**333**		**Pn**	**10 32 22.1**	**-0.6**
SLKM	**Skilak Lake**	**4.36**	**353**		**Pn**	**10 32 22.9**	**+0.1**
HIN	**Hinchinbrook I**	**4.43**	**17**	Pn	**Pn**	**10 32 22.9**	**-1.0**
HIN				IAML		10 33 16.4	
	comp=N,190nm,0.5s						
HIN				IAML		10 33 42.5	
	comp=E,62nm,0.8s						
KAIM	**Kayak Island**	**4.50**	**32**	Pn	**Pn**	**10 32 25.2**	**+0.5**
KAIM				IAML		10 33 35.9	
	comp=N,141nm,0.9s						
KAIM	**Kayak Island**	**4.50**	**32**	P	**Pn**	**10 32 25.2**	**+0.5**
	baz=216						
P18K	**Big Mountain,**	**4.57**	**317**		**Pn**	**10 32 23.6**	**-2.2**
P18K	**Big Mountain,**	**4.57**	**317**	P	**Pn**	**10 32 24.8**	**-0.9**
	baz=133						
RSO	**Redoubt South**	**4.68**	**337**		**Pn**	**10 32 26.5**	**-0.9**
CAPN	**Captain Cook N**	**4.71**	**348**	Pn	**Pn**	**10 32 25.1**	**-2.4**
CAPN				IAML		10 33 55.0	
	comp=N,155nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.71**	**21**		**Pn**	**10 32 28.1**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.71**	**21**	P	**Pn**	**10 32 28.0**	**+0.5**
	baz=204						
FID	**Port Fidalgo**	**4.77**	**16**		**Pn**	**10 32 28.1**	**-0.4**
FID				IAML		10 33 22.1	
	comp=E,122nm,0.8s						
RAGM	**Ragged Mountai**	**4.81**	**27**	Pn	**Pn**	**10 32 28.8**	**-0.3**
RAGM				IAML		10 33 36.1	
	comp=E,144nm,0.7s						
O19K	**Port Alsworth**	**4.86**	**328**	Pn	**Pn**	**10 32 29.1**	**-0.5**
O19K	**Port Alsworth**	**4.86**	**328**	P	**Pn**	**10 32 28.9**	**-0.7**
	baz=144						
O18K	**Koktuh Hills**	**4.88**	**321**	Pn	**Pn**	**10 32 29.6**	**-0.4**
O18K				IAML		10 33 25.4	
	comp=N,81nm,0.9s						
RC01	**Rabbit Creek A**	**4.92**	**357**		**Pn**	**10 32 29.1**	**-1.3**
RC01				IAML		10 33 30.4	
	comp=N,55nm,0.6s						
RC01				IAML		10 33 31.4	
	comp=E,96nm,0.5s						
P17K	**Kvichak River**	**4.94**	**311**		**Pn**	**10 32 31.1**	**+0.5**
P17K	**Kvichak River**	**4.94**	**311**	P	**Pn**	**10 32 31.1**	**+0.5**
	baz=125						
BERG	**Berg Lake**	**5.09**	**32**		**Pn**	**10 32 33.1**	**+0.3**
CHGN	**Chignik**	**5.18**	**275**	Pn	**Pn**	**10 32 32.5**	**-1.4**
CHGN				IAML		10 33 36.0	
	comp=E,57nm,0.2s						
CHGN				IAML		10 33 59.6	
	comp=N,40nm,0.1s						
SNH	**Sunshine Point**	**5.20**	**37**		**Pn**	**10 32 34.9**	**+0.5**
SNH				IAML		10 33 48.9	
	comp=E,61nm,1.0s						
SNH				IAML		10 36 06.4	
	comp=N,37nm,0.5s						
KNK	**Knik Glacier**	**5.24**	**4**	Pn	**Pn**	**10 32 34.5**	**-0.5**
KNK				IAML		10 33 40.3	
	comp=N,30nm,0.4s						
KNK				IAML		10 33 41.5	
	comp=E,48nm,0.7s						
DIV	**Divide**	**5.25**	**18**		**Pn**	**10 32 34.5**	**-0.6**
CYK	**Cape Yakataga**	**5.25**	**39**		**Pn**	**10 32 34.9**	**0.0**
BMRM	**Bremner River**	**5.34**	**24**		**Pn**	**10 32 35.9**	**-0.4**
BMRM	**Bremner River**	**5.34**	**24**	P	**Pn**	**10 32 36.3**	**+0.1**
	baz=209						
SUA	**Susitna One**	**5.35**	**352**	Pn	**Pn**	**10 32 33.6**	**-2.9**
N19K	**Bonanza Creek**	**5.41**	**331**	Pn	**Pn**	**10 32 35.6**	**-1.7**
N19K	**Bonanza Creek**	**5.41**	**331**	P	**Pn**	**10 32 36.7**	**-0.6**
	baz=147						
PMR	**Palmer**	**5.41**	**0**		**Pn**	**10 32 37.4**	**+0.2**
PMR	**Palmer**	**5.41**	**0**	P	**Pn**	**10 32 37.6**	**+0.4**
	baz=181						
P16K	**Nushagak River**	**5.54**	**304**		**Pn**	**10 32 39.3**	**+0.3**
P16K	**Nushagak River**	**5.54**	**304**	P	**Pn**	**10 32 39.3**	**+0.3**
	baz=118						
KLU	**Klutina**	**5.57**	**16**		**Pn**	**10 32 39.4**	**0.0**
KLU	**Klutina**	**5.57**	**16**	P	**Pn**	**10 32 40.3**	**+0.9**
	baz=200						
GHO	**Glory Hole Cre**	**5.59**	**1**		**Pn**	**10 32 40.1**	**+0.3**
SML	**Sawmill**	**5.64**	**4**		**Pn**	**10 32 40.6**	**+0.2**
SML	**Sawmill**	**5.64**	**4**	P	**Pn**	**10 32 40.2**	**-0.3**
	baz=185						
N18K	**Kilae Creek**	**5.72**	**325**	Pn	**Pn**	**10 32 39.6**	**-1.9**
N18K	**Kilae Creek**	**5.72**	**325**	P	**Pn**	**10 32 41.0**	**-0.5**
	baz=140						
SCM	**Sheep Creek Mo**	**5.73**	**9**	Pn	**Pn**	**10 32 40.5**	**-1.2**
VRDI	**Verde Repeater**	**5.85**	**28**	Pn	**Pn**	**10 32 42.7**	**-0.7**
O16K	**Kokwok River B**	**5.87**	**309**	Pn	**Pn**	**10 32 43.5**	**0.0**
N25K	**Chitina, Valde**	**5.91**	**22**		**Pn**	**10 32 45.0**	**+0.8**
N25K	**Chitina, Valde**	**5.91**	**22**	P	**Pn**	**10 32 45.3**	**+1.2**
	baz=206						
KIAG	**Kiagna River**	**5.92**	**34**		**Pn**	**10 32 44.6**	**+0.3**
SAMH	**Samovar Hills**	**5.92**	**45**		**Pn**	**10 32 45.1**	**+0.8**
SKT	**Skwentna**	**5.93**	**349**	Pn	**Pn**	**10 32 42.9**	**-1.4**
GLB	**Gilahina Butte**	**5.94**	**26**	Pn	**Pn**	**10 32 44.8**	**+0.3**
SVW2	**Sparrevohn**	**5.95**	**328**	Pn	**Pn**	**10 32 43.8**	**-0.9**
N17K	**Nushagak Hills**	**6.07**	**319**	Pn	**Pn**	**10 32 45.0**	**-1.2**
PTPK	**Patty Peak**	**6.09**	**32**		**Pn**	**10 32 47.4**	**+0.7**
PCA	**Pinnacle**	**6.11**	**47**		**Pn**	**10 32 47.8**	**+0.9**
PINM	**Pinnacle**	**6.11**	**47**	P	**Pn**	**10 32 48.0**	**+1.1**
	baz=234						
M24K	**Tolsona, Glenn**	**6.12**	**13**	Pn	**Pn**	**10 32 48.8**	**+1.8**
BARN	**Barnard Glacie**	**6.24**	**36**		**Pn**	**10 32 49.2**	**+0.4**
PNL	**Peninsula**	**6.24**	**52**		**Pn**	**10 32 49.9**	**+1.3**
PNL	**Peninsula**	**6.24**	**52**	P	**Pn**	**10 32 49.9**	**+1.3**
	baz=240						
CTGM	**Chitina Glacie**	**6.28**	**37**	Pn	**Pn**	**10 32 49.7**	**+0.4**
BCPM	**Bancas Point**	**6.29**	**49**		**Pn**	**10 32 50.0**	**+0.7**
LOGN	**Logan Glacier**	**6.30**	**39**		**Pn**	**10 32 50.2**	**+0.7**
M19K	**Big River Lodg**	**6.33**	**337**	Pn	**Pn**	**10 32 48.6**	**-1.2**
M18K	**Stony River**	**6.34**	**330**		**Pn**	**10 32 49.4**	**-0.6**
M18K	**Stony River**	**6.34**	**330**	P	**Pn**	**10 32 49.4**	**-0.6**
	baz=145						
SDPT	**Sand Point**	**6.46**	**267**	Pn	**Pn**	**10 32 49.8**	**-1.8**
HARP	**HAARP**	**6.54**	**16**		**Pn**	**10 32 53.7**	**+0.9**
HARP	**HAARP**	**6.54**	**16**	P	**Pn**	**10 32 53.7**	**+0.9**
	baz=200						
L19K	**White Mountain**	**6.68**	**336**	Pn	**Pn**	**10 32 53.0**	**-1.7**
M17K	**Holitna River**	**6.77**	**324**		**Pn**	**10 32 55.9**	**+0.1**
O29M	**Mount Kennedy**	**6.92**	**49**	Pn	**Pn**	**10 32 59.1**	**+1.0**
O29M	**Mount Kennedy**	**6.92**	**49**	P	**Pn**	**10 32 59.0**	**+1.0**
	baz=238						
DHY	**Denali Highway**	**6.96**	**7**	Pn	**Pn**	**10 32 57.4**	**-1.2**
M26K	**Nabesna, AK**	**6.97**	**24**	Pn	**Pn**	**10 32 59.5**	**+0.9**
P29M	**Windy Craggy**	**6.98**	**56**		**Pn**	**10 32 58.4**	**-0.3**
P29M	**Windy Craggy**	**6.98**	**56**	P	**Pn**	**10 32 59.2**	**+0.5**
	baz=246						
N15K	**Kwethluk River**	**7.03**	**309**		**Pn**	**10 33 00.1**	**+0.7**
M16K	**Timber Creek**	**7.05**	**317**	Pn	**Pn**	**10 32 59.0**	**-0.7**
YUK8	**Steele Glacier**	**7.05**	**40**		**Pn**	**10 33 01.6**	**+1.7**
YUK8	**Steele Glacier**	**7.05**	**40**	P	**Pn**	**10 33 01.6**	**+1.7**
	baz=228						
YUK3	**Moose Creek**	**7.16**	**35**		**Pn**	**10 33 02.1**	**+0.7**
YUK3	**Moose Creek**	**7.16**	**35**	P	**Pn**	**10 33 02.1**	**+0.7**
	baz=223						
O14K	**Tigyukauivet M**	**7.18**	**300**	Pn	**Pn**	**10 33 00.9**	**-0.6**
O14K	**Tigyukauivet M**	**7.18**	**300**	P	**Pn**	**10 33 01.7**	**+0.2**
	baz=111						
M27K	**Edge Creek, AK**	**7.21**	**28**	Pn	**Pn**	**10 33 02.6**	**+0.6**
M27K	**Edge Creek, AK**	**7.21**	**28**	P	**Pn**	**10 33 02.8**	**+0.9**
	baz=215						
RND	**Reindeer**	**7.23**	**1**		**Pn**	**10 33 01.4**	**-0.9**
S31K	**Pelican**	**7.25**	**71**		**Pn**	**10 33 01.8**	**-0.6**
S31K	**Pelican**	**7.25**	**71**	P	**Pn**	**10 33 01.9**	**-0.5**
	baz=261						
TRF	**Thorofare Moun**	**7.30**	**356**	Pn	**Pn**	**10 33 02.2**	**-1.1**
CAST	**Castle Rocks**	**7.39**	**350**	Pn	**Pn**	**10 33 03.8**	**-0.6**
L26K	**Log Cabin Wild**	**7.45**	**21**	Pn	**Pn**	**10 33 07.8**	**+2.7**
YUK4	**Talbot Arm**	**7.50**	**42**	P	**Pn**	**10 33 09.0**	**+2.9**
	baz=231						
M15K	**Kasigluk River**	**7.55**	**311**		**Pn**	**10 33 06.5**	**-0.1**
M15K	**Kasigluk River**	**7.55**	**311**	P	**Pn**	**10 33 06.5**	**-0.1**
	baz=122						
K20K	**Telida**	**7.60**	**343**	Pn	**Pn**	**10 33 07.0**	**-0.3**
HYT	**Haines Junctio**	**7.65**	**48**	Pn	**Pn**	**10 33 10.2**	**+2.2**
SIT	**Sitka**	**7.67**	**78**	Pn	**Pn**	**10 33 07.3**	**-0.8**
L16K	**Owhat River**	**7.69**	**320**		**Pn**	**10 33 08.3**	**0.0**
L16K	**Owhat River**	**7.69**	**320**	P	**Pn**	**10 33 08.7**	**+0.3**
	baz=132						
L27K	**Beaver Creek,**	**7.81**	**25**		**Pn**	**10 33 11.8**	**+1.6**
L27K	**Beaver Creek,**	**7.81**	**25**	P	**Pn**	**10 33 10.7**	**+0.6**
	baz=212						
BCAR	**Beaver Creek A**	**7.83**	**25**	Pn	**Pn**	**10 33 10.7**	**+0.3**
RIDG	**Independent Ri**	**7.86**	**14**	Pn	**Pn**	**10 33 12.2**	**+1.3**
BPAW	**Bear Paw Mtn.**	**7.98**	**354**	Pn	**Pn**	**10 33 12.4**	**-0.1**
BWN	**Browne**	**8.00**	**359**	Pn	**Pn**	**10 33 12.0**	**-0.7**
K17K	**Iditarod**	**8.03**	**328**	Pn	**Pn**	**10 33 11.7**	**-1.4**
SKAG	**Skagway**	**8.06**	**60**	Pn	**Pn**	**10 33 12.9**	**-0.6**
BESE	**Bessie Mountai**	**8.07**	**67**		**Pn**	**10 33 13.4**	**-0.4**
S32K	**Killisnoo**	**8.09**	**75**		**Pn**	**10 33 12.9**	**-1.0**
S32K	**Killisnoo**	**8.09**	**75**	P	**Pn**	**10 33 13.6**	**-0.2**
	baz=267						
N30M	**Aishikik Lake**	**8.17**	**45**	Pn	**Pn**	**10 33 14.2**	**-0.9**
J18K	**Innoko River**	**8.22**	**336**	Pn	**Pn**	**10 33 15.7**	**-0.1**
JIS	**Juneau Island**	**8.27**	**69**	Pn	**Pn**	**10 33 16.2**	**-0.1**
M29M	**Somme Creek**	**8.30**	**37**		**Pn**	**10 33 17.0**	**+0.1**
HDA	**Harding Lake**	**8.31**	**7**	Pn	**Pn**	**10 33 18.6**	**+1.7**
WRH	**Wood River Hil**	**8.32**	**3**	Pn	**Pn**	**

J14K	**Nanvaranak Lak**	**9.83**	**318**	Pn		**Pn**	**10 33 38.7**	**+1.0**
K13K	**Kusilvak Mount**	**9.83**	**312**	Pn		**Pn**	**10 33 39.6**	**+1.8**
J29N	**Klondike Camp**	**9.88**	**29**	Pn		**Pn**	**10 33 40.1**	**+1.6**
V35K	**Ketchikan**	**9.91**	**88**	Pn		**Pn**	**10 33 37.8**	**-1.1**
H19K	**Roundabout Mou**	**10.01**	**342**	Pn		**Pn**	**10 33 40.0**	**-0.2**
H18K	**Honhosa River**	**10.05**	**337**	Pn		**Pn**	**10 33 39.6**	**-1.1**
IMAR	**Indian Mountai**	**10.07**	**349**	Pn		**Pn**	**10 33 42.2**	**+1.2**
FARO	**Faro, Yukon**	**10.08**	**47**	Pn		**Pn**	**10 33 43.8**	**+2.5**
R33M	**Jennings River**	**10.20**	**64**	Pn		**Pn**	**10 33 44.0**	**+1.0**
H17K	**Granite Mounta**	**10.23**	**333**	Pn		**Pn**	**10 33 43.2**	**0.0**
I28M	**Miner Creek**	**10.29**	**22**	Pn		**Pn**	**10 33 46.3**	**+2.1**
J30M	**Hart River**	**10.50**	**32**	Pn		**Pn**	**10 33 49.0**	**+2.0**
G23K	**Bananza Creek**	**10.56**	**358**	Pn		**Pn**	**10 33 48.3**	**+0.5**
G21K	**Allakaket**	**10.56**	**350**	Pn		**Pn**	**10 33 47.7**	**-0.1**
DLBC	**Dease Lake**	**10.57**	**70**	Pn		**Pn**	**10 33 49.2**	**+1.2**
	comp=E,0.6nm,0.3s,baz=288,slow=9.6,SNR=2.4							
DLBC				Sn		**Sn**	**10 35 42.9**	**-3.4**
	comp=E,0.3nm,0.3s,baz=92,slow=18,SNR=1.3							
	comp=E,1.8nm,0.3s							
FYU	**Fort Yukon**	**10.57**	**9**	Pn		**Pn**	**10 33 48.7**	**+0.8**
G24K	**Hadweenzic Riv**	**10.57**	**4**	Pn		**Pn**	**10 33 47.4**	**-0.5**
G19K	**Purcell Mounta**	**10.68**	**342**	Pn		**Pn**	**10 33 50.5**	**+1.1**
G18K	**Tagagawik**	**10.75**	**339**	Pn		**Pn**	**10 33 51.0**	**+0.6**
G16K	**Koyuk River**	**11.23**	**331**	Pn		**Pn**	**10 33 56.5**	**-0.4**
F21K	**Alatna River**	**11.25**	**351**	Pn		**Pn**	**10 33 57.0**	**-0.2**
H29M	**Whitestone**	**11.29**	**23**	Pn		**Pn**	**10 33 58.4**	**+0.7**
F20K	**Avaraart Lake**	**11.32**	**347**	Pn		**Pn**	**10 33 59.0**	**+0.9**
F24K	**Squaw Lake**	**11.38**	**2**	Pn		**Pn**	**10 34 01.7**	**+2.7**
F19K	**Shaleruckik Mo**	**11.43**	**343**	Pn		**Pn**	**10 34 02.0**	**+2.5**
BMAR	**Burnt Mountain**	**11.47**	**9**	Pn		**Pn**	**10 34 01.5**	**+1.3**
ANM	**Nome**	**11.58**	**323**	Pn		**Pn**	**10 34 02.6**	**+0.9**
F17K	**Baldwin Pennin**	**11.78**	**336**	Pn		**Pn**	**10 34 05.2**	**+0.9**
EPYK	**Eagle Plains**	**11.79**	**25**	Pn		**Pn**	**10 34 05.0**	**+0.4**
E19K	**Redstone River**	**11.91**	**345**	Pn		**Pn**	**10 34 05.8**	**-0.5**
G29M	**Pine Creek**	**11.96**	**22**	Pn		**Pn**	**10 34 08.6**	**+1.8**
E25K	**Arctic Village**	**12.08**	**6**	Pn		**Pn**	**10 34 08.6**	**+0.1**
F15K	**North Star Dit**	**12.11**	**328**	Pn		**Pn**	**10 34 09.5**	**+0.5**
F28M	**Old Crow**	**12.24**	**17**	Pn		**Pn**	**10 34 13.2**	**+2.5**
G30M	**tAoh Zraii Nji**	**12.40**	**24**	Pn		**Pn**	**10 34 15.2**	**+2.3**
E27K	**Coleen River**	**12.52**	**13**	Pn		**Pn**	**10 34 15.8**	**+1.2**
G31M	**Satah River**	**12.83**	**27**	Pn		**Pn**	**10 34 20.1**	**+1.4**
D22K	**Ayikyak River**	**12.83**	**354**	Pn		**Pn**	**10 34 19.2**	**+0.4**
BBB	**Bella Bella**	**12.93**	**99**	Sn		**Sn**	**10 36 37.9**	**-6.1**
	comp=E,0.2nm,0.3s,baz=281,slow=10,SNR=1.9							
E29M	**Blow River**	**13.27**	**18**	Pn		**Pn**	**10 34 27.6**	**+2.9**
C19K	**Lookout Ridge**	**13.78**	**344**	Pn		**Pn**	**10 34 30.1**	**-1.6**
FLDN	**Fort Liard**	**14.07**	**63**	Pn		**Pn**	**10 34 37.9**	**+2.2**
INK	**Inuvik**	**14.09**	**24**	Pn		**Pn**	**10 34 38.1**	**+2.3**
INK	**Inuvik**	**14.09**	**24**	Pn		**Pn**	**10 34 37.0**	**+1.1**
	comp=E,0.2nm,0.3s,baz=204,slow=14,SNR=6.4							
	comp=E,6.8nm,1.0s							
B20K	**Meade River**	**14.31**	**349**	Pn		**Pn**	**10 34 39.0**	**+0.1**
C36M	**Paulatuk**	**17.27**	**30**			**Pn**	**10 35 18.0**	**+0.6**
YKAB2	**New Yellowknif**	**18.51**	**56**	P		**Pn**	**10 35 35.1**	**+2.3**
YKA	**Yellowknife Ar**	**18.52**	**56**	P		**Pn**	**10 35 34.4**	**+1.5**
YKA	**Yellowknife Ar**	**18.52**	**56**	P		**Pn**	**10 35 34.6**	**+1.8**
	comp=E,0.2nm,0.3s,baz=265,slow=10,SNR=15							
	comp=E,2.3nm,0.8s							
A36M	**Sachs Harbour**	**18.73**	**23**	P		**P**	**10 35 36.2**	**+1.3**
A36M				IAmb		IAmb	10 35 39.8	
	comp=Z,13nm,0.8s							
D05A	**Enumclaw**	**18.98**	**107**	P		**P**	**10 35 36.8**	**-1.1**
PNTR	**Pine Nut**	**25.95**	**119**	P		**P**	**10 36 46.3**	**-2.9**
PNTR				IAmb		IAmb	10 36 55.0	
	comp=E,5.7nm,1.0s							
NVAR	**Mina Array Bea**	**27.10**	**118**	P		**P**	**10 37 01.8**	**+2.3**
	comp=Z,1.0nm,0.6s,baz=307,slow=9.4,SNR=9.1							
	comp=Z,1.0nm,0.6s							
R11B	**Troy Canyon, C**	**28.52**	**115**	P		**P**	**10 37 13.5**	**+1.2**
PDAR	**Pinedale Array**	**28.57**	**101**	P		**P**	**10 37 11.1**	**-1.6**
PDAR	**Pinedale Array**	**28.57**	**101**	P		**P**	**10 37 14.0**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=26,slow=2.3,SNR=2.1							
	comp=Z,0.3nm,0.8s							
FCC	**Fort Churchill**	**29.00**	**62**	P		**P**	**10 37 17.3**	**+1.2**
PETK	**Petropavlovsk-**	**30.28**	**287**	P		**P**	**10 37 27.8**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=70,slow=14,SNR=1.6							
	comp=Z,3.8nm,1.0s							
VHRN	**Van Horn**	**39.87**	**111**	P		**P**	**10 38 49.2**	**-1.2**
SONM	**Songino Array**	**58.76**	**310**	P		**P**	**10 41 13.0**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=56,slow=7.8,SNR=2.1							
	comp=Z,0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**61.68**	**327**	P		**P**	**10 41 34.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=56,slow=2.6,SNR=1.9							
	comp=Z,0.6nm,0.3s							
HHC	**Hu-ho-hao-te**	**61.85**	**302**	*e*P		**P**	**10 41 38.0**	**+2.3**
FINES	**FINESS Array B**	**62.64**	**3**	P		**P**	**10 41 40.5**	**0.0**
	comp=Z,2.9nm,0.9s,baz=354,slow=9.6,SNR=3.3							
	comp=Z,2.9nm,0.9s							
BVAR	**Borovoye Array**	**66.40**	**335**	P		**P**	**10 42 06.7**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=350,slow=7.6,SNR=2.0							
	comp=Z,0.4nm,0.7s							
KURBB	**Kurchatov Array**	**66.45**	**329**	P		**P**	**10 42 07.0**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=29,slow=6.5,SNR=2.5							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**68.71**	**325**	P		**P**	**10 42 20.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=28,slow=5.9,SNR=10							
	comp=Z,0.4nm,0.5s							
WMQ	**Urumqi**	**69.46**	**320**	*e*P		**P**	**10 42 26.5**	**+1.7**
ESDC	**Sonseca Array**	**80.03**	**27**	P		**P**	**10 43 27.6**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=346,slow=7.2,SNR=3.0							
	comp=Z,0.5nm,0.7s							

*UPP **23** 10:33:34.4±3.2, 64.˚49N×31.˚22E, h0km, ML1.7*
*BER **23** 10:33:37.3±1.1, 64.˚63N×30.˚91E, h0km, ML1.9, Suspected explosion*
*IDC **23** 10:33:39.0±2.2, 64.˚77N×31.˚05E, h0km, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=30.0km s-min=9.3km az=101.0*
*HEL **23** 10:33:38.0±0.2, 64.˚78N×30.˚73E, h0km, ML1.9, Explosion*
*KOLA **23** 10:33:39.0, 64.˚76N×30.˚79E, h0km, ML2.4, Error ellipse: s-maj=14.4km s-min=10.0km az=160.0, Kostomuksha, Karelia*

ISC 23 10:33:38.3±0.8, 64.˚83N±0.˚02×30.˚59E±0.˚04, h0km, n53, σ1§46/86, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.68**	**205**	PG	**Pg**	**10 33 50.4**	**-0.8**
RMF				MSG		10 33 58.8	
	comp=Z,18nm,0.2s						
RMF				SG	**Sg**	**10 33 58.9**	**-1.1**
KU6	**Riekki**	**1.24**	**347**	PG	**Pg**	**10 34 01.4**	**-0.5**
	baz=163						
KU6				MSG		10 34 17.4	
	comp=Z,9.8nm,0.2s						
KU6				SG	**Sb**	**10 34 19.1**	**+0.2**
OLKF	**Oulanka, Finla**	**1.58**	**342**	PG	**Pn**	**10 34 07.6**	**+0.2**
OLKF				MSG		10 34 27.2	
	comp=Z,8.0nm,0.2s						
OLKF				SN	**Sg**	**10 34 30.6**	**+1.8**
NIF	**Nilsia**	**1.89**	**221**	PG	**Pn**	**10 34 12.0**	**+0.3**
NIF				SG	**Sn**	**10 34 36.7**	**+0.5**
JOF	**Joensuu**	**1.95**	**170**	PG	**Pn**	**10 34 11.0**	**-1.5**
JOF				SG	**Sn**	**10 34 37.2**	**-0.4**
RANF	**Ranua**	**1.98**	**309**	PG	**Pn**	**10 34 14.3**	**+1.3**
	baz=127						
RANF				SG	**Sb**	**10 34 40.9**	**+0.5**
OBF4	**Vikkela, Lumij**	**2.34**	**272**	PG	**Pn**	**10 34 20.0**	**+2.0**
OBF4				MSG		10 34 49.3	
	comp=Z,9.9nm,0.2s						
OBF4				SG	**Sb**	**10 34 51.3**	**+0.6**
OUF	**Merijarvi**	**2.57**	**262**	PB	**Pn**	**10 34 22.3**	**+1.3**
OUF				MSG		10 34 55.2	
	comp=Z,12nm,0.2s						
OUF				SG	**Sb**	**10 34 57.8**	**+0.6**
RNF	**Rovaniemi**	**2.60**	**315**	PN	**Pn**	**10 34 22.4**	**+0.9**
RNF				SG	**Sb**	**10 34 59.0**	**+0.8**
OBF0	**Syolatti, Pyha**	**2.75**	**266**	PB	**Pn**	**10 34 24.9**	**+1.4**
OBF0				MSG		10 35 00.7	
	comp=Z,5.9nm,0.2s						
OBF0				SG	**Sb**	**10 35 03.6**	**+1.2**
SUF	**Sumiainen**	**2.89**	**225**	PB	**Pn**	**10 34 26.9**	**+1.4**
SUF				MSG		10 35 03.2	
	comp=Z,2.8nm,0.2s						
TOF	**Tornio**	**2.90**	**298**	PN	**Pn**	**10 34 27.1**	**+1.5**
TOF				MSG		10 35 05.6	
	comp=Z,2.4nm,0.2s						
TOF				SB	**Sb**	**10 35 06.4**	**-0.3**
APA0	**Apatity Array**	**2.95**	**18**	P	**Pn**	**10 34 27.0**	**+0.7**
APA0				S	**Sn**	**10 35 03.5**	**+1.1**
VRF	**Varrio**	**2.96**	**353**	PN	**Pn**	**10 34 27.6**	**+1.2**
VRF				MSG		10 35 06.9	
	comp=Z,3.0nm,0.2s						
VRF				SG	**Sb**	**10 35 10.0**	**+1.6**
APA	**Apatity**	**2.98**	**21**	P	**Pn**	**10 34 27.4**	**+0.7**
SGF	**Sodankyl**	**3.10**	**330**	PN	**Pn**	**10 34 29.0**	**+0.6**
OBF8	**Ulkokalla**	**3.12**	**264**	PN	**Pn**	**10 34 29.4**	**+0.8**
KALU	**Kalix**	**3.20**	**292**	PN	**Pn**	**10 34 31.3**	**+1.5**
	baz=108						
KALU				SG	**Sg**	**10 35 19.9**	**-1.1**
KALU	**Kalix**	**3.20**	**292**	P	**Pn**	**10 34 31.1**	**+1.4**
KAF	**Kangasniemi**	**3.33**	**217**	PB	**Pn**	**10 34 33.3**	**+1.7**
	baz=35						
KAF				SG	**Sb**	**10 35 19.3**	**0.0**
LVZ	**Lovozero**	**3.49**	**26**	S	**Sn**	**10 35 15.1**	**-0.6**
LVZ	**Lovozero**	**3.49**	**26**	PN	**Pn**	**10 34 34.2**	**+0.5**
LVZ				SG	**Sg**	**10 35 28.3**	**-1.9**
RUF	**Ruokolahti**	**3.50**	**193**	PN	**Pn**	**10 34 33.8**	**0.0**
	baz=13						
KLF	**Kolari**	**3.62**	**315**	PN	**Pn**	**10 34 36.3**	**+0.8**
KLF				SG	**Sg**	**10 35 32.0**	**-2.5**
KEF	**Keuruu**	**3.70**	**226**	SB	**Sn**	**10 35 24.0**	**+3.1**
PAJU	**Pajala**	**3.77**	**309**	PN	**Pn**	**10 34 38.7**	**+1.1**
PAJU				SG	**Sb**	**10 35 35.9**	**+4.0**
PAJU	**Pajala**	**3.77**	**309**	P	**Pn**	**10 34 38.9**	**+1.3**
RAJF	**Raja-Jooseppi**	**3.77**	**347**	PN	**Pn**	**10 34 37.7**	**+0.1**
RAJF				SG	**Sg**	**10 35 36.6**	**-2.6**
SJUU	**Sjulsmark**	**3.85**	**284**	P	**Pn**	**10 34 39.1**	**+0.5**
VAF	**Ylistaro**	**3.93**	**246**	PG	**Pb**	**10 34 50.0**	**+1.7**
BURU	**Burvik**	**3.96**	**271**	P	**Pn**	**10 34 39.8**	**-0.3**
BURU				S	**Sn**	**10 35 29.1**	**+1.9**
FIA0	**FINESS Array S**	**3.97**	**213**	PN	**Pn**	**10 34 40.5**	**+0.3**
FIA0				SG	**Sb**	**10 35 38.0**	**+0.6**
FINES	**FINESS Array B**	**3.97**	**213**	Pn	**Pn**	**10 34 40.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=8.7						
FINES				Pg	**Pb**	**10 34 49.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=33,slow=15,SNR=12						
FINES				Sn	**Sn**	**10 35 28.4**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=40,slow=22,SNR=1.9						
FINES				Lg	Lg	10 35 39.4	
	comp=Z,0.8nm,0.3s,baz=37,slow=26,SNR=7.0						
	comp=Z,0.5nm,0.3s						
HARU	**Harads**	**4.22**	**293**	P	**Pn**	**10 34 45.2**	**+1.4**
ODEU	**Stanfors**	**4.27**	**269**	P	**Pn**	**10 34 43.9**	**-0.5**
MASU	**Masugnsbyn**	**4.37**	**311**	P	**Pn**	**10 34 47.4**	**+1.5**
VJF	**Virojoki**	**4.53**	**199**	SG	**Sb**	**10 35 57.2**	**+3.7**
HEF	**Hetta**	**4.53**	**326**	*e*P	**Pn**	**10 34 48.2**	**+0.2**
HEF				*e*S	**Sn**	**10 35 41.8**	**+0.5**
HEF	**Hetta**	**4.53**	**326**	PN	**Pn**	**10 34 48.1**	**+0.1**
HEF				SG	**Sg**	**10 35 59.8**	**-3.7**
KMNF	**Kaamanen**	**4.56**	**344**	PN	**Pn**	**10 34 48.5**	**+0.1**
PRVG	**Vayda Guba**	**4.98**	**6**	P	**Pn**	**10 34 54.9**	**+0.8**
PRVG				S	**Sn**	**10 35 51.5**	**-0.7**
KTK1	**Kautokeino**	**5.10**	**329**	*e*P	**Pn**	**10 34 56.3**	**+0.6**
KTK1				*e*S	**Sn**	**10 35 53.4**	**-1.8**
KTK1				IAML		10 36 06.1	
	comp=Z,1.5nm,0.9s						
ARA0	**ARCESS Array S**	**5.12**	**340**	*e*P	**Pn**	**10 34 56.4**	**+0.3**
ARA0				*e*S	**Sn**	**10 35 53.9**	**-1.9**
ARA0				IAML		10 35 58.2	
	comp=Z,2.2nm,0.7s						
ARCES	**ARCESS Array B**	**5.12**	**340**	P	**Pn**	**10 34 56.4**	**+0.2**
ARCES				S	**Sn**	**10 35 54.0**	**-1.8**
ARCES	**ARCESS Array B**	**5.12**	**340**	Pn	**Pn**	**10 34 56.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=156,slow=13,SNR=95						
ARCES				Sn	**Sn**	**10 35 54.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=157,slow=26,SNR=5.5						
ARCES				Lg	Lg	10 36 17.3	
	comp=Z,0.3nm,0.3s,baz=159,slow=31,SNR=6.5						
	comp=Z,1.4nm,0.2s						
KEV	**Kevo**	**5.14**	**346**	*e*P	**Pn**	**10 34 56.0**	**-0.2**
KEV				*e*S	**Sn**	**10 35 55.4**	**-0.8**
VADS	**Vadso**	**5.34**	**355**	P	**Pn**	**10 34 58.7**	**-0.3**
VADS				S	**Sn**	**10 36 00.8**	**-0.3**
VADS	**Vadso**	**5.34**	**355**	*e*P	**Pn**	**10 34 58.8**	**-0.2**
VADS				IAML		10 35 59.3	
	comp=Z,5.1nm,0.7s						
JETT	**Jettan, Norway**	**6.17**	**325**	*e*P	**Pn**	**10 35 10.2**	**-0.3**
JETT				*e*S	**Sn**	**10 36 19.3**	**-2.5**
JETT				IAML		10 36 21.4	
	comp=Z,3.2nm,0.7s						
FAUS	**Fauske**	**6.72**	**299**	S	**Sn**	**10 36 34.1**	**-0.9**
I43RU	**DUBNA INFRASON**	**8.75**	**155**	I	I	11 28 30.0	
	baz=345,slow=315,SNR=1.0						
HFS	**Hagfors**	**9.11**	**247**	Pn	**Pn**	**10 35 50.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=50,slow=12,SNR=1.9						
HFS				Sn	**Sn**	**10 37 29.0**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=62,slow=25,SNR=1.2						
	comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**9.59**	**256**	Pn	**Pn**	**10 35 57.8**	**+0.3**
	baz=62,slow=12,SNR=1.5						
	comp=Z,0.5nm,0.8s						

*ISK **23** 10:33:59.5, 38.˚15N×39.˚62E, h5km, ML2.2/8*
*AFAD **23** 10:34:00.5±0.0, 38.˚14N×39.˚58E, h7km±2km, ML3.2*

ISC 23 10:34:00.2±1.1, 38.˚14N±0.˚03×39.˚60E±0.˚02, h8km±10km, n22, σ0§43/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIYA	**Diyarbakir**	**0.47**	**118**	P	**Pb**	**10 34 10.2**	**-0.5**
DYBB	**Diyarbakir**	**0.47**	**114**	Pg	**Pg**	**10 34 09.7**	**+0.4**
DYBB				Sg	**Sb**	**10 34 17.5**	**-0.3**
KOVA	**Elazig, Kovanc**	**0.59**	**17**	P	**Pg**	**10 34 12.0**	**+0.4**
KOVA				S	**Sb**	**10 34 21.5**	**+0.2**
KOVA				*i* AML	AML	10 34 34.0	
	comp=E,1μm,0.9s						
HANI	**Diyarbakir_Han**	**0.69**	**66**	P	**Pg**	**10 34 13.8**	**+0.4**
HANI				*i* AML	AML	10 34 18.0	
	comp=E,345nm,2.0s						
HANI				*i* AML	AML	10 34 21.0	
	comp=N,583nm,1.5s						
HANI				S	**Sg**	**10 34 22.8**	**+0.4**
NARI	**Adyaman-Kaht**	**0.71**	**249**	P	**Pb**	**10 34 14.3**	**-0.6**
NARI				*i* AML	AML	10 34 21.0	
	comp=N,833nm,1.6s						
NARI				*i* AML	AML	10 34 23.0	
	comp=E,363nm,0.9s						
PTK	**Pertek**	**0.77**	**348**	Pg	**Pg**	**10 34 15.1**	**+0.1**
HANM	**anlurfa/Hi**	**0.80**	**226**	P	**Pb**	**10 34 16.2**	**-0.2**
HANM				*i* AML	AML	10 34 22.0	
	comp=E,536nm,2.5s						
URFA	**Urfa**	**0.93**	**222**	Pg	**Pb**	**10 34 18.6**	**-0.1**
URFA				Sg	**Sn**	**10 34 32.9**	**-0.4**
MAZI	**Mazidag**	**0.96**	**135**	Pg	**Pb**	**10 34 19.1**	**0.0**
MAZI				Sg	**Sb**	**10 34 32.7**	**+0.7**
AZEY	**Adyaman-Merk**	**1.12**	**253**	P	**Pn**	**10 34 22.6**	**+0.4**
AZEY				S	**Sn**	**10 34 38.0**	**+0.2**
AZEY				*i* AML	AML	10 34 54.0	
	comp=N,1μm,1.7s						
AZEY				*i* AML	AML	10 34 59.0	
	comp=E,855nm,2.9s						
BNGB	**Bingl**	**1.20**	**45**	Pn	**Pb**	**10 34 23.1**	**-0.1**
BNGB				Sn	**Sn**	**10 34 40.7**	**+0.8**
ATAB	**Bozova**	**1.23**	**237**	P	**Pn**	**10 34 24.0**	**+0.3**
ATAB				*i* AML	AML	10 34 38.0	
	comp=E,841nm,1.9s						
ATAB				S	**Sn**	**10 34 40.6**	**0.0**
ATAB				*i* AML	AML	10 35 03.0	
	comp=N,397nm,1.4s						
MARD	**Mardin**	**1.25**	**131**	P	**Pg**	**10 34 23.7**	**-0.5**
MARD				*i* AML	AML	10 34 37.0	
	comp=E,1μm,0.7s						
MARD				S	**Sg**	**10 34 39.9**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.26**	**89**	Pn	**Pg**	**10 34 23.9**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.26**	**89**	P	**Pn**	**10 34 24.2**	**+0.1**
SVAN				*i* AML	AML	10 34 39.0	
	comp=N,733nm,0.7s						
SVAN				S	**Sg**	**10 34 40.6**	**-0.2**
SVAN				*i* AML	AML	10 35 05.0	
	comp=E,496nm,2.9s						
SURC	**SANLIURFA_SURC**	**1.48**	**212**	P	**Pg**	**10 34 29.1**	**+0.4**
SURC				*i* AML	AML	10 34 47.0	
	comp=N,2μm,3.2s						
SURC				S	**Sg**	**10 34 48.6**	**+0.7**
SURC				*i* AML	AML	10 35 12.0	
	comp=E,249nm,2.4s						
YEDI	**Yedisu-Bingol**	**1.49**	**29**	Pn	**Pg**	**10 34 28.4**	**-0.4**
AKCA	**Adyaman/G¶l**	**1.55**	**258**	P	**Pb**	**10 34 28.7**	**-0.5**
AKCA				*i* AML	AML	10 34 48.0	
	comp=E,673nm,1.8s						
AKCA				S	**Sg**	**10 34 49.9**	**-0.1**
AKCA				*i* AML	AML	10 35 17.0	
	comp=N,1μm,2.7s						
MUSM	**Mu-Merkez**	**1.61**	**68**	P	**Pb**	**10 34 29.9**	**-0.4**
MUSM				*i* AML	AML	10 34 50.0	
	comp=E,579nm,2.9s						
MUSM				S	**Sg**	**10 34 51.5**	**-0.5**
MUSM				*i* AML	AML	10 35 06.0	
	comp=N,524nm,9.2s						
DARE	**Darende-Malaty**	**1.72**	**285**	Pn	**Pg**	**10 34 32.6**	**-0.5**
GZT	**Gaziantep**	**1.79**	**245**	P	**Pg**	**10 34 35.0**	**+0.4**
GZT				S	**Sb**	**10 34 55.9**	**-0.2**
GZT				*i* AML	AML	10 35 24.0	
	comp=N,234nm,2.8s						
GZT				*i* AML	AML	10 35 30.0	
	comp=E,1μm,8.5s						
KHMR	**Kahramanmara**	**2.28**	**250**	P	**Pg**	**10 34 43.4**	**-0.4**

*IDC **23** 10:34:34.7±0.8, 56.˚16N×149.˚28W, h0km, mb4.0/21, mbtmp4.0/25, ML3.6/4, Error ellipse: s-maj=22.8km s-min=14.3km az=30.0*
*NEIC **23** 10:34:34.0±2.6, 56.˚00N±0.˚07×149.˚42W±0.˚10, h17km±5km, mb4.2/20, ML4.3/46, ML4.2(AEIC), Error ellipse: s-maj=10.7km s-min=8.1km az=189.0*
*AEIC **23** 10:34:39.0±2.6, 56.˚05N±0.˚08×149.˚45W±0.˚10, h12km±5km, Error ellipse: s-maj=11.3km s-min=8.1km az=178.0*

ISC 23 10:34:34.6±0.5, 56.˚10N±0.˚07×149.˚37W±0.˚05, h10km, n313, σ1§61/322, mb4.2/31, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.44**	**315**	Pn	**Pn**	**10 35 13.5**	**-0.9**
KDAK	**Kodiak Island**	**2.44**	**315**		**Sn**	**10 35 39.8**	**-4.5**
KDAK	**Kodiak Island**	**2.44**	**315**	Pn	**Pn**	**10 35 13.3**	**-1.0**
	44nm,0.3s,baz=180,slow=5.6,SNR=12						
KDAK				Sn	**Sn**	**10 35 39.2**	**-5.0**
	56nm,0.3s,baz=16,slow=22,SNR=4.4						
	83nm,0.3s						
OHAK	**Old Harbor**	**2.44**	**299**		**Pn**	**10 35 12.8**	**-1.6**
OHAK					**Sn**	**10 35 38.8**	**-5.4**
OHAK	**Old Harbor**	**2.44**	**299**	P	**Pn**	**10 35 12.9**	**-1.5**
	baz=118						
OHAK				S	**Sn**	**10 35 38.3**	**-5.9**
	baz=118						
Q20K	**Shuyak Island**	**3.00**	**328**	P	**Pn**	**10 35 21.9**	**-0.3**
	baz=147						
Q20K				S	**Sn**	**10 35 55.9**	**-2.2**
	baz=147						
SYI	**Shuyak Island**	**3.00**	**328**		**Pn**	**10 35 21.6**	**-0.5**
SYI					**Sn**	**10 35 56.3**	**-1.8**
CNPM	**China Poot**	**3.58**	**345**		**Pn**	**10 35 30.3**	**+0.2**
CNPM					**Sn**	**10 36 11.1**	**-1.2**
CNPM				IAML		10 36 20.8	
	comp=E,362nm,0.8s						
CNPM				IAML		10 36 24.4	
	comp=N,248nm,0.9s						
Q19K	**Cape Douglas,**	**3.65**	**323**	Pn	**Pn**	**10 35 31.6**	**+0.4**
Q19K				IAML		10 36 21.1	
	comp=N,599nm,0.9s						
Q19K				IAML		10 36 22.8	
	comp=E,1μm,0.8s						
Q19K	**Cape Douglas,**	**3.65**	**323**	P	**Pn**	**10 35 31.8**	**+0.6**
	baz=140						
KAHG	**Katmai Nook Gl**	**3.69**	**313**		**Pn**	**10 35 31.8**	**+0.1**
Q23K	**Middleton Isla**	**3.71**	**25**	Pn	**Pn**	**10 35 31.7**	**-0.1**
Q23K				IAML		10 36 11.7	
	comp=E,462nm,0.9s						
Q23K	**Middleton Isla**	**3.71**	**25**	P	**Pn**	**10 35 31.9**	**+0.1**
	baz=208						
MID	**Middleton Isla**	**3.71**	**25**	Pn	**Pn**	**10 35 31.4**	**-0.5**
MID				IAML		10 36 12.1	
	comp=E,400nm,0.7s						
MID	**Middleton Isla**	**3.71**	**25**	P	**Pn**	**10 35 31.3**	**-0.5**
BRSE	**Bradley Lake S**	**3.72**	**349**		**Pn**	**10 35 32.0**	**-0.1**
BRSE					**Sn**	**10 36 12.3**	**-3.6**
BRSE	**Bradley Lake S**	**3.72**	**349**	P	**Pn**	**10 35 32.0**	**-0.1**

SNH	Sunshine Point	5.36	38			Pn	10 35 53.8	-0.8
DIV	Divide	5.38	19			Pn	10 35 55.8	+0.9
SPCG	Spurr Capps Gl	5.39	346			Pn	10 35 54.2	-0.7
CYK	Cape Yakataga	5.41	40			Pn	10 35 54.4	-0.7
SUA	Susitna One	5.42	353			Pn	10 35 55.2	-0.3
N19K	Bonanza Creek	5.43	333	Pn		Pn	10 35 55.5	-0.1
BMRM	Bremner River	5.48	25			Pn	10 35 56.9	+0.7
BMRM	Bremner River baz=209	5.48	25	P		Pn	10 35 56.7	+0.5
P16K	Nushagak River	5.49	306			Pn	10 35 55.8	-0.5
P16K	Nushagak River baz=119	5.49	306	P		Pn	10 35 56.0	-0.2
PMR	Palmer	5.51	1	Pn		Pn	10 35 57.7	+1.1
PMR	Palmer baz=182	5.51	1	P		Pn	10 35 58.7	+2.2
O17K	Koliganek Bris	5.52	315			Pn	10 35 56.3	-0.4
O17K	Koliganek Bris baz=129	5.52	315	P		Pn	10 35 56.5	-0.3
STLK	Strandline Lak	5.56	348			Pn	10 35 57.5	+0.1
GHO	Glory Hole Cre	5.69	2			Pn	10 36 01.0	+1.8
KLU	Klutina	5.70	17			Pn	10 36 00.5	+1.3
KLU	Klutina baz=200	5.70	17	P		Pn	10 36 01.0	+1.8
N18K	Kilae Creek	5.73	326			Pn	10 35 58.8	-0.8
SML	Sawmill	5.75	5			Pn	10 36 00.8	+0.9
SML	Sawmill baz=186	5.75	5	P		Pn	10 36 02.0	+2.1
O16K	Kokwok River B	5.83	311			Pn	10 36 00.7	-0.2
SCM	Sheep Creek Mo	5.84	10			Pn	10 36 03.1	+1.9
SCM	Sheep Creek Mo baz=192	5.84	10	P		Pn	10 36 03.3	+2.0
CNBA	Chernabura Isl	5.96	262	Pn		Pn	10 36 01.0	-1.7
SVW2	Sparrevohn	5.97	330			Pn	10 36 02.4	-0.5
VRDI	Verde Repeater	6.00	29	Pn		Pn	10 36 03.3	-0.1
SKT	Skwentna	6.00	350	Pn		Pn	10 36 04.0	+0.6
N25K	Chitina, Valde	6.05	22	Pn		Pn	10 36 05.3	+1.3
N17K	Nushagak Hills	6.05	320			Pn	10 36 02.9	-1.2
KIAG	Kiagna River	6.07	34			Pn	10 36 03.9	-0.5
SAMH	Samovar Hills	6.08	45			Pn	10 36 04.5	0.0
GLB	Gilahina Butte	6.08	26			Pn	10 36 05.2	+0.6
M20K	Styx River	6.11	343			Pn	10 36 04.3	-0.7
YKU2	Yakutat	6.21	53	Pn		Pn	10 36 05.0	-1.0
YKU2	Yakutat	6.21	53	P		Pn	10 36 05.1	-1.0
PTPK	Patty Peak	6.24	32			Pn	10 36 06.5	-0.3
M24K	Tolsona, Glenn	6.24	14	Pn		Pn	10 36 08.1	+1.4
PCA	Pinnacle	6.27	47			Pn	10 36 06.7	-0.4
SDPT	Sand Point	6.32	268	Pn		Pn	10 36 05.1	-2.6
CUT	Chulitna	6.34	356	Pn		Pn	10 36 05.8	-2.2
M18K	Stony River	6.36	331			Pn	10 36 07.4	-0.8
M19K	Big River Lodg	6.37	338			Pn	10 36 07.7	-0.7
BARN	Barnard Glacie	6.40	36			Pn	10 36 08.7	-0.2
O15K	Ungalikthiuk R	6.40	303			Pn	10 36 08.2	-0.7
PNL	Peninsula	6.41	52			Pn	10 36 07.3	-1.6
PNL	Peninsula	6.41	52	P		Pn	10 36 07.8	-1.3
CTGM	Chitina Glacie	6.44	37			Pn	10 36 08.8	-0.7
BCPM	Bancas Point	6.45	49			Pn	10 36 08.6	-0.9
LOGN	Logan Glacier	6.45	39			Pn	10 36 08.7	-1.0
N16K	Nishlik Lake	6.61	315			Pn	10 36 11.7	-0.1
HARP	HAARP	6.67	17			Pn	10 36 13.5	+0.9
L19K	White Mountain	6.72	337	Pn		Pn	10 36 12.8	-0.4
M17K	Holitna River	6.77	325			Pn	10 36 13.2	-0.6
N15K	Kwethluk River	6.99	310			Pn	10 36 16.9	0.0
M16K	Timber Creek	7.03	318			Pn	10 36 17.2	-0.3
DHY	Denali Highway	7.07	7			Pn	10 36 15.2	-2.9
O29M	Mount Kennedy	7.09	49			Pn	10 36 17.2	-1.2
M26K	Nabesna, AK	7.11	25			Pn	10 36 17.2	-1.3
O14K	Tigyukauivet M	7.12	301			Pn	10 36 17.9	-0.7
P29M	Windy Craggy	7.14	56			Pn	10 36 17.2	-1.8
PAX	Paxson	7.17	14			Pn	10 36 18.4	-1.0
L18K	Granite Mounta	7.19	332	Pn		Pn	10 36 19.2	-0.4
YUK2	White River	7.20	34			Pn	10 36 20.9	+1.0
YUK8	Steele Glacier	7.21	40			Pn	10 36 20.7	+0.6
YUK3	Moose Creek	7.32	35			Pn	10 36 22.1	+0.6
RND	Reindeer	7.33	2	Pn		Pn	10 36 20.0	-1.7
M27K	Edge Creek, AK	7.35	28			Pn	10 36 20.6	-1.4
TRF	Thorofare Moun	7.39	357			Pn	10 36 20.5	-2.0
YUK7	Dusty Glacier	7.39	48			Pn	10 36 22.1	-0.5
S31K	Pelican	7.41	70			Pn	10 36 18.9	-3.7
MENT	Mentasta	7.43	20	Pn		Pn	10 36 24.2	+1.2
CAST	Castle Rocks	7.47	351			Pn	10 36 22.8	-0.7
KTH	Kantishna Hill	7.52	355	Pn		Pn	10 36 22.4	-1.7
M15K	Kasigluk River	7.52	312			Pn	10 36 24.2	+0.1
YUK6	Outpost Mounta	7.53	45			Pn	10 36 24.4	-0.1
L26K	Log Cabin Wild	7.58	21			Pn	10 36 24.3	-0.8
TTA	Tatalina	7.63	337	Pn		Pn	10 36 26.7	+0.9
TTA	Tatalina	7.63	337	P		Pn	10 36 29.5	+3.7
K20K	Telida	7.65	344	Pn		Pn	10 36 24.1	-1.9
L16K	Owhat River	7.67	321			Pn	10 36 23.8	-2.4
BVCV	Beaver Creek	7.68	31			Pn	10 36 27.3	+0.9
P30M	Million Dollar	7.71	53			Pn	10 36 25.7	-1.1
PLBC	Pleasant Camp	7.72	59			Pn	10 36 25.4	-1.5
HYT	Haines Junctio	7.81	48			Pn	10 36 27.4	-0.9
YUK5	Granite Creek	7.84	45			Pn	10 36 28.8	+0.2
L27K	Beaver Creek,	7.96	26			Pn	10 36 31.9	+1.7
BCAR	Beaver Creek A	7.97	26	Pn		Pn	10 36 29.7	-0.6
RIDG	Independent Ri	7.99	15	Pn		Pn	10 36 30.3	-0.3
K17K	Iditarod	8.04	329			Pn	10 36 30.8	-0.5
BPAW	Bear Paw Mtn.	8.06	355			Pn	10 36 30.8	-0.9
M14K	Bethel	8.08	310	Pn		Pn	10 36 31.6	-0.2
SKAG	Skagway	8.22	60			Pn	10 36 32.2	-1.5
S32K	Killisnoo	8.24	74	Pn		Pn	10 36 33.4	-0.6
J18K	Innoko River	8.26	336	Pn		Pn	10 36 34.3	0.0
N30M	Aishikik Lake	8.33	45			Pn	10 36 34.8	-0.6
SCRK	Sand Creek	8.34	17	Pn		Pn	10 36 36.4	+0.9
O30N	Mendenhall	8.38	51			Pn	10 36 34.7	-1.3
HDA	Harding Lake	8.42	7	Pn		Pn	10 36 35.3	-1.2
JIS	Juneau Island	8.43	69			Pn	10 36 33.9	-2.7
J20K	Nowinta River	8.44	346	Pn		Pn	10 36 35.5	-1.2
M29M	Somme Creek	8.45	37			Pn	10 36 37.2	+0.2
J19K	Poorman	8.51	341	Pn		Pn	10 36 36.4	-1.3
NEA2	Nenana	8.52	1			Pn	10 36 36.2	-1.6
M13K	Dall Lake	8.54	306			Pn	10 36 38.0	-0.1
CCB	Clear Creek Bu	8.61	5			Pn	10 36 39.2	+0.2
L14K	Kuka Creek	8.68	313			Pn	10 36 40.5	+0.4
K27K	Chicken	8.74	22			Pn	10 36 40.4	-0.5
J25K	Salcha River,	8.76	11	Pn		Pn	10 36 39.3	-1.9
IL31		8.78	7	Pn		Pn	10 36 39.6	-1.8
ILAR	Eielson Array	8.78	7	Pn		Pn	10 36 40.6	-0.9
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=191,slow=13,SNR=2.7	8.78	7	Pn		Pn	10 36 39.1	-2.4
ILAR					Sn	Sn	10 38 14.1	-6.4
	comp=N,0.3nm,0.3s,baz=218,slow=14,SNR=1.5 comp=N,0.7nm,0.6s							
IL03	Eielson Array	8.79	7	Pn		Pn	10 36 40.6	-0.9
K15K	Wolf Creek Mou	8.79	320			Pn	10 36 41.7	+0.2
COLA	College	8.83	4			Pn	10 36 41.2	-0.9
WHY	Whitehorse	8.87	53	Pn		Pn	10 36 41.5	-1.3
N31M	Braeburn, Yuko	8.87	47			Pn	10 36 42.3	-0.5
J26L	Joseph Creek	8.90	16			Pn	10 36 42.0	-1.1
MDM	Murphy Dome	8.90	3			Pn	10 36 41.7	-1.4
L29M	L29M	9.03	34			Pn	10 36 43.5	-1.4
P32M	Atlin	9.04	61	Pn		Pn	10 36 43.0	-2.2
I20K	Naaghedeneel	9.08	346	Pn		Pn	10 36 43.7	-1.7
I23K	Minto, Yukon-K	9.08	0			Pn	10 36 44.4	-1.0
POKR	Poker Plat Res	9.10	5	Pn		Pn	10 36 45.5	-0.2
M30M	Minto, Yukon	9.12	39			Pn	10 36 45.8	-0.4
J16K	Anvik River	9.16	326			Pn	10 36 45.6	-1.0
I21K	Tanana	9.20	353			Pn	10 36 47.8	+0.7
DAWY	Dawson	9.40	28			Pn	10 36 50.2	+0.2
EGAK	Eagle	9.59	22			Pn	10 36 51.7	-0.9
Q32M	Nakina River	9.63	66			Pn	10 36 51.1	-2.2
PRP	Porcupine Dome	9.63	10	Pn		Pn	10 36 52.8	-0.4
I17K	Unalakleet	9.63	329	Pn		Pn	10 36 52.7	-0.4
P33M	Teslin, Yukon	9.66	58			Pn	10 36 51.6	-1.9
I26K	Coal Creek Min	9.72	16	Pn		Pn	10 36 53.9	-0.4
H21K	Melozitna Rive	9.73	352			Pn	10 36 54.4	-0.1
K29M	Barlow Dome	9.76	32			Pn	10 36 55.0	0.0
H24K	Noodor Dome	9.80	4			Pn	10 36 58.1	+2.8
K13K	Kusilvak Mount	9.80	313			Pn	10 36 55.8	+0.5
M31M	Drury Creek, Y	9.81	45			Pn	10 36 55.2	-0.4
J14K	Nanvaranak Lak	9.81	319			Pn	10 36 56.4	+0.9
N32M	Quiet Lake	9.87	52	Pn		Pn	10 36 55.4	-1.1
J29N	Klondike Camp	10.02	29	Pn		Pn	10 36 59.0	+0.5
H19K	Roundabout Mou	10.06	343	Pn		Pn	10 37 00.2	+1.3
H18K	Honhosa River	10.08	338			Pn	10 36 58.7	-0.6
MAYO	Mayo, Yukon	10.10	36			Pn	10 36 59.7	+0.2
S34M	Telegraph Cree	10.11	72	Pn		Pn	10 36 56.9	-2.8
IMAR	Indian Mountai	10.14	350	Pn		Pn	10 36 58.2	-1.8
FARO	Faro, Yukon	10.24	47	Pn		Pn	10 37 01.5	0.0
H17K	Granite Mounta	10.26	334	Pn		Pn	10 36 59.2	-2.4
R33M	Jennings River	10.37	64	Pn		Pn	10 37 01.1	-2.2
I28M	Miner Creek	10.43	22	Pn		Pn	10 37 05.4	+1.2
T35M	Bob Quinn	10.59	77	Pn		Pn	10 37 04.2	-2.1
G21K	Allakaket	10.63	351			Pn	10 37 06.3	-0.4
J30M	Hart River	10.65	32			Pn	10 37 06.6	-0.5
G23K	Bananza Creek	10.65	359			Pn	10 37 07.9	+0.8
G24K	Hadweenzic Riv	10.67	4			Pn	10 37 09.5	+2.1
FYU	Fort Yukon	10.68	9			Pn	10 37 10.3	+2.9
DLBC	Dease Lake	10.72	69	Pn		Pn	10 37 05.8	-2.4
DLBC	Dease Lake comp=N,1.5nm,0.3s,baz=322,slow=6.7,SNR=12	10.72	69	Pn		Pn	10 37 05.6	-2.6
DLBC					Sn	Sn	10 38 56.0	-12
	comp=N,0.4nm,0.3s,baz=90,slow=19,SNR=1.5							
I29M	Ogilvie Camp,	10.73	26			Pn	10 37 05.3	-2.8
G19K	Purcell Mounta	10.73	343	Pn		Pn	10 37 03.9	-4.2
G18K	Tagagawik	10.79	339	Pn		Pn	10 37 07.7	-1.3
I30M	Mount Dempster	11.12	29	Pn		Pn	10 37 12.7	-0.9
G16K	Koyuk River	11.25	331	Pn		Pn	10 37 12.6	-2.6
F21K	Alatna River	11.33	352			Pn	10 37 16.8	+0.5
F20K	Avaraart Lake	11.38	347	Pn		Pn	10 37 16.5	-0.5
H29M	Whitestone	11.43	23	Pn		Pn	10 37 17.7	0.0
F19K	Shaleruckik Mo	11.48	343	Pn		Pn	10 37 15.9	-2.4
F24K	Squaw Lake	11.48	3	Pn		Pn	10 37 17.6	-0.8
ANM	Nome	11.58	324	Pn		Pn	10 37 19.9	+0.2
WTLY	Watson Lake, Y	11.58	61	Pn		Pn	10 37 18.2	-1.6
BMAR	Burnt Mountain	11.59	9	Pn		Pn	10 37 22.5	+2.7
F17K	Baldwin Pennin	11.81	336	Pn		Pn	10 37 23.9	+1.0
E19K	Redstone River	11.97	345	Pn		Pn	10 37 23.7	-1.4
G29M	Pine Creek	12.09	22	Pn		Pn	10 37 28.4	+1.6
F15K	North Star Dit	12.13	329	Pn		Pn	10 37 28.1	+0.9
E25K	Arctic Village	12.19	7	Pn		Pn	10 37 30.6	+2.6
F28M	Old Crow	12.37	17	Pn		Pn	10 37 29.6	-0.9
G30M	tAoh Zraii Nji	12.55	24			Pn	10 37 36.5	+3.5
E27K	Coleen River	12.64	13	Pn		Pn	10 37 34.4	+0.1
D22K	Ayikyak River	12.91	355	Pn		Pn	10 37 37.2	-0.8
D19K	Kuna River	13.06	346	Pn		Pn	10 37 39.3	-0.7
D24K	Happy Valley	13.10	1	Pn		Pn	10 37 43.6	+3.1
E28M	Babbage River	13.32	16			Pn	10 37 47.3	+3.8
D25K	Kavik River	13.34	5	Pn		Pn	10 37 47.4	+3.7
E29M	Blow River	13.40	19			Pn	10 37 45.6	+1.1
F31M	Tsiigehtchic	13.51	26			Pn	10 37 46.9	+0.9
C18K	Utukok River	13.69	342			Pn	10 37 50.8	+2.2
D27M	Malcolm River	13.72	13			P	10 37 54.2	-3.5
B21K	Ikpikpuk River	13.77	352			Pn	10 37 52.6	+3.1
FLDN	Fort Liard	14.23	62			Pn	10 37 56.0	+0.1
INK	Inuvik	14.23	24	Pn		Pn	10 37 57.1	+1.3
INK	Inuvik comp=N,0.4nm,0.3s,baz=205,slow=14,SNR=10 comp=N,19nm,1.1s	14.23	24	Pn		Pn	10 37 56.3	+0.5
C16K	Lisburne Hills	14.24	335			Pn	10 37 52.5	-3.4
B20K	Meade River	14.38	349			Pn	10 37 57.9	+0.1
WRGLY	Wrigley	14.82	51			Pn	10 38 03.4	-0.6
ATKA	Atka Island	15.03	265	Pn		Pn	10 38 05.2	-1.5
C36M	Paulatuk	17.42	30			Pn	10 38 36.9	-0.4
C36M	comp=Z,8.1nm,0.6s					IAmb	IAmb	10 38 41.5
YKAB2	New Yellowknif	18.68	56			Pn	10 38 53.1	+0.3
YKA	Yellowknife Ar	18.68	56	P		P	10 38 51.9	-0.6
YKA	Yellowknife Ar comp=Z,0.2nm,0.3s,baz=264,slow=11,SNR=30 comp=Z,6.3nm,0.8s	18.68	56	P		P	10 38 52.6	+0.1
A36M	Sachs Harbour	18.87	23	P		Pn	10 38 56.2	+1.2
EDM	Edmonton	20.88	83	P		P	10 39 15.0	-1.6
NEW	Newport	21.11	98	P		P	10 39 17.8	-1.4
NEW	comp=Z,21nm,1.4s					IAmb	IAmb	10 39 34.8
NEW	Newport comp=Z,1.8nm,0.7s,baz=312,slow=15,SNR=2.9 comp=Z,1.8nm,0.7s	21.11	98	P		P	10 39 21.7	+2.6
J05D	Fort Rock, OR	22.08	114	P		P	10 39 27.8	-1.9
F10A	Beach Ranch, E	22.41	103	P		P	10 39 33.1	0.0
F10A	comp=Z,13nm,0.8s					IAmb	IAmb	10 39 47.9
I07A	Izee	22.42	110	P		P	10 39 32.3	-1.0
K05A	Summer Lake	22.65	114	P		P	10 39 35.2	-0.6
K05A	comp=Z,5.7nm,0.9s					IAmb	IAmb	10 39 53.0
WVOR	Wild Horse Val	24.02	112	P		P	10 39 47.8	-1.8
ORV	Oroville	24.73	120	P		P	10 39 53.0	-2.9
PAHR	Pah Rah Range	25.65	117	P		P	10 40 03.1	-1.3
WAKR	Wabuska	26.55	119	P		P	10 40 12.2	-0.5
NVAR	Mina Array Bea comp=Z,1.1nm,0.9s,baz=315,slow=10,SNR=4.5 comp=Z,1.1nm,0.9s	27.17	117	P		P	10 40 19.0	+0.8
R11B	Troy Canyon, C	28.61	114	P		P	10 40 29.6	-1.4
PDAR	Pinedale Array	28.68	101	P		P	10 40 29.9	-1.8
PDAR	Pinedale Array comp=Z,0.4nm,0.6s,baz=309,slow=4.0,SNR=5.1 comp=Z,0.4nm,0.6s	28.68	101	P		P	10 40 31.9	+0.2
FCC	Fort Churchill	29.16	62	P		P	10 40 35.4	-0.1
PETK	Petropavlovsk- comp=Z,1.8nm,0.8s,baz=71,slow=12,SNR=1.4 comp=Z,1.8nm,0.8s	30.18	287	P		P	10 40 46.6	+2.0
RSSD	Black Hills	30.87	93	P		P	10 40 50.0	-1.1
RSSD	comp=Z,3.6nm,0.7s					IAmb	IAmb	10 41 01.1
O20A	White River Ci	31.20	103	P		P	10 40 51.6	-2.4
O20A	comp=Z,1.4nm,0.7s					IAmb	IAmb	10 41 14.2
HDIL	Hopedale	41.46	86	P		P	10 42 19.9	-1.4
TX31	Lajitas Ar. Si	41.81	110	P		P	10 42 20.6	-3.7
TXAR	Lajitas Array	41.81	110	P		P	10 42 22.0	-2.4
TXAR	Lajitas Array comp=Z,0.4nm,0.8s,baz=318,slow=5.3,SNR=3.7 comp=Z,0.4nm,0.8s	41.81	110	P		P	10 42 26.1	+1.8
OZNA	Ozona	41.91	106	P		P	10 42 22.5	-2.6
OZNA	comp=Z,3.7nm,0.7s					IAmb	IAmb	10 42 38.1
SUMG	Summit	43.15	24	*i* P		P	10 42 38.0	+2.9
DRIO	Del Rio	43.35	107	P		P	10 42 35.5	-1.3
NRIK	Noril'sk comp=Z,2.0nm,0.7s,baz=96,slow=9.2,SNR=2.2 comp=Z,2.0nm,0.7s	48.25	337	P		P	10 43 15.7	+0.8
ARCES	ARCESS Array B comp=Z,3.6nm,1.1s,baz=1.0,slow=7.3,SNR=4.1 comp=Z,3.6nm,1.1s	54.61	2	P		P	10 44 03.5	+0.9
SONM	Songino Array comp=Z,2.6nm,0.9s,baz=38,slow=7.3,SNR=11 comp=Z,2.6nm,0.9s	58.72	310	P		P	10 44 33.7	+1.5
ZALV	Zalesovo Beam comp=Z,1.3nm,0.6s,baz=26,slow=8.7,SNR=5.2 comp=Z,1.3nm,0.6s	61.69	327	P		P	10 44 53.5	+1.2
HHC	Hu-ho-hao-te	61.79	302	*e*P		P	10 44 57.3	+4.0
HHC	comp=Z,34nm,0.5s					pmax	pmax	
NOA	NORSAR Array B comp=Z,0.5nm,0.7s,baz=310,slow=6.9,SNR=2.0 comp=Z,0.5nm,0.7s	62.20	11	P		P	10 44 56.3	+0.6
FINES	FINESS Array B comp=Z,2.0nm,0.7s,baz=15,slow=8.1,SNR=7.5 comp=Z,2.0nm,0.7s	62.74	2	P		P	10 45 01.1	+1.9
HFS	Hagfors comp=Z,4.7nm,1.1s,baz=1.8,slow=9.1,SNR=2.2 comp=Z,4.7nm,1.1s	63.33	9	P		P	10 45 05.1	+1.9
BVAR	Borovoye Array comp=Z,1.2nm,0.6s,baz=29,slow=7.0,SNR=7.9 comp=Z,1.2nm,0.6s	66.43	335	P		P	10 45 24.2	+0.8
KURBB	Kurchatov Arra comp=Z,1.2nm,0.7s,baz=29,slow=6.6,SNR=9.5 comp=Z,1.2nm,0.7s	66.47	329	P		P	10 45 25.1	+1.4
MK31	Makanchi Array	68.71	325	P		P	10 45 36.6	-1.4
MK31	comp=Z,3.1nm,1.5s					IAmb	IAmb	10 45 53.6
MKAR	Makanchi Array	68.71	325	P		P	10 45 38.4	+0.3
MKAR	Makanchi Array comp=Z,0.9nm,0.5s,baz=30,slow=6.3,SNR=12 comp=Z,0.9nm,0.5s	68.71	325	P		P	10 45 39.2	+1.2
ABKAR	Akbulak array	72.20	340	P		P	10 45 58.3	-1.0
AKASG	Malin Array Be comp=Z,1.2nm,0.6s,baz=2.9,slow=6.1,SNR=3.3 comp=Z,1.2nm,0.6s	73.56	1	P		P	10 46 08.8	+1.6
GERES	GERESS Array B comp=Z,0.7nm,0.6s,baz=52,slow=5.1,SNR=2.2 comp=Z,0.7nm,0.6s	74.47	12	P		P	10 46 14.7	+2.0
AAK	Ala-Archa comp=Z,0.7nm,0.4s,baz=311,slow=3.6,SNR=3.9 comp=Z,0.7nm,0.4s	74.88	328	P		P	10 46 17.4	+2.1
KK31	Karatay Array	75.58	331	P		P	10 46 20.1	+0.9
KK31	comp=Z,0.7nm,0.5s					IAmb	IAmb	10 46 52.3
KKAR	Karatay Array	75.58	331	P		P	10 46 19.0	-0.1
KKAR	comp=Z,0.7nm,0.5s					IAmb	IAmb	10 46 52.4
PZH	PanZhiHua	78.16	300	P		P	10 46 33.3	-0.8
PZH	comp=Z,6.0nm,0.8s					pmax	pmax	
PZH	comp=Z,100nm,5.1s					pmax	pmax	
ESDC	Sonseca Array comp=Z,1.0nm,0.8s,baz=330,slow=4.9,SNR=3.8 comp=Z,1.0nm,0.8s	80.17	26	P		P	10 46 46.9	+2.1
GEYT	Allbeck comp=Z,1.6nm,0.5s,baz=8.9,slow=10,SNR=2.2 comp=Z,1.6nm,0.5s	83.46	338	P		P	10 47 04.5	+2.4
CMAR	Chiang Mai Arr comp=Z,2.1nm,0.6s,baz=12,slow=4.6,SNR=10.0 comp=Z,2.1nm,0.6s	86.32	298	P		P	10 47 19.7	+2.9
BOSA	Boshof comp=Z,2.1nm,0.9s,baz=0.0,slow=3.0,SNR=1.3	152.26	10	PKPbc		PKiKP	10 54 32.2	+1.7

IDC ***23*** *10:37:11.9±7.9, 31°.78S×179°.98E, h341km±91km, mb3.2/3, mbtmp4.0/4, Error ellipse: s-maj=98.5km s-min=42.3km az=177.0*

WEL ***23*** *10:37:16.9±0.7, 32°.5±7°×18°.0E±1°.7, h265km±15km, M4.0/15, mB4.5/13, ML4.5/13, MLv4.6/15, Mw(mB)3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9, confirmed*

NOU ***23*** *10:38:16.3, 36°.44S×178°.38E, h190km, MLv4.3/5, Off E. Coast of N. Island, N.Z.*

ISC 23 10:37:11.5±1.0, 31°.82S±0°.08×179°.9W±0°.1, h350km, n54, σ2§28/73, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.04	34	P	Pn	10 38 10.4	-0.8
GLKZ				S	S	10 38 57.1	-2.3
MXZ	Matakaoa Point	5.93	194	P	Pn	10 38 46.0	+4.7
MXZ	Matakaoa Point	5.93	194	P	Pn	10 38 45.4	+4.1
WMGZ	Waiomatatini S	6.16	193	P	Pn	10 38 46.5	+2.6
WMGZ				S	S	10 39 59.5	+0.6
HAZ	Te Kaha	6.24	198	P	Pn	10 38 47.5	+2.7
PKGZ	Pakihiroa	6.29	195	P	Pn	10 38 49.7	+4.2
OUZ	Omahuta	6.44	236	P	Pn	10 38 49.9	+2.7
RUGZ	Raukumara Rang	6.46	198	P	Pn	10 38 48.3	+0.7
TWGZ	Tauwhareparae	6.59	195	P	Pn	10 38 53.2	+4.2
TWGZ				S	S	10 40 08.0	-0.2
CNGZ	Carnagh Statio	6.84	193	P	Pn	10 38 56.9	+5.1
CNGZ				S	S	10 40 15.5	+2.1
MWZ	Matawai	6.85	198	P	Pn	10 38 51.8	-0.1
MWZ				S	S	10 40 12.4	-1.2
TKGZ	Te Karaka	6.87	195	P	Pn	10 38 53.9	+1.7
TKGZ				S	S	10 40 12.8	-1.3
URZ	Urewera	6.89	200	P	Pn	10 38 54.5	+2.1
URZ	Urewera 4.5nm,0.3s,baz=354,slow=5.0,SNR=48	6.89	200	P	Pn	10 38 53.8	+1.3
URZ				S	S	10 40 12.7	-1.8
URZ	Urewera 23nm,0.4s,baz=145,slow=21,SNR=19	6.89	200	P	Pn	10 38 54.4	+2.0
URZ				S	S	10 40 12.8	-1.8
RAGZ	Rawiri	7.03	198	P	Pn	10 38 57.4	+3.3
RAGZ				S	S	10 40 19.1	+1.5
RIGZ	Rimuhau	7.14	195	P	Pn	10 38 59.1	+3.7
RIGZ				S	S	10 40 18.1	-1.9
MUGZ	Murupara	7.20	202	P	Pn	10 38 54.4	-1.6
MUGZ				S	S	10 40 18.7	-2.4
RTZ	Ruatahuna	7.26	200	P	Pn	10 38 58.6	+1.8
SNGZ	Shannon Statio	7.32	198	P	Pn	10 39 00.0	+2.6
SNGZ				S	S	10 40 22.7	-1.1
PRGZ	Paritu Road	7.33	194	P	Pn	10 39 01.2	+3.7
PRGZ				S	S	10 40 23.2	-0.8
PRRZ	Plateau Road	7.34	204	P	Pn	10 39 01.6	+3.9
KNZ	Kokohu	7.47	195	P	Pn	10 39 01.9	+2.8
KNZ				S	S	10 40 22.0	-4.9
RAHZ	Arahi	7.51	199	P	Pn	10 39 02.0	+2.3
RAHZ				S	S	10 40 25.4	-2.5
TLZ	Tolley Road	7.51

	baz=168							
BRLK	**Bradley Lake**	**3.89**	**349**	Pn	**Pn**	**10 39 21.7**	**-0.7**
BRLK				IAML		10 40 07.6		
	comp=N,117nm,1.1s							
BRLK				IAML		10 40 10.0		
	comp=E,116nm,0.4s							
HOM	**Homer**	**3.89**	**343**	Pn	**Pn**	**10 39 23.1**	**+0.7**
HOM				IAML		10 40 38.5		
	comp=E,232nm,0.3s							
HOM	**Homer**	**3.89**	**343**	P	**Pn**	**10 39 22.1**	**-0.4**
	baz=160							
KAHC	**Katmai Hardscr**	**4.07**	**314**	P	**Pn**	**10 39 25.7**	**+0.8**
	baz=129							
P19K	**Oil Pt**	**4.23**	**332**	Pn	**Pn**	**10 39 27.0**	**-0.1**
P19K				IAML		10 40 48.3		
	comp=N,179nm,0.7s							
P19K	**Oil Pt**	**4.23**	**332**	P	**Pn**	**10 39 26.8**	**-0.3**
	baz=149							
Q17K	**Contact Creek**	**4.23**	**306**	P	**Pn**	**10 39 26.8**	**-0.5**
	baz=120							
O22K	**Cooper Landing**	**4.53**	**358**	Pn	**Pn**	**10 39 31.7**	**+0.6**
P18K	**Big Mountain,**	**4.65**	**320**	Pn	**Pn**	**10 39 33.6**	**+0.6**
P18K	**Big Mountain,**	**4.65**	**320**	P	**Pn**	**10 39 33.2**	**+0.2**
	baz=135							
HIN	**Hinchinbrook I**	**4.69**	**18**	Pn	**Pn**	**10 39 33.2**	**-0.2**
HIN				IAML		10 40 26.9		
	comp=N,166nm,0.4s							
HIN				IAML		10 40 27.4		
	comp=E,150nm,0.7s							
KAIM	**Kayak Island**	**4.76**	**32**	Pn	**Pn**	**10 39 33.3**	**-1.0**
KAIM				IAML		10 41 16.8		
	comp=N,58nm,1.0s							
KAIM				IAML		10 42 25.2		
	comp=E,152nm,1.1s							
KAIM	**Kayak Island**	**4.76**	**32**	P	**Pn**	**10 39 33.8**	**-0.6**
	baz=216							
RSO	**Redoubt South**	**4.85**	**340**	Pn	**Pn**	**10 39 37.6**	**+1.9**
CAPN	**Captain Cook N**	**4.90**	**350**	Pn	**Pn**	**10 39 38.2**	**+1.9**
CAPN				IAML		10 42 16.5		
	comp=N,101nm,0.7s							
EYAK	**Cordova Ski Ar**	**4.97**	**21**	Pn	**Pn**	**10 39 36.2**	**-1.0**
P17K	**Kvichak River**	**4.99**	**313**	P	**Pn**	**10 39 38.4**	**+0.8**
	baz=127							
FID	**Port Fidalgo**	**5.03**	**16**	Pn	**Pn**	**10 39 38.4**	**+0.3**
FID				IAML		10 40 32.7		
	comp=E,99nm,0.8s							
FID				IAML		10 40 36.0		
	comp=N,116nm,1.4s							
CHGN	**Chignik**	**5.07**	**277**	Pn	**Pn**	**10 39 39.6**	**+1.0**
CHGN				IAML		10 41 01.0		
	comp=N,73nm,0.1s							
CHGN				IAML		10 41 05.0		
	comp=E,58nm,0.4s							
RAGM	**Ragged Mountai**	**5.08**	**27**	Pn	**Pn**	**10 39 38.9**	**+0.2**
RC01	**Rabbit Creek A**	**5.14**	**358**	Pn	**Pn**	**10 39 39.6**	**0.0**
RC01				IAML		10 40 38.1		
	comp=N,96nm,0.4s							
BERG	**Berg Lake**	**5.35**	**32**	Pn	**Pn**	**10 39 42.1**	**-0.3**
SNH	**Sunshine Point**	**5.46**	**37**	Pn	**Pn**	**10 39 44.0**	**0.0**
DIV	**Divide**	**5.50**	**18**	Pn	**Pn**	**10 39 44.9**	**+0.3**
N19K	**Bonanza Creek**	**5.55**	**333**	Pn	**Pn**	**10 39 44.5**	**-0.8**
BMRM	**Bremner River**	**5.60**	**25**	Pn	**Pn**	**10 39 45.2**	**-0.7**
BMRM	**Bremner River**	**5.60**	**25**	P	**Pn**	**10 39 45.4**	**-0.5**
	baz=208							
PMR	**Palmer**	**5.64**	**1**	Pn	**Pn**	**10 39 45.6**	**-0.8**
KLU	**Klutina**	**5.82**	**17**	Pn	**Pn**	**10 39 47.8**	**-1.2**
GHO	**Glory Hole Cre**	**5.82**	**2**	Pn	**Pn**	**10 39 49.0**	**0.0**
N18K	**Kilae Creek**	**5.84**	**327**	Pn	**Pn**	**10 39 49.1**	**-0.1**
SML	**Sawmill**	**5.88**	**5**	Pn	**Pn**	**10 39 49.8**	**0.0**
O16K	**Kokwok River B**	**5.91**	**311**	Pn	**Pn**	**10 39 50.4**	**+0.2**
CHNA	**Chernabura Isl**	**5.94**	**263**	P	**Pn**	**10 39 50.6**	**+0.1**
	baz=75							
CNBA	**Chernabura Isl**	**5.94**	**263**	Pn	**Pn**	**10 39 50.4**	**-0.1**
SCM	**Sheep Creek Mo**	**5.97**	**9**	Pn	**Pn**	**10 39 52.8**	**+1.7**
SVW2	**Sparrevohn**	**6.08**	**330**	Pn	**Pn**	**10 39 52.9**	**+0.3**
VRDI	**Verde Repeater**	**6.11**	**28**	Pn	**Pn**	**10 39 52.9**	**-0.1**
SKT	**Skwentna**	**6.13**	**350**	Pn	**Pn**	**10 39 54.7**	**+1.5**
N17K	**Nushagak Hills**	**6.15**	**321**	Pn	**Pn**	**10 39 57.1**	**+3.6**
N25K	**Chitina, Valde**	**6.17**	**22**	Pn	**Pn**	**10 39 54.6**	**+0.8**
GLB	**Gilahina Butte**	**6.20**	**26**	Pn	**Pn**	**10 39 54.4**	**+0.2**
M20K	**Styx River**	**6.24**	**343**	Pn	**Pn**	**10 39 57.0**	**+2.3**
SDPT	**Sand Point**	**6.32**	**269**			**10 39 55.7**	**-0.1**
SDPT	**Sand Point**	**6.32**	**269**	P	**Pn**	**10 39 56.2**	**+0.4**
	baz=80							
PCA	**Pinnacle**	**6.36**	**46**	Pn	**Pn**	**10 39 57.2**	**+0.8**
PINM	**Pinnacle**	**6.36**	**46**	P	**Pn**	**10 39 56.1**	**-0.3**
	baz=233							
CUT	**Chulitna**	**6.47**	**356**	Pn	**Pn**	**10 39 59.4**	**+1.6**
PNL	**Peninsula**	**6.49**	**51**	P	**Pn**	**10 39 58.2**	**+0.1**
	baz=240							
BARN	**Barnard Glacie**	**6.50**	**35**	Pn	**Pn**	**10 39 58.5**	**+0.1**
BCPM	**Bancas Point**	**6.54**	**48**	Pn	**Pn**	**10 39 59.2**	**+0.5**
CTGM	**Chitina Glacie**	**6.54**	**37**	Pn	**Pn**	**10 40 00.2**	**+1.3**
LOGN	**Logan Glacier**	**6.55**	**39**	Pn	**Pn**	**10 39 59.0**	**-0.1**
HARP	**HAARP**	**6.80**	**17**	P	**Pn**	**10 40 02.6**	**+0.3**
	baz=200							
L19K	**White Mountain**	**6.84**	**338**	Pn	**Pn**	**10 40 06.0**	**+3.1**
M17K	**Holitna River**	**6.88**	**326**	Pn	**Pn**	**10 40 05.5**	**+2.1**
PS1A	**Pavlof South-1**	**7.02**	**271**			**10 40 05.6**	**+0.2**
N15K	**Kwethluk River**	**7.07**	**311**	Pn	**Pn**	**10 40 07.7**	**+1.6**
PN7A	**Pavlof North-7**	**7.16**	**271**			**10 40 08.0**	**+0.6**
O29M	**Mount Kennedy**	**7.17**	**48**	Pn	**Pn**	**10 40 07.8**	**+0.3**
O29M	**Mount Kennedy**	**7.17**	**48**	P	**Pn**	**10 40 07.6**	**+0.1**
	baz=237							
O14K	**Tigyukauivet M**	**7.19**	**302**	Pn	**Pn**	**10 40 10.7**	**+3.1**
DHY	**Denali Highway**	**7.20**	**7**	Pn	**Pn**	**10 40 09.4**	**+1.4**
P29M	**Windy Craggy**	**7.21**	**55**	Pn	**Pn**	**10 40 08.1**	**0.0**
P29M	**Windy Craggy**	**7.21**	**55**	P	**Pn**	**10 40 07.6**	**-0.4**
	baz=244							
M26K	**Nabesna, AK**	**7.23**	**24**	Pn	**Pn**	**10 40 09.7**	**+1.4**
PAX	**Paxson**	**7.29**	**14**	Pn	**Pn**	**10 40 10.5**	**+1.3**
YUK8	**Steele Glacier**	**7.31**	**39**	P	**Pn**	**10 40 10.2**	**+0.6**
	baz=227							
YUK3	**Moose Creek**	**7.42**	**35**	P	**Pn**	**10 40 11.4**	**+0.3**
	baz=222							
S31K	**Pelican**	**7.45**	**69**	P	**Pn**	**10 40 09.3**	**-2.0**
	baz=260							
M27K	**Edge Creek, AK**	**7.47**	**28**	Pn	**Pn**	**10 40 13.2**	**+1.5**
M27K	**Edge Creek, AK**	**7.47**	**28**	P	**Pn**	**10 40 12.0**	**+0.4**
	baz=214							
MENT	**Mentasta**	**7.55**	**20**	Pn	**Pn**	**10 40 16.0**	**+3.3**
CAST	**Castle Rocks**	**7.60**	**351**	Pn	**Pn**	**10 40 15.2**	**+1.9**
YUK6	**Outpost Mounta**	**7.62**	**45**	P	**Pn**	**10 40 14.3**	**+0.5**
	baz=234							
L26K	**Log Cabin Wild**	**7.71**	**21**	Pn	**Pn**	**10 40 17.3**	**+2.5**
TTA	**Tatalina**	**7.75**	**337**	Pn	**Pn**	**10 40 17.8**	**+2.3**
YUK4	**Talbot Arm**	**7.76**	**42**	P	**Pn**	**10 40 17.3**	**+1.6**
	baz=230							
L16K	**Owhat River**	**7.78**	**322**	Pn	**Pn**	**10 40 16.7**	**+0.9**
BVCY	**Beaver Creek**	**7.79**	**31**	P	**Pn**	**10 40 16.3**	**+0.3**
	baz=218							
HYT	**Haines Junctio**	**7.90**	**47**	Pn	**Pn**	**10 40 17.3**	**-0.2**
L27K	**Beaver Creek,**	**8.07**	**25**	Pn	**Pn**	**10 40 20.4**	**+0.6**
FALS	**False Pass**	**8.08**	**268**	Pn	**Pn**	**10 40 19.9**	**+0.1**
BCAR	**Beaver Creek A**	**8.09**	**25**	Pn	**Pn**	**10 40 20.4**	**+0.4**
RIDG	**Independent Ri**	**8.12**	**14**	Pn	**Pn**	**10 40 21.6**	**+1.1**
M14K	**Bethel**	**8.17**	**311**	Pn	**Pn**	**10 40 22.3**	**+1.2**
ISLZ	**Isanotski Laza**	**8.27**	**267**			**10 40 23.0**	**+0.4**
S32K	**Killisnoo**	**8.27**	**73**	Pn	**Pn**	**10 40 21.0**	**-1.5**
S32K	**Killisnoo**	**8.27**	**73**	P	**Pn**	**10 40 20.7**	**-1.8**
	baz=266							
BESE	**Bessie Mountai**	**8.29**	**66**	Pn	**Pn**	**10 40 21.7**	**-1.1**
SKAG	**Skagway**	**8.29**	**59**	Pn	**Pn**	**10 40 21.5**	**-1.2**
N30M	**Aishikik Lake**	**8.42**	**44**	Pn	**Pn**	**10 40 25.0**	**+0.4**
SSLS	**Shishaldin Sou**	**8.44**	**267**			**10 40 25.7**	**+0.8**
O30N	**Mendenhall**	**8.47**	**50**	Pn	**Pn**	**10 40 26.2**	**+1.0**
JIS	**Juneau Island**	**8.47**	**68**	Pn	**Pn**	**10 40 24.2**	**-1.1**
M29M	**Somme Creek**	**8.56**	**36**	Pn	**Pn**	**10 40 25.8**	**-0.8**
J19K	**Poorman**	**8.63**	**341**	Pn	**Pn**	**10 40 28.3**	**+0.9**
L14K	**Kuka Creek**	**8.77**	**313**	Pn	**Pn**	**10 40 31.0**	**+1.6**
K27K	**Chicken**	**8.86**	**21**	Pn	**Pn**	**10 40 31.7**	**+1.1**
K15K	**Wolf Creek Mou**	**8.89**	**320**	Pn	**Pn**	**10 40 34.9**	**+3.9**
IL03	**Eielson Array**	**8.92**	**7**	Pn	**Pn**	**10 40 34.1**	**+2.8**
WHY	**Whitehorse**	**8.95**	**52**	Pn	**Pn**	**10 40 32.3**	**+0.4**
N31M	**Braeburn, Yuko**	**8.96**	**46**	Pn	**Pn**	**10 40 32.5**	**+0.4**
J26L	**Joseph Creek**	**9.03**	**16**	Pn	**Pn**	**10 40 34.1**	**+1.2**
MDM	**Murphy Dome**	**9.04**	**3**	Pn	**Pn**	**10 40 34.1**	**+1.1**
U33K	**Whale Pass**	**9.10**	**82**	Pn	**Pn**	**10 40 30.6**	**-3.2**
U33K	**Whale Pass**	**9.10**	**82**	P	**Pn**	**10 40 31.2**	**-2.6**
	baz=276							
P32M	**Atlin**	**9.11**	**60**	Pn	**Pn**	**10 40 33.7**	**-0.3**
L29M	**L29M**	**9.14**	**34**	Pn	**Pn**	**10 40 35.5**	**+1.1**
CRAG	**Craig**	**9.18**	**86**	Pn	**Pn**	**10 40 33.0**	**-2.0**
CRAG	**Craig**	**9.18**	**86**	P	**Pn**	**10 40 31.8**	**-3.2**
	baz=280							
I23K	**Minto, Yukon-K**	**9.21**	**0**	Pn	**Pn**	**10 40 36.1**	**+0.8**
M30M	**Minto, Yukon**	**9.22**	**39**	Pn	**Pn**	**10 40 36.3**	**+0.7**
I21K	**Tanana**	**9.33**	**353**	Pn	**Pn**	**10 40 38.4**	**+1.4**
WRAK	**Wrangell Islan**	**9.50**	**80**	Pn	**Pn**	**10 40 37.3**	**-2.0**
DAWY	**Dawson**	**9.52**	**27**	Pn	**Pn**	**10 40 39.9**	**+0.2**
AKUT	**Akutan**	**9.59**	**266**	Pn	**Pn**	**10 40 40.5**	**-0.1**
Q32M	**Nakina River**	**9.68**	**65**	Pn	**Pn**	**10 40 40.2**	**-1.8**
EGAK	**Eagle**	**9.71**	**21**	Pn	**Pn**	**10 40 42.4**	**+0.1**
P33M	**Teslin, Yukon**	**9.73**	**57**	P	**Pn**	**10 40 42.6**	**0.0**
	baz=251							
I26K	**Coal Creek Min**	**9.84**	**15**	Pn	**Pn**	**10 40 45.3**	**+1.3**
H21K	**Melozitna Rive**	**9.86**	**352**	Pn	**Pn**	**10 40 44.7**	**+0.5**
K29M	**Barlow Dome**	**9.87**	**32**	Pn	**Pn**	**10 40 45.3**	**+0.8**
K13K	**Kusilvak Mount**	**9.89**	**313**	Pn	**Pn**	**10 40 45.5**	**+0.8**
M31M	**Drury Creek, Y**	**9.90**	**45**	Pn	**Pn**	**10 40 45.9**	**+1.0**
M31M	**Drury Creek, Y**	**9.90**	**45**	P	**Pn**	**10 40 45.6**	**+0.7**
	baz=238							
N32M	**Quiet Lake**	**9.95**	**52**	Pn	**Pn**	**10 40 45.8**	**+0.2**
V35K	**Ketchikan**	**10.05**	**86**	Pn	**Pn**	**10 40 45.8**	**-1.1**
UNV	**Unalaska Valle**	**10.10**	**265**	Pn	**Pn**	**10 40 47.4**	**-0.1**
J29N	**Klondike Camp**	**10.14**	**28**	Pn	**Pn**	**10 40 47.8**	**-0.3**
S34M	**Telegraph Cree**	**10.15**	**71**	Pn	**Pn**	**10 40 48.6**	**+0.4**
FARO	**Faro, Yukon**	**10.33**	**46**	Pn	**Pn**	**10 40 51.7**	**+0.9**
H17K	**Granite Mounta**	**10.37**	**334**	Pn	**Pn**	**10 40 52.6**	**+1.4**
R33M	**Jennings River**	**10.42**	**63**	Pn	**Pn**	**10 40 52.5**	**+0.4**
I28M	**Miner Creek**	**10.55**	**22**	Pn	**Pn**	**10 40 55.0**	**+1.1**
DLBC	**Dease Lake**	**10.77**	**69**	Pn	**Pn**	**10 40 56.6**	**-0.2**
G23K	**Bananza Creek**	**10.78**	**359**	Pn	**Pn**	**10 40 56.9**	**0.0**
FYU	**Fort Yukon**	**10.81**	**9**	Pn	**Pn**	**10 40 58.9**	**+1.6**
E25K	**Arctic Village**	**12.32**	**7**	Pn	**Pn**	**10 41 18.9**	**+1.0**
G31M	**Satah River**	**13.09**	**27**	Pn	**Pn**	**10 41 28.3**	**-0.1**
F31M	**Tsiigehtchic**	**13.62**	**26**	Pn	**Pn**	**10 41 36.9**	**+1.3**
D27M	**Malcolm River**	**13.85**	**13**	Pn	**Pn**	**10 41 40.6**	**+1.9**
INK	**Inuvik**	**14.35**	**24**	Pn	**Pn**	**10 41 47.1**	**+1.6**

*IDC **23** 10:38:55.7±1.9,56°.04N×149°.77W, h0km, mb3.3/2, mbtmp3.6/7, ML3.6/5, Error ellipse: s-maj=31.4km s-min=23.4km az=36.0*

ISC 23 10:38:57.7±1.4, 56°.3N±0°.1×149°.82W±0°.09, h10km, n7, σ1§74/9, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.13**	**316**	Pn	**Pn**	**10 39 31.9**	**-1.3**
	27nm,0.3s,baz=227,slow=23,SNR=13						
KDAK				Sn	**Sn**	**10 39 59.3**	**-0.4**
	40nm,0.3s,baz=356,slow=23,SNR=7.9						
	70nm,0.2s						
ILAR	**Eielson Array**	**8.64**	**8**	Pn	**Pn**	**10 41 02.6**	**+0.1**
	0.7nm,0.3s,baz=191,slow=13,SNR=4.3						
ILAR				Sn	**Sn**	**10 42 37.7**	**-2.2**
	0.4nm,0.3s,baz=139,slow=52,SNR=2.1						
	1.3nm,0.3s						
DLBC	**Dease Lake**	**10.90**	**70**	Pn	**Pn**	**10 41 33.2**	**-0.4**
	0.5nm,0.3s,baz=47,slow=1.7,SNR=1.7						
	1.5nm,0.4s						
INK	**Inuvik**	**14.17**	**25**	Pn	**Pn**	**10 42 20.6**	**+2.5**
	0.2nm,0.3s,baz=214,slow=11,SNR=2.2						
	2.6nm,0.9s						
YKA	**Yellowknife Ar**	**18.79**	**56**	P	**Pn**	**10 43 17.9**	**+0.7**
	0.1nm,0.3s,baz=264,slow=9.9,SNR=5.5						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**27.48**	**117**	P	**P**	**10 44 42.3**	**-1.8**
	0.2nm,0.6s,baz=288,slow=9.4,SNR=2.9						
	0.2nm,0.6s						
SONM	**Sogino Array**	**58.41**	**310**	P	**P**	**10 48 54.4**	**+1.3**
	0.4nm,0.8s,baz=40,slow=7.6,SNR=1.7						
	0.4nm,0.8s						

PGC 23 10:39:19.3±6.2, 48°.82N×129°.34W, h10km, MLSn3.8/9, Mw4.4/9, 251km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NCHR	**NEPTUNE Canada**	**0.86**	**169**	P	Pg	10 39 34.6	-1.2
NCHR				S	Sg	10 39 45.3	-1.6
KEMF	**NEPTUNE Canada**	**0.88**	**170**	P	Pg	10 39 34.9	-1.4
KEMF				S	Sg	10 39 46.0	-1.7
KEMO	**NEPTUNE Canada**	**0.91**	**170**	P	Pg	10 39 35.2	-1.5
EDB	**Eliza Dome**	**1.79**	**53**	Pn	Pn	10 39 48.2	-2.2
EDB				Sn	Sn	10 40 08.7	-4.5
MAYB	**Maynard**	**2.12**	**41**	Pn	Pn	10 39 53.0	-2.0
MAYB				Sn	Sn	10 40 16.1	-5.4
WOSB	**Woss**	**2.25**	**52**	Pn	Pn	10 39 55.2	-1.4
WOSB				Sn	Sn	10 40 20.6	-4.0
PHC	**Port Hardy**	**2.26**	**32**	Pn	Pn	10 39 56.8	+0.1
PHC				Sn	Sn	10 40 19.8	-4.8
OZB	**Mount Ozzard**	**2.54**	**85**	Pn	Pn	10 39 58.3	-2.3
OZB				Sn	Sn	10 40 27.6	-4.0
SPLB	**Strathcona Par**	**2.64**	**65**	Pn	Pn	10 40 01.0	-0.9
SPLB				Sn	Sn	10 40 31.4	-2.6
NCSB	**Newcastle Ridg**	**2.66**	**52**	Pn	Pn	10 40 01.5	-0.9
NCSB				Sn	Sn	10 40 31.7	-3.0
B926	**Mesachie Lake**	**3.44**	**88**	Sn	Sn	10 40 50.8	-2.9
CLRS	**Cowichan Lake**	**3.44**	**88**	Pn	Pn	10 40 11.8	-1.1
CLRS				Sn	Sn	10 40 50.4	-3.3
BBB	**Bella Bella**	**3.46**	**13**	Pn	Pn	10 40 12.1	-1.1
NLLB	**Nanaimo Lost L**	**3.54**	**81**	Pn	Pn	10 40 14.6	+0.2
LLLB	**Lillooet**	**5.16**	**67**	Pn	Pn	10 40 37.2	+0.6

*IDC **23** 10:40:25.5±3.2, 56°.23N×149°.53W, h0km, mb3.2/1, mbtmp3.3/5, ML2.8/4, Error ellipse: s-maj=43.0km s-min=31.4km az=177.0*

*NEIC **23** 10:40:27.1±1.3, 56°.35N±0°.08×149°.4W±0°.1, h20km±10km, ML3.2/16, ML3.1(AEIC), Error ellipse: s-maj=13.8km s-min=5.2km az=149.0*

*AEIC **23** 10:40:32.1±1.2, 56°.47N±0°.09×149°.15W±0°.09, h10km±8km, Error ellipse: s-maj=13.2km s-min=7.3km az=185.0*

ISC 23 10:40:27.8±1.5, 56°.5N±0°.1×149°.38W±0°.07, h10km, n35, σ1§30/32, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.17**	**308**		**Pn**	**10 41 02.0**	**-2.0**
KDAK	**Kodiak Island**	**2.17**	**308**		**Sn**	**10 41 30.6**	**-0.4**
KDAK	**Kodiak Island**	**2.17**	**308**	Pn	**Pn**	**10 41 01.2**	**-2.8**
	3.7nm,0.3s,baz=158,slow=11,SNR=1.2						
KDAK				Sn	**Sn**	**10 41 30.4**	**-0.6**
	18nm,0.3s,baz=323,slow=20,SNR=5.7						
	17nm,0.5s						
OHAK	**Old Harbor**	**2.27**	**291**		**Sn**	**10 41 31.6**	**-1.6**
OHAK	**Old Harbor**	**2.27**	**291**	Pn	**Pn**	**10 41 04.1**	**-1.2**
OHAK	**Old Harbor**	**2.27**	**291**	IAML		10 41 31.9	
	comp=N,140nm,0.8s						
OHAK				IAML		10 41 35.9	
	comp=E,85nm,0.8s						
SYI	**Shuyak Island**	**2.67**	**324**		**Pn**	**10 41 09.6**	**-1.3**
SYI	**Shuyak Island**	**2.67**	**324**		**Sn**	**10 41 42.9**	**-0.4**
SYI	**Shuyak Island**	**2.67**	**324**	IAML		10 41 45.5	
	comp=E,101nm,0.9s						
SYI				IAML		10 41 48.5	
	comp=N,46nm,0.4s						
CNPM	**China Poot**	**3.20**	**343**		**Pn**	**10 41 18.0**	**-0.2**
CNPM					**Sn**	**10 41 56.9**	**+0.6**
CNPM	**China Poot**	**3.20**	**343**	IAML		10 42 21.7	
	comp=E,49nm,1.4s						
BRSE	**Bradley Lake S**	**3.34**	**348**		**Pn**	**10 41 20.1**	**0.0**
Q19K	**Cape Douglas,**	**3.35**	**319**	Pn	**Pn**	**10 41 21.5**	**+1.3**
Q23K	**Middleton Isla**	**3.36**	**27**		**Pn**	**10 41 19.2**	**-1.1**
Q23K	**Middleton Isla**	**3.36**	**27**	IAML		10 43 08.0	
	comp=N,78nm,1.3s						
MID	**Middleton Isla**	**3.36**	**28**		**Pn**	**10 41 19.2**	**-1.2**
MID	**Middleton Isla**	**3.36**	**28**	IAML		10 43 07.8	
	comp=N,59nm,1.2s						
BRLK	**Bradley Lake**	**3.38**	**347**		**Pn**	**10 41 20.5**	**-0.1**
BRLK	**Bradley Lake**	**3.38**	**347**	IAML		10 42 05.2	
	comp=E,73nm,0.8s						
BRLK				IAML		10 42 07.0	
	comp=N,30nm,0.3s						
P19K	**Oil Pt**	**3.77**	**329**	Pn	**Pn**	**10 41 24.2**	**-1.8**
HIN	**Hinchinbrook I**	**4.20**	**20**	Pn	**Pn**	**10 41 31.1**	**-0.8**
P18K	**Big Mountain,**	**4.26**	**315**	Pn	**Pn**	**10 41 32.2**	**-0.6**
KAIM	**Kayak Island**	**4.33**	**35**	Pn	**Pn**	**10 41 32.5**	**-1.2**
FID	**Port Fidalgo**	**4.53**	**18**	Pn	**Pn**	**10 41 36.3**	**-0.2**
RAGM	**Ragged Mountai**	**4.62**	**30**	Pn	**Pn**	**10 41 36.7**	**-1.1**
CHGN	**Chignik**	**5.02**	**272**	Pn	**Pn**	**10 41 41.7**	**-1.5**
JIS	**Juneau Island**	**8.30**	**71**	Pn	**Pn**	**10 42 26.3**	**-1.8**
ILAR	**Eielson Array**	**8.40**	**7**	Pn	**Pn**	**10 42 29.9**	**+0.5**
	comp=N,0.7nm,0.3s,baz=189,slow=15,SNR=4.2						
ILAR				Sn	**Sn**	**10 44 02.5**	**-1.7**
	comp=N,0.2nm,0.3s,baz=186,slow=17,SNR=1.6						
	comp=N,1.4nm,0.4s						
L29M	**L29M**	**8.72**	**36**	Pn	**Pn**	**10 42 34.3**	**+0.3**
H21K	**Melozitna Rive**	**9.35**	**351**	Pn	**Pn**	**10 42 42.4**	**0.0**
G24K	**Hadweenzic Riv**	**10.29**	**4**	Pn	**Pn**	**10 42 55.1**	**-0.2**
DLBC	**Dease Lake**	**10.60**	**71**	Pn	**Pn**	**10 42 57.7**	**-2.0**
	comp=N,0.4nm,0.3s,baz=281,slow=10,SNR=1.5						
INK	**Inuvik**	**13.88**	**25**	Pn	**Pn**	**10 43 46.5**	**+2.3**
	comp=N,0.1nm,0.3s,baz=180,slow=5.1,SNR=2.3						
	comp=N,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**18.47**	**57**	P	**Pn**	**10 44 44.3**	**+0.7**
	baz=257,slow=11,SNR=2.0						
	comp=N,0.3nm,0.7s						
MKAR	**Makanchi Array**	**68.39**	**325**	P	**P**	**10 51 30.1**	**+0.9**
	comp=N,0.1nm,0.4s,baz=48,slow=8.6,SNR=1.9						
	comp=N,0.1nm,0.4s						

*NEIC **23** 10:42:08.5±1.4, 56°.3N±0°.1×149°.4W±0°.1, h21km±9km, mb3.6/2, ML3.8(AEIC), Error ellipse: s-maj=15.2km s-min=9.3km az=178.0*

AEIC 23 10:42:09.4±1.9, 56°.10N±0°.09×149°.2W±0°.1, h10km±8km, Error ellipse: s-maj=13.1km s-min=10.2km az=158.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.50**	**314**		Pn	10 42 45.0	-5.1
KDAK	**Kodiak Island**	**2.50**	**314**		Sn	10 43 12.7	-8.0
OHAK	**Old Harbor**	**2.52**	**298**		Pn	10 42 45.0	-5.3
OHAK					Sn	10 43 13.0	-8.0
SYI	**Shuyak Island**	**3.05**	**327**		Pn	10 42 52.8	-4.8
CNPM	**China Poot**	**3.60**	**343**		Pn	10 43 00.2	-5.0
Q19K	**Cape Douglas,**	**3.71**	**322**		Pn	10 43 01.5	-5.2
BRSE	**Bradley Lake S**	**3.74**	**348**		Pn	10 43 01.2	-5.9
KAHG	**Katmai Hook Gl**	**3.76**	**312**		Pn	10 43 03.9	-3.6
BRLK	**Bradley Lake**	**3.78**	**347**		Pn	10 43 02.6	-5.1
KCG	**Knife Ck. Glac**	**3.90**	**307**		Pn	10 43 05.5	-3.8
AUCH	**Augustine Cone**	**3.98**	**327**		Pn	10 43 05.9	-4.7
P23K	**Montague Islan**	**4.02**	**13**		Pn	10 43 06.3	-4.7
P19K	**Oil Pt**	**4.16**	**331**		Pn	10 43 07.1	-5.8
CNTC	**Contact Creek**	**4.23**	**304**		Pn	10 43 09.6	-4.3
KAIM	**Kayak Island**	**4.60**	**32**	Pn	Pn	10 43 15.5	-3.4
P18K	**Big Mountain,**	**4.62**	**318**	Pn	Pn	10 43 14.6	-4.6
FID	**Port Fidalgo**	**4.88**	**16**	Pn	Pn	10 43 17.7	-5.0
O18K	**Koktuh Hills**	**4.94**	**322**	Pn	Pn	10 43 17.3	-6.2
CHGN	**Chignik**	**5.15**	**276**	Pn	Pn	10 43 21.7	-4.7
BERG	**Berg Lake**	**5.19**	**32**	Pn	Pn	10 43 23.0	-4.1
O16K	**Kokwok River B**	**5.90**	**310**	Pn	Pn	10 43 33.8	-2.9
BCPM	**Bancas Point**	**6.38**	**49**	Pn	Pn	10 43 39.9	-3.5
CTGM	**Chitina Glacie**	**6.38**	**37**	Pn	Pn	10 43 40.4	-3.1

HIN IAML 10 45 31.1
comp=E,3µm,0.6s
KAIM Kayak Island 4.80 30 Pn 10 44 00.5 +0.1
KAIM IAML 10 45 40.1
comp=E,2µm,0.5s
P18K Big Mountain, 4.80 320 Pn 10 43 59.7 -0.7
P18K Big Mountain, 4.80 320 P Pn 10 44 00.3 -0.1
baz=134
Q16K King Salmon 4.94 308 Pn 10 44 01.8 -0.4
Q16K King Salmon 4.94 308 P Pn 10 44 01.8 -0.4
baz=121
RED Redoubt Volcan 4.94 339 Pn 10 44 01.6 -0.8
RSO Redoubt South 4.98 339 Pn 10 44 02.3 -0.7
RDT Redoubt 5.02 342 Pn 10 44 02.8 -0.7
CAPN Captain Cook N 5.02 349 Pn Pn 10 44 03.7 +0.3
CAPN IAML 10 45 15.0
comp=N,2µm,0.4s
EYAK Cordova Ski Ar 5.03 20 Pn 10 44 03.5 -0.1
EYAK Cordova Ski Ar 5.03 20 P Pn 10 44 03.4 -0.1
EYAK Cordova Ski Ar 5.03 20 P Pn 10 44 03.6 +0.1
baz=203
DFR Drift River 5.08 340 Pn 10 44 03.6 -0.7
FID Port Fidalgo 5.10 15 Pn 10 44 03.9 -0.6
NCT North Crescent 5.11 339 Pn 10 44 04.0 -0.7
RDJH Redoubt Jeurge 5.11 340 Pn 10 44 04.0 -0.7
RAGM Ragged Mountai 5.12 26 Pn 10 44 04.7 -0.2
O19K Port Alsworth 5.12 330 Pn 10 44 03.8 -1.0
O18K Koktuh Hills 5.13 324 Pn Pn 10 44 03.9 -1.0
P17K Kvichak River 5.14 313 Pn 10 44 05.0 0.0
ANPB Aniakchak Plen 5.15 284 Pn 10 44 04.3 -0.8
CHGN Chignik 5.19 279 Pn 10 44 04.2 -1.5
CHGN IAML 10 45 04.2
comp=N,782nm,0.3s
CHGN IAML 10 45 04.8
comp=E,826nm,0.8s
RC01 Rabbit Creek A 5.25 357 Pn 10 44 06.5 0.0
RC01 IAML 10 45 07.2
comp=E,1µm,0.4s
GOAT Goat Mountain 5.28 25 Pn 10 44 06.5 -0.5
FIS Fire Island 5.32 355 Pn Pn 10 44 06.6 -0.9
FIS IAML 10 45 45.7
comp=E,1µm,0.5s
BERG Berg Lake 5.39 30 Pn 10 44 08.3 -0.1
SNH Sunshine Point 5.48 35 Pn 10 44 09.7 -0.1
DIV Divide 5.57 17 Pn 10 44 10.8 -0.3
KNK Knik Glacier 5.57 4 Pn 10 44 11.1 +0.1
SPCR Spurr Chakacha 5.58 345 Pn 10 44 10.0 -1.1
SPCN Chakachatna No 5.60 345 Pn 10 44 10.6 -0.8
SPCP Crater Peak Br 5.63 345 Pn 10 44 11.1 -0.8
SPCG Spurr Capps Gl 5.64 346 Pn 10 44 11.2 -0.8
SUA Susitna One 5.67 352 Pn 10 44 11.2 -1.3
N19K Bonanza Creek 5.69 333 Pn 10 44 11.5 -1.2
P16K Nushagak River 5.71 307 Pn 10 44 12.5 -0.3
PMR Palmer 5.74 0 Pn 10 44 13.4 +0.2
PMR Palmer 5.74 0 P Pn 10 44 13.7 +0.4
PMR Palmer 5.74 0 P Pn 10 44 13.5 +0.2
O17K Koliganek Bris 5.76 316 Pn 10 44 12.9 -0.6
SPNN North Nagishla 5.81 343 Pn 10 44 13.7 -0.8
STLK Strandline Lak 5.81 347 Pn 10 44 13.7 -0.7
KLU Klutina 5.89 15 Pn 10 44 15.3 -0.1
GHO Glory Hole Cre 5.92 1 Pn 10 44 15.2 -0.7
SML Sawmill 5.97 4 Pn 10 44 16.3 -0.2
N18K Kilae Creek 5.98 327 Pn Pn 10 44 15.4 -1.2
CNBA Chernabura Isl 6.03 264 Pn Pn 10 44 15.1 -2.1
O16K Kokwok River B 6.06 312 Pn 10 44 17.3 -0.3
SCM Sheep Creek Mo 6.06 8 Pn 10 44 17.4 -0.4
SCM Sheep Creek Mo 6.06 8 P Pn 10 44 17.4 -0.4
VRDI Verde Repeater 6.15 27 Pn Pn 10 44 19.4 +0.3
KIAG Kiagna River 6.21 32 Pn 10 44 19.4 -0.5
SVW2 Sparrevohn 6.22 330 Pn 10 44 18.5 -1.4
SVW2 Sparrevohn 6.22 330 P Pn 10 44 18.8 -1.1
N25K Chitina, Valde 6.23 21 Pn 10 44 20.2 +0.1
SKT Skwentna 6.25 350 Pn Pn 10 44 19.9 -0.4
GLB Gilahina Butte 6.25 24 Pn 10 44 20.4 0.0
YKU2 Yakutat 6.27 50 Pn Pn 10 44 21.2 +0.6
YKU2 Yakutat 6.27 50 P Pn 10 44 21.0 +0.5
N17K Nushagak Hills 6.30 321 Pn 10 44 20.5 -0.4
PCA Pinnacle 6.36 45 Pn 10 44 22.1 +0.2
M20K Styx River 6.37 343 Pn 10 44 20.9 -1.1
SDPT Sand Point 6.42 270 Pn 10 44 21.1 -1.5
SDPT Sand Point 6.42 270 P Pn 10 44 20.8 -1.8
M24K Tolsona, Glenn 6.45 13 Pn 10 44 24.2 +1.1
PNL Peninsula 6.47 50 Pn 10 44 23.5 +0.1
BARN Barnard Glacie 6.53 34 Pn 10 44 24.6 +0.3
BCPM Bancas Point 6.53 47 Pn 10 44 24.5 +0.4
CTGM Chitina Glacie 6.56 36 Pn 10 44 24.8 +0.1
LOGN Logan Glacier 6.57 38 Pn 10 44 25.0 +0.1
CUT Chulitna 6.58 356 Pn Pn 10 44 22.9 -1.9
M18K Stony River 6.61 331 Pn 10 44 23.9 -1.3
O15K Ungalikthiuk R 6.62 304 Pn 10 44 25.1 -0.3
M19K Big River Lodg 6.62 338 Pn 10 44 24.7 -0.7
N16K Nishlik Lake 6.85 316 Pn 10 44 28.1 -0.5
L19K White Mountain 6.97 338 Pn 10 44 29.0 -1.2
M17K Holitna River 7.02 326 Pn Pn 10 44 30.2 -0.7
PS1A Pavlof South-1 7.12 272 Pn 10 44 30.7 -1.6
O29M Mount Kennedy 7.17 47 Pn 10 44 33.6 +0.6
P29M Windy Craggy 7.19 54 Pn 10 44 33.0 -0.2
PS4A Pavlof South-4 7.20 271 Pn 10 44 31.6 -1.7
N15K Kwethluk River 7.22 311 Pn Pn 10 44 33.6 +0.1
PN7A Pavlof North-7 7.26 272 Pn 10 44 32.6 -1.7
M16K Timber Creek 7.28 319 Pn 10 44 35.2 +0.9
M26K Nabesna, AK 7.28 23 Pn 10 44 35.7 +1.3
DHY Denali Highway 7.29 7 Pn 10 44 36.0 +1.3
O14K Tigyukauivet M 7.33 303 Pn 10 44 34.9 -0.1
PAX Paxson 7.37 13 Pn Pn 10 44 36.6 +0.9
PAX Paxson 7.37 13 P Pn 10 44 36.6 +0.9
S31K Pelican 7.39 68 Pn 10 44 33.7 -2.3
L18K Granite Mounta 7.45 332 Pn 10 44 35.3 -1.4
M27K Edge Creek, AK 7.51 27 Pn 10 44 37.2 -0.5
RND Reindeer 7.56 1 Pn 10 44 37.3 -1.1
RND Reindeer 7.56 1 P Pn 10 44 37.3 -1.1
MENT Mentasta 7.62 19 Pn 10 44 40.2 +1.2
MENT Mentasta 7.62 19 P Pn 10 44 40.9 +1.8
TRF Thorofare Moun 7.63 356 Pn 10 44 38.2 -1.1
CAST Castle Rocks 7.71 350 Pn Pn 10 44 41.4 +1.0
R31K City Hall, Gus 7.75 65 Pn 10 44 39.9 -0.9
PLBC Pleasant Camp 7.76 57 Pn 10 44 41.1 +0.2
KTH Kantishna Hill 7.76 354 Pn 10 44 40.6 -0.4
L26K Log Cabin Wild 7.77 20 Pn 10 44 41.1 0.0
SIT Sitka 7.77 75 Pn Pn 10 44 38.3 -3.0
SIT Sitka 7.77 75 P Pn 10 44 37.2 -3.9
SIT Sitka 7.77 75 P Pn 10 44 38.1 -3.0
BVCY Beaver Creek 7.83 30 Pn 10 44 42.5 +0.5
L17K Donlin 7.84 327 Pn 10 44 41.1 -1.0
TTA Tatalina 7.89 337 Pn Pn 10 44 41.9 -0.9
TTA Tatalina 7.89 337 P Pn 10 44 41.3 -1.5
TTA Tatalina 7.89 337 P Pn 10 44 41.9 -0.9
MCK McKinley 7.89 1 Pn 10 44 43.7 +0.9
MCK McKinley 7.89 1 P Pn 10 44 43.7 +0.9
HYT Haines Junctio 7.90 46 Pn 10 44 43.0 0.0
K20K Telida 7.91 344 Pn 10 44 42.1 -0.9
L16K Owhat River 7.92 322 Pn Pn 10 44 42.8 -0.4
L27K Beaver Creek, 8.12 24 Pn 10 44 46.6 +0.6
BCAR Beaver Creek A 8.14 24 Pn Pn 10 44 47.3 +1.1
RIDG Independent Ri 8.19 14 Pn 10 44 48.4 +1.4
S32K Killisnoo 8.21 73 Pn Pn 10 44 45.4 -1.7
BESE Bessie Mountai 8.24 65 Pn 10 44 46.9 -0.7
SKAG Skagway 8.25 58 Pn 10 44 48.1 +0.4
SKAG Skagway 8.25 58 P Pn 10 44 48.1 +0.4
K17K Iditarod 8.29 330 Pn 10 44 47.0 -1.2
BPAW Bear Paw Mtn. 8.31 355 Pn 10 44 47.4 -1.1
M14K Bethel 8.31 311 Pn Pn 10 44 48.5 0.0
R32K Eaglecrest 8.35 67 Pn 10 44 47.9 -1.2
ISLZ Isanotski Laza 8.37 268 Pn 10 44 47.7 -1.7
JIS Juneau Island 8.42 67 Pn 10 44 49.1 -0.9
JIS Juneau Island 8.42 67 P Pn 10 44 48.9 -1.1
N30M Aishikik Lake 8.43 43 Pn 10 44 51.0 +0.8
O30N Mendenhall 8.46 49 Pn 10 44 51.1 +0.5
J18K Innoko River 8.51 337 Pn Pn 10 44 52.7 +1.4
SSLS Shishaldin Sou 8.54 268 Pn 10 44 50.0 -1.7
SCRK Sand Creek 8.54 16 Pn 10 44 51.8 0.0
M29M Somme Creek 8.58 35 Pn 10 44 53.2 +0.9
HDA Harding Lake 8.64 6 Pn 10 44 53.9 +0.8
J20K Nowinta River 8.69 345 Pn 10 44 55.0 +1.3
NEA2 Nenana 8.75 0 Pn 10 44 54.0 -0.5
M13K Dall Lake 8.76 307 Pn 10 44 54.3 -0.4
J19K Poorman 8.76 341 Pn 10 44 53.1 -1.6
CCB Clear Creek Bu 8.83 4 Pn 10 44 55.5 -0.1
L14K Kuka Creek 8.92 313 Pn 10 44 57.1 +0.3
K27K Chicken 8.92 21 Pn 10 44 57.9 +0.9

WHY Whitehorse 8.93 52 Pn Pn 10 44 58.0 +0.9
N31M Braeburn, Yuko 8.96 46 Pn 10 44 58.2 +0.8
J25K Salcha River, 8.97 11 Pn 10 44 57.8 +0.1
IL31 9.01 6 Pn 10 44 59.0 +1.0
ILAR Eielson Array 9.01 6 Pn Pn 10 44 59.4 +1.4
ILAR Eielson Array 9.01 6 P Pn 10 44 59.4 +1.4
ILAR Eielson Array 9.01 6 Pn Pn 10 44 58.1 +0.1
comp=E,3.6nm,0.3s,baz=189,slow=13,SNR=24
ILAR Sn Sn 10 46 34.5 -4.8
comp=E,9.8nm,0.3s,baz=123,slow=19,SNR=4.9
IL03 Eielson Array 9.01 6 Pn Pn 10 44 59.7 +1.7
U33K Whale Pass 9.01 82 Pn 10 44 55.5 -2.6
K15K Wolf Creek Mou 9.04 320 Pn Pn 10 44 59.1 +0.7
COLA College 9.06 4 Pn 10 44 59.9 +1.2
COLA College 9.06 4 P Pn 10 44 59.4 +0.7
COLA College 9.06 4 P Pn 10 44 59.9 +1.2
P32M Atlin 9.07 59 Pn Pn 10 44 58.5 -0.5
CRAG Craig 9.09 86 Pn 10 44 57.1 -2.1
CRAG Craig 9.09 86 P Pn 10 44 56.3 -2.9
J26L Joseph Creek 9.10 16 Pn 10 45 00.7 +1.3
MDM Murphy Dome 9.13 3 Pn 10 45 00.4 +0.6
L29M L29M 9.17 33 Pn 10 45 01.3 +0.9
M30M Minto, Yukon 9.24 38 Pn 10 45 02.0 +0.8
I23K Minto, Yukon-K 9.31 360 Pn 10 45 02.5 +0.3
POKR Poker Plat Res 9.32 5 Pn 10 45 03.7 +1.4
I20K Naaghedeneel 9.33 346 Pn Pn 10 45 03.2 +0.8
J16K Anvik River 9.41 327 Pn 10 45 02.7 -0.8
WRAK Wrangell Islan 9.42 80 Pn 10 45 01.8 -1.8
I21K Tanana 9.44 353 Pn 10 45 04.5 +0.5
DAWY Dawson 9.56 27 Pn Pn 10 45 06.3 +0.6
Q32M Nakina River 9.63 64 Pn 10 45 05.9 -0.9
P33M Teslin, Yukon 9.70 57 Pn Pn 10 45 07.5 -0.1
EGAK Eagle 9.77 21 Pn 10 45 08.9 +0.4
PRP Porcupine Dome 9.84 9 Pn 10 45 09.1 -0.5
I17K Unalakleet 9.89 329 Pn 10 45 10.0 -0.1
K29M Barlow Dome 9.90 31 Pn 10 45 11.0 +0.6
M31M Drury Creek, Y 9.90 44 Pn 10 45 11.6 +1.2
I26K Coal Creek Min 9.92 15 Pn 10 45 10.7 +0.2
N32M Quiet Lake 9.94 51 Pn 10 45 11.1 +0.3
H21K Melozitna Rive 9.98 351 Pn 10 45 11.6 +0.2
H24K Noodor Dome 10.02 3 Pn 10 45 14.3 +2.3
K13K Kusilvak Mount 10.03 314 Pn 10 45 12.9 +0.8
J14K Nanvaranak Lak 10.06 319 Pn 10 45 12.4 0.0
S34M Telegraph Cree 10.09 71 Pn Pn 10 45 12.4 -0.4
J29N Klondike Camp 10.18 28 Pn Pn 10 45 15.0 +0.8
MAYO Mayo, Yukon 10.23 35 Pn 10 45 14.7 -0.1
H19K Roundabout Mou 10.31 343 Pn 10 45 16.5 +0.6
FARO Faro, Yukon 10.33 45 Pn Pn 10 45 17.3 +1.1
H18K Honhosa River 10.34 338 Pn 10 45 16.4 +0.1
R33M Jennings River 10.38 63 Pn Pn 10 45 16.9 -0.1
IMAR Indian Mountai 10.39 350 Pn Pn 10 45 17.0 +0.1
H17K Granite Mounta 10.51 334 Pn 10 45 17.8 -0.9
T35M Bob Quinn 10.55 76 Pn 10 45 18.9 -0.3
I28M Miner Creek 10.61 21 Pn 10 45 21.9 +1.8
DLBC Dease Lake 10.71 68 Pn Pn 10 45 21.2 -0.3
DLBC Dease Lake 10.71 68 Pn Pn 10 45 21.1 -0.4
comp=E,9.4nm,0.3s,baz=256,slow=8.3,SNR=46
comp=E,18nm,0.3s
J30M Hart River 10.80 31 Pn 10 45 23.8 +1.2
G21K Allakaket 10.88 351 Pn 10 45 24.4 +0.7
G23K Bananza Creek 10.89 358 Pn 10 45 23.8 0.0
I29M Ogilvie Camp, 10.90 25 Pn 10 45 25.6 +1.6
FYU Fort Yukon 10.90 8 Pn 10 45 24.8 +0.9
G24K Hadweenzic Riv 10.90 4 Pn 10 45 24.6 +0.6
G19K Purcell Mounta 10.99 343 Pn 10 45 26.7 +1.6
G18K Tagagawik 11.05 339 Pn 10 45 27.4 +1.4
I30M Mount Dempster 11.28 29 Pn 10 45 31.1 +1.9
G16K Koyuk River 11.50 331 Pn 10 45 34.9 +2.8
F21K Alatna River 11.57 352 Pn 10 45 33.8 +0.7
WTLY Watson Lake, Y 11.61 60 Pn 10 45 34.5 +0.9
H29M Whitestone 11.61 22 Pn 10 45 35.3 +1.7
F20K Avaraart Lake 11.64 347 Pn 10 45 34.1 +0.1
SPIA Saint Paul Isl 11.70 285 P Pn 10 45 35.1 +0.2
F24K Squaw Lake 11.71 2 Pn 10 45 37.5 +2.5
F19K Shaleruckik Mo 11.73 343 Pn 10 45 35.0 -0.3
BMAR Burnt Mountain 11.80 9 Pn Pn 10 45 35.5 -0.8
ANM Nome 11.83 324 Pn Pn 10 45 36.4 -0.2
ANM Nome 11.83 324 P Pn 10 45 36.4 -0.2
F17K Baldwin Pennin 12.07 336 Pn 10 45 41.0 +1.1
EPYK Eagle Plains 12.10 25 Pn Pn 10 45 43.1 +2.7
E19K Redstone River 12.22 345 Pn 10 45 42.6 +0.5
G29M Pine Creek 12.27 21 Pn 10 45 45.4 +2.6
F15K North Star Dit 12.38 329 Pn 10 45 44.4 +0.2
E25K Arctic Village 12.41 6 Pn 10 45 45.6 +1.0
F28M Old Crow 12.56 17 Pn Pn 10 45 48.3 +1.7
G30M tAoh Zraii Nji 12.72 24 Pn Pn 10 45 50.5 +1.7
E27K Coleen River 12.85 13 Pn 10 45 52.4 +1.8
BBB Bella Bella 12.91 98 Pn Pn 10 45 50.0 -1.4
comp=E,0.4nm,0.3s,baz=278,slow=14,SNR=1.7
BBB Sn Sn 10 48 04.5 -10
comp=E,0.9nm,0.3s,baz=70,slow=20,SNR=5.9
comp=E,18nm,1.1s
G31M Satah River 13.14 27 Pn 10 45 53.7 -0.7
D22K Ayikyak River 13.16 354 Pn 10 45 53.0 -1.7
D19K Kuna River 13.31 346 Pn Pn 10 45 56.9 0.0
D24K Happy Valley 13.34 1 Pn 10 45 58.2 +1.1
E28M Babbage River 13.52 15 Pn 10 46 01.3 +1.6
D25K Kavik River 13.56 4 Pn 10 46 00.8 +0.5
E29M Blow River 13.59 18 Pn 10 46 02.7 +2.0
F31M Tsiigehtchic 13.67 26 Pn Pn 10 46 02.6 +0.9
D27M Malcolm River 13.93 12 Pn Pn 10 46 07.5 +2.2
C18K Utukok River 13.95 342 Pn 10 46 06.1 +0.5
B21K Ikpikpuk River 14.02 352 Pn 10 46 05.4 -1.0
FLDN Fort Liard 14.25 62 Pn Pn 10 46 10.8 +1.1
INK Inuvik 14.40 24 Pn Pn 10 46 12.4 +0.8
INK Inuvik 14.40 24 P Pn 10 46 12.5 +0.8
INK Inuvik 14.40 24 Pn Pn 10 46 11.2 -0.5
comp=E,0.5nm,0.3s,baz=208,slow=15,SNR=22
comp=E,32nm,1.0s
B20K Meade River 14.63 349 Pn 10 46 13.6 -1.2
B22K Teshekpuk Lake 14.65 354 Pn 10 46 15.4 +0.4
WRGLY Wrigley 14.89 50 Pn Pn 10 46 19.1 +0.6
ATKA Atka Island 15.11 266 Pn Pn 10 46 18.7 -2.7
KIWB Kanaga Island 16.92 268 Pn Pn 10 46 42.4 -2.4
C36M Paulatuk 17.57 30 Pn 10 46 52.7 0.0
C36M IAmb IAmb 10 46 53.8
comp=Z,35nm,1.0s
YKAB2 New Yellowknif 18.72 55 Pn 10 47 07.1 +0.2
YKA Yellowknife Ar 18.73 55 P Pn 10 47 06.9 -0.1
YKA Yellowknife Ar 18.73 55 eP Pn 10 47 07.2 +0.2
YKA pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 18.73 55 P P 10 47 06.5 -0.1
comp=Z,0.9nm,0.3s,baz=264,slow=11,SNR=42
comp=Z,5.1nm,0.7s
A36M Sachs Harbour 19.04 23 P Pn 10 47 10.9 +0.2
A36M IAmb IAmb 10 47 13.7
comp=Z,43nm,0.8s
H04A Detroit Lake 20.42 112 P P 10 47 25.0 -0.3
H04A IAmb IAmb 10 47 29.0
comp=Z,63nm,1.2s
E07A Sunnyside 20.46 105 P P 10 47 24.8 -0.8
E07A IAmb IAmb 10 47 29.4
comp=Z,26nm,1.2s
C09A Chrisman Ranch 20.59 100 P P 10 47 26.1 -1.0
D08A Wollman Farm, 20.67 103 P P 10 47 27.0 -0.9
D08A IAmb IAmb 10 47 28.5
comp=Z,29nm,1.2s
HAWA Hanford 20.74 105 P P 10 47 28.5 -0.1
EDM Edmonton 20.81 82 P P 10 47 30.1 +0.7
EDM IAmb IAmb 10 47 43.8
comp=Z,32nm,1.4s
EDM Edmonton 20.81 82 P P 10 47 30.1 +0.7
EDM pmax pmax
comp=Z,32nm,1.4s
F07A Phinny Hill Vi 20.83 106 P P 10 47 29.6 0.0
F07A IAmb IAmb 10 47 34.1
comp=Z,38nm,1.0s
I04A Tendick Farm, 20.92 114 P P 10 47 29.9 -0.8
I04A IAmb IAmb 10 47 34.8
comp=Z,57nm,1.3s
E08A Dider Farm, El 20.93 104 P P 10 47 30.6 -0.1
E08A IAmb IAmb 10 47 43.8
comp=Z,25nm,1.3s
NEW Newport 20.98 98 P P 10 47 31.4 +0.1
NEW IAmb IAmb 10 47 45.8
comp=Z,22nm,1.4s
NEW Newport 20.98 98 P P 10 47 31.4 +0.1
NEW pmax pmax
comp=Z,22nm,1.4s
NEW Newport 20.98 98 P P 10 47 30.5 -0.7
comp=Z,8.0nm,0.9s,baz=305,slow=6.9,SNR=10
comp=Z,8.0nm,0.9s
I05D Terrebonne, OR 21.10 111 P P 10 47 32.1 -0.6
I05D IAmb IAmb 10 47 36.2
comp=Z,18nm,1.0s
E09A Wood Farm, Sta 21.42 103 P P 10 47 35.5 -0.5
HUMO Hull Mountain 21.50 117 P P 10 47 37.6 +0.7
HUMO IAmb IAmb 10 47 39.4
comp=Z,40nm,1.4s
PINE Pine Mountain 21.69 112 P P 10 47 39.0 0.0
G08A Pilot Rock 21.74 106 P P 10 47 38.9 -0.7
G08A IAmb IAmb 10 47 40.1
comp=Z,12nm,1.1s
J05D Fort Rock, OR 21.89 113 P 10 47 41.5 +0.3
J05D IAmb IAmb 10 47 47.6
comp=Z,39nm,1.1s
K04D Chiloquin, OR 22.09 115 P P 10 47 42.3 -1.1
K04D IAmb IAmb 10 48 00.1
comp=Z,57nm,1.4s
I07A Izee 22.25 110 P P 10 47 44.9 -0.1
I07A IAmb IAmb 10 47 46.0
comp=Z,29nm,1.4s
F10A Beach Ranch, E 22.26 103 P P 10 47 44.7 -0.3
F10A IAmb IAmb 10 47 45.6
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 22.27 118 P P 10 47 44.9 -0.3
YBH Yreka Blue Hor 22.27 118 P P 10 47 44.9 -0.3
YBH pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 22.92 105 P P 10 47 52.0 -0.1
BMO Blue Mountains 22.92 105 P P 10 47 52.0 -0.1
BMO pmax pmax
comp=Z,9.0nm,1.2s
J08A Circle Bar Ran 23.29 110 P P 10 47 56.6 +0.7
J08A IAmb IAmb 10 48 24.1
comp=Z,10nm,1.3s
BPMT Black Pine Rid 24.07 98 P P 10 48 03.2 -0.4
ORV Oroville 24.52 120 P P 10 48 06.5 -1.1
ORV Oroville 24.52 120 P P 10 48 06.5 -1.1
MFID Camas Ranch 24.67 106 P P 10 48 08.1 -0.8
AFDM Forest Hills D 25.25 120 P P 10 48 13.7 -0.5
HLID Hailey 25.34 104 P P 10 48 14.1 -1.0
MPK Martis Peak 25.45 118 P P 10 48 15.7 -0.5
PAHR Pah Rah Range 25.45 117 P P 10 48 15.9 -0.2
PNTR Pine Nut 25.82 118 P P 10 48 19.0 -0.6
BMN Battle Mountai 26.02 113 P P 10 48 20.6 -0.7
BMN Battle Mountai 26.02 113 P P 10 48 20.6 -0.7
YERR Yerington 26.08 118 P P 10 48 21.4 -0.4
YERR IAmb IAmb 10 48 24.9
comp=Z,14nm,1.3s
YHL Hebgen Lake 26.30 99 P P 10 48 23.4 -0.5
FFC Flin Flon 26.50 73 P P 10 48 25.0 -0.3
FFC Flin Flon 26.50 73 P P 10 48 25.0 -0.3
FFC pmax pmax
comp=Z,5.0nm,1.4s
YHH Holmes Hill 26.52 98 P P 10 48 26.2 +0.2
KVN Kaiserville 26.60 116 P P 10 48 26.5 -0.1
KVN Kaiserville 26.60 116 P P 10 48 26.5 -0.1
KVN pmax pmax
comp=Z,1.0nm,1.3s
RYN Ryan 26.71 117 P P 10 48 26.9 -0.6
ELK Elko 26.83 110 P P 10 48 28.8 +0.1
ELK IAmb IAmb 10 48 29.7
comp=Z,10nm,1.3s
ELK Elko 26.83 110 P P 10 48 28.8 +0.1
ELK pmax pmax
comp=Z,10.0nm,1.3s
ELK Elko 26.83 110 P P 10 48 28.2 -0.5
comp=Z,2.7nm,0.9s,baz=319,slow=7.1,SNR=5.1
comp=Z,2.7nm,0.9s
H17A Grant Village 26.92 99 P 10 48 28.7 -0.8
NVAR Mina Array Bea 26.97 117 P P 10 48 29.5 -0.4
NVAR Mina Array Bea 26.97 117 P P 10 48 29.1 -0.9
comp=Z,3.3nm,0.8s,baz=310,slow=8.9,SNR=22
comp=Z,3.3nm,0.8s
IMW Indian Meadow 27.03 100 P P 10 48 30.2 -0.4
NV11 Mina Array Sit 27.04 117 P P 10 48 30.3 -0.3
FLWY Flagg Ranch 27.05 100 P P 10 48 29.9 -0.7
FLWY IAmb IAmb 10 48 49.1
comp=Z,12nm,1.3s
TPH Tonopah 27.79 116 P P 10 48 35.5 -1.8
TPH IAmb IAmb 10 48 40.3
comp=Z,6.3nm,0.9s
TPH Tonopah 27.79 116 P P 10 48 35.5 -1.8
TPH pmax pmax
comp=Z,6.0nm,0.9s
BGU Big Grassy Mou 27.89 107 P P 10 48 37.9 -0.2
RES Resolute Bay 27.90 27 P P 10 48 38.7 +1.0
RES IAmb IAmb 10 48 39.1
comp=Z,4.1nm,0.8s
RES Resolute Bay 27.90 27 P 10 48 38.7 +1.0
RES pmax pmax
comp=Z,4.0nm,0.8s
SPUT South Promonto 27.93 106 P P 10 48 36.0 -2.5
LAO LASA Array 27.98 91 P P 10 48 38.4 -0.3
LAO IAmb IAmb 10 48 39.9
comp=Z,8.9nm,0.9s
MZP Montezuma Peak 28.00 117 P P 10 48 38.8 -0.4
Q12A Willow Creek R 28.29 112 P P 10 48 41.7 0.0
Q12A IAmb IAmb 10 49 05.1
comp=Z,5.5nm,1.2s
R11B Troy Canyon, C 28.41 114 P P 10 48 42.1 -0.8
BW06 Boulder Array 28.53 101 P P 10 48 43.5 -0.5
PD31 Pinedale Array 28.53 101 P P 10 48 43.3 -0.6
PDAR Pinedale Array 28.53 101 P P 10 48 43.1 -0.9
PDAR Pinedale Array 28.53 101 P P 10 48 42.4 -1.5
comp=Z,0.8nm,0.6s,baz=324,slow=4.8,SNR=8.4
comp=Z,0.8nm,0.6s
SPR3 Spring Creek 3 28.58 111 P P 10 48 45.0 +0.5
SPR3 IAmb IAmb 10 48 46.5
comp=Z,6.1nm,1.1s
ISA Isabella, Lake 29.07 121 P P 10 48 47.6 -0.9
ISA Isabella, Lake 29.07 121 P P 10 48 47.6 -0.9
ISA pmax pmax
comp=Z,1.0nm,1.0s
WCT Wildcat Mounta 29.08 117 P P 10 48 48.1 -0.6
TPNV Topopah Spring 29.15 117 P P 10 48 48.4 -0.9
TPNV IAmb IAmb 10 49 04.4
comp=Z,7.9nm,1.4s
TPNV Topopah Spring 29.15 117 P P 10 48 48.4 -0.9
TPNV pmax pmax
comp=Z,8.0nm,1.4s
FCC Fort Churchill 29.19 61 P P 10 48 49.7 +0.5
FCC Fort Churchill 29.19 61 P P 10 48 49.7 +0.5
BSUT Blindstream Ca 29.39 105 P P 10 48 52.1 +0.4
PRN Pahroc Range 29.41 114 P P 10 48 51.1 -0.4
GWY Greenwater Val 29.53 118 P P 10 48 52.8 0.0
SEY Seymchan 29.60 308 eP P 10 48 55.4 +2.5
QSM Queen of Sheba 29.61 119 P P 10 48 53.0 -0.2
MVU Marysvale 30.07 110 P P 10 48 58.3 +0.7
MSU Marysvale 30.08 110 P P 10 48 58.3 +0.6
MSU Marysvale 30.08 110 P P 10 48 58.3 +0.6
GSC Goldstone, Bar 30.17 119 P P 10 48 58.2 -0.1
GSC Goldstone, Bar 30.17 119 P P 10 48 58.2 -0.1
PETK Petropavlovsk- 30.35 287 P P 10 48 59.5 -0.1
comp=Z,4.7nm,1.1s,baz=72,slow=13,SNR=5.4
comp=Z,4.7nm,1.1s
SRU San Rafael Swe 30.53 107 P P 10 49 01.5 -0.1
SRU San Rafael Swe 30.53 107 P P 10 49 01.5 -0.1
SRU pmax pmax
comp=Z,2.0nm,1.0s
LCMT Little Creek M 30.64 113 P P 10 49 02.1 -0.4
RSSD Black Hills 30.76 93 P P 10 49 03.4 -0.2
RSSD IAmb IAmb 10 49 04.5
comp=Z,3.7nm,0.8s
RSSD Black Hills 30.76 93 P P 10 49 03.4 -0.2
RSSD pmax pmax
comp=Z,4.0nm,0.8s
V12A Nelson 30.81 116 P P 10 49 03.6 -0.3
O20A White River Ci 31.05 103 P P 10 49 05.7 -0.5
PMD Palm Desert 31.71 121 P P 10 49 09.5 -2.3
W13A Hualapai Mount 31.79 116 P P 10 49 13.0 +0.2
PHWY Pilot Hill 31.79 99 P P 10 49 11.0 -1.7
PHWY IAmb IAmb 10 49 11.5
comp=Z,5.3nm,0.9s
N23A Red Feather La 31.79 100 P P 10 49 11.5 -1.3
N23A IAmb IAmb 10 49 39.8
comp=Z,5.3nm,1.4s
ULM Lac du Bonnet 31.84 77 P P 10 49 13.0 +0.2
ULM Lac du Bonnet 31.84 77 P P 10 49 13.0 +0.2
ULM Lac du Bonnet 31.84 77 P P 10 49 12.5 -0.3
comp=Z,2.2nm,0.7s,baz=307,slow=10,SNR=3.9
comp=Z,2.2nm,0.7s
TIXI Tiksi 36.05 328 P P 10 49 49.6 +0.5
TIXI Tiksi 36.05 328 P P 10 49 49.6 +0.5

TIXI pmax pmax
comp=Z,28nm,1.5s
WMOK Wichita Mounta 40.15 100 P **P** 10 50 23.4 -0.6
WMOK IAmb IAmb 10 50 25.0
comp=Z,8.0nm,1.1s
WMOK Wichita Mounta 40.15 100 P **P** 10 50 23.4 -0.6
WMOK pmax pmax
comp=Z,8.0nm,1.2s
R40A Maddies Statio 41.25 91 P **P** 10 50 31.8 -1.3
R40A IAmb IAmb 10 50 32.2
comp=Z,6.8nm,1.0s
HDIL Hopedale 41.37 86 P **P** 10 50 33.5 -0.6
SUMG Summit 43.32 24 P **P** 10 50 50.5 +0.5
SUMG Summit 43.32 24 P **P** 10 50 50.5 +0.5
SCHQ Schefferville 44.18 55 P **P** 10 50 58.0 +1.3
SCHQ IAmb IAmb 10 51 17.1
comp=Z,7.1nm,1.1s
SCHQ Schefferville 44.18 55 P **P** 10 50 57.1 +0.4
comp=Z,3.7nm,0.7s,baz=278,slow=11,SNR=5.7
comp=Z,3.7nm,0.7s
SADO Sadowa 44.21 74 P **P** 10 50 56.0 -1.0
SADO IAmb IAmb 10 51 24.4
comp=Z,16nm,1.3s
P48A Milroy 44.29 84 P **P** 10 50 56.5 -1.3
P48A IAmb IAmb 10 50 57.2
comp=Z,5.4nm,0.7s
HKT Hockley 45.39 102⇑ *e*P **P** 10 51 07.1 +0.6
ZEA Zeya 45.41 304 *e*P P 10 51 17.0 +11
M53A WI Miller and 45.59 78 P **P** 10 51 08.3 +0.2
R50A Paris 45.73 84 P **P** 10 51 08.6 -0.6
R50A IAmb IAmb 10 51 09.0
comp=Z,7.6nm,0.9s
Q51A Peebles 45.76 83 P **P** 10 51 07.4 -2.0
Q51A IAmb IAmb 10 51 10.2
comp=Z,10nm,0.8s
SPITS Spitsbergen Ar 45.92 4 P **P** 10 51 10.8 +0.6
SPITS pmax pmax
comp=Z,38nm,1.2s
SPITS Spitsbergen Ar 45.92 4 P **P** 10 51 10.3 +0.1
comp=Z,18nm,1.1s,baz=31,slow=8.6,SNR=6.0
comp=Z,18nm,1.1s
KLR Kul'dur 46.06 297⇓ *e*P **P** 10 51 13.9 +2.2
S51A Beattyville 46.59 84 P **P** 10 51 15.0 -1.0
S51A IAmb IAmb 10 51 29.5
comp=Z,16nm,1.5s
L56A Greenwood 46.82 75 P **P** 10 51 18.1 +0.3
R53A Hurricane 47.02 82 P **P** 10 51 19.3 0.0
Q54A Coxs Mills 47.19 81 P **P** 10 51 18.7 -1.9
Q54A IAmb IAmb 10 51 33.0
comp=Z,10nm,1.4s
J58A Remsen 47.23 73 P **P** 10 51 22.0 +1.1
W50A Signal Mountai 47.37 88 P **P** 10 51 21.3 -0.9
M57A Sunshine Farm, 47.60 76 P **P** 10 51 24.4 +0.5
M57A IAmb IAmb 10 51 47.5
comp=Z,2.0nm,0.8s
SSPA Standing Stone 47.67 77 P **P** 10 51 24.4 0.0
SSPA IAmb IAmb 10 51 48.3
comp=Z,5.5nm,1.1s
E62A Clayton Lake 48.08 66 P **P** 10 51 27.3 -0.2
L59A Walton 48.15 74 P **P** 10 51 29.1 +0.9
NRIK Noril'sk 48.51 337 *e*P **P** 10 51 31.3 +0.8
NRIK pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 48.51 337 P **P** 10 51 30.9 +0.4
comp=Z,1.9nm,0.6s,baz=46,slow=9.9,SNR=3.7
comp=Z,1.9nm,0.6s
F63A Nahmakanta, Br 48.91 66 P **P** 10 51 33.9 +0.1
F63A IAmb IAmb 10 51 34.9
comp=Z,11nm,1.1s
MVL Millersville 48.96 77 P **P** 10 51 34.7 +0.4
F64A Sherman 49.19 66 P **P** 10 51 36.1 +0.1
K62A Royalston 49.34 71 P **P** 10 51 38.4 +1.2
BATG Bathurst New B 49.39 63 P **P** 10 51 37.6 0.0
H11S1 WAKE ISLAND Hy 49.86 240 T T 11 46 17.5
baz=29
H11S2 WAKE ISLAND Hy 49.87 240 T T 11 46 09.5
baz=29
H11S3 WAKE ISLAND Hy 49.88 240 T T 11 46 11.1
baz=29
MDJ Mudanjiang 50.24 293 P **P** 10 51 47.9 +3.9
MDJ pmax pmax
comp=Z,9.0nm,1.5s
MDJ pmax pmax
comp=Z,29µm,11.2s
GBN Guysborough 52.96 62 P **P** 10 52 05.4 +1.1
ARCES ARCESS Array B 54.84 2 P **P** 10 52 18.1 +0.3
ARCES IAmb IAmb 10 52 43.1
comp=Z,7.3nm,1.2s
ARCES ARCESS Array B 54.84 2 P **P** 10 52 18.1 +0.3
ARCES pmax pmax
comp=Z,7.0nm,1.3s
ARCES ARCESS Array B 54.84 2 P **P** 10 52 17.6 -0.2
comp=Z,2.0nm,0.4s,baz=357,slow=7.1,SNR=26
comp=Z,2.0nm,0.4s
KSRS Korea Array 56.24 288 P **P** 10 52 28.8 +0.5
comp=Z,1.0nm,0.6s,baz=31,slow=7.2,SNR=2.3
comp=Z,1.0nm,0.6s
SONM Songino Array 58.95 310 *e*P **P** 10 52 51.5 +4.1
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 58.95 310 P **P** 10 52 47.8 +0.4
comp=Z,0.9nm,0.8s,baz=51,slow=4.9,SNR=6.9
comp=Z,0.9nm,0.8s
ZALV Zalesovo Beam 61.94 327 P **P** 10 53 07.7 +0.2
comp=Z,0.7nm,0.3s,baz=13,slow=8.1,SNR=4.9
comp=Z,0.7nm,0.3s
HHC Hu-ho-hao-te 62.00 302 *e*P P 10 53 13.5 +5.2
HHC pmax pmax
comp=Z,20nm,0.5s
NC204 NORSAR Array S 62.13 11 P **P** 10 53 09.0 +0.3
NC303 NORSAR Array S 62.24 10 P **P** 10 53 08.5 -0.9
NC405 NORSAR Array S 62.39 10 P **P** 10 53 11.0 +0.6
NB201 NORSAR Array S 62.41 11 P **P** 10 53 10.4 -0.2
NB2 NORSAR Subarra 62.41 11 P **P** 10 53 10.8 +0.2
comp=Z,1.3nm,0.6s,baz=348,slow=6.9
NOA NORSAR Array B 62.41 11 *e*P **P** 10 53 11.1 +0.5
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 62.41 11 P **P** 10 53 10.4 -0.3
comp=Z,2.4nm,0.8s,baz=348,slow=6.8,SNR=6.5
comp=Z,2.4nm,0.8s
FIA1 FINESS Array S 62.97 3 P **P** 10 53 15.2 +1.0
FINES FINESS Array B 62.97 3 P **P** 10 53 15.2 +0.9
FINES FINESS Array B 62.97 3 P **P** 10 53 15.2 +0.9
FINES FINESS Array B 62.97 3 P **P** 10 53 14.7 +0.4
comp=Z,3.2nm,0.4s,baz=2.6,slow=9.0,SNR=29
comp=Z,3.2nm,0.4s
HFS Hagfors 63.55 9 P **P** 10 53 18.0 -0.1
comp=Z,2.0nm,0.7s,baz=48,slow=2.2,SNR=4.9
comp=Z,2.0nm,0.7s
DGZ Jazzator, Alta 64.73 323⇑ *e*P **P** 10 53 27.1 +0.8
NJ2 Nanjing 65.17 291 *e*P **P** 10 53 26.6 -2.6
NJ2 pmax pmax
comp=Z,11nm,0.5s
EKA Eskdalemuir Ar 65.75 20 P **P** 10 53 32.2 -0.3
comp=Z,1.6nm,0.5s,baz=315,slow=5.7,SNR=5.9
comp=Z,1.6nm,0.5s
ARU Arti 65.82 344 P **P** 10 53 32.2 -0.8
ARU S **S** 11 02 17.3 -1.9
ARU SS **SS** 11 06 28.2 -4.3
VSU Vasula 65.97 2⇓ *e*P **P** 10 53 35.6 +1.7
VSU pmax pmax
comp=Z,21nm,0.8s
KURK Kurchatov 66.61 329 P **P** 10 53 37.5 -0.7
KURK Kurchatov 66.61 329 P **P** 10 53 37.8 -0.4
BRVK Borovoye 66.68 335⇑ *e*P **P** 10 53 39.2 +0.6
BRVK pmax pmax
comp=Z,14nm,1.4s
BVAR Borovoye Array 66.68 335 P **P** 10 53 37.4 -1.2
comp=Z,1.2nm,0.6s,baz=54,slow=7.3,SNR=6.7
comp=Z,1.2nm,0.6s
KURBB Kurchatov Arra 66.72 329 P **P** 10 53 37.8 -1.1
comp=Z,0.8nm,0.8s,baz=28,slow=6.1,SNR=5.5
comp=Z,0.8nm,0.8s
MK31 Makanchi Array 68.96 325 P **P** 10 53 51.5 -1.7
MK31 IAmb IAmb 10 54 04.4
comp=Z,4.4nm,1.0s
MK31 Makanchi Array 68.96 325⇓ *e*P **P** 10 53 53.7 +0.6
MKAR Makanchi Array 68.96 325 P **P** 10 53 52.8 -0.4
MKAR Makanchi Array 68.96 325 *e*P **P** 10 53 54.5 +1.4
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 68.96 325 P **P** 10 53 52.4 -0.7
comp=Z,0.8nm,0.7s,baz=23,slow=5.9,SNR=8.4
comp=Z,0.8nm,0.7s
CLL Collm 72.17 12 *e*P **P** 10 54 13.0 +0.5
CLL Collm 72.17 12 *e*P **P** 10 54 13.0 +0.5
ABKAR Akbulak array 72.46 340 P **P** 10 54 14.2 -0.1
RICC Richard 73.05 11 *e*P **P** 10 54 19.0 +1.2
NKC Novy Kostel 73.17 12 *e*P **P** 10 54 15.3 -3.2
NKC Novy Kostel 73.17 12 *e*P **P** 10 54 15.3 -3.2
DPC Dobruska-Polom 73.46 10 *e*P **P** 10 54 21.7 +1.4
DPC Dobruska-Polom 73.46 10 *e*P **P** 10 54 21.7 +1.4
KRLC Kraliky 73.78 9 *e*P **P** 10 54 23.2 +1.0
KRLC Kraliky 73.78 9 *e*P **P** 10 54 23.2 +1.0
AKASG Malin Array Be 73.79 1 P **P** 10 54 21.9 -0.3
comp=Z,1.4nm,0.5s,baz=359,slow=5.4,SNR=13
comp=Z,1.4nm,0.5s
AKBB Malin Array Si 73.79 1 P **P** 10 54 23.1 +1.0
AKBB IAmb IAmb 10 54 33.3
comp=Z,11nm,1.1s
AKBB Malin Array Si 73.79 1 P **P** 10 54 23.1 +1.0
AKBB pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 73.80 1 P **P** 10 54 23.1 +0.9
KIEV IAmb IAmb 10 54 33.3
comp=Z,10.0nm,1.1s
KIEV Kiev 73.80 1 P **P** 10 54 23.1 +0.9
KIEV pmax pmax
comp=Z,10.0nm,1.1s
MORC Moravsky Berou 74.14 9 *e*P **P** 10 54 25.2 +0.9
ZVC Zvikov 74.15 11 *e*P **P** 10 54 25.4 +1.1
KHC Kasperske Hory 74.38 12 *e*P **P** 10 54 26.8 +1.1
KHC *ex* x 10 55 06.5
KHC Kasperske Hory 74.38 12 *e*P **P** 10 54 26.8 +1.1
ECH Echery 74.41 16 P **P** 10 54 26.9 +1.0
ECH Echery 74.41 16 P **P** 10 54 26.9 +1.0
ECH pmax pmax
comp=Z,8.0nm,0.6s
VRAC Vranov 74.52 10 *e*P **P** 10 54 27.6 +1.1
GEC2 GERESS Array S 74.68 12 P **P** 10 54 27.1 -0.4
GEC2 IAmb IAmb 10 54 29.0
comp=Z,2.6nm,0.7s
GERES GERESS Array B 74.68 12 P **P** 10 54 27.2 -0.3
GERES GERESS Array B 74.68 12 *e*P **P** 10 54 29.2 +1.7
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 74.68 12 P **P** 10 54 27.1 -0.4
comp=Z,1.6nm,0.6s,baz=358,slow=4.0,SNR=6.1
comp=Z,1.6nm,0.6s
KRUC Moravsky 74.75 10 *e*P **P** 10 54 28.5 +0.7
JAVC Velka Javorina 75.06 9 *e*P **P** 10 54 31.2 +1.5
RETA Reutte 75.65 14 *i* pP **P** 10 54 33.8 +0.7
comp=Z,0.1nm,0.2s
DAVA Damuels 75.72 15 *i* P **P** 10 54 33.1 -0.5
comp=Z,2.5nm,0.8s
BIOA Bad Ischl, Aus 75.81 12 *i* pP **P** 10 54 35.2 +1.3
comp=Z,3.8nm,0.6s
KK31 Karatay Array 75.83 331 P **P** 10 54 34.3 +0.1
KK31 IAmb IAmb 10 54 45.9
comp=Z,8.2nm,1.2s
KK31 Karatay Array 75.83 331 P **P** 10 54 34.3 +0.1
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KKAR Karatay Array 75.83 331 P **P** 10 54 34.3 +0.1
KKAR Karatay Array 75.83 331 P **P** 10 54 34.3 +0.1
MOTA Moosalm 75.83 14 *i* pP **P** 10 54 36.0 +1.8
comp=Z,2.3nm,0.5s
WATA Walderalm 75.91 13 *i* pP **P** 10 54 34.3 -0.3
comp=Z,4.4nm,0.9s
SQTA Sankt Quirin 75.97 14 *i* pP **P** 10 54 35.6 +0.6
comp=Z,8.9nm,1.0s
WTTA Wattenberg 75.98 13 *i* pP **P** 10 54 36.3 +1.2
comp=Z,6.8nm,0.7s
FETA Feichten 76.10 14 *i* pP **P** 10 54 37.0 +1.3
comp=Z,2.9nm,0.7s
KBA Koelnbreinsper 76.38 12 *i* pP **P** 10 54 38.7 +1.3
comp=Z,6.6nm,0.7s
BUR08 Bucovina Ar. S 76.75 4 P **P** 10 54 37.7 -1.7
BUR08 IAmb IAmb 10 54 44.3
comp=Z,1.5nm,0.7s
SOKA Soboth 76.97 11 *i* pP **P** 10 54 41.9 +1.3
comp=Z,6.3nm,1.2s
OBKA Obir 77.08 11 *i* pP **P** 10 54 42.2 +1.0
comp=Z,9.9nm,0.7s
PZH PanZhiHua 78.37 300 P **P** 10 54 47.1 -1.7
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.2s
KBZ Khabaz 80.25 351⇓ *e*P **P** 10 54 59.4 +0.8
KBZ Khabaz 80.25 351 P **P** 10 54 59.0 +0.5
comp=Z,2.6nm,0.9s,baz=127,slow=7.0,SNR=3.8
comp=Z,2.6nm,0.9s
ESDC Sonseca Array 80.33 27 P **P** 10 54 59.5 +0.3
comp=Z,2.5nm,0.8s,baz=338,slow=5.1,SNR=11
comp=Z,2.5nm,0.8s
MCRA Macar, Loja 82.14 110 P **P** 10 55 07.1 -2.0
GEYT Alibeck 83.71 339 P **P** 10 55 17.4 +0.5
comp=Z,0.9nm,0.4s,baz=29,slow=3.3,SNR=2.1
comp=Z,0.9nm,0.4s
BRTR Keskin Array B 84.74 358 P **P** 10 55 22.6 +0.3
comp=Z,1.1nm,0.8s,baz=2.9,slow=5.8,SNR=2.4
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 86.53 298 *e*P **P** 10 55 35.0 +3.7
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 86.53 298 P **P** 10 55 32.6 +1.4
comp=Z,1.7nm,0.5s,baz=14,slow=4.7,SNR=8.0
comp=Z,1.7nm,0.5s
QSPA South Pole Qui 145.66 180 PKPbc **PKPdf** 11 02 23.5 -1.6
comp=Z,7.2nm,0.9s,baz=64,slow=1.1,SNR=5.5
BOSA Boshof 152.47 11 PKPbc **PKiKP** 11 02 45.1 +0.6
comp=Z,2.4nm,0.9s,baz=34,slow=3.6,SNR=2.0

*IDC **23** 10:43:28.0± 1.0, 56°.21N × 149°.81W, h0km, mb4.4/18, mbtmp4.4/21, ML4.7/3, Error ellipse: s-maj=25.6km s-min=15.9km az=23.0*
*NEIC **23** 10:43:32.1± 1.7, 56°.38N ± 0°.07 × 149°.8W ± 0°.1, h20km ± 4km, mb4.7/73, ML4.7/36, Error ellipse: s-maj=11.1km s-min=7.7km az=203.0*

ISC 23 10:43:30.5±0.5, 56°.35N ± 0°.07 × 149°.73W ± 0°.05, h10km, n165, d0°96/165, mb4.7/58, 1D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.12**	**314**	Pn	**Pn**	**10 44 06.2**	**+0.2**
KDAK				IAML		10 44 34.8	
	1µm,0.6s						
KDAK				IAML		10 44 34.9	
	2µm,0.6s						
KDAK	**Kodiak Island**	**2.12**	**314**	Sn	**Sn**	**10 44 33.3**	**+1.0**
	124nm,0.3s,baz=303,slow=19,SNR=16						
SYI	**Shuyak Island**	**2.68**	**329**	Pn	**Pn**	**10 44 12.1**	**-1.6**
CNPM	**China Poot**	**3.28**	**346**	Pn	**Pn**	**10 44 20.8**	**-1.2**
CNPM				IAML		10 45 05.7	
	comp=E,2µm,0.8s						
CNPM				IAML		10 45 05.9	
	comp=N,1µm,0.7s						
Q19K	**Cape Douglas,**	**3.33**	**322**	Pn	**Pn**	**10 44 22.2**	**-0.5**
Q19K				IAML		10 45 12.6	
	comp=E,3µm,1.2s						
Q19K				IAML		10 45 20.6	
	comp=N,2µm,0.8s						
HOM	**Homer**	**3.47**	**344**	Pn	**Pn**	**10 44 23.3**	**-1.2**
HOM				IAML		10 45 12.8	
	comp=E,2µm,0.8s						
HOM				IAML		10 45 30.4	
	comp=N,2µm,2.0s						
BRLK	**Bradley Lake**	**3.48**	**350**	Pn	**Pn**	**10 44 23.9**	**-0.7**
BRLK				IAML		10 45 10.6	
	comp=N,1µm,0.9s						
BRLK				IAML		10 45 12.2	
	comp=E,1µm,0.6s						
Q23K	**Middleton Isla**	**3.57**	**29**	Pn	**Pn**	**10 44 24.6**	**-1.3**
Q23K				IAML		10 45 09.7	
	comp=N,1µm,0.7s						
Q23K				IAML		10 45 10.8	
	comp=E,2µm,1.1s						
MID	**Middleton Isla**	**3.58**	**29**	Pn	**Pn**	**10 44 24.6**	**-1.4**
MID				IAML		10 45 09.7	
	comp=N,2µm,0.7s						
MID				IAML		10 45 10.8	
	comp=E,1µm,0.9s						
P18K	**Big Mountain,**	**4.23**	**318**	Pn	**Pn**	**10 44 34.4**	**-0.7**
KAIM	**Kayak Island**	**4.55**	**36**	Pn	**Pn**	**10 44 39.2**	**-0.2**
FID	**Port Fidalgo**	**4.73**	**20**	Pn	**Pn**	**10 44 40.4**	**-1.4**
FID				IAML		10 45 37.5	
	comp=N,999nm,0.3s						
RC01	**Rabbit Creek A**	**4.75**	**360**	Pn	**Pn**	**10 44 42.1**	**0.0**
RC01				IAML		10 45 41.5	
	comp=E,1µm,0.5s						
RC01				IAML		10 45 42.7	
	comp=N,1µm,0.5s						
FIS	**Fire Island**	**4.81**	**357**	Pn	**Pn**	**10 44 41.7**	**-1.2**
CHGN	**Chignik**	**4.84**	**273**	Pn	**Pn**	**10 44 43.0**	**-0.3**
CHGN				IAML		10 45 23.0	
	comp=N,375nm,4.0s						
KNK	**Knik Glacier**	**5.12**	**7**	Pn	**Pn**	**10 44 46.5**	**-0.7**
KNK				IAML		10 45 48.0	
	comp=N,390nm,0.6s						
KNK				IAML		10 45 57.7	
	comp=E,571nm,0.7s						
N19K	**Bonanza Creek**	**5.12**	**333**	Pn	**Pn**	**10 44 46.2**	**-1.0**
BERG	**Berg Lake**	**5.14**	**36**	Pn	**Pn**	**10 44 47.4**	**-0.1**
SNH	**Sunshine Point**	**5.29**	**41**	Pn	**Pn**	**10 44 49.0**	**-0.5**
GHO	**Glory Hole Cre**	**5.45**	**4**	Pn	**Pn**	**10 44 49.2**	**-2.6**
SML	**Sawmill**	**5.52**	**7**	Pn	**Pn**	**10 44 51.3**	**-1.4**
CNBA	**Chernabura Isl**	**5.80**	**259**	Pn	**Pn**	**10 44 55.3**	**-1.2**
M24K	**Tolsona, Glenn**	**6.05**	**16**	Pn	**Pn**	**10 45 00.3**	**+0.3**
M19K	**Big River Lodg**	**6.06**	**339**	Pn	**Pn**	**10 44 58.3**	**-1.9**
CUT	**Chulitna**	**6.08**	**358**	Pn	**Pn**	**10 44 59.4**	**-0.9**
SDPT	**Sand Point**	**6.14**	**265**	Pn	**Pn**	**10 45 01.3**	**+0.1**
L19K	**White Mountain**	**6.41**	**338**	Pn	**Pn**	**10 45 03.4**	**-1.5**
BCPM	**Bancas Point**	**6.45**	**52**	Pn	**Pn**	**10 45 08.1**	**+2.7**
O29M	**Mount Kennedy**	**7.08**	**51**	Pn	**Pn**	**10 45 17.1**	**+3.0**
P29M	**Windy Craggy**	**7.17**	**58**	Pn	**Pn**	**10 45 17.5**	**+2.2**
MENT	**Mentasta**	**7.27**	**22**	Pn	**Pn**	**10 45 16.2**	**-0.5**
S31K	**Pelican**	**7.51**	**72**	Pn	**Pn**	**10 45 20.0**	**+0.1**
SIT	**Sitka**	**7.96**	**79**	Pn	**Pn**	**10 45 24.9**	**-1.1**
JIS	**Juneau Island**	**8.53**	**71**	Pn	**Pn**	**10 45 35.2**	**+1.3**
ILAR	**Eielson Array**	**8.56**	**8**	Sn	**Sn**	**10 47 08.9**	**-1.9**
	comp=E,6.1nm,0.3s,baz=204,slow=17,SNR=5.1						
P32M	**Atlin**	**9.10**	**62**	Pn	**Pn**	**10 45 43.6**	**+1.8**
U33K	**Whale Pass**	**9.25**	**85**	Pn	**Pn**	**10 45 42.1**	**-1.7**
CRAG	**Craig**	**9.37**	**88**	Pn	**Pn**	**10 45 44.2**	**-1.2**
AKUT	**Akutan**	**9.43**	**263**	Pn	**Pn**	**10 45 45.6**	**-0.7**
H21K	**Melozitna Rive**	**9.46**	**352**	Pn	**Pn**	**10 45 46.1**	**-0.5**
UNV	**Unalaska Valle**	**9.94**	**262**	Pn	**Pn**	**10 45 52.4**	**-0.9**
DLBC	**Dease Lake**	**10.83**	**71**	Pn	**Pn**	**10 46 07.6**	**+2.1**
	comp=E,5.7nm,0.3s,baz=278,slow=13,SNR=5.2						
DLBC				Sn	**Sn**	**10 48 04.9**	**-1.7**
	comp=E,4.0nm,0.3s,baz=200,slow=24,SNR=12						
	comp=E,18nm,0.4s						
BBB	**Bella Bella**	**13.28**	**99**	Sn	Sn	10 48 56.6	-10
	comp=E,0.4nm,0.3s,baz=116,slow=12,SNR=1.5						
INK	**Inuvik**	**14.09**	**25**	Pn	**Pn**	**10 46 51.1**	**+1.3**
	comp=E,0.7nm,0.3s,baz=209,slow=15,SNR=8.2						
	comp=E,27nm,0.9s						
GNW	**Green Mountain**	**18.66**	**107**	P	**P**	**10 47 48.8**	**+0.5**
YKAB2	**New Yellowknif**	**18.70**	**57**	P	**P**	**10 47 50.6**	**+1.9**
YKA	**Yellowknife Ar**	**18.71**	**56**	P	**P**	**10 47 49.4**	**+0.7**
YKA	**Yellowknife Ar**	**18.71**	**56**	P	**P**	**10 47 49.0**	**+0.2**
	comp=E,2.4nm,0.3s,baz=265,slow=9.9,SNR=26						
	comp=E,9.6nm,0.6s						
EDM	**Edmonton**	**21.05**	**83**	P	**P**	**10 48 14.9**	**+0.5**
EDM				IAmb	IAmb	10 48 21.9	
	comp=Z,26nm,1.2s						
DBO	**Dodson Butte**	**21.47**	**117**	P	**P**	**10 48 20.6**	**+1.6**
DBO				IAmb	IAmb	10 48 23.2	
	comp=Z,20nm,0.9s						
I05D	**Terrebonne, OR**	**21.56**	**112**	P	**P**	**10 48 17.9**	**-2.1**
K02D	**Willamette Mer**	**21.57**	**118**	P	**P**	**10 48 18.6**	**-1.5**
K05A	**Summer Lake**	**22.93**	**114**	P	**P**	**10 48 35.0**	**+0.2**
PAHR	**Pah Rah Range**	**25.94**	**117**	P	**P**	**10 49 03.3**	**+0.3**
YERR	**Yerington**	**26.57**	**118**	P	**P**	**10 49 08.9**	**+0.2**
NVAR	**Mina Array Bea**	**27.46**	**117**	P	**P**	**10 49 17.4**	**+0.7**
NVAR	**Mina Array Bea**	**27.46**	**117**	P	**P**	**10 49 16.1**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=143,slow=14,SNR=6.3						
	comp=Z,1.9nm,0.7s						
NV11	**Mina Array Sit**	**27.53**	**117**	P	**P**	**10 49 17.6**	**+0.2**
R11B	**Troy Canyon, C**	**28.89**	**114**	P	**P**	**10 49 29.8**	**+0.3**
PDAR	**Pinedale Array**	**28.92**	**101**	P	**P**	**10 49 28.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=305,slow=4.6,SNR=4.0						
	comp=Z,0.5nm,0.6s						
FCC	**Fort Churchill**	**29.22**	**62**	P	**P**	**10 49 33.3**	**+1.3**
FCC				IAmb	IAmb	10 49 34.1	
	comp=Z,19nm,1.1s						
PRN	**Pahroc Range**	**29.88**	**115**	P	**P**	**10 49 38.8**	**+0.6**
GWY	**Greenwater Val**	**30.03**	**118**	P	**P**	**10 49 39.6**	**+0.1**
RSSD	**Black Hills**	**31.09**	**94**	P	**P**	**10 49 48.1**	**-0.7**
ULM	**Lac du Bonnet**	**32.03**	**78**	P	**P**	**10 49 56.9**	**0.0**
ULM	**Lac du Bonnet**	**32.03**	**78**	P	**P**	**10 49 56.5**	**-0.4**
	comp=Z,8.0nm,1.0s,baz=290,slow=8.5,SNR=6.1						
	comp=Z,8.0nm,1.0s						
PHWY	**Pilot Hill**	**32.16**	**99**	P	**P**	**10 49 59.1**	**+0.6**
BLYC	**Blythe**	**33.03**	**118**	P	**P**	**10 50 05.6**	**-0.1**
BLYC				IAmb	IAmb	10 50 20.1	
	comp=Z,4.3nm,0.8s						
AGMN	**Agassiz Nation**	**33.11**	**81**	P	**P**	**10 50 06.6**	**+0.3**
SUSD	**Miller**	**33.71**	**89**	P	**P**	**10 50 11.8**	**+0.1**
SUSD				IAmb	IAmb	10 50 12.4	
	comp=Z,16nm,0.8s						
ECSD	**EROS Data Cent**	**35.46**	**88**	P	**P**	**10 50 26.2**	**-0.6**
EYMN	**Ely**	**35.71**	**78**	P	**P**	**10 50 29.5**	**+0.7**
EYMN				IAmb	IAmb	10 50 56.6	
	comp=Z,25nm,1.3s						
E38A	**The Farm, Brul**	**36.47**	**80**	P	**P**	**10 50 35.8**	**+0.5**
NEEM	**North Greenlan**	**37.60**	**21**	*i* P	**P**	**10 50 45.3**	**+0.3**
NEEM				IAmb	IAmb	10 50 47.0	
	comp=Z,7.3nm,0.7s						
UPNV	**Upernavik**	**38.49**	**29**	*i* P	**P**	**10 50 53.5**	**+1.3**
UPNV				IAmb	IAmb	10 50 54.2	
	comp=Z,8.0nm,0.6s						
HSIG		**38.65**	**119**	P	**P**	**10 50 54.5**	**+0.6**
HSIG				IAmb	IAmb	10 51 10.4	
	comp=Z,12nm,1.4s						
I40A	**Norwalk**	**38.69**	**83**	P	**P**	**10 50 54.8**	**+0.6**
I40A				IAmb	IAmb	10 50 58.0	
	comp=Z,34nm,1.3s						
YAK	**Yakutsk**	**39.15**	**313**	P	**P**	**10 50 58.2**	**+0.4**
JFWS	**Jewell Farm**	**39.53**	**84**	P	**P**	**10 51 00.5**	**-0.7**
JFWS				IAmb	IAmb	10 51 26.9	
	comp=Z,30nm,1.4s						
L40A	**Anamosa**	**39.55**	**86**	P	**P**	**10 51 01.0**	**-0.4**
L40A				IAmb	IAmb	10 51 01.4	
	comp=Z,14nm,0.8s						
I42A	**Draeger Farm,**	**39.63**	**82**	P	**P**	**10 51 02.6**	**+0.6**
I42A				IAmb	IAmb	10 51 15.4	
	comp=Z,41nm,1.4s						
P38A	**Dawn**	**39.92**	**90**	P	**P**	**10 51 04.7**	**+0.2**
P38A				IAmb	IAmb	10 51 05.1	
	comp=Z,11nm,0.9s						
E46A	**Sault Ste Mari**	**40.56**	**76**	P	**P**	**10 51 10.5**	**+0.8**
E46A				IAmb	IAmb	10 51 22.5	
	comp=Z,18nm,1.1s						
P40A	**Paris**	**40.81**	**89**	P	**P**	**10 51 11.2**	**-0.7**
SGCY	**Sterling City**	**41.40**	**105**	P	**P**	**10 51 16.9**	**0.0**
SGCY				IAmb	IAmb	10 51 31.5	
	comp=Z,25nm,1.3s						
R40A	**Maddies Statio**	**41.56**	**91**	P	**P**	**10 51 16.9**	**-1.1**
HDIL	**Hopedale**	**41.64**	**86**	P	**P**	**10 51 18.0**	**-0.7**
CCM	**Cathedral Cave**	**42.30**	**90**	P	**P**	**10 51 23.5**	**-0.6**
SUMG	**Summit**	**43.01**	**24**	P	**P**	**10 51 31.2**	**+1.3**
SUMG				IAmb	IAmb	10 51 34.2	
	comp=Z,29nm,1.2s						
SUMG	**Summit**	**43.01**	**24**	*i* P	**P**	**10 51 29.3**	**-0.5**
SUMG				IAmb	IAmb	10 51 31.9	
	comp=Z,10nm,0.7s						
SFJD	**Kangerlussuaq**	**43.17**	**35**	P	**P**	**10 51 32.2**	**+1.4**
OLIL	**Olney**	**43.57**	**87**	P	**P**	**10 51 33.8**	**-0.5**
OLIL				IAmb	IAmb	10 51 34.6	
	comp=Z,13nm,0.7s						
S44A	**Carbondale**	**43.66**	**89**	P	**P**	**10 51 34.5**	**-0.5**
S44A				IAmb	IAmb	10 51 35.8	
	comp=Z,5.7nm,0.7s						
SCHQ	**Schefferville**	**44.16**	**56**	P	**P**	**10 51 39.0**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=286,slow=14,SNR=1.4						
	comp=Z,1.8nm,0.5s						
ICESG	**Greenland Ices**	**45.03**	**28**	*i* P	**P**	**10 51 44.8**	**-1.3**
ICESG				IAmb	IAmb	10 51 54.1	
	comp=Z,8.5nm,0.8s						
ACSO	**Alum Creek Sta**	**45.35**	**81**	P	**P**	**10 51 47.9**	**-0.8**
ACSO				IAmb	IAmb	10 52 15.8	
	comp=Z,15nm,1.2s						
T47A	**Sharon Grove**	**45.36**	**88**	P	**P**	**10 51 48.4**	**-0.3**

comp=Z,8.1nm,0.8s
Q51A Peebles 46.00 83 P **P** **10 51 53.5 -0.2**
Q51A IAmb IAmb 10 52 19.0
comp=Z,22nm,1.5s
PLAL Pickwick Lake 46.28 90 P **P** **10 51 55.5 -0.4**
PLAL IAmb IAmb 10 52 18.6
comp=Z,14nm,1.4s
LDAQ Lac Daran 46.38 65 P **P** **10 51 57.0 +0.3**
O54A Avella 46.82 79 P **P** **10 51 59.5 -0.6**
S51A Beattyville 46.84 84 P **P** **10 52 00.0 -0.3**
S51A IAmb IAmb 10 52 07.4
comp=Z,7.2nm,1.0s
R53A Hurricane 47.26 82 P **P** **10 52 03.2 -0.4**
R53A IAmb IAmb 10 52 14.5
comp=Z,6.5nm,0.7s
NRIK Noril'sk 47.94 336 P **P** **10 52 08.9 +0.4**
comp=Z,3.0nm,0.6s,baz=45,slow=5.7,SNR=4.1
comp=Z,3.0nm,0.6s
ANGG Ammassalik, Gr 48.02 31 *i*P **P** **10 52 06.0 -3.1**
ANGG IAmb IAmb 10 52 07.2
comp=Z,22nm,0.7s
E62A Clayton Lake 48.15 66 P **P** **10 52 10.3 -0.1**
N58A Sunbury 48.35 76 P **P** **10 52 12.1 0.0**
N58A IAmb IAmb 10 52 26.9
comp=Z,11nm,1.2s
V53A Saluda 48.70 86 P **P** **10 52 15.2 +0.3**
V53A IAmb IAmb 10 52 17.9
comp=Z,6.1nm,1.0s
BLA Blacksburg 48.91 82 P **P** **10 52 15.9 -0.5**
BLA IAmb IAmb 10 52 42.9
comp=Z,14nm,1.2s
F63A Nahmakanta, Br 48.99 66 P **P** **10 52 16.8 -0.1**
F63A IAmb IAmb 10 52 19.6
comp=Z,19nm,1.2s
F64A Sherman 49.26 66 P **P** **10 52 18.6 -0.4**
S57A Dark Hollow, R 49.32 81 P **P** **10 52 18.6 -0.8**
S57A IAmb IAmb 10 52 31.9
comp=Z,8.9nm,0.6s
BATG Bathurst New B 49.44 63 P **P** **10 52 20.4 +0.1**
BATG IAmb IAmb 10 52 35.3
comp=Z,3.4nm,0.7s
K62A Royalston 49.47 71 P **P** **10 52 21.2 +0.7**
QUA2 Belchertown 49.67 72 P **P** **10 52 23.0 +0.9**
HODGE Hodges 50.06 86 P **P** **10 52 25.2 0.0**
HODGE IAmb IAmb 10 52 25.3
comp=Z,4.5nm,0.6s
M63A Gales Ferry 50.45 72 P **P** **10 52 28.6 +0.5**
ARCES ARCESS Array B 54.37 2 P **P** **10 52 56.9 +0.1**
ARCES IAmb IAmb 10 53 05.5
comp=Z,10nm,1.2s
ARCES ARCESS Array B 54.37 2 P **P** **10 52 56.3 -0.4**
comp=Z,1.5nm,0.5s,baz=356,slow=7.2,SNR=6.1
comp=Z,1.5nm,0.5s
TEIG Tepich 57.63 102 P **P** **10 53 20.3 -0.4**
TEIG IAmb IAmb 10 53 37.0
comp=Z,15nm,1.3s
ZALV Zalesovo Beam 61.37 327 P **P** **10 53 46.3 +0.2**
comp=Z,3.4nm,0.8s,baz=24,slow=8.1,SNR=5.5
comp=Z,3.4nm,0.8s
NC204 NORSAR Array S 61.71 11 P **P** **10 53 49.2 +0.8**
NC303 NORSAR Array S 61.82 10 P **P** **10 53 49.8 +0.7**
NBO00 NORSAR Array S 61.95 11 P **P** **10 53 50.6 +0.6**
NC405 NORSAR Array S 61.97 10 P **P** **10 53 50.3 +0.3**
NB201 NORSAR Array S 61.99 10 P **P** **10 53 50.9 +0.7**
NB2 NORSAR Subarra 61.99 10 P **P** **10 53 50.5 +0.3**
comp=Z,2.0nm,0.6s,baz=348,slow=6.9
NOA NORSAR Array B 61.99 10 P **P** **10 53 50.3 +0.1**
comp=Z,3.5nm,0.7s,baz=349,slow=6.7,SNR=8.8
comp=Z,3.5nm,0.7s
FIA1 FINESS Array S 62.50 2 P **P** **10 53 54.4 +0.9**
FINES FINESS Array B 62.50 2 P **P** **10 53 54.4 +0.8**
FINES FINESS Array B 62.50 2 P **P** **10 53 53.7 +0.2**
comp=Z,5.4nm,0.6s,baz=1.4,slow=7.6,SNR=8.3
comp=Z,5.4nm,0.6s
HFS Hagfors 63.12 9 P **P** **10 53 57.8 +0.1**
comp=Z,2.7nm,0.5s,baz=5.7,slow=1.5,SNR=9.3
comp=Z,2.7nm,0.5s
EKA Eskdalemuir Ar 65.40 20 P **P** **10 54 12.3 -0.4**
comp=Z,3.6nm,0.8s,baz=333,slow=4.7,SNR=4.4
comp=Z,3.6nm,0.8s
KURK Kurchatov 66.04 329 P **P** **10 54 17.5 +0.6**
BVAR Borovoye Array 66.12 335 P **P** **10 54 17.2 -0.1**
comp=Z,5.8nm,0.8s,baz=30,slow=6.8,SNR=10
comp=Z,5.8nm,0.8s
KURBB Kurchatov Arra 66.15 329 P **P** **10 54 17.2 -0.4**
comp=Z,2.8nm,0.7s,baz=28,slow=6.5,SNR=10
comp=Z,2.8nm,0.7s
MK31 Makanchi Array 68.39 324 P **P** **10 54 32.8 +0.8**
MKAR Makanchi Array 68.39 324 P **P** **10 54 32.1 +0.2**
MKAR Makanchi Array 68.39 324 P **P** **10 54 31.8 -0.2**
comp=Z,1.8nm,0.7s,baz=28,slow=6.0,SNR=5.5
comp=Z,1.8nm,0.7s
CLL Collm 71.76 11 *e*P **P** **10 54 53.0 +0.5**
ABKAR Akbulak array 71.90 340 P **P** **10 54 54.1 +0.8**
AKASG Malin Array Be 73.31 1 P **P** **10 55 01.3 -0.4**
comp=Z,3.7nm,0.8s,baz=1.5,slow=5.7,SNR=4.8
comp=Z,3.7nm,0.8s
MORC Moravsky Berou 73.71 9 *e*P **P** **10 55 04.1 -0.1**
VRAC Vranov 74.09 9 *e*P **P** **10 55 07.0 +0.6**
GERES GERESS Array B 74.26 11 P **P** **10 55 07.9 +0.4**
GERES GERESS Array B 74.26 11 P **P** **10 55 07.6 +0.1**
comp=Z,2.6nm,0.7s,baz=20,slow=4.3,SNR=7.4
comp=Z,2.6nm,0.7s
KRUC Moravsky 74.32 9 *e*P **P** **10 55 08.1 +0.4**
FRU1 Bishkek 74.36 328 P **P** **10 55 08.0 -0.1**
NRN Naryn 75.20 326 P **P** **10 55 13.8 +0.5**
KK31 Karatay Array 75.26 331 P **P** **10 55 13.6 +0.4**
KKAR Karatay Array 75.26 331 P **P** **10 55 12.8 -0.5**
PSZ Piszkesteto 75.74 7 P **P** **10 55 16.8 +0.9**
PSZ IAmb IAmb 10 55 18.0
comp=Z,6.6nm,0.9s
BUR08 Bucovina Ar. S 76.29 4 P **P** **10 55 19.7 +0.5**
BUR08 IAmb IAmb 10 55 20.2
comp=Z,2.5nm,0.7s
BURAR Bucovina Array 76.32 4 P **P** **10 55 19.2 -0.1**
TULM Tulcn-Chalpat 79.46 105 P **P** **10 55 34.9 -2.8**
ESDC Sonseca Array 80.03 26 P **P** **10 55 40.8 +0.8**
ESDC Sonseca Array 80.03 26 P **P** **10 55 40.1 +0.1**
comp=Z,3.3nm,0.8s,baz=337,slow=5.0,SNR=10
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 84.25 357 P **P** **10 56 02.0 -0.2**
BRTR Keskin Array B 84.25 357 P **P** **10 56 02.4 +0.1**
comp=Z,1.7nm,0.8s,baz=340,slow=3.3,SNR=4.6
comp=Z,1.7nm,0.8s
AGG Agios Georgios 84.75 6 P **P** **10 56 04.8 +0.2**
AGG IAmb IAmb 10 56 27.0
comp=Z,6.8nm,1.1s
QSPA South Pole Qui 146.14 180 PKPbc **PKPdf** **11 03 07.1 -1.2**
comp=Z,11nm,0.7s,baz=69,slow=0.5,SNR=8.8
BOSA Boshof 152.05 9 PKPbc **PKPbc** **11 03 24.2 -1.5**
comp=Z,1.8nm,0.7s,baz=60,slow=4.0,SNR=3.4

*NEIC **23** 10:47:35.4±0.7,56°.23N±0°.06×149°.9W±0°.1, h21km±9km, ML3.7/23, ML3.5(AEIC), Error ellipse: s-maj=10.4km s-min=8.3km az=120.0*
*AEIC **23** 10:47:39.2±0.7,56°.2N±0°.1×149°.9W±0°.1, h9km±8km, Error ellipse: s-maj=18.7km s-min=10.1km az=176.0*
ISC 23 10:47:33.1±2.4,**56°.2N**±0°.1×**149°.87W**±0°.07,**h10**km,**n84,**
σ1§**01**/83,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.13**	**300**		**Pn**	**10 48 08.8**	**0.0**
OHAK					**Sn**	**10 48 33.7**	**-1.6**
OHAK	**Old Harbor**	**2.13**	**300**	P	**Pn**	**10 48 08.8**	**0.0**
	baz=116						
OHAK				S	**Sn**	**10 48 33.7**	**-1.6**
	baz=116						
KDAK	**Kodiak Island**	**2.16**	**318**		**Pn**	**10 48 09.6**	**+0.5**
KDAK					**Sn**	**10 48 35.2**	**-0.7**
SYI	**Shuyak Island**	**2.76**	**331**		**Pn**	**10 48 18.2**	**+0.8**
SYI	**Shuyak Island**	**2.76**	**331**	IAML		10 49 24.2	
	comp=E,164nm,3.8s						
Q20K	**Shuyak Island**	**2.76**	**331**	P	**Pn**	**10 48 18.2**	**+0.8**
	baz=149						
Q20K				S	**Sn**	**10 48 48.1**	**-2.6**
	baz=149						
Q19K	**Cape Douglas,**	**3.39**	**325**		**Pn**	**10 48 28.0**	**+1.9**
Q19K	**Cape Douglas,**	**3.39**	**325**	IAML		10 49 10.7	
	comp=E,306nm,2.2s						
Q19K				IAML		10 50 09.3	
	comp=N,227nm,4.4s						
Q19K	**Cape Douglas,**	**3.39**	**325**	P	**Pn**	**10 48 28.0**	**+1.9**
	baz=141						
CNPM	**China Poot**	**3.40**	**348**		**Pn**	**10 48 27.1**	**+0.9**
CNPM					**Sn**	**10 49 06.7**	**+0.3**
CNPM	**China Poot**	**3.40**	**348**	IAML		10 49 27.8	
	comp=N,94nm,3.6s						
CNPM				IAML		10 49 44.7	
	comp=E,94nm,3.9s						
KAHG	**Katmai Hook Gl**	**3.41**	**314**		**Pn**	**10 48 28.3**	**+1.9**
KAHG					**Sn**	**10 49 06.9**	**+0.1**
KCE	**Katmai Mt Cerb**	**3.53**	**307**		**Pn**	**10 48 30.1**	**+2.1**
BRSE	**Bradley Lake S**	**3.56**	**353**		**Pn**	**10 48 28.9**	**+0.5**
BRSE	**Bradley Lake S**	**3.56**	**353**	P	**Pn**	**10 48 28.9**	**+0.5**
	baz=172						
ACHA	**Angle Creek He**	**3.58**	**306**		**Pn**	**10 48 29.5**	**+0.8**
BRLK	**Bradley Lake**	**3.60**	**352**		**Pn**	**10 48 29.2**	**+0.3**
BRLK	**Bradley Lake**	**3.60**	**352**	IAML		10 49 57.2	
	comp=E,98nm,4.6s						
BRLK				IAML		10 50 53.0	
	comp=N,100nm,4.3s						
ANCK	**Angle Creek**	**3.65**	**305**		**Pn**	**10 48 30.4**	**+0.7**
KVTA	**Katmai Vly 10**	**3.66**	**309**		**Pn**	**10 48 31.3**	**+1.6**
CNTC	**Contact Creek**	**3.86**	**305**		**Pn**	**10 48 33.5**	**+0.9**
Q17K	**Contact Creek**	**3.86**	**305**	P	**Pn**	**10 48 33.5**	**+0.9**
	baz=119						
P19K	**Oil Pt**	**3.88**	**334**		**Pn**	**10 48 33.9**	**+1.0**
P19K	**Oil Pt**	**3.88**	**334**	P	**Pn**	**10 48 33.9**	**+1.0**
	baz=151						
KELA	**Mount Kelaz**	**3.88**	**307**		**Pn**	**10 48 34.0**	**+1.1**
O20K	**Slope Mountain**	**4.14**	**341**		**Pn**	**10 48 37.5**	**+1.0**
O20K	**Slope Mountain**	**4.14**	**341**	P	**Pn**	**10 48 37.5**	**+1.0**
	baz=158						
IVE	**Iliamna Volcan**	**4.16**	**338**		**Pn**	**10 48 37.3**	**+0.6**
P18K	**Big Mountain,**	**4.28**	**320**		**Pn**	**10 48 38.8**	**+0.4**
P18K	**Big Mountain,**	**4.28**	**320**	IAML		10 50 09.7	
	comp=E,74nm,4.8s						
P18K				IAML		10 50 58.9	
	comp=N,62nm,4.8s						
P18K	**Big Mountain,**	**4.28**	**320**	P	**Pn**	**10 48 38.8**	**+0.4**
	baz=135						
Q16K	**King Salmon**	**4.42**	**307**		**Pn**	**10 48 41.3**	**+1.2**
Q16K	**King Salmon**	**4.42**	**307**	P	**Pn**	**10 48 41.3**	**+1.2**
	baz=121						
RSO	**Redoubt South**	**4.52**	**342**	Pn	**Pn**	**10 48 42.4**	**+0.7**
HIN	**Hinchinbrook I**	**4.55**	**22**	Pn	**Pn**	**10 48 42.3**	**+0.3**
HIN				IAML		10 50 19.1	
	comp=E,114nm,4.9s						
P17K	**Kvichak River**	**4.62**	**313**		**Pn**	**10 48 44.4**	**+1.5**
P17K	**Kvichak River**	**4.62**	**313**	P	**Pn**	**10 48 44.4**	**+1.5**
	baz=127						
O19K	**Port Alsworth**	**4.63**	**331**		**Pn**	**10 48 43.9**	**+0.9**
O19K	**Port Alsworth**	**4.63**	**331**	IAML		10 50 16.8	
	comp=N,120nm,0.5s						
O19K	**Port Alsworth**	**4.63**	**331**	P	**Pn**	**10 48 43.9**	**+0.9**
	baz=147						
EYAK	**Cordova Ski Ar**	**4.85**	**25**		**Pn**	**10 48 46.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.85**	**25**	P	**Pn**	**10 48 46.7**	**+0.6**
	baz=208						
P16K	**Nushagak River**	**5.19**	**306**		**Pn**	**10 48 51.9**	**+1.1**
P16K	**Nushagak River**	**5.19**	**306**	P	**Pn**	**10 48 51.9**	**+1.1**
	baz=119						
N19K	**Bonanza Creek**	**5.20**	**334**		**Pn**	**10 48 51.9**	**+0.9**
N19K	**Bonanza Creek**	**5.20**	**334**	IAML		10 51 06.5	
	comp=E,34nm,4.7s						
N19K	**Bonanza Creek**	**5.20**	**334**	P	**Pn**	**10 48 51.9**	**+0.9**
	baz=150						
O17K	**Koliganek Bris**	**5.24**	**316**		**Pn**	**10 48 52.5**	**+1.1**
O17K	**Koliganek Bris**	**5.24**	**316**	P	**Pn**	**10 48 52.5**	**+1.1**
	baz=130						
PMR	**Palmer**	**5.40**	**4**	Pn	**Pn**	**10 48 54.9**	**+1.2**
PMR				IAML		10 50 24.8	
	comp=N,59nm,5.0s						
N18K	**Kilae Creek**	**5.48**	**327**		**Pn**	**10 48 55.6**	**+0.9**
N18K	**Kilae Creek**	**5.48**	**327**	P	**Pn**	**10 48 55.6**	**+0.9**
	baz=142						
O16K	**Kokwok River B**	**5.54**	**311**		**Pn**	**10 48 56.3**	**+0.8**
O16K	**Kokwok River B**	**5.54**	**311**	P	**Pn**	**10 48 56.3**	**+0.8**
	baz=124						
GHO	**Glory Hole Cre**	**5.59**	**5**	Pn	**Pn**	**10 48 56.9**	**+0.5**
SVW2	**Sparrevohn**	**5.73**	**331**	Pn	**Pn**	**10 48 58.6**	**+0.5**
N17K	**Nushagak Hills**	**5.78**	**321**		**Pn**	**10 48 59.5**	**+0.6**
N17K	**Nushagak Hills**	**5.78**	**321**	P	**Pn**	**10 48 59.5**	**+0.6**
	baz=135						
O15K	**Ungalikthiuk R**	**6.10**	**303**		**Pn**	**10 49 04.1**	**+0.8**
O15K	**Ungalikthiuk R**	**6.10**	**303**	P	**Pn**	**10 49 04.1**	**+0.8**
	baz=115						
M18K	**Stony River**	**6.12**	**332**		**Pn**	**10 49 03.9**	**+0.3**
M18K	**Stony River**	**6.12**	**332**	P	**Pn**	**10 49 03.8**	**+0.3**
	baz=147						
N16K	**Nishlik Lake**	**6.33**	**316**		**Pn**	**10 49 07.6**	**+1.1**
N16K	**Nishlik Lake**	**6.33**	**316**	P	**Pn**	**10 49 07.6**	**+1.1**
	baz=126						
PCA	**Pinnacle**	**6.40**	**49**		**Pn**	**10 49 08.0**	**+0.5**
PINM	**Pinnacle**	**6.40**	**49**	P	**Pn**	**10 49 08.0**	**+0.5**
	baz=237						
M17K	**Holitna River**	**6.51**	**326**		**Pn**	**10 49 10.0**	**+1.1**
M17K	**Holitna River**	**6.51**	**326**	P	**Pn**	**10 49 10.0**	**+1.1**
	baz=139						
PNL	**Peninsula**	**6.56**	**54**		**Pn**	**10 49 09.7**	**+0.1**
PNL	**Peninsula**	**6.56**	**54**	P	**Pn**	**10 49 09.7**	**+0.1**
	baz=243						
BCPM	**Banas Point**	**6.59**	**51**	Pn	**Pn**	**10 49 10.2**	**+0.2**
N15K	**Kwethluk River**	**6.70**	**310**		**Pn**	**10 49 12.8**	**+1.3**
N15K	**Kwethluk River**	**6.70**	**310**	P	**Pn**	**10 49 12.8**	**+1.3**
	baz=122						
M16K	**Timber Creek**	**6.76**	**319**		**Pn**	**10 49 13.3**	**+1.0**
M16K	**Timber Creek**	**6.76**	**319**	P	**Pn**	**10 49 13.3**	**+1.0**
	baz=131						
O29M	**Mount Kennedy**	**7.23**	**51**		**Pn**	**10 49 19.4**	**+0.6**
O29M	**Mount Kennedy**	**7.23**	**51**	P	**Pn**	**10 49 19.4**	**+0.6**
	baz=240						
N14K	**Kuskokwak Cree**	**7.28**	**306**		**Pn**	**10 49 20.4**	**+1.0**
N14K	**Kuskokwak Cree**	**7.28**	**306**	P	**Pn**	**10 49 20.4**	**+1.0**
	baz=115						
P29M	**Windy Craggy**	**7.31**	**57**		**Pn**	**10 49 19.3**	**-0.5**
P29M	**Windy Craggy**	**7.31**	**57**	P	**Pn**	**10 49 19.3**	**-0.5**
	baz=247						
L16K	**Owhat River**	**7.41**	**322**		**Pn**	**10 49 21.8**	**+0.6**
L16K	**Owhat River**	**7.41**	**322**	P	**Pn**	**10 49 21.8**	**+0.6**
	baz=134						
L14K	**Kuka Creek**	**8.40**	**313**	Pn	**Pn**	**10 49 35.8**	**+1.1**

*IDC **23** 10:49:43.3±1.1,55°.95N×149°.37W, h0km, mb3.5/6, mbtmp3.6/11, ML3.4/5, Error ellipse: s-maj=27.7km s-min=17.3km az=35.0*
*NEIC **23** 10:49:47.6±0.9,56°.27N±0°.10×149°.3W±0°.1, h21km±9km, mb3.8/3, ML3.7/39, ML3.6(AEIC), Error ellipse: s-maj=13.9km s-min=8.4km az=170.0*
*AEIC **23** 10:49:49.1±1.1,56°.12N±0°.09×149°.2W±0°.1, h12km±7km, Error ellipse: s-maj=13.0km s-min=8.6km az=192.0*
ISC 23 10:49:45.7±0.8,**56°.27N**±0°.08×**149°.20W**±0°.05,**h10**km,
n101,σ1§**13**/101,**mb3.7**/6,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.40**	**311**		**Pn**	**10 50 24.9**	**-0.1**
KDAK	**Kodiak Island**	**2.40**	**311**		**Sn**	**10 50 52.8**	**-1.5**
KDAK	**Kodiak Island**	**2.40**	**311**	S	**Sn**	**10 50 52.8**	**-1.5**
	baz=130						
KDAK	**Kodiak Island**	**2.40**	**311**	Pn	**Pn**	**10 50 24.8**	**-0.1**
	4.2nm,0.3s,baz=128,slow=8.6,SNR=2.5						
KDAK				Sn	**Sn**	**10 50 52.9**	**-1.4**
	22nm,0.3s,baz=54,slow=21,SNR=7.5						
	34nm,0.6s						
OHAK	**Old Harbor**	**2.45**	**295**		**Pn**	**10 50 24.8**	**-0.9**
OHAK					**Sn**	**10 50 52.8**	**-2.8**
OHAK	**Old Harbor**	**2.45**	**295**	P	**Pn**	**10 50 24.8**	**-0.9**
	baz=114						
OHAK				S	**Sn**	**10 50 52.8**	**-2.8**
	baz=114						
SYI	**Shuyak Island**	**2.92**	**325**		**Pn**	**10 50 32.3**	**+0.2**
SYI					**Sn**	**10 51 06.2**	**-1.0**
SYI	**Shuyak Island**	**2.92**	**325**	IAML		10 51 08.6	
	comp=E,175nm,1.5s						
SYI				IAML		10 51 08.9	
	comp=N,203nm,0.4s						
Q20K	**Shuyak Island**	**2.92**	**325**	P	**Pn**	**10 50 32.3**	**+0.2**
	baz=144						
Q20K				S	**Sn**	**10 51 06.2**	**-1.0**
	baz=144						
CNPM	**China Poot**	**3.45**	**342**		**Pn**	**10 50 39.8**	**+0.4**
CNPM					**Sn**	**10 51 19.0**	**-1.3**
CNPM	**China Poot**	**3.45**	**342**	IAML		10 51 22.3	
	comp=E,97nm,0.3s						
Q23K	**Middleton Isla**	**3.52**	**24**		**Pn**	**10 50 40.6**	**+0.3**
Q23K	**Middleton Isla**	**3.52**	**24**	IAML		10 51 18.6	
Q23K				IAML		10 51 23.3	
	comp=N,113nm,0.8s						
Q23K	**Middleton Isla**	**3.52**	**24**	P	**Pn**	**10 50 40.6**	**+0.3**
	baz=206						
MID	**Middleton Isla**	**3.52**	**25**		**Pn**	**10 50 40.6**	**+0.2**
MID	**Middleton Isla**	**3.52**	**25**	IAML		10 51 18.6	
	comp=E,189nm,1.4s						
MID				IAML		10 51 30.7	
	comp=N,134nm,1.4s						
BRSE	**Bradley Lake S**	**3.58**	**347**		**Pn**	**10 50 41.5**	**+0.3**
BRSE					**Sn**	**10 51 21.8**	**-1.8**
BRSE	**Bradley Lake S**	**3.58**	**347**	P	**Pn**	**10 50 41.5**	**+0.3**
	baz=166						
BRSE				S	**Sn**	**10 51 21.8**	**-1.8**
	baz=166						
Q19K	**Cape Douglas,**	**3.59**	**320**		**Pn**	**10 50 41.4**	**+0.1**
Q19K	**Cape Douglas,**	**3.59**	**320**	P	**Pn**	**10 50 41.4**	**+0.1**
	baz=137						
BRLK	**Bradley Lake**	**3.62**	**346**		**Pn**	**10 50 42.1**	**+0.3**
BRLK	**Bradley Lake**	**3.62**	**346**	IAML		10 51 27.9	
	comp=E,148nm,1.0s						
HOM	**Homer**	**3.64**	**340**		**Pn**	**10 50 42.9**	**+0.8**
HOM	**Homer**	**3.64**	**340**	IAML		10 51 25.8	
	comp=E,300nm,1.5s						
HOM	**Homer**	**3.64**	**340**	P	**Pn**	**10 50 42.9**	**+0.8**
	baz=158						
AUCH	**Augustine Cone**	**3.85**	**326**		**Pn**	**10 50 45.5**	**+0.5**
SEW	**Seward**	**3.85**	**358**		**Pn**	**10 50 44.8**	**-0.1**
SEW	**Seward**	**3.85**	**358**	P	**Pn**	**10 50 44.8**	**-0.1**
	baz=178						
P23K	**Montague Islan**	**3.86**	**14**		**Pn**	**10 50 45.5**	**+0.4**
P23K	**Montague Islan**	**3.86**	**14**	P	**Pn**	**10 50 45.5**	**+0.4**
	baz=194						
KAHC	**Katmai Hardscr**	**3.94**	**310**		**Pn**	**10 50 46.7**	**+0.4**
KAHC	**Katmai Hardscr**	**3.94**	**310**	P	**Pn**	**10 50 46.7**	**+0.4**
	baz=126						
P19K	**Oil Pt**	**4.02**	**329**		**Pn**	**10 50 47.8**	**+0.5**
P19K	**Oil Pt**	**4.02**	**329**	P	**Pn**	**10 50 47.8**	**+0.5**
	baz=147						
CNTC	**Contact Creek**	**4.15**	**302**		**Pn**	**10 50 49.3**	**+0.2**
Q17K	**Contact Creek**	**4.15**	**302**	P	**Pn**	**10 50 49.3**	**+0.2**
	baz=118						
O20K	**Slope Mountain**	**4.24**	**336**		**Pn**	**10 50 50.5**	**+0.2**
O20K	**Slope Mountain**	**4.24**	**336**	P	**Pn**	**10 50 50.5**	**+0.2**
	baz=154						
O22K	**Cooper Landing**	**4.24**	**356**		**Pn**	**10 50 50.9**	**+0.7**
O22K	**Cooper Landing**	**4.24**	**356**	P	**Pn**	**10 50 50.9**	**+0.7**
	baz=176						
SLKM	**Skilak Lake**	**4.29**	**353**		**Pn**	**10 50 51.3**	**+0.3**
HIN	**Hinchinbrook I**	**4.38**	**18**		**Pn**	**10 50 52.6**	**+0.4**
HIN	**Hinchinbrook I**	**4.38**	**18**	IAML		10 51 43.0	
	comp=E,80nm,0.5s						
HIN				IAML		10 51 43.8	
	comp=N,109nm,0.5s						
KAIM	**Kayak Island**	**4.46**	**33**		**Pn**	**10 50 53.7**	**+0.4**
KAIM	**Kayak Island**	**4.46**	**33**	IAML		10 51 46.7	
	comp=E,139nm,1.2s						
KAIM				IAML		10 51 49.2	
	comp=N,54nm,0.3s						
KAIM	**Kayak Island**	**4.46**	**33**	P	**Pn**	**10 50 53.7**	**+0.4**
	baz=215						
P18K	**Big Mountain,**	**4.50**	**317**		**Pn**	**10 50 53.8**	**-0.1**
P18K	**Big Mountain,**	**4.50**	**317**	P	**Pn**	**10 50 53.8**	**-0.1**
	baz=133						
RDWB	**Redoubt West**	**4.65**	**337**		**Pn**	**10 50 56.0**	**0.0**
EYAK	**Cordova Ski Ar**	**4.66**	**21**		**Pn**	**10 50 56.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.66**	**21**	P	**Pn**	**10 50 56.7**	**+0.6**
	baz=204						
O19K	**Port Alsworth**	**4.78**	**328**		**Pn**	**10 50 57.6**	**0.0**
O19K	**Port Alsworth**	**4.78**	**328**	P	**Pn**	**10 50 57.6**	**0.0**
	baz=144						
RC01	**Rabbit Creek A**	**4.85**	**357**		**Pn**	**10 50 58.9**	**+0.3**
RC01	**Rabbit Creek A**	**4.85**	**357**	IAML		10 51 55.0	
	comp=N,45nm,0.4s						
RC01				IAML		10 51 59.0	
	comp=E,84nm,0.4s						
RC01	**Rabbit Creek A**	**4.85**	**357**	P	**Pn**	**10 50 58.9**	**+0.3**
	baz=176						
BERG	**Berg Lake**	**5.05**	**33**		**Pn**	**10 51 02.1**	**+0.7**
BERG	**Berg Lake**	**5.05**	**33**	IAML		10 52 00.5	
	comp=E,101nm,0.5s						
BERG				IAML		10 52 00.6	
	comp=N,85nm,0.2s						
ANPB	**Aniakchak Plen**	**5.06**	**280**		**Pn**	**10 51 01.1**	**-0.4**
CHGN	**Chignik**	**5.14**	**274**	Pn	**Pn**	**10 51 01.9**	**-0.6**
CHGN				IAML		10 51 58.8	
	comp=N,65nm,0.6s						
CHGN				IAML		10 52 19.5	
	comp=E,52nm,1.4s						
KNK	**Knik Glacier**	**5.18**	**4**	Pn	**Pn**	**10 51 03.4**	**+0.3**
KNK				IAML		10 52 11.4	
	comp=E,37nm,0.9s						
N20K	**Mount Spurr**	**5.19**	**344**	P	**Pn**	**10 51 03.5**	**+0.1**
	baz=161						
SPCR	**Spurr Chakacha**	**5.19**	**344**		**Pn**	**10 51 03.5**	**+0.1**
SPCG	**Spurr Capps Gl**	**5.25**	**345**		**Pn**	**10 51 04.7**	**+0.4**
PMR	**Palmer**	**5.34**	**0**	Pn	**Pn**	**10 51 06.5**	**+1.1**
PMR				IAML		10 52 18.3	
	comp=E,22nm,0.9s						
STLK	**Strandline Lak**	**5.42**	**347**		**Pn**	**10 51 07.3**	**+0.8**
SPNN	**North Nagishla**	**5.43**	**342**		**Pn**	**10 51 07.1**	**+0.3**
KLU	**Klutina**	**5.51**	**17**	Pn	**Pn**	**10 51 08.6**	**+0.8**
GHO	**Glory Hole Cre**	**5.53**	**1**	Pn	**Pn**	**10 51 09.1**	**+1.1**
N18K	**Kilae Creek**	**5.65**	**324**		**Pn**	**10 51 09.0**	**-0.6**
N18K	**Kilae Creek**	**5.65**	**324**	P	**Pn**	**10 51 09.0**	**-0.6**
	baz=139						
SCM	**Sheep Creek Mo**	**5.67**	**9**		**Pn**	**10 51 10.3**	**+0.4**
SCM	**Sheep Creek Mo**	**5.67**	**9**	P	**Pn**	**10 51 10.3**	**+0.4**
	baz=190						
O16K	**Kokwok River B**	**5.79**	**309**		**Pn**	**10 51 11.8**	**+0.2**
N25K	**Chitina, Valde**	**5.86**	**22**	Pn	**Pn**	**10 51 13.6**	**+1.0**
M24K	**Tolsona, Glenn**	**6.06**	**14**	Pn	**Pn**	**10 51 17.5**	**+2.2**
CTGM	**Chitina Glacie**	**6.25**	**38**	Pn	**Pn**	**10 51 18.6**	**+0.6**
P29M	**Windy Craggy**	**6.97**	**56**		**Pn**	**10 51 28.7**	**+1.0**
M27K	**Edge Creek, AK**	**7.16**	**28**	Pn	**Pn**	**10 51 32.3**	**+1.8**
L26K	**Log Cabin Wild**	**7.40**	**21**	Pn	**Pn**	**10 51 35.0**	**+1.4**
L16K	**Owhat River**	**7.61**	**320**	Pn	**Pn**	**10 51 36.1**	**-0.4**
**BP

comp=Z,0.5nm,0.8s,baz=45,slow=7.0,SNR=3.7
comp=Z,0.5nm,0.8s
QSPA South Pole Qui 146.06 180 PKPbc **PKPdf 11 09 20.3 -3.1**
comp=Z,9.1nm,0.9s,baz=278,slow=1.2,SNR=12

*NEIC **23** 10:53:52.8±1.0,56.1°N±0.1°×149.7°W±0.1,h20km±11km, ML3.5/22,ML3.2(AEIC),Error ellipse: s-maj=18.7km s-min=8.8km az=168.0*

AEIC 23 10:53:54.7±1.7,56.0°N±0.1°×149.5°W±0.1,h12km±9km, Error ellipse: s-maj=20.1km s-min=7.7km az=167.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.44**	**302**		**Pn**	10 54 29.4	-5.0
OHAK					Sn	10 54 55.5	-8.7
KDAK	**Kodiak Island**	**2.48**	**317**		**Pn**	10 54 30.1	-4.8
KDAK	**Kodiak Island**	**2.48**	**317**		Sn	10 54 57.1	-7.8
SYI	**Shuyak Island**	**3.06**	**330**		**Pn**	10 54 37.8	-5.0
SYI					Sn	10 55 13.3	-6.0
SYI	**Shuyak Island** comp=E,43nm,1.1s	**3.06**	**330**	IAML		10 56 14.2	
CNPM	**China Poot**	**3.66**	**346**		**Pn**	10 54 46.1	-5.0
Q19K	**Cape Douglas,**	**3.70**	**324**		**Pn**	10 54 47.9	-3.8
KAHG	**Katmai Hook Gl**	**3.73**	**314**		**Pn**	10 54 49.2	-2.9
BRSE	**Bradley Lake S**	**3.81**	**350**		**Pn**	10 54 48.1	-5.1
BRSE					Sn	10 55 30.9	-7.1
Q23K	**Middleton Isla**	**3.82**	**25**		**Pn**	10 54 48.6	-4.6
Q23K	**Middleton Isla** comp=E,112nm,1.2s	**3.82**	**25**	IAML		10 55 40.1	
Q23K	comp=N,104nm,1.3s			IAML		10 56 32.9	
MID	**Middleton Isla** comp=E,124nm,1.3s	**3.82**	**25**	Pn	**Pn**	10 54 49.2	-4.1
MID	comp=N,94nm,1.2s			IAML		10 56 22.3	
BRLK	**Bradley Lake** comp=N,70nm,0.3s	**3.85**	**349**	Pn	**Pn**	10 54 48.7	-5.0
BRLK	comp=E,82nm,0.5s			IAML		10 57 04.3	
P18K	**Big Mountain,**	**4.60**	**320**	Pn	**Pn**	10 54 58.7	-5.3
P18K	comp=N,16nm,0.7s			IAML		10 56 37.3	
P18K	comp=E,39nm,0.4s			IAML		10 57 16.6	
HIN	**Hinchinbrook I**	**4.67**	**18**	Pn	**Pn**	10 55 00.7	-4.3
HIN	comp=N,49nm,0.5s			IAML		10 57 32.2	
KAIM	**Kayak Island**	**4.76**	**32**	Pn	**Pn**	10 55 03.6	-2.6
VRDI	**Verde Repeater**	**6.11**	**28**	Pn	**Pn**	10 55 20.6	-4.3
N25K	**Chitina, Valde**	**6.16**	**22**	Pn	**Pn**	10 55 21.8	-3.7
GLB	**Gilahina Butte**	**6.20**	**26**	Pn	**Pn**	10 55 23.0	-3.0
LOGN	**Logan Glacier**	**6.56**	**39**	Pn	**Pn**	10 55 29.1	-2.0

*IDC **23** 10:55:15.6±2.6,55.82N×149.66W,h0km,mb3.6/2, mbtmp3.6/7,ML3.3/5,Error ellipse: s-maj=40.2km s-min=27.3km az=176.0*

*NEIC **23** 10:55:21.8±1.5,56.0°N±0.1°×150.2°W±0.1,h30km±16km, mb3.8/2,ML3.8/32,ML3.6(AEIC),Error ellipse: s-maj=18.6km s-min=9.8km az=172.0*

*AEIC **23** 10:55:23.4±1.3,56.0°N±0.1°×150.1°W±0.1,h10km±8km, Error ellipse: s-maj=18.4km s-min=9.0km az=172.0*

ISC 23 10:55:19.7±1.5,56.1°N±0.1°×150.11°W±0.05,h10km,n90, σ1§06/93,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.09**	**304**		**Pn**	**10 55 53.9**	**-0.8**
OHAK					**Sn**	**10 56 18.5**	**-2.2**
OHAK	**Old Harbor** baz=124	**2.09**	**304**	P	**Pn**	**10 55 53.9**	**-0.8**
OHAK	baz=124			S	**Sn**	**10 56 18.5**	**-2.2**
KDAK	**Kodiak Island**	**2.17**	**322**		**Pn**	**10 55 56.0**	**+0.1**
KDAK	**Kodiak Island**	**2.17**	**322**		**Sn**	**10 56 21.1**	**-1.7**
KDAK	**Kodiak Island** baz=142	**2.17**	**322**	S	**Sn**	**10 56 21.1**	**-1.7**
KDAK	**Kodiak Island** 21nm,0.3s,baz=141,slow=4.3,SNR=18	**2.17**	**322**	Pn	**Pn**	**10 55 56.0**	**+0.1**
KDAK	14nm,0.3s,baz=296,slow=21,SNR=6.1 64nm,0.3s			Sn	**Sn**	**10 56 21.8**	**-1.0**
Q20K	**Shuyak Island** baz=154	**2.81**	**335**	P	**Pn**	**10 56 05.1**	**+0.4**
Q20K	baz=154			S	**Sn**	**10 56 38.8**	**+0.2**
SYI	**Shuyak Island**	**2.81**	**335**		**Pn**	**10 56 05.1**	**+0.5**
SYI					**Sn**	**10 56 38.8**	**+0.2**
Q19K	**Cape Douglas,**	**3.42**	**328**		**Pn**	**10 56 13.9**	**+0.8**
Q19K					**Sn**	**10 56 53.0**	**-0.8**
Q19K	**Cape Douglas,** baz=146	**3.42**	**328**	P	**Pn**	**10 56 13.9**	**+0.8**
Q19K	baz=146			S	**Sn**	**10 56 53.0**	**-0.8**
CNPM	**China Poot**	**3.50**	**351**		**Pn**	**10 56 14.3**	**+0.2**
CNPM					**Sn**	**10 56 54.5**	**-1.0**
CNPM	**China Poot** comp=E,172nm,0.6s	**3.50**	**351**	IAML		10 56 57.6	
CNPM	comp=N,173nm,0.5s			IAML		10 56 57.9	
KCG	**Knife Ck. Glac**	**3.51**	**311**		**Pn**	**10 56 15.2**	**+0.8**
ACHA	**Angle Creek He**	**3.55**	**309**		**Pn**	**10 56 15.1**	**+0.2**
ANCK	**Angle Creek**	**3.61**	**308**		**Pn**	**10 56 16.3**	**+0.5**
HOM	**Homer**	**3.67**	**348**		**Sn**	**10 57 00.2**	**+0.4**
HOM	**Homer**	**3.67**	**348**	Pn	**Pn**	**10 56 17.9**	**+1.5**
HOM	comp=E,225nm,1.2s			IAML		10 56 55.5	
HOM	**Homer** baz=167	**3.67**	**348**	S	**Sn**	**10 57 00.2**	**+0.4**
BRSE	**Bradley Lake S**	**3.68**	**355**		**Pn**	**10 56 16.7**	**+0.1**
BRSE	**Bradley Lake S** baz=175	**3.68**	**355**	P	**Pn**	**10 56 16.7**	**+0.1**
KAHC	**Katmai Hardscr**	**3.69**	**316**		**Pn**	**10 56 17.9**	**+1.1**
KAHC	**Katmai Hardscr** baz=133	**3.69**	**316**	P	**Pn**	**10 56 17.9**	**+1.1**
BRLK	**Bradley Lake**	**3.71**	**354**		**Pn**	**10 56 16.8**	**-0.3**
BRLK	**Bradley Lake** comp=N,93nm,0.6s	**3.71**	**354**	IAML		10 57 29.3	
AU22	**Augustine Moun**	**3.72**	**333**		**Pn**	**10 56 17.7**	**+0.5**
AUCH	**Augustine Cone**	**3.74**	**333**		**Pn**	**10 56 18.6**	**+1.1**
CNTC	**Contact Creek**	**3.82**	**307**		**Pn**	**10 56 18.8**	**+0.2**
Q17K	**Contact Creek** baz=124	**3.82**	**307**	P	**Pn**	**10 56 18.8**	**+0.1**
Q23K	**Middleton Isla**	**3.91**	**29**		**Pn**	**10 56 19.7**	**0.0**
Q23K	**Middleton Isla** comp=E,127nm,1.5s	**3.91**	**29**	IAML		10 57 44.9	
Q23K	comp=N,133nm,1.3s			IAML		10 59 01.3	
Q23K	**Middleton Isla** baz=212	**3.91**	**29**	P	**Pn**	**10 56 19.7**	**0.0**
MID	**Middleton Isla**	**3.91**	**30**		**Pn**	**10 56 19.6**	**-0.1**
MID	**Middleton Isla** comp=E,168nm,1.4s	**3.91**	**30**	IAML		10 57 39.9	
MID	comp=N,152nm,1.5s			IAML		10 58 16.6	
P19K	**Oil Pt**	**3.94**	**336**		**Pn**	**10 56 21.5**	**+1.2**
P19K	**Oil Pt** baz=154	**3.94**	**336**	P	**Pn**	**10 56 21.5**	**+1.2**
P23K	**Montague Islan**	**4.17**	**19**		**Pn**	**10 56 23.3**	**-0.1**
P23K	**Montague Islan** baz=201	**4.17**	**19**	P	**Pn**	**10 56 23.3**	**-0.1**
IVE	**Iliamna Volcan**	**4.23**	**340**		**Pn**	**10 56 24.1**	**-0.2**
P18K	**Big Mountain,**	**4.30**	**322**		**Pn**	**10 56 25.5**	**+0.3**
P18K	**Big Mountain,** baz=139	**4.30**	**322**	P	**Pn**	**10 56 25.5**	**+0.3**
P17K	**Kvichak River**	**4.61**	**315**		**Pn**	**10 56 29.9**	**+0.6**
P17K	**Kvichak River** baz=131	**4.61**	**315**	P	**Pn**	**10 56 29.9**	**+0.6**
O19K	**Port Alsworth**	**4.68**	**333**		**Pn**	**10 56 31.6**	**+1.3**
O19K	**Port Alsworth** baz=150	**4.68**	**333**	P	**Pn**	**10 56 31.6**	**+1.3**
HIN	**Hinchinbrook I**	**4.72**	**22**	Pn	**Pn**	**10 56 31.3**	**+0.4**
HIN	comp=E,86nm,1.1s			IAML		10 57 30.7	
HIN	comp=N,104nm,0.7s			IAML		10 58 21.6	
KAIM	**Kayak Island**	**4.89**	**36**	Pn	**Pn**	**10 56 33.8**	**+0.5**
KAIM	comp=E,94nm,0.8s			IAML		10 59 31.7	
EYAK	**Cordova Ski Ar**	**5.03**	**25**		**Pn**	**10 56 35.8**	**+0.7**
EYAK	**Cordova Ski Ar** baz=208	**5.03**	**25**	P	**Pn**	**10 56 35.8**	**+0.7**
FID	**Port Fidalgo**	**5.05**	**21**	Pn	**Pn**	**10 56 35.5**	**+0.1**
FID	comp=E,61nm,1.4s			IAML		10 59 51.4	
FID	comp=N,62nm,1.3s			IAML		10 59 56.3	
P16K	**Nushagak River**	**5.16**	**308**		**Pn**	**10 56 37.4**	**+0.5**
P16K	**Nushagak River** baz=123	**5.16**	**308**	P	**Pn**	**10 56 37.4**	**+0.5**
O17K	**Koliganek Bris**	**5.24**	**318**		**Pn**	**10 56 38.5**	**+0.4**
O17K	**Koliganek Bris** baz=133	**5.24**	**318**	P	**Pn**	**10 56 38.5**	**+0.4**
N19K	**Bonanza Creek**	**5.26**	**336**		**Pn**	**10 56 39.3**	**+0.8**
N19K	**Bonanza Creek** baz=153	**5.26**	**336**	P	**Pn**	**10 56 39.3**	**+0.8**
GOAT	**Goat Mountain**	**5.32**	**30**		**Pn**	**10 56 40.5**	**+1.3**
N18K	**Kilae Creek**	**5.51**	**329**		**Pn**	**10 56 42.1**	**+0.3**
N18K	**Kilae Creek** baz=145	**5.51**	**329**	P	**Pn**	**10 56 42.1**	**+0.3**
O16K	**Kokwok River B**	**5.52**	**313**		**Pn**	**10 56 42.4**	**+0.5**
O16K	**Kokwok River B** baz=127	**5.52**	**313**	P	**Pn**	**10 56 42.4**	**+0.5**
SNH	**Sunshine Point**	**5.63**	**40**	Pn	**Pn**	**10 56 43.1**	**-0.2**
SVW2	**Sparrevohn**	**5.78**	**333**	Pn	**Pn**	**10 56 46.1**	**+0.7**
N17K	**Nushagak Hills**	**5.80**	**323**	Pn	**Pn**	**10 56 45.9**	**+0.2**
M17K	**Holitna River**	**6.55**	**327**		**Pn**	**10 56 56.8**	**+0.8**
M17K	**Holitna River** baz=142	**6.55**	**327**	P	**Pn**	**10 56 56.8**	**+0.8**
N15K	**Kwethluk River**	**6.68**	**312**		**Pn**	**10 56 58.5**	**+0.8**
M16K	**Timber Creek**	**6.77**	**321**		**Pn**	**10 56 59.7**	**+0.7**
L16K	**Owhat River**	**7.43**	**323**		**Pn**	**10 57 09.0**	**+0.9**
L16K	**Owhat River** baz=136	**7.43**	**323**	P	**Pn**	**10 57 09.0**	**+0.9**
K20K	**Telida**	**7.56**	**346**	Pn	**Pn**	**10 57 11.7**	**+1.9**
M14K	**Bethel**	**7.77**	**312**		**Pn**	**10 57 12.9**	**+0.1**
M14K	**Bethel** baz=122	**7.77**	**312**	P	**Pn**	**10 57 12.9**	**+0.1**
K17K	**Iditarod**	**7.84**	**331**	Pn	**Pn**	**10 57 14.5**	**+0.7**
M13K	**Dall Lake**	**8.21**	**307**	Pn	**Pn**	**10 57 19.7**	**+0.9**
L14K	**Kuka Creek**	**8.39**	**314**	Pn	**Pn**	**10 57 21.5**	**+0.3**
M29M	**Somme Creek**	**8.72**	**38**		**Pn**	**10 57 27.2**	**+1.4**
ILAR	**Eielson Array**	**8.85**	**9**		**Pn**	**10 57 29.4**	**+1.8**
ILAR	**Eielson Array** comp=N,0.2nm,0.3s,baz=189,slow=13,SNR=2.2	**8.85**	**9**	Pn	**Pn**	10 57 25.7	-1.9
ILAR	comp=N,0.4nm,0.3s,baz=187,slow=15,SNR=4.6 comp=N,0.4nm,0.3s			Sn	**Sn**	**10 59 01.8**	**-5.5**
MDM	**Murphy Dome**	**8.95**	**5**	Pn	**Pn**	**10 57 30.4**	**+1.5**
L29M	**L29M**	**9.28**	**36**	Pn	**Pn**	**10 57 34.2**	**+0.7**
K13K	**Kusilvak Mount**	**9.50**	**314**		**Pn**	**10 57 37.3**	**+0.9**
DLBC	**Dease Lake** comp=N,0.2nm,0.3s,baz=304,slow=12,SNR=2.2 comp=N,2.1nm,0.8s	**11.12**	**69**	Pn	Pn	10 57 52.7	-6.0
INK	**Inuvik** baz=218,slow=12,SNR=4.1 comp=N,3.1nm,1.1s	**14.42**	**25**	Pn	**Pn**	**10 58 43.1**	**-0.4**
C36M	**Paulatuk**	**17.64**	**31**		**Pn**	**10 59 26.4**	**+1.2**
C36M	comp=Z,2.7nm,0.8s			IAmb	IAmb	10 59 36.8	
YKAB2	**New Yellowknif**	**19.03**	**56**	P	**P**	**10 59 43.0**	**+1.6**
YKA	**Yellowknife Ar**	**19.03**	**56**	P	**P**	**10 59 41.3**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.3s,baz=264,slow=10,SNR=9.9 comp=Z,1.6nm,0.9s	**19.03**	**56**	P	**P**	**10 59 39.8**	**-1.7**
A36M	**Sachs Harbour**	**19.04**	**24**	P	**P**	**10 59 42.9**	**+1.4**
A36M	comp=Z,15nm,1.0s			IAmb	IAmb	10 59 53.5	
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.6s,baz=32,slow=8.5,SNR=2.2 comp=Z,0.5nm,0.6s	**61.47**	**327**	P	**P**	**11 05 35.3**	**-0.6**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=34,slow=7.4,SNR=2.7 comp=Z,0.2nm,0.5s	**68.48**	**324**	P	**P**	**11 06 21.6**	**-0.1**

*IDC **23** 10:56:29.7±2.2,56.50N×148.47W,h0km,mb3.6/4, mbtmp3.5/8,ML2.9/3,Error ellipse: s-maj=39.6km s-min=25.5km az=171.0*

*NEIC **23** 10:56:31.9±1.0,56.11N±0.09°×149.52W±0.10, h20km±10km,mb3.7/3,ML3.7/20,ML3.5(AEIC),Error ellipse: s-maj=15.6km s-min=1.9km az=149.0*

*AEIC **23** 10:56:34.2±0.8,56.0°N±0.1°×149.4W±0.1,h8km±8km,Error ellipse: s-maj=16.1km s-min=10.4km az=152.0*

ISC 23 10:56:30.8±1.2,56.12N±0.10°×149.53W±0.06,h10km,n54, σ0§87/53,mb3.8/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.35**	**300**		**Pn**	**10 57 09.7**	**+0.3**
OHAK					**Sn**	**10 57 36.1**	**-2.2**
OHAK	**Old Harbor** comp=N,347nm,0.7s	**2.35**	**300**	IAML		10 57 37.5	
OHAK	**Old Harbor** baz=118	**2.35**	**300**	P	**Pn**	**10 57 09.7**	**+0.3**
OHAK	baz=118			S	**Sn**	**10 57 36.1**	**-2.2**
KDAK	**Kodiak Island**	**2.36**	**316**		**Pn**	**10 57 09.6**	**0.0**
KDAK					**Sn**	**10 57 36.6**	**-2.0**
KDAK	**Kodiak Island** comp=N,15nm,0.3s,baz=139,slow=19,SNR=1.0	**2.36**	**316**	Pn	**Pn**	**10 57 09.4**	**-0.2**
KDAK	comp=N,23nm,0.3s,baz=303,slow=21,SNR=11			Sn	**Sn**	**10 57 35.8**	**-2.8**
SYI	**Shuyak Island**	**2.94**	**329**		**Pn**	**10 57 17.9**	**+0.4**
SYI					**Sn**	**10 57 52.5**	**-0.3**
SYI	**Shuyak Island** comp=N,128nm,0.6s	**2.94**	**329**	IAML		10 57 54.1	
SYI	comp=E,145nm,1.1s			IAML		10 57 54.7	
Q20K	**Shuyak Island** baz=147	**2.94**	**329**	P	**Pn**	**10 57 17.8**	**+0.3**
Q20K	baz=147			S	**Sn**	**10 57 52.5**	**-0.4**
CNPM	**China Poot**	**3.54**	**346**		**Pn**	**10 57 25.6**	**-0.1**
CNPM					**Sn**	**10 58 06.2**	**-1.3**
CNPM	**China Poot** comp=N,114nm,1.0s	**3.54**	**346**	IAML		10 58 09.1	
CNPM	comp=E,84nm,0.5s			IAML		10 58 09.7	
Q19K	**Cape Douglas,**	**3.58**	**323**		**Sn**	**10 58 09.3**	**+0.5**
Q19K	**Cape Douglas,** baz=140	**3.58**	**323**	S	**Sn**	**10 58 09.3**	**+0.5**
BRSE	**Bradley Lake S**	**3.69**	**350**		**Pn**	**10 57 27.9**	**0.0**
BRSE	**Bradley Lake S** baz=169	**3.69**	**350**	P	**Pn**	**10 57 27.9**	**0.0**
HOM	**Homer**	**3.72**	**343**		**Sn**	**10 58 12.7**	**+0.6**
HOM	**Homer** baz=161	**3.72**	**343**	S	**Sn**	**10 58 12.7**	**+0.6**
BRLK	**Bradley Lake**	**3.73**	**349**		**Pn**	**10 57 28.3**	**0.0**
BRLK	**Bradley Lake** comp=N,110nm,1.0s	**3.73**	**349**	IAML		10 59 16.6	
Q23K	**Middleton Isla**	**3.73**	**26**		**Pn**	**10 57 28.0**	**-0.4**
Q23K	**Middleton Isla** baz=207	**3.73**	**26**	P	**Pn**	**10 57 28.0**	**-0.4**
MID	**Middleton Isla**	**3.73**	**26**		**Pn**	**10 57 27.9**	**-0.4**
MID	**Middleton Isla** comp=E,118nm,1.2s	**3.73**	**26**	IAML		10 58 45.9	
SEW	**Seward**	**4.00**	**1**		**Pn**	**10 57 31.7**	**-0.3**
SEW	**Seward** baz=180	**4.00**	**1**	P	**Pn**	**10 57 31.7**	**-0.3**
P23K	**Montague Islan**	**4.05**	**15**		**Pn**	**10 57 32.6**	**-0.1**
P23K	**Montague Islan** baz=196	**4.05**	**15**	P	**Pn**	**10 57 32.6**	**-0.1**
SLKM	**Skilak Lake**	**4.42**	**356**		**Pn**	**10 57 37.9**	**0.0**
HIN	**Hinchinbrook I**	**4.58**	**19**		**Pn**	**10 57 39.9**	**-0.2**
KAIM	**Kayak Island**	**4.69**	**33**	Pn	**Pn**	**10 57 41.6**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.87**	**23**		**Pn**	**10 57 44.2**	**+0.3**
EYAK	**Cordova Ski Ar** baz=205	**4.87**	**23**	P	**Pn**	**10 57 44.3**	**+0.3**
RC01	**Rabbit Creek A**	**4.99**	**359**		**Pn**	**10 57 45.5**	**-0.1**
RC01	**Rabbit Creek A** baz=178	**4.99**	**359**	P	**Pn**	**10 57 45.5**	**-0.1**
CHNA	**Chernabura Isl** baz=74	**5.87**	**261**	P	**Pn**	**10 57 57.8**	**+0.1**
CNBA	**Chernabura Isl**	**5.87**	**261**		**Pn**	**10 57 57.8**	**+0.1**
VRDI	**Verde Repeater**	**6.02**	**29**	Pn	**Pn**	**10 57 59.4**	**-0.6**
N25K	**Chitina, Valde**	**6.07**	**23**	Pn	**Pn**	**10 58 00.3**	**-0.2**
SDPT	**Sand Point**	**6.23**	**267**	Pn	**Pn**	**10 58 02.4**	**-0.3**
M24K	**Tolsona, Glenn**	**6.25**	**15**	Pn	**Pn**	**10 58 03.7**	**+0.7**
L19K	**White Mountain**	**6.67**	**338**	Pn	**Pn**	**10 58 08.6**	**-0.1**
M17K	**Holitna River**	**6.70**	**325**	Pn	**Pn**	**10 58 09.7**	**+0.5**
N15K	**Kwethluk River**	**6.91**	**310**	Pn	**Pn**	**10 58 12.1**	**+0.1**
ILAR	**Eielson Array** comp=E,0.1nm,0.3s,baz=188,slow=13,SNR=1.5	**8.78**	**7**	Pn	Pn	10 58 29.1	-8.5
ILAR	baz=158,slow=22 comp=E,0.7nm,0.5s			Sn	Sn	10 59 58.5	-18
DLBC	**Dease Lake** comp=E,0.2nm,0.3s,baz=232,slow=18,SNR=1.4 comp=E,1.3nm,0.5s	**10.80**	**70**	Pn	Pn	10 58 55.7	-10
ADK	**Adak**	**16.46**	**266**	Pn	**Pn**	**11 00 20.7**	**-0.9**
ADK	comp=Z,12nm,0.9s			IAmb	IAmb	11 00 42.6	
C36M	**Paulatuk**	**17.45**	**31**	Pn	**Pn**	**11 00 33.0**	**-1.0**
C36M	comp=Z,0.3nm,0.6s			IAmb	IAmb	11 00 38.7	
YKAB2	**New Yellowknif**	**18.74**	**56**	P	**P**	**11 00 49.1**	**-0.3**
YKA	**Yellowknife Ar**	**18.75**	**56**		**P**	**11 00 49.3**	**-0.1**
YKA	**Yellowknife Ar** baz=268,slow=12,SNR=4.8 comp=Z,1.1nm,0.8s	**18.75**	**56**	P	P	11 00 41.6	-7.8
A36M	**Sachs Harbour**	**18.89**	**23**	P	**P**	**11 00 50.1**	**-0.8**
A36M	comp=Z,7.1nm,1.0s			IAmb	IAmb	11 00 58.1	
SONM	**Songino Array** comp=Z,0.8nm,0.7s,baz=42,slow=6.8,SNR=2.7 comp=Z,0.8nm,0.7s	**58.64**	**310**	P	**P**	**11 06 30.2**	**+2.3**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=60,slow=8.5,SNR=2.0 comp=Z,0.3nm,0.3s	**61.62**	**327**	P	**P**	**11 06 49.7**	**+1.7**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.7s,baz=30,slow=7.0,SNR=3.2 comp=Z,0.4nm,0.7s	**66.41**	**329**	P	**P**	**11 07 20.1**	**+0.6**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.8s,baz=25,slow=8.4,SNR=2.3 comp=Z,0.3nm,0.8s	**68.65**	**325**	P	**P**	**11 07 33.5**	**-0.3**

*IDC **23** 10:58:21.9±0.7,56.59N×148.69W,h0km,mb4.1/19, mbtmp4.0/24,ML3.1/4,Error ellipse: s-maj=20.7km s-min=12.7km az=37.0*

*NEIC **23** 10:58:23.4±2.2,56.59N±0.07°×148.73W±0.08,h14km±5km, mb4.3/24,ML3.8/62,ML3.8(AEIC),Error ellipse: s-maj=10.1km s-min=6.0km az=160.0*

*AEIC **23** 10:58:27.7±2.0,56.61N±0.07°×148.72W±0.09,h12km±5km, Error ellipse: s-maj=10.4km s-min=6.6km az=168.0*

ISC 23 10:58:23.8±3.5,56.63N±0.07°×148.75W±0.05, h14km±22km,n248,σ1§23/260,mb4.3/26,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.38**	**301**	Pn	**Pn**	**10 59 01.3**	**-1.0**
KDAK					**Sn**	**10 59 29.5**	**-1.9**
KDAK	**Kodiak Island** baz=118	**2.38**	**301**	P	**Pn**	**10 59 02.2**	**-0.2**
KDAK	baz=118			S	**Sn**	**10 59 28.4**	**-3.0**
KDAK	**Kodiak Island** 8.6nm,0.3s,baz=114,slow=8.8,SNR=4.5	**2.38**	**301**	Pn	**Pn**	**10 59 01.4**	**-1.0**
KDAK	11nm,0.3s,baz=191,slow=19,SNR=6.6 38nm,0.4s			Sn	**Sn**	**10 59 27.0**	**-4.4**
OHAK	**Old Harbor**	**2.56**	**285**	Pn	**Pn**	**10 59 03.5**	**-1.2**
OHAK					**Sn**	**10 59 31.8**	**-3.9**
OHAK	**Old Harbor** baz=102	**2.56**	**285**	P	**Pn**	**10 59 03.2**	**-1.6**
OHAK	baz=102			S	**Sn**	**10 59 31.5**	**-4.1**
SYI	**Shuyak Island**	**2.79**	**317**	Pn	**Pn**	**10 59 07.1**	**-0.8**
SYI					**Sn**	**10 59 39.9**	**-1.4**
Q20K	**Shuyak Island** baz=134	**2.79**	**317**	P	**Pn**	**10 59 07.7**	**-0.2**
Q20K	baz=134			S	**Sn**	**10 59 40.0**	**-1.4**
Q23K	**Middleton Isla**	**3.08**	**23**	Pn	**Pn**	**10 59 10.5**	**-1.4**
Q23K					**Sn**	**10 59 47.1**	**-1.4**
Q23K	comp=E,238nm,0.9s			IAML		10 59 55.5	
Q23K	comp=N,164nm,0.9s			IAML		11 00 06.8	
Q23K	**Middleton Isla** baz=205	**3.08**	**23**	P	**Pn**	**10 59 11.6**	**-0.3**
MID	**Middleton Isla**	**3.08**	**24**	Pn	**Pn**	**10 59 10.5**	**-1.4**
MID	comp=N,246nm,1.3s			IAML		10 59 53.2	
MID	comp=E,141nm,0.6s			IAML		11 00 12.8	
CNPM	**China Poot**	**3.19**	**337**	Pn	**Pn**	**10 59 13.0**	**-0.4**
CNPM	comp=E,100nm,1.0s			IAML		10 59 60.0	
BRSE	**Bradley Lake S**	**3.29**	**342**		**Pn**	**10 59 14.4**	**-0.5**
BRSE	**Bradley Lake S** baz=160	**3.29**	**342**	P	**Pn**	**10 59 15.5**	**+0.6**
BRLK	**Bradley Lake**	**3.34**	**341**		**Pn**	**10 59 15.3**	**-0.2**
HOM	**Homer**	**3.40**	**334**	Pn	**Pn**	**10 59 15.6**	**-0.8**
HOM	comp=E,251nm,1.1s			IAML		11 00 03.0	
HOM	comp=N,359nm,1.1s			IAML		11 00 35.7	
P23K	**Montague Islan**	**3.45**	**11**		**Pn**	**10 59 16.6**	**-0.4**
P23K					**Sn**	**10 59 55.1**	**-2.4**
P23K	**Montague Islan** baz=192	**3.45**	**11**	P	**Pn**	**10 59 16.6**	**-0.4**
Q19K	**Cape Douglas,**	**3.49**	**313**	Pn	**Pn**	**10 59 17.9**	**+0.3**
SEW	**Seward**	**3.50**	**354**		**Pn**	**10 59 17.2**	**-0.5**
SEW	**Seward**	**3.50**	**354**		**Sn**	**10 59 55.4**	**-3.5**
SEW	**Seward** baz=173	**3.50**	**354**	P	**Pn**	**10 59 17.5**	**-0.2**
P19K	**Oil Pt**	**3.85**	**324**	Pn	**Pn**	**10 59 22.3**	**-0.2**
ACHA	**Angle Creek He**	**3.89**	**297**		**Pn**	**10 59 23.5**	**+0.3**
O22K	**Cooper Landing**	**3.89**	**353**	Pn	**Pn**	**10 59 22.8**	**-0.3**
KVTA	**Katmai Vly 10**	**3.94**	**299**		**Pn**	**10 59 24.4**	**+0.6**
HIN	**Hinchinbrook I**	**3.95**	**16**	Pn	**Pn**	**10 59 23.6**	**-0.3**
HIN	comp=N,205nm,1.0s			IAML		11 00 12.8	
HIN	comp=E,218nm,0.8s			IAML		11 00 15.0	
ANCK	**Angle Creek**	**3.97**	**296**		**Pn**	**10 59 24.4**	**+0.1**
KAIM	**Kayak Island**	**4.02**	**33**	Pn	**Pn**	**10 59 24.7**	**-0.1**
IVE	**Iliamna Volcan**	**4.07**	**328**		**Pn**	**10 59 25.0**	**-0.7**
CNTC	**Contact Creek**	**4.19**	**296**		**Pn**	**10 59 27.3**	**0.0**
Q17K	**Contact Creek** baz=110	**4.19**	**296**	P	**Pn**	**10 59 28.5**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.23**	**21**		**Pn**	**10 59 27.9**	**+0.2**
EYAK	**Cordova Ski Ar** baz=203	**4.23**	**21**	P	**Pn**	**10 59 28.1**	**+0.4**
FID	**Port Fidalgo**	**4.29**	**15**	Pn	**Pn**	**10 59 28.6**	**-0.1**
FID	comp=E,93nm,1.4s			IAML		11 00 20.1	
FID	comp=N,94nm,0.8s			IAML		11 00 22.9	
RAGM	**Ragged Mountai**	**4.33**	**28**	Pn	**Pn**	**10 59 29.1**	**0.0**
CAPN	**Captain Cook N**	**4.33**	**344**	Pn	**Pn**	**10 59 28.9**	**-0.3**
CAPN	comp=N,182nm,0.7s			IAML		11 00 28.5	
RED	**Redoubt Volcan**	**4.34**	**333**		**Pn**	**10 59 28.3**	**-1.1**
RSO	**Redoubt South**	**4.38**	**333**		**Pn**	**10 59 30.0**	**+0.1**
RDT	**Redoubt**	**4.39**	**336**		**Pn**	**10 59 29.3**	**-0.7**
P18K	**Big Mountain,**	**4.42**	**311**		**Pn**	**10 59 29.5**	**-0.9**
P18K	**

KLU	Klutina	5.09	15	Pn	Pn	10 59 39.7	+0.1
KLU				IAML		11 00 41.9	
	comp=E,98nm,0.9s						
KLU				IAML		11 00 42.5	
	comp=N,67nm,0.9s						
N19K	Bonanza Creek	5.15	327	Pn	Pn	10 59 41.0	+0.6
GHO	Glory Hole Cre	5.16	359	Pn	Pn	10 59 41.0	+0.5
GHO				IAML		11 00 42.2	
	comp=N,65nm,1.2s						
GHO				IAML		11 00 47.3	
	comp=E,68nm,0.6s						
SML	Sawmill	5.20	2	Pn	Pn	10 59 40.0	-1.1
SML				IAML		11 00 42.9	
	comp=E,40nm,1.1s						
SML				IAML		11 01 04.7	
	comp=N,63nm,0.7s						
SCM	Sheep Creek Mo	5.27	7	Pn	Pn	10 59 40.2	-1.8
SCM				IAML		11 00 53.7	
	comp=E,63nm,0.7s						
SCM				IAML		11 00 58.6	
	comp=N,67nm,1.4s						
VRDI	Verde Repeater	5.36	29	Pn	Pn	10 59 43.6	+0.2
VRDI				IAML		11 00 56.0	
	comp=N,31nm,1.0s						
VRDI				IAML		11 01 05.5	
	comp=E,36nm,1.2s						
CHGN	Chignik	5.37	270	Pn	Pn	10 59 43.2	-0.2
CHGN				IAML		11 00 42.8	
	comp=E,55nm,0.6s						
CHGN				IAML		11 01 09.0	
	comp=N,72nm,0.8s						
N25K	Chitina, Valde	5.42	21	Pn	Pn	10 59 44.6	+0.4
N25K	Chitina, Valde	5.42	21	P	Pn	10 59 45.6	+1.4
	baz=205						
GLB	Gilahina Butte	5.45	26		Pn	10 59 44.5	-0.1
N18K	Kilae Creek	5.51	320		Pn	10 59 45.2	-0.1
SKT	Skwentna	5.55	346	Pn	Pn	10 59 43.9	-1.9
M24K	Tolsona, Glenn	5.65	12	Pn	Pn	10 59 48.8	+1.5
PCA	Pinnacle	5.66	49	Pn	Pn	10 59 46.8	-0.6
SVW2	Sparrevohn	5.71	324	Pn	Pn	10 59 47.8	-0.3
M20K	Styx River	5.72	339	Pn	Pn	10 59 48.1	-0.3
BARN	Barnard Glacie	5.76	37		Pn	10 59 49.2	+0.2
O16K	Kokwok River B	5.78	305	Pn	Pn	10 59 48.9	0.0
CTGM	Chitina Glacie	5.80	38		Pn	10 59 48.9	-0.6
PNL	Peninsula	5.81	55		Pn	10 59 48.0	-1.4
PNL	Peninsula	5.81	55	P	Pn	10 59 48.0	-1.4
	baz=242						
LOGN	Logan Glacier	5.82	41		Pn	10 59 49.5	-0.2
CUT	Chulitna	5.84	353	Pn	Pn	10 59 50.7	+0.9
BCPM	Bancas Point	5.84	52		Pn	10 59 49.0	-0.8
N17K	Nushagak Hills	5.89	315	Pn	Pn	10 59 50.0	-0.5
L19K	White Mountain	6.38	333	Pn	Pn	10 59 56.7	-0.5
CNBA	Chernabura Isl	6.39	258	Pn	Pn	10 59 55.6	-1.8
O29M	Mount Kennedy	6.48	51	Pn	Pn	10 59 59.0	+0.3
DHY	Denali Highway	6.50	6	Pn	Pn	10 59 57.6	-1.4
M17K	Holitna River	6.55	320	Pn	Pn	10 59 58.8	-0.9
P29M	Windy Craggy	6.56	58		Pn	11 00 00.0	+0.3
SDPT	Sand Point	6.71	264	Pn	Pn	11 00 00.6	-1.1
M27K	Edge Creek, AK	6.72	28		Pn	11 00 02.0	0.0
RND	Reindeer	6.80	360	Pn	Pn	11 00 03.0	0.0
TRF	Thorofare Moun	6.88	354	Pn	Pn	11 00 03.8	-0.5
M16K	Timber Creek	6.89	314	Pn	Pn	11 00 04.8	+0.6
YUK6	Outpost Mounta	6.91	47		Pn	11 00 03.5	-1.2
S31K	Pelican	6.91	74		Pn	11 00 02.7	-1.8
S31K	Pelican	6.91	74	P	Pn	11 00 02.3	-2.2
	baz=264						
N15K	Kwethluk River	6.93	305		Pn	11 00 06.0	+1.1
L26K	Log Cabin Wild	6.96	21	Pn	Pn	11 00 05.6	+0.4
O14K	Tigyukauivet M	7.16	297	Pn	Pn	11 00 06.1	-1.8
HYT	Haines Junctio	7.20	50	Pn	Pn	11 00 09.1	+0.5
YUK5	Granite Creek	7.22	47		Pn	11 00 08.7	-0.2
K20K	Telida	7.25	341	Pn	Pn	11 00 09.3	+0.1
TTA	Tatalina	7.30	333	Pn	Pn	11 00 09.8	-0.1
L27K	Beaver Creek,	7.33	25	Pn	Pn	11 00 10.4	+0.1
BCAR	Beaver Creek A	7.34	26	Pn	Pn	11 00 10.8	+0.3
SIT	Sitka	7.38	81	Pn	Pn	11 00 07.6	-3.3
RIDG	Independent Ri	7.39	14	Pn	Pn	11 00 09.8	-1.3
L16K	Owhat River	7.50	317	Pn	Pn	11 00 12.0	-0.5
BPAW	Bear Paw Mtn.	7.57	353	Pn	Pn	11 00 14.5	+0.9
BWN	Browne	7.57	358	Pn	Pn	11 00 13.1	-0.5
SKAG	Skagway	7.66	63	Pn	Pn	11 00 15.8	+1.0
N30M	Aishikik Lake	7.71	46	Pn	Pn	11 00 15.2	-0.4
BESE	Bessie Mountai	7.71	70		Pn	11 00 14.8	-0.8
S32K	Killisnoo	7.77	78		Pn	11 00 14.6	-1.7
K17K	Iditarod	7.78	326	Pn	Pn	11 00 15.1	-1.3
M29M	Somme Creek	7.82	38		Pn	11 00 18.0	+0.9
R32K	Eaglecrest	7.85	72	Pn	Pn	11 00 15.7	-1.7
JIS	Juneau Island	7.92	72		Pn	11 00 17.4	-1.0
J18K	Innoko River	7.92	333	Pn	Pn	11 00 17.0	-1.4
K27K	Chicken	8.12	21	Pn	Pn	11 00 22.4	+1.4
ILAR	Eielson Array	8.22	6	Pn	Pn	11 00 22.1	-0.3
ILAR	Eielson Array	8.22	6	Pn	Pn	11 00 18.6	-3.8
	comp=N,0.3nm,0.3s,baz=188,slow=17,SNR=4.1						
ILAR				Sn	Sn	11 01 51.0	-3.9
	baz=182,slow=18,SNR=2.5						
	comp=N,1.0nm,0.6s						
N31M	Braeburn, Yuko	8.26	49	Pn	Pn	11 00 22.2	-0.8
WHY	Whitehorse	8.28	55	Pn	Pn	11 00 23.6	+0.3
J26L	Joseph Creek	8.29	16	Pn	Pn	11 00 22.6	-0.9
MDM	Murphy Dome	8.36	2	Pn	Pn	11 00 21.4	-2.9
L29M	L29M	8.40	35		Pn	11 00 24.4	-0.5
M30M	Minto, Yukon	8.49	41	Pn	Pn	11 00 25.2	-1.0
P32M	Atlin	8.49	63		Pn	11 00 26.1	-0.1
M13K	Dall Lake	8.53	302	Pn	Pn	11 00 27.4	+0.8
I23K	Minto, Yukon-K	8.55	358	Pn	Pn	11 00 28.9	+1.9
L14K	Kuka Creek	8.60	309	Pn	Pn	11 00 27.1	-0.5
K15K	Wolf Creek Mou	8.63	316	Pn	Pn	11 00 29.6	+1.6
I20K	Naaghedeneel	8.65	343	Pn	Pn	11 00 26.5	-1.8
ISLZ	Isanotski Laza	8.67	264		Pn	11 00 27.3	-1.4
U33K	Whale Pass	8.69	87	Pn	Pn	11 00 25.7	-3.2
I21K	Tanana	8.72	351	Pn	Pn	11 00 27.3	-2.0
DAWY	Dawson	8.77	28	Pn	Pn	11 00 29.8	-0.2
CRAG	Craig	8.82	91	Pn	Pn	11 00 28.6	-2.1
EGAK	Eagle	8.97	21	Pn	Pn	11 00 31.8	-0.9
PRP	Porcupine Dome	9.05	9	Pn	Pn	11 00 34.3	+0.3
WRAK	Wrangell Islan	9.07	85	Pn	Pn	11 00 32.1	-2.0
P33M	Teslin, Yukon	9.09	60	Pn	Pn	11 00 34.0	-0.5
Q32M	Nakina River	9.10	68	Pn	Pn	11 00 35.0	+0.3
I26K	Coal Creek Min	9.11	15	Pn	Pn	11 00 33.5	-1.2
K29M	Barlow Dome	9.12	33	Pn	Pn	11 00 35.3	+0.4
M31M	Drury Creek, Y	9.19	47	Pn	Pn	11 00 35.5	-0.3
H24K	Nooder Dome	9.25	2	Pn	Pn	11 00 36.1	-0.5
H21K	Melozitna Rive	9.26	349		Pn	11 00 37.2	+0.4
N32M	Quiet Lake	9.28	54	Pn	Pn	11 00 38.0	+1.0
J29N	Klondike Camp	9.39	29	Pn	Pn	11 00 40.2	+1.7
MAYO	Mayo, Yukon	9.47	37	Pn	Pn	11 00 41.4	+1.8
S34M	Telegraph Cree	9.63	75	Pn	Pn	11 00 40.6	-1.1
FARO	Faro, Yukon	9.63	48		Pn	11 00 41.9	+0.1
H19K	Roundabout Mou	9.66	341	Pn	Pn	11 00 40.9	-1.3
K13K	Kusilvak Mount	9.71	310	Pn	Pn	11 00 42.5	-0.3
H18K	Honhosa River	9.73	335	Pn	Pn	11 00 41.5	-1.6
R33M	Jennings River	9.83	66	Pn	Pn	11 00 44.4	-0.2
H17K	Granite Mounta	9.94	331	Pn	Pn	11 00 45.4	-0.6
J30M	Hart River	10.02	32	Pn	Pn	11 00 46.5	-0.7
I29M	Ogilvie Camp,	10.10	26	Pn	Pn	11 00 49.6	+1.4
FYU	Fort Yukon	10.11	8	Pn	Pn	11 00 47.3	-0.9
G24K	Hadweenzic Riv	10.12	3	Pn	Pn	11 00 48.6	+0.1
G23K	Bananza Creek	10.13	357	Pn	Pn	11 00 50.3	+1.6
T35M	Bob Quinn	10.15	80	Pn	Pn	11 00 47.4	-1.5
G21K	Allakaket	10.17	349		Pn	11 00 50.6	+1.5
DLBC	Dease Lake	10.22	72	Pn	Pn	11 00 49.2	-0.8
DLBC	Dease Lake	10.22	72	Pn	Pn	11 00 48.4	-1.5
	comp=N,4.7nm,0.3s,baz=272,slow=7,9,SNR=15						
DLBC				Sn	Sn	11 02 39.1	-5.1
	comp=N,0.4nm,0.3s,baz=324,slow=19,SNR=1.3						
G19K	Purcell Mounta	10.33	341	Pn	Pn	11 00 51.8	+0.5
U35K	Hyder	10.43	86		Pn	11 00 51.8	-0.9
I30M	Mount Dempster	10.49	30	Pn	Pn	11 00 56.2	+2.6
F21K	Alatna River	10.85	350		Pn	11 01 00.1	+1.6
F24K	Squaw Lake	10.93	2	Pn	Pn	11 01 02.1	+2.5
F20K	Avaraart Lake	10.95	345		Pn	11 01 00.1	+0.4
F19K	Shaleruckik Mo	11.08	341	Pn	Pn	11 01 03.5	+2.0
ANM	Nome	11.37	321	Pn	Pn	11 01 06.0	+0.5
G29M	Pine Creek	11.47	22	Pn	Pn	11 01 08.3	+1.4
F17K	Baldwin Pennin	11.48	334	Pn	Pn	11 01 07.8	+0.9
E19K	Redstone River	11.55	343	Pn	Pn	11 01 08.7	+0.6
E25K	Arctic Village	11.62	6	Pn	Pn	11 01 10.4	+1.4
F15K	North Star Dit	11.86	327	Pn	Pn	11 01 13.4	+1.1
G31M	Satah River	12.34	27	Pn	Pn	11 01 18.3	-0.5
D22K	Ayikyak River	12.42	353	Pn	Pn	11 01 19.7	-0.2
D24K	Happy Valley	12.57	360	Pn	Pn	11 01 23.9	+2.1
D19K	Kuna River	12.64	344	Pn	Pn	11 01 24.6	+1.7
B21K	Ikpikpuk River	13.29	351	Pn	Pn	11 01 33.3	+1.6
INK	Inuvik	13.60	25	Pn	Pn	11 01 37.0	+1.1
	baz=196,slow=8.9,SNR=3.2						
	comp=N,1.7nm,0.9s						
FLDN	Fort Liard	13.68	64		Pn	11 01 37.9	+0.8
B22K	Teshekpuk Lake	13.91	353		Pn	11 01 41.9	+1.7
B20K	Meade River	13.92	348		Pn	11 01 40.1	-0.3
WRGLY	Wrigley	14.22	52		Pn	11 01 44.7	+0.3
C36M	Paulatuk	16.79	31		Pn	11 02 18.7	+0.7
YKAB2	New Yellowknif	18.09	57	P	Pn	11 02 34.2	-0.2
YKA	Yellowknife Ar	18.10	57	P	Pn	11 02 34.3	-0.1
YKA	Yellowknife Ar	18.10	57	P	Pn	11 02 34.6	+0.2
	comp=N,0.1nm,0.3s,baz=265,slow=11,SNR=9.7						
	comp=N,2.1nm,0.9s						
A36M	Sachs Harbour	18.24	23	P	Pn	11 02 35.9	-0.2
A36M				IAmb	IAmb	11 02 50.5	
	comp=Z,17nm,0.8s						
NEW	Newport	20.85	100	P	Pn	11 03 05.9	-1.5
	comp=Z,3.4nm,0.9s,baz=299,slow=11,SNR=6.2						
	comp=Z,3.4nm,0.9s						
PINE	Pine Mountain	21.76	114	P	P	11 03 15.5	+0.5
I07A	Izee	22.29	112	P	P	11 03 19.8	-0.7
K05A	Summer Lake	22.56	116	P	P	11 03 23.1	-0.5
K05A				IAmb	IAmb	11 03 32.5	
	comp=Z,10nm,1.0s						
WVOR	Wild Horse Val	23.91	114	P	P	11 03 37.7	+0.6
MFID	Camas Ranch	24.66	108	P	P	11 03 44.6	+0.6
ORV	Oroville	24.71	122	P	P	11 03 44.0	-0.3
HLID	Hailey	25.30	106	P	P	11 03 50.3	+0.5
PAHR	Pah Rah Range	25.60	119	P	P	11 03 51.9	-0.6
MPK	Martis Peak	25.61	120	P	P	11 03 52.6	-0.2
MPK				IAmb	IAmb	11 04 11.0	
	comp=Z,12nm,1.4s						
PNTR	Pine Nut	25.98	120	P	P	11 03 57.0	+1.0
PNTR				IAmb	IAmb	11 04 12.7	
	comp=Z,6.1nm,0.9s						
YERR	Yerington	26.23	120	P	P	11 03 58.1	-0.2
WAKR	Walker	26.52	121	P	P	11 04 01.4	+0.5
KVN	Kaiserville	26.73	118	P	P	11 04 03.4	+0.6
NVAR	Mina Array Bea	27.12	119	P	P	11 04 06.6	+0.3
NVAR	Mina Array Bea	27.12	119	P	P	11 04 06.8	+0.5
	comp=Z,1.6nm,0.8s,baz=308,slow=8.7,SNR=12						
NVAR				PcP	PcP	11 07 27.1	+0.4
	comp=Z,0.6nm,0.7s,baz=316,slow=2.5,SNR=5.1						
	comp=Z,1.6nm,0.8s						
NV11	Mina Array Sit	27.19	119	P	P	11 04 07.8	+0.9
PDAR	Pinedale Array	28.45	102	P	P	11 04 17.5	-0.7
PDAR	Pinedale Array	28.45	102	P	P	11 04 17.9	-0.3
	comp=Z,0.3nm,0.6s,baz=319,slow=5.9,SNR=4.7						
	comp=Z,0.3nm,0.6s						
R11B	Troy Canyon, C	28.51	116	P	P	11 04 19.1	+0.3
WCT	Wildcat Mounta	29.23	119	P	P	11 04 25.3	+0.3
WCT				IAmb	IAmb	11 04 41.7	
	comp=Z,5.0nm,1.2s						
TPNV	Topopah Spring	29.28	118	P	P	11 04 24.6	-0.9
MSU	Marysvale	30.12	111	P	P	11 04 33.0	-0.1
SRU	San Rafael Swe	30.53	109	P	P	11 04 37.4	+0.8
SRU				IAmb	IAmb	11 04 46.4	
	comp=Z,10.0nm,1.2s						
RSSD	Black Hills	30.57	95	P	P	11 04 37.0	+0.1
PV01	Paradox Valley	32.28	108	P	P	11 04 51.3	-0.8
PV01				IAmb	IAmb	11 05 10.6	
	comp=Z,4.1nm,1.3s						
VTX	Valle De La Tr	34.05	124	P	P	11 05 06.6	-0.8
TXAR	Lajitas Array	41.67	112	P	P	11 06 11.3	-0.5
	comp=Z,0.6nm,0.8s,baz=336,slow=5.8,SNR=5.0						
TXAR				PcP	PcP	11 08 08.3	-0.1
	comp=Z,0.2nm,0.7s,baz=328,slow=3.2,SNR=2.0						
	comp=Z,0.6nm,0.8s						
NRIK	Noril'sk	47.90	337	P	P	11 07 01.0	+0.2
	comp=Z,3.5nm,0.8s,baz=57,slow=4.3,SNR=4.7						
	comp=Z,3.5nm,0.8s						
ARCES	ARCESS Array B	54.07	2	P	P	11 07 47.6	+0.5
	comp=Z,3.1nm,0.8s,baz=18,slow=5.2,SNR=4.4						
	comp=Z,3.1nm,0.8s						
SONM	Songino Array	58.64	310	P	P	11 08 21.7	+1.5
	comp=Z,2.7nm,0.8s,baz=41,slow=7.4,SNR=13						
	comp=Z,2.7nm,0.8s						
ZAA0	Zalesovo Array	61.43	327	P	P	11 08 39.8	+0.8
ZAA0				IAmb	IAmb	11 08 48.9	
	comp=Z,4.7nm,0.8s						
ZALV	Zalesovo Beam	61.43	327	P	P	11 08 39.0	-0.1
ZALV	Zalesovo Beam	61.43	327	P	P	11 08 40.2	+1.2
	comp=Z,1.5nm,0.7s,baz=20,slow=6.6,SNR=6.4						
	comp=Z,1.5nm,0.7s						
FIA1	FINESS Array S	62.19	3	P	P	11 08 44.2	+0.1
FINES	FINESS Array B	62.19	3	P	P	11 08 45.0	+1.0
FINES	FINESS Array B	62.19	3	P	P	11 08 44.6	+0.5
	comp=Z,2.2nm,0.8s,baz=347,slow=4.3,SNR=2.4						
	comp=Z,2.2nm,0.8s						
ARU	Arti	65.15	344	P	P	11 09 04.7	+1.0
ARU	Arti	65.15	344	P	P	11 09 04.5	+0.8
	comp=Z,2.0nm,0.3s,baz=318,slow=4.9,SNR=7.6						
	comp=Z,2.0nm,0.3s						
BRVK	Borovoye	66.08	335	P	P	11 09 09.8	+0.1
BVAR	Borovoye Array	66.09	335	P	P	11 09 10.5	+0.7
	comp=Z,2.8nm,0.8s,baz=27,slow=7.0,SNR=14						
	comp=Z,2.8nm,0.8s						
KURBB	Kurchatov Arra	66.19	329	P	P	11 09 10.9	+0.4
	comp=Z,0.7nm,0.7s,baz=28,slow=6.3,SNR=6.2						
	comp=Z,0.7nm,0.7s						
MK31	Makanchi Array	68.48	325	P	P	11 09 25.7	+0.6
MK31				IAmb	IAmb	11 09 34.3	
	comp=Z,3.2nm,1.1s						
MKAR	Makanchi Array	68.48	325	P	P	11 09 25.4	+0.3
MKAR	Makanchi Array	68.48	325	P	P	11 09 25.7	+0.6
	comp=Z,1.3nm,0.9s,baz=31,slow=7.9,SNR=6.6						
	comp=Z,1.3nm,0.9s						
MAKZ	Makanchi	68.56	325	P	P	11 09 26.4	+0.7
AKTO	Aktyubinsk	71.02	342	P	P	11 09 41.5	+0.9
	comp=Z,1.6nm,0.5s,baz=18,slow=6.4,SNR=5.4						
	comp=Z,1.6nm,0.5s						
ABKAR	Akbulak array	71.82	341	P	P	11 09 46.3	+0.9
AKASG	Malin Array Be	73.02	1	P	P	11 09 53.1	+0.5
	comp=Z,1.1nm,0.6s,baz=358,slow=5.8,SNR=5.0						
	comp=Z,1.1nm,0.6s						
ESDC	Sonseca Array	79.54	27	P	P	11 10 30.6	+0.7
	comp=Z,1.8nm,1.0s,baz=331,slow=5.9,SNR=6.5						
	comp=Z,1.8nm,1.0s						
GEYT	Allbeck	83.09	339	P	P	11 10 50.8	+2.0
	comp=Z,1.3nm,0.6s,baz=35,slow=5.3,SNR=1.8						
	comp=Z,1.3nm,0.6s						
BRTR	Keskin Array B	83.99	358	P	P	11 10 54.9	+1.4
BRTR	Keskin Array B	83.99	358	P	P	11 10 54.5	+1.0
	comp=Z,1.3nm,0.8s,baz=347,slow=2.1,SNR=4.3						
	comp=Z,1.3nm,0.8s						
CMAR	Chiang Mai Arr	86.38	298	P	P	11 11 06.1	+0.6
CMAR	Chiang Mai Arr	86.38	298	P	P	11 11 04.8	-0.8
	comp=Z,1.0nm,0.3s,baz=16,slow=5.2,SNR=10						
	comp=Z,1.0nm,0.3s						
QSPA	South Pole Qui	146.43	180	PKPbc	PKPbc	11 18 02.3	-0.5
	comp=Z,8.8nm,0.8s,baz=336,slow=2.2,SNR=14						
BOSA	Boshof	151.67	11	PKPbc	PKPbc	11 18 17.1	-0.3
	comp=Z,3.8nm,0.6s,baz=341,slow=2.7,SNR=12						

NEIC ***23*** *11:00:15.1±1.4,55.78N±0.10×149.7W±0.1,h7km±9km, ML3.5/24,ML3.1(AEIC),Error ellipse: s-maj=14.2km s-min=10.5km az=166.0*

AEIC 23 11:00:23.3±2.1,56.0N±0.1×149.9W±0.1,h12km±9km, Error ellipse: s-maj=17.8km s-min=10.3km az=178.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.26	305		Pn	11 00 54.7	-5.7
OHAK	Old Harbor	2.26	305	Sn	Sn	11 01 28.1	0.0
KDAK	Kodiak Island	2.34	322		Pn	11 00 56.7	-4.8
KDAK	Kodiak Island	2.34	322	Sn	Sn	11 01 29.5	-0.5
SYI	Shuyak Island	2.96	334		Pn	11 01 05.1	-5.0
SYI	Shuyak Island	2.96	334	Sn	Sn	11 01 40.4	-5.2
SYI				IAML		11 02 11.6	
	comp=E,77nm,1.4s						
SYI				IAML		11 02 11.9	
	comp=N,63nm,0.9s						
KAHG	Katmai Hook Gl	3.57	317		Pn	11 01 15.1	-3.5
Q19K	Cape Douglas,	3.58	327		Pn	11 01 15.1	-3.6
Q19K	Cape Douglas,	3.58	327	IAML		11 02 36.3	
	comp=N,161nm,0.7s						
CNPM	China Poot	3.62	349		Pn	11 01 13.9	-5.2
CNPM				IAML		11 02 04.6	
	comp=N,64nm,1.5s						
CNPM				IAML		11 02 13.4	
	comp=E,26nm,1.1s						
ACHA	Angle Creek He	3.72	309		Pn	11 01 15.8	-4.8
ANCK	Angle Creek	3.79	308		Pn	11 01 17.3	-4.2
BRSE	Bradley Lake S	3.79	353		Pn	11 01 16.8	-4.7
Q23K	Middleton Isla	3.93	27		Pn	11 01 16.9	-6.4
Q23K	Middleton Isla	3.93	27	IAML		11 02 33.9	
	comp=N,166nm,1.4s						
CNTC	Contact Creek	3.99	307		Pn	11 01 20.0	-4.4
P19K	Oil Pt	4.09	335		Pn	11 01 22.1	-3.6
P19K	Oil Pt	4.09	335	IAML		11 02 19.4	
	comp=E,93nm,0.4s						
P19K				IAML		11 04 08.6	
	comp=N,43nm,0.5s						
P23K	Montague Islan	4.23	17		Pn	11 01 22.2	-5.3
P18K	Big Mountain,	4.46	322	Pn	Pn	11 01 26.4	-4.3
HIN	Hinchinbrook I	4.77	21	Pn	Pn	11 01 30.1	-4.8
HIN				IAML		11 04 22.4	
	comp=E,76nm,0.9s						
O18K	Koktuh Hills	4.81	326	Pn	Pn	11 01 29.7	-5.7
O18K				IAML		11 02 52.4	
	comp=N,12nm,0.6s						
O18K				IAML		11 04 44.5	
	comp=E,19nm,0.5s						
KAIM	Kayak Island	4.90	34	Pn	Pn	11 01 30.9	-5.8
KAIM				IAML		11 04 07.9	
	comp=N,74nm,1.2s						
RAGM	Ragged Mountai	5.20	30	Pn	Pn	11 01 35.6	-5.2
BERG	Berg Lake	5.49	34	Pn	Pn	11 01 38.6	-6.2
KLU	Klutina	5.89	19	Pn	Pn	11 01 45.3	-5.1
VRDI	Verde Repeater	6.23	30	Pn	Pn	11 01 49.4	-5.7
BARN	Barnard Glacie	6.66	37	Pn	Pn	11 01 54.0	-7.0
LOGN	Logan Glacier	6.72	40	Pn	Pn	11 01 54.9	-6.9
BCPM	Bancas Point	6.74	50	Pn	Pn	11 01 55.1	-6.8
M16K	Timber Creek	6.94	320	Pn	Pn	11 02 00.5	-4.2
P29M	Windy Craggy	7.43	56	Pn	Pn	11 02 03.8	-7.7

IDC ***23*** *11:02:14.2±2.4,55.79N×149.76W,h0km,mb3.5/2, mbtmp3.5/6,ML3.2/4,Error ellipse: s-maj=37.4km s-min=26.2km az=5.0*

NEIC ***23*** *11:02:19.3±1.5,56.2N±0.1×149.7W±0.1,h20km±8km, mb3.9/4,ML3.6/26,ML3.2(AEIC),Error ellipse: s-maj=16.1km s-min=8.1km az=167.0*

AEIC ***23*** *11:02:20.3±3.0,56.0N±0.1×149.5W±0.1,h12km±7km, Error ellipse: s-maj=16.0km s-min=9.5km az=171.0*

ISC 23 11:02:18.0±1.1,56.15N±0.10×149.76W±0.06,h10km,n50, σ0.91/50,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.22	300		Pn	11 02 54.4	-0.4
OHAK					Sn	11 03 19.9	-2.4
KDAK	Kodiak Island	2.25	318		Pn	11 02 55.1	-0.2
KDAK					Sn	11 03 22.7	-0.3
KDAK	Kodiak Island	2.25	318	Pn	Pn	11 02 55.2	0.0
	5.8nm,0.3s,baz=147,slow=6.1,SNR=1.9						
KDAK				Sn	Sn	11 03 23.4	+0.4
	7.6nm,0.3s,baz=329,slow=22,SNR=5.7						
	15nm,0.3s						
SYI	Shuyak Island	2.84	331		Pn	11 03 03.6	+0.1
SYI					Sn	11 03 38.8	+1.1
SYI	Shuyak Island	2.84	331	IAML		11 04 00.6	
	comp=N,105nm,0.6s						
SYI				IAML		11 04 02.0	
	comp=E,85nm,0.7s						
CNPM	China Poot	3.47	347		Pn	11 03 11.9	-0.2
CNPM					Sn	11 03 53.5	+0.2
CNPM	China Poot	3.47	347	IAML		11 03 55.9	
	comp=E,83nm,0.5s						
CNPM				IAML		11 04 18.2	
	comp=N,73nm,1.0s						
Q19K	Cape Douglas,	3.48	325		Pn	11 03 13.9	+1.7
Q19K	Cape Douglas,	3.48	325	IAML		11 04 23.6	
	comp=N,293nm,1.0s						
KAHG	Katmai Hook Gl	3.50	314		Pn	11 03 14.4	+1.9
BRSE	Bradley Lake S	3.64	352		Pn	11 03 13.4	-0.9
ACHA	Angle Creek He	3.67	307		Pn	11 03 15.4	+0.6
BRLK	Bradley Lake	3.67	351		Pn	11 03 14.1	-0.7
BRLK	Bradley Lake	3.67	351	IAML		11 04 20.8	
	comp=

FNA				S	Sg	11 04 27.0	-0.2
FNA				AML	AML	11 04 27.6	
	comp=N,4913µm,0.3s						
FNA				AML	AML	11 04 27.6	
	comp=E,5165µm,0.2s						
KTI	**Kastanea**	**0.57**	**139**	P	**Pb**	**11 04 32.1**	**-0.3**
GRG	**Griva**	**0.60**	**77**	P	**Pn**	**11 04 33.6**	**-1.3**
GRG	**Griva**	**0.60**	**77**	P	**Pn**	**11 04 33.5**	**-1.3**
GRG				S	**Sn**	**11 04 42.7**	**-2.0**
GRG				AML	AML	11 04 45.9	
	comp=E,303µm,0.1s						
GRG				AML	AML	11 04 46.8	
	comp=N,303µm,0.3s						
NEST	**Nestorio**	**0.60**	**227**	P	**Pg**	**11 04 31.8**	**-0.1**
NEST				S	**Sb**	**11 04 41.5**	**-0.1**
	comp=N,482nm,0.2s						
NEST	**Nestorio**	**0.60**	**227**	P	**Pb**	**11 04 32.0**	**-1.0**
NEST				S	**Sg**	**11 04 39.7**	**-0.1**
NEST				AML	AML	11 04 44.5	
	comp=N,1071µm,0.2s						
NEST				AML	AML	11 04 44.6	
	comp=E,1408µm,0.2s						
KBN	**Korca**	**0.67**	**253**	P	**Pb**	**11 04 33.5**	**-0.6**
KBN				S	**Sb**	**11 04 43.4**	**-0.1**
	comp=E,295nm,0.2s						
OHR	**Ohrid**	**0.69**	**295**	*i* Pg	**Pb**	**11 04 34.7**	**+0.3**
OHR				*i* Sg	**Sb**	**11 04 43.9**	**-0.1**
OHR				*e*Lg	Lg	11 04 45.7	
	comp=N,137nm,0.4s						
OHR				*e*Lg	Lg	11 04 47.1	
	comp=E,116nm,0.3s						
PENT	**Pentalofos**	**0.73**	**211**	P	**Pb**	**11 04 34.3**	**-0.8**
PENT				S	**Sb**	**11 04 46.4**	**+1.1**
	comp=E,210nm,0.6s						
PENT	**Pentalofos**	**0.73**	**211**	P	**Pb**	**11 04 34.3**	**-0.8**
PENT				S	**Sg**	**11 04 44.0**	**+0.2**
KPRO	**Kipourio**	**0.90**	**193**	P	**Pb**	**11 04 37.5**	**-0.4**
KPRO				S	**Sb**	**11 04 49.9**	**0.0**
KPRO				AML	AML	11 04 54.6	
	comp=E,761µm,0.4s						
KPRO				AML	AML	11 04 57.6	
	comp=N,623µm,0.6s						
KNT	**Kendrikon**	**1.02**	**70**	P	**Pn**	**11 04 41.2**	**+0.6**
KNT				S	**Sn**	**11 04 55.7**	**+0.8**
HORT	**Hortiatis**	**1.14**	**101**	P	**Pn**	**11 04 43.7**	**+1.3**
THL	**Klokotos Trika**	**1.29**	**167**	P	**Pg**	**11 04 44.9**	**0.0**
THL				S	**Sn**	**11 05 02.4**	**+0.6**
TIR	**Tirane**	**1.43**	**292**	*e*Pg	**Pg**	**11 04 48.5**	**+0.9**
TIR				*e*Sg	**Sg**	**11 05 08.3**	**+2.1**
KKB	**Krupnik**	**1.52**	**48**	*i* Pg	**Pg**	**11 04 50.3**	**+1.1**
KKB				*i* Sg	**Sg**	**11 05 11.6**	**+2.6**
PRVS	**Prvonek**	**1.71**	**11**	*e*Pn	**Pg**	**11 04 52.6**	**-0.4**
PRVS				*e*Sn	**Sg**	**11 05 14.0**	**-1.2**
MMB	**Musomishta**	**1.75**	**65**	*i* Pg	**Pg**	**11 04 53.7**	**0.0**
MMB				*i* Sg	**Sg**	**11 05 17.7**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.85**	**168**	P	**Pb**	**11 04 53.8**	**-0.3**
AGG	**Agios Georgios**	**1.88**	**163**	P	**Pb**	**11 04 54.3**	**-0.3**
BARS	**Barje**	**1.99**	**4**	*e*Pn	**Pb**	**11 04 56.6**	**+0.1**
BARS				*e*Sn	**Sb**	**11 05 22.3**	**+0.9**
BARS	**Barje**	**1.99**	**4**	*i* Pg	**Pg**	**11 04 57.3**	**-1.0**
ULC	**Ulcinj**	**2.12**	**303**	*i* Pg	**Pg**	**11 05 01.2**	**+0.4**
VTS	**Vitosha**	**2.15**	**33**	*e*Pn	**Pb**	**11 04 58.8**	**-0.6**
VTS				*e*Sn	**Sb**	**11 05 26.0**	**-0.3**
ZAPS	**Zavoj**	**2.56**	**17**	*e*Pn	**Pb**	**11 05 05.0**	**-1.2**
ZAPS				*e*Sn	**Sb**	**11 05 37.0**	**-0.7**

*IDC **23** 11:05:19.9±3.5,55°.30N×149°.37W,h0km,mb3.8/2, mbtmp3.6/6,ML3.2/3,Error ellipse: s-maj=60.9km s-min=39.9km az=172.0*
*NEIC **23** 11:05:23.6±1.3,55°.8N±0°.1×149°.3W±0°.1,h9km±8km, ML3.4/22,ML3.5(AEIC),Error ellipse: s-maj=14.8km s-min=9.9km az=174.0*
*AEIC **23** 11:05:27.5±1.7,55°.7N±0°.1×149°.2W±0°.1,h10km±8km, Error ellipse: s-maj=16.0km s-min=11.6km az=168.0*
ISC 23 11:05:24.2±1.4,55°.9N±0°.1×149°.31W±0°.06,h10km,n63, σ0°79/68,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.58**	**303**		**Pn**	**11 06 06.0**	**0.0**
OHAK					**Sn**	**11 06 35.9**	**-1.4**
OHAK	**Old Harbor**	**2.58**	**303**	IAML		11 06 40.1	
	comp=N,70nm,1.2s						
OHAK				IAML		11 06 47.5	
	comp=E,80nm,0.5s						
OHAK	**Old Harbor**	**2.58**	**303**	P	**Pn**	**11 06 06.0**	**0.0**
	baz=122						
OHAK				S	**Sn**	**11 06 35.9**	**-1.4**
	baz=122						
KDAK	**Kodiak Island**	**2.62**	**318**		**Pn**	**11 06 06.9**	**+0.4**
KDAK					**Sn**	**11 06 37.1**	**-1.2**
KDAK	**Kodiak Island**	**2.62**	**318**	Pn	**Pn**	**11 06 07.0**	**+0.5**
	comp=E,18nm,0.3s,baz=143,slow=4.9,SNR=6.9						
KDAK				Sn	**Sn**	**11 06 36.4**	**-1.9**
	comp=E,8.0nm,0.3s,baz=317,slow=19,SNR=2.0 comp=E,39nm,0.3s						
Q20K	**Shuyak Island**	**3.21**	**330**	P	**Pn**	**11 06 15.2**	**+0.6**
	baz=148						
Q20K				S	**Sn**	**11 06 53.9**	**+1.0**
	baz=148						
SYI	**Shuyak Island**	**3.21**	**330**		**Pn**	**11 06 15.2**	**+0.6**
SYI					**Sn**	**11 06 53.9**	**+1.0**
SYI	**Shuyak Island**	**3.21**	**330**	IAML		11 07 09.7	
	comp=N,38nm,1.4s						
CNPM	**China Poot**	**3.80**	**345**		**Pn**	**11 06 23.2**	**+0.4**
CNPM				IAML		11 07 26.7	
	comp=E,37nm,1.4s						
CNPM	**China Poot**	**3.80**	**345**		**Sn**	**11 07 07.7**	**+0.3**
CNPM	**China Poot**	**3.80**	**345**	IAML		11 06 52.5	
	comp=N,22nm,1.2s						
Q19K	**Cape Douglas,**	**3.85**	**324**		**Pn**	**11 06 24.8**	**+1.3**
Q19K	**Cape Douglas,**	**3.85**	**324**	P	**Pn**	**11 06 24.8**	**+1.3**
	baz=142						
BRSE	**Bradley Lake S**	**3.94**	**349**		**Pn**	**11 06 24.7**	**-0.1**
BRSE					**Sn**	**11 07 10.7**	**-0.4**
BRSE	**Bradley Lake S**	**3.94**	**349**	P	**Pn**	**11 06 24.7**	**-0.1**
	baz=168						
BRSE				S	**Sn**	**11 07 10.7**	**-0.4**
	baz=168						
BRLK	**Bradley Lake**	**3.98**	**348**		**Pn**	**11 06 25.3**	**0.0**
BRLK	**Bradley Lake**	**3.98**	**348**	IAML		11 07 13.6	
	comp=N,35nm,0.2s						
BRLK				IAML		11 07 19.5	
	comp=E,46nm,1.0s						
AU22	**Augustine Moun**	**4.12**	**330**		**Pn**	**11 06 27.9**	**+0.8**
CNTC	**Contact Creek**	**4.31**	**306**		**Pn**	**11 06 30.8**	**+0.9**
Q17K	**Contact Creek**	**4.31**	**306**	P	**Pn**	**11 06 30.8**	**+0.9**
	baz=122						
P19K	**Oil Pt**	**4.32**	**333**	Pn	**Pn**	**11 06 29.9**	**-0.1**
P19K				IAML		11 09 24.5	
	comp=N,107nm,1.0s						
P19K				IAML		11 09 24.7	
	comp=E,130nm,1.1s						
P18K	**Big Mountain,**	**4.74**	**320**		**Pn**	**11 06 36.3**	**+0.5**
P18K	**Big Mountain,**	**4.74**	**320**	P	**Pn**	**11 06 36.3**	**+0.5**
	baz=136						
KAIM	**Kayak Island**	**4.82**	**31**		**Pn**	**11 06 36.7**	**-0.1**
KAIM	**Kayak Island**	**4.82**	**31**	P	**Pn**	**11 06 36.7**	**-0.1**
	baz=214						
RSO	**Redoubt South**	**4.94**	**340**	Pn	**Pn**	**11 06 38.1**	**-0.5**
P17K	**Kvichak River**	**5.08**	**314**		**Pn**	**11 06 41.4**	**+1.2**
P17K	**Kvichak River**	**5.08**	**314**	P	**Pn**	**11 06 41.4**	**+1.2**
	baz=129						
CHGN	**Chignik**	**5.11**	**278**	Pn	**Pn**	**11 06 40.4**	**-0.4**
RC01	**Rabbit Creek A**	**5.23**	**358**	Pn	**Pn**	**11 06 41.8**	**-0.6**
RC01				IAML		11 07 43.7	
	comp=E,28nm,0.4s						
RC01				IAML		11 07 50.9	
	comp=N,17nm,0.7s						
N19K	**Bonanza Creek**	**5.64**	**333**		**Pn**	**11 06 48.1**	**-0.1**
N19K	**Bonanza Creek**	**5.64**	**333**	P	**Pn**	**11 06 48.1**	**-0.1**
	baz=149						
P16K	**Nushagak River**	**5.65**	**308**		**Pn**	**11 06 48.7**	**+0.6**
P16K	**Nushagak River**	**5.65**	**308**	P	**Pn**	**11 06 48.7**	**+0.6**
	baz=121						
SUA	**Susitna One**	**5.65**	**353**	Pn	**Pn**	**11 06 48.0**	**-0.2**
N18K	**Kilae Creek**	**5.93**	**327**		**Pn**	**11 06 52.3**	**+0.2**
N18K	**Kilae Creek**	**5.93**	**327**	P	**Pn**	**11 06 52.3**	**+0.2**
	baz=142						
CNBA	**Chernabura Isl**	**5.96**	**264**	Pn	**Pn**	**11 06 50.3**	**-2.1**
SML	**Sawmill**	**5.96**	**4**	Pn	**Pn**	**11 06 52.0**	**-0.6**
O16K	**Kokwok River B**	**5.99**	**312**	Pn	**Pn**	**11 06 52.9**	**0.0**
SVW2	**Sparrevohn**	**6.17**	**330**	Pn	**Pn**	**11 06 53.7**	**-1.7**
SAMH	**Samovar Hills**	**6.22**	**43**		**Pn**	**11 06 56.5**	**+0.4**
N17K	**Nushagak Hills**	**6.24**	**321**	Pn	**Pn**	**11 06 56.3**	**0.0**
PCA	**Pinnacle**	**6.40**	**45**		**Pn**	**11 06 58.5**	**-0.1**
PINM	**Pinnacle**	**6.41**	**45**	P	**Pn**	**11 06 58.5**	**-0.1**
	baz=231						
PNL	**Peninsula**	**6.52**	**50**		**Pn**	**11 06 59.9**	**-0.3**
PNL	**Peninsula**	**6.52**	**50**	P	**Pn**	**11 06 59.9**	**-0.3**
	baz=237						
M18K	**Stony River**	**6.57**	**332**		**Pn**	**11 07 00.7**	**-0.1**
M18K	**Stony River**	**6.57**	**332**	P	**Pn**	**11 07 00.7**	**-0.1**
	baz=146						
BCPM	**Bancas Point**	**6.57**	**48**		**Pn**	**11 07 00.8**	**-0.1**
CTG	**Chitna Glacier**	**6.59**	**36**	P	**Pn**	**11 07 01.0**	**-0.2**
	baz=222						
CTGM	**Chitina Glacier**	**6.60**	**36**		**Pn**	**11 07 01.0**	**-0.3**
N15K	**Kwethluk River**	**7.15**	**311**		**Pn**	**11 07 07.7**	**-1.1**
O29M	**Mount Kennedy**	**7.21**	**48**		**Pn**	**11 07 09.9**	**+0.2**
O29M	**Mount Kennedy**	**7.21**	**48**	P	**Pn**	**11 07 09.9**	**+0.2**
	baz=236						
P29M	**Windy Craggy**	**7.24**	**54**		**Pn**	**11 07 09.5**	**-0.5**
P29M	**Windy Craggy**	**7.24**	**54**	P	**Pn**	**11 07 09.5**	**-0.5**
	baz=242						
O14K	**Tigyukauivet M**	**7.26**	**303**	Pn	**Pn**	**11 07 10.8**	**+0.6**
ILAR	**Eielson Array**	**9.00**	**7**	Pn	**Pn**	**11 07 35.7**	**+1.6**
	comp=N,0.5nm,0.4s,baz=191,slow=14,SNR=1.6						
ILAR				Sn	**Sn**	**11 09 13.7**	**-1.6**
	comp=N,0.2nm,0.3s,baz=198,slow=23,SNR=4.1						
INK	**Inuvik**	**14.42**	**24**	Pn	**P**	**11 08 54.6**	**-0.4**
	comp=N,0.1nm,0.3s,baz=216,slow=9.8,SNR=2.9 comp=N,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**18.78**	**55**	P	**Pn**	**11 09 44.0**	**+0.3**
	baz=263,slow=10,SNR=3.7 comp=N,0.5nm,0.8s						
FINES	**FINESS Array B**	**62.96**	**2**	P	**P**	**11 15 51.2**	**+0.9**
	comp=N,2.0nm,1.0s,baz=12,slow=7.1,SNR=4.1 comp=N,2.0nm,1.0s						
MKAR	**Makanchi Array**	**68.91**	**325**	P	**P**	**11 16 29.3**	**+0.4**
	comp=N,0.4nm,0.8s,baz=17,slow=4.8,SNR=4.0 comp=N,0.4nm,0.8s						

*NEIC **23** 11:07:34.6±1.9,56°.46N±0°.05×149°.72W±0°.08,h21km±9km, ML3.5/31,ML3.0(AEIC),Error ellipse: s-maj=9.9km s-min=1.4km az=220.0*
AEIC 23 11:07:33.7±2.0,56°.2N±0°.1×149°.4W±0°.1,h7km±9km,Error ellipse: s-maj=17.7km s-min=5.4km az=154.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.39**	**314**		Pn	11 08 07.9	-5.3
KDAK					Sn	11 08 35.7	-6.9
OHAK	**Old Harbor**	**2.40**	**298**		Pn	11 08 08.8	-4.4
OHAK					Sn	11 08 36.3	-7.5
SYI	**Shuyak Island**	**2.95**	**328**		Pn	11 08 15.4	-5.3
SYI				IAML		11 08 55.0	
	comp=E,61nm,0.3s						
CNPM	**China Poot**	**3.52**	**344**		Pn	11 08 22.5	-6.2
CNPM				IAML		11 09 06.4	
	comp=N,56nm,1.0s						
CNPM				IAML		11 09 07.7	
	comp=E,40nm,1.0s						
Q23K	**Middleton Isla**	**3.66**	**25**	Pn	Pn	11 08 25.6	-5.0
Q23K				IAML		11 09 03.8	
	comp=N,146nm,1.5s						
Q23K				IAML		11 10 12.7	
	comp=E,159nm,1.3s						
BRSE	**Bradley Lake S**	**3.67**	**349**		Pn	11 08 26.1	-4.6
BRSE					Sn	11 09 06.5	-7.6
BRLK	**Bradley Lake**	**3.70**	**348**		Pn	11 08 26.3	-4.9
BRLK				IAML		11 09 12.8	
	comp=E,44nm,0.1s						
SEW	**Seward**	**3.96**	**360**		Pn	11 08 30.3	-4.4
Q22K	**Cooper Landing**	**4.34**	**358**	Pn	Pn	11 08 35.5	-4.4
Q22K				IAML		11 09 44.6	
	comp=E,90nm,0.8s						
HIN	**Hinchinbrook I**	**4.52**	**19**	Pn	Pn	11 08 36.9	-5.5
HIN				IAML		11 09 30.0	
	comp=E,89nm,0.7s						
HIN				IAML		11 09 30.8	
	comp=N,80nm,0.7s						
KAIM	**Kayak Island**	**4.61**	**33**	Pn	Pn	11 08 40.2	-3.4
KAIM				IAML		11 09 35.8	
	comp=N,77nm,0.8s						
RSO	**Redoubt South**	**4.67**	**339**	Pn	Pn	11 08 35.0	-10
FID	**Port Fidalgo**	**4.85**	**17**	Pn	Pn	11 08 43.2	-3.7
FID				IAML		11 09 31.2	
	comp=E,46nm,0.5s						
FID				IAML		11 09 37.4	
	comp=N,38nm,1.0s						
RC01	**Rabbit Creek A**	**4.95**	**358**	Pn	Pn	11 08 44.4	-3.9
CHGN	**Chignik**	**5.04**	**275**	Pn	Pn	11 08 45.6	-3.9
KNK	**Knik Glacier**	**5.29**	**5**	Pn	Pn	11 08 47.8	-5.2
SNH	**Sunshine Point**	**5.32**	**38**	Pn	Pn	11 08 50.6	-2.7
SNH				IAML		11 09 43.7	
	comp=N,56nm,1.5s						
SNH				IAML		11 12 15.9	
	comp=E,47nm,1.2s						
SUA	**Susitna One**	**5.37**	**353**	Pn	Pn	11 08 48.1	-6.0
N19K	**Bonanza Creek**	**5.38**	**332**	Pn	Pn	11 08 49.0	-5.3
N19K				IAML		11 11 50.5	
	comp=N,9.4nm,0.5s						
N19K				IAML		11 12 12.2	
	comp=E,12nm,0.7s						
GHO	**Glory Hole Cre**	**5.64**	**2**	Pn	Pn	11 08 50.8	-7.0
SML	**Sawmill**	**5.69**	**5**	Pn	Pn	11 08 53.6	-5.0
SCM	**Sheep Creek Mo**	**5.79**	**10**	Pn	Pn	11 08 55.6	-4.3

*IDC **23** 11:09:30.1±38.0,5°.52S×106°.34E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=660.6km s-min=183.0km az=133.0*
*DJA **23** 11:09:42.4±0.5,7°.2×10°.6E±°,h33km±8km,M4.1/12, MLv4.1/12*
ISC 23 11:09:42.7±1.1,7°.18S±0°.06×106°.13E±0°.05,h35km,n23, σ1°02/24,mb3.6/3,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.45**	**68**	P	**Pn**	**11 09 52.7**	**0.0**
DBJI	**Dramaga**	**0.87**	**45**	P	**Pn**	**11 09 59.0**	**+0.5**
DBJI				S	**Sn**	**11 10 11.0**	**+1.0**
CNJI	**Cibinong**	**1.00**	**98**	P	**Pn**	**11 10 00.4**	**+0.2**
CNJI				S	**Sn**	**11 10 13.3**	**+0.2**
CBJI	**Citeko**	**1.04**	**43**	P	**Pn**	**11 09 59.9**	**-0.8**
CBJI				S	**Sn**	**11 10 13.4**	**-0.6**
SBJI	**Serang**	**1.05**	**360**	P	**Pn**	**11 10 00.9**	**-0.1**
SBJI				S	**Sn**	**11 10 14.5**	**+0.1**
TNG	**Tangerang**	**1.12**	**27**	P	**Pn**	**11 10 02.7**	**+0.8**
TNG				S	**Sn**	**11 10 17.1**	**+0.9**
LEM	**Lembang**	**1.51**	**77**	P	**Pn**	**11 10 09.6**	**+2.1**
BBJI	**Bungbulang**	**1.53**	**101**	P	**Pn**	**11 10 08.1**	**+0.5**
BBJI				S	**Sn**	**11 10 26.5**	**+0.1**
KASI	**Kota Agung**	**2.31**	**315**	P	**Pn**	**11 10 19.2**	**+0.9**
CMJI	**Cimerak**	**2.37**	**105**	P	**Pn**	**11 10 19.7**	**+0.6**
CMJI				S	**Sn**	**11 10 46.4**	**-0.7**
KPJI	**Karang Pucung**	**2.78**	**93**	P	**Pn**	**11 10 27.0**	**+2.3**
LWLI	**Liwa**	**2.98**	**316**	P	**Pn**	**11 10 28.4**	**+0.8**
EGSI	**Enggano, Bengk**	**4.24**	**295**	P	**Pn**	**11 10 45.6**	**+0.7**
UGM	**Wanagama**	**4.41**	**100**	P	**Pn**	**11 10 48.3**	**+1.0**
H01W3	**Cape Leeuwin H**	**28.54**	**166**	T	T	11 46 04.6	
	baz=344,slow=76,SNR=9.5						
H01W1	**Cape Leeuwin H**	**28.55**	**166**	T	T	11 46 03.9	
	baz=344,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**28.55**	**166**	T	T	11 46 05.7	
	baz=344,slow=76,SNR=12						
WRA	**Warramunga Arr**	**30.15**	**118**	P	**P**	**11 15 47.8**	**-1.9**
	0.9nm,0.9s,baz=293,slow=11,SNR=1.4 0.9nm,0.9s						
ASAR	**Alice Springs**	**31.29**	**125**	P	**P**	**11 15 59.0**	**-0.8**
	0.2nm,0.4s,baz=303,slow=8.2,SNR=8.4 0.2nm,0.4s						
H08S2	**Diego Garcia H**	**33.36**	**267**	T	T	11 51 47.1	
	baz=91,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**33.37**	**267**	T	T	11 51 44.9	
	baz=91,slow=76,SNR=37						
H08S1	**Diego Garcia H**	**33.38**	**267**	T	T	11 51 45.7	
	baz=91,slow=76,SNR=7.7						
STKA	**Stephens Creek**	**41.16**	**131**	P	**P**	**11 17 24.1**	**+0.2**
	1.2nm,0.4s,baz=301,slow=10.0,SNR=8.0 1.2nm,0.4s						

*IDC **23** 11:09:53.8±1.6,56°.37N×149°.21W,h0km,mb3.5/5, mbtmp3.6/10,ML3.2/5,Error ellipse: s-maj=30.1km s-min=22.2km az=16.0*
*NEIC **23** 11:09:55.3±2.5,56°.45N±0°.09×149°.0W±0°.1,h20km±8km, ML3.8/56,ML3.5(AEIC),Error ellipse: s-maj=13.1km s-min=9.1km az=169.0*
*AEIC **23** 11:10:03.2±3.3,56°.69N±0°.07×149°.2W±0°.1,h12km±7km, Error ellipse: s-maj=11.8km s-min=7.0km az=145.0*
ISC 23 11:09:55.2±0.8,56°.57N±0°.09×149°.07W±0°.06,h10km, n200,σ1°34/202,mb3.7/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.27**	**304**	Pn	**Pn**	**11 10 33.8**	**+1.1**
KDAK				IAML		11 10 59.6	
	256nm,0.3s						
KDAK	**Kodiak Island**	**2.27**	**304**	Pn	**Pn**	**11 10 32.6**	**-0.1**
	8.5nm,0.3s,baz=129,slow=5.6,SNR=6.0 23nm,0.3s						
OHAK	**Old Harbor**	**2.40**	**288**	Pn	**Pn**	**11 10 35.0**	**+0.4**
OHAK				IAML		11 11 23.8	
	comp=E,265nm,0.9s						
OHAK				IAML		11 11 24.2	
	comp=N,246nm,0.6s						
OHAK	**Old Harbor**	**2.40**	**288**	S	**Sn**	**11 11 01.2**	**-2.8**
	baz=102						
SYI	**Shuyak Island**	**2.72**	**320**	Pn	**Pn**	**11 10 40.4**	**+1.5**
SYI				IAML		11 11 12.9	
	comp=E,203nm,0.6s						
SYI				IAML		11 11 13.1	
	comp=N,173nm,0.8s						
Q20K	**Shuyak Island**	**2.72**	**320**	P	**Pn**	**11 10 40.2**	**+1.3**
	baz=137						
Q20K				S	**Sn**	**11 11 12.0**	**+0.2**
	baz=137						
CNPM	**China Poot**	**3.18**	**340**		**Pn**	**11 10 46.6**	**+1.3**
Q23K	**Middleton Isla**	**3.22**	**26**		**Pn**	**11 10 47.4**	**+1.6**
Q23K				IAML		11 11 40.5	
	comp=E,166nm,1.1s						
Q23K	**Middleton Isla**	**3.22**	**26**	P	**Pn**	**11 10 47.2**	**+1.5**
	baz=210						
MID	**Middleton Isla**	**3.22**	**26**	Pn	**Pn**	**11 10 47.3**	**+1.6**
MID				IAML		11 11 24.1	
	comp=N,143nm,0.6s						
BRSE	**Bradley Lake S**	**3.31**	**345**		**Pn**	**11 10 48.1**	**+1.1**
BRSE	**Bradley Lake S**	**3.31**	**345**	P	**Pn**	**11 10 48.5**	**+1.5**
	baz=164						
BRLK	**Bradley Lake**	**3.35**	**344**		**Pn**	**11 10 48.8**	**+1.2**
BRLK				IAML		11 12 04.0	
	comp=E,109nm,0.6s						
HOM	**Homer**	**3.39**	**337**		**Pn**	**11 10 50.2**	**+2.2**
HOM	**Homer**	**3.39**	**337**	P	**Pn**	**11 10 50.0**	**+1.9**
	baz=155						
Q19K	**Cape Douglas,**	**3.41**	**316**	Pn	**Pn**	**11 10 50.5**	**+2.1**
KAHG	**Katmai Hook Gl**	**3.53**	**306**		**Pn**	**11 10 51.6**	**+1.6**
P23K	**Montague Islan**	**3.55**	**14**		**Pn**	**11 10 51.9**	**+1.5**
SEW	**Seward**	**3.55**	**357**	Pn	**Pn**	**11 10 51.9**	**+1.0**
ACHA	**Angle Creek He**	**3.76**	**299**		**Pn**	**11 10 54.8**	**+1.5**
P19K	**Oil Pt**	**3.80**	**326**	Pn	**Pn**	**11 10 55.9**	**+2.1**
P19K				IAML		11 11 42.3	
	comp=N,264nm,0.5s						
P19K				IAML		11 11 42.5	
	comp=E,227nm,0.5s						
O22K	**Cooper Landing**	**3.94**	**355**	Pn	**Pn**	**11 10 56.3**	**+0.6**
O20K	**Slope Mountain**	**3.99**	**334**		**Pn**	**11 10 57.9**	**+1.4**
SLKM	**Skilak Lake**	**4.00**	**352**		**Pn**	**11 10 57.7**	**+1.2**
IVE	**Iliamna Volcan**	**4.04**	**331**		**Pn**	**11 10 58.3**	**+1.2**
HIN	**Hinchinbrook I**	**4.07**	**18**	Pn	**Pn**	**11 10 59.6**	**+2.0**
HIN				IAML		11 11 45.3	
	comp=N,219nm,0.5s						
HIN				IAML		11 11 46.1	
	comp=E,221nm,1.0s						
KAIM	**Kayak Island**	**4.17**	**34**	Pn	**Pn**	**11 10 58.1**	**-0.7**
KAIM				IAML		11 11 51.4	
	comp=E,178nm,0.8s						
P18K	**Big Mountain,**	**4.33**	**313**	Pn	**Pn**	**11 11 00.7**	**-0.4**
RDSO	**Redoubt South**	**4.35**	**335**		**Pn**	**11 11 02.4**	**+0.9**
CAPN	**Captain Cook N**	**4.35**	**346**	Pn	**Pn**	**11 11 01.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.36**	**22**	Pn	**Pn**	**11 11 00.1**	**-1.3**
EYAK	**Cordova Ski Ar**	**4.36**	**22**	P	**Pn**	**11 11 03.5**	**+2.1**
	baz=206						
RSO	**Redoubt South**	**4.36**	**335**	Pn	**Pn**	**11 11 01.9**	**+0.3**
RDWB	**Redoubt West**	**4.40**	**335**		**Pn**	**11 11 03.1**	**+0.9**
FID	**Port Fidalgo**	**4.41**	**17**	Pn	**Pn**	**11 11 00.5**	**-1.7**
DFR	**Drift River**	**4.46**	**336**		**Pn**	**11 11 03.7**	**+0.8**
NCT	**North Crescent**	**4.49**	**335**		**Pn**	**11 11 04.3**	**+1.0**
RC01	**Rabbit Creek A**	**4.55**	**356**		**Pn**	**11 11 04.6**	**+0.5**
RC01	**Rabbit Creek A**	**4.55**	**356**	P	**Pn**	**11 11 05.7**	**+1.6**
	baz=176						
O19K	**Port Alsworth**	**4.57**	**325**	Pn	**Pn**	**11 11 05.2**	**+0.9**
O18K	**Koktuh Hills**	**4.62**	**318**	Pn	**Pn**	**11 11 05.3**	**+0.2**
KNK	**Knik Glacier**	**4.87**	**3**	Pn	**Pn**	**11 11 09.0**	**+0.5**
KNK				IAML		11 12 04.5	
	comp=E,73nm,0.8s						
KNK				IAML		11 12 07.2	
	comp=N,54nm,0.8s						
DIV	**Divide**	**4.89**	**19**	Pn	**Pn**	**11 11 07.9**	**-0.9**
SNH	**Sunshine Point**	**4.89**	**40**	Pn	**Pn**	**11 11 08.6**	**-0.2**
SNH				IAML		11 12 11.5	
	comp=E,39nm,0.6s						
SPCR	**Spurr Chakacha**	**4.92**	**342**		**Pn**	**11 11 10.2**	**+1.0**
SPCP	**Crater Peak Br**	**4.98**	**343**		**Pn**	**11 11 11.1**	**+1.1**
SPCG	**Spurr Capps Gl**	**4.98**	**343**		**Pn**	**11 11 11.1**	**+1.1**
SUA	**Susitna One**	**4.99**	**351**	Pn	**Pn**	**11 11 09.7**	**-0.5**
BMRM	**Bremner River**	**4.99**	**26**	Pn	**Pn**	**11 11 08.7**	**-1.4**

O14K	Tigyukauivet M	7.03	298	Pn	Pn	11 11 38.2	+0.1
CAST	Castle Rocks	7.04	349	Pn	Pn	11 11 36.5	-1.7
KTH	Kantishna Hill	7.07	353	Pn	Pn	11 11 37.7	-1.0
L26K	Log Cabin Wild	7.09	22	Pn	Pn	11 11 39.8	+0.8
S31K	Pelican	7.11	73		Pn	11 11 39.5	+0.5
MCK	McKinley	7.19	0	Pn	Pn	11 11 39.0	-1.3
K20K	Telida	7.26	342	Pn	Pn	11 11 40.8	-0.4
TTA	Tatalina	7.28	334	Pn	Pn	11 11 42.4	+0.8
HYT	Haines Junctio	7.38	50	Pn	Pn	11 11 42.4	-0.7
L16K	Owhat River	7.43	318	Pn	Pn	11 11 44.5	+1.0
L27K	Beaver Creek,	7.46	26	Pn	Pn	11 11 45.2	+1.1
BCAR	Beaver Creek A	7.48	26	Pn	Pn	11 11 44.6	+0.3
RIDG	Independent Ri	7.50	15	Pn	Pn	11 11 44.7	+0.1
SIT	Sitka	7.56	81	Pn	Pn	11 11 45.0	-0.4
BPAW	Bear Paw Mtn.	7.62	354	Pn	Pn	11 11 47.1	+0.9
K17K	Iditarod	7.73	327	Pn	Pn	11 11 48.7	+1.0
SCRK	Sand Creek	7.85	17	Pn	Pn	11 11 49.0	-0.4
SKAG	Skagway	7.85	63	Pn	Pn	11 11 50.4	+1.1
N30M	Aishikik Lake	7.89	47	Pn	Pn	11 11 49.4	-0.5
J18K	Innoko River	7.90	334	Pn	Pn	11 11 49.1	-0.9
M14K	Bethel	7.92	307	Pn	Pn	11 11 48.7	-1.5
HDA	Harding Lake	7.94	7	Pn	Pn	11 11 49.8	-0.7
S32K	Killisnoo	7.97	77	Pn	Pn	11 11 49.6	-1.3
O30N	Mendenhall	7.97	53	Pn	Pn	11 11 49.5	-1.5
M29M	Somme Creek	7.98	38	Pn	Pn	11 11 51.3	0.0
J20K	Nowinta River	8.04	344	Pn	Pn	11 11 52.3	+0.5
NEA2	Nenana	8.05	0	Pn	Pn	11 11 53.2	+1.1
JIS	Juneau Island	8.11	72	Pn	Pn	11 11 53.9	+1.0
J19K	Poorman	8.13	339	Pn	Pn	11 11 52.3	-0.8
CCB	Clear Creek Bu	8.13	4	Pn	Pn	11 11 54.8	+1.6
K27K	Chicken	8.25	22	Pn	Pn	11 11 55.2	+0.4
J25K	Salcha River,	8.28	11	Pn	Pn	11 11 57.5	+2.3
IL31		8.30	7	Pn	Pn	11 11 57.8	+2.4
ILAR	Eielson Array	8.30	7	Pn	Pn	11 11 56.7	+1.2
ILAR	Eielson Array	8.30	7	Pn	Pn	11 11 56.2	+0.7
	comp=E,0.7nm,0.3s,baz=190,slow=14,SNR=7.5						
ILAR				Sn	Sn	11 13 26.4	-2.8
	comp=E,0.6nm,0.3s,baz=194,slow=20,SNR=8.4						
	comp=E,1.7nm,0.4s						
J26L	Joseph Creek	8.41	17	Pn	Pn	11 11 55.0	-2.0
M13K	Dall Lake	8.41	303	Pn	Pn	11 11 55.5	-1.5
MDM	Murphy Dome	8.43	2	Pn	Pn	11 11 56.8	-0.5
N31M	Braeburn, Yuko	8.44	49	Pn	Pn	11 11 57.1	-0.3
WHY	Whitehorse	8.46	55	Pn	Pn	11 11 56.3	-1.5
L14K	Kuka Creek	8.50	310	Pn	Pn	11 11 57.9	-0.3
K15K	Wolf Creek Mou	8.55	317	Pn	Pn	11 11 58.3	-0.6
L29M	L29M	8.56	35	Pn	Pn	11 11 58.8	-0.3
I23K	Minto, Yukon-K	8.61	359	Pn	Pn	11 11 58.3	-1.4
M30M	Minto, Yukon	8.66	41	Pn	Pn	11 11 58.0	-2.4
P32M	Atlin	8.68	63	Pn	Pn	11 11 58.6	-2.2
I21K	Tanana	8.76	352	Pn	Pn	11 12 01.3	-0.4
J16K	Anvik River	8.87	324	Pn	Pn	11 12 03.0	-0.3
U33K	Whale Pass	8.88	86	Pn	Pn	11 12 00.3	-3.0
DAWY	Dawson	8.91	29	Pn	Pn	11 12 03.3	-0.7
EGAK	Eagle	9.10	22	Pn	Pn	11 12 05.8	-0.6
I26K	Coal Creek Min	9.22	16	Pn	Pn	11 12 08.1	0.0
K29M	Barlow Dome	9.28	33	Pn	Pn	11 12 05.8	-3.1
P33M	Teslin, Yukon	9.28	60	Pn	Pn	11 12 07.6	-1.4
Q32M	Nakina River	9.29	68	Pn	Pn	11 12 08.3	-1.0
H21K	Melozitna Rive	9.30	350	Pn	Pn	11 12 11.3	+2.1
H24K	Noodor Dome	9.32	3	Pn	Pn	11 12 08.7	-0.8
M31M	Drury Creek, Y	9.37	47	Pn	Pn	11 12 09.6	-0.5
N32M	Quiet Lake	9.46	54	Pn	Pn	11 12 09.9	-1.6
H19K	Roundabout Mou	9.67	341	Pn	Pn	11 12 13.7	-0.4
IMAR	Indian Mountai	9.71	349	Pn	Pn	11 12 15.7	+1.0
H18K	Honhosa River	9.72	336	Pn	Pn	11 12 14.5	-0.4
FARO	Faro, Yukon	9.81	48	Pn	Pn	11 12 14.2	-2.0
H17K	Granite Mounta	9.91	332	Pn	Pn	11 12 16.7	-0.9
I28M	Miner Creek	9.94	23	Pn	Pn	11 12 17.1	-0.9
J30M	Hart River	10.17	33	Pn	Pn	11 12 19.0	-2.2
G23K	Bananza Creek	10.19	358	Pn	Pn	11 12 21.0	-0.4
FYU	Fort Yukon	10.20	9	Pn	Pn	11 12 19.8	-1.6
G24K	Hadweenzic Riv	10.20	4	Pn	Pn	11 12 20.2	-1.2
G21K	Allakaket	10.20	350	Pn	Pn	11 12 20.6	-0.9
T35M	Bob Quinn	10.34	80	Pn	Pn	11 12 20.2	-3.2
DLBC	Dease Lake	10.41	72	Pn	Pn	11 12 26.6	+2.0
	comp=E,0.3nm,0.3s,baz=236,slow=11,SNR=2.1						
	comp=E,1.1nm,0.4s						
G18K	Tagagawik	10.42	338	Pn	Pn	11 12 23.9	-0.6
F21K	Alatna River	10.89	351	Pn	Pn	11 12 29.4	-1.5
F20K	Avaraart Lake	10.97	346	Pn	Pn	11 12 33.7	+1.8
F19K	Shaleruckik Mo	11.08	342	Pn	Pn	11 12 33.1	-0.4
BMAR	Burnt Mountain	11.10	9	Pn	Pn	11 12 31.8	-2.1
ANM	Nome	11.30	322	Pn	Pn	11 12 38.0	+1.4
E19K	Redstone River	11.57	344	Pn	Pn	11 12 40.3	+0.1
E25K	Arctic Village	11.71	6	Pn	Pn	11 12 42.0	-0.1
F15K	North Star Dit	11.82	327	Pn	Pn	11 12 42.5	-1.1
D22K	Ayikyak River	12.47	354	Pn	Pn	11 12 52.5	+0.1
G31M	Satah River	12.49	28	Pn	Pn	11 12 53.8	+1.2
D24K	Happy Valley	12.64	0	Pn	Pn	11 12 55.2	+0.5
D19K	Kuna River	12.65	345	Pn	Pn	11 12 54.4	-0.6
E28M	Babbage River	12.83	16	Pn	Pn	11 12 57.8	+0.4
D25K	Kavik River	12.86	4	Pn	Pn	11 12 59.1	+1.2
E29M	Blow River	12.91	19	Pn	Pn	11 12 56.2	-2.2
F31M	Tsiigehtchic	13.02	27	Pn	Pn	11 13 00.6	+0.7
D27M	Malcolm River	13.23	13	Pn	Pn	11 13 02.4	-0.5
C18K	Utukok River	13.30	340	Pn	Pn	11 13 04.1	+0.2
B21K	Ikpikpuk River	13.33	352	Pn	Pn	11 13 04.7	+0.5
INK	Inuvik	13.74	25	Pn	Pn	11 13 08.9	-0.8
INK	Inuvik	13.74	25	Pn	Pn	11 13 12.8	+3.1
	baz=208,slow=16,SNR=3.2						
	comp=E,1.8nm,1.0s						
HOLB	Holberg	13.75	107	Pn	Pn	11 13 08.3	-1.7
B20K	Meade River	13.95	348	Pn	Pn	11 13 12.4	-0.3
YKA	Yellowknife Ar	18.29	57	P	P	11 14 10.4	+1.6
	baz=269,slow=11,SNR=7.5						
	comp=E,1.5nm,1.1s						
PDAR	Pinedale Array	28.61	102	P	P	11 15 52.8	+1.1
	comp=E,0.1nm,0.5s,baz=293,slow=4.6,SNR=1.9						
	comp=E,0.1nm,0.5s						
SONM	Songino Array	58.54	310	P	P	11 19 52.8	+1.1
	comp=E,0.4nm,0.6s,baz=46,slow=6.2,SNR=2.4						
	comp=E,0.4nm,0.6s						
FINES	FINESS Array B	62.27	3	P	P	11 20 17.6	+1.0
	comp=E,1.3nm,0.8s,baz=353,slow=10,SNR=3.7						
	comp=E,1.3nm,0.8s						
MKAR	Makanchi Array	68.43	325	P	P	11 20 57.2	+0.3
	comp=E,0.1nm,0.3s,baz=27,slow=8.0,SNR=1.5						
	comp=E,0.1nm,0.3s						
AKASG	Malin Array Be	73.09	1	P	P	11 21 25.8	+0.7
	comp=E,0.5nm,0.4s,baz=2.7,slow=6.4,SNR=4.3						
	comp=E,0.5nm,0.4s						

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*IDC **23** 11:10:17.9±1.7, 55.°69N×150.°19W, h0km, mb3.5/3, mbtmp3.7/7, ML3.8/4, Error ellipse: s-maj=30.7km s-min=21.0km az=34.0*

*NEIC **23** 11:10:19.6±2.0, 55.°84N±0.°08×149.°9W±0.°1, h10km±6km, mb4.0/3, ML4.0/42, ML3.7(AEIC), Error ellipse: s-maj=12.0km s-min=8.5km az=183.0*

*AEIC **23** 11:10:25.3±1.7, 55.°92N±0.°04×149.°9W±0.°1, h12km±4km, Error ellipse: s-maj=8.4km s-min=6.4km az=85.0*

ISC 23 11:10:19.5±0.8**, 55.°93N**±0.°08×**149.°91W**±0.°06**, h10**km**, n180,** σ1.°36/189**, mb3.8**/4**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.27	306		Pn	11 10 57.7	+0.6
OHAK				Sn	Sn	11 11 23.0	-2.1
OHAK	Old Harbor	2.27	306	S	Sn	11 11 23.2	-1.9
	baz=124						
KDAK	Kodiak Island	2.37	323		Sn	11 11 26.5	-1.0
KDAK	Kodiak Island	2.37	323	Pn	Pn	11 10 59.1	+0.7
KDAK	Kodiak Island	2.37	323	S	Sn	11 11 27.1	-0.4
	baz=142						
KDAK	Kodiak Island	2.37	323	Pn	Pn	11 10 58.6	+0.2
	52nm,0.3s,baz=181,slow=7.0,SNR=45						
KDAK				Sn	Sn	11 11 25.6	-1.9
	13nm,0.3s,baz=336,slow=20,SNR=1.5						
	189nm,0.2s						
Q20K	Shuyak Island	3.01	334	P	Pn	11 11 08.1	+0.9
	baz=153						
Q20K				S	Sn	11 11 41.2	-2.0
	baz=153						
SYI	Shuyak Island	3.01	334	Pn	Pn	11 11 07.9	+0.8
SYI					Sn	11 11 43.3	+0.1
KAHG	Katmai Hook Gl	3.60	317		Pn	11 11 17.4	+2.0
Q19K	Cape Douglas,	3.62	328		Pn	11 11 17.9	+2.2
Q19K					Sn	11 11 56.9	-1.5
Q19K				IAML		11 12 03.6	
	comp=N,364nm,0.8s						
Q19K	Cape Douglas,	3.62	328	P	Pn	11 11 17.4	+1.7
	baz=145						
CNPM	China Poot	3.67	349	Pn	Pn	11 11 16.7	+0.3
CNPM					Sn	11 11 58.6	-1.1
CNPM				IAML		11 12 03.5	
	comp=E,94nm,1.1s						
KCG	Knife Ck. Glac	3.70	312		Pn	11 11 18.2	+1.4
ACHA	Angle Creek He	3.74	310		Pn	11 11 18.5	+1.2
ANCK	Angle Creek	3.80	309		Pn	11 11 19.7	+1.5
KVTA	Katmai Vly 10	3.83	312		Pn	11 11 20.4	+1.9
BRSE	Bradley Lake S	3.85	354		Pn	11 11 18.6	-0.1
BRSE					Sn	11 12 01.8	-2.2
HOM	Homer	3.85	347	Pn	Pn	11 11 19.2	+0.5
HOM					Sn	11 12 04.8	+0.8
HOM				IAML		11 12 17.4	
	comp=E,222nm,1.1s						
HOM				IAML		11 12 21.6	
	comp=N,269nm,1.0s						
BRLK	Bradley Lake	3.88	353	Pn	Pn	11 11 19.3	+0.1
BRLK				IAML		11 12 05.7	
	comp=N,83nm,0.6s						
BRLK				IAML		11 12 06.0	
	comp=E,133nm,0.7s						
KAHC	Katmai Hardscr	3.88	317		Pn	11 11 21.2	+1.9
KAHC	Katmai Hardscr	3.88	317	P	Pn	11 11 21.2	+1.9
	baz=133						
AU22	Augustine Moun	3.92	333		Pn	11 11 21.0	+1.4
AUCH	Augustine Cone	3.93	333		Pn	11 11 21.6	+1.7
Q23K	Middleton Isla	4.00	27	Pn	Pn	11 11 21.2	+0.5
Q23K				IAML		11 12 05.1	
	comp=N,120nm,1.0s						
Q23K				IAML		11 13 12.8	
	comp=E,96nm,0.9s						
MID	Middleton Isla	4.00	27	Pn	Pn	11 11 21.3	+0.6
MID				IAML		11 12 05.3	
	comp=N,134nm,0.9s						
MID				IAML		11 12 10.6	
	comp=E,164nm,1.1s						
CNTC	Contact Creek	4.01	308		Pn	11 11 22.4	+1.3
Q17K	Contact Creek	4.01	308	P	Pn	11 11 22.4	+1.3
	baz=124						
PLK1	Peulik 1	4.13	300		Pn	11 11 23.9	+1.4
P19K	Oil Pt	4.13	336	Pn	Pn	11 11 23.1	+0.4
P19K				IAML		11 12 13.9	
	comp=E,139nm,0.5s						
P19K				IAML		11 12 15.2	
	comp=N,201nm,0.6s						
P18K	Big Mountain,	4.50	323	Pn	Pn	11 11 28.5	+0.8
P18K	Big Mountain,	4.50	323	P	Pn	11 11 28.7	+1.0
	baz=139						
O22K	Cooper Landing	4.57	1	Pn	Pn	11 11 30.1	+1.6
Q16K	King Salmon	4.58	310		Pn	11 11 30.2	+1.5
Q16K	King Salmon	4.58	310	P	Pn	11 11 30.1	+1.4
	baz=125						
CHGN	Chignik	4.78	278	Pn	Pn	11 11 32.6	+1.1
CHGN				IAML		11 12 28.3	
	comp=N,180nm,0.4s						
P17K	Kvichak River	4.80	316		Pn	11 11 33.2	+1.4
P17K	Kvichak River	4.80	316	P	Pn	11 11 33.7	+1.9
	baz=131						
HIN	Hinchinbrook I	4.83	21	Pn	Pn	11 11 33.3	+1.1
HIN				IAML		11 12 27.6	
	comp=N,146nm,0.9s						
O18K	Koktuh Hills	4.84	326	Pn	Pn	11 11 33.2	+0.8
O18K				IAML		11 12 32.1	
	comp=N,39nm,0.8s						
O19K	Port Alsworth	4.88	333	Pn	Pn	11 11 34.4	+1.6
O19K				IAML		11 12 29.8	
	comp=N,142nm,0.4s						
CAPN	Captain Cook N	4.90	353	Pn	Pn	11 11 34.1	+1.1
KAIM	Kayak Island	4.96	34	Pn	Pn	11 11 35.3	+1.3
KAIM				IAML		11 12 28.6	
	comp=E,115nm,1.0s						
KAIM				IAML		11 14 49.1	
	comp=N,144nm,1.2s						
EYAK	Cordova Ski Ar	5.13	24		Pn	11 11 37.2	+0.9
FID	Port Fidalgo	5.16	19	Pn	Pn	11 11 37.9	+1.2
FID				IAML		11 12 34.8	
	comp=N,95nm,0.4s						
FID				IAML		11 12 35.3	
	comp=E,122nm,0.5s						
RC01	Rabbit Creek A	5.18	1	Pn	Pn	11 11 36.2	-0.8
RC01				IAML		11 12 37.3	
	comp=E,103nm,0.5s						
RC01				IAML		11 12 37.8	
	comp=N,65nm,1.2s						
RAGM	Ragged Mountai	5.26	30	Pn	Pn	11 11 39.2	+1.0
P16K	Nushagak River	5.35	309		Pn	11 11 40.7	+1.3
GOAT	Goat Mountain	5.41	28		Pn	11 11 41.3	+1.1
N19K	Bonanza Creek	5.46	336	Pn	Pn	11 11 41.5	+0.6
BERG	Berg Lake	5.55	34	Pn	Pn	11 11 42.9	+0.8
KNK	Knik Glacier	5.55	7	Pn	Pn	11 11 42.0	-0.1
SUA	Susitna One	5.57	356	Pn	Pn	11 11 41.1	-1.3
CNBA	Chernabura Isl	5.63	263	Pn	Pn	11 11 42.5	-0.7
DIV	Divide	5.65	21		Pn	11 11 44.2	+0.8
SNH	Sunshine Point	5.68	38	Pn	Pn	11 11 44.2	+0.4
PMR	Palmer	5.69	4	Pn	Pn	11 11 43.5	-0.6
N18K	Kilae Creek	5.71	329	Pn	Pn	11 11 44.5	+0.2
O16K	Kokwok River B	5.71	313	Pn	Pn	11 11 45.7	+1.4
BMRM	Bremner River	5.77	27		Pn	11 11 45.4	+0.3
GHO	Glory Hole Cre	5.88	5	Pn	Pn	11 11 47.4	+0.7
SML	Sawmill	5.95	7	Pn	Pn	11 11 46.8	-0.8
KLU	Klutina	5.95	19	Pn	Pn	11 11 48.5	+0.9
BARK	Barkley Ridge	5.96	38		Pn	11 11 48.5	+0.7
SVW2	Sparrevohn	5.97	333	Pn	Pn	11 11 47.9	0.0
N17K	Nushagak Hills	6.00	323	Pn	Pn	11 11 48.7	+0.5
SDPT	Sand Point	6.01	269	Pn	Pn	11 11 48.6	+0.2
SCM	Sheep Creek Mo	6.07	12	Pn	Pn	11 11 50.5	+1.2
SKT	Skwentna	6.13	353	Pn	Pn	11 11 51.3	+1.3
M20K	Styx River	6.20	346	Pn	Pn	11 11 51.5	+0.4
O15K	Ungalikthiuk R	6.25	305		Pn	11 11 53.2	+1.5
VRDI	Verde Repeater	6.29	30	Pn	Pn	11 11 52.7	+0.3
N25K	Chitina, Valde	6.33	24	Pn	Pn	11 11 53.9	+1.1
GLB	Gilahina Butte	6.37	27	Pn	Pn	11 11 55.1	+1.6
KIAG	Kiagna River	6.38	35		Pn	11 11 55.5	+1.9
SAMH	Samovar Hills	6.42	45		Pn	11 11 55.7	+1.6
M19K	Big River Lodg	6.42	341	Pn	Pn	11 11 56.3	+2.2
M24K	Tolsona, Glenn	6.49	16	Pn	Pn	11 11 57.7	+2.7
CUT	Chulitna	6.50	359	Pn	Pn	11 11 56.6	+1.5
N16K	Nishlik Lake	6.53	318		Pn	11 11 57.9	+2.3
N16K	Nishlik Lake	6.53	318	P	Pn	11 11 57.9	+2.3
	baz=131						
YKU2	Yakutat	6.55	53	Pn	Pn	11 11 56.8	+1.0
PCA	Pinnacle	6.61	47		Pn	11 11 57.8	+1.1
PINM	Pinnacle	6.61	47	P	Pn	11 11 58.3	+1.6
	baz=235						
BARN	Barnard Glacie	6.72	37		Pn	11 11 59.5	+1.3
M17K	Holitna River	6.74	328		Pn	11 11 59.9	+1.5
PNL	Peninsula	6.75	52		Pn	11 11 59.6	+1.0
PNL	Peninsula	6.75	52	P	Pn	11 11 59.6	+1.0
	baz=241						
CTGM	Chitina Glacie	6.76	38	Pn	Pn	11 11 59.7	+0.9
L19K	White Mountain	6.77	340		Pn	11 11 58.6	-0.2
LOGN	Logan Glacier	6.78	40	Pn	Pn	11 11 59.5	+0.4
BCPM	Bancas Point	6.79	49		Pn	11 12 00.4	+1.3
N15K	Kwethluk River	6.87	312		Pn	11 12 02.1	+1.9
O14K	Tigyukauivet M	6.95	303	Pn	Pn	11 12 02.9	+1.6
M16K	Timber Creek	6.97	321		Pn	11 12 03.1	+1.6
L18K	Granite Mounta	7.21	334	Pn	Pn	11 12 04.3	-0.5
M26K	Nabesna, AK	7.39	26	Pn	Pn	11 12 07.6	+0.2
O29M	Mount Kennedy	7.43	49		Pn	11 12 09.3	+1.3
P29M	Windy Craggy	7.49	55		Pn	11 12 09.3	+0.6
RND	Reindeer	7.52	4	Pn	Pn	11 12 09.7	+0.6
L16K	Owhat River	7.63	323	Pn	Pn	11 12 11.6	+1.1
M27K	Edge Creek, AK	7.65	29	Pn	Pn	11 12 13.1	+2.1
KTH	Kantishna Hill	7.67	357	Pn	Pn	11 12 12.2	+1.0
TTA	Tatalina	7.68	339	Pn	Pn	11 12 11.6	+0.3
K20K	Telida	7.74	346	Pn	Pn	11 12 11.4	-0.7
S31K	Pelican	7.75	69		Pn	11 12 11.3	-0.9
L26K	Log Cabin Wild	7.86	22	Pn	Pn	11 12 13.2	-0.6
M14K	Bethel	7.97	312	Pn	Pn	11 12 15.1	-0.1
K17K	Iditarod	8.04	331	Pn	Pn	11 12 17.6	+1.4
SIT	Sitka	8.15	76	Pn	Pn	11 12 16.2	-1.5
HYT	Haines Junctio	8.15	48	Pn	Pn	11 12 20.0	+2.1
BPAW	Bear Paw Mtn.	8.21	357	Pn	Pn	11 12 19.3	+0.7
L27K	Beaver Creek,	8.24	27	Pn	Pn	11 12 20.5	+1.4
J18K	Innoko River	8.30	338	Pn	Pn	11 12 20.7	+0.9
M13K	Dall Lake	8.40	308		Pn	11 12 23.1	+2.0
SKAG	Skagway	8.57	60	Pn	Pn	11 12 24.5	+1.0
J19K	Poorman	8.58	343	Pn	Pn	11 12 25.1	+1.5
S32K	Killisnoo	8.58	73	Pn	Pn	11 12 23.8	+0.2
L14K	Kuka Creek	8.58	314		Pn	11 12 25.7	+2.1
N30M	Aishikik Lake	8.67	45	Pn	Pn	11 12 25.8	+0.9
R32K	Eaglecrest	8.70	68	Pn	Pn	11 12 25.6	+0.3
NEA2	Nenana	8.70	2	Pn	Pn	11 12 27.5	+2.2
O30N	Mendenhall	8.73	51	Pn	Pn	11 12 25.7	0.0
K15K	Wolf Creek Mou	8.73	322	Pn	Pn	11 12 28.4	+2.7
JIS	Juneau Island	8.77	68	Pn	Pn	11 12 26.4	+0.2
M29M	Somme Creek	8.77	37	Pn	Pn	11 12 28.0	+1.6
CCB	Clear Creek Bu	8.81	6	Pn	Pn	11 12 29.0	+2.3
IL31		8.99	8	Pn	Pn	11 12 31.3	+2.1
ILAR	Eielson Array	8.99	8	Pn	Pn	11 12 31.9	+2.6
ILAR	Eielson Array	8.99	8	Pn	Pn	11 12 30.0	+0.7
	comp=N,0.3nm,0.3s,baz=193,slow=12,SNR=2.2						
ILAR				Sn	Sn	11 14 07.7	-2.8
	comp=N,0.5nm,0.3s,baz=190,slow=24,SNR=3.0						
	comp=N,0.8nm,0.3s						
K27K	Chicken	9.02	23	Pn	Pn	11 12 31.7	+2.1
MDM	Murphy Dome	9.10	5	Pn	Pn	11 12 32.5	+1.8
J16K	Anvik River	9.14	328	Pn	Pn	11 12 32.9	+1.7
J26L	Joseph Creek	9.15	18	Pn	Pn	11 12 33.9	+2.3
I20K	Naaghedeneel	9.18	348	Pn	Pn	11 12 31.8	+0.1
N31M	Braeburn, Yuko	9.21	47		Pn	11 12 34.0	+1.7
WHY	Whitehorse	9.21	53	Pn	Pn	11 12 34.0	+1.5
I23K	Minto, Yukon-K	9.25	1	Pn	Pn	11 12 33.7	+0.9
I21K	Tanana	9.34	355	Pn	Pn	11 12 35.1	+1.2
L29M	L29M	9.35	35	Pn	Pn	11 12 35.7	+1.5
P32M	Atlin	9.39	60	Pn	Pn	11 12 35.5	+0.7
U33K	Whale Pass	9.40	82	Pn	Pn	11 12 33.8	-1.1
M30M	Minto, Yukon	9.45	40	Pn	Pn	11 12 37.1	+1.5
K13K	Kusilvak Mount	9.70	314	Pn	Pn	11 12 40.8	+1.9
DAWY	Dawson	9.70	28	Pn	Pn	11 12 39.5	+0.5
J14K	Nanvaranak Lak	9.75	320	Pn	Pn	11 12 40.8	+1.2
PRP	Porcupine Dome	9.85	11	Pn	Pn	11 12 42.1	+0.9
EGAK	Eagle	9.87	22	Pn	Pn	11 12 43.8	+2.6
P33M	Teslin, Yukon	10.01	58	Pn	Pn	11 12 43.9	+0.7
K29M	Barlow Dome	10.07	33	Pn	Pn	11 12 46.6	+2.5
H18K	Honhosa River	10.13	339	Pn	Pn	11 12 47.7	+2.8
M31M	Drury Creek, Y	10.15	45	Pn	Pn	11 12 46.7	+1.6
N32M	Quiet Lake	10.22	52	Pn	Pn	11 12 45.3	-0.8
H17K	Granite Mounta	10.28	336	Pn	Pn	11 12 48.2	+1.3
V35K	Ketchikan	10.36	86	Pn	Pn	11 12 47.1	-0.9
S34M	Telegraph Cree	10.45	71	Pn	Pn	11 12 50.3	+1.0
FARO	Faro, Yukon	10.58	47	Pn	Pn	11 12 51.2	+0.2
I28M	Miner Creek	10.71	23	Pn	Pn	11 12 51.0	-1.8
R33M	Jennings River	10.71	63	Pn	Pn	11 12 52.7	-0.3
G21K	Allakaket	10.76	352	Pn	Pn	11 12 53.6	+0.2
G23K	Bananza Creek	10.82	360	Pn	Pn	11 12 55.2	+0.9
G18K	Tagagawik	10.85	341	Pn	Pn	11 12 56.2	+1.5
G24K	Hadweenzic Riv	10.87	5	Pn	Pn	11 12 56.2	+1.3
J30M	Hart River	10.96	32	Pn	Pn	11 12 57.9	+1.6
DLBC	Dease Lake	11.07	69	Pn	Pn	11 13 01.0	+3.2
	comp=N,0.7nm,0.3s,baz=245,slow=8.6,SNR=11						
	comp=N,1.8nm,0.5s						
F21K	Alatna River	11.46	353	Pn	Pn	11 13 04.0	+1.0
F20K	Avaraart Lake	11.49	348	Pn	Pn	11 13 04.4	+1.0
ANM	Nome	11.54	325	Pn	Pn	11 13 05.8	+1.7
F15K	North Star Dit	12.12	330	Pn	Pn	11 13 12.9	+0.9
C19K	Lookout Ridge	13.93	345	Pn	Pn	11 13 35.3	-1.4
C36M	Paulatuk	17.72	31	Pn	Pn	11 14 25.8	-0.2
C36M				IAmb	IAmb	11 14 29.8	
	comp=Z,5.5nm,0.8s						
YKAB2	New Yellowknif	19.02	56	P	Pn	11 14 42.6	+0.7
YKA	Yellowknife Ar	19.03	55	P	P	11 14 41.6	+0.4
YKA	Yellowknife Ar	19.03	55	P	Pn	11 14 43.6	+1.6
	comp=Z,0.2nm,0.3s,baz=265,slow=10,SNR=23						
	comp=Z,2.3nm,0.8s						
A36M	Sachs Harbour	19.14	23	P	P	11 14 43.4	+0.9
A36M				IAmb	IAmb	11 14 46.3	
	comp=Z,8.7nm,0.8s						
DBO	Dodson Butte	21.37	116	P	P	11 15 06.5	-0.5
DBO				IAmb	IAmb	11 15 35.1	
	comp=Z,16nm,1.4s						
NVAR	Mina Array Bea	27.36	116	P	P	11 16 05.4	+0.5
	comp=Z,0.3nm,0.6s,baz=321,slow=7.0,SNR=3.0						
	comp=Z,0.3nm,0.6s						
PDAR	Pinedale Array	28.95	100	P	P	11 16 18.3	-0.7
FCC	Fort Churchill	29.51	61	P	P	11 16 22.4	-1.1
SONM	Songino Array	58.60	310	P	P	11 20 15.7	-0.6
	comp=Z,0.7nm,0.7s,baz=46,slow=6.2,SNR=2.6						
	comp=Z,0.7nm,0.7s						
MKAR	Makanchi Array	68.68	324	P	P	11 21 23.4	+0.7
	comp=Z,0.3nm,0.6s,baz=47,slow=8.5,SNR=3.9						
	comp=Z,0.3nm,0.6s						

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*NEIC **23** 11:13:39.8±1.1, 56.°27N±0.°06×149.°4W±0.°1, h20km±9km, mb3.8/3, ML3.8/42, ML3.8(AEIC), Error ellipse: s-maj=10.2km s-min=7.6km az=122.0*

*AEIC **23** 11:13:43.4±1.3, 56.°32N±0.°09×149.°3W±0.°1, h6km±7km, Error ellipse: s-maj=14.4km s-min=9.2km az=158.0*

ISC 23 11:13:38.2±1.2**, 56.°28N**±0.°09×**149.°41W**±0.°06**, h10**km**, n136,** σ0.°96/136**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.30	312		Pn	11 14 16.7	+0.6
KDAK					Sn	11 14 43.0	-1.4
OHAK	Old Harbor	2.34	296		Pn	11 14 16.8	+0.2
OHAK					Sn	11 14 43.2	-2.1
OHAK	Old Harbor	2.34	296	IAML		11 14 43.6	
	comp=N,407nm,0.3s						
OHAK	Old Harbor	2.34	296	P	Pn	11 14 16.7	+0.2
OHAK	Old Harbor	2.34	296	P	Pn	11 14 16.8	+0.2
	baz=111						
OHAK				S	Sn	11 14 43.2	-2.1
	baz=111						
SYI	Shuyak Island	2.84	327		Pn	11 14 24.3	+0.8
SYI					Sn	11 14 56.8	-0.9
SYI	Shuyak Island	2.84	327	IAML		11 14 59.1	
	comp=E,239nm,0.3s						
Q20K	Shuyak Island	2.84	327	P	Pn	11 14 24.3	+0.8
	baz=143						
Q20K				S	Sn	11 14 56.8	-0.9
	baz=143						
CNPM	China Poot	3.40	344		Pn	11 14 31.6	+0.4
CNPM					Sn	11 15 10.4	-1.2
CNPM	China Poot	3.40	344	IAML		11 15 12.4	
	comp=N,141nm,0.5s						
Q19K	Cape Douglas,	3.50	321		Pn	11 14 33.9	+1.2
Q19K	Cape Douglas,	3.50	321	IAML		11 15 23.8	
	comp=N,241nm,0.9s						
Q19K	Cape Douglas,	3.50	321	P	Pn	11 14 33.9	+1.2
	baz=137						
BRSE	Bradley Lake S	3.55	349		Pn	11 14 33.6	+0.4
BRSE					Sn	11 15 13.5	-1.7
BRSE	Bradley Lake S	3.55	349	P	Pn	11 14 33.6	+0.4
	baz=167						
BRSE				S	Sn	11 15 13.5	-1.7
	baz=167						
KAHG	Katmai Hook Gl	3.56	311		Pn	11 14 34.8	+1.3
KAHG					Sn	11 15 15.9	+0.3
Q23K	Middleton Isla	3.56	26		Pn	11 14 33.4	0.0
Q23K	Middleton Isla	3.56	26	IAML		11 15 28.5	
	comp=N,140nm,1.2s						
Q23K				IAML		11 16 43.8	
	comp=E,152nm,1.5s						
Q23K	Middleton Isla	3.56	26	P	Pn	11 14 33.4	0.0
	baz=208						
MID	Middleton Isla	3.56	26		Pn	11 14 33.4	0.0
MID	Middleton Isla	3.56	26	IAML		11 15 28.7	
	comp=N,132nm,1.4s						
MID				IAML		11 16 38.9	
	comp=E,122nm,1.3s						
BRLK	Bradley Lake	3.58	348		Pn	11 14 34.0	+0.2
HOM	Homer	3.59	342	Pn	Pn	11 14 34.2	+0.4
HOM				IAML		11 15 23.1	
	comp=N,362nm,1.3s						
HOM				IAML		11 15 47.1	
	comp=E,209nm,1.5s						
ACHA	Angle Creek He	3.75	304		Pn	11 14 37.5	+1.4
ANCK	Angle Creek	3.83	303		Pn	11 14 37.9	+0.8
SEW	Seward	3.84	360		Pn	11 14 37.5	+0.3
SEW	Seward	3.84	360	P	Pn	11 14 37.5	+0.3
	baz=179						
P23K	Montague Islan	3.88	15		Pn	11 14 37.6	-0.2
P23K	Montague Islan	3.88	15	P	Pn	11 14 37.6	-0.2
	baz=196						
CNTC	Contact Creek	4.04	302		Pn	11 14 41.0	+0.9
Q17K	Contact Creek	4.04	302	P	Pn	11 14 41.0	+0.9
	baz=116						
O20K	Slope Mountain	4.18	337		Pn	11 14 42.4	+0.4
O20K	Slope Mountain	4.18	337	P	Pn	11 14 42.4	+0.4
	baz=154						
O22K	Cooper Landing	4.22	358		Pn	11 14 42.7	+0.3
O22K	Cooper Landing	4.22	358	P	Pn	11 14 42.7	+0.3

baz=177
SLKM Skilak Lake 4.26 355 Pn 11 14 43.5 +0.4
HIN Hinchinbrook I 4.41 19 Pn 11 14 43.9 -1.1
HIN IAML 11 15 35.1
comp=E,80nm,1.4s
HIN IAML 11 17 04.2
comp=N,64nm,1.0s
P18K Big Mountain, 4.41 318 Pn 11 14 45.6 +0.5
P18K Big Mountain, 4.41 318 P Pn 11 14 45.6 +0.5
baz=132
KAIM Kayak Island 4.52 34 Pn 11 14 46.2 -0.3
KAIM Kayak Island 4.52 34 IAML 11 15 31.4
comp=E,109nm,1.4s
KAIM IAML 11 15 40.0
comp=N,123nm,0.8s
KAIM Kayak Island 4.52 34 P Pn 11 14 46.2 -0.3
baz=218
Q16K King Salmon 4.59 305 Pn 11 14 48.7 +1.2
Q16K King Salmon 4.59 305 P Pn 11 14 48.7 +1.2
baz=118
R16K Pilot Point 4.66 290 Pn 11 14 48.8 +0.4
R16K Pilot Point 4.66 290 P Pn 11 14 49.8 +1.4
baz=102
FID Port Fidalgo 4.74 18 Pn Pn 11 14 50.2 +0.6
FID IAML 11 15 43.5
comp=E,51nm,0.3s
FID IAML 11 15 47.2
comp=N,52nm,1.5s
P17K Kvichak River 4.77 311 Pn 11 14 51.6 +1.6
P17K Kvichak River 4.77 311 P Pn 11 14 51.6 +1.6
baz=124
RAGM Ragged Mountai 4.82 29 Pn Pn 11 14 51.2 +0.5
RAGM IAML 11 15 48.2
comp=E,126nm,1.1s
RC01 Rabbit Creek A 4.83 358 Pn 11 14 51.4 +0.5
RC01 Rabbit Creek A 4.83 358 IAML 11 15 45.6
comp=E,70nm,0.7s
RC01 IAML 11 15 47.6
comp=N,59nm,0.5s
RC01 Rabbit Creek A 4.83 358 P Pn 11 14 51.4 +0.5
baz=177
ANPB Aniakchak Plen 4.94 280 Pn 11 14 53.0 +0.6
GOAT Goat Mountain 4.97 28 Pn 11 14 52.6 -0.2
CHGN Chignik 5.02 274 Pn Pn 11 14 54.0 +0.6
BERG Berg Lake 5.11 34 Pn 11 14 54.9 +0.3
N20K Mount Spurr 5.15 345 P Pn 11 14 55.1 -0.1
baz=162
SPCR Spurr Chakacha 5.15 345 Pn 11 14 55.1 -0.1
SNH Sunshine Point 5.23 39 Pn 11 14 56.6 +0.2
SNH Sunshine Point 5.23 39 IAML 11 18 23.1
comp=E,97nm,1.1s
SNH IAML 11 18 25.0
comp=N,94nm,1.1s
N19K Bonanza Creek 5.27 332 Pn Pn 11 14 56.4 -0.6
N19K IAML 11 18 24.6
comp=E,37nm,0.9s
BMRM Bremner River 5.33 26 Pn 11 14 58.1 +0.4
BMRM Bremner River 5.33 26 P Pn 11 14 58.1 +0.4
baz=210
PMR Palmer 5.33 1 P Pn 11 14 59.7 +2.0
P16K Nushagak River 5.37 304 Pn 11 14 59.9 +1.6
P16K Nushagak River 5.37 304 P Pn 11 14 59.9 +1.6
baz=117
STLK Strandline Lak 5.39 348 Pn 11 14 59.0 +0.4
GHO Glory Hole Cre 5.52 2 Pn Pn 11 15 01.4 +1.0
KLU Klutina 5.53 18 Pn 11 15 01.5 +0.9
KLU Klutina 5.53 18 P Pn 11 15 01.5 +0.9
baz=200
N18K Kilae Creek 5.57 325 Pn 11 15 01.5 +0.5
N18K Kilae Creek 5.57 325 P Pn 11 15 01.5 +0.5
baz=139
SML Sawmill 5.58 5 Pn 11 15 01.3 +0.2
SML Sawmill 5.58 5 P Pn 11 15 01.3 +0.2
baz=186
M23K Glacier View 5.60 8 Pn 11 15 02.4 +0.9
M23K Glacier View 5.60 8 P Pn 11 15 02.4 +0.9
baz=189
O16K Kokwok River B 5.70 309 Pn 11 15 03.9 +1.2
O16K Kokwok River B 5.70 309 P Pn 11 15 03.9 +1.2
baz=121
VRDI Verde Repeater 5.85 30 Pn 11 15 05.9 +0.8
KIAG Kiagna River 5.94 35 Pn 11 15 06.6 +0.4
M24K Tolsona, Glenn 6.08 15 Pn 11 15 09.2 +1.2
M24K Tolsona, Glenn 6.08 15 P Pn 11 15 09.2 +1.2
baz=197
PCA Pinnacle 6.17 48 Pn 11 15 10.2 +0.9
PINM Pinnacle 6.17 48 P Pn 11 15 10.2 +0.9
baz=236
M18K Stony River 6.19 330 Pn 11 15 09.4 -0.2
M18K Stony River 6.19 330 P Pn 11 15 09.4 -0.2
baz=144
BARN Barnard Glacie 6.27 37 Pn 11 15 11.7 +0.9
SDPT Sand Point 6.31 266 Pn 11 15 11.5 +0.4
SDPT Sand Point 6.31 266 P Pn 11 15 11.5 +0.4
baz=77
PNL Peninsula 6.32 53 Pn 11 15 12.4 +1.1
PNL Peninsula 6.32 53 P Pn 11 15 12.4 +1.1
baz=242
BCPM Bancas Point 6.36 51 Pn Pn 11 15 11.6 -0.2
N16K Nishlik Lake 6.47 314 Pn 11 15 14.8 +1.3
N16K Nishlik Lake 6.47 314 P Pn 11 15 14.8 +1.3
baz=126
L19K White Mountain 6.55 337 Pn Pn 11 15 15.1 +0.7
M17K Holitna River 6.61 324 Pn Pn 11 15 15.7 +0.4
M16K Timber Creek 6.88 318 Pn Pn 11 15 20.2 +1.2
O29M Mount Kennedy 6.99 50 Pn 11 15 19.5 -1.1
PAX Paxson 7.00 15 Pn 11 15 20.9 +0.2
PAX Paxson 7.00 15 P Pn 11 15 20.9 +0.2
baz=198
YUK2 White River 7.07 35 Pn 11 15 22.2 +0.5
PN7A Pavlof North-7 7.14 268 Pn 11 15 23.5 +0.9
RND Reindeer 7.16 2 Pn 11 15 23.6 +0.8
YUK3 Moose Creek 7.19 36 Pn 11 15 23.6 +0.2
YUK3 Moose Creek 7.19 36 P Pn 11 15 23.6 +0.2
baz=224
MENT Mentasta 7.28 21 P Pn 11 15 26.9 +2.5
CAST Castle Rocks 7.29 350 Pn Pn 11 15 24.7 +0.1
YUK7 Dusty Glacier 7.29 50 Pn 11 15 25.0 +0.2
L16K Owhat River 7.52 321 Pn Pn 11 15 27.6 -0.2
BVCY Beaver Creek 7.54 32 Pn 11 15 28.6 +0.5
BVCY Beaver Creek 7.54 32 P Pn 11 15 28.6 +0.5
baz=219
YUK4 Talbot Arm 7.55 43 P Pn 11 15 29.4 +1.1
baz=232
SIT Sitka 7.80 78 P Pn 11 15 29.3 -2.3
BPAW Bear Paw Mtn. 7.89 355 Pn 11 15 33.5 +0.7
BPAW Bear Paw Mtn. 7.89 355 P Pn 11 15 33.5 +0.7
baz=173
N30M Aishikik Lake 8.22 46 Pn Pn 11 15 38.1 +0.6
HDA Harding Lake 8.25 7 Pn 11 15 39.7 +1.9
HDA Harding Lake 8.25 7 P Pn 11 15 39.7 +1.9
baz=189
O30N Mendenhall 8.29 52 Pn 11 15 39.3 +0.9
O30N Mendenhall 8.29 52 P Pn 11 15 39.3 +0.9
baz=243
CCB Clear Creek Bu 8.44 5 Pn 11 15 41.1 +0.9
J25K Salcha River, 8.60 12 Pn Pn 11 15 42.8 +0.2
IL31 8.61 7 Pn 11 15 43.2 +0.6
COLA College 8.66 4 P Pn 11 15 46.0 +2.7
L29M L29M 8.90 35 Pn 11 15 47.8 +1.1
L29M L29M 8.90 35 P Pn 11 15 47.8 +1.1
baz=225
CRAG Craig 9.19 88 P Pn 11 15 49.3 -1.4
P33M Teslin, Yukon 9.59 59 Pn 11 15 56.0 -0.1
P33M Teslin, Yukon 9.59 59 P Pn 11 15 56.1 -0.1
baz=253
UNV Unalaska Valle 10.10 263 P Pn 11 16 02.7 -0.4
ADK Adak 16.54 266 Pn Pn 11 17 29.9 -0.1
ADK IAmb IAmb 11 17 54.9
comp=Z,53nm,1.3s
ADK Adak 16.54 266 P Pn 11 17 31.2 +1.2
KIWB Kanaga Island 16.82 266 Pn Pn 11 17 34.0 +0.6
C36M Paulatuk 17.28 31 Pn Pn 11 17 38.7 -0.4
C36M IAmb IAmb 11 17 51.4
comp=Z,9.2nm,1.4s
A36M Sachs Harbour 18.71 23 P P 11 17 58.0 +1.6
A36M IAmb IAmb 11 18 00.1
comp=Z,3.1nm,0.7s

*IDC **23** 11:15:58.0±1.0,55.°94N×149.°78W,h0km,mb3.8/8, mbtmp3.8/12,ML3.6/4,Error ellipse: s-maj=28.2km s-min=16.0km az=24.0*

*NEIC **23** 11:16:03.1±1.6,56.°16N±0.°07×149.°5W±0.°1,h23km±6km, mb3.9/11,ML4.1/48,ML3.9(AEIC),Error ellipse: s-maj=10.9km s-min=8.2km az=189.0*
*AEIC **23** 11:16:06.2±1.9,56.°17N±0.°07×149.°44W±0.°10,h12km±5km, Error ellipse: s-maj=10.5km s-min=8.0km az=176.0*
ISC 23 11:16:00.9±0.6,**56.°23N**±0.°07×**149.°45W**±0.°05,**h10**km, **n242**,σ1§51/248,**mb3.9**/12,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.32	314		Pn	11 16 39.5	+0.4
KDAK	Kodiak Island	2.32	314	Pn	Pn	11 16 39.1	0.0
	36nm,0.3s,baz=146,slow=7.9,SNR=17						
KDAK				Sn	Sn	11 17 05.1	-2.5
	80nm,0.3s,baz=37,slow=20,SNR=25						
OHAK	Old Harbor	2.34	297		Pn	11 16 39.2	-0.2
OHAK				IAML		11 17 06.2	
	comp=N,777nm,0.7s						
OHAK	Old Harbor	2.34	297	P	Pn	11 16 39.0	-0.4
	baz=115						
OHAK				S	Sn	11 17 05.2	-2.9
	baz=115						
SYI	Shuyak Island	2.87	328		Pn	11 16 47.5	+0.9
SYI					Sn	11 17 21.4	+0.2
Q20K	Shuyak Island	2.87	327	P	Pn	11 16 47.2	+0.6
	baz=146						
Q20K				S	Sn	11 17 21.3	+0.1
	baz=146						
CNPM	China Poot	3.44	345	Pn	Pn	11 16 55.7	+1.1
Q19K	Cape Douglas,	3.52	322		Pn	11 16 57.0	+1.2
Q19K					Sn	11 17 38.0	+0.6
Q19K				IAML		11 17 43.0	
	comp=N,574nm,0.8s						
Q19K	Cape Douglas,	3.52	322	P	Pn	11 16 58.1	+2.4
	baz=139						
KAHG	Katmai Hook Gl	3.57	312		Pn	11 16 57.5	+1.0
BRSE	Bradley Lake S	3.59	349		Pn	11 16 56.9	+0.3
BRSE					Sn	11 17 37.6	-1.4
Q23K	Middleton Isla	3.61	26		Pn	11 16 57.7	+0.9
Q23K				IAML		11 17 55.7	
	comp=E,373nm,2.5s						
MID	Middleton Isla	3.61	26	Pn	Pn	11 16 57.7	+0.8
MID				IAML		11 17 55.8	
	comp=E,306nm,2.1s						
MID				IAML		11 18 43.6	
	comp=N,325nm,4.9s						
BRLK	Bradley Lake	3.63	348	Pn	Pn	11 16 57.7	+0.6
BRLK				IAML		11 17 42.7	
	comp=E,218nm,0.4s						
HOM	Homer	3.63	342	Pn	Pn	11 16 57.2	0.0
HOM				IAML		11 17 42.2	
	comp=E,322nm,0.5s						
HOM				IAML		11 17 44.7	
	comp=N,449nm,0.9s						
KCE	Katmai Mt Cerb	3.71	305		Pn	11 16 59.6	+1.3
KCG	Knife Ck. Glac	3.71	306		Sn	11 17 41.1	-1.1
ACHA	Angle Creek He	3.76	304		Pn	11 16 60.0	+1.0
AU22	Augustine Moun	3.78	328		Pn	11 16 60.0	+0.8
ANCK	Angle Creek	3.83	303		Pn	11 17 00.6	+0.6
KVTA	Katmai Vly 10	3.83	307		Pn	11 17 01.4	+1.4
KAHC	Katmai Hardscr	3.86	311		Pn	11 17 02.1	+1.7
KAHC	Katmai Hardscr	3.86	311	P	Pn	11 17 02.1	+1.7
	baz=127						
SEW	Seward	3.89	360		Pn	11 17 00.9	+0.2
P23K	Montague Islan	3.93	15		Pn	11 17 02.1	+0.9
P19K	Oil Pt	3.98	331	Pn	Pn	11 17 03.1	+1.1
P19K				IAML		11 17 51.6	
	comp=N,452nm,0.5s						
PLK3	Peulik 3	4.01	294		Pn	11 17 03.1	+0.7
CNTC	Contact Creek	4.05	303		Pn	11 17 03.4	+0.4
Q17K	Contact Creek	4.05	303	P	Pn	11 17 03.8	+0.8
	baz=118						
O20K	Slope Mountain	4.21	338		Pn	11 17 07.1	+1.9
PLK1	Peulik 1	4.22	295		Pn	11 17 06.0	+0.8
O22K	Copper Landing	4.27	358	Pn	Pn	11 17 06.8	+0.9
O22K				IAML		11 17 59.2	
	comp=E,372nm,0.3s						
P18K	Big Mountain,	4.43	318		Pn	11 17 08.5	+0.3
P18K				IAML		11 18 07.2	
	comp=E,112nm,4.4s						
P18K	Big Mountain,	4.43	318	P	Pn	11 17 08.7	+0.6
	baz=134						
HIN	Hinchinbrook I	4.46	19		Pn	11 17 09.8	+1.3
HIN				IAML		11 18 04.5	
	comp=N,178nm,1.8s						
HIN				IAML		11 20 08.9	
	comp=E,187nm,4.2s						
KAIM	Kayak Island	4.57	34		Pn	11 17 11.3	+1.3
KAIM				IAML		11 19 32.9	
	comp=E,278nm,4.6s						
RSO	Redoubt South	4.59	339	Pn	Pn	11 17 11.3	+0.8
Q16K	King Salmon	4.60	305		Pn	11 17 11.3	+0.9
Q16K	King Salmon	4.60	305	P	Pn	11 17 11.3	+0.9
	baz=120						
CAPN	Captain Cook N	4.64	350	Pn	Pn	11 17 12.9	+1.9
R16K	Pilot Point	4.65	290		Pn	11 17 11.7	+0.6
O19K	Port Alsworth	4.74	329	Pn	Pn	11 17 12.6	+0.3
EYAK	Cordova Ski Ar	4.75	23		Pn	11 17 13.8	+1.3
O18K	Koktuh Hills	4.75	322	Pn	Pn	11 17 13.1	+0.5
O18K				IAML		11 18 09.8	
	comp=N,100nm,0.6s						
P17K	Kvichak River	4.78	311		Pn	11 17 13.7	+0.7
P17K	Kvichak River	4.78	311	P	Pn	11 17 14.1	+1.1
	baz=126						
RC01	Rabbit Creek A	4.88	358	Pn	Pn	11 17 15.0	+0.7
RC01				IAML		11 18 10.6	
	comp=N,110nm,0.3s						
RC01				IAML		11 18 12.6	
	comp=E,158nm,0.4s						
CHGN	Chignik	5.00	275	Pn	Pn	11 17 15.8	-0.1
CHGN				IAML		11 18 12.9	
	comp=N,194nm,0.4s						
CHGN				IAML		11 18 14.4	
	comp=E,159nm,0.3s						
BERG	Berg Lake	5.16	34		Pn	11 17 17.7	-0.4
KNK	Knik Glacier	5.22	5	Pn	Pn	11 17 19.8	+0.7
KNK				IAML		11 18 20.1	
	comp=N,77nm,4.1s						
KNK				IAML		11 18 25.5	
	comp=E,87nm,1.0s						
DIV	Divide	5.28	20		Pn	11 17 20.4	+0.6
SUA	Susitna One	5.29	353	Pn	Pn	11 17 20.8	+0.8
SUA				IAML		11 18 34.6	
	comp=E,83nm,3.3s						
SUA				IAML		11 18 53.1	
	comp=N,75nm,3.4s						
N19K	Bonanza Creek	5.30	332	Pn	Pn	11 17 20.1	0.0
P16K	Nushagak River	5.38	305		Pn	11 17 21.8	+0.6
P16K	Nushagak River	5.38	305	P	Pn	11 17 22.3	+1.1
	baz=118						
PMR	Palmer	5.38	2	Pn	Pn	11 17 22.6	+1.5
BMRM	Bremner River	5.38	26		Pn	11 17 22.5	+1.2
BMRM	Bremner River	5.38	26	P	Pn	11 17 22.9	+1.6
	baz=210						
O17K	Koliganek Bris	5.40	314		Pn	11 17 21.9	+0.5
BARK	Barkley Ridge	5.56	38		Pn	11 17 25.2	+1.4
GHO	Glory Hole Cre	5.57	3	Pn	Pn	11 17 24.8	+1.0
KLU	Klutina	5.59	18	Pn	Pn	11 17 25.5	+1.4
KLU	Klutina	5.59	18	P	Pn	11 17 25.9	+1.9
	baz=200						
N18K	Kilae Creek	5.60	326	Pn	Pn	11 17 24.3	+0.1
SML	Sawmill	5.62	5	Pn	Pn	11 17 25.9	+1.3
M23K	Glacier View	5.65	8		Pn	11 17 26.5	+1.6
O16K	Kokwok River B	5.71	310		Pn	11 17 26.5	+0.9
O16K	Kokwok River B	5.71	310	P	Pn	11 17 26.5	+0.9
	baz=123						
SCM	Sheep Creek Mo	5.73	10	Pn	Pn	11 17 27.2	+1.2
SVW2	Sparrevohn	5.83	329	Pn	Pn	11 17 27.5	+0.1
SKT	Skwentna	5.87	350	Pn	Pn	11 17 29.1	+1.3
VRDI	Verde Repeater	5.90	29		Pn	11 17 29.4	+0.9
N17K	Nushagak Hills	5.92	320	Pn	Pn	11 17 29.1	+0.5
CHNA	Chernabura Isl	5.93	261	P	Pn	11 17 27.6	-1.1
	baz=73						
CNBA	Chernabura Isl	5.93	260	Pn	Pn	11 17 27.4	-1.3
N25K	Chitina, Valde	5.95	23		Pn	11 17 30.1	+1.0
N25K	Chitina, Valde	5.95	23	P	Pn	11 17 31.0	+2.0
	baz=207						
M20K	Styx River	5.98	343	Pn	Pn	11 17 30.1	+0.6
GLB	Gilahina Butte	5.99	27		Pn	11 17 30.7	+1.1
KIAG	Kiagna River	5.99	35		Pn	11 17 31.5	+1.8
SAMH	Samovar Hills	6.02	46		Pn	11 17 32.0	+1.9
M24K	Tolsona, Glenn	6.13	15	Pn	Pn	11 17 33.8	+2.3
PTPK	Patty Peak	6.16	33		Pn	11 17 33.9	+1.8
YKU2	Yakutat	6.17	54	Pn	Pn	11 17 34.3	+2.4
PCA	Pinnacle	6.22	48		Pn	11 17 34.8	+2.1
M18K	Stony River	6.22	331		Pn	11 17 32.7	-0.1
M19K	Big River Lodg	6.23	338	Pn	Pn	11 17 34.4	+1.5
SDPT	Sand Point	6.28	267	Pn	Pn	11 17 33.2	-0.3
O15K	Ungalikthiuk R	6.30	302		Pn	11 17 34.6	+0.9
BARN	Barnard Glacie	6.32	37		Pn	11 17 36.1	+1.9
WASW	Wrangell South	6.33	23		Pn	11 17 36.6	+2.2
CTGM	Chitina Glacie	6.36	38	Pn	Pn	11 17 36.7	+1.9
PNL	Peninsula	6.36	53		Pn	11 17 36.6	+2.0
LOGN	Logan Glacier	6.38	40		Pn	11 17 36.6	+1.5
BCPM	Bancas Point	6.40	50		Pn	11 17 37.4	+2.2
N16K	Nishlik Lake	6.49	315		Pn	11 17 37.0	+0.5
L19K	White Mountain	6.58	337	Pn	Pn	11 17 38.5	+0.8
M17K	Holitna River	6.64	325	Pn	Pn	11 17 38.9	+0.5
N15K	Kwethluk River	6.87	309		Pn	11 17 43.2	+1.6
M16K	Timber Creek	6.91	318		Pn	11 17 42.9	+0.8
DHY	Denali Highway	6.95	8		Pn	11 17 44.0	+1.1
PS1A	Pavlof South-1	6.97	268		Pn	11 17 42.3	-0.8
M26K	Nabesna, AK	7.01	25	Pn	Pn	11 17 46.1	+2.5
O14K	Tigyukauivet M	7.01	300		Pn	11 17 44.1	+0.6
O29M	Mount Kennedy	7.04	50		Pn	11 17 46.4	+2.4
PAX	Paxson	7.05	15		Pn	11 17 46.1	+1.9
P29M	Windy Craggy	7.10	56		Pn	11 17 46.0	+1.1
PN7A	Pavlof North-7	7.12	269		Pn	11 17 45.0	-0.1
RND	Reindeer	7.21	2	Pn	Pn	11 17 47.9	+1.6
TRF	Thorofare Moun	7.26	357	Pn	Pn	11 17 49.0	+2.0
M27K	Edge Creek, AK	7.26	29	Pn	Pn	11 17 49.4	+2.2
MENT	Mentasta	7.33	21	Pn	Pn	11 17 49.8	+1.9
CAST	Castle Rocks	7.33	351	Pn	Pn	11 17 50.0	+2.0
KTH	Kantishna Hill	7.38	355	Pn	Pn	11 17 50.9	+2.2
M15K	Kasigluk River	7.40	312		Pn	11 17 49.7	+0.9
S31K	Pelican	7.41	71	Pn	Pn	11 17 48.2	-0.7
N14K	Kuskokwak Cree	7.47	305		Pn	11 17 50.3	+0.6
L26K	Log Cabin Wild	7.48	22	Pn	Pn	11 17 53.2	+3.2
K20K	Telida	7.52	344	Pn	Pn	11 17 53.2	+2.7
L16K	Owhat River	7.55	321	Pn	Pn	11 17 51.5	+0.7
P30M	Million Dollar	7.67	54		Pn	11 17 55.0	+2.4
HYT	Haines Junctio	7.76	49	Pn	Pn	11 17 56.4	+2.5
SIT	Sitka	7.83	78	Pn	Pn	11 17 53.7	-1.0
L27K	Beaver Creek,	7.86	26	Pn	Pn	11 17 55.1	-0.1
BCAR	Beaver Creek A	7.87	26	Pn	Pn	11 17 56.4	+1.0
RIDG	Independent Ri	7.88	15	Pn	Pn	11 17 55.0	-0.5
K17K	Iditarod	7.91	329	Pn	Pn	11 17 55.5	-0.3
BPAW	Bear Paw Mtn.	7.93	355	Pn	Pn	11 17 57.8	+1.6
M14K	Bethel	7.96	310	Pn	Pn	11 17 58.0	+1.5
BWN	Browne	7.97	360	Pn	Pn	11 17 58.1	+1.4
SKAG	Skagway	8.20	61	Pn	Pn	11 18 01.5	+1.8
SCRK	Sand Creek	8.23	17	Pn	Pn	11 18 02.2	+1.8
ISLZ	Isanotski Laza	8.24	265		Pn	11 17 59.8	-0.7
S32K	Killisnoo	8.25	75	Pn	Pn	11 18 00.5	0.0
ISNN	Isanotski Nort	8.25	266		Pn	11 18 00.3	-0.3
L15K	Ungalak Mounta	8.27	316		Pn	11 18 01.7	+0.9
N30M	Aishikik Lake	8.27	46		Pn	11 18 03.0	+2.1
HDA	Harding Lake	8.30	8	Pn	Pn	11 18 03.5	+2.3
O30N	Mendenhall	8.34	51	Pn	Pn	11 18 04.2	+2.4
R32K	Eaglecrest	8.35	70	Pn	Pn	11 18 02.5	+0.6
M29M	Somme Creek	8.38	37	Pn	Pn	11 18 05.0	+2.6
NEA2	Nenana	8.39	1	Pn	Pn	11 18 04.0	+1.5
SSLS	Shishaldin Sou	8.41	266		Pn	11 18 02.6	-0.2
JIS	Juneau Island	8.42	70	Pn	Pn	11 18 03.7	+0.9
M13K	Dall Lake	8.43	306	Pn	Pn	11 18 04.5	+1.6
CCB	Clear Creek Bu	8.48	5		Pn	11 18 05.0	+1.4
L14K	Kuka Creek	8.56	312		Pn	11 18 06.7	+1.9
K27K	Chicken	8.64	22	Pn	Pn	11 18 07.3	+1.5
IL31		8.66	7	Pn	Pn	11 18 08.6	+2.5
ILAR	Eielson Array	8.66	7	Pn	Pn	11 18 09.4	+3.2
ILAR	Eielson Array	8.66	7	Pn	Pn	11 18 07.3	+1.1
	comp=N,0.6nm,0.3s,baz=191,slow=14,SNR=5.0						
ILAR				Sn	Sn	11 19 39.2	-4.5
	comp=N,0.8nm,0.3s,baz=150,slow=20,SNR=2.8						
	comp=N,1.8nm,0.3s						
K15K	Wolf Creek Mou	8.66	320	Pn	Pn	11 18 07.5	+1.3
MDM	Murphy Dome	8.78	3	Pn	Pn	11 18 09.5	+1.7
J26L	Joseph Creek	8.79	17	Pn	Pn	11 18 10.4	+2.4
N31M	Braeburn, Yuko	8.82	48		Pn	11 18 11.0	+2.7
WHY	Whitehorse	8.83	54	Pn	Pn	11 18 10.8	+2.2
I23K	Minto, Yukon-K	8.95	0	Pn	Pn	11 18 11.6	+1.6
L29M	L29M	8.95	35		Pn	11 18 12.8	+2.6
POKR	Poker Plat Res	8.97	5	Pn	Pn	11 18 13.5	+3.1
P32M	Aitlin	9.02	62	Pn	Pn	11 18 12.8	+1.6
J16K	Anvik River	9.03	326	Pn	Pn	11 18 12.8	+1.6
M30M	Minto, Yukon	9.05	40		Pn	11 18 14.0	+2.5
I21K	Tanana	9.06	353	Pn	Pn	11 18 13.1	+1.4
U33K	Whale Pass	9.11	84	Pn	Pn	11 18 10.8	-1.5
CRAG	Craig	9.22	88	Pn	Pn	11 18 13.2	-0.6
DAWY	Dawson	9.31	28	Pn	Pn	11 18 16.1	+1.0
PRP	Porcupine Dome	9.51	10	Pn	Pn	11 18 19.6	+1.7
H21K	Melozitna Rive	9.60	352	Pn	Pn	11 18 21.0	+2.0
I26K	Coal Creek Min	9.61	16	Pn	Pn	11 18 20.2	+1.2
Q32M	Nakina River	9.62	66	Pn	Pn	11 18 21.3	+1.8
P33M	Teslin, Yukon	9.63	59		Pn	11 18 21.1	+1.6
H24K	Noodor Dome	9.67	4	Pn	Pn	11 18 22.0	+2.0
K29M	Barlow Dome	9.67	33		Pn	11 18 22.6	+2.4
K13K	Kusilvak Mount	9.68	312	Pn	Pn	11 18 22.0	+1.9
J14K	Nanvaranak Lak	9.69	318	Pn	Pn	11 18 21.9	+1.8
M31M	Drury Creek, Y	9.75	46	Pn	Pn	11 18 23.8	+2.7
J29N	Klondike Camp	9.93	29	Pn	Pn	11 18 25.3	+1.7
IMAR	Indian Mountai	10.00	350	Pn	Pn	11 18 25.2	+0.7
H17K	Granite Mounta	10.12	334	Pn	Pn	11 18 27.4	+1.3
FARO	Faro, Yukon	10.19	47	Pn	Pn	11 18 28.9	+1.8
I28M	Miner Creek	10.33	23	Pn	Pn	11 18 32.2	+3.1
R33M	Jennings River	10.35	65	Pn	Pn	11 18 32.1	+2.7
G21K	Allakaket	10.50	351	Pn	Pn	11 18 32.9	+1.6
G23K	Bananza Creek	10.52	359	Pn	Pn	11 18 33.1	+1.4
G24K	Hadweenzic Riv	10.55	4	Pn	Pn	11 18 34.0	+2.0
FYU	Fort Yukon	10.56	9	Pn	Pn	11 18 33.8	+1.7
J30M	Hart River	10.56	32	Pn	Pn	11 18 35.2	+2.8
T35M	Bob Quinn	10.61	78	Pn	Pn	11 18 34.5	+1.6
G18K	Tagagawik	10.66	339	Pn	Pn	11 18 36.0	+2.5
DLBC	Dease Lake	10.72	70	Pn	Pn	11 18 35.8	+1.3
	comp=N,0.5nm,0.3s,baz=209,slow=13,SNR=2.3						
DLBC				Sn	Sn	11 20 30.2	-4.2
	comp=N,0.5nm,0.3s,baz=288,slow=21,SNR=2.1						
	comp=N,1.6nm,0.4s						
I30M	Mount Dempster	11.03	30	Pn	Pn	11 18 41.2	+2.5
G16K	Koyuk River	11.12	331	Pn	Pn	11 18 40.6	+1.0
F20K	Avaraart Lake	11.25	347	Pn	Pn	11 18 42.8	+1.3
H29M	Whitestone	11.33	23	Pn	Pn	11 18 44.6	+1.9
F19K	Shaleruckik Mo	11.34	343	Pn	Pn	11 18 44.0	+1.2
HG4B	Hotspring	11.37	103	Pn	Pn	11 18 44.2	+1.0
ANM	Nome	11.45	323	Pn	Pn	11 18 44.8	+0.5
BMAR	Burnt Mountain	11.47	9	Pn	Pn	11 18 46.2	+1.6
G29M	Pine Creek	11.99	22	Pn	Pn	11 18 53.4	+1.7
F15K	North Star Dit	11.99	329	Pn	Pn	11 18 51.9	+0.1
E25K	Arctic Village	12.07	7	Pn	Pn	11 18 53.0	+0.2
G31M	Satah River	12.88	28	Pn	Pn	11 19 05.2	+1.4
D19K	Kuna River	12.93	346	Pn	Pn	11 19 05.3	+0.5
BBB	Bella Bella	13.11	99	Sn	Sn	11 21 24.6	-8.1
	comp=N,0.2nm,0.3s,baz=338,slow=16,SNR=1.5	

J08A	Circle Bar Ran	23.55	110	P		P	11 21 12.2	+0.9
PAHR	Pah Rah Range	25.75	117	P		P	11 21 31.6	0.0
PNTR	Pine Nut	26.12	118	P		P	11 21 35.7	+0.6
NVAR	Mina Array Bea	27.27	118	P		P	11 21 45.2	-0.2
	comp=Z,0.9nm,0.7s,baz=311,slow=9.6,SNR=8.4 comp=Z,0.9nm,0.7s							
R11B	Troy Canyon, C	28.70	114	P		P	11 21 58.8	+0.6
PD31	Pinedale Array	28.75	101	P		P	11 21 58.5	-0.1
PDAR	Pinedale Array	28.75	101	P		P	11 21 58.1	-0.5
PDAR	Pinedale Array	28.75	101	P		P	11 21 58.3	-0.3
	comp=Z,0.4nm,0.6s,baz=321,slow=3.7,SNR=5.8 comp=Z,0.4nm,0.6s							
PETK	Petropavlovsk-	30.10	287	P		P	11 22 07.1	-3.2
	comp=Z,3.6nm,1.0s,baz=77,slow=11,SNR=6.1 comp=Z,3.6nm,1.0s							
O20A	White River Ci	31.27	103	P		P	11 22 21.3	+0.3
TXAR	Lajitas Array	41.89	110	P		P	11 23 51.5	+0.1
TXAR	Lajitas Array	41.89	110	P		P	11 23 50.7	-0.7
	comp=Z,0.6nm,0.8s,baz=310,slow=5.9,SNR=5.2 comp=Z,0.6nm,0.8s							
SONM	Songino Array	58.60	310	P		P	11 25 57.7	-0.1
	comp=Z,0.5nm,0.4s,baz=52,slow=9.7,SNR=4.9 comp=Z,0.5nm,0.4s							
ZALV	Zalesovo Beam	61.55	327	P		P	11 26 17.4	-0.3
	comp=Z,1.1nm,0.5s,baz=31,slow=6.4,SNR=6.0 comp=Z,1.1nm,0.5s							
KURBB	Kurchatov Arra	66.34	329	P		P	11 26 48.6	-0.7
	comp=Z,0.4nm,0.3s,baz=32,slow=6.6,SNR=4.2 comp=Z,0.4nm,0.3s							
MK31	Makanchi Array	68.58	325	P		P	11 27 02.7	-0.8
MK31				IAmb		IAmb	11 27 03.6	
	comp=Z,2.0nm,1.1s							
MKAR	Makanchi Array	68.58	325	P		P	11 27 03.2	-0.4
MKAR	Makanchi Array	68.58	325	P		P	11 27 02.8	-0.8
	comp=Z,0.5nm,0.5s,baz=27,slow=5.7,SNR=7.0 comp=Z,0.5nm,0.5s							
KK31	Karatay Array	75.44	331	P		P	11 27 44.3	-0.4
KK31				IAmb		IAmb	11 27 52.7	
	comp=Z,1.9nm,1.1s							
KKAR	Karatay Array	75.44	331	P		P	11 27 44.4	-0.3

*IDC **23** 11:18:18.9±1.6,56°47N×148°80W,h0km,mb3.6/5, mbtmp3.5/8,ML2.9/2,Error ellipse: s-maj=36.1km s-min=29.1km az=26.0*
*NEIC **23** 11:18:20.8±1.9,56°5N±0°1×148°8W±0°1,h20km±10km, mb3.4/2,ML3.4(AEIC),Error ellipse: s-maj=19.8km s-min=7.9km az=156.0*
*AEIC **23** 11:18:24.3±2.4,56°37N±0°10×148°9W±0°1,h10km±8km, Error ellipse: s-maj=14.9km s-min=9.9km az=149.0*

ISC 23 11:18:20.8±1.2,56°6N±0°1×148°81W±0°06,h10km,n37, σ0§92/38,mb3.9/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.37	302	Pn	Pn	11 18 58.7	-1.0
KDAK	Kodiak Island	2.37	302	Pn	Pn	11 18 59.1	-0.5
	1.8nm,0.3s,baz=143,slow=20,SNR=1.1						
KDAK				Sn	Sn	11 19 27.9	-0.9
	6.1nm,0.3s,baz=287,slow=20,SNR=2.0 28nm,0.6s						
OHAK	Old Harbor	2.53	286	Pn	Pn	11 19 00.7	-1.1
SYI	Shuyak Island	2.79	318	Pn	Pn	11 19 05.3	-0.1
MID	Middleton Isla	3.13	24	Pn	Pn	11 19 08.5	-1.5
Q23K	Middleton Isla	3.13	24	Pn	Pn	11 19 08.5	-1.6
O22K	Cooper Landing	3.93	353	Pn	Pn	11 19 21.2	+0.2
HIN	Hinchinbrook I	4.00	17	Pn	Pn	11 19 21.2	-0.8
KAIM	Kayak Island	4.07	33	Pn	Pn	11 19 22.8	-0.1
FID	Port Fidalgo	4.34	15	Pn	Pn	11 19 26.3	-0.5
RAGM	Ragged Mountai	4.38	28	Pn	Pn	11 19 26.1	-1.2
RC01	Rabbit Creek A	4.53	354	Pn	Pn	11 19 30.3	+1.0
BERG	Berg Lake	4.66	33	Pn	Pn	11 19 30.7	-0.4
SNH	Sunshine Point	4.77	39	Pn	Pn	11 19 33.1	+0.4
PMR	Palmer	5.01	358	Pn	Pn	11 19 36.5	+0.6
KLU	Klutina	5.13	16	Pn	Pn	11 19 37.9	+0.3
GHO	Glory Hole Cre	5.19	359	Pn	Pn	11 19 38.8	+0.3
CHGN	Chignik	5.34	271	Pn	Pn	11 19 39.9	-0.5
N25K	Chitina, Valde	5.47	22	Pn	Pn	11 19 41.5	-0.9
GLB	Gilahina Butte	5.50	26	Pn	Pn	11 19 41.4	-1.4
M24K	Tolsona, Glenn	5.69	13	Pn	Pn	11 19 45.9	+0.6
O16K	Kokwok River B	5.77	305	Pn	Pn	11 19 46.6	+0.3
BARN	Barnard Glacie	5.81	37	Pn	Pn	11 19 46.1	-1.1
CTGM	Chitina Glacie	5.86	38	Pn	Pn	11 19 46.8	-0.8
LOGN	Logan Glacier	5.88	41	Pn	Pn	11 19 47.9	-0.1
BCPM	Bancas Point	5.90	51	Pn	Pn	11 19 46.7	-1.4
ILAR	Eielson Array	8.26	6	Pn	Pn	11 20 18.3	-2.1
	0.6nm,0.5s,baz=187,slow=13,SNR=0.9						
C36M	Paulatuk	16.84	31		Pn	11 22 16.7	+0.5
C36M				IAmb	IAmb	11 22 24.9	
	comp=Z,0.8nm,0.8s						
YKA	Yellowknife Ar	18.15	57	P	P	11 22 33.3	+0.4
YKA	Yellowknife Ar	18.15	57	P	Pn	11 22 32.9	+0.3
	comp=Z,0.1nm,0.3s,baz=265,slow=11,SNR=6.0 comp=Z,1.3nm,0.8s						
A36M	Sachs Harbour	18.29	23	P	Pn	11 22 33.5	-0.7
A36M				IAmb	IAmb	11 22 44.2	
	comp=Z,7.3nm,0.8s						
SONM	Songino Array	58.64	310	P	P	11 28 18.8	+0.9
	comp=Z,1.1nm,0.8s,baz=40,slow=7.9,SNR=4.7 comp=Z,1.1nm,0.8s						
ZALV	Zalesovo Beam	61.44	327	P	P	11 28 37.5	+0.7
	comp=Z,0.5nm,0.6s,baz=11,slow=1.5,SNR=2.4 comp=Z,0.5nm,0.6s						
BVAR	Borovoye Array	66.11	335	P	P	11 29 08.7	+1.1
	comp=Z,0.4nm,0.4s,baz=21,slow=6.2,SNR=3.6 comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	66.20	329	P	P	11 29 08.1	-0.1
	comp=Z,0.2nm,0.7s,baz=31,slow=6.6,SNR=1.5 comp=Z,0.2nm,0.7s						
MKAR	Makanchi Array	68.49	325	P	P	11 29 21.4	-1.4
	comp=Z,0.2nm,0.6s,baz=37,slow=3.6,SNR=2.4 comp=Z,0.2nm,0.6s						
QSPA	South Pole Qui	146.39	180	PKPbc	PKPdf	11 37 59.1	+0.2
	comp=Z,1.2nm,0.4s,baz=84,slow=2.2,SNR=5.1						

*IDC **23** 11:19:43.6±0.9,56°07N×150°16W,h0km,mb3.9/16, mbtmp3.9/20,ML3.5/4,Error ellipse: s-maj=26.5km s-min=13.3km az=26.0*
*NEIC **23** 11:19:46.0±1.9,56°02N±0°08×150°15W±0°10,h20km±6km, mb4.3/7,ML4.0/44,ML3.8(AEIC),Error ellipse: s-maj=12.0km s-min=8.1km az=176.0*
*AEIC **23** 11:19:48.9±1.7,56°06N±0°08×150°10W±0°10,h6km±5km, Error ellipse: s-maj=11.2km s-min=7.8km az=182.0*

ISC 23 11:19:45.2±0.6,56°11N±0°07×150°17W±0°05,h10km, n253,σ1§06/260,mb4.1/21,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.05	304	Pn	Pn	11 20 19.2	-0.5
OHAK				Sn	Sn	11 20 43.1	-2.1
OHAK	Old Harbor	2.05	304	P	Pn	11 20 19.6	-0.1
	baz=122						
OHAK				S	Sn	11 20 43.3	-2.0
	baz=122						
KDAK	Kodiak Island	2.14	323	Pn	Pn	11 20 21.1	+0.2
KDAK				Sn	Sn	11 20 47.0	-0.4
KDAK	Kodiak Island	2.14	323	Pn	Pn	11 20 20.7	-0.1
	19nm,0.3s,baz=176,slow=8.4,SNR=6.4						
KDAK				Sn	Sn	11 20 46.6	-0.8
	9.1nm,0.3s,baz=292,slow=15,SNR=6.0 115nm,0.6s						
SYI	Shuyak Island	2.78	335	Pn	Pn	11 20 30.5	+0.8
Q20K	Shuyak Island	2.79	335	P	Pn	11 20 30.1	+0.4
	baz=153						
Q20K				S	Sn	11 21 02.6	-0.7
	baz=153						
Q19K	Cape Douglas,	3.39	328	Pn	Pn	11 20 39.7	+1.5
Q19K	Cape Douglas,	3.39	328	P	Pn	11 20 38.8	+0.7
	baz=145						
CNPM	China Poot	3.48	351	Pn	Pn	11 20 39.5	+0.2
CNPM				IAML		11 21 22.5	
	comp=E,276nm,0.8s						
CNPM				IAML		11 21 22.8	
	comp=N,210nm,0.5s						
ACHA	Angle Creek He	3.51	309		Pn	11 20 40.2	+0.4
ANCK	Angle Creek	3.58	308		Pn	11 20 41.1	+0.4
KVTA	Katmai Vly 10	3.60	311		Pn	11 20 41.3	+0.4
HOM	Homer	3.65	348	Pn	Pn	11 20 42.2	+0.6
HOM				IAML		11 21 30.0	
	comp=E,364nm,0.8s						
HOM	Homer	3.65	348	P	Pn	11 20 41.8	+0.2
	baz=166						
BRSE	Bradley Lake S	3.66	355		Pn	11 20 41.3	-0.5
BRSE					Sn	11 21 23.8	-1.1
BRSE	Bradley Lake S	3.66	355	P	Pn	11 20 41.3	-0.5
	baz=174						
BRSE				S	Sn	11 21 23.8	-1.1
	baz=174						
BRLK	Bradley Lake	3.69	354	Pn	Pn	11 20 42.0	-0.1
BRLK				IAML		11 21 28.2	
	comp=N,128nm,1.0s						
BRLK				IAML		11 21 28.4	
	comp=E,201nm,0.9s						
CNTC	Contact Creek	3.79	307		Pn	11 20 43.7	+0.1
Q17K	Contact Creek	3.79	307	P	Pn	11 20 43.7	+0.1
	baz=123						
Q23K	Middleton Isla	3.91	30	Pn	Pn	11 20 45.1	-0.1
Q23K				IAML		11 21 29.7	
	comp=E,152nm,1.1s						
Q23K	Middleton Isla	3.91	30	P	Pn	11 20 44.7	-0.4
	baz=212						
MID	Middleton Isla	3.91	30	Pn	Pn	11 20 45.0	-0.2
MID				IAML		11 21 30.4	
	comp=E,149nm,1.1s						
MID				IAML		11 21 32.8	
	comp=N,101nm,0.9s						
PLK1	Peulik 1	3.91	298		Pn	11 20 45.4	+0.2
P19K	Oil Pt	3.91	337	Pn	Pn	11 20 46.7	+1.4
P19K				IAML		11 21 36.1	
	comp=E,334nm,0.6s						
SEW	Seward	4.03	5		Pn	11 20 45.3	-1.5
SEW	Seward	4.03	5	P	Pn	11 20 46.3	-0.5
	baz=185						
P23K	Montague Islan	4.17	19		Pn	11 20 48.4	-0.4
P23K	Montague Islan	4.17	19	P	Pn	11 20 48.4	-0.4
	baz=201						
P18K	Big Mountain,	4.27	323	Pn	Pn	11 20 50.7	+0.6
P18K	Big Mountain,	4.27	323	P	Pn	11 20 50.4	+0.2
	baz=138						
O22K	Cooper Landing	4.39	3	Pn	Pn	11 20 52.5	+0.7
P17K	Kvichak River	4.58	315		Pn	11 20 54.5	+0.2
P17K	Kvichak River	4.58	315	P	Pn	11 20 54.5	+0.2
	baz=130						
RSO	Redoubt South	4.58	344	Pn	Pn	11 20 55.9	+1.3
CHGN	Chignik	4.61	276	Pn	Pn	11 20 54.5	-0.2
CHGN				IAML		11 21 54.1	
	comp=E,98nm,0.6s						
CHGN				IAML		11 21 55.2	
	comp=N,142nm,0.8s						
O18K	Koktuh Hills	4.62	327	Pn	Pn	11 20 55.4	+0.5
O18K				IAML		11 21 54.3	
	comp=E,63nm,0.9s						
O18K				IAML		11 21 54.7	
	comp=N,77nm,0.8s						
O19K	Port Alsworth	4.65	334	Pn	Pn	11 20 56.9	+1.5
O19K				IAML		11 22 01.1	
	comp=N,170nm,0.5s						
CAPN	Captain Cook N	4.71	354	Pn	Pn	11 20 57.4	+1.3
HIN	Hinchinbrook I	4.72	23	Pn	Pn	11 20 56.3	-0.1
HIN				IAML		11 21 50.6	
	comp=N,194nm,0.8s						
KAIM	Kayak Island	4.90	36	Pn	Pn	11 20 59.2	+0.4
KAIM				IAML		11 22 01.6	
	comp=N,150nm,0.9s						
KAIM				IAML		11 24 11.6	
	comp=E,135nm,0.7s						
KAIM	Kayak Island	4.90	36	P	Pn	11 20 58.3	-0.5
	baz=220						
RC01	Rabbit Creek A	5.00	2	Pn	Pn	11 21 00.7	+0.5
RC01				IAML		11 22 01.6	
	comp=E,84nm,0.7s						
RC01				IAML		11 22 04.6	
	comp=N,83nm,0.6s						
EYAK	Cordova Ski Ar	5.03	26		Pn	11 21 01.0	+0.5
EYAK	Cordova Ski Ar	5.03	26	P	Pn	11 21 00.4	-0.1
	baz=209						
FID	Port Fidalgo	5.04	21	Pn	Pn	11 21 00.7	-0.1
FID				IAML		11 21 55.5	
	comp=E,160nm,0.7s						
FID				IAML		11 21 55.8	
	comp=N,91nm,0.9s						
P16K	Nushagak River	5.13	308		Pn	11 21 02.2	+0.3
P16K	Nushagak River	5.13	308	P	Pn	11 21 02.2	+0.3
	baz=122						
RAGM	Ragged Mountai	5.18	32	Pn	Pn	11 21 03.3	+0.6
RAGM				IAML		11 22 19.4	
	comp=E,106nm,0.9s						
N19K	Bonanza Creek	5.24	336	Pn	Pn	11 21 03.3	-0.2
SUA	Susitna One	5.38	357	Pn	Pn	11 21 05.0	-0.5
KNK	Knik Glacier	5.40	9	Pn	Pn	11 21 05.8	+0.1
N18K	Kilae Creek	5.48	329	Pn	Pn	11 21 06.7	-0.2
O16K	Kokwok River B	5.49	313	Pn	Pn	11 21 07.0	+0.2
O16K	Kokwok River B	5.49	313	P	Pn	11 21 07.0	+0.2
	baz=126						
BERG	Berg Lake	5.49	36		Pn	11 21 06.7	-0.2
CNBA	Chernabura Isl	5.51	260	Pn	Pn	11 21 05.1	-2.0
PMR	Palmer	5.53	5	Pn	Pn	11 21 07.6	+0.2
SNH	Sunshine Point	5.63	41	Pn	Pn	11 21 09.3	+0.4
BMRM	Bremner River	5.68	29		Pn	11 21 09.0	-0.5
BMRM	Bremner River	5.68	29	P	Pn	11 21 09.3	-0.2
	baz=23						
GHO	Glory Hole Cre	5.72	6	Pn	Pn	11 21 11.1	+1.0
SVW2	Sparrevohn	5.75	333	Pn	Pn	11 21 11.4	+1.0
N17K	Nushagak Hills	5.77	323	Pn	Pn	11 21 11.5	+0.7
SML	Sawmill	5.80	9	Pn	Pn	11 21 11.9	+0.8
KLU	Klutina	5.83	20	Pn	Pn	11 21 13.0	+1.3
SDPT	Sand Point	5.87	267	Pn	Pn	11 21 11.4	-0.7
BARK	Barkley Ridge	5.91	40		Pn	11 21 12.7	-0.1
SCM	Sheep Creek Mo	5.93	13	Pn	Pn	11 21 14.4	+1.4
SKT	Skwentna	5.93	354	Pn	Pn	11 21 11.7	-1.4
M20K	Styx River	5.99	346	Pn	Pn	11 21 14.1	+0.2
O15K	Ungalikthiuk R	6.03	305		Pn	11 21 14.6	+0.3
O15K	Ungalikthiuk R	6.03	305	P	Pn	11 21 14.6	+0.3
	baz=117						
M19K	Big River Lodg	6.21	341	Pn	Pn	11 21 18.2	+1.5
VRDI	Vee Repeater	6.22	32	Pn	Pn	11 21 17.3	+0.3
N25K	Chitina, Valde	6.23	25	Pn	Pn	11 21 18.2	+1.1
GLB	Gilahina Butte	6.29	29	Pn	Pn	11 21 18.3	+0.4
CUT	Chulitna	6.32	360	Pn	Pn	11 21 20.4	+2.1
KIAG	Kiagna River	6.33	37		Pn	11 21 17.8	-0.7
M24K	Tolsona, Glenn	6.36	17	Pn	Pn	11 21 20.0	+1.1
M17K	Holitna River	6.52	328		Pn	11 21 21.5	+0.5
L19K	White Mountain	6.55	340	Pn	Pn	11 21 21.3	-0.2
PCA	Pinnacle	6.60	49		Pn	11 21 22.2	0.0
PINM	Pinnacle	6.60	49	P	Pn	11 21 22.2	0.0
	baz=236						
N15K	Kwethluk River	6.64	312		Pn	11 21 23.8	+1.1
BARN	Barnard Glacie	6.67	38	Pn	Pn	11 21 23.6	+0.4
CTG	Chitna Glacier	6.71	40	P	Pn	11 21 23.6	-0.2
	baz=227						
CTGM	Chitina Glacie	6.71	40	Pn	Pn	11 21 23.4	-0.4
O14K	Tigyukauivet M	6.73	303	Pn	Pn	11 21 24.7	+0.8
M16K	Timber Creek	6.74	321		Pn	11 21 25.2	+1.2
LOGN	Logan Glacier	6.74	42	Pn	Pn	11 21 24.4	+0.1
PNL	Peninsula	6.76	54		Pn	11 21 24.1	-0.3
PNL	Peninsula	6.76	54	P	Pn	11 21 24.1	-0.3
	baz=242						
BCPM	Bancas Point	6.79	51	Pn	Pn	11 21 25.1	+0.3
L18K	Granite Mounta	6.98	334	Pn	Pn	11 21 27.8	+0.4
DHY	Denali Highway	7.13	10	Pn	Pn	11 21 30.0	+0.4
M15K	Kasigluk River	7.19	314		Pn	11 21 31.1	+1.0
M15K	Kasigluk River	7.19	314	P	Pn	11 21 31.1	+1.0
	baz=125						
N14K	Kuskokwak Cree	7.21	307		Pn	11 21 31.1	+0.6
N14K	Kuskokwak Cree	7.21	307	P	Pn	11 21 31.1	+0.6
	baz=117						
M26K	Nabesna, AK	7.30	27	Pn	Pn	11 21 33.1	+1.3
RND	Reindeer	7.35	5	Pn	Pn	11 21 34.8	+2.3
L16K	Owhat River	7.40	323	Pn	Pn	11 21 33.9	+0.9
CAST	Castle Rocks	7.40	353	Pn	Pn	11 21 33.7	+0.6
O29M	Mount Kennedy	7.43	51	Pn	Pn	11 21 34.8	+1.2
O29M	Mount Kennedy	7.43	51	P	Pn	11 21 32.7	-0.9
	baz=240						
TTA	Tatalina	7.46	339	Pn	Pn	11 21 34.6	+0.6
P29M	Windy Craggy	7.51	57	Pn	Pn	11 21 34.9	+0.2
P29M	Windy Craggy	7.51	57	P	Pn	11 21 33.4	-1.2
	baz=247						
K20K	Telida	7.54	346	Pn	Pn	11 21 36.2	+1.2
M27K	Edge Creek, AK	7.57	31	Pn	Pn	11 21 37.1	+1.6
MENT	Mentasta	7.59	23	Pn	Pn	11 21 36.7	+1.0
M14K	Bethel	7.74	312	Pn	Pn	11 21 38.7	+1.0
L26K	Log Cabin Wild	7.75	24		Pn	11 21 36.9	-1.1
K17K	Iditarod	7.81	331	Pn	Pn	11 21 39.5	+0.7
S31K	Pelican	7.83	70	Pn	Pn	11 21 37.3	-1.7
S31K	Pelican	7.83	70	P	Pn	11 21 37.0	-2.0
	baz=262						
BPAW	Bear Paw Mtn.	8.03	357	Pn	Pn	11 21 44.0	+2.2
J18K	Innoko River	8.08	339	Pn	Pn	11 21 42.5	+0.1
BWN	Browne	8.10	2	Pn	Pn	11 21 43.3	+0.7
RIDG	Independent Ri	8.11	17	Pn	Pn	11 21 42.9	+0.1
HYT	Haines Junctio	8.15	49	Pn	Pn	11 21 45.0	+1.5
L27K	Beaver Creek,	8.15	28	Pn	Pn	11 21 44.6	+1.2
BCAR	Beaver Creek A	8.17	28	Pn	Pn	11 21 44.7	+1.1
M13K	Dall Lake	8.18	307		Pn	11 21 44.8	+1.1
SIT	Sitka	8.25	77	Pn	Pn	11 21 44.9	+0.1
J20K	Nowinta River	8.34	348	Pn	Pn	11 21 46.6	+0.7
L14K	Kuka Creek	8.36	314	Pn	Pn	11 21 47.2	+1.1
J19K	Poorman	8.37	343	Pn	Pn	11 21 46.4	0.0
WRH	Wood River Hil	8.46	6	Pn	Pn	11 21 47.6	+0.1
SCRK	Sand Creek	8.48	19	Pn	Pn	11 21 48.9	+0.9
HDA	Harding Lake	8.48	10	Pn	Pn	11 21 48.1	+0.2
K15K	Wolf Creek Mou	8.50	321	Pn	Pn	11 21 49.4	+1.2
NEA2	Nenana	8.53	3	Pn	Pn	11 21 47.9	-0.8
SKAG	Skagway	8.61	61	Pn	Pn	11 21 49.6	-0.1
CCB	Clear Creek Bu	8.65	7	Pn	Pn	11 21 49.4	-0.8
N30M	Aishikik Lake	8.65	46	Pn	Pn	11 21 49.6	-0.6
M29M	Somme Creek	8.72	38	Pn	Pn	11 21 50.9	-0.4
R32K	Eaglecrest	8.77	69	Pn	Pn	11 21 51.2	-0.7
IL31		8.84	9	Pn	Pn	11 21 51.7	-1.1
ILAR	Eielson Array	8.84	9	Pn	Pn	11 21 51.0	-1.9
ILAR	Eielson Array	8.84	9	Pn	Pn	11 21 52.7	-0.1
	comp=E,0.3nm,0.3s,baz=350,slow=27,SNR=5.4						
ILAR				Sn	Sn	11 23 28.0	-4.4
	comp=E,0.7nm,0.3s,baz=198,slow=21,SNR=5.8						
IL03	Eielson Array	8.85	9	Pn	Pn	11 21 51.0	-1.9
J25K	Salcha River,	8.86	14	Pn	Pn	11 21 52.8	-0.3
COLA	College	8.87	6	Pn	Pn	11 21 53.7	+0.5
K27K	Chicken	8.91	24	Pn	Pn	11 21 52.8	-1.0
J16K	Anvik River	8.91	328	Pn	Pn	11 21 52.1	-1.6
MDM	Murphy Dome	8.93	5	Pn	Pn	11 21 53.6	-0.5
J26L	Joseph Creek	9.03	18	Pn	Pn	11 21 54.6	-0.9
I23K	Minto, Yukon-K	9.08	2	Pn	Pn	11 21 55.4	-0.7
POKR	Poker Plat Res	9.14	7	Pn	Pn	11 21 57.5	+0.6
I21K	Tanana	9.15	355	Pn	Pn	11 21 56.3	-0.7
N31M	Braeburn, Yuko	9.20	48	Pn	Pn	11 21 57.3	-0.5
WHY	Whitehorse	9.23	54	Pn	Pn	11 21 57.5	-0.7
L29M	L29M	9.29	36	Pn	Pn	11 21 59.8	+0.8
I17K	Unalakleet	9.40	330	Pn	Pn	11 22 01.4	+0.9
M30M	Minto, Yukon	9.41	41	Pn	Pn	11 22 00.8	+0.2
P32M	Atlin	9.44	62	Pn	Pn	11 22 00.4	-0.7
K13K	Kusilvak Mount	9.47	314	Pn	Pn	11 22 03.1	+1.8
J14K	Nanvaranak Lak	9.52	320	Pn	Pn	11 22 02.0	0.0
DAWY	Dawson	9.61	30	Pn	Pn	11 22 03.5	+0.1
H21K	Melozitna Rive	9.67	353	Pn	Pn	11 22 04.9	+0.8
PRP	Porcupine Dome	9.71	12	Pn	Pn	11 22 04.9	+0.1
EGAK	Eagle	9.76	23	Pn	Pn	11 22 05.5	+0.1
H24K	Noodor Dome	9.83	6	Pn	Pn	11 22 06.4	0.0
I26K	Coal Creek Min	9.84	17	Pn	Pn	11 22 07.2	+0.7
H18K	Honhosa River	9.92	340	Pn	Pn	11 22 09.4	+1.8
WRAK	Wrangell Islan	9.92	81	Pn	Pn	11 22 06.3	-1.4
K29M	Barlow Dome	10.00	34	Pn	Pn	11 22 08.6	-0.2
P33M	Teslin, Yukon	10.04	59	Pn	Pn	11 22 09.3	0.0
IMAR	Indian Mountai	10.06	352	Pn	Pn	11 22 12.1	+2.5
H17K	Granite Mounta	10.06	336		Pn	11 22 11.8	+2.3
M31M	Drury Creek, Y	10.13	46	Pn	Pn	11 22 12.4	+1.9
N32M	Quiet Lake	10.23	53	Pn	Pn	11 22 13.0	+1.1
J29N	Klondike Camp	10.24	30	Pn	Pn	11 22 12.9	+0.9
MAYO	Mayo, Yukon	10.37	38	Pn	Pn	11 22 14.4	+0.7
S34M	Telegraph Cree	10.54	72	Pn	Pn	11 22 17.2	+1.2
G21K	Allakaket	10.57	353	Pn	Pn	11 22 19.0	+2.6
FARO	Faro, Yukon	10.57	48	Pn	Pn	11 22 17.1	+0.6
G19K	Purcell Mounta	10.60	345	Pn	Pn	11 22 18.8	+1.9
I28M	Miner Creek	10.61	24	Pn	Pn	11 22 18.5	+1.5
G18K	Tagagawik	10.64	341	Pn	Pn	11 22 18.7	+1.3
G23K	Bananza Creek	10.64	0	Pn	Pn	11 22 18.7	+1.2
G24K	Hadweenzic Riv	10.71	6	Pn	Pn	11 22 20.2	+1.9
FYU	Fort Yukon	10.76	11	Pn	Pn	11 22 20.7	+1.7
R33M	Jennings River	10.77	64	Pn	Pn	11 22 19.2	-0.1
J30M	Hart River	10.89	33	Pn	Pn	11 22 22.0	+1.1
T35M	Bob Quinn	11.03	77	Pn	Pn	11 22 22.7	-0.1
G16K	Koyuk River	11.03	333	Pn	Pn	11 22 23.9	+1.1
DLBC	Dease Lake	11.14	70	Pn	Pn	11 22 23.7	-0.8
DLBC	Dease Lake	11.14	70	Pn	Pn	11 22 23.9	-0.6
	comp=E,0.2nm,0.3s,baz=212,slow=9.5,SNR=1.2 comp=E,1.0nm,0.4s						
F21K	Alatna River	11.26	353	Pn	Pn	11 22 28.3	+2.3
F20K	Avaraart Lake	11.29	349	Pn	Pn	11 22 27.1	+0.8
ANM	Nome	11.31	325	Pn	Pn	11 22 27.7	+1.1
I30M

FINES	FINESS Array B	62.75	2	P		P	11 30 07.0	-2.9
BVAR	Borovoye Array	66.23	335	P		P	11 30 33.2	+0.4
	comp=Z,1.1nm,0.6s,baz=49,slow=9.7,SNR=5.2							
	comp=Z,1.1nm,0.6s							
KURBB	Kurchatov Arra	66.23	328	P		P	11 30 33.1	+0.4
	comp=Z,0.9nm,0.7s,baz=29,slow=6.4,SNR=7.8							
	comp=Z,0.9nm,0.7s							
MK31	Makanchi Array	68.45	324	P		P	11 30 47.6	+0.7
MKAR	Makanchi Array	68.45	324	P		P	11 30 46.9	-0.1
MKAR	Makanchi Array	68.45	324	P		P	11 30 47.4	+0.4
	comp=Z,1.6nm,0.8s,baz=45,slow=5.7,SNR=9.4							
	comp=Z,1.6nm,0.8s							
MAKZ	Makanchi	68.54	324	P		P	11 30 48.0	+0.5
MAKZ				IAmb		IAmb	11 30 48.8	
	comp=Z,2.2nm,0.9s							
ABKAR	Akbulak array	72.05	340	P		P	11 31 09.7	+0.8
AKASG	Malin Array Be	73.56	0	P		P	11 31 18.0	+0.2
	comp=Z,0.2nm,0.3s,baz=359,slow=6.1,SNR=4.0							
	comp=Z,0.2nm,0.3s							
GERES	GERESS Array B	74.55	11	P		P	11 31 24.4	+0.6
	comp=Z,0.5nm,0.6s,baz=352,slow=6.0,SNR=2.3							
	comp=Z,0.5nm,0.6s							
KK31	Karatay Array	75.36	330	P		P	11 31 29.1	+0.7
KK31				IAmb		IAmb	11 31 31.2	
	comp=Z,4.3nm,1.4s							
KKAR	Karatay Array	75.36	330	P		P	11 31 29.0	+0.6
ESDC	Sonseca Array	80.36	26	P		P	11 31 57.0	+0.6
	comp=Z,1.0nm,0.7s,baz=333,slow=6.4,SNR=5.8							
	comp=Z,1.0nm,0.7s							
QSPA	South Pole Qui	145.90	180	PKPbc		PKPdf	11 39 22.1	-0.4
	comp=Z,0.9nm,0.5s,baz=110,slow=1.7,SNR=1.5							

*NEIC **23** 11:22:19.1±1.2,56.00N±0.09×150.2W±0.1,h10km±2km, ML3.7/30,ML3.5(AEIC),Error ellipse: s-maj=16.0km s-min=10.3km az=180.0*
*AEIC **23** 11:22:23.4±1.5,56.0N±0.1×150.1W±0.1,h10km±8km, Error ellipse: s-maj=18.3km s-min=9.9km az=173.0*
ISC 23 11:22:18.1±2.4,56.0N±0.1×150.0W±0.07,h10km,n65,
σ0.98/61,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	Old Harbor	2.12	308			Pn	11 22 53.8	+0.2
OHAK	Old Harbor	2.12	308			Sn	11 23 18.8	-1.1
OHAK	Old Harbor	2.12	308	P		Pn	11 22 54.2	+0.7
	baz=125							
OHAK				S		Sn	11 23 18.8	-1.1
	baz=125							
KDAK	Kodiak Island	2.24	325			Pn	11 22 55.9	+0.7
KDAK	Kodiak Island	2.24	325			Sn	11 23 22.3	-0.5
SYI	Shuyak Island	2.90	337			Pn	11 23 05.0	+0.7
SYI	Shuyak Island	2.90	337			Sn	11 23 37.9	-1.3
SYI	Shuyak Island	2.90	337	IAML			11 24 31.5	
	comp=E,132nm,1.1s							
SYI				IAML			11 24 31.9	
	comp=N,114nm,0.6s							
Q20K	Shuyak Island	2.91	337	P		Pn	11 23 05.3	+1.0
	baz=154							
Q20K				S		Sn	11 23 37.9	-1.3
	baz=154							
Q19K	Cape Douglas,	3.50	329			Pn	11 23 14.4	+1.8
Q19K	Cape Douglas,	3.50	329	IAML			11 24 45.8	
	comp=N,328nm,0.9s							
Q19K	Cape Douglas,	3.50	329	P		Pn	11 23 14.4	+1.8
	baz=146							
CNPM	China Poot	3.61	352			Pn	11 23 14.7	+0.7
BRSE	Bradley Lake S	3.79	356			Pn	11 23 16.7	+0.1
BRSE	Bradley Lake S	3.79	356	P		Pn	11 23 16.7	+0.1
	baz=175							
AU22	Augustine Moun	3.81	335			Pn	11 23 17.9	+1.2
BRLK	Bradley Lake	3.82	355	Pn		Pn	11 23 16.5	-0.4
BRLK				IAML			11 24 50.0	
	comp=E,73nm,1.2s							
CNTC	Contact Creek	3.86	309			Pn	11 23 18.9	+1.3
Q17K	Contact Creek	3.86	309	P		Pn	11 23 18.9	+1.3
	baz=124							
P19K	Oil Pt	4.04	338	Pn		Pn	11 23 21.5	+1.6
Q23K	Middleton Isla	4.04	29			Pn	11 23 20.2	+0.3
Q23K	Middleton Isla	4.04	29	IAML			11 24 50.8	
	comp=E,116nm,1.1s							
Q23K	Middleton Isla	4.04	29	P		Pn	11 23 20.2	+0.3
	baz=212							
MID	Middleton Isla	4.04	29			Pn	11 23 20.1	+0.2
MID	Middleton Isla	4.04	29	IAML			11 23 58.9	
	comp=N,121nm,1.2s							
MID				IAML			11 25 08.6	
	comp=E,119nm,1.1s							
P18K	Big Mountain,	4.37	324			Pn	11 23 25.4	+0.9
P18K	Big Mountain,	4.37	324	P		Pn	11 23 25.3	+0.9
	baz=139							
CHGN	Chignik	4.61	278	Pn		Pn	11 23 27.7	0.0
CHGN				IAML			11 25 10.0	
	comp=E,77nm,1.2s							
CHGN				IAML			11 25 19.9	
	comp=N,54nm,0.8s							
P17K	Kvichak River	4.66	317			Pn	11 23 29.7	+1.3
P17K	Kvichak River	4.66	317	P		Pn	11 23 29.7	+1.3
	baz=131							
RSO	Redoubt South	4.71	344	Pn		Pn	11 23 28.9	-0.3
O19K	Port Alsworth	4.77	334			Pn	11 23 30.7	+0.8
O19K	Port Alsworth	4.77	334	P		Pn	11 23 30.7	+0.8
	baz=150							
HIN	Hinchinbrook I	4.85	22			Pn	11 23 31.8	+0.7
HIN	Hinchinbrook I	4.85	22	IAML			11 24 55.3	
	comp=E,99nm,1.0s							
KAIM	Kayak Island	5.02	35			Pn	11 23 34.1	+0.8
KAIM	Kayak Island	5.02	35	IAML			11 24 09.8	
	comp=N,95nm,0.5s							
KAIM	Kayak Island	5.02	35	P		Pn	11 23 34.2	+0.8
	baz=220							
EYAK	Cordova Ski Ar	5.16	25			Pn	11 23 36.1	+0.9
EYAK	Cordova Ski Ar	5.16	25	P		Pn	11 23 36.1	+0.9
	baz=208							
N19K	Bonanza Creek	5.36	337	Pn		Pn	11 23 37.2	-0.9
N19K				IAML			11 25 33.6	
	comp=N,21nm,0.8s							
SUA	Susitna One	5.52	357	Pn		Pn	11 23 39.6	-0.7
O16K	Kokwok River B	5.57	314	Pn		Pn	11 23 42.3	+1.3
N18K	Kilae Creek	5.59	330	Pn		Pn	11 23 41.6	+0.3
SNH	Sunshine Point	5.75	40	Pn		Pn	11 23 44.2	+0.8
SVW2	Sparrevohn	5.86	334	Pn		Pn	11 23 45.7	+0.7
SML	Sawmill	5.94	9	Pn		Pn	11 23 46.6	+0.6
SCM	Sheep Creek Mo	6.07	13	Pn		Pn	11 23 48.3	+0.5
M17K	Holitna River	6.62	328	Pn		Pn	11 23 55.9	+0.5
L19K	White Mountain	6.68	341	Pn		Pn	11 23 56.1	0.0
BARN	Barnard Glacie	6.78	38	Pn		Pn	11 23 57.3	-0.4
O14K	Tigyukauivet M	6.79	304	Pn		Pn	11 23 58.2	+0.5
CTGM	Chitina Glacie	6.83	39	Pn		Pn	11 23 58.7	+0.3
LOGN	Logan Glacier	6.86	41	Pn		Pn	11 23 58.8	+0.1
BCPM	Bancas Point	6.89	50	Pn		Pn	11 23 59.6	+0.6
L16K	Owhat River	7.50	324	Pn		Pn	11 24 08.3	+1.0
P29M	Windy Craggy	7.60	56	Pn		Pn	11 24 08.8	+0.1
S31K	Pelican	7.89	70	Pn		Pn	11 24 11.6	-1.1
HYT	Haines Junctio	8.25	49	Pn		Pn	11 24 18.8	+1.0
M13K	Dall Lake	8.25	308	Pn		Pn	11 24 19.6	+2.0
BCAR	Beaver Creek A	8.30	27	Pn		Pn	11 24 19.1	+0.7
L14K	Kuka Creek	8.44	315	Pn		Pn	11 24 22.1	+1.9
K15K	Wolf Creek Mou	8.60	322	Pn		Pn	11 24 23.5	+1.1
M29M	Somme Creek	8.84	38	Pn		Pn	11 24 27.0	+1.1
N31M	Braeburn, Yuko	9.30	48	Pn		Pn	11 24 34.0	+1.8

*NEIC **23** 11:22:56.1±1.7,55.85N±0.09×148.9W±0.1,h9km±6km, mb3.9/3,ML3.9/44,ML3.7(AEIC),Error ellipse: s-maj=12.5km s-min=9.1km az=186.0*
*AEIC **23** 11:22:58.4±1.9,55.65N±0.09×148.7W±0.1,h10km±6km, Error ellipse: s-maj=13.1km s-min=9.5km az=187.0*
*IDC **23** 11:23:03.3±2.2,56.34N×148.52W,h0km, mb3.6/3, mbtmp3.7/7, ML3.5/4,Error ellipse: s-maj=39.0km s-min=23.7km az=173.0*
ISC 23 11:22:56.6±1.2,55.9N±0.1×148.81W±0.06,h10km,n166,
σ1.19/169,mb3.8/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	Kodiak Island	2.80	314			Pn	11 23 41.4	0.0
KDAK	Kodiak Island	2.80	314			Sn	11 24 15.0	-0.1
KDAK				IAML			11 24 17.1	
	173nm,0.5s							
KDAK				IAML			11 24 17.8	
	132nm,0.6s							
KDAK	Kodiak Island	2.80	314	S		Sn	11 24 16.2	+1.1
	baz=134							
OHAK	Old Harbor	2.81	300			Pn	11 23 40.4	-1.1
OHAK	Old Harbor	2.81	300	P		Pn	11 23 40.3	-1.2
	baz=120							
OHAK				S		Sn	11 24 16.3	+0.9
	baz=120							
SYI	Shuyak Island	3.34	326			Pn	11 23 49.9	+1.1
Q20K	Shuyak Island	3.34	326	P		Pn	11 23 49.7	+0.9
	baz=144							
Q20K				S		Sn	11 24 25.9	-2.5
	baz=144							
MID	Middleton Isla	3.77	20			Pn	11 23 54.7	0.0
MID				IAML			11 25 33.6	
	comp=E,146nm,1.4s							
MID				IAML			11 25 36.5	
	comp=N,108nm,1.3s							
Q23K	Middleton Isla	3.77	19	Pn		Pn	11 23 54.7	0.0
Q23K				IAML			11 24 26.4	
	comp=N,152nm,1.1s							
Q23K				IAML			11 25 33.7	
	comp=E,144nm,1.3s							
CNPM	China Poot	3.86	341	Pn		Pn	11 23 55.9	0.0
CNPM				IAML			11 24 43.8	
	comp=E,114nm,0.8s							
CNPM				IAML			11 24 44.6	
	comp=N,156nm,1.3s							
BRSE	Bradley Lake S	3.98	346			Pn	11 23 58.3	+0.7
BRSE						Sn	11 24 43.8	-0.6
Q19K	Cape Douglas,	4.00	321	Pn		Pn	11 23 56.5	-1.5
BRLK	Bradley Lake	4.03	345	Pn		Pn	11 23 58.6	+0.3
BRLK				IAML			11 24 46.0	
	comp=N,151nm,1.1s							
HOM	Homer	4.06	339	Pn		Pn	11 23 59.2	+0.6
HOM						Sn	11 24 46.1	-0.1
HOM				IAML			11 24 54.1	
	comp=E,206nm,1.3s							
KAHG	Katmai Hook Gl	4.06	312			Pn	11 23 58.7	0.0
KAHG						Sn	11 24 45.4	-0.9
P23K	Montague Islan	4.17	10			Pn	11 24 00.3	0.0
SEW	Seward	4.22	356			Pn	11 24 01.2	+0.2
ACHA	Angle Creek He	4.24	306			Pn	11 24 01.0	-0.3
AU22	Augustine Moun	4.25	327			Pn	11 24 01.6	+0.3
ANCK	Angle Creek	4.31	305			Pn	11 24 01.9	-0.4
KVTA	Katmai Vly 10	4.32	308			Pn	11 24 03.1	+0.9
KAHC	Katmai Hardscr	4.34	312			Pn	11 24 04.1	+1.4
KAHC	Katmai Hardscr	4.34	312	P		Pn	11 24 04.1	+1.4
	baz=129							
P19K	Oil Pt	4.44	330			Pn	11 24 04.1	+0.1
CNTC	Contact Creek	4.53	304			Pn	11 24 04.8	-0.4
Q17K	Contact Creek	4.53	304	P		Pn	11 24 05.2	0.0
	baz=121							
O22K	Cooper Landing	4.61	354	Pn		Pn	11 24 05.1	-1.2
KAIM	Kayak Island	4.66	28	Pn		Pn	11 24 07.7	+0.8
KAIM				IAML			11 25 10.9	
	comp=N,126nm,1.5s							
KAIM				IAML			11 25 41.5	
	comp=E,115nm,1.5s							
HIN	Hinchinbrook I	4.67	14	Pn		Pn	11 24 07.3	+0.2
HIN				IAML			11 24 53.0	
	comp=N,165nm,0.7s							
HIN				IAML			11 25 06.3	
	comp=E,124nm,1.3s							
P18K	Big Mountain,	4.91	318			Pn	11 24 10.7	+0.3
P18K				IAML			11 25 23.3	
	comp=E,1.0nm,0.2s							
P18K				IAML			11 25 47.3	
	comp=N,10nm,0.8s							
P18K	Big Mountain,	4.91	318	P		Pn	11 24 10.9	+0.5
	baz=134							
EYAK	Cordova Ski Ar	4.93	18			Pn	11 24 11.1	+0.4
EYAK	Cordova Ski Ar	4.93	18	P		Pn	11 24 11.0	+0.4
	baz=199							
RAGM	Ragged Mountai	5.00	24	Pn		Pn	11 24 12.2	+0.6
RAGM				IAML			11 25 19.7	
	comp=E,101nm,0.6s							
FID	Port Fidalgo	5.01	13	Pn		Pn	11 24 11.7	-0.1
FID				IAML			11 25 02.1	
	comp=E,72nm,0.6s							
FID				IAML			11 25 04.0	
	comp=N,58nm,0.4s							
RSO	Redoubt South	5.02	337	Pn		Pn	11 24 11.5	-0.6
CAPN	Captain Cook N	5.03	347	Pn		Pn	11 24 11.7	-0.3
CAPN				IAML			11 25 22.3	
	comp=E,146nm,0.6s							
Q16K	King Salmon	5.08	306			Pn	11 24 12.5	-0.2
Q16K	King Salmon	5.08	306	P		Pn	11 24 13.1	+0.3
	baz=122							
GOAT	Goat Mountain	5.16	23			Pn	11 24 13.6	-0.3
O19K	Port Alsworth	5.20	328	Pn		Pn	11 24 14.4	+0.1
RC01	Rabbit Creek A	5.22	355	Pn		Pn	11 24 14.3	-0.3
RC01				IAML			11 25 08.7	
	comp=N,60nm,0.9s							
RC01				IAML			11 25 10.4	
	comp=E,108nm,0.6s							
O18K	Koktuh Hills	5.23	322	Pn		Pn	11 24 15.1	+0.3
O18K				IAML			11 25 26.8	
	comp=N,48nm,0.8s							
BERG	Berg Lake	5.25	29	Pn		Pn	11 24 15.8	+0.8
BERG				IAML			11 25 09.3	
	comp=E,94nm,0.4s							
BERG				IAML			11 25 14.7	
	comp=N,74nm,1.5s							
P17K	Kvichak River	5.27	312			Pn	11 24 15.2	0.0
P17K	Kvichak River	5.27	312	P		Pn	11 24 16.5	+1.3
	baz=127							
SNH	Sunshine Point	5.33	34	Pn		Pn	11 24 17.4	+1.2
SNH				IAML			11 25 23.7	
	comp=E,64nm,1.5s							
SNH				IAML			11 27 21.0	
	comp=N,66nm,1.4s							
DIV	Divide	5.47	16			Pn	11 24 18.2	0.0
KNK	Knik Glacier	5.53	2	Pn		Pn	11 24 19.0	+0.1
SUA	Susitna One	5.67	351	Pn		Pn	11 24 21.8	+1.0
PMR	Palmer	5.71	358			Pn	11 24 21.9	+0.7
PMR	Palmer	5.71	358	P		Pn	11 24 22.8	+1.5
	baz=178							
N19K	Bonanza Creek	5.75	331	Pn		Pn	11 24 23.2	+1.1
KLU	Klutina	5.80	14			Pn	11 24 23.3	+0.6
KLU	Klutina	5.80	14	P		Pn	11 24 23.5	+0.8
	baz=195							
P16K	Nushagak River	5.86	306			Pn	11 24 23.6	+0.2
GHO	Glory Hole Cre	5.88	359			Pn	11 24 24.6	+0.7
SML	Sawmill	5.92	2			Pn	11 24 24.3	-0.1
SML	Sawmill	5.92	2	P		Pn	11 24 25.5	+1.2
	baz=182							
SCM	Sheep Creek Mo	6.00	7	Pn		Pn	11 24 25.4	0.0
VRDI	Verde Repeater	6.03	25	Pn		Pn	11 24 26.1	+0.2
N18K	Kilae Creek	6.07	325	Pn		Pn	11 24 27.3	+1.0
N25K	Chitina, Valde	6.12	19			Pn	11 24 28.3	+1.3
N25K	Chitina, Valde	6.12	19	P		Pn	11 24 28.4	+1.3
	baz=202							
GLB	Gilahina Butte	6.13	23	Pn		Pn	11 24 27.9	+0.7
O16K	Kokwok River B	6.19	310	Pn		Pn	11 24 28.5	+0.5
CNBA	Chernabura Isl	6.24	264	Pn		Pn	11 24 27.4	-1.3
SKT	Skwentna	6.25	348	Pn		Pn	11 24 28.1	-0.8
SVW2	Sparrevohn	6.30	329	Pn		Pn	11 24 30.1	+0.7
BCPM	Bancas Point	6.35	47	Pn		Pn	11 24 31.6	+1.5
M24K	Tolsona, Glenn	6.37	11	Pn		Pn	11 24 31.2	+0.8
BARN	Barnard Glacie	6.38	33	Pn		Pn	11 24 30.7	-0.1
N17K	Nushagak Hills	6.41	320	Pn		Pn	11 24 31.7	+0.8
CTGM	Chitina Glacie	6.41	35	Pn		Pn	11 24 32.3	+1.2
LOGN	Logan Glacier	6.42	37	Pn		Pn	11 24 31.4	+0.2
O15K	Ungalikthiuk R	6.77	303			Pn	11 24 35.8	-0.2
O29M	Mount Kennedy	6.98	47	Pn		Pn	11 24 41.5	+2.6
P29M	Windy Craggy	7.00	53	Pn		Pn	11 24 40.6	+1.6
L19K	White Mountain	7.02	336	Pn		Pn	11 24 39.3	-0.1
M17K	Holitna River	7.11	324	Pn		Pn	11 24 40.6	0.0
M26K	Nabesna, AK	7.16	22	Pn		Pn	11 24 40.9	-0.5
S31K	Pelican	7.18	68	Pn		Pn	11 24 41.3	-0.2
DHY	Denali Highway	7.23	5	Pn		Pn	11 24 42.9	+0.5
N15K	Kwethluk River	7.35	310	Pn		Pn	11 24 44.3	+0.4
M27K	Edge Creek, AK	7.38	26	Pn		Pn	11 24 45.1	+0.7
M16K	Timber Creek	7.39	318	Pn		Pn	11 24 45.1	+0.8
MENT	Mentasta	7.51	18	Pn		Pn	11 24 46.1	0.0
RND	Reindeer	7.53	360	Pn		Pn	11 24 47.1	+0.8
SIT	Sitka	7.56	76	Pn		Pn	11 24 48.7	+2.1
TRF	Thorofare Moun	7.61	355	Pn		Pn	11 24 49.7	+2.2
L26K	Log Cabin Wild	7.66	19	Pn		Pn	11 24 49.9	+1.8
CAST	Castle Rocks	7.72	349	Pn		Pn	11 24 50.2	+1.3
HYT	Haines Junctio	7.72	46	Pn		Pn	11 24 51.1	+2.1
KTH	Kantishna Hill	7.75	353	Pn		Pn	11 24 50.5	+1.2
K20K	Telida	7.93	343	Pn		Pn	11 24 51.6	-0.2
TTA	Tatalina	7.94	335	Pn		Pn	11 24 51.1	-0.9
S32K	Killisnoo	7.99	73	Pn		Pn	11 24 52.4	-0.2
L27K	Beaver Creek,	8.00	23	Pn		Pn	11 24 52.6	-0.2
L16K	Owhat River	8.03	321	Pn		Pn	11 24 52.8	-0.3
RIDG	Independent Ri	8.11	13	Pn		Pn	11 24 54.5	+0.2
N30M	Aishikik Lake	8.26	43	Pn		Pn	11 24 55.8	-0.5
O30N	Mendenhall	8.27	49	Pn		Pn	11 24 54.6	-2.0
BPAW	Bear Paw Mtn.	8.29	353	Pn		Pn	11 24 55.5	-1.2
K17K	Iditarod	8.37	329	Pn		Pn	11 24 59.0	+1.2
M29M	Somme Creek	8.43	35	Pn		Pn	11 24 58.2	-0.5
M14K	Bethel	8.45	310	Pn		Pn	11 24 58.9	+0.1
SCRK	Sand Creek	8.45	15	Pn		Pn	11 24 59.5	+0.5
HDA	Harding Lake	8.58	5	Pn		Pn	11 24 59.0	-1.7
NEA2	Nenana	8.72	359	Pn		Pn	11 25 03.5	+0.9
WHY	Whitehorse	8.74	51	Pn		Pn	11 25 02.8	-0.3
CCB	Clear Creek Bu	8.78	3	Pn		Pn	11 25 03.8	+0.3
K27K	Chicken	8.81	20	Pn		Pn	11 25 02.3	-1.6
P32M	Atlin	8.87	59	Pn		Pn	11 25 02.8	-2.0
CRAG	Craig	8.87	86	Pn		Pn	11 25 03.9	-0.9
J25K	Salcha River,	8.90	10	Pn		Pn	11 25 04.2	-0.9
M13K	Dall Lake	8.91	306	Pn		Pn	11 25 04.3	-0.8
IL31		8.95	5	Pn		Pn	11 25 05.9	+0.3
ILAR	Eielson Array	8.95	5	Pn		Pn	11 25 05.3	-0.4
ILAR	Eielson Array	8.95	5	Pn		Pn	11 25 04.9	-0.8
	comp=N,0.3nm,0.3s,baz=186,slow=15,SNR=1.5							
ILAR					Sn	Sn	11 26 36.5	-10
	comp=N,0.4nm,0.3s,baz=184,slow=20,SNR=4.9							
	comp=N,0.9nm,0.5s							
J26L	Joseph Creek	9.01	15	Pn		Pn	11 25 07.3	+0.7
L29M	L29M	9.02	32	Pn		Pn	11 25 08.7	+1.9
L14K	Kuka Creek	9.05	313			Pn	11 25 07.6	+0.5
M30M	Minto, Yukon	9.08	38	Pn		Pn	11 25 08.0	+0.4
MDM	Murphy Dome	9.09	2	Pn		Pn	11 25 09.3	+1.6
K15K	Wolf Creek Mou	9.14	320	Pn		Pn	11 25 09.3	+0.9
I23K	Minto, Yukon-K	9.28	359	Pn		Pn	11 25 12.1	+1.9
Q32M	Nakina River	9.43	64	Pn		Pn	11 25 13.3	+0.8
I21K	Tanana	9.43	352	Pn		Pn	11 25 14.0	+1.7
J16K	Anvik River	9.50	326	Pn		Pn	11 25 13.2	-0.1
P33M	Teslin, Yukon	9.50	56	Pn		Pn	11 25 14.0	+0.6
EGAK	Eagle	9.66	20	Pn		Pn	11 25 18.0	+2.5
N32M	Quiet Lake	9.75	51	Pn		Pn	11 25 18.0	+1.2
K29M	Barlow Dome	9.76	31	Pn		Pn	11 25 17.3	+0.4
I26K	Coal Creek Min	9.83	14	Pn		Pn	11 25 19.1	+1.4
H21K	Melozitna Rive	9.97	350	Pn		Pn	11 25 21.5	+1.7
FARO	Faro, Yukon	10.15	45	Pn		Pn	11 25 25.5	+3.2
K13K	Kusilvak Mount	10.16	313	Pn		Pn	11 25 24.6	+2.3
H19K	Roundabout Mou	10.34	342	Pn		Pn	11 25 24.9	+0.2
H18K	Honhosa River	10.39	337	Pn		Pn	11 25 27.2	+1.8
IMAR	Indian Mountai	10.39	349	Pn		Pn	11 25 27.7	+2.2
DLBC	Dease Lake	10.50	68	Pn		Pn	11 25 31.5	+4.4
	comp=N,0.9nm,0.3s,baz=285,slow=8.5,SNR=11							
DLBC					Sn	Sn	11 27 22.1	-2.6
	comp=N,0.5nm,0.3s,baz=90,slow=7.1,SNR=1.9							
	comp=N,1.8nm,0.3s							
H17K	Granite Mounta	10.57	333	Pn		Pn	11 25 27.9	0.0
FYU	Fort Yukon	10.83	8	Pn		Pn	11 25 31.5	0.0
G24K	Hadweenzic Riv	10.85	3	Pn		Pn	11 25 33.2	+1.4
G23K	Bananza Creek	10.86	357	Pn		Pn	11 25 33.9	+1.9
G21K	Allakaket	10.88	350	Pn		Pn	11 25 32.2	0.0
F21K	Alatna River	11.57	351	Pn		Pn	11 25 43.2	+1.6
G16K	Koyuk River	11.57	331	Pn		Pn	11 25 40.7	-0.9
F20K	Avaraart Lake	11.65	346	Pn		Pn	11 25 44.0	+1.4
F24K	Squaw Lake	11.66	2	Pn		Pn	11 25 44.9	+2.0
BMAR	Burnt Mountain	11.73	8	Pn		Pn	11 25 45.9	+2.1
ANM	Nome	11.92	323	Pn		Pn	11 25 48.6	+2.2
E19K	Redstone River	12.24	345	Pn		Pn	11 25 51.2	+0.4
INK	Inuvik	14.28	23	Pn		Pn	11 26 20.2	+1.7
	comp=N,0.1nm,0.3s,baz=221,slow=11,SNR=4.2							
	comp=N,3.7nm,0.9s							
C16K	Lisburne Hills	14.55	335	Pn		Pn	11 26 22.7	+0.5
B20K	Meade River	14.63	349	Pn		Pn	11 26 24.1	+0.8
B22K	Teshekpuk Lake	14.63	354	Pn		Pn	11 26 21.1	-2.2
C36M	Paulatuk	17.43	30	Pn		Pn	11 26 58.7	-0.7
C36M						IAmb	IAmb	11 27 20.2
	comp=Z,4.7nm,0.9s							
YKAB2	New Yellowknif	18.53	55	P		P	11 27 11.2	-1.7
YKA	Yellowknife Ar	18.53	55	P		P	11 27 12.3	-0.6
YKA	Yellowknife Ar	18.53	55	P		Pn	11 27 17.1	+4.0
	comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=7.6							
	comp=Z,1.1nm,0.8s							
A36M	Sachs Harbour	18.92	23	P		P	11 27 17.4	+0.3
A36M						IAmb	IAmb	11 27 23.9
	comp=Z,8.1nm,0.7s						

C36M	**Paulatuk**	**17.61**	**30**		**P**		**11 30 47.0 +0.3**
C36M				IAmb	IAmb		11 31 28.0
	comp=Z,2.3nm,0.8s						
YKA	**Yellowknife Ar**	**18.74**	**55**	P	**P**		**11 30 59.3 +0.1**
YKA	**Yellowknife Ar**	**18.74**	**55**	P	**P**		**11 30 53.5 -5.7**
	baz=265,slow=10,SNR=2.0 comp=Z,0.1nm,0.6s						
A36M	**Sachs Harbour**	**19.09**	**23**	P	**Pn**		**11 31 05.0 +1.3**
A36M				IAmb	IAmb		11 31 44.6
	comp=Z,8.5nm,0.8s						
SONM	**Songino Array**	**59.02**	**310**	P	**P**		**11 36 41.7 +1.3**
	comp=Z,0.6nm,0.8s,baz=54,slow=7.3,SNR=3.1 comp=Z,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**62.02**	**327**	P	**P**		**11 37 01.1 +0.6**
	comp=Z,0.7nm,0.8s,baz=15,slow=6.0,SNR=2.4 comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**66.80**	**329**	P	**P**		**11 37 32.8 +0.9**
	comp=Z,0.2nm,0.7s,baz=27,slow=7.0,SNR=2.6 comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**69.05**	**325**	P	**P**		**11 37 47.0 +0.9**
	comp=Z,0.3nm,0.5s,baz=36,slow=5.7,SNR=4.6 comp=Z,0.3nm,0.5s						

*IDC **23** 11:27:18.1±1.0,56°.11N×149°.73W,h0km,mb4.0/15, mbtmp3.9/19,ML3.2/4, Error ellipse: s-maj=27.0km s-min=15.9km az=21.0*
*AEIC **23** 11:27:22.4±2.1,56°.06N±0°.08×149°.8W±0°.1,h10km±5km, Error ellipse: s-maj=12.4km s-min=8.7km az=199.0*
*NEIC **23** 11:27:22.6±2.3,56°.2N±0°.1×149°.89W±0°.10,h25km±8km, mb3.9/2,ML3.9(AEIC), Error ellipse: s-maj=16.7km s-min=7.7km az=171.0*

ISC 23 11:27:19.8±0.8,56°.12N±0°.10×149°.84W±0°.06,h10km,n67, σ1§08/69,mb4.2/16,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.20**	**301**		**Sn**	**11 28 21.4**	**-2.2**
OHAK	**Old Harbor**	**2.20**	**301**	Pn	**Pn**	**11 27 54.1**	**-2.2**
OHAK	**Old Harbor**	**2.20**	**301**		**Pn**	**11 27 53.9**	**-2.4**
KDAK	**Kodiak Island**	**2.24**	**319**		**Pn**	**11 27 55.9**	**-1.0**
KDAK	**Kodiak Island**	**2.24**	**319**		**Sn**	**11 28 22.8**	**-1.8**
KDAK	**Kodiak Island**	**2.24**	**319**	Pn	**Pn**	**11 27 55.8**	**-1.2**
	8.5nm,0.3s,baz=38,slow=24,SNR=6.3						
KDAK				Sn	**Sn**	**11 28 23.2**	**-1.4**
	18nm,0.3s,baz=132,slow=13,SNR=3.8 26nm,0.4s						
SYI	**Shuyak Island**	**2.85**	**332**		**Pn**	**11 28 05.4**	**+0.1**
KAHG	**Katmai Hook Gl**	**3.49**	**315**		**Pn**	**11 28 14.3**	**+0.2**
CNPM	**China Poot**	**3.49**	**348**		**Pn**	**11 28 12.7**	**-1.4**
CNPM					**Sn**	**11 28 53.8**	**-1.7**
BRSE	**Bradley Lake S**	**3.66**	**353**		**Pn**	**11 28 15.5**	**-1.0**
BRLK	**Bradley Lake**	**3.69**	**352**		**Pn**	**11 28 15.8**	**-1.1**
ANCK	**Angle Creek**	**3.72**	**306**		**Pn**	**11 28 18.2**	**+0.9**
Q23K	**Middleton Isla**	**3.80**	**28**		**Pn**	**11 28 17.1**	**-1.3**
MID	**Middleton Isla**	**3.81**	**28**		**Pn**	**11 28 17.1**	**-1.2**
CNTC	**Contact Creek**	**3.93**	**306**		**Pn**	**11 28 20.6**	**+0.4**
P23K	**Montague Islan**	**4.09**	**17**		**Pn**	**11 28 20.6**	**-1.8**
P18K	**Big Mountain,**	**4.37**	**321**		**Pn**	**11 28 25.8**	**-0.4**
HIN	**Hinchinbrook I**	**4.63**	**21**		**Pn**	**11 28 29.2**	**-0.6**
O18K	**Koktuh Hills**	**4.71**	**325**	Pn	**Pn**	**11 28 31.9**	**+1.0**
CAPN	**Captain Cook N**	**4.71**	**352**	Pn	**Pn**	**11 28 31.7**	**+0.9**
FID	**Port Fidalgo**	**4.96**	**19**	Pn	**Pn**	**11 28 34.1**	**-0.2**
RC01	**Rabbit Creek A**	**4.98**	**1**		**Pn**	**11 28 35.7**	**+1.2**
KNK	**Knik Glacier**	**5.35**	**7**	Pn	**Pn**	**11 28 40.2**	**+0.5**
SNH	**Sunshine Point**	**5.50**	**39**	Pn	**Pn**	**11 28 43.5**	**+1.8**
O16K	**Kokwok River B**	**5.61**	**312**	Pn	**Pn**	**11 28 44.1**	**+0.9**
KLU	**Klutina**	**5.75**	**19**		**Pn**	**11 28 46.1**	**+0.9**
M20K	**Styx River**	**6.02**	**345**	Pn	**Pn**	**11 28 50.5**	**+1.6**
N25K	**Chitina, Valde**	**6.13**	**24**		**Pn**	**11 28 50.5**	**+0.1**
BCPM	**Bancas Point**	**6.64**	**50**	Pn	**Pn**	**11 28 57.0**	**-0.3**
O14K	**Tigyukauivet M**	**6.88**	**302**	Pn	**Pn**	**11 29 01.7**	**+1.1**
P29M	**Windy Craggy**	**7.34**	**56**		**Pn**	**11 29 06.2**	**-0.9**
L26K	**Log Cabin Wild**	**7.66**	**23**	Pn	**Pn**	**11 29 13.1**	**+1.7**
J18K	**Innoko River**	**8.13**	**338**	Pn	**Pn**	**11 29 18.9**	**+1.1**
L14K	**Kuka Creek**	**8.48**	**313**		**Pn**	**11 29 23.3**	**+0.8**
M29M	**Somme Creek**	**8.60**	**38**		**Pn**	**11 29 24.9**	**+0.7**
ILAR	**Eielson Array**	**8.80**	**8**	Pn	**Pn**	**11 29 26.3**	**-0.6**
	0.3nm,0.3s,baz=191,slow=13,SNR=7.5						
J25K	**Salcha River,**	**8.80**	**13**	Pn	**Pn**	**11 29 29.1**	**+2.1**
J26L	**Joseph Creek**	**8.96**	**18**		**Pn**	**11 29 29.7**	**+0.5**
WHY	**Whitehorse**	**9.07**	**54**		**Pn**	**11 29 31.1**	**+0.4**
L29M	**L29M**	**9.17**	**35**		**Pn**	**11 29 32.9**	**+0.9**
K13K	**Kusilvak Mount**	**9.59**	**313**	Pn	**Pn**	**11 29 39.2**	**+1.5**
H24K	**Noodor Dome**	**9.79**	**5**	Pn	**Pn**	**11 29 42.0**	**+1.4**
G23K	**Bananza Creek**	**10.63**	**360**	Pn	**Pn**	**11 29 53.7**	**+1.8**
DLBC	**Dease Lake**	**10.96**	**70**	Pn	**Pn**	**11 29 55.7**	**-0.9**
	0.2nm,0.3s,baz=334,slow=5.0,SNR=6.0 0.9nm,0.3s						
INK	**Inuvik**	**14.32**	**25**	Pn	**Pn**	**11 30 42.4**	**+0.1**
	baz=222,slow=12,SNR=3.3 2.5nm,1.1s						
C36M	**Paulatuk**	**17.54**	**31**	P	**P**	**11 31 25.7**	**+0.6**
C36M				IAmb	IAmb	11 31 36.4	
	comp=Z,5.3nm,0.8s						
YKAB2	**New Yellowknif**	**18.88**	**56**	P	**Pn**	**11 31 40.8**	**+0.3**
YKA	**Yellowknife Ar**	**18.89**	**56**	P	**P**	**11 31 39.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=265,slow=9.8,SNR=8.5 comp=Z,1.2nm,0.9s						
A36M	**Sachs Harbour**	**18.95**	**23**	P	**Pn**	**11 31 42.1**	**+0.9**
A36M				IAmb	IAmb	11 31 51.9	
	comp=Z,13nm,0.9s						
NVAR	**Mina Array Bea**	**27.41**	**117**	P	**P**	**11 33 05.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=302,slow=9.2,SNR=3.2 comp=Z,0.4nm,0.8s						
PDAR	**Pinedale Array**	**28.94**	**100**	P	**P**	**11 33 18.7**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=330,slow=3.1,SNR=2.5 comp=Z,0.2nm,0.6s						
KLR	**Kul'dur**	**45.62**	**296**	P	**P**	**11 35 40.7**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=57,slow=11,SNR=4.8 comp=Z,2.3nm,0.7s						
MDJ	**Mudanjiang**	**49.80**	**293**	P	**P**	**11 36 13.8**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,9μm,11.2s						
SONM	**Songino Array**	**58.50**	**310**	P	**P**	**11 37 16.5**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=39,slow=7.0,SNR=9.9 comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**61.52**	**327**	P	**P**	**11 37 36.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=27,slow=6.3,SNR=8.5 comp=Z,1.7nm,0.7s						
NB2	**NORSAR Subarra**	**62.23**	**10**	P	**P**	**11 37 41.2**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=348,slow=6.9						
NOA	**NORSAR Array B**	**62.23**	**10**	P	**P**	**11 37 40.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=348,slow=6.7,SNR=4.1 comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**62.73**	**2**	P	**P**	**11 37 44.3**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=353,slow=9.8,SNR=1.9 comp=Z,1.5nm,0.7s						
HFS	**Hagfors**	**63.35**	**9**	P	**P**	**11 37 48.2**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=356,slow=4.5,SNR=2.0 comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**66.30**	**335**	P	**P**	**11 38 07.9**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=38,slow=6.0,SNR=12 comp=Z,2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**66.31**	**329**	P	**P**	**11 38 08.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=29,slow=6.7,SNR=9.8 comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**68.54**	**324**	P	**P**	**11 38 22.2**	**0.0**
	comp=Z,1.7nm,0.9s,baz=48,slow=6.6,SNR=9.5 comp=Z,1.7nm,0.9s						
AKASG	**Malin Array Be**	**73.54**	**1**	P	**P**	**11 38 52.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=6.9,slow=6.9,SNR=2.5 comp=Z,0.6nm,0.5s						
ESDC	**Sonseca Array**	**80.27**	**26**	P	**P**	**11 39 30.8**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=343,slow=4.3,SNR=5.9 comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**84.47**	**357**	P	**P**	**11 39 52.3**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=5.2,slow=9.3,SNR=2.0 comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**86.08**	**298**	P	**P**	**11 40 00.8**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=20,slow=4.9,SNR=5.3 comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**145.91**	**180**	PKPbc	**PKPdf**	**11 46 56.5**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=26,slow=1.2,SNR=5.3						

*IDC **23** 11:28:11.6±0.7,56°.29N×149°.34W,h0km,mb4.2/24, mbtmp4.3/29,ML4.3/5, Error ellipse: s-maj=20.9km s-min=10.4km az=22.0*
*MOS **23** 11:28:11.0±0.8,56°.29N×149°.38W,h9km,mb4.6/26, Error ellipse: s-maj=11.5km s-min=5.6km az=97.8*
*NEIC **23** 11:28:13.4±2.0,56°.21N±0°.07×149°.35W±0°.09,h15km±5km, mb4.5/119,ML4.7/56,ML4.6(AEIC), Error ellipse: s-maj=10.1km s-min=7.4km az=181.0*
*AEIC **23** 11:28:17.2±1.8,56°.25N±0°.07×149°.31W±0°.09,h7km±4km, Error ellipse: s-maj=10.2km s-min=7.3km az=180.0*

ISC 23 11:28:11.7±2.6,56°.21N±0°.07×149°.31W±0°.04,h4km±16km, n496,σ1§09/499,mb4.5/82,4C-1D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.38**	**313**		**Pn**	**11 28 51.1**	**-0.3**
KDAK	**Kodiak Island**	**2.38**	**313**		**Sn**	**11 29 18.2**	**-2.9**
KDAK	**Kodiak Island**	**2.38**	**313**	*d* iP	**Pn**	**11 28 50.6**	**-0.9**
KDAK	**Kodiak Island**	**2.38**	**313**	Pn	**Pn**	**11 28 51.0**	**-0.4**
	139nm,0.3s,baz=151,slow=5.5,SNR=29						
KDAK				Sn	**Sn**	**11 29 17.7**	**-3.4**
	145nm,0.3s,baz=49,slow=23,SNR=13 290nm,0.3s						
OHAK	**Old Harbor**	**2.42**	**296**		**Pn**	**11 28 50.9**	**-0.9**
OHAK					**Sn**	**11 29 18.2**	**-3.6**
OHAK	**Old Harbor**	**2.42**	**296**	P	**Pn**	**11 28 50.8**	**-1.1**
	baz=113						
OHAK				S	**Sn**	**11 29 18.2**	**-3.6**
	baz=113						
SYI	**Shuyak Island**	**2.92**	**326**		**Pn**	**11 28 58.8**	**-0.1**
SYI					**Sn**	**11 29 32.5**	**-1.9**
SYI				IAML		11 29 34.4	
	comp=E,2μm,0.6s						
Q20K	**Shuyak Island**	**2.93**	**326**	P	**Pn**	**11 28 58.8**	**-0.1**
	baz=144						
Q20K				S	**Sn**	**11 29 32.6**	**-1.8**
	baz=144						
CNPM	**China Poot**	**3.48**	**344**	Pn	**Pn**	**11 29 06.4**	**-0.1**
CNPM					**Sn**	**11 29 45.8**	**-2.3**
CNPM				IAML		11 29 48.4	
	comp=E,2μm,0.6s						
CNPM				IAML		11 29 49.1	
	comp=N,1μm,0.4s						
Q19K	**Cape Douglas,**	**3.59**	**321**	Pn	**Pn**	**11 29 08.9**	**+0.9**
Q19K	**Cape Douglas,**	**3.59**	**321**	P	**Pn**	**11 29 09.5**	**+1.5**
	baz=137						
Q19K				S	**Sn**	**11 29 50.1**	**-0.7**
	baz=137						
Q23K	**Middleton Isla**	**3.59**	**25**	Pn	**Pn**	**11 29 07.5**	**-0.5**
Q23K	**Middleton Isla**	**3.59**	**25**	P	**Pn**	**11 29 07.5**	**-0.5**
	baz=208						
MID	**Middleton Isla**	**3.59**	**25**	Pn	**Pn**	**11 29 07.5**	**-0.5**
MID	**Middleton Isla**	**3.59**	**25**	P	**Pn**	**11 29 07.6**	**-0.5**
MID	**Middleton Isla**	**3.59**	**25**	P	**Pn**	**11 29 07.5**	**-0.5**
BRSE	**Bradley Lake S**	**3.62**	**348**		**Pn**	**11 29 08.2**	**-0.3**
BRSE	**Bradley Lake S**	**3.62**	**348**	P	**Pn**	**11 29 08.1**	**-0.3**
	baz=167						
KAHG	**Katmai Hook Gl**	**3.64**	**311**		**Pn**	**11 29 09.6**	**+0.8**
BRLK	**Bradley Lake**	**3.66**	**347**		**Pn**	**11 29 08.3**	**-0.7**
BRLK				IAML		11 29 53.9	
	comp=E,1μm,0.5s						
BRLK				IAML		11 29 55.8	
	comp=N,1μm,0.6s						
HOM	**Homer**	**3.67**	**341**		**Pn**	**11 29 07.7**	**-1.4**
HOM					**Sn**	**11 29 51.0**	**-1.8**
HOM				IAML		11 29 57.2	
	comp=E,2μm,0.5s						
HOM				IAML		11 29 57.5	
	comp=N,3μm,0.6s						
KCE	**Katmai Mt Cerb**	**3.79**	**305**		**Pn**	**11 29 13.1**	**+2.3**
AU22	**Augustine Moun**	**3.84**	**327**		**Pn**	**11 29 11.4**	**0.0**
ACHA	**Angle Creek He**	**3.84**	**304**		**Pn**	**11 29 12.5**	**+1.0**
AUCH	**Augustine Cone**	**3.86**	**327**		**Pn**	**11 29 11.7**	**-0.1**
SEW	**Seward**	**3.90**	**359**		**Pn**	**11 29 11.4**	**-0.9**
KVTA	**Katmai Vly 10**	**3.91**	**306**		**Pn**	**11 29 13.6**	**+1.2**
ANCK	**Angle Creek**	**3.91**	**303**		**Pn**	**11 29 13.3**	**+0.9**
P23K	**Montague Islan**	**3.93**	**14**		**Pn**	**11 29 12.5**	**-0.1**
P23K	**Montague Islan**	**3.93**	**14**	P	**Pn**	**11 29 12.5**	**-0.1**
	baz=196						
KAHC	**Katmai Hardscr**	**3.93**	**311**		**Pn**	**11 29 14.1**	**+1.3**
KAHC	**Katmai Hardscr**	**3.93**	**311**	P	**Pn**	**11 29 14.1**	**+1.3**
	baz=126						
P19K	**Oil Pt**	**4.03**	**330**		**Pn**	**11 29 12.6**	**-1.5**
P19K	**Oil Pt**	**4.03**	**330**	P	**Pn**	**11 29 14.4**	**+0.3**
	baz=147						
PLK3	**Peulik 3**	**4.09**	**294**		**Pn**	**11 29 14.7**	**-0.2**
CNTC	**Contact Creek**	**4.12**	**303**		**Pn**	**11 29 15.7**	**+0.3**
O20K	**Slope Mountain**	**4.26**	**337**		**Pn**	**11 29 16.9**	**-0.4**
O20K	**Slope Mountain**	**4.26**	**337**	P	**Pn**	**11 29 16.9**	**-0.4**
	baz=154						
O22K	**Cooper Landing**	**4.29**	**357**		**Pn**	**11 29 16.7**	**-0.9**
IVE	**Iliamna Volcan**	**4.29**	**334**		**Pn**	**11 29 17.5**	**-0.3**
PLK1	**Peulik 1**	**4.30**	**295**		**Pn**	**11 29 17.4**	**-0.3**
PLBL	**Peulik Blue Cr**	**4.37**	**293**		**Pn**	**11 29 18.9**	**+0.1**
HIN	**Hinchinbrook I**	**4.45**	**18**		**Pn**	**11 29 19.7**	**-0.1**
HIN				IAML		11 30 10.9	
	comp=E,665nm,1.0s						
HIN				IAML		11 30 11.4	
	comp=N,772nm,0.5s						
P18K	**Big Mountain,**	**4.49**	**318**		**Pn**	**11 29 16.6**	**-3.8**
KAIM	**Kayak Island**	**4.54**	**33**	Pn	**Pn**	**11 29 21.4**	**+0.3**
KAIM				IAML		11 30 13.7	
	comp=E,762nm,1.0s						
KAIM				IAML		11 30 15.7	
	comp=N,764nm,0.8s						
RED	**Redoubt Volcan**	**4.59**	**338**		**Pn**	**11 29 21.7**	**-0.2**
RDSO	**Redoubt South**	**4.62**	**338**		**Pn**	**11 29 21.9**	**-0.4**
RSO	**Redoubt South**	**4.63**	**338**		**Pn**	**11 29 21.1**	**-1.5**
RDT	**Redoubt**	**4.67**	**341**		**Pn**	**11 29 22.4**	**-0.5**
CAPN	**Captain Cook N**	**4.67**	**349**		**Pn**	**11 29 23.3**	**+0.5**
RDWB	**Redoubt West**	**4.67**	**338**		**Pn**	**11 29 22.8**	**-0.2**
Q16K	**King Salmon**	**4.67**	**305**		**Pn**	**11 29 22.8**	**-0.1**
Q16K	**King Salmon**	**4.67**	**305**	P	**Pn**	**11 29 23.7**	**+0.8**
	baz=119						
EYAK	**Cordova Ski Ar**	**4.73**	**22**		**Pn**	**11 29 23.9**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.73**	**22**	P	**Pn**	**11 29 24.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.73**	**22**	P	**Pn**	**11 29 23.8**	**+0.2**
	baz=205						
R16K	**Pilot Point**	**4.73**	**290**		**Pn**	**11 29 23.4**	**-0.3**
DFR	**Drift River**	**4.74**	**339**		**Pn**	**11 29 23.8**	**0.0**
RDJH	**Redoubt Jeurge**	**4.76**	**339**		**Pn**	**11 29 24.1**	**-0.1**
FID	**Port Fidalgo**	**4.79**	**17**		**Pn**	**11 29 23.9**	**-0.5**
FID				IAML		11 30 15.8	
	comp=E,811nm,0.6s						
FID				IAML		11 30 18.2	
	comp=N,828nm,0.4s						
O19K	**Port Alsworth**	**4.79**	**328**	Pn	**Pn**	**11 29 24.1**	**-0.4**
O19K	**Port Alsworth**	**4.79**	**328**	P	**Pn**	**11 29 24.6**	**+0.1**
	baz=144						
O18K	**Koktuh Hills**	**4.81**	**322**		**Pn**	**11 29 24.6**	**-0.3**
O18K				IAML		11 30 19.4	
	comp=N,695nm,0.8s						
O18K				IAML		11 30 33.6	
	comp=E,456nm,0.7s						
O18K	**Koktuh Hills**	**4.81**	**322**	P	**Pn**	**11 29 24.7**	**-0.1**
	baz=137						
RAGM	**Ragged Mountai**	**4.84**	**28**		**Pn**	**11 29 25.5**	**+0.2**
RAGM				IAML		11 30 39.8	
	comp=E,1μm,0.7s						
P17K	**Kvichak River**	**4.85**	**311**		**Pn**	**11 29 25.8**	**+0.5**
P17K	**Kvichak River**	**4.85**	**311**	P	**Pn**	**11 29 26.1**	**+0.7**
	baz=125						
RC01	**Rabbit Creek A**	**4.89**	**358**		**Pn**	**11 29 25.7**	**-0.3**
RC01				IAML		11 30 22.9	
	comp=N,816nm,0.4s						
RC01				IAML		11 30 25.0	
	comp=E,824nm,0.8s						
RC01	**Rabbit Creek A**	**4.89**	**358**	P	**Pn**	**11 29 25.7**	**-0.3**
	baz=177						
FIS	**Fire Island**	**4.97**	**355**	Pn	**Pn**	**11 29 26.4**	**-0.5**
GOAT	**Goat Mountain**	**5.00**	**27**		**Pn**	**11 29 27.8**	**+0.4**
CHGN	**Chignik**	**5.08**	**275**		**Pn**	**11 29 27.9**	**-0.5**
CHGN				IAML		11 30 26.0	
	comp=N,458nm,0.7s						
CHGN				IAML		11 30 26.1	
	comp=E,381nm,0.6s						
CHGN	**Chignik**	**5.08**	**275**	P	**Pn**	**11 29 28.7**	**+0.3**
	baz=87						
BERG	**Berg Lake**	**5.13**	**33**		**Pn**	**11 29 29.0**	**-0.1**
BERG				IAML		11 30 28.6	
	comp=E,918nm,0.4s						
N20K	**Mount Spurr**	**5.22**	**344**	P	**Pn**	**11 29 31.6**	**+1.1**
	baz=162						
SPCR	**Spurr Chakacha**	**5.22**	**344**		**Pn**	**11 29 30.5**	**0.0**
KNK	**Knik Glacier**	**5.23**	**4**		**Pn**	**11 29 30.6**	**-0.1**
KNK				IAML		11 30 37.4	
	comp=N,375nm,0.5s						
KNK				IAML		11 30 42.9	
	comp=E,380nm,0.7s						
KNK	**Knik Glacier**	**5.23**	**4**	P	**Pn**	**11 29 32.2**	**+1.6**
	baz=185						
SNH	**Sunshine Point**	**5.24**	**38**		**Pn**	**11 29 31.2**	**+0.4**
SNH				IAML		11 30 28.8	
	comp=E,384nm,1.2s						
SNH				IAML		11 30 40.6	
	comp=N,368nm,1.0s						
DIV	**Divide**	**5.26**	**19**		**Pn**	**11 29 31.1**	**0.0**
SPCG	**Spurr Capps Gl**	**5.29**	**346**		**Pn**	**11 29 31.9**	**+0.5**
CYK	**Cape Yakataga**	**5.30**	**40**		**Pn**	**11 29 31.9**	**+0.4**
SUA	**Susitna One**	**5.32**	**353**		**Pn**	**11 29 31.5**	**-0.4**
SUA				IAML		11 30 34.0	
	comp=N,438nm,0.7s						
SUA				IAML		11 30 40.9	
	comp=E,312nm,0.7s						
N19K	**Bonanza Creek**	**5.35**	**332**		**Pn**	**11 29 31.8**	**-0.4**
N19K				IAML		11 30 35.6	
	comp=E,272nm,0.9s						
BMRM	**Bremner River**	**5.36**	**25**		**Pn**	**11 29 32.7**	**+0.3**
BMRM	**Bremner River**	**5.36**	**25**	P	**Pn**	**11 29 32.7**	**+0.3**
	baz=209						
PMR	**Palmer**	**5.39**	**1**		**Pn**	**11 29 32.7**	**-0.1**
PMR	**Palmer**	**5.39**	**1**	P	**Pn**	**11 29 33.0**	**+0.2**
PMR	**Palmer**	**5.39**	**1**	P	**Pn**	**11 29 33.4**	**+0.6**
	baz=181						
PMR	**Palmer**	**5.39**	**1**	P	**Pn**	**11 29 32.7**	**-0.1**
P16K	**Nushagak River**	**5.45**	**305**		**Pn**	**11 29 34.0**	**+0.4**
P16K	**Nushagak River**	**5.45**	**305**	P	**Pn**	**11 29 34.2**	**+0.7**
	baz=117						
STLK	**Strandline Lak**	**5.46**	**347**		**Pn**	**11 29 33.4**	**-0.3**
O17K	**Koliganek Bris**	**5.47**	**314**		**Pn**	**11 29 33.7**	**-0.1**
O17K	**Koliganek Bris**	**5.47**	**314**	P	**Pn**	**11 29 34.2**	**+0.5**
	baz=127						
BARK	**Barkley Ridge**	**5.53**	**38**		**Pn**	**11 29 34.7**	**0.0**
KLU	**Klutina**	**5.58**	**17**		**Pn**	**11 29 35.7**	**+0.4**
KLU	**Klutina**	**5.58**	**17**	P	**Pn**	**11 29 35.8**	**+0.4**
	baz=200						
GHO	**Glory Hole Cre**	**5.58**	**2**		**Pn**	**11 29 36.1**	**+0.7**
SML	**Sawmill**	**5.63**	**5**		**Pn**	**11 29 36.9**	**+0.7**
SML	**Sawmill**	**5.63**	**5**	P	**Pn**	**11 29 36.8**	**+0.7**
	baz=186						
M23K	**Glacier View**	**5.66**	**8**		**Pn**	**11 29 36.9**	**+0.5**
M23K	**Glacier View**	**5.66**	**8**	P	**Pn**	**11 29 36.9**	**+0.5**
	baz=189						
N18K	**Kilae Creek**	**5.66**	**325**		**Pn**	**11 29 35.8**	**-0.6**
SCM	**Sheep Creek Mo**	**5.73**	**9**		**Pn**	**11 29 38.3**	**+0.8**
SCM	**Sheep Creek Mo**	**5.73**	**9**	P	**Pn**	**11 29 38.3**	**+0.8**
O16K	**Kokwok River B**	**5.78**	**310**		**Pn**	**11 29 38.3**	**+0.2**
VRDI	**Verde Repeater**	**5.88**	**29**	Pn	**Pn**	**11 29 40.0**	**+0.3**
SVW2	**Sparrevohn**	**5.89**	**329**		**Pn**	**11 29 38.9**	**-0.7**
SVW2	**Sparrevohn**	**5.89**	**329**	P	**Pn**	**11 29 39.2**	**-0.4**
SKT	**Skwentna**	**5.90**	**350**		**Pn**	**11 29 39.0**	**-0.7**
N25K	**Chitina, Valde**	**5.93**	**22**		**Pn**	**11 29 40.6**	**+0.3**
KIAG	**Kiagna River**	**5.96**	**35**		**Pn**	**11 29 41.1**	**+0.4**
GLB	**Gilahina Butte**	**5.97**	**26**		**Pn**	**11 29 41.1**	**+0.4**
SAMH	**Samovar Hills**	**5.98**	**45**		**Pn**	**11 29 41.4**	**+0.5**
N17K	**Nushagak Hills**	**5.99**	**319**		**Pn**	**11 29 40.6**	**-0.3**
CNBA	**Chernabura Isl**	**6.01**	**261**	Pn	**Pn**	**11 29 40.4**	**-0.8**
M20K	**Styx River**	**6.02**	**342**	Pn	**Pn**	**11 29 40.9**	**-0.5**
YKU2	**Yakutat**	**6.11**	**53**	Pn	**Pn**	**11 29 43.8**	**+1.2**
YKU2	**Yakutat**	**6.11**	**53**	P	**Pn**	**11 29 43.6**	**+1.0**
M24K	**Tolsona, Glenn**	**6.13**	**14**		**Pn**	**11 29 44.3**	**+1.4**
PTPK	**Patty Peak**	**6.13**	**33**		**Pn**	**11 29 43.5**	**+0.4**
PCA	**Pinnacle**	**6.17**	**47**		**Pn**	**11 29 44.3**	**+0.8**
CUT	**Chulitna**	**6.23**	**356**		**Pn**	**11 29 44.6**	**+0.3**
M18K	**Stony River**	**6.28**	**330**		**Pn**	**11 29 44.0**	**+0.9**
M19K	**Big River Lodg**	**6.28**	**337**		**Pn**	**11 29 44.2**	**-0.7**
BARN	**Barnard Glacie**	**6.29**	**36**		**Pn**	**11 29 45.9**	**+0.7**
PNL	**Peninsula**	**6.31**	**53**		**Pn**	**11 29 46.0**	**+0.6**
PNL	**Peninsula**	**6.31**	**53**	P	**Pn**	**11 29 46.3**	**+0.9**
CTGM	**Chitina Glacie**	**6.33**	**38**		**Pn**	**11 29 46.1**	**+0.3**
LOGN	**Logan Glacier**	**6.34**	**40**		**Pn**	**11 29 46.4**	**+0.4**
BCPM	**Bancas Point**	**6.35**

N31M **Braeburn, Yuko** 8.77 47 Pn 11 30 20.6 +1.5
WHY **Whitehorse** 8.77 54 Pn 11 30 20.5 +1.2
J26L **Joseph Creek** 8.78 16 Pn 11 30 19.9 +0.5
MDM **Murphy Dome** 8.79 3 Pn 11 30 19.7 +0.3
L29M **L29M** 8.92 35 Pn 11 30 22.0 +0.8
P32M **Atlin** 8.96 61 Pn Pn 11 30 21.9 +0.2
I23K **Minto, Yukon-K** 8.96 360 Pn 11 30 22.2 +0.5
I20K **Naaghedeneel** 8.98 346 Pn Pn 11 30 20.2 -1.7
POKR **Poker Plat Res** 8.98 5 Pn 11 30 22.7 +0.8
M30M **Minto, Yukon** 9.01 40 Pn 11 30 22.6 +0.2
U33K **Whale Pass** 9.03 84 Pn 11 30 20.7 -2.0
J16K **Anvik River** 9.09 326 Pn 11 30 23.1 -0.3
I21K **Tanana** 9.09 353 Pn 11 30 23.7 +0.3
CRAG **Craig** 9.14 88 Pn 11 30 23.1 -1.0
CRAG **Craig** 9.14 88 P Pn 11 30 21.2 -2.9
DAWY **Dawson** 9.29 28 Pn 11 30 26.9 +0.7
EGAK **Eagle** 9.47 22 Pn 11 30 30.4 +1.7
PRP **Porcupine Dome** 9.51 10 Pn 11 30 29.4 0.0
Q32M **Nakina River** 9.55 66 Pn 11 30 31.7 +1.7
I17K **Unalakleet** 9.56 328 Pn 11 30 29.4 -0.4
P33M **Teslin, Yukon** 9.57 58 Pn Pn 11 30 30.5 +0.4
I26K **Coal Creek Min** 9.60 16 Pn 11 30 31.1 +0.7
AKSA **Akutan Strait** 9.61 264 Pn 11 30 29.6 -0.9
H21K **Melozitna Rive** 9.62 351 Pn 11 30 29.0 -1.8
K29M **Barlow Dome** 9.64 33 Pn 11 30 32.0 +0.9
AKUT **Akutan** 9.65 264 Pn Pn 11 30 30.3 -0.8
AHB **Akutan Harbor** 9.68 264 Pn 11 30 30.3 -1.3
H24K **Noodor Dome** 9.68 3 Pn 11 30 33.3 +1.7
M31M **Drury Creek, Y** 9.71 46 Pn 11 30 33.6 +1.7
K13K **Kusilvak Mount** 9.75 312 Pn 11 30 33.8 +1.3
AKBBA **Akutan Broad B** 9.75 264 Pn 11 30 31.6 -0.9
J14K **Nanvaranak Lak** 9.75 318 Pn 11 30 33.2 +0.7
H22K **Ishtalitna Cre** 9.77 355 Pn 11 30 32.9 +0.2
N32M **Quiet Lake** 9.78 53 Pn 11 30 33.8 +0.9
M11K **Mekoryuk** 9.82 302 Pn 11 30 33.7 +0.3
J29N **Klondike Camp** 9.91 29 Pn 11 30 35.6 +0.9
H19K **Roundabout Mou** 9.96 343 Pn 11 30 35.1 -0.3
MAYO **Mayo, Yukon** 9.99 37 Pn 11 30 36.5 +0.8
H18K **Honhosa River** 9.99 337 Pn 11 30 34.5 -1.3
V35K **Ketchikan** 10.01 88 Pn 11 30 34.8 -1.2
IMAR **Indian Mountai** 10.03 350 Pn 11 30 36.2 -0.2
S34M **Telegraph Cree** 10.04 73 Pn 11 30 35.2 -1.3
FARO **Faro, Yukon** 10.14 47 Pn 11 30 39.5 +1.6
UNV **Unalaska Valle** 10.15 264 Pn 11 30 36.1 -1.9
UNV **Unalaska Valle** 10.15 264 P Pn 11 30 36.4 -1.6
H17K **Granite Mounta** 10.17 334 Pn 11 30 37.3 -0.9
DIB **Dawson Inlet,** 10.19 100 Pn 11 30 38.0 -0.6
MNAT **Makushin Natee** 10.24 264 Pn 11 30 37.9 -1.3
MSW **Makushin Switc** 10.28 264 Pn 11 30 38.5 -1.3
R33M **Jennings River** 10.29 64 Pn 11 30 40.9 +0.9
I28M **Miner Creek** 10.32 22 Pn 11 30 42.0 +1.7
G21K **Allakaket** 10.53 351 Pn 11 30 42.7 -0.4
T35M **Bob Quinn** 10.53 78 Pn 11 30 44.2 +1.0
J30M **Hart River** 10.54 32 Pn 11 30 44.7 +1.4
G23K **Bananza Creek** 10.54 358 Pn 11 30 44.3 +1.0
G24K **Hadweenzic Riv** 10.56 4 Pn 11 30 45.0 +1.5
FYU **Fort Yukon** 10.57 9 Pn 11 30 44.1 +0.4
I29M **Ogilvie Camp,** 10.61 26 Pn 11 30 45.9 +1.6
G19K **Purcell Mounta** 10.63 343 Pn 11 30 44.9 +0.3
DLBC **Dease Lake** 10.65 70 Pn 11 30 45.6 +0.7
DLBC **Dease Lake** 10.65 70 Pn Pn 11 30 45.4 +0.4
comp=E,5.8nm,0.3s,baz=236,slow=11,SNR=32
DLBC Sn **Sn** 11 32 38.7 -5.9
comp=E,1.6nm,0.3s,baz=90,slow=17,SNR=1.9
comp=E,17nm,0.4s
G18K **Tagagawik** 10.70 339 Pn 11 30 45.2 -0.3
I30M **Mount Dempster** 11.01 30 Pn 11 30 51.3 +1.5
G16K **Koyuk River** 11.17 331 Pn 11 30 51.1 -0.8
F21K **Alatna River** 11.22 352 Pn 11 30 53.4 +0.8
F20K **Avaraart Lake** 11.28 347 Pn 11 30 53.0 -0.4
H29M **Whitestone** 11.31 23 Pn 11 30 54.1 +0.2
F24K **Squaw Lake** 11.37 3 Pn 11 30 55.6 +1.0
F19K **Shaleruckik Mo** 11.38 343 Pn 11 30 54.0 -0.7
BMAR **Burnt Mountain** 11.47 9 Pn 11 30 55.6 -0.4
ANM **Nome** 11.51 323 Pn 11 30 54.0 -2.5
ANM **Nome** 11.51 323 P Pn 11 30 54.0 -2.5
SPIA **Saint Paul Isl** 11.55 283 P Pn 11 30 57.6 +0.5
F17K **Baldwin Pennin** 11.72 336 Pn 11 30 58.0 -1.4
NIKK **Nikolski High** 11.79 262 P Pn 11 30 59.5 -0.9
F15K **North Star Dit** 12.05 328 Pn 11 31 02.8 -1.1
E25K **Arctic Village** 12.07 7 Pn 11 31 04.7 +0.4
F28M **Old Crow** 12.25 17 Pn 11 31 07.8 +1.1
CLES **Cleveland East** 12.42 263 Pn Pn 11 31 09.9 +0.9
G30M **tAoh Zrail Nji** 12.43 24 Pn 11 31 10.4 +1.3
E27K **Coleen River** 12.53 13 Pn 11 31 10.0 -0.5
G31M **Satah River** 12.86 27 Pn 11 31 16.5 +1.6
BBB **Bella Bella** 13.03 99 Pn Pn 11 31 17.7 +0.4
comp=E,0.3nm,0.3s,baz=312,slow=12,SNR=1.5
BBB Sn **Sn** 11 33 34.4 -8.2
comp=E,0.3nm,0.3s,baz=228,slow=16,SNR=1.9
comp=E,21nm,0.9s
F31M **Tsiigehtchic** 13.39 27 Pn 11 31 23.0 +0.9
B21K **Ikpikpuk River** 13.66 352 Pn 11 31 25.9 0.0
C19K **Lookout Ridge** 13.74 344 Pn 11 31 26.0 -1.0
INK **Inuvik** 14.11 24 Pn 11 31 33.5 +1.5
INK **Inuvik** 14.11 24 P Pn 11 31 33.5 +1.5
INK **Inuvik** 14.11 24 Pn Pn 11 31 32.4 +0.4
comp=E,1.1nm,0.3s,baz=208,slow=14,SNR=25
comp=E,34nm,1.0s
B20K **Meade River** 14.27 349 Pn 11 31 33.4 -0.9
B22K **Teshekpuk Lake** 14.29 354 Pn 11 31 33.1 -1.4
ATKA **Atka Island** 15.07 265 Pn Pn 11 31 43.1 -2.0
GSTR **Great Sitkin T** 16.16 266 Pn 11 31 59.3 -0.1
ADK **Adak** 16.59 266 Pn 11 32 03.9 -1.0
ADK **Adak** 16.59 266 P Pn 11 32 03.1 -1.8
ADK **Adak** 16.59 266 P Pn 11 32 03.9 -1.0
ADK pmax pmax
comp=Z,90nm,0.9s
KIWB **Kanaga Island** 16.87 267 Pn 11 32 07.2 -1.2
C36M **Paulatuk** 17.31 31 Pn 11 32 13.1 -0.6
C36M IAmb IAmb 11 32 17.8
comp=Z,32nm,0.9s
GNW **Green Mountain** 18.40 107 P P 11 32 27.6 +0.2
YKA **Yellowknife Ar** 18.59 56 P P 11 32 29.7 +0.3
YKA **Yellowknife Ar** 18.59 56 P P 11 32 29.7 +0.3
YKA **Yellowknife Ar** 18.59 56 Pn P 11 32 29.9 +0.5
comp=Z,0.4nm,0.3s,baz=269,slow=9.9,SNR=18
comp=Z,9.5nm,1.1s
A36M **Sachs Harbour** 18.75 23 P Pn 11 32 31.7 +0.2
D05A **Enumclaw** 19.08 107 P Pn 11 32 36.8 +1.2
LON **Longmire** 19.45 108 P Pn 11 32 40.7 +0.6
LON IAmb IAmb 11 32 54.6
comp=Z,25nm,1.4s
LON **Longmire** 19.45 108 P Pn 11 32 40.7 +0.6
LON pmax pmax
comp=Z,25nm,1.4s
LTY **Liberty** 19.74 105 P P 11 32 43.0 +0.8
LTY IAmb IAmb 11 32 46.9
comp=Z,47nm,1.1s
B08A **Colville Reser** 19.82 101 P P 11 32 42.7 -0.3
B08A IAmb IAmb 11 32 47.8
comp=Z,18nm,1.1s
HOOD **Mount Hood Mea** 20.46 110 IAmb IAmb 11 33 07.5
comp=Z,29nm,1.1s
E07A **Sunnyside** 20.61 105 P P 11 32 51.8 +0.1
E07A IAmb IAmb 11 32 57.1
comp=Z,24nm,0.8s
C09A **Chrisman Ranch** 20.72 101 P P 11 32 53.9 +1.0
C09A IAmb IAmb 11 33 08.2
comp=Z,38nm,1.4s
D08A **Wollman Farm,** 20.81 103 P P 11 32 54.9 +1.1
EDM **Edmonton** 20.83 83 P P 11 32 55.4 +1.4
EDM IAmb IAmb 11 33 06.9
comp=Z,35nm,1.4s
EDM **Edmonton** 20.83 83 P P 11 32 55.4 +1.4
EDM pmax pmax
comp=Z,35nm,1.4s
HAWA **Hanford** 20.89 105 P P 11 32 55.6 +1.0
F07A **Phinny Hill Vi** 21.00 107 P P 11 32 56.5 +0.7
F07A IAmb IAmb 11 33 10.9
comp=Z,33nm,1.0s
E08A **Dider Farm, El** 21.09 105 P P 11 32 58.0 +1.2
E08A IAmb IAmb 11 32 59.0
comp=Z,35nm,1.1s
NEW **Newport** 21.09 99 P P 11 32 56.5 -0.4
NEW IAmb IAmb 11 33 12.4
comp=Z,27nm,1.1s
NEW **Newport** 21.09 99 P P 11 32 56.5 -0.4
NEW pmax pmax
comp=Z,27nm,1.2s
NEW **Newport** 21.09 99 P P 11 32 58.0 +1.1
comp=Z,4.3nm,0.8s,baz=5.0,slow=7.0,SNR=6.0
comp=Z,4.3nm,0.8s
I04A **Tendick Farm,** 21.13 115 P P 11 32 57.2 -0.1
DBO **Dodson Butte** 21.20 117 IAmb IAmb 11 33 05.6
comp=Z,30nm,0.9s
I05D **Terrebonne, OR** 21.29 112 IAmb IAmb 11 33 05.3
comp=Z,21nm,0.9s
K02D **Willamette Mer** 21.30 119 P P 11 32 59.0 -0.2
SHEM **Shemya Is, Ala** 21.38 276 P P 11 32 59.9 0.0
comp=Z,55nm,0.8s,baz=45,slow=7.1,SNR=3.3
comp=Z,55nm,0.8s
E09A **Wood Farm, Sta** 21.57 104 P P 11 33 02.5 +0.5
E09A IAmb IAmb 11 33 16.8
comp=Z,34nm,1.3s
HUMO **Hull Mountain** 21.72 118 P P 11 33 03.6 +0.1
L02F **Cave Junction** 21.78 119 P P 11 33 04.1 -0.1
L02F IAmb IAmb 11 33 21.1
comp=Z,34nm,1.1s
PINE **Pine Mountain** 21.88 113 P P 11 33 05.5 0.0
G08A **Pilot Rock** 21.91 107 P P 11 33 06.4 +0.6
J05D **Fort Rock, OR** 22.09 114 P P 11 33 09.9 +2.1
K04D **Chiloquin, OR** 22.30 116 P P 11 33 11.9 +1.9
L04D **Klamath Falls** 22.33 117 P P 11 33 11.3 +1.0
F10A **Beach Ranch, E** 22.40 104 P P 11 33 12.3 +1.3
F10A IAmb IAmb 11 33 24.5
comp=Z,22nm,1.1s
I07A **Izee** 22.43 110 P P 11 33 13.3 +2.0
I07A IAmb IAmb 11 33 24.0
comp=Z,24nm,1.0s
YBH **Yreka Blue Hor** 22.49 119 P P 11 33 13.2 +1.2
YBH IAmb IAmb 11 33 30.0
comp=Z,20nm,0.9s
YBH **Yreka Blue Hor** 22.49 119 P P 11 33 13.2 +1.2
YBH pmax pmax
comp=Z,20nm,1.0s
YBH **Yreka Blue Hor** 22.49 119 P P 11 33 12.9 +0.9
comp=Z,4.1nm,0.5s,baz=308,slow=4.8,SNR=3.7
comp=Z,4.1nm,0.5s
K05A **Summer Lake** 22.66 115 P P 11 33 15.7 +1.8
BMO **Blue Mountains** 23.08 106 P P 11 33 19.6 +1.5
BMO **Blue Mountains** 23.08 106 P P 11 33 19.6 +1.5
BMO pmax pmax
comp=Z,8.0nm,1.0s
BILL **Bilibino** 23.28 318 *i* P P 11 33 19.8 -0.1
J08A **Circle Bar Ran** 23.47 110 P P 11 33 24.0 +1.8
J08A IAmb IAmb 11 33 35.7
comp=Z,15nm,1.0s
PLID **Pearl Lake** 23.63 104 P P 11 33 24.7 +0.8
MSO **Missoula** 23.68 98 P P 11 33 24.5 +0.3
WVOR **Wild Horse Val** 24.03 112 IAmb IAmb 11 33 40.2
comp=Z,15nm,0.9s
ORV **Oroville** 24.76 121 P P 11 33 33.6 -0.5
ORV **Oroville** 24.76 121 P P 11 33 33.6 -0.5
ORV pmax pmax
comp=Z,4.0nm,0.7s
MFID **Camas Ranch** 24.83 107 P P 11 33 35.0 +0.1
MFID IAmb IAmb 11 33 37.0
comp=Z,6.6nm,1.0s
PLTX **Planet X, Gerl** 24.87 116 P P 11 33 36.4 +1.1
PLTX IAmb IAmb 11 33 42.6
comp=Z,18nm,1.0s
HLID **Hailey** 25.49 105 P P 11 33 41.7 +0.8
HLID IAmb IAmb 11 34 00.9
comp=Z,10nm,1.4s
MPK **Martis Peak** 25.67 119 P P 11 33 43.5 +0.8
MPK IAmb IAmb 11 33 45.4
comp=Z,20nm,1.2s
PAHR **Pah Rah Range** 25.67 117 IAmb IAmb 11 33 56.6
comp=Z,15nm,1.2s
PNTR **Pine Nut** 26.04 119 P P 11 33 47.7 +1.7
BMN **Battle Mountai** 26.22 113 P P 11 33 49.0 +1.5
BMN IAmb IAmb 11 34 02.8
comp=Z,11nm,0.9s
BMN **Battle Mountai** 26.22 113 P P 11 33 49.0 +1.5
BMN pmax pmax
comp=Z,11nm,0.9s
YERR **Yerington** 26.30 118 P P 11 33 50.3 +2.0
YERR IAmb IAmb 11 33 55.4
comp=Z,11nm,1.1s
WAKR **Walker** 26.58 119 P P 11 33 52.1 +1.3
WAKR IAmb IAmb 11 34 06.8
comp=Z,7.4nm,1.0s
KVN **Kaiserville** 26.81 117 P P 11 33 53.6 +0.6
KVN **Kaiserville** 26.81 117 P P 11 33 53.6 +0.6
KVN pmax pmax
comp=Z,4.0nm,1.0s
RYN **Ryan** 26.93 118 P P 11 33 55.1 +1.2
ELK **Elko** 27.02 110 P P 11 33 55.8 +1.0
ELK **Elko** 27.02 110 P P 11 33 55.8 +1.0
ELK pmax pmax
comp=Z,4.0nm,0.9s
NVAR **Mina Array Bea** 27.19 118 P P 11 33 57.2 +0.8
NVAR **Mina Array Bea** 27.19 118 P P 11 33 57.8 +1.4
comp=Z,4.0nm,0.8s,baz=304,slow=8.9,SNR=27
comp=Z,4.0nm,0.8s
MDPB **Devils Postpil** 27.44 120 P P 11 34 00.4 +1.7
OMMB **Old Mammoth Mi** 27.49 120 P P 11 34 00.3 +1.1
OMMB IAmb IAmb 11 34 02.2
comp=Z,11nm,1.1s
RES **Resolute Bay** 27.63 28 P P 11 33 59.3 -0.4
RES **Resolute Bay** 27.63 28 P P 11 33 59.3 -0.4
RES pmax pmax
comp=Z,3.0nm,0.8s
MZP **Montezuma Peak** 28.21 117 P P 11 34 07.0 +1.4
Q12A **Willow Creek R** 28.48 112 P P 11 34 09.0 +1.2
Q12A IAmb IAmb 11 34 26.1
comp=Z,8.2nm,0.9s
R11B **Troy Canyon, C** 28.62 114 P P 11 34 10.4 +1.3
PDAR **Pinedale Array** 28.66 101 P P 11 34 10.1 +0.5
PDAR **Pinedale Array** 28.66 101 P P 11 34 09.8 +0.2
comp=Z,0.6nm,0.5s,baz=329,slow=3.9,SNR=16
comp=Z,0.6nm,0.5s
SPR3 **Spring Creek 3** 28.77 112 P P 11 34 11.5 +0.8
S11A **Rachel** 29.08 115 IAmb IAmb 11 34 28.4
comp=Z,13nm,0.9s
WCT **Wildcat Mounta** 29.30 118 P P 11 34 16.0 +1.0
WCT IAmb IAmb 11 34 17.7
comp=Z,8.5nm,1.1s
SEY **Seymchan** 29.34 307 ⇑ *i* P P 11 34 14.9 -0.1
SEY pmax pmax
comp=Z,14nm,1.1s
SEY **Seymchan** 29.34 307 P P 11 34 15.0 0.0
comp=Z,6.1nm,0.9s,baz=91,slow=7.0,SNR=8.8
comp=Z,6.1nm,0.9s
TPNV **Topopah Spring** 29.36 117 P P 11 34 16.9 +1.2
TPNV IAmb IAmb 11 34 28.4
comp=Z,11nm,1.1s
TPNV **Topopah Spring** 29.36 117 P P 11 34 16.9 +1.2
TPNV pmax pmax
comp=Z,11nm,1.2s
PRN **Pahroc Range** 29.61 115 P P 11 34 18.5 +0.6
GWY **Greenwater Val** 29.76 118 P P 11 34 19.2 +0.1
GWY IAmb IAmb 11 34 26.2
comp=Z,5.5nm,1.0s
QSM **Queen of Sheba** 29.84 119 P P 11 34 20.4 +0.6
TCRU **Three Creeks R** 30.05 110 P P 11 34 22.7 +0.9
TCRU IAmb IAmb 11 34 36.1
comp=Z,6.9nm,0.9s
PETK **Petropavlovsk-** 30.18 287 P P 11 34 22.6 0.0
comp=Z,5.9nm,0.8s,baz=70,slow=13,SNR=14
comp=Z,5.9nm,0.8s
MVU **Marysvale** 30.25 110 P P 11 34 25.8 +2.2
SHPR **Sheep Range** 30.26 116 P P 11 34 24.5 +0.9
MSU **Marysvale** 30.26 110 P P 11 34 25.3 +1.6
MSU **Marysvale** 30.26 110 P P 11 34 25.3 +1.6
SZCU **Shurtz Canyon** 30.47 112 P P 11 34 27.1 +1.5
SZCU IAmb IAmb 11 34 33.2
comp=Z,6.1nm,1.3s
SRU **San Rafael Swe** 30.70 107 P P 11 34 28.5 +1.0
SRU IAmb IAmb 11 34 40.9
comp=Z,11nm,0.9s
SRU **San Rafael Swe** 30.70 107 P P 11 34 28.5 +1.0
SRU pmax pmax
comp=Z,11nm,0.9s
LCMT **Little Creek M** 30.84 113 P P 11 34 30.9 +2.2
RSSD **Black Hills** 30.84 94 P P 11 34 28.9 +0.1
RSSD IAmb IAmb 11 34 40.9
comp=Z,4.8nm,0.8s
RSSD **Black Hills** 30.84 94 P P 11 34 28.9 +0.1
RSSD pmax pmax
comp=Z,5.0nm,0.8s
V12A **Nelson** 31.02 117 P P 11 34 31.1 +0.8
V12A IAmb IAmb 11 34 33.3
comp=Z,7.1nm,0.9s
MA2 **Magadan** 31.08 301 ⇑ *i* P P 11 34 28.7 -1.8
MA2 pmax pmax
comp=Z,77nm,3.2s
O20A **White River Ci** 31.19 103 P P 11 34 32.7 +0.8
O20A IAmb IAmb 11 34 33.8
comp=Z,12nm,1.1s
HMU **Henry Mountain** 31.44 109 P P 11 34 35.7 +1.5
HMU IAmb IAmb 11 34 44.5
comp=Z,7.5nm,1.0s
ULM **Lac du Bonnet** 31.83 78 *e* P P 11 34 37.1 -0.1
BLYC **Blythe** 32.76 119 P P 11 34 47.3 +1.9
BLYC IAmb IAmb 11 35 06.8
comp=Z,2.8nm,0.6s
WUAZ **Wupatki** 32.95 113 P P 11 34 48.7 +1.4
BRIGG **Briggsdale** 33.03 99 P P 11 34 46.9 -1.0
MVCO **Mesa Verde** 33.17 108 P P 11 34 48.7 -0.7
MVCO IAmb IAmb 11 34 50.7
comp=Z,3.4nm,0.7s
Y14A **Wickenburg** 33.36 116 P P 11 34 51.1 +0.3
Y14A IAmb IAmb 11 34 53.5
comp=Z,9.5nm,1.1s
X16A **Lo Mia Camp, P** 33.77 114 P P 11 34 55.3 +0.8
X16A IAmb IAmb 11 35 07.7
comp=Z,6.9nm,0.8s
X18A **Snowflake** 34.45 112 P P 11 35 02.4 +2.0
X18A IAmb IAmb 11 35 13.2
comp=Z,4.1nm,0.7s
TIXI **Tiksi** 35.72 328 P P 11 35 11.5 +0.8
TIXI IAmb IAmb 11 35 14.7
comp=Z,3.8nm,0.8s
TIXI **Tiksi** 35.72 328 P P 11 35 11.5 +0.8
TIXI pmax pmax
comp=Z,4.0nm,0.8s
ANMO **Albuquerque** 35.96 108 *i* P P 11 35 14.9 +1.5
ANMO pmax pmax
comp=Z,1.0nm,1.0s
MNTX **Cornudas Mount** 39.04 110 P P 11 35 39.8 +0.4
N38A **Joes South For** 39.06 89 P P 11 35 39.5 +0.2
N38A IAmb IAmb 11 35 57.8
comp=Z,9.9nm,1.0s
YAK **Yakutsk** 39.41 313 P P 11 35 42.8 +0.8
YAK **Yakutsk** 39.41 313 ⇑ *i* P P 11 35 42.2 +0.2
YAK pmax pmax
comp=Z,22nm,0.6s
VHRN **Van Horn** 39.97 111 P P 11 35 47.8 +0.5
WMOK **Wichita Mounta** 40.27 100 P P 11 35 50.2 +0.6
WMOK IAmb IAmb 11 35 51.5
comp=Z,7.6nm,1.2s
WMOK **Wichita Mounta** 40.27 100 P P 11 35 50.2 +0.6
WMOK pmax pmax
comp=Z,8.0nm,1.2s
N41A **Harden Midland** 40.44 87 P P 11 35 51.0 +0.2
TX31 **Lajitas Ar. Si** 41.81 111 P P 11 36 03.6 +1.2
TXAR **Lajitas Array** 41.81 111 P P 11 36 04.0 +1.6
TXAR **Lajitas Array** 41.81 111 P P 11 36 04.0 +1.6
TXAR **Lajitas Array** 41.81 111 P P 11 36 03.8 +1.4
comp=Z,2.0nm,0.9s,baz=317,slow=6.6,SNR=15
comp=Z,2.0nm,0.9s
OZNA **Ozona** 41.91 106 P P 11 36 04.2 +1.1
SAND **Sanderson** 42.13 108 P P 11 36 06.6 +1.7
BRDY **Brady** 42.77 104 P P 11 36 10.7 +0.6
JCT **Junction City** 42.96 106 P P 11 36 12.8 +1.1
JCT IAmb IAmb 11 36 23.9
comp=Z,14nm,0.9s
JCT **Junction City** 42.96 106 P P 11 36 12.8 +1.1
JCT pmax pmax
comp=Z,14nm,1.0s
SUMG **Summit** 43.03 24 P P 11 36 13.4 +1.2
SUMG IAmb IAmb 11 36 30.2
comp=Z,21nm,1.5s
SUMG **Summit** 43.03 24 P P 11 36 13.4 +1.2
SUMG pmax pmax
comp=Z,21nm,1.5s
SUMG **Summit** 43.03 24 *i* P P 11 36 12.0 -0.2
DRIO **Del Rio** 43.35 107 P P 11 36 15.2 +0.4
DRIO IAmb IAmb 11 36 16.1
comp=Z,9.5nm,0.7s
KLR **Kul'dur** 45.85 296 P P 11 36 34.0 -0.4
comp=Z,3.3nm,0.7s,baz=89,slow=12,SNR=8.9
comp=Z,3.3nm,0.7s
NRIK **Noril'sk** 48.16 336 *i* P P 11 36 51.1 -1.2
NRIK pmax pmax
comp=Z,1.0nm,0.3s
CN2 **Changchun** 52.73 295 P P 11 37 27.3 +0.2
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ARCES **ARCESS Array B** 54.50 2 P P 11 37 39.5 -0.3
comp=Z,2.8nm,0.7s,baz=3.2,slow=6.4,SNR=4.6
comp=Z,2.8nm,0.7s
KSRS **Korea Array** 56.07 288 P P 11 37 52.0 +0.6
comp=Z,1.7nm,0.9s,baz=29,slow=7.5,SNR=4.3
comp=Z,1.7nm,0.9s
ULN **Ulaanbaatar** 58.37 310 P P 11 38 09.1 +1.3
ULN IAmb IAmb 11 38 09.9
comp=Z,3.3nm,0.7s
ULN **Ulaanbaatar** 58.37 310 P P 11 38 09.1 +1.3
ULN pmax pmax
comp=Z,3.0nm,0.7s
SONM **Songino Array** 58.67 310 P P 11 38 10.2 +0.3
SONM IAmb IAmb 11 38 12.2
comp=Z,5.8nm,0.9s
SONM **Songino Array** 58.67 310 P P 11 38 10.2 +0.3
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM **Songino Array** 58.67 310 P P 11 38 11.3 +1.4
comp=Z,6.3nm,0.9s,baz=45,slow=6.7,SNR=20
comp=Z,6.3nm,0.9s
ZALV **Zalesovo Beam** 61.61 327 P P 11 38 29.9 +0.1
comp=Z,2.1nm,0.5s,baz=36,slow=6.8,SNR=9.3
comp=Z,2.1nm,0.5s
HHC **Hu-ho-hao-te** 61.76 302 *e* P P 11 38 36.3 +5.1
HHC pmax pmax
comp=Z,28nm,0.8s
NOA **NORSAR Array B** 62.08 11 P P 11 38 32.8 -0.1
comp=Z,1.2nm,0.7s,baz=348,slow=6.7,SNR=3.4
comp=Z,1.2nm,0.7s
FIA1 **FINESS Array S** 62.62 2 P P 11 38 36.7 +0.3
FINES **FINESS Array B** 62.63 2 P P 11 38 37.5 +1.0
FINES **FINESS Array B** 62.63 2 P P 11 38 37.5 +1.0
FINES **FINESS Array B** 62.63 2 P P 11 38 36.1 -0.3
comp=Z,2.1nm,0.7s,baz=359,slow=8.2,SNR=6.2
comp=Z,2.1nm,0.7s
HFS **Hagfors** 63.22 9 P P 11 38 40.0 -0.4
comp=Z,1.2nm,0.5s,baz=64,slow=9.8,SNR=2.2
comp=Z,1.2nm,0.5s
DGZ **Jazzator, Alta** 64.42 323 *e* P P 11 38 49.3 +0.6
DGZ pmax pmax
comp=Z,2.0nm,0.7s
NJ2 **Nanjing** 64.99 291 *e* P P 11 38 52.3 -0.2
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ARU **Arti** 65.47 343 P P 11 38 56.6 +1.4
ARU S S 11 47 42.8 +2.8
KURK **Kurchatov** 66.28 329 P P 11 39 01.0 +0.4
KURK IAmb IAmb 11 39 13.6
comp=Z,5.4nm,1.4s
KURK **Kurchatov** 66.28 329 P P 11 39 01.0 +0.4
KURK pmax pmax
comp=Z,5.0nm,1.5s
BRVK **Borovoye** 66.33 335 ⇑ *i* P P 11 39 00.4 -0.5
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BVAR **Borovoye Array** 66.34 335 P P 11 39 00.1 -0.8
comp=Z,0.5nm,0.5s,baz=55,slow=11,SNR=1.5
comp=Z,0.5nm,0.5s
KURBB **Kurchatov Arra** 66.39 329 P P 11 39 00.6 -0.7
comp=Z,0.9nm,0.5s,baz=30,slow=6.7,SNR=8.6
comp=Z,0.9nm,0.5s
GTA **Gaotai** 68.27 309 *e* P P 11 39 13.8 +0.2
GTA sP pwP 11 39 23.0 +3.6
GTA pmax pmax
comp=Z,3.0nm,1.1s
MK31 **Makanchi Array** 68.64 325 P P 11 39 15.5 -0.1
MK31 **Makanchi Array** 68.64 325 P P 11 39 15.5 -0.1
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR **Makanchi Array** 68.64 325 P P 11 39 16.1 +0.5
MKAR **Makanchi Array** 68.64 325 P P 11 39 16.1 +0.5
MKAR **Makanchi Array** 68.64 325 P P 11 39 15.4 -0.2
comp=Z,1.7nm,0.6s,baz=29,slow=6.5,SNR=21
comp=Z,1.7nm,0.6s
MAKZ **Makanchi** 68.73 325 P P 11 39 16.4 +0.2
MAKZ IAmb IAmb 11 39 17.4
comp=Z,2.9nm,0.9s
MAKZ **Makanchi** 68.73 325 P P 11 39 16.4 +0.2
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
ABKAR **Akbulak array** 72.11 340 P P 11 39 38.4 +1.7

AKASG	Malin Array Be	73.44	1	P		P		11 39 44.7	+0.1
	comp=Z,0.9nm,0.5s,baz=360,slow=6.0,SNR=2.3								
	comp=Z,0.9nm,0.5s								
VRAC	Vranov	74.19	10	eP		P		11 39 54.9	+5.8
GERES	GERESS Array B	74.35	12	P		P		11 39 50.7	+0.6
	comp=Z,0.7nm,0.6s,baz=0.0,slow=2.9,SNR=1.6								
	comp=Z,0.7nm,0.6s								
KKAR	Karatay Array	75.50	331	P		P		11 39 57.6	+0.8
KKAR	Karatay Array	75.50	331	P		P		11 39 57.6	+0.8
PZH	PanZhiHua	78.14	300	P		P		11 40 11.6	-0.4
PZH				pmax		pmax			
	comp=Z,9.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,110nm,4.7s								
ESDC	Sonseca Array	80.05	26	P		P		11 40 22.5	+0.3
	comp=Z,0.8nm,0.8s,baz=331,slow=7.2,SNR=4.3								
	comp=Z,0.8nm,0.8s								
BRTR	Keskin Array B	84.39	358	P		P		11 40 45.8	+0.7
	comp=Z,0.3nm,0.3s,baz=1.1,slow=7.6,SNR=1.2								
	comp=Z,0.3nm,0.3s								
CMAR	Chiang Mai Arr	86.30	298	P		P		11 40 55.0	+0.3
	comp=Z,1.1nm,0.7s,baz=14,slow=5.6,SNR=6.7								
	comp=Z,1.1nm,0.7s								
QSPA	South Pole Qui	146.01	180	PKPbc		PKPbc		11 47 51.0	-0.2
	comp=Z,2.0nm,0.7s,baz=42,slow=7.4,SNR=3.6								

HEL 23 11:31:11.3±0.1, 60.17N×25.04E, h0km, ML0.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
HEL1	Helsinki	0.08	277	eP		Pg	11	31 12.6	-0.2
HEL1				eS		Sg	11	31 13.4	-0.3
HEL2	Helsinki	0.10	281	eP		Pg	11	31 13.3	0.0
HEL2				eS		Sg	11	31 14.6	-0.1
HEL3	Helsinki	0.11	273	eP		Pg	11	31 13.1	-0.2
HEL3				eS		Sg	11	31 14.5	-0.2
HEL4	Helsinki	0.14	304	eP		Pg	11	31 13.8	-0.2
HEL4				eS		Sg	11	31 15.7	-0.1
HEL5	Espoo, Suvisaa	0.16	251	eP		Pg	11	31 14.1	-0.2
HEL5				eS		Sg	11	31 16.3	0.0
MEF	Metsahovi	0.33	279	eP		Pg	11	31 17.4	-0.1
MEF				eS		Sg	11	31 21.3	-0.4
NUR	Nurmijrvi	0.39	331	eP		Pg	11	31 18.4	-0.5
NUR				eS		Sg	11	31 24.0	0.0
PVF	Pernaja	0.56	47	eP		Pg	11	31 22.4	+0.4
PVF				eS		Sg	11	31 29.7	+0.5
VJF	Virojoki	1.30	72	eSN		Sn	11	31 54.5	-0.3
VJF				MSG			11	31 55.0	
	comp=Z,0.2nm,0.0s								

*EST **23** 11:31:52.9±0.1, 59.27N×27.70E, h0km, ML1.6(HEL), Explosion*

LVSN 23 11:31:55.3±2.0, 59.26N×27.59E, h0km±39km, ML2.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
EE03	Tooma soojaam,	0.79	241	eP		Pg	11	32 07.4	-3.0
EE03				eS		Sg	11	32 18.0	-2.5
ARBE	Arbavere	0.84	283	eP		Pg	11	32 09.3	-2.1
ARBE				eS		Sg	11	32 21.1	-1.2
ARBE	Arbavere	0.84	283	eP		Pg	11	32 09.4	-1.9
ARBE				eS		Sg	11	32 20.3	-2.0
ARBE				AML		AML	11	32 30.1	
	comp=E,136nm,0.2s								
ARBE				AML		AML	11	32 31.0	
	comp=N,180nm,0.1s								
ARBE				AML		AML	11	32 31.9	
	comp=Z,68nm,0.1s								
VSU	Vasula	0.92	209	eP		Pg	11	32 10.1	-2.8
VJF	Virojoki	1.28	359	eP		Pg	11	32 15.7	-4.1
VJF				eSB		Sg	11	32 32.8	-3.5
EE08	Sarghaua, Vand	1.36	244	eP		Pg	11	32 18.1	-3.3
EE08				eS		Sg	11	32 36.0	-3.0
EE07	Piusa Caves, O	1.43	183	eP		Pn	11	32 18.6	-3.8
EE07				eS		Sg	11	32 37.5	-3.6
PVF	Pernaja	1.55	327	eP		Pn	11	32 20.8	-3.3
PVF				eS		Sn	11	32 41.5	-3.4
PVF				MSG			11	32 46.4	
	comp=Z,3.4nm,0.1s								
HEL1	Helsinki	1.65	305	eSN		Sn	11	32 46.4	-1.0
HEL1				MSG			11	32 47.1	
	comp=Z,4.3nm,0.1s								
MEF	Metsahovi	1.88	302	ePG		Pn	11	32 27.6	-1.0
MEF				eSN		Sn	11	32 51.6	-1.4
MEF				MSG			11	32 54.1	
	comp=Z,5.1nm,0.1s								
MEF	Metsahovi	1.88	302	eP		Pn	11	32 27.7	-1.0
MEF				eS		Sn	11	32 51.4	-1.6
MEF				AML		AML	11	32 53.7	
	comp=E,6.7nm,0.2s								
MEF				AML		AML	11	32 54.2	
	comp=Z,9.8nm,0.2s								
MEF				AML		AML	11	32 54.6	
	comp=N,17nm,0.2s								
NUR	Nurmijrvi	1.94	311	eP		Pn	11	32 27.4	-2.1
NUR				eS		Sn	11	32 52.5	-2.0
NUR				MSG			11	32 55.5	
	comp=Z,3.6nm,0.1s								
MTSE	Matsula	2.03	256	ePB		Pn	11	32 29.7	-1.0
MTSE				eSG		Sn	11	32 57.3	+0.6
MTSE	Matsula	2.03	256	eP		Pn	11	32 29.8	-0.9
MTSE				eS		Sn	11	32 55.8	-0.9
EE01	Perakula, Nova	2.04	270	ePG		Pn	11	32 30.1	-0.7
EE01				eSG		Sn	11	32 56.9	0.0
RUF	Ruokolahti	2.27	17	ePB		Pn	11	32 31.8	-2.3
SLIT	Slitere, Latvi	3.23	242	eSB		Sb	11	33 31.3	-2.0

*NEIC **23** 11:32:50.2±1.1, 56.02N±0.09×149.7W±0.1, h22km±9km, mb3.7/2, Error ellipse: s-maj=13.1km s-min=8.7km az=178.0*
*AEIC **23** 11:32:53.8±1.1, 56.03N±0.08×149.6W±0.1, h12km±6km, Error ellipse: s-maj=11.6km s-min=9.4km az=174.0*

ISC 23 11:32:47.7±1.2, 56.00N±0.09×149.69W±0.06, h10km, n118, σ1§17/126, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
OHAK	Old Harbor	2.34	303			Pn	11	33 26.6	+0.5
OHAK						Sn	11	33 52.8	-2.0
OHAK	Old Harbor	2.34	303	P		Pn	11	33 26.6	+0.5
	baz=119								
OHAK				S		Sn	11	33 52.8	-2.0
	baz=119								
KDAK	Kodiak Island	2.39	320			Pn	11	33 27.5	+0.6
KDAK						Sn	11	33 54.6	-1.6
SYI	Shuyak Island	3.00	332			Pn	11	33 36.0	+0.8
SYI						Sn	11	34 09.9	-1.3
Q20K	Shuyak Island	3.00	332	P		Pn	11	33 36.0	+0.8
	baz=149								
Q20K				S		Sn	11	34 09.9	-1.3
	baz=149								
CNPM	China Poot	3.63	347			Pn	11	33 44.4	+0.5
CNPM						Sn	11	34 25.4	-1.4
Q19K	Cape Douglas,	3.63	326			Pn	11	33 45.7	+1.8
Q19K	Cape Douglas,	3.63	326	P		Pn	11	33 45.7	+1.8
	baz=142								
BRSE	Bradley Lake S	3.79	352			Pn	11	33 46.8	+0.6
BRSE						Sn	11	34 27.9	-2.9
BRSE	Bradley Lake S	3.79	352	P		Pn	11	33 46.8	+0.6
	baz=170								
BRSE				S		Sn	11	34 27.9	-2.9
	baz=170								
HOM	Homer	3.81	345			Sn	11	34 30.8	-0.5
HOM	Homer	3.81	345	S		Sn	11	34 30.8	-0.5
	baz=163								
BRLK	Bradley Lake	3.83	351			Pn	11	33 47.1	+0.4
Q23K	Middleton Isla	3.88	26			Pn	11	33 47.5	+0.3
Q23K	Middleton Isla	3.88	26	P		Pn	11	33 47.5	+0.3
	baz=209								
MID	Middleton Isla	3.88	26			Pn	11	33 47.3	0.0
AUCH	Augustine Cone	3.93	331			Pn	11	33 49.2	+1.1
PLK3	Peulik 3	3.99	298			Pn	11	33 50.6	+1.7
CNTC	Contact Creek	4.07	306			Pn	11	33 51.5	+1.5
Q17K	Contact Creek	4.07	306	P		Pn	11	33 51.5	+1.5
	baz=121								
P19K	Oil Pt	4.12	334			Pn	11	33 52.0	+1.3
P19K	Oil Pt	4.12	334	P		Pn	11	33 52.0	+1.3
	baz=151								
P23K	Montague Islan	4.19	16			Pn	11	33 51.9	+0.3
	baz=198								
PLK1	Peulik 1	4.20	298			Pn	11	33 53.3	+1.6
P18K	Big Mountain,	4.52	321			Pn	11	33 56.9	+0.8
P18K	Big Mountain,	4.52	321	P		Pn	11	33 56.9	+0.8
	baz=136								
R16K	Pilot Point	4.61	293			Pn	11	33 59.2	+1.8
R16K	Pilot Point	4.61	293	P		Pn	11	33 59.2	+1.8
	baz=106								
Q16K	King Salmon	4.63	308			Pn	11	33 59.1	+1.5
Q16K	King Salmon	4.63	308	P		Pn	11	33 59.1	+1.5
	baz=122								
HIN	Hinchinbrook I	4.72	20			Pn	11	33 59.4	+0.5
KAIM	Kayak Island	4.83	33			Pn	11	34 01.2	+0.8
KAIM	Kayak Island	4.83	33	P		Pn	11	34 01.2	+0.8
	baz=218								
P17K	Kvichak River	4.84	314			Pn	11	34 02.4	+1.9
P17K	Kvichak River	4.84	314	P		Pn	11	34 02.4	+1.9
	baz=128								
EYAK	Cordova Ski Ar	5.01	23			Pn	11	34 03.4	+0.5
EYAK	Cordova Ski Ar	5.01	23	P		Pn	11	34 03.4	+0.5
	baz=206								
GOAT	Goat Mountain	5.29	28			Pn	11	34 07.3	+0.6
P16K	Nushagak River	5.41	308			Pn	11	34 09.8	+1.6
P16K	Nushagak River	5.41	308	P		Pn	11	34 09.8	+1.6
	baz=120								
BERG	Berg Lake	5.42	33			Pn	11	34 08.8	+0.3
O17K	Koliganek Bris	5.47	317			Pn	11	34 10.1	+1.0
O17K	Koliganek Bris	5.47	317	P		Pn	11	34 10.1	+1.0
	baz=130								
N18K	Kilae Creek	5.72	328			Pn	11	34 13.2	+0.7
N18K	Kilae Creek	5.72	328	P		Pn	11	34 13.2	+0.7
	baz=142								
O16K	Kokwok River B	5.76	312	Pn		Pn	11	34 14.1	+1.0
GHO	Glory Hole Cre	5.80	4	Pn		Pn	11	34 14.1	+0.3
KLU	Klutina	5.85	18			Pn	11	34 14.6	+0.2
KLU	Klutina	5.85	18	P		Pn	11	34 14.6	+0.2
	baz=201								
SVW2	Sparrevohn	5.97	331	Pn		Pn	11	34 15.7	-0.3
VRDI	Verde Repeater	6.17	29			Pn	11	34 19.5	+0.5
N25K	Chitina, Valde	6.21	23			Pn	11	34 20.4	+0.9
N25K	Chitina, Valde	6.21	23	P		Pn	11	34 20.4	+0.9
	baz=207								
GLB	Gilahina Butte	6.26	27			Pn	11	34 21.3	+1.3
KIAG	Kiagna River	6.26	35			Pn	11	34 20.7	+0.6
SAMH	Samovar Hills	6.28	45			Pn	11	34 21.3	+0.9
O15K	Ungalikthiuk R	6.31	304			Pn	11	34 22.1	+1.5
O15K	Ungalikthiuk R	6.31	304	P		Pn	11	34 22.1	+1.5
	baz=116								
M18K	Stony River	6.36	332			Pn	11	34 21.7	+0.3
M18K	Stony River	6.36	332	P		Pn	11	34 21.7	+0.3
	baz=147								
M24K	Tolsona, Glenn	6.39	15	Pn		Pn	11	34 23.8	+2.0
PCA	Pinnacle	6.47	47			Pn	11	34 23.6	+0.6
PINM	Pinnacle	6.47	47	P		Pn	11	34 23.6	+0.6
	baz=235								
N16K	Nishlik Lake	6.56	317			Pn	11	34 25.7	+1.5
N16K	Nishlik Lake	6.56	317	P		Pn	11	34 25.7	+1.5
	baz=129								
BARN	Barnard Glacie	6.59	36			Pn	11	34 25.1	+0.5
WASW	Wrangell South	6.59	23			Pn	11	34 25.9	+1.2
PNL	Peninsula	6.61	52			Pn	11	34 25.6	+0.8
PNL	Peninsula	6.61	52	P		Pn	11	34 25.6	+0.8
	baz=241								
CTGM	Chitina Glacie	6.63	38	Pn		Pn	11	34 25.6	+0.4
LOGN	Logan Glacier	6.65	40	Pn		Pn	11	34 25.9	+0.5
BCPM	Bancas Point	6.65	49			Pn	11	34 25.8	+0.4
M17K	Holitna River	6.75	327			Pn	11	34 27.8	+1.1
M17K	Holitna River	6.75	327	P		Pn	11	34 27.8	+1.1
	baz=140								
HARP	HAARP	6.83	18			Pn	11	34 28.4	+0.7
HARP	HAARP	6.83	18	P		Pn	11	34 28.4	+0.7
	baz=202								
N15K	Kwethluk River	6.92	311	Pn		Pn	11	34 30.9	+1.9
PN7A	Pavlof North-7	6.98	270			Pn	11	34 31.0	+1.1
M16K	Timber Creek	6.99	320			Pn	11	34 31.6	+1.6
M16K	Timber Creek	6.99	320	P		Pn	11	34 31.6	+1.6
	baz=132								
O14K	Tigyukauivet M	7.02	302			Pn	11	34 31.7	+1.3
O14K	Tigyukauivet M	7.02	302	P		Pn	11	34 31.7	+1.3
	baz=112								
O29M	Mnt Kennedy	7.29	49			Pn	11	34 35.4	+1.1
O29M	Mount Kennedy	7.29	49	P		Pn	11	34 35.4	+1.1
	baz=239								
P29M	Windy Craggy	7.34	55			Pn	11	34 35.5	+0.6
P29M	Windy Craggy	7.34	55	P		Pn	11	34 35.5	+0.6
	baz=246								
M15K	Kasigluk River	7.46	314			Pn	11	34 37.9	+1.5
M15K	Kasigluk River	7.46	314	P		Pn	11	34 37.9	+1.5
	baz=124								
M27K	Edge Creek, AK	7.53	29	Pn		Pn	11	34 39.1	+1.6
YUK7	Dusty Glacier	7.59	49			Pn	11	34 39.5	+1.1
S31K	Pelican	7.61	69			Pn	11	34 37.6	-0.9
S31K	Pelican	7.61	69	P		Pn	11	34 37.6	-0.9
	baz=261								
L16K	Owhat River	7.64	323			Pn	11	34 39.6	+0.7
L16K	Owhat River	7.64	323	P		Pn	11	34 39.6	+0.7
	baz=134								
P30M	Million Dollar	7.91	53			Pn	11	34 43.2	+0.6
P30M	Million Dollar	7.91	53	P		Pn	11	34 43.2	+0.6
	baz=244								
ISNN	Isanotski Nort	8.10	268			Pn	11	34 46.2	+0.9
RIDG	Independent Ri	8.13	15	Pn		Pn	11	34 47.4	+1.7
SKAG	Skagway	8.43	60	Pn		Pn	11	34 51.8	+2.1
S32K	Killisnoo	8.44	74			Pn	11	34 49.4	-0.5
S32K	Killisnoo	8.44	74	P		Pn	11	34 49.4	-0.5
	baz=266								
M13K	Dall Lake	8.46	307	Pn		Pn	11	34 51.6	+1.5
O30N	Mendenhall	8.59	51			Pn	11	34 52.7	+0.7
O30N	Mendenhall	8.59	51	P		Pn	11	34 52.7	+0.7
	baz=242								
K15K	Wolf Creek Mou	8.76	321			Pn	11	34 55.4	+1.2
K15K	Wolf Creek Mou	8.76	321	P		Pn	11	34 55.4	+1.2
	baz=130								
WHY	Whitehorse	9.07	53			Pn	11	34 59.5	+0.8
WHY	Whitehorse	9.07	53	P		Pn	11	34 59.5	+0.8
	baz=246								
L29M	L29M	9.22	35			Pn	11	35 01.9	+1.3
L29M	L29M	9.22	35	P		Pn	11	35 01.9	+1.3
	baz=224								
P32M	Atlin	9.25	61			Pn	11	35 01.4	+0.4
P32M	Atlin	9.25	61	P		Pn	11	35 01.4	+0.4
	baz=254								
U33K	Whale Pass	9.27	82			Pn	11	34 59.8	-1.5
U33K	Whale Pass	9.27	82	P		Pn	11	34 59.8	-1.5
	baz=276								
C36M	Paulatuk	17.60	30			Pn	11	36 53.8	+1.1
C36M					IAmb	IAmb	11	37 18.9	
	comp=Z,9.2nm,1.4s								
YKA	Yellowknife Ar	18.89	56	P		P	11	37 08.5	+0.6
A36M	Sachs Harbour	19.03	23	P		P	11	37 09.3	-0.1
A36M					IAmb	IAmb	11	37 43.9	
	comp=Z,4.1nm,0.8s								

*IDC **23** 11:34:16.6±0.7, 56.43N×149.24W, h0km, mb4.0/19, mbtmp4.0/23, ML3.8/4, Error ellipse: s-maj=22.3km s-min=11.5km az=24.0*
*NEIC **23** 11:34:18.1±1.9, 56.31N±0.07×149.31W±0.09, h19km±5km, mb4.4/15, ML4.4/54, ML4.4(AEIC), Error ellipse: s-maj=10.5km s-min=7.0km az=170.0*
*AEIC **23** 11:34:20.4±2.2, 56.25N±0.07×149.29W±0.09, h7km±5km, Error ellipse: s-maj=10.9km s-min=7.3km az=176.0*

ISC 23 11:34:17.5±0.5, 56.36N±0.07×149.29W±0.05, h10km, n259, σ1§05/255, mb4.4/35, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KDAK	Kodiak Island	2.30	310	Pn		Pn	11	34 54.7	-0.6
KDAK	Kodiak Island	2.30	310	Pn		Pn	11	34 54.9	-0.5
	26nm,0.3s,baz=161,slow=4.9,SNR=9.6								
KDAK						Sn	Sn	11 35 20.9	-2.7
	53nm,0.3s,baz=336,slow=20,SNR=15								
	67nm,0.4s								
OHAK	Old Harbor	2.36	293			Pn	11	34 54.8	-1.4
OHAK						Sn	11	35 21.4	-3.8
OHAK	Old Harbor	2.36	293	P		Pn	11	34 54.6	-1.7
	baz=112								
OHAK				S		Sn	11	35 21.5	-3.8
	baz=112								
SYI	Shuyak Island	2.81	325			Pn	11	35 02.3	-0.1
SYI	Shuyak Island	2.81	325			Sn	11	35 35.2	-1.1
Q20K	Shuyak Island	2.81	325	P		Pn	11	35 02.2	-0.2
	baz=143								
Q20K				S		Sn	11	35 35.2	-1.1
	baz=143								
CNPM	China Poot	3.34	343	Pn		Pn	11	35 09.7	0.0
CNPM				IAML			11	35 53.2	
	comp=N,557nm,0.8s								
CNPM	China Poot	3.34	343			Sn	11	35 48.6	-0.9
Q23K	Middleton Isla	3.46	26	Pn		Pn	11	35 10.3	-0.9
Q23K				IAML			11	35 50.2	
	comp=E,541nm,0.7s								
Q23K				IAML			11	35 50.2	
	comp=N,700nm,0.7s								
Q23K	Middleton Isla	3.46	26			Sn	11	35 49.9	-2.4
MID	Middleton Isla	3.46	26	Pn		Pn	11	35 10.3	-1.0
MID				IAML			11	35 50.1	
	comp=N,811nm,0.7s								
MID	Middleton Isla	3.46	26	P		Pn	11	35 10.8	-0.5
BRSE	Bradley Lake S	3.48	348			Pn	11	35 11.5	-0.2
BRSE						Sn	11	35 52.3	-0.6
BRSE	Bradley Lake S	3.48	348	P		Pn	11	35 11.5	-0.2
	baz=167								
Q19K	Cape Douglas,	3.48	320	Pn		Pn	11	35 11.8	+0.1
Q19K				IAML			11	36 04.3	
	comp=N,2μm,0.9s								
Q19K	Cape Douglas,	3.48	320			Sn	11	35 52.0	-0.9
BRLK	Bradley Lake	3.52	347			Pn	11	35 11.3	-0.9
BRLK				IAML			11	35 58.8	
	comp=E,514nm,0.6s								
HOM	Homer	3.54	340			Pn	11	35 11.8	-0.6
HOM				IAML			11	36 01.3	
	comp=E,784nm,0.6s								
HOM				IAML			11	36 03.4	
	comp=N,1μm,0.7s								
KAHG	Katmai Hook Gl	3.56	309			Pn	11	35 13.5	+0.8
KCE	Katmai Mt Cerb	3.71	303			Pn	11	35 17.1	+2.2
AUL	Augustine Lava	3.75	326			Pn	11	35 16.7	+1.3
SEW	Seward	3.76	359			Pn	11	35 14.9	-0.5
SEW	Seward	3.76	359	P		Pn	11	35 14.8	-0.7
	baz=179								
ACHA	Angle Creek He	3.76	302			Pn	11	35 16.5	+0.9
P23K	Montague Islan	3.79	15			Pn	11	35 15.6	-0.3
P23K	Montague Islan	3.79	15	P		Pn	11	35 15.6	-0.3
	baz=196								
KVTA	Katmai Vly 10	3.83	304			Pn	11	35 17.2	+0.7
ANCK	Angle Creek	3.84	301			Pn	11	35 17.7	+1.1
KAHC	Katmai Hardscr	3.84	309			Pn	11	35 17.4	+0.6
KAHC	Katmai Hardscr	3.84	309	P		Pn	11	35 17.4	+0.6
	baz=126								
P19K	Oil Pt	3.91	329			Pn	11	35 18.1	+0.5
P19K				IAML			11	36 08.3	
	comp=E,1μm,0.6s								
P19K				IAML			11	36 08.3	
	comp=N,850nm,0.5s								
P19K	Oil Pt	3.91	329	P		Pn	11	35 17.9	+0.2
	baz=147								
CNTC	Contact Creek	4.05	301			Pn	11	35 19.2	-0.4
Q17K	Contact Creek	4.05	301	P		Pn	11	35 20.1	+0.5
	baz=117								
O22K	Cooper Landing	4.14	357			Pn	11	35 20.1	-0.6
IVE	Iliamna Volcan	4.17	333			Pn	11	35 21.2	+0.1
SLKM	Skilak Lake	4.19	354			Pn	11	35 21.1	-0.3
HIN	Hinchinbrook I	4.31	19			Pn	11	35 22.2	-0.9
HIN				IAML			11	36 13.8	
	comp=N,690nm,0.5s								
HIN				IAML			11	36 18.3	
	comp=E,584nm,0.7s								
P18K	Big Mountain,	4.39	316			Pn	11	35 22.8	-1.4
P18K	Big Mountain,	4.39	316	P		Pn	11	35 23.6	-0.6
	baz=132								
KAIM	Kayak Island	4.41	34	Pn		Pn	11	35 24.6	+0.1
RDSO	Redoubt South	4.49	338			Pn	11	35 24.9	-0.7
RSO	Redoubt South	4.50	338			Pn	11	35 24.4	-1.5
CAPN	Captain Cook N	4.53	348			Pn	11	35 26.2	+0.2
RDT	Redoubt	4.53	340			Pn	11	35 25.4	-0.7
RDWB	Redoubt West	4.54	337			Pn	11	35 25.5	-0.8
EYAK	Cordova Ski Ar	4.60	22			Pn	11	35 26.4	-0.5
EYAK	Cordova Ski Ar	4.60	22	P		Pn	11	35 27.0	+0.1
	baz=205								
NCT	North Crescent	4.63	337			Pn	11	35 26.8	-0.7
FID	Port Fidalgo	4.64	17			Pn	11	35 26.8	-0.9
FID	Port Fidalgo	4.64	17	IAML			11	36 19.5	
	comp=E,467nm,0.5s								
FID				IAML			11	36 20.1	
	comp=N,272nm,0.5s								
O19K	Port Alsworth	4.67	328			Pn	11	35 27.0	-1.0
O18K	Koktuh Hills	4.70	321	Pn		Pn	11	35 28.4	-0.1
O18K				IAML			11	36 22.7	
	comp=N,244nm,0.8s								
O18K				IAML			11	36 26.1	
	comp=E,187nm,0.8s								
RAGM	Ragged Mountai	4.71	29			Pn	11	35 28.5	-0.2
RC01	Rabbit Creek A	4.75	357			Pn	11	35 28.3	-0.8
RC01				IAML			11	36 27.4	
	comp=E,254nm,0.5s								
RC01				IAML			11	36 27.5	
	comp=N,248nm,0.5s								
P17K	Kvichak River	4.77	310			Pn	11	35 29.9	+0.6
P17K	Kvichak River	4.77	310	P		Pn	11	35 29.9	+0.6
	baz=125								
GOAT	Goat Mountain	4.87	28			Pn	11	35 30.4	-0.3
ANPB	Aniak

N17K	Nushagak Hills	5.88	319			Pn		11 35 43.6	-1.1
M24K	Tolsona, Glenn	5.98	14	Pn		Pn		11 35 45.0	-1.1
CHNA	Chernabura Isl	6.04	260	P		Pn		11 35 45.5	-1.2
	baz=72								
CNBA	Chernabura Isl	6.04	260	Pn		Pn		11 35 45.1	-1.6
M18K	Stony River	6.16	329			Pn		11 35 47.5	-0.9
BARN	Barnard Glacie	6.17	37			Pn		11 35 48.6	0.0
PNL	Peninsula	6.22	54			Pn		11 35 49.6	+0.4
BCPM	Bancas Point	6.25	51			Pn		11 35 50.5	+0.8
O15K	Ungalikthiuk R	6.30	301			Pn		11 35 50.6	+0.2
SDPT	Sand Point	6.38	266	Pn		Pn		11 35 49.7	-1.8
HAAP	HAARP	6.42	17			Pn		11 35 52.5	+0.6
N16K	Nishlik Lake	6.46	314			Pn		11 35 52.4	-0.3
L19K	White Mountain	6.50	336	Pn		Pn		11 35 51.6	-1.4
N15K	Kwethluk River	6.86	308			Pn		11 35 58.0	0.0
O29M	Mount Kennedy	6.89	51			Pn		11 35 59.2	+0.6
PAX	Paxson	6.91	15			Pn		11 35 58.5	-0.3
P29M	Windy Craggy	6.96	57			Pn		11 35 59.3	-0.2
RND	Reindeer	7.08	2			Pn		11 36 02.0	+0.9
M27K	Edge Creek, AK	7.11	29			Pn		11 36 02.0	+0.5
TRF	Thorofare Moun	7.13	356	Pn		Pn		11 36 02.7	+0.8
MENT	Mentasta	7.18	21			Pn		11 36 03.3	+0.9
MENT	Mentasta	7.18	21	P		Pn		11 36 04.4	+2.0
CAST	Castle Rocks	7.22	350	Pn		Pn		11 36 04.7	+1.7
KTH	Kantishna Hill	7.26	354			Pn		11 36 03.2	-0.5
S31K	Pelican	7.28	72			Pn		11 36 02.2	-1.6
L26K	Log Cabin Wild	7.33	22			Pn		11 36 06.5	+2.0
M15K	Kasigluk River	7.38	311			Pn		11 36 04.5	-0.6
TTA	Tatalina	7.42	335			Pn		11 36 04.4	-1.3
TTA	Tatalina	7.42	335	P		Pn		11 36 06.9	+1.2
BVCY	Beaver Creek	7.44	32			Pn		11 36 06.8	+0.8
N14K	Kuskokwak Cree	7.47	304			Pn		11 36 06.6	+0.3
L16K	Owhat River	7.50	320	Pn		Pn		11 36 06.5	-0.3
K24K	Donnelly Dome	7.67	12			Pn		11 36 09.5	+0.3
BCAR	Beaver Creek A	7.72	26			Pn		11 36 09.9	+0.1
SIT	Sitka	7.72	79			Pn		11 36 07.2	-2.6
RIDG	Independent Ri	7.73	15			Pn		11 36 10.0	0.0
BPAW	Bear Paw Mtn.	7.81	355			Pn		11 36 10.2	-0.9
BWN	Browne	7.84	359			Pn		11 36 11.8	+0.4
SKAG	Skagway	8.06	62			Pn		11 36 14.8	+0.4
SCRK	Sand Creek	8.09	17			Pn		11 36 15.3	+0.4
BESE	Bessie Mountai	8.10	68			Pn		11 36 14.7	-0.4
N30M	Aishikik Lake	8.12	46			Pn		11 36 16.0	+0.7
FALS	False Pass	8.14	265	P		Pn		11 36 14.8	-0.8
HDA	Harding Lake	8.16	7			Pn		11 36 16.3	+0.4
R32K	Eaglecrest	8.22	70			Pn		11 36 15.5	-1.2
L15K	Ungalak Mounta	8.24	315			Pn		11 36 17.0	+0.1
NEA2	Nenana	8.26	1			Pn		11 36 17.4	+0.2
JIS	Juneau Island	8.30	70			Pn		11 36 16.9	-0.7
JIS	Juneau Island	8.30	70	P		Pn		11 36 17.3	-0.4
CCB	Clear Creek Bu	8.35	4			Pn		11 36 18.3	-0.1
K27K	Chicken	8.49	22			Pn		11 36 20.6	+0.3
J25K	Salcha River,	8.50	12			Pn		11 36 20.4	-0.3
IL31		8.52	7			Pn		11 36 22.1	+1.3
ILAR	Eielson Array	8.52	7	Pn		Pn		11 36 21.5	+0.6
ILAR	Eielson Array	8.52	7	Pn		Pn		11 36 20.6	-0.3
	comp=E,1.7nm,0.3s,baz=189,slow=13,SNR=13								
ILAR				Sn		Sn		11 37 47.2	-10
	comp=E,1.1nm,0.3s,baz=215,slow=14,SNR=2.1								
L14K	Kuka Creek	8.54	311	Pn		Pn		11 36 21.5	+0.5
COLA	College	8.57	4			Pn		11 36 21.4	-0.1
COLA	College	8.57	4	P		Pn		11 36 23.8	+1.8
J26L	Joseph Creek	8.64	17			Pn		11 36 22.8	+0.2
MDM	Murphy Dome	8.65	3			Pn		11 36 22.8	+0.2
N31M	Braeburn, Yuko	8.67	48			Pn		11 36 23.7	+0.9
WHY	Whitehorse	8.68	54	Pn		Pn		11 36 25.1	+1.9
L29M	L29M	8.80	35			Pn		11 36 25.2	+0.5
I23K	Minto, Yukon-K	8.82	360			Pn		11 36 24.6	-0.2
POKR	Poker Plat Res	8.84	5			Pn		11 36 24.4	-0.7
P32M	Atlin	8.88	62	Pn		Pn		11 36 26.4	+0.5
M30M	Minto, Yukon	8.90	40	Pn		Pn		11 36 27.4	+1.5
I21K	Tanana	8.95	353			Pn		11 36 26.9	+0.3
U33K	Whale Pass	9.01	85			Pn		11 36 24.3	-3.2
CRAG	Craig	9.13	89	Pn		Pn		11 36 27.6	-1.5
CRAG	Craig	9.13	89	P		Pn		11 36 27.2	-1.9
DAWY	Dawson	9.16	28	Pn		Pn		11 36 30.6	+1.1
EGAK	Eagle	9.34	22	Pn		Pn		11 36 33.7	+1.8
PRP	Porcupine Dome	9.37	10			Pn		11 36 32.6	+0.1
WRAK	Wrangell Islan	9.40	83			Pn		11 36 30.9	-1.9
I26K	Coal Creek Min	9.46	16			Pn		11 36 34.5	+0.9
H21K	Melozitna Rive	9.48	351			Pn		11 36 33.7	-0.3
P33M	Teslin, Yukon	9.49	59			Pn		11 36 34.3	+0.2
K29M	Barlow Dome	9.52	33			Pn		11 36 35.0	+0.4
H24K	Noodor Dome	9.54	4			Pn		11 36 35.4	+0.6
M31M	Drury Creek, Y	9.60	46			Pn		11 36 37.0	+1.4
H22K	Ishtalitna Cre	9.62	355			Pn		11 36 36.0	+0.2
J29N	Klondike Camp	9.78	29	Pn		Pn		11 36 39.5	+1.4
H19K	Roundabout Mou	9.83	342			Pn		11 36 38.2	-0.5
H18K	Honhosa River	9.86	337			Pn		11 36 39.4	+0.2
MAYO	Mayo, Yukon	9.87	37			Pn		11 36 40.5	+1.3
IMAR	Indian Mountai	9.89	349			Pn		11 36 39.1	-0.4
I27K	Kandik River	9.99	19			Pn		11 36 40.8	-0.1
V35K	Ketchikan	10.00	89	Pn		Pn		11 36 38.5	-2.5
FARO	Faro, Yukon	10.04	48			Pn		11 36 43.1	+1.5
H17K	Granite Mounta	10.04	333	Pn		Pn		11 36 41.2	-0.5
UNV	Unalaska Valle	10.18	263			Pn		11 36 41.1	-2.4
UNV	Unalaska Valle	10.18	263	P		Pn		11 36 41.6	-1.9
R33M	Jennings River	10.22	65			Pn		11 36 44.2	+0.1
G21K	Allakaket	10.39	351			Pn		11 36 46.9	+0.6
G23K	Bananza Creek	10.40	358			Pn		11 36 46.5	0.0
J30M	Hart River	10.41	32			Pn		11 36 48.0	+1.3
FYU	Fort Yukon	10.42	9			Pn		11 36 47.4	+0.6
DLBC	Dease Lake	10.60	71	Pn		Pn		11 36 49.2	-0.1
DLBC	Dease Lake	10.60	71	Pn		Pn		11 36 48.8	-0.5
	comp=E,1.3nm,0.3s,baz=265,slow=8.2,SNR=13								
DLBC				Sn		Sn		11 38 43.2	-4.7
	baz=184,slow=19								
	comp=E,3.4nm,0.4s								
F20K	Avaraart Lake	11.14	347			Pn		11 36 57.2	+0.6
BMAR	Burnt Mountain	11.33	9	Pn		Pn		11 36 59.6	+0.4
E25K	Arctic Village	11.93	7			Pn		11 37 08.5	+1.1
F31M	Tsiigehtchic	13.26	27			Pn		11 37 25.7	+0.3
INK	Inuvik	13.98	25	Pn		Pn		11 37 36.2	+0.9
INK	Inuvik	13.98	25	Pn		Pn		11 37 36.4	+1.1
	comp=E,0.4nm,0.3s,baz=204,slow=15,SNR=12								
	comp=E,9.2nm,0.8s								
B20K	Meade River	14.13	349			Pn		11 37 36.1	-1.3
B22K	Teshekpuk Lake	14.15	354			Pn		11 37 37.0	-0.7
ADK	Adak	16.61	266			Pn		11 38 09.9	-0.3
ADK				IAmb		IAmb		11 38 15.1	
	comp=Z,57nm,1.1s								
C36M	Paulatuk	17.18	31	Pn		Pn		11 38 16.6	-0.6
C36M				IAmb		IAmb		11 38 30.2	
	comp=Z,15nm,0.8s								
YKA	Yellowknife Ar	18.50	56	P		P		11 38 33.7	+0.3
	comp=Z,0.1nm,0.3s,baz=262,slow=7.4,SNR=5.4								
	comp=Z,1.0nm,0.8s								
A36M	Sachs Harbour	18.61	23	P		P		11 38 34.5	-0.1
NEW	Newport	21.11	99	P		P		11 39 03.2	+1.2
	comp=Z,3.1nm,0.8s,baz=298,slow=9.1,SNR=3.9								
	comp=Z,3.1nm,0.8s								
I04A	Tendick Farm,	21.18	115	P		P		11 39 03.6	+0.8
I04A				IAmb		IAmb		11 39 17.1	
	comp=Z,32nm,1.2s								
K02D	Willamette Mer	21.36	119	P		P		11 39 05.8	+0.9
HUMO	Hull Mountain	21.78	118	P		P		11 39 10.2	+1.0
F10A	Beach Ranch, E	22.43	104	P		P		11 39 16.2	-0.1
F10A				IAmb		IAmb		11 39 22.1	
	comp=Z,17nm,1.1s								
I07A	Izee	22.47	110	P		P		11 39 17.0	+0.2
I07A				IAmb		IAmb		11 39 26.9	
	comp=Z,22nm,1.0s								
YBH	Yreka Blue Hor	22.56	119	P		P		11 39 18.6	+0.9
	comp=Z,2.3nm,0.5s,baz=185,slow=1.5,SNR=4.4								
	comp=Z,2.3nm,0.5s								
J08A	Circle Bar Ran	23.51	110	P		P		11 39 28.1	+0.6
WVOR	Wild Horse Val	24.08	112	P		P		11 39 34.2	+1.2
WVOR				IAmb		IAmb		11 39 43.6	
	comp=Z,11nm,0.9s								
PNTR	Pine Nut	26.11	119	P		P		11 39 52.8	+1.3
PNTR				IAmb		IAmb		11 40 09.1	
	comp=Z,11nm,0.9s								
NVAR	Mina Array Bea	27.25	118	P		P		11 40 02.5	+0.6
	comp=Z,1.9nm,0.8s,baz=303,slow=8.0,SNR=12								
	comp=Z,1.9nm,0.8s								
R11B	Troy Canyon, C	28.67	115	P		P		11 40 15.6	+1.1
PDAR	Pinedale Array	28.69	101	P		P		11 40 14.6	0.0
PDAR	Pinedale Array	28.69	101	P		P		11 40 15.0	+0.3
	comp=Z,0.4nm,0.6s,baz=302,slow=4.6,SNR=5.2								
	comp=Z,0.4nm,0.6s								
PETK	Petropavlovsk-	30.15	287	P		P		11 40 27.8	+0.5
	comp=Z,7.1nm,0.9s,baz=75,slow=14,SNR=6.4								
	comp=Z,7.1nm,0.9s								
WUAZ	Wupatki	33.00	113	P		P		11 40 53.1	+0.5
WUAZ				IAmb		IAmb		11 40 56.2	
	comp=Z,2.9nm,1.0s								
TXAR	Lajitas Array	41.86	111	P		P		11 42 08.7	+1.0
	comp=Z,0.6nm,0.8s,baz=316,slow=7.0,SNR=7.9								
	comp=Z,0.6nm,0.8s								
DRIO	Del Rio	43.39	108	P		P		11 42 19.6	-0.3
NRIK	Noril'sk	48.03	336	P		P		11 42 56.9	+0.7
	comp=Z,1.0nm,0.3s,baz=112,slow=5.4,SNR=1.9								
	comp=Z,1.0nm,0.3s								
H11N2	WAKE ISLAND Hy	48.92	240	T		T		12 36 10.2	
	baz=30								
H11N3	WAKE ISLAND Hy	48.92	240	T		T		12 36 01.9	
	baz=30								
H11N1	WAKE ISLAND Hy	48.93	240	T		T		12 36 19.0	
	baz=30								
H11S1	WAKE ISLAND Hy	50.06	239	T		T		12 37 48.6	
	baz=29								
H11S2	WAKE ISLAND Hy	50.07	239	T		T		12 37 28.7	
	baz=29,slow=74								
H11S3	WAKE ISLAND Hy	50.08	239	T		T		12 37 33.8	
	baz=29,slow=74								
ARCES	ARCESS Array B	54.35	2	P		P		11 43 43.0	-0.6
	comp=Z,2.5nm,0.9s,baz=345,slow=8.9,SNR=6.0								
	comp=Z,2.5nm,0.9s								
KSRS	Korea Array	56.03	288	P		P		11 43 57.0	+0.9
	comp=Z,1.5nm,0.7s,baz=42,slow=7.3,SNR=3.7								
	comp=Z,1.5nm,0.7s								
SONM	Songino Array	58.59	310	P		P		11 44 15.5	+1.3
	comp=Z,6.3nm,0.8s,baz=46,slow=7.9,SNR=33								
	comp=Z,6.3nm,0.8s								
ZALV	Zalesovo Beam	61.49	327	P		P		11 44 35.0	+1.1
	comp=Z,1.5nm,0.7s,baz=38,slow=6.0,SNR=6.4								
	comp=Z,1.5nm,0.7s								
HHC	Hu-ho-hao-te	61.69	302	*e*P		P		11 44 39.6	+4.0
HHC				pmax		pmax			
	comp=Z,16nm,0.6s								
NOA	NORSAR Array B	61.94	11	P		P		11 44 37.5	+0.6
	comp=Z,0.7nm,0.7s,baz=313,slow=25,SNR=1.4								
	comp=Z,0.7nm,0.7s								
FINES	FINESS Array B	62.48	3	P		P		11 44 40.9	+0.5
	comp=Z,3.1nm,0.8s,baz=2.6,slow=8.4,SNR=5.5								
	comp=Z,3.1nm,0.8s								
BVAR	Borovoye Array	66.21	335	P		P		11 45 04.8	-0.1
	comp=Z,1.1nm,0.8s,baz=79,slow=7.5,SNR=4.1								
	comp=Z,1.1nm,0.8s								
KURBB	Kurchatov Arra	66.27	329	P		P		11 45 05.6	+0.3
	comp=Z,0.9nm,0.8s,baz=30,slow=6.1,SNR=6.2								
	comp=Z,0.9nm,0.8s								
MKAR	Makanchi Array	68.53	325	P		P		11 45 19.3	-0.5
	comp=Z,0.8nm,0.5s,baz=29,slow=3.3,SNR=4.3								
	comp=Z,0.8nm,0.5s								
AKASG	Malin Array Be	73.30	1	P		P		11 45 48.4	-0.2
	comp=Z,0.7nm,0.5s,baz=358,slow=5.5,SNR=5.5								
	comp=Z,0.7nm,0.5s								
LESA	Schwarzleotal	75.49	13	*e*P		P		11 46 00.8	-0.8
	comp=Z,5.9nm,1.4s								
SQTA	Sanki Quirin	75.51	14	*i* P		P		11 46 02.1	+0.4
	comp=Z,2.0nm,0.6s								
WTTA	Wattenberg	75.52	13	*e*P		P		11 46 00.7	-1.1
	comp=Z,1.3nm,0.5s								
FETA	Feichten	75.64	14	*i* P		P		11 46 02.9	+0.3
	comp=Z,2.9nm,0.8s								
KBA	Koelnbreinsper	75.91	12	*e*P		P		11 46 03.7	-0.3
	comp=Z,0.7nm,0.3s								
ABTA	Abfaltersbach	76.14	13	*i* P		P		11 46 03.5	-1.8
	comp=Z,3.7nm,1.0s								
SOKA	Soboth	76.50	11	*i* P		P		11 46 07.3	0.0
	comp=Z,7.8nm,1.4s								
OBKA	Obir	76.61	11	*i* P		P		11 46 06.8	-1.2
	comp=Z,4.1nm,1.0s								
PZH	PanZhiHua	78.07	300	P		P		11 46 16.5	0.0
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,100nm,5.3s								
BRTR	Keskin Array B	84.25	358	P		P		11 46 50.2	+1.0
	comp=Z,0.5nm,0.7s,baz=12,slow=5.1,SNR=1.4								
	comp=Z,0.5nm,0.7s								
CMAR	Chiang Mai Arr	86.24	298	P		P		11 46 59.5	+0.3
	comp=Z,2.3nm,0.8s,baz=15,slow=5.0,SNR=13								
	comp=Z,2.3nm,0.8s								
QSPA	South Pole Qui	146.15	180	PKPbc		PKPbc		11 53 56.4	0.0
	comp=Z,0.6nm,0.3s,baz=221,slow=1.6,SNR=2.4								
BOSA	Boshof	152.00	10	PKPbc		PKPbc		11 54 12.6	0.0
	comp=Z,2.5nm,0.9s,baz=34,slow=11,SNR=2.5								

*IDC **23** 11:37:42.5±0.6,56.02N×149.77W,h0km,mb4.6/31, mbtmp4.6/36,ML4.1/5,Error ellipse: s-maj=18.0km s-min=10.2km az=20.0*
*BJI **23** 11:37:42.0±0.0,56.10N×149.70W,h10km,mb4.9/52*
*NEIC **23** 11:37:44.8±1.4,56.10N±0.07×149.75W±0.09,h17km±2km, mb5.0/94,ML5.2/42,ML5.1(AEIC),Error ellipse: s-maj=10.7km s-min=6.4km az=201.0*
*MOS **23** 11:37:44.2±0.9,56.17N×149.66W,h19km,mb5.2/68, Error ellipse: s-maj=10.4km s-min=4.2km az=97.2*
*AEIC **23** 11:37:47.8±1.5,56.09N±0.07×149.63W±0.10,h7km±3km, Error ellipse: s-maj=10.8km s-min=7.6km az=182.0*
*BGR **23** 11:37:54.2,57.47N×156.13W,h28km±3km,mb4.8*
ISC 23 11:37:44.5±0.6,**56.14N**±0.06×**149.62W**±0.04,**h12**km±3km, **h12**km:**pP-P,n1003,σ1924**/1032,**mb5.0**/180,**MS6.4**/18, **24C-22D,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.30	300		Pn	11 38 19.8	-2.3
OHAK	Old Harbor	2.30	300	P	Pn	11 38 20.0	-2.2
OHAK	Old Harbor	2.30	300	P	Pn	11 38 19.9	-2.3
	baz=118,SNR=54						
KDAK	Kodiak Island	2.31	317	Pn	Pn	11 38 21.1	-1.3
KDAK	Kodiak Island	2.31	317	P	Pn	11 38 21.2	-1.3
	baz=135						
KDAK	Kodiak Island	2.31	317	P	Pn	11 38 21.1	-1.3
KDAK						11 38 48.5	
KDAK	Kodiak Island	2.31	317	Pn	Pn	11 38 21.0	-1.4
	98nm,0.3s,baz=143,slow=5.3,SNR=37						
KDAK				Sn	Sn	11 38 47.1	-3.7
	156nm,0.3s,baz=203,slow=23,SNR=14						
	871nm,0.8s						
SYI	Shuyak Island	2.90	330		Pn	11 38 29.5	-1.0
SYI	Shuyak Island	2.90	330		Sn	11 39 04.0	-1.2
Q20K	Shuyak Island	2.90	330	P	Pn	11 38 29.6	-0.8
	baz=148,SNR=36						
CNPM	China Poot	3.51	346		Pn	11 38 38.4	-0.5
CNPM				IAML		11 39 26.0	
	comp=E,3μm,1.1s						
CNPM	China Poot	3.51	346		Sn	11 39 19.0	-1.3
Q19K	Cape Douglas,	3.54	324	Pn	Pn	11 38 39.1	-0.2
Q19K	Cape Douglas,	3.54	324		Sn	11 39 20.2	-0.9
Q19K	Cape Douglas,	3.54	324	P	Pn	11 38 39.0	-0.2
	baz=141,SNR=64						
KAHG	Katmai Hook Gl	3.57	314		Pn	11 38 39.6	-0.1
BRSE	Bradley Lake S	3.67	351		Pn	11 38 40.0	-1.0
BRSE	Bradley Lake S	3.67	351	P	Pn	11 38 40.0	-1.0
	baz=170,SNR=39						
KCE	Katmai Mt Cerb	3.69	307		Pn	11 38 41.2	-0.2
HOM	Homer	3.69	344		Pn	11 38 41.0	-0.3
HOM				IAML		11 39 34.7	
	comp=E,4μm,1.1s						
HOM				IAML		11 39 47.9	
	comp=N,5μm,1.2s						
HOM	Homer	3.69	344	P	Pn	11 38 41.0	-0.3
	baz=162						
BRLK	Bradley Lake	3.70	350		Pn	11 38 40.3	-1.2
BRLK				IAML		11 39 31.1	
	comp=E,3μm,0.8s						
BRLK				IAML		11 39 32.2	
	comp=N,2μm,0.7s						
ACHA	Angle Creek He	3.74	306		Pn	11 38 41.5	-0.5
Q23K	Middleton Isla	3.74	27	Pn	Pn	11 38 41.1	-0.8
Q23K				IAML		11 39 24.6	
	comp=E,4μm,0.8s						
Q23K				IAML		11 39 24.6	
	comp=N,4μm,0.7s						
Q23K	Middleton Isla	3.74	27	P	Pn	11 38 41.5	-0.5
	baz=209,SNR=32						
MID	Middleton Isla	3.74	27	Pn	Pn	11 38 41.3	-0.7
MID				IAML		11 39 24.6	
	comp=E,3μm,0.7s						
MID				IAML		11 39 24.6	
	comp=N,5μm,0.7s						
MID	Middleton Isla	3.74	27	P	Pn	11 38 41.3	-0.7
MID	Middleton Isla	3.74	27	P	Pn	11 38 41.3	-0.7
ANCK	Angle Creek	3.81	305		Pn	11 38 42.5	-0.5

AU22	Augustine Moun	3.81	330			Pn		11 38 43.0	+0.1
KVTA	Katmai Vly 10	3.82	309			Pn		11 38 42.5	-0.6
AUCH	Augustine Cone	3.83	329			Pn		11 38 43.4	+0.1
AUL	Augustine Lava	3.84	329			Pn		11 38 43.5	+0.1
KAHC	Katmai Hardscr	3.85	313			Pn		11 38 43.2	-0.4
PLK3	Peulik 3	3.96	296			Pn		11 38 44.1	-0.9
SEW	Seward	3.98	1			Pn		11 38 44.5	-0.8
SEW	Seward	3.98	1	P		Pn		11 38 44.4	-0.8
	baz=181,SNR=13								
P19K	Oil Pt	4.02	333			Pn		11 38 45.1	-0.7
P19K				IAML				11 39 46.5	
	comp=N,5μm,0.4s								
P19K				IAML				11 39 46.7	
	comp=E,6μm,0.3s								
P19K	Oil Pt	4.02	333	P		Pn		11 38 45.1	-0.7
	baz=150,SNR=28								
CNTC	Contact Creek	4.02	305			Pn		11 38 44.9	-1.0
Q17K	Contact Creek	4.02	305	P		Pn		11 38 45.0	-0.9
	baz=120,SNR=93								
P23K	Montague Islan	4.05	16			Pn		11 38 45.7	-0.5
P23K	Montague Islan	4.05	16	P		Pn		11 38 45.8	-0.4
	baz=198,SNR=15								
PLK1	Peulik 1	4.17	296			Pn		11 38 47.1	-0.8
PLBL	Peulik Blue Cr	4.25	295			Pn		11 38 48.0	-0.9
O20K	Slope Mountain	4.27	339			Pn		11 38 48.9	-0.4
O20K	Slope Mountain	4.27	339	P		Pn		11 38 49.6	+0.3
	baz=157,SNR=7.5								
IVE	Iliamna Volcan	4.29	337			Pn		11 38 48.4	-1.2
O22K	Cooper Landing	4.36	359			Pn		11 38 50.6	+0.1
O22K	Cooper Landing	4.36	359	P		Pn		11 38 50.3	-0.2
	baz=179								
SLKM	Skilak Lake	4.40	356			Pn		11 38 49.9	-1.1
P18K	Big Mountain,	4.44	320	Pn		Pn		11 38 50.3	-1.3
P18K	Big Mountain,	4.44	320	P		Pn		11 38 50.5	-1.1
	baz=136,SNR=24								
Q16K	King Salmon	4.58	307			Pn		11 38 52.5	-1.0
Q16K	King Salmon	4.58	307	P		Pn		11 38 52.6	-0.9
	baz=121,SNR=36								
HIN	Hinchinbrook I	4.58	20			Pn		11 38 53.2	-0.4
HIN				IAML				11 39 47.5	
	comp=E,3μm,0.6s								
R16K	Pilot Point	4.59	291	P		Pn		11 38 52.2	-1.5
	baz=106								
RED	Redoubt Volcan	4.61	340			Pn		11 38 53.5	-0.5
RSO	Redoubt South	4.64	340			Pn		11 38 53.4	-1.2
RDWB	Redoubt West	4.68	340			Pn		11 38 53.8	-1.2
RDT	Redoubt	4.69	343			Pn		11 38 53.3	-1.7
KAIM	Kayak Island	4.70	34	Pn		Pn		11 38 55.0	-0.2
KAIM				IAML				11 39 52.7	
	comp=N,4μm,0.5s								
KAIM				IAML				11 39 53.1	
	comp=E,3μm,0.7s								
KAIM	Kayak Island	4.70	34	P		Pn		11 38 55.0	-0.2
	baz=218,SNR=21								
CAPN	Captain Cook N	4.72	351			Pn		11 38 56.5	+1.2
CAPN	Captain Cook N	4.72	351	P		Pn		11 38 55.8	+0.5
	baz=170								
DFR	Drift River	4.75	341			Pn		11 38 56.0	+0.1
O18K	Koktuh Hills	4.77	324	Pn		Pn		11 38 54.8	-1.3
O18K				IAML				11 39 52.0	
	comp=N,2μm,0.8s								
O18K				IAML				11 40 11.4	
	comp=E,974nm,1.0s								
O18K	Koktuh Hills	4.77	324	P		Pn		11 38 54.9	-1.2
	baz=140,SNR=25								
NCT	North Crescent	4.77	340			Pn		11 38 55.3	-0.9
O19K	Port Alsworth	4.77	331	Pn		Pn		11 38 55.2	-0.9
O19K	Port Alsworth	4.77	331	P		Pn		11 38 55.0	-1.1
	baz=147,SNR=26	

KIAG Kiagna River 6.12 35 Pn 11 39 14.8 -0.1
SAMH Samovar Hills 6.16 46 Pn 11 39 16.6 +1.4
SDPT Sand Point 6.18 267 Pn Pn 11 39 12.6 -2.9
SDPT Sand Point 6.18 267 P Pn 11 39 12.3 -3.2
baz=79
M24K Tolsona, Glenn 6.25 15 Pn 11 39 17.4 +1.0
M24K Tolsona, Glenn 6.25 15 P Pn 11 39 17.2 +0.8
baz=198,SNR=18
M18K Stony River 6.26 332 P Pn 11 39 15.2 -1.4
baz=147,SNR=32
O15K Ungalikthiuk R 6.27 303 P Pn 11 39 15.4 -1.3
baz=115
M19K Big River Lodg 6.29 339 P Pn 11 39 17.0 0.0
baz=155
CUT Chulitna 6.30 357 Pn 11 39 17.3 +0.2
CUT Chulitna 6.30 357 P Pn 11 39 17.6 +0.5
baz=177
YKU2 Yakutat 6.30 53 Pn 11 39 17.9 +0.9
YKU2 Yakutat 6.30 53 P Pn 11 39 18.0 +0.9
PCA Pinnacle 6.35 47 Pn 11 39 18.5 +0.6
PINM Pinnacle 6.36 47 P Pn 11 39 18.8 +0.8
baz=235,SNR=27
N16K Nishlik Lake 6.49 316 P Pn 11 39 19.2 -0.5
baz=128,SNR=63
CTG Chitna Glacier 6.50 38 P Pn 11 39 20.3 +0.4
baz=225
PNL Peninsula 6.50 53 Pn 11 39 19.9 0.0
PNL Peninsula 6.50 53 P Pn 11 39 20.3 +0.4
PNL Peninsula 6.50 53 P Pn 11 39 20.5 +0.6
baz=241,SNR=47
BCPM Bancas Point 6.54 50 Pn 11 39 21.0 +0.6
WAT6 Susitna Watana 6.54 8 P Pn 11 39 20.9 +0.4
baz=189
L19K White Mountain 6.63 338 Pn Pn 11 39 20.0 -1.8
L19K White Mountain 6.63 338 P Pn 11 39 20.6 -1.1
baz=154,SNR=15
M17K Holitna River 6.66 326 P Pn 11 39 21.0 -1.0
baz=139
HARP HAARP 6.69 18 Pn 11 39 23.5 +1.1
HARP HAARP 6.69 18 P Pn 11 39 23.7 +1.3
baz=202,SNR=19
L20K Farewell, AK 6.72 343 P Pn 11 39 23.3 +0.3
baz=159
WAT7 Susitna Watana 6.73 3 Pn 11 39 23.7 +0.6
WAT1 Susitna Watana 6.74 4 Pn 11 39 24.0 +0.8
WAT1 Susitna Watana 6.74 4 P Pn 11 39 23.4 +0.3
baz=185
N15K Kwethluk River 6.86 310 P Pn 11 39 24.3 -0.5
baz=122
PPLA Purkeypile 6.91 350 P Pn 11 39 27.0 +1.5
baz=168
M16K Timber Creek 6.91 319 P Pn 11 39 25.3 -0.3
baz=131
O14K Tigyukauivet M 6.98 301 P Pn 11 39 25.7 -0.6
baz=112
PN7A Pavlof North-7 7.02 269 Pn 11 39 24.6 -2.5
DHY Denali Highway 7.05 8 Pn 11 39 27.4 -0.2
DHY Denali Highway 7.05 8 P Pn 11 39 27.8 +0.2
baz=190,SNR=29
L18K Granite Mounta 7.10 332 P Pn 11 39 26.5 -1.5
baz=146
M26K Nabesna, AK 7.14 26 P Pn 11 39 29.4 +0.7
baz=211
O29M Mount Kennedy 7.17 50 Pn 11 39 29.8 +0.6
O29M Mount Kennedy 7.17 50 P Pn 11 39 29.6 +0.4
baz=239,SNR=132
PAX Paxson 7.17 15 Pn 11 39 29.5 +0.3
PAX Paxson 7.17 15 P Pn 11 39 29.8 +0.7
baz=199,SNR=13
PAX Paxson 7.17 15 P Pn 11 39 29.5 +0.3
P29M Windy Craggy 7.24 56 P Pn 11 39 30.2 +0.2
baz=246
YUK2 White River 7.26 35 Pn 11 39 31.3 +1.0
YUK8 Steele Glacier 7.28 41 P Pn 11 39 32.6 +1.9
baz=229,SNR=50
RND Reindeer 7.30 3 Pn 11 39 31.0 0.0
RND Reindeer 7.30 3 P Pn 11 39 31.0 0.0
TRF Thorofare Moun 7.35 358 Pn 11 39 31.7 +0.1
TRF Thorofare Moun 7.35 358 P Pn 11 39 32.0 +0.4
baz=177
YUK3 Moose Creek 7.37 36 P Pn 11 39 33.1 +1.1
baz=224,SNR=51
M15K Kasigluk River 7.39 313 Pn 11 39 31.5 -0.5
M15K Kasigluk River 7.39 313 P Pn 11 39 31.7 -0.3
baz=124,SNR=42
M27K Edge Creek, AK 7.39 29 P Pn 11 39 33.2 +1.0
baz=216
CAST Castle Rocks 7.41 351 P Pn 11 39 32.9 +0.5
baz=169,SNR=10
N14K Kuskokwak Cree 7.44 306 P Pn 11 39 32.2 -0.5
baz=116,SNR=37
MENT Mentasta 7.45 21 Pn 11 39 33.5 +0.6
MENT Mentasta 7.45 21 P Pn 11 39 34.3 +1.4
KTH Kantishna Hill 7.47 356 Pn 11 39 33.2 0.0
L17K Donlin 7.49 327 P Pn 11 39 32.5 -0.9
baz=140
S31K Pelican 7.53 70 P Pn 11 39 32.8 -1.2
baz=261,SNR=79
TTA Tatalina 7.55 337 P Pn 11 39 33.0 -1.3
TTA Tatalina 7.55 337 P Pn 11 39 34.0 -0.3
baz=152,SNR=8.1
L16K Owhat River 7.56 322 Pn Pn 11 39 34.2 -0.2
L16K Owhat River 7.56 322 P Pn 11 39 34.2 -0.2
baz=134,SNR=31
K20K Telida 7.58 345 P Pn 11 39 33.0 -1.7
baz=161
L26K Log Cabin Wild 7.61 22 P Pn 11 39 37.0 +2.0
baz=207,SNR=21
YUK6 Outpost Mounta 7.61 46 P Pn 11 39 36.5 +1.2
baz=235,SNR=68
MCK McKinley 7.63 2 Pn 11 39 35.5 +0.1
MCK McKinley 7.63 2 P Pn 11 39 36.4 +1.0
baz=183,SNR=6.4
MCK McKinley 7.63 2 P Pn 11 39 35.5 +0.1
BVCY Beaver Creek 7.73 32 Pn 11 39 37.5 +0.8
BVCY Beaver Creek 7.73 32 P Pn 11 39 37.6 +0.9
baz=219,SNR=15
YUK4 Talbot Arm 7.73 43 P Pn 11 39 39.6 +2.7
baz=232,SNR=51
P30M Million Dollar 7.80 54 P Pn 11 39 38.9 +1.1
baz=244
PLBC Pleasant Camp 7.82 59 Pn 11 39 38.4 +0.4
PLBC Pleasant Camp 7.82 59 P Pn 11 39 38.5 +0.5
baz=250,SNR=24
R31K City Hall, Gus 7.86 67 P Pn 11 39 37.9 -0.6
baz=259
CHUM Lake Minchumin 7.89 351 P Pn 11 39 40.0 +1.1
baz=169,SNR=6.5
HYT Haines Junctio 7.90 48 Pn 11 39 40.0 +0.8
HYT Haines Junctio 7.90 48 P Pn 11 39 39.9 +0.8
baz=238
K24K Donnelly Dome 7.93 12 Pn 11 39 40.9 +1.4
K24K Donnelly Dome 7.93 12 P Pn 11 39 40.4 +0.9
baz=196,SNR=7.9
FALS False Pass 7.94 266 P Pn 11 39 36.5 -3.1
FALS False Pass 7.94 266 P Pn 11 39 37.4 -2.2
baz=75
K17K Iditarod 7.94 330 P Pn 11 39 38.6 -1.0
baz=142
SIT Sitka 7.95 77 P Pn 11 39 37.1 -2.6
baz=269,SNR=7.2
M14K Bethel 7.95 311 Pn 11 39 38.7 -1.0
M14K Bethel 7.95 311 P Pn 11 39 39.6 -0.1
baz=120,SNR=42
L27K Beaver Creek, 7.99 26 P Pn 11 39 40.6 +0.3
baz=213
RIDG Independent Ri 7.99 15 Pn 11 39 40.9 +0.5
RIDG Independent Ri 7.99 15 P Pn 11 39 41.1 +0.7
baz=200,SNR=38
BPAW Bear Paw Mtn. 8.02 356 Pn 11 39 39.8 -0.9
BPAW Bear Paw Mtn. 8.02 356 P Pn 11 39 40.2 -0.6
baz=175,SNR=11
J18K Innoko River 8.17 337 Pn 11 39 41.3 -1.5
J18K Innoko River 8.17 337 P Pn 11 39 41.7 -1.0
baz=151,SNR=7.6
L15K Ungalak Mounta 8.27 317 P Pn 11 39 43.5 -0.7
baz=127
SKAG Skagway 8.33 61 Pn 11 39 45.1 +0.2
SKAG Skagway 8.33 61 P Pn 11 39 45.7 +0.8
SKAG Skagway 8.33 61 P Pn 11 39 45.3 +0.4
baz=252,SNR=14
BESE Bessie Mountai 8.35 67 Pn 11 39 44.5 -0.8
SCRK Sand Creek 8.35 17 Pn 11 39 46.0 +0.6
SCRK Sand Creek 8.35 17 P Pn 11 39 45.8 +0.4
baz=202,SNR=12
S32K Killisnoo 8.37 75 Pn 11 39 44.2 -1.2

S32K Killisnoo 8.37 75 P Pn 11 39 44.7 -0.7
baz=267,SNR=14
J20K Nowinta River 8.38 346 Pn Pn 11 39 44.9 -0.7
J20K Nowinta River 8.38 346 P Pn 11 39 45.0 -0.6
baz=162
M13K Dall Lake 8.40 306 P Pn 11 39 45.1 -0.9
baz=115,SNR=34
HDA Harding Lake 8.41 8 P Pn 11 39 47.3 +1.3
baz=190,SNR=11
N30M Aishikik Lake 8.41 45 P Pn 11 39 46.3 +0.2
baz=236
J19K Poorman 8.43 342 P Pn 11 39 45.8 -0.6
baz=157
O30N Mendenhall 8.47 51 Pn 11 39 47.1 +0.1
O30N Mendenhall 8.47 51 P Pn 11 39 47.3 +0.3
baz=242
NEA2 Nenana 8.49 2 Pn 11 39 46.9 -0.3
NEA2 Nenana 8.49 2 P Pn 11 39 47.6 +0.4
baz=182
M29M Somme Creek 8.51 37 P Pn 11 39 48.6 +1.0
baz=227
JIS Juneau Island 8.55 69 Pn 11 39 48.5 +0.6
JIS Juneau Island 8.55 69 P Pn 11 39 48.1 +0.2
L14K Kuka Creek 8.56 313 Pn Pn 11 39 47.2 -0.9
L14K Kuka Creek 8.56 313 P Pn 11 39 47.5 -0.5
baz=122,SNR=81
CCB Clear Creek Bu 8.59 5 Pn 11 39 49.4 +1.0
K15K Wolf Creek Mou 8.68 320 Pn Pn 11 39 49.8 +0.2
K15K Wolf Creek Mou 8.68 320 P Pn 11 39 49.1 -0.5
baz=130
J25K Salcha River, 8.76 12 Pn 11 39 50.7 -0.2
J25K Salcha River, 8.76 12 P Pn 11 39 51.2 +0.3
baz=196
K27K Chicken 8.76 22 P Pn 11 39 51.2 +0.3
baz=209
IL31 8.77 8 Pn 11 39 51.6 +0.7
ILAR Eielson Array 8.77 8 eP Pn 11 39 52.1 +1.1
ILAR pmax pmax
comp=Z,3.0nm,0.3s
ILAR Eielson Array 8.77 8 Pn Pn 11 39 51.2 +0.3
comp=Z,3.3nm,0.3s,baz=192,slow=13,SNR=15
ILAR Sn Sn 11 41 26.5 -3.2
comp=Z,11nm,0.3s,baz=3.8,slow=5.8,SNR=3.4
COLA College 8.81 5 Pn 11 39 52.5 +1.0
COLA College 8.81 5 P Pn 11 39 52.2 +0.7
COLA College 8.81 5 P Pn 11 39 52.4 +1.0
baz=186
COLA College 8.81 5 P Pn 11 39 52.5 +1.0
J26L Joseph Creek 8.91 17 P Pn 11 39 53.5 +0.5
baz=202
N31M Braeburn, Yuko 8.95 48 Pn 11 39 54.0 +0.5
N31M Braeburn, Yuko 8.95 48 P Pn 11 39 54.6 +1.1
baz=239,SNR=64
WHY Whitehorse 8.96 54 Pn Pn 11 39 54.5 +0.8
WHY Whitehorse 8.96 54 P Pn 11 39 54.6 +0.8
baz=246,SNR=19
I20K Naaghedeneel 9.01 347 P Pn 11 39 55.4 +1.1
baz=162
I23K Minto, Yukon-K 9.04 1 Pn 11 39 55.0 +0.3
I23K Minto, Yukon-K 9.04 1 P Pn 11 39 55.2 +0.5
baz=181,SNR=9.4
J16K Anvik River 9.05 327 P Pn 11 39 54.3 -0.6
baz=138
POKR Poker Plat Res 9.08 6 Pn 11 39 55.1 0.0
POKR Poker Plat Res 9.08 6 P Pn 11 39 56.0 +0.9
baz=188,SNR=7.7
L29M L29M 9.09 35 P Pn 11 39 56.3 +1.0
baz=225,SNR=57
I21K Tanana 9.15 354 Pn 11 39 55.6 -0.5
I21K Tanana 9.15 354 P Pn 11 39 56.6 +0.5
baz=172,SNR=14
P32M Atlin 9.15 61 Pn Pn 11 39 56.0 -0.3
P32M Atlin 9.15 61 P Pn 11 39 56.1 -0.1
baz=254,SNR=16
M30M Minto, Yukon 9.19 40 Pn 11 39 57.8 +1.1
M30M Minto, Yukon 9.19 40 P Pn 11 39 57.1 +0.3
baz=231,SNR=19
U33K Whale Pass 9.22 83 P Pn 11 39 55.1 -2.0
baz=277
T33K Petersburg 9.25 79 P Pn 11 39 57.1 -0.5
baz=272
CRAG Craig 9.32 87 P Pn 11 39 56.4 -2.1
baz=281
GCSA Galena City Sc 9.35 341 P Pn 11 39 57.8 -1.0
baz=154
DAWY Dawson 9.44 28 Pn Pn 11 40 00.5 +0.3
DAWY Dawson 9.44 28 P Pn 11 40 00.6 +0.4
baz=217,SNR=9.1
I17K Unalakleet 9.53 329 Pn Pn 11 40 01.7 +0.3
I17K Unalakleet 9.53 329 P Pn 11 40 01.1 -0.3
baz=140,SNR=6.3
EGAK Eagle 9.61 22 Pn 11 40 03.9 +1.3
EGAK Eagle 9.61 22 P Pn 11 40 03.4 +0.9
baz=209,SNR=7.7
WRAK Wrangell Islan 9.61 81 P Pn 11 40 01.1 -1.4
baz=275
PRP Porcupine Dome 9.62 10 P Pn 11 40 04.1 +1.4
baz=194
K13K Kusilvak Mount 9.67 313 P Pn 11 40 02.3 -1.0
baz=120
H21K Melozitna Rive 9.68 352 P Pn 11 40 03.7 +0.3
baz=169
J14K Naruvaranak Lak 9.69 319 P Pn 11 40 03.6 0.0
baz=127
M11K Mekoryuk 9.71 303 Pn 11 40 02.5 -1.3
M11K Mekoryuk 9.71 303 P Pn 11 40 02.6 -1.2
baz=109,SNR=18
I26K Coal Creek Min 9.72 16 P Pn 11 40 05.2 +1.2
baz=202
H20K Anotleneega Mo 9.73 347 P Pn 11 40 04.3 +0.2
baz=162
Q32M Nakina River 9.74 66 P Pn 11 40 04.4 -0.1
baz=260
P33M Teslin, Yukon 9.76 58 P Pn 11 40 04.5 -0.1
baz=252,SNR=19
H24K Noodor Dome 9.77 4 P Pn 11 40 05.1 +0.4
baz=186
K29M Barlow Dome 9.81 33 P Pn 11 40 06.0 +0.8
baz=223,SNR=22
H22K Ishtalitna Cre 9.83 356 P Pn 11 40 05.6 +0.1
baz=174
M31M Drury Creek, Y 9.89 46 Pn 11 40 07.0 +0.6
M31M Drury Creek, Y 9.89 46 P Pn 11 40 07.8 +1.5
baz=239,SNR=58
N32M Quiet Lake 9.97 53 P Pn 11 40 08.7 +1.3
baz=247,SNR=6.7
UNV Unalaska Valle 9.97 264 P Pn 11 40 03.4 -4.0
H19K Roundabout Mou 9.99 343 P Pn 11 40 08.6 +1.0
baz=158
H18K Honhosa River 10.00 338 P Pn 11 40 07.6 -0.2
baz=151
J29N Klondike Camp 10.06 29 Pn Pn 11 40 09.3 +0.6
J29N Klondike Camp 10.06 29 P Pn 11 40 10.8 +2.0
baz=219,SNR=14
IMAR Indian Mountai 10.08 350 Pn 11 40 08.6 -0.3
MSW Makushin Switc 10.10 264 Pn 11 40 06.7 -2.5
MAYO Mayo, Yukon 10.16 37 P Pn 11 40 11.3 +1.3
baz=229,SNR=12
H17K Granite Mounta 10.16 334 Pn 11 40 09.0 -1.1
H17K Granite Mounta 10.16 334 P Pn 11 40 08.6 -1.5
baz=146
V35K Ketchikan 10.19 87 P Pn 11 40 11.1 +0.7
baz=282
S34M Telegraph Cree 10.23 72 Pn Pn 11 40 12.5 +1.5
S34M Telegraph Cree 10.23 72 P Pn 11 40 11.8 +0.8
baz=268
I27K Kandik River 10.26 19 P Pn 11 40 13.1 +1.7
baz=206,SNR=9.8
FARO Faro, Yukon 10.32 47 Pn 11 40 13.9 +1.6
FARO Faro, Yukon 10.32 47 P Pn 11 40 14.1 +1.8
baz=241,SNR=54
I28M Miner Creek 10.46 23 P Pn 11 40 15.2 +1.1
baz=211
R33M Jennings River 10.48 64 Pn Pn 11 40 14.6 +0.1
R33M Jennings River 10.48 64 P Pn 11 40 15.1 +0.6
baz=260
H16K Elim 10.54 329 P Pn 11 40 14.9 -0.3
baz=138,SNR=12
G21K Allakaket 10.58 351 P Pn 11 40 16.5 +0.8
baz=168
G23K Bananza Creek 10.62 359 P Pn 11 40 17.2 +0.9
baz=179
G24K Hadweenzic Riv 10.65 5 P Pn 11 40 18.0 +1.3
baz=186
G19K Purcell Mounta 10.66 343 P Pn 11 40 17.3 +0.5
baz=157

FYU Fort Yukon 10.67 10 Pn 11 40 17.4 +0.4
J30M Hart River 10.70 32 P Pn 11 40 18.8 +1.3
baz=224
G18K Tagagawik 10.71 340 P Pn 11 40 19.0 +1.5
baz=152
T35M Bob Quinn 10.72 77 Pn Pn 11 40 18.4 +0.6
T35M Bob Quinn 10.72 77 P Pn 11 40 18.6 +0.9
baz=273,SNR=10
I29M Ogilvie Camp, 10.76 26 Pn 11 40 20.2 +2.0
I29M Ogilvie Camp, 10.76 26 P Pn 11 40 20.5 +2.3
baz=216,SNR=7.5
G25K Bearman Lake 10.80 7 P Pn 11 40 20.1 +1.5
baz=191
G17K Kiwalik Mounta 10.81 335 P Pn 11 40 17.9 -0.9
baz=145
H27K Steamboat Moun 10.84 18 P Pn 11 40 20.2 +0.8
baz=205
DLBC Dease Lake 10.85 70 Pn 11 40 19.6 +0.2
DLBC Dease Lake 10.85 70 P Pn 11 40 20.8 +1.4
baz=266,SNR=8.2
DLBC Dease Lake 10.85 70 Pn Pn 11 40 19.9 +0.4
comp=Z,1.9nm,0.3s,baz=269,slow=2.8,SNR=26
DLBC Sn Sn 11 42 16.9 -3.8
comp=Z,3.5nm,0.3s,baz=3.8,slow=23,SNR=5.8
comp=Z,6.2nm,0.4s
G22K Bettles 10.86 356 P Pn 11 40 19.2 -0.4
baz=174
COLD Coldfoot 11.14 359 P Pn 11 40 23.4 0.0
baz=178,SNR=7.6
G16K Koyuk River 11.15 332 P Pn 11 40 23.1 -0.5
baz=140
I30M Mount Dempster 11.16 30 P Pn 11 40 25.5 +1.7
baz=221
G26K Porcupine Rive 11.20 12 P Pn 11 40 24.4 +0.2
baz=197
F21K Alatna River 11.27 352 P Pn 11 40 26.2 +1.0
baz=169
F20K Avaraart Lake 11.32 348 Pn 11 40 25.4 -0.4
F20K Avaraart Lake 11.32 348 P Pn 11 40 26.2 +0.4
baz=162,SNR=9.9
G15K Niukluk 11.34 327 P Pn 11 40 26.0 -0.1
baz=135
SPIA Saint Paul Isl 11.39 284 P Pn 11 40 25.8 -1.0
baz=87
F19K Shaleruckik Mo 11.40 344 P Pn 11 40 28.0 +1.1
baz=156
F24K Squaw Lake 11.45 3 Pn Pn 11 40 27.8 0.0
F24K Squaw Lake 11.45 3 P Pn 11 40 28.7 +1.0
baz=185
H29M Whitestone 11.46 23 P Pn 11 40 29.4 +1.7
baz=213
ANM Nome 11.46 324 Pn Pn 11 40 27.9 0.0
ANM Nome 11.46 324 P Pn 11 40 29.1 +1.2
baz=130,SNR=17
ANM Nome 11.46 324 P Pn 11 40 27.9 0.0
F18K Selawik 11.53 340 P Pn 11 40 29.9 +1.2
baz=151
BMAR Burnt Mountain 11.58 10 Pn 11 40 30.0 +0.6
NIKH Nikolski High 11.60 262 P Pn 11 40 29.0 -0.7
baz=67
F25K Christian Rive 11.65 8 P Pn 11 40 31.9 +1.6
baz=191
WTLY Watson Lake, Y 11.69 61 Pn 11 40 31.9 +1.0
WTLY Watson Lake, Y 11.69 61 P Pn 11 40 32.1 +1.1
baz=259,SNR=8.0
F17K Baldwin Pennin 11.73 337 P Pn 11 40 32.7 +1.4
baz=146
F26K Sheenjek River 11.88 10 P Pn 11 40 34.4 +0.9
baz=195
E19K Redstone River 11.90 346 P Pn 11 40 35.0 +1.2
baz=159
EPYK Eagle Plains 11.96 26 Pn Pn 11 40 36.3 +1.6
EPYK Eagle Plains 11.96 26 P Pn 11 40 37.0 +2.3
baz=217,SNR=8.8
E23K Chandalar 11.97 0 P Pn 11 40 35.9 +1.2
baz=180
F15K North Star Dit 12.02 329 P Pn 11 40 35.1 -0.3
baz=136
G29M Pine Creek 12.12 22 P Pn 11 40 39.0 +2.3
baz=212
E25K Arctic Village 12.17 7 Pn Pn 11 40 38.5 +0.9
E25K Arctic Village 12.17 7 P Pn 11 40 38.5 +0.9
baz=191
F14K Arctic Creek 12.37 326 P Pn 11 40 40.9 +0.8
baz=132
F28M Old Crow 12.38 18 Pn 11 40 41.8 +1.5
F28M Old Crow 12.38 18 P Pn 11 40 43.1 +2.8
baz=206,SNR=7.8
E20K Nigu River 12.53 349 P Pn 11 40 43.5 +1.1
baz=163
G30M tAoh Zraii Nji 12.57 25 P Pn 11 40 45.3 +2.2
baz=216
E27K Coleen River 12.64 14 Pn Pn 11 40 44.5 +0.6
E27K Coleen River 12.64 14 P Pn 11 40 47.5 +3.5
baz=201
D22K Ayikyak River 12.87 355 P Pn 11 40 49.0 +2.0
baz=172
TNA Tin City 12.94 324 P Pn 11 40 49.2 +1.3
baz=128,SNR=8.7
D19K Kuna River 13.00 346 P Pn 11 40 50.8 +2.0
baz=158
G31M Satah River 13.01 28 Pn Pn 11 40 48.9 0.0
G31M Satah River 13.01 28 P Pn 11 40 50.6 +1.7
baz=221,SNR=26
D20K Etivluk River 13.02 349 P Pn 11 40 50.0 +1.0
baz=162
D24K Happy Valley 13.07 1 P Pn 11 40 52.2 +2.4
baz=182
D17K Noatak River 13.17 337 P Pn 11 40 53.7 +2.6
baz=145
F30M Barrier River 13.19 24 P Pn 11 40 54.2 +2.9
baz=216
BBB Bella Bella 13.19 98 Pn Pn 11 40 51.8 +0.3
comp=Z,0.3nm,0.3s,baz=283,slow=14,SNR=1.5
BBB Sn Sn 11 43 13.7 -4.2
comp=Z,1.2nm,0.3s,baz=204,slow=20,SNR=7.7
comp=Z,20nm,1.1s
C21K Knifeblade Rid 13.28 352 P Pn 11 40 54.6 +2.0
baz=167
D25K Kavik River 13.32 5 P Pn 11 40 54.5 +1.4
baz=188
E28M Babbage River 13.33 16 P Pn 11 40 56.1 +2.8
baz=205
GAMB Gambell 13.39 314 P Pn 11 40 54.7 +0.7
baz=115
E29M Blow River 13.41 19 P Pn 11 40 56.3 +1.9
baz=209,SNR=16
F31M Tsiigehtchic 13.54 27 Pn Pn 11 40 55.7 -0.4
F31M Tsiigehtchic 13.54 27 P Pn 11 40 57.0 +0.9
baz=221,SNR=17
C18K Utukok River 13.62 342 P Pn 11 40 57.4 +0.2
baz=152
C24K Franklin Bluff 13.64 1 P Pn 11 40 58.5 +1.0
baz=182
B21K Ikpikpuk River 13.72 353 P Pn 11 40 58.8 +0.3
baz=168
D27M Malcolm River 13.72 13 P Pn 11 41 00.8 +2.2
baz=201
C19K Lookout Ridge 13.77 345 P Pn 11 41 00.6 +1.3
baz=156
C17K DeLong Mountai 13.84 339 P Pn 11 41 01.5 +1.2
baz=147,SNR=8.0
KOTAN Kotaneelee Air 14.04 63 P Pn 11 41 05.0 +1.9
baz=264,SNR=34
D28M Stokes Point 14.11 16 P Pn 11 41 05.3 +1.5
baz=206
C16K Lisburne Hills 14.15 336 P Pn 11 41 06.0 +1.6
baz=142
INK Inuvik 14.26 25 P Pn 11 41 07.3 +1.4
baz=219,SNR=36
INK Inuvik 14.26 25 Pn Pn 11 41 06.5 +0.6
comp=Z,0.4nm,0.3s,baz=205,slow=14,SNR=33
comp=Z,59nm,1.0s
B20K Meade River 14.32 349 P Pn 11 41 07.2 +0.5
baz=163
FLDN Fort Liard 14.34 63 Pn 11 41 08.4 +1.3
FLDN Fort Liard 14.34 63 P Pn 11 41 08.6 +1.5
baz=265,SNR=25
B18K Kokolik River 14.35 342 P Pn 11 41 07.6 +0.4
baz=152
B22K Teshekpuk Lake 14.36 355 P Pn 11 41 07.8 +0.6
baz=171
WRGLY Wrigley 14.91 51 P Pn 11 41 17.4 +2.5
baz=253,SNR=27
A19K Wainwright 14.99 345 P Pn 11 41 15.7 -0.1
baz=155
A22K Sinclair Lake 15.10 353 P Pn 11 41 15.6 -1.8
baz=168,SNR=6.2

A21K	**Barrow**	**15.54**	**352**	P		**Pn**	**11 41 19.7**	**-3.4**
	baz=165,SNR=18								
ADK	**Adak**	**16.41**	**266**	P		**Pn**	**11 41 30.7**	**-3.7**
C36M	**Paulatuk**	**17.46**	**31**	Pn		**Pn**	**11 41 47.6**	**+0.1**
C36M				IAmb	IAmb		11 41 56.2		
	comp=Z,88nm,0.8s								
C36M	**Paulatuk**	**17.46**	**31**	P		**Pn**	**11 41 47.1**	**-0.5**
	baz=234,SNR=55								
HILA	**High Level**	**17.66**	**69**	P		**P**	**11 41 51.0**	**0.0**
GNW	**Green Mountain**	**18.54**	**106**	P		**Pn**	**11 42 01.1**	**+0.1**
B06A	**Marblemount**	**18.71**	**102**			**P**	**11 42 02.4**	**-0.1**
YKA	**Yellowknife Ar**	**18.78**	**56**	P		**Pn**	**11 42 03.5**	**-0.2**
YKA	**Yellowknife Ar**	**18.78**	**56**	P		**Pn**	**11 42 04.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=265,slow=12,SNR=39								
	comp=Z,20nm,0.9s								
E03A	**Lebam**	**18.79**	**110**			**P**	**11 42 02.1**	**-1.3**
E03A				IAmb	IAmb		11 42 15.5		
	comp=Z,65nm,0.9s								
A36M	**Sachs Harbour**	**18.89**	**23**	P		**Pn**	**11 42 05.2**	**+0.2**
A36M	**Sachs Harbour**	**18.89**	**23**	P		**Pn**	**11 42 05.8**	**+0.8**
	baz=226,SNR=102								
D05A	**Enumclaw**	**19.22**	**106**			**P**	**11 42 08.7**	**+0.4**
D05A				IAmb	IAmb		11 42 21.3		
	comp=Z,116nm,1.2s								
LON	**Longmire**	**19.59**	**107**	P		**P**	**11 42 12.5**	**+0.2**
LON				IAmb	IAmb		11 42 16.0		
	comp=Z,148nm,1.9s								
LON	**Longmire**	**19.59**	**107**	P		**P**	**11 42 12.5**	**+0.2**
LON				pmax	pmax				
	comp=Z,148nm,2.0s								
F04A	**Amboy**	**19.79**	**110**	P		**P**	**11 42 14.4**	**-0.1**
F04A				IAmb	IAmb		11 42 28.5		
	comp=Z,82nm,1.1s								
B08A	**Colville Reser**	**19.98**	**100**	P		**P**	**11 42 15.7**	**-0.9**
B08A				IAmb	IAmb		11 42 20.6		
	comp=Z,77nm,1.4s								
HOOD	**Mount Hood Mea**	**20.60**	**110**	P		**P**	**11 42 23.3**	**-0.1**
HOOD				IAmb	IAmb		11 42 39.3		
	comp=Z,96nm,1.0s								
H04A	**Detroit Lake**	**20.75**	**112**	P		**P**	**11 42 24.6**	**-0.4**
H04A				IAmb	IAmb		11 42 39.7		
	comp=Z,77nm,1.0s								
E07A	**Sunnyside**	**20.76**	**105**	P		**P**	**11 42 24.5**	**-0.6**
E07A				IAmb	IAmb		11 42 36.6		
	comp=Z,78nm,1.0s								
C09A	**Chrisman Ranch**	**20.88**	**100**	P		**P**	**11 42 25.9**	**-0.4**
D08A	**Wollman Farm,**	**20.97**	**103**	P		**P**	**11 42 27.0**	**-0.2**
D08A				IAmb	IAmb		11 42 31.7		
	comp=Z,80nm,1.3s								
HAWA	**Hanford**	**21.04**	**105**	P		**P**	**11 42 27.9**	**-0.1**
F07A	**Phinny Hill Vi**	**21.14**	**106**	P		**P**	**11 42 28.5**	**-0.6**
F07A				IAmb	IAmb		11 42 44.1		
	comp=Z,79nm,0.9s								
SHEM	**Shemya Is, Ala**	**21.21**	**276**	P		**P**	**11 42 27.8**	**-2.0**
	comp=Z,38nm,0.8s,baz=45,slow=7.1,SNR=2.2								
	comp=Z,38nm,0.8s								
I04A	**Tendick Farm,**	**21.25**	**114**	P		**P**	**11 42 28.6**	**-1.8**
NEW	**Newport**	**21.26**	**98**	P		**P**	**11 42 30.4**	**+0.1**
NEW	**Newport**	**21.26**	**98**	P		**P**	**11 42 31.1**	**+0.7**
	baz=304,SNR=16								
NEW	**Newport**	**21.26**	**98**	P		**P**	**11 42 30.9**	**+0.5**
	comp=Z,21nm,1.1s,baz=305,slow=9.2,SNR=14								
	comp=Z,21nm,1.1s								
PINE	**Pine Mountain,**	**22.01**	**112**	P		**P**	**11 42 38.5**	**-0.3**
YBH	**Yreka Blue Hor**	**22.61**	**118**	P		**P**	**11 42 45.4**	**+0.4**
	comp=Z,5.4nm,0.8s,baz=341,slow=4.6,SNR=5.1								
	comp=Z,5.4nm,0.8s								
BILL	**Bilibino**	**23.23**	**318**	*e*P		**P**	**11 42 50.8**	**-0.2**
MSO	**Missoula**	**23.84**	**98**	P		**P**	**11 42 57.4**	**-0.1**
MSO	**Missoula**	**23.84**	**98**	P		**P**	**11 42 57.7**	**+0.3**
	baz=306,SNR=11								
ORV	**Oroville**	**24.87**	**120**	P		**P**	**11 43 05.6**	**-1.2**
ORV	**Oroville**	**24.87**	**120**	P		**P**	**11 43 05.6**	**-1.2**
ORV				pmax	pmax				
	comp=Z,13nm,0.9s								
EGMT	**Eagleton**	**25.50**	**92**	P		**P**	**11 43 12.4**	**-0.1**
	baz=304,SNR=5.8								
HLID	**Hailey**	**25.64**	**104**	P		**P**	**11 43 13.9**	**0.0**
	baz=312,SNR=9.7								
MPK	**Martis Peak**	**25.79**	**118**	P		**P**	**11 43 14.6**	**-0.9**
CMB	**Columbia Colle**	**26.60**	**121**	P		**P**	**11 43 22.6**	**+0.1**
CMB	**Columbia Colle**	**26.60**	**121**	P		**P**	**11 43 22.6**	**+0.1**
CMB				pmax	pmax				
	comp=Z,16nm,1.4s								
FFC	**Flin Flon**	**26.65**	**73**	P		**P**	**11 43 24.2**	**+1.4**
FFC	**Flin Flon**	**26.65**	**73**	P		**P**	**11 43 24.2**	**+1.4**
FFC				pmax	pmax				
	comp=Z,33nm,1.3s								
H17A	**Grant Village**	**27.20**	**99**	P		**P**	**11 43 28.4**	**+0.3**
H17A				IAmb	IAmb		11 43 40.8		
	comp=Z,33nm,1.2s								
H17A	**Grant Village**	**27.20**	**99**	P		**P**	**11 43 28.8**	**+0.7**
	baz=310,SNR=5.4								
NVAR	**Mina Array Bea**	**27.31**	**117**	P		**P**	**11 43 28.7**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=303,slow=8.7,SNR=22								
	comp=Z,4.6nm,1.0s								
IMW	**Indian Meadow**	**27.32**	**100**	P		**P**	**11 43 28.8**	**-0.5**
FLWY	**Flagg Ranch**	**27.34**	**100**	P		**P**	**11 43 29.3**	**0.0**
FLWY				IAmb	IAmb		11 43 54.2		
	comp=Z,64nm,1.6s								
RLMT	**Red Lodge**	**27.47**	**96**	P		**P**	**11 43 30.5**	**0.0**
	baz=308								
MLAC	**Mammoth, Mammo**	**27.67**	**119**	P		**P**	**11 43 33.1**	**+0.7**
	baz=322								
RES	**Resolute Bay**	**27.78**	**28**	P		**P**	**11 43 33.4**	**+0.7**
RES				IAmb	IAmb		11 44 14.7		
	comp=Z,18nm,0.8s								
RES	**Resolute Bay**	**27.78**	**28**	P		**P**	**11 43 33.4**	**+0.7**
RES				pmax	pmax				
	comp=Z,18nm,0.9s								
LAO	**LASA Array**	**28.23**	**91**	P		**P**	**11 43 36.9**	**-0.2**
	baz=306								
LAO	**LASA Array**	**28.23**	**91**	P		**P**	**11 43 38.1**	**+1.0**
	baz=306								
DGMT	**Dagmar**	**28.36**	**86**	P		**P**	**11 43 37.6**	**-0.6**
	baz=303								
Q12A	**Willow Creek R**	**28.62**	**112**	P		**P**	**11 43 40.4**	**-0.3**
Q12A				IAmb	IAmb		11 43 53.2		
	comp=Z,31nm,0.9s								
R11B	**Troy Canyon, C**	**28.75**	**114**	P		**P**	**11 43 42.0**	**+0.1**
	baz=319,SNR=12								
BW06	**Boulder Array**	**28.82**	**101**	P		**P**	**11 43 41.8**	**-0.8**
	baz=312								
PD31	**Pinedale Array**	**28.82**	**101**	P		**P**	**11 43 41.6**	**-1.0**
PDAR	**Pinedale Array**	**28.82**	**101**	P		**P**	**11 43 42.0**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=312,slow=5.7,SNR=9.1								
	comp=Z,1.1nm,0.7s								
DUG	**Dugway, Tooele**	**28.84**	**108**	P		**P**	**11 43 42.4**	**-0.2**
	baz=316								
GRAC	**Grapevine Rang**	**28.89**	**118**	P		**P**	**11 43 43.4**	**+0.3**
	baz=322								
SMMC	**Simmler**	**28.98**	**123**	P		**P**	**11 43 44.6**	**+0.8**
	baz=325								
VES	**Vestal, Richgr**	**28.98**	**122**	P		**P**	**11 43 44.6**	**+0.9**
	baz=324								
CWC	**Cottonwood Cre**	**28.98**	**119**	P		**P**	**11 43 44.1**	**+0.1**
	baz=323								
SEY	**Seymchan**	**29.24**	**307**	⇓ *i*P		**P**	**11 43 45.7**	**-0.1**
SEY				pmax	pmax				
	comp=Z,39nm,1.3s								
FCC	**Fort Churchill**	**29.27**	**61**	P		**P**	**11 43 46.0**	**-0.1**
FCC	**Fort Churchill**	**29.27**	**61**	P		**P**	**11 43 46.0**	**-0.1**
FCC				pmax	pmax				
	comp=Z,73nm,1.5s								
PKM	**Mcpherson Peak**	**29.41**	**124**	P		**P**	**11 43 48.2**	**+0.4**
	baz=326								
ISA	**Isabella, Lake**	**29.41**	**121**	P		**P**	**11 43 48.1**	**+0.4**
	baz=324								
TPNV	**Topopah Spring**	**29.49**	**116**	P		**P**	**11 43 48.8**	**+0.3**
	baz=321,SNR=7.8								
FURC	**Furnace Creek,**	**29.56**	**118**	P		**P**	**11 43 49.3**	**+0.4**
	baz=322								
PET	**Petropavlovsk**	**29.56**	**286**	⇓ *e*P		**P**	**11 43 49.8**	**+1.1**
PET				pmax	pmax				
	comp=Z,26nm,1.2s								
MPMC	**Manual Prospec**	**29.57**	**119**	P		**P**	**11 43 49.7**	**+0.4**
	baz=323								
LRMC	**Laurel Mtn Rad**	**29.94**	**120**	P		**P**	**11 43 52.0**	**-0.4**
	baz=324								
PETK	**Petropavlovsk-**	**30.04**	**287**	P		**P**	**11 43 52.7**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=66,slow=13,SNR=6.5								
	comp=Z,3.1nm,0.8s								
SHOC	**Shoshone, Teco**	**30.30**	**118**	P		**P**	**11 43 55.1**	**-0.4**
	baz=322								
GSC	**Goldstone, Bar**	**30.51**	**119**	P		**P**	**11 43 57.0**	**-0.4**
	baz=323								
K22A	**Casper**	**30.58**	**98**	P		**P**	**11 43 57.9**	**-0.2**
	baz=311								
K22A	**Casper**	**30.58**	**98**	P		**P**	**11 43 57.8**	**-0.2**
	baz=311								
TUQ	**Turquoise Moun**	**30.84**	**118**	P		**P**	**11 43 59.5**	**-0.9**
	baz=323								
RWWY	**Rawlins**	**30.84**	**100**	P		**P**	**11 43 59.3**	**-1.2**
RWWY				IAmb	IAmb		11 44 11.2		
	comp=Z,32nm,1.0s								
SRU	**San Rafael Swe**	**30.84**	**107**	P		**P**	**11 44 00.3**	**-0.1**
SRU				IAmb	IAmb		11 44 12.6		
	comp=Z,33nm,1.0s								
SRU	**San Rafael Swe**	**30.84**	**107**	P		**P**	**11 44 00.3**	**-0.1**
SRU				pmax	pmax				
	comp=Z,33nm,1.0s								
MA2	**Magadan**	**30.97**	**301**	⇑ *e*P		**P**	**11 44 01.1**	**-0.1**
MA2				pmax	pmax				
	comp=Z,57nm,1.9s								
RSSD	**Black Hills**	**31.02**	**93**	P		**P**	**11 44 01.4**	**-0.6**
RSSD				IAmb	IAmb		11 44 12.8		
	comp=Z,21nm,0.8s								
RSSD	**Black Hills**	**31.02**	**93**	P		**P**	**11 44 02.6**	**+0.6**
	baz=309								
RSSD	**Black Hills**	**31.02**	**93**	P		**P**	**11 44 02.6**	**+0.6**
	baz=309,SNR=7.0								
RSSD	**Black Hills**	**31.02**	**93**	P		**P**	**11 44 01.4**	**-0.6**
RSSD				pmax	pmax				
	comp=Z,21nm,0.8s								
HEC	**Hector,Ludlow**	**31.12**	**119**	P		**P**	**11 44 02.9**	**+0.1**
	baz=324								
MDND	**Maddock**	**31.27**	**84**	P		**P**	**11 44 04.6**	**+0.7**
	baz=304								
MDND	**Maddock**	**31.27**	**84**	P		**P**	**11 44 05.7**	**+1.8**
	baz=304								
O20A	**White River Ci**	**31.34**	**103**	P		**P**	**11 44 05.0**	**+0.1**
	baz=315,SNR=7.7								
GMRC	**Granite Mounta**	**31.49**	**118**	P		**P**	**11 44 06.1**	**0.0**
	baz=323								
HMU	**Henry Mountain**	**31.58**	**109**	P		**P**	**11 44 06.2**	**-0.8**
BELC	**Belle Mtn. Jos**	**31.95**	**120**	P		**P**	**11 44 09.1**	**-1.1**
	baz=324								
ULM	**Lac du Bonnet**	**32.02**	**78**	*e*P		**P**	**11 44 12.9**	**+2.4**
ULM				pmax	pmax				
	comp=Z,8.0nm,1.0s								
ULM	**Lac du Bonnet**	**32.02**	**78**	P		**P**	**11 44 12.4**	**+1.9**
	comp=Z,7.9nm,1.0s,baz=296,slow=9.4,SNR=7.7								
	comp=Z,7.9nm,1.0s								
PFO	**Pinyon Flats O**	**32.05**	**121**	P		**P**	**11 44 10.8**	**-0.2**
	baz=325								
N23A	**Red Feather La**	**32.08**	**100**	P		**P**	**11 44 11.3**	**-0.2**
	baz=313								
IRM	**Iron Mountain**	**32.24**	**118**	P		**P**	**11 44 13.9**	**+1.2**
	baz=324								
109C	**Camp Elliot, M**	**32.33**	**122**	P		**P**	**11 44 13.3**	**-0.1**
	baz=326								
PDMCI	**Parker Dam,Lak**	**32.62**	**117**	P		**P**	**11 44 16.8**	**+0.8**
	baz=323								
MONP2	**Monument Peak**	**32.65**	**121**	P		**P**	**11 44 17.4**	**+1.0**
	baz=325								
SWSC	**Sam W. Stewart**	**32.91**	**121**	P		**P**	**11 44 18.8**	**+0.4**
	baz=325								
WUAZ	**Wupatki**	**33.08**	**112**	P		**P**	**11 44 20.9**	**+0.8**
	baz=321,SNR=7.4								
AGMN	**Agassiz Nation**	**33.09**	**81**	P		**P**	**11 44 19.3**	**-0.6**
AGMN	**Agassiz Nation**	**33.09**	**81**	P		**P**	**11 44 20.4**	**+0.5**
	baz=304								
AGMN	**Agassiz Nation**	**33.09**	**81**	P		**P**	**11 44 20.4**	**+0.5**
	baz=304								
MVCO	**Mesa Verde**	**33.32**	**107**	P		**P**	**11 44 22.3**	**+0.1**
	baz=318								
S22A	**4UR Ranch, Cre**	**33.82**	**105**	P		**P**	**11 44 27.2**	**+0.4**
	baz=317								
Q24A	**Divide**	**33.86**	**101**	P		**P**	**11 44 26.7**	**-0.4**
	baz=315								
OGNE	**Ogallala**	**34.21**	**96**	P		**P**	**11 44 29.4**	**-0.4**
	baz=313								
W18A	**Petrified Fore**	**34.24**	**111**	P		**P**	**11 44 30.5**	**+0.3**
	baz=320								
F33A	**5 Mile Ranch,**	**34.29**	**84**	P		**P**	**11 44 31.0**	**+0.7**
	baz=307								
K30B	**Basset**	**34.42**	**91**	P		**P**	**11 44 32.4**	**+0.8**
	baz=311								
SDCO	**Great Sand Dun**	**34.54**	**103**	P		**P**	**11 44 33.0**	**+0.1**
	baz=317,SNR=5.5								
SDCO	**Great Sand Dun**	**34.54**	**103**	P		**P**	**11 44 33.3**	**+0.4**
	baz=317,SNR=5.5								
214A	**Organ Pipe Nat**	**35.17**	**118**	P		**P**	**11 44 38.4**	**+0.3**
	baz=324								
KSCO	**Kaye Shedlock'**	**35.22**	**99**	P		**P**	**11 44 39.1**	**+0.5**
	baz=315,SNR=8.1								
KSCO	**Kaye Shedlock'**	**35.22**	**99**	P		**P**	**11 44 39.7**	**+1.1**
	baz=315,SNR=8.1								
ECSD	**EROS Data Cent**	**35.41**	**88**	P		**P**	**11 44 39.9**	**-0.2**
	baz=310,SNR=5.1								
ECSD	**EROS Data Cent**	**35.41**	**88**	P		**P**	**11 44 40.0**	**0.0**
	baz=310,SNR=5.1								
T25A	**Trinidad**	**35.58**	**103**	P		**P**	**11 44 41.2**	**-0.7**
T25A				IAmb	IAmb		11 44 53.7		
	comp=Z,13nm,0.9s								
T25A	**Trinidad**	**35.58**	**103**	P		**P**	**11 44 42.8**	**+0.9**
	baz=317								
EYMN	**Ely**	**35.70**	**78**	P		**P**	**11 44 43.2**	**+0.8**
	baz=305								
TIXI	**Tiksi**	**35.70**	**328**	P		**P**	**11 44 42.1**	**-0.1**
TIXI				IAmb	IAmb		11 44 44.8		
	comp=Z,16nm,1.1s								
TIXI	**Tiksi**	**35.70**	**328**	⇑ *i*P		**P**	**11 44 42.2**	**+0.1**
TIXI				pmax	pmax				
	comp=Z,17nm,1.0s								
TUC	**Tucson**	**35.90**	**115**	P		**P**	**11 44 44.5**	**0.0**
	baz=323								
BGNE	**Belgrade**	**36.07**	**92**	P		**P**	**11 44 45.3**	**-0.5**
BGNE	**Belgrade**	**36.07**	**92**	P		**P**	**11 44 45.8**	**+0.1**
	baz=312								
ANMO	**Albuquerque**	**36.11**	**108**	P		**P**	**11 44 46.6**	**+0.3**
	baz=320								
ANMO	**Albuquerque**	**36.11**	**108**	P		**P**	**11 44 46.0**	**-0.3**
	baz=320,SNR=6.1								
ANMO	**Albuquerque**	**36.11**	**108**	⇓ *i*P		**P**	**11 44 47.1**	**+0.8**
SPMN	**Marine on St.**	**36.60**	**83**	P		**P**	**11 44 50.8**	**+0.6**
	baz=308								
Y22A	**Socorro**	**36.61**	**109**	P		**P**	**11 44 51.8**	**+1.3**
	baz=321,SNR=5.1								
CBKS	**Cedar Bluff**	**36.96**	**96**	P		**P**	**11 44 54.1**	**+0.7**
	baz=315								
CBKS	**Cedar Bluff**	**36.96**	**96**	P		**P**	**11 44 54.7**	**+1.4**
	baz=315								
I37B	**Waseca**	**37.03**	**85**	P		**P**	**11 44 54.9**	**+1.0**
	baz=309								
121A	**Cookes Peak, D**	**37.27**	**111**	P		**P**	**11 44 55.9**	**-0.3**
	baz=322								
NEEM	**North Greenlan**	**37.78**	**21**	*i*P		**P**	**11 45 00.0**	**-0.2**
NEEM				IAmb	IAmb		11 45 11.0		
	comp=Z,30nm,0.9s								
N35A	**Tabor**	**37.84**	**90**	P		**P**	**11 45 02.0**	**+1.2**
	baz=312,SNR=6.8								
KSU1	**Kansas State U**	**38.51**	**93**	P		**P**	**11 45 06.2**	**-0.2**
	baz=314								
AMTX	**Amarillo**	**38.73**	**103**	P		**P**	**11 45 08.1**	**-0.4**
AMTX				IAmb	IAmb		11 45 20.1		
	comp=Z,37nm,1.1s								
AMTX	**Amarillo**	**38.73**	**103**	P		**P**	**11 45 09.1**	**+0.6**
	baz=318								
AMTX	**Amarillo**	**38.73**	**103**	P		**P**	**11 45 09.0**	**+0.5**
	baz=318,SNR=7.7								
MSTX	**Muleshoe**	**38.83**	**105**	P		**P**	**11 45 09.2**	**-0.1**
	baz=319								
MSTX	**Muleshoe**	**38.83**	**105**	P		**P**	**11 45 10.0**	**+0.8**
	baz=319								
ELIS	**Ellis County**	**39.11**	**99**	P		**P**	**11 45 10.8**	**-0.7**
U32A	**Winter Ranch,**	**39.11**	**99**	P		**P**	**11 45 12.1**	**+0.6**
	baz=317								
TYV	**Tymovskoe**	**39.15**	**292**	*e*P		**P**	**11 45 11.3**	**-0.3**
TYV				pmax	pmax				
	comp=Z,20nm,0.9s								
TYV				pmax	pmax				
	comp=Z,1μm,6.1s								
MNTX	**Cornudas Mount**	**39.18**	**110**	P		**P**	**11 45 13.3**	**+1.2**
	baz=322,SNR=9.7								
MNTX	**Cornudas Mount**	**39.18**	**110**	P		**P**	**11 45 12.8**	**+0.6**
	baz=322,SNR=9.7								
N38A	**Joes South For**	**39.23**	**89**	P		**P**	**11 45 13.0**	**+0.6**
	baz=313,SNR=5.5								
YAK	**Yakutsk**	**39.34**	**313**	*e*P		**P**	**11 45 12.2**	**-0.8**
YAK				*e*			11 47 20.0		
YAK				*e*S		**S**	**11 51 14.2**	**+0.6**
YAK				pmax	pmax				
	comp=Z,68nm,0.9s								
YAK				pmax	pmax				
	comp=E,24nm,1.1s								
YAK				pmax	pmax				
	comp=N,16nm,1.3s								
YAK				smax	smax				
	comp=N,6μm,16.0s								
YAK				smax	smax				
	comp=E,4μm,15.6s								
JFWS	**Jewell Farm**	**39.49**	**84**	P		**P**	**11 45 13.5**	**-1.1**
	baz=311								
P38A	**Dawn**	**39.87**	**90**	P		**P**	**11 45 17.5**	**-0.2**
	baz=314,SNR=7.0								
DKNS	**Dickens**	**40.06**	**103**	P		**P**	**11 45 19.4**	**-0.1**
PECS	**Pecos**	**40.24**	**108**	P		**P**	**11 45 20.9**	**-0.1**
WMOK	**Wichita Mounta**	**40.43**	**100**	P		**P**	**11 45 22.3**	**-0.2**
	baz=318								
WMOK	**Wichita Mounta**	**40.43**	**100**	P		**P**	**11 45 23.8**	**+1.2**
	baz=318								
N41A	**Harden Midland**	**40.62**	**87**	P		**P**	**11 45 23.4**	**-0.6**
S39A	**Bolivar**	**41.33**	**92**	P		**P**	**11 45 28.5**	**-1.4**
	baz=315,SNR=5.7								
GLMI	**Grayling**	**41.37**	**77**	P		**P**	**11 45 30.1**	**0.0**
	baz=310								
YSS	**Yuzh-Sakhalins**	**41.44**	**287**	⇓ *e*P		**P**	**11 45 27.3**	**-3.3**
YSS				pmax	pmax				
	comp=Z,130nm,2.0s								
R40A	**Maddies Statio**	**41.50**	**91**	P		**P**	**11 45 30.5**	**-0.7**
R40A				IAmb	IAmb		11 45 40.5		
	comp=Z,24nm,0.8s								
R40A	**Maddies Statio**	**41.50**	**91**	P		**P**	**11 45 30.2**	**-1.0**
	baz=315,SNR=7.7								
ABTX	**Abilene, Hawle**	**41.55**	**103**	P		**P**	**11 45 32.2**	**+0.5**
	baz=320								
ABTX	**Abilene, Hawle**	**41.55**	**103**	P		**P**	**11 45 30.6**	**-1.1**
	baz=320								
HDIL	**Hopedale**	**41.60**	**86**	P		**P**	**11 45 31.0**	**-1.0**
HDIL	**Hopedale**	**41.60**	**86**	P		**P**	**11 45 32.1**	**+0.1**
	baz=313,SNR=5.9								
HDIL	**Hopedale**	**41.60**	**86**	P		**P**	**11 45 31.9**	**-0.1**
	baz=313,SNR=5.9								
U38A	**Gravette**	**41.63**	**94**	P		**P**	**11 45 31.7**	**-0.7**
U38A				IAmb	IAmb		11 45 42.5		
	comp=Z,28nm,1.1s								
U38A	**Gravette**	**41.63**	**94**	P		**P**	**11 45 31.9**	**-0.4**
	baz=316,SNR=5.4								
TX31	**Lajitas Ar, Si**	**41.95**	**110**	P		**P**	**11 45 35.8**	**+0.7**
	baz=323,SNR=9.2								
TXAR	**Lajitas Array**	**41.95**	**110**	P		**P**	**11 45 35.2**	**0.0**
	comp=Z,4.5nm,1.0s,baz=319,slow=6.6,SNR=25								
	comp=Z,4.5nm,1.0s								
OZNA	**Ozona**	**42.05**	**106**	P		**P**	**11 45 35.3**	**-0.6**
OZNA				IAmb	IAmb		11 45 47.4		
	comp=Z,24nm,0.9s								
CCM	**Cathedral Cave**	**42.24**	**90**	P		**P**	**11 45 37.1**	**-0.2**
	baz=315								
CCM	**Cathedral Cave**	**42.24**	**90**	P		**P**	**11 45 37.5**	**+0.3**
	baz=315								
GRNR	**Gornyy**	**42.41**	**295**	⇑ *i*P		**P**	**11 45 37.8**	**-0.7**
GRNR				pmax	pmax				
	comp=Z,20nm,0.9s								
FVM	**French Village**	**42.75**	**89**	P		**P**	**11 45 40.8**	**-0.7**
	baz=315								
BRDY	**Brady**	**42.92**	**104**	P		**P**	**11 45 42.5**	**-0.5**
SFIN	**Lafayette**	**42.94**	**84**	P		**P**	**11 45 43.5**	**+0.5**
	baz=313								
SFIN	**Lafayette**	**42.94**	**84**	P		**P**	**11 45 44.7**	**+1.7**
	baz=313								
JCT	**Junction City**	**43.11**	**105**	P		**P**	**11 45 44.7**	**+0.2**
	baz=321,SNR=12								
SUMG	**Summit**	**43.18**	**24**	P		**P**	**11 45 44.6**	**-0.3**
SUMG				IAmb	IAmb		11 45 55.0		
	comp=Z,34nm,0.8s								
SUMG	**Summit**	**43.18**	**24**	P		**P**	**11 45 44.7**	**-0.3**
SUMG				pmax	pmax				
	comp=Z,34nm,0.8s								
SUMG	**Summit**	**43.18**	**24**	*i* P		**P**	**11 45 45.4**	**+0.5**
SUMG				IAmb	IAmb		11 45 55.8		
	comp=Z,29nm,0.8s								
WHTX	**Lake Whitney,**	**43.23**	**102**	P		**P**	**11 45 45.0**	**-0.4**
	baz=320								
DRIO	**Del Rio**	**43.50**	**107**	P		**P**	**11 45 47.0**	**-0.6**
DRIO				IAmb	IAmb		11 45 58.6		
	comp=Z,29nm,0.8s								
AAM	**Ann Arbor**	**43.55**	**80**	P		**P**	**11 45 47.3**	**-0.5**
	baz=312								
435B	**Jarrell**	**44.08**	**103**	P		**P**	**11 45 52.8**	**+0.5**
	baz=321								
O48B	**Farmland**	**44.11**	**83**	P		**P**	**11 45 52.0**	**-0.4**
	baz=314								
KBS	**Kingsbay**	**44.74**	**5**	*i* P		P	11 46 03.4	+6.4
P49A	**Miami Univ. Ec**	**44.85**	**83**	P		**P**	**11 45 57.9**	**-0.5**
	baz=314								
WCI	**Wyandotte Cave**	**44.88**	**86**	P		**P**	**11 45 57.5**	**-1.1**
	baz=315								
NATX	**Nacogdoches**	**44.94**	**99**	P		**P**	**11 45 58.7**	**-0.4**
	baz=320								
833A	**Chaparral WMA,**	**45.02**	**107**	P		**P**	**11 45

R53A baz=315,SNR=5.0 P **P** **11 46 17.5 +0.4**
baz=315,SNR=5.0
Q54A Coxs Mills 47.39 81 P **P** **11 46 18.9 +0.6**
baz=315
Q54A P **P** **11 46 18.9 +0.6**
baz=315
MCWV Mont Chateau 47.46 79 P **P** **11 46 19.5 +0.7**
baz=315
NCB Newcomb 47.53 71 P **P** **11 46 20.8 +1.4**
NCB Newcomb 47.53 71 P **P** **11 46 20.8 +1.4**
baz=313
W50A Signal Mountai 47.60 88 P **P** **11 46 20.1 +0.1**
baz=317,SNR=6.6
TZTN Tazewell 47.62 85 P **P** **11 46 19.9 -0.2**
baz=316
M57A Sunshine Farm, 47.78 76 P **P** **11 46 23.2 +1.9**
baz=314
M57A P **P** **11 46 23.2 +1.9**
baz=314
BINY Binghamton 47.80 74 P **P** **11 46 21.0 -0.5**
baz=314
BINY Binghamton 47.80 74 P **P** **11 46 23.7 +2.2**
baz=314
SSPA Standing Stone 47.85 77 P **P** **11 46 20.3 -1.6**
baz=314
D62A Allapoint, All 48.12 65 P **P** **11 46 24.6 +0.7**
D62A Allapoint, All 48.12 65 P **P** **11 46 24.2 +0.4**
baz=312,SNR=8.5
D62A P **P** **11 46 24.2 +0.4**
baz=312,SNR=8.5
NRIK Noril'sk 48.17 336 P **P** **11 46 24.5 +0.5**
NRIK Noril'sk 48.17 336 *eP* **P** **11 46 24.7 +0.8**
NRIK pmax pmax
comp=Z,13nm,0.8s
NRIK Noril'sk 48.17 336 P **P** **11 46 24.2 +0.3**
comp=Z,13nm,0.8s,baz=45,slow=5.8,SNR=16
comp=Z,13nm,0.8s
ANGG Ammassalik, Gr 48.18 31 *i* P **P** **11 46 24.4 +0.4**
ANGG IAmb IAmb 11 46 33.1
comp=Z,22nm,0.8s
BOD Bodaibo 48.19 314 *eP* **P** **11 46 23.4 -0.8**
BOD pmax pmax
comp=Z,31nm,1.3s
LRAL Lakeview Retre 48.26 91 P **P** **11 46 24.9 -0.2**
baz=318,SNR=5.7
HCNY Howe Caverns 48.31 73 P **P** **11 46 27.8 +2.4**
baz=314
L59A Walton 48.31 74 P **P** **11 46 27.2 +1.8**
baz=314
L59A P **P** **11 46 27.2 +1.8**
baz=314
X51A Calhoun 48.32 88 P **P** **11 46 25.6 0.0**
baz=317,SNR=6.2
X51A P **P** **11 46 25.6 0.0**
baz=317,SNR=6.2
LBNH Lisbon 48.56 70 P **P** **11 46 26.3 -1.0**
baz=313
U54A Nelsons Funny 48.60 84 P **P** **11 46 29.4 +1.6**
baz=316,SNR=5.3
U54A P **P** **11 46 29.4 +1.6**
baz=316,SNR=5.3
H11N2 WAKE ISLAND Hy 48.64 240 T T 12 38 49.7
baz=27
H11N3 WAKE ISLAND Hy 48.65 240 T T 12 38 44.1
baz=27,slow=74
V53A Saluda 48.66 85 P **P** **11 46 28.8 +0.5**
baz=317,SNR=5.4
V53A P **P** **11 46 28.8 +0.5**
baz=317,SNR=5.4
H11N1 WAKE ISLAND Hy 48.66 240 T T 12 39 18.6
baz=27,slow=74
BLA Blacksburg 48.88 82 P **P** **11 46 28.9 -1.0**
baz=316,SNR=5.3
BLA Blacksburg 48.88 82 P **P** **11 46 31.2 +1.3**
baz=316,SNR=5.3
E63A Oxbow 48.88 65 P **P** **11 46 30.9 +1.2**
baz=313
E63A P **P** **11 46 30.9 +1.2**
baz=313
USRK Ussuriysk Ar. 48.95 291 P **P** **11 46 28.4 -1.9**
comp=Z,2.9nm,0.7s,baz=106,slow=6.2,SNR=5.3
comp=Z,2.9nm,0.7s
CASEE Lake Jocassee 49.09 86 P **P** **11 46 32.1 +0.6**
baz=317,SNR=6.1
PKME Peaks-Kenny Pk 49.23 67 P **P** **11 46 31.0 -1.4**
baz=313
Y52A Lilburn 49.28 88 P **P** **11 46 34.1 +1.1**
baz=318,SNR=6.3
Y52A P **P** **11 46 34.1 +1.1**
baz=318,SNR=6.3
BRNY Black Rk. Fore 49.41 74 P **P** **11 46 36.2 +2.4**
baz=314
250A Grady 49.45 92 P **P** **11 46 34.8 +0.5**
baz=319,SNR=7.1
BATG Bathurst New B 49.49 63 P **P** **11 46 34.3 -0.1**
BRAL Brewton 49.62 93 P **P** **11 46 35.0 -0.6**
baz=319
H11S1 WAKE ISLAND Hy 49.79 239 T T 12 40 50.1
baz=29
H11S2 WAKE ISLAND Hy 49.80 239 T T 12 40 53.8
baz=29,slow=74
H11S3 WAKE ISLAND Hy 49.80 239 T T 12 40 34.1
baz=29,slow=74
MDJ Mudanjiang 49.91 293 P **P** **11 46 41.8 +4.2**
MDJ pP sP 11 46 43.3 +2.6
MDJ PcP **PcP** **11 48 02.3 +4.5**
MDJ PP **PP** **11 48 36.3 +4.2**
MDJ PcS **PcS** **11 51 58.9 +4.4**
MDJ sS sS 11 53 57.4 +6.5
MDJ ScS **ScS** **11 56 30.8 +2.3**
MDJ pmax pmax
comp=Z,21nm,2.3s
GOGA Godfrey 49.95 88 P **P** **11 46 37.3 -0.7**
baz=318,SNR=5.8
BNX BinXian 50.25 295 ⇓P **P** **11 46 40.0 -0.2**
BNX pmax pmax
comp=Z,14nm,1.3s
V58A Windy Hill, Pi 50.63 82 P **P** **11 46 45.1 +1.9**
baz=317
V58A P **P** **11 46 45.1 +1.9**
baz=317
T59A Double "B" Far 50.64 80 P **P** **11 46 45.4 +2.2**
baz=316
T59A P **P** **11 46 45.4 +2.2**
baz=316
MJA0 Matsu Arr-Jizo 50.98 279 *eP* **P** **11 46 47.7 +1.8**
MJA0 pmax pmax
comp=Z,2.0nm,0.6s
MJAR Matsushiro Arr 51.00 279 P **P** **11 46 45.2 -0.9**
comp=Z,1.2nm,0.3s,baz=38,slow=5.4,SNR=4.6
comp=Z,1.2nm,0.3s
MAJO Matsushiro 51.00 279 ⇓*eP* **P** **11 46 46.6 +0.6**
MAJO pmax pmax
comp=Z,74nm,3.0s
TIGA Tifton 51.36 90 P **P** **11 46 48.0 -0.7**
baz=319
HIA Hailar 51.54 303 ⇑*eP* **P** **11 46 50.3 +0.4**
HIA pmax pmax
comp=Z,55nm,4.0s
NHSC New Hope 52.02 86 P **P** **11 46 53.0 -0.6**
baz=318
CN2 Changchun 52.60 295 P **P** **11 46 57.3 -0.5**
CN2 pP pwP 11 47 05.8 -0.4
CN2 pmax pmax
comp=Z,40nm,0.8s
ARCES ARCESS Array B 54.59 2 *eP* **P** **11 47 12.0 0.0**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 54.59 2 P **P** **11 47 11.8 -0.2**
comp=Z,4.7nm,1.0s,baz=2.9,slow=7.0,SNR=12
comp=Z,4.7nm,1.0s
DWPF Disney Wildern 55.10 91 P **P** **11 47 14.5 -1.7**
baz=321
KSRS Korea Array 55.93 288 *eP* **P** **11 47 24.0 +1.9**
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 55.93 288 P **P** **11 47 21.8 -0.3**
comp=Z,3.5nm,0.9s,baz=42,slow=6.2,SNR=6.0
comp=Z,3.5nm,0.9s
LVZ Lovozero 56.24 358 ⇓*eP* **P** **11 47 25.3 +1.3**
LVZ pmax pmax
comp=Z,102nm,2.5s
XLT XiLinHaoTe 57.16 301 *eP* **P** **11 47 30.1 -0.9**
XLT pP sP 11 47 34.4 +0.4
XLT sP pwP 11 47 38.3 -1.1
XLT PP **PP** **11 49 36.3 -1.2**
XLT pmax pmax
comp=Z,7.0nm,1.1s
MOY Mondy 57.82 316 *eP* **P** **11 47 36.3 +0.8**
MOY pmax pmax
comp=Z,50nm,2.7s
ZAK Zakamensk 57.91 314 *eP* **P** **11 47 34.4 -1.8**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 58.28 310 P **P** **11 47 38.8 0.0**
ULN IAmb IAmb 11 48 05.4
comp=Z,12nm,0.8s
ULN Ulaanbaatar 58.28 310 ⇓*eP* **P** **11 47 39.4 +0.6**
ULN pmax pmax
comp=Z,15nm,1.1s
SONM Songino Array 58.59 310 P **P** **11 47 40.6 -0.4**
SONM IAmb IAmb 11 48 08.0
comp=Z,18nm,0.8s
SONM Songino Array 58.59 310 P **P** **11 47 41.4 +0.4**
comp=Z,16nm,0.8s,baz=46,slow=6.1,SNR=47
comp=Z,16nm,0.8s
ZAA0 Zalesovo Array 61.58 327 P **P** **11 48 00.9 -0.3**
ZAA0 IAmb IAmb 11 48 03.3
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 61.58 327 P **P** **11 48 00.5 -0.7**
ZALV Zalesovo Beam 61.58 327 P **P** **11 48 01.6 +0.4**
comp=Z,12nm,0.7s,baz=28,slow=7.1,SNR=39
comp=Z,12nm,0.7s
HHC Hu-ho-hao-te 61.65 302 ⇑P **P** **11 48 03.8 +1.8**
HHC pmax pmax
comp=Z,33nm,0.6s
NB2 NORSAR Subarra 62.19 10 P **P** **11 48 05.9 +0.6**
comp=Z,26nm,1.1s,baz=348,slow=6.9
NB2 NORSAR Subarra 62.19 10 P **P** **11 48 05.9 +0.6**
baz=348,slow=6.9
NOA NORSAR Array B 62.19 10 P **P** **11 48 05.9 +0.6**
comp=Z,7.7nm,0.9s,baz=348,slow=6.7,SNR=16
comp=Z,7.7nm,0.9s
BTO Baotou 62.58 302 *eP* **P** **11 48 07.9 -0.3**
BTO pP **sP** **11 48 12.5 +1.2**
BTO sP **pwP** **11 48 15.0 -1.7**
BTO pmax pmax
comp=Z,21nm,0.9s
BTO pmax pmax
comp=Z,16µm,12.9s
FINES FINESS Array B 62.71 2 P **P** **11 48 09.4 +0.8**
comp=Z,6.8nm,0.7s,baz=5.6,slow=8.8,SNR=15
comp=Z,6.8nm,0.7s
HNS HongShan 62.80 297 ⇓P **P** **11 48 10.0 +0.4**
HNS pmax pmax
comp=Z,23nm,1.0s
KLMR Klimovskoe 63.13 355 *eP* **P** **11 48 11.8 +0.4**
KLMR pmax pmax
comp=Z,30nm,1.9s
HFS Hagfors 63.32 9 P **P** **11 48 13.3 +0.5**
comp=Z,5.2nm,0.5s,baz=29,slow=3.4,SNR=24
comp=Z,5.2nm,0.5s
DGZ Jazzator, Alta 64.37 323 *i* P **P** **11 48 20.6 +0.6**
DGZ pmax pmax
comp=Z,36nm,1.5s
KIRV Kirov 64.62 349 ⇓*eP* **P** **11 48 22.3 +1.1**
SVE Sverdlovsk 64.76 342 *eP* **P** **11 48 23.5 +1.3**
SVE pmax pmax
comp=Z,43nm,1.2s
NJ2 Nanjing 64.85 290 *eP* **P** **11 48 21.8 -1.4**
NJ2 sP **pwP** **11 48 31.1 -0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ARU Arti 65.49 343 P **P** **11 48 26.9 0.0**
ARU Arti 65.49 343 *c iP* **P** **11 48 27.5 +0.5**
ARU **11 48 58.0**
ARU S **S** **11 57 13.1 +2.0**
ARU SS **SS** **12 01 22.6 -0.8**
ARU pmax pmax
comp=Z,32nm,1.0s
EKA Eskdalemuir Ar 65.58 20 P **P** **11 48 27.9 +0.3**
comp=Z,9.0nm,0.9s,baz=340,slow=4.8,SNR=8.3
comp=Z,9.0nm,0.9s
VSU Vasula 65.72 2 *deP* **P** **11 48 29.3 +0.9**
VSU pmax pmax
comp=Z,27nm,0.7s
LYN LuoYang 66.16 297 *eP* **P** **11 48 32.3 +0.7**
LYN sP pwP 11 48 40.4 +0.3
LYN PcP **PcP** **11 48 58.5 -3.4**
LYN pmax pmax
comp=Z,28nm,0.8s
KURK Kurchatov 66.26 329 P **P** **11 48 32.0 0.0**
KURK IAmb IAmb 11 48 33.9
comp=Z,13nm,0.9s
KURK Kurchatov 66.26 329 P **P** **11 48 32.9 +0.9**
BRVK Borovoye 66.33 335 P **P** **11 48 31.8 -0.6**
BRVK Borovoye 66.33 335 *deP* **P** **11 48 32.7 +0.3**
BRVK pmax pmax
comp=Z,25nm,1.0s
BVA0 Borovoye Array 66.34 335 *i* P **P** **11 48 32.6 +0.1**
BVAR Borovoye Array 66.34 335 P **P** **11 48 32.8 +0.3**
comp=Z,25nm,0.8s,baz=29,slow=6.2,SNR=52
comp=Z,25nm,0.8s
KURBB Kurchatov Arra 66.37 329 P **P** **11 48 32.9 +0.2**
comp=Z,9.4nm,0.8s,baz=28,slow=6.3,SNR=28
KURBB PP **PP** **11 50 56.6 -1.5**
comp=Z,2.1nm,1.0s,baz=34,slow=10,SNR=4.9
comp=Z,9.4nm,0.8s
ZSN Zaisan 67.18 323 *eP* **P** **11 48 38.8 +0.8**
baz=323
ZSN Zaisan 67.18 323 *eP* **P** **11 48 38.7 +0.8**
GTA Gaotai 68.18 309 *eP* **P** **11 48 44.6 0.0**
GTA pP pwP 11 48 51.9 -1.2
GTA pmax pmax
comp=Z,7.0nm,1.4s
XAN Xi'an 68.32 299 P **P** **11 48 45.8 +0.4**
XAN pP pwP 11 48 53.4 -0.5
XAN pmax pmax
comp=Z,38nm,1.0s
BRZS Berezniki 68.56 332 *eP* **P** **11 48 46.4 -0.3**
comp=Z,7.4nm,0.9s,baz=332
BRZS Berezniki 68.56 332 *eP* **P** **11 48 46.3 -0.3**
BRZS pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 68.60 324 P **P** **11 48 46.9 -0.1**
MK31 IAmb IAmb 11 48 49.3
comp=Z,12nm,1.0s
MK31 Makanchi Array 68.60 324 P **P** **11 48 46.9 -0.1**
MK31 pmax pmax
comp=Z,12nm,1.0s
MKAR Makanchi Array 68.60 324 P **P** **11 48 46.2 -0.8**
MKAR Makanchi Array 68.60 324 P **P** **11 48 46.9 -0.1**
comp=Z,12nm,0.9s,baz=45,slow=6.3,SNR=32
comp=Z,12nm,0.9s
MAKZ Makanchi 68.69 325 P **P** **11 48 47.6 +0.1**
MAKZ Makanchi 68.69 325 P **P** **11 48 47.6 +0.1**
MAKZ pmax pmax
comp=Z,19nm,1.0s
OBN Obninsk 69.00 356 ⇑*eP* **P** **11 48 50.6 +1.4**
OBN *e* 11 49 11.9
OBN *e* 11 51 28.5
OBN *eS* SKiKP 11 58 27.8 -12
OBN pmax pmax
comp=Z,6.0nm,0.3s
BSEG Bad Segeberg 69.06 13 *eP* **P** **11 48 51.4 +1.8**
comp=Z,6.8nm,0.8s,baz=353,slow=6.0
LZH Lanzhou 69.09 304 *eP* **P** **11 48 51.1 +0.8**
LZH sP pwP 11 49 02.6 +3.8
LZH pmax pmax
comp=Z,13nm,1.2s
KLNR Kaliningrad 69.31 6 ⇓*eP* **P** **11 48 52.8 +1.7**
KLNR pmax pmax
comp=Z,81nm,1.2s
WMQ Urumqi 69.33 319 *eP* **P** **11 48 53.9 +2.3**
WMQ pP pwP 11 48 58.3 -1.7
WMQ pmax pmax
comp=Z,20nm,0.9s
MNK Minsk 69.70 2 *i* P **P** **11 48 55.9 +2.3**
comp=E,8.0nm,0.8s
MNK *i* P **P** **11 48 55.9 +2.3**
comp=N,27nm,0.9s
MNK *i* P **P** **11 48 55.9 +2.3**
comp=Z,47nm,0.9s,baz=359
MNK *i* PP **PP** **11 51 27.3 +0.4**
MNK *i* SS SS 12 02 25.3 -3.3
MNK *i* LQ LQ 12 14 14.6
MNK *i* LR LR 12 18 15.3
MNK *i* LRM MLR 12 23 27.5
comp=E,4µm,18.4s
MNK *i* LRM MLR 12 24 54.1
comp=Z,11µm,17.4s
MNK *i* LRM MLR 12 25 05.9
comp=N,8µm,18.0s
MNK Minsk 69.70 2 *i* P **P** **11 48 55.8 +2.3**
MNK *i* **11 51 27.3**
MNK *i* SS SS 12 02 25.2 -3.4
MNK pmax pmax
comp=N,27nm,0.9s
MNK pmax pmax
comp=N,27nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK MLR MLR
comp=E,4µm,18.0s
OTUK Ortayu 70.24 332 P **P** **11 48 56.7 -0.4**
IBBN Ibbenburen 70.32 15 *eP* **P** **11 48 59.8 +2.4**
baz=353,slow=6.0
NRDL Niedersach Rie 70.45 13 *eP* **P** **11 48 59.6 +1.5**
comp=E,11nm,0.9s,baz=353,slow=6.0
FLTG Flechtingen 70.75 12 *eP* **P** **11 49 01.3 +1.3**
comp=E,6.7nm,0.9s,baz=353,slow=6.0
ASSE Asse, Remlinge 70.88 13 *eP* **P** **11 49 02.2 +1.5**
comp=E,6.2nm,0.8s,baz=353,slow=6.0
BELG Belogornoye 70.90 349 ⇑*eP* **P** **11 49 02.1 +1.2**
BELG pmax pmax
comp=Z,7.0nm,1.0s
BUG Bochum--Univer 71.10 15 *eP* **P** **11 49 04.8 +2.6**
baz=353,slow=6.0
CLZ Clausthal 71.12 13 *eP* **P** **11 49 03.5 +1.1**
comp=E,8.7nm,0.8s,baz=353,slow=6.0
AKTO Aktyubinsk 71.34 342 P **P** **11 49 03.7 0.0**
GTTG Gottingen 71.36 13 *eP* **P** **11 49 05.4 +1.6**
comp=Z,20nm,1.0s,baz=353,slow=6.0
TDK Taldyqorghan 71.44 326 *eP* **P** **11 49 04.9 +0.5**
comp=Z,16nm,0.9s,baz=326
TDK Taldyqorghan 71.44 326 *eP* **P** **11 49 04.8 +0.5**
TDK pmax pmax
comp=Z,16nm,0.9s
KASTN Kahler Asten 71.49 14 *eP* **P** **11 49 06.8 +2.1**
comp=Z,9.1nm,0.9s,baz=353,slow=6.0
MEM Membach 71.72 16 *dP* **P** **11 49 07.8 +1.9**
BMRD Maredsous 71.81 17 *dP* **P** **11 49 09.7 +3.2**
NEUB Neuenburg 71.92 12 *eP* **P** **11 49 08.5 +1.4**
baz=353,slow=6.0
CLL Collm 71.96 11 P **P** **11 49 07.4 +0.1**
CLL IAmb IAmb 11 49 17.4
comp=Z,12nm,0.9s
CLL Collm 71.96 11 *eP* **P** **11 49 08.0 +0.6**
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 71.96 11 *eP* **P** **11 49 08.0 +0.6**
comp=Z,12nm,1.1s
CLL *i* sP **pwP** **11 49 16.0 +0.1**
comp=Z,17nm,1.0s
CLL Collm 71.96 11 *eP* **P** **11 49 08.3 +1.0**
comp=Z,9.5nm,0.9s,baz=353,slow=6.0
RCHB Rochefort 72.03 17 *dP* **P** **11 49 08.9 +1.1**
AB31 Akbulak array 72.12 340 *i* P **P** **11 49 08.3 -0.1**
ABKAR Akbulak array 72.12 340 P **P** **11 49 08.4 +0.1**
MOX Moxa 72.45 12 *eP* **P** **11 49 11.8 +1.5**
comp=Z,14nm,1.0s,baz=353,slow=6.0
TNS Taunus Mts 72.45 15 *eP* **P** **11 49 12.7 +2.3**
baz=353,slow=6.0
BRG Berggiesshubel 72.49 11 *eP* **P** **11 49 12.2 +1.7**
BRG Amp 11 49 13.7
comp=Z,8.9nm,0.9s
BRG Berggiesshubel 72.49 11 P P 11 49 19.8 +9.2
BRG Amp 11 49 21.1
comp=Z,11nm,0.9s
BRG Berggiesshubel 72.49 11 *eP* **P** **11 49 12.2 +1.7**
BRG 11 49 19.7
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG Berggiesshubel 72.49 11 *eP* **P** **11 49 11.3 +0.7**
comp=Z,7.2nm,0.9s,baz=353,slow=6.0
PDGK Podgornoye 72.59 325 P **P** **11 49 12.5 +1.0**
HSKC Hora Svate Kat 72.70 11 *eP* **P** **11 49 13.7 +1.9**
HSKC AMS AMS 12 09 00.0
comp=Z,22µm,19.7s
BTLS Baital 72.71 329 *eP* **P** **11 49 11.9 0.0**
comp=Z,9.6nm,1.1s,baz=329
BTLS Baital 72.71 329 *eP* **P** **11 49 11.9 0.0**
BTLS pmax pmax
comp=Z,10.0nm,1.1s
KPKS Kokpek 72.73 325 *eP* **P** **11 49 12.6 +0.3**
comp=Z,12nm,1.4s,baz=325
KPKS Kokpek 72.73 325 *eP* **P** **11 49 12.5 +0.3**
KPKS pmax pmax
comp=Z,12nm,1.4s
SHLS Shalkode 72.76 325 *eP* **P** **11 49 12.2 -0.2**
comp=Z,19nm,1.4s,baz=324
SHLS Shalkode 72.76 325 *eP* **P** **11 49 12.2 -0.2**
SHLS pmax pmax
comp=Z,19nm,1.4s
VSR Storozhevoye 72.77 354 *eP* **P** **11 49 11.7 -0.5**
VSR pmax pmax
comp=Z,7.0nm,0.5s
TANN Tannenbergstha 72.78 12 *eP* **P** **11 49 13.3 +0.9**
comp=Z,5.9nm,0.9s,baz=353,slow=6.0
RICC Richard 72.83 11 AMS AMS 12 10 10.0
comp=Z,19µm,18.7s
PVCC Panska Ves 72.89 10 *eP* **P** **11 49 15.4 +2.4**
PVCC AMS AMS 12 13 50.0
comp=Z,22µm,18.4s
PVCC Panska Ves 72.89 10 *eP* **P** **11 49 15.4 +2.4**
UZB Uzynbulak 72.91 325 *eP* **P** **11 49 13.7 +0.3**
baz=325
UZB Uzynbulak 72.91 325 *eP* **P** **11 49 13.7 +0.3**
CHKK Chushkaly 72.91 327 *eP* **P** **11 49 13.7 +0.5**
baz=326
CHKK Chushkaly 72.91 327 *eP* **P** **11 49 13.7 +0.5**
NKC Novy Kostel 72.96 12 *eP* **P** **11 49 14.7 +1.3**
NKC AMS AMS 12 14 50.0
comp=Z,30µm,18.2s
NKC Novy Kostel 72.96 12 *eP* **P** **11 49 14.7 +1.3**
CHVC Chvalec 72.98 9 *eP* **P** **11 49 15.4 +1.9**
CHVC AMS AMS 12 11 00.0
comp=Z,14µm,19.5s
CHVC Chvalec 72.98 9 *eP* **P** **11 49 15.4 +1.9**
VORD Divnogorie 73.01 354 *eP* **P** **11 49 13.2 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.7s
OSTC Ostas 73.03 9 *eP* **P** **11 49 15.8 +2.0**
OSTC AMS AMS 12 07 30.0
comp=Z,14µm,20.6s
OSTC Ostas 73.03 9 *eP* **P** **11 49 15.8 +2.0**
GOMU GeErMu 73.03 310 P **P** **11 49 15.9 +1.4**
UPC Upice 73.06 10 *eP* **P** **11 49 16.6 +2.7**
UPC AMS AMS 12 11 00.0
comp=Z,15µm,19.7s
UPC Upice 73.06 10 *eP* **P** **11 49 16.6 +2.7**
KUU Kurty 73.07 327 *eP* **P** **11 49 14.6 +0.4**
comp=Z,16nm,1.1s,baz=327
KUU Kurty 73.07 327 *eP* **P** **11 49 14.6 +0.4**
KUU pmax pmax
comp=Z,16nm,1.1s
MANZ Manzenberg 73.16 12 *eP* **P** **11 49 16.0 +1.4**
comp=Z,1.1nm,0.9s,baz=353,slow=6.0
SATY Saty 73.18 325 *eP* **P** **11 49 15.3 +0.3**
comp=Z,10nm,1.3s,baz=325
SATY Saty 73.18 325 *eP* **P** **11 49 15.3 +0.3**
SATY pmax pmax
comp=Z,10.0nm,1.3s
DPC Dobruska-Polom 73.24 9 *eP* **P** **11 49 16.7 +1.6**
DPC AMS AMS 12 10 40.0
comp=Z,19µm,18.6s
DPC Dobruska-Polom 73.24 9 *eP* **P** **11 49 16.7 +1.6**
PRA Prague 73.33 11 AMS AMS 12 13 50.0
comp=Z,21µm,18.1s
GRA1 Grafenberg Arr 73.34 13 P **P** **11 49 15.9 +0.2**
GRA1 IAmb IAmb 11 49 26.2
comp=Z,16nm,0.9s
GRF Grafenberg Arr 73.34 13 P **P** **11 49 15.9 +0.2**
GRF pmax pmax
comp=Z,16nm,0.9s
GRF Grafenberg Arr 73.34 13 *eP* **P** **11 49 17.1 +1.5**
comp=Z,12nm,0.9s,baz=353,slow=6.0
GRFO Grafenberg 73.34 13 P **P** **11 49 15.1 -0.5**
GRFO IAmb IAmb 11 49 26.1
comp=Z,16nm,0.9s
GRFO Grafenberg 73.34 13 P **P** **11 49 15.1 -0.5**
GRFO pmax pmax
comp=Z,15nm,0.9s
ROTZ Rotzenmuhle 73.39 12 *eP* **P** **11 49 16.9 +1.0**
comp=Z,2.7nm,0.9s,baz=353,slow=6.0
PRU Pruhonice 73.43 11 *eP* **P** **11 49 16.8 +0.7**

PRU AMS AMS 12 13 20.0
comp=Z,21µm,19.8s
PRU Pruhonice 73.43 11 *e*P **P 11 49 16.8 +0.7**
AAA Alma-Ata 73.52 326 *e*P **P 11 49 17.1 +0.3**
baz=326
AAA Alma-Ata 73.52 326 *e*P **P 11 49 17.1 +0.3**
MDOK Medeo 73.52 326 *e*P **P 11 49 17.0 0.0**
baz=326
MDOK Medeo 73.52 326 P **P 11 49 16.9 0.0**
GOPC GO Pecny, Ondr 73.53 10 AMS AMS 12 14 30.0
comp=Z,29µm,18.3s
AKASG Malin Array Be 73.53 1 *e*P **P 11 49 17.5 +0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 73.53 1 P **P 11 49 16.7 0.0**
comp=Z,4.7nm,0.7s,baz=0.2,slow=5.7,SNR=15
comp=Z,4.7nm,0.7s
AKBB Malin Array Si 73.53 1 P **P 11 49 16.6 0.0**
AKBB IAmb IAmb 11 49 40.1
comp=Z,16nm,0.9s
AKBB Malin Array Si 73.53 1⇑ *i*P **P 11 49 17.9 +1.2**
AKBB pmax pmax
comp=Z,14nm,1.0s
KIEV Kiev 73.53 1 P **P 11 49 16.9 +0.2**
KIEV IAmb IAmb 11 49 40.1
comp=Z,13nm,0.8s
KIEV Kiev 73.53 1 P **P 11 49 16.9 +0.2**
KIEV pmax pmax
comp=Z,13nm,0.9s
KRLC Kraliky 73.55 9 *e*P **P 11 49 18.4 +1.5**
KRLC AMS AMS 12 16 10.0
comp=Z,14µm,17.3s
KRLC Kraliky 73.55 9 *e*P **P 11 49 18.4 +1.5**
OJC Ojcow 73.65 7 P **P 11 49 17.0 -0.4**
OJC Ojcow 73.65 7 P **P 11 49 17.0 -0.4**
OJC pmax pmax
comp=Z,10.0nm,1.0s
TNSS Tian-Shan 73.66 326 *e*P **P 11 49 17.9 -0.2**
baz=326
TNSS Tian-Shan 73.66 326 *e*P **P 11 49 17.9 -0.2**
OKC Ostrava-Krasne 73.91 8 AMS AMS 12 08 40.0
comp=Z,14µm,19.3s
MORC Moravsky Berou 73.92 9 P **P 11 49 19.8 +0.7**
MORC Moravsky Berou 73.92 9 *e*P **P 11 49 20.1 +1.0**
MORC Moravsky Berou 73.92 9 P **P 11 49 19.8 +0.7**
MORC pmax pmax
comp=Z,7.0nm,1.0s
ZVC Zvikov 73.93 11 *e*P **P 11 49 19.5 +0.4**
ZVC AMS AMS 12 11 30.0
comp=Z,24µm,19.5s
SGDS Sogindy 73.99 328 *e*P **P 11 49 19.9 +0.3**
baz=328
SGDS Sogindy 73.99 328 *e*P **P 11 49 19.9 +0.3**
WET Wettzell 74.08 12 *e*P **P 11 49 20.9 +0.9**
comp=Z,7.3nm,1.1s,baz=353,slow=6.0
WET *e*pP **pwP 11 49 29.1 +0.7**
KHC Kasperske Hory 74.17 11 P **P 11 49 20.9 +0.3**
KHC Kasperske Hory 74.17 11 *e*P **P 11 49 22.0 +1.4**
KHC AMS AMS 12 15 40.0
comp=Z,14µm,16.9s
KHC Kasperske Hory 74.17 11 P **P 11 49 20.9 +0.3**
KHC pmax pmax
comp=Z,11nm,1.0s
TKM2 Tokmak 2 74.18 327 P **P 11 49 21.9 +1.0**
SNR=22
TKM2 Tokmak 2 74.18 327 P **P 11 49 21.2 +0.2**
USP Ospenovka 74.19 328 P **P 11 49 23.3 +2.5**
SNR=15
TREC Trest 74.21 10 AMS AMS 12 12 30.0
comp=Z,30µm,19.2s
ECH Echery 74.22 16 P **P 11 49 21.1 +0.2**
ECH IAmb IAmb 11 49 31.2
comp=Z,13nm,0.9s
ECH Echery 74.22 16 P **P 11 49 21.1 +0.2**
ECH pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 74.28 15 *e*P **P 11 49 23.5 +2.3**
comp=Z,3.2nm,0.8s,baz=353,slow=6.0
BFO *e*pP **pwP 11 49 30.3 +0.7**
VRAC Vranov 74.30 9 *e*P **P 11 49 22.8 +1.5**
VRAC *e* 11 49 30.1
MAUC Maruska 74.35 8 *e*P **P 11 49 17.2 -4.4**
CHMS Chumysh 74.37 328 P **P 11 49 24.4 +2.6**
SNR=10.0
GEC2 GERESS Array S 74.47 11 P **P 11 49 22.3 0.0**
GEC2 GERESS Array S 74.47 11 *e*P **P 11 49 23.1 +0.7**
comp=Z,3.3nm,0.8s,baz=353,slow=6.0
GEC2 *e*pP **pwP 11 49 31.5 +0.7**
GERES GERESS Array B 74.47 11 P **P 11 49 22.5 +0.1**
GERES GERESS Array B 74.47 11 P **P 11 49 22.5 +0.1**
GERES GERESS Array B 74.47 11 P **P 11 49 23.0 +0.7**
comp=Z,4.8nm,0.8s,baz=357,slow=5.3,SNR=13
comp=Z,4.8nm,0.8s
BOOM Boomskoye usch 74.47 327 P **P 11 49 22.5 -0.1**
BOOM Boomskoye usch 74.47 327 P **P 11 49 22.5 -0.1**
BOOM pmax pmax
comp=Z,9.0nm,0.8s
KRUC Moravsky 74.52 9 *e*P **P 11 49 23.4 +0.8**
KRUC *e* 11 49 30.7
STHS Stebnicka Huta 74.54 6 *e*P **P 11 49 24.2 +1.5**
STHS pmax pmax
comp=Z,12nm,0.9s
STHS Stebnicka Huta 74.54 6 *e*P **P 11 49 24.2 +1.5**
CKRC Cesky Krumlov 74.56 11 *e*P **P 11 49 21.7 -1.1**
CKRC Cesky Krumlov 74.56 11 *e*P **P 11 49 21.7 -1.1**
TARG Taragay, Kyrgy 74.58 325 P **P 11 49 22.1 -1.3**
TARG IAmb IAmb 11 49 54.6
comp=Z,24nm,1.4s
TARG Taragay, Kyrgy 74.58 325 P **P 11 49 22.2 -1.3**
TARG pmax pmax
comp=Z,24nm,1.4s
ULHL Ulahol 74.60 326 P **P 11 49 25.9 +2.5**
SNR=11
KBK Karagaybulak 74.62 328 P **P 11 49 26.0 +2.6**
SNR=12
LANS Liptovska Anna 74.69 7 *e*P **P 11 49 26.3 +2.7**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 74.69 7 *e*P **P 11 49 26.3 +2.7**
AAK Ala-Archa 74.77 328 P **P 11 49 26.7 +2.4**
SNR=9.3
AAK Ala-Archa 74.77 328 P **P 11 49 25.0 +0.7**
AAK IAmb IAmb 11 49 26.9
comp=Z,11nm,0.9s
AAK Ala-Archa 74.77 328⇓ *i*P **P 11 49 25.1 +0.7**
AAK pmax pmax
comp=Z,15nm,1.0s
JAVC Velka Javorina 74.84 9 *e*P **P 11 49 26.7 +2.2**
FUR Furstenfeldbru 74.85 13 *e*P **P 11 49 25.7 +1.3**
comp=Z,20nm,0.8s,baz=353,slow=6.0
FUR *e*pP **pwP 11 49 33.9 +1.0**
EKS2 Erkin-Say 74.96 328 P **P 11 49 28.0 +2.6**
SNR=17
KOLS Kolonicke sedl 75.08 6 *e*P **P 11 49 30.0 +4.2**
KOLS Kolonicke sedl 75.08 6 *e*P **P 11 49 30.0 +4.2**
UBR Ueberruh 75.17 14 *e*P **P 11 49 28.0 +1.6**
comp=Z,6.4nm,0.8s,baz=353,slow=6.0
UBR *e*pP **pwP 11 49 35.8 +1.0**
MODS Modra-Piesok 75.29 9 *e*P **P 11 49 29.5 +2.5**
MODS pmax pmax
comp=Z,37nm,1.0s
MODS Modra-Piesok 75.29 9 *e*P **P 11 49 29.5 +2.5**
VYHS Vyhne 75.29 8 *e*P **P 11 49 29.1 +2.1**
VYHS pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne 75.29 8 *e*P **P 11 49 29.1 +2.1**
NRN Naryn 75.41 326 P **P 11 49 27.8 -0.4**
NRN IAmb IAmb 11 49 31.2
comp=Z,13nm,1.0s
NRN Naryn 75.41 326 P **P 11 49 27.8 -0.4**
NRN pmax pmax
comp=Z,13nm,1.0s
KECS Kecovo 75.42 7 *e*P **P 11 49 31.0 +3.2**
KECS Kecovo 75.42 7 *e*P **P 11 49 31.0 +3.2**
RETA Reutte 75.45 14 *i* pP pP 11 49 32.6 +2.3
comp=Z,4.6nm,0.8s
DZA Taraz 75.45 330 *e*P **P 11 49 28.6 +0.5**
baz=330
DZA Taraz 75.45 330 *e*P **P 11 49 28.6 +0.5**
RJOB Jochberg 75.45 12 *e*P **P 11 49 29.2 +1.2**
comp=Z,7.1nm,0.9s,baz=353,slow=6.0
RJOB *e*pP **pwP 11 49 37.2 +0.8**
AML Almayashu 75.47 328 P **P 11 49 31.5 +2.8**
SNR=17
AML Almayashu 75.47 328 P **P 11 49 28.4 -0.3**

KK31 Karatay Array 75.48 331 P **P 11 49 28.4 +0.2**
KK31 IAmb IAmb 11 49 30.9
comp=Z,15nm,0.8s
KK31 Karatay Array 75.48 331 *i* P **P 11 49 28.5 +0.2**
KKAR Karatay Array 75.48 331 P **P 11 49 28.1 -0.1**
KKAR Karatay Array 75.48 331 P **P 11 49 28.0 -0.2**
KKAR IAmb IAmb 11 49 30.9
comp=Z,15nm,0.8s
KKAR Karatay Array 75.48 331 P **P 11 49 28.1 -0.1**
MOA Molln 75.51 11 *i* pP **P 11 49 30.8 +2.5**
comp=Z,8.9nm,1.1s
DAVA Damuels 75.53 14 *e*P **P 11 49 26.2 -2.3**
comp=Z,10.0nm,1.1s
CONA Conrad Observa 75.60 10 *e*pP **P 11 49 30.7 +1.8**
comp=Z,12nm,1.0s
BIOA Bad Ischl, Aus 75.60 12 *e*pP **P 11 49 30.4 +1.6**
comp=Z,13nm,1.1s
GYA Guiyang 75.63 296 *e*P **P 11 49 30.1 +0.7**
GYA pmax pmax
comp=Z,10.0nm,0.9s
MOTA Moosalm 75.63 13 *i* pP **P 11 49 30.9 +1.7**
comp=Z,17nm,1.0s
WATA Walderalm 75.70 13 *i* pP **P 11 49 31.6 +2.1**
comp=Z,11nm,0.9s
LESA Schwarzleotal 75.75 12 *i* pP **P 11 49 32.0 +2.3**
comp=Z,9.1nm,1.0s
SQTA Sankt Quirin 75.77 13 *e*pP **P 11 49 31.8 +1.9**
comp=Z,11nm,0.9s,SNR=6.4
WTTA Wattenberg 75.78 13 *i* pP **P 11 49 31.5 +1.4**
comp=Z,16nm,0.8s
RONA Rosalia, Austr 75.86 10 *i* P **P 11 49 30.3 -0.1**
comp=Z,5.5nm,0.9s
FETA Feichten 75.90 14 *i* pP **P 11 49 33.0 +2.2**
comp=Z,17nm,0.9s,SNR=5.8
PSZ Piszkesteto 75.94 7 P **P 11 49 31.8 +0.9**
PSZ IAmb IAmb 11 49 35.1
comp=Z,16nm,1.0s
PSZ Piszkesteto 75.94 7 P **P 11 49 31.8 +0.9**
PSZ pmax pmax
comp=Z,16nm,1.0s
SORM Soroca 76.09 1⇑ P **P 11 49 32.1 +0.5**
SORM Soroca 76.09 1 P **P 11 49 32.0 +0.5**
KBA Koelnbreinsper 76.17 12 *e*pP **P 11 49 34.4 +2.1**
comp=Z,18nm,0.8s,SNR=9.5
ARSA Arzberg 76.23 10 *i* pP **P 11 49 33.8 +1.3**
comp=Z,7.1nm,0.9s
ABTA Abfaltersbach 76.40 13 *i* pP **P 11 49 35.7 +2.2**
comp=Z,9.8nm,1.0s
CHM Chimkent 76.46 331 *e*P **P 11 49 33.9 +0.1**
baz=331
CHM Chimkent 76.46 331 *e*P **P 11 49 33.9 +0.1**
BURAR Bucovina Array 76.53 4⇑ P **P 11 49 35.2 +0.9**
BURAR Bucovina Array 76.53 4 P **P 11 49 35.1 +0.9**
MYKA Terra Mystica 76.64 12 *e*pP **P 11 49 36.1 +1.2**
comp=Z,10.0nm,1.1s
SOKA Soboth 76.75 11 *e*pP **P 11 49 37.0 +1.5**
comp=Z,18nm,1.0s,SNR=7.6
OBKA Obir 76.86 11 *i* pP **P 11 49 37.8 +1.7**
comp=Z,22nm,0.9s,SNR=9.5
PGAV Gavieira, Arco 76.94 29 *e*P **P 11 49 37.6 +1.0**
comp=Z,42nm,1.6s
KSH Kashi 77.17 325 P **P 11 49 41.8 +3.8**
KSH sP PcP 11 49 49.9 +1.2
KSH pmax pmax
comp=Z,15nm,1.0s
DRGR 77.24 5⇑ P **P 11 49 39.9 +1.7**
DRGR 77.24 5 P **P 11 49 39.9 +1.7**
MARR Marisel-Cluj 77.38 5⇑ P **P 11 49 40.4 +1.4**
PBRG Braganca 77.49 28 *e*P **P 11 49 40.3 +0.6**
comp=Z,33nm,1.7s
MORH Mrgy, Hungar 77.54 8⇑ P **P 11 49 40.8 +1.0**
POLO Lamas de Olo 77.62 28 *e*P **P 11 49 41.4 +1.0**
comp=Z,16nm,1.7s
MVO Moncorvo 78.02 28 *e*P **P 11 49 44.4 +1.8**
comp=Z,24nm,1.9s
GHRR 78.14 2⇓ P **P 11 49 44.8 +1.7**
BTK Batken 78.22 329 P **P 11 49 43.4 -0.4**
BTK IAmb IAmb 11 49 48.3
comp=Z,19nm,1.0s
BTK Batken 78.22 329 P **P 11 49 43.4 -0.4**
BTK pmax pmax
comp=Z,19nm,1.0s
SURR Surduc 78.24 6⇑ P **P 11 49 45.0 +1.3**
VRI Vrincioaia 78.32 3⇑ P **P 11 49 44.6 +0.4**
VRI Vrincioaia 78.32 3 P **P 11 49 44.5 +0.4**
COVR Voineasa-Covas 78.33 3⇑ P **P 11 49 46.4 +2.2**
PLOR Plostina 78.34 3⇑ P **P 11 49 46.1 +1.8**
PLOR Plostina 78.34 3 P **P 11 49 46.0 +1.8**
MTE Manteigas 78.60 29 *e*P **P 11 49 47.4 +1.6**
comp=Z,31nm,1.5s
GZR Gura Zlata 78.64 5⇓ P **P 11 49 47.1 +1.1**
GZR Gura Zlata 78.64 5 P **P 11 49 47.0 +1.1**
PCAS Casmilo, Conde 78.66 29 *e*P **P 11 49 45.4 -0.7**
comp=Z,34nm,1.7s
MLR Muntele Rosu 78.68 3⇑ P **P 11 49 48.6 +2.3**
MLR Muntele Rosu 78.68 3 P **P 11 49 48.6 +2.3**
KMI Kunming 78.69 298⇑ P **P 11 49 48.9 +2.1**
KMI pmax pmax
comp=Z,14nm,1.2s
VOIR 78.70 4⇓ P **P 11 49 48.7 +2.4**
VOIR 78.70 4 P **P 11 49 48.7 +2.4**
PCBR Castelo Branco 79.14 29 *e*P **P 11 49 49.0 +0.3**
comp=Z,22nm,1.6s
MDVR Moldovita 79.19 6⇓ P **P 11 49 49.9 +0.9**
ANN Anapa 79.26 355 *e*P **P 11 49 44.8 -4.5**
ANN *e**PP **pP 11 49 50.0 -1.6**
ANN *e*S **S 11 59 41.9 -7.0**
ANN pmax pmax
comp=Z,56nm,0.9s
ANN MLR MLR
comp=E,4µm,15.0s
ANN MLR MLR
comp=Z,9µm,16.0s
ANN MLR MLR
comp=N,3µm,16.0s
PMTG Montargil 79.66 30 *e*P **P 11 49 54.0 +2.4**
KIV Kislovodsk 79.74 351 *e*P **P 11 49 53.6 +1.5**
KIV pmax pmax
comp=Z,11nm,1.0s
PACT Alcochete 79.77 30 *e*P **P 11 49 52.0 -0.1**
KBZ Khabaz 79.95 351 *e*P **P 11 49 55.7 +2.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 79.95 351 P **P 11 49 55.1 +2.1**
comp=Z,6.0nm,0.9s,baz=336,slow=6.3,SNR=9.9
comp=Z,6.0nm,0.9s
SIMJ Simiganj 80.03 330 P **P 11 49 53.9 +0.1**
NCK Nalchik 80.11 350⇑ *e*P **P 11 49 55.3 +1.3**
NCK pmax pmax
comp=Z,20nm,0.3s
ESDC Sonseca Array 80.20 26 P **P 11 49 55.3 +0.7**
ESDC IAmb IAmb 11 50 05.7
comp=Z,19nm,1.0s
ESDC Sonseca Array 80.20 26 P **P 11 49 56.4 +1.8**
comp=Z,7.8nm,0.9s,baz=335,slow=5.3,SNR=23
comp=Z,7.8nm,0.9s
PNCL Nicolau / Gran 80.46 30 *e*LQ LQ 11 49 58.4
PNCL Nicolau / Gran 80.46 30 *e*P **P 11 49 58.4 +2.5**
comp=Z,32nm,1.5s
PBEJ Beja 80.73 30 *e*P **P 11 49 58.2 +0.8**
comp=Z,19nm,1.5s
ZEI Tsey 80.78 350 *e*P P 11 49 51.7 -6.2
ZEI pmax pmax
comp=Z,5.0nm,1.1s
PBAR Barrancos 80.82 29 *e*P **P 11 49 59.4 +1.6**
comp=Z,31nm,1.6s
PTEO Sao Teotonio 80.94 31 *i* LQ LQ 11 49 56.3
PCVE Castro Verde 81.05 30 A A 11 50 24.7
comp=Z,33nm,1.6s
MORF Marmelete 81.18 31 *e*P **P 11 50 01.9 +2.0**
MCRA Macar, Loja 82.46 109 P **P 11 50 05.7 -1.2**
RDO Rodhopi 83.00 4 P **P 11 50 10.0 +0.7**
GNI Garni 83.31 349⇓ *e*P **P 11 50 13.7 +2.6**
GNI pmax pmax
comp=Z,39nm,1.4s
GEYT Alibeck 83.37 338 P **P 11 50 11.4 +0.1**
GEYT IAmb IAmb 11 50 14.2
comp=Z,18nm,1.0s
GEYT Alibeck 83.37 338 P **P 11 50 11.4 +0.1**
GEYT pmax pmax
comp=Z,18nm,1.0s
GEYT Alibeck 83.37 338 P **P 11 50 12.3 +1.0**
comp=Z,11nm,0.8s,baz=306,slow=5.1,SNR=15
comp=Z,11nm,0.8s
BR131 Keskin Array S 84.47 357⇑ *e*P **P 11 50 18.6 +1.6**

BRTR Keskin Array B 84.47 357 P **P 11 50 17.9 +0.8**
comp=Z,3.0nm,0.8s,baz=14,slow=4.2,SNR=9.3
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 86.18 298 P **P 11 50 25.1 -0.6**
comp=Z,3.6nm,0.7s,baz=12,slow=5.2,SNR=21
comp=Z,3.6nm,0.7s
KEST Kesra 86.75 17 P **P 11 50 29.9 +1.5**
comp=Z,4.8nm,0.7s,baz=265,slow=13,SNR=1.8
comp=Z,4.8nm,0.7s
QSPA South Pole Qui 145.93 180 PKPbc **PKPdf 11 57 21.1 -0.5**
comp=Z,7.4nm,1.0s,baz=25,slow=0.8,SNR=9.7
BOSA Boshof 152.25 10 PKPbc **PKPbc 11 57 39.7 -0.2**
comp=Z,4.5nm,0.8s,baz=306,slow=19,SNR=3.0

*NEIC **23** 11:41:53.0±1.6,55.8N±0.1×149.39W±0.04,h7km±9km, ML3.7/20,ML3.4(AEIC),Error ellipse: s-maj=19.7km s-min=3.5km az=176.0*
AEIC 23 11:41:55.7±1.9,55.7N±0.1×149.3W±0.1,h3km±9km,Error ellipse: s-maj=20.7km s-min=9.7km az=176.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.67**	**305**		Pn	11 42 34.9	-4.7
OHAK					Sn	11 43 04.9	-7.6
KDAK	**Kodiak Island**	**2.74**	**320**		Pn	11 42 35.4	-5.1
KDAK	**Kodiak Island**	**2.74**	**320**		Sn	11 43 06.9	-7.1
KDAK	**Kodiak Island**	**2.74**	**320**	IAML		11 43 08.6	
KDAK	91nm,1.5s			IAML		11 43 22.7	
	40nm,1.4s						
SYI	**Shuyak Island**	**3.34**	**331**		Pn	11 42 43.6	-5.1
SYI					Sn	11 43 22.7	-6.2
SYI	**Shuyak Island**	**3.34**	**331**	IAML		11 44 51.0	
	comp=N,64nm,1.4s						
CNPM	**China Poot**	**3.94**	**345**		Pn	11 42 52.0	-5.0
CNPM					Sn	11 43 36.8	-7.0
CNPM	**China Poot**	**3.94**	**345**	IAML		11 43 39.0	
	comp=E,45nm,1.2s						
CNPM				IAML		11 44 58.6	
	comp=N,56nm,1.1s						
Q19K	**Cape Douglas,**	**3.98**	**325**		Pn	11 42 51.5	-6.1
KAHG	**Katmai Hook Gl**	**3.98**	**316**		Pn	11 42 54.5	-3.2
MID	**Middleton Isla**	**4.02**	**22**	Pn	Pn	11 42 53.0	-5.1
MID				IAML		11 43 26.3	
	comp=E,169nm,1.3s						
MID				IAML		11 44 17.9	
	comp=N,187nm,1.3s						
BRSE	**Bradley Lake S**	**4.09**	**350**		Pn	11 42 54.4	-4.7
BRLK	**Bradley Lake**	**4.13**	**349**		Pn	11 42 54.7	-4.9
BRLK	**Bradley Lake**	**4.13**	**349**	IAML		11 45 31.8	
	comp=E,84nm,1.5s						
BRLK				IAML		11 45 33.2	
	comp=N,65nm,1.1s						
HIN	**Hinchinbrook I**	**4.90**	**16**	Pn	Pn	11 43 06.1	-4.1
HIN				IAML		11 46 06.6	
	comp=N,102nm,1.4s						
KAIM	**Kayak Island**	**4.94**	**30**	Pn	Pn	11 43 07.3	-3.4
FID	**Port Fidalgo**	**5.24**	**15**	Pn	Pn	11 43 10.6	-4.3
FID				IAML		11 45 26.9	
	comp=E,69nm,1.4s						
FID				IAML		11 46 02.6	
	comp=N,59nm,1.1s						
SNH	**Sunshine Point**	**5.62**	**35**	Pn	Pn	11 43 17.3	-2.8
KLU	**Klutina**	**6.03**	**16**	Pn	Pn	11 43 21.9	-3.9
SCM	**Sheep Creek Mo**	**6.20**	**9**	Pn	Pn	11 43 23.9	-4.1
VRDI	**Verde Repeater**	**6.29**	**27**	Pn	Pn	11 43 26.0	-3.5
N25K	**Chitina, Valde**	**6.37**	**21**	Pn	Pn	11 43 27.0	-3.5
M24K	**Tolsona, Glenn**	**6.58**	**13**	Pn	Pn	11 43 30.4	-3.0
CTGM	**Chitina Glacie**	**6.70**	**35**	Pn	Pn	11 43 30.5	-4.6
LOGN	**Logan Glacier**	**6.71**	**37**	Pn	Pn	11 43 30.1	-5.1

*IDC **23** 11:43:41.9±1.0,56.41N×150.87W,h0km,mb3.6/9, mbtmp3.6/12,ML3.3/3,Error ellipse: s-maj=30.6km s-min=17.5km az=32.0*
*NEIC **23** 11:43:46.7±1.1,56.0N±0.1×149.9W±0.1,h7km±7km, mb4.1/3,ML4.0/26,ML3.4(AEIC),Error ellipse: s-maj=15.3km s-min=9.7km az=167.0*
*AEIC **23** 11:43:50.9±1.4,55.9N±0.1×149.8W±0.1,h12km±7km, Error ellipse: s-maj=17.2km s-min=8.5km az=167.0*
ISC 23 11:43:47.2±0.9,56.03N±0.08×149.90W±0.06,h10km,n52, σ1§26/43,mb3.7/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.22**	**304**		**Pn**	**11 44 24.6**	**+0.5**
OHAK					**Sn**	**11 44 50.6**	**-0.9**
KDAK	**Kodiak Island**	**2.29**	**321**		**Pn**	**11 44 25.0**	**0.0**
KDAK	**Kodiak Island**	**2.29**	**321**		**Sn**	**11 44 53.1**	**-0.2**
SYI	**Shuyak Island**	**2.92**	**333**		**Pn**	**11 44 34.7**	**+1.1**
SYI					**Sn**	**11 45 09.8**	**+1.1**
SYI	**Shuyak Island**	**2.92**	**333**	IAML		11 45 11.5	
	comp=E,155nm,0.8s						
KAHG	**Katmai Hook Gl**	**3.53**	**316**		**Pn**	**11 44 43.2**	**+1.0**
Q19K	**Cape Douglas,**	**3.54**	**327**		**Pn**	**11 44 43.7**	**+1.5**
Q19K	**Cape Douglas,**	**3.54**	**327**	IAML		11 45 31.2	
	comp=N,561nm,0.7s						
CNPM	**China Poot**	**3.58**	**349**		**Pn**	**11 44 43.5**	**+0.8**
CNPM					**Sn**	**11 45 26.2**	**+1.1**
CNPM	**China Poot**	**3.58**	**349**	IAML		11 45 30.8	
	comp=E,105nm,0.6s						
ANCK	**Angle Creek**	**3.75**	**308**		**Pn**	**11 44 47.3**	**+2.3**
BRSE	**Bradley Lake S**	**3.75**	**353**		**Pn**	**11 44 45.5**	**+0.4**
HOM	**Homer**	**3.76**	**346**		**Pn**	**11 44 46.5**	**+1.3**
HOM	**Homer**	**3.76**	**346**	IAML		11 45 32.6	
	comp=E,264nm,1.3s						
HOM				IAML		11 45 34.1	
	comp=N,340nm,1.2s						
Q23K	**Middleton Isla**	**3.91**	**28**		**Pn**	**11 44 46.9**	**-0.2**
Q23K	**Middleton Isla**	**3.91**	**28**	IAML		11 46 04.8	
	comp=E,162nm,1.5s						
Q23K				IAML		11 47 23.6	
	comp=N,177nm,1.4s						
MID	**Middleton Isla**	**3.91**	**28**		**Pn**	**11 44 47.1**	**-0.1**
MID	**Middleton Isla**	**3.91**	**28**	IAML		11 45 28.3	
	comp=N,144nm,1.3s						
MID				IAML		11 46 04.9	
	comp=E,161nm,1.3s						
P19K	**Oil Pt**	**4.05**	**335**	Pn	**Pn**	**11 44 50.8**	**+1.6**
P19K				IAML		11 45 42.6	
	comp=N,329nm,0.5s						
SEW	**Seward**	**4.10**	**3**		**Pn**	**11 44 50.1**	**+0.3**
RSO	**Redoubt South**	**4.70**	**342**	Pn	**Pn**	**11 45 00.7**	**+2.5**
CHGN	**Chignik**	**4.77**	**277**	Pn	**Pn**	**11 44 59.2**	**+0.3**
CHGN				IAML		11 45 55.6	
	comp=E,56nm,0.2s						
CHGN				IAML		11 45 55.7	
	comp=N,65nm,0.1s						
O18K	**Koktuh Hills**	**4.77**	**326**	Pn	**Pn**	**11 45 00.8**	**+1.8**
O18K				IAML		11 48 14.2	
	comp=E,201nm,0.7s						
O18K				IAML		11 48 15.0	
	comp=N,192nm,0.5s						
FID	**Port Fidalgo**	**5.07**	**19**	Pn	**Pn**	**11 45 03.2**	**0.0**
RC01	**Rabbit Creek A**	**5.08**	**1**	Pn	**Pn**	**11 45 03.5**	**+0.2**
N19K	**Bonanza Creek**	**5.37**	**335**	Pn	**Pn**	**11 45 07.7**	**+0.3**
PMR	**Palmer**	**5.60**	**4**	Pn	**Pn**	**11 45 10.4**	**+0.1**
O16K	**Kokwok River B**	**5.65**	**313**	Pn	**Pn**	**11 45 11.0**	**-0.2**
N17K	**Nushagak Hills**	**5.93**	**323**	Pn	**Pn**	**11 45 15.5**	**+0.6**
SKT	**Skwentna**	**6.03**	**353**	Pn	**Pn**	**11 45 16.8**	**+0.4**
L19K	**White Mountain**	**6.68**	**340**	Pn	**Pn**	**11 45 25.7**	**+0.4**
P29M	**Windy Craggy**	**7.43**	**56**	Pn	**Pn**	**11 45 36.5**	**+1.0**
L16K	**Owhat River**	**7.55**	**323**	Pn	**Pn**	**11 45 37.3**	**+0.1**
K17K	**Iditarod**	**7.96**	**331**	Pn	**Pn**	**11 45 43.0**	**+0.3**
ILAR	**Eielson Array**	**8.90**	**8**	Pn	Pn	11 45 43.5	-12
	comp=N,0.1nm,0.3s,baz=189,slow=14,SNR=1.5						
	comp=N,0.5nm,0.5s						
J16K	**Anvik River**	**9.06**	**328**	Pn	**Pn**	**11 45 58.4**	**+0.6**
DLBC	**Dease Lake**	**11.03**	**69**	Pn	**Pn**	**11 46 26.8**	**+1.8**
	comp=N,0.3nm,0.3s,baz=266,slow=14,SNR=1.7						
	comp=N,3.2nm,0.8s						
C36M	**Paulatuk**	**17.64**	**31**		**Pn**	**11 47 53.0**	**+0.3**
C36M				IAmb	IAmb	11 47 57.7	
	comp=Z,9.1nm,0.9s						
YKA	**Yellowknife Ar**	**18.97**	**56**	P	**P**	**11 48 06.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=268,slow=9.8,SNR=3.8						
	comp=Z,1.0nm,1.0s						
A36M	**Sachs Harbour**	**19.05**	**23**	P	**P**	**11 48 08.6**	**-0.6**
A36M				IAmb	IAmb	11 48 13.6	
	comp=Z,20nm,1.0s						
NVAR	**Mina Array Bea**	**27.40**	**117**	P	**P**	**11 49 34.7**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=307,slow=9.5,SNR=5.7						

comp=Z,1.1nm,0.8s
PDAR Pinedale Array 28.96 100 P P 11 49 48.3 +1.5
comp=Z,0.3nm,0.7s,baz=334,slow=5.6,SNR=2.6
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 42.06 110 P P 11 51 40.7 +1.7
comp=Z,0.8nm,0.9s,baz=322,slow=5.0,SNR=5.3
comp=Z,0.8nm,0.9s
SONM Songino Array 58.54 310 P P 11 53 35.9 -7.7
comp=Z,0.7nm,0.7s,baz=44,slow=6.7,SNR=4.3
comp=Z,0.7nm,0.7s
ZALV Zalesovo Beam 61.59 327 P P 11 53 57.0 -7.2
comp=Z,0.3nm,0.4s,baz=0.0,slow=7.2,SNR=2.5
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 66.37 335 P P 11 54 27.5 -8.2
comp=Z,0.2nm,0.3s,baz=25,slow=11,SNR=2.0
comp=Z,0.2nm,0.3s
KURBB Kurchatov Arra 66.38 329 P P 11 54 27.2 -8.6
comp=Z,0.3nm,0.6s,baz=32,slow=6.7,SNR=2.6
comp=Z,0.3nm,0.6s
MK31 Makanchi Array 68.60 324 P P 11 54 50.8 +0.8
MK31 IAmb IAmb 11 55 01.6
comp=Z,1.3nm,0.9s
MKAR Makanchi Array 68.60 324 P P 11 54 50.1 +0.1
MKAR Makanchi Array 68.60 324 P P 11 54 41.8 -8.1
comp=Z,0.3nm,0.5s,baz=27,slow=7.2,SNR=4.0
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 80.37 26 P P 11 55 54.8 -3.7
comp=Z,0.2nm,0.3s,baz=337,slow=5.3,SNR=1.7
comp=Z,0.2nm,0.3s
QSPA South Pole Qui 145.82 180 PKPbc PKPdf 12 03 22.5 -2.0
comp=Z,1.3nm,0.5s,baz=65,slow=3.1,SNR=2.0

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*IDC **23** 11:46:56.3±0.5,56.51N×149.21W,h0km,mb5.1/37, mbtmp5.2/42,ML4.7/5,Error ellipse: s-maj=15.6km s-min=9.6km az=20.0*
*BJI **23** 11:46:57.6±0.0,56.88N×149.69W,h8km,mb5.3/62, mB5.0/1*
*MOS **23** 11:46:59.9±0.7,56.55N×149.16W,h33km,mb5.7/96, MS6.3/13,Error ellipse: s-maj=8.8km s-min=4.0km az=97.1*
*NEIC **23** 11:47:01.1±1.3,56.48N±0.06×149.15W±0.08,h33km±4km, mb5.5/195,ML5.3/60,ML5.2(AEIC),Error ellipse: s-maj=8.9km s-min=6.4km az=174.0*
*AEIC **23** 11:47:03.5±1.9,56.57N±0.06×149.14W±0.07,h5km±3km, Error ellipse: s-maj=8.9km s-min=5.7km az=179.0*
ISC 23 11:47:00.1±0.3,56°46N±0.04×149°08W±0.03,h27km±2km, h26km:pP-P,n1575,σ1s09/1702,mb5.4/269,MS6.3/13, 58C-45D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.33**	**306**		**Pn**	**11 47 35.8**	**-0.8**
KDAK					**Sn**	**11 48 01.3**	**-3.0**
KDAK	**Kodiak Island**	**2.33**	**306**	P	**Pn**	**11 47 35.6**	**-1.0**
	baz=122						
KDAK	**Kodiak Island**	**2.33**	**306**	Pn	**Pn**	**11 47 35.0**	**-1.6**
	420nm,0.3s,baz=154,slow=5.2,SNR=115						
KDAK				Sn	**Sn**	**11 48 00.9**	**-3.4**
	411nm,0.3s,baz=338,slow=19,SNR=7.0						
	836nm,0.3s						
OHAK	**Old Harbor**	**2.43**	**290**		**Pn**	**11 47 36.8**	**-1.3**
OHAK					**Sn**	**11 48 03.2**	**-3.8**
OHAK				IAML		11 48 03.5	
	comp=N,10μm,0.7s						
OHAK	**Old Harbor**	**2.43**	**290**	P	**Pn**	**11 47 37.0**	**-1.1**
OHAK	**Old Harbor**	**2.43**	**290**	P	**Pn**	**11 47 36.8**	**-1.3**
	baz=104,SNR=33						
Q20K	**Shuyak Island**	**2.80**	**322**	P	**Pn**	**11 47 42.5**	**-0.6**
	baz=138,SNR=72						
SYI	**Shuyak Island**	**2.80**	**322**		**Pn**	**11 47 42.4**	**-0.6**
SYI					**Sn**	**11 48 14.2**	**-1.8**
SYI				IAML		11 48 16.0	
	comp=E,7μm,0.6s						
CNPM	**China Poot**	**3.28**	**340**		**Pn**	**11 47 48.9**	**-0.8**
CNPM					**Sn**	**11 48 26.2**	**-1.7**
Q23K	**Middleton Isla**	**3.31**	**25**		**Pn**	**11 47 49.8**	**-0.3**
Q23K				IAML		11 48 30.4	
	comp=E,5μm,0.9s						
Q23K	**Middleton Isla**	**3.31**	**25**	P	**Pn**	**11 47 49.9**	**-0.3**
	baz=209,SNR=37						
MID	**Middleton Isla**	**3.32**	**25**		**Pn**	**11 47 49.6**	**-0.5**
MID					**Sn**	**11 48 25.8**	**-2.8**
MID				IAML		11 48 27.2	
	comp=N,4μm,0.6s						
MID				IAML		11 48 30.4	
	comp=E,5μm,0.7s						
MID	**Middleton Isla**	**3.32**	**25**	P	**Pn**	**11 47 49.8**	**-0.4**
MID	**Middleton Isla**	**3.32**	**25**	P	**Pn**	**11 47 49.6**	**-0.5**
MID						11 48 25.8	
BRSE	**Bradley Lake S**	**3.41**	**346**		**Pn**	**11 47 50.5**	**-0.9**
BRSE					**Sn**	**11 48 28.7**	**-2.2**
BRSE	**Bradley Lake S**	**3.41**	**346**	P	**Pn**	**11 47 50.6**	**-0.9**
	baz=164,SNR=86						
BRLK	**Bradley Lake**	**3.45**	**345**		**Pn**	**11 47 51.1**	**-1.0**
Q19K	**Cape Douglas,**	**3.48**	**317**		**Pn**	**11 47 52.4**	**-0.1**
Q19K	**Cape Douglas,**	**3.48**	**317**	P	**Pn**	**11 47 52.4**	**-0.1**
	baz=132,SNR=58						
HOM	**Homer**	**3.48**	**338**		**Pn**	**11 47 52.1**	**-0.4**
HOM				IAML		11 48 35.5	
	comp=N,9μm,0.9s						
HOM				IAML		11 48 49.9	
	comp=E,6μm,0.9s						
HOM	**Homer**	**3.48**	**338**	P	**Pn**	**11 47 52.0**	**-0.4**
	baz=156,SNR=22						
P23K	**Montague Islan**	**3.66**	**13**		**Sn**	**11 48 34.8**	**-2.3**
P23K	**Montague Islan**	**3.66**	**13**	P	**Pn**	**11 47 54.6**	**-0.3**
	baz=196,SNR=72						
SEW	**Seward**	**3.66**	**357**		**Pn**	**11 47 53.8**	**-1.1**
SEW	**Seward**	**3.66**	**357**	P	**Pn**	**11 47 53.9**	**-1.1**
	baz=177,SNR=99						
P19K	**Oil Pt**	**3.89**	**327**		**Pn**	**11 47 57.8**	**-0.3**
P19K				IAML		11 48 43.8	
	comp=E,8μm,0.6s						
P19K				IAML		11 48 45.7	
	comp=N,7μm,0.4s						
P19K	**Oil Pt**	**3.89**	**327**	P	**Pn**	**11 47 57.8**	**-0.3**
	baz=143,SNR=38						
Q22K	**Cooper Landing**	**4.05**	**355**		**Pn**	**11 47 59.2**	**-1.0**
Q22K	**Cooper Landing**	**4.05**	**355**	P	**Pn**	**11 47 59.6**	**-0.6**
	baz=175						
O20K	**Slope Mountain**	**4.08**	**334**	P	**Pn**	**11 48 00.1**	**-0.7**
	baz=151,SNR=24						
Q17K	**Contact Creek**	**4.11**	**299**	P	**Pn**	**11 48 01.2**	**0.0**
	baz=112,SNR=72						
HIN	**Hinchinbrook I**	**4.17**	**18**		**Pn**	**11 48 01.9**	**-0.1**
KAIM	**Kayak Island**	**4.26**	**33**		**Pn**	**11 48 03.5**	**+0.4**
KAIM				IAML		11 48 57.1	
	comp=E,5μm,0.5s						
KAIM	**Kayak Island**	**4.26**	**33**	P	**Pn**	**11 48 03.6**	**+0.4**
	baz=219,SNR=65						
P18K	**Big Mountain,**	**4.40**	**314**		**Pn**	**11 48 04.1**	**-1.1**
P18K	**Big Mountain,**	**4.40**	**314**	P	**Pn**	**11 48 04.1**	**-1.1**
	baz=129,SNR=28						
RSO	**Redoubt South**	**4.45**	**336**		**Pn**	**11 48 04.6**	**-1.4**
CAPN	**Captain Cook N**	**4.46**	**347**		**Pn**	**11 48 06.1**	**+0.2**
CAPN	**Captain Cook N**	**4.46**	**347**	P	**Pn**	**11 48 06.0**	**+0.2**
	baz=165,SNR=27						
EYAK	**Cordova Ski Ar**	**4.46**	**22**		**Pn**	**11 48 05.9**	**0.0**
EYAK	**Cordova Ski Ar**	**4.46**	**22**	P	**Pn**	**11 48 05.8**	**0.0**
EYAK	**Cordova Ski Ar**	**4.46**	**22**	P	**Pn**	**11 48 06.0**	**+0.2**
	baz=205,SNR=148						
FID	**Port Fidalgo**	**4.51**	**16**		**Pn**	**11 48 06.1**	**-0.6**
FID				IAML		11 48 55.3	
	comp=E,3μm,0.5s						
FID				IAML		11 48 55.9	
	comp=N,4μm,0.4s						
RAGM	**Ragged Mountai**	**4.57**	**29**		**Pn**	**11 48 07.6**	**+0.2**
Q16K	**King Salmon**	**4.64**	**302**	P	**Pn**	**11 48 08.6**	**+0.2**
	baz=114,SNR=6.1						
O19K	**Port Alsworth**	**4.65**	**326**	Pn	**Pn**	**11 48 07.5**	**-1.0**
O19K	**Port Alsworth**	**4.65**	**326**	P	**Pn**	**11 48 07.5**	**-1.0**
	baz=141,SNR=54						
RC01	**Rabbit Creek A**	**4.66**	**356**	Pn	**Pn**	**11 48 07.8**	**-0.8**
RC01				IAML		11 49 01.7	
	comp=E,3μm,0.6s						
RC01				IAML		11 49 02.7	
	comp=N,2μm,0.5s						
RC01	**Rabbit Creek A**	**4.66**	**356**	P	**Pn**	**11 48 07.8**	**-0.8**
	baz=176,SNR=19						
O18K	**Koktuh Hills**	**4.70**	**319**		**Pn**	**11 48 07.8**	**-1.4**
O18K				IAML		11 49 20.8	
	comp=E,1μm,1.1s						
O18K	**Koktuh Hills**	**4.70**	**319**	P	**Pn**	**11 48 08.3**	**-0.9**
	baz=133,SNR=21						
FIS	**Fire Island**	**4.74**	**353**		**Pn**	**11 48 09.4**	**-0.3**
FIS				IAML		11 49 05.6	
	comp=N,4μm,0.6s						
R16K	**Pilot Point**	**4.77**	**287**	P	**Pn**	**11 48 09.8**	**-0.4**
	baz=99						
P17K	**Kvichak River**	**4.79**	**308**	P	**Pn**	**11 48 10.3**	**-0.2**
	baz=121,SNR=52						
SNH	**Sunshine Point**	**4.97**	**39**		**Pn**	**11 48 13.7**	**+0.7**
SNH				IAML		11 49 09.1	
	comp=E,3μm,1.1s						
SNH				IAML		11 49 26.7	
	comp=N,3μm,1.1s						
KNK	**Knik Glacier**	**4.98**	**3**		**Pn**	**11 48 12.7**	**-0.4**
KNK				IAML		11 49 07.7	
	comp=E,2μm,0.7s						
KNK				IAML		11 49 16.1	
	comp=N,2μm,0.7s						
KNK	**Knik Glacier**	**4.98**	**3**	P	**Pn**	**11 48 12.5**	**-0.6**
	baz=184,SNR=31						
DIV	**Divide**	**4.99**	**19**		**Pn**	**11 48 13.4**	**+0.2**
N20K	**Mount Spurr**	**5.02**	**342**	P	**Pn**	**11 48 12.4**	**-1.4**
	baz=160,SNR=26						
BMRM	**Bremner River**	**5.09**	**25**		**Pn**	**11 48 14.9**	**+0.3**
BMRM	**Bremner River**	**5.09**	**25**	P	**Pn**	**11 48 14.8**	**+0.2**
	baz=210,SNR=126						
SUA	**Susitna One**	**5.09**	**351**		**Pn**	**11 48 13.6**	**-1.1**
SUA				IAML		11 49 14.3	
	comp=N,1μm,0.7s						
SUA	**Susitna One**	**5.09**	**351**	P	**Pn**	**11 48 13.6**	**-1.1**
	baz=170,SNR=24						
PMR	**Palmer**	**5.15**	**360**		**Pn**	**11 48 14.9**	**-0.4**
PMR				IAML		11 49 12.1	
	comp=N,1μm,0.6s						
PMR				IAML		11 49 13.4	
	comp=E,1μm,0.6s						
PMR	**Palmer**	**5.15**	**360**	P	**Pn**	**11 48 15.1**	**-0.2**
PMR	**Palmer**	**5.15**	**360**	P	**Pn**	**11 48 14.8**	**-0.6**
	baz=180,SNR=38						
PMR	**Palmer**	**5.15**	**360**	P	**Pn**	**11 48 14.9**	**-0.4**
CHGN	**Chignik**	**5.19**	**272**		**Pn**	**11 48 15.4**	**-0.5**
CHGN				IAML		11 49 11.5	
	comp=N,3μm,0.7s						
CHGN				IAML		11 49 16.5	
	comp=E,2μm,0.8s						
CHGN	**Chignik**	**5.19**	**272**	P	**Pn**	**11 48 15.4**	**-0.5**
	baz=83,SNR=24						
N19K	**Bonanza Creek**	**5.20**	**329**		**Pn**	**11 48 14.9**	**-1.2**
N19K	**Bonanza Creek**	**5.20**	**329**	P	**Pn**	**11 48 14.8**	**-1.4**
	baz=144,SNR=29						
KLU	**Klutina**	**5.30**	**17**	Pn	**Pn**	**11 48 17.6**	**0.0**
KLU				IAML		11 49 18.7	
	comp=E,3μm,0.6s						
KLU	**Klutina**	**5.30**	**17**	P	**Pn**	**11 48 17.9**	**+0.3**
	baz=200,SNR=146						
GHO	**Glory Hole Cre**	**5.33**	**1**		**Pn**	**11 48 18.0**	**+0.1**
GHO				IAML		11 49 16.3	
	comp=N,2μm,0.6s						
GHO				IAML		11 49 19.1	
	comp=E,2μm,0.6s						
SML	**Sawmill**	**5.38**	**4**		**Pn**	**11 48 18.7**	**+0.2**
SML				IAML		11 49 17.7	
	comp=E,2μm,0.8s						
SML				IAML		11 49 31.9	
	comp=N,2μm,0.8s						
SML	**Sawmill**	**5.38**	**4**	P	**Pn**	**11 48 18.6**	**0.0**
	baz=185,SNR=126						
O17K	**Koliganek Bris**	**5.39**	**311**	P	**Pn**	**11 48 17.9**	**-0.8**
	baz=124,SNR=17						
M23K	**Glacier View**	**5.39**	**7**	P	**Pn**	**11 48 19.1**	**+0.3**
	baz=353,SNR=77						
P16K	**Nushagak River**	**5.42**	**302**	P	**Pn**	**11 48 19.4**	**+0.3**
	baz=114,SNR=71						
SCM	**Sheep Creek Mo**	**5.46**	**9**		**Pn**	**11 48 20.1**	**+0.3**
SCM	**Sheep Creek Mo**	**5.46**	**9**	P	**Pn**	**11 48 20.1**	**+0.3**
	baz=191,SNR=62						
SCM	**Sheep Creek Mo**	**5.46**	**9**	P	**Pn**	**11 48 20.1**	**+0.3**
N18K	**Kilae Creek**	**5.53**	**323**	Pn	**Pn**	**11 48 19.5**	**-1.1**
N18K	**Kilae Creek**	**5.53**	**323**	P	**Pn**	**11 48 19.4**	**-1.3**
	baz=137,SNR=35						
VRDI	**Verde Repeater**	**5.60**	**29**		**Pn**	**11 48 22.1**	**+0.3**
N25K	**Chitina, Valde**	**5.66**	**22**		**Pn**	**11 48 22.8**	**+0.4**
N25K	**Chitina, Valde**	**5.66**	**22**	P	**Pn**	**11 48 22.8**	**+0.4**
	baz=207,SNR=176						
SKT	**Skwentna**	**5.68**	**348**		**Pn**	**11 48 21.5**	**-1.2**
SKT	**Skwentna**	**5.68**	**348**	P	**Pn**	**11 48 21.9**	**-0.8**
	baz=166,SNR=33						
GLB	**Gilahina Butte**	**5.69**	**26**		**Pn**	**11 48 22.9**	**+0.1**
O16K	**Kokwok River B**	**5.73**	**307**		**Pn**	**11 48 22.9**	**-0.4**
O16K	**Kokwok River B**	**5.73**	**307**	P	**Pn**	**11 48 23.0**	**-0.3**
	baz=119,SNR=52						
SVW2	**Sparrevohn**	**5.75**	**327**		**Pn**	**11 48 22.1**	**-1.5**
SVW2	**Sparrevohn**	**5.75**	**327**	P	**Pn**	**11 48 22.3**	**-1.3**
M20K	**Styx River**	**5.82**	**341**		**Pn**	**11 48 23.5**	**-1.2**
M20K	**Styx River**	**5.82**	**341**	P	**Pn**	**11 48 23.6**	**-1.1**
	baz=157,SNR=43						
M24K	**Tolsona, Glenn**	**5.86**	**14**		**Pn**	**11 48 25.8**	**+0.7**
M24K	**Tolsona, Glenn**	**5.86**	**14**	P	**Pn**	**11 48 25.9**	**+0.8**
	baz=197,SNR=68						
YKU2	**Yakutat**	**5.87**	**55**		**Pn**	**11 48 26.3**	**+1.1**
YKU2	**Yakutat**	**5.87**	**55**	P	**Pn**	**11 48 26.8**	**+1.6**
N17K	**Nushagak Hills**	**5.89**	**317**		**Pn**	**11 48 24.5**	**-1.0**
N17K	**Nushagak Hills**	**5.89**	**317**	P	**Pn**	**11 48 24.6**	**-1.0**
	baz=130,SNR=44						
PCA	**Pinnacle**	**5.91**	**48**		**Pn**	**11 48 26.7**	**+0.8**
PINM	**Pinnacle**	**5.91**	**48**	P	**Pn**	**11 48 26.6**	**+0.6**
	baz=237,SNR=136						
CUT	**Chulitna**	**6.00**	**355**		**Pn**	**11 48 26.7**	**-0.2**
CUT	**Chulitna**	**6.00**	**355**	P	**Pn**	**11 48 26.2**	**-0.8**
	baz=174,SNR=17						
BARN	**Barnard Glacie**	**6.01**	**37**		**Pn**	**11 48 28.0**	**+0.6**
CTG	**Chitna Glacier**	**6.05**	**39**	P	**Pn**	**11 48 28.7**	**+0.8**
	baz=226						
CTGM	**Chitina Glacie**	**6.06**	**39**		**Pn**	**11 48 28.8**	**+0.9**
PNL	**Peninsula**	**6.06**	**54**	P	**Pn**	**11 48 29.5**	**+1.6**
LOGN	**Logan Glacier**	**6.08**	**41**		**Pn**	**11 48 28.9**	**+0.6**
BCPM	**Bancas Point**	**6.10**	**51**		**Pn**	**11 48 29.8**	**+1.4**
M19K	**Big River Lodg**	**6.10**	**336**		**Pn**	**11 48 27.0**	**-1.5**
M19K	**Big River Lodg**	**6.10**	**336**	P	**Pn**	**11 48 27.2**	**-1.3**
	baz=151						
M18K	**Stony River**	**6.13**	**328**	P	**Pn**	**11 48 27.3**	**-1.5**
	baz=142,SNR=86						
CHNA	**Chernabura Isl**	**6.17**	**259**	P	**Pn**	**11 48 28.1**	**-1.2**
	baz=69,SNR=50						
CNBA	**Chernabura Isl**	**6.17**	**259**	Pn	**Pn**	**11 48 28.5**	**-0.9**
WAT6	**Susitna Watana**	**6.18**	**6**	P	**Pn**	**11 48 29.7**	**+0.1**
	baz=187,SNR=89						
HARP	**HAARP**	**6.28**	**17**	P	**Pn**	**11 48 32.0**	**+1.0**
	baz=201,SNR=143						
O15K	**Ungalikthiuk R**	**6.35**	**300**	P	**Pn**	**11 48 32.1**	**+0.2**
	baz=110						
WAT1	**Susitna Watana**	**6.40**	**2**	P	**Pn**	**11 48 32.6**	**+0.1**
	baz=183						
L19K	**White Mountain**	**6.45**	**335**		**Pn**	**11 48 31.9**	**-1.4**
L19K	**White Mountain**	**6.45**	**335**	P	**Pn**	**11 48 31.8**	**-1.5**
	baz=150,SNR=59						
N16K	**Nishlik Lake**	**6.48**	**312**	P	**Pn**	**11 48 33.0**	**-0.6**
	baz=137,SNR=58						
SDPT	**Sand Point**	**6.50**	**265**	Pn	**Pn**	**11 48 33.7**	**-0.3**
SDPT	**Sand Point**	**6.50**	**265**	P	**Pn**	**11 48 33.6**	**-0.3**
SDPT	**Sand Point**	**6.50**	**265**	P	**Pn**	**11 48 33.5**	**-0.5**
	baz=74,SNR=41						
L20K	**Farewell, AK**	**6.51**	**340**	P	**Pn**	**11 48 33.0**	**-1.1**
	baz=156,SNR=12						
M17K	**Holitna River**	**6.57**	**322**		**Pn**	**11 48 34.2**	**-0.7**
M17K	**Holitna River**	**6.57**	**322**	P	**Pn**	**11 48 34.2**	**-0.7**
	baz=135,SNR=112						
PPLA	**Purkeypile**	**6.64**	**348**	P	**Pn**	**11 48 35.9**	**-0.1**
	baz=165,SNR=11						
DHY	**Denali Highway**	**6.69**	**7**		**Pn**	**11 48 37.0**	**+0.2**
DHY	**Denali Highway**	**6.69**	**7**	P	**Pn**	**11 48 36.9**	**+0.2**
	baz=189,SNR=110						
M26K	**Nabesna, AK**	**6.72**	**25**	P	**Pn**	**11 48 37.5**	**+0.5**
	baz=211						
O29M	**Mount Kennedy**	**6.73**	**51**		**Pn**	**11 48 38.5**	**+1.3**
O29M	**Mount Kennedy**	**6.73**	**51**	P	**Pn**	**11 48 38.6**	**+1.4**
	baz=241,SNR=419						
PAX	**Paxson**	**6.78**	**14**	P	**Pn**	**11 48 38.1**	**+0.2**
	baz=198,SNR=173						
P29M	**Windy Craggy**	**6.81**	**57**		**Pn**	**11 48 38.9**	**+0.7**
P29M	**Windy Craggy**	**6.81**	**57**	P	**Pn**	**11 48 39.0**	**+0.9**
	baz=248						
YUK8	**Steele Glacier**	**6.83**	**41**	P	**Pn**	**11 48 40.6**	**+1.9**
	baz=230,SNR=159						
M16K	**Timber Creek**	**6.88**	**316**		**Pn**	**11 48 38.6**	**-0.6**
M16K	**Timber Creek**	**6.88**	**316**	P	**Pn**	**11 48 38.5**	**-0.6**
	baz=127,SNR=47						
N15K	**Kwethluk River**	**6.89**	**307**		**Pn**	**11 48 39.6**	**+0.4**
N15K	**Kwethluk River**	**6.89**	**307**	P	**Pn**	**11 48 39.6**	**+0.4**
	baz=117,SNR=60						
YUK3	**Moose Creek**	**6.93**	**36**	P	**Pn**	**11 48 41.6**	**+1.6**
	baz=224,SNR=156						
L18K	**Granite Mounta**	**6.96**	**329**	P	**Pn**	**11 48 38.8**	**-1.4**
	baz=142						
M27K	**Edge Creek, AK**	**6.96**	**29**	P	**Pn**	**11 48 41.3**	**+1.0**
	baz=216						
MENT	**Mentasta**	**7.04**	**20**		**Pn**	**11 48 42.2**	**+0.9**
MENT	**Mentasta**	**7.04**	**20**	P	**Pn**	**11 48 41.3**	**0.0**
TRF	**Thorofare Moun**	**7.04**	**356**	P	**Pn**	**11 48 41.2**	**-0.3**
	baz=175,SNR=50						
O14K	**Tigyukauivet M**	**7.08**	**298**		**Pn**	**11 48 42.1**	**+0.4**
O14K	**Tigyukauivet M**	**7.08**	**298**	P	**Pn**	**11 48 42.2**	**+0.4**
	baz=107						
S31K	**Pelican**	**7.14**	**72**		**Pn**	**11 48 41.4**	**-1.2**
S31K	**Pelican**	**7.14**	**72**	P	**Pn**	**11 48 42.1**	**-0.6**
	baz=264,SNR=96						
CAST	**Castle Rocks**	**7.14**	**349**	Pn	**Pn**	**11 48 42.0**	**-0.7**
CAST	**Castle Rocks**	**7.14**	**349**	P	**Pn**	**11 48 42.2**	**-0.6**
	baz=167,SNR=59						
YUK6	**Outpost Mounta**	**7.16**	**47**	P	**Pn**	**11 48 45.1**	**+1.9**
	baz=237,SNR=610						
KTH	**Kantishna Hill**	**7.18**	**353**	Pn	**Pn**	**11 48 43.1**	**-0.1**
L26K	**Log Cabin Wild**	**7.19**	**21**	P	**Pn**	**11 48 44.2**	**+0.8**
	baz=207,SNR=59						
YUK4	**Talbot Arm**	**7.29**	**43**	P	**Pn**	**11 48 48.2**	**+3.3**
	baz=233,SNR=370						
BVCY	**Beaver Creek**	**7.29**	**32**	P	**Pn**	**11 48 45.9**	**+1.2**
	baz=219,SNR=62						
MCK	**McKinley**	**7.30**	**1**		**Pn**	**11 48 45.1**	**+0.3**
MCK	**McKinley**	**7.30**	**1**	P	**Pn**	**11 48 45.2**	**+0.4**
	baz=181,SNR=67						
MCK	**McKinley**	**7.30**	**1**	P	**Pn**	**11 48 45.1**	**+0.3**
K20K	**Telida**	**7.36**	**342**	P	**Pn**	**11 48 44.0**	**-1.7**
	baz=158						
P30M	**Million Dollar**	**7.37**	**55**	P	**Pn**	**11 48 47.2**	**+1.4**
	baz=246						
TTA	**Tatalina**	**7.37**	**335**	Pn	**Pn**	**11 48 44.1**	**-1.8**
TTA	**Tatalina**	**7.37**	**335**	P	**Pn**	**11 48 44.2**	**-1.7**
TTA	**Tatalina**	**7.37**	**335**	P	**Pn**	**11 48 44.3**	**-1.7**
	baz=148,SNR=18						
TTA	**Tatalina**	**7.37**	**335**	P	**Pn**	**11 48 44.1**	**-1.8**
L17K	**Donlin**	**7.39**	**324**	P	**Pn**	**11 48 44.8**	**-1.3**
	baz=136,SNR=22						
PLBC	**Pleasant Camp**	**7.40**	**61**		**Pn**	**11 48 47.5**	**+1.2**
PLBC	**Pleasant Camp**	**7.40**	**61**	P	**Pn**	**11 48 48.0**	**+1.8**
	baz=252,SNR=68						
M15K	**Kasigluk River**	**7.40**	**310**	P	**Pn**	**11 48 45.7**	**-0.6**
	baz=119,SNR=17						
HYT	**Haines Junctio**	**7.46**	**49**	Pn	**Pn**	**11 48 48.3**	**+1.2**
HYT	**Haines Junctio**	**7.46**	**49**	P	**Pn**	**11 48 48.2**	**+1.2**
	baz=240,SNR=143						
R31K	**City Hall, Gus**	**7.46**	**69**	P	**Pn**	**11 48 47.6**	**+0.5**
	baz=261,SNR=18						
L16K	**Owhat River**	**7.50**	**319**	Pn	**Pn**	**11 48 47.0**	**-0.6**
L16K	**Owhat River**	**7.50**	**319**	P	**Pn**	**11 48 46.8**	**-0.8**
	baz=130,SNR=58						
N14K	**Kuskokwak Cree**	**7.51**	**303**	P	**Pn**	**11 48 48.0**	**+0.3**
	baz=112,SNR=22						
K24K	**Donnelly Dome**	**7.55**	**11**	P	**Pn**	**11 48 49.5**	**+1.2**
	baz=194,SNR=142						
L27K	**Beaver Creek,**	**7.56**	**26**	P	**Pn**	**11 48 48.9**	**+0.4**
	baz=213,SNR=30						
BCAR	**Beaver Creek A**	**7.58**	**26**	Pn	**Pn**	**11 48 48.6**	**-0.1**
SIT	**Sitka**	**7.59**	**80**	Pn	**Pn**	**11 48 46.6**	**-2.2**
SIT	**Sitka**	**7.59**	**80**	P	**Pn**	**11 48 47.4**	**-1.4**
SIT	**Sitka**	**7.59**	**80**	P	**Pn**	**11 48 46.9**	**-1.8**
	baz=272,SNR=8.3						
SIT	**Sitka**	**7.59**	**80**	P	**Pn**	**11 48 46.6**	**-2.2**
RIDG	**Independent Ri**	**7.60**	**14**		**Pn**	**11 48 49.2**	**+0.1**
RIDG	**Independent Ri**	**7.60**	**14**	P	**Pn**	**11 48 49.5**	**+0.4**
	baz=198,SNR=238						
CHUM	**Lake Minchumin**	**7.62**	**349**	P	**Pn**	**11 48 48.6**	**-0.6**
	baz=166,SNR=74						
BPAW	**Bear Paw Mtn.**	**7.72**	**354**	Pn	**Pn**	**11 48 49.7**	**-1.0**
BPAW	**Bear Paw Mtn.**	**7.72**	**354**	P	**Pn**	**11 48 49.6**	**-1.1**
	baz=172,SNR=39						
K17K	**Iditarod**	**7.82**	**327**		**Pn**	**11 48 50.7**	**-1.3**
K17K	**Iditarod**	**7.82**	**327**	P	**Pn**	**11 48 50.7**	**-1.3**
	baz=139						
SKAG	**Skagway**	**7.91**	**62**		**Pn**	**11 48 54.5**	**+1.3**
SKAG	**Skagway**	**7.91**	**62**	P	**Pn**	**11 48 54.6**	**+1.4**
SKAG	**Skagway**	**7.91**	**62**	P	**Pn**	**11 48 54.4**	**+1.3**
	baz=254,SNR=140						
BESE	**Bessie Mountai**	**7.95**	**69**		**Pn**	**11 48 54.3**	**+0.4**
SCRK	**Sand Creek**	**7.95**	**16**		**Pn**	**11 48 53.7**	**-0.2**
SCRK	**Sand Creek**	**7.95**	**16**	P	**Pn**	**11 48 53.6**	**-0.3**
	baz=201,SNR=74						
N30M	**Aishikik Lake**	**7.96**	**46**		**Pn**	**11 48 54.9**	**+0.9**
N30M	**Aishikik Lake**	**7.96**	**46**	P	**Pn**	**11 48 55.2**	**+1.2**
	baz=237						
M14K	**Bethel**	**7.98**	**308**		**Pn**	**11 48 54.7**	**+0.6

baz=186,SNR=52
P32M Atlin 8.73 63 Pn Pn 11 49 05.4 +0.9
P32M Atlin 8.73 63 P Pn 11 49 05.7 +1.1
baz=256,SNR=44
M30M Minto, Yukon 8.74 40 Pn 11 49 05.9 +1.2
M30M Minto, Yukon 8.74 40 P Pn 11 49 05.7 +1.1
baz=232,SNR=62
I20K Naaghedeneel 8.77 345 P Pn 11 49 04.4 -0.6
baz=160
I21K Tanana 8.86 352 P Pn 11 49 05.0 -1.3
baz=170,SNR=50
U33K Whale Pass 8.89 86 Pn Pn 11 49 04.6 -2.0
U33K Whale Pass 8.89 86 P Pn 11 49 05.5 -1.1
baz=280,SNR=9.3
T33K Petersburg 8.90 81 Pn 11 49 05.8 -1.0
T33K Petersburg 8.90 81 P Pn 11 49 06.1 -0.7
baz=275
J16K Anvik River 8.95 325 P Pn 11 49 05.9 -1.6
baz=134,SNR=29
CRAG Craig 9.01 90 Pn Pn 11 49 05.6 -2.7
CRAG Craig 9.01 90 P Pn 11 49 07.0 -1.3
CRAG Craig 9.01 90 P Pn 11 49 07.8 -0.5
baz=284
DAWY Dawson 9.01 28 Pn Pn 11 49 08.9 +0.5
DAWY Dawson 9.01 28 P Pn 11 49 08.9 +0.5
baz=217,SNR=40
GCSA Galena City Sc 9.15 339 P Pn 11 49 08.6 -1.5
baz=152,SNR=21
EGAK Eagle 9.20 22 Pn 11 49 11.5 +0.6
EGAK Eagle 9.20 22 P Pn 11 49 10.8 -0.1
baz=209,SNR=46
PRP Porcupine Dome 9.25 9 Pn 11 49 11.2 -0.6
PRP Porcupine Dome 9.25 9 P Pn 11 49 11.1 -0.6
baz=193,SNR=31
WRAK Wrangell Islan 9.27 83 Pn 11 49 10.5 -1.4
WRAK Wrangell Islan 9.27 83 P Pn 11 49 11.1 -0.8
baz=278,SNR=6.1
I26K Coal Creek Min 9.33 16 P Pn 11 49 12.5 -0.1
baz=201,SNR=84
P33M Teslin, Yukon 9.34 60 Pn 11 49 13.4 +0.6
P33M Teslin, Yukon 9.34 60 P Pn 11 49 13.8 +1.0
baz=254,SNR=211
Q32M Nakina River 9.34 67 Pn 11 49 14.0 +1.0
Q32M Nakina River 9.34 67 P Pn 11 49 14.3 +1.3
baz=262,SNR=40
K29M Barlow Dome 9.37 33 P Pn 11 49 14.4 +1.1
baz=224,SNR=102
H21K Melozitna Rive 9.40 351 P Pn 11 49 12.3 -1.3
baz=167
I17K Unalakleet 9.42 327 P Pn 11 49 12.9 -0.9
baz=137,SNR=29
H24K Noodor Dome 9.43 3 P Pn 11 49 14.0 0.0
baz=184,SNR=110
M31M Drury Creek, Y 9.45 46 Pn 11 49 15.9 +1.7
M31M Drury Creek, Y 9.45 46 P Pn 11 49 16.1 +1.7
baz=240,SNR=214
H20K Anotleneega Mo 9.49 345 P Pn 11 49 13.9 -0.9
baz=160,SNR=24
N32M Quiet Lake 9.53 54 Pn 11 49 16.9 +1.4
N32M Quiet Lake 9.53 54 P Pn 11 49 17.1 +1.6
baz=248,SNR=48
H22K Ishtalitna Cre 9.53 354 P Pn 11 49 15.0 -0.5
baz=172
J29N Klondike Camp 9.63 29 P Pn 11 49 17.8 +0.9
baz=219,SNR=64
J14K Nanvaranak Lak 9.66 317 Pn 11 49 16.9 -0.2
J14K Nanvaranak Lak 9.66 317 P Pn 11 49 16.9 -0.2
baz=124
K13K Kusilvak Mount 9.68 311 P Pn 11 49 17.6 +0.2
baz=117
MAYO Mayo, Yukon 9.72 37 P Pn 11 49 19.2 +1.2
baz=229,SNR=44
H19K Roundabout Mou 9.77 342 P Pn 11 49 17.3 -1.3
baz=155
M11K Mekoryuk 9.79 301 Pn 11 49 19.4 +0.5
M11K Mekoryuk 9.79 301 P Pn 11 49 18.8 -0.2
baz=106
AKUT Akutan 9.80 263 Pn Pn 11 49 17.9 -1.2
AKUT Akutan 9.80 263 P Pn 11 49 18.1 -1.0
IMAR Indian Mountai 9.81 349 Pn 11 49 17.5 -1.8
H18K Honhosa River 9.82 336 Pn 11 49 17.7 -1.7
H18K Honhosa River 9.82 336 P Pn 11 49 17.6 -1.7
baz=148,SNR=21
S34M Telegraph Cree 9.85 74 Pn 11 49 20.4 +0.6
S34M Telegraph Cree 9.85 74 P Pn 11 49 20.9 +1.1
baz=270,SNR=16
I27K Kandik River 9.85 18 P Pn 11 49 20.6 +0.7
baz=205,SNR=126
V35K Ketchikan 9.88 89 Pn Pn 11 49 18.7 -1.5
V35K Ketchikan 9.88 89 P Pn 11 49 19.1 -1.0
baz=284
FARO Faro, Yukon 9.88 48 Pn 11 49 21.9 +1.7
FARO Faro, Yukon 9.88 48 P Pn 11 49 22.4 +2.1
baz=242,SNR=190
H17K Granite Mounta 10.01 333 P Pn 11 49 20.1 -1.8
baz=143,SNR=46
I28M Miner Creek 10.04 22 P Pn 11 49 23.6 +1.1
baz=211,SNR=33
R33M Jennings River 10.07 66 Pn Pn 11 49 24.0 +1.1
R33M Jennings River 10.07 66 P Pn 11 49 24.1 +1.2
baz=262,SNR=68
DIB Dawson Inlet, 10.12 102 Pn 11 49 22.0 -1.4
J30M Hart River 10.26 32 Pn 11 49 27.2 +1.7
J30M Hart River 10.26 32 P Pn 11 49 26.6 +1.1
baz=224
G23K Bananza Creek 10.30 358 P Pn 11 49 25.9 0.0
baz=177
FYU Fort Yukon 10.30 9 Pn 11 49 25.9 0.0
G24K Hadweenzic Riv 10.31 4 Pn 11 49 25.7 -0.3
G24K Hadweenzic Riv 10.31 4 P Pn 11 49 26.0 0.0
baz=185,SNR=125
G21K Allakaket 10.31 350 P Pn 11 49 25.5 -0.6
baz=166
UNV Unalaska Valle 10.31 263 Pn 11 49 24.5 -1.6
UNV Unalaska Valle 10.31 263 P Pn 11 49 24.7 -1.4
baz=68,SNR=12
I29M Ogilvie Camp, 10.34 26 P Pn 11 49 27.3 +0.8
baz=216,SNR=43
T35M Bob Quinn 10.36 79 Pn Pn 11 49 27.9 +1.1
T35M Bob Quinn 10.36 79 P Pn 11 49 28.2 +1.3
baz=276,SNR=17
H16K Elim 10.43 327 P Pn 11 49 26.9 -0.8
baz=136,SNR=27
G25K Bearman Lake 10.44 7 P Pn 11 49 28.3 +0.5
baz=189
G19K Purcell Mounta 10.44 342 P Pn 11 49 27.5 -0.3
baz=155
H27K Steamboat Moun 10.44 17 P Pn 11 49 28.1 +0.2
baz=204
DLBC Dease Lake 10.45 71 P Pn 11 49 29.3 +1.2
baz=268,SNR=64
DLBC Dease Lake 10.45 71 Pn Pn 11 49 29.3 +1.2
comp=N,18nm,0.3s,baz=252,slow=7.2,SNR=113
DLBC Sn Sn 11 51 19.8 -4.4
comp=N,5.4nm,0.3s,baz=240,slow=20,SNR=1.6
comp=N,50nm,0.4s
G18K Tagagawik 10.52 338 P Pn 11 49 27.2 -1.7
baz=150
G22K Bettles 10.56 355 P Pn 11 49 28.7 -0.7
baz=173
U35K Hyder 10.63 85 Pn 11 49 29.5 -1.0
U35K Hyder 10.63 85 P Pn 11 49 30.8 +0.3
baz=282,SNR=8.0
G17K Kiwalik Mounta 10.65 333 P Pn 11 49 29.0 -1.6
baz=143,SNR=14
I30M Mount Dempster 10.73 30 Pn 11 49 33.8 +1.9
I30M Mount Dempster 10.73 30 P Pn 11 49 32.9 +0.9
baz=221
G26K Porcupine Rive 10.82 11 P Pn 11 49 33.2 +0.2
baz=196
COLD Coldfoot 10.82 358 P Pn 11 49 32.7 -0.3
baz=177,SNR=62
RUBB Prince Rupert 10.92 93 Pn 11 49 32.4 -2.0
F21K Alatna River 10.99 351 P Pn 11 49 34.9 -0.6
baz=167
G16K Koyuk River 11.02 330 P Pn 11 49 34.6 -1.1
baz=138
H29M Whitestone 11.04 23 Pn 11 49 36.7 +0.7
H29M Whitestone 11.04 23 P Pn 11 49 36.7 +0.7
baz=213
F20K Avaraart Lake 11.07 346 P Pn 11 49 35.9 -0.5
baz=160
F24K Squaw Lake 11.11 2 Pn Pn 11 49 38.1 +1.0
F24K Squaw Lake 11.11 2 P Pn 11 49 37.1 0.0
baz=184,SNR=62
F19K Shaleruckik Mo 11.18 342 Pn 11 49 37.1 -0.9
baz=154,SNR=22
F19K Shaleruckik Mo 11.18 342 P Pn 11 49 37.5 -0.5
baz=154,SNR=22
BMAR Burnt Mountain 11.21 9 Pn Pn 11 49 37.1 -1.2
G15K Niukluk 11.23 326 P Pn 11 49 37.8 -0.8
baz=132
GRNB Grenville Isla 11.24 95 Pn 11 49 36.9 -2.0
WTLY Watson Lake, Y 11.27 63 Pn 11 49 40.6 +1.3
WTLY Watson Lake, Y 11.27 63 P Pn 11 49 40.6 +1.3
baz=260,SNR=44
F25K Christian Rive 11.29 7 P Pn 11 49 39.1 -0.4
baz=190,SNR=58
F18K Selawik 11.33 338 P Pn 11 49 39.3 -0.7
baz=149
ANM Nome 11.39 322 Pn Pn 11 49 40.4 -0.3
ANM Nome 11.39 322 P Pn 11 49 40.5 -0.3
baz=128,SNR=25
ANM Nome 11.39 322 P Pn 11 49 40.4 -0.3
F26K Sheenjek River 11.51 9 P Pn 11 49 42.2 -0.3
baz=194
EPYK Eagle Plains 11.54 26 P Pn 11 49 43.2 +0.2
baz=217,SNR=22
F17K Baldwin Pennin 11.55 335 P Pn 11 49 41.6 -1.4
baz=144
SPIA Saint Paul Isl 11.61 282 Pn Pn 11 49 43.2 -0.6
SPIA Saint Paul Isl 11.61 282 P Pn 11 49 43.3 -0.6
SPIA Saint Paul Isl 11.61 282 P Pn 11 49 43.6 -0.3
baz=84
E23K Chandalar 11.64 359 P Pn 11 49 45.0 +0.6
baz=179
E19K Redstone River 11.67 344 P Pn 11 49 45.0 +0.3
baz=157,SNR=56
G29M Pine Creek 11.70 22 P Pn 11 49 45.3 +0.2
baz=212
E25K Arctic Village 11.81 6 Pn Pn 11 49 46.3 -0.4
E25K Arctic Village 11.81 6 P Pn 11 49 46.4 -0.3
baz=190,SNR=49
F15K North Star Dit 11.91 327 P Pn 11 49 47.0 -0.9
baz=134
NIKH Nikolski High 11.95 261 Pn Pn 11 49 46.4 -2.0
NIKH Nikolski High 11.95 261 P Pn 11 49 47.0 -1.5
baz=64
F28M Old Crow 11.98 17 Pn Pn 11 49 49.3 +0.4
F28M Old Crow 11.98 17 P Pn 11 49 49.8 +1.0
baz=206,SNR=74
G30M tAoh Zraii Nji 12.15 25 P Pn 11 49 53.2 +1.9
baz=216,SNR=64
E27K Coleen River 12.26 13 Pn Pn 11 49 52.2 -0.5
E27K Coleen River 12.26 13 P Pn 11 49 53.2 +0.5
baz=200,SNR=115
F14K Arctic Creek 12.27 324 P Pn 11 49 52.7 -0.2
baz=129,SNR=14
E20K Nigu River 12.28 347 P Pn 11 49 52.5 -0.5
baz=161
D22K Ayikyak River 12.57 354 P Pn 11 49 57.2 +0.2
baz=171
CLES Cleveland East 12.58 262 Pn Pn 11 49 55.7 -1.4
G31M Satah River 12.58 28 Pn Pn 11 49 57.3 +0.2
G31M Satah River 12.58 28 P Pn 11 49 57.8 +0.8
baz=221,SNR=66
D24K Happy Valley 12.74 0 P Pn 11 50 00.6 +1.3
baz=181
D19K Kuna River 12.76 345 P Pn 11 49 58.9 -0.6
baz=157
D20K Etivluk River 12.76 347 P Pn 11 49 58.6 -0.9
baz=161
F30M Barrier River 12.77 23 P Pn 11 50 00.8 +1.2
baz=216
TNA Tin City 12.85 323 P Pn 11 50 01.3 +0.5
baz=126,SNR=8.6
E28M Babbage River 12.93 16 P Pn 11 50 03.0 +1.1
baz=205
BBB Bella Bella 12.95 100 Pn Pn 11 50 02.0 -0.2
BBB Bella Bella 12.95 100 Pn Pn 11 50 03.9 +1.7
comp=N,0.7nm,0.3s,baz=336,slow=11,SNR=4.8
BBB Sn Sn 11 52 19.7 -5.5
comp=N,2.7nm,0.3s,baz=201,slow=21,SNR=11
comp=N,27nm,0.9s
D25K Kavik River 12.97 4 P Pn 11 50 02.4 -0.1
baz=187
D17K Noatak River 13.00 336 P Pn 11 50 02.9 +0.1
baz=143
C21K Knifeblade Rid 13.00 351 P Pn 11 50 02.2 -0.5
baz=166
E29M Blow River 13.01 19 Pn 11 50 03.5 +0.6
E29M Blow River 13.01 19 P Pn 11 50 03.7 +0.8
baz=209,SNR=79
F31M Tsiigehtchic 13.11 27 Pn Pn 11 50 04.1 -0.2
F31M Tsiigehtchic 13.11 27 P Pn 11 50 05.0 +0.7
baz=221,SNR=43
C24K Franklin Bluff 13.31 1 P Pn 11 50 07.2 +0.2
baz=181
D27M Malcolm River 13.33 13 P Pn 11 50 07.3 -0.1
baz=200
GAMB Gambell 13.39 312 P Pn 11 50 06.5 -1.5
baz=112
C18K Utukok River 13.40 341 Pn 11 50 06.7 -1.6
C18K Utukok River 13.40 341 P Pn 11 50 07.3 -1.1
baz=150
B21K Ikpuk River 13.44 352 P Pn 11 50 07.5 -1.2
baz=167
C19K Lookout Ridge 13.54 344 Pn 11 50 08.6 -1.6
C19K Lookout Ridge 13.54 344 P Pn 11 50 09.2 -1.0
baz=154,SNR=12
KOTAN Kotaneelee Air 13.63 64 P Pn 11 50 13.6 +2.2
baz=266,SNR=174
C17K DeLong Mountai 13.65 338 P Pn 11 50 11.1 -0.5
baz=145,SNR=19
D28M Stokes Point 13.72 16 P Pn 11 50 14.4 +1.9
baz=205
INK Inuvik 13.84 25 Pn Pn 11 50 14.6 +0.4
INK Inuvik 13.84 25 P Pn 11 50 15.2 +1.0
baz=219,SNR=205
INK Inuvik 13.84 25 P Pn 11 50 14.6 +0.4
INK Inuvik 13.84 25 Pn Pn 11 50 14.3 +0.1
comp=N,1.7nm,0.3s,baz=211,slow=15,SNR=168
comp=N,269nm,1.0s
FLDN Fort Liard 13.92 64 Pn 11 50 17.4 +2.0
FLDN Fort Liard 13.92 64 P Pn 11 50 18.4 +3.0
baz=266,SNR=181
C16K Lisburne Hills 13.98 334 P Pn 11 50 15.4 -0.7
baz=140,SNR=27
B20K Meade River 14.06 349 P Pn 11 50 15.7 -1.5
baz=161
B22K Teshekpuk Lake 14.06 354 P Pn 11 50 16.6 -0.7
baz=170
B18K Kokolik River 14.14 341 P Pn 11 50 17.2 -1.0
baz=150
WRGLY Wrigley 14.47 52 P Pn 11 50 24.9 +2.1
baz=254,SNR=108
A19K Wainwright 14.76 344 P Pn 11 50 24.8 -1.9
baz=153
A22K Sinclair Lake 14.82 352 P Pn 11 50 25.2 -2.3
baz=167
ATKA Atka Island 15.22 264 Pn Pn 11 50 30.4 -2.5
ATKA IAmb IAmb 11 50 39.6
comp=Z,130nm,0.7s
ATKA Atka Island 15.22 264 P Pn 11 50 30.8 -2.1
A21K Barrow 15.26 351 P Pn 11 50 30.5 -2.9
baz=164,SNR=41
OZB Mount Ozzard 16.09 108 P P 11 50 47.6 +0.3
ADK Adak 16.74 266 Pn Pn 11 50 51.0 -1.4
ADK Adak 16.74 266 P Pn 11 50 51.1 -1.3
ADK Adak 16.74 266 P Pn 11 50 51.0 -1.4
ADK pmax pmax
comp=Z,51nm,0.9s
CLRS Cowichan Lake 16.89 106 P 11 50 56.0 -0.3
KIWB Kanaga Island 17.01 266 Pn 11 50 54.3 -1.6
C36M Paulatuk 17.03 31 Pn Pn 11 50 54.8 -1.1
C36M Paulatuk 17.03 31 P Pn 11 50 54.9 -1.1
baz=234,SNR=82
HILA High Level 17.26 70 Pn 11 50 59.3 +0.3
YKAB2 New Yellowknif 18.34 57 P Pn 11 51 13.2 +1.0
YKA Yellowknife Ar 18.35 57 P Pn 11 51 12.4 +0.1
YKA Yellowknife Ar 18.35 57 P Pn 11 51 13.2 +0.9
comp=Z,1.4nm,0.3s,baz=267,slow=11,SNR=124
YKA PcP PcP 11 55 41.2 -1.1
comp=Z,7.0nm,0.9s,baz=273,slow=1.5,SNR=6.1
YKA ScP ScP 11 59 15.0 -0.6
comp=Z,1.4nm,0.9s,baz=255,slow=1.3,SNR=5.9
comp=Z,76nm,1.1s
A36M Sachs Harbour 18.47 23 Pn 11 51 13.7 0.0
A36M IAmb IAmb 11 51 24.1
comp=Z,452nm,1.1s
A36M Sachs Harbour 18.47 23 P Pn 11 51 13.8 0.0
baz=225,SNR=201
D05A Enumclaw 19.03 108 P Pn 11 51 21.0 +0.4
D05A IAmb IAmb 11 51 25.2
comp=Z,312nm,1.4s
AMKA Amchitka 19.19 268 P P 11 51 18.7 -2.9
G03D McMinnville, O 19.68 114 P Pn 11 51 28.6 +0.1
G03D IAmb IAmb 11 51 32.6
comp=Z,304nm,1.7s
EDM Edmonton 20.68 84 P P 11 51 38.2 +0.4
EDM IAmb IAmb 11 51 40.5
comp=Z,198nm,1.1s
EDM Edmonton 20.68 84 P P 11 51 38.2 +0.4
EDM pmax pmax
comp=Z,198nm,1.1s
HAWA Hanford 20.84 106 P P 11 51 40.5 +1.0
KEBM Edson Butte 20.86 120 P Pn 11 51 41.4 -1.0
KEBM IAmb IAmb 11 51 43.6
comp=Z,224nm,1.0s
NEW Newport 21.01 99 P P 11 51 41.8 +0.4
NEW Newport 21.01 99 P P 11 51 43.4 +2.0
baz=305,SNR=43
NEW Newport 21.01 99 P P 11 51 43.0 +1.6
comp=Z,50nm,0.9s,baz=307,slow=9.3,SNR=54
comp=Z,50nm,0.9s
SHEM Shemya Is, Ala 21.48 276 P P 11 51 46.0 -0.4
comp=Z,72nm,1.0s,baz=55,slow=16,SNR=3.2
comp=Z,72nm,1.0s
HUMO Hull Mountain 21.72 119 P P 11 51 50.2 +1.2
HUMO IAmb IAmb 11 51 53.1
comp=Z,144nm,1.1s
BMO Blue Mountains 23.03 107 P P 11 52 03.7 +0.7
BMO Blue Mountains 23.03 107 P P 11 52 03.7 +0.7
BMO pmax pmax
comp=Z,43nm,1.1s
BILL Bilibino 23.18 318 eP P 11 52 03.2 -1.1
PLID Pearl Lake 23.57 105 P P 11 52 09.1 +0.5
MSO Missoula 23.59 99 P P 11 52 09.5 +0.9
baz=307,SNR=29
WVOR Wild Horse Val 24.01 113 P P 11 52 13.6 +1.0
WVOR IAmb IAmb 11 52 16.6
comp=Z,84nm,0.9s
WVOR Wild Horse Val 24.01 113 P P 11 52 13.6 +1.0
WVOR pmax pmax
comp=Z,84nm,0.9s
BPMT Black Pine Rid 24.10 99 P P 11 52 13.9 +0.3
EGMT Eagleton 25.21 93 P P 11 52 23.6 +0.2
EGMT Eagleton 25.21 93 P P 11 52 23.9 +0.5
baz=305,SNR=20
HLID Hailey 25.43 106 P P 11 52 27.0 +1.4
baz=313,SNR=58
FFC Flin Flon 26.27 74 P P 11 52 33.1 +0.2
FFC Flin Flon 26.27 74 P P 11 52 33.1 +0.2
FFC pmax pmax
comp=Z,93nm,1.3s
YFT Old Faithful 26.78 100 P P 11 52 39.9 +2.0
H17A Grant Village 26.96 100 P P 11 52 42.3 +2.8
baz=311,SNR=28
ELK Elko 26.99 111 P P 11 52 41.1 +1.3
ELK Elko 26.99 111 P P 11 52 41.1 +1.3
ELK pmax pmax
comp=Z,36nm,1.1s
NVAR Mina Array Bea 27.20 118 P P 11 52 43.1 +1.5
NVAR Mina Array Bea 27.20 118 P P 11 52 43.2 +1.6
comp=Z,27nm,0.8s,baz=305,slow=8.8,SNR=129
NVAR PcP PcP 11 56 01.7 +0.5
comp=Z,7.1nm,0.8s,baz=279,slow=2.6,SNR=12
comp=Z,27nm,0.8s
RLMT Red Lodge 27.21 98 P P 11 52 43.5 +1.8
baz=309,SNR=21
RES Resolute Bay 27.35 28 P P 11 52 42.4 0.0
RES Resolute Bay 27.35 28 P P 11 52 42.4 0.0
RES pmax pmax
comp=Z,56nm,1.0s
HVU Hansel Valley 27.54 107 P P 11 52 45.5 +0.9
HVU Hansel Valley 27.54 107 P P 11 52 45.5 +0.9
HVU pmax pmax
comp=Z,41nm,1.3s
MLAC Mammoth, Mammo 27.57 120 P P 11 52 47.8 +2.8
baz=323,SNR=9.4
LAO LASA Array 27.94 92 P P 11 52 49.2 +1.2
baz=307,SNR=5.8
LAO LASA Array 27.94 92 P P 11 52 49.1 +1.0
baz=306,SNR=5.8
DGMT Dagmar 28.05 87 P P 11 52 50.0 +1.1
baz=304,SNR=7.2
DGMT Dagmar 28.05 87 P P 11 52 49.4 +0.5
baz=304,SNR=7.2
TIN Tinemaha, Big 28.32 120 P P 11 52 53.9 +2.4
baz=323,SNR=5.5
BW06 Boulder Array 28.59 102 P P 11 52 55.0 +1.0
baz=313,SNR=20
PD31 Pinedale Array 28.59 102 P P 11 52 54.5 +0.5
PDAR Pinedale Array 28.59 102 P P 11 52 54.5 +0.5
PDAR Pinedale Array 28.59 102 P P 11 52 54.6 +0.6
comp=Z,8.2nm,0.7s,baz=312,slow=4.8,SNR=83
PDAR PcP PcP 11 56 03.8 -0.8
comp=Z,2.6nm,0.9s,baz=354,slow=1.5,SNR=4.5
comp=Z,8.2nm,0.7s
R11B Troy Canyon, C 28.61 115 P P 11 52 55.2 +1.1
R11B Troy Canyon, C 28.61 115 P P 11 52 56.0 +1.8
baz=320,SNR=57
DUG Dugway, Tooele 28.65 109 P P 11 52 56.1 +1.6
baz=317,SNR=18
GRAC Grapevine Rang 28.78 119 P P 11 52 57.9 +2.3
baz=323,SNR=7.7
FCC Fort Churchill 28.85 62 P P 11 52 56.9 +1.0
FCC IAmb IAmb 11 52 58.5
comp=Z,179nm,1.2s
FCC Fort Churchill 28.85 62 P P 11 52 56.9 +1.0
FCC pmax pmax
comp=Z,179nm,1.3s
CWC Cottonwood Cre 28.88 121 P P 11 52 58.7 +2.1
baz=324
VES Vestal, Richgr 28.90 123 P P 11 52 58.2 +1.7
baz=325,SNR=10
SMMC Simmler 28.91 125 P P 11 52 59.2 +2.5
baz=326,SNR=6.3
SEY Seymchan 29.29 307 eP P 11 52 58.7 -1.0
SEY pmax pmax
comp=Z,32nm,1.3s
ISA Isabella, Lake 29.33 122 P P 11 53 02.1 +1.7
baz=325,SNR=13
PKM Mcpherson Peak 29.34 125 P P 11 53 03.1 +2.4
baz=327,SNR=12
TPNV Topopah Spring 29.37 118 P P 11 53 02.9 +2.0
baz=322,SNR=31
FURC Furnace Creek, 29.45 119 P P 11 53 03.9 +2.5
baz=323,SNR=25
ARVC Arvin 29.60 123 P P 11 53 04.1 +1.4
baz=326,SNR=6.2
PET Petropavlovsk 29.76 286 P P 11 53 04.0 0.0
PET Petropavlovsk 29.76 286 P P 11 53 05.1 +1.1
PET Petropavlovsk 29.76 286 eP P 11 53 05.1 +1.1
PET pmax pmax
comp=Z,177nm,1.3s
SBC Santa Barbara 29.76 125 P P 11 53 05.5 +1.3
baz=327
LRMC Laurel Mtn Rad 29.85 121 P P 11 53 07.0 +1.9
baz=325,SNR=18
OSI Osito Audit: C 30.07 124 P P 11 53 09.2 +2.2
baz=326
SHOC Shoshone, Teco 30.19 119 P P 11 53 10.2 +2.2
baz=324,SNR=18
EDW2 Edwards Air Fo 30.19 122 P P 11 53 09.5 +1.4
baz=326,SNR=9.0
MVU Marysvale 30.22 111 P P 11 53 09.6 +1.1
PEA0B Petropavlovsk- 30.23 286 eP P 11 53 08.8 +0.6
PETK Petropavlovsk- 30.23 286 P P 11 53 07.6 -0.6
PETK Petropavlovsk- 30.23 286 P P 11 53 08.2 0.0
comp=Z,4.2nm,0.8s,baz=63,slow=14,SNR=6.8
comp=Z,4.2nm,0.8s
EUNU Eureka 30.30 18 P P 11 53 10.3 +1.7
K22A Casper 30.33 99 P P 11 53 10.3 +1.0
baz=312,SNR=13
K22A Casper 30.33 99 P P 11 53 10.1 +0.7
baz=312,SNR=13
GSC Goldstone, Bar 30.41 120 P P 11 53 12.2 +2.1
baz=324,SNR=13
DECC Green Verdugo 30.55 124 P P 11 53 13.3 +2.0
baz=326
TUQ Turquoise Moun 30.73 119 P P 11 53 15.1 +2.2
baz=324,SNR=7.9
RSSD Black Hills 30.74 94 P P 11 53 13.7 +0.7
RSSD IAmb IAmb 11 53 15.6
comp=Z,49nm,0.9s
RSSD Black Hills 30.74 94 P P 11 53 14.1 +1.1
baz=310
RSSD Black Hills 30.74 94 P P 11 53 14.2 +1.1
baz=310,SNR=39

RSSD Black Hills 30.74 94 P P 11 53 13.7 +0.7
RSSD pmax pmax
comp=Z,49nm,1.0s
RSSD Black Hills 30.74 94 P P 11 53 14.5 +1.5
RSSD PcP PcP 11 56 09.4 -0.6
BFSC Mount Baldy Ra 30.88 123 P P 11 53 16.4 +2.2
baz=326,SNR=25
MDND Maddock 30.94 85 P P 11 53 16.3 +1.7
baz=305,SNR=17
MDND Maddock 30.94 85 P P 11 53 16.2 +1.7
baz=305,SNR=17
HEC Hector,Ludlow 31.02 120 P P 11 53 17.5 +2.1
baz=325,SNR=15
MA2 Magadan 31.06 301 P P 11 53 15.7 +0.3
MA2 IAmb IAmb 11 53 37.1
comp=Z,113nm,1.9s
MA2 Magadan 31.06 301 P P 11 53 15.7 +0.3
MA2 pmax pmax
comp=Z,113nm,1.9s
E28A Huff 31.08 88 P P 11 53 17.1 +1.4
baz=307,SNR=12
O20A White River Ci 31.13 104 P P 11 53 17.9 +1.4
baz=316,SNR=40
BBRC Big Bear Solar 31.20 122 P P 11 53 19.2 +2.0
baz=326,SNR=5.5
CIS Catalina Islan 31.22 125 P P 11 53 19.1 +2.0
baz=327
GMRC Granite Mounta 31.38 119 P P 11 53 20.6 +2.0
baz=324,SNR=18
SCI2 San Clemente I 31.51 125 P P 11 53 22.0 +2.3
baz=328
MURC Murrieta 31.62 123 P P 11 53 22.4 +1.8
baz=326
ULM Lac du Bonnet 31.66 78 P P 11 53 21.2 +0.4
ULM IAmb IAmb 11 53 23.1
comp=Z,90nm,1.1s
ULM Lac du Bonnet 31.66 78 P P 11 53 21.5 +0.7
comp=Z,47nm,0.9s,baz=299,slow=9.8,SNR=51
ULM PcP PcP 11 56 11.3 -0.8
comp=Z,7.0nm,0.8s,baz=336,slow=3.1,SNR=3.4
comp=Z,47nm,0.9s
N23A Red Feather La 31.84 101 P P 11 53 24.2 +1.4
baz=314,SNR=17
BELC Belle Mtn. Jos 31.86 121 P P 11 53 24.2 +1.4
baz=325,SNR=6.7
NEE2 Needles Airpor 31.90 118 P P 11 53 25.0 +2.0
baz=324,SNR=5.8
PFO Pinyon Flats O 31.95 122 P P 11 53 25.6 +1.9
baz=326,SNR=9.3
PFO Pinyon Flats O 31.95 122 P P 11 53 24.8 +1.1
PFO PcP PcP 11 56 13.6 +0.2
TPFO Pinon Flats 31.96 122 P P 11 53 25.7 +1.9
baz=326,SNR=10
W13A Hualapai Mount 32.00 117 P P 11 53 25.4 +1.2
IRM Iron Mountain 32.14 120 P P 11 53 27.5 +2.3
baz=325,SNR=40
109C Camp Elliot, M 32.25 123 P P 11 53 28.8 +2.7
baz=327,SNR=5.4
BC3 Big Chuckawall 32.40 120 P P 11 53 29.3 +1.7
baz=325
PDMCI Parker Dam,Lak 32.51 118 P P 11 53 30.3 +1.9
baz=324,SNR=14
MONP2 Monument Peak 32.57 122 P P 11 53 31.6 +2.4
baz=326,SNR=12
AGMN Agassiz Nation 32.74 81 P P 11 53 31.3 +1.0
baz=305,SNR=21
AGMN Agassiz Nation 32.74 81 P P 11 53 30.8 +0.5
baz=305,SNR=21
D32B Dogwood Acres, 32.78 84 P P 11 53 31.8 +1.1
baz=306
ISCO Idaho Springs 32.79 102 P P 11 53 31.8 +0.6
ISCO Idaho Springs 32.79 102 P P 11 53 32.3 +1.1
baz=316
ISCO Idaho Springs 32.79 102 P P 11 53 31.8 +0.6
ISCO pmax pmax
comp=Z,13nm,1.0s
SWSC Sam W. Stewart 32.82 122 P P 11 53 33.3 +2.2
baz=326,SNR=9.4
IKP In-Ko-Pah, Jac 32.91 122 P P 11 53 34.4 +2.3
baz=326,SNR=8.7
WUAZ Wupatki 32.93 113 P P 11 53 33.8 +1.5
WUAZ IAmb IAmb 11 53 35.5
comp=Z,46nm,0.8s
WUAZ Wupatki 32.93 113 P P 11 53 34.5 +2.2
baz=322,SNR=36
YUH Yuha Desert 33.00 122 P P 11 53 33.8 +1.1
YUH IAmb IAmb 11 53 36.0
comp=Z,52nm,1.2s
MVCO Mesa Verde 33.13 108 P P 11 53 34.5 +0.4
MVCO Mesa Verde 33.13 108 P P 11 53 35.1 +1.0
baz=319,SNR=24
GLA Glamis 33.19 120 P P 11 53 36.6 +2.1
baz=326
SUSD Miller 33.35 89 P P 11 53 36.1 +0.4
SUSD Miller 33.35 89 P P 11 53 36.9 +1.2
baz=310,SNR=20
SUSD Miller 33.35 89 P P 11 53 36.6 +0.9
baz=309,SNR=20
S22A 4UR Ranch, Cre 33.62 106 P P 11 53 40.2 +1.8
baz=318,SNR=20
Q24A Divide 33.63 102 P P 11 53 39.4 +0.8
Q24A IAmb IAmb 11 53 41.4
comp=Z,70nm,1.6s
Q24A Divide 33.63 102 P P 11 53 40.3 +1.7
baz=316,SNR=13
B35A Bob, Littlefor 33.88 80 P P 11 53 40.8 +0.6
baz=305,SNR=7.7
OGNE Ogallala 33.95 97 P P 11 53 42.6 +1.6
baz=314,SNR=8.7
OGNE Ogallala 33.95 97 P P 11 53 42.3 +1.2
baz=314,SNR=8.7
F33A 5 Mile Ranch, 33.96 85 P P 11 53 41.3 +0.3
baz=308,SNR=20
ALE Alert 34.03 14 P P 11 53 41.7 +0.5
ALE pP sP 11 53 50.7 +0.3
W18A Petrified Fore 34.08 112 P P 11 53 43.9 +1.6
baz=321
K30B Basset 34.13 92 P P 11 53 44.2 +1.7
baz=311,SNR=12
SDCO Great Sand Dun 34.33 104 P P 11 53 45.7 +1.1
SDCO Great Sand Dun 34.33 104 P P 11 53 46.4 +1.8
baz=318,SNR=29
SDCO Great Sand Dun 34.33 104 P P 11 53 46.2 +1.7
baz=317,SNR=29
KSCO Kaye Shedlock' 34.98 100 P P 11 53 51.5 +1.5
KSCO Kaye Shedlock' 34.98 100 P P 11 53 52.0 +1.9
baz=316,SNR=31
KSCO Kaye Shedlock' 34.98 100 P P 11 53 51.9 +1.9
baz=316,SNR=31
214A Organ Pipe Nat 35.06 119 P P 11 53 52.9 +2.2
baz=325,SNR=11
ECSD EROS Data Cent 35.10 88 P P 11 53 50.9 +0.1
ECSD IAmb IAmb 11 53 52.5
comp=Z,52nm,1.1s
ECSD EROS Data Cent 35.10 88 P P 11 53 51.5 +0.6
baz=310,SNR=30
ECSD EROS Data Cent 35.10 88 P P 11 53 51.1 +0.2
baz=310,SNR=30
EYMN Ely 35.33 79 P P 11 53 53.8 +1.0
EYMN Ely 35.33 79 P P 11 53 54.2 +1.4
baz=306,SNR=15
EYMN Ely 35.33 79 P P 11 53 53.6 +0.8
baz=306,SNR=15
T25A Trinidad 35.36 104 P P 11 53 54.4 +1.0
T25A IAmb IAmb 11 53 56.4
comp=Z,39nm,0.9s
T25A PcP PcP 11 56 22.9 -0.1
T25A Trinidad 35.36 104 P P 11 53 55.3 +1.9
baz=318,SNR=24
F36A Milaca 35.47 83 P P 11 53 54.7 +0.7
baz=308,SNR=15
TIXI Tiksi 35.58 327 P P 11 53 54.5 -0.2
TIXI Tiksi 35.58 327 P P 11 53 54.5 -0.2
TIXI pmax pmax
comp=Z,24nm,1.0s
TIXI Tiksi 35.58 327 P P 11 53 54.8 +0.2
TIXI PcP PcP 11 56 22.1 -0.7
KIP Kipapa 35.61 194 P P 11 53 56.8 +1.5
TUC Tucson 35.77 116 P P 11 53 58.7 +1.9
baz=324
TUC Tucson 35.77 116 P P 11 53 58.9 +2.1
TUC sP pwP 11 54 11.8 +2.6
TUC PcP PcP 11 56 24.7 +0.6
BGNE Belgrade 35.78 93 P P 11 53 58.3 +1.5
baz=313,SNR=19
BGNE Belgrade 35.78 93 P P 11 53 58.1 +1.3
baz=313,SNR=19

ANMO Albuquerque 35.92 109 P P 11 53 59.1 +0.9
ANMO PcP PcP 11 56 25.6 +0.9
ANMO Albuquerque 35.92 109 P P 11 53 60.0 +1.8
baz=320
ANMO Albuquerque 35.92 109 P P 11 53 59.1 +0.9
baz=320,SNR=24
ANMO Albuquerque 35.92 109 P P 11 53 59.1 +0.9
ANMO 11 56 25.6
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO Albuquerque 35.92 109 P P 11 53 59.5 +1.4
ANMO PcP PcP 11 56 25.4 +0.6
E38A The Farm, Brul 36.10 81 P P 11 53 60.0 +0.6
E38A The Farm, Brul 36.10 81 P P 11 54 00.1 +0.7
baz=308,SNR=13
SPMN Marine on St. 36.27 84 P P 11 54 02.0 +1.2
baz=309,SNR=6.3
SPMN Marine on St. 36.27 84 P P 11 54 02.2 +1.4
baz=309,SNR=6.3
Y22D IRIS PASSCAL I 36.35 110 P P 11 54 04.3 +2.5
baz=321
Y22D IRIS PASSCAL I 36.35 110 P P 11 54 04.5 +2.7
baz=321
Y22F Passcal Instru 36.35 110 P P 11 54 04.3 +2.5
baz=321
L34A Svendsen Farm, 36.39 91 P P 11 54 02.1 +0.1
baz=312,SNR=6.9
Y22A Socorro 36.43 110 P P 11 54 04.8 +2.2
baz=321,SNR=22
N33B J Bar K, Exete 36.63 93 P P 11 54 05.2 +1.3
baz=313,SNR=5.8
CBKS Cedar Bluff 36.70 97 P P 11 54 05.5 +0.9
CBKS IAmb IAmb 11 54 07.5
comp=Z,146nm,1.3s
CBKS Cedar Bluff 36.70 97 P P 11 54 06.4 +1.8
baz=316,SNR=11
CBKS Cedar Bluff 36.70 97 P P 11 54 06.4 +1.8
baz=315,SNR=11
CBKS Cedar Bluff 36.70 97 P P 11 54 05.6 +0.9
CBKS pmax pmax
comp=Z,146nm,1.3s
I37B Waseca 36.70 86 P P 11 54 05.2 +0.6
baz=310,SNR=14
RTBA Rita Blanca 36.78 103 P P 11 54 06.5 +1.1
RTBA IAmb IAmb 11 54 08.2
comp=Z,96nm,1.4s
121A Cookes Peak, D 37.11 112 P P 11 54 09.9 +1.6
121A IAmb IAmb 11 54 11.9
comp=Z,51nm,1.1s
121A Cookes Peak, D 37.11 112 P P 11 54 10.8 +2.4
baz=323,SNR=29
121A Cookes Peak, D 37.11 112 P P 11 54 10.7 +2.4
baz=323,SNR=29
NEEM North Greenlan 37.37 21 *i* P P 11 54 08.5 -1.7
NEEM IAmb IAmb 11 54 28.2
comp=Z,49nm,0.8s
N35A Tabor 37.54 91 P P 11 54 12.6 +0.9
baz=313,SNR=29
R32A Long Quarter, 37.54 97 P P 11 54 12.7 +0.9
baz=316,SNR=7.2
G40A Rib Lake 37.67 82 P P 11 54 13.7 +1.0
baz=309,SNR=8.4
K38A Parkersburg 37.94 87 P P 11 54 16.1 +1.1
baz=311,SNR=5.1
SCIA State Center 38.19 88 P P 11 54 17.7 +0.6
SCIA IAmb IAmb 11 54 19.3
comp=Z,73nm,1.1s
SCIA State Center 38.19 88 P P 11 54 17.9 +0.7
baz=312
KSU1 Kansas State U 38.23 94 P P 11 54 18.6 +1.1
baz=315,SNR=8.4
KSU1 Kansas State U 38.23 94 P P 11 54 18.6 +1.1
baz=315,SNR=8.4
UPNV Upernavik 38.23 29 *i* P P 11 54 16.5 -0.6
UPNV IAmb IAmb 11 54 19.2
comp=Z,30nm,0.9s
I40A Norwalk 38.32 84 P P 11 54 19.5 +1.2
baz=310,SNR=11
HSIG 38.38 119 P P 11 54 20.6 +1.7
F42A Maple Grove Fa 38.49 79 P P 11 54 21.5 +1.8
baz=309,SNR=5.1
AMTX Amarillo 38.52 104 P P 11 54 21.6 +1.6
baz=319
AMTX Amarillo 38.52 104 P P 11 54 21.3 +1.2
baz=319,SNR=23
MSTX Muleshoe 38.62 106 P P 11 54 22.3 +1.3
baz=320,SNR=24
MSTX Muleshoe 38.62 106 P P 11 54 22.0 +1.0
baz=320,SNR=24
U32A Winter Ranch, 38.86 99 P P 11 54 24.5 +1.6
baz=317,SNR=6.8
N38A Joes South For 38.93 89 P P 11 54 23.9 +0.5
baz=313,SNR=12
MNTX Cornudas Mount 39.01 111 P P 11 54 26.2 +2.1
baz=323,SNR=54
MNTX Cornudas Mount 39.01 111 P P 11 54 25.9 +1.7
baz=323,SNR=54
JFWS Jewell Farm 39.16 85 P P 11 54 25.8 +0.5
baz=312,SNR=9.2
JFWS Jewell Farm 39.16 85 P P 11 54 25.7 +0.3
baz=311,SNR=9.2
L40A Anamosa 39.19 86 P P 11 54 25.5 0.0
baz=312,SNR=11
I42A Draeger Farm, 39.26 82 P P 11 54 27.2 +1.1
baz=311,SNR=5.8
TYV Tymovskoe 39.31 292 *e* P P 11 54 32.6 +6.2
TYV pmax pmax
comp=Z,4μm,9.5s
TYV pmax pmax
comp=Z,34nm,1.3s
YAK Yakutsk 39.34 313 P P 11 54 25.8 -0.7
YAK IAmb IAmb 11 54 40.2
comp=Z,73nm,0.7s
YAK Yakutsk 39.34 313 *e* P P 11 54 26.2 -0.3
YAK *e* *PP sP 11 54 35.1 -0.7
YAK *e* 11 56 34.4
YAK *e* S S 12 00 25.5 -0.1
YAK *e* 12 04 32.0
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=E,17nm,1.4s
YAK pmax pmax
comp=N,12nm,1.3s
YAK smax smax
comp=N,2μm,9.6s
YAK Yakutsk 39.34 313 P P 11 54 26.2 -0.3
YAK pP sP 11 54 35.4 -0.3
YAK sP pwP 11 54 39.4 +0.5
YAK PcP PcP 11 56 33.7 -0.7
P38A Dawn 39.57 91 P P 11 54 29.4 +0.7
baz=314,SNR=41
T35B Sooner Cattle 39.84 97 P P 11 54 31.7 +0.7
baz=317,SNR=11
L42A Oliver, Polo 40.09 85 P P 11 54 33.1 +0.1
baz=312,SNR=7.7
E46A Sault Ste Mari 40.19 76 P P 11 54 35.1 +1.3
baz=309,SNR=7.2
WMOK Wichita Mounta 40.20 101 P P 11 54 35.7 +1.7
baz=319,SNR=6.8
WMOK Wichita Mounta 40.20 101 P P 11 54 35.4 +1.4
baz=319,SNR=6.8
N41A Harden Midland 40.31 88 P P 11 54 35.3 +0.5
baz=313,SNR=28
K43A Burlington 40.36 83 P P 11 54 35.3 +0.1
baz=312
P40A Paris 40.46 90 P P 11 54 36.3 +0.2
baz=314,SNR=39
L44A Lake County Fo 40.94 84 P P 11 54 41.2 +1.2
baz=312
TUL3 Leonard 40.97 97 P P 11 54 40.5 +0.2
TUL3 Leonard 40.97 97 P P 11 54 41.1 +0.8
baz=318,SNR=10
TUL3 Leonard 40.97 97 P P 11 54 41.1 +0.8
baz=317,SNR=10
GLMI Grayling 41.00 78 P P 11 54 41.7 +1.2
baz=310
S39A Bolivar 41.05 93 P P 11 54 40.5 -0.4
baz=316,SNR=26
R40A Maddies Statio 41.20 91 P P 11 54 42.1 -0.1
baz=315,SNR=47
HDIL Hopedale 41.27 86 P P 11 54 43.4 +0.6
baz=314,SNR=30
HDIL Hopedale 41.27 86 P P 11 54 43.3 +0.6
baz=314,SNR=30
ABTX Abilene, Hawle 41.33 104 P P 11 54 44.5 +1.1
baz=321,SNR=28

ABTX Abilene, Hawle 41.33 104 P P 11 54 43.5 +0.1
baz=320,SNR=28
U38A Gravette 41.36 95 P P 11 54 44.0 +0.5
baz=317,SNR=38
M44A Midewin, Midew 41.40 85 P P 11 54 44.6 +0.8
baz=313,SNR=5.5
YSS Yuzh-Sakhalins 41.63 287 ||| *e* P P 11 54 47.5 +1.8
YSS pmax pmax
comp=Z,232nm,2.7s
HHAR Hobbs 41.72 95 P P 11 54 46.5 -0.1
HHAR IAmb IAmb 11 54 47.7
comp=Z,72nm,1.1s
P43A Skaggs, Pawnee 41.78 88 P P 11 54 47.1 +0.1
baz=314,SNR=15
TX31 Lajitas Ar. Si 41.78 111 P P 11 54 48.4 +1.2
TX31 Lajitas Ar. Si 41.78 111 P P 11 54 48.7 +1.4
baz=324,SNR=55
TXAR Lajitas Array 41.78 111 P P 11 54 48.6 +1.4
comp=Z,24nm,0.9s,baz=321,slow=6.2,SNR=177
TXAR PcP PcP 11 56 43.1 0.0
comp=Z,4.5nm,0.9s,baz=264,slow=1.9,SNR=4.5
comp=Z,24nm,0.9s
J47A Sunmer 41.93 80 P P 11 54 48.5 +0.3
baz=312,SNR=5.5
J47A P P 11 54 48.5 +0.3
baz=312,SNR=5.5
CCM Cathedral Cave 41.94 91 P P 11 54 47.7 -0.6
CCM Cathedral Cave 41.94 91 P P 11 54 48.3 +0.1
baz=316
CCM Cathedral Cave 41.94 91 P P 11 54 47.8 -0.6
baz=316,SNR=20
CCM Cathedral Cave 41.94 91 P P 11 54 47.7 -0.6
CCM pmax pmax
comp=Z,49nm,0.9s
CCM Cathedral Cave 41.94 91 P P 11 54 48.1 -0.1
CCM PcP PcP 11 56 42.5 -0.8
L46A Eue Claire 41.94 83 P P 11 54 49.0 +0.7
baz=312
L46A P P 11 54 49.0 +0.7
baz=312
O44A Mansfield 42.01 86 P P 11 54 49.2 +0.4
baz=314,SNR=6.7
MGMO Mountain Grove 42.01 93 P P 11 54 48.0 -0.9
MGMO IAmb IAmb 11 54 49.6
comp=Z,65nm,1.1s
SLM Saint Louis 42.09 89 P P 11 54 50.2 +0.7
baz=315,SNR=5.4
Z35A Perchaven, San 42.09 101 P P 11 54 50.9 +1.4
baz=320,SNR=13
SAND Sanderson 42.09 109 P P 11 54 51.0 +1.3
U40A Yellville 42.27 94 P P 11 54 50.4 -0.6
baz=317,SNR=26
U40A P P 11 54 50.4 -0.6
baz=317,SNR=26
FVM French Village 42.44 90 P P 11 54 52.7 +0.3
baz=316,SNR=32
I49A Point Hope 42.55 78 P P 11 54 54.4 +1.2
baz=311,SNR=7.3
I49A P P 11 54 54.4 +1.2
baz=311,SNR=7.3
Q44A Meyer Farm, Va 42.58 88 P P 11 54 54.0 +0.5
baz=315,SNR=8.7
SFIN Lafayette 42.61 85 P P 11 54 54.6 +0.8
baz=314,SNR=6.0
SFIN Lafayette 42.61 85 P P 11 54 54.2 +0.5
baz=314,SNR=6.0
HPIG 42.71 115 P P 11 54 56.5 +1.6
VLDQ Val d'Or 42.73 70 P P 11 54 53.3 -1.3
SUMG Summit 42.76 25 P P 11 54 55.6 +0.6
SUMG IAmb IAmb 11 54 56.9
comp=Z,136nm,1.1s
SUMG Summit 42.76 25 P P 11 54 55.6 +0.6
SUMG pmax pmax
comp=Z,136nm,1.1s
SUMG Summit 42.76 25 *i* P P 11 54 54.2 -0.8
SUMG IAmb IAmb 11 54 56.8
comp=Z,46nm,0.8s
SFJD Kangerlussuaq 42.88 35 P P 11 54 56.2 +0.6
SFJD IAmb IAmb 11 54 57.1
comp=Z,92nm,1.1s
SFJD Kangerlussuaq 42.88 35 P P 11 54 56.2 +0.6
SFJD pmax pmax
comp=Z,92nm,1.1s
SFJD Kangerlussuaq 42.88 35 *i* P P 11 54 55.4 -0.2
SFJD IAmb IAmb 11 54 57.5
comp=Z,28nm,0.8s
SFJD Kangerlussuaq 42.88 35 P P 11 54 56.4 +0.8
SFJD pP sP 11 55 05.6 +0.7
JCT Junction City 42.91 106 P P 11 54 57.2 +0.9
JCT IAmb IAmb 11 54 58.7
comp=Z,162nm,1.1s
JCT Junction City 42.91 106 P P 11 54 57.6 +1.3
baz=322,SNR=50
JCT Junction City 42.91 106 P P 11 54 57.6 +1.3
baz=322,SNR=50
JCT Junction City 42.91 106 P P 11 54 57.2 +0.9
JCT pmax pmax
comp=Z,162nm,1.1s
WHTX Lake Whitney, 43.00 102 P P 11 54 57.5 +0.5
WHTX IAmb IAmb 11 54 59.3
comp=Z,105nm,1.4s
WHTX Lake Whitney, 43.00 102 P P 11 54 58.2 +1.2
baz=321,SNR=18
WHTX Lake Whitney, 43.00 102 P P 11 54 58.2 +1.2
baz=320,SNR=18
L48A N Adams 43.01 81 P P 11 54 57.7 +0.8
baz=313,SNR=9.3
L48A P P 11 54 57.7 +0.8
baz=313,SNR=9.3
N47A Urbana 43.04 83 P P 11 54 57.1 -0.2
baz=314,SNR=7.2
N47A P P 11 54 57.1 -0.2
baz=314,SNR=7.2
P46A Rosedale 43.08 86 P P 11 54 58.2 +0.7
baz=314,SNR=13
AAM Ann Arbor 43.20 80 P P 11 54 59.3 +0.9
baz=313
OLIL Olney 43.20 87 P P 11 54 59.4 +0.8
baz=315,SNR=21
S44A Carbondale 43.30 89 P P 11 54 59.4 +0.1
baz=316,SNR=27
PBMO Poplar Bluff 43.30 91 P P 11 54 58.9 -0.5
baz=316,SNR=15
Z38A Mt. Pleasant 43.38 99 P P 11 55 01.4 +1.3
baz=319,SNR=11
LCAR Lake Charles 43.42 93 P P 11 54 59.5 -0.8
baz=317,SNR=12
K50A Casco 43.44 79 P P 11 55 01.5 +1.1
baz=312,SNR=6.0
K50A P P 11 55 01.5 +1.1
baz=312,SNR=6.0
JKA Kamikawa-asahi 43.55 284 P P 11 55 01.5 +0.2
JKA IAmb IAmb 11 55 15.8
comp=Z,85nm,0.9s
ASAJ Asahikawa 43.56 284 P P 11 55 01.5 +0.2
ASAJ pmax pmax
comp=Z,85nm,0.9s
O48B Farmland 43.77 84 P P 11 55 02.9 -0.2
baz=314,SNR=8.7
O48B Farmland 43.77 84 P P 11 55 02.5 -0.6
baz=314,SNR=8.7
SCHQ Schefferville 43.80 56 P P 11 55 03.3 +0.1
SCHQ Schefferville 43.80 56 P P 11 55 03.9 +0.7
comp=Z,14nm,1.0s,baz=302,slow=8.3,SNR=10
comp=Z,14nm,1.0s
N49A Columbus Grove 43.85 82 P P 11 55 03.2 -0.5
baz=314,SNR=10
N49A P P 11 55 03.2 -0.5
baz=314,SNR=10
435B Jarrell 43.86 104 P P 11 55 05.5 +1.6
baz=322
435B Jarrell 43.86 104 P P 11 55 05.7 +1.8
baz=321,SNR=8.4
T45B Paducah 44.12 90 P P 11 55 06.7 +0.7
baz=316,SNR=5.8
M50A Fremont 44.14 81 P P 11 55 05.8 -0.2
baz=313,SNR=5.7
M50A P P 11 55 05.8 -0.2
baz=313,SNR=5.7
P48A Milroy 44.17 85 P P 11 55 06.3 -0.1
baz=315,SNR=11
P48A P P 11 55 06.3 -0.1
baz=315,SNR=11
NUUK Nuuk 44.22 39 *i* P P 11 55 05.4 -1.0
NUUK IAmb IAmb 11 55 17.6
comp=Z,15nm,0.9s
O49A Covington 44.27 83 P P 11 55 06.7 -0.4

baz=314
O49A P P 11 55 06.7 -0.4

baz=314
KBS Kingsbay 44.39 5 *e*P P 11 55 08.8 +1.2
KBS Kingsbay 44.39 5 P P 11 55 08.9 +1.3
P49A Miami Univ. Ec 44.52 84 P P 11 55 08.7 -0.4
baz=315,SNR=5.5
P49A Miami Univ. Ec 44.52 84 P P 11 55 08.4 -0.7
baz=315,SNR=5.5
WCI Wyandotte Cave 44.56 87 P P 11 55 09.4 0.0
WCI IAmb IAmb 11 55 11.0
comp=Z,96nm,1.4s
WCI Wyandotte Cave 44.56 87 P P 11 55 09.9 +0.4
baz=316
WCI Wyandotte Cave 44.56 87 P P 11 55 10.0 +0.6
baz=315,SNR=7.7
WCI Wyandotte Cave 44.56 87 P P 11 55 09.5 0.0
WCI pmax pmax
comp=Z,97nm,1.4s
DY2G Dye2 44.57 34 *i* P P 11 55 08.4 -1.1
DY2G IAmb IAmb 11 55 10.7
comp=Z,22nm,0.8s
NATX Nacogdoches 44.70 100 P P 11 55 12.1 +1.5
baz=320,SNR=5.2
NATX Nacogdoches 44.70 100 P P 11 55 12.1 +1.5
baz=320,SNR=5.2
ICESG Greenland Ices 44.76 29 *i* P P 11 55 10.4 -0.7
833A Chaparral WMA, 44.83 108 P P 11 55 12.5 +0.8
833A IAmb IAmb 11 55 14.4
comp=Z,49nm,0.9s
833A Chaparral WMA, 44.83 108 P P 11 55 13.3 +1.7
baz=323,SNR=12
833A Chaparral WMA, 44.83 108 P P 11 55 13.4 +1.7
baz=323,SNR=12
N51A Ashland 44.84 81 P P 11 55 12.2 +0.5
baz=314,SNR=9.5
N51A P P 11 55 12.2 +0.5
baz=314,SNR=9.5
M52A Chesterland 44.97 79 P P 11 55 13.3 +0.6
baz=314,SNR=9.1
M52A P P 11 55 13.3 +0.6
baz=314,SNR=9.1
DELO Deloro Mine 44.97 74 P P 11 55 12.6 -0.1
DELO IAmb IAmb 11 55 14.8
comp=Z,85nm,1.1s
ACSO Alum Creek Sta 44.98 82 P P 11 55 12.9 +0.1
ACSO Alum Creek Sta 44.98 82 P P 11 55 13.5 +0.7
baz=314,SNR=25
ACSO Alum Creek Sta 44.98 82 P P 11 55 13.5 +0.7
baz=314,SNR=25
T47A Sharon Grove 45.00 88 P P 11 55 13.6 +0.6
baz=316,SNR=15
ZEA Zeya 45.13 304 *e*P P 11 55 13.4 -0.4
ZEA *e* 11 55 26.2
ZEA pmax pmax
comp=Z,10.0nm,1.5s
R49A Shelbyville 45.14 86 P P 11 55 14.1 +0.1
baz=316,SNR=5.3
R49A P P 11 55 14.1 +0.1
baz=316,SNR=5.3
WVT Waverly 45.22 90 P P 11 55 15.0 +0.3
WVT IAmb IAmb 11 55 16.4
comp=Z,40nm,0.9s
WVT Waverly 45.22 90 P P 11 55 15.4 +0.7
baz=317
WVT Waverly 45.22 90 P P 11 55 15.3 +0.7
baz=317,SNR=18
WVT Waverly 45.22 90 P P 11 55 15.0 +0.3
WVT pmax pmax
comp=Z,41nm,1.0s
WVT Waverly 45.22 90 P P 11 55 15.3 +0.6
WVT PcP **PcP** 11 56 53.9 -0.5
J54A Appleton 45.26 76 P P 11 55 16.0 +1.0
baz=313,SNR=6.0
J54A P P 11 55 16.0 +1.0
baz=313,SNR=6.0
ERPA Erie 45.32 78 P P 11 55 16.0 +0.5
ERPA IAmb IAmb 11 55 17.4
comp=Z,72nm,0.9s
ERPA Erie 45.32 78 P P 11 55 16.3 +0.9
baz=313,SNR=11
ERPA Erie 45.32 78 P P 11 55 16.4 +0.9
baz=313,SNR=11
SPA0 Spitsbergen Ar 45.32 4 *e*P P 11 55 15.0 -0.1
SPA0 IAmb IAmb 11 55 16.3
comp=Z,58nm,1.0s
SPITS Spitsbergen Ar 45.32 4 P P 11 55 15.0 -0.1
SPITS Spitsbergen Ar 45.32 4 P P 11 55 15.0 -0.1
comp=Z,36nm,0.8s,baz=96,slow=1.7,SNR=11
comp=Z,36nm,0.8s
SPB2 Spitsbergen Ar 45.33 4 P P 11 55 15.0 -0.1
SPB2 IAmb IAmb 11 55 31.7
comp=Z,111nm,1.1s
M53A WI Miller and 45.41 79 P P 11 55 16.3 +0.1
M53A WI Miller and 45.41 79 P P 11 55 17.0 +0.8
baz=314,SNR=22
TRQ Mont Tremblant 45.45 70 P P 11 55 16.6 0.0
TRQ IAmb IAmb 11 55 18.2
comp=Z,108nm,1.1s
HKT Hockley 45.46 103 P P 11 55 18.2 +1.7
baz=322
HKT Hockley 45.46 103 ⇑ *i* P P 11 55 18.5 +1.9
HKT pmax pmax
comp=Z,134nm,1.6s
HKT Hockley 45.46 103 P P 11 55 18.7 +2.1
HKT pP **pwP** 11 55 28.2 -0.7
P51A Williamsport 45.47 83 P P 11 55 17.1 +0.5
baz=315,SNR=13
P51A P P 11 55 17.1 +0.5
baz=315,SNR=13
OXF Oxford 45.53 93 P P 11 55 17.2 +0.1
OXF Oxford 45.53 93 P P 11 55 17.7 +0.6
baz=318,SNR=16
OXF Oxford 45.53 93 P P 11 55 17.6 +0.5
baz=318,SNR=16
OXF Oxford 45.53 93 P P 11 55 17.2 +0.1
OXF pmax pmax
comp=Z,210nm,1.0s
ALLY Alegheny Colle 45.55 78 P P 11 55 18.4 +1.1
baz=314,SNR=9.2
R50A Paris 45.61 85 P P 11 55 17.7 -0.1
baz=316,SNR=28
R50A P P 11 55 17.7 -0.1
baz=316,SNR=28
Q51A Peebles 45.63 83 P P 11 55 18.6 +0.7
baz=315,SNR=33
Q51A P P 11 55 18.6 +0.7
baz=315,SNR=33
O52A Adamsville 45.69 81 P P 11 55 18.8 +0.3
baz=314,SNR=22
O52A P P 11 55 18.8 +0.3
baz=314,SNR=22
J55A Hilton 45.71 75 P P 11 55 18.9 +0.4
baz=313,SNR=6.0
J55A P P 11 55 18.9 +0.4
baz=313,SNR=6.0
N53A Lisbon 45.76 80 P P 11 55 19.5 +0.6
baz=314,SNR=15
N53A P P 11 55 19.5 +0.6
baz=314,SNR=15
KLR Kul'dur 45.85 296 ⇑ *e*P P 11 55 19.8 +0.2
KLR pmax pmax
comp=Z,72nm,2.5s
P52A Corning 45.87 82 P P 11 55 20.0 +0.2
baz=315,SNR=18
WVNY West Valley, N 45.87 77 P P 11 55 20.5 +0.7
WVNY West Valley, N 45.87 77 P P 11 55 20.7 +0.8
baz=313,SNR=16
WBO Williamsburg 45.89 72 P P 11 55 20.0 +0.1
WBO IAmb IAmb 11 55 21.0
comp=Z,48nm,0.8s
PAOC Oil Creek Stat 45.90 78 P P 11 55 20.4 +0.3
baz=314
PLAL Pickwick Lake 45.92 91 P P 11 55 20.8 +0.5
O53A New Philadelph 45.94 81 P P 11 55 20.8 +0.4
baz=315,SNR=12
SSFO Shawnee State 45.94 84 P P 11 55 21.0 +0.5
LDAQ Lac Daran 46.01 66 P P 11 55 21.3 +0.4
V48A Smith Brothers 46.06 89 P P 11 55 22.1 +0.8
baz=317,SNR=18
PAMR Moraine State 46.07 79 P P 11 55 21.8 +0.4
baz=314
U49A Red Boiling Sp 46.08 88 P P 11 55 22.1 +0.6
baz=317,SNR=18
J56A Wolcott 46.22 74 P P 11 55 22.7 +0.3
baz=313,SNR=6.1
J56A P P 11 55 22.7 +0.3
baz=313,SNR=6.1
T50A Nancy 46.23 87 P P 11 55 22.8 +0.1
baz=316
T50A P P 11 55 22.8 +0.1
baz=316
Q52A Bidwell 46.27 83 P P 11 55 23.5 +0.5
baz=315,SNR=24
Q52A P P 11 55 23.5 +0.5
baz=315,SNR=24
WCNY West Carthage 46.38 73 P P 11 55 24.4 +0.6
baz=313,SNR=18
P53A Whipple 46.38 81 P P 11 55 24.1 +0.2
baz=315,SNR=27
P53A P P 11 55 24.1 +0.2
baz=315,SNR=27
M55A Ridgway 46.43 78 P P 11 55 24.7 +0.5
baz=314,SNR=28
M55A P P 11 55 24.7 +0.5
baz=314,SNR=28
O54A Avella 46.45 80 P P 11 55 24.8 +0.4
baz=315,SNR=23
O54A P P 11 55 24.8 +0.4
baz=315,SNR=23
S51A Beattyville 46.48 85 P P 11 55 25.1 +0.5
baz=316,SNR=18
S51A P P 11 55 25.1 +0.5
baz=316,SNR=18
LONY Lake Ozonia 46.51 72 P P 11 55 25.0 +0.2
baz=313,SNR=5.3
J57A Williamstown 46.58 74 P P 11 55 26.5 +1.1
baz=313,SNR=8.7
J57A P P 11 55 26.5 +1.1
baz=313,SNR=8.7
L56A Greenwood 46.62 76 P P 11 55 26.7 +1.0
baz=314,SNR=31
L56A P P 11 55 26.7 +1.0
baz=314,SNR=31
VBMS Vicksburg 46.63 96 P P 11 55 27.2 +1.4
baz=320,SNR=5.8
VBMS Vicksburg 46.63 96 P P 11 55 27.4 +1.6
baz=320,SNR=5.8
JTM Tenmabayashi 46.65 281 P P 11 55 25.9 0.0
PSDB Penn State Uni 46.67 78 P P 11 55 27.8 +1.6
baz=314
LMQ La Malbaie 46.75 66 P P 11 55 26.9 +0.2
LMQ IAmb IAmb 11 55 28.0
comp=Z,70nm,1.1s
K57A Scipio Center 46.77 75 P P 11 55 27.6 +0.7
baz=314,SNR=7.0
X48A Hartselle 46.88 91 P P 11 55 28.6 +0.7
baz=318,SNR=45
FRNY Flat Rock 46.89 71 P P 11 55 27.7 -0.1
baz=313,SNR=9.7
R53A Hurricane 46.89 83 P P 11 55 28.1 +0.2
baz=316,SNR=32
R53A P P 11 55 28.1 +0.2
baz=316,SNR=32
SWET Sewanee 46.94 89 P P 11 55 28.4 +0.1
J58A Remsen 47.00 73 P P 11 55 29.4 +0.8
baz=313,SNR=23
J58A P P 11 55 29.4 +0.8
baz=313,SNR=23
Q54A Coxs Mills 47.04 82 P P 11 55 29.4 +0.3
baz=315,SNR=16
Q54A P P 11 55 29.4 +0.3
baz=315,SNR=16
MCWV Mont Chateau 47.10 80 P P 11 55 30.0 +0.5
baz=315,SNR=13
MCWV Mont Chateau 47.10 80 P P 11 55 29.8 +0.3
baz=315,SNR=13
146A Union 47.12 94 P P 11 55 31.1 +1.4
baz=319,SNR=6.5
NCB Newcomb 47.14 72 P P 11 55 29.7 -0.1
baz=313,SNR=17
HOPEN Hopen 47.24 2 *e*P P 11 55 29.3 -0.8
TZTN Tazewell 47.29 86 P P 11 55 31.9 +0.9
baz=317,SNR=13
TZTN Tazewell 47.29 86 P P 11 55 31.7 +0.6
baz=317,SNR=13
W50A Signal Mountai 47.29 89 P P 11 55 31.8 +0.8
baz=318,SNR=53
HEH HeiHe 47.31 300 *e*P P 11 55 29.9 -1.0
HEH PcP **PcP** 11 57 00.9 -0.6
HEH pmax pmax
comp=Z,28nm,1.1s
J59A Piesco 47.34 73 P P 11 55 31.8 +0.5
baz=314
J59A P P 11 55 31.8 +0.5
baz=314
V51A Loudon 47.38 87 P P 11 55 32.4 +0.7
baz=317,SNR=11
ISOG Isortoq, Green 47.40 32 *i* P P 11 55 30.3 -1.1
ISOG IAmb IAmb 11 55 41.1
comp=Z,56nm,0.6s
M57A Sunshine Farm, 47.41 77 P P 11 55 32.8 +0.9
baz=314,SNR=26
M57A P P 11 55 32.8 +0.9
baz=314,SNR=26
BINY Binghamton 47.42 75 P P 11 55 32.8 +0.8
baz=314,SNR=30
BINY Binghamton 47.42 75 P P 11 55 32.8 +0.8
baz=314,SNR=30
SSPA Standing Stone 47.48 78 P P 11 55 32.7 +0.2
SSPA Standing Stone 47.48 78 P P 11 55 33.1 +0.7
baz=315
SSPA Standing Stone 47.48 78 P P 11 55 32.9 +0.4
baz=315,SNR=20
SSPA Standing Stone 47.48 78 P P 11 55 32.7 +0.2
SSPA PcP **PcP** 11 57 01.4 -0.9
SOEG Soedalen 47.53 27 *i* P P 11 55 30.3 -2.1
SOEG IAmb IAmb 11 55 34.1
comp=Z,24nm,0.9s
S54A Dingess, Beckl 47.62 83 P P 11 55 34.4 +0.8
baz=316,SNR=13
S54A P P 11 55 34.4 +0.8
baz=316,SNR=13
Y49A Blount Mountai 47.67 91 P P 11 55 34.7 +0.7
baz=318,SNR=25
D62A Allapoint, All 47.71 65 P P 11 55 34.9 +0.8
baz=312,SNR=27
D62A P P 11 55 34.9 +0.8
baz=312,SNR=27
ZAIG Zacatecas 47.73 115 P P 11 55 35.3 +0.4
ZAIG IAmb IAmb 11 55 38.0
comp=Z,96nm,1.7s
ANGG Ammassalik, Gr 47.74 31 *i* P P 11 55 32.0 -2.0
ANGG IAmb IAmb 11 55 50.6
comp=Z,44nm,0.7s
V52A Sevierville 47.77 87 P P 11 55 35.6 +0.8
baz=317,SNR=15
E62A Clayton Lake 47.78 66 P P 11 55 34.7 0.0
baz=313,SNR=21
E62A P P 11 55 34.7 0.0
baz=313,SNR=21
MCVT Middlebury Col 47.80 71 P P 11 55 35.3 +0.4
baz=314
TKL Tuckaleechee C 47.81 87 P P 11 55 35.4 +0.3
TKL IAmb IAmb 11 55 36.8
comp=Z,72nm,1.1s
TKL Tuckaleechee C 47.81 87 P P 11 55 35.6 +0.6
baz=317,SNR=18
TKL Tuckaleechee C 47.81 87 P P 11 55 35.4 +0.3
TKL pmax pmax
comp=Z,72nm,1.1s
ACCN Adirondack Com 47.84 72 P P 11 55 35.8 +0.6
baz=314,SNR=12
346A Big Creek Wild 47.84 96 P P 11 55 36.8 +1.5
baz=320,SNR=7.7
Q56A Snyder Ridge, 47.90 80 P P 11 55 36.5 +0.7
baz=316,SNR=7.2
Q56A P P 11 55 36.5 +0.7
baz=316,SNR=7.2
HCNY Howe Caverns 47.92 73 P P 11 55 36.9 +1.0
baz=314,SNR=27
R55A Marlinton 47.93 82 P P 11 55 37.0 +1.0
baz=316
R55A P P 11 55 37.0 +1.0
baz=316
L59A Walton 47.93 74 P P 11 55 37.0 +1.1
baz=314,SNR=13
L59A P P 11 55 37.0 +1.1
baz=314,SNR=13
LRAL Lakeview Retre 47.96 92 P P 11 55 36.8 +0.5
baz=319,SNR=16
LRAL Lakeview Retre 47.96 92 P P 11 55 36.7 +0.5
baz=319,SNR=16
N58A Sunbury 47.98 77 P P 11 55 37.0 +0.7
baz=315,SNR=21
N58A P P 11 55 37.0 +0.7
baz=315,SNR=21
KSPA Keystone Colle 47.98 75 P P 11 55 37.0 +0.7
baz=314,SNR=15
NRIK Noril'sk 47.99 336 P P 11 55 35.8 -0.2
NRIK IAmb IAmb 11 55 37.3
comp=Z,72nm,1.2s
NRIK Noril'sk 47.99 336 P P 11 55 36.0 +0.1
comp=Z,32nm,1.0s,baz=45,slow=7.1,SNR=34
comp=Z,32nm,1.0s
X51A Calhoun 48.01 89 P P 11 55 37.7 +1.1
baz=318,SNR=44
X51A P P 11 55 37.7 +1.1
baz=318,SNR=44
W52A Murphy 48.14 88 P P 11 55 38.4 +0.8
baz=318,SNR=25
LBNH Lisbon 48.16 70 P P 11 55 38.6 +0.9
baz=314,SNR=6.4
LBNH Lisbon 48.16 70 P P 11 55 38.6 +0.9
baz=314,SNR=6.4
BOD Bodaibo 48.17 315 *e*P P 11 55 36.8 -0.7
BOD pmax pmax
comp=Z,51nm,1.4s
G62A West of Eustis 48.22 68 P P 11 55 38.2 +0.1
baz=313,SNR=13
G62A P P 11 55 38.2 +0.1
baz=313,SNR=13
P57A Homestead Farm 48.23 79 P P 11 55 38.8 +0.5
baz=315,SNR=20
P57A P P 11 55 38.8 +0.5
baz=315,SNR=20
U54A Nelsons Funny 48.26 85 P P 11 55 39.9 +1.2
baz=317,SNR=27
U54A P P 11 55 39.9 +1.2
baz=317,SNR=27
TRY Troy 48.29 73 P P 11 55 39.9 +1.2
baz=314,SNR=6.7
H62A Milan 48.34 69 P P 11 55 39.9 +0.9
baz=314,SNR=7.9
H62A P P 11 55 39.9 +0.9
baz=314,SNR=7.9
V53A Saluda 48.34 86 P P 11 55 40.2 +1.1
baz=317,SNR=34
V53A P P 11 55 40.2 +1.1
baz=317,SNR=34
HNH Hanover 48.34 71 P P 11 55 39.7 +0.7
HNH IAmb IAmb 11 55 41.2
comp=Z,92nm,1.3s
J61A Chester 48.45 71 P P 11 55 40.0 +0.1
baz=314,SNR=9.3
J61A P P 11 55 40.0 +0.1
baz=314,SNR=9.3
E63A Oxbow 48.47 66 P P 11 55 39.6 -0.5
baz=313,SNR=13
E63A P P 11 55 39.6 -0.5
baz=313,SNR=13
BLA Blacksburg 48.54 83 P P 11 55 41.6 +0.9
baz=317,SNR=11
BLA Blacksburg 48.54 83 P P 11 55 40.7 0.0
baz=316,SNR=11
F63A Nahmakanta, Br 48.62 67 P P 11 55 40.7 -0.4
baz=313,SNR=17
F63A P P 11 55 40.7 -0.4
baz=313,SNR=17
NPNY Mohonk Preserv 48.72 74 P P 11 55 43.1 +1.1
baz=315,SNR=12
Z51A Franklin 48.76 90 P P 11 55 43.0 +0.6
baz=319,SNR=20
CASEE Lake Jocassee 48.77 87 P P 11 55 43.3 +0.9
baz=318,SNR=30
PKME Peaks-Kenny Pk 48.82 67 P P 11 55 43.5 +0.8
baz=314,SNR=9.9
PKME Peaks-Kenny Pk 48.82 67 P P 11 55 43.1 +0.4
baz=314,SNR=9.9
JMM Marumori 48.87 279 P P 11 55 43.4 +0.2
JMM Marumori 48.87 279 P P 11 55 43.3 +0.1
F64A Sherman 48.89 66 P P 11 55 43.5 +0.3
baz=314,SNR=21
F64A P P 11 55 43.5 +0.3
baz=314,SNR=21
SDMD Soldier's Deli 48.92 78 P P 11 55 43.8 +0.2
baz=316,SNR=6.4
ODNJ Ogdensburg 48.94 75 P P 11 55 44.0 +0.3
baz=315,SNR=15
Y52A Lilburn 48.97 89 P P 11 55 45.2 +1.1
baz=318,SNR=27
Y52A P P 11 55 45.2 +1.1
baz=318,SNR=27
I63A Otisfield 48.99 69 P P 11 55 45.4 +1.4
baz=314
I63A P P 11 55 45.4 +1.4
baz=314
L61B Northampton 49.01 72 P P 11 55 45.3 +1.1
baz=315,SNR=5.1
L61B Northampton 49.01 72 P P 11 55 44.5 +0.3
baz=314,SNR=5.1
BRNY Black Rk. Fore 49.03 74 P P 11 55 44.6 +0.2
baz=315,SNR=18
H11N2 WAKE ISLAND Hy 49.07 240 T T 12 49 03.5
baz=30,slow=76
BJO1 Bjornoya 49.07 4 *e*P P 11 55 44.8 +0.6
BATG Bathurst New B 49.07 63 P P 11 55 45.0 +0.4
H11N3 WAKE ISLAND Hy 49.07 240 T T 12 49 12.5
baz=30,slow=76
H11N1 WAKE ISLAND Hy 49.09 240 T T 12 48 42.3
baz=30,slow=76
V55A Taylorsville 49.09 85 P P 11 55 45.9 +1.0
baz=317,SNR=23
V55A P P 11 55 45.9 +1.0
baz=317,SNR=23
K62A Royalston 49.09 72 P P 11 55 45.7 +0.9
baz=314,SNR=11
K62A P P 11 55 45.7 +0.9
baz=314,SNR=11
USRK Ussuriysk Ar. 49.12 291 P P 11 55 44.3 -0.7
comp=Z,3.5nm,0.9s,baz=39,slow=9.3,SNR=2.6
250A Grady 49.16 92 P P 11 55 46.3 +0.8
baz=319,SNR=13
U56A King 49.18 84 P P 11 55 46.7 +1.1
baz=317,SNR=14
U56A P P 11 55 46.7 +1.1
baz=317,SNR=14
BRNJ Basking Ridge 49.24 75 P P 11 55 46.8 +0.8
baz=315,SNR=12
GEDE Greenville 49.29 77 P P 11 55 46.8 +0.5
baz=316,SNR=8.0
QUA2 Belchertown 49.30 72 P P 11 55 46.5 +0.1
baz=315,SNR=6.8
PSUB Penn St. - Bra 49.30 77 P P 11 55 46.1 -0.3
baz=316
T57A Hurt 49.33 82 P P 11 55 46.4 -0.3
baz=317,SNR=9.0
T57A P P 11 55 46.4 -0.3
baz=317,SNR=9.0
BRAL Brewton 49.34 94 P P 11 55 48.3 +1.4
baz=320
BRAL Brewton 49.34 94 P P 11 55 48.4 +1.6
baz=320
PAL Palisades 49.37 75 P P 11 55 47.6 +0.7
baz=315,SNR=6.9
PAL Palisades 49.37 75 P P 11 55 47.9 +1.0
baz=315,SNR=6.9
PANJ Princeton 49.39 76 P P 11 55 47.6 +0.5
baz=315,SNR=7.9
R58B Mineral 49.39 80 P P 11 55 47.9 +0.8
baz=316,SNR=11
R58B P P 11 55 47.9 +0.8
baz=316,SNR=11
FOR Fordham 49.48 75 P P 11 55 48.8 +1.0
baz=315
CBN Corbin Frederi 49.49 80 P P 11 55 48.5 +0.6
baz=316
152A Waverly Hall 49.50 90 P P 11 55 48.0 -0.1
baz=319,SNR=16
PAULI Pauline 49.51 86 P P 11 55 48.7 +0.6
baz=318,SNR=11
KMSC Kings Mountain 49.54 85 P P 11 55 49.0 +0.7
baz=318,SNR=22
KMSC Kings Mountain 49.54 85 P P 11 55 48.7 +0.3
baz=318,SNR=22
HRV Adam Dziewonsk 49.56 72 P P 11 55 49.1 +0.7
baz=315
HRV Adam Dziewonsk 49.56 72 P P 11 55 49.5 +1.2
GOGA Godfrey 49.64 89 P P 11 55 49.2 +0.1
GOGA IAmb IAmb 11 55 50.6
comp=Z,57nm,1.0s
GOGA Godfrey 49.64 89 P P 11 55 49.5 +0.4
baz=319,SNR=17

GOGA Godfrey 49.64 89 P **P** **11 55 49.2 +0.1**
baz=319,SNR=17
GOGA Godfrey 49.64 89 P **P** **11 55 49.2 +0.1**
GOGA pmax pmax
comp=Z,57nm,1.0s
HODGE Hodges 49.70 87 P **P** **11 55 50.3 +0.7**
baz=318,SNR=12
G65A Princeton 49.75 66 P **P** **11 55 49.8 +0.1**
baz=314,SNR=8.5
G65A P **P** **11 55 49.8 +0.1**
baz=314,SNR=8.5
MDJ Mudanjiang 50.06 293 P P 11 55 57.8 +5.6
MDJ pP pP 11 55 59.4 +0.5
MDJ PcS **PcS** **12 01 12.8 +4.4**
MDJ S S 12 03 11.0 +10
MDJ ScS **ScS** **12 05 48.3 +7.1**
M63A Gales Ferry 50.08 73 P **P** **11 55 53.1 +0.8**
baz=315,SNR=18
M63A P **P** **11 55 53.1 +0.8**
baz=315,SNR=18
H11S1 WAKE ISLAND Hy 50.21 239 T T 12 50 38.5
baz=29,slow=76
JSC Jenkinsville 50.22 86 P **P** **11 55 54.1 +0.6**
baz=318,SNR=5.4
H11S2 WAKE ISLAND Hy 50.22 239 T T 12 50 33.6
baz=29,slow=76
H11S3 WAKE ISLAND Hy 50.23 239 T T 12 50 35.2
baz=29,slow=76
W57A Gilead 50.27 84 P **P** **11 55 54.6 +0.7**
baz=318,SNR=15
W57A P **P** **11 55 54.6 +0.7**
baz=318,SNR=15
T59A Double "B" Far 50.28 81 P **P** **11 55 54.6 +0.6**
baz=317,SNR=11
T59A P **P** **11 55 54.6 +0.6**
baz=317,SNR=11
V58A Windy Hill, Pi 50.29 83 P **P** **11 55 54.6 +0.7**
baz=318,SNR=13
V58A P **P** **11 55 54.6 +0.7**
baz=318,SNR=13
BIRD Birdtown, Kers 50.39 85 P **P** **11 55 55.0 +0.2**
BIRD IAmb IAmb 11 55 56.6
comp=Z,54nm,0.9s
BIRD Birdtown, Kers 50.39 85 P **P** **11 55 55.4 +0.7**
baz=318,SNR=12
154A Montrose 50.44 89 P **P** **11 55 54.7 -0.4**
baz=319,SNR=8.4
U59A Littleton 50.61 82 P **P** **11 55 57.2 +0.9**
baz=317,SNR=6.4
U59A P **P** **11 55 57.2 +0.9**
baz=317,SNR=6.4
HAW Hawthorne Fire 50.71 87 P **P** **11 55 57.6 +0.4**
baz=319
Y57A Sumter 50.90 86 P **P** **11 55 59.3 +0.7**
baz=318
Y57A P **P** **11 55 59.3 +0.7**
baz=318
MOIG Morelia 51.01 116 P **P** **11 56 00.5 +0.6**
MOIG IAmb IAmb 11 56 02.7
comp=Z,122nm,1.6s
TIGA Tifton 51.06 91 P **P** **11 55 59.9 +0.1**
baz=320
X58A Rowland 51.08 84 P **P** **11 56 00.3 +0.3**
baz=318,SNR=8.0
X58A P **P** **11 56 00.3 +0.3**
baz=318,SNR=8.0
W59A Clinton 51.12 83 P **P** **11 56 01.4 +1.2**
baz=318
MAJO Matsushiro 51.25 280 P **P** **11 56 01.4 +0.1**
MAJO IAmb IAmb 11 56 16.4
comp=Z,131nm,1.4s
MAJO Matsushiro 51.25 280 P **P** **11 56 02.2 +0.9**
MAJO Matsushiro 51.25 280 P **P** **11 56 01.4 +0.1**
MAJO pmax pmax
comp=Z,131nm,1.5s
MJAR Matsushiro Arr 51.25 280 P **P** **11 56 01.5 +0.3**
comp=Z,2.1nm,0.5s,baz=52,slow=6.6,SNR=2.4
comp=Z,2.1nm,0.5s
CNNC Cliffs of the 51.37 83 P **P** **11 56 03.1 +1.0**
baz=318
Y58A Scranton 51.38 85 P **P** **11 56 02.4 +0.2**
baz=318,SNR=8.3
Y58A P **P** **11 56 02.4 +0.2**
baz=318,SNR=8.3
553A Crawfordville 51.54 92 P **P** **11 56 04.4 +0.9**
baz=320
HIA Hailar 51.61 303 P **P** **11 56 03.8 0.0**
HIA Hailar 51.61 303 P **P** **11 56 04.6 +0.8**
comp=Z,31nm,1.2s
HIA Hailar 51.61 303 ⇓ *iP* **P** **11 56 04.0 +0.2**
HIA pmax pmax
comp=Z,33nm,1.2s
HIA Hailar 51.61 303 P **P** **11 56 03.8 0.0**
NHSC New Hope 51.69 86 P **P** **11 56 05.7 +1.1**
baz=319,SNR=5.2
NHSC New Hope 51.69 86 P **P** **11 56 05.1 +0.5**
baz=319,SNR=5.2
CN2 Changchun 52.74 295 P **P** **11 56 11.9 -0.3**
CN2 pP pP 11 56 17.0 -2.0
CN2 sP pwP 11 56 25.4 +0.6
CN2 pmax pmax
comp=Z,40nm,0.8s
HAMF Hammerfest 53.09 3 *eP* **P** **11 56 13.6 -0.8**
HAMF IAmb IAmb 11 56 16.8
comp=Z,114nm,1.7s
VADS Vadso 53.72 1 *eP* **P** **11 56 19.1 0.0**
TRO Tromso 53.91 5 *eP* **P** **11 56 20.3 -0.1**
KEV Kevo 54.06 2 P **P** **11 56 21.0 -0.5**
KEV IAmb IAmb 11 56 22.2
comp=Z,146nm,1.8s
KEV Kevo 54.06 2 P **P** **11 56 21.0 -0.5**
KEV pmax pmax
comp=Z,146nm,1.8s
KEV Kevo 54.06 2 P **P** **11 56 21.0 -0.5**
KEV pP **sP** **11 56 30.4 -0.5**
JETT Jettan, Norway 54.06 5 *eP* **P** **11 56 21.4 -0.2**
JETT IAmb IAmb 11 56 22.4
comp=Z,55nm,0.8s
ARA0 ARCESS Array S 54.25 2 *eP* **P** **11 56 22.0 -0.9**
ARCES ARCESS Array B 54.25 2 P **P** **11 56 22.4 -0.5**
ARCES IAmb IAmb 11 56 34.1
comp=Z,62nm,1.5s
ARCES ARCESS Array B 54.25 2 P **P** **11 56 22.4 -0.5**
ARCES pmax pmax
comp=Z,62nm,1.5s
ARCES ARCESS Array B 54.25 2 P **P** **11 56 22.3 -0.7**
comp=Z,8.3nm,0.5s,baz=3.1,slow=7.9,SNR=74
comp=Z,8.3nm,0.5s
KTK1 Kautokeino 54.71 3 *eP* **P** **11 56 25.7 -0.6**
DWPF Disney Wildern 54.81 91 P **P** **11 56 28.2 +0.7**
baz=321
LOF Lofoten 55.06 8 *eP* **P** **11 56 29.2 +0.4**
STEI Steigen 55.38 7 *eP* **P** **11 56 31.0 -0.1**
LVZ Lovozero 55.92 358 P **P** **11 56 35.2 +0.1**
LVZ Lovozero 55.92 358 ⇓ *iP* **P** **11 56 35.6 +0.5**
LVZ pmax pmax
comp=Z,132nm,1.3s
LVZ Lovozero 55.92 358 P **P** **11 56 35.1 +0.1**
FAUS Fauske 55.92 7 *eP* **P** **11 56 35.3 +0.3**
FAUS IAmb IAmb 11 56 36.2
comp=Z,59nm,1.3s
KSRS Korea Array 56.11 288 P **P** **11 56 37.1 +0.3**
comp=Z,5.7nm,0.9s,baz=42,slow=6.1,SNR=9.1
comp=Z,5.7nm,0.9s
KSAR Wonju Array Be 56.14 288 P **P** **11 56 37.2 +0.2**
KSAR Wonju Array Be 56.14 288 P **P** **11 56 37.2 +0.2**
APA Apatity 56.27 359 ⇓ *iP* P 11 56 49.7 +12
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,14μm,20.0s
XLT XiLinHaoTe 57.26 301 *eP* **P** **11 56 45.4 +0.4**
XLT pP sP 11 56 55.1 +0.7
XLT sP pwP 11 56 58.5 +0.9
XLT PcP **PcP** **11 57 39.5 +0.4**
XLT pmax pmax
comp=Z,18nm,0.9s
TEIG Tepich 57.31 103 P **P** **11 56 45.3 -0.1**
TEIG Tepich 57.31 103 P **P** **11 56 45.7 +0.2**
MOY Mondy 57.80 316 *eP* **P** **11 56 50.1 +1.4**
MOY pmax pmax
comp=Z,69nm,2.3s
ZAK Zakamensk 57.91 314 *eP* **P** **11 56 49.0 -0.5**
ZAK pmax pmax
comp=Z,11nm,1.1s
ULN Ulaanbaatar 58.31 310 P **P** **11 56 52.2 -0.2**
ULN Ulaanbaatar 58.31 310 ⇑ *iP* **P** **11 56 52.5 +0.1**
ULN pmax pmax
comp=Z,22nm,0.9s
ULN Ulaanbaatar 58.31 310 P **P** **11 56 52.9 +0.5**
ULN Ulaanbaatar 58.31 310 P **P** **11 56 52.7 +0.3**
comp=Z,91nm,0.9s,comp=Z,29μm
NSS Namsos 58.47 9 *eP* **P** **11 56 53.0 0.0**
SONM Songino Array 58.61 310 P **P** **11 56 54.7 +0.3**
SONM IAmb IAmb 11 56 56.6
comp=Z,53nm,1.0s
SONM Songino Array 58.61 310 P **P** **11 56 54.8 +0.3**
comp=Z,31nm,0.9s,baz=45,slow=7.9,SNR=102
comp=Z,31nm,0.9s
BJT Baijiatuan 60.17 298 P **P** **11 57 04.8 -0.3**
BJT Baijiatuan 60.17 298 P **P** **11 57 05.4 +0.2**
BJT Baijiatuan 60.17 298 P **P** **11 57 04.8 -0.3**
BJT pmax pmax
comp=Z,14nm,1.1s
AKN Aaknes 60.23 13 *eP* **P** **11 57 05.6 +0.3**
FOO Floro 60.55 14 *eP* **P** **11 57 06.2 -1.2**
DOMB Dombas 60.61 12 *eP* **P** **11 57 07.5 -0.4**
BBSR BB Station 60.71 75 P **P** **11 57 08.8 -0.2**
BBSR BB Station 60.71 75 P **P** **11 57 08.8 -0.2**
baz=321,SNR=13
BBSR BB Station 60.71 75 P **P** **11 57 08.9 0.0**
SUE Sulen 61.03 14 *eP* **P** **11 57 13.2 +2.5**
ZAA0 Zalesovo Array 61.47 327 P **P** **11 57 13.7 -0.1**
ZAA0 IAmb IAmb 11 57 14.8
comp=Z,29nm,0.9s
ZALV Zalesovo Beam 61.47 327 P **P** **11 57 13.7 -0.1**
comp=Z,22nm,0.8s,baz=27,slow=6.6,SNR=93
comp=Z,22nm,0.8s
NC204 NORSAR Array S 61.54 11 P **P** **11 57 13.3 -0.9**
NC204 IAmb IAmb 11 57 15.3
comp=Z,37nm,0.9s
ASK Askoy 61.64 14 *eP* **P** **11 57 17.3 +2.5**
HHC Hu-ho-hao-te 61.74 302 ⇑ P **P** **11 57 16.8 +0.8**
HHC pmax pmax
comp=Z,110nm,0.9s
NB2 NORSAR Subarra 61.82 11 P **P** **11 57 15.5 -0.6**
comp=Z,8.0nm,0.8s,baz=348,slow=6.9
NB2 NORSAR Subarra 61.82 11 P **P** **11 57 15.5 -0.6**
baz=348,slow=6.9
NOA NORSAR Array B 61.82 11 P **P** **11 57 15.8 -0.3**
comp=Z,16nm,0.8s,baz=348,slow=6.7,SNR=28
comp=Z,16nm,0.8s
SKAR Skarslia 61.84 12 *eP* **P** **11 57 16.3 0.0**
SKAR IAmb IAmb 11 57 16.5
comp=Z,41nm,1.1s
NC602 NORSAR Array S 62.15 11 *eP* **P** **11 57 18.4 +0.1**
FIA1 FINESS Array S 62.37 3 P **P** **11 57 19.5 -0.2**
FINES FINESS Array B 62.37 3 P **P** **11 57 19.5 -0.2**
FINES FINESS Array B 62.37 3 P **P** **11 57 19.7 0.0**
comp=Z,37nm,0.8s,baz=2.3,slow=8.5,SNR=73
FINES PKPPKP **P'P'df** **12 26 25.6 -6.7**
comp=Z,2.1nm,0.8s,baz=124,slow=6.9,SNR=3.0
FINES PKP2ab 12 26 39.8
comp=Z,3.0nm,0.7s,baz=218,slow=6.5,SNR=4.0
comp=Z,37nm,0.8s
ODD1 Odda 62.38 14 *eP* **P** **11 57 20.1 +0.2**
RAF Rauma 62.64 5 *eP* **P** **11 57 21.0 -0.5**
TIA Tai'an 62.64 295 P **P** **11 57 22.3 +0.3**
TIA pmax pmax
comp=Z,13nm,1.3s
BTO Baotou 62.65 303 *eP* **P** **11 57 22.0 -0.1**
BTO pP **sP** **11 57 32.3 +0.8**
BTO sP **pwP** **11 57 36.4 +1.6**
BTO PP **PP** **11 59 41.1 +1.5**
BTO pmax pmax
comp=Z,60nm,1.3s
KLMR Klimovskoe 62.83 355 *eP* **P** **11 57 20.4 -2.4**
KLMR pmax pmax
comp=Z,130nm,1.1s
HNS HongShan 62.92 297 ⇓ **P** **11 57 24.4 +0.7**
HNS pmax pmax
comp=Z,54nm,1.2s
HFS Hagfors 62.95 10 P **P** **11 57 23.2 -0.4**
comp=Z,16nm,1.0s,baz=23,slow=8.0,SNR=12
comp=Z,16nm,1.0s
KONO Kongsberg 63.00 12 *eP* **P** **11 57 24.4 +0.4**
KONO Kongsberg 63.00 12 P **P** **11 57 24.1 +0.2**
MEF Metsahovi 63.55 4 *eP* **P** **11 57 28.0 +0.4**
TIY Taiyuan 63.79 299 ⇓ **P** **11 57 30.6 +1.0**
TIY pmax pmax
comp=Z,41nm,0.5s
PUL Pulkovo 64.11 0 ⇓ *eP* **P** **11 57 32.3 +1.0**
PUL pmax pmax
comp=Z,271nm,1.4s
DGZ Jazzator, Alta 64.30 323 ⇑ *iP* **P** **11 57 33.7 +0.8**
DGZ pmax pmax
comp=Z,63nm,1.2s
KIRV Kirov 64.35 349 *ceP* **P** **11 57 32.6 -0.2**
SVE Sverdlovsk 64.55 342 *deP* **P** **11 57 34.5 +0.3**
SVE pmax pmax
comp=Z,101nm,1.0s
MATN Matagalpa 64.58 106 P **P** **11 57 35.0 -0.1**
NJ2 Nanjing 65.02 291 ⇑ P **P** **11 57 37.9 +0.3**
NJ2 sP **pwP** **11 57 51.1 +0.6**
NJ2 pmax pmax
comp=Z,20nm,0.9s
MTSE Matsula 65.03 4 *eP* **P** **11 57 37.4 +0.1**
BOAB BOACO BROADBAND 65.11 106 P **P** **11 57 38.1 -0.3**
EKA Eskdalemuir Ar 65.17 21 P **P** **11 57 38.0 -0.2**
comp=Z,26nm,0.8s,baz=338,slow=4.9,SNR=26
comp=Z,26nm,0.8s
ESK Eskdalemuir 65.18 21 P **P** **11 57 38.2 -0.1**
ARU Arti 65.26 344 P **P** **11 57 38.8 -0.1**
ARU Arti 65.26 344 *c iP* **P** **11 57 38.7 -0.1**
ARU 11 58 12.2
ARU S **S** **12 06 23.0 +2.8**
ARU SS **SS** **12 10 30.8 -1.2**
ARU pmax pmax
comp=Z,112nm,1.2s
ARU Arti 65.26 344 P **P** **11 57 38.7 -0.1**
ARU pP **sP** **11 57 48.4 +0.1**
ARU sP **pwP** **11 57 52.3 +0.7**
VSU Vasula 65.38 2 *c iP* **P** **11 57 39.5 0.0**
VSU pmax pmax
comp=Z,275nm,1.3s
VSU Vasula 65.38 2 *eP* **P** **11 57 40.3 +0.8**
ACON Acoyapa 65.78 105 P **P** **11 57 42.4 -0.3**
ACON IAmb IAmb 11 57 43.4
comp=Z,33nm,1.0s
SEM Semipalatinsk 65.94 328 *eP* **P** **11 57 42.7 -0.9**
baz=328
SEM Semipalatinsk 65.94 328 *eP* **P** **11 57 42.6 -0.9**
KURK Kurchatov 66.14 329 P **P** **11 57 43.8 -0.8**
KURK IAmb IAmb 11 57 45.5
comp=Z,45nm,1.4s
KURK Kurchatov 66.14 329 P **P** **11 57 44.9 +0.4**
KURK Kurchatov 66.14 329 P **P** **11 57 44.1 -0.4**
KURK sP **pwP** **11 57 57.1 -0.2**
BRVK Borovoye 66.16 335 P **P** **11 57 44.4 -0.3**
BRVK IAmb IAmb 11 57 45.7
comp=Z,31nm,1.1s
BRVK Borovoye 66.16 335 P **P** **11 57 44.4 -0.3**
BRVK pmax pmax
comp=Z,31nm,1.1s
BRVK Borovoye 66.16 335 P **P** **11 57 44.5 -0.3**
BVAR Borovoye Array 66.17 335 P **P** **11 57 44.4 -0.4**
comp=Z,20nm,0.8s,baz=46,slow=6.4,SNR=64
BVAR PKPPKP P'P'df 12 26 08.8 -17
comp=Z,1.0nm,0.8s,baz=238,slow=2.7,SNR=3.8
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 66.24 329 P **P** **11 57 44.9 -0.4**
comp=Z,16nm,1.0s,baz=24,slow=6.0,SNR=62
comp=Z,16nm,1.0s
LYN LuoYang 66.28 297 ⇓ **P** **11 57 46.8 +1.1**
LYN sP pwP 11 57 59.9 +1.3
LYN pmax pmax
comp=Z,99nm,1.0s
ZSN Zaisan 67.10 323 *eP* **P** **11 57 51.5 +0.6**
comp=Z,28nm,0.7s,baz=324
ZSN *eS* **S** **12 06 46.3 +3.4**
baz=324
ZSN Zaisan 67.10 323 *eP* **P** **11 57 51.4 +0.6**
ZSN *eS* **S** **12 06 46.2 +3.4**
ZSN pmax pmax
comp=Z,28nm,0.7s
COVE Coope Vega, Sa 67.23 106 P **P** **11 57 51.8 -0.2**
SDDR Presa de Saban 67.67 89 P **P** **11 57 55.1 +0.3**
MOS Moscow 68.03 356 *eP* **P** **11 57 54.0 -2.5**
MOS *e* 11 58 09.2
MOS pmax pmax
comp=Z,104nm,1.0s
GTA Gaotai 68.22 309 P **P** **11 57 58.1 0.0**
GTA sP pwP 11 58 11.0 +0.1
GTA pmax pmax
comp=Z,27nm,1.4s
PABE Paberze 68.25 4 P **P** **11 57 57.9 0.0**
PABE Paberze 68.25 4 *eP* **P** **11 57 58.4 +0.5**
ISAL Salakas 68.26 3 *eP* **P** **11 57 59.6 +1.7**
BRZS Berezniki 68.41 332 *eP* **P** **11 57 58.4 -0.6**
baz=332
BRZS Berezniki 68.41 332 *eP* **P** **11 57 58.4 -0.6**
XAN Xi'an 68.43 299 ⇑ P **P** **11 57 59.1 -0.4**
XAN pP pP 11 58 05.8 -0.6
XAN pmax pmax
comp=Z,65nm,1.1s
XAN Xi'an 68.43 299 P **P** **11 57 59.0 -0.4**
MK31 Makanchi Array 68.51 325 *c iP* **P** **11 57 59.2 -0.5**
MKAR Makanchi Array 68.51 325 P **P** **11 57 59.3 -0.4**
comp=Z,18nm,0.9s,baz=43,slow=5.8,SNR=87
MKAR PKPPKP P'P'df 12 26 09.8 -11
comp=Z,0.5nm,0.9s,baz=169,slow=3.8,SNR=3.2
comp=Z,18nm,0.9s
WHN Wuhan 68.54 293 P **P** **11 57 59.6 -0.5**
MAKZ Makanchi 68.60 325 P **P** **11 57 59.8 -0.5**
MAKZ IAmb IAmb 11 58 01.1
comp=Z,39nm,1.1s
MAKZ Makanchi 68.60 325 P **P** **11 57 59.8 -0.5**
MAKZ pmax pmax
comp=Z,39nm,1.1s
MAKZ Makanchi 68.60 325 P **P** **11 57 59.9 -0.3**
MAKZ pP **sP** **11 58 09.8 -0.1**
MAKZ sP **pwP** **11 58 13.5 +0.4**
OBN Obninsk 68.69 357 P **P** **11 58 00.4 -0.2**
OBN Obninsk 68.69 357 *c iP* **P** **11 58 00.7 +0.1**
OBN *e* 11 58 23.1
OBN *e* 12 00 30.3
OBN *eS* **SKiKP** **12 07 50.5 -0.1**
OBN pmax pmax
comp=Z,215nm,1.7s
NACGM Naroch 68.94 3 ⇑ *eP* **P** **11 58 02.3 +0.1**
comp=E,4μm,1.3s
KLNR Kaliningrad 68.95 7 *c iP* **P** **11 58 02.3 +0.1**
KLNR pmax pmax
comp=Z,318nm,1.0s
LZH Lanzhou 69.16 304 ⇑ P **P** **11 58 03.8 -0.3**
LZH pP pP 11 58 10.8 -0.2
LZH sP sP 11 58 14.9 +1.3
LZH pmax pmax
comp=Z,43nm,1.3s
WMQ Urumqi 69.28 320 *eP* **P** **11 58 05.5 +0.9**
WMQ pmax pmax
comp=Z,21nm,1.3s
MNK Minsk 69.37 2 *i* P **P** **11 58 05.9 +1.1**
MNK *i* 11 58 29.2
MNK *i* 12 00 38.9
MNK *i* PPP PPP 12 02 19.4
MNK *i* S **S** **12 07 14.0 +4.4**
MNK *i* SS **SS** **12 11 41.0 +5.5**
MNK pmax pmax
comp=Z,307nm,1.1s
MNK pmax pmax
comp=N,152nm,1.0s
MNK pmax pmax
comp=E,15nm,1.0s
MNK MLR MLR
comp=N,6μm,16.0s
MNK MLR MLR
comp=E,2μm,20.0s
MNK MLR MLR
comp=Z,10μm,17.0s
MNK Minsk 69.37 2 *i* S **P** **11 58 06.0 +1.1**
MNK Minsk 69.37 2 *i* S **P** **11 58 05.9 +1.1**
GKP Gorka Klasztor 70.06 9 *eP* **P** **11 58 09.6 +0.5**
RUE Ruedersdorf 70.51 11 *eP* **P** **11 58 13.1 +1.3**
BELG Belogornoye 70.64 349 *c iP* **P** **11 58 12.3 -0.4**
BELG pmax pmax
comp=Z,36nm,1.0s
BEBN Eben Emael 71.08 17 *dP* **P** **11 58 15.6 +0.2**
LPSR Galich'ya Gora 71.10 355 *eP* **P** **11 58 14.5 -1.0**
LPSR pmax pmax
comp=Z,110nm,1.0s
ENH Enshi 71.22 296 P **P** **11 58 15.9 -0.7**
ENH IAmb IAmb 11 58 17.4
comp=Z,76nm,1.2s
ENH Enshi 71.22 296 P **P** **11 58 16.5 -0.1**
SJG San Juan 71.22 86 P **P** **11 58 16.8 +0.1**
SJG IAmb IAmb 11 58 18.1
comp=Z,56nm,1.1s
SJG San Juan 71.22 86 P **P** **11 58 16.8 +0.1**
SJG pmax pmax
comp=Z,56nm,1.1s
BSTI Sart Tilman 71.27 17 *dP* **P** **11 58 17.0 +0.4**
MEM Membach 71.32 16 *dP* **P** **11 58 17.1 +0.3**
TDK Taldyqorghan 71.33 326 *eP* **P** **11 58 17.1 0.0**
comp=Z,33nm,1.1s,baz=326
TDK Taldyqorghan 71.33 326 *eP* **P** **11 58 17.1 0.0**
TDK pmax pmax
comp=Z,33nm,1.1s
BTNL Ternell 71.36 16 *dP* **P** **11 58 17.3 +0.2**
BGES Gesves 71.39 17 *dP* **P** **11 58 17.4 +0.2**
BCLA Clavier 71.39 17 *dP* **P** **11 58 17.6 +0.3**
BMRD Maredsous 71.42 17 *dP* **P** **11 58 17.6 +0.1**
BHOU Houvegnez 71.57 17 *dP* **P** **11 58 18.9 +0.5**
CLL Collm 71.58 12 P **P** **11 58 18.2 -0.2**
CLL IAmb IAmb 11 58 19.7
comp=Z,43nm,1.1s
CLL Collm 71.58 12 ⇑ *iP* **P** **11 58 18.5 +0.1**
CLL pmax pmax
comp=Z,50nm,1.2s
CLL Collm 71.58 12 ⇑ *iP* **P** **11 58 18.5 +0.1**
comp=Z,50nm,1.2s
DOU Dourbes 71.59 18 *dP* **P** **11 58 19.0 +0.5**
RCHB Rochefort 71.63 17 *dP* **P** **11 58 18.9 +0.1**
ABKAR Akbulak array 71.92 340 P **P** **11 58 20.2 -0.3**
ABKAR Akbulak array 71.92 340 P **P** **11 58 20.5 0.0**
ABKAR IAmb IAmb 11 58 21.6
comp=Z,30nm,0.8s
VORR Voronezh 72.02 355 *eP* **P** **11 58 20.6 -0.4**
VORR pmax pmax
comp=Z,68nm,0.7s
BRG Berggiesshubel 72.11 11 *i* P **P** **11 58 22.2 +0.5**
BRG Amp 11 58 23.3
comp=Z,43nm,1.0s
BRG Berggiesshubel 72.11 11 P P 11 58 28.8 +7.1
BRG Amp 11 58 33.7
comp=Z,19nm,1.0s
BRG Berggiesshubel 72.11 11 *i* P **P** **11 58 22.1 +0.5**
BRG 11 58 28.7
BRG pmax pmax
comp=Z,43nm,1.0s
BRG pmax pmax
comp=Z,19nm,1.0s
ARXS Arharly 72.22 327 *eP* **P** **11 58 22.3 -0.2**
WLF Walferdange 72.26 17 *dP* **P** **11 58 23.5 +1.0**
WLF Walferdange 72.26 17 P **P** **11 58 22.1 -0.4**
HSKC Hora Svate Kat 72.32 12 *eP* **P** **11 58 23.5 +0.6**
VRH Novokhopyorsk 72.33 353 *eP* **P** **11 58 22.0 -0.9**
VRH pmax pmax
comp=Z,67nm,1.2s
KSP Ksiaz 72.38 10 *eP* **P** **11 58 23.9 +0.7**
RICC Richard 72.45 11 *eP* **P** **11 58 23.8 +0.1**
VSR Storozhevoye 72.47 355 *eP* **P** **11 58 22.4 -1.3**
VSR pmax pmax
comp=Z,70nm,1.0s
PVCC Panska Ves 72.52 11 *eP* **P** **11 58 24.3 +0.2**
PVCC Panska Ves 72.52 11 *eP* **P** **11 58 24.3 +0.2**
PVCC MLR MLR
comp=Z,22μm,18.4s
NKC Novy Kostel 72.57 12 *eP* **P** **11 58 24.8 +0.4**
NKC Novy Kostel 72.57 12 *eP* **P** **11 58 24.8 +0.4**
NKC MLR MLR
comp=Z,30μm,18.2s
BTLS Baital 72.58 329 *eP* **P** **11 58 24.2 -0.3**
baz=329
BTLS Baital 72.58 329 *eP* **P** **11 58 24.2 -0.3**
CHVC Chvalec 72.61 10 *eP* **P** **11 58 25.0 +0.4**
CHVC Chvalec 72.61 10 *eP* **P** **11 58 25.0 +0.4**
CHVC MLR MLR
comp=Z,14μm,19.5s
KPKS Kokpek 72.63 326 *eP* **P** **11 58 25.2 +0.2**
baz=326
KPKS *eS* **S** **12 07 50.6 +2.6**
baz=326
KPKS Kokpek 72.63 326 *eP* **P** **11 58 25.2 +0.2**
KPKS *eS* **S** **12 07 50.6 +2.6**

OSTC **Ostas** 72.66 10 *e*P P 11 58 25.1 +0.2
OSTC **Ostas** 72.66 10 *e*P P 11 58 25.1 +0.2
OSTC MLR MLR
comp=Z,14µm,20.6s
SHLS **Shalkode** 72.66 325 *e*P P 11 58 24.8 -0.4
comp=Z,32nm,0.9s,baz=325
SHLS **Shalkode** 72.66 325 *e*P P 11 58 24.8 -0.4
SHLS pmax pmax
comp=Z,32nm,0.9s
UPC **Upice** 72.69 10 *e*P P 11 58 25.3 +0.2
UPC **Upice** 72.69 10 *e*P P 11 58 25.3 +0.2
UPC MLR MLR
comp=Z,15µm,19.7s
VORD **Divnogorie** 72.72 354 *e*P P 11 58 24.4 -0.8
VORD pmax pmax
comp=Z,60nm,0.8s
CHKK **Chushkaly** 72.80 327 *e*P P 11 58 25.3 -0.6
baz=327
CHKK **Chushkaly** 72.80 327 *e*P P 11 58 25.3 -0.6
UZB **Uzynbulak** 72.81 325 *e*P P 11 58 26.1 0.0
baz=325
UZB **Uzynbulak** 72.81 325 *e*P P 11 58 26.1 0.0
DPC **Dobruska-Polom** 72.87 10 *e*P P 11 58 26.8 +0.6
DPC **Dobruska-Polom** 72.87 10 *e*P P 11 58 26.8 +0.6
DPC MLR MLR
comp=Z,19µm,18.6s
GRA1 **Grafenberg Arr** 72.96 13 P P 11 58 26.7 0.0
GRA1 IAmb IAmb 11 58 28.5
comp=Z,42nm,0.9s
GRF **Grafenberg Arr** 72.96 13 P P 11 58 26.7 0.0
GRF pmax pmax
comp=Z,42nm,0.9s
GRFO **Grafenberg** 72.96 13 P P 11 58 27.0 +0.3
GRFO IAmb IAmb 11 58 28.4
comp=Z,43nm,0.9s
GRFO **Grafenberg** 72.96 13 P P 11 58 27.0 +0.3
GRFO pmax pmax
comp=Z,43nm,0.9s
KUU **Kurty** 72.96 327 *e*P P 11 58 26.3 -0.6
comp=Z,22nm,1.1s,baz=327
KUU **Kurty** 72.96 327 *e*P P 11 58 26.2 -0.6
KUU pmax pmax
comp=Z,22nm,1.1s
PRU **Pruhonice** 73.05 11 *e*P P 11 58 27.1 -0.1
PRU **Pruhonice** 73.05 11 *e*P P 11 58 27.1 -0.1
PRU MLR MLR
comp=Z,21µm,19.8s
GOMU **GeErMu** 73.05 311 P P 11 58 28.3 +0.4
GOMU pP pP 11 58 31.3 -3.6
GOMU sP sP 11 58 33.6 -3.9
GOMU pmax pmax
comp=Z,23nm,1.0s
SATY **Saty** 73.09 326 *e*P P 11 58 27.9 +0.1
baz=326
SATY **Saty** 73.09 326 *e*P P 11 58 27.8 +0.1
GOPC **GO Pecny, Ondr** 73.15 11 *e*P P 11 58 28.4 +0.6
GOPC **GO Pecny, Ondr** 73.15 11 *e*P P 11 58 28.4 +0.6
GOPC MLR MLR
comp=Z,29µm,18.3s
KRLC **Kraliky** 73.19 9 *e*P P 11 58 28.7 +0.6
KRLC **Kraliky** 73.19 9 *e*P P 11 58 28.7 +0.6
KRLC MLR MLR
comp=Z,14µm,17.3s
AKASG **Malin Array Be** 73.20 1 P P 11 58 27.6 -0.4
AKASG **Malin Array Be** 73.20 1 P P 11 58 27.8 -0.2
comp=Z,81nm,0.8s,baz=360,slow=5.8,SNR=63
comp=Z,81nm,0.8s
AKBB **Malin Array Si** 73.20 1 P P 11 58 27.6 -0.5
AKBB **Malin Array Si** 73.20 1 *c i*P P 11 58 27.8 -0.2
AKBB pmax pmax
comp=Z,188nm,1.1s
KIEV **Kiev** 73.20 1 ⇑P P 11 58 28.0 -0.1
KIEV **Kiev** 73.20 1 P P 11 58 27.6 -0.5
KIEV **Kiev** 73.20 1 P P 11 58 27.9 -0.1
OJC **Ojcow** 73.29 7 *e*P P 11 58 29.0 +0.4
OJC **Ojcow** 73.29 7 P P 11 58 28.3 -0.3
OJC IAmb IAmb 11 58 30.1
comp=Z,32nm,0.9s
OJC **Ojcow** 73.29 7 P P 11 58 28.3 -0.3
OJC pmax pmax
comp=Z,32nm,0.9s
AAA **Alma-Ata** 73.41 327 *e*P P 11 58 29.8 +0.3
comp=Z,29nm,0.8s,baz=327
AAA **Alma-Ata** 73.41 327 *e*P P 11 58 29.8 +0.3
AAA pmax pmax
comp=Z,29nm,0.8s
MDOK **Medeo** 73.41 327 *e*P P 11 58 29.4 -0.3
baz=326
MDOK **Medeo** 73.41 327 *e*P P 11 58 29.4 -0.3
CD2 **Chengdu** 73.48 301 P P 11 58 34.4 +4.3
OKC **Ostrava-Krasne** 73.54 9 *e*P P 11 58 30.4 +0.3
OKC **Ostrava-Krasne** 73.54 9 *e*P P 11 58 30.4 +0.3
OKC MLR MLR
comp=Z,14µm,19.3s
MORC **Moravsky Berou** 73.55 9 ⇑P P 11 58 30.9 +0.6
MORC **Moravsky Berou** 73.55 9 P P 11 58 30.1 -0.2
MORC IAmb IAmb 11 58 31.3
comp=Z,26nm,0.8s
MORC **Moravsky Berou** 73.55 9 *e*P P 11 58 30.5 +0.3
MORC **Moravsky Berou** 73.55 9 P P 11 58 30.8 +0.6
ZVC **Zvikov** 73.56 11 *e*P P 11 58 30.6 +0.4
TNSS **Tian-Shan** 73.56 327 *e*P P 11 58 30.3 -0.6
baz=326
TNSS **Tian-Shan** 73.56 327 *e*P P 11 58 30.2 -0.6
PRZ **Przheval'sk** 73.61 325 P P 11 58 31.3 +0.4
PRZ IAmb IAmb 11 58 33.1
comp=Z,49nm,1.2s
PRZ **Przheval'sk** 73.61 325 P P 11 58 31.3 +0.4
PRZ pmax pmax
comp=Z,49nm,1.2s
KHC **Kasperske Hory** 73.79 12 P P 11 58 32.2 +0.5
KHC IAmb IAmb 11 58 33.8
comp=Z,74nm,1.3s
KHC **Kasperske Hory** 73.79 12 *e*P P 11 58 31.8 +0.2
KHC **Kasperske Hory** 73.79 12 ⇑*i*P P 11 58 32.5 +0.9
KHC pmax pmax
comp=Z,133nm,1.3s
ECH **Echery** 73.82 16 P P 11 58 32.1 +0.3
ECH IAmb IAmb 11 58 33.3
comp=Z,55nm,1.1s
ECH **Echery** 73.82 16 P P 11 58 32.1 +0.3
ECH pmax pmax
comp=Z,55nm,1.1s
TREC **Trest** 73.83 10 *e*P P 11 58 32.3 +0.4
TREC **Trest** 73.83 10 *e*P P 11 58 32.3 +0.4
TREC MLR MLR
comp=Z,30µm,19.2s
SGDS **Sogindy** 73.87 328 *e*P P 11 58 31.7 -0.6
baz=328
SGDS **Sogindy** 73.87 328 *e*P P 11 58 31.7 -0.6
VRAC **Vranov** 73.93 10 ⇑P P 11 58 33.3 +0.8
VRAC **Vranov** 73.93 10 *e*P P 11 58 33.0 +0.6
VRAC **Vranov** 73.93 10 P P 11 58 33.2 +0.8
VRAC **Vranov** 73.93 10 P P 11 58 32.5 +0.1
comp=Z,44nm,0.8s,baz=352,slow=6.2,SNR=39
comp=Z,44nm,0.8s
LVV **L'vov** 73.93 5 *e*P P 11 58 32.6 +0.2
MAUC **Maruska** 73.98 9 *e*P P 11 58 33.2 +0.4
KWP **Kalwaria Pacla** 74.06 6 *e*P P 11 58 33.9 +0.7
KWP **Kalwaria Pacla** 74.06 6 P P 11 58 33.5 +0.4
KWP **Kalwaria Pacla** 74.06 6 P P 11 58 33.6 +0.4
KWP pmax pmax
comp=Z,127nm,1.2s
TKM2 **Tokmak 2** 74.07 328 P P 11 58 33.8 +0.2
SNR=34
USP **Ospenovka** 74.08 328 P P 11 58 33.8 +0.4
SNR=26
GEC2 **GERESS Array S** 74.09 12 P P 11 58 33.6 +0.2
GERES **GERESS Array B** 74.09 12 P P 11 58 33.7 +0.3
GERES **GERESS Array B** 74.09 12 P P 11 58 33.9 +0.4
comp=Z,14nm,0.6s,baz=0.0,slow=5.3,SNR=54
comp=Z,14nm,0.6s
NIE **Niedzica** 74.12 7 *e*P P 11 58 34.5 +0.9
KRUC **Moravsky** 74.15 10 *e*P P 11 58 33.9 +0.2
CKRC **Cesky Krumlov** 74.18 11 *e*P P 11 58 34.0 +0.1
CKRC **Cesky Krumlov** 74.18 11 *e*P P 11 58 34.0 +0.1
STHS **Stebnicka Huta** 74.18 7 *e*P P 11 58 34.3 +0.4
STHS pmax pmax
comp=Z,75nm,0.7s
STHS **Stebnicka Huta** 74.18 7 *e*P P 11 58 34.3 +0.4
CHMS **Chumysh** 74.25 328 P P 11 58 35.1 +0.6
SNR=17
LANS **Liptovska Anna** 74.33 8 *e*P P 11 58 36.1 +1.3
LANS pmax pmax
comp=Z,41nm,0.8s
LANS **Liptovska Anna** 74.33 8 *e*P P 11 58 36.1 +1.3
BOOM **Boomskoye usch** 74.36 327 P P 11 58 35.4 +0.1
BOOM **Boomskoye usch** 74.36 327 P P 11 58 35.4 +0.1
BOOM pmax pmax
comp=Z,29nm,1.2s
FRU1 **Bishkek** 74.46 328 P P 11 58 35.8 +0.1
FRU1 IAmb IAmb 11 58 37.5
comp=Z,83nm,1.2s
FRU1 **Bishkek** 74.46 328 P P 11 58 35.8 +0.1
FRU1 pmax pmax
comp=Z,83nm,1.2s
JAVC **Velka Javorina** 74.47 9 *e*P P 11 58 37.1 +1.5
ULHL **Ulahol** 74.49 327 P P 11 58 36.4 +0.3
SNR=26
UREC **San Jos de Ur** 74.50 100 *e*P P 11 58 34.2 -2.0
KBK **Karagaybulak** 74.51 328 P P 11 58 36.7 +0.6
SNR=18
AAK **Ala-Archa** 74.66 328 P P 11 58 37.3 +0.3
SNR=18
AAK **Ala-Archa** 74.66 328 P P 11 58 37.0 0.0
AAK **Ala-Archa** 74.66 328 ⇑*i*P P 11 58 37.1 +0.1
AAK pmax pmax
comp=Z,30nm,1.1s
CRVS **Cervenica-Dubn** 74.71 6 *e*P P 11 58 37.7 +0.7
CRVS pmax pmax
comp=Z,77nm,1.2s
CRVS **Cervenica-Dubn** 74.71 6 *e*P P 11 58 37.7 +0.7
KOLS **Kolonicke sedl** 74.73 6 *e*P P 11 58 38.1 +1.0
KOLS pmax pmax
comp=Z,46nm,1.3s
KOLS **Kolonicke sedl** 74.73 6 *e*P P 11 58 38.1 +1.0
SMOL **Smolenice** 74.79 9 *e*P P 11 58 38.6 +1.2
SMOL pmax pmax
comp=Z,28nm,1.1s
EKS2 **Erkin-Say** 74.84 329 P P 11 58 38.6 +0.6
SNR=30
MODS **Modra-Piesok** 74.92 9 *e*P P 11 58 39.1 +0.9
MODS pmax pmax
comp=Z,196nm,1.1s
MODS **Modra-Piesok** 74.92 9 *e*P P 11 58 39.0 +0.9
VYHS **Vyhne** 74.93 8 *e*P P 11 58 38.9 +0.7
VYHS pmax pmax
comp=Z,72nm,1.2s
VYHS **Vyhne** 74.93 8 *e*P P 11 58 38.9 +0.7
UCH **Uchtor** 75.03 328 P P 11 58 40.4 +0.9
SNR=6.0
RETA **Reutte** 75.06 14 *i* P P 11 58 39.5 +0.4
comp=Z,20nm,1.3s,SNR=6.9
KECS **Kecovo** 75.06 7 *e*P P 11 58 40.0 +1.0
KECS pmax pmax
comp=Z,66nm,0.9s
KECS **Kecovo** 75.06 7 *e*P P 11 58 40.0 +1.0
ZST **Bratislava** 75.08 10 *e*P P 11 58 40.3 +1.2
ZST **Bratislava** 75.08 10 *e*P P 11 58 40.3 +1.2
MOA **Molln** 75.13 12 *i* P P 11 58 39.8 +0.3
comp=Z,22nm,1.1s,SNR=9.5
DAVA **Damuels** 75.13 15 *i* P P 11 58 40.2 +0.6
comp=Z,32nm,1.2s,SNR=7.8
BIOA **Bad Ischl, Aus** 75.22 12 *i* P P 11 58 40.4 +0.4
comp=Z,44nm,1.1s,SNR=17
CONA **Conrad Observa** 75.22 10 *i* P P 11 58 40.9 +0.9
comp=Z,58nm,1.0s,SNR=30
MOTA **Moosalm** 75.24 14 *i* P P 11 58 40.6 +0.4
comp=Z,66nm,1.3s,SNR=19
NRN **Naryn** 75.31 327 P P 11 58 41.1 +0.2
NRN **Naryn** 75.31 327 P P 11 58 41.2 +0.2
NRN pmax pmax
comp=Z,33nm,1.2s
WATA **Walderalm** 75.31 13 *i* P P 11 58 41.2 +0.5
comp=Z,86nm,1.2s,SNR=18
DZA **Taraz** 75.32 330 *e*P P 11 58 40.2 -0.4
baz=330
DZA **Taraz** 75.32 330 *e*P P 11 58 40.2 -0.4
KK31 **Karatay Array** 75.34 331 P P 11 58 40.5 -0.2
KK31 **Karatay Array** 75.34 331 P P 11 58 40.5 -0.2
KK31 pmax pmax
comp=Z,28nm,1.1s
KKAR **Karatay Array** 75.34 331 P P 11 58 40.4 -0.4
KKAR **Karatay Array** 75.34 331 P P 11 58 40.4 -0.4
AML **Almayashu** 75.36 329 P P 11 58 42.1 +0.8
SNR=26
LESA **Schwarzleotal** 75.37 13 *i* P P 11 58 41.4 +0.6
comp=Z,36nm,1.1s
SQTA **Sankt Quirin** 75.38 14 *i* P P 11 58 41.7 +0.7
comp=Z,69nm,1.0s,SNR=27
WTTA **Wattenberg** 75.39 13 *i* P P 11 58 41.9 +0.8
comp=Z,77nm,1.0s,SNR=25
RONA **Rosalia, Austr** 75.49 10 *i* P P 11 58 42.2 +0.6
comp=Z,29nm,1.0s,SNR=13
FETA **Feichten** 75.51 14 *i* P P 11 58 42.5 +0.7
comp=Z,53nm,1.1s,SNR=20
SRO **Srobarova** 75.56 9 *e*P P 11 58 43.2 +1.4
SRO **Srobarova** 75.56 9 *e*P P 11 58 43.2 +1.4
PSZ **Piszkesteto** 75.58 8 ⇑P P 11 58 43.3 +1.1
PSZ **Piszkesteto** 75.58 8 P P 11 58 42.5 +0.4
PSZ **Piszkesteto** 75.58 8 P P 11 58 43.2 +1.1
DAVOX **Davos/Dischmat** 75.63 15 P P 11 58 43.1 +0.6
comp=Z,21nm,0.9s,baz=339,slow=7.1,SNR=15
comp=Z,21nm,0.9s
SORM **Soroca** 75.75 2 ⇑P P 11 58 42.9 -0.1
SORM **Soroca** 75.75 2 P P 11 58 42.8 -0.1
GYA **Guiyang** 75.75 296 ⇑*i*P P 11 58 43.3 -0.2
GYA pmax pmax
comp=Z,46nm,0.9s
KBA **Koelnbreinsper** 75.79 12 *i* P P 11 58 44.4 +1.0
comp=Z,108nm,1.1s,SNR=40
CBOC **Ciudad Bolivar** 75.80 101 *e*P P 11 58 43.9 0.0
FUORN **Ofenpass-Fuorn** 75.84 15 P P 11 58 44.5 +0.7
FUORN IAmb IAmb 11 58 46.0
comp=Z,49nm,1.1s
ARSA **Arzberg** 75.86 11 *i* P P 11 58 44.6 +0.9
comp=Z,13nm,0.7s,SNR=12
ABTA **Abfaltersbach** 76.01 13 *i* P P 11 58 45.0 +0.4
comp=Z,39nm,1.2s,SNR=15
BMR **Baia Mare** 76.05 5 ⇓P P 11 58 45.8 +1.2
BMR **Baia Mare** 76.05 5 P P 11 58 45.8 +1.2
PTBC **PUERTO BERRIO,** 76.09 99 *e*P P 11 58 44.2 -1.1
BUR08 **Bucovina Ar. S** 76.16 4 P P 11 58 46.0 +0.5
BUR08 IAmb IAmb 11 58 47.1
comp=Z,48nm,1.1s
BURAR **Bucovina Array** 76.19 4 ⇑P P 11 58 46.2 +0.7
BURAR **Bucovina Array** 76.19 4 P P 11 58 45.5 0.0
BURAR IAmb IAmb 11 58 47.1
comp=Z,42nm,0.7s
BURAR **Bucovina Array** 76.19 4 P P 11 58 46.2 +0.7
SDV **Santo Domingo** 76.26 95 P P 11 58 45.6 -0.9
MYKA **Terra Mystica** 76.26 12 *i* P P 11 58 46.1 +0.1
comp=Z,26nm,0.9s,SNR=11
ARSB **Arslanbob** 76.30 329 P P 11 58 46.2 -0.2
ARSB **Arslanbob** 76.30 329 P P 11 58 46.2 -0.2
ARSB pmax pmax
comp=Z,6.0nm,1.0s
CHM **Chimkent** 76.31 332 *e*P P 11 58 46.2 -0.2
baz=331
CHM **Chimkent** 76.31 332 *e*P P 11 58 46.1 -0.2
SOKA **Soboth** 76.37 11 *i* P P 11 58 47.1 +0.5
comp=Z,73nm,1.1s,SNR=52
PERS **Pernice** 76.42 11 *i* P P 11 58 47.4 +0.5
PRED **Cave del Predi** 76.44 12 P P 11 58 46.7 -0.3
PRED IAmb IAmb 11 58 47.9
comp=Z,41nm,1.2s
OBKA **Obir** 76.49 12 *i* P P 11 58 47.8 +0.6
comp=Z,117nm,0.8s,SNR=41
PGAV **Gavieira, Arco** 76.51 29 *e*P P 11 58 48.1 +0.6
comp=Z,54nm,1.6s
CTI **Castel Tesino** 76.59 14 P P 11 58 47.5 -0.4
CTI **Castel Tesino** 76.59 14 P P 11 58 47.5 -0.4
CTI pmax pmax
comp=Z,36nm,1.2s
CADS **Cadrg** 76.67 12 *i* P P 11 58 47.9 -0.4
ARCR **ARCALIA** 76.68 5 ⇑P P 11 58 49.5 +1.3
GUY2C **Guyana, Caldas** 76.69 101 *e*P P 11 58 48.9 -0.3
KOGS **Kog** 76.73 10 *i* P P 11 58 48.8 +0.3
BARC **Barichara** 76.75 98 *e*P P 11 58 48.7 -0.6
BNI **Bardonecchia** 76.82 17 P P 11 58 49.9 +0.6
BNI IAmb IAmb 11 58 51.9
comp=Z,58nm,1.2s
BNI **Bardonecchia** 76.82 17 P P 11 58 49.9 +0.6
BNI pmax pmax
comp=Z,58nm,1.3s
DRGR 76.89 6 ⇓P P 11 58 50.0 +0.5
DRGR 76.89 6 P P 11 58 50.0 +0.5
SABO **M.te Sabotino** 76.90 12 P P 11 58 49.4 -0.2
SABO IAmb IAmb 11 58 50.4
comp=Z,67nm,1.0s
ECAL **Calabor** 76.94 28 P P 11 58 50.3 +0.4
MILM **Milestii Mici** 76.98 1 ⇓P P 11 58 50.0 +0.1
MILM **Milestii Mici** 76.98 1 P P 11 58 49.9 +0.1
MARR **Marisel-Cluj** 77.03 6 ⇑P P 11 58 50.8 +0.4
DGTI **Dogotuki** 77.05 211 P P 11 58 51.4 +0.8
PBRG **Braganca** 77.06 28 *e*P P 11 58 51.1 +0.5
comp=Z,49nm,1.6s
KSH **Kashi** 77.07 326 P P 11 58 53.4 +2.7
KSH pmax pmax
comp=Z,30nm,1.1s
MORH **Mrgy, Hungar** 77.18 9 ⇑P P 11 58 50.7 -0.4
YOTC **Yotoco, Valle** 77.19 102 *e*P P 11 58 50.1 -1.5
POLO **Lamas de Olo** 77.19 29 *e*P P 11 58 51.8 +0.5
comp=Z,24nm,1.1s
PTO **Porto** 77.19 30 *e*P P 11 58 52.2 +1.0
VASR **Vaslui** 77.23 2 ⇓P P 11 58 51.4 0.0
TEOL **Teolo** 77.27 14 P P 11 58 51.6 0.0
PVRL **Vila Real** 77.30 29 *e*P P 11 58 52.6 +0.7
comp=Z,66nm,1.3s
TESR **Tescani** 77.33 3 ⇑P P 11 58 51.4 -0.6
SIRR **Siria** 77.35 7 ⇓P P 11 58 52.7 +0.7
PURM **Purcari** 77.38 1 ⇑P P 11 58 52.5 +0.4
MANU **Manus Island** 77.43 246 P P 11 58 52.9 +0.1
MANU **Manus Island** 77.43 246 P P 11 58 53.4 +0.5
ROSC **El Rosal** 77.58 100 P P 11 58 55.2 +1.0
comp=Z,14nm,0.8s,baz=14,slow=9.7,SNR=7.3
comp=Z,14nm,0.8s
MVO **Moncorvo** 77.59 28 *e*P P 11 58 54.0 +0.5
comp=Z,51nm,1.0s
BAUV **El Baul** 77.65 92 P P 11 58 53.4 -0.7
JAMC **Jamundi, Valle** 77.65 103 *e*P P 11 58 53.5 -0.9
OZUR 77.72 4 ⇓P P 11 58 55.3 +1.1
TURR **Turia** 77.77 3 ⇓P P 11 58 55.6 +1.2
GHRR 77.81 2 ⇑P P 11 58 55.5 +0.9
DOPR **Dopca** 77.84 4 ⇓P P 11 58 55.6 +0.8
ORTC **Ortega, Tolima** 77.85 101 *e*P P 11 58 52.3 -2.9
ERBR **Yeremizino-Bor** 77.88 353 *e*P P 11 58 53.0 -2.0
ERBR *e*S S 12 08 45.7 -0.2
ERBR pmax pmax
comp=Z,134nm,1.1s
SURR **Surduc** 77.89 6 ⇓P P 11 58 54.6 -0.4
VRI **Vrincioaia** 77.98 3 ⇑P P 11 58 56.3 +0.7
VRI **Vrincioaia** 77.98 3 P P 11 58 56.2 +0.7
COVR **Voineasa-Covas** 77.99 3 ⇑P P 11 58 56.8 +1.1
BZS **Buzias** 77.99 7 ⇑P P 11 58 56.1 +0.5
BZS **Buzias** 77.99 7 P P 11 58 56.1 +0.5
PLOR **Plostina** 78.00 3 ⇑P P 11 58 56.5 +0.8
PLOR **Plostina** 78.00 3 P P 11 58 56.5 +0.8
BTK **Batken** 78.09 330 P P 11 58 56.0 -0.4
BTK IAmb IAmb 11 58 57.7
comp=Z,49nm,1.2s
BTK **Batken** 78.09 330 P P 11 58 56.0 -0.4
BTK pmax pmax
comp=Z,49nm,1.2s
PZH **PanZhiHua** 78.12 300 P P 11 58 56.5 -0.3
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.2s
MTE **Manteigas** 78.17 29 *e*P P 11 58 57.2 +0.4
comp=Z,77nm,1.2s
MTE **Manteigas** 78.17 29 P P 11 58 57.0 +0.3
MTE IAmb IAmb 11 58 58.4
comp=Z,44nm,0.9s
PRAC **Prado** 78.21 101 *e*P P 11 58 55.7 -1.5
PCAS **Casmilo, Conde** 78.23 30 *e*P P 11 58 57.5 +0.5
comp=Z,72nm,1.4s
VLC **Villacollemand** 78.27 15 P P 11 58 57.1 -0.1
LOT **Lotru** 78.28 5 ⇑P P 11 58 57.0 -0.4
GZR **Gura Zlata** 78.29 6 ⇓P P 11 58 58.1 +0.8
GZR **Gura Zlata** 78.29 6 P P 11 58 58.1 +0.8
FRGS **Fruska Gora** 78.32 8 ⇓P P 11 58 57.9 +0.4
MLR **Muntele Rosu** 78.33 4 ⇑P P 11 58 58.6 +0.9
MLR **Muntele Rosu** 78.33 4 P P 11 58 58.1 +0.4
MLR IAmb IAmb 11 59 00.7
comp=Z,93nm,1.2s
MLR **Muntele Rosu** 78.33 4 P P 11 58 58.5 +0.9
MLR **Muntele Rosu** 78.33 4 P P 11 58 58.1 +0.4
comp=Z,36nm,0.9s,baz=350,slow=4.6,SNR=22
comp=Z,36nm,0.9s
GOF **Gofitskoye** 78.34 351 *ce*P P 11 58 57.7 +0.2
BBAC **Balboa, Cauca** 78.34 104 *e*P P 11 58 57.9 -0.3
NEGRR **Negrea** 78.34 2 ⇓P P 11 58 58.4 +0.9
VOIR 78.35 4 ⇓P P 11 58 58.3 +0.5
VOIR 78.35 4 P P 11 58 58.2 +0.5
ARR **Arges** 78.41 5 ⇑P P 11 58 59.1 +1.1
PSBE **So Bento** 78.65 30 *e*P P 11 59 00.7 +1.3
comp=Z,86nm,1.3s
CFR **Carcaliu** 78.70 2 ⇓P P 11 58 60.0 +0.4
CFR **Carcaliu** 78.70 2 P P 11 58 59.9 +0.4
PCBR **Castelo Branco** 78.71 29 *e*P P 11 58 59.6 -0.1
comp=Z,39nm,1.5s
TLCR 78.71 2 ⇓P P 11 59 00.3 +0.8
TLCR 78.71 2 P P 11 59 00.3 +0.8
HERR **Herculane** 78.78 6 ⇑P P 11 58 59.8 -0.1
KMI **Kunming** 78.80 299 ⇓P P 11 59 00.8 +0.1
KMI pmax pmax
comp=Z,23nm,0.9s
MDVR **Moldovita** 78.83 7 ⇑P P 11 59 00.6 +0.2
SIM **Simferopol'** 78.92 358 *e*P P 11 59 01.9 +1.1
SIM pmax pmax
comp=Z,105nm,1.3s
LABN **Labinsk** 78.93 353 *e*P P 11 58 58.8 -2.0
LABN *e*S S 12 08 56.4 -0.8
LABN pmax pmax
comp=Z,25nm,0.4s
ANN **Anapa** 78.96 355 *e*P P 11 58 57.5 -3.4
ANN *e*S S 12 08 53.8 -3.7
ANN pmax pmax
comp=Z,35nm,0.9s
PMAFR **Mafra** 79.03 31 *e*P P 11 59 02.1 +0.6
comp=Z,183nm,1.0s
PMAFR **Mafra** 79.03 31 P P 11 59 01.5 0.0
PMRV **Marv??o** 79.12 29 *e*P P 11 59 01.9 0.0
comp=Z,29nm,1.6s
HARR **Harsova** 79.19 2 ⇑P P 11 59 02.7 +0.5
HARR **Harsova** 79.19 2 P P 11 59 02.7 +0.5
OTAV **Otavalo** 79.19 106 P P 11 59 02.7 -0.5
OTAV **Otavalo** 79.19 106 P P 11 59 02.7 -0.5
OTAV pmax pmax
comp=Z,16nm,1.0s
OTAV **Otavalo** 79.19 106 *e*P P 11 59 03.3 +0.1
OTAV **Otavalo** 79.19 106 *e*P P 11 59 02.5 -0.7
PMTG **Montargil** 79.22 30 *e*P P 11 59 02.4 -0.1
comp=Z,38nm,1.3s
TLBR **Topalu** 79.34 2 ⇓P P 11 59 03.4 +0.4
PULU **Pululahua** 79.34 106 P P 11 59 03.5 -0.4
TIRR **Tirgusor** 79.43 2 ⇑P P 11 59 04.1 +0.5
TIRR **Tirgusor** 79.43 2 P P 11 59 04.0 +0.5
KIV **Kislovodsk** 79.46 351 ⇓P P 11 59 04.8 +0.9
KIV **Kislovodsk** 79.46 351 P P 11 59 03.7 -0.2
KIV IAmb IAmb 11 59 05.3
comp=Z,59nm,0.8s
KIV **Kislovodsk** 79.46 351 *e*P P 11 59 04.3 +0.4
KIV pmax pmax
comp=Z,60nm,1.0s
PESTR **Estremoz** 79.59 30 *e*P P 11 59 04.6 0.0
comp=Z,43nm,1.6s
PESTR **Estremoz** 79.59 30 P P 11 59 04.5 0.0
KBZ **Khabaz** 79.67 351 ⇑*e*P P 11 59 05.6 +0.7
KBZ pmax pmax
comp=Z,49nm,0.9s
KBZ **Khabaz** 79.67 351 P P 11 59 05.5 +0.7
comp=Z,35nm,0.9s,baz=330,slow=4.3,SNR=56
KBZ PKKPbc **PKKPbc** 12 17 49.1 -0.2
comp=Z,4.3nm,1.0s,baz=18,slow=4.7,SNR=4.7
comp=Z,35nm,0.9s
ESBB **Sonseca Array** 79.78 27 P P 11 59 06.0 +0.5
ESBB IAmb IAmb 11 59 07.4
comp=Z,54nm,0.9s
ESDC **Sonseca Array** 79.78 27 P P 11 59 06.0 +0.4
ESDC IAmb IAmb 11 59 07.4
comp=Z,56nm,1.1s
ESDC **Sonseca Array** 79.78 27 P P 11 59 06.1 +0.5
comp=Z,42nm,0.9s,baz=335,slow=5.3,SNR=163
comp=Z,42nm,0.9s
EVO **Evora** 79.78 30 *e*P P 11 59 05.8 +0.2
comp=Z,50nm,1.5s
EVO **Evora** 79.78 30 P P 11 59 05.6 +0.1
PAB **San Pablo** 79.80 27 P P 11 59 05.6 -0.2
PAB IAmb IAmb 11 59 07.5
comp=Z,48nm,1.3s
PAB **San Pablo** 79.80 27 P P 11 59 06.4 +0.6

NCK	**Nalchik**	**79.84**	**351**	⇑	*e*P		**P**	**11 59 06.6**	**+0.8**
NCK					pmax		pmax		
	comp=Z,98nm,0.8s								
EBAD	**Badajoz**	**79.85**	**29**		P		**P**	**11 59 06.1**	**+0.2**
SIMJ	**Simiganj**	**79.90**	**331**		P		**P**	**11 59 05.9**	**-0.5**
SIMJ					IAmb		IAmb	11 59 07.4	
	comp=Z,66nm,1.2s								
GROC	**Groznyy**	**79.92**	**349**		*e*P		**P**	**11 59 07.8**	**+1.6**
GROC					*e*			12 02 12.2	
GROC					pmax		pmax		
	comp=Z,18nm,0.4s								
MAK	**Makhachkala**	**79.96**	**348**		*e*P		P	11 59 01.0	-5.4
MAK					*e*S		**S**	**12 09 00.9**	**-7.3**
MAK					pmax		pmax		
	comp=Z,176nm,1.3s								
BOVS	**Bovan**	**79.97**	**7**	⇓	P		**P**	**11 59 06.3**	**-0.2**
PNCL	**Nicolau / Gran**	**80.03**	**31**		*e*P		**P**	**11 59 07.2**	**+0.3**
	comp=Z,56nm,1.4s								
PNCL	**Nicolau / Gran**	**80.03**	**31**		P		**P**	**11 59 07.1**	**+0.2**
BLKB	**Belogradchik**	**80.05**	**6**	⇓	P		**P**	**11 59 07.1**	**+0.1**
SOC	**Sochi**	**80.05**	**354**		*e*P		**P**	**11 59 06.5**	**-0.4**
SOC					*e*			12 02 07.5	
SOC					*e*PPP		PPP	12 03 56.5	
SOC					*e*S		**S**	**12 09 10.7**	**+1.6**
SOC					*e*SS		**SS**	**12 14 21.9**	**+4.0**
SOC					*e*SSS		SSS	12 17 46.2	
SOC					pmax		pmax		
	comp=Z,73nm,1.0s								
LSA	**Lhasa**	**80.20**	**310**		P		**P**	**11 59 08.7**	**+0.1**
LSA					IAmb		IAmb	11 59 10.9	
	comp=Z,39nm,1.0s								
LSA	**Lhasa**	**80.20**	**310**		P		**P**	**11 59 08.7**	**+0.1**
LSA					pmax		pmax		
	comp=Z,39nm,1.0s								
PBEJ	**Beja**	**80.30**	**30**		*e*P		**P**	**11 59 08.6**	**+0.3**
	comp=Z,25nm,1.7s								
PIAT	**Ana Tenorio**	**80.33**	**107**		*e*P		**P**	**11 59 08.5**	**-0.7**
MESJ	**Messejana**	**80.37**	**30**		*e*P		**P**	**11 59 08.6**	**-0.2**
MESJ	**Messejana**	**80.37**	**30**		*e*P		**P**	**11 59 08.6**	**-0.2**
MESJ					IAmb		IAmb	11 59 10.2	
	comp=Z,31nm,1.3s								
MESJ	**Messejana**	**80.37**	**30**		*e*P		**P**	**11 59 08.6**	**-0.2**
MESJ					pmax		pmax		
	comp=Z,31nm,1.3s								
PBAR	**Barrancos**	**80.39**	**29**		*e*P		**P**	**11 59 09.2**	**+0.4**
	comp=Z,47nm,1.3s								
PBAR	**Barrancos**	**80.39**	**29**		P		**P**	**11 59 08.8**	**0.0**
CHSH	**Refugio Sur-Vo**	**80.43**	**107**		P		**P**	**11 59 10.3**	**+0.2**
CHSH					IAmb		IAmb	11 59 12.3	
	comp=Z,63nm,1.1s								
ZEI	**Tsey**	**80.52**	**350**		*e*P		**P**	**11 59 08.6**	**-1.1**
ZEI					pmax		pmax		
	comp=Z,19nm,1.0s								
ECHE	**Chera**	**80.57**	**24**		P		**P**	**11 59 10.8**	**+0.9**
PCVE	**Castro Verde**	**80.62**	**30**		*e*P		**P**	**11 59 10.3**	**+0.2**
MORF	**Marmelete**	**80.75**	**31**		*e*P		**P**	**11 59 10.8**	**0.0**
MORF	**Marmelete**	**80.75**	**31**		*e*P		P	**11 59 10.5**	**-0.3**
MORF					IAmb		IAmb	11 59 11.7	
	comp=Z,19nm,0.6s								
MORF	**Marmelete**	**80.75**	**31**		*e*P		**P**	**11 59 10.5**	**-0.3**
MORF					pmax		pmax		
	comp=Z,19nm,0.6s								
PFVI	**Vila Bisbo**	**80.86**	**31**		*e*P		**P**	**11 59 12.1**	**+0.7**
	comp=Z,132nm,1.7s								
EGRO	**El Granado**	**80.86**	**30**		P		**P**	**11 59 11.5**	**+0.1**
EMIN	**Mina Concepcio**	**80.87**	**29**		P		**P**	**11 59 11.3**	**-0.1**
TNCH	**TengChong**	**80.91**	**302**		*e*P		**P**	**11 59 12.1**	**+0.1**
TNCH					pmax		pmax		
	comp=Z,74nm,0.9s								
ECAB	**El Cabril**	**80.91**	**28**		P		**P**	**11 59 11.9**	**+0.2**
PVAQ	**Vaqueiros**	**80.92**	**30**		*e*P		**P**	**11 59 12.3**	**+0.6**
	comp=Z,11nm,1.5s								
PVAQ	**Vaqueiros**	**80.92**	**30**		P		**P**	**11 59 11.9**	**+0.2**
PBDV	**Barranco-do-Ve**	**81.01**	**30**		*e*P		**P**	**11 59 13.0**	**+0.8**
COHC	**Cochancay**	**81.04**	**108**		P		**P**	**11 59 11.8**	**-0.7**
COHC	**Cochancay**	**81.04**	**108**		*e*P		**P**	**11 59 11.9**	**-0.7**
EADA	**Adamuz**	**81.05**	**28**		P		**P**	**11 59 13.1**	**+0.6**
PTLC	**Puerto Leguiza**	**81.21**	**103**		*e*P		**P**	**11 59 14.3**	**+0.8**
PUK	**Puka**	**81.42**	**8**		P		**P**	**11 59 14.3**	**0.0**
PUK					IAmb		IAmb	11 59 25.4	
	comp=Z,31nm,0.9s								
GENI	**Genyem**	**81.64**	**252**		P		**P**	**11 59 16.6**	**+0.9**
GENI	**Genyem**	**81.64**	**252**		P		**P**	**11 59 15.8**	**+0.1**
	comp=Z,55nm,1.1s								
ESPR	**Espera**	**81.93**	**29**		P		**P**	**11 59 17.8**	**+0.7**
EGOR	**Sierra Gorda,**	**82.16**	**28**		P		**P**	**11 59 19.2**	**+0.7**
EMUR	**La Murta**	**82.18**	**25**		P		**P**	**11 59 18.9**	**+0.5**
DIKM	**Dikmen**	**82.19**	**357**	⇑	P		**P**	**11 59 18.7**	**+0.3**
PMPS	**Porto Santo**	**82.23**	**38**		*e*P		**P**	**11 59 19.2**	**+0.5**
EQTA	**Presa de Quent**	**82.24**	**27**		P		**P**	**11 59 19.9**	**+1.1**
MCRA	**Macar, Loja**	**82.28**	**110**		P		**P**	**11 59 18.7**	**-0.5**
MCRA	**Macar, Loja**	**82.28**	**110**		*e*P		**P**	**11 59 18.7**	**-0.5**
NVR	**Nevrokopi**	**82.38**	**5**		P		**P**	**11 59 20.9**	**+1.5**
OHR	**Ohrid**	**82.42**	**8**	*i*	P		**P**	**11 59 20.3**	**+0.7**
KNT	**Kendrikon**	**82.51**	**6**		P		**P**	**11 59 20.8**	**+0.8**
MATE	**Matera**	**82.51**	**11**	⇓	P		**P**	**11 59 20.7**	**+0.7**
RDO	**Rodhopi**	**82.66**	**4**		P		**P**	**11 59 21.3**	**+0.5**
RDO	**Rodhopi**	**82.66**	**4**		P		**P**	**11 59 21.6**	**+0.9**
KAVA	**Kavala**	**82.76**	**5**		P		**P**	**11 59 21.8**	**+0.5**
FNA	**Florina**	**82.79**	**7**		P		**P**	**11 59 21.1**	**-0.4**
FNA					IAmb		IAmb	11 59 22.6	
	comp=Z,37nm,1.2s								
FNA	**Florina**	**82.79**	**7**		P		**P**	**11 59 21.1**	**-0.4**
FNA					pmax		pmax		
	comp=Z,37nm,1.2s								
KOKK	**Kokkinochori,**	**82.91**	**5**		P		**P**	**11 59 22.2**	**+0.1**
ALN	**Alexandroupoli**	**82.92**	**4**		P		**P**	**11 59 22.6**	**+0.5**
GNI	**Garni**	**83.05**	**349**		P		**P**	**11 59 23.5**	**+0.4**
GNI					IAmb		IAmb	11 59 25.7	
	comp=Z,80nm,1.3s								
GNI	**Garni**	**83.05**	**349**	⇑	*e*P		**P**	**11 59 24.5**	**+1.5**
GNI					pmax		pmax		
	comp=Z,72nm,1.3s								
CUC	**Castrocucco**	**83.06**	**12**		P		**P**	**11 59 22.5**	**-0.5**
CUC					IAmb		IAmb	11 59 23.3	
	comp=Z,73nm,1.2s								
GEYT	**Alibeck**	**83.18**	**339**		P		**P**	**11 59 24.0**	**+0.4**
GEYT					IAmb		IAmb	11 59 25.0	
	comp=Z,24nm,0.9s								
GEYT	**Alibeck**	**83.18**	**339**		P		**P**	**11 59 24.1**	**+0.4**
	comp=Z,15nm,0.9s,baz=322,slow=4.5,SNR=25								
	comp=Z,15nm,0.9s								
GYA0B	**ALIBECK ARRAY**	**83.18**	**339**		P		**P**	**11 59 23.9**	**+0.3**
GYA0B					IAmb		IAmb	11 59 25.5	
	comp=Z,27nm,1.1s								
NIL	**Nilore**	**83.31**	**326**		P		**P**	**11 59 24.0**	**-0.4**
NIL					IAmb		IAmb	11 59 25.6	
	comp=Z,54nm,1.2s								
NIL	**Nilore**	**83.31**	**326**		P		**P**	**11 59 24.0**	**-0.4**
NIL					pmax		pmax		
	comp=Z,54nm,1.3s								
MDUB	**Mudurnu**	**83.44**	**360**		P		**P**	**11 59 24.9**	**-0.1**
SHL	**Shillong**	**83.47**	**307**		P		**P**	**11 59 24.3**	**-1.2**
SHL					IAmb		IAmb	11 59 25.7	
	comp=Z,66nm,1.5s								
SHL	**Shillong**	**83.47**	**307**		P		**P**	**11 59 24.3**	**-1.2**
SHL					pmax		pmax		
	comp=Z,66nm,1.5s								
KBL	**Kabul**	**83.74**	**329**		P		**P**	**11 59 25.2**	**-1.6**
KBL	**Kabul**	**83.74**	**329**		P		**P**	**11 59 25.2**	**-1.6**
KBL					pmax		pmax		
	comp=Z,17nm,1.2s								
PMG	**Port Moresby**	**83.85**	**243**		P		**P**	**11 59 26.9**	**-0.2**
PMG					IAmb		IAmb	11 59 41.6	
	comp=Z,66nm,1.4s								
PMG	**Port Moresby**	**83.85**	**243**		P		**P**	**11 59 26.9**	**-0.2**
PMG					pmax		pmax		
	comp=Z,66nm,1.4s								
TIP	**Timpagrande**	**83.97**	**11**	⇓	P		**P**	**11 59 27.7**	**0.0**
ANTO	**Ankara**	**84.03**	**359**	⇑	P		**P**	**11 59 29.0**	**+1.1**
ANTO	**Ankara**	**84.03**	**359**		P		**P**	**11 59 27.9**	**0.0**
ANTO	**Ankara**	**84.03**	**359**		P		**P**	**11 59 29.0**	**+1.1**
BR231	**Keskin MP Arra**	**84.05**	**359**		P		**P**	**11 59 28.2**	**+0.1**
CRAI	**Chiangrai**	**84.09**	**298**		P		**P**	**11 59 27.8**	**-0.7**
CRAI					IAmb		IAmb	11 59 29.4	
	comp=Z,32nm,1.1s								
BR131	**Keskin Array S**	**84.15**	**358**		P		**P**	**11 59 28.7**	**0.0**
BR131					IAmb		IAmb	11 59 30.2	
	comp=Z,51nm,0.9s								
BR131	**Keskin Array S**	**84.15**	**358**	*c*	*i*P		**P**	**11 59 28.9**	**+0.3**
BRTR	**Keskin Array B**	**84.15**	**358**		P		**P**	**11 59 28.9**	**+0.2**
BRTR	**Keskin Array B**	**84.15**	**358**		P		**P**	**11 59 29.0**	**+0.2**
	comp=Z,27nm,0.8s,baz=14,slow=2.5,SNR=80								
BRTR					PKKPbc		**PKKPbc**	**12 17 39.6**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=158,slow=6.3,SNR=9.8								
	comp=Z,27nm,0.8s								
NONG	**Nongkai**	**84.54**	**294**		P		**P**	**11 59 30.2**	**-0.6**
MAKR	**Makrakomi, Fth**	**84.60**	**7**		P		**P**	**11 59 31.2**	**+0.4**
AGG	**Agios Georgios**	**84.60**	**7**		P		**P**	**11 59 30.2**	**-0.7**
MND	**Mandalay**	**84.61**	**302**		P		**P**	**11 59 32.0**	**+0.9**
EVR	**Evrytania**	**84.67**	**7**		P		**P**	**11 59 33.0**	**+1.7**
AXAR	**Agios Charalam**	**84.88**	**6**		P		**P**	**11 59 31.7**	**-0.5**
SWI	**Sorong**	**85.00**	**261**		P		**P**	**11 59 30.5**	**-2.5**
	comp=Z,44nm,1.3s								
SIJI	**Sorong**	**85.00**	**261**		P		**P**	**11 59 31.5**	**-1.6**
	comp=Z,39nm,1.2s								
ANX	**Ano Chora**	**85.00**	**7**		P		**P**	**11 59 34.1**	**+1.2**
EFP	**Efpalio**	**85.17**	**7**		P		**P**	**11 59 34.4**	**+0.8**
KLV	**Kalavryta, Ach**	**85.57**	**7**		P		**P**	**11 59 35.7**	**0.0**
THAL	**Thalero**	**85.61**	**7**		P		**P**	**11 59 35.0**	**-0.8**
HRA	**Herat**	**85.67**	**334**		P		**P**	**11 59 36.1**	**-0.4**
HRA					IAmb		IAmb	11 59 38.3	
	comp=Z,36nm,1.4s								
GUR	**Goura**	**85.69**	**7**		P		**P**	**11 59 36.1**	**-0.3**
UBPT	**Khong Chiam**	**85.69**	**291**		P		**P**	**11 59 35.8**	**-0.7**
UBPT					IAmb		IAmb	11 59 37.7	
	comp=Z,43nm,1.0s								
UBPT	**Khong Chiam**	**85.69**	**291**		P		**P**	**11 59 37.0**	**+0.5**
CMMT	**Chiang Mai**	**85.99**	**298**		P		**P**	**11 59 36.2**	**-1.8**
	comp=Z,53nm,1.3s								
CHTO	**Chiang Mai**	**85.99**	**298**		P		**P**	**11 59 37.5**	**-0.5**
CHTO					IAmb		IAmb	11 59 38.6	
	comp=Z,34nm,1.2s								
CHTO	**Chiang Mai**	**85.99**	**298**		P		**P**	**11 59 37.7**	**-0.3**
CHTO	**Chiang Mai**	**85.99**	**298**		P		**P**	**11 59 37.5**	**-0.5**
CHTO					pmax		pmax		
	comp=Z,33nm,1.3s								
CHTO	**Chiang Mai**	**85.99**	**298**		P		**P**	**11 59 37.3**	**-0.7**
	comp=Z,22nm,1.2s								
MDT	**Midelt**	**86.09**	**29**		P		**P**	**11 59 38.8**	**+0.3**
	comp=Z,50nm,1.0s,baz=7.3,slow=5.6,SNR=65								
	comp=Z,50nm,1.0s								
FAKI	**Fak Fak**	**86.17**	**259**		P		**P**	**11 59 38.1**	**-0.8**
FAKI					IAmb		IAmb	11 59 53.0	
	comp=Z,65nm,1.4s								
FAKI	**Fak Fak**	**86.17**	**259**		P		**P**	**11 59 38.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**86.30**	**298**		P		**P**	**11 59 39.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**86.30**	**298**		P		**P**	**11 59 39.4**	**-0.2**
	comp=Z,25nm,0.8s,baz=17,slow=5.1,SNR=121								
	comp=Z,25nm,0.8s								
KEST	**Kesra**	**86.35**	**17**		P		**P**	**11 59 39.6**	**-0.1**
	comp=Z,16nm,0.9s,baz=348,slow=4.3,SNR=8.7								
	comp=Z,16nm,0.9s								
DLV	**T Lat**	**86.90**	**287**		P		**P**	**11 59 43.8**	**+1.1**
BOAV	**Boa Vista**	**87.22**	**90**		*e*P		**P**	**11 59 42.8**	**-1.3**
BOAV	**Boa Vista**	**87.22**	**90**		*e*P		**P**	**11 59 42.7**	**-1.4**
SANI	**Sanana**	**88.88**	**265**		P		**P**	**11 59 53.4**	**+1.5**
SANI	**Sanana**	**88.88**	**265**		P		**P**	**11 59 48.5**	**-3.4**
	comp=Z,30nm,1.0s								
CZSB	**Cruzeiro do Su**	**88.94**	**106**		P		**P**	**11 59 51.7**	**-0.4**
CZSB	**Cruzeiro do Su**	**88.94**	**106**		*e*P		**P**	**11 59 53.9**	**+1.8**
SRDT	**SRDT**	**89.71**	**296**		P		**P**	**11 59 56.4**	**+0.6**
SRDT	**SRDT**	**89.71**	**296**		P		**P**	**11 59 55.2**	**-0.6**
	comp=Z,76nm,1.1s								
TEFE	**Tefe**	**89.83**	**97**		*e*P		**P**	**11 59 55.8**	**-0.5**
MMAI	**Mount Meron Ar**	**90.80**	**356**		P		**P**	**12 00 01.7**	**+0.9**
	comp=Z,22nm,1.1s,baz=357,slow=7.8,SNR=3.2								
	comp=Z,22nm,1.1s								
MACA	**Manacapuru-AM**	**91.72**	**93**		*e*P		**P**	**12 00 02.1**	**-3.1**
MTSU	**Mount Surprise**	**92.73**	**241**		P		**P**	**12 00 11.5**	**+1.8**
SBUM	**Sibu**	**92.78**	**279**		P		**P**	**12 00 09.2**	**-0.9**
	comp=Z,6.2nm,1.1s								
CTA	**Charters Tower**	**93.48**	**238**		P		**P**	**12 00 14.1**	**+1.0**
ETMB	**Extrema**	**94.18**	**101**		*e*P		**P**	**12 00 14.2**	**-2.3**
MCPB	**Macapa, AP**	**94.19**	**84**		*e*P		**P**	**12 00 16.4**	**-0.2**
MALB	**Monte Alegre**	**94.20**	**87**		*e*P		**P**	**12 00 16.0**	**-0.6**
KSM	**Kuching**	**94.64**	**280**		P		**P**	**12 00 18.9**	**+0.2**
KSM	**Kuching**	**94.64**	**280**		P		**P**	**12 00 17.4**	**-1.3**
	comp=Z,16nm,1.1s								
SAML	**Samuel**	**95.12**	**98**		*e*P		**P**	**12 00 18.6**	**-2.2**
SAML	**Samuel**	**95.12**	**98**		*e*P		**P**	**12 00 18.9**	**-1.9**
HYB	**Hyderabad**	**96.30**	**315**		*e*P		**P**	**12 00 25.8**	**-0.5**
WRA	**Warramunga Arr**	**99.25**	**248**	*i*	P		**Pdif**	**12 00 38.9**	**-0.4**
WRA					pmax		pmax		
	comp=Z,2.0nm,1.0s								
WRA	**Warramunga Arr**	**99.25**	**248**		P		**Pdif**	**12 00 38.2**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=39,slow=5.7,SNR=8.3								
	comp=Z,1.7nm,0.8s								
QLP	**Quilpie**	**99.99**	**237**		P		**Pdif**	**12 00 43.7**	**+1.3**
ASAR	**Alice Springs**	**102.57**	**246**		P		**Pdif**	**12 00 53.2**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=34,slow=4.0,SNR=3.3								
ASAR					PP		**PP**	**12 05 09.3**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=32,slow=5.6,SNR=2.2								
STKA	**Stephens Creek**	**105.69**	**236**		PP		**PP**	**12 05 31.0**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=24,slow=20,SNR=3.7								
TORD	**Torodi Ar. Bea**	**106.49**	**30**		PP		**PKiKP**	**12 05 26.2**	**+3.7**
	comp=Z,1.1nm,0.9s,baz=0.2,slow=7.2,SNR=4.1								
TORD					PKKP		**PKKPdf**	**12 16 51.6**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=145,slow=1.6,SNR=4.3								
KMBO	**Kilima Mbogo**	**124.60**	**352**		PKhKP		PKPpre	12 05 54.9	
	comp=Z,5.3nm,0.9s,baz=352,slow=1.1,SNR=7.1								
KMBO					PP		**PP**	**12 07 40.9**	**-2.4**
	comp=Z,1.2nm,0.5s,baz=3.8,slow=10,SNR=5.2								
WIN	**Windhoek**	**144.65**	**22**				**PKPab**	**12 06 32.6**	**-0.3**
WIN	**Windhoek**	**144.65**	**22**		PKIKP		**PKPab**	**12 06 32.6**	**-0.3**
QSPA	**South Pole Qui**	**146.25**	**180**		PKPdf		**PKPbc**	**12 06 36.1**	**-0.5**
QSPA	**South Pole Qui**	**146.25**	**180**		PKPbc		**PKPbc**	**12 06 36.5**	**-0.1**
	comp=Z,73nm,1.0s,baz=50,slow=0.6,SNR=3.6								
BELA	**Belgrano 2**	**149.49**	**158**				**PKPbc**	**12 06 43.8**	**-1.1**
BOSA	**Boshof**	**151.88**	**11**		PKPbc		**PKPbc**	**12 06 51.5**	**-0.7**
BOSA	**Boshof**	**151.88**	**11**		PKPbc		**PKPbc**	**12 06 51.9**	**-0.3**
	comp=Z,30nm,0.7s,baz=355,slow=2.5,SNR=44								
BOSA					PKPab		**pPKPbc**	**12 06 59.4**	**-0.2**
	comp=Z,13nm,0.8s,baz=6.4,slow=3.6,SNR=10								
VNA3	**Neumayer Olymp**	**157.43**	**147**		⇑PKPab		**PKPab**	**12 07 22.2**	**-1.6**
	comp=Z,15nm,0.8s								
VNA2	**Neumayer--Watz**	**158.24**	**147**		⇑PKPab		**PKPab**	**12 07 25.9**	**-1.4**
	comp=Z,8.5nm,0.8s,baz=265,slow=5.0								
SNAA	**Sanae**	**159.24**	**150**		⇑P		**PKPdf**	**12 06 49.7**	**-4.5**
	comp=Z,91nm,1.0s								
TROLL	**Troll, Antarti**	**160.45**	**154**		⇑PKPab		**PKPab**	**12 07 36.4**	**-0.7**
	comp=Z,932nm,0.8s								
ELIB	**Princess Elisa**	**164.13**	**171**		*d*PKPdf		**PKPdf**	**12 06 56.0**	**-3.4**
ELIB					*d*PKP		**PKPab**	**12 07 52.1**	**-1.0**

NEIC ***23*** *11:50:21.5±1.3,55.8N±0.1×149.3W±0.1, h7km±8km, ML4.0/24, ML3.4(AEIC), Error ellipse: s-maj=16.4km s-min=10.5km az=169.0*

AEIC 23 11:50:25.8±1.0, 55.8N±0.1×149.2W±0.1, h5km±8km, Error ellipse: s-maj=16.7km s-min=10.5km az=170.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.69**	**305**		Pn	11 51 04.4	-5.2
OHAK					Sn	11 51 34.8	-7.8
KDAK	**Kodiak Island**	**2.75**	**319**		Pn	11 51 05.7	-4.8
KDAK					Sn	11 51 37.0	-7.0
SYI	**Shuyak Island**	**3.34**	**330**		Pn	11 51 13.9	-4.6
SYI					Sn	11 51 52.3	-6.2
Q23K	**Middleton Isla**	**3.98**	**22**		Pn	11 51 22.7	-4.7
Q23K				IAML		11 52 21.0	
	comp=E,233nm,0.9s						
Q23K				IAML		11 52 30.8	
	comp=N,220nm,1.1s						
MID	**Middleton Isla**	**3.98**	**22**		Pn	11 51 22.8	-4.6
MID				IAML		11 52 17.1	
	comp=N,174nm,1.0s						
MID				IAML		11 52 20.3	
	comp=E,303nm,1.2s						
KAHG	**Katmai Hook Gl**	**3.99**	**315**		Pn	11 51 23.4	-4.2
BRSE	**Bradley Lake S**	**4.07**	**349**		Pn	11 51 22.9	-5.7
BRLK	**Bradley Lake**	**4.11**	**348**		Pn	11 51 24.1	-5.1
BRLK				IAML		11 52 14.2	
	comp=E,120nm,0.4s						
BRLK				IAML		11 52 16.3	
	comp=N,98nm,1.1s						
ACHA	**Angle Creek He**	**4.15**	**309**		Pn	11 51 26.1	-3.7
ANCK	**Angle Creek**	**4.22**	**308**		Pn	11 51 27.3	-3.4
AUL	**Augustine Lava**	**4.28**	**330**		Pn	11 51 27.8	-3.7
PLK3	**Peulik 3**	**4.34**	**299**		Pn	11 51 28.2	-4.2
P23K	**Montague Islan**	**4.35**	**12**		Pn	11 51 27.8	-4.7
CNTC	**Contact Creek**	**4.43**	**307**		Pn	11 51 29.4	-4.3
P19K	**Oil Pt**	**4.46**	**333**	Pn	Pn	11 51 29.6	-4.3
P19K				IAML		11 52 25.9	
	comp=N,198nm,0.5s						
PLK1	**Peulik 1**	**4.55**	**300**		Pn	11 51 30.9	-4.3
HIN	**Hinchinbrook I**	**4.86**	**16**	Pn	Pn	11 51 34.9	-4.6
HIN				IAML		11 52 28.9	
	comp=E,144nm,0.6s						
KAIM	**Kayak Island**	**4.89**	**30**	Pn	Pn	11 51 35.2	-4.7
CHGN	**Chignik**	**5.19**	**280**	Pn	Pn	11 51 38.8	-5.2
CHGN				IAML		11 52 39.2	
	comp=E,82nm,0.7s						
CHGN				IAML		11 52 39.2	
	comp=N,82nm,0.4s						
FID	**Port Fidalgo**	**5.20**	**15**	Pn	Pn	11 51 40.1	-4.1
FID				IAML		11 52 37.8	
	comp=E,83nm,0.7s						
FID				IAML		11 52 42.6	
	comp=N,74nm,0.5s						
RAGM	**Ragged Mountai**	**5.22**	**26**	Pn	Pn	11 51 40.2	-4.2
BERG	**Berg Lake**	**5.48**	**30**	Pn	Pn	11 51 43.5	-4.5
SNH	**Sunshine Point**	**5.57**	**35**	Pn	Pn	11 51 44.9	-4.4
PMR	**Palmer**	**5.84**	**0**	Pn	Pn	11 51 48.4	-4.5
KLU	**Klutina**	**5.99**	**15**	Pn	Pn	11 51 50.5	-4.6
GHO	**Glory Hole Cre**	**6.03**	**1**	Pn	Pn	11 51 51.5	-4.1
O16K	**Kokwok River B**	**6.12**	**312**	Pn	Pn	11 51 52.8	-3.9
VRDI	**Verde Repeater**	**6.25**	**26**	Pn	Pn	11 51 54.2	-4.5
YKU2	**Yakutat**	**6.35**	**50**	Pn	Pn	11 51 55.3	-4.5
GLB	**Gilahina Butte**	**6.35**	**24**	Pn	Pn	11 51 55.4	-4.6
BCPM	**Bancas Point**	**6.61**	**47**	Pn	Pn	11 51 59.2	-4.3
BARN	**Barnard Glacie**	**6.62**	**34**	Pn	Pn	11 51 59.6	-4.2
P29M	**Windy Craggy**	**7.26**	**53**	Pn	Pn	11 52 08.0	-4.5
N15K	**Kwethluk River**	**7.28**	**312**	Pn	Pn	11 52 09.0	-3.7
M16K	**Timber Creek**	**7.35**	**320**	Pn	Pn	11 52 10.0	-3.6
N30M	**Aishikik Lake**	**8.51**	**43**	Pn	Pn	11 52 25.8	-3.7
M29M	**Somme Creek**	**8.67**	**35**	Pn	Pn	11 52 28.1	-3.7
L29M	**L29M**	**9.26**	**33**	Pn	Pn	11 52 36.5	-3.4
H21K	**Melozitna Rive**	**10.08**	**351**	Pn	Pn	11 52 47.1	-3.8

NEIC ***23*** *11:54:58.1±2.0,56.05N±0.10×150.4W±0.1, h27km±14km, ML3.7/40, ML3.5(AEIC), Error ellipse: s-maj=14.0km s-min=9.1km az=168.0*

AEIC ***23*** *11:54:59.0±1.7,55.92N±0.09×150.2W±0.1, h11km±7km, Error ellipse: s-maj=13.9km s-min=9.4km az=169.0*

ISC 23 11:54:55.9±1.9, 56.0N±0.1×150.39W±0.07, h10km, n130, σ0.92/135, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.00**	**308**		**Pn**	**11 55 29.4**	**-0.2**
OHAK					**Sn**	**11 55 52.8**	**-1.7**
OHAK	**Old Harbor**	**2.00**	**308**	P	**Pn**	**11 55 29.1**	**-0.5**
	baz=126						
OHAK				S	**Sn**	**11 55 52.9**	**-1.7**
	baz=126						
KDAK	**Kodiak Island**	**2.12**	**326**		**Sn**	**11 55 56.7**	**-1.1**
KDAK	**Kodiak Island**	**2.12**	**326**	Pn	**Pn**	**11 55 31.2**	**-0.1**
SYI	**Shuyak Island**	**2.80**	**338**		**Pn**	**11 55 40.6**	**0.0**
SYI					**Sn**	**11 56 14.4**	**-0.1**

M17K	Holitna River	6.51	329			Pn	11 56 32.3 +0.7
M17K	Holitna River baz=142	6.51	329	P		Pn	11 56 32.2 +0.6
L19K	White Mountain	6.58	341	Pn		Pn	11 56 31.9 -0.6
N15K	Kwethluk River	6.60	313			Pn	11 56 34.0 +1.2
PTPK	Patty Peak	6.62	35			Pn	11 56 32.5 -0.8
M16K	Timber Creek	6.71	322	Pn		Pn	11 56 36.1 +1.7
BARN	Barnard Glacie	6.80	39	Pn		Pn	11 56 34.7 -1.1
CTGM	Chitina Glacie	6.85	40	Pn		Pn	11 56 36.7 +0.3
LOGN	Logan Glacier	6.88	42	Pn		Pn	11 56 37.0 +0.2
PNL	Peninsula	6.90	54			Pn	11 56 35.9 -1.1
BCPM	Bancas Point	6.93	51	Pn		Pn	11 56 36.7 -0.7
DHY	Denali Highway	7.23	11	Pn		Pn	11 56 40.5 -1.0
L16K	Owhat River	7.38	324	Pn		Pn	11 56 44.1 +0.7
M26K	Nabesna, AK	7.42	28	Pn		Pn	11 56 43.6 -0.5
CAST	Castle Rocks	7.46	354	Pn		Pn	11 56 45.4 +0.8
TTA	Tatalina	7.48	340	Pn		Pn	11 56 46.3 +1.3
KTH	Kantishna Hill	7.55	358	Pn		Pn	11 56 47.5 +1.6
P29M	Windy Craggy	7.65	57			Pn	11 56 45.6 -1.7
M27K	Edge Creek, AK	7.70	31	Pn		Pn	11 56 46.4 -1.6
MENT	Mentasta	7.71	23	Pn		Pn	11 56 46.0 -2.0
K17K	Iditarod	7.82	332	Pn		Pn	11 56 50.0 +0.5
BVCY	Beaver Creek	8.04	33			Pn	11 56 52.3 -0.4
BPAW	Bear Paw Mtn.	8.10	358	Pn		Pn	11 56 54.5 +1.2
M13K	Dall Lake	8.12	308	Pn		Pn	11 56 55.2 +1.5
RIDG	Independent Ri	8.21	18	Pn		Pn	11 56 55.2 +0.2
L14K	Kuka Creek	8.32	315	Pn		Pn	11 56 57.7 +1.4
J20K	Nowinta River	8.38	349	Pn		Pn	11 56 57.6 +0.4
J19K	Poorman	8.40	344	Pn		Pn	11 56 58.3 +0.8
K15K	Wolf Creek Mou	8.48	322	Pn		Pn	11 56 59.7 +1.1
HDA	Harding Lake	8.57	10	Pn		Pn	11 57 01.2 +1.3
NEA2	Nenana	8.61	4	Pn		Pn	11 57 02.7 +2.3
CCB	Clear Creek Bu	8.73	7	Pn		Pn	11 57 02.4 +0.4
M29M	Somme Creek	8.86	39	Pn		Pn	11 57 03.5 -0.4
O30N	Mendenhall	8.87	52	Pn		Pn	11 57 05.0 +0.9
J16K	Anvik River	8.91	329	Pn		Pn	11 57 05.6 +1.2
IL31		8.93	10	Pn		Pn	11 57 05.0 +0.3
J25K	Salcha River,	8.96	14	Pn		Pn	11 57 06.2 +1.0
JIS	Juneau Island	8.98	69	Pn		Pn	11 57 05.8 +0.4
MDM	Murphy Dome	9.02	6	Pn		Pn	11 57 07.5 +1.5
AKUT	Akutan	9.03	264	Pn		Pn	11 57 06.2 +0.2
J26L	Joseph Creek	9.14	19	Pn		Pn	11 57 07.4 -0.3
I23K	Minto, Yukon-K	9.16	3	Pn		Pn	11 57 09.4 +1.5
L29M	L29M	9.42	36	Pn		Pn	11 57 11.6 +0.1
K13K	Kusilvak Mount	9.43	315	Pn		Pn	11 57 12.5 +1.0
J14K	Nanvaranak Lak	9.49	321	Pn		Pn	11 57 12.7 +0.3
M30M	Minto, Yukon	9.54	41	Pn		Pn	11 57 12.2 -1.0
H21K	Melozitna Rive	9.73	354	Pn		Pn	11 57 15.3 -0.3
DAWY	Dawson	9.74	30	Pn		Pn	11 57 15.7 -0.1
PRP	Porcupine Dome	9.80	12	Pn		Pn	11 57 17.5 +0.7
EGAK	Eagle	9.87	24	Pn		Pn	11 57 17.9 +0.2
H18K	Honhosa River	9.94	340	Pn		Pn	11 57 19.1 +0.5
I26K	Coal Creek Min	9.95	18	Pn		Pn	11 57 18.0 -0.6
H17K	Granite Mounta	10.07	336	Pn		Pn	11 57 21.4 +1.0
K29M	Barlow Dome	10.13	34	Pn		Pn	11 57 21.5 +0.2
M31M	Drury Creek, Y	10.27	46	Pn		Pn	11 57 22.9 -0.2
G21K	Allakaket	10.62	353	Pn		Pn	11 57 29.6 +1.7
G23K	Bananza Creek	10.71	1	Pn		Pn	11 57 29.8 +0.6
I28M	Miner Creek	10.72	24	Pn		Pn	11 57 30.0 +0.6
G24K	Hadweenzic Riv	10.79	6	Pn		Pn	11 57 30.9 +0.7
FYU	Fort Yukon	10.85	11	Pn		Pn	11 57 31.0 0.0
R33M	Jennings River	10.91	64	Pn		Pn	11 57 32.2 +0.2
J30M	Hart River	11.02	33	Pn		Pn	11 57 33.8 +0.4
G16K	Koyuk River	11.04	333	Pn		Pn	11 57 33.0 -0.6
ANM	Nome	11.30	325	Pn		Pn	11 57 38.6 +1.5
BMAR	Burnt Mountain	11.75	11	Pn		Pn	11 57 44.1 +0.8
F15K	North Point Dil	11.89	330	Pn		Pn	11 57 46.9 +1.6
F31M	Tsiigehtchic	13.82	28	Pn		Pn	11 58 10.5 -1.1

*IDC **23** 12:01:30.2±1.6,56°.36N×148°.35W,h0km,mb3.4/3, mbtmp3.4/7,ML3.4/4,Error ellipse: s-maj=28.3km s-min=19.8km az=30.0*
*NEIC **23** 12:01:32.4±1.3,56°.46N±0°.09×148°.51W±0°.10,h24km±5km, mb3.7/3,ML3.8/36,ML3.6(AEIC),Error ellipse: s-maj=12.6km s-min=7.5km az=166.0*
*AEIC **23** 12:01:37.4±1.6,56°.61N±0°.08×148°.51W±0°.10,h10km±6km, Error ellipse: s-maj=12.3km s-min=7.3km az=162.0*

ISC 23 12:01:30.7±0.8,56°.51N±0°.07×148°.48W±0°.05,h10km, n140,σ1§31/154,mb3.3/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.58	301	Pn	Pn	12 02 11.9	-0.5
KDAK					Sn	12 02 41.3	-2.4
KDAK	Kodiak Island baz=116	2.58	301	S	Sn	12 02 41.3	-2.4
KDAK	Kodiak Island 5.8nm,0.3s,baz=302,slow=22,SNR=2.3	2.58	301	Pn	Pn	12 02 11.4	-1.0
KDAK	21nm,0.3s,baz=59,slow=22,SNR=12 16nm,0.4s			Sn	Sn	12 02 41.6	-2.2
OHAK	Old Harbor	2.74	287		Pn	12 02 14.2	-0.4
OHAK					Sn	12 02 43.9	-3.7
OHAK	Old Harbor baz=101	2.74	287	P	Pn	12 02 16.5	+1.9
OHAK	baz=101			S	Sn	12 02 44.0	-3.7
SYI	Shuyak Island	2.98	317		Pn	12 02 18.6	+0.6
SYI					Sn	12 02 52.5	-1.2
SYI	comp=E,117nm,1.1s			IAML		12 02 54.3	
Q20K	Shuyak Island baz=132	2.98	317	P	Pn	12 02 18.8	+0.8
Q20K	baz=132			S	Sn	12 02 52.3	-1.4
Q23K	Middleton Isla	3.14	20		Pn	12 02 20.5	+0.4
Q23K					Sn	12 02 54.5	-3.1
Q23K	comp=E,217nm,1.4s			IAML		12 02 56.0	
Q23K	comp=N,177nm,0.6s			IAML		12 02 56.7	
Q23K	Middleton Isla baz=203	3.14	20	P	Pn	12 02 20.3	+0.2
Q23K	baz=203			S	Sn	12 02 54.4	-3.1
MID	Middleton Isla	3.14	20		Pn	12 02 20.5	+0.3
MID	comp=E,232nm,1.4s			IAML		12 02 55.9	
MID	comp=N,204nm,0.6s			IAML		12 02 56.7	
CNPM	China Poot	3.36	335		Pn	12 02 23.8	+0.6
CNPM	comp=E,95nm,0.7s			IAML		12 03 03.9	
BRSE	Bradley Lake S	3.46	341		Pn	12 02 25.1	+0.5
BRSE					Sn	12 03 03.6	-1.9
BRSE	Bradley Lake S baz=158	3.46	341	P	Pn	12 02 25.0	+0.5
BRSE	baz=158			S	Sn	12 03 03.6	-1.9
BRLK	Bradley Lake	3.50	340		Pn	12 02 25.8	+0.6
BRLK	comp=E,96nm,0.6s			IAML		12 03 07.9	
P23K	Montague Islan	3.54	9		Pn	12 02 25.9	+0.2
P23K					Sn	12 03 05.4	-2.2
P23K	Montague Islan baz=190	3.54	9	P	Pn	12 02 25.9	+0.2
P23K	baz=190			S	Sn	12 03 05.4	-2.2
SEW	Seward	3.64	352		Pn	12 02 26.8	-0.2
SEW	Seward baz=172	3.64	352	P	Pn	12 02 26.9	-0.2
AU22	Augustine Moun	3.87	320		Pn	12 02 31.3	+1.1
HIN	Hinchinbrook I	4.03	14		Pn	12 02 33.1	+0.6
HIN	comp=N,166nm,0.5s			IAML		12 03 18.1	
HIN	comp=E,184nm,0.6s			IAML		12 03 20.1	
P19K	Oil Pt	4.04	323	Pn	Pn	12 02 33.6	+1.1
P19K	comp=E,182nm,0.6s			IAML		12 03 22.0	
KAIM	Kayak Island	4.04	30		Pn	12 02 33.5	+0.9
KAIM	Kayak Island baz=215	4.04	30	P	Pn	12 02 33.5	+0.9
EYAK	Cordova Ski Ar	4.29	18		Pn	12 02 36.8	+0.8
EYAK	Cordova Ski Ar baz=201	4.29	18	P	Pn	12 02 36.7	+0.7
RAGM	Ragged Mountai	4.37	26		Pn	12 02 38.1	+1.0
CNTC	Contact Creek	4.38	297		Pn	12 02 38.5	+1.2
Q17K	Contact Creek baz=110	4.38	297	P	Pn	12 02 38.5	+1.2
FID	Port Fidalgo	4.38	13		Pn	12 02 37.6	+0.4
FID	comp=N,107nm,0.4s			IAML		12 03 29.1	
FID	comp=E,91nm,1.3s			IAML		12 03 29.8	
GOAT	Goat Mountain	4.53	24		Pn	12 02 40.4	+1.1
P18K	Big Mountain,	4.61	312		Pn	12 02 40.5	+0.1
P18K	Big Mountain, baz=125	4.61	312	P	Pn	12 02 40.9	+0.5
BERG	Berg Lake	4.63	31		Pn	12 02 41.4	+0.7
RC01	Rabbit Creek A	4.64	352	Pn	Pn	12 02 40.8	+0.1
RC01	comp=N,114nm,0.9s			IAML		12 03 33.8	
SNH	Sunshine Point	4.73	37		Pn	12 02 42.6	+0.6
SNH	comp=E,82nm,1.2s			IAML		12 03 40.8	
SNH	comp=N,63nm,1.4s			IAML		12 04 19.0	
DIV	Divide	4.84	16		Pn	12 02 43.7	+0.1
BMRM	Bremner River	4.90	23		Pn	12 02 45.4	+1.0
BMRM	Bremner River baz=207	4.90	23	P	Pn	12 02 45.5	+1.1
KNK	Knik Glacier	4.92	0	Pn	Pn	12 02 45.2	+0.6
KNK	comp=E,46nm,0.8s			IAML		12 03 45.9	
KNK	comp=N,34nm,1.3s			IAML		12 03 49.8	
BARK	Barkley Ridge	5.01	36		Pn	12 02 46.7	+0.8
PMR	Palmer	5.11	356	Pn	Pn	12 02 48.4	+1.2
GHO	Glory Hole Cre	5.28	358		Pn	12 02 50.8	+1.1
GHO	comp=N,64nm,0.9s			IAML		12 03 54.8	
SCM	Sheep Creek Mo	5.37	6	Pn	Pn	12 02 52.8	+1.9
VRDI	Verde Repeater	5.40	27		Pn	12 02 52.2	+0.8
SAMH	Samovar Hills	5.44	45		Pn	12 02 53.5	+1.6
N25K	Chitina, Valde	5.49	20		Pn	12 02 53.8	+1.3
N25K	Chitina, Valde baz=204	5.49	20	P	Pn	12 02 53.3	+0.8
GLB	Gilahina Butte	5.50	24		Pn	12 02 53.6	+1.0
YKU2	Yakutat	5.56	54	Pn	Pn	12 02 54.5	+1.1
PCA	Pinnacle	5.63	47		Pn	12 02 55.3	+0.9
PINM	Pinnacle baz=235	5.63	47	P	Pn	12 02 55.5	+1.0
PTPK	Patty Peak	5.63	31		Pn	12 02 55.5	+0.9
PNL	Peninsula	5.76	53		Pn	12 02 57.5	+1.3
PNL	Peninsula baz=242	5.76	53	P	Pn	12 02 57.5	+1.3
BARN	Barnard Glacie	5.78	35		Pn	12 02 57.7	+1.2
BCPM	Bancas Point	5.81	50		Pn	12 02 58.3	+1.5
LOGN	Logan Glacier	5.82	39		Pn	12 02 58.0	+0.9
N17K	Nushagak Hills	6.08	315		Pn	12 03 01.0	+0.5
N17K	Nushagak Hills baz=127	6.08	315	P	Pn	12 03 01.2	+0.6
M19K	Big River Lodg	6.20	333	Pn	Pn	12 03 02.4	+0.2
M18K	Stony River	6.27	326		Pn	12 03 03.3	+0.2
M18K	Stony River baz=139	6.27	326	P	Pn	12 03 03.3	+0.2
O29M	Mount Kennedy	6.44	50		Pn	12 03 07.0	+1.4
O29M	Mount Kennedy baz=239	6.44	50	P	Pn	12 03 07.2	+1.6
P29M	Windy Craggy	6.50	57		Pn	12 03 07.0	+0.7
P29M	Windy Craggy baz=247	6.50	57	P	Pn	12 03 07.0	+0.7
CHNA	Chernabura Isl baz=70	6.51	260	P	Pn	12 03 06.7	+0.3
CNBA	Chernabura Isl	6.51	260		Pn	12 03 06.0	-0.4
YUK2	White River	6.59	33		Pn	12 03 09.0	+1.4
O15K	Ungalikthiuk R	6.62	299		Pn	12 03 09.2	+1.2
O15K	Ungalikthiuk R baz=108	6.62	299	P	Pn	12 03 09.2	+1.2
S31K	Pelican	6.80	73	Pn	Pn	12 03 08.8	-1.7
SDPT	Sand Point	6.84	265	Pn	Pn	12 03 10.6	-0.3
YUK6	Outpost Mounta baz=235	6.89	46	P	Pn	12 03 13.9	+2.1
RND	Reindeer	6.92	359	Pn	Pn	12 03 13.6	+1.4
TRF	Thorofare Moun	7.02	353	Pn	Pn	12 03 14.8	+1.2
YUK4	Talbot Arm baz=231	7.02	42	P	Pn	12 03 17.3	+3.7
P30M	Million Dollar	7.06	54		Pn	12 03 15.5	+1.4
P30M	Million Dollar baz=245	7.06	54	P	Pn	12 03 15.8	+1.8
BVCY	Beaver Creek	7.08	30		Pn	12 03 14.9	+0.7
BVCY	Beaver Creek baz=217	7.08	30	P	Pn	12 03 14.9	+0.7
N15K	Kwethluk River	7.13	306	Pn	Pn	12 03 16.7	+1.8
HYT	Haines Junctio	7.17	48	Pn	Pn	12 03 17.0	+1.4
KTH	Kantishna Hill	7.17	351	Pn	Pn	12 03 16.8	+1.2
SIT	Sitka	7.25	80	Pn	Pn	12 03 14.2	-2.3
BCAR	Beaver Creek A	7.39	24	Pn	Pn	12 03 19.6	+1.1
RIDG	Independent Ri	7.47	13	Pn	Pn	12 03 21.4	+1.7
SKAG	Skagway	7.59	62	Pn	Pn	12 03 21.4	+0.2
BESE	Bessie Mountai	7.62	69		Pn	12 03 21.1	-0.5
S32K	Killisnoo	7.66	77		Pn	12 03 20.8	-1.3
S32K	Killisnoo baz=269	7.66	77	P	Pn	12 03 21.7	-0.4
PN7A	Pavlof North-7	7.67	268		Pn	12 03 23.2	+0.8
N30M	Aishikik Lake	7.69	45		Pn	12 03 23.7	+1.0
N30M	Aishikik Lake baz=236	7.69	45	P	Pn	12 03 24.0	+1.4
O30N	Mendenhall	7.74	51		Pn	12 03 24.4	+1.0
O30N	Mendenhall baz=243	7.74	51	P	Pn	12 03 24.6	+1.3
JIS	Juneau Island	7.82	71		Pn	12 03 24.4	0.0
M29M	Somme Creek	7.83	36		Pn	12 03 25.8	+1.2
NEA2	Nenana	8.12	358	Pn	Pn	12 03 28.9	+0.5
WHY	Whitehorse	8.23	54		Pn	12 03 31.4	+1.4
WHY	Whitehorse baz=246	8.23	54	P	Pn	12 03 31.6	+1.5
ILAR	Eielson Array	8.33	5	Pn	Pn	12 03 32.4	+1.1
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=187,slow=14,SNR=2.1	8.33	5	Pn	Pn	12 03 30.3	-1.0
ILAR	comp=N,0.6nm,0.3s,baz=221,slow=29,SNR=7.4 comp=N,0.4nm,0.3s			Sn	Sn	12 05 04.3	-1.0
P32M	Atlin	8.41	62		Pn	12 03 33.2	+0.6
P32M	Atlin baz=256	8.41	62	P	Pn	12 03 33.5	+0.9
MDM	Murphy Dome	8.48	1	Pn	Pn	12 03 34.7	+1.2
M30M	Minto, Yukon	8.49	39	Pn	Pn	12 03 34.8	+1.2
I23K	Minto, Yukon-K	8.68	358	Pn	Pn	12 03 37.0	+0.9
ISLZ	Isanotski Laza	8.81	265		Pn	12 03 38.2	+0.2
DAWY	Dawson	8.81	27	Pn	Pn	12 03 38.8	+0.9
Q32M	Nakina River	9.01	67	Pn	Pn	12 03 41.3	+0.5
P33M	Teslin, Yukon	9.02	59		Pn	12 03 41.8	+0.9
P33M	Teslin, Yukon baz=253	9.02	59	P	Pn	12 03 41.9	+1.0
K29M	Barlow Dome	9.15	32		Pn	12 03 44.1	+1.4
K29M	Barlow Dome baz=222	9.15	32	P	Pn	12 03 44.1	+1.4
M31M	Drury Creek, Y baz=238	9.17	46	P	Pn	12 03 44.9	+2.0
N32M	Quiet Lake	9.23	53		Pn	12 03 44.4	+0.6
N32M	Quiet Lake baz=247	9.23	53	P	Pn	12 03 45.3	+1.6
H21K	Melozitna Rive	9.41	349	Pn	Pn	12 03 46.7	+0.5
S34M	Telegraph Cree	9.52	74	Pn	Pn	12 03 47.1	-0.5
R33M	Jennings River	9.74	65	Pn	Pn	12 03 50.9	+0.1
IMAR	Indian Mountai	9.84	347	Pn	Pn	12 03 52.2	+0.3
I28M	Miner Creek	9.87	21	Pn	Pn	12 03 53.2	+0.7
T35M	Bob Quinn	10.02	80	Pn	Pn	12 03 55.6	+1.0
DLBC	Dease Lake	10.12	71	Pn	Pn	12 03 56.0	0.0
DLBC	Dease Lake comp=N,0.5nm,0.3s,baz=298,slow=8.1,SNR=3.3	10.12	71	Pn	Pn	12 03 57.0	+1.0
DLBC	comp=N,0.6nm,0.3s,baz=20,slow=24,SNR=7.1 comp=N,1.3nm,0.3s			Sn	Sn	12 05 47.1	-2.3
F20K	Avaraart Lake	11.11	345	Pn	Pn	12 04 10.3	+1.0
FLDN	Fort Liard	13.60	64	Pn	Pn	12 04 44.8	+1.4
B22K	Teshekpuk Lake	14.05	353	Pn	Pn	12 04 49.6	+0.2
ATKA	Atka Island	15.56	265	Pn	Pn	12 05 07.8	-2.0
ATKA	comp=Z,62nm,1.2s			IAmb	IAmb	12 05 26.6	
C36M	Paulatuk	16.82	30	Pn	Pn	12 05 25.8	0.0
C36M	comp=Z,2.9nm,1.2s			IAmb	IAmb	12 05 55.0	
YKAB2	New Yellowknif	18.04	57		Pn	12 05 40.5	-0.5
YKA	Yellowknife Ar	18.04	57		Pn	12 05 40.8	-0.3
YKA	Yellowknife Ar comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=4.4 comp=Z,0.5nm,0.8s	18.04	57	P	Pn	12 05 43.1	+2.0
A36M	Sachs Harbour	18.29	23	Pn	Pn	12 05 45.5	+1.3
A36M	comp=Z,4.2nm,0.8s			IAmb	IAmb	12 05 53.6	
OVMT	Ovando	23.65	98	P	P	12 06 40.7	-1.4
NVAR	Mina Array Bea	26.93	119	P	P	12 07 12.2	0.0
	comp=Z,0.5nm,0.7s,baz=304,slow=7.4,SNR=3.7 comp=Z,0.5nm,0.7s						
PDAR	Pinedale Array comp=Z,0.2nm,0.5s,baz=308,slow=7.3,SNR=2.5 comp=Z,0.2nm,0.5s	28.27	102	P	P	12 07 23.5	-0.7
SONM	Songino Array comp=Z,0.3nm,0.6s,baz=50,slow=9.5,SNR=1.6 comp=Z,0.3nm,0.6s	58.83	311	P	P	12 11 32.4	+3.3
MKAR	Makanchi Array	68.67	325	P	P	12 12 33.0	-0.9

*NEIC **23** 12:05:05.9±1.6,55°.93N×0°.10×149°.7W±0°.2,h7km±9km, mb3.7/2,Error ellipse: s-maj=15.3km s-min=12.0km az=217.0*
*IDC **23** 12:05:06.1±1.9,55°.90N×149°.86W,h0km,mb3.4/5, mbtmp3.4/7,ML2.9/2,Error ellipse: s-maj=63.9km s-min=25.6km az=30.0*

ISC 23 12:05:07.6±1.4,56°.1N±0°.2×149°.74W±0°.08,h10km,n43, σ0§89/43,mb3.6/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island 7.0nm,0.3s,baz=182,slow=4.1,SNR=2.4 23nm,0.2s	2.34	319	Pn	Pn	12 05 44.7	-1.3
BRLK	Bradley Lake	3.78	351	Pn	Pn	12 06 04.8	-1.2
Q23K	Middleton Isla	3.85	27	Pn	Pn	12 06 05.0	-1.8
MID	Middleton Isla	3.85	27	Pn	Pn	12 06 05.2	-1.6
P18K	Big Mountain,	4.46	321	Pn	Pn	12 06 13.8	-1.5
O18K	Koktuh Hills	4.80	325		Pn	12 06 18.5	-1.5
KAIM	Kayak Island	4.81	34	Pn	Pn	12 06 19.7	-0.3
N19K	Bonanza Creek	5.39	334	Pn	Pn	12 06 27.8	-0.4
N18K	Kilae Creek	5.66	328	Pn	Pn	12 06 30.7	-1.1
O16K	Kokwok River B	5.71	312		Pn	12 06 31.9	-0.5
SML	Sawmill	5.83	7	Pn	Pn	12 06 34.4	+0.4
VRDI	Verde Repeater	6.14	30	Pn	Pn	12 06 38.8	+0.3
N25K	Chitina, Valde	6.18	23	Pn	Pn	12 06 38.6	-0.3
BARN	Barnard Glacie	6.57	37	Pn	Pn	12 06 44.4	+0.1
LOGN	Logan Glacier	6.63	40	Pn	Pn	12 06 45.3	+0.2
M17K	Holitna River	6.70	326	Pn	Pn	12 06 45.7	-0.3
N15K	Kwethluk River	6.87	311	Pn	Pn	12 06 48.4	+0.2
M16K	Timber Creek	6.94	320	Pn	Pn	12 06 49.4	+0.1
O29M	Mount Kennedy	7.28	50	Pn	Pn	12 06 55.1	+1.0
P29M	Windy Craggy	7.34	56	Pn	Pn	12 06 54.5	-0.4
M27K	Edge Creek, AK	7.50	29	Pn	Pn	12 06 58.0	+0.8
KTH	Kantishna Hill	7.56	356	Pn	Pn	12 06 59.0	+1.3
L16K	Owhat River	7.59	322	Pn	Pn	12 06 57.6	-0.6
K17K	Iditarod	7.99	330	Pn	Pn	12 07 02.9	-0.7
L14K	Kuka Creek	8.57	314		Pn	12 07 11.9	+0.3
K15K	Wolf Creek Mou	8.70	321	Pn	Pn	12 07 14.7	+1.2
K13K	Kusilvak Mount	9.69	314	Pn	Pn	12 07 26.7	-0.2
H18K	Honhosa River	10.06	339	Pn	Pn	12 07 33.0	+1.0
G24K	Hadweenzic Riv	10.75	5	Pn	Pn	12 07 42.4	+1.0
ANM	Nome	11.50	324	Pn	Pn	12 07 52.0	+0.3
C18K	Utukok River	13.68	342	Pn	Pn	12 08 21.3	-0.1
B21K	Ikpikpuk River	13.80	353	Pn	Pn	12 08 23.2	+0.2
B22K	Teshekpuk Lake	14.44	355	Pn	Pn	12 08 31.4	-0.4
C36M	Paulatuk	17.58	31		P	12 09 12.3	-1.0
C36M	comp=Z,3.7nm,0.8s			IAmb	IAmb	12 09 22.8	
YKAB2	New Yellowknif	18.88	56	P	P	12 09 26.3	-1.5
YKA	Yellowknife Ar	18.89	56	P	P	12 09 26.2	-1.6
YKA	Yellowknife Ar baz=266,slow=9.3,SNR=4.1 comp=Z,0.9nm,1.0s	18.89	56	P	Pn	12 09 29.1	+0.7
A36M	Sachs Harbour	19.00	23	P	Pn	12 09 29.1	-0.6
A36M	comp=Z,5.7nm,0.8s			IAmb	IAmb	12 09 40.4	
NVAR	Mina Array Bea comp=Z,0.2nm,0.7s,baz=308,slow=10,SNR=2.5 comp=Z,0.2nm,0.7s	27.33	117	P	P	12 10 52.7	0.0
SONM	Songino Array comp=Z,0.4nm,0.7s,baz=44,slow=8.5,SNR=2.9 comp=Z,0.4nm,0.7s	58.60	310	P	P	12 15 05.1	+0.6
ZALV	Zalesovo Beam comp=Z,0.3nm,0.5s,baz=45,slow=8.4,SNR=1.8 comp=Z,0.3nm,0.5s	61.62	327	P	P	12 15 25.6	+0.7
BVAR	Borovoye Array comp=Z,0.6nm,0.7s,baz=46,slow=10,SNR=2.9 comp=Z,0.6nm,0.7s	66.39	335	P	P	12 15 57.0	+0.7
MKAR	Makanchi Array comp=Z,0.2nm,0.8s,baz=46,slow=10,SNR=1.5 comp=Z,0.2nm,0.8s	68.64	324	P	P	12 16 10.8	+0.2

*NEIC **23** 12:05:28.9±2.7,55°.99N±0°.08×150°.43W±0°.10,h10km±2km, mb4.3/3,ML4.1/42,ML3.8(AEIC),Error ellipse: s-maj=13.3km s-min=9.3km az=173.0*
*IDC **23** 12:05:29.3±1.1,56°.18N×150°.21W,h0km,mb3.8/12, mbtmp3.8/17,ML3.5/5,Error ellipse: s-maj=26.3km s-min=14.0km az=36.0*
*AEIC **23** 12:05:33.2±2.5,55°.94N±0°.09×150°.3W±0°.1,h11km±7km, Error ellipse: s-maj=13.0km s-min=8.8km az=173.0*

ISC 23 12:05:30.3±4.4,56°.08N±0°.09×150°.41W±0°.06, h12km±29km,n177,σ1§08/176,mb3.8/12,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.96	307		Pn	12 06 02.8	-0.5
OHAK					Sn	12 06 25.8	-1.9
OHAK	Old Harbor baz=127	1.96	307	P	Pn	12 06 02.8	-0.5
OHAK	baz=127			S	Sn	12 06 25.6	-2.1
KDAK	Kodiak Island	2.08	326	Pn	Pn	12 06 04.7	-0.3
KDAK	Kodiak Island	2.08	326		Sn	12 06 30.4	-0.4
KDAK	Kodiak Island 68nm,0.3s,baz=166,slow=6.9,SNR=2.1	2.08	326	Pn	Pn	12 06 04.3	-0.6
KDAK	18nm,0.3s,baz=317,slow=22,SNR=1.7 177nm,0.3s			Sn	Sn	12 06 30.5	-0.3
Q20K	Shuyak Island baz=157	2.75	338	P	Pn	12 06 14.5	+0.3
Q20K	baz=157			S	Sn	12 06 48.0	+0.6
SYI	Shuyak Island	2.75	338		Pn	12 06 13.0	-1.2

CHGN	**Chignik**	**4.47**	**276**	Pn	**Pn**	**12 06 36.1**	**-1.7**
CHGN				IAML		12 07 32.9	
	comp=N,144nm,0.8s						
CHGN				IAML		12 07 38.0	
	comp=E,163nm,1.2s						
P17K	**Kvichak River**	**4.50**	**316**		**Pn**	**12 06 38.9**	**+0.7**
P17K	**Kvichak River**	**4.50**	**316**	P	**Pn**	**12 06 38.9**	**+0.7**
	baz=132						
O18K	**Koktuh Hills**	**4.56**	**328**		**Pn**	**12 06 39.4**	**+0.3**
O18K				IAML		12 07 47.2	
	comp=N,84nm,1.1s						
O18K				IAML		12 07 50.9	
	comp=E,103nm,3.2s						
O18K	**Koktuh Hills**	**4.56**	**328**	P	**Pn**	**12 06 39.7**	**+0.6**
	baz=145						
O19K	**Port Alsworth**	**4.62**	**335**		**Pn**	**12 06 39.5**	**-0.3**
O19K	**Port Alsworth**	**4.62**	**335**	P	**Pn**	**12 06 39.9**	**+0.2**
	baz=152						
CAPN	**Captain Cook N**	**4.72**	**356**	Pn	**Pn**	**12 06 39.5**	**-1.7**
HIN	**Hinchinbrook I**	**4.79**	**24**	Pn	**Pn**	**12 06 43.0**	**+0.6**
HIN				IAML		12 07 38.2	
	comp=N,140nm,0.5s						
HIN				IAML		12 07 39.1	
	comp=E,230nm,0.9s						
KAIM	**Kayak Island**	**5.00**	**37**	Pn	**Pn**	**12 06 44.4**	**-0.8**
KAIM				IAML		12 07 23.9	
	comp=N,231nm,3.3s						
KAIM				IAML		12 08 21.9	
	comp=E,242nm,3.3s						
KAIM	**Kayak Island**	**5.00**	**37**	P	**Pn**	**12 06 43.9**	**-1.3**
	baz=221						
RC01	**Rabbit Creek A**	**5.04**	**4**	Pn	**Pn**	**12 06 44.6**	**-0.9**
RC01				IAML		12 07 45.5	
	comp=N,84nm,0.6s						
RC01				IAML		12 07 50.9	
	comp=E,106nm,0.5s						
FIS	**Fire Island**	**5.08**	**1**	Pn	**Pn**	**12 06 46.4**	**+0.3**
FIS				IAML		12 07 39.0	
	comp=N,256nm,3.1s						
O17K	**Koliganek Bris**	**5.13**	**319**		**Pn**	**12 06 47.5**	**+0.6**
O17K	**Koliganek Bris**	**5.13**	**319**	P	**Pn**	**12 06 47.5**	**+0.6**
	baz=134						
N19K	**Bonanza Creek**	**5.20**	**337**		**Pn**	**12 06 46.8**	**-1.2**
N19K				IAML		12 07 49.5	
	comp=E,44nm,2.1s						
N19K	**Bonanza Creek**	**5.20**	**337**	P	**Pn**	**12 06 48.0**	**0.0**
	baz=154						
RAGM	**Ragged Mountai**	**5.27**	**33**	Pn	**Pn**	**12 06 48.9**	**0.0**
SUA	**Susitna One**	**5.40**	**358**	Pn	**Pn**	**12 06 48.7**	**-2.1**
O16K	**Kokwok River B**	**5.41**	**314**	Pn	**Pn**	**12 06 51.5**	**+0.8**
N18K	**Kilae Creek**	**5.44**	**330**		**Pn**	**12 06 50.5**	**-0.6**
N18K	**Kilae Creek**	**5.44**	**330**	P	**Pn**	**12 06 50.5**	**-0.6**
	baz=146						
KNK	**Knik Glacier**	**5.44**	**10**	Pn	**Pn**	**12 06 50.2**	**-1.0**
PMR	**Palmer**	**5.57**	**6**	Pn	**Pn**	**12 06 52.8**	**-0.1**
BERG	**Berg Lake**	**5.59**	**37**	Pn	**Pn**	**12 06 53.0**	**-0.2**
SVW2	**Sparrevohn**	**5.71**	**334**		**Pn**	**12 06 54.0**	**-0.9**
N17K	**Nushagak Hills**	**5.71**	**324**	Pn	**Pn**	**12 06 52.2**	**-2.6**
SDPT	**Sand Point**	**5.74**	**267**	Pn	**Pn**	**12 06 53.2**	**-2.0**
SNH	**Sunshine Point**	**5.74**	**41**		**Pn**	**12 06 55.2**	**-0.1**
GHO	**Glory Hole Cre**	**5.76**	**7**	Pn	**Pn**	**12 06 53.9**	**-1.7**
SML	**Sawmill**	**5.84**	**10**	Pn	**Pn**	**12 06 54.4**	**-2.3**
KLU	**Klutina**	**5.91**	**21**	Pn	**Pn**	**12 06 55.9**	**-1.7**
M20K	**Styx River**	**5.99**	**348**	Pn	**Pn**	**12 06 57.3**	**-1.4**
M18K	**Stony River**	**6.11**	**335**		**Pn**	**12 06 59.6**	**-0.7**
M18K	**Stony River**	**6.11**	**335**	P	**Pn**	**12 06 59.6**	**-0.7**
	baz=150						
M19K	**Big River Lodg**	**6.19**	**342**	Pn	**Pn**	**12 07 00.1**	**-1.3**
N16K	**Nishlik Lake**	**6.23**	**318**		**Pn**	**12 07 02.5**	**+0.5**
N16K	**Nishlik Lake**	**6.23**	**318**	P	**Pn**	**12 07 02.5**	**+0.5**
	baz=132						
N25K	**Chitina, Valde**	**6.31**	**26**	Pn	**Pn**	**12 07 02.7**	**-0.5**
VRDI	**Verde Repeater**	**6.31**	**32**	Pn	**Pn**	**12 07 02.5**	**-0.7**
CUT	**Chulitna**	**6.34**	**1**	Pn	**Pn**	**12 07 02.6**	**-0.9**
GLB	**Gilahina Butte**	**6.38**	**30**	Pn	**Pn**	**12 07 03.2**	**-0.8**
M24K	**Tolsona, Glenn**	**6.42**	**18**	Pn	**Pn**	**12 07 04.9**	**+0.2**
M17K	**Holitna River**	**6.46**	**328**		**Pn**	**12 07 05.1**	**-0.1**
M17K	**Holitna River**	**6.46**	**328**	P	**Pn**	**12 07 05.4**	**+0.2**
	baz=143						
L19K	**White Mountain**	**6.53**	**341**	Pn	**Pn**	**12 07 04.5**	**-1.6**
N15K	**Kwethluk River**	**6.56**	**313**		**Pn**	**12 07 06.5**	**0.0**
N15K	**Kwethluk River**	**6.56**	**313**	P	**Pn**	**12 07 07.2**	**+0.7**
	baz=125						
O14K	**Tigyukauivet M**	**6.63**	**303**	Pn	**Pn**	**12 07 08.0**	**+0.5**
M16K	**Timber Creek**	**6.67**	**321**		**Pn**	**12 07 06.3**	**-1.7**
M16K	**Timber Creek**	**6.67**	**321**	P	**Pn**	**12 07 08.7**	**+0.7**
	baz=135						
BARN	**Barnard Glacie**	**6.77**	**39**	Pn	**Pn**	**12 07 09.3**	**-0.3**
CTGM	**Chitina Glacie**	**6.82**	**40**	Pn	**Pn**	**12 07 09.5**	**-0.8**
LOGN	**Logan Glacier**	**6.85**	**42**	Pn	**Pn**	**12 07 11.0**	**+0.3**
PNL	**Peninsula**	**6.89**	**54**		**Pn**	**12 07 10.2**	**-0.9**
PNL	**Peninsula**	**6.89**	**54**	P	**Pn**	**12 07 10.2**	**-0.9**
	baz=242						
BCPM	**Bancas Point**	**6.92**	**51**	Pn	**Pn**	**12 07 11.7**	**+0.3**
L18K	**Granite Mounta**	**6.95**	**335**		**Pn**	**12 07 11.4**	**-0.4**
DHY	**Denali Highway**	**7.18**	**11**	Pn	**Pn**	**12 07 17.9**	**+2.7**
L17K	**Donlin**	**7.30**	**330**		**Pn**	**12 07 16.3**	**-0.3**
L17K	**Donlin**	**7.30**	**330**	P	**Pn**	**12 07 16.3**	**-0.3**
	baz=143						
L16K	**Owhat River**	**7.33**	**324**	Pn	**Pn**	**12 07 18.8**	**+1.7**
RND	**Reindeer**	**7.39**	**5**	Pn	**Pn**	**12 07 17.9**	**0.0**
TRF	**Thorofare Moun**	**7.39**	**0**	Pn	**Pn**	**12 07 17.8**	**-0.3**
TTA	**Tatalina**	**7.43**	**340**	Pn	**Pn**	**12 07 18.3**	**-0.3**
KTH	**Kantishna Hill**	**7.50**	**358**	Pn	**Pn**	**12 07 19.8**	**+0.3**
O29M	**Mount Kennedy**	**7.55**	**51**	Pn	**Pn**	**12 07 20.4**	**+0.2**
P29M	**Windy Craggy**	**7.64**	**57**	Pn	**Pn**	**12 07 21.1**	**-0.3**
M14K	**Bethel**	**7.65**	**312**	Pn	**Pn**	**12 07 19.4**	**-2.0**
M27K	**Edge Creek, AK**	**7.66**	**31**	Pn	**Pn**	**12 07 21.7**	**-0.1**
ISLZ	**Isanotski Laza**	**7.69**	**265**		**Pn**	**12 07 20.9**	**-1.2**
K17K	**Iditarod**	**7.77**	**332**	Pn	**Pn**	**12 07 22.3**	**-0.8**
S31K	**Pelican**	**7.97**	**70**	Pn	**Pn**	**12 07 23.9**	**-1.9**
S31K	**Pelican**	**7.97**	**70**	P	**Pn**	**12 07 23.0**	**-2.8**
	baz=261						
BPAW	**Bear Paw Mtn.**	**8.05**	**358**		**Pn**	**12 07 27.9**	**+0.9**
J18K	**Innoko River**	**8.05**	**339**	Pn	**Pn**	**12 07 29.6**	**+2.5**
M13K	**Dall Lake**	**8.08**	**308**	Pn	**Pn**	**12 07 27.7**	**+0.4**
RIDG	**Independent Ri**	**8.17**	**18**	Pn	**Pn**	**12 07 28.2**	**-0.4**
L27K	**Beaver Creek,**	**8.24**	**28**	Pn	**Pn**	**12 07 29.1**	**-0.5**
HYT	**Haines Junctio**	**8.27**	**50**	Pn	**Pn**	**12 07 30.5**	**+0.5**
L14K	**Kuka Creek**	**8.27**	**315**	Pn	**Pn**	**12 07 31.5**	**+1.6**
J20K	**Nowinta River**	**8.33**	**349**	Pn	**Pn**	**12 07 31.4**	**+0.6**
J19K	**Poorman**	**8.35**	**344**	Pn	**Pn**	**12 07 30.0**	**-1.1**
K15K	**Wolf Creek Mou**	**8.44**	**322**		**Pn**	**12 07 32.9**	**+0.7**
K15K	**Wolf Creek Mou**	**8.44**	**322**	P	**Pn**	**12 07 33.3**	**+1.0**
	baz=133						
HDA	**Harding Lake**	**8.53**	**10**	Pn	**Pn**	**12 07 33.4**	**-0.2**
NEA2	**Nenana**	**8.57**	**4**	Pn	**Pn**	**12 07 35.4**	**+1.4**
SKAG	**Skagway**	**8.74**	**61**		**Pn**	**12 07 36.9**	**+0.5**
N30M	**Aishikik Lake**	**8.77**	**47**	Pn	**Pn**	**12 07 36.3**	**-0.5**
M29M	**Somme Creek**	**8.83**	**39**		**Pn**	**12 07 38.1**	**+0.4**
IL31		**8.89**	**10**	Pn	**Pn**	**12 07 39.4**	**+1.0**
ILAR	**Eielson Array**	**8.89**	**10**	Pn	**Pn**	**12 07 38.2**	**-0.3**
ILAR	**Eielson Array**	**8.89**	**10**	Pn	Pn	12 07 31.5	-6.9
	comp=E,0.2nm,0.3s,baz=204,slow=14,SNR=3.1						
ILAR				Sn	Sn	12 09 09.0	-9.4
	comp=E,0.1nm,0.3s,baz=187,slow=21,SNR=4.2						
	comp=E,1.6nm,0.7s						
COLA	**College**	**8.91**	**7**	Pn	**Pn**	**12 07 38.8**	**+0.1**
J25K	**Salcha River,**	**8.91**	**14**	Pn	**Pn**	**12 07 41.1**	**+2.3**
JIS	**Juneau Island**	**8.98**	**69**	Pn	**Pn**	**12 07 40.2**	**+0.6**
J26L	**Joseph Creek**	**9.10**	**19**	Pn	**Pn**	**12 07 40.5**	**-0.9**
I23K	**Minto, Yukon-K**	**9.11**	**3**	Pn	**Pn**	**12 07 42.4**	**+0.9**
I21K	**Tanana**	**9.16**	**356**	Pn	**Pn**	**12 07 40.8**	**-1.3**
N31M	**Braeburn, Yuko**	**9.32**	**48**	Pn	**Pn**	**12 07 43.9**	**-0.5**
K13K	**Kusilvak Mount**	**9.39**	**314**		**Pn**	**12 07 45.1**	**-0.1**
L29M	**L29M**	**9.39**	**36**	Pn	**Pn**	**12 07 46.1**	**+0.7**
M30M	**Minto, Yukon**	**9.52**	**41**	Pn	**Pn**	**12 07 47.5**	**+0.5**
P32M	**Atlin**	**9.57**	**62**	Pn	**Pn**	**12 07 46.8**	**-1.0**
P32M	**Atlin**	**9.57**	**62**	P	**Pn**	**12 07 46.6**	**-1.2**
	baz=255						
DAWY	**Dawson**	**9.70**	**30**	Pn	**Pn**	**12 07 50.1**	**+0.4**
EGAK	**Eagle**	**9.84**	**24**	Pn	**Pn**	**12 07 52.2**	**+0.8**
H24K	**Noodor Dome**	**9.87**	**6**	Pn	**Pn**	**12 07 52.9**	**+1.0**
H18K	**Honhosa River**	**9.89**	**340**	Pn	**Pn**	**12 07 54.3**	**+2.2**
H17K	**Granite Mounta**	**10.03**	**336**	Pn	**Pn**	**12 07 54.8**	**+0.8**
IMAR	**Indian Mountai**	**10.06**	**352**	Pn	**Pn**	**12 07 56.1**	**+1.6**
K29M	**Barlow Dome**	**10.10**	**34**	Pn	**Pn**	**12 07 55.8**	**+0.7**
M31M	**Drury Creek, Y**	**10.25**	**47**	Pn	**Pn**	**12 07 54.8**	**-2.3**
J29N	**Klondike Camp**	**10.33**	**31**	Pn	**Pn**	**12 07 55.8**	**-2.5**
N32M	**Quiet Lake**	**10.35**	**54**	Pn	**Pn**	**12 07 56.7**	**-1.8**
G23K	**Bananza Creek**	**10.67**	**1**		**Pn**	**12 08 03.3**	**+0.5**
G24K	**Hadweenzic Riv**	**10.75**	**6**	Pn	**Pn**	**12 08 05.2**	**+1.3**
J30M	**Hart River**	**10.98**	**33**	Pn	**Pn**	**12 08 06.5**	**-0.7**
ANM	**Nome**	**11.25**	**325**	Pn	**Pn**	**12 08 11.8**	**+1.0**
DLBC	**Dease Lake**	**11.28**	**70**	Pn	**Pn**	**12 08 10.8**	**-0.5**
	comp=E,0.2nm,0.3s,baz=138,slow=21,SNR=1.8						
	comp=E,1.3nm,0.3s						
F15K	**North Star Dit**	**11.85**	**330**	Pn	**Pn**	**12 08 20.1**	**+1.2**
E19K	**Redstone River**	**11.85**	**347**	Pn	**Pn**	**12 08 19.7**	**+0.8**
E25K	**Arctic Village**	**12.29**	**9**	Pn	**Pn**	**12 08 22.3**	**-2.6**
G29M	**Pine Creek**	**12.34**	**23**	Pn	**Pn**	**12 08 26.5**	**+0.9**
INK	**Inuvik**	**14.50**	**26**	Pn	**Pn**	**12 08 55.7**	**+0.7**
INK	**Inuvik**	**14.50**	**26**	Pn	**Pn**	**12 08 55.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=202,slow=12,SNR=4.0						
	comp=E,4.6nm,1.0s						
WRGLY	**Wrigley**	**15.29**	**51**	Pn	**Pn**	**12 09 06.6**	**+0.9**
WRGLY				IAmb	IAmb	12 09 16.6	
	comp=Z,24nm,1.3s						
C36M	**Paulatuk**	**17.74**	**31**		**Pn**	**12 09 35.8**	**-1.0**
C36M				IAmb	IAmb	12 09 48.1	
	comp=Z,29nm,1.5s						
A36M	**Sachs Harbour**	**19.12**	**24**	P	**P**	**12 09 52.1**	**-0.6**
A36M				IAmb	IAmb	12 10 03.1	
	comp=Z,20nm,0.9s						
YKAB2	**New Yellowknif**	**19.17**	**56**	P	**P**	**12 09 52.5**	**-0.9**
YKA	**Yellowknife Ar**	**19.18**	**56**	P	**P**	**12 09 51.4**	**-2.0**
YKA	**Yellowknife Ar**	**19.18**	**56**	P	**Pn**	**12 09 53.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=264,slow=10,SNR=15						
	comp=Z,3.7nm,0.8s						
NEW	**Newport**	**21.69**	**97**	P	**P**	**12 10 21.9**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=287,slow=5.0,SNR=4.7						
	comp=Z,2.0nm,0.9s						
NVAR	**Mina Array Bea**	**27.68**	**116**	P	**P**	**12 11 18.8**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=304,slow=8.8,SNR=6.3						
	comp=Z,1.1nm,0.8s						
PDAR	**Pinedale Array**	**29.25**	**100**	P	**P**	**12 11 30.5**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=329,slow=6.3,SNR=2.6						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**42.35**	**109**	P	**P**	**12 13 23.9**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=290,slow=3.6,SNR=6.2						
	comp=Z,1.0nm,1.0s						
NRIK	**Noril'sk**	**48.04**	**336**	P	**P**	**12 14 08.5**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=40,slow=6.9,SNR=3.7						
	comp=Z,1.5nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**48.23**	**239**	T	T	13 06 28.0	
	baz=30						
H11N3	**WAKE ISLAND Hy**	**48.24**	**239**	T	T	13 06 37.1	
	baz=30						
H11N1	**WAKE ISLAND Hy**	**48.25**	**239**	T	T	13 06 19.5	
	baz=30						
H11S1	**WAKE ISLAND Hy**	**49.38**	**238**	T	T	13 08 03.5	
	baz=32						
H11S2	**WAKE ISLAND Hy**	**49.39**	**238**	T	T	13 08 10.8	
	baz=32						
H11S3	**WAKE ISLAND Hy**	**49.40**	**238**	T	T	13 08 06.4	
	baz=32						
SONM	**Songino Array**	**58.28**	**310**	P	**P**	**12 15 26.6**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=54,slow=4.9,SNR=3.5						
	comp=Z,1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**61.38**	**326**	P	**P**	**12 15 46.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=46,slow=8.5,SNR=4.0						
	comp=Z,0.8nm,0.6s						
FINES	**FINESS Array B**	**62.78**	**2**	P	**P**	**12 15 55.7**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=2.2,slow=9.7,SNR=2.6						
	comp=Z,2.6nm,0.9s						
BVAR	**Borovoye Array**	**66.19**	**334**	P	**P**	**12 16 17.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=40,slow=7.7,SNR=3.6						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**68.39**	**324**	P	**P**	**12 16 32.0**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=32,slow=5.7,SNR=12						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**73.58**	**0**	P	**P**	**12 17 02.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=4.0,slow=6.2,SNR=1.8						
	comp=Z,0.2nm,0.3s						
ESDC	**Sonseca Array**	**80.44**	**26**	P	**P**	**12 17 42.1**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=348,slow=3.0,SNR=3.1						
	comp=Z,0.8nm,0.9s						

*NEIC **23** 12:08:03.3±1.1,55.8N±0.1×149.84W±0.05, h7km±8km, mb3.5/1, Error ellipse: s-maj=17.4km s-min=2.4km az=191.0*

ISC 23 12:08:04.5±2.3, 55.8N±0.2×149.8W±0.1, h10km, n29, σ0.97/28, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.38**	**307**	Pn	**Pn**	**12 08 42.3**	**-1.3**
Q19K	**Cape Douglas,**	**3.74**	**328**	Pn	**Pn**	**12 09 01.1**	**-1.2**
Q23K	**Middleton Isla**	**4.06**	**26**	Pn	**Pn**	**12 09 05.5**	**-1.1**
MID	**Middleton Isla**	**4.06**	**26**	Pn	**Pn**	**12 09 05.7**	**-0.9**
CHGN	**Chignik**	**4.85**	**279**	Pn	**Pn**	**12 09 16.9**	**-0.5**
HIN	**Hinchinbrook I**	**4.91**	**20**	Pn	**Pn**	**12 09 18.0**	**-0.2**
KAIM	**Kayak Island**	**5.01**	**33**	Pn	**Pn**	**12 09 18.7**	**-1.0**
RAGM	**Ragged Mountai**	**5.32**	**29**	Pn	**Pn**	**12 09 23.2**	**-0.7**
SNH	**Sunshine Point**	**5.72**	**37**	Pn	**Pn**	**12 09 28.5**	**-1.0**
KLU	**Klutina**	**6.03**	**18**	Pn	**Pn**	**12 09 34.1**	**+0.4**
CTGM	**Chitina Glacie**	**6.81**	**37**	Pn	**Pn**	**12 09 43.0**	**-1.4**
BCPM	**Bancas Point**	**6.82**	**48**	Pn	**Pn**	**12 09 43.7**	**-0.8**
M17K	**Holitna River**	**6.86**	**328**	Pn	**Pn**	**12 09 44.3**	**-0.8**
P29M	**Windy Craggy**	**7.50**	**54**	Pn	**Pn**	**12 09 53.9**	**+0.1**
M27K	**Edge Creek, AK**	**7.71**	**29**	Pn	**Pn**	**12 09 56.8**	**0.0**
S31K	**Pelican**	**7.73**	**68**	Pn	**Pn**	**12 09 55.4**	**-1.5**
S32K	**Killisnoo**	**8.55**	**73**	Pn	**Pn**	**12 10 07.6**	**-0.6**
N30M	**Aishikik Lake**	**8.70**	**44**	Pn	**Pn**	**12 10 09.5**	**-0.8**
JIS	**Juneau Island**	**8.76**	**67**	Pn	**Pn**	**12 10 10.6**	**-0.3**
M29M	**Somme Creek**	**8.82**	**37**	Pn	**Pn**	**12 10 11.9**	**-0.1**
WHY	**Whitehorse**	**9.23**	**52**	Pn	**Pn**	**12 10 17.2**	**-0.5**
U33K	**Whale Pass**	**9.36**	**81**	Pn	**Pn**	**12 10 18.6**	**-0.6**
P32M	**Atlin**	**9.39**	**60**	Pn	**Pn**	**12 10 19.1**	**-0.7**
L29M	**L29M**	**9.40**	**34**	Pn	**Pn**	**12 10 19.9**	**0.0**
P33M	**Teslin, Yukon**	**10.01**	**57**	Pn	**Pn**	**12 10 27.7**	**-0.6**
M31M	**Drury Creek, Y**	**10.18**	**45**	Pn	**Pn**	**12 10 30.3**	**-0.2**
YKA	**Yellowknife Ar**	**19.04**	**55**	P	**Pn**	**12 12 29.7**	**+2.6**
	baz=266,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**19.04**	**55**				
	0.7nm,0.9s						
A36M	**Sachs Harbour**	**19.22**	**23**	P	**Pn**	**12 12 28.4**	**-0.8**
A36M				IAmb	IAmb	12 12 30.1	
	comp=Z,3.5nm,1.1s						

*NEIC **23** 12:08:19.6±1.3,55.9N±0.1×149.70W±0.09, h10km±5km, mb4.2/2, ML4.0/26, ML3.9(AEIC), Error ellipse: s-maj=14.8km s-min=7.5km az=176.0*

*IDC **23** 12:08:23.0±9.2,57.2N×148.70W, h0km, mb3.5/3, mbtmp3.5/5, ML4.2/8.2, Error ellipse: s-maj=240.7km s-min=29.6km az=177.0*

*AEIC **23** 12:08:25.8±1.9,56.07N±0.10×149.76W±0.10, h10km±7km, Error ellipse: s-maj=14.4km s-min=7.9km az=182.0*

ISC 23 12:08:20.4±1.1, 56.09N±0.10×149.79W±0.07, h10km, n99, σ1.23/106, mb3.7/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.25**	**302**		**Pn**	**12 08 57.4**	**-0.1**
OHAK					**Sn**	**12 09 21.5**	**-3.8**
OHAK	**Old Harbor**	**2.25**	**302**	P	**Pn**	**12 08 57.5**	**-0.1**
	baz=119						
OHAK				S	**Sn**	**12 09 22.7**	**-2.6**
	baz=119						
KDAK	**Kodiak Island**	**2.29**	**319**	Pn	**Pn**	**12 08 58.3**	**+0.2**
	8.4nm,0.3s,baz=158,slow=2.9,SNR=9.0						
KDAK				Sn	**Sn**	**12 09 23.9**	**-2.5**
	22nm,0.3s,baz=48,slow=21,SNR=6.3						
	29nm,0.2s						
Q20K	**Shuyak Island**	**2.90**	**332**	P	**Pn**	**12 09 07.3**	**+0.8**
	baz=150						
Q20K				S	**Sn**	**12 09 40.1**	**-1.3**
	baz=150						
SYI	**Shuyak Island**	**2.90**	**332**		**Pn**	**12 09 07.0**	**+0.5**
SYI					**Sn**	**12 09 39.8**	**-1.5**
SYI				IAML		12 09 55.9	
	comp=E,245nm,0.8s						
Q19K	**Cape Douglas,**	**3.53**	**325**		**Pn**	**12 09 16.4**	**+1.1**
Q19K				IAML		12 10 22.7	
	comp=N,599nm,0.8s						
Q19K	**Cape Douglas,**	**3.53**	**325**	P	**Pn**	**12 09 16.4**	**+1.1**
	baz=142						
CNPM	**China Poot**	**3.54**	**348**		**Pn**	**12 09 16.1**	**+0.7**
CNPM					**Sn**	**12 09 55.4**	**-1.8**
CNPM				IAML		12 10 05.0	
	comp=N,251nm,1.4s						
CNPM				IAML		12 10 05.7	
	comp=E,208nm,0.9s						
KAHG	**Katmai Hook Gl**	**3.54**	**315**		**Pn**	**12 09 16.8**	**+1.4**
ACHA	**Angle Creek He**	**3.69**	**308**		**Pn**	**12 09 18.2**	**+0.6**
BRSE	**Bradley Lake S**	**3.70**	**352**		**Pn**	**12 09 18.4**	**+0.8**
BRSE					**Sn**	**12 09 59.5**	**-1.7**
BRSE	**Bradley Lake S**	**3.70**	**352**	P	**Pn**	**12 09 18.4**	**+0.8**
	baz=172						
BRSE				S	**Sn**	**12 09 59.5**	**-1.7**
	baz=172						
ANCK	**Angle Creek**	**3.76**	**307**		**Pn**	**12 09 19.4**	**+0.9**
Q23K	**Middleton Isla**	**3.83**	**27**		**Pn**	**12 09 19.4**	**+0.2**
Q23K				IAML		12 09 57.3	
	comp=N,344nm,2.2s						
Q23K				IAML		12 09 59.1	
	comp=E,305nm,2.8s						
Q23K	**Middleton Isla**	**3.83**	**27**	P	**Pn**	**12 09 19.3**	**0.0**
	baz=210						
MID	**Middleton Isla**	**3.83**	**27**		**Pn**	**12 09 19.4**	**+0.1**
MID				IAML		12 09 57.3	
	comp=N,297nm,2.2s						
MID				IAML		12 11 31.2	
	comp=E,318nm,2.3s						
CNTC	**Contact Creek**	**3.97**	**306**		**Pn**	**12 09 21.9**	**+0.5**
Q17K	**Contact Creek**	**3.98**	**306**	P	**Pn**	**12 09 21.9**	**+0.5**
	baz=121						
P23K	**Montague Islan**	**4.12**	**17**		**Pn**	**12 09 24.5**	**+1.2**
P23K	**Montague Islan**	**4.12**	**17**	P	**Pn**	**12 09 24.5**	**+1.2**
	baz=199						
IVE	**Iliamna Volcan**	**4.30**	**338**		**Pn**	**12 09 26.4**	**+0.5**
P18K	**Big Mountain,**	**4.42**	**321**		**Pn**	**12 09 27.9**	**+0.5**
P18K				IAML		12 10 38.7	
	comp=N,81nm,4.0s						
P18K	**Big Mountain,**	**4.42**	**321**	P	**Pn**	**12 09 28.0**	**+0.5**
	baz=136						
Q16K	**King Salmon**	**4.54**	**308**		**Pn**	**12 09 29.6**	**+0.7**
Q16K	**King Salmon**	**4.54**	**308**	P	**Pn**	**12 09 29.6**	**+0.7**
	baz=122						
HIN	**Hinchinbrook I**	**4.66**	**20**		**Pn**	**12 09 31.5**	**+0.8**
P17K	**Kvichak River**	**4.74**	**314**	P	**Pn**	**12 09 33.3**	**+1.5**
	baz=128						
O18K	**Koktuh Hills**	**4.75**	**325**	Pn	**Pn**	**12 09 33.0**	**+1.0**
O18K				IAML		12 10 40.9	
	comp=N,86nm,0.8s						
O18K				IAML		12 10 53.4	
	comp=E,74nm,3.1s						
KAIM	**Kayak Island**	**4.79**	**34**		**Pn**	**12 09 32.6**	**0.0**
KAIM				IAML		12 10 20.8	
	comp=E,280nm,1.7s						
KAIM	**Kayak Island**	**4.79**	**34**	P	**Pn**	**12 09 32.6**	**0.0**
	baz=218						
CHGN	**Chignik**	**4.83**	**276**	Pn	**Pn**	**12 09 33.5**	**+0.5**
CHGN				IAML		12 10 54.0	
	comp=N,87nm,0.8s						
CHGN				IAML		12 10 55.6	
	comp=E,84nm,2.7s						
RAGM	**Ragged Mountai**	**5.09**	**30**		**Pn**	**12 09 37.7**	**+1.0**
GOAT	**Goat Mountain**	**5.24**	**28**		**Pn**	**12 09 37.4**	**-1.3**
P16K	**Nushagak River**	**5.31**	**307**	P	**Pn**	**12 09 40.5**	**+0.9**
	baz=120						
N19K	**Bonanza Creek**	**5.34**	**334**	Pn	**Pn**	**12 09 41.7**	**+1.5**
SUA	**Susitna One**	**5.42**	**355**	Pn	**Pn**	**12 09 42.5**	**+1.2**
N18K	**Kilae Creek**	**5.62**	**328**	Pn	**Pn**	**12 09 43.4**	**-0.5**
O16K	**Kokwok River B**	**5.66**	**312**	Pn	**Pn**	**12 09 44.9**	**+0.4**
KLU	**Klutina**	**5.78**	**19**

0.1nm,0.3s,baz=267,slow=12,SNR=12
3.2nm,0.8s
NVAR Mina Array Bea 27.09 120 P **P** **12 14 14.4 -1.1**
0.7nm,0.8s,baz=308,slow=9.5,SNR=5.5
0.7nm,0.8s
PDAR Pinedale Array 28.35 103 P **P** **12 14 27.2 +0.5**
0.2nm,0.6s,baz=306,slow=6.6,SNR=1.5
0.2nm,0.6s
H11N2 WAKE ISLAND Hy 49.53 240 T T 13 10 52.3
baz=34
H11N3 WAKE ISLAND Hy 49.53 240 T T 13 10 49.3
baz=34
H11N1 WAKE ISLAND Hy 49.55 240 T T 13 10 56.0
baz=34
H11S1 WAKE ISLAND Hy 50.67 240 T T 13 12 27.9
baz=29
H11S2 WAKE ISLAND Hy 50.69 240 T T 13 12 31.3
baz=29
H11S3 WAKE ISLAND Hy 50.69 240 T T 13 12 30.8
baz=29
SONM Songino Array 58.62 310 P **P** **12 18 31.1 +1.6**
1.0nm,0.8s,baz=41,slow=7.8,SNR=4.1
1.0nm,0.8s
ZALV Zalesovo Beam 61.34 327 P **P** **12 18 50.4 +2.6**
1.1nm,0.7s,baz=36,slow=7.7,SNR=5.8
1.1nm,0.7s
FINES FINESS Array B 61.99 3 P **P** **12 18 52.4 +0.2**
0.6nm,0.5s,baz=2.9,slow=7.6,SNR=6.1
0.6nm,0.5s
BVAR Borovoye Array 65.97 335 P **P** **12 19 20.1 +1.6**
1.3nm,0.7s,baz=13,slow=8.1,SNR=4.9
1.3nm,0.7s
MKAR Makanchi Array 68.40 325 P **P** **12 19 35.0 +1.0**
0.3nm,0.6s,baz=49,slow=4.4,SNR=3.2
0.3nm,0.6s

NEIC ***23*** *12:10:58.5±1.7,56.2N±0.1×149.1W±0.1, h22km±11km, ML3.8/32, ML3.3(AEIC), Error ellipse: s-maj=17.2km s-min=10.0km az=183.0*
AEIC ***23*** *12:11:02.4±1.6,56.2N±0.1×149.1W±0.1, h12km±8km, Error ellipse: s-maj=17.3km s-min=9.2km az=186.0*
IDC ***23*** *12:11:06.9±1.9,56.21N×150.76W, h0km, mb3.4/4, mbtmp3.5/7, ML3.4/3, Error ellipse: s-maj=41.6km s-min=21.1km az=45.0*
ISC 23 12:10:57.9±2.5,56.3N±0.2×149.17W±0.06, h10km, n42, σ1§14/39, mb3.4/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.39**	**310**		**Pn**	**12 11 37.9**	**+0.9**
KDAK					**Sn**	**12 12 05.4**	**-1.0**
KDAK	**Kodiak Island**	**2.39**	**310**	Pn	**Pn**	**12 11 38.0**	**+0.9**
	2.9nm,0.3s,baz=298,slow=20,SNR=1.3						
KDAK				Sn	**Sn**	**12 12 04.3**	**-2.1**
	12nm,0.3s,baz=304,slow=24,SNR=3.0						
OHAK	**Old Harbor**	**2.45**	**294**		**Pn**	**12 11 38.1**	**+0.2**
OHAK					**Sn**	**12 12 05.3**	**-2.6**
SYI	**Shuyak Island**	**2.91**	**325**		**Pn**	**12 11 44.8**	**+0.6**
SYI					**Sn**	**12 12 18.5**	**-0.6**
CNPM	**China Poot**	**3.43**	**342**		**Pn**	**12 11 52.0**	**+0.7**
Q23K	**Middleton Isla**	**3.49**	**24**		**Pn**	**12 11 52.1**	**0.0**
Q23K				IAML		12 13 40.1	
	comp=N,119nm,1.2s						
MID	**Middleton Isla**	**3.49**	**24**		**Pn**	**12 11 52.2**	**0.0**
MID				IAML		12 14 01.2	
	comp=N,132nm,1.1s						
BRSE	**Bradley Lake S**	**3.56**	**347**		**Pn**	**12 11 53.6**	**+0.4**
Q19K	**Cape Douglas,**	**3.58**	**320**		**Pn**	**12 11 54.9**	**+1.5**
Q19K				IAML		12 12 50.0	
	comp=N,378nm,1.0s						
Q19K				IAML		12 12 50.7	
	comp=E,353nm,1.0s						
Q19K	**Cape Douglas,**	**3.58**	**320**		**Sn**	**12 12 35.8**	**+0.1**
BRLK	**Bradley Lake**	**3.60**	**346**		**Pn**	**12 11 54.3**	**+0.6**
KAHG	**Katmai Hook Gl**	**3.65**	**309**		**Pn**	**12 11 55.5**	**+1.0**
ACHA	**Angle Creek He**	**3.86**	**303**		**Pn**	**12 11 58.7**	**+1.4**
P19K	**Oil Pt**	**4.01**	**329**	Pn	**Pn**	**12 12 00.5**	**+1.2**
CNTC	**Contact Creek**	**4.15**	**301**		**Pn**	**12 12 02.4**	**+1.1**
HIN	**Hinchinbrook I**	**4.35**	**18**	Pn	**Pn**	**12 12 04.5**	**+0.4**
KAIM	**Kayak Island**	**4.43**	**33**	Pn	**Pn**	**12 12 05.8**	**+0.7**
P18K	**Big Mountain,**	**4.49**	**316**	Pn	**Pn**	**12 12 06.3**	**+0.4**
FID	**Port Fidalgo**	**4.69**	**16**	Pn	**Pn**	**12 12 09.2**	**+0.5**
FID				IAML		12 13 08.1	
	comp=E,95nm,0.6s						
FID				IAML		12 14 14.3	
	comp=N,70nm,0.9s						
Q19K	**Port Alsworth**	**4.77**	**327**	Pn	**Pn**	**12 12 10.5**	**+0.8**
BERG	**Berg Lake**	**5.02**	**33**	Pn	**Pn**	**12 12 13.8**	**+0.6**
SNH	**Sunshine Point**	**5.14**	**38**	Pn	**Pn**	**12 12 15.2**	**+0.4**
SNH				IAML		12 14 17.9	
	comp=E,78nm,1.0s						
SNH				IAML		12 14 19.6	
	comp=N,71nm,1.1s						
N19K	**Bonanza Creek**	**5.32**	**331**	Pn	**Pn**	**12 12 17.7**	**+0.3**
KLU	**Klutina**	**5.48**	**17**	Pn	**Pn**	**12 12 20.7**	**+1.1**
GHO	**Glory Hole Cre**	**5.50**	**1**	Pn	**Pn**	**12 12 21.4**	**+1.5**
N18K	**Kilae Creek**	**5.64**	**324**	Pn	**Pn**	**12 12 21.6**	**0.0**
O16K	**Kokwok River B**	**5.79**	**309**	Pn	**Pn**	**12 12 25.3**	**+1.6**
SVW2	**Sparrevohn**	**5.87**	**328**	Pn	**Pn**	**12 12 25.2**	**+0.4**
GLB	**Gilahina Butte**	**5.87**	**26**	Pn	**Pn**	**12 12 26.2**	**+1.4**
BARN	**Barnard Glacie**	**6.18**	**36**	Pn	**Pn**	**12 12 30.2**	**+1.0**
BCPM	**Bancas Point**	**6.25**	**50**	Pn	**Pn**	**12 12 31.0**	**+1.0**
P29M	**Windy Craggy**	**6.94**	**56**	Pn	**Pn**	**12 12 39.9**	**+0.3**
N15K	**Kwethluk River**	**6.95**	**309**	Pn	**Pn**	**12 12 42.5**	**+2.8**
M16K	**Timber Creek**	**6.97**	**317**	Pn	**Pn**	**12 12 41.3**	**+1.4**
S31K	**Pelican**	**7.24**	**71**	Pn	**Pn**	**12 12 42.5**	**-1.1**
ILAR	**Eielson Array**	**8.59**	**7**	Pn	Pn	12 13 12.3	+10
	comp=N,0.5nm,0.3s,baz=188,slow=14,SNR=2.2						
	comp=N,1.7nm,0.4s						
INK	**Inuvik**	**14.01**	**24**	Pn	P	12 14 33.8	+10
	comp=N,0.2nm,0.3s,baz=191,slow=6.2,SNR=4.6						
	comp=N,1.6nm,0.6s						
YKA	**Yellowknife Ar**	**18.48**	**56**	P	Pn	12 15 31.5	+18
	comp=N,0.1nm,0.3s,baz=267,slow=10,SNR=5.6						
	comp=N,0.9nm,0.7s						
PDAR	**Pinedale Array**	**28.61**	**101**	P	P	12 17 12.0	+18
	comp=N,0.2nm,0.5s,baz=320,slow=3.5,SNR=2.4						
	comp=N,0.2nm,0.5s						
TXAR	**Lajitas Array**	**41.77**	**111**	P	P	12 19 06.0	+19
	comp=N,0.2nm,0.7s,baz=348,slow=8.3,SNR=2.7						
	comp=N,0.2nm,0.7s						
MKAR	**Makanchi Array**	**68.63**	**325**	P	P	12 22 09.5	+8.7
	comp=N,0.2nm,0.5s,baz=28,slow=6.8,SNR=1.7						
	comp=N,0.2nm,0.5s						
AKASG	**Malin Array Be**	**73.37**	**1**	P	P	12 22 38.6	+9.2
	comp=N,0.4nm,0.4s,baz=359,slow=4.8,SNR=2.1						
	comp=N,0.4nm,0.4s						

NEIC ***23*** *12:12:06.7±1.2,56.03N±0.05×148.5W±0.1, h20km±8km, ML3.8/26, ML3.4(AEIC), Error ellipse: s-maj=9.7km s-min=7.2km az=63.0*
IDC ***23*** *12:12:08.1±2.0,56.36N×148.39W, h0km, mb3.6/2, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=37.2km s-min=27.3km az=44.0*
AEIC ***23*** *12:12:11.0±1.5,56.15N±0.09×148.6W±0.1, h10km±7km, Error ellipse: s-maj=13.3km s-min=8.5km az=171.0*
ISC 23 12:12:07.1±1.2,56.2N±0.1×148.62W±0.07, h10km, n58, σ1§26/60, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.70**	**308**		**Pn**	**12 12 50.5**	**+0.1**
KDAK	**Kodiak Island**	**2.70**	**308**	Pn	**Pn**	**12 12 51.1**	**+0.6**
	8.1nm,0.3s,baz=321,slow=21,SNR=1.5						
	24nm,0.3s						
OHAK	**Old Harbor**	**2.78**	**294**		**Pn**	**12 12 51.5**	**0.0**
OHAK					**Sn**	**12 13 22.8**	**-2.3**
SYI	**Shuyak Island**	**3.17**	**322**		**Pn**	**12 12 57.8**	**+0.8**
SYI					**Sn**	**12 13 32.6**	**-2.3**
SYI				IAML		12 13 35.8	
	comp=E,153nm,0.8s						
SYI				IAML		12 13 42.3	
	comp=N,109nm,1.3s						
Q23K	**Middleton Isla**	**3.47**	**20**		**Pn**	**12 13 00.3**	**-0.8**
Q23K				IAML		12 13 43.6	
	comp=N,160nm,1.4s						
Q23K				IAML		12 13 46.7	
	comp=E,169nm,1.1s						
MID	**Middleton Isla**	**3.48**	**20**		**Pn**	**12 13 00.5**	**-0.6**
MID				IAML		12 13 43.6	
	comp=N,196nm,1.4s						
MID				IAML		12 13 46.6	
	comp=E,176nm,1.0s						
CNPM	**China Poot**	**3.63**	**338**		**Pn**	**12 13 03.6**	**+0.3**
CNPM					**Sn**	**12 13 44.3**	**-1.9**
CNPM				IAML		12 13 48.8	
	comp=N,121nm,0.6s						
CNPM				IAML		12 13 50.9	
	comp=E,106nm,0.7s						
BRSE	**Bradley Lake S**	**3.74**	**343**		**Pn**	**12 13 04.1**	**-0.8**
BRLK	**Bradley Lake**	**3.79**	**342**		**Pn**	**12 13 05.5**	**0.0**
BRLK				IAML		12 13 51.3	
	comp=N,135nm,0.9s						
BRLK				IAML		12 13 52.3	
	comp=E,137nm,0.7s						
Q19K	**Cape Douglas,**	**3.86**	**318**		**Pn**	**12 13 07.0**	**+0.5**
P23K	**Montague Islan**	**3.88**	**9**		**Pn**	**12 13 06.3**	**-0.4**
SEW	**Seward**	**3.96**	**354**		**Pn**	**12 13 07.6**	**-0.2**
AU22	**Augustine Moun**	**4.08**	**324**		**Pn**	**12 13 10.6**	**+1.1**
P19K	**Oil Pt**	**4.26**	**327**	Pn	**Pn**	**12 13 12.9**	**+0.9**
KAIM	**Kayak Island**	**4.37**	**29**	Pn	**Pn**	**12 13 13.2**	**-0.2**
KAIM				IAML		12 14 07.2	
	comp=E,169nm,1.0s						
KAIM				IAML		12 14 07.9	
	comp=N,155nm,1.1s						
HIN	**Hinchinbrook I**	**4.37**	**14**	Pn	**Pn**	**12 13 13.6**	**+0.1**
P18K	**Big Mountain,**	**4.78**	**315**	Pn	**Pn**	**12 13 19.3**	**+0.1**
O18K	**Koktuh Hills**	**5.08**	**319**	Pn	**Pn**	**12 13 23.8**	**+0.6**
O18K				IAML		12 14 26.9	
	comp=N,43nm,1.2s						
O18K				IAML		12 14 28.6	
	comp=E,37nm,0.7s						
PMR	**Palmer**	**5.43**	**357**	Pn	**Pn**	**12 13 28.5**	**+0.5**
N19K	**Bonanza Creek**	**5.57**	**329**	Pn	**Pn**	**12 13 29.9**	**0.0**
GHO	**Glory Hole Cre**	**5.61**	**359**	Pn	**Pn**	**12 13 30.9**	**+0.4**
SCM	**Sheep Creek Mo**	**5.71**	**6**	Pn	**Pn**	**12 13 33.3**	**+1.4**
N18K	**Kilae Creek**	**5.91**	**323**	Pn	**Pn**	**12 13 34.4**	**-0.2**
BCPM	**Bancas Point**	**6.08**	**48**	Pn	**Pn**	**12 13 37.4**	**+0.4**
BARN	**Barnard Glacie**	**6.09**	**34**	Pn	**Pn**	**12 13 37.1**	**-0.1**
O16K	**Kokwok River B**	**6.10**	**308**		**Pn**	**12 13 38.0**	**+0.8**
CTGM	**Chitina Glacie**	**6.12**	**35**	Pn	**Pn**	**12 13 37.6**	**-0.1**
N17K	**Nushagak Hills**	**6.27**	**318**	Pn	**Pn**	**12 13 39.8**	**+0.3**
CNBA	**Chernabura Isl**	**6.38**	**262**	Pn	**Pn**	**12 13 39.7**	**-1.4**
M19K	**Big River Lodg**	**6.46**	**335**	Pn	**Pn**	**12 13 42.3**	**+0.1**
O29M	**Mount Kennedy**	**6.72**	**48**	Pn	**Pn**	**12 13 46.3**	**+0.5**
P29M	**Windy Craggy**	**6.75**	**55**	Pn	**Pn**	**12 13 46.5**	**+0.3**
L19K	**White Mountain**	**6.81**	**335**	Pn	**Pn**	**12 13 47.2**	**+0.2**
M17K	**Holitna River**	**6.95**	**322**	Pn	**Pn**	**12 13 49.6**	**+0.8**
S31K	**Pelican**	**6.99**	**70**	Pn	**Pn**	**12 13 47.5**	**-1.8**
M16K	**Timber Creek**	**7.25**	**316**	Pn	**Pn**	**12 13 53.8**	**+0.8**
N15K	**Kwethluk River**	**7.26**	**308**		**Pn**	**12 13 54.0**	**+0.9**
SIT	**Sitka**	**7.39**	**78**	Pn	**Pn**	**12 13 51.3**	**-3.5**
S32K	**Killisnoo**	**7.81**	**75**	Pn	**Pn**	**12 13 58.6**	**-2.1**
L16K	**Lowhat River**	**7.88**	**319**	Pn	**Pn**	**12 14 02.2**	**+0.6**
N30M	**Aishikik Lake**	**7.98**	**44**	Pn	**Pn**	**12 14 03.6**	**+0.6**
M29M	**Somme Creek**	**8.14**	**35**	Pn	**Pn**	**12 14 06.2**	**+0.9**
K17K	**Iditarod**	**8.19**	**327**	Pn	**Pn**	**12 14 06.1**	**+0.3**
P32M	**Atlin**	**8.64**	**61**	Pn	**Pn**	**12 14 10.9**	**-1.2**
U33K	**Whale Pass**	**8.66**	**84**	Pn	**Pn**	**12 14 08.4**	**-3.8**
ILAR	**Eielson Array**	**8.66**	**5**	Pn	Pn	12 14 08.4	-3.8
	comp=E,0.2nm,0.3s,baz=194,slow=12,SNR=1.2						
ILAR				Sn	Sn	12 15 42.1	-7.7
	comp=E,0.5nm,0.3s,baz=189,slow=22,SNR=5.1						
	comp=E,0.8nm,0.4s						
L29M	**L29M**	**8.73**	**33**	Pn	**Pn**	**12 14 13.6**	**+0.3**
CRAG	**Craig**	**8.76**	**88**	Pn	**Pn**	**12 14 10.2**	**-3.3**
M13K	**Dall Lake**	**8.83**	**305**	Pn	**Pn**	**12 14 15.6**	**+1.0**
I23K	**Minto, Yukon-K**	**9.00**	**358**	Pn	**Pn**	**12 14 18.0**	**+1.1**
J16K	**Anvik River**	**9.33**	**325**	Pn	**Pn**	**12 14 21.4**	**0.0**
H21K	**Melozitna Rive**	**9.72**	**350**	Pn	**Pn**	**12 14 27.5**	**+0.7**
H18K	**Honhosa River**	**10.17**	**336**	Pn	**Pn**	**12 14 32.8**	**-0.2**
G18K	**Tagagawik**	**10.87**	**338**	Pn	**Pn**	**12 14 43.0**	**+0.5**
C16K	**Lisburne Hills**	**14.34**	**334**	Pn	**Pn**	**12 15 31.0**	**+1.2**
B22K	**Teshekpuk Lake**	**14.37**	**353**	Pn	**Pn**	**12 15 30.9**	**+0.8**
PDAR	**Pinedale Array**	**28.28**	**102**	P	**P**	**12 18 02.3**	**+1.6**
	comp=E,0.3nm,0.7s,baz=311,slow=9.6,SNR=2.6						
	comp=E,0.3nm,0.7s						
SONM	**Songino Array**	**58.98**	**311**	P	**P**	**12 22 09.3**	**+2.7**
	comp=E,0.9nm,0.8s,baz=45,slow=5.7,SNR=4.6						
	comp=E,0.9nm,0.8s						

IDC ***23*** *12:19:27.1±0.6,55.66N×149.11W, h0km, mb4.7/28, mbtmp4.7/33, ML3.9/5, Error ellipse: s-maj=15.5km s-min=10.4km az=22.0*
MOS ***23*** *12:19:27.6±1.1,55.82N×149.09W, h10km, mb5.1/43, Error ellipse: s-maj=11.7km s-min=4.3km az=95.7*
NEIC ***23*** *12:19:27.0±1.7,55.67N±0.08×149.17W±0.10, h6km±4km, mb4.8/50, ML4.5/42, ML4.3(AEIC), Error ellipse: s-maj=11.4km s-min=7.9km az=183.0*
AEIC ***23*** *12:19:32.6±1.5,55.77N±0.08×149.21W±0.09, h7km±4km, Error ellipse: s-maj=11.5km s-min=7.5km az=177.0*
ISC 23 12:19:28.3±2.2,55.80N±0.06×149.12W±0.04, h7km±14km, n524, σ1§16/542, mb4.9/109, 15C-8D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.71**	**303**		**Pn**	**12 20 10.8**	**-1.5**
OHAK					**Sn**	**12 20 41.4**	**-3.8**
OHAK	**Old Harbor**	**2.71**	**303**	P	**Pn**	**12 20 10.8**	**-1.5**
OHAK	**Old Harbor**	**2.71**	**303**	P	**Pn**	**12 20 10.9**	**-1.4**
	baz=121						
OHAK				S	**Sn**	**12 20 41.7**	**-3.5**
	baz=121						
KDAK	**Kodiak Island**	**2.75**	**318**		**Pn**	**12 20 12.0**	**-0.8**
KDAK					**Sn**	**12 20 43.3**	**-3.0**
KDAK	**Kodiak Island**	**2.75**	**318**	S	**Sn**	**12 20 42.7**	**-3.5**
	baz=136						
KDAK	**Kodiak Island**	**2.75**	**318**	P	**Pn**	**12 20 12.0**	**-0.8**
KDAK						12 20 43.3	
KDAK	**Kodiak Island**	**2.75**	**318**	Pn	**Pn**	**12 20 12.0**	**-0.8**
	27nm,0.3s,baz=170,slow=8.0,SNR=36						
KDAK				Sn	**Sn**	**12 20 44.0**	**-2.2**
	40nm,0.3s,baz=37,slow=22,SNR=11						
	130nm,0.4s						
SYI	**Shuyak Island**	**3.33**	**329**		**Pn**	**12 20 20.1**	**-0.6**
SYI					**Sn**	**12 20 58.7**	**-1.8**
Q20K	**Shuyak Island**	**3.33**	**329**	P	**Pn**	**12 20 20.4**	**-0.3**
	baz=147						
Q20K				S	**Sn**	**12 20 57.8**	**-2.7**
	baz=147						
CNPM	**China Poot**	**3.90**	**344**		**Pn**	**12 20 28.2**	**-0.5**
CNPM					**Sn**	**12 21 13.4**	**-1.3**
CNPM				IAML		12 21 20.8	
	comp=E,336nm,0.5s						
Q23K	**Middleton Isla**	**3.93**	**21**		**Pn**	**12 20 29.1**	**0.0**
Q23K					**Sn**	**12 21 12.9**	**-2.5**
Q23K				IAML		12 21 13.5	
	comp=E,672nm,1.9s						
Q23K				IAML		12 21 14.8	
	comp=N,350nm,0.8s						
Q23K	**Middleton Isla**	**3.93**	**21**	P	**Pn**	**12 20 29.0**	**0.0**
	baz=204						
Q23K				S	**Sn**	**12 21 13.1**	**-2.2**
	baz=204						
MID	**Middleton Isla**	**3.93**	**21**		**Pn**	**12 20 29.2**	**+0.1**
MID					**Sn**	**12 21 12.2**	**-3.1**
MID				IAML		12 21 14.5	
	comp=N,446nm,0.8s						
MID				IAML		12 21 14.6	
	comp=E,532nm,1.1s						
MID	**Middleton Isla**	**3.93**	**21**	P	**Pn**	**12 20 29.1**	**+0.1**
Q19K	**Cape Douglas,**	**3.98**	**324**		**Pn**	**12 20 29.9**	**+0.2**
Q19K				IAML		12 21 24.5	
	comp=N,1μm,0.9s						
Q19K	**Cape Douglas,**	**3.98**	**324**	P	**Pn**	**12 20 29.3**	**-0.4**
	baz=141						
BRSE	**Bradley Lake S**	**4.05**	**348**		**Pn**	**12 20 29.9**	**-0.7**
BRSE	**Bradley Lake S**	**4.05**	**348**	P	**Pn**	**12 20 29.9**	**-0.7**
	baz=168						
BRLK	**Bradley Lake**	**4.08**	**347**		**Pn**	**12 20 30.5**	**-0.7**
BRLK				IAML		12 21 20.9	
	comp=E,365nm,0.6s						
BRLK				IAML		12 21 24.0	
	comp=N,336nm,0.8s						
HOM	**Homer**	**4.10**	**342**		**Pn**	**12 20 31.2**	**-0.1**
HOM				IAML		12 21 27.3	
	comp=N,690nm,0.7s						
HOM				IAML		12 21 31.0	
	comp=E,547nm,0.9s						
HOM	**Homer**	**4.10**	**342**	P	**Pn**	**12 20 30.6**	**-0.7**
	baz=160						
HOM				S	**Sn**	**12 21 16.1**	**-3.3**
	baz=160						
AU22	**Augustine Moun**	**4.24**	**329**		**Pn**	**12 20 32.5**	**-0.8**
P23K	**Montague Islan**	**4.31**	**12**	P	**Pn**	**12 20 34.2**	**0.0**
	baz=194						
SEW	**Seward**	**4.32**	**358**		**Pn**	**12 20 33.5**	**-0.8**
SEW	**Seward**	**4.32**	**358**	P	**Pn**	**12 20 33.8**	**-0.5**
	baz=178						
PLK3	**Peulik 3**	**4.36**	**299**		**Pn**	**12 20 34.1**	**-0.8**
CNTC	**Contact Creek**	**4.44**	**307**		**Pn**	**12 20 35.4**	**-0.7**
Q17K	**Contact Creek**	**4.44**	**307**	P	**Pn**	**12 20 35.4**	**-0.7**
	baz=122						
P19K	**Oil Pt**	**4.45**	**332**		**Pn**	**12 20 35.9**	**-0.2**
P19K				IAML		12 21 31.1	
	comp=N,538nm,0.6s						
P19K				IAML		12 21 35.4	
	comp=E,486nm,0.5s						
P19K	**Oil Pt**	**4.45**	**332**	P	**Pn**	**12 20 35.7**	**-0.4**
	baz=149						
PLK1	**Peulik 1**	**4.58**	**299**		**Pn**	**12 20 36.6**	**-1.2**
O20K	**Slope Mountain**	**4.68**	**338**		**Pn**	**12 20 38.7**	**-0.7**
O20K	**Slope Mountain**	**4.68**	**338**	P	**Pn**	**12 20 38.7**	**-0.7**
	baz=156						
O22K	**Cooper Landing**	**4.71**	**356**		**Pn**	**12 20 39.6**	**-0.1**
O22K	**Cooper Landing**	**4.71**	**356**	P	**Pn**	**12 20 39.1**	**-0.5**
	baz=176						
IVE	**Iliamna Volcan**	**4.71**	**335**		**Pn**	**12 20 39.1**	**-0.7**
HIN	**Hinchinbrook I**	**4.81**	**16**		**Pn**	**12 20 41.6**	**+0.4**
HIN				IAML		12 21 35.8	
	comp=E,750nm,0.6s						
KAIM	**Kayak Island**	**4.84**	**29**		**Pn**	**12 20 41.7**	**+0.2**
KAIM	**Kayak Island**	**4.84**	**29**	P	**Pn**	**12 20 41.5**	**0.0**
	baz=214						
P18K	**Big Mountain,**	**4.87**	**320**		**Pn**	**12 20 41.3**	**-0.7**
P18K	**Big Mountain,**	**4.87**	**320**	P	**Pn**	**12 20 41.2**	**-0.7**
	baz=136						
R16K	**Pilot Point**	**4.98**	**294**		**Pn**	**12 20 42.7**	**-0.7**
R16K				IAML		12 21 20.8	
	comp=E,522nm,2.2s						
R16K				IAML		12 22 51.6	
	comp=N,417nm,3.3s						
R16K	**Pilot Point**	**4.98**	**294**	P	**Pn**	**12 20 42.3**	**-1.2**
	baz=108						
Q16K	**King Salmon**	**5.00**	**308**		**Pn**	**12 20 43.3**	**-0.4**
Q16K	**King Salmon**	**5.00**	**308**	P	**Pn**	**12 20 43.3**	**-0.4**
	baz=123						
RDSO	**Redoubt South**	**5.04**	**339**		**Pn**	**12 20 43.4**	**-1.0**
RSO	**Redoubt South**	**5.05**	**339**		**Pn**	**12 20 44.0**	**-0.6**
EYAK	**Cordova Ski Ar**	**5.08**	**19**		**Pn**	**12 20 45.1**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.08**	**19**	P	**Pn**	**12 20 44.9**	**0.0**
	baz=202						
CAPN	**Captain Cook N**	**5.10**	**349**		**Pn**	**12 20 44.9**	**0.0**
CAPN				IAML		12 22 06.0	
	comp=E,629nm,0.8s						
FID	**Port Fidalgo**	**5.16**	**15**		**Pn**	**12 20 45.6**	**-0.2**
FID				IAML		12 21 42.5	
	comp=E,476nm,0.7s						
FID				IAML		12 21 49.3	
	comp=N,335nm,0.6s						
DFR	**Drift River**	**5.16**	**340**		**Pn**	**12 20 44.9**	**-1.1**
RAGM	**Ragged Mountai**	**5.17**	**25**	Pn	**Pn**	**12 20 46.8**	**+0.8**
ANNW	**Aniakchak Nort**	**5.18**	**287**		**Pn**	**12 20 45.3**	**-1.0**
ANPB	**Aniakchak Plen**	**5.20**	**285**		**Pn**	**12 20 44.9**	**-1.5**
O19K	**Port Alsworth**	**5.20**	**330**	Pn	**Pn**	**12 20 45.6**	**-0.9**
O19K				IAML		12 21 47.4	
	comp=N,481nm,0.5s						
O19K	**Port Alsworth**	**5.20**	**330**	P	**Pn**	**12 20 45.5**	**-0.9**
	baz=146						
O18K	**Koktuh Hills**	**5.20**	**324**		**Pn**	**12 20 45.5**	**-1.0**
O18K				IAML		12 21 48.3	
	comp=N,187nm,0.8s						
O18K	**Koktuh Hills**	**5.20**	**324**	P	**Pn**	**12 20 45.7**	**-0.9**
	baz=139						
P17K	**Kvichak River**	**5.21**	**314**		**Pn**	**12 20 45.5**	**-1.1**
P17K	**Kvichak River**	**5.21**	**314**	P	**Pn**	**12 20 45.5**	**-1.1**
	baz=128						
CHGN	**Chignik**	**5.23**	**279**	Pn	**Pn**	**12 20 45.5**	**-1.4**
CHGN				IAML		12 21 44.2	
	comp=E,190nm,0.3s						
CHGN				IAML		12 21 45.2	
	comp=N,226nm,0.3s						
RC01	**Rabbit Creek A**	**5.32**	**357**		**Pn**	**12 20 47.8**	**-0.2**
RC01	**Rabbit Creek A**	**5.32**	**357**	P	**Pn**	**12 20 47.4**	**-0.6**
	baz=177						
GOAT	**Goat Mountain**	**5.33**	**24**		**Pn**	**12 20 48.2**	**-0.1**
BERG	**Berg Lake**	**5.43**	**30**		**Pn**	**12 20 49.7**	**+0.1**
SNH	**Sunshine Point**	**5.52**	**35**		**Pn**	**12 20 50.9**	**+0.1**
DIV	**Divide**	**5.63**	**17**		**Pn**	**12 20 52.3**	**0.0**
KNK	**Knik Glacier**	**5.64**	**3**		**Pn**	**12 20 52.6**	**+0.1**
KNK	**Knik Glacier**	**5.64**	**3**	P	**Pn**	**12 20 52.6**	**+0.1**
	baz=184						
N20K	**Mount Spurr**	**5.65**	**345**	P	**Pn**	**12 20 51.6**	**-1.1**
	baz=163						
BMRM	**Bremner River**	**5.70**	**23**		**Pn**	**12 20 53.8**	**+0.5**
BMRM	**Bremner River**	**5.70**	**23**	P	**Pn**	**12 20 54.0**	**+0.6**
	baz=207						
SPCP	**Crater Peak Br**	**5.71**	**345**		**Pn**	**12 20 52.7**	**-0.8**
SUA	**Susitna One**	**5.74**	**352**		**Pn**	**12 20 53.2**	**-0.8**
SUA	**Susitna One**	**5.74**	**352**	P	**Pn**	**12 20 53.5**	**-0.5**
	baz=171						
N19K	**Bonanza Creek**	**5.76**	**333**		**Pn**	**12 20 53.3**	**-1.0**
N19K	**Bonanza Creek**	**5.76**	**333**	P	**Pn**	**12 20 53.4**	**-0.9**
	baz=149						
P16K	**Nushagak River**	**5.78**	**308**		**Pn**	**12 20 53.9**	**-0.5**
P16K	**Nushagak River**	**5.78**	**308**	P	**Pn**	**12 20 53.9**	**-0.5**
	ba

M18K	Stony River	6.69	331	P		Pn	12 21 05.9	-1.0
	baz=146							
M19K	Big River Lodg	6.70	338	P		Pn	12 21 06.2	-0.8
	baz=154							
WAT6	Susitna Watana	6.84	5	P		Pn	12 21 09.5	+0.5
	baz=187							
HARP	HAARP	6.92	16			Pn	12 21 10.7	+0.6
HARP	HAARP	6.92	16	P		Pn	12 21 10.7	+0.6
	baz=199							
L19K	White Mountain	7.05	338	P		Pn	12 21 10.9	-0.9
	baz=153							
WAT1	Susitna Watana	7.06	2			Pn	12 21 12.4	+0.5
WAT1	Susitna Watana	7.06	2	P		Pn	12 21 12.4	+0.5
	baz=183							
M17K	Holitna River	7.09	326	P		Pn	12 21 12.0	-0.4
	baz=139							
L20K	Farewell, AK	7.13	342			Pn	12 21 12.3	-0.6
L20K	Farewell, AK	7.13	342	P		Pn	12 21 12.3	-0.6
	baz=158							
O29M	Mount Kennedy	7.19	47	P		Pn	12 21 14.8	+1.0
	baz=236							
P29M	Windy Craggy	7.20	53			Pn	12 21 14.6	+0.6
P29M	Windy Craggy	7.20	53	P		Pn	12 21 14.5	+0.6
	baz=243							
N15K	Kwethluk River	7.29	311	P		Pn	12 21 15.3	+0.2
	baz=123							
PPLA	Purkeypile	7.29	349			Pn	12 21 15.8	+0.6
PPLA	Purkeypile	7.29	349	P		Pn	12 21 15.6	+0.4
	baz=167							
PN7A	Pavlof North-7	7.30	272			Pn	12 21 13.3	-2.0
M26K	Nabesna, AK	7.33	23	Pn		Pn	12 21 16.4	+0.7
M16K	Timber Creek	7.35	319			Pn	12 21 15.6	-0.4
M16K	Timber Creek	7.35	319	P		Pn	12 21 15.5	-0.4
	baz=132							
DHY	Denali Highway	7.35	6			Pn	12 21 16.7	+0.6
DHY	Denali Highway	7.35	6	P		Pn	12 21 16.9	+0.8
	baz=188							
S31K	Pelican	7.39	68			Pn	12 21 14.6	-1.8
S31K	Pelican	7.39	68	P		Pn	12 21 14.8	-1.6
	baz=258							
O14K	Tigyukauivet M	7.39	303	Pn		Pn	12 21 16.1	-0.3
O14K	Tigyukauivet M	7.39	303	P		Pn	12 21 16.4	-0.1
	baz=113							
PAX	Paxson	7.43	13			Pn	12 21 18.3	+1.2
PAX	Paxson	7.43	13	P		Pn	12 21 17.6	+0.5
	baz=196							
PAX	Paxson	7.43	13	P		Pn	12 21 18.3	+1.2
L18K	Granite Mounta	7.52	332			Pn	12 21 17.3	-1.0
L18K	Granite Mounta	7.52	332	P		Pn	12 21 17.3	-1.0
	baz=146							
M27K	Edge Creek, AK	7.56	27	P		Pn	12 21 18.8	-0.1
	baz=213							
MENT	Mentasta	7.67	19			Pn	12 21 21.9	+1.6
MENT	Mentasta	7.67	19	P		Pn	12 21 22.5	+2.2
TRF	Thorofare Moun	7.70	356	Pn		Pn	12 21 21.4	+0.6
TRF	Thorofare Moun	7.70	356	P		Pn	12 21 21.5	+0.6
	baz=176							
SIT	Sitka	7.76	75	Pn		Pn	12 21 18.4	-3.1
SIT	Sitka	7.76	75	P		Pn	12 21 18.9	-2.6
SIT	Sitka	7.76	75	P		Pn	12 21 18.4	-3.1
PLBC	Pleasant Camp	7.76	57	P		Pn	12 21 22.9	+1.3
	baz=247							
CAST	Castle Rocks	7.79	350	P		Pn	12 21 22.4	+0.4
	baz=168							
KTH	Kantishna Hill	7.83	354	Pn		Pn	12 21 22.1	-0.5
BVCY	Beaver Creek	7.87	29			Pn	12 21 23.9	+0.8
BVCY	Beaver Creek	7.87	29	P		Pn	12 21 23.9	+0.8
	baz=216							
HYT	Haines Junctio	7.92	46	Pn		Pn	12 21 25.4	+1.6
HYT	Haines Junctio	7.92	46	P		Pn	12 21 24.7	+0.8
	baz=236							
L17K	Donlin	7.92	327			Pn	12 21 22.8	-0.9
L17K	Donlin	7.92	327	P		Pn	12 21 22.8	-0.9
	baz=140							
YUK5	Granite Creek	7.96	43			Pn	12 21 26.2	+1.8
MCK	McKinley	7.96	1			Pn	12 21 25.3	+1.0
MCK	McKinley	7.96	1	P		Pn	12 21 24.8	+0.5
	baz=181							
MCK	McKinley	7.96	1	P		Pn	12 21 25.3	+1.0
TTA	Tatalina	7.96	337			Pn	12 21 23.1	-1.3
TTA	Tatalina	7.96	337	P		Pn	12 21 23.1	-1.3
K20K	Telida	7.98	344			Pn	12 21 23.3	-1.3
K20K	Telida	7.98	344	P		Pn	12 21 23.6	-1.0
	baz=160							
L16K	Owhat River	8.00	322	P		Pn	12 21 24.3	-0.5
	baz=134							
L27K	Beaver Creek,	8.17	24			Pn	12 21 28.3	+1.1
L27K	Beaver Creek,	8.17	24	P		Pn	12 21 27.4	+0.2
	baz=210							
BCAR	Beaver Creek A	8.19	24	Pn		Pn	12 21 27.5	+0.1
S32K	Killisnoo	8.19	72	Pn		Pn	12 21 25.4	-2.1
S32K	Killisnoo	8.19	72	P		Pn	12 21 25.7	-1.7
	baz=264							
K24K	Donnelly Dome	8.20	10			Pn	12 21 28.9	+1.2
K24K	Donnelly Dome	8.20	10	P		Pn	12 21 28.9	+1.2
	baz=194							
BESE	Bessie Mountai	8.23	64			Pn	12 21 27.2	-0.9
RIDG	Independent Ri	8.25	13			Pn	12 21 29.2	+0.9
SKAG	Skagway	8.26	58			Pn	12 21 29.3	+1.0
K17K	Iditarod	8.37	330	P		Pn	12 21 28.8	-1.1
	baz=142							
BPAW	Bear Paw Mtn.	8.38	354	Pn		Pn	12 21 29.2	-0.8
BPAW	Bear Paw Mtn.	8.38	354	P		Pn	12 21 29.5	-0.6
	baz=173							
M14K	Bethel	8.38	312	Pn		Pn	12 21 30.2	+0.2
M14K	Bethel	8.38	312	P		Pn	12 21 29.1	-0.9
	baz=121							
BWN	Browne	8.40	359			Pn	12 21 31.2	+0.9
JIS	Juneau Island	8.41	67			Pn	12 21 29.8	-0.6
JIS	Juneau Island	8.41	67	P		Pn	12 21 30.0	-0.5
ISNN	Isanotski Nort	8.42	269			Pn	12 21 28.1	-2.5
N30M	Aishikik Lake	8.45	43			Pn	12 21 32.0	+0.8
N30M	Aishikik Lake	8.45	43	P		Pn	12 21 31.9	+0.8
	baz=233							
O30N	Mendenhall	8.48	49			Pn	12 21 32.3	+0.9
O30N	Mendenhall	8.48	49	P		Pn	12 21 31.8	+0.3
	baz=240							
J18K	Innoko River	8.59	337			Pn	12 21 31.9	-1.0
J18K	Innoko River	8.59	337	P		Pn	12 21 32.1	-0.8
	baz=150							
SCRK	Sand Creek	8.60	15			Pn	12 21 33.6	+0.5
SCRK	Sand Creek	8.60	15	P		Pn	12 21 33.4	+0.3
	baz=200							
M29M	Somme Creek	8.62	35	Pn		Pn	12 21 34.6	+1.2
HDA	Harding Lake	8.71	6			Pn	12 21 35.6	+1.1
J20K	Nowinta River	8.77	345			Pn	12 21 34.4	-1.0
J20K	Nowinta River	8.77	345	P		Pn	12 21 34.6	-0.7
	baz=162							
NEA2	Nenana	8.82	0	P		Pn	12 21 35.5	-0.6
	baz=180							
M13K	Dall Lake	8.83	307	Pn		Pn	12 21 36.3	+0.1
J19K	Poorman	8.84	341	P		Pn	12 21 35.0	-1.3
	baz=156							
CCB	Clear Creek Bu	8.90	4			Pn	12 21 37.8	+0.6
WHY	Whitehorse	8.95	51	Pn		Pn	12 21 39.0	+1.1
K27K	Chicken	8.97	20			Pn	12 21 39.4	+1.2
K27K	Chicken	8.97	20	P		Pn	12 21 38.9	+0.7
	baz=207							
N31M	Braeburn, Yuko	8.98	45	P		Pn	12 21 39.4	+1.0
	baz=237							
U33K	Whale Pass	8.99	81			Pn	12 21 35.7	-2.6
U33K	Whale Pass	8.99	81	P		Pn	12 21 35.9	-2.5
	baz=274							
L14K	Kuka Creek	8.99	314	Pn		Pn	12 21 39.1	+0.8
J25K	Salcha River,	9.04	10	P		Pn	12 21 38.8	-0.2
	baz=194							
CRAG	Craig	9.06	85	Pn		Pn	12 21 36.5	-2.8
ILAR	Eielson Array	9.07	6	Pn		Pn	12 21 40.1	+0.7
ILAR	Eielson Array	9.07	6	Pn		Pn	12 21 39.9	+0.4
	comp=N,1.8nm,0.3s,baz=190,slow=13,SNR=54							
ILAR					Sn	Sn	12 23 17.1	-4.5
	comp=N,2.2nm,0.3s,baz=185,slow=22,SNR=10							
	comp=N,7.9nm,0.5s							
P32M	Atlin	9.08	59			Pn	12 21 39.7	+0.1
P32M	Atlin	9.08	59	P		Pn	12 21 39.3	-0.4
	baz=252							
COLA	College	9.13	3			Pn	12 21 40.3	+0.1
COLA	College	9.13	3	P		Pn	12 21 40.3	+0.1
J26L	Joseph Creek	9.15	15			Pn	12 21 40.9	+0.2
J26L	Joseph Creek	9.15	15	P		Pn	12 21 41.0	+0.2
	baz=200							
M30M	Minto, Yukon	9.27	38	P		Pn	12 21 42.6	+0.3
	baz=229							
I23K	Minto, Yukon-K	9.38	359	P		Pn	12 21 43.5	-0.2
	baz=180							
POKR	Poker Plat Res	9.38	4			Pn	12 21 45.0	+1.2
POKR	Poker Plat Res	9.38	4	P		Pn	12 21 44.4	+0.6
	baz=186							
WRAK	Wrangell Islan	9.40	79	Pn		Pn	12 21 43.5	-0.4
J16K	Anvik River	9.49	327			Pn	12 21 44.4	-0.8
J16K	Anvik River	9.49	327	P		Pn	12 21 44.2	-0.9
	baz=137							
I21K	Tanana	9.52	353			Pn	12 21 45.9	+0.4
I21K	Tanana	9.52	353	P		Pn	12 21 45.6	0.0
	baz=170							
DAWY	Dawson	9.61	26			Pn	12 21 47.7	+0.8
DAWY	Dawson	9.61	26	P		Pn	12 21 47.5	+0.6
	baz=215							
Q32M	Nakina River	9.63	64			Pn	12 21 47.9	+0.5
Q32M	Nakina River	9.63	64	P		Pn	12 21 47.3	-0.1
	baz=258							
P33M	Teslin, Yukon	9.71	56	Pn		Pn	12 21 49.0	+0.6
P33M	Teslin, Yukon	9.71	56	P		Pn	12 21 48.8	+0.5
	baz=250							
EGAK	Eagle	9.82	20	Pn		Pn	12 21 50.4	+0.6
PRP	Porcupine Dome	9.91	9	P		Pn	12 21 51.8	+0.7
	baz=192							
M31M	Drury Creek, Y	9.93	44	P		Pn	12 21 52.2	+0.9
	baz=236							
N32M	Quiet Lake	9.95	51			Pn	12 21 52.3	+0.7
S34M	Telegraph Cree	10.08	70	Pn		Pn	12 21 52.5	-0.7
H24K	Noodor Dome	10.09	3	Pn		Pn	12 21 54.8	+1.3
J29N	Klondike Camp	10.22	28	Pn		Pn	12 21 55.9	+0.6
FARO	Faro, Yukon	10.36	45	Pn		Pn	12 21 58.4	+1.3
R33M	Jennings River	10.38	62	Pn		Pn	12 21 57.4	-0.2
H18K	Honhosa River	10.42	338	Pn		Pn	12 21 56.7	-1.2
IMAR	Indian Mountai	10.46	350	Pn		Pn	12 21 58.2	-0.3
T35M	Bob Quinn	10.53	76	Pn		Pn	12 21 59.5	0.0
H17K	Granite Mounta	10.59	334	Pn		Pn	12 21 59.2	-1.0
DLBC	Dease Lake	10.71	68	Pn		Pn	12 22 02.6	+0.7
DLBC	Dease Lake	10.71	68	Pn		Pn	12 22 02.3	+0.3
	comp=N,1.0nm,0.3s,baz=282,slow=8.3,SNR=13							
DLBC					Sn	Sn	12 23 59.6	-2.4
	comp=N,0.6nm,0.3s,baz=359,slow=17,SNR=1.1							
	comp=N,2.9nm,0.4s							
G23K	Bananza Creek	10.96	358	Pn		Pn	12 22 04.8	-0.5
FYU	Fort Yukon	10.96	8			Pn	12 22 05.9	+0.5
G18K	Tagagawik	11.12	339	Pn		Pn	12 22 06.6	-1.0
WTLY	Watson Lake, Y	11.61	60			Pn	12 22 14.0	-0.3
F21K	Alatna River	11.64	352	Pn		Pn	12 22 14.1	-0.6
F19K	Shaleruckik Mo	11.81	343	Pn		Pn	12 22 15.8	-1.1
BMAR	Burnt Mountain	11.86	9	Pn		Pn	12 22 17.9	+0.2
ANM	Nome	11.90	324	Pn		Pn	12 22 18.0	-0.2
ANM	Nome	11.90	324	P		Pn	12 22 18.0	-0.2
EPYK	Eagle Plains	12.15	24	Pn		Pn	12 22 22.8	+1.2
G29M	Pine Creek	12.32	21	Pn		Pn	12 22 26.3	+2.3
E25K	Arctic Village	12.47	6	Pn		Pn	12 22 26.5	+0.5
F28M	Old Crow	12.62	16	Pn		Pn	12 22 30.2	+2.3
G30M	tAoh Zraii Nji	12.77	23	Pn		Pn	12 22 31.4	+1.3
G31M	Satah River	13.18	26	Pn		Pn	12 22 36.0	+0.3
D22K	Ayikyak River	13.23	354	Pn		Pn	12 22 36.6	+0.3
D19K	Kuna River	13.39	346	Pn		Pn	12 22 38.4	-0.1
D27M	Malcolm River	13.98	12	Pn		Pn	12 22 47.0	+0.3
C18K	Utukok River	14.02	342	Pn		Pn	12 22 45.3	-1.8
C19K	Lookout Ridge	14.17	345	Pn		Pn	12 22 48.4	-0.8
FLDN	Fort Liard	14.25	61			Pn	12 22 50.9	+0.7
INK	Inuvik	14.45	24	Pn		Pn	12 22 53.3	+0.4
INK	Inuvik	14.45	24	Pn		Pn	12 22 54.3	+1.4
	comp=N,0.2nm,0.3s,baz=207,slow=14,SNR=43							
	comp=N,42nm,1.1s							
B22K	Teshekpuk Lake	14.72	354	Pn		Pn	12 22 55.7	-0.9
C36M	Paulatuk	17.61	30	Pn		Pn	12 23 33.2	-0.6
C36M				IAmb		IAmb	12 23 38.8	
	comp=Z,55nm,1.1s							
YKA	Yellowknife Ar	18.74	55	P		Pn	12 23 47.5	-0.2
YKA	Yellowknife Ar	18.74	55	P		Pn	12 23 48.1	+0.4
	comp=Z,0.2nm,0.3s,baz=262,slow=11,SNR=53							
YKA				PcP		PcP	12 28 14.7	+0.3
	comp=Z,0.6nm,0.8s,baz=277,slow=1.9,SNR=3.7							
	comp=Z,13nm,1.1s							
A36M	Sachs Harbour	19.09	23	P		Pn	12 23 52.1	+0.2
A36M				IAmb		IAmb	12 23 59.6	
	comp=Z,52nm,1.0s							
MXC	Moxie City	20.16	105	P		P	12 24 01.8	-1.1
G05A	Wamic	20.45	109	P		P	12 24 05.3	-0.9
G05A				IAmb		IAmb	12 24 15.9	
	comp=Z,162nm,1.9s							
EDM	Edmonton	20.78	82	P		P	12 24 08.9	-0.8
EDM	Edmonton	20.78	82	P		P	12 24 08.9	-0.8
EDM				pmax		pmax		
	comp=Z,26nm,1.2s							
I04A	Tendick Farm,	20.86	114	P		P	12 24 08.0	-2.7
I04A				IAmb		IAmb	12 24 22.6	
	comp=Z,73nm,1.6s							
NEW	Newport	20.93	98	P		P	12 24 10.5	-0.9
NEW	Newport	20.93	98	P		P	12 24 12.6	+1.2
	comp=Z,9.8nm,1.1s,baz=307,slow=6.4,SNR=12							
	comp=Z,9.8nm,1.1s							
E09A	Wood Farm, Sta	21.37	103	P		P	12 24 15.6	-0.5
HUMO	Hull Mountain	21.44	117	P		P	12 24 16.2	-0.7
HUMO				IAmb		IAmb	12 24 28.2	
	comp=Z,34nm,1.3s							
I07A	Izee	22.19	109	P		P	12 24 23.1	-1.9
YBH	Yreka Blue Hor	22.21	118	P		P	12 24 24.9	-0.2
	comp=Z,1.5nm,0.3s,baz=117,slow=20,SNR=1.8							
	comp=Z,1.5nm,0.3s							
BMO	Blue Mountains	22.87	105	P		P	12 24 31.8	-0.4
BMO	Blue Mountains	22.87	105	P		P	12 24 31.8	-0.4
BMO				pmax		pmax		
	comp=Z,11nm,1.3s							
MSO	Missoula	23.52	98	P		P	12 24 39.6	+0.8
BILL	Bilibino	23.66	319	eP		P	12 24 40.0	+0.1
MCMT	McKenzie Canyo	25.34	100	P		P	12 24 54.0	-1.8
YHL	Hebgen Lake	26.25	99	P		P	12 25 03.4	-0.8
YHL				IAmb		IAmb	12 25 16.6	
	comp=Z,13nm,1.1s							
FFC	Flin Flon	26.48	72	P		P	12 25 05.3	-0.5
FFC				IAmb		IAmb	12 25 30.4	
	comp=Z,19nm,1.7s							
FFC	Flin Flon	26.48	72	P		P	12 25 05.3	-0.5
FFC				pmax		pmax		
	comp=Z,19nm,1.7s							
NVAR	Mina Array Bea	26.91	117	P		P	12 25 09.0	-1.1
NVAR	Mina Array Bea	26.91	117	P		P	12 25 08.1	-2.0
	comp=Z,1.4nm,0.9s,baz=306,slow=9.0,SNR=9.2							
NVAR				PcP		PcP	12 28 32.4	+0.4
	comp=Z,0.8nm,0.8s,baz=339,slow=3.3,SNR=4.9							
	comp=Z,1.4nm,0.9s							
RES	Resolute Bay	27.95	27	P		P	12 25 19.2	+0.4
RES	Resolute Bay	27.95	27	P		P	12 25 19.2	+0.4
RES				pmax		pmax		
	comp=Z,7.0nm,1.1s							
R11B	Troy Canyon, C	28.36	114			P	12 25 22.9	-0.1
PDAR	Pinedale Array	28.49	100	P		P	12 25 22.3	-1.9
	comp=Z,0.6nm,0.8s,baz=306,slow=3.5,SNR=4.4							
FCC	Fort Churchill	29.19	61	P		P	12 25 29.9	0.0
FCC	Fort Churchill	29.19	61	P		P	12 25 29.9	0.0
FCC				pmax		pmax		
	comp=Z,7.0nm,1.0s							
SEY	Seymchan	29.67	308	⇓iP		P	12 25 33.9	-0.3
SEY				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MSU	Marysvale	30.02	110	P		P	12 25 36.0	-1.7
MSU	Marysvale	30.02	110	P		P	12 25 36.1	-1.7
PEA0B	Petropavlovsk-	30.40	288	ceP		P	12 25 44.5	+3.8
PETK	Petropavlovsk-	30.40	288	P		P	12 25 39.4	-1.4
	comp=Z,2.3nm,0.5s,baz=324,slow=20,SNR=9.3							
	comp=Z,2.3nm,0.5s							
MA2	Magadan	31.39	302	⇓iP		P	12 25 50.0	+0.6
MA2				pmax		pmax		
	comp=Z,13nm,1.1s							
KSCO	Kaye Shedlock'	34.89	99	P		P	12 26 19.3	-1.0
KSCO				IAmb		IAmb	12 26 30.7	
	comp=Z,34nm,1.3s							
TIXI	Tiksi	36.13	328	P		P	12 26 30.4	0.0
TIXI				IAmb		IAmb	12 26 32.6	
	comp=Z,15nm,1.1s							
TIXI	Tiksi	36.13	328	⇑iP		P	12 26 31.2	+0.8
TIXI				pmax		pmax		
	comp=Z,16nm,1.0s							
NEEM	North Greenlan	38.00	21	iP		P	12 26 45.1	-1.5
TYV	Tymovskoe	39.54	292	eP		P	12 27 00.3	+0.9
TYV				pmax		pmax		
	comp=Z,17nm,1.3s							
TYV				pmax		pmax		
	comp=Z,3μm,6.1s							
YAK	Yakutsk	39.77	313	P		P	12 27 01.3	+0.1
YAK				IAmb		IAmb	12 27 02.4	
	comp=Z,24nm,0.8s							
YAK	Yakutsk	39.77	313	eP		P	12 27 01.5	+0.3
YAK				e			12 29 08.8	
YAK				eS		S	12 33 00.9	-4.2
YAK				e			12 37 07.4	
YAK				pmax		pmax		
	comp=Z,24nm,0.9s							
YAK				pmax		pmax		
	comp=E,9.0nm,1.2s							
YAK				pmax		pmax		
	comp=N,4.0nm,1.1s							
YAK				smax		smax		
	comp=E,2μm,11.9s							
YAK	Yakutsk	39.77	313	P		P	12 27 01.5	+0.3
	comp=E,9.6nm,0.3s,baz=77,slow=3.9,SNR=8.9							
	comp=E,9.6nm,0.3s							
TX31	Lajitas Ar. Si	41.57	110	P		P	12 27 15.1	-1.5
TXAR	Lajitas Array	41.57	110	P		P	12 27 14.9	-1.7
	comp=E,0.7nm,0.9s,baz=296,slow=4.0,SNR=4.9							
TXAR				PcP		PcP	12 29 13.7	-0.1
	comp=E,0.3nm,0.8s,baz=252,slow=2.1,SNR=3.7							
YSS	Yuzh-Sakhalins	41.81	288	⇓eP		P	12 27 21.3	+3.1
YSS				pmax		pmax		
	comp=Z,26nm,1.2s							
JCT	Junction City	42.75	105	P		P	12 27 24.5	-1.7
JCT				IAmb		IAmb	12 27 35.4	
	comp=Z,12nm,1.0s							
JCT	Junction City	42.75	105	P		P	12 27 24.5	-1.7
JCT				pmax		pmax		
	comp=Z,12nm,1.0s							
SUMG	Summit	43.37	24	P		P	12 27 32.0	+0.9
SUMG	Summit	43.37	24	P		P	12 27 32.0	+0.9
SUMG				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SUMG	Summit	43.37	24	iP		P	12 27 32.5	+1.4
ASAJ	Asahikawa	43.69	284	P		P	12 27 33.2	-0.3
	comp=Z,20nm,0.9s,baz=50,slow=32,SNR=4.8							
	comp=Z,20nm,0.9s							
SCHQ	Schefferville	44.19	55	P		P	12 27 38.2	+0.8
	comp=Z,9.1nm,0.9s,baz=297,slow=8.6,SNR=6.6							
	comp=Z,9.1nm,0.9s							
ICESG	Greenland Ices	45.35	28	iP		P	12 27 46.3	-0.6
ICESG				IAmb		IAmb	12 27 48.7	
	comp=Z,12nm,1.1s							
ZEA	Zeya	45.48	304	eP		P	12 27 48.0	+0.3
SPITS	Spitsbergen Ar	45.98	4	P		P	12 27 51.8	+0.4
	comp=Z,23nm,0.9s,baz=94,slow=6.8,SNR=5.8							
	comp=Z,23nm,0.9s							
KLR	Kul'dur	46.12	297	P		P	12 27 53.8	+0.9
	comp=Z,9.0nm,0.8s,baz=47,slow=9.4,SNR=20							
	comp=Z,9.0nm,0.8s							
NRIK	Noril'sk	48.59	337	P		P	12 28 12.0	+0.3
NRIK	Noril'sk	48.59	337	P		P	12 28 12.7	+1.0
	comp=Z,15nm,0.9s,baz=50,slow=6.0,SNR=23							
	comp=Z,15nm,0.9s							
H11N2	WAKE ISLAND Hy	48.72	241	T		T	13 20 37.2	
	baz=32,slow=76,SNR=4.5							
H11N3	WAKE ISLAND Hy	48.73	240	T		T	13 20 37.5	
	baz=32,slow=76,SNR=21							
H11N1	WAKE ISLAND Hy	48.74	241	T		T	13 20 42.6	
	baz=32,slow=76,SNR=3.7							
H11S1	WAKE ISLAND Hy	49.86	240	T		T	13 23 04.9	
	baz=28,slow=76,SNR=4.9							
H11S2	WAKE ISLAND Hy	49.87	240	T		T	13 23 06.8	
	baz=28,slow=76,SNR=15							
H11S3	WAKE ISLAND Hy	49.87	240	T		T	13 22 58.6	
	baz=28,slow=76,SNR=6.9							
HIA	Hailar	51.95	304	⇓iP		P	12 28 37.1	-0.5
HIA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
CN2	Changchun	53.00	295	P		P	12 28 45.5	+0.2
CN2				pmax		pmax		
	comp=Z,20nm,0.8s							
ARCES	ARCESS Array B	54.91	2	P		P	12 28 58.8	-0.1
	comp=Z,4.0nm,0.5s,baz=5.2,slow=7.7,SNR=32							
	comp=Z,4.0nm,0.5s							
KSRS	Korea Array	56.30	288	P		P	12 29 10.2	+0.8
	comp=Z,2.5nm,0.8s,baz=45,slow=7.2,SNR=5.4							
	comp=Z,2.5nm,0.8s							
LVZ	Lovozero	56.58	358	⇓eP		P	12 29 11.9	+0.9
LVZ				pmax		pmax		
	comp=Z,54nm,1.0s							
ULN	Ulaanbaatar	58.71	310	⇑eP		P	12 29 27.1	+0.7
ULN				pmax		pmax		
	comp=Z,8.0nm,1.2s							
SONM	Songino Array	59.02	310	P		P	12 29 28.8	+0.3
SONM				IAmb		IAmb	12 29 30.6	
	comp=Z,13nm,1.1s							
SONM	Songino Array	59.02	310	P		P	12 29 29.5	+1.0
	comp=Z,6.8nm,0.9s,baz=48,slow=7.3,SNR=32							
SONM				PcP		PcP	12 30 18.1	+0.7
	comp=Z,2.1nm,0.8s,baz=63,slow=2.5,SNR=4.4							
	comp=Z,6.8nm,0.9s							
ZAA0	Zalesovo Array	62.01	327	P		P	12 29 48.7	0.0
ZALV	Zalesovo Beam	62.01	327	P		P	12 29 48.6	-0.1
ZALV	Zalesovo Beam	62.01	327	P		P	12 29 49.3	+0.6
	comp=Z,10nm,0.8s,baz=26,slow=6

comp=Z,9.6nm,0.9s,baz=42,slow=5.6,SNR=45
comp=Z,9.6nm,0.9s
MAKZ Makanchi 69.13 325 P **P** **12 30 34.4 -0.4**
MAKZ Makanchi 69.13 325 P **P** **12 30 34.4 -0.4**
MAKZ pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 69.35 357 P **P** **12 30 36.0 +0.1**
OBN Obninsk 69.35 357⇓ *eP* **P** **12 30 36.9 +1.0**
OBN *e* 12 31 00.6
OBN pmax pmax
comp=Z,32nm,1.1s
OBN MLR MLR
comp=Z,7μm,22.0s
LZH Lanzhou 69.51 304 *eP* **P** **12 30 37.8 +0.3**
LZH pP pwP 12 30 42.4 -2.0
LZH pmax pmax
comp=Z,10.0nm,1.3s
KLNR Kaliningrad 69.61 7 *c iP* **P** **12 30 38.8 +1.2**
KLNR pmax pmax
comp=Z,93nm,0.6s
WMQ Urumqi 69.77 320 *eP* **P** **12 30 40.3 +1.4**
WMQ pP pwP 12 30 44.9 -0.9
WMQ sP sP 12 30 49.5 +9.4
WMQ pmax pmax
comp=Z,22nm,1.1s
MNK Minsk 70.03 2 *i* P **P** **12 30 42.1 +1.9**
comp=E,9.0nm,0.8s
MNK *i* P **P** **12 30 42.1 +1.9**
comp=N,40nm,1.0s
MNK *i* P **P** **12 30 42.1 +1.9**
comp=Z,82nm,0.9s,baz=358
MNK *i* PP **PP** **12 33 16.1 +1.8**
MNK *i* S **S** **12 39 52.0 +1.4**
MNK *i* SS SS 12 44 45.2 +27
MNK *i* LQ LQ 12 56 27.7
MNK *i* LR LR 13 01 46.3
MNK Minsk 70.03 2 *i* P **P** **12 30 42.0 +1.9**
MNK *i* 12 33 16.1
MNK *i* S **S** **12 39 52.0 +1.4**
MNK pmax pmax
comp=Z,82nm,0.9s
MNK pmax pmax
comp=N,40nm,1.0s
MNK pmax pmax
comp=E,9.0nm,0.8s
BELG Belogornoye 71.29 349⇓ *iP* **P** **12 30 48.6 +0.8**
BELG pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 71.76 355 *eP* **P** **12 30 49.2 -1.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
CLL Collm 72.23 12⇑ *iP* **P** **12 30 54.5 +0.9**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 72.23 12⇑ *iP* **P** **12 30 54.5 +0.9**
comp=Z,14nm,1.0s
ABKAR Akbulak array 72.53 341 P **P** **12 30 56.0 +0.6**
ABKAR IAmb IAmb 12 30 57.2
comp=Z,12nm,0.9s
ABKAR Akbulak array 72.53 341 P **P** **12 30 55.9 +0.4**
BRG Berggiesshubel 72.77 11 *i* P **P** **12 30 58.3 +1.4**
BRG Amp 12 30 59.1
comp=Z,12nm,0.9s
BRG Berggiesshubel 72.77 11 *i* P **P** **12 30 58.2 +1.4**
BRG 12 31 09.1
BRG pmax pmax
comp=Z,12nm,0.9s
BRG pmax pmax
comp=Z,2.0nm,0.7s
HSKC Hora Svate Kat 72.97 12 *eP* **P** **12 30 59.1 +1.0**
VRH Novokhopyorsk 72.98 353 *eP* **P** **12 30 56.2 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.4s
RICC Richard 73.11 11 *eP* **P** **12 30 59.5 +0.7**
VSR Storozhevoye 73.13 355 *eP* **P** **12 30 57.3 -1.6**
VSR pmax pmax
comp=Z,20nm,1.0s
PVCC Panska Ves 73.17 11 *eP* **P** **12 31 00.9 +1.7**
PVCC Panska Ves 73.17 11 *eP* **P** **12 31 00.9 +1.7**
NKC Novy Kostel 73.22 12 *eP* **P** **12 31 00.9 +1.3**
NKC Novy Kostel 73.22 12 *eP* **P** **12 31 00.9 +1.3**
CHVC Chvalec 73.26 10 *eP* **P** **12 31 01.1 +1.3**
CHVC Chvalec 73.26 10 *eP* **P** **12 31 01.1 +1.3**
OSTC Ostas 73.31 10 *eP* **P** **12 31 01.8 +1.7**
OSTC Ostas 73.31 10 *eP* **P** **12 31 01.8 +1.7**
UPC Upice 73.34 10 *eP* **P** **12 31 01.6 +1.4**
UPC Upice 73.34 10 *eP* **P** **12 31 01.6 +1.4**
VORD Divnogorie 73.37 354 *eP* **P** **12 30 59.1 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
PRU Pruhonice 73.70 11 *eP* **P** **12 31 03.4 +1.1**
PRU Pruhonice 73.70 11 *eP* **P** **12 31 03.4 +1.1**
KRLC Kraliky 73.84 9 *eP* **P** **12 31 04.6 +1.4**
KRLC Kraliky 73.84 9 *eP* **P** **12 31 04.6 +1.4**
AKASG Malin Array Be 73.86 1 P **P** **12 31 03.6 +0.4**
comp=Z,15nm,0.8s,baz=360,slow=5.9,SNR=43
comp=Z,15nm,0.8s
AKBB Malin Array Si 73.86 1⇑ *iP* **P** **12 31 03.5 +0.3**
AKBB pmax pmax
comp=Z,34nm,0.9s
MORC Moravsky Berou 74.20 9 *eP* **P** **12 31 06.3 +0.9**
ZVC Zvikov 74.21 11 *eP* **P** **12 31 06.8 +1.5**
KHC Kasperske Hory 74.44 12 *eP* **P** **12 31 08.3 +1.6**
KHC Kasperske Hory 74.44 12 *eP* **P** **12 31 08.3 +1.6**
VRAC Vranov 74.58 10 *eP* **P** **12 31 08.5 +1.0**
TKM2 Tokmak 2 74.62 328 P **P** **12 31 09.1 +1.0**
SNR=19
USP Ospenovka 74.63 328 P **P** **12 31 09.0 +1.1**
SNR=16
MAUC Maruska 74.64 9 *eP* **P** **12 31 09.2 +1.3**
GEC2 GERESS Array S 74.74 12 P **P** **12 31 09.2 +0.7**
GEC2 IAmb IAmb 12 31 10.1
comp=Z,6.8nm,0.9s
GERES GERESS Array B 74.74 12 P **P** **12 31 09.1 +0.6**
GERES GERESS Array B 74.74 12 P **P** **12 31 09.8 +1.3**
comp=Z,4.8nm,0.7s,baz=354,slow=5.5,SNR=16
comp=Z,4.8nm,0.7s
CHMS Chumysh 74.80 328 P **P** **12 31 10.2 +1.3**
SNR=9.9
KRUC Moravsky 74.81 10 *eP* **P** **12 31 10.0 +1.2**
STHS Stebnicka Huta 74.84 6 *eP* **P** **12 31 10.4 +1.4**
STHS pmax pmax
comp=Z,19nm,0.7s
STHS Stebnicka Huta 74.84 6 *eP* **P** **12 31 10.4 +1.4**
BOOM Boomskoye usch 74.90 327 P **P** **12 31 09.9 +0.2**
BOOM IAmb IAmb 12 31 11.7
comp=Z,7.5nm,0.8s
BOOM Boomskoye usch 74.90 327 P **P** **12 31 09.9 +0.2**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
LANS Liptovska Anna 74.98 8 *eP* **P** **12 31 11.8 +1.9**
LANS pmax pmax
comp=Z,11nm,1.0s
LANS Liptovska Anna 74.98 8 *eP* **P** **12 31 11.8 +1.9**
TARG Taragay, Kyrgy 75.01 326 P **P** **12 31 10.5 -0.1**
TARG IAmb IAmb 12 31 13.4
comp=Z,5.3nm,0.8s
TARG Taragay, Kyrgy 75.01 326 P **P** **12 31 10.5 -0.1**
TARG pmax pmax
comp=Z,5.0nm,0.8s
ULHL Ulahol 75.03 327 P **P** **12 31 11.5 +1.0**
SNR=6.9
KBK Karagaybulak 75.05 328 P **P** **12 31 11.4 +0.9**
SNR=9.6
JAVC Velka Javorina 75.13 9 *eP* **P** **12 31 12.7 +2.0**
AAK Ala-Archa 75.20 328 P **P** **12 31 12.0 +0.6**
AAK IAmb IAmb 12 31 13.5
comp=Z,11nm,1.1s
AAK Ala-Archa 75.20 328 P **P** **12 31 12.0 +0.6**
AAK pmax pmax
comp=Z,11nm,1.1s
CRVS Cervenica-Dubn 75.37 6 *eP* **P** **12 31 13.4 +1.3**
CRVS pmax pmax
comp=Z,21nm,1.2s
CRVS Cervenica-Dubn 75.37 6 *eP* **P** **12 31 13.4 +1.3**
KOLS Kolonicke sedl 75.39 6 *eP* **P** **12 31 14.2 +2.0**
KOLS pmax pmax
comp=Z,15nm,1.5s
KOLS Kolonicke sedl 75.39 6 *eP* **P** **12 31 14.2 +2.0**
EKS2 Erkin-Say 75.39 329 P **P** **12 31 13.7 +1.2**
SNR=12
SMOL Smolenice 75.45 9 *eP* **P** **12 31 15.1 +2.6**
MODS Modra-Piesok 75.57 9 *eP* **P** **12 31 15.0 +1.8**
MODS pmax pmax
comp=Z,43nm,1.1s
MODS Modra-Piesok 75.57 9 *eP* **P** **12 31 15.0 +1.8**
VYHS Vyhne 75.59 8 *eP* **P** **12 31 14.6 +1.3**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 75.59 8 *eP* **P** **12 31 14.6 +1.3**
KECS Kecovo 75.72 7 *eP* **P** **12 31 15.6 +1.5**
KECS pmax pmax
comp=Z,17nm,1.1s
KECS Kecovo 75.72 7 *eP* **P** **12 31 15.6 +1.5**
ZST Bratislava 75.73 9 *eP* **P** **12 31 16.2 +2.1**
ZST pmax pmax
comp=Z,59nm,1.1s
ZST Bratislava 75.73 9 *eP* **P** **12 31 16.2 +2.1**
NRN Naryn 75.85 327 P **P** **12 31 15.4 +0.1**
NRN IAmb IAmb 12 31 17.7
comp=Z,9.1nm,1.0s
NRN Naryn 75.85 327 P **P** **12 31 15.4 +0.1**
NRN pmax pmax
comp=Z,9.0nm,1.0s
BIOA Bad Ischl, Aus 75.87 12 *epP* **P** **12 31 15.9 +0.9**
comp=Z,9.2nm,0.8s
CONA Conrad Observa 75.88 10 *epP* **P** **12 31 16.3 +1.2**
comp=Z,6.2nm,0.8s,SNR=5.2
MOTA Moosalm 75.89 14 *epP* **P** **12 31 16.7 +1.4**
comp=Z,13nm,0.9s
AML Almayashu 75.91 329 P **P** **12 31 17.2 +1.4**
SNR=11
KK31 Karatay Array 75.91 331 P **P** **12 31 15.5 +0.2**
KK31 IAmb IAmb 12 31 16.8
comp=Z,11nm,0.8s
KK31 Karatay Array 75.91 331 P **P** **12 31 15.5 +0.2**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 75.91 331 P **P** **12 31 15.2 -0.1**
KKAR Karatay Array 75.91 331 P **P** **12 31 15.2 -0.1**
WATA Walderalm 75.96 13 *i* pP **P** **12 31 16.7 +1.1**
comp=Z,22nm,1.1s
SQTA Sankt Quirin 76.03 14 *epP* **P** **12 31 17.4 +1.4**
comp=Z,15nm,0.8s,SNR=6.1
WTTA Wattenberg 76.04 13 *i* pP **P** **12 31 17.3 +1.1**
comp=Z,21nm,0.9s,SNR=5.7
RONA Rosalia, Austr 76.15 10 *i* pP **P** **12 31 18.1 +1.6**
comp=Z,5.2nm,0.7s
FETA Feichten 76.16 14 *epP* **P** **12 31 18.2 +1.4**
comp=Z,15nm,1.0s
PSZ Piszkesteto 76.24 8 P **P** **12 31 17.9 +0.8**
PSZ Piszkesteto 76.24 8 P **P** **12 31 18.0 +0.8**
PSZ pmax pmax
comp=Z,20nm,1.0s
KBA Koelnbreinsper 76.44 12 *epP* **P** **12 31 20.0 +1.6**
comp=Z,23nm,0.9s,SNR=6.8
ARSA Arzberg 76.51 11 *epP* **P** **12 31 19.8 +1.2**
comp=Z,4.8nm,0.8s
ABTA Abfaltersbach 76.66 13 *epP* **P** **12 31 21.5 +1.9**
comp=Z,6.3nm,0.9s
BURAR Bucovina Array 76.85 4 P **P** **12 31 20.9 +0.3**
BURAR IAmb IAmb 12 31 23.1
comp=Z,6.4nm,0.8s
MYKA Terra Mystica 76.92 12 *eP* **P** **12 31 21.7 +0.7**
comp=Z,6.6nm,1.1s
SOKA Soboth 77.03 11 *epP* **P** **12 31 22.6 +1.0**
comp=Z,15nm,0.9s,SNR=8.8
OBKA Obir 77.14 11 *i* pP **P** **12 31 23.1 +0.9**
comp=Z,22nm,0.7s,SNR=12
KSH Kashi 77.60 326 P **P** **12 31 28.5 +3.5**
KSH sP PcP 12 31 37.1 +1.9
KSH pmax pmax
comp=Z,14nm,0.9s
PZH PanZhiHua 78.44 300 P **P** **12 31 30.6 +0.8**
PZH pmax pmax
comp=Z,9.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
BTK Batken 78.65 330 P **P** **12 31 30.3 -0.5**
BTK IAmb IAmb 12 31 32.5
comp=Z,17nm,1.0s
BTK Batken 78.65 330 P **P** **12 31 30.3 -0.5**
BTK pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 80.11 351 *eP* **P** **12 31 39.6 +0.9**
KIV pmax pmax
comp=Z,18nm,1.0s
KBZ Khabaz 80.32 351 P **P** **12 31 40.6 +1.0**
comp=Z,7.8nm,0.8s,baz=323,slow=4.8,SNR=14
comp=Z,7.8nm,0.8s
ESDC Sonseca Array 80.38 27 P **P** **12 31 41.1 +1.0**
comp=Z,6.4nm,0.8s,baz=334,slow=4.8,SNR=33
comp=Z,6.4nm,0.8s
SIMJ Simiganj 80.46 331 P **P** **12 31 40.5 -0.2**
NCK Nalchik 80.49 351⇑ *iP* **P** **12 31 43.0 +2.4**
NCK pmax pmax
comp=Z,19nm,0.8s
ZEI Tsey 81.16 350 *eP* **P** **12 31 44.5 0.0**
ZEI pmax pmax
comp=Z,9.0nm,1.5s
GEYT Alibeck 83.79 339 P **P** **12 31 58.6 +0.6**
GEYT Alibeck 83.79 339 P **P** **12 31 59.3 +1.3**
comp=Z,13nm,0.9s,baz=316,slow=4.1,SNR=17
comp=Z,13nm,0.9s
KBL Kabul 84.30 329 P **P** **12 31 59.9 -1.0**
KBL IAmb IAmb 12 32 00.9
comp=Z,8.6nm,1.0s
KBL Kabul 84.30 329 P **P** **12 31 59.9 -1.0**
KBL pmax pmax
comp=Z,9.0nm,1.0s
CRAI Chiangrai 84.38 298 P **P** **12 32 00.6 -0.7**
CRAI IAmb IAmb 12 32 02.2
comp=Z,7.9nm,1.2s
BR131 Keskin Array S 84.81 358⇑ *eP* **P** **12 32 04.2 +0.9**
BRTR Keskin Array B 84.81 358 *i* P **P** **12 32 04.5 +1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 84.81 358 P **P** **12 32 04.2 +0.9**
comp=Z,4.6nm,0.9s,baz=3.8,slow=1.8,SNR=11
comp=Z,4.6nm,0.9s
CMAR Chiang Mai Arr 86.59 298 P **P** **12 32 11.6 -0.7**
CMAR Chiang Mai Arr 86.59 298 P **P** **12 32 12.5 +0.2**
comp=Z,5.0nm,0.7s,baz=10,slow=5.1,SNR=34
comp=Z,5.0nm,0.7s
QSPA South Pole Qui 145.59 180 PKPbc **PKPdf** **12 39 04.7 -1.0**
comp=Z,14nm,1.0s,baz=66,slow=1.7,SNR=11
BOSA Boshof 152.53 11 PKPbc **PKPbc** **12 39 24.4 -0.7**
comp=Z,2.1nm,0.6s,baz=289,slow=1.3,SNR=5.9

*NEIC **23** 12:24:07.2±0.5,29.7°S±0.2°×177.0°W±0.2,h18km±12km, mb4.4/11,Error ellipse: s-maj=36.5km s-min=11.4km az=224.0*
*IDC **23** 12:24:09.0±6.1,29.71°S×177.19°W,h33km±38km,mb3.7/3, mbtmp3.8/4,ML3.1/1,Error ellipse: s-maj=59.6km s-min=28.8km az=65.0*
ISC 23 12:24:05.6±1.8,29.7S±0.1×177.0W±0.2,h10km,n20,
σ0s97/22,mb4.5/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**300**	Pg	**Pg**	**12 24 23.8**	**+0.9**
RAO				Sg	**Sg**	**12 24 33.9**	**-0.7**
RAO	**Raoul Island**	**0.90**	**300**	Pn	**Pg**	**12 24 23.8**	**+0.9**
	814nm,0.3s,baz=87,slow=21,SNR=28						
RAO				Sn	**Sg**	**12 24 34.2**	**-0.4**
	681nm,0.3s,baz=86,slow=23,SNR=9.4						
MXZ	**Matakaoa Point**	**8.74**	**205**	Pn	**Pn**	**12 26 12.2**	**+0.1**
URZ	**Urewera**	**9.81**	**208**	Pn	**Pn**	**12 26 25.4**	**-1.3**
	0.2nm,0.3s,baz=222,slow=18,SNR=1.4						
URZ				Sn	Sn	12 28 10.2	-6.8
	0.7nm,0.3s,baz=280,slow=21,SNR=11						
	1.3nm,0.6s						
BFZ	**Birch Farm**	**12.24**	**205**	Pn	**Pn**	**12 27 01.0**	**+1.0**
OXZ	**Oxford**	**16.16**	**210**	Pn	**Pn**	**12 27 53.6**	**+0.8**
OXZ				IAmb	IAmb	12 28 03.8	
	comp=Z,5.2nm,0.8s						
PYZ	**Puysegur Point**	**20.79**	**213**	P	**P**	**12 28 47.2**	**+0.4**
STKA	**Stephens Creek**	**35.45**	**256**	P	**P**	**12 31 03.3**	**+1.1**
STKA				IAmb	IAmb	12 31 21.7	
	comp=Z,1.8nm,1.5s						
STKA	**Stephens Creek**	**35.45**	**256**	P	**P**	**12 31 02.5**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=108,slow=13,SNR=4.2						
	comp=Z,1.4nm,0.7s						
AS31	**Alice Springs**	**43.99**	**266**	P	**P**	**12 32 12.5**	**-1.0**
ASAR	**Alice Springs**	**43.99**	**266**	P	**P**	**12 32 11.6**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=102,slow=6.6,SNR=20						
	comp=Z,0.4nm,0.4s						
WR0	**Warramunga Arr**	**44.73**	**271**	P	**P**	**12 32 18.1**	**-1.3**
WR0				IAmb	IAmb	12 32 32.1	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**44.91**	**271**	P	**P**	**12 32 20.1**	**-0.7**
WB2				IAmb	IAmb	12 32 40.1	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**44.92**	**271**	P	**P**	**12 32 20.3**	**-0.6**
WRA	**Warramunga Arr**	**44.92**	**271**	P	**P**	**12 32 19.1**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=110,slow=8.0,SNR=20						
	comp=Z,1.1nm,0.4s						
WB0	**Warramunga Arr**	**44.94**	**271**	P	**P**	**12 32 20.4**	**-0.6**
WB0				IAmb	IAmb	12 32 30.9	
	comp=Z,10nm,1.3s						
FORT	**Forrest**	**47.04**	**254**	P	**P**	**12 32 37.8**	**+0.4**
VNDA	**Vanda**	**48.86**	**186**	P	**P**	**12 32 50.2**	**-0.7**
VNDA				IAmb	IAmb	12 32 55.0	
	comp=Z,7.0nm,1.4s						
CASY	**Casey**	**56.14**	**208**	P	**P**	**12 33 45.3**	**+0.4**
CASY				IAmb	IAmb	12 33 48.5	
	comp=Z,6.5nm,1.1s						
FINES	**FINESS Array B**	**144.78**	**341**	PKP	**PKPab**	**12 43 41.2**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=39,slow=5.3,SNR=2.8						

*IDC **23** 12:26:42.7±0.8,56.09°N×149.69°W,h0km,mb3.9/15, mbtmp3.9/19,ML3.5/4,Error ellipse: s-maj=26.6km s-min=14.0km az=23.0*
*NEIC **23** 12:26:43.4±2.2,56.01°N±0.08°×149.76°W±0.09,h17km±6km, mb4.3/5,ML3.9/40,ML3.7(AEIC),Error ellipse: s-maj=11.5km s-min=7.5km az=186.0*
*AEIC **23** 12:26:47.1±2.5,56.06°N±0.08°×149.66°W±0.10,h8km±6km, Error ellipse: s-maj=11.4km s-min=8.1km az=177.0*
ISC 23 12:26:42.5±3.7,56.11°N±0.07°×149.77°W±0.05,h1km±24km, n249,σ1s09/254,mb4.2/16,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.24**	**301**		**Pn**	**12 27 20.3**	**-0.4**
OHAK					**Sn**	**12 27 45.9**	**-3.0**
OHAK	**Old Harbor**	**2.24**	**301**	P	**Pn**	**12 27 20.3**	**-0.4**
	baz=119						
OHAK				S	**Sn**	**12 27 45.7**	**-3.1**
	baz=119						
KDAK	**Kodiak Island**	**2.28**	**319**	Pn	**Pn**	**12 27 21.4**	**+0.2**
KDAK					**Sn**	**12 27 47.4**	**-2.4**
KDAK	**Kodiak Island**	**2.28**	**319**	S	**Sn**	**12 27 47.4**	**-2.4**
	baz=136						
KDAK	**Kodiak Island**	**2.28**	**319**	Pn	**Pn**	**12 27 20.9**	**-0.3**
	9.0nm,0.3s,baz=133,slow=5.2,SNR=17						
KDAK				Sn	**Sn**	**12 27 47.4**	**-2.4**
	17nm,0.3s,baz=249,slow=22,SNR=12						
	28nm,0.3s						
Q20K	**Shuyak Island**	**2.88**	**331**	P	**Pn**	**12 27 29.4**	**0.0**
	baz=149						
Q20K				S	**Sn**	**12 28 03.5**	**-1.2**
	baz=149						
SYI	**Shuyak Island**	**2.88**	**332**	Pn	**Pn**	**12 27 29.4**	**0.0**
SYI					**Sn**	**12 28 03.4**	**-1.3**
CNPM	**China Poot**	**3.51**	**348**		**Pn**	**12 27 37.7**	**-0.5**
CNPM					**Sn**	**12 28 17.6**	**-2.7**
CNPM				IAML		12 28 27.8	
	comp=E,153nm,0.9s						
Q19K	**Cape Douglas,**	**3.52**	**325**	Pn	**Pn**	**12 27 39.0**	**+0.8**
Q19K	**Cape Douglas,**	**3.52**	**325**	P	**Pn**	**12 27 38.1**	**-0.1**
	baz=142						
BRSE	**Bradley Lake S**	**3.68**	**352**		**Pn**	**12 27 39.8**	**-0.7**
BRSE					**Sn**	**12 28 22.4**	**-2.0**
BRSE	**Bradley Lake S**	**3.68**	**352**	P	**Pn**	**12 27 39.8**	**-0.7**
	baz=171						
BRSE				S	**Sn**	**12 28 22.4**	**-2.0**
	baz=171						
HOM	**Homer**	**3.70**	**345**	Pn	**Pn**	**12 27 41.9**	**+1.3**
HOM					**Sn**	**12 28 24.9**	**+0.1**
HOM				IAML		12 28 38.7	
	comp=E,226nm,1.5s						
HOM				IAML		12 29 12.4	
	comp=N,318nm,1.5s						
HOM	**Homer**	**3.70**	**345**	S	**Sn**	**12 28 23.6**	**-1.1**
	baz=163						
BRLK	**Bradley Lake**	**3.71**	**351**		**Pn**	**12 27 40.2**	**-0.7**
BRLK				IAML		12 28 26.7	
	comp=E,123nm,0.8s						
ANCK	**Angle Creek**	**3.76**	**306**		**Pn**	**12 27 41.9**	**+0.3**
Q23K	**Middleton Isla**	**3.80**	**27**		**Pn**	**12 27 41.2**	**-0.8**
Q23K				IAML		12 28 29.4	
	comp=N,147nm,0.8s						
Q23K				IAML		12 29 06.6	
	comp=E,210nm,1.5s						
Q23K	**Middleton Isla**	**3.80**	**27**	P	**Pn**	**12 27 41.2**	**-0.8**
	baz=209						
MID	**Middleton Isla**	**3.80**	**27**		**Pn**	**12 27 41.2**	**-0.8**
MID				IAML		12 28 43.1	
	comp=N,168nm,1.5s						
MID				IAML		12 29 06.6	
	comp=E,212nm,1.5s						
P19K	**Oil Pt**	**4.00**	**334**		**Pn**	**12 27 44.5**	**-0.5**
P19K				IAML		12 28 37.4	
	comp=E,264nm,0.6s						
P19K	**Oil Pt**	**4.00**	**334**	P	**Pn**	**12 27 44.7**	**-0.2**
	baz=151						
SEW	**Seward**	**4.01**	**2**		**Pn**	**12 27 43.9**	**-1.0**
SEW	**Seward**	**4.01**	**2**	P	**Pn**	**12 27 44.4**	**-0.5**
	baz=182						
P23K	**Montague Islan**	**4.09**	**17**		**Pn**	**12 27 45.7**	**-0.4**
P23K	**Montague Islan**	**4.09**	**17**	P	**Pn**	**12 27 45.7**	**-0.4**
	baz=198						
O20K	**Slope Mountain**	**4.26**	**340**		**Pn**	**12 27 48.1**	**-0.3**
O20K	**Slope Mountain**	**4.26**	**340**	P	**Pn**	**12 27 48.1**	**-0.3**
	baz=157						
IVE	**Iliamna Volcan**	**4.28**	**338**		**Pn**	**12 27 48.3**	**-0.5**
O22K	**Cooper Landing**	**4.38**	**0**		**Pn**	**12 27 49.9**	**-0.2**
O22K	**Cooper Landing**	**4.38**	**0**	P	**Pn**	**12 27 49.7**	**-0.4**
	baz=180						
P18K	**Big Mountain,**	**4.40**	**321**	Pn	**Pn**	**12 27 50.8**	**+0.4**
P18K	**Big Mountain,**	**4.40**	**321**	P	**Pn**	**12 27 50.3**	**-0.1**
	baz=136						
Q16K	**King Salmon**	**4.53**	**307**		**Pn**	**12 27 51.9**	**-0.1**
Q16K	**King Salmon**	**4.53**	**307**	P	**Pn**	**12 27 51.9**	**-0.1**
	baz=122						
RED	**Redoubt Volcan**	**4.60**	**341**		**Pn**	**12 27 52.5**	**-0.7**
HIN	**Hinchinbrook I**	**4.63**	**20**	Pn	**Pn**	**12 27 53.3**	**-0.2**
HIN				IAML		12 28 45.9	
	comp=N,115nm,0.9s						
HIN				IAML		12 28 47.3	
	comp=E,166nm,1.1s						
RSO	**Redoubt South**	**4.64**	**341**		**Pn**	**12 27 53.4**	**-0.4**
RDT	**Redoubt**	**4.69**	**344**		**Pn**	**12 27 54.1**	**-0.2**
CAPN	**Captain Cook N**	**4.73**	**352**	Pn	**Pn**	**12 27 54.8**	**+0.1**
O18K	**Koktuh Hills**	**4.74**	**325**	Pn	**Pn**	**12 27 54.1**	**-0.9**
O18K				IAML		12 28 51.2	
	comp=N,121nm,0.8s						
O18K				IAML		12 28 52.0	
	comp=E,68nm,0.7s						
O19K	**Port Alsworth**	**4.75**	**331**		**Pn**	**12 27 54.6**	**-0.5**
O19K				IAML		12 28 59.1	
	comp=N,134nm,0.5s						
O19K	**Port Alsworth**	**4.75**	**331**	P	**Pn**	**12 27 55.2**	**+0.1**
	baz=147						
NCT	**North Crescent**	**4.76**	**341**		**Pn**	**12 27 55.0**	**-0.4**
CHGN	**Chignik**	**4.83**	**276**	Pn	**Pn**	**12 27 55.5**	**-0.7**
CHGN				IAML		12 29 41.7	
	comp=E,100nm,0.1s						
CHGN				IAML		12 30 15.5	
	comp=N,91nm,0.1s						
FID	**Port Fidalgo**	**4.96**	**19**	Pn	**Pn**	**12 27 59.1**	**+1.1**
FID				IAML		12 28 51.6	
	comp=E,96nm,0.8s						
FID				IAML		12 28 52.3	
	comp=N,68nm,1.3s						
RC01	**Rabbit Creek A**	**4.99**	**0**		**Pn**	**12 27 58.3**	**-0.2**
RC01				IAML		12 28 56.3	
	comp=E,58nm,0.6s						
RC01				IAML		12 29 03.9	
	comp=N,52nm,0.5s						
RC01	**Rabbit Creek A**	**4.99**	**0**	P	**Pn**	**12 27 58.1**	**-0.4**
	baz=180						
RAGM	**Ragged Mountai**	**5.06**	**30**	Pn	**Pn**	**12 27 58.6**	**-0.9**
GOAT	**Goat Mountain**	**5.21**	**29**		**Pn**	**12 28 00.7**	**-0.8**
CKL	**Chakachamna La**	**5.27**	**346**		**Pn**	**12 28 02.0**	**-0.4**
P16K	**Nushagak River**	**5.31**	**307**		**Pn**	**12 28 03.1**	**+0.3**
P16K	**Nushagak River**	**5.31**	**307**	P	**Pn**	**12 28 03.1**	**+0.3**
	baz=120						
N19K	**Bonanza Creek**	**5.33**	**334**	Pn	**Pn**	**12 28 01.6**	**-1.6**
N19K	**Bonanza Creek**	**5.33**	**334**	P	**Pn**	**12 28 02.8**	**-0.3**
	baz=150						
BERG	**Berg Lake**	**5.35**	**34**		**Pn**	**12 28 03.5**	**0.0**
O17K	**Koliganek Bris**	**5.36**	**316**		**Pn**	**12 28 03.5**	**0.0**

O17K	Koliganek Bris	5.36	316	P		Pn		12 28 03.4	0.0	
	baz=130									
KNK	Knik Glacier	5.36	7	Pn		Pn		12 28 02.4	-1.1	
SUA	Susitna One	5.39	355	Pn		Pn		12 28 03.5	-0.6	
SNH	Sunshine Point	5.49	39	Pn		Pn		12 28 07.0	+1.7	
SPNN	North Nagishla	5.49	345			Pn		12 28 04.9	-0.5	
PMR	Palmer	5.51	3			Pn		12 28 06.5	+1.0	
PMR	Palmer	5.51	3	P		Pn		12 28 05.3	-0.2	
	baz=183									
STLK	Strandline Lak	5.51	350			Pn		12 28 05.4	-0.2	
BMRM	Bremner River	5.57	27			Pn		12 28 06.9	+0.5	
BMRM	Bremner River	5.57	27	P		Pn		12 28 05.7	-0.7	
	baz=210									
N18K	Kilae Creek	5.60	327	Pn		Pn		12 28 06.5	-0.3	
N18K	Kilae Creek	5.60	327	P		Pn		12 28 06.5	-0.3	
	baz=142									
O16K	Kokwok River B	5.65	312	Pn		Pn		12 28 08.1	+0.6	
GHO	Glory Hole Cre	5.70	4			Pn		12 28 09.0	+0.8	
CNBA	Chernabura Isl	5.74	261	Pn		Pn		12 28 07.1	-1.6	
KLU	Klutina	5.75	19			Pn		12 28 09.7	+0.8	
SML	Sawmill	5.76	7			Pn		12 28 08.4	-0.6	
SML	Sawmill	5.76	7	P		Pn		12 28 08.7	-0.3	
	baz=187									
SVW2	Sparrevohn	5.85	331			Pn		12 28 09.8	-0.4	
SCM	Sheep Creek Mo	5.88	11	Pn		Pn		12 28 11.2	+0.5	
N17K	Nushagak Hills	5.91	322	Pn		Pn		12 28 10.3	-0.6	
N17K	Nushagak Hills	5.91	322	P		Pn		12 28 10.7	-0.3	
	baz=135									
SKT	Skwentna	5.96	352	Pn		Pn		12 28 11.5	-0.3	
M20K	Styx River	6.04	345	Pn		Pn		12 28 12.6	-0.4	
VRDI	Verde Repeater	6.09	30	Pn		Pn		12 28 12.5	-1.3	
SDPT	Sand Point	6.10	267			Pn		12 28 10.9	-2.7	
SDPT	Sand Point	6.10	267	P		Pn		12 28 12.7	-1.0	
	baz=79									
N25K	Chitina, Valde	6.13	24			Pn		12 28 14.6	+0.5	
N25K	Chitina, Valde	6.13	24	P		Pn		12 28 13.3	-0.8	
	baz=207									
GLB	Gilahina Butte	6.18	28			Pn		12 28 15.3	+0.5	
KIAG	Kiagna River	6.19	36			Pn		12 28 14.4	-0.7	
O15K	Ungalikthiuk R	6.21	304			Pn		12 28 15.6	+0.4	
O15K	Ungalikthiuk R	6.21	304	P		Pn		12 28 15.6	+0.4	
	baz=116									
M19K	Big River Lodg	6.28	340			Pn		12 28 16.4	+0.2	
M19K	Big River Lodg	6.28	340	P		Pn		12 28 15.9	-0.3	
	baz=155									
M24K	Tolsona, Glenn	6.29	16	Pn		Pn		12 28 17.2	+0.9	
CUT	Chulitna	6.32	358	Pn		Pn		12 28 16.1	-0.6	
BARN	Barnard Glacie	6.52	37	Pn		Pn		12 28 19.6	0.0	
CTG	Chitna Glacier	6.56	39	P		Pn		12 28 20.0	-0.2	
	baz=225									
CTGM	Chitina Glacie	6.57	39			Pn		12 28 19.5	-0.7	
PNL	Peninsula	6.58	53			Pn		12 28 20.2	-0.1	
PNL	Peninsula	6.58	53	P		Pn		12 28 20.2	-0.1	
	baz=241									
BCPM	Bancas Point	6.61	50	Pn		Pn		12 28 20.7	0.0	
L19K	White Mountain	6.62	339			Pn		12 28 22.1	+1.2	
M17K	Holitna River	6.63	326	Pn		Pn		12 28 21.0	0.0	
M17K	Holitna River	6.63	326	P		Pn		12 28 21.0	0.0	
	baz=140									
HARP	HAARP	6.73	19			Pn		12 28 22.7	+0.3	
HARP	HAARP	6.73	19	P		Pn		12 28 22.7	+0.3	
	baz=202									
N15K	Kwethluk River	6.81	311	Pn		Pn		12 28 24.3	+0.9	
M16K	Timber Creek	6.88	319			Pn		12 28 24.9	+0.6	
M16K	Timber Creek	6.88	319	P		Pn		12 28 24.2	-0.2	
	baz=132									
O14K	Tigyukauivet M	6.92	302	Pn		Pn		12 28 25.6	+0.7	
O14K	Tigyukauivet M	6.92	302	P		Pn		12 28 24.9	0.0	
	baz=112									
PN7A	Pavlof North-7	6.94	269			Pn		12 28 24.2	-1.0	
L18K	Granite Mounta	7.08	333	Pn		Pn		12 28 26.5	-0.6	
DHY	Denali Highway	7.09	9	Pn		Pn		12 28 26.4	-1.0	
O29M	Mount Kennedy	7.25	50	Pn		Pn		12 28 29.5	0.0	
P29M	Windy Craggy	7.32	56			Pn		12 28 30.7	+0.3	
P29M	Windy Craggy	7.32	56	P		Pn		12 28 29.7	-0.7	
	baz=246									
RND	Reindeer	7.33	3	Pn		Pn		12 28 29.6	-1.0	
M15K	Kasigluk River	7.35	313			Pn		12 28 30.8	+0.1	
M15K	Kasigluk River	7.35	313	P		Pn		12 28 30.8	+0.1	
	baz=124									
TRF	Thorofare Moun	7.37	358	Pn		Pn		12 28 31.4	+0.2	
CAST	Castle Rocks	7.42	352			Pn		12 28 35.0	+3.2	
KTH	Kantishna Hill	7.49	356	Pn		Pn		12 28 34.6	+1.8	
MENT	Mentasta	7.50	22	Pn		Pn		12 28 34.8	+1.9	
L16K	Owhat River	7.53	322			Pn		12 28 33.2	-0.1	
L16K	Owhat River	7.53	322	P		Pn		12 28 33.1	-0.1	
	baz=134									
TTA	Tatalina	7.54	338	Pn		Pn		12 28 34.7	+1.3	
K20K	Telida	7.58	345	Pn		Pn		12 28 33.4	-0.7	
S31K	Pelican	7.61	70			Pn		12 28 32.6	-1.7	
S31K	Pelican	7.61	70	P		Pn		12 28 32.2	-2.1	
	baz=261									
L26K	Log Cabin Wild	7.66	22			Pn		12 28 34.8	-0.3	
M14K	Bethel	7.91	311	Pn		Pn		12 28 36.7	-1.6	
K17K	Iditarod	7.92	330	Pn		Pn		12 28 37.8	-0.8	
HYT	Haines Junctio	7.97	49	Pn		Pn		12 28 38.5	-0.9	
SIT	Sitka	8.03	77	Pn		Pn		12 28 40.1	0.0	
SIT	Sitka	8.03	77	P		Pn		12 28 36.9	-3.2	
	baz=269									
BPAW	Bear Paw Mtn.	8.04	356			Pn		12 28 40.5	+0.2	
BPAW	Bear Paw Mtn.	8.04	356	P		Pn		12 28 39.6	-0.7	
	baz=175									
RIDG	Independent Ri	8.04	16			Pn		12 28 41.5	+1.2	
L27K	Beaver Creek,	8.04	27	Pn		Pn		12 28 42.8	+2.5	
ISLZ	Isanotski Laza	8.06	266			Pn		12 28 39.5	-1.1	
BCAR	Beaver Creek A	8.06	27	Pn		Pn		12 28 42.4	+1.9	
BWN	Browne	8.09	1	Pn		Pn		12 28 41.1	+0.2	
J18K	Innoko River	8.16	337	Pn		Pn		12 28 44.2	+2.3	
M13K	Dall Lake	8.35	307	Pn		Pn		12 28 44.8	+0.2	
SKAG	Skagway	8.41	61	Pn		Pn		12 28 45.8	+0.5	
HDA	Harding Lake	8.44	8			Pn		12 28 48.1	+2.3	
S32K	Killisnoo	8.45	74			Pn		12 28 43.8	-2.0	
S32K	Killisnoo	8.45	74	P		Pn		12 28 43.4	-2.5	
	baz=267									
L14K	Kuka Creek	8.52	313	Pn		Pn		12 28 48.6	+1.9	
NEA2	Nenana	8.52	2			Pn		12 28 47.9	+1.1	
M29M	Somme Creek	8.58	38			Pn		12 28 48.9	+1.2	
CCB	Clear Creek Bu	8.62	6	Pn		Pn		12 28 50.9	+2.8	
J25K	Salcha River,	8.80	12	Pn		Pn		12 28 52.9	+2.1	
IL31		8.80	8			Pn		12 28 51.6	+0.9	
ILAR	Eielson Array	8.80	8	Pn		Pn		12 28 48.5	-2.3	
ILAR	Eielson Array	8.80	8	Pn		Pn		12 28 50.9	+0.2	
	comp=N,0.4nm,0.3s,baz=190,slow=13,SNR=6.4									
ILAR				Sn		Sn		12 30 27.4	-3.0	
	comp=N,0.2nm,0.3s,baz=194,slow=22,SNR=6.9									
IL03	Eielson Array	8.81	8	Pn		Pn		12 28 48.5	-2.3	
COLA	College	8.84	5	Pn		Pn		12 28 51.1	-0.1	
MDM	Murphy Dome	8.91	4			Pn		12 28 53.0	+0.8	
J26L	Joseph Creek	8.96	17	Pn		Pn		12 28 53.0	+0.1	
J16K	Anvik River	9.03	327	Pn		Pn		12 28 54.3	+0.5	
N31M	Braeburn, Yuko	9.03	48	Pn		Pn		12 28 54.4	+0.5	
WHY	Whitehorse	9.04	54	Pn		Pn		12 28 53.4	-0.7	
I23K	Minto, Yukon-K	9.07	1			Pn		12 28 54.4	+0.1	
POKR	Poker Plat Res	9.11	6	Pn		Pn		12 28 56.1	+1.2	
L29M	L29M	9.15	35			Pn		12 28 56.8	+1.2	
I21K	Tanana	9.16	354			Pn		12 28 55.9	+0.3	
P32M	Atlin	9.23	61	Pn		Pn		12 28 55.2	-1.5	
P32M	Atlin	9.23	61	P		Pn		12 28 56.0	-0.6	
	baz=254									
M30M	Minto, Yukon	9.26	40	Pn		Pn		12 28 56.8	-0.1	
DAWY	Dawson	9.50	29	Pn		Pn		12 29 00.6	+0.4	
K13K	Kusilvak Mount	9.63	313	Pn		Pn		12 29 03.6	+1.6	
PRP	Porcupine Dome	9.63	11			Pn		12 29 04.3	+1.8	
EGAK	Eagle	9.67	22	Pn		Pn		12 29 03.8	+1.3	
H21K	Melozitna Rive	9.69	352	Pn		Pn		12 29 02.0	-0.8	
H21K	Melozitna Rive	9.69	352	P		Pn		12 29 03.6	+0.7	
	baz=170									
I26K	Coal Creek Min	9.77	17	Pn		Pn		12 29 02.7	-1.2	
H24K	Noodor Dome	9.80	5	Pn		Pn		12 29 05.8	+1.4	
Q32M	Nakina River	9.83	66	Pn		Pn		12 29 05.0	0.0	
P33M	Teslin, Yukon	9.84	58			Pn		12 29 04.5	-0.5	
P33M	Teslin, Yukon	9.84	58	P		Pn		12 29 04.8	-0.2	
	baz=252									
K29M	Barlow Dome	9.87	33	Pn		Pn		12 29 06.3	+0.8	
M31M	Drury Creek, Y	9.96	46	Pn		Pn		12 29 08.0	+1.4	
H19K	Roundabout Mou	9.99	344	Pn		Pn		12 29 07.2	+0.4	
H18K	Honhosa River	9.99	339	Pn		Pn		12 29 07.5	+0.5	
N32M	Quiet Lake	10.04	53	Pn		Pn		12 29 08.2	+0.4	
IMAR	Indian Mountai	10.09	351	Pn		Pn		12 29 09.4	+1.1	
H17K	Granite Mounta	10.15	335	Pn		Pn		12 29 10.3	+1.1	
V35K	Ketchikan	10.27	87	Pn		Pn		12 29 08.7	-2.1	
S34M	Telegraph Cree	10.32	72	Pn		Pn		12 29 11.0	-0.5	
FARO	Faro, Yukon	10.40	47	Pn		Pn		12 29 14.0	+1.4	
I28M	Miner Creek	10.51	23	Pn		Pn		12 29 16.1	+1.9	
R33M	Jennings River	10.56	64	Pn		Pn		12 29 14.9	0.0	
G21K	Allakaket	10.59	352	Pn		Pn		12 29 16.1	+0.9	
G23K	Bananza Creek	10.64	359			Pn		12 29 15.0	-0.8	
G19K	Purcell Mounta	10.66	344	Pn		Pn		12 29 17.4	+1.3	
G24K	Hadweenzic Riv	10.68	5			Pn		12 29 15.9	-0.5	
G18K	Tagagawik	10.71	340	Pn		Pn		12 29 16.2	-0.5	
FYU	Fort Yukon	10.71	10	Pn		Pn		12 29 18.2	+1.5	
J30M	Hart River	10.76	32	Pn		Pn		12 29 19.2	+1.6	
T35M	Bob Quinn	10.81	77	Pn		Pn		12 29 18.7	+0.6	
DLBC	Dease Lake	10.93	70	Pn		Pn		12 29 20.4	+0.5	
DLBC	Dease Lake	10.93	70	Pn		Pn		12 29 20.0	+0.1	
	comp=N,0.8nm,0.3s,baz=234,slow=9.1,SNR=9.7									
	comp=N,1.6nm,0.3s									
G16K	Koyuk River	11.13	332	Pn		Pn		12 29 23.2	+0.7	
I30M	Mount Dempster	11.22	30	Pn		Pn		12 29 24.6	+0.7	
F21K	Alatna River	11.29	353	Pn		Pn		12 29 26.3	+1.6	
F20K	Avaraart Lake	11.33	348	Pn		Pn		12 29 26.4	+1.2	
ANM	Nome	11.44	324	Pn		Pn		12 29 28.4	+1.7	
BMAR	Burnt Mountain	11.61	10	Pn		Pn		12 29 29.4	+0.2	
F17K	Baldwin Pennin	11.72	337	Pn		Pn		12 29 29.9	-0.6	
E19K	Redstone River	11.91	346	Pn		Pn		12 29 34.0	+0.9	
E25K	Arctic Village	12.21	7	Pn		Pn		12 29 38.3	+1.0	
F28M	Old Crow	12.43	18	Pn		Pn		12 29 40.3	+0.1	
E27K	Coleen River	12.69	14	Pn		Pn		12 29 43.9	+0.1	
D22K	Ayikyak River	12.88	355	Pn		Pn		12 29 47.1	+0.6	
G31M	Satah River	13.07	28	Pn		Pn		12 29 48.6	-0.4	
F31M	Tsiigehtchic	13.60	27	Pn		Pn		12 29 56.2	+0.1	
D27M	Malcolm River	13.76	13			Pn		12 29 58.7	+0.2	
INK	Inuvik	14.31	25	Pn		Pn		12 30 05.2	-0.8	
	baz=215,slow=14,SNR=3.3									
	comp=N,2.5nm,1.1s									
B22K	Teshekpuk Lake	14.37	355	Pn		Pn		12 30 07.9	+1.2	
ADK	Adak	16.33	266	Pn		Pn		12 30 32.3	-0.4	
C36M	Paulatuk	17.53	31			Pn		12 30 47.6	-0.1	
C36M				IAmb		IAmb		12 30 59.1		
	comp=Z,10nm,0.9s									
YKAB2	New Yellowknif	18.86	56	P		P		12 31 03.0	-0.5	
YKA	Yellowknife Ar	18.86	56	P		P		12 31 03.8	+0.1	
	comp=Z,0.1nm,0.3s,baz=266,slow=9.6,SNR=8.6									
	comp=Z,0.7nm,0.8s									
A36M	Sachs Harbour	18.95	23	P		Pn		12 31 05.2	+0.1	
A36M				IAmb		IAmb		12 31 17.2		
	comp=Z,23nm,0.8s									
F10A	Beach Ranch, E	22.63	103	P		P		12 31 43.1	-1.5	
F10A				IAmb		IAmb		12 32 03.0		
	comp=Z,21nm,1.5s									
YBH	Yreka Blue Hor	22.67	118	P		P		12 31 42.6	-2.5	
NVAR	Mina Array Bea	27.37	117	P		P		12 32 29.2	-0.1	
	comp=Z,0.1nm,0.3s,baz=321,slow=11,SNR=2.6									
	comp=Z,0.1nm,0.3s									
PDAR	Pinedale Array	28.90	100	P		P		12 32 42.2	-0.7	
PDAR	Pinedale Array	28.90	100	P		P		12 32 42.6	-0.2	
	comp=Z,0.2nm,0.5s,baz=326,slow=4.2,SNR=4.7									
	comp=Z,0.2nm,0.5s									
PETK	Petropavlovsk-	29.96	287	P		P		12 32 52.2	+0.2	
	comp=Z,2.0nm,0.8s,baz=66,slow=22,SNR=1.5									
	comp=Z,2.0nm,0.8s									
TXAR	Lajitas Array	42.02	110	P		P		12 34 36.7	+1.3	
	comp=Z,0.5nm,1.0s,baz=309,slow=4.0,SNR=3.9									
	comp=Z,0.5nm,1.0s									
KLR	Kul'dur	45.66	296	P		P		12 35 04.8	+0.5	
	comp=Z,3.5nm,0.9s,baz=37,slow=4.8,SNR=6.1									
	comp=Z,3.5nm,0.9s									
H11N2	WAKE ISLAND Hy	48.56	240	T		T		13 28 11.1		
	baz=30,slow=76									
H11N3	WAKE ISLAND Hy	48.57	240	T		T		13 28 28.1		
	baz=30,slow=76									
H11N1	WAKE ISLAND Hy	48.58	240	T		T		13 28 14.8		
	baz=30,slow=76									
H11S1	WAKE ISLAND Hy	49.70	239	T		T		13 29 45.6		
H11S2	WAKE ISLAND Hy	49.72	239	T		T		13 29 50.1		
	baz=30,slow=74									
H11S3	WAKE ISLAND Hy	49.72	239	T		T		13 29 49.4		
	baz=179,slow=74									
SONM	Songino Array	58.54	310	P		P		12 36 41.9	+1.6	
	comp=Z,2.7nm,0.8s,baz=45,slow=6.9,SNR=15									
	comp=Z,2.7nm,0.8s									
ZALV	Zalesovo Beam	61.56	327	P		P		12 37 01.6	+0.8	
	comp=Z,2.2nm,0.7s,baz=32,slow=6.5,SNR=9.5									
	comp=Z,2.2nm,0.7s									
FINES	FINESS Array B	62.74	2	P		P		12 37 09.3	+0.8	
	comp=Z,2.0nm,1.0s,baz=347,slow=7.8,SNR=4.1									
	comp=Z,2.0nm,1.0s									
BVAR	Bovoye Array	66.32	335	P		P		12 37 32.9	+0.8	
	comp=Z,3.1nm,0.8s,baz=44,slow=8.7,SNR=12									
	comp=Z,3.1nm,0.8s									
KURBB	Kurchatov Arra	66.35	329	P		P		12 37 32.4	+0.2	
	comp=Z,1.5nm,0.8s,baz=29,slow=6.3,SNR=5.8									
	comp=Z,1.5nm,0.8s									
MKAR	Makanchi Array	68.58	324	P		P		12 37 46.8	+0.3	
	comp=Z,0.8nm,0.5s,baz=36,slow=6.0,SNR=7.7									
	comp=Z,0.8nm,0.5s									
AKASG	Malin Array Be	73.55	1	P		P		12 38 17.0	+0.5	
	comp=Z,0.4nm,0.5s,baz=84,slow=39,SNR=2.1									
	comp=Z,0.4nm,0.5s									
ESDC	Sonseca Array	80.26	26	P		P		12 38 54.8	+0.1	
	comp=Z,0.8nm,0.9s,baz=350,slow=6.9,SNR=3.3									
	comp=Z,0.8nm,0.9s									
GEYT	Alibeck	83.36	338	P		P		12 39 12.3	+1.3	
	comp=Z,1.6nm,0.7s,baz=64,slow=6.8,SNR=5.1									
	comp=Z,1.6nm,0.7s									
CMAR	Chiang Mai Arr	86.12	298	P		P		12 39 25.6	+0.4	
	comp=Z,0.4nm,0.3s,baz=11,slow=5.6,SNR=7.2									
	comp=Z,0.4nm,0.3s									
QSPA	South Pole Qui	145.90	180	PKPbc		PKPdf		12 46 20.0	-1.4	
	comp=Z,1.7nm,0.2s,baz=65,slow=3.3,SNR=4.3									

NEIC ***23*** *12:31:28.3±1.4,55.97N±0.08×149.2W±0.1,h6km±6km, mb3.7/4,ML3.9/38,ML3.7(AEIC),Error ellipse: s-maj=12.0km s-min=9.8km az=170.0*

IDC ***23*** *12:31:29.1±2.0,56.05N×149.59W,h0km,mb3.8/5, mbtmp3.5/10,ML3.2/5,Error ellipse: s-maj=36.2km s-min=24.0km az=177.0*

AEIC ***23*** *12:31:32.9±1.8,55.94N±0.10×149.1W±0.1,h12km±6km, Error ellipse: s-maj=14.6km s-min=9.9km az=162.0*

ISC 23 12:31:30.0±1.1,56.11N±0.10×149.23W±0.06,h10km, n131,σ0.86/134,mb3.9/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
KDAK	Kodiak Island	2.49	314		Pn	12 32 10.3	-0.2
KDAK	Kodiak Island	2.49	314	Pn	Pn	12 32 05.3	-5.2
	3.3nm,0.3s,baz=132,slow=5.5,SNR=8.4						
KDAK				Sn	Sn	12 32 38.3	-2.6
	7.2nm,0.3s,baz=21,slow=23,SNR=2.3						
	16nm,0.2s						
OHAK	Old Harbor	2.50	298		Pn	12 32 10.1	-0.6
OHAK	Old Harbor	2.50	298	P	Pn	12 32 10.0	-0.7
	baz=117						
Q20K	Shuyak Island	3.04	327	P	Pn	12 32 18.9	+0.8
	baz=145						
Q20K				S	Sn	12 32 54.2	-0.2
	baz=145						
SYI	Shuyak Island	3.04	327		Pn	12 32 17.8	-0.3
CNPM	China Poot	3.59	343		Pn	12 32 25.3	-0.4
Q23K	Middleton Isla	3.67	24		Pn	12 32 25.8	-1.0
Q23K				IAML		12 33 15.8	
	comp=N,245nm,1.9s						
Q23K				IAML		12 34 25.8	
	comp=E,290nm,2.2s						
Q23K	Middleton Isla	3.67	24	P	Pn	12 32 26.3	-0.5
	baz=204						
MID	Middleton Isla	3.67	24		Pn	12 32 25.9	-0.9
MID					Sn	12 33 08.6	-1.4
MID				IAML		12 33 15.6	
	comp=N,250nm,2.0s						
MID				IAML		12 34 25.7	
	comp=E,290nm,2.2s						
Q19K	Cape Douglas,	3.69	322		Pn	12 32 27.3	+0.2
Q19K	Cape Douglas,	3.69	322	P	Pn	12 32 27.2	0.0
	baz=139						
BRSE	Bradley Lake S	3.73	348		Pn	12 32 27.6	-0.1
BRSE	Bradley Lake S	3.73	348	P	Pn	12 32 27.6	-0.1
	baz=166						
BRLK	Bradley Lake	3.77	347		Pn	12 32 27.9	-0.3
BRLK				IAML		12 33 18.7	
	comp=N,124nm,0.6s						
BRLK				IAML		12 34 04.6	
	comp=E,100nm,0.7s						
HOM	Homer	3.78	341		Pn	12 32 29.0	+0.7
HOM				IAML		12 34 18.5	
	comp=E,229nm,1.2s						
HOM	Homer	3.78	341	P	Pn	12 32 29.1	+0.8
	baz=159						
HOM				S	Sn	12 33 13.0	+0.2
	baz=159						
P23K	Montague Islan	4.02	13		Pn	12 32 31.8	+0.2
P23K	Montague Islan	4.02	13	P	Pn	12 32 31.8	+0.2
	baz=193						
P19K	Oil Pt	4.14	331		Pn	12 32 33.7	+0.3
P19K				IAML		12 34 12.6	
	comp=N,183nm,0.7s						
P19K				IAML		12 34 13.0	
	comp=E,160nm,1.1s						
P19K	Oil Pt	4.14	331	P	Pn	12 32 33.9	+0.6
	baz=148						
PLK3	Peulik 3	4.17	295		Pn	12 32 34.0	+0.3
CNTC	Contact Creek	4.21	304		Pn	12 32 34.3	-0.1
Q17K	Contact Creek	4.21	304	P	Pn	12 32 34.3	-0.1
	baz=119						
O20K	Slope Mountain	4.37	337		Pn	12 32 37.1	+0.6
O20K	Slope Mountain	4.37	337	P	Pn	12 32 37.1	+0.6
	baz=154						
O22K	Cooper Landing	4.39	357		Pn	12 32 37.4	+0.7
O22K	Cooper Landing	4.39	357	P	Pn	12 32 37.2	+0.6
	baz=176						
IVE	Iliamna Volcan	4.40	334		Pn	12 32 38.1	+1.2
SLKM	Skilak Lake	4.44	354		Pn	12 32 37.8	+0.4
HIN	Hinchinbrook I	4.53	17		Pn	12 32 38.7	0.0
HIN				IAML		12 34 12.4	
	comp=E,161nm,1.0s						
P18K	Big Mountain,	4.60	318		Pn	12 32 39.6	+0.1
P18K	Big Mountain,	4.60	318	P	Pn	12 32 40.0	+0.4
	baz=134						
RED	Redoubt Volcan	4.71	338		Pn	12 32 41.5	+0.4
RDT	Redoubt	4.78	341		Pn	12 32 42.4	+0.3
RDWB	Redoubt West	4.79	338		Pn	12 32 42.5	+0.2
EYAK	Cordova Ski Ar	4.81	21		Pn	12 32 42.4	-0.1
EYAK	Cordova Ski Ar	4.81	21	P	Pn	12 32 42.4	-0.1
	baz=202						
FID	Port Fidalgo	4.87	16		Pn	12 32 42.7	-0.6
FID				IAML		12 33 36.0	
	comp=E,98nm,1.4s						
FID				IAML		12 33 36.7	
	comp=N,99nm,1.5s						
RAGM	Ragged Mountai	4.92	27	Pn	Pn	12 32 44.3	+0.3
O18K	Koktuh Hills	4.92	322		Pn	12 32 44.0	+0.1
O18K				IAML		12 34 33.9	
	comp=N,59nm,0.9s						
O18K				IAML		12 34 57.2	
	comp=E,41nm,3.4s						
O18K	Koktuh Hills	4.92	322	P	Pn	12 32 44.0	+0.1
	baz=138						
P17K	Kvichak River	4.95	312		Pn	12 32 45.3	+0.9
P17K	Kvichak River	4.95	312	P	Pn	12 32 45.3	+0.9
	baz=126						
RC01	Rabbit Creek A	5.00	357		Pn	12 32 45.0	-0.1
RC01				IAML		12 33 52.9	
	comp=N,54nm,2.3s						
RC01	Rabbit Creek A	5.00	357	P	Pn	12 32 45.3	+0.2
	baz=176						
CHGN	Chignik	5.13	276	Pn	Pn	12 32 46.5	-0.3
CHGN				IAML		12 34 51.7	
	comp=E,68nm,1.7s						
CHGN				IAML		12 35 31.5	
	comp=N,67nm,1.3s						
SNH	Sunshine Point	5.30	37	Pn	Pn	12 32 49.2	0.0
SNH				IAML		12 34 35.8	
	comp=E,98nm,1.5s						
KNK	Knik Glacier	5.33	4		Pn	12 32 50.1	+0.5
KNK	Knik

comp=E,0.1nm,0.3s,baz=223,slow=12,SNR=1.4
comp=E,0.7nm,0.9s

C16K	**Lisburne Hills**	**14.26**	**335**	Pn		**Pn**	**12 34 53.0**	**+1.3**
B22K	**Teshekpuk Lake**	**14.40**	**354**	Pn		**Pn**	**12 34 54.7**	**+1.0**
ADK	**Adak**	**16.63**	**267**	Pn		**Pn**	**12 35 20.7**	**-2.3**
C36M	**Paulatuk**	**17.38**	**30**	Pn		**Pn**	**12 35 32.1**	**-0.1**
C36M				IAmb		IAmb	12 35 34.2	

comp=Z,8.3nm,1.4s

YKA	**Yellowknife Ar**	**18.61**	**56**	P		**Pn**	**12 35 48.9**	**+1.4**

baz=266,slow=9.6,SNR=1.6
comp=Z,0.1nm,0.6s

A36M	**Sachs Harbour**	**18.83**	**23**			**Pn**	**12 35 50.1**	**+0.1**
SONM	**Songino Array**	**58.77**	**310**	P		**P**	**12 41 29.1**	**+1.0**

comp=Z,0.7nm,0.8s,baz=33,slow=0.9,SNR=2.9
comp=Z,0.7nm,0.8s

ZALV	**Zalesovo Beam**	**61.72**	**327**	P		**P**	**12 41 48.0**	**+0.1**

comp=Z,0.8nm,0.6s,baz=22,slow=8.1,SNR=4.6
comp=Z,0.8nm,0.6s

FINES	**FINESS Array B**	**62.73**	**3**	P		**P**	**12 41 55.6**	**+1.0**

comp=Z,1.7nm,0.9s,baz=8.9,slow=9.8,SNR=3.5
comp=Z,1.7nm,0.9s

BVAR	**Borovoye Array**	**66.45**	**335**	P		**P**	**12 42 19.2**	**+0.2**

comp=Z,0.7nm,0.8s,baz=35,slow=7.8,SNR=2.4
comp=Z,0.7nm,0.8s

MK31	**Makanchi Array**	**68.75**	**325**	P		**P**	**12 42 34.1**	**+0.4**
MK31				IAmb		IAmb	12 42 42.6	

comp=Z,0.7nm,1.3s

MKAR	**Makanchi Array**	**68.75**	**325**	P		**P**	**12 42 34.4**	**+0.6**
MKAR	**Makanchi Array**	**68.75**	**325**	P		**P**	**12 42 34.2**	**+0.5**

comp=Z,0.6nm,0.6s,baz=27,slow=5.9,SNR=9.6
comp=Z,0.6nm,0.6s

ABKAR	**Akbulak array**	**72.22**	**340**	P		**P**	**12 42 54.9**	**+0.1**

*IDC **23** 12:32:23.1±0.9,56°.38N×148°.52W,h0km,mb4.0/17, mbtmp3.9/22,ML3.6/5, Error ellipse: s-maj=22.7km s-min=17.0km az=29.0*

*NEIC **23** 12:32:25.3±1.5,56°.50N±0°.08×148°.62W±0°.04,h19km±5km, mb4.1/5,ML3.7/32,ML3.6(AEIC), Error ellipse: s-maj=11.8km s-min=2.9km az=186.0*

*AEIC **23** 12:32:29.6±1.4,56°.57N±0°.07×148°.67W±0°.09,h12km±5km, Error ellipse: s-maj=11.6km s-min=4.8km az=149.0*

ISC 23 12:32:25.1±4.0,**56°.60N**±0°.07×**148°.66W**±0°.05,**h9**km±25km, **n184**,σ**1**°**15**/192,**mb4.0**/19,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KDAK	**Kodiak Island**	**2.45**	**301**			**Pn**	**12 33 04.7**	**-0.5**
KDAK	**Kodiak Island**	**2.45**	**301**			**Sn**	**12 33 33.4**	**-1.7**
KDAK					IAML		12 33 35.1	

185nm,0.5s

KDAK					IAML		12 33 35.7	

156nm,0.4s

KDAK	**Kodiak Island**	**2.45**	**301**	S		**Sn**	**12 33 31.5**	**-3.6**

baz=118

KDAK	**Kodiak Island**	**2.45**	**301**			**Pn**	**12 33 04.2**	**-0.9**

6.8nm,0.3s,baz=174,slow=7.4,SNR=1.8

KDAK					Sn		**Sn**	**12 33 33.7**	**-1.4**

22nm,0.3s,baz=244,slow=22,SNR=9.5
17nm,0.3s

OHAK	**Old Harbor**	**2.62**	**286**			**Pn**	**12 33 06.2**	**-1.2**
OHAK						**Sn**	**12 33 35.1**	**-4.2**
OHAK	**Old Harbor**	**2.62**	**286**	P		**Pn**	**12 33 06.6**	**-0.8**

baz=103

OHAK				S		**Sn**	**12 33 34.9**	**-4.3**

baz=103

SYI	**Shuyak Island**	**2.85**	**317**			**Pn**	**12 33 10.6**	**-0.1**
SYI						**Sn**	**12 33 43.0**	**-2.0**
SYI					IAML		12 33 46.4	

comp=E,165nm,0.6s

Q20K	**Shuyak Island**	**2.85**	**317**	P		**Pn**	**12 33 10.9**	**+0.2**

baz=134

Q20K				S		**Sn**	**12 33 43.2**	**-1.9**

baz=134

Q23K	**Middleton Isla**	**3.10**	**22**			**Pn**	**12 33 13.2**	**-0.8**
Q23K						**Sn**	**12 33 48.5**	**-2.7**
Q23K					IAML		12 35 02.5	

comp=N,225nm,2.6s

Q23K	**Middleton Isla**	**3.10**	**22**	P		**Pn**	**12 33 13.2**	**-0.8**

baz=204

Q23K				S		**Sn**	**12 33 48.4**	**-2.7**

baz=204

MID	**Middleton Isla**	**3.10**	**22**			**Pn**	**12 33 13.0**	**-1.0**
MID						**Sn**	**12 33 48.0**	**-3.1**
MID					IAML		12 34 04.0	

comp=N,197nm,2.8s

CNPM	**China Poot**	**3.24**	**336**			**Pn**	**12 33 15.8**	**-0.3**
CNPM					IAML		12 34 01.9	

comp=N,124nm,2.5s

BRSE	**Bradley Lake S**	**3.34**	**342**			**Sn**	**12 33 54.3**	**-3.0**
BRSE	**Bradley Lake S**	**3.34**	**342**	S		**Sn**	**12 33 54.3**	**-3.0**

baz=160

BRLK	**Bradley Lake**	**3.39**	**341**	Pn		**Pn**	**12 33 17.6**	**-0.5**
BRLK					IAML		12 34 02.0	

comp=E,130nm,0.6s

P23K	**Montague Islan**	**3.48**	**10**			**Pn**	**12 33 18.7**	**-0.6**
P23K						**Sn**	**12 33 57.5**	**-3.0**
P23K	**Montague Islan**	**3.48**	**10**	P		**Pn**	**12 33 18.7**	**-0.6**

baz=192

P23K				S		**Sn**	**12 33 57.5**	**-3.0**

baz=192

AUCH	**Augustine Cone**	**3.77**	**319**			**Pn**	**12 33 22.7**	**-0.7**
P19K	**Oil Pt**	**3.91**	**324**	P		**Pn**	**12 33 24.4**	**-0.8**

baz=140

O22K	**Cooper Landing**	**3.94**	**352**	P		**Pn**	**12 33 25.4**	**-0.2**

baz=172

HIN	**Hinchinbrook I**	**3.98**	**16**	Pn		**Pn**	**12 33 25.8**	**-0.4**
SLKM	**Skilak Lake**	**4.01**	**349**			**Pn**	**12 33 26.4**	**-0.3**
KAIM	**Kayak Island**	**4.02**	**32**	P		**Pn**	**12 33 26.6**	**-0.2**

baz=215

O20K	**Slope Mountain**	**4.07**	**331**			**Pn**	**12 33 27.2**	**-0.4**
O20K	**Slope Mountain**	**4.07**	**331**	P		**Pn**	**12 33 27.2**	**-0.4**

baz=148

IVE	**Iliamna Volcan**	**4.13**	**328**			**Pn**	**12 33 27.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.25**	**20**			**Pn**	**12 33 29.8**	**0.0**
EYAK	**Cordova Ski Ar**	**4.25**	**20**	P		**Pn**	**12 33 29.7**	**-0.2**

baz=202

FID	**Port Fidalgo**	**4.32**	**14**			**Pn**	**12 33 29.9**	**-0.9**
FID					IAML		12 34 25.5	

comp=N,60nm,1.2s

FID					IAML		12 34 31.6	

comp=E,74nm,1.1s

RDSO	**Redoubt South**	**4.42**	**333**			**Pn**	**12 33 31.8**	**-0.6**
RDT	**Redoubt**	**4.45**	**335**			**Pn**	**12 33 32.1**	**-0.5**
GOAT	**Goat Mountain**	**4.50**	**26**			**Pn**	**12 33 33.1**	**-0.2**
RC01	**Rabbit Creek A**	**4.54**	**353**			**Pn**	**12 33 33.8**	**-0.1**
RC01					IAML		12 34 25.9	

comp=E,71nm,1.3s

RC01					IAML		12 34 33.4	

comp=N,48nm,2.8s

RC01	**Rabbit Creek A**	**4.54**	**353**	P		**Pn**	**12 33 33.8**	**-0.1**

baz=172

BERG	**Berg Lake**	**4.61**	**32**			**Pn**	**12 33 34.6**	**-0.3**
SNH	**Sunshine Point**	**4.72**	**38**			**Pn**	**12 33 36.2**	**-0.2**
DIV	**Divide**	**4.79**	**17**			**Pn**	**12 33 37.3**	**0.0**
KNK	**Knik Glacier**	**4.83**	**1**	P		**Pn**	**12 33 37.9**	**0.0**

baz=181

BMRM	**Bremner River**	**4.87**	**24**	P		**Pn**	**12 33 38.5**	**+0.1**

baz=207

N20K	**Mount Spurr**	**4.97**	**340**	P		**Pn**	**12 33 39.7**	**-0.2**

baz=157

SPCR	**Spurr Chakacha**	**4.97**	**340**			**Pn**	**12 33 39.7**	**-0.2**
BARK	**Barkley Ridge**	**5.00**	**38**			**Pn**	**12 33 40.3**	**-0.1**
PMR	**Palmer**	**5.02**	**357**	P		**Pn**	**12 33 40.2**	**-0.2**

baz=177

KLU	**Klutina**	**5.11**	**15**			**Pn**	**12 33 41.8**	**0.0**
KLU					IAML		12 34 42.0	

comp=N,43nm,1.6s

KLU					IAML		12 34 43.4	

comp=E,55nm,0.9s

KLU	**Klutina**	**5.11**	**15**	P		**Pn**	**12 33 41.8**	**0.0**

baz=197

STLK	**Strandline Lak**	**5.18**	**343**			**Pn**	**12 33 42.5**	**-0.3**
GHO	**Glory Hole Cre**	**5.20**	**359**			**Pn**	**12 33 43.6**	**+0.7**
GHO					IAML		12 34 45.4	

comp=E,56nm,0.7s

GHO					IAML		12 34 52.6	

comp=N,54nm,1.2s

N19K	**Bonanza Creek**	**5.21**	**327**			**Pn**	**12 33 43.3**	**+0.2**
N19K					IAML		12 34 48.4	

comp=N,38nm,4.1s

N19K	**Bonanza Creek**	**5.21**	**327**	P		**Pn**	**12 33 43.0**	**-0.1**

baz=142

SML	**Sawmill**	**5.23**	**2**			**Pn**	**12 33 43.7**	**+0.3**
SML					IAML		12 34 46.6	

comp=E,42nm,4.1s

SML					IAML		12 34 51.9	

comp=N,44nm,1.0s

SML	**Sawmill**	**5.23**	**2**	P		**Pn**	**12 33 43.8**	**+0.3**

baz=182

M23K	**Glacier View**	**5.24**	**5**	P		**Pn**	**12 33 44.0**	**+0.5**

baz=186

VRDI	**Verde Repeater**	**5.37**	**28**	Pn		**Pn**	**12 33 45.2**	**-0.3**
KIAG	**Kiagna River**	**5.44**	**34**			**Pn**	**12 33 46.5**	**+0.1**
N25K	**Chitina, Valde**	**5.44**	**21**			**Pn**	**12 33 46.8**	**+0.4**
N25K	**Chitina, Valde**	**5.44**	**21**	P		**Pn**	**12 33 46.3**	**-0.1**

baz=204

SAMH	**Samovar Hills**	**5.45**	**46**			**Pn**	**12 33 46.6**	**+0.1**
GLB	**Gilahina Butte**	**5.47**	**25**			**Pn**	**12 33 46.5**	**-0.1**
N18K	**Kilae Creek**	**5.57**	**320**			**Pn**	**12 33 47.9**	**-0.2**
N18K	**Kilae Creek**	**5.57**	**320**	P		**Pn**	**12 33 47.8**	**-0.2**

baz=134

PTPK	**Patty Peak**	**5.61**	**32**			**Pn**	**12 33 48.9**	**+0.1**
PCA	**Pinnacle**	**5.65**	**48**			**Pn**	**12 33 49.2**	**+0.1**
PINM	**Pinnacle**	**5.65**	**48**	P		**Pn**	**12 33 49.2**	**0.0**

baz=235

M24K	**Tolsona, Glenn**	**5.67**	**12**	P		**Pn**	**12 33 50.0**	**+0.5**

baz=194

BARN	**Barnard Glacie**	**5.76**	**36**			**Pn**	**12 33 51.1**	**+0.2**
PNL	**Peninsula**	**5.79**	**54**			**Pn**	**12 33 51.1**	**0.0**
PNL	**Peninsula**	**5.79**	**54**	P		**Pn**	**12 33 51.1**	**0.0**

baz=242

CTG	**Chitna Glacier**	**5.80**	**38**	P		**Pn**	**12 33 51.0**	**-0.3**

baz=224

CTGM	**Chitina Glacie**	**5.80**	**38**			**Pn**	**12 33 51.2**	**-0.2**
LOGN	**Logan Glacier**	**5.82**	**40**			**Pn**	**12 33 51.3**	**-0.3**
BCPM	**Bancas Point**	**5.83**	**51**			**Pn**	**12 33 51.6**	**0.0**
O16K	**Kokwok River B**	**5.84**	**305**	Pn		**Pn**	**12 33 52.7**	**+1.0**
WACK	**Wrangell Chich**	**5.84**	**20**			**Pn**	**12 33 52.3**	**+0.3**
N17K	**Nushagak Hills**	**5.95**	**315**	P		**Pn**	**12 33 52.8**	**-0.5**

baz=128

M19K	**Big River Lodg**	**6.08**	**333**	P		**Pn**	**12 33 54.6**	**-0.5**

baz=149

HARP	**HAARP**	**6.09**	**16**			**Pn**	**12 33 56.0**	**+0.8**
HARP	**HAARP**	**6.09**	**16**	P		**Pn**	**12 33 56.0**	**+0.8**

baz=198

WAT1	**Susitna Watana**	**6.25**	**0**			**Pn**	**12 33 57.6**	**+0.2**
WAT1	**Susitna Watana**	**6.25**	**0**	P		**Pn**	**12 33 57.6**	**+0.2**

baz=181

CHNA	**Chernabura Isl**	**6.43**	**259**	P		**Pn**	**12 33 58.6**	**-1.2**

baz=70

CNBA	**Chernabura Isl**	**6.43**	**259**			**Pn**	**12 33 58.7**	**-1.1**
L19K	**White Mountain**	**6.43**	**333**			**Pn**	**12 33 59.5**	**-0.4**
L19K	**White Mountain**	**6.43**	**333**	P		**Pn**	**12 33 59.5**	**-0.4**

baz=148

O29M	**Mount Kennedy**	**6.46**	**51**			**Pn**	**12 34 01.1**	**+0.6**
O29M	**Mount Kennedy**	**6.46**	**51**	P		**Pn**	**12 34 00.6**	**+0.2**

baz=239

M26K	**Nabesna, AK**	**6.50**	**24**	Pn		**Pn**	**12 34 01.0**	**+0.2**
DHY	**Denali Highway**	**6.53**	**5**			**Pn**	**12 34 02.0**	**+0.7**
DHY	**Denali Highway**	**6.53**	**5**	P		**Pn**	**12 34 01.7**	**+0.3**

baz=186

P29M	**Windy Craggy**	**6.54**	**58**			**Pn**	**12 34 00.9**	**-0.4**
P29M	**Windy Craggy**	**6.54**	**58**	P		**Pn**	**12 34 01.1**	**-0.2**

baz=247

M27K	**Edge Creek, AK**	**6.73**	**28**			**Pn**	**12 34 04.2**	**+0.2**
M27K	**Edge Creek, AK**	**6.73**	**28**	P		**Pn**	**12 34 04.5**	**+0.5**

baz=214

SDPT	**Sand Point**	**6.75**	**264**	Pn		**Pn**	**12 34 03.5**	**-0.8**
S31K	**Pelican**	**6.88**	**73**			**Pn**	**12 34 04.0**	**-1.9**
TRF	**Thorofare Moun**	**6.93**	**354**	Pn		**Pn**	**12 34 07.2**	**+0.5**
M16K	**Tionek**	**6.95**	**314**	Pn		**Pn**	**12 34 07.3**	**+0.3**
N15K	**Kwethluk River**	**7.00**	**306**	Pn		**Pn**	**12 34 08.0**	**+0.3**
YUK4	**Talbot Arm**	**7.03**	**43**	P		**Pn**	**12 34 10.7**	**+2.5**

baz=231

BVCY	**Beaver Creek**	**7.05**	**31**			**Pn**	**12 34 09.0**	**+0.6**
BVCY	**Beaver Creek**	**7.05**	**31**	P		**Pn**	**12 34 09.0**	**+0.6**

baz=218

CAST	**Castle Rocks**	**7.06**	**347**	P		**Pn**	**12 34 08.8**	**+0.4**

baz=164

MCK	**McKinley**	**7.16**	**359**	P		**Pn**	**12 34 11.0**	**+1.1**

baz=179

HYT	**Haines Junctio**	**7.19**	**49**	Pn		**Pn**	**12 34 11.1**	**+0.8**
R31K	**City Hall, Gus**	**7.19**	**70**			**Pn**	**12 34 10.4**	**+0.1**
R31K	**City Hall, Gus**	**7.19**	**70**	P		**Pn**	**12 34 10.4**	**+0.1**

baz=261

YUK5	**Granite Creek**	**7.21**	**46**			**Pn**	**12 34 11.3**	**+0.7**
SIT	**Sitka**	**7.33**	**81**	Pn		**Pn**	**12 34 08.8**	**-3.4**
L27K	**Beaver Creek,**	**7.34**	**25**	P		**Pn**	**12 34 12.5**	**+0.2**

baz=211

BCAR	**Beaver Creek A**	**7.35**	**25**	Pn		**Pn**	**12 34 12.7**	**+0.1**
RIDG	**Independent Ri**	**7.41**	**13**			**Pn**	**12 34 14.3**	**+1.0**
RIDG	**Independent Ri**	**7.41**	**13**	P		**Pn**	**12 34 13.7**	**+0.3**

baz=196

CHUM	**Lake Minchumin**	**7.53**	**348**			**Pn**	**12 34 15.3**	**+0.4**
CHUM	**Lake Minchumin**	**7.53**	**348**	P		**Pn**	**12 34 15.3**	**+0.4**

baz=164

BPAW	**Bear Paw Mtn.**	**7.62**	**352**			**Pn**	**12 34 16.2**	**0.0**
BPAW	**Bear Paw Mtn.**	**7.62**	**352**	P		**Pn**	**12 34 16.1**	**-0.1**

baz=170

SKAG	**Skagway**	**7.63**	**62**			**Pn**	**12 34 17.5**	**+1.2**
N30M	**Aishikik Lake**	**7.70**	**46**	P		**Pn**	**12 34 17.6**	**+0.2**

baz=236

S32K	**Killisnoo**	**7.73**	**78**			**Pn**	**12 34 16.0**	**-1.7**
S32K	**Killisnoo**	**7.73**	**78**	P		**Pn**	**12 34 16.4**	**-1.3**

baz=269

O30N	**Mendenhall**	**7.77**	**52**	Pn		**Pn**	**12 34 18.4**	**+0.1**
R32K	**Eaglecrest**	**7.81**	**72**			**Pn**	**12 34 17.9**	**-0.9**
R32K	**Eaglecrest**	**7.81**	**72**	P		**Pn**	**12 34 18.4**	**-0.4**

baz=263

K17K	**Iditarod**	**7.84**	**326**	P		**Pn**	**12 34 18.6**	**-0.5**

baz=137

JIS	**Juneau Island**	**7.88**	**72**			**Pn**	**12 34 18.5**	**-1.2**
J18K	**Innoko River**	**7.98**	**333**			**Pn**	**12 34 20.4**	**-0.7**
J18K	**Innoko River**	**7.98**	**333**	P		**Pn**	**12 34 20.5**	**-0.5**

baz=146

NEA2	**Nenana**	**8.03**	**359**			**Pn**	**12 34 21.5**	**-0.3**
NEA2	**Nenana**	**8.03**	**359**	P		**Pn**	**12 34 21.8**	**+0.1**

baz=178

CCB	**Clear Creek Bu**	**8.09**	**3**			**Pn**	**12 34 23.3**	**+0.8**
ILAR	**Eielson Array**	**8.25**	**5**	Pn		**Pn**	**12 34 25.1**	**+0.3**
ILAR	**Eielson Array**	**8.25**	**5**	Pn		**Pn**	**12 34 24.5**	**-0.3**

comp=N,0.8nm,0.3s,baz=187,slow=13,SNR=8.0
comp=N,1.7nm,0.4s

ILAR					Sn		**Sn**	**12 35 55.3**	**-2.6**

comp=N,0.2nm,0.3s,baz=186,slow=23,SNR=5.8
comp=N,1.7nm,0.4s

WHY	**Whitehorse**	**8.26**	**55**	Pn		**Pn**	**12 34 24.9**	**0.0**
J26L	**Joseph Creek**	**8.32**	**15**			**Pn**	**12 34 26.4**	**+0.7**
L29M	**L29M**	**8.40**	**35**			**Pn**	**12 34 27.5**	**+0.6**
P32M	**Atlin**	**8.46**	**63**	Pn		**Pn**	**12 34 27.6**	**-0.1**
P32M	**Atlin**	**8.46**	**63**	P		**Pn**	**12 34 28.1**	**+0.3**

baz=256

POKR	**Poker Plat Res**	**8.57**	**3**	P		**Pn**	**12 34 30.6**	**+1.4**

baz=185

M13K	**Dall Lake**	**8.59**	**303**	Pn		**Pn**	**12 34 30.2**	**+0.9**
I23K	**Minto, Yukon-K**	**8.59**	**358**	P		**Pn**	**12 34 30.7**	**+1.3**

baz=177

U33K	**Whale Pass**	**8.64**	**87**	Pn		**Pn**	**12 34 27.0**	**-3.1**
CRAG	**Craig**	**8.77**	**91**	Pn		**Pn**	**12 34 28.8**	**-3.2**
DAWY	**Dawson**	**8.78**	**28**			**Pn**	**12 34 32.5**	**+0.4**
EGAK	**Eagle**	**8.99**	**21**	Pn		**Pn**	**12 34 35.1**	**+0.2**
WRAK	**Wrangell Islan**	**9.02**	**84**	Pn		**Pn**	**12 34 33.5**	**-1.9**
P33M	**Teslin, Yukon**	**9.06**	**60**	Pn		**Pn**	**12 34 35.3**	**-0.8**
I26K	**Coal Creek Min**	**9.14**	**15**	Pn		**Pn**	**12 34 37.4**	**+0.5**
J29N	**Klondike Camp**	**9.40**	**29**			**Pn**	**12 34 40.7**	**+0.1**
IMAR	**Indian Mountai**	**9.73**	**348**	Pn		**Pn**	**12 34 44.4**	**-0.7**
T35M	**Bob Quinn**	**10.11**	**80**	Pn		**Pn**	**12 34 49.6**	**-0.6**
DLBC	**Dease Lake**	**10.19**	**72**	Pn		**Pn**	**12 34 50.5**	**-0.8**
DLBC	**Dease Lake**	**10.19**	**72**	Pn		**Pn**	**12 34 50.0**	**-1.3**

comp=N,1.1nm,0.3s,baz=224,slow=10,SNR=11
comp=N,2.2nm,0.3s

F20K	**Avaraart Lake**	**11.00**	**345**	Pn		**Pn**	**12 35 02.7**	**+0.4**
D19K	**Kuna River**	**12.69**	**344**	Pn		**Pn**	**12 35 26.6**	**+1.1**
INK	**Inuvik**	**13.62**	**24**	Pn		**Pn**	**12 35 40.0**	**+2.0**

comp=N,0.2nm,0.3s,baz=205,slow=15,SNR=4.7
comp=N,2.2nm,0.8s

B22K	**Teshekpuk Lake**	**13.95**	**353**	Pn		**Pn**	**12 35 41.9**	**-0.7**
C36M	**Paulatuk**	**16.79**	**31**	Pn		**Pn**	**12 36 20.3**	**+0.2**
ADK	**Adak**	**16.98**	**266**	Pn		**Pn**	**12 36 21.3**	**-1.3**
YKAB2	**New Yellowknif**	**18.07**	**57**	P		**Pn**	**12 36 36.2**	**+0.1**
YKA	**Yellowknife Ar**	**18.08**	**57**	P		**P**	**12 36 37.5**	**+1.0**

comp=N,0.1nm,0.3s,baz=265,slow=12,SNR=9.5
comp=N,1.5nm,0.8s

A36M	**Sachs Harbour**	**18.25**	**23**	P		**Pn**	**12 36 37.8**	**-0.4**
A36M					IAmb	IAmb	12 36 42.6	

comp=Z,7.0nm,0.8s

NVAR	**Mina Array Bea**	**27.06**	**119**	P		**P**	**12 38 05.8**	**-2.0**

comp=Z,0.3nm,0.8s,baz=294,slow=8.8,SNR=2.5
comp=Z,0.3nm,0.8s

PDAR	**Pinedale Array**	**28.39**	**102**	P		**P**	**12 38 18.2**	**-1.5**

comp=Z,0.1nm,0.6s,baz=290,slow=2.6,SNR=1.6
comp=Z,0.1nm,0.6s

NRIK	**Noril'sk**	**47.96**	**337**	P		**P**	**12 41 04.3**	**+1.0**

comp=Z,3.0nm,0.6s,baz=65,slow=6.0,SNR=6.1
comp=Z,3.0nm,0.6s

H11N2	**WAKE ISLAND Hy**	**49.34**	**240**	T		T	13 34 43.3	

baz=39

H11N3	**WAKE ISLAND Hy**	**49.34**	**240**	T		T	13 34 41.0	

baz=39

H11N1	**WAKE ISLAND Hy**	**49.36**	**240**	T		T	13 34 40.6	

baz=39

ARCES	**ARCESS Array B**	**54.10**	**3**	P		**P**	**12 41 49.3**	**-0.2**

comp=Z,2.0nm,0.7s,baz=40,slow=7.9,SNR=4.6
comp=Z,2.0nm,0.7s

SONM	**Songino Array**	**58.70**	**310**	P		**P**	**12 42 24.3**	**+1.6**

comp=Z,1.1nm,0.9s,baz=50,slow=8.1,SNR=4.5
comp=Z,1.1nm,0.9s

ZALV	**Zalesovo Beam**	**61.49**	**327**	P		**P**	**12 42 42.8**	**+1.3**

comp=Z,1.8nm,0.

FNA	Florina	2.96	18		Pn	12 44 57.4	+1.9	
CEL	Celeste	3.40	276	Pn	Pn	12 45 03.0	+1.5	
CUC	Castrocucco	3.97	302	Pn	Pn	12 45 09.1	-0.2	
PUK	Puka	4.08	357		Pn	12 45 11.9	+1.0	
RAFF	Raffo Rosso	4.69	263	Pn	Pn	12 45 17.1	-2.1	
WDD	Wied Dalam	5.01	247	Pn	Pn	12 45 21.9	-1.7	
SGRT	San Giovanni R	5.11	319	Pn	Pn	12 45 25.4	+0.5	
RDO	Rodhopi	5.21	51	Pn	Pn	12 45 27.1	+0.8	
NRCA	Norcia	7.27	314	Pn	Pn	12 45 56.2	+1.6	
FDMO	Fiordimonte	7.41	315	Pn	Pn	12 45 58.8	+2.2	
STAL	STALIGIAL	9.98	329	Pn	Pn	12 46 33.4	+1.7	
HFS	Hagfors	22.57	352	P	P	12 49 10.0	+1.6	
	2.4nm,0.5s,baz=148,slow=12,SNR=12 2.4nm,0.5s							
NOA	NORSAR Array B	23.78	349	P	P	12 49 21.5	+0.8	
	0.3nm,0.6s,baz=153,slow=9.4,SNR=1.0 0.3nm,0.6s							
FINES	FINESS Array B	23.79	7	P	P	12 49 20.2	-0.5	
FINES	FINESS Array B	23.79	7	P	P	12 49 20.6	-0.1	
	1.6nm,0.9s,baz=193,slow=7.4,SNR=5.3 1.6nm,0.9s							
BELG	Belogornoye	23.94	44	P	P	12 49 19.6	-2.6	
	6.0nm,0.7s,baz=66,slow=3.6,SNR=3.9 6.0nm,0.7s							
TORD	Torodi Ar. Bea	29.70	219	P	P	12 50 30.2	+16	
	0.2nm,0.5s,baz=15,slow=0.9,SNR=1.9 0.2nm,0.5s							
KKAR	Karatay Array	38.12	66	P	P	12 51 27.1	-0.2	
KMBO	Kilima Mbogo	41.97	154	P	P	12 52 10.4	+11	
	0.9nm,0.3s,baz=287,slow=13,SNR=3.7 0.9nm,0.3s							
KURBB	Kurchatov Arra	42.57	53	P	P	12 52 03.7	-0.3	
	0.3nm,0.3s,baz=280,slow=4.6,SNR=1.1 0.3nm,0.3s							
MK31	Makanchi Array	45.64	58	P	P	12 52 27.8	-0.9	
MK31				IAmb	IAmb	12 52 46.9		
	comp=Z,2.2nm,1.5s							
MKAR	Makanchi Array	45.64	58	P	P	12 52 28.3	-0.4	
	comp=Z,0.4nm,0.5s,baz=270,slow=7.9,SNR=12 comp=Z,0.4nm,0.5s							
ZAA0	Zalesovo Array	46.03	48	P	P	12 52 31.4	-0.3	
ZAA0				IAmb	IAmb	12 52 32.1		
	comp=Z,3.3nm,1.1s							
ZALV	Zalesovo Beam	46.03	48	P	P	12 52 31.2	-0.4	
ZALV	Zalesovo Beam	46.03	48	P	P	12 52 31.5	-0.1	
	comp=Z,2.4nm,0.4s,baz=276,slow=8.0,SNR=16 comp=Z,2.4nm,0.4s							
SONM	Songino Array	60.80	50	P	P	12 54 20.4	0.0	
	comp=Z,0.3nm,0.4s,baz=318,slow=1.9,SNR=2.5 comp=Z,0.3nm,0.4s							
CMAR	Chiang Mai Arr	70.18	82	P	P	12 55 22.3	+1.0	
	comp=Z,0.5nm,0.3s,baz=316,slow=9.0,SNR=4.6 comp=Z,0.5nm,0.3s							

*IDC **23** 12:48:54.8±0.8,56°.47N×149°.24W,h0km,mb4.0/17, mbtmp4.0/21,ML3.6/4,Error ellipse: s-maj=23.6km s-min=13.2km az=22.0*

*NEIC **23** 12:48:55±1.6,56°.38N±0°.08×149°.24W±0°.09,h19km±5km, mb4.1/6,ML3.9/52,ML3.7(AEIC),Error ellipse: s-maj=11.5km s-min=7.4km az=172.0*

*AEIC **23** 12:48:58.7±1.6,56°.44N±0°.08×149°.23W±0°.09,h7km±5km, Error ellipse: s-maj=11.4km s-min=7.2km az=174.0*

ISC 23 12:48:55.6±0.6,56°.51N±0°.07×149°.21W±0°.04,h10km, n275,σ1s08/282,mb4.1/20,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.24	306		Pn	12 49 31.6	-1.0
KDAK	Kodiak Island	2.24	306		Sn	12 49 57.5	-2.8
KDAK	Kodiak Island	2.24	306	Pn	Pn	12 49 31.8	-0.8
	8.2nm,0.3s,baz=144,slow=5.2,SNR=9.2						
KDAK				Sn	Sn	12 49 58.0	-2.2
	16nm,0.3s,baz=76,slow=22,SNR=12 15nm,0.3s						
OHAK	Old Harbor	2.35	289	Pn	Pn	12 49 32.3	-1.8
OHAK					Sn	12 49 58.8	-4.1
OHAK	Old Harbor	2.35	289	P	Pn	12 49 32.4	-1.8
	baz=108						
OHAK				S	Sn	12 49 58.9	-4.1
	baz=108						
SYI	Shuyak Island	2.72	322		Pn	12 49 38.7	-0.5
SYI					Sn	12 50 10.9	-1.2
SYI				IAML		12 50 12.3	
	comp=E,247nm,0.6s						
Q20K	Shuyak Island	2.72	322	P	Pn	12 49 38.7	-0.5
	baz=141						
Q20K				S	Sn	12 50 10.8	-1.3
	baz=141						
CNPM	China Poot	3.21	341		Pn	12 49 45.3	-0.8
CNPM					Sn	12 50 23.1	-1.3
Q23K	Middleton Isla	3.30	26	Pn	Pn	12 49 46.5	-0.7
Q23K					Sn	12 50 24.3	-2.2
Q23K				IAML		12 50 25.0	
	comp=N,367nm,0.7s						
Q23K				IAML		12 50 25.1	
	comp=E,343nm,1.1s						
Q23K	Middleton Isla	3.30	26	P	Pn	12 49 46.6	-0.7
	baz=208						
Q23K				S	Sn	12 50 24.3	-2.2
	baz=208						
MID	Middleton Isla	3.31	26	Pn	Pn	12 49 46.4	-0.8
MID					Sn	12 50 23.4	-3.1
MID				IAML		12 50 24.6	
	comp=N,413nm,0.7s						
MID				IAML		12 51 14.5	
	comp=E,293nm,2.4s						
MID	Middleton Isla	3.31	26	P	Pn	12 49 46.7	-0.6
BRSE	Bradley Lake S	3.34	347		Pn	12 49 47.3	-0.5
BRSE	Bradley Lake S	3.34	347	P	Pn	12 49 47.3	-0.5
	baz=166						
BRLK	Bradley Lake	3.38	346		Pn	12 49 47.6	-0.8
BRLK				IAML		12 50 32.2	
	comp=N,134nm,0.3s						
Q19K	Cape Douglas,	3.40	317	Pn	Pn	12 49 48.5	-0.1
Q19K				IAML		12 50 38.1	
	comp=N,356nm,0.7s						
Q19K				IAML		12 50 42.8	
	comp=E,470nm,1.3s						
Q19K	Cape Douglas,	3.40	317	P	Pn	12 49 47.8	-0.8
	baz=135						
HOM	Homer	3.41	339	Pn	Pn	12 49 49.1	+0.4
HOM					Sn	12 50 28.3	-1.0
HOM				IAML		12 50 34.0	
	comp=E,252nm,1.5s						
HOM				IAML		12 51 12.9	
	comp=N,331nm,1.7s						
HOM	Homer	3.41	339	P	Pn	12 49 48.5	-0.3
	baz=157						
HOM				S	Sn	12 50 27.6	-1.6
	baz=157						
SEW	Seward	3.61	358		Pn	12 49 50.6	-0.8
SEW	Seward	3.61	358	P	Pn	12 49 50.9	-0.6
	baz=178						
P23K	Montague Islan	3.63	15		Pn	12 49 51.1	-0.6
P23K	Montague Islan	3.63	15	P	Pn	12 49 51.1	-0.6
	baz=196						
P19K	Oil Pt	3.81	328	Pn	Pn	12 49 53.9	-0.3
P19K				IAML		12 50 41.0	
	comp=E,197nm,0.4s						
P19K				IAML		12 50 47.2	
	comp=N,237nm,0.5s						
P19K	Oil Pt	3.81	328	P	Pn	12 49 53.9	-0.3
	baz=145						
O22K	Cooper Landing	4.00	356		Pn	12 49 56.2	-0.6
O22K	Cooper Landing	4.00	356	P	Pn	12 49 56.0	-0.7
	baz=176						
CNTC	Contact Creek	4.02	299		Pn	12 49 56.9	-0.3
Q17K	Contact Creek	4.02	299	P	Pn	12 49 56.9	-0.3
	baz=114						
IVE	Iliamna Volcan	4.05	332		Pn	12 49 56.8	-0.9
HIN	Hinchinbrook I	4.15	19		Pn	12 49 58.6	-0.4
KAIM	Kayak Island	4.26	34		Pn	12 50 00.2	-0.2
KAIM	Kayak Island	4.26	34	P	Pn	12 50 00.5	0.0
	baz=218						
P18K	Big Mountain,	4.32	315	Pn	Pn	12 50 00.5	-0.7
P18K	Big Mountain,	4.32	315	P	Pn	12 50 00.1	-1.1
	baz=130						
RED	Redoubt Volcan	4.34	336		Pn	12 50 00.8	-0.9
RDSO	Redoubt South	4.37	336		Pn	12 50 01.2	-0.8
RSO	Redoubt South	4.38	336		Pn	12 50 01.8	-0.5
CAPN	Captain Cook N	4.39	347	Pn	Pn	12 50 02.7	+0.5
RDT	Redoubt	4.41	339		Pn	12 50 01.7	-0.8
RDWB	Redoubt West	4.42	336		Pn	12 50 01.8	-0.9
EYAK	Cordova Ski Ar	4.44	23		Pn	12 50 02.6	-0.3
EYAK	Cordova Ski Ar	4.44	23		Pn	12 50 02.8	-0.1
EYAK	Cordova Ski Ar	4.44	23	P	Pn	12 50 02.7	-0.1
	baz=205						
DFR	Drift River	4.48	338		Pn	12 50 03.1	-0.4
FID	Port Fidalgo	4.49	17		Pn	12 50 03.1	-0.5
FID				IAML		12 50 55.1	
	comp=N,118nm,0.5s						
FID				IAML		12 50 59.1	
	comp=E,153nm,1.0s						
NCT	North Crescent	4.51	336		Pn	12 50 03.2	-0.7
RAGM	Ragged Mountai	4.56	30		Pn	12 50 04.5	-0.1
O19K	Port Alsworth	4.57	326	Pn	Pn	12 50 03.7	-1.0
O19K				IAML		12 51 07.3	
	comp=N,150nm,0.5s						
O19K	Port Alsworth	4.57	326	P	Pn	12 50 03.9	-0.8
	baz=142						
RC01	Rabbit Creek A	4.60	357		Pn	12 50 04.6	-0.5
RC01				IAML		12 50 58.9	
	comp=N,99nm,0.4s						
RC01				IAML		12 51 03.3	
	comp=E,106nm,0.4s						
RC01	Rabbit Creek A	4.60	357	P	Pn	12 50 04.7	-0.4
	baz=177						
GOAT	Goat Mountain	4.71	28		Pn	12 50 06.6	-0.1
BERG	Berg Lake	4.85	34		Pn	12 50 08.3	-0.2
KNK	Knik Glacier	4.94	4	Pn	Pn	12 50 09.7	0.0
KNK				IAML		12 51 10.2	
	comp=E,51nm,0.6s						
KNK				IAML		12 51 13.4	
	comp=N,53nm,1.0s						
KNK	Knik Glacier	4.94	4	P	Pn	12 50 09.7	0.0
	baz=185						
N20K	Mount Spurr	4.96	343	P	Pn	12 50 09.5	-0.5
	baz=161						
SPCR	Spurr Chakacha	4.96	343		Pn	12 50 09.5	-0.5
DIV	Divide	4.97	20		Pn	12 50 10.1	-0.1
CKL	Chakachamna La	4.97	342		Pn	12 50 09.9	-0.4
SNH	Sunshine Point	4.98	40		Pn	12 50 10.5	+0.1
SNH				IAML		12 51 20.8	
	comp=E,145nm,3.4s						
SNH				IAML		12 52 03.4	
	comp=N,124nm,2.7s						
SPCP	Crater Peak Br	5.01	344		Pn	12 50 10.3	-0.5
SPCG	Spurr Capps Gl	5.01	344		Pn	12 50 10.5	-0.3
SUA	Susitna One	5.03	352		Pn	12 50 10.3	-0.9
SUA				IAML		12 51 20.6	
	comp=N,52nm,3.1s						
SUA				IAML		12 51 36.9	
	comp=E,72nm,3.5s						
SUA	Susitna One	5.03	352	P	Pn	12 50 10.2	-0.9
	baz=170						
BMRM	Bremner River	5.08	26		Pn	12 50 11.7	0.0
BMRM	Bremner River	5.08	26	P	Pn	12 50 11.6	0.0
	baz=210						
PMR	Palmer	5.10	0		Pn	12 50 11.4	-0.5
PMR				IAML		12 51 09.8	
	comp=E,39nm,2.7s						
PMR	Palmer	5.10	0	P	Pn	12 50 12.5	+0.6
PMR	Palmer	5.10	0	P	Pn	12 50 11.6	-0.4
	baz=181						
CHGN	Chignik	5.12	272	Pn	Pn	12 50 09.7	-2.4
CHGN				IAML		12 50 49.1	
	comp=N,73nm,0.7s						
CHGN				IAML		12 52 10.4	
	comp=E,70nm,2.1s						
N19K	Bonanza Creek	5.12	330		Pn	12 50 11.5	-0.8
N19K	Bonanza Creek	5.12	330	P	Pn	12 50 11.4	-0.9
	baz=146						
STLK	Strandline Lak	5.19	346		Pn	12 50 12.4	-0.8
SPNN	North Nagishla	5.20	341		Pn	12 50 12.8	-0.6
KLU	Klutina	5.28	17		Pn	12 50 14.6	+0.1
KLU	Klutina	5.28	17	P	Pn	12 50 14.7	+0.1
	baz=200						
GHO	Glory Hole Cre	5.28	1		Pn	12 50 14.6	+0.1
P16K	Nushagak River	5.34	302		Pn	12 50 15.1	-0.1
P16K	Nushagak River	5.34	302	P	Pn	12 50 15.1	-0.1
	baz=115						
SML	Sawmill	5.34	5		Pn	12 50 15.2	0.0
SML	Sawmill	5.34	5	P	Pn	12 50 15.3	+0.1
	baz=185						
SCM	Sheep Creek Mo	5.43	9		Pn	12 50 16.9	+0.3
N18K	Kilae Creek	5.45	323		Pn	12 50 15.8	-1.0
N18K	Kilae Creek	5.45	323	P	Pn	12 50 15.8	-1.0
	baz=138						
VRDI	Verde Repeater	5.60	30	Pn	Pn	12 50 19.0	+0.1
SKT	Skwentna	5.62	349		Pn	12 50 19.0	0.0
O16K	Kokwok River B	5.64	307		Pn	12 50 19.0	-0.4
O16K	Kokwok River B	5.64	307	P	Pn	12 50 19.1	-0.2
	baz=120						
N25K	Chitina, Valde	5.64	23		Pn	12 50 19.7	+0.3
N25K	Chitina, Valde	5.64	23	P	Pn	12 50 19.5	+0.1
	baz=207						
SVW2	Sparrevohn	5.67	327	Pn	Pn	12 50 18.7	-1.0
SVW2	Sparrevohn	5.67	327	P	Pn	12 50 19.0	-0.7
GLB	Gilahina Butte	5.68	27		Pn	12 50 20.0	0.0
SAMH	Samovar Hills	5.74	47		Pn	12 50 21.4	+0.7
M20K	Styx River	5.75	341		Pn	12 50 20.2	-0.8
M20K	Styx River	5.75	341	P	Pn	12 50 20.1	-0.9
	baz=158						
N17K	Nushagak Hills	5.80	317		Pn	12 50 19.9	-1.6
N17K	Nushagak Hills	5.80	317	P	Pn	12 50 20.7	-0.9
	baz=131						
M24K	Tolsona, Glenn	5.83	14		Pn	12 50 22.8	+0.8
M24K	Tolsona, Glenn	5.83	14	P	Pn	12 50 21.9	-0.1
	baz=197						
PCA	Pinnacle	5.94	49		Pn	12 50 23.9	+0.4
PINM	Pinnacle	5.94	49	P	Pn	12 50 23.6	+0.1
	baz=236						
CUT	Chulitna	5.94	355	Pn	Pn	12 50 23.4	-0.1
BARN	Barnard Glacie	6.02	38		Pn	12 50 25.0	+0.3
M19K	Big River Lodg	6.03	336		Pn	12 50 24.2	-0.5
M19K	Big River Lodg	6.03	336	P	Pn	12 50 24.0	-0.7
	baz=152						
M18K	Stony River	6.05	328	P	Pn	12 50 23.9	-1.0
	baz=143						
CTGM	Chitina Glacie	6.07	39		Pn	12 50 25.2	-0.1
LOGN	Logan Glacier	6.09	41		Pn	12 50 25.6	0.0
PNL	Peninsula	6.09	55		Pn	12 50 25.5	-0.1
PNL	Peninsula	6.09	55	P	Pn	12 50 26.3	+0.7
PNL	Peninsula	6.09	55	P	Pn	12 50 25.5	-0.1
	baz=242						
BCPM	Bancas Point	6.12	52		Pn	12 50 26.6	+0.6
WAT6	Susitna Watana	6.14	6		Pn	12 50 25.7	-0.7
WAT6	Susitna Watana	6.14	6	P	Pn	12 50 25.7	-0.7
	baz=188						
O15K	Ungalikthiuk R	6.26	300		Pn	12 50 27.6	-0.3
O15K	Ungalikthiuk R	6.26	300	P	Pn	12 50 27.6	-0.3
	baz=111						
WAT7	Susitna Watana	6.35	2		Pn	12 50 28.2	-1.0
L19K	White Mountain	6.38	335		Pn	12 50 27.7	-1.8
L19K	White Mountain	6.38	335	P	Pn	12 50 28.6	-0.9
	baz=151						
L20K	Farewell, AK	6.44	340		Pn	12 50 29.4	-1.0
L20K	Farewell, AK	6.44	340	P	Pn	12 50 29.4	-1.0
	baz=157						
M17K	Holitna River	6.49	322		Pn	12 50 30.3	-0.7
M17K	Holitna River	6.49	322	P	Pn	12 50 30.1	-0.9
	baz=136						
DHY	Denali Highway	6.65	7		Pn	12 50 33.7	+0.3
M26K	Nabesna, AK	6.71	26		Pn	12 50 34.7	+0.7
O29M	Mount Kennedy	6.76	51		Pn	12 50 35.5	+0.6
M16K	Timber Creek	6.79	316		Pn	12 50 34.7	-0.4
N15K	Kwethluk River	6.80	307		Pn	12 50 36.4	+1.1
N15K	Kwethluk River	6.80	307	P	Pn	12 50 34.8	-0.5
	baz=118						
P29M	Windy Craggy	6.84	58		Pn	12 50 35.4	-0.5
RND	Reindeer	6.92	1	Pn	Pn	12 50 37.6	+0.6
M27K	Edge Creek, AK	6.96	29		Pn	12 50 38.3	+0.7
TRF	Thorofare Moun	6.99	356		Pn	12 50 37.7	-0.3
TRF	Thorofare Moun	6.99	356	P	Pn	12 50 37.7	-0.3
	baz=175						
O14K	Tigyukauivet M	6.99	298	Pn	Pn	12 50 37.3	-0.6
MENT	Mentasta	7.02	21		Pn	12 50 39.6	+1.3
MENT	Mentasta	7.02	21	P	Pn	12 50 39.9	+1.6
CAST	Castle Rocks	7.08	349		Pn	12 50 38.9	-0.2
CAST	Castle Rocks	7.08	349	P	Pn	12 50 38.7	-0.4
	baz=167						
L26K	Log Cabin Wild	7.17	22		Pn	12 50 41.9	+1.5
S31K	Pelican	7.20	73	Pn	Pn	12 50 39.2	-1.5
S31K	Pelican	7.20	73	P	Pn	12 50 39.2	-1.5
	baz=263						
PN7A	Pavlof North-7	7.26	267		Pn	12 50 40.1	-1.5
BVCY	Beaver Creek	7.29	32		Pn	12 50 42.3	+0.3
BVCY	Beaver Creek	7.29	32	P	Pn	12 50 42.3	+0.3
	baz=219						
K20K	Telida	7.29	342		Pn	12 50 42.2	+0.2
K20K	Telida	7.29	342	P	Pn	12 50 41.3	-0.7
	baz=159						
TTA	Tatalina	7.30	335	Pn	Pn	12 50 40.9	-1.3
TTA	Tatalina	7.30	335	P	Pn	12 50 42.9	+0.7
L17K	Donlin	7.30	324		Pn	12 50 41.3	-0.9
L17K	Donlin	7.30	324	P	Pn	12 50 41.3	-0.9
	baz=137						
L16K	Owhat River	7.42	319		Pn	12 50 43.1	-0.6
L16K	Owhat River	7.42	319	P	Pn	12 50 42.9	-0.8
	baz=131						
HYT	Haines Junctio	7.48	50		Pn	12 50 45.3	+0.6
R31K	City Hall, Gus	7.51	70		Pn	12 50 43.4	-1.7
R31K	City Hall, Gus	7.51	70	P	Pn	12 50 43.4	-1.7
	baz=260						
K24K	Donnelly Dome	7.52	12		Pn	12 50 44.6	-0.5
K24K	Donnelly Dome	7.52	12	P	Pn	12 50 44.6	-0.5
	baz=195						
L27K	Beaver Creek,	7.55	26		Pn	12 50 46.0	+0.4
BCAR	Beaver Creek A	7.57	27	Pn	Pn	12 50 46.6	+0.8
RIDG	Independent Ri	7.58	15		Pn	12 50 46.6	+0.7
SIT	Sitka	7.65	80		Pn	12 50 43.3	-3.6
SIT	Sitka	7.65	80	P	Pn	12 50 44.3	-2.6
SIT	Sitka	7.65	80	P	Pn	12 50 44.2	-2.6
	baz=271						
BPAW	Bear Paw Mtn.	7.67	354	Pn	Pn	12 50 46.2	-1.0
BPAW	Bear Paw Mtn.	7.67	354	P	Pn	12 50 46.1	-1.1
	baz=173						
K17K	Iditarod	7.74	327		Pn	12 50 46.7	-1.5
K17K	Iditarod	7.74	327	P	Pn	12 50 47.1	-1.0
	baz=140						
M14K	Bethel	7.89	308	Pn	Pn	12 50 50.5	+0.4
SCRK	Sand Creek	7.93	17		Pn	12 50 51.2	+0.4
SKAG	Skagway	7.95	62		Pn	12 50 52.0	+1.0
N30M	Aishikik Lake	7.99	47		Pn	12 50 51.7	+0.2
BESE	Bessie Mountai	8.00	69		Pn	12 50 50.7	-1.1
HDA	Harding Lake	8.01	7		Pn	12 50 52.9	+1.1
S32K	Killisnoo	8.05	77	Pn	Pn	12 50 50.3	-2.1
O30N	Mendenhall	8.06	53		Pn	12 50 52.6	-0.1
J20K	Nowinta River	8.07	344	Pn	Pn	12 50 52.2	-0.4
M29M	Somme Creek	8.08	38		Pn	12 50 53.3	+0.4
NEA2	Nenana	8.11	0		Pn	12 50 52.7	-0.6
R32K	Eaglecrest	8.13	71	Pn	Pn	12 50 52.4	-1.2
J19K	Poorman	8.15	340	Pn	Pn	12 50 53.1	-0.7
JIS	Juneau Island	8.21	71		Pn	12 50 53.8	-0.7
JIS	Juneau Island	8.21	71	P	Pn	12 50 53.9	-0.6
IL31		8.37	7		Pn	12 50 56.6	-0.1
ILAR	Eielson Array	8.37	7	Pn	Pn	12 50 56.7	-0.1
ILAR	Eielson Array	8.37	7	Pn	Pn	12 50 57.0	+0.2
	comp=E,0.7nm,0.3s,baz=187,slow=13,SNR=13						
ILAR					Sn	12 52 27.5	-3.7
	comp=E,0.9nm,0.3s,baz=185,slow=25,SNR=6.2						
COLA	College	8.42	4		Pn	12 50 57.2	-0.3
COLA	College	8.42	4	P	Pn	12 50 59.8	+2.4
J26L	Joseph Creek	8.49	17		Pn	12 50 58.6	+0.2
MDM	Murphy Dome	8.49	3		Pn	12 50 57.7	-0.8
N31M	Braeburn, Yuko	8.54	49		Pn	12 50 59.6	+0.5
N31M	Braeburn, Yuko	8.54	49	P	Pn	12 50 59.0	-0.1
	baz=240						
WHY	Whitehorse	8.56	55	Pn	Pn	12 50 60.0	+0.5
L29M	L29M	8.65	36		Pn	12 51 01.3	+0.6
I23K	Minto, Yukon-K	8.67	360		Pn	12 51 00.6	-0.3
I23K	Minto, Yukon-K	8.67	360	P	Pn	12 51 00.6	-0.3
	baz=180						
M30M	Minto, Yukon	8.75	41	Pn	Pn	12 51 02.4	+0.3
M30M	Minto, Yukon	8.75	41	P	Pn	12 51 02.3	+0.2
	baz=231						
P32M	Atlin	8.78	63	Pn	Pn	12 51 01.8	-0.6
I21K	Tanana	8.81	352		Pn	12 51 01.1	-1.6
I21K	Tanana	8.81	352	P	Pn	12 51 01.8	-1.0
	baz=170						
U33K	Whale Pass	8.96	86	Pn	Pn	12 51 01.7	-3.1
DAWY	Dawson	9.00	29	Pn	Pn	12 51 06.1	+0.6
CRAG	Craig	9.08	90	Pn	Pn	12 51 04.4	-2.1
EGAK	Eagle	9.18	22	Pn	Pn	12 51 08.4	+0.5
PRP	Porcupine Dome	9.21	10	Pn	Pn	12 51 08.5	0.0
I26K	Coal Creek Min	9.30	16	Pn	Pn	12 51 10.3	+0.7
H21K	Melozitna Rive	9.34	351		Pn	12 51 08.9	-1.2
K29M	Barlow Dome	9.37	33	Pn	Pn	12 51 11.3	+0.8
P33M	Teslin, Yukon	9.38	60		Pn	12 51 09.8	-0.8
P33M	Teslin, Yukon	9.38	60	P	Pn	12 51 09.7	-0.9
	baz=254						
H24K	Noodor Dome	9.38	3		Pn	12 51 12.2	+1.4
Q32M	Nakina River	9.39	68	Pn	Pn	12 51 10.4	-0.5
M31M	Drury Creek, Y	9.47	47		Pn	12 51 12.7	+0.9
N32M	Quiet Lake	9.56	54	Pn	Pn	12 51 13.1	0.0
J29N	Klondike Camp	9.63	30	Pn	Pn	12 51 14.2	+0.1
IMAR	Indian Mountai	9.75	349	Pn	Pn	12 51 15.2	-0.5
FARO	Faro, Yukon	9.91	48		Pn	12 51 17.9	0.0
S34M	Telegraph Cree	9.91	74	Pn	Pn	12 51 16.4	-1.4
I28M	Minto Creek	10.03	23	Pn	Pn	12 51 20.7	+1.2
G21K	Allakaket	10.25	350		Pn	12 51 21.4	-1.1
G23K	Bananza Creek	10.25	358		Pn	12 51 21.5	-1.0
J30M	Hart River	10.26	33		Pn	12 51 23.1	+0.3
FYU	Fort Yukon	10.27	9	Pn	Pn	12 51 22.5	-0.2
DLBC	Dease Lake	10.51	71	Pn	Pn	12 51 26.3	+0.2
DLBC	Dease Lake	10.51	71	Pn	Pn	12 51 26.9	+0.8
	comp=E,0.6nm,0.3s,baz=330,slow=12,SNR=7.2						
DLBC					Sn	12 53 21.0	-2.8
	comp=E,0.3nm,0.3s,baz=102,slow=23,SNR=1.5 comp=E,1.6nm,0.3s						
F21K	Alatna River	10.94	351	Pn	Pn	12 51 32.0	+0.1
BMAR	Burnt Mountain	11.17	9	Pn	Pn	12 51 34.7	-0.5
E25K	Arctic Village	11.78	7	Pn	Pn	12 51 43.8	+0.5
E27K	Coleen River	12.23	14	Pn	Pn	12 51 49.1	-0.4
G31M

comp=Z,1.3nm,0.6s,baz=357,slow=7.8,SNR=7.0
comp=Z,1.3nm,0.6s
ARU Arti 65.20 343 P P 12 59 37.8 +1.4
comp=Z,2.8nm,0.6s,baz=350,slow=15,SNR=5.0
comp=Z,2.8nm,0.6s
BVAR Borovoye Array 66.09 335 P P 12 59 44.0 +1.7
comp=Z,0.6nm,0.8s,baz=45,slow=14,SNR=3.3
comp=Z,0.6nm,0.8s
KURBB Kurchatov Arra 66.17 329 P P 12 59 43.5 +0.8
comp=Z,0.6nm,0.2s,baz=28,slow=5.6,SNR=2.2
comp=Z,0.6nm,0.2s
MK31 Makanchi Array 68.43 325 P P 12 59 55.2 -2.1
MK31 IAmb IAmb 12 59 59.0
comp=Z,1.3nm,1.1s
MKAR Makanchi Array 68.43 325 P P 12 59 55.3 -1.9
MKAR Makanchi Array 68.43 325 P P 12 59 57.6 +0.4
comp=Z,0.6nm,0.5s,baz=36,slow=5.2,SNR=11
comp=Z,0.6nm,0.5s
ABKAR Akbulak array 71.85 340 P P 13 00 17.8 -0.3
ABKAR IAmb IAmb 13 00 20.1
comp=Z,1.9nm,0.9s
ABKAR Akbulak array 71.85 340 P P 13 00 18.2 +0.1
AKASG Malin Array Be 73.15 1 P P 13 00 26.2 +0.5
comp=Z,1.6nm,0.5s,baz=359,slow=5.8,SNR=7.5
comp=Z,1.6nm,0.5s
KKAR Karatay Array 75.27 331 P P 13 00 38.2 -0.1
ESDC Sonseca Array 79.77 27 P P 13 01 04.9 +1.3
comp=Z,1.3nm,0.9s,baz=335,slow=6.2,SNR=6.5
comp=Z,1.3nm,0.9s
BRTR Keskin Array B 84.10 358 P P 13 01 27.4 +0.9
comp=Z,1.0nm,0.8s,baz=339,slow=7.7,SNR=2.7
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 86.21 298 P P 13 01 37.7 +0.5
comp=Z,0.9nm,0.5s,baz=15,slow=5.0,SNR=10
comp=Z,0.9nm,0.5s
QSPA South Pole Qui 146.30 180 PKPbc PKPab 13 08 34.8 -0.9
comp=Z,2.8nm,0.9s,baz=57,slow=4.9,SNR=6.9
BOSA Boshof 151.84 10 PKPab PKPab 13 08 58.3 -1.0
comp=Z,3.4nm,1.0s,baz=303,slow=3.8,SNR=3.3

NEIC ***23*** *12:53:17.6±1.9, 56°.16N±0°.08×149°.2W±0°.1, h20km±8km, ML3.5/30, ML3.2(AEIC), Error ellipse: s-maj=12.5km s-min=7.3km az=208.0*

AEIC 23 12:53:21.0±2.0, 56°.19N±0°.08×149°.1W±0°.1, h10km±7km, Error ellipse: s-maj=12.3km s-min=9.2km az=171.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**312**		Pn	12 53 56.6	-4.6
KDAK	**Kodiak Island**	**2.47**	**312**		Sn	12 54 23.7	-7.8
OHAK	**Old Harbor**	**2.51**	**296**		Pn	12 53 56.5	-5.3
OHAK					Sn	12 54 23.7	-8.7
SYI	**Shuyak Island**	**3.00**	**325**		Pn	12 54 03.7	-4.8
SYI					Sn	12 54 37.7	-6.7
CNPM	**China Poot**	**3.53**	**342**		Pn	12 54 10.9	-4.9
CNPM					Sn	12 54 50.2	-7.4
CNPM				IAML		12 54 53.0	
	comp=N,46nm,1.5s						
CNPM				IAML		12 54 54.0	
	comp=E,45nm,1.3s						
BRSE	**Bradley Lake S**	**3.66**	**347**		Pn	12 54 12.1	-5.6
Q19K	**Cape Douglas,**	**3.66**	**320**		Pn	12 54 14.1	-3.7
Q19K				IAML		12 55 46.9	
	comp=N,169nm,1.4s						
BRLK	**Bradley Lake**	**3.70**	**346**		Pn	12 54 13.2	-5.1
BRLK				IAML		12 54 59.3	
	comp=E,46nm,0.8s						
BRLK				IAML		12 54 59.9	
	comp=N,46nm,1.5s						
KAHG	**Katmai Hook Gl**	**3.73**	**311**		Pn	12 54 15.0	-3.7
AU22	**Augustine Moun**	**3.91**	**326**		Pn	12 54 17.1	-3.9
ACHA	**Angle Creek He**	**3.93**	**304**		Pn	12 54 17.9	-3.5
AUCH	**Augustine Cone**	**3.93**	**326**		Pn	12 54 17.3	-4.1
SEW	**Seward**	**3.93**	**358**		Pn	12 54 16.2	-5.1
P19K	**Oil Pt**	**4.10**	**330**	Pn	Pn	12 54 19.3	-4.4
P19K				IAML		12 55 54.0	
	comp=E,72nm,1.2s						
P19K				IAML		12 56 02.2	
	comp=N,90nm,1.1s						
CNTC	**Contact Creek**	**4.21**	**302**		Pn	12 54 21.6	-3.7
HIN	**Hinchinbrook I**	**4.44**	**17**		Pn	12 54 24.3	-4.2
HIN				IAML		12 55 13.8	
	comp=E,78nm,1.5s						
HIN				IAML		12 55 14.3	
	comp=N,95nm,0.7s						
KAIM	**Kayak Island**	**4.51**	**32**	Pn	Pn	12 54 25.5	-3.8
KAIM				IAML		12 56 05.5	
	comp=E,84nm,1.2s						
P18K	**Big Mountain,**	**4.57**	**317**		Pn	12 54 25.2	-5.0
P18K				IAML		12 55 53.3	
	comp=N,18nm,1.4s						
RSO	**Redoubt South**	**4.69**	**338**		Pn	12 54 26.2	-5.8
FID	**Port Fidalgo**	**4.78**	**16**	Pn	Pn	12 54 29.2	-3.9
FID				IAML		12 56 04.9	
	comp=N,38nm,1.4s						
RAGM	**Ragged Mountai**	**4.82**	**27**	Pn	Pn	12 54 30.2	-3.5
RC01	**Rabbit Creek A**	**4.92**	**357**	Pn	Pn	12 54 30.4	-4.7
RC01				IAML		12 55 24.8	
	comp=N,27nm,0.4s						
RC01				IAML		12 55 26.4	
	comp=E,33nm,0.5s						
BERG	**Berg Lake**	**5.10**	**32**	Pn	Pn	12 54 33.4	-4.0
SNH	**Sunshine Point**	**5.21**	**37**	Pn	Pn	12 54 35.1	-3.9
SNH				IAML		12 56 31.7	
	comp=E,51nm,1.4s						
SNH				IAML		12 57 44.3	
	comp=N,46nm,1.5s						
N19K	**Bonanza Creek**	**5.42**	**331**	Pn	Pn	12 54 37.0	-4.8
PMR	**Palmer**	**5.42**	**0**	Pn	Pn	12 54 37.3	-4.4
N18K	**Kilae Creek**	**5.73**	**325**	Pn	Pn	12 54 40.4	-5.6
O16K	**Kokwok River B**	**5.87**	**309**	Pn	Pn	12 54 43.8	-4.1
SVW2	**Sparrevohn**	**5.96**	**328**	Pn	Pn	12 54 42.8	-6.4
M24K	**Tolsona, Glenn**	**6.13**	**13**	Pn	Pn	12 54 48.8	-2.8
BCPM	**Bancas Point**	**6.30**	**49**	Pn	Pn	12 54 50.6	-3.2
M17K	**Holitna River**	**6.77**	**324**	Pn	Pn	12 54 55.0	-5.4
O29M	**Mount Kennedy**	**6.93**	**49**	Pn	Pn	12 54 59.9	-2.8
P29M	**Windy Craggy**	**6.99**	**56**	Pn	Pn	12 54 59.7	-3.6
N15K	**Kwethluk River**	**7.03**	**309**	Pn	Pn	12 55 00.5	-3.4
M16K	**Timber Creek**	**7.05**	**317**	Pn	Pn	12 54 59.8	-4.4
S31K	**Pelican**	**7.26**	**70**	Pn	Pn	12 55 02.0	-5.0
KTH	**Kantishna Hill**	**7.44**	**354**	Pn	Pn	12 55 05.7	-3.9
L16K	**Owhat River**	**7.69**	**320**	Pn	Pn	12 55 07.4	-5.5
BPAW	**Bear Paw Mtn.**	**7.99**	**354**	Pn	Pn	12 55 12.8	-4.3
K17K	**Iditarod**	**8.03**	**328**	Pn	Pn	12 55 12.3	-5.3
SKAG	**Skagway**	**8.07**	**60**	Pn	Pn	12 55 13.9	-4.1
S32K	**Killisnoo**	**8.09**	**75**	Pn	Pn	12 55 13.7	-4.7
N30M	**Aishikik Lake**	**8.18**	**45**	Pn	Pn	12 55 16.1	-3.6
JIS	**Juneau Island**	**8.28**	**69**	Pn	Pn	12 55 16.8	-4.1
L14K	**Kuka Creek**	**8.72**	**312**	Pn	Pn	12 55 23.1	-3.9

IDC 23 12:55:55.5±1.9, 2°.04N×127°.65E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=135.9km s-min=25.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.81**	**164**	P	P	13 01 00.9	+0.7
	1.9nm,0.6s,baz=343,slow=11,SNR=15						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**26.26**	**167**	P	P	13 01 32.2	-0.5
	0.2nm,0.5s,baz=346,slow=7.5,SNR=7.5						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**36.23**	**160**	P	P	13 02 59.9	-0.6
	0.9nm,0.6s,baz=342,slow=13,SNR=2.2						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**59.46**	**325**	P	P	13 06 00.6	+0.2
	0.2nm,0.4s,baz=109,slow=8.2,SNR=4.5						
	0.2nm,0.4s						

IDC 23 12:56:21.7±338.0, 53°.15N×35°.09E, h0km, Error ellipse: s-maj=156.2km s-min=74.9km az=17.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.78**	**18**	I	I	13 17 20.0	
	0.2nm,0.7s,baz=201,slow=330,SNR=2.6						
I26DE	**FREYUNG INFRAS**	**14.12**	**261**	I	I	14 24 40.0	
	baz=72,slow=332,SNR=0.5						
I31KZ	**AKTYUBINSK INF**	**14.45**	**92**	I	I	14 26 10.0	
	baz=290,slow=337						
I46RU	**ZALESOVO INFRA**	**29.07**	**68**	I	I	15 53 50.0	
	baz=284,slow=346,SNR=2.4						
I34MN	**SONGINO INFRAS**	**43.98**	**67**	I	I	17 25 30.0	
	baz=302,slow=344,SNR=0.8						
I53US	**FAIRBANKS INFR**	**62.28**	**1**	I	I	19 28 30.0	
	baz=359,slow=348,SNR=0.7						

IDC ***23*** *12:57:49.9±1.7, 6°.98S×105°.76E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=42.0km s-min=25.0km az=35.0*

DJA ***23*** *12:57:57.8±0.3, 7°.3S×10°.6E±°, h41km±15km, M4.5/14, mb5.2/2, MLv4.2/14*

ISC 23 12:57:55.7±1.4, 7°.20S±0°.06×105°.96E±0°.04, h31km±11km, n31, σ1s92/31, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.62**	**72**	P	**Pb**	**12 58 08.5**	**+0.2**
DBJI	**Dramaga**	**1.01**	**51**	P	**Pn**	**12 58 14.5**	**+0.7**
DBJI				S	**Sn**	**12 58 26.9**	**-0.1**
SBJI	**Serang**	**1.08**	**9**	P	**Pb**	**12 58 16.3**	**+0.3**
SBJI				S	**Sb**	**12 58 29.7**	**-0.1**
CNJI	**Cibinong**	**1.17**	**95**	P	**Pn**	**12 58 16.0**	**+0.1**
CNJI				S	**Sn**	**12 58 29.2**	**-1.6**
CBJI	**Citeko**	**1.18**	**49**	P	**Pn**	**12 58 15.3**	**-0.7**
CBJI				S	**Sn**	**12 58 28.7**	**-2.3**
TNG	**Tangerang**	**1.23**	**34**	P	**Pn**	**12 58 17.1**	**+0.4**
TNG				S	**Sn**	**12 58 32.8**	**+0.5**
LEM	**Lembang**	**1.69**	**77**	Pn	**Pb**	**12 58 24.9**	**-1.3**
	179nm,0.3s,baz=195,slow=0.8,SNR=64						
LEM				Sn	**Sb**	**12 58 46.8**	**-0.4**
	100nm,0.3s,baz=43,slow=23,SNR=7.5						
LEM	**Lembang**	**1.69**	**77**	P	**Pb**	**12 58 25.0**	**-1.3**
BBJI	**Bungbulang**	**1.70**	**99**	P	**Pn**	**12 58 23.6**	**+0.3**
BBJI				S	**Sn**	**12 58 42.5**	**-1.5**
KASI	**Kota Agung**	**2.21**	**319**	P	**Pb**	**12 58 33.7**	**-1.3**
KASI				S	**Sb**	**12 59 00.7**	**-1.3**
CMJI	**Cimerak**	**2.54**	**103**	P	**Pn**	**12 58 35.4**	**+0.6**
CMJI				S	**Sn**	**12 59 02.4**	**-2.2**
LWLI	**Liwa**	**2.88**	**319**	P	**Pb**	**12 58 43.5**	**-3.0**
KPJI	**Karang Pucung**	**2.95**	**93**	P	**Pn**	**12 58 43.3**	**+2.8**
EGSI	**Enggano, Bengk**	**4.09**	**296**	P	**Pn**	**12 59 00.5**	**+4.3**
LHSI	**Lahat**	**4.13**	**324**	P	**Pn**	**12 59 01.4**	**+4.6**
UGM	**Wanagama**	**4.58**	**99**	P	**Pn**	**12 59 04.0**	**+1.1**
PPSI	**Pulau Pagai**	**7.38**	**306**	P	**Pn**	**12 59 42.9**	**+1.5**
	235nm,1.0s,1.1nm						
PBSI	**Pulau Batu**	**10.44**	**312**	P	**Pn**	**13 00 25.5**	**+2.1**
H01W3	**Cape Leeuwin H**	**28.56**	**166**	T	T	13 34 18.3	
	baz=344,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**28.58**	**166**	T	T	13 34 18.5	
	baz=344,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**28.58**	**166**	T	T	13 34 19.5	
	baz=344,slow=76,SNR=21						
WRA	**Warramunga Arr**	**30.29**	**118**	P	**P**	**13 04 05.1**	**+0.6**
	0.3nm,0.6s,baz=293,slow=11,SNR=5.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**31.42**	**124**	P	**P**	**13 04 14.8**	**+0.4**
	0.1nm,0.4s,baz=304,slow=8.3,SNR=8.4						
	0.1nm,0.4s						
H08S2	**Diego Garcia H**	**33.18**	**267**	T	T	13 39 55.1	
	baz=91,slow=76,SNR=44						
H08S3	**Diego Garcia H**	**33.19**	**267**	T	T	13 40 05.2	
	baz=91,slow=76,SNR=55						
H08S1	**Diego Carcia H**	**33.20**	**267**	T	T	13 40 03.3	
	baz=91,slow=76,SNR=27						
STKA	**Stephens Creek**	**41.28**	**131**	P	**P**	**13 05 39.9**	**+1.4**
	1.0nm,0.4s,baz=295,slow=6.3,SNR=6.4						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**57.73**	**341**	P	**P**	**13 07 40.6**	**-2.9**
	0.2nm,0.5s,baz=166,slow=9.1,SNR=5.0						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.44**	**220**	T	T	14 13 49.8	
	baz=67,slow=75,SNR=57						
H04N1	**CROZET ISLANDS**	**60.45**	**220**	T	T	14 13 50.5	
	baz=67,slow=75,SNR=62						
H04N3	**CROZET ISLANDS**	**60.46**	**220**	T	T	14 14 08.0	
	baz=67,slow=75,SNR=52						

IDC ***23*** *13:00:56.9±1.6, 55°.90N×150°.27W, h0km, mb3.4/4, mbtmp3.5/8, ML3.2/4, Error ellipse: s-maj=30.4km s-min=21.3km az=45.0*

NEIC ***23*** *13:00:58.6±1.6, 56°.05N±0°.08×150°.4W±0°.1, h10km±2km, mb4.1/2, ML3.9/38, ML3.6(AEIC), Error ellipse: s-maj=12.9km s-min=10.1km az=173.0*

AEIC ***23*** *13:01:02.3±1.4, 56°.04N±0°.09×150°.2W±0°.1, h4km±6km, Error ellipse: s-maj=13.1km s-min=8.7km az=167.0*

ISC 23 13:00:58.3±0.9, 56°.06N±0°.08×150°.32W±0°.05, h10km, n169, σ0s84/167, mb3.3/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.01**	**307**		**Pn**	**13 01 31.5**	**-0.7**
OHAK	**Old Harbor**	**2.01**	**307**		**Sn**	**13 01 55.5**	**-1.9**
OHAK	**Old Harbor**	**2.01**	**307**	IAML		13 01 55.8	
	comp=E,478nm,0.4s						
OHAK				IAML		13 01 56.3	
	comp=N,275nm,0.5s						
OHAK	**Old Harbor**	**2.01**	**307**	P	**Pn**	**13 01 32.0**	**-0.2**
	baz=124						
OHAK				S	**Sn**	**13 01 55.5**	**-1.9**
	baz=124						
KDAK	**Kodiak Island**	**2.13**	**325**	Pn	**Pn**	**13 01 33.9**	**0.0**
KDAK	**Kodiak Island**	**2.13**	**325**		**Sn**	**13 01 59.8**	**-0.5**
KDAK	**Kodiak Island**	**2.13**	**325**	Pn	**Pn**	**13 01 33.7**	**-0.1**
	comp=N,15nm,0.3s,baz=168,slow=6.6,SNR=26						
KDAK				Sn	**Sn**	**13 01 59.2**	**-1.1**
	comp=N,13nm,0.3s,baz=116,slow=23,SNR=7.1						
	comp=N,71nm,0.6s						
Q20K	**Shuyak Island**	**2.79**	**337**	P	**Pn**	**13 01 43.5**	**+0.5**
	baz=155						
Q20K				S	**Sn**	**13 02 16.9**	**+0.2**
	baz=155						
SYI	**Shuyak Island**	**2.79**	**337**		**Pn**	**13 01 43.4**	**+0.5**
SYI	**Shuyak Island**	**2.79**	**337**		**Sn**	**13 02 16.9**	**+0.2**
SYI	**Shuyak Island**	**2.79**	**337**	IAML		13 02 18.6	
	comp=N,193nm,0.6s						
SYI				IAML		13 02 19.3	
	comp=E,222nm,0.3s						
Q19K	**Cape Douglas,**	**3.39**	**329**		**Pn**	**13 01 52.4**	**+1.2**
Q19K	**Cape Douglas,**	**3.39**	**329**		**Sn**	**13 02 30.5**	**-1.0**
Q19K	**Cape Douglas,**	**3.39**	**329**	IAML		13 02 37.5	
	comp=E,721nm,1.0s						
Q19K				IAML		13 02 37.5	
	comp=N,511nm,0.6s						
Q19K	**Cape Douglas,**	**3.39**	**329**	P	**Pn**	**13 01 52.5**	**+1.2**
	baz=146						
Q19K				S	**Sn**	**13 02 30.5**	**-1.0**
	baz=146						
ACHA	**Angle Creek He**	**3.48**	**310**		**Pn**	**13 01 53.5**	**+1.0**
CNPM	**China Poot**	**3.51**	**352**		**Pn**	**13 01 52.7**	**-0.1**
CNPM	**China Poot**	**3.51**	**352**		**Sn**	**13 02 34.5**	**0.0**
CNPM	**China Poot**	**3.51**	**352**	IAML		13 02 35.5	
	comp=N,152nm,0.7s						
CNPM				IAML		13 02 35.7	
	comp=E,304nm,0.8s						
ANCK	**Angle Creek**	**3.54**	**309**		**Pn**	**13 01 54.4**	**+1.0**
HOM	**Homer**	**3.68**	**349**		**Pn**	**13 01 55.7**	**+0.6**
HOM	**Homer**	**3.68**	**349**	IAML		13 02 42.5	
	comp=E,287nm,0.8s						
HOM				IAML		13 02 57.8	
	comp=N,349nm,1.1s						
HOM	**Homer**	**3.68**	**349**	P	**Pn**	**13 01 55.7**	**+0.6**
	baz=168						
BRSE	**Bradley Lake S**	**3.70**	**357**		**Pn**	**13 01 55.5**	**+0.1**
BRSE	**Bradley Lake S**	**3.70**	**357**	P	**Pn**	**13 01 55.5**	**+0.1**
	baz=176						
AUCH	**Augustine Cone**	**3.71**	**334**		**Pn**	**13 01 56.8**	**+1.1**
BRLK	**Bradley Lake**	**3.73**	**356**		**Pn**	**13 01 55.3**	**-0.6**
BRLK				IAML		13 02 41.0	
	comp=N,120nm,0.8s						
BRLK				IAML		13 02 41.1	
	comp=E,125nm,0.9s						
CNTC	**Contact Creek**	**3.75**	**308**		**Pn**	**13 01 57.1**	**+0.8**
Q17K	**Contact Creek**	**3.75**	**308**	P	**Pn**	**13 01 57.1**	**+0.8**
	baz=124						
P19K	**Oil Pt**	**3.93**	**338**	Pn	**Pn**	**13 01 59.8**	**+1.3**
P19K	**Oil Pt**	**3.93**	**338**	P	**Pn**	**13 01 59.6**	**+1.0**
	baz=155						
Q23K	**Middleton Isla**	**3.99**	**31**	Pn	**Pn**	**13 01 59.6**	**+0.3**
Q23K				IAML		13 02 49.1	
	comp=E,191nm,1.3s						
Q23K	**Middleton Isla**	**3.99**	**31**	P	**Pn**	**13 01 59.4**	**0.0**
	baz=213						
MID	**Middleton Isla**	**3.99**	**31**	Pn	**Pn**	**13 01 59.4**	**0.0**
MID				IAML		13 03 21.0	
	comp=N,139nm,1.3s						
SEW	**Seward**	**4.08**	**6**		**Pn**	**13 02 00.5**	**-0.1**
SEW	**Seward**	**4.08**	**6**	P	**Pn**	**13 02 00.5**	**-0.1**
	baz=186						
O20K	**Slope Mountain**	**4.22**	**344**		**Pn**	**13 02 03.5**	**+1.0**
O20K	**Slope Mountain**	**4.22**	**344**	P	**Pn**	**13 02 03.5**	**+1.0**
	baz=162						
IVE	**Iliamna Volcan**	**4.22**	**341**		**Pn**	**13 02 03.6**	**+0.9**
P23K	**Montague Islan**	**4.24**	**20**		**Pn**	**13 02 02.7**	**-0.2**
P23K	**Montague Islan**	**4.24**	**20**	P	**Pn**	**13 02 02.7**	**-0.2**
	baz=202						
P18K	**Big Mountain,**	**4.25**	**324**	Pn	**Pn**	**13 02 03.3**	**+0.2**
P18K	**Big Mountain,**	**4.25**	**324**	P	**Pn**	**13 02 03.7**	**+0.6**
	baz=139						
CHGN	**Chignik**	**4.53**	**276**	Pn	**Pn**	**13 02 06.7**	**-0.1**
CHGN				IAML		13 02 59.4	
	comp=E,71nm,0.9s						
CHGN				IAML		13 03 05.0	
	comp=N,68nm,1.0s						
P17K	**Kvichak River**	**4.55**	**316**		**Pn**	**13 02 08.2**	**+1.2**
P17K	**Kvichak River**	**4.55**	**316**	P	**Pn**	**13 02 08.3**	**+1.2**
	baz=131						
RED	**Redoubt Volcan**	**4.56**	**344**		**Pn**	**13 02 07.8**	**+0.5**
RSO	**Redoubt South**	**4.60**	**345**	Pn	**Pn**	**13 02 08.3**	**+0.3**
O18K	**Koktuh Hills**	**4.61**	**328**		**Pn**	**13 02 08.7**	**+0.7**
O18K	**Koktuh Hills**	**4.61**	**328**	IAML		13 03 17.9	
	comp=N,69nm,1.1s						
O18K	**Koktuh Hills**	**4.61**	**328**	P	**Pn**	**13 02 08.7**	**+0.7**
	baz=143						
RDWB	**Redoubt West**	**4.64**	**344**		**Pn**	**13 02 09.1**	**+0.6**
O19K	**Port Alsworth**	**4.66**	**335**		**Pn**	**13 02 08.9**	**+0.3**
O19K	**Port Alsworth**	**4.66**	**335**	P	**Pn**	**13 02 09.6**	**+1.1**
	baz=151						
DFR	**Drift River**	**4.71**	**346**		**Pn**	**13 02 10.2**	**+0.8**
NCT	**North Crescent**	**4.72**	**344**		**Pn**	**13 02 10.4**	**+0.9**
HIN	**Hinchinbrook I**	**4.79**	**23**	Pn	**Pn**	**13 02 10.2**	**-0.2**
HIN				IAML		13 03 05.0	
	comp=E,169nm,0.7s						
HIN				IAML		13 03 06.4	
	comp=N,139nm,1.0s						
KAIM	**Kayak Island**	**4.99**	**37**	Pn	**Pn**	**13 02 13.3**	**+0.3**
RC01	**Rabbit Creek A**	**5.05**	**3**		**Pn**	**13 02 14.6**	**+0.5**
RC01	**Rabbit Creek A**	**5.05**	**3**	IAML		13 03 15.9	
	comp=N,67nm,0.8s						
RC01				IAML		13 03 16.1	
	comp=E,74nm,0.5s						
RC01	**Rabbit Creek A**	**5.05**	**3**	P	**Pn**	**13 02 14.5**	**+0.5**
	baz=183						
EYAK	**Cordova Ski Ar**	**5.11**	**26**		**Pn**	**13 02 15.5**	**+0.8**
EYAK	**Cordova Ski Ar**	**5.11**	**26**	P	**Pn**	**13 02 15.5**	**+0.8**
	baz=210						
O17K	**Koliganek Bris**	**5.19**	**319**		**Pn**	**13 02 16.8**	**+1.0**
O17K	**Koliganek Bris**	**5.19**	**319**	P	**Pn**	**13 02 16.8**	**+1.0**
	baz=133						
N19K	**Bonanza Creek**	**5.25**	**337**		**Pn**	**13 02 16.7**	**-0.1**
N19K	**Bonanza Creek**	**5.25**	**337**	P	**Pn**	**13 02 17.5**	**+0.8**
	baz=153						
RAGM	**Ragged Mountai**	**5.26**	**32**		**Pn**	**13 02 17.2**	**+0.2**
RAGM				IAML		13 03 26.6	
	comp=E,105nm,0.5s						
SPCG	**Spurr Capps Gl**	**5.32**	**351**		**Pn**	**13 02 18.6**	**+0.8**
GOAT	**Goat Mountain**	**5.41**	**31**		**Pn**	**13 02 19.6**	**+0.7**
CNBA	**Chernabura Isl**	**5.42**	**261**	Pn	**Pn**	**13 02 18.5**	**-0.6**
SUA	**Susitna One**	**5.43**	**358**	Pn	**Pn**	**13 02 18.6**	**-0.6**
O16K	**Kokwok River B**	**5.46**	**314**		**Pn**	**13 02 20.3**	**+0.7**
O16K	**Kokwok River B**	**5.46**	**314**	P	**Pn**	**13 02 20.3**	**+0.7**
	baz=127						
N18K	**Kilae Creek**	**5.48**	**330**	Pn	**Pn**	**13 02 19.9**	**0.0**
N18K	**Kilae Creek**	**5.48**	**330**	P	**Pn**	**13 02 20.2**	**+0.3**
	baz=145						
STLK	**Strandline Lak**	**5.51**	**352**		**Pn**	**13 02 20.6**	**+0.3**
BERG	**Berg Lake**	**5.58**	**36**	Pn	**Pn**	**13 02 21.0**	**-0.1**
PMR	**Palmer**	**5.58**	**6**	Pn	**Pn**	**13 02 21.1**	**-0.2**
SNH	**Sunshine Point**	**5.72**	**41**	Pn	**Pn**	**13 02 23.9**	**+0.7**
SVW2	**Sparrevohn**	**5.75**	**334**		**Pn**	**13 02 23.8**	**+0.2**
BMRM	**Bremner River**	**5.76**	**29**		**Pn**	**13 02 24.3**	**+0.5**
BMRM	**Bremner River**	**5.76**	**29**	P	**Pn**	**13 02 24.3**	**+0.5**
	baz=213						
N17K	**Nushagak Hills**	**5.76**	**324**		**Pn**	**13 02 23.6**	**-0.1**
N17K	**Nushagak Hills**	**5.76**	**324**	P	**Pn**	**13 02 24.5**	**+0.8**
	baz=138						
GHO	**Glory Hole Cre**	**5.78**	**7**	Pn	**Pn**	**13 02 23.9**	**-0.1**
SML	**Sawmill**	**5.86**	**9**		**Pn**	**13 02 24.9**	**-0.2**
KLU	**Klutina**	**5.91**	**21**		**Pn**	**13 02 26.6**	**+0.8**
KLU	**Klutina**	**5.91**	**21**	P	**Pn**	**13 02 26.6**	**+0.8**
	baz=204						
O15K	**Ungalikthiuk R**	**5.99**	**305**		**Pn**	**13 02 27.6**	**+0.8**
O15K	**Ungalikthiuk R**	**5.99**	**305**	P	**Pn**	**13 02 27.6**	**+0.8**
	baz=117						
SCM	**Sheep Creek Mo**	**5.99**	**14**	Pn	**Pn**	**13 02 27.9**	**+0.9**
M20K	**Styx River**	**6.02**	**347**		**Pn**	**13 02 27.8**	**+0.4**
M20K	**Styx River**	**6.02**	**347**	P	**Pn**	**13 02 27.8**	**+0.4**
	baz=164						
M18K	**Stony River**	**6.15**	**335**		**Pn**	**13 02 29.3**	**+0.2**
M18K	**Stony River**	**6.15**	**335**	P	**Pn**	**13 02 29.3**	**+0.2**
	baz=150						
N16K	**Nishlik Lake**	**6.28**	**318**		**Pn**	**13 02 31.9**	**+1.0**
N16K	**Nishlik Lake**	**6.28**	**318**	P	**Pn**	**13 02 31.9**	**+1.0**
	baz=131						
VRDI	**Verde Repeater**	**6.30**	**32**	Pn	**Pn**	**13 02 31.0**	**-0.2**
N25K	**Chitina, Valde**	**6.30**	**26**	Pn	**Pn**	**13 02 32.5**	**+1.2**
GLB	**Gilahina Butte**	**6.37**	**29**		**Pn**	**13 02 31.6**	**-0.5**
**KIA

	baz=124						
J20K	**Nowinta River**	**8.36**	**348**	Pn	**Pn**	**13 02 59.4**	**+0.1**
J19K	**Poorman**	**8.39**	**344**	Pn	**Pn**	**13 02 59.8**	**+0.1**
SCRK	**Sand Creek**	**8.55**	**19**	Pn	**Pn**	**13 03 03.0**	**+1.0**
NEA2	**Nenana**	**8.59**	**4**	Pn	**Pn**	**13 03 03.3**	**+0.9**
SKAG	**Skagway**	**8.70**	**61**	Pn	**Pn**	**13 03 04.5**	**+0.5**
CCB	**Clear Creek Bu**	**8.71**	**7**	Pn	**Pn**	**13 03 05.3**	**+1.3**
IL31		**8.90**	**10**		**Pn**	**13 03 07.1**	**+0.3**
ILAR	**Eielson Array**	**8.90**	**10**	Pn	**Pn**	**13 03 05.6**	**-1.2**
	comp=E,0.3nm,0.3s,baz=198,slow=13,SNR=13						
ILAR				Sn	**Sn**	**13 04 43.6**	**-3.4**
	comp=E,0.8nm,0.3s,baz=197,slow=18,SNR=8.4						
	comp=E,0.5nm,0.3s						
J16K	**Anvik River**	**8.91**	**329**		**Pn**	**13 03 07.6**	**+0.8**
J16K	**Anvik River**	**8.91**	**329**	P	**Pn**	**13 03 07.6**	**+0.8**
	baz=140						
INK	**Inuvik**	**14.49**	**25**		**Pn**	**13 04 23.8**	**+0.7**
INK	**Inuvik**	**14.49**	**25**	Pn	**Pn**	**13 04 25.2**	**+2.1**
	baz=211,slow=14,SNR=6.4						
	comp=E,2.4nm,1.0s						
C36M	**Paulatuk**	**17.73**	**31**	Pn	**Pn**	**13 05 03.5**	**-1.3**
C36M				IAmb	IAmb	13 05 17.5	
	comp=Z,14nm,1.4s						
A36M	**Sachs Harbour**	**19.12**	**24**	P	**Pn**	**13 05 22.7**	**+1.0**
A36M				IAmb	IAmb	13 05 32.4	
	comp=Z,18nm,0.9s						
YKA	**Yellowknife Ar**	**19.14**	**56**	P	**P**	**13 05 21.8**	**+0.6**
YKA	**Yellowknife Ar**	**19.14**	**56**	P	**P**	**13 05 21.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=265,slow=9.8,SNR=14						
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**29.19**	**100**	P	**P**	**13 07 01.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=242,slow=3.2,SNR=2.3						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**42.29**	**109**	P	**P**	**13 08 50.5**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=330,slow=5.2,SNR=2.8						
	comp=Z,0.3nm,0.8s						
SONM	**Songino Array**	**58.34**	**310**	P	**P**	**13 10 54.2**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=66,slow=3.6,SNR=1.5						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**68.44**	**324**	P	**P**	**13 11 59.3**	**-0.7**
MKAR	**Makanchi Array**	**68.44**	**324**	P	**P**	**13 12 01.3**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=32,slow=5.1,SNR=2.6						
	comp=Z,0.2nm,0.7s						

NDI 23 13:02:08.3±2.2,21°25N×70°53E,h10km,ML3.6,
Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHV	**Bhavnagar**	**1.58**	**71**	*e*Pg	Pg	13 02 38.6	-0.1
BHV				*i* Sg	Sg	13 03 00.1	+0.9
BHUJ	**Bhuj**	**2.15**	**338**	*e*Pg	Pg	13 02 49.1	-0.5
BHUJ				*i* Sg	Sg	13 03 20.7	+3.1
BHUJ				IAML		13 03 32.5	
	comp=N,774nm,0.4s						
BOM	**Bombay**	**3.17**	**137**	*e*P	Pn	13 02 57.3	-1.0
BOM				*ex*	x	13 03 30.3	
BOM				IAML		13 03 41.1	
	comp=E,193nm,0.4s						
POO	**Poona**	**4.13**	**130**	*ex*	x	13 03 14.1	
AKL	**Akola**	**6.08**	**94**	*e*P	Pn	13 03 39.3	+1.0
AKL				*e*S	Sn	13 04 45.1	-3.0
AJM	**Ajmer**	**6.42**	**35**	*ex*	x	13 04 35.7	
AJM				*ex*	x	13 05 03.8	
DHRM	**DHARAMSHALA**	**12.11**	**24**	*ex*	x	13 07 31.5	

*NEIC **23** 13:02:17.4±2.5,56°36N±0°10×148°8W±0°1,h10km±2km, ML3.3/22,ML3.0(AEIC),Error ellipse: s-maj=17.0km s-min=11.0km az=169.0*

AEIC 23 13:02:19.4±1.1,56°2N±0°1×148°47W±0°06,h10km±9km,
Error ellipse: s-maj=19.9km s-min=3.7km az=171.0,
Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.74**	**307**		Pn	13 02 58.5	-5.0
KDAK	**Kodiak Island**	**2.74**	**307**		Sn	13 03 28.2	-8.3
KDAK	**Kodiak Island**	**2.74**	**307**		Pn	13 02 59.0	-4.4
KDAK				IAML		13 03 24.1	
	37nm,1.2s						
KDAK				IAML		13 03 37.0	
	42nm,1.5s						
OHAK	**Old Harbor**	**2.84**	**293**		Pn	13 02 59.8	-5.0
OHAK					Sn	13 03 30.0	-8.9
SYI	**Shuyak Island**	**3.20**	**320**		Pn	13 03 05.1	-4.6
SYI	**Shuyak Island**	**3.20**	**320**		Sn	13 03 41.2	-6.7
SYI	**Shuyak Island**	**3.20**	**320**	IAML		13 03 38.2	
	comp=N,46nm,1.5s						
MID	**Middleton Isla**	**3.42**	**19**		Pn	13 03 07.7	-4.9
MID	**Middleton Isla**	**3.42**	**19**	IAML		13 03 46.5	
	comp=E,176nm,1.2s						
MID				IAML		13 05 22.1	
	comp=N,122nm,1.4s						
Q23K	**Middleton Isla**	**3.42**	**19**		Pn	13 03 07.9	-4.7
Q23K				IAML		13 03 44.1	
	comp=N,174nm,1.4s						
Q23K				IAML		13 04 44.9	
	comp=E,183nm,1.5s						
CNPM	**China Poot**	**3.63**	**337**		Pn	13 03 10.7	-4.9
CNPM					Sn	13 03 50.4	-8.1
CNPM	**China Poot**	**3.63**	**337**	IAML		13 03 53.7	
	comp=N,39nm,1.5s						
CNPM				IAML		13 03 56.7	
	comp=E,43nm,1.2s						
BRSE	**Bradley Lake S**	**3.73**	**342**		Pn	13 03 12.9	-4.2
BRLK	**Bradley Lake**	**3.78**	**341**		Pn	13 03 13.2	-4.5
BRLK	**Bradley Lake**	**3.78**	**341**	IAML		13 03 57.3	
	comp=E,65nm,1.4s						
BRLK				IAML		13 05 40.8	
	comp=N,36nm,0.2s						
P23K	**Montague Islan**	**3.83**	**8**		Pn	13 03 13.9	-4.5
Q19K	**Cape Douglas,**	**3.89**	**316**	Pn	Pn	13 03 14.5	-4.8
KAHG	**Katmai Hook Gl**	**4.00**	**307**		Pn	13 03 17.2	-3.6
AU22	**Augustine Moun**	**4.10**	**322**		Pn	13 03 18.1	-4.0
KAIM	**Kayak Island**	**4.30**	**28**	Pn	Pn	13 03 21.3	-3.5
HIN	**Hinchinbrook I**	**4.32**	**13**	Pn	Pn	13 03 20.9	-4.2
P18K	**Big Mountain,**	**4.82**	**314**	Pn	Pn	13 03 27.5	-4.4
P18K				IAML		13 05 37.8	
	comp=E,13nm,1.4s						
P18K				IAML		13 06 10.0	
	comp=N,16nm,1.2s						

*IDC **23** 13:03:39.1±7.5,5°48S×106°05E,h76km±44km,mb3.3/3, mbtmp3.6/4,ML4.1/1,Error ellipse: s-maj=209.9km s-min=57.7km az=40.0*

*DJA **23** 13:03:43.4±0.5,7°S±2°×107°6E±°,h32km±6km,M3.8/12, MLv3.8/12*

ISC 23 13:03:43.7±1.1,7°16S±0°06×106°01E±0°06,h35km,n22,
σ1§76/25,mb3.4/3,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.57**	**74**	P	**Pn**	**13 03 55.2**	**-0.1**
SKJI				S	**Sn**	**13 04 03.5**	**0.0**
DBJI	**Dramaga**	**0.95**	**51**	P	**Pn**	**13 04 00.8**	**+0.2**
DBJI				S	**Sn**	**13 04 12.8**	**-0.2**
SBJI	**Serang**	**1.04**	**7**	P	**Pn**	**13 04 01.6**	**-0.2**
SBJI				S	**Sn**	**13 04 14.6**	**-0.5**
CBJI	**Citeko**	**1.11**	**49**	P	**Pn**	**13 04 01.7**	**-1.1**
CBJI				S	**Sn**	**13 04 15.6**	**-1.3**
CNJI	**Cibinong**	**1.12**	**98**	P	**Pn**	**13 04 02.8**	**-0.1**
CNJI				S	**Sn**	**13 04 16.4**	**-0.8**
TNG	**Tangerang**	**1.17**	**33**	P	**Pn**	**13 04 03.8**	**+0.2**
TNG				S	**Sn**	**13 04 18.2**	**-0.1**
LEM	**Lembang**	**1.63**	**78**	P	**Pn**	**13 04 11.9**	**+1.8**
	71nm,0.3s,baz=328,slow=18,SNR=14						
LEM				S	**Sn**	**13 04 37.1**	**+7.1**
	71nm,0.4s,baz=305,slow=20,SNR=4.2						
	125nm,0.4s						
LEM	**Lembang**	**1.63**	**78**	P	**Pn**	**13 04 11.5**	**+1.4**
BBJI	**Bungbulang**	**1.66**	**101**	P	**Pn**	**13 04 10.5**	**+0.1**
BBJI				S	**Sn**	**13 04 29.7**	**-0.8**
KASI	**Kota Agung**	**2.21**	**317**	P	**Pn**	**13 04 18.7**	**+0.8**
CMJI	**Cimerak**	**2.50**	**105**	P	**Pn**	**13 04 21.9**	**0.0**
CMJI				S	**Sn**	**13 04 49.3**	**-1.9**
EGSI	**Enggano, Bengk**	**4.12**	**296**	P	**Pn**	**13 04 45.1**	**+1.0**
UGM	**Wanagama**	**4.54**	**100**	P	**Pn**	**13 04 51.1**	**+1.1**
WRA	**Warramunga Arr**	**30.27**	**118**	P	**P**	**13 09 51.0**	**-0.7**
	0.5nm,0.7s,baz=300,slow=8.7,SNR=2.9						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**31.41**	**125**	P	**P**	**13 10 01.1**	**-0.6**
	0.1nm,0.4s,baz=302,slow=8.1,SNR=7.0						
	0.1nm,0.4s						
H08S2	**Diego Garcia H**	**33.23**	**267**	T	T	13 45 45.9	
	baz=91,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**33.24**	**267**	T	T	13 45 46.5	
	baz=91,slow=76,SNR=11						
H08S1	**Diego Garcia H**	**33.25**	**267**	T	T	13 45 46.8	
	baz=91,slow=76,SNR=9.3						
STKA	**Stephens Creek**	**41.27**	**131**	P	**P**	**13 11 25.6**	**-0.2**
	0.7nm,0.4s,baz=330,slow=13,SNR=4.2						
	0.7nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.50**	**220**	T	T	14 19 49.5	
	baz=67,slow=75,SNR=12						
H04N1	**CROZET ISLANDS**	**60.52**	**220**	T	T	14 19 43.2	
	baz=67,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**60.52**	**220**	T	T	14 19 40.5	
	baz=67,slow=75,SNR=13						

*NEIC **23** 13:04:06.9±0.9,56°53N±0°08×148°83W±0°09,h10km±2km, ML3.5/36,ML3.4(AEIC),Error ellipse: s-maj=13.7km s-min=8.4km az=177.0*

*AEIC **23** 13:04:12.2±0.8,56°54N±0°09×148°9W±0°1,h9km±8km, Error ellipse: s-maj=13.2km s-min=8.7km az=164.0*

ISC 23 13:04:06.1±1.6,56°54N±0°09×148°83W±0°05,h10km,
n104,σ1§13/104,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.40**	**303**		**Pn**	**13 04 46.2**	**+0.8**
KDAK	**Kodiak Island**	**2.40**	**303**		**Sn**	**13 05 12.7**	**-2.0**
KDAK	**Kodiak Island**	**2.40**	**303**	IAML		13 05 14.4	
	83nm,1.4s						
KDAK				IAML		13 05 59.1	
	68nm,0.9s						
KDAK	**Kodiak Island**	**2.40**	**303**	S	**Sn**	**13 05 12.7**	**-2.0**
	baz=120						
OHAK	**Old Harbor**	**2.54**	**287**		**Pn**	**13 04 47.5**	**+0.1**
OHAK	**Old Harbor**	**2.54**	**287**	P	**Pn**	**13 04 47.5**	**+0.1**
	baz=104						
SYI	**Shuyak Island**	**2.83**	**319**		**Pn**	**13 04 52.5**	**+1.2**
SYI					**Sn**	**13 05 24.4**	**-1.0**
SYI	**Shuyak Island**	**2.83**	**319**	IAML		13 05 25.8	
	comp=N,99nm,0.3s						
SYI				IAML		13 05 26.0	
	comp=E,114nm,0.5s						
Q20K	**Shuyak Island**	**2.83**	**319**	P	**Pn**	**13 04 52.5**	**+1.2**
	baz=136						
Q20K				S	**Sn**	**13 05 24.4**	**-1.0**
	baz=136						
Q23K	**Middleton Isla**	**3.18**	**23**		**Sn**	**13 05 33.2**	**-0.9**
Q23K	**Middleton Isla**	**3.18**	**23**	Pn	**Pn**	**13 04 57.5**	**+1.4**
Q23K				IAML		13 05 37.0	
	comp=N,145nm,1.1s						
Q23K				IAML		13 05 40.9	
	comp=E,150nm,0.9s						
Q23K	**Middleton Isla**	**3.18**	**23**	S	**Sn**	**13 05 33.2**	**-0.9**
	baz=206						
MID	**Middleton Isla**	**3.18**	**24**		**Sn**	**13 05 31.5**	**-2.7**
MID	**Middleton Isla**	**3.18**	**24**	Pn	**Pn**	**13 04 57.4**	**+1.2**
MID				IAML		13 05 36.9	
	comp=N,138nm,1.3s						
MID				IAML		13 05 47.3	
	comp=E,149nm,1.5s						
CNPM	**China Poot**	**3.25**	**338**		**Pn**	**13 04 58.4**	**+1.1**
CNPM	**China Poot**	**3.25**	**338**		**Sn**	**13 05 35.0**	**-1.0**
BRSE	**Bradley Lake S**	**3.37**	**343**		**Pn**	**13 04 59.9**	**+1.2**
BRSE					**Sn**	**13 05 37.5**	**-1.2**
BRSE	**Bradley Lake S**	**3.37**	**343**	P	**Pn**	**13 04 59.9**	**+1.2**
	baz=162						
BRSE				S	**Sn**	**13 05 37.5**	**-1.2**
	baz=162						
BRLK	**Bradley Lake**	**3.41**	**342**		**Pn**	**13 05 00.1**	**+0.8**
Q19K	**Cape Douglas,**	**3.52**	**315**		**Pn**	**13 05 02.2**	**+1.4**
Q19K					**Sn**	**13 05 42.5**	**-0.1**
Q19K	**Cape Douglas,**	**3.52**	**315**	IAML		13 05 52.1	
	comp=N,196nm,0.8s						
Q19K	**Cape Douglas,**	**3.52**	**315**	P	**Pn**	**13 05 02.3**	**+1.4**
	baz=131						
Q19K				S	**Sn**	**13 05 42.5**	**-0.1**
	baz=131						
P23K	**Montague Islan**	**3.55**	**12**		**Pn**	**13 05 02.3**	**+1.1**
P23K	**Montague Islan**	**3.55**	**12**	P	**Pn**	**13 05 02.3**	**+1.1**
	baz=193						
SEW	**Seward**	**3.59**	**355**		**Pn**	**13 05 02.8**	**+1.1**
SEW	**Seward**	**3.59**	**355**	P	**Pn**	**13 05 02.8**	**+1.1**
	baz=175						
KAHG	**Katmai Hook Gl**	**3.65**	**305**		**Pn**	**13 05 04.6**	**+1.9**
P19K	**Oil Pt**	**3.90**	**325**		**Pn**	**13 05 07.1**	**+1.1**
P19K	**Oil Pt**	**3.90**	**325**	IAML		13 05 54.8	
	comp=E,146nm,0.5s						
P19K				IAML		13 05 55.0	
	comp=N,147nm,0.4s						
P19K	**Oil Pt**	**3.90**	**325**	P	**Pn**	**13 05 07.1**	**+1.1**
	baz=142						
HIN	**Hinchinbrook I**	**4.05**	**17**		**Pn**	**13 05 09.1**	**+0.9**
HIN	**Hinchinbrook I**	**4.05**	**17**	IAML		13 05 56.5	
	comp=N,128nm,0.7s						
HIN				IAML		13 06 00.4	
	comp=E,75nm,1.3s						
O20K	**Slope Mountain**	**4.08**	**332**		**Pn**	**13 05 09.3**	**+0.7**
O20K	**Slope Mountain**	**4.08**	**332**	P	**Pn**	**13 05 09.3**	**+0.7**
	baz=149						
KAIM	**Kayak Island**	**4.12**	**33**		**Pn**	**13 05 10.0**	**+1.0**
KAIM	**Kayak Island**	**4.12**	**33**	P	**Pn**	**13 05 10.0**	**+1.0**
	baz=216						
IVE	**Iliamna Volcan**	**4.13**	**329**		**Pn**	**13 05 10.0**	**+0.8**
CNTC	**Contact Creek**	**4.19**	**297**		**Pn**	**13 05 11.1**	**+1.0**
Q17K	**Contact Creek**	**4.19**	**297**	P	**Pn**	**13 05 11.1**	**+1.0**
	baz=112						
EYAK	**Cordova Ski Ar**	**4.33**	**21**		**Pn**	**13 05 12.3**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.33**	**21**	P	**Pn**	**13 05 12.9**	**+0.9**
	baz=203						
RED	**Redoubt Volcan**	**4.41**	**334**		**Pn**	**13 05 13.8**	**+0.8**
PLK1	**Peulik 1**	**4.42**	**290**		**Pn**	**13 05 13.6**	**+0.4**
RDSO	**Redoubt South**	**4.43**	**334**		**Pn**	**13 05 14.3**	**+0.9**
RSO	**Redoubt South**	**4.44**	**334**	Pn	**Pn**	**13 05 14.0**	**+0.4**
P18K	**Big Mountain,**	**4.45**	**313**		**Pn**	**13 05 14.2**	**+0.5**
P18K	**Big Mountain,**	**4.45**	**313**	P	**Pn**	**13 05 14.2**	**+0.5**
	baz=128						
RDT	**Redoubt**	**4.46**	**337**		**Pn**	**13 05 14.6**	**+0.9**
O19K	**Port Alsworth**	**4.67**	**324**		**Pn**	**13 05 17.3**	**+0.7**
O19K	**Port Alsworth**	**4.67**	**324**	P	**Pn**	**13 05 17.3**	**+0.7**
	baz=140						
BERG	**Berg Lake**	**4.71**	**33**	Pn	**Pn**	**13 05 17.6**	**+0.4**
Q16K	**King Salmon**	**4.72**	**300**		**Pn**	**13 05 18.1**	**+0.9**
Q16K	**King Salmon**	**4.72**	**300**	P	**Pn**	**13 05 18.2**	**+0.9**
	baz=114						
SNH	**Sunshine Point**	**4.82**	**38**	Pn	**Pn**	**13 05 18.9**	**+0.1**
SNH				IAML		13 06 15.4	
	comp=N,63nm,1.4s						
SNH				IAML		13 08 02.0	
	comp=E,42nm,1.4s						
PMR	**Palmer**	**5.07**	**358**	Pn	**Pn**	**13 05 23.1**	**+1.1**
PMR				IAML		13 06 23.1	
	comp=N,15nm,0.4s						
PMR				IAML		13 08 22.7	
	comp=E,16nm,0.6s						
N19K	**Bonanza Creek**	**5.20**	**328**		**Pn**	**13 05 24.7**	**+0.7**
N19K	**Bonanza Creek**	**5.20**	**328**	IAML		13 06 24.9	
	comp=E,20nm,1.5s						
N19K	**Bonanza Creek**	**5.20**	**328**	P	**Pn**	**13 05 24.7**	**+0.7**
	baz=143						
CHGN	**Chignik**	**5.33**	**271**	Pn	**Pn**	**13 05 26.3**	**+0.7**
P16K	**Nushagak River**	**5.50**	**301**		**Pn**	**13 05 29.1**	**+1.2**
P16K	**Nushagak River**	**5.50**	**301**	P	**Pn**	**13 05 29.1**	**+1.2**
	baz=113						
N25K	**Chitina, Valde**	**5.53**	**21**	Pn	**Pn**	**13 05 30.0**	**+1.5**
N18K	**Kilae Creek**	**5.55**	**321**		**Pn**	**13 05 29.5**	**+0.7**
N18K	**Kilae Creek**	**5.55**	**321**	P	**Pn**	**13 05 29.5**	**+0.7**
	baz=136						
GLB	**Gilahina Butte**	**5.56**	**26**	Pn	**Pn**	**13 05 30.0**	**+1.2**
SVW2	**Sparrevohn**	**5.76**	**325**	Pn	**Pn**	**13 05 32.0**	**+0.5**
O16K	**Kokwok River B**	**5.79**	**306**		**Pn**	**13 05 33.0**	**+1.0**
O16K	**Kokwok River B**	**5.79**	**306**	P	**Pn**	**13 05 33.0**	**+1.0**
	baz=118						
BARN	**Barnard Glacie**	**5.86**	**36**	Pn	**Pn**	**13 05 34.1**	**+0.9**
PNL	**Peninsula**	**5.90**	**54**		**Pn**	**13 05 36.1**	**+2.6**
PNL	**Peninsula**	**5.90**	**54**	P	**Pn**	**13 05 36.1**	**+2.6**
	baz=242						
CTGM	**Chitina Glacie**	**5.91**	**38**	Pn	**Pn**	**13 05 34.5**	**+0.8**
LOGN	**Logan Glacier**	**5.92**	**40**		**Pn**	**13 05 36.1**	**+2.1**
N17K	**Nushagak Hills**	**5.93**	**316**		**Pn**	**13 05 34.6**	**+0.8**
N17K	**Nushagak Hills**	**5.93**	**316**	P	**Pn**	**13 05 34.6**	**+0.8**
	baz=129						
BCPM	**Bancas Point**	**5.94**	**51**		**Pn**	**13 05 36.6**	**+2.6**
M19K	**Big River Lodg**	**6.09**	**334**	Pn	**Pn**	**13 05 36.9**	**+0.8**
M18K	**Stony River**	**6.14**	**327**		**Pn**	**13 05 37.5**	**+0.7**
M18K	**Stony River**	**6.14**	**327**	P	**Pn**	**13 05 37.4**	**+0.7**
	baz=141						
CHNA	**Chernabura Isl**	**6.32**	**259**	P	**Pn**	**13 05 39.6**	**+0.3**
	baz=70						
CNBA	**Chernabura Isl**	**6.33**	**259**		**Pn**	**13 05 39.5**	**+0.2**
O15K	**Ungalikthiuk R**	**6.44**	**299**		**Pn**	**13 05 42.2**	**+1.4**
O15K	**Ungalikthiuk R**	**6.44**	**299**	P	**Pn**	**13 05 42.2**	**+1.4**
	baz=110						
L19K	**White Mountain**	**6.44**	**334**	Pn	**Pn**	**13 05 41.5**	**+0.5**
N16K	**Nishlik Lake**	**6.53**	**311**		**Pn**	**13 05 43.6**	**+1.5**
N16K	**Nishlik Lake**	**6.53**	**311**	P	**Pn**	**13 05 43.6**	**+1.5**
	baz=123						
M17K	**Holitna River**	**6.60**	**321**		**Pn**	**13 05 44.0**	**+0.9**
M17K	**Holitna River**	**6.60**	**321**	P	**Pn**	**13 05 44.0**	**+0.9**
	baz=134						
P29M	**Windy Craggy**	**6.64**	**58**		**Pn**	**13 05 45.6**	**+1.8**
M16K	**Timber Creek**	**6.92**	**315**		**Pn**	**13 05 48.1**	**+0.7**
M16K	**Timber Creek**	**6.92**	**315**	P	**Pn**	**13 05 48.2**	**+0.7**
	baz=126						
N15K	**Kwethluk River**	**6.95**	**306**	Pn	**Pn**	**13 05 49.1**	**+1.2**
L18K	**Granite Mounta**	**6.96**	**328**	Pn	**Pn**	**13 05 48.8**	**+0.7**
S31K	**Pelican**	**6.98**	**73**		**Pn**	**13 05 48.4**	**+0.1**
S31K	**Pelican**	**6.98**	**73**	P	**Pn**	**13 05 48.4**	**+0.1**
	baz=264						
O14K	**Tigyukauivet M**	**7.16**	**297**	Pn	**Pn**	**13 05 52.5**	**+1.7**
SIT	**Sitka**	**7.43**	**80**		**Pn**	**13 05 53.5**	**-1.0**
SIT	**Sitka**	**7.43**	**80**	P	**Pn**	**13 05 53.5**	**-1.0**
	baz=272						
PN7A	**Pavlof North-7**	**7.47**	**267**		**Pn**	**13 05 56.0**	**+0.9**
L16K	**Owhat River**	**7.54**	**318**		**Pn**	**13 05 56.5**	**+0.7**
L16K	**Owhat River**	**7.54**	**318**	P	**Pn**	**13 05 56.5**	**+0.7**
	baz=129						
K17K	**Iditarod**	**7.83**	**326**	Pn	**Pn**	**13 06 00.1**	**+0.2**
S32K	**Killisnoo**	**7.84**	**77**	Pn	**Pn**	**13 06 00.3**	**+0.3**
JIS	**Juneau Island**	**7.99**	**71**	Pn	**Pn**	**13 06 03.5**	**+1.4**

*NEIC **23** 13:05:45.6±0.6,6°38S±0°09×154°73E±0°10,h35km±2km, mb4.3/7,Error ellipse: s-maj=20.4km s-min=8.8km az=129.0*

*IDC **23** 13:05:48.5±1.3,6°25S×154°40E,h58km±9km,mb3.6/4, mbtmp3.9/6,Error ellipse: s-maj=56.7km s-min=18.2km az=137.0*

ISC 23 13:05:47.7±0.8,6°38S±0°10×154°5E±0°1,h48km,n17,
σ1§18/21,mb4.1/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.18**	**313**	Pn	**Pn**	**13 06 37.0**	**+1.7**
PMG	**Port Moresby**	**7.87**	**247**		**Pn**	**13 07 40.1**	**+0.6**
PMG	**Port Moresby**	**7.87**	**247**	P	**Pn**	**13 07 39.8**	**+0.2**
	16nm,0.6s,baz=58,slow=8.9,SNR=16						
PMG				S	**Sn**	**13 09 08.3**	**+1.0**
	11nm,0.6s,baz=359,slow=17,SNR=7.5						
CTA	**Charters Tower**	**15.81**	**210**	P	**Pn**	**13 09 29.4**	**+2.2**
	5.0nm,0.8s,baz=46,slow=13,SNR=3.6						
DZM	**Mont Dzumac**	**19.41**	**145**	P	**P**	**13 10 10.9**	**+0.9**
DZM				IAmb	IAmb	13 10 20.6	
	comp=Z,22nm,1.4s						
WR0	**Warramunga Arr**	**23.62**	**233**	P	**P**	**13 10 54.4**	**-0.2**
WR0				IAmb	IAmb	13 10 55.6	
	comp=Z,8.3nm,0.9s						
WB0	**Warramunga Arr**	**23.64**	**234**	P	**P**	**13 10 54.8**	**0.0**
WB0				IAmb	IAmb	13 11 10.8	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**23.77**	**234**	P	**P**	**13 10 55.8**	**-0.1**
WB2				IAmb	IAmb	13 10 56.6	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**23.77**	**234**	P	**P**	**13 10 56.0**	**0.0**
	comp=Z,4.3nm,0.8s,baz=57,slow=10,SNR=16						
WRA				pP	**sP**	**13 11 10.7**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=60,slow=9.9,SNR=2.8						
	comp=Z,4.3nm,0.8s						
AS31	**Alice Springs**	**26.22**	**227**	P	**P**	**13 11 17.1**	**-1.2**
ASAR	**Alice Springs**	**26.22**	**227**	P	**P**	**13 11 17.3**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=56,slow=9.3,SNR=22						
ASAR				pP	**sP**	**13 11 32.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=64,slow=9.2,SNR=2.3						
	comp=Z,0.5nm,0.4s						
CM31	**Chiang Mai Arr**	**60.08**	**295**	P	**P**	**13 15 48.7**	**-1.7**
CASY	**Casey**	**67.03**	**198**	P	**P**	**13 16 35.1**	**-0.3**
CASY				IAmb	IAmb	13 16 52.2	
	comp=Z,8.9nm,1.2s						
MKAR	**Makanchi Array**	**82.62**	**319**	P	**P**	**13 18 04.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=87,slow=7.6,SNR=2.3						
	comp=Z,0.1nm,0.3s						
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**13 19 10.0**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=262,slow=3.7,SNR=2.7						
YKA				pP	**pP**	**13 19 24.6**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=267,slow=10,SNR=4.1						
	comp=Z,0.5nm,1.0s						
NOA	**NORSAR Array B**	**118.96**	**341**	PKP	**PKPdf**	**13 24 29.6**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=120,slow=7.4,SNR=1.1						
TORD	**Torodi Ar. Bea**	**152.39**	**286**	PKPbc	**PKiKP**

KNK	**Knik Glacier**	**5.34**	**7**	Pn	**Pn**	**13 07 18.2**	**-0.1**
KNK	comp=E,30nm,0.9s			IAML		13 10 46.9	
KNK	comp=N,33nm,1.5s			IAML		13 10 51.0	
BERG	**Berg Lake**	**5.35**	**34**	Pn	**Pn**	**13 07 18.1**	**-0.3**
SUA	**Susitna One**	**5.37**	**355**	Pn	**Pn**	**13 07 18.9**	**+0.2**
SNH	**Sunshine Point**	**5.48**	**39**	Pn	**Pn**	**13 07 19.5**	**-0.6**
PMR	**Palmer**	**5.49**	**3**	Pn	**Pn**	**13 07 20.1**	**-0.1**
N18K	**Kilae Creek**	**5.58**	**327**	Pn	**Pn**	**13 07 21.8**	**+0.3**
O16K	**Kokwok River B**	**5.63**	**312**	Pn	**Pn**	**13 07 22.5**	**+0.3**
KLU	**Klutina**	**5.74**	**19**	Pn	**Pn**	**13 07 23.8**	**0.0**
N25K	**Chitina, Valde**	**6.12**	**24**		**Pn**	**13 07 30.2**	**+1.2**
GLB	**Gilahina Butte**	**6.17**	**28**	Pn	**Pn**	**13 07 30.9**	**+1.3**
BARN	**Barnard Glacie**	**6.52**	**37**	Pn	**Pn**	**13 07 34.8**	**+0.3**
LOGN	**Logan Glacier**	**6.58**	**41**	Pn	**Pn**	**13 07 35.4**	**-0.1**
BCPM	**Bancas Point**	**6.61**	**50**		**Pn**	**13 07 36.2**	**+0.6**
M17K	**Holitna River**	**6.61**	**326**	Pn	**Pn**	**13 07 36.4**	**+0.7**
N15K	**Kwethluk River**	**6.79**	**311**	Pn	**Pn**	**13 07 39.2**	**+1.1**
M16K	**Timber Creek**	**6.86**	**319**	Pn	**Pn**	**13 07 40.0**	**+1.0**
O29M	**Mount Kennedy**	**7.25**	**50**	Pn	**Pn**	**13 07 44.4**	**-0.1**
P29M	**Windy Craggy**	**7.32**	**56**	Pn	**Pn**	**13 07 45.1**	**-0.3**
CAST	**Castle Rocks**	**7.40**	**352**	Pn	**Pn**	**13 07 47.4**	**+0.9**
L14K	**Kuka Creek**	**8.49**	**313**		**Pn**	**13 08 02.9**	**+1.5**
M29M	**Somme Creek**	**8.57**	**38**	Pn	**Pn**	**13 08 03.2**	**+0.6**
ILAR	**Eielson Array**	**8.79**	**8**	Pn	**Pn**	**13 08 08.2**	**+2.8**
ILAR	comp=N,0.2nm,0.3s,baz=194,slow=14,SNR=2.0 comp=N,0.2nm,0.3s,baz=196,slow=22,SNR=4.5 comp=N,0.6nm,0.5s			Sn	**Sn**	**13 09 41.5**	**-2.9**
I23K	**Minto, Yukon-K**	**9.05**	**1**	Pn	**Pn**	**13 08 11.3**	**+2.3**
L29M	**L29M**	**9.15**	**35**	Pn	**Pn**	**13 08 12.4**	**+2.0**
K13K	**Kusilvak Mount**	**9.61**	**313**	Pn	**Pn**	**13 08 19.0**	**+2.3**
P33M	**Teslin, Yukon**	**9.85**	**58**	Pn	**Pn**	**13 08 20.0**	**-0.1**
INK	**Inuvik**	**14.30**	**25**	Pn	**Pn**	**13 09 23.1**	**+2.3**
	baz=126,slow=23,SNR=1.8 comp=N,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**18.86**	**56**	P	**Pn**	**13 10 20.1**	**+1.1**
	baz=261,slow=10,SNR=4.4 comp=N,0.8nm,1.0s						
PDAR	**Pinedale Array**	**28.91**	**100**	P	**P**	**13 11 56.8**	**-1.0**
	comp=N,0.2nm,0.6s,baz=347,slow=3.7,SNR=2.1 comp=N,0.2nm,0.6s						
SONM	**Songino Array**	**58.52**	**310**	P	P	13 16 02.4	+7.6
	comp=N,0.7nm,0.8s,baz=49,slow=7.3,SNR=3.0 comp=N,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**61.53**	**327**	P	P	13 16 21.1	+5.9
	comp=N,0.7nm,0.5s,baz=55,slow=5.8,SNR=3.4 comp=N,0.7nm,0.5s						
FINES	**FINESS Array B**	**62.72**	**2**	P	P	13 16 30.4	+7.4
	comp=N,3.4nm,1.0s,baz=350,slow=7.3,SNR=2.4 comp=N,3.4nm,1.0s						
BVAR	**Borovoye Array**	**66.30**	**335**	P	P	13 16 54.0	+7.5
	comp=N,1.0nm,0.7s,baz=71,slow=9.6,SNR=4.2 comp=N,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**66.32**	**329**	P	P	13 16 54.0	+7.3
	comp=N,0.5nm,0.7s,baz=32,slow=6.2,SNR=4.9 comp=N,0.5nm,0.7s						
MKAR	**Makanchi Array**	**68.56**	**324**	P	P	13 17 09.0	+8.0
	comp=N,1.1nm,1.0s,baz=42,slow=6.1,SNR=4.6 comp=N,1.1nm,1.0s						

*TEH **23** 13:07:21.6, 33˚.69N × 45˚.53E, h10km ± 245km, ML2.9*
*ISN **23** 13:07:21.9 ± 1.3, 33˚.68N × 45˚.60E, h20km ± 7km, ML2.9*
ISC 23 13:07:22.1 ± 1.2, **33˚.66N** ± 0˚.04 × **45˚.56E** ± 0˚.04, **h15km** ± 13km, **n8**, σ0**s70**/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.54**	**94**	Pg	**Pb**	**13 07 33.7**	**+0.3**
ILBA				Sg	**Sb**	**13 07 40.9**	**-0.2**
IBDR	**Badra**	**0.63**	**150**	*e*Pg	**Pg**	**13 07 34.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**13 07 43.5**	**0.0**
BHD	**Baghdad**	**1.06**	**249**	*e*Pg	**Pb**	**13 07 42.0**	**-0.1**
BHD				*e*Sg	**Sg**	**13 07 56.5**	**+0.1**
IGHG	**Ghaleghazi**	**1.07**	**51**	Pg	**Pn**	**13 07 42.5**	**-0.4**
IDHR	**Dehrash**	**1.25**	**33**	Pg	**Pn**	**13 07 44.4**	**-0.8**
IDHR				Sg	**Sg**	**13 08 03.9**	**+1.4**
KCHF	**Cheshme Sefid,**	**1.38**	**63**	Pg	**Pg**	**13 07 48.1**	**-0.6**
RAFI	**Al-Rafai**	**1.99**	**166**	*e*Pn	**Pn**	**13 07 56.0**	**+0.8**
RAFI				*e*Sn	**Sb**	**13 08 22.0**	**-0.5**
IKRK	**Kirkuk**	**2.00**	**330**	*e*Pn	**Pn**	**13 07 56.0**	**+0.5**
IKRK				*e*Sn	**Sb**	**13 08 23.0**	**-0.1**

*IDC **23** 13:09:03.3 ± 3.0, 55˚.97N × 148˚.47W, h0km, mb3.5/2, mbtmp3.5/7, ML3.5/5, Error ellipse: s-maj=54.4km s-min=25.6km az=176.0*
*NEIC **23** 13:09:07.4 ± 1.0, 56˚.37N ± 0˚.05 × 148˚.6W ± 0˚.1, h10km ± 2km, mb4.2/1, ML4.1/48, ML3.9(AEIC), Error ellipse: s-maj=11.2km s-min=8.8km az=117.0*
*AEIC **23** 13:09:11.3 ± 1.6, 56˚.3N ± 0˚.1 × 148˚.5W ± 0˚.1, h10km ± 8km, Error ellipse: s-maj=17.8km s-min=9.4km az=168.0*
ISC 23 13:09:07.1 ± 1.3, **56˚.41N** ± 0˚.09 × **148˚.58W** ± 0˚.05, **h10km**, **n158**, σ1**s90**/160, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.58**	**304**		**Pn**	**13 09 49.0**	**+0.1**
KDAK	**Kodiak Island**	**2.58**	**304**		**Sn**	**13 10 18.3**	**-2.0**
KDAK	**Kodiak Island** baz=122	**2.58**	**304**	S	**Sn**	**13 10 18.3**	**-2.0**
KDAK	**Kodiak Island** 15nm,0.3s,baz=129,slow=8.1,SNR=17 30nm,0.3s	**2.58**	**304**	Pn	**Pn**	**13 09 49.0**	**+0.1**
OHAK	**Old Harbor**	**2.71**	**290**		**Pn**	**13 09 50.2**	**-0.5**
OHAK	comp=N,466nm,0.2s			IAML		13 10 47.2	
OHAK	**Old Harbor** baz=107	**2.71**	**290**	P	**Pn**	**13 09 50.5**	**-0.2**
SYI	**Shuyak Island**	**3.02**	**319**		**Sn**	**13 10 31.8**	**+0.7**
SYI	**Shuyak Island**	**3.02**	**319**	Pn	**Pn**	**13 09 55.8**	**+0.9**
Q20K	**Shuyak Island** baz=136	**3.02**	**319**	P	**Pn**	**13 09 55.9**	**+1.0**
Q20K	baz=136			S	**Sn**	**13 10 31.7**	**+0.7**
Q23K	**Middleton Isla**	**3.26**	**21**		**Pn**	**13 09 58.5**	**+0.3**
Q23K	**Middleton Isla** baz=201	**3.26**	**21**	P	**Pn**	**13 09 58.5**	**+0.3**
MID	**Middleton Isla**	**3.26**	**21**		**Pn**	**13 09 58.5**	**+0.3**
MID					**Sn**	**13 10 35.1**	**-1.9**
CNPM	**China Poot**	**3.43**	**337**		**Pn**	**13 10 01.3**	**+0.7**
CNPM	**China Poot**	**3.43**	**337**		**Sn**	**13 10 39.1**	**-2.2**
BRSE	**Bradley Lake S**	**3.54**	**342**		**Pn**	**13 10 02.5**	**+0.5**
BRSE	**Bradley Lake S** baz=160	**3.54**	**342**	P	**Pn**	**13 10 02.5**	**+0.5**
BRLK	**Bradley Lake**	**3.58**	**341**		**Pn**	**13 10 02.9**	**+0.2**
BRLK	**Bradley Lake**	**3.58**	**341**		**Sn**	**13 10 44.3**	**-0.7**
HOM	**Homer**	**3.65**	**335**		**Pn**	**13 10 04.2**	**+0.7**
HOM	**Homer** comp=N,409nm,0.3s	**3.65**	**335**	IAML		13 11 16.1	
HOM	comp=E,385nm,1.3s			IAML		13 11 18.5	
HOM	**Homer** baz=152	**3.65**	**335**	P	**Pn**	**13 10 04.2**	**+0.7**
P23K	**Montague Islan**	**3.66**	**9**		**Pn**	**13 10 04.2**	**+0.6**
P23K					**Sn**	**13 10 45.8**	**-1.0**
P23K	**Montague Islan** baz=190	**3.66**	**9**	P	**Pn**	**13 10 04.2**	**+0.6**
P23K	baz=190			S	**Sn**	**13 10 45.8**	**-1.0**
Q19K	**Cape Douglas,**	**3.71**	**315**		**Pn**	**13 10 05.8**	**+1.3**
Q19K	comp=N,596nm,1.0s			IAML		13 11 09.9	
Q19K	**Cape Douglas,** baz=132	**3.71**	**315**	P	**Pn**	**13 10 05.4**	**+0.9**
SEW	**Seward**	**3.74**	**353**		**Pn**	**13 10 05.4**	**+0.6**
SEW	**Seward** baz=172	**3.74**	**353**	P	**Pn**	**13 10 05.4**	**+0.6**
P19K	**Oil Pt**	**4.09**	**325**	Pn	**Pn**	**13 10 10.7**	**+1.1**
P19K	comp=N,444nm,0.5s			IAML		13 11 26.7	
P19K	comp=E,452nm,0.4s			IAML		13 11 28.6	
P19K	**Oil Pt** baz=141	**4.09**	**325**	P	**Pn**	**13 10 10.1**	**+0.5**
O22K	**Cooper Landing**	**4.13**	**352**		**Pn**	**13 10 10.9**	**+0.8**
O22K	**Cooper Landing** baz=171	**4.13**	**352**	P	**Pn**	**13 10 10.9**	**+0.8**
HIN	**Hinchinbrook I**	**4.15**	**14**	Pn	**Pn**	**13 10 11.0**	**+0.5**
KAIM	**Kayak Island**	**4.16**	**30**		**Pn**	**13 10 10.7**	**0.0**
KAIM	**Kayak Island** comp=E,400nm,1.2s	**4.16**	**30**	IAML		13 11 38.3	
KAIM	**Kayak Island** baz=213	**4.16**	**30**	P	**Pn**	**13 10 10.7**	**0.0**
SLKM	**Skilak Lake**	**4.20**	**349**		**Pn**	**13 10 11.9**	**+0.7**
O20K	**Slope Mountain**	**4.26**	**332**		**Pn**	**13 10 12.1**	**+0.1**
O20K	**Slope Mountain** baz=148	**4.26**	**332**	P	**Pn**	**13 10 12.1**	**+0.1**
CNTC	**Contact Creek**	**4.37**	**298**		**Pn**	**13 10 14.3**	**+0.7**
Q17K	**Contact Creek** baz=113	**4.37**	**298**	P	**Pn**	**13 10 14.3**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.41**	**19**	P	**Pn**	**13 10 15.1**	**+1.1**
EYAK	**Cordova Ski Ar** baz=200	**4.41**	**19**	P	**Pn**	**13 10 15.0**	**+0.9**
RAGM	**Ragged Mountai**	**4.49**	**26**		**Pn**	**13 10 16.1**	**+0.9**
RDSO	**Redoubt South**	**4.61**	**333**		**Pn**	**13 10 17.3**	**+0.3**
RSO	**Redoubt South**	**4.62**	**333**		**Pn**	**13 10 17.6**	**+0.5**
P18K	**Big Mountain,**	**4.64**	**313**	Pn	**Pn**	**13 10 17.4**	**+0.2**
P18K	**Big Mountain,** baz=128	**4.64**	**313**	P	**Pn**	**13 10 17.8**	**+0.6**
GOAT	**Goat Mountain**	**4.65**	**24**		**Pn**	**13 10 18.1**	**+0.8**
DFR	**Drift River**	**4.72**	**335**		**Pn**	**13 10 18.7**	**+0.4**
RC01	**Rabbit Creek A**	**4.74**	**353**		**Pn**	**13 10 19.4**	**+0.9**
RDJH	**Redoubt Jeurge**	**4.75**	**334**		**Pn**	**13 10 19.3**	**+0.5**
NCT	**North Crescent**	**4.75**	**333**		**Pn**	**13 10 19.2**	**+0.4**
BERG	**Berg Lake**	**4.75**	**31**		**Pn**	**13 10 19.2**	**+0.5**
SNH	**Sunshine Point**	**4.85**	**36**		**Pn**	**13 10 20.9**	**+0.8**
SNH	**Sunshine Point** comp=N,160nm,1.4s	**4.85**	**36**	IAML		13 11 40.9	
SNH	comp=E,196nm,1.3s			IAML		13 11 50.7	
O19K	**Port Alsworth**	**4.86**	**324**	Pn	**Pn**	**13 10 18.9**	**-1.2**
O19K	**Port Alsworth** baz=139	**4.86**	**324**	P	**Pn**	**13 10 20.7**	**+0.6**
Q16K	**King Salmon**	**4.91**	**301**		**Pn**	**13 10 22.2**	**+1.4**
Q16K	**King Salmon** baz=115	**4.91**	**301**	P	**Pn**	**13 10 22.2**	**+1.4**
O18K	**Koktuh Hills**	**4.93**	**317**		**Pn**	**13 10 21.6**	**+0.5**
O18K	**Koktuh Hills** baz=132	**4.93**	**317**	P	**Pn**	**13 10 21.6**	**+0.5**
DIV	**Divide**	**4.96**	**16**		**Pn**	**13 10 22.6**	**+1.0**
KNK	**Knik Glacier**	**5.02**	**1**	Pn	**Pn**	**13 10 23.6**	**+1.1**
KNK	comp=E,95nm,0.8s			IAML		13 11 51.5	
KNK	comp=N,82nm,0.5s			IAML		13 11 54.8	
BMRM	**Bremner River** baz=205	**5.02**	**23**	P	**Pn**	**13 10 23.5**	**+1.0**
P17K	**Kvichak River**	**5.05**	**307**		**Pn**	**13 10 23.7**	**+0.9**
P17K	**Kvichak River** baz=121	**5.05**	**307**	P	**Pn**	**13 10 23.7**	**+0.9**
N20K	**Mount Spurr** baz=157	**5.16**	**340**	P	**Pn**	**13 10 25.0**	**+0.6**
SPCR	**Spurr Chakacha**	**5.16**	**340**		**Pn**	**13 10 25.0**	**+0.6**
SPCN	**Chakachatna No**	**5.18**	**340**		**Pn**	**13 10 25.6**	**+0.9**
SUA	**Susitna One**	**5.20**	**348**	Pn	**Pn**	**13 10 25.5**	**+0.6**
SUA	comp=E,71nm,1.1s			IAML		13 11 53.5	
PMR	**Palmer**	**5.21**	**357**	Pn	**Pn**	**13 10 25.7**	**+0.7**
PMR	comp=E,88nm,0.6s			IAML		13 11 53.3	
PMR	comp=N,78nm,0.5s			IAML		13 11 55.4	
SPCG	**Spurr Capps Gl**	**5.21**	**341**		**Pn**	**13 10 25.8**	**+0.7**
SPCP	**Crater Peak Br**	**5.21**	**341**		**Pn**	**13 10 26.1**	**+0.9**
KLU	**Klutina**	**5.29**	**14**		**Pn**	**13 10 27.1**	**+1.0**
KLU	comp=E,121nm,0.3s			IAML		13 11 56.1	
KLU	comp=N,129nm,0.4s			IAML		13 11 58.6	
KLU	**Klutina** baz=196	**5.29**	**14**	P	**Pn**	**13 10 27.5**	**+1.4**
STLK	**Strandline Lak**	**5.38**	**343**		**Pn**	**13 10 27.9**	**+0.5**
GHO	**Glory Hole Cre**	**5.39**	**358**		**Pn**	**13 10 29.0**	**+1.5**
N19K	**Bonanza Creek**	**5.39**	**328**		**Pn**	**13 10 28.0**	**+0.5**
N19K	**Bonanza Creek** baz=143	**5.39**	**328**	P	**Pn**	**13 10 28.0**	**+0.5**
SPNN	**North Nagishla**	**5.41**	**339**		**Pn**	**13 10 29.0**	**+1.1**
SML	**Sawmill**	**5.42**	**1**		**Pn**	**13 10 29.4**	**+1.5**
SCM	**Sheep Creek Mo**	**5.48**	**6**	Pn	**Pn**	**13 10 30.9**	**+2.1**
SCM	**Sheep Creek Mo** baz=187	**5.48**	**6**	P	**Pn**	**13 10 30.2**	**+1.4**
VRDI	**Verde Repeater**	**5.52**	**27**		**Pn**	**13 10 30.1**	**+0.6**
SAMH	**Samovar Hills**	**5.56**	**45**		**Pn**	**13 10 30.4**	**+0.5**
N25K	**Chitina, Valde** baz=203	**5.61**	**20**	P	**Pn**	**13 10 31.9**	**+1.3**
O17K	**Koliganek Bris**	**5.64**	**310**		**Pn**	**13 10 31.8**	**+0.9**
O17K	**Koliganek Bris** baz=124	**5.64**	**310**	P	**Pn**	**13 10 31.8**	**+0.9**
P16K	**Nushagak River**	**5.69**	**301**		**Pn**	**13 10 32.6**	**+1.1**
P16K	**Nushagak River** baz=114	**5.69**	**301**	P	**Pn**	**13 10 32.6**	**+1.1**
N18K	**Kilae Creek**	**5.74**	**321**		**Pn**	**13 10 32.8**	**+0.5**
N18K	**Kilae Creek** baz=136	**5.74**	**321**	P	**Pn**	**13 10 32.8**	**+0.5**
PCA	**Pinnacle**	**5.75**	**46**		**Pn**	**13 10 33.0**	**+0.6**
PINM	**Pinnacle** baz=233	**5.75**	**46**	P	**Pn**	**13 10 33.0**	**+0.5**
SKT	**Skwentna**	**5.79**	**346**	Pn	**Pn**	**13 10 35.0**	**+2.0**
M24K	**Tolsona, Glenn**	**5.85**	**11**		**Pn**	**13 10 35.3**	**+1.4**
M24K	**Tolsona, Glenn** baz=193	**5.85**	**11**	P	**Pn**	**13 10 35.3**	**+1.4**
PNL	**Peninsula**	**5.87**	**52**		**Pn**	**13 10 34.4**	**+0.3**
PNL	**Peninsula**	**5.87**	**52**	P	**Pn**	**13 10 35.0**	**+0.9**
PNL	**Peninsula** baz=239	**5.87**	**52**	P	**Pn**	**13 10 34.4**	**+0.3**
BCPM	**Bancas Point**	**5.92**	**49**		**Pn**	**13 10 35.5**	**+0.7**
LOGN	**Logan Glacier**	**5.94**	**39**		**Pn**	**13 10 35.5**	**+0.3**
SVW2	**Sparrevohn**	**5.95**	**325**		**Pn**	**13 10 35.3**	**+0.2**
M20K	**Styx River**	**5.97**	**339**		**Pn**	**13 10 36.2**	**+0.7**
M20K	**Styx River** baz=155	**5.97**	**339**	P	**Pn**	**13 10 36.2**	**+0.7**
O16K	**Kokwok River B**	**5.98**	**306**		**Pn**	**13 10 36.5**	**+1.0**
O16K	**Kokwok River B** baz=119	**5.98**	**306**	P	**Pn**	**13 10 36.5**	**+1.0**
N17K	**Nushagak Hills**	**6.12**	**316**		**Pn**	**13 10 37.7**	**+0.2**
N17K	**Nushagak Hills** baz=129	**6.12**	**316**	P	**Pn**	**13 10 37.7**	**+0.2**
M19K	**Big River Lodg**	**6.27**	**334**		**Pn**	**13 10 39.9**	**+0.3**
M19K	**Big River Lodg** baz=149	**6.27**	**334**	P	**Pn**	**13 10 39.9**	**+0.3**
M18K	**Stony River**	**6.33**	**327**		**Pn**	**13 10 40.6**	**+0.3**
M18K	**Stony River** baz=141	**6.33**	**327**	P	**Pn**	**13 10 40.6**	**+0.3**
L19K	**White Mountain**	**6.62**	**334**		**Pn**	**13 10 44.5**	**+0.1**
L19K	**White Mountain** baz=148	**6.62**	**334**	P	**Pn**	**13 10 44.5**	**+0.1**
L20K	**Farewell, AK**	**6.66**	**338**		**Pn**	**13 10 45.4**	**+0.5**
L20K	**Farewell, AK** baz=154	**6.66**	**338**	P	**Pn**	**13 10 45.4**	**+0.5**
DHY	**Denali Highway**	**6.72**	**5**		**Pn**	**13 10 46.6**	**+0.7**
DHY	**Denali Highway** baz=185	**6.72**	**5**	P	**Pn**	**13 10 46.6**	**+0.7**
N16K	**Nishlik Lake**	**6.72**	**312**		**Pn**	**13 10 46.5**	**+0.7**
N16K	**Nishlik Lake** baz=123	**6.72**	**312**	P	**Pn**	**13 10 46.5**	**+0.7**
M17K	**Holitna River**	**6.79**	**321**		**Pn**	**13 10 47.4**	**+0.8**
M17K	**Holitna River** baz=134	**6.79**	**321**	P	**Pn**	**13 10 47.4**	**+0.8**
S31K	**Pelican** baz=261	**6.89**	**72**	P	**Pn**	**13 10 46.6**	**-1.5**
M16K	**Timber Creek**	**7.11**	**315**		**Pn**	**13 10 52.2**	**+1.1**
M16K	**Timber Creek** baz=126	**7.11**	**315**	P	**Pn**	**13 10 52.2**	**+1.1**
TRF	**Thorofare Moun**	**7.12**	**354**	Pn	**Pn**	**13 10 53.4**	**+2.1**
N15K	**Kwethluk River**	**7.14**	**307**		**Pn**	**13 10 53.1**	**+1.7**
N15K	**Kwethluk River** baz=117	**7.14**	**307**	P	**Pn**	**13 10 53.1**	**+1.7**
L18K	**Granite Mounta**	**7.15**	**328**		**Pn**	**13 10 51.9**	**+0.2**
L18K	**Granite Mounta** baz=141	**7.15**	**328**	P	**Pn**	**13 10 51.9**	**+0.2**
CAST	**Castle Rocks**	**7.25**	**347**	Pn	**Pn**	**13 10 54.4**	**+1.4**
HYT	**Haines Junctio**	**7.28**	**48**	Pn	**Pn**	**13 10 54.8**	**+1.2**
SIT	**Sitka**	**7.33**	**79**		**Pn**	**13 10 51.2**	**-2.8**
SIT	**Sitka** baz=270	**7.33**	**79**	P	**Pn**	**13 10 51.2**	**-2.8**
K20K	**Telida**	**7.50**	**341**		**Pn**	**13 10 57.0**	**+0.6**
K20K	**Telida** baz=156	**7.50**	**341**	P	**Pn**	**13 10 57.0**	**+0.6**
L17K	**Donlin**	**7.59**	**323**		**Pn**	**13 10 58.1**	**+0.4**
L17K	**Donlin** baz=135	**7.59**	**323**	P	**Pn**	**13 10 58.1**	**+0.4**
M15K	**Kasigluk River**	**7.65**	**309**		**Pn**	**13 10 58.7**	**+0.3**
M15K	**Kasigluk River** baz=119	**7.65**	**309**	P	**Pn**	**13 10 58.7**	**+0.3**
SKAG	**Skagway**	**7.69**	**61**		**Pn**	**13 10 59.5**	**+0.5**
L16K	**Owhat River** baz=129	**7.73**	**318**	P	**Pn**	**13 11 00.6**	**+1.0**
BPAW	**Bear Paw Mtn.**	**7.81**	**352**	Pn	**Pn**	**13 11 01.3**	**+0.6**
BPAW	**Bear Paw Mtn.** baz=170	**7.81**	**352**	P	**Pn**	**13 11 00.9**	**+0.2**
JIS	**Juneau Island**	**7.91**	**70**	P	**Pn**	**13 11 02.2**	**+0.2**
WHY	**Whitehorse**	**8.34**	**54**	Pn	**Pn**	**13 11 08.7**	**+0.7**
ILAR	**Eielson Array** comp=N,0.3nm,0.3s,baz=190,slow=13,SNR=4.5	**8.44**	**5**	Pn	**Pn**	**13 11 10.4**	**+1.2**
ILAR	comp=N,0.9nm,0.3s,baz=188,slow=22,SNR=6.9 comp=N,0.5nm,0.3s			Sn	**Sn**	**13 12 42.5**	**-1.9**
COLA	**College**	**8.51**	**2**	P	**Pn**	**13 11 13.1**	**+3.0**
CRAG	**Craig**	**8.73**	**90**	P	**Pn**	**13 11 15.0**	**+1.7**
H21K	**Melozitna Rive**	**9.50**	**349**		**Pn**	**13 11 25.0**	**+1.2**
FARO	**Faro, Yukon**	**9.72**	**47**	Pn	**Pn**	**13 11 28.6**	**+1.8**
DLBC	**Dease Lake** comp=N,0.3nm,0.3s,baz=236,slow=11,SNR=4.3 comp=N,1.5nm,0.5s	**10.21**	**71**	Pn	**Pn**	**13 11 33.0**	**-0.6**
INK	**Inuvik** comp=N,0.1nm,0.3s,baz=222,slow=10.0,SNR=4.4 comp=N,3.0nm,1.1s	**13.77**	**24**	Pn	**Pn**	**13 12 24.1**	**+2.0**
YKA	**Yellowknife Ar** comp=N,0.1nm,0.3s,baz=260,slow=12,SNR=8.5 comp=N,0.6nm,0.9s	**18.15**	**56**	P	**Pn**	**13 13 18.0**	**-0.8**
A36M	**Sachs Harbour**	**18.41**	**23**		**Pn**	**13 13 22.9**	**+0.8**
SONM	**Songino Array** comp=N,0.6nm,0.7s,baz=56,slow=3.3,SNR=3.2 comp=N,0.6nm,0.7s	**58.85**	**311**	P	**P**	**13 19 05.7**	**0.0**
MKAR	**Makanchi Array** comp=N,0.1nm,0.4s,baz=31,slow=7.1,SNR=1.4 comp=N,0.1nm,0.4s	**68.72**	**325**	P	**P**	**13 20 10.9**	**+0.3**

*NEIC **23** 13:09:19.7 ± 1.1, 55˚.98N ± 0˚.08 × 150˚.6W ± 0˚.1, h10km ± 2km, mb4.2/3, ML4.1/16, Error ellipse: s-maj=17.1km s-min=8.0km az=227.0*
*IDC **23** 13:09:21.3 ± 1.1, 56˚.01N × 149˚.22W, h0km, mb4.0/10, mbtmp4.0/14, ML3.5/4, Error ellipse: s-maj=27.0km s-min=18.5km az=26.0*
ISC 23 13:09:19.2 ± 1.3, **55˚.9N** ± 0˚.1 × **150˚.5W** ± 0˚.1, **h10km**, **n63**, σ1**s49**/49, **mb4.2**/11, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNPM	**China Poot**	**3.69**	**354**	Pn	**Pn**	**13 10 16.4**	**+0.1**
BRLK	**Bradley Lake**	**3.92**	**357**	Pn	**Pn**	**13 10 18.6**	**-0.8**
BRLK	comp=E,258nm,0.6s			IAML		13 11 12.8	
BRLK	comp=N,274nm,0.3s			IAML		13 11 13.7	
Q23K	**Middleton Isla**	**4.21**	**30**	Pn	**Pn**	**13 10 25.6**	**+2.4**
Q23K	comp=E,295nm,1.0s			IAML		13 11 08.8	
Q23K	comp=N,252nm,1.4s			IAML		13 11 10.9	
MID	**Middleton Isla**	**4.21**	**30**	Pn	**Pn**	**13 10 25.5**	**+2.3**
MID	comp=E,293nm,0.3s			IAML		13 11 06.4	
MID	comp=N,272nm,1.3s			IAML		13 11 10.8	
O22K	**Cooper Landing**	**4.65**	**5**	Pn	**Pn**	**13 10 28.2**	**-1.1**
O18K	**Koktuh Hills**	**4.73**	**330**	Pn	**Pn**	**13 10 29.0**	**-1.4**
O18K	comp=N,89nm,1.3s			IAML		13 11 34.6	
O18K	comp=E,62nm,0.8s			IAML		13 11 44.6	
RC01	**Rabbit Creek A**	**5.25**	**4**	Pn	**Pn**	**13 10 36.3**	**-1.4**
RC01	comp=N,122nm,0.4s			IAML		13 11 41.7	
RC01	comp=E,135nm,0.6s			IAML		13 11 44.0	
FID	**Port Fidalgo**	**5.33**	**22**		**Pn**	**13 10 36.0**	**-2.7**
PMR	**Palmer**	**5.79**	**6**	Pn	**Pn**	**13 10 43.2**	**-1.8**
GHO	**Glory Hole Cre**	**5.98**	**7**	Pn	**Pn**	**13 10 46.4**	**-1.3**
SML	**Sawmill**	**6.06**	**10**	Pn	**Pn**	**13 10 46.7**	**-2.1**
SCM	**Sheep Creek Mo**	**6.21**	**14**	Pn	**Pn**	**13 10 49.0**	**-1.7**
M24K	**Tolsona, Glenn**	**6.64**	**18**	Pn	**Pn**	**13 10 55.6**	**-1.2**
O14K	**Tigyukauivet M**	**6.72**	**305**	Pn	**Pn**	**13 10 56.1**	**-1.7**
FALS	**False Pass**	**7.45**	**268**	P	Pb	13 11 20.9	-7.4
RND	**Reindeer**	**7.61**	**6**	Pn	**Pn**	**13 11 09.1**	**-1.0**
S31K	**Pelican**	**8.07**	**69**	Pn	**Pn**	**13 11 16.5**	**+0.2**
M13K	**Dall Lake**	**8.19**	**309**	Pn	**Pn**	**13 11 16.0**	**-1.8**
HDA	**Harding Lake**	**8.75**	**10**		**Pn**	**13 11 24.3**	**-1.3**
SCRK	**Sand Creek**	**8.76**	**19**		**Pn**	**13 11 24.6**	**-1.3**
NEA2	**Nenana**	**8.79**	**4**		**Pn**	**13 11 25.1**	**-1.0**
CCB	**Clear Creek Bu**	**8.91**	**7**		**Pn**	**13 11 26.4**	**-1.3**
R32K	**Eaglecrest**	**9.02**	**68**	Pn	**Pn**	**13 11 30.2**	**+0.8**
JIS	**Juneau Island**	**9.09**	**68**		**Pn**	**13 11 30.7**	**+0.5**
IL31		**9.11**	**10**		**Pn**	**13 11 29.2**	**-1.2**
ILAR	**Eielson Array** comp=E,0.7nm,0.3s,baz=189,slow=12,SNR=8.8 comp=E,2.8nm,0.8s	**9.11**	**10**	Pn	**Pn**	**13 11 29.1**	**-1.4**
COLA	**College**	**9.13**	**7**		**Pn**	**13 11 30.1**	**-0.7**
UNV	**Unalaska Valle**	**9.46**	**264**	P	Pn	13 11 46.8	+11
DAWY	**Dawson**	**9.91**

comp=Z,1.1nm,0.6s,baz=360,slow=5.9,SNR=5.7
comp=Z,1.1nm,0.6s

*IDC **23** 13:09:37.6±1.1, 11°.38N×126°.00E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=66.3km s-min=17.9km az=64.0*
*NEIC **23** 13:09:38.6±0.8, 11°.33N±0°.07×126°.2E±0°.3, h10km±1km, mb4.4/8, Error ellipse: s-maj=47.6km s-min=5.8km az=77.0.*
ISC 23 13:09:42.0±0.8, 11°.3N±0°.1×126°.0E±0°.3, h33km, n19, σ0s74/20, mb4.2/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.07**	**288**	P	**P**	**13 15 21.9**	**+0.1**
	0.5nm,0.3s,baz=97,slow=7.3,SNR=5.4						
	0.5nm,0.3s						
AS31	**Alice Springs**	**35.61**	**167**	P	**P**	**13 16 35.9**	**-0.8**
ASAR	**Alice Springs**	**35.61**	**167**	P	**P**	**13 16 37.7**	**+0.9**
	0.2nm,0.4s,baz=351,slow=7.0,SNR=15						
ASAR				PcP	**PcP**	**13 19 05.6**	**+0.4**
	0.4nm,0.6s,baz=349,slow=2.6,SNR=4.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**39.96**	**339**	P	**P**	**13 17 13.8**	**+0.3**
	0.4nm,0.5s,baz=117,slow=5.0,SNR=1.8						
	0.4nm,0.5s						
MORW	**Morawa**	**41.27**	**193**	P	**P**	**13 17 24.4**	**+0.1**
BBOO	**Buckleboo**	**44.91**	**168**	P	**P**	**13 17 51.8**	**-1.9**
STKA	**Stephens Creek**	**45.46**	**161**	P	**P**	**13 17 59.6**	**+1.6**
	1.6nm,0.7s,baz=340,slow=14,SNR=3.9						
	1.6nm,0.7s						
MK31	**Makanchi Array**	**51.05**	**322**	P	**P**	**13 18 40.8**	**-0.3**
MKAR	**Makanchi Array**	**51.05**	**322**	P	**P**	**13 18 41.1**	**0.0**
MKAR	**Makanchi Array**	**51.05**	**322**	P	**P**	**13 18 41.3**	**+0.2**
	1.6nm,0.6s,baz=116,slow=8.2,SNR=16						
	1.6nm,0.6s						
MAKZ	**Makanchi**	**51.24**	**322**	P	**P**	**13 18 42.5**	**-0.1**
MAKZ				IAmb	IAmb	13 18 47.1	
	comp=Z,3.6nm,1.1s						
KURK	**Kurchatov**	**55.07**	**325**	P	**P**	**13 19 10.8**	**+0.2**
KURK				IAmb	IAmb	13 19 15.0	
	comp=Z,3.9nm,0.9s						
KURBB	**Kurchatov Arra**	**55.08**	**325**	P	**P**	**13 19 11.0**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=126,slow=7.1,SNR=14						
	comp=Z,1.6nm,0.5s						
BVAR	**Borovoye Array**	**60.67**	**325**	P	**P**	**13 19 50.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=123,slow=5.3,SNR=3.0						
	comp=Z,0.9nm,0.7s						
ABKAR	**Akbulak array**	**65.92**	**319**	P	**P**	**13 20 24.7**	**0.0**
ARU	**Arti**	**68.22**	**326**	P	**P**	**13 20 39.0**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=9.0,slow=6.4,SNR=3.1						
	comp=Z,1.4nm,0.3s						
TTA	**Tatalina**	**74.54**	**28**	P	**P**	**13 21 16.9**	**-0.4**
TTA				IAmb	IAmb	13 21 36.4	
	comp=Z,9.2nm,1.5s						
FINES	**FINESS Array B**	**84.86**	**332**	P	**P**	**13 22 12.6**	**-0.6**
	comp=Z,7.7nm,1.2s,baz=41,slow=6.1,SNR=2.5						
	comp=Z,7.7nm,1.2s						
BURAR	**Bucovina Array**	**88.90**	**318**	P	**P**	**13 22 33.5**	**+0.2**
BURAR				IAmb	IAmb	13 23 10.3	
	comp=Z,3.0nm,1.4s						

*NEIC **23** 13:13:39.4±1.3, 56°.5N±0°.1×148°.56W±0°.07, h10km±2km, ML3.5/24, ML2.8(AEIC), Error ellipse: s-maj=17.6km s-min=6.4km az=185.0*
AEIC 23 13:13:42.9±1.8, 56°.4N±0°.1×148°.5W±0°.1, h12km±9km, Error ellipse: s-maj=20.1km s-min=8.2km az=177.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.64**	**303**		Pn	13 14 19.9	-5.5
KDAK	**Kodiak Island**	**2.64**	**303**		Sn	13 14 49.7	-7.6
OHAK	**Old Harbor**	**2.78**	**289**		Pn	13 14 22.3	-4.9
OHAK					Sn	13 14 52.2	-8.4
OHAK	**Old Harbor**	**2.78**	**289**	IAML		13 16 01.0	
	comp=E,88nm,0.5s						
OHAK				IAML		13 16 01.6	
	comp=N,82nm,0.7s						
SYI	**Shuyak Island**	**3.07**	**318**		Pn	13 14 27.0	-4.2
SYI					Sn	13 15 00.9	-6.8
Q23K	**Middleton Isla**	**3.24**	**19**		Pn	13 14 28.9	-4.5
Q23K	**Middleton Isla**	**3.24**	**19**	IAML		13 15 56.6	
	comp=E,156nm,1.5s						
Q23K				IAML		13 16 11.8	
	comp=N,145nm,1.2s						
CNPM	**China Poot**	**3.47**	**336**		Pn	13 14 31.3	-5.3
CNPM	**China Poot**	**3.47**	**336**	IAML		13 16 38.6	
	comp=E,50nm,1.3s						
BRSE	**Bradley Lake S**	**3.56**	**341**		Pn	13 14 33.2	-4.8
BRLK	**Bradley Lake**	**3.61**	**340**		Pn	13 14 33.7	-5.0
BRLK	**Bradley Lake**	**3.61**	**340**	IAML		13 15 18.5	
	comp=E,36nm,1.4s						
P23K	**Montague Islan**	**3.65**	**8**		Pn	13 14 33.7	-5.5
Q19K	**Cape Douglas,**	**3.77**	**314**		Pn	13 14 36.6	-4.2
AU22	**Augustine Moun**	**3.96**	**321**		Pn	13 14 39.8	-3.7
KAIM	**Kayak Island**	**4.13**	**29**	Pn	Pn	13 14 41.6	-4.2
KAIM				IAML		13 15 13.7	
	comp=N,108nm,1.3s						
KAIM				IAML		13 15 30.8	
	comp=E,101nm,1.3s						
HIN	**Hinchinbrook I**	**4.14**	**14**	Pn	Pn	13 14 41.1	-4.8
HIN				IAML		13 15 27.2	
	comp=E,62nm,1.1s						
HIN				IAML		13 15 28.0	
	comp=N,79nm,1.3s						
RAGM	**Ragged Mountai**	**4.47**	**25**	Pn	Pn	13 14 44.4	-6.1
RAGM				IAML		13 15 43.1	
	comp=E,79nm,1.3s						
RSO	**Redoubt South**	**4.66**	**333**	Pn	Pn	13 14 47.2	-6.0
BERG	**Berg Lake**	**4.72**	**30**	Pn	Pn	13 14 49.3	-4.6
BERG				IAML		13 15 42.8	
	comp=E,84nm,0.2s						
O19K	**Port Alsworth**	**4.90**	**323**	Pn	Pn	13 14 50.1	-6.2
N18K	**Kilae Creek**	**5.79**	**321**	Pn	Pn	13 15 03.4	-5.2
BCPM	**Bancas Point**	**5.87**	**49**	Pn	Pn	13 15 05.7	-3.9
CTGM	**Chitina Glacie**	**5.89**	**36**	Pn	Pn	13 15 06.2	-3.9
SVW2	**Sparrevohn**	**5.99**	**325**	Pn	Pn	13 15 06.3	-5.0
M17K	**Holitna River**	**6.84**	**321**	Pn	Pn	13 15 18.3	-4.6
M27K	**Edge Creek, AK**	**6.85**	**27**	Pn	Pn	13 15 18.9	-4.3

*AEIC **23** 13:16:58.2±3.8, 56°.0N±0°.1×149°.8W±0°.2, h12km±9km, Error ellipse: s-maj=19.1km s-min=12.3km az=177.0*
NEIC 23 13:16:57.9±1.3, 56°.2N±0°.1×150°.2W±0°.1, h10km±2km, ML3.3/30, ML2.9(AEIC), Error ellipse: s-maj=17.3km s-min=11.7km az=183.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.97**	**302**		Pn	13 17 29.9	-1.3
OHAK					Sn	13 17 54.3	-1.6
KDAK	**Kodiak Island**	**2.03**	**321**		Pn	13 17 31.8	-0.3
KDAK	**Kodiak Island**	**2.03**	**321**		Sn	13 17 57.3	-0.1
SYI	**Shuyak Island**	**2.66**	**335**		Pn	13 17 40.8	0.0
SYI					Sn	13 18 14.5	+1.5
KAHG	**Katmai Hook Gl**	**3.27**	**316**		Pn	13 17 50.3	+1.1
Q19K	**Cape Douglas,**	**3.27**	**327**		Pn	13 17 50.6	+1.3
Q19K	**Cape Douglas,**	**3.27**	**327**	IAML		13 18 40.1	
	comp=N,109nm,1.2s						
Q19K				IAML		13 19 40.9	
	comp=E,178nm,1.5s						
CNPM	**China Poot**	**3.35**	**351**		Pn	13 17 49.8	-0.5
CNPM	**China Poot**	**3.35**	**351**	IAML		13 18 32.9	
	comp=E,23nm,1.4s						
CNPM				IAML		13 19 32.1	
	comp=N,23nm,1.2s						
ACHA	**Angle Creek He**	**3.42**	**308**		Pn	13 17 51.5	+0.3
ANCK	**Angle Creek**	**3.48**	**307**		Pn	13 17 52.7	+0.5
HOM	**Homer**	**3.52**	**348**	Pn	Pn	13 17 51.5	-1.0
BRSE	**Bradley Lake S**	**3.53**	**356**		Pn	13 17 50.2	-2.5
BRLK	**Bradley Lake**	**3.56**	**354**		Pn	13 17 51.9	-1.3
BRLK	**Bradley Lake**	**3.56**	**354**	IAML		13 18 45.8	
	comp=E,25nm,1.5s						
BRLK				IAML		13 20 21.4	
	comp=N,20nm,1.4s						
CNTC	**Contact Creek**	**3.70**	**306**		Pn	13 17 55.4	+0.3
Q23K	**Middleton Isla**	**3.81**	**31**	Pn	Pn	13 17 55.8	-0.8
Q23K				IAML		13 18 56.6	
	comp=N,126nm,1.5s						
MID	**Middleton Isla**	**3.81**	**31**	Pn	Pn	13 17 55.5	-1.1
MID				IAML		13 18 42.3	
	comp=N,113nm,1.5s						
P18K	**Big Mountain,**	**4.15**	**322**	Pn	Pn	13 18 01.1	-0.2
P18K				IAML		13 18 51.9	
	comp=N,10.0nm,1.2s						
HIN	**Hinchinbrook I**	**4.61**	**24**	Pn	Pn	13 18 07.4	-0.2
HIN				IAML		13 18 47.6	
	comp=E,36nm,1.5s						
HIN				IAML		13 21 08.7	
	comp=N,47nm,1.2s						
KAIM	**Kayak Island**	**4.81**	**37**	Pn	Pn	13 18 09.6	-0.7
RC01	**Rabbit Creek A**	**4.88**	**3**	Pn	Pn	13 18 11.4	+0.2
RC01				IAML		13 21 13.4	
	comp=N,16nm,1.0s						
RC01				IAML		13 21 16.4	
	comp=E,16nm,1.3s						
EYAK	**Cordova Ski Ar**	**4.92**	**27**		Pn	13 18 11.7	-0.1
FID	**Port Fidalgo**	**4.93**	**22**	Pn	Pn	13 18 11.6	-0.4
FID				IAML		13 20 47.7	
	comp=N,32nm,1.5s						
RAGM	**Ragged Mountai**	**5.08**	**33**	Pn	Pn	13 18 14.1	0.0
RAGM				IAML		13 18 55.1	
	comp=E,45nm,1.4s						
BERG	**Berg Lake**	**5.40**	**37**	Pn	Pn	13 18 17.8	-0.6
KLU	**Klutina**	**5.72**	**21**	Pn	Pn	13 18 23.3	+0.4
SKT	**Skwentna**	**5.80**	**354**	Pn	Pn	13 18 24.2	+0.2
VRDI	**Verde Repeater**	**6.12**	**32**	Pn	Pn	13 18 28.6	+0.2
N25K	**Chitina, Valde**	**6.12**	**26**	Pn	Pn	13 18 28.8	+0.5
GLB	**Gilahina Butte**	**6.19**	**30**	Pn	Pn	13 18 29.5	+0.2

*AEIC **23** 13:18:39.5±0.5, 55°.9N±0°.1×150°.1W±0°.1, h10km±9km, Error ellipse: s-maj=19.7km s-min=10.8km az=182.0*
NEIC 23 13:18:36.6±0.5, 56°.05N±0°.09×150°.1W±0°.1, h10km±2km, ML3.4/30, ML3.3(AEIC), Error ellipse: s-maj=16.1km s-min=10.4km az=168.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.12**	**305**		Pn	13 19 11.6	-0.5
OHAK					Sn	13 19 36.4	-2.2
OHAK	**Old Harbor**	**2.12**	**305**	P	Pn	13 19 11.6	-0.5
	baz=126						
OHAK				S	Sn	13 19 36.4	-2.2
	baz=126						
KDAK	**Kodiak Island**	**2.21**	**323**		Pn	13 19 13.4	0.0
KDAK					Sn	13 19 40.0	-0.8
Q20K	**Shuyak Island**	**2.86**	**335**	P	Pn	13 19 22.5	+0.3
	baz=154						
Q20K				S	Sn	13 19 57.1	+0.5
	baz=154						
SYI	**Shuyak Island**	**2.86**	**335**		Pn	13 19 22.5	+0.3
SYI					Sn	13 19 57.1	+0.5
SYI	**Shuyak Island**	**2.86**	**335**	IAML		13 20 23.2	
	comp=E,37nm,1.4s						
SYI				IAML		13 20 32.0	
	comp=N,36nm,1.4s						
Q19K	**Cape Douglas,**	**3.47**	**328**		Pn	13 19 31.1	+0.4
Q19K	**Cape Douglas,**	**3.47**	**328**	IAML		13 20 17.9	
	comp=N,130nm,1.5s						
Q19K	**Cape Douglas,**	**3.47**	**328**	P	Pn	13 19 31.1	+0.4
	baz=146						
CNPM	**China Poot**	**3.54**	**350**	Pn	Pn	13 19 31.6	-0.1
CNPM				IAML		13 20 13.6	
	comp=E,33nm,1.3s						
CNPM	**China Poot**	**3.54**	**350**		Sn	13 20 12.3	-1.2
ANCK	**Angle Creek**	**3.65**	**308**		Pn	13 19 33.0	-0.2
BRSE	**Bradley Lake S**	**3.72**	**355**		Sn	13 20 15.4	-2.5
BRSE	**Bradley Lake S**	**3.72**	**355**	S	Sn	13 20 15.4	-2.5
	baz=174						
BRLK	**Bradley Lake**	**3.75**	**354**	Pn	Pn	13 19 34.2	-0.4
BRLK				IAML		13 20 36.8	
	comp=E,33nm,1.5s						
BRLK				IAML		13 21 59.4	
	comp=N,30nm,1.5s						
CNTC	**Contact Creek**	**3.86**	**308**		Pn	13 19 35.8	-0.4
Q17K	**Contact Creek**	**3.86**	**308**	P	Pn	13 19 35.8	-0.4
	baz=124						
Q23K	**Middleton Isla**	**3.94**	**29**		Pn	13 19 36.4	-0.6
Q23K				IAML		13 21 17.0	
	comp=E,132nm,1.5s						
Q23K	**Middleton Isla**	**3.94**	**29**	P	Pn	13 19 36.7	-0.4
	baz=211						
MID	**Middleton Isla**	**3.94**	**29**		Pn	13 19 36.5	-0.6
MID				IAML		13 21 45.5	
	comp=N,165nm,1.4s						
P19K	**Oil Pt**	**3.99**	**336**	Pn	Pn	13 19 37.4	-0.4
P19K				IAML		13 20 29.5	
	comp=N,70nm,0.7s						
P19K				IAML		13 21 25.5	
	comp=E,69nm,1.5s						
P23K	**Montague Islan**	**4.21**	**19**		Pn	13 19 40.5	-0.3
P23K	**Montague Islan**	**4.21**	**19**	P	Pn	13 19 40.5	-0.3
	baz=200						
P18K	**Big Mountain,**	**4.34**	**323**		Pn	13 19 42.3	-0.4
P18K	**Big Mountain,**	**4.34**	**323**	P	Pn	13 19 42.7	+0.1
	baz=140						
HIN	**Hinchinbrook I**	**4.75**	**22**		Pn	13 19 48.2	-0.1
KAIM	**Kayak Island**	**4.92**	**35**		Pn	13 19 50.3	-0.3
KAIM	**Kayak Island**	**4.92**	**35**	P	Pn	13 19 50.5	-0.1
	baz=215						
EYAK	**Cordova Ski Ar**	**5.06**	**25**		Pn	13 19 52.7	+0.2
EYAK	**Cordova Ski Ar**	**5.06**	**25**	P	Pn	13 19 52.7	+0.2
	baz=208						
FID	**Port Fidalgo**	**5.08**	**20**		Pn	13 19 52.4	-0.4
FID	**Port Fidalgo**	**5.08**	**20**	IAML		13 21 15.6	
	comp=E,37nm,1.4s						
RAGM	**Ragged Mountai**	**5.21**	**31**		Pn	13 19 54.5	0.0
N19K	**Bonanza Creek**	**5.31**	**336**		Pn	13 19 56.0	0.0
N19K				IAML		13 22 57.3	
	comp=N,7.1nm,1.0s						
N19K				IAML		13 23 12.6	
	comp=E,6.7nm,0.9s						
N19K	**Bonanza Creek**	**5.31**	**336**	P	Pn	13 19 56.4	+0.4
	baz=153						
GOAT	**Goat Mountain**	**5.35**	**30**		Pn	13 19 56.6	+0.1
BERG	**Berg Lake**	**5.51**	**35**		Pn	13 19 58.6	-0.1
N18K	**Kilae Creek**	**5.56**	**329**		Pn	13 19 59.6	+0.2
N18K	**Kilae Creek**	**5.56**	**329**	P	Pn	13 19 59.6	+0.2
	baz=145						
O16K	**Kokwok River B**	**5.56**	**313**	Pn	Pn	13 19 59.5	+0.1
PMR	**Palmer**	**5.58**	**5**	Pn	Pn	13 19 59.6	-0.1
SNH	**Sunshine Point**	**5.65**	**40**		Pn	13 20 00.3	-0.3
BMRM	**Bremner River**	**5.71**	**28**		Pn	13 20 01.6	+0.2
BMRM	**Bremner River**	**5.71**	**28**	P	Pn	13 20 01.6	+0.2
	baz=212						
KLU	**Klutina**	**5.87**	**20**	Pn	Pn	13 20 03.6	-0.1
O15K	**Ungalikthiuk R**	**6.10**	**305**		Pn	13 20 06.5	-0.3
O15K	**Ungalikthiuk R**	**6.10**	**305**	P	Pn	13 20 06.5	-0.3
	baz=118						
VRDI	**Verde Repeater**	**6.24**	**31**	Pn	Pn	13 20 08.6	-0.3
N25K	**Chitina, Valde**	**6.26**	**25**		Pn	13 20 08.9	-0.1
N25K	**Chitina, Valde**	**6.26**	**25**	P	Pn	13 20 09.2	+0.2
	baz=209						
GLB	**Gilahina Butte**	**6.32**	**29**	Pn	Pn	13 20 09.7	0.0
M17K	**Holitna River**	**6.59**	**328**		Pn	13 20 13.6	+0.1
M17K	**Holitna River**	**6.59**	**328**	P	Pn	13 20 13.6	+0.1
	baz=142						
BARN	**Barnard Glacie**	**6.68**	**38**	Pn	Pn	13 20 14.9	0.0
LOGN	**Logan Glacier**	**6.75**	**41**	Pn	Pn	13 20 15.8	-0.1
PNL	**Peninsula**	**6.76**	**53**		Pn	13 20 15.7	-0.1
PNL	**Peninsula**	**6.76**	**53**	P	Pn	13 20 15.7	-0.1
	baz=241						
M16K	**Timber Creek**	**6.81**	**321**		Pn	13 20 16.5	0.0
M16K	**Timber Creek**	**6.81**	**321**	P	Pn	13 20 16.5	0.0
	baz=134						
L18K	**Granite Mounta**	**7.06**	**334**	Pn	Pn	13 20 19.9	0.0
L16K	**Owhat River**	**7.47**	**323**		Pn	13 20 25.6	+0.1
L16K	**Owhat River**	**7.47**	**323**	P	Pn	13 20 25.6	+0.1
	baz=136						

*NEIC **23** 13:22:44.3±1.0, 56°.3N±0°.1×149°.3W±0°.1, h10km±2km, ML3.7/26, ML3.1(AEIC), Error ellipse: s-maj=18.7km s-min=11.6km az=181.0*
AEIC 23 13:22:47.8±1.9, 56°.2N±0°.1×149°.2W±0°.1, h12km±9km, Error ellipse: s-maj=19.9km s-min=11.1km az=179.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**312**		Pn	13 23 22.6	-4.9
KDAK					Sn	13 23 50.5	-6.9
OHAK	**Old Harbor**	**2.49**	**296**		Pn	13 23 22.9	-5.1
OHAK					Sn	13 23 49.5	-8.8
SYI	**Shuyak Island**	**2.98**	**326**		Pn	13 23 30.0	-4.8
SYI					Sn	13 24 04.3	-6.1
CNPM	**China Poot**	**3.51**	**343**		Pn	13 23 37.8	-4.4
Q19K	**Cape Douglas,**	**3.64**	**321**		Pn	13 23 39.1	-4.9
BRSE	**Bradley Lake S**	**3.65**	**347**		Pn	13 23 39.1	-5.0
BRLK	**Bradley Lake**	**3.69**	**346**	Pn	Pn	13 23 40.2	-4.5
BRLK				IAML		13 25 05.1	
	comp=N,83nm,0.2s						
KAHG	**Katmai Hook Gl**	**3.71**	**311**		Pn	13 23 41.2	-3.8
ACHA	**Angle Creek He**	**3.90**	**304**		Pn	13 23 44.3	-3.4
ANCK	**Angle Creek**	**3.98**	**303**		Pn	13 23 44.8	-3.8
P19K	**Mil Pt**	**4.08**	**330**	Pn	Pn	13 23 45.7	-4.3
P18K	**Big Mountain,**	**4.55**	**317**	Pn	Pn	13 23 51.9	-4.6
RSO	**Redoubt South**	**4.67**	**338**	Pn	Pn	13 23 54.2	-4.1
CAPN	**Captain Cook N**	**4.70**	**348**	Pn	Pn	13 23 55.1	-3.3
FID	**Port Fidalgo**	**4.78**	**16**	Pn	Pn	13 23 56.0	-3.6
BERG	**Berg Lake**	**5.10**	**32**	Pn	Pn	13 23 60.0	-4.0
N19K	**Bonanza Creek**	**5.40**	**331**	Pn	Pn	13 24 03.5	-4.7
N19K				IAML		13 27 38.1	
	comp=E,24nm,1.4s						
PMR	**Palmer**	**5.41**	**0**	Pn	Pn	13 24 04.2	-4.0
PMR				IAML		13 25 46.0	
	comp=E,29nm,0.6s						
PMR				IAML		13 25 46.6	
	comp=N,32nm,0.5s						
GHO	**Glory Hole Cre**	**5.59**	**1**	Pn	Pn	13 24 07.4	-3.4
BARN	**Barnard Glacie**	**6.26**	**36**	Pn	Pn	13 24 16.7	-3.3
CTGM	**Chitina Glacie**	**6.29**	**37**	Pn	Pn	13 24 17.0	-3.6
BCPM	**Bancas Point**	**6.31**	**49**	Pn	Pn	13 24 17.4	-3.1
LOGN	**Logan Glacier**	**6.31**	**39**	Pn	Pn	13 24 17.1	-3.6
O29M	**Mount Kennedy**	**6.94**	**49**	Pn	Pn	13 24 26.4	-3.0
P29M	**Windy Craggy**	**7.00**	**56**	Pn	Pn	13 24 26.4	-3.6

*IDC **23** 13:23:20.9±2.9, 55°.73N×149°.46W, h0km, mb3.1/1, mbtmp3.5/6, ML3.4/5, Error ellipse: s-maj=45.0km s-min=26.5km az=45.0*
*NEIC **23** 13:23:26.0±1.0, 56°.22N±0°.08×149°.7W±0°.1, h10km±2km, mb3.7/1, ML3.8/42, ML3.6(AEIC), Error ellipse: s-maj=13.6km s-min=9.8km az=164.0*
*AEIC **23** 13:23:29.1±1.1, 56°.18N±0°.09×149°.6W±0°.1, h1km±7km, Error ellipse: s-maj=13.0km s-min=8.7km az=163.0*
ISC 23 13:23:24.3±1.0, 56°.14N±0°.08×149°.58W±0°.06, h10km, n132, σ1s29/132, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.32**	**300**		**Pn**	**13 24 02.8**	**+0.4**
OHAK					**Sn**	**13 24 28.6**	**-2.3**
OHAK	**Old Harbor**	**2.32**	**300**	IAML		13 24 28.9	
	comp=E,162nm,0.3s						
OHAK				IAML		13 24 29.0	
	comp=N,362nm,0.2s						
OHAK	**Old Harbor**	**2.32**	**300**	P	**Pn**	**13 24 02.8**	**+0.4**
	baz=116						
OHAK				S	**Sn**	**13 24 28.6**	**-2.3**
	baz=116						
KDAK	**Kodiak Island**	**2.33**	**316**		**Pn**	**13 24 03.3**	**+0.7**
KDAK					**Sn**	**13 24 29.1**	**-2.1**
KDAK	**Kodiak Island**	**2.33**	**316**	IAML		13 24 30.8	
	comp=N,124nm,0.5s						
KDAK				IAML		13 24 30.8	
	comp=N,133nm,0.6s						
KDAK	**Kodiak Island**	**2.33**	**316**	Pn	**Pn**	**13 24 03.3**	**+0.7**
	comp=N,10nm,0.3s,baz=142,slow=8.2,SNR=18						
KDAK				Sn	**Sn**	**13 24 29.5**	**-1.8**
	comp=N,15nm,0.3s,baz=316,slow=21,SNR=18						
	comp=N,29nm,0.3s						
SYI	**Shuyak Island**	**2.91**	**330**		**Pn**	**13 24 11.2**	**+0.6**
SYI					**Sn**	**13 24 45.4**	**-0.2**
SYI	**Shuyak Island**	**2.91**	**330**	IAML		13 24 46.4	
	comp=N,153nm,0.6s						
SYI				IAML		13 24 47.1	
	comp=E,172nm,0.5s						
Q20K	**Shuyak Island**	**2.91**	**330**	P	**Pn**	**13 24 11.2**	**+0.6**
	baz=147						
Q20K				S	**Sn**	**13 24 45.4**	**-0.2**
	baz=147						
CNPM	**China Poot**	**3.51**	**346**		**Pn**	**13 24 19.1**	**+0.2**
CNPM					**Sn**	**13 24 58.7**	**-1.7**
CNPM	**China Poot**	**3.51**	**346**	IAML		13 25 00.3	
	comp=N,112nm,1.3s						
CNPM				IAML		13 25 00.7	
	comp=E,125nm,0.4s						
Q19K	**Cape Douglas,**	**3.56**	**324**		**Pn**	**13 24 20.0**	**+0.5**
Q19K	**Cape Douglas,**	**3.56**	**324**	P	**Pn**	**13 24 20.0**	**+0.5**
	baz=140						
BRSE	**Bradley Lake S**	**3.67**	**351**		**Pn**	**13 24 20.8**	**-0.2**
BRSE	**Bradley Lake S**	**3.67**	**351**	P	**Pn**	**13 24 20.8**	**-0.2**
	baz=170						
HOM	**Homer**	**3.70**	**344**		**Pn**	**13 24 21.7**	**+0.3**
HOM					**Sn**	**13 25 04.1**	**-0.9**
HOM	**Homer**	**3.70**	**344**	IAML		13 26 35.7	
	comp=E,217nm,1.3s						
HOM	**Homer**	**3.70**	**344**	P	**Pn**	**13 24 21.7**	**+0.3**
	baz=162						
HOM				S	**Sn**	**13 25 04.1**	**-0.9**
	baz=162						
BRLK	**Bradley Lake**	**3.71**	**350**		**Pn**	**13 24 20.6**	**-1.0**
BRLK				IAML		13 25 06.6	
	comp=E,131nm,0.4s						
BRLK	**Bradley Lake**	**3.71**	**350**		**Sn**	**13 25 02.9**	**-2.3**
Q23K	**Middleton Isla**	**3.73**	**26**		**Pn**	**13 24 22.1**	**+0.4**
Q23K	**Middleton Isla**	**3.73**	**26**	IAML		13 25 02.6	
	comp=E,159nm,1.4s						
Q23K				IAML		13 25 58.5	
	comp=N,137nm,1.2s						
Q23K	**Middleton Isla**	**3.73**	**26**	P	**Pn**	**13 24 22.1**	**+0.4**
	baz=210						
MID	**Middleton Isla**	**3.73**	**26**		**Pn**	**13 24 22.1**	**+0.3**
MID	**Middleton Isla**	**3.73**	**26**	IAML		13 25 35.9	
	comp=N,122nm,1.3s						
P19K	**Oil Pt**	**4.03**	**333**		**Pn**	**13 24 26.6**	**+0.6**
P19K	**Oil Pt**	**4.03**	**333**	IAML		13 25 17.1	
	comp=N,242nm,0.5s						
P19K	**Oil Pt**	**4.03**	**333**	P	**Pn**	**13 24 26.6**	**+0.6**

	baz=149								
SUA	**Susitna One**	**5.38**	**354**	Pn	**Pn**	**13 24 44.5**	**-0.1**
SUA				IAML		13 25 46.7	
	comp=N,34nm,1.0s						
SUA				IAML		13 25 48.4	
	comp=E,29nm,0.9s						
SNH	**Sunshine Point**	**5.40**	**39**	Pn	**Pn**	**13 24 46.0**	**+1.1**
SNH				IAML		13 25 46.0	
	comp=N,78nm,1.2s						
SNH				IAML		13 28 05.0	
	comp=E,56nm,1.2s						
PMR	**Palmer**	**5.48**	**2**	Pn	**Pn**	**13 24 46.4**	**+0.6**
N18K	**Kilae Creek**	**5.63**	**327**	Pn	**Pn**	**13 24 48.3**	**+0.3**
GHO	**Glory Hole Cre**	**5.67**	**3**	Pn	**Pn**	**13 24 49.9**	**+1.4**
BARK	**Barkley Ridge**	**5.68**	**38**		**Pn**	**13 24 50.5**	**+1.8**
KLU	**Klutina**	**5.70**	**18**	Pn	**Pn**	**13 24 49.9**	**+0.9**
O16K	**Kokwok River B**	**5.71**	**311**	Pn	**Pn**	**13 24 50.3**	**+1.2**
SML	**Sawmill**	**5.73**	**6**	Pn	**Pn**	**13 24 50.1**	**+0.9**
CNBA	**Chernabura Isl**	**5.84**	**261**	Pn	**Pn**	**13 24 51.1**	**+0.3**
SVW2	**Sparrevohn**	**5.88**	**330**	Pn	**Pn**	**13 24 51.3**	**0.0**
SVW2	**Sparrevohn**	**5.88**	**330**	P	**Pb**	**13 25 08.1**	**+1.4**
VRDI	**Verde Repeater**	**6.02**	**29**	Pn	**Pn**	**13 24 54.4**	**+0.9**
KIAG	**Kiagna River**	**6.11**	**35**		**Pn**	**13 24 55.6**	**+1.0**
SDPT	**Sand Point**	**6.20**	**267**	Pn	**Pn**	**13 24 56.6**	**+0.8**
PCA	**Pinnacle**	**6.34**	**47**		**Pn**	**13 24 59.5**	**+1.8**
PINM	**Pinnacle**	**6.34**	**47**	P	**Pn**	**13 24 59.5**	**+1.8**
	baz=236						
BARN	**Barnard Glacie**	**6.44**	**37**		**Pn**	**13 24 60.0**	**+0.7**
PNL	**Peninsula**	**6.48**	**53**		**Pn**	**13 25 01.2**	**+1.6**
PNL	**Peninsula**	**6.48**	**53**	P	**Pn**	**13 25 01.2**	**+1.6**
	baz=242						
CTGM	**Chitina Glacie**	**6.49**	**38**		**Pn**	**13 25 00.7**	**+0.9**
LOGN	**Logan Glacier**	**6.50**	**40**		**Pn**	**13 25 01.0**	**+0.9**
L19K	**White Mountain**	**6.64**	**338**	Pn	**Pn**	**13 25 02.2**	**+0.4**
M17K	**Holitna River**	**6.67**	**326**	Pn	**Pn**	**13 25 02.7**	**+0.4**
M16K	**Timber Creek**	**6.93**	**319**	Pn	**Pn**	**13 25 06.7**	**+1.0**
L18K	**Granite Mounta**	**7.11**	**332**	Pn	**Pn**	**13 25 08.2**	**0.0**
M26K	**Nabesna, AK**	**7.13**	**25**	Pn	**Pn**	**13 25 09.7**	**+1.2**
O29M	**Mount Kennedy**	**7.16**	**50**		**Pn**	**13 25 10.6**	**+1.6**
YUK2	**White River**	**7.24**	**35**		**Pn**	**13 25 11.6**	**+1.5**
L16K	**Owhat River**	**7.57**	**322**	Pn	**Pn**	**13 25 15.4**	**+0.8**
BVCY	**Beaver Creek**	**7.71**	**32**		**Pn**	**13 25 18.3**	**+1.8**
BVCY	**Beaver Creek**	**7.71**	**32**	P	**Pn**	**13 25 18.3**	**+1.8**
	baz=220						
P30M	**Million Dollar**	**7.78**	**54**		**Pn**	**13 25 19.1**	**+1.7**
P30M	**Million Dollar**	**7.78**	**54**	P	**Pn**	**13 25 19.1**	**+1.7**
	baz=245						
HYT	**Haines Junctio**	**7.88**	**48**	Pn	**Pn**	**13 25 20.4**	**+1.5**
YUK5	**Granite Creek**	**7.90**	**46**		**Pn**	**13 25 21.8**	**+2.6**
SIT	**Sitka**	**7.92**	**77**	P	**Pn**	**13 25 18.0**	**-1.4**
K17K	**Iditarod**	**7.95**	**330**	Pn	**Pn**	**13 25 19.6**	**-0.1**
FALS	**False Pass**	**7.96**	**266**	P	**Pn**	**13 25 21.5**	**+1.6**
L27K	**Beaver Creek,**	**7.98**	**26**	Pn	**Pn**	**13 25 21.8**	**+1.7**
RIDG	**Independent Ri**	**7.99**	**15**	Pn	**Pn**	**13 25 20.8**	**+0.5**
BCAR	**Beaver Creek A**	**7.99**	**26**	Pn	**Pn**	**13 25 21.3**	**+1.0**
BPAW	**Bear Paw Mtn.**	**8.02**	**356**	Pn	**Pn**	**13 25 20.8**	**+0.1**
ISLZ	**Isanotski Laza**	**8.16**	**266**		**Pn**	**13 25 23.4**	**+0.7**
SKAG	**Skagway**	**8.31**	**60**		**Pn**	**13 25 26.0**	**+1.4**
SKAG	**Skagway**	**8.31**	**60**	P	**Pn**	**13 25 26.8**	**+2.2**
N30M	**Aishikik Lake**	**8.39**	**45**		**Pn**	**13 25 27.1**	**+1.3**
N30M	**Aishikik Lake**	**8.39**	**45**	P	**Pn**	**13 25 27.4**	**+1.6**
	baz=236						
O30N	**Mendenhall**	**8.46**	**51**	Pn	**Pn**	**13 25 28.3**	**+1.5**
M29M	**Somme Creek**	**8.50**	**37**		**Pn**	**13 25 29.1**	**+1.7**
JIS	**Juneau Island**	**8.53**	**69**	P	**Pn**	**13 25 28.4**	**+0.8**
ILAR	**Eielson Array**	**8.77**	**8**	Pn	**Pn**	**13 25 31.7**	**+0.8**
	comp=E,0.1nm,0.3s,baz=187,slow=12,SNR=2.2						
ILAR				Sn	**Sn**	**13 27 05.0**	**-4.6**
	comp=E,0.4nm,0.3s,baz=191,slow=14,SNR=6.1						
	comp=E,0.6nm,0.7s						
MDM	**Murphy Dome**	**8.88**	**4**	Pn	**Pn**	**13 25 33.5**	**+1.0**
J26L	**Joseph Creek**	**8.90**	**17**	Pn	**Pn**	**13 25 34.3**	**+1.5**
N31M	**Braeburn, Yuko**	**8.94**	**47**		**Pn**	**13 25 35.1**	**+1.8**
WHY	**Whitehorse**	**8.95**	**54**		**Pn**	**13 25 35.3**	**+1.8**
I20K	**Naaghedeneel**	**9.02**	**347**	Pn	**Pn**	**13 25 34.6**	**+0.3**
L29M	**L29M**	**9.07**	**35**		**Pn**	**13 25 37.0**	**+1.8**
P32M	**Atlin**	**9.13**	**61**		**Pn**	**13 25 37.1**	**+1.1**
P32M	**Atlin**	**9.13**	**61**	P	**Pn**	**13 25 37.1**	**+1.1**
	baz=255						
M30M	**Minto, Yukon**	**9.17**	**40**	Pn	**Pn**	**13 25 38.4**	**+1.9**
Q32M	**Nakina River**	**9.72**	**66**	Pn	**Pn**	**13 25 46.0**	**+1.8**
P33M	**Teslin, Yukon**	**9.74**	**58**		**Pn**	**13 25 46.0**	**+1.6**
K29M	**Barlow Dome**	**9.79**	**33**	Pn	**Pn**	**13 25 46.7**	**+1.6**
M31M	**Drury Creek, Y**	**9.87**	**46**		**Pn**	**13 25 47.9**	**+1.9**
N32M	**Quiet Lake**	**9.95**	**53**	Pn	**Pn**	**13 25 49.0**	**+1.9**
UNV	**Unalaska Valle**	**9.99**	**264**	P	**Pn**	**13 25 47.7**	**0.0**
MAYO	**Mayo, Yukon**	**10.14**	**37**	Pn	**Pn**	**13 25 51.3**	**+1.6**
H17K	**Granite Mounta**	**10.17**	**334**	Pn	**Pn**	**13 25 50.6**	**+0.5**
FARO	**Faro, Yukon**	**10.31**	**47**		**Pn**	**13 25 54.0**	**+1.9**
R33M	**Jennings River**	**10.46**	**64**	Pn	**Pn**	**13 25 55.5**	**+1.3**
DLBC	**Dease Lake**	**10.82**	**70**	Pn	**Pn**	**13 26 00.6**	**+1.5**
DLBC	**Dease Lake**	**10.82**	**70**	Pn	**Pn**	**13 25 58.9**	**-0.2**
	comp=E,0.5nm,0.3s,baz=291,slow=6.6,SNR=6.8						
	comp=E,1.5nm,0.3s						
INK	**Inuvik**	**14.25**	**25**	Pn	**Pn**	**13 26 47.0**	**+1.2**
	comp=E,0.1nm,0.3s,baz=200,slow=15,SNR=8.9						
	comp=E,2.7nm,0.9s						
ADK	**Adak**	**16.44**	**266**	P	**Pn**	**13 27 13.0**	**-1.7**
YKA	**Yellowknife Ar**	**18.76**	**56**	P	**P**	**13 27 43.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=266,slow=9.9,SNR=11						
	comp=E,0.6nm,0.9s						
A36M	**Sachs Harbour**	**18.88**	**23**	P	**P**	**13 27 45.2**	**+0.9**
A36M				IAmb	IAmb	13 27 47.3	
	comp=Z,4.1nm,0.8s						
NVAR	**Mina Array Bea**	**27.29**	**117**	P	**P**	**13 29 04.7**	**-4.3**
	comp=Z,0.2nm,0.6s,baz=304,slow=7.1,SNR=1.4						
	comp=Z,0.2nm,0.6s						

*NEIC **23** 13:24:54.5±1.8,56°24N±0°.09×149°.8W±0°.1,h10km±2km, mb3.9/2,ML3.8/24,ML3.2(AEIC),Error ellipse: s-maj=15.4km s-min=10.4km az=175.0*

*IDC **23** 13:24:54.0±1.8,56°.45N×149°.53W,h0km,mb3.7/7, mbtmp3.6/11,ML3.1/3,Error ellipse: s-maj=39.1km s-min=22.4km az=19.0*

*AEIC **23** 13:24:56.5±2.4,56°.0N±0°.1×149°.6W±0°.1,h11km±3km, Error ellipse: s-maj=18.4km s-min=9.9km az=172.0*

ISC 23 13:24:53.9±1.2,56°2N±0°.1×149°83W±0°.06,h10km,n38, σ0°78/40,mb3.9/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**300**		**Pn**	**13 25 29.2**	**-0.9**
OHAK					**Sn**	**13 25 55.7**	**-1.5**
KDAK	**Kodiak Island**	**2.21**	**318**		**Pn**	**13 25 30.5**	**-0.1**
KDAK					**Sn**	**13 25 57.2**	**-0.8**
KDAK	**Kodiak Island**	**2.21**	**318**	Pn	**Pn**	**13 25 29.6**	**-1.0**
	11nm,0.4s,baz=184,slow=23,SNR=1.3						
KDAK				Sn	**Sn**	**13 25 57.7**	**-0.2**
	19nm,0.3s,baz=28,slow=22,SNR=7.1						
SYI	**Shuyak Island**	**2.81**	**331**		**Pn**	**13 25 38.6**	**-0.2**
SYI					**Sn**	**13 26 13.2**	**+0.5**
Q19K	**Cape Douglas,**	**3.44**	**325**		**Pn**	**13 25 47.0**	**-0.6**
Q19K				IAML		13 26 36.4	
	comp=N,423nm,0.9s						
CNPM	**China Poot**	**3.45**	**348**		**Pn**	**13 25 47.3**	**-0.3**
CNPM	**China Poot**	**3.45**	**348**	IAML		13 26 30.2	
	comp=E,108nm,0.4s						
CNPM				IAML		13 26 30.2	
	comp=N,81nm,0.3s						
KAHG	**Katmai Hook Gl**	**3.46**	**314**		**Pn**	**13 25 49.3**	**+1.5**
BRSE	**Bradley Lake S**	**3.61**	**353**		**Pn**	**13 25 49.1**	**-0.7**
BRLK	**Bradley Lake**	**3.65**	**352**	Pn	**Pn**	**13 25 49.9**	**-0.5**
BRLK				IAML		13 27 40.1	
	comp=N,92nm,0.4s						
BRLK				IAML		13 28 16.3	
	comp=E,107nm,1.0s						
ANCK	**Angle Creek**	**3.69**	**306**		**Pn**	**13 25 52.5**	**+1.5**
Q23K	**Middleton Isla**	**3.76**	**28**		**Pn**	**13 25 50.8**	**-1.0**
MID	**Middleton Isla**	**3.76**	**28**		**Pn**	**13 25 50.7**	**-1.2**
PLK3	**Peulik 3**	**3.84**	**296**		**Pn**	**13 25 53.8**	**+0.8**
CNTC	**Contact Creek**	**3.90**	**305**		**Pn**	**13 25 54.6**	**+0.6**
HIN	**Hinchinbrook I**	**4.58**	**21**	Pn	**Pn**	**13 26 03.2**	**0.0**
HIN				IAML		13 28 33.0	
	comp=E,187nm,0.8s						
FID	**Port Fidalgo**	**4.92**	**20**	Pn	**Pn**	**13 26 07.6**	**-0.1**
RAGM	**Ragged Mountai**	**5.02**	**31**	Pn	**Pn**	**13 26 09.7**	**+0.4**
BERG	**Berg Lake**	**5.32**	**35**	Pn	**Pn**	**13 26 13.3**	**-0.1**
SNH	**Sunshine Point**	**5.46**	**40**	Pn	**Pn**	**13 26 15.2**	**-0.1**
GLB	**Gilahina Butte**	**6.14**	**28**	Pn	**Pn**	**13 26 25.1**	**+0.5**
BCPM	**Bancas Point**	**6.60**	**51**	Pn	**Pn**	**13 26 30.8**	**-0.1**
P29M	**Windy Craggy**	**7.31**	**57**		**Pn**	**13 26 40.0**	**-0.7**
ILAR	**Eielson Array**	**8.75**	**8**	Pn	Pn	13 26 51.9	-8.4
	comp=E,0.2nm,0.3s,baz=193,slow=14,SNR=1.5						
	comp=E,0.5nm,0.4s						
L29M	**L29M**	**9.12**	**36**		**Pn**	**13 27 05.8**	**+0.4**
INK	**Inuvik**	**14.27**	**25**	Pn	**Pn**	**13 28 15.4**	**-0.3**
	comp=E,0.1nm,0.3s,baz=205,slow=16,SNR=4.3						
	comp=E,2.3nm,1.0s						
C36M	**Paulatuk**	**17.49**	**31**	Pn	**Pn**	**13 28 57.2**	**-0.3**
C36M				IAmb	IAmb	13 29 00.9	
	comp=Z,6.1nm,0.9s						
YKA	**Yellowknife Ar**	**18.85**	**56**	P	**P**	**13 29 11.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=265,slow=11,SNR=7.7						
	comp=Z,1.1nm,0.9s						
A36M	**Sachs Harbour**	**18.90**	**24**		**Pn**	**13 29 15.1**	**+0.3**
A36M				IAmb	IAmb	13 29 18.6	
	comp=Z,13nm,0.8s						
PDAR	**Pinedale Array**	**28.94**	**100**	P	**P**	**13 30 53.9**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=280,slow=6.3,SNR=2.0						
	comp=Z,0.5nm,1.0s						
ZALV	**Zalesovo Beam**	**61.49**	**327**	P	**P**	**13 35 11.3**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=354,slow=4.3,SNR=2.0						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**62.68**	**2**	P	**P**	**13 35 18.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=45,slow=8.1,SNR=1.1						
	comp=Z,0.6nm,0.6s						
HFS	**Hagfors**	**63.30**	**9**	P	**P**	**13 35 22.4**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=347,slow=5.9,SNR=1.7						
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	**66.25**	**335**	P	**P**	**13 35 42.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=29,slow=7.1,SNR=5.9						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**66.28**	**329**	P	**P**	**13 35 42.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=30,slow=6.1,SNR=4.7						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**68.51**	**324**	P	**P**	**13 35 55.6**	**-0.5**
MKAR	**Makanchi Array**	**68.51**	**324**	P	**P**	**13 35 56.5**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=28,slow=5.4,SNR=5.6						
	comp=Z,0.2nm,0.4s						
ABKAR	**Akbulak array**	**72.05**	**340**	P	**P**	**13 36 18.2**	**+0.6**

*IDC **23** 13:26:34.9±0.9,56°.34N×148°.97W,h0km,mb3.6/10, mbtmp3.6/15,ML3.4/5,Error ellipse: s-maj=26.0km s-min=15.9km az=25.0*

*NEIC **23** 13:26:34.8±0.8,56°.21N±0°.02×149°.2W±0°.1,h10km±2km, mb4.1/2,ML3.9/54,ML3.6(AEIC),Error ellipse: s-maj=9.9km s-min=4.7km az=87.0*

*AEIC **23** 13:26:38.9±0.9,56°.23N±0°.09×149°.1W±0°.1,h4km±6km, Error ellipse: s-maj=12.6km s-min=8.4km az=167.0*

ISC 23 13:26:35.7±0.7,56°31N±0°07×149°17W±0°05,h10km, n194,σ0°75/190,mb3.8/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.38**	**310**		**Pn**	**13 27 14.7**	**0.0**
KDAK	**Kodiak Island**	**2.38**	**310**		**Sn**	**13 27 42.7**	**-1.3**
KDAK	**Kodiak Island**	**2.38**	**310**	S	**Sn**	**13 27 42.7**	**-1.3**
	baz=128						
KDAK	**Kodiak Island**	**2.38**	**310**	Pn	**Pn**	**13 27 14.5**	**-0.3**
	12nm,0.3s,baz=168,slow=4.5,SNR=4.7						
KDAK				Sn	**Sn**	**13 27 42.0**	**-2.0**
	20nm,0.3s,baz=98,slow=19,SNR=5.9						
	30nm,0.3s						
OHAK	**Old Harbor**	**2.45**	**294**		**Pn**	**13 27 14.7**	**-1.0**
OHAK	**Old Harbor**	**2.45**	**294**		**Sn**	**13 27 44.2**	**-1.4**
OHAK	**Old Harbor**	**2.45**	**294**	IAML		13 27 43.7	
	comp=E,170nm,1.2s						
OHAK	**Old Harbor**	**2.45**	**294**	P	**Pn**	**13 27 14.7**	**-1.0**
	baz=112						
OHAK				S	**Sn**	**13 27 44.2**	**-1.4**
	baz=112						
SYI	**Shuyak Island**	**2.89**	**324**		**Pn**	**13 27 22.0**	**+0.2**
SYI					**Sn**	**13 27 55.7**	**-0.8**
Q20K	**Shuyak Island**	**2.89**	**324**	P	**Pn**	**13 27 22.0**	**+0.2**
	baz=142						
Q20K				S	**Sn**	**13 27 55.7**	**-0.8**
	baz=142						
CNPM	**China Poot**	**3.41**	**342**		**Pn**	**13 27 29.1**	**+0.2**
CNPM					**Sn**	**13 28 08.7**	**-0.7**
CNPM	**China Poot**	**3.41**	**342**	IAML		13 28 15.8	
	comp=N,109nm,0.5s						
CNPM				IAML		13 29 11.5	
	comp=E,103nm,0.7s						
Q23K	**Middleton Isla**	**3.47**	**25**		**Pn**	**13 27 29.7**	**0.0**
Q23K	**Middleton Isla**	**3.47**	**25**	IAML		13 27 56.0	
	comp=E,171nm,1.5s						
Q23K				IAML		13 28 13.8	
	comp=N,213nm,1.5s						
Q23K	**Middleton Isla**	**3.47**	**25**	P	**Pn**	**13 27 29.7**	**0.0**
	baz=206						
MID	**Middleton Isla**	**3.47**	**25**		**Pn**	**13 27 29.6**	**-0.1**
MID	**Middleton Isla**	**3.47**	**25**	IAML		13 28 01.3	
	comp=E,161nm,1.1s						
MID				IAML		13 28 11.8	
	comp=N,196nm,0.9s						
BRSE	**Bradley Lake S**	**3.54**	**347**		**Pn**	**13 27 31.0**	**+0.3**
BRSE	**Bradley Lake S**	**3.54**	**347**	P	**Pn**	**13 27 31.0**	**+0.3**
	baz=166						
Q19K	**Cape Douglas,**	**3.56**	**319**		**Pn**	**13 27 31.1**	**+0.1**
Q19K					**Sn**	**13 28 11.3**	**-1.9**
Q19K	**Cape Douglas,**	**3.56**	**319**	IAML		13 29 14.5	
	comp=N,322nm,0.9s						
Q19K	**Cape Douglas,**	**3.56**	**319**	P	**Pn**	**13 27 31.1**	**+0.1**
	baz=136						
Q19K				S	**Sn**	**13 28 11.3**	**-1.9**
	baz=136						
BRLK	**Bradley Lake**	**3.58**	**346**		**Pn**	**13 27 31.1**	**-0.2**
BRLK				IAML		13 28 18.3	
	comp=N,112nm,0.8s						
BRLK				IAML		13 28 18.5	
	comp=E,152nm,0.6s						
HOM	**Homer**	**3.61**	**340**		**Pn**	**13 27 32.2**	**+0.6**
HOM					**Sn**	**13 28 14.2**	**0.0**
HOM	**Homer**	**3.61**	**340**	IAML		13 28 22.1	
	comp=E,299nm,1.0s						
HOM	**Homer**	**3.61**	**340**	P	**Pn**	**13 27 32.2**	**+0.6**
	baz=158						
HOM				S	**Sn**	**13 28 14.2**	**0.0**
	baz=158						
SEW	**Seward**	**3.81**	**358**		**Pn**	**13 27 34.3**	**-0.1**
SEW	**Seward**	**3.81**	**358**	P	**Pn**	**13 27 34.3**	**-0.1**
	baz=177						
P23K	**Montague Islan**	**3.82**	**13**		**Pn**	**13 27 34.7**	**+0.2**
P23K	**Montague Islan**	**3.82**	**13**	P	**Pn**	**13 27 34.7**	**+0.2**
	baz=194						
ACHA	**Angle Creek He**	**3.85**	**302**		**Pn**	**13 27 35.6**	**+0.6**
P19K	**Oil Pt**	**3.99**	**329**		**Pn**	**13 27 37.5**	**+0.6**
P19K	**Oil Pt**	**3.99**	**329**	IAML		13 28 32.1	
	comp=E,181nm,0.6s						
P19K				IAML		13 29 24.6	
	comp=N,204nm,1.3s						
P19K	**Oil Pt**	**3.99**	**329**	P	**Pn**	**13 27 37.5**	**+0.6**
	baz=146						
CNTC	**Contact Creek**	**4.14**	**301**		**Pn**	**13 27 39.0**	**0.0**
Q17K	**Contact Creek**	**4.14**	**301**	P	**Pn**	**13 27 39.0**	**-0.1**
	baz=116						
O22K	**Cooper Landing**	**4.20**	**356**		**Pn**	**13 27 40.0**	**+0.3**
O22K	**Cooper Landing**	**4.20**	**356**	P	**Pn**	**13 27 40.0**	**+0.3**
	baz=176						
O20K	**Slope Mountain**	**4.20**	**336**		**Pn**	**13 27 40.1**	**+0.3**
O20K	**Slope Mountain**	**4.20**	**336**	P	**Pn**	**13 27 40.1**	**+0.3**
	baz=153						
IVE	**Iliamna Volcan**	**4.24**	**333**		**Pn**	**13 27 40.8**	**+0.4**
SLKM	**Skilak Lake**	**4.25**	**353**		**Pn**	**13 27 40.7**	**+0.3**
HIN	**Hinchinbrook I**	**4.33**	**18**		**Pn**	**13 27 42.0**	**+0.4**
KAIM	**Kayak Island**	**4.42**	**33**		**Pn**	**13 27 42.7**	**0.0**
KAIM	**Kayak Island**	**4.42**	**33**	IAML		13 28 36.4	
	comp=N,210nm,0.4s						
KAIM	**Kayak Island**	**4.42**	**33**	P	**Pn**	**13 27 42.7**	**0.0**
	baz=216						
P18K	**Big Mountain,**	**4.48**	**316**		**Pn**	**13 27 43.7**	**+0.1**
P18K	**Big Mountain,**	**4.48**	**316**	P	**Pn**	**13 27 43.7**	**+0.1**
	baz=132						
RDSO	**Redoubt South**	**4.56**	**337**		**Pn**	**13 27 44.8**	**0.0**
RSO	**Redoubt South**	**4.57**	**337**	Pn	**Pn**	**13 27 45.0**	**0.0**
CAPN	**Captain Cook N**	**4.59**	**348**	Pn	**Pn**	**13 27 45.4**	**+0.3**
RDWB	**Redoubt West**	**4.62**	**337**		**Pn**	**13 27 45.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.62**	**21**		**Pn**	**13 27 45.8**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.62**	**21**	P	**Pn**	**13 27 45.8**	**+0.4**
	baz=204						
FID	**Port Fidalgo**	**4.67**	**16**	Pn	**Pn**	**13 27 46.5**	**+0.3**
FID				IAML		13 28 40.4	
	comp=E,96nm,0.5s						
FID				IAML		13 28 44.0	
	comp=N,119nm,0.6s						
RAGM	**Ragged Mountai**	**4.72**	**28**		**Pn**	**13 27 47.7**	**+0.7**
O19K	**Port Alsworth**	**4.75**	**327**		**Pn**	**13 27 47.5**	**+0.2**
O19K	**Port Alsworth**	**4.75**	**327**	P	**Pn**	**13 27 47.5**	**+0.2**
	baz=143						
O18K	**Koktuh Hills**	**4.79**	**320**	Pn	**Pn**	**13 27 48.0**	**+0.2**
O18K				IAML		13 28 44.4	
	comp=N,47nm,0.7s						
RC01	**Rabbit Creek A**	**4.80**	**357**	Pn	**Pn**	**13 27 48.2**	**+0.2**
RC01				IAML		13 28 44.9	
	comp=E,79nm,0.6s						
RC01				IAML		13 28 52.5	
	comp=N,58nm,0.8s						
P17K	**Kvichak River**	**4.85**	**310**		**Pn**	**13 27 49.1**	**+0.5**
P17K	**Kvichak River**	**4.85**	**310**	P	**Pn**	**13 27 49.1**	**+0.5**
	baz=124						
FIS	**Fire Island**	**4.88**	**354**	Pn	**Pn**	**13 27 49.6**	**+0.5**
FIS				IAML		13 28 52.4	
	comp=N,150nm,1.1s						
FIS				IAML		13 28 53.1	
	comp=E,139nm,1.5s						
BERG	**Berg Lake**	**5.00**	**33**		**Pn**	**13 27 50.9**	**+0.1**
SNH	**Sunshine Point**	**5.12**	**38**	Pn	**Pn**	**13 27 52.7**	**+0.3**
SNH				IAML		13 28 54.7	
	comp=E,87nm,0.9s						
SNH				IAML		13 29 16.9	
	comp=N,83nm,1.5s						
KNK	**Knik Glacier**	**5.13**	**4**	Pn	**Pn**	**13 27 53.2**	**+0.7**
KNK				IAML		13 28 57.0	
	comp=E,49nm,0.7s						
KNK				IAML		13 28 57.1	
	comp=N,36nm,0.7s						
DIV	**Divide**	**5.15**	**19**		**Pn**	**13 27 52.9**	**+0.1**
CHGN	**Chignik**	**5.15**	**274**	Pn	**Pn**	**13 27 52.3**	**-0.4**
CHGN				IAML		13 28 51.2	
	comp=N,78nm,0.7s						
CHGN				IAML		13 29 38.4	
	comp=E,73nm,1.3s						
N20K	**Mount Spurr**	**5.16**	**343**	P	**Pn**	**13 27 53.3**	**+0.4**
	baz=161						
SPCR	**Spurr Chakacha**	**5.16**	**343**		**Pn**	**13 27 53.3**	**+0.4**
SPCG	**Spurr Capps Gl**	**5.21**	**345**		**Pn**	**13 27 54.0**	**+0.2**
SUA	**Susitna One**	**5.24**	**352**		**Pn**	**13 27 54.0**	**-0.1**
SUA	**Susitna One**	**5.24**	**352**	P	**Pn**	**13 27 54.4**	**+0.3**
	baz=170						
BMRM	**Bremner River**	**5.24**	**25**		**Pn**	**13 27 54.2**	**+0.1**
BMRM	**Bremner River**	**5.24**	**25**	P	**Pn**	**13 27 54.2**	**+0.1**
	baz=208						
PMR	**Palmer**	**5.30**	**0**		**Pn**	**13 27 55.3**	**+0.5**
PMR	**Palmer**	**5.30**	**0**	P	**Pn**	**13 27 55.3**	**+0.5**
	baz=180						
N19K	**Bonanza Creek**	**5.30**	**331**		**Pn**	**13 27 54.6**	**-0.4**
N19K	**Bonanza Creek**	**5.30**	**331**	P	**Pn**	**13 27 55.2**	**+0.2**
	baz=146						
STLK	**Strandline Lak**	**5.39**	**346**		**Pn**	**13 27 56.4**	**+0.3**
SPNN	**North Nagishla**	**5.39**	**342**		**Pn**	**13 27 56.6**	**+0.4**
O17K	**Koliganek Bris**	**5.46**	**313**		**Pn**	**13 27 57.0**	**0.0**
O17K	**Koliganek Bris**	**5.46**	**313**	P	**Pn**	**13 27 57.0**	**0.0**
	baz=127						
KLU	**Klutina**	**5.46**	**17**		**Pn**	**13 27 57.4**	**+0.2**
KLU	**Klutina**	**5.46**	**17**	P	**Pn**	**13 27 57.4**	**+0.2**
	baz=199						
P16K	**Nushagak River**	**5.46**	**304**		**Pn**	**13 27 56.8**	**-0.2**
P16K	**Nushagak River**	**5.46**	**304**	P	**Pn**	**13 27 56.8**	**-0.2**
	baz=117						
GHO	**Glory Hole Cre**	**5.48**	**1**		**Pn**	**13 27 58.2**	**+0.8**
SML	**Sawmill**	**5.53**	**4**		**Pn**	**13 27 58.6**	**+0.5**
SML	**Sawmill**	**5.53**	**4**	P	**Pn**	**13 27 58.6**	**+0.5**
	baz=184						
SCM	**Sheep Creek Mo**	**5.62**	**9**	Pn	**Pn**	**13 28 00.4**	**+1.1**
N18K	**Kilae Creek**	**5.62**	**324**		**Pn**	**13 27 59.3**	**0.0**
N18K	**Kilae Creek**	**5.62**	**324**	P	**Pn**	**13 27 59.3**	**0.0**
	baz=139						
VRDI	**Verde Repeater**	**5.76**	**

comp=E,0.5nm,0.3s,baz=248,slow=11,SNR=4.6
comp=E,1.3nm,0.3s

F20K	Avaraart Lake	11.21	347		Pn		Pn	13 29 16.0	+0.2
INK	Inuvik	13.99	24				Pn	13 29 53.3	-0.4
INK	Inuvik	13.99	24	Pn			Pn	13 29 53.1	-0.6

comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=2.0
comp=E,1.0nm,0.8s

B22K	Teshekpuk Lake	14.21	354	Pn			Pn	13 29 56.8	+0.2
ADK	Adak	16.68	266	Pn			Pn	13 30 28.8	-0.5
YKA	Yellowknife Ar	18.47	56	P			P	13 30 51.0	-0.3
YKA	Yellowknife Ar	18.47	56	P			P	13 30 50.1	-1.2

comp=E,0.1nm,0.3s,baz=264,slow=9.9,SNR=10.0
comp=E,0.5nm,0.7s

A36M	Sachs Harbour	18.63	23	P			P	13 30 53.3	+0.3
A36M				IAmb			IAmb	13 31 06.4	

comp=Z,13nm,0.9s

NVAR	Mina Array Bea	27.17	118	P			P	13 32 18.9	-0.5

comp=Z,0.3nm,0.6s,baz=261,slow=6.0,SNR=2.6
comp=Z,0.3nm,0.6s

PDAR	Pinedale Array	28.61	101	P			P	13 32 32.2	+0.1

comp=Z,0.2nm,0.6s,baz=320,slow=8.0,SNR=2.1
comp=Z,0.2nm,0.6s

PETK	Petropavlovsk-	30.23	287	P			P	13 32 47.2	+1.1

comp=Z,2.8nm,0.9s,baz=69,slow=13,SNR=5.6
comp=Z,2.8nm,0.9s

TXAR	Lajitas Array	41.77	111	P			P	13 34 25.4	+0.2

comp=Z,0.2nm,0.8s,baz=308,slow=4.4,SNR=2.5
comp=Z,0.2nm,0.8s

H11N2	WAKE ISLAND Hy	48.95	240	T			T	14 28 08.9	

baz=31,slow=76,SNR=4.7

H11N3	WAKE ISLAND Hy	48.96	240	T			T	14 28 07.0	

baz=31,slow=76,SNR=4.6

H11N1	WAKE ISLAND Hy	48.97	240	T			T	14 28 09.3	

baz=31,slow=76,SNR=4.6

H11S1	WAKE ISLAND Hy	50.09	239	T			T	14 29 53.3	

baz=29

H11S2	WAKE ISLAND Hy	50.10	239	T			T	14 29 53.3	

baz=29

H11S3	WAKE ISLAND Hy	50.11	239	T			T	14 29 53.3	

baz=29

SONM	Songino Array	58.67	310	P			P	13 36 34.3	+1.2

comp=Z,0.9nm,0.8s,baz=34,slow=11,SNR=4.7
comp=Z,0.9nm,0.8s

ZALV	Zalesovo Beam	61.57	327	P			P	13 36 53.3	+0.7

comp=Z,0.7nm,0.5s,baz=40,slow=7.8,SNR=4.2
comp=Z,0.7nm,0.5s

FINES	FINESS Array B	62.53	3	P			P	13 36 59.2	+0.3

comp=Z,1.3nm,0.7s,baz=0.0,slow=9.9,SNR=1.9
comp=Z,1.3nm,0.7s

KURBB	Kurchatov Arra	66.35	329	P			P	13 37 24.8	+0.8

comp=Z,0.2nm,0.6s,baz=33,slow=6.6,SNR=2.6
comp=Z,0.2nm,0.6s

MKAR	Makanchi Array	68.61	325	P			P	13 37 38.1	-0.4
MKAR	Makanchi Array	68.61	325	P			P	13 37 39.8	+1.3

comp=Z,0.5nm,0.6s,baz=28,slow=5.0,SNR=9.0
comp=Z,0.5nm,0.6s

AKASG	Malin Array Be	73.35	1	P			P	13 38 08.1	+1.0

comp=Z,0.2nm,0.3s,baz=4.1,slow=6.2,SNR=2.3
comp=Z,0.2nm,0.3s

QSPA	South Pole Qui	146.10	180	PKPbc			PKPab	13 46 14.6	-0.5

comp=Z,0.7nm,0.8s,baz=36,slow=2.4,SNR=1.4

*NEIC **23** 13:28:45.1±1.4,56.07N×0.10×150.26W±0.08,h10km±2km, ML3.5/22,ML3.6(AEIC), Error ellipse: s-maj=16.6km s-min=7.6km az=179.0*
*AEIC **23** 13:28:47.9±1.3,55.9N±0.1×150.1W±0.1,h10km±7km, Error ellipse: s-maj=18.2km s-min=10.9km az=185.0*
ISC 23 13:28:44.4±1.9,**56.0N**±0.1×**150.19W**±0.06,**h10**km,**n63,** σ1§**03**/62,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.08	306		Pn	13 29 19.5	+0.2
OHAK					Sn	13 29 44.2	-1.1
OHAK	Old Harbor	2.08	306	P	Pn	13 29 19.5	+0.2

baz=126

OHAK				S	Sn	13 29 44.3	-1.1		

baz=126

KDAK	Kodiak Island	2.19	324		Pn	13 29 21.8	+1.0		
KDAK	Kodiak Island	2.19	324		Sn	13 29 47.5	-0.4		
KDAK	Kodiak Island	2.19	324	S	Sn	13 29 47.5	-0.4		

baz=144

SYI	Shuyak Island	2.84	336		Pn	13 29 30.5	+0.8		
SYI				IAML		13 30 10.0			

comp=N,60nm,1.3s

SYI	Shuyak Island	2.84	336		Sn	13 30 04.3	+0.3		
Q20K	Shuyak Island	2.84	336	P	Pn	13 29 31.1	+1.3		

baz=155

Q20K				S	Sn	13 30 04.3	+0.2		

baz=155

CNPM	China Poot	3.54	351		Sn	13 30 20.8	-0.6		
CNPM	China Poot	3.54	351	Pn	Pn	13 29 40.1	+0.7		
CNPM				IAML		13 30 24.1			

comp=N,33nm,0.7s

CNPM				IAML		13 30 27.8			

comp=E,62nm,0.7s

BRSE	Bradley Lake S	3.73	356		Pn	13 29 42.1	+0.1		
BRSE	Bradley Lake S	3.73	356	P	Pn	13 29 42.1	+0.1		

baz=175

CNTC	Contact Creek	3.82	308		Pn	13 29 43.1	-0.2		
Q17K	Contact Creek	3.82	308	P	Pn	13 29 43.1	-0.2		

baz=125

Q23K	Middleton Isla	3.98	30		Pn	13 29 45.5	+0.2		
Q23K	Middleton Isla	3.98	30	IAML		13 32 06.3			

comp=N,170nm,1.5s

Q23K	Middleton Isla	3.98	30	P	Pn	13 29 45.5	+0.2		

baz=211

MID	Middleton Isla	3.98	30		Pn	13 29 45.4	+0.1		
MID	Middleton Isla	3.98	30	IAML		13 31 42.7			

comp=E,187nm,1.3s

MID				IAML		13 32 06.3			

comp=N,174nm,1.5s

P23K	Montague Islan	4.24	19		Pn	13 29 49.4	+0.4		
P23K	Montague Islan	4.24	19	P	Pn	13 29 49.4	+0.4		

baz=201

P18K	Big Mountain,	4.32	323		Pn	13 29 50.8	+0.7		
P18K	Big Mountain,	4.32	323	IAML		13 30 42.0			

comp=E,20nm,1.2s

P18K				IAML		13 30 42.3			

comp=N,20nm,0.4s

P18K	Big Mountain,	4.32	323	P	Pn	13 29 50.8	+0.7		

baz=140

HIN	Hinchinbrook I	4.79	22		Pn	13 29 56.8	+0.3		
HIN	Hinchinbrook I	4.79	22	IAML		13 30 54.9			

comp=E,69nm,1.4s

HIN				IAML		13 32 58.2			

comp=N,76nm,1.3s

KAIM	Kayak Island	4.96	36		Pn	13 29 59.5	+0.6		
KAIM	Kayak Island	4.96	36	P	Pn	13 29 59.5	+0.6		

baz=219

EYAK	Cordova Ski Ar	5.09	26		Pn	13 30 01.1	+0.5		
EYAK	Cordova Ski Ar	5.09	26	P	Pn	13 30 01.6	+0.9		

baz=208

FID	Port Fidalgo	5.12	21	Pn	Pn	13 30 01.0	0.0		
FID				IAML		13 31 27.0			

comp=E,51nm,1.5s

FID				IAML		13 33 17.5			

comp=N,42nm,1.3s

RAGM	Ragged Mountai	5.25	31	Pn	Pn	13 30 03.2	+0.4		
O16K	Kokwok River B	5.53	313	Pn	Pn	13 30 07.6	+1.0		
SCM	Sheep Creek Mo	6.00	13	Pn	Pn	13 30 10.1	-3.0		
SKT	Skwentna	6.00	354	Pn	Pn	13 30 10.4	-2.7		
O15K	Ungalikthiuk R	6.06	305		Pn	13 30 15.0	+1.1		
O15K	Ungalikthiuk R	6.06	305	P	Pn	13 30 15.0	+1.1		

baz=118

VRDI	Verde Repeater	6.28	31	Pn	Pn	13 30 14.6	-2.5		
N25K	Chitina, Valde	6.29	25	Pn	Pn	13 30 15.2	-2.0		
GLB	Gilahina Butte	6.36	29	Pn	Pn	13 30 16.2	-1.8		
M17K	Holitna River	6.57	328	Pn	Pn	13 30 22.4	+1.5		
PCA	Pinnacle	6.66	48		Pn	13 30 23.1	+0.9		
PINM	Pinnacle	6.66	48	P	Pn	13 30 23.1	+0.8		

baz=235

WASW	Wrangell South	6.68	25		Pn	13 30 24.0	+1.4		
N15K	Kwethluk River	6.68	312		Pn	13 30 24.4	+1.9		
WACK	Wrangell Chich	6.69	24		Pn	13 30 23.1	+0.3		
BARN	Barnard Glacie	6.73	38		Pn	13 30 24.0	+0.7		
CTGM	Chitina Glacie	6.78	40	Pn	Pn	13 30 23.9	0.0		
LOGN	Logan Glacier	6.80	41	Pn	Pn	13 30 24.5	+0.2		
PNL	Peninsula	6.81	53		Pn	13 30 24.8	+0.5		
PNL	Peninsula	6.81	53	P	Pn	13 30 24.8	+0.5		

baz=241

BCPM	Bancas Point	6.85	51	Pn	Pn	13 30 25.3	+0.6		
HARP	HAARP	6.88	20		Pn	13 30 26.7	+1.5		
HARP	HAARP	6.88	20	P	Pn	13 30 26.7	+1.5		

baz=204

O29M	Mount Kennedy	7.48	50		Pn	13 30 33.1	-0.4		
O29M	Mount Kennedy	7.48	50	P	Pn	13 30 33.1	-0.4		

baz=239

P29M	Windy Craggy	7.56	56	Pn	Pn	13 30 34.8	+0.3		
M27K	Edge Creek, AK	7.64	30	Pn	Pn	13 30 35.9	+0.2		
M14K	Bethel	7.78	312	Pn	Pn	13 30 38.3	+0.9		
S31K	Pelican	7.86	70	Pn	Pn	13 30 38.1	-0.5		
M13K	Dall Lake	8.21	308	Pn	Pn	13 30 44.4	+1.0		
L29M	L29M	9.35	36	Pn	Pn	13 30 59.9	+0.8		
MKAR	Makanchi Array	68.50	324	P	P	13 39 46.4	0.0		

*UPP **23** 13:29:45.4±0.3,59.85N×11.76E,h1km,ML2.7*
*DNK **23** 13:29:45.6±0.4,59.85N×11.75E,h0km,ML2.7(UPP), Suspected explosion*
ISC 23 13:29:44.0±1.0,**59.82N**±0.04×**11.81E**±0.04,**h0**km,**n14,** σ0§**34**/18,**Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINU	Finntorp	0.54	141	P	Pb	13 29 56.3	0.0
FINU				S	Sb	13 30 04.0	-0.6
FINU	Finntorp	0.54	141	P	Pb	13 29 56.3	0.0
FINU				S	Sb	13 30 04.0	-0.6
STRU	Stroemstad	0.85	203	P	Pb	13 30 01.6	0.0
STRU				S	Sb	13 30 13.1	-0.4
STRU	Stroemstad	0.85	203	P	Pb	13 30 01.6	0.0
STRU				S	Sb	13 30 13.1	-0.4
NC602	NORSAR Array S	0.93	352	eP	Pg	13 30 01.8	-0.1
UDD	Uddeholm	0.94	72	P	Pb	13 30 03.2	-0.1
UDD	Uddeholm	0.94	72	P	Pb	13 30 03.2	-0.1
NAO01	NORSAR Array S	1.13	336	eP	Pn	13 30 07.4	+0.3
NASU	Vaermlandsnaes	1.14	141	P	Pn	13 30 07.2	0.0
NASU	Vaermlandsnaes	1.14	141	P	Pn	13 30 07.2	0.0
VANU	Vaenersborg	1.34	174	P	Pb	13 30 10.3	+0.4
VANU	Vaenersborg	1.34	174	P	Pb	13 30 10.3	+0.4
NRAU	Nora	1.66	97	P	Pg	13 30 16.1	+0.4
NRAU	Nora	1.66	97	P	Pg	13 30 16.1	+0.4

*IDC **23** 13:31:38.4±1.4,55.90N×149.51W,h0km,mb3.6/6, mbtmp3.6/11,ML3.6/5, Error ellipse: s-maj=28.2km s-min=20.9km az=18.0*
*NEIC **23** 13:31:38.2±1.9,55.8N±0.1×149.7W±0.1,h10km±2km, mb4.0/1,ML4.4/34,ML4.3(AEIC), Error ellipse: s-maj=21.4km s-min=12.5km az=183.0*
*AEIC **23** 13:31:45.4±2.0,56.0N±0.1×149.9W±0.1,h12km±8km, Error ellipse: s-maj=18.8km s-min=10.5km az=169.0*
ISC 23 13:31:39.6±1.1,**55.98N**±0.09×**149.81W**±0.06,**h10**km, **n115,** σ1§**60**/114,**mb3.9**/6,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.29	304		Sn	13 32 41.3	-4.4
OHAK	Old Harbor	2.29	304	Pn	Pn	13 32 16.8	-0.7
OHAK	Old Harbor	2.29	304	P	Pn	13 32 16.6	-0.9

baz=122

OHAK				S	Sn	13 32 41.3	-4.4		

baz=122

KDAK	Kodiak Island	2.37	321	Pn	Pn	13 32 18.5	+0.1		
KDAK	Kodiak Island	2.37	321		Sn	13 32 44.8	-2.7		
KDAK	Kodiak Island	2.37	321	Pn	Pn	13 32 18.2	-0.2		

16nm,0.3s,baz=131,slow=4.7,SNR=36

KDAK					Sn	Sn	13 32 44.4	-3.0	

18nm,0.3s,baz=40,slow=22,SNR=9.8
54nm,0.2s

SYI	Shuyak Island	2.99	333		Sn	13 33 00.8	-2.0		
SYI	Shuyak Island	2.99	333		Pn	13 32 27.5	+0.6		
SYI	Shuyak Island	2.99	333	IAML		13 33 03.3			

comp=E,224nm,0.6s

SYI				IAML		13 33 03.4			

comp=N,157nm,1.0s

Q20K	Shuyak Island	2.99	333	P	Pn	13 32 27.6	+0.6		

baz=151

Q20K				S	Sn	13 33 00.8	-2.0		

baz=151

KAHG	Katmai Hook Gl	3.60	316		Pn	13 32 37.2	+1.7		
Q19K	Cape Douglas,	3.61	327	Pn	Pn	13 32 36.8	+1.2		
Q19K				IAML		13 33 21.4			

comp=E,1μm,1.1s

Q19K				IAML		13 33 25.2			

comp=N,590nm,0.8s

Q19K	Cape Douglas,	3.61	327	P	Pn	13 32 37.8	+2.2		

baz=144

CNPM	China Poot	3.64	348		Sn	13 33 16.8	-2.2		
CNPM	China Poot	3.64	348	Pn	Pn	13 32 36.3	+0.3		
CNPM	China Poot	3.64	348	IAML		13 34 58.9			

comp=N,399nm,0.5s

CNPM				IAML		13 35 03.1			

comp=E,207nm,0.7s

KCE	Katmai Mt Cerb	3.71	310		Pn	13 32 39.1	+2.2		
ACHA	Angle Creek He	3.75	309		Pn	13 32 38.5	+0.9		
BRSE	Bradley Lake S	3.81	353		Pn	13 32 38.5	+0.3		
BRSE					Sn	13 33 20.8	-2.3		
BRSE	Bradley Lake S	3.81	353	P	Pn	13 32 38.7	+0.5		

baz=172

ANCK	Angle Creek	3.82	308		Pn	13 32 39.9	+1.4		
KVTA	Katmai Vly 10	3.84	311		Pn	13 32 40.1	+1.4		
BRLK	Bradley Lake	3.84	352		Pn	13 32 39.0	+0.2		
BRLK				IAML		13 34 58.3			

comp=N,604nm,0.5s

BRLK				IAML		13 35 03.2			

comp=E,209nm,0.5s

KAHC	Katmai Hardscr	3.89	316		Pn	13 32 41.1	+1.6		
KAHC	Katmai Hardscr	3.89	316	P	Pn	13 32 41.1	+1.6		

baz=132

AU22	Augustine Moun	3.90	332		Pn	13 32 40.4	+0.9		
AUCH	Augustine Cone	3.92	332		Pn	13 32 40.9	+1.1		
Q23K	Middleton Isla	3.92	27		Pn	13 32 40.6	+0.8		
Q23K	Middleton Isla	3.92	27	IAML		13 34 57.6			

comp=N,386nm,0.4s

Q23K				IAML		13 35 01.8			

comp=E,390nm,0.6s

MID	Middleton Isla	3.93	27		Pn	13 32 40.8	+0.9		
MID	Middleton Isla	3.93	27	IAML		13 34 57.9			

comp=N,365nm,0.5s

MID				IAML		13 35 00.8			

comp=E,422nm,0.7s

AUL	Augustine Lava	3.93	332		Pn	13 32 41.1	+1.2		
CNTC	Contact Creek	4.03	307		Pn	13 32 42.0	+0.6		
Q17K	Contact Creek	4.03	307	P	Pn	13 32 42.0	+0.7		

baz=122

P19K	Oil Pt	4.11	335		Pn	13 32 43.7	+1.2		
P19K	Oil Pt	4.11	335	IAML		13 33 32.3			

comp=E,336nm,0.5s

P19K				IAML		13 35 41.2			

comp=N,354nm,0.7s

SEW	Seward	4.14	2		Pn	13 32 43.3	+0.5		
P23K	Montague Islan	4.23	17		Pn	13 32 45.4	+1.4		
O20K	Slope Mountain	4.38	341		Pn	13 32 46.8	+0.6		
O20K	Slope Mountain	4.38	341	P	Pn	13 32 49.4	+3.2		

baz=159

IVE	Iliamna Volcan	4.39	338		Pn	13 32 46.8	+0.3		
P18K	Big Mountain,	4.49	322	Pn	Pn	13 32 48.1	+0.4		
P18K	Big Mountain,	4.49	322	P	Pn	13 32 48.1	+0.4		

baz=138

Q16K	King Salmon	4.59	309		Pn	13 32 49.3	+0.3		
Q16K	King Salmon	4.59	309	P	Pn	13 32 49.9	+0.9		

baz=123

RED	Redoubt Volcan	4.72	342		Pn	13 32 50.6	-0.2		
RDSO	Redoubt South	4.75	342		Pn	13 32 51.1	-0.2		
HIN	Hinchinbrook I	4.76	20		Pn	13 32 52.9	+1.5		
RDWB	Redoubt West	4.80	342		Pn	13 32 51.6	-0.4		
P17K	Kvichak River	4.81	315		Pn	13 32 52.8	+0.8		
P17K	Kvichak River	4.81	315	P	Pn	13 32 53.0	+1.0		

baz=129

O18K	Koktuh Hills	4.84	326	Pn	Pn	13 32 52.7	+0.3		
O19K	Port Alsworth	4.86	332		Pn	13 32 53.3	+0.6		
O19K	Port Alsworth	4.86	332	P	Pn	13 32 53.3	+0.6		

baz=149

KAIM	Kayak Island	4.89	34	Pn	Pn	13 32 53.3	+0.2		
KAIM				IAML		13 36 00.8			

comp=E,976nm,0.5s

KAIM				IAML		13 36 04.3			

comp=N,1μm,0.5s

EYAK	Cordova Ski Ar	5.06	23		Pn	13 32 56.8	+1.4		
EYAK	Cordova Ski Ar	5.06	23	P	Pn	13 32 57.2	+1.8		
EYAK	Cordova Ski Ar	5.06	23	P	Pn	13 32 57.5	+2.1		

baz=207

FID	Port Fidalgo	5.09	19		Pn	13 32 57.2	+1.3		
RC01	Rabbit Creek A	5.13	0		Pn	13 32 57.1	+0.7		
RAGM	Ragged Mountai	5.19	29		Pn	13 32 57.8	+0.5		
GOAT	Goat Mountain	5.34	28		Pn	13 33 00.4	+1.1		

P16K	Nushagak River	5.37	308	P	Pn	13 33 00.6	+0.9		

baz=121

SPCR	Spurr Chakacha	5.39	348		Pn	13 32 60.0	0.0		
O17K	Koliganek Bris	5.44	317	P	Pn	13 33 01.5	+0.8		

baz=131

SPCP	Crater Peak Br	5.44	348		Pn	13 33 01.7	+0.9		
BERG	Berg Lake	5.48	34		Pn	13 33 01.4	+0.2		
DIV	Divide	5.58	21		Pn	13 33 04.1	+1.5		
PMR	Palmer	5.64	3		Pn	13 33 04.2	+0.8		
PMR	Palmer	5.64	3	P	Pn	13 33 06.0	+2.6		
N18K	Kilae Creek	5.70	328		Pn	13 33 04.4	+0.2		
O16K	Kokwok River B	5.72	313		Pn	13 33 04.9	+0.4		
GHO	Glory Hole Cre	5.83	4		Pn	13 33 07.0	+0.9		
KLU	Klutina	5.89	18		Pn	13 33 08.9	+2.0		
SVW2	Sparrevohn	5.96	332		Pn	13 33 08.1	+0.3		
SVW2	Sparrevohn	5.96	332	P	Pn	13 33 09.1	+1.3		
VRDI	Verde Repeater	6.22	30	Pn	Pn	13 33 12.1	+0.5		
N25K	Chitina, Valde	6.26	23		Pn	13 33 13.8	+1.9		
GLB	Gilahina Butte	6.30	27		Pn	13 33 13.4	+0.8		
PCA	Pinnacle	6.54	47		Pn	13 33 15.2	-0.5		
BARN	Barnard Glacie	6.64	37		Pn	13 33 17.5	+0.1		
PNL	Peninsula	6.67	52	P	Pn	13 33 16.7	-0.9		
N15K	Kwethluk River	6.88	312		Pn	13 33 21.8	+1.3		
M15K	Kasigluk River	7.42	314		Pn	13 33 28.5	+0.7		
YUK3	Moose Creek	7.56	36		Pn	13 33 31.0	+1.1		
M27K	Edge Creek, AK	7.58	29		Pn	13 33 31.5	+1.4		
MENT	Mentasta	7.63	21	P	Pn	13 33 33.9	+3.1		
TTA	Tatalina	7.65	338	P	Pn	13 33 31.8	+0.7		
BVCY	Beaver Creek	7.91	32		Pn	13 33 35.9	+1.3		
M14K	Bethel	7.98	312	Pn	Pn	13 33 36.2	+0.8		
HYT	Haines Junctio	8.08	48	Pn	Pn	13 33 36.5	-0.4		
SIT	Sitka	8.08	76	P	Pn	13 33 30.4	-6.5		
SKAG	Skagway	8.49	60		Pn	13 33 40.9	-1.6		
SKAG	Skagway	8.49	60	P	Pn	13 33 41.1	-1.4		
L14K	Kuka Creek	8.59	314	Pn	Pn	13 33 45.1	+1.3		
JIS	Juneau Island	8.70	68	P	Pn	13 33 41.6	-3.7		
ILAR	Eielson Array	8.94	8	Pn	Pn	13 33 47.5	-1.1		

comp=N,0.3nm,0.3s,baz=273,slow=17,SNR=3.4

ILAR					Sn	Sn	13 35 24.5	-4.7	

comp=N,0.3nm,0.3s,baz=206,slow=15,SNR=4.0
comp=N,0.4nm,0.3s

COLA	College	8.98	5	P	Pn	13 33 52.5	+3.4		

comp=N,3.9nm,1.6s

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HOM	Homer	3.46	337	P		Pn	13 34 59.2	+1.0
	baz=156							
Q19K	Cape Douglas,	3.48	316	Pn		Pn	13 34 59.4	+0.8
Q19K	Cape Douglas,	3.48	316	P		Pn	13 34 59.6	+1.1
	baz=134							
KAHG	Katmai Hook Gl	3.59	306			Pn	13 35 01.5	+1.3
P23K	Montague Islan	3.60	13			Pn	13 35 00.8	+0.5
P23K						Sn	13 35 40.5	-2.3
P23K	Montague Islan	3.60	13	P		Pn	13 35 00.8	+0.5
	baz=194							
SEW	Seward	3.62	356			Pn	13 35 00.5	+0.1
SEW	Seward	3.62	356	P		Pn	13 35 00.5	+0.1
	baz=176							
AU22	Augustine Moun	3.69	323			Pn	13 35 02.1	+0.7
AUCH	Augustine Cone	3.72	322			Pn	13 35 02.3	+0.4
P19K	Oil Pt	3.87	326			Pn	13 35 03.9	-0.1
P19K	Oil Pt	3.87	326	P		Pn	13 35 04.5	+0.6
	baz=144							
KAHC	Katmai Hardscr	3.88	306	P		Pn	13 35 05.2	+1.0
	baz=123							
ANCK	Angle Creek	3.90	298			Pn	13 35 04.6	+0.2
O22K	Cooper Landing	4.01	355			Pn	13 35 05.4	-0.4
O22K	Cooper Landing	4.01	355	P		Pn	13 35 06.5	+0.7
	baz=175							
O20K	Slope Mountain	4.06	333	P		Pn	13 35 06.9	+0.3
	baz=151							
CNTC	Contact Creek	4.12	298			Pn	13 35 07.5	+0.1
HIN	Hinchinbrook I	4.12	18			Pn	13 35 07.9	+0.5
HIN					IAML		13 35 54.9	
	comp=N,758nm,0.9s							
HIN					IAML		13 35 56.8	
	comp=E,683nm,0.8s							
Q17K	Contact Creek	4.12	298	P		Pn	13 35 08.3	+0.8
	baz=114							
KAIM	Kayak Island	4.20	33			Pn	13 35 09.4	+1.0
EYAK	Cordova Ski Ar	4.40	21	P		Pn	13 35 12.3	+1.2
EYAK	Cordova Ski Ar	4.40	21	P		Pn	13 35 12.1	+1.0
	baz=204							
P18K	Big Mountain,	4.40	314			Pn	13 35 10.8	-0.4
P18K	Big Mountain,	4.40	314	P		Pn	13 35 11.1	-0.2
	baz=130							
RDSO	Redoubt South	4.42	335			Pn	13 35 11.3	-0.3
RSO	Redoubt South	4.43	335			Pn	13 35 11.3	-0.5
FID	Port Fidalgo	4.46	16			Pn	13 35 12.0	0.0
FID	Port Fidalgo	4.46	16	IAML			13 36 03.4	
	comp=E,225nm,0.6s							
FID					IAML		13 36 05.6	
	comp=N,207nm,0.5s							
RAGM	Ragged Mountai	4.51	28			Pn	13 35 13.5	+0.8
RC01	Rabbit Creek A	4.62	356			Pn	13 35 14.3	+0.2
RC01					IAML		13 36 06.6	
	comp=N,356nm,0.5s							
RC01					IAML		13 36 07.9	
	comp=E,318nm,0.5s							
RC01	Rabbit Creek A	4.62	356	P		Pn	13 35 14.5	+0.4
	baz=175							
O19K	Port Alsworth	4.64	325	P		Pn	13 35 14.6	+0.1
	baz=142							
Q16K	King Salmon	4.66	301	P		Pn	13 35 15.6	+0.9
	baz=116							
FIS	Fire Island	4.70	353	IAML			13 36 15.6	
	comp=N,602nm,0.6s							
O18K	Koktuh Hills	4.70	318			Pn	13 35 15.0	-0.3
O18K	Koktuh Hills	4.70	318	IAML			13 36 12.3	
	comp=N,398nm,0.8s							
O18K					IAML		13 36 23.2	
	comp=E,258nm,0.7s							
O18K	Koktuh Hills	4.70	318	P		Pn	13 35 15.9	+0.7
	baz=134							
BERG	Berg Lake	4.79	33			Pn	13 35 17.5	+0.9
P17K	Kvichak River	4.80	307			Pn	13 35 17.3	+0.7
P17K	Kvichak River	4.80	307	P		Pn	13 35 18.7	+2.1
	baz=122							
SNH	Sunshine Point	4.91	39	IAML			13 36 17.8	
	comp=E,387nm,0.8s							
SNH					IAML		13 36 22.0	
	comp=N,411nm,0.7s							
KNK	Knik Glacier	4.93	3			Pn	13 35 19.0	+0.5
KNK	Knik Glacier	4.93	3	P		Pn	13 35 19.7	+1.2
	baz=184							
N20K	Mount Spurr	4.99	342	P		Pn	13 35 19.6	+0.2
	baz=160							
SPCR	Spurr Chakacha	4.99	342			Pn	13 35 19.2	-0.2
BMRM	Bremner River	5.03	25			Pn	13 35 20.9	+1.1
BMRM	Bremner River	5.03	25	P		Pn	13 35 21.0	+1.1
	baz=209							
SUA	Susitna One	5.05	350			Pn	13 35 20.6	+0.3
SUA	Susitna One	5.05	350	IAML			13 36 20.2	
	comp=E,194nm,0.8s							
SUA	Susitna One	5.05	350	P		Pn	13 35 20.3	0.0
	baz=169							
PMR	Palmer	5.10	359	IAML			13 36 17.2	
	comp=E,150nm,0.6s							
PMR	Palmer	5.10	359	P		Pn	13 35 21.7	+0.9
PMR	Palmer	5.10	359	P		Pn	13 35 21.5	+0.7
	baz=180							
N19K	Bonanza Creek	5.18	329			Pn	13 35 21.8	-0.2
N19K	Bonanza Creek	5.18	329	IAML			13 36 20.6	
	comp=N,144nm,0.6s							
CHGN	Chignik	5.23	272			Pn	13 35 21.9	-0.7
CHGN					IAML		13 36 18.3	
	comp=E,177nm,0.6s							
CHGN					IAML		13 36 20.3	
	comp=N,216nm,0.1s							
KLU	Klutina	5.25	16	IAML			13 36 22.5	
	comp=N,210nm,0.4s							
KLU					IAML		13 36 23.6	
	comp=E,195nm,0.5s							
KLU	Klutina	5.25	16	P		Pn	13 35 24.1	+1.2
	baz=199							
GHO	Glory Hole Cre	5.28	0	IAML			13 36 25.6	
	comp=E,255nm,0.7s							
GHO					IAML		13 36 26.2	
	comp=N,275nm,0.7s							
SML	Sawmill	5.33	3	IAML			13 36 28.2	
	comp=N,158nm,1.0s							
SML					IAML		13 36 29.5	
	comp=E,163nm,0.9s							
O17K	Koliganek Bris	5.39	311			Pn	13 35 25.1	+0.3
SCM	Sheep Creek Mo	5.42	8			Pn	13 35 26.4	+1.2
P16K	Nushagak River	5.43	302			Pn	13 35 25.8	+0.4
N18K	Kilae Creek	5.52	322			Pn	13 35 26.4	-0.2
VRDI	Verde Repeater	5.54	29	Pn		Pn	13 35 28.1	+1.0
GLB	Gilahina Butte	5.63	26			Pn	13 35 29.1	+0.9
SKT	Skwentna	5.64	348	Pn		Pn	13 35 28.6	+0.3
SAMH	Samovar Hills	5.66	47			Pn	13 35 30.4	+1.9
SVW2	Sparrevohn	5.73	326	P		Pn	13 35 29.0	-0.5
M24K	Tolsona, Glenn	5.80	13	Pn		Pn	13 35 31.9	+1.4
YKU2	Yakutat	5.81	55	P		Pn	13 35 33.4	+3.0
	comp=E,1μm,1.6s							
PCA	Pinnacle	5.85	48			Pn	13 35 32.9	+1.7
BARN	Barnard Glacie	5.95	37			Pn	13 35 34.0	+1.4
PNL	Peninsula	6.00	54			Pn	13 35 35.1	+2.0
PNL	Peninsula	6.00	54	P		Pn	13 35 35.2	+2.0
CNBA	Chernabura Isl	6.22	259			Pn	13 35 35.5	-0.6
SDPT	Sand Point	6.55	265	P		Pn	13 35 40.8	+0.1
PAX	Paxson	6.73	14			Pn	13 35 44.6	+1.4
RND	Reindeer	6.92	1			Pn	13 35 46.7	+0.9
MENT	Mentasta	6.98	20	P		Pn	13 35 49.2	+2.6
CAST	Castle Rocks	7.11	349			Pn	13 35 49.0	+0.7
MCK	McKinley	7.25	0			Pn	13 35 51.7	+1.4
TTA	Tatalina	7.35	334	P		Pn	13 35 52.2	+0.5
HYT	Haines Junctio	7.39	49	Pn		Pn	13 35 54.3	+2.0
DT1	Dutton Round H	7.61	265			Pn	13 35 54.6	-0.6
BPAW	Bear Paw Mtn.	7.68	353	Pn		Pn	13 35 55.7	-0.5
SKAG	Skagway	7.85	62	P		Pn	13 36 00.5	+2.1
JIS	Juneau Island	8.10	71			Pn	13 36 02.6	+0.7
JIS	Juneau Island	8.10	71	P		Pn	13 36 03.1	+1.2
FALS	False Pass	8.31	265	P		Pn	13 36 04.8	0.0
ILAR	Eielson Array	8.36	6	Pn		Pn	13 36 06.5	+1.0
	comp=E,5.7nm,0.3s,baz=194,slow=13,SNR=29							
ILAR					Sn	Sn	13 37 34.5	-5.2
	comp=E,1.9nm,0.3s,baz=180,slow=22,SNR=5.6							
COLA	College	8.42	3			Pn	13 36 06.4	+0.1
COLA	College	8.42	3	P		Pn	13 36 08.5	+2.3
WHY	Whitehorse	8.47	55	Pn		Pn	13 36 08.9	+1.8
DAWY	Dawson	8.95	28	Pn		Pn	13 36 15.0	+1.3
EGAK	Eagle	9.14	22	Pn		Pn	13 36 17.5	+1.4
R33M	Jennings River	10.01	66	Pn		Pn	13 36 29.6	+1.4
FYU	Fort Yukon	10.25	9			Pn	13 36 32.4	+1.0
UNV	Unalaska Valle	10.35	262	P		Pn	13 36 31.7	-1.1
DLBC	Dease Lake	10.40	71	Pn		Pn	13 36 35.0	+1.5
DLBC	Dease Lake	10.40	71	Pn		Pn	13 36 34.9	+1.5
	comp=E,2.7nm,0.3s,baz=233,slow=7.8,SNR=21							
DLBC					Sn	Sn	13 38 25.9	-4.1
	comp=E,1.3nm,0.3s,baz=225,slow=22,SNR=2.0							
	comp=E,6.5nm,0.4s							
BMAR	Burnt Mountain	11.16	9			Pn	13 36 44.0	+0.2
ANM	Nome	11.38	322	Pn		Pn	13 36 47.3	+0.5
SPIA	Saint Paul Isl	11.64	282	P		Pn	13 36 51.5	+1.1
G31M	Satah River	12.52	28	Pn		Pn	13 37 04.0	+1.6
D22K	Ayikyak River	12.53	354	Pn		Pn	13 37 04.0	+1.4
D19K	Kuna River	12.72	345	Pn		Pn	13 37 06.3	+1.2
BBB	Bella Bella	12.91	101	Sn		Sn	13 39 25.4	-5.9
	comp=E,0.3nm,0.3s,baz=323,slow=15,SNR=0.9							
INK	Inuvik	13.78	25	Pn		Pn	13 37 19.6	+0.1
	comp=E,0.8nm,0.3s,baz=205,slow=15,SNR=33							
	comp=E,35nm,1.1s							
FLDN	Fort Liard	13.87	64			Pn	13 37 22.3	+1.6
ADK	Adak	16.78	266	P		Pn	13 37 58.4	-0.8
YKA	Yellowknife Ar	18.29	57	P		Pn	13 38 17.3	-0.6
	comp=E,0.1nm,0.3s,baz=266,slow=11,SNR=16							
YKA					PcP	PcP	13 42 48.9	-0.4
	comp=E,0.1nm,0.6s,baz=280,slow=1.1,SNR=4.6							
	comp=E,4.9nm,1.0s							
A36M	Sachs Harbour	18.41	23	P		P	13 38 20.0	+0.7
A36M					IAmb	IAmb	13 38 30.2	
	comp=Z,23nm,0.9s							
LTY	Liberty	19.66	106	P		P	13 38 34.8	+1.5
MXC	Moxie City	20.29	107	IAmb		IAmb	13 38 45.8	
	comp=Z,13nm,1.0s							
E07A	Sunnyside	20.53	107	IAmb		IAmb	13 38 45.5	
	comp=Z,16nm,0.8s							
H04A	Detroit Lake	20.58	114	IAmb		IAmb	13 38 46.0	
	comp=E,15nm,0.9s							
EDM	Edmonton	20.63	84	P		P	13 38 45.3	+1.6
EDM					IAmb	IAmb	13 38 46.3	
	comp=Z,20nm,1.1s							
D08A	Wollman Farm,	20.72	104	IAmb		IAmb	13 38 47.2	
	comp=Z,15nm,1.1s							
HAWA	Hanford	20.81	107	P		P	13 38 47.2	+1.5
HAWA					IAmb	IAmb	13 38 48.3	
	comp=Z,10nm,0.8s							
F07A	Shinny Hill Vi	20.93	108	IAmb		IAmb	13 38 49.8	
	comp=E,16nm,0.9s							
NEW	Newport	20.97	100	P		P	13 38 48.9	+1.4
NEW	Newport	20.97	100	P		P	13 38 47.2	-0.3
	comp=E,4.6nm,0.8s,baz=305,slow=7.8,SNR=4.4							
	comp=Z,4.6nm,0.8s							
E08A	Dider Farm, El	21.00	106	IAmb		IAmb	13 38 50.1	
	comp=Z,17nm,0.9s							
I05D	Terrebonne, OR	21.25	113	IAmb		IAmb	13 38 53.1	
	comp=Z,14nm,1.3s							
E09A	Wood Farm, Sta	21.48	105	IAmb		IAmb	13 38 57.4	
	comp=Z,11nm,0.8s							
HUMO	Hull Mountain	21.71	119	IAmb		IAmb	13 38 58.9	
	comp=Z,21nm,1.1s							
G08A	Pilot Rock	21.84	108	IAmb		IAmb	13 39 00.9	
	comp=Z,16nm,1.5s							
PINE	Pine Mountain	21.84	114	IAmb		IAmb	13 39 02.0	
	comp=Z,16nm,1.1s							
J05D	Fort Rock, OR	22.06	115	IAmb		IAmb	13 39 02.4	
	comp=Z,16nm,1.1s							
F10A	Beach Ranch, E	22.31	105	IAmb		IAmb	13 39 05.5	
	comp=Z,16nm,1.0s							
YBH	Yreka Blue Hor	22.49	120	P		P	13 39 02.0	-1.9
	comp=Z,2.1nm,0.8s,baz=270,slow=20,SNR=2.7							
	comp=Z,2.1nm,0.8s							
WVOR	Wild Horse Val	23.99	113	IAmb		IAmb	13 39 22.5	
	comp=Z,9.6nm,0.8s							
ORV	Oroville	24.76	122	P		P	13 39 25.9	0.0
EGMT	Eagleton	25.17	93	IAmb		IAmb	13 39 35.2	
	comp=Z,5.2nm,0.8s							
PAHR	Pah Rah Range	25.66	118	IAmb		IAmb	13 39 36.6	
	comp=Z,4.9nm,0.9s							
PNTR	Pine Nut	26.04	119	IAmb		IAmb	13 39 40.0	
	comp=Z,8.6nm,0.9s							
YERR	Yerington	26.29	119	IAmb		IAmb	13 39 42.0	
	comp=Z,7.1nm,1.1s							
YHL	Hebgen Lake	26.30	100	IAmb		IAmb	13 39 41.9	
	comp=Z,7.7nm,1.2s							
H17A	Grant Village	26.93	100	IAmb		IAmb	13 39 49.4	
	comp=Z,11nm,1.4s							
ELK	Elko	26.96	111	P		P	13 39 46.7	+0.5
	comp=Z,2.1nm,0.9s,baz=274,slow=9.9,SNR=6.6							
	comp=Z,2.1nm,0.9s							
NVAR	Mina Array Bea	27.18	119	P		P	13 39 48.5	+0.4
	comp=Z,2.8nm,0.7s,baz=307,slow=9.0,SNR=20							
NVAR					PcP	PcP	13 43 08.5	+0.4
	comp=Z,0.8nm,0.7s,baz=289,slow=4.3,SNR=5.6							
	comp=Z,2.8nm,0.7s							
NV11	Mina Array Sit	27.25	118	IAmb		IAmb	13 39 51.1	
	comp=Z,9.3nm,1.2s							
MDPB	Devils Postpil	27.44	121	P		P	13 39 52.0	+1.5
MDPB					IAmb	IAmb	13 39 53.4	
	comp=Z,6.7nm,1.1s							
OMMB	Old Mammoth Mi	27.49	121	P		P	13 39 52.0	+1.0
OMMB					IAmb	IAmb	13 39 53.9	
	comp=Z,6.1nm,1.0s							
PDAR	Pinedale Array	28.56	102	P		P	13 39 59.5	-1.0
	comp=Z,1.3nm,0.7s,baz=320,slow=4.7,SNR=15							
	comp=Z,1.3nm,0.7s							
R11B	Troy Canyon, C	28.59	115	IAmb		IAmb	13 40 02.8	
	comp=Z,3.8nm,0.8s							
FCC	Fort Churchill	28.80	62	P		P	13 40 03.0	+1.0
FCC					IAmb	IAmb	13 40 04.4	
	comp=Z,7.9nm,1.0s							
BSUT	Blindstream Ca	29.46	106	IAmb		IAmb	13 40 11.4	
	comp=Z,5.9nm,1.2s							
PRN	Pahroc Range	29.59	116	IAmb		IAmb	13 40 12.7	
	comp=Z,5.3nm,0.9s							
PETK	Petropavlovsk-	30.26	286	P		P	13 40 18.9	+3.8
	comp=Z,1.7nm,0.5s,baz=77,slow=12,SNR=10							
RSSD	Black Hills	30.70	94	P		P	13 40 19.5	+0.2
RSSD					IAmb	IAmb	13 40 21.1	
	comp=Z,4.1nm,0.7s							
V12A	Nelson	31.00	118	IAmb		IAmb	13 40 24.8	
	comp=Z,3.9nm,0.8s							
ULM	Lac du Bonnet	31.61	78	P		P	13 40 27.6	+0.6
	comp=Z,4.3nm,0.9s,baz=318,slow=9.5,SNR=5.3							
	comp=Z,4.3nm,0.9s							
W13A	Hualapai Mount	31.98	117	IAmb		IAmb	13 40 32.9	
	comp=Z,3.7nm,0.9s							
WUAZ	Wupatki	32.91	114	IAmb		IAmb	13 40 41.0	
	comp=Z,4.8nm,0.8s							
ECSD	EROS Data Cent	35.06	89	IAmb		IAmb	13 40 58.5	
	comp=Z,5.7nm,1.0s							
SMWD	Samnorwood	39.10	102	IAmb		IAmb	13 41 33.8	
	comp=Z,7.8nm,1.0s							
WMOK	Wichita Mounta	40.16	101	P		P	13 41 41.3	+0.8
WMOK					IAmb	IAmb	13 41 42.5	
	comp=Z,8.6nm,0.9s							
R40A	Maddies Statio	41.16	91	IAmb		IAmb	13 41 48.6	
	comp=Z,7.0nm,0.7s							
U38A	Gravette	41.32	95	P		P	13 41 49.9	0.0
TXAR	Lajitas Array	41.76	111	P		P	13 41 52.4	-1.3
	comp=Z,2.0nm,0.8s,baz=322,slow=6.2,SNR=19							
	comp=Z,2.0nm,0.8s							
OZNA	Ozona	41.83	107	P		P	13 41 54.7	+0.4
OZNA					IAmb	IAmb	13 41 55.5	
	comp=Z,4.7nm,0.7s							
SAND	Sanderson	42.07	109	IAmb		IAmb	13 41 58.4	
	comp=Z,7.0nm,1.2s							
FCAR	Ozark Folk Cen	42.97	94	IAmb		IAmb	13 42 02.9	
	comp=Z,6.3nm,0.8s							
L56A	Greenwood	46.57	76	P		P	13 42 32.4	+0.3
H11N2	WAKE ISLAND Hy	49.13	240	T		T	14 36 17.0	
	baz=26							
H11N3	WAKE ISLAND Hy	49.13	240	T		T	14 36 10.3	
	baz=26							
H11N1	WAKE ISLAND Hy	49.15	240	T		T	14 36 09.4	
	baz=26							
H11S1	WAKE ISLAND Hy	50.27	240	T		T	14 38 17.0	
	baz=25							
H11S2	WAKE ISLAND Hy	50.28	239	T		T	14 37 53.0	
	baz=25							
H11S3	WAKE ISLAND Hy	50.29	240	T		T	14 37 45.2	
	baz=25							
ARCES	ARCESS Array B	54.20	2	P		P	13 43 28.9	-0.4
	comp=Z,0.9nm,0.5s,baz=19,slow=7.7,SNR=4.8							
	comp=Z,0.9nm,0.5s							
SONM	Songino Array	58.61	310	P		P	13 44 00.9	-0.4
	comp=Z,0.4nm,0.6s,baz=41,slow=9.5,SNR=2.4							
	comp=Z,0.4nm,0.6s							
ZALV	Zalesovo Beam	61.46	327	P		P	13 44 20.2	-0.3
	comp=Z,0.3nm,0.3s,baz=32,slow=5.8,SNR=1.3							
	comp=Z,0.3nm,0.3s							
HHC	Hu-ho-hao-te	61.75	302	*e*P		P	13 44 26.3	+3.4
HHC					pmax	pmax		
	comp=Z,14nm,0.5s							
HHC					pmax	pmax		
	comp=Z,2μm,5.5s							
FINES	FINESS Array B	62.33	3	P		P	13 44 25.6	-0.7
	comp=Z,1.6nm,0.8s,baz=347,slow=7.8,SNR=5.5							
	comp=Z,1.6nm,0.8s							
BVAR	Borovoye Array	66.14	335	P		P	13 44 51.5	0.0
	comp=Z,0.4nm,0.6s,baz=37,slow=7.7,SNR=1.9							
	comp=Z,0.4nm,0.6s							
KURBB	Kurchatov Arra	66.23	329	P		P	13 44 51.5	-0.5
	comp=Z,0.2nm,0.5s,baz=26,slow=6.0,SNR=1.4							
	comp=Z,0.2nm,0.5s							
MKAR	Makanchi Array	68.50	325	P		P	13 45 06.1	-0.4
	comp=Z,0.3nm,0.7s,baz=41,slow=7.1,SNR=2.9							
	comp=Z,0.3nm,0.7s							
ABKAR	Akbulak array	71.89	341	P		P	13 45 26.9	-0.3
AKASG	Malin Array Be	73.15	1	P		P	13 45 34.0	-0.6
	comp=Z,2.7nm,0.7s,baz=358,slow=5.5,SNR=8.3							
	comp=Z,2.7nm,0.7s							
GERES	GERESS Array B	74.03	12	P		P	13 45 39.9	-0.1
	comp=Z,0.9nm,0.6s,baz=25,slow=3.5,SNR=4.4							
	comp=Z,0.9nm,0.6s							
VYHS	Vyhne	74.88	8	*e*P		P	13 45 46.8	+2.0
PZH	PanZhiHua	78.14	300	P		P	13 46 08.8	+5.0
PZH				pmax	pmax			
	comp=Z,7.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,110nm,4.8s							
ESDC	Sonseca Array	79.72	27	P		P	13 46 12.2	0.0
	comp=Z,2.4nm,0.9s,baz=331,slow=5.4,SNR=10							
	comp=Z,2.4nm,0.9s							
BRTR	Keskin Array B	84.11	358	P		P	13 46 35.0	-0.4
	comp=Z,1.4nm,0.8s,baz=48,slow=1.8,SNR=3.7							
	comp=Z,1.4nm,0.8s							
CMAR	Chiang Mai Arr	86.31	298	P		P	13 46 46.1	-0.4
	comp=Z,1.0nm,0.7s,baz=12,slow=4.7,SNR=7.7							
	comp=Z,1.0nm,0.7s							
BOSA	Boshof	151.83	11	PKPbc		PKPbc	13 53 57.8	-1.3
	comp=Z,2.9nm,0.7s,baz=355,slow=3.5,SNR=5.8							

NEIC ***23*** *13:38:32.3±1.4, 56.5°N±0.1°×149.3°W±0.1, h10km±2km, ML3.3/22, ML2.8(AEIC), Error ellipse: s-maj=17.8km s-min=11.9km az=179.0*

AEIC 23 13:38:37±0.9, 56.4°N±0.1°×149.3°W±0.1, h12km±9km, Error ellipse: s-maj=18.6km s-min=11.2km az=170.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	Kodiak Island	2.29	309			Pn	13 39 10.3	-4.2
KDAK						Sn	13 39 35.6	-6.9
OHAK	Old Harbor	2.37	292			Pn	13 39 10.2	-5.4
OHAK						Sn	13 39 34.5	-10
SYI	Shuyak Island	2.79	324			Pn	13 39 14.9	-6.4
SYI				IAML			13 40 31.6	
	comp=E,85nm,0.7s							
SYI				IAML			13 40 34.6	
	comp=N,60nm,0.9s							
SYI	Shuyak Island	2.79	324			Sn	13 39 48.6	-6.3
CNPM	China Poot	3.31	342			Pn	13 39 23.2	-5.4
CNPM	China Poot	3.31	342	IAML			13 40 21.6	
	comp=N,38nm,1.4s							
CNPM				IAML			13 40 52.8	
	comp=E,41nm,1.2s							
Q23K	Middleton Isla	3.41	26	Pn		Pn	13 39 23.9	-6.0
Q23K				IAML			13 40 50.1	
	comp=N,144nm,1.2s							
MID	Middleton Isla	3.41	26	Pn		Pn	13 39 23.9	-6.0
MID				IAML			13 40 26.5	
	comp=N,123nm,1.2s							
MID				IAML			13 40 33.9	
	comp=E,154nm,1.3s							
BRSE	Bradley Lake S	3.44	347			Pn	13 39 24.8	-5.6
BRLK	Bradley Lake	3.48	346			Pn	13 39 25.3	-5.7
BRLK	Bradley Lake	3.48	346	IAML			13 40 53.7	
	comp=E,50nm,1.3s							
KAHG	Katmai Hook Gl	3.55	308			Pn	13 39 29.5	-2.4
RSO	Redoubt South	4.47	337	Pn		Pn	13 39 39.6	-5.1
RC01	Rabbit Creek A	4.71	357	Pn		Pn	13 39 42.2	-5.5
RC01				IAML			13 42 34.8	
	comp=N,30nm,0.8s							
RC01				IAML			13 42 47.3	
	comp=E,27nm,1.5s							
BERG	Berg Lake	4.95	34	Pn		Pn	13 39 46.0	-5.2
SUA	Susitna One	5.14	352	Pn		Pn	13 39 48.4	-5.4
SUA				IAML			13 41 34.5	
	comp=E,18nm,1.0s							
SUA				IAML			13 42 35.6	
	comp=N,13nm,1.5s							
SML	Sawmill	5.44	5	Pn		Pn	13 39 53.0	-4.9

TEH 23 13:38:48.9, 32.30N×48.15E, h10km±134km, ML2.8, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	Kafar-mosalman	1.24	348	Pg		Pg	13 39 12.7	-0.1
IKFM				Sg		Sn	13 39 31.0	+1.8
IKFM	Kafar-mosalman	1.24	348	Pg		Pg	13 39 12.7	-0.1
HSAM	Samen	1.94	11	Pg		Pn	13 39 23.0	+0.8
JHBN	Jahan bin	2.13	91	Pn		Pb	13 39 28.7	+0.8
IDHR	Dehrash	2.81	329	Pg		Pn	13 39 22.6	-11
IKLH	Kolahrood	3.06	70	Pn		Pn	13 39 39.4	+1.8
QAMS	Qamsar	3.08	61	Pn		Pb	13 39 41.2

MID Middleton Isla 3.95 29 Pn Pn 13 40 10.5 0.0
P19K Oil Pt 3.98 337 Pn Pn 13 40 11.7 +0.7
P19K IAML 13 42 53.7
comp=E,352nm,0.5s
P19K IAML 13 42 55.0
comp=N,488nm,0.3s
P23K Montague Islan 4.22 19 Pn 13 40 14.4 +0.1
P23K Montague Islan 4.22 19 P Pn 13 40 14.4 +0.1
baz=201
O20K Slope Mountain 4.26 343 Pn 13 40 16.0 +1.1
O20K Slope Mountain 4.26 343 P Pn 13 40 16.0 +1.1
baz=161
IVE Iliamna Volcan 4.27 340 Pn 13 40 16.2 +1.2
P18K Big Mountain, 4.33 323 Pn 13 40 16.8 +1.0
P18K Big Mountain, 4.33 323 IAML 13 43 04.1
comp=N,40nm,0.5s
P18K IAML 13 43 04.8
comp=E,73nm,0.5s
P18K Big Mountain, 4.33 323 P Pn 13 40 16.8 +1.0
baz=139
Q16K King Salmon 4.41 309 Pn 13 40 17.8 +1.0
Q16K King Salmon 4.41 309 P Pn 13 40 17.8 +1.0
baz=124
P17K Kvichak River 4.64 316 Pn 13 40 21.0 +1.1
P17K Kvichak River 4.64 316 P Pn 13 40 21.0 +1.1
baz=131
O19K Port Alsworth 4.72 334 Pn 13 40 21.9 +0.8
O19K Port Alsworth 4.72 334 P Pn 13 40 21.9 +0.8
baz=150
HIN Hinchinbrook I 4.77 22 Pn 13 40 22.0 +0.2
KAIM Kayak Island 4.94 36 Pn 13 40 23.4 -0.6
KAIM Kayak Island 4.94 36 P Pn 13 40 24.3 +0.2
baz=220
EYAK Cordova Ski Ar 5.07 25 Pn 13 40 26.4 +0.4
EYAK Cordova Ski Ar 5.07 25 P Pn 13 40 26.3 +0.4
baz=208
FID Port Fidalgo 5.09 21 Pn 13 40 25.7 -0.5
FID IAML 13 43 04.1
comp=E,362nm,0.5s
FID IAML 13 43 04.8
comp=N,385nm,0.3s
GOAT Goat Mountain 5.37 30 Pn 13 40 30.7 +0.7
BERG Berg Lake 5.53 35 Pn 13 40 32.7 +0.5
O16K Kokwok River B 5.55 313 Pn 13 40 33.1 +0.7
N18K Kilae Creek 5.55 329 Pn 13 40 33.1 +0.6
N18K Kilae Creek 5.55 329 P Pn 13 40 33.1 +0.6
baz=144
DIV Divide 5.58 22 Pn 13 40 33.1 0.0
PMR Palmer 5.59 5 Pn Pn 13 40 34.2 +1.2
BMRM Bremner River 5.72 28 Pn 13 40 35.5 +0.6
BMRM Bremner River 5.72 28 P Pn 13 40 35.5 +0.6
baz=212
SVW2 Sparrevohn 5.81 333 Pn Pn 13 40 36.9 +0.8
N17K Nushagak Hills 5.83 323 Pn Pn 13 40 36.9 +0.5
KLU Klutina 5.88 20 Pn 13 40 38.1 +0.9
BARK Barkley Ridge 5.95 40 Pn 13 40 38.4 +0.4
M18K Stony River 6.21 334 Pn 13 40 41.9 +0.3
M18K Stony River 6.21 334 P Pn 13 40 41.9 +0.3
baz=149
VRDI Verde Repeater 6.26 31 Pn 13 40 42.0 -0.4
N25K Chitina, Valde 6.27 25 Pn 13 40 42.4 -0.1
N25K Chitina, Valde 6.27 25 P Pn 13 40 42.9 +0.4
baz=209
GLB Gilahina Butte 6.33 29 Pn Pn 13 40 43.8 +0.5
KIAG Kiagna River 6.36 37 Pn 13 40 44.0 +0.2
SAMH Samovar Hills 6.43 47 Pn 13 40 45.3 +0.7
PTPK Patty Peak 6.53 35 Pn 13 40 46.6 +0.5
M17K Holitna River 6.58 328 Pn 13 40 47.6 +0.9
L19K White Mountain 6.62 340 Pn Pn 13 40 47.8 +0.6
BARN Barnard Glacie 6.70 38 Pn 13 40 48.2 -0.2
N15K Kwethluk River 6.70 312 Pn 13 40 49.9 +1.5
CTG Chitna Glacier 6.75 39 P Pn 13 40 49.5 +0.4
baz=226
CTGM Chitina Glacie 6.75 39 Pn 13 40 49.5 +0.4
LOGN Logan Glacier 6.77 41 Pn 13 40 49.9 +0.5
O14K Tigyukauivet M 6.79 303 Pn Pn 13 40 50.3 +0.9
M16K Timber Creek 6.80 321 Pn Pn 13 40 51.0 +1.3
BCPM Bancas Point 6.81 51 Pn Pn 13 40 49.6 -0.2
M26K Nabesna, AK 7.35 27 Pn Pn 13 40 58.5 +1.3
O29M Mount Kennedy 7.45 50 Pn Pn 13 40 59.7 +1.0
L16K Owhat River 7.46 323 Pn Pn 13 40 59.8 +1.1
P29M Windy Craggy 7.52 56 Pn 13 40 59.4 -0.3
P29M Windy Craggy 7.52 56 P Pn 13 40 60.0 +0.3
baz=246
TTA Tatalina 7.53 339 Pn Pn 13 41 01.4 +1.7
M27K Edge Creek, AK 7.61 30 Pn Pn 13 41 01.7 +0.8
MENT Mentasta 7.64 23 Pn Pn 13 41 02.4 +1.2
M14K Bethel 7.80 312 Pn Pn 13 41 03.4 +0.1
ISLZ Isanotski Laza 7.85 266 Pn 13 41 03.9 -0.2
K17K Iditarod 7.88 331 Pn Pn 13 41 05.2 +0.7
RIDG Independent Ri 8.16 17 Pn Pn 13 41 09.4 +1.0
L27K Beaver Creek, 8.20 27 Pn Pn 13 41 09.4 +0.6
M13K Dall Lake 8.23 308 Pn Pn 13 41 10.6 +1.3
L14K Kuka Creek 8.41 314 Pn Pn 13 41 13.4 +1.7
K15K Wolf Creek Mou 8.57 322 Pn Pn 13 41 15.7 +1.8
M29M Somme Creek 8.76 38 Pn 13 41 17.7 +1.1
ILAR Eielson Array 8.90 9 Pn Pn 13 41 19.3 +0.9
comp=N,0.1nm,0.3s,baz=190,slow=14,SNR=3.0
comp=N,0.6nm,0.6s
J16K Anvik River 8.98 328 Pn Pn 13 41 20.8 +1.3
J26L Joseph Creek 9.08 18 Pn Pn 13 41 21.2 +0.2
N31M Braeburn, Yuko 9.22 48 Pn Pn 13 41 23.1 +0.2
L29M L29M 9.32 36 Pn Pn 13 41 24.8 +0.5
P32M Atlin 9.45 61 Pn Pn 13 41 26.0 0.0
K13K Kusilvak Mount 9.53 314 Pn Pn 13 41 28.4 +1.3
EGAK Eagle 9.81 23 Pn Pn 13 41 31.9 +1.0
P33M Teslin, Yukon 10.05 58 Pn Pn 13 41 34.0 -0.3
H17K Granite Mounta 10.13 336 Pn Pn 13 41 36.7 +1.5
FYU Fort Yukon 10.81 10 Pn Pn 13 41 46.1 +1.5
ANM Nome 11.37 325 Pn Pn 13 41 53.6 +1.3
G31M Satah River 13.22 28 Pn Pn 13 42 18.4 +0.9
INK Inuvik 14.46 25 Pn Pn 13 42 34.7 +0.4
comp=N,0.1nm,0.3s,baz=208,slow=18,SNR=2.6
comp=N,1.6nm,0.9s
YKA Yellowknife Ar 19.07 56 P Pn 13 43 32.9 0.0
comp=N,0.1nm,0.3s,baz=270,slow=12,SNR=6.1
comp=N,0.3nm,0.7s
A36M Sachs Harbour 19.09 24 Pn 13 43 33.9 +0.9
PDAR Pinedale Array 29.09 100 P P 13 45 15.0 +4.3
comp=N,0.1nm,0.4s,baz=317,slow=9.5,SNR=1.9
comp=N,0.1nm,0.4s
ABKAR Akbulak array 72.11 340 P P 13 50 33.9 -0.2

*IDC **23** 13:41:03.6± 1.0, 56˚.20N× 149˚.06W, h0km, mb3.6/8, mbtmp3.7/13, ML3.7/5, Error ellipse: s-maj=26.6km s-min=16.8km az=29.0*
*NEIC **23** 13:41:06.1± 0.8, 56˚.44N± 0˚.10× 148˚.97W± 0˚.03, h10km± 2km, mb3.6/2, ML4.1/52, ML3.9(AEIC), Error ellipse: s-maj=16.5km s-min=3.0km az=172.0*
*AEIC **23** 13:41:10.6± 0.9, 56˚.4N± 0˚.1× 149˚.0W± 0˚.1, h10km± 6km, Error ellipse: s-maj=14.8km s-min=9.2km az=169.0*

ISC 23 13:41:05.1± 0.7, 56˚.42N± 0˚.07× 148˚.88W± 0˚.05, h10km, n145, σ1°44/137, mb3.7/8, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.44**	**306**				**Pn**	**13 41 44.7**	**-0.3**
KDAK	**Kodiak Island**	**2.44**	**306**			**Pn**	**Pn**	**13 41 44.7**	**-0.3**
KDAK	51nm,0.3s,baz=162,slow=4.6,SNR=34					Sn	**Sn**	**13 42 11.6**	**-3.3**
	54nm,0.3s,baz=143,slow=20,SNR=15								
OHAK	**Old Harbor**	**2.56**	**290**				**Pn**	**13 41 45.7**	**-0.8**
OHAK	**Old Harbor**	**2.56**	**290**				**Sn**	**13 42 13.4**	**-4.3**
OHAK	**Old Harbor**	**2.56**	**290**	IAML				13 42 13.9	
	comp=N,346nm,0.3s								
OHAK				IAML				13 42 20.4	
	comp=E,250nm,0.4s								
OHAK	**Old Harbor**	**2.56**	**290**	P			**Pn**	**13 41 45.9**	**-0.6**
OHAK	**Old Harbor**	**2.56**	**290**	S			**Sn**	**13 42 13.4**	**-4.3**
	baz=107								
SYI	**Shuyak Island**	**2.90**	**321**				**Pn**	**13 41 51.3**	**0.0**
SYI	**Shuyak Island**	**2.90**	**321**				**Sn**	**13 42 25.1**	**-1.2**
SYI	**Shuyak Island**	**2.90**	**321**	IAML				13 42 25.8	
	comp=N,341nm,0.5s								
SYI				IAML				13 42 25.9	
	comp=E,581nm,0.6s								
Q20K	**Shuyak Island**	**2.90**	**321**	P			**Pn**	**13 41 51.8**	**+0.4**
	baz=139								
Q20K				S			**Sn**	**13 42 25.0**	**-1.2**
	baz=139								
Q23K	**Middleton Isla**	**3.31**	**23**				**Pn**	**13 41 57.6**	**+0.7**
Q23K							**Sn**	**13 42 34.5**	**-1.7**
Q23K	**Middleton Isla**	**3.31**	**23**	IAML				13 42 35.1	
	comp=N,410nm,0.8s								
Q23K				IAML				13 42 36.3	
	comp=E,402nm,0.3s								
MID	**Middleton Isla**	**3.31**	**23**				**Pn**	**13 41 57.6**	**+0.8**
MID	**Middleton Isla**	**3.31**	**23**	IAML				13 42 35.0	
	comp=N,422nm,0.8s								
MID				IAML				13 42 36.2	
	comp=E,399nm,0.3s								
MID	**Middleton Isla**	**3.31**	**23**	P			**Pn**	**13 41 57.8**	**+0.9**
CNPM	**China Poot**	**3.36**	**339**	Pn			**Pn**	**13 41 57.9**	**+0.2**
CNPM	**China Poot**	**3.36**	**339**				**Sn**	**13 42 36.0**	**-1.6**
CNPM	**China Poot**	**3.36**	**339**	IAML				13 42 38.5	
	comp=E,214nm,0.5s								
CNPM				IAML				13 42 38.5	
	comp=N,231nm,0.4s								
BRSE	**Bradley Lake S**	**3.48**	**344**				**Pn**	**13 41 59.8**	**+0.5**
BRSE	**Bradley Lake S**	**3.48**	**344**	P			**Pn**	**13 41 59.8**	**+0.5**
	baz=164								
BRLK	**Bradley Lake**	**3.52**	**343**				**Pn**	**13 41 59.9**	**0.0**
HOM	**Homer**	**3.57**	**337**				**Pn**	**13 42 00.7**	**+0.2**
HOM							**Sn**	**13 42 41.4**	**-1.2**
HOM	**Homer**	**3.57**	**337**	IAML				13 42 43.7	
	comp=E,412nm,0.4s								
HOM				IAML				13 42 43.8	
	comp=N,495nm,0.7s								
Q19K	**Cape Douglas,**	**3.59**	**316**	Pn			**Pn**	**13 42 01.1**	**+0.2**
Q19K				IAML				13 42 52.3	
	comp=N,498nm,0.9s								
Q19K	**Cape Douglas,**	**3.59**	**316**	P			**Pn**	**13 42 01.8**	**+1.0**
	baz=133								
P23K	**Montague Islan**	**3.67**	**12**				**Pn**	**13 42 02.8**	**+0.8**
P23K	**Montague Islan**	**3.67**	**12**	P			**Pn**	**13 42 02.8**	**+0.8**
	baz=194								
KAHG	**Katmai Hook Gl**	**3.70**	**307**				**Pn**	**13 42 03.5**	**+1.1**
SEW	**Seward**	**3.71**	**356**				**Pn**	**13 42 02.8**	**+0.4**
SEW	**Seward**	**3.71**	**356**	P			**Pn**	**13 42 02.8**	**+0.4**
	baz=176								
AUL	**Augustine Lava**	**3.84**	**323**				**Pn**	**13 42 05.3**	**+1.1**
KCE	**Katmai Mt Cerb**	**3.88**	**301**				**Pn**	**13 42 07.1**	**+2.3**
ACHA	**Angle Creek He**	**3.93**	**300**				**Pn**	**13 42 06.8**	**+1.2**
P19K	**Oil Pt**	**3.98**	**326**				**Pn**	**13 42 06.6**	**+0.4**
P19K	**Oil Pt**	**3.98**	**326**	P			**Pn**	**13 42 07.1**	**+0.9**
	baz=143								
KAHC	**Katmai Hardscr**	**3.99**	**307**	P			**Pn**	**13 42 07.3**	**+1.0**
	baz=122								
KVTA	**Katmai Vly 10**	**3.99**	**302**				**Pn**	**13 42 08.1**	**+1.8**
O20K	**Slope Mountain**	**4.17**	**333**				**Pn**	**13 42 09.2**	**+0.3**
O20K	**Slope Mountain**	**4.17**	**333**	P			**Pn**	**13 42 09.8**	**+0.9**
	baz=151								
HIN	**Hinchinbrook I**	**4.18**	**16**				**Pn**	**13 42 09.8**	**+0.9**
HIN	**Hinchinbrook I**	**4.18**	**16**	IAML				13 42 57.3	
	comp=E,474nm,0.4s								
CNTC	**Contact Creek**	**4.22**	**299**				**Pn**	**13 42 10.3**	**+0.7**
Q17K	**Contact Creek**	**4.23**	**299**	P			**Pn**	**13 42 10.6**	**+1.0**
	baz=113								
PLK3	**Peulik 3**	**4.23**	**291**				**Pn**	**13 42 09.9**	**+0.3**
KAIM	**Kayak Island**	**4.24**	**32**				**Pn**	**13 42 11.2**	**+1.5**
PLK1	**Peulik 1**	**4.44**	**291**				**Pn**	**13 42 12.8**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.46**	**20**				**Pn**	**13 42 13.8**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.46**	**20**	P			**Pn**	**13 42 14.1**	**+1.4**
	baz=204								
P18K	**Big Mountain,**	**4.51**	**314**	Pn			**Pn**	**13 42 13.2**	**-0.3**
P18K	**Big Mountain,**	**4.51**	**314**	P			**Pn**	**13 42 13.3**	**-0.1**
	baz=129								
RDSO	**Redoubt South**	**4.53**	**335**				**Pn**	**13 42 13.6**	**-0.2**
RAGM	**Ragged Mountai**	**4.55**	**27**				**Pn**	**13 42 15.5**	**+1.4**
GOAT	**Goat Mountain**	**4.71**	**26**				**Pn**	**13 42 17.3**	**+1.1**
RC01	**Rabbit Creek A**	**4.71**	**355**				**Pn**	**13 42 16.9**	**+0.7**
RC01	**Rabbit Creek A**	**4.71**	**355**	IAML				13 43 09.4	
	comp=E,186nm,0.5s								
RC01				IAML				13 43 12.5	
	comp=N,146nm,0.5s								
O19K	**Port Alsworth**	**4.75**	**325**	Pn			**Pn**	**13 42 16.6**	**-0.1**
O19K	**Port Alsworth**	**4.75**	**325**	P			**Pn**	**13 42 16.8**	**+0.1**
	baz=141								
Q16K	**King Salmon**	**4.76**	**302**				**Pn**	**13 42 17.6**	**+0.8**
Q16K	**King Salmon**	**4.76**	**302**	P			**Pn**	**13 42 17.9**	**+1.0**
	baz=115								
O18K	**Koktuh Hills**	**4.81**	**318**				**Pn**	**13 42 17.6**	**+0.1**
O18K	**Koktuh Hills**	**4.81**	**318**	IAML				13 43 16.8	
	comp=E,72nm,0.6s								
BERG	**Berg Lake**	**4.83**	**32**				**Pn**	**13 42 18.8**	**+1.1**
P17K	**Kvichak River**	**4.91**	**308**				**Pn**	**13 42 19.6**	**+0.8**
P17K	**Kvichak River**	**4.91**	**308**	P			**Pn**	**13 42 19.9**	**+1.0**
	baz=122								
SNH	**Sunshine Point**	**4.94**	**38**				**Pn**	**13 42 20.7**	**+1.4**
SNH	**Sunshine Point**	**4.94**	**38**	IAML				13 43 16.1	
	comp=E,193nm,0.9s								
SNH				IAML				13 43 19.0	
	comp=N,140nm,0.7s								
DIV	**Divide**	**4.99**	**18**				**Pn**	**13 42 20.9**	**+0.7**
KNK	**Knik Glacier**	**5.02**	**2**				**Pn**	**13 42 20.9**	**+0.5**
KNK	**Knik Glacier**	**5.02**	**2**	IAML				13 43 16.9	
	comp=E,132nm,0.6s								
KNK				IAML				13 43 22.1	
	comp=N,83nm,0.4s								
KNK	**Knik Glacier**	**5.02**	**2**	P			**Pn**	**13 42 21.8**	**+1.4**
	baz=183								
BMRM	**Bremner River**	**5.08**	**24**				**Pn**	**13 42 21.9**	**+0.7**
SPCR	**Spurr Chakacha**	**5.10**	**342**				**Pn**	**13 42 21.6**	**0.0**
SPCN	**Chakachatna No**	**5.12**	**342**				**Pn**	**13 42 22.1**	**+0.4**
SPCP	**Crater Peak Br**	**5.15**	**342**				**Pn**	**13 42 22.9**	**+0.5**
SPCG	**Spurr Capps Gl**	**5.15**	**343**				**Pn**	**13 42 22.6**	**+0.2**
SUA	**Susitna One**	**5.15**	**350**				**Pn**	**13 42 23.0**	**+0.6**
PMR	**Palmer**	**5.19**	**359**				**Pn**	**13 42 23.3**	**+0.6**
PMR	**Palmer**	**5.19**	**359**	IAML				13 43 22.6	
	comp=E,72nm,0.6s								
PMR				IAML				13 43 24.1	
	comp=N,72nm,0.8s								
N19K	**Bonanza Creek**	**5.29**	**329**				**Pn**	**13 42 24.3**	**0.0**
CHGN	**Chignik**	**5.31**	**273**				**Pn**	**13 42 23.8**	**-0.5**
CHGN				IAML				13 43 25.0	
	comp=N,150nm,0.6s								
CHGN				IAML				13 43 25.5	
	comp=E,118nm,0.3s								
KLU	**Klutina**	**5.32**	**15**				**Pn**	**13 42 25.4**	**+0.9**
KLU	**Klutina**	**5.32**	**15**	IAML				13 43 25.4	
	comp=N,200nm,0.4s								
KLU				IAML				13 43 27.5	
	comp=E,152nm,0.3s								
STLK	**Strandline Lak**	**5.32**	**345**				**Pn**	**13 42 24.7**	**+0.1**
SPNN	**North Nagishla**	**5.34**	**340**				**Pn**	**13 42 25.1**	**0.0**
GHO	**Glory Hole Cre**	**5.37**	**360**				**Pn**	**13 42 26.3**	**+1.0**
GHO	**Glory Hole Cre**	**5.37**	**360**	IAML				13 43 28.9	
	comp=N,186nm,0.7s								
SML	**Sawmill**	**5.41**	**3**				**Pn**	**13 42 27.1**	**+1.2**
M23K	**Glacier View**	**5.42**	**6**				**Pn**	**13 42 27.2**	**+1.2**
SCM	**Sheep Creek Mo**	**5.49**	**8**				**Pn**	**13 42 28.2**	**+1.3**
P16K	**Nushagak River**	**5.54**	**302**				**Pn**	**13 42 28.2**	**+0.7**
VRDI	**Verde Repeater**	**5.59**	**28**				**Pn**	**13 42 29.4**	**+1.1**
N18K	**Kilae Creek**	**5.63**	**322**				**Pn**	**13 42 28.8**	**0.0**
KIAG	**Kiagna River**	**5.65**	**34**				**Pn**	**13 42 30.9**	**+1.6**
N25K	**Chitina, Valde**	**5.65**	**21**	Pn			**Pn**	**13 42 30.2**	**+1.1**
SAMH	**Samovar Hills**	**5.66**	**46**				**Pn**	**13 42 31.5**	**+2.2**
GLB	**Gilahina Butte**	**5.68**	**25**				**Pn**	**13 42 30.4**	**+0.9**
SKT	**Skwentna**	**5.74**	**347**				**Pn**	**13 42 30.7**	**+0.4**
O16K	**Kokwok River B**	**5.84**	**307**				**Pn**	**13 42 32.0**	**+0.4**
SVW2	**Sparrevohn**	**5.85**	**326**				**Pn**	**13 42 31.7**	**-0.1**
SVW2	**Sparrevohn**	**5.85**	**326**	P			**Pn**	**13 42 31.8**	**+0.1**
PCA	**Pinnacle**	**5.86**	**47**				**Pn**	**13 42 33.9**	**+2.0**
M20K	**Styx River**	**5.90**	**340**				**Pn**	**13 42 32.6**	**0.0**
BARN	**Barnard Glacie**	**5.98**	**36**				**Pn**	**13 42 35.7**	**+1.9**
PNL	**Peninsula**	**6.00**	**53**				**Pn**	**13 42 35.6**	**+1.8**
N17K	**Nushagak Hills**	**6.00**	**317**				**Pn**	**13 42 33.8**	**-0.1**
BCPM	**Bancas Point**	**6.04**	**50**				**Pn**	**13 42 35.9**	**+1.6**
M19K	**Big River Lodg**	**6.19**	**335**				**Pn**	**13 42 36.5**	**+0.1**
CNBA	**Chernabura Isl**	**6.28**	**260**				**Pn**	**13 42 37.5**	**-0.1**
L19K	**White Mountain**	**6.54**	**335**	Pn			**Pn**	**13 42 40.7**	**-0.6**
N16K	**Nishlik Lake**	**6.59**	**312**				**Pn**	**13 42 41.8**	**-0.3**
SDPT	**Sand Point**	**6.62**	**266**	P			**Pn**	**13 42 42.9**	**+0.6**
S31K	**Pelican**	**7.04**	**72**				**Pn**	**13 42 48.1**	**0.0**
TTA	**Tatalina**	**7.46**	**334**	P			**Pn**	**13 42 54.8**	**+0.9**
SIT	**Sitka**	**7.48**	**79**	P			**Pn**	**13 42 53.5**	**-0.6**
L16K	**Owhat River**	**7.61**	**319**	Pn			**Pn**	**13 42 55.9**	**0.0**
SKAG	**Skagway**	**7.83**	**61**	P			**Pn**	**13 43 01.1**	**+2.2**
JIS	**Juneau Island**	**8.06**	**71**	P			**Pn**	**13 43 03.7**	**+1.7**
FALS	**False Pass**	**8.38**	**265**				**Pn**	**13 43 07.5**	**+1.1**
FALS	**False Pass**	**8.38**	**265**	P			**Pn**	**13 43 06.8**	**+0.4**
ILAR	**Eielson Array**	**8.44**	**6**	Pn			**Pn**	**13 43 08.8**	**+1.5**
	comp=N,0.3nm,0.3s,baz=188,slow=13,SNR=3.4								
ILAR							**Sn**	**13 44 37.2**	**-5.3**
	comp=N,1.5nm,0.3s,baz=185,slow=17,SNR=6.3								
	comp=N,0.7nm,0.3s								
N31M	**Braeburn, Yuko**	**8.46**	**48**				**Pn**	**13 43 10.1**	**+2.5**
WHY	**Whitehorse**	**8.46**	**54**	Pn			**Pn**	**13 43 10.1**	**+2.4**
P32M	**Atlin**	**8.65**	**62**	Pn			**Pn**	**13 43 11.8**	**+1.5**
R33M	**Jennings River**	**9.98**	**65**	Pn			**Pn**	**13 43 30.6**	**+2.1**
DLBC	**Dease Lake**	**10.36**	**71**	Pn			**Pn**	**13 43 36.0**	**+2.3**
	comp=N,2.3nm,0.3s,baz=239,slow=8.1,SNR=20								
DLBC							**Sn**	**13 45 25.3**	**-4.4**
	comp=N,0.6nm,0.3s,baz=190,slow=18,SNR=1.8								
	comp=N,5.2nm,0.3s								
UNV	**Unalaska Valle**	**10.41**	**263**	P			**Pn**	**13 43 33.8**	**-0.5**
SPIA	**Saint Paul Isl**	**11.73**	**283**	P			**Pn**	**13 43 53.7**	**+1.3**
BBB	**Bella Bella**	**12.83**	**101**	Sn			**Sn**	**13 46 23.9**	**-6.1**
	comp=N,0.2nm,0.3s,baz=0.0,slow=20,SNR=1.3								
INK	**Inuvik**	**13.83**	**24**	Pn			**Pn**	**13 44 23.9**	**+3.0**
	baz=205,slow=12,SNR=4.1								
	comp=N,3.0nm,1.1s								
ADK	**Adak**	**16.85**	**266**	P			**Pn**	**13 45 01.0**	**+0.2**
C36M	**Paulatuk**	**17.01**	**31**	Pn			**Pn**	**13 45 03.6**	**+0.9**
C36M				IAmb			IAmb	13 45 18.7	
	comp=Z,3.3nm,0.8s								
YKA	**Yellowknife Ar**	**18.28**	**56**	P			**P**	**13 45 20.3**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=12								
	comp=Z,3.3nm,1.1s								
A36M	**Sachs Harbour**	**18.47**	**23**	P			**Pn**	**13 45 21.8**	**+1.1**
A36M				IAmb			IAmb	13 45 32.7	
	comp=Z,5.4nm,0.9s								
NVAR	**Mina Array Bea**	**27.08**	**119**	P			**P**	**13 46 49.1**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=296,slow=10.0,SNR=4.4								
	comp=Z,0.6nm,0.8s								
PDAR	**Pinedale Array**	**28.47**	**102**	P			**P**	**13 47 01.0**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=291,slow=2.5,SNR=2.6								
	comp=Z,0.3nm,0.7s								
TXAR	**Lajitas Array**	**41.66**	**111**	P			**P**	**13 48 52.6**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=334,slow=8.3,SNR=3.5								
	comp=Z,0.4nm,0.8s								
SONM	**Songino Array**	**58.72**	**310**	P			**P**	**13 51 03.6**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=50,slow=7.2,SNR=3.8								
	comp=Z,0.7nm,0.7s								
FINES	**FINESS Array B**	**62.41**	**3**	P			**P**	**13 51 28.3**	**+0.8**
	comp=Z,2.4nm,1.1s,baz=260,slow=7.8,SNR=1.6								
	comp=Z,2.4nm,1.1s								
BVAR	**Borovoye Array**	**66.25**	**335**	P			**P**	**13 51 53.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=38,slow=9.7,SNR=2.3								
	comp=Z,0.3nm,0.4s								
MKAR	**Makanchi Array**	**68.61**	**325**	P			**P**	**13 52 08.4**	**+0.5**
MKAR	**Makanchi Array**	**68.61**	**325**	P			**P**	**13 52 08.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=29,slow=6.7,SNR=2.6								
	comp=Z,0.2nm,0.5s								
ABKAR	**Akbulak array**	**72.00**	**341**	P			**P**	**13 52 29.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**86.42**	**298**	P			**P**	**13 53 47.4**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=12,slow=4.9,SNR=6.3								
	comp=Z,0.7nm,0.6s								
QSPA	**South Pole Qui**	**146.21**	**180**	PKPbc			**PKPdf**	**14 00 43.7**	**+0.7**
	comp=Z,2.0nm,1.0s,baz=342,slow=3.2,SNR=3.2								

*IDC **23** 13:44:09.0± 0.8, 56˚.39N× 149˚.16W, h0km, mb4.0/19, mbtmp4.0/24, ML3.7/5, Error ellipse: s-maj=23.2km s-min=11.7km az=36.0*
*NEIC **23** 13:44:11.6± 1.3, 56˚.48N± 0˚.08× 149˚.1W± 0˚.1, h10km± 1km, mb4.5/53, ML4.2/58, ML4.0(AEIC), Error ellipse: s-maj=14.0km s-min=10.2km az=169.0*
*AEIC **23** 13:44:16.6± 1.5, 56˚.52N± 0˚.09× 149˚.1W± 0˚.1, h7km± 4km, Error ellipse: s-maj=13.7km s-min=8.1km az=169.0*

ISC 23 13:44:11.1± 0.5, 56˚.50N± 0˚.06× 149˚.03W± 0˚.04, h10km, n181, σ1°20/168, mb4.2/42, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.33**	**305**				**Sn**	**13 45 15.8**	**-2.2**
KDAK	**Kodiak Island**	**2.33**	**305**	Pn			**Pn**	**13 44 49.3**	**-0.1**
KDAK	**Kodiak Island**	**2.33**	**305**	Pn			**Pn**	**13 44 49.1**	**-0.3**
	22nm,0.3s,baz=141,slow=6.1,SNR=7.8								
KDAK						Sn	**Sn**	**13 45 15.5**	**-2.5**
	41nm,0.3s,baz=70,slow=24,SNR=13								
	42nm,0.3s								
OHAK	**Old Harbor**	**2.45**	**289**				**Sn**	**13 45 18.0**	**-3.0**
OHAK	**Old Harbor**	**2.45**	**289**				**Pn**	**13 44 50.5**	**-0.6**
OHAK	**Old Harbor**	**2.45**	**289**	IAML				13 45 18.5	
	comp=E,642nm,0.3s								
OHAK				IAML				13 45 18.9	
	comp=N,1μm,0.7s								
OHAK	**Old Harbor**	**2.45**	**289**	P			**Pn**	**13 44 50.8**	**-0.3**
	baz=105								
OHAK				S			**Sn**	**13 45 18.0**	**-3.0**
	baz=105

baz=205
RDSO **Redoubt South** 4.42 335 Pn 13 45 18.2 -0.1
RSO **Redoubt South** 4.43 335 Pn 13 45 18.9 +0.5
RDT **Redoubt** 4.45 338 Pn 13 45 18.6 -0.1
FID **Port Fidalgo** 4.47 16 Pn 13 45 18.9 +0.1
FID **Port Fidalgo** 4.47 16 IAML 13 46 09.9
comp=E,222nm,0.5s
FID IAML 13 46 12.8
comp=N,196nm,0.9s
RAGM **Ragged Mountai** 4.52 29 Pn 13 45 20.7 +1.1
RC01 **Rabbit Creek A** 4.62 356 Pn 13 45 21.3 +0.4
RC01 IAML 13 46 14.1
comp=E,174nm,0.5s
RC01 **Rabbit Creek A** 4.62 356 P Pn 13 45 21.5 +0.6
baz=175
O19K **Port Alsworth** 4.64 325 Pn Pn 13 45 21.1 -0.1
O19K **Port Alsworth** 4.64 325 P Pn 13 45 21.2 +0.1
baz=141
Q16K **King Salmon** 4.65 301 Pn 13 45 21.6 +0.4
Q16K **King Salmon** 4.65 301 P Pn 13 45 23.2 +1.9
baz=115
GOAT **Goat Mountain** 4.67 27 Pn 13 45 22.6 +0.9
O18K **Koktuh Hills** 4.69 318 Pn 13 45 22.8 +0.9
O18K **Koktuh Hills** 4.69 318 IAML 13 46 19.4
comp=N,251nm,0.8s
O18K IAML 13 46 30.6
comp=E,142nm,0.7s
R16K **Pilot Point** 4.79 286 Pn 13 45 23.7 +0.5
R16K **Pilot Point** 4.79 286 IAML 13 46 21.4
comp=E,224nm,1.4s
R16K IAML 13 46 47.7
comp=N,198nm,1.3s
BERG **Berg Lake** 4.80 33 Pn 13 45 24.6 +1.1
SNH **Sunshine Point** 4.92 39 Pn 13 45 26.8 +1.7
SNH IAML 13 46 21.9
comp=E,254nm,1.0s
SNH IAML 13 46 29.0
comp=N,282nm,0.9s
KNK **Knik Glacier** 4.94 3 Pn 13 45 26.0 +0.7
KNK IAML 13 46 20.8
comp=N,111nm,0.7s
KNK **Knik Glacier** 4.94 3 P Pn 13 45 26.9 +1.6
baz=184
SPCN **Chakachatna No** 5.01 342 Pn 13 45 26.8 +0.5
SPCP **Crater Peak Br** 5.05 343 Pn 13 45 27.1 +0.1
SPCG **Spurr Capps Gl** 5.05 343 Pn 13 45 27.4 +0.5
SUA **Susitna One** 5.06 351 Pn 13 45 27.3 +0.2
PMR **Palmer** 5.11 359 Pn 13 45 28.2 +0.6
N19K **Bonanza Creek** 5.18 329 Pn 13 45 28.9 +0.2
KLU **Klutina** 5.26 16 Pn 13 45 31.0 +1.3
KLU IAML 13 46 31.7
comp=E,130nm,0.7s
KLU IAML 13 46 32.6
comp=N,186nm,0.5s
GHO **Glory Hole Cre** 5.29 1 Pn 13 45 31.2 +1.0
GHO IAML 13 46 29.9
comp=N,152nm,0.6s
GHO IAML 13 46 33.2
comp=E,123nm,0.5s
SML **Sawmill** 5.34 4 Pn 13 45 31.9 +1.2
SML IAML 13 46 36.5
comp=N,89nm,1.3s
SML IAML 13 46 36.9
comp=E,106nm,0.9s
O17K **Koliganek Bris** 5.39 311 Pn 13 45 32.6 +1.1
P16K **Nushagak River** 5.43 302 Pn 13 45 32.5 +0.5
N18K **Kilae Creek** 5.52 322 Pn 13 45 33.3 +0.1
VRDI **Verde Repeater** 5.55 29 Pn 13 45 34.8 +0.9
N25K **Chitina, Valde** 5.61 22 Pn 13 45 36.0 +1.4
SKT **Skwentna** 5.64 348 Pn 13 45 36.0 +1.0
SAMH **Samovar Hills** 5.67 47 Pn 13 45 37.2 +1.8
SVW2 **Sparrevohn** 5.73 326 Pn 13 45 36.4 +0.2
M20K **Styx River** 5.79 340 Pn 13 45 37.3 +0.2
N17K **Nushagak Hills** 5.88 317 Pn 13 45 38.6 +0.4
PNL **Peninsula** 6.01 54 Pn 13 45 41.9 +1.8
M19K **Big River Lodg** 6.08 335 Pn 13 45 40.5 -0.4
CNBA **Chernabura Isl** 6.21 259 Pn 13 45 42.0 -0.8
WAT1 **Susitna Watana** 6.36 2 Pn 13 45 45.3 +0.6
O15K **Ungalikthiuk R** 6.36 299 Pn 13 45 45.8 +1.0
L19K **White Mountain** 6.43 335 Pn 13 45 45.7 -0.1
PN7A **Pavlof North-7** 7.36 267 Pn 13 45 59.5 +0.9
HYT **Haines Junctio** 7.41 49 Pn 13 46 00.2 +0.9
L16K **Owhat River** 7.49 319 Pn 13 46 00.1 -0.2
ILAR **Eielson Array** 8.37 6 Pn Pn 13 46 11.2 -1.0
comp=E,1.5nm,0.3s,baz=193,slow=12,SNR=22
ILAR Sn Sn 13 47 42.7 -4.0
comp=E,1.1nm,0.3s,baz=184,slow=25,SNR=4.1
comp=E,12nm,0.7s
COLA **College** 8.42 3 Pn 13 46 14.2 +1.2
ISLZ **Isanotski Laza** 8.50 264 Pn 13 46 14.4 +0.2
M30M **Minto, Yukon** 8.69 40 Pn Pn 13 46 18.3 +1.5
FARO **Faro, Yukon** 9.83 48 Pn Pn 13 46 34.8 +2.4
DLBC **Dease Lake** 10.41 71 Pn 13 46 41.4 +1.0
DLBC **Dease Lake** 10.41 71 Pn Pn 13 46 41.0 +0.6
comp=E,0.7nm,0.3s,baz=262,slow=17,SNR=3.8
DLBC Sn Sn 13 48 34.0 -3.0
comp=E,0.6nm,0.3s,baz=262,slow=19,SNR=8.2
comp=E,2.7nm,0.5s
ANM **Nome** 11.37 322 Pn Pn 13 46 54.1 +0.7
F28M **Old Crow** 11.93 17 Pn Pn 13 47 03.1 +2.1
G31M **Satah River** 12.53 28 Pn Pn 13 47 12.0 +2.7
D22K **Ayikyak River** 12.54 354 Pn Pn 13 47 10.8 +1.5
BBB **Bella Bella** 12.93 101 Sn Sn 13 49 33.2 -5.2
comp=E,0.3nm,0.3s,baz=268,slow=13,SNR=2.6
INK **Inuvik** 13.79 25 Pn Pn 13 47 28.3 +2.0
INK **Inuvik** 13.79 25 Pn Pn 13 47 27.3 +1.0
comp=E,0.3nm,0.3s,baz=206,slow=15,SNR=30
comp=E,21nm,1.0s
C16K **Lisburne Hills** 13.96 334 Pn Pn 13 47 29.5 +0.9
WRGLY **Wrigley** 14.43 52 13 47 36.8 +1.8
C36M **Paulatuk** 16.98 31 Pn Pn 13 48 08.3 0.0
YKA **Yellowknife Ar** 18.30 57 P Pn 13 48 25.6 +0.9
YKA **Yellowknife Ar** 18.30 57 P Pn 13 48 25.4 +0.6
comp=E,0.1nm,0.3s,baz=266,slow=11,SNR=18
comp=E,4.3nm,1.0s
A36M **Sachs Harbour** 18.42 23 P P 13 48 26.5 +0.3
A36M IAmb IAmb 13 48 37.3
comp=E,16nm,0.8s
E07A **Sunnyside** 20.54 107 P P 13 48 51.2 +1.7
E07A IAmb IAmb 13 48 52.4
comp=E,9.7nm,0.8s
EDM **Edmonton** 20.65 84 P P 13 48 52.1 +1.4
EDM IAmb IAmb 13 48 53.9
comp=E,13nm,1.0s
D08A **Wollman Farm,** 20.73 104 P P 13 48 53.0 +1.5
NEW **Newport** 20.98 100 P P 13 48 54.4 0.0
comp=E,3.1nm,0.7s,baz=309,slow=6.5,SNR=5.2
comp=E,3.1nm,0.7s
E08A **Dider Farm, El** 21.01 106 IAmb IAmb 13 48 57.2
comp=E,12nm,0.9s
E09A **Wood Farm, Sta** 21.48 105 IAmb IAmb 13 49 04.4
comp=E,8.2nm,0.9s
PINE **Pine Mountain** 21.85 114 IAmb IAmb 13 49 14.6
comp=E,10nm,1.1s
J05D **Fort Rock, OR** 22.07 115 IAmb IAmb 13 49 11.3
comp=E,10nm,1.0s
F10A **Beach Ranch, E** 22.32 105 IAmb IAmb 13 49 12.9
comp=E,13nm,1.2s
YBH **Yreka Blue Hor** 22.50 120 P P 13 49 10.3 -0.4
comp=E,3.2nm,0.9s,baz=349,slow=3.9,SNR=3.9
comp=E,3.2nm,0.9s
WVOR **Wild Horse Val** 24.00 113 IAmb IAmb 13 49 29.6
comp=E,7.4nm,0.9s
HLID **Hailey** 25.42 106 IAmb IAmb 13 49 43.4
comp=E,6.0nm,1.4s
PAHR **Pah Rah Range** 25.67 118 IAmb IAmb 13 49 43.2
comp=E,6.0nm,1.0s
PNTR **Pine Nut** 26.05 119 IAmb IAmb 13 49 47.4
comp=E,8.3nm,1.0s
ELK **Elko** 26.97 111 P P 13 49 52.3 -0.7
comp=E,1.1nm,0.8s,baz=347,slow=14,SNR=4.1
comp=E,1.1nm,0.8s
NVAR **Mina Array Bea** 27.19 119 P P 13 49 55.0 +0.1
comp=E,2.5nm,0.9s,baz=302,slow=9.1,SNR=12
comp=E,2.5nm,0.9s
PDAR **Pinedale Array** 28.57 102 P P 13 50 07.5 +0.3
comp=E,0.9nm,0.8s,baz=315,slow=3.6,SNR=8.9
comp=E,0.9nm,0.8s
SRU **San Rafael Swe** 30.63 108 IAmb IAmb 13 50 28.2
comp=E,7.0nm,0.9s
HMU **Henry Mountain** 31.39 110 IAmb IAmb 13 50 34.8
comp=E,8.5nm,1.3s
WUAZ **Wupatki** 32.92 114 IAmb IAmb 13 50 47.9
comp=E,3.1nm,0.8s
TXAR **Lajitas Array** 41.77 111 P P 13 52 00.5 -0.1
comp=E,1.5nm,0.8s,baz=336,slow=5.8,SNR=11
comp=Z,1.5nm,0.8s
DRIO **Del Rio** 43.29 108 P P 13 52 12.9 0.0
DRIO IAmb IAmb 13 52 14.2
comp=E,5.3nm,0.7s
W50A **Signal Mountai** 47.26 89 P P 13 52 45.3 +1.0
W50A IAmb IAmb 13 52 46.1
comp=E,10nm,0.9s
D62A **Allapoint, All** 47.66 66 P P 13 52 48.0 +0.7
E62A **Clayton Lake** 47.74 66 P P 13 52 47.8 0.0
E62A IAmb IAmb 13 52 49.0
comp=E,9.0nm,0.8s
N58A **Sunbury** 47.94 77 P P 13 52 50.1 +0.6
G62A **West of Eustis** 48.17 68 P P 13 52 52.0 +0.7
V53A **Saluda** 48.30 86 P P 13 52 53.1 +0.7
V53A IAmb IAmb 13 53 08.4
comp=E,8.5nm,1.1s
F63A **Nahmakanta, Br** 48.58 67 P P 13 52 54.5 +0.2
PKME **Peaks-Kenny Pk** 48.78 67 P P 13 52 56.3 +0.4
F64A **Sherman** 48.85 66 P P 13 52 56.0 -0.4
BATG **Bathurst New B** 49.03 64 P P 13 52 58.2 +0.5
BATG IAmb IAmb 13 53 06.9
comp=E,26nm,1.5s
K62A **Royalston** 49.05 72 P P 13 52 58.2 +0.2
HODGE **Hodges** 49.67 87 P P 13 53 03.4 +0.5
HODGE IAmb IAmb 13 53 08.7
comp=E,25nm,1.4s
BORG **Borgarnes** 52.68 25 P P 13 53 26.7 +1.7
ARCES **ARCESS Array B** 54.21 2 P P 13 53 35.9 -0.3
ARCES IAmb IAmb 13 54 16.8
comp=Z,10nm,1.1s
SONM **Songino Array** 58.61 310 P P 13 54 07.6 -0.3
comp=Z,0.8nm,0.8s,baz=46,slow=8.5,SNR=4.4
comp=Z,0.8nm,0.8s
ZALV **Zalesovo Beam** 61.45 327 P P 13 54 26.9 -0.4
comp=Z,0.9nm,0.6s,baz=24,slow=11,SNR=4.3
comp=Z,0.9nm,0.6s
FIA1 **FINESS Array S** 62.33 3 P P 13 54 33.7 +0.7
FINES **FINESS Array B** 62.33 3 P P 13 54 32.9 -0.1
FINES **FINESS Array B** 62.33 3 P P 13 54 33.4 +0.4
comp=Z,1.9nm,0.7s,baz=12,slow=9.8,SNR=7.1
comp=Z,1.9nm,0.7s
BVAR **Borovoye Array** 66.14 335 P P 13 54 58.0 -0.1
comp=Z,1.2nm,0.7s,baz=52,slow=9.9,SNR=5.5
comp=Z,1.2nm,0.7s
KURBB **Kurchatov Arra** 66.22 329 P P 13 54 58.5 -0.2
comp=Z,0.5nm,0.8s,baz=28,slow=5.7,SNR=4.4
comp=Z,0.5nm,0.8s
MKAR **Makanchi Array** 68.50 325 P P 13 55 12.9 -0.3
MKAR **Makanchi Array** 68.50 325 P P 13 55 12.4 -0.8
comp=Z,0.7nm,0.8s,baz=59,slow=5.8,SNR=4.2
comp=Z,0.7nm,0.8s
MAKZ **Makanchi** 68.58 325 P P 13 55 13.6 -0.2
OBIP **Obispado Ponce** 70.99 86 P P 13 55 27.8 -1.1
AKTO **Aktyubinsk** 71.10 342 P P 13 55 28.8 -0.4
comp=Z,1.1nm,0.5s,baz=348,slow=7.2,SNR=4.0
comp=Z,1.1nm,0.5s
CLL **Collm** 71.53 12 P P 13 55 32.6 +0.9
CLL IAmb IAmb 13 56 01.9
comp=Z,3.4nm,0.9s
ABKAR **Akbulak array** 71.89 340 P P 13 55 34.2 +0.3
AKASG **Malin Array Be** 73.16 1 P P 13 55 41.6 +0.2
comp=Z,2.0nm,0.5s,baz=0.7,slow=5.9,SNR=6.9
comp=Z,2.0nm,0.5s
STU **Stuttgart** 73.54 15 P P 13 55 44.4 +0.7
GERES **GERESS Array B** 74.04 12 P P 13 55 46.8 0.0
comp=Z,0.4nm,0.5s,baz=290,slow=2.8,SNR=2.1
comp=Z,0.4nm,0.5s
BUR08 **Bucovina Ar. S** 76.11 4 P P 13 55 59.1 +0.4
BUR08 IAmb IAmb 13 56 13.0
comp=Z,7.4nm,1.4s
BURAR **Bucovina Array** 76.14 4 P P 13 55 59.6 +0.7
BURAR IAmb IAmb 13 56 00.3
comp=Z,1.9nm,0.8s
ARSB **Arslanbob** 76.29 329 P P 13 56 00.0 +0.1
KBZ **Khabaz** 79.64 351 P P 13 56 18.3 +0.1
comp=Z,2.3nm,0.8s,baz=351,slow=8.4,SNR=5.0
comp=Z,2.3nm,0.8s
ESDC **Sonseca Array** 79.73 27 P P 13 56 18.7 -0.2
comp=Z,2.4nm,0.9s,baz=342,slow=4.4,SNR=12
comp=Z,2.4nm,0.9s
RDO **Rodhopi** 82.61 4 P P 13 56 34.7 +0.5
RDO IAmb IAmb 13 56 36.4
comp=Z,7.7nm,0.9s
BRTR **Keskin Array B** 84.11 358 P P 13 56 42.9 +0.7
BRTR **Keskin Array B** 84.11 358 P P 13 56 42.2 +0.1
comp=Z,1.5nm,0.9s,baz=323,slow=1.9,SNR=3.9
comp=Z,1.5nm,0.9s
AGG **Agios Georgios** 84.56 7 P P 13 56 44.5 +0.3
AGG IAmb IAmb 13 56 44.9
comp=Z,11nm,1.1s
ISP **Isparta** 86.04 0 P P 13 56 51.5 -0.3
CMAR **Chiang Mai Arr** 86.31 298 P P 13 56 53.0 -0.3
comp=Z,0.9nm,0.7s,baz=14,slow=5.3,SNR=8.4
comp=Z,0.9nm,0.7s
QSPA **South Pole Qui** 146.29 180 PKPbc PKPdf 14 03 48.7 -0.5
comp=Z,4.8nm,1.0s,baz=52,slow=2.9,SNR=8.7

*IDC **23** 13:45:25.3±0.8, 4.°00S×81.°19W, h0km, mb4.0/9, mbtmp4.1/12, ML3.5/3, Error ellipse: s-maj=32.6km s-min=16.9km az=66.0*
*IGQ **23** 13:45:28±0.7, 4.°S±3.°×8.°1W±.°, h7km*
*VAO **23** 13:45:32.6±1.8, 4.°01S×80.°72W, h30km±15km, mb4.3*
*NEIC **23** 13:45:34.4±2.2, 3.°96S±0.°04×80.°67W±0.°03, h45km±7km, mb4.4/18, Error ellipse: s-maj=6.6km s-min=3.5km az=194.0*

ISC 23 13:45:30.4±3.2, 4.°00S±0.°04×81.°00W±0.°06, h31km±23km, n136, σ1$48/155, mb4.4/18, 7D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**1.03**	**64**		**Pn**	**13 45 47.4**	**-1.3**
ARNL				Sn	**Sn**	13 45 58.5	-3.5
ARNL	**Arenillas**	**1.03**	**64**	P	**Pn**	13 45 47.0	-1.7
ARNL				S	**Sn**	13 46 00.0	-2.1
AMCR	**Ecuador-Macara**	**1.10**	**109**	P	**Pn**	13 45 48.0	-1.7
AMCR				S	**Sn**	13 46 02.0	-1.9
MCRA	**Macar, Loja**	**1.10**	**109**	Pn	**Pn**	13 45 48.7	-1.0
MCRA				Sn	**Sn**	13 46 00.4	-3.5
MCRA	**Macar, Loja**	**1.10**	**109**	‖*eP*	**Pn**	13 45 48.6	-1.1
MCRA				*eS*	**Sn**	13 46 02.5	-1.4
MCRA	**Macar, Loja**	**1.10**	**109**	P	**Pn**	13 45 48.0	-1.7
MCRA				S	**Sn**	13 46 02.0	-1.9
ISPG	**Isla Puna-Puer**	**1.31**	**39**	P	**Pn**	13 45 52.0	-0.7
SALI	**Salinas**	**1.80**	**0**	P	Pn	13 45 57.0	-2.4
SALI				S	**Sn**	13 46 16.0	-5.2
ZUMB	**Zumba**	**2.04**	**115**	P	**Pn**	13 46 03.0	+0.3
ZUMB				S	**Sn**	13 46 27.0	-0.1
COHC	**Cochancay**	**2.31**	**49**		**Pn**	13 46 04.9	-1.4
COHC	**Cochancay**	**2.31**	**49**	‖*iP*	**Pn**	13 46 05.1	-1.3
COHC				*eS*	**Sn**	13 46 33.8	0.0
COHC	**Cochancay**	**2.31**	**49**	P	**Pn**	13 46 05.0	-1.4
COHC				S	**Sn**	13 46 33.0	-0.7
PPLP	**Puerto Lpez**	**2.45**	**5**	*eP*	**Pn**	13 46 06.3	-2.0
PPLP				*eS*	**Sn**	13 46 34.2	-3.0
PPLP	**Puerto Lpez**	**2.45**	**5**	P	**Pn**	13 46 06.0	-2.3
BOSC	**San Juan Bosco**	**2.63**	**71**		**Pn**	13 46 11.6	+0.7
BOSC	**San Juan Bosco**	**2.63**	**71**	P	**Pn**	13 46 11.0	0.0
ISPT	**Isla de la Pla**	**2.72**	**358**	P	**Pn**	13 46 10.0	-2.0
ISPT				S	**Sn**	13 46 38.0	-5.9
CHSH	**Refugio Sur-Vo**	**3.27**	**41**		**Pn**	13 46 19.0	-1.1
CHSH	**Refugio Sur-Vo**	**3.27**	**41**	P	**Pn**	13 46 19.0	-1.1
AQUE	**Quevedo**	**3.29**	**27**	P	**Pn**	13 46 19.0	-0.9
TAMH	**Tambohuasha Ch**	**3.29**	**42**	P	**Pn**	13 46 19.0	-1.3
PORT	**Chimborazo Vol**	**3.36**	**41**	P	**Pn**	13 46 20.0	-1.3
BMAS	**Trigal station**	**3.53**	**45**	P	**Pn**	13 46 23.0	-0.5
TUYU	**Q. Yuibug Volc**	**3.55**	**45**	P	**Pn**	13 46 24.0	+0.2
POND	**Pondoa**	**3.61**	**45**	P	**Pn**	13 46 24.0	-0.5
BULB	**Ulba Tungurahu**	**3.63**	**45**	P	**Pn**	13 46 24.0	-0.8
BRUN	**Tungurahua Vol**	**3.63**	**45**	P	**Pn**	13 46 25.0	+0.2
TAIS	**Taisha**	**3.84**	**65**	P	**Pn**	13 46 27.0	-0.5
PUYO	**Puyo, Santa Ro**	**3.88**	**50**	P	**Pn**	13 46 29.0	+1.0
PIS1	**Pisayambo**	**3.92**	**42**	P	**Pn**	13 46 29.0	+0.1
ILLI	**Illinizas Sur**	**3.97**	**35**	P	**Pn**	13 46 30.0	+0.3
PAST	**Pastocalle**	**4.04**	**36**	P	**Pn**	13 46 31.0	+0.5
SRAM	**San Ramn-Vol**	**4.04**	**37**	P	**Pn**	13 46 31.0	+0.5
PIAT	**Ana Tenorio**	**4.04**	**43**	*eP*	**Pn**	13 46 31.0	+0.4
PIAT				*eS*	**Sn**	13 47 19.0	+1.9
PIAT	**Ana Tenorio**	**4.04**	**43**	P	**Pn**	13 46 30.0	-0.6
ATAH	**Atahualpa**	**4.05**	**140**	Pn	**Pn**	13 46 32.9	+2.2
	2.8nm,0.3s,baz=357,slow=11,SNR=12						
ATAH				Sn	**Sn**	13 47 13.3	-4.0
16nm,0.3s,baz=84,slow=2.5,SNR=4.4
8.5nm,0.5s
BRRN **Barrancas-Volc** 4.07 38 P Pn 13 46 31.0 0.0
SLOR **San Lorenzo -** 4.10 38 Pn 13 46 31.6 +0.3
SLOR **San Lorenzo -** 4.10 38 P Pn 13 46 31.0 -0.4
VCES **Cotopaxi** 4.11 39 P Pn 13 46 31.0 -0.5
CAMI **Rancho Maria** 4.13 37 P Pn 13 46 32.0 +0.1
BNAS **Cotopaxi Volca** 4.15 37 P Pn 13 46 33.0 +0.8
SUCR **Mariscal Sucre** 4.17 37 P Pn 13 46 33.0 +0.6
BREF **Cotopaxi Volca** 4.18 38 P Pn 13 46 33.0 +0.4
BTAM **Cotopaxi Volca** 4.20 38 P Pn 13 46 33.0 +0.1
TAMB **Tambo** 4.20 39 P Pn 13 46 33.0 +0.1
BVC2 **Cotopaxi Volca** 4.21 38 P Pn 13 46 33.0 0.0
VC1 **Cotopaxi 1** 4.22 38 P Pn 13 46 34.0 +0.8
PITA **Cotopaxi Volc** 4.27 37 P Pn 13 46 34.0 +0.2
TOMA **Boca Toma-Volc** 4.32 36 P Pn 13 46 34.0 -0.4
ANTM **Antisana-La Mi** 4.42 39 P Pn 13 46 35.0 -0.8
HPAL **Hacienda Las P** 4.43 32 P Pn 13 46 35.0 -0.8
GGPT **Toaza - Volcan** 4.44 32 P Pn 13 46 35.0 -1.0
ANTS **Antisana-Sarah** 4.48 39 P Pn 13 46 37.0 +0.2
GGPC **Guagua Pichinc** 4.49 32 P Pn 13 46 37.0 +0.1
TERV **Terraza Guagua** 4.49 32 P Pn 13 46 36.0 -0.8
PINO **Pino** 4.50 32 P Pn 13 46 37.0 0.0
ANTI **Antisana** 4.52 39 P Pn 13 46 37.0 -0.3
PULU **Pululahua** 4.71 32 Pn Pn 13 46 38.8 -1.0
PULU **Pululahua** 4.71 32 P Pn 13 46 38.0 -1.7
PAC1 **Pacto, Paraso** 4.78 28 *eP* Pn 13 46 38.5 -1.9
PAC1 *eS* Sn 13 47 31.4 -3.5
PAC1 *i* 13 47 39.6
comp=Z,657nm,0.3s
PAC1 **Pacto, Paraso** 4.78 28 P Pn 13 46 38.0 -2.4
OTAV **Otavalo** 4.92 31 Pn 13 46 41.7 -0.9
OTAV **Otavalo** 4.92 31 P Pn 13 46 42.0 -0.6
OTAV **Otavalo** 4.92 31 *eP* Pn 13 46 42.1 -0.6
OTAV *eS* Sn 13 47 38.4 -0.4
CUSE **Cuicocha Este** 5.00 31 *eP* Pn 13 46 44.0 +0.3
CUSE *eS* Sn 13 47 40.5 -0.3
CUSE *i* 13 47 48.1
comp=Z,520nm,0.4s
CUSE **Cuicocha Este** 5.00 31 P Pn 13 46 43.0 -0.8
ANGU **Angureal** 5.01 37 P Pn 13 46 44.0 0.0
CUSW **Cuicocha Oeste** 5.01 32 P Pn 13 46 43.0 -0.9
CUIC **Cuicocha-Domo** 5.02 32 P Pn 13 46 44.0 0.0
CAYA **Cayambe** 5.04 37 P Pn 13 46 44.0 -0.4
COTA **Cotacachi** 5.06 32 P Pn 13 46 44.0 -0.7
IMBA **Imbabura, San** 5.08 33 Pn 13 46 45.3 +0.3
IMBA **Imbabura, San** 5.08 33 P Pn 13 46 45.0 +0.1
URCU **Urcuqui** 5.19 32 P Pn 13 46 47.0 +0.6
LITE1 **Lita** 5.44 29 P Pn 13 46 48.0 -1.6
CASC **Dorado de Casc** 5.50 42 P Pn 13 46 50.0 -0.3
LNGL **El Angel-Carch** 5.58 32 P Pn 13 46 52.0 +0.2
BONI **La Bonita** 5.62 38 *eP* Pn 13 46 52.4 +0.3
BONI **La Bonita** 5.62 38 P Pn 13 46 52.0 -0.1
CHMA **Chilma** 5.65 31 P Pn 13 46 52.0 -0.6
CHL1 **Volcn Chiles** 5.65 33 P Pn 13 46 52.0 -0.8
GCUF **Volcan Galeras** 6.34 35 *eP* Pn 13 47 03.2 +0.9
BBAC **Balboa, Cauca** 7.06 32 *eP* Pn 13 47 11.4 -0.4
BBAC *eS* Sn 13 48 31.1 -0.1
BBAC *i* 13 48 39.8
comp=E,11nm,0.5s
NNA **Nana** 8.94 153 Pn Pn 13 47 37.0 -0.4
comp=E,1.0nm,0.3s,baz=286,slow=7.4,SNR=1.4
NNA Sn Sn 13 49 12.0 -5.1
comp=E,1.9nm,0.3s,baz=269,slow=14,SNR=1.5
comp=E,3.8nm,0.3s
CZSB **Cruzeiro do Su** 9.04 115 Pn Pn 13 47 38.3 -0.5
CZSB **Cruzeiro do Su** 9.04 115 *eP* Pn 13 47 38.9 0.0
CZSB *eS* Sn 13 49 16.4 -3.3
CZSB *i* 13 49 49.8
comp=Z,29nm,0.5s
CZSB **Cruzeiro do Su** 9.04 115 *eP* Pn 13 47 38.1 -0.8
CZSB *eS* Sn 13 49 16.0 -3.7
RIMA **Rio Macho** 13.97 348 Pn Pn 13 48 47.8 +1.2
ORTG **Ortega, Santa** 14.95 343 P 13 49 03.4 -1.5
ORTG IAmb IAmb 13 49 03.9
comp=Z,13nm,1.1s
ETMB **Extrema** 15.77 112 Pn Pn 13 49 08.9 -1.4
ETMB **Extrema** 15.77 112 *eP* Pn 13 49 09.6 -0.7
SDV **Santo Domingo** 16.45 39 Pn Pn 13 49 17.8 -1.4
SDV IAmb IAmb 13 49 22.4
comp=Z,20nm,0.9s
SDV **Santo Domingo** 16.45 39 Pn Pn 13 49 19.5 +0.2
comp=Z,1.0nm,0.3s,baz=213,slow=11,SNR=10.0
comp=Z,16nm,0.9s
SDV **Santo Domingo** 16.45 39 *eP* Pn 13 49 18.9 -0.3
PB16 **IPOC Station P** 18.15 143 P P 13 49 42.1 +1.2
BAUV **El Baul** 18.22 45 P 13 49 40.3 -0.9
BAUV IAmb IAmb 13 49 40.8
comp=Z,28nm,1.4s
SAML **Samuel** 18.36 106 P P 13 49 42.1 -0.6
SAML **Samuel** 18.36 106 *eP* P 13 49 42.4 -0.3
PCRV **Puerto La Cruz** 21.54 49 P P 13 50 18.2 +0.9
comp=Z,3.4nm,0.5s,baz=285,slow=23,SNR=1.9
comp=Z,3.4nm,0.5s
LVC **Limon Verde** 21.89 149 P P 13 50 21.5 +0.2
comp=Z,5.5nm,0.9s,baz=322,slow=10,SNR=4.1
comp=Z,5.5nm,0.9s
LVC **Limon Verde** 21.89 149 *eP* P 13 50 21.6 +0.2
SIV **San Ignacio** 22.92 123 P P 13 50 32.9 +0.8
comp=Z,2.1nm,0.5s,baz=293,slow=6.7,SNR=11
comp=Z,2.1nm,0.5s
GO02 **Mina Guanaco** 23.73 154 P P 13 50 42.3 +2.0
GO02 IAmb IAmb 13 50 44.1
comp=Z,8.2nm,0.7s
BBSD **Serra de San D** 23.90 125 *eP* P 13 50 42.5 +0.8
PTLB **Pontes e Lacer** 24.33 119 P P 13 50 45.4 -0.3
TEIG **Tepich** 25.12 344 P P 13 50 54.9 +2.3
TEIG IAmb IAmb 13 51 05.7
comp=Z,27nm,1.4s
BBRB **Robore, Bolivi** 25.12 126 *eP* P 13 50 52.8 0.0
ITTB **Itaituba** 25.20 92 *eP* P 13 50 55.3 +1.8
AQDB **Aquidauana** 29.57 126 P P 13 51 32.3 -0.4
AQDB IAmb IAmb 13 51 33.8
comp=Z,18nm,1.5s
AQDB **Aquidauana** 29.57 126 *eP* P 13 51 32.1 -0.6
KMSC **Kings Mountain** 38.94 360 P P 13 52 55.7 +2.2
TREL **Terrell** 39.24 340 P P 13 52 58.1 +2.0
CMC01 **Camacan, BA** 42.33 108 *eP* P 13 53 21.0 -0.8
AY02 **Valle Explorad** 42.86 172 P P 13 53 29.0 +3.3
M55A **Ridgway** 45.30 2 P P 13 53 47.6 +2.2
PDAR **Pinedale Array** 53.25 334 P P 13 54 46.2 -0.2
comp=Z,0.3nm,0.7s,baz=113,slow=6.9,SNR=2.6
comp=Z,0.3nm,0.7s
NVAR **Mina Array Bea** 54.53 324 P P 13 54 55.4 -0.5
comp=Z,0.3nm,0.7s,baz=148,slow=7.0,SNR=3.6
comp=Z,0.3nm,0.7s
ULM **Lac du Bonnet** 55.54 348 P P 13 55 01.6 -1.0
comp=Z,2.4nm,0.7s,baz=187,slow=8.1,SNR=3.2
comp=Z,2.4nm,0.7s
DBIC **Dimbokro** 76.74 82 P P 13 57 19.3 -0.2
DBIC IAmb IAmb 13 57 28.3
comp=Z,7.0nm,1.2s
VNA1 **Neumayer--Stat** 80.56 161 ‖P P 13 57 38.9 -0.4
comp=Z,11nm,1.1s
VNA2 **Neumayer--Watz** 80.91 161 ‖P P 13 57 41.3 0.0
comp=Z,3.2nm,0.6s,baz=308,slow=5.0
SNAA **Sanae** 82.50 162 P P 13 57 49.6 -0.2
SNAA IAmb IAmb 13 57 50.5
comp=Z,5.6nm,0.9s
SNAA **Sanae** 82.50 162 ‖P P 13 57 49.1 -0.7
SNAA **Sanae** 82.50 162 P P 13 57 49.5 -0.2
comp=Z,3.2nm,0.7s,baz=262,slow=5.8,SNR=11
comp=Z,3.2nm,0.7s
TOA0 **Torodi Ar. Sit** 83.80 76 P P 13 57 56.7 -0.8
TOA0 IAmb IAmb 13 58 19.3
comp=Z,3.4nm,1.2s
TORD **Torodi Ar. Bea** 83.80 76 P P 13 57 56.6 -0.9
TORD IAmb IAmb 13 57 57.1
comp=Z,2.1nm,1.2s
TROLL **Troll, Antarti** 84.21 162 ‖P P 13 57 58.8 +0.1
comp=Z,184nm,0.7s
QSPA **South Pole Qui** 86.08 180 P P 13 58 08.2 +0.2
comp=Z,3.6nm,0.8s,baz=182,slow=2.0,SNR=8.3
comp=Z,3.6nm,0.8s
EKA **Eskdalemuir Ar** 86.38 34 P P 13 58 10.3 +0.8
comp=Z,0.3nm,0.4s,baz=225,slow=11,SNR=2.1
comp=Z,0.3nm,0.4s
ELIB **Princess Elisa** 90.64 162 *dP* P 13 58 29.3 -0.4
comp=Z,2.7nm,1.0s
ZALV **Zalesovo Beam** 128.87 11 PKP PKPdf 14 04 33.7 -1.2
comp=Z,1.9nm,0.8s,baz=273,slow=2.7,SNR=8.2
KURBB **Kurchatov Arra** 130.44 17 PKP PKPdf 14 04 37.6 -0.4
comp=Z,1.5nm,0.8s,baz=320,slow=2.2,SNR=10
MKAR **Makanchi Array** 134.98 16 PKhKP PKPpre 14 04 41.4

comp=Z,0.4nm,0.7s,baz=48,slow=1.8,SNR=4.1
SONM Songino Array 135.87 353 PKP **PKPdf 14 04 47.0 -1.5**
comp=Z,0.2nm,0.5s,baz=104,slow=2.0,SNR=2.4
WRA Warramunga Arr 137.91 234 PKP **PKPdf 14 04 52.2 -0.7**
comp=Z,1.2nm,0.9s,baz=111,slow=2.1,SNR=5.0

NEIC ***23*** *13:52:03.5±1.0, 55°.8N±0°.1×148°.8W±0°.2, h7km±9km, ML3.6/32, ML3.0(AEIC), Error ellipse: s-maj=20.1km s-min=11.9km az=159.0*
IDC ***23*** *13:52:07.2±3.6, 55°.84N×148°.99W, h0km, mb3.6/2, mbtmp3.3/5, ML2.8/3, Error ellipse: s-maj=65.9km s-min=40.7km az=178.0*
AEIC ***23*** *13:52:14.2±2.7, 56°.3N±0°.1×149°.0W±0°.1, h10km±9km, Error ellipse: s-maj=18.4km s-min=10.5km az=172.0*
ISC 23 13:52:09.8±2.0, 56°.3N±0°.2×148°.85W±0°.06, h10km, n57, σ1§13/56, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.53**	**308**	Pn	**Pn**	**13 52 50.7**	**-0.3**
KDAK	**Kodiak Island**	**2.53**	**308**	Pn	**Pn**	**13 52 50.6**	**-0.4**
	2.2nm,0.3s,baz=203,slow=11,SNR=2.2						
KDAK				Sn	**Sn**	**13 53 17.7**	**-4.1**
	2.9nm,0.3s,baz=131,slow=19,SNR=2.0 6.6nm,0.2s						
OHAK	**Old Harbor**	**2.62**	**293**	Pn	**Pn**	**13 52 50.6**	**-1.4**
SYI	**Shuyak Island**	**3.01**	**322**	Pn	**Pn**	**13 52 57.4**	**-0.1**
SYI				IAML		13 53 32.4	
	comp=N,51nm,0.6s						
Q23K	**Middleton Isla**	**3.42**	**22**	Pn	**Pn**	**13 53 02.1**	**-1.0**
Q23K				IAML		13 55 24.4	
	comp=N,142nm,1.5s						
MID	**Middleton Isla**	**3.42**	**22**	Pn	**Pn**	**13 53 02.2**	**-1.0**
MID				IAML		13 55 24.4	
	comp=N,129nm,1.3s						
CNPM	**China Poot**	**3.49**	**340**	Pn	**Pn**	**13 53 04.7**	**+0.6**
CNPM				IAML		13 53 50.5	
	comp=E,35nm,1.4s						
BRLK	**Bradley Lake**	**3.65**	**344**	Pn	**Pn**	**13 53 06.9**	**+0.5**
BRLK				IAML		13 53 48.2	
	comp=N,30nm,1.4s						
BRLK				IAML		13 53 52.0	
	comp=E,47nm,0.6s						
Q19K	**Cape Douglas,**	**3.70**	**318**	Pn	**Pn**	**13 53 07.7**	**+0.7**
Q19K				IAML		13 54 05.0	
	comp=N,151nm,1.3s						
SEW	**Seward**	**3.84**	**356**	Pn	**Pn**	**13 53 06.8**	**-2.1**
P19K	**Oil Pt**	**4.10**	**327**	Pn	**Pn**	**13 53 12.9**	**+0.4**
P19K				IAML		13 54 23.7	
	comp=E,75nm,1.4s						
HIN	**Hinchinbrook I**	**4.30**	**16**	Pn	**Pn**	**13 53 14.6**	**-0.8**
HIN				IAML		13 53 59.0	
	comp=N,54nm,1.5s						
HIN				IAML		13 54 04.0	
	comp=E,55nm,1.3s						
KAIM	**Kayak Island**	**4.34**	**31**	Pn	**Pn**	**13 53 15.2**	**-0.6**
KAIM				IAML		13 54 25.4	
	comp=N,93nm,1.3s						
EYAK	**Cordova Ski Ar**	**4.58**	**20**	Pn	**Pn**	**13 53 18.6**	**-0.4**
P18K	**Big Mountain,**	**4.62**	**315**	Pn	**Pn**	**13 53 18.7**	**-0.9**
CAPN	**Captain Cook N**	**4.65**	**346**	Pn	**Pn**	**13 53 21.9**	**+1.9**
RSO	**Redoubt South**	**4.66**	**336**	Pn	**Pn**	**13 53 21.3**	**+0.9**
RAGM	**Ragged Mountai**	**4.66**	**26**	Pn	**Pn**	**13 53 20.0**	**-0.3**
RAGM				IAML		13 56 31.8	
	comp=E,53nm,1.5s						
RC01	**Rabbit Creek A**	**4.84**	**355**	Pn	**Pn**	**13 53 23.3**	**+0.7**
RC01				IAML		13 54 21.3	
	comp=N,23nm,1.5s						
RC01				IAML		13 54 21.7	
	comp=E,21nm,1.1s						
BERG	**Berg Lake**	**4.93**	**31**	Pn	**Pn**	**13 53 23.1**	**-0.8**
BERG				IAML		13 54 17.5	
	comp=E,47nm,1.1s						
BERG				IAML		13 55 13.7	
	comp=N,36nm,1.4s						
SNH	**Sunshine Point**	**5.03**	**37**	Pn	**Pn**	**13 53 24.9**	**-0.5**
KNK	**Knik Glacier**	**5.15**	**2**	Pn	**Pn**	**13 53 27.3**	**+0.4**
BMRM	**Bremner River**	**5.19**	**24**	Pn	**Pn**	**13 53 27.5**	**-0.1**
SUA	**Susitna One**	**5.29**	**350**	Pn	**Pn**	**13 53 28.3**	**-0.5**
PMR	**Palmer**	**5.32**	**359**	Pn	**Pn**	**13 53 29.0**	**-0.3**
CHGN	**Chignik**	**5.33**	**274**	Pn	Pn	13 53 22.1	-7.2
KLU	**Klutina**	**5.44**	**15**	Pn	**Pn**	**13 53 30.5**	**-0.5**
GHO	**Glory Hole Cre**	**5.50**	**360**	Pn	**Pn**	**13 53 32.5**	**+0.7**
SML	**Sawmill**	**5.54**	**3**	Pn	**Pn**	**13 53 33.0**	**+0.7**
VRDI	**Verde Repeater**	**5.70**	**27**	Pn	**Pn**	**13 53 33.6**	**-1.0**
N25K	**Chitina, Valde**	**5.77**	**21**	Pn	**Pn**	**13 53 35.6**	**+0.1**
GLB	**Gilahina Butte**	**5.79**	**25**	Pn	**Pn**	**13 53 35.4**	**-0.4**
O16K	**Kokwok River B**	**5.93**	**308**	Pn	**Pn**	**13 53 37.9**	**+0.2**
SVW2	**Sparrevohn**	**5.96**	**327**	Pn	**Pn**	**13 53 37.7**	**-0.3**
M24K	**Tolsona, Glenn**	**6.00**	**12**	Pn	**Pn**	**13 53 39.6**	**+1.0**
M20K	**Styx River**	**6.03**	**340**	Pn	**Pn**	**13 53 39.7**	**+0.6**
BARN	**Barnard Glacie**	**6.08**	**35**	Pn	**Pn**	**13 53 39.3**	**-0.6**
CTGM	**Chitina Glacie**	**6.12**	**37**	Pn	**Pn**	**13 53 39.9**	**-0.4**
LOGN	**Logan Glacier**	**6.13**	**39**	Pn	**Pn**	**13 53 39.5**	**-1.0**
L19K	**White Mountain**	**6.66**	**335**	Pn	**Pn**	**13 53 48.3**	**+0.6**
M17K	**Holitna River**	**6.79**	**323**	Pn	**Pn**	**13 53 49.3**	**-0.1**
M26K	**Nabesna, AK**	**6.82**	**24**	Pn	**Pn**	**13 53 49.6**	**-0.4**
M27K	**Edge Creek, AK**	**7.05**	**27**	Pn	**Pn**	**13 53 52.6**	**-0.5**
M16K	**Timber Creek**	**7.09**	**316**	Pn	**Pn**	**13 53 53.3**	**-0.3**
KTH	**Kantishna Hill**	**7.36**	**353**	Pn	**Pn**	**13 53 58.4**	**+1.0**
K20K	**Telida**	**7.56**	**342**	Pn	**Pn**	**13 54 01.9**	**+1.9**
TTA	**Tatalina**	**7.58**	**334**	Pn	**Pn**	**13 54 01.0**	**+0.6**
BCAR	**Beaver Creek A**	**7.68**	**25**	Pn	**Pn**	**13 54 01.9**	**+0.3**
RIDG	**Independent Ri**	**7.74**	**13**	Pn	**Pn**	**13 54 03.0**	**+0.5**
N30M	**Aishikik Lake**	**8.00**	**45**	Pn	**Pn**	**13 54 04.5**	**-1.5**
K17K	**Iditarod**	**8.04**	**327**	Pn	**Pn**	**13 54 06.0**	**-0.5**
ILAR	**Eielson Array**	**8.57**	**6**	Pn	**Pn**	**13 54 16.2**	**+2.4**
	comp=N,0.1nm,0.3s,baz=188,slow=14,SNR=4.2 comp=N,0.4nm,0.4s						
J26L	**Joseph Creek**	**8.64**	**15**	Pn	**Pn**	**13 54 14.0**	**-0.9**
L29M	**L29M**	**8.72**	**34**	Pn	**Pn**	**13 54 14.4**	**-1.5**
YKA	**Yellowknife Ar**	**18.34**	**56**	P	**Pn**	**13 56 27.1**	**+3.1**
	baz=269,slow=11,SNR=3.0 comp=N,0.3nm,0.8s						
MKAR	**Makanchi Array**	**68.73**	**325**	P	P	14 03 15.4	+2.0
	comp=N,0.2nm,0.5s,baz=37,slow=7.9,SNR=4.7 comp=N,0.2nm,0.5s						
AKASG	**Malin Array Be**	**73.37**	**1**	P	**P**	**14 03 41.4**	**0.0**
	comp=N,0.4nm,0.4s,baz=3.0,slow=6.6,SNR=2.9 comp=N,0.4nm,0.4s						

IDC ***23*** *13:57:53.5±0.9, 15°.39S×168°.28E, h0km, mb4.0/6, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=34.1km s-min=23.2km az=122.0*
NEIC ***23*** *13:57:57.9±1.1, 15°.35S±0°.07×168°.2E±0°.2, h29km±7km, mb4.6/8, Error ellipse: s-maj=26.4km s-min=7.8km az=103.0*
NOU ***23*** *13:58:09.1, 16°.22S×167°.77E, h0km, MLv3.8/8, Vanuatu Islands*
ISC 23 13:57:58.7±0.7, 15°.38S±0°.09×168°.2E±0°.1, h35km, n24, σ1§02/25, mb4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.34**	**215**	Pn	**Pn**	**13 59 31.1**	**+1.3**
KOUNC	**Koumac, New Ca**	**6.34**	**215**	P	**Pn**	**13 59 31.4**	**+1.7**
YATNC	**Mamie plateau,**	**6.76**	**190**	P	**Pn**	**13 59 37.7**	**+2.2**
DZM	**Mont Dzumac**	**6.86**	**194**	P	**Pn**	**13 59 37.7**	**+0.8**
DZM	**Mont Dzumac**	**6.86**	**194**	Pn	**Pn**	**13 59 36.9**	**0.0**
	1.9nm,0.3s,baz=23,slow=22,SNR=14						
DZM				Sn	**Sn**	**14 00 53.2**	**-0.7**
	baz=310,slow=17 3.8nm,0.3s						
ONTNC	**Ouen Toro**	**7.09**	**193**	Pn	**Pn**	**13 59 38.5**	**-1.5**
OUENC	**Ouen Island, N**	**7.12**	**190**	P	**Pn**	**13 59 41.9**	**+1.5**
EIDS	**Eidsvold**	**18.84**	**235**	P	**P**	**14 02 14.5**	**-1.3**
CAN	**Canberra**	**26.27**	**217**	P	**P**	**14 03 31.0**	**+0.1**
CAN				IAmb	IAmb	14 03 49.7	
	comp=Z,37nm,1.5s						
WB2	**Warramunga Arr**	**32.52**	**257**	P	**P**	**14 04 26.0**	**-0.6**
WRA	**Warramunga Arr**	**32.53**	**257**	P	**P**	**14 04 27.3**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=85,slow=9.5,SNR=1.6 comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**33.28**	**250**	P	**P**	**14 04 33.6**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=79,slow=8.7,SNR=11 comp=Z,1.2nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.18**	**240**	P	**P**	**14 06 42.6**	**-1.0**
QSPA	**South Pole Qui**	**74.66**	**180**	P	**P**	**14 09 34.7**	**+0.2**
QSPA				IAmb	IAmb	14 09 35.8	
	comp=Z,3.9nm,0.9s						
QSPA	**South Pole Qui**	**74.66**	**180**	P	**P**	**14 09 35.0**	**+0.6**

comp=Z,4.4nm,1.0s,baz=310,slow=0.7,SNR=18
comp=Z,4.4nm,1.0s
J14K Nanvaranak Lak 80.96 13 P **P** **14 10 08.7 -0.5**
J14K IAmb IAmb 14 10 37.6
comp=Z,10nm,1.2s
SONM Songino Array 83.54 323 P **P** **14 10 23.6 +0.3**
comp=Z,1.1nm,1.0s,baz=67,slow=5.2,SNR=2.9
comp=Z,1.1nm,1.0s
H17K Granite Mounta 83.66 13 P **P** **14 10 23.1 -0.2**
H17K IAmb IAmb 14 10 58.8
comp=Z,6.3nm,1.5s
NVAR Mina Array Bea 87.03 49 P **P** **14 10 41.5 +0.5**
NVAR Mina Array Bea 87.03 49 P **P** **14 10 41.2 +0.2**
comp=Z,0.8nm,0.7s,baz=235,slow=8.9,SNR=10
comp=Z,0.8nm,0.7s
P33M Teslin, Yukon 88.87 25 P **P** **14 10 48.9 -0.2**
P33M IAmb IAmb 14 10 55.7
comp=Z,4.3nm,1.2s
YKA Yellowknife Ar 97.72 27 P **P** **14 11 29.8 +0.1**
comp=Z,0.3nm,0.8s,baz=258,slow=3.9,SNR=4.8
comp=Z,0.3nm,0.8s
CPUP Villa Florida 119.37 133 PKP **PKPdf** **14 16 43.6 -1.6**
comp=Z,1.4nm,0.3s,baz=298,slow=1.3,SNR=4.2
NOA NORSAR Array B 131.47 345 PKP **PKiKP** **14 17 09.2 +1.0**
comp=Z,0.4nm,0.6s,baz=62,slow=2.6,SNR=1.4

NEIC ***23*** *14:04:20.8±1.0, 56°.2N±0°.1×149°.9W±0°.1, h10km±2km, ML3.5/36, ML2.8(AEIC), Error ellipse: s-maj=17.9km s-min=10.9km az=181.0*
AEIC 23 14:04:23.1±1.2, 56°.0N±0°.1×149°.8W±0°.1, h10km±9km, Error ellipse: s-maj=19.7km s-min=10.9km az=183.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.28**	**304**		Pn	14 04 55.5	-5.3
OHAK					Sn	14 05 21.3	-7.6
KDAK	**Kodiak Island**	**2.35**	**320**		Pn	14 04 56.6	-5.1
KDAK					Sn	14 05 22.6	-7.9
SYI	**Shuyak Island**	**2.96**	**333**		Pn	14 05 05.2	-4.9
SYI					Sn	14 05 39.5	-6.3
KAHG	**Katmai Hook Gl**	**3.59**	**316**		Pn	14 05 15.1	-3.7
Q19K	**Cape Douglas,**	**3.59**	**326**		Pn	14 05 14.1	-4.7
Q19K				IAML		14 05 59.3	
	comp=N,123nm,1.4s						
Q19K				IAML		14 06 05.1	
	comp=E,177nm,1.2s						
CNPM	**China Poot**	**3.61**	**348**		Pn	14 05 13.9	-5.2
CNPM	**China Poot**	**3.61**	**348**	IAML		14 05 56.9	
	comp=N,34nm,1.5s						
ACHA	**Angle Creek He**	**3.74**	**308**		Pn	14 05 15.8	-5.0
BRSE	**Bradley Lake S**	**3.78**	**353**		Pn	14 05 15.8	-5.6
ANCK	**Angle Creek**	**3.81**	**308**		Pn	14 05 18.4	-3.4
BRLK	**Bradley Lake**	**3.81**	**352**	Pn	Pn	14 05 16.1	-5.7
BRLK				IAML		14 06 02.1	
	comp=N,34nm,1.4s						
BRLK				IAML		14 06 19.0	
	comp=E,34nm,1.4s						
Q23K	**Middleton Isla**	**3.90**	**27**	Pn	Pn	14 05 17.9	-5.0
MID	**Middleton Isla**	**3.90**	**27**	Pn	Pn	14 05 17.9	-5.0
MID				IAML		14 07 33.4	
	comp=N,171nm,1.4s						
P19K	**Oil Pt**	**4.09**	**335**	Pn	Pn	14 05 20.7	-4.9
P19K				IAML		14 06 12.1	
	comp=N,77nm,0.7s						
P19K				IAML		14 06 14.7	
	comp=E,64nm,0.7s						
P18K	**Big Mountain,**	**4.47**	**322**	Pn	Pn	14 05 25.9	-5.0
HIN	**Hinchinbrook I**	**4.73**	**20**	Pn	Pn	14 05 29.4	-5.1
HIN				IAML		14 07 18.8	
	comp=N,50nm,0.9s						
HIN				IAML		14 07 57.5	
	comp=E,62nm,1.5s						
RSO	**Redoubt South**	**4.73**	**342**	Pn	Pn	14 05 28.4	-6.2
CAPN	**Captain Cook N**	**4.83**	**352**	Pn	Pn	14 05 30.4	-5.3
O19K	**Port Alsworth**	**4.84**	**332**	Pn	Pn	14 05 31.1	-4.8
O19K				IAML		14 06 29.1	
	comp=N,42nm,0.4s						
O19K				IAML		14 08 29.1	
	comp=E,72nm,0.5s						
KAIM	**Kayak Island**	**4.86**	**34**	Pn	Pn	14 05 31.3	-4.9
KAIM				IAML		14 08 09.8	
	comp=E,76nm,1.5s						
FID	**Port Fidalgo**	**5.07**	**19**	Pn	Pn	14 05 33.9	-5.1
FID				IAML		14 06 49.0	
	comp=E,51nm,1.4s						
FID				IAML		14 07 26.2	
	comp=N,31nm,1.2s						
RC01	**Rabbit Creek A**	**5.10**	**0**	Pn	Pn	14 05 34.8	-4.6
RC01				IAML		14 06 34.7	
	comp=E,23nm,0.8s						
RC01				IAML		14 06 45.8	
	comp=N,21nm,1.3s						
RAGM	**Ragged Mountai**	**5.16**	**30**	Pn	Pn	14 05 36.0	-4.3
RAGM				IAML		14 06 56.9	
	comp=E,53nm,1.0s						
BERG	**Berg Lake**	**5.45**	**34**	Pn	Pn	14 05 39.6	-4.7
SNH	**Sunshine Point**	**5.58**	**39**	Pn	Pn	14 05 41.9	-4.1
N18K	**Kilae Creek**	**5.68**	**328**	Pn	Pn	14 05 42.7	-4.7
O16K	**Kokwok River B**	**5.71**	**312**	Pn	Pn	14 05 43.6	-4.2
GHO	**Glory Hole Cre**	**5.80**	**4**	Pn	Pn	14 05 44.9	-4.3
KLU	**Klutina**	**5.86**	**18**	Pn	Pn	14 05 45.8	-4.1
SVW2	**Sparrevohn**	**5.93**	**332**	Pn	Pn	14 05 46.1	-4.8
VRDI	**Verde Repeater**	**6.19**	**30**	Pn	Pn	14 05 49.7	-4.9
N25K	**Chitina, Valde**	**6.23**	**24**	Pn	Pn	14 05 50.6	-4.4
GLB	**Gilahina Butte**	**6.28**	**27**	Pn	Pn	14 05 50.6	-5.1
M24K	**Tolsona, Glenn**	**6.39**	**15**	Pn	Pn	14 05 51.2	-6.1
BARN	**Barnard Glacie**	**6.61**	**37**	Pn	Pn	14 05 56.3	-4.1
CTGM	**Chitina Glacie**	**6.66**	**38**	Pn	Pn	14 05 56.7	-4.3
LOGN	**Logan Glacier**	**6.68**	**40**	Pn	Pn	14 05 57.0	-4.3
M17K	**Holitna River**	**6.71**	**327**	Pn	Pn	14 05 56.5	-5.1
DHY	**Denali Highway**	**7.20**	**9**	Pn	Pn	14 06 03.2	-5.1
M26K	**Nabesna, AK**	**7.30**	**26**	Pn	Pn	14 06 05.2	-4.4
O29M	**Mount Kennedy**	**7.33**	**49**	Pn	Pn	14 06 06.3	-3.8
P29M	**Windy Craggy**	**7.39**	**56**	Pn	Pn	14 06 06.9	-4.0
L16K	**Owhat River**	**7.60**	**323**	Pn	Pn	14 06 09.1	-4.6

IDC ***23*** *14:10:44.7±0.9, 56°.06N×149°.74W, h0km, mb3.8/9, mbtmp3.7/13, ML3.1/4, Error ellipse: s-maj=25.1km s-min=14.1km az=43.0*
NEIC ***23*** *14:10:46.2±2.0, 56°.14N±0°.09×149°.7W±0°.1, h10km±2km, mb4.2/6, ML3.5/28, ML3.4(AEIC), Error ellipse: s-maj=16.3km s-min=9.9km az=158.0*
AEIC ***23*** *14:10:49.7±2.0, 56°.1N±0°.1×149°.6W±0°.1, h5km±6km, Error ellipse: s-maj=15.8km s-min=8.9km az=180.0*
ISC 23 14:10:46.0±0.7, 56°.14N±0°.07×149°.76W±0°.05, h10km, n114, σ0§98/109, mb3.9/12, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.23**	**301**		**Pn**	**14 11 22.1**	**-0.8**
OHAK	**Old Harbor**	**2.23**	**301**		**Sn**	**14 11 48.7**	**-1.7**
OHAK	**Old Harbor**	**2.23**	**301**	IAML		14 11 49.7	
	comp=E,190nm,1.2s						
OHAK				IAML		14 11 50.1	
	comp=N,185nm,0.9s						
OHAK	**Old Harbor**	**2.23**	**301**	P	**Pn**	**14 11 22.8**	**-0.1**
OHAK	**Old Harbor**	**2.23**	**301**	P	**Pn**	**14 11 22.5**	**-0.4**
	baz=117						
OHAK				S	**Sn**	**14 11 48.7**	**-1.7**
	baz=117						
KDAK	**Kodiak Island**	**2.26**	**318**		**Pn**	**14 11 23.0**	**-0.4**
KDAK	**Kodiak Island**	**2.26**	**318**		**Sn**	**14 11 50.2**	**-1.0**
KDAK	**Kodiak Island**	**2.26**	**318**	Pn	**Pn**	**14 11 23.3**	**0.0**
	comp=N,6.4nm,0.3s,baz=151,slow=4.6,SNR=17						
KDAK				Sn	**Sn**	**14 11 50.0**	**-1.2**
	comp=N,4.8nm,0.3s,baz=49,slow=22,SNR=14 comp=N,20nm,0.2s						
Q20K	**Shuyak Island**	**2.86**	**331**	P	**Pn**	**14 11 31.9**	**+0.3**
	baz=148						
Q20K				S	**Sn**	**14 12 05.8**	**-0.1**
	baz=148						
SYI	**Shuyak Island**	**2.86**	**331**		**Pn**	**14 11 31.9**	**+0.3**
SYI					**Sn**	**14 12 05.8**	**-0.1**
SYI	**Shuyak Island**	**2.86**	**331**	IAML		14 12 07.8	
	comp=N,106nm,1.0s						
CNPM	**China Poot**	**3.49**	**348**	Pn	**Pn**	**14 11 39.9**	**-0.3**
CNPM				IAML		14 12 30.8	
	comp=E,69nm,1.1s						
CNPM	**China Poot**	**3.49**	**348**		**Sn**	**14 12 20.2**	**-1.3**
Q19K	**Cape Douglas,**	**3.49**	**325**		**Pn**	**14 11 41.8**	**+1.5**
Q19K	**Cape Douglas,**	**3.49**	**325**	P	**Pn**	**14 11 41.7**	**+1.4**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.51**	**314**		**Pn**	**14 11 42.4**	**+1.8**
KCE	**Katmai Mt Cerb**	**3.63**	**308**		**Pn**	**14 11 45.1**	**+2.9**
BRSE	**Bradley Lake S**	**3.65**	**352**		**Pn**	**14 11 42.2**	**-0.2**
BRSE					**Sn**	**14 12 24.5**	**-1.0**
BRSE	**Bradley Lake S**	**3.65**	**352**	P	**Pn**	**14 11 42.5**	**0.0**
	baz=170						
ACHA	**Angle Creek He**	**3.67**	**307**		**Pn**	**14 11 44.1**	**+1.3**
BRLK	**Bradley Lake**	**3.68**	**351**		**Pn**	**14 11 42.6**	**-0.3**
BRLK				IAML		14 12 31.3	
	comp=E,50nm,0.7s						
BRLK	**Bradley Lake**	**3.68**	**351**		**Sn**	**14 12 25.4**	**-1.0**
ANCK	**Angle Creek**	**3.74**	**306**		**Pn**	**14 11 44.7**	**+0.9**
KVTA	**Katmai Vly 10**	**3.75**	**309**		**Pn**	**14 11 45.2**	**+1.3**
Q23K	**Middleton Isla**	**3.77**	**28**		**Pn**	**14 11 43.5**	**-0.5**
Q23K	**Middleton Isla**	**3.77**	**28**	IAML		14 13 14.8	
	comp=N,180nm,1.4s						
MID	**Middleton Isla**	**3.77**	**28**		**Pn**	**14 11 43.6**	**-0.5**
MID	**Middleton Isla**	**3.77**	**28**	IAML		14 13 14.6	
	comp=E,171nm,1.4s						
MID				IAML		14 13 14.7	
	comp=N,185nm,1.5s						
MID	**Middleton Isla**	**3.77**	**28**	P	**Pn**	**14 11 43.8**	**-0.3**
KAHC	**Katmai Hardscr**	**3.79**	**314**		**Pn**	**14 11 46.1**	**+1.6**
KAHC	**Katmai Hardscr**	**3.79**	**314**	P	**Pn**	**14 11 46.1**	**+1.6**
	baz=129						
PLK3	**Peulik 3**	**3.89**	**296**		**Pn**	**14 11 46.6**	**+0.9**
CNTC	**Contact Creek**	**3.95**	**305**		**Pn**	**14 11 47.3**	**+0.6**
Q17K	**Contact Creek**	**3.95**	**305**	P	**Pn**	**14 11 47.3**	**+0.6**
	baz=120						
SEW	**Seward**	**3.98**	**2**		**Pn**	**14 11 46.4**	**-0.5**
SEW	**Seward**	**3.98**	**2**	P	**Pn**	**14 11 46.5**	**-0.5**
	baz=181						
P23K	**Montague Islan**	**4.07**	**17**		**Pn**	**14 11 47.7**	**-0.4**
PLK1	**Peulik 1**	**4.10**	**297**		**Pn**	**14 11 49.3**	**+0.7**
O20K	**Slope Mountain**	**4.23**	**340**		**Pn**	**14 11 50.6**	**0.0**
IVE	**Iliamna Volcan**	**4.25**	**337**		**Pn**	**14 11 50.9**	**0.0**
P18K	**Big Mountain,**	**4.38**	**320**		**Pn**	**14 11 52.5**	**-0.1**
P18K	**Big Mountain,**	**4.38**	**320**	P	**Pn**	**14 11 52.7**	**+0.2**
	baz=135						
R16K	**Pilot Point**	**4.52**	**292**		**Pn**	**14 11 54.8**	**+0.4**
RED	**Redoubt Volcan**	**4.58**	**341**		**Pn**	**14 11 55.4**	**+0.1**
HIN	**Hinchinbrook I**	**4.60**	**21**		**Pn**	**14 11 54.9**	**-0.7**
HIN	**Hinchinbrook I**	**4.60**	**21**	IAML		14 12 51.4	
	comp=N,57nm,0.9s						
HIN				IAML		14 13 07.5	
	comp=E,82nm,1.5s						
RDSO	**Redoubt South**	**4.60**	**341**		**Pn**	**14 11 55.6**	**-0.1**
RDWB	**Redoubt West**	**4.65**	**341**		**Pn**	**14 11 56.3**	**0.0**
P17K	**Kvichak River**	**4.71**	**313**		**Pn**	**14 11 57.6**	**+0.5**
P17K	**Kvichak River**	**4.71**	**313**	P	**Pn**	**14 11 58.5**	**+1.4**
	baz=127						
NCT	**North Crescent**	**4.74**	**341**		**Pn**	**14 11 57.5**	**0.0**
RC01	**Rabbit Creek A**	**4.96**	**0**		**Pn**	**14 12 00.6**	**+0.1**
RC01				IAML		14 13 00.5	
	comp=E,35nm,1.0s						
RC01				IAML		14 13 03.1	
	comp=N,32nm,1.5s						
RC01	**Rabbit Creek A**	**4.96**	**0**	P	**Pn**	**14 12 00.6**	**+0.1**
	baz=179						
GOAT	**Goat Mountain**	**5.18**	**29**		**Pn**	**14 12 02.9**	**-0.7**
P16K	**Nushagak River**	**5.29**	**307**		**Pn**	**14 12 05.6**	**+0.6**
N19K	**Bonanza Creek**	**5.30**	**334**		**Pn**	**14 12 05.4**	**+0.2**
N19K	**Bonanza Creek**	**5.30**	**334**	IAML		14 13 20.4	
	comp=E,17nm,1.4s						
N19K				IAML		14 13 29.9	
	comp=N,17nm,1.3s						
BERG	**Berg Lake**	**5.33**	**34**		**Pn**	**14 12 05.0**	**-0.5**
O17K	**Koliganek Bris**	**5.34**	**316**		**Pn**	**14 12 06.2**	**+0.6**
PMR	**Palmer**	**5.48**	**3**	P	**Pn**	**14 12 08.6**	**+1.1**
	comp=N,15nm,0.6s						
STLK	**Strandline Lak**	**5.48**	**350**		**Pn**	**14 12 07.8**	**+0.1**
BMRM	**Bremner River**	**5.54**	**27**	P	**Pn**	**14 12 09.5**	**+1.1**
	baz=211						
N18K	**Kilae Creek**	**5.58**	**327**		**Pn**	**14 12 09.1**	**+0.2**
O16K	**Kokwok River B**	**5.63**	**311**		**Pn**	**14 12 10.1**	**+0.4**
GHO	**Glory Hole Cre**	**5.67**	**4**		**Pn**	**14 12 10.4**	**+0.2**
KLU	**Klutina**	**5.73**	**19**		**Pn**	**14 12 11.0**	**0.0**
KLU	**Klutina**	**5.73**	**19**	P	**Pn**	**14 12 12.5**	**+1.5**
	baz=201						
SML	**Sawmill**	**5.73**	**7**		**Pn**	**14 12 11.5**	**+0.4**
SML	**Sawmill**	**5.73**	**7**	P	**Pn**	**14 12 12.1**	**+1.0**
	baz=187						
SVW2	**Sparrevohn**	**5.83**	**331**	P	**Pn**	**14 12 14.0**	**+1.7**
N17K	**Nushagak Hills**	**5.88**	**321**		**Pn**	**14 12 13.5**	**+0.4**
N25K	**Chitina, Valde**	**6.10**	**24**		**Pn**	**14 12 16.8**	**+0.6**
GLB	**Gilahina Butte**	**6.15**	**28**		**Pn**	**14 12 17.0**	**+0.2**
M24K	**Tolsona, Glenn**	**6.26**	**16**		**Pn**	**14 12 19.8**	**+1.5**
BARN	**Barnard Glacie**	**6.50**	**37**		**Pn**	**14 12

ABKAR	**Akbulak array**	**72.09**	**340**	P	**P**	**14 22 11.1**	**+1.1**
ESDC	**Sonseca Array**	**80.23**	**26**	P	**P**	**14 22 57.5**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=328,slow=7.1,SNR=8.0						
	comp=Z,1.4nm,0.9s						
QSPA	**South Pole Qui**	**145.93**	**180**	PKPbc	**PKPdf**	**14 30 23.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=18,slow=5.9,SNR=14						

DJA 23 14:14:10.2±0.8,3°N±4°×12°6E±°, h152km±7km, M3.9/7, mb4.1/1, mB5.3/1, MLv3.9/7, Mw(mB)4.7/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.97**	**348**	P	Pn	14 14 32.9	-2.1
SGSI				S	Sn	14 14 55.1	+1.2
TNTI	**Ternate**	**2.54**	**140**	P	Pn	14 14 53.5	+1.5
TNTI				S	Sn	14 15 25.0	+0.8
KMSI	**Cibinong**	**2.76**	**219**	P	Pn	14 14 57.1	+2.4
KMSI				S	Sn	14 15 29.3	+0.2
LBMI	**Labuha**	**3.79**	**152**	P	Pn	14 15 08.5	+0.7
LBMI				S	Sn	14 15 52.0	-0.5
SANI	**Sanana**	**4.75**	**177**	P	Pn	14 15 18.4	-2.1
NLAI	**Namlea**	**6.08**	**167**	P	Pn	14 15 37.6	-0.5

*IDC **23** 14:21:38.0±2.9, 56°18N×149°36W, h0km, mb3.2/1, mbtmp3.4/6, ML3.2/5, Error ellipse: s-maj=41.4km s-min=28.4km az=2.0*

*NEIC **23** 14:21:38.8±1.1, 56°33N±0°08×149°47W±0°10, h10km±2km, mb3.8/1, ML3.7/46, ML3.3(AEIC), Error ellipse: s-maj=13.5km s-min=9.1km az=168.0*

*AEIC **23** 14:21:42.9±1.4, 56°36N±0°08×149°4W±0°1, h4km±7km, Error ellipse: s-maj=12.2km s-min=7.7km az=165.0*

ISC 23 14:21:39.6±1.4, 56°41N±0°10×149°44W±0°05, h10km, n130, σ0s91/135, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.20**	**310**		**Pn**	**14 22 15.9**	**-0.3**
KDAK					**Sn**	**14 22 42.3**	**-1.2**
KDAK	**Kodiak Island**	**2.20**	**310**	Pn	**Pn**	**14 22 16.3**	**+0.1**
	1.9nm,0.3s,baz=128,slow=8.0,SNR=2.3						
KDAK				Sn	**Sn**	**14 22 41.3**	**-2.1**
	6.1nm,0.3s,baz=53,slow=20,SNR=18						
	14nm,0.6s						
OHAK	**Old Harbor**	**2.27**	**293**		**Pn**	**14 22 16.2**	**-0.9**
OHAK	**Old Harbor**	**2.27**	**293**		**Sn**	**14 22 42.1**	**-3.0**
OHAK	**Old Harbor**	**2.27**	**293**	IAML		14 22 42.6	
	comp=N,154nm,0.8s						
OHAK				IAML		14 22 50.4	
	comp=E,100nm,0.4s						
OHAK	**Old Harbor**	**2.27**	**293**	P	**Pn**	**14 22 16.9**	**-0.2**
	baz=111						
OHAK				S	**Sn**	**14 22 42.1**	**-3.0**
	baz=111						
SYI	**Shuyak Island**	**2.72**	**325**		**Pn**	**14 22 23.3**	**0.0**
SYI					**Sn**	**14 22 56.0**	**-0.3**
Q20K	**Shuyak Island**	**2.72**	**325**	P	**Pn**	**14 22 23.3**	**0.0**
	baz=143						
Q20K				S	**Sn**	**14 22 56.0**	**-0.3**
	baz=143						
CNPM	**China Poot**	**3.27**	**344**		**Pn**	**14 22 30.9**	**0.0**
CNPM					**Sn**	**14 23 10.7**	**+0.8**
CNPM	**China Poot**	**3.27**	**344**	IAML		14 23 13.2	
	comp=N,81nm,0.8s						
CNPM				IAML		14 23 13.7	
	comp=E,83nm,1.1s						
Q19K	**Cape Douglas,**	**3.39**	**320**		**Pn**	**14 22 33.1**	**+0.5**
Q19K	**Cape Douglas,**	**3.39**	**320**	IAML		14 23 17.1	
	comp=N,250nm,0.8s						
Q19K				IAML		14 23 22.9	
	comp=E,321nm,0.7s						
BRSE	**Bradley Lake S**	**3.41**	**349**		**Pn**	**14 22 32.7**	**-0.2**
BRSE					**Sn**	**14 23 12.8**	**-0.6**
BRSE	**Bradley Lake S**	**3.41**	**349**	P	**Pn**	**14 22 32.7**	**-0.2**
	baz=167						
BRSE				S	**Sn**	**14 23 12.8**	**-0.6**
	baz=167						
Q23K	**Middleton Isla**	**3.45**	**27**		**Pn**	**14 22 33.0**	**-0.3**
Q23K					**Sn**	**14 23 12.2**	**-1.9**
Q23K	**Middleton Isla**	**3.45**	**27**	IAML		14 23 12.9	
	comp=N,174nm,0.7s						
Q23K				IAML		14 23 24.9	
	comp=E,191nm,1.1s						
Q23K	**Middleton Isla**	**3.45**	**27**	P	**Pn**	**14 22 33.0**	**-0.3**
	baz=208						
Q23K				S	**Sn**	**14 23 12.2**	**-1.9**
	baz=208						
MID	**Middleton Isla**	**3.45**	**27**		**Pn**	**14 22 33.1**	**-0.2**
MID					**Sn**	**14 23 11.4**	**-2.7**
MID	**Middleton Isla**	**3.45**	**27**	IAML		14 23 13.3	
	comp=N,176nm,1.0s						
MID				IAML		14 24 39.4	
	comp=E,176nm,1.5s						
BRLK	**Bradley Lake**	**3.45**	**348**		**Pn**	**14 22 32.9**	**-0.5**
BRLK				IAML		14 23 18.1	
	comp=E,82nm,0.6s						
ACHA	**Angle Creek He**	**3.67**	**302**		**Pn**	**14 22 36.6**	**+0.1**
SEW	**Seward**	**3.71**	**360**		**Pn**	**14 22 36.5**	**-0.3**
SEW	**Seward**	**3.71**	**360**	P	**Pn**	**14 22 36.5**	**-0.3**
	baz=179						
P23K	**Montague Islan**	**3.75**	**16**		**Pn**	**14 22 36.9**	**-0.7**
P23K	**Montague Islan**	**3.75**	**16**	P	**Pn**	**14 22 36.9**	**-0.7**
	baz=196						
P19K	**Oil Pt**	**3.83**	**330**		**Pn**	**14 22 39.0**	**+0.4**
P19K	**Oil Pt**	**3.83**	**330**	IAML		14 23 29.8	
	comp=E,193nm,0.7s						
P19K	**Oil Pt**	**3.83**	**330**	P	**Pn**	**14 22 39.0**	**+0.4**
	baz=147						
IVE	**Iliamna Volcan**	**4.08**	**334**		**Pn**	**14 22 42.4**	**+0.2**
O22K	**Cooper Landing**	**4.09**	**358**	Pn	**Pn**	**14 22 42.7**	**+0.6**
SLKM	**Skilak Lake**	**4.13**	**355**		**Pn**	**14 22 42.5**	**-0.3**
HIN	**Hinchinbrook I**	**4.29**	**20**		**Pn**	**14 22 44.5**	**-0.3**
HIN	**Hinchinbrook I**	**4.29**	**20**	IAML		14 23 35.8	
	comp=N,122nm,0.6s						
HIN				IAML		14 23 36.8	
	comp=E,119nm,0.6s						
P18K	**Big Mountain,**	**4.30**	**316**		**Pn**	**14 22 45.2**	**+0.1**
P18K	**Big Mountain,**	**4.30**	**316**	P	**Pn**	**14 22 45.2**	**+0.1**
	baz=132						
KAIM	**Kayak Island**	**4.41**	**35**	Pn	**Pn**	**14 22 47.0**	**+0.4**
DFR	**Drift River**	**4.53**	**339**		**Pn**	**14 22 48.7**	**+0.4**
O19K	**Port Alsworth**	**4.59**	**328**		**Pn**	**14 22 48.9**	**0.0**
O19K	**Port Alsworth**	**4.59**	**328**	P	**Pn**	**14 22 48.9**	**0.0**
	baz=144						
FID	**Port Fidalgo**	**4.62**	**18**	Pn	**Pn**	**14 22 49.2**	**-0.2**
FID				IAML		14 23 42.0	
	comp=E,81nm,1.2s						
FID				IAML		14 23 43.7	
	comp=N,72nm,0.6s						
RC01	**Rabbit Creek A**	**4.70**	**358**	Pn	**Pn**	**14 22 50.6**	**+0.1**
RC01				IAML		14 23 46.1	
	comp=E,68nm,0.5s						
RC01				IAML		14 23 47.3	
	comp=N,71nm,0.4s						
RAGM	**Ragged Mountai**	**4.71**	**30**	Pn	**Pn**	**14 22 51.2**	**+0.5**
CHGN	**Chignik**	**5.00**	**272**	Pn	**Pn**	**14 22 54.1**	**-0.4**
CHGN				IAML		14 24 38.8	
	comp=N,55nm,1.0s						
CHGN				IAML		14 24 49.1	
	comp=E,49nm,1.4s						
BERG	**Berg Lake**	**5.00**	**35**	Pn	**Pn**	**14 22 55.9**	**+1.2**
SUA	**Susitna One**	**5.11**	**353**	Pn	**Pn**	**14 22 56.7**	**+0.4**
SUA				IAML		14 23 58.1	
	comp=N,25nm,1.1s						
SUA				IAML		14 24 07.9	
	comp=E,19nm,1.1s						
SNH	**Sunshine Point**	**5.14**	**40**	Pn	**Pn**	**14 22 56.7**	**+0.2**
SNH				IAML		14 24 16.7	
	comp=N,77nm,1.3s						
SNH				IAML		14 24 33.6	
	comp=E,74nm,1.4s						
N19K	**Bonanza Creek**	**5.14**	**331**		**Pn**	**14 22 56.3**	**-0.4**
N19K	**Bonanza Creek**	**5.14**	**331**	P	**Pn**	**14 22 56.3**	**-0.4**
	baz=147						
PMR	**Palmer**	**5.20**	**2**	Pn	**Pn**	**14 22 58.0**	**+0.7**
PMR				IAML		14 24 01.3	
	comp=E,27nm,0.4s						
PMR				IAML		14 24 02.9	
	comp=N,28nm,0.7s						
GHO	**Glory Hole Cre**	**5.38**	**3**		**Pn**	**14 23 00.6**	**+0.6**
KLU	**Klutina**	**5.41**	**18**		**Pn**	**14 23 00.9**	**+0.6**
SML	**Sawmill**	**5.44**	**6**		**Pn**	**14 23 01.3**	**+0.5**
N18K	**Kilae Creek**	**5.45**	**324**		**Pn**	**14 23 00.5**	**-0.4**
N18K	**Kilae Creek**	**5.45**	**324**	P	**Pn**	**14 23 00.5**	**-0.4**
	baz=139						
O16K	**Kokwok River B**	**5.60**	**308**	Pn	**Pn**	**14 23 02.9**	**0.0**
SVW2	**Sparrevohn**	**5.68**	**328**	Pn	**Pn**	**14 23 04.2**	**+0.2**
SKT	**Skwentna**	**5.69**	**350**	Pn	**Pn**	**14 23 03.4**	**-0.7**
N25K	**Chitina, Valde**	**5.78**	**24**		**Pn**	**14 23 05.1**	**-0.3**
N17K	**Nushagak Hills**	**5.79**	**319**	Pn	**Pn**	**14 23 05.2**	**-0.3**
M24K	**Tolsona, Glenn**	**5.95**	**15**	Pn	**Pn**	**14 23 07.2**	**-0.6**
CNBA	**Chernabura Isl**	**5.97**	**259**	Pn	**Pn**	**14 23 06.0**	**-1.9**
M19K	**Big River Lodg**	**6.07**	**337**	Pn	**Pn**	**14 23 09.5**	**+0.1**
M18K	**Stony River**	**6.07**	**330**		**Pn**	**14 23 08.4**	**-0.9**
M18K	**Stony River**	**6.07**	**330**	P	**Pn**	**14 23 08.4**	**-0.9**
	baz=144						
BARN	**Barnard Glacie**	**6.17**	**38**		**Pn**	**14 23 10.3**	**-0.6**
CTGM	**Chitina Glacie**	**6.22**	**39**	Pn	**Pn**	**14 23 10.4**	**-1.1**
LOGN	**Logan Glacier**	**6.24**	**41**	Pn	**Pn**	**14 23 10.9**	**-0.9**
PNL	**Peninsula**	**6.25**	**54**		**Pn**	**14 23 11.1**	**-0.7**
PNL	**Peninsula**	**6.25**	**54**	P	**Pn**	**14 23 11.1**	**-0.7**
	baz=242						
BCPM	**Bancas Point**	**6.28**	**52**		**Pn**	**14 23 11.4**	**-0.8**
HARP	**HAARP**	**6.39**	**18**		**Pn**	**14 23 14.5**	**+0.8**
HARP	**HAARP**	**6.39**	**18**	P	**Pn**	**14 23 14.5**	**+0.8**
	baz=201						
L19K	**White Mountain**	**6.42**	**337**	Pn	**Pn**	**14 23 13.5**	**-0.6**
M17K	**Holitna River**	**6.50**	**324**	Pn	**Pn**	**14 23 14.8**	**-0.4**
DHY	**Denali Highway**	**6.77**	**8**	Pn	**Pn**	**14 23 19.7**	**+0.7**
M16K	**Timber Creek**	**6.78**	**317**	Pn	**Pn**	**14 23 18.8**	**-0.2**
L18K	**Granite Mounta**	**6.91**	**331**	Pn	**Pn**	**14 23 20.1**	**-0.7**
O29M	**Mount Kennedy**	**6.92**	**51**		**Pn**	**14 23 21.4**	**+0.3**
P29M	**Windy Craggy**	**7.00**	**58**		**Pn**	**14 23 21.5**	**-0.6**
P29M	**Windy Craggy**	**7.00**	**58**	P	**Pn**	**14 23 21.3**	**-0.8**
	baz=247						
TRF	**Thorofare Moun**	**7.08**	**357**	Pn	**Pn**	**14 23 23.5**	**+0.2**
TTA	**Tatalina**	**7.33**	**336**	Pn	**Pn**	**14 23 26.5**	**-0.3**
L16K	**Owhat River**	**7.41**	**320**	Pn	**Pn**	**14 23 27.6**	**-0.1**
HYT	**Haines Junctio**	**7.64**	**50**	Pn	**Pn**	**14 23 31.6**	**+0.6**
BPAW	**Bear Paw Mtn.**	**7.75**	**355**		**Pn**	**14 23 32.1**	**-0.3**
K17K	**Iditarod**	**7.76**	**328**	Pn	**Pn**	**14 23 32.1**	**-0.3**
SKAG	**Skagway**	**8.10**	**62**	Pn	**Pn**	**14 23 37.1**	**-0.1**
J20K	**Nowinta River**	**8.13**	**345**	Pn	**Pn**	**14 23 36.7**	**-0.8**
N30M	**Aishikik Lake**	**8.14**	**46**	Pn	**Pn**	**14 23 38.1**	**+0.3**
NEA2	**Nenana**	**8.21**	**1**	Pn	**Pn**	**14 23 38.7**	**0.0**
O30N	**Mendenhall**	**8.22**	**52**	Pn	**Pn**	**14 23 38.6**	**-0.2**
M29M	**Somme Creek**	**8.23**	**38**		**Pn**	**14 23 39.4**	**+0.4**
CCB	**Clear Creek Bu**	**8.30**	**5**	Pn	**Pn**	**14 23 40.7**	**+0.8**
M13K	**Dall Lake**	**8.33**	**305**	Pn	**Pn**	**14 23 40.7**	**+0.4**
JIS	**Juneau Island**	**8.35**	**71**	Pn	**Pn**	**14 23 39.3**	**-1.3**
IL31		**8.48**	**7**	Pn	**Pn**	**14 23 43.0**	**+0.7**
ILAR	**Eielson Array**	**8.48**	**7**	Pn	**Pn**	**14 23 42.8**	**+0.4**
	comp=N,0.2nm,0.3s,baz=190,slow=14,SNR=6.2						
ILAR				Sn	**Sn**	**14 25 14.0**	**-4.1**
	comp=N,0.4nm,0.3s,baz=182,slow=17,SNR=2.1						
	comp=N,0.8nm,0.5s						
MDM	**Murphy Dome**	**8.60**	**3**	Pn	**Pn**	**14 23 44.5**	**+0.5**
J26L	**Joseph Creek**	**8.62**	**17**	Pn	**Pn**	**14 23 45.2**	**+0.9**
N31M	**Braeburn, Yuko**	**8.69**	**49**	Pn	**Pn**	**14 23 45.9**	**+0.6**
WHY	**Whitehorse**	**8.72**	**55**	Pn	**Pn**	**14 23 46.2**	**+0.5**
I23K	**Minto, Yukon-K**	**8.77**	**0**	Pn	**Pn**	**14 23 47.1**	**+0.8**
POKR	**Poker Plat Res**	**8.79**	**6**	Pn	**Pn**	**14 23 47.1**	**+0.5**
L29M	**L29M**	**8.80**	**36**	Pn	**Pn**	**14 23 47.5**	**+0.7**
J16K	**Anvik River**	**8.88**	**325**	Pn	**Pn**	**14 23 47.6**	**-0.3**
M30M	**Minto, Yukon**	**8.91**	**41**	Pn	**Pn**	**14 23 48.5**	**+0.3**
P32M	**Atlin**	**8.93**	**63**	Pn	**Pn**	**14 23 48.1**	**-0.5**
DAWY	**Dawson**	**9.15**	**29**	Pn	**Pn**	**14 23 51.6**	**+0.1**
H21K	**Melozitna Rive**	**9.42**	**351**	Pn	**Pn**	**14 23 55.7**	**+0.4**
K29M	**Barlow Dome**	**9.52**	**34**	Pn	**Pn**	**14 23 57.1**	**+0.4**
P33M	**Teslin, Yukon**	**9.53**	**60**	Pn	**Pn**	**14 23 56.1**	**-0.7**
Q32M	**Nakina River**	**9.54**	**67**	Pn	**Pn**	**14 23 56.6**	**-0.5**
M31M	**Drury Creek, Y**	**9.62**	**47**	Pn	**Pn**	**14 23 58.8**	**+0.8**
H19K	**Round About Mou**	**9.75**	**343**	Pn	**Pn**	**14 23 59.8**	**+0.1**
H18K	**Honhosa River**	**9.78**	**337**	Pn	**Pn**	**14 24 00.3**	**+0.1**
IMAR	**Indian Mountai**	**9.83**	**350**	Pn	**Pn**	**14 24 00.8**	**+0.1**
H17K	**Granite Mounta**	**9.96**	**333**	Pn	**Pn**	**14 24 02.4**	**-0.2**
R33M	**Jennings River**	**10.27**	**65**	Pn	**Pn**	**14 24 06.4**	**-0.5**
G21K	**Allakaket**	**10.32**	**351**	Pn	**Pn**	**14 24 07.3**	**-0.3**
G23K	**Bananza Creek**	**10.34**	**359**	Pn	**Pn**	**14 24 08.2**	**+0.3**
G24K	**Hadweenzic Riv**	**10.37**	**4**	Pn	**Pn**	**14 24 08.7**	**+0.5**
DLBC	**Dease Lake**	**10.65**	**71**	Pn	**Pn**	**14 24 12.3**	**+0.1**
	comp=N,0.2nm,0.3s,baz=269,slow=16,SNR=1.8						
	comp=N,1.1nm,0.5s						
F20K	**Avaraart Lake**	**11.08**	**347**	Pn	**Pn**	**14 24 17.4**	**-0.4**
E19K	**Redstone River**	**11.66**	**345**	Pn	**Pn**	**14 24 25.8**	**-0.1**
INK	**Inuvik**	**13.96**	**25**	Pn	**Pn**	**14 25 00.7**	**+3.4**
	baz=240,slow=10,SNR=2.1						
	comp=N,1.1nm,1.0s						
B20K	**Meade River**	**14.07**	**349**	Pn	**Pn**	**14 24 58.3**	**-0.3**
B22K	**Teshekpuk Lake**	**14.09**	**354**	Pn	**Pn**	**14 24 59.7**	**+0.7**
YKA	**Yellowknife Ar**	**18.54**	**57**	P	**Pn**	**14 25 56.7**	**+0.5**
	comp=N,0.1nm,0.3s,baz=266,slow=11,SNR=12						
	comp=N,2.8nm,1.1s						
A36M	**Sachs Harbour**	**18.60**	**24**		**Pn**	**14 25 59.1**	**+2.3**
A36M				IAmb	IAmb	14 26 01.9	
	comp=Z,5.5nm,0.8s						
MKAR	**Makanchi Array**	**68.44**	**325**	P	**P**	**14 32 42.3**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=19,slow=7.7,SNR=1.6						
	comp=Z,0.1nm,0.5s						

*NEIC **23** 14:24:25.6±1.2, 56°04N±0°05×149°4W±0°1, h10km±2km, mb3.5/1, ML3.7/22, ML3.4(AEIC), Error ellipse: s-maj=10.9km s-min=9.2km az=101.0*

AEIC 23 14:24:30.3±1.4, 56°00N±0°10×149°5W±0°1, h10km±8km, Error ellipse: s-maj=14.3km s-min=10.2km az=168.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.43**	**302**		Pn	14 25 05.2	-4.8
OHAK					Sn	14 25 32.6	-7.2
KDAK	**Kodiak Island**	**2.47**	**318**		Pn	14 25 05.6	-4.9
KDAK	**Kodiak Island**	**2.47**	**318**		Sn	14 25 33.4	-7.2
SYI	**Shuyak Island**	**3.06**	**330**		Pn	14 25 13.5	-5.1
SYI					Sn	14 25 48.5	-6.7
CNPM	**China Poot**	**3.66**	**346**		Sn	14 26 02.5	-7.6
CNPM	**China Poot**	**3.66**	**346**	Pn	Pn	14 25 21.6	-5.3
CNPM				IAML		14 26 58.7	
	comp=E,100nm,0.6s						
CNPM				IAML		14 26 58.8	
	comp=N,107nm,0.4s						
Q19K	**Cape Douglas,**	**3.70**	**324**		Pn	14 25 22.8	-4.6
BRSE	**Bradley Lake S**	**3.81**	**350**		Pn	14 25 24.1	-4.9
BRSE					Sn	14 26 05.2	-8.7
Q23K	**Middleton Isla**	**3.83**	**25**	Pn	Pn	14 25 22.6	-6.7
Q23K				IAML		14 27 25.3	
	comp=E,207nm,1.4s						
MID	**Middleton Isla**	**3.83**	**25**	Pn	Pn	14 25 22.6	-6.7
MID				IAML		14 27 25.2	
	comp=E,215nm,1.4s						
BRLK	**Bradley Lake**	**3.85**	**349**	Pn	Pn	14 25 23.7	-5.9
CNTC	**Contact Creek**	**4.16**	**306**		Pn	14 25 29.4	-4.4
P23K	**Montague Islan**	**4.16**	**15**		Pn	14 25 29.3	-4.5
HIN	**Hinchinbrook I**	**4.69**	**18**		Pn	14 25 35.3	-5.7
HIN				IAML		14 27 26.6	
	comp=E,57nm,0.7s						
HIN				IAML		14 28 30.9	
	comp=N,54nm,1.2s						
FID	**Port Fidalgo**	**5.02**	**17**		Pn	14 25 40.1	-5.6
FID				IAML		14 26 37.5	
	comp=E,54nm,1.4s						
FID				IAML		14 28 36.8	
	comp=N,42nm,1.5s						
BERG	**Berg Lake**	**5.37**	**32**	Pn	Pn	14 25 44.0	-6.3
BERG				IAML		14 27 51.2	
	comp=E,75nm,1.5s						
KNK	**Knik Glacier**	**5.46**	**5**	Pn	Pn	14 25 45.0	-6.6
SNH	**Sunshine Point**	**5.48**	**37**	Pn	Pn	14 25 45.4	-6.5
CGLM	**Capps Glacier**	**5.49**	**347**		Pn	14 25 47.3	-4.7
SUA	**Susitna One**	**5.52**	**354**	Pn	Pn	14 25 47.2	-5.3
PMR	**Palmer**	**5.62**	**2**	Pn	Pn	14 25 48.5	-5.2
GHO	**Glory Hole Cre**	**5.80**	**3**	Pn	Pn	14 25 51.2	-5.1
KLU	**Klutina**	**5.82**	**17**	Pn	Pn	14 25 50.6	-6.0
O16K	**Kokwok River B**	**5.84**	**312**	Pn	Pn	14 25 51.8	-5.1
CNBA	**Chernabura Isl**	**5.87**	**263**	Pn	Pn	14 25 53.0	-4.3
VRDI	**Verde Repeater**	**6.12**	**29**	Pn	Pn	14 25 54.5	-6.3
N25K	**Chitina, Valde**	**6.17**	**22**		Pn	14 25 55.3	-6.2
KIAG	**Kiagna River**	**6.20**	**34**		Pn	14 25 57.5	-4.4
SAMH	**Samovar Hills**	**6.21**	**45**		Pn	14 25 56.7	-5.2
GLB	**Gilahina Butte**	**6.21**	**26**	Pn	Pn	14 25 55.8	-6.1
M24K	**Tolsona, Glenn**	**6.36**	**14**		Pn	14 25 59.5	-4.6
PTPK	**Patty Peak**	**6.37**	**32**		Pn	14 25 58.5	-5.8
BARN	**Barnard Glacie**	**6.52**	**36**	Pn	Pn	14 26 00.6	-5.8
CTGM	**Chitina Glacie**	**6.56**	**37**	Pn	Pn	14 26 00.8	-6.1
BCPM	**Bancas Point**	**6.57**	**49**		Pn	14 26 01.2	-5.7
LOGN	**Logan Glacier**	**6.58**	**39**	Pn	Pn	14 26 01.1	-6.0
M16K	**Timber Creek**	**7.07**	**319**	Pn	Pn	14 26 08.9	-4.8
O29M	**Mount Kennedy**	**7.21**	**49**	Pn	Pn	14 26 09.9	-5.8
P29M	**Windy Craggy**	**7.26**	**55**		Pn	14 26 10.4	-5.9
YUK2	**White River**	**7.33**	**34**		Pn	14 26 11.6	-5.7
M27K	**Edge Creek, AK**	**7.48**	**28**	Pn	Pn	14 26 14.7	-4.8
BVCY	**Beaver Creek**	**7.81**	**31**		Pn	14 26 17.8	-6.0
L27K	**Beaver Creek,**	**8.08**	**26**	Pn	Pn	14 26 22.6	-5.0
BCAR	**Beaver Creek A**	**8.10**	**26**	Pn	Pn	14 26 22.6	-5.2
RIDG	**Independent Ri**	**8.11**	**15**	Pn	Pn	14 26 23.4	-4.6
SKAG	**Skagway**	**8.33**	**60**	Pn	Pn	14 26 25.4	-5.6
N30M	**Aishikik Lake**	**8.46**	**45**	Pn	Pn	14 26 27.2	-5.6
JIS	**Juneau Island**	**8.53**	**68**	Pn	Pn	14 26 27.2	-6.4
M29M	**Somme Creek**	**8.58**	**37**	Pn	Pn	14 26 29.5	-5.0
WHY	**Whitehorse**	**8.99**	**53**	Pn	Pn	14 26 34.9	-5.2
N31M	**Braeburn, Yuko**	**9.00**	**47**	Pn	Pn	14 26 34.9	-5.2
J26L	**Joseph Creek**	**9.02**	**17**	Pn	Pn	14 26 35.4	-5.2
P32M	**Atlin**	**9.16**	**60**	Pn	Pn	14 26 36.3	-6.0
L29M	**L29M**	**9.16**	**34**	Pn	Pn	14 26 36.7	-5.7
M30M	**Minto, Yukon**	**9.25**	**39**	Pn	Pn	14 26 38.1	-5.5
DAWY	**Dawson**	**9.53**	**28**	Pn	Pn	14 26 42.3	-5.1
P33M	**Teslin, Yukon**	**9.78**	**58**	Pn	Pn	14 26 45.2	-5.6
H21K	**Melozitna Rive**	**9.83**	**352**	Pn	Pn	14 26 46.1	-5.4
K29M	**Barlow Dome**	**9.88**	**32**	Pn	Pn	14 26 47.0	-5.3
M31M	**Drury Creek, Y**	**9.94**	**45**	Pn	Pn	14 26 48.2	-4.7
FARO	**Faro, Yukon**	**10.37**	**46**	Pn	Pn	14 26 53.8	-5.1
R33M	**Jennings River**	**10.47**	**63**	Pn	Pn	14 26 54.7	-5.8
J30M	**Hart River**	**10.78**	**32**	Pn	Pn	14 26 59.7	-4.8
G24K	**Hadweenzic Riv**	**10.79**	**4**	Pn	Pn	14 26 59.9	-4.7
G19K	**Purcell Mounta**	**10.81**	**343**	Pn	Pn	14 26 59.9	-5.1
A36M	**Sachs Harbour**	**18.99**	**23**	P	P	14 28 46.2	-5.3
A36M				IAmb	IAmb	14 28 50.3	
	comp=Z,3.3nm,1.0s						

*NEIC **23** 14:25:22.1±1.2, 56°09N±0°09×150°21W±0°09, h10km±2km, mb3.7/1, ML3.6/24, ML3.3(AEIC), Error ellipse: s-maj=14.4km s-min=8.9km az=180.0*

*AEIC **23** 14:25:25.6±1.4, 56°0N±0°1×150°1W±0°1, h8km±7km, Error ellipse: s-maj=15.3km s-min=9.8km az=174.0*

ISC 23 14:25:22.2±1.8, 56°1N±0°1×150°25W±0°07, h10km, n91, σ0s69/93, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.00**	**304**		**Pn**	**14 25 55.4**	**-0.7**
OHAK	**Old Harbor**	**2.00**	**304**		**Sn**	**14 26 19.8**	**-1.3**
OHAK	**Old Harbor**	**2.00**	**304**	IAML		14 26 20.4	
	comp=E,91nm,0.7s						
OHAK				IAML		14 26 20.4	
	comp=N,82nm,0.7s						
OHAK	**Old Harbor**	**2.00**	**304**	P	**Pn**	**14 25 56.5**	**+0.4**
	baz=123						
OHAK				S	**Sn**	**14 26 19.8**	**-1.3**
	baz=123						
KDAK	**Kodiak Island**	**2.10**	**323**		**Pn**	**14 25 57.7**	**+0.4**
KDAK					**Sn**	**14 26 23.2**	**-0.2**
Q20K	**Shuyak Island**	**2.75**	**336**	P	**Pn**	**14 26 06.8**	**+0.5**
	baz=154						
Q20K				S	**Sn**	**14 26 40.1**	**+0.7**
	baz=154						
SYI	**Shuyak Island**	**2.75**	**336**		**Pn**	**14 26 06.8**	**+0.5**
SYI					**Sn**	**14 26 40.1**	**+0.7**
SYI	**Shuyak Island**	**2.75**	**336**	IAML		14 26 42.8	
	comp=E,150nm,0.5s						
SYI				IAML		14 26 42.9	
	comp=N,137nm,0.5s						
Q19K	**Cape Douglas,**	**3.35**	**328**	Pn	**Pn**	**14 26 15.3**	**+0.7**
CNPM	**China Poot**	**3.45**	**352**		**Pn**	**14 26 15.9**	**0.0**
CNPM					**Sn**	**14 26 56.2**	**-0.6**
BRSE	**Bradley Lake S**	**3.63**	**356**		**Pn**	**14 26 18.4**	**-0.1**
BRSE			

HYT	Haines Junctio	8.17	50	Pn		Pn	14 27 22.0	+1.2
BCAR	Beaver Creek A	8.17	28	Pn		Pn	14 27 21.5	+0.8
L14K	Kuka Creek	8.31	314	Pn		Pn	14 27 23.6	+1.1
K15K	Wolf Creek Mou	8.46	322	Pn		Pn	14 27 25.6	+0.9
NEA2	Nenana	8.51	3	Pn		Pn	14 27 24.9	-0.6
M29M	Somme Creek	8.74	39			Pn	14 27 29.0	+0.4
J16K	Anvik River	8.87	328	Pn		Pn	14 27 30.2	0.0
J26L	Joseph Creek	9.03	19	Pn		Pn	14 27 32.8	+0.3
WHY	Whitehorse	9.25	54	Pn		Pn	14 27 36.3	+0.7
L29M	L29M	9.30	36	Pn		Pn	14 27 37.3	+1.1
M30M	Minto, Yukon	9.42	41	Pn		Pn	14 27 38.3	+0.4
DAWY	Dawson	9.62	30	Pn		Pn	14 27 41.0	+0.4
K29M	Barlow Dome	10.01	34	Pn		Pn	14 27 47.1	+1.2
P33M	Teslin, Yukon	10.07	59	Pn		Pn	14 27 47.2	+0.5
M31M	Drury Creek, Y	10.15	47	Pn		Pn	14 27 48.5	+0.7
FARO	Faro, Yukon	10.59	48	Pn		Pn	14 27 54.8	+1.0
G31M	Satah River	13.18	28	Pn		Pn	14 28 29.1	-0.1
A36M	Sachs Harbour	19.04	24	P		P	14 29 44.5	+0.5
A36M	comp=Z,5.8nm,1.1s			IAmb		IAmb	14 29 55.9	
YKA	Yellowknife Ar	19.08	56	P		P	14 29 44.8	+0.3

*NEIC **23** 14:36:22.1±1.0,56°41N±0'.03×148°.5W±0'.1,h10km±2km, mb3.3/1,ML3.7/36,ML3.3(AEIC),Error ellipse: s-maj=10.7km s-min=4.7km az=103.0*

AEIC 23 14:36:22.8±2.4,56°.1N±0'.1×148°.3W±0'.1,h11km±8km, Error ellipse: s-maj=18.5km s-min=9.8km az=178.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.88	307		Pn	14 37 04.3	-4.3
KDAK					Sn	14 37 35.0	-8.2
OHAK	Old Harbor	2.97	294		Pn	14 37 04.1	-5.6
OHAK					Sn	14 37 38.5	-6.8
SYI	Shuyak Island	3.35	320		Pn	14 37 10.1	-4.8
MID	Middleton Isla	3.49	17	Pn	Pn	14 37 12.4	-4.5
MID	comp=E,201nm,1.4s			IAML		14 38 38.1	
MID	comp=N,168nm,1.4s			IAML		14 38 54.8	
Q23K	Middleton Isla	3.49	17	Pn	Pn	14 37 12.4	-4.5
Q23K	comp=N,190nm,1.4s			IAML		14 37 49.2	
Q23K	comp=E,230nm,1.4s			IAML		14 38 38.1	
CNPM	China Poot	3.77	337		Pn	14 37 16.3	-4.4
CNPM					Sn	14 37 56.2	-8.9
CNPM	China Poot	3.77	337	IAML		14 39 30.5	
BRSE	comp=N,75nm,1.5s Bradley Lake S	3.87	341		Pn	14 37 16.5	-5.6
BRLK	Bradley Lake	3.92	340		Pn	14 37 17.7	-5.1
P23K	Montague Islan	3.93	7		Pn	14 37 18.0	-5.0
HOM	Homer	3.98	335		Pn	14 37 19.3	-4.3
SEW	Seward	4.05	352		Pn	14 37 19.5	-5.1
AUL	Augustine Lava	4.28	322		Pn	14 37 25.1	-2.7
KAIM	Kayak Island	4.35	27	Pn	Pn	14 37 23.6	-5.1
KAIM	comp=N,127nm,1.5s			IAML		14 39 31.3	
HIN	Hinchinbrook I	4.41	12	Pn	Pn	14 37 24.8	-4.7
HIN	comp=E,80nm,0.7s			IAML		14 39 38.7	
HIN	comp=N,96nm,1.3s			IAML		14 39 39.0	
P19K	Oil Pt	4.42	326		Pn	14 37 25.8	-3.9
P19K	comp=N,108nm,1.0s			IAML		14 39 28.8	
P19K	comp=E,120nm,0.6s			IAML		14 39 43.7	
FID	Port Fidalgo	4.75	11	Pn	Pn	14 37 27.7	-6.6
FID	comp=N,101nm,0.6s			IAML		14 40 27.6	
BERG	Berg Lake	4.94	28	Pn	Pn	14 37 32.9	-3.9
P18K	Big Mountain,	4.96	314	Pn	Pn	14 37 32.7	-4.4
P18K	comp=N,33nm,0.6s			IAML		14 40 31.3	
P18K	comp=E,33nm,1.4s			IAML		14 40 32.8	
SNH	Sunshine Point	5.00	33	Pn	Pn	14 37 34.3	-3.4
PMR	Palmer	5.52	356	Pn	Pn	14 37 40.1	-4.6
PMR	comp=N,54nm,0.8s			IAML		14 40 45.7	
PMR	comp=E,41nm,0.7s			IAML		14 40 49.0	
SUA	Susitna One	5.52	348	Pn	Pn	14 37 39.8	-5.1
SUA	comp=N,48nm,0.9s			IAML		14 40 45.6	
SUA	comp=E,40nm,0.6s			IAML		14 40 47.9	
GHO	Glory Hole Cre	5.69	357	Pn	Pn	14 37 41.7	-5.5
VRDI	Verde Repeater	5.72	24	Pn	Pn	14 37 43.5	-4.2
GLB	Gilahina Butte	5.84	22	Pn	Pn	14 37 44.8	-4.4
BCPM	Bancas Point	6.00	46	Pn	Pn	14 37 49.5	-1.9
BARN	Barnard Glacie	6.06	32	Pn	Pn	14 37 49.2	-3.1
CTGM	Chitina Glacie	6.08	34	Pn	Pn	14 37 49.4	-3.2
LOGN	Logan Glacier	6.08	36	Pn	Pn	14 37 49.6	-3.0
SVW2	Sparrevohn	6.28	326	Pn	Pn	14 37 50.7	-4.5
M19K	Big River Lodg	6.61	334	Pn	Pn	14 37 54.6	-5.1
O29M	Mount Kennedy	6.64	47	Pn	Pn	14 37 58.2	-2.1
P29M	Windy Craggy	6.65	54	Pn	Pn	14 37 58.1	-2.2
L19K	White Mountain	6.96	334	Pn	Pn	14 37 59.7	-4.8
M27K	Edge Creek, AK	7.08	25	Pn	Pn	14 38 02.8	-3.4
HYT	Haines Junctio	7.37	46	Pn	Pn	14 38 08.2	-2.1
L18K	Granite Mounta	7.49	328	Pn	Pn	14 38 07.1	-4.7
CAST	Castle Rocks	7.58	347	Pn	Pn	14 38 08.2	-4.8
KTH	Kantishna Hill	7.58	351	Pn	Pn	14 38 08.2	-4.9
R32K	Eaglecrest	7.80	68	Pn	Pn	14 38 14.6	-1.4
N30M	Ashikik Lake	7.91	43	Pn	Pn	14 38 15.3	-2.3
M29M	Somme Creek	8.10	34	Pn	Pn	14 38 16.6	-3.6
K17K	Iditarod	8.35	327	Pn	Pn	14 38 18.9	-4.7
WHY	Whitehorse	8.39	52	Pn	Pn	14 38 22.4	-1.8
N31M	Braeburn, Yuko	8.44	45	Pn	Pn	14 38 23.0	-1.8
P32M	Atlin	8.52	60	Pn	Pn	14 38 24.3	-1.6
J26L	Joseph Creek	8.74	14	Pn	Pn	14 38 25.3	-3.7
M30M	Minto, Yukon	8.74	37	Pn	Pn	14 38 26.2	-2.8
MDM	Murphy Dome	8.88	0	Pn	Pn	14 38 26.9	-4.0
N32M	Quiet Lake	9.40	51	Pn	Pn	14 38 36.1	-1.9
K29M	Barlow Dome	9.44	30	Pn	Pn	14 38 36.1	-2.5
FARO	Faro, Yukon	9.81	45	Pn	Pn	14 38 41.0	-2.6
H21K	Melozitna Rive	9.83	349	Pn	Pn	14 38 39.7	-4.0
YKA	Yellowknife Ar	18.18	56		Pn	14 40 32.8	-2.0
A36M	Sachs Harbour	18.63	22	P	P	14 40 36.2	-3.7
A36M	comp=Z,2.2nm,0.9s			IAmb	IAmb	14 40 42.0	

*IDC **23** 14:38:22.8±1.0,56°.20N×148°.44W,h0km,mb3.7/8, mbtmp3.8/13,ML3.7/5,Error ellipse: s-maj=22.1km s-min=16.7km az=35.0*

*NEIC **23** 14:38:22.2±1.7,56°.14N±0'.06×148°.6W±0'.1,h10km±1km, mb4.1/5,ML4.0/38,ML3.8(AEIC),Error ellipse: s-maj=12.7km s-min=7.9km az=128.0*

*AEIC **23** 14:38:27.4±1.6,56°.2N±0'.1×148°.6W±0'.1,h8km±5km,Error ellipse: s-maj=17.6km s-min=9.4km az=182.0*

ISC 23 14:38:22.9±0.7,56°.23N±0'.07×148°.52W±0'.05,h10km, n124,σ1§26/125,mb3.9/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.71	307	Pn	Pn	14 39 05.8	-0.7
KDAK	Kodiak Island	2.71	307	Pn	Pn	14 39 06.0	-0.5
KDAK	9.9nm,0.3s,baz=98,slow=5.2,SNR=12 16nm,0.3s,baz=62,slow=23,SNR=8.4 28nm,0.3s				Sn	14 39 36.6	-2.7
OHAK	Old Harbor	2.81	293		Sn	14 39 38.2	-3.5
OHAK	Old Harbor	2.81	293		Pn	14 39 06.4	-1.3
OHAK	Old Harbor comp=E,150nm,0.6s	2.81	293	IAML		14 39 46.1	
OHAK	comp=N,133nm,0.7s			IAML		14 39 46.2	
OHAK	Old Harbor baz=109	2.81	293	P	Pn	14 39 06.6	-1.1
OHAK	baz=109			S	Sn	14 39 38.2	-3.5
SYI	Shuyak Island	3.17	320		Pn	14 39 12.6	-0.2
SYI					Sn	14 39 49.6	-1.0
Q20K	Shuyak Island baz=138	3.17	320	P	Pn	14 39 12.9	+0.1
Q20K	baz=138			S	Sn	14 39 49.6	-1.1
Q23K	Middleton Isla	3.41	19		Pn	14 39 15.8	-0.2
Q23K					Sn	14 39 54.4	-2.1
Q23K	Middleton Isla comp=E,326nm,0.8s	3.41	19	IAML		14 39 55.2	
Q23K	comp=N,198nm,1.0s			IAML		14 40 06.2	
Q23K	Middleton Isla baz=201	3.41	19	P	Pn	14 39 15.5	-0.5
Q23K	baz=201			S	Sn	14 39 54.4	-2.1
MID	Middleton Isla	3.41	19		Pn	14 39 15.9	-0.1
MID	Middleton Isla	3.41	19	P	Pn	14 39 16.1	+0.1
CNPM	China Poot	3.61	337		Sn	14 39 58.8	-2.6
CNPM	China Poot	3.61	337	Pn	Pn	14 39 18.5	-0.3
CNPM	China Poot comp=N,130nm,0.7s	3.61	337	IAML		14 40 04.3	
CNPM	comp=E,133nm,0.7s			IAML		14 40 06.2	
BRSE	Bradley Lake S	3.71	342		Pn	14 39 20.1	-0.1
BRSE	Bradley Lake S baz=161	3.71	342	P	Pn	14 39 20.1	-0.1
BRLK	Bradley Lake	3.76	341		Pn	14 39 20.5	-0.4
BRLK	comp=N,177nm,0.8s			IAML		14 40 09.2	
BRLK	comp=E,181nm,0.6s			IAML		14 40 09.3	
HOM	Homer	3.82	335		Pn	14 39 21.5	-0.1
HOM	Homer comp=E,280nm,1.5s	3.82	335	IAML		14 39 55.9	
HOM	comp=N,354nm,1.1s			IAML		14 40 22.2	
P23K	Montague Islan	3.82	8		Pn	14 39 21.8	+0.1
P23K					Sn	14 40 03.9	-2.8
P23K	Montague Islan baz=190	3.82	8	P	Pn	14 39 21.8	+0.1
Q19K	Cape Douglas,	3.86	317	Pn	Pn	14 39 22.4	+0.1
Q19K	comp=N,342nm,0.7s			IAML		14 40 12.6	
Q19K	comp=E,335nm,1.2s			IAML		14 40 29.0	
Q19K	Cape Douglas, baz=133	3.86	317	P	Pn	14 39 23.2	+0.9
SEW	Seward	3.91	353		Pn	14 39 22.5	-0.4
SEW	Seward baz=173	3.91	353	P	Pn	14 39 22.8	-0.1
KAHG	Katmai Hook Gl	3.97	307		Pn	14 39 24.6	+0.7
ACHA	Angle Creek He	4.20	301		Pn	14 39 27.2	+0.3
P19K	Oil Pt	4.25	326		Pn	14 39 28.2	+0.6
P19K	comp=N,245nm,0.6s			IAML		14 40 23.3	
P19K	Oil Pt baz=142	4.25	326	P	Pn	14 39 28.2	+0.6
KVTA	Katmai Vly 10	4.26	303		Pn	14 39 29.1	+1.4
KAIM	Kayak Island	4.30	29		Pn	14 39 28.1	-0.1
KAIM	Kayak Island comp=N,263nm,0.8s	4.30	29	IAML		14 40 22.5	
HIN	Hinchinbrook I	4.31	13		Pn	14 39 28.6	+0.2
HIN	comp=N,258nm,0.6s			IAML		14 40 22.5	
SLKM	Skilak Lake	4.38	349		Pn	14 39 29.2	-0.2
O20K	Slope Mountain baz=149	4.43	332	P	Pn	14 39 30.2	+0.1
CNTC	Contact Creek	4.49	300		Pn	14 39 30.7	-0.2
Q17K	Contact Creek baz=114	4.49	300	P	Pn	14 39 32.6	+1.7
EYAK	Cordova Ski Ar comp=N,174nm,0.8s	4.57	17	P	Pn	14 39 32.6	+0.7
EYAK	Cordova Ski Ar baz=200	4.57	17	P	Pn	14 39 32.5	+0.6
RAGM	Ragged Mountai	4.63	24		Pn	14 39 33.2	+0.3
P18K	Big Mountain,	4.79	314	Pn	Pn	14 39 34.3	-0.6
P18K	Big Mountain, baz=129	4.79	314	P	Pn	14 39 34.5	-0.4
RSO	Redoubt South	4.79	334		Pn	14 39 34.9	-0.3
BERG	Berg Lake	4.88	29		Pn	14 39 36.5	+0.2
RC01	Rabbit Creek A	4.91	353		Pn	14 39 37.1	+0.4
RC01	comp=E,106nm,0.3s			IAML		14 40 33.2	
RC01	comp=N,96nm,0.7s			IAML		14 40 35.5	
RC01	Rabbit Creek A baz=172	4.91	353	P	Pn	14 39 37.3	+0.6
NCT	North Crescent	4.92	334		Pn	14 39 36.4	-0.5
SNH	Sunshine Point	4.97	35		Pn	14 39 37.9	+0.4
SNH	Sunshine Point comp=N,82nm,0.9s	4.97	35	IAML		14 40 35.6	
SNH	comp=E,97nm,1.4s			IAML		14 40 36.1	
Q19K	Port Alsworth	5.02	325	Pn	Pn	14 39 37.7	-0.4
Q16K	King Salmon	5.03	303		Pn	14 39 38.0	-0.3
O18K	Koktuh Hills	5.08	318		Pn	14 39 39.0	0.0
O18K	Koktuh Hills comp=N,39nm,1.5s	5.08	318	IAML		14 40 39.3	
DIV	Divide	5.12	15		Pn	14 39 39.9	+0.4
P17K	Kvichak River	5.18	308		Pn	14 39 40.5	+0.2
KNK	Knik Glacier	5.20	0		Pn	14 39 41.1	+0.5
KNK	Knik Glacier comp=E,79nm,0.6s	5.20	0	IAML		14 40 44.1	
KNK	comp=N,51nm,0.5s			IAML		14 40 47.1	
SPCR	Spurr Chakacha	5.34	340		Pn	14 39 42.5	-0.1
SPCN	Chakachatna No	5.36	341		Pn	14 39 42.6	-0.3
SUA	Susitna One	5.37	349		Pn	14 39 43.3	+0.2
PMR	Palmer	5.38	357	Pn	Pn	14 39 43.6	+0.4
PMR	Palmer	5.38	357	P	Pn	14 39 44.8	+1.7
SPCP	Crater Peak Br	5.39	341		Pn	14 39 43.4	0.0
KLU	Klutina	5.45	13		Pn	14 39 44.6	+0.6
N19K	Bonanza Creek	5.55	328		Pn	14 39 45.3	-0.3
STLK	Strandline Lak	5.55	343		Pn	14 39 45.6	+0.1
GHO	Glory Hole Cre	5.56	358		Pn	14 39 46.6	+1.0
SML	Sawmill	5.59	1		Pn	14 39 46.9	+0.8
SCM	Sheep Creek Mo	5.65	6		Pn	14 39 48.7	+1.8
SAMH	Saxman Hills	5.66	43		Pn	14 39 47.1	+0.1
VRDI	Verde Repeater	5.66	26		Pn	14 39 47.5	+0.3
N25K	Chitina, Valde	5.76	19	Pn	Pn	14 39 49.1	+0.7
GLB	Gilahina Butte	5.77	23		Pn	14 39 49.0	+0.5
O17K	Koliganek Bris	5.78	311		Pn	14 39 48.1	-0.4
P16K	Nushagak River	5.81	303		Pn	14 39 48.1	-0.9
PCA	Pinnacle	5.84	45		Pn	14 39 50.3	+0.8
N18K	Kilae Creek	5.90	322		Pn	14 39 49.9	-0.4
PNL	Peninsula	5.95	51	P	Pn	14 39 52.0	+1.0
SKT	Skwentna	5.97	346	Pn	Pn	14 39 52.2	+1.0
M24K	Tolsona, Glenn	6.01	11		Pn	14 39 53.5	+1.7
SVW2	Sparrevohn	6.11	326	P	Pn	14 39 52.9	-0.2
S31K	Pelican	6.92	70		Pn	14 40 02.2	-2.0
MENT	Mentasta	7.15	18	P	Pn	14 40 10.0	+2.6
SIT	Sitka	7.33	78	P	Pn	14 40 07.5	-2.2
HYT	Haines Junctio	7.38	47		Pn	14 40 11.6	+1.0
CAST	Castle Rocks	7.43	348	Pn	Pn	14 40 12.4	+1.2
TTA	Tatalina	7.71	334	Pn	Pn	14 40 14.6	-0.6
TTA	Tatalina	7.71	334	P	Pn	14 40 14.6	-0.6
SKAG	Skagway	7.74	60	P	Pn	14 40 16.5	+1.0
JIS	Juneau Island	7.94	69	P	Pn	14 40 18.3	+0.2
WHY	Whitehorse	8.41	53	Pn	Pn	14 40 26.1	+1.4
ILAR	Eielson Array comp=N,0.6nm,0.3s,baz=187,slow=13,SNR=10	8.61	5	Pn	Pn	14 40 27.7	+0.4
ILAR	comp=N,0.8nm,0.3s,baz=190,slow=24,SNR=12 comp=N,1.1nm,0.4s			Sn	Sn	14 42 00.8	-3.6
COLA	College	8.68	2	P	Pn	14 40 30.1	+1.9
DAWY	Dawson	9.07	26	Pn	Pn	14 40 34.2	+0.5
FARO	Faro, Yukon	9.81	46		Pn	14 40 45.6	+1.8
R33M	Jennings River	9.88	64	Pn	Pn	14 40 45.4	+0.4
IMAR	Indian Mountai	10.10	348	Pn	Pn	14 40 47.9	+0.2
DLBC	Dease Lake	10.23	70		Pn	14 40 49.6	-0.1
DLBC	Dease Lake comp=N,1.0nm,0.3s,baz=272,slow=9.4,SNR=26	10.23	70	Pn	Pn	14 40 50.0	+0.3
DLBC	comp=N,0.3nm,0.3s,baz=279,slow=18,SNR=1.6 comp=N,2.8nm,0.4s			Sn	Sn	14 42 41.4	-3.1
E19K	Redstone River	11.97	344		Pn	14 41 14.6	+1.2
G31M	Satah River	12.64	26		Pn	14 41 23.6	+1.2
INK	Inuvik	13.92	24	Pn	Pn	14 41 41.5	+1.7
INK	Inuvik comp=N,0.2nm,0.3s,baz=198,slow=13,SNR=11 comp=N,6.1nm,1.0s	13.92	24	Pn	Pn	14 41 41.2	+1.4
C16K	Lisburne Hills	14.32	334	Pn	Pn	14 41 46.9	+1.6
WRGLY	Wrigley	14.37	51	Pn	Pn	14 41 46.0	-0.1
YKA	Yellowknife Ar comp=N,0.2nm,0.3s,baz=263,slow=11,SNR=23 comp=N,2.8nm,0.9s	18.22	56	P	P	14 42 35.7	0.0
A36M	Sachs Harbour	18.56	23	P	P	14 42 39.2	-0.2
A36M	comp=Z,13nm,0.8s			IAmb	IAmb	14 42 42.2	
YBH	Yreka Blue Hor comp=Z,2.9nm,0.8s,baz=298,slow=13,SNR=1.7	22.12	120	P	P	14 43 20.9	+2.5
NVAR	comp=Z,2.9nm,0.8s Mina Array Bea comp=Z,0.8nm,0.7s,baz=308,slow=10.0,SNR=6.3	26.81	119	P	P	14 44 04.4	+1.1
FCC	comp=Z,0.8nm,0.7s Fort Churchill	28.68	62	P	P	14 44 20.4	+0.9
FCC	comp=Z,4.4nm,1.4s			IAmb	IAmb	14 45 04.4	
OZNA	Ozona	41.49	107	P	P	14 46 06.3	-3.7
OZNA	comp=Z,2.6nm,0.9s			IAmb	IAmb	14 46 12.7	
ARCES	ARCESS Array B comp=Z,4.9nm,1.0s,baz=9.8,slow=11,SNR=1.8	54.46	3	P	P	14 47 50.6	+0.8
SONM	comp=Z,4.9nm,1.0s Songino Array comp=Z,1.2nm,0.9s,baz=53,slow=9.8,SNR=4.9	58.99	311	P	P	14 48 24.7	+2.2
ZALV	comp=Z,1.2nm,0.9s Zalesovo Beam comp=Z,0.3nm,0.3s,baz=59,slow=5.6,SNR=1.5	61.83	327	P	P	14 48 43.2	+1.7
FINES	comp=Z,0.3nm,0.3s FINESS Array B	62.59	3	P	P	14 48 47.6	+1.2
FINES	FINESS Array B comp=Z,1.0nm,0.8s,baz=343,slow=6.0,SNR=4.3	62.59	3	P	P	14 48 48.0	+1.5
BRVK	comp=Z,1.0nm,0.8s Borovoye	66.50	336	P	P	14 49 11.5	-0.7
BVAR	Borovoye Array comp=Z,0.4nm,0.6s,baz=72,slow=11,SNR=2.2	66.51	336	P	P	14 49 15.2	+3.0
MKAR	comp=Z,0.4nm,0.6s Makanchi Array	68.88	325	P	P	14 49 27.6	+0.3
MKAR	Makanchi Array comp=Z,0.1nm,0.5s,baz=24,slow=5.0,SNR=2.4	68.88	325	P	P	14 49 28.3	+1.0
ABKAR	comp=Z,0.1nm,0.5s Akbulak array	72.24	341	P	P	14 49 48.3	+0.5
QSPA	South Pole Qui comp=Z,0.7nm,0.7s,baz=114,slow=8.8,SNR=1.8	146.03	180	PKPbc	PKPab	14 58 01.6	-0.4

*IDC **23** 14:39:41.1±16.0,0°.52S×121°.42E,h0km,mb3.5/3, mbtmp3.6/3,MS3.4/1,Error ellipse: s-maj=325.3km s-min=227.8km az=26.0*

*DJA **23** 14:39:57.1±0.6,0°N±5°×12°2E±°,h178km±5km,M3.3/8, mb3.9/1,MLv3.0/8*

ISC 23 14:39:56.0±1.2,0°.4N±0'.1×122°.07E±0'.08,h200km,n11, σ1§57/13,mb3.6/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.16	307	P	Pn	14 40 21.4	-0.8
MRSI				S	Sn	14 40 39.4	-3.1
GTOI	Gorontalo	0.98	75	P	Pn	14 40 25.4	-0.2
GTOI				S	Sn	14 40 46.9	-1.5
LUWI	Luwuk	1.58	153	P	Pn	14 40 30.7	+0.3
LUWI				S	Sn	14 40 55.3	-1.9
KMSI	Cibinong	1.92	84	P	Pn	14 40 35.5	+1.8
MPSI	Mapaga	2.17	269	P	Pn	14 40 36.9	+0.6
SANI	Sanana	4.60	122	P	Pn	14 41 04.4	-1.0
LBMI	Labuha	5.53	101	P	Pn	14 41 16.9	-0.3
WRA	Warramunga Arr 0.8nm,0.5s,baz=324,slow=11,SNR=8.5 0.8nm,0.5s	23.51	150	P	P	14 44 48.8	+0.7
ASAR	Alice Springs 0.3nm,0.5s,baz=342,slow=15,SNR=11 0.3nm,0.5s	26.52	155	P	P	14 45 16.1	+0.7
STKA	Stephens Creek 0.4nm,0.2s,baz=322,slow=12,SNR=1.7 0.4nm,0.2s	37.03	152	P	P	14 46 48.1	+1.4
KSRS	Korea Array comp=Z,50nm,20.2s,baz=320,slow=37	37.29	8	LR	LR	15 03 25.8	

*NEIC **23** 14:42:03.0±1.0,56°.49N±0'.07×148°.94W±0'.09,h10km±2km, ML3.6/56,ML3.3(AEIC),Error ellipse: s-maj=12.7km s-min=8.4km az=173.0*

*AEIC **23** 14:42:08.2±1.1,56°.50N±0'.08×148°.9W±0'.1,h12km±6km, Error ellipse: s-maj=10.9km s-min=8.4km az=154.0*

ISC 23 14:42:02.8±1.2,56°.54N±0'.08×148°.93W±0'.05,h10km, n120,σ1§07/122,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.35	304		Pn	14 42 41.7	+0.3
KDAK					Sn	14 43 08.6	-1.6
OHAK	Old Harbor	2.49	288		Pn	14 42 42.8	-0.5
OHAK					Sn	14 43 10.8	-2.9
OHAK	Old Harbor baz=105	2.49	288	P	Pn	14 42 42.8	-0.5
OHAK	baz=105			S	Sn	14 43 10.8	-2.9
SYI	Shuyak Island	2.79	320		Pn	14 42 48.1	+0.6
SYI					Sn	14 43 20.6	-0.5
SYI	Shuyak Island comp=E,110nm,0.5s	2.79	320	IAML		14 43 22.6	
Q20K	Shuyak Island baz=137	2.79	320	P	Pn	14 42 48.1	+0.6
Q20K	baz=137			S	Sn	14 43 20.6	-0.6
Q23K	Middleton Isla	3.21	24		Pn	14 42 53.8	+0.6
Q23K	comp=E,196nm,1.1s			IAML		14 43 33.8	
Q23K	comp=N,156nm,1.4s			IAML		14 44 25.4	
Q23K	Middleton Isla	3.21	24		Sn	14 43 29.3	-2.1
Q23K	Middleton Isla baz=206	3.21	24	P	Pn	14 42 54.1	+0.9
Q23K	baz=206			S	Sn	14 43 29.3	-2.1
MID	Middleton Isla	3.21	24		Sn	14 43 29.2	-2.2
MID	Middleton Isla	3.21	24	Pn	Pn	14 42 53.4	+0.2
MID	comp=N,135nm,0.9s			IAML		14 43 30.2	
MID	comp=E,209nm,1.3s			IAML		14 44 45.2	
CNPM	China Poot	3.24	339		Pn	14 42 54.6	+1.0
CNPM					Sn	14 43 31.9	-0.3
CNPM	China Poot comp=N,67nm,0.5s	3.24	339	IAML		14 43 35.2	
CNPM	comp=E,79nm,1.5s			IAML		14 43 36.3	
BRSE	Bradley Lake S	3.35	344		Pn	14 42 56.4	+1.1
BRSE					Sn	14 43 34.6	-0.4
BRSE	Bradley Lake S baz=163	3.35	344	P	Pn	14 42 56.4	+1.1
BRSE	baz=163			S	Sn	14 43 34.7	-0.4
BRLK	Bradley Lake	3.40	343		Pn	14 42 56.5	+0.7
BRLK	Bradley Lake comp=N,63nm,1.2s	3.40	343	IAML		14 43 35.9	
BRLK	comp=E,61nm,0.4s			IAML		14 43 37.5	
HOM	Homer	3.45	336		Pn	14 42 57.9	+1.5
HOM	Homer comp=E,225nm,1.5s	3.45	336	IAML		14 43 55.2	
HOM	Homer baz=154	3.45	336	P	Pn	14 42 57.9	+1.5
Q19K	Cape Douglas,	3.48	315		Pn	14 42 58.3	+1.3
Q19K	Cape Douglas, comp=N,161nm,0.6s	3.48	315	IAML		14 43 43.5	
Q19K	comp=E,196nm,0.8s			IAML		14 43 45.4	
Q19K	Cape Douglas, baz=132	3.48	315	P	Pn	14 42 58.3	+1.3
P23K	Montague Islan	3.56	12		Sn	14 43 38.5	-1.7
P23K	Montague Islan baz=194	3.56	12	S	Sn	14 43 38.5	-1.7
SEW	Seward	3.59	356		Sn	14 43 39.2	-1.5
SEW	Seward baz=175

IVE	**Iliamna Volcan**	**4.10**	**330**			**Pn**	**14 43 06.0 +0.5**
CNTC	**Contact Creek**	**4.14**	**298**			**Pn**	**14 43 07.2 +1.1**
Q17K	**Contact Creek** baz=112	**4.14**	**298**	P		**Pn**	**14 43 07.2 +1.1**
KAIM	**Kayak Island**	**4.15**	**33**			**Pn**	**14 43 07.1 +1.0**
KAIM	**Kayak Island** comp=E,94nm,1.1s	**4.15**	**33**	IAML			14 43 57.2
KAIM	comp=N,132nm,1.4s			IAML			14 43 59.3
KAIM	**Kayak Island** baz=217	**4.15**	**33**	P		**Pn**	**14 43 07.1 +1.0**
CAPN	**Captain Cook N**	**4.40**	**346**	Pn		**Pn**	**14 43 11.0 +1.5**
P18K	**Big Mountain,**	**4.41**	**313**			**Pn**	**14 43 09.9 +0.2**
P18K	**Big Mountain,** baz=128	**4.41**	**313**	P		**Pn**	**14 43 09.9 +0.2**
FID	**Port Fidalgo**	**4.42**	**16**	Pn		**Pn**	**14 43 10.4 +0.6**
FID	comp=E,74nm,0.4s			IAML			14 43 58.9
FID	comp=N,59nm,0.3s			IAML			14 43 59.1
RAGM	**Ragged Mountai**	**4.46**	**28**	Pn		**Pn**	**14 43 11.4 +1.0**
DFR	**Drift River**	**4.52**	**336**			**Pn**	**14 43 11.3 +0.1**
NCT	**North Crescent**	**4.55**	**334**			**Pn**	**14 43 11.8 +0.1**
RC01	**Rabbit Creek A**	**4.59**	**355**	Pn		**Pn**	**14 43 13.3 +1.2**
RC01	comp=E,34nm,0.3s			IAML			14 44 05.3
RC01	comp=N,26nm,0.3s			IAML			14 44 05.3
O19K	**Port Alsworth**	**4.64**	**325**			**Pn**	**14 43 13.6 +0.8**
O19K	**Port Alsworth** baz=140	**4.64**	**325**	P		**Pn**	**14 43 13.5 +0.8**
BERG	**Berg Lake**	**4.74**	**33**	Pn		**Pn**	**14 43 15.3 +1.1**
SNH	**Sunshine Point**	**4.86**	**39**	Pn		**Pn**	**14 43 16.7 +0.8**
SNH	comp=N,64nm,1.3s			IAML			14 44 03.7
SNH	comp=E,74nm,1.3s			IAML			14 44 11.2
KNK	**Knik Glacier**	**4.90**	**3**	Pn		**Pn**	**14 43 17.7 +1.3**
KNK	comp=E,23nm,0.6s			IAML			14 44 17.3
SUA	**Susitna One**	**5.03**	**350**	Pn		**Pn**	**14 43 19.5 +1.2**
PMR	**Palmer**	**5.07**	**359**	Pn		**Pn**	**14 43 19.9 +1.2**
BARK	**Barkley Ridge**	**5.14**	**38**			**Pn**	**14 43 20.6 +0.8**
N19K	**Bonanza Creek**	**5.17**	**328**			**Pn**	**14 43 20.9 +0.6**
N19K	**Bonanza Creek** baz=144	**5.17**	**328**	P		**Pn**	**14 43 20.9 +0.6**
GHO	**Glory Hole Cre**	**5.25**	**0**	Pn		**Pn**	**14 43 22.3 +1.0**
GHO	comp=N,32nm,0.5s			IAML			14 44 23.5
GHO	comp=E,22nm,0.8s			IAML			14 44 23.8
CHGN	**Chignik**	**5.27**	**271**	Pn		**Pn**	**14 43 21.4 0.0**
SML	**Sawmill**	**5.30**	**3**	Pn		**Pn**	**14 43 23.4 +1.5**
SML	comp=E,20nm,1.3s			IAML			14 44 27.4
SML	comp=N,21nm,1.5s			IAML			14 44 34.3
SCM	**Sheep Creek Mo**	**5.38**	**8**	Pn		**Pn**	**14 43 24.5 +1.5**
VRDI	**Verde Repeater**	**5.50**	**29**	Pn		**Pn**	**14 43 25.9 +1.1**
N18K	**Kilae Creek**	**5.52**	**322**			**Pn**	**14 43 25.3 +0.4**
N18K	**Kilae Creek** baz=136	**5.52**	**322**	P		**Pn**	**14 43 25.3 +0.4**
N25K	**Chitina, Valde**	**5.55**	**22**	Pn		**Pn**	**14 43 27.1 +1.7**
GLB	**Gilahina Butte**	**5.59**	**26**	Pn		**Pn**	**14 43 27.2 +1.4**
SVW2	**Sparrevohn**	**5.73**	**326**	Pn		**Pn**	**14 43 28.2 +0.4**
O16K	**Kokwok River B**	**5.75**	**306**	Pn		**Pn**	**14 43 28.9 +0.9**
PCA	**Pinnacle**	**5.80**	**48**			**Pn**	**14 43 29.5 +0.7**
PINM	**Pinnacle** baz=235	**5.80**	**48**	P		**Pn**	**14 43 29.5 +0.7**
N17K	**Nushagak Hills**	**5.89**	**316**			**Pn**	**14 43 30.5 +0.5**
N17K	**Nushagak Hills** baz=129	**5.89**	**316**	P		**Pn**	**14 43 30.5 +0.5**
BARN	**Barnard Glacie**	**5.90**	**37**	Pn		**Pn**	**14 43 31.4 +1.0**
CTGM	**Chitina Glacie**	**5.94**	**39**	Pn		**Pn**	**14 43 31.7 +0.9**
PNL	**Peninsula**	**5.95**	**54**			**Pn**	**14 43 31.8 +0.9**
PNL	**Peninsula** baz=242	**5.95**	**54**	P		**Pn**	**14 43 31.8 +0.9**
LOGN	**Logan Glacier**	**5.96**	**41**	Pn		**Pn**	**14 43 32.0 +0.9**
BCPM	**Bancas Point**	**5.98**	**51**			**Pn**	**14 43 32.2 +0.9**
M19K	**Big River Lodg**	**6.07**	**335**	Pn		**Pn**	**14 43 32.6 +0.2**
CHNA	**Chernabura Isl** baz=70	**6.27**	**259**	P		**Pn**	**14 43 34.5 -0.6**
CNBA	**Chernabura Isl**	**6.27**	**259**			**Pn**	**14 43 34.5 -0.7**
L19K	**White Mountain**	**6.42**	**334**	Pn		**Pn**	**14 43 37.3 0.0**
M17K	**Holitna River**	**6.56**	**321**	Pn		**Pn**	**14 43 39.7 +0.5**
O29M	**Mount Kennedy**	**6.62**	**51**	Pn		**Pn**	**14 43 41.2 +1.1**
P29M	**Windy Craggy**	**6.70**	**58**			**Pn**	**14 43 41.5 +0.4**
M16K	**Timber Creek**	**6.88**	**315**	Pn		**Pn**	**14 43 44.2 +0.6**
YUK7	**Dusty Glacier**	**6.92**	**50**			**Pn**	**14 43 45.5 +1.1**
O14K	**Tigyukauivet M**	**7.11**	**298**	Pn		**Pn**	**14 43 47.5 +0.7**
YUK4	**Talbot Arm** baz=232	**7.17**	**44**	P		**Pn**	**14 43 50.1 +2.3**
HYT	**Haines Junctio**	**7.34**	**49**	Pn		**Pn**	**14 43 51.1 +1.1**
PN7A	**Pavlof North-7**	**7.42**	**267**			**Pn**	**14 43 52.0 +1.0**
L16K	**Owhat River**	**7.50**	**318**	Pn		**Pn**	**14 43 52.8 +0.8**
BPAW	**Bear Paw Mtn.**	**7.66**	**353**	Pn		**Pn**	**14 43 55.3 +1.1**
SKAG	**Skagway**	**7.80**	**62**	Pn		**Pn**	**14 43 57.0 +0.9**
K17K	**Iditarod**	**7.80**	**326**	Pn		**Pn**	**14 43 56.5 +0.4**
N30M	**Aishikik Lake**	**7.85**	**46**	Pn		**Pn**	**14 43 57.8 +0.8**
O30N	**Mendenhall**	**7.92**	**52**	Pn		**Pn**	**14 43 58.9 +1.0**
J18K	**Innoko River**	**7.96**	**334**	Pn		**Pn**	**14 43 58.9 +0.4**
JIS	**Juneau Island**	**8.05**	**71**	Pn		**Pn**	**14 43 59.1 -0.4**
N31M	**Braeburn, Yuko**	**8.40**	**48**	Pn		**Pn**	**14 44 05.5 +1.1**
WHY	**Whitehorse**	**8.41**	**55**	Pn		**Pn**	**14 44 06.1 +1.4**
ISLZ	**Isanotski Laza**	**8.56**	**264**			**Pn**	**14 44 06.2 -0.4**
L14K	**Kuka Creek**	**8.58**	**310**	Pn		**Pn**	**14 44 08.4 +1.6**
P32M	**Atlin**	**8.62**	**63**			**Pn**	**14 44 07.8 +0.2**
P32M	**Atlin** baz=256	**8.62**	**63**	P		**Pn**	**14 44 08.1 +0.5**
M30M	**Minto, Yukon**	**8.63**	**40**	Pn		**Pn**	**14 44 09.0 +1.4**
J16K	**Anvik River**	**8.94**	**324**	Pn		**Pn**	**14 44 12.1 +0.3**
P33M	**Teslin, Yukon**	**9.23**	**60**			**Pn**	**14 44 16.2 +0.4**
P33M	**Teslin, Yukon** baz=253	**9.23**	**60**	P		**Pn**	**14 44 16.5 +0.7**
Q32M	**Nakina River**	**9.23**	**68**	Pn		**Pn**	**14 44 16.4 +0.4**
R33M	**Jennings River**	**9.96**	**66**	Pn		**Pn**	**14 44 26.3 +0.5**
H17K	**Granite Mounta**	**9.98**	**332**	Pn		**Pn**	**14 44 26.4 +0.4**
T35M	**Bob Quinn**	**10.27**	**80**	Pn		**Pn**	**14 44 30.3 +0.3**
DLBC	**Dease Lake**	**10.35**	**72**	Pn		**Pn**	**14 44 31.4 +0.2**
G16K	**Koyuk River**	**10.99**	**329**	Pn		**Pn**	**14 44 39.3 -0.5**
ABKAR	**Akbulak array**	**71.88**	**341**	P		**P**	**14 53 25.6 +0.2**

*NEIC **23** 14:45:05.7±0.9,56°56N±0°09×148°69W±0°09,h10km±2km, ML3.1/36,ML2.7(AEIC),Error ellipse: s-maj=15.8km s-min=7.5km az=160.0*

AEIC 23 14:45:09.8±1.3,56°51N±0°08×148°6W±0°1,h12km±6km, Error ellipse: s-maj=12.7km s-min=6.5km az=144.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.50**	**302**		Pn	14 45 45.9	-4.4
KDAK	**Kodiak Island**	**2.50**	**302**		Sn	14 46 12.6	-8.1
OHAK	**Old Harbor**	**2.66**	**287**		Pn	14 45 47.3	-5.1
OHAK					Sn	14 46 16.6	-7.9
SYI	**Shuyak Island**	**2.92**	**318**		Pn	14 45 52.1	-4.0
SYI	**Shuyak Island**	**2.92**	**318**		Sn	14 46 24.4	-6.6
SYI	**Shuyak Island** comp=N,34nm,1.4s	**2.92**	**318**	IAML		14 46 22.6	
CNPM	**China Poot**	**3.32**	**336**		Pn	14 45 56.9	-4.7
CNPM	**China Poot** comp=E,35nm,1.3s	**3.32**	**336**	IAML		14 46 39.5	
BRSE	**Bradley Lake S**	**3.43**	**342**		Pn	14 45 57.9	-5.1
BRLK	**Bradley Lake**	**3.47**	**341**		Pn	14 45 58.7	-5.0
BRLK	**Bradley Lake** comp=N,27nm,0.9s	**3.47**	**341**	IAML		14 48 04.5	
BRLK	comp=E,38nm,1.5s			IAML		14 48 07.3	
P23K	**Montague Islan**	**3.55**	**10**		Pn	14 45 59.6	-5.1
Q19K	**Cape Douglas,**	**3.62**	**314**		Pn	14 46 01.0	-4.8
P19K	**Oil Pt**	**3.98**	**324**		Pn	14 46 07.2	-3.5
HIN	**Hinchinbrook I**	**4.05**	**15**		Pn	14 46 07.1	-4.5
HIN	comp=N,50nm,1.0s			IAML		14 46 52.4	
KAIM	**Kayak Island**	**4.08**	**31**		Pn	14 46 07.8	-4.2
RSO	**Redoubt South**	**4.51**	**333**		Pn	14 46 13.4	-4.7
P18K	**Big Mountain,**	**4.55**	**312**		Pn	14 46 14.5	-4.0
RC01	**Rabbit Creek A**	**4.62**	**353**		Pn	14 46 14.8	-4.6
BERG	**Berg Lake**	**4.67**	**32**		Pn	14 46 16.1	-4.0
SUA	**Susitna One**	**5.08**	**348**		Pn	14 46 20.9	-5.0
SUA	comp=N,8.0nm,1.5s			IAML		14 48 42.3	
SUA	comp=E,8.4nm,0.8s			IAML		14 48 44.7	
PMR	**Palmer**	**5.10**	**357**		Pn	14 46 21.4	-4.5
PMR	comp=E,13nm,1.3s			IAML		14 48 48.9	
PMR	comp=N,9.0nm,1.5s			IAML		14 48 53.5	
KLU	**Klutina**	**5.18**	**14**		Pn	14 46 23.2	-4.1
KLU	comp=N,14nm,1.0s			IAML		14 47 22.3	
GHO	**Glory Hole Cre**	**5.28**	**358**		Pn	14 46 24.6	-3.9
N19K	**Bonanza Creek**	**5.29**	**327**		Pn	14 46 23.8	-4.9
N19K	comp=N,7.7nm,1.4s			IAML		14 48 21.1	
N19K	comp=E,6.8nm,1.2s			IAML		14 49 47.6	
SML	**Sawmill**	**5.31**	**1**		Pn	14 46 24.9	-4.0
SML	comp=E,12nm,1.3s			IAML		14 48 50.8	
N18K	**Kilae Creek**	**5.64**	**321**		Pn	14 46 28.9	-4.6
BARN	**Barnard Glacie**	**5.82**	**36**		Pn	14 46 32.1	-3.9
CTGM	**Chitina Glacie**	**5.86**	**37**		Pn	14 46 32.3	-4.2
BCPM	**Bancas Point**	**5.87**	**50**		Pn	14 46 33.1	-3.4
LOGN	**Logan Glacier**	**5.87**	**39**		Pn	14 46 32.9	-3.9
M19K	**Big River Lodg**	**6.16**	**334**		Pn	14 46 35.5	-5.0
O29M	**Mount Kennedy**	**6.50**	**50**		Pn	14 46 41.7	-3.6
P29M	**Windy Craggy**	**6.56**	**57**		Pn	14 46 41.9	-4.2
N30M	**Aishikik Lake**	**7.75**	**45**		Pn	14 46 58.6	-3.8
JIS	**Juneau Island**	**7.89**	**71**		Pn	14 47 00.3	-4.0
P32M	**Atlin**	**8.48**	**63**		Pn	14 47 08.6	-3.8

*NEIC **23** 14:46:30.5±1.4,56°6N±0°1×148°7W±0°1,h10km±2km, mb3.5/1,ML3.4/44,ML2.9(AEIC),Error ellipse: s-maj=18.6km s-min=11.4km az=169.0*
*IDC **23** 14:46:32.3±3.3,56°59N×148°71W,h0km,mb3.1/1, mbtmp3.0/4,ML2.8/2,Error ellipse: s-maj=48.4km s-min=34.4km az=152.0*
*AEIC **23** 14:46:34.0±1.8,56°5N±0°1×148°6W±0°1,h12km±8km, Error ellipse: s-maj=17.5km s-min=9.6km az=168.0*

ISC 23 14:46:33.2±1.7,56°8N±0°1×148°67W±0°06,h10km,n58, σ1§11/60,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.36**	**297**	Pn		**Pn**	**14 47 10.8 -1.1**
KDAK	**Kodiak Island** 3.6nm,0.3s,baz=122,slow=5.1,SNR=5.7	**2.36**	**297**	Pn		**Pn**	**14 47 10.8 -1.1**
KDAK	2.8nm,0.3s,baz=314,slow=21,SNR=9.1 7.4nm,0.3s			Sn		**Sn**	**14 47 37.4 -3.5**
OHAK	**Old Harbor**	**2.57**	**282**	Pn		**Pn**	**14 47 12.2 -2.6**
SYI	**Shuyak Island**	**2.73**	**314**	Pn		**Pn**	**14 47 16.6 -0.3**
Q23K	**Middleton Isla**	**2.95**	**24**	Pn		**Pn**	**14 47 18.8 -1.2**
MID	**Middleton Isla**	**2.95**	**24**	Pn		**Pn**	**14 47 18.8 -1.2**
MID	comp=N,147nm,1.5s			IAML			14 48 50.1
CNPM	**China Poot**	**3.09**	**335**	Pn		**Pn**	**14 47 21.3 -0.7**
CNPM	comp=N,62nm,0.9s			IAML			14 48 16.7
CNPM	comp=E,60nm,1.0s			IAML			14 48 17.1
BRLK	**Bradley Lake**	**3.23**	**340**	Pn		**Pn**	**14 47 23.2 -0.8**
BRLK	comp=N,49nm,0.5s			IAML			14 48 17.9
BRLK	comp=E,61nm,1.5s			IAML			14 48 18.6
Q19K	**Cape Douglas,**	**3.44**	**311**	Pn		**Pn**	**14 47 27.0 +0.2**
Q19K	comp=N,109nm,1.4s			IAML			14 48 27.6
P19K	**Oil Pt**	**3.77**	**322**	Pn		**Pn**	**14 47 32.1 +0.7**
HIN	**Hinchinbrook I**	**3.82**	**16**	Pn		**Pn**	**14 47 31.4 -0.7**
HIN	comp=E,56nm,1.5s			IAML			14 48 20.5
HIN	comp=N,46nm,1.5s			IAML			14 48 26.3
KAIM	**Kayak Island**	**3.89**	**33**	Pn		**Pn**	**14 47 31.9 -1.0**
KAIM	comp=E,73nm,1.4s			IAML			14 48 24.7
FID	**Port Fidalgo**	**4.17**	**15**	Pn		**Pn**	**14 47 36.0 -0.8**
FID	comp=N,34nm,1.4s			IAML			14 48 14.4
FID	comp=E,54nm,1.4s			IAML			14 48 14.7
CAPN	**Captain Cook N**	**4.22**	**343**	Pn		**Pn**	**14 47 38.9 +1.4**
P18K	**Big Mountain,**	**4.37**	**310**	Pn		**Pn**	**14 47 38.5 -1.0**
RC01	**Rabbit Creek A**	**4.38**	**353**	Pn		**Pn**	**14 47 39.5 -0.2**
RC01	comp=N,21nm,0.4s			IAML			14 48 32.1
RC01	comp=E,24nm,0.7s			IAML			14 48 32.6
BERG	**Berg Lake**	**4.48**	**33**	Pn		**Pn**	**14 47 40.0 -1.0**
SNH	**Sunshine Point**	**4.60**	**39**	Pn		**Pn**	**14 47 41.4 -1.3**
SNH	comp=E,46nm,1.4s			IAML			14 48 28.0
SNH	comp=N,34nm,1.3s			IAML			14 49 26.2
KNK	**Knik Glacier**	**4.67**	**1**	Pn		**Pn**	**14 47 43.7 0.0**
KNK	comp=N,19nm,1.5s			IAML			14 48 53.6
KNK	comp=E,15nm,1.5s			IAML			14 50 57.8
PMR	**Palmer**	**4.86**	**357**	Pn		**Pn**	**14 47 46.0 -0.1**
KLU	**Klutina**	**4.96**	**15**	Pn		**Pn**	**14 47 47.0 -0.6**
KLU	comp=E,16nm,1.2s			IAML			14 48 46.7
KLU	comp=N,21nm,0.8s			IAML			14 50 56.0
GHO	**Glory Hole Cre**	**5.03**	**359**	Pn		**Pn**	**14 47 48.9 +0.2**
GHO	comp=E,18nm,1.2s			IAML			14 48 52.0
GHO	comp=N,17nm,0.6s			IAML			14 48 55.3
SML	**Sawmill**	**5.07**	**2**	Pn		**Pn**	**14 47 49.7 +0.5**
SML	comp=N,16nm,1.4s			IAML			14 49 15.5
VRDI	**Verde Repeater**	**5.23**	**29**	Pn		**Pn**	**14 47 50.6 -0.9**
N25K	**Chitina, Valde**	**5.29**	**22**	Pn		**Pn**	**14 47 52.5 +0.1**
GLB	**Gilahina Butte**	**5.32**	**26**	Pn		**Pn**	**14 47 52.1 -0.6**
N18K	**Kilae Creek**	**5.44**	**319**	Pn		**Pn**	**14 47 53.0 -1.2**
M24K	**Tolsona, Glenn**	**5.51**	**12**	Pn		**Pn**	**14 47 55.9 +0.6**
M20K	**Styx River**	**5.62**	**338**	Pn		**Pn**	**14 47 56.6 -0.2**
SVW2	**Sparrevohn**	**5.63**	**323**	Pn		**Pn**	**14 47 56.0 -0.8**
BARN	**Barnard Glacie**	**5.64**	**37**	Pn		**Pn**	**14 47 56.2 -0.9**
LOGN	**Logan Glacier**	**5.70**	**41**	Pn		**Pn**	**14 47 56.7 -1.2**
BCPM	**Bancas Point**	**5.74**	**52**	Pn		**Pn**	**14 47 56.8 -1.5**
O16K	**Kokwok River B**	**5.74**	**304**	Pn		**Pn**	**14 47 57.6 -0.6**
M19K	**Big River Lodg**	**5.93**	**333**	Pn		**Pn**	**14 48 00.9 -0.1**
L19K	**White Mountain**	**6.28**	**333**	Pn		**Pn**	**14 48 04.8 -1.1**
P29M	**Windy Craggy**	**6.46**	**59**	Pn		**Pn**	**14 48 06.9 -1.3**
M17K	**Holitna River**	**6.48**	**320**	Pn		**Pn**	**14 48 07.7 -0.8**
M16K	**Timber Creek**	**6.83**	**313**	Pn		**Pn**	**14 48 12.8 -0.5**
N15K	**Kwethluk River**	**6.89**	**304**	Pn		**Pn**	**14 48 14.7 +0.6**
TTA	**Tatalina**	**7.21**	**332**	Pn		**Pn**	**14 48 17.0 -1.5**
BCAR	**Beaver Creek A**	**7.21**	**26**	Pn		**Pn**	**14 48 18.7 +0.2**
RIDG	**Independent Ri**	**7.26**	**14**	Pn		**Pn**	**14 48 20.1 +0.9**
SKAG	**Skagway**	**7.57**	**63**	Pn		**Pn**	**14 48 22.5 -0.9**
M29M	**Somme Creek**	**7.70**	**38**	Pn		**Pn**	**14 48 23.9 -1.3**
K17K	**Iditarod**	**7.70**	**325**	Pn		**Pn**	**14 48 24.1 -1.1**
ILAR	**Eielson Array** comp=N,0.1nm,0.3s,baz=186,slow=13,SNR=1.8	**8.09**	**5**	Pn		**Pn**	**14 48 30.1 -0.4**
ILAR	comp=N,0.1nm,0.3s,baz=187,slow=4.2,SNR=4.5 comp=N,0.2nm,0.5s			Sn		**Sn**	**14 49 59.6 -2.3**
J26L	**Joseph Creek**	**8.16**	**16**	Pn		**Pn**	**14 48 32.0 +0.4**
WHY	**Whitehorse**	**8.17**	**56**	Pn		**Pn**	**14 48 30.9 -0.9**
L29M	**L29M**	**8.27**	**35**	Pn		**Pn**	**14 48 33.1 0.0**
I23K	**Minto, Yukon-K**	**8.43**	**358**	Pn		**Pn**	**14 48 34.7 -0.5**
K29M	**Barlow Dome**	**9.00**	**33**	Pn		**Pn**	**14 48 42.8 -0.2**
M31M	**Drury Creek, Y**	**9.08**	**47**	Pn		**Pn**	**14 48 43.8 -0.3**
G24K	**Hadweenzic Riv**	**9.99**	**3**	Pn		**Pn**	**14 48 58.0 +1.4**
G23K	**Bananza Creek**	**10.01**	**357**	Pn		**Pn**	**14 48 58.0 +1.2**
YKA	**Yellowknife Ar** comp=N,0.3nm,0.8s,baz=266,slow=11,SNR=4.2	**18.00**	**57**	P		**P**	**14 50 44.0 +0.5**
A36M	**Sachs Harbour**	**18.11**	**23**	P		**P**	**14 50 46.4 +1.6**
A36M	comp=Z,4.0nm,1.1s			IAmb		IAmb	14 51 14.7
MKAR	**Makanchi Array** comp=Z,0.1nm,0.6s,baz=33,slow=6.7,SNR=1.6 comp=Z,0.1nm,0.6s	**68.40**	**325**	P		**P**	**14 57 36.6 +2.0**

*KRNET **23** 14:49:07.3±0.1,40°76N×77°54E,h30km,mb3.6*

*SOME **23** 14:49:07.3,40°88N×77°58E,h0km*
*NNC **23** 14:49:10.6±1.2,40°95N×77°68E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=8.1km s-min=5.6km az=163.0*

ISC 23 14:49:09.2±1.6,40°85N±0°06×77°55E±0°03,h16km±10km, n87,σ1§43/136,40C-20D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=11	**0.90**	**13**	⇓*iP*	**Pb**	**14 49 25.5**	**-1.2**
TARG	baz=11			⇓*iS*	**Sg**	**14 49 39.2**	**+0.6**
NRN	**Naryn** baz=0.0	**1.30**	**297**	⇑*iP*	**Pn**	**14 49 32.0**	**-1.1**
NRN	baz=0.0			⇑*iS*	**Sb**	**14 49 50.0**	**-0.2**
KDJ	**Kajisay** baz=49	**1.31**	**348**	⇑*iP*	**Pn**	**14 49 32.6**	**-0.4**
KDJ	baz=49			⇑*iS*	**Sg**	**14 49 51.2**	**-0.3**
ULHL	**Ulahol** SNR=12	**1.70**	**325**	P	**Pb**	**14 49 40.2**	**-0.1**
ULHL	**Ulahol** baz=27	**1.70**	**325**	⇑*iP*	**Pn**	**14 49 38.4**	**-0.1**
ULHL	baz=27			⇑*iS*	**Sb**	**14 50 01.2**	**-0.3**
PRZ	**Przheval'sk** baz=20	**1.75**	**21**	⇑*eP*	**Pn**	**14 49 39.4**	**+0.3**
PRZ	baz=20			⇑*iS*	**Sb**	**14 50 02.9**	**-0.1**
ANVS	**Anan'yevo** baz=3.0	**1.93**	**3**	⇑*eP*	**Pn**	**14 49 42.2**	**+0.6**
ANVS	baz=3.0			⇑*eS*	**Sb**	**14 50 07.4**	**-0.8**
TNSS	**Tian-Shan** 92nm,0.6s	**2.23**	**349**	Pg	**Pb**	**14 49 50.0**	**+0.7**
TNSS	119nm,0.5s			Lg	Lg	14 50 20.4	
TNSS	**Tian-Shan** 92nm,0.4s	**2.23**	**349**	*eP*	**Pb**	**14 49 50.0**	**+0.7**
TNSS	118nm,0.3s			*eS*	**Sg**	**14 50 20.4**	**-0.5**
IZV	**Izvestkoviy** 33nm,0.3s	**2.29**	**343**	Pg	**Pb**	**14 49 51.1**	**+0.8**
IZV	279nm,0.6s			Lg	Lg	14 50 22.3	
IZV	**Izvestkoviy** 33nm,0.3s	**2.29**	**343**	*eP*	**Pb**	**14 49 51.1**	**+0.8**
IZV	279nm,0.6s			*eS*	**Sg**	**14 50 22.3**	**-0.6**
SATY	**Saty** 68nm,0.5s	**2.30**	**16**	Pg	**Pb**	**14 49 50.2**	**-0.2**
SATY	160nm,0.4s			Lg	Lg	14 50 20.8	
SATY	**Saty** 68nm,0.3s	**2.30**	**16**	*eP*	**Pb**	**14 49 50.2**	**-0.2**
SATY	160nm,0.4s			*eS*	**Sb**	**14 50 20.8**	**+2.2**
MDOK	**Medeo** 85nm,0.5s	**2.34**	**351**	Pg	**Pb**	**14 49 51.8**	**+0.7**
MDOK	52nm,0.4s			⇑Pg	**Pg**	**14 49 51.9**	**-2.2**
MDOK	72nm,0.8s			Lg	Lg	14 50 23.2	
MDOK	154nm,0.6s			⇓Lg	Lg	14 50 25.0	
MDOK	**Medeo** 85nm,0.5s	**2.34**	**351**	*eP*	**Pb**	**14 49 51.8**	**+0.7**
MDOK	72nm,0.8s			*eS*	**Sg**	**14 50 23.2**	**-1.3**
AAA	**Alma-Ata** 257nm,0.5s	**2.40**	**349**	Pg	**Pb**	**14 49 53.7**	**+1.6**
AAA	280nm,0.5s			Lg	Lg	14 50 27.2	
AAA	**Alma-Ata** 257nm,0.5s	**2.40**	**349**	*eP*	**Pb**	**14 49 53.7**	**+1.6**
AAA	280nm,0.5s			*eS*	**Sg**	**14 50 27.2**	**+0.8**
KOTS	**Kotyrbulak** 76nm,0.3s	**2.40**	**352**	Pg	**Pb**	**14 49 53.1**	**+0.9**
KOTS	307nm,0.4s			Lg	Lg	14 50 25.7	
KOTS	**Kotyrbulak** 76nm,0.3s	**2.40**	**352**	*eP*	**Pb**	**14 49 53.0**	**+0.9**
KOTS	307nm,0.4s			*eS*	**Sg**	**14 50 25.7**	**-0.8**
KNDC	**Almaty** 49nm,0.4s	**2.40**	**350**	⇑Pg	**Pb**	**14 49 53.3**	**+1.1**
KNDC	243nm,0.7s			⇓Lg	Lg	14 50 28.3	
ZHN	**Zhinishke** 26nm,0.5s	**2.41**	**16**	Pg	**Pb**	**14 49 51.8**	**-0.5**
ZHN	83nm,0.3s			Lg	Lg	14 50 23.2	
ZHN	**Zhinishke** 26nm,0.5s	**2.41**	**16**	*eP*	**Pb**	**14 49 51.8**	**-0.5**
ZHN	83nm,0.3s			*eS*	**Sb**	**14 50 23.2**	**+1.4**
MTBS	**Maitube** 91nm,0.3s	**2.42**	**340**	Pg	**Pb**	**14 49 53.0**	**+0.5**
MTBS	37nm,0.5s			Lg	Lg	14 50 25.2	
MTBS	**Maitube** 91nm,0.3s	**2.42**	**340**	*eP*	**Pb**	**14 49 53.0**	**+0.5**
MTBS	37nm,0.5s			*eS*	**Sg**	**14 50 25.2**	**-2.0**
KST	**Kastek** 55nm,0.6s	**2.49**	**332**	Pg	**Pb**	**14 49 54.4**	**+0.8**
KST	93nm,0.5s			Lg	Lg	14 50 28.1	
KST	**Kastek** 55nm,0.6s	**2.49**	**332**	*eP*	**Pb**	**14 49 54.4**	**+0.8**
KST	93nm,0.5s			*eS*	**Sg**	**14 50 28.1**	**-1.1**
TKM2	**Tokmak 2** SNR=12	**2.53**	**326**	P	**Pb**	**14 49 52.3**	**-2.0**
TKM2	**Tokmak 2** 6.0nm,0.2s	**2.53**	**326**	⇑Pg	**Pb**	**14 49 55.0**	**+0.6**
TKM2	42nm,0.5s			⇓Lg	Lg	14 50 29.9	
TKM2	**Tokmak 2** baz=27	**2.53**	**326**	⇓*iP*	**Pn**	**14 49 49.9**	**+0.1**
TKM2	baz=27			⇓*iS*	**Sn**	**14 50 21.1**	**+0.7**
UZB	**Uzynbulak** 45nm,0.6s	**2.54**	**25**	Pg	**Pb**	**14 49 53.6**	**-1.0**
UZB	66nm,0.6s			Lg	Lg	14 50 26.3	
UZB	**Uzynbulak** 45nm,0.3s	**2.54**	**25**	*eP*	**Pb**	**14 49 53.6**	**-1.0**
UZB	66nm,0.4s			*eS*	**Sb**	**14 50 26.3**	**+0.6**
ARLS	**Aral** baz=95	**2.63**	**294**	⇓*iP*	**Pn**	**14 49 51.1**	**0.0**
ARLS	baz=95			⇓*iS*	**Sn**	**14 50 22.8**	**0.0**
KBK	**Karagaybulak** SNR=36	**2.65**	**314**	P	**Pb**	**14 49 57.

	97nm,0.5s							
DGS	**Degeres**	**2.73**	**332**	*eP*	**Pb**	**14 49 58.8**	**+1.1**
	30nm,0.5s							
DGS				*eS*	**Sg**	**14 50 35.9**	**-1.0**
	97nm,0.5s							
KPKS	**Kokpek**	**2.75**	**18**	Pg	**Pb**	**14 49 58.3**	**+0.3**
	48nm,0.3s							
KPKS				Lg	Lg	14 50 35.4		
	61nm,0.5s							
KPKS	**Kokpek**	**2.75**	**18**	*eP*	**Pb**	**14 49 58.3**	**+0.3**
	48nm,0.3s							
KPKS				*eS*	**Sg**	**14 50 35.4**	**-2.1**
	61nm,0.5s							
PDGK	**Podgornoye**	**2.87**	**30**	Pg	**Pb**	**14 49 59.8**	**-0.3**
	17nm,0.6s							
PDGK				Lg	Lg	14 50 37.5		
	42nm,0.8s							
AAK	**Ala-Archa**	**2.90**	**309**	P	**Pb**	**14 50 01.3**	**+0.7**
	SNR=10							
AAK	**Ala-Archa**	**2.90**	**309**	⇑*iP*	**Pn**	**14 49 54.7**	**-0.2**
	baz=10.0							
AAK				⇑*iS*	**Sn**	**14 50 29.6**	**+0.1**
	baz=10.0							
FRU1	**Bishkek**	**2.93**	**313**	⇑*iP*	**Pn**	**14 49 55.3**	**+0.1**
	baz=14							
FRU1				⇑*iS*	**Sn**	**14 50 30.5**	**+0.4**
	baz=14							
KTBS	**Karatobe**	**2.93**	**348**	Pg	**Pb**	**14 50 01.8**	**+0.7**
	20nm,0.4s							
KTBS				Lg	Lg	14 50 41.1		
	62nm,0.4s							
KTBS	**Karatobe**	**2.93**	**348**	*eP*	**Pb**	**14 50 01.8**	**+0.7**
	20nm,0.3s							
KTBS				*eS*	**Sg**	**14 50 41.1**	**-2.2**
	62nm,0.3s							
CHMS	**Chumysh**	**2.99**	**317**	P	**Pb**	**14 50 03.5**	**+1.3**
	SNR=19							
CHMS	**Chumysh**	**2.99**	**317**	⇑Pn	**Pb**	**14 50 03.1**	**+1.0**
	27nm,0.7s							
CHMS				⇓Lg	Lg	14 50 43.8		
	36nm,0.6s							
CHMS	**Chumysh**	**2.99**	**317**	⇓*iP*	**Pn**	**14 49 56.0**	**0.0**
	baz=18							
CHMS				⇓*iS*	**Sn**	**14 50 31.9**	**+0.3**
	baz=18							
CHKK	**Chushkaly**	**3.03**	**352**	Pg	**Pb**	**14 50 04.0**	**+1.2**
	31nm,0.5s							
CHKK				Lg	Lg	14 50 45.6		
	119nm,0.3s							
CHKK	**Chushkaly**	**3.03**	**352**	*eP*	**Pb**	**14 50 04.0**	**+1.2**
	31nm,0.5s							
CHKK				*eS*	**Sg**	**14 50 45.6**	**-0.9**
	119nm,0.3s							
AML	**Almayashu**	**3.16**	**295**	P	**Pb**	**14 50 06.5**	**+1.3**
	SNR=10							
AML	**Almayashu**	**3.16**	**295**	⇑Pn	**Pb**	**14 50 05.7**	**+0.5**
	2.1nm,0.8s							
AML				⇑Pg	**Pg**	**14 50 13.1**	**+3.3**
	0.8nm,0.4s							
AML				⇓Lg	Lg	14 50 48.9		
	7.3nm,0.7s							
AML	**Almayashu**	**3.16**	**295**	⇓*iP*	**Pn**	**14 49 58.5**	**-0.2**
	baz=97							
AML				⇓*iS*	**Sn**	**14 50 35.9**	**-0.4**
	baz=97							
KRBS	**Karabastau**	**3.16**	**335**	Pg	**Pb**	**14 50 06.0**	**+0.9**
	22nm,0.4s							
KRBS				Lg	Lg	14 50 48.1		
	54nm,0.5s							
KRBS	**Karabastau**	**3.16**	**335**	*eP*	**Pb**	**14 50 06.0**	**+0.9**
	22nm,0.4s							
KRBS				*eS*	**Sg**	**14 50 48.1**	**-2.7**
	54nm,0.5s							
KUU	**Kurty**	**3.17**	**344**	Pg	**Pb**	**14 50 06.4**	**+1.3**
	13nm,0.3s							
KUU				Lg	Lg	14 50 48.1		
	24nm,0.4s							
KUU	**Kurty**	**3.17**	**344**	*eP*	**Pb**	**14 50 06.4**	**+1.3**
	13nm,0.3s							
KUU				*eS*	**Sg**	**14 50 48.1**	**-2.9**
	24nm,0.4s							
SFK	**Sufi-Kurgan**	**3.20**	**256**	⇑*iP*	**Pn**	**14 49 58.1**	**-0.9**
	baz=58							
SFK				⇑*iS*	**Sn**	**14 50 35.1**	**-1.8**
	baz=58							
USP	**Ospenovka**	**3.31**	**318**	P	**Pb**	**14 50 08.6**	**+1.0**
	SNR=128							
USP	**Ospenovka**	**3.31**	**318**	⇑*iP*	**Pn**	**14 50 00.6**	**+0.2**
	baz=19							
USP				⇑*iS*	**Sn**	**14 50 39.5**	**0.0**
	baz=19							
BLB	**Baldybastay**	**3.32**	**12**	Pg	**Pb**	**14 50 09.8**	**+2.1**
	23nm,0.4s							
BLB				Lg	Lg	14 50 54.7		
	46nm,0.6s							
KTMS	**Ketmen**	**3.33**	**38**	Pg	**Pb**	**14 50 08.0**	**0.0**
	4.4nm,0.4s							
KTMS				Lg	Lg	14 50 51.5		
	27nm,0.4s							
KTMS	**Ketmen**	**3.33**	**38**	*eP*	**Pb**	**14 50 08.0**	**0.0**
	4.4nm,0.4s							
KTMS				*eS*	**Sb**	**14 50 51.5**	**+3.2**
	27nm,0.4s							
EKS2	**Erkin-Say**	**3.35**	**304**	P	**Pb**	**14 50 10.7**	**+2.5**
	SNR=8.8							
EKS2	**Erkin-Say**	**3.35**	**304**	⇑*iP*	**Pn**	**14 50 00.9**	**-0.1**
	baz=5.0							
EKS2				⇑*iS*	**Sn**	**14 50 40.0**	**-0.5**
	baz=5.0							
ARXS	**Arharly**	**3.37**	**3**	Pg	**Pb**	**14 50 10.4**	**+1.8**
	11nm,0.5s							
ARXS				Lg	Lg	14 50 55.2		
	66nm,0.5s							
ARXS	**Arharly**	**3.37**	**3**	*eP*	**Pb**	**14 50 10.4**	**+1.8**
	11nm,0.5s							
ARXS				*eS*	**Sg**	**14 50 55.2**	**-2.1**
	66nm,0.5s							
ARSB	**Arslanbob**	**3.48**	**279**	⇑*iP*	**Pn**	**14 50 02.2**	**-0.7**
	baz=81							
ARSB				⇑*iS*	**Sn**	**14 50 42.3**	**-1.5**
	baz=81							
OHH	**Osh**	**3.63**	**266**	⇑*iP*	**Pn**	**14 50 04.0**	**-0.9**
	baz=68							
OHH				⇑*iS*	**Sn**	**14 50 45.6**	**-1.9**
	baz=68							
KNOS	**Konyrlen**	**3.71**	**18**	Pg	**Pb**	**14 50 16.2**	**+1.8**
	15nm,0.7s							
KNOS				Lg	Lg	14 51 05.8		
	14nm,0.4s							
MRKS	**Merke**	**3.74**	**302**	Pg	**Pb**	**14 50 16.5**	**+1.5**
	14nm,0.6s							
MRKS				Lg	Lg	14 51 06.6		
	32nm,1.0s							
MRKS	**Merke**	**3.74**	**302**	*eP*	**Pb**	**14 50 16.5**	**+1.5**
	14nm,0.4s							
MRKS				*eS*	**Sg**	**14 51 06.6**	**-2.8**
	45nm,0.6s							
DJR	**Jarkent**	**3.85**	**25**	Pg	**Pb**	**14 50 18.5**	**+1.6**
	9.5nm,0.4s							
DJR				Lg	Lg	14 51 09.3		
	29nm,0.5s							
DJR	**Jarkent**	**3.85**	**25**	*eP*	**Pb**	**14 50 18.5**	**+1.6**
	9.5nm,0.4s							
DJR				*eS*	**Sg**	**14 51 09.3**	**-3.6**
	29nm,0.5s							
ARK	**Arkit**	**4.31**	**284**	⇑*iP*	**Pn**	**14 50 14.0**	**-0.2**
	baz=86							
ARK				⇑*iS*	**Sn**	**14 51 02.6**	**-1.6**
	baz=86							
KAPS	**Kapalarasan**	**4.63**	**16**	Pg	**Pb**	**14 50 32.5**	**+2.5**
	6.6nm,0.5s							
KAPS				Lg	Lg	14 51 33.8		
	5.6nm,0.6s							
KAPS	**Kapalarasan**	**4.63**	**16**	*eP*	**Pb**	**14 50 32.5**	**+2.5**
	6.6nm,0.5s							
KAPS				*eS*	**Sg**	**14 51 33.8**	**-3.8**
	5.6nm,0.6s							
TRKS	**Terek-Say**	**4.88**	**280**	⇓*iP*	**Pn**	**14 50 21.4**	**-0.7**
	baz=80							
TRKS				⇓*iS*	**Sn**	**14 51 15.0**	**-3.4**
	baz=80							
BTLS	**Baital**	**4.91**	**330**	*eP*	**Pb**	**14 50 39.0**	**+4.1**
BTLS				*eS*	**Sg**	**14 51 45.0**	**-1.8**
	20nm,0.5s							
KK31	**Karatay Karay**	**5.70**	**296**	⇑Pg	**Pg**	**14 50 59.6**	**+1.2**
	1.7nm,0.4s							
KK31				⇑Lg	Lg	14 52 08.1		
	6.1nm,0.7s							
KKAR	**Karatay Karay**	**5.70**	**296**	⇑*iP*	**Pn**	**14 50 33.2**	**-0.1**
	baz=96							
KKAR				⇑*iS*	**Sn**	**14 51 35.8**	**-2.6**
	baz=96							
MK31	**Makanchi Array**	**6.86**	**28**	⇑Pn	**Pn**	**14 50 49.3**	**+0.1**
	0.2nm,0.3s,baz=197,slow=14,SNR=11							
MK31				⇓Sn	**Sn**	**14 52 07.3**	**+0.4**
	2.3nm,0.6s,baz=209,slow=25,SNR=5.7							
MK31				⇑Lg	Lg	14 52 41.5		
	1.3nm,0.6s,baz=206,slow=27,SNR=4.0							

*IDC **23** 14:49:21.6±3.9,55°.56N×149°.36W,h0ᵏᵐ,mb3.4/1, mbtmp3.4/5,ML3.0/4,Error ellipse: s-maj=60.7km s-min=38.0km az=170.0*
*NEIC **23** 14:49:27.6±0.9,56°.09N±0°.08×149°.45W±0°.10,h10ᵏᵐ±2ᵏᵐ, mb3.6/1,ML3.8/38,ML3.5(AEIC),Error ellipse: s-maj=13.8km s-min=9.5km az=178.0*
*AEIC **23** 14:49:31.3±1.4,56°.02N±0°.10×149°.4W±0°.1,h10ᵏᵐ±7ᵏᵐ, Error ellipse: s-maj=14.3km s-min=8.2km az=173.0*

ISC 23 14:49:26.6±1.5,56°.1N±0°.1×149°.41W±0°.06,h10ᵏᵐ,n144, σ0ᵗ90/147,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.44**	**300**		**Pn**	**14 50 06.7**	**+0.3**
OHAK					**Sn**	**14 50 34.8**	**-1.4**
OHAK	**Old Harbor**	**2.44**	**300**	P	**Pn**	**14 50 06.7**	**+0.3**
	baz=118						
OHAK				S	**Sn**	**14 50 34.8**	**-1.4**
	baz=118						
KDAK	**Kodiak Island**	**2.45**	**316**		**Pn**	**14 50 07.3**	**+0.7**
KDAK					**Sn**	**14 50 35.5**	**-1.0**
KDAK	**Kodiak Island**	**2.45**	**316**	Pn	**Pn**	**14 50 07.2**	**+0.6**
	10nm,0.3s,baz=142,slow=7.5,SNR=20						
KDAK				Sn	**Sn**	**14 50 35.4**	**-1.2**
	20nm,0.3s,baz=153,slow=6.8,SNR=29						
	25nm,0.3s						
Q20K	**Shuyak Island**	**3.02**	**329**	P	**Pn**	**14 50 15.0**	**+0.5**
	baz=146						
Q20K				S	**Sn**	**14 50 50.8**	**+0.1**
	baz=146						
SYI	**Shuyak Island**	**3.02**	**329**		**Pn**	**14 50 15.0**	**+0.6**
SYI					**Sn**	**14 50 50.9**	**+0.3**
CNPM	**China Poot**	**3.60**	**345**		**Pn**	**14 50 23.1**	**+0.6**
CNPM					**Sn**	**14 51 05.0**	**-0.1**
CNPM	**China Poot**	**3.60**	**345**	IAML		14 51 56.5	
	comp=N,113nm,3.3s						
CNPM				IAML		14 52 25.1	
	comp=E,97nm,2.3s						
Q19K	**Cape Douglas,**	**3.67**	**323**		**Pn**	**14 50 24.4**	**+1.0**
Q19K	**Cape Douglas,**	**3.67**	**323**	P	**Pn**	**14 50 24.8**	**+1.4**
	baz=140						
KAHG	**Katmai Hook Gl**	**3.70**	**313**		**Pn**	**14 50 25.7**	**+1.8**
Q23K	**Middleton Isla**	**3.75**	**25**	Pn	**Pn**	**14 50 24.8**	**+0.4**
MID	**Middleton Isla**	**3.75**	**25**	Pn	**Pn**	**14 50 24.7**	**+0.2**
MID				IAML		14 51 09.0	
	comp=N,309nm,2.4s						
MID	**Middleton Isla**	**3.75**	**25**		**Sn**	**14 51 05.3**	**-3.2**
BRSE	**Bradley Lake S**	**3.75**	**350**		**Pn**	**14 50 24.8**	**+0.3**
BRSE					**Sn**	**14 51 07.9**	**-0.8**
BRSE	**Bradley Lake S**	**3.75**	**350**	P	**Pn**	**14 50 24.8**	**+0.3**
	baz=168						
BRLK	**Bradley Lake**	**3.79**	**349**		**Pn**	**14 50 24.9**	**-0.1**
BRLK	**Bradley Lake**	**3.79**	**349**		**Sn**	**14 51 08.7**	**-1.0**
BRLK	**Bradley Lake**	**3.79**	**349**	IAML		14 52 13.8	
	comp=E,83nm,3.3s						
SEW	**Seward**	**4.05**	**360**		**Pn**	**14 50 28.3**	**-0.2**
SEW	**Seward**	**4.05**	**360**	P	**Pn**	**14 50 28.9**	**+0.3**
	baz=179						
P23K	**Montague Islan**	**4.08**	**14**		**Pn**	**14 50 29.5**	**+0.4**
P19K	**Oil Pt**	**4.13**	**332**	Pn	**Pn**	**14 50 31.0**	**+1.2**
P19K				IAML		14 51 22.9	
	comp=E,155nm,0.5s						
P19K				IAML		14 52 29.6	
	comp=N,197nm,0.6s						
IVE	**Iliamna Volcan**	**4.40**	**336**		**Pn**	**14 50 33.8**	**+0.2**
O22K	**Cooper Landing**	**4.43**	**358**		**Pn**	**14 50 34.2**	**+0.4**
O22K	**Cooper Landing**	**4.43**	**358**	IAML		14 52 49.1	
	comp=N,162nm,0.8s						
O22K				IAML		14 53 08.3	
	comp=E,169nm,0.9s						
SLKM	**Skilak Lake**	**4.47**	**355**		**Pn**	**14 50 35.1**	**+0.6**
P18K	**Big Mountain,**	**4.56**	**319**	Pn	**Pn**	**14 50 36.0**	**+0.3**
HIN	**Hinchinbrook I**	**4.61**	**18**		**Pn**	**14 50 37.0**	**+0.7**
HIN	**Hinchinbrook I**	**4.61**	**18**	IAML		14 51 36.5	
	comp=N,98nm,2.4s						
HIN				IAML		14 52 06.9	
	comp=E,91nm,2.6s						
KAIM	**Kayak Island**	**4.69**	**32**	Pn	**Pn**	**14 50 38.3**	**+0.9**
RED	**Redoubt Volcan**	**4.71**	**339**		**Pn**	**14 50 37.8**	**0.0**
RSO	**Redoubt South**	**4.75**	**340**	Pn	**Pn**	**14 50 38.7**	**+0.4**
DFR	**Drift River**	**4.86**	**341**		**Pn**	**14 50 40.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.89**	**22**		**Pn**	**14 50 40.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.89**	**22**	P	**Pn**	**14 50 41.5**	**+1.4**
	baz=204						
O19K	**Port Alsworth**	**4.89**	**330**	Pn	**Pn**	**14 50 39.9**	**-0.2**
O19K				IAML		14 52 46.4	
	comp=N,132nm,0.5s						
FID	**Port Fidalgo**	**4.94**	**17**	Pn	**Pn**	**14 50 41.2**	**+0.4**
FID				IAML		14 52 53.4	
	comp=E,61nm,1.3s						
FID				IAML		14 53 44.9	
	comp=N,50nm,2.2s						
RC01	**Rabbit Creek A**	**5.04**	**358**	Pn	**Pn**	**14 50 42.9**	**+0.7**
RC01				IAML		14 51 43.7	
	comp=N,36nm,1.8s						
RC01				IAML		14 51 46.8	
	comp=E,39nm,2.5s						
GOAT	**Goat Mountain**	**5.15**	**27**		**Pn**	**14 50 44.7**	**+0.8**
BERG	**Berg Lake**	**5.28**	**32**		**Pn**	**14 50 46.4**	**+0.9**
BERG				IAML		14 52 33.1	
	comp=E,89nm,1.8s						
BERG				IAML		14 53 20.3	
	comp=N,97nm,2.2s						
KNK	**Knik Glacier**	**5.38**	**5**		**Pn**	**14 50 47.7**	**+0.8**
KNK	**Knik Glacier**	**5.38**	**5**	IAML		14 51 38.5	
	comp=E,31nm,3.9s						
KNK				IAML		14 54 27.2	
	comp=N,28nm,3.4s						
KNK	**Knik Glacier**	**5.38**	**5**	P	**Pn**	**14 50 48.7**	**+1.7**
	baz=185						
SNH	**Sunshine Point**	**5.39**	**37**	Pn	**Pn**	**14 50 47.9**	**+0.8**
SNH				IAML		14 51 48.0	
	comp=E,82nm,1.8s						
DIV	**Divide**	**5.42**	**19**		**Pn**	**14 50 47.6**	**+0.1**
N19K	**Bonanza Creek**	**5.45**	**333**	Pn	**Pn**	**14 50 48.1**	**+0.1**
SUA	**Susitna One**	**5.46**	**353**	Pn	**Pn**	**14 50 48.3**	**+0.3**
BMRM	**Bremner River**	**5.52**	**25**		**Pn**	**14 50 49.3**	**+0.4**
BMRM	**Bremner River**	**5.52**	**25**	P	**Pn**	**14 50 49.9**	**+1.1**
	baz=209						
PMR	**Palmer**	**5.54**	**1**		**Pn**	**14 50 49.8**	**+0.7**
PMR	**Palmer**	**5.54**	**1**	P	**Pn**	**14 50 50.1**	**+1.1**
	baz=181						
BARK	**Barkley Ridge**	**5.68**	**37**		**Pn**	**14 50 52.1**	**+1.1**
GHO	**Glory Hole Cre**	**5.73**	**2**		**Pn**	**14 50 52.8**	**+1.0**
KLU	**Klutina**	**5.73**	**17**		**Pn**	**14 50 52.7**	**+0.9**
KLU	**Klutina**	**5.73**	**17**	P	**Pn**	**14 50 53.0**	**+1.2**
	baz=200						
N18K	**Kilae Creek**	**5.75**	**326**	Pn	**Pn**	**14 50 52.2**	**+0.3**
SML	**Sawmill**	**5.78**	**5**		**Pn**	**14 50 53.3**	**+0.8**
SML	**Sawmill**	**5.78**	**5**	P	**Pn**	**14 50 53.7**	**+1.3**
	baz=186						
O16K	**Kokwok River B**	**5.83**	**311**	Pn	**Pn**	**14 50 54.0**	**+0.9**
SCM	**Sheep Creek Mo**	**5.88**	**10**		**Pn**	**14 50 55.1**	**+1.2**
SCM	**Sheep Creek Mo**	**5.88**	**10**	P	**Pn**	**14 50 55.1**	**+1.2**
	baz=191						
SVW2	**Sparrevohn**	**5.99**	**330**	Pn	**Pn**	**14 50 55.2**	**0.0**
SKT	**Skwentna**	**6.03**	**350**	Pn	**Pn**	**14 50 56.2**	**+0.4**
VRDI	**Verde Repeater**	**6.04**	**29**		**Pn**	**14 50 56.2**	**+0.2**
N17K	**Nushagak Hills**	**6.07**	**321**	Pn	**Pn**	**14 50 56.9**	**+0.6**
N25K	**Chitina, Valde**	**6.09**	**22**		**Pn**	**14 50 57.3**	**+0.6**
N25K	**Chitina, Valde**	**6.09**	**22**	P	**Pn**	**14 50 57.9**	**+1.3**
	baz=206						
KIAG	**Kiagna River**	**6.11**	**34**		**Pn**	**14 50 57.9**	**+0.8**
SAMH	**Samovar Hills**	**6.12**	**45**		**Pn**	**14 50 58.2**	**+1.0**
GLB	**Gilahina Butte**	**6.12**	**26**		**Pn**	**14 50 57.8**	**+0.6**
M20K	**Styx River**	**6.14**	**343**	Pn	**Pn**	**14 50 57.5**	**+0.1**
M24K	**Tolsona, Glenn**	**6.28**	**14**	Pn	**Pn**	**14 51 00.8**	**+1.5**
M18K	**Stony River**	**6.38**	**331**		**Pn**	**14 51 00.7**	**+0.1**
M19K	**Big River Lodg**	**6.39**	**338**	Pn	**Pn**	**14 51 01.0**	**+0.2**
O15K	**Ungalikthiuk R**	**6.40**	**303**		**Pn**	**14 51 02.0**	**+1.1**
BARN	**Barnard Glacie**	**6.44**	**36**		**Pn**	**14 51 02.2**	**+0.6**
PNL	**Peninsula**	**6.44**	**52**		**Pn**	**14 51 02.1**	**+0.6**
CTGM	**Chitina Glacie**	**6.48**	**37**	Pn	**Pn**	**14 51 03.0**	**+0.9**
BCPM	**Bancas Point**	**6.49**	**49**	Pn	**Pn**	**14 51 03.0**	**+1.0**
LOGN	**Logan Glacier**	**6.49**	**39**	Pn	**Pn**	**14 51 03.1**	**+0.8**
L19K	**White Mountain**	**6.74**	**338**	Pn	**Pn**	**14 51 05.5**	**-0.1**
M17K	**Holitna River**	**6.78**	**325**	Pn	**Pn**	**14 51 06.5**	**+0.4**
N15K	**Kwethluk River**	**6.99**	**310**	Pn	**Pn**	**14 51 09.9**	**+0.9**
M16K	**Timber Creek**	**7.04**	**319**	Pn	**Pn**	**14 51 10.4**	**+0.7**
DHY	**Denali Highway**	**7.11**	**7**	Pn	**Pn**	**14 51 11.7**	**+1.0**
O29M	**Mount Kennedy**	**7.12**	**49**		**Pn**	**14 51 11.8**	**+0.9**
PN7A	**Pavlof North-7**	**7.14**	**270**		**Pn**	**14 51 11.2**	**+0.1**
M26K	**Nabesna, AK**	**7.15**	**25**	Pn	**Pn**	**14 51 11.7**	**+0.4**
P29M	**Windy Craggy**	**7.18**	**55**		**Pn**	**14 51 11.6**	**+0.1**
L18K	**Granite Mounta**	**7.21**	**332**	Pn	**Pn**	**14 51 11.8**	**-0.2**
TRF	**Thorofare Moun**	**7.42**	**357**	Pn	**Pn**	**14 51 15.4**	**+0.4**
S31K	**Pelican**	**7.44**	**70**	Pn	**Pn**	**14 51 14.1**	**-1.0**
KTH	**Kantishna Hill**	**7.55**	**355**	Pn	**Pn**	**14 51 16.9**	**+0.3**
K20K	**Telida**	**7.68**	**344**	Pn	**Pn**	**14 51 18.9**	**+0.5**
L16K	**Owhat River**	**7.69**	**322**	Pn	**Pn**	**14 51 19.8**	**+1.3**
HYT	**Haines Junctio**	**7.85**	**48**	Pn	**Pn**	**14 51 22.0**	**+1.1**
L27K	**Beaver Creek,**	**8.00**	**26**	Pn	**Pn**	**14 51 24.6**	**+1.8**
BCAR	**Beaver Creek A**	**8.01**	**26**	Pn	**Pn**	**14 51 24.7**	**+1.7**
RIDG	**Independent Ri**	**8.03**	**15**		**Pn**	**14 51 24.2**	**+1.0**
K17K	**Iditarod**	**8.06**	**329**	Pn	**Pn**	**14 51 23.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**8.10**	**355**	Pn	**Pn**	**14 51 24.2**	**0.0**
SKAG	**Skagway**	**8.26**	**60**	Pn	**Pn**	**14 51 27.3**	**+1.0**
N30M	**Aishikik Lake**	**8.37**	**45**	Pn	**Pn**	**14 51 29.0**	**+1.1**
SCRK	**Sand Creek**	**8.38**	**17**	Pn	**Pn**	**14 51 28.7**	**+0.5**
O30N	**Mendenhall**	**8.42**	**51**	Pn	**Pn**	**14 51 29.8**	**+1.1**
HDA	**Harding Lake**	**8.46**	**7**	Pn	**Pn**	**14 51 29.4**	**+0.4**
J20K	**Nowinta River**	**8.47**	**346**	Pn	**Pn**	**14 51 29.0**	**-0.2**
M29M	**Somme Creek**	**8.49**	**37**	Pn	**Pn**	**14 51 30.9**	**+1.2**
NEA2	**Nenana**	**8.56**	**1**	Pn	**Pn**	**14 51 31.0**	**+0.6**
CCB	**Clear Creek Bu**	**8.64**	**5**	Pn	**Pn**	**14 51 32.3**	**+0.7**
J25K	**Salcha River,**	**8.80**	**11**	Pn	**Pn**	**14 51 33.7**	**-0.1**
IL31		**8.82**	**7**		**Pn**	**14 51 34.8**	**+0.9**
ILAR	**Eielson Array**	**8.82**	**7**	Pn	**Pn**	**14 51 35.0**	**+1.0**
ILAR	**Eielson Array**	**8.82**	**7**	Pn	**Pn**	**14 51 34.3**	**+0.3**
	comp=E,0.4nm,0.3s,baz=189,slow=13,SNR=11						
	comp=E,0.9nm,0.4s						
WHY	**Whitehorse**	**8.91**	**53**	Pn	**Pn**	**14 51 36.4**	**+1.1**
N31M	**Braeburn, Yuko**	**8.91**	**47**	Pn	**Pn**	**14 51 36.5**	**+1.2**
J26L	**Joseph Creek**	**8.94**	**16**	Pn	**Pn**	**14 51 37.0**	**+1.2**
MDM	**Murphy Dome**	**8.94**	**3**	Pn	**Pn**	**14 51 36.8**	**+1.1**
L29M	**L29M**	**9.07**	**34**	Pn	**Pn**	**14 51 39.2**	**+1.7**
P32M	**Atlin**	**9.08**	**61**	Pn	**Pn**	**14 51 38.2**	**+0.6**
I23K	**Minto, Yukon-K**	**9.11**	**0**	Pn	**Pn**	**14 51 38.0**	**+0.9**
M30M	**Minto, Yukon**	**9.16**	**39**	Pn	**Pn**	**14 51 39.5**	**+0.8**
J16K	**Anvik River**	**9.18**	**327**	Pn	**Pn**	**14 51 39.4**	**+0.5**
DAWY	**Dawson**	**9.44**	**28**	Pn	**Pn**	**14 51 43.5**	**+0.9**
PRP	**Porcupine Dome**	**9.67**	**10**	Pn	**Pn**	**14 51 46.6**	**+0.8**
P33M	**Teslin, Yukon**	**9.70**	**58**	Pn	**Pn**	**14 51 46.9**	**+0.8**
H21K	**Melozitna Rive**	**9.76**	**352**	Pn	**Pn**	**14 51 47.5**	**+0.6**
J14K	**Nanvaranak Lak**	**9.82**	**319**	Pn	**Pn**	**14 51 47.6**	**-0.1**
N32M	**Quiet Lake**	**9.91**	**52**	Pn	**Pn**	**14 51 49.8**	**+0.8**
IMAR	**Indian Mountai**	**10.17**	**350**	Pn	**Pn**	**14 51 52.8**	**+0.3**
R33M	**Jennings River**	**10.40**	**64**	Pn	**Pn**	**14 51 56.2**	**+0.4**
G21K	**Allakaket**	**10.66**	**351**	Pn	**Pn**	**14 52 00.6**	**+1.3**
G23K	**Bananza Creek**	**10.69**	**359**	Pn	**Pn**	**14 52 00.5**	**+0.9**
J30M	**Hart River**	**10.69**	**32**	Pn	**Pn**	**14 52 01.5**	**+1.8**
G24K	**Hadweenzic Riv**	**10.71**	**4**	Pn	**Pn**	**14 52 00.8**	**+1.0**
FYU	**Fort Yukon**	**10.72**	**9**	Pn	**Pn**	**14 52 00.5**	**+0.5**
BMAR	**Burnt Mountain**	**11.62**	**9**	Pn	**Pn**	**14 52 12.7**	**+0.3**
E19K	**Redstone River**	**12.00**	**345**	Pn	**Pn**	**14 52 19.1**	**+1.6**
INK	**Inuvik**	**14.27**	**24**	Pn	**Pn**	**14 52 50.2**	**+1.8**
	comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=6.4						
	comp=E,2.1nm,0.9s						
YKA	**Yellowknife Ar**	**18.72**	**56**	P	**P**	**14 53 45.5**	**+0.5**
	baz=263,slow=10,SNR=3.7						
	comp=E,0.2nm,0.7s						
A36M	**Sachs Harbour**	**18.91**	**23**	P	**P**	**14 53 47.9**	**+0.9**
A36M				IAmb	IAmb	14 54 00.9	
	comp=Z,3.4nm,0.9s						
MKAR	**Makanchi Array**	**68.73**	**325**	P	**P**	**15 00 29.5**	**-0.7**
MKAR	**Makanchi Array**	**68.73**	**325**	P	**P**	**15 00 29.0**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=32,slow=5.8,SNR=4.3						
	comp=Z,0.2nm,0.4s						

*IDC **23** 14:50:25.7±3.1,35°.89N×68°.58E,h0ᵏᵐ,mb3.8/3, mbtmp3.7/9,ML3.1/5,MS4.2/3,Error ellipse: s-maj=44.4km s-min=21.6km az=168.0*

**ISC 23 14:50:29.0±2.3,35°.9N±0°.2×68°.63E±0°.09,h30ᵏᵐ,n

CNPM					IAML			14 52 17.1	
	comp=E,95nm,0.6s								
CNPM					IAML			14 52 19.3	
	comp=N,56nm,0.7s								
CNPM	**China Poot**	**3.53**	**350**			**Sn**		**14 52 14.1**	**-0.4**
ACHA	**Angle Creek He**	**3.61**	**309**			**Pn**		**14 51 34.9**	**+1.1**
BRSE	**Bradley Lake S**	**3.71**	**354**			**Pn**		**14 51 36.4**	**+1.3**
BRSE						**Sn**		**14 52 17.4**	**-1.4**
BRSE	**Bradley Lake S**	**3.71**	**354**	P		**Pn**		**14 51 36.4**	**+1.3**
	baz=175								
BRSE				S		**Sn**		**14 52 17.4**	**-1.4**
	baz=175								
BRLK	**Bradley Lake**	**3.74**	**353**			**Pn**		**14 51 36.6**	**+1.1**
BRLK						**Sn**		**14 52 18.3**	**-1.3**
BRLK	**Bradley Lake**	**3.74**	**353**	IAML				14 52 23.0	
	comp=E,64nm,1.0s								
BRLK				IAML				14 52 23.0	
	comp=N,53nm,1.4s								
AUCH	**Augustine Cone**	**3.79**	**332**			**Pn**		**14 51 38.4**	**+2.1**
CNTC	**Contact Creek**	**3.89**	**307**			**Pn**		**14 51 38.8**	**+1.1**
Q17K	**Contact Creek**	**3.89**	**307**	P		**Pn**		**14 51 38.8**	**+1.1**
	baz=123								
MID	**Middleton Isla**	**3.90**	**29**			**Pn**		**14 51 40.4**	**+2.7**
MID	**Middleton Isla**	**3.90**	**29**	IAML				14 53 21.0	
	comp=N,147nm,1.3s								
P23K	**Montague Islan**	**4.18**	**18**			**Pn**		**14 51 43.7**	**+2.2**
P23K	**Montague Islan**	**4.18**	**18**	P		**Pn**		**14 51 43.7**	**+2.2**
	baz=201								
P18K	**Big Mountain,**	**4.35**	**322**	Pn		**Pn**		**14 51 45.4**	**+1.3**
P18K				IAML				14 52 42.6	
	comp=N,23nm,1.4s								
P18K	**Big Mountain,**	**4.35**	**322**	P		**Pn**		**14 51 45.3**	**+1.3**
	baz=139								
R16K	**Pilot Point**	**4.42**	**293**			**Pn**		**14 51 45.2**	**+0.3**
R16K	**Pilot Point**	**4.42**	**293**	P		**Pn**		**14 51 45.2**	**+0.3**
	baz=108								
O18K	**Koktuh Hills**	**4.70**	**326**	Pn		**Pn**		**14 51 49.6**	**+0.8**
O18K				IAML				14 52 46.3	
	comp=E,43nm,1.0s								
O18K				IAML				14 53 01.2	
	comp=N,48nm,0.9s								
HIN	**Hinchinbrook I**	**4.72**	**22**			**Pn**		**14 51 51.1**	**+2.1**
HIN	**Hinchinbrook I**	**4.72**	**22**	IAML				14 52 52.4	
	comp=E,76nm,1.4s								
HIN				IAML				14 53 18.8	
	comp=N,64nm,1.3s								
N19K	**Bonanza Creek**	**5.31**	**336**			**Pn**		**14 51 58.7**	**+1.5**
N19K	**Bonanza Creek**	**5.31**	**336**	P		**Pn**		**14 51 58.7**	**+1.5**
	baz=153								
N18K	**Kilae Creek**	**5.57**	**329**	Pn		**Pn**		**14 52 01.5**	**+0.9**
N18K	**Kilae Creek**	**5.57**	**329**	P		**Pn**		**14 52 01.9**	**+1.3**
	baz=144								
O16K	**Kokwok River B**	**5.58**	**313**	Pn		**Pn**		**14 52 01.7**	**+0.9**
O16K	**Kokwok River B**	**5.58**	**313**	P		**Pn**		**14 52 02.0**	**+1.1**
	baz=127								
N17K	**Nushagak Hills**	**5.86**	**323**			**Pn**		**14 52 05.8**	**+1.1**
N17K	**Nushagak Hills**	**5.86**	**323**	P		**Pn**		**14 52 05.8**	**+1.1**
	baz=137								
SKT	**Skwentna**	**5.98**	**353**	Pn		**Pn**		**14 52 04.6**	**-1.8**
M20K	**Styx River**	**6.05**	**346**			**Pn**		**14 52 08.7**	**+1.3**
M20K	**Styx River**	**6.05**	**346**	P		**Pn**		**14 52 08.7**	**+1.3**
	baz=164								
O15K	**Ungalikthiuk R**	**6.13**	**305**			**Pn**		**14 52 09.4**	**+1.1**
O15K	**Ungalikthiuk R**	**6.13**	**305**	P		**Pn**		**14 52 09.4**	**+1.1**
	baz=117								
M18K	**Stony River**	**6.22**	**333**			**Pn**		**14 52 10.8**	**+1.2**
M18K	**Stony River**	**6.22**	**333**	P		**Pn**		**14 52 10.8**	**+1.2**
	baz=149								
N16K	**Nishlik Lake**	**6.39**	**317**			**Pn**		**14 52 13.6**	**+1.6**
N16K	**Nishlik Lake**	**6.39**	**317**	P		**Pn**		**14 52 13.6**	**+1.6**
	baz=131								
M17K	**Holitna River**	**6.60**	**327**			**Pn**		**14 52 16.3**	**+1.5**
L19K	**White Mountain**	**6.62**	**340**	Pn		**Pn**		**14 52 15.9**	**+0.8**
BARN	**Barnard Glacie**	**6.64**	**38**			**Pn**		**14 52 11.7**	**-3.8**
N15K	**Kwethluk River**	**6.74**	**312**			**Pn**		**14 52 18.9**	**+2.2**
O14K	**Tigyukauivet M**	**6.83**	**303**	Pn		**Pn**		**14 52 19.4**	**+1.4**
L16K	**Owhat River**	**7.48**	**323**	Pn		**Pn**		**14 52 28.8**	**+1.9**
M14K	**Bethel**	**7.84**	**312**	Pn		**Pn**		**14 52 32.1**	**+0.4**
K17K	**Iditarod**	**7.89**	**331**	Pn		**Pn**		**14 52 32.8**	**+0.3**
M13K	**Dall Lake**	**8.28**	**307**	Pn		**Pn**		**14 52 39.6**	**+1.9**
L14K	**Kuka Creek**	**8.45**	**314**	Pn		**Pn**		**14 52 41.6**	**+1.5**
K15K	**Wolf Creek Mou**	**8.59**	**321**	Pn		**Pn**		**14 52 43.8**	**+1.7**
ILAR	**Eielson Array**	**8.87**	**9**	Pn		**Pn**		**14 52 44.0**	**-1.9**
	comp=N,0.1nm,0.3s,baz=194,slow=13,SNR=2.4								
ILAR					Sn	**Sn**		**14 54 22.3**	**-3.4**
	comp=N,0.1nm,0.3s,baz=200,slow=12,SNR=1.4								
	comp=N,0.2nm,0.5s								
IMAR	**Indian Mountai**	**10.11**	**351**	Pn		**Pn**		**14 53 02.9**	**0.0**
F19K	**Shaleruckik Mo**	**11.41**	**344**	Pn		**Pn**		**14 53 21.0**	**+0.4**
INK	**Inuvik**	**14.41**	**25**	Pn		**Pn**		**14 54 05.0**	**+3.4**
	comp=N,0.1nm,0.3s,baz=207,slow=16,SNR=5.1								
	comp=N,1.6nm,0.8s								
YKA	**Yellowknife Ar**	**18.99**	**56**	P		**Pn**		**14 55 02.7**	**+2.8**
	comp=N,0.1nm,0.3s,baz=265,slow=9.7,SNR=6.8								
	comp=N,0.5nm,0.8s								
NVAR	**Mina Array Bea**	**27.47**	**117**	P		P		14 56 28.4	+4.2
	comp=N,0.3nm,0.6s,baz=302,slow=10,SNR=3.3								
	comp=N,0.3nm,0.6s								
ULM	**Lac du Bonnet**	**32.24**	**77**	P		**P**		**14 57 03.4**	**-2.6**
TXAR	**Lajitas Array**	**42.13**	**110**	P		**P**		**14 58 30.5**	**+0.3**
	comp=N,0.2nm,0.6s,baz=287,slow=6.3,SNR=1.8								
	comp=N,0.2nm,0.6s								
SFJD	**Kangerlussuaq**	**43.50**	**34**	P		**P**		**14 58 37.0**	**-3.7**
SFJD				IAmb		IAmb		14 59 13.0	
	comp=Z,2.7nm,0.9s								
BORG	**Borgarnes**	**53.30**	**25**	LR		LR		15 23 07.0	
	comp=Z,307nm,20.7s,baz=163,slow=36								
SONM	**Songino Array**	**58.47**	**310**	P		**P**		**15 00 35.4**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=52,slow=9.3,SNR=2.3								
	comp=Z,0.3nm,0.6s								
HHC	**Hu-ho-hao-te**	**61.51**	**301**	*e*P		**P**		**15 00 52.9**	**-1.8**
HHC				pmax		pmax			
	comp=Z,35nm,0.5s								
HHC				pmax		pmax			
	comp=Z,560nm,5.5s								
ZALV	**Zalesovo Beam**	**61.52**	**327**	P		**P**		**15 00 55.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=17,slow=6.0,SNR=2.5								
	comp=Z,0.3nm,0.3s								
BVAR	**Borovoye Array**	**66.31**	**335**	P		**P**		**15 01 28.3**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=29,slow=9.1,SNR=2.2								
	comp=Z,0.3nm,0.5s								
MKAR	**Makanchi Array**	**68.54**	**324**	P		**P**		**15 01 41.9**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=39,slow=7.8,SNR=4.5								
	comp=Z,0.3nm,0.5s								
ABKAR	**Akbulak array**	**72.12**	**340**	P		**P**		**15 02 03.5**	**+1.5**
PZH	**PanZhiHua**	**77.87**	**299**	P		**P**		**15 02 35.4**	**-0.4**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,5.3s								

*NEIC **23** 15:02:13.9±0.8,20°.7S±0°.2×178°.6W±0°.2,h589km±12km, mb4.3/18, Error ellipse: s-maj=29.3km s-min=24.8km az=206.0*

*IDC **23** 15:02:18.2±5.8,20°.82S×178°.89W,h621km±62km,mb3.1/5, mbtmp4.1/6, Error ellipse: s-maj=43.9km s-min=36.1km az=21.0*

ISC 23 15:02:15.5±0.9,20°.7S±0°.2×178°.7W±0°.1,h600km,n34, σ1°04/35,mb4.2/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
PINNC	**Pines Island,**	**12.98**	**259**	P		**P**	**15**	**05**	**03.7**	**-0.4**
DZM	**Mont Dzumac**	**13.87**	**262**	P		**P**	**15**	**05**	**14.5**	**+1.3**
	3.4nm,0.6s,baz=94,slow=15,SNR=7.2									
KOUNC	**Koumac, New Ca**	**15.89**	**268**	P		**P**	**15**	**05**	**34.2**	**+2.3**
KOUNC				IAmb		IAmb	15	06	16.2	
	comp=Z,19nm,1.2s									
WHZ	**Wether Hill Ro**	**27.39**	**200**	P		**P**	**15**	**07**	**13.9**	**-0.5**
EIDS	**Eidsvold**	**28.12**	**255**	P		**P**	**15**	**07**	**21.3**	**+0.2**
EIDS				IAmb		IAmb	15	07	36.5	
	comp=Z,7.2nm,1.1s									
PMG	**Port Moresby**	**34.72**	**284**	P		**P**	**15**	**08**	**17.5**	**+0.3**
PMG				IAmb		IAmb	15	08	19.2	
	comp=Z,12nm,0.9s									
COEN	**Coen**	**36.90**	**274**	P		**P**	**15**	**08**	**35.6**	**+0.3**
STKA	**Stephens Creek**	**37.07**	**244**	P		**P**	**15**	**08**	**36.0**	**-0.4**
STKA	**Stephens Creek**	**37.07**	**244**	P		**P**	**15**	**08**	**36.7**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=73,slow=8.8,SNR=5.6									
	comp=Z,1.9nm,0.5s									
BBOO	**Buckleboo**	**41.83**	**244**	P		**P**	**15**	**09**	**14.1**	**-0.3**
BBOO				IAmb		IAmb	15	09	21.6	
	comp=Z,22nm,1.5s									
WR0	**Warramunga Arr**	**43.69**	**262**	P		**P**	**15**	**09**	**28.6**	**-0.5**
WR0				IAmb		IAmb	15	09	45.7	
	comp=Z,16nm,1.4s									
AS31	**Alice Springs**	**43.79**	**257**	P		**P**	**15**	**09**	**29.7**	**-0.2**
ASAR	**Alice Springs**	**43.79**	**257**	P		**P**	**15**	**09**	**29.3**	**-0.6**
ASAR	**Alice Springs**	**43.79**	**257**	P		**P**	**15**	**09**	**30.0**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=92,slow=8.3,SNR=124									
ASAR				PcP		**PcP**	**15**	**11**	**03.6**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=106,slow=3.1,SNR=7.3									
	comp=Z,4.1nm,0.6s									
WB0	**Warramunga Arr**	**43.86**	**263**	P		**P**	**15**	**09**	**30.2**	**-0.3**
WB0				IAmb		IAmb	15	09	30.5	
	comp=Z,6.1nm,0.8s									
WB2	**Warramunga Arr**	**43.87**	**262**	P		**P**	**15**	**09**	**30.2**	**-0.3**
WB2				IAmb		IAmb	15	09	31.0	
	comp=Z,5.6nm,0.9s									
WRAB	**Tennant Creek**	**43.87**	**262**	P		**P**	**15**	**09**	**30.4**	**-0.2**
WRAB				IAmb		IAmb	15	09	45.9	
	comp=Z,15nm,1.4s									
WRA	**Warramunga Arr**	**43.88**	**262**	P		**P**	**15**	**09**	**30.2**	**-0.4**
WRA	**Warramunga Arr**	**43.88**	**262**	P		**P**	**15**	**09**	**30.4**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=96,slow=7.6,SNR=80									
	comp=Z,3.1nm,0.5s									
MTN	**Manton Dam**	**48.47**	**271**	P		**P**	**15**	**10**	**05.0**	**-0.3**
KNRA	**Kununurra**	**49.95**	**267**	P		**P**	**15**	**10**	**16.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.31**	**263**	P		**P**	**15**	**10**	**33.7**	**+0.6**
FITZ				IAmb		IAmb	15	10	56.5	
	comp=Z,4.2nm,1.3s									
PSA00	**Pilbara Seismi**	**56.94**	**257**	P		**P**	**15**	**11**	**05.5**	**+0.1**
PSA00				IAmb		IAmb	15	11	07.3	
	comp=Z,21nm,1.2s									
QSPA	**South Pole Qui**	**69.35**	**180**	P		**P**	**15**	**12**	**24.2**	**+0.2**
QSPA	**South Pole Qui**	**69.35**	**180**	P		**P**	**15**	**12**	**24.3**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=334,slow=12,SNR=2.0									
	comp=Z,1.4nm,1.0s									
TXAR	**Lajitas Array**	**87.76**	**58**	P		**P**	**15**	**14**	**04.2**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=243,slow=4.0,SNR=3.4									
	comp=Z,0.3nm,0.8s									
BVAR	**Borovoye Array**	**118.80**	**320**	PKP		**PKiKP**	**15**	**19**	**56.4**	**0.0**
	comp=Z,0.8nm,0.4s,baz=107,slow=2.1,SNR=9.8									
AKASG	**Malin Array Be**	**142.86**	**330**	PKP		**PKPdf**	**15**	**20**	**39.4**	**-2.1**
	comp=Z,1.4nm,0.4s,baz=44,slow=4.3,SNR=14									
AKBB	**Malin Array Si**	**142.86**	**330**	PKPdf		**PKPdf**	**15**	**20**	**39.4**	**-2.1**
KIEV	**Kiev**	**142.87**	**330**	PKPdf		**PKPdf**	**15**	**20**	**39.6**	**-1.9**
AK05	**Malin Array Si**	**142.93**	**330**	PKPdf		**PKPdf**	**15**	**20**	**39.7**	**-2.0**
BRTR	**Keskin Array B**	**146.47**	**312**	PKPbc		**PKiKP**	**15**	**20**	**51.5**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=126,slow=5.9,SNR=4.2									
BURAR	**Bucovina Array**	**146.90**	**330**	PKPab		**PKPab**	**15**	**20**	**54.1**	**-0.9**
MMAI	**Mount Meron Ar**	**147.31**	**299**	PKPbc		**PKiKP**	**15**	**20**	**54.1**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=78,slow=8.9,SNR=1.5									

*IDC **23** 15:02:12.6±4.7,55°.81N×148°.77W,h0km,mb3.3/2, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=80.4km s-min=40.7km az=140.0*

*NEIC **23** 15:02:19.3±1.6,56°.38N±0°.08×149°.4W±0°.1,h10km±2km, ML3.6/44, ML3.3(AEIC), Error ellipse: s-maj=14.3km s-min=10.0km az=161.0*

*AEIC **23** 15:02:22.6±1.9,56°.24N±0°.09×149°.2W±0°.1,h12km±8km, Error ellipse: s-maj=14.7km s-min=8.4km az=153.0*

ISC 23 15:02:18.4±1.3,56°.34N±0°.09×149°.33W±0°.06,h10km, n115,σ0°80/117,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
KDAK	**Kodiak Island**	**2.29**	**310**			**Pn**	**15**	**02**	**56.4**	**+0.2**
KDAK	**Kodiak Island**	**2.29**	**310**			**Sn**	**15**	**03**	**24.3**	**-0.1**
KDAK	**Kodiak Island**	**2.29**	**310**	S		**Sn**	**15**	**03**	**24.3**	**-0.1**
	baz=128									
KDAK	**Kodiak Island**	**2.29**	**310**	Pn		**Pn**	**15**	**02**	**57.5**	**+1.3**
	2.4nm,0.3s,baz=72,slow=7.5,SNR=7.3									
KDAK				Sn		**Sn**	**15**	**03**	**24.6**	**+0.1**
	5.1nm,0.3s,baz=48,slow=21,SNR=10									
	5.5nm,0.3s									
OHAK	**Old Harbor**	**2.35**	**294**			**Pn**	**15**	**02**	**57.2**	**+0.2**
OHAK						**Sn**	**15**	**03**	**24.5**	**-1.4**
OHAK	**Old Harbor**	**2.35**	**294**	P		**Pn**	**15**	**02**	**57.2**	**+0.2**
	baz=112									
OHAK				S		**Sn**	**15**	**03**	**24.5**	**-1.4**
	baz=112									
SYI	**Shuyak Island**	**2.81**	**325**			**Pn**	**15**	**03**	**02.9**	**-0.5**
SYI	**Shuyak Island**	**2.81**	**325**			**Sn**	**15**	**03**	**37.4**	**+0.1**
Q20K	**Shuyak Island**	**2.81**	**325**	P		**Pn**	**15**	**03**	**04.4**	**+1.0**
	baz=143									
Q20K				S		**Sn**	**15**	**03**	**37.4**	**+0.1**
	baz=143									
CNPM	**China Poot**	**3.35**	**343**			**Pn**	**15**	**03**	**09.1**	**-1.7**
CNPM				IAML			15	03	56.5	
	comp=E,54nm,1.4s									
CNPM	**China Poot**	**3.35**	**343**			**Sn**	**15**	**03**	**49.6**	**-1.1**
Q19K	**Cape Douglas,**	**3.48**	**320**	Pn		**Pn**	**15**	**03**	**11.8**	**-0.7**
Q19K				IAML			15	04	20.6	
	comp=N,177nm,1.3s									
Q23K	**Middleton Isla**	**3.48**	**26**			**Pn**	**15**	**03**	**12.4**	**-0.1**
Q23K	**Middleton Isla**	**3.48**	**26**	IAML			15	05	25.9	
	comp=N,156nm,1.4s									
Q23K	**Middleton Isla**	**3.48**	**26**	P		**Pn**	**15**	**03**	**12.4**	**-0.1**
	baz=207									
MID	**Middleton Isla**	**3.48**	**26**			**Pn**	**15**	**03**	**12.2**	**-0.4**
MID	**Middleton Isla**	**3.48**	**26**	IAML			15	04	40.2	
	comp=N,164nm,1.4s									
BRSE	**Bradley Lake S**	**3.49**	**348**			**Pn**	**15**	**03**	**13.2**	**+0.5**
BRSE						**Sn**	**15**	**03**	**53.0**	**-1.2**
BRSE	**Bradley Lake S**	**3.49**	**348**	P		**Pn**	**15**	**03**	**13.2**	**+0.5**
	baz=166									
BRSE				S		**Sn**	**15**	**03**	**53.0**	**-1.2**
	baz=166									
BRLK	**Bradley Lake**	**3.53**	**347**	Pn		**Pn**	**15**	**03**	**11.2**	**-2.1**
SEW	**Seward**	**3.78**	**359**			**Pn**	**15**	**03**	**15.9**	**-0.6**
SEW	**Seward**	**3.78**	**359**	P		**Pn**	**15**	**03**	**16.7**	**+0.1**
	baz=178									
P23K	**Montague Islan**	**3.81**	**15**			**Pn**	**15**	**03**	**17.0**	**0.0**
P23K	**Montague Islan**	**3.81**	**15**	P		**Pn**	**15**	**03**	**17.0**	**0.0**
	baz=195									
P19K	**Oil Pt**	**3.92**	**330**			**Pn**	**15**	**03**	**17.6**	**-0.9**
P19K	**Oil Pt**	**3.92**	**330**	P		**Pn**	**15**	**03**	**19.2**	**+0.6**
	baz=146									
CNTC	**Contact Creek**	**4.04**	**301**			**Pn**	**15**	**03**	**22.0**	**+1.6**
Q17K	**Contact Creek**	**4.05**	**301**	P		**Pn**	**15**	**03**	**22.0**	**+1.6**
	baz=116									
O22K	**Cooper Landing**	**4.16**	**357**			**Pn**	**15**	**03**	**22.6**	**+0.7**
O22K	**Cooper Landing**	**4.16**	**357**	P		**Pn**	**15**	**03**	**22.6**	**+0.7**
	baz=176									
HIN	**Hinchinbrook I**	**4.33**	**19**			**Pn**	**15**	**03**	**24.5**	**+0.2**
P18K	**Big Mountain,**	**4.39**	**317**			**Pn**	**15**	**03**	**25.8**	**+0.7**
P18K	**Big Mountain,**	**4.39**	**317**	P		**Pn**	**15**	**03**	**25.8**	**+0.7**
	baz=132									
KAIM	**Kayak Island**	**4.44**	**34**			**Pn**	**15**	**03**	**25.7**	**0.0**
KAIM	**Kayak Island**	**4.44**	**34**	P		**Pn**	**15**	**03**	**25.7**	**0.0**
	baz=216									
RDSO	**Redoubt South**	**4.50**	**338**			**Pn**	**15**	**03**	**27.4**	**+0.7**
RSO	**Redoubt South**	**4.51**	**338**	Pn		**Pn**	**15**	**03**	**26.7**	**-0.2**
DFR	**Drift River**	**4.61**	**339**			**Pn**	**15**	**03**	**28.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.62**	**23**			**Pn**	**15**	**03**	**28.6**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.62**	**23**	P		**Pn**	**15**	**03**	**28.6**	**+0.4**
	baz=204									
FID	**Port Fidalgo**	**4.67**	**17**	Pn		**Pn**	**15**	**03**	**28.5**	**-0.3**
FID				IAML			15	06	05.5	
	comp=N,42nm,1.3s									
RAGM	**Ragged Mountai**	**4.74**	**29**			**Pn**	**15**	**03**	**29.6**	**-0.3**
RAGM	**Ragged Mountai**	**4.74**	**29**	IAML			15	04	42.1	
	comp=E,70nm,1.2s									
RC01	**Rabbit Creek A**	**4.77**	**358**			**Pn**	**15**	**03**	**30.4**	**+0.2**
RC01	**Rabbit Creek A**	**4.77**	**358**	P		**Pn**	**15**	**03**	**30.7**	**+0.5**
	baz=176									
FIS	**Fire Island**	**4.84**	**355**	Pn		**Pn**	**15**	**03**	**29.9**	**-1.3**
BERG	**Berg Lake**	**5.03**	**34**	Pn		**Pn**	**15**	**03**	**33.8**	**-0.1**
CHGN	**Chignik**	**5.06**	**273**	Pn		**Pn**	**15**	**03**	**35.4**	**+1.2**
KNK	**Knik Glacier**	**5.11**	**5**			**Pn**	**15**	**03**	**34.5**	**-0.4**
KNK				IAML			15	06	17.4	
	comp=E,23nm,0.8s									
KNK				IAML			15	06	31.9	
	comp=N,18nm,1.4s									
KNK	**Knik Glacier**	**5.11**	**5**	P		**Pn**	**15**	**03**	**35.6**	**+0.7**
	baz=185									
DIV	**Divide**	**5.15**	**20**			**Pn**	**15**	**03**	**36.0**	**+0.5**
SNH	**Sunshine Point**	**5.15**	**39**			**Pn**	**15**	**03**	**35.2**	**-0.4**
SNH	**Sunshine Point**	**5.15**	**39**	IAML			15	04	53.7	
	comp=N,52nm,1.5s									
SNH				IAML			15	06	08.0	
	comp=E,63nm,1.4s									
BMRM	**Bremner River**	**5.25**	**26**			**Pn**	**15**	**03**	**37.3**	**+0.3**
BMRM	**Bremner River**	**5.25**	**26**	P		**Pn**	**15**	**03**	**37.3**	**+0.3**
	baz=209									
PMR	**Palmer**	**5.27**	**1**	Pn		**Pn**	**15**	**03**	**36.8**	**-0.3**
PMR				IAML			15	06	10.2	
	comp=E,13nm,1.5s									
BARK	**Barkley Ridge**	**5.43**	**39**			**Pn**	**15**	**03**	**39.4**	**-0.1**
GHO	**Glory Hole Cre**	**5.45**	**2**			**Pn**	**15**	**03**	**40.6**	**+0.9**
KLU	**Klutina**	**5.46**	**17**			**Pn**	**15**	**03**	**40.6**	**+0.8**
KLU	**Klutina**	**5.46**	**17**	P		**Pn**	**15**	**03**	**40.6**	**+0.8**
	baz=199									
SML	**Sawmill**	**5.51**	**5**			**Pn**	**15**	**03**	**41.7**	**+1.2**
SML	**Sawmill**	**5.51**	**5**	P		**Pn**	**15**	**03**	**41.7**	**+1.2**
	baz=185									
N18K	**Kilae Creek**	**5.54**	**324**	Pn		**Pn**	**15**	**03**	**41.7**	**+0.8**
SCM	**Sheep Creek Mo**	**5.61**	**10**	Pn		**Pn**	**15**	**03**	**42.5**	**+0.6**
O16K	**Kokwok River B**	**5.69**	**309**			**Pn**	**15**	**03**	**44.3**	**+1.4**
O16K	**Kokwok River B**	**5.69**	**309**	P		**Pn**	**15**	**03**	**44.3**	**+1.4**
	baz=122									
SVW2	**Sparrevohn**	**5.78**	**328**	Pn		**Pn**	**15**	**03**	**44.6**	**+0.5**
VRDI	**Verde Repeater**	**5.78**	**29**	Pn		**Pn**	**15**	**03**	**45.2**	**+1.0**
N25K	**Chitina, Valde**	**5.82**	**23**	Pn		**Pn**	**15**	**03**	**45.7**	**+1.0**
GLB	**Gilahina Butte**	**5.86**	**27**			**Pn**	**15**	**03**	**45.4**	**+0.2**
N17K	**Nushagak Hills**	**5.88**	**319**	Pn		**Pn**	**15**	**03**	**46.0**	**+0.4**
M24K	**Tolsona, Glenn**	**6.01**	**14**	Pn		**Pn**	**15**	**03**	**48.0**	**+0.7**
CHNA	**Chernabura Isl**	**6.01**	**260**	P		**Pn**	**15**	**03**	**47.2**	**-0.1**
	baz=72									
CNBA	**Chernabura Isl**	**6.01**	**260**			**Pn**	**15**	**03**	**47.2**	**-0.1**
PTPK	**Patty Peak**	**6.03**	**33**			**Pn**	**15**	**03**	**47.5**	**-0.2**
PCA	**Pinnacle**	**6.09**	**48**			**Pn**	**15**	**03**	**48.1**	**-0.4**
PINM	**Pinnacle**	**6.10**	**48**	P		**Pn**	**15**	**03**	**48.1**	**-0.4**
	baz=235									
BARN	**Barnard Glacie**	**6.19**	**37**	Pn		**Pn**	**15**	**03**	**50.3**	**+0.4**
CTGM	**Chitina Glacie**	**6.24**	**39**	Pn		**Pn**	**15**	**03**	**50.5**	**0.0**
LOGN	**Logan Glacier**	**6.26**	**41**	Pn		**Pn**	**15**	**03**	**50.8**	**0.0**
BCPM	**Bancas Point**	**6.28**	**51**	Pn		**Pn**	**15**	**03**	**51.4**	**+0.4**
HARP	**HAARP**	**6.44**	**18**			**Pn**	**15**	**03**	**53.9**	**+0.8**
HARP	**HAARP**	**6.44**	**18**	P		**Pn**	**15**	**03**	**53.9**	**+0.8**
	baz=200									
L19K	**White Mountain**	**6.51**	**337**	Pn		**Pn**	**15**	**03**	**53.6**	**-0.5**
M17K	**Holitna River**	**6.59**	**324**	Pn		**Pn**	**15**	**03**	**55.1**	**-0.1**
M26K	**Nabesna, AK**	**6.88**	**25**	Pn		**Pn**	**15**	**04**	**00.5**	**+1.2**
O29M	**Mount Kennedy**	**6.92**	**51**	Pn		**Pn**	**15**	**04**	**00.3**	**+0.5**
M27K	**Edge Creek, AK**	**7.13**	**29**	Pn		**Pn**	**15**	**04**	**04.1**	**+1.3**
MENT	**Mentasta**	**7.20**	**21**	Pn		**Pn**	**15**	**04**	**04.8**	**+1.1**

comp=E,0.1nm,0.3s,baz=189,slow=22,SNR=2.2
comp=E,0.8nm,0.7s

J26L	**Joseph Creek**	**8.59**	**17**	Pn	**Pn**	**15 05 54.5**	**+0.3**
H21K	**Melozitna Rive**	**9.39**	**351**	Pn	**Pn**	**15 06 07.1**	**+2.0**
H24K	**Noodor Dome**	**9.46**	**4**	Pn	**Pn**	**15 06 08.6**	**+2.5**
Q32M	**Nakina River**	**9.53**	**68**	Pn	**Pn**	**15 06 07.4**	**+0.3**
R33M	**Jennings River**	**10.25**	**66**	Pn	**Pn**	**15 06 16.2**	**-0.8**
G23K	**Bananza Creek**	**10.31**	**359**	Pn	**Pn**	**15 06 18.6**	**+0.9**
G24K	**Hadweenzic Riv**	**10.34**	**4**	Pn	**Pn**	**15 06 20.0**	**+2.0**
G19K	**Purcell Mounta**	**10.40**	**343**	Pn	**Pn**	**15 06 20.3**	**+1.4**
INK	**Inuvik**	**13.94**	**25**	Pn	**P**	**15 07 12.4**	**-2.8**
	baz=259,slow=10,SNR=1.3						
	comp=E,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**18.52**	**57**	P	**Pn**	**15 08 07.0**	**+0.8**
	baz=258,slow=10,SNR=2.7						
	comp=E,0.3nm,0.9s						
MJAR	**Matsushiro Arr**	**51.06**	**279**	LR	LR	15 35 28.9	
	comp=E,67nm,20.3s,baz=65,slow=37						
MKAR	**Makanchi Array**	**68.42**	**325**	P	**P**	**15 14 53.1**	**+1.7**
	comp=E,1.2nm,1.2s,baz=44,slow=4.6,SNR=2.8						
	comp=E,1.2nm,1.2s						

*IDC **23** 15:04:52.3±2.5,36°.77N×68°.81E,h0km,mb3.5/2, mbtmp3.4/6,ML2.5/4, Error ellipse: s-maj=56.9km s-min=24.5km az=110.0*

ISC 23 15:04:54.7±2.1,37°.0N±0°.2×68°.1E±0°.3,h35km,n6,σ2ᵌ39/7, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**7.49**	**39**	Pn	**Pn**	**15 06 42.6**	**+1.1**
	0.8nm,0.3s,baz=222,slow=6.0,SNR=14						
AAK				Sn	**Sn**	**15 08 05.9**	**+0.7**
	0.1nm,0.3s,baz=289,slow=20,SNR=1.3						
AAK				Lg	Lg	15 08 45.0	
	0.1nm,0.3s,baz=195,slow=20,SNR=2.2						
	3.3nm,0.5s						
MKAR	**Makanchi Array**	**14.39**	**43**	Pn	**Pn**	**15 08 13.5**	**-2.4**
	baz=230,slow=11,SNR=5.8						
	0.9nm,1.0s						
KURBB	**Kurchatov Arra**	**15.54**	**26**	Pn	**Pn**	**15 08 27.2**	**-3.9**
	baz=214,slow=9.7,SNR=2.2						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**16.10**	**5**	Pn	**Pn**	**15 08 38.6**	**+0.3**
	baz=182,slow=8.7,SNR=1.6						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**20.53**	**29**	P	**P**	**15 09 30.1**	**+0.3**
	2.0nm,1.0s,baz=222,slow=11,SNR=5.8						
	2.0nm,1.0s						
ASAR	**Alice Springs**	**86.48**	**123**	P	**P**	**15 17 34.3**	**+0.3**
	0.4nm,1.0s,baz=316,slow=5.2,SNR=1.7						
	0.4nm,1.0s						

*IDC **23** 15:06:53.8±1.6,55°.79N×149°.89W,h0km,mb3.7/3, mbtmp3.4/7,ML2.8/4, Error ellipse: s-maj=31.3km s-min=26.6km az=97.0*

*NEIC **23** 15:06:53.5±2.4,55°.8N±0°.2×149°.9W±0°.1,h6km±9km, ML3.5/20,ML3.0(AEIC), Error ellipse: s-maj=23.1km s-min=11.9km az=184.0*

*AEIC **23** 15:07:01.8±2.5,56°.1N±0°.1×149°.7W±0°.1,h10km±9km, Error ellipse: s-maj=20.5km s-min=11.3km az=177.0*

ISC 23 15:06:55.8±1.3,56°.1N±0°.1×149°.78W±0°.07,h10km,n28, σ1ᵌ50/30,mb3.9/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.26**	**302**	Pn	**Pn**	**15 07 32.4**	**-0.7**
KDAK	**Kodiak Island**	**2.30**	**319**	Pn	**Pn**	**15 07 35.0**	**+1.3**
KDAK	**Kodiak Island**	**2.30**	**319**	Pn	**Pn**	**15 07 35.3**	**+1.5**
	2.8nm,0.3s,baz=153,slow=6.8,SNR=1.9						
KDAK				Sn	**Sn**	**15 08 02.1**	**0.0**
	7.7nm,0.3s,baz=118,slow=16,SNR=9.0						
	9.6nm,0.4s						
SYI	**Shuyak Island**	**2.91**	**332**	Pn	**Pn**	**15 07 44.5**	**+2.3**
SYI				IAML		15 08 21.1	
	comp=E,85nm,1.2s						
CNPM	**China Poot**	**3.55**	**348**	Pn	**Pn**	**15 07 52.8**	**+1.9**
CNPM				IAML		15 08 34.9	
	comp=N,84nm,1.5s						
CNPM				IAML		15 08 43.1	
	comp=E,64nm,1.2s						
BRLK	**Bradley Lake**	**3.75**	**351**	Pn	**Pn**	**15 07 52.6**	**-1.1**
BRLK				IAML		15 08 40.3	
	comp=E,53nm,0.6s						
BRLK				IAML		15 08 42.7	
	comp=N,39nm,1.0s						
MID	**Middleton Isla**	**3.83**	**27**	Pn	**Pn**	**15 07 56.4**	**+1.6**
O22K	**Cooper Landing**	**4.42**	**0**	Pn	**Pn**	**15 08 04.3**	**+1.5**
HIN	**Hinchinbrook I**	**4.67**	**20**	Pn	**Pn**	**15 08 06.3**	**+0.1**
HIN				IAML		15 09 18.3	
	comp=N,60nm,1.5s						
RSO	**Redoubt South**	**4.67**	**342**	Pn	**Pn**	**15 08 06.8**	**+0.3**
FID	**Port Fidalgo**	**5.00**	**19**	Pn	**Pn**	**15 08 11.2**	**+0.4**
FID				IAML		15 09 06.7	
	comp=E,47nm,1.0s						
FID				IAML		15 09 14.8	
	comp=N,35nm,1.1s						
RC01	**Rabbit Creek A**	**5.03**	**0**	Pn	**Pn**	**15 08 12.4**	**+1.2**
RC01				IAML		15 09 11.8	
	comp=N,23nm,0.6s						
RC01				IAML		15 09 16.6	
	comp=E,31nm,0.6s						
SUA	**Susitna One**	**5.43**	**355**	Pn	**Pn**	**15 08 18.3**	**+1.5**
O16K	**Kokwok River B**	**5.67**	**312**		**Pn**	**15 08 19.2**	**-0.8**
N17K	**Nushagak Hills**	**5.93**	**322**	Pn	**Pn**	**15 08 22.3**	**-1.3**
M19K	**Big River Lodg**	**6.32**	**340**	Pn	**Pn**	**15 08 30.2**	**+1.4**
P29M	**Windy Craggy**	**7.34**	**56**	Pn	**Pn**	**15 08 45.2**	**+2.3**
BPAW	**Bear Paw Mtn.**	**8.08**	**356**	Pn	**Pn**	**15 08 55.6**	**+2.6**
RIDG	**Independent Ri**	**8.08**	**16**	Pn	**Pn**	**15 08 53.8**	**+0.7**
BCAR	**Beaver Creek A**	**8.10**	**27**	Pn	**Pn**	**15 08 55.9**	**+2.6**
ILAR	**Eielson Array**	**8.84**	**8**	Pn	**Pn**	**15 09 04.4**	**+1.0**
	comp=E,0.2nm,0.3s,baz=193,slow=13,SNR=3.3						
ILAR				Sn	**Sn**	**15 10 42.1**	**-1.0**
	baz=191,slow=23,SNR=3.2						
	comp=E,0.4nm,0.4s						
M30M	**Minto, Yukon**	**9.29**	**40**	Pn	**Pn**	**15 09 09.5**	**-0.1**
INK	**Inuvik**	**14.35**	**25**	Pn	**P**	**15 10 23.3**	**-2.5**
	baz=211,slow=14,SNR=2.7						
	comp=E,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**18.89**	**56**	P	**Pn**	**15 11 17.0**	**+0.5**
	baz=268,slow=11,SNR=3.9						
	comp=E,0.2nm,0.7s						
SONM	**Songino Array**	**58.56**	**310**	P	**P**	**15 16 53.8**	**+1.4**
	comp=E,0.5nm,0.8s,baz=44,slow=6.8,SNR=2.8						
	comp=E,0.5nm,0.8s						
BVAR	**Borovoye Array**	**66.36**	**335**	P	**P**	**15 17 44.6**	**+0.4**
	comp=E,0.9nm,0.8s,baz=20,slow=4.9,SNR=3.9						
	comp=E,0.9nm,0.8s						
MKAR	**Makanchi Array**	**68.61**	**324**	P	**P**	**15 17 58.1**	**-0.4**
	comp=E,0.7nm,0.9s,baz=28,slow=5.5,SNR=5.4						
	comp=E,0.7nm,0.9s						
QSPA	**South Pole Qui**	**145.86**	**180**	PKPbc	**PKPab**	**15 26 32.6**	**-1.7**
	comp=E,0.7nm,0.7s,baz=350,slow=1.9,SNR=2.3						

*NEIC **23** 15:15:38.6±1.6,56°.40N±0°.06×150°.2W±0°.1,h10km±2km, ML3.4/38,ML3.0(AEIC), Error ellipse: s-maj=13.1km s-min=5.6km az=228.0*

AEIC 23 15:15:37.7±1.4,55°.98N±0°.07×149°.9W±0°.1,h10km±8km, Error ellipse: s-maj=11.5km s-min=9.7km az=103.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.23**	**305**		Pn	15 16 09.2	-5.6
OHAK					Sn	15 16 33.9	-8.4
KDAK	**Kodiak Island**	**2.32**	**322**		Pn	15 16 11.3	-4.6
KDAK					Sn	15 16 37.6	-6.9
SYI	**Shuyak Island**	**2.96**	**334**		Pn	15 16 19.0	-5.7
SYI					Sn	15 16 53.6	-6.6
KAHG	**Katmai Hook Gl**	**3.56**	**317**		Pn	15 16 28.9	-4.1
Q19K	**Cape Douglas,**	**3.58**	**327**		Pn	15 16 28.8	-4.4
Q19K	**Cape Douglas,**	**3.58**	**327**	IAML		15 17 19.7	
	comp=N,180nm,1.3s						
Q19K				IAML		15 17 49.0	
	comp=E,242nm,1.4s						
CNPM	**China Poot**	**3.63**	**350**		Pn	15 16 28.4	-5.6
ACHA	**Angle Creek He**	**3.70**	**310**		Pn	15 16 30.6	-4.3
ANCK	**Angle Creek**	**3.76**	**309**		Pn	15 16 32.0	-3.9
BRLK	**Bradley Lake**	**3.83**	**353**	Pn	Pn	15 16 30.9	-5.9
KAHC	**Katmai Hardscr**	**3.84**	**316**		Pn	15 16 33.5	-3.4
Q23K	**Middleton Isla**	**3.96**	**28**	Pn	Pn	15 16 34.5	-3.9
Q23K				IAML		15 19 00.1	
	comp=N,143nm,1.1s						
MID	**Middleton Isla**	**3.96**	**28**	Pn	Pn	15 16 34.6	-3.9
MID				IAML		15 17 48.0	
	comp=N,145nm,1.4s						
CNTC	**Contact Creek**	**3.97**	**308**		Pn	15 16 34.3	-4.4
P19K	**Oil Pt**	**4.09**	**336**		Pn	15 16 35.6	-4.6
P19K	**Oil Pt**	**4.09**	**336**	IAML		15 17 57.1	
	comp=N,99nm,0.6s						
P19K				IAML		15 17 57.9	
	comp=E,87nm,0.7s						
P23K	**Montague Islan**	**4.25**	**17**		Pn	15 16 38.0	-4.5
O20K	**Slope Mountain**	**4.36**	**342**		Pn	15 16 39.4	-4.6
P18K	**Big Mountain,**	**4.45**	**323**		Pn	15 16 40.6	-4.6
RSO	**Redoubt South**	**4.74**	**343**	Pn	Pn	15 16 43.9	-5.4
HIN	**Hinchinbrook I**	**4.79**	**21**	Pn	Pn	15 16 45.6	-4.3
HIN				IAML		15 18 04.9	
	comp=N,64nm,1.5s						
HIN				IAML		15 18 29.6	
	comp=E,52nm,1.5s						
O18K	**Koktuh Hills**	**4.80**	**326**	Pn	Pn	15 16 45.4	-4.6
O18K				IAML		15 17 42.7	
	comp=E,28nm,1.4s						
O18K				IAML		15 19 11.7	
	comp=N,21nm,1.1s						
O19K	**Port Alsworth**	**4.83**	**333**	Pn	Pn	15 16 45.2	-5.2
KAIM	**Kayak Island**	**4.93**	**34**	Pn	Pn	15 16 48.4	-3.4
FID	**Port Fidalgo**	**5.12**	**19**	Pn	Pn	15 16 49.9	-4.5
RAGM	**Ragged Mountai**	**5.23**	**30**	Pn	Pn	15 16 51.9	-4.0
N19K	**Bonanza Creek**	**5.41**	**336**	Pn	Pn	15 16 52.6	-5.8
N19K				IAML		15 18 33.7	
	comp=E,11nm,1.4s						
N19K				IAML		15 19 06.2	
	comp=N,14nm,1.3s						
BERG	**Berg Lake**	**5.52**	**34**	Pn	Pn	15 16 57.0	-2.9
O16K	**Kokwok River B**	**5.67**	**313**	Pn	Pn	15 16 57.6	-4.3
O16K				IAML		15 17 40.3	
	comp=E,11nm,1.4s						
O16K				IAML		15 19 53.3	
	comp=N,8.8nm,1.3s						
SVW2	**Sparrevohn**	**5.92**	**332**	Pn	Pn	15 17 00.7	-4.7
VRDI	**Verde Repeater**	**6.26**	**30**	Pn	Pn	15 17 06.6	-3.6
N25K	**Chitina, Valde**	**6.29**	**24**	Pn	Pn	15 17 06.7	-3.9
BARN	**Barnard Glacie**	**6.69**	**37**	Pn	Pn	15 17 13.2	-2.9
M17K	**Holitna River**	**6.70**	**327**	Pn	Pn	15 17 11.7	-4.3
CTGM	**Chitina Glacie**	**6.74**	**38**	Pn	Pn	15 17 14.0	-2.7
LOGN	**Logan Glacier**	**6.76**	**40**	Pn	Pn	15 17 13.9	-3.1
N15K	**Kwethluk River**	**6.83**	**312**	Pn	Pn	15 17 14.5	-3.3
O14K	**Tigyukauivet M**	**6.91**	**303**	Pn	Pn	15 17 15.1	-3.9
M16K	**Timber Creek**	**6.92**	**321**	Pn	Pn	15 17 15.2	-3.8
O29M	**Mount Kennedy**	**7.41**	**50**	Pn	Pn	15 17 24.0	-1.9
L16K	**Owhat River**	**7.58**	**323**	Pn	Pn	15 17 23.4	-4.7
M13K	**Dall Lake**	**8.36**	**308**	Pn	Pn	15 17 35.2	-3.5

*NEIC **23** 15:16:07.9±2.8,56°.32N±0°.09×149°.4W±0°.1,h10km±2km, ML3.5/24, Error ellipse: s-maj=14.8km s-min=11.0km az=179.0*

*IDC **23** 15:16:08.1±1.7,56°.14N×149°.94W,h0km,mb3.4/2, mbtmp3.3/6,ML3.1/4, Error ellipse: s-maj=29.7km s-min=26.7km az=103.0*

ISC 23 15:16:08.3±1.2,56°.3N±0°.1×149°.42W±0°.07,h10km,n44, σ1ᵌ67/40,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.25**	**311**	Pn	**Pn**	**15 16 45.6**	**-0.1**
KDAK				Sn	**Sn**	**15 17 12.1**	**-1.3**
KDAK	**Kodiak Island**	**2.25**	**311**	Pn	**Pn**	**15 16 45.5**	**-0.1**
	6.9nm,0.3s,baz=174,slow=19,SNR=4.1						
KDAK				Sn	**Sn**	**15 17 11.6**	**-1.8**
	7.1nm,0.3s,baz=143,slow=20,SNR=5.6						
	14nm,0.3s						
OHAK	**Old Harbor**	**2.31**	**294**	Pn	**Pn**	**15 16 44.8**	**-1.5**
SYI	**Shuyak Island**	**2.79**	**326**	Pn	**Pn**	**15 16 52.8**	**-0.1**
SYI				IAML		15 17 27.9	
	comp=E,73nm,1.3s						
CNPM	**China Poot**	**3.34**	**344**	Pn	**Pn**	**15 17 01.0**	**+0.4**
CNPM				IAML		15 18 07.5	
	comp=E,59nm,1.4s						
Q19K	**Cape Douglas,**	**3.45**	**321**	Pn	**Pn**	**15 17 03.3**	**+1.2**
Q19K				IAML		15 18 41.5	
	comp=N,168nm,1.4s						
Q23K	**Middleton Isla**	**3.51**	**27**	Pn	**Pn**	**15 17 01.4**	**-1.4**
Q23K				IAML		15 17 47.9	
	comp=E,178nm,1.5s						
MID	**Middleton Isla**	**3.51**	**27**	Pn	**Pn**	**15 17 01.2**	**-1.6**
MID				IAML		15 19 00.1	
	comp=N,162nm,1.2s						
BRLK	**Bradley Lake**	**3.52**	**348**	Pn	**Pn**	**15 17 02.1**	**-1.0**
BRLK				IAML		15 17 51.2	
	comp=E,52nm,0.8s						
BRLK				IAML		15 17 53.2	
	comp=N,43nm,0.7s						
O22K	**Cooper Landing**	**4.16**	**358**	Pn	**Pn**	**15 17 12.5**	**+0.8**
FID	**Port Fidalgo**	**4.68**	**18**	Pn	**Pn**	**15 17 20.4**	**+1.4**
FID				IAML		15 18 19.7	
	comp=N,38nm,1.4s						
FID				IAML		15 18 24.0	
	comp=E,44nm,1.2s						
RC01	**Rabbit Creek A**	**4.77**	**358**	Pn	**Pn**	**15 17 20.0**	**-0.1**
RC01				IAML		15 18 21.5	
	comp=N,34nm,1.3s						
RC01				IAML		15 18 28.7	
	comp=E,26nm,1.4s						
CHGN	**Chignik**	**5.01**	**273**	Pn	**Pn**	**15 17 24.4**	**+1.0**
CHGN				IAML		15 18 19.0	
	comp=N,53nm,1.3s						
GHO	**Glory Hole Cre**	**5.46**	**2**		**Pn**	**15 17 30.5**	**+0.8**
CNBA	**Chernabura Isl**	**5.97**	**259**	Pn	**Pn**	**15 17 35.2**	**-1.3**
BARN	**Barnard Glacie**	**6.22**	**37**		Pn	15 17 47.4	+7.1
LOGN	**Logan Glacier**	**6.29**	**41**	Pn	**Pn**	**15 17 42.3**	**+1.1**
L19K	**White Mountain**	**6.49**	**337**	Pn	**Pn**	**15 17 41.7**	**-2.1**
DHY	**Denali Highway**	**6.84**	**8**	Pn	**Pn**	**15 17 50.7**	**+2.1**
P29M	**Windy Craggy**	**7.03**	**57**	Pn	**Pn**	**15 17 50.9**	**-0.4**
RIDG	**Independent Ri**	**7.77**	**15**		**Pn**	**15 18 02.2**	**+0.9**
SCRK	**Sand Creek**	**8.12**	**17**	Pn	**Pn**	**15 18 10.3**	**+4.1**
HDA	**Harding Lake**	**8.19**	**8**	Pn	**Pn**	**15 18 09.1**	**+2.1**
ILAR	**Eielson Array**	**8.55**	**7**	Pn	**Pn**	**15 18 13.6**	**+1.6**
	comp=N,0.2nm,0.3s,baz=190,slow=13,SNR=4.3						
ILAR				Sn	**Sn**	**15 19 46.2**	**-2.3**
	comp=N,0.2nm,0.3s,baz=196,slow=22,SNR=4.6						
	comp=N,0.3nm,0.4s						
MDM	**Murphy Dome**	**8.67**	**3**	Pn	**Pn**	**15 18 12.8**	**-0.9**
L29M	**L29M**	**8.86**	**35**	Pn	**Pn**	**15 18 16.7**	**+0.5**
P32M	**Atlin**	**8.96**	**62**	Pn	**Pn**	**15 18 16.5**	**-1.1**
H21K	**Melozitna Rive**	**9.49**	**351**	Pn	**Pn**	**15 18 26.0**	**+1.1**
I26K	**Coal Creek Min**	**9.50**	**16**	Pn	**Pn**	**15 18 28.6**	**+3.6**
K29M	**Barlow Dome**	**9.57**	**33**	Pn	**Pn**	**15 18 26.9**	**+0.8**
R33M	**Jennings River**	**10.29**	**65**	Pn	**Pn**	**15 18 35.4**	**-0.5**
G23K	**Bananza Creek**	**10.41**	**359**	Pn	**Pn**	**15 18 36.8**	**-0.8**
G24K	**Hadweenzic Riv**	**10.44**	**4**	Pn	**Pn**	**15 18 37.0**	**-0.9**
INK	**Inuvik**	**14.03**	**25**	Pn	**P**	**15 19 32.7**	**-2.0**
	comp=N,0.1nm,0.3s,baz=213,slow=11,SNR=5.2						
	comp=N,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**18.57**	**56**	P	**Pn**	**15 20 29.8**	**+4.5**
	baz=270,slow=9.8,SNR=4.2						
	comp=N,0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**48.84**	**240**	T	T	16 18 05.9	
	baz=32						
H11N3	**WAKE ISLAND Hy**	**48.85**	**240**	T	T	16 18 02.4	
	baz=32						
H11N1	**WAKE ISLAND Hy**	**48.86**	**240**	T	T	16 17 48.0	
	baz=32						
H11S1	**WAKE ISLAND Hy**	**49.99**	**239**	T	T	16 19 33.7	
	baz=27						
H11S2	**WAKE ISLAND Hy**	**50.00**	**239**	T	T	16 19 55.2	
	baz=27						
H11S3	**WAKE ISLAND Hy**	**50.01**	**239**	T	T	16 19 46.6	
	baz=27						
SONM	**Songino Array**	**58.54**	**310**	P	**P**	**15 26 05.2**	**+0.5**
	comp=N,0.2nm,0.5s,baz=49,slow=6.5,SNR=1.6						
	comp=N,0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.50**	**325**	P	**P**	**15 27 11.0**	**+0.6**
	comp=N,0.2nm,0.5s,baz=27,slow=6.5,SNR=5.5						
	comp=N,0.2nm,0.5s						
QSPA	**South Pole Qui**	**146.13**	**180**	PKPbc	**PKPab**	**15 35 47.6**	**-0.2**
	comp=N,1.2nm,1.1s,baz=48,slow=1.8,SNR=1.7						

*NEIC **23** 15:19:37.0±1.0,56°.02N±0°.06×149°.8W±0°.1,h10km±1km, mb3.8/1,ML3.8/40,ML3.6(AEIC),Error ellipse: s-maj=11.3km s-min=8.8km az=118.0*

*AEIC **23** 15:19:40.7±1.2,55°.98N±0°.09×149°.7W±0°.1,h7km±7km, Error ellipse: s-maj=12.9km s-min=9.8km az=174.0*

ISC 23 15:19:37.0±1.3,56°.07N±0°.09×149°.72W±0°.06,h10km, n118,σ0ᵌ91/121,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.28**	**302**		**Pn**	**15 20 14.3**	**-0.4**
OHAK					**Sn**	**15 20 40.9**	**-2.0**
OHAK	**Old Harbor**	**2.28**	**302**	P	**Pn**	**15 20 14.3**	**-0.4**
	baz=120						
OHAK				S	**Sn**	**15 20 40.9**	**-2.0**
	baz=120						
KDAK	**Kodiak Island**	**2.33**	**319**		**Pn**	**15 20 15.8**	**+0.5**
KDAK					**Sn**	**15 20 43.0**	**-0.9**
SYI	**Shuyak Island**	**2.93**	**331**		**Pn**	**15 20 24.2**	**+0.7**
SYI					**Sn**	**15 20 58.8**	**+0.1**
SYI	**Shuyak Island**	**2.93**	**331**	IAML		15 21 01.1	
	comp=E,154nm,0.6s						
Q20K	**Shuyak Island**	**2.93**	**331**	P	**Pn**	**15 20 24.2**	**+0.7**
	baz=150						
Q20K				S	**Sn**	**15 20 58.8**	**0.0**
	baz=150						
CNPM	**China Poot**	**3.56**	**347**		**Pn**	**15 20 32.7**	**+0.5**
CNPM					**Sn**	**15 21 14.2**	**-0.1**
CNPM	**China Poot**	**3.56**	**347**	IAML		15 21 17.5	
	comp=E,106nm,0.9s						
Q19K	**Cape Douglas,**	**3.56**	**325**		**Pn**	**15 20 32.9**	**+0.5**
Q19K	**Cape Douglas,**	**3.56**	**325**	P	**Pn**	**15 20 32.9**	**+0.5**
	baz=142						
BRSE	**Bradley Lake S**	**3.72**	**352**		**Pn**	**15 20 34.7**	**+0.2**
BRSE					**Sn**	**15 21 17.4**	**-1.0**
BRSE	**Bradley Lake S**	**3.72**	**352**	P	**Pn**	**15 20 34.7**	**+0.2**
	baz=171						
BRSE				S	**Sn**	**15 21 17.4**	**-1.0**
	baz=171						
BRLK	**Bradley Lake**	**3.75**	**351**		**Pn**	**15 20 35.0**	**+0.1**
Q23K	**Middleton Isla**	**3.82**	**27**		**Pn**	**15 20 35.6**	**-0.2**
Q23K	**Middleton Isla**	**3.82**	**27**	IAML		15 22 39.0	
	comp=E,215nm,1.5s						
Q23K				IAML		15 22 58.1	
	comp=N,181nm,1.3s						
Q23K	**Middleton Isla**	**3.82**	**27**	P	**Pn**	**15 20 35.6**	**-0.2**
	baz=209						
MID	**Middleton Isla**	**3.82**	**27**		**Pn**	**15 20 35.7**	**-0.1**
MID	**Middleton Isla**	**3.82**	**27**	IAML		15 22 25.3	
	comp=N,166nm,1.5s						
MID				IAML		15 22 39.7	
	comp=E,213nm,1.3s						
MID	**Middleton Isla**	**3.82**	**27**	P	**Pn**	**15 20 36.2**	**+0.4**
CNTC	**Contact Creek**	**4.01**	**306**		**Pn**	**15 20 39.4**	**+0.8**
Q17K	**Contact Creek**	**4.01**	**306**	P	**Pn**	**15 20 39.4**	**+0.8**
	baz=122						
SEW	**Seward**	**4.05**	**2**		**Pn**	**15 20 38.9**	**0.0**
SEW	**Seward**	**4.05**	**2**	P	**Pn**	**15 20 38.9**	**0.0**
	baz=182						
P19K	**Oil Pt**	**4.05**	**334**	Pn	**Pn**	**15 20 40.0**	**+1.0**
P23K	**Montague Islan**	**4.12**	**16**		**Pn**	**15 20 40.3**	**+0.3**
P23K					**Sn**	**15 21 25.8**	**-2.4**
P23K	**Montague Islan**	**4.12**	**16**	P	**Pn**	**15 20 40.3**	**+0.3**
	baz=198						
P23K				S	**Sn**	**15 21 25.8**	**-2.4**
	baz=198						
O20K	**Slope Mountain**	**4.31**	**340**		**Pn**	**15 20 43.4**	**+0.8**
O20K	**Slope Mountain**	**4.31**	**340**	P	**Pn**	**15 20 43.4**	**+0.8**
	baz=158						
O22K	**Cooper Landing**	**4.42**	**360**		**Pn**	**15 20 44.2**	**+0.2**
O22K	**Cooper Landing**	**4.42**	**360**	P	**Pn**	**15 20 44.2**	**+0.2**
	baz=180						
P18K	**Big Mountain,**	**4.45**	**321**	Pn	**Pn**	**15 20 45.1**	**+0.6**
SLKM	**Skilak Lake**	**4.46**	**357**		**Pn**	**15 20 44.8**	**+0.2**
R16K	**Pilot Point**	**4.57**	**292**		**Pn**	**15 20 46.2**	**+0.1**
R16K	**Pilot Point**	**4.57**	**292**	IAML		15 22 51.2	
	comp=E,131nm,1.4s						
R16K	**Pilot Point**	**4.57**	**292**	P	**Pn**	**15 20 46.2**	**+0.1**
	baz=107						
HIN	**Hinchinbrook I**	**4.66**	**20**	Pn	**Pn**	**15 20 47.9**	**+0.6**
HIN				IAML		15 23 49.4	
	comp=N,76nm,0.7s						
HIN				IAML		15 23 49.5	
	comp=E,95nm,1.4s						
RDSO	**Redoubt South**	**4.67**	**341**		**Pn**	**15 20 47.3**	**-0.4**
RSO	**Redoubt South**	**4.69**	**341**	Pn	**Pn**	**15 20 48.3**	**+0.4**
KAIM	**Kayak Island**	**4.78**	**34**		**Pn**	**15 20 49.6**	**+0.5**
KAIM	**Kayak Island**	**4.78**	**34**	IAML		15 21 46.7	
	comp=N,113nm,1.4s						
KAIM				IAML		15 23 43.5	
	comp=E,121nm,1.3s						
KAIM	**Kayak Island**	**4.78**	**34**	P	**Pn**	**15 20 49.6**	**+0.5**
	baz=218						
O18K	**Koktuh Hills**	**4.79**	**325**	Pn	**Pn**	**15 20 49.3**	**+0.2**
O18K				IAML		15 23 22.2	
	comp=N,72nm,0.9s						
O18K				IAML		15 23 22.6	
	comp=E,44nm,0.6s						
O19K	**Port Alsworth**	**4.80**	**331**	Pn	**Pn**	**15 20 49.5**	**+0.2**
O19K				IAML		15 23 30.8	
	comp=N,108nm,0.4s						
CHGN	**Chignik**	**4.87**	**276**	Pn	**Pn**	**15 20 50.2**	**+0.1**
CHGN				IAML		15 21 30.1	
	comp=E,54nm,1.5s						
CHGN		

O29M	Mount Kennedy	7.25	50	Pn		Pn	15 21 24.2	+1.2	
P29M	Windy Craggy	7.32	56	Pn		Pn	15 21 24.2	+0.3	
RND	Reindeer	7.37	3	Pn		Pn	15 21 25.9	+1.3	
L16K	Owhat River	7.58	322	Pn		Pn	15 21 28.3	+0.9	
FALS	False Pass	7.88	267	P		Pn	15 21 30.9	-0.7	
SIT	Sitka	8.01	77	P		Pn	15 21 30.1	-3.2	
BPAW	Bear Paw Mtn.	8.08	356	Pn		Pn	15 21 34.4	+0.2	
SKAG	Skagway	8.40	60	Pn		Pn	15 21 40.0	+1.3	
N30M	Aishikik Lake	8.49	45	Pn		Pn	15 21 40.8	+0.8	
L14K	Kuka Creek	8.56	313	Pn		Pn	15 21 41.2	+0.4	
M29M	Somme Creek	8.59	37	Pn		Pn	15 21 42.6	+1.2	
IL31		8.84	8	Pn		Pn	15 21 45.8	+1.2	
ILAR	Eielson Array	8.84	8	Pn		Pn	15 21 45.7	+1.1	
COLA	College	8.88	5	P		Pn	15 21 47.6	+2.4	
MDM	Murphy Dome	8.95	4	Pn		Pn	15 21 47.2	+1.1	
J26L	Joseph Creek	8.98	17	Pn		Pn	15 21 47.7	+0.9	
N31M	Braeburn, Yuko	9.04	47	Pn		Pn	15 21 49.0	+1.6	
I23K	Minto, Yukon-K	9.11	1	Pn		Pn	15 21 49.2	+0.9	
P32M	Atlin	9.23	61	Pn		Pn	15 21 50.2	+0.2	
P33M	Teslin, Yukon	9.84	58	Pn		Pn	15 21 59.7	+1.2	
K29M	Barlow Dome	9.89	33	Pn		Pn	15 22 00.4	+1.3	
UNV	Unalaska Valle	9.91	264	P		Pn	15 21 58.9	-0.4	
R33M	Jennings River	10.55	64	Pn		Pn	15 22 09.0	+0.7	
G21K	Allakaket	10.63	352	Pn		Pn	15 22 09.8	+0.6	
FYU	Fort Yukon	10.74	10	Pn		Pn	15 22 11.7	+1.0	
BMAR	Burnt Mountain	11.65	10	Pn		Pn	15 22 24.2	+1.1	
A36M	Sachs Harbour	18.97	23	P		P	15 23 58.7	+0.7	
A36M	comp=Z,5.4nm,0.8s			IAmb		IAmb	15 24 01.4		

IDC ***23*** *15:20:41.6±2.6,2°.83N×128°.89E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=176.7km s-min=28.9km az=69.0*

DJA ***23*** *15:20:49.0±1.0,2°N±9°×12°7E±°,h10km,M3.3/6,MLv3.3/6*

ISC 23 15:20:46.6±1.6,2°.0N±0°.1×126°.8E±0°.1,h10km,n7,σ1§54/8, mb3.4/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.35	154	P	Pn	15 21 11.2	-0.3
TNTI				S	Sb	15 21 29.0	-0.4
LBMI	Labuha	2.71	164	P	Pn	15 21 32.0	+1.7
KMSI	Cibinong	3.12	243	P	Pn	15 21 35.8	-0.1
SANI	Sanana	4.09	191	P	Pn	15 21 50.3	+1.1
WRA	Warramunga Arr 0.9nm,0.7s,baz=346,slow=10,SNR=1.0 0.9nm,0.7s	23.03	162	P	P	15 25 49.4	-2.7
ASAR	Alice Springs 0.2nm,0.6s,baz=347,slow=12,SNR=8.0 0.2nm,0.6s	26.43	165	P	P	15 26 24.1	+0.3
MKAR	Makanchi Array 0.2nm,0.6s,baz=116,slow=7.7,SNR=2.0 0.2nm,0.6s	59.00	326	P	P	15 30 47.1	+0.5

IDC ***23*** *15:21:13.1±1.2,56°.01N×149°.84W,h0km,mb3.6/7, mbtmp3.5/11,ML3.0/4,Error ellipse: s-maj=30.5km s-min=21.8km az=43.0*

NEIC ***23*** *15:21:13.7±2.1,56°.05N±0°.08×149°.83W±0°.09,h10km±2km, ML3.8/36,ML3.5(AEIC),Error ellipse: s-maj=14.4km s-min=8.0km az=196.0*

AEIC ***23*** *15:21:17.5±2.1,56°.0N±0°.1×149°.8W±0°.1,h10km±8km, Error ellipse: s-maj=14.8km s-min=10.2km az=180.0*

ISC 23 15:21:14.5±0.9,56°.10N±0°.08×149°.86W±0°.06,h10km,n83, σ1§07/90,mb3.8/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.20	302		Pn	15 21 50.4	-0.7
OHAK					Sn	15 22 16.2	-2.1
OHAK	Old Harbor baz=121	2.20	302	P	Pn	15 21 50.4	-0.7
OHAK	baz=121			S	Sn	15 22 16.2	-2.1
KDAK	Kodiak Island	2.25	320		Pn	15 21 51.5	-0.3
KDAK					Sn	15 22 18.0	-1.5
KDAK	Kodiak Island 3.4nm,0.3s,baz=127,slow=19,SNR=1.2	2.25	320	Pn	Pn	15 21 50.6	-1.2
KDAK	7.3nm,0.3s,baz=204,slow=17,SNR=5.9 15nm,0.2s			Sn	Sn	15 22 18.1	-1.5
SYI	Shuyak Island	2.86	332		Pn	15 21 59.9	-0.3
SYI					Sn	15 22 33.5	-1.2
SYI	Shuyak Island comp=E,158nm,1.4s	2.86	332	IAML		15 22 36.8	
Q20K	Shuyak Island baz=151	2.87	332	P	Pn	15 21 59.9	-0.3
Q20K	baz=151			S	Sn	15 22 33.5	-1.2
Q19K	Cape Douglas,	3.49	326		Pn	15 22 08.6	-0.3
Q19K	Cape Douglas, baz=143	3.49	326	P	Pn	15 22 08.6	-0.3
CNPM	China Poot	3.51	348		Pn	15 22 08.6	-0.5
CNPM					Sn	15 22 49.0	-1.8
CNPM	China Poot comp=E,81nm,0.9s	3.51	348	IAML		15 22 50.2	
BRSE	Bradley Lake S	3.68	353		Pn	15 22 10.8	-0.6
BRSE					Sn	15 22 52.6	-2.2
BRSE	Bradley Lake S baz=172	3.68	353	P	Pn	15 22 10.8	-0.6
BRSE	baz=172			S	Sn	15 22 52.6	-2.2
HOM	Homer	3.69	346		Pn	15 22 11.2	-0.4
HOM	Homer comp=N,313nm,1.4s	3.69	346	IAML		15 22 44.5	
HOM	comp=E,264nm,1.4s			IAML		15 24 40.1	
HOM	Homer baz=164	3.69	346	P	Pn	15 22 11.2	-0.4
BRLK	Bradley Lake	3.71	352		Pn	15 22 10.8	-1.1
AUCH	Augustine Cone	3.79	331		Pn	15 22 12.4	-0.7
Q23K	Middleton Isla	3.83	28	Pn	Pn	15 22 12.2	-1.2
MID	Middleton Isla	3.83	28	Pn	Pn	15 22 12.2	-1.2
MID	comp=E,176nm,1.2s			IAML		15 24 02.5	
MID	comp=N,171nm,1.2s			IAML		15 24 26.6	
CNTC	Contact Creek	3.93	306		Pn	15 22 14.3	-0.6
Q17K	Contact Creek baz=122	3.93	306	P	Pn	15 22 14.3	-0.6
P19K	Oil Pt	3.99	335		Pn	15 22 15.5	-0.2
P19K					Sn	15 23 01.6	-0.9
P19K	Oil Pt comp=N,218nm,0.6s	3.99	335	IAML		15 23 08.4	
P19K	comp=E,241nm,0.6s			IAML		15 23 08.4	
P19K	Oil Pt baz=152	3.99	335	P	Pn	15 22 15.5	-0.2
P19K	baz=152			S	Sn	15 23 01.6	-0.9
SEW	Seward	4.02	3		Pn	15 22 14.8	-1.3
SEW	Seward baz=183	4.02	3	P	Pn	15 22 14.8	-1.3
P23K	Montague Islan	4.12	17		Pn	15 22 16.8	-0.7
P23K	Montague Islan baz=199	4.12	17	P	Pn	15 22 16.8	-0.7
IVE	Iliamna Volcan	4.27	338		Pn	15 22 19.2	-0.4
P18K	Big Mountain,	4.38	321		Pn	15 22 20.5	-0.5
P18K	Big Mountain, baz=137	4.38	321	P	Pn	15 22 20.5	-0.5
HIN	Hinchinbrook I	4.66	21	Pn	Pn	15 22 24.6	-0.2
HIN	comp=N,149nm,0.8s			IAML		15 24 35.3	
O18K	Koktuh Hills	4.72	325		Pn	15 22 25.6	-0.1
O18K	Koktuh Hills baz=141	4.72	325	P	Pn	15 22 25.6	-0.1
CAPN	Captain Cook N	4.73	352	Pn	Pn	15 22 26.5	+0.7
Q19K	Port Alsworth	4.74	332	Pn	Pn	15 22 26.4	+0.5
KAIM	Kayak Island	4.80	35		Pn	15 22 25.9	-1.0
KAIM	Kayak Island baz=218	4.80	35	P	Pn	15 22 25.9	-1.0
EYAK	Cordova Ski Ar	4.96	24		Pn	15 22 28.1	-0.8
EYAK	Cordova Ski Ar baz=207	4.96	24	P	Pn	15 22 28.1	-0.8
FID	Port Fidalgo	4.99	19	Pn	Pn	15 22 28.0	-1.4
P16K	Nushagak River	5.27	307		Pn	15 22 32.6	-0.7
P16K	Nushagak River baz=121	5.27	307	P	Pn	15 22 32.6	-0.7
N19K	Bonanza Creek	5.31	335	Pn	Pn	15 22 32.9	-1.0
N19K	comp=N,20nm,1.2s			IAML		15 25 21.1	
PMR	Palmer	5.52	4	Pn	Pn	15 22 37.0	+0.3
O16K	Kokwok River B	5.62	312	Pn	Pn	15 22 38.9	+0.9
CNBA	Chernabura Isl	5.68	261	Pn	Pn	15 22 38.5	-0.4
GHO	Glory Hole Cre	5.71	4	Pn	Pn	15 22 39.5	+0.1
KLU	Klutina	5.78	19	Pn	Pn	15 22 40.7	+0.4
VRDI	Verde Repeater	6.13	30	Pn	Pn	15 22 45.7	+0.5
GLB	Gilahina Butte	6.21	28	Pn	Pn	15 22 46.6	+0.4
BARN	Barnard Glacie	6.56	37	Pn	Pn	15 22 51.3	+0.1
CTGM	Chitina Glacie	6.61	39	Pn	Pn	15 22 51.7	0.0
M17K	Holitna River	6.61	327	Pn	Pn	15 22 52.4	+0.7
BCPM	Bancas Point	6.66	50	Pn	Pn	15 22 52.0	-0.4
N15K	Kwethluk River	6.78	311		Pn	15 22 55.0	+1.1
M16K	Timber Creek	6.85	320	Pn	Pn	15 22 56.0	+1.0
O14K	Tigyukauivet M	6.88	302	Pn	Pn	15 22 56.2	+0.8
L16K	Owhat River	7.50	322	Pn	Pn	15 23 05.2	+1.3
M13K	Dall Lake	8.32	307	Pn	Pn	15 23 15.9	+0.9
L14K	Kuka Creek	8.48	314	Pn	Pn	15 23 18.6	+1.3
K15K	Wolf Creek Mou	8.62	321	Pn	Pn	15 23 21.4	+2.3
IL31		8.82	8	Pn	Pn	15 23 24.2	+2.3
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=187,slow=13,SNR=2.5 comp=N,0.7nm,0.6s	8.82	8	Pn	Pn	15 23 21.0	-0.9
MDM	Murphy Dome	8.92	4	Pn	Pn	15 23 24.6	+1.2
J16K	Anvik River	9.01	327	Pn	Pn	15 23 25.9	+1.4
N31M	Braeburn, Yuko	9.07	48	Pn	Pn	15 23 26.0	+0.5
I23K	Minto, Yukon-K	9.08	1	Pn	Pn	15 23 27.7	+2.3
K13K	Kusilvak Mount	9.60	314	Pn	Pn	15 23 34.5	+2.0
P33M	Teslin, Yukon	9.89	58	Pn	Pn	15 23 35.9	-0.8
G23K	Bananza Creek	10.65	360	Pn	Pn	15 23 48.3	+1.3
J30M	Hart River	10.80	33	Pn	Pn	15 23 51.1	+2.0
INK	Inuvik baz=196,slow=14,SNR=2.8 comp=N,1.4nm,1.0s	14.35	25	Pn	Pn	15 24 38.3	+1.0
YKA	Yellowknife Ar comp=N,0.1nm,0.3s,baz=263,slow=10.0,SNR=5.6 comp=N,0.4nm,0.7s	18.91	56	P	Pn	15 25 35.0	-0.5
TXAR	Lajitas Array comp=N,0.2nm,0.6s,baz=336,slow=5.9,SNR=1.7 comp=N,0.2nm,0.6s	42.06	110	P	P	15 29 06.0	-0.4
SONM	Songino Array comp=N,0.8nm,0.8s,baz=48,slow=4.3,SNR=4.2 comp=N,0.8nm,0.8s	58.51	310	P	P	15 31 11.6	+0.9
ZALV	Zalesovo Beam comp=N,0.4nm,0.4s,baz=20,slow=4.6,SNR=1.6 comp=N,0.4nm,0.4s	61.53	327	P	P	15 31 32.0	+0.8
FINES	FINESS Array B comp=N,1.0nm,0.8s,baz=8.9,slow=9.8,SNR=1.2 comp=N,1.0nm,0.8s	62.75	2	P	P	15 31 40.0	+0.8
BVAR	Borovoye Array comp=N,1.0nm,0.9s,baz=1.8,slow=4.5,SNR=4.5 comp=N,1.0nm,0.9s	66.31	335	P	P	15 32 03.0	+0.3
KURBB	Kurchatov Arra comp=N,0.4nm,0.8s,baz=30,slow=6.8,SNR=2.9 comp=N,0.4nm,0.8s	66.33	329	P	P	15 32 03.6	+0.8
MKAR	Makanchi Array comp=N,0.2nm,0.5s,baz=30,slow=5.8,SNR=2.9 comp=N,0.2nm,0.5s	68.55	324	P	P	15 32 17.6	+0.6
QSPA	South Pole Qui comp=N,1.3nm,0.6s,baz=336,slow=0.5,SNR=9.3	145.89	180	PKPbc	PKPab	15 40 51.9	-1.3

IDC ***23*** *15:22:32.6±1.0,56°.25N×149°.27W,h0km,mb3.7/13, mbtmp3.7/18,ML3.4/4,Error ellipse: s-maj=22.7km s-min=16.3km az=25.0*

NEIC ***23*** *15:22:36.4±1.0,56°.40N±0°.07×148°.8W±0°.1,h10km±2km, ML3.7/46,ML3.5(AEIC),Error ellipse: s-maj=12.8km s-min=8.5km az=151.0*

AEIC ***23*** *15:22:39.1±1.4,56°.3N±0°.1×148°.65W±0°.08,h2km±7km, Error ellipse: s-maj=14.9km s-min=5.6km az=168.0*

ISC 23 15:22:35.4±0.7,56°.43N±0°.08×148°.83W±0°.05,h10km, n131,σ1§56/128,mb3.8/13,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.46	305		Pn	15 23 17.1	+1.6
KDAK	Kodiak Island	2.46	305		Sn	15 23 47.1	+1.6
KDAK	Kodiak Island baz=122	2.46	305	S	Sn	15 23 47.1	+1.6
KDAK	Kodiak Island 19nm,0.3s,baz=143,slow=5.1,SNR=0.8	2.46	305	Pn	Pn	15 23 12.2	-3.2
KDAK	10.0nm,0.3s,baz=163,slow=20,SNR=2.6			Sn	Sn	15 23 38.9	-6.5
OHAK	Old Harbor	2.58	290		Pn	15 23 18.4	+1.3
OHAK					Sn	15 23 49.1	+0.6
OHAK	Old Harbor baz=107	2.58	290	P	Pn	15 23 18.4	+1.3
OHAK	baz=107			S	Sn	15 23 49.1	+0.6
SYI	Shuyak Island	2.91	320		Pn	15 23 23.6	+1.9
SYI					Sn	15 23 58.6	+2.0
Q20K	Shuyak Island baz=137	2.91	320	P	Pn	15 23 23.6	+1.9
Q20K	baz=137			S	Sn	15 23 58.6	+1.9
Q23K	Middleton Isla	3.29	23		Pn	15 23 27.2	+0.4
Q23K	Middleton Isla comp=N,175nm,1.3s	3.29	23	IAML		15 23 55.9	
Q23K	comp=E,240nm,1.5s			IAML		15 24 11.2	
Q23K	Middleton Isla baz=203	3.29	23	P	Pn	15 23 27.2	+0.4
MID	Middleton Isla	3.29	23		Pn	15 23 27.1	+0.3
MID	Middleton Isla comp=N,207nm,1.5s	3.29	23	IAML		15 25 09.5	
MID	comp=E,194nm,1.4s			IAML		15 25 23.7	
CNPM	China Poot	3.36	339		Pn	15 23 29.7	+1.8
CNPM					Sn	15 24 08.8	+1.0
BRSE	Bradley Lake S	3.47	344		Pn	15 23 30.7	+1.3
BRSE	Bradley Lake S baz=161	3.47	344	P	Pn	15 23 30.7	+1.3
BRLK	Bradley Lake	3.52	343		Pn	15 23 31.2	+1.2
BRLK	Bradley Lake comp=E,81nm,0.6s	3.52	343	IAML		15 24 16.2	
BRLK	comp=N,82nm,0.7s			IAML		15 24 17.4	
Q19K	Cape Douglas,	3.60	316		Pn	15 23 33.0	+1.8
Q19K	Cape Douglas, comp=N,223nm,1.1s	3.60	316	IAML		15 24 21.8	
Q19K	Cape Douglas, baz=132	3.60	316	P	Pn	15 23 33.0	+1.8
P23K	Montague Islan	3.66	11		Pn	15 23 32.5	+0.5
P23K					Sn	15 24 13.0	-2.1
P23K	Montague Islan baz=191	3.66	11	P	Pn	15 23 32.5	+0.5
P23K	baz=191			S	Sn	15 24 13.0	-2.1
P19K	Oil Pt	3.99	326		Pn	15 23 38.2	+1.6
P19K	Oil Pt comp=N,166nm,0.7s	3.99	326	IAML		15 24 31.4	
P19K	comp=E,162nm,0.7s			IAML		15 24 31.7	
P19K	Oil Pt baz=142	3.99	326	P	Pn	15 23 38.2	+1.6
HIN	Hinchinbrook I	4.16	16		Pn	15 23 39.7	+0.8
O20K	Slope Mountain	4.18	333		Pn	15 23 41.2	+2.1
O20K	Slope Mountain baz=149	4.18	333	P	Pn	15 23 41.2	+2.1
KAIM	Kayak Island	4.21	32		Pn	15 23 40.2	+0.7
KAIM	Kayak Island comp=E,174nm,1.0s	4.21	32	IAML		15 24 28.9	
KAIM	comp=N,189nm,1.2s			IAML		15 24 37.4	
KAIM	Kayak Island baz=214	4.21	32	P	Pn	15 23 40.2	+0.7
IVE	Iliamna Volcan	4.22	330		Pn	15 23 41.6	+1.8
FID	Port Fidalgo	4.50	15	Pn	Pn	15 23 44.3	+0.8
FID	comp=N,67nm,0.9s			IAML		15 24 42.0	
FID	comp=E,69nm,1.2s			IAML		15 24 48.8	
P18K	Big Mountain,	4.53	314		Pn	15 23 45.7	+1.8
P18K	Big Mountain, baz=128	4.53	314	P	Pn	15 23 45.7	+1.8
RAGM	Ragged Mountai	4.53	27	Pn	Pn	15 23 45.2	+1.3
RDSO	Redoubt South	4.53	335		Pn	15 23 45.2	+1.2
RSO	Redoubt South	4.54	335	Pn	Pn	15 23 45.7	+1.5
NCT	North Crescent	4.67	334		Pn	15 23 47.6	+1.6
RC01	Rabbit Creek A	4.70	355	Pn	Pn	15 23 47.6	+1.4
RC01	comp=N,48nm,1.0s			IAML		15 24 42.8	
RC01	comp=E,68nm,0.6s			IAML		15 24 45.4	
O19K	Port Alsworth	4.76	325		Pn	15 23 48.8	+1.7
O19K	Port Alsworth baz=140	4.76	325	P	Pn	15 23 48.8	+1.7
BERG	Berg Lake	4.80	32		Pn	15 23 48.4	+0.7
SNH	Sunshine Point	4.91	38	Pn	Pn	15 23 49.9	+0.7
SNH	comp=E,74nm,0.8s			IAML		15 24 47.5	
SNH	comp=N,56nm,1.2s			IAML		15 26 24.2	
DIV	Divide	4.97	17	Pn	Pn	15 23 51.4	+1.3
KNK	Knik Glacier	5.00	2	Pn	Pn	15 23 51.5	+1.0
KNK	comp=E,42nm,0.7s			IAML		15 24 58.9	
KNK	comp=N,35nm,1.4s			IAML		15 25 09.7	
BMRM	Bremner River	5.06	24		Pn	15 23 51.3	+0.1
BMRM	Bremner River baz=206	5.06	24	P	Pn	15 23 51.3	+0.1
PMR	Palmer	5.18	358	Pn	Pn	15 23 54.9	+2.1
PMR	comp=E,35nm,0.7s			IAML		15 24 55.6	
PMR	comp=N,24nm,1.1s			IAML		15 25 15.0	
KLU	Klutina	5.30	15		Pn	15 23 55.9	+1.3
KLU	comp=N,39nm,0.6s			IAML		15 24 56.4	
KLU	comp=E,40nm,0.5s			IAML		15 24 59.1	
N19K	Bonanza Creek	5.30	328	Pn	Pn	15 23 56.5	+1.9
N19K	comp=E,20nm,1.4s			IAML		15 25 05.3	
GHO	Glory Hole Cre	5.36	360	Pn	Pn	15 23 57.2	+1.8
GHO	comp=E,56nm,1.1s			IAML		15 25 04.5	
GHO	comp=N,55nm,0.8s			IAML		15 25 05.7	
SML	Sawmill	5.40	3	Pn	Pn	15 23 57.8	+1.9
VRDI	Verde Repeater	5.56	28		Pn	15 23 59.5	+1.2
N25K	Chitina, Valde	5.63	21	Pn	Pn	15 24 00.8	+1.6
O16K	Kokwok River B	5.86	307	Pn	Pn	15 24 04.0	+1.9
BARN	Barnard Glacie	5.96	36		Pn	15 24 04.3	+0.6
PNL	Peninsula	5.97	53		Pn	15 24 02.9	-0.8
PNL	Peninsula baz=240	5.97	53	P	Pn	15 24 02.8	-0.8
CTGM	Chitina Glacie	5.99	38	Pn	Pn	15 24 04.1	-0.1
N17K	Nushagak Hills	6.01	317	Pn	Pn	15 24 05.4	+1.2
BCPM	Bancas Point	6.01	50		Pn	15 24 04.0	-0.2
M19K	Big River Lodg	6.19	335	Pn	Pn	15 24 08.0	+1.3
HARP	HAARP	6.27	16		Pn	15 24 08.4	+0.5
HARP	HAARP baz=198	6.27	16	P	Pn	15 24 08.4	+0.5
WAT7	Susitna Watana	6.42	360		Pn	15 24 10.0	0.0
O29M	Mount Kennedy	6.64	50		Pn	15 24 14.3	+1.3
M17K	Holitna River	6.69	322	Pn	Pn	15 24 15.5	+2.0
M26K	Nabesna, AK	6.69	24	Pn	Pn	15 24 15.1	+1.5
P29M	Windy Craggy	6.71	57		Pn	15 24 14.3	+0.5
YUK2	White River	6.76	34		Pn	15 24 14.8	+0.2
M27K	Edge Creek, AK	6.92	28	Pn	Pn	15 24 18.0	+1.2
S31K	Pelican	7.02	72		Pn	15 24 16.9	-1.1
S31K	Pelican baz=262	7.02	72	P	Pn	15 24 16.8	-1.1
HYT	Haines Junctio	7.37	49	Pn	Pn	15 24 24.3	+1.3
YUK5	Granite Creek	7.39	46		Pn	15 24 24.3	+0.9
TTA	Tatalina	7.46	334	Pn	Pn	15 24 25.5	+1.3
L27K	Beaver Creek,	7.53	25	Pn	Pn	15 24 26.5	+1.4
BCAR	Beaver Creek A	7.54	25	Pn	Pn	15 24 26.5	+1.2
BPAW	Bear Paw Mtn.	7.77	353	Pn	Pn	15 24 29.9	+1.5
SKAG	Skagway	7.80	61	Pn	Pn	15 24 29.6	+0.9
S32K	Killisnoo	7.86	76	Pn	Pn	15 24 29.3	-0.3
N30M	Aishikik Lake	7.89	45		Pn	15 24 31.2	+1.2
N30M	Aishikik Lake baz=234	7.89	45	P	Pn	15 24 31.1	+1.1
K17K	Iditarod	7.92	327	Pn	Pn	15 24 32.0	+1.6
M29M	Somme Creek	8.01	37	Pn	Pn	15 24 33.5	+1.7
J19K	Poorman	8.30	339	Pn	Pn	15 24 37.4	+1.7
K27K	Chicken	8.33	21	Pn	Pn	15 24 38.1	+2.1
ILAR	Eielson Array	8.43	6	Pn	Pn	15 24 39.2	+1.9
ILAR	Eielson Array comp=N,0.3nm,0.3s,baz=194,slow=12,SNR=2.2	8.43	6	Pn	Pn	15 24 37.3	0.0
ILAR	comp=N,0.2nm,0.3s,baz=211,slow=14,SNR=1.0 comp=N,0.5nm,0.3s			Sn	Sn	15 26 09.1	-3.3
N31M	Braeburn, Yuko	8.43	48	Pn	Pn	15 24 38.4	+1.0
WHY	Whitehorse	8.43	54	Pn	Pn	15 24 38.8	+1.2
J26L	Joseph Creek	8.50	16	Pn	Pn	15 24 39.9	+1.4
L29M	L29M	8.59	34	Pn	Pn	15 24 40.2	+0.5
P32M	Atlin	8.62	62		Pn	15 24 40.2	+0.1
P32M	Atlin baz=254	8.62	62	P	Pn	15 24 40.2	+0.1
I21K	Tanana	8.91	351	Pn	Pn	15 24 45.9	+1.9
DAWY	Dawson	8.97	28	Pn	Pn	15 24 46.4	+1.6
J16K	Anvik River	9.06	324	Pn	Pn	15 24 48.0	+2.0
P33M	Teslin, Yukon	9.23	59	Pn	Pn	15 24 49.4	+0.9
M31M	Drury Creek, Y	9.37	46	Pn	Pn	15 24 52.1	+1.9
H21K	Melozitna Rive	9.46	350	Pn	Pn	15 24 53.8	+2.4
S34M	Telegraph Cree	9.72	74	Pn	Pn	15 24 55.8	+0.6
FARO	Faro, Yukon	9.80	47	Pn	Pn	15 24 57.8	+1.6
K13K	Kusilvak Mount	9.80	311	Pn	Pn	15 24 57.5	+1.3
H17K	Granite Mounta	10.10	332	Pn	Pn	15 25 01.8	+1.6
DLBC	Dease Lake comp=N,0.6nm,0.3s,baz=238,slow=13,SNR=2.1	10.33	71	Pn	Pn	15 25 05.9	+2.4
DLBC	comp=N,0.1nm,0.3s,baz=245,slow=19,SNR=0.9 comp=N,1.9nm,0.4s			Sn	Sn	15 27 03.3	+4.0
ANM	Nome	11.50	322	Pn	Pn	15 25 20.8	+1.5
INK	Inuvik comp=N,0.1nm,0.3s,baz=213,slow=12,SNR=3.4 comp=N,1.6nm,0.8s	13.81	24	Pn	Pn	15 25 53.9	+3.1
YKA	Yellowknife Ar comp=N,0.1nm,0.3s,baz=264,slow=11,SNR=2.7 comp=N,0.8nm,1.0s	18.25	57	P	Pn	15 26 48.7	+0.3
NVAR	Mina Array Bea comp=N,0.6nm,0.8s,baz=310,slow=8.0,SNR=4.0 comp=N,0.6nm,0.8s	27.06	119	P	P	15 28 18.4	+0.4
PDAR	Pinedale Array comp=N,0.1nm,0.6s,baz=326,slow=7.9,SNR=1.7 comp=N,0.1nm,0.6s	28.45	102	P	P	15 28 31.6	+1.2
H11N2	WAKE ISLAND Hy baz=26	49.17	240	T	T	16 24 45.3	
H11N3	WAKE ISLAND Hy baz=26	49.18	240	T	T	16 25 00.9	
H11N1	WAKE ISLAND Hy baz=26	49.19	240	T	T	16 25 14.2	
H11S1	WAKE ISLAND Hy baz=23	50.32	240	T	T	16 26 44.3	
H11S2	WAKE ISLAND Hy baz=23	50.33	240	T	T	16 25 45.4	
H11S3	WAKE ISLAND Hy baz=23	50.34	240	T	T	16 26 46.7	
SONM	Songino Array comp=N,0.4nm,0.8s,baz=87,slow=20,SNR=2.1 comp=N,0.4nm,0.8s	58.74	310	P	P	15 32 30.9	-2.3
ZALV	Zalesovo Beam comp=N,1.0nm,0.7s,baz=256,slow=17,SNR=1.5 comp=N,1.0nm,0.7s	61.57	327	P	P	15 32 50.8	-1.4
FINES	FINESS Array B comp=N,1.4nm,1.0s,baz=201,slow=26,SNR=1.3 comp=N,1.4nm,1.0s	62.40	3	P	P	15 32 57.6	0.0
EKA	Eskdalemuir Ar comp=N,1

SOME 23 15:33:34.5, 39°32N × 73°97E, h10km, 1C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.82**	**356**	P	Pg	15 34 30.9	+2.4
	SNR=73						
AML	**Almayashu**	**2.82**	**356**	⇓P	Pg	15 34 30.8	+2.2
	1.1nm,0.4s						
AML				⇓S	Sg	15 35 11.5	+6.4
	4.3nm,0.4s						
UCH	**Uchtor**	**2.94**	**8**	P	Pg	15 34 34.1	+3.3
	SNR=24						
AAK	**Ala-Archa**	**3.34**	**7**	P	Pg	15 34 39.6	+1.1
	SNR=15						
EKS2	**Erkin-Say**	**3.34**	**358**	P	Pg	15 34 38.3	-0.3
	SNR=36						
ULHL	**Ulahol**	**3.40**	**30**	P	Pg	15 34 40.5	+0.9
	SNR=14						
KBK	**Karagaybulak**	**3.42**	**12**	P	Pg	15 34 42.0	+2.0
	SNR=5.4						
MRKS	**Merke**	**3.47**	**351**	*eP*	Pg	15 34 38.6	-2.4
	27nm,0.3s						
MRKS				*eS*	Sg	15 35 24.7	-1.3
	94nm,0.3s						
TKM2	**Tokmak 2**	**3.81**	**18**	⇓P	Pg	15 34 45.5	-1.9
	0.7nm,0.3s						
TKM2				⇑S	Sg	15 35 38.0	+1.3
	12nm,0.8s						
KST	**Kastek**	**4.02**	**21**	*eP*	Pg	15 34 49.5	-1.9
	2.1nm,0.4s						
KST				*eS*	Sg	15 35 43.5	0.0
	16nm,0.3s						
DGS	**Degeres**	**4.15**	**19**	*eP*	Pg	15 34 51.5	-2.5
	1.3nm,0.2s						
DGS				*eS*	Sg	15 35 46.6	-1.1
	12nm,0.4s						
MTBS	**Maitube**	**4.24**	**25**	*eP*	Pg	15 34 53.0	-2.7
	0.9nm,0.1s						
MTBS				*eS*	Sg	15 35 49.4	-1.2
	10nm,0.3s						
TNSS	**Tian-Shan**	**4.34**	**30**	*eP*	Pg	15 34 54.7	-3.1
	0.7nm,0.1s						
TNSS				*eS*	Sg	15 35 52.4	-1.6
	2.4nm,0.6s						
KRBS	**Karabastau**	**4.56**	**16**	*eP*	Pg	15 34 58.6	-3.2
KRBS				*eS*	Sg	15 35 58.8	-2.1
KK31	**Karatay Array**	**4.59**	**327**	P	Pn	15 34 48.9	+4.9
	8.1nm,0.5s,baz=155,slow=14,SNR=82						
KK31				⇓S	Sn	15 35 43.1	+5.7
	4.4nm,0.4s,baz=148,slow=21,SNR=6.6						

*NEIC **23** 15:35:25.0±1.3, 55°.98N±0°.05 × 150°.2W±0°.1, h10km±1km, ML3.4/30, ML3.4(AEIC), Error ellipse: s-maj=11.2km s-min=6.5km az=124.0*
*IDC **23** 15:35:24.9±2.1, 55°.91N × 150°.27W, h0km, mb3.5/4, mbtmp3.5/8, ML3.3/4, Error ellipse: s-maj=35.8km s-min=28.5km az=147.0*
*AEIC **23** 15:35:29.5±1.1, 55°.98N±0°.10 × 150°.1W±0°.1, h10km±7km, Error ellipse: s-maj=14.1km s-min=9.3km az=174.0*

ISC 23 15:35:26.7±1.1, 56°.12N±0°.09 × 150°.18W±0°.06, h10km, n117, σ0§79/119, mb3.6/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.04**	**304**	Pn	**Pn**	**15 35 59.7**	**-1.3**
OHAK	**Old Harbor**	**2.04**	**304**		**Sn**	**15 36 24.3**	**-2.3**
OHAK	**Old Harbor**	**2.04**	**304**	P	**Pn**	**15 36 00.0**	**-1.0**
	baz=124						
OHAK				S	**Sn**	**15 36 24.3**	**-2.3**
	baz=124						
KDAK	**Kodiak Island**	**2.13**	**323**	Pn	**Pn**	**15 36 01.7**	**-0.5**
KDAK	**Kodiak Island**	**2.13**	**323**		**Sn**	**15 36 27.7**	**-1.0**
KDAK	**Kodiak Island**	**2.13**	**323**	Pn	**Pn**	**15 36 02.0**	**-0.2**
	12nm,0.3s,baz=134,slow=9.0,SNR=18						
KDAK				Sn	**Sn**	**15 36 28.2**	**-0.4**
	3.0nm,0.3s,baz=295,slow=23,SNR=1.4						
	42nm,0.4s						
SYI	**Shuyak Island**	**2.77**	**335**		**Pn**	**15 36 10.9**	**-0.1**
SYI	**Shuyak Island**	**2.77**	**335**		**Sn**	**15 36 45.1**	**+0.6**
Q20K	**Shuyak Island**	**2.77**	**335**	P	**Pn**	**15 36 11.2**	**+0.1**
	baz=154						
Q20K				S	**Sn**	**15 36 45.1**	**+0.6**
	baz=154						
Q19K	**Cape Douglas,**	**3.38**	**328**	Pn	**Pn**	**15 36 20.7**	**+1.2**
Q19K				IAML		15 37 03.2	
	comp=N,173nm,1.0s						
Q19K	**Cape Douglas,**	**3.38**	**328**	P	**Pn**	**15 36 20.4**	**+0.9**
	baz=146						
CNPM	**China Poot**	**3.46**	**351**	Pn	**Pn**	**15 36 20.0**	**-0.6**
CNPM				IAML		15 37 01.4	
	comp=N,41nm,1.4s						
CNPM				IAML		15 37 02.5	
	comp=E,52nm,0.9s						
CNPM	**China Poot**	**3.46**	**351**		**Sn**	**15 37 00.5**	**-1.2**
ACHA	**Angle Creek He**	**3.50**	**309**		**Pn**	**15 36 21.1**	**0.0**
HOM	**Homer**	**3.64**	**348**		**Pn**	**15 36 23.2**	**+0.2**
HOM	**Homer**	**3.64**	**348**	P	**Pn**	**15 36 23.2**	**+0.2**
	baz=167						
BRSE	**Bradley Lake S**	**3.65**	**356**		**Pn**	**15 36 22.5**	**-0.6**
BRSE					**Sn**	**15 37 04.8**	**-1.4**
BRSE	**Bradley Lake S**	**3.65**	**356**	P	**Pn**	**15 36 22.5**	**-0.6**
	baz=175						
BRSE				S	**Sn**	**15 37 04.8**	**-1.4**
	baz=175						
BRLK	**Bradley Lake**	**3.68**	**354**	Pn	**Pn**	**15 36 22.1**	**-1.5**
BRLK				IAML		15 37 09.5	
	comp=N,31nm,1.3s						
BRLK				IAML		15 37 19.4	
	comp=E,52nm,1.4s						
BRLK	**Bradley Lake**	**3.68**	**354**		**Sn**	**15 37 05.9**	**-1.0**
CNTC	**Contact Creek**	**3.78**	**307**		**Pn**	**15 36 25.2**	**+0.2**
Q17K	**Contact Creek**	**3.78**	**307**	P	**Pn**	**15 36 25.2**	**+0.2**
	baz=124						
P19K	**Oil Pt**	**3.90**	**337**	Pn	**Pn**	**15 36 27.5**	**+0.9**
P19K				IAML		15 37 22.1	
	comp=N,93nm,0.8s						
P19K				IAML		15 37 22.8	
	comp=E,84nm,1.4s						
P19K	**Oil Pt**	**3.90**	**337**	P	**Pn**	**15 36 27.0**	**+0.4**
	baz=154						
Q23K	**Middleton Isla**	**3.90**	**30**		**Pn**	**15 36 26.1**	**-0.5**
Q23K	**Middleton Isla**	**3.90**	**30**	IAML		15 37 44.9	
	comp=E,164nm,1.2s						
Q23K	**Middleton Isla**	**3.90**	**30**	P	**Pn**	**15 36 26.1**	**-0.5**
	baz=212						
MID	**Middleton Isla**	**3.91**	**30**		**Pn**	**15 36 26.5**	**-0.2**
SEW	**Seward**	**4.02**	**5**		**Pn**	**15 36 28.0**	**-0.2**
SEW	**Seward**	**4.02**	**5**	P	**Pn**	**15 36 28.0**	**-0.2**
	baz=185						
P23K	**Montague Islan**	**4.16**	**20**		**Pn**	**15 36 29.4**	**-0.8**
P23K	**Montague Islan**	**4.16**	**20**	P	**Pn**	**15 36 29.4**	**-0.8**
	baz=201						
IVE	**Iliamna Volcan**	**4.19**	**340**		**Pn**	**15 36 30.8**	**+0.1**
P18K	**Big Mountain,**	**4.25**	**323**	Pn	**Pn**	**15 36 31.5**	**0.0**
P18K				IAML		15 37 22.7	
	comp=N,18nm,1.4s						
P18K	**Big Mountain,**	**4.25**	**323**	P	**Pn**	**15 36 31.6**	**+0.1**
	baz=139						
Q16K	**King Salmon**	**4.34**	**309**		**Pn**	**15 36 32.5**	**-0.2**
Q16K	**King Salmon**	**4.34**	**309**	P	**Pn**	**15 36 32.5**	**-0.2**
	baz=125						
P17K	**Kvichak River**	**4.56**	**315**		**Pn**	**15 36 35.6**	**-0.1**
P17K	**Kvichak River**	**4.56**	**315**	P	**Pn**	**15 36 35.6**	**-0.1**
	baz=131						
O18K	**Koktuh Hills**	**4.60**	**327**	Pn	**Pn**	**15 36 36.4**	**+0.1**
O18K				IAML		15 37 31.7	
	comp=E,26nm,1.0s						
O18K				IAML		15 37 49.7	
	comp=N,20nm,1.5s						
HIN	**Hinchinbrook I**	**4.71**	**23**		**Pn**	**15 36 37.5**	**-0.3**
HIN	**Hinchinbrook I**	**4.71**	**23**	IAML		15 37 32.0	
	comp=N,56nm,1.3s						
HIN				IAML		15 37 33.5	
	comp=E,48nm,1.3s						
KAIM	**Kayak Island**	**4.90**	**36**		**Pn**	**15 36 39.8**	**-0.5**
KAIM	**Kayak Island**	**4.90**	**36**	IAML		15 38 48.9	
	comp=E,80nm,1.1s						
KAIM	**Kayak Island**	**4.90**	**36**	P	**Pn**	**15 36 39.8**	**-0.5**
	baz=220						
O17K	**Koliganek Bris**	**5.19**	**318**		**Pn**	**15 36 44.2**	**-0.1**
O17K	**Koliganek Bris**	**5.19**	**318**	P	**Pn**	**15 36 44.2**	**-0.1**
	baz=133						
N20K	**Mount Spurr**	**5.21**	**349**	P	**Pn**	**15 36 44.4**	**-0.2**
	baz=167						
SPCR	**Spurr Chakacha**	**5.21**	**349**		**Pn**	**15 36 44.4**	**-0.2**
N19K	**Bonanza Creek**	**5.22**	**336**		**Pn**	**15 36 44.6**	**-0.2**
N19K	**Bonanza Creek**	**5.22**	**336**	IAML		15 38 02.8	
	comp=E,9.4nm,1.4s						
N19K				IAML		15 38 06.0	
	comp=N,8.7nm,0.8s						
N19K	**Bonanza Creek**	**5.22**	**336**	P	**Pn**	**15 36 44.6**	**-0.2**
	baz=153						
SUA	**Susitna One**	**5.37**	**357**		**Pn**	**15 36 46.6**	**-0.3**
SUA	**Susitna One**	**5.37**	**357**	P	**Pn**	**15 36 46.6**	**-0.3**
	baz=176						
KNK	**Knik Glacier**	**5.39**	**9**		**Pn**	**15 36 46.8**	**-0.2**
KNK	**Knik Glacier**	**5.39**	**9**	P	**Pn**	**15 36 46.8**	**-0.2**
	baz=190						
STLK	**Strandline Lak**	**5.47**	**352**		**Pn**	**15 36 47.6**	**-0.5**
N18K	**Kilae Creek**	**5.47**	**329**		**Pn**	**15 36 48.2**	**0.0**
N18K	**Kilae Creek**	**5.47**	**329**	P	**Pn**	**15 36 47.8**	**-0.4**
	baz=145						
O16K	**Kokwok River B**	**5.47**	**313**	Pn	**Pn**	**15 36 48.4**	**+0.2**
O16K	**Kokwok River B**	**5.47**	**313**	P	**Pn**	**15 36 48.4**	**+0.2**
	baz=127						
BERG	**Berg Lake**	**5.48**	**36**		**Pn**	**15 36 46.9**	**-1.4**
BMRM	**Bremner River**	**5.67**	**29**		**Pn**	**15 36 50.6**	**-0.4**
BMRM	**Bremner River**	**5.67**	**29**	P	**Pn**	**15 36 50.6**	**-0.4**
	baz=212						
N17K	**Nushagak Hills**	**5.76**	**323**	Pn	**Pn**	**15 36 51.9**	**-0.2**
KLU	**Klutina**	**5.83**	**21**		**Pn**	**15 36 53.8**	**+0.7**
KLU	**Klutina**	**5.83**	**21**	P	**Pn**	**15 36 52.9**	**-0.2**
	baz=203						
BARK	**Barkley Ridge**	**5.91**	**40**		**Pn**	**15 36 53.4**	**-0.9**
O15K	**Ungalikthiuk R**	**6.02**	**305**		**Pn**	**15 36 55.5**	**-0.1**
O15K	**Ungalikthiuk R**	**6.02**	**305**	P	**Pn**	**15 36 55.5**	**-0.1**
	baz=117						
M18K	**Stony River**	**6.13**	**334**		**Pn**	**15 36 56.9**	**-0.4**
M18K	**Stony River**	**6.13**	**334**	P	**Pn**	**15 36 56.9**	**-0.4**
	baz=149						
VRDI	**Verde Repeater**	**6.21**	**32**		**Pn**	**15 36 58.0**	**-0.5**
N25K	**Chitina, Valde**	**6.22**	**25**	Pn	**Pn**	**15 36 59.0**	**+0.5**
N25K	**Chitina, Valde**	**6.22**	**25**	P	**Pn**	**15 36 58.4**	**-0.1**
	baz=209						
GLB	**Gilahina Butte**	**6.28**	**29**		**Pn**	**15 37 00.1**	**+0.7**
KIAG	**Kiagna River**	**6.32**	**37**		**Pn**	**15 36 59.5**	**-0.5**
PTPK	**Patty Peak**	**6.48**	**35**		**Pn**	**15 37 01.5**	**-0.7**
M17K	**Holitna River**	**6.50**	**328**		**Pn**	**15 37 02.4**	**+0.1**
M17K	**Holitna River**	**6.50**	**328**	P	**Pn**	**15 37 02.1**	**-0.2**
	baz=142						
L19K	**White Mountain**	**6.54**	**340**		**Pn**	**15 37 02.7**	**-0.2**
L19K	**White Mountain**	**6.54**	**340**	P	**Pn**	**15 37 02.7**	**-0.2**
	baz=156						
N15K	**Kwethluk River**	**6.63**	**312**		**Pn**	**15 37 05.0**	**+0.9**
BARN	**Barnard Glacie**	**6.66**	**38**		**Pn**	**15 37 03.9**	**-0.7**
PN7A	**Pavlof North-7**	**6.70**	**269**		**Pn**	**15 37 03.5**	**-1.7**
CTG	**Chitna Glacier**	**6.71**	**40**	P	**Pn**	**15 37 04.6**	**-0.7**
	baz=226						
CTGM	**Chitina Glacie**	**6.71**	**40**		**Pn**	**15 37 04.6**	**-0.7**
O14K	**Tigyukauivet M**	**6.72**	**302**		**Pn**	**15 37 04.5**	**-0.7**
O14K	**Tigyukauivet M**	**6.72**	**302**	P	**Pn**	**15 37 04.5**	**-0.7**
	baz=114						
M16K	**Timber Creek**	**6.72**	**321**		**Pn**	**15 37 05.9**	**+0.6**
M16K	**Timber Creek**	**6.72**	**321**	P	**Pn**	**15 37 05.7**	**+0.4**
	baz=134						
PNL	**Peninsula**	**6.76**	**54**		**Pn**	**15 37 04.7**	**-1.2**
PNL	**Peninsula**	**6.76**	**54**	P	**Pn**	**15 37 04.7**	**-1.2**
	baz=242						
BCPM	**Bancas Point**	**6.79**	**51**		**Pn**	**15 37 05.1**	**-1.1**
HARP	**HAARP**	**6.80**	**20**		**Pn**	**15 37 06.2**	**-0.3**
HARP	**HAARP**	**6.80**	**20**	P	**Pn**	**15 37 06.2**	**-0.3**
	baz=204						
L16K	**Owhat River**	**7.38**	**323**	Pn	**Pn**	**15 37 14.3**	**-0.1**
O29M	**Mount Kennedy**	**7.42**	**51**		**Pn**	**15 37 14.4**	**-0.7**
K17K	**Iditarod**	**7.80**	**331**	Pn	**Pn**	**15 37 19.8**	**-0.3**
M13K	**Dall Lake**	**8.16**	**307**		**Pn**	**15 37 25.8**	**+0.7**
L14K	**Kuka Creek**	**8.34**	**314**	Pn	**Pn**	**15 37 28.3**	**+0.8**
K15K	**Wolf Creek Mou**	**8.49**	**321**	Pn	**Pn**	**15 37 30.6**	**+1.0**
SKAG	**Skagway**	**8.61**	**61**	Pn	**Pn**	**15 37 31.3**	**+0.1**
ILAR	**Eielson Array**	**8.83**	**9**	Pn	**Pn**	**15 37 34.3**	**+0.1**
	comp=N,0.3nm,0.3s,baz=194,slow=12,SNR=7.8						
ILAR				Sn	**Sn**	**15 39 10.5**	**-3.2**
	comp=N,0.1nm,0.3s,baz=185,slow=18,SNR=2.7						
	comp=N,0.4nm,0.3s						
MDM	**Murphy Dome**	**8.92**	**5**	Pn	**Pn**	**15 37 35.9**	**+0.4**
L29M	**L29M**	**9.28**	**36**	Pn	**Pn**	**15 37 41.0**	**+0.5**
M31M	**Drury Creek, Y**	**10.13**	**47**	Pn	**Pn**	**15 37 52.3**	**+0.3**
FARO	**Faro, Yukon**	**10.57**	**48**	Pn	**Pn**	**15 37 58.9**	**+0.9**
J30M	**Hart River**	**10.88**	**33**	Pn	**Pn**	**15 38 04.0**	**+1.6**
GRNB	**Grenville Isla**	**11.83**	**93**	Pn	**Pn**	**15 38 14.1**	**-1.2**
INK	**Inuvik**	**14.41**	**25**	Pn	**Pn**	**15 38 52.0**	**+1.6**
	baz=213,slow=10,SNR=5.3						
	comp=N,2.2nm,1.0s						
YKA	**Yellowknife Ar**	**19.05**	**56**	P	**Pn**	**15 39 50.1**	**+0.7**
	comp=N,0.2nm,0.3s,baz=264,slow=10,SNR=6.4						
	comp=N,0.2nm,0.4s						
SONM	**Songino Array**	**58.36**	**310**	P	**P**	**15 45 23.1**	**+1.2**
	comp=N,0.6nm,0.7s,baz=54,slow=7.5,SNR=4.0						
	comp=N,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**61.42**	**327**	P	**P**	**15 45 43.3**	**+0.7**
	comp=N,0.4nm,0.5s,baz=57,slow=5.3,SNR=2.7						
	comp=N,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**66.22**	**328**	P	**P**	**15 46 14.8**	**+0.5**
	comp=N,0.2nm,0.7s,baz=33,slow=6.4,SNR=2.4						
	comp=N,0.2nm,0.7s						
MKAR	**Makanchi Array**	**68.44**	**324**	P	**P**	**15 46 27.9**	**-0.5**
MKAR	**Makanchi Array**	**68.44**	**324**	P	**P**	**15 46 28.3**	**-0.1**
	comp=N,0.2nm,0.5s,baz=49,slow=5.1,SNR=4.9						
	comp=N,0.2nm,0.5s						

DJA 23 15:37:28.4±0.4, 9°S±4° × 11°9E±°, h93km±6km, M3.7/8, mb4.0/1, MLv3.5/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBNI	**Kabupaten Domp**	**0.68**	**336**	P	Pn	15 37 46.0	+1.0
DBNI				S	Sn	15 37 59.6	+2.2
PLAI	**Plampang**	**0.86**	**290**	P	Pn	15 37 46.9	+0.1
PLAI				S	Sn	15 38 01.5	+1.0
TWSI	**Taliwang, Sumb**	**1.73**	**283**	P	Pn	15 37 58.1	+0.9
TWSI				S	Sn	15 38 20.6	+1.4
BASI	**Baing, Sumba**	**2.24**	**119**	P	Pn	15 38 03.6	-0.3
EDFI	**Ende, Flores**	**3.09**	**83**	P	Pn	15 38 15.6	+0.3
SRBI	**Singaraja**	**3.50**	**287**	P	Pn	15 38 19.7	-1.0
MMRI	**Maumere**	**3.64**	**83**	P	Pn	15 38 22.4	-0.2
BKSI	**Bulukumba**	**4.08**	**22**	P	Pn	15 38 29.8	+1.2
BKSI				S	Sn	15 39 15.1	-0.1
JAGI	**Jajag, Banyuwa**	**4.43**	**278**	P	Pn	15 38 32.5	-0.9
SOEI	**Soe**	**5.64**	**97**	P	Pn	15 38 50.1	+0.3

*IDC **23** 15:38:13.1±1.6, 55°.36N × 148°.96W, h0km, mb3.5/4, mbtmp3.6/9, ML3.7/4, Error ellipse: s-maj=33.7km s-min=21.7km az=10.0*
*NEIC **23** 15:38:16.6±1.5, 55°.7N±0°.1 × 149°.2W±0°.1, h9km±5km, mb4.1/2, ML3.9/28, ML3.7(AEIC), Error ellipse: s-maj=17.4km s-min=9.9km az=186.0*
*AEIC **23** 15:38:21.1±1.3, 55°.7N±0°.1 × 149°.25W±0°.02, h7km±6km, Error ellipse: s-maj=18.8km s-min=1.0km az=176.0*

ISC 23 15:38:15.8±0.8, 55.73N±0°.08 × 149°.17W±0°.06, h10km, n96, σ1§44/98, mb3.8/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.73**	**305**		**Sn**	**15 39 29.9**	**-2.9**
OHAK	**Old Harbor**	**2.73**	**305**	Pn	**Pn**	**15 38 59.6**	**0.0**
OHAK	**Old Harbor**	**2.73**	**305**	P	**Pn**	**15 38 59.8**	**+0.1**
OHAK	**Old Harbor**	**2.73**	**305**	P	**Pn**	**15 38 59.7**	**0.0**
	baz=122						
OHAK				S	**Sn**	**15 39 29.9**	**-2.9**
	baz=122						
KDAK	**Kodiak Island**	**2.79**	**319**		**Sn**	**15 39 32.3**	**-1.9**
KDAK	**Kodiak Island**	**2.79**	**319**	Pn	**Pn**	**15 39 00.7**	**+0.2**
KDAK	**Kodiak Island**	**2.79**	**319**	Pn	**Pn**	**15 39 00.9**	**+0.5**
	9.2nm,0.3s,baz=148,slow=5.3,SNR=13						
KDAK				Sn	**Sn**	**15 39 32.5**	**-1.6**
	17nm,0.3s,baz=127,slow=20,SNR=9.1						
	26nm,0.3s						
SYI	**Shuyak Island**	**3.38**	**330**		**Sn**	**15 39 47.8**	**-0.9**
SYI	**Shuyak Island**	**3.38**	**330**	Pn	**Pn**	**15 39 09.0**	**+0.4**
Q20K	**Shuyak Island**	**3.38**	**330**	P	**Pn**	**15 39 08.8**	**+0.2**
	baz=148						
Q20K				S	**Sn**	**15 39 47.8**	**-1.0**
	baz=148						
CNPM	**China Poot**	**3.97**	**345**		**Sn**	**15 40 01.6**	**-1.7**
CNPM	**China Poot**	**3.97**	**345**	Pn	**Pn**	**15 39 16.9**	**+0.2**
CNPM	**China Poot**	**3.97**	**345**	IAML		15 40 04.0	
	comp=N,104nm,0.4s						
CNPM				IAML		15 40 07.3	
	comp=E,86nm,1.3s						
MID	**Middleton Isla**	**4.01**	**21**	Pn	**Pn**	**15 39 17.9**	**+0.7**
MID				IAML		15 39 54.4	
	comp=N,256nm,2.3s						
MID				IAML		15 41 34.0	
	comp=E,288nm,2.1s						
MID	**Middleton Isla**	**4.01**	**21**	P	**Pn**	**15 39 18.0**	**+0.8**
Q23K	**Middleton Isla**	**4.01**	**21**	Pn	**Pn**	**15 39 17.9**	**+0.6**
Q23K				IAML		15 40 55.9	
	comp=N,246nm,1.7s						
Q23K	**Middleton Isla**	**4.01**	**21**	P	**Pn**	**15 39 18.0**	**+0.8**
	baz=204						
Q19K	**Cape Douglas,**	**4.03**	**325**	Pn	**Pn**	**15 39 18.6**	**+1.2**
Q19K				IAML		15 40 12.5	
	comp=N,234nm,0.8s						
Q19K	**Cape Douglas,**	**4.03**	**325**	P	**Pn**	**15 39 19.5**	**+2.1**
	baz=142						
KAHG	**Katmai Hook Gl**	**4.04**	**316**		**Pn**	**15 39 19.5**	**+1.9**
BRSE	**Bradley Lake S**	**4.12**	**349**		**Pn**	**15 39 19.0**	**+0.3**
BRSE					**Sn**	**15 40 04.2**	**-2.6**
BRSE	**Bradley Lake S**	**4.12**	**349**	P	**Pn**	**15 39 18.9**	**+0.3**
	baz=168						
BRLK	**Bradley Lake**	**4.15**	**348**		**Sn**	**15 40 05.2**	**-2.6**
BRLK	**Bradley Lake**	**4.15**	**348**		**Pn**	**15 39 19.1**	**-0.1**
BRLK	**Bradley Lake**	**4.15**	**348**	IAML		15 40 09.5	
	comp=E,105nm,0.5s						
BRLK				IAML		15 40 10.7	
	comp=N,70nm,0.3s						
ACHA	**Angle Creek He**	**4.19**	**309**		**Pn**	**15 39 21.5**	**+1.7**
ANCK	**Angle Creek**	**4.26**	**308**		**Pn**	**15 39 23.5**	**+2.8**
AU22	**Augustine Moun**	**4.29**	**330**		**Pn**	**15 39 20.9**	**-0.2**
KAHC	**Katmai Hardscr**	**4.32**	**315**		**Pn**	**15 39 23.2**	**+1.5**
KAHC	**Katmai Hardscr**	**4.32**	**315**	P	**Pn**	**15 39 23.2**	**+1.5**
	baz=131						
P23K	**Montague Islan**	**4.39**	**12**		**Pn**	**15 39 23.0**	**+0.6**
SEW	**Seward**	**4.39**	**358**		**Pn**	**15 39 22.8**	**+0.3**
CNTC	**Contact Creek**	**4.47**	**307**		**Pn**	**15 39 24.6**	**+1.0**
Q17K	**Contact Creek**	**4.47**	**307**	P	**Pn**	**15 39 24.8**	**+1.2**
	baz=122						
P19K	**Oil Pt**	**4.50**	**333**	Pn	**Pn**	**15 39 25.0**	**+1.0**
P19K				IAML		15 40 20.9	
	comp=N,155nm,0.5s						
P19K				IAML		15 40 22.0	
	comp=E,140nm,0.5s						
O20K	**Slope Mountain**	**4.74**	**339**		**Pn**	**15 39 27.7**	**+0.4**
HIN	**Hinchinbrook I**	**4.89**	**16**	Pn	**Pn**	**15 39 30.4**	**+1.0**
HIN				IAML		15 40 26.0	
	comp=E,136nm,0.6s						
P18K	**Big Mountain,**	**4.92**	**321**	Pn	**Pn**	**15 39 30.3**	**+0.6**
P18K				IAML		15 40 27.4	
	comp=E,42nm,3.2s						
KAIM	**Kayak Island**	**4.92**	**29**	Pn	**Pn**	**15 39 30.8**	**+1.1**
Q16K	**King Salmon**	**5.03**	**309**		**Pn**	**15 39 31.4**	**+0.2**
Q16K	**King Salmon**	**5.03**	**309**	P	**Pn**	**15 39 32.4**	**+1.2**
	baz=123						
RDSO	**Redoubt South**	**5.11**	**340**		**Pn**	**15 39 32.3**	**-0.1**
RDT	**Redoubt**	**5.16**	**342**		**Pn**	**15 39 32.7**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.16**	**19**	P	**Pn**	**15 39 34.2**	**+1.2**
CHGN	**Chignik**	**5.22**	**280**	Pn	**Pn**	**15 39 33.5**	**-0.3**
CHGN				IAML		15 40 33.4	
	comp=N,119nm,0.8s						
P17K	**Kvichak River**	**5.25**	**315**		**Pn**	**15 39 33.9**	**-0.2**
P17K	**Kvichak River**	**5.25**	**315**	P	**Pn**	**15 39 35.6**	**+1.4**
	baz=129						
O19K	**Port Alsworth**	**5.25**	**331**		**Pn**	**15 39 34.5**	**+0.2**
O19K	**Port Alsworth**	**5.25**	**331**	IAML		15 40 50.2	
	comp=E,122nm,0.5s						
GOAT	**Goat Mountain**	**5.41**	**24**		**Pn**	**15 39 37.0**	**+0.5**
BERG	**Berg Lake**	**5.50**	**30**		**Pn**	**15 39 38.6**	**+0.8**
P16K	**Nushagak River**	**5.81**	**308**	P	**Pn**	**15 39 43.2**	**+1.3**
	baz=121						
N19K	**Bonanza Creek**	**5.82**	**333**	Pn	**Pn**	**15 39 42.3**	**+0.1**
O17K	**Koliganek Bris**	**5.87**	**317**	P	**Pn**	**15 39 43.6**	**+0.9**
	baz=131						
PMR	**Palmer**	**5.88**	**0**	P	**Pn**	**15 39 44.2**	**+1.3**
KLU	**Klutina**	**6.03**	**15**	Pn	**Pn**	**15 39 46.5**	**+1.5**
N18K	**Kilae Creek**	**6.11**	**327**	Pn	**Pn**	**15 39 46.3**	**+0.3**
O16K	**Kokwok River B**	**6.16**	**313**		**Pn**	**15 39 46.9**	**+0.2**
N25K	**Chitina, Valde**	**6.36**	**20**		**Pn**	**15 39 50.9**	**+1.3**
N25K	**Chitina, Valde**	**6.36**	**20**	P	**Pn**	**15 39 51.4**	**+1.9**
	baz=204						
GLB	**Gilahina Butte**	**6.38**	**24**		**Pn**	**15 39 50.7**	**+0.9**
PINM	**Pinnacle**	**6.46**	**44**	P	**Pn**	**15 39 52.6**	**+1.7**
	baz=231						
PNL	**Peninsula**	**6.56**	**49**	P	**Pn**	**15 39 53.8**	**+1.6**
PNL	**Peninsula**	**6.56**	**49**	P	**Pn**	**15 39 53.5**	**+1.3**
	baz=237						
BARN	**Barnard Glacie**	**6.64**	**33**		**Pn**	**15 39 54.8

Q23K					IAML			15 41 59.9		
	comp=N,203nm,1.2s									
MID	**Middleton Isla**	**3.75**	**23**			Pn		15 40 51.3	-5.1	
MID	**Middleton Isla**	**3.75**	**23**		IAML			15 41 41.4		
	comp=E,189nm,1.3s									
MID					IAML			15 41 59.9		
	comp=N,194nm,1.3s									
BRSE	**Bradley Lake S**	**3.83**	**348**			Pn		15 40 52.5	-5.0	
BRSE						Sn		15 41 34.4	-8.1	
BRLK	**Bradley Lake**	**3.87**	**347**			Pn		15 40 52.9	-5.1	
BRLK	**Bradley Lake**	**3.87**	**347**		IAML			15 41 39.2		
	comp=E,45nm,1.3s									
BRLK					IAML			15 41 57.0		
	comp=N,33nm,1.1s									
P19K	**Oil Pt**	**4.24**	**331**		Pn	Pn		15 40 58.4	-4.7	
P19K					IAML			15 41 49.0		
	comp=E,66nm,0.7s									
P19K					IAML			15 41 49.4		
	comp=N,59nm,1.0s									
HIN	**Hinchinbrook I**	**4.62**	**17**			Pn		15 41 03.9	-4.5	
HIN	**Hinchinbrook I**	**4.62**	**17**		IAML			15 42 35.8		
	comp=N,51nm,1.5s									
HIN					IAML			15 43 26.2		
	comp=E,48nm,1.4s									
KAIM	**Kayak Island**	**4.68**	**31**	Pn	Pn			15 41 05.0	-4.2	
KAIM					IAML			15 43 32.9		
	comp=N,69nm,1.2s									
KAIM					IAML			15 44 07.5		
	comp=E,95nm,1.5s									
P18K	**Big Mountain,**	**4.68**	**319**			Pn		15 41 04.5	-4.7	
FID	**Port Fidalgo**	**4.96**	**16**			Pn		15 41 08.5	-4.6	
FID	**Port Fidalgo**	**4.96**	**16**		IAML			15 44 29.6		
	comp=E,77nm,1.2s									
P17K	**Kvichak River**	**5.03**	**312**			Pn		15 41 10.1	-3.8	
BERG	**Berg Lake**	**5.27**	**31**	Pn		Pn		15 41 13.1	-4.1	
SNH	**Sunshine Point**	**5.37**	**36**	Pn		Pn		15 41 14.8	-3.9	
PNL	**Peninsula**	**6.39**	**51**			Pn		15 41 28.9	-3.8	
BCPM	**Bancas Point**	**6.44**	**48**			Pn		15 41 29.5	-3.8	
CTGM	**Chitina Glacie**	**6.45**	**36**	Pn		Pn		15 41 29.8	-3.8	
M17K	**Holitna River**	**6.89**	**325**	Pn		Pn		15 41 35.5	-4.0	

IDC ***23*** *15:43:06.3±0.9, 55°.70N×150°.11W, h0km, mb4.1/23, mbtmp4.1/27, ML4.1/4, MS4.0/8, Error ellipse: s-maj=24.9km s-min=13.9km az=20.0*

MOS ***23*** *15:43:09.5±0.9, 56°.38N×150°.10W, h10km, mb4.6/20, Error ellipse: s-maj=16.6km s-min=5.4km az=93.9*

AEIC ***23*** *15:43:10.2±3.0, 55°.89N±0°.08×149°.8W±0°.1, h15km±5km, Error ellipse: s-maj=12.1km s-min=8.9km az=181.0*

NEIC ***23*** *15:43:10.2±1.8, 56°.15N±0°.07×150°.29W±0°.09, h10km±1km, mb4.5/28, ML4.5/46, ML4.5(AEIC), Error ellipse: s-maj=12.0km s-min=7.7km az=154.0*

ISC 23 15:43:09.3±1.0, 56°.15N±0°.06×149°.94W±0°.04, h8km±5km, n267, σ1$85/250, mb4.5/49, MS4.0/8, 8C-8D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.14**	**302**		**Pn**	**15 43 42.7**	**-2.6**
OHAK					**Sn**	**15 44 06.6**	**-5.4**
OHAK	**Old Harbor**	**2.14**	**302**	P	**Pn**	**15 43 43.0**	**-2.3**
OHAK	**Old Harbor**	**2.14**	**302**	P	**Pn**	**15 43 42.8**	**-2.5**
	baz=127						
OHAK				S	**Sn**	**15 44 06.5**	**-5.4**
	baz=127						
KDAK	**Kodiak Island**	**2.19**	**320**	Pn	**Pn**	**15 43 44.7**	**-1.2**
KDAK	**Kodiak Island**	**2.19**	**320**		**Sn**	**15 44 09.7**	**-3.5**
KDAK	**Kodiak Island**	**2.19**	**320**	Pn	**Pn**	**15 43 44.8**	**-1.1**
	78nm,0.3s,baz=142,slow=4.9,SNR=156						
KDAK				Sn	**Sn**	**15 44 10.3**	**-2.9**
	83nm,0.3s,baz=46,slow=18,SNR=4.8						
KDAK				LR	LR	15 44 43.7	
	comp=Z,2μm,19.9s,baz=178,slow=39						
	238nm,0.3s						
Q20K	**Shuyak Island**	**2.80**	**333**	P	**Pn**	**15 43 54.2**	**-0.2**
	baz=152						
Q20K				S	**Sn**	**15 44 27.1**	**-1.2**
	baz=152						
SYI	**Shuyak Island**	**2.80**	**333**		**Pn**	**15 43 54.1**	**-0.3**
SYI					**Sn**	**15 44 25.5**	**-2.8**
Q19K	**Cape Douglas,**	**3.43**	**326**		**Sn**	**15 44 46.4**	**+2.6**
Q19K	**Cape Douglas,**	**3.43**	**326**	Pn	**Pn**	**15 44 03.2**	**+0.2**
Q19K	**Cape Douglas,**	**3.43**	**326**	IAML		15 44 48.6	
	comp=E,5μm,0.9s						
Q19K				IAML		15 44 48.6	
	comp=N,3μm,0.8s						
Q19K	**Cape Douglas,**	**3.43**	**326**	P	**Pn**	**15 44 03.3**	**+0.2**
	baz=145						
KAHG	**Katmai Hook Gl**	**3.43**	**315**		**Pn**	**15 44 03.3**	**+0.2**
CNPM	**China Poot**	**3.45**	**349**		**Sn**	**15 44 44.5**	**0.0**
CNPM	**China Poot**	**3.45**	**349**	Pn	**Pn**	**15 44 03.4**	**-0.1**
CNPM	**China Poot**	**3.45**	**349**	IAML		15 44 45.8	
	comp=E,977nm,0.6s						
CNPM				IAML		15 44 45.8	
	comp=N,891nm,0.4s						
KCE	**Katmai Mt Cerb**	**3.54**	**308**		**Pn**	**15 44 04.5**	**-0.1**
KCG	**Knife Ck. Glac**	**3.55**	**310**		**Pn**	**15 44 04.1**	**-0.6**
ACHA	**Angle Creek He**	**3.59**	**307**		**Pn**	**15 44 04.5**	**-0.8**
BRSE	**Bradley Lake S**	**3.62**	**354**		**Pn**	**15 44 05.1**	**-0.7**
BRSE	**Bradley Lake S**	**3.62**	**354**	P	**Pn**	**15 44 05.0**	**-0.8**
	baz=171						
HOM	**Homer**	**3.63**	**346**	Pn	**Pn**	**15 44 05.7**	**-0.1**
HOM				IAML		15 44 52.6	
	comp=E,1μm,0.8s						
HOM				IAML		15 44 54.7	
	comp=N,1μm,0.5s						
ANCK	**Angle Creek**	**3.66**	**306**		**Pn**	**15 44 05.4**	**-0.8**
BRLK	**Bradley Lake**	**3.66**	**352**		**Pn**	**15 44 05.3**	**-0.9**
BRLK				IAML		15 44 50.9	
	comp=E,502nm,0.6s						
BRLK				IAML		15 44 51.7	
	comp=N,660nm,0.6s						
KVTA	**Katmai Vly 10**	**3.67**	**310**		**Pn**	**15 44 06.2**	**-0.2**
AU22	**Augustine Moun**	**3.71**	**332**		**Pn**	**15 44 07.3**	**+0.4**
KAHC	**Katmai Hardscr**	**3.71**	**314**		**Pn**	**15 44 06.9**	**-0.2**
KAHC	**Katmai Hardscr**	**3.71**	**314**	P	**Pn**	**15 44 06.9**	**-0.2**
	baz=134						
AUCH	**Augustine Cone**	**3.73**	**331**		**Pn**	**15 44 07.6**	**+0.4**
AUL	**Augustine Lava**	**3.74**	**331**		**Pn**	**15 44 07.7**	**+0.3**
PLK3	**Peulik 3**	**3.80**	**297**		**Pn**	**15 44 06.6**	**-1.5**
Q23K	**Middleton Isla**	**3.81**	**29**		**Sn**	**15 44 51.1**	**-2.0**
Q23K	**Middleton Isla**	**3.81**	**29**	Pn	**Pn**	**15 44 08.9**	**+0.8**
MID	**Middleton Isla**	**3.81**	**29**	Pn	**Pn**	**15 44 09.1**	**+0.9**
MID				IAML		15 44 54.9	
	comp=E,418nm,1.5s						
MID	**Middleton Isla**	**3.81**	**29**	P	**Pn**	**15 44 04.3**	**-3.9**
MID	**Middleton Isla**	**3.81**	**29**	P	**Pn**	**15 44 09.1**	**+0.9**
Q17K	**Contact Creek**	**3.87**	**306**	P	**Pn**	**15 44 08.0**	**-1.1**
	baz=125						
P19K	**Oil Pt**	**3.92**	**335**		**Sn**	**15 44 58.5**	**+2.3**
P19K	**Oil Pt**	**3.92**	**335**		**Pn**	**15 44 09.9**	**0.0**
P19K	**Oil Pt**	**3.92**	**335**	IAML		15 44 59.0	
	comp=E,2μm,0.5s						
P19K				IAML		15 44 59.1	
	comp=N,3μm,0.5s						
P19K	**Oil Pt**	**3.92**	**335**	P	**Pn**	**15 44 10.3**	**+0.5**
	baz=152						
SEW	**Seward**	**3.97**	**4**	P	**Pn**	**15 44 08.5**	**-2.0**
	baz=181						
PLK1	**Peulik 1**	**4.01**	**297**		**Pn**	**15 44 09.5**	**-1.5**
P23K	**Montague Islan**	**4.08**	**18**		**Pn**	**15 44 09.1**	**-3.0**
P23K	**Montague Islan**	**4.08**	**18**	P	**Pn**	**15 44 09.0**	**-3.0**
	baz=195						
O20K	**Slope Mountain**	**4.19**	**341**		**Pn**	**15 44 13.3**	**-0.3**
O20K					**Sn**	**15 45 04.1**	**+1.4**
O20K	**Slope Mountain**	**4.19**	**341**	P	**Pn**	**15 44 13.5**	**0.0**
	baz=159						
P18K	**Big Mountain,**	**4.31**	**321**	Pn	**Pn**	**15 44 14.5**	**-0.7**
P18K				IAML		15 45 03.3	
	comp=E,202nm,1.4s						
P18K				IAML		15 45 08.2	
	comp=N,188nm,0.5s						
P18K	**Big Mountain,**	**4.31**	**321**	P	**Pn**	**15 44 14.3**	**-0.9**
	baz=139						
O22K	**Cooper Landing**	**4.34**	**1**		**Pn**	**15 44 14.7**	**-0.9**
R16K	**Pilot Point**	**4.43**	**292**		**Pn**	**15 44 14.4**	**-2.3**
R16K	**Pilot Point**	**4.43**	**292**	IAML		15 45 47.9	
	comp=E,363nm,1.5s						
R16K				IAML		15 46 03.4	
	comp=N,374nm,1.5s						
RED	**Redoubt Volcan**	**4.53**	**342**		**Pn**	**15 44 17.2**	**-1.0**
RSO	**Redoubt South**	**4.57**	**342**		**Pn**	**15 44 18.2**	**-0.7**
RDT	**Redoubt**	**4.62**	**345**		**Pn**	**15 44 18.2**	**-1.2**
HIN	**Hinchinbrook I**	**4.63**	**22**		**Pn**	**15 44 16.4**	**-3.1**
HIN				IAML		15 45 14.9	
	comp=N,440nm,0.8s						
P17K	**Kvichak River**	**4.63**	**314**	P	**Pn**	**15 44 19.2**	**-0.4**
	baz=131						
O18K	**Koktuh Hills**	**4.65**	**325**	Pn	**Pn**	**15 44 19.1**	**-0.8**
O18K				IAML		15 45 13.6	
	comp=N,480nm,0.7s						
O18K				IAML		15 45 15.1	
	comp=E,520nm,0.7s						
O19K	**Port Alsworth**	**4.67**	**332**	Pn	**Pn**	**15 44 19.6**	**-0.5**
CAPN	**Captain Cook N**	**4.67**	**353**	Pn	**Pn**	**15 44 19.6**	**-0.5**
DFR	**Drift River**	**4.68**	**343**		**Pn**	**15 44 19.4**	**-0.9**
NCT	**North Crescent**	**4.70**	**342**		**Pn**	**15 44 19.5**	**-1.0**
CHGN	**Chignik**	**4.73**	**275**		**Pn**	**15 44 18.0**	**-2.9**
CHGN				IAML		15 45 14.9	
	comp=N,266nm,1.2s						
CHGN				IAML		15 45 15.0	
	comp=E,271nm,1.3s						
KAIM	**Kayak Island**	**4.79**	**35**	Pn	**Pn**	**15 44 17.7**	**-4.0**
KAIM				IAML		15 45 26.7	
	comp=N,431nm,0.5s						
KAIM				IAML		15 45 26.9	
	comp=E,561nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.93**	**25**		**Pn**	**15 44 20.3**	**-3.3**
EYAK	**Cordova Ski Ar**	**4.93**	**25**	P	**Pn**	**15 44 20.7**	**-2.9**
RC01	**Rabbit Creek A**	**4.95**	**1**		**Pn**	**15 44 22.5**	**-1.5**
RC01				IAML		15 45 25.8	
	comp=E,351nm,0.7s						
RC01				IAML		15 45 28.4	
	comp=N,236nm,0.5s						
SPCR	**Spurr Chakacha**	**5.20**	**348**		**Pn**	**15 44 26.8**	**-0.6**
GOAT	**Goat Mountain**	**5.22**	**30**		**Pn**	**15 44 24.3**	**-3.4**
N19K	**Bonanza Creek**	**5.25**	**335**		**Pn**	**15 44 27.3**	**-0.8**
N19K				IAML		15 45 44.8	
	comp=E,162nm,0.9s						
N19K				IAML		15 45 46.5	
	comp=N,197nm,0.8s						
SPCP	**Crater Peak Br**	**5.26**	**348**		**Pn**	**15 44 27.9**	**-0.4**
KNK	**Knik Glacier**	**5.33**	**8**		**Pn**	**15 44 27.6**	**-1.6**
KNK				IAML		15 45 39.9	
	comp=N,155nm,0.5s						
KNK				IAML		15 45 50.0	
	comp=E,211nm,0.8s						
SUA	**Susitna One**	**5.34**	**356**		**Pn**	**15 44 28.4**	**-1.1**
SUA				IAML		15 45 33.6	
	comp=N,342nm,0.9s						
SUA				IAML		15 45 35.2	
	comp=E,258nm,1.0s						
BERG	**Berg Lake**	**5.38**	**35**		**Pn**	**15 44 25.8**	**-4.0**
SPNN	**North Nagishla**	**5.42**	**346**		**Pn**	**15 44 29.9**	**-0.7**
DIV	**Divide**	**5.44**	**22**		**Pn**	**15 44 27.9**	**-2.9**
PMR	**Palmer**	**5.47**	**4**	Pn	**Pn**	**15 44 29.5**	**-1.6**
PMR	**Palmer**	**5.47**	**4**	P	**Pn**	**15 44 29.8**	**-1.3**
PMR	**Palmer**	**5.47**	**4**	P	**Pn**	**15 44 29.7**	**-1.6**
N18K	**Kilae Creek**	**5.51**	**328**	Pn	**Pn**	**15 44 30.6**	**-1.0**
O16K	**Kokwok River B**	**5.55**	**312**		**Pn**	**15 44 31.3**	**-0.9**
BMRM	**Bremner River**	**5.58**	**28**		**Pn**	**15 44 29.3**	**-3.3**
GHO	**Glory Hole Cre**	**5.66**	**5**		**Pn**	**15 44 33.0**	**-0.8**
SML	**Sawmill**	**5.73**	**8**		**Pn**	**15 44 33.4**	**-1.3**
KLU	**Klutina**	**5.75**	**20**		**Pn**	**15 44 32.7**	**-2.3**
SVW2	**Sparrevohn**	**5.77**	**332**		**Pn**	**15 44 34.2**	**-1.0**
SVW2	**Sparrevohn**	**5.77**	**332**	P	**Pn**	**15 44 34.8**	**-0.4**
BARK	**Barkley Ridge**	**5.79**	**40**		Pn	15 44 31.4	-4.2
N17K	**Nushagak Hills**	**5.81**	**322**		**Pn**	**15 44 35.2**	**-0.6**
SCM	**Sheep Creek Mo**	**5.86**	**12**		**Pn**	**15 44 35.0**	**-1.4**
SCM	**Sheep Creek Mo**	**5.86**	**12**	P	**Pn**	**15 44 35.0**	**-1.4**
SKT	**Skwentna**	**5.90**	**353**	Pn	**Pn**	**15 44 36.6**	**-0.4**
SDPT	**Sand Point**	**6.01**	**267**	P	**Pn**	**15 44 35.3**	**-3.1**
VRDI	**Verde Repeater**	**6.11**	**31**	Pn	**Pn**	**15 44 36.5**	**-3.6**
N25K	**Chitina, Valde**	**6.13**	**25**	Pn	**Pn**	**15 44 37.4**	**-2.7**
GLB	**Gilahina Butte**	**6.18**	**28**		**Pn**	**15 44 37.6**	**-3.3**
KIAG	**Kiagna River**	**6.21**	**37**		Pn	15 44 37.4	-4.0
SAMH	**Samovar Hills**	**6.28**	**47**		Pn	15 44 37.8	-4.4
M24K	**Tolsona, Glenn**	**6.28**	**16**	Pn	**Pn**	**15 44 41.3**	**-0.9**
YKU2	**Yakutat**	**6.43**	**54**	P	**Pn**	**15 44 40.1**	**-4.1**
PCA	**Pinnacle**	**6.47**	**48**		Pn	15 44 40.0	-4.9
M17K	**Holitna River**	**6.55**	**327**		**Pn**	**15 44 45.6**	**-0.2**
L19K	**White Mountain**	**6.55**	**339**		**Pn**	**15 44 45.2**	**-0.8**
PNL	**Peninsula**	**6.63**	**54**		Pn	15 44 41.7	-5.3
N15K	**Kwethluk River**	**6.71**	**311**		**Pn**	**15 44 47.8**	**-0.3**
HARP	**HAARP**	**6.72**	**19**		**Pn**	**15 44 45.8**	**-2.5**
WAT7	**Susitna Watana**	**6.72**	**4**		**Pn**	**15 44 47.6**	**-0.7**
WAT1	**Susitna Watana**	**6.74**	**5**		**Pn**	**15 44 47.5**	**-1.0**
M16K	**Timber Creek**	**6.79**	**320**		**Pn**	**15 44 48.7**	**-0.4**
O14K	**Tigyukauivet M**	**6.82**	**302**		**Pn**	**15 44 48.4**	**-1.2**
PN7A	**Pavlof North-7**	**6.84**	**269**		**Pn**	**15 44 46.8**	**-3.2**
PPLA	**Purkeypile**	**6.86**	**351**		**Pn**	**15 44 50.3**	**0.0**
DHY	**Denali Highway**	**7.07**	**10**		**Pn**	**15 44 51.8**	**-1.3**
PAX	**Paxson**	**7.20**	**16**		**Pn**	**15 44 53.3**	**-1.6**
PAX	**Paxson**	**7.20**	**16**	P	**Pn**	**15 44 53.3**	**-1.6**
RND	**Reindeer**	**7.30**	**4**		**Pn**	**15 44 54.8**	**-1.4**
RND	**Reindeer**	**7.30**	**4**	P	**Pn**	**15 44 54.8**	**-1.4**
TRF	**Thorofare Moun**	**7.32**	**359**		**Pn**	**15 44 56.0**	**-0.7**
YUK2	**White River**	**7.34**	**36**		**Pn**	**15 44 54.0**	**-2.8**
CAST	**Castle Rocks**	**7.37**	**352**		**Pn**	**15 44 56.6**	**-0.5**
YUK8	**Steele Glacier**	**7.38**	**42**		**Pn**	**15 44 54.2**	**-3.2**
KTH	**Kantishna Hill**	**7.44**	**357**		**Pn**	**15 44 57.8**	**-0.4**
TTA	**Tatalina**	**7.46**	**338**	Pn	**Pn**	**15 44 57.0**	**-1.5**
TTA	**Tatalina**	**7.46**	**338**	P	**Pn**	**15 44 57.0**	**-1.5**
TTA	**Tatalina**	**7.46**	**338**	P	**Pn**	**15 44 57.0**	**-1.5**
YUK3	**Moose Creek**	**7.46**	**37**		**Pn**	**15 44 55.4**	**-3.3**
YUK7	**Dusty Glacier**	**7.60**	**50**		Pn	15 44 55.8	-4.7
MCK	**McKinley**	**7.62**	**3**		**Pn**	**15 44 59.6**	**-1.0**
MCK	**McKinley**	**7.62**	**3**	P	**Pn**	**15 44 59.6**	**-1.0**
FALS	**False Pass**	**7.77**	**266**	P	**Pn**	**15 44 59.2**	**-3.3**
M14K	**Bethel**	**7.81**	**311**	Pn	**Pn**	**15 45 02.4**	**-0.7**
K24K	**Donnelly Dome**	**7.95**	**13**		**Pn**	**15 45 03.2**	**-1.9**
ISLZ	**Isanotski Laza**	**7.96**	**265**		**Pn**	**15 45 01.3**	**-4.0**
BPAW	**Bear Paw Mtn.**	**7.99**	**357**		**Pn**	**15 45 04.3**	**-1.4**
RIDG	**Independent Ri**	**8.03**	**16**		**Pn**	**15 45 04.5**	**-1.7**
J18K	**Innoko River**	**8.09**	**338**		**Pn**	**15 45 05.2**	**-1.8**
SIT	**Sitka**	**8.12**	**78**	P	Pn	15 44 58.8	-8.5
SSLS	**Shishaldin Sou**	**8.13**	**266**		**Pn**	**15 45 03.7**	**-3.9**
SKAG	**Skagway**	**8.47**	**61**	P	Pn	15 45 07.1	-5.1
CCB	**Clear Creek Bu**	**8.59**	**6**		**Pn**	**15 45 12.7**	**-1.1**
JIS	**Juneau Island**	**8.70**	**69**	P	Pn	15 45 09.9	-5.5
IL31		**8.78**	**9**		**Pn**	**15 45 14.6**	**-1.8**
ILAR	**Eielson Array**	**8.78**	**9**	Pn	**Pn**	**15 45 15.7**	**-0.7**
	comp=E,0.9nm,0.3s,baz=192,slow=13,SNR=20						
ILAR				Sn	**Sn**	**15 46 50.3**	**-5.1**
	comp=E,0.8nm,0.3s,baz=196,slow=17,SNR=2.0						
	comp=E,4.5nm,0.7s						
COLA	**College**	**8.81**	**6**		**Pn**	**15 45 16.9**	**+0.1**
COLA	**College**	**8.81**	**6**	P	**Pn**	**15 45 16.4**	**-0.4**
COLA	**College**	**8.81**	**6**	P	**Pn**	**15 45 16.9**	**+0.1**
I23K	**Minto, Yukon-K**	**9.03**	**2**		**Pn**	**15 45 18.4**	**-1.5**
I21K	**Tanana**	**9.11**	**355**		**Pn**	**15 45 21.1**	**+0.1**
CRAG	**Craig**	**9.49**	**87**	P	Pn	15 45 18.0	-8.2
DAWY	**Dawson**	**9.51**	**29**	Pn	**Pn**	**15 45 24.1**	**-2.3**
PRP	**Porcupine Dome**	**9.64**	**11**		**Pn**	**15 45 26.7**	**-1.6**
EGAK	**Eagle**	**9.67**	**23**	Pn	**Pn**	**15 45 26.8**	**-1.8**
UNV	**Unalaska Valle**	**9.80**	**263**	P	Pn	15 45 25.9	-4.4
IMAR	**Indian Mountai**	**10.03**	**351**	Pn	**Pn**	**15 45 33.6**	**0.0**
G21K	**Allakaket**	**10.54**	**352**		**Pn**	**15 45 40.9**	**+0.4**
G18K	**Tagagawik**	**10.64**	**340**		**Pn**	**15 45 41.8**	**-0.1**
FYU	**Fort Yukon**	**10.69**	**10**		**Pn**	**15 45 40.8**	**-1.7**
DLBC	**Dease Lake**	**11.01**	**70**	Pn	**Pn**	**15 45 49.2**	**+2.2**
	comp=E,1.5nm,0.3s,baz=259,slow=7.6,SNR=13						
DLBC				Sn	**Sn**	**15 47 45.1**	**-5.1**
	comp=E,0.5nm,0.3s,baz=267,slow=17,SNR=1.1						
	comp=E,2.7nm,0.3s						
SPIA	**Saint Paul Isl**	**11.22**	**284**	P	**Pn**	**15 45 47.5**	**-2.3**
F21K	**Alatna River**	**11.23**	**353**		**Pn**	**15 45 50.5**	**+0.5**
ANM	**Nome**	**11.35**	**324**	Pn	**Pn**	**15 45 52.0**	**+0.4**
ANM	**Nome**	**11.35**	**324**	P	**Pn**	**15 45 52.0**	**+0.4**
NIKH	**Nikolski High**	**11.43**	**262**	P	**Pn**	**15 45 49.9**	**-2.8**
BMAR	**Burnt Mountain**	**11.59**	**10**	Pn	**Pn**	**15 45 53.2**	**-1.7**
EPYK	**Eagle Plains**	**12.03**	**26**	Pn	**Pn**	**15 46 01.1**	**+0.3**
E25K	**Arctic Village**	**12.18**	**8**		**Pn**	**15 46 00.7**	**-2.2**
INK	**Inuvik**	**14.32**	**25**	Pn	**Pn**	**15 46 30.4**	**-1.7**
	comp=E,0.1nm,0.3s,baz=208,slow=16,SNR=11						
WRGLY	**Wrigley**	**15.04**	**51**	Pn	**Pn**	**15 46 42.7**	**+0.9**
WRGLY				IAmb	IAmb	15 47 04.7	
	comp=Z,30nm,1.0s						
ADK	**Adak**	**16.24**	**266**	P	**Pn**	**15 46 53.0**	**-4.6**
C36M	**Paulatuk**	**17.54**	**31**		**P**	**15 47 14.8**	**-0.2**
YKA	**Yellowknife Ar**	**18.92**	**56**		**Pn**	**15 47 31.9**	**+1.2**
YKA	**Yellowknife Ar**	**18.92**	**56**	*e*P	**Pn**	**15 47 33.5**	**+2.8**
YKA	**Yellowknife Ar**	**18.92**	**56**	P	**Pn**	**15 47 33.2**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=264,slow=11,SNR=56						
	comp=Z,12nm,0.9s						
A36M	**Sachs Harbour**	**18.95**	**24**	P	**P**	**15 47 29.1**	**-1.3**
MXC	**Moxie City**	**20.69**	**105**	IAmb	IAmb	15 47 56.4	
	comp=Z,22nm,1.3s						
NEW	**Newport**	**21.43**	**98**	P	**P**	**15 47 56.4**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=38,slow=9.6,SNR=2.0						
	comp=Z,2.1nm,0.8s						
HUMO	**Hull Mountain**	**22.00**	**117**	P	**P**	**15 48 06.4**	**+2.6**
J05D	**Fort Rock, OR**	**22.39**	**113**	P	**P**	**15 48 07.5**	**-0.6**
J05D				IAmb	IAmb	15 48 21.4	
	comp=Z,18nm,1.0s						
YBH	**Yreka Blue Hor**	**22.77**	**118**	LR	LR	15 55 00.8	
	comp=Z,508nm,19.6s,baz=230,slow=32						
BILL	**Bilibino**	**23.09**	**318**	*i* P	**P**	**15 48 13.4**	**-1.7**
ELK	**Elko**	**27.33**	**110**	P	**P**	**15 48 56.4**	**+1.7**
ELK				IAmb	IAmb	15 49 09.6	
	comp=E,8.7nm,1.3s						
ELK	**Elko**	**27.33**	**110**	P	**P**	**15 48 56.4**	**+1.7**
ELK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NVAR	**Mina Array Bea**	**27.48**	**117**	P	**P**	**15 48 53.0**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=310,slow=11,SNR=2.6						
NVAR				LR	LR	15 58 08.5	
	comp=Z,334nm,18.1s,baz=316,slow=33						
	comp=Z,0.3nm,0.6s						
RES	**Resolute Bay**	**27.85**	**28**	LR	LR	16 01 54.5	
	comp=Z,173nm,18.5s,baz=193,slow=40						
PDAR	**Pinedale Array**	**29.00**	**100**	P	**P**	**15 49 07.4**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=311,slow=5.9,SNR=2.1						
	comp=Z,0.6nm,0.6s						
SPR3	**Spring Creek 3**	**29.08**	**111**	P	**P**	**15 49 11.6**	**+1.2**
SPR3				IAmb	IAmb	15 49 23.3	
	comp=Z,8.0nm,1.2s						
SEY	**Seymchan**	**29.09**	**307**	‖ *e*P	**P**	**15 49 09.5**	**-0.4**
SEY				pmax	pmax		
	comp=Z,45nm,3.8s						
FCC	**Fort Churchill**	**29.42**	**61**	P	**P**	**15 49 15.2**	**+2.4**
FCC	**Fort Churchill**	**29.42**	**61**	P	**P**	**15 49 15.2**	**+2.4**
FCC				pmax	pmax		
	comp=Z,14nm,1.1s						
PETK	**Petropavlovsk-**	**29.86**	**286**	P	**P**	**15 49 14.8**	**-2.1**
	comp=Z,4.8nm,0.9s,baz=75,slow=12,SNR=2.9						
	comp=Z,4.8nm,0.9s						
PRN	**Pahroc Range**	**29.91**	**114**	IAmb	IAmb	15 49 30.2	
	comp=Z,12nm,1.2s						
PFO	**Pinyon Flats O**	**32.20**	**120**	‖ *e*P	**P**	**15 49 40.4**	**+2.6**
TIXI	**Tiksi**	**35.59**	**327**	P	**P**	**15 50 06.5**	**-0.1**
TIXI				IAmb	IAmb	15 50 09.3	
	comp=Z,5.7nm,1.1s						
TIXI	**Tiksi**	**35.59**	**327**	‖ *e*P	**P**	**15 50 07.1**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
FRB	**Frobisher Bay**	**38.78**	**45**	LR	LR	16 06 46.1	
	comp=Z,438nm,21.3s,baz=254,slow=36						
YAK	**Yakutsk**	**39.20**	**313**	P	**P**	**15 50 36.7**	**-0.6**
YAK	**Yakutsk**	**39.20**	**313**	*e*P	**P**	**15 50 36.5**	**-0.8**
YAK				*e**PP	**sP**	**15 50 41.8**	**+3.2**
YAK				*e*		15 52 48.1	
YAK				*e*S	**S**	**15 56 37.9**	**+0.6**
YAK				*e*		16 00 43.0	
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				smax	smax		
	comp=N,617nm,4.9s						

KURBB LR LR 16 27 29.5
comp=Z,153nm,18.6s,baz=305,slow=40
comp=Z,1.5nm,0.7s
GTA Gaotai 68.04 308 *e*P **P 15 54 10.3 +1.2**
GTA pP pwP 15 54 23.1 +6.5
GTA pmax pmax
comp=Z,2.0nm,1.4s
MK31 Makanchi Array 68.49 324 P **P 15 54 11.3 -0.4**
MK31 lAmb lAmb 15 54 31.2
comp=Z,4.1nm,1.4s
MK31 Makanchi Array 68.49 324 *ce*P **P 15 54 11.6 -0.1**
MKAR Makanchi Array 68.49 324 *e*P **P 15 54 11.7 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 68.49 324 P **P 15 54 11.5 -0.2**
comp=Z,1.8nm,0.6s,baz=29,slow=6.4,SNR=28
comp=Z,1.8nm,0.6s
MAKZ Makanchi 68.58 324 P **P 15 54 12.1 -0.2**
MAKZ lAmb lAmb 15 54 13.4
comp=Z,3.4nm,0.8s
MAKZ Makanchi 68.58 324 P **P 15 54 12.1 -0.2**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 68.94 304 *e*P **P 15 54 15.3 +0.4**
LZH sP pwP 15 54 26.9 +4.5
LZH pmax pmax
comp=Z,9.0nm,1.3s
OBN Obninsk 68.97 356⇓ *e*P **P 15 54 16.3 +1.8**
OBN *e* 15 54 37.9
OBN *e* 15 56 43.1
OBN *e*S **S 16 03 23.6 +4.8**
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,109nm,17.0s
BELG Belogornoye 70.85 349 *ce*P **P 15 54 26.8 +0.7**
BELG pmax pmax
comp=Z,3.0nm,1.1s
ABKAR Akbulak array 72.05 340 P **P 15 54 33.8 +0.4**
ABKAR Akbulak array 72.05 340 P **P 15 54 33.8 +0.4**
ABKAR lAmb lAmb 15 54 51.0
comp=Z,3.8nm,1.0s
AKASG Malin Array Be 73.51 1 *e*P **P 15 54 42.5 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 73.51 1 P **P 15 54 42.3 +0.2**
comp=Z,1.0nm,0.6s,baz=0.1,slow=5.2,SNR=5.4
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 73.51 1⇓ *e*P **P 15 54 43.0 +0.9**
AKBB pmax pmax
comp=Z,7.0nm,1.4s
URIC Uribia, Colomb 73.65 93 P **P 15 54 44.5 +1.2**
GERES GERESS Array B 74.48 11 *e*P **P 15 54 50.2 +2.3**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 74.48 11 P **P 15 54 49.4 +1.5**
comp=Z,0.5nm,0.6s,baz=358,slow=7.4,SNR=3.6
comp=Z,0.5nm,0.6s
AAK Ala-Archa 74.66 328 P **P 15 54 49.8 +0.6**
AAK Ala-Archa 74.66 328 P **P 15 54 49.8 +0.6**
AAK pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 75.08 5 *e*P P 15 54 56.0 +4.7
KOLS Kolonicke sedl 75.08 5 *e*P P 15 54 56.0 +4.7
MODS Modra-Piesok 75.30 9 *e*P **P 15 54 56.3 +3.8**
MODS Modra-Piesok 75.30 9 *e*P **P 15 54 56.3 +3.8**
KKAR Karatay Array 75.38 331 P **P 15 54 53.5 +0.4**
KKAR Karatay Array 75.38 331 P **P 15 54 53.5 +0.4**
BURAR Bucovina Array 76.52 3 P **P 15 55 00.8 +1.2**
KIV Kislovodsk 79.69 351 *e*P **P 15 55 18.9 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 79.90 351 P **P 15 55 19.8 +1.5**
comp=Z,1.9nm,0.8s,baz=339,slow=3.8,SNR=4.9
comp=Z,1.9nm,0.8s
ESDC Sonseca Array 80.27 26 P **P 15 55 22.1 +1.6**
comp=Z,2.3nm,1.0s,baz=329,slow=5.7,SNR=10
comp=Z,2.3nm,1.0s
GEYT Alibeck 83.29 338 P **P 15 55 37.5 +1.1**
comp=Z,1.5nm,0.7s,baz=18,slow=5.0,SNR=3.6
comp=Z,1.5nm,0.7s
CMAR Chiang Mai Arr 86.02 297 P **P 15 55 49.3 -1.0**
comp=Z,0.4nm,0.3s,baz=21,slow=5.8,SNR=3.8
CMAR LR LR 16 39 05.3
comp=Z,33nm,18.3s,baz=185,slow=39
comp=Z,0.4nm,0.3s
QSPA South Pole Qui 145.94 180 PKPbc **PKPdf 16 02 47.1 -0.1**
comp=Z,1.5nm,0.6s,baz=45,slow=1.1,SNR=11

*NEIC **23** 15:50:59.5±1.5,56.51N±0.08×149.79W±0.06,h10km±2km, mb3.6/1,ML3.5/40,ML3.3(AEIC),Error ellipse: s-maj=13.7km s-min=4.6km az=198.0*
*AEIC **23** 15:51:05.3±1.3,56.6N±0.1×149.7W±0.1,h10km±6km, Error ellipse: s-maj=16.1km s-min=8.5km az=169.0*
ISC 23 15:50:59.0±1.4,56.5N±0.1×149.83W±0.06,h10km,n70, σ1§01/70,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.99**	**312**		**Pn**	**15 51 33.6**	**+0.9**
KDAK	**Kodiak Island**	**1.99**	**312**		**Sn**	**15 51 57.0**	**-0.6**
OHAK	**Old Harbor**	**2.04**	**293**	IAML		15 51 59.0	
comp=N,208nm,0.2s							
OHAK	**Old Harbor**	**2.04**	**293**		**Pn**	**15 51 33.8**	**+0.4**
OHAK					**Sn**	**15 51 57.4**	**-1.4**
OHAK	**Old Harbor** baz=109	**2.04**	**293**	P	**Pn**	**15 51 33.8**	**+0.4**
OHAK				S	**Sn**	**15 51 57.4**	**-1.4**
baz=109							
Q20K	**Shuyak Island** baz=144	**2.54**	**328**	P	**Pn**	**15 51 41.1**	**+0.9**
Q20K				S	**Sn**	**15 52 11.2**	**0.0**
baz=144							
SYI	**Shuyak Island** comp=N,165nm,0.4s	**2.54**	**328**	IAML		15 52 12.8	
SYI				IAML		15 52 13.1	
comp=E,197nm,0.6s							
SYI	**Shuyak Island**	**2.54**	**328**		**Pn**	**15 51 41.1**	**+0.9**
SYI					**Sn**	**15 52 11.2**	**0.0**
CNPM	**China Poot**	**3.14**	**347**		**Pn**	**15 51 48.8**	**+0.3**
CNPM				IAML		15 52 27.6	
comp=N,120nm,0.5s							
CNPM				IAML		15 52 28.1	
comp=E,80nm,0.4s							
CNPM	**China Poot**	**3.14**	**347**		**Sn**	**15 52 25.0**	**-1.0**
Q19K	**Cape Douglas,**	**3.19**	**322**		**Pn**	**15 51 50.9**	**+1.6**
Q19K	**Cape Douglas,** baz=137	**3.19**	**322**	P	**Pn**	**15 51 51.2**	**+1.9**
KAHG	**Katmai Hook Gl**	**3.25**	**310**		**Pn**	**15 51 53.2**	**+3.2**
BRSE	**Bradley Lake S**	**3.30**	**352**		**Pn**	**15 51 50.8**	**+0.1**
BRSE	**Bradley Lake S** baz=170	**3.30**	**352**	P	**Pn**	**15 51 50.8**	**+0.1**
BRLK	**Bradley Lake**	**3.34**	**351**		**Pn**	**15 51 51.0**	**-0.2**
BRLK				IAML		15 52 33.3	
comp=E,79nm,0.6s							
ACHA	**Angle Creek He**	**3.45**	**302**		**Pn**	**15 51 55.5**	**+2.7**
Q23K	**Middleton Isla**	**3.48**	**31**	Pn	**Pn**	**15 51 53.1**	**-0.1**
Q23K				IAML		15 53 42.7	
comp=N,183nm,1.4s							
MID	**Middleton Isla**	**3.49**	**31**	Pn	**Pn**	**15 51 53.3**	**+0.1**
MID				IAML		15 53 31.9	
comp=N,181nm,1.4s							
MID	**Middleton Isla**	**3.49**	**31**	P	**Pn**	**15 51 53.3**	**+0.1**
SEW	**Seward**	**3.63**	**3**		**Pn**	**15 51 55.0**	**-0.2**
SEW	**Seward** baz=182	**3.63**	**3**	P	**Pn**	**15 51 55.0**	**-0.2**
CNTC	**Contact Creek**	**3.73**	**301**		**Pn**	**15 51 58.2**	**+1.5**
Q17K	**Contact Creek** baz=115	**3.73**	**301**	P	**Pn**	**15 51 58.2**	**+1.5**
Q22K	**Cooper Landing**	**4.01**	**1**		**Pn**	**15 52 00.1**	**-0.3**
Q22K				IAML		15 52 49.1	
comp=E,118nm,0.4s							
Q22K	**Cooper Landing** baz=180	**4.01**	**1**	P	**Pn**	**15 52 01.4**	**+1.0**
P18K	**Big Mountain,** baz=132	**4.10**	**318**	P	**Pn**	**15 52 02.9**	**+1.2**
RSO	**Redoubt South**	**4.27**	**340**		**Pn**	**15 52 04.3**	**+0.1**
HIN	**Hinchinbrook I** comp=N,87nm,1.0s	**4.29**	**23**	IAML		15 52 53.3	
O19K	**Port Alsworth**	**4.41**	**329**		**Pn**	**15 52 05.8**	**-0.1**
O19K	**Port Alsworth** baz=145	**4.41**	**329**	P	**Pn**	**15 52 06.4**	**+0.5**
P17K	**Kvichak River** baz=124	**4.46**	**310**	P	**Pn**	**15 52 08.5**	**+1.9**
EYAK	**Cordova Ski Ar**	**4.60**	**26**	P	**Pn**	**15 52 09.0**	**+0.5**
EYAK	**Cordova Ski Ar** baz=209	**4.60**	**26**	P	**Pn**	**15 52 09.1**	**+0.5**
RC01	**Rabbit Creek A**	**4.62**	**1**		**Pn**	**15 52 08.9**	**+0.2**
RC01				IAML		15 53 03.5	
comp=N,31nm,0.4s							
RC01				IAML		15 53 03.6	
comp=E,54nm,1.2s							
RC01	**Rabbit Creek A** baz=180	**4.62**	**1**	P	**Pn**	**15 52 09.0**	**+0.2**
N20K	**Mount Spurr** baz=164	**4.89**	**346**	P	**Pn**	**15 52 12.3**	**-0.2**
KNK	**Knik Glacier** comp=N,19nm,1.1s	**4.99**	**8**	IAML		15 53 15.6	
KNK				IAML		15 53 21.2	
comp=E,24nm,1.3s							
KNK	**Knik Glacier** baz=188	**4.99**	**8**	P	**Pn**	**15 52 14.2**	**+0.3**
SUA	**Susitna One**	**5.02**	**355**		**Pn**	**15 52 14.0**	**-0.3**
BERG	**Berg Lake**	**5.07**	**37**		**Pn**	**15 52 14.7**	**-0.3**
O17K	**Koliganek Bris** baz=127	**5.07**	**314**	P	**Pn**	**15 52 16.6**	**+1.6**
PMR	**Palmer**	**5.13**	**4**	Pn	**Pn**	**15 52 16.3**	**+0.4**
PMR	**Palmer**	**5.13**	**4**	P	**Pn**	**15 52 16.6**	**+0.8**
PMR	**Palmer** baz=184	**5.13**	**4**	P	**Pn**	**15 52 16.3**	**+0.4**
BMRM	**Bremner River** baz=213	**5.25**	**29**	P	**Pn**	**15 52 18.4**	**+0.8**
GHO	**Glory Hole Cre**	**5.32**	**5**		**Pn**	**15 52 19.4**	**+0.8**
GHO				IAML		15 53 23.0	
comp=E,27nm,1.3s							
GHO				IAML		15 53 23.8	
comp=N,30nm,0.4s							
SML	**Sawmill**	**5.39**	**8**		**Pn**	**15 52 20.0**	**+0.6**
SML				IAML		15 53 25.4	
comp=E,27nm,1.2s							
SML				IAML		15 53 25.4	
comp=N,19nm,0.8s							
SML	**Sawmill** baz=188	**5.39**	**8**	P	**Pn**	**15 52 20.4**	**+0.9**
KLU	**Klutina**	**5.41**	**20**		**Pn**	**15 52 19.1**	**-0.7**
KLU				IAML		15 53 21.1	
comp=E,27nm,0.3s							
KLU				IAML		15 53 21.6	
comp=N,28nm,0.4s							
KLU	**Klutina** baz=203	**5.41**	**20**	P	**Pn**	**15 52 20.5**	**+0.8**
BARK	**Barkley Ridge**	**5.50**	**41**		**Pn**	**15 52 21.6**	**+0.6**
SVW2	**Sparrevohn**	**5.51**	**329**	P	**Pn**	**15 52 21.3**	**+0.3**
SCM	**Sheep Creek Mo** baz=194	**5.52**	**12**	P	**Pn**	**15 52 22.5**	**+1.3**
VRDI	**Verde Repeater**	**5.79**	**32**		**Pn**	**15 52 25.4**	**+0.3**
N25K	**Chitina, Valde** baz=209	**5.80**	**26**	P	**Pn**	**15 52 26.3**	**+1.2**
SAMH	**Samovar Hills**	**6.00**	**49**		**Pn**	**15 52 29.6**	**+1.7**
PNL	**Peninsula**	**6.38**	**56**	P	**Pn**	**15 52 34.1**	**+1.0**
P29M	**Windy Craggy**	**7.14**	**59**		**Pn**	**15 52 43.5**	**0.0**
TTA	**Tatalina**	**7.18**	**337**	P	**Pn**	**15 52 45.2**	**+1.2**
COLA	**College**	**8.47**	**6**	P	**Pn**	**15 53 03.4**	**+1.8**
H21K	**Melozitna Rive**	**9.31**	**352**	Pn	**Pn**	**15 53 12.9**	**-0.3**
K29M	**Barlow Dome**	**9.58**	**35**	Pn	**Pn**	**15 53 17.8**	**+0.9**
FYU	**Fort Yukon**	**10.35**	**10**	Pn	**Pn**	**15 53 28.3**	**+1.1**
R33M	**Jennings River**	**10.43**	**66**	Pn	**Pn**	**15 53 28.5**	**-0.1**
G31M	**Satah River**	**12.76**	**29**	Pn	**Pn**	**15 54 00.9**	**+0.8**
INK	**Inuvik**	**13.99**	**26**	Pn	**Pn**	**15 54 17.7**	**+0.8**
A36M	**Sachs Harbour**	**18.61**	**24**	P	**P**	**15 55 16.4**	**+0.2**
A36M				lAmb	lAmb	15 55 31.9	
comp=Z,4.0nm,1.0s							
MKAR	**Makanchi Array**	**68.25**	**324**	P	**P**	**16 01 58.9**	**-0.6**
ABKAR	**Akbulak array**	**71.76**	**340**	P	**P**	**16 02 20.4**	**-0.6**

IDC 23 15:55:02.9±8.0,23.14S×173.03W,h0km,mb3.7/2, mbtmp3.7/2,Error ellipse: s-maj=449.4km s-min=109.0km az=157.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.5nm,0.5s,baz=100,slow=6.8,SNR=6.8 0.5nm,0.5s	**48.46**	**258**	P	P	16 03 47.2	-0.3
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=102,slow=8.3,SNR=12 0.7nm,0.6s	**48.84**	**263**	P	P	16 03 50.6	+0.1
H03S2	**Juan Fernandez** baz=242,slow=74,SNR=17	**80.69**	**123**	T	T	17 36 14.4	
H03S1	**Juan Fernandez** baz=242,slow=74,SNR=17	**80.71**	**123**	T	T	17 36 15.3	
H03S3	**Juan Fernandez** baz=242,slow=74,SNR=11	**80.71**	**123**	T	T	17 36 14.8	
H03N2	**Juan Fernandez** baz=244	**80.83**	**122**	T	T	17 36 31.8	
H03N3	**Juan Fernandez** baz=244	**80.83**	**122**	T	T	17 36 32.0	
H03N1	**Juan Fernandez** baz=244	**80.85**	**122**	T	T	17 36 34.2	
FINES	**FINESS Array B** 0.8nm,0.6s,baz=48,slow=2.1,SNR=7.3	**139.52**	**346**	PKP	PKPdf	16 14 31.3	-0.6

*IDC **23** 15:55:06.4±0.9,56.45N×148.51W,h0km,mb3.6/11, mbtmp3.6/16,ML3.2/4,MS3.7/1,Error ellipse: s-maj=21.8km s-min=15.6km az=31.0*
*NEIC **23** 15:55:07.5±1.5,56.44N±0.07×148.6W±0.1,h10km±1km, mb4.1/4,ML4.0/40,ML3.7(AEIC),Error ellipse: s-maj=13.2km s-min=7.1km az=145.0*
*AEIC **23** 15:55:12.9±1.3,56.55N±0.07×148.7W±0.1,h7km±5km, Error ellipse: s-maj=11.8km s-min=7.2km az=139.0*
ISC 23 15:55:07.6±0.6,56.51N±0.06×148.61W±0.04,h10km, n161,σ1§18/165,mb3.6/13,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.51**	**302**		**Pn**	**15 55 48.9**	**+0.4**
KDAK				IAML		15 56 17.0	
470nm,0.3s							
KDAK	**Kodiak Island** 14nm,0.3s,baz=130,slow=4.0,SNR=15	**2.51**	**302**	Pn	**Pn**	**15 55 49.0**	**+0.6**
KDAK				Sn	**Sn**	**15 56 16.5**	**-2.6**
40nm,0.3s,baz=53,slow=23,SNR=50 41nm,0.3s							
OHAK	**Old Harbor**	**2.67**	**287**		**Sn**	**15 56 19.2**	**-3.6**
OHAK	**Old Harbor**	**2.67**	**287**		**Pn**	**15 55 50.2**	**-0.3**
OHAK	**Old Harbor** comp=E,438nm,0.6s	**2.67**	**287**	IAML		15 56 19.6	
OHAK				IAML		15 56 19.9	
comp=N,480nm,0.3s							
OHAK	**Old Harbor**	**2.67**	**287**	P	**Pn**	**15 55 50.3**	**-0.3**
OHAK	**Old Harbor** baz=103	**2.67**	**287**	P	**Pn**	**15 55 50.2**	**-0.3**
OHAK				S	**Sn**	**15 56 19.2**	**-3.6**
baz=103							
SYI	**Shuyak Island**	**2.93**	**317**		**Sn**	**15 56 27.8**	**-1.6**
SYI	**Shuyak Island**	**2.93**	**317**	Pn	**Pn**	**15 55 55.0**	**+0.9**
SYI				IAML		15 56 29.8	
comp=E,268nm,0.5s							
Q20K	**Shuyak Island** baz=134	**2.93**	**317**	P	**Pn**	**15 55 54.6**	**+0.4**
Q20K				S	**Sn**	**15 56 27.8**	**-1.6**
baz=134							
Q23K	**Middleton Isla**	**3.16**	**21**		**Sn**	**15 56 33.4**	**-1.7**
Q23K	**Middleton Isla**	**3.16**	**21**	Pn	**Pn**	**15 55 57.6**	**+0.2**
Q23K				IAML		15 56 34.4	
comp=E,300nm,0.8s							
Q23K	**Middleton Isla** baz=204	**3.16**	**21**	P	**Pn**	**15 55 57.7**	**+0.3**
Q23K				S	**Sn**	**15 56 33.4**	**-1.7**
baz=204							
MID	**Middleton Isla**	**3.16**	**22**		**Sn**	**15 56 33.4**	**-1.7**
MID	**Middleton Isla**	**3.16**	**22**	Pn	**Pn**	**15 55 57.6**	**+0.2**
MID				IAML		15 56 34.6	
comp=E,234nm,0.4s							
MID				IAML		15 56 34.8	
comp=N,276nm,0.3s							
MID	**Middleton Isla**	**3.16**	**22**	P	**Pn**	**15 55 57.9**	**+0.5**
CNPM	**China Poot**	**3.33**	**336**		**Pn**	**15 55 59.9**	**+0.2**
CNPM				IAML		15 56 42.9	
comp=E,205nm,0.3s							
BRSE	**Bradley Lake S**	**3.43**	**342**		**Pn**	**15 56 01.4**	**+0.3**
BRSE	**Bradley Lake S** baz=160	**3.43**	**342**	P	**Pn**	**15 56 01.4**	**+0.3**
BRLK	**Bradley Lake**	**3.48**	**341**		**Pn**	**15 56 02.0**	**+0.3**
HOM	**Homer**	**3.54**	**334**	Pn	**Pn**	**15 56 03.3**	**+0.7**
HOM				IAML		15 56 47.4	
comp=E,376nm,0.3s							
HOM				IAML		15 56 47.4	
comp=N,421nm,0.3s							
HOM	**Homer** baz=152	**3.54**	**334**	P	**Pn**	**15 56 02.6**	**0.0**
P23K	**Montague Islan**	**3.55**	**10**		**Pn**	**15 56 03.0**	**+0.2**
P23K					**Sn**	**15 56 42.7**	**-2.0**
P23K	**Montague Islan** baz=191	**3.55**	**10**	P	**Pn**	**15 56 03.0**	**+0.2**
P23K				S	**Sn**	**15 56 42.7**	**-2.0**
baz=191							
Q19K	**Cape Douglas,**	**3.63**	**314**		**Pn**	**15 56 04.8**	**+1.0**
Q19K	**Cape Douglas,** baz=130	**3.63**	**314**	P	**Pn**	**15 56 03.5**	**-0.4**
SEW	**Seward**	**3.63**	**353**		**Pn**	**15 56 03.9**	**+0.1**
SEW	**Seward** baz=173	**3.63**	**353**	P	**Pn**	**15 56 03.9**	**+0.1**
KAHG	**Katmai Hook Gl**	**3.77**	**304**		**Pn**	**15 56 06.3**	**+0.5**
P19K	**Oil Pt**	**3.99**	**324**	Pn	**Pn**	**15 56 09.1**	**+0.3**
P19K	**Oil Pt** baz=140	**3.99**	**324**	P	**Pn**	**15 56 08.7**	**-0.2**
ACHA	**Angle Creek He**	**4.02**	**298**		**Pn**	**15 56 10.1**	**+0.9**
HIN	**Hinchinbrook I**	**4.05**	**15**	Pn	**Pn**	**15 56 10.2**	**+0.6**
KAIM	**Kayak Island**	**4.08**	**31**	Pn	**Pn**	**15 56 10.8**	**+0.8**
KAIM				IAML		15 57 03.0	
comp=N,263nm,1.0s							
KAIM				IAML		15 57 03.4	
comp=E,263nm,0.4s							
KAIM	**Kayak Island** baz=215	**4.08**	**31**	P	**Pn**	**15 56 10.5**	**+0.5**
ANCK	**Angle Creek**	**4.09**	**297**		**Pn**	**15 56 11.5**	**+1.2**
SLKM	**Skilak Lake**	**4.09**	**349**		**Pn**	**15 56 10.8**	**+0.6**
O20K	**Slope Mountain**	**4.16**	**331**		**Pn**	**15 56 11.4**	**+0.3**
O20K	**Slope Mountain** baz=148	**4.16**	**331**	P	**Pn**	**15 56 11.4**	**+0.3**
IVE	**Iliamna Volcan**	**4.21**	**328**		**Pn**	**15 56 12.2**	**+0.2**
CNTC	**Contact Creek**	**4.31**	**297**		**Pn**	**15 56 14.3**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.32**	**19**		**Pn**	**15 56 13.7**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.32**	**19**	P	**Pn**	**15 56 14.2**	**+1.0**
EYAK	**Cordova Ski Ar** baz=202	**4.32**	**19**	P	**Pn**	**15 56 13.7**	**+0.5**
FID	**Port Fidalgo**	**4.39**	**14**		**Pn**	**15 56 14.3**	**0.0**
FID	**Port Fidalgo** comp=E,188nm,0.3s	**4.39**	**14**	IAML		15 57 02.9	
FID				IAML		15 57 03.7	
comp=N,156nm,0.2s							
RAGM	**Ragged Mountai**	**4.40**	**26**		**Pn**	**15 56 15.5**	**+1.0**
RED	**Redoubt Volcan**	**4.49**	**333**		**Pn**	**15 56 15.7**	**0.0**
RDSO	**Redoubt South**	**4.51**	**333**		**Pn**	**15 56 16.1**	**+0.1**
RDT	**Redoubt**	**4.53**	**336**		**Pn**	**15 56 16.4**	**+0.2**
P18K	**Big Mountain,**	**4.56**	**312**		**Pn**	**15 56 16.1**	**-0.5**
P18K	**Big Mountain,** baz=126	**4.56**	**312**	P	**Pn**	**15 56 16.1**	**-0.5**
GOAT	**Goat Mountain**	**4.56**	**25**		**Pn**	**15 56 16.6**	**0.0**
BERG	**Berg Lake**	**4.67**	**31**		**Pn**	**15 56 18.8**	**+0.7**
DIV	**Divide**	**4.86**	**16**		**Pn**	**15 56 21.2**	**+0.4**
BMRM	**Bremner River**	**4.93**	**23**		**Pn**	**15 56 21.9**	**+0.1**
BMRM	**Bremner River** baz=207	**4.93**	**23**	P	**Pn**	**15 56 21.9**	**+0.1**
BARK	**Barkley Ridge**	**5.05**	**37**		**Pn**	**15 56 23.7**	**+0.2**
KLU	**Klutina**	**5.18**	**14**		**Pn**	**15 56 25.7**	**+0.5**
KLU				IAML		15 57 23.3	
comp=E,86nm,0.4s							
KLU				IAML		15 57 23.9	
comp=N,107nm,0.3s							
KLU	**Klutina** baz=197	**5.18**	**14**	P	**Pn**	**15 56 25.4**	**+0.1**
STLK	**Strandline Lak**	**5.27**	**343**		**Pn**	**15 56 26.5**	**+0.1**
GHO	**Glory Hole Cre**	**5.28**	**358**		**Pn**	**15 56 28.1**	**+1.6**
GHO				IAML		15 57 27.1	
comp=N,91nm,0.6s							
GHO				IAML		15 57 29.4	
comp=E,84nm,0.5s							
N19K	**Bonanza Creek**	**5.29**	**327**		**Pn**	**15 56 26.8**	**+0.1**
N19K	**Bonanza Creek** baz=142	**5.29**	**327**	P	**Pn**	**15 56 26.8**	**+0.1**
SML	**Sawmill**	**5.31**	**1**		**Pn**	**15 56 28.3**	**+1.3**
SML				IAML		15 57 28.8	
comp=E,68nm,0.9s							
SML				IAML		15 57 33.0	
comp=N,71nm,1.4s							
VRDI	**Verde Repeater**	**5.43**	**27**		**Pn**	**15 56 29.4**	**+0.6**
CHGN	**Chignik**	**5.45**	**272**		**Pn**	**15 56 28.8**	**0.0**
KIAG	**Kiagna River**	**5.49**	**34**		**Pn**	**15 56 29.4**	**-0.2**
SAMH	**Samovar Hills**	**5.49**	**45**		**Pn**	**15 56 30.3**	**+0.8**
N25K	**Chitina, Valde** baz=204	**5.51**	**20**	P	**Pn**	**15 56 30.8**	**+1.0**
GLB	**Gilahina Butte**	**5.53**	**25**		**Pn**	**15 56 30.4**	**+0.4**
P16K	**Nushagak River**	**5.62**	**301**		**Pn**	**15 56 30.7**	**-0.4**
P16K	**Nushagak River** baz=112	**5.62**	**301**	P	**Pn**	**15 56 30.7**	**-0.4**
N18K	**Kilae Creek**	**5.65**	**321**		**Pn**	**15 56 31.4**	**-0.2**
N18K	**Kilae Creek** baz=134	**5.65**	**321**	P	**Pn**	**15 56 31.4**	**-0.2**
PCA	**Pinnacle**	**5.68**	**47**		**Pn**	**15 56 32.7**	**+0.7**
PINM	**Pinnacle** baz=235	**5.68**	**47**	P	**Pn**	**15 56 32.7**	**+0.7**
M24K	**Tolsona, Glenn**	**5.75**	**12**		**Pn**	**15 56 34.2**	**+1.3**
M24K	**Tolsona, Glenn** baz=194	**5.75**	**12**	P	**Pn**	**15 56 33.3**	**+0.3**
BARN	**Barnard Glacie**	**5.81**	**36**		**Pn**	**15 56 35.0**	**+1.0**
PNL	**Peninsula**	**5.82**	**53**	P	**Pn**	**15 56 34.9**	**+1.0**
PNL	**Peninsula** baz=241	**5.82**	**53**	P	**Pn**	**15 56 34.9**	**+1.0**
SVW2	**Sparrevohn**	**5.85**	**325**	P	**Pn**	**15 56 36.5**	**+2.2**
BCPM	**Bancas Point**	**5.86**	**50**		**Pn**	**15 56 35.4**	**+0.9**
M19K	**Big River Lodg**	**6.17**	**334**		**Pn**	**15 56 38.7**	**+0.1**
M19K	**Big River Lodg** baz=149	**6.17**	**334**	P	**Pn**	**15 56 38.7**	**+0.1**
CHNA	**Chernabura Isl** baz=70	**6.44**	**259**	P	**Pn**	**15 56 41.9**	**-0.5**
CNBA	**Chernabura Isl**	**6.44**	**259**		**Pn**	**15 56 42.0**	**-0.4**
O29M	**Mount Kennedy**	**6.50**	**50**		**Pn**	**15 56 44.5**	**+1.2**
O29M	**Mount Kennedy** baz=239	**6.50**	**50**	P	**Pn**	**15 56 44.5**	**+1.2**
O15K	**Ungalikthiuk R**	**6.55**	**299**		**Pn**	**15 56 45.2**	**+1.2**
O15K	**Ungalikthiuk R** baz=109	**6.55**	**299**	P	**Pn**	**15 56 45.2**	**+1.2**
P29M	**Windy Craggy**	**6.56**	**57**		**Pn**	**15 56 44.6**	**+0.5**
P29M	**Windy Craggy** baz=247	**6.56**	**57**	P	**Pn**	**15 56 44.6**	**+0.5**
DHY	**Denali Highway**	**6.61**	**5**		**Pn**	**15 56 46.6**	**+1.7**
DHY	**Denali Highway** baz=186	**6.61**	**5**	P	**Pn**	**15 56 46.3**	**+1.4**
YUK8	**Steele Glacier**	**6.62**	**40**		**Pn**	**15 56 46.9**	**+1.7**
YUK8	**Steele Glacier** baz=228	**6.62**	**40**	P	**Pn**	**15 56 46.9**	**+1.7**
N16K	**Nishlik Lake**	**6.64**	**311**		**Pn**	**15 56 45.3**	**+0.2**
N16K	**Nishlik Lake** baz=122	**6.64**	**311**	P	**Pn**	**15 56 45.3**	**+0.2**
M17K	**Holitna River**	**6.70**	**321**		**Pn**	**15 56 45.7**	**-0.2**
M17K	**Holitna River** baz=133	**6.70**	**321**	P	**Pn**	**15 56 45.7**	**-0.2**
SDPT	**Sand Point**	**6.77**	**265**	P	**Pn**	**15 56 48.5**	**+1.6**
S31K	**Pelican**	**6.87**	**73**		**Pn**	**15 56 46.5**	**-1.8**
S31K	**Pelican** baz=263	**6.87**	**73**	P	**Pn**	**15 56 46.6**	**-1.7**
YUK6	**Outpost Mounta** baz=235	**6.94**	**46**	P	**Pn**	**15 56 51.6**	**+2.2**
BVCY	**Beaver Creek** baz=217	**7.11**	**30**	P	**Pn**	**15 56 53.5**	**+1.9**
HYT	**Haines Junctio** baz=238	**7.22**	**49**	P	**Pn**	**15 56 54.7**	**+1.5**
SIT	**Sitka**	**7.32**	**80**	P	**Pn**	**15 56 51.9**	**-2.5**
L27K	**Beaver Creek,** baz=211	**7.40**	**25**	P	**Pn**	**15 56 57.5**	**+1.9**
TTA	**Tatalina**	**7.44**	**333**	P	**Pn**	**15 56 59.4**	**+3.2**
SKAG	**Skagway**	**7.65**	**62**	P	**Pn**	**15 57 00.3**	**+1.3**
SKAG	**Skagway** baz=253	**7.65**	**62**	P	**Pn**	**15 57 00.8**	**+1.8**
O30N	**Mendenh

baz=255
FALS False Pass 8.53 265 Pn Pn 15 57 11.5 +0.4
FALS False Pass 8.53 265 P Pn 15 57 12.0 +0.9
FALS False Pass 8.53 265 P Pn 15 57 11.5 +0.4
baz=72
M30M Minto, Yukon 8.53 40 Pn Pn 15 57 12.5 +1.4
M30M Minto, Yukon 8.53 40 P Pn 15 57 12.3 +1.2
baz=230
CRAG Craig 8.74 90 P Pn 15 57 12.1 -1.9
DAWY Dawson 8.84 27 Pn Pn 15 57 16.4 +1.0
P33M Teslin, Yukon 9.08 59 P Pn 15 57 19.6 +0.9
baz=253
M31M Drury Creek, Y 9.22 46 Pn 15 57 22.4 +1.9
M31M Drury Creek, Y 9.22 46 P Pn 15 57 22.4 +1.9
baz=238
R33M Jennings River 9.81 66 P Pn 15 57 29.5 +0.8
baz=261
J30M Hart River 10.08 32 Pn 15 57 33.9 +1.6
DLBC Dease Lake 10.19 71 Pn Pn 15 57 34.1 +0.3
comp=N,5.7nm,0.3s,baz=264,slow=7.9,SNR=13
DLBC Sn **Sn 15 59 25.7 -2.3**
comp=N,0.6nm,0.3s,baz=325,slow=25,SNR=1.6
UNV Unalaska Valle 10.57 263 P Pn 15 57 39.2 +0.2
NIKH Nikolski High 12.21 262 P Pn 15 58 01.6 +0.2
INK Inuvik 13.68 24 Pn Pn 15 58 23.0 +1.7
comp=N,0.1nm,0.3s,baz=207,slow=8.8,SNR=3.0
comp=N,1.1nm,0.8s
ATKA Atka Island 15.48 265 P Pn 15 58 44.8 -1.0
ADK Adak 17.00 266 P Pn 15 59 05.5 +0.3
YKA Yellowknife Ar 18.10 57 P P 15 59 19.7 +0.5
comp=N,0.2nm,0.3s,baz=264,slow=13,SNR=12
comp=N,1.0nm,0.7s
A36M Sachs Harbour 18.32 23 P P 15 59 22.6 +1.1
LON Longmire 19.17 109 P P 15 59 29.4 -1.7
LON IAmb IAmb 15 59 50.6
comp=Z,12nm,1.4s
NVAR Mina Array Bea 26.99 119 P P 16 00 49.4 -0.3
comp=Z,0.7nm,0.7s,baz=314,slow=9.4,SNR=5.2
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 28.35 102 P P 16 01 01.4 -0.3
comp=Z,0.2nm,0.4s,baz=324,slow=5.5,SNR=3.8
comp=Z,0.2nm,0.4s
MA2 Magadan 31.26 301 LR LR 16 16 04.9
comp=Z,118nm,18.1s,baz=146,slow=40
TXAR Lajitas Array 41.56 112 P P 16 02 55.2 -0.1
comp=Z,0.3nm,0.6s,baz=302,slow=8.4,SNR=2.9
comp=Z,0.3nm,0.6s
P48A Milroy 43.91 85 P P 16 03 13.1 -1.1
SONM Songino Array 58.77 310 P P 16 05 11.4 +5.7
comp=Z,0.2nm,0.4s,baz=19,slow=9.2,SNR=2.5
ZALV Zalesovo Beam 61.57 327 P P 16 05 25.1 +0.6
comp=Z,0.2nm,0.3s,baz=26,slow=7.0,SNR=1.7
comp=Z,0.2nm,0.3s
FINES FINESS Array B 62.31 3 P P 16 05 29.4 +0.1
comp=Z,8.8nm,1.2s,baz=344,slow=8.7,SNR=2.5
comp=Z,8.8nm,1.2s
BVAR Borovoye Array 66.23 335 P P 16 05 55.6 +0.4
comp=Z,0.4nm,0.6s,baz=56,slow=9.2,SNR=2.7
comp=Z,0.4nm,0.6s
KURBB Kurchatov Arra 66.33 329 P P 16 05 56.2 +0.3
comp=Z,0.1nm,0.4s,baz=28,slow=6.8,SNR=3.2
comp=Z,0.1nm,0.4s
MKAR Makanchi Array 68.62 325 P P 16 06 12.2 +1.7
comp=Z,0.2nm,0.4s,baz=36,slow=6.9,SNR=2.0
comp=Z,0.2nm,0.4s
ABKAR Akbulak array 71.96 341 P P 16 06 30.8 0.0
AKASG Malin Array Be 73.14 1 P P 16 06 37.8 +0.1
comp=Z,0.7nm,0.5s,baz=1.6,slow=6.5,SNR=3.6
comp=Z,0.7nm,0.5s
AKBB Malin Array Si 73.14 1 P P 16 06 37.5 -0.3
AKBB IAmb IAmb 16 07 19.9
comp=Z,2.2nm,0.9s
ESDC Sonseca Array 79.61 27 P P 16 07 15.1 +0.3
comp=Z,0.4nm,0.7s,baz=332,slow=4.9,SNR=2.2
comp=Z,0.4nm,0.7s
CMAR Chiang Mai Arr 86.50 298 P P 16 07 52.8 +2.1
comp=Z,0.2nm,0.5s,baz=2.1,slow=4.9,SNR=1.6
comp=Z,0.2nm,0.5s
QSPA South Pole Qui 146.31 180 PKPbc PKPbc 16 14 46.4 -0.6
comp=Z,2.3nm,1.0s,baz=20,slow=1.9,SNR=3.3
BOSA Boshof 151.78 11 PKPbc PKPbc 16 15 01.5 -0.7
comp=Z,1.5nm,0.6s,baz=69,slow=0.2,SNR=4.5

TAP 23 15:56:01.6, 23.68N×121.94E, h20km, ML2.3, 11C-18D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.36**	**287**	⇓P			Pb	15 56 09.4	+0.1
SHUL	baz=287			S			Sb	15 56 15.6	+1.0
TEGC	**Jichi Village**	**0.37**	**274**	*i* P			Pb	15 56 09.7	+0.3
TEGC	baz=270			S			Sb	15 56 16.1	+1.5
HWA	**Hwalien**	**0.42**	**314**	P			Pb	15 56 10.3	-0.1
HWA	baz=314			*e*S			Sb	15 56 17.5	+1.2
EGFH	**Guangfu**	**0.47**	**269**	⇑P			Pb	15 56 10.9	-0.3
EGFH	baz=269			S			Sb	15 56 18.3	+0.6
ESL	**Shilin**	**0.48**	**286**	⇓P			Pb	15 56 10.7	-0.8
ESL	baz=275			S			Sb	15 56 18.3	+0.2
ETM	**Tongmen**	**0.50**	**305**	P			Pb	15 56 11.0	-0.7
ETM	baz=313			S			Sb	15 56 18.3	-0.2
TWD	**Chiawan**	**0.51**	**322**	*i* P			Pb	15 56 11.4	-0.5
TWD	baz=322			*i* S			Sb	15 56 18.6	-0.2
WARBT	**Fenglin Townsh**	**0.51**	**274**	⇓P			Pb	15 56 11.2	-0.7
WARBT	baz=274			S			Sb	15 56 19.0	+0.1
HGSD	**Ruisui**	**0.51**	**248**	⇓*i*P			Pb	15 56 11.7	-0.2
HGSD	baz=249			*e*S			Sb	15 56 18.8	-0.1
EOS4	**EOS4**	**0.56**	**38**	*e*P			Pn	15 56 13.6	-0.5
EOS4	baz=38			*e*S			Sn	15 56 22.2	-0.3
ETL	**Fush Village**	**0.56**	**329**	*e*P			Pb	15 56 10.9	-1.9
ETL	baz=328			S			Sb	15 56 20.4	0.0
ECBN	**Changbin**	**0.58**	**231**	*e*P			Pb	15 56 13.3	+0.2
ECBN	baz=217			*e*S			Sb	15 56 21.2	+0.2
NACB	**Ninganchiao**	**0.58**	**327**	*e*P			Pb	15 56 12.7	-0.6
NACB	baz=327			*e*S			Sb	15 56 20.8	-0.3
LXIB	**Xiulin Townshi**	**0.59**	**305**	⇑P			Pb	15 56 12.8	-0.7
LXIB	baz=305			S			Sb	15 56 20.9	-0.5
EHY	**Hungye**	**0.59**	**253**	⇑P			Pb	15 56 13.3	-0.1
EHY	baz=262			S			Sb	15 56 21.8	+0.4
YULB	**Yu-li**	**0.66**	**244**	*e*P			Pb	15 56 14.1	-0.3
YULB	baz=244			*e*S			Sb	15 56 23.5	+0.3
EYUL	**Yuli**	**0.66**	**240**	*i* P			Pb	15 56 14.1	-0.4
EYUL	baz=240			*e*S			Sb	15 56 24.3	+1.0
EAHA	**Aohua**	**0.67**	**344**	*e*P			Pb	15 56 13.9	-0.8
EAHA	baz=344			*e*S			Sb	15 56 23.4	-0.1
ETLH	**Xiulin Townshi**	**0.67**	**321**	*e*P			Pb	15 56 14.1	-0.6
ETLH	baz=328			*e*S			Sb	15 56 23.0	-0.7
TWF1	**Yuli**	**0.68**	**241**	*e*P			Pb	15 56 14.9	+0.1
TWF1	baz=230			*i* S			Sb	15 56 24.3	+0.6
EOS3	**EOS3**	**0.69**	**30**	⇓*e*P			Pn	15 56 16.1	0.0
EOS3	baz=23			*e*S			Sn	15 56 26.3	0.0
CHKH	**Chenggong**	**0.70**	**226**	P			Pb	15 56 14.7	-0.4
CHKH	baz=214			S			Sb	15 56 23.3	-1.0
VWDT	**VWDT**	**0.74**	**276**	⇓P			Pb	15 56 15.5	-0.2
VWDT	baz=276			*i* S			Sb	15 56 25.0	-0.4
OWD	**Renai**	**0.75**	**291**	P			Pb	15 56 15.7	-0.4
OWD	baz=291			S			Sb	15 56 25.7	-0.3
ENA	**Nanau**	**0.77**	**346**	⇓*i*P			Pb	15 56 16.1	-0.2
ENA	baz=337			S			Sb	15 56 26.3	+0.1
FULB	**Fuli**	**0.77**	**231**	⇑P			Pb	15 56 15.8	-0.5
FULB	baz=217			S			Sb	15 56 26.9	+0.7
WHF	**Hehuan Shan**	**0.77**	**307**	*i* P			Pb	15 56 16.1	-0.5
WHF	baz=307			S			Sb	15 56 26.8	0.0
EWUT	**Wuta**	**0.77**	**349**	*i* S			Sb	15 56 27.0	+0.5
EOS2	**EOS2**	**0.78**	**20**	*e*P			Pn	15 56 17.2	-0.1
EOS2	baz=12			S			Sb	15 56 26.6	0.0
CHKT	**Chengkung**	**0.79**	**222**	*i* P			Pb	15 56 15.7	-0.9
CHKT	baz=210			*e*S			Sb	15 56 24.9	-1.8
CHGB	**Renai**	**0.80**	**298**	⇑P			Pb	15 56 16.4	-0.5
CHGB	baz=307			S			Sb	15 56 27.4	0.0
WUSB	**Renai**	**0.81**	**292**	⇓*i*P			Pb	15 56 16.7	-0.5
WUSB	baz=301			*e*S			Sb	15 56 26.8	-1.0
FUSS	**Fushou**	**0.85**	**312**	⇑*e*P			Pb	15 56 17.4	-0.4
FUSS	baz=311			*e*S			Sb	15 56 28.0	-1.0
EHD	**Haiduan**	**0.86**	**232**	*e*P			Pb	15 56 17.0	-0.9
EHD	baz=221			*e*S			Sb	15 56 28.0	-1.0
ECS	**Chishang**	**0.88**	**229**	*e*P			Pb	15 56 17.7	-0.6
ECS	baz=218			*e*S			Sb	15 56 29.7	+0.1
ESAO	**Su ao**	**0.89**	**354**	*e*P			Pb	15 56 17.1	-1.3
ESAO	baz=354			*e*S			Sb	15 56 29.3	-0.6
NNSB	**Datong**	**0.90**	**326**	*e*P			Pb	15 56 17.6	-1.1
NNSB	baz=325			*e*S			Sb	15 56 29.8	-0.5
SSLB	**Suanglung**	**0.91**	**277**	⇓*e*P			Pb	15 56 17.6	-1.1
SSLB	baz=277			*e*S			Sb	15 56 29.2	-1.3
NNS	**Nan Shan**	**0.92**	**326**	*e*P			Pb	15 56 17.1	-1.9
NNS	baz=326			*e*S			Sb	15 56 30.9	+0.1
EDH	**Donghe**	**0.92**	**220**	*e*P			Pb	15 56 16.1	-2.8
EDH	baz=209			*e*S			Sb	15 56 27.9	-2.8
LATG	**Datong**	**0.93**	**336**	*e*P			Pb	15 56 19.0	-0.2
LATG	baz=347			*e*S			Sb	15 56 30.9	-0.3
SMLT	**Sun Moon Lake**	**0.97**	**282**	*i* P			Pb	15 56 19.3	-0.6
SMLT	baz=282			S			Sb	15 56 32.2	-0.2
ELDTW	**Lidau**	**0.98**	**240**	⇑P			Pb	15 56 18.8	-1.2
ELDTW	baz=240			*e*S			Sb	15 56 30.6	-1.9
DPDB	**Guoxing**	**0.99**	**291**	⇓P			Pb	15 56 19.6	-0.6
DPDB	baz=291			*e*S			Sb	15 56 31.8	-1.0
NDT	**Datong Townshi**	**1.00**	**337**	⇓P			Pb	15 56 18.9	-1.3
NDT	baz=347			*e*S			Sb	15 56 33.0	0.0
WHYT	**Xinyi Township**	**1.00**	**271**	*e*P			Pb	15 56 20.1	-0.2
WHYT	baz=271			*e*S			Sb	15 56 31.9	-1.0
ENTT	**Nioudou**	**1.01**	**340**	⇓*e*P			Pb	15 56 18.9	-1.6
ENTT	baz=340			*e*S			Sb	15 56 32.0	-1.4
WCS	**Beigang Elemen**	**1.01**	**292**	⇓*i*P			Pb	15 56 20.0	-0.5
WCS	baz=292			*e*S			Sb	15 56 33.8	+0.4
TYC	**Yuchr**	**1.02**	**283**	*e*P			Pb	15 56 20.1	-0.5
TYC	baz=283			*e*S			Sb	15 56 32.9	-0.6
ALS	**Alishan**	**1.06**	**261**	⇑P			Pb	15 56 20.9	-0.5
ALS	baz=261			*e*S			Sb	15 56 33.8	-1.1
LONT	**Longtian**	**1.07**	**224**	*e*P			Pb	15 56 20.1	-1.4
LONT	baz=215			*e*S			Sb	15 56 33.8	-1.4
WHP	**Taichung City**	**1.09**	**303**	*e*P			Pb	15 56 22.7	+0.9
WHP	baz=315			*e*S			Sb	15 56 35.8	+0.2
LDUT	**Ludao**	**1.09**	**203**	*e*P			Pn	15 56 20.3	-1.5
LDUT	baz=204			*e*S			Sb	15 56 32.9	-2.8
YHNB	**Yeheng**	**1.11**	**332**	*e*P			Pn	15 56 21.7	-0.4
YHNB	baz=332			*e*S			Sb	15 56 35.6	-0.7
FUSB	**Fushanzhiwuyua**	**1.12**	**343**	*e*P			Pn	15 56 21.3	-0.9
FUSB	baz=343			*e*S			Sb	15 56 35.9	-0.6
WJS	**Zhushan**	**1.12**	**277**	*i* P			Pb	15 56 22.6	+0.3
WJS	baz=277			S			Sn	15 56 37.8	+0.8
NSK	**Sanguang**	**1.12**	**332**	*e*P			Pn	15 56 20.4	-1.9
NSK	baz=332			*e*S			Sb	15 56 35.5	-1.1
CHN5	**Tsauling**	**1.16**	**266**	⇑*i*P			Pb	15 56 23.2	+0.1
CHN5	baz=266			*i* S			Sn	15 56 38.4	+0.3
NWLT	**Wulai**	**1.16**	**340**	*e*P			Pb	15 56 23.4	+0.4
NWLT	baz=339			*e*S			Sb	15 56 37.5	-0.1
TWGBT	**Beinan**	**1.17**	**223**	*e*P			Pn	15 56 21.2	-1.7
TWGBT	baz=237			*e*S			Sb	15 56 35.5	-2.4
TWG	**Pinlang**	**1.17**	**223**	P			Pn	15 56 21.3	-1.6
TWG	baz=237			*e*S			Sb	15 56 35.4	-2.6
STYH	**Taoyuan**	**1.19**	**245**	*e*P			Pn	15 56 22.8	-0.2
STYH	baz=232			*e*S			Sb	15 56 37.4	-0.9
STYT	**Tauyuan**	**1.20**	**245**	⇑P			Pb	15 56 23.6	-0.2
STYT	baz=233			S			Sb	15 56 38.4	-0.6
NFF	**Wufeng Townshi**	**1.21**	**322**	*e*P			Pn	15 56 21.9	-1.5
NFF	baz=321			*e*S			Sn	15 56 39.9	+0.6
TCU	**Taichung**	**1.25**	**292**	*e*P			Pb	15 56 25.6	+1.2
WCKO	**Fanlu**	**1.25**	**259**	⇓P			Pb	15 56 24.8	+0.3
WCKO	baz=259			*e*S			Sn	15 56 42.0	+1.8
TWQ1	**Liyutan**	**1.26**	**302**	*e*P			Pb	15 56 25.4	+0.7
TPUB	**Ta-pu**	**1.26**	**253**	⇓P			Pb	15 56 25.0	+0.3
TPUB	baz=244			S			Sb	15 56 41.3	+0.7
LIOB	**Emei**	**1.28**	**319**	*e*P			Pb	15 56 26.0	+0.9
LIOB	baz=319			*e*S			Sb	15 56 41.9	+0.8
CHN4	**Tsaushan**	**1.28**	**255**	⇓P			Pb	15 56 25.4	+0.4
CHN4	baz=243			S			Sb	15 56 42.0	+0.9
TIPB	**Shuangxi**	**1.29**	**355**	⇓P			Pb	15 56 25.1	-0.1
TIPB	baz=355			*e*S			Sn	15 56 40.8	-0.4
WTP	**Ta-pu**	**1.29**	**251**	⇓*e*P			Pb	15 56 25.2	-0.1
WTP	baz=251			*i* S			Sb	15 56 42.3	+0.8
SLGT	**Liugui**	**1.37**	**240**	S			Sb	15 56 43.9	+0.2
SGST	**Jiashian**	**1.38**	**245**	P			Pb	15 56 26.9	+0.1
SGST	baz=233			*e*S			Sn	15 56 43.6	+0.1
CHN1	**Nanshi**	**1.39**	**249**	*e*P			Pb	15 56 27.6	+0.7
CHN1	baz=250			*e*S			Sb	15 56 46.2	+2.0
NWF	**Wu-fen Shan**	**1.39**	**354**	*e*P			Pb	15 56 26.9	0.0
WFSB	**Wu-fen Shan**	**1.39**	**354**	*i* P			Pb	15 56 26.4	-0.5
TWK	**Hsinying**	**1.40**	**253**	⇑P			Pb	15 56 27.1	+0.1
TWK	baz=253			*i* S			Sb	15 56 45.2	+0.7
SNST	**Tainan City**	**1.40**	**251**	P			Pb	15 56 27.1	-0.1
SNST	baz=251			*i* S			Sb	15 56 45.6	+0.9
ECL	**Taimali**	**1.41**	**220**	*e*P			Pn	15 56 26.4	+0.2
ECL	baz=221			*e*S			Sn	15 56 41.0	-3.1
WTK	**Tuku**	**1.42**	**271**	P			Pb	15 56 27.6	+0.1
WRL	**Guolierlin Hig**	**1.45**	**279**	*e*P			Pn	15 56 26.8	+0.1
SSD	**Sandimen**	**1.52**	**233**	*e*P			Pn	15 56 28.0	+0.3
SSD	baz=228			*e*S			Sn	15 56 45.4	-1.5
TSMG	**Majia**	**1.54**	**231**	*e*P			Pn	15 56 27.3	-0.6
TSMG	baz=226			*i* S			Sn	15 56 46.9	-0.5
SCST	**Cishan**	**1.55**	**240**	*e*P			Pb	15 56 29.9	+0.3
SCST	baz=229			*e*S			Sb	15 56 48.4	-0.4
MASBT	**Mashibuluo**	**1.61**	**229**	*e*P			Pn	15 56 29.7	+0.8
MASBT	baz=224			*e*S			Sn	15 56 47.9	-1.1
EAST	**Anshuo**	**1.64**	**218**	*e*S			Sn	15 56 48.3	-1.5
SLIU	**Shizi**	**1.80**	**216**	*e*P			Pn	15 56 30.6	-0.9
SLIU	baz=217			*e*S			Sn	15 56 52.0	-1.7

JMA 23 15:56:39.5±0.2, 24°N±1°×123.7E±0.7, h26km±3km, MV1.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.15**	**138**	P			Pb	15 56 44.6	-0.2
JKRS	**Kuro-shima**	**0.30**	**77**	*i* P			Pb	15 56 46.4	-0.1
JKRS				*e*S			Sb	15 56 51.7	+0.2
JIJ	**Ishigaki jima**	**0.45**	**65**	P			Pb	15 56 48.7	-0.4
JIJ				*e*S			Sb	15 56 54.9	-0.5
JISG	**Ishigakijimahi**	**0.70**	**54**	*e*P			Pb	15 56 53.0	-0.2
JISG				*e*S			Sb	15 57 02.7	+0.3
JTJ	**Tarama**	**1.03**	**63**	*e*S			Sb	15 57 13.5	+1.6

*AEIC **23** 16:05:49.7±1.8, 56.5°N±0.1°×148.9°W±0.2, h10km±9km, Error ellipse: s-maj=20.1km s-min=9.4km az=153.0*
NEIC 23 16:05:46.0±1.4, 56.7°N±0.1°×148.8°W±0.1, h10km±2km, mb3.3/1, ML3.4/46, ML3.1(AEIC), Error ellipse: s-maj=17.8km s-min=10.5km az=159.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.36**	**300**				Sn	16 06 51.9	-1.8
KDAK	**Kodiak Island**	**2.36**	**300**				Pn	16 06 24.6	-0.1
OHAK	**Old Harbor**	**2.54**	**285**				Sn	16 06 59.2	+1.0
OHAK	**Old Harbor**	**2.54**	**285**	Pn			Pn	16 06 26.4	-0.7
SYI	**Shuyak Island**	**2.76**	**316**				Pn	16 06 30.5	+0.4
MID	**Middleton Isla**	**3.05**	**24**				Pn	16 06 33.5	-0.7
MID	comp=N,142nm,1.5s					IAML		16 08 03.4	
CNPM	**China Poot**	**3.15**	**336**				Pn	16 06 34.7	-1.0
R18K	**Karluk**	**3.23**	**289**				Sn	16 07 14.6	-0.6
BRSE	**Bradley Lake S**	**3.26**	**342**				Pn	16 06 37.2	+0.2
BRLK	**Bradley Lake**	**3.30**	**341**				Pn	16 06 37.8	+0.1
BRLK	**Bradley Lake**	**3.30**	**341**			IAML		16 08 23.3	
	comp=E,51nm,1.5s								
P23K	**Montague Islan**	**3.42**	**12**				Pn	16 06 38.9	-0.3
Q19K	**Cape Douglas,**	**3.46**	**313**				Pn	16 06 40.5	+0.6
SEW	**Seward**	**3.47**	**354**				Pn	16 06 39.8	-0.1
AUJK	**Augustine Jueg**	**3.65**	**319**				Pn	16 06 43.5	+1.0
AUCH	**Augustine Cone**	**3.67**	**319**				Pn	16 06 43.8	+0.9
P19K	**Oil Pt**	**3.82**	**324**				Pn	16 06 45.3	+0.5
HIN	**Hinchinbrook I**	**3.92**	**17**				Pn	16 06 46.1	-0.1
HIN	**Hinchinbrook I**	**3.92**	**17**			IAML		16 07 36.4	
	comp=E,56nm,1.1s								
SLKM	**Skilak Lake**	**3.93**	**349**				Pn	16 06 46.1	-0.1
O20K	**Slope Mountain**	**3.98**	**331**				Pn	16 06 47.1	+0.1
KAIM	**Kayak Island**	**3.99**	**33**				Pn	16 06 47.5	+0.4
KAIM	**Kayak Island**	**3.99**	**33**			IAML		16 07 38.2	
	comp=E,66nm,0.9s								
IVE	**Iliamna Volcan**	**4.04**	**328**				Pn	16 06 48.0	+0.2
EYAK	**Cordova Ski Ar**	**4.20**	**21**				Pn	16 06 50.1	+0.2
FID	**Port Fidalgo**	**4.26**	**15**	Pn			Pn	16 06 50.8	-0.1
FID	comp=E,53nm,1.5s					IAML		16 08 48.8	
FID	comp=N,27nm,1.1s					IAML		16 08 49.9	
RAGM	**Ragged Mountai**	**4.30**	**28**				Pn	16 06 52.9	+1.5
RAGM	comp=E,56nm,1.4s					IAML		16 07 52.4	
RDSO	**Redoubt South**	**4.33**	**333**				Pn	16 06 51.3	-0.6
RDWB	**Redoubt West**	**4.39**	**333**				Pn	16 06 52.7	0.0
P18K	**Big Mountain,**	**4.39**	**311**	Pn			Pn	16 06 52.6	-0.1
GOAT	**Goat Mountain**	**4.45**	**27**				Pn	16 06 53.6	+0.1
RC01	**Rabbit Creek A**	**4.46**	**354**				Pn	16 06 52.7	-0.9
RC01	**Rabbit Creek A**	**4.46**	**354**			IAML		16 08 48.4	
RC01	comp=N,22nm,1.3s					IAML		16 08 49.0	
	comp=E,33nm,0.5s								
NCT	**North Crescent**	**4.47**	**333**				Pn	16 06 52.9	-1.0
BERG	**Berg Lake**	**4.58**	**33**	Pn			Pn	16 06 55.1	-0.1
BERG	comp=N,43nm,0.7s					IAML		16 07 58.0	
BERG	comp=E,44nm,0.8s					IAML		16 08 53.0	
O19K	**Port Alsworth**	**4.59**	**323**	Pn			Pn	16 06 55.8	+0.5

SNH	**Sunshine Point**	**4.70**	**39**			Pn	16 06 57.0	+0.1
KLU	**Klutina**	**5.05**	**16**	Pn		Pn	16 07 02.2	+0.4
KLU				IAML			16 09 03.6	
	comp=N,31nm,0.4s							
KLU				IAML			16 09 06.1	
	comp=E,20nm,0.4s							
N19K	**Bonanza Creek**	**5.11**	**327**			Pn	16 07 02.7	+0.1
SML	**Sawmill**	**5.16**	**2**	Pn		Pn	16 07 03.9	+0.6
SML				IAML			16 08 12.1	
	comp=E,20nm,1.4s							
SML				IAML			16 09 10.8	
	comp=N,19nm,1.0s							
SCM	**Sheep Creek Mo**	**5.23**	**7**	Pn		Pn	16 07 04.7	+0.5
SCM				IAML			16 09 10.8	
	comp=N,29nm,0.6s							
SCM				IAML			16 09 13.1	
	comp=E,28nm,0.8s							
VRDI	**Verde Repeater**	**5.33**	**29**	Pn		Pn	16 07 05.8	+0.1
VRDI				IAML			16 09 11.1	
	comp=N,10nm,0.3s							
N25K	**Chitina, Valde**	**5.40**	**22**	Pn		Pn	16 07 07.3	+0.9
N25K				IAML			16 09 13.1	
	comp=N,18nm,0.5s							
N25K				IAML			16 09 15.4	
	comp=E,13nm,1.1s							
N18K	**Kilae Creek**	**5.48**	**320**	Pn		Pn	16 07 07.2	-0.4
O16K	**Kokwok River B**	**5.75**	**305**	Pn		Pn	16 07 11.3	+0.1
CTGM	**Chitina Glacier**	**5.78**	**39**	Pn		Pn	16 07 11.8	0.0
LOGN	**Logan Glacier**	**5.80**	**41**	Pn		Pn	16 07 12.2	+0.1
N17K	**Nushagak Hills**	**5.86**	**315**	Pn		Pn	16 07 12.6	-0.2
M17K	**Holitna River**	**6.52**	**320**	Pn		Pn	16 07 22.1	+0.3
M27K	**Edge Creek, AK**	**6.69**	**29**	Pn		Pn	16 07 25.6	+1.3
M16K	**Timber Creek**	**6.86**	**314**	Pn		Pn	16 07 27.2	+0.7
N15K	**Kwethluk River**	**6.91**	**305**	Pn		Pn	16 07 28.4	+1.3
HYT	**Haines Junctio**	**7.18**	**50**	Pn		Pn	16 07 33.5	+2.4
M29M	**Somme Creek**	**7.80**	**38**	Pn		Pn	16 07 40.2	+0.8
L29M	**L29M**	**8.38**	**35**	Pn		Pn	16 07 48.6	+1.3
N32M	**Quiet Lake**	**9.26**	**55**	Pn		Pn	16 08 01.3	+1.9
A36M	**Sachs Harbour**	**18.21**	**23**			P	16 09 59.3	+0.7
A36M				IAmb		IAmb	16 10 12.9	
	comp=Z,2.8nm,1.1s							

*SCB **23** 16:07:32.8±1.0,21°.10S×67°.62W,h165km±9km, ML3.5/5, MW3.7, Error ellipse: s-maj=3.0km s-min=2.1km az=0.0*
*GUC **23** 16:07:32.7±0.7,21°.06S×67°.75W,h198km±9km, ML3.4*
ISC 23 16:07:31.4±1.7,21°.10S±0°.04×67°.65W±0°.05, h190km±14km, n38, σ1§18/56, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.63**	**245**	⇑*i*	P	Pn	16 07 58.7	-6.9
PB09					*e*S	**Sn**	**16 08 33.6**	**+1.4**
PB09	**IPOC Station P**	**1.63**	**245**		Pg	**Pn**	**16 08 06.2**	**+0.5**
PB08	**IPOC Station P**	**1.70**	**304**	*i*	P	**Pn**	**16 08 07.4**	**+0.9**
PB08					*e*S	**Sn**	**16 08 33.6**	**-0.1**
PB08					IAML		16 08 34.8	
	comp=N,95nm,0.4s							
PB08	**IPOC Station P**	**1.70**	**304**		Pg	**Pn**	**16 08 07.2**	**+0.7**
PB01	**IPOC Station P**	**1.71**	**272**		*e*P	**Pn**	**16 08 06.7**	**+0.3**
PB01					*e*S	**Sn**	**16 08 32.7**	**-0.7**
PB01					IAML		16 08 35.3	
	comp=N,123nm,0.4s							
PB01	**IPOC Station P**	**1.71**	**272**		Pg	**Pn**	**16 08 07.0**	**+0.7**
MOCB	**Mochara**	**1.89**	**95**		Pg	**Pn**	**16 08 08.5**	**0.0**
MOCB					Sg	**Sn**	**16 08 34.5**	**-2.7**
MOCB					IAML		16 08 36.2	
	comp=N,109nm,0.3s							
LVC	**Limon Verde**	**1.90**	**218**		Pg	**Pn**	**16 08 09.3**	**+0.8**
GO01	**Chusmiza**	**2.03**	**314**	*i*	P	**Pn**	**16 08 10.4**	**+0.3**
GO01					*e*S	**Sn**	**16 08 42.0**	**+2.1**
GO01	**Chusmiza**	**2.03**	**314**		Pg	**Pn**	**16 08 10.5**	**+0.5**
PB02	**IPOC Station P**	**2.10**	**264**		*e*P	**Pn**	**16 08 10.8**	**+0.4**
PB02					*e*S	**Sn**	**16 08 39.7**	**-1.0**
PB02					IAML		16 08 44.7	
	comp=E,252nm,0.3s							
PB02	**IPOC Station P**	**2.10**	**264**		Pg	**Pn**	**16 08 11.2**	**+0.8**
PB02					Sg	**Sn**	**16 08 40.1**	**-0.6**
PB02					IAML		16 08 40.5	
	comp=E,209nm,0.2s							
PB07	**IPOC Station P**	**2.17**	**253**		*e*P	**Pn**	**16 08 09.5**	**-1.7**
PB07					*e*S	**Sn**	**16 08 41.3**	**-0.9**
PB07					IAML		16 08 41.9	
	comp=N,296nm,0.2s							
PB07	**IPOC Station P**	**2.17**	**253**		Pg	**Pn**	**16 08 12.1**	**+0.9**
PB07					Sg	**Sn**	**16 08 41.5**	**-0.6**
PB07					IAML		16 08 41.9	
	comp=N,241nm,0.2s							
PB11	**IPOC Station P**	**2.30**	**305**	⇑*i*	P	**Pn**	**16 08 12.8**	**+0.1**
PB11					*e*S	**Sn**	**16 08 43.3**	**-1.4**
PB11	**IPOC Station P**	**2.30**	**305**		Pg	**Pn**	**16 08 13.0**	**+0.3**
PB06	**IPOC Station P**	**2.39**	**228**		*e*P	**Pn**	**16 08 15.3**	**+1.7**
PB06					*e*S	**Sn**	**16 08 46.9**	**+0.4**
PB06					IAML		16 08 50.0	
	comp=N,125nm,0.1s							
PB06	**IPOC Station P**	**2.39**	**228**		Pg	**Pn**	**16 08 14.9**	**+1.3**
TA01	**Diego Aracena**	**2.42**	**282**		*e*P	**Pn**	**16 08 13.9**	**+0.1**
TA01					*e*S	**Sn**	**16 08 45.0**	**-1.7**
TA01					IAML		16 08 47.5	
	comp=E,154nm,0.3s							
TA01	**Diego Aracena**	**2.42**	**282**		Pg	**Pn**	**16 08 14.1**	**+0.3**
TA02	**Huaiquique**	**2.46**	**289**		Pg	**Pn**	**16 08 15.2**	**+1.0**
SOEO	**Opoqueri**	**2.53**	**355**		Pg	**Pn**	**16 08 16.4**	**+0.8**
PB04	**IPOC Station P**	**2.63**	**242**		Pg	**Pn**	**16 08 17.0**	**+0.7**
PB04					Sg	**Sn**	**16 08 50.3**	**-1.0**
PB04					IAML		16 08 53.6	
	comp=E,110nm,0.2s							
PB15	**IPOC Station P**	**2.69**	**218**		*e*P	**Pn**	**16 08 18.3**	**+1.2**
PB15					*e*S	**Sn**	**16 08 53.0**	**+0.2**
PB15	**IPOC Station P**	**2.69**	**218**		Pg	**Pn**	**16 08 18.1**	**+1.0**
PB15					Sg	**Sn**	**16 08 52.6**	**-0.2**
PB15					IAML		16 08 56.5	
	comp=E,414nm,0.2s							
AOVT	**TarijaAcel**	**2.78**	**99**		Pg	**Pn**	**16 08 19.2**	**+1.0**
PB05	**IPOC Station P**	**2.94**	**233**		*e*P	**Pn**	**16 08 20.9**	**+1.0**
PB05					*e*S	**Sn**	**16 08 56.3**	**-1.5**
PB05					IAML		16 08 58.8	
	comp=N,61nm,0.3s							
PB05	**IPOC Station P**	**2.94**	**233**		Pg	**Pn**	**16 08 20.9**	**+1.0**
PB16	**IPOC Station P**	**3.26**	**327**	⇑*i*	P	**Pn**	**16 08 24.9**	**+0.6**
PB16					*e*S	**Sn**	**16 09 06.0**	**+0.5**
PB16					IAML		16 09 07.4	
	comp=E,52nm,0.5s							
PB16	**IPOC Station P**	**3.26**	**327**		Pg	**Pn**	**16 08 25.5**	**+1.2**
PB12	**IPOC Station P**	**3.53**	**314**		*e*P	**Pn**	**16 08 26.0**	**-1.1**
PB12					*e*S	**Sn**	**16 09 06.9**	**-3.8**
PB12					IAML		16 09 09.9	
	comp=N,58nm,0.2s							
SOEJ	**Jacaque**	**4.13**	**353**		Pg	**Pn**	**16 08 36.5**	**+1.4**
BBOE	**La Paz, Chanca**	**4.28**	**356**		Pg	**Pn**	**16 08 38.5**	**+1.6**
GO02	**Mina Guanaco**	**4.42**	**203**	⇑*i*	P	**Pn**	**16 08 38.9**	**+0.5**
GO02					*e*S	**Sn**	**16 09 29.4**	**-1.7**
GO02	**Mina Guanaco**	**4.42**	**203**		Pg	**Pn**	**16 08 39.0**	**+0.6**
BBOD	**La Paz, Gloria**	**4.53**	**348**		Pg	**Pn**	**16 08 41.3**	**+1.2**
LPAZ	**La Paz**	**4.81**	**355**		P	**Pn**	**16 08 44.5**	**+0.8**
LPAZ	**La Paz**	**4.81**	**355**		Pg	**Pn**	**16 08 44.7**	**+0.9**

*KRSC **23** 16:10:34.1±1.6,49°.16N×156°.04E,h17km±22km, Ml4.8*
*MOS **23** 16:10:37.6±0.9,49°.30N×155°.45E,h67km, mb3.8/1, Error ellipse: s-maj=20.8km s-min=4.6km az=73.6*
*IDC **23** 16:10:39.6±3.0,49°.32N×155°.40E,h68km±27km, mb3.3/11, mbtmp3.7/15, Error ellipse: s-maj=27.7km s-min=15.9km az=145.0*
ISC 23 16:10:37.9±0.8,49°.12N±0°.09×155°.74E±0°.10,h50km,n69, σ1§46/78,mb3.6/11,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.58**	**9**	*e*	PN	**Pn**	**16 11 01.8**	**-1.6**
SKR					*e*S	**Sn**	**16 11 23.1**	**+0.4**
SKR					pmax	pmax		
	comp=Z,283nm,0.7s							
SKR					smax	smax		
	comp=E,4μm,0.8s							
SKR					smax	smax		
	comp=N,3μm,0.3s							
SKR	**Severo-Kuril's**	**1.58**	**9**	*e*	P	**Pn**	**16 11 01.8**	**-1.6**
SKR					*e*S	**Sn**	**16 11 20.2**	**-2.5**
PAU	**Pauzhetka**	**2.44**	**16**	PN		**Pn**	**16 11 15.3**	**+0.1**
PAU				S		**Sn**	**16 11 44.1**	**+0.2**

PAU	**Pauzhetka**	**2.44**	**16**	*e*	P	**Pn**	**16 11 15.3**	**+0.1**
PAU					*e*S	**Sn**	**16 11 44.1**	**+0.2**
KDTR	**Khodutka, Kamc**	**3.08**	**28**	PN		**Pn**	**16 11 22.4**	**-1.5**
KDTR				S		**Sn**	**16 11 58.5**	**-0.9**
KDTR	**Khodutka, Kamc**	**3.08**	**28**	*e*	P	**Pn**	**16 11 22.4**	**-1.5**
KDTR					*e*S	**Sn**	**16 11 58.5**	**-0.9**
ASAK	**Asacha**	**3.54**	**22**	PN		**Pn**	**16 11 30.3**	**-0.1**
ASAK	**Asacha**	**3.54**	**22**	*e*	P	**Pn**	**16 11 30.3**	**-0.1**
MTVR	**Mutnovka**	**3.70**	**24**	PN		**Pn**	**16 11 32.1**	**-0.5**
MTVR	**Mutnovka**	**3.70**	**24**	*e*	P	**Pn**	**16 11 32.1**	**-0.5**
GRL	**Gorelyy**	**3.74**	**22**	PN		**Pn**	**16 11 32.7**	**-0.4**
GRL	**Gorelyy**	**3.74**	**22**	*e*	P	**Pn**	**16 11 32.7**	**-0.4**
RUS	**Russkaya**	**3.75**	**27**	PN		**Pn**	**16 11 31.9**	**-1.3**
RUS				S		**Sn**	**16 12 15.0**	**-1.0**
RUS	**Russkaya**	**3.75**	**27**	*e*	P	**Pn**	**16 11 31.9**	**-1.3**
RUS					*e*S	**Sn**	**16 12 15.0**	**-1.0**
APC	**Apacha**	**3.91**	**13**	PN		**Pn**	**16 11 34.7**	**-0.6**
APC	**Apacha**	**3.91**	**13**	*e*	P	**Pn**	**16 11 34.7**	**-0.6**
KRMR	**Karymshinskiy**	**4.01**	**21**	PN		**Pn**	**16 11 37.2**	**+0.5**
KRMR				S		**Sn**	**16 12 24.9**	**+2.6**
KRMR	**Karymshinskiy**	**4.01**	**21**	*e*	P	**Pn**	**16 11 37.1**	**+0.5**
KRMR					*e*S	**Sn**	**16 12 24.9**	**+2.6**
PEA0B	**Petropavlovsk-**	**4.18**	**16**	⇓*i*	PN	**Pn**	**16 11 39.4**	**+0.4**
PETK	**Petropavlovsk-**	**4.18**	**16**		P	**Pn**	**16 11 38.5**	**-0.5**
	comp=N,26nm,0.6s,baz=179,slow=13,SNR=142							
PETK					S	**Sn**	**16 12 32.1**	**+5.6**
	comp=N,18nm,0.7s,baz=174,slow=16,SNR=3.6							
PET	**Petropavlovsk**	**4.32**	**24**	*e*	PN	**Pn**	**16 11 41.3**	**+0.4**
PET					*e*S	**Sn**	**16 12 30.8**	**+0.9**
PET					pmax	pmax		
	comp=Z,81nm,0.4s							
PET					smax	smax		
	comp=E,285nm,0.7s							
PET					smax	smax		
	comp=N,260nm,0.7s							
PET	**Petropavlovsk**	**4.32**	**24**	*e*	P	**Pn**	**16 11 41.0**	**+0.1**
PET					*e*S	**Sn**	**16 12 31.0**	**+1.2**
DALK	**Dalny**	**4.35**	**25**	PN		**Pn**	**16 11 41.4**	**0.0**
DALK				S		**Sn**	**16 12 32.0**	**+1.3**
DALK	**Dalny**	**4.35**	**25**	*e*	P	**Pn**	**16 11 41.4**	**0.0**
DALK					*e*S	**Sn**	**16 12 32.0**	**+1.3**
UGLR	**Uglovaya**	**4.53**	**24**	PN		**Pn**	**16 11 44.9**	**+1.0**
UGLR	**Uglovaya**	**4.53**	**24**	*e*	P	**Pn**	**16 11 44.9**	**+1.0**
KOK	**Koryaka**	**4.55**	**22**	PN		**Pn**	**16 11 45.8**	**+1.6**
KOK	**Koryaka**	**4.55**	**22**	*e*	P	**Pn**	**16 11 45.8**	**+1.6**
AVH	**Avacha**	**4.55**	**23**	PN		**Pn**	**16 11 45.9**	**+1.6**
AVH	**Avacha**	**4.55**	**23**	*e*	P	**Pn**	**16 11 45.9**	**+1.6**
SMAR	**Somma**	**4.57**	**24**	PN		**Pn**	**16 11 45.7**	**+1.1**
SMAR	**Somma**	**4.57**	**24**	*e*	P	**Pn**	**16 11 45.7**	**+1.1**
KRX	**Arik**	**4.62**	**22**	PN		**Pn**	**16 11 46.5**	**+1.3**
KRX	**Arik**	**4.62**	**22**	*e*	P	**Pn**	**16 11 46.5**	**+1.3**
SPN	**Mys Shipunski**	**4.81**	**33**	PN		**Pn**	**16 11 48.4**	**+0.8**
SPN				S		**Sn**	**16 12 42.5**	**+0.5**
SPN	**Mys Shipunski**	**4.81**	**33**	*e*	P	**Pn**	**16 11 48.4**	**+0.8**
SPN					*e*S	**Sn**	**16 12 42.5**	**+0.5**
KII	**Karymskiy**	**5.43**	**24**	PN		**Pn**	**16 11 57.9**	**+1.6**
KII	**Karymskiy**	**5.43**	**24**	*e*	P	**Pn**	**16 11 57.9**	**+1.6**
KUR	**Kuril'sk**	**6.63**	**237**	*e*	PN	**Pn**	**16 12 14.3**	**+1.7**
KUR					*i* S	**Sn**	**16 13 30.5**	**+3.8**
KUR					pmax	pmax		
	comp=Z,68nm,0.6s							
TUMD	**Tumrok D**	**6.73**	**23**	*e*	P	**Pn**	**16 12 15.8**	**+1.8**
TUMR	**Tumrok**	**6.74**	**22**	PN		**Pn**	**16 12 16.0**	**+1.9**
TUMR	**Tumrok**	**6.74**	**22**	*e*	P	**Pn**	**16 12 16.0**	**+1.9**
KMNR	**Kamenistaya**	**7.19**	**21**	PN		**Pn**	**16 12 21.1**	**+0.8**
KMNR	**Kamenistaya**	**7.19**	**21**	*e*	P	**Pn**	**16 12 21.1**	**+0.8**
ASAJ	**Asahikawa**	**10.33**	**246**	P		**Pn**	**16 13 03.9**	**+0.5**
	comp=Z,16nm,0.8s,baz=61,slow=10,SNR=14							
MA2	**Magadan**	**10.86**	**346**	P		**Pn**	**16 13 08.6**	**-1.9**
	comp=Z,8.1nm,0.6s,baz=167,slow=8.8,SNR=13							
SEY	**Seymchan**	**13.97**	**354**	P		**Pn**	**16 13 52.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=178,slow=16,SNR=9.9							
H11N2	**WAKE ISLAND Hy**	**30.66**	**159**	T		T	16 49 24.1	
	baz=344							
H11N1	**WAKE ISLAND Hy**	**30.68**	**159**	T		T	16 49 32.0	
	baz=344							
H11N3	**WAKE ISLAND Hy**	**30.68**	**159**	T		T	16 49 17.7	
	baz=344							
H11S1	**WAKE ISLAND Hy**	**31.80**	**160**	T		T	16 50 59.0	
	baz=346,slow=76,SNR=29							
H11S3	**WAKE ISLAND Hy**	**31.81**	**160**	T		T	16 50 37.7	
	baz=346,slow=76,SNR=50							
H11S2	**WAKE ISLAND Hy**	**31.82**	**160**	T		T	16 50 38.7	
	baz=346,slow=76,SNR=33							
ILAR	**Eielson Array**	**33.59**	**41**	P		**P**	**16 17 12.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=253,slow=8.2,SNR=5.5							
	comp=Z,0.8nm,0.8s							
INK	**Inuvik**	**38.70**	**34**	P		**P**	**16 17 55.4**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=307,slow=4.8,SNR=4.6							
	comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**47.44**	**297**	P		**P**	**16 19 05.3**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=45,slow=6.0,SNR=2.5							
	comp=Z,0.2nm,0.6s							
KURK	**Kurchatov**	**47.54**	**303**	P		**P**	**16 19 05.9**	**-2.0**
KURBB	**Kurchatov Arra**	**47.63**	**303**	P		**P**	**16 19 05.9**	**-2.7**
	comp=Z,0.3nm,0.8s,baz=67,slow=8.1,SNR=1.9							
	comp=Z,0.3nm,0.8s							
YKA	**Yellowknife Ar**	**47.97**	**39**	*i*	P	**P**	**16 19 11.5**	**+0.5**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**47.97**	**39**		P	**P**	**16 19 11.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=294,slow=7.4,SNR=7.0							
	comp=Z,0.5nm,0.8s							
BVAR	**Borovoye Array**	**50.73**	**309**	P		**P**	**16 19 29.5**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=59,slow=5.6,SNR=2.3							
	comp=Z,0.3nm,0.7s							
NVAR	**Mina Array Bea**	**59.80**	**65**	P		**P**	**16 20 39.2**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=291,slow=7.9,SNR=4.6							
	comp=Z,0.7nm,0.7s							
PDAR	**Pinedale Array**	**61.94**	**56**	P		**P**	**16 20 53.2**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=308,slow=2.5,SNR=14							
	comp=Z,2.1nm,0.9s							
WRA	**Warramunga Arr**	**71.35**	**201**	P		**P**	**16 21 52.4**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=20,slow=6.5,SNR=3.0							
	comp=Z,0.6nm,0.9s							
TXAR	**Lajitas Array**	**74.81**	**63**	P		**P**	**16 22 13.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=297,slow=4.3,SNR=15							
	comp=Z,1.7nm,0.8s							
ASAR	**Alice Springs**	**75.04**	**201**	P		**P**	**16 22 14.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=9.0,slow=4.5,SNR=1.7							
	comp=Z,0.2nm,0.3s							
H03N2	**Juan Fernandez**	**136.98**	**90**	T		T	19 02 37.8	
	baz=308,slow=77							
H03N1	**Juan Fernandez**	**137.00**	**90**	T		T	19 02 39.5	
	baz=308,slow=77							
H03N3	**Juan Fernandez**	**137.00**	**90**	T		T	19 02 16.0	
	baz=308,slow=77							

*IDC **23** 16:12:41.4±0.8,30°.20S×60°.66E,h0km,mb3.9/10, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=27.3km s-min=22.1km az=89.0*
*NEIC **23** 16:12:43.7±2.1,29°.94S±0°.07×60°.3E±0°.1,h10km±1km, mb4.5/10, Error ellipse: s-maj=20.8km s-min=9.1km az=115.0*
ISC 23 16:12:43.2±0.6,29°.9S±0°.1×60°.4E±0°.1,h10km,n40, σ1§70/32,mb4.2/16,3C-1D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.69**	**333**		Pn	**Pn**	**16 15 02.5**	**-0.4**
VOI	**Vohitsoka**	**14.62**	**300**		P	**Pn**	**16 16 13.8**	**+3.5**
ABPO	**Ambohimpanom**	**16.18**	**309**		Pn	**Pn**	**16 16 31.3**	**+0.4**
OPO	**Ambohidratompo**	**16.52**	**310**		Pn	**P**	**16 16 38.3**	**+0.4**
	0.1nm,0.3s,baz=106,slow=12,SNR=2.2							
OPO					Sn	**Sn**	**16 19 32.6**	**-6.2**
	baz=265,slow=23,SNR=1.7							
	1.9nm,0.3s							
H04N2	**CROZET ISLANDS**	**17.56**	**200**	T		T	16 34 50.8	
	baz=26,slow=74,SNR=394							
H04N1	**CROZET ISLANDS**	**17.56**	**200**	T		T	16 34 44.1	
	baz=26,slow=74,SNR=371							
H04N3	**CROZET ISLANDS**	**17.58**	**200**	T		T	16 34 46.1	
	baz=26,slow=74,SNR=402							
H08S1	**Diego Carcia H**	**24.88**	**29**	T		T	16 43 42.8	
	baz=205,slow=76,SNR=8.1							
H08S2	**Diego Garcia H**	**24.89**	**29**	T		T	16 43 51.4	
	baz=205,slow=76,SNR=4.5							
H08S3	**Diego Garcia H**	**24.90**	**29**	T		T	16 44 03.6	
	baz=205,slow=76,SNR=8.5							
TSUM	**Tsumeb**	**40.20**	**275**	P		**P**	**16 20 20.3**	**+0.2**
H01W2	**Cape Leeuwin H**	**45.17**	**111**	T		T	17 09 25.6	
	baz=260,slow=75,SNR=11							
H01W3	**Cape Leeuwin H**	**45.17**	**111**	T		T	17 09 21.4	
	baz=260,slow=75,SNR=8.9							

H01W1	**Cape Leeuwin H**	**45.19**	**111**	T		T	17 09 19.3	
	baz=260,slow=75,SNR=10							
TROLL	**Troll, Antarti**	**52.04**	**200**	⇓P		**P**	**16 21 52.5**	**-0.3**
	comp=Z,87nm,0.6s							
SNAA	**Sanae**	**53.53**	**201**	P		**P**	**16 22 03.4**	**-0.2**
SNAA				IAmb		IAmb	16 22 05.0	
	comp=Z,4.9nm,1.1s							
SNAA	**Sanae**	**53.53**	**201**	⇑P		**P**	**16 22 03.5**	**-0.2**
	comp=Z,57nm,0.9s							
SNAA	**Sanae**	**53.53**	**201**	P		**P**	**16 22 02.8**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=82,slow=7.4,SNR=6.1							
	comp=Z,2.8nm,0.8s							
VNA2	**Neumayer--Watz**	**54.80**	**202**	⇑P		**P**	**16 22 12.5**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=100,slow=7.0							
VNA3	**Neumayer Olymp**	**55.58**	**202**	⇑P		**P**	**16 22 18.2**	**-0.3**
	comp=Z,3.3nm,1.0s							
QSPA	**South Pole Qui**	**60.24**	**180**	P		**P**	**16 22 50.3**	**-1.1**
QSPA				IAmb		IAmb	16 23 22.3	
	comp=Z,3.7nm,1.2s							
QSPA	**South Pole Qui**	**60.24**	**180**	P		**P**	**16 22 49.2**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=268,slow=2.7,SNR=3.8							
	comp=Z,1.2nm,0.6s							
CM31	**Chiang Mai Arr**	**60.76**	**43**	P		**P**	**16 22 54.9**	**-0.5**
CM31				IAmb		IAmb	16 23 00.3	
	comp=Z,7.1nm,1.4s							
CMAR	**Chiang Mai Arr**	**60.76**	**43**	P		**P**	**16 22 55.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**60.76**	**43**	P		**P**	**16 22 55.5**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=229,slow=7.1,SNR=12							
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**64.88**	**104**	P		**P**	**16 23 21.0**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=242,slow=5.9,SNR=5.2							
	comp=Z,0.5nm,0.6s							
WRA	**Warramunga Arr**	**66.76**	**100**	P		**P**	**16 23 33.1**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=245,slow=6.0,SNR=6.2							
	comp=Z,1.2nm,0.8s							
WRAB	**Tennant Creek**	**66.77**	**100**	P		**P**	**16 23 36.2**	**+1.0**
WB0	**Warramunga Arr**	**66.88**	**100**	P		**P**	**16 23 36.6**	**+0.7**
WB0				IAmb		IAmb	16 24 17.3	
	comp=Z,12nm,1.4s							
WR0	**Warramunga Arr**	**66.92**	**100**	P		**P**	**16 23 37.0**	**+0.8**
GEYT	**Alibeck**	**67.53**	**358**	P		**P**	**16 23 39.6**	**+0.1**
GEYT				IAmb		IAmb	16 23 59.5	
	comp=Z,1.7nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**67.53**	**358**	P		**P**	**16 23 39.9**	**+0.3**
GYA0B				IAmb		IAmb	16 23 59.5	
	comp=Z,2.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.93**	**298**	P		**P**	**16 24 02.1**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=122,slow=5.4,SNR=3.1							
	comp=Z,0.5nm,0.8s							
ABKAR	**Akbulak array**	**78.82**	**360**	P		**P**	**16 24 46.4**	**+0.5**
MKAR	**Makanchi Array**	**78.88**	**15**	P		**P**	**16 24 48.0**	**+1.6**
MKAR	**Makanchi Array**	**78.88**	**15**	P		**P**	**16 24 48.1**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=186,slow=4.6,SNR=7.6							
	comp=Z,0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**81.78**	**12**	P		**P**	**16 25 03.4**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=205,slow=5.2,SNR=5.3							
	comp=Z,0.4nm,0.8s							
BVAR	**Borovoye Array**	**83.05**	**6**	P		**P**	**16 25 08.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=173,slow=5.8,SNR=2.8							
	comp=Z,0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**86.16**	**14**	P		**P**	**16 25 26.1**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=190,slow=4.5,SNR=5.2							
	comp=Z,0.6nm,0.5s							
YKA	**Yellowknife Ar**	**147.26**	**356**	PKPbc		**PKPbc**	**16 32 25.4**	**-0.8**

RSO	Redoubt South	4.82	339	Pn		Pn	16 14 27.1	+0.6	
RDT	Redoubt	4.86	342			Pn	16 14 27.5	+0.5	
RDWB	Redoubt West	4.86	339			Pn	16 14 27.6	+0.5	
EYAK	Cordova Ski Ar	4.93	21			Pn	16 14 28.9	+1.1	
EYAK	Cordova Ski Ar baz=204	4.93	21	P		Pn	16 14 29.5	+1.7	
DFR	Drift River	4.93	340			Pn	16 14 28.6	+0.7	
O19K	Port Alsworth baz=146	4.97	330	P		Pn	16 14 29.1	+0.7	
FID	Port Fidalgo	4.99	16			Pn	16 14 29.8	+1.1	
FID	Port Fidalgo comp=E,83nm,1.5s	4.99	16	IAML			16 15 25.5		
FID	comp=N,55nm,1.2s			IAML			16 15 30.3		
P17K	Kvichak River	4.99	313			Pn	16 14 30.4	+1.7	
P17K	Kvichak River baz=127	4.99	313	P		Pn	16 14 31.1	+2.4	
RAGM	Ragged Mountai	5.03	27	Pn		Pn	16 14 31.0	+1.6	
RAGM	comp=E,80nm,0.8s			IAML			16 15 36.0		
CHGN	Chignik	5.09	277			Pn	16 14 31.0	+0.9	
CHGN	comp=E,62nm,0.1s			IAML			16 15 28.6		
CHGN	comp=N,72nm,0.1s			IAML			16 15 30.1		
RC01	Rabbit Creek A	5.10	358			Pn	16 14 30.8	+0.6	
RC01	comp=E,28nm,1.2s			IAML			16 15 30.9		
RC01	Rabbit Creek A baz=177	5.10	358	P		Pn	16 14 31.2	+0.9	
GOAT	Goat Mountain	5.19	26			Pn	16 14 33.1	+1.7	
BERG	Berg Lake	5.31	32			Pn	16 14 34.3	+1.2	
SNH	Sunshine Point	5.41	37	Pn		Pn	16 14 36.3	+1.7	
KNK	Knik Glacier baz=185	5.44	4	P		Pn	16 14 36.0	+1.1	
SPCN	Chakachatna No	5.44	345			Pn	16 14 36.6	+1.6	
DIV	Divide	5.46	18			Pn	16 14 36.4	+1.2	
SPCP	Crater Peak Br	5.48	346			Pn	16 14 37.1	+1.6	
SUA	Susitna One baz=172	5.52	353	P		Pn	16 14 36.9	+0.8	
P16K	Nushagak River	5.57	307			Pn	16 14 38.6	+1.9	
SPNN	North Nagishla	5.66	343			Pn	16 14 39.7	+1.7	
BARK	Barkley Ridge	5.70	36			Pn	16 14 39.9	+1.5	
KLU	Klutina	5.78	16			Pn	16 14 41.4	+1.8	
GHO	Glory Hole Cre	5.79	2			Pn	16 14 41.2	+1.5	
SML	Sawmill	5.84	5			Pn	16 14 41.9	+1.5	
O16K	Kokwok River B	5.91	311			Pn	16 14 43.1	+1.8	
SCM	Sheep Creek Mo	5.93	9			Pn	16 14 43.4	+1.7	
SKT	Skwentna	6.10	350			Pn	16 14 45.7	+1.8	
N25K	Chitina, Valde	6.13	22			Pn	16 14 45.5	+1.1	
N17K	Nushagak Hills	6.14	321			Pn	16 14 45.6	+1.1	
M20K	Styx River	6.21	343			Pn	16 14 46.0	+0.4	
PTPK	Patty Peak	6.31	32			Pn	16 14 48.6	+1.6	
PCA	Pinnacle	6.32	46			Pn	16 14 48.7	+1.7	
M24K	Tolsona, Glenn	6.33	14			Pn	16 14 49.0	+1.9	
BARN	Barnard Glacie	6.46	35			Pn	16 14 50.5	+1.5	
O15K	Ungalikthiuk R	6.48	304			Pn	16 14 51.0	+1.8	
BCPM	Bancas Point	6.49	48			Pn	16 14 51.3	+2.0	
WAT1	Susitna Watana	6.86	3			Pn	16 14 56.0	+1.7	
M17K	Holitna River	6.86	325			Pn	16 14 55.5	+1.1	
O29M	Mount Kennedy	7.13	48			Pn	16 15 00.1	+1.9	
DHY	Denali Highway	7.16	7			Pn	16 15 00.4	+1.8	
P29M	Windy Craggy	7.17	55			Pn	16 15 00.3	+1.6	
PN7A	Pavlof North-7	7.19	271			Pn	16 14 60.0	+1.0	
L18K	Granite Mounta	7.29	332			Pn	16 15 01.0	+0.8	
S31K	Pelican	7.41	69			Pn	16 15 01.6	-0.3	
CAST	Castle Rocks	7.56	351			Pn	16 15 05.3	+1.3	
KTH	Kantishna Hill	7.61	355			Pn	16 15 06.1	+1.4	
K20K	Telida	7.75	344			Pn	16 15 07.1	+0.5	
RIDG	Independent Ri	8.07	14			Pn	16 15 12.7	+1.6	
SCRK	Sand Creek	8.43	16	Pn		Pn	16 15 16.2	+0.3	
HDA	Harding Lake	8.51	7			Pn	16 15 18.9	+1.9	
CCB	Clear Creek Bu	8.70	4	Pn		Pn	16 15 21.1	+1.5	
J25K	Salcha River,	8.85	11	Pn		Pn	16 15 23.2	+1.5	
IL31		8.88	7	Pn		Pn	16 15 23.4	+1.4	
ILAR	Eielson Array comp=E,0.5nm,0.3s,baz=193,slow=13,SNR=19	8.88	7	Pn		Pn	16 15 24.1	+2.2	
ILAR	comp=E,0.2nm,0.3s,baz=193,slow=23,SNR=4.1 comp=E,0.9nm,0.3s			Sn		Sn	16 17 01.8	-0.1	
N31M	Braeburn, Yuko	8.92	46	Pn		Pn	16 15 24.9	+2.3	
J26L	Joseph Creek	8.98	16	Pn		Pn	16 15 24.8	+1.3	
MDM	Murphy Dome	9.00	3	Pn		Pn	16 15 25.1	+1.4	
P32M	Atlin	9.07	60	Pn		Pn	16 15 26.5	+1.8	
L29M	L29M	9.10	34			Pn	16 15 27.4	+2.4	
M30M	Minto, Yukon	9.18	39	Pn		Pn	16 15 28.0	+1.8	
I21K	Tanana	9.30	353			Pn	16 15 29.4	+1.6	
DAWY	Dawson	9.47	27	Pn		Pn	16 15 32.2	+2.0	
K29M	Barlow Dome	9.82	32	Pn		Pn	16 15 37.0	+1.9	
M31M	Drury Creek, Y	9.86	45	Pn		Pn	16 15 38.2	+2.8	
IMAR	Indian Mountai	10.23	350	Pn		Pn	16 15 41.9	+1.4	
H17K	Granite Mounta	10.33	334	Pn		Pn	16 15 43.3	+1.1	
R33M	Jennings River	10.38	63	Pn		Pn	16 15 44.1	+1.3	
G21K	Allakaket	10.73	351	Pn		Pn	16 15 48.4	+1.0	
FYU	Fort Yukon	10.77	9	Pn		Pn	16 15 49.5	+1.6	
G18K	Tagagawik	10.89	339	Pn		Pn	16 15 51.1	+1.6	
F21K	Alatna River	11.42	352	Pn		Pn	16 15 58.7	+1.8	
BMAR	Burnt Mountain	11.68	9	Pn		Pn	16 16 01.8	+1.5	
E19K	Redstone River	12.07	345	Pn		Pn	16 16 06.9	+1.3	
G31M	Satah River	13.05	27	Pn		Pn	16 16 20.3	+1.3	
C18K	Utukok River	13.79	342	Pn		Pn	16 16 29.1	-0.1	
INK	Inuvik baz=213,slow=11,SNR=5.8 comp=E,2.3nm,1.0s	14.30	24	Pn		Pn	16 16 38.4	+2.3	
B22K	Teshekpuk Lake	14.50	354	Pn		Pn	16 16 40.1	+1.4	
YKA	Yellowknife Ar baz=263,slow=10,SNR=6.2 comp=E,0.4nm,0.7s	18.71	56	P		P	16 17 32.7	+0.6	
NVAR	Mina Array Bea comp=E,0.2nm,0.5s,baz=333,slow=7.1,SNR=1.9 comp=E,0.2nm,0.5s	27.10	117	P		P	16 18 54.7	-2.2	
PDAR	Pinedale Array comp=E,0.3nm,0.6s,baz=294,slow=6.8,SNR=2.6 comp=E,0.3nm,0.6s	28.63	101	P		P	16 19 09.2	-1.4	

*NEIC **23** 16:20:00.1±0.9,56.1°N±0.1°×149.9°W±0.1°,h10km±2km, ML3.6/34,ML3.3(AEIC),Error ellipse: s-maj=17.1km s-min=10.2km az=186.0*

*AEIC **23** 16:20:03.2±1.8,56.0°N±0.1°×149.7°W±0.1,h10km±8km, Error ellipse: s-maj=16.9km s-min=7.5km az=167.0*

ISC 23 16:19:59.7±2.3,56.1N±0.1°×149.87W±0.06,h10km,n55, σ0$62/59,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.19	302		Pn	16 20 35.9	-0.2
OHAK	Old Harbor	2.19	302		Sn	16 21 01.7	-1.6
OHAK	Old Harbor baz=121	2.19	302	P	Pn	16 20 36.4	+0.3
OHAK	baz=121			S	Sn	16 21 01.7	-1.6
KDAK	Kodiak Island	2.24	320		Pn	16 20 37.2	+0.4
KDAK	Kodiak Island	2.24	320		Sn	16 21 04.2	-0.3
Q20K	Shuyak Island baz=150	2.86	332	P	Pn	16 20 46.1	+0.8
Q20K	baz=150			S	Sn	16 21 19.9	+0.2
SYI	Shuyak Island	2.86	332		Pn	16 20 46.1	+0.9
SYI					Sn	16 21 19.9	+0.2
SYI	Shuyak Island comp=E,104nm,0.9s	2.86	332	IAML		16 22 17.9	
R18K	Karluk	2.91	302		Pn	16 20 46.9	+0.9
R18K					Sn	16 21 21.6	+0.6
R18K	Karluk comp=E,167nm,0.6s	2.91	302	IAML		16 21 41.4	
R18K	Karluk baz=120	2.91	302	P	Pn	16 20 46.9	+0.9
R18K	baz=120			S	Sn	16 21 21.6	+0.6
Q19K	Cape Douglas,	3.49	326		Pn	16 20 54.7	+0.7
Q19K	comp=N,283nm,1.1s			IAML		16 22 45.2	
Q19K	Cape Douglas, baz=143	3.49	326	P	Pn	16 20 55.4	+1.4
CNPM	China Poot	3.51	349		Pn	16 20 54.5	+0.3
CNPM					Sn	16 21 36.0	+0.3
BRSE	Bradley Lake S	3.67	353		Pn	16 20 56.8	+0.3
BRSE					Sn	16 21 39.1	-0.8
BRSE	Bradley Lake S baz=172	3.67	353	P	Pn	16 20 56.8	+0.3
BRSE	baz=172			S	Sn	16 21 39.1	-0.8
BRLK	Bradley Lake	3.71	352		Pn	16 20 56.9	-0.1
Q23K	Middleton Isla	3.83	28		Pn	16 20 58.4	-0.2
Q23K	Middleton Isla comp=N,158nm,1.5s	3.83	28	IAML		16 21 35.5	
Q23K	comp=E,206nm,1.3s			IAML		16 21 43.4	
Q23K	Middleton Isla baz=209	3.83	28	P	Pn	16 20 58.4	-0.2
MID	Middleton Isla	3.83	28		Pn	16 20 58.5	-0.1
MID	Middleton Isla comp=N,189nm,1.5s	3.83	28	IAML		16 21 45.4	
P18K	Big Mountain,	4.37	321		Pn	16 21 06.6	+0.6
P18K	Big Mountain, baz=137	4.37	321	P	Pn	16 21 06.6	+0.6
RSO	Redoubt South	4.63	342	Pn	Pn	16 21 09.6	-0.1
KAIM	Kayak Island	4.80	35		Pn	16 21 12.3	+0.3
KAIM	Kayak Island baz=218	4.80	35	P	Pn	16 21 12.3	+0.3
EYAK	Cordova Ski Ar	4.96	24		Pn	16 21 14.3	+0.2
EYAK	Cordova Ski Ar baz=206	4.96	24	P	Pn	16 21 14.3	+0.2
FID	Port Fidalgo	4.99	20	Pn	Pn	16 21 14.2	-0.3
FID	comp=E,60nm,0.3s			IAML		16 23 03.2	
FID	comp=N,64nm,0.7s			IAML		16 23 03.8	
RC01	Rabbit Creek A	5.00	1	Pn	Pn	16 21 14.9	+0.3
RAGM	Ragged Mountai	5.09	30	Pn	Pn	16 21 16.6	+0.6
N19K	Bonanza Creek	5.30	335		Pn	16 21 19.3	+0.3
N19K	Bonanza Creek baz=151	5.30	335	P	Pn	16 21 19.3	+0.3
BERG	Berg Lake	5.39	35		Pn	16 21 20.4	+0.3
SUA	Susitna One	5.39	356	Pn	Pn	16 21 20.2	0.0
SUA	comp=E,21nm,1.4s			IAML		16 23 21.9	
SUA	comp=N,20nm,1.2s			IAML		16 23 22.1	
SNH	Sunshine Point	5.53	39	Pn	Pn	16 21 22.1	+0.2
N18K	Kilae Creek	5.57	328	Pn	Pn	16 21 22.5	-0.1
O16K	Kokwok River B	5.61	312	Pn	Pn	16 21 23.7	+0.7
GHO	Glory Hole Cre	5.70	5	Pn	Pn	16 21 24.4	0.0
SVW2	Sparrevohn	5.83	332	Pn	Pn	16 21 26.3	+0.3
N17K	Nushagak Hills	5.87	322	Pn	Pn	16 21 25.5	-1.2
BARN	Barnard Glacie	6.56	37	Pn	Pn	16 21 36.6	+0.3
M17K	Holitna River	6.61	327	Pn	Pn	16 21 37.9	+1.2
CTGM	Chitina Glacie	6.61	39	Pn	Pn	16 21 37.1	+0.3
LOGN	Logan Glacier	6.63	41	Pn	Pn	16 21 37.3	+0.1
O29M	Mount Kennedy	7.30	50	Pn	Pn	16 21 47.1	+0.8
P29M	Windy Craggy	7.37	56		Pn	16 21 46.9	-0.3
L16K	Owhat River	7.50	322	Pn	Pn	16 21 50.2	+1.3
K17K	Iditarod	7.90	331	Pn	Pn	16 21 54.1	-0.3
BPAW	Bear Paw Mtn.	8.04	356	Pn	Pn	16 21 56.4	0.0
J19K	Poorman	8.42	342	Pn	Pn	16 22 01.8	+0.3
L14K	Kuka Creek	8.48	314	Pn	Pn	16 22 02.0	-0.3
WHY	Whitehorse	9.09	54	Pn	Pn	16 22 11.3	+0.4
P32M	Atlin	9.29	61	Pn	Pn	16 22 13.4	-0.1

*IDC **23** 16:20:52.5±1.2,55.90N×150.02W,h0km,mb3.5/7, mbtmp3.5/11,ML3.3/3,MS2.8/1,Error ellipse: s-maj=28.8km s-min=18.5km az=43.0*

*NEIC **23** 16:20:54.6±2.8,56.0N±0.1°×150.0W±0.1,h15km±7km, mb4.3/1,ML3.6/28,ML3.5(AEIC),Error ellipse: s-maj=14.9km s-min=9.0km az=164.0*

*AEIC **23** 16:20:57.4±2.5,55.99N±0.09°×149.8W±0.1,h10km±6km, Error ellipse: s-maj=12.7km s-min=8.1km az=184.0*

ISC 23 16:20:54.3±0.9,56.08N±0.08°×149.82W±0.05,h10km, n125,σ1$04/123,mb3.7/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.23	302	Pn	Pn	16 21 29.8	-1.5
OHAK	Old Harbor	2.23	302		Sn	16 21 55.9	-2.9
OHAK	Old Harbor baz=121	2.23	302	P	Pn	16 21 30.5	-0.8
OHAK	baz=121			S	Sn	16 21 55.9	-2.9
KDAK	Kodiak Island	2.28	320		Pn	16 21 31.3	-0.7
KDAK	Kodiak Island 26nm,0.3s,baz=143,slow=4.9,SNR=23	2.28	320	Pn	Pn	16 21 31.4	-0.5
KDAK	26nm,0.3s,baz=9.4,slow=20,SNR=8.2 53nm,0.3s			Sn	Sn	16 21 58.5	-1.6
SYI	Shuyak Island	2.89	332	Pn	Pn	16 21 40.0	-0.4
SYI	Shuyak Island	2.89	332		Sn	16 22 14.5	-0.6
Q20K	Shuyak Island baz=150	2.89	332	P	Pn	16 21 40.1	-0.3
Q20K	baz=150			S	Sn	16 22 14.5	-0.7
R18K	Karluk	2.95	302		Pn	16 21 40.7	-0.5
R18K	Karluk comp=E,167nm,0.2s	2.95	302	IAML		16 22 21.2	
R18K	comp=N,140nm,0.4s			IAML		16 22 24.0	
R18K	Karluk baz=120	2.95	302	P	Pn	16 21 40.7	-0.5
Q19K	Cape Douglas,	3.52	326	Pn	Pn	16 21 49.8	+0.7
Q19K	Cape Douglas, baz=143	3.52	326	P	Pn	16 21 49.8	+0.7
CNPM	China Poot	3.54	348	Pn	Pn	16 21 48.7	-0.6
CNPM	comp=N,85nm,1.4s			IAML		16 22 33.5	
CNPM	comp=E,100nm,1.2s			IAML		16 22 35.3	
CNPM	China Poot	3.54	348		Sn	16 22 29.6	-1.5
BRSE	Bradley Lake S	3.70	353		Pn	16 21 50.5	-1.0
BRSE					Sn	16 22 33.0	-2.2
BRSE	Bradley Lake S baz=172	3.70	353	P	Pn	16 21 50.5	-1.0
BRSE	baz=172			S	Sn	16 22 33.0	-2.2
BRLK	Bradley Lake	3.73	352		Pn	16 21 50.8	-1.3
BRLK	Bradley Lake comp=E,78nm,0.8s	3.73	352	IAML		16 22 37.8	
BRLK	comp=N,118nm,0.8s			IAML		16 22 38.7	
Q23K	Middleton Isla	3.84	28		Pn	16 21 52.3	-1.0
Q23K	Middleton Isla comp=N,168nm,1.5s	3.84	28	IAML		16 23 36.1	
Q23K	Middleton Isla baz=210	3.84	28	P	Pn	16 21 52.3	-1.0
MID	Middleton Isla	3.84	28	Pn	Pn	16 21 52.3	-1.1
MID	comp=N,182nm,1.4s			IAML		16 22 49.7	
MID	comp=E,228nm,1.4s			IAML		16 23 43.0	
CNTC	Contact Creek	3.96	306		Pn	16 21 55.2	0.0
Q17K	Contact Creek baz=122	3.96	306	P	Pn	16 21 55.2	0.0
P23K	Montague Islan	4.13	17		Pn	16 21 56.8	-0.6
P23K	Montague Islan baz=198	4.13	17	P	Pn	16 21 56.8	-0.6
P18K	Big Mountain, baz=137	4.41	321	P	Pn	16 22 01.5	+0.3
RSO	Redoubt South	4.66	342	Pn	Pn	16 22 05.6	+0.8
P17K	Kvichak River baz=129	4.73	314	P	Pn	16 22 05.9	+0.3
O18K	Koktuh Hills	4.75	325		Pn	16 22 05.3	-0.6
O18K	Koktuh Hills comp=E,30nm,0.9s	4.75	325	IAML		16 23 02.3	
O18K	comp=N,46nm,0.9s			IAML		16 23 02.5	
O18K	Koktuh Hills baz=141	4.75	325	P	Pn	16 22 05.3	-0.6
O19K	Port Alsworth	4.76	332	Pn	Pn	16 22 04.6	-1.5
O19K	comp=N,96nm,0.5s			IAML		16 23 01.7	
O19K	Port Alsworth baz=148	4.76	332	P	Pn	16 22 05.6	-0.5
KAIM	Kayak Island	4.81	34		Pn	16 22 05.7	-1.0
KAIM	Kayak Island comp=N,129nm,1.5s	4.81	34	IAML		16 23 02.4	
KAIM	comp=E,109nm,1.3s			IAML		16 23 05.9	
KAIM	Kayak Island baz=218	4.81	34	P	Pn	16 22 05.7	-1.0
EYAK	Cordova Ski Ar	4.97	24		Pn	16 22 08.0	-0.8
EYAK	Cordova Ski Ar baz=207	4.97	24	P	Pn	16 22 08.0	-0.8
RC01	Rabbit Creek A	5.02	0	Pn	Pn	16 22 09.1	-0.6
RC01	comp=N,45nm,0.3s			IAML		16 23 07.3	
RC01	comp=E,39nm,0.3s			IAML		16 23 09.9	
P16K	Nushagak River	5.30	307		Pn	16 22 13.2	-0.2
P16K	Nushagak River baz=121	5.30	307	P	Pn	16 22 13.2	-0.2
N19K	Bonanza Creek	5.34	335	Pn	Pn	16 22 14.5	+0.4
N19K	comp=N,17nm,1.2s			IAML		16 23 22.3	
N19K	Bonanza Creek baz=151	5.34	335	P	Pn	16 22 13.9	-0.1
O17K	Koliganek Bris baz=131	5.36	317	P	Pn	16 22 14.2	-0.1
KNK	Knik Glacier	5.39	7		Pn	16 22 14.3	-0.5
KNK	Knik Glacier baz=188	5.39	7	P	Pn	16 22 14.3	-0.5
BERG	Berg Lake	5.39	34	Pn	Pn	16 22 14.3	-0.5
SUA	Susitna One	5.42	355		Pn	16 22 14.5	-0.7
SUA	Susitna One baz=174	5.42	355	P	Pn	16 22 14.5	-0.7
SPNN	North Nagishla	5.51	345		Pn	16 22 15.9	-0.6
STLK	Strandline Lak	5.53	350		Pn	16 22 16.1	-0.6
N18K	Kilae Creek	5.61	328	Pn	Pn	16 22 16.8	-0.9
N18K	Kilae Creek baz=143	5.61	328	P	Pn	16 22 17.3	-0.4
O16K	Kokwok River B	5.65	312	Pn	Pn	16 22 17.9	-0.3
O16K	Kokwok River B baz=126	5.65	312	P	Pn	16 22 18.0	-0.2
CHNA	Chernabura Isl baz=74	5.70	261	P	Pn	16 22 17.2	-1.8
CNBA	Chernabura Isl	5.70	261		Pn	16 22 17.2	-1.8
GHO	Glory Hole Cre	5.73	4		Pn	16 22 18.7	-0.6
SML	Sawmill	5.79	7		Pn	16 22 21.0	+0.7
BARK	Barkley Ridge	5.81	39		Pn	16 22 19.7	-0.8
SVW2	Sparrevohn	5.86	331	Pn	Pn	16 22 20.2	-0.9
N17K	Nushagak Hills	5.91	322		Pn	16 22 21.2	-0.6
N17K	Nushagak Hills baz=136	5.91	322	P	Pn	16 22 21.2	-0.6
SKT	Skwentna	5.98	352		Pn	16 22 22.4	-0.4
M20K	Styx River	6.06	345	Pn	Pn	16 22 25.5	+1.5
VRDI	Verde Repeater	6.13	30	Pn	Pn	16 22 24.5	-0.6
N25K	Chitina, Valde	6.17	24	Pn	Pn	16 22 26.4	+1.0
O15K	Ungalikthiuk R baz=116	6.20	304	P	Pn	16 22 25.9	0.0
M18K	Stony River	6.25	333		Pn	16 22 25.7	-0.8
M18K	Stony River baz=148	6.25	333	P	Pn	16 22 25.7	-0.8
SAMH	Samovar Hills	6.28	46		Pn	16 22 26.8	-0.1
M24K	Tolsona, Glenn	6.33	16	Pn	Pn	16 22 29.8	+2.2
PCA	Pinnacle	6.47	48		Pn	16 22 29.1	-0.5
PINM	Pinnacle baz=235	6.47	48	P	Pn	16 22 29.1	-0.5
BARN	Barnard Glacie	6.56	37		Pn	16 22 30.4	-0.6
CTG	Chitna Glacier baz=225	6.61	39	P	Pn	16 22 30.8	-0.7
CTGM	Chitina Glacie	6.61	39		Pn	16 22 30.8	-0.8
PNL	Peninsula baz=241	6.62	53	P	Pn	16 22 31.1	-0.5
L19K	White Mountain	6.64	339	Pn	Pn	16 22 30.6	-1.3
L19K	White Mountain baz=155	6.64	339	P	Pn	16 22 31.8	-0.1
M17K	Holitna River	6.64	327		Pn	16 22 31.8	0.0
M17K	Holitna River baz=140	6.64	327	P	Pn	16 22 31.9	0.0
BCPM	Bancas Point	6.66	50		Pn	16 22 31.9	-0.2
HARP	HAARP	6.77	19		Pn	16 22 32.9	-0.7
HARP	HAARP baz=202	6.77	19	P	Pn	16 22 32.9	-0.7
N15K	Kwethluk River	6.81	311	Pn	Pn	16 22 34.9	+0.8
M16K	Timber Creek	6.88	320	Pn	Pn	16 22 34.4	-0.7
M16K	Timber Creek baz=132	6.88	320	P	Pn	16 22 34.6	-0.6
PN7A	Pavlof North-7	6.91	270		Pn	16 22 33.9	-1.6
L18K	Granite Mounta	7.09	333		Pn	16 22 37.3	-0.8
L18K	Granite Mounta baz=147	7.09	333	P	Pn	16 22 37.3	-0.8
P29M	Windy Craggy	7.36	56	Pn	Pn	16 22 40.9	-0.8
P29M	Windy Craggy baz=246	7.36	56	P	Pn	16 22 40.3	-1.5
N14K	Kuskokwak Cree	7.38	306		Pn	16 22 42.2	+0.2
N14K	Kuskokwak Cree baz=117	7.38	306	P	Pn	16 22 42.2	+0.2
YUK8	Steele Glacier	7.39	41		Pn	16 22 42.3	0.0
YUK8	Steele Glacier baz=229	7.39	41	P	Pn	16 22 42.3	0.0
YUK3	Moose Creek	7.48	36		Pn	16 22 42.6	-1.0
YUK3	Moose Creek baz=224	7.48	36	P	Pn	16 22 42.6	-1.0
L16K	Owhat River baz=134	7.53	322	P	Pn	16 22 43.9	-0.2
S31K	Pelican	7.65	70		Pn	16 22 43.5	-2.2
S31K	Pelican baz=261	7.65	70	P	Pn	16 22 43.5	-2.2
L26K	Log Cabin Wild	7.70	23		Pn	16 22 48.2	+1.9
ISLZ	Isanotski Laza	8.02	266		Pn	16 22 49.0	-1.9
SKAG	Skagway	8.45	60		Pn	16 23 02.2	+5.6
IL31		8.84	8		Pn	16 23 02.5	+0.6
ILAR	Eielson Array comp=N,0.3nm,0.3s,baz=190,slow=14,SNR=6.7	8.84	8	Pn	Pn	16 23 02.6	+0.7
ILAR	comp=N,0.5nm,0.3s,baz=334,slow=30,SNR=6.7			Sn	Sn	16 24 38.5	-3.0
ILAR	comp=N,56nm,18.4s,baz=247,slow=34 comp=N,0.8nm,0.4s			LR	LR	16 26 03.0	
J29N	Klondike Camp	10.16	30		Pn	16 23 28.9	+8.8
G23K	Bananza Creek	10.67	360		Pn	16 23 26.5	-0.5
G30M	tAoh Zraii Nji	12.67	25	Pn	Pn	16 24 03.6	+9.3
INK	Inuvik	14.35	25		P	16 24 25.7	+1.4
INK	Inuvik comp=N,2.8nm,1.1s,baz=216,slow=13,SNR=3.0	14.35	25	Pn	Pn	16 24 18.9	+1.6
YKA	Yellowknife Ar baz=263,slow=11,SNR=7.0 comp=N,1.9nm,1.1s	18.90	56	P	P	16 25 15.5	+0.8
A36M	Sachs Harbour	18.98	23	P	Pn	16 25 18.5	+2.3
A36M				IAmb	IAmb	16 25 28.0	
NVAR	comp=Z,15nm,0.8s Mina Array Bea comp=E,0.2nm,0.6s,baz=303,slow=12,SNR=2.2 comp=Z,0.2nm,0.6s	27.39	117	P	P	16 26 40.0	+0.1
TXAR	Lajitas Array comp=Z,0.3nm,0.8s,baz=322,slow=5.7,SNR=2.2 comp=Z,0.3nm,0.8s	42.04	110	P	P	16 28 46.4	+0.4
SONM	Songino Array comp=Z,0.4nm,0.4s,baz=58,slow=5.4,SNR=4.0 comp=Z,0.4nm,0.4s	58.54	310	P	P	16 30 51.0	+0.3
ZALV	Zalesovo Beam comp=Z,0.4nm,0.5s,baz=355,slow=3.2,SNR=2.3 comp=Z,0.4nm,0.5s	61.56	327	P	P	16 31 11.4	+0.2
BVAR	Borovoye Array comp=Z,0.8nm,0.8s,baz=28,slow=6.7,SNR=4.9 comp=Z,0.8nm,0.8s	66.34	335	P	P	16 31 42.9	+0.2
KURBB	Kurchatov Arra comp=Z,0.2nm,0.5s,baz=32,slow=5.7,SNR=4.0 comp=Z,0.2nm,0.5s	66.35	329	P	P	16 31 42.8	0.0
MKAR	Makanchi Array	68.58	324	P	P	16 31 56.8	-0.2
MKAR	Makanchi Array comp=Z,0.3nm,0.6s,baz=39,slow=9.3,SNR=3.2 comp=Z,0.3nm,0.6s	68.58	324	P	P	16 31 57.0	0.0
ABKAR	Akbulak array	72.14	340	P	P	16 32 19.2	+0.6

IDC 23 16:25:02.6±4.8,36.77N×68.52E,h0km,mb3.4/2, mbtmp3.4/5,ML2.5/3,Error ellipse: s-maj=85.3km s-min=51.9km az=148.0,Hindu Kush region

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

YKA Yellowknife Ar 81.04 1 P P 16 37 19.3 +0.3
0.3nm,0.9s,baz=350,slow=5.5,SNR=2.1
0.3nm,0.9s

NOU ***23*** *16:26:53.4,28˚.56S×175˚.38W,h46km,mb5.0/52, Kermadec Islands Region*
BJI ***23*** *16:26:58.4±0.0,28˚.00S×176˚.22W,h45km,mb5.2/24, mB5.9/14,Ms5.5/2,Ms7 5.1/2*
NEIC ***23*** *16:26:58.6±2.8,27˚.9S±0˚.1×176˚.4W±0˚.1,h35km±1km, mb4.9/30,Error ellipse: s-maj=26.8km s-min=2.9km az=135.0*
IDC ***23*** *16:27:03.9±2.4,28˚.09S×176˚.61W,h76km±19km,mb4.3/15, mbtmp4.6/15,MS4.3/29,Error ellipse: s-maj=20.7km s-min=15.9km az=68.0*
ISC 23 16:26:57.7±0.5,28˚.34S±0˚.05×176˚.18W±0˚.06,h34km±1km, h37km;pP-P,n275,σ1ᵗ99/240,mb5.0/44,MS4.4/28,5C-6D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**1.77**	**239**		**Pn**		**16 27 27.9**	**+1.9**
RAO				Sn	**Sn**		**16 27 51.4**	**+4.1**
RAO	**Raoul Island**	**1.77**	**239**	P	**Pb**		**16 27 29.1**	**-0.6**
RAO	**Raoul Island**	**1.77**	**239**	P	**Pb**		**16 27 29.1**	**-0.6**
	5µm,0.2s,baz=88,slow=0.7,SNR=84							
RAO				S	**Sb**		**16 27 51.6**	**0.0**
	15µm,0.3s,baz=66,slow=23,SNR=11							
GLKZ	**Green Lake**	**1.78**	**239**	P	**Pn**		**16 27 28.9**	**+2.8**
GLKZ				S	**Sn**		**16 27 50.9**	**+3.4**
MXZ	**Matakaoa Point**	**10.29**	**205**		Pn		16 29 18.9	-4.0
MXZ	**Matakaoa Point**	**10.29**	**205**	P	**Pn**		**16 29 20.0**	**-2.9**
MXZ	**Matakaoa Point**	**10.29**	**205**	P	Pn		16 29 18.9	-4.0
MXZ				S	**Sn**		**16 31 14.2**	**-2.9**
WMGZ	**Waiomatatini S**	**10.48**	**204**	P	**Pn**		**16 29 22.2**	**-3.3**
WMGZ				S	**Sn**		**16 31 17.6**	**-4.1**
HAZ	**Te Kaha**	**10.67**	**207**	P	**Pn**		**16 29 24.5**	**-3.5**
HAZ				S	**Sn**		**16 31 22.6**	**-3.6**
PUZ	**Puketiti**	**10.76**	**204**	P	Pn		16 29 25.1	-4.3
PUZ				S	**Sn**		**16 31 24.9**	**-3.7**
KUZ	**Kuaotunu**	**10.81**	**217**	P	**Pn**		**16 29 27.8**	**-2.2**
KUZ	**Kuaotunu**	**10.81**	**217**	P	**Pn**		**16 29 31.1**	**+1.1**
NIUE	**Niue**	**10.85**	**33**	P	Pn		16 29 25.1	-5.5
	baz=10,SNR=13							
NIUE	**Niue**	**10.85**	**33**	Pn	Pn		16 29 24.9	-5.7
NIUE	**Niue**	**10.85**	**33**	P	Pn		16 29 25.2	-5.5
RUGZ	**Raukumara Rang**	**10.89**	**207**	P	Pn		16 29 26.9	-4.3
RUGZ				S	**Sn**		**16 31 28.7**	**-3.2**
TWGZ	**Tauwhareparae**	**10.96**	**205**	P	**Pn**		**16 29 28.7**	**-3.3**
TWGZ				S	**Sn**		**16 31 29.1**	**-4.3**
WCZ	**Waipu Caves**	**11.04**	**224**	P	Pn		16 29 41.7	+8.6
OUZ	**Omahuta**	**11.07**	**229**	P	**Pn**		**16 29 37.4**	**+3.8**
OUZ	**Omahuta**	**11.07**	**229**	P	Pn		16 29 41.1	+7.5
CNGZ	**Carnagh Statio**	**11.15**	**203**	P	Pn		16 29 30.7	-4.0
CNGZ				S	Sn		16 31 26.9	-11
TKGZ	**Te Karaka**	**11.24**	**205**	P	Pn		16 29 30.7	-5.2
TKGZ				S	**Sn**		**16 31 35.7**	**-4.5**
MWZ	**Matawai**	**11.27**	**206**	P	Pn		16 29 31.3	-5.0
MWZ				S	**Sn**		**16 31 35.7**	**-5.3**
URZ	**Urewera**	**11.37**	**208**	P	Pn		16 29 33.4	-4.3
URZ	**Urewera**	**11.37**	**208**	P	Pn		16 29 32.6	-5.1
	6.4nm,0.3s,baz=325,slow=1.8,SNR=40							
URZ				S	**Sn**		**16 31 39.9**	**-3.5**
	44nm,0.3s,baz=270,slow=23,SNR=21							
URZ	**Urewera**	**11.37**	**208**	P	Pn		16 29 32.8	-4.8
URZ				S	**Sn**		**16 31 38.7**	**-4.8**
RAGZ	**Rawiri**	**11.45**	**206**	P	**Pn**		**16 29 35.8**	**-3.0**
RAGZ				S	**Sn**		**16 31 39.2**	**-6.3**
RIGZ	**Rimuhau**	**11.50**	**204**	P	Pn		16 29 34.8	-4.7
RIGZ				S	**Sn**		**16 31 40.4**	**-6.4**
PRGZ	**Paritu Road**	**11.65**	**204**	P	Pn		16 29 36.5	-5.1
PRGZ				S	**Sn**		**16 31 44.0**	**-6.4**
MUGZ	**Murupara**	**11.70**	**208**	P	Pn		16 29 36.8	-5.3
MUGZ				S	Sn		16 31 43.8	-7.6
RTZ	**Ruatahuna**	**11.73**	**207**		Pn		16 29 37.0	-5.6
RTZ	**Ruatahuna**	**11.73**	**207**	P	Pn		16 29 37.5	-5.1
RTZ				S	**Sn**		**16 31 48.0**	**-4.3**
SNGZ	**Shannon Statio**	**11.73**	**206**	P	Pn		16 29 38.0	-4.6
SNGZ				S	**Sn**		**16 31 47.4**	**-4.9**
KNZ	**Kokohu**	**11.81**	**204**	P	Pn		16 29 38.8	-4.9
KNZ				S	Sn		16 31 43.6	-11
MHGZ	**Mahia Peninsul**	**11.85**	**203**	P	Pn		16 29 38.9	-5.4
MHGZ				S	Sn		16 31 46.4	-8.9
BKZ	**Black Stump Fm**	**12.39**	**208**	P	**Pn**		**16 29 49.1**	**-2.6**
DGTI	**Dogotuki**	**12.56**	**342**	P	**Pn**		**16 29 54.5**	**+0.4**
HIZ	**Hauiti**	**12.60**	**214**	P	**Pn**		**16 29 53.2**	**-1.3**
BFZ	**Birch Farm**	**13.80**	**205**	P	Pn		16 30 06.9	-3.9
MRZ	**Mangatainoka R**	**14.03**	**207**		Pn		16 30 05.0	-9.0
AFI	**Afiamalu**	**14.93**	**17**		Pn		16 30 18.9	-7.6
AFI	**Afiamalu**	**14.93**	**17**	P	**Pn**		**16 30 22.3**	**-4.1**
BHW	**Baring Head**	**14.95**	**207**	Pn	Pn		16 30 17.1	-9.4
CTZ	**Chatham Island**	**15.37**	**181**	Pn	**Pn**		**16 30 31.4**	**-0.5**
CTZ				IAmb	IAmb		16 30 33.4	
	comp=Z,31nm,0.5s							
QRZ	**Quartz Range**	**15.52**	**214**	P	**Pn**		**16 30 31.0**	**-3.0**
PINNC	**Pines Island,**	**15.84**	**287**	P	**P**		**16 30 44.2**	**+2.6**
KHZ	**Kahutara**	**16.34**	**208**	Pn	Pn		16 30 36.6	-7.8
RAR	**Rarotonga**	**16.50**	**68**	P	**Pn**		**16 30 43.5**	**-3.0**
	comp=Z,19nm,0.3s,baz=266,slow=9.9,SNR=6.3							
RAR				LR	LR		16 35 26.3	
	comp=Z,992nm,21.2s,baz=274,slow=30							
YATNC	**Mamie plateau,**	**16.54**	**288**	P	**P**		**16 30 53.4**	**+4.0**
LIFNC	**LIFOU**	**16.85**	**293**	P	**P**		**16 30 54.1**	**+1.4**
LIFNC				IAmb	IAmb		16 30 56.2	
	comp=Z,176nm,1.0s							
LIFNC	**LIFOU**	**16.85**	**293**	P	**P**		**16 30 55.0**	**+2.2**
DZM	**Mont Dzumac**	**16.91**	**288**	P	**P**		**16 30 55.6**	**+2.0**
DZM	**Mont Dzumac**	**16.91**	**288**	P	**P**		**16 30 56.3**	**+2.7**
DZM	**Mont Dzumac**	**16.91**	**288**	*eP*	**Pn**		**16 30 51.9**	**0.0**
	comp=Z,132nm,1.4s							
DZM				*e*LR	LR		16 34 46.5	
	comp=Z,4µm,25.7s							
DZM	**Mont Dzumac**	**16.91**	**288**	P	**P**		**16 30 55.3**	**+1.7**
	comp=Z,21nm,0.7s,baz=102,slow=14,SNR=12							
DZM				LR	LR		16 35 57.5	
	comp=Z,2µm,21.7s,baz=126,slow=32							
RPZ	**Rata Peaks**	**18.46**	**210**	P	**P**		**16 31 07.2**	**-3.2**
RPZ	**Rata Peaks**	**18.46**	**210**	P	**P**		**16 31 10.0**	**-0.5**
	comp=Z,7.1nm,0.4s,baz=59,slow=18,SNR=12							
RPZ				S	Sn		16 34 17.3	-19
	comp=Z,9.8nm,0.6s,baz=16,slow=22,SNR=11							
KOUNC	**Koumac, New Ca**	**19.38**	**289**	P	**P**		**16 31 21.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**19.38**	**289**	P	**Pn**		**16 31 22.9**	**+0.8**
ODZ	**Otahua Downs**	**19.69**	**209**	P	**P**		**16 31 20.2**	**-3.7**
JCZ	**Jackson Bay**	**19.79**	**214**	P	**P**		**16 31 24.5**	**-0.6**
SYZ	**Scrubby Hill**	**21.52**	**208**	P	**P**		**16 31 41.1**	**-2.5**
LHI	**Lord Howe Isla**	**21.68**	**256**	P	**P**		**16 31 48.3**	**+2.8**
	baz=22,SNR=3.4							
TBI	**Tubuai**	**24.53**	**84**	*e*LR	LR		16 37 45.0	
	comp=Z,3µm,29.5s							
TBI				*e*LR	LR		16 38 02.5	
	comp=Z,2µm,24.3s							
TBI				*e*LR	LR		16 38 10.0	
	comp=Z,8µm,26.5s							
PAE	**Paea**	**26.64**	**72**	*e*LR	LR		16 39 00.6	
	comp=Z,377nm,25.6s							
PPT2	**Papeete2**	**26.67**	**72**	*e*LR	LR		16 38 50.4	
	comp=Z,1µm,27.5s							
PPT2				*e*LR	LR		16 39 04.4	
	comp=Z,2µm,26.0s							
PPT	**Papeete**	**26.68**	**72**	LR	LR		16 42 29.2	
	comp=Z,389nm,18.4s,baz=260,slow=34							
TIAR	**Tiarei**	**26.88**	**72**	*e*LR	LR		16 38 57.6	
	comp=Z,393nm,31.5s							
ARMA	**Armidale**	**28.08**	**258**	P	**P**		**16 32 47.5**	**+1.2**
	baz=28,SNR=7.4							
MGCD	**Mangrove Creek**	**28.45**	**252**	P	**P**		**16 32 51.3**	**+1.8**
	baz=29,SNR=4.6							
MGCD	**Mangrove Creek**	**28.45**	**252**	P	**P**		**16 32 51.3**	**+1.8**
HNR	**Honiara**	**29.29**	**305**	LR	LR		16 43 15.2	
	comp=Z,8µm,19.9s,baz=150,slow=34							
EIDS	**Eidsvold**	**29.31**	**268**	P	**P**		**16 32 56.9**	**-0.2**
	baz=30,SNR=5.1							
CNB	**Canberra Magne**	**29.98**	**248**	P	**P**		**16 33 04.6**	**+1.4**
	baz=30,SNR=7.9							
CNB	**Canberra Magne**	**29.98**	**248**	P	**P**		**16 33 02.6**	**-0.5**
CAN	**Canberra**	**30.28**	**248**	P	**P**		**16 33 05.8**	**0.0**
CAN	**Canberra**	**30.28**	**248**	P	**P**		**16 33 06.6**	**+0.9**
CAN				sP	**pwP**		**16 33 19.7**	**-1.0**
MILA	**Mila**	**30.30**	**244**	P	**P**		**16 33 08.4**	**+2.5**
	baz=31,SNR=3.2							
RK1H	**Rockhampton Ha**	**30.33**	**272**	P	**P**		**16 33 06.3**	**+0.1**
TAU	**Tasmania Unive**	**32.76**	**234**	P	**P**		**16 33 29.4**	**+2.1**
TAU				sP	**pwP**		**16 33 42.5**	**+0.1**
CMSA	**Cobar Meteorol**	**33.08**	**255**	P	**P**		**16 33 30.0**	**-0.4**
	baz=34,SNR=9.6							
CMSA	**Cobar Meteorol**	**33.08**	**255**	P	**P**		**16 33 29.8**	**-0.6**
TOO	**Toolangi**	**33.26**	**244**	P	**P**		**16 33 32.8**	**+0.9**
	baz=34,SNR=8.0							
TOO	**Toolangi**	**33.26**	**244**	P	**P**		**16 33 30.4**	**-1.5**
TOO				IAmb	IAmb		16 33 33.8	
	comp=Z,9.3nm,0.8s							
TOO	**Toolangi**	**33.26**	**244**	P	**P**		**16 33 31.2**	**-0.7**
CTA	**Charters Tower**	**35.12**	**275**	P	**P**		**16 33 49.0**	**+0.8**
CTA	**Charters Tower**	**35.12**	**275**	LR	LR		16 46 40.7	
	comp=Z,1µm,19.0s,baz=94,slow=34							
ARPS	**Mount Arapiles**	**36.14**	**246**	P	**P**		**16 33 56.7**	**0.0**
	baz=37,SNR=8.7							
ARPS	**Mount Arapiles**	**36.14**	**246**	P	**P**		**16 33 56.7**	**0.0**
STKA	**Stephens Creek**	**36.53**	**254**	P	**P**		**16 34 00.0**	**-0.2**
	baz=37,SNR=8.2							
STKA	**Stephens Creek**	**36.53**	**254**	P	**P**		**16 33 59.0**	**-1.2**
STKA	**Stephens Creek**	**36.53**	**254**	P	**P**		**16 33 59.9**	**-0.2**
STKA	**Stephens Creek**	**36.53**	**254**	P	**P**		**16 33 58.4**	**-1.7**
	comp=Z,8.5nm,0.8s,baz=90,slow=10,SNR=16							
STKA				LR	LR		16 47 58.3	
	comp=Z,639nm,18.7s,baz=77,slow=35							
	comp=Z,8.5nm,0.8s							
MTSU	**Mount Surprise**	**37.55**	**277**	P	**P**		**16 34 08.7**	**-0.2**
	baz=38,SNR=12							
MTSU	**Mount Surprise**	**37.55**	**277**	P	**P**		**16 34 09.4**	**+0.5**
INKA	**Innaminka**	**37.87**	**260**	P	**P**		**16 34 12.0**	**+0.5**
HTT	**Hallett**	**38.64**	**251**	P	**P**		**16 34 17.2**	**-0.8**
	baz=39,SNR=13							
HTT	**Hallett**	**38.64**	**251**	P	**P**		**16 34 18.8**	**+0.8**
TAOE	**Nuku Hiva Isla**	**39.04**	**67**	*e*LR	LR		16 44 42.4	
	comp=Z,1µm,27.2s							
PMG	**Port Moresby**	**39.25**	**291**	LR	LR		16 47 57.4	
	comp=Z,410nm,19.7s,baz=115,slow=32							
PMG	**Port Moresby**	**39.25**	**291**	P	**P**		**16 34 24.0**	**+0.8**
PMG				sP	**pwP**		**16 34 37.8**	**-0.7**
LCRK	**Leigh Creek**	**39.59**	**256**	P	**P**		**16 34 24.7**	**-1.2**
WHYH	**Whyalla**	**39.80**	**251**	P	**P**		**16 34 27.2**	**-0.4**
QIS	**Mount Isa**	**40.81**	**271**	P	**P**		**16 34 32.6**	**-3.6**
	baz=41,SNR=3.5							
QIS	**Mount Isa**	**40.81**	**271**	P	**P**		**16 34 35.2**	**-1.0**
BBOO	**Buckleboo**	**41.09**	**252**	P	**P**		**16 34 36.6**	**-1.8**
	baz=42,SNR=6.7							
BBOO	**Buckleboo**	**41.09**	**252**	P	**P**		**16 34 37.6**	**-0.8**
BBOO				IAmb	IAmb		16 34 38.6	
	comp=Z,20nm,0.9s							
BBOO	**Buckleboo**	**41.09**	**252**	P	**P**		**16 34 36.1**	**-2.2**
OOD	**Oodnadatta**	**42.25**	**259**	P	**P**		**16 34 47.3**	**-0.5**
MULG	**Mulgathing**	**43.16**	**255**	P	**P**		**16 34 54.0**	**-1.2**
MANU	**Manus Island**	**43.51**	**300**	P	**P**		**16 34 55.6**	**-2.6**
MANU				IAmb	IAmb		16 34 59.1	
	comp=Z,23nm,0.8s							
AS01	**Alice Springs**	**44.81**	**264**	P	**P**		**16 35 07.2**	**-1.4**
AS31	**Alice Springs**	**44.85**	**264**	P	**P**		**16 35 07.1**	**-1.8**
ASAR	**Alice Springs**	**44.85**	**264**	P	**P**		**16 35 06.7**	**-2.3**
ASAR	**Alice Springs**	**44.85**	**264**	P	**P**		**16 35 06.9**	**-2.1**
	comp=Z,13nm,0.9s,baz=112,slow=7.9,SNR=80							
ASAR				PcP	**PcP**		**16 36 50.8**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=108,slow=4.3,SNR=1.6							
ASAR				LR	LR		16 52 39.2	
	comp=Z,784nm,20.2s,baz=100,slow=34							
	comp=Z,13nm,0.9s							
WR0	**Warramunga Arr**	**45.48**	**269**	P	**P**		**16 35 11.2**	**-2.8**
WR0				IAmb	IAmb		16 35 13.2	
	comp=Z,9.4nm,0.9s							
WB2	**Warramunga Arr**	**45.65**	**269**	P	**P**		**16 35 12.6**	**-2.7**
WB2				IAmb	IAmb		16 35 15.2	
	comp=Z,15nm,0.9s							
WRAB	**Tennant Creek**	**45.66**	**269**	P	**P**		**16 35 12.9**	**-2.4**
WRAB				IAmb	IAmb		16 35 14.6	
	comp=Z,14nm,0.9s							
WRA	**Warramunga Arr**	**45.66**	**269**	P	**P**		**16 35 12.9**	**-2.4**
WRA	**Warramunga Arr**	**45.66**	**269**	P	**P**		**16 35 12.7**	**-2.7**
	comp=Z,12nm,0.9s,baz=107,slow=6.9,SNR=86							
WRA				PcP	**PcP**		**16 36 53.5**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=109,slow=3.9,SNR=4.8							
WRA				LR	LR		16 52 32.0	
	comp=Z,329nm,18.5s,baz=108,slow=34							
	comp=Z,12nm,0.9s							
WB0	**Warramunga Arr**	**45.67**	**269**	P	**P**		**16 35 12.9**	**-2.6**
WB0				IAmb	IAmb		16 35 14.7	
	comp=Z,27nm,1.1s							
DRV	**Dumont d'Urvil**	**46.64**	**202**	P	**P**		**16 35 24.8**	**+2.4**
FORT	**Forrest**	**48.14**	**253**	P	**P**		**16 35 32.7**	**-1.9**
	baz=48,SNR=10.0							
FORT	**Forrest**	**48.14**	**253**	P	**P**		**16 35 32.4**	**-2.2**
FORT	**Forrest**	**48.14**	**253**	P	**P**		**16 35 33.7**	**-0.9**
WRKA	**Warakurna**	**49.35**	**260**	P	**P**		**16 35 42.0**	**-2.1**
	baz=50,SNR=12							
WRKA	**Warakurna**	**49.35**	**260**	P	**P**		**16 35 41.4**	**-2.7**
KDU	**Kakadu**	**50.18**	**277**	P	**P**		**16 35 47.9**	**-2.4**
	baz=50,SNR=6.8							
KDU	**Kakadu**	**50.18**	**277**	P	**P**		**16 35 49.4**	**-1.0**
KNRA	**Kununurra**	**52.18**	**272**	P	**P**		**16 36 03.5**	**-1.9**
	baz=52,SNR=9.5							
KNRA	**Kununurra**	**52.18**	**272**	P	**P**		**16 36 04.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**53.99**	**267**	P	**P**		**16 36 17.2**	**-1.5**
	baz=54,SNR=5.1							
FAKI	**Fak Fak**	**55.17**	**288**	P	**P**		**16 36 25.0**	**-2.3**
FAKI	**Fak Fak**	**55.17**	**288**	P	**P**		**16 36 26.0**	**-1.3**
CCD	**Concordia, Ant**	**55.36**	**196**	P	**P**		**16 36 31.4**	**+3.1**
CCD				pP	**sP**		**16 36 42.1**	**+2.0**
GUMO	**Guam**	**56.20**	**313**	LR	LR		16 57 44.2	
	comp=Z,164nm,20.5s,baz=133,slow=33							
NWAO	**Narrogin (SRO)**	**56.63**	**248**	LR			16 58 46.2	
	comp=Z,327nm,19.1s,baz=99,slow=34							
MEEK	**Meekatharra**	**57.22**	**255**	P	**P**		**16 36 41.9**	**0.0**
CASY	**Casey**	**57.69**	**207**	P	**P**		**16 36 46.3**	**+1.8**
RPN	**Rapa Nui**	**58.46**	**106**	LR	LR		16 55 21.7	
	comp=Z,200nm,19.8s,baz=212,slow=29							
QSPA	**South Pole Qui**	**61.76**	**180**	P	**P**		**16 37 16.2**	**+3.5**
	comp=Z,5.5nm,0.7s,baz=33,slow=1.5,SNR=40							
QSPA				LR	LR		17 03 54.3	
	comp=Z,118nm,18.3s,baz=103,slow=36							
	comp=Z,5.5nm,0.7s							
QSPA	**South Pole Qui**	**61.76**	**180**	P	**P**		**16 37 16.2**	**+3.5**
QSPA				pP	**pwP**		**16 37 26.6**	**-1.9**
PLAI	**Plampang**	**64.80**	**273**	P	**P**		**16 37 33.0**	**-0.5**
TOLI2	**Tolitoli**	**67.01**	**285**	P	**P**		**16 37 46.5**	**-1.2**
TOLI2				IAmb	IAmb		16 37 47.1	
	comp=Z,15nm,0.9s							
TOLI2	**Tolitoli**	**67.01**	**285**	P	**P**		**16 37 46.2**	**-1.5**
UGM	**Wanagama**	**71.61**	**271**	P	**P**		**16 38 14.7**	**-1.5**
BBJI	**Bungbulang**	**74.34**	**270**	P	**P**		**16 38 31.2**	**-1.2**
LEM	**Lembang**	**74.66**	**270**	LR	LR		17 11 11.5	
	comp=Z,306nm,20.7s,baz=298,slow=36							
MAW	**Mawson**	**74.78**	**200**	P	**P**		**16 38 36.8**	**+2.8**
	comp=Z,4.9nm,0.7s,baz=151,slow=7.6,SNR=7.7							
	comp=Z,4.9nm,0.7s							
SBUM	**Sibu**	**75.05**	**281**	P	**P**		**16 38 35.3**	**-1.1**
SBUM	**Sibu**	**75.05**	**281**	P	**P**		**16 38 34.1**	**-2.3**
	comp=Z,9.4nm,1.0s							
KSM	**Kuching**	**76.23**	**279**	P	**P**		**16 38 41.9**	**-1.3**
KSM	**Kuching**	**76.23**	**279**	P	**P**		**16 38 39.9**	**-3.3**
JOW	**Kunigami**	**76.49**	**311**	LR	LR		17 10 47.0	
	comp=Z,97nm,18.4s,baz=154,slow=34							
MJAR	**Matsushiro Arr**	**77.49**	**324**	P	**P**		**16 38 48.9**	**-0.9**
	comp=Z,13nm,0.8s,baz=156,slow=5.4,SNR=19							
	comp=Z,13nm,0.8s							
ELIB	**Princess Elisa**	**79.07**	**186**	*d*P	**P**		**16 39 00.6**	**+2.4**
TROLL	**Troll, Antarti**	**79.92**	**180**	⇑P	**P**		**16 39 05.2**	**+2.3**
	comp=Z,261nm,0.7s							
TROLL				⇓pP	**sP**		**16 39 14.9**	**-0.3**
	comp=Z,274nm,0.6s							
SNAA	**Sanae**	**80.16**	**178**	P	**P**		**16 39 05.9**	**+1.9**
SNAA				IAmb	IAmb		16 39 17.8	
	comp=Z,8.3nm,1.0s							
SNAA	**Sanae**	**80.16**	**178**	⇑P	**P**		**16 39 06.0**	**+2.0**
	comp=Z,90nm,0.8s							
SNAA				⇓pP	**sP**		**16 39 17.1**	**+0.7**
	comp=Z,88nm,0.8s							
SNAA	**Sanae**	**80.16**	**178**	P	**P**		**16 39 06.1**	**+2.0**
	comp=Z,3.7nm,0.8s,baz=165,slow=3.9,SNR=9.0							
	comp=Z,3.7nm,0.8s							
VNA3	**Neumayer Olymp**	**80.24**	**176**	⇑P	**P**		**16 39 06.4**	**+1.9**
	comp=Z,14nm,0.7s							
VNA3				⇓pP	**sP**		**16 39 17.2**	**+0.4**
	comp=Z,5.6nm,0.8s							
H03S2	**Juan Fernandez**	**80.27**	**123**	T	T		18 09 16.4	
	baz=239,slow=74,SNR=4.8							
H03S1	**Juan Fernandez**	**80.28**	**123**	T	T		18 09 18.1	
	baz=239,slow=74,SNR=4.6							
H03S3	**Juan Fernandez**	**80.28**	**123**	T	T		18 09 13.0	
	baz=239,slow=74,SNR=4.6							
H03N3	**Juan Fernandez**	**80.44**	**123**	T	T		18 09 21.4	
	baz=245,slow=72,SNR=4.5							
H03N2	**Juan Fernandez**	**80.44**	**123**	T	T		18 09 21.2	
	baz=245,slow=72,SNR=4.8							
H03N1	**Juan Fernandez**	**80.46**	**123**	T	T		18 09 28.8	
	baz=245,slow=72,SNR=4.5							
VNA2	**Neumayer-Watz**	**80.69**	**176**	⇑P	**P**		**16 39 09.1**	**+2.2**
	comp=Z,12nm,0.8s,baz=176,slow=4.0							
VNA2				⇓pP	**sP**		**16 39 20.4**	**+1.2**
	comp=Z,8.3nm,0.8s,baz=165,slow=6.0							
SHEM	**Shemya Is, Ala**	**81.17**	**354**	LR	LR		17 10 57.9	
	comp=Z,164nm,18.8s,baz=120,slow=33							
ASAJ	**Asahikawa**	**81.38**	**331**	LR	LR		17 08 47.4	
	comp=Z,253nm,20.4s,baz=174,slow=31							
MYKOM	**Kota Tinggi**	**82.02**	**276**	IAmb	IAmb		16 39 17.7	
	comp=Z,22nm,0.9s							
MYKOM	**Kota Tinggi**	**82.02**	**276**	P	**P**		**16 39 17.0**	**+2.1**
LPIG	**La Paz**	**82.10**	**57**	LR	LR		17 09 54.5	
	comp=Z,125nm,21.0s,baz=229,slow=31							
PLCA	**Paso Flores**	**82.73**	**132**	P	**P**		**16 39 21.7**	**+3.4**
	comp=Z,2.9nm,0.7s,baz=232,slow=5.9,SNR=12							
PLCA				LR	LR		17 07 59.6	
	comp=Z,116nm,21.1s,baz=221,slow=30							
	comp=Z,2.9nm,0.7s							
PFO	**Pinyon Flats O**	**83.64**	**46**	LR	LR		17 12 13.5	
	comp=Z,216nm,18.0s,baz=258,slow=32							
KSRS	**Korea Array**	**83.84**	**318**	P	**P**		**16 39 23.8**	**+0.2**
	comp=Z,8.4nm,0.8s,baz=144,slow=6.1,SNR=18							
	comp=Z,8.4nm,0.8s							
PETK	**Petropavlovsk-**	**84.24**	**345**	P	**P**		**16 39 25.1**	**-0.2**
	comp=Z,6.8nm,0.9s,baz=151,slow=6.3,SNR=6.2							
	comp=Z,6.8nm,0.9s							
YBH	**Yreka Blue Hor**	**85.44**	**37**	LR	LR		17 09 14.6	
	comp=Z,293nm,21.8s,baz=285,slow=30							
NVAR	**Mina Array Bea**	**85.65**	**42**	P	**P**		**16 39 35.3**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=222,slow=8.9,SNR=8.5							
NVAR				LR	LR		17 13 15.9	
	comp=Z,243nm,18.1s,baz=258,slow=32							
	comp=Z,0.9nm,0.7s							
NJ2	**Nanjing**	**86.14**	**310**	*e*P	**P**		**16 39 36.3**	**+0.9**
NJ2				pP	**sP**		**16 39 45.8**	**-1.7**
NJ2				pmax	pmax			
	comp=Z,14nm,0.8s							
NJ2				pmax	pmax			
	comp=Z,170nm,4.3s							
USRK	**Ussuriysk Ar.**	**86.35**	**325**	P	**P**		**16 39 36.5**	**+0.4**
	comp=Z,11nm,0.9s,baz=145,slow=3.2,SNR=17							
	comp=Z,11nm,0.9s							
RPSI	**Rantau Prapat**	**86.77**	**275**	P	**P**		**16 39 37.9**	**-1.1**
RPSI				IAmb	IAmb		16 39 39.8	
	comp=Z,15nm,1.2s							
UBPT	**Chong Chiam**	**87.24**	**289**	IAmb	IAmb		16 39 43.7	
	comp=Z,9.3nm,0.9s							
GSI	**Gunungsitoli**	**87.30**	**273**	P	**P**		**16 39 41.2**	**-0.4**
MDJ	**Mudanjiang**	**87.85**	**325**	P	**P**		**16 39 44.0**	**+0.6**
MDJ				pmax	pmax			
	comp=Z,19nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,960nm,4.5s							
ELK	**Elko**	**88.95**	**42**	LR	LR		17 16 50.0	
	comp=Z,247nm

MEF	**Metsahovi**	**145.20 342**	*e*P		**PKPbc**	**16 46 30.9**	**+0.2**
KBZ	**Khabaz**	**145.22 307**	PKP		**PKPbc**	**16 46 30.2**	**-1.1**
	comp=Z,4.4nm,0.8s,baz=162,slow=3.6,SNR=9.0						
VSU	**Vasula**	**145.94 339**	*e*P		**PKPbc**	**16 46 33.2**	**+0.1**
MTSE	**Matsula**	**146.63 341**	*e*P		**PKPbc**	**16 46 36.0**	**+0.9**
NC405	**NORSAR Array S**	**146.80 353**	PKPbc		**PKPdf**	**16 46 35.0**	**+1.2**
NB2	**NORSAR Subarra**	**146.93 353**	PKP		**PKPbc**	**16 46 35.6**	**-0.4**
	comp=Z,22nm,1.1s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**146.93 353**	PKPbc		**PKPbc**	**16 46 35.9**	**-0.1**
	comp=Z,16nm,0.9s,baz=14,slow=4.5,SNR=28						
HFS	**Hagfors**	**147.51 351**	PKPbc		**PKPbc**	**16 46 36.8**	**-0.8**
	comp=Z,29nm,0.8s,baz=18,slow=1.9,SNR=27						
VSVD	**Vaisvydziai**	**148.85 338**	*e*P		**PKPbc**	**16 46 42.3**	**+1.1**
PABE	**Paberze**	**149.22 337**			**PKPbc**	**16 46 41.8**	**-0.4**
PABE	**Paberze**	**149.22 337**	*e*P		**PKPbc**	**16 46 42.8**	**+0.7**
AKASG	**Malin Array Be**	**150.55 326**	PKPbc		**PKPbc**	**16 46 45.2**	**-0.3**
	comp=Z,20nm,0.8s,baz=43,slow=2.7,SNR=71						
KIEV	**Kiev**	**150.56 326**			**PKPbc**	**16 46 44.5**	**-1.1**
MMAI	**Mount Meron Ar**	**152.50 288**	PKPbc		**PKiKP**	**16 46 51.7**	**+0.7**
	comp=Z,13nm,0.8s,baz=72,slow=5.4,SNR=6.9						
BRTR	**Keskin Array B**	**152.92 303**	PKPbc		**PKPbc**	**16 46 51.0**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=111,slow=2.7,SNR=10						
BRTR			PKPab		**sPKPbc**	**16 47 02.9**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=102,slow=4.1,SNR=8.0						
CRVS	**Cervenica-Dubn**	**155.38 331**	*e*PKP		**PKPab**	**16 47 12.9**	**+0.1**
CLL	**Collm**	**156.04 346**	*i* PKPbc		PKPdf	16 46 58.2	+10
	comp=Z,5.0nm,1.0s						
CLL			*i* PKPab		**PKPab**	**16 47 15.1**	**-0.3**
	comp=Z,7.0nm,0.9s						
CLL			*e*pPKPab		sPKPab	16 47 27.0	-0.2
DPC	**Dobruska-Polom**	**156.05 340**	*e*PKPAB		**PKPab**	**16 47 15.7**	**+0.1**
KRLC	**Kraliky**	**156.15 339**	*e*PKPAB		**PKPab**	**16 47 15.8**	**-0.3**
MORC	**Moravsky Berou**	**156.16 338**	*e*PKP		**PKPab**	**16 47 16.7**	**+0.6**
BRG	**Berggiesshubel**	**156.23 344**	*e*PKP		**PKPab**	**16 47 16.2**	**0.0**
BRG			Amp			16 47 17.6	
	comp=Z,4.5nm,0.8s						
VYHS	**Vyhne**	**156.77 334**	*e*PKP		**PKPab**	**16 47 19.1**	**+0.4**
VRAC	**Vranov**	**156.88 338**	*e*PKP		**PKPab**	**16 47 19.7**	**+0.5**
JAVC	**Velka Javorina**	**156.90 336**	*e*PKP		**PKPab**	**16 47 20.7**	**+1.4**
KRUC	**Moravsky**	**157.16 338**	*e*PKP		**PKPab**	**16 47 20.6**	**+0.2**
NKC	**Novy Kostel**	**157.17 346**	*e*PKPAB		**PKPab**	**16 47 19.7**	**-0.7**
MODS	**Modra-Piesok**	**157.45 336**	*e*PKP		**PKPab**	**16 47 23.3**	**+1.6**
ZVC	**Zvikov**	**157.48 342**	*e*PKPAB		**PKPab**	**16 47 21.8**	**+0.1**
KHC	**Kasperske Hory**	**157.92 343**	*e*PKPAB		**PKPab**	**16 47 23.4**	**-0.3**
CKRC	**Cesky Krumlov**	**158.01 341**	*e*PKPAB		**PKPab**	**16 47 24.9**	**+0.8**
GERES	**GERESS Array B**	**158.15 342**	PKPab		**PKPab**	**16 47 24.9**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=53,slow=6.9,SNR=4.5						
CONA	**Conrad Observa**	**158.32 338**	*e*PKP		**PKPab**	**16 47 25.6**	**+0.1**
	comp=Z,1.9nm,0.7s						
RONA	**Rosalia, Austr**	**158.37 337**	*e*PKP		**PKPab**	**16 47 26.1**	**+0.4**
	comp=Z,4.0nm,1.0s						
ARSA	**Arzberg**	**159.02 337**	*e*PKP		**PKPab**	**16 47 29.0**	**+0.5**
	comp=Z,1.7nm,0.6s						
BIOA	**Bad Ischl, Aus**	**159.22 341**	*e*PKP		**PKPab**	**16 47 29.4**	**+0.1**
	comp=Z,1.9nm,0.6s						
SOKA	**Soboth**	**159.69 337**	*e*PKP		**PKPab**	**16 47 31.4**	**0.0**
	comp=Z,5.9nm,1.4s						
LESA	**Schwarzleotal**	**159.73 342**	*e*PKP		**PKPab**	**16 47 31.2**	**-0.4**
	comp=Z,4.4nm,1.0s						
RETA	**Reutte**	**160.13 346**	*e*PKP		**PKPab**	**16 47 33.5**	**+0.1**
	comp=Z,1.1nm,0.4s						
WTTA	**Wattenberg**	**160.14 344**	*e*PKP		**PKPab**	**16 47 34.0**	**+0.4**
	comp=Z,4.3nm,0.6s						
MOTA	**Moosalm**	**160.19 345**	*e*PKP		**PKPab**	**16 47 33.8**	**+0.1**
	comp=Z,6.0nm,1.1s						
ABTA	**Abfaltersbach**	**160.40 342**	*e*PKP		**PKPab**	**16 47 34.2**	**-0.3**
	comp=Z,4.7nm,1.3s						
FETA	**Feichten**	**160.58 346**	*e*PKP		**PKPab**	**16 47 35.6**	**+0.2**
	comp=Z,4.7nm,1.2s						
TOA0	**Torodi Ar. Sit**	**164.75 172**			**PKPab**	**16 47 55.8**	**+1.5**
TORD	**Torodi Ar. Bea**	**164.75 172**			**PKPdf**	**16 46 57.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**164.75 172**	PKP		**PKPdf**	**16 46 59.9**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=342,slow=2.5,SNR=8.7						
TORD			PKPab		**PKPab**	**16 47 56.4**	**+2.1**
	comp=Z,4.6nm,0.7s,baz=180,slow=2.6,SNR=21						
ESDC	**Sonseca Array**	**166.99 28**	PKP		**PKPdf**	**16 47 01.7**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=334,slow=3.3,SNR=5.6						

*IDC **23** 16:39:39.1±1.2,2.33N×125.38E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=83.0km s-min=20.8km az=71.0*
*DJA **23** 16:40:08.3±2.0,1.1N±16.1×124.6E±0.1,h212km±17km,M3.3/7, mb3.6/1,MLv3.2/7*
ISC 23 16:40:06.1±1.2,1.4N±0.1×124.6E±0.1,h250km,n10, σ2s09/11,mb3.2/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.81**	**244**	P	**Pn**	**16 40 47.2**	**+0.3**
LUWI	**Luwuk**	**3.09**	**217**	P	**Pn**	**16 41 00.1**	**+0.5**
LBMI	**Labuha**	**3.53**	**126**	P	**Pn**	**16 41 04.7**	**+0.2**
LBMI				S	**S**	16 41 49.5	-1.2
SANI	**Sanana**	**3.72**	**159**	P	**Pn**	**16 41 06.2**	**-0.4**
SANI				S	**S**	16 41 50.9	-3.8
NLAI	**Namlea**	**5.25**	**152**	P	**Pn**	**16 41 26.7**	**+1.6**
WRA	**Warramunga Arr**	**23.28**	**156**	P	**P**	**16 44 54.1**	**+2.2**
	1.1nm,0.3s,baz=334,slow=10,SNR=25 1.1nm,0.3s						
ASAR	**Alice Springs**	**26.53**	**161**	P	**P**	**16 45 24.0**	**+2.9**
	0.2nm,0.5s,baz=344,slow=7.2,SNR=1.9 0.2nm,0.5s						
KSRS	**Korea Array**	**35.97**	**4**	P	P	16 46 32.5	-11
	0.8nm,0.6s,baz=195,slow=11,SNR=4.5 0.8nm,0.6s						
MKAR	**Makanchi Array**	**58.28**	**327**	P	**P**	**16 49 33.4**	**-1.5**
	0.2nm,0.3s,baz=128,slow=7.5,SNR=4.5 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**62.57**	**329**	P	**P**	**16 50 03.1**	**-0.5**
	0.1nm,0.5s,baz=126,slow=7.3,SNR=2.1 0.1nm,0.5s						

*JMA **23** 16:43:30.0±0.2,25.2N±2.3×123.1E±0.6,h157km±2km, MV3.0/20,NW OFF ISHIGAKIJIMA IS*
*IDC **23** 16:43:33.7±9.0,25.57N×123.68E,h225km±118km, mb2.9/3,mbtmp3.5/4,Error ellipse: s-maj=127.8km s-min=23.3km az=56.0*
ISC 23 16:43:28.6±1.0,25.18N±0.09×123.13E±0.05,h162km±8km, n24,σ1s14/36,mb3.2/3,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.73**	**188**	P	**Pn**	**16 43 52.6**	**+0.1**
YOJ				S	**Sn**	**16 44 10.0**	**-0.9**
JYNG	**Yonagunijimaku**	**0.75**	**193**	P	**Pn**	**16 43 53.1**	**+0.4**
JYNG				S	**Sn**	**16 44 10.7**	**-0.4**
IRIF	**Iriomote-Funau**	**1.01**	**147**	*e*P	**Pn**	**16 43 54.8**	**+0.2**
IRIF				S	**Sn**	**16 44 13.4**	**-1.0**
JISG	**Ishigakijimahi**	**1.23**	**119**	P	**Pn**	**16 43 56.8**	**+0.4**
JISG				S	**Sn**	**16 44 17.0**	**-0.8**
JIJ	**Ishigaki jima**	**1.23**	**131**	*i* P	**Pn**	**16 43 56.8**	**+0.3**
JIJ				S	**Sn**	**16 44 16.2**	**-1.7**
JKRS	**Kuro-shima**	**1.24**	**139**	P	**Pn**	**16 43 57.1**	**+0.6**
JKRS				S	**Sn**	**16 44 17.2**	**-0.8**
HATJ	**Hateruma jima**	**1.28**	**151**	*e*P	**Pn**	**16 43 57.6**	**+0.6**
HATJ				*e*S	**Sn**	**16 44 17.9**	**-0.8**
TATO	**Taipei**	**1.50**	**262**	P	**Pn**	**16 44 00.3**	**+1.2**
JTJ	**Tarama**	**1.53**	**110**	P	**Pn**	**16 44 00.5**	**+1.1**
JTJ				S	**Sn**	**16 44 22.6**	**-0.3**
YHNB	**Yeheng**	**1.67**	**253**	P	**Pn**	**16 44 01.8**	**+0.9**
NACB	**Ninganchiao**	**1.72**	**235**	P	**Pn**	**16 44 01.0**	**-0.4**
JIRB	**Irabujima**	**1.89**	**100**	P	**Pn**	**16 44 04.2**	**+1.0**
JIRB				S	**Sn**	**16 44 29.1**	**-0.7**
JIKM	**Ikemajima**	**1.94**	**97**	S	**Sn**	**16 44 31.0**	**+0.2**
JMJ2	**Miyako jima3**	**2.04**	**102**	P	**Pn**	**16 44 06.4**	**+1.5**
JMJ2				S	**Sn**	**16 44 33.0**	**+0.1**
JOGS	**Gusukube**	**2.11**	**101**	S	**Sn**	**16 44 34.5**	**+0.2**
SSLB	**Suanglung**	**2.42**	**235**	P	**Pn**	**16 44 10.0**	**+0.6**
YULB	**Yu-li**	**2.44**	**224**	P	**Pn**	**16 44 09.1**	**-0.6**
TPUB	**Ta-pu**	**2.95**	**231**	P	**Pn**	**16 44 16.9**	**+1.0**
TWGBT	**Beinan**	**3.01**	**219**	P	**Pn**	**16 44 16.1**	**-0.5**
JKE	**Kume jima 2**	**3.49**	**70**	P	**Pn**	**16 44 23.3**	**+0.7**
JKE				S	**Sn**	**16 45 05.8**	**+1.2**
JOW	**Kunigami**	**4.91**	**69**	P	**Pn**	**16 44 40.5**	**-0.6**
	8.2nm,0.3s,baz=124,slow=22,SNR=17						
JOW				S	**Sn**	**16 45 33.2**	**-4.6**
	8.4nm,0.3s,baz=175,slow=15,SNR=2.1						
MKAR	**Makanchi Array**	**38.88**	**314**	P	**P**	**16 50 38.0**	**-0.3**
	0.1nm,0.3s,baz=104,slow=9.0,SNR=1.9 0.1nm,0.3s						
WRA	**Warramunga Arr**	**46.16**	**165**	P	**P**	**16 51 37.7**	**+0.6**
	1.1nm,0.6s,baz=348,slow=8.6,SNR=12 1.1nm,0.6s						

ASAR	**Alice Springs**	**49.67**	**167**	P	**P**	**16 52 04.8**	**+0.7**
	0.2nm,0.3s,baz=345,slow=6.0,SNR=9.1 0.2nm,0.3s						

*NEIC **23** 16:43:55.1±1.0,56.2N±0.1×150.1W±0.1,h10km±2km, ML3.5/32,ML3.6(AEIC),Error ellipse: s-maj=17.3km s-min=10.4km az=177.0*
AEIC 23 16:43:58.6±1.3,56.1N±0.1×150.0W±0.1,h10km±9km, Error ellipse: s-maj=19.2km s-min=10.6km az=171.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.12**	**302**		Pn	16 44 29.0	-5.0
OHAK					Sn	16 44 52.9	-7.4
KDAK	**Kodiak Island**	**2.17**	**320**		Pn	16 44 30.1	-4.7
KDAK					Sn	16 44 54.4	-7.4
SYI	**Shuyak Island**	**2.80**	**333**		Pn	16 44 38.6	-4.8
SYI	**Shuyak Island**	**2.80**	**333**	IAML		16 45 11.7	
	comp=E,88nm,0.8s						
R18K	**Karluk**	**2.84**	**302**		Pn	16 44 39.4	-4.5
R18K					Sn	16 45 10.7	-7.4
R18K	**Karluk**	**2.84**	**302**	IAML		16 45 13.2	
	comp=E,66nm,1.0s						
R18K				IAML		16 45 14.0	
	comp=N,92nm,1.3s						
Q19K	**Cape Douglas,**	**3.42**	**326**		Pn	16 44 47.7	-4.3
Q19K					Sn	16 45 24.8	-7.8
Q19K	**Cape Douglas,**	**3.42**	**326**	IAML		16 45 27.8	
	comp=N,100nm,1.1s						
Q19K				IAML		16 45 34.9	
	comp=E,218nm,1.4s						
CNPM	**China Poot**	**3.46**	**349**		Pn	16 44 47.5	-5.0
CNPM					Sn	16 45 26.0	-7.6
CNPM	**China Poot**	**3.46**	**349**	IAML		16 45 27.9	
	comp=E,50nm,0.3s						
BRSE	**Bradley Lake S**	**3.64**	**354**		Pn	16 44 49.4	-5.6
HOM	**Homer**	**3.64**	**347**		Sn	16 45 32.1	-5.7
HOM	**Homer**	**3.64**	**347**	Pn	Pn	16 44 49.3	-5.6
AUCH	**Augustine Cone**	**3.72**	**332**		Pn	16 44 51.5	-4.7
Q23K	**Middleton Isla**	**3.83**	**29**	Pn	Pn	16 44 52.9	-4.7
Q23K				IAML		16 45 44.6	
	comp=N,155nm,1.4s						
MID	**Middleton Isla**	**3.84**	**29**	Pn	Pn	16 44 52.8	-4.8
MID				IAML		16 46 42.3	
	comp=N,124nm,1.4s						
CNTC	**Contact Creek**	**3.85**	**306**		Pn	16 44 53.7	-4.3
P19K	**Oil Pt**	**3.92**	**335**		Pn	16 44 54.4	-4.5
P19K	**Oil Pt**	**3.92**	**335**	IAML		16 45 43.4	
	comp=E,68nm,0.6s						
P19K				IAML		16 46 39.0	
	comp=N,72nm,1.4s						
P18K	**Big Mountain,**	**4.30**	**322**		Pn	16 44 59.0	-5.1
P17K	**Kvichak River**	**4.62**	**314**		Pn	16 45 03.8	-4.6
O19K	**Port Alsworth**	**4.67**	**332**		Pn	16 45 03.9	-5.2
O19K	**Port Alsworth**	**4.67**	**332**	IAML		16 46 09.1	
	comp=E,86nm,0.3s						
EYAK	**Cordova Ski Ar**	**4.96**	**25**		Pn	16 45 08.3	-4.7
FID	**Port Fidalgo**	**4.98**	**20**		Pn	16 45 08.7	-4.7
FID	**Port Fidalgo**	**4.98**	**20**	IAML		16 48 06.9	
	comp=N,62nm,0.5s						
P16K	**Nushagak River**	**5.19**	**307**		Pn	16 45 12.1	-4.1
N19K	**Bonanza Creek**	**5.25**	**335**		Pn	16 45 11.9	-5.2
N19K	**Bonanza Creek**	**5.25**	**335**	IAML		16 47 55.6	
	comp=N,28nm,0.9s						
N19K				IAML		16 48 24.3	
	comp=E,11nm,1.4s						
KNK	**Knik Glacier**	**5.35**	**8**	Pn	Pn	16 45 14.2	-4.3
BERG	**Berg Lake**	**5.41**	**35**	Pn	Pn	16 45 14.5	-4.7
BERG				IAML		16 46 14.7	
	comp=N,46nm,1.1s						
BERG				IAML		16 48 27.6	
	comp=E,44nm,1.5s						
N18K	**Kilae Creek**	**5.51**	**328**		Pn	16 45 15.8	-4.9
SML	**Sawmill**	**5.75**	**8**	Pn	Pn	16 45 19.5	-4.5
BARK	**Barkley Ridge**	**5.83**	**40**		Pn	16 45 20.8	-4.3
N25K	**Chitina, Valde**	**6.16**	**25**	Pn	Pn	16 45 25.4	-4.2
M18K	**Stony River**	**6.16**	**333**		Pn	16 45 24.3	-5.2
SAMH	**Samovar Hills**	**6.31**	**47**		Pn	16 45 28.0	-3.7
L19K	**White Mountain**	**6.55**	**340**	Pn	Pn	16 45 30.4	-4.6
BARN	**Barnard Glacie**	**6.58**	**38**	Pn	Pn	16 45 31.0	-4.4
CTGM	**Chitina Glacie**	**6.63**	**40**	Pn	Pn	16 45 32.0	-4.1
LOGN	**Logan Glacier**	**6.65**	**41**		Pn	16 45 32.2	-4.3
M16K	**Timber Creek**	**6.78**	**320**	Pn	Pn	16 45 33.7	-4.3
CAST	**Castle Rocks**	**7.38**	**353**	Pn	Pn	16 45 41.8	-4.5
TTA	**Tatalina**	**7.46**	**338**	Pn	Pn	16 45 42.1	-5.4
K20K	**Telida**	**7.53**	**346**	Pn	Pn	16 45 43.5	-4.8
M14K	**Bethel**	**7.79**	**311**		Pn	16 45 45.7	-6.2
K17K	**Iditarod**	**7.83**	**331**	Pn	Pn	16 45 47.6	-4.9
J19K	**Poorman**	**8.37**	**343**	Pn	Pn	16 45 54.3	-5.5

ISC 23 16:46:56.8±2.2,56.4N±0.1×148.60W±0.06,h10km,n17, σ1s44/22,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.70**	**290**	P	**Pn**	**16 47 40.2**	**0.0**
OHAK	baz=107			S	**Sn**	**16 48 10.6**	**-2.4**
Q20K	**Shuyak Island**	**3.01**	**319**	P	**Pn**	**16 47 45.9**	**+1.4**
Q20K	baz=136			S	**Sn**	**16 48 20.8**	**+0.2**
Q23K	**Middleton Isla**	**3.26**	**21**	P	**Pn**	**16 47 48.5**	**+0.7**
R18K	**Karluk**	**3.41**	**292**	P	**Pn**	**16 47 51.2**	**+1.4**
R18K	baz=108			S	**Sn**	**16 48 27.8**	**-2.4**
BRSE	**Bradley Lake S**	**3.53**	**342**	P	**Pn**	**16 47 52.7**	**+1.0**
BRSE	baz=160			S	**Sn**	**16 48 32.3**	**-1.2**
HOM	**Homer**	**3.64**	**335**	P	**Pn**	**16 47 54.4**	**+1.3**
P23K	baz=152 **Montague Islan**	**3.66**	**9**	P	**Pn**	**16 47 54.0**	**+0.7**
P23K	baz=190			S	**Sn**	**16 48 34.5**	**-2.0**
Q19K	**Cape Douglas,**	**3.70**	**315**	P	**Pn**	**16 47 55.0**	**+1.0**
P19K	baz=131 **Oil Pt** baz=141	**4.08**	**325**	P	**Pn**	**16 48 00.8**	**+1.7**
KAIM	**Kayak Island** baz=213	**4.17**	**30**	P	**Pn**	**16 48 00.9**	**+0.6**
O20K	**Slope Mountain** baz=148	**4.25**	**332**	P	**Pn**	**16 48 02.9**	**+1.3**
Q17K	**Contact Creek** baz=113	**4.36**	**298**	P	**Pn**	**16 48 05.0**	**+1.8**
P18K	**Big Mountain,** baz=128	**4.63**	**313**	P	**Pn**	**16 48 07.5**	**+0.7**
P17K	**Kvichak River** baz=121	**5.04**	**307**	P	**Pn**	**16 48 14.0**	**+1.7**
PINM	**Pinnacle** baz=233	**5.75**	**47**	P	**Pn**	**16 48 22.9**	**+0.7**
PNL	**Peninsula** baz=240	**5.88**	**52**	P	**Pn**	**16 48 24.6**	**+0.7**
YUK8	**Steele Glacier** baz=226	**6.70**	**39**	P	**Pn**	**16 48 36.6**	**+1.3**

*IDC **23** 16:47:15.9±2.4,10.84S×161.92E,h43km±21km,mb3.6/10, mbtmp4.0/13,ML4.3/2,Error ellipse: s-maj=23.3km s-min=14.1km az=68.0*
*NEIC **23** 16:47:16.9±1.1,10.7S±0.2×161.9E±0.2,h46km±15km, mb4.5/17,Error ellipse: s-maj=34.0km s-min=8.3km az=52.0*
ISC 23 16:47:15.3±0.7,10.74S±0.08×161.97E±0.09,h35km,n41, σ1s51/43,mb4.3/19,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.38**	**303**		**Pn**	**16 47 51.4**	**-0.4**
HNR	**Honiara**	**2.38**	**303**	P	**Pn**	**16 47 51.7**	**-0.2**
	8μm,0.4s,baz=147,slow=5.8,SNR=38						
HNR				S	**Sn**	**16 48 21.6**	**+1.7**
	8μm,0.4s,baz=215,slow=23,SNR=1.9						
KOUNC	**Koumac, New Ca**	**10.00**	**167**	Pn	**Pn**	**16 49 38.0**	**+1.5**
LIFNC	**LIFOU**	**11.19**	**154**	Pn	**Pn**	**16 49 52.2**	**-0.6**
DZM	**Mont Dzumac**	**12.05**	**160**	Pn	**Pn**	**16 50 06.3**	**+1.7**
DZM	**Mont Dzumac**	**12.05**	**160**	P	**Pn**	**16 50 05.6**	**+0.9**
	1.2nm,0.3s,baz=350,slow=13,SNR=51						
DZM				S	**Sn**	**16 52 13.4**	**-4.6**
	5.1nm,0.9s,baz=330,slow=19,SNR=1.7 3.5nm,0.3s						
ONTNC	**Ouen Toro**	**12.27**	**160**	Pn	**Pn**	**16 50 10.9**	**+3.3**
OUENC	**Ouen Island, N**	**12.51**	**159**	Pn	**Pn**	**16 50 14.2**	**+3.4**
PINNC	**Pines Island,**	**12.91**	**157**	Pn	**Pn**	**16 50 18.8**	**+2.4**
PMG	**Port Moresby**	**14.65**	**274**	P	**P**	**16 50 45.4**	**-0.5**
PMG	**Port Moresby**	**14.65**	**274**	P	**Pn**	**16 50 41.0**	**+1.0**
	7.1nm,1.1s,baz=53,slow=5.1,SNR=3.4						
CTA	**Charters Tower**	**17.76**	**237**	P	**Pn**	**16 51 19.9**	**0.0**
	0.9nm,0.3s,baz=64,slow=11,SNR=13 12nm,0.8s						
EIDS	**Eidsvold**	**17.84**	**214**	P	**Pn**	**16 51 21.9**	**+1.1**
ARMA	**Armidale**	**21.82**	**205**	P	**P**	**16 52 05.5**	**+0.9**
ARMA				IAmb	IAmb	16 52 06.4	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**27.96**	**248**	P	**P**	**16 53 01.9**	**-0.9**
WR0				IAmb	IAmb	16 53 14.0	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**28.04**	**248**	P	**P**	**16 53 02.7**	**-0.8**
WB0				IAmb	IAmb	16 53 03.5	
	comp=Z,9.3nm,1.0s						
WB2	**Warramunga Arr**	**28.13**	**248**	P	**P**	**16 53 03.4**	**-0.9**
WB2				IAmb	IAmb	16 53 24.2	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**28.14**	**248**	P	**P**	**16 53 03.2**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=77,slow=9.1,SNR=11 comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**28.23**	**219**	P	**P**	**16 53 05.5**	**+0.4**
STKA	**Stephens Creek**	**28.23**	**219**	P	**P**	**16 53 04.5**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=53,slow=12,SNR=6.2 comp=Z,2.0nm,0.5s						
AS31	**Alice Springs**	**29.66**	**241**	P	**P**	**16 53 16.2**	**-1.7**
ASAR	**Alice Springs**	**29.66**	**241**	P	**P**	**16 53 16.1**	**-1.8**
ASAR	**Alice Springs**	**29.66**	**241**	P	**P**	**16 53 16.2**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=65,slow=10,SNR=28 comp=Z,0.9nm,0.5s						
TOO	**Toolangi**	**30.55**	**206**	P	**P**	**16 53 26.4**	**+0.8**
TOO				IAmb	IAmb	16 53 58.1	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**32.41**	**223**	P	**P**	**16 53 42.0**	**0.0**
BBOO				IAmb	IAmb	16 54 06.6	
	comp=Z,23nm,1.4s						
KNRA	**Kununurra**	**32.68**	**258**	P	**P**	**16 53 44.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**35.89**	**254**	P	**P**	**16 54 11.5**	**-0.9**
FORT	**Forrest**	**37.23**	**233**	P	**P**	**16 54 23.9**	**+0.2**
PSA00	**Pilbara Seismi**	**41.75**	**250**	P	**P**	**16 55 00.9**	**-0.5**
PSA00				IAmb	IAmb	16 55 29.2	
	comp=Z,20nm,1.3s						
TOLI2	**Tolitoli**	**42.63**	**284**	P	**P**	**16 55 07.2**	**-1.4**
TOLI2				IAmb	IAmb	16 55 14.6	
	comp=Z,8.4nm,0.8s						
MCQ	**Macquarie Isla**	**43.71**	**183**	P	**P**	**16 55 19.0**	**+2.2**
VNDA	**Vanda**	**66.76**	**180**	P	**P**	**16 58 02.2**	**-0.5**
VNDA	**Vanda**	**66.76**	**180**	P	**P**	**16 58 01.6**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=348,slow=7.8,SNR=7.2 comp=Z,2.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**68.61**	**295**	P	**P**	**16 58 15.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=109,slow=5.0,SNR=4.1 comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**76.27**	**325**	P	**P**	**16 59 00.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=143,slow=6.2,SNR=5.2 comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**79.26**	**180**	P	**P**	**16 59 17.6**	**+0.6**
QSPA				IAmb	IAmb	16 59 17.7	
	comp=Z,3.8nm,1.1s						
ILAR	**Eielson Array**	**84.44**	**20**	P	**P**	**16 59 44.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=245,slow=5.1,SNR=1.7 comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**88.68**	**51**	P	**P**	**17 00 06.8**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=253,slow=8.1,SNR=1.7 comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**90.78**	**317**	P	**P**	**17 00 14.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=96,slow=7.4,SNR=6.6 comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**17 00 39.0**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=257,slow=4.6,SNR=2.0 comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**160.56**	**279**	PKP	**PKPdf**	**17 07 13.7**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=132,slow=2.1,SNR=1.7						

*IDC **23** 16:51:26.4±1.0,60.37S×29.12W,h0km,mb4.2/3, mbtmp4.2/3,MS3.9/2,Error ellipse: s-maj=68.5km s-min=29.4km az=100.0*
*NEIC **23** 16:51:28.1±1.3,60.6S±0.2×28.0W±0.1,h10km±2km, mb4.4/7,Error ellipse: s-maj=25.5km s-min=10.0km az=0.0*
ISC 23 16:51:28.2±0.8,60.6S±0.1×28.0W±0.2,h10km,n26, σ1s36/21,mb4.3/4,5D,South Sandwich Islands region

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

	26nm,1.4s						
KDAK				IAML		16 57 56.4	
	14nm,1.3s						
OHAK	**Old Harbor**	**2.56**	**297**		Pn	16 57 05.3	-5.5
OHAK					Sn	16 57 31.4	-11
SYI	**Shuyak Island**	**3.06**	**326**		Pn	16 57 13.4	-4.3
SYI	**Shuyak Island**	**3.06**	**326**	IAML		16 58 55.1	
	comp=N,141nm,0.7s						
CNPM	**China Poot**	**3.59**	**342**		Pn	16 57 20.4	-4.6
CNPM					Sn	16 57 59.1	-8.2
CNPM	**China Poot**	**3.59**	**342**	IAML		16 59 06.4	
	comp=E,284nm,0.7s						
CNPM				IAML		16 59 11.8	
	comp=N,283nm,0.6s						
BRSE	**Bradley Lake S**	**3.73**	**347**		Pn	16 57 21.6	-5.2
Q19K	**Cape Douglas,**	**3.73**	**321**		Pn	16 57 22.1	-4.8
Q19K				IAML		16 59 08.7	
	comp=N,486nm,0.7s						
BRLK	**Bradley Lake**	**3.77**	**346**		Pn	16 57 22.4	-5.0
BRLK				IAML		16 59 16.6	
	comp=N,233nm,0.6s						
BRLK				IAML		16 59 30.3	
	comp=E,181nm,0.7s						
KAHG	**Katmai Hook Gl**	**3.79**	**311**		Pn	16 57 24.0	-3.8
P23K	**Montague Islan**	**3.98**	**12**		Pn	16 57 24.6	-5.7
P18K	**Big Mountain,**	**4.64**	**317**	Pn	Pn	16 57 35.2	-4.2
P18K				IAML		17 00 10.9	
	comp=E,117nm,0.8s						
P18K				IAML		17 00 10.9	
	comp=N,117nm,0.8s						
RSO	**Redoubt South**	**4.75**	**338**	Pn	Pn	16 57 36.7	-4.4
RAGM	**Ragged Mountai**	**4.86**	**27**	Pn	Pn	16 57 41.3	-1.2
GHO	**Glory Hole Cre**	**5.66**	**1**	Pn	Pn	16 57 49.9	-3.6
N18K	**Kilae Creek**	**5.79**	**325**	Pn	Pn	16 57 50.7	-4.5
N18K				IAML		17 00 56.3	
	comp=N,72nm,0.9s						
N18K				IAML		17 01 02.6	
	comp=E,52nm,0.8s						
O16K	**Kokwok River B**	**5.93**	**310**	Pn	Pn	16 57 53.2	-3.8
N17K	**Nushagak Hills**	**6.13**	**319**	Pn	Pn	16 57 55.5	-4.3
L19K	**White Mountain**	**6.75**	**336**	Pn	Pn	16 58 03.6	-4.8
N15K	**Kwethluk River**	**7.09**	**309**	Pn	Pn	16 58 08.6	-4.4

IDC ***23*** *16:58:01.8±0.7,56°.13N×148°.62W,h0km,mb4.2/30, mbtmp4.3/35,ML4.1/5,MS3.8/7,Error ellipse: s-maj=18.3km s-min=11.6km az=25.0*

NEIC ***23*** *16:58:02.9±1.2,56°.25N±0°.08×148°.65W±0°.10,h10km±1km, mb4.4/62,ML4.5/52,ML4.3(AEIC),Error ellipse: s-maj=13.2km s-min=8.9km az=172.0*

MOS ***23*** *16:58:03.4±1.7,56°.35N×148°.60W,h10km,mb4.7/24, Error ellipse: s-maj=15.7km s-min=6.1km az=96.4*

AEIC ***23*** *16:58:07.1±1.8,56°.20N±0°.07×148°.58W±0°.10,h12km±5km, Error ellipse: s-maj=11.0km s-min=7.7km az=166.0*

ISC 23 16:58:04.1±0.5,56°.31N±0°.06×148°.60W±0°.04,h10km, n274,σ1^{s}45/237,mb4.4/70,MS4.0/6,12C-6D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.63**	**306**	Pn	**Pn**	**16 58 45.1**	**-1.4**
KDAK	**Kodiak Island**	**2.63**	**306**		**Sn**	**16 59 15.4**	**-3.1**
KDAK	**Kodiak Island**	**2.63**	**306**	*c iP*	**Pn**	**16 58 45.3**	**-1.2**
KDAK	**Kodiak Island**	**2.63**	**306**	Pn	**Pn**	**16 58 45.4**	**-1.1**
	31nm,0.3s,baz=154,slow=4.7,SNR=44						
KDAK				Sn	**Sn**	**16 59 16.0**	**-2.4**
	37nm,0.3s,baz=68,slow=23,SNR=9.0						
	82nm,0.3s						
OHAK	**Old Harbor**	**2.74**	**291**		**Pn**	**16 58 45.8**	**-2.1**
OHAK	**Old Harbor**	**2.74**	**291**		**Sn**	**16 59 17.6**	**-3.5**
OHAK	**Old Harbor**	**2.74**	**291**	P	**Pn**	**16 58 45.9**	**-2.1**
OHAK	**Old Harbor**	**2.74**	**291**	P	**Pn**	**16 58 46.1**	**-1.8**
	baz=110						
OHAK				S	**Sn**	**16 59 17.6**	**-3.5**
	baz=110						
SYI	**Shuyak Island**	**3.08**	**320**		**Pn**	**16 58 51.9**	**-0.8**
SYI				IAML		16 59 34.1	
	comp=E,420nm,0.8s						
SYI				IAML		16 59 35.4	
	comp=N,277nm,0.5s						
Q20K	**Shuyak Island**	**3.08**	**320**	P	**Pn**	**16 58 52.1**	**-0.6**
	baz=138						
MID	**Middleton Isla**	**3.35**	**20**		**Sn**	**16 59 33.8**	**-2.4**
MID	**Middleton Isla**	**3.35**	**20**	P	**Pn**	**16 58 55.4**	**-1.0**
Q23K	**Middleton Isla**	**3.35**	**20**		**Pn**	**16 58 55.2**	**-1.2**
Q23K				IAML		16 59 34.6	
	comp=E,1μm,0.9s						
Q23K				IAML		16 59 43.6	
	comp=N,545nm,1.4s						
Q23K	**Middleton Isla**	**3.35**	**20**		**Sn**	**16 59 34.0**	**-2.2**
Q23K	**Middleton Isla**	**3.35**	**20**	P	**Pn**	**16 58 55.3**	**-1.1**
	baz=201						
Q23K				S	**Sn**	**16 59 34.0**	**-2.2**
	baz=201						
R18K	**Karluk**	**3.44**	**294**		**Pn**	**16 58 56.5**	**-1.2**
R18K	**Karluk**	**3.44**	**294**	IAML		16 59 44.2	
	comp=N,1μm,0.6s						
R18K				IAML		16 59 44.3	
	comp=E,1μm,0.4s						
CNPM	**China Poot**	**3.52**	**338**	Pn	**Pn**	**16 58 58.3**	**-0.4**
CNPM				IAML		16 59 45.3	
	comp=E,447nm,0.7s						
CNPM				IAML		16 59 55.2	
	comp=N,362nm,1.1s						
CNPM	**China Poot**	**3.52**	**338**		**Sn**	**16 59 37.8**	**-2.6**
BRSE	**Bradley Lake S**	**3.62**	**343**		**Pn**	**16 58 59.5**	**-0.7**
BRSE	**Bradley Lake S**	**3.62**	**343**	P	**Pn**	**16 58 59.5**	**-0.7**
	baz=161						
BRLK	**Bradley Lake**	**3.67**	**342**		**Pn**	**16 59 00.2**	**-0.6**
BRLK				IAML		16 59 48.7	
	comp=N,497nm,0.8s						
BRLK				IAML		16 59 48.8	
	comp=E,526nm,0.6s						
HOM	**Homer**	**3.73**	**336**		**Pn**	**16 59 01.4**	**-0.2**
HOM				IAML		16 59 58.7	
	comp=E,746nm,0.8s						
HOM				IAML		17 00 08.7	
	comp=N,743nm,0.8s						
HOM	**Homer**	**3.73**	**336**	P	**Pn**	**16 59 01.5**	**-0.1**
	baz=153						
P23K	**Montague Islan**	**3.75**	**9**		**Pn**	**16 59 01.3**	**-0.6**
P23K					**Sn**	**16 59 43.3**	**-2.8**
P23K	**Montague Islan**	**3.75**	**9**	P	**Pn**	**16 59 01.3**	**-0.6**
	baz=190						
Q19K	**Cape Douglas,**	**3.77**	**316**	Pn	**Pn**	**16 59 02.1**	**-0.2**
Q19K				IAML		16 59 51.8	
	comp=N,1μm,0.7s						
Q19K	**Cape Douglas,**	**3.77**	**316**	P	**Pn**	**16 59 02.3**	**0.0**
	baz=133						
SEW	**Seward**	**3.83**	**354**		**Pn**	**16 59 02.2**	**-0.8**
SEW	**Seward**	**3.83**	**354**	P	**Pn**	**16 59 02.5**	**-0.5**
	baz=173						
KAHG	**Katmai Hook Gl**	**3.89**	**307**		**Pn**	**16 59 04.2**	**+0.2**
AUCH	**Augustine Cone**	**4.01**	**322**		**Pn**	**16 59 05.8**	**+0.2**
AUL	**Augustine Lava**	**4.02**	**322**		**Pn**	**16 59 05.9**	**+0.3**
P19K	**Oil Pt**	**4.16**	**326**		**Pn**	**16 59 07.4**	**-0.1**
P19K				IAML		17 00 02.6	
	comp=E,714nm,0.6s						
P19K				IAML		17 00 06.2	
	comp=N,840nm,0.5s						
P19K	**Oil Pt**	**4.16**	**326**	P	**Pn**	**16 59 07.5**	**-0.1**
	baz=142						
KAHC	**Katmai Hardscr**	**4.18**	**307**	P	**Pn**	**16 59 07.8**	**-0.1**
	baz=122						
O22K	**Cooper Landing**	**4.22**	**352**		**Pn**	**16 59 08.0**	**-0.4**
O22K	**Cooper Landing**	**4.22**	**352**	P	**Pn**	**16 59 08.3**	**-0.1**
	baz=172						
HIN	**Hinchinbrook I**	**4.25**	**14**		**Pn**	**16 59 08.2**	**-0.5**
HIN				IAML		16 59 56.5	
	comp=N,749nm,0.9s						
KAIM	**Kayak Island**	**4.25**	**30**	Pn	**Pn**	**16 59 08.0**	**-0.7**
KAIM				IAML		17 00 08.3	
	comp=E,641nm,1.2s						
SLKM	**Skilak Lake**	**4.29**	**349**		**Sn**	**16 59 57.5**	**-2.1**
O20K	**Slope Mountain**	**4.34**	**332**	P	**Pn**	**16 59 09.6**	**-0.5**
	baz=149						
Q17K	**Contact Creek**	**4.41**	**299**	P	**Pn**	**16 59 11.1**	**-0.1**
	baz=114						
PLK3	**Peulik 3**	**4.41**	**291**		**Pn**	**16 59 09.9**	**-1.2**
EYAK	**Cordova Ski Ar**	**4.51**	**18**	P	**Pn**	**16 59 12.1**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.51**	**18**	P	**Pn**	**16 59 11.9**	**-0.4**
	baz=200						
RAGM	**Ragged Mountai**	**4.58**	**25**		**Pn**	**16 59 12.9**	**-0.5**
FID	**Port Fidalgo**	**4.59**	**13**		**Pn**	**16 59 12.4**	**-1.0**
FID	**Port Fidalgo**	**4.59**	**13**	IAML		17 00 06.4	
	comp=E,332nm,0.5s						
FID				IAML		17 00 07.1	
	comp=N,270nm,0.6s						
CAPN	**Captain Cook N**	**4.67**	**344**	Pn	**Pn**	**16 59 14.9**	**+0.4**
P18K	**Big Mountain,**	**4.70**	**314**	Pn	**Pn**	**16 59 13.8**	**-1.1**
P18K	**Big Mountain,**	**4.70**	**314**	P	**Pn**	**16 59 13.9**	**-1.1**
	baz=129						
RSO	**Redoubt South**	**4.70**	**334**		**Pn**	**16 59 14.2**	**-0.9**
RDT	**Redoubt**	**4.72**	**337**		**Pn**	**16 59 14.2**	**-1.1**
RC01	**Rabbit Creek A**	**4.83**	**353**		**Pn**	**16 59 16.5**	**-0.3**
RC01				IAML		17 00 12.7	
	comp=E,347nm,0.4s						
RC01				IAML		17 00 13.8	
	comp=N,257nm,0.5s						
RC01	**Rabbit Creek A**	**4.83**	**353**	P	**Pn**	**16 59 16.5**	**-0.3**
	baz=172						
BERG	**Berg Lake**	**4.84**	**30**		**Pn**	**16 59 16.2**	**-0.6**
FIS	**Fire Island**	**4.92**	**351**		**Pn**	**16 59 17.8**	**-0.1**
FIS				IAML		17 00 22.8	
	comp=N,499nm,0.7s						
O19K	**Port Alsworth**	**4.93**	**325**	Pn	**Pn**	**16 59 17.2**	**-0.9**
O19K				IAML		17 00 26.8	
	comp=N,445nm,0.5s						
SNH	**Sunshine Point**	**4.93**	**36**		**Pn**	**16 59 17.6**	**-0.6**
SNH				IAML		17 00 14.8	
	comp=E,237nm,0.8s						
SNH				IAML		17 00 17.3	
	comp=N,220nm,0.8s						
Q16K	**King Salmon**	**4.95**	**302**	P	**Pn**	**16 59 18.3**	**0.0**
	baz=116						
O18K	**Koktuh Hills**	**4.99**	**318**	Pn	**Pn**	**16 59 17.5**	**-1.5**
O18K	**Koktuh Hills**	**4.99**	**318**	P	**Pn**	**16 59 18.2**	**-0.7**
	baz=133						
P17K	**Kvichak River**	**5.10**	**308**		**Pn**	**16 59 20.1**	**-0.3**
P17K	**Kvichak River**	**5.10**	**308**	P	**Pn**	**16 59 20.6**	**+0.2**
	baz=122						
BMRM	**Bremner River**	**5.12**	**22**	P	**Pn**	**16 59 20.5**	**-0.2**
	baz=205						
KNK	**Knik Glacier**	**5.12**	**1**	IAML		17 00 24.0	
	comp=E,224nm,0.8s						
KNK				IAML		17 00 30.8	
	comp=N,164nm,0.9s						
KNK	**Knik Glacier**	**5.12**	**1**	P	**Pn**	**16 59 21.1**	**+0.4**
	baz=181						
SUA	**Susitna One**	**5.29**	**349**	IAML		17 00 27.3	
	comp=N,131nm,1.0s						
PMR	**Palmer**	**5.30**	**357**	Pn	**Pn**	**16 59 22.8**	**-0.4**
PMR				IAML		17 00 24.9	
	comp=N,160nm,0.8s						
PMR				IAML		17 00 25.6	
	comp=E,146nm,0.7s						
PMR	**Palmer**	**5.30**	**357**	P	**Pn**	**16 59 23.4**	**+0.2**
PMR	**Palmer**	**5.30**	**357**	P	**Pn**	**16 59 22.8**	**-0.4**
CHGN	**Chignik**	**5.46**	**274**		**Pn**	**16 59 24.2**	**-1.2**
GHO	**Glory Hole Cre**	**5.48**	**358**		**Pn**	**16 59 26.1**	**+0.3**
SPNN	**North Nagishla**	**5.50**	**339**		**Pn**	**16 59 25.4**	**-0.6**
M23K	**Glacier View**	**5.52**	**4**		**Pn**	**16 59 25.8**	**-0.4**
SCM	**Sheep Creek Mo**	**5.58**	**6**		**Pn**	**16 59 27.4**	**+0.3**
SCM	**Sheep Creek Mo**	**5.58**	**6**	P	**Pn**	**16 59 27.4**	**+0.3**
VRDI	**Verde Repeater**	**5.61**	**26**	Pn	**Pn**	**16 59 27.0**	**-0.7**
P16K	**Nushagak River**	**5.73**	**302**		**Pn**	**16 59 29.0**	**-0.1**
YKU2	**Yakutat**	**5.74**	**52**	P	**Pn**	**16 59 29.0**	**-0.2**
SKT	**Skwentna**	**5.88**	**346**	Pn	**Pn**	**16 59 30.3**	**-0.9**
PNL	**Peninsula**	**5.94**	**52**		**Pn**	**16 59 31.1**	**-0.9**
PNL	**Peninsula**	**5.94**	**52**	P	**Pn**	**16 59 31.5**	**-0.5**
M24K	**Tolsona, Glenn**	**5.95**	**11**		**Pn**	**16 59 32.4**	**+0.3**
BARN	**Barnard Glacie**	**5.98**	**34**		**Pn**	**16 59 32.2**	**-0.5**
SVW2	**Sparrevohn**	**6.02**	**326**	P	**Pn**	**16 59 32.1**	**-1.0**
LOGN	**Logan Glacier**	**6.02**	**38**		**Pn**	**16 59 32.4**	**-0.9**
O16K	**Kokwok River B**	**6.03**	**307**		**Pn**	**16 59 32.8**	**-0.4**
WACK	**Wrangell Chich**	**6.10**	**19**		**Pn**	**16 59 34.1**	**-0.3**
M19K	**Big River Lodg**	**6.35**	**334**		**Pn**	**16 59 36.6**	**-1.0**
HARP	**HAARP**	**6.36**	**15**		**Pn**	**16 59 37.9**	**+0.2**
M18K	**Stony River**	**6.40**	**327**		**Pn**	**16 59 37.1**	**-1.2**
CNBA	**Chernabura Isl**	**6.41**	**261**	Pn	**Pn**	**16 59 35.8**	**-2.6**
WAT7	**Susitna Watana**	**6.54**	**359**		**Pn**	**16 59 40.5**	**+0.1**
O29M	**Mount Kennedy**	**6.62**	**49**		**Pn**	**16 59 41.2**	**-0.3**
O15K	**Ungalikthiuk R**	**6.66**	**300**		**Pn**	**16 59 41.4**	**-0.4**
P29M	**Windy Craggy**	**6.67**	**56**		**Pn**	**16 59 41.0**	**-1.0**
L19K	**White Mountain**	**6.70**	**334**		**Pn**	**16 59 41.2**	**-1.3**
M26K	**Nabesna, AK**	**6.75**	**23**		**Pn**	**16 59 42.4**	**-0.7**
L20K	**Farewell, AK**	**6.75**	**339**		**Pn**	**16 59 42.8**	**-0.3**
SDPT	**Sand Point**	**6.76**	**267**	P	**Pn**	**16 59 41.7**	**-1.5**
PPLA	**Purkeypile**	**6.85**	**346**		**Pn**	**16 59 45.2**	**+0.6**
PAX	**Paxson**	**6.87**	**12**		**Pn**	**16 59 44.8**	**+0.1**
PAX	**Paxson**	**6.87**	**12**	P	**Pn**	**16 59 44.8**	**+0.1**
TRF	**Thorofare Moun**	**7.21**	**354**	Pn	**Pn**	**16 59 49.3**	**-0.2**
SIT	**Sitka**	**7.35**	**79**		**Pn**	**16 59 47.1**	**-4.2**
SIT	**Sitka**	**7.35**	**79**	P	Pn	16 59 46.1	-5.2
SIT	**Sitka**	**7.35**	**79**	P	**Pn**	**16 59 47.1**	**-4.2**
HYT	**Haines Junctio**	**7.35**	**47**	Pn	**Pn**	**16 59 51.2**	**-0.3**
PN7A	**Pavlof North-7**	**7.59**	**269**		**Pn**	**16 59 53.7**	**-1.0**
TTA	**Tatalina**	**7.62**	**334**	P	**Pn**	**16 59 54.0**	**-1.1**
SKAG	**Skagway**	**7.74**	**60**		**Pn**	**16 59 55.8**	**-0.9**
SKAG	**Skagway**	**7.74**	**60**	P	**Pn**	**16 59 55.6**	**-1.1**
JIS	**Juneau Island**	**7.95**	**70**	P	**Pn**	**16 59 57.6**	**-1.9**
WHY	**Whitehorse**	**8.40**	**53**	Pn	**Pn**	**17 00 05.4**	**-0.4**
FALS	**False Pass**	**8.52**	**266**	P	**Pn**	**17 00 05.8**	**-1.5**
ILAR	**Eielson Array**	**8.53**	**5**	*eP*	**Pn**	**17 00 07.9**	**+0.4**
ILAR				pmax	pmax		
	comp=E,5.0nm,0.4s						
ILAR	**Eielson Array**	**8.53**	**5**	Pn	**Pn**	**17 00 07.9**	**+0.4**
	comp=E,1.9nm,0.3s,baz=192,slow=14,SNR=46						
ILAR				Sn	**Sn**	**17 01 41.3**	**-2.4**
	comp=E,2.2nm,0.3s,baz=190,slow=23,SNR=11						
ILAR				LR	LR	17 02 40.2	
	comp=E,196nm,21.5s,baz=187,slow=32						
	comp=Z,4.4nm,0.4s						
COLA	**College**	**8.60**	**2**	P	**Pn**	**17 00 09.7**	**+1.3**
CRAG	**Craig**	**8.74**	**89**	P	Pn	17 00 05.0	-5.4
IMAR	**Indian Mountai**	**10.02**	**348**	Pn	**Pn**	**17 00 26.9**	**-0.9**
H18K	**Honhosa River**	**10.06**	**336**		**Pn**	**17 00 27.2**	**-1.3**
T35M	**Bob Quinn**	**10.13**	**79**	Pn	**Pn**	**17 00 28.0**	**-1.5**
DLBC	**Dease Lake**	**10.25**	**70**	Pn	**Pn**	**17 00 29.6**	**-1.5**
	comp=Z,2.2nm,0.3s,baz=264,slow=12,SNR=22						
DLBC				Sn	**Sn**	**17 02 21.6**	**-4.4**
	comp=Z,0.6nm,0.3s,baz=218,slow=25,SNR=1.6						
DLBC				LR	LR	17 03 59.4	
	comp=Z,572nm,19.4s,baz=268,slow=35						
	comp=Z,19nm,0.6s						
UNV	**Unalaska Valle**	**10.55**	**264**	P	**Pn**	**17 00 32.1**	**-3.1**
BMAR	**Burnt Mountain**	**11.31**	**8**	Pn	**Pn**	**17 00 45.7**	**+0.1**
ANM	**Nome**	**11.67**	**322**	Pn	**Pn**	**17 00 50.1**	**-0.3**
ANM	**Nome**	**11.67**	**322**	P	**Pn**	**17 00 50.1**	**-0.3**
E19K	**Redstone River**	**11.88**	**344**		**Pn**	**17 00 53.0**	**-0.3**
SPIA	**Saint Paul Isl**	**11.91**	**283**	P	**Pn**	**17 00 52.0**	**-1.7**
F28M	**Old Crow**	**12.04**	**16**	Pn	**Pn**	**17 00 55.6**	**+0.1**
G31M	**Satah River**	**12.60**	**27**	Pn	**Pn**	**17 01 02.4**	**-0.6**
INK	**Inuvik**	**13.86**	**24**	Pn	**Pn**	**17 01 21.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=204,slow=14,SNR=31						
	comp=Z,25nm,1.1s						
ADK	**Adak**	**16.99**	**267**	Pn	**Pn**	**17 01 59.8**	**-1.8**
ADK				IAmb	IAmb	17 02 13.3	
	comp=Z,32nm,0.9s						
ADK	**Adak**	**16.99**	**267**	P	**Pn**	**17 02 00.5**	**-1.1**
ADK	**Adak**	**16.99**	**267**	P	**Pn**	**17 01 59.8**	**-1.8**
ADK				pmax	pmax		
	comp=Z,32nm,0.9s						
C36M	**Paulatuk**	**17.02**	**30**	IAmb	IAmb	17 02 04.9	
	comp=Z,30nm,1.1s						
YKA	**Yellowknife Ar**	**18.21**	**56**		**Pn**	**17 02 15.7**	**-0.9**
YKA	**Yellowknife Ar**	**18.21**	**56**	P	**Pn**	**17 02 15.7**	**-0.9**
YKA	**Yellowknife Ar**	**18.21**	**56**	P	**P**	**17 02 16.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=263,slow=11,SNR=67						
YKA				LR	LR	17 09 13.7	
	comp=Z,342nm,20.2s,baz=292,slow=37						
	comp=Z,13nm,0.9s						
A36M	**Sachs Harbour**	**18.50**	**23**	P	**Pn**	**17 02 19.8**	**-0.3**
LTY	**Liberty**	**19.39**	**106**	P	**Pn**	**17 02 30.1**	**-1.0**
LTY				IAmb	IAmb	17 02 48.6	
	comp=Z,27nm,1.4s						
MXC	**Moxie City**	**20.02**	**107**	IAmb	IAmb	17 02 39.4	
	comp=Z,28nm,1.4s						
C09A	**Chrisman Ranch**	**20.36**	**102**	IAmb	IAmb	17 02 52.5	
	comp=Z,16nm,1.1s						
EDM	**Edmonton**	**20.43**	**84**	IAmb	IAmb	17 02 45.1	
	comp=Z,14nm,0.9s						
D08A	**Wollman Farm,**	**20.45**	**104**	IAmb	IAmb	17 02 53.1	
	comp=Z,17nm,1.2s						
HAWA	**Hanford**	**20.54**	**107**	IAmb	IAmb	17 02 54.2	
	comp=Z,22nm,1.4s						
NEW	**Newport**	**20.72**	**100**	P	**P**	**17 02 44.0**	**-0.3**
NEW	**Newport**	**20.72**	**100**	P	**P**	**17 02 44.1**	**-0.3**
NEW				pmax	pmax		
	comp=Z,17nm,1.3s						
NEW	**Newport**	**20.72**	**100**	P	**P**	**17 02 44.0**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=290,slow=10,SNR=4.8						
	comp=Z,1.8nm,0.3s						
E08A	**Dider Farm, El**	**20.73**	**106**	IAmb	IAmb	17 02 56.2	
	comp=Z,21nm,1.2s						
HUMO	**Hull Mountain**	**21.42**	**119**	IAmb	IAmb	17 02 52.9	
	comp=Z,17nm,0.8s						
L02F	**Cave Junction**	**21.49**	**121**	IAmb	IAmb	17 02 57.8	
	comp=Z,23nm,1.1s						
PINE	**Pine Mountain**	**21.56**	**114**	IAmb	IAmb	17 03 11.6	
	comp=Z,13nm,0.9s						
J05D	**Fort Rock, OR**	**21.77**	**115**	P	**P**	**17 02 55.3**	**-0.6**
J05D				IAmb	IAmb	17 02 56.7	
	comp=Z,16nm,0.8s						
I07A	**Izee**	**22.09**	**111**	IAmb	IAmb	17 03 25.9	
	comp=Z,15nm,1.1s						
YBH	**Yreka Blue Hor**	**22.20**	**120**	P	**P**	**17 03 00.1**	**-0.3**
YBH	**Yreka Blue Hor**	**22.20**	**120**	P	**P**	**17 03 00.1**	**-0.3**
YBH				pmax	pmax		
	comp=Z,21nm,1.0s						
K05A	**Summer Lake**	**22.35**	**116**	IAmb	IAmb	17 03 04.3	
	comp=Z,17nm,1.0s						
BILL	**Bilibino**	**23.47**	**318**	*eP*	**P**	**17 03 12.5**	**-0.9**
WVOR	**Wild Horse Val**	**23.71**	**113**	IAmb	IAmb	17 03 27.0	
	comp=Z,12nm,1.0s						
AFDM	**Forest Hills D**	**25.20**	**122**	P	**P**	**17 03 29.3**	**-0.3**
PAHR	**Pah Rah Range**	**25.37**	**119**	IAmb	IAmb	17 03 47.3	
	comp=Z,10nm,1.2s						
EMB	**Emerald Bay**	**25.59**	**121**	IAmb	IAmb	17 03 37.0	
	comp=Z,6.7nm,0.8s						
YERR	**Yerington**	**26.00**	**119**	IAmb	IAmb	17 03 39.6	
	comp=Z,11nm,1.0s						
WAKR	**Walker**	**26.28**	**120**	IAmb	IAmb	17 03 42.6	
	comp=Z,7.0nm,0.9s						
KVN	**Kaiserville**	**26.51**	**118**	IAmb	IAmb	17 03 44.7	
	comp=Z,7.7nm,0.9s						
NVAR	**Mina Array Bea**	**26.89**	**119**	P	**P**	**17 03 44.2**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=302,slow=9.3,SNR=12						
	comp=Z,2.5nm,0.7s						
RES	**Resolute Bay**	**27.36**	**28**	P	**P**	**17 03 49.0**	**+0.2**
RES	**Resolute Bay**	**27.36**	**28**	P	**P**	**17 03 49.0**	**+0.2**
RES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PDAR	**Pinedale Array**	**28.30**	**102**	P	**P**	**17 03 55.9**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=297,slow=5.0,SNR=7.7						
	comp=Z,0.5nm,0.6s						
R11B	**Troy Canyon, C**	**28.30**	**115**	IAmb	IAmb	17 03 58.0	
	comp=Z,6.8nm,1.1s						
SPR3	**Spring Creek 3**	**28.45**	**113**	IAmb	IAmb	17 04 01.9	
	comp=Z,8.3nm,1.4s						
FCC	**Fort Churchill**	**28.69**	**62**	P	**P**	**17 04 00.6**	**-0.1**
FCC				IAmb	IAmb	17 04 01.4	
	comp=Z,6.7nm,0.8s						
FCC	**Fort Churchill**	**28.69**	**62**	P	**P**	**17 04 00.6**	**-0.1**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ISA	**Isabella, Lake**	**29.02**	**123**	P	**P**	**17 04 03.0**	**-1.0**
ISA				IAmb	IAmb	17 04 18.9	
	comp=Z,7.2nm,1.3s						
ISA	**Isabella, Lake**	**29.02**	**123**	P	**P**	**17 04 03.1**	**-1.0**
ISA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TPNV	**Topopah Spring**	**29.06**	**118**	IAmb	IAmb	17 04 14.7	
	comp=Z,5.6nm,1.1s						
PRN	**Pahroc Range**	**29.30**	**116**	IAmb	IAmb	17 04 41.8	
	comp=Z,5.5nm,0.9s						
GWY	**Greenwater Val**	**29.46**	**120**	IAmb	IAmb	17 04 08.4	
	comp=Z,4.6nm,0.8s						
SEY	**Seymchan**	**29.59**	**307**	*i*P	**P**	**17 04 09.1**	**+0.4**
SEY				pmax	pmax		
	comp=Z,38nm,3.5s						
PETK	**Petropavlovsk-**	**30.53**	**287**	P	**P**	**17 04 16.4**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=71,slow=10,SNR=7.1						
	comp=Z,4.1nm,0.8s						
MA2	**Magadan**	**31.37**	**302**	LR	LR	17 17 58.7	
	comp=Z,151nm,19.4s,baz=80,slow=38						
ULM	**Lac du Bonnet**	**31.43**	**78**	P	**P**	**17 04 24.3**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=280,slow=11,SNR=3.6						
	comp=Z,1.8nm,0.7s						
Y14A	**Wickenburg**	**33.05**	**117**	IAmb	IAmb	17 04 40.2	
	comp=Z,5.1nm,0.8s						
X16A	**Lo Mia Camp, P**	**33.45**	**115**	IAmb	IAmb	17 04 45.6	
	comp=Z,3.9nm,0.7s						
TULEG	**Thule**	**33.86**	**24**	*i* P	**P**	**

ULN pmax pmax
comp=Z,19nm,3.1s
SONM Songino Array 58.91 311 P **P 17 08 03.6 +0.5**
comp=Z,5.5nm,0.8s,baz=37,slow=5.1,SNR=21
comp=Z,5.5nm,0.8s
ZALV Zalesovo Beam 61.74 327 *eP* **P 17 08 25.3 +3.2**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 61.74 327 P **P 17 08 22.2 +0.1**
comp=Z,0.7nm,0.5s,baz=34,slow=6.4,SNR=6.4
comp=Z,0.7nm,0.5s
NOA NORSAR Array B 61.91 11 *eP* P 17 08 27.4 +4.2
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 61.91 11 P **P 17 08 23.6 +0.4**
comp=Z,1.1nm,0.7s,baz=348,slow=6.8,SNR=3.4
comp=Z,1.1nm,0.7s
HHC Hu-ho-hao-te 62.04 302 *eP* P 17 08 28.5 +4.0
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,680nm,5.9s
FINES FINESS Array B 62.51 3 P **P 17 08 27.6 +0.4**
comp=Z,4.3nm,0.8s,baz=13,slow=8.2,SNR=12
comp=Z,4.3nm,0.8s
KLMR Klimovskoe 63.00 356 *eP* **P 17 08 30.0 -0.4**
KLMR pmax pmax
comp=Z,25nm,1.3s
HFS Hagfors 63.05 10 P **P 17 08 32.8 +2.0**
comp=Z,3.9nm,1.0s,baz=286,slow=5.4,SNR=1.3
comp=Z,3.9nm,1.0s
KIRV Kirov 64.55 350⇑ *eP* **P 17 08 42.5 +1.9**
DGZ Jazzator, Alta 64.58 323⇓ *eP* **P 17 08 42.3 +1.1**
DGZ pmax pmax
comp=Z,5.0nm,1.3s
EKA Eskdalemuir Ar 65.22 21 P **P 17 08 44.9 -0.2**
comp=Z,4.1nm,0.9s,baz=8.9,slow=5.9,SNR=3.4
comp=Z,4.1nm,0.9s
ARU Arti 65.48 344 P **P 17 08 45.6 -1.2**
ARU Arti 65.48 344 *c iP* **P 17 08 46.9 +0.1**
ARU S **S 17 17 30.0 -1.0**
ARU SS **SS 17 21 39.5 -3.8**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 65.48 344 P **P 17 08 46.5 -0.3**
comp=Z,6.8nm,0.6s,baz=0.0,slow=3.0,SNR=4.3
comp=Z,6.8nm,0.6s
KURK Kurchatov 66.40 329⇓ *eP* **P 17 08 55.4 +2.6**
KURK pmax pmax
comp=Z,15nm,3.7s
BRVK Borovoye 66.41 336⇑ *eP* **P 17 08 53.7 +0.9**
BRVK pmax pmax
comp=Z,12nm,1.9s
BVAR Borovoye Array 66.42 336 P **P 17 08 52.9 0.0**
comp=Z,1.2nm,0.6s,baz=30,slow=9.2,SNR=7.2
BVAR LR LR 17 40 39.4
comp=Z,90nm,20.3s,baz=86,slow=38
comp=Z,1.2nm,0.6s
KURBB Kurchatov Arra 66.51 329 P **P 17 08 52.8 -0.7**
comp=Z,1.3nm,0.2s,baz=32,slow=6.3,SNR=1.7
KURBB LR LR 17 40 03.5
comp=Z,93nm,20.8s,baz=208,slow=38
comp=Z,1.3nm,0.2s
GTA Gaotai 68.52 309 *eP* **P 17 09 08.3 +1.8**
GTA pP pwP 17 09 11.5 -2.6
GTA pmax pmax
comp=Z,3.0nm,1.8s
MK31 Makanchi Array 68.79 325⇓ *eP* **P 17 09 10.2 +2.2**
MKAR Makanchi Array 68.79 325 P **P 17 09 05.5 -2.5**
MKAR Makanchi Array 68.79 325 *eP* **P 17 09 07.8 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 68.79 325 P **P 17 09 07.5 -0.5**
comp=Z,0.6nm,0.5s,baz=37,slow=6.2,SNR=7.8
comp=Z,0.6nm,0.5s
OBN Obninsk 68.85 357⇑ *eP* **P 17 09 08.3 +0.2**
OBN *e* 17 09 38.6
OBN *e* 17 11 40.4
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,70nm,15.0s
LZH Lanzhou 69.47 304 *eP* **P 17 09 16.0 +3.5**
LZH pP pwP 17 09 21.8 +1.7
LZH pmax pmax
comp=Z,8.0nm,1.3s
BELG Belogornoye 70.84 350 *ceP* **P 17 09 24.1 +3.7**
BELG pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 70.84 350 P **P 17 09 20.6 +0.3**
comp=Z,11nm,0.7s,baz=338,slow=0.9,SNR=8.3
comp=Z,11nm,0.7s
ABKAR Akbulak array 72.15 341 P **P 17 09 28.2 -0.2**
AKASG Malin Array Be 73.34 1 *eP* **P 17 09 37.3 +1.9**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 73.34 1 P **P 17 09 35.0 -0.4**
comp=Z,3.2nm,0.8s,baz=353,slow=5.4,SNR=13
comp=Z,3.2nm,0.8s
AKBB Malin Array Si 73.34 1⇑ *eP* **P 17 09 37.3 +1.9**
AKBB pmax pmax
comp=Z,16nm,1.0s
MORC Moravsky Berou 73.65 9 *eP* **P 17 09 36.1 -1.3**
VRAC Vranov 74.03 10 *eP* **P 17 09 40.1 +0.6**
VRAC Vranov 74.03 10 P **P 17 09 39.1 -0.4**
comp=Z,2.4nm,0.6s,baz=11,slow=10,SNR=2.0
comp=Z,2.4nm,0.6s
GERES GERESS Array B 74.18 12 *eP* **P 17 09 44.5 +4.0**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 74.18 12 P **P 17 09 40.1 -0.4**
comp=Z,0.7nm,0.7s,baz=0.0,slow=3.9,SNR=2.6
comp=Z,0.7nm,0.7s
KRUC Moravsky 74.25 10 *eP* **P 17 09 41.1 +0.3**
LANS Liptovska Anna 74.44 8 *eP* **P 17 09 45.2 +3.2**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 74.44 8 *eP* **P 17 09 45.2 +3.2**
AAK Ala-Archa 74.92 329⇓ *eP* **P 17 09 48.5 +3.4**
AAK pmax pmax
comp=Z,10.0nm,3.0s
MODS Modra-Piesok 75.02 10 *eP* **P 17 09 46.3 +1.0**
MODS Modra-Piesok 75.02 10 *eP* **P 17 09 46.3 +1.0**
VYHS Vyhne 75.04 9 *eP* **P 17 09 49.3 +3.9**
VYHS Vyhne 75.04 9 *eP* **P 17 09 49.3 +3.9**
PZH PanZhiHua 78.43 301 P P 17 10 09.6 +4.5
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.1s
KIV Kislovodsk 79.65 352 *eP* **P 17 10 14.6 +3.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
ESDC Sonseca Array 79.79 27 P **P 17 10 12.6 +0.4**
comp=Z,1.3nm,0.9s,baz=331,slow=4.9,SNR=6.2
comp=Z,1.3nm,0.9s
KBZ Khabaz 79.86 352⇑ *eP* **P 17 10 14.7 +2.3**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 79.86 352 P **P 17 10 13.9 +1.5**
comp=Z,2.6nm,0.9s,baz=334,slow=4.5,SNR=4.4
comp=Z,2.6nm,0.9s
GEYT Alibeck 83.42 339 P **P 17 10 31.7 +0.3**
comp=Z,2.0nm,0.8s,baz=8.5,slow=2.9,SNR=4.5
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 84.31 358 P **P 17 10 38.2 +2.1**
comp=Z,1.0nm,0.9s,baz=355,slow=2.6,SNR=2.5
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 86.60 299 *eP* **P 17 10 50.0 +2.4**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 86.60 299 P **P 17 10 47.6 0.0**
comp=Z,1.8nm,0.7s,baz=13,slow=5.1,SNR=14
comp=Z,1.8nm,0.7s
WRA Warramunga Arr 99.45 248 LR LR 17 51 23.3
comp=Z,2μm,21.3s,baz=352,slow=32
QSPA South Pole Qui 146.10 180 PKPbc **PKPbc 17 17 41.4 -1.4**
comp=Z,1.3nm,0.6s,baz=38,slow=0.7,SNR=12

*GCG **23** 17:04:33.0±0.6, 13°.82N×91°.08W, h29km±3km, MD3.0*
*SNET **23** 17:04:33.8±0.9, 13°.87N×90°.96W, h38km±546km, ML3.1*
ISC 23 17:04:29.9±2.3, **13°.6N**±0°.1×**91°.05W**±0°.08, **h17**km±13km, **n11**, σ0°.67/16, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.83**	**14**	*i* P	**Pn**	**17 04 47.3**	**+0.3**
PCG	**Pacaya**	**0.86**	**30**	*i* P	**Pb**	**17 04 47.4**	**+0.8**
PCG				*i* S	**Sn**	**17 04 59.2**	**-0.7**
RTAL	**Retalhuleu**	**1.08**	**325**	*eS*	**Sb**	**17 05 04.0**	**-0.1**
NBG	**Las Nubes**	**1.16**	**36**	*i* P	**Pg**	**17 04 52.5**	**0.0**
NBG				*i* S	**Sn**	**17 05 07.7**	**+0.4**
STG3	**Santiaguito 3,**	**1.18**	**335**	*i* P	**Pn**	**17 04 51.8**	**0.0**
STG3				*i* S	**Sb**	**17 05 06.2**	**-0.9**
NUBE	**Las Nubes**	**1.26**	**78**	*eP*	**Pn**	**17 04 53.0**	**+0.1**
NUBE				*eS*	**Sb**	**17 05 08.5**	**-0.9**
RTR	**El Retiro**	**1.39**	**79**	*eP*	**Pg**	**17 04 56.3**	**-0.4**
SBLS	**San Blas**	**1.40**	**82**	*eP*	**Pb**	**17 04 56.1**	**+0.4**
JAYA	**Jayaque - finc**	**1.56**	**89**	*eP*	**Pn**	**17 04 57.8**	**+0.8**
JAYA				*eS*	**Sn**	**17 05 16.1**	**-0.8**
JAYA				IAML		17 05 20.6	
	comp=Z,269nm,0.2s						
PMON	**Piamonte**	**1.69**	**87**	*eP*	**Pb**	**17 05 00.3**	**-0.2**
SJTE	**Alcalda de S**	**1.98**	**90**	*eS*	**Sn**	**17 05 28.3**	**+0.9**

*DJA **23** 17:04:46.8±0.7, 7°.5S±3°.×10°.6E±°, h25km±7km, M4.2/13, MLv4.2/13*
*IDC **23** 17:04:53.2±4.6, 6°.69S×106°.36E, h106km±32km, mb3.3/5, mbtmp3.6/5, Error ellipse: s-maj=86.9km s-min=17.5km az=52.0*
ISC 23 17:04:46.5±0.9, **7°.16S**±0°.06×**106°.07E**±0°.05, **h35**km, **n29,** σ2s**16/29, mb3.6/5, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.50**	**72**	P	**Pn**	**17 04 57.9**	**+0.6**
DBJI	**Dramaga**	**0.90**	**48**	P	**Pn**	**17 05 03.8**	**+1.0**
DBJI				S	**Sn**	**17 05 16.4**	**+1.8**
SBJI	**Serang**	**1.04**	**3**	P	**Pn**	**17 05 05.5**	**+0.9**
SBJI				S	**Sn**	**17 05 19.0**	**+1.1**
CNJI	**Cibinong**	**1.06**	**98**	P	**Pn**	**17 05 05.6**	**+0.7**
CNJI				S	**Sn**	**17 05 18.4**	**0.0**
CBJI	**Citeko**	**1.07**	**46**	P	**Pn**	**17 05 05.0**	**0.0**
CBJI				S	**Sn**	**17 05 17.9**	**-0.7**
TNG	**Tangerang**	**1.14**	**30**	P	**Pn**	**17 05 07.3**	**+1.3**
TNG				S	**Sn**	**17 05 21.7**	**+1.3**
LEM	**Lembang**	**1.57**	**78**	P	**Pn**	**17 05 15.6**	**+3.5**
	192nm,0.4s,baz=167,slow=9.6,SNR=46						
LEM				S	**Sn**	**17 05 35.6**	**+4.4**
	232nm,0.4s,baz=227,slow=17,SNR=5.9						
LEM	**Lembang**	**1.57**	**78**	P	**Pn**	**17 05 15.1**	**+3.0**
BBJI	**Bungbulang**	**1.59**	**101**	P	**Pn**	**17 05 13.3**	**+1.0**
BBJI				S	**Sn**	**17 05 32.3**	**+0.6**
KASI	**Kota Agung**	**2.26**	**316**	P	**Pn**	**17 05 22.9**	**+1.5**
KASI				S	**Sn**	**17 05 49.4**	**+1.3**
CMJI	**Cimerak**	**2.43**	**105**	P	**Pn**	**17 05 25.1**	**+1.3**
CMJI				S	**Sn**	**17 05 51.7**	**-0.7**
KPJI	**Karang Pucung**	**2.84**	**94**	P	**Pn**	**17 05 33.3**	**+3.9**
LWLI	**Liwa**	**2.92**	**317**	P	**Pn**	**17 05 35.0**	**+4.3**
EGSI	**Enggano, Bengk**	**4.18**	**295**	P	**Pn**	**17 05 49.7**	**+1.8**
UGM	**Wanagama**	**4.47**	**100**	P	**Pn**	**17 05 53.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**26.41**	**345**	P	**P**	**17 10 18.1**	**-2.0**
	0.2nm,0.6s,baz=174,slow=11,SNR=1.6						
	0.2nm,0.6s						
H01W3	**Cape Leuwin H**	**28.57**	**166**	T	T	17 41 08.3	
	baz=344,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**28.58**	**166**	T	T	17 41 08.8	
	baz=344,slow=76,SNR=9.0						
H01W2	**Cape Leeuwin H**	**28.58**	**166**	T	T	17 41 09.4	
	baz=344,slow=76,SNR=13						
WRA	**Warramunga Arr**	**30.21**	**118**	P	**P**	**17 10 53.2**	**-0.8**
	0.9nm,0.7s,baz=295,slow=11,SNR=14						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**31.35**	**125**	P	**P**	**17 11 03.8**	**-0.3**
	0.2nm,0.3s,baz=302,slow=8.0,SNR=23						
	0.2nm,0.3s						
H08S2	**Diego Garcia H**	**33.30**	**267**	T	T	17 46 51.8	
	baz=90						
H08S3	**Diego Garcia H**	**33.31**	**267**	T	T	17 46 52.5	
	baz=90,slow=74						
H08S1	**Diego Garcia H**	**33.32**	**267**	T	T	17 46 53.2	
	baz=90,slow=74						
STKA	**Stephens Creek**	**41.22**	**131**	P	**P**	**17 12 29.4**	**+1.2**
	1.7nm,0.5s,baz=314,slow=7.1,SNR=9.6						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**57.73**	**341**	P	**P**	**17 14 29.9**	**-4.0**
	0.3nm,0.5s,baz=151,slow=8.7,SNR=7.7						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.54**	**220**	T	T	18 21 04.3	
	baz=67,slow=75,SNR=23						
H04N1	**CROZET ISLANDS**	**60.56**	**220**	T	T	18 21 04.7	
	baz=67,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**60.56**	**220**	T	T	18 21 03.4	
	baz=67,slow=75,SNR=19						

IDC 23 17:16:12.9±999.0, **50°.83N**×**33°.72E, h0**km, **Error ellipse: s-maj=594.2km s-min=124.1km az=24.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**6.26**	**18**	I	I	17 48 00.0	
	0.4nm,0.7s,baz=201,slow=333,SNR=4.8						
I46RU	**ZALESOVO INFRA**	**30.79**	**64**	I	I	20 25 40.0	
	baz=286,slow=346,SNR=2.8						
I34MN	**SONGINO INFRAS**	**45.72**	**64**	I	I	21 57 00.0	
	baz=299,slow=345,SNR=1.8						
I53US	**FAIRBANKS INFR**	**64.63**	**1**	I	I	23 59 00.6	
	baz=357,slow=348,SNR=3.2						

*NEIC **23** 17:17:21.0±2.3, 55°.90N±0°.08×150°.1W±0°.1, h10km±7km, mb4.2/2, ML4.2/44, ML3.9(AEIC), Error ellipse: s-maj=11.3km s-min=8.6km az=179.0*
*IDC **23** 17:17:23.3±1.2, 55°.92N×150°.38W, h0km, mb3.6/9, mbtmp3.7/13, ML3.3/4, Error ellipse: s-maj=28.0km s-min=16.0km az=41.0*
*AEIC **23** 17:17:27.4±1.8, 55°.90N±0°.08×150°.2W±0°.1, h11km±7km, Error ellipse: s-maj=12.4km s-min=8.8km az=171.0*
ISC 23 17:17:22.3±0.8, **56°.02N**±0°.08×**150°.18W**±0°.06, **h10**km, **n218,** σ1s**69/219, mb3.5/9, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.10**	**306**		**Pn**	**17 17 58.1**	**+0.7**
OHAK				Sn	**Sn**	**17 18 21.0**	**-2.6**
OHAK	**Old Harbor**	**2.10**	**306**	P	**Pn**	**17 17 58.1**	**+0.7**
	baz=127						
OHAK				S	**Sn**	**17 18 21.6**	**-2.0**
	baz=127						
KDAK	**Kodiak Island**	**2.20**	**324**		**Pn**	**17 18 00.1**	**+1.2**
KDAK	**Kodiak Island**	**2.20**	**324**	Pn	**Pn**	**17 17 59.8**	**+0.9**
	11nm,0.3s,baz=178,slow=6.1,SNR=21						
KDAK				Sn	**Sn**	**17 18 26.1**	**-0.1**
	17nm,0.3s,baz=235,slow=17,SNR=16						
	98nm,0.7s						
R18K	**Karluk**	**2.82**	**305**		**Pn**	**17 18 08.2**	**+0.9**
R18K					**Sn**	**17 18 39.7**	**-1.5**
R18K	**Karluk**	**2.82**	**305**	IAML		17 18 55.1	
	comp=N,518nm,0.5s						
R18K	**Karluk**	**2.82**	**305**	P	**Pn**	**17 18 08.2**	**+0.9**
	baz=124						
R18K				S	**Sn**	**17 18 39.7**	**-1.5**
	baz=124						
SYI	**Shuyak Island**	**2.86**	**336**		**Pn**	**17 18 09.6**	**+1.7**
SYI				Sn	**Sn**	**17 18 43.1**	**+0.8**
Q20K	**Shuyak Island**	**2.86**	**336**	P	**Pn**	**17 18 09.7**	**+1.8**
	baz=156						
Q20K				S	**Sn**	**17 18 42.8**	**+0.4**
	baz=156						
Q19K	**Cape Douglas,**	**3.46**	**329**	Pn	**Pn**	**17 18 16.6**	**+0.4**
Q19K				Sn	**Sn**	**17 18 58.5**	**+1.2**
Q19K	**Cape Douglas,**	**3.46**	**329**	P	**Pn**	**17 18 18.7**	**+2.4**
	baz=147						
CNPM	**China Poot**	**3.56**	**351**	Pn	**Pn**	**17 18 18.6**	**+1.1**
CNPM				IAML		17 19 01.8	
	comp=N,302nm,0.7s						
CNPM				IAML		17 19 02.1	
	comp=E,527nm,0.7s						
CNPM	**China Poot**	**3.56**	**351**		**Sn**	**17 19 00.4**	**+0.8**
HOM	**Homer**	**3.73**	**348**	Pn	**Pn**	**17 18 20.2**	**+0.4**
HOM				IAML		17 19 09.3	
	comp=E,442nm,0.9s						
HOM				IAML		17 19 12.4	
	comp=N,456nm,0.8s						
PLK3	**Peulik 3**	**3.74**	**299**		**Pn**	**17 18 20.6**	**+0.6**
BRSE	**Bradley Lake S**	**3.74**	**356**		**Pn**	**17 18 21.5**	**+1.4**
BRSE	**Bradley Lake S**	**3.74**	**356**	P	**Pn**	**17 18 21.5**	**+1.4**
	baz=176						
BRLK	**Bradley Lake**	**3.77**	**355**		**Pn**	**17 18 20.4**	**0.0**
BRLK				IAML		17 19 07.2	
	comp=E,248nm,0.7s						
Q17K	**Contact Creek**	**3.84**	**308**	P	**Pn**	**17 18 23.2**	**+1.8**
	baz=125						
Q23K	**Middleton Isla**	**3.98**	**29**	Pn	**Pn**	**17 18 23.7**	**+0.3**
Q23K				IAML		17 19 25.9	
	comp=N,308nm,2.2s						
Q23K				IAML		17 19 56.0	
	comp=E,324nm,2.8s						
Q23K	**Middleton Isla**	**3.98**	**29**	P	**Pn**	**17 18 25.0**	**+1.7**
	baz=212						
MID	**Middleton Isla**	**3.98**	**29**	Pn	**Pn**	**17 18 23.6**	**+0.3**
MID				IAML		17 19 24.6	
	comp=N,301nm,2.3s						
MID				IAML		17 19 56.0	
	comp=E,330nm,2.7s						
P19K	**Oil Pt**	**3.99**	**337**	Pn	**Pn**	**17 18 24.8**	**+1.3**
P19K	**Oil Pt**	**3.99**	**337**	P	**Pn**	**17 18 25.6**	**+2.1**
	baz=156						
SEW	**Seward**	**4.11**	**5**		**Pn**	**17 18 27.1**	**+2.1**
SEW	**Seward**	**4.11**	**5**	P	**Pn**	**17 18 27.1**	**+2.1**
	baz=186						
P23K	**Montague Islan**	**4.25**	**19**		**Pn**	**17 18 29.5**	**+2.5**
P23K	**Montague Islan**	**4.25**	**19**	P	**Pn**	**17 18 29.5**	**+2.5**
	baz=201						
O20K	**Slope Mountain**	**4.27**	**343**		**Pn**	**17 18 29.0**	**+1.6**
O20K	**Slope Mountain**	**4.27**	**343**	P	**Pn**	**17 18 29.0**	**+1.6**
	baz=162						
IVE	**Iliamna Volcan**	**4.28**	**341**		**Pn**	**17 18 29.1**	**+1.6**
P18K	**Big Mountain,**	**4.33**	**323**	Pn	**Pn**	**17 18 29.3**	**+1.1**
P18K	**Big Mountain,**	**4.33**	**323**	P	**Pn**	**17 18 29.7**	**+1.5**
	baz=140						
O22K	**Cooper Landing**	**4.48**	**3**	Pn	**Pn**	**17 18 30.5**	**+0.4**
RED	**Redoubt Volcan**	**4.62**	**344**		**Pn**	**17 18 33.8**	**+1.6**
P17K	**Kvichak River**	**4.63**	**316**		**Pn**	**17 18 33.8**	**+1.5**
P17K	**Kvichak River**	**4.63**	**316**	P	**Pn**	**17 18 33.8**	**+1.5**
	baz=132						
RSO	**Redoubt South**	**4.66**	**344**		**Pn**	**17 18 33.0**	**+0.2**
O18K	**Koktuh Hills**	**4.68**	**327**	Pn	**Pn**	**17 18 32.3**	**-0.7**
O18K				IAML		17 19 42.3	
	comp=N,140nm,0.8s						
O18K	**Koktuh Hills**	**4.68**	**327**	P	**Pn**	**17 18 34.4**	**+1.4**
	baz=144						
RDWB	**Redoubt West**	**4.69**	**344**		**Pn**	**17 18 34.9**	**+1.6**
RDT	**Redoubt**	**4.71**	**346**		**Pn**	**17 18 35.4**	**+1.9**
O19K	**Port Alsworth**	**4.72**	**334**		**Pn**	**17 18 33.5**	**0.0**
NCT	**North Crescent**	**4.78**	**343**		**Pn**	**17 18 35.9**	**+1.5**
CAPN	**Captain Cook N**	**4.79**	**354**	Pn	**Pn**	**17 18 33.9**	**-0.5**
HIN	**Hinchinbrook I**	**4.80**	**22**		**Pn**	**17 18 36.6**	**+2.1**
HIN				IAML		17 19 31.0	
	comp=E,291nm,1.1s						
HIN				IAML		17 19 33.3	
	comp=N,184nm,0.5s						
KAIM	**Kayak Island**	**4.97**	**36**	Pn	**Pn**	**17 18 38.1**	**+1.3**
KAIM				IAML		17 19 42.8	
	comp=E,226nm,0.9s						
KAIM				IAML		17 21 28.2	
	comp=N,245nm,2.7s						
KAIM	**Kayak Island**	**4.97**	**36**	P	**Pn**	**17 18 38.4**	**+1.5**
	baz=220						
RC01	**Rabbit Creek A**	**5.09**	**2**		**Pn**	**17 18 39.5**	**+1.0**
RC01				IAML		17 19 41.2	
	comp=N,105nm,0.6s						
RC01				IAML		17 19 42.5	
	comp=E,118nm,0.6s						
EYAK	**Cordova Ski Ar**	**5.10**	**25**		**Pn**	**17 18 40.6**	**+1.9**
EYAK	**Cordova Ski Ar**	**5.10**	**25**	P	**Pn**	**17 18 40.6**	**+1.9**
	baz=209						
FID	**Port Fidalgo**	**5.12**	**21**		**Pn**	**17 18 40.6**	**+1.6**
FID	**Port Fidalgo**	**5.12**	**21**	IAML		17 19 38.2	
	comp=E,111nm,0.5s						
FID				IAML		17 19 42.6	
	comp=N,116nm,0.5s						
FIS	**Fire Island**	**5.14**	**360**	Pn	**Pn**	**17 18 39.6**	**+0.4**
FIS				IAML		17 19 47.5	
	comp=N,249nm,1.2s						
FIS				IAML		17 21 46.3	
	comp=E,250nm,3.3s						
P16K	**Nushagak River**	**5.18**	**309**		**Pn**	**17 18 41.3**	**+1.5**
P16K	**Nushagak River**	**5.18**	**309**	P	**Pn**	**17 18 41.3**	**+1.5**
	baz=124						
RAGM	**Ragged Mountai**	**5.25**	**31**		**Pn**	**17 18 42.4**	**+1.6**
RAGM				IAML		17 19 53.2	
	comp=E,173nm,0.8s						
O17K	**Koliganek Bris**	**5.27**	**318**		**Pn**	**17 18 42.7**	**+1.8**
O17K	**Koliganek Bris**	**5.27**	**318**	P	**Pn**	**17 18 42.7**	**+1.8**
	baz=134						
N19K	**Bonanza Creek**	**5.31**	**337**		**Pn**	**17 18 43.0**	**+1.3**
N19K	**Bonanza Creek**	**5.31**	**337**	P	**Pn**	**17 18 43.5**	**+1.8**
	baz=154						
SPCG	**Spurr Capps Gl**	**5.37**	**350**		**Pn**	**17 18 44.2**	**+1.7**
SUA	**Susitna One**	**5.46**	**357**		**Pn**	**17 18 44.1**	**+0.3**
SUA	**Susitna One**	**5.46**	**357**	P	**Pn**	**17 18 45.5**	**+1.7**
	baz=177						
KNK	**Knik Glacier**	**5.48**	**9**		**Pn**	**17 18 45.2**	**+1.3**
KNK	**Knik Glacier**	**5.48**	**9**	P	**Pn**	**17 18 45.7**	**+1.8**
	baz=190						
CNBA	**Chernabura Isl**	**5.50**	**261**	Pn	**Pn**	**17 18 41.9**	**-2.2**
O16K	**Kokwok River B**	**5.54**	**313**	Pn	**Pn**	**17 18 44.1**	**-0.6**
O16K	**Kokwok River B**	**5.54**	**313**	P	**Pn**	**17 18 46.5**	**+1.7**
	baz=128						
N18K	**Kilae Creek**	**5.55**	**330**		**Pn**	**17 18 44.5**	**-0.5**
N18K	**Kilae Creek**	**5.55**	**330**	P	**Pn**	**17 18 46.5**	**+1.6**
	baz=146						
BERG	**Berg Lake**	**5.56**	**35**		**Pn**	**17 18 45.8**	**+0.8**
PMR	**Palmer**	**5.61**	**5**		**Pn**	**17 18 45.5**	**-0.2**
DIV	**Divide**	**5.61**	**22**		**Pn**	**17 18 46.8**	**+1.0**
SNH	**Sunshine Point**	**5.70**	**40**	Pn	**Pn**	**17 18 46.9**	**0.0**
GHO	**Glory Hole Cre**	**5.80**	**6**		**Pn**	**17 18 49.5**	**+1.1**
SVW2	**Sparrevohn**	**5.82**	**333**		**Pn**	**17 18 49.0**	**+0.4**
N17K	**Nushagak Hills**	**5.83**	**324**		**Pn**	**17 18 50.2**	**+1.4**
N17K	**Nushagak Hills**	**5.83**	**324**	P	**Pn**	**17 18 50.2**	**+1.4**
	baz=139						
SDPT	**Sand Point**	**5.87**	**268**	Pn	**Pn**	**17 18 49.9**	**+0.7**
SML	**Sawmill**	**5.88**	**9**		**Pn**	**17 18 50.7**	**+1.3**
SML	**Sawmill**	**5.88**	**9**	P	**Pn**	**17 18 51.5**	**+2.1**
	baz=190						
KLU	**Klutina**	**5.91**	**20**		**Pn**	**17 18 51.2**	**+1.3**
KLU	**Klutina**	**5.91**	**20**	P	**Pn**	**17 18 52.4**	**+2.5**
	baz=204						
BARK	**Barkley Ridge**	**5.98**	**40**		**Pn**	**17 18 52.3**	**+1.4**
SCM	**Sheep Creek Mo**	**6.01**	**13**		**Pn**	**17 18 53.4**	**+2.1**
SCM	**Sheep Creek Mo**	**6.01**	**13**	P	**Pn**	**17 18 53.4**	**+2.1**
	baz=195						
SKT	**Skwentna**	**6.02**	**354**		**Pn**	**17 18 51.3**	**0.0**
O15K	**Ungalikthiuk R**	**6.07**	**305**		**Pn**	**17 18 53.1**	**+1.0**
O15K	**Ungalikthiuk R**	**6.07**	**305**	P	**Pn**	**17 18 53.1**	**+1.0**
	baz=118						
N25K	**Chitina, Valde**	**6.30**	**25**		**Pn**	**17 18 55.5**	**+0.3**
N25K	**Chitina, Valde**	**6.30**	**25**	P	**Pn**	**17 18 57.5**	**+2.2**
	baz=210						
CUT	**Chulitna**	**6.40**	**360**	Pn	**Pn**	**17 18 56.4**	**-0.1**
M24K	**Tolsona, Glenn**	**6.44**	**17**	Pn	**Pn**	**17 18 57.0**	**-0.1**
M17K	**Holitna River**	**6.58**	**328**		**Pn**	**17 19 00.9**	**+1.9**
YKU2	**Yakutat**	**6.62**	**54**	Pn	**Pn**	**17 18 58.8**	**-0.7**
L19K	**White Mountain**	**6.63**	**341**	Pn	**Pn**	**17 19 00.7**	**+1.0**
PCA	**Pinnacle**	**6.66**	**48**		**Pn**	**17 19 01.2**	**+1.0**
PINM	**Pinnacle**	**6.66**	**48**	P	**Pn**	**17 19 01.5**	**+1.3**
	baz=236						
WAT6	**Susitna Watana**	**6.69**	**10**		**Pn**	**17 19 03.4**	**+2.6**
WAT6	**Susitna Watana**	**6.69**	**10**	P	**Pn**	**17

L16K	Owhat River	7.46	324	P		Pn	17 19 12.9	+1.9
	baz=136								
CAST	Castle Rocks	7.48	353			Pn	17 19 11.6	+0.2
O29M	Mount Kennedy	7.48	50			Pn	17 19 10.0	-1.4
TTA	Tatalina	7.54	339	Pn		Pn	17 19 10.6	-1.5
KTH	Kantishna Hill	7.56	357	Pn		Pn	17 19 12.9	+0.4
YUK8	Steele Glacier	7.56	42	P		Pn	17 19 15.7	+3.0
	baz=230								
K20K	Telida	7.61	347			Pn	17 19 12.4	-0.8
M27K	Edge Creek, AK	7.64	30			Pn	17 19 12.4	-1.3
YUK3	Moose Creek	7.65	37			Pn	17 19 16.4	+2.5
YUK3	Moose Creek	7.65	37	P		Pn	17 19 16.4	+2.5
	baz=225								
M14K	Bethel	7.79	312	Pn		Pn	17 19 14.1	-1.5
L26K	Log Cabin Wild	7.83	23			Pn	17 19 15.8	-0.4
S31K	Pelican	7.86	70	Pn		Pn	17 19 13.2	-3.3
S31K	Pelican	7.86	70	P		Pn	17 19 14.7	-1.8
	baz=261								
K17K	Iditarod	7.88	332			Pn	17 19 17.1	+0.2
YUK6	Outpost Mounta	7.91	47	P		Pn	17 19 19.1	+1.7
	baz=236								
YUK4	Talbot Arm	8.03	44	P		Pn	17 19 22.6	+3.5
	baz=233								
BPAW	Bear Paw Mtn.	8.11	357	Pn		Pn	17 19 19.9	-0.1
J18K	Innoko River	8.16	339			Pn	17 19 20.1	-0.5
BWN	Browne	8.18	2	Pn		Pn	17 19 17.3	-3.6
RIDG	Independent Ri	8.19	17			Pn	17 19 20.4	-0.6
HYT	Haines Junctio	8.20	49	Pn		Pn	17 19 18.9	-2.5
L27K	Beaver Creek,	8.23	28			Pn	17 19 22.2	+0.6
BCAR	Beaver Creek A	8.24	28	Pn		Pn	17 19 22.1	+0.2
SIT	Sitka	8.27	77	Pn		Pn	17 19 19.4	-2.8
L14K	Kuka Creek	8.41	314			Pn	17 19 18.5	-5.6
J20K	Nowinta River	8.41	348	Pn		Pn	17 19 22.4	-1.7
SCRK	Sand Creek	8.55	19	Pn		Pn	17 19 26.9	+0.8
HDA	Harding Lake	8.56	9			Pn	17 19 26.2	0.0
K15K	Wolf Creek Mou	8.57	322	Pn		Pn	17 19 23.7	-2.5
NEA2	Nenana	8.62	3	Pn		Pn	17 19 26.0	-0.9
SKAG	Skagway	8.65	60	Pn		Pn	17 19 25.9	-1.5
S32K	Killisnoo	8.70	74	Pn		Pn	17 19 25.2	-2.8
N30M	Aishikik Lake	8.71	46	Pn		Pn	17 19 28.2	0.0
N30M	Aishikik Lake	8.71	46	P		Pn	17 19 29.3	+1.1
	baz=237								
CCB	Clear Creek Bu	8.73	7	Pn		Pn	17 19 28.6	+0.1
O30N	Mendenhall	8.79	51	Pn		Pn	17 19 28.5	-0.8
R32K	Eaglecrest	8.80	69	Pn		Pn	17 19 27.7	-1.8
JIS	Juneau Island	8.88	69	Pn		Pn	17 19 29.8	-0.6
IL31		8.93	9			Pn	17 19 32.1	+1.1
ILAR	Eielson Array	8.93	9			Pn	17 19 31.6	+0.5
ILAR	Eielson Array	8.93	9	Pn		Pn	17 19 32.9	+1.7
	comp=E,0.7nm,0.3s,baz=190,slow=14,SNR=22								
ILAR				Sn		Sn	17 21 10.7	-0.9
	comp=E,1.2nm,0.3s,baz=196,slow=22,SNR=9.0								
	comp=E,1.7nm,0.4s								
J25K	Salcha River,	8.94	13			Pn	17 19 32.4	+1.1
COLA	College	8.95	6	Pn		Pn	17 19 31.9	+0.5
J16K	Anvik River	8.98	328	Pn		Pn	17 19 30.1	-1.7
MDM	Murphy Dome	9.02	5			Pn	17 19 30.5	-1.9
AKUT	Akutan	9.14	265	Pn		Pn	17 19 33.3	-0.9
I23K	Minto, Yukon-K	9.16	2			Pn	17 19 34.7	+0.3
POKR	Poker Plat Res	9.22	7	Pn		Pn	17 19 33.4	-1.8
I21K	Tanana	9.23	355			Pn	17 19 34.0	-1.2
N31M	Braeburn, Yuko	9.26	48	Pn		Pn	17 19 35.4	-0.4
WHY	Whitehorse	9.28	54	Pn		Pn	17 19 35.1	-1.0
M30M	Minto, Yukon	9.47	41			Pn	17 19 37.2	-1.5
I17K	Unalakleet	9.47	331	Pn		Pn	17 19 37.8	-0.8
P32M	Atlin	9.48	61	Pn		Pn	17 19 38.8	0.0
P32M	Atlin	9.48	61	P		Pn	17 19 38.8	0.0
	baz=254								
U33K	Whale Pass	9.54	82	Pn		Pn	17 19 36.5	-3.1
CRAG	Craig	9.63	86	Pn		Pn	17 19 39.1	-1.7
DAWY	Dawson	9.69	29			Pn	17 19 40.2	-1.4
H21K	Melozitna Rive	9.75	354			Pn	17 19 42.3	-0.1
PRP	Porcupine Dome	9.79	11	Pn		Pn	17 19 43.2	+0.1
EGAK	Eagle	9.84	23	Pn		Pn	17 19 44.4	+0.8
H24K	Noodor Dome	9.91	6			Pn	17 19 44.8	+0.1
H18K	Honhosa River	9.99	340			Pn	17 19 44.5	-1.3
P33M	Teslin, Yukon	10.09	58			Pn	17 19 45.7	-1.4
IMAR	Indian Mountai	10.14	352	Pn		Pn	17 19 46.7	-1.1
M31M	Drury Creek, Y	10.19	46			Pn	17 19 47.5	-0.9
I28M	Miner Creek	10.68	24	Pn		Pn	17 19 54.4	-0.8
G18K	Tagagawik	10.71	341	Pn		Pn	17 19 54.5	-1.1
G23K	Bananza Creek	10.73	0			Pn	17 19 55.5	-0.3
FYU	Fort Yukon	10.84	11	Pn		Pn	17 19 58.1	+0.8
J30M	Hart River	10.96	33			Pn	17 19 59.5	+0.4
T35M	Bob Quinn	11.05	77	Pn		Pn	17 19 58.2	-2.1
G16K	Koyuk River	11.11	333	Pn		Pn	17 20 00.8	-0.2
ANM	Nome	11.38	325	Pn		Pn	17 20 04.6	-0.1
H29M	Whitestone	11.68	24	Pn		Pn	17 20 08.9	0.0
F17K	Baldwin Pennin	11.71	338	Pn		Pn	17 20 09.4	+0.2
BMAR	Burnt Mountain	11.74	11	Pn		Pn	17 20 08.9	-0.8
E19K	Redstone River	11.94	347			Pn	17 20 15.0	+2.6
E25K	Arctic Village	12.33	8	Pn		Pn	17 20 17.1	-0.5
F28M	Old Crow	12.58	18	Pn		Pn	17 20 21.1	0.0
G31M	Satah River	13.26	28			Pn	17 20 29.1	-1.2
C18K	Utukok River	13.63	343	Pn		Pn	17 20 35.0	-0.4
INK	Inuvik	14.49	25	Pn		Pn	17 20 44.7	-2.4
INK	Inuvik	14.49	25	Pn		P	17 20 50.5	-3.3
	comp=E,0.1nm,0.3s,baz=201,slow=15,SNR=10								
	comp=E,4.6nm,1.0s								
C36M	Paulatuk	17.72	31	P		P	17 21 25.5	-3.3
C36M				IAmb		IAmb	17 21 43.3		
	comp=Z,11nm,0.9s								
YKA	Yellowknife Ar	19.10	56	P		P	17 21 38.4	-6.4
YKA	Yellowknife Ar	19.10	56	P		Pn	17 21 48.3	+2.7
	comp=Z,0.1nm,0.3s,baz=266,slow=9.8,SNR=14								
	comp=Z,4.8nm,1.1s								
A36M	Sachs Harbour	19.12	24	P		P	17 21 41.3	-3.6
A36M				IAmb		IAmb	17 21 58.7		
	comp=Z,32nm,1.0s								
NEW	Newport	21.55	97	P		P	17 22 15.5	+3.9
	comp=Z,0.6nm,0.3s,baz=328,slow=13,SNR=1.4								
	comp=Z,0.6nm,0.3s								
NVAR	Mina Array Bea	27.54	116	P		P	17 23 11.4	+2.2
	comp=Z,0.1nm,0.3s,baz=310,slow=12,SNR=1.9								
	comp=Z,0.1nm,0.3s								
ULM	Lac du Bonnet	32.35	77	P		P	17 23 56.0	+4.6
	comp=Z,0.8nm,0.4s,baz=319,slow=9.3,SNR=1.4								
	comp=Z,0.8nm,0.4s								
TXAR	Lajitas Array	42.21	109	P		P	17 25 18.9	+3.6
	comp=Z,0.6nm,0.9s,baz=307,slow=4.6,SNR=4.0								
	comp=Z,0.6nm,0.9s								
NRIK	Noril'sk	48.14	336	P		P	17 26 04.2	+2.3
	comp=Z,0.7nm,0.3s,baz=21,slow=17,SNR=1.9								
	comp=Z,0.7nm,0.3s								
H11S1	WAKE ISLAND Hy	49.46	239	T		T	18 20 15.6		
	baz=29								
H11S2	WAKE ISLAND Hy	49.48	239	T		T	18 20 17.1		
	baz=29								
H11S3	WAKE ISLAND Hy	49.48	239	T		T	18 20 06.6		
	baz=29								
SONM	Songino Array	58.42	310	P		P	17 27 21.3	+3.4
	comp=Z,0.3nm,0.8s,baz=49,slow=9.7,SNR=2.1								
	comp=Z,0.3nm,0.8s								
ZALV	Zalesovo Beam	61.50	327	P		P	17 27 42.0	+3.2
	comp=Z,0.2nm,0.3s,baz=55,slow=7.6,SNR=1.8								
	comp=Z,0.2nm,0.3s								
NOA	NORSAR Array B	62.36	10	P		P	17 27 46.0	+1.5
	comp=Z,2.2nm,1.1s,baz=347,slow=5.2,SNR=3.3								
	comp=Z,2.2nm,1.1s								
MKAR	Makanchi Array	68.52	324	P		P	17 28 26.8	+2.3
	comp=Z,0.2nm,0.6s,baz=35,slow=7.2,SNR=2.1								
	comp=Z,0.2nm,0.6s								

NEIC ***23*** *17:22:38.8±1.6,56°.41N±0°.10×149°.5W±0°.1, h20km±4km, ML3.7/44, ML3.1(AEIC), Error ellipse: s-maj=14.0km s-min=9.5km az=173.0*

IDC ***23*** *17:22:44.7±1.6,56°.78N×149°.79W, h0km, mb3.4/4, mbtmp3.4/7, ML2.8/3, Error ellipse: s-maj=35.8km s-min=19.7km az=32.0*

AEIC ***23*** *17:22:45.5±1.2,56°.5N±0°.1×149°.3W±0°.1, h12km±8km, Error ellipse: s-maj=14.7km s-min=10.7km az=177.0*

ISC 23 17:22:40.3±1.5,56°.5N±0°.1×149°.53W±0°.07,h10km,n84,
σ1§98/82,mb3.4/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.09	309	Pn	Pn	17 23 13.0	-2.3
KDAK	Kodiak Island	2.09	309	Pn	Pb	17 23 17.5	-0.8
	4.2nm,0.3s,baz=51,slow=0.6,SNR=2.3						
KDAK				Sn	Sn	17 23 40.6	-0.8
	6.9nm,0.3s,baz=295,slow=5.8,SNR=2.5						
OHAK	Old Harbor	2.18	290	Pn	Pn	17 23 15.2	-1.4
SYI	Shuyak Island	2.60	325	Pn	Pn	17 23 20.4	-2.0
CNPM	China Poot	3.15	344	Pn	Pn	17 23 29.1	-0.8
Q19K	Cape Douglas,	3.27	319	Pn	Pn	17 23 31.2	-0.4
BRLK	Bradley Lake	3.33	348	Pn	Pn	17 23 31.1	-1.3
Q23K	Middleton Isla	3.37	29	Pn	Pn	17 23 32.5	-0.5
Q23K				IAML		17 25 15.6	
	comp=N,210nm,1.6s						
Q23K				IAML		17 25 20.4	
	comp=E,249nm,1.4s						
MID	Middleton Isla	3.38	29	Pn	Pn	17 23 32.5	-0.5
MID				IAML		17 24 29.2	
	comp=N,215nm,1.6s						
MID				IAML		17 25 20.4	
	comp=E,235nm,1.7s						
P19K	Oil Pt	3.71	330	Pn	Pn	17 23 37.0	-0.6
Q22K	Cooper Landing	3.98	359	Pn	Pn	17 23 40.5	-0.7
P18K	Big Mountain,	4.18	316	Pn	Pn	17 23 42.6	-1.6
HIN	Hinchinbrook I	4.20	21	Pn	Pn	17 23 42.1	-2.3
HIN				IAML		17 25 49.9	
	comp=E,119nm,1.5s						
HIN				IAML		17 26 05.3	
	comp=N,85nm,1.6s						
RSO	Redoubt South	4.30	338	Pn	Pn	17 23 44.9	-1.1
KAIM	Kayak Island	4.36	36	Pn	Pn	17 23 44.0	-2.5
O18K	Koktuh Hills	4.49	320	Pn	Pn	17 23 49.5	+1.1
FID	Port Fidalgo	4.53	19	Pn	Pn	17 23 47.0	-1.9
FID				IAML		17 24 59.2	
	comp=E,57nm,1.2s						
FID				IAML		17 26 00.4	
	comp=N,43nm,1.1s						
RC01	Rabbit Creek A	4.58	359	Pn	Pn	17 23 49.1	-0.5
RC01				IAML		17 25 51.1	
	comp=E,40nm,1.1s						
RAGM	Ragged Mountai	4.64	31		Pn	17 23 48.4	-2.0
BERG	Berg Lake	4.94	36	Pn	Pn	17 23 51.8	-2.8
BERG				IAML		17 25 15.1	
	comp=N,88nm,0.9s						
SUA	Susitna One	5.00	353	Pn	Pn	17 23 53.6	-1.8
SUA				IAML		17 25 58.9	
	comp=E,45nm,1.4s						
SUA				IAML		17 26 03.4	
	comp=N,37nm,1.5s						
N19K	Bonanza Creek	5.02	331	Pn	Pn	17 23 54.7	-1.0
N19K				IAML		17 26 16.3	
	comp=N,31nm,0.9s						
N19K				IAML		17 26 21.6	
	comp=E,29nm,1.3s						
SNH	Sunshine Point	5.09	41	Pn	Pn	17 23 54.4	-2.2
SNH				IAML		17 25 02.9	
	comp=N,52nm,1.5s						
SNH				IAML		17 26 33.0	
	comp=E,74nm,1.6s						
GHO	Glory Hole Cre	5.28	3	Pn	Pn	17 23 57.5	-1.7
GHO				IAML		17 26 18.6	
	comp=N,54nm,1.5s						
GHO				IAML		17 26 19.8	
	comp=E,34nm,1.1s						
KLU	Klutina	5.33	19	Pn	Pn	17 23 57.8	-2.1
N18K	Kilae Creek	5.33	324		Pn	17 23 59.4	-0.6
SML	Sawmill	5.34	6	Pn	Pn	17 23 58.7	-1.4
SCM	Sheep Creek Mo	5.45	11	Pn	Pn	17 23 59.7	-1.9
O16K	Kokwok River B	5.49	308		Pn	17 24 00.8	-1.2
SVW2	Sparrevohn	5.56	328	Pn	Pn	17 24 01.2	-1.8
SKT	Skwentna	5.57	350	Pn	Pn	17 24 02.3	-0.9
N17K	Nushagak Hills	5.68	318	Pn	Pn	17 24 03.8	-0.8
VRDI	Verde Repeater	5.68	31		Pn	17 24 03.0	-1.8
M20K	Styx River	5.69	343	Pn	Pn	17 24 02.2	-2.6
N25K	Chitina, Valde	5.70	24		Pn	17 24 03.4	-1.6
GLB	Gilahina Butte	5.75	29	Pn	Pn	17 24 04.2	-1.6
CNBA	Chernabura Isl	5.94	258	Pn	Pn	17 24 04.7	-3.5
BARN	Barnard Glacie	6.12	39		Pn	17 24 08.3	-2.6
CTGM	Chitina Glacie	6.17	40	Pn	Pn	17 24 08.8	-2.7
LOGN	Logan Glacier	6.20	42	Pn	Pn	17 24 09.3	-2.5
SDPT	Sand Point	6.26	264	Pn	Pn	17 24 11.4	-1.2
L19K	White Mountain	6.30	337	Pn	Pn	17 24 11.0	-2.2
M17K	Holitna River	6.38	323	Pn	Pn	17 24 13.5	-0.7
N15K	Kwethluk River	6.65	308		Pn	17 24 18.8	+0.8
M16K	Timber Creek	6.66	317	Pn	Pn	17 24 17.7	-0.4
DHY	Denali Highway	6.67	8	Pn	Pn	17 24 16.0	-2.3
M26K	Nabesna, AK	6.77	27	Pn	Pn	17 24 18.1	-1.6
L18K	Granite Mounta	6.78	330	Pn	Pn	17 24 18.9	-0.9
O14K	Tigyukauivet M	6.83	299	Pn	Pn	17 24 20.4	+0.1
O29M	Mount Kennedy	6.89	52	Pn	Pn	17 24 19.0	-2.4
M27K	Edge Creek, AK	7.03	30	Pn	Pn	17 24 22.2	-1.1
CAST	Castle Rocks	7.04	351	Pn	Pn	17 24 22.1	-1.2
L16K	Owhat River	7.29	320	Pn	Pn	17 24 25.1	-1.7
S31K	Pelican	7.36	73	Pn	Pn	17 24 24.1	-3.6
RIDG	Independent Ri	7.61	16	Pn	Pn	17 24 30.7	-0.5
L27K	Beaver Creek,	7.62	27	Pn	Pn	17 24 28.9	-2.5
BCAR	Beaver Creek A	7.63	28	Pn	Pn	17 24 30.7	-0.8
K17K	Iditarod	7.64	328	Pn	Pn	17 24 29.5	-1.9
BPAW	Bear Paw Mtn.	7.64	355	Pn	Pn	17 24 29.1	-2.5
S32K	Killisnoo	8.22	77	Pn	Pn	17 24 36.0	-3.5
R32K	Eaglecrest	8.30	72	Pn	Pn	17 24 38.3	-2.2
JIS	Juneau Island	8.37	72	Pn	Pn	17 24 38.2	-3.3
ILAR	Eielson Array	8.38	8	Pn	Pn	17 24 41.0	-0.7
	comp=E,0.2nm,0.3s,baz=190,slow=15,SNR=3.4						
	comp=E,0.4nm,0.3s						
MDM	Murphy Dome	8.49	4	Pn	Pn	17 24 41.5	-1.8
J26L	Joseph Creek	8.53	18	Pn	Pn	17 24 42.1	-1.7
I23K	Minto, Yukon-K	8.66	2	Pn	Pn	17 24 43.8	-1.6
N31M	Braeburn, Yuko	8.66	49	Pn	Pn	17 24 43.6	-1.9
L29M	L29M	8.74	36	Pn	Pn	17 24 45.1	-1.6
I21K	Tanana	8.77	353	Pn	Pn	17 24 45.9	-1.1
M30M	Minto, Yukon	8.86	42	Pn	Pn	17 24 46.4	-1.9
DAWY	Dawson	9.08	29	Pn	Pn	17 24 49.8	-1.5
EGAK	Eagle	9.24	23	Pn	Pn	17 24 53.0	-0.4
H21K	Melozitna Rive	9.30	352	Pn	Pn	17 24 52.2	-2.1
K29M	Barlow Dome	9.46	34	Pn	Pn	17 24 53.8	-2.8
P33M	Teslin, Yukon	9.52	60	Pn	Pn	17 24 54.5	-2.9
Q32M	Nakina River	9.55	68	Pn	Pn	17 24 53.9	-4.0
H17K	Granite Mounta	9.84	333	Pn	Pn	17 24 60.0	-1.7
R33M	Jennings River	10.27	66	Pn	Pn	17 25 05.3	-2.4
INK	Inuvik	13.89	25	Pn	Pn	17 26 00.4	+3.5
	comp=E,0.1nm,0.3s,baz=247,slow=4.8,SNR=2.9						
	comp=E,1.0nm,0.6s						
YKA	Yellowknife Ar	18.52	57	P	Pn	17 27 00.3	+3.6
	baz=267,slow=12,SNR=4.2						
	comp=E,0.5nm,0.8s						
NVAR	Mina Array Bea	27.45	118	P	P	17 28 35.2	+8.8
	comp=E,0.6nm,1.0s,baz=295,slow=8.7,SNR=2.5						
	comp=E,0.6nm,1.0s						
PDAR	Pinedale Array	28.85	101	P	P	17 28 47.2	+8.3
	comp=E,0.1nm,0.5s,baz=303,slow=7.3,SNR=1.6						
	comp=E,0.1nm,0.5s						
MKAR	Makanchi Array	68.32	324	P	P	17 33 43.6	+2.3
	comp=E,0.4nm,0.9s,baz=29,slow=6.3,SNR=4.3						
	comp=E,0.4nm,0.9s						
AKASG	Malin Array Be	73.14	1	P	P	17 34 15.3	+4.8
	comp=E,0.3nm,0.4s,baz=354,slow=5.5,SNR=1.6						
	comp=E,0.3nm,0.4s						

NEIC ***23*** *17:23:32.6±1.7,55°.96N±0°.08×149°.70W±0°.09, h7km±5km, mb4.4/17, ML3.8/26, ML3.7(AEIC), Error ellipse: s-maj=12.0km s-min=7.4km az=178.0*

IDC ***23*** *17:23:33.2±0.8,55°.87N×149°.71W, h0km, mb4.0/17, mbtmp3.9/22, ML3.4/5, Error ellipse: s-maj=21.0km s-min=14.8km az=21.0*

AEIC ***23*** *17:23:38.5±1.6,56°.01N±0°.09×149°.7W±0°.1, h9km±5km, Error ellipse: s-maj=12.3km s-min=8.3km az=184.0*

ISC 23 17:23:34.3±0.6,56°.06N±0°.08×149°.71W±0°.05,h10km,
n172,σ1§24/169,mb4.3/26,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.30	302		Pn	17 24 11.8	-0.4
OHAK				IAML		17 24 38.6	
	comp=N,430nm,0.8s						
OHAK	Old Harbor	2.30	302	P	Pn	17 24 11.9	-0.3
	baz=120						
OHAK				S	Sn	17 24 37.5	-3.0
	baz=120						
KDAK	Kodiak Island	2.34	319		Pn	17 24 12.8	0.0
KDAK					Sn	17 24 38.4	-3.2
KDAK	Kodiak Island	2.34	319	Pn	Pn	17 24 13.6	+0.8
	comp=N,6.7nm,0.3s,baz=193,slow=6.5,SNR=4.3						
KDAK				Sn	Sn	17 24 38.3	-3.2
	comp=N,15nm,0.3s,baz=10,slow=22,SNR=6.7						
	comp=N,60nm,0.7s						
SYI	Shuyak Island	2.94	332		Pn	17 24 21.4	+0.3
SYI				IAML		17 24 57.5	
	comp=E,179nm,1.2s						
Q20K	Shuyak Island	2.95	332	P	Pn	17 24 21.1	0.0
	baz=150						
Q20K				S	Sn	17 24 55.1	-1.4
	baz=150						
R18K	Karluk	3.02	302		Pn	17 24 22.5	+0.4
R18K					Sn	17 24 56.4	-1.8
R18K	Karluk	3.02	302	IAML		17 25 01.7	
	comp=E,364nm,0.5s						
R18K				IAML		17 25 05.3	
	comp=N,348nm,0.6s						
R18K	Karluk	3.02	302	P	Pn	17 24 22.5	+0.4
	baz=119						
R18K				S	Sn	17 24 56.4	-1.8
	baz=119						
CNPM	China Poot	3.58	347		Pn	17 24 29.8	-0.1
CNPM				IAML		17 25 26.7	
	comp=N,136nm,3.0s						
CNPM				IAML		17 25 35.5	
	comp=E,125nm,3.2s						
Q19K	Cape Douglas,	3.58	325		Pn	17 24 29.8	0.0
Q19K	Cape Douglas,	3.58	325	P	Pn	17 24 29.8	0.0
	baz=142						
BRSE	Bradley Lake S	3.74	352		Pn	17 24 31.8	-0.3
BRSE	Bradley Lake S	3.74	352	P	Pn	17 24 31.8	-0.3
	baz=171						
BRLK	Bradley Lake	3.77	351		Pn	17 24 32.5	-0.1
BRLK				IAML		17 26 50.1	
	comp=E,101nm,3.3s						
Q23K	Middleton Isla	3.83	27		Pn	17 24 33.2	-0.1
Q23K	Middleton Isla	3.83	27	IAML		17 25 03.1	
	comp=N,256nm,2.5s						
Q23K	Middleton Isla	3.83	27	P	Pn	17 24 33.2	-0.1
	baz=209						
MID	Middleton Isla	3.83	27		Pn	17 24 33.2	-0.1
MID	Middleton Isla	3.83	27	IAML		17 25 08.7	
	comp=N,240nm,2.8s						
CNTC	Contact Creek	4.03	306		Pn	17 24 35.9	-0.2
Q17K	Contact Creek	4.03	306	P	Pn	17 24 35.9	-0.2
	baz=121						
P23K	Montague Islan	4.14	16		Pn	17 24 37.5	-0.1
P23K	Montague Islan	4.14	16	P	Pn	17 24 37.5	-0.1
	baz=198						
IVE	Iliamna Volcan	4.34	338		Sn	17 25 30.9	-0.3
P18K	Big Mountain,	4.47	321		Pn	17 24 42.1	+0.1
P18K				IAML		17 25 32.2	
	comp=E,62nm,1.2s						
P18K	Big Mountain,	4.47	321	P	Pn	17 24 42.2	+0.1
	baz=136						
R16K	Pilot Point	4.58	293		Pn	17 24 43.4	-0.1
R16K	Pilot Point	4.58	293	P	Pn	17 24 43.4	-0.1
	baz=106						
P17K	Kvichak River	4.79	314		Pn	17 24 46.8	+0.3
P17K	Kvichak River	4.79	314	P	Pn	17 24 46.8	+0.3
	baz=129						
O18K	Koktuh Hills	4.80	325		Pn	17 24 46.8	+0.1
O18K				IAML		17 25 43.6	
	comp=N,101nm,0.8s						
O18K				IAML		17 25 56.2	
	comp=E,84nm,1.1s						
CHGN	Chignik	4.87	277	Pn	Pn	17 24 46.6	-0.9
CHGN				IAML		17 25 43.3	
	comp=N,98nm,0.8s						
CHGN				IAML		17 27 26.5	
	comp=E,64nm,0.8s						
P16K	Nushagak River	5.37	307		Pn	17 24 54.7	+0.4
P16K	Nushagak River	5.37	307	P	Pn	17 24 54.7	+0.4
	baz=121						
N19K	Bonanza Creek	5.39	334	Pn	Pn	17 24 55.3	+0.6
KNK	Knik Glacier	5.41	6	Pn	Pn	17 24 50.1	-4.9
O17K	Koliganek Bris	5.42	316		Pn	17 24 54.8	-0.3
O17K	Koliganek Bris	5.42	316	P	Pn	17 24 54.8	-0.3
	baz=131						
SPNN	North Nagishla	5.55	345		Pn	17 24 56.7	-0.3
N18K	Kilae Creek	5.66	328		Pn	17 24 58.3	-0.2
N18K	Kilae Creek	5.66	328	P	Pn	17 24 58.3	-0.2
	baz=142						
O16K	Kokwok River B	5.71	312		Pn	17 24 58.8	-0.3
O16K	Kokwok River B	5.71	312	P	Pn	17 24 59.1	0.0
	baz=125						
GHO	Glory Hole Cre	5.75	4		Pn	17 24 59.1	-0.6
CNBA	Chernabura Isl	5.76	262	Pn	Pn	17 24 58.3	-1.4
KLU	Klutina	5.80	18		Pn	17 25 00.0	-0.3
SML	Sawmill	5.81	6		Pn	17 24 58.6	-1.9
SML	Sawmill	5.81	6	P	Pn	17 25 00.7	+0.1
	baz=188						
SVW2	Sparrevohn	5.91	331	Pn	Pn	17 25 00.5	-1.4
SCM	Sheep Creek Mo	5.92	11		Pn	17 25 01.9	-0.2
SCM	Sheep Creek Mo	5.92	11	P	Pn	17 25 02.1	0.0
	baz=193			

DLBC	Dease Lake	10.92	69	Pn		Pn	17 26 12.0	+1.5	
	comp=E,0.3nm,0.3s,baz=22,slow=14,SNR=1.6								
	comp=E,1.6nm,0.4s								
F21K	Alatna River	11.35	353	Pn		Pn	17 26 15.7	-0.6	
F20K	Avaraart Lake	11.39	348	Pn		Pn	17 26 15.1	-1.8	
ANM	Nome	11.50	324	Pn		Pn	17 26 17.5	-0.9	
E27K	Coleen River	12.73	14	Pn		Pn	17 26 33.0	-2.2	
INK	Inuvik	14.35	25	Pn		Pn	17 26 59.5	+2.2	
	comp=E,0.1nm,0.3s,baz=227,slow=13,SNR=2.4								
	comp=E,1.7nm,0.9s								
FLDN	Fort Liard	14.42	62	Pn		Pn	17 26 56.4	-1.8	
ADK	Adak	16.36	267	Pn		Pn	17 27 20.7	-3.1	
ADK				IAmb		IAmb	17 27 29.2		
	comp=Z,44nm,1.2s								
YKA	Yellowknife Ar	18.87	56	P		Pn	17 27 56.3	+1.5	
	comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=7.2								
	comp=Z,1.4nm,1.0s								
A36M	Sachs Harbour	18.98	23	P		P	17 27 53.3	-2.2	
A36M				IAmb		IAmb	17 28 08.3		
	comp=Z,20nm,0.8s								
NEW	Newport	21.29	98	P		P	17 28 22.5	+1.6	
	comp=Z,0.8nm,0.3s,baz=336,slow=11,SNR=2.5								
	comp=Z,0.8nm,0.3s								
K05A	Summer Lake	22.81	114	P		P	17 28 33.7	-3.6	
HLID	Hailey	25.67	104	P		P	17 29 00.5	-3.9	
NVAR	Mina Array Bea	27.32	117	P		P	17 29 18.6	-0.8	
	comp=Z,0.2nm,0.4s,baz=313,slow=9.7,SNR=1.9								
	comp=Z,0.2nm,0.4s								
PDAR	Pinedale Array	28.86	100	P		P	17 29 30.6	-2.4	
PDAR	Pinedale Array	28.86	100	P		P	17 29 32.4	-0.7	
	comp=Z,0.3nm,0.6s,baz=316,slow=3.8,SNR=4.4								
	comp=Z,0.3nm,0.6s								
FCC	Fort Churchill	29.36	61	P		P	17 29 36.2	-0.8	
FCC				IAmb		IAmb	17 29 47.6		
	comp=Z,7.2nm,1.2s								
PETK	Petropavlovsk-	30.01	287	P		P	17 29 43.1	+0.2	
	comp=Z,5.4nm,1.1s,baz=56,slow=7.7,SNR=2.1								
	comp=Z,5.4nm,1.1s								
EYMN	Ely	35.76	78	P		P	17 30 31.8	-1.3	
YAK	Yakutsk	39.36	313	P		P	17 31 02.6	-0.7	
FW03	Perrin-Whitt E	42.13	101	P		P	17 31 26.7	+0.1	
KLR	Kul'dur	45.72	296	P		P	17 31 56.9	+1.7	
	comp=Z,3.0nm,0.7s,baz=68,slow=5.2,SNR=7.9								
	comp=Z,3.0nm,0.7s								
NRIK	Noril'sk	48.22	336	P		P	17 32 15.8	+1.4	
	comp=Z,1.7nm,0.6s,baz=60,slow=5.9,SNR=4.6								
	comp=Z,1.7nm,0.6s								
H11N2	WAKE ISLAND Hy	48.56	240	T		T	18 25 00.2		
	baz=23								
H11N3	WAKE ISLAND Hy	48.57	240	T		T	18 24 59.0		
	baz=23								
H11N1	WAKE ISLAND Hy	48.58	240	T		T	18 25 01.9		
	baz=23								
H11S1	WAKE ISLAND Hy	49.70	239	T		T	18 26 30.5		
	baz=29,slow=76,SNR=4.1								
H11S2	WAKE ISLAND Hy	49.71	239	T		T	18 26 36.2		
	baz=29,slow=76,SNR=2.7								
H11S3	WAKE ISLAND Hy	49.72	239	T		T	18 26 22.7		
	baz=29,slow=76,SNR=3.0								
LMN	Caledonia Moun	51.18	63	P		P	17 32 36.9	-0.4	
SONM	Songino Array	58.60	310	P		P	17 33 33.1	+1.9	
	comp=Z,2.5nm,0.8s,baz=44,slow=6.7,SNR=16								
	comp=Z,2.5nm,0.8s								
ZAA0	Zalesovo Array	61.62	327	P		P	17 33 51.6	+0.1	
ZALV	Zalesovo Beam	61.62	327	P		P	17 33 53.3	+1.8	
	comp=Z,1.7nm,0.7s,baz=41,slow=6.5,SNR=9.2								
	comp=Z,1.7nm,0.7s								
FINES	FINESS Array B	62.80	2	P		P	17 34 00.9	+1.6	
	comp=Z,1.8nm,0.9s,baz=357,slow=8.9,SNR=3.6								
	comp=Z,1.8nm,0.9s								
BVAR	Borovoye Array	66.39	335	P		P	17 34 24.1	+1.2	
	comp=Z,2.7nm,0.7s,baz=28,slow=6.7,SNR=14								
	comp=Z,2.7nm,0.7s								
KURBB	Kurchatov Arra	66.41	329	P		P	17 34 24.2	+1.1	
	comp=Z,1.1nm,0.2s,baz=29,slow=6.5,SNR=6.6								
	comp=Z,1.1nm,0.2s								
MK31	Makanchi Array	68.64	324	P		P	17 34 37.5	+0.2	
MKAR	Makanchi Array	68.64	324	P		P	17 34 38.8	+1.4	
	comp=Z,0.8nm,0.6s,baz=37,slow=6.2,SNR=11								
	comp=Z,0.8nm,0.6s								
MAKZ	Makanchi	68.73	325	P		P	17 34 38.5	+0.6	
MAKZ				IAmb		IAmb	17 34 40.1		
	comp=Z,3.7nm,1.0s								
ABKAR	Akbulak array	72.18	340	P		P	17 34 59.3	+0.5	
ABKAR	Akbulak array	72.18	340	P		P	17 34 59.1	+0.2	
AKASG	Malin Array Be	73.61	1	P		P	17 35 08.2	+0.9	
	comp=Z,0.5nm,0.5s,baz=358,slow=6.4,SNR=2.0								
	comp=Z,0.5nm,0.5s								
GERES	GERESS Array B	74.55	11	P		P	17 35 13.8	+0.8	
	comp=Z,0.6nm,0.6s,baz=352,slow=5.9,SNR=3.0								
	comp=Z,0.6nm,0.6s								
KK31	Karatay Array	75.53	331	P		P	17 35 19.4	+0.8	
KK31				IAmb		IAmb	17 35 21.0		
	comp=Z,2.9nm,0.9s								
KKAR	Karatay Array	75.53	331	P		P	17 35 19.1	+0.5	
KKAR	Karatay Array	75.53	331	P		P	17 35 18.5	-0.1	
KKAR				IAmb		IAmb	17 35 21.0		
	comp=Z,2.9nm,0.9s								
WTTA	Wattenberg	75.87	13	epP		P	17 35 22.5	+1.8	
	comp=Z,1.1nm,0.3s								
FETA	Feichten	75.99	14	epP		P	17 35 23.2	+1.8	
	comp=Z,0.8nm,0.5s								
OBKA	Obir	76.95	11	epP		P	17 35 28.7	+2.0	
	comp=Z,1.8nm,0.4s								
BTK	Batken	78.26	329	P		P	17 35 33.1	-1.1	
BTK				IAmb		IAmb	17 35 39.9		
	comp=Z,2.6nm,0.8s								
SIMJ	Simiganj	80.08	330	P		P	17 35 43.2	-0.9	
SIMJ				IAmb		IAmb	17 35 46.5		
	comp=Z,5.3nm,0.9s								
ESDC	Sonseca Array	80.30	26	P		P	17 35 47.0	+1.7	
	comp=Z,0.6nm,0.7s,baz=330,slow=6.0,SNR=2.2								
	comp=Z,0.6nm,0.7s								
GEYT	Alibeck	83.43	338	P		P	17 36 04.0	+2.3	
	comp=Z,1.4nm,0.7s,baz=67,slow=11,SNR=4.8								
	comp=Z,1.4nm,0.7s								
CMAR	Chiang Mai Arr	86.18	298	P		P	17 36 16.3	+0.5	
	comp=Z,0.5nm,0.3s,baz=14,slow=4.9,SNR=7.8								
	comp=Z,0.5nm,0.3s								
QSPA	South Pole Qui	145.85	180	PKPbc		PKiKP	17 43 12.5	-3.3	
	comp=Z,4.4nm,0.8s,baz=64,slow=12,SNR=10								

IDC ***23*** *17:25:35.8±7.5, 60.10S×28.96W, h0km, mb3.9/2, mbtmp3.9/2, MS3.3/1, Error ellipse: s-maj=544.9km s-min=37.1km az=102.0*

ISC 23 17:25:36.6±4.7, 60.6S±0.4×2.8W±°, h10km, n12, σ0.68/7, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.93	149	⇑P	Pn	17 28 40.4	+0.3
	comp=Z,9.8nm,0.6s						
VNA3	Neumayer Olymp	13.00	153	⇑P	Pn	17 28 40.7	-0.5
	comp=Z,4.0nm,0.4s						
VNA2	Neumayer--Watz	13.33	149	⇑P	Pn	17 28 45.0	-0.5
	comp=Z,0.6nm,0.3s,baz=308,slow=16						
SNAA	Sanae	14.95	148	⇑P	Pn	17 29 08.5	+0.8
	comp=Z,60nm,0.4s						
PMSA	Palmer Station	16.72	240	LR	LR	17 34 53.2	
	comp=Z,100nm,18.7s,baz=102,slow=33						
QSPA	South Pole Qui	29.60	180	P	P	17 31 47.7	+6.1
	comp=Z,1.2nm,0.9s,baz=206,slow=4.1,SNR=2.4						
	comp=Z,1.2nm,0.9s						
H04S2	CROZET ISLANDS	46.36	111	T	T	18 23 56.1	
	baz=223,slow=75,SNR=87						
H04S3	CROZET ISLANDS	46.37	111	T	T	18 23 54.0	
	baz=223,slow=75,SNR=74						
H04S1	CROZET ISLANDS	46.38	111	T	T	18 23 56.2	
	baz=223,slow=75,SNR=72						
TORD	Torodi Ar. Bea	77.36	30	P	P	17 37 31.1	-0.3
	comp=Z,0.9nm,0.5s,baz=193,slow=5.1,SNR=6.5						
	comp=Z,0.9nm,0.5s						
ZALV	Zalesovo Beam	144.74	70	PKP	PKPbc	17 45 11.0	-0.2
	comp=Z,0.7nm,0.6s,baz=253,slow=4.0,SNR=5.6						
SONM	Songino Array	151.25	96	PKPbc	PKiKP	17 45 30.5	+0.8
	comp=Z,1.2nm,0.8s,baz=222,slow=3.4,SNR=7.9						

NEIC ***23*** *17:27:36.1±2.2, 56.41N±0.09×148.5W±0.1, h20km±10km, ML4.4/16, ML3.7(AEIC), Error ellipse: s-maj=13.0km s-min=8.9km az=175.0*

AEIC 23 17:27:40.7±2.2, 56.47N±0.09×148.55W±0.09, h11km±7km, Error ellipse: s-maj=13.4km s-min=7.1km az=171.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.56	303		Pn	17 28 17.6	-4.5
KDAK	Kodiak Island	2.56	303		Sn	17 28 46.0	-7.2
OHAK	Old Harbor	2.71	288		Pn	17 28 19.2	-4.8
OHAK	Old Harbor	2.71	288		Sn	17 28 48.7	-8.1
SYI	Shuyak Island	2.98	318		Pn	17 28 23.5	-4.3
SYI					Sn	17 28 57.6	-5.9
Q23K	Middleton Isla	3.19	21	Pn	Pn	17 28 24.9	-5.8
Q23K				IAML		17 30 14.3	
	comp=E,397nm,0.7s						
MID	Middleton Isla	3.19	21	Pn	Pn	17 28 25.0	-5.7
MID				IAML		17 30 14.3	
	comp=E,394nm,0.7s						
CNPM	China Poot	3.38	336		Pn	17 28 27.6	-5.7
R18K	Karluk	3.41	291		Pn	17 28 29.3	-4.3
R18K					Sn	17 29 06.0	-8.0
BRSE	Bradley Lake S	3.48	341		Pn	17 28 30.0	-4.7
BRLK	Bradley Lake	3.53	340		Pn	17 28 30.0	-5.4
P23K	Montague Islan	3.59	9		Pn	17 28 30.9	-5.2
HOM	Homer	3.60	334	Pn	Pn	17 28 31.6	-4.6
Q19K	Cape Douglas,	3.68	314	Pn	Pn	17 28 33.1	-4.3
KAHG	Katmai Hook Gl	3.82	305		Pn	17 28 35.4	-4.0
P19K	Oil Pt	4.05	324		Pn	17 28 38.0	-4.5
ACHA	Angle Creek He	4.07	298		Pn	17 28 38.6	-4.1
HIN	Hinchinbrook I	4.08	14	Pn	Pn	17 28 38.1	-4.9
KAIM	Kayak Island	4.10	31	Pn	Pn	17 28 38.4	-4.8
RAGM	Ragged Mountai	4.43	26	Pn	Pn	17 28 42.9	-4.8
FID	Port Fidalgo	4.43	13	Pn	Pn	17 28 42.4	-5.3
P18K	Big Mountain,	4.61	312	Pn	Pn	17 28 45.5	-4.7
RC01	Rabbit Creek A	4.68	353	Pn	Pn	17 28 45.3	-5.8
BERG	Berg Lake	4.69	31	Pn	Pn	17 28 44.2	-7.0
SNH	Sunshine Point	4.79	37	Pn	Pn	17 28 48.0	-4.6
O18K	Koktuh Hills	4.89	317	Pn	Pn	17 28 47.9	-6.2
SPU	Mount Spurr	5.07	340	Pn	Pn	17 28 50.2	-6.3
KLU	Klutina	5.22	14	Pn	Pn	17 28 52.8	-5.8
GHO	Glory Hole Cre	5.32	358	Pn	Pn	17 28 54.0	-6.0
N19K	Bonanza Creek	5.34	327	Pn	Pn	17 28 53.5	-6.8
SCM	Sheep Creek Mo	5.42	6	Pn	Pn	17 28 55.0	-6.3
VRDI	Verde Repeater	5.46	27	Pn	Pn	17 28 56.1	-5.9
CHGN	Chignik	5.48	272	Pn	Pn	17 28 57.1	-5.0
N25K	Chitina, Valde	5.54	20	Pn	Pn	17 28 58.5	-4.5
GLB	Gilahina Butte	5.56	24	Pn	Pn	17 28 58.1	-5.1
N18K	Kilae Creek	5.71	321	Pn	Pn	17 28 59.9	-5.4
M24K	Tolsona, Glenn	5.79	11	Pn	Pn	17 29 02.4	-3.9
BARN	Barnard Glacie	5.83	35	Pn	Pn	17 29 02.0	-5.2
BCPM	Bancas Point	5.87	50	Pn	Pn	17 29 01.6	-5.8
CTGM	Chitina Glacie	5.87	37	Pn	Pn	17 29 02.4	-5.2
LOGN	Logan Glacier	5.88	39	Pn	Pn	17 29 02.9	-4.9
SVW2	Sparrevohn	5.91	325	Pn	Pn	17 29 03.0	-4.9
O16K	Kokwok River B	5.96	306	Pn	Pn	17 29 03.2	-5.4
CUT	Chulitna	6.02	352	Pn	Pn	17 29 04.3	-5.2
O29M	Mount Kennedy	6.50	50	Pn	Pn	17 29 12.0	-4.3
P29M	Windy Craggy	6.55	57	Pn	Pn	17 29 12.1	-4.8
L19K	White Mountain	6.57	333	Pn	Pn	17 29 12.0	-5.1
M26K	Nabesna, AK	6.59	23	Pn	Pn	17 29 12.8	-4.6
DHY	Denali Highway	6.66	5	Pn	Pn	17 29 13.9	-4.5
M17K	Holitna River	6.75	321	Pn	Pn	17 29 15.0	-4.6
M27K	Edge Creek, AK	6.81	27	Pn	Pn	17 29 16.2	-4.4
S31K	Pelican	6.86	72	Pn	Pn	17 29 14.7	-6.3
M16K	Timber Creek	7.08	314	Pn	Pn	17 29 19.1	-5.0
L18K	Granite Mounta	7.11	328	Pn	Pn	17 29 19.4	-5.1
N15K	Kwethluk River	7.12	306	Pn	Pn	17 29 21.5	-3.1
CAST	Castle Rocks	7.19	347	Pn	Pn	17 29 19.5	-6.1
HYT	Haines Junctio	7.23	48	Pn	Pn	17 29 19.5	-6.7
L27K	Beaver Creek,	7.43	24	Pn	Pn	17 29 24.7	-4.2
BCAR	Beaver Creek A	7.44	24	Pn	Pn	17 29 25.2	-3.9
TTA	Tatalina	7.50	333	Pn	Pn	17 29 25.9	-3.9
RIDG	Independent Ri	7.53	13	Pn	Pn	17 29 26.3	-3.9
SKAG	Skagway	7.64	61	Pn	Pn	17 29 25.2	-6.5
L16K	Owhat River	7.69	318	Pn	Pn	17 29 26.2	-6.2
S32K	Killisnoo	7.71	77	Pn	Pn	17 29 26.1	-6.5
N30M	Aishikik Lake	7.75	45	Pn	Pn	17 29 29.3	-4.0
O30N	Mendenhall	7.80	51	Pn	Pn	17 29 27.7	-6.3
R32K	Eaglecrest	7.80	71	Pn	Pn	17 29 28.2	-5.8
M29M	Somme Creek	7.89	36	Pn	Pn	17 29 30.7	-4.5
K17K	Iditarod	7.98	326	Pn	Pn	17 29 30.2	-6.1
WHY	Whitehorse	8.28	54	Pn	Pn	17 29 36.3	-4.4
N31M	Braeburn, Yuko	8.29	47	Pn	Pn	17 29 36.3	-4.4
J26L	Joseph Creek	8.42	15	Pn	Pn	17 29 37.3	-5.3
P32M	Atlin	8.47	62	Pn	Pn	17 29 38.3	-4.8
L29M	L29M	8.47	34	Pn	Pn	17 29 38.9	-4.3
M30M	Minto, Yukon	8.55	39	Pn	Pn	17 29 41.1	-3.1
U33K	Whale Pass	8.59	86	Pn	Pn	17 29 37.8	-7.0
CRAG	Craig	8.71	90	Pn	Pn	17 29 40.1	-6.4
Q32M	Nakina River	9.06	67	Pn	Pn	17 29 46.3	-5.1
P33M	Teslin, Yukon	9.08	59	Pn	Pn	17 29 44.9	-6.7
K29M	Barlow Dome	9.20	32	Pn	Pn	17 29 46.8	-6.4
M31M	Drury Creek, Y	9.23	46	Pn	Pn	17 29 47.4	-6.1
H24K	Noodor Dome	9.41	2	Pn	Pn	17 29 49.8	-6.2
R33M	Jennings River	9.80	65	Pn	Pn	17 29 55.9	-5.5

NOU ***23*** *17:28:07.4, 33.04S×178.97W, h307km, mb4.4/13, South of Kermadec Islands*

WEL ***23*** *17:28:28.0±0.5, 34.5S±4.1×18.0E±1.1, h33km, M4.6/25, mB5.1/13, ML4.8/26, MLv4.7/25, Mw(mB)4.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=109.5, confirmed*

IDC ***23*** *17:28:31.4±3.6, 34.60S×179.36E, h312km±37km, mb3.5/2, mbtmp4.4/4, Error ellipse: s-maj=53.7km s-min=42.6km az=155.0*

NEIC ***23*** *17:28:32.5±2.3, 34.4S±0.1×178.8E±0.2, h270km±9km, mb4.2/15, Error ellipse: s-maj=19.2km s-min=15.3km az=109.0*

ISC 23 17:28:31.7±1.1, 34.60S±0.07×179.3E±0.1, h300km, n157, σ2.502/199, mb4.1/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.06	195		Pn	17 29 28.4	+0.6
MXZ				Sn	S	17 30 11.7	-1.1
MXZ	Matakaoa Point	3.06	195	P	Pn	17 29 23.8	-4.1
	66nm,1.3s						
MXZ	Matakaoa Point	3.06	195	P	Pn	17 29 28.5	+0.6
MXZ				S	S	17 30 12.6	-0.3
WMGZ	Waiomatatini S	3.29	192	P	Pn	17 29 29.9	-0.3
WMGZ				S	S	17 30 19.7	+2.6
HAZ	Te Kaha	3.37	200	P	Pn	17 29 30.3	-0.8
HAZ				S	S	17 30 19.3	+0.7
PKGZ	Pakihiroa	3.42	196	P	Pn	17 29 30.9	-0.8
PKGZ				S	S	17 30 21.4	+1.8
PUZ	Puketiti	3.56	193	P	Pn	17 29 32.2	-0.9
PUZ				S	S	17 30 23.4	+1.2
KUZ	Kuaotunu	3.60	232	P	Pn	17 29 33.0	-0.5
RUGZ	Raukumara Rang	3.60	200	P	Pn	17 29 33.0	-0.6
RUGZ				S	S	17 30 31.7	+1.5
TWGZ	Tauwhareparae	3.72	196	P	Pn	17 29 36.2	+1.4
TWGZ				S	S	17 30 27.0	+1.7
WHRZ	Whale Island	3.74	209	P	Pn	17 29 36.3	+1.3
WHRZ				S	S	17 30 30.5	+4.7
OPRZ	Ohinepanea	3.91	213	P	Pn	17 29 38.5	+1.6
CNGZ	Carnagh Station	3.97	192	P	Pn	17 29 37.9	+0.5
MARZ	Manawahe	3.98	211	P	Pn	17 29 39.5	+1.9
MWZ	Matawai	3.98	200	P	Pn	17 29 37.0	-0.6
MWZ				S	S	17 30 33.1	+2.6
TKGZ	Te Karaka	4.00	196	P	Pn	17 29 37.0	-0.8
TKGZ				S	S	17 30 33.4	+2.6
URZ	Urewera	4.05	205	P	Pn	17 29 39.7	+1.4
URZ	Urewera	4.05	205	P	Pn	17 29 39.5	+1.2
	83nm,0.3s,baz=14,slow=2.2,SNR=145						
URZ				S	S	17 30 33.6	+1.9
	87nm,0.5s,baz=256,slow=22,SNR=4.9						
URZ	Urewera	4.05	205	P	Pn	17 29 38.0	-0.2
URZ				S	S	17 30 33.4	+1.8
EDRZ	Edgecumbe	4.05	210	P	Pn	17 29 40.5	+2.0
RAGZ	Rawiri	4.17	200	P	Pn	17 29 41.8	+2.1
RAGZ				S	S	17 30 37.1	+2.8
KARZ	Kaharoa	4.20	215	P	Pn	17 29 42.7	+2.7
OMRZ	Omania	4.21	213	P	Pn	17 29 42.6	+2.4
WCZ	Waipu Caves	4.25	250	P	Pn	17 29 38.9	-1.6
TARZ	Mount Tarawera	4.26	211	P	Pn	17 29 43.6	+2.8
RIGZ	Rimuhau	4.28	196	P	Pn	17 29 39.7	-1.2
RIGZ				S	S	17 30 39.1	+2.7
RRRZ	Republican Roa	4.34	210	P	Pn	17 29 44.8	+3.1
RRRZ				S	S	17 30 41.8	+4.0
MUGZ	Murupara	4.36	207	P	Pn	17 29 41.1	-0.7
MUGZ				S	S	17 30 38.0	-0.1
TOZ	Tahuroa Road	4.37	223		Pn	17 29 43.3	+1.5
TOZ	Tahuroa Road	4.37	223	P	Pn	17 29 43.9	+2.1
RTZ	Ruatahuna	4.41	204		Pn	17 29 42.1	-0.3
RTZ				Sn	S	17 30 36.7	-2.5
RTZ	Ruatahuna	4.41	204	P	Pn	17 29 41.8	-0.7
RTZ				S	S	17 30 40.2	+1.0
HSRZ	Hossack Road	4.44	212	P	Pn	17 29 46.0	+3.3
SNGZ	Shannon Statio	4.45	200	P	Pn	17 29 42.8	-0.1
SNGZ				S	S	17 30 43.9	+3.9
PRGZ	Paritu Road	4.46	194	P	Pn	17 29 45.3	+2.4
PRGZ				S	S	17 30 40.9	+0.9
HRRZ	Handcock Road	4.48	212	P	Pn	17 29 46.5	+3.2
GRRZ	Galatos Road	4.53	213	P	Pn	17 29 47.2	+3.5
PRRZ	Plateau Road	4.53	210	P	Pn	17 29 45.7	+2.0
PRRZ				S	S	17 30 46.0	+4.4
KNZ	Kokohu	4.60	196	P	Pn	17 29 44.2	-0.2
KNZ				S	S	17 30 45.4	+2.5
WPRZ	Whakapapatarin	4.64	212	P	Pn	17 29 48.0	+3.0
RAHZ	Arahi	4.65	202	P	Pn	17 29 47.0	+1.9
RAHZ				S	S	17 30 46.8	+2.7
MTHZ	Maungataniwha	4.67	204	P	Pn	17 29 45.5	+0.2
MTHZ				S	S	17 30 46.5	+2.0
MHGZ	Mahia Peninsul	4.67	193	P	Pn	17 29 48.3	+2.9
MHGZ				S	S	17 30 44.8	+0.3
OUZ	Omahuta	4.70	261	P	Pn	17 29 42.8	-2.9
OUZ	Omahuta	4.70	261	P	Pn	17 29 42.8	-2.9
WHHZ	Waihua	4.76	199	P	Pn	17 29 48.4	+2.1
WHHZ				S	S	17 30 49.6	+3.3
KUTZ	Kaahu Road	4.77	215	P	Pn	17 29 49.4	+2.8
TLZ	Tolley Road	4.79	218	P	Pn	17 29 49.6	+2.9
NMHZ	Naumai	4.91	203	P	Pn	17 29 49.1	+1.0
NMHZ				S	S	17 30 52.2	+2.7
WATZ	Wairara	4.99	214	P	Pn	17 29 51.3	+2.3
ARHZ	Aropaoanui	5.00	201	P	Pn	17 29 48.5	-0.6
ARHZ				S	S	17 30 54.8	+3.6
BKZ	Black Stump Fm	5.07	205		Pn	17 29 50.5	+0.5
BKZ				Sn	S	17 30 53.3	+0.4
BKZ	Black Stump Fm	5.07	205	P	Pn	17 29 51.0	+1.0
BKZ	Black Stump Fm	5.07	205	P	Pn	17 29 51.0	+1.0
BKZ				S	S	17 30 55.1	+2.2
RATZ	Rangitukua	5.10	212	P	Pn	17 29 52.4	+2.1
RITZ	Rihia Road	5.16	211	P	Pn	17 29 52.9	+1.9
KATZ	Kakaramea	5.23	212	P	Pn	17 29 53.7	+1.8
MCHZ	McNeill Hill	5.26	202	P	Pn	17 29 53.9	+1.9
MCHZ				S	S	17 31 00.2	+3.4
HIZ	Hauiti	5.28	221		Pn	17 29 54.5	+2.2
HIZ	Hauiti	5.28	221	P	Pn	17 29 55.8	+3.4
HIZ	Hauiti	5.28	221	P	Pn	17 29 56.5	+4.1
KWHZ	Kaweka Forest	5.33	204	P	Pn	17 29 54.1	+1.1
KWHZ				S	S	17 31 01.2	+2.8
NTVZ	North Tongarir	5.34	212	P	Pn	17 29 54.0	+0.8
NTVZ				S	S	17 31 03.2	+4.5
TMVZ	Te Maari	5.34	211	P	Pn	17 29 54.7	+1.6
CKHZ	Cape Kidnapper	5.35	198	P	Pn	17 29 54.0	+0.9
CKHZ				S	S	17 31 00.9	+2.3
KRVZ	Karewarewa	5.35	212	P	Pn	17 29 55.2	+1.9
KRVZ				S	S	17 31 05.2	+6.2
ETVZ	East Tongariro	5.35	211	P	Pn	17 29 54.0	+0.6
ETVZ				S	S	17 31 01.2	+2.2
WTVZ	West Tongariro	5.39	212	P	Pn	17 29 55.6	+1.8
NNVZ	North Ngauruho	5.39	212	P	Pn	17 29 55.6	+1.7
OTVZ	Oturere	5.39	211	P	Pn	17 29 54.8	+0.9
TWVZ	Taurewa	5.42	213	P	Pn	17 29 55.2	+1.1
SNVZ	South Ngauruho	5.42	211	P	Pn	17 29 54.7	+0.4
NGZ	Ngauruhoe	5.43	212	P	Pn	17 29 56.0	+1.6
COVZ	Chateau Observ	5.48	212	P	Pn	17 29 56.8	+2.0
TUVZ	Tukino	5.49	211	P	Pn	17 29 56.2	+1.3
BHHZ	Black Hill Sta	5.51	207	P	Pn	17 29 54.9	-0.3
FWVZ	Far West T-bar	5.52	212	P	Pn	17 29 56.8	+1.4
MAVZ	Mataroa Array	5.53	211	P	Pn	17 29 56.9	+1.3
KAHZ	Kahurangi	5.53	200	P	Pn	17 29 54.9	-0.4
WHVZ	Whangaehu Hut	5.

WB0					IAmb	IAmb	17 36 34.1		
	comp=Z,7.7nm,1.1s								
FORT	**Forrest**	**42.90**	**260**	P	**P**		**17 36 02.1**	**+0.7**	
FORT					IAmb	IAmb	17 36 33.2		
	comp=Z,26nm,1.1s								
PATS	**Pohnpei**	**45.73**	**330**	P	**P**		**17 36 24.6**	**+0.9**	
MTN	**Manton Dam**	**48.57**	**284**	P	**P**		**17 36 44.9**	**-0.7**	
KNRA	**Kununurra**	**48.92**	**280**	P	**P**		**17 36 47.6**	**-0.6**	
FITZ	**Fitzroy Crossi**	**50.22**	**275**	P	**P**		**17 36 57.2**	**-0.8**	
PSA00	**Pilbara Seismi**	**53.33**	**268**	P	**P**		**17 37 19.9**	**-0.9**	
PSA00					IAmb	IAmb	17 37 57.5		
	comp=Z,27nm,1.4s								
QSPA	**South Pole Qui**	**55.52**	**180**	P	P		17 37 43.5	+7.5	
QSPA					IAmb	IAmb	17 37 44.5		
	comp=Z,8.4nm,0.7s								
SNAA	**Sanae**	**74.02**	**179**	P	P		17 39 39.6	+5.2	
SNAA					IAmb	IAmb	17 39 40.7		
	comp=Z,4.9nm,1.2s								
FINES	**FINESS Array B**	**148.16**	**336**	PKPbc	**PKPdf**		**17 47 39.2**	**+1.5**	
	comp=Z,1.5nm,0.8s,baz=346,slow=2.9,SNR=4.1								

IDC ***23*** *17:28:58.7±0.6,56˚.22N×150˚.06W,h0km,mb4.2/29, mbtmp4.3/32,ML4.4/3,MS3.7/12,Error ellipse: s-maj=18.2km s-min=10.6km az=22.0*

MOS ***23*** *17:29:01.9±0.9,56˚.20N×149˚.99W,h32km,mb4.8/37, Error ellipse: s-maj=13.2km s-min=5.8km az=93.6*

NEIC ***23*** *17:29:02.7±1.6,56˚.13N±0˚.07×150˚.05W±0˚.09,h32km±5km, mb4.6/159,ML4.7/48,ML4.4(AEIC),Error ellipse: s-maj=10.5km s-min=7.3km az=184.0*

AEIC ***23*** *17:29:06.2±2.4,56˚.23N±0˚.07×149˚.87W±0˚.10,h12km±4km, Error ellipse: s-maj=10.6km s-min=7.6km az=190.0*

ISC 23 17:29:00.2±0.4,56˚.17N±0˚.06×149˚.93W±0˚.04,h10km, n484,σ1$04/421,mb4.6/127,MS3.8/10,20C-7D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.13**	**301**		**Pn**	**17 29 35.4**	**-0.4**
OHAK				IAML		17 29 59.7	
	comp=N,6μm,0.4s						
OHAK				IAML		17 29 60.0	
	comp=E,5μm,0.4s						
OHAK	**Old Harbor**	**2.13**	**301**		**Sn**	**17 29 59.3**	**-3.0**
OHAK	**Old Harbor**	**2.13**	**301**	P	**Pn**	**17 29 35.4**	**-0.4**
OHAK	**Old Harbor**	**2.13**	**301**	P	**Pn**	**17 29 35.4**	**-0.4**
	baz=117						
OHAK				S	**Sn**	**17 29 59.3**	**-3.0**
	baz=117						
KDAK	**Kodiak Island**	**2.18**	**319**		**Pn**	**17 29 36.6**	**+0.2**
KDAK	**Kodiak Island**	**2.18**	**319**	Pn	**Pn**	**17 29 36.3**	**-0.1**
	comp=E,48nm,0.3s,baz=121,slow=4.8,SNR=52						
KDAK				Sn	**Sn**	**17 30 01.0**	**-2.4**
	comp=E,210nm,0.3s,baz=154,slow=23,SNR=55						
KDAK				LR	LR	17 30 41.4	
	comp=E,1μm,20.9s,baz=133,slow=49						
Q20K	**Shuyak Island**	**2.79**	**332**	P	**Pn**	**17 29 45.1**	**+0.3**
	baz=150						
Q20K				S	**Sn**	**17 30 17.4**	**-1.1**
	baz=150						
SYI	**Shuyak Island**	**2.79**	**332**		**Pn**	**17 29 45.1**	**+0.3**
SYI				IAML		17 30 18.4	
	comp=E,2μm,0.5s						
SYI				IAML		17 30 20.7	
	comp=N,2μm,0.4s						
SYI	**Shuyak Island**	**2.79**	**332**		**Sn**	**17 30 17.4**	**-1.0**
Q19K	**Cape Douglas,**	**3.42**	**326**		**Pn**	**17 29 54.5**	**+1.0**
Q19K				Sn	**Sn**	**17 30 32.0**	**-2.0**
Q19K	**Cape Douglas,**	**3.42**	**326**	P	**Pn**	**17 29 55.4**	**+1.9**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.42**	**315**		**Pn**	**17 29 55.2**	**+1.6**
CNPM	**China Poot**	**3.44**	**349**		**Pn**	**17 29 53.8**	**0.0**
CNPM				IAML		17 30 34.6	
	comp=N,1μm,0.4s						
CNPM				IAML		17 30 35.3	
	comp=E,937nm,0.6s						
CNPM	**China Poot**	**3.44**	**349**		**Sn**	**17 30 33.1**	**-1.5**
KCE	**Katmai Mt Cerb**	**3.54**	**308**		**Pn**	**17 29 57.2**	**+2.1**
KCG	**Knife Ck. Glac**	**3.54**	**309**		**Pn**	**17 29 56.1**	**+0.9**
ACHA	**Angle Creek He**	**3.58**	**307**		**Pn**	**17 29 56.8**	**+1.0**
BRSE	**Bradley Lake S**	**3.61**	**353**		**Pn**	**17 29 56.0**	**-0.1**
BRSE	**Bradley Lake S**	**3.61**	**353**	P	**Pn**	**17 29 56.0**	**-0.1**
	baz=173						
HOM	**Homer**	**3.62**	**346**		**Pn**	**17 29 57.7**	**+1.5**
HOM				Sn	**Sn**	**17 30 37.7**	**-1.2**
HOM				IAML		17 30 43.6	
	comp=E,1μm,0.5s						
HOM				IAML		17 30 43.8	
	comp=N,2μm,0.5s						
BRLK	**Bradley Lake**	**3.64**	**352**		**Pn**	**17 29 56.2**	**-0.4**
BRLK				Sn	**Sn**	**17 30 36.7**	**-2.9**
BRLK				IAML		17 30 40.9	
	comp=E,1μm,0.6s						
ANCK	**Angle Creek**	**3.65**	**306**		**Pn**	**17 29 58.5**	**+1.8**
KVTA	**Katmai Vly 10**	**3.66**	**310**		**Pn**	**17 29 58.1**	**+1.3**
KAHC	**Katmai Hardscr**	**3.71**	**314**		**Pn**	**17 29 58.5**	**+1.0**
KAHC	**Katmai Hardscr**	**3.71**	**314**	P	**Pn**	**17 29 58.5**	**+1.0**
	baz=130						
Q23K	**Middleton Isla**	**3.79**	**29**		**Pn**	**17 29 58.7**	**+0.2**
MID	**Middleton Isla**	**3.79**	**29**		**Pn**	**17 29 58.7**	**+0.2**
MID				Sn	**Sn**	**17 30 40.0**	**-3.1**
MID	**Middleton Isla**	**3.79**	**29**	P	**Pn**	**17 29 58.2**	**+0.6**
MID	**Middleton Isla**	**3.79**	**29**	P	**Pn**	**17 29 58.7**	**+0.2**
MID						17 30 40.0	
PLK3	**Peulik 3**	**3.79**	**296**		**Pn**	**17 29 59.0**	**+0.3**
Q17K	**Contact Creek**	**3.86**	**305**	P	**Pn**	**17 30 00.2**	**+0.6**
	baz=120						
P19K	**Oil Pt**	**3.91**	**335**		**Pn**	**17 30 01.3**	**+1.0**
P19K				Sn	**Sn**	**17 30 46.0**	**-0.3**
P19K				IAML		17 30 58.4	
	comp=N,2μm,0.5s						
SEW	**Seward**	**3.96**	**3**		**Pn**	**17 30 00.5**	**-0.3**
SEW	**Seward**	**3.96**	**3**	P	**Pn**	**17 30 00.5**	**-0.3**
	baz=184						
PLK1	**Peulik 1**	**4.00**	**297**		**Pn**	**17 30 02.3**	**+0.8**
P23K	**Montague Islan**	**4.07**	**18**	P	**Pn**	**17 30 02.9**	**+0.5**
	baz=201						
P18K	**Big Mountain,**	**4.30**	**321**		**Pn**	**17 30 05.5**	**-0.1**
P18K	**Big Mountain,**	**4.30**	**321**	P	**Pn**	**17 30 05.7**	**0.0**
	baz=136						
O22K	**Cooper Landing**	**4.33**	**1**		**Pn**	**17 30 06.0**	**+0.1**
O22K	**Cooper Landing**	**4.33**	**1**	P	**Pn**	**17 30 06.8**	**+0.8**
	baz=182						
SLKM	**Skilak Lake**	**4.36**	**358**		**Pn**	**17 30 06.5**	**+0.1**
Q16K	**King Salmon**	**4.42**	**307**		**Pn**	**17 30 08.1**	**+0.8**
Q16K	**King Salmon**	**4.42**	**307**	P	**Pn**	**17 30 08.1**	**+0.8**
	baz=122						
RSO	**Redoubt South**	**4.56**	**342**		**Pn**	**17 30 09.6**	**+0.3**
RDWB	**Redoubt West**	**4.60**	**342**		**Pn**	**17 30 13.2**	**+3.4**
HIN	**Hinchinbrook I**	**4.61**	**22**		**Pn**	**17 30 10.6**	**+0.7**
HIN				IAML		17 31 03.6	
	comp=E,964nm,0.8s						
HIN				IAML		17 31 05.0	
	comp=N,864nm,0.7s						
P17K	**Kvichak River**	**4.63**	**314**		**Pn**	**17 30 10.9**	**+0.9**
P17K	**Kvichak River**	**4.63**	**314**	P	**Pn**	**17 30 10.9**	**+0.9**
	baz=128						
O18K	**Koktuh Hills**	**4.64**	**325**		**Pn**	**17 30 10.4**	**+0.1**
O18K				IAML		17 31 05.3	
	comp=E,556nm,0.8s						
O18K				IAML		17 31 05.3	
	comp=N,938nm,0.8s						
O18K	**Koktuh Hills**	**4.64**	**325**	P	**Pn**	**17 30 11.7**	**+1.4**
	baz=140						
CAPN	**Captain Cook N**	**4.66**	**353**		**Pn**	**17 30 11.8**	**+1.3**
CHGN	**Chignik**	**4.74**	**275**		**Pn**	**17 30 11.0**	**-0.5**
CHGN				IAML		17 31 05.0	
	comp=N,822nm,0.3s						
CHGN				IAML		17 31 06.3	
	comp=E,904nm,0.3s						
KAIM	**Kayak Island**	**4.77**	**36**	Pn	**Pn**	**17 30 13.2**	**+1.2**
KAIM				IAML		17 31 09.8	
	comp=N,828nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.91**	**25**		**Pn**	**17 30 14.9**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.91**	**25**	P	**Pn**	**17 30 15.1**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.91**	**25**	P	**Pn**	**17 30 15.0**	**+1.1**
	baz=209						
RC01	**Rabbit Creek A**	**4.94**	**1**		**Pn**	**17 30 14.4**	**+0.1**
RC01				IAML		17 31 10.6	
	comp=E,648nm,0.4s						
RC01				IAML		17 31 12.8	
	comp=N,496nm,0.4s						
RC01	**Rabbit Creek A**	**4.94**	**1**	P	**Pn**	**17 30 14.4**	**+0.1**
	baz=182						
FID	**Port Fidalgo**	**4.94**	**20**	IAML		17 31 08.3	
	comp=E,679nm,0.8s						
FID				IAML		17 31 08.7	
	comp=N,438nm,0.4s						
FIS	**Fire Island**	**4.99**	**358**	Pn	**Pn**	**17 30 15.8**	**+0.8**
RAGM	**Ragged Mountai**	**5.06**	**31**		**Pn**	**17 30 16.9**	**+0.9**
P16K	**Nushagak River**	**5.20**	**307**		**Pn**	**17 30 18.7**	**+0.8**
P16K	**Nushagak River**	**5.20**	**307**	P	**Pn**	**17 30 18.7**	**+0.8**
	baz=120						
GOAT	**Goat Mountain**	**5.20**	**30**		**Pn**	**17 30 19.5**	**+1.5**
N19K	**Bonanza Creek**	**5.24**	**335**		**Pn**	**17 30 17.8**	**-0.7**
SPCG	**Spurr Capps Gl**	**5.25**	**349**		**Pn**	**17 30 19.5**	**+0.7**
O17K	**Koliganek Bris**	**5.25**	**316**		**Pn**	**17 30 19.1**	**+0.4**
O17K	**Koliganek Bris**	**5.25**	**316**	P	**Pn**	**17 30 19.1**	**+0.4**
	baz=130						
KNK	**Knik Glacier**	**5.32**	**8**		**Pn**	**17 30 20.0**	**+0.4**
KNK				IAML		17 31 18.2	
	comp=N,298nm,0.6s						
KNK				IAML		17 31 25.9	
	comp=E,434nm,0.7s						
KNK	**Knik Glacier**	**5.32**	**8**	P	**Pn**	**17 30 20.0**	**+0.4**
	baz=189						
SUA	**Susitna One**	**5.33**	**356**		**Pn**	**17 30 19.8**	**0.0**
SUA				IAML		17 31 24.5	
	comp=E,217nm,0.7s						
SUA	**Susitna One**	**5.33**	**356**	P	**Pn**	**17 30 19.8**	**0.0**
	baz=175						
BERG	**Berg Lake**	**5.36**	**35**		**Pn**	**17 30 21.0**	**+0.9**
PMR	**Palmer**	**5.46**	**4**		**Pn**	**17 30 21.7**	**+0.3**
PMR	**Palmer**	**5.46**	**4**	P	**Pn**	**17 30 22.1**	**+1.1**
PMR	**Palmer**	**5.46**	**4**	P	**Pn**	**17 30 21.7**	**+0.3**
SNH	**Sunshine Point**	**5.50**	**40**		**Pn**	**17 30 23.6**	**+1.5**
N18K	**Kilae Creek**	**5.50**	**328**	Pn	**Pn**	**17 30 22.1**	**0.0**
O16K	**Kokwok River B**	**5.55**	**312**		**Pn**	**17 30 23.1**	**+0.5**
GHO	**Glory Hole Cre**	**5.64**	**5**		**Pn**	**17 30 24.6**	**+0.5**
CNBA	**Chernabura Isl**	**5.66**	**260**		Pn	17 30 22.1	-2.1
SML	**Sawmill**	**5.72**	**8**		**Pn**	**17 30 25.9**	**+0.8**
KLU	**Klutina**	**5.73**	**20**		**Pn**	**17 30 26.5**	**+1.2**
SVW2	**Sparrevohn**	**5.76**	**332**		**Pn**	**17 30 25.7**	**+0.2**
SVW2	**Sparrevohn**	**5.76**	**332**	P	**Pn**	**17 30 25.8**	**+0.2**
N17K	**Nushagak Hills**	**5.80**	**322**		**Pn**	**17 30 26.0**	**-0.2**
SCM	**Sheep Creek Mo**	**5.84**	**12**		**Pn**	**17 30 28.0**	**+1.2**
SCM	**Sheep Creek Mo**	**5.84**	**12**	P	**Pn**	**17 30 28.0**	**+1.2**
SKT	**Skwentna**	**5.89**	**353**		**Pn**	**17 30 27.2**	**-0.2**
M20K	**Styx River**	**5.96**	**345**		**Pn**	**17 30 28.1**	**-0.4**
SDPT	**Sand Point**	**6.01**	**267**		**Pn**	**17 30 28.7**	**-0.4**
SDPT	**Sand Point**	**6.01**	**267**	P	**Pn**	**17 30 28.7**	**-0.4**
VRDI	**Verde Repeater**	**6.09**	**31**		**Pn**	**17 30 31.6**	**+1.3**
N25K	**Chitina, Valde**	**6.11**	**25**	Pn	**Pn**	**17 30 32.1**	**+1.6**
GLB	**Gilahina Butte**	**6.17**	**28**		**Pn**	**17 30 32.3**	**+1.0**
M19K	**Big River Lodg**	**6.20**	**340**		**Pn**	**17 30 31.9**	**+0.3**
CUT	**Chulitna**	**6.26**	**359**		**Pn**	**17 30 33.5**	**+1.1**
M24K	**Tolsona, Glenn**	**6.26**	**16**	Pn	**Pn**	**17 30 33.6**	**+1.1**
YKU2	**Yakutat**	**6.42**	**54**	Pn	**Pn**	**17 30 36.9**	**+2.3**
BARN	**Barnard Glacie**	**6.53**	**38**		**Pn**	**17 30 37.7**	**+1.3**
M17K	**Holitna River**	**6.54**	**326**		**Pn**	**17 30 36.4**	**+0.1**
L19K	**White Mountain**	**6.54**	**339**	Pn	**Pn**	**17 30 35.9**	**-0.5**
CTGM	**Chitina Glacie**	**6.58**	**40**		**Pn**	**17 30 37.9**	**+0.9**
LOGN	**Logan Glacier**	**6.61**	**41**		**Pn**	**17 30 38.1**	**+0.8**
PNL	**Peninsula**	**6.62**	**54**	P	**Pn**	**17 30 39.3**	**+1.9**
BCPM	**Bancas Point**	**6.65**	**51**		**Pn**	**17 30 39.7**	**+1.9**
N15K	**Kwethluk River**	**6.71**	**311**		**Pn**	**17 30 39.3**	**+0.7**
M16K	**Timber Creek**	**6.78**	**320**		**Pn**	**17 30 39.6**	**+0.1**
O14K	**Tigyukauivet M**	**6.81**	**302**	Pn	**Pn**	**17 30 39.9**	**-0.1**
L18K	**Granite Mounta**	**6.99**	**333**		**Pn**	**17 30 42.0**	**-0.5**
DHY	**Denali Highway**	**7.05**	**10**		**Pn**	**17 30 44.2**	**+0.8**
M26K	**Nabesna, AK**	**7.18**	**27**		**Pn**	**17 30 47.3**	**+2.0**
O29M	**Mount Kennedy**	**7.28**	**51**		**Pn**	**17 30 48.5**	**+1.9**
RND	**Reindeer**	**7.28**	**4**		**Pn**	**17 30 47.7**	**+1.1**
RND	**Reindeer**	**7.28**	**4**	P	**Pn**	**17 30 47.7**	**+1.1**
TRF	**Thorofare Moun**	**7.31**	**359**		**Pn**	**17 30 48.1**	**+1.1**
CAST	**Castle Rocks**	**7.36**	**352**	Pn	**Pn**	**17 30 49.7**	**+2.2**
P29M	**Windy Craggy**	**7.36**	**57**		**Pn**	**17 30 49.0**	**+1.3**
KTH	**Kantishna Hill**	**7.43**	**357**	Pn	**Pn**	**17 30 48.7**	**+0.1**
L16K	**Owhat River**	**7.43**	**322**	Pn	**Pn**	**17 30 48.7**	**+0.2**
M27K	**Edge Creek, AK**	**7.45**	**30**		**Pn**	**17 30 50.5**	**+1.6**
TTA	**Tatalina**	**7.45**	**338**	Pn	**Pn**	**17 30 48.2**	**-0.6**
TTA	**Tatalina**	**7.45**	**338**	P	**Pn**	**17 30 50.3**	**+1.4**
TTA	**Tatalina**	**7.45**	**338**	P	**Pn**	**17 30 48.2**	**-0.6**
MENT	**Mentasta**	**7.48**	**22**	Pn	**Pn**	**17 30 50.6**	**+1.3**
K20K	**Telida**	**7.51**	**346**		**Pn**	**17 30 49.0**	**-0.6**
L26K	**Log Cabin Wild**	**7.64**	**23**		**Pn**	**17 30 52.8**	**+1.4**
S31K	**Pelican**	**7.66**	**71**		**Pn**	**17 30 51.2**	**-0.8**
FALS	**False Pass**	**7.77**	**266**	P	**Pn**	**17 30 52.7**	**-0.5**
M14K	**Bethel**	**7.80**	**311**		Pn	17 30 50.3	-3.2
K17K	**Iditarod**	**7.83**	**330**		**Pn**	**17 30 52.7**	**-1.2**
BPAW	**Bear Paw Mtn.**	**7.98**	**357**	Pn	Pn	17 30 52.8	-3.2
HYT	**Haines Junctio**	**8.00**	**49**	Pn	**Pn**	**17 30 57.8**	**+1.3**
RIDG	**Independent Ri**	**8.01**	**16**		Pn	17 30 53.5	-3.6
BWN	**Browne**	**8.03**	**1**		**Pn**	**17 30 56.4**	**-0.5**
L27K	**Beaver Creek,**	**8.04**	**27**		**Pn**	**17 30 58.0**	**+0.9**
BCAR	**Beaver Creek A**	**8.05**	**27**	Pn	Pn	17 30 55.1	-2.2
J18K	**Innoko River**	**8.07**	**338**		Pn	17 30 55.9	-1.9
SIT	**Sitka**	**8.11**	**78**	Pn	Pn	**17 30 56.7**	**-1.1**
SIT	**Sitka**	**8.11**	**78**	P	Pn	17 30 55.9	-1.9
SIT	**Sitka**	**8.11**	**78**	P	Pn	**17 31 00.1**	**+0.4**
M13K	**Dall Lake**	**8.25**	**307**		Pn	**17 30 59.8**	**-0.6**
J20K	**Nowinta River**	**8.30**	**347**	Pn	Pn	**17 30 59.2**	**-1.2**
J19K	**Poorman**	**8.35**	**342**		**Pn**	**17 31 02.2**	**+0.6**
SCRK	**Sand Creek**	**8.37**	**18**		**Pn**	**17 31 01.9**	**+0.4**
WRH	**Wood River Hil**	**8.38**	**5**		**Pn**	**17 31 02.5**	**+0.6**
HDA	**Harding Lake**	**8.40**	**9**		**Pn**	**17 31 03.8**	**-0.4**
L14K	**Kuka Creek**	**8.41**	**313**	Pn	**Pn**	**17 31 03.9**	**+1.3**
SKAG	**Skagway**	**8.46**	**61**		**Pn**	**17 31 04.3**	**+1.7**
SKAG	**Skagway**	**8.46**	**61**	P	**Pn**	**17 31 02.6**	**-0.1**
NEA2	**Nenana**	**8.46**	**3**		**Pn**	**17 31 04.9**	**+1.5**
N30M	**Aishikik Lake**	**8.51**	**46**		**Pn**	**17 31 02.6**	**-0.8**
S32K	**Killisnoo**	**8.52**	**75**		**Pn**	**17 31 03.4**	**-0.3**
K15K	**Wolf Creek Mou**	**8.54**	**321**	Pn	**Pn**	**17 31 03.8**	**-0.4**
CCB	**Clear Creek Bu**	**8.57**	**6**		**Pn**	**17 31 05.7**	**+1.3**
O30N	**Mendenhall**	**8.59**	**52**		**Pn**	**17 31 06.4**	**+0.6**
M29M	**Somme Creek**	**8.59**	**38**		**Pn**	**17 31 06.8**	**+1.0**
R32K	**Eaglecrest**	**8.62**	**69**		**Pn**	**17 31 06.2**	**+1.7**
JIS	**Juneau Island**	**8.69**	**70**		**Pn**	**17 31 05.8**	**+0.9**
JIS	**Juneau Island**	**8.69**	**70**	P	**Pn**	**17 31 06.4**	**+0.6**
IL31		**8.76**	**9**		**Pn**	**17 31 06.8**	**+1.0**
ILAR	**Eielson Array**	**8.76**	**9**	Pn	**Pn**	**17 31 07.0**	**+0.3**
ILAR	**Eielson Array**	**8.76**	**9**	P	**Pn**	**17 31 07.8**	**+1.0**
ILAR	**Eielson Array**	**8.76**	**9**	Pn	**Pn**	**17 31 07.8**	**+1.0**
	comp=E,3.4nm,0.3s,baz=189,slow=13,SNR=65						
ILAR					Sn	**Sn**	**17 32 40.4**	**-5.0**
	comp=E,3.8nm,0.3s,baz=197,slow=16,SNR=5.2						
J25K	**Salcha River,**	**8.77**	**13**		**Pn**	**17 31 07.8**	**+0.9**
COLA	**College**	**8.79**	**6**	P	**Pn**	**17 31 09.1**	**+1.9**
K27K	**Chicken**	**8.80**	**23**		**Pn**	**17 31 08.4**	**+1.1**
MDM	**Murphy Dome**	**8.86**	**5**		**Pn**	**17 31 07.9**	**-0.2**
J26L	**Joseph Creek**	**8.93**	**18**		**Pn**	**17 31 10.1**	**+0.9**
J16K	**Anvik River**	**8.93**	**327**	Pn	**Pn**	**17 31 08.6**	**-0.5**
I23K	**Minto, Yukon-K**	**9.02**	**2**		**Pn**	**17 31 09.8**	**-0.4**
N31M	**Braeburn, Yuko**	**9.06**	**48**		**Pn**	**17 31 12.7**	**+1.8**
POKR	**Poker Plat Res**	**9.06**	**7**		**Pn**	**17 31 10.9**	**0.0**
WHY	**Whitehorse**	**9.08**	**54**	Pn	**Pn**	**17 31 13.0**	**+1.7**
I21K	**Tanana**	**9.10**	**355**		**Pn**	**17 31 11.4**	**0.0**
L29M	**L29M**	**9.16**	**36**		**Pn**	**17 31 13.2**	**+1.0**
M30M	**Minto, Yukon**	**9.27**	**41**	Pn	**Pn**	**17 31 15.3**	**+1.6**
P32M	**Atlin**	**9.29**	**62**		**Pn**	**17 31 15.5**	**+1.5**
AKUT	**Akutan**	**9.30**	**264**	Pn	**Pn**	**17 31 12.9**	**-1.2**
AKUT	**Akutan**	**9.30**	**264**	P	**Pn**	**17 31 13.3**	**-0.8**
U33K	**Whale Pass**	**9.38**	**83**	Pn	Pn	17 31 13.6	-1.6
I17K	**Unalakleet**	**9.42**	**330**	Pn	**Pn**	**17 31 15.3**	**-0.4**
CRAG	**Craig**	**9.49**	**87**	Pn	Pn	17 31 12.6	-4.1
CRAG	**Craig**	**9.49**	**87**	P	**Pn**	**17 31 16.5**	**-0.2**
DAWY	**Dawson**	**9.49**	**29**	Pn	**Pn**	**17 31 17.8**	**+0.9**
K13K	**Kusilvak Mount**	**9.52**	**313**		**Pn**	**17 31 18.6**	**+1.4**
J14K	**Nanvaranak Lak**	**9.56**	**319**	Pn	**Pn**	**17 31 16.2**	**-1.4**
PRP	**Porcupine Dome**	**9.62**	**11**		**Pn**	**17 31 19.1**	**+0.5**
H21K	**Melozitna Rive**	**9.62**	**353**		**Pn**	**17 31 18.4**	**-0.1**
EGAK	**Eagle**	**9.65**	**23**	Pn	**Pn**	**17 31 20.0**	**+1.1**
I26K	**Coal Creek Min**	**9.74**	**17**		**Pn**	**17 31 20.6**	**+0.4**
H24K	**Woodor Dome**	**9.75**	**5**		**Pn**	**17 31 21.1**	**+0.7**
WRAK	**Wrangell Islan**	**9.78**	**81**	Pn	**Pn**	**17 31 20.1**	**-0.6**
UNV	**Unalaska Valle**	**9.80**	**263**	Pn	Pn	17 31 19.0	-2.0
UNV	**Unalaska Valle**	**9.80**	**263**	P	**Pn**	**17 31 19.3**	**-1.7**
K29M	**Barlow Dome**	**9.87**	**34**		**Pn**	**17 31 22.8**	**+0.7**
Q32M	**Nakina River**	**9.89**	**66**		**Pn**	**17 31 23.8**	**+1.5**
P33M	**Teslin, Yukon**	**9.89**	**59**		**Pn**	**17 31 23.5**	**+1.1**
H18K	**Honhosa River**	**9.91**	**339**		**Pn**	**17 31 21.3**	**-1.1**
M31M	**Drury Creek, Y**	**9.99**	**46**		**Pn**	**17 31 25.8**	**+2.2**
IMAR	**Indian Mountai**	**10.02**	**351**	Pn	**Pn**	**17 31 24.4**	**+0.5**
J29N	**Klondike Camp**	**10.12**	**30**	Pn	**Pn**	**17 31 26.4**	**+1.0**
MAYO	**Mayo, Yukon**	**10.23**	**38**		**Pn**	**17 31 27.7**	**+0.8**
V35K	**Ketchikan**	**10.36**	**87**	Pn	**Pn**	**17 31 27.4**	**-1.3**
S34M	**Telegraph Cree**	**10.39**	**73**		**Pn**	**17 31 29.5**	**+0.5**
FARO	**Faro, Yukon**	**10.43**	**48**	Pn	**Pn**	**17 31 31.8**	**+2.2**
I28M	**Miner Creek**	**10.49**	**23**	Pn	**Pn**	**17 31 32.8**	**+2.2**
G21K	**Allakaket**	**10.52**	**352**		**Pn**	**17 31 29.8**	**-1.1**
DIB	**Dawson Inlet,**	**10.53**	**99**	Pn	**Pn**	**17 31 31.6**	**+0.6**
G23K	**Bananza Creek**	**10.58**	**360**	Pn	**Pn**	**17 31 31.5**	**-0.2**
R33M	**Jennings River**	**10.62**	**64**	Pn	**Pn**	**17 31 33.5**	**+1.1**
G18K	**Tagagawik**	**10.62**	**340**	Pn	**Pn**	**17 31 32.4**	**+0.1**
FYU	**Fort Yukon**	**10.67**	**10**		**Pn**	**17 31 33.8**	**+1.0**
J30M	**Hart River**	**10.76**	**33**		**Pn**	**17 31 36.1**	**+1.8**
I29M	**Ogilvie Camp,**	**10.81**	**27**		**Pn**	**17 31 36.4**	**+1.6**
T35M	**Bob Quinn**	**10.88**	**78**	Pn	**Pn**	**17 31 36.8**	**+1.0**
DLBC	**Dease Lake**	**10.99**	**70**	Pn	**Pn**	**17 31 39.0**	**+1.6**
DLBC	**Dease Lake**	**10.99**	**70**	Pn	**Pn**	**17 31 38.8**	**+1.4**
	comp=E,2.7nm,0.3s,baz=261,slow=11,SNR=17						
DLBC					Sn	**Sn**	**17 33 38.0**	**-2.3**
	comp=E,0.6nm,0.3s,baz=166,slow=17,SNR=1.9						
DLBC					LR	LR	17 35 14.0	
	comp=E,702nm,20.7s,baz=266,slow=34 comp=E,15nm,0.6s						
G16K	**Koyuk River**	**11.04**	**332**	Pn	**Pn**	**17 31 38.8**	**+0.8**
COLD	**Coldfoot**	**11.10**	**359**	Pn	**Pn**	**17 31 38.6**	**-0.1**
I30M	**Mount Dempster**	**11.22**	**30**		**Pn**	**17 31 41.7**	**+1.2**
SPIA	**Saint Paul Isl**	**11.22**	**284**	Pn	**Pn**	**17 31 40.5**	**+0.1**
SPIA	**Saint Paul Isl**	**11.22**	**284**	P	**Pn**	**17 31 41.7**	**+1.3**
F19K	**Shaleruckik Mo**	**11.32**	**344**	Pn	**Pn**	**17 31 42.6**	**+0.8**
ANM	**Nome**	**11.34**	**324**	Pn	**Pn**	**17 31 43.0**	**+1.0**
ANM	**Nome**	**11.34**	**324**	P	**Pn**	**17 31 43.0**	**+1.0**
NIKH	**Nikolski High**	**11.44**	**262**	P	**Pn**	**17 31 43.0**	**-0.4**
H29M	**Whitestone**	**11.49**	**24**		**Pn**	**17 31 44.6**	**+0.5**
BMAR	**Burnt Mountain**	**11.57**	**10**	Pn	**Pn**	**17 31 45.9**	**+0.7**
E19K	**Redstone River**	**11.83**	**346**		**Pn**	**17 31 49.7**	**+0.9**
E25K	**Arctic Village**	**12.16**	**8**	Pn	**Pn**	**17 31 53.9**	**+0.6**
F28M	**Old Crow**	**12.40**	**18**		**Pn**	**17 31 57.3**	**+0.8**
G31M	**Satah River**	**13.06**	**28**	Pn	**Pn**	**17 32 06.7**	**+1.2**
BBB	**Bella Bella**	**13.37**	**98**	LR	LR	17 35 36.3	
	comp=E,141nm,21.7s,baz=296,slow=30						
C16K	**Lisburne Hills**

Q12A	**Willow Creek R**	**28.79**	**112**	P	**P**	**17 34 58.8**	**+0.6**
Q12A				IAmb	IAmb	17 35 00.7	
	comp=Z,10nm,0.9s						
R11B	**Troy Canyon, C**	**28.92**	**113**	IAmb	IAmb	17 35 01.5	
	comp=Z,8.4nm,0.8s						
BW06	**Boulder Array**	**29.00**	**100**	P	**P**	**17 35 00.1**	**-0.1**
PDAR	**Pinedale Array**	**29.00**	**100**	P	**P**	**17 35 00.8**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=318,slow=4.5,SNR=26						
PDAR				LR	LR	17 45 41.9	
	comp=Z,46nm,20.1s,baz=258,slow=34						
	comp=Z,2.7nm,0.7s						
SPR3	**Spring Creek 3**	**29.08**	**111**	IAmb	IAmb	17 35 04.2	
	comp=Z,9.3nm,1.1s						
SEY	**Seymchan**	**29.09**	**307**	LR	LR	17 47 59.7	
	comp=Z,227nm,19.6s,baz=333,slow=39						
S11A	**Rachel**	**29.37**	**115**	IAmb	IAmb	17 35 06.0	
	comp=Z,18nm,1.0s						
PET	**Petropavlovsk**	**29.39**	**286**	⇑*e*P	**P**	**17 35 02.0**	**-1.1**
PET				pmax	pmax		
	comp=Z,67nm,1.6s						
FCC	**Fort Churchill**	**29.41**	**61**	P	**P**	**17 35 03.6**	**+0.3**
FCC				IAmb	IAmb	17 35 05.5	
	comp=Z,18nm,1.1s						
FCC	**Fort Churchill**	**29.41**	**61**	P	**P**	**17 35 03.6**	**+0.3**
FCC				pmax	pmax		
	comp=Z,18nm,1.1s						
WCT	**Wildcat Mounta**	**29.59**	**117**	IAmb	IAmb	17 35 07.8	
	comp=Z,12nm,1.2s						
TPNV	**Topopah Spring**	**29.66**	**116**	P	**P**	**17 35 06.2**	**+0.3**
TPNV				IAmb	IAmb	17 35 08.4	
	comp=Z,11nm,1.2s						
TPNV	**Topopah Spring**	**29.66**	**116**	P	**P**	**17 35 06.2**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,11nm,1.3s						
PETK	**Petropavlovsk-**	**29.86**	**286**	P	**P**	**17 35 06.7**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=64,slow=13,SNR=1.5						
PETK				LR	LR	17 46 45.7	
	comp=Z,103nm,21.0s,baz=99,slow=36						
	comp=Z,0.9nm,0.6s						
PRN	**Pahroc Range**	**29.91**	**114**	IAmb	IAmb	17 35 11.2	
	comp=Z,13nm,1.0s						
QSM	**Queen of Sheba**	**30.12**	**118**	IAmb	IAmb	17 35 13.0	
	comp=Z,11nm,1.2s						
MVU	**Marysvale**	**30.56**	**109**	P	**P**	**17 35 15.1**	**+1.1**
Q16A	**Castle Valley**	**30.81**	**108**	P	**P**	**17 35 16.2**	**+0.1**
Q16A				IAmb	IAmb	17 35 19.6	
	comp=Z,13nm,1.4s						
RSSD	**Black Hills**	**31.19**	**93**	P	**P**	**17 35 19.5**	**+0.1**
RSSD	**Black Hills**	**31.19**	**93**	P	**P**	**17 35 19.5**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,14nm,0.8s						
V12A	**Nelson**	**31.31**	**116**	IAmb	IAmb	17 35 23.3	
	comp=Z,8.0nm,0.9s						
ULM	**Lac du Bonnet**	**32.18**	**77**	P	**P**	**17 35 28.1**	**+0.3**
ULM	**Lac du Bonnet**	**32.18**	**77**	*e*P	**P**	**17 35 28.9**	**+1.1**
ULM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ULM	**Lac du Bonnet**	**32.18**	**77**	P	**P**	**17 35 28.4**	**+0.6**
	comp=Z,8.9nm,0.9s,baz=293,slow=10,SNR=11						
ULM				LR	LR	17 48 09.3	
	comp=Z,367nm,18.7s,baz=302,slow=36						
	comp=Z,8.9nm,0.9s						
W13A	**Hualapai Mount**	**32.29**	**115**	IAmb	IAmb	17 35 31.8	
	comp=Z,6.8nm,1.1s						
WUAZ	**Wupatki**	**33.25**	**112**	IAmb	IAmb	17 35 40.2	
	comp=Z,11nm,0.9s						
YUH	**Yuha Desert**	**33.25**	**121**	P	**P**	**17 35 37.4**	**0.0**
YUH				IAmb	IAmb	17 35 39.6	
	comp=Z,12nm,1.1s						
AGMN	**Agassiz Nation**	**33.26**	**80**	IAmb	IAmb	17 35 38.8	
	comp=Z,9.5nm,0.8s						
Y14A	**Wickenburg**	**33.65**	**116**	IAmb	IAmb	17 35 43.3	
	comp=Z,12nm,1.2s						
X16A	**Lo Mia Camp, P**	**34.07**	**113**	IAmb	IAmb	17 35 47.7	
	comp=Z,11nm,0.9s						
SDCO	**Great Sand Dun**	**34.72**	**103**	P	**P**	**17 35 49.9**	**-0.5**
214A	**Organ Pipe Nat**	**35.34**	**118**	IAmb	IAmb	17 35 57.5	
	comp=Z,8.5nm,0.8s						
ECSD	**EROS Data Cent**	**35.58**	**87**	IAmb	IAmb	17 35 58.5	
	comp=Z,11nm,1.0s						
ANMO	**Albuquerque**	**36.28**	**107**	⇑*e*P	**P**	**17 36 04.9**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,17nm,3.3s						
121A	**Cookes Peak, D**	**37.44**	**111**	IAmb	IAmb	17 36 16.5	
	comp=Z,11nm,1.1s						
NEEM	**North Greenlan**	**37.81**	**21**	*i* P	**P**	**17 36 16.3**	**-0.1**
NEEM				IAmb	IAmb	17 36 18.2	
	comp=Z,11nm,1.0s						
N35A	**Tabor**	**38.01**	**90**	P	**P**	**17 36 17.7**	**-0.4**
AMTX	**Amarillo**	**38.91**	**102**	IAmb	IAmb	17 36 28.0	
	comp=Z,16nm,0.9s						
YAK	**Yakutsk**	**39.19**	**313**	*e*P	P	17 36 40.1	+12
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
VHRN	**Van Horn**	**40.28**	**110**	P	**P**	**17 36 37.3**	**-0.1**
VHRN				IAmb	IAmb	17 36 40.2	
	comp=Z,7.7nm,0.9s						
POST	**Post**	**40.38**	**104**	IAmb	IAmb	17 36 39.6	
	comp=Z,13nm,0.9s						
ODSA	**Odessa**	**40.53**	**106**	P	**P**	**17 36 39.8**	**+0.3**
ODSA				IAmb	IAmb	17 36 41.3	
	comp=Z,18nm,1.1s						
WMOK	**Wichita Mounta**	**40.61**	**100**	P	**P**	**17 36 40.0**	**+0.1**
WMOK				IAmb	IAmb	17 36 41.9	
	comp=Z,13nm,0.9s						
WMOK	**Wichita Mounta**	**40.61**	**100**	P	**P**	**17 36 40.0**	**+0.1**
WMOK				pmax	pmax		
	comp=Z,13nm,1.0s						
P40A	**Paris**	**40.93**	**89**	IAmb	IAmb	17 36 43.4	
	comp=Z,15nm,0.8s						
SGCY	**Sterling City**	**41.46**	**105**	IAmb	IAmb	17 36 48.6	
	comp=Z,9.2nm,0.9s						
S39A	**Bolivar**	**41.50**	**92**	IAmb	IAmb	17 36 47.1	
	comp=Z,10nm,1.1s						
R40A	**Maddies Statio**	**41.67**	**90**	IAmb	IAmb	17 36 48.8	
	comp=Z,12nm,0.8s						
ABTX	**Abilene, Hawle**	**41.72**	**103**	P	**P**	**17 36 49.0**	**-0.1**
ABTX				IAmb	IAmb	17 36 50.7	
	comp=Z,16nm,1.1s						
U38A	**Gravette**	**41.80**	**94**	IAmb	IAmb	17 36 50.7	
	comp=Z,9.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**42.12**	**110**	IAmb	IAmb	17 36 55.0	
	comp=Z,12nm,1.1s						
TXAR	**Lajitas Array**	**42.12**	**110**	P	**P**	**17 36 53.7**	**+1.2**
	comp=Z,5.2nm,0.9s,baz=318,slow=6.3,SNR=39						
TXAR				PcP	**PcP**	**17 38 46.3**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=281,slow=1.8,SNR=4.7						
	comp=Z,5.2nm,0.9s						
HHAR	**Hobbs**	**42.17**	**94**	IAmb	IAmb	17 36 53.7	
	comp=Z,17nm,1.4s						
OZNA	**Ozona**	**42.23**	**106**	IAmb	IAmb	17 36 55.0	
	comp=Z,15nm,1.0s						
CCM	**Cathedral Cave**	**42.41**	**90**	P	**P**	**17 36 54.0**	**-0.6**
CCM				IAmb	IAmb	17 36 54.9	
	comp=Z,9.4nm,0.8s						
CCM	**Cathedral Cave**	**42.41**	**90**	P	**P**	**17 36 54.0**	**-0.6**
CCM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SAND	**Sanderson**	**42.45**	**108**	IAmb	IAmb	17 36 57.2	
	comp=Z,9.0nm,1.0s						
SUMG	**Summit**	**43.22**	**24**	P	**P**	**17 37 01.5**	**+0.2**
SUMG	**Summit**	**43.22**	**24**	P	**P**	**17 37 01.5**	**+0.2**
SUMG	**Summit**	**43.22**	**24**	*i* P	**P**	**17 37 01.4**	**+0.2**
SUMG				IAmb	IAmb	17 37 02.4	
	comp=Z,4.9nm,0.7s						
FCAR	**Ozark Folk Cen**	**43.46**	**93**	IAmb	IAmb	17 37 03.0	
	comp=Z,11nm,1.0s						
DRIO	**Del Rio**	**43.67**	**107**	IAmb	IAmb	17 37 06.0	
	comp=Z,13nm,0.8s						
SCHQ	**Schefferville**	**44.35**	**55**	P	**P**	**17 37 10.5**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=286,slow=8.9,SNR=5.6						
	comp=Z,2.2nm,0.7s						
KLR	**Kul'dur**	**45.56**	**296**	⇓*e*P	**P**	**17 37 20.6**	**+0.8**
KLR				pmax	pmax		
	comp=Z,14nm,1.0s						
KLR	**Kul'dur**	**45.56**	**296**	P	**P**	**17 37 19.6**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=71,slow=8.2,SNR=6.6						
	comp=Z,2.2nm,0.6s						
HKT	**Hockley**	**45.86**	**102**	P	**P**	**17 37 22.7**	**+0.4**
HKT	**Hockley**	**45.86**	**102**	⇓*i*P	**P**	**17 37 24.2**	**+1.9**
HKT				pmax	pmax		
	comp=Z,21nm,1.3s						
X48A	**Hartselle**	**47.35**	**90**	P	**P**	**17 37 33.2**	**-0.8**
NRIK	**Noril'sk**	**48.07**	**336**	⇑*e*P	**P**	**17 37 39.4**	**+0.3**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NRIK	**Noril'sk**	**48.07**	**336**	P	**P**	**17 37 39.1**	**0.0**
	comp=Z,1.6nm,0.4s,baz=45,slow=7.2,SNR=5.7						
	comp=Z,1.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**48.51**	**239**	T	T	18 29 12.0	
	baz=32,slow=76,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**48.52**	**239**	T	T	18 29 12.0	
	baz=32,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**48.53**	**239**	T	T	18 29 14.3	
	baz=32,slow=76,SNR=3.5						
V53A	**Saluda**	**48.83**	**85**	P	**P**	**17 37 45.6**	**+0.1**
H11S1	**WAKE ISLAND Hy**	**49.66**	**239**	T	T	18 31 22.4	
	baz=29						
H11S2	**WAKE ISLAND Hy**	**49.67**	**239**	T	T	18 31 38.1	
	baz=29						
H11S3	**WAKE ISLAND Hy**	**49.67**	**239**	T	T	18 31 27.7	
	baz=29						
MJAR	**Matsushiro Arr**	**50.83**	**279**	P	**P**	**17 38 00.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=36,slow=5.0,SNR=1.5						
	comp=Z,0.8nm,0.3s						
LMN	**Caledonia Moun**	**51.24**	**63**	P	**P**	**17 38 03.9**	**+0.3**
ARCES	**ARCESS Array B**	**54.56**	**2**	*e*P	**P**	**17 38 27.5**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**54.56**	**2**	P	**P**	**17 38 26.9**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=12,slow=9.2,SNR=4.7						
	comp=Z,4.2nm,0.9s						
KSRS	**Korea Array**	**55.75**	**288**	P	**P**	**17 38 37.1**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=32,slow=7.1,SNR=1.5						
	comp=Z,0.8nm,0.9s						
XLT	**XiLinHaoTe**	**57.00**	**301**	*e*P	P	17 38 42.3	-3.5
XLT				pP	pP	17 38 46.8	-0.6
XLT				sP	sP	17 38 49.5	+1.5
XLT				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,740nm,5.2s						
TEIG	**Tepich**	**57.70**	**102**	LR	LR	18 04 39.0	
	comp=Z,553nm,20.6s,baz=330,slow=37						
SONM	**Songino Array**	**58.44**	**310**	P	**P**	**17 38 56.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=52,slow=7.5,SNR=2.7						
	comp=Z,0.7nm,0.7s						
ZAA0	**Zalesovo Array**	**61.46**	**327**	P	**P**	**17 39 15.1**	**-1.3**
ZAA0				IAmb	IAmb	17 39 30.9	
	comp=Z,5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**61.46**	**327**	P	**P**	**17 39 15.4**	**-0.9**
ZALV	**Zalesovo Beam**	**61.46**	**327**	*e*P	**P**	**17 39 16.0**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**61.46**	**327**	P	**P**	**17 39 16.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=16,slow=6.7,SNR=9.2						
	comp=Z,1.5nm,0.6s						
HHC	**Hu-ho-hao-te**	**61.49**	**301**	*e*P	P	17 39 22.0	+5.1
HHC				pmax	pmax		
	comp=Z,49nm,0.5s						
HHC				pmax	pmax		
	comp=Z,470nm,6.1s						
HHC				LR	LR		
	comp=N,960nm,17.5s						
HHC				LR	LR		
	comp=E,1μm,18.8s						
HHC				LR	LR		
	comp=Z,1μm,22.1s						
MTO3	**Montecristo**	**61.89**	**107**	P	**P**	**17 39 18.9**	**-1.1**
NB2	**NORSAR Subarra**	**62.19**	**10**	P	**P**	**17 39 21.1**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=348,slow=6.9						
NOA	**NORSAR Array B**	**62.19**	**10**	*e*P	P	17 39 19.4	-1.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**62.19**	**10**	P	**P**	**17 39 20.7**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=349,slow=6.7,SNR=6.6						
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**62.69**	**2**	*e*P	**P**	**17 39 24.4**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**62.69**	**2**	P	**P**	**17 39 24.1**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=8.9,slow=6.2,SNR=7.9						
	comp=Z,1.6nm,0.6s						
HFS	**Hagfors**	**63.32**	**9**	P	**P**	**17 39 28.1**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=42,slow=2.3,SNR=7.8						
	comp=Z,1.3nm,0.5s						
DGZ	**Jazzator, Alta**	**64.24**	**323**	⇓*e*P	**P**	**17 39 35.6**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SVE	**Sverdlovsk**	**64.68**	**342**	*e*P	**P**	**17 39 37.9**	**+0.2**
SVE				pmax	pmax		
	comp=Z,17nm,0.9s						
ARU	**Arti**	**65.41**	**343**	P	**P**	**17 39 41.3**	**-1.1**
ARU	**Arti**	**65.41**	**343**	*c i*P	**P**	**17 39 42.2**	**-0.2**
ARU				S	**S**	**17 48 28.0**	**+1.8**
ARU				SS	**SS**	**17 52 39.8**	**+1.5**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**65.61**	**20**	P	**P**	**17 39 43.3**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=324,slow=4.1,SNR=5.8						
	comp=Z,3.2nm,0.8s						
KURK	**Kurchatov**	**66.14**	**329**	⇑*e*P	**P**	**17 39 46.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BRVK	**Borovoye**	**66.23**	**335**	⇑*e*P	**P**	**17 39 47.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,12nm,2.4s						
BVAR	**Borovoye Array**	**66.23**	**335**	P	**P**	**17 39 47.4**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=38,slow=7.5,SNR=14						
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**66.25**	**329**	P	**P**	**17 39 47.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=30,slow=6.3,SNR=4.6						
	comp=Z,0.6nm,0.3s						
MK31	**Makanchi Array**	**68.48**	**324**	⇑*e*P	**P**	**17 40 01.5**	**-0.7**
MKAR	**Makanchi Array**	**68.48**	**324**	P	**P**	**17 40 01.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=30,slow=6.0,SNR=12						
	comp=Z,1.0nm,0.6s						
MAKZ	**Makanchi**	**68.57**	**324**	P	**P**	**17 40 01.8**	**-0.9**
MAKZ				IAmb	IAmb	17 40 17.1	
	comp=Z,7.7nm,0.9s						
MAKZ	**Makanchi**	**68.57**	**324**	P	**P**	**17 40 01.8**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LZH	**Lanzhou**	**68.93**	**304**	*e*P	P	17 40 10.4	+5.1
LZH				sP	pwP	17 40 18.6	+5.1
LZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WMQ	**Urumqi**	**69.20**	**319**	*e*P	P	17 40 14.6	+7.9
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WMQ				LR	LR		
	comp=N,430nm,17.1s						
WMQ				LR	LR		
	comp=E,430nm,20.3s						
WMQ				LR	LR		
	comp=Z,520nm,24.3s						
BELG	**Belogornoye**	**70.84**	**349**	*c i*P	**P**	**17 40 16.0**	**-0.5**
BELG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SJG	**San Juan**	**71.71**	**85**	LR	LR	18 12 09.3	
	comp=Z,58nm,19.9s,baz=96,slow=36						
CLL	**Collm**	**71.96**	**11**	*i* P	**P**	**17 40 23.5**	**+0.2**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**71.96**	**11**	*i* P	**P**	**17 40 23.5**	**+0.2**
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**72.03**	**340**	P	**P**	**17 40 23.3**	**-0.5**
ABKAR	**Akbulak array**	**72.03**	**340**	P	**P**	**17 40 23.4**	**-0.4**
ABKAR				IAmb	IAmb	17 40 24.7	
	comp=Z,7.3nm,0.7s						
HSKC	**Hora Svate Kat**	**72.70**	**11**	*e*P	**P**	**17 40 27.9**	**+0.1**
PVCC	**Panska Ves**	**72.89**	**10**	*e*P	**P**	**17 40 28.5**	**-0.4**
PVCC	**Panska Ves**	**72.89**	**10**	*e*P	**P**	**17 40 28.5**	**-0.4**
NKC	**Novy Kostel**	**72.96**	**12**	*e*P	**P**	**17 40 29.6**	**+0.2**
NKC	**Novy Kostel**	**72.96**	**12**	*e*P	**P**	**17 40 29.6**	**+0.2**
DPC	**Dobruska-Polom**	**73.23**	**9**	*e*P	**P**	**17 40 31.3**	**+0.3**
DPC	**Dobruska-Polom**	**73.23**	**9**	*e*P	**P**	**17 40 31.3**	**+0.3**
AKASG	**Malin Array Be**	**73.50**	**1**	*e*P	**P**	**17 40 32.1**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**73.50**	**1**	P	**P**	**17 40 31.8**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=359,slow=5.5,SNR=11						
	comp=Z,2.6nm,0.6s						
AKBB	**Malin Array Si**	**73.50**	**1**	⇓*i*P	**P**	**17 40 32.2**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIEV	**Kiev**	**73.50**	**1**	⇑P	**P**	**17 40 32.2**	**-0.3**
KRLC	**Kraliky**	**73.55**	**9**	*e*P	**P**	**17 40 33.3**	**+0.4**
KRLC	**Kraliky**	**73.55**	**9**	*e*P	**P**	**17 40 33.3**	**+0.4**
MORC	**Moravsky Berou**	**73.91**	**8**	⇑P	**P**	**17 40 35.2**	**+0.2**
MORC	**Moravsky Berou**	**73.91**	**8**	*e*P	**P**	**17 40 35.2**	**+0.2**
ZVC	**Zvikov**	**73.93**	**11**	*e*P	**P**	**17 40 34.5**	**-0.6**
KHC	**Kasperske Hory**	**74.17**	**11**	P	**P**	**17 40 36.6**	**+0.1**
KHC				IAmb	IAmb	17 40 38.3	
	comp=Z,7.9nm,1.3s						
KHC	**Kasperske Hory**	**74.17**	**11**	*e*P	**P**	**17 40 37.0**	**+0.5**
KHC	**Kasperske Hory**	**74.17**	**11**	⇑*e*P	**P**	**17 40 37.2**	**+0.7**
KHC				pmax	pmax		
	comp=Z,19nm,1.6s						
VRAC	**Vranov**	**74.29**	**9**	⇑P	**P**	**17 40 38.6**	**+1.4**
VRAC	**Vranov**	**74.29**	**9**	*e*P	**P**	**17 40 37.6**	**+0.4**
GERES	**GERESS Array B**	**74.47**	**11**	P	**P**	**17 40 38.5**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=359,slow=6.7,SNR=11						
	comp=Z,1.9nm,0.6s						
KRUC	**Moravsky**	**74.52**	**9**	*e*P	**P**	**17 40 38.4**	**-0.1**
CKRC	**Cesky Krumlov**	**74.56**	**11**	*e*P	**P**	**17 40 38.8**	**+0.1**
CKRC	**Cesky Krumlov**	**74.56**	**11**	*e*P	**P**	**17 40 38.8**	**+0.1**
AAK	**Ala-Archa**	**74.65**	**328**	P	**P**	**17 40 40.2**	**+0.6**
AAK	**Ala-Archa**	**74.65**	**328**	P	**P**	**17 40 40.2**	**+0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LANS	**Liptovska Anna**	**74.68**	**7**	*e*P	**P**	**17 40 40.4**	**+0.9**
LANS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LANS	**Liptovska Anna**	**74.68**	**7**	*e*P	**P**	**17 40 40.4**	**+0.9**
CRVS	**Cervenica-Dubn**	**75.05**	**6**	*e*P	**P**	**17 40 43.0**	**+1.4**
CRVS	**Cervenica-Dubn**	**75.05**	**6**	*e*P	**P**	**17 40 43.0**	**+1.4**
MODS	**Modra-Piesok**	**75.28**	**9**	*e*P	**P**	**17 40 43.8**	**+0.9**
MODS	**Modra-Piesok**	**75.28**	**9**	*e*P	**P**	**17 40 43.8**	**+0.9**
VYHS	**Vyhne**	**75.28**	**8**	*e*P	**P**	**17 40 43.9**	**+0.9**
VYHS	**Vyhne**	**75.28**	**8**	*e*P	**P**	**17 40 43.9**	**+0.9**
CONA	**Conrad Observa**	**75.59**	**10**	*e*P	**P**	**17 40 45.2**	**+0.4**
	comp=Z,1.6nm,0.7s						
WATA	**Walderalm**	**75.71**	**13**	*i* P	**P**	**17 40 45.6**	**0.0**
	comp=Z,7.4nm,0.7s						
LESA	**Schwarzleotal**	**75.75**	**12**	*e*P	**P**	**17 40 45.9**	**+0.2**
	comp=Z,4.4nm,0.9s						
SQTA	**Sankt Quirin**	**75.77**	**13**	*e*P	**P**	**17 40 46.1**	**+0.2**
	comp=Z,9.0nm,0.9s						
WTTA	**Wattenberg**	**75.78**	**13**	*i* P	**P**	**17 40 46.1**	**+0.1**
	comp=Z,5.4nm,0.6s						
FETA	**Feichten**	**75.91**	**14**	*e*P	**P**	**17 40 47.3**	**+0.5**
	comp=Z,4.1nm,0.8s						
KBA	**Koelnbreinsper**	**76.17**	**12**	*e*P	**P**	**17 40 49.1**	**+0.8**
	comp=Z,14nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**76.24**	**14**	P	**P**	**17 40 48.4**	**-0.4**
FUORN				IAmb	IAmb	17 40 51.1	
	comp=Z,5.7nm,1.2s						
BURAR	**Bucovina Array**	**76.51**	**3**	⇑P	**P**	**17 40 50.2**	**+0.1**
SOKA	**Soboth**	**76.75**	**11**	*e*P	**P**	**17 40 52.1**	**+0.7**
	comp=Z,5.1nm,1.1s						
OBKA	**Obir**	**76.86**	**11**	*e*P	**P**	**17 40 52.2**	**+0.1**
	comp=Z,7.6nm,0.8s						
MORH	**Mrgy, Hungar**	**77.54**	**8**	⇑P	**P**	**17 40 55.9**	**+0.2**
BAUV	**El Baul**	**78.11**	**92**	P	P	17 40 57.8	-1.5
SURR	**Surduc**	**78.23**	**6**	⇑P	**P**	**17 41 00.0**	**+0.5**
COVR	**Voineasa-Covas**	**78.31**	**3**	⇑P	**P**	**17 41 01.5**	**+1.4**
BZS	**Buzias**	**78.34**	**6**	⇑P	**P**	**17 41 00.2**	**0.0**
GZR	**Gura Zlata**	**78.62**	**5**	⇑P	**P**	**17 41 02.1**	**+0.3**
MDVR	**Moldovita**	**79.17**	**6**	⇑P	**P**	**17 41 04.9**	**0.0**
KIV	**Kislovodsk**	**79.68**	**351**	*e*P	**P**	**17 41 08.2**	**+0.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**79.89**	**351**	*de*P	**P**	**17 41 09.6**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	**Khabaz**	**79.89**	**351**	P	**P**	**17 41 08.8**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=335,slow=4.9,SNR=8.1						
	comp=Z,4.1nm,0.8s						
SIMJ	**Simiganj**	**79.92**	**330**	P	**P**	**17 41 08.0**	**-1.2**
SIMJ				IAmb	IAmb	17 41 23.8	
	comp=Z,10.0nm,0.9s						
NCK	**Nalchik**	**80.05**	**350**	⇓*e*P	**P**	**17 41 10.9**	**+1.3**
NCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ESBB	**Sonseca Array**	**80.25**	**26**	IAmb	IAmb	17 41 12.9	
	comp=Z,8.4nm,1.1s						
ESDC	**Sonseca Array**	**80.25**	**26**	P	**P**	**17 41 10.6**	**-0.2**
ESDC				IAmb	IAmb	17 41 12.2	
	comp=Z,5.1nm,1.0s						
ESDC	**Sonseca Array**	**80.25**	**26**	P	**P**	**17 41 11.1**	**+0.3**
	comp=Z,4.8nm,0.9s,baz=336,slow=5.2,SNR=23						
	comp=Z,4.8nm,0.9s						
GNI	**Garni**	**83.24**	**349**	⇑*e*P	**P**	**17 41 29.4**	**+2.7**
GNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GEYT	**Alibeck**	**83.28**	**338**	P	**P**	**17 41 26.2**	**-0.6**
GEYT				IAmb	IAmb	17 41 42.4

comp=E,41nm,1.1s,comp=N,45nm,1.1s
JKT Katashina 1.42 286 P **Pn** **17 32 29.1 -0.3**
JKT eS **Sn** **17 32 46.4 -0.8**
JKT Katashina 1.42 286 A A 17 32 29.1
comp=E,15nm,0.3s,comp=N,16nm,0.2s
JMM Marumori 1.49 355 Pn **Pn** **17 32 30.0 -0.3**
JMM Sn **Sn** **17 32 48.6 -0.2**
JMM Marumori 1.49 355 A A 17 32 31.1
comp=E,7.0nm,0.3s,comp=N,7.0nm,0.2s
JYAR Yonezawaarcadi 1.65 338 A A 17 32 33.1
comp=E,11nm,0.4s,comp=N,15nm,0.4s
MJAR Matsushiro Arr 2.21 275 P **Pn** **17 32 39.4 -0.9**
comp=N,29nm,0.3s,baz=152,slow=4.3,SNR=119
MJAR S **Sn** **17 33 07.9 +1.2**
comp=N,59nm,0.3s,baz=315,slow=29,SNR=6.7
MJAR LR LR 17 33 41.9
comp=N,1µm,18.3s,baz=96,slow=44
MAJO Matsushiro 2.21 275 Pn **Pn** **17 32 40.2 -0.1**
MJB9 Matsu-Tunnel 2.22 275 Pn **Pn** **17 32 41.7 +1.4**
JYA Atsumi 2.42 336 A A 17 32 44.0
comp=E,5.0nm,1.2s,comp=N,11nm,1.2s
JSG Sagara 2.82 234 Pn **Pn** **17 32 48.2 -0.3**
INU Inuyama 3.35 253 Pn **Pn** **17 32 57.1 +1.2**
JHJ Hachijo jima 2 3.39 197 P **Pn** **17 32 58.0 +1.7**
comp=N,174nm,0.8s,baz=260,slow=22,SNR=2.0
JHJ S **Sn** **17 33 36.5 +0.9**
comp=N,129nm,0.3s,baz=286,slow=23,SNR=2.5
JHJ2 Mitsune 3.39 196 Pn **Pn** **17 32 58.6 +2.3**
JTM Tenmabayashi 4.41 1 Pn **Pn** **17 33 13.2 +2.9**
ERM Erimo 5.89 16 Pn **Pn** **17 33 31.6 +1.0**
JMN Monobe 6.37 248 Pn **Pn** **17 33 39.0 +1.6**
ASAJ Asahikawa 7.83 9 P **Pn** **17 33 57.8 +0.4**
comp=N,6.6nm,0.3s,baz=200,slow=8.0,SNR=17
ASAJ S **Sn** **17 35 25.5 +0.4**
comp=N,3.8nm,0.4s,baz=325,slow=15,SNR=1.5
JKA Kamikawa-asahi 7.83 9 Pn **Pn** **17 33 57.1 -0.3**
JNU Nakatsue 8.90 252 P **Pn** **17 34 13.7 +1.6**
comp=N,5.2nm,0.8s,baz=55,slow=12,SNR=1.0
USRK Ussuriysk Ar. 10.38 322 P Pn 17 34 37.4 +5.1
comp=N,3.8nm,0.8s,baz=138,slow=12,SNR=6.4
KSRS Korea Array 10.48 280 P **Pn** **17 34 36.9 +3.2**
comp=N,1.4nm,0.8s,baz=90,slow=14,SNR=2.1
KSRS LR LR 17 38 34.1
comp=N,251nm,18.1s,baz=90,slow=37
KLR Kulʲdur 14.50 335 P **P** **17 35 33.3 -1.6**
comp=N,0.5nm,0.3s,baz=153,slow=7.8,SNR=2.5
KLR LR LR 17 41 39.5
comp=N,172nm,19.7s,baz=132,slow=39
XLT XiLinHaoTe 20.39 299 *e*P **P** **17 36 39.1 -0.9**
XLT pP sP 17 36 49.4 -1.8
XLT sP pP 17 36 57.0 +9.4
XLT PP **PnPn** **17 37 01.3 +3.9**
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,250nm,4.4s
HNS HongShan 21.00 281 ⇑P **P** **17 36 45.4 -1.1**
HNS pmax pmax
comp=Z,10.0nm,1.3s
HHC Hu-ho-hao-te 23.33 290 *e*P **P** **17 37 09.4 -2.0**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,360nm,4.8s
SONM Songino Array 27.85 305 P **P** **17 37 52.0 -0.6**
SONM Songino Array 27.85 305 P **P** **17 37 51.9 -0.6**
comp=Z,0.9nm,0.5s,baz=104,slow=9.1,SNR=7.7
comp=Z,0.9nm,0.5s
H11N2 WAKE ISLAND Hy 28.14 119 T T 18 07 54.5
baz=313,slow=75,SNR=107
H11N1 WAKE ISLAND Hy 28.15 119 T T 18 07 55.1
baz=313,slow=75,SNR=95
H11N3 WAKE ISLAND Hy 28.16 119 T T 18 07 55.9
baz=313,slow=75,SNR=95
H11S1 WAKE ISLAND Hy 28.83 121 T T 18 08 05.0
baz=314,slow=76,SNR=254
H11S3 WAKE ISLAND Hy 28.83 121 T T 18 08 07.7
baz=314,slow=76,SNR=158
H11S2 WAKE ISLAND Hy 28.84 121 T T 18 08 36.7
baz=314,slow=76,SNR=184
WMQ Urumqi 40.80 297 *e*P **P** **17 39 45.3 +1.0**
ZAA0 Zalesovo Array 42.08 313 PcP **P** **17 39 54.0 -0.6**
ZALV Zalesovo Beam 42.08 313 P **P** **17 39 54.5 0.0**
comp=Z,2.7nm,0.5s,baz=94,slow=6.7,SNR=10
comp=Z,2.7nm,0.5s
ZALV Zalesovo Beam 42.08 313 PcP **P** **17 39 54.2 -0.3**
MK31 Makanchi Array 44.15 303 P **P** **17 40 12.1 +0.6**
MK31 lAmb lAmb 17 40 16.4
comp=Z,4.6nm,0.9s
C18K Utukok River 45.03 26 P **P** **17 40 19.0 +0.8**
C18K lAmb lAmb 17 40 21.1
comp=Z,5.4nm,0.9s
C19K Lookout Ridge 45.71 26 P **P** **17 40 25.1 +1.5**
C19K lAmb lAmb 17 40 37.1
comp=Z,6.8nm,1.0s
KURK Kurchatov 46.05 309 P **P** **17 40 25.9 -0.5**
KURK lAmb lAmb 17 40 29.1
comp=Z,3.3nm,0.8s
KURBB Kurchatov Arra 46.11 308 P **P** **17 40 26.4 -0.5**
comp=Z,1.7nm,0.3s,baz=81,slow=7.5,SNR=9.7
comp=Z,1.7nm,0.3s
J19K Poorman 46.44 33 P **P** **17 40 31.8 +2.5**
J19K lAmb lAmb 17 41 00.5
comp=Z,8.6nm,1.4s
B21K Ikpikpuk River 47.54 25 P **P** **17 40 39.3 +1.5**
B21K lAmb lAmb 17 40 40.6
comp=Z,8.0nm,1.1s
ILAR Eielson Array 50.25 32 P **P** **17 41 00.0 +1.3**
comp=Z,1.9nm,0.8s,baz=273,slow=6.1,SNR=13
comp=Z,1.9nm,0.8s
KSH Kashi 50.33 294 P **P** **17 41 03.6 +3.8**
KSH pmax pmax
comp=Z,5.0nm,1.0s
D25K Kavik River 50.41 26 P **P** **17 41 01.2 +1.4**
BVAR Borovoye Array 50.74 313 P **P** **17 41 02.8 +0.3**
comp=Z,1.4nm,0.6s,baz=101,slow=8.7,SNR=4.5
comp=Z,1.4nm,0.6s
GSI Gunungsitoli 53.14 239 P **P** **17 41 20.0 -0.9**
INK Inuvik 55.14 27 P **P** **17 41 34.8 +0.1**
INK lAmb lAmb 17 41 37.3
comp=Z,2.4nm,0.8s
INK Inuvik 55.14 27 P **P** **17 41 36.5 +1.7**
comp=Z,3.4nm,1.0s,baz=278,slow=5.9,SNR=7.3
comp=Z,3.4nm,1.0s
WR0 Warramunga Arr 56.36 187 P **P** **17 41 42.8 -1.2**
WRA Warramunga Arr 56.36 187 P **P** **17 41 41.5 -2.6**
comp=Z,0.9nm,0.8s,baz=5.5,slow=7.3,SNR=6.5
comp=Z,0.9nm,0.8s
ARU Arti 56.60 319 P **P** **17 41 43.3 -2.1**
A36M Sachs Harbour 57.01 22 P **P** **17 41 48.6 +0.6**
A36M lAmb lAmb 17 41 51.3
comp=Z,4.7nm,0.8s
ABKAR Akbulak array 58.08 310 P **P** **17 41 55.2 -0.7**
ASAR Alice Springs 60.09 187 P **P** **17 42 09.0 -1.0**
comp=Z,0.5nm,0.7s,baz=16,slow=11,SNR=6.3
comp=Z,0.5nm,0.7s
ARCES ARCESS Array B 64.48 339 P **P** **17 42 38.8 -0.2**
comp=Z,0.9nm,0.5s,baz=46,slow=7.7,SNR=4.9
comp=Z,0.9nm,0.5s
YKA Yellowknife Ar 64.56 30 P **P** **17 42 40.2 +0.6**
comp=Z,1.0nm,0.9s,baz=300,slow=6.8,SNR=8.7
comp=Z,1.0nm,0.9s
FINES FINESS Array B 69.22 332 P **P** **17 43 08.9 -0.3**
comp=Z,3.3nm,0.9s,baz=61,slow=11,SNR=5.8
comp=Z,3.3nm,0.9s
HFS Hagfors 74.53 336 P **P** **17 43 40.2 -0.9**
comp=Z,2.7nm,0.7s,baz=54,slow=7.7,SNR=5.4
comp=Z,2.7nm,0.7s
AKASG Malin Array Be 74.59 322 P **P** **17 43 40.4 -1.2**
comp=Z,0.7nm,0.4s,baz=43,slow=6.8,SNR=8.1
comp=Z,0.7nm,0.4s
NB2 NORSAR Subarra 74.65 337 P **P** **17 43 41.3 -0.5**
comp=Z,8.3nm,1.1s,baz=41,slow=5.9
NOA NORSAR Array B 74.65 337 P **P** **17 43 40.4 -1.4**
comp=Z,2.0nm,0.8s,baz=39,slow=5.9,SNR=5.4
comp=Z,2.0nm,0.8s
FCC Fort Churchill 74.76 26 P **P** **17 43 42.7 +0.3**
FCC lAmb lAmb 17 43 54.9
comp=Z,7.3nm,1.2s
NVAR Mina Array Bea 75.68 53 P **P** **17 43 49.4 +1.0**
comp=Z,0.6nm,0.7s,baz=285,slow=5.7,SNR=4.8
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 78.39 45 P **P** **17 44 04.2 +0.5**
comp=Z,0.3nm,0.7s,baz=328,slow=3.2,SNR=2.9
comp=Z,0.3nm,0.7s
H03N2 Juan Fernandez 147.32 97 T T 20 36 52.1
baz=292,slow=76,SNR=23
H03N3 Juan Fernandez 147.34 97 T T 20 36 55.5
baz=292,slow=76,SNR=25
H03N1 Juan Fernandez 147.34 97 T T 20 36 54.0
baz=292,slow=76,SNR=29

*BJI **23** 17:38:27.8±0.0,3.°44S×130.°50E,h10km,mb4.6/44, mB5.4/20,Ms4.8/20,Ms7 4.6/25*
*MOS **23** 17:38:27.6±1.0,3.°29S×130.°57E,h12km,mb5.1/30,Error ellipse: s-maj=11.2km s-min=6.1km az=114.3*
*IDC **23** 17:38:28.0±0.5,3.°26S×130.°65E,h0km,mb4.6/20, mbtmp4.6/22,ML3.0/2,MS4.4/39,Error ellipse: s-maj=24.1km s-min=12.8km az=75.0*
*DJA **23** 17:38:30.1±0.3,3.°S×13.°1E±°,h13km±3km,M4.9/29, mb5.1/29,mB5.4/15,MLv5.0/12,Mw(mB)4.8/15, MwMwp5.5/1,Mwp5.6/1*
*NEIC **23** 17:38:30.2±1.6,3.°29S±0.°05×130.°55E±0.°04,h16km±2km, mb5.0/100, Error ellipse: s-maj=7.3km s-min=6.3km az=156.0*

ISC 23 17:38:29.5±0.2,**3.°25S**±0.°03×**130.°57E**±0.°03,**h10**km,**n394,** σ1.**87**/371,**mb4.9**/96,**MS4.5**/47,**10C-7D,Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.43**	**208**	P	**Pg**	**17 38 58.7**	**+1.8**
BNDI	**Bandanaira**	**1.43**	**208**	P	**Pg**	**17 38 58.5**	**+1.6**
BNDI				S	**Sg**	**17 39 19.9**	**+4.5**
FAKI	**Fak Fak**	**1.71**	**79**	Pn	**Pn**	**17 39 00.3**	**+1.0**
FAKI				Sn	**Sn**	**17 39 22.2**	**+0.9**
FAKI	**Fak Fak**	**1.71**	**79**	P	**Pb**	**17 39 01.5**	**+0.5**
FAKI	**Fak Fak**	**1.71**	**79**	P	**Pn**	**17 39 00.4**	**+1.0**
KRAI	**Karang Ratu**	**2.17**	**268**	P	**Pb**	**17 39 08.0**	**-0.9**
SIJI	**Sorong**	**2.47**	**16**	P	**Pn**	**17 39 10.0**	**+0.2**
SWI	**Sorong**	**2.47**	**16**	P	**Pn**	**17 39 09.0**	**-0.8**
KMPI	**Kaimana, Papua**	**3.15**	**97**	P	**Pn**	**17 39 20.4**	**+1.2**
NLAI	**Namlea**	**3.46**	**270**	P	**Pn**	**17 39 26.0**	**+2.5**
LBMI	**Labuha**	**4.02**	**310**	P	**Pn**	**17 39 30.6**	**-0.5**
SANI	**Sanana**	**4.73**	**285**	P	**Pn**	**17 39 40.9**	**0.0**
SAUI	**Saumlaki**	**4.75**	**171**	Pn	**Pn**	**17 39 40.1**	**-1.2**
SAUI				Sn	**Sn**	**17 40 40.0**	**+3.6**
SAUI	**Saumlaki**	**4.75**	**171**	P	**Pn**	**17 39 45.8**	**+4.5**
SAUI	**Saumlaki**	**4.75**	**171**	P	**Pn**	**17 39 44.7**	**+3.4**
TNTI	**Ternate**	**5.12**	**321**	Pn	**Pn**	**17 39 46.8**	**+0.5**
TNTI				Sn	**Sn**	**17 40 45.9**	**+0.4**
TNTI	**Ternate**	**5.12**	**321**	P	**Pn**	**17 39 49.6**	**+3.3**
TNTI	**Ternate**	**5.12**	**321**	P	**Pb**	**17 39 56.0**	**-3.2**
KMSI	**Cibinong**	**7.61**	**300**	P	**Pn**	**17 40 21.2**	**+0.8**
	240nm,0.7s,3µm20µm2.4nm						
LUWI	**Luwuk**	**8.10**	**286**		**Pn**	**17 40 26.6**	**-0.6**
LUWI	**Luwuk**	**8.10**	**286**	P	**Pn**	**17 40 28.2**	**+1.0**
LUWI	**Luwuk**	**8.10**	**286**	P	**Pn**	**17 40 27.6**	**+0.4**
	142nm,0.9s,2µm						
SOEI	**Soe**	**9.00**	**224**	Pn	**Pn**	**17 40 38.0**	**-1.6**
SOEI	**Soe**	**9.00**	**224**	P	Pn	17 40 46.5	+6.9
MRSI	**Marisa**	**9.39**	**293**	P	**Pn**	**17 40 43.9**	**-1.0**
	105nm,0.7s,1µm						
MTN	**Manton Dam**	**9.55**	**177**	P	**Pn**	**17 40 46.6**	**-0.5**
	baz=9.4,SNR=95						
MTN	**Manton Dam**	**9.55**	**177**	Pn	**Pn**	**17 40 46.2**	**-0.8**
MTN	**Manton Dam**	**9.55**	**177**	P	**Pn**	**17 40 47.1**	**0.0**
KDU	**Kakadu**	**9.56**	**169**	P	**Pn**	**17 40 46.0**	**-1.2**
	baz=9.5,SNR=133						
KDU	**Kakadu**	**9.56**	**169**	P	**Pn**	**17 40 47.4**	**+0.1**
GENI	**Genyem**	**9.61**	**86**	P	Pn	17 40 52.9	+5.0
GENI	**Genyem**	**9.61**	**86**	P	**Pn**	**17 40 49.9**	**+2.0**
	113nm,0.8s,2µm						
MMRI	**Maumere**	**9.86**	**237**	Pn	**Pn**	**17 40 49.4**	**-2.0**
MMRI	**Maumere**	**9.86**	**237**	P	**Pn**	**17 40 54.9**	**+3.5**
MMRI	**Maumere**	**9.86**	**237**	P	Pn	17 41 07.0	+16
EDFI	**Ende, Flores**	**10.38**	**238**	P	**Pn**	**17 41 02.3**	**+3.7**
	93nm,0.9s,2µm						
BKSI	**Bulukumba**	**10.62**	**258**	P	**Pn**	**17 41 05.4**	**+3.6**
	111nm,0.9s,1µm						
TOLI2	**Tolitoli**	**10.70**	**294**		**Pn**	**17 41 01.8**	**-1.1**
TOLI2	**Tolitoli**	**10.70**	**294**	P	**Pn**	**17 41 05.9**	**+3.0**
TTSI	**Tana Toraja**	**10.74**	**271**	P	Pn	17 41 16.8	+13
KAPI	**Kappang**	**10.93**	**260**		**Pn**	**17 41 05.8**	**-0.3**
KAPI	**Kappang**	**10.93**	**260**	Pn	**Pn**	**17 41 08.7**	**+2.6**
	0.6nm,0.3s,baz=71,slow=13,SNR=1.9						
	3.9nm,0.4s						
MKS	**Makassar**	**11.24**	**260**	P	Pn	17 41 21.9	+12
MPSI	**Mapaga**	**11.25**	**288**	P	**Pn**	**17 41 11.8**	**+1.4**
	39nm,1.0s,626nm						
KNRA	**Kununurra**	**12.47**	**188**	P	**Pn**	**17 41 24.5**	**-2.7**
	baz=12,SNR=36						
KNRA	**Kununurra**	**12.47**	**188**	Pn	**Pn**	**17 41 24.4**	**-2.7**
KNRA	**Kununurra**	**12.47**	**188**	P	**Pn**	**17 41 28.8**	**+1.6**
PLAI	**Plampang**	**13.87**	**246**	P	**Pn**	**17 41 49.6**	**+3.3**
PLAI	**Plampang**	**13.87**	**246**	P	**Pn**	**17 41 49.2**	**+2.9**
	116nm,0.7s,3µm						
FITZ	**Fitzroy Crossi**	**15.53**	**198**	P	**Pn**	**17 42 05.3**	**-3.3**
	baz=15,SNR=24						
FITZ	**Fitzroy Crossi**	**15.53**	**198**		**Pn**	**17 42 05.5**	**-3.1**
FITZ	**Fitzroy Crossi**	**15.53**	**198**	P	**P**	**17 42 12.2**	**-0.8**
MTKI	**Muara Teweh, K**	**15.83**	**278**	P	**P**	**17 42 18.2**	**+1.7**
COEN	**Coen**	**16.37**	**131**	P	**Pn**	**17 42 18.2**	**-1.4**
	baz=16						
COEN	**Coen**	**16.37**	**131**	Pn	**Pn**	**17 42 16.2**	**-3.4**
COEN				lAmb	lAmb	17 42 25.2	
	comp=Z,146nm,1.4s						
MANU	**Manus Island**	**16.82**	**86**		**Pn**	**17 42 23.1**	**-2.2**
WB0	**Warramunga Arr**	**16.83**	**167**		**Pn**	**17 42 21.9**	**-3.6**
WB0				lAmb	lAmb	17 42 34.5	
	comp=Z,192nm,1.5s						
BYJI	**Banyuwangi**	**16.86**	**252**	P	**Pn**	**17 42 24.8**	**-1.0**
	comp=Z,137nm,1.0s						
WRAB	**Tennant Creek**	**16.98**	**168**		**Pn**	**17 42 21.8**	**-5.5**
WRAB				lAmb	lAmb	17 42 35.4	
	comp=Z,88nm,1.2s						
WRAB	**Tennant Creek**	**16.98**	**168**	P	**Pn**	**17 42 21.8**	**-5.5**
WRAB				pmax	pmax		
	comp=Z,88nm,1.2s						
WRA	**Warramunga Arr**	**16.99**	**168**		**Pn**	**17 42 23.8**	**-3.6**
WRA	**Warramunga Arr**	**16.99**	**168**	*i* P	**Pn**	**17 42 25.8**	**-1.6**
WRA				pmax	pmax		
	comp=Z,11nm,0.4s						
WRA	**Warramunga Arr**	**16.99**	**168**	Pn	**Pn**	**17 42 23.8**	**-3.6**
	comp=Z,3.1nm,0.3s,baz=349,slow=12,SNR=24						
WRA				Sn	Sn	17 45 20.5	-16
	comp=Z,1.6nm,0.3s,baz=348,slow=21,SNR=4.7						
WB2	**Warramunga Arr**	**16.99**	**168**		**Pn**	**17 42 22.7**	**-4.8**
WC3	**Warramunga Arr**	**17.01**	**168**	P	**Pn**	**17 42 25.8**	**-1.9**
	baz=17						
WR0	**Warramunga Arr**	**17.05**	**167**		**Pn**	**17 42 23.7**	**-4.5**
WR0				lAmb	lAmb	17 42 35.5	
	comp=Z,107nm,1.4s						
KKM	**Kota Kinabalu**	**17.05**	**303**	P	**Pn**	**17 42 26.0**	**-2.3**
KKM	**Kota Kinabalu**	**17.05**	**303**	P	**P**	**17 42 32.6**	**+2.5**
JAGI	**Jajag, Banyuwa**	**17.13**	**252**	Pn	**Pn**	**17 42 25.6**	**-3.7**
JAGI	**Jajag, Banyuwa**	**17.13**	**252**	P	**Pn**	**17 42 29.7**	**+0.5**
	comp=Z,42nm,1.4s						
BLJI	**Banyuglugur**	**17.47**	**254**	P	**P**	**17 42 36.0**	**+1.3**
	comp=Z,144nm,0.7s,comp=Z,2µm						
PMG	**Port Moresby**	**17.58**	**111**	P	**Pn**	**17 42 34.5**	**-0.2**
PMG				lAmb	lAmb	17 42 38.1	
	comp=Z,139nm,1.2s						
PMG	**Port Moresby**	**17.58**	**111**	P	**Pn**	**17 42 35.2**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=313,slow=8.2,SNR=35						
	comp=Z,83nm,1.1s						
SBUM	**Sibu**	**19.20**	**287**	P	**P**	**17 42 52.1**	**-1.6**
SJI	**Sawahan**	**19.23**	**256**	P	**Pn**	**17 43 01.0**	**+5.9**
QIS	**Mount Isa**	**19.32**	**154**	P	**P**	**17 42 54.7**	**-0.3**
	baz=19,SNR=36						
QIS	**Mount Isa**	**19.32**	**154**	P	**Pn**	**17 42 57.3**	**+1.2**
STKI	**Sintang**	**19.37**	**279**	P	**Pn**	**17 42 57.4**	**+0.8**
	comp=Z,56nm,1.6s						
NGJI	**Ngawi**	**19.46**	**257**	P	Pn	17 43 06.5	+8.8
TGY	**Tagaytay City**	**19.71**	**331**	LR	LR	17 51 33.3	
	comp=Z,2µm,21.4s,baz=161,slow=40						
MTSU	**Mount Surprise**	**20.00**	**139**	P	**P**	**17 43 03.1**	**+0.6**
	baz=20,SNR=46						
MTSU	**Mount Surprise**	**20.00**	**139**	P	**Pn**	**17 43 04.3**	**+0.1**
KAVG	**Kavieng**	**20.22**	**89**	P	Pn	17 43 08.8	+2.0
AS31	**Alice Springs**	**20.55**	**171**	P	**P**	**17 43 07.0**	**-1.4**
AS31				lAmb	lAmb	17 43 13.8	
	comp=Z,35nm,0.8s						
ASAR	**Alice Springs**	**20.55**	**171**	P	**P**	**17 43 06.5**	**-1.9**
ASAR	**Alice Springs**	**20.55**	**171**	P	**P**	**17 43 06.5**	**-1.9**
ASAR	**Alice Springs**	**20.55**	**171**	P	**P**	**17 43 08.4**	**+0.1**
	comp=Z,85nm,0.7s,baz=351,slow=11,SNR=212						
ASAR				S	**S**	**17 46 52.9**	**-5.5**
	comp=Z,23nm,0.9s,baz=354,slow=24,SNR=8.2						
	comp=Z,85nm,0.7s						
ASPA	**Alice Springs**	**20.55**	**171**	P	**P**	**17 43 08.7**	**+0.3**
	baz=20						
AS01	**Alice Springs**	**20.55**	**171**	P	**P**	**17 43 09.1**	**+0.7**
KSM	**Kuching**	**20.79**	**283**	P	**P**	**17 43 10.1**	**-0.9**
KSM				lAmb	lAmb	17 43 13.8	
	comp=Z,74nm,1.1s						
KSM	**Kuching**	**20.79**	**283**	P	Pn	17 43 13.0	-0.5
PSA00	**Pilbara Seismi**	**20.98**	**209**	P	**P**	**17 43 10.0**	**-3.0**
PSA00	**Pilbara Seismi**	**20.98**	**209**	P	**P**	**17 43 10.6**	**-2.4**
PSA00				lAmb	lAmb	17 43 16.7	
	comp=Z,28nm,1.1s						
PSA00	**Pilbara Seismi**	**20.98**	**209**	P	**P**	**17 43 11.5**	**-1.6**
RABL	**Rabaul**	**21.57**	**93**	P	**P**	**17 43 19.6**	**+0.1**
RABL	**Rabaul**	**21.57**	**93**	P	**P**	**17 43 22.7**	**+3.2**
	comp=Z,106nm,1.1s						
WRKA	**Warakurna**	**21.77**	**186**	P	**P**	**17 43 20.4**	**-1.1**
	baz=22,SNR=35						
WRKA	**Warakurna**	**21.77**	**186**	P	**P**	**17 43 20.6**	**-0.9**
GUMO	**Guam**	**21.94**	**40**	LR	LR	17 51 41.6	
	comp=Z,670nm,21.3s,baz=225,slow=36						
TV1H	**Townsville Har**	**22.46**	**136**	P	**P**	**17 43 30.3**	**+1.3**
CTA	**Charters Tower**	**22.67**	**139**	P	**P**	**17 43 31.5**	**+0.2**
	baz=23						
CTA	**Charters Tower**	**22.67**	**139**	P	**P**	**17 43 32.0**	**+0.7**
LEM	**Lembang**	**23.14**	**260**	LR	LR	17 54 08.5	
	comp=Z,4µm,21.4s,baz=82,slow=40						
BBJI	**Bungbulang**	**23.20**	**259**	P	**P**	**17 43 32.4**	**-4.4**
CNJI	**Cibinong**	**23.68**	**259**	P	**P**	**17 43 38.1**	**-3.5**
	comp=Z,39nm,1.2s						
OOD	**Oodnadatta**	**24.89**	**169**	P	**P**	**17 43 53.1**	**+0.5**
MEEK	**Meekatharra**	**25.92**	**205**	P	**P**	**17 44 00.4**	**-1.7**
	baz=26,SNR=9.5						
INKA	**Innaminka**	**26.22**	**159**	P	**P**	**17 44 05.2**	**+0.6**
QLP	**Quilpie**	**26.64**	**152**	P	**P**	**17 44 09.2**	**+0.7**
	baz=27,SNR=6.2						
QLP	**Quilpie**	**26.64**	**152**	P	**P**	**17 44 09.4**	**+0.9**
MULG	**Mulgathing**	**27.09**	**173**	P	**P**	**17 44 13.4**	**+0.9**
MYKOM	**Kota Tinggi**	**27.18**	**280**	P	**P**	**17 44 11.6**	**-1.9**
MYKOM				lAmb	lAmb	17 44 19.1	
	comp=Z,43nm,1.1s						
FORT	**Forrest**	**27.48**	**185**	P	**P**	**17 44 15.4**	**-0.6**
	baz=27						
FORT	**Forrest**	**27.48**	**185**	P	**P**	**17 44 13.3**	**-2.7**
FORT				lAmb	lAmb	17 44 23.4	
	comp=Z,30nm,0.8s						
FORT	**Forrest**	**27.48**	**185**	P	**P**	**17 44 15.9**	**-0.1**
RK1H	**Rockhampton Ha**	**27.79**	**138**	P	**P**	**17 44 21.1**	**+2.3**
LCRK	**Leigh Creek**	**28.00**	**166**	P	**P**	**17 44 22.5**	**+1.9**
KMBL	**Kambalda**	**29.14**	**195**	P	**P**	**17 44 29.7**	**-1.1**
	baz=29,SNR=26						
KMBL	**Kambalda**	**29.14**	**195**	P	**P**	**17 44 30.3**	**-0.5**
MORW	**Morawa**	**29.15**	**207**	P	**P**	**17 44 30.4**	**-0.6**
	baz=29,SNR=5.9						
EIDS	**Eidsvold**	**29.54**	**140**	P	**P**	**17 44 33.0**	**-1.5**
EIDS				lAmb	lAmb	17 45 13.4	
	comp=Z,21nm,1.1s						
EIDS	**Eidsvold**	**29.54**	**140**	P	**P**	**17 44 35.3**	**+0.8**
BKNI	**Bangkinang**	**29.73**	**276**	P	**P**	**17 44 35.0**	**-1.3**
HNR	**Honiara**	**29.82**	**103**	P	**P**	**17 44 36.2**	**-0.8**
HNR	**Honiara**	**29.82**	**103**	P	**P**	**17 44 36.2**	**-0.8**
HNR				pmax	pmax		
	comp=Z,52nm,1.1s						
HNR	**Honiara**	**29.82**	**103**	LR	LR	17 57 59.1	
	comp=Z,11µm,21.3s,baz=264,slow=39						
BBOO	**Buckleboo**	**29.85**	**171**	P	**P**	**17 44 36.6**	**-0.5**
	baz=30,SNR=8.3						
BBOO	**Buckleboo**	**29.85**	**171**	P	**P**	**17 44 35.3**	**-1.8**
BBOO				lAmb	lAmb	17 45 38.9	
	comp=Z,43nm,1.4s						
BBOO	**Buckleboo**	**29.85**	**171**	P	**P**	**17 44 37.2**	**+0.1**
JOW	**Kunigami**	**29.99**	**356**	P	**P**	**17 44 39.8**	**+1.4**
JOW	**Kunigami**	**29.99**	**356**	LR	LR	17 55 24.6	
	comp=Z,2µm,21.8s,baz=161,slow=34						
QIZ	**Qiongzhong**	**30.10**	**318**	P	**P**	**17 44 40.3**	**+0.8**
QIZ				S	**S**	**17 49 41.6**	**+3.2**
QIZ				LR	LR		
	comp=Z,500nm,17.3s						
QIZ				LR	LR		
	comp=Z,470nm,15.9s						
QIZ				LR	LR		
	comp=Z,900nm,20.6s						
STKA	**Stephens Creek**	**30.30**	**161**	P	**P**	**17 44 41.5**	**+0.4**
	baz=30,SNR=6.5						
STKA	**Stephens Creek**	**30.30**	**161**	P	**P**	**17 44 39.4**	**-1.7**
STKA	**Stephens Creek**	**30.30**	**161**	P	**P**	**17 44 41.7**	**+0.6**
STKA	**Stephens Creek**	**30.30**	**161**	⇓*e*P	**P**	**17 44 41.4**	**+0.3**
STKA	**Stephens Creek**	**30.30**	**161**	P	**P**	**17 44 41.0**	**-0.1**
	comp=Z,6.5nm,0.7s,baz=345,slow=8.0,SNR=13						
	comp=Z,6.5nm,0.7s						
KLBR	**Kellerberrin**	**30.66**	**202**	P	**P**	**17 44 43.6**	**-0.7**
	baz=31,SNR=11						
KLBR	**Kellerberrin**	**30.66**	**202**	P	**P**	**17 44 44.2**	**-0.1**
AULRC	**Lightning Ridg**	**30.84**	**149**	P	**P**	**17 44 45.6**	**-0.2**
UBPT	**Khong Chiam**	**30.93**	**307**	P	**P**	**17 44 46.3**	**-0.5**
UBPT				lAmb	lAmb	17 45 23.9	
	comp=Z,22nm,1.4s						
HTT	**Hallett**	**31.02**	**166**	P	**P**	**17 44 47.5**	**0.0**
	baz=31,SNR=7.4						
HTT	**Hallett**	**31.02**	**166**	P	**P**	**17 44 49.1**	**+1.6**
KULM	**Kulim**	**31.07**	**286**	P	**P**	**17 44 47.1**	**-1.1**
KULM				lAmb	lAmb	17 44 51.8	
	comp=Z,14nm,0.8s						
KULM	**Kulim**	**31.07**	**286**	P	**P**	**17 44 47.0**	**-1.1**
	comp=Z,20nm,1.7s						
CMSA	**Cobar Meteorol**	**31.54**	**155**	P	**P**	**17 44 52.2**	**+0.2**
	baz=32,SNR=18						
CMSA	**Cobar Meteorol**	**31.54**	**155**	P	**P**	**17 44 52.4**	**+0.4**
NWAO	**Narrogin (SRO)**	**32.06**	**201**	P	**P**	**17 44 55.6**	**-0.9**
	baz=32,SNR=6.8						
NWAO				P	**P**	**17 44 55.6**	**-0.9**
	baz=32,SNR=6.8						
RPSI	**Rantau Prapat**	**32.18**	**280**	P	**P**	**17 44 56.3**	**-1.6**
RPSI				lAmb	lAmb	17 45 02.4	
	comp=Z,16nm,0.9s			

WHN LR LR
comp=Z,2µm,22.4s
JHJ Hachijo jima 2 37.21 13 LR LR 17 57 57.7
comp=Z,1µm,20.6s,baz=64,slow=31
GYA Guiyang 37.51 323 *e*P **P** **17 45 44.1 +0.2**
GYA S **S** **17 51 34.5 +1.4**
GYA pmax pmax
comp=Z,9.0nm,0.5s
GYA pmax pmax
comp=Z,110nm,3.6s
GYA LR LR
comp=Z,700nm,18.3s
CRAI Chiangrai 37.72 309 P **P** **17 45 45.5 -0.1**
CM31 Chiang Mai Arr 37.89 306 P **P** **17 45 46.5 -0.6**
CMAR Chiang Mai Arr 37.89 306 P **P** **17 45 47.0 -0.1**
CMAR Chiang Mai Arr 37.89 306 P **P** **17 45 48.5 +1.4**
comp=Z,4.9nm,1.1s,baz=131,slow=6.5,SNR=31
comp=Z,4.9nm,1.1s
CHTO Chiang Mai 38.08 306 P **P** **17 45 48.3 -0.4**
CHTO Chiang Mai 38.08 306 P **P** **17 45 50.3 +1.6**
CHTO Chiang Mai 38.08 306 P **P** **17 45 48.3 -0.4**
CHTO pmax pmax
comp=Z,16nm,1.1s
DZM Mont Dzumac 39.51 121 P **P** **17 46 00.2 -0.6**
DZM Mont Dzumac 39.51 121 *e*S **S** **17 51 57.6 -5.9**
comp=Z,358nm,34.5s
TJN Taejon 39.54 356 P **P** **17 46 00.9 +0.3**
TJN Taejon 39.54 356 P **P** **17 46 00.9 +0.3**
TJN pmax pmax
comp=Z,502nm,1.6s
MAJO Matsushiro 40.23 10 P **P** **17 46 05.4 -1.0**
MAJO Matsushiro 40.23 10 P **P** **17 46 05.4 -1.0**
MAJO pmax pmax
comp=Z,109nm,2.0s
MJAR Matsushiro Arr 40.23 10 P **P** **17 46 04.4 -2.0**
comp=Z,7.1nm,1.0s,baz=190,slow=9.4,SNR=2.6
comp=Z,7.1nm,1.0s
MJB9 Matsu-Tunnel 40.23 10 P **P** **17 46 05.5 -0.9**
MJB9 IAmb IAmb 17 46 21.2
comp=Z,70nm,1.7s
PBA Port Blair 40.43 292 P **P** **17 46 05.6 -2.8**
KSAR Wonju Array Be 40.56 357 P **P** **17 46 07.8 -1.4**
KSAR Wonju Array Be 40.56 357 P **P** **17 46 07.8 -1.4**
KSRS Korea Array 40.57 357 P **P** **17 46 10.2 +0.9**
comp=Z,5.2nm,0.7s,baz=174,slow=9.2,SNR=17
comp=Z,5.2nm,0.7s
PZH PanZhiHua 40.64 318 P **P** **17 46 11.6 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,4.3s
TNCH TengChong 41.93 314 P **P** **17 46 21.6 +0.8**
TNCH pP pP 17 46 23.8 -0.2
TNCH sP sP 17 46 25.3 +0.1
TNCH PP **PnPn** **17 48 03.9 +0.9**
TNCH S **S** **17 52 39.6 0.0**
TNCH sS sS 17 52 49.1 +4.1
TNCH SS **SS** **17 55 44.3 -2.1**
TNCH pmax pmax
comp=Z,6.0nm,1.4s
TNCH pmax pmax
comp=Z,47nm,3.2s
TNCH LR LR
comp=Z,270nm,18.1s
TNCH LR LR
comp=Z,240nm,19.3s
TNCH LR LR
comp=Z,600nm,35.7s
JMM Marumori 42.00 12 P **P** **17 46 19.9 -1.1**
MND Mandalay 42.02 308 P **P** **17 46 21.6 +0.2**
XAN Xi'an 42.34 333 P **P** **17 46 24.3 +0.4**
XAN pmax pmax
comp=Z,14nm,1.2s
XAN LR LR
comp=Z,830nm,18.6s
XAN LR LR
comp=Z,710nm,20.6s
XAN LR LR
comp=Z,1µm,19.9s
TARA Tarawa 42.58 84 P **P** **17 46 24.4 -1.7**
HNS HongShan 43.05 341 ⇓P **P** **17 46 31.3 +1.8**
HNS pmax pmax
comp=Z,9.0nm,1.2s
BJT Baijiatuau 45.05 344 P **P** **17 46 47.0 +1.5**
LZH Lanzhou 46.43 330 *e*P **P** **17 46 58.6 +1.9**
LZH sP sP 17 47 08.5 +7.3
LZH pmax pmax
comp=Z,15nm,1.4s
LZH LR LR
comp=Z,630nm,14.4s
LZH LR LR
comp=Z,520nm,14.4s
LZH LR LR
comp=Z,500nm,15.1s
SHL Shillong 47.18 310 P **P** **17 47 01.5 -1.3**
SHL IAmb IAmb 17 47 17.4
comp=Z,9.4nm,0.8s
SHL Shillong 47.18 310 P **P** **17 47 01.5 -1.3**
SHL pmax pmax
comp=Z,9.0nm,0.8s
HHC Hu-ho-hao-te 47.20 340 *e*P **P** **17 47 03.4 +0.8**
HHC pmax pmax
comp=Z,35nm,0.5s
HHC pmax pmax
comp=Z,690nm,5.0s
USRK Ussuriysk Ar. 47.26 1 P **P** **17 47 02.4 -0.4**
USRK Ussuriysk Ar. 47.26 1 P **P** **17 47 02.7 -0.1**
comp=Z,7.4nm,0.9s,baz=190,slow=5.3,SNR=6.7
comp=Z,7.4nm,0.9s
USA0B Ussuriysk Arra 47.26 1 P **P** **17 47 02.4 -0.4**
USA0B Ussuriysk Arra 47.26 1⇑ *e*P **P** **17 47 04.4 +1.6**
ASAJ Asahikawa 48.38 12 LR LR 18 07 37.8
comp=Z,450nm,19.7s,baz=174,slow=36
XLT XiLinHaoTe 48.71 346 *e*P **P** **17 47 17.8 +3.5**
XLT pP sP 17 47 23.4 +4.7
XLT sP pP 17 47 26.5 +9.0
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,340nm,5.5s
LSA Lhasa 49.96 314 P **P** **17 47 23.0 -1.5**
LSA IAmb IAmb 17 47 40.3
comp=Z,9.3nm,0.7s
LSA Lhasa 49.96 314 P **P** **17 47 23.0 -1.5**
LSA pmax pmax
comp=Z,9.0nm,0.7s
GTA Gaotai 51.02 329 *e*P **P** **17 47 33.8 +1.8**
GTA sP sP 17 47 41.1 +4.7
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA LR LR
comp=Z,410nm,23.1s
GTA LR LR
comp=Z,480nm,22.3s
GTA LR LR
comp=Z,700nm,21.5s
YSS Yuzh-Sakhalins 51.14 11 *e*P **P** **17 47 29.8 -2.7**
YSS pmax pmax
comp=Z,40nm,0.9s
KLR Kul'dur 52.28 1⇑ *e*P **P** **17 47 41.2 +0.2**
KLR Kul'dur 52.28 1 LR LR 18 08 46.8
comp=Z,243nm,20.2s,baz=183,slow=35
HEH HeiHe 53.36 357 *e*P **P** **17 47 49.3 +0.3**
INZ Inchbonnie 53.53 143 P **P** **17 47 48.3 -2.1**
LBZ Lake Benmore 53.79 145 P **P** **17 47 51.7 -0.7**
THZ Tophouse 53.88 141 P **P** **17 47 51.5 -1.6**
TUWZ Tuamarina 54.35 141 P **P** **17 47 55.3 -1.1**
URZ Urewera 54.87 136 LR LR 18 13 38.2
comp=Z,542nm,18.1s,baz=18,slow=38
ULN Ulaanbaatar 54.92 341 P **P** **17 48 00.4 -0.2**
ULN IAmb IAmb 17 48 06.3
comp=Z,13nm,0.9s
ULN Ulaanbaatar 54.92 341⇑ *e*P **P** **17 48 02.6 +2.0**
ULN pmax pmax
comp=Z,15nm,1.0s
RTZ Ruatahuna 54.95 136 P **P** **17 47 60.0 -1.0**
SONM Songino Array 55.11 340 P **P** **17 48 03.4 +1.4**
comp=Z,7.6nm,1.0s,baz=159,slow=5.9,SNR=25
comp=Z,7.6nm,1.0s
BFZ Birch Farm 55.45 139 P **P** **17 48 01.7 -2.7**
ZEA Zeya 56.85 358 *e*P **P** **17 48 16.0 +1.8**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZAK Zakamensk 58.35 340 *e*P **P** **17 48 26.8 +1.9**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
PETK Petropavlovsk- 60.61 18 P **P** **17 48 41.2 +0.9**
comp=Z,8.2nm,0.9s,baz=208,slow=5.7,SNR=4.8
PETK LR LR 18 12 28.7
comp=Z,342nm,21.9s,baz=206,slow=34
comp=Z,8.2nm,0.9s
WMQ Urumqi 60.61 326 *e*P **P** **17 48 42.4 +1.8**
WMQ sP sP 17 48 49.5 +4.4
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,450nm,19.3s
WMQ LR LR
comp=Z,470nm,21.7s
WMQ LR LR
comp=Z,800nm,20.5s
PET Petropavlovsk 60.84 19*de*P **P** **17 48 41.5 -0.4**
PET pmax pmax
comp=Z,61nm,1.5s
BOD Bodaibo 62.32 350 *e*P **P** **17 48 52.4 +0.6**
BOD pmax pmax
comp=Z,12nm,1.6s
CASY Casey 64.47 189 P **P** **17 49 05.8 0.0**
CASY IAmb IAmb 17 49 26.2
comp=Z,12nm,1.0s
DGZ Jazzator, Alta 64.52 331⇓ *i*P **P** **17 49 07.7 +0.9**
DGZ pmax pmax
comp=Z,14nm,1.1s
MA2 Magadan 64.64 11 LR LR 18 17 42.2
comp=Z,245nm,19.0s,baz=206,slow=36
YAK Yakutsk 65.11 360 P **P** **17 49 10.3 +0.3**
YAK Yakutsk 65.11 360 *e*P **P** **17 49 11.2 +1.1**
YAK *e**PP **sP** **17 49 17.4 +2.8**
YAK *e* 17 49 43.2
YAK *e*S **S** **17 57 53.8 +1.3**
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax smax
comp=N,311nm,4.0s
YAK Yakutsk 65.11 360 LR LR 18 17 50.0
comp=N,452nm,20.4s,baz=152,slow=36
MK31 Makanchi Array 65.44 326 P **P** **17 49 12.6 -0.1**
MK31 IAmb IAmb 17 49 16.2
comp=Z,5.2nm,0.7s
MK31 Makanchi Array 65.44 326*c i*P **P** **17 49 13.3 +0.6**
MKAR Makanchi Array 65.44 326 P **P** **17 49 12.4 -0.2**
MKAR Makanchi Array 65.44 326 P **P** **17 49 13.4 +0.7**
comp=Z,7.1nm,0.5s,baz=120,slow=8.3,SNR=83
MKAR LR LR 18 20 32.5
comp=Z,276nm,19.2s,baz=133,slow=38
comp=Z,7.1nm,0.5s
MAKZ Makanchi 65.63 326 P **P** **17 49 13.9 0.0**
MAKZ IAmb IAmb 17 49 17.3
comp=Z,8.2nm,0.7s
MAKZ Makanchi 65.63 326 P **P** **17 49 13.9 0.0**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
KSH Kashi 65.69 316 P **P** **17 49 18.3 +3.8**
KSH pmax pmax
comp=Z,6.0nm,1.2s
NRN Naryn 66.54 318 P **P** **17 49 19.3 -0.9**
NRN Naryn 66.54 318 P **P** **17 49 19.3 -0.9**
NRN pmax pmax
comp=Z,3.0nm,0.7s
SHEM Shemya Is, Ala 66.70 27 LR LR 18 15 19.4
comp=Z,344nm,20.1s,baz=191,slow=33
SEY Seymchan 68.04 11⇑ *i*P **P** **17 49 30.1 +1.3**
SEY pmax pmax
comp=Z,14nm,0.9s
SEY Seymchan 68.04 11 LR LR 18 19 04.4
comp=Z,198nm,19.8s,baz=183,slow=36
AAK Ala-Archa 68.09 319 P **P** **17 49 29.2 -0.6**
AAK IAmb IAmb 17 49 43.3
comp=Z,16nm,1.4s
AAK Ala-Archa 68.09 319⇑ *e*P **P** **17 49 29.5 -0.3**
AAK pmax pmax
comp=Z,9.0nm,1.4s
AAK Ala-Archa 68.09 319 LR LR 18 23 29.6
comp=Z,171nm,19.2s,baz=103,slow=40
ZAA0 Zalesovo Array 68.51 333 P **P** **17 49 32.0 0.0**
ZAA0 IAmb IAmb 17 50 04.9
comp=Z,11nm,1.3s
ZALV Zalesovo Beam 68.51 333 P **P** **17 49 31.5 -0.5**
ZALV Zalesovo Beam 68.51 333 *i* P **P** **17 49 33.2 +1.2**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 68.51 333 P **P** **17 49 31.9 -0.1**
comp=Z,3.7nm,0.8s,baz=112,slow=6.4,SNR=16
ZALV LR LR 18 21 06.5
comp=Z,194nm,21.9s,baz=132,slow=37
comp=Z,3.7nm,0.8s
ARSB Arslanbob 68.53 317 P **P** **17 49 31.4 -1.1**
ARSB Arslanbob 68.53 317 P **P** **17 49 31.5 -1.1**
ARSB pmax pmax
comp=Z,3.0nm,1.1s
BTK Batken 69.52 315 P **P** **17 49 37.8 -0.9**
BTK IAmb IAmb 17 49 55.1
comp=Z,23nm,1.8s
BTK Batken 69.52 315 P **P** **17 49 37.8 -0.9**
BTK pmax pmax
comp=Z,23nm,1.8s
KURBB Kurchatov Arra 69.65 328 P **P** **17 49 39.2 +0.1**
comp=Z,4.2nm,0.5s,baz=128,slow=5.8,SNR=23
comp=Z,4.2nm,0.5s
KURK Kurchatov 69.65 328 P **P** **17 49 39.2 0.0**
KURK IAmb IAmb 17 49 58.9
comp=Z,15nm,0.9s
KURK Kurchatov 69.65 328*ce*P **P** **17 49 39.4 +0.3**
KURK pmax pmax
comp=Z,18nm,1.3s
RAR Rarotonga 69.87 111 LR LR 18 20 40.6
comp=Z,56nm,19.9s,baz=280,slow=36
SIMJ Simiganj 70.30 313 P **P** **17 49 42.9 -0.7**
KK31 Karatay Array 70.94 318 P **P** **17 49 46.2 -1.0**
KK31 Karatay Array 70.94 318 P **P** **17 49 46.2 -1.0**
KK31 pmax pmax
comp=Z,8.0nm,1.3s
KKAR Karatay Array 70.94 318 P **P** **17 49 45.5 -1.7**
KKAR Karatay Array 70.94 318 P **P** **17 49 45.6 -1.7**
TIXI Tiksi 74.77 359 P **P** **17 50 08.9 -0.5**
TIXI IAmb IAmb 17 50 13.3
comp=Z,11nm,1.1s
TIXI Tiksi 74.77 359⇓ *e*P **P** **17 50 09.4 +0.1**
TIXI pmax pmax
comp=Z,11nm,1.1s
WSAR Wadi Sarin 74.78 295 LR LR 18 27 15.3
comp=Z,147nm,19.3s,baz=110,slow=39
BVAR Borovoye Array 75.23 327 P **P** **17 50 12.8 +0.4**
comp=Z,6.8nm,0.8s,baz=111,slow=8.4,SNR=26
BVAR LR LR 18 26 19.7
comp=Z,287nm,21.0s,baz=119,slow=38
comp=Z,6.8nm,0.8s
BRVK Borovoye 75.30 327 P **P** **17 50 12.4 -0.4**
BRVK IAmb IAmb 17 50 16.3
comp=Z,8.6nm,0.8s
BRVK Borovoye 75.30 327⇓ *i*P **P** **17 50 13.4 +0.6**
BRVK pmax pmax
comp=Z,16nm,1.3s
BILL Bilibino 75.36 13 *e*P **P** **17 50 09.5 -3.3**
VNDA Vanda 76.08 173 P **P** **17 50 17.0 +0.2**
comp=Z,0.6nm,0.6s,baz=315,slow=5.7,SNR=0.9
VNDA LR LR 18 25 06.0
comp=Z,213nm,18.7s,baz=336,slow=37
comp=Z,0.6nm,0.6s
NRIK Noril'sk 78.09 346 P **P** **17 50 27.4 -0.8**
NRIK IAmb IAmb 17 50 48.6
comp=Z,14nm,1.2s
NRIK Noril'sk 78.09 346⇑ *e*P **P** **17 50 29.0 +0.8**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
NRIK Noril'sk 78.09 346 P **P** **17 50 28.2 0.0**
comp=Z,5.0nm,0.7s,baz=132,slow=4.0,SNR=10
NRIK LR LR 18 25 16.5
comp=Z,284nm,21.8s,baz=142,slow=36
comp=Z,5.0nm,0.7s
GEYT Alibeck 78.26 310 P **P** **17 50 28.6 -1.3**
GEYT IAmb IAmb 17 50 32.0
comp=Z,11nm,1.2s
GEYT Alibeck 78.26 310 P **P** **17 50 30.4 +0.5**
comp=Z,4.9nm,1.1s,baz=197,slow=4.6,SNR=9.2
comp=Z,4.9nm,1.1s
MAW Mawson 78.62 201 P **P** **17 50 31.6 +0.4**
comp=Z,6.6nm,0.9s,baz=76,slow=7.1,SNR=4.6
comp=Z,6.6nm,0.9s
PPT2 Papeete2 79.36 107 *e*LR LR 18 15 32.8
comp=Z,1µm,34.2s
PPT2 *e*LR LR 18 15 32.8
comp=Z,746nm,35.8s
PPT Papeete 79.36 107 LR LR 18 25 14.8
comp=Z,117nm,20.1s,baz=273,slow=35
TBI Tubuai 79.51 113 *e*LR LR 18 15 18.6
comp=Z,3µm,33.8s
ABKAR Akbulak array 79.95 321 P **P** **17 50 37.9 -0.9**
ABKAR Akbulak array 79.95 321 P **P** **17 50 37.2 -1.7**
ABKAR IAmb IAmb 17 50 46.2
comp=Z,7.6nm,0.9s
AKTO Aktyubinsk 81.48 322 LR LR 18 30 43.2
comp=Z,268nm,21.8s,baz=144,slow=38
SVE Sverdlovsk 81.88 329 *e*P **P** **17 50 49.5 +0.5**
SVE pmax pmax
comp=Z,13nm,1.0s
L14K Kuka Creek 81.92 27 P **P** **17 50 51.0 +2.0**
baz=248
K15K Wolf Creek Mou 82.78 26 P **P** **17 50 57.5 +4.0**
baz=249
G15K Niukluk 82.78 23 P **P** **17 50 55.9 +2.4**
baz=246
F15K North Star Dit 82.84 22 P **P** **17 50 53.8 0.0**
F15K IAmb IAmb 17 51 41.7
comp=Z,16nm,1.5s
F15K North Star Dit 82.84 22 P **P** **17 50 57.5 +3.6**
baz=246
ARU Arti 82.85 328*c i*P **P** **17 50 54.0 -0.1**
ARU 17 53 59.3
ARU S **S** **18 01 12.0 -0.5**
ARU SS **SS** **18 06 30.4 -5.0**
ARU pmax pmax
comp=Z,5.0nm,0.8s
P16K Nushagak River 83.33 30 P **P** **17 51 01.0 +4.5**
baz=252
H16K Elim 83.35 24 P **P** **17 51 00.4 +3.9**
baz=248
O16K Kokwok River B 83.45 29 P **P** **17 51 01.3 +4.2**
baz=252
J16K Anvik River 83.53 25 P **P** **17 51 00.1 +2.7**
baz=250
G16K Koyuk River 83.59 23 P **P** **17 50 57.4 -0.2**
G16K IAmb IAmb 17 51 02.9
comp=Z,12nm,1.0s
G16K Koyuk River 83.59 23 P **P** **17 50 59.5 +1.8**
baz=248
C16K Lisburne Hills 83.68 20 P **P** **17 50 58.4 +0.3**
C16K IAmb IAmb 17 51 03.8
comp=Z,9.4nm,1.0s
C16K Lisburne Hills 83.68 20 P **P** **17 50 59.8 +1.8**
baz=245
I17K Unalakleet 83.70 25 P **P** **17 50 59.9 +1.6**
I17K IAmb IAmb 17 51 03.2
comp=Z,9.2nm,1.0s
I17K Unalakleet 83.70 25 P **P** **17 51 01.0 +2.8**
baz=249
G17K Kiwalik Mounta 84.29 23 P **P** **17 51 03.4 +2.1**
baz=249
K17K Iditarod 84.33 26 P **P** **17 51 02.7 +1.2**
K17K IAmb IAmb 17 51 08.1
comp=Z,13nm,0.9s
H17K Granite Mounta 84.39 24 P **P** **17 51 02.5 +0.7**
H17K IAmb IAmb 17 51 06.7
comp=Z,9.1nm,1.0s
H17K Granite Mounta 84.39 24 P **P** **17 51 03.4 +1.6**
baz=250
E17K Hotham Inlet 84.43 21 P **P** **17 51 05.2 +3.3**
baz=248
C17K DeLong Mountai 84.49 20 P **P** **17 51 04.3 +2.0**
baz=247
L18K Granite Mounta 84.89 27 P **P** **17 51 03.5 -0.9**
L18K Granite Mounta 84.89 27 P **P** **17 51 06.2 +1.8**
baz=253
M18K Stony River 85.08 28 P **P** **17 51 09.4 +4.1**
baz=254
C18K Utukok River 85.23 20 P **P** **17 51 07.7 +1.6**
baz=248
J18K Innoko River 85.25 25 P **P** **17 51 08.0 +1.8**
baz=253
TTA Tatalina 85.40 26 P **P** **17 51 06.5 -0.5**
TTA IAmb IAmb 17 51 12.1
comp=Z,8.0nm,0.9s
TTA Tatalina 85.40 26 P **P** **17 51 06.5 -0.5**
TTA pmax pmax
comp=Z,8.0nm,0.9s
L19K White Mountain 85.71 27 P **P** **17 51 09.5 +1.0**
L19K White Mountain 85.71 27 P **P** **17 51 11.3 +2.8**
baz=255
KDAK Kodiak Island 85.75 32 LR LR 18 23 57.8
comp=Z,231nm,21.7s,baz=256,slow=32
A19K Wainwright 85.84 19 P **P** **17 51 11.0 +2.0**
baz=248
J19K Poorman 85.86 25 P **P** **17 51 08.4 -0.8**
J19K IAmb IAmb 17 51 18.4
comp=Z,16nm,1.5s
J19K Poorman 85.86 25 P **P** **17 51 12.3 +3.1**
baz=254
C19K Lookout Ridge 85.94 20 P **P** **17 51 10.7 +1.2**
C19K IAmb IAmb 17 52 08.9
comp=Z,30nm,2.0s
C19K Lookout Ridge 85.94 20 P **P** **17 51 11.2 +1.7**
baz=250
E19K Redstone River 86.23 22 P **P** **17 51 11.2 +0.2**
E19K Redstone River 86.23 22 P **P** **17 51 12.7 +1.7**
baz=252
D19K Kuna River 86.24 20 P **P** **17 51 10.8 -0.3**
D19K IAmb IAmb 17 51 14.9
comp=Z,8.6nm,1.1s
D19K Kuna River 86.24 20 P **P** **17 51 12.0 +1.0**
baz=251
K20K Telida 86.36 26 P **P** **17 51 14.2 +2.5**
baz=255
M20K Styx River 86.42 27 P **P** **17 51 12.0 -0.1**
M20K IAmb IAmb 17 51 16.7
comp=Z,15nm,1.1s
M20K Styx River 86.42 27 P **P** **17 51 14.2 +2.1**
baz=256
QSPA South Pole Qui 86.70 180 P **P** **17 51 13.1 -0.4**
QSPA South Pole Qui 86.70 180 P **P** **17 51 12.1 -1.4**
comp=Z,1.6nm,0.4s,baz=344,slow=1.7,SNR=10
comp=Z,1.6nm,0.4s
D20K Etivluk River 86.83 20 P **P** **17 51 14.9 +0.9**
baz=253
E20K Nigu River 86.85 21 P **P** **17 51 15.1 +1.0**
baz=253
B20K Meade River 87.04 19 P **P** **17 51 15.3 +0.4**
SUA Susitna One 87.44 28 P **P** **17 51 17.7 +0.6**
baz=258
C21K Knifeblade Rid 87.59 20 P **P** **17 51 18.5 +0.9**
baz=254
B21K Ikpikpuk River 87.78 20 P **P** **17 51 19.7 +1.3**
baz=255
F22K John River 88.12 22 P **P** **17 51 21.5 +1.4**
baz=257
B22K Teshekpuk Lake 88.36 19 P **P** **17 51 21.4 +0.2**
B22K IAmb IAmb 17 53 05.8
comp=Z,11nm,1.1s
B22K Teshekpuk Lake 88.36 19 P **P** **17 51 22.3 +1.2**
baz=256
G23K Bananza Creek 88.78 23 P **P** **17 51 23.6 +0.3**
G23K IAmb IAmb 17 53 03.7
comp=Z,23nm,1.9s
GNI Garni 88.89 310 LR LR 18 38 14.5
comp=Z,63nm,19.8s,baz=102,slow=40
E23K Chandalar 89.19 22 P **P** **17 51 26.4 +1.2**
baz=259
CCB Clear Creek Bu 89.33 25 P **P** **17 51 26.4 +0.5**
ILAR Eielson Array 89.74 25 P **P** **17 51 27.2 -0.5**
comp=Z,0.7nm,0.6s,baz=253,slow=4.6,SNR=8.4
ILAR LR LR 18 29 32.5
comp=Z,174nm,20.3s,baz=255,slow=34
comp=Z,0.7nm,0.6s
ZEI Tsey 89.74 313 *e*P **P** **17 51 29.1 +0.5**
ZEI pmax pmax
comp=Z,6.0nm,1.3s
KBZ Khabaz 90.54 314 LR LR 18 37 26.5
comp=Z,66nm,20.9s,baz=88,slow=39
F25K Christian Rive 90.61 22 P **P** **17 51 33.5 +1.6**
baz=263
L27K Beaver Creek, 91.78 27 P **P** **17 51 37.1 -0.3**
L27K IAmb IAmb 17 51 42.4
comp=Z,5.7nm,1.0s
L27K Beaver Creek, 91.78 27 P **P** **17 51 39.1 +1.7**
baz=266
ELIB Princess Elisa 92.21 197 *d*P **P** **17 51 41.0 +1.6**
comp=Z,4.9nm,0.9s

I28M	**Miner Creek**	**92.72**	**25**	P		**P**	**17 51 44.5**	**+2.7**
	baz=268							
DAWY	**Dawson**	**92.92**	**26**	P		**P**	**17 51 42.5**	**-0.1**
DAWY	**Dawson**	**92.92**	**26**	P		**P**	**17 51 43.8**	**+1.1**
	baz=269							
KMBO	**Kilima Mbogo**	**93.25**	**269**	*i* P		**P**	**17 51 44.5**	**-1.0**
KMBO				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KMBO	**Kilima Mbogo**	**93.25**	**269**	P		**P**	**17 51 44.3**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=120,slow=7.9,SNR=4.3							
KMBO				LR		LR	18 30 32.0	
	comp=Z,490nm,21.3s,baz=94,slow=34							
	comp=Z,2.9nm,1.0s							
D28M	**Stokes Point**	**93.27**	**21**	P		**P**	**17 51 47.3**	**+3.3**
	baz=270							
KLMR	**Klimovskoe**	**93.33**	**331**	*e*P		**P**	**17 51 41.6**	**-2.9**
KLMR				pmax	pmax			
	comp=Z,19nm,1.7s							
I29M	**Ogilvie Camp,**	**93.40**	**25**	P		**P**	**17 51 47.0**	**+2.2**
	baz=270							
G29M	**Pine Creek**	**93.52**	**23**	P		**P**	**17 51 46.6**	**+1.2**
	baz=270							
K29M	**Barlow Dome**	**93.74**	**26**	P		**P**	**17 51 49.0**	**+2.4**
	baz=270							
G30M	**tAoh Zraii Nji**	**94.23**	**23**	P		**P**	**17 51 50.6**	**+2.0**
	baz=272							
ANN	**Anapa**	**94.50**	**315**	*e*PP		**P**	**17 51 48.3**	**-1.9**
ANN				*e**PP		**PcP**	**17 51 51.3**	**+0.7**
ANN				*e*S		**SKSac**	**18 02 23.3**	**-2.5**
ANN				pmax	pmax			
	comp=Z,50nm,0.9s							
OBN	**Obninsk**	**94.94**	**325**↑	*e*P		**P**	**17 51 51.1**	**-0.9**
OBN				*e*			17 51 52.5	
OBN				*e*			17 55 42.5	
OBN				pmax	pmax			
	comp=Z,36nm,2.0s							
OBN				MLR	MLR			
	comp=Z,347nm,21.0s							
OBN	**Obninsk**	**94.94**	**325**	LR		LR	18 38 16.3	
	comp=Z,284nm,20.9s,baz=94,slow=38							
MMAI	**Mount Meron Ar**	**96.09**	**303**	LR		LR	18 42 29.4	
	comp=Z,107nm,18.8s,baz=71,slow=40							
EIL	**Elat**	**96.48**	**299**	LR		LR	18 42 38.7	
	comp=Z,94nm,20.2s,baz=70,slow=40							
BRTR	**Keskin Array B**	**97.40**	**309**	LR		LR	18 42 51.0	
	comp=Z,149nm,21.9s,baz=92,slow=40							
SPITS	**Spitsbergen Ar**	**98.02**	**349**	LR		LR	18 37 21.4	
	comp=Z,308nm,21.9s,baz=18,slow=36							
ARCES	**ARCESS Array B**	**98.28**	**340**	P		**P**	**17 52 06.6**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=61,slow=9.4,SNR=1.8							
ARCES				LR		LR	18 43 37.5	
	comp=Z,166nm,18.2s,baz=84,slow=40							
	comp=Z,3.3nm,0.9s							
BBB	**Bella Bella**	**99.50**	**38**	LR		LR	18 30 29.3	
	comp=Z,218nm,21.9s,baz=274,slow=31							
AKASG	**Malin Array Be**	**99.69**	**321**	LR		LR	18 42 29.7	
	comp=Z,123nm,21.4s,baz=70,slow=38							
FINES	**FINESS Array B**	**99.76**	**332**	LR		LR	18 41 14.8	
	comp=Z,281nm,21.3s,baz=80,slow=38							
MNTX	**Cornudas Mount**	**120.39**	**55**	P		**PKiKP**	**17 57 24.5**	**+2.5**
	baz=286							
ECSD	**EROS Data Cent**	**122.05**	**39**	P		**PKiKP**	**17 57 26.0**	**+1.2**
	baz=300							
TXAR	**Lajitas Array**	**122.48**	**57**	PKP		**PKPdf**	**17 57 25.8**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=191,slow=1.9,SNR=3.7							
JCT	**Junction City**	**125.32**	**55**	P		**PKiKP**	**17 57 33.0**	**+1.2**
	baz=290							
TORD	**Torodi Ar. Bea**	**128.55**	**284**	PKP		**PKPdf**	**17 57 38.6**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=56,slow=2.5,SNR=14							
PLCA	**Paso Flores**	**132.15**	**158**	PKP		**PKPdf**	**17 57 45.4**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=203,slow=10,SNR=3.4							
CPUP	**Villa Florida**	**149.61**	**166**	PKPbc		**PKPbc**	**17 58 20.8**	**+0.7**
	comp=Z,7.5nm,0.7s,baz=175,slow=3.9,SNR=12							

*AEIC **23** 17:39:04.9±1.7,55.9°N±0.1°×150.0°W±0.1°,h9km±8km, Error ellipse: s-maj=15.0km s-min=10.3km az=172.0*
NEIC 23 17:39:03.1±1.7,56.1°N±0.1°×150.0°W±0.1°,h25km±14km, ML3.3/32,ML3.2(AEIC),Error ellipse: s-maj=16.1km s-min=8.5km az=164.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.16**	**304**		Pn	17 39 36.9	-0.5
OHAK	**Old Harbor**	**2.16**	**304**		Sn	17 40 02.2	-1.2
OHAK	**Old Harbor**	**2.16**	**304**	P	Pn	17 39 37.5	+0.1
	baz=124						
OHAK				S	Sn	17 40 02.2	-1.2
	baz=124						
KDAK	**Kodiak Island**	**2.24**	**322**		Pn	17 39 38.9	+0.4
KDAK					Sn	17 40 05.7	+0.4
SYI	**Shuyak Island**	**2.87**	**334**		Pn	17 39 47.7	+0.5
SYI					Sn	17 40 22.1	+1.2
SYI	**Shuyak Island**	**2.87**	**334**	IAML		17 40 33.1	
	comp=E,45nm,1.2s						
Q20K	**Shuyak Island**	**2.87**	**334**	P	Pn	17 39 47.7	+0.5
	baz=153						
Q20K				S	Sn	17 40 22.1	+1.2
	baz=153						
R18K	**Karluk**	**2.88**	**304**		Pn	17 39 47.2	-0.1
R18K	**Karluk**	**2.88**	**304**	IAML		17 40 54.9	
	comp=E,89nm,0.5s						
R18K	**Karluk**	**2.88**	**304**	P	Pn	17 39 47.2	-0.1
	baz=122						
KAHG	**Katmai Hook Gl**	**3.47**	**317**		Pn	17 39 56.8	+1.2
Q19K	**Cape Douglas,**	**3.49**	**327**		Sn	17 40 40.0	+3.8
Q19K				IAML		17 41 42.6	
	comp=N,134nm,1.4s						
Q19K	**Cape Douglas,**	**3.49**	**327**		Pn	17 39 56.1	+0.3
Q19K	**Cape Douglas,**	**3.49**	**327**	P	Pn	17 39 56.1	+0.3
	baz=145						
CNPM	**China Poot**	**3.54**	**350**		Pn	17 39 56.1	-0.4
CNPM				IAML		17 40 40.7	
	comp=N,32nm,1.2s						
CNPM				IAML		17 41 36.0	
	comp=E,32nm,1.5s						
CNPM	**China Poot**	**3.54**	**350**		Sn	17 40 37.0	-0.5
ANCK	**Angle Creek**	**3.69**	**308**		Pn	17 39 58.3	-0.2
BRLK	**Bradley Lake**	**3.75**	**353**		Pn	17 39 59.1	-0.2
BRLK	**Bradley Lake**	**3.75**	**353**		Sn	17 40 43.1	+0.5
BRLK	**Bradley Lake**	**3.75**	**353**	IAML		17 41 43.2	
	comp=N,34nm,1.5s						
P19K	**Oil Pt**	**4.00**	**336**	Pn	Pn	17 40 01.1	-1.7
P19K				IAML		17 40 53.8	
	comp=N,83nm,0.6s						
P23K	**Montague Islan**	**4.19**	**18**		Pn	17 40 05.8	+0.4
P23K	**Montague Islan**	**4.19**	**18**	P	Pn	17 40 05.8	+0.4
	baz=200						
P18K	**Big Mountain,**	**4.37**	**322**		Pn	17 40 07.7	0.0
P18K	**Big Mountain,**	**4.37**	**322**	P	Pn	17 40 08.2	+0.4
	baz=139						
Q22K	**Cooper Landing**	**4.44**	**2**	Pn	Pn	17 40 08.9	+0.1
P17K	**Kvichak River**	**4.68**	**315**		Pn	17 40 12.6	+0.5
P17K	**Kvichak River**	**4.68**	**315**	P	Pn	17 40 12.5	+0.5
	baz=131						
CHGN	**Chignik**	**4.71**	**277**	Pn	Pn	17 40 12.9	+0.5
O18K	**Koktuh Hills**	**4.71**	**326**	Pn	Pn	17 40 12.9	+0.4
O18K				IAML		17 41 09.4	
	comp=N,22nm,0.8s						
O18K				IAML		17 41 19.3	
	comp=E,16nm,1.2s						
HIN	**Hinchinbrook I**	**4.73**	**22**		Pn	17 40 13.3	+0.4
HIN	**Hinchinbrook I**	**4.73**	**22**	IAML		17 41 22.2	
	comp=N,38nm,1.4s						
HIN				IAML		17 42 55.1	
	comp=E,55nm,1.5s						
KAIM	**Kayak Island**	**4.89**	**35**		Pn	17 40 15.0	+0.1
KAIM	**Kayak Island**	**4.89**	**35**	P	Pn	17 40 15.6	+0.6
	baz=219						
RC01	**Rabbit Creek A**	**5.05**	**1**	Pn	Pn	17 40 17.8	+0.6
RC01				IAML		17 41 14.9	
	comp=E,16nm,1.4s						
RC01				IAML		17 41 15.8	
	comp=N,23nm,0.8s						
FID	**Port Fidalgo**	**5.06**	**20**		Pn	17 40 17.5	+0.2
FID	**Port Fidalgo**	**5.06**	**20**	IAML		17 41 08.9	
	comp=N,30nm,1.2s						
FID				IAML		17 41 58.1	
	comp=E,33nm,1.3s						
BERG	**Berg Lake**	**5.48**	**35**	Pn	Pn	17 40 24.0	+0.9
N18K	**Kilae Creek**	**5.58**	**329**	Pn	Pn	17 40 22.4	-2.0
O16K	**Kokwok River B**	**5.59**	**313**	Pn	Pn	17 40 23.0	-1.6
SNH	**Sunshine Point**	**5.62**	**40**	Pn	Pn	17 40 25.4	+0.5
SML	**Sawmill**	**5.84**	**8**	Pn	Pn	17 40 25.9	-2.1
SVW2	**Sparrevohn**	**5.84**	**332**	Pn	Pn	17 40 27.3	-0.7
KLU	**Klutina**	**5.85**	**20**	Pn	Pn	17 40 28.4	+0.2
N17K	**Nushagak Hills**	**5.87**	**323**	Pn	Pn	17 40 28.3	-0.1
M20K	**Styx River**	**6.07**	**346**	Pn	Pn	17 40 27.9	-3.3
O15K	**Ungalikthiuk R**	**6.13**	**305**		Pn	17 40 32.1	+0.1
O15K	**Ungalikthiuk R**	**6.13**	**305**	P	Pn	17 40 32.1	+0.1
	baz=118						
M19K	**Big River Lodg**	**6.29**	**341**	Pn	Pn	17 40 30.5	-3.6
M17K	**Holitna River**	**6.61**	**327**		Pn	17 40 39.1	+0.6
M17K	**Holitna River**	**6.61**	**327**	P	Pn	17 40 39.4	+0.9
	baz=142						
L19K	**White Mountain**	**6.63**	**340**	Pn	Pn	17 40 37.1	-1.7
PNL	**Peninsula**	**6.72**	**53**		Pn	17 40 40.4	+0.3
PNL	**Peninsula**	**6.72**	**53**	P	Pn	17 40 40.4	+0.3
	baz=241						
LOGN	**Logan Glacier**	**6.72**	**41**	Pn	Pn	17 40 40.1	-0.2
N15K	**Kwethluk River**	**6.75**	**312**	Pn	Pn	17 40 39.9	-0.6
PN7A	**Pavlof North-7**	**6.80**	**270**		Pn	17 40 40.5	-0.8
M16K	**Timber Creek**	**6.84**	**320**		Pn	17 40 40.3	-1.4
M16K	**Timber Creek**	**6.84**	**320**	P	Pn	17 40 42.0	+0.3
	baz=134						
O14K	**Tigyukauivet M**	**6.84**	**303**	Pn	Pn	17 40 41.1	-0.5
L18K	**Granite Mounta**	**7.07**	**334**	Pn	Pn	17 40 44.0	-0.9
DHY	**Denali Highway**	**7.17**	**10**	Pn	Pn	17 40 45.9	-0.4
RND	**Reindeer**	**7.40**	**4**	Pn	Pn	17 40 47.8	-1.6
L16K	**Owhat River**	**7.50**	**323**	Pn	Pn	17 40 49.9	-0.8
KTH	**Kantishna Hill**	**7.54**	**357**	Pn	Pn	17 40 49.1	-2.3
M14K	**Bethel**	**7.84**	**312**	Pn	Pn	17 40 54.3	-1.1
BPAW	**Bear Paw Mtn.**	**8.09**	**357**	Pn	Pn	17 40 57.1	-1.7
BCAR	**Beaver Creek A**	**8.17**	**27**	Pn	Pn	17 40 59.7	-0.3
M13K	**Dall Lake**	**8.28**	**307**	Pn	Pn	17 41 01.2	-0.2
N30M	**Aishikik Lake**	**8.62**	**46**	Pn	Pn	17 41 06.2	0.0
M29M	**Somme Creek**	**8.71**	**38**	Pn	Pn	17 41 07.4	0.0
JIS	**Juneau Island**	**8.78**	**69**	Pn	Pn	17 41 08.3	+0.1
EGAK	**Eagle**	**9.77**	**23**	Pn	Pn	17 41 17.4	-4.4
P33M	**Teslin, Yukon**	**9.99**	**58**	Pn	Pn	17 41 24.7	-0.2
K29M	**Barlow Dome**	**9.99**	**34**	Pn	Pn	17 41 25.5	+0.5
H18K	**Honhosa River**	**10.00**	**339**	Pn	Pn	17 41 25.0	+0.1
M31M	**Drury Creek, Y**	**10.10**	**46**	Pn	Pn	17 41 26.1	-0.3
IMAR	**Indian Mountai**	**10.13**	**351**	Pn	Pn	17 41 25.9	-0.8
H17K	**Granite Mounta**	**10.15**	**335**	Pn	Pn	17 41 26.4	-0.6
G24K	**Hadweenzic Riv**	**10.75**	**5**	Pn	Pn	17 41 37.3	+2.0

*AEIC **23** 17:40:04.0±2.2,56.0°N±0.1°×149.9°W±0.1°,h10km±8km, Error ellipse: s-maj=20.5km s-min=10.1km az=187.0*
NEIC 23 17:40:00.3±2.0,56.15°N±0.03°×149.7°W±0.1°,h22km±8km, ML3.2/28,ML2.8(AEIC),Error ellipse: s-maj=9.5km s-min=4.1km az=103.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.25**	**300**		Pn	17 40 35.6	-0.6
OHAK					Sn	17 41 01.2	-2.1
OHAK	**Old Harbor**	**2.25**	**300**	IAML		17 41 02.8	
	comp=N,83nm,0.8s						
KDAK	**Kodiak Island**	**2.27**	**317**		Pn	17 40 36.7	+0.2
KDAK	**Kodiak Island**	**2.27**	**317**		Sn	17 41 02.7	-1.1
KDAK	**Kodiak Island**	**2.27**	**317**	IAML		17 41 05.5	
	comp=N,16nm,0.2s						
KDAK				IAML		17 41 22.0	
	comp=N,30nm,1.2s						
SYI	**Shuyak Island**	**2.86**	**331**		Pn	17 40 45.1	+0.5
SYI	**Shuyak Island**	**2.86**	**331**		Sn	17 41 18.2	-0.2
R18K	**Karluk**	**2.97**	**301**		Pn	17 40 46.4	+0.4
R18K					Sn	17 41 19.0	-1.9
R18K	**Karluk**	**2.97**	**301**	IAML		17 41 24.3	
	comp=N,98nm,0.9s						
R18K				IAML		17 41 26.4	
	comp=E,72nm,0.5s						
CNPM	**China Poot**	**3.48**	**347**	Pn	Pn	17 40 54.0	+0.8
CNPM				IAML		17 41 37.5	
	comp=N,23nm,1.1s						
Q19K	**Cape Douglas,**	**3.50**	**324**		Pn	17 40 54.7	+1.2
Q19K	**Cape Douglas,**	**3.50**	**324**	IAML		17 42 46.9	
	comp=N,109nm,1.2s						
BRLK	**Bradley Lake**	**3.68**	**351**	Pn	Pn	17 40 55.9	0.0
BRLK				IAML		17 41 43.0	
	comp=E,20nm,0.4s						
ACHA	**Angle Creek He**	**3.69**	**306**		Pn	17 40 57.2	+1.1
MID	**Middleton Isla**	**3.75**	**27**	Pn	Pn	17 40 57.0	+0.3
ANCK	**Angle Creek**	**3.76**	**306**		Pn	17 40 58.0	+1.0
CNTC	**Contact Creek**	**3.97**	**305**		Pn	17 40 59.8	-0.2
HIN	**Hinchinbrook I**	**4.58**	**20**	Pn	Pn	17 41 06.4	-1.9
HIN				IAML		17 42 08.9	
	comp=E,38nm,1.1s						
RSO	**Redoubt South**	**4.62**	**341**	Pn	Pn	17 41 07.6	-1.3
KAIM	**Kayak Island**	**4.71**	**34**	Pn	Pn	17 41 10.1	0.0
O18K	**Koktuh Hills**	**4.73**	**324**	Pn	Pn	17 41 08.7	-1.6
O18K				IAML		17 42 06.8	
	comp=N,18nm,0.9s						
O18K				IAML		17 42 19.0	
	comp=E,8.9nm,0.6s						
O19K	**Port Alsworth**	**4.74**	**331**	Pn	Pn	17 41 07.5	-2.8
O19K				IAML		17 44 20.1	
	comp=N,38nm,0.2s						
RC01	**Rabbit Creek A**	**4.96**	**360**	Pn	Pn	17 41 12.4	-1.0
RC01				IAML		17 42 17.4	
	comp=E,9.1nm,0.6s						
BERG	**Berg Lake**	**5.30**	**34**	Pn	Pn	17 41 17.6	-0.6
BERG				IAML		17 44 27.9	
	comp=N,27nm,1.1s						
SNH	**Sunshine Point**	**5.43**	**39**	Pn	Pn	17 41 20.2	+0.3
O16K	**Kokwok River B**	**5.65**	**311**	Pn	Pn	17 41 23.6	+0.7
N17K	**Nushagak Hills**	**5.90**	**321**	Pn	Pn	17 41 25.6	-0.7
M20K	**Styx River**	**6.02**	**344**	Pn	Pn	17 41 28.2	+0.2
VRDI	**Verde Repeater**	**6.04**	**30**	Pn	Pn	17 41 29.5	+1.0
CTGM	**Chitina Glacie**	**6.52**	**39**	Pn	Pn	17 41 34.1	-0.8
LOGN	**Logan Glacier**	**6.54**	**41**	Pn	Pn	17 41 34.4	-0.8
L19K	**White Mountain**	**6.60**	**339**	Pn	Pn	17 41 36.1	+0.1
M17K	**Holitna River**	**6.62**	**326**	Pn	Pn	17 41 35.7	-0.5
N15K	**Kwethluk River**	**6.81**	**311**	Pn	Pn	17 41 37.5	-1.3
M16K	**Timber Creek**	**6.87**	**319**	Pn	Pn	17 41 38.9	-0.8
O14K	**Tigyukauivet M**	**6.93**	**301**	Pn	Pn	17 41 40.4	0.0
L18K	**Granite Mounta**	**7.06**	**332**	Pn	Pn	17 41 42.3	+0.1
O29M	**Mount Kennedy**	**7.20**	**50**	Pn	Pn	17 41 44.6	+0.3
P29M	**Windy Craggy**	**7.27**	**56**	Pn	Pn	17 41 45.2	+0.1
CAST	**Castle Rocks**	**7.39**	**352**	Pn	Pn	17 41 48.9	+2.1
BPAW	**Bear Paw Mtn.**	**8.00**	**356**	Pn	Pn	17 41 54.8	-0.4
S32K	**Killisnoo**	**8.41**	**75**	Pn	Pn	17 41 59.5	-1.2
N30M	**Aishikik Lake**	**8.43**	**46**	Pn	Pn	17 42 01.0	-0.1
M29M	**Somme Creek**	**8.53**	**38**	Pn	Pn	17 42 02.7	+0.2
CCB	**Clear Creek Bu**	**8.58**	**5**	Pn	Pn	17 42 03.5	+0.5
JIS	**Juneau Island**	**8.58**	**69**	Pn	Pn	17 42 02.3	-0.8
K15K	**Wolf Creek Mou**	**8.63**	**320**	Pn	Pn	17 42 03.5	-0.3
J26L	**Joseph Creek**	**8.91**	**17**	Pn	Pn	17 42 06.7	-0.9
WHY	**Whitehorse**	**8.99**	**54**	Pn	Pn	17 42 06.7	-2.1
L29M	**L29M**	**9.10**	**35**	Pn	Pn	17 42 11.4	+1.1
P32M	**Atlin**	**9.19**	**61**	Pn	Pn	17 42 11.5	+0.1
Q32M	**Nakina River**	**9.78**	**66**	Pn	Pn	17 42 20.3	+0.6
P33M	**Teslin, Yukon**	**9.79**	**58**	Pn	Pn	17 42 19.6	-0.2
K29M	**Barlow Dome**	**9.82**	**33**	Pn	Pn	17 42 21.2	+1.1
M31M	**Drury Creek, Y**	**9.91**	**46**	Pn	Pn	17 42 22.7	+1.4
R33M	**Jennings River**	**10.51**	**64**	Pn	Pn	17 42 28.0	-1.6
G24K	**Hadweenzic Riv**	**10.64**	**5**	Pn	Pn	17 42 29.9	-1.3
J30M	**Hart River**	**10.71**	**33**	Pn	Pn	17 42 30.9	-1.4

*JMA **23** 17:46:31.9±0.3,33.9°N±0.8°×140°E±°,h162km±2km, MV3.2/28,FAR S OFF BOSO PENINSULA*
*IDC **23** 17:46:32.3±0.9,33.80°N×139.37°E,h158km±15km,mb3.3/4, mbtmp3.7/5,Error ellipse: s-maj=34.2km s-min=27.2km az=118.0*
ISC 23 17:46:32.0±1.1,33.90°N±0.06°×139.67°E±0.06°,h165km±7km, n24,σ0°69°/31°,mb3.5/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.07**	**266**	P	**Pn**	**17 46 53.0**	**-0.9**
JMKN				*e*S	**Sn**	**17 47 09.6**	**-0.9**
JMYK	**Miyake Tsubota**	**0.19**	**328**	P	**Pn**	**17 46 53.9**	**-0.1**
JHJ	**Hachijo jima 2**	**0.78**	**173**	P	**Pn**	**17 46 56.5**	**-0.1**
	396nm,0.3s,baz=332,slow=20,SNR=34						
JHJ				S	**Sn**	**17 47 15.2**	**-0.3**
	340nm,0.3s,baz=64,slow=23,SNR=18						
JHJ2	**Mitsune**	**0.79**	**171**	P	**Pn**	**17 46 56.5**	**-0.2**
JHJ2				*e*S	**Sn**	**17 47 16.2**	**+0.7**
JIM2	**Oshima 3**	**0.84**	**346**	*e*S	**Sn**	**17 47 16.0**	**-0.4**
JIZS	**Izushimoda**	**1.05**	**322**	P	**Pn**	**17 46 58.6**	**+0.1**
BSO3	**Boso 3**	**1.14**	**37**	P	**Pn**	**17 46 59.0**	**+0.1**
BSO3				S	**Sn**	**17 47 20.6**	**+0.8**
BSO1	**Boso 1**	**1.32**	**55**	P	**Pn**	**17 47 00.3**	**0.0**
BSO1				S	**Sn**	**17 47 24.0**	**+1.9**
JOD2	**Odawara 2**	**1.45**	**341**	P	**Pn**	**17 47 01.9**	**-0.2**
JOD2				*e*S	**Sn**	**17 47 25.0**	**-0.5**
TK04	**Tokai 4**	**1.57**	**289**	P	**Pn**	**17 47 03.7**	**+0.5**
TK04				S	**Sn**	**17 47 28.3**	**+1.0**
TK02	**Tokai 2**	**1.59**	**272**	P	**Pn**	**17 47 03.7**	**+0.4**
SHZ3	**Shizuoka 3**	**1.68**	**314**	P	**Pn**	**17 47 04.9**	**+0.4**
SHZ3				*e*S	**Sn**	**17 47 30.6**	**+0.9**
JRY	**Ryogami san**	**2.21**	**344**	P	**Pn**	**17 47 10.7**	**+0.4**
JRY				*e*S	**Sn**	**17 47 40.0**	**-0.2**
TTO1	**TONANKAI O.B.S**	**2.42**	**264**	P	**Pn**	**17 47 12.8**	**+0.3**
JIE	**Ise**	**2.51**	**282**	P	**Pn**	**17 47 13.8**	**-0.1**
JIE				*e*S	**Sn**	**17 47 45.9**	**-0.4**
JAG	**Ashikaga**	**2.53**	**356**	P	**Pn**	**17 47 13.4**	**-0.7**
MJAR	**Matsushiro Arr**	**2.90**	**336**	P	**Pn**	**17 47 18.4**	**-0.3**
	2.7nm,0.3s,baz=164,slow=11,SNR=18						
H11N2	**WAKE ISLAND Hy**	**27.99**	**113**	T	T	18 21 24.9	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**28.00**	**113**	T	T	18 21 21.1	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**28.01**	**113**	T	T	18 21 37.8	
	baz=306						
SONM	**Songino Array**	**28.51**	**309**	P	**P**	**17 52 12.4**	**+0.4**
	0.6nm,0.9s,baz=112,slow=7.6,SNR=2.4						
	0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**43.05**	**315**	P	**P**	**17 54 13.6**	**-1.5**
	0.3nm,0.4s,baz=98,slow=8.9,SNR=2.5						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**46.87**	**310**	P	**P**	**17 54 45.0**	**-0.4**
	1.6nm,0.5s,baz=90,slow=7.2,SNR=14						
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**51.67**	**314**	P	**P**	**17 55 22.2**	**+0.4**
	0.4nm,0.3s,baz=96,slow=8.8,SNR=9.5						
	0.4nm,0.3s						

*IDC **23** 18:00:55.9±1.5,55.53N×149.28W,h0km,mb3.7/7, mbtmp3.6/11,ML3.3/4,MS3.9/4,Error ellipse: s-maj=32.8km s-min=22.9km az=29.0*
*NEIC **23** 18:00:59.0±1.5,55.75N±0.09°×149.2W±0.1°,h13km±7km, ML4.1/46,ML3.7(AEIC),Error ellipse: s-maj=12.8km s-min=9.0km az=173.0*
*AEIC **23** 18:01:03.4±1.8,55.77N±0.09°×149.1W±0.1°,h9km±7km, Error ellipse: s-maj=13.1km s-min=9.1km az=168.0*
ISC 23 18:00:58.3±0.9,55.78N±0.08°×149.18W±0.06°,h10km, n245,σ1°9°12°/240°,mb3.8/7,MS4.1/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.70**	**304**		**Sn**	**18 02 12.0**	**-2.3**
OHAK	**Old Harbor**	**2.70**	**304**	Pn	**Pn**	**18 01 41.6**	**-0.1**
OHAK	**Old Harbor**	**2.70**	**304**	IAML		18 02 14.1	
	comp=N,106nm,0.5s						
OHAK				IAML		18 02 21.1	
	comp=E,94nm,0.8s						
OHAK	**Old Harbor**	**2.70**	**304**	P	**Pn**	**18 01 41.6**	**-0.1**
	baz=121						
OHAK				S	**Sn**	**18 02 12.0**	**-2.3**
	baz=121						
KDAK	**Kodiak Island**	**2.75**	**318**		**Pn**	**18 01 42.8**	**+0.5**
KDAK	**Kodiak Island**	**2.75**	**318**		**Sn**	**18 02 14.1**	**-1.4**
KDAK	**Kodiak Island**	**2.75**	**318**	S	**Sn**	**18 02 14.1**	**-1.4**
	baz=135						
KDAK	**Kodiak Island**	**2.75**	**318**	Pn	**Pn**	**18 01 42.4**	**+0.1**
	comp=E,15nm,0.3s,baz=138,slow=7.0,SNR=25						
KDAK				Sn	**Sn**	**18 02 14.5**	**-1.0**
	comp=E,36nm,0.3s,baz=197,slow=19,SNR=19						
	comp=E,34nm,0.3s						
SYI	**Shuyak Island**	**3.33**	**330**		**Pn**	**18 01 51.0**	**+0.6**
SYI	**Shuyak Island**	**3.33**	**330**		**Sn**	**18 02 29.3**	**-0.6**
SYI	**Shuyak Island**	**3.33**	**330**	IAML		18 02 31.8	
	comp=E,138nm,0.9s						
SYI				IAML		18 02 33.7	
	comp=N,126nm,0.3s						
Q20K	**Shuyak Island**	**3.33**	**330**	P	**Pn**	**18 01 51.4**	**+1.0**
	baz=147						
Q20K				S	**Sn**	**18 02 30.3**	**+0.3**
	baz=147						
R18K	**Karluk**	**3.42**	**304**		**Pn**	**18 01 52.0**	**+0.6**
R18K	**Karluk**	**3.42**	**304**	IAML		18 02 40.9	
	comp=E,208nm,0.5s						
CNPM	**China Poot**	**3.92**	**344**		**Pn**	**18 01 58.9**	**+0.5**
CNPM					**Sn**	**18 02 43.3**	**-1.1**
CNPM	**China Poot**	**3.92**	**344**	IAML		18 02 46.1	

P17K	Kvichak River	5.20	314	P		Pn	18 02 17.3	+1.3
	baz=128							
O18K	Koktuh Hills	5.20	324	Pn		Pn	18 02 16.4	+0.3
RAGM	Ragged Mountai	5.20	25			Pn	18 02 16.9	+0.9
RAGM				IAML			18 03 21.9	
	comp=E,102nm,0.7s							
RAGM				IAML			18 03 27.0	
	comp=N,173nm,0.7s							
O19K	Port Alsworth	5.20	330			Pn	18 02 16.2	+0.2
CHGN	Chignik	5.20	280	Pn		Pn	18 02 15.6	-0.4
CHGN				IAML			18 03 16.6	
	comp=E,107nm,0.3s							
CHGN				IAML			18 03 16.8	
	comp=N,98nm,0.1s							
RC01	Rabbit Creek A	5.33	357			Pn	18 02 18.2	+0.3
RC01				IAML			18 03 23.9	
	comp=N,54nm,0.5s							
RC01				IAML			18 03 24.6	
	comp=E,102nm,0.5s							
GOAT	Goat Mountain	5.36	24			Pn	18 02 18.9	+0.6
FIS	Fire Island	5.41	355	Pn		Pn	18 02 20.5	+1.7
BERG	Berg Lake	5.46	30			Pn	18 02 20.3	+0.7
SNH	Sunshine Point	5.55	35	Pn		Pn	18 02 21.7	+0.8
CYK	Cape Yakataga	5.60	37			Pn	18 02 22.1	+0.7
SPU	Mount Spurr	5.62	346	Pn		Pn	18 02 22.4	+0.6
DIV	Divide	5.66	17			Pn	18 02 22.6	+0.2
KNK	Knik Glacier	5.66	4			Pn	18 02 23.2	+0.8
KNK						Sn	18 03 25.3	-2.1
KNK	Knik Glacier	5.66	4	P		Pn	18 02 23.5	+1.1
	baz=184							
SPCP	Crater Peak Br	5.72	345			Pn	18 02 24.0	+0.7
BMRM	Bremner River	5.73	23			Pn	18 02 23.9	+0.5
BMRM	Bremner River	5.73	23	P		Pn	18 02 24.5	+1.1
	baz=206							
SUA	Susitna One	5.76	352			Pn	18 02 24.1	+0.3
N19K	Bonanza Creek	5.77	333			Pn	18 02 23.8	-0.1
N19K	Bonanza Creek	5.77	333	P		Pn	18 02 23.9	-0.1
	baz=148							
P16K	Nushagak River	5.77	308			Pn	18 02 25.0	+1.2
P16K	Nushagak River	5.77	308	P		Pn	18 02 25.0	+1.2
	baz=120							
O17K	Koliganek Bris	5.83	317			Pn	18 02 25.5	+0.9
O17K	Koliganek Bris	5.83	317	P		Pn	18 02 25.5	+0.9
	baz=130							
PMR	Palmer	5.83	0			Pn	18 02 25.2	+0.5
BARK	Barkley Ridge	5.84	35			Pn	18 02 25.6	+0.7
KLU	Klutina	5.98	15			Pn	18 02 27.6	+0.9
GHO	Glory Hole Cre	6.01	1			Pn	18 02 28.9	+1.6
CNBA	Chernabura Isl	6.02	265	Pn		Pn	18 02 26.0	-1.3
N18K	Kilae Creek	6.06	327	Pn		Pn	18 02 28.1	+0.4
SML	Sawmill	6.06	4			Pn	18 02 29.3	+1.4
M23K	Glacier View	6.08	7			Pn	18 02 29.5	+1.4
O16K	Kokwok River B	6.12	312			Pn	18 02 29.4	+0.8
SCM	Sheep Creek Mo	6.15	8			Pn	18 02 30.3	+1.2
VRDI	Verde Repeater	6.23	26			Pn	18 02 31.0	+0.6
SAMH	Samovar Hills	6.24	42			Pn	18 02 31.7	+1.3
KIAG	Kiagna River	6.28	32			Pn	18 02 31.6	+0.6
SVW2	Sparrevohn	6.30	330	Pn		Pn	18 02 30.7	-0.5
N25K	Chitina, Valde	6.31	20			Pn	18 02 32.7	+1.4
YKU2	Yakutat	6.33	50	Pn		Pn	18 02 30.8	-0.7
GLB	Gilahina Butte	6.33	24			Pn	18 02 32.5	+0.8
SKT	Skwentna	6.34	350	Pn		Pn	18 02 32.3	+0.6
N17K	Nushagak Hills	6.37	322	Pn		Pn	18 02 31.7	-0.4
SDPT	Sand Point	6.42	271	Pn		Pn	18 02 32.3	-0.5
PCA	Pinnacle	6.42	44			Pn	18 02 33.8	+0.9
M20K	Styx River	6.46	343	Pn		Pn	18 02 33.3	0.0
PNL	Peninsula	6.53	49			Pn	18 02 34.7	+0.4
M24K	Tolsona, Glenn	6.53	13			Pn	18 02 36.0	+1.6
BCPM	Bancas Point	6.59	47			Pn	18 02 36.3	+1.2
BARN	Barnard Glacie	6.60	34			Pn	18 02 36.4	+0.9
CTGM	Chitina Glacie	6.64	35			Pn	18 02 36.4	+0.6
LOGN	Logan Glacier	6.64	37			Pn	18 02 36.8	+0.8
CUT	Chulitna	6.67	356	Pn		Pn	18 02 35.1	-1.0
O15K	Ungalikthiuk R	6.67	305			Pn	18 02 37.2	+1.0
M18K	Stony River	6.69	332			Pn	18 02 36.4	-0.1
M19K	Big River Lodg	6.71	338	Pn		Pn	18 02 37.0	+0.3
WACK	Wrangell Chich	6.71	20			Pn	18 02 37.9	+0.9
WAT6	Susitna Watana	6.86	6			Pn	18 02 40.0	+1.0
N16K	Nishlik Lake	6.92	317			Pn	18 02 40.9	+1.3
L19K	White Mountain	7.06	338			Pn	18 02 41.3	-0.2
M17K	Holitna River	7.09	326			Pn	18 02 42.3	+0.3
O29M	Mount Kennedy	7.22	47			Pn	18 02 45.0	+1.1
P29M	Windy Craggy	7.24	53			Pn	18 02 44.9	+0.8
PN7A	Pavlof North-7	7.27	273			Pn	18 02 44.2	-0.3
N15K	Kwethluk River	7.28	312			Pn	18 02 46.3	+1.7
M16K	Timber Creek	7.34	320			Pn	18 02 46.1	+0.6
M26K	Nabesna, AK	7.36	23			Pn	18 02 46.9	+1.1
DHY	Denali Highway	7.38	6			Pn	18 02 46.9	+0.9
DHY						Sn	18 04 09.9	+0.1
O14K	Tigyukauivet M	7.38	303	Pn		Pn	18 02 46.5	+0.7
S31K	Pelican	7.43	68	Pn		Pn	18 02 44.6	-2.0
PAX	Paxson	7.46	13			Pn	18 02 48.2	+1.1
L18K	Granite Mounta	7.53	332	Pn		Pn	18 02 46.5	-1.4
M27K	Edge Creek, AK	7.59	27	Pn		Pn	18 02 49.6	+0.7
RND	Reindeer	7.65	1	Pn		Pn	18 02 50.5	+0.7
MENT	Mentasta	7.70	19	Pn		Pn	18 02 51.4	+1.0
TRF	Thorofare Moun	7.72	356	Pn		Pn	18 02 50.8	+0.1
SIT	Sitka	7.79	5	Pn		Pn	18 02 49.4	-3.2
CAST	Castle Rocks	7.80	350	Pn		Pn	18 02 52.1	+0.4
P30M	Million Dollar	7.82	51			Pn	18 02 52.8	+0.8
KTH	Kantishna Hill	7.85	354	Pn		Pn	18 02 52.7	+0.3
KTH						Sn	18 04 19.5	-1.7
L17K	Donlin	7.92	327			Pn	18 02 54.0	+0.7
HYT	Haines Junctio	7.96	46	Pn		Pn	18 02 54.6	+0.6
TTA	Tatalina	7.97	337	Pn		Pn	18 02 53.9	-0.2
K20K	Telida	7.99	344	Pn		Pn	18 02 54.1	-0.2
L16K	Owhat River	7.99	322	Pn		Pn	18 02 54.2	-0.1
L27K	Beaver Creek,	8.21	24	Pn		Pn	18 02 57.9	+0.6
BCAR	Beaver Creek A	8.22	24	Pn		Pn	18 02 58.4	+1.0
S32K	Killisnoo	8.23	72	Pn		Pn	18 02 55.4	-2.2
BESE	Bessie Mountai	8.27	64			Pn	18 02 57.6	-0.6
RIDG	Independent Ri	8.28	14			Pn	18 02 59.0	+0.7
SKAG	Skagway	8.30	58	Pn		Pn	18 02 58.6	+0.2
ISLZ	Isanotski Laza	8.37	269			Pn	18 02 58.9	-0.7
K17K	Iditarod	8.37	330	Pn		Pn	18 02 59.4	-0.1
M14K	Bethel	8.37	312	Pn		Pn	18 02 59.1	-0.3
BPAW	Bear Paw Mtn.	8.40	355	Pn		Pn	18 03 00.0	+0.1
BWN	Browne	8.42	359	Pn		Pn	18 03 00.6	+0.4
N30M	Aishikik Lake	8.49	43			Pn	18 03 02.5	+1.3
O30N	Mendenhall	8.51	49	Pn		Pn	18 03 02.5	+1.0
J18K	Innoko River	8.60	337	Pn		Pn	18 03 02.9	+0.3
SCRK	Sand Creek	8.62	15	Pn		Pn	18 03 04.4	+1.3
M29M	Somme Creek	8.65	35			Pn	18 03 04.0	+0.6
HDA	Harding Lake	8.73	6	Pn		Pn	18 03 05.2	+0.8
J20K	Nowinta River	8.78	346	Pn		Pn	18 03 06.2	+1.1
M13K	Dall Lake	8.82	308	Pn		Pn	18 03 06.7	+1.1
NEA2	Nenana	8.84	0	Pn		Pn	18 03 06.2	+0.3
J19K	Poorman	8.85	341	Pn		Pn	18 03 05.5	-0.5
CCB	Clear Creek Bu	8.92	4	Pn		Pn	18 03 07.3	+0.3
L14K	Kuka Creek	8.98	314			Pn	18 03 08.5	+0.6
WHY	Whitehorse	8.98	51	Pn		Pn	18 03 09.2	+1.1
K27K	Chicken	9.01	20	Pn		Pn	18 03 08.8	+0.6
N31M	Braeburn, Yuko	9.02	45			Pn	18 03 09.8	+1.3
U33K	Whale Pass	9.02	81	Pn		Pn	18 03 05.5	-2.9
J25K	Salcha River,	9.06	10	Pn		Pn	18 03 09.9	+0.9
IL31		9.09	6	Pn		Pn	18 03 10.2	+0.9
ILAR	Eielson Array	9.09	6	Pn		Pn	18 03 10.7	+1.3
	comp=E,0.3nm,0.3s,baz=189,slow=14,SNR=7.3							
ILAR					Sn	Sn	18 04 48.2	-3.5
	comp=E,0.7nm,0.3s,baz=180,slow=22,SNR=9.4							
	comp=E,0.6nm,0.4s							
IL03	Eielson Array	9.10	6	Pn		Pn	18 03 09.6	+0.2
K15K	Wolf Creek Mou	9.11	321	Pn		Pn	18 03 10.2	+0.6
P32M	Atlin	9.12	59	Pn		Pn	18 03 09.8	+0.1
J26L	Joseph Creek	9.18	15	Pn		Pn	18 03 11.6	+0.9
L29M	L29M	9.24	33			Pn	18 03 12.6	+1.1
M30M	Minto, Yukon	9.31	38	Pn		Pn	18 03 13.7	+1.4
J16K	Anvik River	9.49	327	Pn		Pn	18 03 14.9	+0.2
I21K	Tanana	9.53	353	Pn		Pn	18 03 13.7	-1.7
DAWY	Dawson	9.64	27			Pn	18 03 17.4	+0.5
Q32M	Nakina River	9.67	64	Pn		Pn	18 03 17.8	+0.3
P33M	Teslin, Yukon	9.75	56			Pn	18 03 19.1	+0.7
EGAK	Eagle	9.86	20			Pn	18 03 21.4	+1.5
PRP	Porcupine Dome	9.93	9	Pn		Pn	18 03 22.1	+1.1
I17K	Unalakleet	9.97	329	Pn		Pn	18 03 21.5	+0.2
M31M	Drury Creek, Y	9.97	44			Pn	18 03 23.4	+2.0
K29M	Barlow Dome	9.98	31			Pn	18 03 23.0	+1.4
N32M	Quiet Lake	9.99	51			Pn	18 03 22.5	+0.8
I26K	Coal Creek Min	10.00	15			Pn	18 03 23.9	+2.1
H21K	Melozitna Rive	10.07	351			Pn	18 03 23.5	+0.8
H24K	Noodor Dome	10.11	3	Pn		Pn	18 03 25.8	+2.4
UNV	Unalaska Valle	10.19	266	Pn		Pn	18 03 24.3	0.0
MAYO	Mayo, Yukon	10.30	35	Pn		Pn	18 03 26.8	+0.8
FARO	Faro, Yukon	10.39	45			Pn	18 03 29.2	+2.0
R33M	Jennings River	10.42	62	Pn		Pn	18 03 27.8	+0.1
H18K	Honhosa River	10.42	338			Pn	18 03 27.6	0.0
IMAR	Indian Mountai	10.47	350	Pn		Pn	18 03 29.2	+0.9
T35M	Bob Quinn	10.56	76			Pn	18 03 29.5	-0.1
H17K	Granite Mounta	10.59	334			Pn	18 03 30.0	+0.1
I28M	Miner Creek	10.70	21	Pn		Pn	18 03 32.8	+1.4
J30M	Hart River	10.87	31			Pn	18 03 35.9	+2.0
G21K	Allakaket	10.97	351	Pn		Pn	18 03 37.0	+1.9
G23K	Bananza Creek	10.98	358	Pn		Pn	18 03 37.0	+1.8
FYU	Fort Yukon	10.99	8			Pn	18 03 36.1	+0.8
G24K	Hadweenzic Riv	10.99	4	Pn		Pn	18 03 36.7	+1.4
G18K	Tagagawik	11.13	340	Pn		Pn	18 03 39.4	+2.1
I30M	Mount Dempster	11.35	28			Pn	18 03 43.4	+3.0
F21K	Alatna River	11.66	352	Pn		Pn	18 03 45.9	+1.4
H29M	Whitestone	11.69	22			Pn	18 03 46.3	+1.5
F20K	Avaraart Lake	11.72	347	Pn		Pn	18 03 47.0	+1.7
SPIA	Saint Paul Isl	11.72	286	Pn		Pn	18 03 46.4	+1.1
F24K	Squaw Lake	11.80	2	Pn		Pn	18 03 48.6	+2.2
NIKH	Nikolski High	11.80	264	Pn		Pn	18 03 47.9	+1.3
BMAR	Burnt Mountain	11.89	9	Pn		Pn	18 03 48.0	+0.4
ANM	Nome	11.90	324			Pn	18 03 47.9	+0.1
E19K	Redstone River	12.31	345			Pn	18 03 54.9	+1.5
G29M	Pine Creek	12.36	21	Pn		Pn	18 03 55.2	+1.2
F15K	North Star Dit	12.46	329	Pn		Pn	18 03 56.9	+1.5
E25K	Arctic Village	12.50	6	Pn		Pn	18 03 57.4	+1.4
G30M	tAoh Zraii Nji	12.80	23	Pn		Pn	18 04 02.4	+2.3
G31M	Satah River	13.22	26	Pn		Pn	18 04 06.5	+0.8
E28M	Babbage River	13.61	15	Pn		Pn	18 04 12.9	+1.9
D25K	Kavik River	13.65	4			Pn	18 04 13.1	+1.4
D27M	Malcolm River	14.01	12	Pn		Pn	18 04 15.9	-0.7
INK	Inuvik	14.48	24	Pn		Pn	18 04 24.7	+1.7
	comp=E,0.1nm,0.3s,baz=206,slow=16,SNR=6.0							
	comp=E,3.2nm,1.0s							
B22K	Teshekpuk Lake	14.74	354			Pn	18 04 25.5	-0.9
YKA	Yellowknife Ar	18.78	55	P		Pn	18 05 19.0	+1.3
	comp=E,0.1nm,0.3s,baz=263,slow=12,SNR=4.2							
	comp=E,0.1nm,0.4s							
YBH	Yreka Blue Hor	22.22	118	LR	LR		18 11 43.8	
	comp=E,115nm,21.1s,baz=354,slow=29							
NVAR	Mina Array Bea	26.93	117	P		P	18 06 38.9	-0.9
	comp=E,0.2nm,0.5s,baz=309,slow=10,SNR=2.2							
	comp=E,0.2nm,0.5s							
RES	Resolute Bay	27.98	27	P		P	18 06 48.9	+0.4
	comp=E,1.4nm,0.5s,baz=288,slow=3.2,SNR=6.6							
	comp=E,1.4nm,0.5s							
H11S1	WAKE ISLAND Hy	49.82	240	T		T	19 04 14.1	
	baz=29							
H11S2	WAKE ISLAND Hy	49.83	240	T		T	19 04 14.8	
	baz=29							
H11S3	WAKE ISLAND Hy	49.84	240	T		T	19 04 12.4	
	baz=29							
SONM	Songino Array	59.01	310	P		P	18 10 57.7	-0.2
	comp=E,0.4nm,0.8s,baz=59,slow=8.7,SNR=2.6							
	comp=E,0.4nm,0.8s							
ZALV	Zalesovo Beam	62.02	327	P		P	18 11 18.4	+0.3
	comp=E,0.4nm,0.5s,baz=31,slow=12,SNR=2.2							
	comp=E,0.4nm,0.5s							
FINES	FINESS Array B	63.06	3	P		P	18 11 25.7	+0.8
	comp=E,1.3nm,0.8s,baz=14,slow=3.9,SNR=4.0							
	comp=E,1.3nm,0.8s							
BVAR	Borovoye Array	66.77	335	P		P	18 11 49.3	0.0
	comp=E,0.4nm,0.7s,baz=29,slow=3.3,SNR=3.6							
	comp=E,0.4nm,0.7s							
MKAR	Makanchi Array	69.04	325	P		P	18 12 04.2	+0.4
	comp=E,0.4nm,0.5s,baz=35,slow=5.6,SNR=6.7							
	comp=E,0.4nm,0.5s							
VRAC	Vranov	74.61	10	LR		LR	18 48 39.8	
	comp=E,110nm,19.0s,baz=64,slow=38							
GERES	GERESS Array B	74.77	12	LR		LR	18 50 06.1	
	comp=E,77nm,18.9s,baz=62,slow=39							
DAVOX	Davos/Dischmat	76.30	15	LR		LR	18 52 19.7	
	comp=E,135nm,18.1s,baz=52,slow=40							

NEIC ***23*** *18:03:49.7±1.5,55.7°N±0.1°×149.7°W±0.1°, h7km±8km, ML3.7/30, Error ellipse: s-maj=15.9km s-min=10.6km az=177.0*

IDC ***23*** *18:03:58.9±2.5,56.29°N×149.52°W, h0km, mb3.6/3, mbtmp3.5/6, ML2.5/2, Error ellipse: s-maj=39.0km s-min=29.1km az=171.0*

ISC 23 18:03:50.6±2.1,55.7°N±0.2°×149.75°W±0.09,h10km,n94, σ1°94/86,mb3.6/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.50	310	Pn	Pn	18 04 31.3	-0.1
KDAK	Kodiak Island	2.63	325	Pn	Pn	18 04 32.4	-0.7
KDAK	Kodiak Island	2.63	325	Pn	Pn	18 04 33.5	+0.5
	0.4nm,0.3s,baz=144,slow=19,SNR=1.1						
KDAK				Sn	Sn	18 05 03.8	-1.2
	2.5nm,0.3s,baz=191,slow=22,SNR=2.3						
SYI	Shuyak Island	3.28	335	Pn	Pn	18 04 41.5	-0.5
Q19K	Cape Douglas,	3.89	329	Pn	Pn	18 04 51.2	+0.8
Q19K				IAML		18 05 59.3	
	comp=N,126nm,1.4s						
CNPM	China Poot	3.95	349	Pn	Pn	18 04 50.1	-1.0
CNPM				IAML		18 07 30.0	
	comp=E,117nm,0.5s						
BRLK	Bradley Lake	4.15	352		Pn	18 04 53.0	-0.9
Q23K	Middleton Isla	4.19	25	Pn	Pn	18 04 53.0	-1.4
Q23K				IAML		18 06 50.0	
	comp=N,178nm,1.5s						
MID	Middleton Isla	4.19	25	Pn	Pn	18 04 52.2	-2.2
MID				IAML		18 06 54.1	
	comp=N,145nm,1.1s						
P19K	Oil Pt	4.41	336	Pn	Pn	18 04 57.9	+0.4
SEW	Seward	4.45	2	Pn	Pn	18 04 56.8	-1.2
P18K	Big Mountain,	4.76	324	Pn	Pn	18 05 03.7	+1.4
P18K				IAML		18 07 50.6	
	comp=N,26nm,0.5s						
O22K	Cooper Landing	4.82	0	Pn	Pn	18 05 03.4	+0.2
HIN	Hinchinbrook I	5.04	19	Pn	Pn	18 05 04.7	-1.5
HIN				IAML		18 06 06.4	
	comp=N,76nm,1.1s						
HIN				IAML		18 07 58.6	
	comp=E,66nm,1.2s						
RSO	Redoubt South	5.06	343	Pn	Pn	18 05 05.9	-0.7
O18K	Koktuh Hills	5.11	327	Pn	Pn	18 05 09.1	+1.9
O18K				IAML		18 08 00.6	
	comp=N,33nm,0.8s						
O18K				IAML		18 08 14.2	
	comp=E,27nm,0.9s						
KAIM	Kayak Island	5.13	32	Pn	Pn	18 05 06.2	-1.1
EYAK	Cordova Ski Ar	5.33	22	Pn	Pn	18 05 09.4	-0.7
FID	Port Fidalgo	5.38	17	Pn	Pn	18 05 09.7	-1.1
RC01	Rabbit Creek A	5.43	0	Pn	Pn	18 05 11.6	0.0
RAGM	Ragged Mountai	5.44	28	Pn	Pn	18 05 11.6	-0.1
BERG	Berg Lake	5.72	32	Pn	Pn	18 05 14.5	-1.0
N19K	Bonanza Creek	5.73	336	Pn	Pn	18 05 15.8	0.0
KNK	Knik Glacier	5.80	6	Pn	Pn	18 05 16.8	+0.2
SNH	Sunshine Point	5.83	36	Pn	Pn	18 05 16.3	-0.7
SUA	Susitna One	5.83	355	Pn	Pn	18 05 17.1	0.0
DIV	Divide	5.86	19	Pn	Pn	18 05 16.4	-1.0
PMR	Palmer	5.95	3	Pn	Pn	18 05 18.8	+0.2
BMRM	Bremner River	5.96	25	Pn	Pn	18 05 18.6	-0.3
O16K	Kokwok River B	5.96	315	Pn	Pn	18 05 19.3	+0.5
N18K	Kilae Creek	5.98	330	Pn	Pn	18 05 19.1	+0.1
SDPT	Sand Point	6.11	271	Pn	Pn	18 05 20.3	-0.5
GHO	Glory Hole Cre	6.13	4		Pn	18 05 20.8	-0.4
KLU	Klutina	6.17	17	Pn	Pn	18 05 21.0	-0.7
SML	Sawmill	6.20	6		Pn	18 05 21.2	-0.9
SVW2	Sparrevohn	6.24	333	Pn	Pn	18 05 23.5	+0.8
SCM	Sheep Creek Mo	6.30	11	Pn	Pn	18 05 24.8	+1.2
SKT	Skwentna	6.39	352	Pn	Pn	18 05 24.2	-0.5
M20K	Styx River	6.47	346	Pn	Pn	18 05 23.9	-2.0
VRDI	Verde Repeater	6.47	28	Pn	Pn	18 05 25.8	-0.3
N25K	Chitina, Valde	6.53	22	Pn	Pn	18 05 25.6	-1.0
GLB	Gilahina Butte	6.56	26	Pn	Pn	18 05 26.2	-1.0
M24K	Tolsona, Glenn	6.71	15	Pn	Pn	18 05 28.5	-0.6
PCA	Pinnacle	6.72	45	Pn	Pn	18 05 27.8	-1.6
BARN	Barnard Glacie	6.87	35	Pn	Pn	18 05 29.7	-1.8
BCPM	Bancas Point	6.89	47	Pn	Pn	18 05 30.4	-1.3
CTGM	Chitina Glacie	6.91	36	Pn	Pn	18 05 29.9	-2.1
LOGN	Logan Glacier	6.92	38	Pn	Pn	18 05 30.7	-1.5
M17K	Holitna River	7.01	328	Pn	Pn	18 05 32.2	-1.0
L19K	White Mountain	7.04	340	Pn	Pn	18 05 33.0	-0.7
N15K	Kwethluk River	7.11	314	Pn	Pn	18 05 34.1	-0.5
O14K	Tigyukauivet M	7.17	305	Pn	Pn	18 05 34.8	-0.6
M16K	Timber Creek	7.22	322	Pn	Pn	18 05 35.0	-1.1
DHY	Denali Highway	7.52	8	Pn	Pn	18 05 39.6	-0.7
O29M	Mount Kennedy	7.53	47	Pn	Pn	18 05 38.0	-2.5
P29M	Windy Craggy	7.56	53		Pn	18 05 39.4	-1.5
S31K	Pelican	7.76	67	Pn	Pn	18 05 43.1	-0.4
RND	Reindeer	7.77	3	Pn	Pn	18 05 43.2	-0.5
M27K	Edge Creek, AK	7.83	28	Pn	Pn	18 05 43.9	-0.7
CAST	Castle Rocks	7.86	352	Pn	Pn	18 05 44.9	0.0
KTH	Kantishna Hill	7.93	356	Pn	Pn	18 05 46.5	+0.7
K17K	Iditarod	8.31	332	Pn	Pn	18 05 50.4	-0.6
RIDG	Independent Ri	8.46	15	Pn	Pn	18 05 52.9	-0.3
BPAW	Bear Paw Mtn.	8.48	356	Pn	Pn	18 05 53.5	+0.2
S32K	Killisnoo	8.57	72	Pn	Pn	18 05 53.9	-0.6
R32K	Eaglecrest	8.71	66	Pn	Pn	18 05 56.2	-0.4
N30M	Aishikik Lake	8.79	44	Pn	Pn	18 05 57.8	+0.2
M29M	Somme Creek	8.93	36	Pn	Pn	18 06 00.2	+0.6
ILAR	Eielson Array	9.24	8	Pn	Pn	18 06 04.6	+0.9
ILAR	Eielson Array	9.24	8	Pn	Pn	18 06 01.5	-2.2
	comp=E,0.4nm,0.4s,baz=188,slow=13,SNR=2.3						
ILAR				Sn	Sn	18 07 35.2	-12
	baz=190,slow=16,SNR=4.3						
WHY	Whitehorse	9.30	51	Pn	Pn	18 06 05.4	+0.7
J26L	Joseph Creek	9.37	17	Pn	Pn	18 06 06.5	+0.8
P32M	Atlin	9.45	59	Pn	Pn	18 06 07.0	+0.3
L29M	L29M	9.51	34	Pn	Pn	18 06 07.8	+0.3
I21K	Tanana	9.60	354	Pn	Pn	18 06 08.3	-0.4
WRAK	Wrangell Islan	9.77	78	Pn	Pn	18 06 10.1	-0.8
P33M	Teslin, Yukon	10.07	56	Pn	Pn	18 06 14.1	-1.1
H21K	Melozitna Rive	10.13	353		Pn	18 06 15.9	0.0
K29M	Barlow Dome	10.23	32	Pn	Pn	18 06 15.5	-2.0
M31M	Drury Creek, Y	10.27	44	Pn	Pn	18 06 17.1	-0.7
IMAR	Indian Mountai	10.53	351	Pn	Pn	18 06 21.6	+0.3
G23K	Bananza Creek	11.08	359	Pn	Pn	18 06 29.1	+0.2
G24K	Hadweenzic Riv	11.12	5	Pn	Pn	18 06 30.1	+0.6
INK	Inuvik	14.71	24	Pn	Pn	18 07 20.2	+1.8
	baz=218,slow=18,SNR=3.0						
	comp=E,1.5nm,0.9s						
YKA	Yellowknife Ar	19.10	55	P	Pn	18 08 16.4	+2.5
	comp=E,1.2nm,1.1s,baz=267,slow=11,SNR=8.6						
H11N2	WAKE ISLAND Hy	48.35	240	T	T	19 05 59.4	
	baz=25						
H11N3	WAKE ISLAND Hy	48.36	240	T	T	19 05 56.7	
	baz=25						
H11N1	WAKE ISLAND Hy	48.37	240	T	T	19 06 04.7	
	baz=25						
H11S1	WAKE ISLAND Hy	49.49	239	T	T	19 07 16.7	
	baz=29						
H11S2	WAKE ISLAND Hy	49.50	239	T	T	19 07 16.7	
	baz=29						
H11S3	WAKE ISLAND Hy	49.51	239	T	T	19 07 27.0	
	baz=29						
ZALV	Zalesovo Beam	61.93	327	P	P	18 14 15.7	+5.7
	comp=E,0.2nm,0.5s,baz=34,slow=5.4,SNR=2.9						
	comp=E,0.2nm,0.5s						
FINES	FINESS Array B	63.18	2	P	P	18 14 24.5	+6.3
	comp=E,1.7nm,0.

comp=N,98nm,0.1s
KAIM Kayak Island 4.78 35 Pn 18 07 06.1 0.0
KAIM Kayak Island 4.78 35 P Pn 18 07 06.3 +0.3
baz=219
EYAK Cordova Ski Ar 4.93 25 Pn 18 07 08.5 +0.4
EYAK Cordova Ski Ar 4.93 25 P Pn 18 07 09.0 +0.9
baz=207
FID Port Fidalgo 4.96 20 Pn Pn 18 07 08.0 -0.5
FID IAML 18 08 02.2
comp=E,57nm,0.7s
FID IAML 18 08 25.1
comp=N,50nm,3.0s
RC01 Rabbit Creek A 4.97 1 Pn 18 07 08.5 -0.1
RC01 IAML 18 08 07.5
comp=E,45nm,1.0s
RC01 IAML 18 08 24.9
comp=N,40nm,3.7s
RC01 Rabbit Creek A 4.97 1 P Pn 18 07 08.8 +0.2
baz=181
RAGM Ragged Mountai 5.07 31 Pn 18 07 10.0 0.0
RAGM IAML 18 08 25.3
comp=E,74nm,2.3s
P16K Nushagak River 5.24 307 Pn 18 07 13.5 +1.3
P16K Nushagak River 5.24 307 P Pn 18 07 13.5 +1.3
baz=121
N19K Bonanza Creek 5.27 335 Pn Pn 18 07 08.4 -4.4
N19K IAML 18 10 27.9
comp=N,26nm,3.4s
O17K Koliganek Bris 5.29 317 Pn 18 07 14.1 +1.1
O17K Koliganek Bris 5.29 317 P Pn 18 07 14.0 +1.1
baz=131
KNK Knik Glacier 5.34 7 Pn Pn 18 07 10.8 -2.9
KNK IAML 18 08 10.7
comp=E,41nm,3.6s
KNK IAML 18 08 17.2
comp=N,24nm,1.0s
SUA Susitna One 5.36 356 Pn 18 07 14.0 -0.1
SUA IAML 18 10 24.2
comp=N,54nm,3.7s
SUA IAML 18 10 39.1
comp=E,47nm,3.0s
BERG Berg Lake 5.37 35 Pn 18 07 13.9 -0.2
DIV Divide 5.45 22 Pn 18 07 15.6 +0.4
PMR Palmer 5.49 4 Pn Pn 18 07 16.1 +0.5
SNH Sunshine Point 5.51 40 Pn 18 07 16.7 +0.6
N18K Kilae Creek 5.54 328 Pn 18 07 17.0 +0.5
N18K Kilae Creek 5.54 328 P Pn 18 07 17.5 +1.0
baz=143
BMRM Bremner River 5.58 28 Pn 18 07 17.1 +0.1
BMRM Bremner River 5.58 28 P Pn 18 07 17.8 +0.9
baz=211
O16K Kokwok River B 5.58 312 Pn Pn 18 07 18.0 +1.0
CNBA Chernabura Isl 5.67 261 Pn Pn 18 07 16.8 -1.4
GHO Glory Hole Cre 5.67 5 Pn Pn 18 07 18.2 -0.2
SML Sawmill 5.74 7 Pn Pn 18 07 19.8 +0.5
KLU Klutina 5.75 19 Pn 18 07 20.0 +0.6
KLU Klutina 5.75 19 P Pn 18 07 20.6 +1.2
baz=202
BARK Barkley Ridge 5.79 39 Pn 18 07 20.5 +0.6
SVW2 Sparrevohn 5.79 331 Pn Pn 18 07 19.7 -0.3
N17K Nushagak Hills 5.84 322 Pn Pn 18 07 19.8 -0.8
SCM Sheep Creek Mo 5.86 12 Pn Pn 18 07 20.6 -0.4
SKT Skwentna 5.92 352 Pn Pn 18 07 21.8 +0.1
M20K Styx River 6.00 345 Pn Pn 18 07 22.1 -0.7
VRDI Verde Repeater 6.11 31 Pn Pn 18 07 23.9 -0.5
N25K Chitina, Valde 6.13 24 Pn Pn 18 07 25.7 +1.1
GLB Gilahina Butte 6.18 28 Pn Pn 18 07 25.7 +0.3
M19K Big River Lodg 6.23 340 Pn Pn 18 07 27.0 +1.1
SAMH Samovar Hills 6.26 47 Pn 18 07 27.3 +0.8
M24K Tolsona, Glenn 6.28 16 Pn Pn 18 07 27.6 +0.9
PCA Pinnacle 6.46 48 Pn 18 07 29.9 +0.8
PINM Pinnacle 6.46 48 P Pn 18 07 30.5 +1.3
baz=236
BARN Barnard Glacie 6.54 38 Pn Pn 18 07 30.7 +0.3
M17K Holitna River 6.58 326 Pn 18 07 31.4 +0.8
M17K Holitna River 6.58 326 P Pn 18 07 32.1 +1.4
baz=140
L19K White Mountain 6.58 339 Pn Pn 18 07 31.8 +1.1
CTGM Chitina Glacie 6.59 39 Pn Pn 18 07 30.6 -0.4
LOGN Logan Glacier 6.61 41 Pn Pn 18 07 31.4 +0.1
PNL Peninsula 6.62 53 P Pn 18 07 31.8 +0.6
baz=242
BCPM Bancas Point 6.65 51 Pn 18 07 32.2 +0.5
HARP HAARP 6.73 19 Pn 18 07 34.0 +1.3
HARP HAARP 6.73 19 P Pn 18 07 34.0 +1.3
baz=203
N15K Kwethluk River 6.74 311 Pn 18 07 34.5 +1.6
N15K Kwethluk River 6.74 311 P Pn 18 07 35.0 +2.1
baz=123
M16K Timber Creek 6.81 320 Pn Pn 18 07 34.9 +1.0
O14K Tigyukauivet M 6.85 302 Pn Pn 18 07 35.3 +0.9
L18K Granite Mounta 7.03 333 Pn Pn 18 07 38.8 +2.0
DHY Denali Highway 7.09 9 Pn Pn 18 07 38.1 +0.5
M26K Nabesna, AK 7.20 26 Pn Pn 18 07 39.9 +0.6
O29M Mount Kennedy 7.29 50 Pn 18 07 41.7 +1.2
RND Reindeer 7.31 4 Pn Pn 18 07 41.9 +1.1
P29M Windy Craggy 7.36 57 Pn 18 07 40.3 -1.1
CAST Castle Rocks 7.39 352 Pn Pn 18 07 40.2 -1.6
KTH Kantishna Hill 7.46 356 Pn Pn 18 07 43.5 +0.7
M27K Edge Creek, AK 7.46 30 Pn Pn 18 07 43.7 +0.8
L16K Owhat River 7.47 322 Pn Pn 18 07 41.1 -1.8
TTA Tatalina 7.49 338 Pn Pn 18 07 42.2 -1.0
K20K Telida 7.54 345 Pn Pn 18 07 43.3 -0.6
S31K Pelican 7.67 71 Pn Pn 18 07 43.6 -2.0
M14K Bethel 7.84 311 Pn Pn 18 07 46.7 -1.2
K17K Iditarod 7.86 330 Pn Pn 18 07 46.6 -1.7
HYT Haines Junctio 8.01 49 Pn Pn 18 07 48.1 -2.2
BPAW Bear Paw Mtn. 8.01 357 Pn Pn 18 07 48.5 -1.8
RIDG Independent Ri 8.03 16 Pn Pn 18 07 49.2 -1.4
L27K Beaver Creek, 8.05 27 Pn Pn 18 07 49.6 -1.3
BWN Browne 8.06 1 Pn Pn 18 07 49.3 -1.7
BCAR Beaver Creek A 8.07 27 Pn Pn 18 07 49.1 -2.1
M13K Dall Lake 8.28 307 Pn Pn 18 07 54.0 0.0
J20K Nowinta River 8.34 347 Pn Pn 18 07 54.1 -0.7
J19K Poorman 8.38 342 Pn Pn 18 07 56.3 +0.9
SCRK Sand Creek 8.39 18 Pn Pn 18 07 56.4 +0.7
HDA Harding Lake 8.43 9 Pn Pn 18 07 57.5 +1.6
L14K Kuka Creek 8.45 313 Pn 18 07 57.2 +0.9
SKAG Skagway 8.46 61 Pn Pn 18 07 55.6 -0.8
S32K Killisnoo 8.51 75 Pn Pn 18 07 56.6 -0.5
N30M Aishikik Lake 8.51 46 Pn Pn 18 07 57.7 +0.4
K15K Wolf Creek Mou 8.58 321 Pn Pn 18 07 58.0 -0.1
O30N Mendenhall 8.59 52 Pn Pn 18 07 57.2 -1.1
CCB Clear Creek Bu 8.60 6 Pn Pn 18 07 58.6 +0.2
M29M Somme Creek 8.60 38 Pn Pn 18 07 59.2 +0.7
R32K Eaglecrest 8.61 69 Pn Pn 18 07 58.5 0.0
IL31 8.79 8 Pn Pn 18 08 00.7 -0.2
ILAR Eielson Array 8.79 8 Pn Pn 18 08 00.8 -0.1
J25K Salcha River, 8.79 13 Pn Pn 18 07 59.7 -1.3
K27K Chicken 8.82 23 Pn Pn 18 08 03.4 +2.0
J26L Joseph Creek 8.95 18 Pn Pn 18 08 03.7 +0.4
J16K Anvik River 8.97 327 Pn Pn 18 08 04.2 +0.7
WHY Whitehorse 9.08 54 Pn Pn 18 08 04.8 -0.3
I21K Tanana 9.13 354 Pn Pn 18 08 05.4 -0.3
L29M L29M 9.17 36 Pn 18 08 07.6 +1.3
M30M Minto, Yukon 9.28 41 Pn Pn 18 08 08.3 +0.6
P32M Atlin 9.28 61 Pn 18 08 07.8 0.0
U33K Whale Pass 9.37 83 Pn Pn 18 08 07.7 -1.2
DAWY Dawson 9.51 29 Pn Pn 18 08 11.0 +0.1
K13K Kusilvak Mount 9.56 313 Pn Pn 18 08 12.3 +0.8
J14K Nanvaranak Lak 9.59 319 Pn Pn 18 08 12.9 +1.0
PRP Porcupine Dome 9.65 11 Pn Pn 18 08 13.1 +0.2
H21K Melozitna Rive 9.66 353 Pn Pn 18 08 13.2 +0.3
H24K Noodor Dome 9.78 5 Pn Pn 18 08 15.8 +1.2
Q32M Nakina River 9.88 66 Pn Pn 18 08 16.5 +0.4
K29M Barlow Dome 9.89 34 Pn Pn 18 08 17.1 +1.1
P33M Teslin, Yukon 9.89 59 Pn Pn 18 08 16.1 0.0
H18K Honhosa River 9.94 339 Pn Pn 18 08 16.1 -0.7
M31M Drury Creek, Y 9.99 46 Pn Pn 18 08 18.9 +1.5
N32M Quiet Lake 10.08 53 Pn Pn 18 08 17.9 -0.8
H17K Granite Mounta 10.10 335 Pn Pn 18 08 18.4 -0.5
S34M Telegraph Cree 10.38 72 Pn Pn 18 08 23.6 +0.9
FARO Faro, Yukon 10.43 47 Pn Pn 18 08 24.9 +1.4
I28M Miner Creek 10.51 23 Pn Pn 18 08 26.4 +1.7
R33M Jennings River 10.61 64 Pn Pn 18 08 26.2 +0.1
G19K Purcell Mounta 10.62 344 Pn Pn 18 08 25.8 -0.2
G24K Hadweenzic Riv 10.66 5 Pn Pn 18 08 27.0 +0.4
FYU Fort Yukon 10.70 10 Pn Pn 18 08 27.8 +0.8
J30M Hart River 10.78 33 Pn Pn 18 08 27.2 -1.0
RUBB Prince Rupert 11.35 91 Pn Pn 18 08 36.9 +0.8
ANM Nome 11.38 324 Pn Pn 18 08 38.2 +1.8
H29M Whitestone 11.51 24 Pn Pn 18 08 40.1 +1.8
BMAR Burnt Mountain 11.60 10 Pn Pn 18 08 40.3 +0.8

*IDC **23** 18:13:27.2±2.5, 55°.56′N×149°.18′W, h0km, mb3.2/2, mbtmp3.4/7, ML3.3/5, Error ellipse: s-maj=37.8km s-min=26.7km az=5.0*
*NEIC **23** 18:13:27.7±2.4, 55°.66′N±0°.09×149°.3′W±0°.1, h8km±7km, ML3.9/38, ML3.5(AEIC), Error ellipse: s-maj=13.8km s-min=9.5km az=186.0*
*AEIC **23** 18:13:35.0±1.8, 55°.84′N±0°.10×149°.3′W±0°.1, h7km±8km, Error ellipse: s-maj=14.1km s-min=10.0km az=179.0*
ISC 23 18:13:27.8±1.3, 55°.7′N±0°.1×149°.23′W±0°.07, h10km, n189, σ1§40/193, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.71	306		Pn	18 14 12.2	+0.8
OHAK					Sn	18 14 42.3	-1.9
OHAK	Old Harbor	2.71	306	P	Pn	18 14 12.2	+0.8
baz=120							
OHAK				S	Sn	18 14 42.3	-1.9
baz=120							
KDAK	Kodiak Island	2.78	320		Pn	18 14 13.3	+1.0
KDAK					Sn	18 14 44.7	-1.1
KDAK	Kodiak Island	2.78	320	Pn	Pn	18 14 13.1	+0.8
9.6nm,0.3s,baz=142,slow=5.5,SNR=11							
KDAK				Sn	Sn	18 14 45.4	-0.4
14nm,0.3s,baz=126,slow=6.4,SNR=8.2							
24nm,0.3s							
SYI	Shuyak Island	3.38	331		Pn	18 14 21.5	+1.0
Q20K	Shuyak Island	3.38	331	P	Pn	18 14 21.7	+1.2
baz=147							
R18K	Karluk	3.43	305		Pn	18 14 22.6	+1.5
R18K	Karluk	3.43	305	IAML		18 15 02.0	
comp=E,156nm,0.9s							
R18K				IAML		18 15 02.7	
comp=N,221nm,0.4s							
R18K	Karluk	3.43	305	P	Pn	18 14 22.6	+1.5
baz=119							
CNPM	China Poot	3.97	345		Pn	18 14 29.3	+0.6
Q19K	Cape Douglas,	4.02	325		Pn	18 14 30.6	+1.3
Q19K	Cape Douglas,	4.02	325	P	Pn	18 14 30.9	+1.6
baz=141							
Q23K	Middleton Isla	4.04	21		Pn	18 14 30.4	+0.8
Q23K				IAML		18 15 24.6	
comp=E,145nm,1.2s							
Q23K	Middleton Isla	4.04	21	P	Pn	18 14 30.6	+1.0
baz=205							
MID	Middleton Isla	4.04	21		Pn	18 14 30.4	+0.8
BRSE	Bradley Lake S	4.12	349		Pn	18 14 31.4	+0.6
BRSE	Bradley Lake S	4.12	349	P	Pn	18 14 31.4	+0.6
baz=168							
BRLK	Bradley Lake	4.16	348		Pn	18 14 31.7	+0.4
HOM	Homer	4.16	343	Pn	Pn	18 14 32.2	+0.9
HOM				IAML		18 15 59.1	
comp=E,235nm,1.1s							
AU22	Augustine Moun	4.29	331		Pn	18 14 34.0	+1.0
PLK3	Peulik 3	4.36	300		Pn	18 14 35.9	+2.0
P23K	Montague Islan	4.41	12		Pn	18 14 35.6	+1.0
P23K	Montague Islan	4.41	12	P	Pn	18 14 35.6	+1.0
baz=194							
CNTC	Contact Creek	4.45	308		Pn	18 14 37.0	+1.7
Q17K	Contact Creek	4.45	308	P	Pn	18 14 37.0	+1.7
baz=121							
P19K	Oil Pt	4.50	333	Pn	Pn	18 14 36.5	+0.6
IVE	Iliamna Volcan	4.77	336		Pn	18 14 40.6	+0.9
P18K	Big Mountain,	4.90	321		Pn	18 14 42.2	+0.7
P18K	Big Mountain,	4.90	321	P	Pn	18 14 42.7	+1.3
baz=136							
HIN	Hinchinbrook I	4.92	16	Pn	Pn	18 14 42.0	+0.3
HIN				IAML		18 15 39.9	
comp=N,132nm,0.6s							
KAIM	Kayak Island	4.95	29	Pn	Pn	18 14 42.1	+0.1
KAIM				IAML		18 15 41.3	
comp=E,106nm,1.2s							
KAIM				IAML		18 15 47.3	
comp=N,106nm,1.4s							
RSO	Redoubt South	5.12	340	Pn	Pn	18 14 42.9	-1.6
CAPN	Captain Cook N	5.17	349	Pn	Pn	18 14 44.4	-0.7
CHGN	Chignik	5.19	280	Pn	Pn	18 14 45.1	-0.2
CHGN				IAML		18 15 45.5	
comp=N,108nm,0.1s							
CHGN				IAML		18 15 47.2	
comp=E,84nm,0.1s							
EYAK	Cordova Ski Ar	5.19	19		Pn	18 14 46.2	+0.8
EYAK	Cordova Ski Ar	5.19	19	P	Pn	18 14 46.2	+0.8
baz=203							
P17K	Kvichak River	5.23	315		Pn	18 14 47.3	+1.5
P17K	Kvichak River	5.23	315	P	Pn	18 14 47.3	+1.5
baz=128							
O18K	Koktuh Hills	5.24	325		Pn	18 14 46.2	+0.1
O18K	Koktuh Hills	5.24	325	P	Pn	18 14 47.1	+1.0
baz=139							
O19K	Port Alsworth	5.25	331	Pn	Pn	18 14 46.1	-0.1
FID	Port Fidalgo	5.26	15	Pn	Pn	18 14 45.2	-1.1
FID				IAML		18 15 45.5	
comp=E,69nm,0.8s							
FID				IAML		18 15 46.4	
comp=N,53nm,0.8s							
RAGM	Ragged Mountai	5.28	25		Pn	18 14 45.0	-1.6
RAGM				IAML		18 15 55.7	
comp=E,96nm,0.5s							
RC01	Rabbit Creek A	5.40	357	Pn	Pn	18 14 45.0	-3.3
BERG	Berg Lake	5.54	30		Pn	18 14 48.9	-1.3
SNH	Sunshine Point	5.63	35	Pn	Pn	18 14 51.9	+0.5
KNK	Knik Glacier	5.73	4	Pn	Pn	18 14 51.5	-1.4
N19K	Bonanza Creek	5.82	334		Pn	18 14 53.9	-0.2
N19K	Bonanza Creek	5.82	334	P	Pn	18 14 54.6	+0.5
baz=149							
SUA	Susitna One	5.82	353	Pn	Pn	18 14 53.6	-0.6
O17K	Koliganek Bris	5.86	317		Pn	18 14 55.8	+1.3
O17K	Koliganek Bris	5.86	317	P	Pn	18 14 55.8	+1.3
baz=130							
PMR	Palmer	5.90	0		Pn	18 14 54.9	-0.2
PMR	Palmer	5.90	0	P	Pn	18 14 56.1	+1.1
baz=181							
CNBA	Chernabura Isl	5.99	266	Pn	Pn	18 14 55.5	-0.8
KLU	Klutina	6.05	15	Pn	Pn	18 14 56.4	-0.8
GHO	Glory Hole Cre	6.08	1	Pn	Pn	18 14 58.2	+0.5
N18K	Kilae Creek	6.10	328		Pn	18 14 58.5	+0.7
N18K	Kilae Creek	6.10	328	P	Pn	18 14 58.5	+0.7
baz=141							
SML	Sawmill	6.13	4		Pn	18 14 59.4	+1.0
O16K	Kokwok River B	6.14	313		Pn	18 14 59.9	+1.4
O16K	Kokwok River B	6.14	313	P	Pn	18 14 59.9	+1.4
baz=125							
SCM	Sheep Creek Mo	6.22	8	Pn	Pn	18 14 59.7	+0.1
VRDI	Verde Repeater	6.31	26	Pn	Pn	18 15 00.9	0.0
SAMH	Samovar Hills	6.31	42		Pn	18 15 02.7	+1.8
SVW2	Sparrevohn	6.35	331	Pn	Pn	18 15 01.8	+0.6
N25K	Chitina, Valde	6.39	20	Pn	Pn	18 15 01.7	-0.2
SKT	Skwentna	6.40	350	Pn	Pn	18 15 01.4	-0.6
N17K	Nushagak Hills	6.41	322	Pn	Pn	18 15 01.9	-0.1
GLB	Gilahina Butte	6.41	24		Pn	18 15 02.7	+0.6
PCA	Pinnacle	6.50	44		Pn	18 15 04.4	+1.0
PINM	Pinnacle	6.50	44	P	Pn	18 15 04.7	+1.3
baz=232							
M20K	Styx River	6.51	343		Pn	18 15 03.6	+0.1
M20K	Styx River	6.51	343	P	Pn	18 15 04.6	+1.0
baz=160							
PNL	Peninsula	6.60	49		Pn	18 15 06.3	+1.6
PNL	Peninsula	6.60	49	P	Pn	18 15 06.3	+1.6
baz=238							
M24K	Tolsona, Glenn	6.61	13	Pn	Pn	18 15 04.9	0.0
BCPM	Bancas Point	6.66	46		Pn	18 15 07.2	+1.7
BARN	Barnard Glacie	6.68	33		Pn	18 15 07.3	+1.4
O15K	Ungalikthiuk R	6.69	306		Pn	18 15 07.6	+1.7
O15K	Ungalikthiuk R	6.69	306	P	Pn	18 15 07.6	+1.7
baz=116							
CTGM	Chitina Glacie	6.71	35	Pn	Pn	18 15 07.5	+1.1
LOGN	Logan Glacier	6.71	37		Pn	18 15 07.5	+1.1
CUT	Chulitna	6.74	356	Pn	Pn	18 15 07.1	+0.6
M18K	Stony River	6.74	332		Pn	18 15 07.0	+0.4
M18K	Stony River	6.74	332	P	Pn	18 15 07.0	+0.4
baz=146							
M19K	Big River Lodg	6.76	339	Pn	Pn	18 15 06.8	-0.2
L19K	White Mountain	7.11	338	Pn	Pn	18 15 11.4	-0.3
M17K	Holitna River	7.13	326		Pn	18 15 12.1	0.0
O29M	Mount Kennedy	7.29	47		Pn	18 15 15.7	+1.4
N15K	Kwethluk River	7.30	312		Pn	18 15 16.0	+1.7
P29M	Windy Craggy	7.31	53		Pn	18 15 15.9	+1.4
M16K	Timber Creek	7.38	320	Pn	Pn	18 15 16.7	+1.3
O14K	Tigyukauivet M	7.39	304	Pn	Pn	18 15 17.5	+1.9
M26K	Nabesna, AK	7.44	23	Pn	Pn	18 15 18.0	+1.8
DHY	Denali Highway	7.45	7	Pn	Pn	18 15 16.2	-0.3
YUK8	Steele Glacier	7.47	38		Pn	18 15 19.7	+2.9
YUK8	Steele Glacier	7.47	38	P	Pn	18 15 19.7	+2.9
baz=226							
S31K	Pelican	7.48	67	P	Pn	18 15 16.0	-0.7
baz=259							
L18K	Granite Mounta	7.58	333	Pn	Pn	18 15 17.1	-0.9
M27K	Edge Creek, AK	7.67	27	Pn	Pn	18 15 20.4	+1.0
RND	Reindeer	7.72	1	Pn	Pn	18 15 20.4	+0.3
MENT	Mentasta	7.78	19	Pn	Pn	18 15 21.9	+1.1
TRF	Thorofare Moun	7.78	356	Pn	Pn	18 15 21.1	0.0
SIT	Sitka	7.84	74	Pn	Pn	18 15 18.5	-3.2
CAST	Castle Rocks	7.87	351		Pn	18 15 22.7	+0.6
KTH	Kantishna Hill	7.91	354	Pn	Pn	18 15 23.3	+0.5
TTA	Tatalina	8.02	337	Pn	Pn	18 15 23.4	-0.9
HYT	Haines Junctio	8.03	46		Pn	18 15 26.0	+1.6
L16K	Owhat River	8.03	323	Pn	Pn	18 15 25.3	+1.0
K20K	Telida	8.05	344	Pn	Pn	18 15 24.2	-0.5
L27K	Beaver Creek,	8.28	24	Pn	Pn	18 15 28.9	+1.1
S32K	Killisnoo	8.28	72	Pn	Pn	18 15 26.9	-0.9
BCAR	Beaver Creek A	8.29	24	Pn	Pn	18 15 28.3	+0.4
RIDG	Independent Ri	8.35	14	Pn	Pn	18 15 29.3	+0.5
SKAG	Skagway	8.36	58	Pn	Pn	18 15 29.8	+1.0
K17K	Iditarod	8.42	330	Pn	Pn	18 15 29.6	0.0
R32K	Eaglecrest	8.43	66	Pn	Pn	18 15 30.7	+0.8
BPAW	Bear Paw Mtn.	8.46	355	Pn	Pn	18 15 30.4	+0.2
BWN	Browne	8.49	359	Pn	Pn	18 15 31.1	+0.5
JIS	Juneau Island	8.50	66	Pn	Pn	18 15 31.4	+0.6
N30M	Aishikik Lake	8.56	43	Pn	Pn	18 15 33.4	+1.7
N30M	Aishikik Lake	8.56	43	P	Pn	18 15 33.8	+2.1
baz=234							
O30N	Mendenhall	8.58	48		Pn	18 15 33.2	+1.3
O30N	Mendenhall	8.58	48	P	Pn	18 15 33.8	+1.9
baz=240							
J18K	Innoko River	8.65	337	Pn	Pn	18 15 31.3	-1.5
SCRK	Sand Creek	8.70	15	Pn	Pn	18 15 34.1	+0.5
M29M	Somme Creek	8.73	35		Pn	18 15 35.7	+1.7
HDA	Harding Lake	8.80	6	Pn	Pn	18 15 36.7	+1.8
M13K	Dall Lake	8.84	308	Pn	Pn	18 15 36.6	+1.3
J20K	Nowinta River	8.84	346	Pn	Pn	18 15 34.7	-0.7
J19K	Poorman	8.90	342	Pn	Pn	18 15 36.5	+0.2
L14K	Kuka Creek	9.01	314	Pn	Pn	18 15 38.9	+1.2
WHY	Whitehorse	9.05	51		Pn	18 15 40.3	+1.8
U33K	Whale Pass	9.06	81	Pn	Pn	18 15 36.1	-2.3
K27K	Chicken	9.08	20	Pn	Pn	18 15 37.8	-0.9
N31M	Braeburn, Yuko	9.09	45		Pn	18 15 41.0	+2.1
N31M	Braeburn, Yuko	9.09	45	P	Pn	18 15 41.3	+2.4
baz=237							
J25K	Salcha River,	9.13	11	Pn	Pn	18 15 38.6	-0.9
K15K	Wolf Creek Mou	9.14	321		Pn	18 15 39.3	-0.3
IL31		9.16	6	Pn	Pn	18 15 39.3	-0.5
ILAR	Eielson Array	9.16	6	Pn	Pn	18 15 40.8	+0.9
ILAR	Eielson Array	9.16	6	Pn	Pn	18 15 42.0	+2.1
comp=E,0.2nm,0.3s,baz=190,slow=12,SNR=5.2							
ILAR				Sn	Sn	18 17 19.8	-3.1
comp=E,0.6nm,0.3s,baz=188,slow=22,SNR=6.3							
comp=E,0.3nm,0.4s							
P32M	Atlin	9.18	59		Pn	18 15 41.5	+1.4
P32M	Atlin	9.18	59	P	Pn	18 15 41.9	+1.8
baz=252							
J26L	Joseph Creek	9.26	15	Pn	Pn	18 15 42.6	+1.4
MDM	Murphy Dome	9.29	3	Pn	Pn	18 15 42.3	+0.6
L29M	L29M	9.32	33		Pn	18 15 43.7	+1.7
L29M	L29M	9.32	33	P	Pn	18 15 44.4	+2.4
baz=223							
M30M	Minto, Yukon	9.38	38		Pn	18 15 44.0	+1.2
M30M	Minto, Yukon	9.38	38	P	Pn	18 15 44.7	+1.9
baz=229							
I23K	Minto, Yukon-K	9.47	360	Pn	Pn	18 15 44.8	+0.8
J16K	Anvik River	9.53	327	Pn	Pn	18 15 45.4	+0.5
I21K	Tanana	9.60	353	Pn	Pn	18 15 47.7	+1.9
Q32M	Nakina River	9.73	63	Pn	Pn	18 15 48.1	+0.3
P33M	Teslin, Yukon	9.81	56	Pn	Pn	18 15 49.5	+0.7
V35K	Ketchikan	10.00	85	Pn	Pn	18 15 49.2	-2.1
M31M	Drury Creek, Y	10.04	44	Pn	Pn	18 15 54.5	+2.7
K29M	Barlow Dome	10.05	31		Pn	18 15 54.2	+2.1
N32M	Quiet Lake	10.06	51	Pn	Pn	18 15 53.9	+1.8
I26K	Coal Creek Min	10.08	15	Pn	Pn	18 15 54.5	+2.2
H21K	Melozitna Rive	10.13	352	Pn	Pn	18 15 54.7	+1.6
H24K	Noodor Dome	10.18	3	Pn	Pn	18 15 56.4	+2.5
FARO	Faro, Yukon	10.46	45	Pn	Pn	18 16 00.3	+2.6
H18K	Honhosa River	10.48	338	Pn	Pn	18 15 58.0	+0.2
R33M	Jennings River	10.48	62	Pn	Pn	18 15 58.8	+0.9
IMAR	Indian Mountai	10.54	350	Pn	Pn	18 15 59.9	+1.2
H17K	Granite Mounta	10.64	335	Pn	Pn	18 15 60.0	-0.1
I28M	Miner Creek	10.77	21	Pn	Pn	18 16 04.3	+2.4
DLBC	Dease Lake	10.80	67	Pn	Pn	18 16 03.3	+1.0
comp=E,0.5nm,0.3s,baz=351,slow=21,SNR=2.0							
comp=E,1.8nm,0.3s							
J30M	Hart River	10.95	31	Pn	Pn	18 16 06.7	+2.3
G21K	Allakaket	11.03	351	Pn	Pn	18 16 07.3	+1.9
G23K	Bananza Creek	11.05	358	Pn	Pn	18 16 06.6	+1.0
G24K	Hadweenzic Riv	11.06	4	Pn	Pn	18 16 07.4	+1.6
I30M	Mount Dempster	11.43	28	Pn	Pn	18 16 14.8	+3.8
F21K	Alatna River	11.72	352	Pn	Pn	18 16 16.8	+1.9
F20K	Varvarat Lake	11.79	347	Pn	Pn	18 16 16.1	+0.4
ANM	Nome	11.94	325	Pn	Pn	18 16 19.1	+1.4
BMAR	Burnt Mountain	11.96	9	Pn	Pn	18 16 20.2	+2.0
F17K	Baldwin Pennin	12.20	337	Pn	Pn	18 16 23.2	+1.8
E19K	Redstone River	12.37	345	Pn	Pn	18 16 24.2	+0.5
F15K	North Star Dit	12.50	329	Pn	Pn	18 16 25.1	-0.4
G31M	Satah River	13.29	26	Pn	Pn	18 16 34.2	-2.0
D19K	Kuna River	13.46	346	Pn	Pn	18 16 36.5	-2.0
D25K	Kavik River	13.72	4	Pn	Pn	18 16 40.0	-2.2
INK	Inuvik	14.56	24	Pn	Pn	18 16 56.3	+2.8
baz=214,slow=7.3,SNR=3.4							
comp=E,1.1nm,0.7s							
YKA	Yellowknife Ar	18.84	55	P	Pn	18 17 48.6	+0.7
baz=264,slow=11,SNR=3.9							
comp=E,0.3nm,0.7s							
KURBB	Kurchatov Arra	66.84	329	P	P	18 24 21.1	+1.8
comp=E,0.1nm,0.4s,baz=46,slow=5.3,SNR=1.6							
comp=E,0.1nm,0.4s							
MKAR	Makanchi Array	69.08	325	P	P	18 24 35.4	+1.9
comp=E,0.1nm,0.5s,baz=38,slow=5.9,SNR=1.5							
comp=E,0.1nm,0.5s							

*IDC **23** 18:14:09.9±2.6, 56°.00′N×150

baz=167
BRSE **Bradley Lake S** 3.73 356 P Pn 18 15 08.5 -0.3
baz=174
BRLK **Bradley Lake** 3.76 354 Pn Pn 18 15 08.6 -0.6
BRLK IAML 18 15 54.3
comp=E,71nm,1.2s
Q17K **Contact Creek** 3.84 308 P Pn 18 15 09.9 -0.4
baz=124
Q23K **Middleton Isla** 3.97 29 Pn Pn 18 15 10.9 -1.2
Q23K IAML 18 15 54.3
comp=N,232nm,1.5s
Q23K IAML 18 17 53.0
comp=E,188nm,1.5s
Q23K **Middleton Isla** 3.97 29 P Pn 18 15 11.6 -0.4
baz=212
MID **Middleton Isla** 3.97 29 Pn Pn 18 15 10.8 -1.2
MID IAML 18 15 54.3
comp=N,205nm,1.4s
MID IAML 18 17 15.5
comp=E,154nm,1.3s
P19K **Oil Pt** 3.98 337 Pn Pn 18 15 12.1 -0.1
P19K **Oil Pt** 3.98 337 P Pn 18 15 12.1 -0.1
baz=154
SEW **Seward** 4.10 5 P Pn 18 15 13.7 -0.1
baz=185
P23K **Montague Islan** 4.24 19 P Pn 18 15 15.3 -0.4
baz=201
O20K **Slope Mountain** 4.26 343 P Pn 18 15 16.1 -0.1
baz=161
P18K **Big Mountain,** 4.33 323 Pn 18 15 16.8 -0.1
P18K **Big Mountain,** 4.33 323 P Pn 18 15 16.9 0.0
baz=139
O22K **Cooper Landing** 4.47 3 Pn Pn 18 15 20.4 +1.5
O22K IAML 18 16 24.9
comp=E,122nm,1.3s
CHGN **Chignik** 4.62 277 Pn Pn 18 15 20.4 -0.5
CHGN IAML 18 17 29.1
comp=E,64nm,1.4s
CHGN IAML 18 18 15.4
comp=N,67nm,0.1s
P17K **Kvichak River** 4.63 316 P Pn 18 15 21.5 +0.4
baz=131
RSO **Redoubt South** 4.65 344 Pn Pn 18 15 20.9 -0.6
O18K **Koktuh Hills** 4.68 327 Pn Pn 18 15 21.6 -0.2
O18K IAML 18 16 19.2
comp=E,59nm,1.5s
O18K **Koktuh Hills** 4.68 327 P Pn 18 15 21.7 -0.1
baz=143
O19K **Port Alsworth** 4.72 334 Pn Pn 18 15 21.6 -0.7
O19K IAML 18 16 27.7
comp=N,133nm,0.4s
CAPN **Captain Cook N** 4.78 354 Pn Pn 18 15 22.9 -0.1
CAPN **Captain Cook N** 4.78 354 P Pn 18 15 23.1 0.0
baz=173
HIN **Hinchinbrook I** 4.79 22 Pn Pn 18 15 23.0 -0.2
HIN IAML 18 16 19.8
comp=N,65nm,1.0s
HIN IAML 18 16 20.5
comp=E,96nm,1.3s
KAIM **Kayak Island** 4.96 36 Pn Pn 18 15 25.4 -0.2
KAIM IAML 18 16 35.3
comp=N,96nm,1.3s
KAIM IAML 18 17 19.2
comp=E,69nm,1.4s
KAIM **Kayak Island** 4.96 36 P Pn 18 15 25.2 -0.4
baz=220
RC01 **Rabbit Creek A** 5.08 2 Pn Pn 18 15 27.4 +0.2
RC01 IAML 18 16 31.4
comp=N,33nm,0.5s
RC01 IAML 18 16 31.5
comp=E,36nm,0.6s
RC01 **Rabbit Creek A** 5.08 2 P Pn 18 15 27.0 -0.2
baz=182
EYAK **Cordova Ski Ar** 5.09 25 P Pn 18 15 27.2 -0.2
baz=208
FID **Port Fidalgo** 5.11 21 Pn Pn 18 15 26.7 -1.0
FID IAML 18 16 25.7
comp=N,36nm,1.4s
FID IAML 18 16 28.7
comp=E,50nm,0.7s
FIS **Fire Island** 5.13 360 Pn Pn 18 15 27.6 -0.3
FIS IAML 18 17 23.8
comp=E,94nm,1.2s
P16K **Nushagak River** 5.18 309 P Pn 18 15 28.6 0.0
baz=122
RAGM **Ragged Mountai** 5.24 31 Pn Pn 18 15 28.3 -1.2
RAGM IAML 18 16 31.9
comp=E,61nm,0.8s
N20K **Mount Spurr** 5.29 349 P Pn 18 15 30.1 -0.1
baz=167
N19K **Bonanza Creek** 5.30 336 Pn Pn 18 15 31.6 +1.2
SUA **Susitna One** 5.46 357 Pn Pn 18 15 32.6 +0.1
KNK **Knik Glacier** 5.47 9 Pn 18 15 33.3 +0.7
CNBA **Chernabura Isl** 5.50 261 Pn Pn 18 15 33.2 +0.2
O16K **Kokwok River B** 5.54 313 Pn 18 15 33.7 +0.2
BERG **Berg Lake** 5.55 35 Pn Pn 18 15 33.6 -0.1
N18K **Kilae Creek** 5.55 329 Pn Pn 18 15 34.0 +0.3
SNH **Sunshine Point** 5.69 40 Pn Pn 18 15 34.9 -0.8
GHO **Glory Hole Cre** 5.79 6 Pn Pn 18 15 36.5 -0.6
SVW2 **Sparrevohn** 5.81 333 Pn Pn 18 15 38.1 +0.8
N17K **Nushagak Hills** 5.83 323 Pn Pn 18 15 38.5 +0.9
SML **Sawmill** 5.87 9 Pn Pn 18 15 38.5 +0.3
KLU **Klutina** 5.90 20 Pn 18 15 38.4 -0.2
SCM **Sheep Creek Mo** 6.00 13 Pn Pn 18 15 39.6 -0.3
SKT **Skwentna** 6.01 354 Pn Pn 18 15 40.3 +0.3
N25K **Chitina, Valde** 6.29 25 Pn 18 15 43.7 -0.2
GLB **Gilahina Butte** 6.35 29 Pn 18 15 45.1 +0.4
M24K **Tolsona, Glenn** 6.43 17 Pn 18 15 47.2 +1.4
M17K **Holitna River** 6.58 328 Pn 18 15 48.4 +0.6
L19K **White Mountain** 6.62 341 Pn Pn 18 15 48.5 0.0
N15K **Kwethluk River** 6.70 312 Pn 18 15 50.2 +0.8
BARN **Barnard Glacie** 6.72 38 Pn 18 15 48.9 -1.0
CTGM **Chitina Glacie** 6.77 39 Pn Pn 18 15 50.3 -0.3
O14K **Tigyukauivet M** 6.78 303 Pn Pn 18 15 49.2 -1.3
LOGN **Logan Glacier** 6.79 41 Pn Pn 18 15 50.7 -0.3
M16K **Timber Creek** 6.80 321 Pn 18 15 51.3 +0.5
BCPM **Bancas Point** 6.84 51 Pn Pn 18 15 51.3 -0.1
DHY **Denali Highway** 7.21 10 Pn Pn 18 15 56.5 0.0
L16K **Owhat River** 7.46 324 Pn Pn 18 16 00.7 +0.8
O29M **Mount Kennedy** 7.47 50 Pn Pn 18 16 00.2 +0.1
CAST **Castle Rocks** 7.47 353 Pn Pn 18 16 00.2 +0.1
TTA **Tatalina** 7.53 339 Pn Pn 18 16 01.4 +0.5
P29M **Windy Craggy** 7.55 56 Pn Pn 18 16 00.0 -1.1
KTH **Kantishna Hill** 7.55 357 Pn Pn 18 16 02.4 +1.1
KTH Sn 18 17 28.7 +1.8
K20K **Telida** 7.61 347 Pn Pn 18 16 03.8 +1.9
M27K **Edge Creek, AK** 7.63 30 Pn Pn 18 16 02.6 +0.2
M14K **Bethel** 7.79 312 Pn Pn 18 16 04.4 0.0
S31K **Pelican** 7.85 70 Pn Pn 18 16 03.8 -1.5
K17K **Iditarod** 7.88 332 Pn Pn 18 16 06.0 +0.3
J18K **Innoko River** 8.15 339 Pn Pn 18 16 11.3 +2.0
RIDG **Independent Ri** 8.18 17 Pn Pn 18 16 11.8 +2.1
M13K **Dall Lake** 8.22 308 Pn Pn 18 16 10.9 +0.5
K15K **Wolf Creek Mou** 8.56 322 Pn Pn 18 16 16.3 +1.3
CCB **Clear Creek Bu** 8.72 7 Pn Pn 18 16 19.4 +2.2
M29M **Somme Creek** 8.78 38 Pn Pn 18 16 19.4 +1.3
ILAR **Eielson Array** 8.91 9 Pn Pn 18 16 14.9 -5.0
comp=E,0.2nm,0.3s,baz=191,slow=14,SNR=2.2
ILAR Sn Sn 18 17 54.9 -5.3
baz=198,slow=17
comp=E,0.3nm,0.5s
J16K **Anvik River** 8.98 328 Pn Pn 18 16 21.9 +1.3
J26L **Joseph Creek** 9.10 18 Pn Pn 18 16 24.1 +1.7
I23K **Minto, Yukon-K** 9.15 2 Pn Pn 18 16 25.0 +1.9
I21K **Tanana** 9.22 355 Pn Pn 18 16 25.9 +1.9
L29M **L29M** 9.35 36 Pn Pn 18 16 27.2 +1.4
M30M **Minto, Yukon** 9.46 41 Pn Pn 18 16 29.1 +1.7
I17K **Unalakleet** 9.47 331 Pn Pn 18 16 28.8 +1.4
K13K **Kusilvak Mount** 9.52 314 Pn Pn 18 16 29.5 +1.4
DAWY **Dawson** 9.68 29 Pn Pn 18 16 31.4 +1.0
PRP **Porcupine Dome** 9.78 11 Pn Pn 18 16 33.4 +1.6
EGAK **Eagle** 9.82 23 Pn Pn 18 16 34.0 +1.8
H18K **Honhosa River** 9.99 340 Pn Pn 18 16 35.2 +0.6
K29M **Barlow Dome** 10.06 34 Pn Pn 18 16 36.1 +0.5
H17K **Granite Mounta** 10.13 336 Pn Pn 18 16 36.8 +0.4
M31M **Drury Creek, Y** 10.18 46 Pn Pn 18 16 38.4 +1.2
G23K **Bananza Creek** 10.72 0 Pn Pn 18 16 45.6 +1.1
G24K **Hadweenzic Riv** 10.78 6 Pn Pn 18 16 47.6 +2.3
FYU **Fort Yukon** 10.83 11 Pn Pn 18 16 47.5 +1.6
G16K **Koyuk River** 11.10 333 Pn Pn 18 16 51.8 +2.1
ANM **Nome** 11.37 325 Pn Pn 18 16 55.4 +2.0
F15K **North Star Dit** 11.96 330 Pn Pn 18 17 03.1 +1.7
YKA **Yellowknife Ar** 19.09 56 P Pn 18 18 34.9 +0.5
comp=E,0.1nm,0.3s,baz=264,slow=10,SNR=5.8
comp=E,0.8nm,0.9s
KURBB **Kurchatov Arra** 66.30 328 P P 18 24 59.7 +0.5
comp=E,0.2nm,0.4s,baz=27,slow=7.2,SNR=2.7
comp=E,0.2nm,0.4s
MKAR **Makanchi Array** 68.51 324 P P 18 25 13.6 +0.2
comp=E,0.2nm,0.5s,baz=30,slow=5.1,SNR=2.6
comp=E,0.2nm,0.5s

*NEIC **23** 18:22:04.4±2.0,55°.7N±0°.1×148°.7W±0°.1, h6km±8km, ML3.9/32, ML3.2(AEIC), Error ellipse: s-maj=16.0km s-min=11.1km az=168.0*
*IDC **23** 18:22:08.9±3.0,55°.73N×149°.00W, h0km, mb3.7/1, mbtmp3.2/4, ML2.6/3, Error ellipse: s-maj=58.4km s-min=28.9km az=50.0*
*AEIC **23** 18:22:17.4±2.1,56°.3N±0°.1×148°.7W±0°.1, h12km±9km, Error ellipse: s-maj=18.3km s-min=10.8km az=178.0*
ISC 23 18:22:05.4±2.6,**55°.8N**±0°.2×**148°.68W**±0°.07,**h10**km,**n82,**
σ1§**46/80,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.92**	**301**	Pn		**Pn**	**18 22 53.3**	**+1.5**
OHAK				IAML			18 24 14.9	
	comp=N,214nm,0.5s							
KDAK	**Kodiak Island**	**2.93**	**314**	Pn		**Pn**	**18 22 53.3**	**+1.4**
KDAK	**Kodiak Island**	**2.93**	**314**	Pn		**Pn**	**18 22 53.5**	**+1.6**
	comp=N,1.2nm,0.3s,baz=176,slow=21,SNR=2.0							
KDAK				Sn		**Sn**	**18 23 23.6**	**-3.5**
	comp=N,2.8nm,0.3s,baz=74,slow=22,SNR=8.4							
	comp=N,8.3nm,0.6s							
SYI	**Shuyak Island**	**3.47**	**326**	Pn		**Pn**	**18 23 01.0**	**+1.6**
SYI				IAML			18 24 30.8	
	comp=E,126nm,0.4s							
MID	**Middleton Isla**	**3.85**	**18**	Pn		**Pn**	**18 23 04.8**	**+0.2**
MID				IAML			18 25 13.4	
	comp=N,185nm,1.3s							
MID				IAML			18 25 37.6	
	comp=E,200nm,1.2s							
Q23K	**Middleton Isla**	**3.85**	**18**	Pn		**Pn**	**18 23 05.0**	**+0.4**
Q23K				IAML			18 24 20.2	
	comp=N,181nm,1.5s							
Q23K				IAML			18 25 26.5	
	comp=E,177nm,1.4s							
CNPM	**China Poot**	**3.98**	**341**	Pn		**Pn**	**18 23 07.5**	**+1.1**
CNPM				IAML			18 24 44.2	
	comp=E,99nm,0.3s							
Q19K	**Cape Douglas,**	**4.13**	**321**	Pn		**Pn**	**18 23 09.8**	**+1.3**
BRLK	**Bradley Lake**	**4.15**	**344**	Pn		**Pn**	**18 23 09.4**	**+0.7**
BRLK				IAML			18 24 51.4	
	comp=E,78nm,0.5s							
P19K	**Oil Pt**	**4.57**	**330**	Pn		**Pn**	**18 23 18.5**	**+4.0**
KAIM	**Kayak Island**	**4.72**	**27**	Pn		**Pn**	**18 23 18.7**	**+2.1**
KAIM				IAML			18 25 13.7	
	comp=N,161nm,0.8s							
O22K	**Cooper Landing**	**4.73**	**354**	Pn		**Pn**	**18 23 18.3**	**+1.7**
HIN	**Hinchinbrook I**	**4.75**	**13**	Pn		**Pn**	**18 23 17.3**	**+0.2**
HIN				IAML			18 25 07.7	
	comp=N,148nm,0.5s							
P18K	**Big Mountain,**	**5.04**	**318**	Pn		**Pn**	**18 23 22.8**	**+1.9**
RAGM	**Ragged Mountai**	**5.07**	**23**	Pn		**Pn**	**18 23 22.7**	**+1.3**
FID	**Port Fidalgo**	**5.10**	**12**	Pn		**Pn**	**18 23 22.7**	**+0.9**
RSO	**Redoubt South**	**5.15**	**337**	Pn		**Pn**	**18 23 22.9**	**+0.3**
BERG	**Berg Lake**	**5.31**	**28**	Pn		**Pn**	**18 23 25.6**	**+0.9**
BERG				IAML			18 25 23.1	
	comp=N,107nm,0.7s							
RC01	**Rabbit Creek A**	**5.34**	**354**	Pn		**Pn**	**18 23 24.3**	**-0.7**
O18K	**Koktuh Hills**	**5.36**	**322**	Pn		**Pn**	**18 23 27.9**	**+2.6**
SNH	**Sunshine Point**	**5.38**	**33**	Pn		**Pn**	**18 23 27.1**	**+1.4**
KNK	**Knik Glacier**	**5.63**	**1**	Pn		**Pn**	**18 23 31.5**	**+2.4**
SUA	**Susitna One**	**5.78**	**350**	Pn		**Pn**	**18 23 31.2**	**-0.1**
KLU	**Klutina**	**5.89**	**13**	Pn		**Pn**	**18 23 33.4**	**+0.7**
GHO	**Glory Hole Cre**	**5.99**	**359**	Pn		**Pn**	**18 23 34.2**	**0.0**
SML	**Sawmill**	**6.03**	**2**	Pn		**Pn**	**18 23 36.1**	**+1.5**
SCM	**Sheep Creek Mo**	**6.09**	**6**	Pn		**Pn**	**18 23 36.6**	**+1.1**
VRDI	**Verde Repeater**	**6.09**	**25**	Pn		**Pn**	**18 23 36.8**	**+1.2**
N18K	**Kilae Creek**	**6.20**	**325**	Pn		**Pn**	**18 23 37.4**	**+0.5**
N25K	**Chitina, Valde**	**6.20**	**18**	Pn		**Pn**	**18 23 36.0**	**-0.9**
GLB	**Gilahina Butte**	**6.21**	**22**	Pn		**Pn**	**18 23 36.4**	**-0.6**
PCA	**Pinnacle**	**6.22**	**43**	Pn		**Pn**	**18 23 36.4**	**-0.8**
CNBA	**Chernabura Isl**	**6.30**	**266**	Pn		**Pn**	**18 23 36.6**	**-1.7**
O16K	**Kokwok River B**	**6.32**	**311**	Pn		**Pn**	**18 23 38.9**	**+0.4**
BCPM	**Bancas Point**	**6.37**	**45**	Pn		**Pn**	**18 23 38.4**	**-0.8**
SKT	**Skwentna**	**6.37**	**348**	Pn		**Pn**	**18 23 40.0**	**+0.7**
SVW2	**Sparrevohn**	**6.43**	**329**	Pn		**Pn**	**18 23 41.4**	**+1.4**
BARN	**Barnard Glacie**	**6.43**	**32**	Pn		**Pn**	**18 23 40.6**	**+0.3**
M24K	**Tolsona, Glenn**	**6.46**	**11**	Pn		**Pn**	**18 23 39.8**	**-0.7**
LOGN	**Logan Glacier**	**6.46**	**36**	Pn		**Pn**	**18 23 40.5**	**0.0**
CTGM	**Chitina Glacie**	**6.46**	**34**	Pn		**Pn**	**18 23 38.9**	**-1.7**
M20K	**Styx River**	**6.52**	**341**	Pn		**Pn**	**18 23 41.2**	**-0.2**
SDPT	**Sand Point**	**6.71**	**271**	Pn		**Pn**	**18 23 42.8**	**-1.0**
M19K	**Big River Lodg**	**6.80**	**337**	Pn		**Pn**	**18 23 44.9**	**-0.2**
P29M	**Windy Craggy**	**7.01**	**52**	Pn		**Pn**	**18 23 47.9**	**-0.1**
L19K	**White Mountain**	**7.15**	**336**	Pn		**Pn**	**18 23 50.2**	**+0.3**
S31K	**Pelican**	**7.16**	**67**	Pn		**Pn**	**18 23 49.1**	**-0.9**
M17K	**Holitna River**	**7.24**	**324**	Pn		**Pn**	**18 23 52.4**	**+1.2**
PAX	**Paxson**	**7.38**	**12**	Pn		**Pn**	**18 23 53.7**	**+0.6**
M27K	**Edge Creek, AK**	**7.45**	**25**	Pn		**Pn**	**18 23 53.7**	**-0.5**
N15K	**Kwethluk River**	**7.48**	**311**	Pn		**Pn**	**18 23 56.6**	**+2.2**
M16K	**Timber Creek**	**7.52**	**318**	Pn		**Pn**	**18 23 56.5**	**+1.6**
RND	**Reindeer**	**7.63**	**359**	Pn		**Pn**	**18 23 57.0**	**+0.4**
L18K	**Granite Mounta**	**7.65**	**331**	Pn		**Pn**	**18 23 57.2**	**+0.5**
TRF	**Thorofare Moun**	**7.72**	**355**	Pn		**Pn**	**18 23 57.4**	**-0.5**
CAST	**Castle Rocks**	**7.84**	**349**	Pn		**Pn**	**18 24 00.8**	**+1.5**
KTH	**Kantishna Hill**	**7.86**	**353**	Pn		**Pn**	**18 24 00.2**	**+0.5**
K20K	**Telida**	**8.06**	**342**	Pn		**Pn**	**18 24 03.9**	**+1.5**
TTA	**Tatalina**	**8.07**	**335**	Pn		**Pn**	**18 24 03.3**	**+0.8**
BCAR	**Beaver Creek A**	**8.09**	**23**	Pn		**Pn**	**18 24 03.3**	**+0.5**
L16K	**Owhat River**	**8.15**	**321**	Pn		**Pn**	**18 24 04.9**	**+1.3**
RIDG	**Independent Ri**	**8.20**	**12**	Pn		**Pn**	**18 24 04.7**	**+0.4**
N30M	**Aishikik Lake**	**8.29**	**42**	Pn		**Pn**	**18 24 06.5**	**+1.0**
BPAW	**Bear Paw Mtn.**	**8.41**	**353**	Pn		**Pn**	**18 24 08.0**	**+0.8**
M29M	**Somme Creek**	**8.48**	**34**	Pn		**Pn**	**18 24 09.9**	**+1.7**
K17K	**Iditarod**	**8.50**	**329**	Pn		**Pn**	**18 24 09.5**	**+1.1**
SCRK	**Sand Creek**	**8.54**	**14**	Pn		**Pn**	**18 24 09.5**	**+0.5**
HDA	**Harding Lake**	**8.68**	**5**	Pn		**Pn**	**18 24 12.7**	**+1.8**
N31M	**Braeburn, Yuko**	**8.81**	**44**	Pn		**Pn**	**18 24 15.2**	**+2.6**
CCB	**Clear Creek Bu**	**8.89**	**2**	Pn		**Pn**	**18 24 14.4**	**+0.7**
K27K	**Chicken**	**8.89**	**19**	Pn		**Pn**	**18 24 14.9**	**+1.2**
J25K	**Salcha River,**	**9.00**	**9**	Pn		**Pn**	**18 24 15.2**	**-0.1**
ILAR	**Eielson Array**	**9.05**	**5**	Pn		**Pn**	**18 24 19.1**	**+3.3**
	comp=N,0.1nm,0.3s,baz=185,slow=13,SNR=4.2							
	comp=N,0.3nm,0.5s							
J26L	**Joseph Creek**	**9.09**	**14**	Pn		**Pn**	**18 24 17.9**	**+1.3**
M31M	**Drury Creek, Y**	**9.76**	**43**	Pn		**Pn**	**18 24 29.7**	**+4.0**
K29M	**Barlow Dome**	**9.82**	**30**	Pn		**Pn**	**18 24 28.5**	**+2.0**
I26K	**Coal Creek Min**	**9.92**	**14**	Pn		**Pn**	**18 24 28.4**	**+0.6**
H24K	**Noodor Dome**	**10.08**	**2**	Pn		**Pn**	**18 24 32.4**	**+2.3**
H21K	**Melozitna Rive**	**10.09**	**350**	Pn		**Pn**	**18 24 31.5**	**+1.3**
R33M	**Jennings River**	**10.16**	**62**	Pn		Pn	18 24 35.9	+4.6
YKA	**Yellowknife Ar**	**18.54**	**55**	P		Pn	18 26 28.9	+7.0
	baz=266,slow=11,SNR=3.7							
	comp=N,0.4nm,0.8s							
NVAR	**Mina Array Bea**	**26.69**	**118**	P		P	18 27 50.8	+6.1
	comp=N,0.2nm,0.2s,baz=309,slow=8.0,SNR=2.9							
	comp=N,0.2nm,0.2s							

*IDC **23** 18:22:07.6±4.1,3°.09S×131°.03E, h0km, mb3.3/2, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=290.8km s-min=29.2km az=72.0*
*DJA **23** 18:22:11.9±0.6,3°.S±4°×13°.1E±°, h10km±4km, M3.1/8, MLv3.1/8*
ISC 23 18:22:13.8±1.0,**3°.23S**±0°.06×**130°.56E**±0°.07,**h35**km,**n10,**
σ1§**10**/12,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**1.44**	**207**	P		**Pn**	**18 22 38.1**	**+0.8**
FAKI	**Fak Fak**	**1.71**	**80**	P		**Pn**	**18 22 41.4**	**+0.2**
SIJI	**Sorong**	**2.45**	**17**	P		**Pn**	**18 22 51.4**	**+0.1**
SIJI				S		**Sn**	**18 23 20.4**	**+0.3**
SWI	**Sorong**	**2.46**	**17**	P		**Pn**	**18 22 52.1**	**+0.7**
SWI				S		**Sn**	**18 23 21.0**	**+0.8**
NLAI	**Namlea**	**3.46**	**270**	P		**Pn**	**18 23 07.2**	**+2.1**
LBMI	**Labuha**	**4.00**	**310**	P		**Pn**	**18 23 12.4**	**-0.2**
SANI	**Sanana**	**4.72**	**284**	P		**Pn**	**18 23 20.8**	**-1.7**
WRA	**Warramunga Arr**	**17.01**	**168**	P		**Pn**	**18 26 08.6**	**-0.5**
	0.2nm,0.3s,baz=350,slow=12,SNR=9.0							
WRA				S		Sn	18 29 02.0	-15
	0.3nm,0.8s,baz=357,slow=23,SNR=1.4							
	0.8nm,0.6s							
ASAR **Alice Springs** 20.57 171 P P 18 26 48.5 -1.2
0.9nm,0.5s,baz=353,slow=11,SNR=22
0.9nm,0.5s
MKAR **Makanchi Array** 65.42 326 P P 18 32 53.4 +0.3
0.1nm,0.4s,baz=114,slow=6.8,SNR=4.3
0.1nm,0.4s

*IDC **23** 18:23:07.5±3.1,56°.00N×149°.36W, h0km, mb3.8/2, mbtmp3.6/7, ML3.3/5, MS3.5/1, Error ellipse: s-maj=53.6km s-min=28.7km az=179.0*
*NEIC **23** 18:23:10.3±1.4,56°.26N±0°.08×149°.40W±0°.09, h21km±9km, ML3.8/48, ML3.5(AEIC), Error ellipse: s-maj=11.9km s-min=7.3km az=168.0*
*AEIC **23** 18:23:12.7±1.9,56°.18N±0°.08×149°.35W±0°.10, h8km±7km, Error ellipse: s-maj=12.2km s-min=7.5km az=170.0*
ISC 23 18:23:09.9±1.0,**56°.34N**±0°.09×**149°.41W**±0°.05,**h10**km,
n183,σ0§**97**/179,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.25**	**311**			**Sn**	**18 24 14.6**	**-0.5**
KDAK	**Kodiak Island**	**2.25**	**311**			**Pn**	**18 23 46.8**	**-0.4**
KDAK	**Kodiak Island**	**2.25**	**311**	S		**Sn**	**18 24 14.5**	**-0.5**
	baz=131							
KDAK	**Kodiak Island**	**2.25**	**311**	Pn		**Pn**	**18 23 47.1**	**-0.1**
	2.5nm,0.3s,baz=132,slow=21,SNR=1.5							
KDAK				Sn		**Sn**	**18 24 13.9**	**-1.1**
	15nm,0.3s,baz=152,slow=22,SNR=4.3							
	8.5nm,0.3s							
OHAK	**Old Harbor**	**2.31**	**294**			**Pn**	**18 23 47.6**	**-0.3**
OHAK						**Sn**	**18 24 13.7**	**-2.6**
OHAK	**Old Harbor**	**2.31**	**294**	P		**Pn**	**18 23 47.6**	**-0.3**
	baz=114							
OHAK				S		**Sn**	**18 24 13.7**	**-2.6**
	baz=114							
SYI	**Shuyak Island**	**2.78**	**326**			**Sn**	**18 24 28.2**	**+0.1**
SYI	**Shuyak Island**	**2.78**	**326**			**Pn**	**18 23 55.2**	**+0.7**
Q20K	**Shuyak Island**	**2.78**	**326**	P		**Pn**	**18 23 55.7**	**+1.2**
	baz=145							
Q20K				S		**Sn**	**18 24 28.2**	**+0.1**
	baz=145							
R18K	**Karluk**	**3.02**	**296**			**Pn**	**18 23 56.5**	**-1.2**
R18K						**Sn**	**18 24 33.0**	**-0.9**
R18K	**Karluk**	**3.02**	**296**	IAML			18 24 39.5	
	comp=E,226nm,0.4s							
R18K				IAML			18 24 41.9	
	comp=N,206nm,0.5s							
R18K	**Karluk**	**3.02**	**296**	P		**Pn**	**18 23 56.5**	**-1.2**
	baz=114							
R18K				S		**Sn**	**18 24 33.0**	**-0.9**
	baz=114							
CNPM	**China Poot**	**3.33**	**344**			**Pn**	**18 24 02.4**	**+0.3**
CNPM	**China Poot**	**3.33**	**344**	IAML			18 25 10.6	
	comp=N,130nm,3.0s							
Q19K	**Cape Douglas,**	**3.45**	**320**			**Sn**	**18 24 44.3**	**-0.3**
Q19K	**Cape Douglas,**	**3.45**	**320**	Pn		**Pn**	**18 24 03.4**	**-0.3**
Q19K	**Cape Douglas,**	**3.45**	**320**	IAML			18 24 49.9	
	comp=N,259nm,0.6s							
Q19K				IAML			18 24 52.4	
	comp=E,386nm,0.8s							
Q19K	**Cape Douglas,**	**3.45**	**320**	S		**Sn**	**18 24 44.3**	**-0.3**
	baz=138							
BRSE	**Bradley Lake S**	**3.48**	**349**			**Pn**	**18 24 04.0**	**-0.1**
BRSE	**Bradley Lake S**	**3.48**	**349**	P		**Pn**	**18 24 04.0**	**-0.1**
	baz=168							
Q23K	**Middleton Isla**	**3.50**	**27**			**Pn**	**18 24 04.3**	**0.0**
Q23K				IAML			18 24 45.1	
	comp=E,278nm,2.0s							
Q23K	**Middleton Isla**	**3.50**	**27**			**Sn**	**18 24 44.4**	**-1.3**
Q23K	**Middleton Isla**	**3.50**	**27**	IAML			18 24 38.2	
	comp=N,247nm,1.9s							
Q23K	**Middleton Isla**	**3.50**	**27**	P		**Pn**	**18 24 04.3**	**0.0**
	baz=208							
Q23K				S		**Sn**	**18 24 44.4**	**-1.3**
	baz=208							
MID	**Middleton Isla**	**3.50**	**27**			**Pn**	**18 24 04.4**	**0.0**
MID				IAML			18 24 44.0	
	comp=N,249nm,2.1s							
MID				IAML			18 25 31.0	
	comp=E,234nm,2.7s							
BRLK	**Bradley Lake**	**3.52**	**348**			**Pn**	**18 24 04.8**	**+0.1**
BRLK				IAML			18 25 04.1	
	comp=E,95nm,3.5s							
SEW	**Seward**	**3.77**	**360**			**Pn**	**18 24 08.1**	**0.0**
SEW	**Seward**	**3.77**	**360**	P		**Pn**	**18 24 08.1**	**0.0**
	baz=179							
P19K	**Oil Pt**	**3.89**	**330**	Pn		**Pn**	**18 24 09.1**	**-0.6**
P19K				IAML			18 25 00.8	
	comp=E,144nm,0.5s							
P19K				IAML			18 25 03.2	
	comp=N,144nm,0.6s							
O22K	**Cooper Landing**	**4.15**	**358**	Pn		**Pn**	**18 24 10.9**	**-2.4**
SLKM	**Skilak Lake**	**4.20**	**355**			**Pn**	**18 24 14.5**	**+0.6**
HIN	**Hinchinbrook I**	**4.34**	**19**			**Pn**	**18 24 16.2**	**+0.3**
HIN	**Hinchinbrook I**	**4.34**	**19**	IAML			18 25 06.3	
	comp=E,94nm,0.5s							
P18K	**Big Mountain,**	**4.36**	**317**	Pn		**Pn**	**18 24 15.1**	**-1.1**
KAIM	**Kayak Island**	**4.46**	**34**	Pn		**Pn**	**18 24 17.2**	**-0.3**
RSO	**Redoubt South**	**4.49**	**338**			**Pn**	**18 24 17.7**	**-0.4**
RDWB	**Redoubt West**	**4.53**	**338**			**Pn**	**18 24 19.1**	**+0.5**
CAPN	**Captain Cook N**	**4.53**	**349**	Pn		**Pn**	**18 24 18.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**4.63**	**23**			**Pn**	**18 24 20.2**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.63**	**23**	P		**Pn**	**18 24 20.2**	**+0.3**
	baz=205							
O18K	**Koktuh Hills**	**4.67**	**321**	Pn		**Pn**	**18 24 20.1**	**-0.4**
O18K				IAML			18 25 56.1	
	comp=N,40nm,2.2s							
O18K				IAML			18 26 48.3	
	comp=E,39nm,3.1s							
FID	**Port Fidalgo**	**4.68**	**18**	Pn		**Pn**	**18 24 20.7**	**+0.1**
FID				IAML			18 25 13.2	
	comp=E,53nm,0.4s							
FID				IAML			18 25 18.3	
	comp=N,58nm,0.7s							
P17K	**Kvichak River**	**4.72**	**310**			**Pn**	**18 24 21.7**	**+0.6**
P17K	**Kvichak River**	**4.72**	**310**	P		**Pn**	**18 24 21.7**	**+0.6**
	baz=126							
RC01	**Rabbit Creek A**

CUT	Chulitna	6.10	356	Pn		Pn		18 24 40.1	+0.2
M19K	Big River Lodg	6.13	337	Pn		Pn		18 24 40.4	-0.1
BARN	Barnard Glacie	6.22	37			Pn		18 24 41.8	0.0
O15K	Ungalikthiuk R	6.25	301			Pn		18 24 43.1	+1.0
O15K	Ungalikthiuk R	6.25	301	P		Pn		18 24 43.1	+1.0
	baz=114								
CTGM	Chitina Glacie	6.26	39	Pn		Pn		18 24 42.9	+0.5
PNL	Peninsula	6.28	54			Pn		18 24 42.4	-0.1
PNL	Peninsula	6.28	54	P		Pn		18 24 42.4	-0.1
	baz=241								
LOGN	Logan Glacier	6.28	41	Pn		Pn		18 24 41.9	-0.8
SDPT	Sand Point	6.31	266	Pn		Pn		18 24 42.7	-0.2
BCPM	Bancas Point	6.31	51			Pn		18 24 43.0	0.0
L19K	White Mountain	6.48	337	Pn		Pn		18 24 45.0	-0.4
WAT7	Susitna Watana	6.52	2			Pn		18 24 46.7	+0.9
M17K	Holitna River	6.56	324	Pn		Pn		18 24 46.8	+0.5
N15K	Kwethluk River	6.81	309			Pn		18 24 50.5	+0.7
DHY	Denali Highway	6.83	8			Pn		18 24 51.4	+1.2
DHY	Denali Highway	6.83	8	P		Pn		18 24 51.3	+1.2
	baz=189								
M16K	Timber Creek	6.83	317	Pn		Pn		18 24 50.6	+0.5
M26K	Nabesna, AK	6.90	26	Pn		Pn		18 24 52.0	+0.9
O29M	Mount Kennedy	6.95	51			Pn		18 24 51.7	-0.1
L18K	Granite Mounta	6.97	331	Pn		Pn		18 24 51.2	-0.7
O14K	Tigyukauivet M	6.97	300	Pn		Pn		18 24 52.4	+0.4
P29M	Windy Craggy	7.03	57			Pn		18 24 52.5	-0.3
RND	Reindeer	7.09	2	Pn		Pn		18 24 54.4	+0.7
TRF	Thorofare Moun	7.14	357	Pn		Pn		18 24 54.8	+0.4
M27K	Edge Creek, AK	7.15	29	Pn		Pn		18 24 54.2	-0.4
MENT	Mentasta	7.21	21	Pn		Pn		18 24 55.2	-0.1
CAST	Castle Rocks	7.22	350	Pn		Pn		18 24 56.0	+0.6
KTH	Kantishna Hill	7.27	355	Pn		Pn		18 24 56.1	-0.1
S31K	Pelican	7.35	72			Pn		18 24 55.3	-1.9
S31K	Pelican	7.35	72	P		Pn		18 24 55.8	-1.4
	baz=262								
TTA	Tatalina	7.40	336	Pn		Pn		18 24 57.9	0.0
K20K	Telida	7.41	344	Pn		Pn		18 24 58.5	+0.4
L16K	Owhat River	7.47	320	Pn		Pn		18 24 59.7	+0.9
HYT	Haines Junctio	7.67	49	Pn		Pn		18 25 02.0	+0.3
L27K	Beaver Creek,	7.75	26	Pn		Pn		18 25 03.1	+0.5
RIDG	Independent Ri	7.76	15			Pn		18 25 03.2	+0.3
BCAR	Beaver Creek A	7.76	27	Pn		Pn		18 25 02.9	+0.1
K17K	Iditarod	7.82	328	Pn		Pn		18 25 03.7	+0.1
BPAW	Bear Paw Mtn.	7.82	355	Pn		Pn		18 25 03.4	-0.2
BWN	Browne	7.85	360	Pn		Pn		18 25 04.8	+0.7
M14K	Bethel	7.91	309	Pn		Pn		18 25 05.2	+0.4
J18K	Innoko River	8.03	336	Pn		Pn		18 25 06.5	0.0
SCRK	Sand Creek	8.12	17	Pn		Pn		18 25 07.6	-0.2
SKAG	Skagway	8.12	62	Pn		Pn		18 25 07.4	-0.4
N30M	Aishikik Lake	8.18	46	Pn		Pn		18 25 08.2	-0.4
HDA	Harding Lake	8.18	8			Pn		18 25 08.8	+0.2
J20K	Nowinta River	8.20	345	Pn		Pn		18 25 08.9	+0.1
S32K	Killisnoo	8.20	76	Pn		Pn		18 25 06.5	-2.3
O30N	Mendenhall	8.25	52	Pn		Pn		18 25 08.9	-0.7
M29M	Somme Creek	8.28	38			Pn		18 25 08.7	-1.3
NEA2	Nenana	8.28	1	Pn		Pn		18 25 09.3	-0.6
R32K	Eaglecrest	8.29	70	Pn		Pn		18 25 09.1	-1.0
JIS	Juneau Island	8.36	70	Pn		Pn		18 25 09.3	-1.7
CCB	Clear Creek Bu	8.37	5	Pn		Pn		18 25 11.6	+0.5
M13K	Dall Lake	8.38	305	Pn		Pn		18 25 11.7	+0.5
K27K	Chicken	8.53	22	Pn		Pn		18 25 14.3	+1.0
J25K	Salcha River,	8.53	12	Pn		Pn		18 25 14.3	+0.8
IL31		8.55	7			Pn		18 25 13.5	0.0
ILAR	Eielson Array	8.55	7	Pn		Pn		18 25 13.6	0.0
ILAR	Eielson Array	8.55	7	Pn		Pn		18 25 15.1	+1.5
	comp=E,0.4nm,0.3s,baz=186,slow=13,SNR=10.0								
ILAR					Sn	Sn		18 26 45.7	-4.2
	comp=E,0.4nm,0.3s,baz=183,slow=16,SNR=3.3								
	comp=E,1.0nm,0.4s								
K15K	Wolf Creek Mou	8.59	319	Pn		Pn		18 25 18.0	+3.8
J26L	Joseph Creek	8.68	17			Pn		18 25 15.6	+0.2
N31M	Braeburn, Yuko	8.73	48	Pn		Pn		18 25 16.6	+0.6
WHY	Whitehorse	8.74	54			Pn		18 25 16.6	+0.2
I23K	Minto, Yukon-K	8.83	0	Pn		Pn		18 25 18.2	+0.7
L29M	L29M	8.85	35	Pn		Pn		18 25 18.8	+1.0
POKR	Poker Plat Res	8.86	5	Pn		Pn		18 25 18.4	+0.5
J16K	Anvik River	8.94	326	Pn		Pn		18 25 18.9	-0.1
M30M	Minto, Yukon	8.95	41	Pn		Pn		18 25 19.4	+0.3
P32M	Atlin	8.95	62			Pn		18 25 18.6	-0.6
I21K	Tanana	8.95	353	Pn		Pn		18 25 20.1	+1.0
U33K	Whale Pass	9.08	85	Pn		Pn		18 25 17.3	-3.6
DAWY	Dawson	9.20	29	Pn		Pn		18 25 21.2	-1.4
EGAK	Eagle	9.38	22	Pn		Pn		18 25 24.2	-0.7
PRP	Porcupine Dome	9.39	10	Pn		Pn		18 25 25.5	+0.2
H21K	Melozitna Rive	9.49	351			Pn		18 25 26.1	-0.3
I26K	Coal Creek Min	9.49	16	Pn		Pn		18 25 26.8	+0.3
Q32M	Nakina River	9.55	67	Pn		Pn		18 25 27.0	-0.5
P33M	Teslin, Yukon	9.55	59	Pn		Pn		18 25 27.6	+0.2
H24K	Noodor Dome	9.55	4	Pn		Pn		18 25 27.7	+0.3
K29M	Barlow Dome	9.57	33	Pn		Pn		18 25 27.9	+0.2
AKUT	Akutan	9.60	264	Pn		Pn		18 25 26.7	-1.3
J14K	Nanvaranak Lak	9.62	318	Pn		Pn		18 25 28.9	+0.8
K13K	Kusilvak Mount	9.62	312	Pn		Pn		18 25 26.9	-1.3
M31M	Drury Creek, Y	9.66	46	Pn		Pn		18 25 29.9	+1.1
N32M	Quiet Lake	9.75	54	Pn		Pn		18 25 29.8	-0.2
H18K	Honhosa River	9.85	337	Pn		Pn		18 25 30.9	-0.5
IMAR	Indian Mountai	9.89	350	Pn		Pn		18 25 31.7	-0.3
H17K	Granite Mounta	10.03	334			Pn		18 25 33.5	-0.3
S34M	Telegraph Cree	10.06	73	Pn		Pn		18 25 33.5	-0.8
DIB	Dawson Inlet,	10.28	101	Pn		Pn		18 25 37.4	+0.2
R33M	Jennings River	10.28	65	Pn		Pn		18 25 37.6	+0.2
G21K	Allakaket	10.39	351	Pn		Pn		18 25 39.3	+0.5
G23K	Bananza Creek	10.41	359	Pn		Pn		18 25 39.8	+0.8
G24K	Hadweenzic Riv	10.43	4	Pn		Pn		18 25 40.3	+0.9
J30M	Hart River	10.46	33	Pn		Pn		18 25 41.6	+1.7
DLBC	Dease Lake	10.66	71	Pn		Pn		18 25 43.4	+0.7
	comp=E,0.7nm,0.3s,baz=270,slow=10,SNR=2.2								
	comp=E,1.4nm,0.3s								
F21K	Alatna River	11.08	352	Pn		Pn		18 25 49.3	+1.0
F20K	Avaraart Lake	11.14	347	Pn		Pn		18 25 48.3	-0.8
H29M	Whitestone	11.22	24	Pn		Pn		18 25 48.7	-1.4
F24K	Squaw Lake	11.24	3	Pn		Pn		18 25 52.4	+2.0
INK	Inuvik	14.02	25	Pn		Pn		18 26 30.1	+1.8
	comp=E,0.1nm,0.3s,baz=227,slow=18,SNR=1.9								
	comp=E,0.7nm,0.6s								
YKA	Yellowknife Ar	18.57	56	P		Pn		18 27 27.8	+1.0
	baz=264,slow=11,SNR=5.2								
	comp=E,0.6nm,1.0s								
RES	Resolute Bay	27.54	28	LR		LR		18 41 26.9	
	comp=E,115nm,21.3s,baz=2.0,slow=40								
H11N2	WAKE ISLAND Hy	48.85	240	T		T		19 24 34.3	
	baz=30								
H11N3	WAKE ISLAND Hy	48.86	240	T		T		19 24 40.7	
	baz=30								
H11N1	WAKE ISLAND Hy	48.87	240	T		T		19 24 32.4	
	baz=30								
H11S1	WAKE ISLAND Hy	49.99	239	T		T		19 26 14.4	
	baz=29								
H11S2	WAKE ISLAND Hy	50.01	239	T		T		19 26 11.0	
	baz=29								
H11S3	WAKE ISLAND Hy	50.01	239	T		T		19 26 12.9	
	baz=29								
FINES	FINESS Array B	62.50	2	P		P		18 33 33.8	+0.8
	comp=E,3.3nm,1.0s,baz=343,slow=6.0,SNR=3.4								
	comp=E,3.3nm,1.0s								
MKAR	Makanchi Array	68.50	325	P		P		18 34 13.5	+1.5
	comp=E,0.1nm,0.4s,baz=21,slow=5.3,SNR=4.8								
	comp=E,0.1nm,0.4s								

*IDC **23** 18:26:26.3±1.0,55°.57N×149°.21W,h0km,mb3.8/12, mbtmp3.9/17,ML3.7/5,Error ellipse: s-maj=25.9km s-min=16.3km az=27.0*

*NEIC **23** 18:26:28.0±2.0,55°.63N±0°.09×149°.1W±0°.1,h18km±7km, mb4.0/1,ML4.1/42,ML3.7(AEIC),Error ellipse: s-maj=12.9km s-min=8.7km az=177.0*

*AEIC **23** 18:26:33.5±2.1,55°.80N±0°.09×149°.10W±0°.10,h7km±7km, Error ellipse: s-maj=13.3km s-min=7.6km az=172.0*

ISC 23 18:26:27.8±0.7,55.75N±0°.08×149.16W±0°.05,h10km, n263,σ1823/266,mb4.1/11,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
OHAK	Old Harbor	2.73	305		Pn	18 27 11.1		-0.5
OHAK	Old Harbor	2.73	305		Sn	18 27 42.2		-2.4
OHAK	Old Harbor	2.73	305	P	Pn	18 27 11.4		-0.3
	baz=120							
OHAK				S	Sn	18 27 42.3		-2.4
	baz=120							
KDAK	Kodiak Island	2.78	319	Pn	Pn	18 27 12.6		+0.3
KDAK	Kodiak Island	2.78	319		Sn	18 27 45.2		-0.7
KDAK	Kodiak Island	2.78	319	Pn	Pn	18 27 12.4		0.0
	16nm,0.3s,baz=145,slow=8.3,SNR=13							
KDAK					Sn	Sn	18 27 42.6	-3.3
	6.6nm,0.3s,baz=138,slow=23,SNR=2.0							
	63nm,0.5s							
SYI	Shuyak Island	3.37	330		Pn	18 27 20.9		+0.5
SYI	Shuyak Island	3.37	330		Sn	18 27 59.3		-1.1
Q20K	Shuyak Island	3.37	330	P	Pn	18 27 21.2		+0.8
	baz=146							
Q20K				S	Sn	18 27 59.8		-0.7
	baz=146							
R18K	Karluk	3.45	304		Pn	18 27 22.2		+0.7
R18K	Karluk	3.45	304	IAML		18 28 06.3		
	comp=N,454nm,0.5s							
R18K				IAML		18 28 06.5		
	comp=E,264nm,0.4s							
CNPM	China Poot	3.95	344		Pn	18 27 28.8		+0.3
CNPM				IAML		18 28 16.6		
	comp=N,107nm,0.8s							
CNPM	China Poot	3.95	344		Sn	18 28 13.2		-1.6
Q23K	Middleton Isla	3.99	21		Pn	18 27 29.3		+0.4
Q23K	Middleton Isla	3.99	21	IAML		18 28 26.0		
	comp=N,184nm,1.3s							
Q23K				IAML		18 29 19.5		
	comp=E,198nm,1.5s							
Q23K	Middleton Isla	3.99	21	P	Pn	18 27 29.3		+0.4
	baz=203							
MID	Middleton Isla	3.99	21		Pn	18 27 29.2		+0.2
MID	Middleton Isla	3.99	21	IAML		18 28 14.3		
	comp=N,189nm,1.0s							
MID				IAML		18 28 30.2		
	comp=E,197nm,1.3s							
Q19K	Cape Douglas,	4.01	325		Pn	18 27 30.6		+1.2
Q19K				IAML		18 28 31.0		
	comp=N,257nm,0.8s							
Q19K	Cape Douglas,	4.01	325	P	Pn	18 27 31.0		+1.7
	baz=140							
KAHG	Katmai Hook Gl	4.03	315		Pn	18 27 31.5		+1.9
BRSE	Bradley Lake S	4.10	349		Pn	18 27 30.8		+0.3
BRSE					Sn	18 28 17.2		-1.2
BRSE	Bradley Lake S	4.10	349	P	Pn	18 27 30.8		+0.3
	baz=167							
BRLK	Bradley Lake	4.13	348		Pn	18 27 31.2		+0.2
BRLK				IAML		18 28 20.2		
	comp=E,168nm,0.5s							
BRLK				IAML		18 28 20.3		
	comp=N,115nm,0.2s							
KCE	Katmai Mt Cerb	4.14	310		Pn	18 27 33.2		+2.1
HOM	Homer	4.14	342	Pn	Pn	18 27 30.9		-0.2
HOM				IAML		18 29 41.5		
	comp=N,365nm,1.3s							
HOM				IAML		18 29 53.4		
	comp=E,258nm,1.5s							
HOM	Homer	4.14	342		Sn	18 28 18.7		-0.8
ACHA	Angle Creek He	4.18	309		Pn	18 27 33.2		+1.5
ANCK	Angle Creek	4.25	308		Pn	18 27 34.5		+1.9
KVTA	Katmai Vly 10	4.27	311		Pn	18 27 34.3		+1.5
KAHC	Katmai Hardscr	4.31	315		Pn	18 27 34.7		+1.2
KAHC	Katmai Hardscr	4.31	315	P	Pn	18 27 35.1		+1.6
	baz=129							
P23K	Montague Islan	4.37	12		Pn	18 27 34.7		+0.5
PLK3	Peulik 3	4.38	299		Pn	18 27 35.5		+1.2
CNTC	Contact Creek	4.46	307		Pn	18 27 36.4		+0.8
CNTC					Sn	18 28 26.6		-0.9
Q17K	Contact Creek	4.46	307	P	Pn	18 27 36.4		+0.8
	baz=121							
P19K	Oil Pt	4.49	333		Pn	18 27 36.5		+0.7
P19K				IAML		18 28 33.4		
	comp=N,211nm,0.8s							
P19K				IAML		18 28 33.6		
	comp=E,222nm,0.5s							
P19K	Oil Pt	4.49	333	P	Pn	18 27 36.9		+1.1
	baz=148							
PLK1	Peulik 1	4.59	300		Pn	18 27 38.3		+1.1
O20K	Slope Mountain	4.72	338		Pn	18 27 39.7		+0.6
IVE	Iliamna Volcan	4.75	336		Pn	18 27 40.1		+0.6
O22K	Cooper Landing	4.76	357		Pn	18 27 40.3		+0.8
SLKM	Skilak Lake	4.81	354		Pn	18 27 40.9		+0.6
HIN	Hinchinbrook I	4.87	16	Pn	Pn	18 27 42.0		+0.9
KAIM	Kayak Island	4.90	29	Pn	Pn	18 27 42.0		+0.6
KAIM				IAML		18 28 40.4		
	comp=E,204nm,1.5s							
KAIM				IAML		18 28 42.3		
	comp=N,199nm,0.7s							
P18K	Big Mountain,	4.90	321		Pn	18 27 41.7		+0.2
P18K	Big Mountain,	4.90	321	P	Pn	18 27 42.2		+0.6
	baz=135							
Q16K	King Salmon	5.02	309		Pn	18 27 44.2		+1.1
Q16K	King Salmon	5.02	309	P	Pn	18 27 44.2		+1.1
	baz=122							
RSO	Redoubt South	5.10	340	Pn	Pn	18 27 44.0		-0.4
RSO					Sn	18 28 43.9		+0.5
RDT	Redoubt	5.14	342		Pn	18 27 44.8		0.0
RDWB	Redoubt West	5.14	339		Pn	18 27 44.7		-0.2
EYAK	Cordova Ski Ar	5.14	19		Pn	18 27 44.9		+0.1
EYAK	Cordova Ski Ar	5.14	19	P	Pn	18 27 45.9		+1.1
	baz=202							
CAPN	Captain Cook N	5.15	349	Pn	Pn	18 27 45.3		+0.5
FID	Port Fidalgo	5.21	15	Pn	Pn	18 27 45.7		-0.1
FID				IAML		18 28 43.8		
	comp=N,88nm,0.5s							
FID				IAML		18 28 47.0		
	comp=E,133nm,0.5s							
CHGN	Chignik	5.22	280	Pn	Pn	18 27 45.6		-0.3
CHGN				IAML		18 28 46.0		
	comp=N,119nm,0.3s							
CHGN				IAML		18 28 51.0		
	comp=E,124nm,0.7s							
NCT	North Crescent	5.23	339		Pn	18 27 46.6		+0.5
RAGM	Ragged Mountai	5.23	25		Pn	18 27 46.6		+0.6
P17K	Kvichak River	5.23	314		Pn	18 27 47.2		+1.2
P17K	Kvichak River	5.23	314	P	Pn	18 27 47.2		+1.2
	baz=128							
O18K	Koktuh Hills	5.24	324		Pn	18 27 46.4		+0.2
O18K				IAML		18 28 55.7		
	comp=N,47nm,0.9s							
O18K	Koktuh Hills	5.24	324	P	Pn	18 27 47.0		+0.9
	baz=139							
O19K	Port Alsworth	5.24	331		Pn	18 27 46.4		+0.3
O19K	Port Alsworth	5.24	331	IAML		18 28 49.8		
	comp=N,142nm,0.4s							
RC01	Rabbit Creek A	5.37	357	Pn	Pn	18 27 48.5		+0.6
RC01	Rabbit Creek A	5.37	357	P	Pn	18 27 48.5		+0.6
	baz=176							
GOAT	Goat Mountain	5.38	24		Pn	18 27 49.5		+1.3
BERG	Berg Lake	5.48	30		Pn	18 27 50.0		+0.5
SNH	Sunshine Point	5.57	34	Pn	Pn	18 27 51.7		+1.0
CYK	Cape Yakataga	5.62	37		Pn	18 27 51.6		+0.3
SPU	Mount Spurr	5.66	346	Pn	Pn	18 27 52.0		0.0
DIV	Divide	5.68	17		Pn	18 27 52.5		+0.2
KNK	Knik Glacier	5.70	3	Pn	Pn	18 27 53.0		+0.6
N20K	Mount Spurr	5.70	345	P	Pn	18 27 52.5		0.0
	baz=162							
SPCR	Spurr Chakacha	5.70	345		Pn	18 27 52.5		0.0
SPCP	Crater Peak Br	5.75	345		Pn	18 27 54.5		+1.2
BMRM	Bremner River	5.76	23	Pn	Pn	18 27 52.1		-1.2
BMRM	Bremner River	5.76	23	P	Pn	18 27 54.5		+1.2
	baz=206							
SPCG	Spurr Capps Gl	5.76	346		Pn	18 27 54.1		+0.7
SUA	Susitna One	5.79	352	Pn	Pn	18 27 53.4		-0.5
P16K	Nushagak River	5.80	308		Pn	18 27 54.9		+1.1
P16K	Nushagak River	5.80	308	P	Pn	18 27 54.9		+1.1
	baz=120							
N19K	Bonanza Creek	5.80	333	Pn	Pn	18 27 53.6		-0.4
O17K	Koliganek Bris	5.86	317		Pn	18 27 55.5		+0.9
O17K	Koliganek Bris	5.86	317	P	Pn	18 27 55.5		+0.9
	baz=130							
PMR	Palmer	5.86	0	Pn	Pn	18 27 55.9		+1.2
SPNN	Porthn Nagishla	5.93	343		Pn	18 27 56.4		+0.5
STLK	Strandline Lak	5.94	347		Pn	18 27 56.2		+0.4
KLU	Klutina	6.00	15		Pn	18 27 57.6		+0.8
KLU	Klutina	6.00	15	P	Pn	18 27 58.5		+1.8
	baz=198							
CNBA	Chernabura Isl	6.03	265	Pn	Pn	18 27 55.0		-2.1
GHO	Glory Hole Cre	6.05	1		Pn	18 27 58.5		+1.2
N18K	Kilae Creek	6.09	327		Pn	18 27 58.0		+0.1
SML	Sawmill	6.09	4		Pn	18 27 59.4		+1.4
M23K	Glacier View	6.11	6		Pn	18 27 59.8		+1.7
O16K	Kokwok River B	6.15	312		Pn	18 27 59.3		+0.7
SCM	Sheep Creek Mo	6.18	8		Pn	18 28 00.6		+1.4
VRDI	Verde Repeater	6.26	26	Pn	Pn	18 28 00.9		+0.7
VRDI					Sn	18 29 08.9		-2.9
SAMH	Samovar Hills	6.26	42		Pn	18 28 01.5		+1.3
SVW2	Sparrevohn	6.34	330		Pn	18 28 00.9		-0.3
N25K	Chitina, Valde	6.34	20	Pn	Pn	18 28 02.5		+1.2
N25K					Sn	18 29 09.6		-4.1
GLB	Gilahina Butte	6.36	24		Pn	18 28 01.2		-0.3
SKT	Skwentna	6.37	350		Pn	18 28 02.4		+0.7
N17K	Nushagak Hills	6.41	322		Pn	18 28 02.6		+0.5
SDPT	Sand Point	6.44	271	Pn	Pn	18 28 01.8		-0.7
M20K	Styx River	6.49	343	Pn	Pn	18 28 03.1		-0.2
M24K	Tolsona, Glenn	6.56	12		Pn	18 28 06.1		+1.8
BCPM	Bancas Point	6.60	46		Pn	18 28 05.5		+0.7
BARN	Barnard Glacie	6.62	33		Pn	18 28 06.3		+1.0
CTGM	Chitina Glacie	6.66	35		Pn	18 28 06.4		+0.7
LOGN	Logan Glacier	6.66	37		Pn	18 28 06.1		+0.3
CUT	Chulitna	6.70	356	Pn	Pn	18 28 07.1		+0.9
M18K	Stony River	6.73	332		Pn	18 28 06.7		+0.1
M19K	Big River Lodg	6.75	338	Pn	Pn	18 28 06.8		0.0
WAT6	Susitna Watana	6.89	5		Pn	18 28 10.2		+1.2
N16K	Nishlik Lake	6.95	317		Pn	18 28 11.1		+1.4
L19K	White Mountain	7.09	338	Pn	Pn	18 28 11.5		-0.1
WAT7	Susitna Watana	7.11	1		Pn	18 28 13.8		+1.8
M17K	Holitna River	7.13	326		Pn	18 28 12.6		+0.5
L20K	Farewell, AK	7.17	342		Pn	18 28 12.5		-0.2
O29M	Mount Kennedy	7.24	47		Pn	18 28 14.8		+1.2
P29M	Windy Craggy	7.25	53		Pn	18 28 14.2		+0.5
N15K	Kwethluk River	7.31	312		Pn	18 28 16.1		+1.6
M16K	Timber Creek	7.38	320		Pn	18 28 16.0		+0.5
M26K	Nabesna, AK	7.39	23	Pn	Pn	18 28 16.8		+1.1
O14K	Tigyukauivet M	7.41	303		Pn	18 28 16.6		+0.7
DHY	Denali Highway	7.41	6		Pn	18 28 17.5		+1.5
YUK2	White River	7.44	32		Pn	18 28 18.3		+1.9
L18K	Granite Mounta	7.56	332	Pn	Pn	18 28 17.8		-0.2
M27K	Edge Creek, AK	7.62	26		Pn	18 28 20.1		+1.2
RND	Reindeer	7.69	1	Pn	Pn	18 28 20.7		+0.9
TRF	Thorofare Moun	7.75	356		Pn	18 28 21.6		+0.9
SIT	Sitka	7.79	75	Pn	Pn	18 28 17.1		-4.0
PLBC	Pleasant Camp	7.81	56		Pn	18 28 21.9		+0.5
CAST	Castle Rocks	7.84	350	Pn	Pn	18 28 22.8		+1.0
M15K	Kasigluk River	7.85	314		Pn	18 28 22.6		+0.7
KTH	Kantishna Hill	7.88	354	Pn	Pn	18 28 23.4		+0.9
N14K	Kuskokwak Cree	7.88	307		Pn	18 28 23.6		+1.2
BVCY	Beaver Creek	7.93	29		Pn	18 28 24.9		+1.9
L17K	Donlin	7.95	327		Pn	18 28 24.1		+0.8
HYT	Haines Junctio	7.97	46	Pn	Pn	18 28 25.0		+1.3
TTA	Tatalina	8.01	337	Pn	Pn	18 28 23.4		-0.8
K20K	Telida	8.03	344		Pn	18 28 24.7		+0.3
L16K	Owhat River	8.03	322	Pn	Pn	18 28 24.8		+0.4
S32K	Killisnoo	8.23	72	Pn	Pn	18 28 24.6		-2.5
L27K	Beaver Creek,	8.23	24	Pn	Pn	18 28 27.1		-0.1
BCAR	Beaver Creek A	8.24	24	Pn	Pn	18 28 26.2		-1.2
SKAG	Skagway	8.30	58		Pn	18 28 25.6		-2.5
RIDG	Independent Ri	8.31	13	Pn	Pn	18 28 30.1		+1.8
R32K	Eaglecrest	8.38	66	Pn	Pn	18 28 26.3		-2.9
M14K	Bethel	8.40	312	Pn	Pn	18 28 29.1		-0.4
K17K	Iditarod	8.41	330		Pn	18 28 29.6		0.0
BPAW	Bear Paw Mtn.	8.43	355	Pn	Pn	18 28 29.2		-0.7
JIS	Juneau Island	8.45	66	Pn	Pn	18 28 26.9		-3.3
BWN	Browne	8.46	359	Pn	Pn	18 28 31.4		+1.2
N30M	Aishikik Lake	8.51	43		Pn	18 28 32.2		+1.2
O30N	Mendenhall	8.53	48		Pn	18 28 32.3		+1.0
J18K	Innoko River	8.63	337	Pn	Pn	18 28 32.4		-0.3
SCRK	Sand Creek	8.65	15	Pn	Pn	18 28 33.6		+0.5
M29M	Somme Creek	8.67	35		Pn	18 28 34.9		+1.5
HDA

NEW	**Newport**	**20.94**	**97**	P		**P**	**18 31 11.2**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=310,slow=15,SNR=1.7 comp=Z,2.2nm,0.8s							
NVAR	**Mina Array Bea**	**26.90**	**117**	P		**P**	**18 32 09.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=306,slow=9.3,SNR=4.2 comp=Z,0.6nm,0.7s							
PDAR	**Pinedale Array**	**28.50**	**100**	P		**P**	**18 32 24.7**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=329,slow=5.5,SNR=2.8 comp=Z,0.2nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**48.68**	**241**	T		T	19 27 29.9	
	baz=31							
H11N3	**WAKE ISLAND Hy**	**48.68**	**240**	T		T	19 27 25.9	
	baz=31							
H11N1	**WAKE ISLAND Hy**	**48.70**	**241**	T		T	19 27 31.6	
	baz=31							
ARCES	**ARCESS Array B**	**54.96**	**2**	P		**P**	**18 35 59.2**	**+0.8**
	comp=Z,4.2nm,0.9s,baz=357,slow=6.1,SNR=5.5 comp=Z,4.2nm,0.9s							
SONM	**Songino Array**	**59.04**	**310**	P		**P**	**18 36 29.0**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=45,slow=4.6,SNR=5.0 comp=Z,0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**62.05**	**327**	P		**P**	**18 36 49.4**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=35,slow=5.4,SNR=5.3 comp=Z,0.8nm,0.5s							
FINES	**FINESS Array B**	**63.09**	**3**	P		**P**	**18 36 55.8**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=14,slow=9.8,SNR=5.9 comp=Z,1.1nm,0.6s							
BVAR	**Borovoye Array**	**66.80**	**335**	P		**P**	**18 37 20.4**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=36,slow=6.5,SNR=10 comp=Z,1.6nm,0.7s							
KURBB	**Kurchatov Arra**	**66.84**	**329**	P		**P**	**18 37 19.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=29,slow=6.1,SNR=6.0 comp=Z,0.7nm,0.7s							
MKAR	**Makanchi Array**	**69.07**	**325**	P		**P**	**18 37 34.4**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=31,slow=6.3,SNR=12 comp=Z,0.8nm,0.6s							
AKASG	**Malin Array Be**	**73.91**	**1**	P		**P**	**18 38 02.6**	**0.0**
	comp=Z,1.1nm,0.6s,baz=1.6,slow=6.3,SNR=5.0 comp=Z,1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**86.60**	**298**	P		**P**	**18 39 11.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=2.0,slow=5.5,SNR=5.6 comp=Z,0.5nm,0.6s							
QSPA	**South Pole Qui**	**145.54**	**180**	PKPbc		**PKPdf**	**18 46 02.8**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=56,slow=3.3,SNR=2.2							

*IDC **23** 18:27:19.0±6.2, 37°.34N×71°.42E, h132km±54km, mbtmp3.5/5, Error ellipse: s-maj=78.0km s-min=19.3km az=151.0*
*NNC **23** 18:27:24.0±2.0, 37°.61N×71°.58E, h146km±44km, mb2.4, mpv3.2, Error ellipse: s-maj=21.3km s-min=16.3km az=176.0*

ISC 23 18:27:17.4±2.2, 37°.2N±0°.2×71°.5E±0°.1, h100km, n10, σ1s41/15, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.19**	**18**	⇑P		**Pn**	**18 28 35.3**	**+2.2**
	0.5nm,0.4s							
AML				⇑S		**Sn**	**18 29 30.6**	**-1.2**
	1.7nm,0.6s							
AAK	**Ala-Archa**	**5.88**	**22**	P		**Pn**	**18 28 44.1**	**+1.9**
	3.9nm,0.4s,baz=188,slow=6.3,SNR=33							
AAK				S		**Sn**	**18 29 47.8**	**-0.5**
	1.2nm,0.4s,baz=162,slow=20,SNR=7.2							
KK31	**Karatay Array**	**5.93**	**353**	⇑P		**Pn**	**18 28 44.8**	**+2.0**
	1.1nm,0.2s,baz=184,slow=13,SNR=32							
KK31				⇓S		**Sn**	**18 29 48.2**	**-1.1**
	1.3nm,0.3s,baz=175,slow=22,SNR=6.9							
TKM2	**Tokmak 2**	**6.50**	**28**	⇑P		**Pn**	**18 28 52.1**	**+1.4**
	2.2nm,0.6s							
TKM2				⇑S		**Sn**	**18 30 02.7**	**-0.8**
	1.3nm,0.7s							
GEYT	**Alibeck**	**10.65**	**278**	P		**Pn**	**18 29 46.7**	**-0.3**
	1.1nm,0.2s,baz=103,slow=6.5,SNR=14							
GEYT				S		**Sn**	**18 31 43.5**	**-0.7**
	0.9nm,0.3s,baz=128,slow=27,SNR=5.7							
MKAR	**Makanchi Array**	**12.47**	**37**	P		**Pn**	**18 30 11.4**	**+0.1**
	0.3nm,0.7s,baz=224,slow=14,SNR=3.1							
KURBB	**Kurchatov Arra**	**14.32**	**18**	P		**P**	**18 30 39.1**	**-0.2**
	0.6nm,0.6s,baz=205,slow=10,SNR=6.1							
AB31	**Akbulak array**	**14.67**	**329**	P		**Pn**	**18 30 40.3**	**+0.5**
	0.5nm,0.6s,baz=281,slow=8.3,SNR=11							
BVAR	**Borovoye Array**	**15.83**	**358**	P		**Pn**	**18 30 53.9**	**-0.5**
	0.4nm,0.5s,baz=158,slow=12,SNR=2.3							
ZALV	**Zalesovo Beam**	**19.10**	**25**	P		**P**	**18 31 29.9**	**-2.1**
	0.7nm,0.4s,baz=216,slow=9.9,SNR=5.0							

*IDC **23** 18:27:41.8±1.6, 55°.92N×148°.57W, h0km, mb3.4/6, mbtmp3.4/10, ML3.1/4, Error ellipse: s-maj=38.1km s-min=25.6km az=25.0*

ISC 23 18:27:43.7±1.4, 56°.1N±0°.2×148°.8W±0°.1, h10km, n10, σ2s11/11, mb3.5/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.64**	**310**	Pn		**Pn**	**18 28 26.8**	**+0.6**
	1.6nm,0.3s,baz=294,slow=10,SNR=1.0							
KDAK					Sn	**Sn**	**18 28 54.4**	**-3.9**
	2.6nm,0.3s,baz=214,slow=5.4,SNR=1.1 12nm,0.3s							
ILAR	**Eielson Array**	**8.71**	**5**	Pn		**Pn**	**18 29 49.4**	**-0.1**
	0.2nm,0.3s,baz=187,slow=14,SNR=1.7							
ILAR					Sn	Sn	18 31 20.2	-7.5
	baz=197,slow=15 0.8nm,0.4s							
INK	**Inuvik**	**14.07**	**24**	Pn		**Pn**	**18 31 03.4**	**+0.7**
	0.1nm,0.3s,baz=204,slow=11,SNR=2.7 2.5nm,0.9s							
YKA	**Yellowknife Ar**	**18.40**	**56**	P		**Pn**	**18 31 58.0**	**-0.6**
	baz=261,slow=11,SNR=4.2 1.5nm,1.0s							
TXAR	**Lajitas Array**	**41.53**	**111**	P		**P**	**18 35 28.9**	**-2.3**
	0.1nm,0.4s,baz=316,slow=5.0,SNR=1.7 0.1nm,0.4s							
SONM	**Songino Array**	**58.93**	**310**	P		**P**	**18 37 43.0**	**+0.2**
	0.2nm,0.7s,baz=48,slow=6.7,SNR=1.2 0.2nm,0.7s							
ZALV	**Zalesovo Beam**	**61.82**	**327**	P		**P**	**18 38 03.8**	**+1.5**
	0.3nm,0.5s,baz=46,slow=8.3,SNR=1.5 0.3nm,0.5s							
BVAR	**Borovoye Array**	**66.52**	**335**	P		**P**	**18 38 35.1**	**+2.0**
	0.5nm,0.7s,baz=10,slow=8.8,SNR=2.2 0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**66.59**	**329**	P		**P**	**18 38 36.2**	**+2.6**
	0.1nm,0.4s,baz=32,slow=6.8,SNR=2.7 0.1nm,0.4s							
MKAR	**Makanchi Array**	**68.86**	**325**	P		**P**	**18 38 49.2**	**+1.2**
	0.5nm,1.0s,baz=28,slow=5.5,SNR=2.7 0.5nm,1.0s							

DJA 23 18:28:08.6±0.4, 10°S±4°×12°3E±°, h64km±9km, M3.7/12, mb4.0/7, mB5.4/2, MLv3.5/12, Mw(mB)4.8/2, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.86**	**74**	P		Pn	18 28 25.2	+0.1
SOEI				S		Sn	18 28 39.1	+1.8
MMRI	**Maumere**	**1.79**	**319**	P		Pn	18 28 37.2	-0.1
MMRI				S		Sn	18 28 59.2	+0.2
EDFI	**Ende, Flores**	**2.11**	**306**	P		Pn	18 28 41.4	-0.4
BASI	**Baing, Sumba**	**2.82**	**265**	P		Pn	18 28 51.4	+0.1
BBSI	**Bau Bau**	**4.55**	**349**	P		Pn	18 29 15.4	+0.4
DBNI	**Kabupaten Domp**	**5.26**	**286**	P		Pn	18 29 25.3	+0.5
	22nm,1.7s,2µm0.1nm							
BKSI	**Bulukumba**	**5.68**	**325**	P		Pn	18 29 31.6	+1.2
	9.9nm,0.7s,0.1nm							
PLAI	**Plampang**	**5.70**	**281**	P		Pn	18 29 30.2	-0.5
	15nm,1.5s,0.1nm							
MKS	**Makassar**	**6.16**	**320**	P		Pn	18 29 36.7	-0.3
	22nm,1.2s,0.1nm							
NLAI	**Namlea**	**7.63**	**29**	Pn		Pn	18 29 56.9	-0.3
	8.4nm,0.9s,7µm0.1nm							
SAUI	**Saumlaki**	**8.03**	**76**	Pn		Pn	18 30 02.4	-0.2
	455nm,0.8s							

*NEIC **23** 18:31:01.9±1.9, 55°.74N±0°.10×149°.2W±0°.1, h9km±8km, ML3.8/40, ML3.4(AEIC), Error ellipse: s-maj=14.2km s-min=8.8km az=171.0*
*IDC **23** 18:31:01.7±2.7, 55°.76N×149°.16W, h0km, mb3.3/2, mbtmp3.2/6, ML3.0/4, Error ellipse: s-maj=39.1km s-min=30.9km az=160.0*
*AEIC **23** 18:31:05.4±1.6, 55°.62N±0°.10×149°.3W±0°.1, h8km±8km, Error ellipse: s-maj=14.5km s-min=9.7km az=182.0*

ISC 23 18:31:03.5±1.4, 55°.9N±0°.1×149°.24W±0°.07, h10km, n151, σ1s07/158, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.61**	**303**			**Pn**	**18 31 44.5**	**-1.2**
OHAK						**Sn**	**18 32 15.9**	**-1.6**
OHAK	**Old Harbor**	**2.61**	**303**	P		**Pn**	**18 31 44.5**	**-1.2**
	baz=124							
OHAK				S		**Sn**	**18 32 15.9**	**-1.6**
	baz=124							
KDAK	**Kodiak Island**	**2.65**	**317**			**Pn**	**18 31 45.7**	**-0.5**
KDAK						**Sn**	**18 32 17.8**	**-0.4**
KDAK	**Kodiak Island**	**2.65**	**317**	Pn		**Pn**	**18 31 45.0**	**-1.2**
	7.7nm,0.3s,baz=140,slow=5.3,SNR=9.4							
KDAK				Sn		**Sn**	**18 32 17.2**	**-1.0**
	5.5nm,0.3s,baz=106,slow=22,SNR=4.5 17nm,0.3s							
SYI	**Shuyak Island**	**3.22**	**329**			**Pn**	**18 31 54.3**	**+0.1**
SYI						**Sn**	**18 32 33.6**	**+1.1**
Q20K	**Shuyak Island**	**3.23**	**329**	P		**Pn**	**18 31 54.3**	**+0.1**
	baz=150							
Q20K				S		**Sn**	**18 32 33.6**	**+1.1**
	baz=150							
CNPM	**China Poot**	**3.81**	**344**			**Pn**	**18 32 02.7**	**+0.6**
CNPM						**Sn**	**18 32 46.4**	**-0.6**
CNPM	**China Poot**	**3.81**	**344**	IAML			18 33 34.9	
	comp=E,52nm,1.3s							
CNPM				IAML			18 33 35.1	
	comp=N,42nm,1.3s							
Q19K	**Cape Douglas,**	**3.87**	**324**			**Pn**	**18 32 02.4**	**-0.7**
Q19K				IAML			18 33 49.5	
	comp=N,149nm,0.8s							
Q19K				IAML			18 34 25.4	
	comp=E,152nm,1.4s							
Q23K	**Middleton Isla**	**3.88**	**22**			**Pn**	**18 32 03.4**	**+0.3**
Q23K	**Middleton Isla**	**3.88**	**22**	IAML			18 32 53.4	
	comp=E,174nm,1.4s							
Q23K	**Middleton Isla**	**3.88**	**22**	P		**Pn**	**18 32 03.4**	**+0.3**
	baz=204							
MID	**Middleton Isla**	**3.88**	**22**			**Pn**	**18 32 03.4**	**+0.3**
MID	**Middleton Isla**	**3.88**	**22**	IAML			18 32 38.6	
	comp=E,180nm,1.5s							
KAHG	**Katmai Hook Gl**	**3.90**	**314**			**Pn**	**18 32 03.9**	**+0.5**
BRSE	**Bradley Lake S**	**3.95**	**349**			**Pn**	**18 32 04.4**	**+0.3**
BRSE						**Sn**	**18 32 49.7**	**-0.8**
BRSE	**Bradley Lake S**	**3.95**	**349**	P		**Pn**	**18 32 04.4**	**+0.3**
	baz=169							
BRSE				S		**Sn**	**18 32 49.7**	**-0.8**
	baz=169							
BRLK	**Bradley Lake**	**3.99**	**348**			**Pn**	**18 32 04.8**	**+0.2**
BRLK				IAML			18 32 54.4	
	comp=E,54nm,0.7s							
BRLK				IAML			18 33 37.0	
	comp=N,58nm,1.5s							
HOM	**Homer**	**4.00**	**342**	Pn		**Pn**	**18 32 03.2**	**-1.6**
HOM				IAML			18 33 50.2	
	comp=E,238nm,1.3s							
ANCK	**Angle Creek**	**4.13**	**307**			**Pn**	**18 32 04.9**	**-1.7**
P23K	**Montague Islan**	**4.24**	**13**			**Pn**	**18 32 08.7**	**+0.6**
P23K	**Montague Islan**	**4.24**	**13**	P		**Pn**	**18 32 08.7**	**+0.6**
	baz=194							
P19K	**Oil Pt**	**4.34**	**332**			**Pn**	**18 32 09.1**	**-0.5**
P19K				IAML			18 33 53.4	
	comp=E,148nm,0.5s							
P19K				IAML			18 33 53.6	
	comp=N,160nm,0.6s							
P19K	**Oil Pt**	**4.34**	**332**	P		**Pn**	**18 32 09.6**	**+0.1**
	baz=151							
IVE	**Iliamna Volcan**	**4.61**	**336**			**Pn**	**18 32 13.9**	**+0.7**
HIN	**Hinchinbrook I**	**4.75**	**17**	Pn		**Pn**	**18 32 15.8**	**+0.7**
P18K	**Big Mountain,**	**4.77**	**320**			**Pn**	**18 32 14.4**	**-0.9**
P18K	**Big Mountain,**	**4.77**	**320**	P		**Pn**	**18 32 15.1**	**-0.2**
	baz=137							
KAIM	**Kayak Island**	**4.80**	**30**			**Pn**	**18 32 16.0**	**+0.2**
KAIM	**Kayak Island**	**4.80**	**30**	P		**Pn**	**18 32 16.0**	**+0.2**
	baz=213							
Q16K	**King Salmon**	**4.90**	**308**			**Pn**	**18 32 16.4**	**-0.7**
Q16K	**King Salmon**	**4.90**	**308**	P		**Pn**	**18 32 16.4**	**-0.7**
	baz=124							
RSO	**Redoubt South**	**4.95**	**339**	Pn		**Pn**	**18 32 17.1**	**-1.0**
RDWB	**Redoubt West**	**4.99**	**339**			**Pn**	**18 32 18.6**	**0.0**
CAPN	**Captain Cook N**	**5.00**	**349**	Pn		**Pn**	**18 32 18.6**	**+0.1**
EYAK	**Cordova Ski Ar**	**5.03**	**20**			**Pn**	**18 32 19.0**	**+0.1**
EYAK	**Cordova Ski Ar**	**5.03**	**20**	P		**Pn**	**18 32 19.0**	**+0.1**
	baz=202							
FID	**Port Fidalgo**	**5.09**	**15**			**Pn**	**18 32 19.9**	**+0.1**
O19K	**Port Alsworth**	**5.09**	**330**			**Pn**	**18 32 20.1**	**+0.3**
O18K	**Koktuh Hills**	**5.10**	**324**	Pn		**Pn**	**18 32 20.8**	**+0.9**
RAGM	**Ragged Mountai**	**5.12**	**26**	Pn		**Pn**	**18 32 20.8**	**+0.6**
CHGN	**Chignik**	**5.15**	**278**	Pn		**Pn**	**18 32 19.5**	**-1.1**
CHGN				IAML			18 33 59.5	
	comp=N,83nm,0.1s							
CHGN				IAML			18 35 20.2	
	comp=E,57nm,0.9s							
RC01	**Rabbit Creek A**	**5.23**	**357**	Pn		**Pn**	**18 32 22.6**	**+0.9**
RC01				IAML			18 33 22.6	
	comp=E,44nm,0.3s							
BERG	**Berg Lake**	**5.39**	**31**	Pn		**Pn**	**18 32 24.2**	**+0.4**
SNH	**Sunshine Point**	**5.49**	**36**			**Pn**	**18 32 25.3**	**0.0**
KNK	**Knik Glacier**	**5.56**	**4**	Pn		**Pn**	**18 32 25.5**	**-0.7**
SUA	**Susitna One**	**5.65**	**353**	Pn		**Pn**	**18 32 27.1**	**-0.5**
N19K	**Bonanza Creek**	**5.66**	**333**	Pn		**Pn**	**18 32 27.0**	**-0.7**
PMR	**Palmer**	**5.72**	**1**	Pn		**Pn**	**18 32 26.2**	**-2.3**
KLU	**Klutina**	**5.88**	**16**	Pn		**Pn**	**18 32 31.4**	**+0.6**
GHO	**Glory Hole Cre**	**5.91**	**1**	Pn		**Pn**	**18 32 32.0**	**+0.9**
N18K	**Kilae Creek**	**5.95**	**327**	Pn		**Pn**	**18 32 31.9**	**+0.3**
SML	**Sawmill**	**5.96**	**4**	Pn		**Pn**	**18 32 32.7**	**+1.0**
O16K	**Kokwok River B**	**6.02**	**312**	Pn		**Pn**	**18 32 31.6**	**-1.0**
SCM	**Sheep Creek Mo**	**6.05**	**9**	Pn		**Pn**	**18 32 34.3**	**+1.3**
VRDI	**Verde Repeater**	**6.15**	**27**	Pn		**Pn**	**18 32 34.5**	**0.0**
SVW2	**Sparrevohn**	**6.19**	**330**	Pn		**Pn**	**18 32 34.9**	**-0.1**
N25K	**Chitina, Valde**	**6.22**	**21**	Pn		**Pn**	**18 32 36.1**	**+0.7**
SKT	**Skwentna**	**6.23**	**350**	Pn		**Pn**	**18 32 34.9**	**-0.5**
GLB	**Gilahina Butte**	**6.25**	**25**	Pn		**Pn**	**18 32 35.8**	**+0.1**
N17K	**Nushagak Hills**	**6.27**	**321**	Pn		**Pn**	**18 32 35.6**	**-0.3**
M20K	**Styx River**	**6.34**	**343**	Pn		**Pn**	**18 32 36.6**	**-0.4**
SDPT	**Sand Point**	**6.39**	**270**	Pn		**Pn**	**18 32 37.0**	**-0.6**
M24K	**Tolsona, Glenn**	**6.44**	**13**	Pn		**Pn**	**18 32 39.3**	**+1.0**
PNL	**Peninsula**	**6.49**	**50**			**Pn**	**18 32 39.5**	**+0.5**
PNL	**Peninsula**	**6.49**	**50**	P		**Pn**	**18 32 39.5**	**+0.5**
	baz=237							
BARN	**Barnard Glacie**	**6.53**	**34**	Pn		**Pn**	**18 32 39.9**	**+0.1**
BCPM	**Bancas Point**	**6.54**	**47**			**Pn**	**18 32 40.0**	**+0.3**
CTGM	**Chitina Glacie**	**6.57**	**36**	Pn		**Pn**	**18 32 40.6**	**+0.4**
LOGN	**Logan Glacier**	**6.58**	**38**	Pn		**Pn**	**18 32 40.7**	**+0.3**
M19K	**Big River Lodg**	**6.60**	**338**	Pn		**Pn**	**18 32 39.6**	**-0.8**
L19K	**White Mountain**	**6.95**	**338**	Pn		**Pn**	**18 32 45.1**	**-0.2**
M17K	**Holitna River**	**6.99**	**326**	Pn		**Pn**	**18 32 45.6**	**-0.2**
O29M	**Mount Kennedy**	**7.18**	**48**			**Pn**	**18 32 49.2**	**+0.7**
O29M	**Mount Kennedy**	**7.18**	**48**	P		**Pn**	**18 32 49.4**	**+0.8**
	baz=235							
N15K	**Kwethluk River**	**7.18**	**311**	Pn		**Pn**	**18 32 48.2**	**-0.3**
P29M	**Windy Craggy**	**7.21**	**54**			**Pn**	**18 32 48.6**	**-0.2**
P29M	**Windy Craggy**	**7.21**	**54**	P		**Pn**	**18 32 48.9**	**0.0**
	baz=242							
M16K	**Timber Creek**	**7.24**	**319**	Pn		**Pn**	**18 32 49.3**	**0.0**
DHY	**Denali Highway**	**7.28**	**7**	Pn		**Pn**	**18 32 51.8**	**+1.9**
M26K	**Nabesna, AK**	**7.28**	**24**	Pn		**Pn**	**18 32 50.9**	**+1.1**
O14K	**Tigyukauivet M**	**7.29**	**303**	Pn		**Pn**	**18 32 50.4**	**+0.5**
S31K	**Pelican**	**7.42**	**68**	Pn		**Pn**	**18 32 48.5**	**-3.2**
L18K	**Granite Mounta**	**7.42**	**332**	Pn		**Pn**	**18 32 50.7**	**-1.0**
M27K	**Edge Creek, AK**	**7.51**	**27**	Pn		**Pn**	**18 32 53.1**	**0.0**
RND	**Reindeer**	**7.55**	**1**	Pn		**Pn**	**18 32 53.4**	**-0.2**
TRF	**Thorofare Moun**	**7.61**	**356**	Pn		**Pn**	**18 32 54.4**	**-0.1**
MENT	**Mentasta**	**7.61**	**19**	Pn		**Pn**	**18 32 53.8**	**-0.6**
CAST	**Castle Rocks**	**7.69**	**350**	Pn		**Pn**	**18 32 56.3**	**+0.8**
KTH	**Kantishna Hill**	**7.74**	**354**	Pn		**Pn**	**18 32 57.4**	**+1.2**
SIT	**Sitka**	**7.80**	**76**	Pn		**Pn**	**18 32 53.1**	**-3.8**
BVCY	**Beaver Creek**	**7.83**	**30**			**Pn**	**18 32 59.9**	**+2.5**
BVCY	**Beaver Creek**	**7.83**	**30**	P		**Pn**	**18 32 59.9**	**+2.5**
	baz=216							
TTA	**Tatalina**	**7.86**	**337**	Pn		**Pn**	**18 32 57.0**	**-0.8**
K20K	**Telida**	**7.88**	**344**	Pn		**Pn**	**18 32 56.3**	**-1.8**
L16K	**Owhat River**	**7.89**	**322**	Pn		**Pn**	**18 32 57.0**	**-1.1**
HYT	**Haines Junctio**	**7.91**	**46**	Pn		**Pn**	**18 32 59.2**	**+0.6**
L27K	**Beaver Creek,**	**8.12**	**25**	Pn		**Pn**	**18 33 00.4**	**-1.0**
BCAR	**Beaver Creek A**	**8.13**	**25**	Pn		**Pn**	**18 33 00.0**	**-1.6**
RIDG	**Independent Ri**	**8.18**	**14**	Pn		**Pn**	**18 33 04.0**	**+1.8**
S32K	**Killisnoo**	**8.23**	**73**	Pn		**Pn**	**18 32 59.2**	**-3.6**
K17K	**Iditarod**	**8.26**	**330**	Pn		**Pn**	**18 33 02.9**	**-0.4**
SKAG	**Skagway**	**8.27**	**59**	Pn		**Pn**	**18 33 02.3**	**-1.0**
BPAW	**Bear Paw Mtn.**	**8.29**	**355**	Pn		**Pn**	**18 33 03.6**	**-0.1**
R32K	**Eaglecrest**	**8.37**	**67**	Pn		**Pn**	**18 33 03.4**	**-1.3**
N30M	**Aishikik Lake**	**8.44**	**44**	Pn		**Pn**	**18 33 06.8**	**+1.1**
JIS	**Juneau Island**	**8.44**	**67**	Pn		**Pn**	**18 33 04.4**	**-1.3**
O30N	**Mendenhall**	**8.47**	**49**	Pn		**Pn**	**18 33 06.6**	**+0.5**
M29M	**Somme Creek**	**8.59**	**36**			**Pn**	**18 33 09.4**	**+1.6**
HDA	**Harding Lake**	**8.63**	**7**	Pn		**Pn**	**18 33 10.4**	**+2.1**
J20K	**Nowinta River**	**8.67**	**346**	Pn		**Pn**	**18 33 09.6**	**+0.7**
M13K	**Dall Lake**	**8.73**	**307**	Pn		**Pn**	**18 33 10.4**	**+0.8**
J19K	**Poorman**	**8.74**	**341**	Pn		**Pn**	**18 33 09.2**	**-0.6**
CCB	**Clear Creek Bu**	**8.82**	**4**	Pn		**Pn**	**18 33 12.5**	**+1.6**
L14K	**Kuka Creek**	**8.88**	**313**	Pn		**Pn**	**18 33 10.4**	**-1.3**
K27K	**Chicken**	**8.92**	**21**	Pn		**Pn**	**18 33 12.8**	**+0.5**
WHY	**Whitehorse**	**8.95**	**52**	Pn		**Pn**	**18 33 13.6**	**+0.9**
J25K	**Salcha River,**	**8.96**	**11**	Pn		**Pn**	**18 33 13.8**	**+0.9**
N31M	**Braeburn, Yuko**	**8.97**	**46**	Pn		**Pn**	**18 33 14.0**	**+1.0**
IL31		**8.99**	**6**	Pn		**Pn**	**18 33 14.6**	**+1.4**
ILAR	**Eielson Array**	**8.99**	**6**	Pn		**Pn**	**18 33 14.3**	**+1.0**
ILAR	**Eielson Array**	**8.99**	**6**	Pn		**Pn**	**18 33 11.5**	**-1.7**
	comp=E,0.1nm,0.3s,baz=187,slow=14,SNR=1.3							
ILAR					Sn	**Sn**	**18 34 51.8**	**-2.7**
	comp=E,0.3nm,0.3s,baz=184,slow=20,SNR=4.5 comp=E,0.2nm,0.7s							
J26L	**Joseph Creek**	**9.09**	**16**	Pn		**Pn**	**18 33 14.9**	**+0.2**
P32M	**Atlin**	**9.09**	**60**	Pn		**Pn**	**18 33 14.3**	**-0.4**
L29M	**L29M**	**9.18**	**33**	Pn		**Pn**	**18 33 17.2**	**+1.4**
M30M	**Minto, Yukon**	**9.24**	**38**	Pn		**Pn**	**18 33 17.7**	**+0.9**
J16K	**Anvik River**	**9.38**	**327**	Pn		**Pn**	**18 33 19.9**	**+1.3**
I21K	**Tanana**	**9.42**	**353**	Pn		**Pn**	**18 33 21.0**	**+1.8**
O32M	**Nakina River**	**9.65**	**64**	Pn		**Pn**	**18 33 22.0**	**-0.5**
P33M	**Teslin, Yukon**	**9.72**	**57**	Pn		**Pn**	**18 33 22.9**	**-0.4**
PRP	**Porcupine Dome**	**9.83**	**9**	Pn		**Pn**	**18 33 26.3**	**+1.4**
K29M	**Barlow Dome**	**9.90**	**32**	Pn		**Pn**	**18 33 26.8**	**+1.0**
I26K	**Coal Creek Min**	**9.91**	**15**	Pn		**Pn**	**18 33 27.8**	**+2.0**
M31M	**Drury Creek, Y**	**9.91**	**44**			**Pn**	**18 33 27.2**	**+1.3**
N32M	**Quiet Lake**	**9.95**	**51**	Pn		**Pn**	**18 33 27.2**	**+0.8**
H21K	**Melozitna Rive**	**9.96**	**351**	Pn		**Pn**	**18 33 27.7**	**+1.2**
H18K	**Honhosa River**	**10.31**	**338**	Pn		**Pn**	**18 33 31.2**	**-0.2**
FARO	**Faro, Yukon**	**10.34**	**46**	Pn		**Pn**	**18 33 31.7**	**-0.1**
IMAR	**Indian Mountai**	**10.36**	**350**	Pn		**Pn**	**18 33 31.3**	**-0.7**
R33M	**Jennings River**	**10.40**	**63**	Pn		**Pn**	**18 33 32.0**	**-0.6**
H17K	**Granite Mounta**	**10.48**	**334**	Pn		**Pn**	**18 33 33.3**	**-0.4**
I28M	**Miner Creek**	**10.61**	**22**	Pn		**Pn**	**18 33 36.0**	**+0.5**
J30M	**Hart River**	**10.80**	**31**	Pn		**Pn**	**18 33 39.7**	**+1.6**
G21K	**Allakaket**	**10.86**	**351**	Pn		**Pn**	**18 33 39.2**	**+0.4**
G23K	**Bananza Creek**	**10.87**	**358**	Pn		**Pn**	**18 33 39.5**	**+0.5**
G24K	**Hadweenzic Riv**	**10.89**	**4**	Pn		**Pn**	**18 33 40.0**	**+0.9**
G19K	**Purcell Mounta**	**10.96**	**343**	Pn		**Pn**	**18 33 39.7**	**-0.5**
INK	**Inuvik**	**14.40**	**24**	Pn		**Pn**	**18 34 28.2**	**+1.1**
	baz=219,slow=5.9,SNR=1.6 comp=E,1.8nm,1.1s							
YKA	**Yellowknife Ar**	**18.75**	**55**	P		**Pn**	**18 35 22.2**	**-0.4**
	comp=E,0.1nm,0.3s,baz=265,slow=11,SNR=1.9 comp=E,0.3nm,0.7s							
SONM	**Songino Array**	**58.91**	**310**	P		**P**	**18 41 03.1**	**+0.6**
	comp=E,0.3nm,0.9s,baz=48,slow=

Q23K	**Middleton Isla**	**3.30**	**20**			**Pn**	**18 32 50.4**	**+0.4**
Q23K	**Middleton Isla**	**3.30**	**20**	IAML			18 34 16.4	
	comp=N,183nm,1.4s							
Q23K				IAML			18 34 59.3	
	comp=E,186nm,1.5s							
Q23K	**Middleton Isla**	**3.30**	**20**	P		**Pn**	**18 32 50.9**	**+0.9**
	baz=201							
R18K	**Karluk**	**3.47**	**293**			**Sn**	**18 33 32.4**	**-0.9**
R18K	**Karluk**	**3.47**	**293**	S		**Sn**	**18 33 32.4**	**-0.9**
	baz=108							
CNPM	**China Poot**	**3.50**	**337**			**Sn**	**18 33 33.9**	**-0.3**
BRSE	**Bradley Lake S**	**3.60**	**342**			**Sn**	**18 33 35.9**	**-0.8**
BRSE	**Bradley Lake S**	**3.60**	**342**	S		**Sn**	**18 33 35.9**	**-0.8**
	baz=160							
P23K	**Montague Islan**	**3.71**	**9**			**Pn**	**18 32 56.2**	**+0.6**
P23K						**Sn**	**18 33 36.8**	**-2.5**
P23K	**Montague Islan**	**3.71**	**9**	P		**Pn**	**18 32 56.7**	**+1.0**
	baz=189							
P23K				S		**Sn**	**18 33 36.8**	**-2.5**
	baz=189							
SEW	**Seward**	**3.80**	**353**			**Pn**	**18 32 55.1**	**-1.7**
SEW	**Seward**	**3.80**	**353**	P		**Pn**	**18 32 57.7**	**+0.8**
	baz=172							
AUL	**Augustine Lava**	**4.01**	**321**			**Pn**	**18 33 00.9**	**+1.0**
P19K	**Oil Pt**	**4.15**	**325**			**Pn**	**18 33 02.5**	**+0.7**
P19K	**Oil Pt**	**4.15**	**325**	P		**Pn**	**18 33 02.5**	**+0.7**
	baz=141							
O22K	**Cooper Landing**	**4.19**	**352**			**Pn**	**18 33 03.1**	**+0.9**
O22K				IAML			18 33 51.8	
	comp=E,113nm,0.5s							
O22K				IAML			18 33 58.5	
	comp=N,125nm,0.7s							
HIN	**Hinchinbrook I**	**4.20**	**14**			**Pn**	**18 33 02.9**	**+0.5**
HIN				IAML			18 33 50.1	
	comp=N,107nm,0.4s							
KAIM	**Kayak Island**	**4.20**	**30**			**Pn**	**18 33 03.2**	**+0.8**
KAIM	**Kayak Island**	**4.20**	**30**	IAML			18 33 55.6	
	comp=E,159nm,1.4s							
KAIM				IAML			18 33 56.7	
	comp=N,134nm,1.4s							
KAIM	**Kayak Island**	**4.20**	**30**	P		**Pn**	**18 33 03.2**	**+0.8**
	baz=213							
O20K	**Slope Mountain**	**4.32**	**332**			**Pn**	**18 33 05.6**	**+1.4**
O20K	**Slope Mountain**	**4.32**	**332**	P		**Pn**	**18 33 05.6**	**+1.4**
	baz=148							
EYAK	**Cordova Ski Ar**	**4.46**	**18**			**Pn**	**18 33 07.1**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.46**	**18**	P		**Pn**	**18 33 07.5**	**+1.6**
	baz=200							
RAGM	**Ragged Mountai**	**4.53**	**25**	Pn		**Pn**	**18 33 08.2**	**+1.2**
FID	**Port Fidalgo**	**4.54**	**13**	Pn		**Pn**	**18 33 08.1**	**+1.0**
FID				IAML			18 33 58.8	
	comp=N,61nm,0.2s							
FID				IAML			18 33 59.0	
	comp=E,51nm,0.4s							
CAPN	**Captain Cook N**	**4.64**	**344**	Pn		**Pn**	**18 33 07.6**	**-0.8**
RSO	**Redoubt South**	**4.69**	**333**	Pn		**Pn**	**18 33 09.4**	**+0.1**
P18K	**Big Mountain,**	**4.70**	**313**	Pn		**Pn**	**18 33 09.4**	**+0.1**
BERG	**Berg Lake**	**4.78**	**30**	Pn		**Pn**	**18 33 11.7**	**+1.3**
RC01	**Rabbit Creek A**	**4.80**	**353**			**Pn**	**18 33 11.7**	**+1.1**
RC01				IAML			18 34 05.5	
	comp=N,49nm,0.4s							
RC01				IAML			18 34 05.7	
	comp=E,36nm,0.3s							
SNH	**Sunshine Point**	**4.88**	**36**	Pn		**Pn**	**18 33 12.8**	**+1.1**
SNH				IAML			18 34 06.7	
	comp=N,71nm,1.5s							
SNH				IAML			18 34 22.0	
	comp=E,46nm,1.5s							
O18K	**Koktuh Hills**	**4.99**	**318**	Pn		**Pn**	**18 33 14.1**	**+0.9**
O18K				IAML			18 34 24.8	
	comp=N,16nm,0.6s							
DIV	**Divide**	**5.00**	**16**			**Pn**	**18 33 13.7**	**+0.2**
BMRM	**Bremner River**	**5.06**	**22**			**Pn**	**18 33 14.8**	**+0.5**
BMRM	**Bremner River**	**5.06**	**22**	P		**Pn**	**18 33 15.7**	**+1.4**
	baz=205							
KNK	**Knik Glacier**	**5.08**	**0**			**Pn**	**18 33 14.4**	**-0.1**
KNK				IAML			18 34 20.0	
	comp=E,25nm,0.9s							
KNK				IAML			18 34 24.9	
	comp=N,16nm,0.8s							
KNK	**Knik Glacier**	**5.08**	**0**	P		**Pn**	**18 33 16.5**	**+2.0**
	baz=180							
SUA	**Susitna One**	**5.26**	**348**	Pn		**Pn**	**18 33 16.2**	**-0.8**
SUA				IAML			18 34 19.4	
	comp=E,14nm,1.1s							
PMR	**Palmer**	**5.27**	**357**	Pn		**Pn**	**18 33 17.2**	**+0.2**
PMR				IAML			18 34 16.8	
	comp=N,17nm,0.9s							
PMR				IAML			18 34 16.9	
	comp=E,20nm,1.2s							
KLU	**Klutina**	**5.33**	**14**			**Pn**	**18 33 18.7**	**+0.7**
KLU				IAML			18 34 18.3	
	comp=N,55nm,0.4s							
KLU				IAML			18 34 19.4	
	comp=E,38nm,0.4s							
GHO	**Glory Hole Cre**	**5.44**	**358**			**Pn**	**18 33 20.0**	**+0.4**
N19K	**Bonanza Creek**	**5.45**	**328**	Pn		**Pn**	**18 33 19.1**	**-0.6**
SML	**Sawmill**	**5.48**	**1**			**Pn**	**18 33 20.7**	**+0.7**
SML	**Sawmill**	**5.48**	**1**	P		**Pn**	**18 33 22.0**	**+2.1**
	baz=181							
CHGN	**Chignik**	**5.50**	**274**	Pn		**Pn**	**18 33 17.6**	**-2.6**
SCM	**Sheep Creek Mo**	**5.54**	**6**	Pn		**Pn**	**18 33 22.1**	**+1.3**
VRDI	**Verde Repeater**	**5.56**	**26**	Pn		**Pn**	**18 33 20.4**	**-0.8**
N25K	**Chitina, Valde**	**5.65**	**19**			**Pn**	**18 33 22.1**	**-0.3**
GLB	**Gilahina Butte**	**5.66**	**24**			**Pn**	**18 33 23.1**	**+0.6**
PCA	**Pinnacle**	**5.76**	**46**			**Pn**	**18 33 25.1**	**+1.2**
PINM	**Pinnacle**	**5.76**	**46**	P		**Pn**	**18 33 25.9**	**+2.0**
	baz=233							
SKT	**Skwentna**	**5.86**	**346**	Pn		**Pn**	**18 33 25.9**	**+0.7**
PNL	**Peninsula**	**5.88**	**52**			**Pn**	**18 33 27.5**	**+2.0**
PNL	**Peninsula**	**5.88**	**52**	P		**Pn**	**18 33 27.5**	**+2.0**
	baz=239							
M24K	**Tolsona, Glenn**	**5.90**	**11**	Pn		**Pn**	**18 33 27.3**	**+1.5**
BARN	**Barnard Glacie**	**5.92**	**34**			**Pn**	**18 33 27.1**	**+0.8**
BCPM	**Bancas Point**	**5.93**	**49**			**Pn**	**18 33 28.2**	**+2.0**
CTGM	**Chitina Glacie**	**5.96**	**36**	Pn		**Pn**	**18 33 27.5**	**+0.9**
LOGN	**Logan Glacier**	**5.97**	**38**	Pn		**Pn**	**18 33 27.4**	**+0.6**
SVW2	**Sparrevohn**	**6.01**	**325**	Pn		**Pn**	**18 33 27.9**	**+0.6**
WAT6	**Susitna Watana**	**6.26**	**3**			**Pn**	**18 33 32.2**	**+1.3**
WAT6	**Susitna Watana**	**6.26**	**3**	P		**Pn**	**18 33 32.2**	**+1.3**
	baz=184							
M19K	**Big River Lodg**	**6.33**	**334**	Pn		**Pn**	**18 33 31.8**	**+0.1**
CNBA	**Chernabura Isl**	**6.46**	**261**	Pn		**Pn**	**18 33 34.8**	**+1.5**
O29M	**Mount Kennedy**	**6.57**	**49**			**Pn**	**18 33 37.0**	**+1.9**
O29M	**Mount Kennedy**	**6.57**	**49**	P		**Pn**	**18 33 37.0**	**+1.9**
	baz=237							
P29M	**Windy Craggy**	**6.61**	**56**			**Pn**	**18 33 36.9**	**+1.4**
P29M	**Windy Craggy**	**6.61**	**56**	P		**Pn**	**18 33 37.3**	**+1.8**
	baz=245							
L19K	**White Mountain**	**6.69**	**334**	Pn		**Pn**	**18 33 37.0**	**+0.5**
M26K	**Nabesna, AK**	**6.69**	**23**	Pn		**Pn**	**18 33 37.8**	**+1.1**
DHY	**Denali Highway**	**6.77**	**4**	Pn		**Pn**	**18 33 38.3**	**+0.4**
YUK3	**Moose Creek**	**6.85**	**34**			**Pn**	**18 33 40.3**	**+1.4**
YUK3	**Moose Creek**	**6.85**	**34**	P		**Pn**	**18 33 40.3**	**+1.4**
	baz=221							
M17K	**Holitna River**	**6.85**	**321**	Pn		**Pn**	**18 33 39.4**	**+0.6**
S31K	**Pelican**	**6.88**	**71**	Pn		**Pn**	**18 33 38.6**	**-0.5**
M27K	**Edge Creek, AK**	**6.92**	**27**	Pn		**Pn**	**18 33 41.1**	**+1.3**
MENT	**Mentasta**	**7.04**	**18**	Pn		**Pn**	**18 33 41.1**	**-0.3**
RND	**Reindeer**	**7.08**	**359**	Pn		**Pn**	**18 33 43.3**	**+1.3**
M16K	**Timber Creek**	**7.17**	**315**	Pn		**Pn**	**18 33 44.3**	**+1.1**
TRF	**Thorofare Moun**	**7.18**	**354**	Pn		**Pn**	**18 33 44.8**	**+1.4**
L18K	**Granite Mounta**	**7.21**	**328**	Pn		**Pn**	**18 33 45.0**	**+1.3**
HYT	**Haines Junctio**	**7.30**	**48**	Pn		**Pn**	**18 33 44.0**	**-1.0**
SIT	**Sitka**	**7.30**	**79**	Pn		**Pn**	**18 33 43.8**	**-1.2**
CAST	**Castle Rocks**	**7.31**	**347**	Pn		**Pn**	**18 33 43.0**	**-2.2**
KTH	**Kantishna Hill**	**7.33**	**352**	Pn		**Pn**	**18 33 43.6**	**-1.7**
L27K	**Beaver Creek,**	**7.53**	**24**	Pn		**Pn**	**18 33 49.7**	**+1.5**
BCAR	**Beaver Creek A**	**7.55**	**24**	Pn		**Pn**	**18 33 48.5**	**+0.2**
K20K	**Telida**	**7.56**	**341**	Pn		**Pn**	**18 33 50.5**	**+2.0**
RIDG	**Independent Ri**	**7.64**	**12**	Pn		**Pn**	**18 33 52.2**	**+2.6**
S32K	**Killisnoo**	**7.72**	**76**	Pn		**Pn**	**18 33 51.2**	**+0.5**
N30M	**Aishikik Lake**	**7.83**	**44**	Pn		**Pn**	**18 33 53.8**	**+1.6**
O30N	**Mendenhall**	**7.87**	**51**	Pn		**Pn**	**18 33 54.1**	**+1.4**
BPAW	**Bear Paw Mtn.**	**7.87**	**352**	Pn		**Pn**	**18 33 53.7**	**+0.9**
JIS	**Juneau Island**	**7.90**	**70**	Pn		**Pn**	**18 33 54.2**	**+1.1**
M29M	**Somme Creek**	**7.98**	**36**	Pn		**Pn**	**18 33 56.6**	**+2.3**
SCRK	**Sand Creek**	**7.98**	**15**	Pn		**Pn**	**18 33 55.3**	**+0.9**
K17K	**Iditarod**	**8.08**	**326**	Pn		**Pn**	**18 33 56.5**	**+0.8**
HDA	**Harding Lake**	**8.12**	**5**	Pn		**Pn**	**18 33 57.2**	**+1.0**
J18K	**Innoko River**	**8.23**	**333**	Pn		**Pn**	**18 33 59.0**	**+1.3**
NEA2	**Nenana**	**8.28**	**358**	Pn		**Pn**	**18 34 00.8**	**+2.5**
J20K	**Nowinta River**	**8.33**	**343**	Pn		**Pn**	**18 33 59.8**	**+0.7**
CCB	**Clear Creek Bu**	**8.33**	**2**	Pn		**Pn**	**18 33 59.0**	**-0.1**
K27K	**Chicken**	**8.34**	**20**	Pn		**Pn**	**18 34 00.3**	**+1.1**
WHY	**Whitehorse**	**8.35**	**53**	Pn		**Pn**	**18 33 59.5**	**+0.1**
N31M	**Braeburn, Yuko**	**8.36**	**47**	Pn		**Pn**	**18 34 01.6**	**+2.1**
J25K	**Salcha River,**	**8.44**	**9**	Pn		**Pn**	**18 34 01.1**	**+0.5**
IL31		**8.49**	**5**	Pn		**Pn**	**18 34 02.3**	**+1.2**
ILAR	**Eielson Array**	**8.49**	**5**	Pn		**Pn**	**18 34 01.5**	**+0.3**
P32M	**Atlin**	**8.51**	**61**	Pn		**Pn**	**18 34 02.0**	**+0.4**
J26L	**Joseph Creek**	**8.54**	**15**	Pn		**Pn**	**18 34 02.4**	**+0.5**
COLA	**College**	**8.56**	**2**	Pn		**Pn**	**18 34 03.2**	**+1.0**
L29M	**L29M**	**8.57**	**33**	Pn		**Pn**	**18 34 04.0**	**+1.7**
U33K	**Whale Pass**	**8.59**	**85**	Pn		**Pn**	**18 34 01.4**	**-1.2**
M30M	**Minto, Yukon**	**8.63**	**39**	Pn		**Pn**	**18 34 03.2**	**0.0**
CRAG	**Craig**	**8.70**	**89**	Pn		**Pn**	**18 34 04.2**	**+0.1**
I21K	**Tanana**	**9.02**	**351**	Pn		**Pn**	**18 34 09.3**	**+0.8**
Q32M	**Nakina River**	**9.10**	**67**	Pn		**Pn**	**18 34 11.5**	**+1.7**
P33M	**Teslin, Yukon**	**9.13**	**58**	Pn		**Pn**	**18 34 11.1**	**+1.0**
EGAK	**Eagle**	**9.19**	**20**	Pn		**Pn**	**18 34 11.2**	**+0.3**
K29M	**Barlow Dome**	**9.30**	**32**	Pn		**Pn**	**18 34 13.0**	**+0.6**
I26K	**Coal Creek Min**	**9.36**	**14**	Pn		**Pn**	**18 34 15.3**	**+2.2**
H21K	**Melozitna Rive**	**9.56**	**349**	Pn		**Pn**	**18 34 17.3**	**+1.3**
FARO	**Faro, Yukon**	**9.73**	**47**	Pn		**Pn**	**18 34 20.8**	**+2.5**
R33M	**Jennings River**	**9.83**	**65**	Pn		**Pn**	**18 34 21.6**	**+1.8**
IMAR	**Indian Mountai**	**9.99**	**348**	Pn		**Pn**	**18 34 23.4**	**+1.7**
I28M	**Miner Creek**	**10.03**	**21**	Pn		**Pn**	**18 34 24.7**	**+2.3**
G24K	**Hadweenzic Riv**	**10.40**	**2**	Pn		**Pn**	**18 34 28.4**	**+1.0**
G23K	**Bananza Creek**	**10.42**	**357**	Pn		**Pn**	**18 34 29.5**	**+1.8**
G21K	**Allakaket**	**10.47**	**349**	Pn		**Pn**	**18 34 29.2**	**+0.8**
G19K	**Purcell Mounta**	**10.64**	**341**	Pn		**Pn**	**18 34 32.3**	**+1.6**
F20K	**Avaraart Lake**	**11.26**	**345**	Pn		**Pn**	**18 34 40.5**	**+1.5**
BMAR	**Burnt Mountain**	**11.27**	**8**	Pn		**Pn**	**18 34 40.8**	**+1.5**
E19K	**Redstone River**	**11.86**	**344**	Pn		**Pn**	**18 34 49.6**	**+2.3**

*NEIC **23** 18:35:58.9±1.4,56°.11N±0°.08×149°.3W±0°.1,h24km±10km, ML3.5/28,ML3.2(AEIC), Error ellipse: s-maj=12.3km s-min=8.6km az=200.0*
*AEIC **23** 18:36:00.6±1.4,55°.95N±0°.10×149°.3W±0°.1,h10km±8km, Error ellipse: s-maj=15.0km s-min=10.9km az=160.0*
ISC 23 18:35:54.1±2.5,56°.0N±0°.1×149°.17W±0°.07,h10km,n77, σ1♀38/76,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.61**	**301**		**Pn**	**18 36 37.0**	**+0.7**
OHAK	**Old Harbor**	**2.61**	**301**		**Sn**	**18 37 05.5**	**-2.5**
OHAK	**Old Harbor**	**2.61**	**301**	P	**Pn**	**18 36 37.3**	**+1.0**
	baz=118						
OHAK				S	**Sn**	**18 37 05.5**	**-2.5**
	baz=118						
KDAK	**Kodiak Island**	**2.62**	**316**		**Pn**	**18 36 37.5**	**+1.0**
KDAK	**Kodiak Island**	**2.62**	**316**		**Sn**	**18 37 06.4**	**-1.9**
KDAK	**Kodiak Island**	**2.62**	**316**	S	**Sn**	**18 37 06.4**	**-1.9**
	baz=134						
SYI	**Shuyak Island**	**3.19**	**328**		**Pn**	**18 36 45.6**	**+1.4**
SYI	**Shuyak Island**	**3.19**	**328**		**Sn**	**18 37 22.5**	**+0.3**
Q20K	**Shuyak Island**	**3.19**	**328**	P	**Pn**	**18 36 45.7**	**+1.4**
	baz=146						
Q20K				S	**Sn**	**18 37 22.5**	**+0.3**
	baz=146						
R18K	**Karluk**	**3.33**	**301**		**Pn**	**18 36 47.5**	**+1.3**
R18K	**Karluk**	**3.33**	**301**	IAML		18 37 14.3	
	comp=N,92nm,3.0s						
R18K	**Karluk**	**3.33**	**301**	P	**Pn**	**18 36 47.5**	**+1.3**
	baz=117						
CNPM	**China Poot**	**3.75**	**344**		**Pn**	**18 36 53.6**	**+1.6**
CNPM	**China Poot**	**3.75**	**344**	Pn	**Pn**	**18 36 52.4**	**+0.4**
CNPM	**China Poot**	**3.75**	**344**	IAML		18 37 51.1	
	comp=E,68nm,2.8s						
CNPM				IAML		18 38 30.4	
	comp=N,88nm,2.9s						
Q19K	**Cape Douglas,**	**3.84**	**323**		**Pn**	**18 36 55.1**	**+1.8**
Q19K				IAML		18 37 39.4	
	comp=N,131nm,1.4s						
Q19K	**Cape Douglas,**	**3.84**	**323**	P	**Pn**	**18 36 55.4**	**+2.2**
	baz=140						
BRSE	**Bradley Lake S**	**3.89**	**348**		**Pn**	**18 36 55.1**	**+1.1**
BRSE	**Bradley Lake S**	**3.89**	**348**	P	**Pn**	**18 36 55.1**	**+1.1**
	baz=168						
BRLK	**Bradley Lake**	**3.93**	**347**		**Pn**	**18 36 55.2**	**+0.7**
BRLK				IAML		18 38 12.6	
	comp=N,58nm,3.4s						
BRLK				IAML		18 38 13.6	
	comp=E,62nm,3.6s						
P19K	**Oil Pt**	**4.30**	**331**	Pn	**Pn**	**18 36 59.4**	**-0.1**
P19K				IAML		18 39 07.4	
	comp=N,90nm,3.6s						
P19K				IAML		18 39 41.7	
	comp=E,86nm,2.5s						
IVE	**Iliamna Volcan**	**4.56**	**335**		**Pn**	**18 37 04.1**	**+0.9**
HIN	**Hinchinbrook I**	**4.67**	**16**		**Pn**	**18 37 06.4**	**+1.7**
KAIM	**Kayak Island**	**4.72**	**30**	Pn	**Pn**	**18 37 06.5**	**+1.2**
P18K	**Big Mountain,**	**4.74**	**319**		**Pn**	**18 37 06.1**	**+0.5**
P18K				IAML		18 37 55.3	
	comp=E,35nm,3.7s						
P18K				IAML		18 38 46.6	
	comp=N,35nm,3.5s						
P18K	**Big Mountain,**	**4.74**	**319**	P	**Pn**	**18 37 06.7**	**+1.1**
	baz=134						
RSO	**Redoubt South**	**4.90**	**339**	Pn	**Pn**	**18 37 07.6**	**-0.4**
O18K	**Koktuh Hills**	**5.06**	**323**		**Pn**	**18 37 10.8**	**+0.8**
O18K	**Koktuh Hills**	**5.06**	**323**	IAML		18 38 17.4	
	comp=E,37nm,3.3s						
O18K				IAML		18 39 17.9	
	comp=N,27nm,3.3s						
O18K	**Koktuh Hills**	**5.06**	**323**	P	**Pn**	**18 37 10.8**	**+0.8**
	baz=138						
P17K	**Kvichak River**	**5.08**	**313**		**Pn**	**18 37 12.2**	**+1.9**
P17K	**Kvichak River**	**5.08**	**313**	P	**Pn**	**18 37 12.2**	**+1.9**
	baz=127						
RC01	**Rabbit Creek A**	**5.16**	**357**	Pn	**Pn**	**18 37 10.2**	**-1.1**
RC01				IAML		18 39 32.4	
	comp=N,38nm,3.5s						
RC01				IAML		18 40 24.2	
	comp=E,38nm,3.2s						
BERG	**Berg Lake**	**5.31**	**31**	Pn	**Pn**	**18 37 13.8**	**+0.4**
SUA	**Susitna One**	**5.59**	**352**	Pn	**Pn**	**18 37 18.4**	**+1.1**
N19K	**Bonanza Creek**	**5.62**	**332**		**Pn**	**18 37 18.5**	**+0.8**
N19K	**Bonanza Creek**	**5.62**	**332**	P	**Pn**	**18 37 18.5**	**+0.8**
	baz=148						
P16K	**Nushagak River**	**5.67**	**307**		**Pn**	**18 37 20.1**	**+1.8**
P16K	**Nushagak River**	**5.67**	**307**	P	**Pn**	**18 37 20.1**	**+1.8**
	baz=120						
KLU	**Klutina**	**5.81**	**16**	Pn	**Pn**	**18 37 20.9**	**+0.6**
GHO	**Glory Hole Cre**	**5.84**	**1**	Pn	**Pn**	**18 37 21.7**	**+1.0**
SML	**Sawmill**	**5.89**	**4**	Pn	**Pn**	**18 37 24.2**	**+2.8**
N18K	**Kilae Creek**	**5.91**	**326**		**Pn**	**18 37 22.6**	**+0.8**
N18K	**Kilae Creek**	**5.91**	**326**	P	**Pn**	**18 37 22.6**	**+0.8**
	baz=141						
SCM	**Sheep Creek Mo**	**5.97**	**8**	Pn	**Pn**	**18 37 22.9**	**+0.3**
O16K	**Kokwok River B**	**6.01**	**311**		**Pn**	**18 37 24.1**	**+1.1**
O16K	**Kokwok River B**	**6.01**	**311**	P	**Pn**	**18 37 24.1**	**+1.1**
	baz=124						
CNBA	**Chernabura Isl**	**6.05**	**263**	Pn	**Pn**	**18 37 23.9**	**+0.3**
VRDI	**Verde Repeater**	**6.07**	**27**	Pn	**Pn**	**18 37 24.3**	**+0.3**
N25K	**Chitina, Valde**	**6.14**	**21**	Pn	**Pn**	**18 37 26.6**	**+1.7**
SVW2	**Sparrevohn**	**6.15**	**330**	Pn	**Pn**	**18 37 25.7**	**+0.8**
N17K	**Nushagak Hills**	**6.24**	**321**	Pn	**Pn**	**18 37 26.6**	**+0.5**
M20K	**Styx River**	**6.29**	**343**	Pn	**Pn**	**18 37 25.8**	**-1.2**
PTPK	**Patty Peak**	**6.31**	**31**		**Pn**	**18 37 29.3**	**+2.0**
M24K	**Tolsona, Glenn**	**6.36**	**13**		**Pn**	**18 37 29.5**	**+1.6**
PNL	**Peninsula**	**6.41**	**50**		**Pn**	**18 37 31.2**	**+2.6**
PNL	**Peninsula**	**6.41**	**50**	P	**Pn**	**18 37 31.2**	**+2.6**
	baz=239						
BARN	**Barnard Glacie**	**6.45**	**34**	Pn	**Pn**	**18 37 30.9**	**+1.7**
CTGM	**Chitina Glacie**	**6.49**	**36**	Pn	**Pn**	**18 37 31.4**	**+1.7**
LOGN	**Logan Glacier**	**6.50**	**38**	Pn	**Pn**	**18 37 30.3**	**+0.4**
M18K	**Stony River**	**6.54**	**331**		**Pn**	**18 37 31.1**	**+0.8**
M18K	**Stony River**	**6.54**	**331**	P	**Pn**	**18 37 31.1**	**+0.8**
	baz=146						
M19K	**Big River Lodg**	**6.55**	**338**	Pn	**Pn**	**18 37 30.7**	**+0.3**
O15K	**Ungalikthiuk R**	**6.58**	**304**		**Pn**	**18 37 32.4**	**+1.5**
O15K	**Ungalikthiuk R**	**6.58**	**304**	P	**Pn**	**18 37 32.4**	**+1.5**
	baz=115						
N16K	**Nishlik Lake**	**6.80**	**316**		**Pn**	**18 37 35.5**	**+1.7**
N16K	**Nishlik Lake**	**6.80**	**316**	P	**Pn**	**18 37 35.5**	**+1.7**
	baz=128						
L19K	**White Mountain**	**6.90**	**337**	Pn	**Pn**	**18 37 34.2**	**-1.0**
M17K	**Holitna River**	**6.95**	**325**		**Pn**	**18 37 36.3**	**+0.4**
M17K	**Holitna River**	**6.95**	**325**	P	**Pn**	**18 37 37.6**	**+1.6**
	baz=138						
O29M	**Mount Kennedy**	**7.10**	**48**	Pn	**Pn**	**18 37 38.4**	**+0.3**
N15K	**Kwethluk River**	**7.17**	**311**		**Pn**	**18 37 39.1**	**+0.2**
N15K	**Kwethluk River**	**7.17**	**311**	P	**Pn**	**18 37 40.6**	**+1.7**
	baz=122						
M16K	**Timber Creek**	**7.22**	**319**	Pn	**Pn**	**18 37 40.6**	**+1.1**
PN7A	**Pavlof North-7**	**7.27**	**271**		**Pn**	**18 37 41.1**	**+0.7**
TRF	**Thorofare Moun**	**7.54**	**356**	Pn	**Pn**	**18 37 46.1**	**+1.9**
L16K	**Owhat River**	**7.86**	**321**	Pn	**Pn**	**18 37 50.0**	**+1.6**

*IDC **23** 18:36:18.2±7.9,27°.01N×144°.63E,h0km,mb3.6/6, mbtmp3.6/7,ML3.1/1, Error ellipse: s-maj=308.6km s-min=22.3km az=74.0*
*JMA **23** 18:36:26.1±0.4,28°.N±2°.×14°.4E±°,h23km,NEAR CHICHIJIMA ISLAND*
ISC 23 18:36:30.9±2.2,27°.4N±0°.1×143°.4E±0°.2,h35km,n13, σ1♀24/15,mb3.6/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.16**	**254**	*eP*	**Pn**	**18 36 48.5**	**-2.2**
CBIJ				*eS*	**Sn**	**18 37 05.1**	**-0.1**
JHH2	**Haha-jima-NKT2**	**1.37**	**236**	*eP*	**Pn**	**18 36 52.5**	**-1.0**
JHH2				*eS*	**Sn**	**18 37 11.6**	**+1.2**
JHU	**Hanno**	**9.13**	**338**	*eP*	**Pn**	**18 38 40.7**	**+0.6**
JHU				*eS*	**Sn**	**18 40 22.1**	**+0.5**
JRY	**Ryogami san**	**9.41**	**337**	*eP*	**Pn**	**18 38 45.1**	**+1.2**
JHO	**Hitachi**	**9.49**	**346**	*eP*	**Pn**	**18 38 43.8**	**-1.3**
JHO				*eS*	**Sn**	**18 40 29.5**	**-1.0**
JAG	**Ashikaga**	**9.60**	**340**	*eP*	**Pn**	**18 38 45.2**	**-1.4**
MJAR	**Matsushiro Arr**	**10.12**	**335**	Pn	**Pn**	**18 38 54.8**	**+1.0**
	0.1nm,0.3s,baz=162,slow=11,SNR=9.4 2.4nm,0.6s						
SONM	**Songino Array**	**35.27**	**315**	P	**P**	**18 43 24.3**	**+1.9**
	0.2nm,0.4s,baz=99,slow=7.7,SNR=1.9 0.2nm,0.4s						
WRA	**Warramunga Arr**	**47.89**	**192**	P	P	18 44 56.7	-9.1
	1.1nm,0.8s,baz=11,slow=8.3,SNR=2.0 1.1nm,0.8s						
MKAR	**Makanchi Array**	**51.13**	**309**	P	**P**	**18 45 30.8**	**+0.4**
	0.2nm,0.3s,baz=93,slow=7.1,SNR=10 0.2nm,0.3s						
ASAR	**Alice Springs**	**51.61**	**191**	P	P	18 45 25.1	-9.0
	0.3nm,0.9s,baz=2.5,slow=6.2,SNR=6.0 0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**53.62**	**314**	P	**P**	**18 45 48.7**	**+0.1**
	0.5nm,0.4s,baz=91,slow=8.2,SNR=7.9 0.5nm,0.4s						
BVAR	**Borovoye Array**	**58.56**	**317**	P	**P**	**18 46 23.4**	**-0.5**
	0.3nm,0.4s,baz=90,slow=6.0,SNR=5.9 0.3nm,0.4s						

*IDC **23** 18:47:33.2±3.2,56°.01N×150°.33W,h0km,mb3.2/1, mbtmp2.9/4, ML2.2/3, Error ellipse: s-maj=43.1km s-min=34.9km az=17.0*
*AEIC **23** 18:47:35.9±2.4,55°.9N±0°.1×150°.3W±0°.1, h10km±8km, Error ellipse: s-maj=16.0km s-min=8.2km az=181.0*
*NEIC **23** 18:47:35.5±1.7,56°.18N±0°.06×150°.5W±0°.1,h23km±12km, ML3.3/42,ML2.7(AEIC), Error ellipse: s-maj=10.8km s-min=5.6km az=45.0*
ISC 23 18:47:34.8±1.8,56°.2N±0°.1×150°.34W±0°.07,h10km,n82, σ0♀97/80,Gulf of Alaska

| Code | Station Name | Δ° | AZ

L16K	Owhat River	7.24	323	Pn		Pn	18 49 19.8	-0.8	
RND	Reindeer	7.24	5	Pn		Pn	18 49 19.8	-0.8	
TRF	Thorofare Moun	7.25	0	Pn		Pn	18 49 20.1	-0.7	
TTA	Tatalina	7.31	339	Pn		Pn	18 49 21.4	-0.2	
KTH	Kantishna Hill	7.35	358	Pn		Pn	18 49 22.4	+0.3	
K20K	Telida	7.39	347	Pn		Pn	18 49 21.4	-1.3	
O29M	Mount Kennedy	7.42	52	Pn		Pn	18 49 23.8	+0.5	
M27K	Edge Creek, AK	7.51	32	Pn		Pn	18 49 25.9	+1.4	
P29M	Windy Craggy	7.53	58			Pn	18 49 24.8	+0.3	
M14K	Bethel	7.58	311	Pn		Pn	18 49 22.5	-2.8	
K17K	Iditarod	7.66	331	Pn		Pn	18 49 26.7	+0.4	
S31K	Pelican	7.88	71	Pn		Pn	18 49 27.8	-1.5	
M13K	Dall Lake	8.03	307	Pn		Pn	18 49 29.0	-2.3	
HYT	Haines Junctio	8.14	50	Pn		Pn	18 49 33.7	+0.6	
J20K	Nowinta River	8.19	348	Pn		Pn	18 49 34.0	+0.4	
J19K	Poorman	8.22	344	Pn		Pn	18 49 33.1	-0.9	
N30M	Aishikik Lake	8.63	47	Pn		Pn	18 49 40.3	+0.6	
M29M	Somme Creek	8.69	39	Pn		Pn	18 49 41.5	+0.9	
S32K	Killisnoo	8.73	75	Pn		Pn	18 49 40.0	-1.0	
O30N	Mendenhall	8.73	53	Pn		Pn	18 49 41.9	+0.9	
IL31		8.74	10	Pn		Pn	18 49 40.7	-0.3	
ILAR	Eielson Array baz=193,slow=16,SNR=2.5	8.74	10	Pn		Pn	18 49 40.7	-0.4	
ILAR				Sn		Sn	18 51 16.8	-2.7	
	comp=N,0.1nm,0.3s,baz=198,slow=25,SNR=1.7 comp=N,0.2nm,0.5s								
J26L	Joseph Creek	8.95	19	Pn		Pn	18 49 44.1	+0.1	
WHY	Whitehorse	9.23	55	Pn		Pn	18 49 48.8	+0.8	
L29M	L29M	9.25	37	Pn		Pn	18 49 49.2	+1.1	
K13K	Kusilvak Mount	9.31	314	Pn		Pn	18 49 47.8	-1.2	
M30M	Minto, Yukon	9.38	42	Pn		Pn	18 49 50.5	+0.7	
P32M	Atlin	9.46	62	Pn		Pn	18 49 50.8	-0.3	
H17K	Granite Mounta	9.91	336	Pn		Pn	18 49 57.8	+0.7	
K29M	Barlow Dome	9.95	35	Pn		Pn	18 49 59.7	+1.9	
YKA	Yellowknife Ar baz=266,slow=9.7,SNR=3.8 comp=N,0.2nm,0.7s	19.06	56	P		P	18 51 56.9	0.0	
MKAR	Makanchi Array comp=N,0.2nm,0.9s,baz=38,slow=5.4,SNR=1.9 comp=N,0.2nm,0.9s	68.29	324	P		P	18 58 37.2	+1.5	

IDC ***23*** *19:01:34.4±0.9, 43°.55N×105°.38W, h0km, mb4.0/4, mbtmp3.6/9, ML3.6/5, Error ellipse: s-maj=22.0km s-min=7.6km az=151.0*
NEIC ***23*** *19:01:34.5±2.2, 43°.71N±0°.04×105°.41W±0°.08, h0km±1km, ML3.3/100, Error ellipse: s-maj=9.7km s-min=7.1km az=104.0*
ISC 23 19:01:34.8±0.7, **43°.68N**±0°.05×**105°.37W**±0°.05, **h0**km, **n72,** σ1°**29**/72, **mb4.1/4, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.06	65	Pg	Pg	19 01 55.6	+0.5
K22A	Casper	1.33	220		Pg	19 02 00.8	+0.5
K22A	comp=N,693nm,0.3s			IAML		19 02 23.2	
PHWY	Pilot Hill	2.38	182		Pn	19 02 16.7	+1.3
PHWY	comp=N,120nm,0.8s			IAML		19 02 52.5	
PHWY	comp=N,108nm,0.5s			IAML		19 02 56.5	
RWWY	Rawlins	2.41	215		Pb	19 02 18.8	-0.5
RWWY	comp=N,181nm,1.0s			IAML		19 02 59.3	
N23A	Red Feather La	2.82	189	Pn	Pn	19 02 23.7	+2.3
N23A	comp=E,135nm,0.4s			IAML		19 03 06.2	
N23A	comp=N,151nm,0.8s			IAML		19 03 07.6	
LAO	LASA Array	3.07	349		Pn	19 02 23.8	-0.8
LAO	comp=N,135nm,0.6s			IAML		19 03 20.6	
RLMT	Red Lodge	3.15	299	Pn	Pn	19 02 28.1	+2.3
RLMT	comp=N,81nm,0.3s			IAML		19 03 18.1	
RLMT	comp=N,78nm,0.4s			IAML		19 03 24.6	
BRIGG	Briggsdale	3.19	166		Pn	19 02 28.8	+2.4
BW06	Boulder Array	3.20	255		Pn	19 02 28.3	+1.7
BW06	comp=N,69nm,0.7s			IAML		19 03 18.4	
BW06	comp=N,62nm,0.8s			IAML		19 03 21.4	
PD31	Pinedale Array	3.20	255	Pn	Pn	19 02 28.1	+1.6
PDAR	Pinedale Array	3.20	255	Pn	Pn	19 02 27.7	+1.1
PDAR	Pinedale Array comp=N,6.0nm,0.3s,baz=70,slow=15,SNR=82	3.20	255	Pn	Pn	19 02 28.2	+1.6
PDAR				Pg	Pg	19 02 36.4	+0.2
	comp=N,21nm,0.3s,baz=76,slow=18,SNR=31						
PDAR				Lg	Lg	19 03 12.2	
	comp=N,5.2nm,0.3s,baz=90,slow=27,SNR=3.6 comp=N,9.6nm,0.3s						
YMP	Mirror Lake Pl	3.60	289		Pn	19 02 34.1	+1.9
YMP	comp=E,81nm,0.6s			IAML		19 03 33.6	
OGNE	Ogallala	3.69	137	Pn	Pn	19 02 34.6	+1.5
LOHW	Long Hollow	3.80	271		Pn	19 02 36.6	+1.7
H17A	Grant Village	3.83	283		Pn	19 02 36.3	+1.1
H17A	comp=E,46nm,0.4s			IAML		19 03 41.2	
H17A	comp=N,50nm,0.5s			IAML		19 03 42.0	
FLWY	Flagg Ranch	3.88	278		Pn	19 02 38.4	+2.5
FLWY	comp=N,42nm,1.0s			IAML		19 03 45.5	
ISCO	Idaho Springs	3.88	183	Pn	Pn	19 02 38.0	+1.9
MOOW	Moose Ponds	3.90	273		Pn	19 02 37.2	+1.0
SNOW	Snow King Moun	3.92	269		Pn	19 02 38.0	+1.4
SNOW	comp=N,71nm,1.1s			IAML		19 03 54.2	
YNR	Norris Junctio	3.96	287		Pn	19 02 37.7	+0.6
YNM	Yellowstone No	3.98	287	Pn	Pn	19 02 39.3	+2.0
REDW	Red Top Meadow	4.00	267		Pn	19 02 36.7	-0.9
YFT	Old Faithful	4.02	283		Pn	19 02 36.8	-1.0
IMW	Indian Meadow	4.04	275	Pn	Pn	19 02 38.6	+0.4
IMW	comp=N,42nm,0.6s			IAML		19 03 52.2	
IMW	comp=N,29nm,1.1s			IAML		19 03 54.6	
TPAW	Teton Pass	4.06	269		Pn	19 02 39.2	+0.7
TPAW	comp=N,43nm,0.8s			IAML		19 03 52.8	
YHH	Holmes Hill	4.09	288	Pn	Pn	19 02 39.5	+0.6
FXWY	Fox Creek	4.11	271		Pn	19 02 41.2	+2.1
O20A	White River Ci	4.14	212	Pn	Pn	19 02 40.3	+0.7
O20A	comp=E,52nm,0.5s			IAML		19 03 49.4	
O20A	comp=N,60nm,1.1s			IAML		19 04 00.7	
AHID	Auburn Hatcher	4.29	260		Pn	19 02 42.5	+0.9
AHID	comp=N,47nm,0.9s			IAML		19 04 00.4	
AHID	comp=N,48nm,0.9s			IAML		19 04 04.0	
K30B	Basset	4.33	101		Pn	19 02 43.9	+2.0
YHL	Hebgen Lake	4.34	288		Pn	19 02 43.8	+1.4
YHL	comp=E,34nm,1.3s			IAML		19 04 07.7	
YHL	comp=N,29nm,1.2s			IAML		19 04 22.9	
E28A	Huff	4.39	47	Pn	Pn	19 02 43.9	+1.1
RDMU	Red Mountain	4.41	227		Pn	19 02 44.3	+1.1
RDMU	comp=N,44nm,1.1s			IAML		19 03 58.0	
RDMU	comp=E,31nm,0.9s			IAML		19 04 11.2	
SMCO	Snowmass	4.66	196		Pn	19 02 47.1	+0.3
SMCO	comp=E,21nm,0.9s			IAML		19 04 10.8	
SUSD	Miller	4.68	78		Pn	19 02 49.1	+2.3
Q24A	Divide	4.71	178		Pn	19 02 48.7	+1.2
DGMT	Dagmar	4.86	9	Pn	Pn	19 02 50.8	+1.6
HWUT	Hardware Ranch	5.02	248	Pn	Pn	19 02 52.2	+0.6
HWUT	comp=E,27nm,1.2s			IAML		19 04 28.2	
BSUT	Blindstream Ca	5.10	234	Pn	Pn	19 02 54.6	+1.8
BSUT	comp=E,14nm,2.7s			IAML		19 04 30.4	
BSUT	comp=N,15nm,3.5s			IAML		19 05 04.1	
KSCO	Kaye Shedlock'	5.10	155		Pn	19 02 53.3	+0.7
TCUT	Toone Canyon	5.16	242		Pn	19 02 54.7	+1.2
EGMT	Eagleton	5.32	326	Pn	Pn	19 02 57.6	+2.1
P18A	Preston Nutter	5.46	224		Pn	19 02 58.8	+1.1
CTU	Camp Tracy	5.60	240	Pn	Pn	19 02 58.6	-1.0
SPUT	South Promonto	5.75	248		Pn	19 03 03.3	+1.8
HVU	Hansel Valley	5.78	253		Pn	19 03 02.2	+0.3
MDND	Maddock	5.80	42		Pn	19 03 01.2	-0.9
P17A	Butcher Ranch,	5.82	226		Pn	19 03 02.8	+0.2
LYMT	Lyon Mountain	5.89	306		Pn	19 03 02.2	-1.3
SDCO	Great Sand Dun	5.93	181		Pn	19 03 06.3	+2.1
SRU	San Rafael Swe	5.99	222	Pn	Pn	19 03 05.3	+0.4
TMUT	Trail Mountain	6.20	227		Pn	19 03 08.9	+1.1
BGU	Big Grassy Mou	6.31	247		Pn	19 03 09.1	-0.3
ECSD	EROS Data Cent	6.34	87		Pn	19 03 09.7	+0.1
OVMT	Ovando	6.35	305		Pn	19 03 10.4	+0.6
CBKS	Cedar Bluff	6.45	137		Pn	19 03 11.2	+0.2
Q16A	Castle Valley	6.46	225		Pn	19 03 10.9	-0.5
DUG	Dugway, Tooele	6.55	240	Pn	Pn	19 03 11.5	-1.1
F33A	5 Mile Ranch,	6.81	68		Pn	19 03 15.6	-0.4
HMU	Henry Mountain	7.04	217	Pn	Pn	19 03 19.4	0.0
MSU	Marysvale	7.29	227		Pn	19 03 21.4	-1.4
AGMN	Agassiz Nation	8.07	52		Pn	19 03 32.3	-0.9
I10CA	LAC DU BONNET baz=220,slow=322,SNR=2.9	9.12	41	I	I	19 56 40.6	
ULM	Lac du Bonnet comp=N,1.9nm,0.3s,baz=231,slow=12,SNR=12	9.23	41	Pn	Pn	19 03 47.6	-1.5
ULM				Lg	Lg	19 06 23.7	
	comp=N,0.4nm,0.3s,baz=132,slow=20,SNR=2.9 comp=N,4.7nm,0.4s						
NVAR	Mina Array Bea baz=62,slow=14,SNR=1.3 comp=N,0.1nm,0.3s	11.09	246	Pn	Pn	19 04 13.9	-0.9
TXAR	Lajitas Array comp=N,0.1nm,0.3s,baz=355,slow=10.0,SNR=1.9 comp=N,0.1nm,0.3s	14.38	174	Pn	Pn	19 04 60.0	+0.2
YKA	Yellowknife Ar comp=N,0.2nm,0.3s,baz=151,slow=13,SNR=2.5 comp=N,0.2nm,0.5s	19.61	347	P	Pn	19 06 06.0	+0.3
ARCES	ARCESS Array B comp=N,3.8nm,0.9s,baz=320,slow=5.4,SNR=5.2 comp=N,3.8nm,0.9s	61.49	18	P	P	19 11 52.4	-0.5
FINES	FINESS Array B comp=N,1.0nm,0.7s,baz=308,slow=6.8,SNR=3.3 comp=N,1.0nm,0.7s	68.11	23	P	P	19 12 37.4	+1.4
ZALV	Zalesovo Beam comp=N,0.5nm,0.3s,baz=348,slow=4.9,SNR=3.2 comp=N,0.5nm,0.3s	82.36	354	P	P	19 13 58.3	+0.1
TORD	Torodi Ar. Bea comp=N,0.1nm,0.5s,baz=318,slow=1.9,SNR=1.2 comp=N,0.1nm,0.5s	92.97	69	P	P	19 14 49.8	-0.6

IDC ***23*** *19:03:22.3±4.0, 2°.48S×133°.39E, h0km, mb3.3/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=218.5km s-min=29.3km az=76.0*
DJA ***23*** *19:03:29.2±0.5, 3°.5S±5°×13°.0E±°, h10km±5km, M3.1/6, MLv3.1/6*
ISC 23 19:03:29.1±1.0, **3°.21S**±0°.07×**130°.29E**±0°.09, **h10**km, **n8,** σ1°**88**/9, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.36	196	P	Pg	19 03 57.0	+1.6
FAKI	Fak Fak	1.97	82	P	Pn	19 04 01.3	-1.4
SIJI	Sorong	2.52	23	P	Pn	19 04 09.7	-0.5
SWI	Sorong	2.52	23	P	Pn	19 04 10.5	+0.3
SWI				S	Sn	19 04 40.3	-0.7
LBMI	Labuha	3.78	312	P	Pn	19 04 25.2	-2.3
WRA	Warramunga Arr 0.1nm,0.3s,baz=356,slow=12,SNR=1.5	17.10	167	P	Pn	19 07 26.5	-2.0
WRA				S	Sn	19 10 24.2	-15
	0.6nm,0.8s,baz=19,slow=21,SNR=1.9 0.4nm,0.7s						
ASAR	Alice Springs 1.0nm,0.6s,baz=352,slow=9.8,SNR=22 1.0nm,0.6s	20.64	171	P	P	19 08 08.2	-0.9
MKAR	Makanchi Array 0.1nm,0.4s,baz=113,slow=6.8,SNR=4.9 0.1nm,0.4s	65.25	326	P	P	19 14 13.5	+2.4

IDC ***23*** *19:07:23.9±1.7, 7°.31S×105°.62E, h0km, mb3.5/4, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=45.5km s-min=22.5km az=29.0*
NEIC ***23*** *19:07:30.4±2.0, 7°.17S±0°.10×105°.80E±0°.09, h35km±2km, mb4.2/3, Error ellipse: s-maj=19.8km s-min=11.0km az=136.0*
DJA ***23*** *19:07:33.1±0.8, 7°.S±4°×10°.6E±°, h21km±6km, M3.6/8, MLv3.6/8*
ISC 23 19:07:31.8±1.1, **7°.24S**±0°.05×**106°.01E**±0°.06, **h50**km±12km, **n28,** σ1°**99**/29, **mb3.6/7, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.59	67	P	Pn	19 07 44.1	-0.1
SKJI				S	Sn	19 07 51.7	-1.5
DBJI	Dramaga	1.01	47	P	Pn	19 07 50.4	+0.8
DBJI				S	Sn	19 08 02.5	-0.3
CNJI	Cibinong	1.12	94	P	Pn	19 07 51.4	+0.3
CNJI				S	Sn	19 08 04.0	-1.4
SBJI	Serang	1.12	6	P	Pn	19 07 52.6	+1.4
SBJI				S	Sn	19 08 05.4	-0.1
CBJI	Citeko	1.17	46	P	Pn	19 07 51.2	-0.6
CBJI				S	Sn	19 08 04.7	-2.0
TNG	Tangerang	1.24	31	P	Pn	19 07 53.3	+0.5
BBJI	Bungbulang	1.65	98	P	Pn	19 07 59.2	+0.8
LEM	Lembang 32nm,0.3s,baz=294,slow=20,SNR=14	1.65	76	Pn	Pn	19 08 01.9	+3.3
LEM				Sn	Sn	19 08 25.6	+6.9
	30nm,0.3s,baz=279,slow=19,SNR=6.8 45nm,0.4s						
LEM	Lembang	1.65	76	P	Pn	19 08 01.2	+2.7
KASI	Kota Agung	2.27	319	P	Pn	19 08 10.0	+3.1
CMJI	Cimerak	2.48	103	P	Pn	19 08 10.8	+1.1
XMIS	Christmas Isla	3.24	186	Pn	Pn	19 08 21.1	+0.9
XMIS				Sn	Sn	19 08 57.2	-0.3
UGM	Wanagama	4.53	99	Pn	Pn	19 08 38.9	+1.0
H01W3	Cape Leeuwin H baz=344,slow=76,SNR=7.9	28.51	166	T	T	19 43 54.4	
H01W1	Cape Leeuwin H baz=344,slow=76,SNR=8.7	28.52	166	T	T	19 43 56.9	
H01W2	Cape Leeuwin H baz=344,slow=76,SNR=10	28.52	166	T	T	19 43 54.3	
WRA	Warramunga Arr 0.6nm,0.8s,baz=306,slow=9.1,SNR=2.0 0.6nm,0.8s	30.23	118	P	P	19 13 38.9	+0.9
ASAR	Alice Springs 0.3nm,0.8s,baz=284,slow=5.3,SNR=1.8 0.3nm,0.8s	31.36	124	P	P	19 13 48.3	+0.3
MK31	Makanchi Array	57.78	341	P	P	19 17 16.7	-1.2
MK31	comp=Z,0.9nm,1.1s			IAmb	IAmb	19 17 57.2	
MKAR	Makanchi Array	57.78	341	P	P	19 17 16.3	-1.5
MKAR	Makanchi Array comp=Z,0.2nm,0.4s,baz=153,slow=7.8,SNR=6.4 comp=Z,0.2nm,0.4s	57.78	341	P	P	19 17 16.5	-1.3
CASY	Casey	59.03	178	P	P	19 17 25.8	-0.4
CASY	comp=Z,6.6nm,0.8s			IAmb	IAmb	19 17 40.4	
H04N2	CROZET ISLANDS baz=67,slow=75,SNR=51	60.44	220	T	T	20 23 49.4	
H04N1	CROZET ISLANDS baz=67,slow=75,SNR=55	60.45	220	T	T	20 23 47.2	
H04N3	CROZET ISLANDS baz=67,slow=75,SNR=49	60.46	220	T	T	20 23 47.7	
BVAR	Borovoye Array comp=Z,0.2nm,0.3s,baz=131,slow=9.4,SNR=4.6 comp=Z,0.2nm,0.3s	67.21	338	P	P	19 18 19.3	-1.3
ABKAR	Akbulak array	69.12	330	P	P	19 18 32.2	-0.5
ABKAR	Akbulak array	69.12	330	P	P	19 18 32.3	-0.4
ABKAR	comp=Z,3.3nm,1.3s			IAmb	IAmb	19 18 43.3	

IDC ***23*** *19:07:51.0±3.5, 36°.74S×179°.30E, h0km, mb3.9/2, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=79.7km s-min=33.8km az=126.0*
WEL ***23*** *19:07:55.4±0.7, 37°.S±4°×17°9E±°, h12km, M3.4/31, ML3.6/35, MLv3.4/31, Error ellipse: s-maj=0.0km s-min=0.0km az=111.5, confirmed*
ISC 23 19:07:54.5±1.7, **36°.88S**±0°.09×**179°.3E**±0°.1, **h21**km±5km, **n51,** σ1°**07**/68, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.05	229	P	Pb	19 08 12.7	-1.3
MXZ				S	Sb	19 08 26.4	-0.9
WMGZ	Waiomatatini S	1.18	217	P	Pb	19 08 17.3	+1.2
WMGZ				S	Sn	19 08 32.7	+1.5
PKGZ	Pakihiroa	1.41	224	P	Pb	19 08 19.8	-0.3
PKGZ				S	Sb	19 08 37.9	+0.3
PUZ	Puketiti	1.46	215	P	Pb	19 08 20.7	-0.1
PUZ				S	Sb	19 08 39.5	+0.6
HAZ	Te Kaha	1.50	234	P	Pn	19 08 19.8	-0.4
HAZ				S	Sb	19 08 40.9	+0.8
TWGZ	Tauwhareparae	1.67	219	P	Pb	19 08 23.9	-0.7
TWGZ				S	Sb	19 08 45.4	+0.2
RUGZ	Raukumara Rang	1.69	230	P	Pn	19 08 23.6	+0.7
RUGZ				S	Sb	19 08 47.0	+1.1
WIZ	White Island	1.81	248	P	Pn	19 08 24.9	+0.4
CNGZ	Carnagh Statio	1.83	208	P	Pb	19 08 26.6	-0.5
MWZ	Matawai	2.03	224	P	Pn	19 08 28.5	+1.0
MWZ				S	Sb	19 08 54.2	-1.2
RIGZ	Rimuhau	2.20	213	P	Pn	19 08 30.5	+0.7
RIGZ				S	Sn	19 08 56.5	+0.1
RAGZ	Rawiri	2.21	222	P	Pn	19 08 31.0	+1.0
URZ	Urewera 16nm,0.3s,baz=337,slow=4.0,SNR=62	2.23	231	Pn	Pn	19 08 31.0	+0.9
URZ				Sn	Sn	19 08 58.4	+1.4
	12nm,0.3s,baz=272,slow=23,SNR=10 62nm,0.5s						
URZ	Urewera	2.23	231	P	Pn	19 08 31.1	+0.9
URZ				S	Sn	19 08 56.8	-0.2
PRGZ	Paritu Road	2.33	209	P	Pn	19 08 32.2	+0.5
EDRZ	Edgecumbe	2.38	238	P	Pn	19 08 33.7	+1.3
SNGZ	Shannon Statio	2.46	219	P	Pn	19 08 34.1	+0.7
MHGZ	Mahia Peninsul	2.53	206	P	Pn	19 08 34.7	+0.4
RTZ	Ruatahuna	2.53	226	P	Pn	19 08 35.1	+0.7
RTZ				S	Sn	19 09 05.4	+0.7
MUGZ	Murupara	2.57	231	P	Pn	19 08 35.5	+0.6
MUGZ				S	Sn	19 09 05.9	+0.4
TARZ	Mount Tarawera	2.61	238	P	Pn	19 08 36.9	+1.4
RAHZ	Arahi	2.69	220	P	Pn	19 08 37.7	+1.2
RAHZ				S	Sn	19 09 07.6	-0.9
KARZ	Kaharoa	2.69	244	P	Pn	19 08 38.4	+1.8
MTHZ	Maungataniwha	2.77	224	P	Pn	19 08 38.6	+0.8
MTHZ				S	Sn	19 09 10.5	-0.1
KMRZ	Kaimai	2.85	249	P	Pn	19 08 39.5	+0.7
KUZ	Kuaotunu	2.88	272	P	Pn	19 08 39.8	+0.6
NMHZ	Naumai	2.97	221	P	Pn	19 08 41.2	+0.8
TOZ	Tahuroa Road	3.15	253	P	Pn	19 08 43.7	+0.8
GRZ	Great Barrier	3.17	280	P	Pn	19 08 44.4	+1.4
BKZ	Black Stump Fm	3.19	223	P	Pn	19 08 43.8	+0.4
CKHZ	Cape Kidnapper	3.28	212	P	Pn	19 08 44.0	-0.6
CKHZ				S	Sn	19 09 20.9	-2.2
MKAZ	Moumakai	3.33	265	P	Pn	19 08 46.1	+0.8
WIAZ	Waiheke Island	3.35	270	P	Pn	19 08 46.7	+1.1
KAHZ	Kahuranaki	3.48	213	P	Pn	19 08 46.6	-0.9
TMVZ	Te Maari	3.62	231	P	Pn	19 08 50.2	+0.7
TMVZ				S	Sn	19 09 29.5	-2.1
NTVZ	North Tongariro	3.63	231	P	Pn	19 08 50.2	+0.7
ETVZ	East Tongariro	3.63	231	P	Pn	19 08 49.9	+0.3
OTVZ	Oturere	3.67	231	P	Pn	19 08 50.3	+0.1
NNVZ	North Ngauruho	3.69	231	P	Pn	19 08 50.9	+0.6
WTVZ	West Tongariro	3.69	232	P	Pn	19 08 52.1	+1.7
SNVZ	South Ngauruho	3.70	230	P	Pn	19 08 51.0	+0.4
NGZ	Ngauruhoe	3.72	231	P	Pn	19 08 51.3	+0.5
MOVZ	Moawhango	3.77	227	P	Pn	19 08 51.0	-0.5
WNVZ	Waihianoa	3.81	229	P	Pn	19 08 52.0	-0.1
PNHZ	Pukenui	3.89	218	P	Pn	19 08 52.1	-1.0
OUZ	Omahuta	4.92	288	P	Pn	19 09 08.2	+1.0
CTZ	Chatham Island	7.52	157	P	Pn	19 09 46.1	+3.2
AMCZ	Amberley	8.10	217	P	Pn	19 09 53.6	+2.8
ASAR	Alice Springs 1.2nm,0.5s,baz=120,slow=7.9,SNR=21 1.2nm,0.5s	41.00	276	P	P	19 15 35.7	-0.5
WRA	Warramunga Arr 0.5nm,0.4s,baz=123,slow=7.0,SNR=12 0.5nm,0.4s	42.59	281	P	P	19 15 48.0	-1.1
FINES	FINESS Array B 1.1nm,0.8s,baz=26,slow=3.5,SNR=1.1	150.23	334	PKPbc	PKPbc	19 27 42.9	-0.1

NEIC ***23*** *19:08:30.6±2.1, 56°.02N±0°.10×150°.3W±0°.1, h5km±8km, ML3.6/38, ML3.3(AEIC), Error ellipse: s-maj=14.0km s-min=9.0km az=171.0*
AEIC ***23*** *19:08:35.2±3.0, 56°.0N±0°.1×150°.1W±0°.1, h10km±8km, Error ellipse: s-maj=15.0km s-min=9.1km az=170.0*
ISC 23 19:08:31.4±2.1, **56°.1N**±0°.1×**150°.24W**±0°.07, **h10**km, **n108,** σ1°**02**/108, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.05	306		Pn	19 09 04.9	-0.9
OHAK	Old Harbor	2.05	306		Sn	19 09 29.1	-2.3
OHAK	Old Harbor baz=125	2.05	306	P	Pn	19 09 06.2	+0.4
OHAK	baz=125			S	Sn	19 09 29.1	-2.3
KDAK	Kodiak Island	2.15	324		Pn	19 09 07.0	-0.3
KDAK	Kodiak Island	2.15	324		Sn	19 09 33.0	-1.0
KDAK	Kodiak Island baz=144	2.15	324	S	Sn	19 09 33.0	-1.0
R18K	Karluk	2.77	305		Pn	19 09 15.1	-0.5
R18K	Karluk	2.77	305		Sn	19 09 49.1	+0.1
R18K	Karluk baz=123	2.77	305	P	Pn	19 09 16.4	+0.7
R18K	baz=123			S	Sn	19 09 49.1	+0.1
SYI	Shuyak Island	2.81	336		Pn	19 09 16.3	0.0
SYI	Shuyak Island	2.81	336		Sn	19 09 50.5	+0.4
SYI	Shuyak Island comp=N,67nm,2.3s	2.81	336	IAML		19 09 58.4	
SYI	comp=E,77nm,3.4s			IAML		19 10 44.0	
Q20K	Shuyak Island baz=156	2.81	336	P	Pn	19 09 16.9	+0.6
Q20K	baz=156			S	Sn	19 09 50.5	+0.4
Q19K	Cape Douglas,	3.41	329		Pn	19 09 26.0	+1.4
Q19K	Cape Douglas, comp=E,238nm,1.0s	3.41	329	IAML		19 10 11.2	
Q19K	comp=N,167nm,1.7s			IAML		19 10 60.0	
Q19K	Cape Douglas, baz=147	3.41	329	P	Pn	19 09 26.0	+1.4
CNPM	China Poot	3.52	352		Pn	19 09 25.2	-0.8
CNPM	comp=N,86nm,3.3s			IAML		19 11 28.9	
CNPM	comp=E,86nm,3.0s			IAML		19 11 42.5	
CNPM	China Poot	3.52	352		Sn	19 10 06.4	-1.3
BRSE	Bradley Lake S	3.70	356		Pn	19 09 28.3	-0.3
BRSE					Sn	19 10 10.7	-1.5
BRSE	Bradley Lake S baz=176	3.70	356	P	Pn	19 09 28.3	-0.3
BRSE	baz=176			S	Sn	19 10 10.7	-1.5
BRLK	Bradley Lake	3.73	355	Pn	Pn	19 09 29.2	+0.2
BRLK	comp=N,75nm,3.4s			IAML		19 10 03.8	
BRLK	comp=E,83nm,3.2s			IAML		19 10 24.7	

O18K				IAML		19 12 50.7			
	comp=E,37nm,1.9s								
HIN	**Hinchinbrook I**	**4.78**	**23**	Pn	**Pn**	**19 09 43.1**	**-0.2**		
HIN				IAML		19 12 34.3			
	comp=E,100nm,2.6s								
HIN				IAML		19 12 49.4			
	comp=N,87nm,2.0s								
KAIM	**Kayak Island**	**4.96**	**36**		**Pn**	**19 09 45.9**	**+0.1**		
KAIM	**Kayak Island**	**4.96**	**36**	P	**Pn**	**19 09 45.9**	**+0.1**		
	baz=221								
RC01	**Rabbit Creek A**	**5.05**	**3**	Pn	**Pn**	**19 09 47.4**	**+0.3**		
RC01				IAML		19 13 13.2			
	comp=N,58nm,0.4s								
RC01				IAML		19 13 15.7			
	comp=E,48nm,0.9s								
FID	**Port Fidalgo**	**5.10**	**21**	Pn	**Pn**	**19 09 48.1**	**+0.4**		
FID				IAML		19 12 39.4			
	comp=E,77nm,0.2s								
P16K	**Nushagak River**	**5.13**	**309**		**Pn**	**19 09 49.0**	**+0.9**		
P16K	**Nushagak River**	**5.13**	**309**	P	**Pn**	**19 09 49.0**	**+0.9**		
	baz=123								
O17K	**Koliganek Bris**	**5.21**	**318**		**Pn**	**19 09 50.0**	**+0.7**		
O17K	**Koliganek Bris**	**5.21**	**318**	P	**Pn**	**19 09 50.0**	**+0.7**		
	baz=133								
RAGM	**Ragged Mountai**	**5.24**	**32**	Pn	**Pn**	**19 09 49.4**	**-0.3**		
N19K	**Bonanza Creek**	**5.26**	**337**		**Pn**	**19 09 48.9**	**-1.2**		
N19K				IAML		19 13 28.1			
	comp=E,23nm,1.4s								
N19K				IAML		19 13 29.3			
	comp=N,33nm,0.6s								
N19K	**Bonanza Creek**	**5.26**	**337**	P	**Pn**	**19 09 50.5**	**+0.5**		
	baz=154								
SUA	**Susitna One**	**5.42**	**357**	Pn	**Pn**	**19 09 51.7**	**-0.6**		
O16K	**Kokwok River B**	**5.49**	**313**	Pn	**Pn**	**19 09 53.9**	**+0.8**		
N18K	**Kilae Creek**	**5.50**	**330**		**Pn**	**19 09 53.3**	**0.0**		
N18K	**Kilae Creek**	**5.50**	**330**	P	**Pn**	**19 09 53.3**	**0.0**		
	baz=146								
BERG	**Berg Lake**	**5.55**	**36**	Pn	**Pn**	**19 09 54.1**	**+0.2**		
SNH	**Sunshine Point**	**5.69**	**40**	Pn	**Pn**	**19 09 55.5**	**-0.5**		
GHO	**Glory Hole Cre**	**5.77**	**6**	Pn	**Pn**	**19 09 56.5**	**-0.5**		
SVW2	**Sparrevohn**	**5.77**	**333**	Pn	**Pn**	**19 09 57.1**	**+0.1**		
N17K	**Nushagak Hills**	**5.78**	**324**	Pn	**Pn**	**19 09 58.0**	**+0.9**		
KLU	**Klutina**	**5.89**	**21**	Pn	**Pn**	**19 09 57.9**	**-0.8**		
SCM	**Sheep Creek Mo**	**5.98**	**13**	Pn	**Pn**	**19 09 59.4**	**-0.6**		
O15K	**Ungalikthiuk R**	**6.02**	**305**		**Pn**	**19 10 01.4**	**+1.0**		
O15K	**Ungalikthiuk R**	**6.02**	**305**	P	**Pn**	**19 10 01.5**	**+1.0**		
	baz=118								
M19K	**Big River Lodg**	**6.24**	**342**	Pn	**Pn**	**19 10 03.9**	**+0.5**		
VRDI	**Verde Repeater**	**6.27**	**32**	Pn	**Pn**	**19 10 04.6**	**+0.6**		
N25K	**Chitina, Valde**	**6.28**	**25**	Pn	**Pn**	**19 10 03.9**	**-0.2**		
N16K	**Nishlik Lake**	**6.31**	**318**		**Pn**	**19 10 05.0**	**+0.6**		
N16K	**Nishlik Lake**	**6.31**	**318**	P	**Pn**	**19 10 05.0**	**+0.6**		
	baz=131								
GLB	**Gilahina Butte**	**6.35**	**29**	Pn	**Pn**	**19 10 05.4**	**+0.5**		
M24K	**Tolsona, Glenn**	**6.41**	**17**	Pn	**Pn**	**19 10 07.3**	**+1.4**		
MCARA	**McCarthy VSAT**	**6.52**	**32**	Pn	**Pn**	**19 10 08.3**	**+1.0**		
M17K	**Holitna River**	**6.53**	**328**		**Pn**	**19 10 08.3**	**+0.9**		
M17K	**Holitna River**	**6.53**	**328**	P	**Pn**	**19 10 08.3**	**+0.9**		
	baz=142								
L19K	**White Mountain**	**6.58**	**341**	Pn	**Pn**	**19 10 08.1**	**0.0**		
N15K	**Kwethluk River**	**6.65**	**312**		**Pn**	**19 10 10.4**	**+1.5**		
N15K	**Kwethluk River**	**6.65**	**312**	P	**Pn**	**19 10 10.4**	**+1.5**		
	baz=124								
PCA	**Pinnacle**	**6.66**	**48**		**Pn**	**19 10 10.5**	**+1.3**		
PINM	**Pinnacle**	**6.66**	**49**	P	**Pn**	**19 10 09.1**	**-0.2**		
	baz=237								
PN7A	**Pavlof North-7**	**6.67**	**269**		**Pn**	**19 10 08.8**	**-0.5**		
BARN	**Barnard Glacie**	**6.72**	**38**	Pn	**Pn**	**19 10 10.8**	**+0.6**		
O14K	**Tigyukauivet M**	**6.72**	**303**	Pn	**Pn**	**19 10 10.7**	**+0.7**		
M16K	**Timber Creek**	**6.75**	**321**		**Pn**	**19 10 11.8**	**+1.4**		
M16K	**Timber Creek**	**6.75**	**321**	P	**Pn**	**19 10 11.8**	**+1.4**		
	baz=134								
CTGM	**Chitina Glacie**	**6.77**	**40**	Pn	**Pn**	**19 10 11.5**	**+0.6**		
LOGN	**Logan Glacier**	**6.80**	**42**	Pn	**Pn**	**19 10 11.9**	**+0.6**		
BCPM	**Bancas Point**	**6.85**	**51**	Pn	**Pn**	**19 10 12.5**	**+0.7**		
L18K	**Granite Mounta**	**7.01**	**334**	Pn	**Pn**	**19 10 14.6**	**+0.6**		
M15K	**Kasigluk River**	**7.19**	**315**		**Pn**	**19 10 17.6**	**+1.2**		
M15K	**Kasigluk River**	**7.19**	**315**	P	**Pn**	**19 10 17.6**	**+1.2**		
	baz=126								
L16K	**Owhat River**	**7.41**	**324**	Pn	**Pn**	**19 10 19.6**	**+0.2**		
O29M	**Mount Kennedy**	**7.49**	**51**	Pn	**Pn**	**19 10 22.1**	**+1.5**		
TTA	**Tatalina**	**7.49**	**339**	Pn	**Pn**	**19 10 22.5**	**+1.9**		
P29M	**Windy Craggy**	**7.57**	**57**	Pn	**Pn**	**19 10 21.9**	**+0.3**		
M27K	**Edge Creek, AK**	**7.63**	**31**	Pn	**Pn**	**19 10 22.9**	**+0.3**		
K17K	**Iditarod**	**7.83**	**332**	Pn	**Pn**	**19 10 25.2**	**-0.1**		
S31K	**Pelican**	**7.88**	**70**	Pn	**Pn**	**19 10 26.1**	**+0.2**		
J18K	**Innoko River**	**8.11**	**339**	Pn	**Pn**	**19 10 28.2**	**-0.9**		
RIDG	**Independent Ri**	**8.16**	**17**	Pn	**Pn**	**19 10 31.5**	**+1.7**		
M13K	**Dall Lake**	**8.17**	**308**	Pn	**Pn**	**19 10 31.4**	**+1.6**		
K15K	**Wolf Creek Mou**	**8.52**	**322**	Pn	**Pn**	**19 10 35.7**	**+1.2**		
N30M	**Aishikik Lake**	**8.71**	**46**	Pn	**Pn**	**19 10 38.2**	**+0.9**		
M29M	**Somme Creek**	**8.78**	**38**	Pn	**Pn**	**19 10 40.0**	**+1.7**		
J16K	**Anvik River**	**8.93**	**328**	Pn	**Pn**	**19 10 41.5**	**+1.3**		
J26L	**Joseph Creek**	**9.09**	**19**	Pn	**Pn**	**19 10 44.4**	**+1.9**		
L29M	**L29M**	**9.35**	**36**	Pn	**Pn**	**19 10 47.5**	**+1.5**		
M30M	**Minto, Yukon**	**9.47**	**41**	Pn	**Pn**	**19 10 47.9**	**+0.3**		
K13K	**Kusilvak Mount**	**9.47**	**314**	Pn	**Pn**	**19 10 48.7**	**+1.1**		
P32M	**Atlin**	**9.49**	**61**	Pn	**Pn**	**19 10 48.0**	**0.0**		
K29M	**Barlow Dome**	**10.06**	**34**	Pn	**Pn**	**19 10 57.1**	**+1.3**		
H17K	**Granite Mounta**	**10.09**	**336**	Pn	**Pn**	**19 10 57.7**	**+1.6**		
M31M	**Drury Creek, Y**	**10.19**	**46**	Pn	**Pn**	**19 10 59.6**	**+2.1**		
J30M	**Hart River**	**10.95**	**33**	Pn	**Pn**	**19 11 10.1**	**+2.2**		

*IDC **23** 19:11:19.3±0.7,55°.99N×149°.44W,h0km,mb4.1/19, mbtmp4.1/22,ML4.0/4,MS3.5/6,Error ellipse: s-maj=19.6km s-min=13.5km az=38.0*

*NEIC **23** 19:11:22.4±1.4,55°.97N±0°.06×149°.38W±0°.10,h15km±5km, mb4.1/18,ML4.6/42,ML4.4(AEIC),Error ellipse: s-maj=8.3km s-min=7.7km az=156.0*

*AEIC **23** 19:11:27.4±1.7,56°.06N±0°.08×149°.34W±0°.09,h9km±5km, Error ellipse: s-maj=11.0km s-min=7.5km az=175.0*

ISC 23 19:11:21.4±0.6,**56°.04N**±0°.07×**149°.35W**±0°.05,**h10**km, **n299**,σ1**$42**/293,**mb4.3**/45,**MS3.5**/4,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.48**	**300**		**Pn**	**19 12 02.2**	**+0.5**
OHAK					**Sn**	**19 12 30.1**	**-1.8**
OHAK	**Old Harbor**	**2.48**	**300**	P	**Pn**	**19 12 02.3**	**+0.6**
OHAK	**Old Harbor**	**2.48**	**300**	P	**Pn**	**19 12 02.2**	**+0.5**
	baz=119						
OHAK				S	**Sn**	**19 12 30.1**	**-1.8**
	baz=119						
KDAK	**Kodiak Island**	**2.49**	**316**		**Pn**	**19 12 02.9**	**+1.0**
KDAK	**Kodiak Island**	**2.49**	**316**		**Sn**	**19 12 31.3**	**-0.9**
KDAK	**Kodiak Island**	**2.49**	**316**	Pn	**Pn**	**19 12 01.7**	**-0.2**
	28nm,0.3s,baz=141,slow=14,SNR=27						
KDAK				Sn	**Sn**	**19 12 31.0**	**-1.2**
	140nm,0.3s,baz=37,slow=20,SNR=14						
KDAK				LR	LR	19 13 12.8	
	comp=Z,484nm,20.7s,baz=160,slow=46						
Q20K	**Shuyak Island**	**3.06**	**329**	P	**Pn**	**19 12 10.8**	**+1.1**
	baz=147						
Q20K				S	**Sn**	**19 12 46.9**	**+0.6**
	baz=147						
SYI	**Shuyak Island**	**3.06**	**329**		**Pn**	**19 12 10.8**	**+1.1**
SYI				IAML		19 12 48.2	
	comp=N,955nm,0.5s						
SYI				IAML		19 12 48.7	
	comp=E,854nm,0.5s						
SYI	**Shuyak Island**	**3.06**	**329**		**Sn**	**19 12 45.2**	**-1.0**
R18K	**Karluk**	**3.19**	**301**		**Pn**	**19 12 12.6**	**+1.1**
R18K	**Karluk**	**3.19**	**301**	IAML		19 12 51.3	
	comp=N,1μm,0.5s						
R18K				IAML		19 12 52.4	
	comp=E,1μm,0.4s						
CNPM	**China Poot**	**3.63**	**345**		**Pn**	**19 12 18.5**	**+0.8**
CNPM					**Sn**	**19 12 59.6**	**-1.0**
CNPM	**China Poot**	**3.63**	**345**	IAML		19 13 02.7	
	comp=N,679nm,0.4s						
CNPM				IAML		19 13 03.0	
	comp=E,1μm,0.5s						
Q19K	**Cape Douglas,**	**3.71**	**323**		**Pn**	**19 12 20.1**	**+1.4**
Q19K				IAML		19 13 07.5	
	comp=N,2μm,0.7s						
Q19K	**Cape Douglas,**	**3.71**	**323**	P	**Pn**	**19 12 21.4**	**+2.8**
	baz=140						
KAHG	**Katmai Hook Gl**	**3.74**	**313**		**Pn**	**19 12 21.4**	**+2.2**
Q23K	**Middleton Isla**	**3.76**	**24**		**Pn**	**19 12 20.3**	**+1.0**
Q23K					**Sn**	**19 13 01.8**	**-1.7**
Q23K	**Middleton Isla**	**3.76**	**24**	IAML		19 13 02.6	
	comp=E,677nm,0.9s						
Q23K				IAML		19 13 03.1	
	comp=N,691nm,0.6s						
Q23K	**Middleton Isla**	**3.76**	**24**	P	**Pn**	**19 12 20.3**	**+1.0**
	baz=206						
Q23K				S	**Sn**	**19 13 01.8**	**-1.7**
	baz=206						
MID	**Middleton Isla**	**3.76**	**24**		**Sn**	**19 13 01.2**	**-2.2**
MID	**Middleton Isla**	**3.76**	**24**		**Pn**	**19 12 20.1**	**+0.9**
MID				IAML		19 13 03.0	
	comp=N,582nm,0.6s						
MID				IAML		19 13 07.5	
	comp=E,627nm,0.7s						
MID	**Middleton Isla**	**3.76**	**24**	P	**Pn**	**19 12 20.3**	**+1.0**
BRSE	**Bradley Lake S**	**3.78**	**349**		**Pn**	**19 12 20.4**	**+0.7**
BRSE	**Bradley Lake S**	**3.78**	**349**	P	**Pn**	**19 12 20.5**	**+0.8**
	baz=168						
BRLK	**Bradley Lake**	**3.82**	**348**		**Pn**	**19 12 20.9**	**+0.7**
BRLK				IAML		19 13 05.4	
	comp=N,732nm,0.6s						
BRLK				IAML		19 13 06.1	
	comp=E,1μm,0.6s						
HOM	**Homer**	**3.83**	**342**		**Sn**	**19 13 03.7**	**-1.5**
ACHA	**Angle Creek He**	**3.92**	**306**		**Pn**	**19 12 23.5**	**+2.0**
AU22	**Augustine Moun**	**3.97**	**329**		**Pn**	**19 12 23.6**	**+1.4**
ANCK	**Angle Creek**	**3.98**	**305**		**Pn**	**19 12 25.5**	**+3.0**
KAHC	**Katmai Hardscr**	**4.03**	**313**	P	**Pn**	**19 12 25.1**	**+2.0**
	baz=129						
SEW	**Seward**	**4.07**	**359**		**Pn**	**19 12 24.5**	**+0.9**
SEW	**Seward**	**4.07**	**359**	P	**Pn**	**19 12 25.5**	**+1.9**
	baz=179						
P23K	**Montague Islan**	**4.10**	**14**	P	**Pn**	**19 12 24.8**	**+0.9**
	baz=195						
P19K	**Oil Pt**	**4.17**	**332**		**Pn**	**19 12 26.1**	**+1.1**
Q17K	**Contact Creek**	**4.20**	**305**	P	**Pn**	**19 12 27.1**	**+1.7**
	baz=120						
O20K	**Slope Mountain**	**4.41**	**338**		**Pn**	**19 12 30.1**	**+1.8**
O20K	**Slope Mountain**	**4.41**	**338**	P	**Pn**	**19 12 31.5**	**+3.2**
	baz=156						
O22K	**Cooper Landing**	**4.46**	**358**		**Pn**	**19 12 31.0**	**+2.1**
P18K	**Big Mountain,**	**4.60**	**319**		**Pn**	**19 12 32.0**	**+1.1**
P18K	**Big Mountain,**	**4.60**	**319**	P	**Pn**	**19 12 32.1**	**+1.2**
	baz=135						
HIN	**Hinchinbrook I**	**4.62**	**18**		**Pn**	**19 12 32.3**	**+1.2**
HIN				IAML		19 13 26.0	
	comp=E,835nm,0.3s						
KAIM	**Kayak Island**	**4.69**	**32**	Pn	**Pn**	**19 12 33.5**	**+1.4**
KAIM				IAML		19 13 30.2	
	comp=E,805nm,0.6s						
RSO	**Redoubt South**	**4.78**	**339**		**Pn**	**19 12 34.4**	**+0.8**
CAPN	**Captain Cook N**	**4.83**	**349**	Pn	**Pn**	**19 12 37.2**	**+3.2**
EYAK	**Cordova Ski Ar**	**4.90**	**21**		**Pn**	**19 12 36.3**	**+1.3**
EYAK	**Cordova Ski Ar**	**4.90**	**21**	P	**Pn**	**19 12 36.8**	**+1.8**
EYAK	**Cordova Ski Ar**	**4.90**	**21**	P	**Pn**	**19 12 36.5**	**+1.5**
	baz=204						
O19K	**Port Ailsworth**	**4.93**	**330**	Pn	**Pn**	**19 12 35.7**	**+0.4**
O18K	**Koktuh Hills**	**4.93**	**323**		**Pn**	**19 12 36.6**	**+1.1**
O18K				IAML		19 13 33.6	
	comp=N,250nm,0.9s						
O18K	**Koktuh Hills**	**4.93**	**323**	P	**Pn**	**19 12 36.5**	**+1.1**
	baz=139						
P17K	**Kvichak River**	**4.95**	**313**	P	**Pn**	**19 12 37.4**	**+1.8**
	baz=127						
RAGM	**Ragged Mountai**	**5.01**	**28**		**Pn**	**19 12 37.8**	**+1.3**
RC01	**Rabbit Creek A**	**5.06**	**358**		**Pn**	**19 12 38.1**	**+0.9**
RC01				IAML		19 13 36.4	
	comp=N,439nm,0.4s						
RC01				IAML		19 13 38.8	
	comp=E,629nm,0.4s						
RC01	**Rabbit Creek A**	**5.06**	**358**	P	**Pn**	**19 12 39.5**	**+2.2**
	baz=178						
CHGN	**Chignik**	**5.07**	**277**		**Pn**	**19 12 37.7**	**+0.4**
FIS	**Fire Island**	**5.14**	**355**	Pn	**Pn**	**19 12 39.2**	**+1.0**
N20K	**Mount Spurr**	**5.38**	**345**	P	**Pn**	**19 12 43.2**	**+1.5**
	baz=163						
SNH	**Sunshine Point**	**5.39**	**37**		**Pn**	**19 12 43.4**	**+1.6**
KNK	**Knik Glacier**	**5.41**	**5**		**Pn**	**19 12 43.5**	**+1.6**
KNK	**Knik Glacier**	**5.41**	**5**	P	**Pn**	**19 12 44.1**	**+2.2**
	baz=185						
DIV	**Divide**	**5.43**	**19**		**Pn**	**19 12 44.1**	**+1.8**
SPCP	**Crater Peak Br**	**5.44**	**346**		**Pn**	**19 12 44.0**	**+1.5**
SUA	**Susitna One**	**5.48**	**353**		**Pn**	**19 12 44.7**	**+1.5**
SUA	**Susitna One**	**5.48**	**353**	P	**Pn**	**19 12 46.7**	**+3.5**
	baz=172						
N19K	**Bonanza Creek**	**5.49**	**333**		**Pn**	**19 12 43.6**	**+0.5**
N19K	**Bonanza Creek**	**5.49**	**333**	P	**Pn**	**19 12 44.9**	**+1.7**
	baz=149						
BMRM	**Bremner River**	**5.53**	**25**		**Pn**	**19 12 45.4**	**+1.7**
BMRM	**Bremner River**	**5.53**	**25**	P	**Pn**	**19 12 45.5**	**+1.8**
	baz=209						
P16K	**Nushagak River**	**5.53**	**306**	P	**Pn**	**19 12 45.3**	**+1.7**
	baz=120						
PMR	**Palmer**	**5.57**	**1**	Pn	**Pn**	**19 12 45.6**	**+1.5**
PMR	**Palmer**	**5.57**	**1**	P	**Pn**	**19 12 46.8**	**+2.7**
PMR	**Palmer**	**5.57**	**1**	P	**Pn**	**19 12 46.9**	**+2.8**
	baz=181						
O17K	**Koliganek Bris**	**5.57**	**315**	P	**Pn**	**19 12 45.5**	**+1.4**
	baz=130						
SPNN	**North Nagishla**	**5.62**	**343**		**Pn**	**19 12 47.0**	**+2.0**
STLK	**Strandline Lak**	**5.62**	**348**		**Pn**	**19 12 46.3**	**+1.3**
KLU	**Klutina**	**5.75**	**17**		**Pn**	**19 12 48.3**	**+1.6**
KLU	**Klutina**	**5.75**	**17**	P	**Pn**	**19 12 48.6**	**+1.9**
	baz=200						
GHO	**Glory Hole Cre**	**5.75**	**2**		**Pn**	**19 12 48.4**	**+1.7**
N18K	**Kilae Creek**	**5.78**	**326**		**Pn**	**19 12 47.9**	**+0.7**
SML	**Sawmill**	**5.80**	**5**		**Pn**	**19 12 49.0**	**+1.6**
SML	**Sawmill**	**5.80**	**5**	P	**Pn**	**19 12 49.5**	**+2.0**
	baz=186						
O16K	**Kokwok River B**	**5.87**	**311**	Pn	**Pn**	**19 12 49.8**	**+1.4**
O16K	**Kokwok River B**	**5.87**	**311**	P	**Pn**	**19 12 49.9**	**+1.6**
	baz=124						
SCM	**Sheep Creek Mo**	**5.90**	**9**		**Pn**	**19 12 50.7**	**+1.9**
CHNA	**Chernabura Isl**	**5.96**	**262**	P	**Pn**	**19 12 49.0**	**-0.5**
	baz=75						
CNBA	**Chernabura Isl**	**5.96**	**262**	Pn	**Pn**	**19 12 48.7**	**-0.8**
SVW2	**Sparrevohn**	**6.02**	**330**		**Pn**	**19 12 50.9**	**+0.5**
SVW2	**Sparrevohn**	**6.02**	**330**	P	**Pn**	**19 12 51.2**	**+0.8**
VRDI	**Verde Repeater**	**6.04**	**28**	Pn	**Pn**	**19 12 52.3**	**+1.5**
SKT	**Skwentna**	**6.06**	**350**	Pn	**Pn**	**19 12 53.1**	**+2.2**
N25K	**Chitina, Valde**	**6.10**	**22**	Pn	**Pn**	**19 12 53.0**	**+1.5**
N17K	**Nushagak Hills**	**6.10**	**321**		**Pn**	**19 12 52.7**	**+1.2**
GLB	**Gilahina Butte**	**6.13**	**26**		**Pn**	**19 12 53.5**	**+1.6**
M20K	**Styx River**	**6.17**	**343**		**Pn**	**19 12 53.9**	**+1.4**
YKU2	**Yakutat**	**6.23**	**52**	Pn	**Pn**	**19 12 55.6**	**+2.3**
MCARA	**McCarthy VSAT**	**6.29**	**29**		**Pn**	**19 12 56.1**	**+2.1**
M24K	**Tolsona, Glenn**	**6.30**	**14**	Pn	**Pn**	**19 12 56.1**	**+1.9**
SDPT	**Sand Point**	**6.33**	**268**	Pn	**Pn**	**19 12 54.7**	**+0.1**
SDPT	**Sand Point**	**6.33**	**268**	P	**Pn**	**19 12 55.0**	**+0.4**
CUT	**Chulitna**	**6.40**	**356**	Pn	**Pn**	**19 12 56.1**	**+0.6**
PNL	**Peninsula**	**6.43**	**52**	P	**Pn**	**19 12 58.0**	**+1.9**
BARN	**Barnard Glacie**	**6.44**	**35**		**Pn**	**19 12 58.0**	**+1.7**
BCPM	**Bancas Point**	**6.48**	**49**		**Pn**	**19 12 57.7**	**+1.0**
LOGN	**Logan Glacier**	**6.49**	**39**		**Pn**	**19 12 57.9**	**+0.9**
L19K	**White Mountain**	**6.77**	**338**	Pn	**Pn**	**19 13 01.4**	**+0.6**
M17K	**Holitna River**	**6.82**	**325**		**Pn**	**19 13 02.1**	**+0.7**
N15K	**Kwethluk River**	**7.03**	**310**		**Pn**	**19 13 04.3**	**+0.1**
M16K	**Timber Creek**	**7.08**	**319**		**Pn**	**19 13 04.6**	**-0.3**
O29M	**Mount Kennedy**	**7.12**	**49**		**Pn**	**19 13 07.1**	**+1.6**
DHY	**Denali Highway**	**7.12**	**7**	Pn	**Pn**	**19 13 06.9**	**+1.2**
O14K	**Tigyukauivet M**	**7.16**	**302**	Pn	**Pn**	**19 13 05.8**	**-0.1**
M26K	**Nabesna, AK**	**7.16**	**24**		**Pn**	**19 13 07.5**	**+1.5**
P29M	**Windy Craggy**	**7.16**	**55**		**Pn**	**19 13 07.0**	**+0.9**
L18K	**Granite Mounta**	**7.25**	**332**		**Pn**	**19 13 07.3**	**+0.1**
RND	**Reindeer**	**7.39**	**2**		**Pn**	**19 13 11.3**	**+2.1**
M27K	**Edge Creek, AK**	**7.40**	**28**		**Pn**	**19 13 11.4**	**+2.0**
S31K	**Pelican**	**7.42**	**70**		**Pn**	**19 13 08.3**	**-1.2**
TRF	**Thorofare Moun**	**7.45**	**357**		**Pn**	**19 13 10.5**	**+0.5**
MENT	**Mentasta**	**7.48**	**20**	Pn	**Pn**	**19 13 12.8**	**+2.4**
CAST	**Castle Rocks**	**7.53**	**351**		**Pn**	**19 13 12.8**	**+1.8**
KTH	**Kantishna Hill**	**7.58**	**355**		**Pn**	**19 13 13.3**	**+1.6**
L26K	**Log Cabin Wild**	**7.63**	**21**		**Pn**	**19 13 14.5**	**+1.9**
TTA	**Tatalina**	**7.69**	**337**	P	**Pn**	**19 13 15.2**	**+1.9**
K20K	**Telida**	**7.71**	**344**		**Pn**	**19 13 14.9**	**+1.3**
MCK	**McKinley**	**7.72**	**1**	Pn	**Pn**	**19 13 14.3**	**+0.6**
L16K	**Owhat River**	**7.73**	**321**	Pn	**Pn**	**19 13 14.8**	**+1.0**
SIT	**Sitka**	**7.82**	**77**	Pn	**Pn**	**19 13 12.8**	**-2.2**
HYT	**Haines Junctio**	**7.84**	**47**	Pn	**Pn**	**19 13 17.1**	**+1.6**
L27K	**Beaver Creek,**	**8.00**	**25**		**Pn**	**19 13 18.5**	**+0.9**
BCAR	**Beaver Creek A**	**8.02**	**25**		**Pn**	**19 13 18.2**	**+0.5**
RIDG	**Independent Ri**	**8.04**	**14**		**Pn**	**19 13 19.0**	**+0.9**
FALS	**False Pass**	**8.09**	**267**	Pn	**Pn**	**19 13 18.0**	**-0.7**
FALS	**False Pass**	**8.09**	**267**	P	**Pn**	**19 13 19.0**	**+0.3**
K17K	**Iditarod**	**8.10**	**329**		**Pn**	**19 13 19.3**	**+0.5**
BPAW	**Bear Paw Mtn.**	**8.12**	**355**	Pn	**Pn**	**19 13 20.4**	**+1.2**
M14K	**Bethel**	**8.13**	**311**	Pn	**Pn**	**19 13 20.0**	**+0.8**
BWN	**Browne**	**8.15**	**360**	Pn	**Pn**	**19 13 20.7**	**+1.0**
SKAG	**Skagway**	**8.24**	**60**		**Pn**	**19 13 21.0**	**+0.2**
SKAG	**Skagway**	**8.24**	**60**	P	**Pn**	**19 13 23.0**	**+2.2**
S32K	**Killisnoo**	**8.24**	**74**		**Pn**	**19 13 20.3**	**-0.5**
BESE	**Bessie Mountai**	**8.25**	**66**	Pn	**Pn**	**19 13 21.6**	**+0.6**
J18K	**Innoko River**	**8.31**	**337**		**Pn**	**19 13 22.2**	**+0.4**
N30M	**Aishikik Lake**	**8.36**	**45**		**Pn**	**19 13 23.5**	**+0.9**
R32K	**Eaglecrest**	**8.37**	**68**	Pn	**Pn**	**19 13 22.9**	**+0.3**
SCRK	**Sand Creek**	**8.40**	**16**		**Pn**	**19 13 23.8**	**+0.7**
O30N	**Mendenhall**	**8.41**	**50**		**Pn**	**19 13 24.2**	**+1.0**
JIS	**Juneau Island**	**8.44**	**68**		**Pn**	**19 13 23.2**	**-0.2**
JIS	**Juneau Island**	**8.44**	**68**	P	**Pn**	**19 13 24.2**	**+0.7**
HDA	**Harding Lake**	**8.48**	**7**		**Pn**	**19 13 25.8**	**+1.8**
M29M	**Somme Creek**	**8.49**	**36**		**Pn**	**19 13 26.3**	**+1.9**
J20K	**Nowinta River**	**8.50**	**346**		**Pn**	**19 13 25.6**	**+1.2**
J19K	**Poorman**	**8.57**	**341**		**Pn**	**19 13 25.5**	**+0.2**
NEA2	**Nenana**	**8.58**	**1**		**Pn**	**19 13 26.4**	**+1.0**
M13K	**Dall Lake**	**8.58**	**306**	Pn	**Pn**	**19 13 25.6**	**+0.1**
CCB	**Clear Creek Bu**	**8.66**	**4**		**Pn**	**19 13 27.9**	**+1.3**
L14K	**Kuka Creek**	**8.73**	**313**		**Pn**	**19 13 28.5**	**+1.0**
J25K	**Salcha River,**	**8.82**	**11**		**Pn**	**19 13 30.0**	**+1.2**
IL31		**8.84**	**7**		**Pn**	**19 13 31.1**	**+2.1**
ILAR	**Eielson Array**	**8.84**	**7**	Pn	**Pn**	**19 13 30.9**	**+1.8**
ILAR	**Eielson Array**	**8.84**	**7**	Pn	Pn	19 13 25.9	-3.1
	comp=E,1.8nm,0.3s,baz=190,slow=13,SNR=7.9						
ILAR				Sn	**Sn**	**19 15 04.5**	**-4.0**
	comp=E,2.5nm,0.3s,baz=206,slow=15,SNR=6.0						
ILAR				LR	LR	19 17 01.0	
	comp=E,319nm,21.3s,baz=230,slow=38						
IL03	**Eielson Array**	**8.84**	**7**	Pn	**Pn**	**19 13 31.6**	**+2.6**
K15K	**Wolf Creek Mou**	**8.84**	**320**	Pn	**Pn**	**19 13 30.0**	**+0.9**
COLA	**College**	**8.89**	**4**	Pn	**Pn**	**19 13 31.5**	**+1.9**
COLA	**College**	**8.89**	**4**	P	**Pn**	**19 13 31.1**	**+1.4**
WHY	**Whitehorse**	**8.89**	**53**	Pn	**Pn**	**19 13 31.3**	**+1.5**
N31M	**Braeburn, Yuko**	**8.90**	**47**		**Pn**	**19 13 32.1**	**+2.2**
P32M	**Atlin**	**9.06**	**60**	Pn	**Pn**	**19 13 33.3**	**+1.1**
L29M	**L29M**	**9.07**	**34**		**Pn**	**19 13 34.2**	**+1.9**
I23K	**Minto, Yukon-K**	**9.13**	**360**		**Pn**	**19 13 34.8**	**+1.7**
POKR	**Poker Plat Res**	**9.15**

PV17	**East Wray Mesa**	**32.11**	**106**	P		**P**	**19 17 48.2**	**-0.6**
NEEM	**North Greenlan**	**37.82**	**21**	*i* P		**P**	**19 18 36.8**	**-0.8**
NEEM				IAmb		IAmb	19 18 40.2	
	comp=Z,5.6nm,0.7s							
UPNV	**Upernavik**	**38.67**	**28**	*i* P		**P**	**19 18 44.2**	**-0.2**
UPNV				IAmb		IAmb	19 18 45.9	
	comp=Z,4.3nm,0.7s							
TXAR	**Lajitas Array**	**41.78**	**110**	P		**P**	**19 19 11.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=316,slow=5.2,SNR=7.1							
	comp=Z,0.7nm,0.8s							
SUMG	**Summit**	**43.20**	**24**	*i* P		**P**	**19 19 22.0**	**-0.3**
SUMG				IAmb		IAmb	19 19 24.6	
	comp=Z,8.4nm,1.2s							
SFJD	**Kangerlussuaq**	**43.31**	**34**	*i* P		**P**	**19 19 20.9**	**-1.8**
SFJD				IAmb		IAmb	19 19 22.9	
	comp=Z,2.9nm,0.7s							
ICESG	**Greenland Ices**	**45.20**	**28**	*i* P		**P**	**19 19 38.4**	**+0.2**
ICESG				IAmb		IAmb	19 19 53.0	
	comp=Z,3.8nm,0.7s							
SPITS	**Spitsbergen Ar**	**45.75**	**4**	LR		LR	19 37 31.1	
	comp=Z,65nm,19.7s,baz=280,slow=34							
H11N2	**WAKE ISLAND Hy**	**48.73**	**240**	T		T	20 11 40.2	
	baz=32,slow=76,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**48.74**	**240**	T		T	20 11 46.1	
	baz=32,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hy**	**48.75**	**240**	T		T	20 11 36.8	
	baz=32,slow=76,SNR=8.8							
H11S1	**WAKE ISLAND Hy**	**49.87**	**239**	T		T	20 14 29.1	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**49.88**	**239**	T		T	20 14 47.3	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**49.89**	**239**	T		T	20 14 44.1	
	baz=29							
ARCES	**ARCESS Array B**	**54.67**	**2**	P		**P**	**19 20 49.6**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=359,slow=7.4,SNR=16							
	comp=Z,2.1nm,0.4s							
SONM	**Songino Array**	**58.76**	**310**	P		**P**	**19 21 19.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=57,slow=8.8,SNR=4.1							
	comp=Z,0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**61.74**	**327**	P		**P**	**19 21 39.3**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=33,slow=7.3,SNR=16							
	comp=Z,3.1nm,0.7s							
HHC	**Hu-ho-hao-te**	**61.83**	**302**	*e*P		P	19 21 47.4	+7.0
HHC				pmax		pmax		
	comp=Z,25nm,0.5s							
HHC				pmax		pmax		
	comp=Z,420nm,5.4s							
NB2	**NORSAR Subarra**	**62.26**	**11**	P		**P**	**19 21 42.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=346,slow=6.9							
NOA	**NORSAR Array B**	**62.26**	**11**	P		**P**	**19 21 42.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=348,slow=6.8,SNR=5.4							
	comp=Z,1.6nm,0.7s							
FINES	**FINESS Array B**	**62.80**	**2**	P		**P**	**19 21 46.3**	**0.0**
	comp=Z,3.6nm,0.6s,baz=11,slow=9.0,SNR=21							
	comp=Z,3.6nm,0.6s							
HFS	**Hagfors**	**63.39**	**9**	P		**P**	**19 21 49.9**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=318,slow=7.8,SNR=4.6							
	comp=Z,3.1nm,0.8s							
EKA	**Eskdalemuir Ar**	**65.61**	**20**	P		**P**	**19 22 04.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=317,slow=5.0,SNR=4.2							
	comp=Z,0.8nm,0.5s							
BVAR	**Borovoye Array**	**66.48**	**335**	P		**P**	**19 22 10.3**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=25,slow=7.0,SNR=14							
	comp=Z,1.8nm,0.6s							
KURBB	**Kurchatov Arra**	**66.52**	**329**	P		**P**	**19 22 10.4**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=28,slow=6.4,SNR=9.3							
	comp=Z,1.4nm,0.6s							
MKAR	**Makanchi Array**	**68.77**	**325**	P		**P**	**19 22 24.2**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=28,slow=6.2,SNR=21							
	comp=Z,0.8nm,0.6s							
PPT	**Papeete**	**73.32**	**180**	LR		LR	19 48 46.6	
	comp=Z,92nm,21.2s,baz=87,slow=31							
AKASG	**Malin Array Be**	**73.61**	**1**	P		**P**	**19 22 53.9**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=1.6,slow=5.9,SNR=12							
	comp=Z,3.0nm,0.5s							
GERES	**GERESS Array B**	**74.53**	**12**	P		**P**	**19 23 00.1**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=356,slow=3.2,SNR=5.1							
	comp=Z,1.0nm,0.5s							
CONA	**Conrad Observa**	**75.66**	**10**	*i* P		**P**	**19 23 06.6**	**+0.2**
	comp=Z,0.8nm,0.3s							
WATA	**Walderalm**	**75.75**	**13**	*i* P		**P**	**19 23 07.2**	**+0.2**
	comp=Z,3.8nm,0.5s							
SQTA	**Sankt Quirin**	**75.82**	**14**	*e*P		**P**	**19 23 07.8**	**+0.5**
	comp=Z,1.4nm,0.4s							
WTTA	**Wattenberg**	**75.83**	**13**	*i* P		**P**	**19 23 08.0**	**+0.5**
	comp=Z,3.3nm,0.6s							
FETA	**Feichten**	**75.95**	**14**	*e*P		**P**	**19 23 08.7**	**+0.6**
	comp=Z,0.6nm,0.4s							
KBA	**Koelnbreinsper**	**76.23**	**12**	*i* P		**P**	**19 23 10.4**	**+0.6**
	comp=Z,4.5nm,0.6s							
ARSA	**Arzberg**	**76.30**	**11**	*i* P		**P**	**19 23 10.2**	**+0.3**
	comp=Z,1.0nm,0.3s							
SOKA	**Soboth**	**76.81**	**11**	*i* P		**P**	**19 23 13.2**	**+0.2**
	comp=Z,1.5nm,0.5s							
OBKA	**Obir**	**76.92**	**11**	*i* P		**P**	**19 23 13.8**	**+0.2**
	comp=Z,5.1nm,0.6s							
PZH	**PanZhiHua**	**78.20**	**300**	P		P	19 23 28.4	+7.3
PZH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,5.7s							
ESDC	**Sonseca Array**	**80.22**	**26**	P		**P**	**19 23 31.3**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=340,slow=5.0,SNR=14							
	comp=Z,1.8nm,0.8s							
BRTR	**Keskin Array B**	**84.56**	**358**	P		**P**	**19 23 54.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=344,slow=3.2,SNR=1.9							
	comp=Z,0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**86.36**	**298**	P		**P**	**19 24 04.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=16,slow=4.8,SNR=4.6							
	comp=Z,0.4nm,0.8s							
QSPA	**South Pole Qui**	**145.84**	**180**	PKPbc		**PKPdf**	**19 30 57.5**	**-1.2**
	comp=Z,3.7nm,0.6s,baz=85,slow=3.3,SNR=13							
BOSA	**Boshof**	**152.32**	**10**	PKPbc		**PKPbc**	**19 31 16.0**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=209,slow=11,SNR=1.9							

IDC ***23*** *19:26:09.9±2.5,56.34N×148.49W, h0km, mb3.6/4, mbtmp3.5/6, ML2.8/2, Error ellipse: s-maj=51.6km s-min=35.6km az=128.0*

NEIC ***23*** *19:26:11.2±2.0,56.45N±0.07×148.53W±0.08, h26km±9km, ML3.6/58, ML3.3(AEIC), Error ellipse: s-maj=10.1km s-min=6.3km az=189.0*

AEIC ***23*** *19:26:14.4±1.7,56.47N±0.08×148.57W±0.09, h10km±7km, Error ellipse: s-maj=11.8km s-min=6.5km az=165.0*

ISC 23 19:26:10.1±1.0,56.53N±0.08×148.60W±0.05, h10km, n208, σ1§12/217, mb3.9/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.51**	**302**		**Pn**	**19 26 50.9**	**0.0**
KDAK				IAML		19 27 22.3	
	154nm,0.3s						
KDAK	**Kodiak Island**	**2.51**	**302**		**Sn**	**19 27 21.0**	**-0.5**
OHAK	**Old Harbor**	**2.67**	**287**		**Pn**	**19 26 52.5**	**-0.5**
OHAK					**Sn**	**19 27 22.4**	**-3.0**
OHAK	**Old Harbor**	**2.67**	**287**	P	**Pn**	**19 26 52.5**	**-0.5**
	baz=104						
OHAK				S	**Sn**	**19 27 22.4**	**-3.0**
	baz=104						
SYI	**Shuyak Island**	**2.92**	**317**		**Pn**	**19 26 57.1**	**+0.5**
SYI					**Sn**	**19 27 30.1**	**-1.6**
Q20K	**Shuyak Island**	**2.92**	**317**	P	**Pn**	**19 26 57.3**	**+0.7**
	baz=134						
Q20K				S	**Sn**	**19 27 30.1**	**-1.6**
	baz=134						
Q23K	**Middleton Isla**	**3.15**	**21**		**Pn**	**19 26 59.6**	**-0.1**
Q23K					**Sn**	**19 27 34.3**	**-3.0**
Q23K	**Middleton Isla**	**3.15**	**21**	IAML		19 27 34.3	
	comp=E,165nm,1.2s						
Q23K				IAML		19 27 36.2	
	comp=N,119nm,0.8s						
Q23K	**Middleton Isla**	**3.15**	**21**	P	**Pn**	**19 26 59.6**	**-0.1**
	baz=202						
Q23K				S	**Sn**	**19 27 34.3**	**-3.0**
	baz=202						
MID	**Middleton Isla**	**3.15**	**22**		**Pn**	**19 26 59.5**	**-0.2**
MID				IAML		19 27 55.8	
	comp=E,149nm,1.2s						
MID				IAML		19 28 55.9	
	comp=N,95nm,1.2s						
CNPM	**China Poot**	**3.32**	**336**		**Sn**	**19 27 40.2**	**-1.3**
CNPM				IAML		19 27 42.9	
	comp=E,78nm,0.8s						
CNPM	**China Poot**	**3.32**	**336**		**Pn**	**19 27 02.2**	**+0.1**
R18K	**Karluk**	**3.36**	**291**	IAML		19 27 46.3	
	comp=E,209nm,0.4s						
R18K	**Karluk**	**3.36**	**291**		**Pn**	**19 27 03.0**	**+0.4**
R18K					**Sn**	**19 27 40.5**	**-2.0**
BRSE	**Bradley Lake S**	**3.42**	**342**		**Pn**	**19 27 03.6**	**+0.2**
BRSE	**Bradley Lake S**	**3.42**	**342**	P	**Pn**	**19 27 03.6**	**+0.2**
	baz=160						
BRLK	**Bradley Lake**	**3.47**	**341**		**Pn**	**19 27 04.3**	**+0.2**
BRLK				IAML		19 27 46.2	
	comp=N,78nm,0.5s						
BRLK				IAML		19 27 49.4	
	comp=E,98nm,0.4s						
HOM	**Homer**	**3.53**	**334**	Pn	**Pn**	**19 27 04.2**	**-0.8**
P23K	**Montague Islan**	**3.54**	**10**		**Pn**	**19 27 05.2**	**+0.2**
P23K					**Sn**	**19 27 44.5**	**-2.5**
P23K	**Montague Islan**	**3.54**	**10**	P	**Pn**	**19 27 05.2**	**+0.2**
	baz=190						
SEW	**Seward**	**3.62**	**353**		**Pn**	**19 27 05.9**	**-0.3**
Q19K	**Cape Douglas,**	**3.62**	**314**		**Pn**	**19 27 06.1**	**-0.2**
Q19K				IAML		19 27 55.3	
	comp=N,148nm,0.8s						
Q19K	**Cape Douglas,**	**3.62**	**314**	P	**Pn**	**19 27 08.8**	**+2.5**
	baz=130						
KAHG	**Katmai Hook Gl**	**3.77**	**304**		**Pn**	**19 27 10.3**	**+2.1**
P19K	**Oil Pt**	**3.98**	**324**	Pn	**Pn**	**19 27 11.4**	**+0.2**
P19K				IAML		19 28 03.2	
	comp=E,143nm,0.4s						
O22K	**Cooper Landing**	**4.01**	**352**	Pn	**Pn**	**19 27 11.5**	**0.0**
KAHC	**Katmai Hardscr**	**4.05**	**304**		**Pn**	**19 27 14.1**	**+1.9**
KAHC	**Katmai Hardscr**	**4.05**	**304**	P	**Pn**	**19 27 14.1**	**+1.9**
	baz=120						
KAIM	**Kayak Island**	**4.07**	**31**	Pn	**Pn**	**19 27 12.8**	**+0.5**
KAIM				IAML		19 28 09.7	
	comp=E,85nm,1.1s						
KAIM				IAML		19 29 22.0	
	comp=N,74nm,1.1s						
KVTA	**Katmai Vly 10**	**4.07**	**300**		**Pn**	**19 27 14.1**	**+1.8**
SLKM	**Skilak Lake**	**4.08**	**349**		**Pn**	**19 27 12.8**	**+0.2**
ANCK	**Angle Creek**	**4.09**	**297**		**Pn**	**19 27 13.1**	**+0.3**
O20K	**Slope Mountain**	**4.15**	**331**		**Pn**	**19 27 14.0**	**+0.5**
IVE	**Iliamna Volcan**	**4.21**	**328**		**Pn**	**19 27 14.4**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.30**	**19**		**Pn**	**19 27 16.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.30**	**19**	P	**Pn**	**19 27 16.0**	**+0.5**
	baz=201						
CNTC	**Contact Creek**	**4.31**	**297**		**Pn**	**19 27 17.1**	**+1.3**
Q17K	**Contact Creek**	**4.31**	**297**	P	**Pn**	**19 27 17.1**	**+1.3**
	baz=111						
FID	**Port Fidalgo**	**4.38**	**14**	Pn	**Pn**	**19 27 14.3**	**-2.3**
FID				IAML		19 28 04.0	
	comp=E,36nm,0.6s						
FID				IAML		19 28 20.2	
	comp=N,36nm,1.2s						
RAGM	**Ragged Mountai**	**4.39**	**26**		**Pn**	**19 27 16.6**	**-0.2**
RAGM				IAML		19 28 14.5	
	comp=E,90nm,1.0s						
CAPN	**Captain Cook N**	**4.46**	**344**	Pn	**Pn**	**19 27 19.1**	**+1.4**
RED	**Redoubt Volcan**	**4.48**	**332**		**Pn**	**19 27 18.0**	**0.0**
RSO	**Redoubt South**	**4.51**	**333**	Pn	**Pn**	**19 27 19.1**	**+0.5**
RDT	**Redoubt**	**4.52**	**335**		**Pn**	**19 27 19.0**	**+0.3**
GOAT	**Goat Mountain**	**4.55**	**25**		**Pn**	**19 27 18.9**	**-0.1**
P18K	**Big Mountain,**	**4.55**	**312**		**Pn**	**19 27 19.4**	**+0.4**
P18K	**Big Mountain,**	**4.55**	**312**	P	**Pn**	**19 27 19.5**	**+0.5**
	baz=127						
RDWB	**Redoubt West**	**4.55**	**333**		**Pn**	**19 27 19.0**	**-0.2**
DFR	**Drift River**	**4.61**	**334**		**Pn**	**19 27 19.6**	**-0.1**
RC01	**Rabbit Creek A**	**4.62**	**353**		**Pn**	**19 27 20.4**	**+0.5**
RC01	**Rabbit Creek A**	**4.62**	**353**	P	**Pn**	**19 27 20.6**	**+0.8**
	baz=172						
NCT	**North Crescent**	**4.64**	**333**		**Pn**	**19 27 20.3**	**0.0**
BERG	**Berg Lake**	**4.65**	**32**		**Pn**	**19 27 20.8**	**+0.4**
BERG				IAML		19 28 14.9	
	comp=E,70nm,1.0s						
BERG				IAML		19 28 18.1	
	comp=N,83nm,0.6s						
FIS	**Fire Island**	**4.71**	**350**	Pn	**Pn**	**19 27 23.0**	**+1.9**
O19K	**Port Alsworth**	**4.75**	**323**	Pn	**Pn**	**19 27 22.7**	**+1.0**
SNH	**Sunshine Point**	**4.76**	**37**	Pn	**Pn**	**19 27 22.4**	**+0.5**
SNH				IAML		19 28 30.3	
	comp=N,58nm,1.2s						
SNH				IAML		19 29 30.4	
	comp=E,39nm,1.2s						
O18K	**Koktuh Hills**	**4.83**	**316**	Pn	**Pn**	**19 27 23.2**	**+0.4**
DIV	**Divide**	**4.85**	**16**		**Pn**	**19 27 21.8**	**-1.3**
KNK	**Knik Glacier**	**4.90**	**1**		**Pn**	**19 27 24.6**	**+0.7**
KNK				IAML		19 28 21.4	
	comp=E,28nm,0.6s						
KNK				IAML		19 28 21.9	
	comp=N,25nm,1.0s						
KNK	**Knik Glacier**	**4.90**	**1**	P	**Pn**	**19 27 24.8**	**+1.0**
	baz=180						
BMRM	**Bremner River**	**4.92**	**23**		**Pn**	**19 27 23.8**	**-0.3**
BMRM	**Bremner River**	**4.92**	**23**	P	**Pn**	**19 27 24.7**	**+0.6**
	baz=206						
P17K	**Kvichak River**	**4.97**	**306**		**Pn**	**19 27 25.6**	**+0.9**
P17K	**Kvichak River**	**4.97**	**306**	P	**Pn**	**19 27 26.2**	**+1.5**
	baz=120						
BARK	**Barkley Ridge**	**5.04**	**37**		**Pn**	**19 27 25.9**	**+0.2**
N20K	**Mount Spurr**	**5.05**	**340**	P	**Pn**	**19 27 26.4**	**+0.5**
	baz=156						
SUA	**Susitna One**	**5.08**	**348**		**Pn**	**19 27 26.5**	**+0.2**
SUA	**Susitna One**	**5.08**	**348**	P	**Pn**	**19 27 27.5**	**+1.2**
	baz=166						
PMR	**Palmer**	**5.09**	**357**	Pn	**Pn**	**19 27 26.6**	**+0.3**
PMR				IAML		19 28 24.8	
	comp=E,38nm,0.7s						
PMR				IAML		19 28 26.4	
	comp=N,23nm,0.4s						
SPCG	**Spurr Capps Gl**	**5.10**	**341**		**Pn**	**19 27 27.2**	**+0.6**
KLU	**Klutina**	**5.17**	**14**		**Pn**	**19 27 28.5**	**+0.9**
KLU				IAML		19 28 27.1	
	comp=E,26nm,1.0s						
KLU				IAML		19 28 30.1	
	comp=N,21nm,0.5s						
KLU	**Klutina**	**5.17**	**14**	P	**Pn**	**19 27 28.5**	**+0.9**
	baz=196						
GHO	**Glory Hole Cre**	**5.27**	**358**		**Pn**	**19 27 30.1**	**+1.3**
GHO				IAML		19 28 30.3	
	comp=E,42nm,0.5s						
GHO				IAML		19 28 36.4	
	comp=N,55nm,0.6s						
N19K	**Bonanza Creek**	**5.28**	**327**	Pn	**Pn**	**19 27 29.3**	**+0.2**
SML	**Sawmill**	**5.30**	**1**		**Pn**	**19 27 30.1**	**+0.8**
SML				IAML		19 28 32.8	
	comp=E,30nm,0.5s						
SML				IAML		19 28 35.3	
	comp=N,33nm,1.0s						
SML	**Sawmill**	**5.30**	**1**	P	**Pn**	**19 27 30.4**	**+1.1**
	baz=181						
ANPB	**Aniakchak Plen**	**5.35**	**277**		**Pn**	**19 27 29.8**	**-0.1**
SCM	**Sheep Creek Mo**	**5.37**	**6**		**Pn**	**19 27 29.9**	**-0.4**
SCM	**Sheep Creek Mo**	**5.37**	**6**	P	**Pn**	**19 27 32.5**	**+2.3**
	baz=187						
VRDI	**Verde Repeater**	**5.42**	**27**	Pn	**Pn**	**19 27 30.7**	**-0.3**
CHGN	**Chignik**	**5.45**	**272**	Pn	**Pn**	**19 27 31.6**	**+0.3**
KIAG	**Kiagna River**	**5.48**	**34**		**Pn**	**19 27 31.9**	**+0.1**
N25K	**Chitina, Valde**	**5.50**	**20**		**Pn**	**19 27 32.9**	**+0.9**
N25K	**Chitina, Valde**	**5.50**	**20**	P	**Pn**	**19 27 33.4**	**+1.3**
	baz=203						
GLB	**Gilahina Butte**	**5.52**	**25**		**Pn**	**19 27 32.8**	**+0.5**
O17K	**Koliganek Bris**	**5.55**	**309**	P	**Pn**	**19 27 33.4**	**+0.8**
	baz=123						
P16K	**Nushagak River**	**5.62**	**300**		**Pn**	**19 27 33.8**	**+0.2**
P16K	**Nushagak River**	**5.62**	**300**	P	**Pn**	**19 27 34.9**	**+1.3**
	baz=113						
N18K	**Kilae Creek**	**5.64**	**321**	Pn	**Pn**	**19 27 34.0**	**0.0**
PTPK	**Patty Peak**	**5.66**	**32**		**Pn**	**19 27 34.6**	**+0.3**
MCARA	**McCarthy VSAT**	**5.66**	**28**		**Pn**	**19 27 34.8**	**+0.6**
PCA	**Pinnacle**	**5.67**	**47**		**Pn**	**19 27 35.2**	**+0.8**
PINM	**Pinnacle**	**5.67**	**47**	P	**Pn**	**19 27 35.5**	**+1.1**
	baz=234						
SKT	**Skwentna**	**5.67**	**346**		**Pn**	**19 27 33.9**	**-0.5**
M24K	**Tolsona, Glenn**	**5.74**	**11**		**Pn**	**19 27 37.0**	**+1.8**
M24K	**Tolsona, Glenn**	**5.74**	**11**	P	**Pn**	**19 27 37.5**	**+2.2**
	baz=193						
BARN	**Barnard Glacie**	**5.80**	**36**		**Pn**	**19 27 36.9**	**+0.6**
CTGM	**Chitina Glacie**	**5.84**	**37**		**Pn**	**19 27 37.3**	**+0.5**
SVW2	**Sparrevohn**	**5.84**	**325**	Pn	**Pn**	**19 27 36.2**	**-0.5**
BCPM	**Bancas Point**	**5.85**	**50**	Pn	**Pn**	**19 27 37.5**	**+0.7**
LOGN	**Logan Glacier**	**5.86**	**39**	Pn	**Pn**	**19 27 37.2**	**+0.2**
M20K	**Styx River**	**5.86**	**338**	Pn	**Pn**	**19 27 37.1**	**+0.1**
O16K	**Kokwok River B**	**5.90**	**305**		**Pn**	**19 27 38.2**	**+0.8**
CUT	**Chulitna**	**5.96**	**353**	Pn	**Pn**	**19 27 38.1**	**-0.1**
N17K	**Nushagak Hills**	**6.03**	**315**	Pn	**Pn**	**19 27 38.8**	**-0.4**
WAT6	**Susitna Watana**	**6.09**	**4**	P	**Pn**	**19 27 42.5**	**+2.2**
	baz=184						
M19K	**Big River Lodg**	**6.16**	**334**	Pn	**Pn**	**19 27 40.5**	**-0.5**
CNBA	**Chernabura Isl**	**6.45**	**259**	Pn	**Pn**	**19 27 44.8**	**-0.2**
O29M	**Mount Kennedy**	**6.49**	**50**		**Pn**	**19 27 45.3**	**-0.4**
L19K	**White Mountain**	**6.51**	**333**	Pn	**Pn**	**19 27 45.5**	**-0.4**
M26K	**Nabesna, AK**	**6.55**	**24**	Pn	**Pn**	**19 27 46.8**	**+0.3**
P29M	**Windy Craggy**	**6.55**	**57**	Pn	**Pn**	**19 27 46.9**	**+0.5**
DHY	**Denali Highway**	**6.60**	**5**		**Pn**	**19 27 48.1**	**+0.8**
PAX	**Paxson**	**6.66**	**12**		**Pn**	**19 27 48.3**	**+0.3**
M17K	**Holitna River**	**6.69**	**321**		**Pn**	**19 27 48.4**	**+0.1**
SDPT	**Sand Point**	**6.78**	**265**	Pn	**Pn**	**19 27 49.3**	**-0.1**
M27K	**Edge Creek, AK**	**6.78**	**28**	Pn	**Pn**	**19 27 50.6**	**+1.0**
S31K	**Pelican**	**6.87**	**73**	Pn	**Pn**	**19 27 49.8**	**-0.9**
MENT	**Mentasta**	**6.89**	**19**	Pn	**Pn**	**19 27 52.1**	**+1.0**
RND	**Reindeer**	**6.91**	**359**	Pn	**Pn**	**19 27 52.1**	**+0.8**
TRF	**Thorofare Moun**	**7.00**	**354**	Pn	**Pn**	**19 27 54.0**	**+1.3**
TRF					**Sn**	**19 29 10.8**	**-1.5**
M16K	**Timber Creek**	**7.02**	**314**	Pn	**Pn**	**19 27 53.7**	**+0.8**
L26K	**Log Cabin Wild**	**7.04**	**20**	Pn	**Pn**	**19 27 53.1**	**0.0**
L18K	**Granite Mounta**	**7.04**	**327**	Pn	**Pn**	**19 27 52.5**	**-0.7**
N15K	**Kwethluk River**	**7.06**	**306**		**Pn**	**19 27 53.4**	**0.0**
CAST	**Castle Rocks**	**7.13**	**347**	Pn	**Pn**	**19 27 53.4**	**-1.0**
KTH	**Kantishna Hill**	**7.15**	**352**	Pn	**Pn**	**19 27 55.4**	**+0.8**
KTH					**Sn**	**19 29 14.6**	**-1.2**
HYT	**Haines Junctio**	**7.21**	**49**	Pn	**Pn**	**19 27 55.8**	**+0.2**
O14K	**Tigyukauivet M**	**7.28**	**297**	Pn	**Pn**	**19 27 57.7**	**+1.3**
SIT	**Sitka**	**7.31**	**80**	Pn	**Pn**	**19 27 53.5**	**-3.3**
K20K	**Telida**	**7.38**	**340**	Pn	**Pn**	**19 27 57.6**	**-0.2**
L27K	**Beaver Creek,**	**7.39**	**25**	Pn	**Pn**	**19 27 57.7**	**-0.2**
BCAR	**Beaver Creek A**	**7.40**	**25**	Pn	**Pn**	**19 27 58.2**	**0.0**
TTA	**Tatalina**	**7.43**	**333**	Pn	**Pn**	**19 27 58.3**	**-0.3**
RIDG	**Independent Ri**	**7.48**	**13**		**Pn**	**19 27 58.5**	**-0.7**
L16K	**Owhat River**	**7.63**	**317**	Pn	**Pn**	**19 28 00.1**	**-1.1**
SKAG	**Skagway**	**7.64**	**62**	Pn	**Pn**	**19 28 01.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**7.69**	**352**	Pn	**Pn**	**19 28 02.4**	**+0.4**
S32K	**Nilisnoo**	**7.72**	**77**	Pn	**Pn**	**19 28 00.5**	**-1.9**
N30M	**Aishikik Lake**	**7.73**	**45**	Pn	**Pn**	**19 28 03.0**	**+0.3**
O30N	**Mendenhall**	**7.79**	**52**	Pn	**Pn**	**19 28 01.4**	**-2.0**
R32K	**Eaglecrest**	**7.81**	**71**	Pn	**Pn**	**19 28 03.5**	**-0.2**
SCRK	**Sand Creek**	**7.82**	**15**	Pn	**Pn**	**19 28 04.3**	**+0.4**
M29M	**Somme Creek**	**7.86**	**37**		**Pn**	**19 28 05.3**	**+0.9**
JIS	**Juneau Island**	**7.88**	**71**	Pn	**Pn**	**19 28 04.1**	**-0.5**
K17K	**Iditarod**	**7.91**	**326**	Pn	**Pn**	**19 28 04.6**	**-0.5**
HDA	**Harding Lake**	**7.95**	**5**	Pn	**Pn**	**19 28 06.6**	**+0.9**
J18K	**Innoko River**	**8.06**	**333**	Pn	**Pn**	**19 28 06.6**	**-0.4**
M14K	**Bethel**	**8.15**	**307**	Pn	**Pn**	**19 28 07.8**	**-0.5**
J20K	**Nowinta River**	**8.15**	**343**	Pn	**Pn**	**19 28 08.2**	**-0.1**
CCB	**Clear Creek Bu**	**8.16**	**2**	Pn	**Pn**	**19 28 08.2**	**-0.2**
K27K	**Chicken**	**8.19**	**21**	Pn	**Pn**	**19 28 09.8**	**+0.9**
J19K	**Poorman**	**8.26**	**338**	Pn	**Pn**	**19 28 09.2**	**-0.6**
J25K	**Salcha River,**	**8.27**	**10**	Pn	**Pn**	**19 28 09.4**	**-0.6**
N31M	**Braeburn, Yuko**	**8.27**	**48**	Pn	**Pn**	**19 28 10.1**	**+0.1**
WHY	**Whitehorse**	**8.27**	**54**	Pn	**Pn**	**19 28 10.3**	**+0.1**
IL31		**8.32**	**5**		**Pn**	**19 28 10.3**	**-0.3**
ILAR	**Eielson Array**	**8.32**	**5**	Pn	**Pn**	**19 28 10.0**	**-0.6**
ILAR	**Eielson Array**	**8.32**	**5**	Pn	**Pn**	**19 28 11.9**	**+1.3**
	comp=N,0.2nm,0.3s,baz=188,slow=13,SNR=9.0						
ILAR					**Sn**	**19 29 41.9**	**-2.6**
	comp=N,0.4nm,0.3s,baz=189,slow=21,SNR=6.2						
	comp=N,0.5nm,0.4s						
IL03	**Eielson Array**	**8.32**	**5**	Pn	**Pn**	**19 28 11.3**	**+0.6**
J26L	**Joseph Creek**	**8.38**	**15**		**Pn**	**19 28 11.6**	**+0.1**
L29M	**L29M**	**8.44**	**34**		**Pn**	**19 28 11.9**	**-0.5**
P32M	**Atlin**	**8.47**

CO01				*i* S		**Sn**	**19 33 10.4**	**-2.2**
CO01				IAML			19 33 12.0	
	comp=N,867nm,0.3s							
GO03	**Copiap**	**1.85**	**46**	*e*P		**Pn**	**19 32 51.0**	**-0.1**
GO03				*e*S		**Sn**	**19 33 16.3**	**+2.3**
GO03				IAML			19 33 20.9	
	comp=Z,510nm,0.5s							
GO03	**Copiap**	**1.85**	**46⇑**	*i*P		**Pn**	**19 32 51.0**	**-0.1**
GO03				*i* S		**Sn**	**19 33 12.7**	**-1.3**
GO03				IAML			19 33 20.9	
	comp=E,475nm,0.4s							
AC06	**Mina Casimiro**	**1.96**	**39⇓**	*i*P		**Pn**	**19 32 53.5**	**+1.0**
AC06				*i* S		**Sn**	**19 33 16.5**	**0.0**
CO03	**El Pedregal**	**2.13**	**155**	*e*P		**Pn**	**19 32 54.4**	**-0.6**
CO03				*e*S		**Sn**	**19 33 21.5**	**+0.5**
CO03				IAML			19 33 30.3	
	comp=Z,506nm,0.5s							
CO03	**El Pedregal**	**2.13**	**155⇑**	*i*P		**Pn**	**19 32 54.8**	**-0.2**
CO03				*i* S		**Sn**	**19 33 19.2**	**-1.8**
CO03				IAML			19 33 29.0	
	comp=E,778nm,0.5s							
AROD	**Rodeo**	**2.33**	**123**	*e*P		**Pn**	**19 32 59.5**	**+1.5**
AROD				*e*S		**Sn**	**19 33 28.1**	**+1.9**
CO02	**Combarbal**	**2.38**	**165**	*e*P		**Pn**	**19 32 57.9**	**-0.6**
CO02				*e*S		**Sn**	**19 33 27.6**	**+0.5**
CO02				IAML			19 33 38.9	
	comp=Z,1µm,0.3s							
CO02	**Combarbal**	**2.38**	**165⇑**	*i*P		**Pn**	**19 32 58.5**	**0.0**
CO02				*i* S		**Sn**	**19 33 25.4**	**-1.7**
ACCO	**Cerro Coronel**	**2.86**	**127**	*e*P		**Pn**	**19 33 07.7**	**+2.5**
ACCO				*e*S		**Sn**	**19 33 43.1**	**+3.8**
AGUA	**GUANDACOL**	**2.89**	**102**	*e*P		**Pn**	**19 33 03.0**	**-2.4**
AGUA				*e*S		**Sn**	**19 33 43.9**	**+4.2**
AGUA				IAML			19 33 56.1	
	comp=Z,355nm,1.2s							
AC01	**Pan de Azucar**	**2.92**	**20**	*e*P		**Pn**	**19 33 05.4**	**-0.3**
AC01				*e*S		**Sn**	**19 33 38.8**	**-1.5**
DOCA	**Reserva Natura**	**3.07**	**132**	*e*P		**Pn**	**19 33 10.2**	**+2.0**
DOCA				*e*S		**Sn**	**19 33 49.1**	**+4.5**
DOCA				IAML			19 34 04.8	
	comp=Z,254nm,0.7s							
VCA	**Vinchina**	**3.09**	**88**	*e*P		**Pn**	**19 33 08.5**	**+0.2**
VCA				*e*S		**Sg**	**19 33 58.0**	**-1.9**
VCA				IAML			19 34 04.4	
	comp=Z,202nm,0.4s							
VA03	**San Esteban**	**3.98**	**166**	*e*P		**Pn**	**19 33 20.9**	**+0.5**
VA03				*e*S		**Sb**	**19 34 18.0**	**+0.2**
VA03				IAML			19 34 39.4	
	comp=Z,159nm,0.5s							
AVFE	**Valle Fertil**	**4.10**	**116**	*e*P		Pn	19 33 18.0	-4.2
AVFE				*e*P			19 33 23.2	
AVFE				*e*S		**Sn**	**19 34 09.6**	**-0.1**
AVFE				IAML			19 34 27.2	
	comp=Z,203nm,0.6s							
GO02	**Mina Guanaco**	**4.18**	**28**	*e*P		**Pn**	**19 33 23.9**	**+0.5**
GO02				*e*S		**Sn**	**19 34 11.8**	**-0.1**
GO02				IAML			19 34 42.1	
	comp=Z,156nm,0.5s							
MT02	**Curacav**	**4.37**	**174**	*e*P		**Pn**	**19 33 25.8**	**0.0**
MT02				*e*S		**Sn**	**19 34 16.7**	**+0.5**
MT02				IAML			19 34 46.4	
	comp=Z,83nm,0.6s							
ASAL	**Salagasta**	**4.44**	**147**	*e*P		**Pn**	**19 33 29.6**	**+2.8**
ASAL				*e*S		**Sb**	**19 34 35.0**	**+4.0**
ASAL				IAML			19 34 44.4	
	comp=Z,138nm,0.6s							
LVC	**Limon Verde**	**6.76**	**23**	P		Pb	19 34 10.2	-7.3
	comp=Z,0.5nm,0.3s,baz=214,slow=7.3,SNR=2.0							
LVC				S		Sn	19 35 26.7	+11
	comp=Z,3.7nm,0.4s,baz=181,slow=12,SNR=1.4							
	comp=Z,1.7nm,0.3s							
H03N1	**Juan Fernandez**	**7.64**	**232**	T		T	19 42 09.2	
	baz=60,slow=71,SNR=239							
H03N2	**Juan Fernandez**	**7.65**	**232**	T		T	19 42 09.6	
	baz=60,slow=71,SNR=250							
H03N3	**Juan Fernandez**	**7.66**	**232**	T		T	19 42 08.3	
	baz=60,slow=71,SNR=279							
SIV	**San Ignacio**	**16.17**	**40**	P		**P**	**19 36 13.0**	**+3.2**
	baz=252,slow=7.9,SNR=3.1							
	comp=Z,0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**82.24**	**70**	P		**P**	**19 44 39.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=224,slow=3.8,SNR=4.4							
	comp=Z,0.6nm,0.5s							
ASAR	**Alice Springs**	**122.20**	**208**	PKP		**PKPdf**	**19 51 13.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=204,slow=0.7,SNR=2.4							
WRA	**Warramunga Arr**	**125.31**	**210**	PKP		**PKPdf**	**19 51 20.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=162,slow=1.6,SNR=6.8							
KURBB	**Kurchatov Arra**	**148.82**	**38**	PKPbc		**PKPbc**	**19 52 06.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=302,slow=3.3,SNR=4.3							
ZALV	**Zalesovo Beam**	**149.69**	**28**	PKPbc		**PKPbc**	**19 52 08.6**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=297,slow=2.2,SNR=10							
MKAR	**Makanchi Array**	**152.99**	**42**	PKPbc		**PKPbc**	**19 52 15.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=296,slow=2.1,SNR=4.7							

*NEIC **23** 19:33:58.9±1.8,56°.43N±0°.06×149°.4W±0°.1, h21km±7km, ML3.6/56,ML3.3(AEIC), Error ellipse: s-maj=10.6km s-min=6.3km az=139.0*
*AEIC **23** 19:34:03.4±1.6,56°.53N±0°.08×149°.3W±0°.1, h7km±7km, Error ellipse: s-maj=12.5km s-min=8.5km az=164.0*
ISC 23 19:33:57.4±1.8,56°.5N±0°.1×149°.38W±0°.06,h10km,n150, σ1§06/148,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.18**	**308**			**Pn**	**19 34 35.7**	**+2.0**
KDAK	**Kodiak Island**	**2.18**	**308**	S		**Sn**	**19 35 00.6**	**-0.2**
	baz=126							
OHAK	**Old Harbor**	**2.27**	**291**			**Pn**	**19 34 36.4**	**+1.5**
OHAK						**Sn**	**19 35 02.1**	**-0.8**
OHAK	**Old Harbor**	**2.27**	**291**	IAML			19 35 03.6	
	comp=N,172nm,0.2s							
OHAK	**Old Harbor**	**2.27**	**291**	P		**Pn**	**19 34 36.4**	**+1.5**
	baz=108							
OHAK				S		**Sn**	**19 35 02.1**	**-0.8**
	baz=108							
SYI	**Shuyak Island**	**2.68**	**324**			**Pn**	**19 34 42.4**	**+1.8**
SYI						**Sn**	**19 35 12.4**	**-0.7**
SYI	**Shuyak Island**	**2.68**	**324**	IAML			19 35 15.0	
	comp=N,110nm,0.4s							
Q20K	**Shuyak Island**	**2.69**	**324**	P		**Pn**	**19 34 42.4**	**+1.8**
	baz=142							
Q20K				S		**Sn**	**19 35 12.4**	**-0.7**
	baz=142							
R18K	**Karluk**	**2.98**	**294**			**Sn**	**19 35 20.1**	**-0.2**
R18K	**Karluk**	**2.98**	**294**	S		**Sn**	**19 35 20.2**	**-0.2**
	baz=110							
CNPM	**China Poot**	**3.21**	**343**			**Pn**	**19 34 48.9**	**+1.0**
CNPM						**Sn**	**19 35 25.9**	**-0.4**
BRSE	**Bradley Lake S**	**3.35**	**348**			**Pn**	**19 34 50.6**	**+0.7**
BRSE	**Bradley Lake S**	**3.35**	**348**	P		**Pn**	**19 34 50.6**	**+0.7**
	baz=167							
Q19K	**Cape Douglas,**	**3.36**	**319**	Pn		**Pn**	**19 34 48.9**	**-1.0**
Q19K				IAML			19 35 36.4	
	comp=E,190nm,0.8s							
Q19K				IAML			19 35 37.4	
	comp=N,199nm,1.0s							
Q23K	**Middleton Isla**	**3.37**	**27**			**Pn**	**19 34 50.6**	**+0.5**
Q23K	**Middleton Isla**	**3.37**	**27**	IAML			19 35 27.3	
	comp=E,131nm,0.9s							
Q23K				IAML			19 35 30.1	
	comp=N,131nm,1.0s							
Q23K	**Middleton Isla**	**3.37**	**27**	P		**Pn**	**19 34 50.6**	**+0.5**
	baz=210							
MID	**Middleton Isla**	**3.38**	**27**			**Pn**	**19 34 50.6**	**+0.6**
MID	**Middleton Isla**	**3.38**	**27**	IAML			19 36 16.9	
	comp=N,111nm,1.2s							
MID				IAML			19 36 49.5	
	comp=E,135nm,1.2s							
BRLK	**Bradley Lake**	**3.39**	**347**			**Pn**	**19 34 49.8**	**-0.6**
BRLK				IAML			19 36 17.6	
	comp=N,59nm,0.5s							
BRLK				IAML			19 36 18.6	
	comp=E,74nm,0.4s							
HOM	**Homer**	**3.41**	**340**	Pn		**Pn**	**19 34 50.8**	**+0.2**
HOM				IAML			19 36 24.2	
	comp=E,169nm,0.9s							
P23K	**Montague Islan**	**3.68**	**16**			**Pn**	**19 34 54.9**	**+0.6**
P23K	**Montague Islan**	**3.68**	**16**	P		**Pn**	**19 34 54.9**	**+0.6**
	baz=197							
P19K	**Oil Pt**	**3.78**	**329**	Pn		**Pn**	**19 34 56.5**	**+0.8**
P19K				IAML			19 35 44.1	
	comp=E,173nm,0.7s							
P19K				IAML			19 35 44.4	
	comp=N,143nm,0.5s							
O20K	**Slope Mountain**	**4.00**	**336**			**Pn**	**19 34 59.8**	**+1.0**
O20K	**Slope Mountain**	**4.00**	**336**	P		**Pn**	**19 34 59.8**	**+1.0**
	baz=153							
IVE	**Iliamna Volcan**	**4.04**	**333**			**Pn**	**19 35 00.4**	**+1.1**
SLKM	**Skilak Lake**	**4.07**	**354**			**Pn**	**19 35 00.6**	**+0.9**
HIN	**Hinchinbrook I**	**4.21**	**20**	Pn		**Pn**	**19 35 02.3**	**+0.7**
HIN				IAML			19 35 53.5	
	comp=N,110nm,1.0s							
P18K	**Big Mountain,**	**4.27**	**316**			**Pn**	**19 34 59.8**	**-2.7**
KAIM	**Kayak Island**	**4.34**	**35**	Pn		**Pn**	**19 35 04.3**	**+0.8**
RDSO	**Redoubt South**	**4.36**	**338**			**Pn**	**19 35 04.3**	**+0.5**
RSO	**Redoubt South**	**4.37**	**338**	Pn		**Pn**	**19 35 04.7**	**+0.8**
CAPN	**Captain Cook N**	**4.40**	**349**	Pn		**Pn**	**19 35 06.2**	**+2.0**
RDWB	**Redoubt West**	**4.41**	**337**			**Pn**	**19 35 05.1**	**+0.6**
NCT	**North Crescent**	**4.50**	**337**			**Pn**	**19 35 06.4**	**+0.8**
O19K	**Port Alsworth**	**4.55**	**327**	Pn		**Pn**	**19 35 07.5**	**+1.4**
FID	**Port Fidalgo**	**4.55**	**18**	Pn		**Pn**	**19 35 06.7**	**+0.5**
FID				IAML			19 35 56.9	
	comp=E,87nm,0.6s							
FID				IAML			19 35 57.0	
	comp=N,67nm,0.5s							
O18K	**Koktuh Hills**	**4.58**	**320**	Pn		**Pn**	**19 35 08.0**	**+1.3**
RC01	**Rabbit Creek A**	**4.63**	**358**			**Pn**	**19 35 08.1**	**+0.7**
RC01	**Rabbit Creek A**	**4.63**	**358**	IAML			19 36 03.3	
	comp=E,49nm,0.4s							
RC01	**Rabbit Creek A**	**4.63**	**358**	P		**Pn**	**19 35 08.1**	**+0.7**
	baz=178							
RAGM	**Ragged Mountai**	**4.64**	**30**	Pn		**Pn**	**19 35 08.1**	**+0.7**
BERG	**Berg Lake**	**4.93**	**35**	Pn		**Pn**	**19 35 12.4**	**+0.8**
N20K	**Mount Spurr**	**4.96**	**344**	P		**Pn**	**19 35 13.1**	**+1.2**
	baz=162							
SPCR	**Spurr Chakacha**	**4.96**	**344**			**Pn**	**19 35 13.2**	**+1.2**
KNK	**Knik Glacier**	**4.97**	**5**	Pn		**Pn**	**19 35 13.4**	**+1.3**
KNK				IAML			19 36 07.9	
	comp=E,24nm,0.7s							
KNK				IAML			19 36 17.1	
	comp=N,21nm,0.8s							
CHGN	**Chignik**	**5.02**	**272**	Pn		**Pn**	**19 35 14.5**	**+1.8**
SUA	**Susitna One**	**5.05**	**353**	Pn		**Pn**	**19 35 12.6**	**-0.7**
SNH	**Sunshine Point**	**5.07**	**40**	Pn		**Pn**	**19 35 14.3**	**+0.9**
SNH				IAML			19 36 45.5	
	comp=E,54nm,0.5s							
SNH				IAML			19 36 49.9	
	comp=N,54nm,1.2s							
N19K	**Bonanza Creek**	**5.10**	**331**			**Pn**	**19 35 14.3**	**+0.5**
N19K	**Bonanza Creek**	**5.10**	**331**	P		**Pn**	**19 35 15.0**	**+1.1**
	baz=146							
PMR	**Palmer**	**5.13**	**1**	Pn		**Pn**	**19 35 14.7**	**+0.5**
PMR				IAML			19 36 11.8	
	comp=E,24nm,0.6s							
PMR				IAML			19 36 12.2	
	comp=N,20nm,0.6s							
STLK	**Strandline Lak**	**5.19**	**347**			**Pn**	**19 35 16.4**	**+1.2**
GHO	**Glory Hole Cre**	**5.32**	**2**			**Pn**	**19 35 18.2**	**+1.3**
GHO	**Glory Hole Cre**	**5.32**	**2**	IAML			19 36 19.2	
	comp=E,42nm,0.9s							
GHO				IAML			19 36 20.8	
	comp=N,32nm,0.8s							
KLU	**Klutina**	**5.34**	**18**	Pn		**Pn**	**19 35 18.6**	**+1.4**
KLU				IAML			19 36 18.4	
	comp=N,52nm,0.7s							
KLU				IAML			19 36 20.7	
	comp=E,33nm,0.7s							
SML	**Sawmill**	**5.38**	**5**	Pn		**Pn**	**19 35 18.9**	**+1.2**
N18K	**Kilae Creek**	**5.42**	**324**	Pn		**Pn**	**19 35 16.2**	**-1.9**
SCM	**Sheep Creek Mo**	**5.48**	**10**	Pn		**Pn**	**19 35 17.0**	**-2.0**
O16K	**Kokwok River B**	**5.58**	**308**	Pn		Pn	19 35 16.2	-4.2
SKT	**Skwentna**	**5.63**	**350**	Pn		**Pn**	**19 35 21.8**	**+0.7**
SVW2	**Sparrevohn**	**5.64**	**328**	Pn		**Pn**	**19 35 20.3**	**-1.0**
VRDI	**Verde Repeater**	**5.67**	**30**	Pn		**Pn**	**19 35 20.3**	**-1.5**
N25K	**Chitina, Valde**	**5.71**	**24**	Pn		**Pn**	**19 35 23.1**	**+0.9**
GLB	**Gilahina Butte**	**5.75**	**28**	Pn		**Pn**	**19 35 23.6**	**+0.7**
M20K	**Styx River**	**5.75**	**342**	Pn		**Pn**	**19 35 22.8**	**-0.1**
N17K	**Nushagak Hills**	**5.76**	**318**	Pn		**Pn**	**19 35 21.4**	**-1.5**
KIAG	**Kiagna River**	**5.77**	**36**			**Pn**	**19 35 23.9**	**+0.7**
M24K	**Tolsona, Glenn**	**5.88**	**15**	Pn		**Pn**	**19 35 26.1**	**+1.6**
MCARA	**McCarthy VSAT**	**5.92**	**31**	Pn		**Pn**	**19 35 25.0**	**-0.1**
CNBA	**Chernabura Isl**	**6.01**	**258**	Pn		**Pn**	**19 35 27.2**	**+0.9**
M19K	**Big River Lodg**	**6.02**	**337**	Pn		**Pn**	**19 35 26.4**	**0.0**
PCA	**Pinnacle**	**6.03**	**49**			**Pn**	**19 35 27.7**	**+1.1**
PINM	**Pinnacle**	**6.03**	**49**	P		**Pn**	**19 35 27.7**	**+1.1**
	baz=237							
BARN	**Barnard Glacie**	**6.10**	**38**	Pn		**Pn**	**19 35 28.6**	**+0.9**
CTGM	**Chitina Glacie**	**6.15**	**40**	Pn		**Pn**	**19 35 29.0**	**+0.6**
LOGN	**Logan Glacier**	**6.17**	**42**	Pn		**Pn**	**19 35 29.1**	**+0.4**
PNL	**Peninsula**	**6.19**	**55**			**Pn**	**19 35 30.0**	**+1.3**
PNL	**Peninsula**	**6.19**	**55**	P		**Pn**	**19 35 30.0**	**+1.3**
	baz=243							
BCPM	**Bancas Point**	**6.22**	**52**			**Pn**	**19 35 29.7**	**+0.6**
L19K	**White Mountain**	**6.37**	**336**	Pn		**Pn**	**19 35 31.1**	**-0.2**
M17K	**Holitna River**	**6.46**	**323**	Pn		**Pn**	**19 35 31.3**	**-1.2**
DHY	**Denali Highway**	**6.70**	**8**	Pn		**Pn**	**19 35 37.0**	**+1.1**
N15K	**Kwethluk River**	**6.74**	**308**	Pn		**Pn**	**19 35 33.9**	**-2.5**
M16K	**Timber Creek**	**6.75**	**316**	Pn		**Pn**	**19 35 35.2**	**-1.2**
M26K	**Nabesna, AK**	**6.77**	**26**	Pn		**Pn**	**19 35 37.5**	**+0.6**
O29M	**Mount Kennedy**	**6.85**	**51**			**Pn**	**19 35 38.7**	**+0.7**
O29M	**Mount Kennedy**	**6.85**	**51**	P		**Pn**	**19 35 38.7**	**+0.7**
	baz=240							
L18K	**Granite Mounta**	**6.86**	**330**	Pn		**Pn**	**19 35 37.3**	**-0.6**
O14K	**Tigyukauivet M**	**6.92**	**299**	Pn		**Pn**	**19 35 38.3**	**-0.4**
P29M	**Windy Craggy**	**6.94**	**58**			**Pn**	**19 35 39.4**	**+0.3**
RND	**Reindeer**	**6.96**	**2**	Pn		**Pn**	**19 35 40.3**	**+0.9**
TRF	**Thorofare Moun**	**7.01**	**357**	Pn		**Pn**	**19 35 40.6**	**+0.4**
M27K	**Edge Creek, AK**	**7.03**	**30**	Pn		**Pn**	**19 35 40.1**	**-0.3**
MENT	**Mentasta**	**7.08**	**21**	Pn		**Pn**	**19 35 40.8**	**-0.2**
CAST	**Castle Rocks**	**7.10**	**350**	Pn		**Pn**	**19 35 41.4**	**+0.2**
KTH	**Kantishna Hill**	**7.14**	**354**	Pn		**Pn**	**19 35 42.1**	**+0.3**
YUK7	**Dusty Glacier**	**7.15**	**51**			**Pn**	**19 35 43.4**	**+1.3**
TTA	**Tatalina**	**7.29**	**335**	Pn		**Pn**	**19 35 42.9**	**-0.9**
S31K	**Pelican**	**7.29**	**73**	Pn		**Pn**	**19 35 42.5**	**-1.4**
HYT	**Haines Junctio**	**7.57**	**50**	Pn		**Pn**	**19 35 48.3**	**+0.5**
L27K	**Beaver Creek,**	**7.62**	**27**	Pn		**Pn**	**19 35 49.1**	**+0.6**
RIDG	**Independent Ri**	**7.63**	**15**	Pn		**Pn**	**19 35 49.9**	**+1.4**
BCAR	**Beaver Creek A**	**7.64**	**27**			**Pn**	**19 35 47.9**	**-0.7**
BPAW	**Bear Paw Mtn.**	**7.69**	**355**	Pn		**Pn**	**19 35 49.6**	**+0.2**
K17K	**Iditarod**	**7.72**	**328**	Pn		**Pn**	**19 35 49.9**	**+0.2**
BWN	**Browne**	**7.72**	**360**	Pn		**Pn**	**19 35 50.4**	**+0.7**
SIT	**Sitka**	**7.75**	**80**	Pn		**Pn**	**19 35 47.5**	**-2.6**
M14K	**Bethel**	**7.84**	**308**	Pn		**Pn**	**19 35 49.5**	**-1.8**
SCRK	**Sand Creek**	**7.99**	**17**	Pn		**Pn**	**19 35 51.9**	**-1.6**
SKAG	**Skagway**	**8.05**	**62**	Pn		**Pn**	**19 35 55.7**	**+1.5**
N30M	**Aishikik Lake**	**8.07**	**47**	Pn		**Pn**	**19 35 55.7**	**+1.0**
J20K	**Nowinta River**	**8.08**	**345**	Pn		**Pn**	**19 35 55.4**	**+0.8**
J19K	**Poorman**	**8.15**	**340**	Pn		**Pn**	**19 35 55.4**	**-0.2**
S32K	**Killisnoo**	**8.15**	**77**	Pn		**Pn**	**19 35 54.4**	**-1.2**
O30N	**Mendenhall**	**8.16**	**53**	Pn		**Pn**	**19 35 56.6**	**+0.8**
M29M	**Somme Creek**	**8.16**	**38**	Pn		**Pn**	**19 35 57.4**	**+1.5**
R32K	**Eaglecrest**	**8.23**	**71**	Pn		**Pn**	**19 35 56.4**	**-0.4**
K27K	**Chicken**	**8.40**	**23**	Pn		**Pn**	**19 36 00.3**	**+1.3**
J25K	**Salcha River,**	**8.40**	**12**	Pn		**Pn**	**19 35 59.2**	**+0.1**
IL31		**8.41**	**7**	Pn		**Pn**	**19 36 01.1**	**+1.9**
J26L	**Joseph Creek**	**8.54**	**17**	Pn		**Pn**	**19 36 01.7**	**+0.6**
N31M	**Braeburn, Yuko**	**8.63**	**49**	Pn		**Pn**	**19 36 02.0**	**-0.2**
WHY	**Whitehorse**	**8.65**	**55**	Pn		**Pn**	**19 36 02.0**	**-0.6**
I23K	**Minto, Yukon-K**	**8.70**	**0**	Pn		**Pn**	**19 36 02.7**	**-0.4**
POKR	**Poker Plat Res**	**8.72**	**5**	Pn		**Pn**	**19 36 04.4**	**+0.9**
L29M	**L29M**	**8.73**	**36**	Pn		**Pn**	**19 36 04.1**	**+0.4**
I21K	**Tanana**	**8.82**	**353**	Pn		**Pn**	**19 36 04.7**	**-0.1**
M30M	**Minto, Yukon**	**8.84**	**41**	Pn		**Pn**	**19 36 06.5**	**+1.4**
J16K	**Anvik River**	**8.84**	**325**	Pn		**Pn**	**19 36 03.6**	**-1.5**
P32M	**Atlin**	**8.88**	**63**	Pn		**Pn**	**19 36 05.2**	**-0.4**
U33K	**Whale Pass**	**9.05**	**86**	Pn		**Pn**	**19 36 05.3**	**-2.6**
PRP	**Porcupine Dome**	**9.26**	**10**	Pn		**Pn**	**19 36 11.3**	**+0.3**
I17K	**Unalakleet**	**9.31**	**328**	Pn		**Pn**	**19 36 12.1**	**+0.6**
H21K	**Melozitna Rive**	**9.36**	**351**	Pn		**Pn**	**19 36 12.3**	**+0.1**
I26K	**Coal Creek Min**	**9.36**	**16**	Pn		**Pn**	**19 36 12.9**	**+0.7**
H24K	**Noodor Dome**	**9.42**	**4**	Pn		**Pn**	**19 36 12.9**	**-0.1**
K29M	**Barlow Dome**	**9.45**	**34**	Pn		**Pn**	**19 36 15.2**	**+1.7**
P33M	**Teslin, Yukon**	**9.47**	**60**	Pn		**Pn**	**19 36 13.6**	**-0.2**
Q32M	**Nakina River**	**9.49**	**68**	Pn		**Pn**	**19 36 15.0**	**+0.9**
M31M	**Drury Creek, Y**	**9.56**	**47**	Pn		**Pn**	**19 36 16.7**	**+1.8**
N32M	**Quiet Lake**	**9.66**	**54**	Pn		**Pn**	**19 36 17.1**	**+0.8**
IMAR	**Indian Mountai**	**9.77**	**349**	Pn		**Pn**	**19 36 18.3**	**+0.6**
H17K	**Granite Mounta**	**9.92**	**333**	Pn		**Pn**	**19 36 19.6**	**-0.2**
R33M	**Jennings River**	**10.21**	**66**	Pn		**Pn**	**19 36 24.0**	**0.0**
G21K	**Allakaket**	**10.26**	**351**	Pn		**Pn**	**19 36 24.0**	**-0.5**
DLBC	**Dease Lake**	**10.61**	**71**	Pn		**Pn**	**19 36 29.6**	**+0.2**
F20K	**Avaraart Lake**	**11.02**	**347**	Pn		**Pn**	**19 36 36.1**	**+1.2**
BMAR	**Burnt Mountain**	**11.22**	**10**	Pn		**Pn**	**19 36 38.4**	**+0.8**

*NEIC **23** 19:34:41.2±1.5,56°.42N±0°.09×148°.4W±0°.1, h22km±10km, ML3.7/44,ML3.5(AEIC), Error ellipse: s-maj=13.5km s-min=8.1km az=163.0*
*AEIC **23** 19:34:44.0±1.5,56°.37N±0°.09×148°.3W±0°.1, h10km±8km, Error ellipse: s-maj=13.9km s-min=9.2km az=167.0*
ISC 23 19:34:38.7±1.8,56°.4N±0°.1×148°.36W±0°.06,h10km,n144, σ1§33/143,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.68**	**302**			**Pn**	**19 35 22.7**	**+0.9**
KDAK	**Kodiak Island**	**2.68**	**302**			**Sn**	**19 35 53.6**	**-0.7**
OHAK	**Old Harbor**	**2.83**	**289**			**Pn**	**19 35 24.1**	**+0.3**
OHAK						**Sn**	**19 35 56.3**	**-1.5**
OHAK	**Old Harbor**	**2.83**	**289**	P		**Pn**	**19 35 24.1**	**+0.3**
	baz=104							
OHAK				S		**Sn**	**19 35 56.3**	**-1.5**
	baz=104							
SYI	**Shuyak Island**	**3.09**	**317**			**Pn**	**19 35 28.4**	**+1.0**
SYI	**Shuyak Island**	**3.09**	**317**			**Sn**	**19 36 03.2**	**-1.2**
SYI	**Shuyak Island**	**3.09**	**317**	IAML			19 36 07.2	
	comp=E,109nm,1.9s							
Q20K	**Shuyak Island**	**3.09**	**317**	P		**Pn**	**19 35 28.7**	**+1.3**
	baz=134							
Q20K				S		**Sn**	**19 36 03.2**	**-1.2**
	baz=134							
MID	**Middleton Isla**	**3.21**	**19**			**Sn**	**19 36 05.2**	**-2.0**
MID	**Middleton Isla**	**3.21**	**19**	Pn		**Pn**	**19 35 28.8**	**-0.2**
MID				IAML			19 36 50.4	
	comp=N,217nm,2.4s							
MID				IAML			19 37 16.9	
	comp=E,260nm,2.1s							
Q23K	**Middleton Isla**	**3.21**	**19**			**Sn**	**19 36 05.5**	**-1.7**
Q23K	**Middleton Isla**	**3.21**	**19**	Pn		**Pn**	**19 35 28.7**	**-0.3**
Q23K				IAML			19 36 50.4	
	comp=N,232nm,2.0s							
Q23K				IAML			19 37 16.9	
	comp=E,276nm,2.1s							
Q23K	**Middleton Isla**	**3.21**	**19**	S		**Sn**	**19 36 05.4**	**-1.7**
	baz=200							
CNPM	**China Poot**	**3.47**	**335**			**Sn**	**19 36 13.1**	**-0.8**
BRSE	**Bradley Lake S**	**3.56**	**340**			**Pn**	**19 35 35.7**	**+1.7**
BRSE	**Bradley Lake S**	**3.56**	**340**	P		**Pn**	**19 35 35.7**	**+1.7**
	baz=158							
P23K	**Montague Islan**	**3.63**	**8**			**Pn**	**19 35 35.5**	**+0.7**
P23K	**Montague Islan**	**3.63**	**8**	P		**Pn**	**19 35 35.5**	**+0.7**
	baz=188							
HIN	**Hinchinbrook I**	**4.11**	**13**			**Pn**	**19 35 42.1**	**+0.6**
HIN				IAML			19 36 28.9	
	comp=E,120nm,2.0s							
HIN				IAML			19 38 32.8	
	comp=N,88nm,2.1s							
O22K	**Cooper Landing**	**4.14**	**351**	Pn		**Pn**	**19 35 43.2**	**+1.4**
P19K	**Oil Pt**	**4.15**	**323**	Pn		**Pn**	**19 35 42.0**	**0.0**
P19K				IAML			19 36 32.2	
	comp=E,123nm,0.5s							
P19K				IAML			19

CNBA	Chernabura Isl	6.56	261	Pn		Pn	19 36 14.1	-0.9
YUK8	Steele Glacier	6.61	39			Pn	19 36 17.9	+2.0
YUK8	Steele Glacier baz=226	6.61	39	P		Pn	19 36 17.9	+2.0
L19K	White Mountain	6.67	333	Pn		Pn	19 36 17.0	+0.5
DHY	Denali Highway	6.70	4			Pn	19 36 18.4	+1.3
YUK3	Moose Creek baz=221	6.74	34	P		Pn	19 36 19.7	+2.0
S31K	Pelican	6.77	72	Pn		Pn	19 36 16.6	-1.4
M27K	Edge Creek, AK	6.81	26	Pn		Pn	19 36 17.9	-0.7
M17K	Holitna River	6.86	321	Pn		Pn	19 36 19.8	+0.7
SDPT	Sand Point	6.90	266	Pn		Pn	19 36 20.7	+1.0
MENT	Mentasta	6.95	18	Pn		Pn	19 36 22.5	+2.1
RND	Reindeer	7.01	358	Pn		Pn	19 36 22.3	+0.9
HYT	Haines Junctio	7.18	48	Pn		Pn	19 36 24.8	+1.0
M16K	Timber Creek	7.19	314	Pn		Pn	19 36 24.4	+0.7
N15K	Kwethluk River	7.23	306	Pn		Pn	19 36 23.7	-0.6
CAST	Castle Rocks	7.27	347	Pn		Pn	19 36 25.6	+0.8
KTH	Kantishna Hill	7.27	351	Pn		Pn	19 36 24.4	-0.5
L27K	Beaver Creek,	7.43	24	Pn		Pn	19 36 28.1	+1.0
BCAR	Beaver Creek A	7.45	24	Pn		Pn	19 36 28.1	+0.8
O14K	Tigyukauivet M	7.45	298	Pn		Pn	19 36 28.8	+1.6
K20K	Telida	7.53	340	Pn		Pn	19 36 30.1	+1.8
RIDG	Independent Ri	7.55	12			Pn	19 36 30.2	+1.5
SKAG	Skagway	7.58	61	Pn		Pn	19 36 30.5	+1.5
N30M	Aishikik Lake	7.71	44	Pn		Pn	19 36 32.3	+1.4
BWN	Browne	7.80	356	Pn		Pn	19 36 33.2	+1.1
BPAW	Bear Paw Mtn.	7.82	351	Pn		Pn	19 36 33.3	+1.0
M29M	Somme Creek	7.87	36	Pn		Pn	19 36 34.3	+1.2
SCRK	Sand Creek	7.89	14	Pn		Pn	19 36 34.9	+1.5
HDA	Harding Lake	8.05	4	Pn		Pn	19 36 37.5	+2.1
WHY	Whitehorse	8.23	53	Pn		Pn	19 36 39.9	+1.8
N31M	Braeburn, Yuko	8.24	47	Pn		Pn	19 36 39.9	+1.7
K27K	Chicken	8.25	20	Pn		Pn	19 36 39.7	+1.5
CCB	Clear Creek Bu	8.26	2	Pn		Pn	19 36 39.7	+1.3
J25K	Salcha River,	8.35	9	Pn		Pn	19 36 40.9	+1.2
P32M	Atlin	8.40	62	Pn		Pn	19 36 40.5	+0.1
IL31		8.41	4	Pn		Pn	19 36 41.8	+1.4
ILAR	Eielson Array	8.41	4	Pn		Pn	19 36 41.0	+0.6
J26L	Joseph Creek	8.45	14				19 36 42.4	+1.4
L29M	L29M	8.46	33	Pn		Pn	19 36 42.0	+0.9
M30M	Minto, Yukon	8.52	39	Pn		Pn	19 36 43.1	+1.2
I23K	Minto, Yukon-K	8.77	357	Pn		Pn	19 36 46.8	+1.5
Q32M	Nakina River	8.99	67	Pn		Pn	19 36 49.1	+0.6
P33M	Teslin, Yukon	9.02	59	Pn		Pn	19 36 49.2	+0.4
EGAK	Eagle	9.10	20	Pn		Pn	19 36 52.3	+2.5
M31M	Drury Creek, Y	9.19	45			Pn	19 36 52.6	+1.5
K29M	Barlow Dome	9.19	31	Pn		Pn	19 36 52.7	+1.5
PRP	Porcupine Dome	9.23	7	Pn		Pn	19 36 54.5	+2.7
I26K	Coal Creek Min	9.27	14	Pn		Pn	19 36 53.9	+1.7
H24K	Noodor Dome	9.46	1	Pn		Pn	19 36 56.7	+1.9
H21K	Melozitna Rive	9.51	349	Pn		Pn	19 36 56.6	+1.1
FARO	Faro, Yukon	9.62	47	Pn		Pn	19 36 59.0	+2.0
R33M	Jennings River	9.72	65	Pn		Pn	19 36 59.2	+0.7
I28M	Miner Creek	9.93	21	Pn		Pn	19 37 02.8	+1.4
IMAR	Indian Mountai	9.94	347	Pn		Pn	19 37 02.5	+1.2
J30M	Hart River	10.09	31	Pn		Pn	19 37 04.7	+1.2
DLBC	Dease Lake	10.09	71	Pn		Pn	19 37 03.5	0.0
G24K	Hadweenzic Riv	10.33	2	Pn		Pn	19 37 08.0	+1.3
G23K	Bananza Creek	10.36	356	Pn		Pn	19 37 07.7	+0.6

IDC 23 19:35:06.7±2.5,3°44S×129°73E,h0km,mb3.5/2, mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=168.3km s-min=29.0km az=70.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.3s,baz=348,slow=13,SNR=9.6	17.01	165	P	Pn	19 39 06.7	+0.5
WRA				S	Sn	19 42 00.7	-15
	0.9nm,0.9s,baz=314,slow=23,SNR=2.6 0.4nm,0.4s						
ASAR	Alice Springs 2.0nm,0.4s,baz=349,slow=10,SNR=29 2.0nm,0.4s	20.51	169	P	P	19 39 46.4	-0.2
MKAR	Makanchi Array 0.2nm,0.5s,baz=128,slow=7.7,SNR=4.5 0.2nm,0.5s	65.13	326	P	P	19 45 49.5	0.0

IDC 23 19:37:00.7±1.4,55°.66N×149°.08W,h0km,mb3.5/6, mbtmp3.5/11,ML3.1/3,Error ellipse: s-maj=28.6km s-min=20.9km az=15.0
NEIC 23 19:37:03.1±1.6,55°.83N±0°.09×149°.4W±0°.1,h7km±7km, ML3.9/40,ML3.5(AEIC),Error ellipse: s-maj=12.9km s-min=8.3km az=178.0
AEIC 23 19:37:06.9±1.8,55°.72N±0°.09×149°.2W±0°.1,h11km±7km, Error ellipse: s-maj=13.1km s-min=10.0km az=175.0
ISC 23 19:37:03.5±0.8,55°85N±0°.08×149°31W±0°.06,h10km, n170,σ0s91/168,mb3.8/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.60	304		Pn	19 37 44.8	-0.7
OHAK					Sn	19 38 15.5	-1.6
OHAK	Old Harbor baz=121	2.60	304	P	Pn	19 37 44.8	-0.7
OHAK				S	Sn	19 38 15.5	-1.6
	baz=121						
KDAK	Kodiak Island	2.65	318		Pn	19 37 46.0	-0.2
KDAK	Kodiak Island	2.65	318		Sn	19 38 16.9	-1.4
KDAK	Kodiak Island 109nm,0.7s	2.65	318	IAML		19 38 18.5	
KDAK				IAML		19 38 19.1	
	114nm,0.5s						
KDAK	Kodiak Island baz=136	2.65	318	S	Sn	19 38 16.9	-1.4
KDAK	Kodiak Island 5.3nm,0.3s,baz=164,slow=5.5,SNR=2.9	2.65	318	Pn	Pn	19 37 45.1	-1.0
KDAK				Sn	Sn	19 38 18.4	+0.2
	14nm,0.3s,baz=279,slow=22,SNR=15 11nm,0.3s						
Q20K	Shuyak Island baz=148	3.24	330	P	Pn	19 37 54.2	-0.1
Q20K				S	Sn	19 38 33.0	+0.2
	baz=148						
SYI	Shuyak Island	3.24	330		Pn	19 37 54.4	+0.2
SYI	Shuyak Island	3.24	330		Sn	19 38 33.0	+0.3
SYI	Shuyak Island comp=N,139nm,0.5s	3.24	330	IAML		19 38 35.3	
SYI				IAML		19 38 37.1	
	comp=E,169nm,0.6s						
R18K	Karluk	3.32	303		Pn	19 37 55.2	-0.1
R18K	Karluk comp=E,254nm,0.4s	3.32	303	IAML		19 38 37.9	
R18K				IAML		19 38 42.0	
	comp=N,365nm,0.5s						
CNPM	China Poot	3.83	345	Pn	Pn	19 38 02.7	+0.3
CNPM				IAML		19 38 33.9	
	comp=E,111nm,3.3s						
CNPM	China Poot	3.83	345		Sn	19 38 47.5	+0.1
Q19K	Cape Douglas,	3.88	325		Pn	19 38 03.5	+0.4
Q19K	Cape Douglas,	3.88	325		Sn	19 38 47.0	-1.7
Q19K	Cape Douglas, baz=142	3.88	325	P	Pn	19 38 04.1	+1.0
Q19K				S	Sn	19 38 50.2	+1.5
	baz=142						
KAHG	Katmai Hook Gl	3.89	315		Pn	19 38 04.8	+1.4
Q23K	Middleton Isla	3.93	23	Pn	Pn	19 38 03.5	-0.2
Q23K				IAML		19 38 47.0	
	comp=N,233nm,2.9s						
MID	Middleton Isla	3.93	23	Pn	Pn	19 38 03.5	-0.2
MID				IAML		19 40 32.0	
	comp=N,261nm,3.2s						
BRSE	Bradley Lake S	3.98	349		Pn	19 38 04.4	-0.1
BRSE					Sn	19 38 50.2	-0.9
KCG	Knife Ck. Glac	4.01	310		Pn	19 38 05.7	+0.7
BRLK	Bradley Lake	4.02	349	Pn	Pn	19 38 04.7	-0.4
BRLK				IAML		19 38 52.8	
	comp=N,94nm,3.5s						
HOM	Homer	4.02	343		Pn	19 38 05.3	+0.3
HOM				IAML		19 39 49.6	
	comp=E,272nm,1.4s						
ACHA	Angle Creek He	4.05	308		Pn	19 38 06.1	+0.6
ANCK	Angle Creek	4.12	307		Pn	19 38 08.0	+1.5
PLK3	Peulik 3	4.25	299		Pn	19 38 08.6	+0.4
SEW	Seward	4.27	359	Pn	Pn	19 38 08.7	+0.3
P23K	Montague Islan	4.28	13		Pn	19 38 08.6	-0.1
CNTC	Contact Creek	4.33	307		Pn	19 38 10.2	+0.8
Q17K	Contact Creek baz=122	4.33	307	P	Pn	19 38 10.2	+0.8
P19K	Oil Pt	4.36	333		Pn	19 38 09.9	+0.3
P19K				IAML		19 39 06.5	
	comp=N,212nm,0.6s						
P19K				IAML		19 39 07.1	
	comp=E,194nm,0.6s						
PLK1	Peulik 1	4.46	299		Pn	19 38 11.8	+0.7
P18K	Big Mountain,	4.77	321		Pn	19 38 16.1	+0.8
P18K	Big Mountain, baz=136	4.77	321	P	Pn	19 38 16.1	+0.8
HIN	Hinchinbrook I	4.80	17	Pn	Pn	19 38 15.7	-0.1
HIN				IAML		19 39 34.0	
	comp=E,95nm,3.4s						
HIN				IAML		19 40 21.8	
	comp=N,93nm,1.7s						
KAIM	Kayak Island	4.85	31	Pn	Pn	19 38 16.1	-0.3
RSO	Redoubt South	4.97	340	Pn	Pn	19 38 17.2	-1.1
ANNW	Aniakchak Nort	5.07	286		Pn	19 38 19.2	-0.3
EYAK	Cordova Ski Ar	5.07	20	Pn	Pn	19 38 19.0	-0.5
O18K	Koktuh Hills	5.10	324	Pn	Pn	19 38 19.3	-0.7
O18K				IAML		19 39 21.5	
	comp=E,66nm,0.6s						
O18K				IAML		19 39 21.9	
	comp=N,85nm,0.8s						
O19K	Port Alsworth	5.11	331	Pn	Pn	19 38 19.7	-0.3
CHGN	Chignik	5.12	279	Pn	Pn	19 38 19.2	-0.9
CHGN				IAML		19 40 26.6	
	comp=E,70nm,0.2s						
CHGN				IAML		19 41 21.7	
	comp=N,66nm,0.8s						
FID	Port Fidalgo	5.14	16	Pn	Pn	19 38 19.9	-0.4
FID				IAML		19 39 19.5	
	comp=E,59nm,1.0s						
FID				IAML		19 40 30.2	
	comp=N,43nm,0.9s						
RAGM	Ragged Mountai	5.17	26	Pn	Pn	19 38 21.1	+0.2
RAGM				IAML		19 39 32.4	
	comp=E,113nm,0.8s						
RC01	Rabbit Creek A	5.26	358	Pn	Pn	19 38 21.6	-0.4
RC01				IAML		19 40 36.0	
	comp=E,54nm,1.3s						
BERG	Berg Lake	5.44	31	Pn	Pn	19 38 24.0	-0.5
SNH	Sunshine Point	5.54	36	Pn	Pn	19 38 25.5	-0.4
DIV	Divide	5.61	18	Pn	Pn	19 38 27.3	+0.4
P16K	Nushagak River	5.67	308		Pn	19 38 28.1	+0.4
N19K	Bonanza Creek	5.67	333		Pn	19 38 27.4	-0.4
SUA	Susitna One	5.68	353	Pn	Pn	19 38 27.2	-0.7
BMRM	Bremner River	5.70	24	Pn	Pn	19 38 27.7	-0.4
PMR	Palmer	5.76	1	Pn	Pn	19 38 28.8	-0.1
KLU	Klutina	5.93	16	Pn	Pn	19 38 31.3	0.0
GHO	Glory Hole Cre	5.95	2	Pn	Pn	19 38 30.7	-0.8
CNBA	Chernabura Isl	5.96	264	Pn	Pn	19 38 30.8	-0.8
N18K	Kilae Creek	5.96	327	Pn	Pn	19 38 31.2	-0.5
SML	Sawmill	6.00	4	Pn	Pn	19 38 31.4	-0.9
O16K	Kokwok River B	6.02	312		Pn	19 38 32.8	+0.4
SCM	Sheep Creek Mo	6.09	9	Pn	Pn	19 38 33.5	0.0
VRDI	Verde Repeater	6.20	27	Pn	Pn	19 38 34.5	-0.7
SVW2	Sparrevohn	6.21	331	Pn	Pn	19 38 33.9	-1.1
SKT	Skwentna	6.26	350	Pn	Pn	19 38 36.2	+0.5
N17K	Nushagak Hills	6.27	322	Pn	Pn	19 38 36.6	+0.7
N25K	Chitina, Valde	6.27	21	Pn	Pn	19 38 35.9	-0.1
GLB	Gilahina Butte	6.30	25	Pn	Pn	19 38 35.8	-0.6
YKU2	Yakutat	6.34	51	Pn	Pn	19 38 37.1	-1.3
SDPT	Sand Point	6.35	270	Pn	Pn	19 38 35.6	-1.4
M20K	Styx River	6.37	343	Pn	Pn	19 38 36.9	-0.4
PCA	Pinnacle	6.42	45	Pn	Pn	19 38 37.9	-0.2
MCARA	McCarthy VSAT	6.45	28	Pn	Pn	19 38 38.7	+0.4
M24K	Tolsona, Glenn	6.48	13	Pn	Pn	19 38 40.9	+2.1
BARN	Barnard Glacie	6.58	34	Pn	Pn	19 38 40.2	-0.2
BCPM	Bancas Point	6.59	47	Pn	Pn	19 38 40.4	+0.1
CTGM	Chitina Glacie	6.62	36	Pn	Pn	19 38 40.8	-0.1
LOGN	Logan Glacier	6.63	38	Pn	Pn	19 38 40.6	-0.4
L19K	White Mountain	6.96	338	Pn	Pn	19 38 45.4	0.0
M17K	Holitna River	7.00	326	Pn	Pn	19 38 47.3	+1.4
N15K	Kwethluk River	7.18	312		Pn	19 38 49.6	+1.2
O29M	Mount Kennedy	7.23	47	Pn	Pn	19 38 49.8	+0.6
M16K	Timber Creek	7.25	320	Pn	Pn	19 38 50.1	+0.8
P29M	Windy Craggy	7.26	54	Pn	Pn	19 38 48.9	-0.6
O14K	Tigyukauivet M	7.28	303	Pn	Pn	19 38 50.1	+0.3
L18K	Granite Mounta	7.43	332	Pn	Pn	19 38 51.3	-0.5
M27K	Edge Creek, AK	7.56	27	Pn	Pn	19 38 54.1	+0.4
RND	Reindeer	7.59	2	Pn	Pn	19 38 53.9	-0.1
TRF	Thorofare Moun	7.64	357	Pn	Pn	19 38 54.0	-0.8
MENT	Mentasta	7.66	20	Pn	Pn	19 38 55.0	+0.1
KTH	Kantishna Hill	7.77	355	Pn	Pn	19 38 56.3	-0.3
TTA	Tatalina	7.88	337	Pn	Pn	19 38 57.5	-0.6
L16K	Owhat River	7.90	322	Pn	Pn	19 38 58.6	+0.5
K20K	Telida	7.91	344	Pn	Pn	19 38 57.8	-0.6
HYT	Haines Junctio	7.96	46	Pn	Pn	19 38 58.0	-1.2
FALS	False Pass	8.11	269	Pn	Pn	19 39 00.8	-0.2
L27K	Beaver Creek,	8.17	25	Pn	Pn	19 39 02.6	+0.7
BCAR	Beaver Creek A	8.18	25	Pn	Pn	19 39 02.3	+0.2
RIDG	Independent Ri	8.23	14	Pn	Pn	19 39 02.3	-0.4
M14K	Bethel	8.27	312	Pn	Pn	19 39 02.8	-0.6
K17K	Iditarod	8.28	330	Pn	Pn	19 39 02.6	-0.7
BPAW	Bear Paw Mtn.	8.32	355	Pn	Pn	19 39 03.7	-0.3
N30M	Aishikik Lake	8.49	44	Pn	Pn	19 39 06.6	+0.2
SCRK	Sand Creek	8.58	16	Pn	Pn	19 39 08.3	+0.7
M29M	Somme Creek	8.64	36	Pn	Pn	19 39 09.2	+0.7
M13K	Dall Lake	8.72	307	Pn	Pn	19 39 09.9	+0.5
L14K	Kuka Creek	8.88	314		Pn	19 39 12.2	+0.5
WHY	Whitehorse	9.00	52	Pn	Pn	19 39 13.6	+0.3
J25K	Salcha River,	9.01	11	Pn	Pn	19 39 13.7	+0.2
K15K	Wolf Creek Mou	9.01	321	Pn	Pn	19 39 14.1	+0.7
N31M	Braeburn, Yuko	9.02	46	Pn	Pn	19 39 13.9	+0.2
IL31		9.03	7	Pn	Pn	19 39 13.7	0.0
ILAR	Eielson Array	9.03	7	Pn	Pn	19 39 13.6	-0.1
ILAR	Eielson Array comp=E,0.1nm,0.3s,baz=190,slow=13,SNR=2.7	9.03	7	Pn	Pn	19 39 12.4	-1.3
ILAR				Sn	Sn	19 40 53.7	-1.6
	comp=E,0.3nm,0.3s,baz=187,slow=20,SNR=4.6 comp=N,0.3nm,0.3s						
IL03	Eielson Array	9.03	7	Pn	Pn	19 39 13.0	-0.7
J26L	Joseph Creek	9.13	16	Pn	Pn	19 39 15.9	+0.7
P32M	Atlin	9.14	59	Pn	Pn	19 39 16.6	+1.3
L29M	L29M	9.22	33	Pn	Pn	19 39 17.4	+1.0
M30M	Minto, Yukon	9.29	38	Pn	Pn	19 39 17.7	+0.3
I23K	Minto, Yukon-K	9.33	360	Pn	Pn	19 39 19.1	+1.3
J16K	Anvik River	9.39	327	Pn	Pn	19 39 19.1	+0.5
I21K	Tanana	9.45	353	Pn	Pn	19 39 20.7	+1.2
DAWY	Dawson	9.61	27	Pn	Pn	19 39 22.2	+0.5
Q32M	Nakina River	9.70	64		Pn	19 39 23.2	+0.1
P33M	Teslin, Yukon	9.77	57	Pn	Pn	19 39 24.4	+0.5
I26K	Coal Creek Min	9.95	15	Pn	Pn	19 39 26.9	+0.6
K29M	Barlow Dome	9.95	32	Pn	Pn	19 39 27.6	+1.1
M31M	Drury Creek, Y	9.97	44	Pn	Pn	19 39 27.5	+0.9
H21K	Melozitna Rive	9.99	352	Pn	Pn	19 39 27.1	+0.3
N32M	Quiet Lake	10.00	51	Pn	Pn	19 39 26.8	-0.3
J14K	Nanvaranak Lak	10.03	319	Pn	Pn	19 39 27.0	-0.3
MAYO	Mayo, Yukon	10.28	36	Pn	Pn	19 39 32.0	+1.1
IMAR	Indian Mountai	10.39	350	Pn	Pn	19 39 33.1	+0.8
FARO	Faro, Yukon	10.39	46	Pn	Pn	19 39 32.6	+0.1
H17K	Granite Mounta	10.50	335	Pn	Pn	19 39 34.3	+0.5
T35M	Bob Quinn	10.62	76	Pn	Pn	19 39 37.9	+2.5
I28M	Miner Creek	10.66	22	Pn	Pn	19 39 37.4	+1.3
DLBC	Dease Lake comp=E,1.8nm,0.9s,baz=270,slow=20,SNR=1.6	10.78	68	Pn	Pn	19 39 33.8	-4.0
J30M	Hart River	10.85	31		Pn	19 39 39.4	+0.6
G21K	Allakaket	10.89	351	Pn	Pn	19 39 37.7	-1.4
G23K	Bananza Creek	10.91	358	Pn	Pn	19 39 39.5	+0.1
G24K	Hadweenzic Riv	10.93	4	Pn	Pn	19 39 40.3	+0.6
HG4B	Hotspring	11.21	101	Pn	Pn	19 39 45.6	+2.0
ANM	Nome	11.80	324	Pn	Pn	19 39 51.6	0.0
BMAR	Burnt Mountain	11.83	9	Pn	Pn	19 39 53.1	+1.0
F17K	Baldwin Pennin	12.06	337	Pn	Pn	19 39 54.5	-0.6
E19K	Redstone River	12.23	345	Pn	Pn	19 39 58.9	+1.5
F28M	Old Crow	12.60	17	Pn	Pn	19 40 03.7	+1.2
D22K	Ayikyak River	13.17	355	Pn	Pn	19 40 11.6	+1.4
G31M	Satah River	13.19	27	Pn	Pn	19 40 11.6	+1.1
F31M	Tsiigehtchic	13.72	26	Pn	Pn	19 40 19.0	+1.3
C18K	Utukok River	13.94	342	Pn	Pn	19 40 18.8	-2.1
D27M	Malcolm River	13.96	12	Pn	Pn	19 40 23.0	+1.9
B21K	Ikpikpuk River	14.03	352	Pn	Pn	19 40 21.2	-0.7
INK	Inuvik	14.45	24		Pn	19 40 29.0	+1.3
INK	Inuvik comp=E,0.1nm,0.3s,baz=206,slow=14,SNR=6.7 comp=E,4.8nm,1.1s	14.45	24	Pn	Pn	19 40 28.6	+0.9
B20K	Meade River	14.63	349	Pn	Pn	19 40 32.3	+2.1
YKA	Yellowknife Ar comp=E,0.2nm,0.7s,baz=265,slow=9.4,SNR=2.4	18.80	55	P	P	19 41 22.4	-0.2
PDAR	Pinedale Array comp=E,0.1nm,0.4s,baz=303,slow=4.2,SNR=2.3 comp=E,0.1nm,0.4s	28.60	100	P	P	19 42 57.4	-2.5
H11N2	WAKE ISLAND Hy baz=31	48.66	240	T	T	20 38 13.4	
H11N3	WAKE ISLAND Hy baz=31	48.66	240	T	T	20 38 14.9	
H11N1	WAKE ISLAND Hy baz=31	48.67	240	T	T	20 38 15.2	
H11S1	WAKE ISLAND Hy baz=29	49.79	240	T	T	20 40 27.9	
H11S2	WAKE ISLAND Hy baz=29	49.80	240	T	T	20 40 24.4	
H11S3	WAKE ISLAND Hy baz=29	49.81	240	T	T	20 40 30.9	
SONM	Songino Array comp=E,0.6nm,1.0s,baz=57,slow=5.3,SNR=2.2 comp=E,0.6nm,1.0s	58.91	310	P	P	19 47 03.0	+0.5
ZALV	Zalesovo Beam comp=E,0.4nm,0.6s,baz=30,slow=12,SNR=2.0 comp=E,0.4nm,0.6s	61.92	327	P	P	19 47 23.5	+0.8
KURBB	Kurchatov Arra comp=E,0.2nm,0.3s,baz=55,slow=3.5,SNR=2.1 comp=E,0.2nm,0.3s	66.70	329	P	P	19 47 54.2	+0.1
MKAR	Makanchi Array comp=E,0.6nm,0.9s,baz=27,slow=5.2,SNR=3.5 comp=E,0.6nm,0.9s	68.94	325	P	P	19 48 08.0	-0.3
CMAR	Chiang Mai Arr comp=E,0.5nm,0.8s,baz=20,slow=5.4,SNR=4.7 comp=E,0.5nm,0.8s	86.47	298	P	P	19 49 46.5	+0.2

NEIC 23 19:38:10.6±1.5,55°.9N±0°.1×149°.3W±0°.02,h7km±8km, ML3.8/20,ML3.7(AEIC),Error ellipse: s-maj=16.5km s-min=1.2km az=184.0
AEIC 23 19:38:13.8±1.7,55°.7N±0°.1×149°.3W±0°.1,h10km±8km, Error ellipse: s-maj=17.0km s-min=10.8km az=179.0
ISC 23 19:38:09.5±2.3,55°.8N±0°.1×149°31W±0°.07,h10km,n94, σ0s91/98,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.64	305		Pn	19 38 52.2	+0.2
OHAK	Old Harbor	2.64	305		Sn	19 39 23.0	-1.2
OHAK	Old Harbor baz=120	2.64	305	P	Pn	19 38 52.2	+0.2
OHAK				S	Sn	19 39 23.0	-1.2
	baz=120						
KDAK	Kodiak Island	2.71	320		Pn	19 38 53.4	+0.4
KDAK					Sn	19 39 24.8	-0.9
SYI	Shuyak Island	3.30	331		Pn	19 39 02.0	+0.9
SYI					Sn	19 39 41.1	+0.6
SYI	Shuyak Island comp=E,126nm,3.5s	3.30	331	IAML		19 39 45.1	
SYI				IAML		19 40 52.2	
	comp=N,115nm,3.1s						
Q20K	Shuyak Island baz=147	3.31	331	P	Pn	19 39 02.0	+0.8
Q20K				S	Sn	19 39 41.1	+0.6
	baz=147						
R18K	Karluk	3.36	305		Pn	19 39 02.7	+0.7
R18K				IAML		19 40 18.6	
	comp=N,117nm,2.8s						
R18K	Karluk baz=119	3.36	305	P	Pn	19 39 02.8	+0.9
CNPM	China Poot	3.91	345		Pn	19 39 10.0	+0.5
CNPM					Sn	19 39 55.0	-0.3
CNPM	China Poot comp=N,111nm,3.0s	3.91	345	IAML		19 39 56.3	
CNPM				IAML		19 40 29.2	
	comp=E,104nm,2.9s						
Q23K	Middleton Isla	4.00	22		Pn	19 39 10.9	+0.2
Q23K	Middleton Isla comp=N,294nm,2.9s	4.00	22	IAML		19 41 31.0	
Q23K	Middleton Isla baz=205	4.00	22	P	Pn	19 39 10.9	+0.2
MID	Middleton Isla	4.00	22		Pn	19 39 10.9	+0.1
BRSE	Bradley Lake S	4.06	350		Pn	19 39 12.0	+0.4
BRSE					Sn	19 39 57.0	-2.0
BRSE	Bradley Lake S baz=168	4.06	350	P	Pn	19 39 12.0	+0.4
BRSE				S	Sn	19 39 57.0	-2.0
	baz=168						
BRLK	Bradley Lake	4.09	349		Pn	19 39 11.7	-0.3
BRLK				IAML		19 39 55.0	
	comp=N,83nm,3.7s						
BRLK				IAML		19 41 07.2	
	comp=E,99nm,3.6s						
PLK3	Peulik 3	4.29	300		Pn	19 39 16.0	+1.2
P23K	Montague Islan	4.36	13		Pn	19 39 16.2	+0.5
P23K	Montague Islan baz=194	4.36	13	P	Pn	19 39 16.2	+0.5
CNTC	Contact Creek	4.38	308		Pn	19 39 17.3	+1.2
Q17K	Contact Creek baz=121	4.38	308	P	Pn	19 39 17.3	+1.2
KAIM	Kayak Island	4.92	30		Pn	19 39 23.6	+0.3
KAIM	Kayak Island baz=215	4.92	30	P	Pn	19 39 23.6	+0.3
CAPN	Captain Cook N	5.11	350	Pn	Pn	19 39 25.6	-0.3
BERG	Berg Lake	5.51	30		Pn	19 39 31.9	+0.4
SNH	Sunshine Point	5.60	35	Pn	Pn	19 39 33.0	+0.2
P

Q32M	Nakina River	9.74	64	Pn	Pn	19 40 30.1	+0.4
P33M	Teslin, Yukon	9.81	56	Pn	Pn	19 40 30.8	+0.3
K29M	Barlow Dome	10.02	31	Pn	Pn	19 40 34.7	+1.3
M31M	Drury Creek, Y	10.02	44		Pn	19 40 34.5	+1.2
N32M	Quiet Lake	10.05	51	Pn	Pn	19 40 34.5	+0.7
H21K	Melozitna Rive	10.06	352	Pn	Pn	19 40 35.4	+1.5
FARO	Faro, Yukon	10.45	45	Pn	Pn	19 40 40.5	+1.3
R33M	Jennings River	10.49	62	Pn	Pn	19 40 39.2	-0.6
J30M	Hart River	10.92	31	Pn	Pn	19 40 47.0	+1.4

NEIC ***23*** *19:40:36.0±1.1, 56°.1N±0°.1×149°.26W±0°.01, h21km±10km, ML3.7/38, ML3.4(AEIC), Error ellipse: s-maj=16.0km s-min=1.0km az=182.0*
AEIC ***23*** *19:40:38.7±1.4, 56°.1N±0°.1×149°.2W±0°.1, h8km±8km, Error ellipse: s-maj=16.9km s-min=9.7km az=184.0*
ISC 23 19:40:33.9±2.1**, 56°.1N**±0°.1×**149°.29W**±0°.06**, h10**km**, n97, σ0$93/100, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.50**	**300**		**Pn**	**19 41 15.1**	**+0.6**
OHAK					**Sn**	**19 41 43.3**	**-1.8**
OHAK	**Old Harbor** baz=116	**2.50**	**300**	P	**Pn**	**19 41 15.1**	**+0.6**
OHAK	baz=116			S	**Sn**	**19 41 43.3**	**-1.8**
KDAK	**Kodiak Island**	**2.51**	**315**		**Pn**	**19 41 15.8**	**+1.2**
Q20K	**Shuyak Island** baz=145	**3.07**	**328**	P	**Pn**	**19 41 23.3**	**+0.9**
Q20K	baz=145			S	**Sn**	**19 41 59.3**	**+0.2**
SYI	**Shuyak Island**	**3.07**	**328**		**Pn**	**19 41 23.3**	**+0.9**
SYI					**Sn**	**19 41 59.3**	**+0.2**
R18K	**Karluk**	**3.22**	**300**		**Pn**	**19 41 25.8**	**+1.3**
R18K					**Sn**	**19 42 01.8**	**-0.9**
R18K	**Karluk** comp=E,146nm,0.5s	**3.22**	**300**	IAML		19 42 08.8	
R18K	comp=N,103nm,3.0s			IAML		19 42 33.6	
R18K	**Karluk** baz=116	**3.22**	**300**	P	**Pn**	**19 41 25.8**	**+1.3**
R18K	baz=116			S	**Sn**	**19 42 01.8**	**-0.9**
CNPM	**China Poot**	**3.64**	**344**		**Pn**	**19 41 30.7**	**+0.4**
CNPM					**Sn**	**19 42 12.1**	**-1.2**
CNPM	**China Poot** comp=N,111nm,3.2s	**3.64**	**344**	IAML		19 43 11.2	
CNPM	comp=E,90nm,3.1s			IAML		19 43 44.5	
Q19K	**Cape Douglas,**	**3.72**	**323**		**Pn**	**19 41 32.5**	**+1.1**
Q19K	**Cape Douglas,** comp=N,152nm,2.2s	**3.72**	**323**	IAML		19 42 34.7	
Q19K	comp=E,186nm,1.2s			IAML		19 43 54.2	
Q19K	**Cape Douglas,** baz=139	**3.72**	**323**	P	**Pn**	**19 41 32.5**	**+1.1**
MID	**Middleton Isla**	**3.74**	**24**	Pn	**Pn**	**19 41 31.9**	**+0.3**
BRSE	**Bradley Lake S**	**3.79**	**349**		**Pn**	**19 41 32.3**	**0.0**
BRSE	**Bradley Lake S** baz=167	**3.79**	**349**	P	**Pn**	**19 41 32.3**	**0.0**
BRLK	**Bradley Lake**	**3.82**	**348**		**Pn**	**19 41 32.7**	**-0.1**
BRLK					**Sn**	**19 42 16.1**	**-1.7**
BRLK	**Bradley Lake** comp=N,80nm,3.1s	**3.82**	**348**	IAML		19 42 24.5	
AU22	**Augustine Moun**	**3.98**	**329**		**Pn**	**19 41 36.3**	**+1.4**
AUCH	**Augustine Cone**	**4.00**	**328**		**Pn**	**19 41 36.8**	**+1.5**
P19K	**Oil Pt**	**4.18**	**331**		**Pn**	**19 41 38.4**	**+0.7**
P19K	**Oil Pt** baz=148	**4.18**	**331**	P	**Pn**	**19 41 38.4**	**+0.7**
CNTC	**Contact Creek**	**4.22**	**305**		**Pn**	**19 41 39.4**	**+1.1**
Q17K	**Contact Creek** baz=118	**4.22**	**304**	P	**Pn**	**19 41 39.3**	**+1.0**
IVE	**Iliamna Volcan**	**4.45**	**335**		**Pn**	**19 41 41.8**	**+0.4**
SLKM	**Skilak Lake**	**4.50**	**354**		**Pn**	**19 41 42.2**	**+0.2**
HIN	**Hinchinbrook I**	**4.61**	**18**		**Pn**	**19 41 43.8**	**+0.3**
HIN	**Hinchinbrook I** comp=N,82nm,0.6s	**4.61**	**18**	IAML		19 42 35.0	
HIN	comp=E,97nm,2.9s			IAML		19 43 29.4	
P18K	**Big Mountain,**	**4.62**	**319**		**Pn**	**19 41 44.4**	**+0.7**
P18K	**Big Mountain,** baz=134	**4.62**	**319**	P	**Pn**	**19 41 44.4**	**+0.7**
KAIM	**Kayak Island**	**4.68**	**32**		**Pn**	**19 41 44.8**	**+0.4**
KAIM	**Kayak Island** baz=216	**4.68**	**32**	P	**Pn**	**19 41 44.8**	**+0.4**
RED	**Redoubt Volcan**	**4.75**	**339**		**Pn**	**19 41 45.1**	**-0.5**
RSO	**Redoubt South**	**4.79**	**339**	Pn	**Pn**	**19 41 46.3**	**+0.1**
O19K	**Port Alsworth**	**4.94**	**329**	Pn	**Pn**	**19 41 48.3**	**+0.3**
FID	**Port Fidalgo**	**4.94**	**16**	Pn	**Pn**	**19 41 47.5**	**-0.6**
FID	comp=N,43nm,3.3s			IAML		19 42 25.4	
O18K	**Koktuh Hills**	**4.95**	**323**	Pn	**Pn**	**19 41 48.6**	**+0.4**
O18K	comp=N,30nm,2.9s			IAML		19 43 27.4	
O18K	comp=E,38nm,3.2s			IAML		19 44 31.9	
P17K	**Kvichak River**	**4.97**	**312**		**Pn**	**19 41 50.0**	**+1.5**
P17K	**Kvichak River** baz=126	**4.97**	**312**	P	**Pn**	**19 41 50.0**	**+1.5**
RAGM	**Ragged Mountai**	**4.99**	**27**	Pn	**Pn**	**19 41 48.8**	**0.0**
RC01	**Rabbit Creek A**	**5.06**	**358**	Pn	**Pn**	**19 41 50.1**	**+0.3**
RC01	comp=N,43nm,1.4s			IAML		19 43 41.9	
RC01	comp=E,52nm,3.1s			IAML		19 43 50.7	
BERG	**Berg Lake**	**5.26**	**32**	Pn	**Pn**	**19 41 52.7**	**+0.2**
SNH	**Sunshine Point**	**5.37**	**37**	Pn	**Pn**	**19 41 54.1**	**+0.1**
KNK	**Knik Glacier**	**5.40**	**4**	Pn	**Pn**	**19 41 54.9**	**+0.5**
KNK	comp=E,36nm,3.0s			IAML		19 43 53.9	
KNK	comp=N,26nm,3.8s			IAML		19 44 31.4	
SUA	**Susitna One**	**5.49**	**353**	Pn	**Pn**	**19 41 55.9**	**+0.2**
N19K	**Bonanza Creek**	**5.50**	**332**	Pn	**Pn**	**19 41 55.4**	**-0.4**
P16K	**Nushagak River**	**5.56**	**306**		**Pn**	**19 41 58.2**	**+1.7**
P16K	**Nushagak River** baz=118	**5.56**	**306**	P	**Pn**	**19 41 58.2**	**+1.7**
KLU	**Klutina**	**5.74**	**16**	Pn	**Pn**	**19 41 59.9**	**+0.8**
GHO	**Glory Hole Cre**	**5.75**	**2**	Pn	**Pn**	**19 41 59.9**	**+0.7**
N18K	**Kilae Creek**	**5.80**	**326**	Pn	**Pn**	**19 41 59.7**	**-0.2**
SML	**Sawmill**	**5.80**	**5**	Pn	**Pn**	**19 42 00.2**	**+0.3**
O16K	**Kokwok River B**	**5.89**	**311**	Pn	**Pn**	**19 42 02.3**	**+1.1**
VRDI	**Verde Repeater**	**6.02**	**28**	Pn	**Pn**	**19 42 03.1**	**0.0**
SVW2	**Sparrevohn**	**6.04**	**330**	Pn	**Pn**	**19 42 03.2**	**+0.1**
N25K	**Chitina, Valde**	**6.08**	**22**	Pn	**Pn**	**19 42 04.3**	**+0.5**
KIAG	**Kiagna River**	**6.09**	**34**		**Pn**	**19 42 03.9**	**-0.2**
GLB	**Gilahina Butte**	**6.12**	**26**	Pn	**Pn**	**19 42 05.4**	**+1.1**
N17K	**Nushagak Hills**	**6.12**	**320**	Pn	**Pn**	**19 42 04.9**	**+0.6**
M20K	**Styx River**	**6.18**	**343**	Pn	**Pn**	**19 42 05.6**	**+0.5**
MCARA	**McCarthy VSAT**	**6.27**	**29**	Pn	**Pn**	**19 42 07.7**	**+1.4**
PNL	**Peninsula**	**6.41**	**51**		**Pn**	**19 42 08.6**	**+0.3**
PNL	**Peninsula** baz=240	**6.41**	**51**	P	**Pn**	**19 42 08.6**	**+0.3**
BARN	**Barnard Glacie**	**6.42**	**35**	Pn	**Pn**	**19 42 09.1**	**+0.5**
M19K	**Big River Lodg**	**6.44**	**338**	Pn	**Pn**	**19 42 09.2**	**+0.6**
BCPM	**Bancas Point**	**6.46**	**49**	Pn	**Pn**	**19 42 09.6**	**+0.7**
CTGM	**Chitina Glacie**	**6.46**	**37**	Pn	**Pn**	**19 42 09.6**	**+0.6**
LOGN	**Logan Glacier**	**6.47**	**39**	Pn	**Pn**	**19 42 08.9**	**-0.3**
L19K	**White Mountain**	**6.78**	**337**	Pn	**Pn**	**19 42 12.9**	**-0.5**
M17K	**Holitna River**	**6.84**	**325**	Pn	**Pn**	**19 42 14.8**	**+0.7**
N15K	**Kwethluk River**	**7.05**	**310**	Pn	**Pn**	**19 42 19.4**	**+2.3**
M16K	**Timber Creek**	**7.10**	**319**	Pn	**Pn**	**19 42 18.9**	**+1.2**
P29M	**Windy Craggy**	**7.14**	**55**		**Pn**	**19 42 18.7**	**+0.4**
P29M	**Windy Craggy** baz=245	**7.14**	**55**	P	**Pn**	**19 42 18.6**	**+0.4**
M26K	**Nabesna, AK**	**7.14**	**24**	Pn	**Pn**	**19 42 18.6**	**+0.3**
O14K	**Tigyukauivet M**	**7.18**	**302**	Pn	**Pn**	**19 42 20.4**	**+1.6**
M27K	**Edge Creek, AK**	**7.38**	**28**	Pn	**Pn**	**19 42 22.4**	**+0.7**
S31K	**Pelican**	**7.39**	**70**	Pn	**Pn**	**19 42 20.4**	**-1.2**
CAST	**Castle Rocks**	**7.53**	**350**	Pn	**Pn**	**19 42 24.1**	**+0.5**
L16K	**Owhat River**	**7.74**	**321**	Pn	**Pn**	**19 42 27.2**	**+0.7**
HYT	**Haines Junctio**	**7.82**	**47**	Pn	**Pn**	**19 42 28.2**	**+0.6**
K17K	**Iditarod**	**8.11**	**329**	Pn	**Pn**	**19 42 32.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**8.12**	**355**	Pn	**Pn**	**19 42 32.5**	**+0.7**
S32K	**Killisnoo**	**8.21**	**74**	Pn	**Pn**	**19 42 32.3**	**-0.6**
N30M	**Aishikik Lake**	**8.34**	**44**	Pn	**Pn**	**19 42 35.8**	**+1.0**
O30N	**Mendenhall**	**8.39**	**50**	Pn	**Pn**	**19 42 35.7**	**+0.3**
M29M	**Somme Creek**	**8.47**	**36**	Pn	**Pn**	**19 42 38.1**	**+1.5**
L14K	**Kuka Creek**	**8.75**	**313**	Pn	**Pn**	**19 42 42.4**	**+2.1**
WHY	**Whitehorse**	**8.87**	**53**	Pn	**Pn**	**19 42 42.2**	**+0.1**
P32M	**Atlin**	**9.04**	**60**	Pn	**Pn**	**19 42 44.5**	**+0.3**
L29M	**L29M**	**9.06**	**34**	Pn	**Pn**	**19 42 45.5**	**+1.0**
I23K	**Minto, Yukon-K**	**9.13**	**360**	Pn	**Pn**	**19 42 46.5**	**+1.0**
M30M	**Minto, Yukon**	**9.14**	**39**	Pn	**Pn**	**19 42 46.8**	**+1.1**
I21K	**Tanana**	**9.26**	**353**	Pn	**Pn**	**19 42 49.4**	**+2.2**
P33M	**Teslin, Yukon**	**9.65**	**58**	Pn	**Pn**	**19 42 52.6**	**-0.2**
K29M	**Barlow Dome**	**9.78**	**32**	Pn	**Pn**	**19 42 54.9**	**+0.4**
H21K	**Melozitna Rive**	**9.79**	**351**	Pn	**Pn**	**19 42 55.2**	**+0.7**

NEIC ***23*** *19:41:12.8±1.7, 55°.6N±0°.1×149°.1W±0°.1, h9km±8km, ML3.8/34, ML3.5(AEIC), Error ellipse: s-maj=15.3km s-min=9.0km az=182.0*
AEIC ***23*** *19:41:18.3±1.4, 55°.7N±0°.1×149°.2W±0°.1, h8km±8km, Error ellipse: s-maj=16.4km s-min=10.5km az=176.0*
ISC 23 19:41:13.5±1.8**, 55°.7N**±0°.1×**149°.19W**±0°.07**, h10**km**, n168, σ1$00/171, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.74**	**306**		**Pn**	**19 41 57.4**	**-0.1**
OHAK					**Sn**	**19 42 28.6**	**-1.9**
OHAK	**Old Harbor** baz=124	**2.74**	**306**	P	**Pn**	**19 41 57.4**	**-0.1**
OHAK	baz=124			S	**Sn**	**19 42 28.6**	**-1.9**
KDAK	**Kodiak Island**	**2.80**	**320**		**Pn**	**19 41 58.6**	**+0.3**
KDAK					**Sn**	**19 42 30.4**	**-1.7**
Q20K	**Shuyak Island** baz=148	**3.40**	**330**	P	**Pn**	**19 42 07.3**	**+0.8**
Q20K	baz=148			S	**Sn**	**19 42 47.0**	**+0.1**
SYI	**Shuyak Island**	**3.40**	**330**		**Pn**	**19 42 07.1**	**+0.6**
SYI	**Shuyak Island**	**3.40**	**330**		**Sn**	**19 42 47.0**	**+0.2**
R18K	**Karluk**	**3.46**	**305**		**Pn**	**19 42 07.5**	**+0.2**
R18K	**Karluk** baz=122	**3.46**	**305**	P	**Pn**	**19 42 07.5**	**+0.2**
Q19K	**Cape Douglas,**	**4.04**	**325**		**Pn**	**19 42 16.1**	**+0.7**
Q19K	**Cape Douglas,** baz=142	**4.04**	**325**	P	**Pn**	**19 42 16.1**	**+0.7**
Q23K	**Middleton Isla**	**4.04**	**21**		**Pn**	**19 42 14.5**	**-0.8**
Q23K	comp=N,120nm,1.0s			IAML		19 43 13.7	
Q23K	comp=E,162nm,1.0s			IAML		19 44 38.9	
Q23K	**Middleton Isla** baz=202	**4.04**	**21**	P	**Pn**	**19 42 15.0**	**-0.2**
MID	**Middleton Isla**	**4.04**	**21**		**Pn**	**19 42 14.5**	**-0.8**
MID	comp=N,122nm,1.2s			IAML		19 43 19.0	
MID	comp=E,148nm,1.0s			IAML		19 44 38.9	
BRSE	**Bradley Lake S**	**4.14**	**349**		**Sn**	**19 43 03.0**	**-2.1**
BRSE	**Bradley Lake S** baz=168	**4.14**	**349**	P	**Pn**	**19 42 16.6**	**-0.1**
BRSE	baz=168			S	**Sn**	**19 43 03.0**	**-2.1**
BRSE	**Bradley Lake S**	**4.14**	**349**		**Pn**	**19 42 16.6**	**-0.1**
BRLK	**Bradley Lake**	**4.17**	**348**		**Sn**	**19 43 04.1**	**-1.9**
HOM	**Homer**	**4.18**	**343**	Pn	**Pn**	**19 42 16.1**	**-1.2**
PLK3	**Peulik 3**	**4.38**	**300**		**Pn**	**19 42 20.6**	**+0.5**
P23K	**Montague Islan**	**4.41**	**12**		**Pn**	**19 42 20.9**	**+0.5**
P23K	**Montague Islan** baz=192	**4.41**	**12**	P	**Pn**	**19 42 20.9**	**+0.5**
CNTC	**Contact Creek**	**4.47**	**308**		**Pn**	**19 42 22.6**	**+1.2**
Q17K	**Contact Creek** baz=123	**4.47**	**308**	P	**Pn**	**19 42 22.6**	**+1.1**
P19K	**Oil Pt**	**4.52**	**333**		**Pn**	**19 42 22.4**	**+0.4**
P19K	**Oil Pt** comp=N,118nm,0.5s	**4.52**	**333**	IAML		19 43 19.4	
P19K	comp=E,140nm,0.5s			IAML		19 43 19.6	
P19K	**Oil Pt** baz=150	**4.52**	**333**	P	**Pn**	**19 42 22.4**	**+0.4**
HIN	**Hinchinbrook I**	**4.92**	**16**		**Pn**	**19 42 27.7**	**+0.3**
HIN	**Hinchinbrook I** comp=E,70nm,0.4s	**4.92**	**16**	IAML		19 43 24.0	
HIN	comp=N,68nm,0.9s			IAML		19 43 25.4	
P18K	**Big Mountain,**	**4.93**	**321**		**Pn**	**19 42 27.1**	**-0.5**
P18K	**Big Mountain,** baz=137	**4.93**	**321**	P	**Pn**	**19 42 27.1**	**-0.5**
KAIM	**Kayak Island**	**4.94**	**29**		**Pn**	**19 42 27.6**	**-0.1**
KAIM	comp=N,72nm,1.0s			IAML		19 43 25.4	
KAIM	comp=E,68nm,1.2s			IAML		19 44 23.2	
KAIM	**Kayak Island** baz=212	**4.94**	**29**	P	**Pn**	**19 42 27.9**	**+0.1**
RDSO	**Redoubt South**	**5.12**	**340**		**Pn**	**19 42 30.1**	**-0.3**
RSO	**Redoubt South**	**5.13**	**340**		**Pn**	**19 42 29.3**	**-1.3**
EYAK	**Cordova Ski Ar**	**5.19**	**19**		**Pn**	**19 42 31.6**	**+0.4**
EYAK	**Cordova Ski Ar** baz=201	**5.19**	**19**	P	**Pn**	**19 42 31.6**	**+0.4**
CHGN	**Chignik**	**5.21**	**280**	Pn	**Pn**	**19 42 30.9**	**-0.5**
DFR	**Drift River**	**5.24**	**341**		**Pn**	**19 42 32.2**	**+0.2**
P17K	**Kvichak River**	**5.25**	**315**		**Pn**	**19 42 32.7**	**+0.7**
P17K	**Kvichak River** baz=129	**5.25**	**315**	P	**Pn**	**19 42 32.7**	**+0.7**
FID	**Port Fidalgo**	**5.26**	**15**	Pn	**Pn**	**19 42 31.8**	**-0.3**
FID	comp=N,40nm,1.0s			IAML		19 43 29.2	
FID	comp=E,47nm,0.5s			IAML		19 43 30.9	
O18K	**Koktuh Hills**	**5.26**	**325**	Pn	**Pn**	**19 42 32.2**	**0.0**
O19K	**Port Alsworth**	**5.27**	**331**	Pn	**Pn**	**19 42 30.6**	**-1.6**
O19K	comp=N,82nm,0.4s			IAML		19 43 35.5	
RAGM	**Ragged Mountai**	**5.27**	**25**		**Pn**	**19 42 31.1**	**-1.3**
RAGM	comp=E,74nm,1.0s			IAML		19 43 41.6	
RC01	**Rabbit Creek A**	**5.41**	**357**		**Pn**	**19 42 33.6**	**-0.6**
GOAT	**Goat Mountain**	**5.43**	**24**		**Pn**	**19 42 35.0**	**+0.4**
BERG	**Berg Lake**	**5.53**	**30**		**Pn**	**19 42 35.9**	**+0.1**
SNH	**Sunshine Point**	**5.62**	**34**		**Pn**	**19 42 37.5**	**+0.4**
N20K	**Mount Spurr** baz=163	**5.74**	**345**	P	**Pn**	**19 42 39.0**	**+0.2**
SPCR	**Spurr Chakacha**	**5.74**	**345**		**Pn**	**19 42 39.0**	**+0.2**
KNK	**Knik Glacier**	**5.74**	**4**		**Pn**	**19 42 39.4**	**+0.7**
KNK	**Knik Glacier** baz=184	**5.74**	**4**	P	**Pn**	**19 42 39.4**	**+0.7**
SPCG	**Spurr Capps Gl**	**5.80**	**346**		**Pn**	**19 42 39.7**	**+0.1**
BMRM	**Bremner River**	**5.80**	**23**		**Pn**	**19 42 40.1**	**+0.4**
BMRM	**Bremner River** baz=206	**5.80**	**23**	P	**Pn**	**19 42 40.1**	**+0.4**
SUA	**Susitna One**	**5.84**	**353**	Pn	**Pn**	**19 42 40.5**	**+0.4**
N19K	**Bonanza Creek**	**5.84**	**334**	Pn	**Pn**	**19 42 40.1**	**0.0**
BARK	**Barkley Ridge**	**5.90**	**34**		**Pn**	**19 42 41.2**	**+0.2**
STLK	**Strandline Lak**	**5.98**	**348**		**Pn**	**19 42 42.7**	**+0.7**
KLU	**Klutina**	**6.05**	**15**		**Pn**	**19 42 41.8**	**-1.3**
KLU	**Klutina** baz=197	**6.05**	**15**	P	**Pn**	**19 42 43.8**	**+0.8**
GHO	**Glory Hole Cre**	**6.09**	**1**		**Pn**	**19 42 44.0**	**+0.5**
N18K	**Kilae Creek**	**6.12**	**327**		**Pn**	**19 42 44.0**	**+0.1**
N18K	**Kilae Creek** baz=142	**6.12**	**327**	P	**Pn**	**19 42 44.0**	**+0.1**
SML	**Sawmill**	**6.14**	**4**		**Pn**	**19 42 44.7**	**+0.5**
SML	**Sawmill** baz=184	**6.14**	**4**	P	**Pn**	**19 42 45.4**	**+1.2**
O16K	**Kokwok River B**	**6.17**	**313**	Pn	**Pn**	**19 42 45.0**	**+0.4**
SCM	**Sheep Creek Mo**	**6.22**	**8**	Pn	**Pn**	**19 42 46.2**	**+0.7**
SAMH	**Samovar Hills**	**6.30**	**42**		**Pn**	**19 42 47.4**	**+0.9**
VRDI	**Verde Repeater**	**6.30**	**26**		**Pn**	**19 42 46.3**	**-0.3**
KIAG	**Kiagna River**	**6.35**	**32**		**Pn**	**19 42 47.5**	**+0.3**
SVW2	**Sparrevohn**	**6.37**	**331**	Pn	**Pn**	**19 42 47.3**	**0.0**
N25K	**Chitina, Valde**	**6.39**	**20**		**Pn**	**19 42 48.3**	**+0.7**
N25K	**Chitina, Valde** baz=203	**6.39**	**20**	P	**Pn**	**19 42 48.3**	**+0.7**
GLB	**Gilahina Butte**	**6.41**	**24**		**Pn**	**19 42 47.7**	**-0.2**
SKT	**Skwentna**	**6.41**	**350**	Pn	**Pn**	**19 42 48.8**	**+0.9**
PCA	**Pinnacle**	**6.48**	**44**		**Pn**	**19 42 49.1**	**+0.1**
PINM	**Pinnacle** baz=230	**6.49**	**44**	P	**Pn**	**19 42 49.5**	**+0.5**
PTPK	**Patty Peak**	**6.53**	**30**		**Pn**	**19 42 50.2**	**+0.4**
MCARA	**McCarthy VSAT**	**6.54**	**27**		**Pn**	**19 42 50.0**	**+0.3**
MCARA	**McCarthy VSAT** baz=212	**6.54**	**27**	P	**Pn**	**19 42 50.7**	**+0.9**
PNL	**Peninsula**	**6.58**	**49**		**Pn**	**19 42 50.5**	**+0.2**
PNL	**Peninsula** baz=236	**6.58**	**49**	P	**Pn**	**19 42 50.5**	**+0.2**
M24K	**Tolsona, Glenn**	**6.61**	**12**	Pn	**Pn**	**19 42 52.1**	**+1.4**
BCPM	**Bancas Point**	**6.64**	**46**		**Pn**	**19 42 51.7**	**+0.6**
BARN	**Barnard Glacie**	**6.67**	**33**		**Pn**	**19 42 52.2**	**+0.5**
CTG	**Chitna Glacier** baz=221	**6.70**	**35**	P	**Pn**	**19 42 52.2**	**+0.2**
CTGM	**Chitina Glacie**	**6.70**	**35**		**Pn**	**19 42 52.1**	**+0.1**
LOGN	**Logan Glacier**	**6.71**	**37**		**Pn**	**19 42 52.1**	**0.0**
M18K	**Stony River**	**6.76**	**332**		**Pn**	**19 42 52.5**	**-0.2**
M18K	**Stony River** baz=146	**6.76**	**332**	P	**Pn**	**19 42 52.5**	**-0.2**
M19K	**Big River Lodg**	**6.78**	**339**	Pn	**Pn**	**19 42 52.8**	**-0.2**
L19K	**White Mountain**	**7.13**	**338**	Pn	**Pn**	**19 42 58.3**	**+0.5**
M17K	**Holitna River**	**7.16**	**326**	Pn	**Pn**	**19 42 58.3**	**+0.2**
O29M	**Mount Kennedy**	**7.28**	**46**		**Pn**	**19 43 00.7**	**+0.8**
O29M	**Mount Kennedy** baz=234	**7.28**	**46**	P	**Pn**	**19 43 00.6**	**+0.7**
P29M	**Windy Craggy**	**7.29**	**53**		**Pn**	**19 43 00.2**	**+0.2**
P29M	**Windy Craggy** baz=241	**7.29**	**53**	P	**Pn**	**19 43 00.2**	**+0.2**
N15K	**Kwethluk River**	**7.33**	**312**		**Pn**	**19 43 01.9**	**+1.5**
M16K	**Timber Creek**	**7.40**	**320**	Pn	**Pn**	**19 43 03.2**	**+1.7**
O14K	**Tigyukauivet M**	**7.42**	**304**	Pn	**Pn**	**19 43 02.2**	**+0.6**
M26K	**Nabesna, AK**	**7.43**	**23**	Pn	**Pn**	**19 43 02.3**	**+0.3**
DHY	**Denali Highway**	**7.45**	**6**	Pn	**Pn**	**19 43 04.0**	**+1.7**
YUK8	**Steele Glacier**	**7.46**	**38**		**Pn**	**19 43 04.2**	**+1.7**
YUK8	**Steele Glacier** baz=225	**7.46**	**38**	P	**Pn**	**19 43 04.2**	**+1.7**
YUK2	**White River**	**7.48**	**32**		**Pn**	**19 43 04.3**	**+1.6**
YUK7	**Dusty Glacier**	**7.59**	**46**		**Pn**	**19 43 05.2**	**+1.0**
YUK3	**Moose Creek**	**7.59**	**33**		**Pn**	**19 43 05.7**	**+1.4**
YUK3	**Moose Creek** baz=220	**7.59**	**33**	P	**Pn**	**19 43 05.7**	**+1.4**
M27K	**Edge Creek, AK**	**7.66**	**26**	Pn	**Pn**	**19 43 05.8**	**+0.7**
YUK6	**Outpost Mounta**	**7.75**	**43**		**Pn**	**19 43 07.8**	**+1.4**
YUK6	**Outpost Mounta** baz=231	**7.75**	**43**	P	**Pn**	**19 43 07.8**	**+1.4**
MENT	**Mentasta**	**7.78**	**19**	Pn	**Pn**	**19 43 08.4**	**+1.8**
CAST	**Castle Rocks**	**7.88**	**350**	Pn	**Pn**	**19 43 08.3**	**+0.3**
YUK4	**Talbot Arm** baz=228	**7.90**	**40**	P	**Pn**	**19 43 11.5**	**+3.0**
HYT	**Haines Junctio**	**8.01**	**45**	Pn	**Pn**	**19 43 10.6**	**+0.6**
TTA	**Tatalina**	**8.04**	**337**	Pn	**Pn**	**19 43 10.3**	**0.0**
L16K	**Owhat River**	**8.05**	**323**	Pn	**Pn**	**19 43 12.0**	**+1.6**
YUK5	**Granite Creek**	**8.05**	**43**		**Pn**	**19 43 12.3**	**+1.8**
L27K	**Beaver Creek,**	**8.28**	**24**	Pn	**Pn**	**19 43 14.4**	**+0.9**
BCAR	**Beaver Creek A**	**8.29**	**24**	Pn	**Pn**	**19 43 14.7**	**+1.0**
SKAG	**Skagway**	**8.34**	**57**	Pn	**Pn**	**19 43 14.7**	**+0.4**
RIDG	**Independent Ri**	**8.35**	**13**	Pn	**Pn**	**19 43 15.9**	**+1.3**
R32K	**Eaglecrest**	**8.41**	**66**	Pn	**Pn**	**19 43 14.2**	**-1.2**
M14K	**Bethel**	**8.42**	**312**	Pn	**Pn**	**19 43 15.8**	**+0.4**
K17K	**Iditarod**	**8.44**	**330**	Pn	**Pn**	**19 43 16.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**8.47**	**355**	Pn	**Pn**	**19 43 14.8**	**-1.4**
N30M	**Aishikik Lake**	**8.55**	**43**	Pn	**Pn**	**19 43 17.8**	**+0.5**
O30N	**Mendenhall**	**8.57**	**48**		**Pn**	**19 43 18.1**	**+0.6**
O30N	**Mendenhall** baz=239	**8.57**	**48**	P	**Pn**	**19 43 18.3**	**+0.8**
M29M	**Somme Creek**	**8.72**	**35**		**Pn**	**19 43 20.3**	**+0.7**
J20K	**Nowinta River**	**8.86**	**346**	Pn	**Pn**	**19 43 22.0**	**+0.6**
M13K	**Dall Lake**	**8.86**	**308**	Pn	**Pn**	**19 43 22.2**	**+0.8**
J19K	**Poorman**	**8.92**	**341**	Pn	**Pn**	**19 43 23.0**	**+0.7**
CCB	**Clear Creek Bu**	**9.00**	**4**	Pn	**Pn**	**19 43 23.9**	**+0.5**
L14K	**Kuka Creek**	**9.03**	**314**	Pn	**Pn**	**19 43 25.7**	**+1.9**
U33K	**Whale Pass**	**9.04**	**81**	Pn	**Pn**	**19 43 20.5**	**-3.3**
WHY	**Whitehorse**	**9.04**	**51**	Pn	**Pn**	**19 43 24.5**	**+0.5**
N31M	**Braeburn, Yuko**	**9.08**	**45**	Pn	**Pn**	**19 43 25.4**	**+0.9**
K27K	**Chicken**	**9.08**	**20**	Pn	**Pn**	**19 43 25.1**	**+0.7**
P32M	**Atlin**	**9.16**	**58**		**Pn**	**19 43 25.4**	**-0.3**
P32M	**Atlin** baz=251	**9.16**	**58**	P	**Pn**	**19 43 25.4**	**-0.3**
J26L	**Joseph Creek**	**9.26**	**15**	Pn	**Pn**	**19 43 28.0**	**+1.0**
L29M	**L29M**	**9.31**	**33**		**Pn**	**19 43 28.9**	**+1.2**
M30M	**Minto, Yukon**	**9.37**	**38**		**Pn**	**19 43 29.3**	**+0.8**
M30M	**Minto, Yukon** baz=228	**9.37**	**38**	P	**Pn**	**19 43 29.3**	**+0.8**
I23K	**Minto, Yukon-K**	**9.48**	**360**	Pn	**Pn**	**19 43 31.1**	**+1.2**
Q32M	**Nakina River**	**9.71**	**63**	Pn	**Pn**	**19 43 33.8**	**+0.5**
DAWY	**Dawson**	**9.71**	**26**	Pn	**Pn**	**19 43 34.6**	**+1.4**
P33M	**Teslin, Yukon**	**9.79**	**56**	Pn	**Pn**	**19 43 34.5**	**+0.2**
M31M	**Drury Creek, Y**	**10.03

	comp=E,85nm,0.8s							
P19K				IAML		19 44 57.4		
	comp=N,81nm,0.9s							
O18K	**Koktuh Hills**	**4.61**	**330**	Pn	Pn	19 44 05.8	-5.5	
O18K				IAML		19 45 05.4		
	comp=E,24nm,0.9s							
O18K				IAML		19 45 06.3		
	comp=N,27nm,0.9s							
KAIM	**Kayak Island**	**5.15**	**37**	Pn	Pn	19 44 14.1	-4.6	
FID	**Port Fidalgo**	**5.26**	**23**	Pn	Pn	19 44 14.4	-5.8	
FID				IAML		19 47 19.5		
	comp=E,41nm,0.5s							
FID				IAML		19 47 23.4		
	comp=N,38nm,0.5s							
RAGM	**Ragged Mountai**	**5.42**	**33**	Pn	Pn	19 44 17.7	-4.8	
BERG	**Berg Lake**	**5.74**	**37**	Pn	Pn	19 44 21.6	-5.1	
VRDI	**Verde Repeater**	**6.46**	**32**	Pn	Pn	19 44 32.5	-4.3	
M17K	**Holitna River**	**6.51**	**330**	Pn	Pn	19 44 32.9	-4.5	
N15K	**Kwethluk River**	**6.57**	**314**	Pn	Pn	19 44 32.9	-5.2	
M16K	**Timber Creek**	**6.70**	**323**	Pn	Pn	19 44 34.5	-5.4	
MCARA	**McCarthy VSAT**	**6.71**	**33**	Pn	Pn	19 44 36.1	-4.0	
CTGM	**Chitina Glacie**	**6.97**	**40**	Pn	Pn	19 44 40.1	-3.7	
LOGN	**Logan Glacier**	**7.00**	**42**	Pn	Pn	19 44 39.1	-5.1	
O29M	**Mount Kennedy**	**7.70**	**51**	Pn	Pn	19 44 49.8	-3.9	
M27K	**Edge Creek, AK**	**7.81**	**31**	Pn	Pn	19 44 49.8	-5.5	

*IDC **23** 19:45:26.4±1.4,56°49N×148°58W,h0km,mb3.5/5, mbtmp3.5/10,ML3.4/5,MS3.3/3,Error ellipse: s-maj=26.6km s-min=17.5km az=12.0*

*NEIC **23** 19:45:27.0±1.6,56°49N±0°07×148°59W±0°09,h26km±9km, ML3.7/58,ML3.4(AEIC),Error ellipse: s-maj=10.7km s-min=7.4km az=180.0*

*AEIC **23** 19:45:30.3±1.4,56°53N±0°08×148°6W±0°1,h7km±7km, Error ellipse: s-maj=12.4km s-min=8.3km az=179.0*

ISC 23 19:45:26.8±0.9,56°61N±0°08×148°61W±0°05,h10km, n217,σ1ᵍ03/216,mb3.7/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KDAK	**Kodiak Island**	**2.46**	**300**			**Pn**	**19 46 05.6**		**-1.3**
KDAK	**Kodiak Island**	**2.46**	**300**			**Sn**	**19 46 34.1**		**-2.9**
KDAK	**Kodiak Island**	**2.46**	**300**	Pn		**Pn**	**19 46 06.2**		**-0.7**
	10.0nm,0.3s,baz=148,slow=4.3,SNR=12								
KDAK				Sn		**Sn**	**19 46 36.9**		**-0.1**
	12nm,0.3s,baz=338,slow=21,SNR=12								
KDAK				LR		LR	19 47 20.8		
	comp=Z,599nm,20.7s,baz=171,slow=45 20nm,0.3s								
OHAK	**Old Harbor**	**2.64**	**285**			**Pn**	**19 46 08.0**		**-1.3**
OHAK	**Old Harbor**	**2.64**	**285**			**Sn**	**19 46 38.1**		**-3.3**
OHAK	**Old Harbor**	**2.64**	**285**	P		**Pn**	**19 46 08.0**		**-1.3**
	baz=104								
OHAK				S		**Sn**	**19 46 38.1**		**-3.3**
	baz=104								
SYI	**Shuyak Island**	**2.86**	**316**			**Pn**	**19 46 11.8**		**-0.6**
SYI						**Sn**	**19 46 45.7**		**-1.0**
Q20K	**Shuyak Island**	**2.86**	**316**	P		**Pn**	**19 46 11.7**		**-0.6**
	baz=134								
Q20K				S		**Sn**	**19 46 45.7**		**-1.1**
	baz=134								
Q23K	**Middleton Isla**	**3.07**	**22**			**Pn**	**19 46 14.7**		**-0.6**
Q23K				IAML			19 47 11.9		
	comp=N,252nm,2.2s								
Q23K				IAML			19 47 15.0		
	comp=E,315nm,2.2s								
Q23K	**Middleton Isla**	**3.07**	**22**	P		**Pn**	**19 46 14.9**		**-0.4**
	baz=203								
MID	**Middleton Isla**	**3.07**	**22**			**Pn**	**19 46 14.8**		**-0.5**
MID	**Middleton Isla**	**3.07**	**22**	IAML			19 47 10.8		
	comp=N,239nm,2.8s								
MID				IAML			19 47 22.7		
	comp=E,302nm,2.7s								
CNPM	**China Poot**	**3.24**	**336**			**Pn**	**19 46 17.6**		**-0.1**
R18K	**Karluk**	**3.33**	**289**			**Pn**	**19 46 18.8**		**0.0**
R18K	**Karluk**	**3.33**	**289**	IAML			19 47 00.8		
	comp=E,153nm,0.5s								
R18K				IAML			19 47 04.3		
	comp=N,186nm,1.0s								
R18K	**Karluk**	**3.33**	**289**	P		**Pn**	**19 46 18.8**		**0.0**
	baz=106								
BRSE	**Bradley Lake S**	**3.34**	**341**			**Pn**	**19 46 18.8**		**-0.2**
BRSE						**Sn**	**19 46 56.4**		**-2.3**
BRSE	**Bradley Lake S**	**3.34**	**341**	P		**Pn**	**19 46 18.8**		**-0.2**
	baz=160								
BRSE				S		**Sn**	**19 46 56.4**		**-2.3**
	baz=160								
BRLK	**Bradley Lake**	**3.38**	**340**			**Pn**	**19 46 19.3**		**-0.4**
BRLK				IAML			19 47 04.8		
	comp=N,98nm,2.4s								
BRLK				IAML			19 47 04.9		
	comp=E,151nm,3.5s								
HOM	**Homer**	**3.45**	**334**	Pn		**Pn**	**19 46 18.8**		**-1.8**
P23K	**Montague Islan**	**3.46**	**10**			**Pn**	**19 46 20.2**		**-0.4**
P23K						**Sn**	**19 46 59.6**		**-1.9**
P23K	**Montague Islan**	**3.46**	**10**	P		**Pn**	**19 46 20.2**		**-0.4**
	baz=191								
P23K				S		**Sn**	**19 46 59.6**		**-1.9**
	baz=191								
Q19K	**Cape Douglas,**	**3.56**	**313**	Pn		**Pn**	**19 46 22.4**		**+0.3**
Q19K				IAML			19 47 17.9		
	comp=N,223nm,0.9s								
P19K	**Oil Pt**	**3.91**	**323**			**Pn**	**19 46 26.7**		**-0.2**
P19K	**Oil Pt**	**3.91**	**323**	IAML			19 47 18.9		
	comp=E,131nm,0.5s								
P19K				IAML			19 47 18.9		
	comp=N,169nm,0.7s								
P19K	**Oil Pt**	**3.91**	**323**	P		**Pn**	**19 46 26.7**		**-0.2**
	baz=140								
O22K	**Cooper Landing**	**3.93**	**352**	Pn		**Pn**	**19 46 27.7**		**+0.7**
HIN	**Hinchinbrook I**	**3.96**	**15**			**Pn**	**19 46 27.3**		**-0.2**
HIN				IAML			19 47 25.7		
	comp=E,135nm,1.0s								
HIN				IAML			19 47 30.3		
	comp=N,122nm,1.3s								
KAIM	**Kayak Island**	**3.99**	**32**			**Pn**	**19 46 28.0**		**0.0**
KAIM	**Kayak Island**	**3.99**	**32**	P		**Pn**	**19 46 28.0**		**0.0**
	baz=214								
SLKM	**Skilak Lake**	**4.00**	**348**			**Pn**	**19 46 28.0**		**-0.1**
O20K	**Slope Mountain**	**4.07**	**330**			**Pn**	**19 46 29.1**		**0.0**
O20K	**Slope Mountain**	**4.07**	**330**	P		**Pn**	**19 46 29.1**		**0.0**
	baz=148								
IVE	**Iliamna Volcan**	**4.13**	**328**			**Pn**	**19 46 29.4**		**-0.6**
EYAK	**Cordova Ski Ar**	**4.22**	**20**			**Pn**	**19 46 31.2**		**+0.1**
EYAK	**Cordova Ski Ar**	**4.22**	**20**	P		**Pn**	**19 46 31.2**		**+0.1**
	baz=201								
CNTC	**Contact Creek**	**4.27**	**296**			**Pn**	**19 46 32.0**		**+0.2**
Q17K	**Contact Creek**	**4.27**	**296**	P		**Pn**	**19 46 32.0**		**+0.2**
	baz=111								
FID	**Port Fidalgo**	**4.30**	**14**			**Pn**	**19 46 31.6**		**-0.6**
FID	**Port Fidalgo**	**4.30**	**14**	IAML			19 47 43.1		
	comp=E,64nm,1.4s								
RAGM	**Ragged Mountai**	**4.31**	**27**			**Pn**	**19 46 32.7**		**+0.3**
RAGM				IAML			19 47 32.1		
	comp=E,128nm,0.9s								
CAPN	**Captain Cook N**	**4.38**	**343**	Pn		**Pn**	**19 46 34.8**		**+1.6**
RED	**Redoubt Volcan**	**4.40**	**332**			**Pn**	**19 46 33.0**		**-0.7**
RDSO	**Redoubt South**	**4.42**	**332**			**Pn**	**19 46 33.4**		**-0.6**
RSO	**Redoubt South**	**4.43**	**332**	Pn		**Pn**	**19 46 33.9**		**-0.3**
GOAT	**Goat Mountain**	**4.47**	**25**			**Pn**	**19 46 34.7**		**+0.2**
RDWB	**Redoubt West**	**4.48**	**332**			**Pn**	**19 46 34.1**		**-0.6**
P18K	**Big Mountain,**	**4.49**	**311**			**Pn**	**19 46 34.2**		**-0.7**
P18K	**Big Mountain,**	**4.49**	**311**	P		**Pn**	**19 46 34.2**		**-0.7**
	baz=127								
DFR	**Drift River**	**4.53**	**334**			**Pn**	**19 46 34.8**		**-0.6**
RC01	**Rabbit Creek A**	**4.53**	**353**			**Pn**	**19 46 35.1**		**-0.2**
RC01				IAML			19 47 28.9		
	comp=N,50nm,0.4s								
RC01				IAML			19 47 29.6		
	comp=E,67nm,0.7s								
BERG	**Berg Lake**	**4.58**	**32**			**Pn**	**19 46 35.9**		**-0.2**
SNH	**Sunshine Point**	**4.69**	**38**			**Pn**	**19 46 37.6**		**0.0**
DIV	**Divide**	**4.77**	**17**			**Pn**	**19 46 38.5**		**-0.1**
O18K	**Koktuh Hills**	**4.77**	**316**	Pn		**Pn**	**19 46 37.8**		**-0.8**
KNK	**Knik Glacier**	**4.82**	**1**	Pn		**Pn**	**19 46 38.2**		**-1.1**
KNK				IAML			19 47 47.6		
	comp=N,39nm,1.6s								
BMRM	**Bremner River**	**4.84**	**24**			**Pn**	**19 46 39.4**		**-0.2**
BMRM	**Bremner River**	**4.84**	**24**	P		**Pn**	**19 46 39.9**		**+0.3**
	baz=206								
N20K	**Mount Spurr**	**4.97**	**339**	P		**Pn**	**19 46 41.4**		**0.0**
	baz=157								
SPCR	**Spurr Chakacha**	**4.97**	**339**			**Pn**	**19 46 41.4**		**0.0**
BARK	**Barkley Ridge**	**4.97**	**38**			**Pn**	**19 46 41.5**		**0.0**
SUA	**Susitna One**	**4.99**	**348**	Pn		**Pn**	**19 46 41.6**		**-0.2**
SUA				IAML			19 47 53.5		
	comp=N,50nm,3.9s								
SUA				IAML			19 48 43.1		
	comp=E,50nm,3.4s								
PMR	**Palmer**	**5.00**	**357**	Pn		**Pn**	**19 46 41.5**		**-0.3**
PMR				IAML			19 47 38.5		
	comp=N,31nm,1.2s								
PMR				IAML			19 47 44.3		
	comp=E,30nm,1.7s								
KLU	**Klutina**	**5.09**	**15**			**Pn**	**19 46 43.1**		**0.0**
KLU				IAML			19 47 43.1		
	comp=E,32nm,0.9s								
KLU				IAML			19 47 43.8		
	comp=N,35nm,0.8s								
KLU	**Klutina**	**5.09**	**15**	P		**Pn**	**19 46 43.2**		**+0.2**
	baz=196								
GHO	**Glory Hole Cre**	**5.18**	**358**			**Pn**	**19 46 45.0**		**+0.6**
GHO				IAML			19 47 46.3		
	comp=N,52nm,0.7s								
GHO				IAML			19 47 56.1		
	comp=E,40nm,1.2s								
N19K	**Bonanza Creek**	**5.21**	**326**	Pn		**Pn**	**19 46 43.8**		**-0.9**
N19K				IAML			19 47 53.0		
	comp=N,30nm,2.5s								
N19K				IAML			19 48 01.3		
	comp=E,28nm,2.6s								
SML	**Sawmill**	**5.21**	**1**			**Pn**	**19 46 45.4**		**+0.6**
SML				IAML			19 47 50.6		
	comp=N,45nm,1.2s								
SML				IAML			19 47 56.3		
	comp=E,33nm,2.6s								
SML	**Sawmill**	**5.21**	**1**	P		**Pn**	**19 46 45.3**		**+0.6**
	baz=182								
SPNN	**North Nagishla**	**5.22**	**338**			**Pn**	**19 46 45.0**		**+0.1**
SCM	**Sheep Creek Mo**	**5.28**	**7**	Pn		**Pn**	**19 46 46.1**		**+0.4**
SCM						**Sn**	**19 47 48.0**		**+1.4**
VRDI	**Verde Repeater**	**5.34**	**28**			**Pn**	**19 46 45.4**		**-1.3**
KIAG	**Kiagna River**	**5.41**	**34**			**Pn**	**19 46 47.6**		**0.0**
N25K	**Chitina, Valde**	**5.42**	**21**			**Pn**	**19 46 47.3**		**-0.3**
N25K	**Chitina, Valde**	**5.42**	**21**	P		**Pn**	**19 46 48.3**		**+0.6**
	baz=204								
SAMH	**Samovar Hills**	**5.42**	**46**			**Pn**	**19 46 48.4**		**+0.7**
GLB	**Gilahina Butte**	**5.44**	**25**			**Pn**	**19 46 48.1**		**+0.2**
CHGN	**Chignik**	**5.45**	**271**	Pn		**Pn**	**19 46 47.7**		**-0.2**
N18K	**Kilae Creek**	**5.58**	**320**	Pn		**Pn**	**19 46 48.2**		**-1.5**
MCARA	**McCarthy VSAT**	**5.59**	**29**			**Pn**	**19 46 49.8**		**-0.1**
MCARA	**McCarthy VSAT**	**5.59**	**29**	P		**Pn**	**19 46 50.0**		**+0.1**
	baz=213								
SKT	**Skwentna**	**5.59**	**346**	Pn		**Pn**	**19 46 49.3**		**-0.6**
PCA	**Pinnacle**	**5.62**	**48**			**Pn**	**19 46 50.0**		**-0.3**
PINM	**Pinnacle**	**5.62**	**48**	P		**Pn**	**19 46 50.0**		**-0.3**
	baz=234								
M24K	**Tolsona, Glenn**	**5.65**	**12**	Pn		**Pn**	**19 46 50.5**		**-0.3**
BARN	**Barnard Glacie**	**5.74**	**36**			**Pn**	**19 46 51.9**		**-0.2**
PNL	**Peninsula**	**5.76**	**54**			**Pn**	**19 46 52.6**		**+0.3**
PNL	**Peninsula**	**5.76**	**54**	P		**Pn**	**19 46 52.6**		**+0.3**
	baz=241								
SVW2	**Sparrevohn**	**5.77**	**324**	Pn		**Pn**	**19 46 51.6**		**-0.8**
M20K	**Styx River**	**5.77**	**338**	Pn		**Pn**	**19 46 51.9**		**-0.6**
CTGM	**Chitina Glacie**	**5.78**	**38**			**Pn**	**19 46 52.6**		**0.0**
LOGN	**Logan Glacier**	**5.79**	**40**			**Pn**	**19 46 52.5**		**-0.3**
BCPM	**Bancas Point**	**5.80**	**51**			**Pn**	**19 46 52.9**		**+0.1**
O16K	**Kokwok River B**	**5.85**	**305**			**Pn**	**19 46 52.9**		**-0.5**
O16K	**Kokwok River B**	**5.85**	**305**	P		**Pn**	**19 46 52.9**		**-0.5**
	baz=118								
N17K	**Nushagak Hills**	**5.96**	**315**	Pn		**Pn**	**19 46 54.5**		**-0.5**
M19K	**Big River Lodg**	**6.08**	**333**			**Pn**	**19 46 55.9**		**-0.8**
M19K	**Big River Lodg**	**6.08**	**333**	P		**Pn**	**19 46 56.1**		**-0.5**
	baz=149								
M18K	**Stony River**	**6.15**	**326**			**Pn**	**19 46 56.7**		**-0.8**
M18K	**Stony River**	**6.15**	**326**	P		**Pn**	**19 46 56.7**		**-0.8**
	baz=140								
L19K	**White Mountain**	**6.43**	**333**	Pn		**Pn**	**19 47 00.8**		**-0.6**
O29M	**Mount Kennedy**	**6.43**	**51**			**Pn**	**19 47 01.8**		**+0.2**
O29M	**Mount Kennedy**	**6.43**	**51**	P		**Pn**	**19 47 01.5**		**-0.1**
	baz=238								
CNBA	**Chernabura Isl**	**6.46**	**258**	Pn		**Pn**	**19 47 00.6**		**-1.2**
M26K	**Nabesna, AK**	**6.47**	**24**	Pn		**Pn**	**19 47 02.1**		**+0.1**
P29M	**Windy Craggy**	**6.50**	**58**			**Pn**	**19 47 02.7**		**+0.3**
P29M	**Windy Craggy**	**6.50**	**58**	P		**Pn**	**19 47 03.0**		**+0.5**
	baz=246								
DHY	**Denali Highway**	**6.52**	**5**	Pn		**Pn**	**19 47 03.5**		**+0.7**
PAX	**Paxson**	**6.57**	**13**			**Pn**	**19 47 04.2**		**+0.8**
PAX	**Paxson**	**6.57**	**13**	P		**Pn**	**19 47 04.2**		**+0.8**
	baz=195								
N16K	**Nishlik Lake**	**6.58**	**310**			**Pn**	**19 47 03.1**		**-0.4**
N16K	**Nishlik Lake**	**6.58**	**310**	P		**Pn**	**19 47 03.1**		**-0.4**
	baz=122								
M17K	**Holitna River**	**6.62**	**320**	Pn		**Pn**	**19 47 04.1**		**+0.1**
M27K	**Edge Creek, AK**	**6.70**	**28**	Pn		**Pn**	**19 47 05.7**		**+0.4**
MENT	**Mentasta**	**6.81**	**19**	Pn		**Pn**	**19 47 05.5**		**-1.1**
RND	**Reindeer**	**6.82**	**359**	Pn		**Pn**	**19 47 06.7**		**-0.1**
S31K	**Pelican**	**6.85**	**73**			**Pn**	**19 47 05.5**		**-1.6**
S31K	**Pelican**	**6.85**	**73**	P		**Pn**	**19 47 05.5**		**-1.6**
	baz=263								
TRF	**Thorofare Moun**	**6.91**	**354**	Pn		**Pn**	**19 47 08.5**		**+0.3**
M16K	**Timber Creek**	**6.96**	**314**	Pn		**Pn**	**19 47 08.5**		**-0.2**
L18K	**Granite Mounta**	**6.97**	**327**	Pn		**Pn**	**19 47 08.4**		**-0.4**
N15K	**Kwethluk River**	**7.01**	**305**			**Pn**	**19 47 09.6**		**+0.2**
BVCY	**Beaver Creek**	**7.03**	**31**			**Pn**	**19 47 10.1**		**+0.5**
BVCY	**Beaver Creek**	**7.03**	**31**	P		**Pn**	**19 47 10.1**		**+0.5**
	baz=217								
CAST	**Castle Rocks**	**7.05**	**347**	Pn		**Pn**	**19 47 09.4**		**-0.5**
KTH	**Kantishna Hill**	**7.06**	**352**			**Pn**	**19 47 10.1**		**0.0**
HYT	**Haines Junctio**	**7.16**	**49**	Pn		**Pn**	**19 47 11.7**		**+0.2**
O14K	**Tigyukauivet M**	**7.24**	**297**	Pn		**Pn**	**19 47 11.3**		**-1.2**
K20K	**Telida**	**7.30**	**340**	Pn		**Pn**	**19 47 12.7**		**-0.7**
SIT	**Sitka**	**7.30**	**81**	Pn		**Pn**	**19 47 09.7**		**-3.6**
L27K	**Beaver Creek,**	**7.31**	**25**	Pn		**Pn**	**19 47 12.6**		**-1.0**
BCAR	**Beaver Creek A**	**7.33**	**25**	Pn		**Pn**	**19 47 13.4**		**-0.4**
TTA	**Tatalina**	**7.35**	**333**	Pn		**Pn**	**19 47 12.6**		**-1.5**
RIDG	**Independent Ri**	**7.39**	**13**			**Pn**	**19 47 15.2**		**+0.5**
L16K	**Owhat River**	**7.57**	**317**	Pn		**Pn**	**19 47 16.8**		**-0.1**
BWN	**Browne**	**7.60**	**357**	Pn		**Pn**	**19 47 18.4**		**+1.0**
SKAG	**Skagway**	**7.60**	**62**	Pn		**Pn**	**19 47 18.1**		**+0.7**
BPAW	**Bear Paw Mtn.**	**7.61**	**352**	Pn		**Pn**	**19 47 17.1**		**-0.4**
N30M	**Aishikik Lake**	**7.67**	**46**			**Pn**	**19 47 18.8**		**+0.3**
S32K	**Killisnoo**	**7.71**	**78**	Pn		**Pn**	**19 47 17.2**		**-1.6**
O30N	**Mendenhall**	**7.74**	**52**	Pn		**Pn**	**19 47 19.2**		**-0.2**
SCRK	**Sand Creek**	**7.74**	**15**	Pn		**Pn**	**19 47 20.3**		**+0.9**
R32K	**Eaglecrest**	**7.78**	**72**	Pn		**Pn**	**19 47 19.4**		**-0.6**
M29M	**Somme Creek**	**7.79**	**37**			**Pn**	**19 47 21.1**		**+0.9**
K17K	**Iditarod**	**7.84**	**325**	Pn		**Pn**	**19 47 19.6**		**-1.1**
JIS	**Juneau Island**	**7.86**	**72**	Pn		**Pn**	**19 47 19.3**		**-1.6**
HDA	**Harding Lake**	**7.87**	**5**	Pn		**Pn**	**19 47 21.8**		**+0.6**
J20K	**Nowinta River**	**8.07**	**342**	Pn		**Pn**	**19 47 24.4**		**+0.5**
CCB	**Clear Creek Bu**	**8.07**	**2**	Pn		**Pn**	**19 47 25.6**		**+1.7**
K27K	**Chicken**	**8.11**	**21**	Pn		**Pn**	**19 47 24.7**		**+0.2**
J19K	**Poorman**	**8.18**	**338**	Pn		**Pn**	**19 47 24.4**		**-1.0**
J25K	**Salcha River,**	**8.19**	**10**	Pn		**Pn**	**19 47 26.0**		**+0.5**
N31M	**Braeburn, Yuko**	**8.22**	**48**			**Pn**	**19 47 26.5**		**+0.6**
N31M	**Braeburn, Yuko**	**8.22**	**48**	P		**Pn**	**19 47 27.6**		**+1.6**
	baz=238								
WHY	**Whitehorse**	**8.23**	**55**			**Pn**	**19 47 26.4**		**+0.2**
IL31		**8.23**	**5**	Pn		**Pn**	**19 47 27.4**		**+1.3**
ILAR	**Eielson Array**	**8.23**	**5**	Pn		**Pn**	**19 47 27.0**		**+0.9**
	comp=E,0.3nm,0.3s,baz=186,slow=13,SNR=4.8								
ILAR				Sn		**Sn**	**19 48 57.3**		**-1.8**
	comp=E,0.4nm,0.3s,baz=186,slow=21,SNR=8.6 comp=E,0.4nm,0.3s								
J26L	**Joseph Creek**	**8.29**	**15**			**Pn**	**19 47 27.9**		**+0.8**
L29M	**L29M**	**8.37**	**35**			**Pn**	**19 47 28.5**		**+0.4**
P32M	**Atlin**	**8.43**	**63**	Pn		**Pn**	**19 47 28.5**		**-0.4**
M30M	**Minto, Yukon**	**8.46**	**40**	Pn		**Pn**	**19 47 28.9**		**-0.4**
I23K	**Minto, Yukon-K**	**8.58**	**358**	Pn		**Pn**	**19 47 30.3**		**-0.5**
U33K	**Whale Pass**	**8.62**	**87**	Pn		**Pn**	**19 47 27.6**		**-3.8**
CRAG	**Craig**	**8.75**	**91**	Pn		**Pn**	**19 47 29.6**		**-3.6**
I21K	**Tanana**	**8.75**	**351**	Pn		**Pn**	**19 47 32.6**		**-0.6**
DAWY	**Dawson**	**8.76**	**28**	Pn		**Pn**	**19 47 33.1**		**-0.2**
EGAK	**Eagle**	**8.96**	**21**	Pn		**Pn**	**19 47 36.2**		**+0.1**
J16K	**Anvik River**	**8.99**	**323**	Pn		**Pn**	**19 47 36.4**		**0.0**
P33M	**Teslin, Yukon**	**9.03**	**60**			**Pn**	**19 47 36.8**		**-0.4**
Q32M	**Nakina River**	**9.04**	**68**	Pn		**Pn**	**19 47 37.1**		**-0.3**
PRP	**Porcupine Dome**	**9.06**	**8**	Pn		**Pn**	**19 47 37.6**		**0.0**
K29M	**Barlow Dome**	**9.10**	**33**	Pn		**Pn**	**19 47 38.9**		**+0.8**
I26K	**Coal Creek Min**	**9.12**	**15**	Pn		**Pn**	**19 47 39.1**		**+0.9**
M31M	**Drury Creek, Y**	**9.15**	**46**			**Pn**	**19 47 39.4**		**+0.6**
N32M	**Quiet Lake**	**9.23**	**54**	Pn		**Pn**	**19 47 40.0**		**+0.2**
H24K	**Noodor Dome**	**9.27**	**2**	Pn		**Pn**	**19 47 42.0**		**+1.7**
H21K	**Melozitna Rive**	**9.30**	**349**			**Pn**	**19 47 40.6**		**-0.2**
FARO	**Faro, Yukon**	**9.59**	**48**	Pn		**Pn**	**19 47 46.1**		**+1.4**
H19K	**Roundabout Mou**	**9.71**	**340**	Pn		**Pn**	**19 47 45.1**		**-1.2**
IMAR	**Indian Mountai**	**9.72**	**347**	Pn		**Pn**	**19 47 46.2**		**-0.3**
J14K	**Nanvaranak Lak**	**9.73**	**315**	Pn		**Pn**	**19 47 45.8**		**-0.8**
R33M	**Jennings River**	**9.77**	**66**	Pn		**Pn**	**19 47 46.9**		**-0.3**
I28M	**Miner Creek**	**9.80**	**22**	Pn		**Pn**	**19 47 48.5**		**+0.9**
J30M	**Hart River**	**9.99**	**32**	Pn		**Pn**	**19 47 50.7**		**+0.3**
H17K	**Granite Mounta**	**10.00**	**331**	Pn		**Pn**	**19 47 49.0**		**-1.3**
T35M	**Bob Quinn**	**10.08**	**80**	Pn		**Pn**	**19 47 50.7**		**-0.7**
FYU	**Fort Yukon**	**10.12**	**8**	Pn		**Pn**	**19 47 51.0**		**-0.9**
G24K	**Hadweenzic Riv**	**10.14**	**3**	Pn		**Pn**	**19 47 51.5**		**-0.7**
DLBC	**Dease Lake**	**10.16**	**72**	Pn		**Pn**	**19 47 50.8**		**-1.8**
DLBC	**Dease Lake**	**10.16**	**72**	Pn		**Pn**	**19 47 54.1**		**+1.5**
	comp=E,0.6nm,0.3s,baz=293,slow=4.0,SNR=6.7								
DLBC				Sn		**Sn**	**19 49 44.0**		**-2.4**
	comp=E,0.3nm,0.3s,baz=243,slow=22,SNR=2.0 comp=E,1.5nm,0.3s								
G23K	**Bananza Creek**	**10.16**	**357**	Pn		Pn	19 47 49.4		-3.1
G21K	**Allakaket**	**10.21**	**349**	Pn		**Pn**	**19 47 53.7**		**+0.6**
I30M	**Mount Dempster**	**10.47**	**29**	Pn		**Pn**	**19 47 56.6**		**-0.3**
G18K	**Tagagawik**	**10.48**	**337**	Pn		**Pn**	**19 47 56.6**		**-0.3**
H29M	**Whitestone**	**10.80**	**23**	Pn		**Pn**	**19 48 00.3**		**-0.9**
F21K	**Alatna River**	**10.89**	**350**	Pn		**Pn**	**19 48 00.0**		**-2.5**
F20K	**Avaraart Lake**	**10.99**	**345**	Pn		**Pn**	**19 48 04.0**		**+0.2**
BMAR	**Burnt Mountain**	**11.02**	**8**	Pn		**Pn**	**19 48 05.5**		**+1.3**
ANM	**Nome**	**11.43**	**321**	Pn		**Pn**	**19 48 09.4**		**-0.5**
G29M	**Pine Creek**	**11.46**	**21**	Pn		**Pn**	**19 48 10.6**		**+0.2**
F17K	**Baldwin Pennin**	**11.53**	**334**	Pn		**Pn**	**19 48 11.2**		**0.0**
G31M	**Satah River**	**12.33**	**27**	Pn		**Pn**	**19 48 22.4**		**+0.3**
INK	**Inuvik**	**13.59**	**24**	Pn		**Pn**	**19 48 41.2**		**+2.0**
	comp=E,0.1nm,0.3s,baz=188,slow=17,SNR=3.5								
INK				LR		LR	19 53 47.2		
	comp=E,54nm,21.2s,baz=156,slow=37 comp=E,1.1nm,0.8s								
B22K	**Teshekpuk Lake**	**13.94**	**353**	Pn		**Pn**	**19 48 43.4**		**-0.7**
YKA	**Yellowknife Ar**	**18.05**	**57**	P		**P**	**19 49 38.5**		**+0.8**
	baz=267,slow=12,SNR=9.2 comp=E,0.9nm,0.8s								
YBH	**Yreka Blue Hor**	**22.35**	**121**	LR		LR	19 57 36.2		
	comp=E,156nm,18.0s,baz=34,slow=33								
NVAR	**Mina Array Bea**	**27.04**	**119**	P		**P**	**19 51 10.3**		**+1.0**
	comp=E,0.4nm,0.7s,baz=303,slow=8.3,SNR=2.6 comp=E,0.4nm,0.7s					

POGA	**Pongola**	**3.79**	**107**	*eP*	**Pn**	**19 48 21.8**	**+2.2**
POGA				*eS*	**Sn**	**19 49 04.8**	**+0.5**
POGA				IAML		19 49 20.9	
	comp=Z,12nm,0.5s						
MUSN	**Musina, Limpop**	**4.45**	**28**	*i* S	**Pn**	**19 48 30.7**	**+2.1**
MUSN	**Musina, Limpop**	**4.45**	**28**	*eP*	**Pn**	**19 48 31.6**	**+3.0**
MUSN				*eS*	**Sn**	**19 49 22.2**	**+1.6**
MUSN				IAML		19 49 39.5	
	comp=Z,31nm,0.3s						
KSTD	**Kokstad**	**4.58**	**162**	*eP*	**Pn**	**19 48 32.3**	**+1.8**
KSTD				*eS*	**Sn**	**19 49 23.2**	**-0.7**
KSTD				IAML		19 49 48.1	
	comp=Z,17nm,0.5s						
PKA	**Prieska**	**5.49**	**231**	*eP*	**Pn**	**19 48 43.8**	**+0.8**
PKA				*eS*	**Sn**	**19 49 45.1**	**-1.1**
PKA				IAML		19 50 26.3	
	comp=Z,7.8nm,0.4s						
UPI	**Upington**	**6.05**	**248**	*eP*	**Pn**	**19 48 52.8**	**+2.1**
UPI				*eS*	**Sn**	**19 49 58.9**	**-1.2**
UPI				IAML		19 50 33.6	
	comp=Z,21nm,0.4s						
KEIM	**Keimoes**	**6.40**	**246**	*eP*	**Pn**	**19 48 57.0**	**+1.5**
KEIM				*eS*	**Sn**	**19 50 07.0**	**-1.7**
KEIM				IAML		19 50 52.7	
	comp=Z,18nm,0.3s						
BFON	**Badsfontein, M**	**6.51**	**211**	*eP*	**Pn**	**19 48 58.5**	**+1.5**
BFON				*eS*	**Sn**	**19 50 09.1**	**-2.3**
BFON				IAML		19 50 20.5	
	comp=Z,6.2nm,0.3s						
GRAF	**Camdeboo Natio**	**6.59**	**204**	*eP*	**Pn**	**19 48 59.9**	**+1.8**
GRAF				*eS*	**Sn**	**19 50 10.7**	**-2.8**
GRAF				IAML		19 50 58.3	
	comp=Z,11nm,0.4s						
SOE	**Somerset East**	**6.67**	**195**	Pn	**Pn**	**19 48 58.4**	**-0.9**
BRAK	**Brakfontein**	**6.89**	**216**	*eP*	**Pn**	**19 49 03.9**	**+1.7**
BRAK				*eS*	**Sn**	**19 50 18.1**	**-2.6**
BRAK				IAML		19 50 22.6	
	comp=Z,9.3nm,0.2s						
GRHM	**Grahamstown, E**	**7.07**	**189**	Pn	**Pn**	**19 49 04.9**	**+0.2**
GRHM	**Grahamstown, E**	**7.07**	**189**	*eP*	**Pn**	**19 49 05.6**	**+0.9**
GRHM				*eS*	**Sn**	**19 50 22.3**	**-2.9**
GRHM				IAML		19 50 33.9	
	comp=Z,3.9nm,0.7s						
ROOI	**Rooidraai Farm**	**7.16**	**209**	*eP*	**Pn**	**19 49 06.4**	**+0.5**
ROOI				*eS*	**Sn**	**19 50 24.2**	**-3.1**
ROOI				IAML		19 51 15.8	
	comp=Z,9.6nm,0.7s						
GRAN	**Grantham**	**7.68**	**217**	*eP*	**Pn**	**19 49 14.7**	**+1.7**
GRAN				*eS*	**Sn**	**19 50 37.2**	**-2.9**
GRAN				IAML		19 50 49.5	
	comp=Z,3.8nm,0.3s						
FRAZ	**Fraserburg**	**7.84**	**223**	*eP*	**Pn**	**19 49 17.2**	**+1.8**
FRAZ				*eS*	**Sn**	**19 50 41.0**	**-3.3**
FRAZ				IAML		19 50 44.1	
	comp=Z,6.2nm,0.3s						
BUFB	**Buffelsbos**	**8.25**	**197**	*eP*	**Pn**	**19 49 21.9**	**+1.1**
BUFB				*eS*	**Sn**	**19 50 49.7**	**-4.3**
BUFB				IAML		19 50 52.8	
	comp=Z,4.6nm,0.3s						
MERW	**Merweville**	**8.31**	**218**	*eP*	**Pn**	**19 49 22.8**	**+0.9**
MERW				*eS*	**Sn**	**19 50 52.8**	**-3.1**
MERW				IAML		19 50 58.4	
	comp=Z,6.8nm,0.4s						
SUR	**Sutherland**	**8.52**	**223**	Pn	**Pn**	**19 49 26.3**	**+1.6**
SUR				Sn	**Sn**	**19 50 58.9**	**-2.1**
SUR	**Sutherland**	**8.52**	**223**	*eP*	**Pn**	**19 49 27.3**	**+2.6**
SUR				*eS*	**Sn**	**19 50 57.4**	**-3.7**
SUR				IAML		19 51 29.2	
	comp=Z,6.2nm,0.5s						
SUR	**Sutherland**	**8.52**	**223**	Pn	**Pn**	**19 49 26.5**	**+1.8**
	comp=Z,1.6nm,0.3s,baz=3.3,slow=7.7,SNR=55						
SUR				Sn	**Sn**	**19 51 00.6**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=137,slow=22,SNR=6.4						
SUR				Lg	Lg	19 51 50.3	
	comp=Z,1.0nm,0.3s,baz=315,slow=19,SNR=3.4						
	comp=Z,3.6nm,0.3s						
KOMG	**Komaggas**	**9.64**	**246**	*eP*	**Pn**	**19 49 41.6**	**+1.7**
KOMG				*eS*	**Sn**	**19 51 24.1**	**-4.1**
KOMG				IAML		19 52 28.6	
	comp=Z,7.4nm,0.4s						
WIN	**Windhoek**	**10.28**	**289**	Pn	**Pn**	**19 49 51.6**	**+2.7**
LSZ	**Lusaka**	**10.95**	**3**	Pn	**Pn**	**19 49 56.6**	**-1.3**
LSZ	**Lusaka**	**10.95**	**3**	Pn	**Pn**	**19 49 57.0**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=184,slow=14,SNR=5.2						
LSZ				Sn	**Sn**	**19 51 54.3**	**-6.3**
	comp=Z,0.6nm,0.3s,baz=263,slow=21,SNR=4.6						
LSZ				Lg	Lg	19 53 04.2	
	comp=Z,0.5nm,0.3s,baz=232,slow=15,SNR=2.9						
	comp=Z,1.6nm,0.3s						
TSUM	**Tsumeb**	**11.63**	**305**	Pn	**Pn**	**19 50 08.7**	**+1.3**
TSUM	**Tsumeb**	**11.63**	**305**	Pn	**Pn**	**19 50 07.7**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=127,slow=10,SNR=5.0						
TSUM				Sn	**Sn**	**19 52 13.2**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=98,slow=8.6,SNR=1.8						
TSUM				Lg	Lg	19 53 26.0	
	comp=Z,0.3nm,0.3s,baz=219,slow=18,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**46.60**	**324**	P	**P**	**19 55 50.6**	**+1.1**
TOA0				IAmb	IAmb	19 56 04.5	
	comp=Z,3.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**46.60**	**324**	P	**P**	**19 55 50.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**46.60**	**324**	P	**P**	**19 55 50.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=130,slow=6.6,SNR=12						
	comp=Z,0.9nm,0.5s						
SNAA	**Sanae**	**48.52**	**192**	P	**P**	**19 56 05.7**	**+1.8**
SNAA				IAmb	IAmb	19 56 23.3	
	comp=Z,6.8nm,1.5s						
BELA	**Belgrano 2**	**58.77**	**193**	P	**P**	**19 57 20.9**	**+2.0**
ESDC	**Sonseca Array**	**71.92**	**335**	P	**P**	**19 58 46.1**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=150,slow=4.8,SNR=4.6						
	comp=Z,0.3nm,0.5s						

*NEIC **23** 19:48:46.0±0.6,36°.94N±0°.01×97°.38W±0°.02,h5km±2km, Error ellipse: s-maj=2.4km s-min=0.9km az=50.0*
TUL 23 19:48:46.1±0.6,36°.95N±0°.01×97°.37W±0°.02,h8km±4km, ML2.6,mb_Lg2.4/13(NEIC),ML2.6/50(NEIC),Error ellipse: s-maj=2.5km s-min=1.2km az=220.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.11**	**304**	Pg	Pg	19 48 49.1	+0.4
KAN13				Sg	Sg	19 48 50.7	+0.3
BLOK	**Blackwell**	**0.23**	**148**	Pg	Pg	19 48 51.0	+0.3
BLOK				Sg	Sg	19 48 54.3	+0.6
BLOK				IAML		19 48 55.1	
	comp=E,2μm,0.2s						
KAN09	**Caldwell North**	**0.27**	**312**	Pg	Pg	19 48 51.9	+0.4
KAN09				Sg	Sg	19 48 55.9	+0.6
KAN09				IAML		19 48 57.0	
	comp=E,1μm,0.2s						
KAN09				IAML		19 48 58.2	
	comp=N,1μm,0.2s						
KAN17	**Caldwell West**	**0.33**	**286**	Pg	Pg	19 48 53.0	+0.3
KAN17				Sg	Sg	19 48 57.5	+0.4
KAN17				IAML		19 48 57.7	
	comp=E,609nm,0.2s						
KAN01	**Argonia South**	**0.37**	**303**	Pg	Pg	19 48 53.8	+0.3
KAN01				Sg	Sg	19 48 58.9	+0.5
KAN01				IAML		19 48 59.1	
	comp=E,751nm,0.2s						
GC02	**Grant County #**	**0.41**	**256**	Pg	Pg	19 48 54.2	+0.1
GC02				Sg	Sg	19 48 59.7	+0.2
KS21	**Milan North St**	**0.41**	**325**	Pg	Pg	19 48 54.5	+0.3
KAN05	**Bluff City Nor**	**0.43**	**291**	Pg	Pg	19 48 54.4	-0.2
KAN05				IAML		19 49 00.9	
	comp=N,570nm,0.2s						
KAN14	**Manchester OK**	**0.48**	**271**	Pg	Pg	19 48 55.5	+0.1
KAN14				Sg	Sg	19 49 01.4	-0.3
KAN06	**Argonia West S**	**0.49**	**307**	Pg	Pg	19 48 55.9	+0.2
KAN06				Sg	Sg	19 49 02.6	+0.5
KAN06				IAML		19 49 02.8	
	comp=E,703nm,0.3s						
KAN08	**Anthony NE Sta**	**0.56**	**300**		Pg	19 48 57.1	+0.2
KAN08				Sg	Sg	19 49 04.6	+0.4
KAN08				IAML		19 49 04.9	
	comp=N,292nm,0.2s						
KAN10	**Anthony SW Sta**	**0.61**	**287**	Pg	Pg	19 48 56.9	-0.9
KAN12	**Harper NE Stat**	**0.61**	**304**		Pg	19 48 58.1	+0.1
KAN12				Sg	Sg	19 49 06.1	+0.1
KAN12				IAML		19 49 09.9	
	comp=N,260nm,0.3s						
KAN12				IAML		19 49 10.4	
	comp=E,266nm,0.3s						
OK051	**E0350 and S346**	**0.62**	**136**		Pg	19 48 58.0	0.0
OK051					Sg	19 49 05.9	-0.1
OK051				IAML		19 49 08.0	
	comp=E,244nm,0.1s						
OK051				IAML		19 49 10.2	
	comp=E,374nm,0.2s						
OK048	**Pawnee Station**	**0.63**	**148**	Pg	Pg	19 48 58.3	0.0
OK048				Sg	Sg	19 49 06.3	-0.3
CROK	**Carrier**	**0.67**	**228**		Pg	19 48 58.9	-0.1
CROK				Sg	Sg	19 49 07.8	+0.1
T35A	**Sooner Cattle**	**0.68**	**93**	Pg	Pg	19 48 59.4	+0.1
T35A				Sg	Sg	19 49 08.5	+0.2
T35A				IAML		19 49 08.7	
	comp=E,206nm,0.1s						
T35A				IAML		19 49 09.0	
	comp=N,229nm,0.4s						
OK032	**Salt Plains WL**	**0.69**	**258**	Pg	Pg	19 48 59.4	-0.1
OK032				Sg	Sg	19 49 08.4	-0.1
OK032				IAML		19 49 11.8	
	comp=N,276nm,0.2s						
OK032				IAML		19 49 12.7	
	comp=N,279nm,0.2s						
QUOK	**Quay**	**0.94**	**146**	Pg	Pg	19 49 04.0	-0.2
QUOK				IAML		19 49 21.8	
	comp=E,158nm,0.2s						
QUOK				IAML		19 49 22.2	
	comp=N,160nm,0.2s						
OK033	**Mehan**	**0.97**	**159**	Pg	Pg	19 49 04.5	-0.2
OK033				Sg	Sg	19 49 17.4	+0.1
OK033				IAML		19 49 22.5	
	comp=N,240nm,0.1s						
OK052	**Battle Ridge R**	**1.06**	**154**	Pg	Pg	19 49 06.0	-0.4
OK052				IAML		19 49 24.6	
	comp=N,121nm,0.2s						
OK052				IAML		19 49 24.6	
	comp=N,128nm,0.2s						
OK029	**Liberty Lake**	**1.16**	**184**	Pg	Pg	19 49 07.8	-0.4
OK029				Sg	Sg	19 49 23.1	-0.1
OK029				IAML		19 49 23.4	
	comp=N,141nm,0.2s						
OK029				IAML		19 49 26.7	
	comp=N,169nm,0.2s						
OK038	**West end E0370**	**1.20**	**247**	Pg	Pb	19 49 08.6	-0.6
OK038				Sg	Sg	19 49 24.6	-0.2
ADOK	**Arcadia Dam**	**1.30**	**180**		Pn	19 49 10.2	-0.3
ADOK					Sn	19 49 28.0	-0.1
DEOK	**Depew**	**1.31**	**147**		Pn	19 49 10.1	-0.6
DEOK					Sb	19 49 27.7	-0.2
DEOK				IAML		19 49 31.1	
	comp=N,120nm,0.5s						
DEOK				IAML		19 49 31.2	
	comp=E,103nm,0.3s						
U32A	**Winter Ranch,**	**1.43**	**247**		Pn	19 49 12.6	+0.1
U32A					Sb	19 49 31.6	+0.1
TUL3	**Leonard**	**1.64**	**129**		Pn	19 49 15.0	-0.3
CSTR	**Hydro, Custer**	**1.69**	**220**		Pn	19 49 15.6	-0.3
FNO	**Franklin**	**1.69**	**181**		Pn	19 49 15.9	-0.1
R32A	**Long Quarter,**	**1.82**	**324**		Pn	19 49 17.4	-0.3
R32A				IAmb_Lg		19 49 47.1	
	comp=Z,15nm,0.8s						
W35A	**Tecumseh**	**1.84**	**167**		Pn	19 49 18.4	+0.4
ELIS	**Ellis County**	**1.88**	**242**		Pn	19 49 17.7	-0.8
RLO	**Rose Lookout**	**2.04**	**112**		Pn	19 49 19.8	-1.0
KSU1	**Kansas State U**	**2.23**	**15**	Pn	Pn	19 49 22.3	-1.0
KSU1				IAmb_Lg		19 49 59.2	
	comp=Z,15nm,1.0s						
X34A	**Smith Ranch, M**	**2.38**	**189**		Pn	19 49 23.8	-1.5
X34A				IAmb_Lg		19 50 05.9	
	comp=Z,23nm,0.7s						
U38A	**Gravette**	**2.45**	**101**		Pn	19 49 25.3	-1.1
WMOK	**Wichita Mounta**	**2.49**	**208**	Pn	Pn	19 49 26.3	-0.7
CBKS	**Cedar Bluff**	**2.64**	**315**	Pn	Pn	19 49 28.1	-1.0
HHAR	**Hobbs**	**2.83**	**103**		Pn	19 49 31.1	-0.6
SMWD	**Samnorwood**	**2.97**	**233**	Pn	Pn	19 49 32.5	-1.1
WTFS	**Witchita Falls**	**3.30**	**196**	Pn	Pn	19 49 37.9	-0.2
S39A	**Bolivar**	**3.31**	**76**	Pn	Pn	19 49 36.0	-2.2
P38A	**Dawn**	**4.03**	**47**		Pn	19 49 43.7	-4.3
P38A				IAmb_Lg		19 51 04.6	
	comp=Z,14nm,1.1s						
AMTX	**Amarillo**	**4.07**	**241**		Pn	19 49 46.1	-2.6
AMTX				IAmb_Lg		19 50 56.9	
	comp=Z,8.8nm,1.0s						
MGMO	**Mountain Grove**	**4.08**	**86**	Pn	Pn	19 49 44.7	-4.1
N35A	**Tabor**	**4.13**	**18**		Pn	19 49 46.6	-2.9
PLPT	**Palo Pinto**	**4.20**	**191**	Pn	Pn	19 49 48.0	-2.5
R40A	**Maddies Statio**	**4.26**	**70**		Pn	19 49 48.2	-3.1
APMT	**Aspermont**	**4.26**	**213**	Pn	Pn	19 49 48.0	-3.4
FCAR	**Ozark Folk Cen**	**4.36**	**103**	Pn	Pn	19 49 49.9	-2.8
DKNS	**Dickens**	**4.38**	**223**	Pn	Pn	19 49 50.1	-3.0
WHAR	**Wooly Hollow**	**4.43**	**110**	Pn	Pn	19 49 50.7	-2.9
X40A	**Basin Creek Fa**	**4.43**	**122**	Pn	Pn	19 49 50.4	-3.2
X40A				IAmb_Lg		19 51 11.5	
	comp=Z,6.0nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.64**	**298**	IAmb_Lg		19 51 24.9	
	comp=Z,6.5nm,0.7s						
P40A	**Paris**	**4.91**	**57**	Pn	Pn	19 49 58.3	-1.9
CCM	**Cathedral Cave**	**4.99**	**75**	Pn	Pn	19 49 58.5	-2.8

*NEIC **23** 19:54:54.0±1.8,38°.15N±0°.07×141°.76E±0°.09,h55km±8km, mb4.3/18, Error ellipse: s-maj=12.5km s-min=7.9km az=129.0*
*IDC **23** 19:54:54.8±1.1,38°.20N×141°.91E,h72km±7km,mb3.5/9, mbtmp3.8/12,Error ellipse: s-maj=19.3km s-min=11.6km az=119.0*
*JMA **23** 19:54:54.1±0.1,38°.2N±0°.4×141°.7E±0°.6,h50km,MV3.7/35, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
ISC 23 19:54:53.2±0.8,38°.16N±0°.05×141°.78E±0°.08,h49km±5km, n63,σ1^{s}19/76,mb4.2/20,11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.29**	**302**	⇓*i*P	**Pn**	**19 55 02.5**	**+0.4**
JIKH				⇓*i*S	**Sn**	**19 55 08.3**	**-0.1**
JIO	**Ouri**	**0.45**	**311**	⇓*i*P	**Pn**	**19 55 04.0**	**+0.2**
JIO				⇓S	**Sn**	**19 55 10.8**	**-0.5**
JKMT	**Kesennumamotoy**	**0.69**	**340**	⇓*i*P	**Pn**	**19 55 07.1**	**+0.3**
JKMT				⇓S	**Sn**	**19 55 16.3**	**-0.3**
JMM	**Marumori**	**0.83**	**250**		**Pn**	**19 55 08.1**	**-0.5**
JMM					**Sn**	**19 55 18.4**	**-1.4**
JMM	**Marumori**	**0.83**	**250**	P	**Pn**	**19 55 08.1**	**-0.5**
JMM				S	**Sn**	**19 55 18.5**	**-1.4**
JOU	**Okura**	**0.90**	**283**	⇓*i*P	**Pn**	**19 55 09.5**	**-0.1**
JOU				⇓S	**Sn**	**19 55 20.9**	**-0.7**
JMK	**Ichinoseki**	**0.90**	**331**	⇓*i*P	**Pn**	**19 55 10.0**	**+0.4**
JMK				⇓S	**Sn**	**19 55 21.2**	**-0.4**
JFK	**Kawauchi**	**1.07**	**222**	*i* P	**Pn**	**19 55 11.9**	**0.0**
JFK				S	**Sn**	**19 55 24.7**	**-0.9**
JOTO	**OTAMA OYAMA**	**1.29**	**243**	*i* P	**Pn**	**19 55 15.0**	**+0.1**
JOTO				S	**Sn**	**19 55 30.6**	**-0.4**
JYK	**Kaneyama**	**1.34**	**305**	*i* P	**Pn**	**19 55 15.7**	**+0.1**
JYS	**Shirataka**	**1.35**	**273**	P	**Pn**	**19 55 15.8**	**+0.2**
JYS				*e*S	**Sn**	**19 55 31.9**	**-0.5**
JOM	**Ohasama**	**1.36**	**344**	*i* P	**Pn**	**19 55 16.5**	**+0.7**
JOM				S	**Sn**	**19 55 33.0**	**+0.2**
JRG	**Rokugo**	**1.52**	**324**	⇓*i*P	**Pn**	**19 55 18.8**	**+0.8**
JTM	**Tenmabayashi**	**2.68**	**348**	Pn	**Pn**	**19 55 34.9**	**+1.1**
MAJO	**Matsushiro**	**3.27**	**241**		**Pn**	**19 55 42.9**	**+1.0**
MJAR	**Matsushiro Arr**	**3.27**	**241**	P	**Pn**	**19 55 43.6**	**+1.7**
	3.7nm,0.4s,baz=54,slow=12,SNR=9.8						
MJAR				S	**Sn**	**19 56 23.5**	**+3.9**
	2.9nm,0.3s,baz=327,slow=18,SNR=1.7						
MJB9	**Matsu-Tunnel**	**3.27**	**242**		**Pn**	**19 55 43.9**	**+1.9**
ERM	**Erimo**	**3.99**	**15**	Pn	**Pn**	**19 55 50.1**	**-1.7**
JHJ2	**Mitsune**	**5.29**	**198**	Pn	**Pn**	**19 56 09.6**	**0.0**
ASAJ	**Asahikawa**	**5.98**	**6**	P	**Pn**	**19 56 19.1**	**0.0**
	2.8nm,0.3s,baz=210,slow=14,SNR=7.2						
ASAJ				S	**Sn**	**19 57 25.6**	**-0.6**
	7.8nm,0.8s,baz=72,slow=29,SNR=1.6						
JKA	**Kamikawa-asahi**	**5.98**	**6**	Pn	**Pn**	**19 56 19.3**	**+0.2**
USA0B	**Ussuriysk Arra**	**9.53**	**312**	Pn	**Pn**	**19 57 08.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**9.53**	**312**	P	**Pn**	**19 57 08.7**	**+1.0**
	2.5nm,0.5s,baz=122,slow=14,SNR=5.9						
SHEM	**Shemya Is, Ala**	**26.68**	**46**	P	**P**	**20 00 24.5**	**-2.8**
	23nm,0.3s,baz=242,slow=0.8,SNR=8.2						
SONM	**Songino Array**	**27.41**	**302**	P	**P**	**20 00 32.9**	**-1.3**
	0.3nm,0.5s,baz=111,slow=9.7,SNR=2.4						
SONM				PcP	**PcP**	**20 03 52.0**	**+0.1**
	0.3nm,0.5s,baz=96,slow=2.9,SNR=2.4						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	20 30 57.5	
	baz=316,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.51**	**123**	T	T	20 31 01.8	
	baz=316,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	20 31 06.3	
	baz=316,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.25**	**125**	T	T	20 31 57.1	
	baz=318,slow=76,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**29.25**	**125**	T	T	20 31 57.9	
	baz=318,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.27**	**125**	T	T	20 31 58.1	
	baz=318,slow=76,SNR=10.0						
BILL	**Bilibino**	**32.87**	**17**		**S**	**20 06 37.1**	**+1.4**
ZAA0	**Zalesovo Array**	**41.38**	**311**	P	**P**	**20 02 34.4**	**+0.2**
ZAA0				IAmb	IAmb	20 02 35.2	
	comp=Z,3.8nm,1.4s						
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**20 02 34.4**	**+0.2**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**20 02 33.9**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=82,slow=8.0,SNR=7.1						
ZALV				pP	**sP**	**20 02 52.3**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=84,slow=7.6,SNR=4.7						
	comp=Z,1.2nm,0.4s						
MK31	**Makanchi Array**	**43.77**	**301**	P	**P**	**20 02 53.9**	**0.0**
MKAR	**Makanchi Array**	**43.77**	**301**	P	**P**	**20 02 53.5**	**-0.3**
MKAR	**Makanchi Array**	**43.77**	**301**	P	**P**	**20 02 53.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=84,slow=9.8,SNR=11						
MKAR				pP	**sP**	**20 03 11.9**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=89,slow=9.8,SNR=10						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**43.98**	**301**	P	**P**	**20 02 55.1**	**-0.4**
D19K	**Kuna River**	**44.21**	**27**	P	**P**	**20 02 58.8**	**+1.8**
L19K	**White Mountain**	**44.83**	**36**	P	**P**	**20 03 00.8**	**-1.3**
L19K				IAmb	IAmb	20 03 21.7	
	comp=Z,6.1nm,1.4s						
KURK	**Kurchatov**	**45.47**	**307**	P	**P**	**20 03 07.1**	**-0.2**
KURK				IAmb	IAmb	20 03 25.6	
	comp=Z,5.2nm,0.8s						
KURBB	**Kurchatov Arra**	**45.54**	**307**	P	**P**	**20 03 07.4**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=83,slow=8.3,SNR=14						
KURBB				pP	**pP**	**20 03 25.4**	**+4.4**
	comp=Z,4.7nm,0.7s,baz=82,slow=8.2,SNR=13						
	comp=Z,0.9nm,0.3s						
D22K	**Ayikyak River**	**46.23**	**27**	P	**P**	**20 03 15.3**	**+2.2**
D22K				IAmb	IAmb	20 03 34.7	
	comp=Z,4.0nm,1.4s						
KTH	**Kantishna Hill**	**46.66**	**35**	P	**P**	**20 03 18.7**	**+2.2**
KTH				IAmb	IAmb	20 03 35.5	
	comp=Z,12nm,1.3s						
D25K	**Kavik River**	**48.52**	**27**	P	**P**	**20 03 32.6**	**+1.8**
D25K				IAmb	IAmb	20 03 56.0	
	comp=Z,4.9nm,1.5s						
BMAR	**Burnt Mountain**	**49.21**	**29**	P	**P**	**20 03 38.6**	**+2.5**
BVAR	**Borovoye Array**	**50.03**	**312**	P	**P**	**20 03 42.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=73,slow=7.9,SNR=7.7						
BVAR				pP	**sP**	**20 04 00.9**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=70,slow=8.7,SNR=4.3						
BVAR				PcP	**PcP**	**20 05 02.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=84,slow=4.5,SNR=2.3						
	comp=Z,0.5nm,0.5s						
M27K	**Edge Creek, AK**	**50.87**	**36**	P	**P**	**20 03 48.9**	**-0.1**
M27K				IAmb	IAmb	20 04 24.6	
	comp=Z,8.7nm,1.4s						
G30M	**tAoh Zraii Nji**	**52.49**	**29**	P	**P**	**20 04 02.3**	**+1.4**
G30M				IAmb	IAmb	20 04 30.4	
	comp=Z,4.0nm,1.4s						
INK	**Inuvik**	**53.25**	**28**	P	**P**	**20 04 07.6**	**+1.3**
INK				IAmb	IAmb	20 04 29.0	
	comp=Z,3.3nm,1.3s						
ABKAR	**Akbulak array**	**57.44**	**310**	P	**P**	**20 04 36.2**	**-0.4**
ABKAR	**Akbulak array**	**57.44**	**310**	P	**P**	**20 04 36.3**	**-0.4**
ABKAR				IAmb	IAmb	20 04 55.9	
	comp=Z,1.2nm,0.7s						
WB0	**Warramunga Arr**	**58.04**	**188**	P	**P**	**20 04 41.3**	**+0.1**
WB2	**Warramunga Arr**	**58.21**	**188**	P	**P**	**20 04 41.9**	**-0.5**
WRA	**Warramunga Arr**	**58.22**	**188**	P	**P**	**20 04 41.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=4.6,slow=7.2,SNR=7.2						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**61.94**	**188**	P	**P**	**20 05 07.2**	**-0.7**
ASAR	**Alice Springs**	**61.94**	**188**	P	**P**	**20 05 07.0**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=352,slow=3.8,SNR=5.3						
	comp=Z,0.2nm,0.6s						
ILULI	**Ilulissat**	**72.52**	**5**	P	**P**	**20 06 13.4**	**-0.8**
HFS	**Hagfors**	**73.18**	**336**	P	**P**	**20 06 18.3**	**0.0**
	comp=Z,5.6nm,1.1s,baz=51,slow=7.6,SNR=1.3						
	comp=Z,5.6nm,1.1s						
NC204	**NORSAR Array S**	**73.21**	**338**	P	**P**	**20 06 19.1**	**+0.5**
NOA	**NORSAR Array B**	**73.26**	**337**	P	**P**	**20 06 18.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=37,slow=6.1,SNR=3.4						
	comp=Z,1

P19K				IAML		20 05 15.7			
	comp=E,175nm,0.4s								
P19K				IAML		20 05 22.5			
	comp=N,227nm,0.5s								
P19K	**Oil Pt**	**3.86**	**333**	P	**Pn**	**20 04 25.0**	**+0.5**		
	baz=151								
CNTC	**Contact Creek**	**3.87**	**304**		**Pn**	**20 04 25.5**	**+0.8**		
Q17K	**Contact Creek**	**3.87**	**304**	P	**Pn**	**20 04 25.5**	**+0.8**		
	baz=120								
P23K	**Montague Islan**	**3.95**	**18**		**Pn**	**20 04 26.4**	**+0.7**		
P23K	**Montague Islan**	**3.95**	**18**	P	**Pn**	**20 04 26.4**	**+0.7**		
	baz=199								
O20K	**Slope Mountain**	**4.11**	**340**		**Pn**	**20 04 27.9**	**0.0**		
O20K	**Slope Mountain**	**4.11**	**340**	P	**Pn**	**20 04 27.9**	**0.0**		
	baz=158								
O22K	**Cooper Landing**	**4.23**	**0**		**Pn**	**20 04 30.6**	**+1.1**		
P18K	**Big Mountain,**	**4.28**	**319**		**Pn**	**20 04 30.8**	**+0.6**		
P18K	**Big Mountain,**	**4.28**	**319**	P	**Pn**	**20 04 30.6**	**+0.4**		
	baz=135								
RED	**Redoubt Volcan**	**4.45**	**341**		**Pn**	**20 04 32.8**	**+0.1**		
RDSO	**Redoubt South**	**4.48**	**341**		**Pn**	**20 04 32.7**	**-0.4**		
HIN	**Hinchinbrook I**	**4.49**	**21**	Pn	**Pn**	**20 04 32.4**	**-0.7**		
HIN				IAML		20 05 30.8			
	comp=E,157nm,1.2s								
HIN				IAML		20 05 32.2			
	comp=N,118nm,1.1s								
RSO	**Redoubt South**	**4.49**	**341**		**Pn**	**20 04 33.8**	**+0.6**		
CAPN	**Captain Cook N**	**4.57**	**352**	Pn	**Pn**	**20 04 34.6**	**+0.4**		
DFR	**Drift River**	**4.60**	**342**		**Pn**	**20 04 35.0**	**+0.3**		
O18K	**Koktuh Hills**	**4.61**	**324**	Pn	**Pn**	**20 04 35.3**	**+0.6**		
O18K	**Koktuh Hills**	**4.61**	**324**	P	**Pn**	**20 04 35.2**	**+0.5**		
	baz=140								
O19K	**Port Alsworth**	**4.61**	**331**		**Pn**	**20 04 34.9**	**+0.2**		
O19K				IAML		20 05 41.3			
	comp=N,158nm,0.4s								
O19K	**Port Alsworth**	**4.61**	**331**	P	**Pn**	**20 04 35.0**	**+0.2**		
	baz=147								
NCT	**North Crescent**	**4.61**	**340**		**Pn**	**20 04 35.0**	**+0.1**		
P17K	**Kvichak River**	**4.62**	**312**		**Pn**	**20 04 36.2**	**+1.4**		
P17K	**Kvichak River**	**4.62**	**312**	P	**Pn**	**20 04 36.2**	**+1.4**		
	baz=127								
KAIM	**Kayak Island**	**4.64**	**36**	Pn	**Pn**	**20 04 34.8**	**-0.4**		
KAIM	**Kayak Island**	**4.64**	**36**	P	**Pn**	**20 04 35.3**	**+0.1**		
	baz=220								
EYAK	**Cordova Ski Ar**	**4.79**	**25**	Pn	**Pn**	**20 04 37.4**	**+0.2**		
EYAK	**Cordova Ski Ar**	**4.79**	**25**	P	**Pn**	**20 04 37.5**	**+0.3**		
	baz=208								
CHGN	**Chignik**	**4.81**	**274**	Pn	**Pn**	**20 04 35.1**	**-2.4**		
CHGN				IAML		20 05 37.5			
	comp=N,95nm,0.8s								
CHGN				IAML		20 06 34.4			
	comp=E,89nm,0.4s								
FID	**Port Fidalgo**	**4.82**	**20**		**Pn**	**20 04 37.5**	**-0.1**		
FID	**Port Fidalgo**	**4.82**	**20**	IAML		20 05 31.0			
	comp=E,75nm,0.6s								
FID				IAML		20 05 48.2			
	comp=N,60nm,1.8s								
RC01	**Rabbit Creek A**	**4.84**	**0**		**Pn**	**20 04 38.3**	**+0.4**		
RC01				IAML		20 05 36.7			
	comp=N,64nm,0.5s								
RC01				IAML		20 05 42.4			
	comp=E,63nm,0.8s								
RC01	**Rabbit Creek A**	**4.84**	**0**	P	**Pn**	**20 04 38.4**	**+0.5**		
	baz=180								
RAGM	**Ragged Mountai**	**4.93**	**31**		**Pn**	**20 04 40.4**	**+1.2**		
GOAT	**Goat Mountain**	**5.08**	**29**		**Pn**	**20 04 41.0**	**-0.2**		
N19K	**Bonanza Creek**	**5.18**	**334**		**Pn**	**20 04 42.4**	**-0.2**		
N19K				IAML		20 05 53.3			
	comp=N,33nm,3.1s								
N19K	**Bonanza Creek**	**5.18**	**334**	P	**Pn**	**20 04 42.6**	**0.0**		
	baz=150								
P16K	**Nushagak River**	**5.21**	**306**		**Pn**	**20 04 42.6**	**-0.3**		
P16K	**Nushagak River**	**5.21**	**306**	P	**Pn**	**20 04 42.6**	**-0.3**		
	baz=119								
KNK	**Knik Glacier**	**5.21**	**7**		**Pn**	**20 04 43.8**	**+0.9**		
KNK				IAML		20 05 51.9			
	comp=N,40nm,0.9s								
KNK				IAML		20 05 57.8			
	comp=E,42nm,1.0s								
BERG	**Berg Lake**	**5.23**	**35**		**Pn**	**20 04 42.5**	**-0.8**		
BERG				IAML		20 05 57.5			
	comp=N,92nm,1.1s								
SUA	**Susitna One**	**5.24**	**355**		**Pn**	**20 04 43.1**	**-0.3**		
SUA				IAML		20 05 43.3			
	comp=E,67nm,3.7s								
SUA				IAML		20 06 07.2			
	comp=N,48nm,3.2s								
SUA	**Susitna One**	**5.24**	**355**	P	**Pn**	**20 04 44.0**	**+0.6**		
	baz=174								
O17K	**Koliganek Bris**	**5.24**	**315**		**Pn**	**20 04 44.1**	**+0.7**		
O17K	**Koliganek Bris**	**5.24**	**315**	P	**Pn**	**20 04 44.1**	**+0.7**		
	baz=130								
DIV	**Divide**	**5.30**	**22**	Pn	**Pn**	**20 04 43.9**	**-0.5**		
PMR	**Palmer**	**5.35**	**3**	Pn	**Pn**	**20 04 44.7**	**-0.2**		
SNH	**Sunshine Point**	**5.37**	**40**	Pn	**Pn**	**20 04 45.0**	**-0.2**		
BMRM	**Bremner River**	**5.43**	**28**	Pn	**Pn**	**20 04 46.6**	**+0.5**		
BMRM	**Bremner River**	**5.43**	**28**	P	**Pn**	**20 04 46.0**	**-0.1**		
	baz=212								
N18K	**Kilae Creek**	**5.46**	**327**		**Pn**	**20 04 46.8**	**+0.3**		
N18K	**Kilae Creek**	**5.46**	**327**	P	**Pn**	**20 04 47.1**	**+0.6**		
	baz=142								
GHO	**Glory Hole Cre**	**5.54**	**4**		**Pn**	**20 04 49.0**	**+1.5**		
O16K	**Kokwok River B**	**5.54**	**310**	Pn	**Pn**	**20 04 48.5**	**+1.0**		
SML	**Sawmill**	**5.61**	**7**		**Pn**	**20 04 49.9**	**+1.4**		
KLU	**Klutina**	**5.61**	**19**		**Pn**	**20 04 49.8**	**+1.3**		
KLU	**Klutina**	**5.61**	**19**	P	**Pn**	**20 04 49.4**	**+0.9**		
	baz=202								
SVW2	**Sparrevohn**	**5.71**	**330**		**Pn**	**20 04 49.9**	**0.0**		
SCM	**Sheep Creek Mo**	**5.72**	**12**		**Pn**	**20 04 51.0**	**+0.9**		
CNBA	**Chernabura Isl**	**5.75**	**259**		**Pn**	**20 04 49.1**	**-1.3**		
N17K	**Nushagak Hills**	**5.78**	**321**		**Pn**	**20 04 50.2**	**-0.6**		
N17K	**Nushagak Hills**	**5.78**	**321**	P	**Pn**	**20 04 51.2**	**+0.5**		
	baz=135								
SKT	**Skwentna**	**5.80**	**352**		**Pn**	**20 04 51.1**	**0.0**		
M20K	**Styx River**	**5.89**	**344**		**Pn**	**20 04 52.2**	**-0.2**		
M20K	**Styx River**	**5.89**	**344**	P	**Pn**	**20 04 52.8**	**+0.4**		
	baz=162								
VRDI	**Verde Repeater**	**5.96**	**31**		**Pn**	**20 04 54.8**	**+1.2**		
N25K	**Chitina, Valde**	**5.99**	**24**		**Pn**	**20 04 54.9**	**+1.1**		
N25K	**Chitina, Valde**	**5.99**	**24**	P	**Pn**	**20 04 53.8**	**0.0**		
	baz=209								
GLB	**Gilahina Butte**	**6.04**	**28**		**Pn**	**20 04 55.5**	**+1.0**		
KIAG	**Kiagna River**	**6.07**	**37**		**Pn**	**20 04 54.5**	**-0.4**		
SDPT	**Sand Point**	**6.10**	**266**	Pn	**Pn**	**20 04 53.7**	**-1.5**		
M18K	**Stony River**	**6.10**	**332**		**Pn**	**20 04 55.4**	**+0.2**		
M18K	**Stony River**	**6.10**	**332**	P	**Pn**	**20 04 55.4**	**+0.2**		
	baz=147								
M19K	**Big River Lodg**	**6.13**	**339**	Pn	**Pn**	**20 04 55.6**	**0.0**		
M24K	**Tolsona, Glenn**	**6.14**	**16**		**Pn**	**20 04 55.3**	**-0.5**		
CUT	**Chulitna**	**6.16**	**358**		**Pn**	**20 04 56.5**	**+0.4**		
MCARA	**McCarthy VSAT**	**6.21**	**32**		**Pn**	**20 04 57.6**	**+0.9**		
MCARA	**McCarthy VSAT**	**6.21**	**32**	P	**Pn**	**20 04 56.8**	**0.0**		
	baz=217								
PTPK	**Patty Peak**	**6.23**	**35**		**Pn**	**20 04 57.2**	**0.0**		
PCA	**Pinnacle**	**6.33**	**49**	Pn	**Pn**	**20 04 58.0**	**-0.5**		
N16K	**Nishlik Lake**	**6.33**	**315**		**Pn**	**20 04 59.3**	**+0.9**		
N16K	**Nishlik Lake**	**6.33**	**315**	P	**Pn**	**20 04 59.3**	**+0.9**		
	baz=128								
PINM	**Pinnacle**	**6.33**	**49**	P	**Pn**	**20 04 58.2**	**-0.3**		
	baz=236								
BARN	**Barnard Glacie**	**6.40**	**38**		**Pn**	**20 04 60.0**	**+0.4**		
CTGM	**Chitina Glacie**	**6.45**	**40**		**Pn**	**20 05 00.1**	**-0.1**		
L19K	**White Mountain**	**6.48**	**338**		**Pn**	**20 04 59.4**	**-1.0**		
LOGN	**Logan Glacier**	**6.48**	**42**		**Pn**	**20 05 00.7**	**+0.1**		
PNL	**Peninsula**	**6.49**	**54**		**Pn**	**20 05 00.0**	**-0.6**		
PNL	**Peninsula**	**6.49**	**54**	P	**Pn**	**20 05 00.0**	**-0.6**		
	baz=242								
M17K	**Holitna River**	**6.50**	**326**		**Pn**	**20 05 00.8**	**+0.1**		
M17K	**Holitna River**	**6.50**	**326**	P	**Pn**	**20 05 01.6**	**+0.9**		
	baz=139								
BCPM	**Bancas Point**	**6.52**	**51**	Pn	**Pn**	**20 04 58.5**	**-2.5**		
N15K	**Kwethluk River**	**6.70**	**310**		**Pn**	**20 05 04.9**	**+1.4**		
N15K	**Kwethluk River**	**6.70**	**310**	P	**Pn**	**20 05 04.7**	**+1.2**		
	baz=122								
M16K	**Timber Creek**	**6.75**	**319**		**Pn**	**20 05 04.7**	**+0.5**		
PPLA	**Purkeypile**	**6.76**	**351**	Pn	**Pn**	**20 05 05.4**	**+1.0**		
O14K	**Tigyukauivet M**	**6.83**	**301**	Pn	**Pn**	**20 05 06.3**	**+1.1**		
DHY	**Denali Highway**	**6.94**	**9**		**Pn**	**20 05 07.7**	**+0.9**		
L18K	**Granite Mounta**	**6.94**	**332**	Pn	**Pn**	**20 05 06.5**	**-0.2**		
M26K	**Nabesna, AK**	**7.06**	**27**	Pn	**Pn**	**20 05 08.2**	**-0.2**		
PAX	**Paxson**	**7.07**	**16**	Pn	**Pn**	**20 05 08.0**	**-0.6**		
O29M	**Mount Kennedy**	**7.16**	**51**		**Pn**	**20 05 09.0**	**-0.8**		
RND	**Reindeer**	**7.18**	**3**	Pn	**Pn**	**20 05 09.2**	**-0.9**		
YUK2	**White River**	**7.20**	**36**		**Pn**	**20 05 09.8**	**-0.6**		
TRF	**Thorofare Moun**	**7.21**	**358**	Pn	**Pn**	**20 05 08.3**	**-2.3**		
P29M	**Windy Craggy**	**7.24**	**57**		**Pn**	**20 05 09.9**	**-1.0**		
CAST	**Castle Rocks**	**7.27**	**352**		**Pn**	**20 05 10.7**	**-0.5**		
YUK3	**Moose Creek**	**7.32**	**37**		**Pn**	**20 05 11.4**	**-0.7**		
YUK3	**Moose Creek**	**7.32**	**37**	P	**Pn**	**20 05 11.4**	**-0.7**		
	baz=225								
M27K	**Edge Creek, AK**	**7.32**	**30**	Pn	**Pn**	**20 05 11.5**	**-0.6**		
KTH	**Kantishna Hill**	**7.33**	**356**		**Pn**	**20 05 10.4**	**-1.7**		
TTA	**Tatalina**	**7.39**	**337**	Pn	**Pn**	**20 05 12.6**	**-0.3**		
L16K	**Owhat River**	**7.40**	**321**		**Pn**	**20 05 12.1**	**-0.9**		
K20K	**Telida**	**7.43**	**345**	Pn	**Pn**	**20 05 12.0**	**-1.5**		
MCK	**McKinley**	**7.50**	**3**	Pn	**Pn**	**20 05 14.5**	**0.0**		
L26K	**Log Cabin Wild**	**7.52**	**23**		**Pn**	**20 05 14.9**	**+0.2**		
S31K	**Pelican**	**7.57**	**71**	Pn	**Pn**	**20 05 13.0**	**-2.3**		
YUK6	**Outpost Mounta**	**7.58**	**47**		**Pn**	**20 05 15.9**	**+0.2**		
YUK6	**Outpost Mounta**	**7.58**	**47**	P	**Pn**	**20 05 16.0**	**+0.2**		
	baz=236								
YUK4	**Talbot Arm**	**7.70**	**44**	P	**Pn**	**20 05 18.1**	**+0.8**		
	baz=233								
K17K	**Iditarod**	**7.78**	**330**		**Pn**	**20 05 18.6**	**+0.4**		
M14K	**Bethel**	**7.80**	**310**	Pn	**Pn**	**20 05 20.4**	**+2.0**		
HYT	**Haines Junctio**	**7.88**	**50**	Pn	**Pn**	**20 05 19.1**	**-0.6**		
BPAW	**Bear Paw Mtn.**	**7.88**	**356**		**Pn**	**20 05 19.4**	**-0.2**		
RIDG	**Independent Ri**	**7.89**	**16**		**Pn**	**20 05 18.9**	**-0.9**		
L27K	**Beaver Creek,**	**7.91**	**27**		**Pn**	**20 05 19.6**	**-0.5**		
BCAR	**Beaver Creek A**	**7.92**	**27**	Pn	**Pn**	**20 05 19.2**	**-1.1**		
J19K	**Innoko River**	**8.01**	**337**	Pn	**Pn**	**20 05 20.8**	**-0.6**		
J20K	**Nowinta River**	**8.22**	**347**		**Pn**	**20 05 23.8**	**-0.5**		
M13K	**Dall Lake**	**8.25**	**306**	Pn	**Pn**	**20 05 24.3**	**-0.4**		
SCRK	**Sand Creek**	**8.25**	**18**	Pn	**Pn**	**20 05 26.9**	**+2.1**		
J19K	**Poorman**	**8.28**	**342**	Pn	**Pn**	**20 05 24.8**	**-0.3**		
HDA	**Harding Lake**	**8.29**	**9**		**Pn**	**20 05 25.3**	**+0.1**		
SKAG	**Skagway**	**8.34**	**61**	Pn	**Pn**	**20 05 25.5**	**-0.4**		
N30M	**Aishikik Lake**	**8.38**	**46**		**Pn**	**20 05 25.9**	**-0.6**		
BESE	**Bessie Mountai**	**8.38**	**68**	Pn	**Pn**	**20 05 25.9**	**-0.6**		
L14K	**Kuka Creek**	**8.40**	**313**		**Pn**	**20 05 26.0**	**-0.7**		
S32K	**Killisnoo**	**8.42**	**75**	Pn	**Pn**	**20 05 26.0**	**-1.0**		
M29M	**Somme Creek**	**8.46**	**38**		**Pn**	**20 05 28.1**	**+0.4**		
O30N	**Mendenhall**	**8.46**	**52**	Pn	**Pn**	**20 05 28.0**	**+0.3**		
CCB	**Clear Creek Bu**	**8.46**	**6**		**Pn**	**20 05 29.1**	**+1.6**		
R32K	**Eaglecrest**	**8.51**	**70**	Pn	**Pn**	**20 05 28.2**	**-0.1**		
K15K	**Wolf Creek Mou**	**8.52**	**320**	Pn	**Pn**	**20 05 29.5**	**+1.2**		
JIS	**Juneau Island**	**8.58**	**70**	Pn	**Pn**	**20 05 29.5**	**+0.3**		
IL31		**8.65**	**8**		**Pn**	**20 05 31.8**	**+1.7**		
ILAR	**Eielson Array**	**8.65**	**8**	Pn	**Pn**	**20 05 31.8**	**+1.7**		
ILAR	**Eielson Array**	**8.65**	**8**	Pn	**Pn**	**20 05 31.1**	**+0.9**		
	comp=N,0.3nm,0.3s,baz=194,slow=14,SNR=10								
ILAR					Sn	**Sn**	**20 07 04.6**	**-3.7**	
	comp=N,0.5nm,0.3s,baz=201,slow=21,SNR=5.5								
	comp=N,0.8nm,0.5s								
J25K	**Salcha River,**	**8.65**	**13**	Pn	**Pn**	**20 05 30.0**	**-0.2**		
IL03	**Eielson Array**	**8.65**	**8**	Pn	**Pn**	**20 05 31.4**	**+1.2**		
K27K	**Chicken**	**8.68**	**23**		**Pn**	**20 05 31.4**	**+0.9**		
J26L	**Joseph Creek**	**8.81**	**18**		**Pn**	**20 05 32.5**	**+0.1**		
J16K	**Anvik River**	**8.89**	**327**		**Pn**	**20 05 33.2**	**-0.3**		
I23K	**Minto, Yukon-K**	**8.91**	**1**	Pn	**Pn**	**20 05 34.1**	**+0.4**		
N31M	**Braburn, Yuko**	**8.93**	**48**		**Pn**	**20 05 34.2**	**+0.1**		
POKR	**Poker Plat Res**	**8.95**	**6**	Pn	**Pn**	**20 05 35.5**	**+1.2**		
WHY	**Whitehorse**	**8.96**	**54**	Pn	**Pn**	**20 05 34.0**	**-0.4**		
I21K	**Tanana**	**9.01**	**354**		**Pn**	**20 05 36.7**	**+1.7**		
L29M	**L29M**	**9.03**	**36**		**Pn**	**20 05 36.0**	**+0.6**		
M30M	**Minto, Yukon**	**9.14**	**41**	Pn	**Pn**	**20 05 37.2**	**+0.2**		
P32M	**Atlin**	**9.17**	**62**	Pn	**Pn**	**20 05 35.9**	**-1.4**		
U33K	**Whale Pass**	**9.29**	**84**	Pn	**Pn**	**20 05 38.4**	**-0.5**		
DAWY	**Dawson**	**9.37**	**29**	Pn	**Pn**	**20 05 39.8**	**-0.2**		
AKUT	**Akutan**	**9.39**	**264**	Pn	**Pn**	**20 05 38.5**	**-1.7**		
CRAG	**Craig**	**9.40**	**88**	Pn	**Pn**	**20 05 40.6**	**+0.1**		
PRP	**Porcupine Dome**	**9.51**	**11**	Pn	**Pn**	**20 05 42.0**	**0.0**		
EGAK	**Eagle**	**9.53**	**23**	Pn	**Pn**	**20 05 42.4**	**+0.3**		
H21K	**Melozitna Rive**	**9.54**	**352**		**Pn**	**20 05 41.7**	**-0.5**		
J14K	**Nanvaranak Lak**	**9.54**	**319**	Pn	**Pn**	**20 05 41.6**	**-0.6**		
I26K	**Coal Creek Min**	**9.62**	**17**	Pn	**Pn**	**20 05 44.8**	**+1.3**		
H24K	**Noodor Dome**	**9.65**	**5**	Pn	**Pn**	**20 05 44.9**	**+1.0**		
K29M	**Barlow Dome**	**9.74**	**34**	Pn	**Pn**	**20 05 46.5**	**+1.2**		
P33M	**Tesin, Yukon**	**9.77**	**59**	Pn	**Pn**	**20 05 44.8**	**-0.7**		
Q32M	**Nakina River**	**9.77**	**67**	Pn	**Pn**	**20 05 44.3**	**-1.4**		
H19K	**Roundabout Mou**	**9.83**	**344**	Pn	**Pn**	**20 05 47.1**	**+0.8**		
H18K	**Honhosa River**	**9.84**	**338**	Pn	**Pn**	**20 05 47.6**	**+1.2**		
UNV	**Unalaska Valle**	**9.89**	**263**	Pn	Pn	20 05 44.1	-3.0		
IMAR	**Indian Mountai**	**9.93**	**351**	Pn	**Pn**	**20 05 47.2**	**-0.6**		
N32M	**Quiet Lake**	**9.96**	**54**	Pn	**Pn**	**20 05 48.7**	**+0.6**		
H17K	**Granite Mounta**	**10.01**	**334**	Pn	**Pn**	**20 05 48.2**	**-0.5**		
I28M	**Miner Creek**	**10.37**	**23**	Pn	**Pn**	**20 05 52.9**	**-0.9**		
G21K	**Allakaket**	**10.44**	**352**	Pn	**Pn**	**20 05 54.1**	**-0.4**		
G23K	**Bananza Creek**	**10.48**	**359**		**Pn**	**20 05 55.3**	**+0.1**		
R33M	**Jennings River**	**10.50**	**65**	Pn	**Pn**	**20 05 54.2**	**-1.4**		
G24K	**Hadweenzic Riv**	**10.53**	**5**		**Pn**	**20 05 57.2**	**+1.3**		
G18K	**Tagagawik**	**10.56**	**340**	Pn	**Pn**	**20 05 56.9**	**+0.7**		
FYU	**Fort Yukon**	**10.56**	**10**	Pn	**Pn**	**20 05 57.1**	**+0.9**		
J30M	**Hart River**	**10.63**	**33**	Pn	**Pn**	**20 05 56.6**	**-0.8**		
DLBC	**Dease Lake**	**10.89**	**71**	Pn	**Pn**	**20 06 03.5**	**+2.6**		
	comp=N,0.5nm,0.3s,baz=279,slow=13,SNR=2.5								
	comp=N,1.0nm,0.3s								
G16K	**Koyuk River**	**10.99**	**331**	Pn	**Pn**	**20 06 02.3**	**+0.1**		
COLD	**Coldfoot**	**11.00**	**359**	Pn	**Pn**	**20 06 02.3**	**0.0**		
I30M	**Mount Dempster**	**11.09**	**31**	Pn	**Pn**	**20 06 05.1**	**+1.4**		
F21K	**Alatna River**	**11.13**	**353**		**Pn**	**20 06 05.1**	**+1.0**		
F20K	**Avaraart Lake**	**11.17**	**348**	Pn	**Pn**	**20 06 05.6**	**+0.9**		
F19K	**Shaleruckik Mo**	**11.25**	**344**	Pn	**Pn**	**20 06 05.8**	**0.0**		
ANM	**Nome**	**11.30**	**324**	Pn	**Pn**	**20 06 06.6**	**+0.1**		
F24K	**Squaw Lake**	**11.33**	**4**	Pn	**Pn**	**20 06 08.0**	**+1.2**		
H29M	**Whitestone**	**11.37**	**24**	Pn	**Pn**	**20 06 07.5**	**+0.1**		
BMAR	**Burnt Mountain**	**11.46**	**10**	Pn	**Pn**	**20 06 10.1**	**+1.4**		
F17K	**Baldwin Pennin**	**11.57**	**337**	Pn	**Pn**	**20 06 10.4**	**+0.3**		
GRNB	**Grenville Isla**	**11.62**	**94**	Pn	**Pn**	**20 06 10.4**	**-0.4**		
E19K	**Redstone River**	**11.75**	**346**	Pn	**Pn**	**20 06 13.1**	**+0.5**		
F15K	**North Star Dit**	**11.86**	**329**	Pn	**Pn**	**20 06 14.4**	**+0.3**		
G29M	**Pine Creek**	**12.03**	**23**	Pn	**Pn**	**20 06 16.7**	**+0.4**		
E25K	**Arctic Village**	**12.05**	**8**	Pn	**Pn**	**20 06 17.9**	**+1.2**		
F28M	**Old Crow**	**12.28**	**18**	Pn	**Pn**	**20 06 19.9**	**+0.1**		
D22K	**Ayikyak River**	**12.73**	**355**	Pn	**Pn**	**20 06 26.8**	**+0.8**		
TNA	**Tin City**	**12.78**	**324**	Pn	**Pn**	**20 06 26.8**	**+0.3**		
D19K	**Kuna River**	**12.85**	**346**	Pn	**Pn**	**20 06 28.2**	**+0.6**		
G31M	**Satah River**	**12.94**	**28**	Pn	**Pn**	**20 06 29.7**	**+1.0**		
D25K	**Kavik River**	**13.19**	**5**	Pn	**Pn**	**20 06 33.1**	**+0.8**		
E28M	**Babbage River**	**13.23**	**17**	Pn	**Pn**	**20 06 33.3**	**+0.6**		
C18K	**Utukok River**	**13.46**	**342**	Pn	**Pn**	**20 06 36.0**	**+0.1**		
B21K	**Ikpikpuk River**	**13.58**	**353**	Pn	**Pn**	**20 06 38.1**	**+0.7**		
INK	**Inuvik**	**14.18**	**25**	Pn	**Pn**	**20 06 48.2**	**+2.6**		
	baz=191,slow=5.6,SNR=3.5								
	comp=N,1.7nm,0.9s								
YKA	**Yellowknife Ar**	**18.78**	**56**	P	**P**	**20 07 45.2**	**+0.9**		
	baz=266,slow=11,SNR=9.0								
	comp=N,1.2nm,1.0s								
NVAR	**Mina Array Bea**	**27.45**	**117**	P	**P**	**20 09 10.5**	**-1.1**		
	comp=N,0.1nm,0.3s,baz=310,slow=7.0,SNR=2.1								
NVAR				LR	LR	20 17 34.4			
	comp=N,70nm,20.1s,baz=276,slow=31								
	comp=N,0.1nm,0.3s								
RES	**Resolute Bay**	**27.70**	**28**	P	**P**	**20 09 13.8**	**+0.6**		
	comp=N,0.3nm,0.4s,baz=317,slow=8.9,SNR=1.5								
	comp=N,0.3nm,0.4s								
PDAR	**Pinedale Array**	**28.94**	**101**	P	**P**	**20 09 23.5**	**-1.3**		
	comp=N,0.2nm,0.7s,baz=264,slow=15,SNR=1.6								
	comp=N,0.2nm,0.7s								
TXAR	**Lajitas Array**	**42.08**	**110**	P	**P**	**20 11 18.0**	**+0.6**		
	comp=N,0.4nm,0.9s,baz=1.9,slow=2.7,SNR=2.6								
	comp=N,0.4nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**48.63**	**239**	T	T	21 04 59.8			
	baz=27								
H11N3	**WAKE ISLAND Hy**	**48.64**	**239**	T	T	21 05 03.6			
	baz=27								
H11N1	**WAKE ISLAND Hy**	**48.65**	**239**	T	T	21 05 12.7			
	baz=27								
H11S1	**WAKE ISLAND Hy**	**49.78**	**239**	T	T	21 06 34.5			
	baz=20								
H11S2	**WAKE ISLAND Hy**	**49.79**	**239**	T	T	21 06 40.0			
	baz=20								
H11S3	**WAKE ISLAND Hy**	**49.79**	**239**	T	T	21 06 33.7			
	baz=20								
ARCES	**ARCESS Array B**	**54.45**	**2**	LR	LR	20 37 36.1			
	comp=N,71nm,18.3s,baz=185,slow=38								
SONM	**Songino Array**	**58.43**	**310**	P	**P**	**20 13 22.6**	**+1.4**		
	comp=N,0.5nm,0.6s,baz=45,slow=6.2,SNR=6.0								
	comp=N,0.5nm,0.6s								
ZALV	**Zalesovo Beam**	**61.42**	**327**	P	**P**	**20 13 41.9**	**+0.5**		
	comp=N,0.3nm,0.5s,baz=18,slow=11,SNR=2.0								
	comp=N,0.3nm,0.5s								
BVAR	**Borovoye Array**	**66.18**	**335**	P	**P**	**20 14 12.9**	**+0.2**		
	comp=N,0.4nm,0.6s,baz=14,slow=7.4,SNR=2.7								
	comp=N,0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**66.21**	**329**	P	**P**	**20 14 13.3**	**+0.4**		
	comp=N,0.2nm,0.2s,baz=23,slow=11,SNR=1.8								
	comp=N,0.2nm,0.2s								
MKAR	**Makanchi Array**	**68.44**	**324**	P	**P**	**20 14 27.4**	**+0.2**		
	comp=N,0.2nm,0.5s,baz=14,slow=5.4,SNR=4.7								
	comp=N,0.2nm,0.5s								
CMAR	**Chiang Mai Arr**	**86.04**	**298**	P	**P**	**20 16 07.5**	**+1.2**		
	comp=N,0.1nm,0.4s,baz=21,slow=4.8,SNR=1.8								
CMAR				LR	LR	21 01 06.2			
	comp=N,12nm,18.2s,baz=85,slow=40								
	comp=N,0.1nm,0.4s								

NEIC ***23*** *20:17:37.1±1.9,55.77N±0.10×149.3W±0.1,h7km±8km, ML3.8/24,ML3.9(AEIC),Error ellipse: s-maj=14.3km s-min=8.3km az=187.0*
AEIC ***23*** *20:17:41.3±2.1,55.7N±0.1×149.2W±0.1,h10km±8km, Error ellipse: s-maj=15.9km s-min=9.2km az=197.0*

ISC 23 20:17:37.6±2.5,55.8N±0.2×149.25W±0.07,h10km,n96, σ1.9 04/97,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.65**	**304**		**Pn**	**20 18 20.1**	**-0.2**
OHAK					**Sn**	**20 18 50.4**	**-2.2**
OHAK	**Old Harbor**	**2.65**	**304**	P	**Pn**	**20 18 20.1**	**-0.2**
	baz=122						
OHAK				S	**Sn**	**20 18 50.4

K29M	Barlow Dome	9.98	31	Pn	Pn	20 20 02.6 +1.7
J30M	Hart River	10.87	31	Pn	Pn	20 20 14.0 +0.8
FYU	Fort Yukon	10.97	8	Pn	Pn	20 20 16.5 +2.2

*NEIC **23** 20:19:58.4±1.7,56˚.08N±0˚.09×150˚.19W±0˚.10, h27km±11km, ML4.1/12, ML3.4(AEIC), Error ellipse: s-maj=12.8km s-min=7.7km az=187.0*

AEIC 23 20:20:00.6±1.8, 56˚.07N±0˚.07×150˚.1W±0˚.1, h10km±7km, Error ellipse: s-maj=11.1km s-min=9.0km az=204.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.11	305		Pn	20 20 30.5	-5.4
OHAK	Old Harbor	2.11	305	IAML		20 21 19.6	
	comp=N,763nm,0.6s						
KDAK	Kodiak Island	2.19	323		Sn	20 20 57.0	-7.3
KDAK	Kodiak Island	2.19	323	Pn	Pn	20 20 32.5	-4.6
R18K	Karluk	2.83	304		Pn	20 20 41.0	-4.7
R18K					Sn	20 21 12.5	-7.3
SYI	Shuyak Island	2.84	335	Pn	Pn	20 20 41.7	-4.3
KAHG	Katmai Hook Gl	3.43	317		Pn	20 20 50.6	-3.6
Q19K	Cape Douglas,	3.45	328	Pn	Pn	20 20 51.0	-3.4
CNPM	China Poot	3.52	351		Pn	20 20 50.1	-5.3
ACHA	Angle Creek He	3.57	309		Pn	20 20 51.3	-4.8
ANCK	Angle Creek	3.63	308		Pn	20 20 53.0	-4.0
HOM	Homer	3.70	348	Pn	Pn	20 20 52.6	-5.1
BRSE	Bradley Lake S	3.70	355		Pn	20 20 52.5	-5.4
BRLK	Bradley Lake	3.73	354		Pn	20 20 53.1	-5.2
AUCH	Augustine Cone	3.76	333		Pn	20 20 55.3	-3.4
Q23K	Middleton Isla	3.93	29	Pn	Pn	20 20 56.8	-4.1
MID	Middleton Isla	3.93	29	Pn	Pn	20 20 57.0	-3.9
P19K	Oil Pt	3.97	336		Pn	20 20 57.2	-4.3
P18K	Big Mountain,	4.32	323	Pn	Pn	20 21 01.6	-4.8
O22K	Cooper Landing	4.43	2	Pn	Pn	20 21 03.6	-4.2
RSO	Redoubt South	4.63	343	Pn	Pn	20 21 05.0	-5.7
CHGN	Chignik	4.65	276	Pn	Pn	20 21 05.8	-5.0
O18K	Koktuh Hills	4.67	327		Pn	20 21 06.1	-5.1
O19K	Port Alsworth	4.71	333	Pn	Pn	20 21 07.8	-3.7
HIN	Hinchinbrook I	4.74	22	Pn	Pn	20 21 07.9	-4.2
CAPN	Captain Cook N	4.75	354	Pn	Pn	20 21 06.4	-5.7
KAIM	Kayak Island	4.91	36	Pn	Pn	20 21 10.4	-4.1
RC01	Rabbit Creek A	5.04	2	Pn	Pn	20 21 13.4	-2.8
FID	Port Fidalgo	5.07	21	Pn	Pn	20 21 11.6	-5.0
FIS	Fire Island	5.09	359	Pn	Pn	20 21 12.5	-4.4
RAGM	Ragged Mountai	5.20	31	Pn	Pn	20 21 14.2	-4.2
N19K	Bonanza Creek	5.29	336	Pn	Pn	20 21 15.7	-4.0
SUA	Susitna One	5.42	357	Pn	Pn	20 21 16.0	-5.6
KNK	Knik Glacier	5.43	8	Pn	Pn	20 21 16.5	-5.1
BERG	Berg Lake	5.50	35		Pn	20 21 17.7	-4.8
N18K	Kilae Creek	5.54	329		Pn	20 21 18.1	-5.0
CNBA	Chernabura Isl	5.54	261	Pn	Pn	20 21 19.2	-3.9
O16K	Kokwok River B	5.54	313	Pn	Pn	20 21 18.6	-4.5
PMR	Palmer	5.57	5	Pn	Pn	20 21 19.4	-4.0
SNH	Sunshine Point	5.64	40	Pn	Pn	20 21 20.3	-4.2
GHO	Glory Hole Cre	5.76	6	Pn	Pn	20 21 20.4	-5.7
SVW2	Sparrevohn	5.80	333	Pn	Pn	20 21 21.5	-5.2
N17K	Nushagak Hills	5.83	323		Pn	20 21 22.3	-4.7
SML	Sawmill	5.83	8	Pn	Pn	20 21 23.0	-4.1
KLU	Klutina	5.86	20	Pn	Pn	20 21 24.1	-3.4
SCM	Sheep Creek Mo	5.96	13	Pn	Pn	20 21 24.5	-4.4
SKT	Skwentna	5.98	353	Pn	Pn	20 21 24.6	-4.5
M20K	Styx River	6.04	346	Pn	Pn	20 21 24.8	-5.3
VRDI	Verde Repeater	6.23	31	Pn	Pn	20 21 28.4	-4.3
N25K	Chitina, Valde	6.25	25	Pn	Pn	20 21 29.0	-3.8
M19K	Big River Lodg	6.26	341	Pn	Pn	20 21 27.5	-5.5
GLB	Gilahina Butte	6.30	29		Pn	20 21 29.2	-4.4
CUT	Chulitna	6.36	359	Pn	Pn	20 21 30.1	-4.1
M24K	Tolsona, Glenn	6.39	17	Pn	Pn	20 21 31.9	-2.9
MCARA	McCarthy VSAT	6.48	32	Pn	Pn	20 21 32.6	-3.3
M17K	Holitna River	6.57	328		Pn	20 21 32.5	-4.7
L19K	White Mountain	6.60	340	Pn	Pn	20 21 33.1	-4.5
BARN	Barnard Glacie	6.67	38	Pn	Pn	20 21 35.3	-3.5
N15K	Kwethluk River	6.70	312		Pn	20 21 34.8	-4.2
LOGN	Logan Glacier	6.75	41		Pn	20 21 35.9	-3.8
O14K	Tigyukauivet M	6.79	303	Pn	Pn	20 21 35.9	-4.2
BCPM	Bancas Point	6.79	51	Pn	Pn	20 21 36.7	-3.5
M16K	Timber Creek	6.79	321		Pn	20 21 34.9	-5.4
L18K	Granite Mounta	7.04	334	Pn	Pn	20 21 37.7	-5.9
DHY	Denali Highway	7.17	10	Pn	Pn	20 21 41.3	-3.7
M26K	Nabesna, AK	7.32	27	Pn	Pn	20 21 43.6	-3.9
RND	Reindeer	7.39	4	Pn	Pn	20 21 45.4	-3.1
TRF	Thorofare Moun	7.41	359	Pn	Pn	20 21 45.1	-3.7
O29M	Mount Kennedy	7.42	50		Pn	20 21 45.5	-3.5
CAST	Castle Rocks	7.45	353	Pn	Pn	20 21 45.9	-3.3
L16K	Owhat River	7.45	323	Pn	Pn	20 21 44.2	-5.1
P29M	Windy Craggy	7.50	56		Pn	20 21 46.5	-3.5
TTA	Tatalina	7.51	339	Pn	Pn	20 21 45.1	-5.0
KTH	Kantishna Hill	7.52	357	Pn	Pn	20 21 45.2	-5.1
K20K	Telida	7.58	346	Pn	Pn	20 21 47.9	-3.2
MENT	Mentasta	7.62	23	Pn	Pn	20 21 46.7	-4.8
M14K	Bethel	7.80	312	Pn	Pn	20 21 50.1	-3.9
K17K	Iditarod	7.87	331	Pn	Pn	20 21 51.0	-4.0
BPAW	Bear Paw Mtn.	8.07	357	Pn	Pn	20 21 53.7	-4.1
J16K	Innoko River	8.13	339	Pn	Pn	20 21 53.5	-5.1
RIDG	Independent Ri	8.14	17	Pn	Pn	20 21 55.4	-3.3
BWN	Browne	8.14	2	Pn	Pn	20 21 55.3	-3.4
HYT	Haines Junctio	8.14	48	Pn	Pn	20 21 56.2	-2.7
L27K	Beaver Creek,	8.17	27	Pn	Pn	20 21 55.6	-3.5
BCAR	Beaver Creek A	8.19	28	Pn	Pn	20 21 56.3	-3.0
M13K	Dall Lake	8.23	307	Pn	Pn	20 21 55.6	-4.3
J20K	Nowinta River	8.38	348	Pn	Pn	20 21 59.0	-3.0
L14K	Kuka Creek	8.41	314	Pn	Pn	20 21 58.6	-3.8
J19K	Poorman	8.42	343	Pn	Pn	20 21 58.7	-3.8
HDA	Harding Lake	8.52	9		Pn	20 21 59.6	-4.2
K15K	Wolf Creek Mou	8.56	322	Pn	Pn	20 21 59.9	-4.6
NEA2	Nenana	8.57	3	Pn	Pn	20 21 58.9	-5.7
SKAG	Skagway	8.60	61	Pn	Pn	20 22 00.3	-4.6
S32K	Killisnoo	8.64	74	Pn	Pn	20 22 01.9	-3.7
N30M	Aishikik Lake	8.65	46	Pn	Pn	20 22 02.1	-3.7
CCB	Clear Creek Bu	8.68	7	Pn	Pn	20 22 01.7	-4.4
M29M	Somme Creek	8.73	38		Pn	20 22 03.8	-3.2
R32K	Eaglecrest	8.75	69	Pn	Pn	20 22 03.0	-4.1
JIS	Juneau Island	8.82	69	Pn	Pn	20 22 04.7	-3.3
IL31		8.88	9	Pn	Pn	20 22 05.2	-3.6
J25K	Salcha River,	8.89	13	Pn	Pn	20 22 05.9	-3.1
J16K	Anvik River	8.97	328	Pn	Pn	20 22 04.7	-5.4
MLY	Manley	9.00	358	Pn	Pn	20 22 05.1	-5.5
J26L	Joseph Creek	9.06	18		Pn	20 22 06.9	-4.4
N31M	Braeburn, Yuko	9.20	48	Pn	Pn	20 22 09.7	-3.6
L29M	L29M	9.30	36		Pn	20 22 11.5	-3.1
M30M	Minto, Yukon	9.41	41	Pn	Pn	20 22 12.6	-3.6
P32M	Atlin	9.42	61	Pn	Pn	20 22 11.9	-4.5
U33K	Whale Pass	9.49	83	Pn	Pn	20 22 13.3	-3.9
EGAK	Eagle	9.78	23	Pn	Pn	20 22 17.5	-3.6
P33M	Teslin, Yukon	10.03	58	Pn	Pn	20 22 20.4	-4.3
H17K	Granite Mounta	10.11	336	Pn	Pn	20 22 20.5	-5.3
M31M	Drury Creek, Y	10.13	46	Pn	Pn	20 22 21.3	-4.7
N32M	Quiet Lake	10.22	53	Pn	Pn	20 22 23.2	-4.0
S34M	Telegraph Cree	10.51	72	Pn	Pn	20 22 27.8	-3.3
FARO	Faro, Yukon	10.57	47	Pn	Pn	20 22 28.8	-3.2
G19K	Purcell Mounta	10.65	344	Pn	Pn	20 22 27.7	-5.4
G23K	Bananza Creek	10.68	0	Pn	Pn	20 22 29.1	-4.4
G24K	Hadweenzic Riv	10.75	6	Pn	Pn	20 22 30.7	-3.7
DLBC	Dease Lake	11.12	69	Pn	Pn	20 22 34.4	-5.3
ANM	Nome	11.37	325	Pn	Pn	20 22 38.5	-4.3
F28M	Old Crow	12.53	18	Pn	Pn	20 22 51.9	-6.9
G30M	tAoh Zraii Nji	12.75	25	Pn	Pn	20 22 54.5	-7.3

*IDC **23** 20:20:08.0±0.9, 55˚.79N×149˚.11W, h0km, mb3.7/11, mbtmp3.8/16, ML3.8/5, MS3.4/7, Error ellipse: s-maj=25.3km s-min=17.8km az=30.0*

*NEIC **23** 20:20:12.7±1.5, 56˚.11N±0˚.07×149˚.41W±0˚.10, h17km±6km, mb4.2/25, ML4.3/50, ML3.6(AEIC), Error ellipse: s-maj=10.5km s-min=7.7km az=187.0*

*AEIC **23** 20:20:17.7±1.8, 56˚.20N±0˚.08×149˚.4W±0˚.1, h6km±6km, Error ellipse: s-maj=11.2km s-min=8.6km az=183.0*

ISC 23 20:20:11.2±0.6, 56˚.15N±0˚.07×149˚.38W±0˚.05, h10km, n302, σ1♀36/298, mb4.1/21, MS3.5/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.40	314	Pn	Pn	20 20 52.0	+1.4
KDAK				IAML		20 21 20.4	
	654nm,0.6s						
KDAK				IAML		20 21 21.0	
	690nm,0.4s						
KDAK	Kodiak Island	2.40	314		Sn	20 21 18.8	-1.1
KDAK	Kodiak Island	2.40	314	Pn	Pn	20 20 52.1	+1.6
	7.5nm,0.3s,baz=163,slow=6.0,SNR=7.4						
KDAK					Sn	20 21 18.9	-1.0
	162nm,0.3s,baz=39,slow=22,SNR=44						
KDAK					LR	20 22 12.3	
	comp=Z,400nm,20.1s,baz=153,slow=45						
	18nm,0.3s						
OHAK	Old Harbor	2.41	298		Pn	20 20 51.4	+0.8
OHAK	Old Harbor	2.41	298		Sn	20 21 18.5	-1.6
OHAK	Old Harbor	2.41	298	P	Pn	20 20 51.6	+1.0
	baz=116						
OHAK				S	Sn	20 21 18.8	-1.3
	baz=116						
Q20K	Shuyak Island	2.96	328	P	Pn	20 20 59.7	+1.5
	baz=146						
Q20K				S	Sn	20 21 33.7	0.0
	baz=146						
SYI	Shuyak Island	2.96	328	Pn	Pn	20 20 59.6	+1.4
SYI	Shuyak Island	2.96	328		Sn	20 21 33.7	0.0
SYI	Shuyak Island	2.96	328	IAML		20 21 34.8	
	comp=E,511nm,0.4s						
SYI				IAML		20 21 36.8	
	comp=N,496nm,0.4s						
R18K	Karluk	3.13	299	IAML		20 21 37.1	
	comp=N,997nm,0.5s						
R18K				IAML		20 21 44.2	
	comp=E,1μm,0.4s						
R18K	Karluk	3.13	299		Pn	20 21 02.2	+1.8
R18K					Sn	20 21 36.5	-1.2
CNPM	China Poot	3.53	344		Pn	20 21 06.9	+0.8
CNPM				IAML		20 21 49.6	
	comp=N,589nm,0.4s						
CNPM				IAML		20 21 50.1	
	comp=E,462nm,0.6s						
CNPM	China Poot	3.53	344		Sn	20 21 47.2	-0.7
Q19K	Cape Douglas,	3.61	322	Pn	Pn	20 21 09.7	+2.4
Q19K				IAML		20 21 56.0	
	comp=N,1μm,0.8s						
Q19K				IAML		20 21 57.6	
	comp=E,2μm,1.1s						
KAHG	Katmai Hook Gl	3.66	312		Pn	20 21 10.5	+2.6
Q23K	Middleton Isla	3.67	25	Pn	Pn	20 21 08.9	+0.9
Q23K				IAML		20 22 04.5	
	comp=E,356nm,2.3s						
Q23K	Middleton Isla	3.67	25	P	Pn	20 21 09.0	+1.1
	baz=208						
MID	Middleton Isla	3.67	25	Pn	Pn	20 21 08.7	+0.7
MID				IAML		20 22 03.5	
	comp=E,348nm,2.3s						
BRSE	Bradley Lake S	3.68	349		Pn	20 21 09.1	+1.0
BRSE					Sn	20 21 50.5	-1.0
BRSE	Bradley Lake S	3.68	349	P	Pn	20 21 09.1	+1.0
	baz=168						
BRLK	Bradley Lake	3.72	348		Pn	20 21 09.4	+0.7
BRLK				Sn	Sn	20 21 51.1	-1.3
BRLK				IAML		20 21 52.8	
	comp=N,241nm,0.5s						
BRLK				IAML		20 21 53.2	
	comp=E,304nm,0.6s						
HOM	Homer	3.72	342	Pn	Pn	20 21 08.3	-0.3
HOM				IAML		20 21 54.5	
	comp=N,699nm,0.4s						
HOM				IAML		20 22 04.6	
	comp=E,487nm,1.0s						
ACHA	Angle Creek He	3.84	305		Pn	20 21 12.4	+2.0
AU22	Augustine Moun	3.87	328		Pn	20 21 12.3	+1.6
SEW	Seward	3.97	360		Pn	20 21 12.7	+0.6
SEW	Seward	3.97	360	P	Pn	20 21 12.7	+0.6
	baz=180						
P23K	Montague Islan	4.00	14	P	Pn	20 21 13.8	+1.2
	baz=196						
P19K	Oil Pt	4.07	331	Pn	Pn	20 21 15.5	+2.0
CNTC	Contact Creek	4.12	304		Pn	20 21 16.3	+2.0
O22K	Cooper Landing	4.35	358		Pn	20 21 18.2	+0.9
P18K	Big Mountain,	4.51	319	Pn	Pn	20 21 20.6	+1.0
HIN	Hinchinbrook I	4.53	18		Pn	20 21 21.1	+1.3
HIN				IAML		20 22 12.0	
	comp=E,230nm,0.8s						
HIN				IAML		20 22 12.2	
	comp=N,218nm,0.9s						
KAIM	Kayak Island	4.62	33		Pn	20 21 22.4	+1.5
KAIM				IAML		20 22 14.9	
	comp=N,258nm,0.5s						
KAIM				IAML		20 22 22.0	
	comp=E,279nm,0.7s						
RSO	Redoubt South	4.68	339	Pn	Pn	20 21 22.7	+0.7
CAPN	Captain Cook N	4.73	349	Pn	Pn	20 21 24.6	+2.2
DFR	Drift River	4.79	340		Pn	20 21 24.2	+0.8
EYAK	Cordova Ski Ar	4.81	22	Pn	Pn	20 21 24.7	+1.1
O19K	Port Alsworth	4.83	329	Pn	Pn	20 21 24.8	+0.9
O18K	Koktuh Hills	4.84	323		Pn	20 21 25.3	+1.2
O18K				IAML		20 22 33.1	
	comp=E,128nm,0.9s						
RAGM	Ragged Mountai	4.93	28	Pn	Pn	20 21 26.5	+1.3
RAGM				IAML		20 22 24.4	
	comp=N,548nm,0.5s						
RAGM				IAML		20 22 32.6	
	comp=E,342nm,0.6s						
RC01	Rabbit Creek A	4.96	358		Pn	20 21 26.6	+0.9
RC01				IAML		20 22 24.1	
	comp=E,251nm,0.3s						
RC01				IAML		20 22 25.0	
	comp=N,194nm,0.5s						
RC01	Rabbit Creek A	4.96	358	P	Pn	20 21 26.9	+1.2
	baz=178						
FIS	Fire Island	5.03	355	Pn	Pn	20 21 28.4	+1.7
FIS				IAML		20 22 27.5	
	comp=N,333nm,0.8s						
CHGN	Chignik	5.04	276	Pn	Pn	20 21 27.4	+0.6
CHGN				IAML		20 22 25.0	
	comp=N,161nm,0.7s						
CHGN				IAML		20 22 28.2	
	comp=E,132nm,0.5s						
BERG	Berg Lake	5.21	33	Pn	Pn	20 21 30.5	+1.4
BERG				IAML		20 22 30.4	
	comp=N,302nm,0.4s						
BERG				IAML		20 22 34.4	
	comp=E,310nm,0.7s						
KNK	Knik Glacier	5.30	5		Pn	20 21 30.6	+0.2
KNK				IAML		20 22 30.6	
	comp=E,124nm,0.8s						
KNK				IAML		20 22 35.7	
	comp=N,110nm,0.5s						
KNK	Knik Glacier	5.30	5	P	Pn	20 21 31.8	+1.4
	baz=186						
SNH	Sunshine Point	5.33	38		Pn	20 21 31.1	+0.3
SNH				IAML		20 22 50.8	
	comp=E,131nm,2.4s						
SNH				IAML		20 24 23.5	
	comp=N,144nm,3.0s						
SPCP	Crater Peak Br	5.33	345		Pn	20 21 32.2	+1.2
DIV	Divide	5.34	19		Pn	20 21 30.9	-0.1
SUA	Susitna One	5.38	353		Pn	20 21 31.8	+0.2
SUA	Susitna One	5.38	353	P	Pn	20 21 32.1	+0.6
	baz=172						
N19K	Bonanza Creek	5.39	332	Pn	Pn	20 21 32.3	+0.6
BMRM	Bremner River	5.44	25	Pn	Pn	20 21 33.5	+1.2
PMR	Palmer	5.46	1		Pn	20 21 33.3	+0.7
PMR	Palmer	5.46	1	P	Pn	20 21 34.9	+2.3
PMR	Palmer	5.46	1	P	Pn	20 21 34.3	+1.7
	baz=182						
GHO	Glory Hole Cre	5.65	2		Pn	20 21 36.1	+0.9
KLU	Klutina	5.66	17	Pn	Pn	20 21 36.0	+0.7
KLU	Klutina	5.66	17	P	Pn	20 21 37.5	+2.2
	baz=200						
SML	Sawmill	5.71	5		Pn	20 21 37.3	+1.3
SML	Sawmill	5.71	5	P	Pn	20 21 38.0	+2.0
	baz=186						
M23K	Glacier View	5.73	8	P	Pn	20 21 38.4	+2.2
	baz=189						
O16K	Kokwok River B	5.79	310	Pn	Pn	20 21 38.2	+1.2
SCM	Sheep Creek Mo	5.80	10		Pn	20 21 38.8	+1.5
SCM	Sheep Creek Mo	5.80	10	P	Pn	20 21 39.5	+2.2
	baz=192						
SVW2	Sparrevohn	5.93	329	Pn	Pn	20 21 40.0	+1.0
CHNA	Chernabura Isl	5.95	261	P	Pn	20 21 40.5	+1.2
	baz=73						
CNBA	Chernabura Isl	5.95	261		Pn	20 21 39.4	+0.1
SKT	Skwentna	5.96	350	Pn	Pn	20 21 40.7	+1.4
VRDI	Verde Repeater	5.96	29		Pn	20 21 40.8	+1.2
N25K	Chitina, Valde	6.01	22	Pn	Pn	20 21 41.8	+1.6
N25K	Chitina, Valde	6.01	22	P	Pn	20 21 42.6	+2.4
	baz=206						
GLB	Gilahina Butte	6.05	26	Pn	Pn	20 21 42.3	+1.6
SAMH	Samovar Hills	6.06	45		Pn	20 21 42.8	+2.0
M20K	Styx River	6.07	343		Pn	20 21 42.1	+1.1
YKU2	Yakutat	6.19	53	Pn	Pn	20 21 43.7	+1.2
YKU2	Yakutat	6.19	53	P	Pn	20 21 45.7	+3.2
M24K	Tolsona, Glenn	6.20	14		Pn	20 21 43.9	+1.1
M24K	Tolsona, Glenn	6.20	14	P	Pn	20 21 45.3	+2.5
	baz=197						
MCARA	McCarthy VSAT	6.21	30	Pn	Pn	20 21 43.8	+1.0
MCARA	McCarthy VSAT	6.21	30	P	Pn	20 21 45.6	+2.8
	baz=215						
PCA	Pinnacle	6.25	47		Pn	20 21 44.5	+1.1
CUT	Chulitna	6.29	356	Pn	Pn	20 21 45.3	+1.3
SDPT	Sand Point	6.32	267	Pn	Pn	20 21 44.9	+0.6
SDPT	Sand Point	6.32	267	P	Pn	20 21 46.5	+2.2
M19K	Big River Lodg	6.33	338		Pn	20 21 45.6	+1.2
BARN	Barnard Glacie	6.37	36	Pn	Pn	20 21 47.0	+1.8
CTGM	Chitina Glacie	6.41	38	Pn	Pn	20 21 47.5	+1.8
LOGN	Logan Glacier	6.42	40	Pn	Pn	20 21 47.6	+1.6
BCPM	Bancas Point	6.43	50		Pn	20 21 48.4	+2.5
WAT6	Susitna Watana	6.51	7	P	Pn	20 21 48.8	+1.7
	baz=188						
HARP	HAARP	6.63	17		Pn	20 21 51.1	+2.4
HARP	HAARP	6.63	17	P	Pn	20 21 51.5	+2.8
	baz=201						
L19K	White Mountain	6.67	337		Pn	20 21 49.6	+0.4
WAT7	Susitna Watana	6.71	2		Pn	20 21 51.6	+1.8
M17K	Holitna River	6.73	325	Pn	Pn	20 21 50.6	+0.7
PPLA	Purkeypile	6.92	349		Pn	20 21 54.0	+1.3
N15K	Kwethluk River	6.95	310	Pn	Pn	20 21 55.0	+2.0
M16K	Timber Creek	6.99	318	Pn	Pn	20 21 54.9	+1.3
DHY	Denali Highway	7.03	7	Pn	Pn	20 21 55.6	+1.4
O29M	Mount Kennedy	7.06	49	Pn	Pn	20 21 55.8	+1.2
M26K	Nabesna, AK	7.07	25	Pn	Pn	20 21 55.5	+0.7
O14K	Tigyukauivet M	7.09	301		Pn	20 21 56.0	+1.2
P29M	Windy Craggy	7.12	56	Pn	Pn	20 21 55.8	+0.4
PAX	Paxson	7.13	15	Pn	Pn	20 21 57.0	+1.5
L18K	Granite Mounta	7.15	331	Pn	Pn	20 21 56.4	+0.7
PN7A	Pavlof North-7	7.15	270		Pn	20 21 56.8	+1.0
RND	Reindeer	7.29	2		Pn	20 21 59.3	+1.6
M27K	Edge Creek, AK	7.32	29		Pn	20 21 59.5	+1.3
TRF	Thorofare Moun	7.34	357		Pn	20 21 59.6	+1.1
YUK7	Dusty Glacier	7.37	49		Pn	20 22 00.9	+2.0
MENT	Mentasta	7.39	21		Pn	20 22 00.6	+1.5
S31K	Pelican	7.40	70		Pn	20 21 58.5	-0.6
CAST	Castle Rocks	7.42	351		Pn	20 22 00.8	+1.4
KTH	Kantishna Hill	7.47	355	Pn	Pn	20 22 02.0	+1.8
L26K	Log Cabin Wild	7.55	21		Pn	20 22 02.5	+1.3
TTA	Tatalina	7.59	336	Pn	Pn	20 22 02.6	+0.8
TTA	Tatalina	7.59	336	P	Pn	20 22 03.5	+1.7
K20K	Telida	7.61	344		Pn	20 22 02.9	+0.9
MCK	McKinley	7.62	2	Pn	Pn	20 22 03.6	+1.5
L16K	Owhat River	7.63	321	Pn	Pn	20 22 03.5	+1.1
HYT	Haines Junctio	7.79	48		Pn	20 22 04.8	+0.2
SIT	Sitka	7.81	77	Pn	Pn	20 22 04.0	-0.7
SIT	Sitka	7.81	77	P	Pn	20 22 04.1	-0.7
L27K	Beaver Creek,	7.92	26		Pn	20 22 06.7	+0.4
BCAR	Beaver Creek A	7.93	26	Pn	Pn	20 22 07.2	+0.8
RIDG	Independent Ri	7.95	15		Pn	20 22 07.9	+1.1
K17K	Iditarod	8.00	329	Pn	Pn	20 22 08.1	+0.8
BPAW	Bear Paw Mtn.	8.02	355		Pn	20 22 08.1	+0.4
BWN	Browne	8.05	360		Pn	20 22 09.3	+1.2
FALS	False Pass	8.07	267	P	Pn	20 22 10.1	+1.7
SKAG	Skagway	8.21	60		Pn	20 22 11.6	+1.5
SKAG	Skagway	8.21	60	P	Pn	20 22 12.4	+2.2
J18K	Innoko River	8.21	336	Pn	Pn	20 22 10.8	+0.6
BESE	Bessie Mountai	8.22	67	Pn	Pn	20 22 10.4	-0.1
S32K	Killisnoo	8.23	75	Pn	Pn	20 22 10.1	-0.4
SCRK	Sand Creek	8.30	17		Pn	20 22 13.5	+1.8
N30M	Aishikik Lake	8.31	45		Pn	20 22 13.8	+2.1
R32K	Eaglecrest	8.35	69	Pn	Pn	20 22 13.4	+1.2
O30N	Mendenhall	8.36	51		Pn	20 22 14.1	+1.7
HDA	Harding Lake	8.38	7	Pn	Pn	20 22 14.7	+2.2
J20K	Nowinta River	8.40	346		Pn	20 22 13.6	+0.8
JIS	Juneau Island	8.42	69		Pn	20 22 13.4	+0.3
JIS	Juneau Island	8.42	69	P	Pn	20 22 14.3	+1.2
M29M	Somme Creek	8.42	37	Pn	Pn	20 22 16.0	+2.8
J19K	Poorman	8.46	341		Pn	20 22 13.8	+0.1
NEA2	Nenana	8.48	1		Pn	20 22 14.5	+0.6
M13K	Dall Lake	8.51	306	Pn	Pn	20 22 15.8	+1.6
CCB	Clear Creek Bu	8.56	5		Pn	20 22 16.4	+1.3
L14K	Kuka Creek	8.65

WTLY	Watson Lake, Y	11.57	61			Pn		20 22 55.4	-0.8
NIKH	Nikolski High	11.73	262	Pn		Pn		20 22 58.4	-0.1
F17K	Baldwin Pennin	11.77	336	Pn		Pn		20 22 59.5	+0.7
EPYK	Eagle Plains	11.90	25	Pn		Pn		20 23 01.1	+0.4
E19K	Redstone River	11.93	345			Pn		20 23 01.6	+0.6
G29M	Pine Creek	12.05	22			Pn		20 23 02.7	-0.1
E25K	Arctic Village	12.15	7			Pn		20 23 03.6	-0.5
F28M	Old Crow	12.33	17	Pn		Pn		20 23 07.0	+0.4
G30M	tAoh Zraii Nji	12.51	24			Pn		20 23 09.9	+0.8
E27K	Coleen River	12.60	13			Pn		20 23 10.6	+0.2
D22K	Ayikyak River	12.87	355			Pn		20 23 14.2	+0.2
G31M	Satah River	12.94	27	Pn		Pn		20 23 15.5	+0.6
D19K	Kuna River	13.02	346	Pn		Pn		20 23 15.4	-0.5
D24K	Happy Valley	13.06	1			Pn		20 23 15.3	-1.2
E28M	Babbage River	13.28	16			Pn		20 23 18.8	-0.7
D25K	Kavik River	13.29	5			Pn		20 23 18.0	-1.8
E29M	Blow River	13.36	19			Pn		20 23 19.5	-1.1
F31M	Tsiigehtchic	13.47	27	Pn		Pn		20 23 20.7	-1.4
C18K	Utukok River	13.65	341	Pn		Pn		20 23 23.9	-0.7
D27M	Malcolm River	13.68	13			Pn		20 23 25.6	+0.6
B21K	Ikpikpuk River	13.73	352			Pn		20 23 25.6	+0.1
C19K	Lookout Ridge	13.79	345	Pn		Pn		20 23 26.4	-0.2
C16K	Lisburne Hills	14.19	335	Pn		Pn		20 23 29.8	-2.1
INK	Inuvik	14.19	24	Pn		Pn		20 23 30.6	-1.4
INK	Inuvik	14.19	24	Pn		Pn		20 23 34.0	+2.1
	comp=N,0.4nm,0.3s,baz=205,slow=15,SNR=36								
	comp=N,22nm,0.9s								
B20K	Meade River	14.33	349			Pn		20 23 32.3	-1.6
B22K	Teshekpuk Lake	14.36	354			Pn		20 23 33.2	-1.0
ADK	Adak	16.55	267	Pn		Pn		20 24 01.3	-1.8
ADK	Adak	16.55	267	P		Pn		20 24 04.9	+1.8
YKA	Yellowknife Ar	18.66	56			P		20 24 30.0	+1.0
YKA	Yellowknife Ar	18.66	56	P		P		20 24 27.6	-1.4
	comp=N,0.1nm,0.3s,baz=265,slow=10,SNR=5.7								
	comp=N,0.5nm,0.7s								
A36M	Sachs Harbour	18.83	23	P		P		20 24 31.4	+0.7
A36M				IAmb		IAmb		20 24 43.6	
	comp=Z,14nm,0.7s								
K02D	Willamette Mer	21.31	118	P		P		20 24 58.1	+0.1
KBO	Bosley Butte	21.40	120	P		P		20 24 58.1	-0.8
E09A	Wood Farm, Sta	21.59	103	P		P		20 25 00.7	-0.2
HUMO	Hull Mountain	21.72	117	P		P		20 25 01.9	-0.5
HUMO				IAmb		IAmb		20 25 04.0	
	comp=Z,17nm,1.4s								
J05D	Fort Rock, OR	22.10	114	P		P		20 25 07.7	+1.1
J05D				IAmb		IAmb		20 25 12.3	
	comp=Z,17nm,1.3s								
F10A	Beach Ranch, E	22.43	103	P		P		20 25 10.6	+0.6
F10A				IAmb		IAmb		20 25 13.6	
	comp=Z,7.0nm,0.9s								
I07A	Izee	22.45	110	P		P		20 25 11.2	+1.0
K05A	Summer Lake	22.68	114	P		P		20 25 14.9	+2.1
PLID	Pearl Lake	23.66	104	P		P		20 25 23.4	+0.7
MSO	Missoula	23.71	98	P		P		20 25 23.6	+0.4
MSO				IAmb		IAmb		20 25 47.5	
	comp=Z,8.9nm,1.5s								
WVOR	Wild Horse Val	24.05	112	P		P		20 25 25.8	-0.6
WVOR				IAmb		IAmb		20 25 29.4	
	comp=Z,7.2nm,1.0s								
OVMT	Ovando	24.10	97	P		P		20 25 26.1	-0.8
HLID	Hailey	25.52	105	P		P		20 25 39.6	-0.2
MCMT	McKenzie Canyo	25.55	101	P		P		20 25 40.3	+0.2
PAHR	Pah Rah Range	25.68	117	P		P		20 25 41.5	+0.2
PAHR				IAmb		IAmb		20 25 43.5	
	comp=Z,3.4nm,0.7s								
ELK	Elko	27.03	110	P		P		20 25 49.2	-4.4
	comp=Z,0.1nm,0.3s,baz=348,slow=19,SNR=1.6								
	comp=Z,0.1nm,0.3s								
NVAR	Mina Array Bea	27.20	117	P		P		20 25 50.1	-5.0
	comp=Z,0.4nm,0.6s,baz=310,slow=8.8,SNR=1.5								
NVAR				LR		LR		20 34 58.7	
	comp=Z,81nm,18.4s,baz=267,slow=33								
	comp=Z,0.4nm,0.6s								
RES	Resolute Bay	27.71	28	LR		LR		20 36 43.6	
	comp=Z,84nm,19.4s,baz=22,slow=36								
R11B	Troy Canyon, C	28.63	114	P		P		20 26 08.9	+1.0
PDAR	Pinedale Array	28.70	101	P		P		20 26 08.6	+0.2
SPR3	Spring Creek 3	28.79	112	P		P		20 26 10.8	+1.4
SPR3				IAmb		IAmb		20 26 12.5	
	comp=Z,9.6nm,1.5s								
FCC	Fort Churchill	29.15	62	P		P		20 26 13.4	+1.4
BSUT	Blindstream Ca	29.57	105	P		P		20 26 17.4	+1.0
BSUT				IAmb		IAmb		20 26 18.8	
	comp=Z,3.1nm,0.9s								
PRN	Pahroc Range	29.62	115	P		P		20 26 17.3	+0.7
GWY	Greenwater Val	29.76	118	P		P		20 26 18.6	+0.7
GWY				IAmb		IAmb		20 26 20.4	
	comp=Z,2.9nm,0.8s								
MSU	Marysvale	30.28	110	P		P		20 26 23.9	+1.4
SRU	San Rafael Swe	30.72	107	P		P		20 26 27.0	+0.7
RSSD	Black Hills	30.88	93	P		P		20 26 27.9	+0.2
RSSD				IAmb		IAmb		20 26 30.1	
	comp=Z,3.2nm,0.8s								
O20A	White River Ci	31.22	103	P		P		20 26 31.0	+0.3
FRB	Frobisher Bay	38.57	45	LR		LR		20 42 34.1	
	comp=Z,97nm,18.4s,baz=224,slow=35								
TXAR	Lajitas Array	41.83	110	PcP		PcP		20 29 56.3	-0.7
	comp=Z,0.4nm,0.8s,baz=297,slow=0.8,SNR=3.5								
SFJD	Kangerlussuaq	43.24	35	LR		LR		20 46 03.2	
	comp=Z,132nm,18.2s,baz=88,slow=36								
H11N2	WAKE ISLAND Hy	48.77	240	T		T		21 20 13.7	
	baz=32,slow=76,SNR=6.9								
H11N3	WAKE ISLAND Hy	48.77	240	T		T		21 20 12.9	
	baz=32,slow=76,SNR=6.2								
H11N1	WAKE ISLAND Hy	48.78	240	T		T		21 20 12.7	
	baz=32,slow=76,SNR=5.0								
H11S1	WAKE ISLAND Hy	49.91	239	T		T		21 23 49.0	
	baz=25								
H11S2	WAKE ISLAND Hy	49.92	239	T		T		21 23 40.5	
	baz=25								
H11S3	WAKE ISLAND Hy	49.92	239	T		T		21 23 32.9	
	baz=25								
SONM	Songino Array	58.68	310	P		P		20 30 09.6	+1.0
	comp=Z,0.5nm,0.8s,baz=54,slow=7.5,SNR=4.0								
	comp=Z,0.5nm,0.8s								
ZALV	Zalesovo Beam	61.64	327	P		P		20 30 29.7	+1.1
	comp=Z,0.5nm,0.5s,baz=36,slow=7.9,SNR=3.5								
	comp=Z,0.5nm,0.5s								
FINES	FINESS Array B	62.70	2	P		P		20 30 36.3	+0.8
	comp=Z,1.3nm,0.7s,baz=347,slow=5.7,SNR=1.6								
	comp=Z,1.3nm,0.7s								
BVAR	Borovoye Array	66.38	335	P		P		20 31 00.0	+0.2
	comp=Z,0.3nm,0.6s,baz=39,slow=5.5,SNR=2.6								
	comp=Z,0.3nm,0.6s								
KURBB	Kurchatov Arra	66.43	329	P		P		20 31 00.6	+0.6
	comp=Z,0.4nm,0.7s,baz=29,slow=6.3,SNR=2.3								
	comp=Z,0.4nm,0.7s								
MKAR	Makanchi Array	68.67	325	P		P		20 31 15.1	+0.7
	comp=Z,0.6nm,0.6s,baz=26,slow=5.3,SNR=10								
	comp=Z,0.6nm,0.6s								
AKASG	Malin Array 3	73.51	1	P		P		20 31 42.9	-0.7
	comp=Z,0.3nm,0.4s,baz=2.0,slow=6.2,SNR=2.0								
	comp=Z,0.3nm,0.4s								
ESDC	Sonseca Array	80.14	26	P		P		20 32 20.0	-1.2
	comp=Z,0.5nm,0.8s,baz=316,slow=5.4,SNR=3.0								
	comp=Z,0.5nm,0.8s								
CMAR	Chiang Mai Arr	86.30	298	P		P		20 32 53.4	+0.1
	comp=Z,0.5nm,0.6s,baz=8.3,slow=5.3,SNR=2.9								
	comp=Z,0.5nm,0.6s								
QSPA	South Pole Qui	145.94	180	PKPbc		PKPdf		20 39 47.9	-0.8
	comp=Z,1.6nm,0.2s,baz=135,slow=1.4,SNR=6.2								
BOSA	Boshof	152.22	10	PKPbc		PKPbc		20 40 06.1	-0.7
	comp=Z,2.4nm,1.0s,baz=21,slow=4.2,SNR=3.7								

*IDC **23** 20:27:49.3±1.1,5.°84S×12.°48W,h0km,mb4.1/10, mbtmp4.1/10,MS3.6/8,Error ellipse: s-maj=36.0km s-min=25.9km az=133.0*
*NEIC **23** 20:27:52±1.8,5.°9S±0.°1×12.°6W±0.°1,h14km±4km,mb4.8/8, Error ellipse: s-maj=23.6km s-min=12.1km az=132.0*
ISC 23 20:27:51.3±0.6,5.°9S±0.°1×12.°5W±0.°1,h10km,n46, σ1ᵗ15/36,mb4.4/25,MS3.5/7,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	Ascension	2.72	222	Pn	Pn	20 28 35.2	+0.1
ASCN				Sn	Sn	20 29 05.9	-2.3
H10N2	ASCENSION HYDR	2.74	225	T	T	20 31 30.1	
	baz=43,slow=73,SNR=3714						
H10N1	ASCENSION HYDR	2.74	225	T	T	20 31 30.7	
	baz=43,slow=73,SNR=3732						
H10N3	ASCENSION HYDR	2.76	225	T	T	20 31 31.5	
	baz=43,slow=73,SNR=3059						
H10S2	ASCENSION HYDR	3.70	215	T	T	20 32 43.3	
	baz=186,slow=74,SNR=144						
H10S3	ASCENSION HYDR	3.70	215	T	T	20 32 43.8	
	baz=34,slow=74,SNR=301						
DBIC	Dimbokro	14.64	32	LR	LR	20 35 32.3	
	comp=Z,154nm,21.4s,baz=196,slow=32						
TORD	Torodi Ar. Bea	23.61	37	P	P	20 33 02.7	+0.1
TORD	Torodi Ar. Bea	23.61	37	P	P	20 33 00.2	-2.4
	1.1nm,0.8s,baz=230,slow=7.3,SNR=5.9						
TORD				LR	LR	20 40 54.0	
	comp=Z,97nm,18.9s,baz=332,slow=33						
	1.1nm,0.8s						
TSUM	Tsumeb	32.15	117	LR	LR	20 44 57.2	
	comp=Z,91nm,19.0s,baz=344,slow=32						
BDFB	Brasilia	36.13	252	P	P	20 34 54.0	-0.1
	2.9nm,0.8s,baz=62,slow=11,SNR=3.2						
	2.9nm,0.8s						
MDT	Midelt	39.23	11	LR	LR	20 50 44.9	
	comp=Z,168nm,19.4s,baz=163,slow=35						
AVE	Averroes	39.28	7	P	P	20 35 22.2	+1.8
AVE				IAmb	IAmb	20 36 31.3	
	comp=Z,35nm,1.2s						
SUR	Sutherland	40.74	135	P	P	20 35 35.7	+2.9
SUR				IAmb	IAmb	20 35 55.1	
	comp=Z,66nm,1.8s						
SUR	Sutherland	40.74	135	LR	LR	20 49 53.1	
	comp=Z,142nm,19.1s,baz=340,slow=32						
LBTB	Lobatse	41.15	122	LR	LR	20 50 24.1	
	comp=Z,65nm,18.4s,baz=251,slow=33						
BOSA	Bosnof	42.27	127	P	P	20 35 45.0	-0.3
	comp=Z,2.2nm,0.9s,baz=235,slow=12,SNR=1.9						
BOSA				LR	LR	20 52 33.7	
	comp=Z,33nm,18.9s,baz=144,slow=35						
	comp=Z,2.2nm,0.9s						
BOAV	Boa Vista	48.64	278		P	20 36 37.1	+1.2
BOAV				IAmb	IAmb	20 36 38.5	
	comp=Z,11nm,0.7s						
ETMB	Extrema	53.29	262		P	20 37 12.8	+1.9
ETMB				IAmb	IAmb	20 37 13.6	
	comp=Z,5.5nm,0.9s						
FETA	Feichten	56.57	19	*eP*	P	20 37 34.1	-0.2
	comp=Z,2.8nm,0.9s						
SQTA	Sankt Quirin	56.90	19	*eP*	P	20 37 36.1	-0.4
	comp=Z,5.4nm,0.6s						
ABTA	Abfaltersbach	56.93	20	*eP*	P	20 37 37.6	+0.9
	comp=Z,4.6nm,0.8s						
MOTA	Moosalm	56.98	19	*eP*	P	20 37 36.0	-1.2
	comp=Z,2.8nm,0.6s						
RETA	Reute	56.99	19	*eP*	P	20 37 36.5	-0.7
	comp=Z,5.8nm,1.1s						
WTTA	Wattenberg	57.08	19	*eP*	P	20 37 38.0	+0.1
	comp=Z,7.4nm,0.7s						
OBKA	Obir	57.45	22	*eP*	P	20 37 42.0	+1.5
	comp=Z,0.8nm,0.5s						
LESA	Schwarzleotal	57.57	20	*eP*	P	20 37 41.0	-0.3
	comp=Z,2.3nm,0.5s						
SOKA	Soboth	57.78	22	*i P*	P	20 37 43.8	+1.0
	comp=Z,1.8nm,0.7s						
RONA	Rosalia, Austr	59.10	22	*eP*	P	20 37 53.3	+1.3
	comp=Z,4.7nm,0.9s						
CONA	Conrad Observa	59.13	22	*eP*	P	20 37 53.0	+0.8
	comp=Z,3.4nm,1.1s						
GEC2	GERESS Array S	59.14	20	P	P	20 37 51.5	-0.7
GEC2				IAmb	IAmb	20 37 53.3	
	comp=Z,4.8nm,0.9s						
GERES	GERESS Array B	59.14	20	P	P	20 37 52.0	-0.2
GERES	GERESS Array B	59.14	20	P	P	20 37 52.0	-0.2
	comp=Z,3.3nm,0.7s,baz=193,slow=5.3,SNR=12						
	comp=Z,3.3nm,0.7s						
VRAC	Vranov	60.55	21	LR	LR	21 03 33.2	
	comp=Z,76nm,18.5s,baz=167,slow=35						
BURAR	Bucovina Array	62.80	28	P	P	20 38 16.9	-0.3
AKASG	Malin Array Be	66.85	27	P	P	20 38 42.6	-0.7
	comp=Z,2.1nm,0.6s,baz=229,slow=6.7,SNR=13						
	comp=Z,2.1nm,0.6s						
HFS	Hagfors	69.00	14	P	P	20 38 56.1	-0.6
	comp=Z,3.8nm,0.8s,baz=198,slow=7.5,SNR=4.8						
	comp=Z,3.8nm,0.8s						
FINES	FINESS Array B	73.50	18	P	P	20 39 23.9	0.0
FINES	FINESS Array B	73.50	18	P	P	20 39 23.6	-0.2
	comp=Z,2.5nm,0.8s,baz=266,slow=5.7,SNR=6.7						
	comp=Z,2.5nm,0.8s						
FIA1	FINESS Array S	73.50	18	P	P	20 39 22.7	-1.2
ARCES	ARCESS Array B	79.63	13	P	P	20 39 57.5	-1.0
ABKAR	Akbulak array	83.15	39	P	P	20 40 17.2	-0.3
BVAR	Borovoye Array	90.41	37	P	P	20 40 52.5	-0.5
	comp=Z,0.7nm,0.8s,baz=336,slow=3.2,SNR=2.4						
	comp=Z,0.7nm,0.8s						
TXAR	Lajitas Array	93.85	299	P	P	20 41 08.7	-0.9
	comp=Z,0.4nm,0.8s,baz=109,slow=7.0,SNR=4.7						
	comp=Z,0.4nm,0.8s						
KURBB	Kurchatov Arra	95.18	40	P	P	20 41 13.8	-1.2
	comp=Z,0.1nm,0.3s,baz=280,slow=5.5,SNR=2.2						
	comp=Z,0.1nm,0.3s						
ASAR	Alice Springs	135.99	133	PKP	PKPdf	20 47 12.8	-0.8
	comp=Z,0.4nm,0.7s,baz=242,slow=2.0,SNR=4.1						

*IDC **23** 20:41:15.2±0.8,56.°27N×148.°79W,h0km,mb3.9/18, mbtmp3.9/23,ML3.7/5,MS3.7/34,Error ellipse: s-maj=21.1km s-min=13.7km az=34.0*
*NEIC **23** 20:41:17.4±1.2,56.°33N±0.°07×148.°85W±0.°09,h21km±4km, mb4.4/10,ML4.3/56,ML4.0(AEIC),Error ellipse: s-maj=10.4km s-min=7.6km az=175.0*
*AEIC **23** 20:41:19.5±2.0,56.°22N±0.°07×148.°73W±0.°10,h11km±6km, Error ellipse: s-maj=10.9km s-min=7.6km az=174.0*
ISC 23 20:41:16.5±0.6,56.°36N±0.°06×148.°80W±0.°05,h10km, n279,σ0ᵗ99/261,mb4.1/24,MS3.7/28,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.51	306		Pn	20 41 56.8	-0.5
KDAK	Kodiak Island	2.51	306	Pn	Pn	20 41 56.8	-0.5
	28nm,0.3s,baz=131,slow=4.8,SNR=67						
KDAK				Sn	Sn	20 42 25.0	-3.0
	32nm,0.3s,baz=90,slow=20,SNR=11						
KDAK				LR	LR	20 43 11.8	
	comp=Z,2μm,19.5s,baz=141,slow=45						
	51nm,0.3s						
OHAK	Old Harbor	2.62	291		Pn	20 41 57.6	-1.2
OHAK					Sn	20 42 26.9	-3.6
OHAK	Old Harbor	2.62	291	P	Pn	20 41 57.6	-1.2
OHAK	Old Harbor	2.62	291	P	Pn	20 41 57.6	-1.2
	baz=110						
OHAK				S	Sn	20 42 27.0	-3.6
	baz=110						
SYI	Shuyak Island	2.98	321		Pn	20 42 03.6	-0.1
SYI	Shuyak Island	2.98	321		Sn	20 42 38.9	-0.5
Q20K	Shuyak Island	2.98	321	P	Pn	20 42 03.8	0.0
	baz=139						
Q20K				S	Sn	20 42 38.9	-0.6
	baz=139						
R18K	Karluk	3.32	294		Pn	20 42 08.1	-0.3
R18K	Karluk	3.32	294	IAML		20 42 49.1	
	comp=N,729nm,0.5s						
R18K				IAML		20 42 53.9	
	comp=E,638nm,0.3s						
MID	Middleton Isla	3.35	22		Pn	20 42 08.3	-0.5
MID				IAML		20 42 47.3	
	comp=N,379nm,0.7s						
MID				IAML		20 43 00.3	
	comp=E,364nm,1.4s						
MID	Middleton Isla	3.35	22		Sn	20 42 46.2	-2.4
Q23K	Middleton Isla	3.35	22		Pn	20 42 08.3	-0.5
Q23K				IAML		20 42 47.0	
	comp=N,337nm,0.8s						
Q23K				IAML		20 43 15.5	
	comp=E,388nm,1.1s						
Q23K	Middleton Isla	3.35	22		Sn	20 42 46.4	-2.1
Q23K	Middleton Isla	3.35	22	P	Pn	20 42 08.5	-0.3
	baz=203						
Q23K				S	Sn	20 42 46.4	-2.1
	baz=203						
CNPM	China Poot	3.43	339	Pn	Pn	20 42 09.9	-0.1
CNPM				Sn	Sn	20 42 48.7	-2.0
CNPM				IAML		20 42 57.0	
	comp=E,377nm,0.7s						
BRSE	Bradley Lake S	3.55	344		Pn	20 42 11.6	-0.1
BRSE					Sn	20 42 52.2	-1.4
BRSE	Bradley Lake S	3.55	344	P	Pn	20 42 11.5	-0.1
	baz=162						
BRLK	Bradley Lake	3.59	343		Pn	20 42 11.9	-0.3
BRLK				Sn	Sn	20 42 51.8	-2.9
BRLK				IAML		20 42 59.4	
	comp=E,390nm,0.5s						
HOM	Homer	3.64	337		Pn	20 42 12.8	0.0
HOM	Homer	3.64	337	Sn	Sn	20 42 54.9	-0.9
HOM				IAML		20 43 03.2	
	comp=N,800nm,1.0s						
HOM				IAML		20 43 06.5	
	comp=E,634nm,0.9s						
HOM	Homer	3.64	337	P	Pn	20 42 12.8	0.0
	baz=154						
Q19K	Cape Douglas,	3.66	317		Pn	20 42 13.1	-0.1
Q19K				IAML		20 43 01.3	
	comp=E,869nm,0.8s						
Q19K	Cape Douglas,	3.66	317	P	Pn	20 42 13.8	+0.6
	baz=134						
P23K	Montague Islan	3.73	11		Pn	20 42 13.7	-0.3
P23K					Sn	20 42 55.7	-2.2
P23K	Montague Islan	3.73	11	P	Pn	20 42 13.7	-0.3
	baz=191						
SEW	Seward	3.77	355		Pn	20 42 14.4	-0.3
SEW	Seward	3.77	355	P	Pn	20 42 14.5	-0.1
	baz=174						
AU22	Augustine Moun	3.88	323		Pn	20 42 16.7	+0.6
AUCH	Augustine Cone	3.90	322		Pn	20 42 16.9	+0.4
AUL	Augustine Lava	3.91	323		Pn	20 42 16.8	+0.2
P19K	Oil Pt	4.06	326		Pn	20 42 18.9	+0.3
P19K				IAML		20 43 10.5	
	comp=N,610nm,0.5s						
P19K	Oil Pt	4.06	326	P	Pn	20 42 19.4	+0.8
	baz=143						
O22K	Cooper Landing	4.16	354		Pn	20 42 20.3	+0.3
HIN	Hinchinbrook I	4.23	16		Pn	20 42 20.9	0.0
HIN				IAML		20 43 09.6	
	comp=N,512nm,0.5s						
HIN				IAML		20 43 12.0	
	comp=E,394nm,1.0s						
O20K	Slope Mountain	4.25	333		Pn	20 42 21.4	+0.1
O20K	Slope Mountain	4.25	333	P	Pn	20 42 21.4	+0.1
	baz=150						
KAIM	Kayak Island	4.27	31	Pn	Pn	20 42 21.5	+0.1
KAIM				IAML		20 43 15.5	
	comp=E,434nm,0.6s						
KAIM				IAML		20 43 15.9	
	comp=N,524nm,0.5s						
IVE	Iliamna Volcan	4.29	330		Pn	20 42 21.6	-0.3
EYAK	Cordva Ski Ar	4.50	20	P	Pn	20 42 25.0	+0.4
FID	Port Fidalgo	4.57	14		Pn	20 42 25.2	-0.4
FID	Port Fidalgo	4.57	14	IAML		20 43 17.9	
	comp=E,217nm,0.6s						
FID				IAML		20 43 19.6	
	comp=N,253nm,0.6s						
P18K	Big Mountain,	4.58	314	Pn	Pn	20 42 25.4	-0.5
RAGM	Ragged Mountai	4.59	27		Pn	20 42 26.1	+0.2
CAPN	Captain Cook N	4.59	345	Pn	Pn	20 42 26.4	+0.5
RSO	Redoubt South	4.61	335		Pn	20 42 25.8	-0.6
RC01	Rabbit Creek A	4.77	355		Pn	20 42 28.2	-0.2
RC01				IAML		20 43 24.6	
	comp=E,216nm,0.5s						
RC01				IAML		20 43 24.6	
	comp=N,203nm,0.6s						
O19K	Port Alsworth	4.83	325	Pn	Pn	20 42 29.0	-0.1
BERG	Berg Lake	4.86	31		Pn	20 42 29.4	-0.1
FIS	Fire Island	4.86	352	Pn	Pn	20 42 29.5	0.0
O18K	Koktuh Hills	4.88	319	Pn	Pn	20 42 29.6	-0.3
SNH	Sunshine Point	4.96	37		Pn	20 42 31.1	0.0
SNH				IAML		20 43 34.4	
	comp=E,154nm,1.1s						
SNH				IAML		20 43 40.7	
	comp=N,146nm,1.3s						
P17K	Kvichak River	4.98	308		Pn	20 42 31.7	+0.5
KNK	Knik Glacier	5.07	2		Pn	20 42 31.7	-0.9
KNK				IAML		20 43 34.7	
	comp=E,176nm,0.8s						
KNK				IAML		20 43 35.7	
	comp=N,142nm,0.6s						
SUA	Susitna One	5.22	350		Pn	20 42 34.4	-0.2
SUA				IAML		20 43 37.3	
	comp=N,112nm,0.9s						
SUA				IAML		20 43 38.4	
	comp=E,135nm,0.6s						
SPCG	Spurr Capps Gl	5.22	343		Pn	20 42 34.9	+0.2
PMR	Palmer	5.25	358	Pn	Pn	20 42 35.0	0.0
PMR				IAML		20 43 42.6	
	comp=E,98nm,0.8s						
PMR				IAML		20 43 47.2	
	comp=N,93nm,0.6s						
PMR	Palmer	5.25	358	P	Pn	20 42 36.5	+1.5
KLU	Klutina	5.36	15		Pn	20 42 36.9	+0.3
N19K	Bonanza Creek	5.37	329		Pn	20 42 36.1	-0.5
GHO	Glory Hole Cre	5.43	359		Pn	20 42 38.2	+0.6
SML	Sawmill	5.47	2		Pn	20 42 37.9	-0.1
SCM	Sheep Creek Mo	5.54	7		Pn	20 42 39.1	0.0
P16K	Nushagak River	5.61	302		Pn	20 42 40.3	+0.5
VRDI	Verde Repeater	5.62	27	Pn	Pn	20 42 40.2	0.0
SAMH	Samovar Hills	5.68	45		Pn	20 42 41.7	+0.5
N25K	Chitina, Valde	5.69	21	Pn	Pn	20 42 41.7	+0.6
N18K	Kilae Creek	5.71	322		Pn	20 42 40.5	-0.8
GLB	Gilahina Butte	5.72	25		Pn	20 42 41.7	+0.2
YKU2	Yakutat	5.80	53	Pn	Pn	20 42 42.3	-0.2
SKT	Skwentna	5.81	347	Pn	Pn	20 42 43.4	+0.7
MCARA	McCarthy VSAT	5.86	28		Pn	20 42 43.6	+0.2
O16K	Kokwok River B	5.91	307		Pn	20 42 44.3	+0.3
SVW2	Sparrevohn	5.92	326		Pn	20 42 43.6	-0.6
SVW2	Sparrevohn	5.92	326	P	Pn	20 42 44.1	-0.1

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IL31                    8.49   6                  Pn          Pn   20 43 18.8  -0.6
ILAR  Eielson Array     8.49   6  Pn              Pn          Pn   20 43 19.3  -0.2
      comp=N,1.0nm,0.3s,baz=185,slow=13,SNR=26
ILAR                                  Sn          Sn   20 44 52.0  -3.2
      comp=N,1.7nm,0.3s,baz=178,slow=20,SNR=7.7
ILAR                                  LR          LR   20 46 52.6
      comp=N,237nm,18.5s,baz=215,slow=39
      comp=N,2.1nm,0.4s
COLA  College           8.56   3  Pn              Pn   20 43 21.0  +0.7
COLA  College           8.56   3  P               Pn   20 43 22.5  +2.2
J26L  Joseph Creek      8.57  15                  Pn   20 43 21.1  +0.5
L29M  L29M              8.64  34                  Pn   20 43 22.1  +0.5
P32M  Atlin             8.64  62  Pn              Pn   20 43 21.3  -0.2
M13K  Dall Lake         8.65 304                  Pn   20 43 21.4  -0.2
M30M  Minto, Yukon      8.72  39  Pn              Pn   20 43 23.1  +0.5
U33K  Whale Pass        8.74  85  Pn              Pn   20 43 19.5  -3.3
L14K  Kuka Creek        8.75 311  Pn              Pn   20 43 22.9   0.0
MLY   Manley           8.75 355                  Pn   20 43 23.1   0.0
K15K  Wolf Creek Mou    8.81 318  Pn              Pn   20 43 23.6  -0.1
POKR  Poker Plat Res    8.81   4                  Pn   20 43 24.6  +0.8
I23K  Minto, Yukon-K    8.82 358                  Pn   20 43 23.7  -0.2
CRAG  Craig             8.85  89  Pn              Pn   20 43 24.4  +0.1
I21K  Tanana            8.99 351                  Pn   20 43 25.8  -0.3
DAWY  Dawson            9.03  27  Pn              Pn   20 43 26.9  +0.1
J16K  Anvik River       9.13 324                  Pn   20 43 27.3  -0.8
WRAK  Wrangell Islan    9.13  83  Pn              Pn   20 43 27.2  -0.9
Q32M  Nakina River      9.23  67                  Pn   20 43 29.6  -0.2
EGAK  Eagle             9.24  21                  Pn   20 43 29.7  +0.1
P33M  Teslin, Yukon     9.26  59  Pn              Pn   20 43 29.9  -0.1
PRP   Porcupine Dome    9.33   8                  Pn   20 43 30.4  -0.5
K29M  Barlow Dome       9.37  32                  Pn   20 43 32.2  +0.6
I26K  Coal Creek Min    9.39  15                  Pn   20 43 32.0  +0.3
M31M  Drury Creek, Y    9.40  46                  Pn   20 43 33.0  +1.1
N32M  Quiet Lake        9.47  53                  Pn   20 43 33.1  +0.2
H24K  Noodor Dome       9.52   2                  Pn   20 43 33.5   0.0
H21K  Melozitna Rive    9.53 350                  Pn   20 43 33.1  -0.5
I17K  Unalakleet        9.59 327                  Pn   20 43 33.5  -0.9
J29N  Klondike Camp     9.65  28  Pn              Pn   20 43 34.1  -1.1
S34M  Telegraph Cree    9.73  73  Pn              Pn   20 43 34.4  -2.0
J14K  Nanvaranak Lak    9.84 317                  Pn   20 43 37.5  -0.3
FARO  Faro, Yukon       9.84  47  Pn              Pn   20 43 38.8  +0.9
H19K  Roundabout Mou    9.91 341                  Pn   20 43 38.7  -0.1
AKUT  Akutan            9.94 264  Pn              Pn   20 43 37.6  -1.6
DIB   Dawson Inlet,     9.94 102  Pn              Pn   20 43 38.8  -0.5
IMAR  Indian Mountai    9.95 348  Pn              Pn   20 43 37.7  -1.6
R33M  Jennings River    9.97  65  Pn              Pn   20 43 39.6  -0.2
H18K  Honhosa River     9.97 336                  Pn   20 43 38.3  -1.4
I28M  Miner Creek      10.08  22                  Pn   20 43 40.6  -0.6
H17K  Granite Mounta   10.17 332  Pn              Pn   20 43 41.1  -1.3
T35M  Bob Quinn        10.23  79  Pn              Pn   20 43 42.2  -1.1
J30M  Hart River       10.27  32                  Pn   20 43 43.8   0.0
DLBC  Dease Lake       10.34  71  Pn              Pn   20 43 44.9   0.0
      comp=N,0.8nm,0.3s,baz=254,slow=5.6,SNR=7.9
DLBC                                  LR          LR   20 47 06.0
      comp=N,281nm,19.8s,baz=286,slow=34
      comp=N,1.8nm,0.3s
I29M  Ogilvie Camp,    10.36  25                  Pn   20 43 44.0  -1.1
FYU   Fort Yukon       10.38   8                  Pn   20 43 43.4  -1.9
G24K  Hadweenzic Riv   10.40   3                  Pn   20 43 46.0  +0.4
G23K  Bananza Creek    10.41 357                  Pn   20 43 45.6   0.0
G21K  Allakaket        10.44 350                  Pn   20 43 45.3  -0.7
G19K  Purcell Mounta   10.58 341                  Pn   20 43 47.1  -1.0
G18K  Tagagawik        10.67 338                  Pn   20 43 48.5  -0.8
I30M  Mount Dempster   10.74  29  Pn              Pn   20 43 52.3  +2.0
H29M  Whitestone       11.07  22                  Pn   20 43 55.0  +0.3
F21K  Alatna River     11.12 351                  Pn   20 43 54.4  -1.0
G16K  Koyuk River      11.18 330                  Pn   20 43 55.4  -0.8
F20K  Avaraart Lake    11.21 346                  Pn   20 43 55.9  -0.6
F24K  Squaw Lake       11.21   2                  Pn   20 43 57.2  +0.5
BMAR  Burnt Mountain   11.28   8  Pn              Pn   20 43 57.8  +0.1
F19K  Shaleruckik Mo   11.33 342                  Pn   20 43 58.0  -0.2
ANM   Nome            11.56 322  Pn              Pn   20 43 59.5  -1.9
F17K  Baldwin Pennin   11.71 335                  Pn   20 44 00.5  -0.9
G29M  Pine Creek       11.74  21                  Pn   20 44 03.8  -0.1
E19K  Redstone River   11.81 344                  Pn   20 44 03.4  -1.4
E25K  Arctic Village   11.90   6  Pn              Pn   20 44 05.0  -1.0
F28M  Old Crow         12.03  17                  Pn   20 44 08.3  +0.5
G30M  tAoh Zraii Nji   12.18  24                  Pn   20 44 08.5  -1.4
E27K  Coleen River     12.32  13                  Pn   20 44 11.0  -0.8
G31M  Satah River      12.60  27  Pn              Pn   20 44 13.7  -1.9
D22K  Ayikyak River    12.69 354                  Pn   20 44 16.5  -0.3
BBB   Bella Bella      12.78 100  LR              LR   20 47 53.8
      comp=N,281nm,20.7s,baz=279,slow=31
D19K  Kuna River       12.90 344                  Pn   20 44 19.3  -0.3
E28M  Babbage River    12.99  15                  Pn   20 44 21.3  +0.4
E29M  Blow River       13.06  18                  Pn   20 44 21.1  -0.7
D25K  Kavik River      13.06   4                  Pn   20 44 22.2  +0.4
F31M  Tsiigehtchic     13.13  26  Pn              Pn   20 44 22.3  -0.5
D27M  Malcolm River    13.40  12                  Pn   20 44 26.9  +0.3
C18K  Utukok River     13.55 340                  Pn   20 44 27.5  -1.1
B21K  Ikpikpuk River   13.56 351                  Pn   20 44 27.6  -1.0
INK   Inuvik           13.87  24  Pn              Pn   20 44 31.5  -1.3
INK   Inuvik           13.87  24  Pn              Pn   20 44 34.8  +2.0
      comp=N,0.2nm,0.3s,baz=206,slow=14,SNR=17
INK                                   LR          LR   20 50 06.3
      comp=N,220nm,20.2s,baz=310,slow=38
      comp=N,11nm,1.1s
C16K  Lisburne Hills   14.14 334                  Pn   20 44 36.0  -0.6
B22K  Teshekpuk Lake   14.18 354                  Pn   20 44 36.1  -1.0
YKA   Yellowknife Ar   18.28  56                  Pn   20 45 30.1  +0.2
YKA   Yellowknife Ar   18.28  56  P               Pn   20 45 30.0  +0.1
      comp=N,0.1nm,0.3s,baz=262,slow=13,SNR=23
YKA                                   LR          LR   20 52 21.3
      comp=N,240nm,18.3s,baz=297,slow=36
      comp=N,4.0nm,1.0s
A36M  Sachs Harbour    18.50  23                  P    P   20 45 32.8  +0.3
A36M                                  IAmb        IAmb 20 45 44.5
      comp=Z,29nm,0.8s
NEW   Newport          20.84  99  LR              LR   20 52 12.7
      comp=Z,162nm,18.6s,baz=294,slow=32
HUMO  Hull Mountain    21.54 119  P               P    20 46 05.0  -0.6
HUMO                                  IAmb        IAmb 20 46 08.4
      comp=Z,17nm,1.1s
SHEM  Shemya Is, Ala   21.65 276  LR              LR   20 54 31.9
      comp=Z,85nm,20.0s,baz=98,slow=37
YBH   Yreka Blue Hor   22.32 120  P               P    20 46 13.5  -0.6
YBH   Yreka Blue Hor   22.32 120  P               P    20 46 13.8  -0.4
      comp=Z,3.9nm,1.0s,baz=327,slow=15,SNR=2.8
YBH                                   LR          LR   20 52 52.2
      comp=Z,190nm,19.0s,baz=330,slow=31
      comp=Z,3.9nm,1.0s
WVOR  Wild Horse Val   23.83 113  P               P    20 46 28.4  -1.3
WVOR                                  IAmb        IAmb 20 46 47.8
      comp=Z,9.3nm,1.1s
MPK   Martis Peak      25.50 120  P               P    20 46 44.2  -0.9
MPK                                   IAmb        IAmb 20 47 04.9
      comp=Z,16nm,1.2s
PNTR  Pine Nut         25.87 120  P               P    20 46 47.4  -1.0
YERR  Yerington        26.12 119  P               P    20 46 49.8  -0.9
YERR                                  IAmb        IAmb 20 46 55.0
      comp=Z,12nm,1.3s
KVN   Kaiserville      26.63 118  P               P    20 46 54.7  -0.5
ELK   Elko            26.81 111  LR              LR   20 55 37.5
      comp=Z,152nm,21.7s,baz=314,slow=32
NVAR  Mina Array Bea   27.01 119  P               P    20 46 59.4  +0.7
      comp=Z,1.6nm,0.8s,baz=302,slow=7.8,SNR=6.0
NVAR                                  LR          LR   20 55 51.7
      comp=Z,129nm,19.8s,baz=272,slow=32
      comp=Z,1.6nm,0.8s
OMMB  Old Mammoth Mi   27.32 121  P               P    20 46 58.7  -2.9
RES   Resolute Bay     27.37  28  LR              LR   20 58 38.1
      comp=Z,176nm,18.4s,baz=214,slow=38
PDAR  Pinedale Array   28.42 102  P               P    20 47 11.1  -0.2
      comp=Z,0.2nm,0.6s,baz=342,slow=5.7,SNR=2.1
      comp=Z,0.2nm,0.6s
SEY   Seymchan         29.47 307  LR              LR   21 00 22.4
      comp=Z,260nm,18.1s,baz=154,slow=39
PETK  Petropavlovsk-   30.41 287  P               P    20 47 29.6  +1.0
      comp=Z,3.2nm,1.0s,baz=83,slow=14,SNR=1.2
PETK                                  LR          LR   21 00 02.9
      comp=Z,41nm,18.6s,baz=88,slow=37
      comp=Z,3.2nm,1.0s
MA2   Magadan          31.25 301  LR              LR   21 00 24.2
      comp=Z,141nm,20.3s,baz=81,slow=37
PFO   Pinyon Flats O   31.77 122  LR              LR   20 57 49.6
      comp=Z,141nm,20.9s,baz=319,slow=31
NEEM  North Greenlan   37.41  21  i P             P    20 48 28.6  -0.8
NEEM                                  IAmb        IAmb 20 48 31.3
      comp=Z,3.5nm,0.9s
FRB   Frobisher Bay    38.19  45  LR              LR   21 04 20.6
      comp=Z,164nm,19.7s,baz=329,slow=36
YAK   Yakutsk          39.52 313  LR              LR   21 07 10.2
      comp=Z,98nm,18.4s,baz=146,slow=39
TXAR  Lajitas Array    41.60 111  P               P    20 49 04.3  -0.3
      comp=Z,0.6nm,0.9s,baz=305,slow=4.4,SNR=3.7
TXAR                                  LR          LR   21 04 37.5
      comp=Z,54nm,18.5s,baz=330,slow=34
      comp=Z,0.6nm,0.9s
SUMG  Summit           42.79  25  i P             P    20 49 15.0  +0.9
SUMG                                  IAmb        IAmb 20 49 17.1
      comp=Z,3.7nm,0.8s
SFJD  Kangerlussuaq    42.88  35  LR              LR   21 07 03.3
      comp=Z,178nm,18.1s,baz=259,slow=36
SCHQ  Schefferville    43.73  56  LR              LR   21 06 46.7
      comp=Z,99nm,18.5s,baz=60,slow=35
ICESG Greenland Ices   44.78  29  i P             P    20 49 29.3  -0.8
KLR   Kul'dur         46.04 296  LR              LR   21 10 40.1
      comp=Z,82nm,18.8s,baz=54,slow=38
TKL   Tuckaleechee C   47.66  87  LR              LR   21 09 48.5
      comp=Z,111nm,19.0s,baz=331,slow=36
NRIK  Noril'sk         48.14 337  P               P    20 49 57.3  +1.2
      comp=Z,1.6nm,0.6s,baz=112,slow=5.4,SNR=2.2
NRIK                                  LR          LR   21 12 08.4
      comp=Z,144nm,19.8s,baz=346,slow=38
      comp=Z,1.6nm,0.6s
H11N2 WAKE ISLAND Hy   49.15 240  T               T    21 43 45.3
      baz=30,slow=74
H11N3 WAKE ISLAND Hy   49.16 240  T               T    21 43 41.4
      baz=30
H11N1 WAKE ISLAND Hy   49.17 240  T               T    21 43 44.6
      baz=30,slow=74
USRK  Ussuriysk Ar.    49.30 291  LR              LR   21 12 26.8
      comp=Z,61nm,18.5s,baz=52,slow=38
H11S1 WAKE ISLAND Hy   50.29 240  T               T    21 45 22.4
      baz=28,slow=76,SNR=11
H11S2 WAKE ISLAND Hy   50.31 240  T               T    21 45 26.6
      baz=28,slow=76,SNR=6.4
H11S3 WAKE ISLAND Hy   50.31 240  T               T    21 45 12.3
      baz=28,slow=76,SNR=5.9
CMIG  Matias Romero    56.21 112  LR              LR   21 14 01.4
      comp=Z,57nm,18.5s,baz=5.0,slow=35
KSRS  Korea Array      56.29 288  LR              LR   21 15 40.7
      comp=Z,14nm,18.1s,baz=350,slow=37
JNU   Nakatsue         57.97 283  LR              LR   21 18 05.3
      comp=Z,32nm,19.3s,baz=37,slow=38
SONM  Songino Array    58.79 310  P               P    20 51 16.5  +1.8
      comp=Z,2.0nm,0.9s,baz=48,slow=7.7,SNR=9.3
SONM                                  LR          LR   21 17 10.4
      comp=Z,81nm,18.1s,baz=350,slow=37
      comp=Z,2.0nm,0.9s
ZALV  Zalesovo Beam    61.64 327  P               P    20 51 33.5  -0.4
      comp=Z,0.8nm,0.5s,baz=22,slow=7.2,SNR=4.7
ZALV                                  LR          LR   21 21 51.4
      comp=Z,48nm,18.8s,baz=353,slow=40
      comp=Z,0.8nm,0.5s
FINES FINESS Array B   62.47   3  P               P    20 51 39.0  -0.4
      comp=Z,1.9nm,0.8s,baz=344,slow=6.2,SNR=5.9
      comp=Z,1.9nm,0.8s
ARU   Arti             65.41 344  P               P    20 51 59.6  +0.9
      comp=Z,0.9nm,0.4s,baz=34,slow=3.6,SNR=1.5
      comp=Z,0.9nm,0.4s
BVAR  Borovoye Array   66.33 335  P               P    20 52 04.0  -0.8
      comp=Z,0.5nm,0.6s,baz=15,slow=12,SNR=3.3
      comp=Z,0.5nm,0.6s
KURBB Kurchatov Arra   66.41 329  P               P    20 52 05.1  -0.2
      comp=Z,0.3nm,0.2s,baz=82,slow=6.8,SNR=1.2
      comp=Z,0.3nm,0.2s
MKAR  Makanchi Array   68.69 325  P               P    20 52 20.4  +0.6
      comp=Z,0.3nm,0.6s,baz=40,slow=6.4,SNR=2.9
MKAR                                  LR          LR   21 26 47.8
      comp=Z,72nm,19.3s,baz=316,slow=40
      comp=Z,0.3nm,0.6s
AKASG Malin Array Be   73.30   1  P               P    20 52 48.1  +0.5
      comp=Z,1.9nm,0.7s,baz=359,slow=5.7,SNR=5.3
      comp=Z,1.9nm,0.7s
AAK   Ala-Archa        74.82 328  LR              LR   21 30 35.0
      comp=Z,64nm,18.5s,baz=330,slow=40
ESDC  Sonseca Array    79.80  27  P               P    20 53 25.6  +0.8
      comp=Z,0.9nm,0.9s,baz=333,slow=6.2,SNR=5.1
      comp=Z,0.9nm,0.9s
GEYT  Aibeck           83.33 339  P               P    20 53 45.1  +1.7
      comp=Z,0.4nm,0.3s,baz=58,slow=5.4,SNR=2.1
GEYT                                  LR          LR   21 35 42.1
      comp=Z,36nm,18.7s,baz=340,slow=39
      comp=Z,0.4nm,0.3s
BRTR  Keskin Array B   84.26 358  P               P    20 53 50.4  +2.1
      comp=Z,1.0nm,1.0s,baz=336,slow=3.2,SNR=1.4
      comp=Z,1.0nm,1.0s
CMAR  Chiang Mai Arr   86.48 298  P               P    20 53 60.0  +0.5
      comp=Z,0.4nm,0.5s,baz=352,slow=5.6,SNR=1.0
CMAR                                  LR          LR   21 36 43.9
      comp=Z,26nm,18.8s,baz=120,slow=38
      comp=Z,0.4nm,0.5s
QSPA  South Pole Qui   146.15 180  PKPbc           PKPdf 21 00 54.9  +0.5
      comp=Z,0.7nm,0.4s,baz=74,slow=6.0,SNR=1.5
```

IDC ***23*** *20:52:58.2±0.8,32.˚78S×179.˚00W,h0km,mb4.0/5, mbtmp4.1/6,ML4.2/1,MS3.8/3,Error ellipse: s-maj=30.4km s-min=24.8km az=94.0*

NEIC ***23*** *20:52:59.7±0.9,32.˚86S±0.˚07×178.˚9W±0.˚2,h10km±1km, mb4.5/8,Error ellipse: s-maj=30.4km s-min=3.1km az=112.0*

WEL ***23*** *20:53:03.8±0.5,33˚S±5˚×17˚9W±1˚0,h33km,M4.3/36, mB4.9/26,ML5.0/39,MLv4.8/36,Mw(mB)4.2/26,Error ellipse: s-maj=0.0km s-min=0.0km az=113.5,confirmed*

ISC 23 20:52:59.5±0.6,33.11S±0.06×178.59W±0.10,h10km, n107,σ2s29/125,mb4.5/10,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	3.87	9	P	Pn	20 54 00.4	+1.3
GLKZ				S	Sn	20 54 42.3	-2.3
RAO	Raoul Island	3.88	9	Pn	Pn	20 53 56.5	-2.8
RAO	Raoul Island	3.88	9	Sn	Sn	20 54 43.3	-1.6
	101nm,0.3s,baz=313,slow=21,SNR=2.2						
MXZ	Matakaoa Point	5.12	209	Pn	Pn	20 54 17.7	+1.5
MXZ	Matakaoa Point	5.12	209	P	Pn	20 54 18.5	+2.3
MXZ	Matakaoa Point	5.12	209	P	Pn	20 54 17.5	+1.3
MXZ				S	Sn	20 55 16.2	+0.8
WMGZ	Waiomatatini S	5.30	207	P	Pn	20 54 20.6	+1.9
WMGZ				S	Sn	20 55 21.4	+1.6
PKGZ	Pakihiroa	5.49	209	P	Pn	20 54 23.0	+1.6
PKGZ				S	Sn	20 55 22.4	-2.3
HAZ	Te Kaha	5.51	212	P	Pn	20 54 23.6	+2.1
HAZ				S	Sn	20 55 25.5	+0.6
PUZ	Puketiti	5.58	207	P	Pn	20 54 23.6	+1.0
PUZ				S	Sn	20 55 23.7	-3.1
RUGZ	Raukumara Rang	5.73	211	P	Pn	20 54 25.7	+1.1
RUGZ				S	Sn	20 55 32.7	+2.3
TWGZ	Tauwhareparae	5.78	208	P	Pn	20 54 27.2	+1.6
KUZ	Kuaotunu	5.92	231	P	Pn	20 54 31.8	+0.6
CNGZ	Carnagh Statio	5.97	205	P	Pn	20 54 29.1	+1.2
TKGZ	Te Karaka	6.06	208	P	Pn	20 54 30.9	+1.8
MWZ	Matawai	6.10	210	P	Pn	20 54 29.9	+0.2
OPRZ	Ohinepanea	6.17	219	P	Pn	20 54 33.8	+3.1
OPRZ				S	Sn	20 55 42.5	+1.3
URZ	Urewera	6.22	213	P	Pn	20 54 34.9	+3.6
URZ	Urewera	6.22	213	Pn	Pn	20 54 32.1	+0.8
	5.2nm,0.3s,baz=340,slow=3.0,SNR=62						
URZ				Sn	Sn	20 55 41.0	-1.4
	16nm,0.3s,baz=292,slow=19,SNR=12						
	13nm,0.2s						
URZ	Urewera	6.22	213	P	Pn	20 54 31.7	+0.4
RAGZ	Rawiri	6.28	210	P	Pn	20 54 33.2	+1.0
RAGZ				S	Sn	20 55 42.6	-1.6
RIGZ	Rimuhau	6.33	207	P	Pn	20 54 35.4	+2.6
PRGZ	Paritu Road	6.47	205	P	Pn	20 54 36.4	+1.6
PRGZ				S	Sn	20 55 47.5	-1.2
WCZ	Waipu Caves	6.48	242	P	Pn	20 54 38.2	+3.3
TARZ	Mount Tarawera	6.49	217	S	Sn	20 55 51.1	+1.8
MUGZ	Murupara	6.55	214	P	Pn	20 54 35.9	-0.1
MUGZ				S	Sn	20 55 47.5	-3.3
SNGZ	Shannon Statio	6.56	209	P	Pn	20 54 34.5	-1.4
RTZ	Ruatahuna	6.57	212		Pn	20 54 36.0	-0.2
RTZ	Ruatahuna	6.57	212	P	Pn	20 54 36.1	-0.1
RTZ				S	Sn	20 55 49.2	-2.0
KNZ	Kokohu	6.63	206	P	Pn	20 54 37.4	+0.4
KNZ				S	Sn	20 55 50.6	-2.1
MHZZ	Mahia Peninsul	6.67	204	P	Pn	20 54 37.7	-0.1
MHGZ				S	Sn	20 55 50.7	-2.8
TOZ	Tahuroa Road	6.68	225		Pn	20 54 36.9	-0.7
RAHZ	Arahi	6.78	210	P	Pn	20 54 42.5	+3.5
RAHZ				S	Sn	20 55 53.8	-2.4
OUZ	Omahuta	6.81	250	P	Pn	20 54 42.2	+2.7
OUZ	Omahuta	6.81	250	P	Pn	20 54 42.0	+2.5
MTHZ	Maungataniwha	6.83	212	P	Pn	20 54 40.6	+0.9
MTHZ				S	Sn	20 55 56.1	-1.4
NMHZ	Naumai	7.05	211	P	Pn	20 54 44.3	+1.6
NMHZ				S	Sn	20 56 00.1	-2.8
ARHZ	Aropaoanui	7.11	209	P	Pn	20 54 46.5	+3.1
ARHZ				S	Sn	20 56 02.5	-1.8
BKZ	Black Stump Fm	7.24	212		Pn	20 54 44.2	-1.1
BKZ	Black Stump Fm	7.24	212	P	Pn	20 54 49.4	+4.0
BKZ	Black Stump Fm	7.24	212	P	Pn	20 54 47.5	+2.1
BKZ				S	Sn	20 56 05.4	-2.2
MCHZ	McNeill Hill	7.38	210	P	Pn	20 54 49.1	+1.9
MCHZ				S	Sn	20 56 14.0	-1.1
CKHZ	Cape Kidnapper	7.42	207	P	Pn	20 54 47.4	-0.3
CKHZ				S	Sn	20 56 07.4	-4.5
KWHZ	Kaweka Forest	7.48	211	P	Pn	20 54 50.4	+1.7
KWHZ				S	Sn	20 56 10.6	-3.0
NTVZ	North Tongarir	7.57	216	P	Pn	20 54 52.2	+2.2
NTVZ				S	Sn	20 56 14.8	-1.1
ETVZ	East Tongariro	7.58	216	P	Pn	20 54 52.4	+2.3
KRVZ	Karewarewa	7.58	216	P	Pn	20 54 53.0	+2.8
KAHZ	Kahuranaki	7.61	207	P	Pn	20 54 50.6	+0.2
KAHZ				S	Sn	20 56 15.8	-0.9
OTVZ	Oturere	7.62	216	P	Pn	20 54 52.8	+2.0
OTVZ				S	Sn	20 56 15.2	-2.1
NNVZ	North Ngauruho	7.63	216	P	Pn	20 54 54.7	+3.9
WTVZ	West Tongariro	7.63	217	P	Pn	20 54 52.9	+2.1
SNVZ	South Ngauruho	7.66	216	P	Pn	20 54 53.5	+2.4
NGZ	Ngauruhoe	7.67	216	P	Pn	20 54 54.2	+2.9
NGZ				S	Sn	20 56 17.0	-0.5
KRHZ	Kereru	7.69	210	P	Pn	20 54 52.0	+0.6
KRHZ				S	Sn	20 56 14.5	-4.1
BHHZ	Black Hill Sta	7.70	213	P	Pn	20 54 52.8	+1.2
BHHZ				S	Sn	20 56 13.0	-5.9
MAVZ	Matarangi	7.76	216	P	Pn	20 54 58.3	+5.6
MOVZ	Moawhango	7.77	214	P	Pn	20 54 54.0	+1.3
MOVZ				S	Sn	20 56 16.2	-4.6
WNVZ	Wahianoa	7.79	215	P	Pn	20 54 55.1	+2.1
WNVZ				S	Sn	20 56 19.3	-1.9
PNHZ	Pukenui	7.99	210	P	Pn	20 54 55.7	+0.1
PNHZ				S	Sn	20 56 18.3	-7.7
PRHZ	Porangahau	8.11	207	P	Pn	20 54 57.4	+0.2
PRHZ				S	Sn	20 56 26.3	-2.8
TSZ	Takapari Road	8.21	211	P	Pn	20 54 57.2	-1.4
BFZ	Birch Farm	8.62	207	Pn	Pn	20 55 01.3	-2.9
BFZ	Birch Farm	8.62	207	P	Pn	20 55 05.0	+0.8
BFZ	Birch Farm	8.62	207	P	Pn	20 55 03.3	-1.0
MRZ	Mangatainoka R	8.87	210	Pn	Pn	20 55 03.7	-4.1
MRZ	Mangatainoka R	8.87	210	P	Pn	20 55 06.1	-1.6
HOWZ	Holdsworth Sta	9.09	210	P	Pn	20 55 08.3	-2.5
MTW	Mount Morrison	9.32	209	P	Pn	20 55 11.6	-2.2
DUWZ	D'Urville Isla	9.74	216	P	Pn	20 55 18.4	-1.2
PLWZ	Palliser	9.77	208	Pn	Pn	20 55 16.5	-3.5
SNZO	South Karori	9.78	211	Pn	Pn	20 55 17.1	-3.0
BHW	Baring Head	9.79	210	Pn	Pn	20 55 17.3	-2.9
TCW	Tory Channel	9.89	213	Pn	Pn	20 55 17.9	-3.8
TUWZ	Tuamarina	10.22	213	Pn	Pn	20 55 21.5	-4.6
NNZ	Nelson	10.32	216	Pn	Pn	20 55 24.4	-3.2
QRZ	Quartz Range	10.48	220	Pn	Pn	20 55 26.1	-3.6
MRNZ	Matariki Terra	10.77	217	Pn	Pn	20 55 29.9	-3.8
KHZ	Kahutara	11.18	212	P	Pn	20 55 37.2	-2.1
RPZ	Rata Peaks	13.34	214	Pn	Pn	20 56 03.1	-5.7
	0.3nm,0.3s,baz=54,slow=9.3,SNR=3.8						
RPZ				Sn	Sn	20 58 23.2	-14

IDC ***23*** *20:52:58.9±3.2,15˚69N×95˚78W,h0km,mb3.7/2, mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=75.8km s-min=20.4km az=132.0*

MEX ***23*** *20:52:59.1±1.3,15˚12N×94˚67W,h24km±27km,MD4.4*

ISC 23 20:52:53.7±2.9,15.18N±0.04×94.64W±0.02,h11km±20km, n42,σ2s21/71,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CARR	Arriaga	1.27	34	eP	Pn	20 53 18.1	+0.6
CARR				i S	Sb	20 53 33.5	-0.7
NILT	Santiago Nilte	1.38	1	eP	Pn	20 53 20.2	+1.3
NILT				i S	Sb	20 53 35.0	-2.2
PCIG		1.47	69	eP	Pb	20 53 21.9	+0.8
PCIG				eS	Sn	20 53 37.3	-2.2
HUIG	Huatulco	1.53	293	eP	Pn	20 53 23.1	+2.1
HUIG				eS	Sn	20 53 39.8	-1.1
CMIG	Matias Romero	1.91	353	Pg	Pb	20 53 28.8	+0.2
	98nm,0.3s,baz=170,slow=14,SNR=1325						
CMIG				Lg	Lg	20 53 50.8	
	493nm,0.3s,baz=214,slow=9.2,SNR=81						
CMIG	Matias Romero	1.91	353	eP	Pb	20 53 28.9	+0.2
CMIG				eS	Sn	20 53 50.6	+0.1
TGIG		2.16	42	eP	Pb	20 53 32.9	-0.1
TGIG				eS	Sn	20 53 57.7	+1.0
UXUV	UXUV	2.18	13	eP	Pb	20 53 33.5	+0.2
UXUV				eS	Sn	20 53 58.5	+1.5
TGBT	Tuxtla Gutierr	2.18	43	eP	Pb	20 53 33.1	-0.1
TGBT				eS	Sn	20 53 57.9	+0.9
THIG		2.31	96	eP	Pn	20 53 34.9	+3.0
THIG				eS	Sn	20 53 58.7	-1.6
PATR	El Naranjo	2.33	91	eP	Pn	20 53 33.8	+1.6
PATR				eS	Sn	20 54 00.6	-0.4
PAVE	Pavencul	2.38	89	eP	Pn	20 53 35.0	+2.0
PAVE				eS	Sn	20 54 01.2	-1.2
CHUJ	Union Juarez	2.45	92	eP	Pn	20 53 35.7	+1.7
CHUJ				eS	Sn	20 54 03.9	-0.2
PEIG	Puerto Escondi	2.55	289	eP	Pn	20 53 37.4	+2.3
PEIG				eS	Sn	20 54 03.6	-2.5
CCIG	Comitan	2.65	65	eP	Pb	20 53 40.9	-0.6
CCIG				eS	Sn	20 54 11.4	+2.4
OXLC	Oaxaca	2.73	314	i P	Pn	20 53 38.2	+0.4
OXLC				eS	Sn	20 54 10.9	+0.1
VHO	Vista Hermosa	2.75	313	eP	Pb	20 53 42.7	-0.4
VHO				eS	Sn	20 54 13.1	+1.7
NEUV	Arroyo Zacate	2.75	336	eP	Pn	20 53 40.6	+2.7
NEUV				eS	Sn	20 54 12.6	+1.4
SMSP	San Marcos	2.77	94	eP	Pb	20 53 44.4	+0.8
SMSP				eS	Sn	20 54 13.0	+0.9
TUIG	Tuzandepetl	2.84	4	eP	Pn	20 53 42.9	+3.7
TUIG				eS	Sb	20 54 18.2	-1.3
RTAL	Retalhuleu	2.92	103	eP	Pb	20 53 44.7	-1.3
RTAL				eS	Sn	20 54 09.7	-5.8
HUEH	Huehuetenango	3.04	87	eP	Pn	20 53 44.4	+2.4
HUEH				eS	Sn	20 54 19.5	+1.0
YOIG	Yosondua	3.25	301	eP	Pn	20 53 49.2	+4.3
YOIG				eS	Sn	20 54 24.3	+0.4
PMUV	Sontecomapan	3.38	352	eP	Pb	20 53 51.7	-2.0
PMUV				eS	Sn	20 54 25.2	-1.6
PNIG	Pinotepa	3.56	290	eP	Pn	20 53 52.4	+3.3
PNIG				eS	Sn	20 54 28.8	-2.4
TXIG	Tlaxiaco	3.64	305	eP	Pn	20 53 55.5	+5.1
TXIG				eS	Sn	20 54 33.0	-0.6
TOIG	Toxpalan	3.71	322	eP	Pb	20 54 37.8	-1.7
TOIG				eS	Sn	20 54 38.7	+3.7
HLIG	Huajuapan de L	4.02	311	eP	Pn	20 54 01.1	+5.6
HLIG				eS	Sn	20 54 42.9	+0.2
FTIG

1.4nm,0.3s,baz=115,slow=20,SNR=8.8
DZM Mont Dzumac 17.21 306 LR LR 21 02 05.4
comp=Z,168nm,20.3s,baz=58,slow=33
ASAR Alice Springs 42.54 270 P **P** **21 00 53.8 -1.8**
0.7nm,0.5s,baz=108,slow=7.6,SNR=14
0.7nm,0.5s
WR0 Warramunga Arr 43.60 275 P **P** **21 01 01.6 -2.4**
WR0 IAmb IAmb 21 01 15.6
comp=Z,11nm,1.3s
WB2 Warramunga Arr 43.76 275 P **P** **21 01 02.8 -2.7**
WB2 IAmb IAmb 21 01 06.3
comp=Z,12nm,1.2s
WRA Warramunga Arr 43.77 275 P **P** **21 01 02.8 -2.7**
comp=Z,1.2nm,0.4s,baz=114,slow=7.7,SNR=15
comp=Z,1.2nm,0.4s
WB0 Warramunga Arr 43.81 276 P **P** **21 01 03.0 -2.8**
WB0 IAmb IAmb 21 01 25.5
comp=Z,12nm,1.5s
VNDA Vanda 45.36 186 P **P** **21 01 19.7 +2.3**
VNDA Vanda 45.36 186 P **P** **21 01 19.4 +2.0**
comp=Z,1.6nm,0.9s,baz=63,slow=14,SNR=1.1
comp=Z,1.6nm,0.9s
KNRA Kununurra 50.47 277 P **P** **21 01 54.6 -3.1**
FITZ Fitzroy Crossi 51.91 272 P **P** **21 02 06.5 -2.0**
QSPA South Pole Qui 57.01 180 P **P** **21 02 49.1 +3.9**
comp=Z,3.0nm,0.6s,baz=46,slow=3.1,SNR=5.8
comp=Z,3.0nm,0.6s
BELA Belgrano 2 67.18 172 P **P** **21 03 54.9 +1.8**
BELA IAmb IAmb 21 04 31.4
comp=Z,8.1nm,1.3s
SNAA Sanae 75.47 179 P **P** **21 04 45.4 +2.0**
SNAA IAmb IAmb 21 05 12.8
comp=Z,8.2nm,1.5s
H03S2 Juan Fernandez 79.39 123 T T 22 33 36.9
baz=236,slow=74,SNR=9.2
H03S1 Juan Fernandez 79.40 123 T T 22 33 37.9
baz=236,slow=74,SNR=7.5
H03S3 Juan Fernandez 79.41 123 T T 22 33 36.8
baz=236,slow=74,SNR=8.2
H03N3 Juan Fernandez 79.60 123 T T 22 34 00.3
baz=240,slow=72,SNR=18
H03N2 Juan Fernandez 79.60 123 T T 22 34 01.4
baz=240,slow=72,SNR=10
H03N1 Juan Fernandez 79.62 123 T T 22 34 16.2
baz=240,slow=72,SNR=27
PLCA Paso Flores 81.03 133 LR LR 21 34 59.5
comp=Z,97nm,18.8s,baz=171,slow=31
NVAR Mina Array Bea 90.56 43 P **P** **21 06 04.2 +2.2**
comp=Z,0.7nm,0.8s,baz=228,slow=8.0,SNR=3.4
comp=Z,0.7nm,0.8s
NEW Newport 97.85 36 LR LR 21 42 34.0
comp=Z,43nm,20.9s,baz=286,slow=30
MKAR Makanchi Array 119.11 309 PKP **PKPdf** **21 11 46.3 -2.0**
comp=Z,0.1nm,0.5s,baz=96,slow=0.6,SNR=4.5
KURBB Kurchatov Arra 122.56 313 PKP **PKPdf** **21 11 53.1 -1.6**
comp=Z,0.5nm,0.6s,baz=112,slow=1.6,SNR=5.9
BVAR Borovoye Array 127.96 314 PKP **PKPdf** **21 12 03.4 -1.6**
comp=Z,0.6nm,0.5s,baz=139,slow=2.9,SNR=6.6
FINES FINESS Array B 147.49 338 PKPbc **PKPbc** **21 12 41.6 -1.4**
comp=Z,2.0nm,0.6s,baz=52,slow=4.0,SNR=9.9
HFS Hagfors 151.78 347 PKPbc **PKPbc** **21 12 51.9 -1.7**
comp=Z,4.1nm,0.9s,baz=90,slow=2.9,SNR=1.9
HFS PKPab **PKPab** **21 13 02.0 -0.5**
comp=Z,1.3nm,0.7s,baz=20,slow=4.6,SNR=1.1
TORD Torodi Ar. Bea 160.13 181 PKPab **PKPab** **21 13 40.1 +0.7**
comp=Z,1.4nm,0.8s,baz=133,slow=2.2,SNR=7.0

*NEIC **23** 20:54:16.7±1.5,56˚.16N±0˚.09×149˚.8W±0˚.1,h23km±10km, ML3.6/46,ML3.3(AEIC), Error ellipse: s-maj=12.8km s-min=8.6km az=171.0*
*AEIC **23** 20:54:19.7±1.5,56˚.17N±0˚.09×149˚.8W±0˚.1,h7km±7km, Error ellipse: s-maj=12.8km s-min=8.5km az=172.0*
ISC 23 20:54:14.9±1.8,56˚.2N±0˚.1×149˚.81W±0˚.06,h10km,n148, σ1§08/152,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.18**	**300**		**Pn**	**20 54 51.6**	**+0.4**
OHAK					**Sn**	**20 55 16.2**	**-2.0**
OHAK	**Old Harbor**	**2.18**	**300**	P	**Pn**	**20 54 51.6**	**+0.4**
	baz=117						
OHAK				S	**Sn**	**20 55 16.2**	**-2.0**
	baz=117						
KDAK	**Kodiak Island**	**2.21**	**318**		**Pn**	**20 54 52.0**	**+0.4**
KDAK					**Sn**	**20 55 17.4**	**-1.5**
SYI	**Shuyak Island**	**2.80**	**331**		**Pn**	**20 55 00.3**	**+0.6**
SYI	**Shuyak Island**	**2.80**	**331**		**Sn**	**20 55 33.4**	**-0.1**
Q20K	**Shuyak Island**	**2.80**	**331**	P	**Pn**	**20 55 00.7**	**+0.9**
	baz=148						
Q20K				S	**Sn**	**20 55 33.4**	**-0.2**
	baz=148						
R18K	**Karluk**	**2.90**	**300**		**Pn**	**20 55 02.1**	**+1.1**
R18K	**Karluk**	**2.90**	**300**		**Sn**	**20 55 35.4**	**-0.5**
R18K	**Karluk**	**2.90**	**300**	P	**Pn**	**20 55 02.4**	**+1.4**
	baz=116						
R18K				S	**Sn**	**20 55 35.4**	**-0.5**
	baz=116						
CNPM	**China Poot**	**3.43**	**348**		**Pn**	**20 55 08.7**	**+0.3**
CNPM				IAML		20 57 12.3	
	comp=E,109nm,3.3s						
CNPM	**China Poot**	**3.43**	**348**		**Sn**	**20 55 47.6**	**-1.6**
Q19K	**Cape Douglas,**	**3.44**	**325**		**Sn**	**20 55 52.5**	**+3.2**
BRSE	**Bradley Lake S**	**3.60**	**352**		**Pn**	**20 55 10.8**	**+0.1**
BRSE					**Sn**	**20 55 51.5**	**-1.7**
BRSE	**Bradley Lake S**	**3.60**	**352**	P	**Pn**	**20 55 10.8**	**+0.1**
	baz=171						
BRSE				S	**Sn**	**20 55 51.5**	**-1.7**
	baz=171						
BRLK	**Bradley Lake**	**3.63**	**351**		**Pn**	**20 55 11.2**	**0.0**
BRLK	**Bradley Lake**	**3.63**	**351**	IAML		20 57 10.7	
	comp=N,81nm,3.2s						
BRLK				IAML		20 57 39.1	
	comp=E,75nm,3.3s						
Q23K	**Middleton Isla**	**3.74**	**28**	Pn	**Pn**	**20 55 12.4**	**-0.2**
MID	**Middleton Isla**	**3.74**	**28**	Pn	**Pn**	**20 55 12.6**	**0.0**
CNTC	**Contact Creek**	**3.90**	**305**		**Pn**	**20 55 16.4**	**+1.4**
Q17K	**Contact Creek**	**3.90**	**305**	P	**Pn**	**20 55 16.4**	**+1.4**
	baz=120						
P19K	**Oil Pt**	**3.92**	**334**	Pn	**Pn**	**20 55 15.9**	**+0.7**
P19K				IAML		20 56 06.8	
	comp=N,98nm,2.2s						
P19K				IAML		20 56 07.1	
	comp=E,118nm,2.4s						
P23K	**Montague Islan**	**4.03**	**17**		**Pn**	**20 55 16.7**	**+0.1**
P23K	**Montague Islan**	**4.03**	**17**	P	**Pn**	**20 55 16.7**	**+0.1**
	baz=199						
O22K	**Cooper Landing**	**4.31**	**1**	Pn	**Pn**	**20 55 21.0**	**+0.6**
O22K				IAML		20 58 11.7	
	comp=E,75nm,0.9s						
P18K	**Big Mountain,**	**4.33**	**320**		**Pn**	**20 55 21.7**	**+1.0**
P18K	**Big Mountain,**	**4.33**	**320**	P	**Pn**	**20 55 21.7**	**+1.0**
	baz=135						
RSO	**Redoubt South**	**4.56**	**341**	Pn	**Pn**	**20 55 22.0**	**-2.0**
HIN	**Hinchinbrook I**	**4.57**	**21**		**Pn**	**20 55 24.4**	**+0.3**
HIN	**Hinchinbrook I**	**4.57**	**21**	IAML		20 56 38.0	
	comp=N,78nm,2.1s						
HIN				IAML		20 56 50.3	
	comp=E,71nm,2.4s						
P17K	**Kvichak River**	**4.66**	**313**		**Pn**	**20 55 26.8**	**+1.5**
P17K	**Kvichak River**	**4.66**	**313**	P	**Pn**	**20 55 26.8**	**+1.5**
	baz=127						
O18K	**Koktuh Hills**	**4.66**	**324**	Pn	**Pn**	**20 55 24.5**	**-0.9**
O18K				IAML		20 56 46.9	
	comp=E,34nm,3.8s						
O18K				IAML		20 58 16.3	
	comp=N,33nm,3.1s						
O19K	**Port Alsworth**	**4.67**	**331**	Pn	**Pn**	**20 55 23.1**	**-2.3**
O19K				IAML		20 56 23.0	
	comp=N,47nm,0.5s						
KAIM	**Kayak Island**	**4.71**	**35**	Pn	**Pn**	**20 55 26.3**	**+0.3**
CHGN	**Chignik**	**4.80**	**275**	Pn	**Pn**	**20 55 27.6**	**+0.5**
CHGN				IAML		20 58 42.7	
	comp=N,60nm,0.8s						
CHGN				IAML		20 58 44.6	
	comp=E,61nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.87**	**24**		**Pn**	**20 55 28.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.87**	**24**	P	**Pn**	**20 55 28.5**	**+0.5**
	baz=207						
FID	**Port Fidalgo**	**4.90**	**20**		**Pn**	**20 55 28.7**	**+0.2**
FID	**Port Fidalgo**	**4.90**	**20**	IAML		20 56 23.0	
	comp=E,39nm,2.4s						
FID				IAML		20 56 24.3	
	comp=N,43nm,2.0s						
RC01	**Rabbit Creek A**	**4.92**	**0**	Pn	**Pn**	**20 55 28.4**	**-0.4**
RC01				IAML		20 58 10.1	
	comp=E,38nm,3.0s						
RC01				IAML		20 58 31.6	
	comp=N,28nm,4.0s						
RAGM	**Ragged Mountai**	**5.00**	**31**		**Pn**	**20 55 30.3**	**+0.3**
RAGM				IAML		20 58 21.7	
	comp=E,64nm,2.5s						
GOAT	**Goat Mountain**	**5.15**	**29**		**Pn**	**20 55 33.0**	**+1.0**
P16K	**Nushagak River**	**5.24**	**306**		**Pn**	**20 55 34.5**	**+1.3**
P16K	**Nushagak River**	**5.24**	**306**	P	**Pn**	**20 55 34.5**	**+1.3**
	baz=119						
N19K	**Bonanza Creek**	**5.25**	**334**	Pn	**Pn**	**20 55 34.0**	**+0.7**
N19K				IAML		20 56 50.8	
	comp=E,25nm,3.6s						
N19K				IAML		20 59 03.1	
	comp=N,23nm,3.4s						
O17K	**Koliganek Bris**	**5.29**	**316**		**Pn**	**20 55 35.3**	**+1.5**
O17K	**Koliganek Bris**	**5.29**	**316**	P	**Pn**	**20 55 35.3**	**+1.5**
	baz=130						
KNK	**Knik Glacier**	**5.29**	**7**	Pn	**Pn**	**20 55 34.4**	**+0.5**
KNK				IAML		20 57 23.6	
	comp=N,30nm,3.2s						
KNK				IAML		20 57 48.4	
	comp=E,29nm,2.8s						
BERG	**Berg Lake**	**5.30**	**35**		**Pn**	**20 55 34.1**	**-0.1**
SUA	**Susitna One**	**5.31**	**355**	Pn	**Pn**	**20 55 33.2**	**-1.1**
SUA				IAML		20 57 24.5	
	comp=N,48nm,3.4s						
SUA				IAML		20 59 04.2	
	comp=E,51nm,3.3s						
PMR	**Palmer**	**5.43**	**3**	Pn	**Pn**	**20 55 37.0**	**+1.1**
SNH	**Sunshine Point**	**5.44**	**40**	Pn	**Pn**	**20 55 36.5**	**+0.5**
BMRM	**Bremner River**	**5.51**	**27**		**Pn**	**20 55 37.6**	**+0.7**
BMRM	**Bremner River**	**5.51**	**27**	P	**Pn**	**20 55 37.6**	**+0.7**
	baz=211						
N18K	**Kilae Creek**	**5.52**	**327**	Pn	**Pn**	**20 55 36.9**	**-0.2**
O16K	**Kokwok River B**	**5.58**	**311**		**Pn**	**20 55 39.4**	**+1.5**
O16K	**Kokwok River B**	**5.58**	**311**	P	**Pn**	**20 55 39.4**	**+1.5**
	baz=124						
GHO	**Glory Hole Cre**	**5.62**	**4**	Pn	**Pn**	**20 55 39.5**	**+1.0**
SML	**Sawmill**	**5.69**	**7**		**Pn**	**20 55 40.2**	**+0.8**
SML	**Sawmill**	**5.69**	**7**	P	**Pn**	**20 55 40.2**	**+0.8**
	baz=188						
KLU	**Klutina**	**5.69**	**19**		**Pn**	**20 55 40.6**	**+1.1**
KLU	**Klutina**	**5.69**	**19**	P	**Pn**	**20 55 40.6**	**+1.1**
	baz=202						
BARK	**Barkley Ridge**	**5.72**	**39**		**Pn**	**20 55 40.2**	**+0.3**
CNBA	**Chernabura Isl**	**5.73**	**260**	Pn	**Pn**	**20 55 39.9**	**0.0**
SVW2	**Sparrevohn**	**5.77**	**331**	Pn	**Pn**	**20 55 40.5**	**0.0**
N17K	**Nushagak Hills**	**5.83**	**321**	Pn	**Pn**	**20 55 42.0**	**+0.7**
SKT	**Skwentna**	**5.88**	**352**	Pn	**Pn**	**20 55 42.3**	**+0.3**
M20K	**Styx River**	**5.96**	**345**	Pn	**Pn**	**20 55 41.8**	**-1.5**
VRDI	**Verde Repeater**	**6.04**	**31**	Pn	**Pn**	**20 55 43.7**	**-0.7**
N25K	**Chitina, Valde**	**6.07**	**24**		**Pn**	**20 55 45.7**	**+1.1**
N25K	**Chitina, Valde**	**6.07**	**24**	P	**Pn**	**20 55 45.7**	**+1.1**
	baz=208						
SDPT	**Sand Point**	**6.08**	**266**	Pn	**Pn**	**20 55 45.3**	**+0.5**
GLB	**Gilahina Butte**	**6.12**	**28**	Pn	**Pn**	**20 55 44.6**	**-0.8**
O15K	**Ungalikthiuk R**	**6.15**	**303**		**Pn**	**20 55 47.2**	**+1.5**
O15K	**Ungalikthiuk R**	**6.15**	**303**	P	**Pn**	**20 55 47.2**	**+1.5**
	baz=115						
SAMH	**Samovar Hills**	**6.20**	**47**		**Pn**	**20 55 47.2**	**+0.7**
M19K	**Big River Lodg**	**6.20**	**339**	Pn	**Pn**	**20 55 46.4**	**0.0**
M24K	**Tolsona, Glenn**	**6.22**	**16**	Pn	**Pn**	**20 55 47.1**	**+0.3**
MCARA	**McCarthy VSAT**	**6.29**	**31**	Pn	**Pn**	**20 55 48.5**	**+0.9**
PTPK	**Patty Peak**	**6.30**	**34**		**Pn**	**20 55 48.9**	**+0.9**
N16K	**Nishlik Lake**	**6.38**	**316**		**Pn**	**20 55 50.1**	**+1.2**
N16K	**Nishlik Lake**	**6.38**	**316**	P	**Pn**	**20 55 50.1**	**+1.2**
	baz=128						
PCA	**Pinnacle**	**6.39**	**48**		**Pn**	**20 55 49.4**	**+0.3**
PINM	**Pinnacle**	**6.40**	**48**	P	**Pn**	**20 55 49.4**	**+0.3**
	baz=236						
BARN	**Barnard Glacie**	**6.47**	**38**		**Pn**	**20 55 51.2**	**+0.8**
CTG	**Chitna Glacier**	**6.52**	**39**	P	**Pn**	**20 55 51.6**	**+0.7**
	baz=226						
CTGM	**Chitina Glacie**	**6.52**	**39**		**Pn**	**20 55 51.6**	**+0.6**
L19K	**White Mountain**	**6.54**	**339**	Pn	**Pn**	**20 55 52.7**	**+1.5**
LOGN	**Logan Glacier**	**6.55**	**41**		**Pn**	**20 55 52.0**	**+0.7**
PNL	**Peninsula**	**6.55**	**54**		**Pn**	**20 55 50.9**	**-0.3**
PNL	**Peninsula**	**6.55**	**54**	P	**Pn**	**20 55 50.9**	**-0.3**
	baz=242						
M17K	**Holitna River**	**6.56**	**326**	Pn	**Pn**	**20 55 53.0**	**+1.7**
BCPM	**Bancas Point**	**6.58**	**51**	Pn	**Pn**	**20 55 52.6**	**+1.0**
N15K	**Kwethluk River**	**6.74**	**311**		**Pn**	**20 55 55.9**	**+2.1**
N15K	**Kwethluk River**	**6.74**	**311**	P	**Pn**	**20 55 55.9**	**+2.1**
	baz=122						
M16K	**Timber Creek**	**6.80**	**319**		**Pn**	**20 55 55.4**	**+0.7**
M16K	**Timber Creek**	**6.80**	**319**	P	**Pn**	**20 55 55.4**	**+0.7**
	baz=131						
O14K	**Tigyukauivet M**	**6.86**	**301**	Pn	**Pn**	**20 55 57.1**	**+1.6**
L18K	**Granite Mounta**	**7.00**	**333**	Pn	**Pn**	**20 55 57.4**	**+0.1**
DHY	**Denali Highway**	**7.02**	**9**	Pn	**Pn**	**20 55 58.9**	**+1.1**
M26K	**Nabesna, AK**	**7.14**	**26**	Pn	**Pn**	**20 56 00.1**	**+0.8**
O29M	**Mount Kennedy**	**7.22**	**51**		**Pn**	**20 56 01.2**	**+0.7**
O29M	**Mount Kennedy**	**7.22**	**51**	P	**Pn**	**20 56 01.2**	**+0.7**
	baz=240						
RND	**Reindeer**	**7.26**	**3**	Pn	**Pn**	**20 56 02.2**	**+1.3**
M15K	**Kasigluk River**	**7.28**	**313**		**Pn**	**20 56 02.4**	**+1.3**
M15K	**Kasigluk River**	**7.28**	**313**	P	**Pn**	**20 56 02.4**	**+1.3**
	baz=124						
TRF	**Thorofare Moun**	**7.29**	**358**	Pn	**Pn**	**20 56 02.6**	**+1.1**
P29M	**Windy Craggy**	**7.29**	**57**		**Pn**	**20 56 01.7**	**+0.2**
P29M	**Windy Craggy**	**7.29**	**57**	P	**Pn**	**20 56 01.7**	**+0.2**
	baz=247						
CAST	**Castle Rocks**	**7.34**	**352**	Pn	**Pn**	**20 56 02.8**	**+0.7**
M27K	**Edge Creek, AK**	**7.40**	**30**	Pn	**Pn**	**20 56 03.3**	**+0.3**
KTH	**Kantishna Hill**	**7.41**	**356**	Pn	**Pn**	**20 56 03.8**	**+0.8**
L16K	**Owhat River**	**7.45**	**322**	Pn	**Pn**	**20 56 04.7**	**+1.1**
S31K	**Pelican**	**7.61**	**71**		**Pn**	**20 56 04.3**	**-1.4**
S31K	**Pelican**	**7.61**	**71**	P	**Pn**	**20 56 04.5**	**-1.2**
	baz=262						
K17K	**Iditarod**	**7.84**	**330**	Pn	**Pn**	**20 56 09.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**7.96**	**356**	Pn	**Pn**	**20 56 09.9**	**-0.6**
RIDG	**Independent Ri**	**7.97**	**16**	Pn	**Pn**	**20 56 10.8**	**+0.1**
L27K	**Beaver Creek,**	**7.99**	**27**	Pn	**Pn**	**20 56 11.5**	**+0.6**
BCAR	**Beaver Creek A**	**8.00**	**27**	Pn	**Pn**	**20 56 12.0**	**+0.9**
M13K	**Dall Lake**	**8.29**	**306**	Pn	**Pn**	**20 56 16.3**	**+1.3**
HDA	**Harding Lake**	**8.37**	**9**	Pn	**Pn**	**20 56 17.0**	**+0.9**
L14K	**Kuka Creek**	**8.45**	**313**	Pn	**Pn**	**20 56 18.2**	**+1.1**
N30M	**Aishikik Lake**	**8.45**	**46**	Pn	**Pn**	**20 56 17.8**	**+0.5**
S32K	**Killisnoo**	**8.45**	**75**	Pn	**Pn**	**20 56 16.3**	**-1.0**
O30N	**Mendenhall**	**8.52**	**52**	Pn	**Pn**	**20 56 18.5**	**+0.2**
M29M	**Somme Creek**	**8.53**	**38**	Pn	**Pn**	**20 56 19.9**	**+1.4**
CCB	**Clear Creek Bu**	**8.54**	**6**	Pn	**Pn**	**20 56 20.2**	**+1.7**
IL31		**8.73**	**8**	Pn	**Pn**	**20 56 23.2**	**+2.2**
ILAR	**Eielson Array**	**8.73**	**8**	Pn	**Pn**	**20 56 22.9**	**+1.8**
K27K	**Chicken**	**8.75**	**23**	Pn	**Pn**	**20 56 23.4**	**+2.0**
J26L	**Joseph Creek**	**8.89**	**18**	Pn	**Pn**	**20 56 23.9**	**+0.6**
J16K	**Anvik River**	**8.95**	**327**	Pn	**Pn**	**20 56 25.0**	**+0.9**
L29M	**L29M**	**9.10**	**36**	Pn	**Pn**	**20 56 27.7**	**+1.5**
M30M	**Minto, Yukon**	**9.21**	**41**	Pn	**Pn**	**20 56 28.7**	**+0.9**
P32M	**Atlin**	**9.22**	**62**	Pn	**Pn**	**20 56 27.8**	**0.0**
U33K	**Whale Pass**	**9.31**	**84**	Pn	**Pn**	**20 56 26.7**	**-2.4**
EGAK	**Eagle**	**9.60**	**23**	Pn	**Pn**	**20 56 33.1**	**+0.1**
H21K	**Melozitna Rive**	**9.61**	**353**	Pn	**Pn**	**20 56 32.9**	**-0.2**
H24K	**Noodor Dome**	**9.73**	**5**	Pn	**Pn**	**20 56 37.1**	**+2.3**
K29M	**Barlow Dome**	**9.82**	**34**	Pn	**Pn**	**20 56 36.7**	**+0.6**
M31M	**Drury Creek, Y**	**9.93**	**46**	Pn	**Pn**	**20 56 38.7**	**+1.2**
IMAR	**Indian Mountai**	**10.01**	**351**	Pn	**Pn**	**20 56 39.0**	**+0.4**
R33M	**Jennings River**	**10.55**	**64**	Pn	**Pn**	**20 56 45.5**	**-0.7**
G23K	**Bananza Creek**	**10.56**	**360**	Pn	**Pn**	**20 56 45.8**	**-0.4**
G24K	**Hadweenzic Riv**	**10.61**	**5**	Pn	**Pn**	**20 56 47.5**	**+0.7**
J30M	**Hart River**	**10.71**	**33**	Pn	**Pn**	**20 56 47.9**	**-0.4**
BMAR	**Burnt Mountain**	**11.54**	**10**	Pn	**Pn**	**20 57 01.1**	**+1.5**

*PGC **23** 20:55:26.4,47˚.53N×122˚.77W,h51km,ML2.7,ML2.5/17, 34km west of Seattle, Wa Washington*
*SEA **23** 20:55:26.4±1.2,47˚.53N±0˚.02×122˚.77W±0˚.04,h51km±4km, ML2.7/12,ML2.9/62(NEIC), Error ellipse: s-maj=3.7km s-min=3.2km az=94.0*
*NEIC **23** 20:55:26.4±1.2,47˚.53N±0˚.02×122˚.80W±0˚.04,h52km±4km, Error ellipse: s-maj=3.8km s-min=3.2km az=124.0*
ISC 23 20:55:25.7±1.2,47˚.53N±0˚.02×122˚.84W±0˚.02,h55km±5km, n150,σ0§81/177,Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNW	**Green Mountain**	**0.03**	**13**		**Pn**	**20 55 33.7**	**-0.3**
GNW					**Sn**	**20 55 39.5**	**-0.5**
GNW	**Green Mountain**	**0.03**	**13**	IAML		20 55 39.8	
	comp=N,7μm,0.3s						
GNW				IAML		20 55 39.8	
	comp=E,3μm,0.2s						
GNW	**Green Mountain**	**0.03**	**13**	P	**Pn**	**20 55 33.8**	**-0.3**
GNW				S	**Sn**	**20 55 39.5**	**-0.5**
GMW	**Gold Mountain**	**0.04**	**66**		**Pn**	**20 55 33.7**	**-0.4**
GMW					**Sn**	**20 55 39.8**	**-0.3**
HDW	**Hoodsport**	**0.19**	**308**		**Pn**	**20 55 34.7**	**0.0**
HDW					**Sn**	**20 55 41.2**	**+0.1**
HDW	**Hoodsport**	**0.19**	**308**	P	**Pn**	**20 55 34.7**	**0.0**
KITP	**Kitsap County**	**0.20**	**44**		**Pn**	**20 55 35.1**	**+0.5**
C04A	**Brinnon**	**0.21**	**333**		**Pn**	**20 55 34.7**	**0.0**
C04A					**Sn**	**20 55 41.1**	**+0.1**
MNWA	**Manchester**	**0.21**	**81**		**Pn**	**20 55 34.6**	**-0.3**
BABE	**Bainbridge Sch**	**0.22**	**70**		**Pn**	**20 55 35.4**	**+0.7**
KINR	**Kitsap County**	**0.25**	**31**		**Pn**	**20 55 35.4**	**+0.4**
VVHS	**Vashon High Sc**	**0.28**	**113**		**Pn**	**20 55 35.1**	**-0.1**
B013	**Quilcene**	**0.28**	**350**		**Pn**	**20 55 35.4**	**+0.2**
B013					**Sn**	**20 55 42.4**	**+0.4**
B013	**Quilcene**	**0.28**	**350**		**Pn**	**20 55 35.4**	**+0.2**
LAWT	**Lawton Element**	**0.33**	**68**		**Pn**	**20 55 36.3**	**+0.8**
LAWT					**Sn**	**20 55 44.8**	**+2.1**
SP2	**Seward Park 2**	**0.40**	**86**		**Pn**	**20 55 36.7**	**+0.4**
SMW	**South Mountain**	**0.41**	**238**		**Pn**	**20 55 37.0**	**+0.6**
SMW	**South Mountain**	**0.41**	**238**	P	**Pn**	**20 55 37.0**	**+0.6**
EGRN	**Evergreen Coll**	**0.47**	**192**		**Pn**	**20 55 37.2**	**+0.2**
EGRN					**Sn**	**20 55 45.9**	**+0.8**
SQM	**Sequim**	**0.56**	**345**		**Pn**	**20 55 39.3**	**+1.3**
CPW	**Capitol Peak**	**0.60**	**200**		**Pn**	**20 55 38.9**	**+0.3**
CPW	**Capitol Peak**	**0.60**	**200**	P	**Pn**	**20 55 38.8**	**+0.3**
BLH	**Bald Hill**	**0.62**	**60**		**Pn**	**20 55 38.8**	**+0.1**
GHW	**Garrison Hill**	**0.62**	**142**		**Pn**	**20 55 38.9**	**+0.1**
OSD	**Olympics--Snow**	**0.65**	**296**		**Pn**	**20 55 40.0**	**+0.7**
OSD	**Olympics--Snow**	**0.65**	**296**	P	**Pn**	**20 55 40.0**	**+0.7**
D05A	**Enumclaw**	**0.67**	**121**		**Pn**	**20 55 39.6**	**+0.2**
D05A				Sn	**Sn**	**20 55 49.3**	**+0.1**
D05A				IAML		20 55 50.6	
	comp=E,759nm,0.4s						
D05A				IAML		20 55 50.7	
	comp=N,705nm,0.4s						
D05A	**Enumclaw**	**0.67**	**121**	P	**Pn**	**20 55 39.8**	**+0.4**
D05A				S	**Sn**	**20 55 49.8**	**+0.6**
B941	**Kapowsin**	**0.69**	**142**		**Pn**	**20 55 39.6**	**+0.1**
B04A	**Port Angeles**	**0.69**	**320**		**Pn**	**20 55 42.8**	**+3.2**
RATT	**Rattlesnake La**	**0.71**	**98**		**Pn**	**20 55 38.2**	**-1.7**
NLWA	**Nailton Lookou**	**0.71**	**259**		**Pn**	**20 55 42.6**	**+0.3**
B017	**Montesano**	**0.73**	**223**		**Pn**	**20 55 40.9**	**+0.9**
RRHS	**Rochester High**	**0.75**	**191**		**Pn**	**20 55 41.0**	**+0.8**
WISH	**Wishkah**	**0.76**	**237**		**Pn**	**20 55 41.2**	**+0.7**
WISH				IAML		20 56 11.8	
	comp=E,228nm,3.4s						
WISH	**Wishkah**	**0.76**	**237**	P	**Pn**	**20 55 41.1**	**+0.7**
SVOH	**Skagit Valley**	**0.77**	**10**	P	**Pn**	**20 55 41.8**	**+1.2**
GSM	**Grass Mountain**	**0.78**	**115**		**Pn**	**20 55 40.9**	**0.0**
C05A	**Tolt Reservoir**	**0.79**	**78**		**Pn**	**20 55 40.8**	**-0.1**
C05A	**Tolt Reservoir**	**0.79**	**78**	P	**Pn**	**20 55 40.8**	**-0.1**
C05A				S	**Sn**	**20 55 51.7**	**-0.3**
STW	**Striped Peak**	**0.83**	**318**	P	**Pn**	**20 55 42.2**	**+0.7**
LCW	**Lucas Creek**	**0.87**	**174**		**Pn**	**20 55 42.3**	**+0.5**
JCW	**Jim Creek**	**0.90**	**42**		**Pn**	**20 55 42.8**	**+0.5**
JCW	**Jim Creek**	**0.90**	**42**	P	**Pn**	**20 55 42.8**	**+0.5**
VGZ	**Gonzales**	**0.94**	**340**	P	**Pn**	**20 55 42.5**	**+0.1**
VGZ				S	**Sn**	**20 55 55.5**	**+0.2**
OBSR	**Observation Ro**	**0.94**	**132**		**Pn**	**20 55 43.8**	**+0.7**
OBC	**Olympics--Boni**	**0.98**	**301**		**Pn**	**20 55 44.0**	**+0.6**
OBC	**Olympics--Boni**	**0.98**	**301**	P	**Pn**	**20 55 44.0**	**+0.6**
REMR	**Mount Rainier-**	**0.98**	**136**		**Pn**	**20 55 43.8**	**+0.2**
FMW	**Mount Fremont**	**0.99**	**127**		**Pn**	**20 55 43.8**	**0.0**
FMW	**Mount Fremont**	**0.99**	**127**	P	**Pn**	**20 55 43.8**	**0.0**
RCS	**Mount Rainier-**	**1.00**	**131**		**Pn**	**20 55 44.4**	**+0.4**
CMW	**Cultus Mountai**	**1.01**	**28**		**Pn**	**20 55 44.7**	**+0.9**
CMW	**Cultus Mountai**	**1.01**	**28**	P	**Pn**	**20 55 44.6**	**+0.7**
P403	**Sandy Floe Qua**	**1.03**	**302**		**Pn**	**20 55 44.4**	**+0.4**
B019	**Raymond**	**1.04**	**213**		**Pn**	**20 55 44.9**	**+0.7**
LON	**Longmire**	**1.05**	**138**		**Pn**	**20 55 44.5**	**+0.2**
LON				IA

F04A	**Amboy**	**1.63**	**170**	Pn	**Pn**	**20 55 52.8**	**+0.7**
F04A				IAML		20 56 14.3	
	comp=E,93nm,0.2s						
EBG	**Ellensburg**	**1.67**	**111**		**Pn**	**20 55 54.0**	**+1.3**
ETW	**Entiat**	**1.70**	**87**		**Pn**	**20 55 53.9**	**+0.7**
HNBB	**Haney**	**1.76**	**6**		**Pn**	**20 55 55.3**	**+1.4**
HNBB	**Haney**	**1.76**	**6**	P	**Pn**	**20 55 54.7**	**+0.8**
HNBB				S	**Sn**	**20 56 15.5**	**+0.3**
NLW	**Nelson Butte**	**1.77**	**71**		**Pn**	**20 55 54.6**	**+0.5**
NLLB	**Nanaimo Lost L**	**1.86**	**336**	P	**Pn**	**20 55 55.7**	**+0.5**
NLLB				S	**Sn**	**20 56 17.0**	**-0.6**
CBSW	**Chelan Butte S**	**1.91**	**81**		**Pn**	**20 55 56.3**	**+0.4**
MXC	**Moxie City**	**1.98**	**118**		**Pn**	**20 55 57.7**	**+0.8**
B928	**Bamfield**	**2.02**	**311**		**Pn**	**20 55 57.4**	**+0.1**
B928	**Bamfield**	**2.02**	**311**	S	**Sn**	**20 56 20.0**	**-1.3**
BFSB	**Bamfield**	**2.02**	**311**	S	**Sn**	**20 56 20.0**	**-1.3**
HOPB	**Hope**	**2.08**	**26**	P	**Pn**	**20 55 59.0**	**+0.8**
DHW2	**Dyer Hill 2**	**2.12**	**77**		**Pn**	**20 55 58.9**	**+0.2**
B927	**Port Alberni**	**2.14**	**323**	S	**Sn**	**20 56 24.1**	**-0.3**
E07A	**Sunnyside**	**2.26**	**114**		**Pn**	**20 56 00.6**	**-0.1**
OZB	**Mount Ozzard**	**2.28**	**310**	P	**Pn**	**20 56 01.1**	**+0.2**
OZB				S	**Sn**	**20 56 26.4**	**-1.5**
B012	**Ucluelet**	**2.28**	**309**	S	**Sn**	**20 56 26.6**	**-1.3**
SAW	**Saint Andrews**	**2.33**	**85**		**Pn**	**20 56 01.3**	**-0.4**
G03D	**McMinnville, O**	**2.34**	**187**	Pn	**Pn**	**20 56 02.4**	**+0.6**
G03D				IAML		20 56 19.7	
	comp=N,77nm,3.2s						
G03D				IAML		20 56 37.6	
	comp=E,102nm,3.9s						
FHE	**Frenchman Hill**	**2.35**	**103**		**Pn**	**20 56 02.2**	**+0.3**
LOCW	**Locke Island**	**2.46**	**108**		**Pn**	**20 56 04.2**	**+0.7**
GBL	**Gable Mountain**	**2.49**	**111**		**Pn**	**20 56 04.8**	**+0.9**
GBL	**Gable Mountain**	**2.49**	**111**		**Pn**	**20 56 04.7**	**+0.9**
B08A	**Colville Reser**	**2.50**	**69**		**Pn**	**20 56 04.0**	**+0.1**
B08A	**Colville Reser**	**2.50**	**69**	IAML		20 57 02.7	
	comp=N,88nm,0.9s						
B08A	**Colville Reser**	**2.50**	**69**	P	**Pn**	**20 56 03.9**	**-0.1**
G05A	**Wamic**	**2.52**	**155**	Pn	**Pn**	**20 56 04.3**	**0.0**
HAWA	**Hanford**	**2.53**	**116**	Pn	**Pn**	**20 56 04.7**	**+0.3**
D08A	**Wollman Farm,**	**2.71**	**99**	Pn	**Pn**	**20 56 06.1**	**-0.7**
D08A				IAML		20 56 51.1	
	comp=N,28nm,4.5s						
G06A	**Carlson Farm,**	**2.76**	**146**	Pn	**Pn**	**20 56 06.9**	**-0.6**
G06A				IAML		20 57 35.1	
	comp=E,32nm,4.6s						
PNT	**Penticton**	**2.79**	**49**	P	**Pn**	**20 56 08.6**	**+0.7**
H04A	**Detroit Lake**	**2.89**	**171**	Pn	**Pn**	**20 56 08.2**	**-1.1**
H04A				IAML		20 56 45.1	
	comp=N,33nm,0.3s						
H04A				IAML		20 57 23.4	
	comp=E,40nm,4.4s						
C09A	**Chrisman Ranch**	**3.09**	**83**		**Pn**	**20 56 10.7**	**-1.4**
C09A				IAML		20 57 04.5	
	comp=N,56nm,0.3s						
C09A				IAML		20 57 09.3	
	comp=E,56nm,0.3s						
C09A	**Chrisman Ranch**	**3.09**	**83**	P	**Pn**	**20 56 11.5**	**-0.6**
LLLB	**Lillooet**	**3.14**	**11**	P	**Pn**	**20 56 13.6**	**+0.9**
LLLB				S	**Sn**	**20 56 48.6**	**-0.5**
NEW	**Newport**	**3.91**	**77**	Pn	**Pn**	**20 56 21.3**	**-2.0**
NEW				IAML		20 57 24.3	
	comp=E,17nm,4.6s						
NEW				IAML		20 58 35.5	
	comp=E,13nm,4.6s						
PINE	**Pine Mountain**	**3.97**	**160**	Pn	**Pn**	**20 56 23.9**	**-0.3**
F10A	**Beach Ranch, E**	**4.16**	**110**		**Pn**	**20 56 26.5**	**-0.3**
F10A				IAML		20 57 29.1	
	comp=N,23nm,4.9s						
F10A				IAML		20 58 32.6	
	comp=E,26nm,4.9s						
I07A	**Izee**	**4.16**	**145**	Pn	**Pn**	**20 56 24.2**	**-2.6**
DBO	**Dodson Butte**	**4.42**	**184**	Pn	**Pn**	**20 56 30.3**	**-0.1**
K02D	**Willamette Mer**	**4.87**	**187**	Pn	**Pn**	**20 56 37.4**	**+0.9**
HUMO	**Hull Mountain**	**4.93**	**181**	Pn	**Pn**	**20 56 39.0**	**+1.8**
PLID	**Pearl Lake**	**5.33**	**115**	Pn	**Pn**	**20 56 42.0**	**-1.0**
PLID				IAML		20 58 31.3	
	comp=E,8.5nm,4.3s						
PLID				IAML		21 00 00.9	
	comp=E,8.7nm,4.8s						

*NEIC **23** 20:57:02.4±1.4,56°.23N±0°.08×148°.77W±0°.10,h28km±9km, ML3.5/52,ML3.3(AEIC),Error ellipse: s-maj=12.1km s-min=6.6km az=154.0*
*AEIC **23** 20:57:05.7±1.3,56°.24N±0°.09×148°.8W±0°.1,h12km±7km, Error ellipse: s-maj=12.8km s-min=9.4km az=171.0*
ISC 23 20:56:59.9±1.3,56°.27N±0°.09×148°.81W±0°.06,h10km, n192,σ1§43/197,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.56**	**308**		**Pn**	**20 57 42.6**	**+1.2**
KDAK	**Kodiak Island**	**2.56**	**308**		**Sn**	**20 58 11.4**	**-1.1**
KDAK	**Kodiak Island** baz=125	**2.56**	**308**	S	**Sn**	**20 58 11.4**	**-1.1**
OHAK	**Old Harbor**	**2.64**	**293**		**Pn**	**20 57 43.3**	**+0.8**
OHAK	**Old Harbor**	**2.64**	**293**		**Sn**	**20 58 12.7**	**-1.8**
OHAK	**Old Harbor** baz=110	**2.64**	**293**	P	**Pn**	**20 57 43.5**	**+1.0**
OHAK				S	**Sn**	**20 58 12.7**	**-1.8**
	baz=110						
SYI	**Shuyak Island**	**3.04**	**322**		**Pn**	**20 57 49.5**	**+1.6**
SYI					**Sn**	**20 58 24.1**	**-0.2**
SYI	**Shuyak Island** comp=E,84nm,0.7s	**3.04**	**322**	IAML		20 58 27.4	
Q20K	**Shuyak Island** baz=139	**3.04**	**322**	P	**Pn**	**20 57 49.5**	**+1.5**
Q20K				S	**Sn**	**20 58 24.2**	**-0.2**
	baz=139						
R18K	**Karluk**	**3.35**	**295**		**Pn**	**20 57 53.6**	**+1.3**
R18K					**Sn**	**20 58 30.5**	**-1.6**
R18K	**Karluk** comp=N,161nm,0.4s	**3.35**	**295**	IAML		20 58 33.7	
R18K				IAML		20 58 40.9	
	comp=E,180nm,0.3s						
R18K	**Karluk** baz=111	**3.35**	**295**	P	**Pn**	**20 57 53.6**	**+1.3**
R18K				S	**Sn**	**20 58 30.5**	**-1.6**
	baz=111						
Q23K	**Middleton Isla**	**3.43**	**22**		**Pn**	**20 57 54.3**	**+1.0**
Q23K					**Sn**	**20 58 32.1**	**-1.8**
Q23K	**Middleton Isla** comp=N,104nm,1.1s	**3.43**	**22**	IAML		21 00 02.4	
Q23K				IAML		21 00 05.9	
	comp=E,108nm,1.1s						
Q23K	**Middleton Isla** baz=203	**3.43**	**22**	P	**Pn**	**20 57 54.3**	**+1.0**
Q23K				S	**Sn**	**20 58 32.1**	**-1.8**
	baz=203						
MID	**Middleton Isla**	**3.43**	**22**		**Pn**	**20 57 54.1**	**+0.9**
MID	**Middleton Isla** comp=E,140nm,1.1s	**3.43**	**22**	IAML		20 59 06.9	
MID				IAML		21 00 10.4	
	comp=N,124nm,1.1s						
MID	**Middleton Isla**	**3.43**	**22**	P	**Pn**	**20 57 54.5**	**+1.2**
CNPM	**China Poot**	**3.51**	**339**		**Pn**	**20 57 55.9**	**+1.4**
CNPM				IAML		20 58 39.2	
	comp=N,47nm,0.5s						
CNPM				IAML		20 58 42.3	
	comp=E,49nm,1.2s						
CNPM	**China Poot**	**3.51**	**339**		**Sn**	**20 58 35.2**	**-0.8**
BRSE	**Bradley Lake S**	**3.63**	**344**		**Pn**	**20 57 57.5**	**+1.4**
BRSE					**Sn**	**20 58 37.4**	**-1.6**
BRSE	**Bradley Lake S** baz=163	**3.63**	**344**	P	**Pn**	**20 57 57.5**	**+1.4**
BRSE				S	**Sn**	**20 58 37.4**	**-1.6**
	baz=163						
BRLK	**Bradley Lake**	**3.67**	**343**		**Pn**	**20 57 57.7**	**+1.0**
BRLK				IAML		20 58 45.0	
	comp=E,47nm,0.8s						
HOM	**Homer**	**3.72**	**337**	Pn	**Pn**	**20 57 59.2**	**+2.0**
Q19K	**Cape Douglas,**	**3.72**	**318**		**Pn**	**20 57 58.6**	**+1.2**
Q19K				IAML		20 58 45.7	
	comp=E,172nm,1.1s						
Q19K				IAML		20 58 48.0	
	comp=N,122nm,0.8s						
Q19K	**Cape Douglas,** baz=134	**3.72**	**318**	P	**Pn**	**20 57 58.8**	**+1.4**
P23K	**Montague Islan**	**3.81**	**11**		**Pn**	**20 57 59.6**	**+1.0**
P23K	**Montague Islan** baz=192	**3.81**	**11**	P	**Pn**	**20 57 59.6**	**+1.0**
SEW	**Seward**	**3.86**	**355**		**Pn**	**20 58 00.2**	**+1.0**
SEW	**Seward** baz=174	**3.86**	**355**	P	**Pn**	**20 58 00.5**	**+1.3**
AUL	**Augustine Lava**	**3.98**	**324**		**Pn**	**20 58 02.3**	**+1.4**
P19K	**Oil Pt**	**4.13**	**327**		**Pn**	**20 58 04.3**	**+1.4**
P19K				IAML		20 58 57.5	
	comp=E,128nm,0.6s						
P19K	**Oil Pt** baz=144	**4.13**	**327**	P	**Pn**	**20 58 05.1**	**+2.2**
HIN	**Hinchinbrook I**	**4.31**	**15**		**Pn**	**20 58 06.6**	**+1.1**
HIN				IAML		20 58 55.7	
	comp=N,101nm,0.6s						
HIN				IAML		20 58 56.0	
	comp=E,74nm,1.0s						
SLKM	**Skilak Lake**	**4.31**	**351**		**Pn**	**20 58 06.5**	**+1.0**
O20K	**Slope Mountain**	**4.32**	**334**		**Pn**	**20 58 06.8**	**+1.2**
O20K	**Slope Mountain** baz=151	**4.32**	**334**	P	**Pn**	**20 58 06.8**	**+1.2**
KAIM	**Kayak Island**	**4.34**	**31**		**Pn**	**20 58 06.8**	**+1.0**
KAIM				IAML		20 58 57.6	
	comp=N,79nm,1.1s						
KAIM				IAML		20 58 59.8	
	comp=E,80nm,1.0s						
KAIM	**Kayak Island** baz=214	**4.34**	**31**	P	**Pn**	**20 58 07.2**	**+1.3**
IVE	**Iliamna Volcan**	**4.37**	**331**		**Pn**	**20 58 07.5**	**+1.3**
EYAK	**Cordova Ski Ar**	**4.58**	**19**		**Pn**	**20 58 10.6**	**+1.5**
EYAK	**Cordova Ski Ar**	**4.58**	**19**	P	**Pn**	**20 58 10.8**	**+1.7**
EYAK	**Cordova Ski Ar** baz=202	**4.58**	**19**	P	**Pn**	**20 58 10.6**	**+1.5**
P18K	**Big Mountain,**	**4.64**	**315**		**Pn**	**20 58 11.6**	**+1.6**
P18K	**Big Mountain,** baz=130	**4.64**	**315**	P	**Pn**	**20 58 11.6**	**+1.6**
RED	**Redoubt Volcan**	**4.65**	**335**		**Pn**	**20 58 11.3**	**+1.1**
FID	**Port Fidalgo**	**4.66**	**14**		**Pn**	**20 58 11.0**	**+0.9**
FID				IAML		20 59 03.1	
	comp=E,38nm,0.5s						
FID				IAML		20 59 06.5	
	comp=N,30nm,0.6s						
RAGM	**Ragged Mountai**	**4.67**	**26**		**Pn**	**20 58 11.6**	**+1.3**
CAPN	**Captain Cook N**	**4.67**	**346**	Pn	**Pn**	**20 58 12.4**	**+2.1**
RDSO	**Redoubt South**	**4.68**	**335**		**Pn**	**20 58 11.9**	**+1.3**
RSO	**Redoubt South**	**4.69**	**335**	Pn	**Pn**	**20 58 11.7**	**+1.0**
RDT	**Redoubt**	**4.71**	**338**		**Pn**	**20 58 12.1**	**+1.1**
RDWB	**Redoubt West**	**4.73**	**335**		**Pn**	**20 58 12.6**	**+1.3**
DFR	**Drift River**	**4.79**	**336**		**Pn**	**20 58 13.3**	**+1.3**
NCT	**North Crescent**	**4.82**	**335**		**Pn**	**20 58 13.9**	**+1.4**
RC01	**Rabbit Creek A**	**4.86**	**355**		**Pn**	**20 58 14.1**	**+1.1**
RC01				IAML		20 59 09.4	
	comp=E,24nm,0.5s						
RC01				IAML		20 59 19.5	
	comp=N,20nm,1.1s						
O19K	**Port Alsworth**	**4.89**	**326**		**Pn**	**20 58 14.6**	**+1.2**
O19K	**Port Alsworth** baz=141	**4.89**	**326**	P	**Pn**	**20 58 14.6**	**+1.2**
BERG	**Berg Lake**	**4.93**	**31**		**Pn**	**20 58 15.1**	**+1.1**
O18K	**Koktuh Hills**	**4.94**	**319**	Pn	**Pn**	**20 58 14.3**	**+0.2**
O18K				IAML		20 59 12.6	
	comp=E,18nm,1.0s						
O18K				IAML		20 59 15.7	
	comp=N,20nm,1.1s						
SNH	**Sunshine Point**	**5.03**	**36**	Pn	**Pn**	**20 58 16.6**	**+1.2**
SNH				IAML		20 59 13.9	
	comp=E,52nm,1.0s						
SNH				IAML		20 59 28.3	
	comp=N,28nm,1.0s						
DIV	**Divide**	**5.12**	**17**		**Pn**	**20 58 16.9**	**+0.3**
KNK	**Knik Glacier**	**5.16**	**2**		**Pn**	**20 58 17.2**	**+0.1**
KNK				IAML		20 59 16.5	
	comp=E,14nm,1.2s						
KNK	**Knik Glacier** baz=182	**5.16**	**2**	P	**Pn**	**20 58 18.9**	**+1.8**
BMRM	**Bremner River**	**5.20**	**23**		**Pn**	**20 58 18.9**	**+1.2**
BMRM	**Bremner River** baz=206	**5.20**	**23**	P	**Pn**	**20 58 18.9**	**+1.2**
N20K	**Mount Spurr** baz=159	**5.25**	**342**	P	**Pn**	**20 58 19.6**	**+1.2**
SPCR	**Spurr Chakacha**	**5.25**	**342**		**Pn**	**20 58 19.6**	**+1.2**
SPCP	**Crater Peak Br**	**5.30**	**342**		**Pn**	**20 58 20.8**	**+1.6**
SUA	**Susitna One**	**5.30**	**350**		**Pn**	**20 58 20.2**	**+1.0**
SUA	**Susitna One** baz=168	**5.30**	**350**	P	**Pn**	**20 58 20.2**	**+1.0**
PMR	**Palmer**	**5.34**	**358**	Pn	**Pn**	**20 58 19.3**	**-0.2**
PMR	**Palmer**	**5.34**	**358**	P	**Pn**	**20 58 21.5**	**+2.0**
CHGN	**Chignik**	**5.35**	**274**	Pn	**Pn**	**20 58 21.1**	**+1.4**
N19K	**Bonanza Creek**	**5.44**	**329**	Pn	**Pn**	**20 58 21.9**	**+1.0**
KLU	**Klutina**	**5.45**	**15**		**Pn**	**20 58 22.6**	**+1.5**
KLU	**Klutina** baz=197	**5.45**	**15**	P	**Pn**	**20 58 22.6**	**+1.5**
STLK	**Strandline Lak**	**5.47**	**345**		**Pn**	**20 58 23.5**	**+2.1**
SPNN	**North Nagishla**	**5.49**	**340**		**Pn**	**20 58 23.8**	**+2.0**
GHO	**Glory Hole Cre**	**5.52**	**359**		**Pn**	**20 58 24.6**	**+2.5**
SML	**Sawmill**	**5.56**	**2**		**Pn**	**20 58 24.7**	**+2.1**
SML	**Sawmill** baz=183	**5.56**	**2**	P	**Pn**	**20 58 24.7**	**+2.1**
SCM	**Sheep Creek Mo**	**5.63**	**7**	Pn	**Pn**	**20 58 25.5**	**+1.9**
VRDI	**Verde Repeater**	**5.70**	**27**	Pn	**Pn**	**20 58 26.3**	**+1.7**
N18K	**Kilae Creek**	**5.77**	**323**	Pn	**Pn**	**20 58 26.3**	**+0.8**
N25K	**Chitina, Valde**	**5.78**	**20**	Pn	**Pn**	**20 58 27.8**	**+2.1**
GLB	**Gilahina Butte**	**5.80**	**25**	Pn	**Pn**	**20 58 27.2**	**+1.3**
SKT	**Skwentna**	**5.89**	**347**	Pn	**Pn**	**20 58 28.6**	**+1.4**
MCARA	**McCarthy VSAT**	**5.94**	**28**	Pn	**Pn**	**20 58 30.1**	**+2.2**
SVW2	**Sparrevohn**	**5.99**	**327**	Pn	**Pn**	**20 58 29.7**	**+1.3**
SVW2	**Sparrevohn**	**5.99**	**327**	P	**Pn**	**20 58 29.7**	**+1.3**
M24K	**Tolsona, Glenn**	**6.01**	**12**		**Pn**	**20 58 30.6**	**+1.8**
M24K	**Tolsona, Glenn** baz=194	**6.01**	**12**	P	**Pn**	**20 58 30.6**	**+1.8**
M20K	**Styx River**	**6.05**	**340**	Pn	**Pn**	**20 58 30.5**	**+1.1**
BARN	**Barnard Glacie**	**6.08**	**35**	Pn	**Pn**	**20 58 31.7**	**+1.8**
BCPM	**Bancas Point**	**6.10**	**49**	Pn	**Pn**	**20 58 31.7**	**+1.7**
CTGM	**Chitina Glacie**	**6.11**	**37**	Pn	**Pn**	**20 58 31.7**	**+1.3**
LOGN	**Logan Glacier**	**6.13**	**39**	Pn	**Pn**	**20 58 32.4**	**+1.9**
N17K	**Nushagak Hills**	**6.13**	**318**	Pn	**Pn**	**20 58 31.1**	**+0.7**
CUT	**Chulitna**	**6.20**	**354**	Pn	**Pn**	**20 58 33.8**	**+2.5**
CNBA	**Chernabura Isl**	**6.29**	**261**	Pn	**Pn**	**20 58 33.5**	**+1.0**
M19K	**Big River Lodg**	**6.34**	**335**	Pn	**Pn**	**20 58 33.8**	**+0.5**
WAT7	**Susitna Watana**	**6.58**	**360**		**Pn**	**20 58 38.6**	**+1.9**
SDPT	**Sand Point**	**6.64**	**267**	Pn	**Pn**	**20 58 38.9**	**+1.5**
SDPT	**Sand Point**	**6.64**	**267**	P	**Pn**	**20 58 39.3**	**+1.9**
L19K	**White Mountain**	**6.69**	**335**	Pn	**Pn**	**20 58 38.8**	**+0.8**
O29M	**Mount Kennedy**	**6.74**	**49**		**Pn**	**20 58 41.1**	**+2.2**
P29M	**Windy Craggy**	**6.79**	**56**	Pn	**Pn**	**20 58 40.3**	**+0.9**
M17K	**Holitna River**	**6.81**	**323**	Pn	**Pn**	**20 58 41.5**	**+1.7**
M26K	**Nabesna, AK**	**6.83**	**23**	Pn	**Pn**	**20 58 41.0**	**+1.0**
DHY	**Denali Highway**	**6.86**	**5**		**Pn**	**20 58 42.5**	**+1.8**
S31K	**Pelican**	**7.06**	**71**	Pn	**Pn**	**20 58 42.5**	**-0.6**
N15K	**Twethluk River**	**7.12**	**308**	Pn	**Pn**	**20 58 47.2**	**+3.2**
RND	**Reindeer**	**7.16**	**360**	Pn	**Pn**	**20 58 47.3**	**+2.8**
L18K	**Granite Mounta**	**7.20**	**329**	Pn	**Pn**	**20 58 45.5**	**+0.4**
TRF	**Thorofare Moun**	**7.24**	**355**	Pn	**Pn**	**20 58 48.1**	**+2.3**
O14K	**Tigyukauivet M**	**7.30**	**299**	Pn	**Pn**	**20 58 48.8**	**+2.4**
CAST	**Castle Rocks**	**7.36**	**348**	Pn	**Pn**	**20 58 46.3**	**-0.9**
KTH	**Kantishna Hill**	**7.38**	**353**	Pn	**Pn**	**20 58 47.5**	**-0.1**
HYT	**Haines Junctio**	**7.47**	**48**	Pn	**Pn**	**20 58 47.4**	**-1.5**
PN7A	**Pavlof North-7**	**7.47**	**269**		**Pn**	**20 58 50.4**	**+1.5**
SIT	**Sitka**	**7.48**	**78**	Pn	**Pn**	**20 58 46.4**	**-2.4**
SIT	**Sitka**	**7.48**	**78**	P	**Pn**	**20 58 47.1**	**-1.7**
MCK	**McKinley**	**7.49**	**360**	Pn	**Pn**	**20 58 49.8**	**+0.8**
K20K	**Telida**	**7.58**	**342**	Pn	**Pn**	**20 58 50.2**	**-0.1**
TTA	**Tatalina**	**7.61**	**334**	Pn	**Pn**	**20 58 51.2**	**+0.4**
BCAR	**Beaver Creek A**	**7.68**	**25**	Pn	**Pn**	**20 58 51.8**	**0.0**
RIDG	**Independent Ri**	**7.75**	**13**		**Pn**	**20 58 53.0**	**+0.3**
SKAG	**Skagway**	**7.87**	**60**	Pn	**Pn**	**20 58 55.4**	**+1.3**
SKAG	**Skagway**	**7.87**	**60**	P	**Pn**	**20 58 55.8**	**+1.6**
BESE	**Bessie Mountai**	**7.88**	**67**	Pn	**Pn**	**20 58 55.1**	**+0.6**
S32K	**Killisnoo**	**7.89**	**75**	Pn	**Pn**	**20 58 53.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**7.93**	**353**		**Pn**	**20 58 56.2**	**+1.1**
BPAW	**Bear Paw Mtn.** baz=171	**7.93**	**353**	P	**Pn**	**20 58 56.2**	**+1.1**
N30M	**Aishikik Lake**	**7.99**	**45**	Pn	**Pn**	**20 58 57.7**	**+1.7**
R32K	**Eaglecrest**	**8.00**	**70**	Pn	**Pn**	**20 58 56.6**	**+0.6**
O30N	**Mendenhall**	**8.04**	**51**	Pn	**Pn**	**20 58 58.4**	**+1.8**
K17K	**Iditarod**	**8.06**	**327**	Pn	**Pn**	**20 58 57.9**	**+1.1**
JIS	**Juneau Island**	**8.07**	**70**	Pn	**Pn**	**20 58 57.4**	**+0.4**
SCRK	**Sand Creek**	**8.09**	**15**	Pn	**Pn**	**20 58 57.2**	**-0.3**
M29M	**Somme Creek**	**8.13**	**36**	Pn	**Pn**	**20 58 59.7**	**+1.8**
HDA	**Harding Lake**	**8.22**	**6**	Pn	**Pn**	**20 59 00.8**	**+1.8**
J18K	**Innoko River**	**8.23**	**334**	Pn	**Pn**	**20 59 00.5**	**+1.3**
J20K	**Nowinta River**	**8.36**	**344**	Pn	**Pn**	**20 59 02.1**	**+1.2**
FALS	**False Pass**	**8.40**	**266**	Pn	**Pn**	**20 59 02.4**	**+0.9**
FALS	**False Pass**	**8.40**	**266**	P	**Pn**	**20 59 03.4**	**+1.9**
CCB	**Clear Creek Bu**	**8.42**	**3**	Pn	**Pn**	**20 59 03.9**	**+2.1**
J19K	**Poorman**	**8.45**	**339**	Pn	**Pn**	**20 59 02.6**	**+0.4**
K27K	**Chicken**	**8.47**	**21**	Pn	**Pn**	**20 59 04.7**	**+2.2**
WHY	**Whitehorse**	**8.52**	**53**	Pn	**Pn**	**20 59 05.1**	**+1.8**
N31M	**Braeburn, Yuko**	**8.53**	**47**	Pn	**Pn**	**20 59 05.0**	**+1.7**
J25K	**Salcha River,**	**8.54**	**10**	Pn	**Pn**	**20 59 04.3**	**+0.9**
IL31		**8.58**	**6**	Pn	**Pn**	**20 59 05.2**	**+1.3**
ILAR	**Eielson Array**	**8.58**	**6**	Pn	**Pn**	**20 59 04.8**	**+0.9**
IL03	**Eielson Array**	**8.58**	**6**	Pn	**Pn**	**20 59 04.6**	**+0.6**
ISLZ	**Isanotski Laza**	**8.60**	**266**		**Pn**	**20 59 05.7**	**+1.4**
J26L	**Joseph Creek**	**8.65**	**15**	Pn	**Pn**	**20 59 07.2**	**+2.1**
P32M	**Atlin**	**8.69**	**61**	Pn	**Pn**	**20 59 06.4**	**+0.8**
U33K	**Whale Pass**	**8.75**	**85**	Pn	**Pn**	**20 59 04.2**	**-2.1**
MLY	**Manley**	**8.84**	**355**	Pn	**Pn**	**20 59 07.9**	**+0.3**
POKR	**Poker Plat Res**	**8.90**	**4**	Pn	**Pn**	**20 59 11.0**	**+2.6**
J16K	**Anvik River**	**9.20**	**325**	Pn	**Pn**	**20 59 13.9**	**+1.5**
Q32M	**Nakina River**	**9.28**	**66**	Pn	**Pn**	**20 59 13.7**	**0.0**
P33M	**Teslin, Yukon**	**9.31**	**58**	Pn	**Pn**	**20 59 14.2**	**+0.2**
EGAK	**Eagle**	**9.32**	**21**	Pn	**Pn**	**20 59 15.9**	**+1.8**
PRP	**Porcupine Dome**	**9.41**	**8**	Pn	**Pn**	**20 59 16.8**	**+1.3**
K29M	**Barlow Dome**	**9.45**	**32**	Pn	**Pn**	**20 59 16.9**	**+1.0**
M31M	**Drury Creek, Y**	**9.47**	**45**	Pn	**Pn**	**20 59 17.0**	**+0.8**
I26K	**Coal Creek Min**	**9.47**	**15**	Pn	**Pn**	**20 59 18.0**	**+1.9**
N32M	**Quiet Lake**	**9.52**	**53**	Pn	**Pn**	**20 59 18.3**	**+1.3**
H24K	**Noodor Dome**	**9.61**	**2**	Pn	**Pn**	**20 59 19.1**	**+1.0**
H21K	**Melozitna Rive**	**9.61**	**350**	Pn	**Pn**	**20 59 16.6**	**-1.5**
S34M	**Telegraph Cree**	**9.76**	**73**	Pn	**Pn**	**20 59 20.2**	**+0.1**
J14K	**Nanvaranak Lak**	**9.90**	**317**	Pn	**Pn**	**20 59 22.0**	**0.0**
H19K	**Roundabout Mou**	**9.99**	**341**	Pn	**Pn**	**20 59 24.4**	**+1.1**
R33M	**Jennings River**	**10.01**	**64**	Pn	**Pn**	**20 59 22.7**	**-1.0**
IMAR	**Indian Mountai**	**10.03**	**348**	Pn	**Pn**	**20 59 24.9**	**+1.1**
H18K	**Honhosa River**	**10.05**	**336**	Pn	**Pn**	**20 59 24.6**	**+0.5**
H17K	**Granite Mounta**	**10.24**	**333**	Pn	**Pn**	**20 59 26.9**	**+0.2**
J30M	**Hart River**	**10.34**	**31**	Pn	**Pn**	**20 59 29.6**	**+1.4**
UNV	**Unalaska Valle**	**10.43**	**264**	Pn	**Pn**	**20 59 29.4**	**0.0**
UNV	**Unalaska Valle**	**10.43**	**264**	P	**Pn**	**20 59 29.9**	**+0.6**
FYU	**Fort Yukon**	**10.47**	**8**	Pn	**Pn**	**20 59 31.0**	**+1.2**
G24K	**Hadweenzic Riv**	**10.49**	**3**	Pn	**Pn**	**20 59 31.4**	**+1.4**
G23K	**Bananza Creek**	**10.49**	**357**	Pn	**Pn**	**20 59 31.7**	**+1.6**
G21K	**Allakaket**	**10.52**	**350**	Pn	**Pn**	**20 59 31.1**	**+0.6**
F21K	**Alatna River**	**11.21**	**351**	Pn	**Pn**	**20 59 41.5**	**+1.6**
F20K	**Avaraart Lake**	**11.29**	**346**	Pn	**Pn**	**20 59 42.3**	**+1.3**
F24K	**Squaw Lake**	**11.30**	**2**	Pn	**Pn**	**20 59 43.2**	**+2.0**
BMAR	**Burnt Mountain**	**11.37**	**8**	Pn	**Pn**	**20 59 43.2**	**+1.1**
E19K	**Redstone River**	**11.89**	**344**	Pn	**Pn**	**20 59 50.4**	**+1.1**
E25K	**Arctic Village**	**11.99**	**6**	Pn	**Pn**	**20 59 53.2**	**+2.6**

*NEIC **23** 21:00:46.9±1.6,55°.8N±0°.1×149°.3W±0°.1,h8km±8km, ML3.5/34,ML3.4(AEIC),Error ellipse: s-maj=18.1km s-min=9.8km az=181.0*
*AEIC **23** 21:00:51.9±1.5,55°.8N±0°.1×149°.3W±0°.1,h9km±8km,Error ellipse: s-maj=18.8km s-min=9.7km az=183.0*
ISC 23 21:00:47.1±2.2,55°.9N±0°.1×149°.28W±0°.06,h10km,n81, σ1§07/88,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.61**	**303**		**Pn**	**21 01 29.4**	**+0.3**
OHAK					**Sn**	**21 01 59.3**	**-1.5**
OHAK	**Old Harbor** baz=121	**2.61**	**303**	P	**Pn**	**21 01 29.7**	**+0.6**
OHAK				S	**Sn**	**21 01 59.8**	**-1.1**
	baz=121						
KDAK	**Kodiak Island**	**2.65**	**318**		**Pn**	**21 01 30.3**	**+0.6**
KDAK	**Kodi

O16K	Kokwok River B	6.02	312	P	Pn	21 02 17.5 +1.4
	baz=125					
SVW2	Sparrevohn	6.20	330	Pn	Pn	21 02 18.8 +0.2
KIAG	Kiagna River	6.24	33		Pn	21 02 19.8 +0.5
PCA	Pinnacle	6.41	45		Pn	21 02 22.0 +0.6
PINM	Pinnacle	6.41	45	P	Pn	21 02 22.1 +0.7
	baz=232					
MCARA	McCarthy VSAT	6.43	28		Pn	21 02 22.6 +0.9
MCARA	McCarthy VSAT	6.43	28	P	Pn	21 02 22.9 +1.2
	baz=213					
PNL	Peninsula	6.52	50		Pn	21 02 23.6 +0.7
PNL	Peninsula	6.52	50	P	Pn	21 02 23.6 +0.7
	baz=238					
BARN	Barnard Glacie	6.57	34		Pn	21 02 23.9 +0.1
BCPM	Bancas Point	6.57	47	Pn	Pn	21 02 24.6 +0.9
O15K	Ungalikthiuk R	6.58	305		Pn	21 02 25.2 +1.4
O15K	Ungalikthiuk R	6.58	305	P	Pn	21 02 25.2 +1.4
	baz=116					
M18K	Stony River	6.59	332		Pn	21 02 24.1 +0.2
M18K	Stony River	6.59	332	P	Pn	21 02 24.1 +0.2
	baz=146					
CTGM	Chitina Glacie	6.60	36	Pn	Pn	21 02 24.5 +0.3
LOGN	Logan Glacier	6.61	38		Pn	21 02 24.7 +0.4
N16K	Nishlik Lake	6.82	317		Pn	21 02 28.6 +1.5
N16K	Nishlik Lake	6.82	317	P	Pn	21 02 28.7 +1.5
	baz=129					
M17K	Holitna River	7.00	326	Pn	Pn	21 02 30.6 +1.1
N15K	Kwethluk River	7.18	311	Pn	Pn	21 02 33.9 +1.9
O29M	Mount Kennedy	7.21	47		Pn	21 02 33.7 +1.2
P29M	Windy Craggy	7.24	54	Pn	Pn	21 02 33.1 +0.3
S31K	Pelican	7.45	68		Pn	21 02 33.8 -1.8
YUK7	Dusty Glacier	7.51	47		Pn	21 02 38.4 +1.6
YUK6	Outpost Mounta	7.67	44		Pn	21 02 40.8 +2.0
YUK6	Outpost Mounta	7.67	44	P	Pn	21 02 40.8 +2.0
	baz=233					
S32K	Killisnoo	8.26	73	Pn	Pn	21 02 45.2 -1.6
R32K	Eaglecrest	8.40	67	Pn	Pn	21 02 47.8 -0.9
WHY	Whitehorse	8.98	52	Pn	Pn	21 02 57.6 +0.9

NEIC ***23*** *21:00:54.2±2.1,36.50N±0.01×120.99W±0.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.8km az=222.0*
NCEDC ***23*** *21:00:55.3±2.4,36.48N±0.01×121.03W±0.05, h7km±6km, Mwr3.4/5,ML3.2/74(NEIC),Error ellipse: s-maj=6.2km s-min=1.9km az=100.0*
NEIC ***23*** *21:00:55.3,36.48N×121.03W, h7km*
ANF ***23*** *21:00:55.4±0.7,36.44N×120.91W, h0km, ML3.6/21,Error ellipse: s-maj=7.0km s-min=4.1km az=116.0*
NEIC ***23*** *21:00:55.3,36.48N×121.03W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.44; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-0.82; $M_{r\theta}$-0.03; $M_{\theta\phi}$1.52; $M_{r\phi}$0.05; Fault plane solution: $M_0$1.68000×10^{14} NP1:ϕ_s100.70000°, δ88.90000°,λ-1.00000°. NP2:ϕ_s190.72000°, δ89.00000°, λ-178.89000°. Principal axes: T 1.4111, Plg0.0000°, Azm326.0000°; N 0.4428, Plg89.0000°, Azm233.0000°; P -1.8538, Plg1.0000°, Azm56.0000°;*

ISC 23 21:00:55.0±0.8, 36.47N±0.02×121.08W±0.02, h14km±5km, n229, σ0§70/249, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBNM	San Benito	0.04	359		Pg	21 00 57.5	-0.1
LRV	Little Rabbit	0.06	134		Pg	21 00 57.4	-0.4
BPIM	Pinnacles	0.08	286		Pg	21 00 58.0	0.0
BBGB	Big Mountain B	0.11	15	Pg	Pg	21 00 58.7	+0.2
BBGB				Sg	Sg	21 01 01.1	+0.3
BVL	Bear Valley	0.14	319		Pb	21 00 59.1	-0.4
BSGM	Shirttail Gulc	0.15	249		Pb	21 00 59.1	-0.6
BSGM					Sg	21 01 01.8	+0.3
BAVM	Antelope Valle	0.18	12		Pg	21 00 59.6	+0.3
LRC	Lone Oak Road	0.22	173		Pg	21 01 00.1	+0.1
BJOM	Mount Johnson	0.25	310		Pb	21 01 00.7	-0.6
BJOM					Sb	21 01 04.6	-1.0
BJCM	Johnson Can.	0.27	287		Pb	21 01 01.2	-0.4
SCZ	Santa Cruz	0.29	296		Pb	21 01 01.6	-0.5
SCZ					Sb	21 01 05.9	-0.9
BSMM	Soledad Missio	0.30	253		Pb	21 01 02.0	-0.2
PMPB	Monarch Peak	0.34	139	Pg	Pg	21 01 02.0	+0.1
PMPB				Sg	Sg	21 01 06.9	+0.3
PMPB				IAML		21 01 11.2	
	comp=N,5μm,0.4s						
BSLM	Silva Ranch	0.38	324		Pb	21 01 04.2	+0.7
PCCM	Crazy Canyon	0.39	191		Pb	21 01 03.4	-0.2
PCCM					Sb	21 01 09.3	-0.2
HAST	Hastings Reser	0.39	258		Pb	21 01 03.5	-0.2
HAST					Sb	21 01 09.3	-0.4
BSRM	Salinas Radio	0.41	299		Pb	21 01 03.7	-0.4
SAO	San Andreas Ge	0.42	315	Pg	Pb	21 01 03.8	-0.4
SAO				Sg	Sb	21 01 10.0	-0.5
FRP	Fremont Peak	0.44	311		Pb	21 01 04.0	-0.6
HLTM	Lone Tree Road	0.46	336		Pn	21 01 06.4	-0.8
BPCNC	Pine Canyon	0.46	283		Pn	21 01 04.9	0.0
PJUM	Juniper Ridge	0.46	122		Pb	21 01 04.5	-0.4
PPTM	Peach Tree Val	0.46	141		Pg	21 01 04.2	+0.1
HULI	Fort Hunter Li	0.47	196		Pb	21 01 04.8	-0.2
PSAM	San Ardo	0.47	161		Pg	21 01 04.3	0.0
HSFM	Saint Francis	0.48	315		Pn	21 01 06.4	-1.2
BPRM	Ponciano Ridge	0.53	264		Pb	21 01 06.2	0.0
HBTM	San Juan Bauti	0.54	315		Pb	21 01 06.2	0.0
PSMM	Smith Mountain	0.56	136		Pb	21 01 06.3	-0.3
PACP	Pacheco Peak	0.56	342		Pb	21 01 07.0	+0.2
OCR	O'Connell Ranc	0.57	322		Pb	21 01 07.0	+0.3
HFEM	San Felipe	0.58	333		Pb	21 01 07.1	+0.2
HTUM	Tustin Road	0.58	308		Pb	21 01 06.6	-0.4
PDRM	Domengine Ranc	0.58	103		Pb	21 01 07.1	+0.1
ANZ	Anzar Road	0.59	315		Pb	21 01 07.5	+0.4
PAPM	Alder Peak	0.60	203		Pb	21 01 07.4	0.0
BPOM	Post Ranch	0.61	247		Pb	21 01 07.5	0.0
HERM	Elkhorn Road	0.61	303		Pb	21 01 07.6	+0.1
HPCM	Pacheco Lake	0.61	345		Pb	21 01 07.7	+0.1
SLD	San Luis Dam	0.62	349		Pb	21 01 07.7	+0.1
PHPM	Hope Ranch	0.62	142		Pg	21 01 06.9	-0.2
PHSB	Hesperia Broad	0.64	178		Pb	21 01 07.7	-0.3
PHSB					Sb	21 01 16.6	-0.3
CDC	Canada Road	0.65	329		Pb	21 01 08.4	+0.4
HCAM	Canada Road	0.65	329		Pn	21 01 08.9	-0.9
HCOM	Corn Cob Canyo	0.66	310		Pb	21 01 08.3	0.0
HCBM	Chamberlain	0.66	315		Pb	21 01 08.5	+0.2
PKD	Bear Valley Ra	0.68	140		Pg	21 01 07.9	-0.3
HMOM	Monterey	0.69	281		Pb	21 01 09.1	+0.3
GHS	Gilroy Hot Spr	0.69	335		Pb	21 01 09.2	+0.3
PWMM	Westland Maint	0.70	93		Pn	21 01 09.6	-0.8
PVCM	Vineyard Canyo	0.70	141		Pg	21 01 08.5	-0.2
PANM	San Antonio Re	0.70	169		Pb	21 01 08.9	-0.1
PPO	Portuguese Can	0.71	148		Pb	21 01 09.0	-0.1
PSTM	Stockdale Moun	0.71	139		Pg	21 01 08.4	-0.4
SCKWR	San Luis Creek	0.71	0		Pn	21 01 10.6	-0.1
HLPM	Lions Peak	0.73	322		Pb	21 01 09.7	+0.2
JELB	Ellicott, Sant	0.76	307		Pb	21 01 10.1	+0.1
PHCM	Hearst Castle	0.79	185		Pb	21 01 10.7	+0.1
PWKM	Work Ranch	0.80	145		Pb	21 01 10.5	-0.1
PHFM	Heflinger Ranc	0.80	137		Pg	21 01 10.5	0.0
CTM	Castle Mountai	0.80	132		Pb	21 01 11.1	+0.3
CADM	Anderson Res.	0.82	328		Pn	21 01 11.4	-0.7
PHAM	Harlan Ranch	0.84	139		Pb	21 01 11.1	-0.3
RAMR	Ramage Ranch	0.85	169		Pg	21 01 11.4	0.0
GHC	Gold Hill	0.86	137		Pb	21 01 11.4	-0.4
JLAB	Laurel Hill	0.86	322		Pn	21 01 12.1	-0.7
PKEM	Kettleman Hill	0.88	117		Pn	21 01 12.7	-0.3
PSRM	Scobie Ranch	0.89	133		Pg	21 01 12.3	+0.1
CMPM	Mikes Peak	0.91	348		Pn	21 01 13.3	-0.2
PKLM	Kerr Lake	0.92	139		Pb	21 01 12.4	-0.2
CCOB	Coe Ranch Numb	0.92	329		Pn	21 01 13.6	0.0
PSNM	Stone Corral	0.93	137		Pb	21 01 12.7	-0.2
TCHL	Shandon	0.95	145		Pg	21 01 13.4	0.0
ARN	Arnold Ranch	0.95	337		Pn	21 01 13.6	-0.4
TCAS	Cass Winery, P	0.95	154		Pg	21 01 13.3	-0.1
PMRM	Maxey Ranch	0.96	135		Pb	21 01 13.4	-0.1
MHC	Mount Hamilton	0.98	333		Pg	21 01 14.0	0.0
TRAM	Private Proper	1.02	140		Pb	21 01 14.4	-0.1
JJOM	Saint Joseph's	1.03	316		Pb	21 01 14.3	-0.4
SCCB	Santa Clara Co	1.03	322		Pg	21 01 14.9	0.0
CMMM	Mount Mocho	1.04	341		Pn	21 01 15.0	-0.3
MYLM	Yosemite Lake	1.05	30		Pb	21 01 14.6	-0.4
MTOS	Mt Oso, Westle	1.05	349		Pg	21 01 15.5	+0.1
CMLM	Mount Lewis	1.11	336		Pn	21 01 15.9	-0.3
PTAM	Tassajara Cree	1.11	164		Pb	21 01 15.7	-0.4
CALM	Calaveras Res.	1.14	330		Pb	21 01 16.2	-0.3
EFD	Emergency Oper	1.18	166		Pn	21 01 16.5	-0.6
TSCS	Shell Creek So	1.18	150		Pn	21 01 16.5	-0.6
LSDC	Los Osos Digit	1.18	171		Pb	21 01 17.2	0.0
JSJM	St Joseph	1.19	317		Pg	21 01 17.5	-0.4
TRAY	Twisselman Ran	1.20	140		Pn	21 01 16.9	-0.4
PBPM	Bitterwater Pu	1.20	137		Pb	21 01 17.5	-0.1
JBMM	Black Mountain	1.21	315		Pn	21 01 17.2	-0.4
CSTL	Corral Hollow	1.22	344		Pg	21 01 18.1	-0.3
FRI	Friant	1.22	64		Pn	21 01 16.4	-1.2
JPSM		1.25	306		Pn	21 01 17.8	-0.3
DPD	Davis Peak	1.26	169		Pn	21 01 17.8	-0.4
JFP	Foothills Park	1.26	315		Pn	21 01 17.9	-0.3
DCD	Diablo Creek	1.27	171		Pn	21 01 17.6	-0.7
WENL	Wente Vineyard	1.27	335		Pb	21 01 18.6	-0.2
JSFB	Stanford Teles	1.28	317		Pn	21 01 18.1	-0.5
CVLM	Vallecito	1.31	332		Pb	21 01 18.9	-0.4
JRSC	Jasper Ridge	1.32	315		Pn	21 01 18.6	-0.4
CNIC	Niles Canyon	1.34	328		Pb	21 01 19.4	-0.5
VOG	Valley Oaks Go	1.37	96		Pn	21 01 18.7	-1.0
VOG	Valley Oaks Go	1.37	96	P	Pn	21 01 18.8	-1.0
	baz=277,SNR=6.5						
VOG				S	Sb	21 01 37.7	-0.2
	baz=277						
CBSNC	Byron Hot Spri	1.42	342		Pb	21 01 21.0	-0.3
SMMC	Simmler	1.45	142		Pn	21 01 20.5	-0.3
SMMC	Simmler	1.45	142	P	Pn	21 01 20.7	-0.2
	baz=325,SNR=44						
SMMC				S	Sn	21 01 39.4	-0.3
	baz=325						
CMOB	Morgan Territo	1.46	337		Pb	21 01 21.2	-0.8
JCHM	Cahill Ridge	1.48	316		Pn	21 01 21.0	-0.2
JCPM	Coyote Point	1.50	319		Pn	21 01 21.2	-0.3
CSLM	San Leandro Hi	1.51	327		Pn	21 01 21.4	-0.2
CARC	Carrizo Plain	1.53	139		Pn	21 01 21.7	-0.3
SAC	San Andreas	1.55	316		Pn	21 01 22.0	-0.2
MCUB	Copperopolis B	1.55	13		Pn	21 01 22.3	+0.1
BGC	Bolinger Road	1.56	330		Pn	21 01 22.6	+0.2
MRHM	Rocky Hill	1.61	96		Pn	21 01 21.6	-1.5
JMGM	Milagra Ridge	1.62	317		Pn	21 01 22.8	-0.3
PMLM	Mount Lospe	1.62	166		Pn	21 01 23.1	-0.1
CRGC	Crocker Grade	1.64	138		Pn	21 01 23.4	-0.2
KCC	Kaiser Creek	1.65	58		Pb	21 01 24.4	-0.8
CMB	Columbia Colle	1.66	19		Pn	21 01 23.9	+0.2
BKS	Berkeley-Bker	1.68	327		Pn	21 01 23.9	-0.1
CVPM	Vollmer Peak	1.68	327		Pn	21 01 24.2	+0.2
VAK	Adit at Lawren	1.69	327		Pn	21 01 23.8	-0.3
VES	Vestal, Richgr	1.73	111		Pn	21 01 24.3	-0.3
VES	Vestal, Richgr	1.73	111	P	Pn	21 01 24.3	-0.3
	baz=293						
VES				S	Sn	21 01 46.2	-0.3
	baz=293						
CPIM	Pinole Ridge	1.77	329		Pn	21 01 25.0	-0.2
CSPM	San Pablo Ridg	1.78	327		Pn	21 01 25.7	+0.2
CPMM	Point Molate	1.82	325		Pn	21 01 25.8	-0.1
PKM	Mcpherson Peak	1.88	147		Pn	21 01 26.7	-0.2
PKM	Mcpherson Peak	1.88	147	P	Pn	21 01 26.7	-0.2
	baz=328,SNR=26						
SPG2	Springville 2	1.88	97		Pn	21 01 26.7	-0.1
FIGC	Figueroa Mtn.	1.95	153		Pn	21 01 27.6	-0.2
GATR	Gnd/Air Tx Cnt	1.97	166		Pn	21 01 27.7	-0.3
MRDM	Red Cones	1.97	54		Pb	21 01 29.4	-1.4
MDPB	Devils Postpil	1.97	53		Pb	21 01 29.4	-1.5
MDPB				IAML		21 02 05.2	
	comp=N,253nm,0.6s						
MMPM	Mammoth Pass	2.00	55		Pb	21 01 30.1	-1.2
MINS	Minaret Summit	2.00	53		Pb	21 01 29.9	-1.4
OMMB	Old Mammoth Mi	2.02	55		Pb	21 01 30.3	-1.3
OMMB				IAML		21 01 57.4	
	comp=N,362nm,0.6s						
MDYM	Dry Creek	2.03	54		Pb	21 01 31.4	-0.5
BCW	Bitter Crk WRg	2.04	138		Pn	21 01 29.5	+0.5
MDCM	Deadman Creek	2.04	52		Pb	21 01 30.7	-1.4
MMLB	Mammoth Lakes	2.06	54		Pb	21 01 31.6	-0.7
NJQ	Nojoqui County	2.06	159		Pn	21 01 29.4	+0.2
MLCM	Laurel Creek C	2.07	56		Pb	21 01 31.4	-1.2
NOLM	Olema	2.08	319		Pn	21 01 29.2	-0.3
MEMM	East Mammoth H	2.08	54		Pb	21 01 31.8	-1.0
MGPM	Gravel Pit	2.09	56		Pb	21 01 31.8	-1.0
MCSM	Casa Diablo Ho	2.10	55		Pb	21 01 32.1	-0.9
MCBM	Casa Benchmark	2.10	55		Pb	21 01 32.1	-0.9
SCHCA	Scheelite	2.11	64		Pb	21 01 31.9	-1.3
MCVM	Convict Lake	2.12	57		Pb	21 01 32.2	-1.2
MLAC	Mammoth, Mammo	2.13	56		Pb	21 01 32.6	-1.0
MLAC	Mammoth, Mammo	2.13	56	Pb	Pb	21 01 32.8	-0.8
	baz=237,SNR=27						
MLAC				Sb	Sb	21 02 01.0	+1.0
	baz=237						
MDRNC	Doe Ridge	2.14	56		Pb	21 01 32.8	-0.9
RCCR	Rock Creek Can	2.14	61		Pb	21 01 32.5	-1.3
NBRB	Beebe Ranch Br	2.14	327		Pn	21 01 30.5	+0.2
CVS	Carmenet Viney	2.17	330		Pn	21 01 31.3	+0.5
MLHM	Little Hot Cre	2.17	56		Pb	21 01 33.5	-0.8
MTUM	Tungsten Hills	2.20	66		Pn	21 01 32.7	+1.4
MCCM	Marconi Confer	2.21	320	Pn	Pn	21 01 30.9	-0.3
MCCM				IAML		21 02 21.2	
	comp=E,130nm,1.4s						
BHPR	Bishop	2.23	67		Pb	21 01 33.8	-1.5
ISA	Isabella, Lake	2.25	110	Pn	Pn	21 01 32.3	+0.3
ISA				IAML		21 02 01.8	
	comp=E,185nm,0.6s						
ISA	Isabella, Lake	2.25	110	Pb	Pn	21 01 33.5	+1.5
	baz=292,SNR=130						
ISA				S	Sn	21 02 00.2	+0.5
	baz=292						
ARVC	Arvin	2.26	126	P	Pn	21 01 32.3	+0.2
	baz=308						
ARVC				S	Sn	21 02 00.8	+1.1
	baz=308						
NTYM	Taylor	2.30	327		Pn	21 01 32.5	+0.1
TEJ	El Tejon	2.30	122		Pn	21 01 32.6	+0.1
CASR	Casa Diablo Mo	2.30	61		Pb	21 01 34.9	-1.5
MGNR	McGee Canyon	2.33	54		Pb	21 01 36.2	-0.7
BENR	Benton	2.36	57		Pb	21 01 36.1	-1.3
TIN	Tinemaha, Big	2.36	75		Pb	21 01 35.5	-1.9
TIN	Tinemaha, Big	2.36	75	Pb	Pb	21 01 35.7	-1.7
	baz=256						
TIN				Sb	Sb	21 02 05.9	-0.5
	baz=256						
MCDM	Chidago Canyon	2.37	62		Pb	21 01 36.3	-1.2
NBPM	Berryessa Peak	2.37	338		Pn	21 01 34.3	+0.8
MRCM	Red Rock Canyo	2.38	59		Pb	21 01 36.5	-1.3
TJR	Tejon Ranch	2.38	126		Pn	21 01 33.3	-0.3
CWC	Cottonwood Cre	2.41	90		Pn	21 01 35.6	+1.4
CWC	Cottonwood Cre	2.41	90	Pb	Pb	21 01 36.2	-2.2
	baz=272						
CWC				S	Sn	21 02 04.7	+1.0
	baz=272						
WAKR	Walker	2.41	32	Pn	Pn	21 01 35.4	+1.2
WAKR				IAML		21 02 12.6	
	comp=N,130nm,0.6s						
WAKR				IAML		21 02 20.2	
	comp=E,195nm,0.8s						
WORM	Onyx Ranch	2.42	108		Pn	21 01 35.6	+1.3
MLNR	Milner Canyon	2.46	62		Pb	21 01 37.6	-1.4
AFDM	Forest Hills D	2.48	2	Pn	Pn	21 01 35.8	+0.8
NHSM	Mount Saint He	2.50	331		Pn	21 01 37.1	+1.7
HCK	Huntoon Valley	2.55	50		Pb	21 01 39.8	-0.7
EMB	Emerald Bay	2.62	17		Pn	21 01 37.5	+0.4
EMB				IAML		21 02 34.5	
	comp=N,174nm,0.9s						
EMB				IAML		21 02 35.0	
	comp=E,150nm,0.8s						
CGO	Cerro Gordo	2.64	87		Pn	21 01 39.2	+1.8
FTR	Fort Ross	2.64	322		Pn	21 01 37.5	+0.3
MNRC	McLaughlin Min	2.64	336		Pn	21 01 37.7	+0.5
WNMM	Nine Mile Cany	2.64	103		Pn	21 01 39.1	+1.9
OSI	Osito Audit: C	2.67	133	S	Sn	21 02 09.9	+0.2
	baz=315						
RUBR	Rubicon Trail	2.68	16		Pn	21 01 39.1	+1.2
GDXM	Geysers	2.71	330		Pn	21 01 38.1	-0.1
SCZ2	Santa Cruz Isl	2.73	154	P	Pn	21 01 39.4	+0.9
	baz=336						
CCAC	Calif City Air	2.81	117		Pn	21 01 39.2	-0.4
PNTR	Pine Nut	2.87	24	Pn	Pn	21 01 41.2	+0.7
PNTR				IAML		21 02 39.0	
	comp=E,139nm,0.9s						
YERR	Yerington	2.90	30		Pn	21 01 42.5	+1.5
YERR				IAML		21 02 35.6	
	comp=N,80nm,0.8s						
LRMC	Laurel Mtn Rad	2.92	109	P	Pn	21 01 41.7	+0.4
	baz=291,SNR=30						
LRMC				S	Sn	21 02 16.9	+0.7
	baz=291						
MPMC	Manual Prospec	2.93	97	P	Pn	21 01 42.2	+0.8
	baz=279						
MPMC				Sb	Sb	21 02 23.3	+0.5
	baz=279						
MPK	Martis Peak	2.94	16		Pn	21 01 42.4	+0.8
NVAR	Mina Array Bea	2.95	48		Pn	21 01 42.4	+0.7
RYN	Ryan	2.96	42		Pn	21 01 42.3	+0.6
RYN				IAML		21 02 27.8	
	comp=N,60nm,0.4s						
RYN				IAML		21 02 27.9	
	comp=E,72nm,0.5s						
EDW2	Edwards Air Fo	2.97	121	P	Pn	21 01 42.5	+0.7
	baz=304,SNR=16						
EDW2				S	Sn	21 02 18.4	+1.2
	baz=304						
HOPS	Hopland Field	2.98	328	Pn	Pn	21 01 41.5	-0.3
HOPS				IAML		21 02 47.0	
	comp=N,55nm,2.3s						
HOPS				IAML		21 03 19.6	
	comp=E,43nm,3.4s						
GRAC	Grapevine Rang	3.02	79		Pn	21 01 43.2	+0.7
GRAC				IAML		21 02 40.7	
	comp=E,112nm,0.9s						
GRAC				IAML		21 02 40.7	
	comp=N,106nm,0.8s						
GRAC	Grapevine Rang	3.02	79	Sg	Sg	21 02 32.0	-0.2
	baz=261						
ORV	Oroville	3.10	354	Pn	Pn	21 01 44.3	+0.8
ORV				IAML		21 02 44.8	
	comp=E,44nm,0.8s						
GMN	Gold Mountain	3.17	74		Pn	21 01 45.1	+0.4
GMN				IAML		21 02 37.5	
	comp=N,46nm,0.7s						
MZP	Montezuma Peak	3.20	66		Pn	21 01 45.4	+0.3
PASC	Pasadena Art C	3.29	133		Pn	21 01 47.0	+0.9
PASC				IAML		21 02 47.1	
	comp=E,37nm,0.7s						
PASC				IAML		21 02 49.6	
	comp=N,36nm,1.5s						
QSM	Queen of Sheba	3.44	97		Pn	21 01 48.8	+0.6
QSM				IAML		21 02 49.7	
	comp=N,53nm,0.9s						
KVN	Kaiserville	3.49	42		Pn	21 01 49.6	+0.5
KVN				IAML		21 02 49.0	
	comp=E,28nm,0.9s						
PAHR	Pah Rah Range	3.50	22		Pn	21 01 49.5	+0.4
PAHR				IAML		21 02 48.6	
	comp=E,33nm,1.3s						
PAHR				IAML		21 02 51.1	
	comp=N,32nm,1.7s						
GWY	Greenwater Val	3.57	93		Pn	21 01 50.6	+0.5
GWY				IAML		21 02 51.3	
	comp=E,40nm,0.7s						
GWY				IAML		21 02 53.7	
	comp=N,30nm,0.6s						
WCT	Wildcat Mounta	3.59	84		Pn	21 01 49.9	-0.5
WCT				IAML		21 02 52.8	
	comp=E,32nm,0.5s						
GSC	Goldstone, Bar	3.66	107	Pn	Pn	21 01 51.4	+0.2
GSC				IAML		21 02 58.4	
	comp=N,44nm,1.0s						
GSC				IAML		21 02 59.8	
	comp=E,52nm,2.0s						
GSC	Goldstone, Bar	3.66	107	P	Pn	21 01 51.6	+0.4
	baz=290,SNR=7.5						
CIS	Catalina Islan	3.76	144	P	Pn	21 01 53.0	+0.4
	baz=326						
TPNV	Topopah Spring	3.91	82	P	Pn	21 01 54.9	+0.1
	baz=264,SNR=16						
ELS	Elsinore Mount	4.11	132		Pn	21 01 57.0	-0.4
HEC	Hector,Ludlow	4.19	112	P	Pn	21 01 59.3	+0.7
	baz=295						
KMRM	Mail Ridge	4.28	332	Pn	Pn	21 01 59.7	-0.1
KMRM				IAML		21 02 47.4	
	comp=E,41nm,4.0s						
KMRM				IAML		21 04 01.7	
	comp=N,46nm,4.6s						
GMRC	Granite Mounta	4.72	109	P	Pn	21 02 06.0	+0.1
	baz=293						
PFO	Pinyon Flats O	4.74	126	Pn	Pn	21 02 06.7	+0.5
PFO				IAML		21 03 08.0	
	comp=N,12nm,1.4s						
PFO	Pinyon Flats O	4.74	126	P	Pn	21 02 06.7	+0.5
	baz=309						
TPFO	Pinon Flats	4.75	126	P	Pn	21 02 07.0	+0.7
	baz=309						
BELC	Belle Mtn. Jos	4.83	119	P	Pn	21 02 07.7	+0.3
	baz=302						
KRMB	Red Mountain	5.51	337	Pn	Pn	21 02 19.1	+2.3

NEIC ***23*** *21:01:58.4±2.5,56.42N±0.06×148.8W±0.1, h20km±9km, ML3.0/24, Error ellipse: s-maj=12.0km s-min=4.7km az=129.0*
IDC ***23*** *21:01:59.9±1.6,56.56N×149.18W, h0km, mb3.4/3, mbtmp3.2/8, ML3.2/5, Error ellipse: s-maj=28.1km s-min=20.0km az=22.0*

ISC 23 21:02:00.8±1.0, 56.71N±0.08×148.97W±0.06, h10km, n67, σ1§46/72, mb3.5/3, Gulf of Alaska

| Code | Station Name | Δ° | A

N19K				IAML			21 04 33.5	
	comp=N,4.9nm,1.1s							
N19K	**Bonanza Creek**	**5.02**	**327**	P		**Pn**	**21 03 15.9**	**-0.3**
	baz=144							
SML	**Sawmill**	**5.13**	**3**	P		**Pn**	**21 03 17.4**	**-0.3**
	baz=183							
O17K	**Koliganek Bris**	**5.28**	**309**	P		**Pn**	**21 03 19.0**	**-0.7**
	baz=124							
N18K	**Kilae Creek**	**5.38**	**321**	P		**Pn**	**21 03 20.7**	**-0.3**
	baz=136							
O16K	**Kokwok River B**	**5.63**	**305**	P		**Pn**	**21 03 23.8**	**-0.7**
	baz=119							
N17K	**Nushagak Hills**	**5.75**	**315**			**Pn**	**21 03 25.8**	**-0.4**
BARN	**Barnard Glacie**	**5.78**	**38**			**Pn**	**21 03 25.1**	**-1.6**
CTGM	**Chitina Glacie**	**5.83**	**40**	Pn		**Pn**	**21 03 24.8**	**-2.5**
PNL	**Peninsula**	**5.87**	**56**	P		**Pn**	**21 03 25.6**	**-2.2**
	baz=241							
M19K	**Big River Lodg**	**5.91**	**334**	P		**Pn**	**21 03 28.0**	**-0.3**
	baz=150							
M18K	**Stony River**	**5.96**	**327**	P		**Pn**	**21 03 28.5**	**-0.4**
	baz=142							
CHNA	**Chernabura Isl**	**6.28**	**257**	P		**Pn**	**21 03 30.9**	**-2.5**
	baz=71							
CNBA	**Chernabura Isl**	**6.29**	**257**	Pn		**Pn**	**21 03 31.0**	**-2.5**
O15K	**Ungalikthiuk R**	**6.29**	**298**	P		**Pn**	**21 03 33.9**	**+0.4**
	baz=111							
L20K	**Farewell, AK**	**6.30**	**339**	P		**Pn**	**21 03 33.9**	**+0.1**
	baz=155							
N16K	**Nishlik Lake**	**6.37**	**310**	P		**Pn**	**21 03 34.1**	**-0.4**
	baz=124							
M17K	**Holitna River**	**6.42**	**321**	P		**Pn**	**21 03 35.3**	**0.0**
	baz=135							
DHY	**Denali Highway**	**6.44**	**6**			**Pn**	**21 03 37.3**	**+1.6**
P29M	**Windy Craggy**	**6.62**	**59**			**Pn**	**21 03 35.2**	**-2.9**
P29M	**Windy Craggy**	**6.62**	**59**	P		**Pn**	**21 03 35.6**	**-2.6**
	baz=246							
M27K	**Edge Creek, AK**	**6.71**	**29**	P		**Pn**	**21 03 38.6**	**-0.9**
	baz=214							
M16K	**Timber Creek**	**6.75**	**314**	P		**Pn**	**21 03 39.7**	**-0.1**
	baz=127							
N15K	**Kwethluk River**	**6.79**	**305**			**Pn**	**21 03 41.4**	**+0.9**
N15K	**Kwethluk River**	**6.79**	**305**	P		**Pn**	**21 03 40.4**	**0.0**
	baz=118							
S31K	**Pelican**	**7.01**	**74**	Pn		Pn	21 03 36.9	-6.4
O14K	**Tigyukauivet M**	**7.02**	**296**	Pn		**Pn**	**21 03 44.2**	**+0.7**
TTA	**Tatalina**	**7.18**	**333**	Pn		**Pn**	**21 03 47.0**	**+1.2**
SCRK	**Sand Creek**	**7.70**	**17**	Pn		**Pn**	**21 03 54.2**	**+1.2**
SKAG	**Skagway**	**7.74**	**63**	Pn		**Pn**	**21 03 52.4**	**-0.9**
BESE	**Bessie Mountai**	**7.80**	**70**	Pn		**Pn**	**21 03 52.4**	**-1.9**
M29M	**Somme Creek**	**7.84**	**38**	Pn		**Pn**	**21 03 54.6**	**-0.2**
S32K	**Killisnoo**	**7.88**	**78**	Pn		Pn	21 03 50.0	-5.3
ILAR	**Eielson Array**	**8.16**	**6**	Pn		**Pn**	**21 04 00.8**	**+1.7**
ILAR	**Eielson Array**	**8.16**	**6**	Pn		**Pn**	**21 03 59.4**	**+0.3**
	comp=N,0.1nm,0.3s,baz=190,slow=13,SNR=2.9							
ILAR				Sn		**Sn**	**21 05 28.2**	**-3.0**
	comp=N,0.2nm,0.3s,baz=192,slow=17,SNR=1.6							
	comp=N,0.3nm,0.4s							
WHY	**Whitehorse**	**8.34**	**56**	Pn		**Pn**	**21 04 00.1**	**-1.5**
L29M	**L29M**	**8.41**	**36**	Pn		**Pn**	**21 04 02.3**	**-0.4**
K29M	**Barlow Dome**	**9.13**	**34**	Pn		**Pn**	**21 04 11.4**	**-1.1**
P33M	**Teslin, Yukon**	**9.16**	**61**	Pn		**Pn**	**21 04 12.1**	**-0.8**
H21K	**Melozitna Rive**	**9.17**	**350**	Pn		**Pn**	**21 04 12.7**	**-0.4**
H24K	**Noodor Dome**	**9.18**	**3**	Pn		**Pn**	**21 04 13.6**	**+0.5**
DLBC	**Dease Lake**	**10.32**	**72**	Pn		**Pn**	**21 04 30.9**	**+2.1**
	comp=N,0.2nm,0.3s,baz=260,slow=11,SNR=1.2							
	comp=N,0.6nm,0.3s							
INK	**Inuvik**	**13.59**	**25**	Pn		**Pn**	**21 05 17.7**	**+4.4**
	comp=N,0.1nm,0.3s,baz=218,slow=8.4,SNR=2.1							
	comp=N,0.5nm,0.4s							
YKA	**Yellowknife Ar**	**18.16**	**57**	P		**P**	**21 06 13.7**	**+0.7**
	comp=N,0.1nm,0.3s,baz=265,slow=11,SNR=1.5							
	comp=N,0.1nm,0.5s							
NVAR	**Mina Array Bea**	**27.26**	**119**	P		**P**	**21 07 47.4**	**+2.1**
	comp=N,0.3nm,0.7s,baz=323,slow=5.7,SNR=2.2							
	comp=N,0.3nm,0.7s							
SONM	**Songino Array**	**58.50**	**310**	P		**P**	**21 11 57.6**	**+0.6**
	comp=N,0.5nm,0.8s,baz=58,slow=8.7,SNR=2.3							
	comp=N,0.5nm,0.8s							
MKAR	**Makanchi Array**	**68.35**	**325**	P		**P**	**21 13 01.5**	**-0.5**
	comp=N,0.2nm,0.6s,baz=44,slow=7.8,SNR=4.3							
	comp=N,0.2nm,0.6s							

*NEIC **23** 21:09:07.7±1.6,56°27'N±0°05'×149°19'W±0°10',h21km±9km, ML3.7/46,ML3.6(AEIC),Error ellipse: s-maj=10.7km s-min=3.1km az=153.0*

*AEIC **23** 21:09:12.2±1.2,56°39'N±0°09'×149°3'W±0°1',h6km±7km, Error ellipse: s-maj=13.2km s-min=8.7km az=165.0*

ISC 23 21:09:06.0±1.6,56°3'N±0°1'×149°26'W±0°07',h10km,n133, σ1°25'/138,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.35**	**311**		**Pn**	**21 09 46.2**	**+1.6**
KDAK	**Kodiak Island**	**2.35**	**311**	S	**Sn**	**21 10 11.7**	**-1.8**
	baz=126						
OHAK	**Old Harbor**	**2.40**	**294**		**Pn**	**21 09 46.0**	**+0.7**
OHAK					**Sn**	**21 10 12.9**	**-1.9**
OHAK	**Old Harbor**	**2.40**	**294**	P	**Pn**	**21 09 46.0**	**+0.7**
	baz=109						
OHAK				S	**Sn**	**21 10 12.9**	**-1.9**
	baz=109						
SYI	**Shuyak Island**	**2.87**	**325**	Pn	**Pn**	**21 09 52.6**	**+0.8**
SYI				Sn	**Sn**	**21 10 24.9**	**-1.4**
R18K	**Karluk**	**3.12**	**296**		**Pn**	**21 09 56.7**	**+1.5**
R18K					**Sn**	**21 10 31.1**	**-1.3**
R18K				IAML		21 10 31.9	
	comp=N,220nm,0.4s						
R18K				IAML		21 10 33.8	
	comp=E,208nm,0.4s						
R18K	**Karluk**	**3.12**	**296**	P	**Pn**	**21 09 57.1**	**+1.9**
	baz=110						
R18K				S	**Sn**	**21 10 31.7**	**-0.7**
	baz=110						
CNPM	**China Poot**	**3.40**	**343**		**Pn**	**21 09 59.7**	**+0.5**
Q23K	**Middleton Isla**	**3.50**	**25**		**Pn**	**21 10 00.3**	**-0.1**
Q23K				IAML		21 10 40.0	
	comp=E,286nm,2.6s						
Q23K				IAML		21 10 42.2	
	comp=N,270nm,2.5s						
Q23K	**Middleton Isla**	**3.50**	**25**	P	**Pn**	**21 10 00.6**	**+0.2**
	baz=208						
MID	**Middleton Isla**	**3.50**	**25**		**Pn**	**21 10 00.5**	**0.0**
MID				IAML		21 10 46.5	
	comp=N,237nm,1.7s						
MID				IAML		21 11 07.5	
	comp=E,256nm,1.6s						
MID	**Middleton Isla**	**3.50**	**25**	P	**Pn**	**21 10 00.8**	**+0.3**
Q19K	**Cape Douglas,**	**3.54**	**320**	Pn	**Pn**	**21 10 03.1**	**+2.1**
Q19K				IAML		21 10 56.4	
	comp=N,270nm,0.7s						
BRSE	**Bradley Lake S**	**3.54**	**348**		**Pn**	**21 10 01.5**	**+0.5**
BRSE	**Bradley Lake S**	**3.54**	**348**	P	**Pn**	**21 10 01.5**	**+0.5**
	baz=166						
BRLK	**Bradley Lake**	**3.58**	**347**		**Pn**	**21 10 01.8**	**+0.1**
BRLK				IAML		21 11 08.5	
	comp=N,101nm,3.0s						
BRLK				IAML		21 11 44.8	
	comp=E,104nm,3.1s						
KAHG	**Katmai Hook Gl**	**3.61**	**310**		**Pn**	**21 10 04.2**	**+2.2**
SEW	**Seward**	**3.82**	**359**		**Pn**	**21 10 04.8**	**0.0**
SEW	**Seward**	**3.82**	**359**	P	**Pn**	**21 10 05.0**	**+0.2**
	baz=178						
P23K	**Montague Islan**	**3.84**	**14**		**Pn**	**21 10 05.5**	**+0.4**
P23K	**Montague Islan**	**3.84**	**14**	P	**Pn**	**21 10 05.5**	**+0.4**
	baz=196						
P19K	**Oil Pt**	**3.97**	**329**	Pn	**Pn**	**21 10 07.5**	**+0.6**
P19K				IAML		21 10 58.0	
	comp=E,164nm,0.4s						
P19K				IAML		21 11 24.0	
	comp=N,131nm,2.5s						
PLK3	**Peulik 3**	**4.08**	**293**		**Pn**	**21 10 09.0**	**+0.6**
HIN	**Hinchinbrook I**	**4.36**	**18**		**Pn**	**21 10 12.6**	**+0.3**
HIN				IAML		21 11 01.2	
	comp=E,156nm,0.5s						
P18K	**Big Mountain,**	**4.45**	**317**	Pn	**Pn**	**21 10 13.5**	**0.0**
KAIM	**Kayak Island**	**4.45**	**33**	Pn	**Pn**	**21 10 14.4**	**+0.9**
RSO	**Redoubt South**	**4.56**	**338**		**Pn**	**21 10 15.8**	**+0.6**
CAPN	**Captain Cook N**	**4.59**	**348**	Pn	**Pn**	**21 10 16.6**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.64**	**22**		**Pn**	**21 10 16.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.64**	**22**	P	**Pn**	**21 10 17.4**	**+1.3**
EYAK	**Cordova Ski Ar**	**4.64**	**22**	P	**Pn**	**21 10 17.2**	**+1.1**
	baz=205						
RAGM	**Ragged Mountai**	**4.76**	**29**		**Pn**	**21 10 18.6**	**+0.8**
O18K	**Koktuh Hills**	**4.76**	**321**	Pn	**Pn**	**21 10 18.2**	**+0.4**
O18K				IAML		21 11 14.4	
	comp=E,39nm,3.0s						
O18K				IAML		21 12 03.0	
	comp=N,45nm,2.6s						
RC01	**Rabbit Creek A**	**4.81**	**357**		**Pn**	**21 10 18.8**	**+0.4**
RC01				IAML		21 11 14.3	
	comp=E,72nm,0.6s						
RC01				IAML		21 11 20.6	
	comp=N,45nm,0.6s						
BERG	**Berg Lake**	**5.04**	**33**		**Pn**	**21 10 21.2**	**-0.4**
KNK	**Knik Glacier**	**5.15**	**4**	Pn	**Pn**	**21 10 22.9**	**-0.1**
KNK				IAML		21 11 27.1	
	comp=E,32nm,0.9s						
KNK				IAML		21 11 28.5	
	comp=N,34nm,0.5s						
N20K	**Mount Spurr**	**5.15**	**344**	P	**Pn**	**21 10 23.4**	**+0.2**
	baz=161						
SNH	**Sunshine Point**	**5.16**	**38**	Pn	**Pn**	**21 10 23.8**	**+0.5**
SNH				IAML		21 11 40.2	
	comp=E,78nm,2.5s						
DIV	**Divide**	**5.17**	**19**		**Pn**	**21 10 23.8**	**+0.3**
SPCP	**Crater Peak Br**	**5.21**	**344**		**Pn**	**21 10 24.2**	**+0.2**
SUA	**Susitna One**	**5.24**	**352**		**Pn**	**21 10 24.6**	**+0.1**
SUA				IAML		21 11 24.1	
	comp=E,52nm,3.3s						
SUA				IAML		21 12 24.6	
	comp=N,44nm,3.4s						
BMRM	**Bremner River**	**5.28**	**26**		**Pn**	**21 10 25.5**	**+0.6**
BMRM	**Bremner River**	**5.28**	**26**	P	**Pn**	**21 10 25.8**	**+0.9**
	baz=210						
N19K	**Bonanza Creek**	**5.29**	**331**	Pn	**Pn**	**21 10 25.1**	**0.0**
N19K				IAML		21 11 30.9	
	comp=N,27nm,3.0s						
PMR	**Palmer**	**5.31**	**1**		**Pn**	**21 10 25.9**	**+0.6**
PMR				IAML		21 11 31.3	
	comp=E,26nm,1.0s						
PMR				IAML		21 13 26.6	
	comp=N,26nm,3.5s						
PMR	**Palmer**	**5.31**	**1**	P	**Pn**	**21 10 27.3**	**+2.0**
KLU	**Klutina**	**5.49**	**17**		**Pn**	**21 10 28.7**	**+0.9**
KLU	**Klutina**	**5.49**	**17**	P	**Pn**	**21 10 28.9**	**+1.0**
	baz=200						
GHO	**Glory Hole Cre**	**5.49**	**2**		**Pn**	**21 10 29.0**	**+1.1**
SML	**Sawmill**	**5.55**	**5**		**Pn**	**21 10 29.1**	**+0.5**
SML	**Sawmill**	**5.55**	**5**	P	**Pn**	**21 10 29.8**	**+1.2**
	baz=185						
N18K	**Kilae Creek**	**5.60**	**324**	Pn	**Pn**	**21 10 29.4**	**+0.1**
SCM	**Sheep Creek Mo**	**5.64**	**9**		**Pn**	**21 10 30.5**	**+0.6**
O16K	**Kokwok River B**	**5.75**	**309**	Pn	**Pn**	**21 10 32.3**	**+1.1**
VRDI	**Verde Repeater**	**5.79**	**29**	Pn	**Pn**	**21 10 33.0**	**+0.8**
SKT	**Skwentna**	**5.82**	**349**		**Pn**	**21 10 32.5**	**+0.2**
SVW2	**Sparrevohn**	**5.83**	**328**	Pn	**Pn**	**21 10 33.0**	**+0.5**
SVW2	**Sparrevohn**	**5.83**	**328**	P	**Pn**	**21 10 33.2**	**+0.7**
N25K	**Chitina, Valde**	**5.84**	**22**		**Pn**	**21 10 33.8**	**+1.1**
N25K	**Chitina, Valde**	**5.84**	**22**	P	**Pn**	**21 10 33.8**	**+1.1**
	baz=207						
GLB	**Gilahina Butte**	**5.88**	**26**		**Pn**	**21 10 33.9**	**+0.7**
N17K	**Nushagak Hills**	**5.94**	**319**	Pn	**Pn**	**21 10 34.6**	**+0.7**
M20K	**Styx River**	**5.95**	**342**	Pn	**Pn**	**21 10 34.2**	**+0.1**
MCARA	**McCarthy VSAT**	**6.04**	**30**	P	**Pn**	**21 10 37.3**	**+2.0**
	baz=216						
CNBA	**Chernabura Isl**	**6.05**	**260**	Pn	**Pn**	**21 10 36.4**	**+1.0**
BARN	**Barnard Glacie**	**6.20**	**37**		**Pn**	**21 10 38.7**	**+0.9**
M19K	**Big River Lodg**	**6.21**	**337**	Pn	**Pn**	**21 10 37.8**	**+0.1**
CTGM	**Chitina Glacie**	**6.25**	**38**	Pn	**Pn**	**21 10 38.6**	**+0.3**
LOGN	**Logan Glacier**	**6.26**	**40**		**Pn**	**21 10 38.9**	**+0.3**
BCPM	**Bancas Point**	**6.28**	**50**	Pn	**Pn**	**21 10 39.2**	**+0.7**
WAT6	**Susitna Watana**	**6.35**	**6**		**Pn**	**21 10 40.0**	**+0.3**
WAT6	**Susitna Watana**	**6.35**	**6**	P	**Pn**	**21 10 40.0**	**+0.3**
	baz=188						
HARP	**HAARP**	**6.47**	**17**	P	**Pn**	**21 10 43.6**	**+2.4**
	baz=201						
L19K	**White Mountain**	**6.56**	**336**	Pn	**Pn**	**21 10 42.1**	**-0.4**
WAT1	**Susitna Watana**	**6.56**	**3**	P	**Pn**	**21 10 44.0**	**+1.5**
	baz=184						
M17K	**Holitna River**	**6.64**	**324**	Pn	**Pn**	**21 10 44.1**	**+0.5**
DHY	**Denali Highway**	**6.87**	**7**		**Pn**	**21 10 47.5**	**+0.7**
DHY	**Denali Highway**	**6.87**	**7**	P	**Pn**	**21 10 49.4**	**+2.6**
	baz=189						
N15K	**Kwethluk River**	**6.91**	**309**	Pn	**Pn**	**21 10 49.9**	**+2.6**
O29M	**Mount Kennedy**	**6.91**	**50**		**Pn**	**21 10 48.7**	**+1.3**
M16K	**Timber Creek**	**6.93**	**317**	Pn	**Pn**	**21 10 49.0**	**+1.5**
PAX	**Paxson**	**6.96**	**14**		**Pn**	**21 10 49.5**	**+1.4**
PAX	**Paxson**	**6.96**	**14**	P	**Pn**	**21 10 50.4**	**+2.4**
	baz=198						
P29M	**Windy Craggy**	**6.98**	**57**		**Pn**	**21 10 49.1**	**+0.9**
YUK8	**Steele Glacier**	**7.02**	**41**	P	**Pn**	**21 10 51.7**	**+2.7**
	baz=229						
L18K	**Granite Mounta**	**7.05**	**330**	Pn	**Pn**	**21 10 50.0**	**+0.9**
O14K	**Tigyukauivet M**	**7.07**	**300**	Pn	**Pn**	**21 10 51.5**	**+2.1**
YUK3	**Moose Creek**	**7.12**	**36**	P	**Pn**	**21 10 52.9**	**+2.6**
	baz=224						
RND	**Reindeer**	**7.13**	**1**	Pn	**Pn**	**21 10 51.5**	**+1.1**
CAST	**Castle Rocks**	**7.28**	**350**	Pn	**Pn**	**21 10 52.9**	**+0.5**
S31K	**Pelican**	**7.29**	**71**	P	**Pn**	**21 10 51.7**	**-0.7**
	baz=263						
YUK6	**Outpost Mounta**	**7.35**	**46**	P	**Pn**	**21 10 55.4**	**+1.9**
	baz=236						
L26K	**Log Cabin Wild**	**7.38**	**21**		**Pn**	**21 10 55.3**	**+1.6**
YUK4	**Talbot Arm**	**7.47**	**43**	P	**Pn**	**21 10 58.8**	**+3.6**
	baz=232						
TTA	**Tatalina**	**7.48**	**336**	P	**Pn**	**21 10 57.2**	**+2.1**
L16K	**Owhat River**	**7.56**	**320**	Pn	**Pn**	**21 10 57.2**	**+1.1**
HYT	**Haines Junctio**	**7.64**	**49**	Pn	**Pn**	**21 10 58.3**	**+1.0**
SIT	**Sitka**	**7.71**	**79**	P	**Pn**	**21 10 56.1**	**-2.2**
L27K	**Beaver Creek,**	**7.75**	**26**	P	**Pn**	**21 11 00.5**	**+1.7**
	baz=213						
BCAR	**Beaver Creek A**	**7.76**	**26**	Pn	**Pn**	**21 11 00.1**	**+1.0**
BPAW	**Bear Paw Mtn.**	**7.88**	**354**	P	**Pn**	**21 11 01.5**	**+1.0**
	baz=173						
SKAG	**Skagway**	**8.07**	**61**		**Pn**	**21 11 03.4**	**+0.3**
SKAG	**Skagway**	**8.07**	**61**	P	**Pn**	**21 11 03.3**	**+0.2**
BESE	**Bessie Mountai**	**8.10**	**68**		**Pn**	**21 11 04.2**	**+0.6**
S32K	**Killisnoo**	**8.13**	**76**		**Pn**	**21 11 03.4**	**-0.6**
S32K	**Killisnoo**	**8.13**	**76**	P	**Pn**	**21 11 02.5**	**-1.4**
	baz=268						
HDA	**Harding Lake**	**8.22**	**7**		**Pn**	**21 11 06.8**	**+1.6**
R32K	**Eaglecrest**	**8.23**	**70**	P	**Pn**	**21 11 06.5**	**+1.2**
	baz=263						
JIS	**Juneau Island**	**8.30**	**70**	Pn	**Pn**	**21 11 06.4**	**+0.2**
JIS	**Juneau Island**	**8.30**	**70**	P	**Pn**	**21 11 06.7**	**+0.4**
IL31		**8.58**	**7**		**Pn**	**21 11 11.1**	**+1.0**
ILAR	**Eielson Array**	**8.58**	**7**	Pn	**Pn**	**21 11 11.3**	**+1.2**
COLA	**College**	**8.63**	**4**	P	**Pn**	**21 11 13.2**	**+2.4**
N31M	**Braeburn, Yuko**	**8.69**	**48**	P	**Pn**	**21 11 13.7**	**+2.0**
	baz=240						
WHY	**Whitehorse**	**8.70**	**54**		**Pn**	**21 11 13.1**	**+1.2**
MLY	**Manley**	**8.79**	**356**		**Pn**	**21 11 13.5**	**+0.5**
L29M	**L29M**	**8.84**	**35**	Pn	**Pn**	**21 11 15.1**	**+1.3**
P32M	**Atlin**	**8.90**	**62**		**Pn**	**21 11 15.6**	**+1.0**
P32M	**Atlin**	**8.90**	**62**	P	**Pn**	**21 11 15.6**	**+1.0**
	baz=256						
U33K	**Whale Pass**	**9.00**	**84**	Pn	**Pn**	**21 11 14.0**	**-1.8**
CRAG	**Craig**	**9.11**	**89**	Pn	**Pn**	**21 11 15.1**	**-2.3**
CRAG	**Craig**	**9.11**	**89**	P	**Pn**	**21 11 16.7**	**-0.7**
	comp=N,61nm,1.6s						
Q32M	**Nakina River**	**9.49**	**67**	Pn	**Pn**	**21 11 24.1**	**+1.3**
P33M	**Teslin, Yukon**	**9.51**	**59**	Pn	**Pn**	**21 11 23.6**	**+0.7**
IMAR	**Indian Mountai**	**9.96**	**349**	Pn	**Pn**	**21 11 28.5**	**-0.4**
H17K	**Granite Mounta**	**10.11**	**333**	Pn	**Pn**	**21 11 31.4**	**+0.4**
G21K	**Allakaket**	**10.45**	**351**		**Pn**	**21 11 36.6**	**+0.9**
G23K	**Bananza Creek**	**10.46**	**358**		**Pn**	**21 11 36.3**	**+0.4**
F21K	**Alatna River**	**11.14**	**351**	Pn	**Pn**	**21 11 45.9**	**+0.7**
BMAR	**Burnt Mountain**	**11.38**	**9**	Pn	**Pn**	**21 11 49.3**	**+0.8**
TGTN	**Hyland Airport**	**12.02**	**56**	P	**Pn**	**21 12 01.0**	**+3.8**
	baz=254						
E18K	**Tukpahlearik C**	**12.35**	**339**	Pn	**Pn**	**21 12 01.4**	**-0.3**
D25K	**Kavik River**	**13.14**	**5**	Pn	**Pn**	**21 12 12.2**	**-0.2**

*IDC **23** 21:25:26.1±3.7,55°82N×149°20W,h0km,mb3.1/1, mbtmp3.2/6,ML3.0/5,Error ellipse: s-maj=59.3km s-min=29.4km az=3.0*

*NEIC **23** 21:25:28.8±1.1,56°1'N±0°1'×149°3'W±0°1',h20km±10km, ML3.2/8,ML3.7(AEIC),Error ellipse: s-maj=17.9km s-min=9.7km az=170.0*

*AEIC **23** 21:25:32.0±1.0,56°2'N±0°1'×149°2'W±0°1',h5km±9km,Error ellipse: s-maj=17.8km s-min=10.2km az=173.0*

ISC 23 21:25:28.3±1.4,56°24'N±0°10'×149°26'W±0°05',h10km, n110,σ0°90'/119,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.39**	**312**	Pn	**Pn**	**21 26 07.9**	**+0.5**
KDAK				IAML		21 26 36.0	
	79nm,3.4s						
KDAK				IAML		21 27 16.9	
	77nm,3.5s						
KDAK	**Kodiak Island**	**2.39**	**312**	S	**Sn**	**21 26 35.6**	**-1.2**
	baz=130						
KDAK	**Kodiak Island**	**2.39**	**312**	Pn	**Pn**	**21 26 08.0**	**+0.5**
	4.0nm,0.3s,baz=135,slow=6.1,SNR=22						
KDAK				Sn	**Sn**	**21 26 35.6**	**-1.2**
	7.0nm,0.3s,baz=60,slow=22,SNR=9.7						
	10nm,0.2s						
OHAK	**Old Harbor**	**2.43**	**296**	Pn	**Pn**	**21 26 07.5**	**-0.5**
OHAK	**Old Harbor**	**2.43**	**296**		**Sn**	**21 26 35.8**	**-1.9**
OHAK	**Old Harbor**	**2.43**	**296**	P	**Pn**	**21 26 07.8**	**-0.2**
	baz=114						
OHAK				S	**Sn**	**21 26 35.8**	**-1.9**
	baz=114						
Q20K	**Shuyak Island**	**2.92**	**326**	P	**Pn**	**21 26 15.3**	**+0.5**
	baz=144						
Q20K				S	**Sn**	**21 26 50.3**	**+0.4**
	baz=144						
SYI	**Shuyak Island**	**2.92**	**326**	Pn	**Pn**	**21 26 15.5**	**+0.7**
SYI				IAML		21 27 01.6	
	comp=N,96nm,3.0s						
SYI				IAML		21 27 10.6	
	comp=E,109nm,3.5s						
SYI	**Shuyak Island**	**2.92**	**326**		**Sn**	**21 26 50.3**	**+0.4**
R18K	**Karluk**	**3.15**	**297**		**Pn**	**21 26 18.5**	**+0.6**
R18K					**Sn**	**21 26 54.0**	**-1.3**
R18K	**Karluk**	**3.15**	**297**	P	**Pn**	**21 26 18.5**	**+0.6**
	baz=114						
R18K				S	**Sn**	**21 26 54.0**	**-1.3**
	baz=114						
CNPM	**China Poot**	**3.46**	**343**	Pn	**Pn**	**21 26 22.7**	**+0.4**
Q23K	**Middleton Isla**	**3.56**	**25**	Pn	**Pn**	**21 26 23.1**	**-0.5**
Q23K	**Middleton Isla**	**3.56**	**25**	P	**Pn**	**21 26 23.9**	**+0.4**
	baz=206						
MID	**Middleton Isla**	**3.56**	**25**	Pn	**Pn**	**21 26 23.2**	**-0.3**
Q19K	**Cape Douglas,**	**3.59**	**321**	Pn	**Pn**	**21 26 25.4**	**+1.4**
Q19K	**Cape Douglas,**	**3.59**	**321**	P	**Pn**	**21 26 25.2**	**+1.2**
	baz=138						
BRSE	**Bradley Lake S**	**3.60**	**348**		**Pn**	**21 26 24.5**	**+0.3**
BRSE					**Sn**	**21 27 06.2**	**-0.6**
BRSE	**Bradley Lake S**	**3.60**	**348**	P	**Pn**	**21 26 24.5**	**+0.3**
	baz=167						
BRSE				S	**Sn**	**21 27 06.2**	**-0.6**
	baz=167						
BRLK	**Bradley Lake**	**3.64**	**347**	Pn	**Pn**	**21 26 25.1**	**+0.3**
BRLK	**Bradley Lake**	**3.64**	**347**		**Sn**	**21 27 07.9**	**+0.2**
SEW	**Seward**	**3.88**	**359**		**Pn**	**21 26 28.4**	**+0.4**
SEW	**Seward**	**3.88**	**359**	P	**Pn**	**21 26 28.4**	**+0.4**
	baz=178						
P23K	**Montague Islan**	**3.90**	**14**		**Pn**	**21 26 28.7**	**+0.5**
P23K	**Montague Islan**	**3.90**	**14**	P	**Pn**	**21 26 28.7**	**+0.5**
	baz=195						
P23K				S	**Sn**	**21 27 12.3**	**-1.8**
	baz=195						
P19K	**Oil Pt**	**4.03**	**330**	Pn	**Pn**	**21 26 31.0**	**+1.0**
P19K	**Oil Pt**	**4.03**	**330**	P	**Pn**	**21 26 31.0**	**+1.0**
	baz=147						
CNTC	**Contact Creek**	**4.13**	**302**		**Pn**	**21 26 32.3**	**+0.8**
Q17K	**Contact Creek**	**4.13**	**302**	P	**Pn**	**21 26 32.3**	**+0.8**
	baz=117						
O20K	**Slope Mountain**	**4.25**	**337**		**Pn**	**21 26 33.8**	**+0.7**
O20K	**Slope Mountain**	**4.25**	**337**	P	**Pn**	**21 26 33.8**	**+0.7**
	baz=154						
IVE	**Iliamna Volcan**	**4.28**	**334**		**Pn**	**21 26 34.0**	**+0.4**
HIN	**Hinchinbrook I**	**4.42**	**18**	Pn	**Pn**	**21 26 35.9**	**+0.5**
P18K	**Big Mountain,**	**4.50**	**317**	Pn	**Pn**	**21 26 37.2**	**+0.8**
P18K	**Big Mountain,**	**4.50**	**317**	P	**Pn**	**21 26 37.1**	**+0.6**
	baz=133						
KAIM	**Kayak Island**	**4.51**	**33**	Pn	**Pn**	**21 26 36.8**	**+0.2**
KAIM	**Kayak Island**	**4.51**	**33**	P	**Pn**	**21 26 36.6**	**0.0**
	baz=216						
RED	**Redoubt Volcan**	**4.59**	**338**		**Pn**	**21 26 37.9**	**+0.2**
RDSO	**Redoubt South**	**4.61**	**338**		**Pn**	**21

comp=E,0.1nm,0.3s,baz=243,slow=9.0,SNR=2.4
comp=E,1.5nm,0.7s
INK Inuvik 14.08 24 Pn **P** **21 28 53.3 -2.1**
baz=224,slow=20,SNR=2.4
comp=E,1.4nm,1.1s
YKA Yellowknife Ar 18.56 56 P **Pn** **21 29 46.4 +1.3**
baz=267,slow=13,SNR=2.2
comp=E,0.1nm,0.3s
MKAR Makanchi Array 68.64 325 P **P** **21 36 33.3 +2.0**
comp=E,0.1nm,0.4s,baz=18,slow=5.0,SNR=1.5
comp=E,0.1nm,0.4s

NEIC ***23*** *21:27:12.5±1.4, 55.61N±0.09×149.3W±0.1, h5km±5km, mb4.5/15, ML4.3/38, ML4.0(AEIC), Error ellipse: s-maj=12.5km s-min=8.3km az=186.0*
IDC ***23*** *21:27:13.2±0.7, 55.66N×149.30W, h0km, mb4.2/26, mbtmp4.2/31, ML3.8/5, MS3.7/45, Error ellipse: s-maj=17.9km s-min=13.0km az=19.0*
MOS ***23*** *21:27:15.5±1.0, 55.92N×149.36W, h13km, mb4.7/26, Error ellipse: s-maj=17.3km s-min=6.0km az=92.6*
AEIC ***23*** *21:27:19.4±1.8, 55.78N±0.08×149.3W±0.1, h10km±5km, Error ellipse: s-maj=12.2km s-min=8.2km az=185.0*
ISC 23 21:27:14.4±0.5, 55.66N±0.07×149.29W±0.05, h10km, n316, σ1§45/294, mb4.5/62, MS3.8/41, 7C-9D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.72**	**307**			**Pn**	**21 27 56.5**	**-1.6**
OHAK						**Sn**	**21 28 28.0**	**-3.0**
OHAK	**Old Harbor**	**2.72**	**307**	P		**Pn**	**21 27 56.8**	**-1.2**
	baz=124							
OHAK				S		**Sn**	**21 28 27.9**	**-3.1**
	baz=124							
KDAK	**Kodiak Island**	**2.80**	**321**	Pn		**Pn**	**21 27 58.1**	**-1.1**
KDAK						**Sn**	**21 28 29.7**	**-3.2**
KDAK	**Kodiak Island**	**2.80**	**321**	S		**Sn**	**21 28 29.0**	**-3.9**
	baz=139							
KDAK	**Kodiak Island**	**2.80**	**321**	Pn		**Pn**	**21 27 58.0**	**-1.1**
	16nm,0.3s,baz=175,slow=6.0,SNR=17							
KDAK						**Sn**	**21 28 29.9**	**-3.0**
	22nm,0.3s,baz=227,slow=19,SNR=9.9							
KDAK				LR		LR	21 29 17.0	
	comp=Z,2μm,19.8s,baz=176,slow=44							
	83nm,0.5s							
SYI	**Shuyak Island**	**3.41**	**332**			**Pn**	**21 28 06.0**	**-1.5**
SYI						**Sn**	**21 28 45.9**	**-2.1**
SYI				IAML			21 28 58.0	
	comp=E,222nm,0.8s							
Q20K	**Shuyak Island**	**3.41**	**332**	P		**Pn**	**21 28 06.3**	**-1.3**
	baz=149							
Q20K				S		**Sn**	**21 28 46.1**	**-1.9**
	baz=149							
R18K	**Karluk**	**3.44**	**306**			**Pn**	**21 28 07.4**	**-0.5**
R18K	**Karluk**	**3.44**	**306**			**Sn**	**21 28 46.2**	**-2.5**
R18K				IAML			21 28 53.1	
	comp=N,605nm,0.6s							
R18K				IAML			21 28 54.8	
	comp=E,454nm,0.5s							
CNPM	**China Poot**	**4.02**	**346**			**Pn**	**21 28 14.5**	**-1.4**
CNPM				IAML			21 29 08.9	
	comp=E,172nm,0.7s							
CNPM				IAML			21 29 10.9	
	comp=N,139nm,3.0s							
KAHG	**Katmai Hook Gl**	**4.04**	**317**			**Pn**	**21 28 16.9**	**+0.6**
Q19K	**Cape Douglas,**	**4.04**	**326**			**Pn**	**21 28 15.9**	**-0.4**
Q19K	**Cape Douglas,**	**4.04**	**326**	P		**Pn**	**21 28 16.4**	**+0.1**
	baz=143							
Q23K	**Middleton Isla**	**4.10**	**21**			**Pn**	**21 28 15.3**	**-1.7**
Q23K				IAML			21 29 15.9	
	comp=N,292nm,2.2s							
Q23K				IAML			21 29 37.9	
	comp=E,326nm,2.3s							
Q23K	**Middleton Isla**	**4.10**	**21**	P		**Pn**	**21 28 15.6**	**-1.4**
	baz=204							
MID	**Middleton Isla**	**4.10**	**22**			**Pn**	**21 28 15.5**	**-1.5**
MID				IAML			21 29 37.4	
	comp=E,294nm,2.3s							
MID				IAML			21 29 46.3	
	comp=N,267nm,2.6s							
MID	**Middleton Isla**	**4.10**	**22**	P		**Pn**	**21 28 16.3**	**-0.7**
MID	**Middleton Isla**	**4.10**	**22**	P		**Pn**	**21 28 15.5**	**-1.5**
BRSE	**Bradley Lake S**	**4.17**	**350**			**Pn**	**21 28 16.5**	**-1.5**
BRSE	**Bradley Lake S**	**4.17**	**350**	P		**Pn**	**21 28 16.5**	**-1.5**
	baz=168							
ACHA	**Angle Creek He**	**4.18**	**310**			**Pn**	**21 28 18.5**	**+0.2**
BRLK	**Bradley Lake**	**4.21**	**349**			**Pn**	**21 28 16.7**	**-1.8**
ANCK	**Angle Creek**	**4.25**	**309**			**Pn**	**21 28 19.1**	**-0.1**
KAHC	**Katmai Hardscr**	**4.32**	**316**	P		**Pn**	**21 28 20.4**	**+0.2**
	baz=132							
PLK3	**Peulik 3**	**4.36**	**301**			**Pn**	**21 28 20.5**	**-0.1**
CNTC	**Contact Creek**	**4.46**	**309**			**Pn**	**21 28 21.6**	**-0.4**
Q17K	**Contact Creek**	**4.46**	**309**	P		**Pn**	**21 28 21.6**	**-0.4**
	baz=124							
SEW	**Seward**	**4.46**	**359**			**Pn**	**21 28 20.1**	**-1.8**
SEW	**Seward**	**4.46**	**359**	P		**Pn**	**21 28 19.9**	**-2.1**
	baz=179							
P23K	**Montague Islan**	**4.47**	**12**			**Pn**	**21 28 20.2**	**-1.9**
P23K	**Montague Islan**	**4.47**	**12**	P		**Pn**	**21 28 21.0**	**-1.1**
	baz=194							
P19K	**Oil Pt**	**4.53**	**334**	Pn		**Pn**	**21 28 21.8**	**-1.2**
P19K				IAML			21 29 20.4	
	comp=N,412nm,0.6s							
P19K				IAML			21 29 25.7	
	comp=E,354nm,0.6s							
PLK1	**Peulik 1**	**4.57**	**301**			**Pn**	**21 28 23.1**	**-0.3**
PLBL	**Peulik Blue Cr**	**4.63**	**299**			**Pn**	**21 28 25.6**	**+1.2**
IVE	**Iliamna Volcan**	**4.80**	**337**			**Pn**	**21 28 25.1**	**-1.7**
O22K	**Cooper Landing**	**4.84**	**357**			**Pn**	**21 28 27.0**	**-0.2**
P18K	**Big Mountain,**	**4.93**	**322**			**Pn**	**21 28 27.1**	**-1.3**
P18K	**Big Mountain,**	**4.93**	**322**	P		**Pn**	**21 28 26.0**	**-2.4**
	baz=137							
R16K	**Pilot Point**	**4.96**	**296**			**Pn**	**21 28 28.0**	**-0.8**
R16K	**Pilot Point**	**4.96**	**296**	IAML			21 30 44.5	
	comp=N,373nm,1.8s							
HIN	**Hinchinbrook I**	**4.98**	**16**			**Pn**	**21 28 28.2**	**-0.9**
HIN				IAML			21 29 32.3	
	comp=E,346nm,0.7s							
KAIM	**Kayak Island**	**5.01**	**29**	Pn		**Pn**	**21 28 28.4**	**-1.2**
KAIM				IAML			21 29 33.5	
	comp=N,296nm,0.8s							
KAIM				IAML			21 29 37.0	
	comp=E,367nm,0.8s							
Q16K	**King Salmon**	**5.02**	**310**			**Pn**	**21 28 27.0**	**-2.7**
Q16K	**King Salmon**	**5.02**	**310**	P		**Pn**	**21 28 27.0**	**-2.7**
	baz=124							
RSO	**Redoubt South**	**5.16**	**341**			**Pn**	**21 28 30.6**	**-1.2**
CHGN	**Chignik**	**5.17**	**281**			**Pn**	**21 28 30.5**	**-1.2**
CHGN				IAML			21 29 31.7	
	comp=E,151nm,0.5s							
CHGN				IAML			21 29 52.6	
	comp=N,176nm,0.5s							
P17K	**Kvichak River**	**5.25**	**315**			**Pn**	**21 28 32.3**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.25**	**19**	Pn		**Pn**	**21 28 32.1**	**-0.7**
EYAK	**Cordova Ski Ar**	**5.25**	**19**	P		**Pn**	**21 28 32.8**	**0.0**
O18K	**Koktuh Hills**	**5.27**	**325**	Pn		**Pn**	**21 28 32.0**	**-1.1**
O18K				IAML			21 29 34.5	
	comp=E,86nm,0.7s							
O18K				IAML			21 29 54.0	
	comp=N,122nm,0.7s							
O19K	**Port Alsworth**	**5.28**	**332**			**Pn**	**21 28 32.6**	**-0.6**
O19K				IAML			21 29 39.1	
	comp=N,201nm,0.5s							
RAGM	**Ragged Mountai**	**5.34**	**25**			**Pn**	**21 28 33.5**	**-0.6**
RC01	**Rabbit Creek A**	**5.45**	**358**			**Pn**	**21 28 34.8**	**-0.8**
GOAT	**Goat Mountain**	**5.50**	**24**			**Pn**	**21 28 35.1**	**-1.1**
FIS	**Fire Island**	**5.53**	**355**	Pn		**Pn**	**21 28 35.4**	**-1.2**
BERG	**Berg Lake**	**5.60**	**30**			**Pn**	**21 28 36.2**	**-1.4**
SNH	**Sunshine Point**	**5.69**	**34**			**Pn**	**21 28 38.0**	**-0.9**
DIV	**Divide**	**5.79**	**17**	Pn		**Pn**	**21 28 39.6**	**-0.7**
KNIK	**Knik Glacier**	**5.79**	**4**			**Pn**	**21 28 39.3**	**-0.9**
P16K	**Nushagak River**	**5.80**	**309**			**Pn**	**21 28 39.9**	**-0.4**
N19K	**Bonanza Creek**	**5.85**	**334**			**Pn**	**21 28 40.1**	**-1.1**
BMRM	**Bremner River**	**5.87**	**23**	Pn		**Pn**	**21 28 40.7**	**-0.7**
SUA	**Susitna One**	**5.87**	**353**			**Pn**	**21 28 40.0**	**-1.5**
O17K	**Koliganek Bris**	**5.88**	**318**			**Pn**	**21 28 40.5**	**-0.9**
PMR	**Palmer**	**5.95**	**1**	Pn		**Pn**	**21 28 41.8**	**-0.6**
PMR	**Palmer**	**5.95**	**1**	P		**Pn**	**21 28 43.2**	**+0.8**
PMR	**Palmer**	**5.95**	**1**	P		**Pn**	**21 28 41.8**	**-0.6**
CNBA	**Chernabura Isl**	**5.96**	**266**	Pn		**Pn**	**21 28 40.6**	**-1.9**
BARK	**Barkley Ridge**	**5.97**	**34**			**Pn**	**21 28 41.5**	**-1.3**
STLK	**Strandline Lak**	**6.01**	**348**			**Pn**	**21 28 42.0**	**-1.3**
KLU	**Klutina**	**6.11**	**15**			**Pn**	**21 28 44.0**	**-0.7**
N18K	**Kilae Creek**	**6.13**	**328**			**Pn**	**21 28 43.3**	**-1.6**
GHO	**Glory Hole Cre**	**6.14**	**2**			**Pn**	**21 28 44.4**	**-0.7**
O16K	**Kokwok River B**	**6.16**	**313**			**Pn**	**21 28 44.3**	**-1.0**
SML	**Sawmill**	**6.19**	**4**			**Pn**	**21 28 45.7**	**-0.1**
SCM	**Sheep Creek Mo**	**6.28**	**9**			**Pn**	**21 28 47.2**	**+0.2**
SCM	**Sheep Creek Mo**	**6.28**	**9**	P		**Pn**	**21 28 47.2**	**+0.2**
VRDI	**Verde Repeater**	**6.37**	**26**	Pn		**Pn**	**21 28 47.2**	**-1.1**
SAMH	**Samovar Hills**	**6.38**	**42**			**Pn**	**21 28 47.6**	**-0.7**
SVW2	**Sparrevohn**	**6.38**	**331**			**Pn**	**21 28 47.0**	**-1.3**
KIAG	**Kiagna River**	**6.42**	**32**			**Pn**	**21 28 47.6**	**-1.4**
N17K	**Nushagak Hills**	**6.43**	**323**			**Pn**	**21 28 47.5**	**-1.5**
N25K	**Chitina, Valde**	**6.45**	**20**	Pn		**Pn**	**21 28 49.0**	**-0.3**
SKT	**Skwentna**	**6.45**	**351**	Pn		**Pn**	**21 28 48.7**	**-0.6**
GLB	**Gilahina Butte**	**6.47**	**24**			**Pn**	**21 28 48.7**	**-0.9**
M20K	**Styx River**	**6.55**	**344**			**Pn**	**21 28 49.1**	**-1.7**
PCA	**Pinnacle**	**6.55**	**44**	Pn		**Pn**	**21 28 50.2**	**-0.6**
PTPK	**Patty Peak**	**6.60**	**30**			**Pn**	**21 28 50.5**	**-1.0**
MCARA	**McCarthy VSAT**	**6.61**	**27**			**Pn**	**21 28 50.7**	**-0.8**
M24K	**Tolsona, Glenn**	**6.67**	**13**	Pn		**Pn**	**21 28 52.3**	**0.0**
BCPM	**Bancas Point**	**6.72**	**46**			**Pn**	**21 28 52.0**	**-1.0**
BARN	**Barnard Glacie**	**6.74**	**33**			**Pn**	**21 28 52.5**	**-0.9**
CTGM	**Chitina Glacie**	**6.77**	**35**			**Pn**	**21 28 53.5**	**-0.4**
LOGN	**Logan Glacier**	**6.78**	**37**			**Pn**	**21 28 53.2**	**-0.7**
M19K	**Big River Lodg**	**6.80**	**339**	Pn		**Pn**	**21 28 53.6**	**-0.5**
HARP	**HAARP**	**7.09**	**16**			**Pn**	**21 28 57.6**	**-0.5**
L19K	**White Mountain**	**7.15**	**339**	Pn		**Pn**	**21 28 57.2**	**-1.7**
M17K	**Holitna River**	**7.16**	**327**			**Pn**	**21 28 57.7**	**-1.4**
O29M	**Mount Kennedy**	**7.35**	**46**			**Pn**	**21 29 00.9**	**-0.8**
P29M	**Windy Craggy**	**7.36**	**53**			**Pn**	**21 29 00.6**	**-1.3**
O14K	**Tigyukauivet M**	**7.40**	**304**	Pn		**Pn**	**21 29 02.1**	**-0.2**
M16K	**Timber Creek**	**7.40**	**321**			**Pn**	**21 29 02.2**	**-0.1**
M26K	**Nabesna, AK**	**7.50**	**23**			**Pn**	**21 29 02.3**	**-1.4**
DHY	**Denali Highway**	**7.50**	**7**			**Pn**	**21 29 03.9**	**0.0**
S31K	**Pelican**	**7.53**	**67**	Pn		**Pn**	**21 29 01.3**	**-2.7**
PAX	**Paxson**	**7.59**	**13**			**Pn**	**21 29 03.5**	**-1.5**
PAX	**Paxson**	**7.59**	**13**	P		**Pn**	**21 29 03.5**	**-1.5**
M27K	**Edge Creek, AK**	**7.73**	**27**			**Pn**	**21 29 06.9**	**0.0**
TRF	**Thorofare Moun**	**7.83**	**357**			**Pn**	**21 29 08.3**	**-0.1**
MENT	**Mentasta**	**7.84**	**19**			**Pn**	**21 29 08.6**	**+0.3**
SIT	**Sitka**	**7.88**	**74**	P		**Pn**	**21 29 07.7**	**-1.2**
KTH	**Kantishna Hill**	**7.96**	**355**			**Pn**	**21 29 09.9**	**-0.2**
L16K	**Owhat River**	**8.06**	**323**	Pn		**Pn**	**21 29 10.6**	**-0.6**
TTA	**Tatalina**	**8.06**	**338**	P		**Pn**	**21 29 14.6**	**+3.1**
HYT	**Haines Junctio**	**8.09**	**45**	Pn		**Pn**	**21 29 11.5**	**-0.3**
K20K	**Telida**	**8.10**	**345**			**Pn**	**21 29 10.0**	**-1.9**
BCAR	**Beaver Creek A**	**8.35**	**24**	Pn		**Pn**	**21 29 14.8**	**-0.7**
BESE	**Bessie Mountai**	**8.38**	**64**	Pn		**Pn**	**21 29 14.3**	**-1.5**
RIDG	**Independent Ri**	**8.41**	**14**			**Pn**	**21 29 15.7**	**-0.5**
SKAG	**Skagway**	**8.41**	**57**			**Pn**	**21 29 15.2**	**-1.0**
BPAW	**Bear Paw Mtn.**	**8.51**	**355**	Pn		**Pn**	**21 29 16.7**	**-0.8**
O30N	**Mendenhall**	**8.64**	**48**			**Pn**	**21 29 18.7**	**-0.7**
SCRK	**Sand Creek**	**8.76**	**16**			**Pn**	**21 29 19.6**	**-1.4**
HDA	**Harding Lake**	**8.86**	**7**			**Pn**	**21 29 22.4**	**+0.1**
J20K	**Nowinta River**	**8.88**	**346**	Pn		**Pn**	**21 29 21.7**	**-0.9**
CCB	**Clear Creek Bu**	**9.05**	**4**			**Pn**	**21 29 24.7**	**-0.2**
WHY	**Whitehorse**	**9.11**	**51**			**Pn**	**21 29 24.6**	**-1.2**
CRAG	**Craig**	**9.16**	**85**	Pn		**Pn**	**21 29 24.6**	**-1.9**
CRAG	**Craig**	**9.16**	**85**	P		**Pn**	**21 29 26.1**	**-0.4**
	comp=N,43nm,2.6s							
K15K	**Wolf Creek Mou**	**9.17**	**322**			**Pn**	**21 29 26.7**	**+0.2**
ILAR	**Eielson Array**	**9.22**	**6**	Pn		**Pn**	**21 29 27.5**	**+0.2**
ILAR	**Eielson Array**	**9.22**	**6**	*eP*		**Pn**	**21 29 28.9**	**+1.6**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ILAR	**Eielson Array**	**9.22**	**6**	Pn		**Pn**	**21 29 26.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=194,slow=13,SNR=19							
ILAR					Sn	**Sn**	**21 31 05.4**	**-5.5**
	comp=Z,0.6nm,0.3s,baz=187,slow=22,SNR=5.5							
ILAR					LR	LR	21 33 06.4	
	comp=Z,517nm,19.7s,baz=224,slow=38							
	comp=Z,3.3nm,0.5s							
P32M	**Atlin**	**9.23**	**58**	Pn		**Pn**	**21 29 25.9**	**-1.5**
COLA	**College**	**9.28**	**4**	P		**Pn**	**21 29 28.9**	**+0.9**
J26L	**Joseph Creek**	**9.32**	**15**			**Pn**	**21 29 28.2**	**-0.5**
L29M	**L29M**	**9.38**	**33**			**Pn**	**21 29 29.0**	**-0.4**
MLY	**Manley**	**9.43**	**356**			**Pn**	**21 29 29.5**	**-0.7**
M30M	**Minto, Yukon**	**9.44**	**38**			**Pn**	**21 29 29.4**	**-0.9**
POKR	**Poker Plat Res**	**9.54**	**5**			**Pn**	**21 29 29.9**	**-1.7**
J16K	**Anvik River**	**9.56**	**328**			**Pn**	**21 29 30.5**	**-1.3**
DAWY	**Dawson**	**9.78**	**26**			**Pn**	**21 29 34.0**	**-0.9**
EGAK	**Eagle**	**9.99**	**20**	Pn		**Pn**	**21 29 37.5**	**-0.3**
PRP	**Porcupine Dome**	**10.06**	**9**			**Pn**	**21 29 38.4**	**-0.6**
M31M	**Drury Creek, Y**	**10.10**	**43**			**Pn**	**21 29 39.2**	**-0.1**
K29M	**Barlow Dome**	**10.11**	**31**			**Pn**	**21 29 39.3**	**-0.3**
UNV	**Unalaska Valle**	**10.12**	**267**	Pn		**Pn**	**21 29 38.6**	**-1.0**
H21K	**Melozitna Rive**	**10.18**	**352**			**Pn**	**21 29 39.7**	**-0.7**
S34M	**Telegraph Cree**	**10.21**	**70**	Pn		**Pn**	**21 29 37.7**	**-3.1**
R33M	**Jennings River**	**10.53**	**62**	Pn		**Pn**	**21 29 43.4**	**-1.9**
IMAR	**Indian Mountai**	**10.58**	**350**	Pn		**Pn**	**21 29 45.4**	**-0.5**
T35M	**Bob Quinn**	**10.65**	**75**	Pn		**Pn**	**21 29 45.2**	**-1.7**
H17K	**Granite Mounta**	**10.68**	**335**			**Pn**	**21 29 46.2**	**-1.0**
DLBC	**Dease Lake**	**10.85**	**67**	Pn		**Pn**	**21 29 48.4**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=259,slow=7.7,SNR=13							
DLBC					LR	LR	21 33 15.0	
	comp=Z,727nm,20.0s,baz=271,slow=33							
	comp=Z,1.8nm,0.3s							
J30M	**Hart River**	**11.01**	**30**			**Pn**	**21 29 51.7**	**-0.1**
G21K	**Allakaket**	**11.08**	**351**			**Pn**	**21 29 52.2**	**-0.5**
F19K	**Shaleruckik Mo**	**11.92**	**344**			**Pn**	**21 30 03.4**	**-0.7**
ANM	**Nome**	**11.96**	**325**	Pn		**Pn**	**21 30 04.1**	**-0.7**
ANM	**Nome**	**11.96**	**325**	P		**Pn**	**21 30 04.1**	**-0.7**
BMAR	**Burnt Mountain**	**12.02**	**9**	Pn		**Pn**	**21 30 05.1**	**-0.5**
F28M	**Old Crow**	**12.78**	**16**	Pn		**Pn**	**21 30 15.7**	**-0.3**
BBB	**Bella Bella**	**12.94**	**97**	LR		LR	21 33 51.5	
	comp=Z,273nm,19.6s,baz=282,slow=31							
E18K	**Tukpahlearik C**	**12.94**	**340**	Pn		**Pn**	**21 30 16.8**	**-1.3**
E29M	**Blow River**	**13.81**	**18**			**Pn**	**21 30 30.7**	**+0.8**
INK	**Inuvik**	**14.62**	**24**	Pn		**Pn**	**21 30 39.4**	**-1.5**
INK	**Inuvik**	**14.62**	**24**	P		**Pn**	**21 30 39.4**	**-1.5**
INK	**Inuvik**	**14.62**	**24**	Pn		**Pn**	**21 30 41.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=204,slow=14,SNR=32							
INK					LR	LR	21 36 22.1	
	comp=Z,393nm,19.8s,baz=183,slow=38							
	comp=Z,17nm,1.0s							
B22K	**Teshekpuk Lake**	**14.85**	**355**			**Pn**	**21 30 43.2**	**-0.9**
ADK	**Adak**	**16.58**	**268**	Pn		**P**	**21 31 06.4**	**-2.8**
ADK					IAmb	IAmb	21 31 13.3	
	comp=Z,62nm,1.4s							
ADK	**Adak**	**16.58**	**268**	P		P	21 31 15.4	+6.2
	comp=Z,38nm,1.4s							
ADK	**Adak**	**16.58**	**268**	P		**P**	**21 31 06.4**	**-2.8**
ADK					pmax	pmax		
	comp=Z,62nm,1.4s							
C36M	**Paulatuk**	**17.78**	**30**	Pn		**Pn**	**21 31 19.8**	**-1.9**
C36M					IAmb	IAmb	21 31 24.3	
	comp=Z,44nm,1.5s							
YKA	**Yellowknife Ar**	**18.90**	**55**	P		**P**	**21 31 33.2**	**-1.5**
YKA	**Yellowknife Ar**	**18.90**	**55**	*eP*		**Pn**	**21 31 36.1**	**+0.8**
YKA	**Yellowknife Ar**	**18.90**	**55**	P		**Pn**	**21 31 35.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=265,slow=11,SNR=16							
YKA					LR	LR	21 38 33.2	
	comp=Z,402nm,19.2s,baz=210,slow=36							
	comp=Z,1.9nm,0.9s							
A36M	**Sachs Harbour**	**19.26**	**23**	P		**Pn**	**21 31 38.3**	**-1.2**
A36M					IAmb	IAmb	21 31 41.9	
	comp=Z,28nm,0.8s							
NEW	**Newport**	**21.00**	**97**	P		**P**	**21 31 56.1**	**-1.7**
NEW					IAmb	IAmb	21 32 09.8	
	comp=Z,19nm,1.2s							
NEW	**Newport**	**21.00**	**97**	P		**P**	**21 31 56.1**	**-1.7**
NEW					pmax	pmax		
	comp=Z,19nm,1.3s							
NEW	**Newport**	**21.00**	**97**	P			21 31 58.9	
	comp=Z,3.8nm,0.9s,baz=320,slow=3.5,SNR=4.9							
	comp=Z,3.8nm,0.9s							
YBH	**Yreka Blue Hor**	**22.22**	**118**	LR		LR	21 38 36.0	
	comp=Z,341nm,19.9s,baz=338,slow=31							
BILL	**Bilibino**	**23.71**	**319**	*i* P		**P**	**21 32 26.8**	**+0.8**
OVMT	**Ovando**	**23.99**	**96**	P		**P**	**21 32 28.3**	**-0.8**
ELK	**Elko**	**26.82**	**109**	LR		LR	21 41 34.1	
	comp=Z,150nm,20.9s,baz=308,slow=32							
NVAR	**Mina Array Bea**	**26.93**	**117**	P		**P**	**21 32 53.8**	**-2.0**
NVAR	**Mina Array Bea**	**26.93**	**117**	P		**P**	**21 32 56.6**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=298,slow=9.2,SNR=5.1							
NVAR					LR	LR	21 41 43.7	
	comp=Z,360nm,19.6s,baz=277,slow=32							
	comp=Z,1.1nm,0.8s							
FXWY	**Fox Creek**	**27.17**	**100**	P		**P**	**21 32 55.3**	**-2.7**
RES	**Resolute Bay**	**28.12**	**27**	P		**P**	**21 33 06.5**	**+0.6**
RES	**Resolute Bay**	**28.12**	**27**	P		**P**	**21 33 06.5**	**+0.6**
RES					pmax	pmax		
	comp=Z,3.0nm,0.9s							
RES	**Resolute Bay**	**28.12**	**27**	LR		LR	21 44 54.5	
	comp=Z,234nm,19.0s,baz=335,slow=38							
R11B	**Troy Canyon, C**	**28.38**	**113**	P		**P**	**21 33 07.0**	**-1.8**
FCC	**Fort Churchill**	**29.34**	**61**	P		**P**	**21 33 16.9**	**0.0**
FCC					IAmb	IAmb	21 33 18.9	
	comp=Z,5.2nm,0.9s							
FCC	**Fort Churchill**	**29.34**	**61**	P		**P**	**21 33 16.9**	**0.0**
FCC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
SEY	**Seymchan**	**29.69**	**308**	LR		LR	21 46 34.0	
	comp=Z,358nm,18.2s,baz=354,slow=39							
PETK	**Petropavlovsk-**	**30.36**	**288**	P		**P**	**21 33 26.8**	**+0.8**
	comp=Z,3.9nm,0.9s,baz=57,slow=14,SNR=1.7							
PETK					LR	LR	21 45 32.1	
	comp=Z,54nm,18.2s,baz=88,slow=36							
	comp=Z,3.9nm,0.9s							
MA2	**Magadan**	**31.39**	**302**	‖ *eP*		**P**	**21 33 36.3**	**+1.3**
MA2					pmax	pmax		
	comp=Z,19nm,1.3s							
PFO	**Pinyon Flats O**	**31.64**	**120**	LR		LR	21 43 49.7	
	comp=Z,132nm,19.7s,baz=339,slow=32							
ULM	**Lac du Bonnet**	**31.94**	**77**	LR		LR	21 47 19.6	
	comp=Z,90nm,18.4s,baz=268,slow=38							
ANMO	**Albuquerque**	**32.35**	**78**	LR		LR	21 47 27.4	
	comp=Z,112nm,18.8s,baz=55,slow=34							
TIXI	**Tiksi**	**36.20**	**328**	P		**P**	**21 34 15.7**	**-0.9**
TIXI					IAmb	IAmb	21 34 18.9	
	comp=Z,17nm,1.4s							
TIXI	**Tiksi**	**36.20**	**328**	*d* *iP*		**P**	**21 34 17.6**	**+1.0**
TIXI					pmax	pmax		
	comp=Z,16nm,2.5s							
TIXI	**Tiksi**	**36.20**	**328**	LR		LR	21 51 24.8	
	comp=Z,68nm,18.8s,baz=14,slow=40							
NEEM	**North Greenlan**	**38.17**	**21**	*i* P		**P**	**21 34 34.0**	**+0.4**
NEEM					IAmb	IAmb	21 34 35.7	
	comp=Z,5.9nm,0.8s							
FRB	**Frobisher Bay**	**38.88**	**44**	LR		LR	21 50 44.0	
	comp=Z,318nm,18.1s,baz=337,slow=36							
YAK	**Yakutsk**	**39.80**	**313**	‖ *eP*		**P**	**21 34 48.5**	**+1.4**
YAK					pmax	pmax		
	comp=Z,4.0nm,0.5s							
YAK	**Yakutsk**	**39.80**	**313**	LR		LR	21 53 22.3	
	comp=Z,70nm,18.1s,baz=106,slow=39							
TXAR	**Lajitas Array**	**41.61**	**110**	P		**P**	**21 35 03.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=292,slow=8.0,SNR=4.3							
TXAR					LR	LR	21 51 32.6	
	comp=Z,120nm,18.0s,baz=313,slow=35							
	comp=Z,0.4nm,0.7s							
LPIG	**La Paz**	**42.51**	**122**	LR		LR	21 50 09.0	
	comp=Z,103nm,18.6s,baz=19,slow=32							
SUMG	**Summit**	**43.54**	**24**	*i* P		**P**	**21 35 18.0**	**-0.1**
SUMG					IAmb	IAmb	21 35 20.4	
	comp=Z,4.8nm,0.7s							
SFJD	**Kangerlussuaq**	**43.61**	**34**	LR		LR	21 52 56.0	
	comp=Z,233nm,19.3s,baz=301,slow=35							
ASAJ	**Asahikawa**	**43.64**	**284**	LR		LR	21 56 14

comp=Z,17nm,1.3s
KURK Kurchatov 66.77 329 P P 21 38 04.3 -1.1
KURK Kurchatov 66.77 329⇓*eP* P 21 38 06.0 +0.6
KURK pmax pmax
comp=Z,5.0nm,1.3s
BRVK Borovoye 66.84 335 P P 21 38 05.3 -0.6
BRVK Borovoye 66.84 335*de*P P 21 38 06.7 +0.8
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BVAR Borovoye Array 66.85 335 P P 21 38 06.2 +0.3
comp=Z,3.0nm,0.8s,baz=35,slow=8.1,SNR=12
BVAR LR LR 22 11 03.7
comp=Z,80nm,18.0s,baz=28,slow=39
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 66.88 329 P P 21 38 06.2 0.0
comp=Z,1.6nm,0.9s,baz=30,slow=6.4,SNR=12
KURBB LR LR 22 11 27.0
comp=Z,106nm,18.9s,baz=162,slow=40
comp=Z,1.6nm,0.9s
MK31 Makanchi Array 69.11 325 P P 21 38 19.6 -0.7
MK31 IAmb IAmb 21 38 22.4
comp=Z,2.8nm,0.9s
MK31 Makanchi Array 69.11 325⇑*eP* P 21 38 20.3 0.0
MKAR Makanchi Array 69.11 325 P P 21 38 20.3 0.0
MKAR Makanchi Array 69.11 325 *eP* P 21 38 20.4 +0.1
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 69.11 325 P P 21 38 20.1 -0.2
comp=Z,1.6nm,0.6s,baz=29,slow=5.9,SNR=24
MKAR LR LR 22 12 50.7
comp=Z,102nm,18.2s,baz=34,slow=40
comp=Z,1.6nm,0.6s
OBN Obninsk 69.48 356⇑*eP* P 21 38 24.1 +1.7
OBN *e* 21 38 46.4
OBN *e* 21 40 53.6
OBN *eS* **SKiKP 21 48 01.9 -8.7**
OBN pmax pmax
comp=Z,21nm,1.7s
OBN MLR MLR
comp=Z,101nm,18.0s
MNK Minsk 70.18 2 *i*P P 21 38 28.4 +1.7
MNK *i*S **S 21 47 41.5 +3.9**
MNK *i*SS **SS 21 52 09.6 +3.4**
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,23nm,1.2s
BELG Belogornoye 71.41 349⇓*eP* P 21 38 35.1 +0.9
BELG pmax pmax
comp=Z,3.0nm,1.1s
CLL Collm 72.39 12 *i*P P 21 38 41.4 +1.3
comp=Z,11nm,1.2s
CLL AMS AMS 23 29 00.0
comp=Z,300nm,21.9s
ABKAR Akbulak array 72.64 340 P P 21 38 41.3 -0.4
ABKAR Akbulak array 72.64 340 P P 21 38 41.1 -0.5
ABKAR IAmb IAmb 21 38 44.2
comp=Z,4.3nm,0.8s
BRG Berggiesshubel 72.92 11 *eP* P 21 38 45.2 +1.9
BRG Amp 21 38 46.3
comp=Z,8.4nm,1.1s
BRG Berggiesshubel 72.92 11 *eP* P 21 38 45.2 +1.9
BRG pmax pmax
comp=Z,8.0nm,1.2s
HSKC Hora Svate Kat 73.13 11 *eP* P 21 38 46.4 +1.8
PVCC Panska Ves 73.33 11 *eP* P 21 38 47.6 +1.9
PVCC Panska Ves 73.33 11 *eP* P 21 38 47.6 +1.9
DPC Dobruska-Polom 73.68 10 *eP* P 21 38 49.2 +1.3
DPC Dobruska-Polom 73.68 10 *eP* P 21 38 49.2 +1.3
KRLC Kraliky 74.00 9 *eP* P 21 38 50.3 +0.6
KRLC Kraliky 74.00 9 *eP* P 21 38 50.3 +0.6
AKASG Malin Array Be 74.00 1 *eP* P 21 38 50.7 +1.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 74.00 1 P P 21 38 49.3 -0.3
comp=Z,2.1nm,0.6s,baz=359,slow=5.5,SNR=13
AKASG LR LR 22 14 08.2
comp=Z,48nm,18.7s,baz=2.5,slow=38
comp=Z,2.1nm,0.6s
AKBB Malin Array Si 74.00 1⇑*iP* P 21 38 50.7 +1.1
AKBB pmax pmax
comp=Z,20nm,1.5s
MORC Moravsky Berou 74.36 9 *eP* P 21 38 53.6 +1.8
ZVC Zvikov 74.37 11 *eP* P 21 38 52.5 +0.7
KHC Kasperske Hory 74.60 12 *eP* P 21 38 54.4 +1.1
KHC Kasperske Hory 74.60 12 *eP* P 21 38 54.4 +1.1
VRAC Vranov 74.74 10 *eP* P 21 38 55.7 +1.7
VRAC Vranov 74.74 10 LR LR 22 13 23.0
comp=Z,14nm,18.2s,baz=320,slow=37
GERES GERESS Array B 74.90 12 P P 21 38 55.7 +0.7
comp=Z,2.5nm,0.8s,baz=350,slow=6.8,SNR=5.3
GERES LR LR 22 13 36.4
comp=Z,22nm,20.3s,baz=261,slow=37
comp=Z,2.5nm,0.8s
KRUC Moravsky 74.97 10 *eP* P 21 38 56.9 +1.6
CKRC Cesky Krumlov 74.99 11 *eP* P 21 38 57.3 +1.8
CKRC Cesky Krumlov 74.99 11 *eP* P 21 38 57.3 +1.8
AAK Ala-Archa 75.28 328⇓*eP* P 21 38 59.0 +1.6
AAK pmax pmax
comp=Z,6.0nm,1.3s
AAK Ala-Archa 75.28 328 LR LR 22 16 14.5
comp=Z,80nm,18.5s,baz=53,slow=39
JAVC Velka Javorina 75.28 9 *eP* P 21 38 59.7 +2.5
KKAR Karatay Array 75.99 331 P P 21 39 00.1 -1.2
KKAR Karatay Array 75.99 331 P P 21 38 59.8 -1.6
KKAR IAmb IAmb 21 39 03.7
comp=Z,3.9nm,0.9s
KKAR Karatay Array 75.99 331 P P 21 39 00.1 -1.2
BIOA Bad Ischl, Aus 76.03 12 *eP* P 21 39 03.4 +1.9
comp=Z,3.7nm,0.8s
CONA Conrad Observa 76.03 10 *eP* P 21 39 03.8 +2.2
comp=Z,1.9nm,0.6s
MOTA Moosalm 76.05 14 *eP* P 21 39 01.9 +0.1
comp=Z,8.8nm,1.2s
WATA Walderalm 76.12 13 *eP* P 21 39 02.8 +0.7
comp=Z,6.3nm,0.8s
SQTA Sankt Quirin 76.19 14 *eP* P 21 39 03.8 +1.3
comp=Z,4.2nm,0.7s
WTTA Wattenberg 76.20 13 *eP* P 21 39 04.0 +1.4
comp=Z,5.4nm,0.8s
FETA Feichten 76.32 14 *eP* P 21 39 04.6 +1.3
comp=Z,3.1nm,1.1s
KBA Koelnbreinsper 76.60 12 *eP* P 21 39 06.6 +1.8
comp=Z,6.5nm,0.6s
ARSA Arzberg 76.67 11 *eP* P 21 39 07.0 +1.9
comp=Z,7.5nm,1.1s
ABTA Abfaltersbach 76.82 13 *eP* P 21 39 09.6 +3.6
comp=Z,5.6nm,1.4s
SOKA Soboth 77.18 11 *eP* P 21 39 08.6 +0.5
comp=Z,11nm,1.4s
OBKA Obir 77.30 11 *eP* P 21 39 09.6 +0.9
comp=Z,5.7nm,0.5s
KBZ Khabaz 80.45 351 *eP* P 21 39 28.3 +2.4
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 80.45 351 P P 21 39 27.6 +1.6
comp=Z,1.8nm,0.8s,baz=352,slow=6.8,SNR=4.1
comp=Z,1.8nm,0.8s
ESDC Sonseca Array 80.55 26 P P 21 39 27.4 +0.8
comp=Z,2.2nm,0.8s,baz=332,slow=4.6,SNR=16
comp=Z,2.2nm,0.8s
GEYT Alibeck 83.89 339 P P 21 39 45.1 +1.0
comp=Z,2.4nm,0.7s,baz=298,slow=3.2,SNR=10
GEYT LR LR 22 23 27.3
comp=Z,38nm,18.9s,baz=131,slow=40
comp=Z,2.4nm,0.7s
BRTR Keskin Array B 84.95 358 *eP* P 21 39 51.2 +1.5
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 84.95 358 P P 21 39 50.0 +0.4
comp=Z,1.6nm,1.0s,baz=349,slow=1.3,SNR=4.2
comp=Z,1.6nm,1.0s
CMAR Chiang Mai Arr 86.57 298 *eP* P 21 39 59.1 +1.3
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 86.57 298 P P 21 39 57.9 +0.1
comp=Z,1.5nm,0.8s,baz=18,slow=4.6,SNR=12
comp=Z,1.5nm,0.8s
KEST Kesra 87.16 17 LR LR 22 22 03.5
comp=Z,29nm,18.9s,baz=260,slow=38
QSPA South Pole Qui 145.45 180 PKPbc PKPab 21 46 50.7 -0.6
comp=Z,6.2nm,0.8s,baz=54,slow=1.8,SNR=15
BOSA Boshof 152.69 11 PKPbc PKiKP 21 47 10.2 -1.1
comp=Z,1.7nm,0.9s,baz=54,slow=8.7,SNR=1.6

*NEIC **23** 21:36:23.0±1.1,56˚.1N±0˚.1×150˚.2W±0˚.1, h33km±10km, mb3.8/2, ML3.7/34, ML3.3(AEIC), Error ellipse: s-maj=16.7km s-min=8.7km az=180.0*
*AEIC **23** 21:36:24.8±1.6,56˚.0N±0˚.1×150˚.2W±0˚.1, h11km±7km, Error ellipse: s-maj=15.9km s-min=8.8km az=180.0*
ISC 23 21:36:19.7±1.5,56˚.1N±0˚.1×150˚.25W±0˚.06, h10km, n80, σ1ᵖ08/87, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.02**	**305**		**Pn**	**21 36 54.0**	**+0.2**
OHAK					**Sn**	**21 37 17.6**	**-1.4**
OHAK	**Old Harbor**	**2.02**	**305**	P	**Pn**	**21 36 54.6**	**+0.9**
	baz=124						
OHAK				S	**Sn**	**21 37 17.8**	**-1.3**
	baz=124						
KDAK	**Kodiak Island**	**2.12**	**324**		**Pn**	**21 36 55.9**	**+0.7**
KDAK	**Kodiak Island**	**2.12**	**324**		**Sn**	**21 37 21.0**	**-0.4**
KDAK	**Kodiak Island**	**2.12**	**324**	S	**Sn**	**21 37 21.1**	**-0.4**
	baz=143						
R18K	**Karluk**	**2.74**	**304**		**Pn**	**21 37 04.5**	**+0.9**
R18K					**Sn**	**21 37 35.5**	**-1.3**
R18K				IAML		21 37 38.2	
	comp=N,116nm,0.4s						
R18K	**Karluk**	**2.74**	**304**	P	**Pn**	**21 37 04.9**	**+1.2**
	baz=122						
R18K				S	**Sn**	**21 37 35.1**	**-1.7**
	baz=122						
Q20K	**Shuyak Island**	**2.77**	**336**	P	**Pn**	**21 37 05.4**	**+1.2**
	baz=155						
SYI	**Shuyak Island**	**2.77**	**336**		**Pn**	**21 37 05.2**	**+1.0**
Q19K	**Cape Douglas,**	**3.38**	**329**		**Pn**	**21 37 14.0**	**+1.6**
Q19K				IAML		21 37 59.6	
	comp=N,246nm,0.8s						
Q19K	**Cape Douglas,**	**3.38**	**329**	P	**Pn**	**21 37 14.4**	**+1.9**
	baz=146						
CNPM	**China Poot**	**3.48**	**352**		**Pn**	**21 37 14.0**	**+0.2**
CNPM					**Sn**	**21 37 54.5**	**-0.5**
CNPM				IAML		21 37 56.9	
	comp=E,89nm,0.6s						
CNPM				IAML		21 38 12.3	
	comp=N,112nm,3.2s						
BRSE	**Bradley Lake S**	**3.67**	**356**		**Pn**	**21 37 16.8**	**+0.4**
BRSE					**Sn**	**21 37 58.7**	**-1.0**
BRSE	**Bradley Lake S**	**3.67**	**356**	P	**Pn**	**21 37 16.8**	**+0.4**
	baz=176						
BRSE				S	**Sn**	**21 37 58.7**	**-1.0**
	baz=176						
BRLK	**Bradley Lake**	**3.69**	**355**	Pn	**Pn**	**21 37 16.4**	**-0.4**
BRLK				IAML		21 38 01.3	
	comp=N,78nm,2.7s						
BRLK				IAML		21 39 37.8	
	comp=E,76nm,3.2s						
CNTC	**Contact Creek**	**3.76**	**308**		**Pn**	**21 37 18.8**	**+1.1**
Q17K	**Contact Creek**	**3.76**	**308**	P	**Pn**	**21 37 18.8**	**+1.0**
	baz=124						
P19K	**Oil Pt**	**3.91**	**337**	Pn	**Pn**	**21 37 21.5**	**+1.8**
P19K				IAML		21 38 10.1	
	comp=N,187nm,0.5s						
P19K				IAML		21 38 10.3	
	comp=E,141nm,0.5s						
Q23K	**Middleton Isla**	**3.94**	**30**		**Pn**	**21 37 20.4**	**+0.3**
Q23K				IAML		21 37 59.6	
	comp=N,228nm,2.2s						
Q23K	**Middleton Isla**	**3.94**	**30**	P	**Pn**	**21 37 20.6**	**+0.5**
	baz=213						
MID	**Middleton Isla**	**3.94**	**30**		**Pn**	**21 37 20.5**	**+0.4**
MID				IAML		21 37 59.3	
	comp=N,208nm,2.5s						
P23K	**Montague Islan**	**4.20**	**20**		**Pn**	**21 37 24.2**	**+0.6**
P23K	**Montague Islan**	**4.20**	**20**	P	**Pn**	**21 37 24.2**	**+0.6**
	baz=202						
P18K	**Big Mountain,**	**4.25**	**323**		**Pn**	**21 37 25.3**	**+1.0**
P18K				IAML		21 40 13.2	
	comp=N,34nm,4.5s						
P18K	**Big Mountain,**	**4.25**	**323**	P	**Pn**	**21 37 25.4**	**+1.0**
	baz=140						
P17K	**Kvichak River**	**4.55**	**316**		**Pn**	**21 37 29.9**	**+1.5**
P17K	**Kvichak River**	**4.55**	**316**	P	**Pn**	**21 37 29.9**	**+1.5**
	baz=131						
O18K	**Koktuh Hills**	**4.60**	**327**		**Pn**	**21 37 30.1**	**+0.9**
O18K				IAML		21 38 27.5	
	comp=N,44nm,2.7s						
O18K				IAML		21 39 03.9	
	comp=E,34nm,3.4s						
O18K	**Koktuh Hills**	**4.60**	**327**	P	**Pn**	**21 37 30.2**	**+1.0**
	baz=143						
Q19K	**Port Alsworth**	**4.64**	**334**	Pn	**Pn**	**21 37 31.5**	**+1.8**
HIN	**Hinchinbrook I**	**4.75**	**23**		**Pn**	**21 37 31.9**	**+0.6**
HIN				IAML		21 39 44.8	
	comp=N,76nm,3.3s						
HIN				IAML		21 39 51.1	
	comp=E,100nm,2.8s						
KAIM	**Kayak Island**	**4.94**	**36**		**Pn**	**21 37 34.4**	**+0.6**
KAIM	**Kayak Island**	**4.94**	**36**	P	**Pn**	**21 37 34.6**	**+0.8**
	baz=221						
EYAK	**Cordova Ski Ar**	**5.06**	**26**		**Pn**	**21 37 36.4**	**+0.9**
EYAK	**Cordova Ski Ar**	**5.06**	**26**	P	**Pn**	**21 37 36.5**	**+1.1**
	baz=209						
P16K	**Nushagak River**	**5.10**	**308**	P	**Pn**	**21 37 37.6**	**+1.5**
	baz=123						
O17K	**Koliganek Bris**	**5.18**	**318**		**Pn**	**21 37 38.7**	**+1.5**
O17K	**Koliganek Bris**	**5.18**	**318**	P	**Pn**	**21 37 38.7**	**+1.5**
	baz=133						
RAGM	**Ragged Mountai**	**5.21**	**32**		**Pn**	**21 37 38.7**	**+1.1**
RAGM				IAML		21 38 40.2	
	comp=E,67nm,3.2s						
N19K	**Bonanza Creek**	**5.23**	**337**	Pn	**Pn**	**21 37 38.4**	**+0.5**
N19K				IAML		21 38 52.8	
	comp=E,23nm,3.5s						
N19K				IAML		21 39 00.7	
	comp=N,31nm,4.0s						
GOAT	**Goat Mountain**	**5.36**	**31**		**Pn**	**21 37 41.0**	**+1.3**
BERG	**Berg Lake**	**5.52**	**36**		**Pn**	**21 37 42.7**	**+0.8**
BMRM	**Bremner River**	**5.71**	**29**		**Pn**	**21 37 44.9**	**+0.4**
BMRM	**Bremner River**	**5.71**	**29**	P	**Pn**	**21 37 45.7**	**+1.2**
	baz=213						
KLU	**Klutina**	**5.86**	**21**		**Pn**	**21 37 47.5**	**+0.9**
MCARA	**McCarthy VSAT**	**6.50**	**32**		**Pn**	**21 37 55.9**	**+0.6**
MCARA	**McCarthy VSAT**	**6.50**	**32**	P	**Pn**	**21 37 56.5**	**+1.2**
	baz=218						
M17K	**Holitna River**	**6.50**	**328**		**Pn**	**21 37 56.5**	**+1.2**
PTPK	**Patty Peak**	**6.52**	**35**		**Pn**	**21 37 57.0**	**+1.2**
N15K	**Kwethluk River**	**6.62**	**312**		**Pn**	**21 37 58.9**	**+2.0**
BARN	**Barnard Glacie**	**6.70**	**39**		**Pn**	**21 37 58.9**	**+0.6**
M16K	**Timber Creek**	**6.72**	**321**	P	**Pn**	**21 37 59.6**	**+1.4**
	baz=134						
LOGN	**Logan Glacier**	**6.78**	**42**		**Pn**	**21 37 59.8**	**+0.5**
BCPM	**Bancas Point**	**6.83**	**51**	Pn	**Pn**	**21 38 01.1**	**+1.2**
O29M	**Mount Kennedy**	**7.47**	**51**		**Pn**	**21 38 09.3**	**+0.7**
O29M	**Mount Kennedy**	**7.47**	**51**	P	**Pn**	**21 38 09.8**	**+1.1**
	baz=240						
YUK2	**White River**	**7.49**	**37**		**Pn**	**21 38 10.0**	**+1.0**
K20K	**Telida**	**7.53**	**347**	Pn	**Pn**	**21 38 10.0**	**+0.5**
P29M	**Windy Craggy**	**7.55**	**57**		**Pn**	**21 38 10.7**	**+0.9**
M14K	**Bethel**	**7.71**	**312**	Pn	**Pn**	**21 38 13.4**	**+1.6**
S31K	**Pelican**	**7.88**	**70**	Pn	**Pn**	**21 38 13.5**	**-0.6**
RIDG	**Independent Ri**	**8.13**	**17**	Pn	**Pn**	**21 38 18.6**	**+0.9**
M13K	**Dall Lake**	**8.15**	**307**	Pn	**Pn**	**21 38 19.3**	**+1.5**
BCAR	**Beaver Creek A**	**8.20**	**28**	Pn	**Pn**	**21 38 19.7**	**+1.1**
L14K	**Kuka Creek**	**8.33**	**314**	Pn	**Pn**	**21 38 21.8**	**+1.4**
N30M	**Aishikik Lake**	**8.69**	**46**	Pn	**Pn**	**21 38 26.3**	**+1.0**
S32K	**Killisnoo**	**8.72**	**74**	Pn	**Pn**	**21 38 26.8**	**+1.2**
J25K	**Salcha River,**	**8.88**	**14**	Pn	**Pn**	**21 38 28.7**	**+0.8**
WHY	**Whitehorse**	**9.27**	**54**	Pn	**Pn**	**21 38 33.9**	**+0.5**
DAWY	**Dawson**	**9.64**	**30**	Pn	**Pn**	**21 38 39.6**	**+1.2**
IMAR	**Indian Mountai**	**10.06**	**352**	Pn	**Pn**	**21 38 44.9**	**+0.8**
G24K	**Hadweenzic Riv**	**10.72**	**6**	Pn	**Pn**	**21 38 54.6**	**+1.5**
R33M	**Jennings River**	**10.81**	**64**	Pn	**Pn**	**21 38 54.3**	**-0.2**
BMAR	**Burnt Mountain**	**11.68**	**11**	Pn	**Pn**	**21 39 07.2**	**+1.0**
C16K	**Lisburne Hills**	**14.04**	**336**	Pn	**Pn**	**21 39 40.2**	**+1.9**
INK	**Inuvik**	**14.44**	**25**	Pn	**Pn**	**21 39 44.0**	**+0.2**
A36M	**Sachs Harbour**	**19.07**	**24**	P	**P**	**21 40 41.3**	**-0.5**
A36M				IAmb	IAmb	21 40 59.6	
	comp=Z,3.8nm,0.8s						
YKA	**Yellowknife Ar**	**19.09**	**56**	P	**P**	**21 40 40.6**	**-1.6**
MK31	**Makanchi Array**	**68.43**	**324**	P	**P**	**21 47 21.4**	**+0.1**
MK31				IAmb	IAmb	21 47 38.9	
	comp=Z,1.4nm,1.1s						
MKAR	**Makanchi Array**	**68.43**	**324**	P	**P**	**21 47 21.8**	**+0.4**

*SOME **23** 21:47:35.3, 40˚.40N×77˚.20E, h15km*

*KRNET **23** 21:47:37.8±0.1, 40˚.53N×77˚.10E, h19km, mb3.1*
*NNC **23** 21:47:38.9±1.3, 40˚.56N×77˚.22E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=9.0km s-min=6.7km az=162.0*
ISC 23 21:47:37.2±1.6, 40˚.48N±0˚.07×77˚.13E±0˚.03, h10km, n79, σ1ᵖ72/117, 21C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.28**	**318**	⇑*eP*	**Pn**	**21 48 00.6**	**-0.8**
	baz=16						
NRN				⇑*iS*	**Sb**	**21 48 17.4**	**-0.8**
	baz=16						
KDJ	**Kajisay**	**1.65**	**1**	⇑*iP*	**Pb**	**21 48 07.0**	**-0.7**
	baz=2.0						
KDJ				⇑*iS*	**Sb**	**21 48 28.4**	**-0.2**
	baz=2.0						
ULHL	**Ulahol**	**1.89**	**339**	P	**Pb**	**21 48 12.0**	**+0.1**
	SNR=41						
ULHL	**Ulahol**	**1.89**	**339**	⇑*eP*	**Pb**	**21 48 11.2**	**-0.6**
	baz=40						
ULHL				⇑*eS*	**Sb**	**21 48 35.5**	**0.0**
	baz=40						
PRZ	**Przheval'sk**	**2.21**	**25**	⇓*eP*	**Pb**	**21 48 16.3**	**-1.1**
	baz=26						
PRZ				⇓*eS*	**Sb**	**21 48 44.2**	**-0.7**
	baz=26						
ANVS	**Anan'yevo**	**2.33**	**10**	⇑*eP*	**Pb**	**21 48 17.6**	**-1.8**
	baz=10.0						
ANVS				⇑*eS*	**Sb**	**21 48 46.5**	**-1.9**
	baz=10.0						
ARLS	**Aral**	**2.53**	**304**	⇑*eP*	**Pn**	**21 48 20.1**	**+1.6**
	baz=3.0						
ARLS				⇑*eS*	**Sn**	**21 48 50.9**	**+1.5**
	baz=3.0						
TNSS	**Tian-Shan**	**2.56**	**357**	Pg	**Pb**	**21 48 24.3**	**+1.0**
	8.4nm,0.2s						
TNSS				Lg	Lg	21 48 59.9	
	26nm,0.3s						
TNSS	**Tian-Shan**	**2.56**	**357**	*eP*	**Pb**	**21 48 24.4**	**+1.0**
	8.4nm,0.2s						
TNSS				*eS*	**Sg**	**21 48 59.9**	**+0.5**
	26nm,0.3s						
UCH	**Uchtor**	**2.63**	**312**	P	**Pb**	**21 48 23.7**	**-1.0**
	SNR=9.9						
UCH	**Uchtor**	**2.63**	**312**	⇓*eP*	**Pn**	**21 48 21.7**	**+1.6**
	baz=12						
UCH				⇓*eS*	**Sn**	**21 48 53.8**	**+1.4**
	baz=12						
MDOK	**Medeo**	**2.68**	**359**	Pn	**Pb**	**21 48 26.1**	**+0.7**
	20nm,0.8s						
MDOK				Pg	**Pb**	**21 48 26.2**	**+0.9**
	9.3nm,0.4s						
MDOK				Lg	Lg	21 49 03.0	
	106nm,0.8s						
MDOK				Lg	Lg	21 49 03.2	
	69nm,0.4s						
MDOK	**Medeo**	**2.68**	**359**	*eP*	**Pb**	**21 48 26.2**	**+0.9**
	9.3nm,0.4s						
MDOK				*eS*	**Sg**	**21 49 03.2**	**-0.1**
	69nm,0.4s						
TKM2	**Tokmak 2**	**2.69**	**335**	P	**Pb**	**21 48 24.8**	**-0.8**
	SNR=9.2						
TKM2	**Tokmak 2**	**2.69**	**335**	⇑Pn	**Pb**	**21 48 24.4**	**-1.2**
	3.2nm,0.4s						
TKM2				⇓Lg	Lg	21 49 04.0	
	9.6nm,0.3s						
TKM2	**Tokmak 2**	**2.69**	**335**	⇓*eP*	**Pn**	**21 48 22.5**	**+1.7**
	baz=35						
TKM2				⇓*eS*	**Sn**	**21 48 54.9**	**+1.3**
	baz=35						
MTBS	**Maitube**	**2.70**	**349**	Pg	**Pb**	**21 48 26.3**	**+0.7**
	6.4nm,0.2s						
MTBS				Lg	Lg	21 49 02.8	
	35nm,0.4s						
MTBS	**Maitube**	**2.70**	**349**	*eP*	**Pb**	**21 48 26.3**	**+0.7**
	6.4nm,0.2s						
MTBS				*eS*	**Sg**	**21 49 02.8**	**-1.0**
	35nm,0.4s						
KST	**Kastek**	**2.70**	**341**	Pg	**Pb**	**21 48 26.5**	**+0.8**
	4.5nm,0.4s						
KST				Lg	Lg	21 49 03.1	
	28nm,0.3s						
KST	**Kastek**	**2.70**	**341**	*eP*	**Pb**	**21 48 26.5**	**+0.8**
	4.5nm,0.4s						
KST				*eS*	**Sg**	**21 49 03.1**	**-0.9**
	28nm,0.3s						
KBK	**Karagaybulak**	**2.72**	**324**	P	**Pb**	**21 48 25.3**	**-0.8**
	SNR=9.1						
KBK	**Karagaybulak**	**2.72**	**324**	⇑*eP*	**Pn**	**21 48 22.7**	**+1.6**
	baz=23						
KBK				⇑*eS*	**Sn**	**21 48 55.6**	**+1.4**
	baz=23						
AAA	**Alma-Ata**	**2.73**	**357**	Pg	**Pg**	**21 48 27.8**	**-1.6**
	16nm,0.2s						
AAA				Lg	Lg	21 49 05.6	
	88nm,0.5s						
AAA	**Alma-Ata**	**2.73**	**357**	*eP*	**Pg**	**21 48 27.8**	**-1.6**
	16nm,0.2s						
AAA				*eS*	**Sg**	**21 49 05.6**	**+0.8**
	88nm,0.5s						
KNDC	**Almaty**	**2.73**	**357**	⇓Pn	**Pg**	**21 48 28.2**	**-1.4**
	26nm,0.5s						
KNDC				⇓Lg	Lg	21 49 05.6	
	80nm,0.7s						
SATY	**Saty**	**2.74**	**20**	Pg	**Pb**	**21 48 26.7**	**+0.3**
	4.8nm,0.4s						
SATY				Lg	Lg	21 49 03.8	
	36nm,0.3s						
SATY	**Saty**	**2.74**	**20**	*eP*	**Pb**	**21 48 26.7**	**+0.3**
	4.8nm,0.4s						
SATY				*eS*	**Sg**	**21 49 03.8**	**-1.6**
	36nm,0.3s						
KOTS	**Kotyrbulak**	**2.75**	**360**	Pg	**Pb**	**21 48 27.7**	**+1.2**
	12nm,0.4s						
KOTS				Lg	Lg	21 49 05.5	
	68nm,0.2s						
KOTS	**Kotyrbulak**	**2.75**	**360**	*eP*	**Pb**	**21 48 27.7**	**+1.2**
	12nm,0.4s						
KOTS				*eS*	**Sg**	**21 49 05.5**	**0.0**
	68nm,0.2s						
ZHN	**Zhinishke**	**2.85**	**19**	Pg	**Pb**	**21 48 28.4**	**+0.1**
	5.1nm,0.2s						
ZHN				Lg	Lg	21 49 06.6	
	49nm,0.2s						
ZHN	**Zhinishke**	**2.85**	**19**	*eP*	**Pb**	**21 48 28.4**	**+0.1**
	5.1nm,0.2s						
ZHN				*eS*	**Sg**	**21 49 06.6**	**-2.2**
	49nm,0.2s						
AAK	**Ala-Archa**	**2.92**	**318**	P	**Pb**	**21 48 27.9**	**-1.6**
	SNR=9.8						
AAK	**Ala-Archa**	**2.92**	**318**	⇑*eP*	**Pn**	**21 48 25.4**	**+1.5**
	baz=18						
AAK				⇑*eS*	**Sn**	**21 49 00.5**	**+1.3**
	baz=18						
DGS	**Degeres**	**2.94**	**340**	Pg	**Pb**	**21 48 30.6**	**+0.9**
	9.9nm,0.4s						
DGS				Lg	Lg	21 49 10.7	
	40nm,0.5s						
DGS	**Degeres**	**2.94**	**340**	*eP*	**Pb**	**21 48 30.6**	**+0.9**
	9.9nm,0.4s						
DGS				*eS*	**Sg**	**21 49 10.7**	**-0.9**
	40nm,0.5s						
UZB	**Uzunbulak**	**3.01**	**27**	Pg	**Pb**	**21 48 31.5**	**+0.5**
	5.6nm,0.3s						
UZB				Lg	Lg	21 49 11.9	
	24nm,0.3s						
UZB	**Uzunbulak**	**3.01**	**27**	*eP*	**Pb**	**21 48 31.5**	**+0.5**
	5.6nm,0.3s						
UZB				*eS*	**Sg**	**21 49 11.9**	**-2.1**
	24nm,0.3s						
AML	**Almayashu**	**3.07**	**304**	P	**Pb**	**21 48 30.3**	**-1.9**
	SNR=7.2						
AML	**Almayashu**	**3.07**	**304**	⇓Pn	**Pb**	**21 48 29.5**	**-2.6**
	0.4nm,0.5s						
AML				⇑Lg	Lg	21 49 14.9	
	6.0nm,0.9s						
AML	**Almayashu**	**3.07**	**304**	⇑*eP*	**Pn**	**21 48 27.7**	**+1.6**
	baz=3.0						
AML				⇑*eS*	**Sn**	**21 49 04.4**	**+1.3**
	baz=3.0						
CHMS	**Chumysh**	**3.08**	**325**	P	**Pb**	**21 48 29.8**	**-2.3**
	SNR=7.5						
CHMS	**Chumysh**	**3.08**	**325**	⇑Pn	**Pb**	**21 48 29.3**	**-2.8**
	6.2nm,0.6s						
CHMS	

KURS					Lg	Lg	21 49 15.1	
	28nm,0.7s							
KURS	**Kuram**	**3.10**	**14**	*eP*	**Pb**	**21 48 33.3**	**+0.8**	
	9.6nm,0.5s							
KURS				*eS*	**Sg**	**21 49 15.1**	**-1.7**	
	28nm,0.4s							
SHLS	**Shalkode**	**3.19**	**32**	Pg	**Pg**	**21 48 38.1**	**-0.1**	
	9.4nm,0.4s							
SHLS				Lg	Lg	21 49 23.7		
	50nm,0.7s							
SHLS	**Shalkode**	**3.19**	**32**	*eP*	**Pg**	**21 48 38.1**	**-0.1**	
	9.4nm,0.4s							
SHLS				*eS*	**Sg**	**21 49 23.7**	**+4.2**	
	50nm,0.7s							
KPKS	**Kokpek**	**3.20**	**21**	Pg	**Pb**	**21 48 34.7**	**+0.6**	
	3.9nm,0.4s							
KPKS				Lg	Lg	21 49 17.3		
	50nm,0.5s							
KPKS	**Kokpek**	**3.20**	**21**	*eP*	**Pb**	**21 48 34.7**	**+0.6**	
	3.9nm,0.4s							
KPKS				*eS*	**Sg**	**21 49 17.3**	**-2.6**	
	50nm,0.3s							
KTBS	**Karatobe**	**3.24**	**354**	Pg	**Pb**	**21 48 36.1**	**+1.2**	
	6.4nm,0.5s							
KTBS				Lg	Lg	21 49 20.3		
	64nm,0.5s							
KTBS	**Karatobe**	**3.24**	**354**	*eP*	**Pb**	**21 48 36.1**	**+1.2**	
	6.4nm,0.5s							
KTBS				*eS*	**Sg**	**21 49 20.3**	**-1.1**	
	64nm,0.5s							
EKS2	**Erkin-Say**	**3.33**	**312**	P	**Pb**	**21 48 33.7**	**-2.6**	
	SNR=7.5							
EKS2	**Erkin-Say**	**3.33**	**312**	⇓*eP*	**Pn**	**21 48 31.2**	**+1.8**	
	baz=12							
EKS2				⇓*eS*	**Sn**	**21 49 10.4**	**+1.3**	
	baz=12							
PDGK	**Podgornoye**	**3.34**	**31**	Pg	**Pb**	**21 48 37.2**	**+0.6**	
	3.0nm,0.4s							
PDGK				Lg	Lg	21 49 22.3		
	20nm,0.7s							
CHKK	**Chushkaly**	**3.37**	**358**	Pg	**Pb**	**21 48 38.6**	**+1.5**	
	5.8nm,0.3s							
CHKK				Lg	Lg	21 49 24.0		
	58nm,0.3s							
CHKK	**Chushkaly**	**3.37**	**358**	*eP*	**Pb**	**21 48 38.6**	**+1.5**	
	5.8nm,0.3s							
CHKK				*eS*	**Sg**	**21 49 24.0**	**-1.4**	
	58nm,0.1s							
KRBS	**Karabastau**	**3.39**	**342**	Pg	**Pb**	**21 48 38.7**	**+1.3**	
	2.1nm,0.2s							
KRBS				Lg	Lg	21 49 24.4		
	20nm,0.5s							
KRBS	**Karabastau**	**3.39**	**342**	*eP*	**Pb**	**21 48 38.7**	**+1.3**	
	2.1nm,0.2s							
KRBS				*eS*	**Sg**	**21 49 24.4**	**-1.6**	
	20nm,0.3s							
USP	**Ospenovka**	**3.41**	**326**	P	**Pb**	**21 48 39.9**	**+2.3**	
	SNR=6.3							
USP	**Ospenovka**	**3.41**	**326**	⇓*eP*	**Pn**	**21 48 32.1**	**+1.7**	
	baz=25							
USP				⇓*eS*	**Sn**	**21 49 11.9**	**+1.0**	
	baz=25							
KUU	**Kurty**	**3.46**	**350**	Pg	**Pb**	**21 48 39.3**	**+0.7**	
	5.7nm,0.6s							
KUU				Lg	Lg	21 49 25.7		
	39nm,0.8s							
KUU	**Kurty**	**3.46**	**350**	*eP*	**Pb**	**21 48 39.3**	**+0.7**	
	5.7nm,0.6s							
KUU				*eS*	**Sg**	**21 49 25.7**	**-2.6**	
	39nm,0.8s							
SGDS	**Sogindy**	**3.50**	**329**	Pg	**Pb**	**21 48 41.5**	**+2.1**	
	2.6nm,0.4s							
SGDS				Lg	Lg	21 49 28.4		
	9.0nm,0.4s							
MRKS	**Merke**	**3.70**	**309**	Pg	**Pb**	**21 48 43.2**	**+0.5**	
	1.9nm,0.4s							
MRKS				Lg	Lg	21 49 32.7		
	6.8nm,0.6s							
MRKS	**Merke**	**3.70**	**309**	*eP*	**Pb**	**21 48 44.4**	**+1.7**	
	2.7nm,0.5s							
MRKS				*eS*	**Sg**	**21 49 34.5**	**-1.5**	
	8.8nm,0.4s							
BLB	**Baldybastay**	**3.75**	**15**	Pg	**Pb**	**21 48 45.2**	**+1.7**	
	5.4nm,0.3s							
BLB				Lg	Lg	21 49 34.8		
	17nm,0.3s							
ARXS	**Arharly**	**3.76**	**8**	Pg	**Pb**	**21 48 44.5**	**+0.8**	
	2.3nm,0.1s							
ARXS				Lg	Lg	21 49 34.7		
	36nm,0.3s							
ARXS	**Arharly**	**3.76**	**8**	*eP*	**Pb**	**21 48 44.5**	**+0.8**	
	2.3nm,0.1s							
ARXS				*eS*	**Sg**	**21 49 34.7**	**-3.3**	
	36nm,0.3s							
KTMS	**Ketmen**	**3.81**	**38**	Pg	**Pb**	**21 48 45.1**	**+0.5**	
	0.9nm,0.2s							
KTMS				Lg	Lg	21 49 35.2		
	8.5nm,0.6s							
KTMS	**Ketmen**	**3.81**	**38**	*eP*	**Pb**	**21 48 45.1**	**+0.5**	
	0.9nm,0.2s							
KTMS				*eS*	**Sg**	**21 49 35.2**	**-4.3**	
	8.5nm,0.6s							
KNOS	**Konyrlen**	**4.16**	**21**	Pg	**Pb**	**21 48 51.2**	**+0.7**	
	2.7nm,0.6s							
KNOS				Lg	Lg	21 49 46.0		
	4.2nm,0.5s							
DJR	**Jarkent**	**4.32**	**26**	Pg	**Pb**	**21 48 54.7**	**+1.4**	
	2.1nm,0.2s							
DJR				Lg	Lg	21 49 51.3		
	20nm,0.4s							
DJR	**Jarkent**	**4.32**	**26**	*eP*	**Pb**	**21 48 54.7**	**+1.4**	
	2.1nm,0.2s							
DJR				*eS*	**Sg**	**21 49 51.3**	**-4.5**	
	20nm,0.4s							
TDK	**Taldyqorghan**	**4.61**	**11**	Pg	**Pb**	**21 49 01.1**	**+3.0**	
	3.2nm,0.1s							
TDK				Lg	Lg	21 50 01.9		
	26nm,0.5s							
TDK	**Taldyqorghan**	**4.61**	**11**	*eP*	**Pb**	**21 49 01.1**	**+3.0**	
	3.2nm,0.1s							
TDK				*eS*	**Sg**	**21 50 01.9**	**-3.3**	
	26nm,0.5s							
KAPS	**Kapalarasan**	**5.07**	**18**	Pg	**Pb**	**21 49 06.6**	**+0.6**	
	1.4nm,0.5s							
KAPS				Lg	Lg	21 50 12.6		
	4.8nm,0.8s							
KAPS	**Kapalarasan**	**5.07**	**18**	*eP*	**Pb**	**21 49 08.5**	**+2.6**	
	1.0nm,0.3s							
KAPS				*eS*	**Sg**	**21 50 15.1**	**-4.8**	
	4.4nm,0.2s							
BTLS	**Baital**	**5.09**	**335**	Pg	**Pb**	**21 49 10.1**	**+3.8**	
	1.1nm,0.3s							
BTLS				Lg	Lg	21 50 18.0		
	3.9nm,0.6s							
BTLS	**Baital**	**5.09**	**335**	*eP*	**Pb**	**21 49 10.1**	**+3.8**	
	1.1nm,0.2s							
BTLS				*eS*	**Sg**	**21 50 18.0**	**-2.5**	
	3.9nm,0.6s							
KK31	**Karatay Array**	**5.60**	**300**	Pg	**Pg**	**21 49 24.1**	**-0.3**	
	0.6nm,0.5s,baz=128,slow=16,SNR=5.2							
KK31				⇑Lg	Lg	21 50 34.2		
	0.9nm,0.4s,baz=127,slow=27,SNR=4.1							

NEIC ***23*** *21:51:04.3±1.2,56°.2N±0°.1×149°.5W±0°.1, h23km±10km, ML3.5/38, ML3.3(AEIC), Error ellipse: s-maj=16.2km s-min=8.8km az=179.0*

AEIC ***23*** *21:51:07.3±1.6, 56°.15N±0°.06×149°.5W±0°.1, h12km±4km, Error ellipse: s-maj=9.2km s-min=9.0km az=185.0*

ISC 23 21:51:02.5±2.1,56°.2N±0°.1×149°.52W±0°.06,h10km,n77, σ0§98/85,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.30**	**315**		**Pn**	**21 51 41.0**	**+0.6**
KDAK				Sn	**Sn**	**21 52 07.7**	**-1.0**
OHAK	**Old Harbor**	**2.31**	**298**		**Pn**	**21 51 40.6**	**+0.1**
OHAK					**Sn**	**21 52 07.0**	**-1.9**
OHAK	**Old Harbor**	**2.31**	**298**	P	**Pn**	**21 51 40.6**	**+0.1**
	baz=115						
OHAK				S	**Sn**	**21 52 07.2**	**-1.7**
	baz=115						
SYI	**Shuyak Island**	**2.86**	**328**		**Pn**	**21 51 48.8**	**+0.7**
SYI				IAML		21 52 24.3	
	comp=E,54nm,0.5s						
Q20K	**Shuyak Island**	**2.86**	**328**	P	**Pn**	**21 51 49.0**	**+0.9**
	baz=146						
R18K	**Karluk**	**3.03**	**299**		**Pn**	**21 51 50.9**	**+0.5**
R18K					**Sn**	**21 52 26.0**	**-0.6**
R18K				IAML		21 52 26.3	
	comp=N,113nm,0.5s						
R18K				IAML		21 52 27.3	
	comp=E,99nm,0.3s						
R18K	**Karluk**	**3.03**	**299**	P	**Pn**	**21 51 51.2**	**+0.8**
	baz=115						
R18K				S	**Sn**	**21 52 25.7**	**-0.9**
	baz=115						
CNPM	**China Poot**	**3.45**	**345**		**Pn**	**21 51 56.5**	**+0.3**
CNPM					**Sn**	**21 52 36.8**	**-0.3**
CNPM				IAML		21 52 38.6	
	comp=N,71nm,0.5s						
CNPM				IAML		21 54 07.8	
	comp=E,51nm,1.1s						
Q19K	**Cape Douglas,**	**3.52**	**323**		**Pn**	**21 51 58.3**	**+1.2**
Q19K				IAML		21 54 24.2	
	comp=N,158nm,1.3s						
Q19K	**Cape Douglas,**	**3.52**	**323**	P	**Pn**	**21 51 58.9**	**+1.8**
	baz=139						
BRSE	**Bradley Lake S**	**3.60**	**350**		**Pn**	**21 51 58.4**	**+0.2**
BRSE					**Sn**	**21 52 39.5**	**-1.4**
BRSE	**Bradley Lake S**	**3.60**	**350**	P	**Pn**	**21 51 58.4**	**+0.2**
	baz=169						
BRSE				S	**Sn**	**21 52 39.5**	**-1.4**
	baz=169						
BRLK	**Bradley Lake**	**3.64**	**349**		**Pn**	**21 51 59.0**	**+0.2**
BRLK				IAML		21 52 40.9	
	comp=N,37nm,1.5s						
BRLK				IAML		21 52 44.0	
	comp=E,41nm,1.2s						
Q23K	**Middleton Isla**	**3.65**	**26**		**Pn**	**21 51 58.8**	**0.0**
Q23K	**Middleton Isla**	**3.65**	**26**	P	**Pn**	**21 51 59.1**	**+0.2**
	baz=208						
MID	**Middleton Isla**	**3.65**	**26**		**Pn**	**21 51 58.8**	**-0.1**
MID				IAML		21 52 39.8	
	comp=N,126nm,1.4s						
P23K	**Montague Islan**	**3.96**	**16**		**Pn**	**21 52 03.5**	**+0.3**
P23K	**Montague Islan**	**3.96**	**16**	P	**Pn**	**21 52 03.5**	**+0.3**
	baz=197						
P19K	**Oil Pt**	**3.98**	**332**		**Pn**	**21 52 04.5**	**+1.1**
P19K				IAML		21 54 20.0	
	comp=E,87nm,0.5s						
P19K				IAML		21 54 27.6	
	comp=N,74nm,0.8s						
P19K	**Oil Pt**	**3.98**	**332**	P	**Pn**	**21 52 04.8**	**+1.3**
	baz=148						
CNTC	**Contact Creek**	**4.02**	**303**		**Pn**	**21 52 05.1**	**+1.0**
Q17K	**Contact Creek**	**4.02**	**303**	P	**Pn**	**21 52 05.1**	**+1.0**
	baz=118						
O20K	**Slope Mountain**	**4.21**	**338**		**Pn**	**21 52 07.7**	**+0.9**
O20K	**Slope Mountain**	**4.21**	**338**	P	**Pn**	**21 52 07.7**	**+0.9**
	baz=156						
P18K	**Big Mountain,**	**4.42**	**319**		**Pn**	**21 52 10.1**	**+0.7**
P18K	**Big Mountain,**	**4.42**	**319**	P	**Pn**	**21 52 10.2**	**+0.7**
	baz=134						
HIN	**Hinchinbrook I**	**4.49**	**20**		**Pn**	**21 52 11.1**	**+0.6**
HIN				IAML		21 52 55.0	
	comp=E,50nm,1.5s						
HIN				IAML		21 53 03.4	
	comp=N,59nm,1.2s						
KAIM	**Kayak Island**	**4.61**	**34**		**Pn**	**21 52 12.6**	**+0.6**
KAIM				IAML		21 54 09.8	
	comp=E,58nm,1.4s						
KAIM	**Kayak Island**	**4.61**	**34**	P	**Pn**	**21 52 12.6**	**+0.6**
	baz=217						
O19K	**Port Alsworth**	**4.73**	**330**		**Pn**	**21 52 14.2**	**+0.5**
O19K	**Port Alsworth**	**4.73**	**330**	P	**Pn**	**21 52 14.2**	**+0.5**
	baz=146						
O18K	**Koktuh Hills**	**4.74**	**323**	Pn	**Pn**	**21 52 14.8**	**+0.9**
O18K				IAML		21 54 49.1	
	comp=E,17nm,0.9s						
O18K				IAML		21 54 50.8	
	comp=N,24nm,1.1s						
P17K	**Kvichak River**	**4.77**	**312**	P	**Pn**	**21 52 15.9**	**+1.7**
	baz=126						
EYAK	**Cordova Ski Ar**	**4.78**	**23**		**Pn**	**21 52 15.0**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.78**	**23**	P	**Pn**	**21 52 15.1**	**+0.7**
	baz=205						
FID	**Port Fidalgo**	**4.82**	**18**	Pn	**Pn**	**21 52 15.1**	**+0.1**
RAGM	**Ragged Mountai**	**4.91**	**29**		**Pn**	**21 52 16.8**	**+0.5**
RAGM				IAML		21 54 53.5	
	comp=E,44nm,1.3s						
BERG	**Berg Lake**	**5.20**	**34**		**Pn**	**21 52 20.6**	**+0.5**
BERG				IAML		21 53 20.5	
	comp=N,35nm,1.1s						
BERG				IAML		21 53 21.5	
	comp=E,41nm,1.3s						
N19K	**Bonanza Creek**	**5.30**	**333**	Pn	**Pn**	**21 52 21.8**	**+0.1**
DIV	**Divide**	**5.31**	**20**		**Pn**	**21 52 22.2**	**+0.5**
SNH	**Sunshine Point**	**5.32**	**39**	Pn	**Pn**	**21 52 22.4**	**+0.5**
SNH				IAML		21 54 19.9	
	comp=N,30nm,1.4s						
P16K	**Nushagak River**	**5.36**	**305**		**Pn**	**21 52 23.9**	**+1.5**
P16K	**Nushagak River**	**5.36**	**305**	P	**Pn**	**21 52 23.9**	**+1.5**
	baz=118						
BMRM	**Bremner River**	**5.42**	**26**		**Pn**	**21 52 23.9**	**+0.7**
BMRM	**Bremner River**	**5.42**	**26**	P	**Pn**	**21 52 24.2**	**+0.9**
	baz=210						
N18K	**Kilae Creek**	**5.59**	**326**		**Pn**	**21 52 25.8**	**+0.2**
N18K	**Kilae Creek**	**5.59**	**326**	P	**Pn**	**21 52 26.1**	**+0.5**
	baz=140						
KLU	**Klutina**	**5.62**	**18**	Pn	**Pn**	**21 52 26.9**	**+0.9**
O16K	**Kokwok River B**	**5.69**	**310**		**Pn**	**21 52 28.0**	**+1.1**
O16K	**Kokwok River B**	**5.69**	**310**	P	**Pn**	**21 52 28.3**	**+1.4**
	baz=123						
N17K	**Nushagak Hills**	**5.91**	**320**	Pn	**Pn**	**21 52 30.6**	**+0.6**
N25K	**Chitina, Valde**	**5.98**	**23**	Pn	**Pn**	**21 52 32.1**	**+1.1**
GLB	**Gilahina Butte**	**6.03**	**27**	Pn	**Pn**	**21 52 32.6**	**+1.1**
M24K	**Tolsona, Glenn**	**6.16**	**15**	Pn	**Pn**	**21 52 35.4**	**+2.0**
BARN	**Barnard Glacie**	**6.36**	**37**		**Pn**	**21 52 37.1**	**+0.8**
CTGM	**Chitina Glacie**	**6.40**	**39**	Pn	**Pn**	**21 52 37.3**	**+0.4**
PNL	**Peninsula**	**6.41**	**53**		**Pn**	**21 52 37.5**	**+0.7**
PNL	**Peninsula**	**6.41**	**53**	P	**Pn**	**21 52 37.5**	**+0.7**
	baz=241						
N15K	**Kwethluk River**	**6.85**	**310**	Pn	**Pn**	**21 52 44.9**	**+2.1**
O29M	**Mount Kennedy**	**7.08**	**50**	Pn	**Pn**	**21 52 47.1**	**+1.0**
P29M	**Windy Craggy**	**7.15**	**56**		**Pn**	**21 52 46.8**	**-0.2**
P29M	**Windy Craggy**	**7.15**	**56**	P	**Pn**	**21 52 47.2**	**+0.3**
	baz=246						
CAST	**Castle Rocks**	**7.34**	**351**	Pn	**Pn**	**21 52 51.9**	**+2.2**
YUK7	**Dusty Glacier**	**7.38**	**49**		**Pn**	**21 52 51.8**	**+1.5**
S31K	**Pelican**	**7.45**	**71**	Pn	**Pn**	**21 52 49.0**	**-2.0**
L16K	**Owhat River**	**7.54**	**321**	Pn	**Pn**	**21 52 53.2**	**+1.0**
K17K	**Iditarod**	**7.90**	**329**	Pn	**Pn**	**21 52 57.2**	**-0.1**
SKAG	**Skagway**	**8.24**	**61**	Pn	**Pn**	**21 53 02.3**	**+0.4**
N30M	**Aishikik Lake**	**8.31**	**46**	Pn	**Pn**	**21 53 03.8**	**+0.8**
O30N	**Mendenhall**	**8.38**	**51**	Pn	**Pn**	**21 53 05.1**	**+1.2**
R32K	**Eaglecrest**	**8.40**	**70**	Pn	**Pn**	**21 53 03.4**	**-0.6**
M29M	**Somme Creek**	**8.42**	**38**	Pn	**Pn**	**21 53 05.5**	**+1.0**
L14K	**Kuka Creek**	**8.55**	**312**	Pn	**Pn**	**21 53 07.9**	**+1.8**
J26L	**Joseph Creek**	**8.82**	**17**	Pn	**Pn**	**21 53 10.9**	**+1.0**
WHY	**Whitehorse**	**8.87**	**54**	Pn	**Pn**	**21 53 10.9**	**+0.2**
P32M	**Atlin**	**9.07**	**62**	Pn	**Pn**	**21 53 13.3**	**0.0**
P33M	**Teslin, Yukon**	**9.68**	**59**	Pn	**Pn**	**21 53 21.6**	**0.0**

NEIC ***23*** *21:52:30.8±1.1, 62°.49S±0°.08×165°.4E±0°.3, h10km±1km, mb5.1/39, Ms_20 5.0/70, Mww5.4/7, Error ellipse: s-maj=23.0km s-min=13.0km az=77.0*

IDC ***23*** *21:52:30.1±0.7, 62°.54S×165°.17E, h0km, mb4.7/9, mbtmp4.7/11, ML4.9/2, MS4.7/34, Error ellipse: s-maj=36.6km s-min=15.6km az=72.0*

NEIC ***23*** *21:52:30.8, 62°.50S×165°.40E, h12km*

NEIC ***23*** *21:52:30.8, 62°.50S×165°.40E, h12km, Moment Tensor Solution. Duration: 2§7 Moment tensor: Scale 10^17 Nm; Mrr0.23; Mθθ1.34; Mφφ-1.57; Mrθ-0.87; Mrφ-0.41; Mθφ0.43; Fault plane solution: M0 1.80000×10^17 NP1: φs325.55000°, δ77.74000°, λ28.93000°. NP2: φs228.86000°, δ61.79000°, λ166.05000°. Principal axes: T 1.9083, Plg29.0000°, Azm191.0000°; N -0.2266, Plg59.0000°, Azm347.0000°; P -1.6817, Plg11.0000°, Azm95.0000°;*

GCMT ***23*** *21:52:33.8±0.2, 62°.46S±0°.01×165°.71E±0°.04, h20km±1km, MW5.4/108, Moment Tensor Solution. s34,c41; s108,c160; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr-0.43±.09; Mθθ1.79±.06; Mφφ-1.36±.06; Mrθ-0.74±.12; Mrφ-0.35±.05; Mθφ0.06±.14; Best double couple: M0 1.72400×10^17 NP1:φs230.00000°, δ79.00000°, λ167.00000°. NP2:φs323.00000°, δ77.00000°, λ11.00000°.*

Principal axes: T 2.0490, Plg17.0000°, Azm186.0000°; N -0.6500, Plg73.0000°, Azm11.0000°; P -1.4000, Plg1.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 23 21:52:31.1±0.4,62°.48S±0°.06×165°.6E±0°.1,h10km,n181, σ1§30/112,mb5.0/28,MS4.9/69,6C-3D,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**8.71**	**334**	Pn	**Pn**	**21 54 33.0**	**-4.0**
VNDA	**Vanda**	**15.16**	**183**		**Pn**	**21 56 04.2**	**-0.8**
VNDA				IAmb	IAmb	21 56 10.2	
	comp=Z,139nm,1.3s						
VNDA	**Vanda**	**15.16**	**183**	Pn	**Pn**	**21 56 04.2**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=353,slow=14,SNR=97						
VNDA				LR	LR	22 01 02.5	
	comp=Z,7μm,18.1s,baz=14,slow=34 comp=Z,38nm,0.8s						
SBA	**Scott Base**	**15.46**	**179**		**Pn**	**21 56 08.9**	**+0.1**
SYZ	**Scrubby Hill**	**16.10**	**9**	P	**Pn**	**21 56 17.5**	**+0.1**
WHZ	**Wether Hill Ro**	**16.68**	**6**		**Pn**	**21 56 24.1**	**-0.5**
DCZ	**Deep Cove**	**17.07**	**4**		**Pn**	**21 56 29.6**	**0.0**
DCZ				IAmb	IAmb	21 56 38.1	
	comp=Z,128nm,1.1s						
ODZ	**Otahua Downs**	**17.71**	**12**	P	**P**	**21 56 39.1**	**+0.6**
LBZ	**Lake Benmore**	**18.32**	**11**		**Pn**	**21 56 44.7**	**-0.5**
LBZ				IAmb	IAmb	21 56 48.2	
	comp=Z,296nm,1.8s						
RPZ	**Rata Peaks**	**19.07**	**12**	P	**Pn**	**21 56 55.3**	**+1.0**
	comp=Z,6.4nm,0.3s,baz=199,slow=6.8,SNR=18						
RPZ				LR	LR	22 03 09.4	
	comp=Z,5μm,20.3s,baz=220,slow=33 comp=Z,18nm,0.4s						
GVZ	**Greta Valley S**	**20.04**	**16**	P	**P**	**21 57 02.5**	**-1.5**
GVZ				IAmb	IAmb	21 57 07.8	
	comp=Z,140nm,1.2s						
INZ	**Inchbonnie**	**20.09**	**13**	IAMs_20	IAMs_20	22 03 38.8	
	comp=Z,7μm,19.0s						
DSZ	**Denniston Nort**	**21.10**	**13**	IAMs_20	IAMs_20	22 04 36.4	
	comp=Z,4μm,19.0s						
THZ	**Tophouse**	**21.20**	**15**	P	**P**	**21 57 16.2**	**-0.5**
THZ				IAmb	IAmb	21 57 23.6	
	comp=Z,315nm,1.9s						
QRZ	**Quartz Range**	**22.09**	**14**	IAMs_20	IAMs_20	22 05 09.6	
	comp=Z,4μm,19.0s						
BFZ	**Birch Farm**	**22.75**	**21**	IAMs_20	IAMs_20	22 05 21.5	
	comp=Z,4μm,19.0s						
BFZ	**Birch Farm**	**22.75**	**21**	P	**P**	**21 57 34.8**	**+1.5**
CASY	**Casey**	**23.42**	**236**	P	**P**	**21 57 39.6**	**-0.3**
CASY				IAmb	IAmb	21 58 03.6	
	comp=Z,63nm,1.6s						
CORO	**Coronation Par**	**23.74**	**324**	P	**P**	**21 57 45.4**	**+2.2**
AULHS	**Lilydale High**	**23.91**	**324**	P	**P**	**21 57 46.3**	**+1.5**
BKZ	**Black Stump Fm**	**24.27**	**21**	IAMs_20	IAMs_20	22 06 40.7	
	comp=Z,4μm,19.0s						
BKZ	**Black Stump Fm**	**24.27**	**21**	P	**P**	**21 57 50.0**	**+1.7**
RTZ	**Ruatahuna**	**24.89**	**22**	P	**P**	**21 57 53.8**	**-0.2**
RTZ				IAMs_20	IAMs_20	22 06 02.1	
	comp=Z,4μm,20.0s						
URZ	**Urewera**	**25.26**	**22**	LR	LR	22 07 43.1	
	comp=Z,4μm,18.2s,baz=290,slow=36						
TOZ	**Tahuroa Road**	**25.52**	**19**	P	**P**	**21 57 59.6**	**+0.1**
TOZ				IAmb	IAmb	21 58 03.9	
	comp=Z,61nm,1.1s						
TOZ				IAMs_20	IAMs_20	22 08 09.7	
	comp=Z,3μm,19.0s						
MXZ	**Matakaoa Point**	**26.15**	**23**	IAMs_20	IAMs_20	22 06 26.5	
	comp=Z,3μm,21.0s						
KUZ	**Kuaotunu**	**26.52**	**19**	P	**P**	**21 58 09.5**	**+0.9**
QSPA	**South Pole Qui**	**27.61**	**180**	P	**P**	**21 58 17.2**	**-1.2**
QSPA				IAmb	IAmb	21 58 28.4	
	comp=Z,44nm,1.3s						
QSPA	**South Pole Qui**	**27.61**	**180**	IAMs_20	IAMs_20	22 07 54.2	
	comp=Z,3μm,18.0s						
QSPA	**South Pole Qui**	**27.61**	**180**	P	**P**	**21 58 18.5**	**0.0**
	comp=Z,9.1nm,1.0s,baz=11,slow=4.3,SNR=13						
QSPA				LR	LR	22 07 38.1	
	comp=Z,2μm,21.0s,baz=29,slow=33 comp=Z,9.1nm,1.0s						
OUZ	**Omahuta**	**27.75**	**14**	IAMs_20	IAMs_20	22 08 36.4	
	comp=Z,4μm,18.0s						
TOO	**Toolangi**	**27.82**	**324**	P	**P**	**21 58 19.4**	**-0.9**
TOO	**Toolangi**	**27.82**	**324**	P	**P**	**21 58 21.9**	**+1.6**
BRAT	**Ballarat**	**28.27**	**322**	P	**P**	**21 58 25.5**	**+1.2**
YNG	**Young**	**30.21**	**331**	P	**P**	**21 58 43.7**	**+2.2**
CMSA	**Cobar Meteorol**	**33.49**	**328**	P	**P**	**21 59 11.3**	**+1.0**
STKA	**Stephens Creek**	**34.25**	**322**	P	**P**	**21 59 16.9**	**-0.1**
STKA	**Stephens Creek**	**34.25**	**322**	P	**P**	**21 59 18.5**	**+1.5**
STKA	**Stephens Creek**	**34.25**	**322**	P	**P**	**21 59 17.7**	**+0.7**
	comp=Z,7.9nm,0.9s,baz=156,slow=10,SNR=13						
STKA				LR	LR	22 10 57.0	
	comp=Z,1μm,19.0s,baz=155,slow=32 comp=Z,7.9nm,0.9s						
EIDS	**Eidsvold**	**38.34**	**339**	P	**P**	**21 59 51.3**	**-0.7**
EIDS	**Eidsvold**	**38.34**	**339**	P	**P**	**21 59 52.6**	**+0.6**
MAW	**Mawson**	**38.84**	**217**	LR	LR	22 16 00.7	
	comp=Z,3μm,18.4s,baz=124,slow=36						
FORT	**Forrest**	**39.81**	**305**	P	**P**	**22 00 03.2**	**-1.0**
FORT				IAmb	IAmb	22 00 12.0	
	comp=Z,111nm,1.8s						
OOD	**Oodnadatta**	**39.85**	**317**	P	**P**	**22 00 05.1**	**+0.5**
ONTNC	**Ouen Toro**	**40.15**	**1**	P	**P**	**22 00 05.6**	**-1.4**
NOUC	**Port Laguerre**	**40.35**	**1**	P	**P**	**22 00 09.6**	**+0.9**
DZM	**Mont Dzumac**	**40.39**	**1**	P	**P**	**22 00 08.2**	**-0.9**
DZM				IAmb	IAmb	22 00 11.5	
	comp=Z,62nm,1.4s						
DZM	**Mont Dzumac**	**40.39**	**1**	P	**P**	**22 00 10.3**	**+1.2**
DZM	**Mont Dzumac**	**40.39**	**1**	LR	LR	22 15 35.0	
	comp=Z,508nm,18.1s,baz=243,slow=34						
KMBL	**Kambalda**	**41.74**	**297**	P	**P**	**22 00 22.6**	**+2.4**
KOUNC	**Koumac, New Ca**	**41.90**	**358**	P	**P**	**22 00 20.9**	**-0.6**
KOU

PMSA	**Palmer Station**	**47.85**	**154**	LR	LR	22 17 43.6	
	comp=Z,701nm,20.6s,baz=217,slow=32						
COEN	**Coen**	**51.00**	**332**	P	**P**	**22 01 32.2**	**-0.8**
COEN				IAmb	IAmb	22 01 34.4	
	comp=Z,24nm,1.1s						
PSA00	**Pilbara Seismi**	**51.27**	**301**	P	**P**	**22 01 33.3**	**-1.6**
PSA00				IAmb	IAmb	22 01 41.2	
	comp=Z,40nm,1.9s						
HNR	**Honiara**	**53.11**	**353**	LR	LR	22 20 04.0	
	comp=Z,8µm,21.5s,baz=211,slow=31						
KNRA	**Kununurra**	**53.40**	**314**	P	**P**	**22 01 49.9**	**-0.9**
KNRA	**Kununurra**	**53.40**	**314**	P	**P**	**22 01 51.1**	**+0.3**
PPT	**Papeete**	**54.57**	**56**	LR	LR	22 20 44.4	
	comp=Z,513nm,18.4s,baz=201,slow=31						
PMG	**Port Moresby**	**54.64**	**338**	P	**P**	**22 01 59.7**	**-0.1**
PMG				IAMs_20	IAMs_20	22 19 30.9	
	comp=Z,1µm,22.0s						
PMG	**Port Moresby**	**54.64**	**338**	P	**P**	**22 02 00.4**	**+0.6**
	comp=Z,35nm,1.0s,baz=137,slow=4.3,SNR=13						
PMG				LR	LR	22 21 39.7	
	comp=Z,746nm,20.1s,baz=169,slow=32						
	comp=Z,35nm,1.0s						
MTN	**Manton Dam**	**55.29**	**318**	P	**P**	**22 02 03.4**	**-1.2**
RPN	**Rapa Nui**	**64.10**	**99**	LR	LR	22 23 27.2	
	comp=Z,647nm,18.8s,baz=244,slow=29						
NLAI	**Namlea**	**65.61**	**317**	P	**P**	**22 03 15.4**	**+0.3**
	comp=Z,27nm,1.4s						
KAPI	**Kappang**	**66.45**	**309**	LR	LR	22 31 46.0	
	comp=Z,330nm,18.9s,baz=152,slow=36						
PLCA	**Paso Flores**	**67.75**	**137**	P	**P**	**22 03 28.8**	**+0.2**
PLCA	**Paso Flores**	**67.75**	**137**	P	**P**	**22 03 28.8**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=229,slow=4.5,SNR=5.6						
	comp=Z,4.1nm,0.9s						
LBMI	**Labuha**	**67.94**	**318**	P	**P**	**22 03 33.7**	**+3.8**
GO06	**Curarrehue**	**68.50**	**136**	P	**P**	**22 03 32.4**	**-1.0**
LEM	**Lembang**	**69.54**	**296**	LR	LR	22 29 17.9	
	comp=Z,387nm,20.9s,baz=230,slow=32						
H03S2	**Juan Fernandez**	**71.08**	**127**	T	T	23 22 00.2	
	baz=204,slow=74,SNR=252						
H03S1	**Juan Fernandez**	**71.09**	**127**	T	T	23 22 01.5	
	baz=204,slow=74,SNR=335						
H03S3	**Juan Fernandez**	**71.10**	**127**	T	T	23 22 01.0	
	baz=204,slow=74,SNR=210						
MPSI	**Mapaga**	**71.36**	**311**	P	**P**	**22 03 51.9**	**+0.9**
	comp=Z,13nm,1.2s						
H03N3	**Juan Fernandez**	**71.43**	**127**	T	T	23 23 04.9	
	baz=198,slow=74						
H03N2	**Juan Fernandez**	**71.44**	**127**	T	T	23 22 28.5	
	baz=198						
H03N1	**Juan Fernandez**	**71.44**	**127**	T	T	23 23 04.0	
	baz=198,slow=74						
BO02	**Sierra Bellavi**	**73.08**	**134**	P	**P**	**22 04 01.7**	**+0.4**
BO02				IAmb	IAmb	22 04 04.3	
	comp=Z,24nm,1.0s						
BO01	**Tunca**	**73.34**	**134**	P	**P**	**22 04 02.2**	**-0.5**
BO04	**La Punta**	**73.87**	**134**	P	**P**	**22 04 05.7**	**-0.2**
BO04				IAmb	IAmb	22 04 24.0	
	comp=Z,20nm,1.1s						
MT13	**San Alfonso**	**74.20**	**134**	P	**P**	**22 04 07.6**	**-0.4**
MT13				IAmb	IAmb	22 04 22.8	
	comp=Z,43nm,1.4s						
PMBI	**Palembang**	**74.25**	**295**	IAMs_20	IAMs_20	22 31 25.7	
	comp=Z,541nm,20.0s						
MT02	**Curacav**	**74.36**	**133**	P	**P**	**22 04 08.0**	**-0.7**
DAV	**Davao City (W)**	**75.81**	**319**	LR	LR	22 35 33.7	
	comp=Z,156nm,21.5s,baz=130,slow=34						
KSM	**Kuching**	**75.98**	**302**	P	**P**	**22 04 17.5**	**-0.7**
SBUM	**Sibu**	**76.14**	**304**	P	**P**	**22 04 18.8**	**-0.2**
SBUM	**Sibu**	**76.14**	**304**	P	**P**	**22 04 22.1**	**+3.1**
CO03	**El Pedregal**	**76.72**	**133**	P	**P**	**22 04 22.2**	**-0.2**
CO03				IAmb	IAmb	22 04 25.1	
	comp=Z,13nm,0.9s						
GUMO	**Guam**	**77.53**	**339**	LR	LR	22 38 48.2	
	comp=Z,74nm,18.0s,baz=160,slow=36						
SUR	**Sutherland**	**81.31**	**210**	LR	LR	22 39 32.3	
	comp=Z,726nm,18.9s,baz=163,slow=35						
KULM	**Kulim**	**83.39**	**295**	IAMs_20	IAMs_20	22 35 10.5	
	comp=Z,505nm,21.0s						
BOSA	**Boshof**	**83.82**	**214**	P	**P**	**22 05 00.8**	**+0.2**
BOSA				IAmb	IAmb	22 05 17.3	
	comp=Z,33nm,1.6s						
BOSA	**Boshof**	**83.82**	**214**	P	**P**	**22 05 02.0**	**+1.3**
	comp=Z,7.3nm,1.2s,baz=149,slow=5.9,SNR=2.8						
BOSA				LR	LR	22 39 45.2	
	comp=Z,576nm,19.7s,baz=164,slow=34						
	comp=Z,7.3nm,1.2s						
TGY	**Tagaytay City**	**83.89**	**317**	LR	LR	22 41 21.9	
	comp=Z,171nm,21.4s,baz=124,slow=35						
H08S2	**Diego Garcia H**	**84.69**	**264**	T	T	23 38 57.9	
	baz=151,slow=76,SNR=309						
H08S1	**Diego Carcia H**	**84.70**	**264**	T	T	23 39 01.1	
	baz=151,slow=76,SNR=51						
H08S3	**Diego Garcia H**	**84.71**	**264**	T	T	23 38 59.4	
	baz=151,slow=76,SNR=415						
LVC	**Limon Verde**	**84.90**	**131**	LR	LR	22 35 13.9	
	comp=Z,274nm,20.0s,baz=205,slow=30						
CPUP	**Villa Florida**	**85.12**	**142**	LR	LR	22 39 29.9	
	comp=Z,304nm,19.6s,baz=196,slow=33						
LBTB	**Lobatse**	**94.01**	**276**	LR	LR	22 40 32.6	
	comp=Z,629nm,21.1s,baz=163,slow=33						
PB11	**IPOC Station P**	**87.25**	**129**	P	**P**	**22 05 18.7**	**+0.7**
PB11				IAmb	IAmb	22 05 21.1	
	comp=Z,19nm,1.1s						
LPAZ	**La Paz**	**91.00**	**129**	P	**P**	**22 05 36.1**	**0.0**
NNA	**Nana**	**91.60**	**120**	LR	LR	22 37 24.3	
	comp=Z,409nm,20.9s,baz=202,slow=29						
QIZ	**Qiongzhong**	**92.26**	**309**	P	**P**	**22 05 41.4**	**+0.4**
QIZ	**Qiongzhong**	**92.26**	**309**	S	**S**	**22 16 44.1**	**+0.4**
QIZ				LR	LR		
	comp=N,260nm,20.8s						
QIZ				LR	LR		
	comp=E,280nm,20.0s						
QIZ				LR	LR		
	comp=Z,230nm,25.0s						
SIV	**San Ignacio**	**93.69**	**136**	LR	LR	22 41 38.7	
	comp=Z,214nm,20.6s,baz=193,slow=31						
JOW	**Kunigami**	**93.86**	**327**	LR	LR	22 44 22.4	
	comp=Z,227nm,21.7s,baz=16,slow=33						
PALK	**Pallekele**	**94.01**	**278**	LR	LR	22 41 18.6	
	comp=Z,402nm,19.3s,baz=251,slow=31						
TSUM	**Tsumeb**	**94.74**	**210**	LR	LR	22 45 48.7	
	comp=Z,1µm,21.7s,baz=153,slow=34						
ATAH	**Atahualpa**	**95.35**	**116**	LR	LR	22 39 06.2	
	comp=Z,332nm,21.6s,baz=221,slow=29						
LSZ	**Lusaka**	**95.62**	**221**	LR	LR	22 47 54.7	
	comp=Z,213nm,18.7s,baz=164,slow=35						
CMAR	**Chiang Mai Arr**	**95.94**	**299**	P	**P**	**22 05 59.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=180,slow=4.1,SNR=7.6						
CMAR				LR	LR	22 46 57.2	
	comp=Z,217nm,19.2s,baz=175,slow=34						
	comp=Z,0.4nm,0.3s						
BDFB	**Brasilia**	**97.80**	**147**	LR	LR	22 49 49.0	
	comp=Z,187nm,18.1s,baz=152,slow=35						
JNU	**Nakatsue**	**99.26**	**331**	LR	LR	22 48 38.4	
	comp=Z,150nm,18.4s,baz=167,slow=34						
NJ2	**Nanjing**	**101.37**	**321**	*e*P	**Pdif**	**22 06 22.9**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,290nm,3.6s						
PZH	**PanZhiHua**	**102.08**	**305**	P	**Pdif**	**22 06 27.3**	**+1.9**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
H06S1	**SOCORRO T**	**103.47**	**76**	T	T	00 02 07.9	
	SNR=66						
CD2	**Chengdu**	**105.30**	**308**	Pdif	**Pdif**	**22 06 40.0**	**+0.5**
HDC	**Heredia**	**108.17**	**104**	IAMs_20	IAMs_20	22 45 52.5	
	comp=Z,692nm,21.0s						
RCBR	**Riachuelo**	**109.93**	**157**	IAMs_20	IAMs_20	23 02 36.2	
	comp=Z,273nm,19.0s						
HHC	**Hu-ho-hao-te**	**111.70**	**319**	*e*P	**PKiKP**	**22 11 01.3**	**-3.8**
SDV	**Santo Domingo**	**113.04**	**117**	IAMs_20	IAMs_20	22 50 55.7	
	comp=Z,529nm,20.0s						
SONM	**Songino Array**	**119.60**	**318**	PKP	**PKiKP**	**22 11 22.5**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=176,slow=2.9,SNR=1.6						
MOD	**Modoc Plateau**	**119.64**	**56**	IAMs_20	IAMs_20	23 01 07.2	
	comp=Z,570nm,20.0s						
WMQ	**Urumqi**	**122.70**	**303**	*e*P	**PKiKP**	**22 11 27.3**	**+1.0**
WMQ				LR	LR		
	comp=Z,93nm,21.9s						
OK029	**Liberty Lake**	**124.17**	**77**	IAMs_20	IAMs_20	23 15 42.3	
	comp=Z,502nm,20.0s						
SMRT	**St. Maarten**	**124.39**	**120**	IAMs_20	IAMs_20	22 57 39.4	
	comp=Z,335nm,19.0s						
PDAR	**Pinedale Array**	**124.66**	**63**	PKP	**PKiKP**	**22 11 30.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=250,slow=2.7,SNR=2.6						
OK051	**E0350 and S346**	**125.04**	**77**	IAMs_20	IAMs_20	23 04 39.2	
	comp=Z,446nm,21.0s						
FLWY	**Flagg Ranch**	**125.28**	**61**	IAMs_20	IAMs_20	22 48 02.5	
	comp=Z,302nm,21.0s						
N17K	**Nushagak Hills**	**125.93**	**22**	IAMs_20	IAMs_20	22 56 26.0	
	comp=Z,422nm,18.0s						
L16K	**Owhat River**	**126.67**	**20**	IAMs_20	IAMs_20	23 03 15.5	
	comp=Z,533nm,22.0s						
MKAR	**Makanchi Array**	**127.30**	**301**	PKP	**PKiKP**	**22 11 35.9**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=121,slow=6.2,SNR=4.6						
K17K	**Iditarod**	**127.81**	**20**	IAMs_20	IAMs_20	22 56 56.6	
	comp=Z,374nm,19.0s						
J16K	**Anvik River**	**127.99**	**19**	IAMs_20	IAMs_20	23 00 47.3	
	comp=Z,451nm,20.0s						
I17K	**Unalakleet**	**128.55**	**18**	IAMs_20	IAMs_20	22 59 28.1	
	comp=Z,474nm,21.0s						
J18K	**Innoko River**	**128.77**	**21**	IAMs_20	IAMs_20	23 00 15.0	
	comp=Z,399nm,22.0s						
K20K	**Telida**	**129.12**	**22**	IAMs_20	IAMs_20	22 59 42.2	
	comp=Z,396nm,19.0s						
TORD	**Torodi Ar. Bea**	**129.41**	**201**		**PKPdf**	**22 11 39.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**129.41**	**201**	PKP	**PKiKP**	**22 11 41.0**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=139,slow=1.7,SNR=8.6						
H17K	**Granite Mounta**	**129.66**	**18**	IAMs_20	IAMs_20	22 55 59.3	
	comp=Z,583nm,22.0s						
G16K	**Koyuk River**	**129.75**	**17**	IAMs_20	IAMs_20	22 57 19.7	
	comp=Z,577nm,22.0s						
F15K	**North Star Dit**	**129.75**	**16**	IAMs_20	IAMs_20	22 59 42.7	
	comp=Z,530nm,20.0s						
J20K	**Nowinta River**	**129.86**	**22**	IAMs_20	IAMs_20	23 03 12.9	
	comp=Z,360nm,18.0s						
H21K	**Melozitna Rive**	**131.45**	**22**	IAMs_20	IAMs_20	23 14 16.9	
	comp=Z,234nm,21.0s						
ILAR	**Eielson Array**	**131.74**	**25**	PKP	**PKiKP**	**22 11 44.5**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=201,slow=4.8,SNR=3.3						
KURBB	**Kurchatov Arra**	**131.85**	**301**	PKP	**PKPdf**	**22 11 42.3**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=124,slow=0.9,SNR=4.1						
G23K	**Bananza Creek**	**132.89**	**22**	IAMs_20	IAMs_20	23 05 17.0	
	comp=Z,441nm,21.0s						
D25K	**Kavik River**	**135.85**	**22**	IAMs_20	IAMs_20	23 06 21.2	
	comp=Z,390nm,20.0s						
TIXI	**Tiksi**	**136.22**	**344**	PKP	**PKPdf**	**22 11 50.9**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=98,slow=5.5,SNR=4.2						
BVAR	**Borovoye Array**	**136.97**	**298**	PKP	**PKiKP**	**22 11 54.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=79,slow=8.0,SNR=4.3						
YKA	**Yellowknife Ar**	**138.27**	**43**	PKhKP	PKPpre	22 11 52.2	
	comp=Z,0.1nm,0.5s,baz=218,slow=2.8,SNR=4.3						
BRTR	**Keskin Array B**	**143.42**	**254**	PKP	PKPbc	22 12 03.0	+0.6
	comp=Z,1.3nm,0.8s,baz=178,slow=9.4,SNR=5.0						
ARU	**Arti**	**144.26**	**295**	PKP	**PKPab**	**22 12 03.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=130,slow=7.9,SNR=2.0						
KIRV	**Kirov**	**149.49**	**292**	PKPbc	**PKPbc**	**22 12 18.1**	**-0.8**
	comp=Z,6.7nm,0.8s,baz=167,slow=4.5,SNR=4.2						
RES	**Resolute Bay**	**150.95**	**33**		**PKPbc**	**22 12 21.2**	**-0.8**
AKASG	**Malin Array Be**	**153.78**	**264**	PKPab	**PKPab**	**22 12 40.9**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=122,slow=2.5,SNR=7.9						
ESDC	**Sonseca Array**	**156.30**	**200**	PKP	**PKPdf**	**22 12 23.8**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=223,slow=0.9,SNR=3.4						
ESDC				PKPab	**PKPab**	**22 12 51.7**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=197,slow=1.4,SNR=4.8						
MODS	**Modra-Piesok**	**157.43**	**246**	*e*PKP	**PKPab**	**22 13 03.3**	**+5.4**
FUORN	**Ofenpass-Fuorn**	**158.82**	**233**	IAMs_20	IAMs_20	23 16 25.4	
	comp=Z,382nm,20.0s						

*IDC **23** 21:56:51.0±3.9,55.52N×149.43W, h0km, mb3.5/3, mbtmp3.2/5, ML2.4/2, Error ellipse: s-maj=80.0km s-min=43.3km az=159.0*
*NEIC **23** 21:56:51.6±1.1,55.8N±0.2×149.3W±0.1, h7km±9km, ML3.2/20, ML2.8(AEIC), Error ellipse: s-maj=23.7km s-min=11.8km az=186.0*
*AEIC **23** 21:56:58.8±1.4,56.0N±0.1×149.4W±0.1, h10km±9km, Error ellipse: s-maj=20.9km s-min=11.0km az=185.0*
ISC 23 21:56:55.8±1.8,56.2N±0.1×149.30W±0.08,h10km,n32, σ1§25/33,mb3.6/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.42**	**314**	Pn	**Pn**	**21 57 35.4**	**-0.1**
OHAK	**Old Harbor**	**2.44**	**298**	Pn	**Pn**	**21 57 34.2**	**-1.5**
SYI	**Shuyak Island**	**2.97**	**327**	Pn	**Pn**	**21 57 43.9**	**+1.0**
SYI					IAML	21 58 09.6	
	comp=E,33nm,1.1s						
SYI					IAML	21 58 46.9	
	comp=N,30nm,1.3s						
CNPM	**China Poot**	**3.53**	**344**	Pn	**Pn**	**21 57 51.2**	**+0.5**
CNPM					IAML	21 58 47.5	
	comp=E,30nm,1.3s						
CNPM					IAML	21 59 03.3	
	comp=N,27nm,1.4s						
Q19K	**Cape Douglas,**	**3.63**	**322**	Pn	**Pn**	**21 57 52.6**	**+0.5**
P19K	**Oil Pt**	**4.08**	**331**	Pn	**Pn**	**21 57 58.7**	**+0.5**
P19K					IAML	21 58 56.4	
	comp=E,65nm,1.2s						
P19K					IAML	22 00 45.0	
	comp=N,51nm,1.4s						
P18K	**Big Mountain,**	**4.54**	**318**	Pn	**Pn**	**21 58 03.9**	**-0.6**
P18K					IAML	21 58 57.6	
	comp=N,11nm,1.2s						
KAIM	**Kayak Island**	**4.58**	**32**	Pn	**Pn**	**21 58 05.8**	**+0.8**
RAGM	**Ragged Mountai**	**4.89**	**28**	Pn	**Pn**	**21 58 09.8**	**+0.4**
RAGM					IAML	22 01 17.7	
	comp=E,40nm,1.5s						
RC01	**Rabbit Creek A**	**4.95**	**358**	Pn	**Pn**	**21 58 10.1**	**-0.1**
RC01					IAML	21 58 52.4	
	comp=E,13nm,1.4s						
RC01					IAML	21 59 10.4	
	comp=N,9.5nm,1.3s						
BERG	**Berg Lake**	**5.17**	**33**	Pn	**Pn**	**21 58 14.2**	**+1.0**
SUA	**Susitna One**	**5.37**	**353**	Pn	**Pn**	**21 58 17.1**	**+1.1**
N19K	**Bonanza Creek**	**5.40**	**332**	Pn	**Pn**	**21 58 15.0**	**-1.4**
KLU	**Klutina**	**5.63**	**17**	Pn	**Pn**	**21 58 20.6**	**+1.0**
GHO	**Glory Hole Cre**	**5.63**	**2**	Pn	**Pn**	**21 58 20.6**	**+1.1**
SML	**Sawmill**	**5.69**	**5**	Pn	**Pn**	**21 58 21.9**	**+1.6**
O16K	**Kokwok River B**	**5.82**	**310**	Pn	**Pn**	**21 58 22.1**	**0.0**
VRDI	**Verde Repeater**	**5.92**	**29**	Pn	**Pn**	**21 58 24.5**	**+0.8**
MCARA	**McCarthy VSAT**	**6.17**	**29**	Pn	**Pn**	**21 58 28.1**	**+1.2**
M24K	**Tolsona, Glenn**	**6.18**	**14**	Pn	**Pn**	**21 58 29.1**	**+2.1**
CTGM	**Chitina Glacie**	**6.37**	**38**	Pn	**Pn**	**21 58 28.4**	**-1.3**
M17K	**Holitna River**	**6.74**	**325**	Pn	**Pn**	**21 58 34.8**	**+0.1**
TRF	**Thorofare Moun**	**7.33**	**357**	Pn	**Pn**	**21 58 42.9**	**-0.1**
S31K	**Pelican**	**7.35**	**70**	Pn	**Pn**	**21 58 40.8**	**-2.2**
KTH	**Kantishna Hill**	**7.46**	**354**	Pn	**Pn**	**21 58 46.4**	**+1.8**
L16K	**Owhat River**	**7.65**	**321**	Pn	**Pn**	**21 58 47.3**	**+0.1**
ILAR	**Eielson Array**	**8.72**	**7**	Pn	**Pn**	**21 59 04.4**	**+2.6**
	comp=N,0.1nm,0.3s,baz=188,slow=12,SNR=1.8						
ILAR					Sn	**22 00 37.2**	**-2.9**
	baz=183,slow=23,SNR=3.4						
	comp=N,0.3nm,0.6s						
M31M	**Drury Creek, Y**	**9.74**	**45**	Pn	**Pn**	**21 59 15.6**	**-0.3**
YKA	**Yellowknife Ar**	**18.62**	**56**	P	**Pn**	**22 01 14.3**	**+1.0**
	baz=267,slow=11,SNR=1.7						
	comp=N,0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**61.66**	**327**	P	**P**	**22 07 13.7**	**+0.4**
	comp=N,0.4nm,0.5s,baz=31,slow=8.6,SNR=2.3						
	comp=N,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**66.44**	**329**	P	**P**	**22 07 44.7**	**-0.1**
	comp=N,0.3nm,0.7s,baz=35,slow=5.7,SNR=2.1						
	comp=N,0.3nm,0.7s						
MKAR	**Makanchi Array**	**68.69**	**325**	P	**P**	**22 07 58.8**	**-0.3**
	comp=N,0.3nm,0.7s,baz=34,slow=5.6,SNR=3.7						
	comp=N,0.3nm,0.7s						

*NEIC **23** 22:04:08.6±1.1,55.98N±0.08×149.3W±0.1, h10km±7km, ML3.5/32, ML3.3(AEIC), Error ellipse: s-maj=12.5km s-min=8.5km az=160.0*
*AEIC **23** 22:04:13.0±1.0,56.0N±0.1×149.3W±0.1, h7km±8km, Error ellipse: s-maj=16.8km s-min=9.3km az=180.0*
ISC 23 22:04:07.8±2.2,56.0N±0.1×149.32W±0.06,h10km,n87, σ1§18/93,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.53**	**301**		**Pn**	**22 04 49.5**	**+0.7**
OHAK					**Sn**	**22 05 18.5**	**-1.1**
OHAK	**Old Harbor**	**2.53**	**301**	P	**Pn**	**22 04 49.6**	**+0.8**
	baz=120						
OHAK				S	**Sn**	**22 05 18.2**	**-1.4**
	baz=120						
KDAK	**Kodiak Island**	**2.55**	**317**	Pn	**Pn**	**22 04 50.0**	**+0.9**
KDAK					**Sn**	**22 05 19.1**	**-1.1**
KDAK	**Kodiak Island**	**2.55**	**317**	S	**Sn**	**22 05 19.3**	**-0.9**
	baz=136						

Q20K	**Shuyak Island**	**3.13**	**329**	S	**Sn**	**22 05 35.3**	**+0.9**
	baz=148						
SYI	**Shuyak Island**	**3.13**	**329**	Pn	**Pn**	**22 04 57.9**	**+0.9**
SYI					**Sn**	**22 05 33.6**	**-0.8**
SYI					IAML	22 05 36.7	
	comp=E,72nm,1.4s						
R18K	**Karluk**	**3.25**	**302**		**Pn**	**22 04 59.7**	**+1.0**
R18K					IAML	22 05 41.5	
	comp=N,97nm,0.6s						
R18K					IAML	22 05 46.6	
	comp=E,124nm,0.5s						
CNPM	**China Poot**	**3.71**	**345**	Pn	**Pn**	**22 05 05.7**	**+0.6**
CNPM					IAML	22 05 50.1	
	comp=N,63nm,1.3s						
CNPM					IAML	22 05 51.5	
	comp=E,56nm,1.1s						
KAHG	**Katmai Hook Gl**	**3.80**	**314**		**Pn**	**22 05 03.3**	**-3.2**
Q23K	**Middleton Isla**	**3.81**	**23**		**Pn**	**22 05 06.5**	**0.0**
Q23K	**Middleton Isla**	**3.81**	**23**	P	**Pn**	**22 05 06.8**	**+0.3**
	baz=206						
MID	**Middleton Isla**	**3.81**	**24**	Pn	**Pn**	**22 05 05.9**	**-0.6**
BRSE	**Bradley Lake S**	**3.85**	**349**		**Pn**	**22 05 07.6**	**+0.5**
BRSE					**Sn**	**22 05 51.2**	**-1.2**
BRSE	**Bradley Lake S**	**3.85**	**349**	P	**Pn**	**22 05 07.7**	**+0.5**
	baz=169						
BRLK	**Bradley Lake**	**3.89**	**348**		**Pn**	**22 05 07.9**	**+0.2**
BRLK					IAML	22 05 55.4	
	comp=E,54nm,1.0s						
BRLK					IAML	22 05 56.5	
	comp=N,48nm,1.4s						
ACHA	**Angle Creek He**	**3.97**	**307**		**Pn**	**22 05 05.0**	**-3.7**
SEW	**Seward**	**4.14**	**359**		**Pn**	**22 05 10.6**	**-0.4**
SEW	**Seward**	**4.14**	**359**	P	**Pn**	**22 05 10.8**	**-0.2**
	baz=180						
P23K	**Montague Islan**	**4.16**	**13**		**Pn**	**22 05 11.8**	**+0.5**
P23K					**Sn**	**22 05 57.8**	**-2.2**
P23K	**Montague Islan**	**4.16**	**13**	P	**Pn**	**22 05 11.8**	**+0.5**
	baz=196						
P19K	**Oil Pt**	**4.24**	**332**	Pn	**Pn**	**22 05 12.9**	**+0.4**
P19K					IAML	22 06 06.0	
	comp=N,76nm,0.3s						
P19K					IAML	22 06 09.4	
	comp=E,74nm,1.0s						
SLKM	**Skilak Lake**	**4.57**	**354**		**Pn**	**22 05 17.6**	**+0.6**
P18K	**Big Mountain,**	**4.67**	**320**		**Pn**	**22 05 19.2**	**+0.8**
P18K	**Big Mountain,**	**4.67**	**320**	P	**Pn**	**22 05 19.6**	**+1.3**
	baz=136						
HIN	**Hinchinbrook I**	**4.68**	**17**		**Pn**	**22 05 17.6**	**-0.9**
HIN					IAML	22 06 12.2	
	comp=E,46nm,1.3s						
HIN					IAML	22 06 23.7	
	comp=N,42nm,1.4s						
KAIM	**Kayak Island**	**4.75**	**31**	Pn	**Pn**	**22 05 20.0**	**+0.7**
KAIM					IAML	22 07 33.2	
	comp=N,60nm,1.4s						
RSO	**Redoubt South**	**4.85**	**339**	Pn	**Pn**	**22 05 21.0**	**0.0**
EYAK	**Cordova Ski Ar**	**4.96**	**21**		**Pn**	**22 05 22.3**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.96**	**21**	P	**Pn**	**22 05 23.5**	**+1.2**
	baz=204						
O18K	**Koktuh Hills**	**5.00**	**324**	Pn	**Pn**	**22 05 23.5**	**+0.6**
O18K					IAML	22 06 24.3	
	comp=N,17nm,0.8s						
RAGM	**Ragged Mountai**	**5.06**	**27**	Pn	**Pn**	**22 05 24.4**	**+0.6**
RAGM					IAML	22 06 26.5	
	comp=E,45nm,1.2s						
RC01	**Rabbit Creek A**	**5.14**	**358**		**Pn**	**22 05 24.9**	**+0.2**
RC01					IAML	22 06 25.8	
	comp=N,23nm,1.3s						
RC01					IAML	22 06 27.2	
	comp=E,32nm,1.4s						
RC01	**Rabbit Creek A**	**5.14**	**358**	P	**Pn**	**22 05 25.6**	**+0.9**
	baz=178						
GOAT	**Goat Mountain**	**5.22**	**26**		**Pn**	**22 05 27.0**	**+1.2**
BERG	**Berg Lake**	**5.33**	**32**		**Pn**	**22 05 27.9**	**+0.4**
SNH	**Sunshine Point**	**5.44**	**37**	Pn	**Pn**	**22 05 29.2**	**+0.3**
N19K	**Bonanza Creek**	**5.56**	**333**	Pn	**Pn**	**22 05 30.9**	**+0.3**
KLU	**Klutina**	**5.81**	**16**		**Pn**	**22 05 34.5**	**+0.5**
KLU	**Klutina**	**5.81**	**16**	P	**Pn**	**22 05 35.5**	**+1.5**
	baz=200						
GHO	**Glory Hole Cre**	**5.82**	**2**		**Pn**	**22 05 35.0**	**+0.8**
N18K	**Kilae Creek**	**5.85**	**326**	Pn	**Pn**	**22 05 35.1**	**+0.6**
SML	**Sawmill**

baz=132
KDAK **Kodiak Island** 2.52 315 Pn **Pn** **22 13 56.1 +0.2**
29nm,0.3s,baz=148,slow=6.2,SNR=28
KDAK Sn **Sn** **22 14 23.4 -3.2**
32nm,0.3s,baz=215,slow=20,SNR=26
62nm,0.3s
SYI **Shuyak Island** 3.08 328 **Pn** **22 14 03.9 +0.2**
SYI Sn **Sn** **22 14 37.8 -2.6**
Q20K **Shuyak Island** 3.08 328 P **Pn** **22 14 04.0 +0.3**
baz=145
Q20K S **Sn** **22 14 39.5 -1.0**
baz=145
R18K **Karluk** 3.23 300 **Pn** **22 14 05.8 +0.1**
R18K **Karluk** 3.23 300 IAML 22 14 44.1
comp=N,317nm,0.5s
R18K IAML 22 14 44.9
comp=E,364nm,0.4s
CNPM **China Poot** 3.64 344 Pn **Pn** **22 14 11.4 0.0**
CNPM Sn **Sn** **22 14 52.1 -2.4**
CNPM IAML 22 14 54.8
comp=N,204nm,0.4s
CNPM IAML 22 14 55.8
comp=E,264nm,0.5s
Q19K **Cape Douglas,** 3.73 323 Pn **Pn** **22 14 13.4 +0.7**
Q19K IAML 22 15 01.4
comp=N,514nm,0.6s
Q19K **Cape Douglas,** 3.73 323 P **Pn** **22 14 14.5 +1.8**
baz=139
Q23K **Middleton Isla** 3.74 24 Pn **Pn** **22 14 12.8 +0.2**
Q23K IAML 22 14 56.6
comp=E,265nm,2.2s
Q23K IAML 22 15 35.4
comp=N,251nm,2.2s
Q23K **Middleton Isla** 3.74 24 **Sn** **22 14 53.9 -2.7**
Q23K **Middleton Isla** 3.74 24 P **Pn** **22 14 12.7 0.0**
baz=207
MID **Middleton Isla** 3.74 24 Pn **Pn** **22 14 12.8 +0.2**
MID IAML 22 15 35.4
comp=N,255nm,2.5s
MID IAML 22 16 17.3
comp=E,261nm,2.2s
MID **Middleton Isla** 3.74 24 **Sn** **22 14 53.8 -2.9**
KAHG **Katmai Hook Gl** 3.77 313 **Pn** **22 14 15.2 +1.9**
BRSE **Bradley Lake S** 3.79 349 **Pn** **22 14 13.5 +0.1**
BRSE **Sn** **22 14 56.0 -2.0**
BRSE **Bradley Lake S** 3.79 349 P **Pn** **22 14 13.5 +0.1**
baz=168
BRLK **Bradley Lake** 3.83 348 Pn **Pn** **22 14 13.6 -0.4**
BRLK IAML 22 14 58.3
comp=E,258nm,0.5s
BRLK IAML 22 14 58.5
comp=N,207nm,0.6s
KCE **Katmai Mt Cerb** 3.90 307 **Pn** **22 14 17.1 +2.1**
AU22 **Augustine Moun** 3.99 328 **Pn** **22 14 16.9 +0.8**
KAHC **Katmai Hardscr** 4.06 312 P **Pn** **22 14 18.5 +1.2**
baz=127
SEW **Seward** 4.07 359 **Pn** **22 14 16.8 -0.5**
SEW **Sn** **22 15 01.3 -3.6**
SEW **Seward** 4.07 359 P **Pn** **22 14 17.5 +0.2**
baz=179
P23K **Montague Islan** 4.08 13 **Pn** **22 14 17.6 +0.2**
P23K **Sn** **22 15 02.9 -2.4**
P23K **Montague Islan** 4.08 13 P **Pn** **22 14 17.8 +0.2**
baz=195
PLK3 **Peulik 3** 4.18 296 **Pn** **22 14 19.5 +0.7**
P19K **Oil Pt** 4.19 331 Pn **Pn** **22 14 19.3 +0.3**
Q17K **Contact Creek** 4.23 304 P **Pn** **22 14 20.2 +0.5**
baz=118
O20K **Slope Mountain** 4.42 338 **Pn** **22 14 22.3 +0.1**
IVE **Iliamna Volcan** 4.45 335 **Pn** **22 14 23.1 +0.5**
SLKM **Skilak Lake** 4.50 354 **Pn** **22 14 23.1 -0.2**
HIN **Hinchinbrook I** 4.60 17 Pn **Pn** **22 14 24.9 +0.3**
HIN IAML 22 15 16.4
comp=N,222nm,0.3s
HIN IAML 22 15 18.0
comp=E,202nm,0.5s
P18K **Big Mountain,** 4.63 319 **Pn** **22 14 25.1 0.0**
P18K **Big Mountain,** 4.63 319 P **Pn** **22 14 25.4 +0.3**
baz=134
KAIM **Kayak Island** 4.67 32 **Pn** **22 14 26.1 +0.6**
KAIM IAML 22 15 07.1
comp=E,217nm,3.0s
KAIM IAML 22 15 25.2
comp=N,200nm,1.4s
RDSO **Redoubt South** 4.78 339 **Pn** **22 14 26.6 -0.7**
RSO **Redoubt South** 4.79 339 Pn **Pn** **22 14 26.9 -0.5**
R16K **Pilot Point** 4.81 292 **Pn** **22 14 28.4 +1.0**
CAPN **Captain Cook N** 4.84 349 Pn **Pn** **22 14 28.1 +0.3**
EYAK **Cordova Ski Ar** 4.88 21 **Pn** **22 14 29.2 +0.8**
EYAK **Cordova Ski Ar** 4.88 21 P **Pn** **22 14 29.5 +1.1**
baz=204
O19K **Port Alsworth** 4.95 329 **Pn** **22 14 28.3 -1.0**
O18K **Koktuh Hills** 4.96 323 Pn **Pn** **22 14 29.5 0.0**
P17K **Kvichak River** 4.98 312 P **Pn** **22 14 30.6 +0.9**
baz=126
RAGM **Ragged Mountai** 4.98 27 **Pn** **22 14 30.7 +0.8**
RAGM IAML 22 15 31.9
comp=E,237nm,0.4s
RAGM IAML 22 15 39.5
comp=N,278nm,0.5s
RC01 **Rabbit Creek A** 5.06 357 Pn **Pn** **22 14 31.0 0.0**
RC01 IAML 22 15 28.2
comp=E,178nm,0.3s
RC01 IAML 22 15 28.8
comp=N,186nm,0.4s
RC01 **Rabbit Creek A** 5.06 357 P **Pn** **22 14 31.1 +0.2**
baz=177
CHGN **Chignik** 5.12 277 Pn **Pn** **22 14 30.7 -0.9**
CHGN IAML 22 17 25.8
comp=E,254nm,0.1s
BERG **Berg Lake** 5.26 32 **Pn** **22 14 34.4 +0.8**
BERG IAML 22 15 33.4
comp=N,152nm,0.3s
BERG IAML 22 15 45.3
comp=E,156nm,0.5s
SNH **Sunshine Point** 5.37 37 **Pn** **22 14 36.3 +1.1**
KNK **Knik Glacier** 5.40 4 **Pn** **22 14 36.2 +0.7**
KNK **Knik Glacier** 5.40 4 P **Pn** **22 14 37.7 +2.1**
baz=185
DIV **Divide** 5.42 18 **Pn** **22 14 36.1 +0.3**
SUA **Susitna One** 5.49 353 Pn **Pn** **22 14 36.7 -0.2**
BMRM **Bremner River** 5.51 24 **Pn** **22 14 37.8 +0.7**
BMRM **Bremner River** 5.51 24 P **Pn** **22 14 38.5 +1.4**
baz=209
N19K **Bonanza Creek** 5.51 332 Pn **Pn** **22 14 36.1 -1.0**
PMR **Palmer** 5.56 1 Pn **Pn** **22 14 37.8 +0.1**
PMR **Palmer** 5.56 1 P **Pn** **22 14 39.0 +1.2**
baz=181
P16K **Nushagak River** 5.57 306 P **Pn** **22 14 38.6 +0.8**
baz=118
KLU **Klutina** 5.73 16 Pn **Pn** **22 14 41.0 +0.9**
KLU **Klutina** 5.73 16 P **Pn** **22 14 41.5 +1.3**
baz=199
GHO **Glory Hole Cre** 5.75 2 **Pn** **22 14 41.4 +1.0**
SML **Sawmill** 5.80 4 **Pn** **22 14 41.7 +0.7**
SML **Sawmill** 5.80 4 P **Pn** **22 14 42.2 +1.1**
baz=185
N18K **Kilae Creek** 5.80 326 Pn **Pn** **22 14 40.5 -0.7**
M23K **Glacier View** 5.82 7 P **Pn** **22 14 42.5 +1.2**
baz=189
SCM **Sheep Creek Mo** 5.89 9 **Pn** **22 14 43.3 +1.0**
O16K **Kokwok River B** 5.90 311 **Pn** **22 14 42.6 +0.2**
O16K **Kokwok River B** 5.90 311 P **Pn** **22 14 42.9 +0.5**
baz=123
VRDI **Verde Repeater** 6.02 28 Pn **Pn** **22 14 45.0 +0.8**
SVW2 **Sparrevohn** 6.04 330 **Pn** **22 14 43.7 -0.7**
SKT **Skwentna** 6.06 350 Pn **Pn** **22 14 44.8 +0.1**
N25K **Chitina, Valde** 6.08 22 P **Pn** **22 14 47.2 +2.2**
baz=206
SAMH **Samovar Hills** 6.08 44 **Pn** **22 14 46.5 +1.4**
GLB **Gilahina Butte** 6.11 25 **Pn** **22 14 45.8 +0.4**
MCARA **McCarthy VSAT** 6.26 29 **Pn** **22 14 48.9 +1.5**
MCARA **McCarthy VSAT** 6.26 29 P **Pn** **22 14 49.5 +2.1**
baz=214
PCA **Pinnacle** 6.27 46 **Pn** **22 14 48.7 +1.1**
PINM **Pinnacle** 6.27 46 P **Pn** **22 14 49.5 +1.9**
baz=234
M24K **Tolsona, Glenn** 6.28 13 **Pn** **22 14 49.2 +1.5**
M24K **Tolsona, Glenn** 6.28 13 P **Pn** **22 14 50.3 +2.6**
baz=196
SDPT **Sand Point** 6.38 268 Pn **Pn** **22 14 48.2 -0.7**
PNL **Peninsula** 6.40 51 P **Pn** **22 14 50.5 +1.3**
baz=240
BARN **Barnard Glacie** 6.41 35 **Pn** **22 14 50.8 +1.2**
BCPM **Bancas Point** 6.45 49 **Pn** **22 14 51.3 +1.4**

CTGM **Chitina Glacie** 6.45 37 **Pn** **22 14 51.2 +1.1**
LOGN **Logan Glacier** 6.46 39 **Pn** **22 14 51.2 +0.9**
WAT6 **Susitna Watana** 6.60 6 P **Pn** **22 14 53.1 +0.9**
baz=188
N15K **Kwethluk River** 7.06 310 **Pn** **22 14 59.4 +1.0**
DHY **Denali Highway** 7.12 7 **Pn** **22 15 00.5 +1.2**
DHY **Denali Highway** 7.12 7 P **Pn** **22 15 01.0 +1.8**
baz=189
P29M **Windy Craggy** 7.12 55 **Pn** **22 15 00.2 +0.9**
O14K **Tigyukauivet M** 7.19 301 **Pn** **22 15 00.7 +0.6**
PAX **Paxson** 7.21 14 **Pn** **22 15 01.5 +1.1**
PAX **Paxson** 7.21 14 P **Pn** **22 15 02.6 +2.2**
baz=197
YUK8 **Steele Glacier** 7.22 39 P **Pn** **22 15 03.6 +2.9**
baz=228
YUK3 **Moose Creek** 7.33 35 P **Pn** **22 15 04.9 +2.7**
baz=223
M27K **Edge Creek, AK** 7.38 28 **Pn** **22 15 04.5 +1.7**
S31K **Pelican** 7.38 70 **Pn** **22 15 01.8 -0.8**
S31K **Pelican** 7.38 70 P **Pn** **22 15 02.0 -0.6**
baz=261
RND **Reindeer** 7.39 1 Pn **Pn** **22 15 04.1 +1.2**
TRF **Thorofare Moun** 7.45 356 Pn **Pn** **22 15 04.4 +0.7**
YUK6 **Outpost Mounta** 7.53 45 P **Pn** **22 15 07.3 +2.4**
baz=234
L26K **Log Cabin Wild** 7.62 21 **Pn** **22 15 08.3 +2.3**
N14K **Kuskokwak Cree** 7.65 306 P **Pn** **22 15 07.4 +1.0**
baz=115
YUK4 **Talbot Arm** 7.67 42 P **Pn** **22 15 10.8 +4.0**
baz=231
BVCY **Beaver Creek** 7.70 31 P **Pn** **22 15 09.7 +2.6**
baz=218
L16K **Owhat River** 7.75 321 Pn **Pn** **22 15 07.9 +0.1**
SIT **Sitka** 7.78 77 Pn **Pn** **22 15 05.6 -2.5**
HYT **Haines Junctio** 7.81 47 Pn **Pn** **22 15 09.8 +1.1**
HYT **Haines Junctio** 7.81 47 P **Pn** **22 15 10.8 +2.1**
baz=238
L27K **Beaver Creek,** 7.98 25 **Pn** **22 15 12.2 +1.2**
BCAR **Beaver Creek A** 8.00 25 Pn **Pn** **22 15 12.2 +1.0**
RIDG **Independent Ri** 8.03 14 Pn **Pn** **22 15 12.7 +1.0**
FALS **False Pass** 8.13 267 **Pn** **22 15 12.2 -0.8**
FALS **False Pass** 8.13 267 P **Pn** **22 15 12.5 -0.5**
baz=75
M14K **Bethel** 8.16 311 **Pn** **22 15 13.7 +0.4**
S32K **Killisnoo** 8.20 74 Pn **Pn** **22 15 13.3 -0.6**
SKAG **Skagway** 8.20 60 **Pn** **22 15 15.1 +1.1**
BESE **Besie Mountai** 8.21 66 Pn **Pn** **22 15 14.1 0.0**
R32K **Eaglecrest** 8.32 68 Pn **Pn** **22 15 16.0 +0.4**
N30M **Aishikik Lake** 8.33 44 **Pn** **22 15 17.3 +1.4**
O30N **Mendenhall** 8.38 50 **Pn** **22 15 16.7 +0.2**
O30N **Mendenhall** 8.38 50 P **Pn** **22 15 19.5 +3.1**
baz=242
JIS **Juneau Island** 8.39 68 Pn **Pn** **22 15 16.4 -0.2**
HDA **Harding Lake** 8.47 7 **Pn** **22 15 18.9 +1.3**
NEA2 **Nenana** 8.57 1 Pn **Pn** **22 15 19.6 +0.5**
CCB **Clear Creek Bu** 8.66 4 Pn **Pn** **22 15 20.8 +0.6**
L14K **Kuka Creek** 8.76 313 **Pn** **22 15 21.6 0.0**
L14K **Kuka Creek** 8.76 313 P **Pn** **22 15 23.2 +1.6**
baz=121
IL31 8.83 7 Pn **Pn** **22 15 24.1 +1.5**
ILAR **Eielson Array** 8.83 7 Pn **Pn** **22 15 24.7 +2.1**
ILAR **Eielson Array** 8.83 7 Pn **Pn** **22 15 24.0 +1.4**
comp=E,0.8nm,0.3s,baz=190,slow=13,SNR=14
ILAR Sn **Sn** **22 16 58.0 -4.1**
comp=E,1.7nm,0.3s,baz=184,slow=20,SNR=14
comp=E,1.9nm,0.4s
WHY **Whitehorse** 8.86 53 Pn **Pn** **22 15 24.3 +1.2**
P32M **Atlin** 9.03 60 Pn **Pn** **22 15 26.5 +1.2**
U33K **Whale Pass** 9.03 83 Pn **Pn** **22 15 24.1 -1.3**
L29M **L29M** 9.05 34 **Pn** **22 15 27.1 +1.5**
L29M **L29M** 9.05 34 P **Pn** **22 15 27.9 +2.3**
baz=224
CRAG **Craig** 9.13 87 Pn **Pn** **22 15 24.6 -2.0**
M30M **Minto, Yukon** 9.13 39 P **Pn** **22 15 29.0 +2.3**
baz=230
DAWY **Dawson** 9.43 27 Pn **Pn** **22 15 31.9 +1.1**
Q32M **Nakina River** 9.60 65 Pn **Pn** **22 15 34.6 +1.3**
EGAK **Eagle** 9.62 21 **Pn** **22 15 35.1 +1.7**
EGAK **Eagle** 9.62 21 P **Pn** **22 15 35.8 +2.4**
baz=208
P33M **Teslin, Yukon** 9.64 58 Pn **Pn** **22 15 34.8 +1.0**
P33M **Teslin, Yukon** 9.64 58 P **Pn** **22 15 35.3 +1.5**
baz=252
AKUT **Akutan** 9.65 265 Pn **Pn** **22 15 31.8 -2.0**
K29M **Barlow Dome** 9.78 32 P **Pn** **22 15 37.8 +2.1**
baz=222
M31M **Drury Creek, Y** 9.81 45 **Pn** **22 15 38.6 +2.6**
N32M **Quiet Lake** 9.86 52 **Pn** **22 15 38.2 +1.4**
J29N **Klondike Camp** 10.04 28 Pn **Pn** **22 15 41.4 +2.2**
H19K **Roundabout Mou** 10.13 343 Pn **Pn** **22 15 41.7 +1.4**
UNV **Unalaska Valle** 10.15 265 Pn **Pn** **22 15 39.0 -1.8**
FARO **Faro, Yukon** 10.24 46 Pn **Pn** **22 15 43.7 +1.7**
R33M **Jennings River** 10.34 64 **Pn** **22 15 43.8 +0.4**
T35M **Bob Quinn** 10.55 77 Pn **Pn** **22 15 46.6 +0.4**
J30M **Hart River** 10.67 31 **Pn** **22 15 49.8 +1.9**
DLBC **Dease Lake** 10.69 69 Pn **Pn** **22 15 48.1 -0.1**
comp=E,0.4nm,0.3s,baz=243,slow=9.5,SNR=7.0
DLBC Sn Sn 22 17 39.1 -8.7
comp=E,0.1nm,0.3s,baz=331,slow=14,SNR=0.9
comp=E,1.5nm,0.4s
G24K **Hadweenzic Riv** 10.72 4 **Pn** **22 15 49.1 +0.5**
G18K **Tagagawik** 10.86 339 Pn **Pn** **22 15 50.0 -0.4**
BMAR **Burnt Mountain** 11.63 9 Pn **Pn** **22 16 01.9 +1.0**
NIKH **Nikolski High** 11.78 263 Pn **Pn** **22 16 00.8 -2.2**
TGTN **Hyland Airport** 12.16 55 P **Pn** **22 16 10.3 +2.0**
baz=253
CLES **Cleveland East** 12.42 264 Pn **Pn** **22 16 09.7 -2.0**
INK **Inuvik** 14.26 24 **Pn** **22 16 35.9 -0.8**
INK **Inuvik** 14.26 24 Pn **Pn** **22 16 38.0 +1.3**
comp=E,0.1nm,0.3s,baz=205,slow=13,SNR=16
comp=E,7.5nm,0.9s
ADK **Adak** 16.60 267 Pn **Pn** **22 17 05.6 -2.0**
C36M **Paulatuk** 17.44 30 **Pn** **22 17 17.9 -0.1**
YKA **Yellowknife Ar** 18.67 56 P **P** **22 17 31.9 -0.9**
YKA **Yellowknife Ar** 18.67 56 P **P** **22 17 32.1 -0.8**
baz=263,slow=9.5,SNR=2.5
comp=E,0.3nm,0.8s
A36M **Sachs Harbour** 18.89 23 P **P** **22 17 34.3 -0.9**
A36M IAmb IAmb 22 17 37.9
comp=E,6.6nm,0.8s
PINE **Pine Mountain** 21.80 112 P **P** **22 18 04.8 -2.4**
PINE IAmb IAmb 22 18 06.0
comp=E,11nm,1.1s
PDAR **Pinedale Array** 28.61 101 P **P** **22 19 09.1 -2.5**
PDAR **Pinedale Array** 28.61 101 P **P** **22 19 10.2 -1.3**
comp=E,0.4nm,0.6s,baz=316,slow=5.0,SNR=3.8
comp=E,0.4nm,0.6s
TXAR **Lajitas Array** 41.74 110 P **P** **22 21 04.2 0.0**
comp=E,2.0nm,0.6s,baz=294,slow=4.8,SNR=2.1
comp=E,0.2nm,0.6s
H11N2 **WAKE ISLAND Hy** 48.77 240 T T 23 13 26.3
baz=32,slow=76,SNR=5.3
H11N3 **WAKE ISLAND Hy** 48.77 240 T T 23 13 27.9
baz=32,slow=76,SNR=4.4
H11N1 **WAKE ISLAND Hy** 48.79 240 T T 23 13 25.6
baz=32,slow=76,SNR=3.5
H11S1 **WAKE ISLAND Hy** 49.91 240 T T 23 16 28.2
baz=29
H11S2 **WAKE ISLAND Hy** 49.92 240 T T 23 16 26.2
baz=29
H11S3 **WAKE ISLAND Hy** 49.93 240 T T 23 16 24.4
baz=29
KSRS **Korea Array** 56.14 288 LR LR 22 47 49.5
comp=E,46nm,20.6s,baz=150,slow=37
SONM **Songino Array** 58.80 310 P **P** **22 23 16.2 +3.0**
comp=E,0.4nm,0.7s,baz=45,slow=6.1,SNR=2.8
comp=E,0.4nm,0.7s
FINES **FINESS Array B** 62.79 3 P **P** **22 23 42.0 +2.0**
comp=E,5.0nm,1.1s,baz=352,slow=7.0,SNR=2.0
comp=E,5.0nm,1.1s
KURBB **Kurchatov Arra** 66.54 329 P **P** **22 24 07.7 +3.0**
comp=E,0.1nm,0.3s,baz=19,slow=5.9,SNR=1.6
comp=E,0.1nm,0.3s
MKAR **Makanchi Array** 68.79 325 P **P** **22 24 23.1 +4.1**
comp=E,0.3nm,0.8s,baz=20,slow=5.5,SNR=2.8
comp=E,0.3nm,0.8s
ABKAR **Akbulak array** 72.27 340 P **P** **22 24 39.5 -0.7**
AAK **Ala-Archa** 74.95 328 LR LR 23 02 01.5
comp=E,144nm,18.9s,baz=126,slow=39

BUC ***23*** *22:18:39.3±0.2, 45°.67N×21°.49E, h5km±2km, ml1.1/5, Error ellipse: s-maj=1.8km s-min=1.5km az=39.0*
KRSZO 23 22:18:38.5±1.0**, 45°.69N×21°.48E, h10**km±5km**, ML1.4**/3,

12C-8D, Error ellipse: s-maj=4.0km s-min=3.4km az=46.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.12**	**125**	⇓P	Pg	Pg	22 18 41.8	+0.5
BZS				⇑S	Sg	Sg	22 18 43.7	+0.3
BZS	**Buzias**	**0.12**	**125**	Pg	Pg	Pg	22 18 41.6	+0.2
comp=Z,15nm,SNR=5.6								
BZS				Pg	Pg	Pg	22 18 41.8	+0.5
BZS				Pg	Pg	Pg	22 18 41.8	+0.5
BZS				Lg	Lg	Lg	22 18 43.7	
BZS				Lg	Lg	Lg	22 18 44.0	
TIM	**Timisoara**	**0.19**	**286**	⇑P	Pg	Pg	22 18 43.0	+0.5
TIM				⇓S	Sg	Sg	22 18 46.6	+1.5
TIM	**Timisoara**	**0.19**	**286**	Pg	Pg	Pg	22 18 43.0	+0.5
TIM				Pg	Pg	Pg	22 18 43.0	+0.5
TIM				Lg	Lg	Lg	22 18 46.6	
BANR	**Banloc**	**0.39**	**218**	⇑S	Sb	Sb	22 18 52.4	-1.1
BANR	**Banloc**	**0.39**	**218**	Lg	Lg	Lg	22 18 52.4	
BANR				Lg	Lg	Lg	22 18 52.4	
SURR	**Surduc**	**0.46**	**81**	⇓P	Pg	Pg	22 18 47.9	+0.4
SURR				⇑S	Sb	Sb	22 18 55.0	-0.6
SURR	**Surduc**	**0.46**	**81**	Pg	Pg	Pg	22 18 47.9	+0.4
SURR				Pg	Pg	Pg	22 18 47.9	+0.4
SURR				Lg	Lg	Lg	22 18 55.0	
SIRR	**Siria**	**0.60**	**12**	⇑P	Pb	Pb	22 18 51.0	-0.1
SIRR				⇑S	Sb	Sb	22 18 59.3	-0.3
SIRR	**Siria**	**0.60**	**12**	Pg	Pb	Pb	22 18 50.9	-0.2
comp=Z,3.5nm,SNR=2.4								
SIRR				Pg	Pg	Pg	22 18 51.0	+0.9
SIRR				Pg	Pg	Pg	22 18 51.0	+0.9
SIRR				Lg	Lg	Lg	22 18 58.9	
SIRR				Lg	Lg	Lg	22 18 59.3	
MDVR	**Moldovita**	**0.92**	**169**	⇑P	Pg	Pg	22 18 55.7	-0.5
MDVR				⇑S	Sb	Sb	22 19 08.8	-0.1
MDVR	**Moldovita**	**0.92**	**169**	Pn	Pg	Pg	22 18 55.7	-0.5
MDVR				Pn	Pg	Pg	22 18 55.7	-0.5
MDVR				Lg	Lg	Lg	22 19 08.8	
GZR	**Gura Zlata**	**0.96**	**107**	⇓P	Pn	Pg	22 18 57.8	-0.4
GZR				⇑S	Sb	Sb	22 19 10.1	0.0
GZR	**Gura Zlata**	**0.96**	**107**	Pn	Pg	Pg	22 18 56.8	-0.2
comp=Z,3.9nm,SNR=1.5								
GZR				Pg	Pn	Pn	22 18 57.8	-0.4
GZR				Pg	Pn	Pn	22 18 57.8	-0.4
GZR				Lg	Lg	Lg	22 19 09.4	
GZR				Lg	Lg	Lg	22 19 10.1	
HERR	**Herculane**	**1.04**	**140**	⇑P	Pn	Pg	22 18 59.1	-0.2
HERR				⇑S	Sb	Sb	22 19 13.1	+0.7
HERR	**Herculane**	**1.04**	**140**	Pg	Pn	Pg	22 18 59.1	-0.2
HERR				Pg	Pn	Pn	22 18 59.1	-0.2
HERR				Sn	Sb	Sb	22 19 13.1	+0.7
DRGR		**1.40**	**37**	⇓P	Pg	Pg	22 19 06.5	+1.1
DRGR				⇓S	Sg	Sg	22 19 24.7	+1.2
DRGR		**1.40**	**37**	Pg	Pg	Pg	22 19 06.5	+1.1
DRGR				Pg	Pg	Pg	22 19 06.5	+1.1
DRGR				Sn	Sg	Sg	22 19 23.5	-0.1
DRGR				Sn	Sn	Sn	22 19 24.7	+1.9
MARR	**Marisel-Cluj**	**1.51**	**48**	⇓P	Pg	Pg	22 19 07.6	+0.1
MARR				⇓S	Sg	Sg	22 19 28.6	+1.5
MARR	**Marisel-Cluj**	**1.51**	**48**	Pg	Pg	Pg	22 19 07.6	+0.1
MARR				Pg	Pg	Pg	22 19 07.6	+0.1
MARR				Sn	Sg	Sg	22 19 28.6	+1.5
LOT	**Lotru**	**1.63**	**98**	⇑S	Sg	Sg	22 19 31.5	+0.6
LOT	**Lotru**	**1.63**	**98**	Lg	Lg	Lg	22 19 31.5	
LOT				Lg	Lg	Lg	22 19 31.5	
LANS	**Liptovska Anna**	**3.73**	**339**	*e*SG	Sb	Sb	22 20 32.0	+2.4

PRU 23 22:19:56.2, 49°.83N×18°.74E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.78**	**267**	*e*PG	Pb	Pb	22 20 12.3	-0.3
MORC				*e*SG	Sg	Sg	22 20 20.8	-0.4
MORC	**Moravsky Berou**	**0.78**	**267**	Pg	Pb	Pb	22 20 12.3	-0.3
MORC				Sn	Sg	Sg	22 20 20.8	-0.4
KRLC	**Kraliky**	**1.29**	**282**	*e*PG	Pg	Pg	22 20 20.1	-0.8
KRLC				*e*SG	Sg	Sg	22 20 37.4	-0.2
DPC	**Dobruska-Polom**	**1.64**	**289**	*e*PG	Pn	Pn	22 20 25.5	-0.9
DPC				*e*SG	Sn	Sn	22 20 48.1	-0.1

NEIC ***23*** *22:26:29.3±1.9, 6°.30S±0°.10×154°.3E±0°.1, h15km±5km, mb4.5/19, Error ellipse: s-maj=21.1km s-min=3.9km az=48.0*
IDC ***23*** *22:26:34.4±2.0, 6°.54S×154°.53E, h60km±17km, mb3.8/16, mbtmp4.1/19, MS3.6/2, Error ellipse: s-maj=18.1km s-min=14.9km az=117.0*
ISC 23 22:26:33.1±0.5**, 6°.34S**±0°.07**×154°.40E**±0°.06**, h48**km**, n52, σ1°.53/52, mb4.2/25, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.08**	**314**	Pn	**Pn**		**22 27 15.6**	**-3.8**
I40PG	**Keravat**	**3.12**	**310**	I	I		22 46 00.0	
baz=125,slow=312,SNR=1.4								
HNR	**Honiara**	**6.30**	**120**		**Pn**		**22 28 02.7**	**-0.8**
HNR	**Honiara**	**6.30**	**120**	P	**Pn**		**22 28 03.6**	**+0.1**
973nm,0.4s,baz=171,slow=10.0,SNR=1.8								
HNR				S	**Sn**		**22 29 15.8**	**+1.7**
908nm,0.4s,baz=208,slow=16,SNR=1.5								
PMG	**Port Moresby**	**7.79**	**247**	P	**Pn**		**22 28 25.8**	**+1.9**
45nm,0.4s,baz=55,slow=9.5,SNR=28								
PMG				S	**Sn**		**22 29 54.0**	**+3.2**
31nm,0.4s,baz=130,slow=21,SNR=9.2								
CTA	**Charters Tower**	**15.79**	**209**	P	**P**		**22 30 13.8**	**-1.7**
16nm,0.7s,baz=25,slow=12,SNR=19								
CTA				LR	LR		22 35 18.3	
comp=Z,147nm,19.4s,baz=5.0,slow=33								
EIDS	**Eidsvold**	**19.18**	**189**	P	**Pn**		**22 30 52.5**	**-1.7**
EIDS				IAmb	IAmb		22 30 54.6	
comp=Z,10.0nm,0.7s								
DZM	**Mont Dzumac**	**19.49**	**145**	P	**P**		**22 30 56.0**	**-0.4**
DZM				IAmb	IAmb		22 31 06.4	
comp=Z,22nm,1.4s								
DZM	**Mont Dzumac**	**19.49**	**145**	P	**P**		**22 30 54.5**	**-2.0**
comp=Z,3.7nm,0.7s,baz=335,slow=15,SNR=2.5								
WR0	**Warramunga Arr**	**23.56**	**233**	P	**P**		**22 31 38.9**	**-0.6**
WR0				IAmb	IAmb		22 31 40.9	
comp=Z,20nm,0.8s								
WRA	**Warramunga Arr**	**23.71**	**233**	P	**P**		**22 31 38.7**	**-2.2**
WRA	**Warramunga Arr**	**23.71**	**233**	P	**P**		**22 31 40.3**	**-0.6**
comp=Z,8.1nm,0.6s,baz=58,slow=9.3,SNR=34								
comp=Z,8.1nm,0.6s								
MTN	**Manton Dam**	**23.82**	**253**	P	**P**		**22 31 39.4**	**-2.5**
MTN				IAmb	IAmb		22 31 52.6	
comp=Z,48nm,1.4s								
ARMA	**Armidale**	**24.09**	**186**	P	**P**		**22 31 43.2**	**-1.2**
ARMA				IAmb	IAmb		22 31 46.8	
comp=Z,7.9nm,1.1s								
AS31	**Alice Springs**	**26.17**	**227**	P	**P**		**22 32 01.8**	**-1.5**
ASAR	**Alice Springs**	**26.17**	**227**	P	**P**		**22 32 01.9**	**-1.4**
ASAR	**Alice Springs**	**26.17**	**227**	P	**P**		**22 32 02.6**	**-0.7**
comp=Z,2.9nm,0.5s,baz=58,slow=8.8,SNR=48								
ASAR				ScP	**ScP**		**22 39 05.0**	**-0.6**
comp=Z,0.5nm,0.6s,baz=58,slow=2.6,SNR=5.2								
comp=Z,2.9nm,0.5s								
KNRA	**Kununurra**	**26.79**	**248**	P	**P**		**22 32 07.6**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**27.50**	**26**	T	T		23 00 42.6	
baz=202								
H11S2	**WAKE ISLAND Hy**	**27.50**	**26**	T	T		23 00 46.0	
baz=202								
H11S1	**WAKE ISLAND Hy**	**27.52**	**26**	T	T		23 00 47.1	
baz=202								
STKA	**Stephens Creek**	**28.08**	**204**	P	**P**		**22 32 18.8**	**-1.5**
STKA	**Stephens Creek**	**28.08**	**204**	P	**P**		**22 32 19.1**	**-1.2**
comp=Z,1.6nm,0.5s,baz=23,slow=8.9,SNR=5.4								
STKA				ScP	**ScP**		**22 39 09.3**	**-1.8**
comp=Z,1.5nm,0.8s,baz=314,slow=12,SNR=3.0								
STKA				LR	LR		22 43 06.4	
comp=Z,148nm,18.4s,baz=11,slow=36								
comp=Z,1.6nm,0.5s								
FITZ	**Fitzroy Crossi**	**30.38**	**245**	P	**P**		**22 32 38.8**	**-2.1**
FITZ				IAmb	IAmb		22 33 03.6	
comp=Z,5.

	comp=Z,1.0nm,0.7s,baz=156,slow=7.3,SNR=2.6							
	comp=Z,1.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**54.22**	**340**	P		**P**	**22 35 55.3**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=167,slow=7.1,SNR=2.5							
	comp=Z,2.1nm,0.8s							
PETK	**Petropavlovsk-**	**59.29**	**2**	P		**P**	**22 36 31.4**	**+1.6**
	comp=Z,2.7nm,0.9s,baz=167,slow=8.5,SNR=1.1							
	comp=Z,2.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**59.97**	**295**	P		**P**	**22 36 37.2**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=112,slow=6.1,SNR=5.5							
	comp=Z,0.8nm,0.3s							
SONM	**Songino Array**	**68.47**	**327**	P		**P**	**22 37 30.3**	**-0.1**
SONM	**Songino Array**	**68.47**	**327**	P		**P**	**22 37 32.2**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=142,slow=6.2,SNR=9.7							
	comp=Z,1.1nm,0.6s							
M14K	**Bethel**	**75.07**	**21**	P		**P**	**22 38 11.1**	**+1.5**
K15K	**Wolf Creek Mou**	**76.31**	**20**	P		P	**22 38 17.8**	**+1.1**
K15K				IAmb		IAmb	22 38 19.0	
	comp=Z,6.5nm,0.8s							
ANM	**Nome**	**76.78**	**17**	P		**P**	**22 38 20.9**	**+1.6**
ANM				IAmb		IAmb	22 38 21.8	
	comp=Z,3.8nm,0.8s							
CAST	**Castle Rocks**	**80.34**	**22**	P		**P**	**22 38 39.2**	**+0.2**
CAST				IAmb		IAmb	22 38 41.0	
	comp=Z,2.6nm,0.7s							
TRF	**Thorofare Moun**	**81.02**	**22**	P		**P**	**22 38 42.5**	**-0.2**
TRF				IAmb		IAmb	22 39 10.5	
	comp=Z,8.7nm,1.2s							
IMAR	**Indian Mountai**	**81.31**	**19**	P		**P**	**22 38 44.1**	**+0.1**
MKAR	**Makanchi Array**	**82.53**	**319**	P		**P**	**22 38 52.6**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=104,slow=5.1,SNR=8.5							
	comp=Z,0.8nm,0.7s							
MAKZ	**Makanchi**	**82.74**	**319**	P		**P**	**22 38 50.6**	**-1.4**
ILAR	**Eielson Array**	**82.99**	**22**	P		**P**	**22 38 52.8**	**-0.2**
ILAR	**Eielson Array**	**82.99**	**22**	P		**P**	**22 38 52.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=242,slow=5.5,SNR=10.0							
	comp=Z,1.2nm,0.7s							
ZALV	**Zalesovo Beam**	**83.31**	**326**	P		**P**	**22 38 56.4**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=108,slow=4.8,SNR=3.7							
	comp=Z,0.5nm,0.6s							
QSPA	**South Pole Qui**	**83.63**	**180**	P		**P**	**22 38 55.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=306,slow=1.3,SNR=5.1							
	comp=Z,0.7nm,0.5s							
BCAR	**Beaver Creek A**	**84.15**	**24**	P		**P**	**22 39 00.1**	**+1.2**
BMAR	**Burnt Mountain**	**85.15**	**20**	P		**P**	**22 39 05.0**	**+1.1**
KURBB	**Kurchatov Arra**	**85.99**	**322**	P		**P**	**22 39 09.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=102,slow=5.4,SNR=5.0							
	comp=Z,0.2nm,0.5s							
BVAR	**Borovoye Array**	**91.42**	**323**	P		**P**	**22 39 34.8**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=104,slow=6.3,SNR=3.7							
	comp=Z,0.6nm,0.7s							
NVAR	**Mina Array Bea**	**91.79**	**52**	P		**P**	**22 39 35.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=260,slow=5.4,SNR=7.4							
	comp=Z,1.1nm,0.7s							
YKA	**Yellowknife Ar**	**96.04**	**28**	P		**P**	**22 39 55.3**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=254,slow=3.8,SNR=2.0							
	comp=Z,0.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**152.28**	**286**	PKPbc		**PKPbc**	**22 46 23.5**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=63,slow=1.5,SNR=4.3							

NEIC ***23*** *22:27:02.7±1.6,56.07N±0.09×149.28W±0.10,h23km±9km, ML3.6/38,ML3.4(AEIC),Error ellipse: s-maj=13.9km s-min=7.4km az=164.0*

AEIC ***23*** *22:27:06.0±1.2,56.19N±0.08×149.4W±0.1,h1km±7km, Error ellipse: s-maj=12.2km s-min=7.6km az=153.0*

ISC 23 22:27:01.3±1.2,56.14N±0.08×149.36W±0.06,h10km, n113,σ1$06/123,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.41**	**314**		**Pn**	**22 27 41.5**	**+0.8**
KDAK					**Sn**	**22 28 08.9**	**-1.4**
OHAK	**Old Harbor**	**2.42**	**298**		**Pn**	**22 27 41.3**	**+0.4**
OHAK					**Sn**	**22 28 08.7**	**-1.8**
OHAK	**Old Harbor**	**2.42**	**298**	P	**Pn**	**22 27 41.2**	**+0.4**
	baz=114						
OHAK				S	**Sn**	**22 28 08.7**	**-1.8**
	baz=114						
Q20K	**Shuyak Island**	**2.97**	**328**	P	**Pn**	**22 27 49.3**	**+1.0**
	baz=145						
Q20K				S	**Sn**	**22 28 24.1**	**+0.1**
	baz=145						
SYI	**Shuyak Island**	**2.97**	**328**		**Pn**	**22 27 48.9**	**+0.5**
SYI					**Sn**	**22 28 23.7**	**-0.2**
R18K	**Karluk**	**3.14**	**299**		**Pn**	**22 27 51.8**	**+1.1**
R18K					**Sn**	**22 28 26.5**	**-1.6**
R18K				IAML		22 28 28.5	
	comp=E,116nm,0.3s						
R18K				IAML		22 28 29.9	
	comp=N,137nm,0.9s						
R18K	**Karluk**	**3.14**	**299**	P	**Pn**	**22 27 52.0**	**+1.3**
	baz=114						
R18K				S	**Sn**	**22 28 26.5**	**-1.6**
	baz=114						
CNPM	**China Poot**	**3.54**	**344**		**Pn**	**22 27 56.5**	**+0.3**
CNPM					**Sn**	**22 28 37.0**	**-1.1**
CNPM				IAML		22 28 47.5	
	comp=E,55nm,1.4s						
Q19K	**Cape Douglas,**	**3.62**	**322**	Pn	**Pn**	**22 27 58.2**	**+0.8**
Q19K				IAML		22 28 48.7	
	comp=N,136nm,1.0s						
Q19K				IAML		22 28 49.9	
	comp=E,160nm,1.2s						
Q23K	**Middleton Isla**	**3.67**	**25**		**Pn**	**22 27 58.1**	**+0.1**
Q23K				IAML		22 28 43.9	
	comp=E,150nm,1.2s						
Q23K	**Middleton Isla**	**3.67**	**25**	P	**Pn**	**22 27 57.5**	**-0.5**
	baz=208						
MID	**Middleton Isla**	**3.67**	**25**		**Pn**	**22 27 58.1**	**+0.1**
MID				IAML		22 28 43.9	
	comp=E,156nm,1.2s						
MID				IAML		22 28 54.2	
	comp=N,128nm,1.4s						
BRSE	**Bradley Lake S**	**3.68**	**349**		**Pn**	**22 27 58.2**	**0.0**
BRSE					**Sn**	**22 28 39.8**	**-1.9**
BRSE	**Bradley Lake S**	**3.68**	**349**	P	**Pn**	**22 27 58.2**	**0.0**
	baz=168						
BRSE				S	**Sn**	**22 28 39.8**	**-1.9**
	baz=168						
BRLK	**Bradley Lake**	**3.72**	**348**		**Pn**	**22 27 58.8**	**+0.1**
BRLK				IAML		22 28 46.4	
	comp=E,52nm,1.2s						
SEW	**Seward**	**3.97**	**359**		**Pn**	**22 28 02.0**	**-0.1**
SEW	**Seward**	**3.97**	**359**	P	**Pn**	**22 28 02.1**	**-0.1**
	baz=179						
P23K	**Montague Islan**	**4.00**	**14**		**Pn**	**22 28 02.7**	**+0.1**
P23K	**Montague Islan**	**4.00**	**14**	P	**Pn**	**22 28 02.7**	**+0.1**
	baz=196						
P19K	**Oil Pt**	**4.08**	**331**	Pn	**Pn**	**22 28 04.6**	**+0.9**
P19K				IAML		22 28 57.2	
	comp=E,69nm,0.9s						
P19K				IAML		22 28 58.0	
	comp=N,89nm,0.6s						
CNTC	**Contact Creek**	**4.13**	**304**		**Pn**	**22 28 05.8**	**+1.4**
Q17K	**Contact Creek**	**4.14**	**304**	P	**Pn**	**22 28 05.8**	**+1.3**
	baz=118						
P18K	**Big Mountain,**	**4.53**	**318**		**Pn**	**22 28 10.6**	**+0.8**
P18K				IAML		22 28 55.0	
	comp=E,30nm,0.6s						
P18K	**Big Mountain,**	**4.53**	**318**	P	**Pn**	**22 28 11.1**	**+1.3**
	baz=133						
HIN	**Hinchinbrook I**	**4.53**	**18**		**Pn**	**22 28 10.1**	**+0.3**
HIN				IAML		22 29 00.3	
	comp=E,72nm,1.3s						
HIN				IAML		22 31 10.0	
	comp=N,70nm,1.1s						
KAIM	**Kayak Island**	**4.62**	**33**		**Pn**	**22 28 11.5**	**+0.5**
KAIM	**Kayak Island**	**4.62**	**33**	P	**Pn**	**22 28 11.6**	**+0.6**
	baz=217						
RSO	**Redoubt South**	**4.69**	**339**	Pn	**Pn**	**22 28 12.7**	**+0.6**
R16K	**Pilot Point**	**4.73**	**291**		**Pn**	**22 28 13.9**	**+1.4**
R16K	**Pilot Point**	**4.73**	**291**	P	**Pn**	**22 28 14.3**	**+1.8**
	baz=104						
EYAK	**Cordova Ski Ar**	**4.81**	**22**		**Pn**	**22 28 14.4**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.81**	**22**	P	**Pn**	**22 28 14.5**	**+0.8**
	baz=205						
RAGM	**Ragged Mountai**	**4.92**	**28**		**Pn**	**22 28 16.1**	**+0.8**
RC01	**Rabbit Creek A**	**4.97**	**358**	Pn	**Pn**	**22 28 16.1**	**+0.3**
RC01				IAML		22 29 12.9	
	comp=N,29nm,0.6s						
RC01				IAML		22 31 27.2	
	comp=E,30nm,1.5s						
GOAT	**Goat Mountain**	**5.08**	**27**		**Pn**	**22 28 18.0**	**+0.7**
BERG	**Berg Lake**	**5.20**	**33**		**Pn**	**22 28 19.6**	**+0.5**
N20K	**Mount Spurr**	**5.29**	**345**	P	**Pn**	**22 28 20.5**	**+0.3**
	baz=162						
SPCR	**Spurr Chakacha**	**5.29**	**345**		**Pn**	**22 28 20.5**	**+0.3**
KNK	**Knik Glacier**	**5.31**	**5**	Pn	**Pn**	**22 28 20.7**	**+0.2**
KNK				IAML		22 29 19.4	
	comp=N,18nm,0.7s						
KNK				IAML		22 29 19.6	
	comp=E,33nm,0.8s						
SNH	**Sunshine Point**	**5.32**	**38**		**Pn**	**22 28 21.3**	**+0.6**
SNH				IAML		22 31 47.3	
	comp=E,43nm,1.5s						
SNH				IAML		22 31 49.5	
	comp=N,45nm,1.2s						
SUA	**Susitna One**	**5.38**	**353**	Pn	**Pn**	**22 28 21.2**	**-0.5**
N19K	**Bonanza Creek**	**5.40**	**332**	Pn	**Pn**	**22 28 21.8**	**-0.1**
BMRM	**Bremner River**	**5.44**	**25**		**Pn**	**22 28 23.0**	**+0.6**
BMRM	**Bremner River**	**5.44**	**25**	P	**Pn**	**22 28 23.0**	**+0.6**
	baz=209						
P16K	**Nushagak River**	**5.47**	**306**		**Pn**	**22 28 24.4**	**+1.7**
P16K	**Nushagak River**	**5.47**	**306**	P	**Pn**	**22 28 24.4**	**+1.7**
	baz=118						
STLK	**Strandline Lak**	**5.52**	**348**		**Pn**	**22 28 24.1**	**+0.6**
BARK	**Barkley Ridge**	**5.60**	**37**		**Pn**	**22 28 25.2**	**+0.6**
GHO	**Glory Hole Cre**	**5.65**	**2**		**Pn**	**22 28 26.5**	**+1.2**
KLU	**Klutina**	**5.66**	**17**		**Pn**	**22 28 26.2**	**+0.8**
KLU	**Klutina**	**5.66**	**17**	P	**Pn**	**22 28 26.3**	**+0.9**
	baz=200						
N18K	**Kilae Creek**	**5.70**	**326**	Pn	**Pn**	**22 28 25.8**	**0.0**
SML	**Sawmill**	**5.71**	**5**		**Pn**	**22 28 27.0**	**+0.9**
SML	**Sawmill**	**5.71**	**5**	P	**Pn**	**22 28 27.3**	**+1.3**
	baz=186						
O16K	**Kokwok River B**	**5.80**	**310**	Pn	**Pn**	**22 28 28.6**	**+1.3**
SCM	**Sheep Creek Mo**	**5.80**	**10**	Pn	**Pn**	**22 28 28.2**	**+0.8**
VRDI	**Verde Repeater**	**5.96**	**29**		**Pn**	**22 28 30.2**	**+0.7**
N25K	**Chitina, Valde**	**6.01**	**22**	Pn	**Pn**	**22 28 31.2**	**+1.0**
KIAG	**Kiagna River**	**6.04**	**35**		**Pn**	**22 28 31.9**	**+1.3**
SAMH	**Samovar Hills**	**6.05**	**45**		**Pn**	**22 28 32.3**	**+1.5**
M24K	**Tolsona, Glenn**	**6.20**	**14**	Pn	**Pn**	**22 28 34.4**	**+1.6**
MCARA	**McCarthy VSAT**	**6.20**	**29**		**Pn**	**22 28 34.0**	**+1.2**
MCARA	**McCarthy VSAT**	**6.20**	**29**	P	**Pn**	**22 28 34.4**	**+1.7**
	baz=215						
PCA	**Pinnacle**	**6.24**	**47**		**Pn**	**22 28 34.2**	**+0.8**
PINM	**Pinnacle**	**6.24**	**47**	P	**Pn**	**22 28 34.1**	**+0.7**
	baz=235						
SDPT	**Sand Point**	**6.33**	**267**		**Pn**	**22 28 35.2**	**+0.8**
SDPT	**Sand Point**	**6.33**	**267**	P	**Pn**	**22 28 35.8**	**+1.3**
	baz=78						
M19K	**Big River Lodg**	**6.33**	**338**	Pn	**Pn**	**22 28 35.7**	**+1.1**
BARN	**Barnard Glacie**	**6.36**	**36**		**Pn**	**22 28 35.9**	**+0.8**
PNL	**Peninsula**	**6.38**	**52**		**Pn**	**22 28 36.2**	**+1.0**
PNL	**Peninsula**	**6.38**	**52**	P	**Pn**	**22 28 36.2**	**+1.0**
	baz=241						
O15K	**Ungalikthiuk R**	**6.38**	**303**		**Pn**	**22 28 37.1**	**+1.9**
O15K	**Ungalikthiuk R**	**6.38**	**303**	P	**Pn**	**22 28 37.1**	**+1.9**
	baz=114						
CTG	**Chitna Glacier**	**6.40**	**38**	P	**Pn**	**22 28 36.2**	**+0.6**
	baz=225						
CTGM	**Chitina Glacie**	**6.40**	**38**		**Pn**	**22 28 36.3**	**+0.6**
LOGN	**Logan Glacier**	**6.42**	**40**		**Pn**	**22 28 36.5**	**+0.6**
BCPM	**Bancas Point**	**6.42**	**49**		**Pn**	**22 28 36.8**	**+1.0**
HARP	**HAARP**	**6.63**	**17**		**Pn**	**22 28 40.9**	**+2.2**
HARP	**HAARP**	**6.63**	**17**	P	**Pn**	**22 28 40.9**	**+2.2**
	baz=201						
PS1A	**Pavlof South-1**	**7.02**	**269**		**Pn**	**22 28 45.1**	**+1.1**
DHY	**Denali Highway**	**7.03**	**7**	Pn	**Pn**	**22 28 45.6**	**+1.4**
O29M	**Mount Kennedy**	**7.06**	**49**		**Pn**	**22 28 45.7**	**+1.1**
O29M	**Mount Kennedy**	**7.06**	**49**	P	**Pn**	**22 28 45.7**	**+1.1**
	baz=239						
M26K	**Nabesna, AK**	**7.07**	**25**	Pn	**Pn**	**22 28 46.2**	**+1.5**
PS4A	**Pavlof South-4**	**7.10**	**269**		**Pn**	**22 28 45.9**	**+0.9**
P29M	**Windy Craggy**	**7.11**	**56**		**Pn**	**22 28 45.5**	**+0.2**
P29M	**Windy Craggy**	**7.11**	**56**	P	**Pn**	**22 28 45.5**	**+0.2**
	baz=246						
PN7A	**Pavlof North-7**	**7.16**	**270**		**Pn**	**22 28 47.1**	**+1.1**
S31K	**Pelican**	**7.39**	**70**		**Pn**	**22 28 47.0**	**-2.0**
S31K	**Pelican**	**7.39**	**70**	P	**Pn**	**22 28 47.2**	**-1.9**
	baz=262						
HYT	**Haines Junctio**	**7.78**	**48**	Pn	**Pn**	**22 28 55.4**	**+0.9**
SIT	**Sitka**	**7.80**	**77**	Pn	**Pn**	**22 28 52.6**	**-2.1**
BCAR	**Beaver Creek A**	**7.93**	**26**	Pn	**Pn**	**22 28 57.2**	**+0.7**
SKAG	**Skagway**	**8.20**	**60**		**Pn**	**22 28 59.5**	**-0.6**
SKAG	**Skagway**	**8.20**	**60**	P	**Pn**	**22 29 00.5**	**+0.4**
	baz=252						
S32K	**Killisnoo**	**8.22**	**75**	Pn	**Pn**	**22 28 59.0**	**-1.5**
R32K	**Eaglecrest**	**8.34**	**69**	Pn	**Pn**	**22 29 01.7**	**-0.3**
O30N	**Mendenhall**	**8.36**	**51**		**Pn**	**22 29 03.2**	**+0.9**
O30N	**Mendenhall**	**8.36**	**51**	P	**Pn**	**22 29 03.6**	**+1.3**
	baz=242						
WHY	**Whitehorse**	**8.84**	**53**		**Pn**	**22 29 09.8**	**+0.7**
P32M	**Atlin**	**9.02**	**61**	Pn	**Pn**	**22 29 11.6**	**+0.1**
U33K	**Whale Pass**	**9.07**	**83**	Pn	**Pn**	**22 29 10.2**	**-1.9**
M30M	**Minto, Yukon**	**9.09**	**40**	Pn	**Pn**	**22 29 13.3**	**+0.9**
AKUT	**Akutan**	**9.61**	**265**	Pn	**Pn**	**22 29 18.5**	**-0.9**
Q32M	**Nakina River**	**9.61**	**66**	Pn	**Pn**	**22 29 19.7**	**0.0**
P33M	**Teslin, Yukon**	**9.64**	**58**	Pn	**Pn**	**22 29 20.6**	**+0.7**
P33M	**Teslin, Yukon**	**9.64**	**58**	P	**Pn**	**22 29 20.5**	**+0.6**
	baz=252						
IMAR	**Indian Mountai**	**10.10**	**350**	Pn	**Pn**	**22 29 26.9**	**+0.7**
R33M	**Jennings River**	**10.35**	**64**	Pn	**Pn**	**22 29 30.0**	**+0.4**
BMAR	**Burnt Mountain**	**11.54**	**9**	Pn	**Pn**	**22 29 46.4**	**+0.5**
CLES	**Cleveland East**	**12.38**	**263**	Pn	**Pn**	**22 29 58.0**	**+0.6**
G31M	**Satah River**	**12.94**	**27**	Pn	**Pn**	**22 30 05.2**	**+0.4**
YKA	**Yellowknife Ar**	**18.66**	**56**	P	**P**	**22 31 18.6**	**-0.3**

AEIC ***23*** *22:29:17.2±1.5,56.2N±0.1×149.3W±0.1,h10km±8km, Error ellipse: s-maj=15.0km s-min=9.1km az=178.0*

NEIC 23 22:29:13.7±1.1,56.21N±0.05×149.4W±0.1,h21km±7km, ML3.3/12,ML3.2(AEIC),Error ellipse: s-maj=9.2km s-min=6.9km az=82.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.37**	**313**		**Pn**	**22 29 51.5**	**+0.2**
KDAK					Sn	22 30 18.2	-1.5
OHAK	**Old Harbor**	**2.40**	**297**		Pn	22 29 51.6	0.0
OHAK					Sn	22 30 18.0	-2.3
OHAK				IAML		22 30 19.2	
	comp=N,109nm,0.8s						
OHAK	**Old Harbor**	**2.40**	**297**	P	Pn	22 29 51.8	+0.1
	baz=114						
OHAK				S	Sn	22 30 18.3	-2.0
	baz=114						
SYI	**Shuyak Island**	**2.92**	**327**		Pn	22 29 58.5	-0.3
SYI					Sn	22 30 31.8	-1.4
Q20K	**Shuyak Island**	**2.92**	**327**	P	Pn	22 29 58.9	+0.1
	baz=144						
Q20K				S	Sn	22 30 31.9	-1.2
	baz=144						
R18K	**Karluk**	**3.11**	**298**		Pn	22 30 01.9	+0.4
R18K					Sn	22 30 36.1	-1.8
R18K	**Karluk**	**3.11**	**298**	P	Pn	22 30 02.1	+0.6
	baz=114						
R18K				S	Sn	22 30 36.6	-1.4
	baz=114						
CNPM	**China Poot**	**3.48**	**344**		Pn	22 30 06.2	-0.3
CNPM				IAML		22 30 51.8	
	comp=N,42nm,1.1s						
CNPM				IAML		22 31 45.5	
	comp=E,55nm,0.3s						
Q19K	**Cape Douglas,**	**3.58**	**322**		Pn	22 30 08.8	+0.9
Q19K	**Cape Douglas,**	**3.58**	**322**	P	Pn	22 30 08.0	+0.1
	baz=138						
Q23K	**Middleton Isla**	**3.61**	**25**		Pn	22 30 07.2	-1.1
Q23K	**Middleton Isla**	**3.61**	**25**	P	Pn	22 30 07.5	-0.8
	baz=208						
MID	**Middleton Isla**	**3.61**	**25**	Pn	Pn	22 30 07.4	-0.9
BRSE	**Bradley Lake S**	**3.62**	**349**		Pn	22 30 08.2	-0.4
BRSE	**Bradley Lake S**	**3.62**	**349**	P	Pn	22 30 08.2	-0.4
	baz=168						
BRLK	**Bradley Lake**	**3.66**	**348**		Pn	22 30 08.6	-0.5
BRLK					Sn	22 30 50.2	-1.4
SEW	**Seward**	**3.91**	**359**		Pn	22 30 11.7	-0.8
SEW	**Seward**	**3.91**	**359**	P	Pn	22 30 11.8	-0.6
	baz=179						
P23K	**Montague Islan**	**3.94**	**14**		Pn	22 30 12.0	-0.9
P23K	**Montague Islan**	**3.94**	**14**	P	Pn	22 30 12.0	-0.9
	baz=196						
P19K	**Oil Pt**	**4.03**	**331**		Pn	22 30 14.6	+0.5
P19K	**Oil Pt**	**4.03**	**331**	P	Pn	22 30 14.6	+0.5
	baz=148						
CNTC	**Contact Creek**	**4.11**	**303**		Pn	22 30 16.6	+1.3
CNTC					Sn	22 31 02.4	-0.3
Q17K	**Contact Creek**	**4.11**	**303**	P	Pn	22 30 16.6	+1.3
	baz=117						
Q17K				S	Sn	22 31 02.3	-0.3
	baz=117						
O20K	**Slope Mountain**	**4.25**	**337**		Pn	22 30 17.7	+0.4
O20K	**Slope Mountain**	**4.25**	**337**	P	Pn	22 30 17.7	+0.4
	baz=155						
O22K	**Cooper Landing**	**4.29**	**358**	Pn	Pn	22 30 17.5	-0.2
HIN	**Hinchinbrook I**	**4.46**	**18**		Pn	22 30 20.1	0.0
P18K	**Big Mountain,**	**4.48**	**318**		Pn	22 30 20.6	+0.3
P18K	**Big Mountain,**	**4.48**	**318**	P	Pn	22 30 20.5	+0.1
	baz=133						
KAIM	**Kayak Island**	**4.56**	**33**	Pn	Pn	22 30 21.6	+0.2
KAIM	**Kayak Island**	**4.56**	**33**	P	Pn	22 30 20.6	-0.7
	baz=217						
RDSO	**Redoubt South**	**4.62**	**339**		Pn	22 30 21.8	-0.5
RSO	**Redoubt South**	**4.63**	**339**	Pn	Pn	22 30 22.7	+0.2
RDT	**Redoubt**	**4.67**	**341**		Pn	22 30 22.4	-0.5
RDWB	**Redoubt West**	**4.67**	**338**		Pn	22 30 22.4	-0.6
CAPN	**Captain Cook N**	**4.67**	**349**	Pn	Pn	22 30 23.7	+0.8
O19K	**Port Alsworth**	**4.79**	**329**		Pn	22 30 23.6	-0.9
O19K	**Port Alsworth**	**4.79**	**329**	P	Pn	22 30 23.9	-0.5
	baz=145						
O18K	**Koktuh Hills**	**4.80**	**322**	Pn	Pn	22 30 24.6	-0.1
RAGM	**Ragged Mountai**	**4.86**	**29**	Pn	Pn	22 30 25.7	+0.1
RC01	**Rabbit Creek A**	**4.90**	**358**		Pn	22 30 25.3	-0.8
RC01	**Rabbit Creek A**	**4.90**	**358**	P	Pn	22 30 25.6	-0.5
	baz=178						
BERG	**Berg Lake**	**5.15**	**33**	Pn	Pn	22 30 29.7	+0.3
N20K	**Mount Spurr**	**5.22**	**345**	P	Pn	22 30 30.3	-0.3
	baz=162						
SPCR	**Spurr Chakacha**	**5.22**	**345**		Pn	22 30 30.3	-0.3
SNH	**Sunshine Point**	**5.27**	**38**	Pn	Pn	22 30 31.5	+0.4
SUA	**Susitna One**	**5.32**	**353**	Pn	Pn	22 30 31.6	-0.4
N19K	**Bonanza Creek**	**5.34**	**332**		Pn	22 30 31.9	-0.3
N19K	**Bonanza Creek**	**5.34**	**332**	P	Pn	22 30 32.0	-0.2
	baz=148						
PMR	**Palmer**	**5.40**	**1**	Pn	Pn	22 30 33.0	+0.1
GHO	**Glory Hole Cre**	**5.59**	**2**		Pn	22 30 35.9	+0.3
KLU	**Klutina**	**5.59**	**17**	Pn	Pn	22 30 35.6	0.0
SML	**Sawmill**	**5.64**	**5**		Pn	22 30 36.1	-0.2
SML	**Sawmill**	**5.64**	**5**	P	Pn	22 30 36.2	-0.1
	baz=186						
N18K	**Kilae Creek**	**5.65**	**325**		Pn	22 30 35.8	-0.5
N18K	**Kilae Creek**	**5.65**	**325**	P	Pn	22 30 36.0	-0.3
	baz=140						
O16K	**Kokwok River B**	**5.77**	**310**		Pn	22 30 38.1	+0.2
O16K	**Kokwok River B**	**5.77**	**310**	P	Pn	22 30 38.7	+0.8
	baz=122						
KIAG	**Kiagna River**	**5.98**	**35**		Pn	22 30 40.1	-0.9
N17K	**Nushagak Hills**	**5.98**	**320**	Pn	Pn	22 30 41.2	+0.4
M18K	**Stony River**	**6.27**	**330**		Pn	22 30 44.6	-0.3
M18K	**Stony River**	**6.27**	**330**	P	Pn	22 30 44.6	-0.3
	baz=145						
BARN	**Barnard Glacie**	**6.31**	**36**	Pn	Pn	22 30 45.8	+0.3
O15K	**Ungalikthiuk R**	**6.36**	**302**		Pn	22 30 47.2	+1.2
O15K	**Ungalikthiuk R**	**6.36**	**302**	P	Pn	22 30 47.2	+1.2
	baz=114						
M17K	**Holitna River**	**6.69**	**324**		Pn	22 30 50.4	-0.2
M17K	**Holitna River**	**6.69**	**324**	P	Pn	22 30 50.8	+0.2
	baz=138						
P29M	**Windy Craggy**	**7.07**	**56**	Pn	Pn	22 30 56.3	+0.5
S31K	**Pelican**	**7.36**	**71**	Pn	Pn	22 30 58.7	-1.1
BPAW	**Bear Paw Mtn.**	**7.96**	**355**	Pn	Pn	22 31 08.2	+0.2
SKAG	**Skagway**	**8.16**	**61**	Pn	Pn	22 31 11.3	+0.5
S32K	**Killisnoo**	**8.20**	**75**	Pn	Pn	22 31 10.9	-0.3
R32K	**Eaglecrest**	**8.31**	**69**	Pn	Pn	22 31 12.4	-0.4
CCB	**Clear Creek Bu**	**8.50**	**5**	Pn	Pn	22 31 15.7	+0.3

IDC ***23*** *22:30:58.2±7.0,37.18N×71.24E,h272km±117km, mbtmp3.3/5,Error ellipse: s-maj=134.3km s-min=34.0km az=166.0*

ISC 23 22:30:50.0±2.2,37.3N±0.2×71.8E±0.1,h100km,n7, σ1$44/10,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.03**	**17**	⇑P	**Pn**	**22 32 04.4**	**+1.0**
AML				⇑S	**Sn**	**22 32 58.2**	**-2.3**
	1.8nm,0.5s						
KK31	**Karatay Array**	**5.84**	**351**	⇓P	**Pn**	**22 32 16.5**	**+2.3**
	1.2nm,0.3s,baz=162,slow=12,SN

M29M	**Somme Creek**	**8.07**	**36**	Pn	Pn	22 42 23.7	-2.6
WHY	**Whitehorse**	**8.44**	**53**	Pn	Pn	22 42 29.1	-2.4
J26L	**Joseph Creek**	**8.62**	**15**	Pn	Pn	22 42 30.5	-3.3
P33M	**Teslin, Yukon**	**9.23**	**58**	Pn	Pn	22 42 40.2	-1.9
M31M	**Drury Creek, Y**	**9.40**	**45**	Pn	Pn	22 42 42.1	-2.3
H21K	**Melozitna Rive**	**9.62**	**350**	Pn	Pn	22 42 43.4	-4.0

IDC ***23*** *22:41:53.8±1.2,56.1°N×149.6°W, h0km, mb3.2/4, mbtmp3.3/9, ML3.1/5, MS3.8/1, Error ellipse: s-maj=29.6km s-min=20.4km az=34.0*

NEIC ***23*** *22:41:53.5±1.5,56.1°N±0.1°×149.6°W±0.1°, h19km±9km, ML3.6/28, ML3.4(AEIC), Error ellipse: s-maj=18.4km s-min=10.0km az=183.0*

AEIC ***23*** *22:41:57.2±1.7,56.1°N±0.1°×149.6°W±0.1°, h10km±8km, Error ellipse: s-maj=19.1km s-min=9.1km az=181.0*

ISC 23 22:41:54.7±0.9, 56°29N±0'08×149°66W±0'06, h10km, n75, σ1s24/80, mb3.3/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.19**	**314**	Pn	**Pn**	**22 42 30.6**	**-0.5**
KDAK				IAML		22 42 57.4	
	146nm,0.4s						
KDAK	**Kodiak Island**	**2.19**	**314**	S	**Sn**	**22 42 56.2**	**-2.1**
	baz=135						
KDAK	**Kodiak Island**	**2.19**	**314**	Pn	**Pn**	**22 42 30.7**	**-0.4**
	5.5nm,0.3s,baz=168,slow=5.4,SNR=5.0						
KDAK				Sn	**Sn**	**22 42 55.7**	**-2.6**
	23nm,0.3s,baz=22,slow=20,SNR=15						
	14nm,0.3s						
OHAK	**Old Harbor**	**2.21**	**297**	Pn	**Pn**	**22 42 30.0**	**-1.3**
OHAK	**Old Harbor**	**2.21**	**297**	P	**Pn**	**22 42 30.6**	**-0.7**
	baz=118						
OHAK				S	**Sn**	**22 42 55.4**	**-3.3**
	baz=118						
Q20K	**Shuyak Island**	**2.76**	**329**	P	**Pn**	**22 42 39.0**	**+0.1**
	baz=148						
Q20K				S	**Sn**	**22 43 12.7**	**+0.5**
	baz=148						
SYI	**Shuyak Island**	**2.76**	**329**	Pn	**Pn**	**22 42 38.7**	**-0.2**
R18K	**Karluk**	**2.92**	**298**	P	**Pn**	**22 42 40.7**	**-0.5**
	baz=117						
R18K				S	**Sn**	**22 43 14.2**	**-2.1**
	baz=117						
CNPM	**China Poot**	**3.35**	**346**	Pn	**Pn**	**22 42 47.0**	**-0.1**
CNPM				IAML		22 43 28.4	
	comp=N,60nm,1.0s						
CNPM				IAML		22 43 37.4	
	comp=E,90nm,1.2s						
Q19K	**Cape Douglas,**	**3.41**	**323**		**Pn**	**22 42 48.6**	**+0.7**
Q19K	**Cape Douglas,**	**3.41**	**323**	P	**Pn**	**22 42 48.4**	**+0.5**
	baz=141						
BRSE	**Bradley Lake S**	**3.51**	**351**	P	**Pn**	**22 42 49.0**	**-0.3**
	baz=170						
BRSE				S	**Sn**	**22 43 30.9**	**+0.1**
	baz=170						
BRLK	**Bradley Lake**	**3.54**	**350**	Pn	**Pn**	**22 42 49.3**	**-0.5**
BRLK				IAML		22 43 36.7	
	comp=E,58nm,1.0s						
BRLK				IAML		22 43 40.0	
	comp=N,51nm,1.0s						
Q23K	**Middleton Isla**	**3.61**	**28**	Pn	**Pn**	**22 42 50.2**	**-0.4**
Q23K	**Middleton Isla**	**3.61**	**28**	P	**Pn**	**22 42 50.4**	**-0.2**
	baz=209						
MID	**Middleton Isla**	**3.61**	**28**	Pn	**Pn**	**22 42 50.3**	**-0.3**
MID				IAML		22 44 34.1	
	comp=N,146nm,1.5s						
P19K	**Oil Pt**	**3.87**	**332**	Pn	**Pn**	**22 42 54.9**	**+0.6**
P19K				IAML		22 43 54.4	
	comp=N,117nm,1.4s						
P19K	**Oil Pt**	**3.87**	**332**	P	**Pn**	**22 42 54.8**	**+0.5**
	baz=150						
P23K	**Montague Islan**	**3.90**	**17**	P	**Pn**	**22 42 55.2**	**+0.5**
	baz=197						
Q17K	**Contact Creek**	**3.92**	**303**	P	**Pn**	**22 42 54.4**	**-0.5**
	baz=120						
O20K	**Slope Mountain**	**4.11**	**339**	P	**Pn**	**22 42 57.9**	**+0.3**
	baz=157						
P18K	**Big Mountain,**	**4.31**	**319**	Pn	**Pn**	**22 43 00.1**	**-0.2**
P18K	**Big Mountain,**	**4.31**	**319**	P	**Pn**	**22 42 59.9**	**-0.4**
	baz=135						
HIN	**Hinchinbrook I**	**4.44**	**21**	Pn	**Pn**	**22 43 02.6**	**+0.5**
HIN				IAML		22 43 59.2	
	comp=E,74nm,1.3s						
HIN				IAML		22 44 08.3	
	comp=N,62nm,1.1s						
KAIM	**Kayak Island**	**4.58**	**35**	P	**Pn**	**22 43 04.4**	**+0.4**
	baz=218						
O19K	**Port Alsworth**	**4.63**	**330**	P	**Pn**	**22 43 04.7**	**+0.2**
	baz=147						
O18K	**Koktuh Hills**	**4.63**	**323**		**Pn**	**22 43 04.4**	**-0.3**
O18K				IAML		22 44 02.0	
	comp=E,28nm,1.5s						
O18K				IAML		22 44 08.2	
	comp=N,28nm,1.3s						
P17K	**Kvichak River**	**4.66**	**312**	P	**Pn**	**22 43 04.9**	**-0.1**
	baz=128						
EYAK	**Cordova Ski Ar**	**4.74**	**24**	P	**Pn**	**22 43 06.6**	**+0.5**
	baz=206						
RC01	**Rabbit Creek A**	**4.81**	**360**	Pn	**Pn**	**22 43 06.2**	**-0.9**
RC01				IAML		22 44 05.6	
	comp=N,49nm,0.5s						
RC01				IAML		22 44 09.3	
	comp=E,49nm,0.5s						
N20K	**Mount Spurr**	**5.10**	**346**	P	**Pn**	**22 43 10.6**	**-0.6**
	baz=164						
BERG	**Berg Lake**	**5.17**	**35**	Pn	**Pn**	**22 43 12.2**	**+0.1**
BERG				IAML		22 44 20.1	
	comp=N,48nm,0.8s						
N19K	**Bonanza Creek**	**5.19**	**333**	Pn	**Pn**	**22 43 11.7**	**-0.7**
N19K	**Bonanza Creek**	**5.19**	**333**	P	**Pn**	**22 43 12.0**	**-0.4**
	baz=150						
SUA	**Susitna One**	**5.22**	**354**	Pn	**Pn**	**22 43 13.8**	**+0.9**
P16K	**Nushagak River**	**5.25**	**305**	P	**Pn**	**22 43 12.6**	**-0.6**
	baz=120						
SNH	**Sunshine Point**	**5.31**	**40**	Pn	**Pn**	**22 43 14.2**	**+0.2**
BMRM	**Bremner River**	**5.38**	**27**	P	**Pn**	**22 43 15.5**	**+0.5**
	baz=210						
N18K	**Kilae Creek**	**5.48**	**326**	Pn	**Pn**	**22 43 15.9**	**-0.4**
N18K	**Kilae Creek**	**5.48**	**326**	P	**Pn**	**22 43 16.1**	**-0.2**
	baz=142						
GHO	**Glory Hole Cre**	**5.51**	**4**	Pn	**Pn**	**22 43 17.9**	**+1.0**
O16K	**Kokwok River B**	**5.58**	**310**		**Pn**	**22 43 17.7**	**0.0**
N17K	**Nushagak Hills**	**5.80**	**320**	Pn	**Pn**	**22 43 21.0**	**+0.2**
VRDI	**Verde Repeater**	**5.91**	**31**	Pn	**Pn**	**22 43 22.2**	**-0.2**
M18K	**Stony River**	**6.12**	**331**	P	**Pn**	**22 43 24.7**	**-0.3**
	baz=146						
CTGM	**Chitina Glacie**	**6.39**	**39**	Pn	**Pn**	**22 43 29.5**	**+0.6**
LOGN	**Logan Glacier**	**6.41**	**41**	Pn	**Pn**	**22 43 29.5**	**+0.2**
PNL	**Peninsula**	**6.42**	**54**	P	**Pn**	**22 43 29.7**	**+0.4**
	baz=241						
BCPM	**Bancas Point**	**6.45**	**51**	Pn	**Pn**	**22 43 30.2**	**+0.6**
N15K	**Kwethluk River**	**6.74**	**310**		**Pn**	**22 43 34.8**	**+1.1**
M16K	**Timber Creek**	**6.78**	**318**	Pn	**Pn**	**22 43 34.6**	**+0.3**
O14K	**Tigyukauivet M**	**6.88**	**300**	Pn	**Pn**	**22 43 35.5**	**0.0**
P29M	**Windy Craggy**	**7.17**	**57**	Pn	**Pn**	**22 43 38.0**	**-1.5**
L16K	**Owhat River**	**7.43**	**321**		**Pn**	**22 43 43.0**	**0.0**
L16K	**Owhat River**	**7.43**	**321**	P	**Pn**	**22 43 42.7**	**-0.3**
	baz=134						
L14K	**Kuka Creek**	**8.44**	**312**		**Pn**	**22 43 56.8**	**-0.1**
K15K	**Wolf Creek Mou**	**8.54**	**320**	Pn	**Pn**	**22 43 58.6**	**+0.3**
ILAR	**Eielson Array**	**8.62**	**8**	Pn	**Pn**	**22 44 00.0**	**+0.7**
ILAR	**Eielson Array**	**8.62**	**8**	Pn	**Pn**	**22 43 59.5**	**+0.2**
	comp=N,0.2nm,0.3s,baz=199,slow=13,SNR=3.2						
ILAR				Sn	**Sn**	**22 45 31.9**	**-4.5**
	comp=N,0.2nm,0.3s,baz=197,slow=15,SNR=1.7						
	comp=N,0.5nm,0.5s						
N31M	**Braeburn, Yuko**	**8.86**	**48**	Pn	**Pn**	**22 43 60.0**	**-2.8**
WHY	**Whitehorse**	**8.89**	**54**	Pn	**Pn**	**22 43 59.3**	**-3.9**
P32M	**Atlin**	**9.10**	**62**	Pn	**Pn**	**22 44 04.0**	**-1.9**
U33K	**Whale Pass**	**9.22**	**84**	Pn	**Pn**	**22 44 04.7**	**-2.9**
DLBC	**Dease Lake**	**10.81**	**70**	Pn	**Pn**	**22 44 30.5**	**+1.0**
	comp=N,0.2nm,0.3s,baz=137,slow=27,SNR=2.4						
	comp=N,3.2nm,1.0s						
INK	**Inuvik**	**14.12**	**25**	Pn	**Pn**	**22 45 16.1**	**+1.6**
INK	**Inuvik**	**14.12**	**25**	Pn	**Pn**	**22 45 17.2**	**+2.7**
	baz=7.0,slow=26,SNR=1.6						
	comp=N,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**18.71**	**56**	P	**P**	**22 46 12.7**	**-0.2**
YKA	**Yellowknife Ar**	**18.71**	**56**	P	**Pn**	**22 46 14.1**	**+0.7**
	comp=N,0.1nm,0.3s,baz=267,slow=11,SNR=7.0						
	comp=N,1.4nm,1.1s						
A36M	**Sachs Harbour**	**18.75**	**24**		**P**	**22 46 13.4**	**0.0**
NVAR	**Mina Array Bea**	**27.40**	**117**	P	**P**	**22 47 39.9**	**-0.5**
	comp=N,0.2nm,0.6s,baz=310,slow=9.0,SNR=1.9						
	comp=N,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**32.01**	**78**	LR	LR	23 01 00.8	
	comp=N,179nm,19.6s,baz=258,slow=36						
TXAR	**Lajitas Array**	**42.02**	**110**	P	**P**	**22 49 45.8**	**-0.4**
	comp=N,0.1nm,0.4s,baz=291,slow=5.7,SNR=2.0						
	comp=N,0.1nm,0.4s						
SONM	**Songino Array**	**58.47**	**310**	P	**P**	**22 51 52.4**	**+1.8**
	comp=N,0.3nm,0.6s,baz=58,slow=5.7,SNR=2.2						
	comp=N,0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.47**	**324**	P	**P**	**22 52 58.3**	**+1.7**
	comp=N,0.4nm,0.8s,baz=20,slow=4.6,SNR=3.9						
	comp=N,0.4nm,0.8s						
QSPA	**South Pole Qui**	**146.08**	**180**	PKPbc	**PKPab**	**23 01 33.0**	**-1.1**
	comp=N,0.4nm,0.6s,baz=251,slow=11,SNR=1.4						

IDC 23 22:53:10.2±4.8, 4°24S×132°39E, h0km, mb3.3/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=305.2km s-min=32.6km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.72**	**173**	Pn	Pn	22 56 52.2	-1.0
	0.2nm,0.3s,baz=357,slow=14,SNR=8.0						
WRA				Sn	Sn	22 59 37.8	-10
	0.1nm,0.3s,baz=332,slow=24,SNR=1.7						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**19.36**	**176**	P	P	22 57 38.0	+0.4
	0.1nm,0.3s,baz=354,slow=8.7,SNR=2.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.28**	**325**	P	P	23 04 06.9	+0.1
	0.3nm,0.8s,baz=115,slow=6.2,SNR=4.1						
	0.3nm,0.8s						

NEIC ***23*** *22:57:44.5±0.7, 19.80N±0.04×156.70W±0.03, h25km±4km, Error ellipse: s-maj=5.4km s-min=4.7km az=177.0*

HVO 23 22:57:47.0±0.8, 19°80N±0'05×156°77W±0'03, h22km±7km, ML3.1/7, ML3.1/38(NEIC), Error ellipse: s-maj=7.1km s-min=4.3km az=195.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKH	**Kailua Kona**	**0.72**	**101**		Pb	22 57 58.7	-2.1
KHLU	**Kahalu`u**	**0.85**	**104**		Pb	22 58 00.1	-3.0
KHLU					Sb	22 58 10.1	-4.1
CPH	**Captain Cook**	**0.86**	**111**		Pb	22 58 00.3	-2.9
HUH	**Hualalai**	**0.89**	**97**		Pb	22 58 00.8	-3.0
HUH					Sb	22 58 11.6	-3.8
HUH				IAML		22 58 12.9	
	comp=N,447nm,0.1s						
HUH				IAML		22 58 13.4	
	comp=E,545nm,0.1s						
MHA	**Mahukona**	**0.90**	**64**	Pn	Pb	22 58 01.6	-2.3
MHA	**Mahukona**	**0.90**	**64**		Sb	22 58 12.2	-3.3
HPAH	**Hawaii Prepara**	**1.04**	**77**		Pb	22 58 02.6	-3.6
HPAH					Sb	22 58 13.8	-5.7
ALEP	**Alea Permanent**	**1.09**	**103**		Pn	22 58 04.0	-3.4
ALEP					Sb	22 58 16.9	-4.4
KHLH	**Kahului Airpor**	**1.14**	**16**	Pn	Pn	22 58 05.5	-2.2
MWH	**Moku'aweowe**	**1.15**	**105**		Pn	22 58 04.4	-3.8
MWH				IAML		22 58 32.6	
	comp=N,296nm,0.5s						
MWH				IAML		22 58 38.4	
	comp=E,344nm,1.7s						
MLOA	**Mauna Loa Obse**	**1.15**	**103**		Sb	22 58 18.0	-5.2
KHU	**Kahuku**	**1.22**	**116**	Pn	Pn	22 58 05.1	-3.8
KHU				IAML		22 58 16.2	
	comp=E,539nm,3.5s						
KHU				IAML		22 58 42.6	
	comp=N,371nm,4.1s						
HMH	**Humu'ula Sheep**	**1.23**	**99**	Pn	Pn	22 58 05.8	-3.3
HMH				IAML		22 58 16.1	
	comp=N,359nm,4.7s						
MLH	**Mauna Loa**	**1.34**	**103**	Pn	Pn	22 58 06.9	-3.7
MLH				IAML		22 58 22.5	
	comp=N,366nm,0.3s						
MLH				IAML		22 58 51.4	
	comp=E,274nm,4.0s						
WRMHI	**West Rim**	**1.44**	**105**	Pn	Pn	22 58 08.2	-3.7
UWE	**Uwekahuna**	**1.44**	**105**	Pn	Pn	22 58 08.2	-3.7
RSD	**Rainshed**	**1.45**	**103**		Pn	22 58 08.3	-3.7
RSD					Sn	22 58 24.2	-6.2
RSD				IAML		22 58 24.8	
	comp=N,402nm,1.8s						
RSD				IAML		22 58 47.5	
	comp=E,251nm,3.9s						
SDHHI	**Sand Hill**	**1.45**	**106**	Pn	Pn	22 58 08.2	-3.8
SDHHI				IAML		22 58 36.7	
	comp=E,378nm,1.2s						
UWB	**Uwekahuna B**	**1.45**	**104**	Pn	Pn	22 58 08.2	-3.9
SBLHI	**Steaming Bluff**	**1.46**	**104**	Pn	Pn	22 58 08.2	-4.0
SBLHI				IAML		22 58 23.1	
	comp=E,208nm,2.8s						
SBLHI				IAML		22 58 46.9	
	comp=N,216nm,2.8s						
HLP	**Hilina Pali**	**1.47**	**110**	Pn	Pn	22 58 08.5	-3.7
PUH	**Pauahi**	**1.52**	**106**	Pn	Pn	22 58 08.7	-4.4
PUH				IAML		22 58 53.8	
	comp=E,200nm,4.2s						
PUH				IAML		22 58 56.9	
	comp=N,262nm,3.2s						
STCH	**Steam Cracks**	**1.60**	**104**	Pn	Pn	22 58 09.9	-4.2
STCH				IAML		22 58 39.0	
	comp=E,263nm,1.9s						
STCH				IAML		22 59 01.1	
	comp=N,228nm,1.8s						
WMR	**Waimanalo Ridg**	**1.74**	**331**		Pn	22 58 13.3	-2.7
WMR					Sn	22 58 33.3	-4.2
HON	**Honolulu**	**1.91**	**323**	Pn	Pn	22 58 15.2	-3.0
KIP	**Kipapa**	**2.00**	**324**	Pn	Pn	22 58 16.4	-3.0
KIP				IAML		22 58 31.8	
	comp=N,134nm,4.1s						
KIP				IAML		22 59 32.5	
	comp=N,178nm,4.4s						

JMA ***23*** *23:01:43.1±0.2, 28.8N±0.4×128.4E±0.9, h27km, MV3.1/10, NW OFF AMAMI-OSHIMA IS*

IDC ***23*** *23:01:45.3±27.0, 28.78N×127.81E, h0km, mb3.6/5, mbtmp3.6/5, MS3.0/3, Error ellipse: s-maj=494.9km s-min=193.8km az=119.0*

ISC 23 23:01:43.4±0.9, 28°76N±0'06×128°46E±0'07, h10km, n17, σ0s59/15, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.77**	**59**	P	**Pg**	**23 01 58.0**	**-0.2**
JTAJ				S	**Sg**	**23 02 08.6**	**+0.4**
JAMN	**Amaminishikomi**	**0.81**	**129**	P	**Pg**	**23 01 59.8**	**+0.7**
JTK	**Tokunoshima**	**1.06**	**156**	P	**Pb**	**23 02 03.1**	**-0.8**
JTK				*eS*	**Sb**	**23 02 18.1**	**+0.3**
JAM	**Amami Oshima**	**1.07**	**108**	*eP*	**Pb**	**23 02 03.5**	**-0.5**
JOKE	**Okinoerabujima**	**1.39**	**176**	*eP*	**Pn**	**23 02 08.2**	**-0.8**
JYRO	**Yoronjima**	**1.72**	**180**	P	**Pn**	**23 02 13.8**	**+0.3**
JIH	**Iheya**	**1.77**	**194**	*eP*	**Pn**	**23 02 13.8**	**-0.3**
JOW	**Kunigami**	**1.92**	**185**	P	**Pn**	**23 02 15.8**	**-0.5**
JOW	**Kunigami**	**1.92**	**185**	LR	LR	23 03 18.9	
	comp=Z,354nm,18.4s,baz=20,slow=47						
KSRS	**Korea Array**	**8.69**	**357**	LR	LR	23 07 24.2	
	comp=Z,75nm,18.3s,baz=170,slow=39						
MJAR	**Matsushiro Arr**	**11.30**	**44**	LR	LR	23 08 52.1	
	comp=Z,192nm,18.5s,baz=167,slow=36						
DAV	**Davao City (W)**	**21.74**	**188**	LR	LR	23 16 29.1	
	comp=Z,22nm,18.6s,baz=226,slow=41						
SONM	**Songino Array**	**25.59**	**324**	P	**P**	**23 07 13.4**	**+0.6**
	1.4nm,1.1s,baz=120,slow=8.7,SNR=5.6						
	1.4nm,1.1s						
MKAR	**Makanchi Array**	**40.04**	**310**	P	**P**	**23 09 18.4**	**-0.4**
	0.7nm,0.8s,baz=110,slow=9.5,SNR=8.6						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**40.39**	**321**	P	**P**	**23 09 21.0**	**-0.4**
	0.2nm,0.3s,baz=96,slow=8.8,SNR=1.5						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**43.20**	**315**	P	**P**	**23 09 43.9**	**-0.5**
	0.7nm,0.8s,baz=102,slow=8.7,SNR=5.4						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**48.55**	**317**	P	**P**	**23 10 27.5**	**+0.7**
	1.7nm,0.8s,baz=91,slow=7.2,SNR=7.5						
	1.7nm,0.8s						

IDC 23 23:04:13.6±1.4, 3.69N×125.08E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=156.1km

s-min=22.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.18**	**159**	P	P	23 09 40.5	-0.5
	1.2nm,0.8s,baz=337,slow=10,SNR=13						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**28.51**	**163**	P	P	23 10 11.6	+0.6
	0.3nm,0.5s,baz=345,slow=9.7,SNR=4.4						
	0.3nm,0.5s						
SONM	**Songino Array**	**46.83**	**343**	P	P	23 12 45.1	-0.4
	0.1nm,0.4s,baz=152,slow=9.4,SNR=1.7						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**56.66**	**326**	P	P	23 13 59.0	+0.2
	0.1nm,0.4s,baz=115,slow=6.8,SNR=4.0						
	0.1nm,0.4s						

BGR ***23*** *23:09:04.2, 6.72S×11.45W, h10km, mb5.5, Ms5.1*

MOS ***23*** *23:09:07.5±1.1, 5.76S×12.51W, h10km, mb5.7/56, MS4.8/12, Error ellipse: s-maj=8.8km s-min=4.3km az=62.6*

IDC ***23*** *23:09:08.5±0.4, 5.71S×12.48W, h0km, mb5.1/34, mbtmp5.1/35, ML3.5/1, MS4.6/42, Error ellipse: s-maj=16.3km s-min=10.9km az=125.0*

BJI ***23*** *23:09:08.3±0.0, 6.16S×12.17W, h12km, mb5.4/7, Ms5.4/8, Ms7 5.0/8*

NEIC ***23*** *23:09:09.6±2.0, 5.78S±0.08×12.54W±0.08, h10km±1km, mb5.6/374, Ms_20 5.6/499, Error ellipse: s-maj=14.8km s-min=12.2km az=314.0*

GCMT ***23*** *23:09:13.6±0.3, 5.61S±0.02×12.39W±0.04, h17km±1km, MW5.4/117, Moment Tensor Solution. s20,c21; s117,c170; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.40±.10; Mθθ-1.17±.06; Mϕϕ-0.23±.05; Mrθ0.20±.12; Mθϕ-0.04±.03; Mϕr0.50±.20; Best double couple: Mo1.37300×10^17 NP1:ϕs71.00000°, δ52.00000°, λ71.00000°. NP2:ϕs281.00000°, δ42.00000°, λ113.00000°. Principal axes: T 1.5540, Plg74.0000°, Azm284.0000°; N -0.3620, Plg15.0000°, Azm84.0000°; P -1.1930, Plg5.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 23:09:09.5±0.2, 5.73S±0'05×12°50W±0'05, h10km, n1131, σ1s30/847, mb5.6/338, MS5.5/286, 41C-53D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASCN	**Ascension**	**2.87**	**220**		Pn	23 09 50.3	-5.0
H10N2	**ASCENSION HYDR**	**2.87**	**223**	T	T	23 12 45.1	
	baz=44,slow=74						
H10N1	**ASCENSION HYDR**	**2.88**	**223**	T	T	23 12 44.5	
	baz=44,slow=74						
H10N3	**ASCENSION HYDR**	**2.89**	**223**	T	T	23 12 45.3	
	baz=44,slow=74						
H10S2	**ASCENSION HYDR**	**3.85**	**213**	T	T	23 13 57.7	
	baz=185,slow=74,SNR=551						
H10S3	**ASCENSION HYDR**	**3.85**	**214**	T	T	23 14 00.1	
	baz=35,slow=74,SNR=1323						
SHEL	**Horse Pasture**	**12.14**	**147**	Pn	**Pn**	**23 12 01.1**	**-1.6**
SHEL	**Horse Pasture**	**12.14**	**147**	P	**Pn**	**23 12 01.1**	**-1.6**
LIC	**Lamto**	**14.02**	**32**	*eP*	**Pn**	**23 12 28.6**	**+0.2**
	80nm,1.1s						
KIC	**Kosan Boka**	**14.29**	**33**	*eP*	**Pn**	**23 12 30.7**	**-1.4**
	46nm,1.2s						
TIC	**Toumodi**	**14.38**	**31**	*eP*	**Pn**	**23 12 33.2**	**-0.2**
	89nm,1.2s						
DBIC	**Dimbokro**	**14.49**	**32**	Pn	**Pn**	**23 12 33.8**	**-1.0**
DBIC	**Dimbokro**	**14.49**	**32**	Pn	**Pn**	**23 12 33.5**	**-1.3**
	0.2nm,0.3s,baz=199,slow=13,SNR=22						
DBIC				Sn	**Sn**	**23 15 19.4**	**+3.8**
	baz=341,slow=18						
DBIC				LR	LR	23 17 00.9	
	comp=Z,3μm,19.7s,baz=200,slow=33						
	29nm,1.1s						
MBO	**M'Bour**	**20.47**	**348**	P	**P**	**23 13 47.3**	**-0.3**
MBO				IAmb	IAmb	23 13 52.5	
	comp=Z,286nm,1.2s						
RCBR	**Riachuelo**	**23.28**	**269**	LR	LR	23 20 56.0	
	comp=Z,398nm,20.4s,baz=81,slow=30						
RCBR	**Riachuelo**	**23.28**	**269**	*eP*	**P**	**23 14 17.2**	**-0.5**
SACV	**Santiago Islan**	**23.33**	**332**		**P**	**23 14 17.6**	**-0.5**
SACV				IAmb	IAmb	23 14 20.0	
	comp=Z,344nm,1.6s						
TOA0	**Torodi Ar. Sit**	**23.46**	**37**	P	**P**	**23 14 17.0**	**-2.4**
TORD	**Torodi Ar. Bea**	**23.46**	**37**	P	**P**	**23 14 17.3**	**-2.2**
TORD	**Torodi Ar. Bea**	**23.46**	**37**	P	**P**	**23 14 17.8**	**-1.6**
	comp=Z,71nm,1.1s,baz=232,slow=5.8,SNR=74						
TORD				LR	LR	23 22 21.4	
	comp=Z,2μm,19.7s,baz=218,slow=34						
	comp=Z,71nm,1.1s						
GUA01	**Guaratinga, BA**	**28.84**	**246**	*eP*	**P**	**23 15 09.0**	**+0.6**
H09N1	**TRISTAN DA CUN**	**31.19**	**180**	T	T	23 48 15.1	
	SNR=4.5						
TSUM	**Tsumeb**	**32.21**	**117**	P	**P**	**23 15 37.6**	**-0.7**
TSUM	**Tsumeb**	**32.21**	**117**	LR	LR	23 26 14.6	
	comp=Z,2μm,20.3s,baz=290,slow=32						
JANB	**Januaria**	**32.59**	**251**	*eP*	**P**	**23 15 41.9**	**+0.2**
SDBA	**SAO DESIDERIO**	**32.65**	**256**	*eP*	**P**	**23 15 42.1**	**-0.1**
WIN	**Windhoek**	**33.12**	**123**	P	**P**	**23 15 45.4**	**-0.9**
WIN	**Windhoek**	**33.12**	**123**	P	**P**	**23 15 45.4**	**-0.9**
WIN				pmax	pmax		
	comp=Z,23nm,1.0s						
WIN				MLR	MLR		
	comp=Z,2μm,20.0s						
TAM	**Tamanrasset**	**33.38**	**31**	P	**P**	**23 15 48.2**	**-0.3**
TAM	**Tamanrasset**	**33.38**	**31**	P	**P**	**23 15 48.2**	**-0.3**
TAM				pmax	pmax		
	comp=Z,24nm,1.3s						
TAM				MLR	MLR		
	comp=Z,2μm,19.0s						
PMNB	**Patos De Minas**	**35.45**	**246**	*eP*	**P**	**23 16 06.4**	**-0.1**
BDFB	**Brasilia**	**36.20**	**251**	P

comp=Z,760nm,20.7s,baz=284,slow=32
comp=Z,22nm,0.9s
PTGB Pitanga 42.36 239 *e*P P **23 17 05.3 +0.9**
RPRD Ribas do Rio P 42.57 246 *e*P P **23 17 07.6 +1.5**
NPGB Novo Progresso 42.60 266 *e*P P **23 17 06.9 +0.6**
MORF Marmelete 42.96 5 *e*P P **23 17 10.8 +1.9**
comp=Z,107nm,1.7s
MORF Marmelete 42.96 5 P P **23 17 07.7 -1.2**
MORF Marmelete 42.96 5 P P **23 17 07.7 -1.2**
MORF pmax pmax
comp=Z,113nm,1.4s
PBDV Barranco-do-Ve 42.96 5 *e*P P **23 17 10.6 +1.7**
comp=Z,59nm,1.7s
PP1B Ponte de Pedra 43.04 250 *e*P P **23 17 11.1 +1.3**
ITTB Itaituba 43.08 270 *e*P P **23 17 10.9 +0.7**
CLDB Colider 43.12 260 *e*P P **23 17 12.0 +1.4**
PVAQ Vaqueiros 43.14 6 *e*LR LR 23 30 30.6
PTEO Sao Teotonio 43.19 4 *e*P P **23 17 12.5 +1.8**
comp=Z,106nm,1.4s
PCVE Castro Verde 43.34 5 *e*P P **23 17 11.9 0.0**
comp=Z,46nm,1.6s
RVDE Rio Verde (Bra 43.38 248 *e*P P **23 17 13.9 +1.3**
MBAR Mbarara 43.46 85 P P **23 17 14.1 +0.6**
MBAR IAmb IAmb 23 17 17.9
comp=Z,139nm,1.4s
MBAR Mbarara 43.46 85 *c i*P P **23 17 15.5 +2.0**
MBAR pmax pmax
comp=Z,132nm,1.4s
MBAR Mbarara 43.46 85 P P **23 17 16.0 +2.5**
MBAR P P **23 17 16.0 +2.5**
SALV Santo Antonio 43.53 253 *e*P P **23 17 15.1 +1.3**
FRBT Francisco Belt 43.64 238 *e*P P **23 17 16.2 +1.5**
PBEJ Beja 43.74 5 *e*P P **23 17 17.4 +2.2**
comp=Z,21nm,1.7s
PNCL Nicolau / Gran 43.77 5 *e*P P **23 17 17.9 +2.5**
comp=Z,44nm,2.1s
PBAR Barrancos 43.97 6 *e*P P **23 17 20.2 +3.2**
comp=Z,41nm,2.0s
PDRB Porto dos Gac 44.07 259 *e*P P **23 17 19.5 +1.3**
EVO Evora 44.23 5 *e*P P **23 17 21.6 +2.5**
comp=Z,51nm,1.4s
AQDB Aquidauana 44.39 247 *e*P P **23 17 21.8 +1.1**
CART Cartagena 44.41 13 P P **23 17 20.2 -0.2**
CART IAmb IAmb 23 17 23.4
comp=Z,80nm,1.1s
CART IAMs_20 IAMs_20 23 35 15.9
comp=Z,3µm,19.0s
PMAFR Mafra 44.56 4 *e*P P **23 17 24.6 +2.9**
comp=Z,102nm,1.5s
PESTR Estremoz 44.60 5 *e*P P **23 17 24.5 +2.4**
comp=Z,25nm,1.6s
PMTG Montargil 44.75 5 *e*P P **23 17 24.9 +1.7**
comp=Z,40nm,1.9s
PANT Pantanal (Braz 44.92 249 *e*P P **23 17 26.9 +1.9**
ANTJ Antonio Joao (45.03 245 *e*P P **23 17 26.6 +0.8**
PMRV Marv??o 45.18 6 *e*P P **23 17 28.7 +2.1**
comp=Z,61nm,1.5s
PMRV Marv??o 45.18 6 *e*LR LR 23 33 34.4
comp=Z,1µm,22.0s
GRHM Grahamstown, E 45.33 132 P P **23 17 25.7 -2.3**
GRHM IAmb IAmb 23 17 29.5
comp=Z,60nm,1.0s
BDQN Bodoquena, MS 45.34 247 *e*P P **23 17 29.6 +1.3**
PCBR Castelo Branco 45.58 5 *e*P P **23 17 31.4 +1.6**
comp=Z,32nm,1.5s
PAB San Pablo 45.67 9 P P **23 17 29.2 -1.4**
PAB San Pablo 45.67 9 P P **23 17 31.8 +1.1**
PCAS Casmilo, Conde 45.70 4 *e*P P **23 17 33.4 +2.6**
comp=Z,43nm,1.5s
ESDC Sonseca Array 45.86 9 P P **23 17 31.0 -1.1**
ESDC Sonseca Array 45.86 9 P P **23 17 32.4 +0.3**
comp=Z,15nm,1.1s,baz=189,slow=7.5,SNR=50
ESDC LR LR 23 36 34.8
comp=Z,2µm,19.8s,baz=166,slow=36
comp=Z,15nm,1.1s
ESBB Sonseca Array 45.86 9 P P **23 17 31.0 -1.1**
KEST Kesra 46.07 25 P P **23 17 35.6 +1.7**
comp=Z,95nm,1.1s,baz=178,slow=3.8,SNR=28
KEST LR LR 23 37 09.1
comp=Z,2µm,19.6s,baz=170,slow=36
comp=Z,95nm,1.1s
KEST Kesra 46.07 25 P P **23 17 36.1 +2.2**
SNR=17
KEST P P **23 17 36.1 +2.2**
SNR=17
MTE Manteigas 46.13 5 *e*P P **23 17 36.6 +2.4**
comp=Z,73nm,1.3s
MTE Manteigas 46.13 5 *e*LR LR 23 33 44.6
comp=Z,1µm,22.0s
MTE Manteigas 46.13 5 P P **23 17 32.2 -2.0**
PLTB Pedras Altas 46.32 231 *e*P P **23 17 37.5 +1.7**
MURT Porto Murtinho 46.40 246 *e*P P **23 17 37.5 +0.9**
PTLB Pontes e Lacer 46.76 254 P P **23 17 37.3 -2.2**
PTLB IAmb IAmb 23 17 42.4
comp=Z,108nm,1.9s
PTLB Pontes e Lacer 46.76 254 *e*P P **23 17 40.9 +1.4**
MVO Moncorvo 46.93 6 *e*P P **23 17 43.2 +2.7**
comp=Z,92nm,1.6s
MVO Moncorvo 46.93 6 *e*LR LR 23 34 10.8
comp=Z,1µm,22.0s
PVRL Vila Real 46.98 5 *e*P P **23 17 42.3 +1.4**
comp=Z,56nm,1.6s
POLO Lamas de Olo 47.07 5 *e*P P **23 17 42.4 +0.8**
comp=Z,25nm,1.4s
CPUP Villa Florida 47.38 239 P P **23 17 43.8 -0.5**
CPUP Villa Florida 47.38 239 P P **23 17 45.0 +0.7**
comp=Z,6.2nm,0.8s,baz=92,slow=6.6,SNR=8.7
CPUP PcP **PcP 23 19 15.0 0.0**
comp=Z,6.5nm,1.1s,baz=28,slow=5.0,SNR=3.3
CPUP LR LR 23 34 47.6
comp=Z,207nm,21.4s,baz=82,slow=32
comp=Z,6.2nm,0.8s
CPUP Villa Florida 47.38 239 *e*P P **23 17 45.7 +1.4**
VILB Vilhena 47.55 258 *e*P P **23 17 47.4 +1.6**
PBRG Braganca 47.60 6 *e*P P **23 17 47.4 +1.7**
comp=Z,56nm,1.9s
PGAV Gavieira, Arco 47.62 4 *e*P P **23 17 48.5 +2.6**
comp=Z,86nm,1.7s
PGAV Gavieira, Arco 47.62 4 *e*LR LR 23 32 34.6
comp=Z,2µm,20.0s
BBRB Robore, Bolivi 47.78 251 *e*P P **23 17 49.3 +1.8**
ITQB Itaqui 47.90 235 P P **23 17 44.9 -3.3**
ITQB Itaqui 47.90 235 *e*P P **23 17 49.7 +1.5**
MAHO Mahon 47.96 17 P P **23 17 48.2 -0.2**
MACA Manacapuru-AM 48.09 271 P P **23 17 46.7 -3.3**
MACA Manacapuru-AM 48.09 271 *e*P P **23 17 51.4 +1.4**
BBSD Serra de San D 48.38 252 *e*P P **23 17 54.3 +2.2**
BOAV Boa Vista 48.63 278 P P **23 17 52.1 -2.0**
BOAV Boa Vista 48.63 278 *e*P P **23 17 54.9 +0.8**
LODK Lodwar 48.66 80 IAmb IAmb 23 17 58.8
comp=Z,99nm,1.3s
LODK Lodwar 48.66 80 P P **23 17 56.5 +2.1**
SNR=28
SIV San Ignacio 48.67 254 LR LR 23 36 50.9
comp=Z,218nm,18.5s,baz=103,slow=34
CLTB Caltabellotta 49.30 27 IAMs_20 IAMs_20 23 42 02.9
comp=Z,3µm,18.0s
VAE Valguarnera 49.77 28 LR LR 23 39 14.6
comp=Z,931nm,19.2s,baz=188,slow=36
KMBO Kilima Mbogo 49.86 87 P P **23 18 03.5 -0.3**
KMBO Kilima Mbogo 49.86 87 *i*P P **23 18 06.5 +2.7**
SNR=23
KMBO Kilima Mbogo 49.86 87 *i*P P **23 18 03.9 +0.1**
KMBO pmax pmax
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 49.86 87 P P **23 18 03.0 -0.8**
comp=Z,21nm,1.1s,baz=243,slow=7.1,SNR=28
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 49.86 87 P P **23 18 06.4 +2.7**
KMBO P P **23 18 06.4 +2.7**
SAML Samuel 50.34 263 P P **23 18 05.1 -2.0**
SAML IAmb IAmb 23 18 10.9
comp=Z,109nm,1.6s
SAML Samuel 50.34 263 P P **23 18 05.1 -2.0**
SAML pmax pmax
comp=Z,109nm,1.6s
SAML MLR MLR
comp=Z,800nm,20.0s
SAML Samuel 50.34 263 *e*P P **23 18 09.0 +1.8**
KIBK Kibwezi 50.52 88 P P **23 18 11.1 +2.5**
SNR=10
VACA Villa Angela C 50.64 239 *e*P P **23 18 11.5 +2.2**
H05S1 Guadeloupe/Mar 51.95 293 T T 00 14 07.0
SNR=14
TEFE Tefe 52.00 270 *e*P P **23 18 20.9 +1.3**
CASP Castiglione de 52.75 22 IAmb IAmb 23 18 27.4
comp=Z,114nm,1.0s
H05N1 Guadeloupe/Mar 52.79 295 T T 00 15 09.2
SNR=7.6
SSB Saint Sauveur 53.02 15 P P **23 18 26.2 -0.4**
SSB IAmb IAmb 23 18 30.1
comp=Z,134nm,1.3s
SSB Saint Sauveur 53.02 15 P P **23 18 26.3 -0.4**
SSB pmax pmax
comp=Z,134nm,1.3s
FURI Furi 53.05 74 P P **23 18 28.7 +1.0**
CESX Cesi 53.24 23 IAmb IAmb 23 18 31.3
comp=Z,60nm,1.1s
CESX IAMs_20 IAMs_20 23 41 46.2
comp=Z,3µm,18.0s
INTR Introdacqua 53.27 24 IAmb IAmb 23 18 31.7
comp=Z,128nm,1.4s
ETMB Extrema 53.33 262 IAmb IAmb 23 18 32.7
comp=Z,170nm,1.7s
ETMB Extrema 53.33 262 *e*P P **23 18 30.6 +1.1**
OSSC Osservatorio P 53.52 21 P P **23 18 29.5 -0.9**
NRCA Norcia 53.64 23 IAmb IAmb 23 18 34.0
comp=Z,104nm,1.5s
NRCA IAMs_20 IAMs_20 23 41 59.7
comp=Z,3µm,19.0s
MURB Monte Urbino 53.77 23 IAMs_20 IAMs_20 23 41 59.3
comp=Z,2µm,19.0s
FDMO Fiordimonte 53.80 23 IAmb IAmb 23 18 35.7
comp=Z,58nm,1.1s
FDMO IAMs_20 IAMs_20 23 42 06.0
comp=Z,3µm,18.0s
IDI Anoyia 53.86 38 LR LR 23 43 27.8
comp=Z,348nm,19.3s,baz=254,slow=38
PCRV Puerto La Cruz 54.27 287 LR LR 23 39 56.6
comp=Z,105nm,20.1s,slow=34
PRMA PARMA 54.28 20 P P **23 18 35.6 -0.3**
PRMA IAmb IAmb 23 18 38.8
comp=Z,75nm,0.9s
PRMA IAMs_20 IAMs_20 23 40 59.6
comp=Z,2µm,21.0s
TEOL Teolo 55.27 21 IAmb IAmb 23 18 44.4
comp=Z,63nm,1.2s
LPAZ La Paz 55.45 254 P P **23 18 44.6 -1.0**
LPAZ La Paz 55.45 254 P P **23 18 44.6 -1.0**
TUE Stuetta 55.48 18 IAMs_20 IAMs_20 23 42 59.4
comp=Z,2µm,18.0s
CTI Castel Tesino 55.86 20 IAmb IAmb 23 18 49.7
comp=Z,50nm,1.0s
FUORN Ofenpass-Fuorn 55.90 19 P P **23 18 47.0 -0.8**
DAVOX Davos/Dischmat 55.92 18 P P **23 18 48.4 +0.4**
comp=Z,71nm,0.8s,baz=212,slow=7.9,SNR=35
DAVOX LR LR 23 43 36.4
comp=Z,2µm,18.3s,baz=213,slow=37
comp=Z,71nm,0.8s
DAVA Damuels 56.37 18 *i*P P **23 18 51.5 +0.4**
comp=Z,205nm,1.0s,SNR=31
FETA Feichten 56.41 19 *e*P P **23 18 51.8 +0.4**
comp=Z,148nm,1.1s,SNR=23
STAL STALIGIAL 56.41 21 IAmb IAmb 23 18 54.1
comp=Z,137nm,1.5s
ECH Echery 56.43 16 IAmb IAmb 23 18 53.6
comp=Z,101nm,1.2s
SABO M.te Sabotino 56.49 22 IAmb IAmb 23 18 55.1
comp=Z,88nm,0.9s
SABO IAMs_20 IAMs_20 23 42 28.8
comp=Z,2µm,22.0s
CLUD Cludinico 56.64 21 P P **23 18 53.5 +0.6**
BOJS Bojanci 56.72 23 *i*P P **23 18 55.0 +1.6**
SQTA Sankt Quirin 56.74 19 *e*P P **23 18 53.8 +0.2**
comp=Z,216nm,0.8s,SNR=50
SQTA *e*PP **PP 23 20 57.9 -2.1**
comp=Z,16nm,1.0s
ABTA Abfaltersbach 56.76 20 *e*P P **23 18 54.9 +1.1**
comp=Z,112nm,1.0s,SNR=23
UBR Ueberruh 56.79 18 *e*P P **23 18 54.7 +0.6**
comp=Z,95nm,0.9s,baz=206,slow=6.9
MOTA Moosalm 56.81 19 *e*P P **23 18 54.4 +0.2**
comp=Z,137nm,1.3s,SNR=26
MOTA *e*PP **PP 23 20 57.0 -3.7**
comp=Z,23nm,1.4s
RETA Reutte 56.83 19 *e*P P **23 18 54.4 +0.2**
comp=Z,56nm,0.8s,SNR=16
RETA *e*PP **PP 23 20 57.1 -3.6**
comp=Z,15nm,1.1s
BFO Black Forest 56.85 16 P P **23 18 53.0 -1.3**
BFO Black Forest 56.85 16 P P **23 18 53.0 -1.3**
BFO pmax pmax
comp=Z,134nm,1.1s
BFO Black Forest 56.85 16 *e*P P **23 18 55.4 +1.0**
comp=Z,72nm,1.0s,baz=206,slow=6.9
LVC Limon Verde 56.86 247 LR LR 23 42 11.1
comp=Z,115nm,21.2s,baz=102,slow=35
LVC Limon Verde 56.86 247 *e*P P **23 18 57.0 +1.6**
LJU Ljubljana 56.89 22 *i*P P **23 18 56.0 +1.3**
WTTA Wattenberg 56.91 19 *e*P P **23 18 55.5 +0.5**
comp=Z,266nm,1.0s,SNR=38
WTTA *e*PP **PP 23 20 59.2 -2.5**
comp=Z,24nm,1.0s
WATA Walderalm 56.96 19 *e*P P **23 18 55.7 +0.4**
comp=Z,156nm,1.0s,SNR=28
WATA *e*PP **PP 23 20 58.8 -3.3**
comp=Z,17nm,1.1s
MYKA Terra Mystica 57.06 21 *e*P P **23 18 57.3 +1.4**
comp=Z,24nm,0.9s,SNR=10
MYKA *e*PP **PP 23 21 02.3 -0.6**
comp=Z,24nm,1.6s
BAUV El Baul 57.25 284 P P **23 18 58.2 +0.4**
OBKA Obir 57.29 22 *e*P P **23 18 58.7 +1.1**
comp=Z,43nm,1.0s,SNR=9.2
OBKA *e*PP **PP 23 21 03.2 -1.7**
comp=Z,18nm,1.7s
KBA Koelnbreinsper 57.34 21 *e*P P **23 18 58.7 +0.7**
comp=Z,44nm,0.9s,SNR=16
LESA Schwarzleotal 57.41 20 *e*P P **23 18 58.9 +0.5**
comp=Z,83nm,1.4s
PB15 IPOC Station P 57.46 246 IAmb IAmb 23 19 02.3
comp=Z,108nm,1.5s
PB06 IPOC Station P 57.48 247 IAmb IAmb 23 19 01.4
comp=Z,65nm,1.2s
STU Stuttgart 57.50 17 IAmb IAmb 23 19 00.9
comp=Z,78nm,1.1s
STU Stuttgart 57.50 17 *e*P P **23 18 59.7 +0.8**
comp=Z,75nm,0.8s,baz=206,slow=6.9
WLF Walferdange 57.50 14 IAmb IAmb 23 19 01.5
comp=Z,113nm,1.2s
WLF Walferdange 57.50 14 *d*P P **23 18 59.8 +1.0**
comp=Z,41nm,1.2s
WLF Walferdange 57.50 14 *e*P P **23 19 00.1 +1.2**
comp=Z,70nm,1.1s,baz=206,slow=6.9
EIL Elat 57.53 49 LR LR 23 45 08.8
comp=Z,403nm,18.0s,baz=248,slow=38
DOU Dourbes 57.54 13 *d*P P **23 18 59.7 +0.6**
FUR Furstenfeldbru 57.59 19 *e*P P **23 19 00.4 +0.8**
comp=Z,140nm,0.9s,baz=206,slow=6.9
PB02 IPOC Station P 57.60 248 P P **23 19 00.3 0.0**
PERS Pernice 57.61 22 *i*P P **23 19 01.2 +1.4**
SOKA Soboth 57.61 22 *e*P P **23 19 01.0 +1.2**
comp=Z,89nm,1.1s,SNR=32
PB07 IPOC Station P 57.64 248 IAmb IAmb 23 19 02.6
comp=Z,56nm,1.0s
ATD Arta Tunnel 57.67 73 LR LR 23 44 12.2
comp=Z,7.0nm,18.1s,baz=276,slow=36
ATD Arta Tunnel 57.67 73 P P **23 19 04.8 +4.0**
TA02 Huaiquique 57.70 250 IAmb IAmb 23 19 02.0
comp=Z,110nm,1.4s
HUMP Col San Antoni 57.71 296 IAmb IAmb 23 19 03.3
comp=Z,110nm,1.5s
RJOB Jochberg 57.72 20 *e*P P **23 19 00.7 +0.1**
comp=Z,39nm,0.8s,baz=206,slow=6.9
PB12 IPOC Station P 57.73 252 P P **23 19 00.1 -1.1**
RCHB Rochefort 57.74 13 *d*P P **23 19 00.6 0.0**
comp=Z,21nm,1.3s
BMRD Maredsous 57.77 13 *d*P P **23 19 01.1 +0.3**
comp=Z,24nm,1.2s
BGES Gesves 57.92 13 *d*P P **23 19 02.9 +1.1**
comp=Z,32nm,1.1s
BIOA Bad Ischl, Aus 57.97 21 *e*P P **23 19 02.2 0.0**
comp=Z,41nm,1.0s,SNR=12
SJG San Juan 57.97 295 LR LR 23 39 02.2
comp=Z,477nm,19.8s,baz=64,slow=31
GCPR Guaynabo City 57.98 296 P P **23 19 01.1 -1.7**
GCPR IAmb IAmb 23 19 05.5
comp=Z,90nm,1.6s
BCLA Clavier 58.00 13 *d*P P **23 19 03.4 +1.0**
comp=Z,25nm,1.2s
CFA Coronel Fontan 58.01 236 LR LR 23 40 37.3
comp=Z,544nm,21.9s,baz=78,slow=32
BOVS Bovan 58.04 29 ⇓P P **23 19 03.5 +0.7**
PB05 IPOC Station P 58.08 247 IAmb IAmb 23 19 06.5
comp=Z,88nm,1.5s
BHOU Houvegnez 58.11 14 *d*P P **23 19 04.6 +1.4**
BHOU *d*PcP **PcP 23 19 57.5 +2.7**
RDO Rodhopi 58.20 33 P P **23 19 02.6 -1.4**
RDO IAmb IAmb 23 19 06.9
comp=Z,71nm,1.1s
BSTI Sart Tilman 58.22 13 *d*P P **23 19 05.6 +1.7**
ARSA Arzberg 58.28 22 *e*P P **23 19 05.3 +0.9**
comp=Z,59nm,1.3s,SNR=22
ARSA *e*PP **PP 23 21 14.3 +0.7**
comp=Z,12nm,1.3s
ALN Alexandroupoli 58.31 34 IAmb IAmb 23 19 07.7
comp=Z,49nm,1.1s
MOA Molln 58.32 21 *e*P P **23 19 04.7 0.0**
comp=Z,93nm,1.1s,SNR=22
MOA *e*PP **PP 23 21 14.0 0.0**
comp=Z,15nm,1.2s
FRGS Fruska Gora 58.33 26 ⇑P P **23 19 06.6 +1.8**
MEM Membach 58.34 14 *d*P P **23 19 06.0 +1.3**
BTNL Ternell 58.35 14 *d*P P **23 19 06.4 +1.5**
comp=Z,70nm,1.2s
OBIP Obispado Ponce 58.36 295 P P **23 19 05.5 -0.1**
OBIP IAmb IAmb 23 19 07.3
comp=Z,126nm,1.5s
BEBN Eben Emael 58.44 13 *d*P P **23 19 06.8 +1.4**
BLKB Belogradchik 58.50 29 ⇓P P **23 19 08.0 +1.9**
PB14 IPOC Station P 58.51 245 IAmb IAmb 23 19 09.7
comp=Z,88nm,1.4s
AHRW Bad Neuenahr-A 58.54 15 *e*P P **23 19 07.8 +1.7**
comp=Z,48nm,1.0s,baz=206,slow=6.9
AOPR Arecibo Observ 58.59 295 P P **23 19 05.4 -1.7**
AOPR IAmb IAmb 23 19 08.7
comp=Z,101nm,1.4s
TNS Taunus Mts 58.60 16 *e*P P **23 19 07.5 +0.8**
comp=Z,49nm,0.9s,baz=206,slow=6.9
MORH Mrgy, Hungar 58.67 25 ⇑P P **23 19 08.6 +1.5**
MLPR Magueyes Islan 58.73 295 IAmb IAmb 23 19 08.8
comp=Z,98nm,1.2s
MDVR Moldovita 58.91 28 ⇑P P **23 19 10.4 +1.5**
GRF Grafenberg Arr 58.92 18 *e*P P **23 19 09.5 +0.6**
comp=Z,33nm,0.9s,baz=206,slow=6.9
GRF *e*L L 23 45 01.1
comp=Z,851nm,18.0s
RONA Rosalia, Austr 58.94 22 *e*P P **23 19 10.5 +1.4**
comp=Z,191nm,1.1s,SNR=53
WET Wettzell 58.96 19 *e*P P **23 19 10.0 +0.8**
comp=Z,90nm,1.1s,baz=206,slow=6.9
CONA Conrad Observa 58.97 22 *e*P P **23 19 10.2 +0.9**
comp=Z,109nm,1.2s,SNR=36
CONA *e*PP **PP 23 21 20.5 +0.7**
comp=Z,16nm,1.4s
GEC2 GERESS Array S 58.98 20 P P **23 19 08.8 -0.6**
GEC2 GERESS Array S 58.98 20 *e*P P **23 19 10.2 +0.8**
comp=Z,77nm,0.9s,baz=206,slow=6.9
GERES GERESS Array B 58.98 20 P P **23 19 09.8 +0.5**
comp=Z,63nm,0.8s,baz=197,slow=4.2,SNR=50
GERES PP **PP 23 21 16.8 -3.1**
comp=Z,8.8nm,1.1s,baz=217,slow=9.6,SNR=4.5
GERES LR LR 23 44 16.6
comp=Z,1µm,21.2s,baz=262,slow=36
comp=Z,63nm,0.8s
BANR Banloc 59.10 27 ⇓P P **23 19 11.5 +1.4**
CKRC Cesky Krumlov 59.16 20 *e*P P **23 19 10.7 +0.1**
CKRC Cesky Krumlov 59.16 20 *e*P P **23 19 10.7 +0.1**
KHC Kasperske Hory 59.18 20 *e*P P **23 19 10.5 -0.2**
KHC *ex* x 23 21 16.0
KHC Kasperske Hory 59.18 20 *e*P P **23 19 10.5 -0.2**
DJES Djerdap 59.20 28 ⇑P P **23 19 12.8 +1.9**
DJES Djerdap 59.20 28 IAMs_20 IAMs_20 23 43 56.2
comp=Z,6µm,22.0s
ROTZ Rotzenmuhle 59.29 18 *e*P P **23 19 12.1 +0.7**
comp=Z,14nm,1.1s,baz=206,slow=6.9
HERR Herculane 59.31 28 ⇑P P **23 19 13.3 +1.6**
BUG Bochum--Univer 59.42 14 *e*P P **23 19 13.4 +1.2**
comp=Z,35nm,1.1s,baz=206,slow=6.9
VOI Vohitsoka 59.43 112 P P **23 19 14.3 +1.3**
MANZ Manzenberg 59.45 18 *e*P P **23 19 13.3 +0.8**
comp=Z,14nm,0.9s,baz=206,slow=6.9
KASTN Kahler Asten 59.49 15 *e*P P **23 19 13.9 +1.1**
comp=Z,18nm,0.9s,baz=206,slow=6.9
BZS Buzias 59.50 27 ⇑P P **23 19 14.2 +1.3**
BZS Buzias 59.50 27 P P **23 19 14.2 +1.3**
SRE Strehaia 59.52 29 ⇑P P **23 19 15.2 +2.0**
SRE Strehaia 59.52 29 P P **23 19 15.1 +2.0**
MMAI Mount Meron Ar 59.55 46 LR LR 23 46 02.1
comp=Z,140nm,21.0s,baz=250,slow=37
ABPO Ambohimpanom 59.56 109 P P **23 19 12.3 -1.7**
ABPO IAmb IAmb 23 19 17.1
comp=Z,47nm,1.3s
ABPO Ambohimpanom 59.56 109 P P **23 19 12.3 -1.7**
ABPO pmax pmax
comp=Z,47nm,1.3s
UBBA Unterbreizbach 59.57 16 *e*P P **23 19 14.4 +1.3**
comp=Z,29nm,0.9s,baz=206,slow=6.9
VLAD Vladila 59.63 30 ⇓P P **23 19 15.2 +1.4**
ZVC Zvikov 59.65 20 *e*P P **23 19 13.5 -0.4**
ZST Bratislava 59.66 23 *e*P P **23 19 15.3 +1.4**
ZST pmax pmax
comp=Z,255nm,1.3s
ZST Bratislava 59.66 23 *e*P P **23 19 15.3 +1.4**
SDV Santo Domingo 59.74 284 *e*P P **23 19 14.0 -1.4**
SDV Santo Domingo 59.74 284 *e*P P **23 19 15.8 +0.4**
NKC Novy Kostel 59.77 18 *e*P P **23 19 15.5 +0.7**
NKC Novy Kostel 59.77 18 *e*P P **23 19 15.5 +0.7**
CZSB Cruzeiro do Su 59.78 264 IAmb IAmb 23 19 17.2
comp=Z,63nm,1.3s
CZSB Cruzeiro do Su 59.78 264 *e*P P **23 19 14.4 -1.1**
CZSB Cruzeiro do Su 59.78 264 *e*P P **23 19 15.2 -0.3**
SRO Srobarova 59.82 24 *e*P P **23 19 16.7 +1.7**
SRO pmax pmax
comp=Z,83nm,1.4s
SRO Srobarova 59.82 24 *e*P P **23 19 16.7 +1.7**
SURR Surduc 59.83 27 ⇓P P **23 19 16.8 +1.6**
GZR Gura Zlata 59.87 28 ⇑P P **23 19 16.9 +1.3**
GZR Gura Zlata 59.87 28 P P **23 19 16.8 +1.3**
MODS Modra-Piesok 59.87 23 *e*P P **23 19 16.7 +1.3**
MODS pmax pmax
comp=Z,202nm,1.4s
MODS Modra-Piesok 59.87 23 *e*P P **23 19 16.7 +1.3**
MOX Moxa 59.88 18 *e*P P **23 19 16.3 +0.8**
comp=Z,50nm,0.9s,baz=206,slow=6.9
MOX *e*L L 23 45 28.6
comp=Z,656nm,19.4s
CO03 El Pedregal 59.88 238 P P **23 19 15.7 -0.4**
CO03 IAmb IAmb 23 19 18.1
comp=Z,75nm,1.9s
TANN Tannenbergstha 59.94 18 *e*P P **23 19 16.7 +0.7**
comp=Z,75nm,1.0s,baz=206,slow=6.9
TREC Trest 59.98 21 *e*P P **23 19 15.5 -0.7**
TREC Trest 59.98 21 *e*P P **23 19 15.5 -0.7**
SIRR Siria 60.01 27 ⇓P P **23 19 18.2 +1.7**
SMOL Smolenice 60.04 23 *e*P P **23 19 18.6 +2.0**
SMOL pmax pmax
comp=Z,55nm,1.6s
KRUC Moravsky 60.11 22 *e*P P **23 19 17.3 +0.3**
COPA Copaceanca 60.13 31 ⇓P P **23 19 18.1 +0.8**
GTTG Gottingen 60.21 16 *e*P P **23 19 19.2 +1.5**
comp=Z,72nm,1.0s,baz=206,slow=6.9
ASF Jabal al Asfar 60.22 48 P P **23 19 19.2 +0.9**
comp=Z,15nm,0.6s,baz=234,slow=5.4,SNR=6.3
comp=Z,15nm,0.6s
CO02 Combarbal 60.22 237 P P **23 19 17.0 -1.4**
PRU Pruhonice 60.24 20 *e*P P **23 19 17.6 -0.3**
PRU Pruhonice 60.24 20 *e*P P **23 19 17.6 -0.3**
GOPC GO Pecny, Ondr 60.26 20 *e*P P **23 19 18.2 +0.1**
GOPC GO Pecny, Ondr 60.26 20 *e*P P **23 19 18.2 +0.1**
PRA Prague 60.27 20 *e*P P **23 19 18.9 +0.8**
PRA Prague 60.27 20 *e*P P **23 19 18.9 +0.8**
DEV Deva 60.29 28 ⇑P P **23 19 19.8 +1.5**
DEV Deva 60.29 28 P P **23 19 19.8 +1.5**
HUMR Humele 60.30 30 ⇓P P **23 19 20.0 +1.6**
LOZB Loznitsa 60.31 32 ⇓P P **23 19 19.0 +0.4**
IBBN Ibbenburen 60.34 14 *e*P P **23 19 19.8 +1.3**
comp=Z,39nm,1.1s,baz=206,slow=6.9
LOT Lotru 60.37 29 ⇓P P **23 19 20.5 +1.4**
VRAC Vranov 60.39 21 ⇓P P **23 19 19.7 +0.7**
VRAC Vranov 60.39 21 ⇓P P **23 19 18.8 -0.2**
VRAC Vranov 60.39 21 P P **23 19 19.6 +0.7**
VRAC Vranov 60.39 21 P P **23 19 19.3 +0.3**
comp=Z,42nm,1.1s,baz=219,slow=7.4,SNR=24
VRAC PP **PP 23 21 32.4 +0.1**
comp=Z,12nm,1.3s,baz=220,slow=7.7,SNR=4.1
VRAC LR LR 23 46 16.3
comp=Z,760nm,19.1s,baz=222,slow=37

comp=Z,42nm,1.1s
PEL Peldehue 60.39 235 P **P** **23 19 18.8 -0.6**
PEL IAmb IAmb 23 19 21.6
comp=Z,55nm,1.3s
PEL Peldehue 60.39 235 P **P** **23 19 18.8 -0.6**
PEL pmax pmax
comp=Z,55nm,1.3s
TAMC Tame, Arauca 60.40 281 *e*P **P** **23 19 20.0 +0.2**
RAZG Razgrad 60.40 32 ⇓P **P** **23 19 19.8 +0.6**
HSKC Hora Svate Kat 60.41 19 *e*P **P** **23 19 19.8 +0.7**
JAVC Velka Javorina 60.42 22 *e*P **P** **23 19 20.6 +1.4**
NEUB Neuenburg 60.43 17 *e*P **P** **23 19 20.0 +0.8**
comp=Z,65nm,0.9s,baz=206,slow=6.9
BO04 La Punta 60.53 234 IAmb IAmb 23 19 22.3
comp=Z,56nm,1.4s
PSZ Piszkesteto 60.54 24 ⇓P **P** **23 19 21.1 +0.9**
PSZ Piszkesteto 60.54 24 P **P** **23 19 20.5 +0.4**
PSZ IAmb IAmb 23 19 23.0
comp=Z,94nm,1.2s
PSZ Piszkesteto 60.54 24 P **P** **23 19 21.0 +0.9**
RICC Richard 60.57 19 *e*P **P** **23 19 21.2 +1.0**
VYHS Vyhne 60.57 23 *e*P **P** **23 19 21.4 +1.1**
VYHS pmax pmax
comp=Z,147nm,1.5s
VYHS Vyhne 60.57 23 *e*P **P** **23 19 21.3 +1.1**
SGRR Singureni 60.58 31 ⇑P **P** **23 19 21.6 +1.3**
CLZ Clausthal 60.59 16 *e*P **P** **23 19 21.3 +0.9**
comp=Z,29nm,1.0s,baz=206,slow=6.9
CO06 Fray Jorge 60.65 238 IAmb IAmb 23 19 22.9
comp=Z,82nm,1.4s
PVCC Panska Ves 60.71 19 *e*P **P** **23 19 21.8 +0.7**
PVCC Panska Ves 60.71 19 *e*P **P** **23 19 21.8 +0.7**
ARR Arges 60.73 29 ⇑P **P** **23 19 22.3 +0.8**
MT09 Talagante 60.79 234 IAmb IAmb 23 19 23.8
comp=Z,59nm,1.2s
BRG Berggiesshubel 60.80 19 *i* P **P** **23 19 22.4 +0.7**
BRG Amp 23 19 24.0
comp=Z,70nm,1.2s
BRG PP **PP** **23 21 37.9 +2.0**
BRG Amp 23 21 41.7
comp=Z,14nm,1.2s
BRG Berggiesshubel 60.80 19 *i* P **P** **23 19 22.4 +0.7**
BRG 23 21 37.8
BRG SS SS 23 31 33.0 -5.3
BRG pmax pmax
comp=Z,70nm,1.2s
BRG pmax pmax
comp=Z,15nm,1.2s
BRG Berggiesshubel 60.80 19 *e*P **P** **23 19 22.4 +0.7**
comp=Z,42nm,1.1s,baz=206,slow=6.9
BO02 Sierra Bellavi 60.86 233 IAmb IAmb 23 19 25.7
comp=Z,142nm,1.9s
CLL Collm 60.88 18 IAmb IAmb 23 19 24.5
comp=Z,76nm,1.4s
CLL Collm 60.88 18 ⇓*i*P **P** **23 19 22.7 +0.4**
CLL pmax pmax
comp=Z,83nm,1.5s
CLL MLR MLR
comp=Z,700nm,19.3s
CLL Collm 60.88 18 ⇓*i*P **P** **23 19 22.7 +0.4**
comp=Z,83nm,1.5s
CLL *i* x x 23 19 32.1
CLL *e*PP **PP** **23 21 36.0 -0.6**
CLL AMS AMS 23 46 00.0
comp=Z,700nm,19.3s
CLL Collm 60.88 18 *e*P **P** **23 19 22.9 +0.6**
comp=Z,39nm,1.2s,baz=206,slow=6.9
DRGR 60.88 27 ⇑P **P** **23 19 23.7 +1.2**
DRGR 60.88 27 P **P** **23 19 23.6 +1.2**
MAUC Maruska 60.89 22 *e*P **P** **23 19 23.6 +1.2**
MARR Marisel-Cluj 60.98 27 ⇓P **P** **23 19 24.0 +0.8**
VOIR 60.98 29 ⇓P **P** **23 19 23.4 +0.2**
VOIR 60.98 29 P **P** **23 19 23.4 +0.2**
MDUB Mudurnu 61.01 37 P **P** **23 19 24.1 +0.6**
BO01 Tunca 61.01 234 P **P** **23 19 22.2 -1.3**
BO01 IAmb IAmb 23 19 26.2
comp=Z,56nm,1.4s
SULR 61.05 31 ⇓P **P** **23 19 25.1 +1.6**
KRLC Kraliky 61.09 21 *e*P **P** **23 19 24.3 +0.5**
KRLC Kraliky 61.09 21 *e*P **P** **23 19 24.3 +0.5**
NRDL Niedersach Rie 61.11 16 *e*P **P** **23 19 25.5 +1.8**
comp=Z,47nm,1.0s,baz=206,slow=6.9
MORC Moravsky Berou 61.12 22 P **P** **23 19 23.9 -0.1**
MORC Moravsky Berou 61.12 22 *e*P **P** **23 19 24.5 +0.5**
MORC Moravsky Berou 61.12 22 P **P** **23 19 23.9 -0.1**
MORC pmax pmax
comp=Z,96nm,1.2s
DPC Dobruska-Polom 61.16 21 *e*P **P** **23 19 24.8 +0.5**
DPC Dobruska-Polom 61.16 21 *e*P **P** **23 19 24.8 +0.5**
UPC Upice 61.18 20 *e*P **P** **23 19 25.0 +0.6**
UPC Upice 61.18 20 *e*P **P** **23 19 25.0 +0.6**
KECS Kecovo 61.23 24 *e*P **P** **23 19 26.2 +1.5**
KECS pmax pmax
comp=Z,60nm,1.2s
KECS Kecovo 61.23 24 *e*P **P** **23 19 26.2 +1.5**
CJR Cluj-Napoca 61.23 28 ⇓P **P** **23 19 26.2 +1.3**
CJR Cluj-Napoca 61.23 28 P **P** **23 19 26.1 +1.3**
MESR Meseseni 61.26 27 ⇓P **P** **23 19 26.5 +1.5**
CHVC Chvalec 61.27 20 *e*P **P** **23 19 25.0 +0.1**
CHVC Chvalec 61.27 20 *e*P **P** **23 19 25.0 +0.1**
FLTG Flechtingen 61.27 16 *e*P **P** **23 19 25.6 +0.8**
baz=206,slow=6.9
OSTC Ostas 61.30 20 *e*P **P** **23 19 24.8 -0.3**
OSTC Ostas 61.30 20 *e*P **P** **23 19 24.8 -0.3**
EKA Eskdalemuir Ar 61.34 6 P **P** **23 19 25.5 +0.3**
comp=Z,22nm,1.1s,baz=186,slow=7.4,SNR=11
comp=Z,22nm,1.1s
LANS Liptovska Anna 61.35 23 *e*P **P** **23 19 27.1 +1.5**
LANS pmax pmax
comp=Z,24nm,1.3s
LANS Liptovska Anna 61.35 23 *e*P **P** **23 19 27.1 +1.5**
OKC Ostrava-Krasne 61.40 22 *e*P **P** **23 19 26.6 +0.8**
OKC Ostrava-Krasne 61.40 22 *e*P **P** **23 19 26.6 +0.8**
PAMC Pamplona, Colo 61.45 282 *e*P **P** **23 19 27.2 -0.2**
ICOR Ion Corvin 61.46 32 ⇓P **P** **23 19 27.0 +0.7**
MLR Muntele Rosu 61.46 30 ⇑P **P** **23 19 27.3 +0.7**
MLR Muntele Rosu 61.46 30 P **P** **23 19 26.2 -0.3**
MLR Muntele Rosu 61.46 30 P **P** **23 19 27.2 +0.7**
MLR Muntele Rosu 61.46 30 P **P** **23 19 27.1 +0.6**
comp=Z,66nm,1.1s,baz=157,slow=1.2,SNR=17
MLR LR LR 23 46 52.2
comp=Z,924nm,20.9s,baz=254,slow=37
comp=Z,66nm,1.1s
ISR Istrita 61.50 30 ⇑P **P** **23 19 27.7 +1.0**
ISR Istrita 61.50 30 P **P** **23 19 27.6 +1.0**
DOPR Dopca 61.53 29 ⇓P **P** **23 19 27.2 +0.3**
KSP Ksiaz 61.56 20 *e*P **P** **23 19 28.0 +1.1**
NEHR Nehoiu 61.59 30 ⇑P **P** **23 19 28.5 +1.3**
ML02 Panimavida 61.61 232 IAmb IAmb 23 19 29.5
comp=Z,53nm,0.9s
ANTO Ankara 61.61 38 P **P** **23 19 29.8 +2.2**
BOSR Bodos 61.74 29 ⇑P **P** **23 19 29.3 +1.1**
BARC Barichara 61.79 281 *e*P **P** **23 19 31.4 +2.0**
OZUR 61.82 29 ⇓P **P** **23 19 29.7 +0.9**
COVR Voineasa-Covas 61.84 30 ⇑P **P** **23 19 28.9 0.0**
ARCR ARCALIA 61.85 28 ⇑P **P** **23 19 30.2 +1.2**
NIE Niedzica 61.89 24 *e*P **P** **23 19 30.6 +1.4**
TURR Turia 61.90 29 ⇓P **P** **23 19 30.3 +1.0**
BMR Baia Mare 61.90 27 ⇓P **P** **23 19 30.3 +1.0**
BMR Baia Mare 61.90 27 P **P** **23 19 30.2 +1.0**
CRVS Cervenica-Dubn 61.96 25 *e*P **P** **23 19 30.9 +1.3**
CRVS pmax pmax
comp=Z,295nm,1.5s
CRVS Cervenica-Dubn 61.96 25 *e*P **P** **23 19 30.9 +1.3**
BR131 Keskin Array S 62.05 39*d* P **P** **23 19 29.1 -1.5**
BR131 Keskin Array S 62.05 39 P **P** **23 19 32.2 +1.5**
SNR=12
BR131 P **P** **23 19 32.2 +1.5**
SNR=12
BRTR Keskin Array B 62.05 39 P **P** **23 19 31.3 +0.7**
comp=Z,21nm,1.0s,baz=209,slow=6.6,SNR=27
BRTR PcP **PcP** **23 20 12.5 +1.5**
comp=Z,9.0nm,1.1s,baz=245,slow=4.6,SNR=3.8
comp=Z,21nm,1.0s
VRI Vrincioaia 62.12 30 ⇑P **P** **23 19 30.8 +0.1**
VRI Vrincioaia 62.12 30 P **P** **23 19 30.8 +0.1**
RUE Ruedersdorf 62.14 18 *e*P **P** **23 19 31.7 +0.9**
RUE Ruedersdorf 62.14 18 *e*P **P** **23 19 31.7 +0.9**
comp=Z,79nm,1.0s,baz=206,slow=6.9
ODBI Odobesti 62.21 30 ⇓P **P** **23 19 32.8 +1.4**
TPGR Topolog 62.28 32 ⇑P **P** **23 19 32.6 +0.7**
PLCA Paso Flores 62.32 227 P **P** **23 19 33.4 +1.0**
comp=Z,2.8nm,0.8s,baz=133,slow=3.2,SNR=5.5
PLCA LR LR 23 44 53.6
comp=Z,197nm,18.0s,baz=90,slow=34
comp=Z,2.8nm,0.8s
PLCA Paso Flores 62.32 227 *e*P **P** **23 19 33.2 +0.9**
CVER Cruz Verde, Cu 62.32 278 *e*P **P** **23 19 33.6 +0.3**
KOLS Kolonicke sedl 62.32 25 *e*P **P** **23 19 33.9 +1.8**
KOLS pmax pmax
comp=Z,28nm,1.0s
KOLS Kolonicke sedl 62.32 25 *e*P **P** **23 19 33.9 +1.8**
OJC Ojcow 62.33 23 *e*P **P** **23 19 32.9 +0.8**
CRJC Cerrejon, Guaj 62.35 286 *e*P **P** **23 19 31.9 -1.1**
CFR Carcaliu 62.35 31 ⇓P **P** **23 19 32.8 +0.4**
CFR Carcaliu 62.35 31 P **P** **23 19 32.7 +0.4**
SCHLR Schela 62.40 31 ⇑P **P** **23 19 33.1 +0.5**
SCHL Schela 62.42 31 ⇓P **P** **23 19 33.2 +0.5**
BSEG Bad Segeberg 62.46 15 *e*P **P** **23 19 33.8 +0.9**
comp=Z,47nm,0.9s,baz=206,slow=6.9
PTLC Puerto Leguiza 62.46 273 *e*P **P** **23 19 31.5 -2.2**
SPBC San Pablo de B 62.50 279 *e*P P 23 19 28.2 -5.8
ROSC El Rosal 62.62 278 P **P** **23 19 35.1 0.0**
ROSC El Rosal 62.62 278 P **P** **23 19 35.7 +0.5**
comp=Z,24nm,0.8s,baz=60,slow=2.1,SNR=28
ROSC LR LR 23 45 10.3
comp=Z,362nm,20.2s,baz=70,slow=34
comp=Z,24nm,0.8s
ROSC El Rosal 62.62 278 *e*P **P** **23 19 36.0 +0.9**
BURAR Bucovina Array 62.64 28 ⇓P **P** **23 19 35.7 +1.4**
BURAR Bucovina Array 62.64 28 P **P** **23 19 35.7 +1.4**
TLCR 62.71 32 ⇑P **P** **23 19 34.9 +0.1**
TLCR 62.71 32 P **P** **23 19 34.8 +0.1**
SDDR Presa de Saban 62.88 295 P **P** **23 19 35.8 -0.6**
PRAR RASCA 62.93 29 ⇑P **P** **23 19 36.4 +0.2**
BNN Bunyan 62.97 41 P **P** **23 19 37.4 +0.6**
PRAC Prado 63.01 277 *e*P **P** **23 19 35.2 -2.1**
KWP Kalwaria Pacla 63.04 25 *e*P **P** **23 19 37.6 +0.8**
KWP Kalwaria Pacla 63.04 25 IAMs_20 IAMs_20 23 48 16.8
comp=Z,2µm,21.0s
LR05 Currie 63.23 228 IAmb IAmb 23 19 40.2
comp=Z,49nm,1.1s
ORTC Ortega, Tolima 63.39 277 *e*P **P** **23 19 36.6 -3.3**
GARC Garzon, Huila 63.40 275 *e*P **P** **23 19 40.3 +0.1**
BETC Betania 63.41 276 *e*P **P** **23 19 41.5 +1.4**
GUY2C Guyana, Caldas 63.70 279 *e*P **P** **23 19 41.5 -1.0**
LVV L'vov 63.74 25 *e*P **P** **23 19 42.5 +1.0**
NNA Nana 63.77 260 LR LR 23 46 14.6
comp=Z,324nm,20.9s,baz=62,slow=35
MILM Milestii Mici 63.89 30 ⇓P **P** **23 19 42.2 -0.3**
MILM Milestii Mici 63.89 30 ⇓*i*P **P** **23 19 41.6 -0.9**
comp=Z,160nm,1.6s
MILM *e*L L 23 47 14.0
MILM LRM MLR 23 50 11.0
comp=Z,600nm,17.5s
MILM Milestii Mici 63.89 30 P **P** **23 19 42.1 -0.3**
GKP Gorka Klasztor 63.92 19 *e*P **P** **23 19 43.5 +0.9**
GKP Gorka Klasztor 63.92 19 *e*P **P** **23 19 44.3 +1.7**
KIS Kishinev 63.94 30 *e*P **P** **23 19 42.0 -0.8**
comp=Z,50nm,0.7s
KIS *e*L L 23 46 40.0
KIS LRM MLR 23 47 22.0
comp=Z,300nm,20.0s
KIS Kishinev 63.94 30 *e*P **P** **23 19 42.0 -0.8**
KIS pmax pmax
comp=Z,50nm,0.7s
LL02 Futaleuf 63.98 224 P **P** **23 19 43.6 +0.3**
LL02 IAmb IAmb 23 19 45.5
comp=Z,75nm,1.2s
LL01 San Ignacio de 64.14 225 IAmb IAmb 23 19 46.4
comp=Z,79nm,1.6s
PURM Purcari 64.16 31 ⇓P **P** **23 19 44.5 +0.2**
SJCC San Jacinto, C 64.34 284 *e*P **P** **23 19 44.9 -1.3**
CBOC Ciudad Bolivar 64.44 279 *e*P **P** **23 19 45.3 -1.7**
YOTC Yotoco, Valle 64.48 277 *e*P **P** **23 19 44.4 -2.9**
PLMC San Jos del P 64.56 278 *e*P **P** **23 19 45.5 -2.2**
POPC Popayan, Colom 64.61 276 *e*P **P** **23 19 47.7 -0.5**
JAMC Jamundi, Valle 64.70 276 *e*P **P** **23 19 47.6 -1.2**
DBBC Dabeiba 64.82 280 *e*P **P** **23 19 50.2 +0.9**
VNA1 Neumayer--Stat 64.90 178 ⇑P **P** **23 19 50.2 +1.5**
comp=Z,21nm,0.8s
BBAC Balboa, Cauca 65.11 275 *e*P **P** **23 19 50.8 -0.7**
GCUF Volcan Galeras 65.12 274 *e*P **P** **23 19 52.9 +1.1**
VNA2 Neumayer--Watz 65.20 178 ⇑P **P** **23 19 51.5 +0.8**
comp=Z,30nm,0.7s,baz=357,slow=6.0
ATAH Atahualpa 65.45 265 LR LR 23 48 19.4
comp=Z,550nm,18.8s,baz=69,slow=36
VNA3 Neumayer Olymp 65.46 179 ⇑P **P** **23 19 52.7 +0.3**
comp=Z,14nm,0.7s
TULM Tulcn-Chalpat 65.50 273 IAmb IAmb 23 19 56.8
comp=Z,97nm,1.5s
PIAT Ana Tenorio 65.78 271 *e*P **P** **23 19 56.5 +0.5**
BOSC San Juan Bosco 65.82 269 P **P** **23 19 54.3 -1.6**
KLNR Kaliningrad 66.02 20*ce*P **P** **23 19 56.2 +0.1**
KLNR pmax pmax
comp=Z,164nm,1.0s
OTAV Otavalo 66.10 273 P **P** **23 19 57.4 -0.7**
OTAV IAmb IAmb 23 20 00.7
comp=Z,56nm,1.6s
OTAV Otavalo 66.10 273 P **P** **23 19 57.7 -0.4**
OTAV Otavalo 66.10 273 *e*P **P** **23 19 58.3 +0.1**
OTAV Otavalo 66.10 273 *e*P **P** **23 19 58.8 +0.6**
SNAA Sanae 66.15 177 P **P** **23 19 56.8 -0.1**
SNAA Sanae 66.15 177 ⇑P **P** **23 19 57.5 +0.6**
comp=Z,412nm,0.8s
SNAA Sanae 66.15 177⇑ *e*P **P** **23 19 57.3 +0.4**
SNAA pmax pmax
comp=Z,28nm,1.0s
PTAC Punta Ardita, 66.41 280 *e*P **P** **23 19 58.4 -1.1**
PAC1 Pacto, Paraso 66.44 273 *e*P **P** **23 19 57.8 -2.2**
COHC Cochancay 66.63 270 *e*P **P** **23 20 01.1 +0.1**
KIEV Kiev 66.67 27 P **P** **23 19 59.6 -0.9**
KIEV Kiev 66.67 27 *i* P **P** **23 20 00.3 -0.1**
SNR=6.2
KIEV Kiev 66.67 27 P **P** **23 19 59.6 -0.9**
KIEV pmax pmax
comp=Z,238nm,1.5s
AKASG Malin Array Be 66.69 27 P **P** **23 20 00.6 0.0**
comp=Z,30nm,0.8s,baz=228,slow=7.2,SNR=40
comp=Z,30nm,0.8s
AKBB Malin Array Si 66.69 27*c i* P **P** **23 20 00.2 -0.4**
AKBB pmax pmax
comp=Z,176nm,1.5s
NVL N'lazarevskaya 66.80 171 *e*P **P** **23 19 59.3 -1.6**
NVL pmax pmax
comp=Z,38nm,1.5s
TROLL Troll, Antarti 66.87 175 ⇑P **P** **23 20 02.5 +0.9**
comp=Z,888nm,0.8s
GURO Guroymak-BITLI 66.97 44 IAmb IAmb 23 20 05.5
comp=Z,46nm,1.3s
GBN Guysborough 67.08 325 P **P** **23 20 03.8 +0.6**
MCRA Macar, Loja 67.17 268 *e*P **P** **23 20 03.4 -1.1**
ANN Anapa 67.27 36 *e*P **P** **23 20 01.3 -3.1**
ANN *e*PP **pP** **23 20 04.3 -2.3**
ANN *e*S **S** **23 28 55.2 -4.3**
ANN pmax pmax
comp=Z,200nm,1.2s
PBUR Paburge 67.74 20 *e*P **P** **23 20 08.3 +1.2**
SOC Sochi 67.98 38 *e*P **P** **23 20 09.0 +0.1**
SOC *e* 23 22 44.9
SOC *e*PPP PPP 23 24 20.2
SOC *e*S **S** **23 29 09.6 +1.5**
SOC pmax pmax
comp=Z,84nm,0.9s
PABE Paberze 68.06 21 *e*P **P** **23 20 09.8 +0.7**
SMRA Abu-Samra 68.60 61 P **P** **23 20 14.4 +1.3**
MNK Minsk 68.80 24 *i* P **P** **23 20 13.6 -0.2**
MNK *i* PPP PPP 23 24 25.5
MNK *i* S **S** **23 29 16.6 -0.9**
MNK *i* SS **SS** **23 33 41.8 -1.0**
MNK pmax pmax
comp=Z,63nm,1.5s
MNK pmax pmax
comp=E,25nm,1.5s
MNK pmax pmax
comp=N,39nm,1.5s
MNK MLR MLR
comp=N,307nm,17.0s
MNK MLR MLR
comp=E,186nm,17.0s
MNK MLR MLR
comp=Z,572nm,17.0s
HFS Hagfors 68.83 14 P **P** **23 20 14.2 +0.2**
comp=Z,30nm,0.7s,baz=189,slow=5.6,SNR=12
HFS LR LR 23 52 35.6
comp=Z,827nm,18.5s,baz=223,slow=38
comp=Z,30nm,0.7s
ABTO Aybut 68.89 69 P **P** **23 20 16.8 +1.6**
ABTO P **P** **23 20 16.8 +1.6**
NB2 NORSAR Subarra 69.10 12 P **P** **23 20 15.9 +0.3**
comp=Z,100nm,1.7s,baz=205,slow=6.2
NB2 NORSAR Subarra 69.10 12 P **P** **23 20 15.9 +0.3**
baz=205,slow=6.2
NOA NORSAR Array B 69.10 12 P **P** **23 20 16.4 +0.8**
comp=Z,24nm,1.1s,baz=206,slow=6.5,SNR=9.1
comp=Z,24nm,1.1s
LABN Labinsk 69.15 38 *e*P **P** **23 20 14.2 -2.1**
LABN *e**PP **pP** **23 20 17.8 -0.7**
LABN *e*S **S** **23 29 20.3 -1.8**
LABN pmax pmax
comp=Z,244nm,1.4s
SLWR Sila 69.16 62 P **P** **23 20 18.4 +1.7**
PMSA Palmer Station 69.22 201 LR LR 23 43 34.7
comp=Z,397nm,20.2s,baz=76,slow=30
WHFO Wadi Hawf 69.46 69 P **P** **23 20 20.1 +1.4**
SNR=5.8
GNI Garni 69.57 43 P **P** **23 20 19.0 -0.1**
GNI Garni 69.57 43 P **P** **23 20 20.3 +1.1**
comp=Z,32nm,1.2s,baz=231,slow=4.7,SNR=8.0
comp=Z,32nm,1.2s
GNI Garni 69.57 43 P **P** **23 20 21.0 +1.8**
GNI P **P** **23 20 21.0 +1.8**
ERBR Yeremizino-Bor 69.58 37 *e*P **P** **23 20 16.7 -2.1**
ERBR *e**PP **pP** **23 20 19.4 -1.7**
ERBR *e*S **S** **23 29 25.1 -1.9**
ERBR pmax pmax
comp=Z,261nm,1.2s
RBK Rabkut 69.76 69 P **P** **23 20 22.2 +1.6**
SNR=5.7
RBK P **P** **23 20 22.2 +1.6**
SNR=5.7
RBK P **P** **23 20 22.6 +2.0**
RBK P **P** **23 20 22.6 +2.0**
ELIB Princess Elisa 69.78 169 *d*P **P** **23 20 20.6 +0.8**
comp=Z,15nm,1.1s
DOK Doka 69.95 68 P **P** **23 20 22.4 +0.7**
SNR=6.7
DOK P **P** **23 20 22.4 +0.7**
SNR=6.7
KIV Kislovodsk 70.02 39 P **P** **23 20 21.4 -0.3**
KIV Kislovodsk 70.02 39 *i* P **P** **23 20 23.2 +1.4**
SNR=14
KIV Kislovodsk 70.02 39 *e*P **P** **23 20 22.6 +0.9**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV Kislovodsk 70.02 39 P **P** **23 20 23.2 +1.4**
KIV P **P** **23 20 23.2 +1.4**
KVAR Kislovodsk Arr 70.03 39 P **P** **23 20 22.3 +0.5**
comp=Z,12nm,1.0s,baz=268,slow=23,SNR=3.9
comp=Z,12nm,1.0s
KBZ Khabaz 70.04 39*c i*P **P** **23 20 22.8 +1.1**
KBZ pmax pmax
comp=Z,46nm,1.1s
KBZ Khabaz 70.04 39 P **P** **23 20 22.5 +0.8**
comp=Z,29nm,1.0s,baz=236,slow=4.5,SNR=12
comp=Z,29nm,1.0s
NCK Nalchik 70.37 40⇑ *e*P **P** **23 20 25.0 +1.2**
NCK pmax pmax
comp=Z,69nm,1.4s
JRN Qarnain Island 70.42 61 P **P** **23 20 25.1 +0.7**
JRN P **P** **23 20 25.1 +0.7**
MTSE Matsula 70.50 19 *e*P **P** **23 20 25.2 +1.0**
DMTO DMTO 70.50 69 P **P** **23 20 26.0 +0.9**
DMTO P **P** **23 20 26.0 +0.9**
G65A Princeton 70.56 322 IAMs_20 IAMs_20 23 46 07.6
comp=Z,1µm,20.0s
BORG Borgarnes 70.60 356 LR LR 23 46 49.0
comp=Z,426nm,20.1s,baz=197,slow=32
BATG Bathurst New B 70.74 325 IAMs_20 IAMs_20 23 50 34.0
comp=Z,2µm,19.0s
GOF Gofitskoye 70.79 38*ce*P **P** **23 20 27.6 +1.3**
MZWR Madinat Zayed 71.00 63 P **P** **23 20 30.0 +2.0**
L64A Middleborough 71.11 318 IAMs_20 IAMs_20 23 50 25.2
comp=Z,2µm,18.0s
SHAO Shalim 71.20 69 P **P** **23 20 30.3 +1.0**
SHAO P **P** **23 20 30.3 +1.0**
VSU Vasula 71.29 21*d i*P **P** **23 20 29.0 0.0**
VSU pmax pmax
comp=Z,141nm,1.7s
VSU Vasula 71.29 21 *e*P **P** **23 20 28.7 -0.3**
F64A Sherman 71.37 322 IAMs_20 IAMs_20 23 47 57.0
comp=Z,1µm,20.0s
F64A Sherman 71.37 322 P **P** **23 20 30.7 +0.9**
baz=120,SNR=7.8
F64A P **P** **23 20 30.7 +0.9**
baz=120,SNR=7.8
RGM0 Gandoca 71.49 282 IAMs_20 IAMs_20 23 43 30.1
comp=Z,1µm,18.0s
WES Weston 71.63 318 IAMs_20 IAMs_20 23 50 38.0
comp=Z,2µm,19.0s
GROC Groznyy 71.65 41 *e*P **P** **23 20 31.0 -0.6**
GROC *e* 23 20 51.5
GROC *e* 23 23 09.2
GROC pmax pmax
comp=Z,55nm,1.2s
E63A Oxbow 71.69 323 P **P** **23 20 31.6 -0.1**
baz=120
E63A P **P** **23 20 31.6 -0.1**
baz=120
RAF Rauma 71.71 17 *e*P **P** **23 20 32.8 +1.3**
F63A Nahmakanta, Br 71.75 322 P **P** **23 20 32.3 +0.2**
baz=119,SNR=6.3
F63A P **P** **23 20 32.3 +0.2**
baz=119,SNR=6.3
VORD Divnogorie 71.80 32 *e*P **P** **23 20 31.6 -0.6**
VORD pmax pmax
comp=Z,90nm,1.1s
UMZA Um Al Zommool 71.87 64 P **P** **23 20 35.3 +2.0**
UMZA P **P** **23 20 35.3 +2.0**
VSR Storozhevoye 71.88 31 *e*P **P** **23 20 31.6 -1.1**
VSR pmax pmax
comp=Z,130nm,1.1s
VORR Voronezh 72.16 31 *e*P **P** **23 20 34.7 +0.3**
VORR pmax pmax
comp=Z,48nm,0.6s
AJN Ajban 72.19 62 *i* P **P** **23 20 36.2 +1.0**
SNR=6.4
AJN Ajban 72.19 62 P **P** **23 20 36.5 +1.3**
AJN P **P** **23 20 36.5 +1.3**
D62A Allapoint, All 72.39 323 IAmb IAmb 23 20 38.4
comp=Z,89nm,1.3s
D62A IAMs_20 IAMs_20 23 49 19.0
comp=Z,2µm,18.0s
D62A Allapoint, All 72.39 323 P **P** **23 20 36.3 +0.3**
baz=120,SNR=11
D62A P **P** **23 20 36.3 +0.3**
baz=120,SNR=11
E62A Clayton Lake 72.45 323 P **P** **23 20 36.4 +0.1**
E62A IAmb IAmb 23 20 38.1
comp=Z,128nm,1.6s
E62A IAMs_20 IAMs_20 23 47 00.3
comp=Z,2µm,20.0s
E62A Clayton Lake 72.45 323 P **P** **23 20 37.5 +1.2**
baz=119,SNR=7.0
E62A P **P** **23 20 37.5 +1.2**
baz=119,SNR=7.0
ASUD Al Ashush, Dub 72.50 62 *i* P **P** **23 20 38.5 +1.5**
SNR=5.7
ASUD Al Ashush, Dub 72.50 62 P **P** **23 20 40.0 +2.9**
SNR=5.2
ASUD P **P** **23 20 40.0 +2.9**
SNR=5.2
H62A Milan 72.51 320 IAmb IAmb 23 20 39.5
comp=Z,104nm,1.4s
LPSR Galich'ya Gora 72.55 30 *e*P **P** **23 20 35.6 -1.1**
LPSR pmax pmax
comp=Z,90nm,1.2s
MAK Makhachkala 72.67 42 *e*P **P** **23 20 32.9 -4.7**
MAK *e* 23 23 14.6
MAK *e*S **S** **23 29 55.5 -7.5**
MAK *e*SS **SS** **23 34 39.3 -3.4**
MAK pmax pmax
comp=Z,157nm,1.6s
ALNE Al Ain 72.73 63 *i* P **P** **23 20 40.8 +2.3**
SNR=6.6
ALNE Al Ain 72.73 63 P **P** **23 20 40.2 +1.8**
SNR=10
ALNE P **P** **23 20 40.2 +1.8**
SNR=10
FAQ Al Faqa, Dubai 72.77 62 *i* P **P** **23 20 41.0 +2.4**
SNR=6.2
FAQ Al Faqa, Dubai 72.77 62 P **P** **23 20 40.0 +1.3**
SNR=6.9
V61A Roper 72.79 310 IAMs_20 IAMs_20 23 52 01.5

	comp=Z,2µm,18.0s									
HNH	**Hanover**	**72.85**	**319**		IAMs_20	IAMs_20	23 48 00.1			
	comp=Z,2µm,20.0s									
J61A	**Chester**	**72.87**	**319**		IAmb	IAmb	23 20 41.3			
	comp=Z,90nm,1.4s									
J61A					IAMs_20	IAMs_20	23 49 02.6			
	comp=Z,1µm,19.0s									
NAZ	**Nazwa, Dubai**	**72.89**	**62**		P	**P**	**23 20 40.7**	**+1.3**		
NAZ	**Nazwa, Dubai**	**72.89**	**62**		P	**P**	**23 20 40.8**	**+1.5**		
	SNR=7.1									
OBN	**Obninsk**	**72.94**	**27**	*de*	P	**P**	**23 20 38.9**	**0.0**		
OBN				*e*			23 20 55.6			
OBN				*e*			23 23 18.3			
OBN				*e*	PPP	PPP	23 25 04.5			
OBN				*e*	S	SKiKP	23 30 36.1	+24		
OBN					pmax	pmax				
	comp=Z,55nm,1.7s									
OBN					MLR	MLR				
	comp=Z,557nm,18.0s									
OBN	**Obninsk**	**72.94**	**27**		P	**P**	**23 20 39.6**	**+0.7**		
	comp=Z,16nm,0.8s,baz=282,slow=4.4,SNR=7.4									
OBN					LR	LR	23 55 09.2			
	comp=Z,594nm,18.3s,baz=268,slow=38									
	comp=Z,16nm,0.8s									
CAMR	**Camarioca**	**73.03**	**296**		IAMs_20	IAMs_20	23 57 15.2			
	comp=Z,2µm,18.0s									
BELA	**Belgrano 2**	**73.04**	**185**		P	**P**	**23 20 39.0**	**-0.3**		
BELA					IAmb	IAmb	23 20 41.6			
	comp=Z,50nm,1.0s									
BRNY	**Black Rk. Fore**	**73.04**	**316**		P	**P**	**23 20 41.3**	**+1.4**		
	baz=114,SNR=6.0									
TRNY	**Table Rock, Ra**	**73.08**	**316**		IAmb	IAmb	23 20 42.9			
	comp=Z,85nm,1.4s									
ASHO	**Ashiyiah**	**73.16**	**62**	*i*	P	**P**	**23 20 43.0**	**+2.0**		
	SNR=7.0									
ASHO	**Ashiyiah**	**73.16**	**62**		P	**P**	**23 20 42.3**	**+1.3**		
060A	**Indiantown**	**73.16**	**300**		IAMs_20	IAMs_20	23 54 42.6			
	comp=Z,2µm,19.0s									
VRH	**Novokhopyorsk**	**73.21**	**32**	*e*	P	**P**	**23 20 40.7**	**+0.1**		
VRH					pmax	pmax				
	comp=Z,86nm,1.2s									
ARQ	**Araqi**	**73.24**	**64**		P	**P**	**23 20 42.9**	**+1.4**		
	SNR=16									
ARQ					P	**P**	**23 20 42.9**	**+1.4**		
	SNR=16									
HATD	**Hatta, Dubai**	**73.26**	**62**	*i*	P	**P**	**23 20 44.0**	**+2.4**		
	SNR=9.2									
HATD	**Hatta, Dubai**	**73.26**	**62**		P	**P**	**23 20 44.0**	**+2.4**		
	SNR=11									
HATD					P	**P**	**23 20 44.0**	**+2.4**		
	SNR=11									
ODNJ	**Ogdensburg**	**73.32**	**316**		IAmb	IAmb	23 20 44.9			
	comp=Z,63nm,1.4s									
061Z	**Ochoppi**	**73.33**	**299**		IAMs_20	IAMs_20	23 55 21.9			
	comp=Z,1µm,18.0s									
FINES	**FINESS Array B**	**73.33**	**18**		P	**P**	**23 20 40.6**	**-0.5**		
	comp=Z,40nm,0.8s,baz=204,slow=4.2,SNR=23									
FINES					PP	**PP**	**23 23 24.1**	**-0.6**		
	comp=Z,10nm,1.1s,baz=215,slow=4.4,SNR=3.2									
FINES					LR	LR	23 54 24.7			
	comp=Z,988nm,20.0s,baz=234,slow=37									
	comp=Z,40nm,0.8s									
FIA1	**FINESS Array S**	**73.33**	**18**		IAMs_20	IAMs_20	23 53 20.7			
	comp=Z,1µm,21.0s									
T60A	**Surry**	**73.38**	**311**		IAMs_20	IAMs_20	23 51 18.2			
	comp=Z,2µm,20.0s									
LMQ	**La Malbaie**	**73.38**	**323**		IAmb	IAmb	23 20 44.1			
	comp=Z,97nm,1.3s									
LMQ					IAMs_20	IAMs_20	23 46 42.1			
	comp=Z,2µm,20.0s									
MCVT	**Middlebury Col**	**73.42**	**319**		P	**P**	**23 20 42.6**	**+0.5**		
	baz=116,SNR=5.7									
MSFE	**Esma-Masafi**	**73.42**	**62**	*i*	P	**P**	**23 20 43.5**	**+0.9**		
	SNR=7.3									
MASF	**Masafi**	**73.42**	**62**		P	**P**	**23 20 43.8**	**+1.3**		
	SNR=6.4									
MASF					P	**P**	**23 20 43.8**	**+1.3**		
	SNR=6.4									
VT1	**Waterbury**	**73.42**	**319**		IAmb	IAmb	23 20 44.4			
	comp=Z,141nm,1.7s									
VT1					IAMs_20	IAMs_20	23 49 24.2			
	comp=Z,2µm,18.0s									
SOHO	**SOHO**	**73.44**	**63**	*i*	P	**P**	**23 20 45.0**	**+2.3**		
	SNR=13									
SOHO	**SOHO**	**73.44**	**63**		P	**P**	**23 20 44.0**	**+1.4**		
Y60A	**Bolivia**	**73.45**	**308**		IAMs_20	IAMs_20	23 52 18.2			
	comp=Z,1µm,19.0s									
MDH	**Madha**	**73.53**	**62**	*i*	P	**P**	**23 20 46.1**	**+3.0**		
	SNR=7.9									
MDH	**Madha**	**73.53**	**62**		P	**P**	**23 20 44.4**	**+1.3**		
	SNR=5.7									
MDH					P	**P**	**23 20 44.4**	**+1.3**		
	SNR=5.7									
LUPA	**Lehigh Univers**	**73.67**	**315**		IAmb	IAmb	23 20 45.7			
	comp=Z,73nm,1.4s									
BSY	**Bisya**	**73.70**	**64**		P	**P**	**23 20 46.0**	**+1.7**		
	SNR=9.3									
BSY					P	**P**	**23 20 46.0**	**+1.7**		
	SNR=9.3									
MOS	**Moscow**	**73.80**	**27**	*e*	P	**P**	**23 20 41.9**	**-2.1**		
MOS					pmax	pmax				
	comp=Z,142nm,1.6s									
MOS					MLR	MLR				
	comp=Z,400nm,16.0s									
U59A	**Littleton**	**73.90**	**310**		IAmb	IAmb	23 20 47.8			
	comp=Z,75nm,1.4s									
U59A					IAMs_20	IAMs_20	23 51 18.1			
	comp=Z,1µm,19.0s									
T59A	**Double "B" Far**	**73.93**	**311**		IAmb	IAmb	23 20 47.2			
	comp=Z,84nm,1.4s									
T59A					IAMs_20	IAMs_20	23 51 08.9			
	comp=Z,1µm,18.0s									
T59A	**Double "B" Far**	**73.93**	**311**		P	**P**	**23 20 45.1**	**-0.1**		
	baz=110,SNR=5.4									
T59A					P	**P**	**23 20 45.1**	**-0.1**		
	baz=110,SNR=5.4									
MHTO	**MHTO**	**74.00**	**66**		P	**P**	**23 20 46.1**	**+0.1**		
	SNR=8.2									
MHTO					P	**P**	**23 20 46.1**	**+0.1**		
	SNR=8.2									
L59A	**Walton**	**74.06**	**317**		P	**P**	**23 20 45.7**	**-0.3**		
L59A					IAmb	IAmb	23 20 49.1			
	comp=Z,141nm,1.4s									
L59A					IAMs_20	IAMs_20	23 46 53.2			
	comp=Z,1µm,19.0s									
L59A	**Walton**	**74.06**	**317**		P	**P**	**23 20 46.4**	**+0.4**		
	baz=114,SNR=6.1									
L59A					P	**P**	**23 20 46.4**	**+0.4**		
	baz=114,SNR=6.1									
LDAQ	**Lac Daran**	**74.12**	**323**		IAmb	IAmb	23 20 48.6			
	comp=Z,108nm,1.4s									
SDMD	**Soldier's Deli**	**74.27**	**313**		IAMs_20	IAMs_20	23 50 23.7			
	comp=Z,980nm,18.0s									
KSPA	**Keystone Colle**	**74.31**	**316**		IAmb	IAmb	23 20 50.2			
	comp=Z,116nm,1.4s									
KSPA	**Keystone Colle**	**74.31**	**316**		P	**P**	**23 20 47.7**	**+0.4**		
	baz=113,SNR=5.8									
ACON	**Acoyapa**	**74.36**	**284**	*e*	P	**P**	**23 20 48.1**	**-0.1**		
DWPF	**Disney Wildern**	**74.36**	**301**		IAMs_20	IAMs_20	23 53 48.4			
	comp=Z,2µm,20.0s									
JMDO	**Jabal Madar**	**74.43**	**65**		P	**P**	**23 20 51.0**	**+2.5**		
	SNR=7.6									
JMDO					P	**P**	**23 20 51.0**	**+2.5**		
	SNR=7.6									
SOR	**Soroa**	**74.44**	**295**		P	**P**	**23 20 48.5**	**0.0**		
SOR	**Soroa**	**74.44**	**295**		P	**P**	**23 20 48.5**	**0.0**		
SOR					pmax	pmax				
	comp=Z,48nm,1.3s									
SOR					MLR	MLR				
	comp=Z,400nm,20.0s									
X58A	**Rowland**	**74.51**	**308**		IAMs_20	IAMs_20	23 51 39.2			
	comp=Z,2µm,21.0s									
R58B	**Mineral**	**74.52**	**312**		IAMs_20	IAMs_20	23 50 40.3			
	comp=Z,2µm,18.0s									
SMDO	**Samad**	**74.54**	**64**		P	**P**	**23 20 50.0**	**+0.8**		
	SNR=21									
SMDO					P	**P**	**23 20 50.0**	**+0.8**		
	SNR=21									
Y58A	**Scranton**	**74.57**	**307**		IAMs_20	IAMs_20	23 52 04.7			
	comp=Z,3µm,21.0s									
J58A	**Remsen**	**74.69**	**318**		IAmb	IAmb	23 20 52.3			
	comp=Z,105nm,1.4s									
J58A					IAMs_20	IAMs_20	23 48 55.8			
	comp=Z,2µm,19.0s									
N58A	**Sunbury**	**74.70**	**315**		IAmb	IAmb	23 20 52.2			
	comp=Z,88nm,1.4s									
N58A					IAMs_20	IAMs_20	23 49 43.2			
	comp=Z,2µm,19.0s									
N58A	**Sunbury**	**74.70**	**315**		P	**P**	**23 20 50.0**	**+0.3**		
	baz=112,SNR=5.6									
N58A					P	**P**	**23 20 50.0**	**+0.3**		
	baz=112,SNR=5.6									
BINY	**Binghamton**	**74.71**	**316**		IAmb	IAmb	23 20 52.1			
	comp=Z,141nm,1.5s									
BINY	**Binghamton**	**74.71**	**316**		P	**P**	**23 20 51.5**	**+1.8**		
	baz=113									
BINY	**Binghamton**	**74.71**	**316**		P	**P**	**23 20 49.2**	**-0.5**		
	baz=113,SNR=6.1									
BIDO	**Bidbid**	**74.72**	**64**		P	**P**	**23 20 50.3**	**+0.2**		
	SNR=7.2									
NHSC	**New Hope**	**74.73**	**306**		P	**P**	**23 20 52.2**	**+2.2**		
	baz=108									
LONY	**Lake Ozonia**	**74.73**	**319**		IAMs_20	IAMs_20	23 48 39.9			
	comp=Z,2µm,19.0s									
LONY	**Lake Ozonia**	**74.73**	**319**		P	**P**	**23 20 51.3**	**+1.5**		
	baz=114									
BOAB	**BOACO BROADBAN**	**74.92**	**284**		IAmb	IAmb	23 20 53.0			
	comp=Z,138nm,1.5s									
WSAR	**Wadi Sarin**	**75.10**	**64**		P	**P**	**23 20 54.0**	**+1.6**		
	SNR=15									
P57A	**Homestead Farm**	**75.14**	**313**		IAmb	IAmb	23 20 55.3			
	comp=Z,84nm,1.4s									
P57A	**Homestead Farm**	**75.14**	**313**		P	**P**	**23 20 52.0**	**-0.2**		
	baz=111,SNR=6.4									
P57A					P	**P**	**23 20 52.0**	**-0.2**		
	baz=111,SNR=6.4									
Y57A	**Sumter**	**75.17**	**307**		IAMs_20	IAMs_20	23 51 43.8			
	comp=Z,1µm,19.0s									
WCNY	**West Carthage**	**75.18**	**318**		P	**P**	**23 20 53.6**	**+1.2**		
	baz=114,SNR=8.0									
W57A	**Gilead**	**75.21**	**308**		IAMs_20	IAMs_20	23 51 13.7			
	comp=Z,2µm,18.0s									
T57A	**Hurt**	**75.22**	**310**		IAMs_20	IAMs_20	23 50 30.1			
	comp=Z,1µm,20.0s									
SCHQ	**Schefferville**	**75.24**	**331**		P	**P**	**23 20 52.7**	**+0.3**		
	comp=Z,14nm,1.0s,baz=110,slow=5.8,SNR=8.6									
	comp=Z,14nm,1.0s									
S57A	**Dark Hollow, R**	**75.25**	**311**		IAMs_20	IAMs_20	23 50 25.7			
	comp=Z,3µm,19.0s									
WBK	**Wadi Bani Khal**	**75.27**	**65**		P	**P**	**23 20 55.0**	**+1.6**		
	SNR=6.3									
WBK					P	**P**	**23 20 55.0**	**+1.6**		
	SNR=6.3									
WBO	**Williamsburg**	**75.34**	**319**		IAMs_20	IAMs_20	23 48 20.0			
	comp=Z,2µm,18.0s									
TRQ	**Mont Tremblant**	**75.38**	**321**		IAmb	IAmb	23 20 55.8			
	comp=Z,120nm,1.3s									
BIRD	**Birdtown, Kers**	**75.42**	**308**		IAMs_20	IAMs_20	23 51 26.3			
	comp=Z,2µm,18.0s									
SSPA	**Standing Stone**	**75.46**	**314**		P	**P**	**23 20 53.2**	**-0.8**		
SSPA					IAmb	IAmb	23 20 56.7			
	comp=Z,81nm,1.4s									
SSPA	**Standing Stone**	**75.46**	**314**		P	**P**	**23 20 55.5**	**+1.5**		
	baz=111									
SSPA	**Standing Stone**	**75.46**	**314**		P	**P**	**23 20 54.9**	**+0.9**		
	baz=111,SNR=5.2									
JLN	**Jalan Bani Buh**	**75.57**	**66**		P	**P**	**23 20 55.3**	**+0.3**		
	SNR=7.9									
JLN					P	**P**	**23 20 55.3**	**+0.3**		
	SNR=7.9									
656A	**Wilkston**	**75.63**	**302**		IAMs_20	IAMs_20	23 52 50.9			
	comp=Z,2µm,20.0s									
L56A	**Greenwood**	**75.77**	**316**		P	**P**	**23 20 55.3**	**-0.5**		
	baz=112,SNR=5.8									
L56A					P	**P**	**23 20 55.3**	**-0.5**		
	baz=112,SNR=5.8									
U56A	**King**	**75.88**	**310**		IAmb	IAmb	23 20 58.9			
	comp=Z,110nm,1.6s									
JSC	**Jenkinsville**	**75.94**	**307**		IAMs_20	IAMs_20	23 51 17.1			
	comp=Z,3µm,18.0s									
DY2G	**Dye2**	**76.04**	**347**	*i*	P	**P**	**23 20 56.5**	**-0.6**		
DY2G					IAmb	IAmb	23 20 59.7			
	comp=Z,453nm,1.5s									
BLA	**Blacksburg**	**76.18**	**310**		IAmb	IAmb	23 21 01.2			
	comp=Z,75nm,1.4s									
BLA	**Blacksburg**	**76.18**	**310**		P	**P**	**23 20 59.5**	**+1.2**		
	baz=108									
KMSC	**Kings Mountain**	**76.25**	**308**		IAmb	IAmb	23 21 01.6			
	comp=Z,97nm,1.6s									
KMSC					IAMs_20	IAMs_20	23 50 43.3			
	comp=Z,2µm,19.0s									
KMSC	**Kings Mountain**	**76.25**	**308**		P	**P**	**23 20 59.7**	**+1.0**		
	baz=107									
R55A	**Marlinton**	**76.29**	**311**		IAMs_20	IAMs_20	23 49 53.3			
	comp=Z,2µm,18.0s									
J55A	**Hilton**	**76.36**	**317**		IAMs_20	IAMs_20	23 48 03.0			
	comp=Z,1µm,19.0s									
V55A	**Taylorsville**	**76.37**	**309**		IAmb	IAmb	23 21 02.6			
	comp=Z,72nm,1.4s									
V55A					IAMs_20	IAMs_20	23 50 28.4			
	comp=Z,3µm,19.0s									
M55A	**Ridgway**	**76.37**	**315**		IAMs_20	IAMs_20	23 48 03.4			
	comp=Z,1µm,20.0s									
WVNY	**West Valley, N**	**76.59**	**316**		IAmb	IAmb	23 21 03.1			
	comp=Z,121nm,1.6s									
WVNY					IAMs_20	IAMs_20	23 48 18.1			
	comp=Z,2µm,20.0s									
WVNY	**West Valley, N**	**76.59**	**316**		P	**P**	**23 21 01.7**	**+1.2**		
	baz=111									
DELO	**Deloro Mine**	**76.69**	**318**		IAmb	IAmb	23 21 03.3			
	comp=Z,95nm,1.3s									
HODGE	**Hodges**	**76.72**	**307**		IAMs_20	IAMs_20	23 50 51.7			
	comp=Z,3µm,18.0s									
J54A	**Appleton**	**76.92**	**317**		IAMs_20	IAMs_20	23 48 05.9			
	comp=Z,2µm,18.0s									
154A	**Montrose**	**76.96**	**305**		IAMs_20	IAMs_20	23 51 12.0			
	comp=Z,2µm,18.0s									
BELG	**Belogornoye**	**76.97**	**33**	*c*	*i* P	**P**	**23 21 02.6**	**+0.3**		
BELG					pmax	pmax				
	comp=Z,20nm,1.0s									
ICESG	**Greenland Ices**	**76.98**	**350**	*i*	P	**P**	**23 21 01.1**	**-1.3**		
ICESG					IAmb	IAmb	23 21 04.2			
	comp=Z,21nm,0.7s									
S54A	**Dingess, Beckl**	**77.03**	**311**		IAMs_20	IAMs_20	23 49 27.9			
	comp=Z,1µm,18.0s									
U54A	**Nelsons Funny**	**77.04**	**309**		IAmb	IAmb	23 21 06.2			
	comp=Z,106nm,1.5s									
U54A	**Nelsons Funny**	**77.04**	**309**		P	**P**	**23 21 03.0**	**-0.2**		
	baz=107,SNR=5.6									
U54A					P	**P**	**23 21 03.0**	**-0.2**		
	baz=107,SNR=5.6									
Q54A	**Coxs Mills**	**77.04**	**312**		IAmb	IAmb	23 21 05.2			
	comp=Z,75nm,1.4s									
Q54A					IAMs_20	IAMs_20	23 51 46.2			
	comp=Z,1µm,22.0s									
TIGA	**Tifton**	**77.04**	**304**		IAMs_20	IAMs_20	23 51 23.3			
	comp=Z,2µm,18.0s									
O54A	**Avella**	**77.09**	**313**		IAmb	IAmb	23 21 06.0			
	comp=Z,72nm,1.6s									
ERPA	**Erie**	**77.45**	**315**		IAmb	IAmb	23 21 07.7			
	comp=Z,79nm,1.3s									
ERPA					IAMs_20	IAMs_20	23 48 12.0			
	comp=Z,2µm,18.0s									
ERPA	**Erie**	**77.45**	**315**		P	**P**	**23 21 07.3**	**+2.0**		
	baz=110									
GOGA	**Godfrey**	**77.46**	**306**		P	**P**	**23 21 07.5**	**+1.9**		
	baz=106									
BG3	**Lake Jocassee**	**77.47**	**308**		IAmb	IAmb	23 21 07.9			
	comp=Z,97nm,1.5s									
BG3					IAMs_20	IAMs_20	23 50 14.4			
	comp=Z,2µm,18.0s									
CASEE	**Lake Jocassee**	**77.47**	**308**		P	**P**	**23 21 06.4**	**+0.9**		
	baz=106,SNR=7.5									
SFJD	**Kangerlussuaq**	**77.50**	**346**		P	**P**	**23 21 04.6**	**-0.3**		
SFJD	**Kangerlussuaq**	**77.50**	**346**		P	**P**	**23 21 04.6**	**-0.3**		
SFJD					pmax	pmax				
	comp=Z,169nm,1.7s									
SFJD	**Kangerlussuaq**	**77.50**	**346**		LR	LR	23 46 36.3			
	comp=Z,385nm,21.5s,baz=282,slow=29									
V53A	**Saluda**	**77.56**	**308**		IAmb	IAmb	23 21 08.8			
	comp=Z,72nm,1.5s									
V53A					IAMs_20	IAMs_20	23 48 58.9			
	comp=Z,1µm,19.0s									
V53A	**Saluda**	**77.56**	**308**		P	**P**	**23 21 07.2**	**+1.1**		
	baz=106,SNR=6.4									
V53A					P	**P**	**23 21 07.2**	**+1.1**		
	baz=106,SNR=6.4									
P53A	**Whipple**	**77.61**	**312**		IAmb	IAmb	23 21 08.0			
	comp=Z,85nm,1.6s									
P53A					IAMs_20	IAMs_20	23 48 55.2			
	comp=Z,2µm,18.0s									
N53A	**Lisbon**	**77.63**	**314**		IAmb	IAmb	23 21 09.0			
	comp=Z,83nm,1.4s									
N53A					IAMs_20	IAMs_20	23 48 26.6			
	comp=Z,1µm,18.0s									
N53A	**Lisbon**	**77.63**	**314**		P	**P**	**23 21 07.2**	**+0.8**		
	baz=109,SNR=6.2									
N53A					P	**P**	**23 21 07.2**	**+0.8**		
	baz=109,SNR=6.2									
KLMR	**Klimovskoe**	**77.68**	**23**	*e*	P	**P**	**23 21 03.8**	**-2.3**		
KLMR				*e*			23 24 01.6			
KLMR					pmax	pmax				
	comp=Z,105nm,1.6s									
KLMR					MLR	MLR				
	comp=Z,1µm,21.0s									
M53A	**WI Miller and**	**77.71**	**314**		P	**P**	**23 21 08.0**	**+1.2**		
	baz=109									
O53A	**New Philadelph**	**77.72**	**313**		IAmb	IAmb	23 21 09.6			
	comp=Z,89nm,1.4s									
O53A					IAMs_20	IAMs_20	23 48 32.1			
	comp=Z,2µm,19.0s									
O53A	**New Philadelph**	**77.72**	**313**		P	**P**	**23 21 07.6**	**+0.7**		
	baz=108									
SADO	**Sadowa**	**77.79**	**318**		IAmb	IAmb	23 21 09.3			
	comp=Z,115nm,1.5s									
VLDQ	**Val d'Or**	**77.95**	**322**		IAmb	IAmb	23 21 11.2			
	comp=Z,92nm,1.6s									
Y52A	**Lilburn**	**78.06**	**306**		IAmb	IAmb	23 21 11.9			
	comp=Z,101nm,1.4s									
Y52A					IAMs_20	IAMs_20	23 50 08.2			
	comp=Z,2µm,20.0s									
Y52A	**Lilburn**	**78.06**	**306**		P	**P**	**23 21 09.7**	**+0.9**		
	baz=105,SNR=8.5									
Y52A					P	**P**	**23 21 09.7**	**+0.9**		
	baz=105,SNR=8.5									
O52A	**Adamsville**	**78.13**	**313**		P	**P**	**23 21 09.1**	**-0.1**		
	baz=108,SNR=12									
O52A					P	**P**	**23 21 09.1**	**-0.1**		
	baz=108,SNR=12									
352A	**Blakely**	**78.16**	**304**		IAMs_20	IAMs_20	23 50 57.9			
	comp=Z,2µm,19.0s									
352A	**Blakely**	**78.16**	**304**		P	**P**	**23 21 11.0**	**+1.5**		
	baz=104									
P52A	**Corning**	**78.20**	**312**		P	**P**	**23 21 10.3**	**+0.8**		
	baz=108									
V52A	**Sevierville**	**78.22**	**308**		P	**P**	**23 21 08.5**	**-1.3**		
V52A					IAmb	IAmb	23 21 12.3			
	comp=Z,69nm,1.5s									
V52A					IAMs_20	IAMs_20	23 49 43.4			
	comp=Z,2µm,18.0s									
V52A	**Sevierville**	**78.22**	**308**		P	**P**	**23 21 09.9**	**+0.2**		
	baz=106									
W52A	**Murphy**	**78.28**	**307**		IAmb	IAmb	23 21 12.8			
	comp=Z,78nm,1.4s									
W52A					IAMs_20	IAMs_20	23 49 53.0			
	comp=Z,3µm,18.0s									
W52A	**Murphy**	**78.28**	**307**		P	**P**	**23 21 11.0**	**+0.9**		
	baz=106,SNR=5.9									
152A	**Waverly Hall**	**78.28**	**305**		IAMs_20	IAMs_20	23 50 24.2			
	comp=Z,2µm,20.0s									
152A	**Waverly Hall**	**78.28**	**305**		P	**P**	**23 21 10.3**	**+0.1**		
	baz=105									
TKL	**Tuckaleechee C**	**78.31**	**308**		IAmb	IAmb	23 21 12.6			
	comp=Z,76nm,1.4s									
TKL					IAMs_20	IAMs_20	23 49 43.8			
	comp=Z,2µm,18.0s									
TKL	**Tuckaleechee C**	**78.31**	**308**		P	**P**	**23 21 10.8**	**+0.6**		
	baz=106,SNR=6.0									
TZTN	**Tazewell**	**78.38**	**309**		P	**P**	**23 21 12.2**	**+1.6**		
	baz=106									
GEYT	**Alibeck**	**78.44**	**50**		IAmb	IAmb	23 21 13.1			
	comp=Z,75nm,1.5s									
GEYT	**Alibeck**	**78.44**	**50**		P	**P**	**23 21 11.1**	**+0.2**		
	comp=Z,9.4nm,0.9s,baz=264,slow=6.0,SNR=10									
	comp=Z,9.4nm,0.9s									
S51A	**Beattyville**	**78.72**	**310**		IAmb	IAmb	23 21 14.5			
	comp=Z,78nm,1.4s									
S51A					IAMs_20	IAMs_20	23 48 55.5			
	comp=Z,2µm,19.0s									
S51A	**Beattyville**	**78.72**	**310**		P	**P**	**23 21 13.4**	**+1.0**		
	baz=106,SNR=6.5									
S51A					P	**P**	**23 21 13.4**	**+1.0**		
	baz=106,SNR=6.5									
TEIG	**Tepich**	**78.72**	**292**		P	**P**	**23 21 11.7**	**-1.1**		
TEIG					IAmb	IAmb	23 21 14.3			
	comp=Z,73nm,1.4s									
N51A	**Ashland**	**78.77**	**313**		IAmb	IAmb	23 21 15.2			
	comp=Z,120nm,1.4s									
N51A					IAMs_20	IAMs_20	23 47 57.8			
	comp=Z,2µm,19.0s									
N51A	**Ashland**	**78.77**	**313**		P	**P**	**23 21 13.5**	**+0.8**		
	baz=108,SNR=6.8									
N51A					P	**P**	**23 21 13.5**	**+0.8**		
	baz=108,SNR=6.8									
V51A	**Loudon**	**78.80**	**308**		IAmb	IAmb	23 21 15.6			
	comp=Z,94nm,1.2s									
V51A					IAMs_20	IAMs_20	23 49 20.8			
	comp=Z,2µm,21.0s									
V51A	**Loudon**	**78.80**	**308**		P	**P**	**23 21 13.2**

comp=Z,3µm,18.0s
KEV Kevo 79.96 13 P **P** **23 21 18.1 -0.4**
KEV IAmb IAmb 23 21 21.1
comp=Z,122nm,1.4s
KEV Kevo 79.96 13 P **P** **23 21 18.1 -0.4**
KEV pmax pmax
comp=Z,122nm,1.4s
APA Apatity 79.97 16⇓ *i* P **P** **23 21 17.0 -1.6**
APA pmax pmax
comp=Z,10.0nm,1.0s
O49A Covington 79.98 312 IAmb IAmb 23 21 20.5
comp=Z,124nm,1.6s
N49A Columbus Grove 80.08 313 IAMs_20 IAMs_20 23 47 09.5
comp=Z,1µm,18.0s
P49A Miami Univ. Ec 80.08 312 P **P** **23 21 20.2 +0.3**
baz=106
R49A Shelbyville 80.09 310 IAMs_20 IAMs_20 23 48 06.0
comp=Z,1µm,18.0s
R49A Shelbyville 80.09 310 P **P** **23 21 20.0 +0.1**
baz=106,SNR=7.3
R49A P **P** **23 21 20.0 +0.1**
baz=106,SNR=7.3
U49A Red Boiling Sp 80.10 308 IAMs_20 IAMs_20 23 48 38.2
comp=Z,3µm,20.0s
U49A Red Boiling Sp 80.10 308 P **P** **23 21 19.0 -1.0**
baz=105,SNR=6.7
LRAL Lakeview Retre 80.23 305 IAMs_20 IAMs_20 23 49 33.8
comp=Z,2µm,18.0s
LRAL Lakeview Retre 80.23 305 P **P** **23 21 21.0 +0.2**
baz=104
LRAL Lakeview Retre 80.23 305 P **P** **23 21 20.8 0.0**
baz=104,SNR=6.2
CLTN Cedars of Leba 80.43 308 IAMs_20 IAMs_20 23 48 35.9
comp=Z,2µm,18.0s
LVZ Lovozero 80.54 16 P **P** **23 21 21.6 -0.2**
LVZ IAmb IAmb 23 21 24.4
comp=Z,114nm,1.1s
LVZ Lovozero 80.54 16 P **P** **23 21 22.2 +0.5**
P48A Milroy 80.59 311 IAmb IAmb 23 21 24.1
comp=Z,88nm,1.6s
P48A IAMs_20 IAMs_20 23 47 34.2
comp=Z,3µm,18.0s
P48A Milroy 80.59 311 P **P** **23 21 22.2 -0.4**
baz=106,SNR=6.2
P48A P **P** **23 21 22.2 -0.4**
baz=106,SNR=6.2
X48A Hartselle 80.60 306 IAmb IAmb 23 21 24.7
comp=Z,75nm,1.5s
X48A IAMs_20 IAMs_20 23 48 52.5
comp=Z,2µm,18.0s
X48A Hartselle 80.60 306 P **P** **23 21 23.0 +0.2**
baz=104
O48B Farmland 80.61 312 P **P** **23 21 22.8 +0.1**
baz=106
O48B Farmland 80.61 312 P **P** **23 21 22.8 +0.1**
baz=106
V48A Smith Brothers 80.73 307 IAmb IAmb 23 21 25.2
comp=Z,74nm,1.5s
V48A IAMs_20 IAMs_20 23 48 34.8
comp=Z,2µm,18.0s
V48A Smith Brothers 80.73 307 P **P** **23 21 23.5 +0.1**
baz=104,SNR=7.7
KIRV Kirov 80.74 28*ce* P **P** **23 21 22.5 -0.4**
KIRV Kirov 80.74 28 LR LR 00 00 12.2
comp=Z,648nm,19.0s,baz=289,slow=38
HRA Herat 80.75 54 IAmb IAmb 23 21 25.9
comp=Z,71nm,1.3s
WCI Wyandotte Cave 80.93 310 P **P** **23 21 23.5 -0.9**
WCI Wyandotte Cave 80.93 310 IAMs_20 IAMs_20 23 47 50.1
comp=Z,1µm,20.0s
WCI Wyandotte Cave 80.93 310 P **P** **23 21 25.0 +0.6**
baz=105
WCI Wyandotte Cave 80.93 310 P **P** **23 21 24.3 -0.1**
baz=105
WCI Wyandotte Cave 80.93 310 P **P** **23 21 23.5 -0.9**
WCI pmax pmax
comp=Z,47nm,1.5s
WCI MLR MLR
comp=Z,1µm,20.0s
N47A Urbana 81.17 313 IAmb IAmb 23 21 26.9
comp=Z,65nm,1.2s
T47A Sharon Grove 81.25 309 IAmb IAmb 23 21 27.8
comp=Z,76nm,1.5s
T47A IAMs_20 IAMs_20 23 48 02.6
comp=Z,3µm,19.0s
T47A Sharon Grove 81.25 309 P **P** **23 21 24.5 -1.7**
baz=104,SNR=8.3
GLMI Grayling 81.50 317 P **P** **23 21 27.9 +0.6**
baz=107
WVT Waverly 81.61 308 IAMs_20 IAMs_20 23 48 00.3
comp=Z,2µm,18.0s
WVT Waverly 81.61 308 P **P** **23 21 27.9 -0.2**
baz=104
WVT Waverly 81.61 308 P **P** **23 21 27.1 -1.0**
baz=104,SNR=12
E46A Sault Ste Mari 81.74 318 IAmb IAmb 23 21 29.7
comp=Z,79nm,1.4s
USIN University of 81.92 309 IAMs_20 IAMs_20 23 47 23.2
comp=Z,2µm,19.0s
P46A Rosedale 81.97 311 IAmb IAmb 23 21 30.9
comp=Z,88nm,1.5s
OLIL Olney 82.43 310 IAmb IAmb 23 21 33.2
comp=Z,101nm,1.4s
OLIL Olney 82.43 310 P **P** **23 21 31.9 -0.4**
baz=104,SNR=5.4
Y45A Yeager Farm, C 82.49 305 P **P** **23 21 31.9 -0.8**
Y45A Yeager Farm, C 82.49 305 P **P** **23 21 32.8 0.0**
baz=102,SNR=5.1
OXF Oxford 82.52 306 IAmb IAmb 23 21 33.6
comp=Z,41nm,1.1s
OXF IAMs_20 IAMs_20 23 47 59.2
comp=Z,2µm,20.0s
OXF Oxford 82.52 306 P **P** **23 21 32.4 -0.5**
baz=102
545A Edgard 82.52 301 IAMs_20 IAMs_20 23 51 46.4
comp=Z,2µm,18.0s
HALT Halls 82.76 307 IAMs_20 IAMs_20 23 47 30.6
comp=Z,2µm,19.0s
GLAT Glass 82.80 308 IAMs_20 IAMs_20 23 47 24.6
comp=Z,2µm,18.0s
SIUC Southern Illin 83.06 309 IAmb IAmb 23 21 36.5
comp=Z,67nm,1.4s
S44A Carbondale 83.08 309 IAmb IAmb 23 21 36.6
comp=Z,76nm,1.4s
S44A Carbondale 83.08 309 P **P** **23 21 34.9 -0.8**
baz=103,SNR=5.9
UPNV Upernavik 83.12 348 *i* P **P** **23 21 34.4 -0.8**
UPNV IAmb IAmb 23 21 37.9
comp=Z,15nm,1.0s
PEBM Pemiscott Bayo 83.22 307 IAMs_20 IAMs_20 23 47 16.7
comp=Z,2µm,18.0s
CGM3 Cape Girardeau 83.31 308 IAMs_20 IAMs_20 23 46 44.1
comp=Z,2µm,20.0s
HDIL Hopedale 83.74 312 P **P** **23 21 38.7 -0.4**
baz=103
FVM French Village 84.05 309 IAmb IAmb 23 21 41.2
comp=Z,82nm,1.4s
FVM French Village 84.05 309 P **P** **23 21 39.2 -1.5**
baz=102,SNR=8.8
LCAR Lake Charles 84.23 307 IAmb IAmb 23 21 43.0
comp=Z,74nm,1.6s
LCAR Lake Charles 84.23 307 P **P** **23 21 40.8 -0.9**
baz=101,SNR=12
QSPA South Pole Qui 84.38 180 P **P** **23 21 42.4 +0.4**
QSPA South Pole Qui 84.38 180 P **P** **23 21 42.8 +0.8**
comp=Z,44nm,0.9s,baz=218,slow=2.7,SNR=86
QSPA PKP2bc 23 47 36.0
comp=Z,1.1nm,0.4s,baz=225,slow=1.2,SNR=5.8
QSPA LR LR 23 54 41.2
comp=Z,728nm,18.0s,baz=210,slow=32
comp=Z,44nm,0.9s
ARU Arti 84.44 32 P **P** **23 21 41.8 -0.4**
ARU IAmb IAmb 23 21 44.0
comp=Z,46nm,1.2s
ARU Arti 84.44 32*d* *i* P **P** **23 21 42.6 +0.4**
ARU S **SKSac** **23 32 05.1 -0.9**
ARU pmax pmax
comp=Z,53nm,1.3s
ARU MLR MLR
comp=Z,497nm,19.0s
CCM Cathedral Cave 84.69 309 P **P** **23 21 42.1 -1.9**
CCM IAmb IAmb 23 21 44.6
comp=Z,49nm,1.3s
CCM Cathedral Cave 84.69 309 P **P** **23 21 43.8 -0.2**
baz=102
CCM Cathedral Cave 84.69 309 P **P** **23 21 43.6 -0.4**
baz=102,SNR=9.7
CCM Cathedral Cave 84.69 309 P **P** **23 21 42.1 -1.9**
CCM pmax pmax
comp=Z,49nm,1.3s
UALR University of 84.94 306 IAmb IAmb 23 21 46.2
comp=Z,70nm,1.6s
JFWS Jewell Farm 84.96 314 P **P** **23 21 46.6 +1.4**
baz=103
MGMO Mountain Grove 85.32 308 P **P** **23 21 47.5 +0.3**
MGMO IAmb IAmb 23 21 49.1
comp=Z,96nm,1.5s
L40A Anamosa 85.48 313 IAmb IAmb 23 21 48.1
comp=Z,67nm,1.6s
R40A Maddies Statio 85.53 309 IAmb IAmb 23 21 50.0
comp=Z,73nm,1.5s
R40A Maddies Statio 85.53 309 P **P** **23 21 47.8 -0.4**
baz=101,SNR=9.4
U40A Yellville 85.64 307 P **P** **23 21 48.3 -0.5**
baz=100,SNR=6.5
U40A P **P** **23 21 48.3 -0.5**
baz=100,SNR=6.5
NEEM North Greenlan 85.79 352 *i* P **P** **23 21 49.3 +0.3**
NEEM IAmb IAmb 23 21 52.2
comp=Z,24nm,1.4s
S39A Bolivar 86.24 308 IAmb IAmb 23 21 52.9
comp=Z,54nm,1.4s
S39A Bolivar 86.24 308 P **P** **23 21 51.1 -0.6**
baz=100,SNR=12
KBL Kabul 86.28 55 P **P** **23 21 50.5 -1.8**
KBL Kabul 86.28 55 P **P** **23 21 50.5 -1.8**
KBL pmax pmax
comp=Z,23nm,1.1s
KBL Kabul 86.28 55 P **P** **23 21 52.3 +0.1**
SNR=8.2
KBL P **P** **23 21 52.3 +0.1**
SNR=8.2
NATX Nacogdoches 86.35 302 P **P** **23 21 53.3 +1.0**
baz=99
HHAR Hobbs 86.49 307 IAmb IAmb 23 21 54.3
comp=Z,62nm,1.5s
K38A Parkersburg 86.72 313 IAmb IAmb 23 21 54.1
comp=Z,92nm,1.5s
N38A Joes South For 86.72 311 IAmb IAmb 23 21 55.4
comp=Z,71nm,1.4s
P38A Dawn 86.74 310 IAmb IAmb 23 21 55.5
comp=Z,89nm,1.4s
P38A Dawn 86.74 310 P **P** **23 21 52.9 -1.2**
baz=100,SNR=8.8
U38A Gravette 86.87 307 IAmb IAmb 23 21 56.3
comp=Z,97nm,1.6s
U38A Gravette 86.87 307 P **P** **23 21 54.1 -0.7**
baz=100,SNR=13
SCIA State Center 86.91 312 P **P** **23 21 55.2 +0.2**
baz=100
HKT Hockley 87.08 300 P **P** **23 21 55.0 -0.9**
HKT Hockley 87.08 300 P **P** **23 21 55.0 -0.9**
HKT pmax pmax
comp=Z,37nm,1.6s
SPMN Mine on St. 87.23 316 IAmb IAmb 23 21 56.6
comp=Z,89nm,1.9s
RLO Rose Lookout 87.33 307 IAmb IAmb 23 21 58.6
comp=Z,70nm,1.5s
237A Washetta, Mont 87.35 302 IAmb IAmb 23 21 58.7
comp=Z,32nm,1.1s
I37B Waseca 87.43 315 P **P** **23 21 57.3 0.0**
baz=100,SNR=7.0
F36A Milaca 87.85 316 IAmb IAmb 23 22 00.4
comp=Z,64nm,1.4s
F36A Milaca 87.85 316 P **P** **23 21 57.8 -1.5**
baz=100,SNR=9.4
TUL3 Leonard 87.91 306 IAmb IAmb 23 22 00.7
comp=Z,51nm,1.3s
TUL3 Leonard 87.91 306 P **P** **23 21 59.4 -0.5**
baz=99
TUL3 Leonard 87.91 306 P **P** **23 21 59.6 -0.3**
baz=99
CHM Chimkent 88.00 47 *eP* **P** **23 22 03.8 +3.6**
B35A Bob, Littlefor 88.43 319 P **P** **23 22 01.5 -0.6**
baz=100,SNR=10
T35A Sooner Cattle 88.63 307 P **P** **23 22 02.5 -0.8**
T35B Sooner Cattle 88.63 307 P **P** **23 22 03.1 -0.1**
baz=98,SNR=14
QUOK Quay 88.68 306 IAmb IAmb 23 22 05.4
comp=Z,69nm,1.2s
435B Jarrell 88.69 301 IAmb IAmb 23 22 05.2
comp=Z,39nm,1.1s
435B Jarrell 88.69 301 P **P** **23 22 03.1 -0.6**
baz=98
WHTX Lake Whitney, 88.73 302 P **P** **23 22 03.7 -0.1**
baz=98
Z35A Perchaven, San 88.74 303 IAmb IAmb 23 22 05.0
comp=Z,42nm,1.1s
LOOK Love County 88.77 304 IAmb IAmb 23 22 05.8
comp=Z,70nm,1.5s
KSU1 Kansas State U 89.02 309 P **P** **23 22 04.3 -0.7**
baz=98
BLOK Blckwell 89.17 307 IAmb IAmb 23 22 07.9
comp=Z,106nm,1.8s
BLOK IAMs_20 IAMs_20 00 09 07.1
comp=Z,1µm,18.0s
DZA Taraz 89.35 47 *eP* **P** **23 22 07.5 +0.9**
comp=Z,59nm,1.4s,baz=47
DZA Taraz 89.35 47 *eP* **P** **23 22 07.4 +0.9**
DZA pmax pmax
comp=Z,17nm,1.4s
FW03 Perrin-Whitt E 89.38 303 IAmb IAmb 23 22 08.0
comp=Z,45nm,1.5s
X34A Smith Ranch, M 89.38 305 IAmb IAmb 23 22 08.0
comp=Z,40nm,1.3s
KAN13 South Haven SW 89.41 307 IAmb IAmb 23 22 08.8
comp=Z,69nm,1.5s
PLPT Palo Pinto 89.56 303 IAmb IAmb 23 22 09.6
comp=Z,40nm,1.4s
KAN17 Caldwell West 89.64 307 IAmb IAmb 23 22 09.9
comp=Z,63nm,1.4s
ECSD EROS Data Cent 89.67 314 P **P** **23 22 06.5 -1.6**
ECSD EROS Data Cent 89.67 314 P **P** **23 22 07.8 -0.2**
baz=98
ECSD EROS Data Cent 89.67 314 P **P** **23 22 07.9 -0.1**
baz=98,SNR=23
F33A 5 Mile Ranch, 89.75 316 IAmb IAmb 23 22 09.9
comp=Z,53nm,1.8s
WTFS Witchita Falls 89.80 304 IAmb IAmb 23 22 09.9
comp=Z,59nm,1.2s
AGMN Agassiz Nation 89.83 318 IAmb IAmb 23 22 10.4
comp=Z,68nm,1.8s
AGMN Agassiz Nation 89.83 318 P **P** **23 22 08.3 -0.4**
baz=99
AGMN Agassiz Nation 89.83 318 P **P** **23 22 08.2 -0.4**
baz=99
833A Chaparral WMA, 89.96 298 P **P** **23 22 10.7 +1.1**
baz=97
OK032 Salt Plains WL 89.97 307 IAmb IAmb 23 22 11.4
comp=Z,56nm,1.7s
ULM Lac du Bonnet 90.13 320 P **P** **23 22 10.6 +0.6**
comp=Z,3.3nm,0.9s,baz=89,slow=5.2,SNR=3.4
comp=Z,3.3nm,0.9s
WMOK Wichita Mounta 90.18 305 IAMs_20 IAMs_20 00 10 42.8
comp=Z,1µm,21.0s
WMOK Wichita Mounta 90.18 305 P **P** **23 22 10.3 -0.3**
baz=97
BRVK Borovoye 90.21 37 P **P** **23 22 08.5 -1.8**
BRVK IAMs_20 IAMs_20 00 09 03.5
comp=Z,782nm,19.0s
BRVK Borovoye 90.21 37*d* *i* P **P** **23 22 11.1 +0.8**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 90.21 37 P **P** **23 22 09.9 -0.3**
BRVK P **P** **23 22 09.9 -0.3**
BVAR Borovoye Array 90.26 37 P **P** **23 22 11.5 +1.0**
comp=Z,4.3nm,0.7s,baz=250,slow=4.4,SNR=9.6
comp=Z,4.3nm,0.7s
OK035 E0210 Rd and N 90.35 307 P **P** **23 22 10.4 -1.0**
OK035 IAmb IAmb 23 22 13.7
comp=Z,76nm,1.6s
BGNE Belgrade 90.49 311 P **P** **23 22 12.6 +0.7**
baz=97
FCC Fort Churchill 90.50 329 IAmb IAmb 23 22 13.7
comp=Z,35nm,1.4s
JCT Junction City 90.55 300 IAmb IAmb 23 22 14.5
comp=Z,83nm,1.8s
JCT Junction City 90.55 300 P **P** **23 22 12.9 +0.4**
baz=96
R32A Long Quarter, 90.56 308 IAmb IAmb 23 22 14.5
comp=Z,87nm,1.6s
ABTX Abilene, Hawle 90.65 303 IAmb IAmb 23 22 15.3
comp=Z,67nm,1.4s
ABTX Abilene, Hawle 90.65 303 P **P** **23 22 13.5 +0.6**
baz=96
ABTX Abilene, Hawle 90.65 303 P **P** **23 22 13.5 +0.6**
baz=96,SNR=10
APMT Aspermont 91.12 303 IAmb IAmb 23 22 16.8
comp=Z,55nm,1.2s
DRIO Del Rio 91.14 299 P **P** **23 22 14.4 -0.8**
BRZS Berezniki 91.25 40 *eP* **P** **23 22 15.6 +0.4**
comp=Z,15nm,1.3s,baz=40
BRZS Berezniki 91.25 40 *eP* **P** **23 22 16.0 +0.8**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
CBKS Cedar Bluff 91.40 309 P **P** **23 22 17.5 +1.3**
baz=96
SMWD Samnorwood 91.41 305 IAmb IAmb 23 22 18.5
comp=Z,55nm,1.4s
SUSD Miller 91.44 314 IAmb IAmb 23 22 17.9
comp=Z,39nm,1.1s
BTLS Baital 91.57 45 *eP* **P** **23 22 17.4 +0.6**
baz=45
BTLS Baital 91.57 45 *eP* **P** **23 22 17.7 +0.9**
BTLS *i* S **SKSac** **23 32 49.9 +0.2**
AAK Ala-Archa 91.63 47 *i* P **P** **23 22 19.5 +2.1**
SNR=6.1
AAK Ala-Archa 91.63 47*d* *i* P **P** **23 22 18.7 +1.3**
AAK pmax pmax
comp=Z,31nm,1.1s
AAK Ala-Archa 91.63 47 P **P** **23 22 18.9 +1.5**
AAK P **P** **23 22 18.9 +1.5**
SN01 Snyder 1 91.72 303 IAmb IAmb 23 22 19.5
comp=Z,34nm,1.4s
OZNA Ozona 91.73 301 IAmb IAmb 23 22 19.3
comp=Z,38nm,1.5s
SGDS Sogindy 91.81 47 *eP* **P** **23 22 18.7 +0.6**
baz=47
SGDS Sogindy 91.81 47 *eP* **P** **23 22 18.6 +0.5**
DKNS Dickens 91.83 303 IAmb IAmb 23 22 19.9
comp=Z,41nm,1.3s
SGCY Sterling City 91.83 302 P **P** **23 22 16.9 -1.4**
POST Post 92.25 303 IAmb IAmb 23 22 21.7
comp=Z,27nm,1.2s
MDND Maddock 92.26 318 P **P** **23 22 20.3 +0.3**
baz=96
MDND Maddock 92.26 318 P **P** **23 22 20.5 +0.6**
baz=96
KSH Kashi 92.43 51 P **P** **23 22 21.3 +0.2**
KSH pmax pmax
comp=Z,31nm,1.2s
AMTX Amarillo 92.56 305 P **P** **23 22 22.8 +1.0**
baz=95
HYB Hyderabad 92.69 73 *eP* **P** **23 22 23.3 +0.6**
ODSA Odessa 93.05 302 IAmb IAmb 23 22 25.0
comp=Z,44nm,1.3s
KUU Kurty 93.09 46 *eP* **P** **23 22 24.0 +0.1**
comp=Z,13nm,0.9s,baz=46
KUU Kurty 93.09 46 *eP* **P** **23 22 24.5 +0.6**
KUU pmax pmax
comp=Z,13nm,0.9s
OGNE Ogallala 93.36 311 P **P** **23 22 26.0 +0.7**
baz=95
MSTX Muleshoe 93.39 304 P **P** **23 22 25.4 -0.2**
MSTX Muleshoe 93.39 304 P **P** **23 22 26.1 +0.5**
baz=95
MSTX Muleshoe 93.39 304 P **P** **23 22 26.4 +0.8**
baz=95,SNR=9.2
AAA Alma-Ata 93.45 47 *eP* **P** **23 22 26.2 +0.5**
comp=Z,27nm,1.4s,baz=47
AAA Alma-Ata 93.45 47 *eP* **P** **23 22 26.5 +0.8**
AAA pmax pmax
comp=Z,14nm,1.2s
TNSS Tian-Shan 93.46 47 *eP* **P** **23 22 26.3 +0.1**
baz=47
TNSS Tian-Shan 93.46 47 *eP* **P** **23 22 26.5 +0.4**
RES Resolute Bay 93.47 345 IAmb IAmb 23 22 28.3
comp=Z,37nm,1.1s
MDOK Medeo 93.55 47 *eP* **P** **23 22 26.5 +0.3**
baz=47
MDOK Medeo 93.55 47 *eP* **P** **23 22 26.9 +0.7**
RTBA Rita Blanca 93.55 306 IAmb IAmb 23 22 28.4
comp=Z,32nm,1.4s
CHKK Chushkaly 93.56 46 *eP* **P** **23 22 26.1 0.0**
baz=46
CHKK Chushkaly 93.56 46 *eP* **P** **23 22 26.6 +0.5**
TX31 Lajitas Ar. Si 93.78 299 P **P** **23 22 27.3 -0.2**
baz=94,SNR=8.8
TXAR Lajitas Array 93.78 299 P **P** **23 22 27.6 0.0**
comp=Z,3.2nm,1.0s,baz=116,slow=5.7,SNR=22
comp=Z,3.2nm,1.0s
TARG Taragay, Kyrgy 94.00 49 IAmb IAmb 23 22 31.2
comp=Z,54nm,1.4s
PECS Pecos 94.11 301 IAmb IAmb 23 22 31.4
comp=Z,30nm,1.5s
FFC Flin Flon 94.33 324 P **P** **23 22 28.5 -0.8**
FFC IAmb IAmb 23 22 30.1
comp=Z,28nm,1.4s
FFC Flin Flon 94.33 324 P **P** **23 22 28.5 -0.8**
FFC pmax pmax
comp=Z,29nm,1.4s
SATY Saty 94.53 47 *eP* **P** **23 22 30.8 +0.1**
baz=47
SATY Saty 94.53 47 *eP* **P** **23 22 31.1 +0.4**
ZHN Zhinishke 94.56 47 *eP* **P** **23 22 30.7 -0.1**
baz=47
ZHN Zhinishke 94.56 47 *eP* **P** **23 22 31.0 +0.2**
TDK Taldyqorghan 94.65 45 *eP* **P** **23 22 30.8 -0.3**
baz=45
TDK Taldyqorghan 94.65 45 *eP* **P** **23 22 31.5 +0.5**
KPKS Kokpek 94.76 47 *eP* **P** **23 22 31.2 -0.5**
baz=47
KPKS Kokpek 94.76 47 *eP* **P** **23 22 31.7 0.0**
UZB Uzynbulak 94.99 47 *eP* **P** **23 22 33.1 +0.3**
baz=47
UZB Uzynbulak 94.99 47 *eP* **P** **23 22 33.1 +0.3**
KURBB Kurchatov Arra 95.04 40 P **P** **23 22 32.4 -0.2**
comp=Z,3.5nm,0.9s,baz=272,slow=5.6,SNR=13
KURBB PP **PP** **23 26 23.7 +1.7**
comp=Z,1.0nm,1.0s,baz=269,slow=8.6,SNR=4.8
comp=Z,3.5nm,0.9s
KURK Kurchatov 95.10 40 *i* P **P** **23 22 33.5 +0.6**
KURK pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 95.10 40 P **P** **23 22 33.8 +0.8**
KURK P **P** **23 22 33.8 +0.8**
SHLS Shalkode 95.31 47 *eP* **P** **23 22 36.3 +2.1**
baz=47
SHLS Shalkode 95.31 47 *eP* **P** **23 22 36.3 +2.1**
Q24A Divide 95.62 309 IAmb IAmb 23 22 38.6
comp=Z,22nm,1.3s
Q24A Divide 95.62 309 P **P** **23 22 37.4 +1.4**
baz=93
SDCO Great Sand Dun 95.84 307 P **P** **23 22 38.0 +1.0**
baz=93
SDCO Great Sand Dun 95.84 307 P **P** **23 22 37.4 +0.4**
baz=93
ISCO Idaho Springs 96.02 309 P **P** **23 22 39.9 +2.1**
baz=92
SEM Semipalatinsk 96.13 40 *eP* **P** **23 22 38.0 +0.1**
baz=40
SEM Semipalatinsk 96.13 40 *eP* **P** **23 22 38.3 +0.4**
ANMO Albuquerque 96.48 304 P **P** **23 22 39.1 -0.8**
ANMO Albuquerque 96.48 304 P **P** **23 22 40.9 +1.0**
baz=92
ANMO Albuquerque 96.48 304 P **P** **23 22 39.1 -0.8**
ANMO pmax pmax
comp=Z,13nm,1.7s
VNDA Vanda 96.81 179 LR LR 00 01 10.1
comp=Z,166nm,19.1s,baz=188,slow=32
S22A 4UR Ranch, Cre 96.89 307 P **P** **23 22 42.1 +0.3**
baz=92
MK31 Makanchi Array 97.42 44⇓ *eP* **P** **23 22 42.6 -1.0**
MKAR Makanchi Array 97.42 44 PP **PP** **23 26 40.1 -0.5**
comp=Z,0.7nm,0.9s,baz=262,slow=8.4,SNR=2.6
MVCO Mesa Verde 98.20 307 IAmb IAmb 23 23 08.5
comp=Z,27nm,1.8s
319A Douglas 98.73 301 IAmb IAmb 23 22 51.1
comp=Z,15nm,1.1s
RLMT Red Lodge 98.80 315 P Pdif 23 22 50.7 +0.5
baz=89
NRIK Noril'sk 98.88 21 P Pdif 23 22 50.1 +0.5
comp=Z,1.0nm,0.6s,baz=200,slow=4.3,SNR=1.9
NRIK PP **PP** **23 26 52.6 +1.5**
comp=Z,3.0nm,1.0s,baz=280,slow=9.6,SNR=3.9
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 98.91 36 IAMs_20 IAMs_20 00 02 01.7
comp=Z,721nm,18.0s
EGMT Eagleton 99.08 318 P **Pdif** **23 22 51.0 -0.1**
baz=88
ZSN Zaisan 99.17 43 *eP* **Pdif** **23 22 50.8 -0.7**
comp=Z,32nm,2.1s,baz=43
ZSN Zaisan 99.17 43 *eP* **Pdif** **23 22 50.7 -0.7**

ZSN					pmax	pmax			
	comp=Z,32nm,2.1s								
H17A	**Grant Village**	**99.75**	**314**		IAMs_20	IAMs_20	00	00	46.8
	comp=Z,725nm,21.0s								
YFT	**Old Faithful**	**99.93**	**314**		IAMs_20	IAMs_20	00	11	32.7
	comp=Z,1µm,21.0s								
TUC	**Tucson**	**100.03**	**302**		P	**Pdif**	**23**	**22**	**57.4** **+1.7**
	baz=90								
YKAW1	**Yellowknife Wh**	**100.59**	**332**		IAMs_20	IAMs_20	00	15	37.1
	comp=Z,8µm,20.0s								
YKAW3	**Yellowknife Wh**	**100.64**	**333**		IAMs_20	IAMs_20	00	15	34.4
	comp=Z,8µm,19.0s								
YKA	**Yellowknife Ar**	**100.64**	**332**		P	**Pdif**	**23**	**22**	**58.5** **+0.9**
	comp=Z,1.3nm,1.2s,baz=83,slow=4.9,SNR=8.0								
YKA					PKKPbc	**PKKPbc**	**23**	**39**	**12.3** **-2.1**
	comp=Z,0.8nm,1.0s,baz=268,slow=2.6,SNR=7.7								
WMQ	**Urumqi**	**101.30**		**47**	*eP*	**Pdif**	**23**	**23**	**02.1** **+1.0**
WMQ					LR	LR			
	comp=Z,360nm,17.3s								
WMQ					LR	LR			
	comp=Z,490nm,19.3s								
WMQ					LR	LR			
	comp=Z,300nm,23.7s								
A36M	**Sachs Harbour**	**102.35**	**343**		IAMs_20	IAMs_20	00	16	24.4
	comp=Z,1µm,20.0s								
HLID	**Hailey**	**102.56**	**313**		IAMs_20	IAMs_20	00	18	12.3
	comp=Z,5µm,22.0s								
SPR3	**Spring Creek 3**	**102.77**	**309**		IAMs_20	IAMs_20	00	18	58.2
	comp=Z,2µm,21.0s								
C36M	**Paulatuk**	**102.86**	**340**		IAMs_20	IAMs_20	00	14	40.8
	comp=Z,3µm,21.0s								
ELK	**Elko**	**103.37**	**310**		IAMs_20	IAMs_20	00	19	11.8
	comp=Z,3µm,21.0s								
PRN	**Pahroc Range**	**103.42**	**307**		IAMs_20	IAMs_20	00	18	57.5
	comp=Z,970nm,20.0s								
SHPR	**Sheep Range**	**103.56**	**306**		IAMs_20	IAMs_20	00	19	41.0
	comp=Z,756nm,18.0s								
PLID	**Pearl Lake**	**103.56**	**315**		IAMs_20	IAMs_20	00	17	12.7
	comp=Z,4µm,22.0s								
MFID	**Camas Ranch**	**103.59**	**313**		IAMs_20	IAMs_20	00	18	00.7
	comp=Z,6µm,21.0s								
R11B	**Troy Canyon, C**	**103.79**	**308**		IAMs_20	IAMs_20	00	20	09.1
	comp=Z,3µm,21.0s								
S11A	**Rachel**	**103.96**	**307**		IAMs_20	IAMs_20	00	20	13.7
	comp=Z,4µm,22.0s								
TPNV	**Topopah Spring**	**104.41**	**307**		IAMs_20	IAMs_20	00	20	25.5
	comp=Z,3µm,22.0s								
QSM	**Queen of Sheba**	**104.97**	**306**		IAMs_20	IAMs_20	00	20	11.4
	comp=Z,6µm,22.0s								
CBX	**Cerro Bola**	**105.00**	**302**		IAMs_20	IAMs_20	23	55	31.6
	comp=Z,766nm,19.0s								
B08A	**Colville Reser**	**105.43**	**319**		IAMs_20	IAMs_20	00	15	49.9
	comp=Z,2µm,19.0s								
WVOR	**Wild Horse Val**	**105.75**	**312**		IAMs_20	IAMs_20	00	17	40.7
	comp=Z,6µm,19.0s								
HAWA	**Hanford**	**105.86**	**317**		IAMs_20	IAMs_20	00	15	35.5
	comp=Z,7µm,20.0s								
NVAR	**Mina Array Bea**	**105.91**	**308**		PKKPbc	PKKPbc	23	38	56.0 -2.3
	comp=Z,1.1nm,1.0s,baz=232,slow=3.6,SNR=5.6								
F31M	**Tsiigehtchic**	**106.89**	**340**		IAMs_20	IAMs_20	00	12	45.5
	comp=Z,4µm,18.0s								
G31M	**Satah River**	**107.32**	**339**		IAMs_20	IAMs_20	00	12	17.9
	comp=Z,4µm,20.0s								
E29M	**Blow River**	**107.80**	**342**		IAMs_20	IAMs_20	00	12	56.5
	comp=Z,3µm,18.0s								
F04A	**Amboy**	**107.92**	**316**		IAMs_20	IAMs_20	00	14	43.7
	comp=Z,6µm,19.0s								
G30M	**tAoh Zraii Nji**	**107.96**	**340**		IAMs_20	IAMs_20	00	11	54.0
	comp=Z,3µm,20.0s								
E28M	**Babbage River**	**108.19**	**342**		IAMs_20	IAMs_20	00	12	35.7
	comp=Z,3µm,20.0s								
D27M	**Malcolm River**	**108.26**	**343**		IAMs_20	IAMs_20	00	12	46.5
	comp=Z,2µm,20.0s								
ORV	**Oroville**	**108.26**	**310**		IAMs_20	IAMs_20	00	17	18.3
	comp=Z,4µm,21.0s								
I04A	**Tendick Farm,**	**108.29**	**314**		IAMs_20	IAMs_20	00	15	42.0
	comp=Z,6µm,18.0s								
F04D	**Rainier, OR**	**108.29**	**317**		IAMs_20	IAMs_20	00	14	51.0
	comp=Z,5µm,19.0s								
EPYK	**Eagle Plains**	**108.44**	**339**		IAMs_20	IAMs_20	00	11	36.6
	comp=Z,4µm,21.0s								
SAO	**San Andreas Ge**	**108.57**	**307**		IAMs_20	IAMs_20	00	18	02.8
	comp=Z,5µm,22.0s								
G29M	**Pine Creek**	**108.61**	**340**		IAMs_20	IAMs_20	00	11	18.0
	comp=Z,3µm,21.0s								
COR	**Corvallis**	**108.78**	**315**		IAMs_20	IAMs_20	00	14	42.9
	comp=Z,7µm,22.0s								
F28M	**Old Crow**	**108.84**	**341**		IAMs_20	IAMs_20	00	12	14.1
	comp=Z,3µm,18.0s								
YBH	**Yreka Blue Hor**	**108.85**	**312**		IAMs_20	IAMs_20	00	16	05.7
	comp=Z,6µm,19.0s								
I30M	**Mount Dempster**	**108.88**	**338**		IAMs_20	IAMs_20	00	11	12.2
	comp=Z,5µm,18.0s								
E27K	**Coleen River**	**109.06**	**342**		IAMs_20	IAMs_20	00	12	01.8
	comp=Z,2µm,20.0s								
H29M	**Whitestone**	**109.09**	**340**		IAMs_20	IAMs_20	00	11	33.6
	comp=Z,5µm,20.0s								
J30M	**Hart River**	**109.18**	**338**		IAMs_20	IAMs_20	00	10	46.3
	comp=Z,6µm,18.0s								
MAYO	**Mayo, Yukon**	**109.48**	**337**		IAMs_20	IAMs_20	00	10	26.3
	comp=Z,6µm,21.0s								
I29M	**Ogilvie Camp,**	**109.52**	**339**		IAMs_20	IAMs_20	00	11	00.1
	comp=Z,5µm,21.0s								
D25K	**Kavik River**	**109.73**	**344**		IAMs_20	IAMs_20	00	13	01.5
	comp=Z,2µm,20.0s								
J29N	**Klondike Camp**	**109.95**	**338**		IAMs_20	IAMs_20	00	10	25.6
	comp=Z,5µm,20.0s								
K29M	**Barlow Dome**	**110.00**	**337**		IAMs_20	IAMs_20	00	10	04.7
	comp=Z,5µm,20.0s								
I28M	**Miner Creek**	**110.05**	**339**		IAMs_20	IAMs_20	00	11	03.0
	comp=Z,6µm,18.0s								
E25K	**Arctic Village**	**110.28**	**343**		IAMs_20	IAMs_20	00	12	16.1
	comp=Z,2µm,19.0s								
DAWY	**Dawson**	**110.59**	**338**		IAMs_20	IAMs_20	00	09	55.6
	comp=Z,6µm,22.0s								
L29M	**L29M**	**110.60**	**337**		IAMs_20	IAMs_20	00	09	43.7
	comp=Z,5µm,20.0s								
GTA	**Gaotai**	**110.82**		**50**	PKP	**PKiKP**	**23**	**27**	**43.3** **-0.2**
GTA					PP	**PP**	**23**	**28**	**18.8** **-1.9**
EGAK	**Eagle**	**110.85**	**339**		IAMs_20	IAMs_20	00	10	27.3
	comp=Z,5µm,20.0s								
M29M	**Somme Creek**	**111.07**	**336**		IAMs_20	IAMs_20	00	09	25.1
	comp=Z,7µm,22.0s								
FYU	**Fort Yukon**	**111.16**	**342**		IAMs_20	IAMs_20	00	10	00.4
	comp=Z,2µm,20.0s								
I26K	**Coal Creek Min**	**111.24**	**340**		IAMs_20	IAMs_20	00	10	18.7
	comp=Z,4µm,21.0s								
F24K	**Squaw Lake**	**111.34**	**343**		IAMs_20	IAMs_20	00	11	41.2
	comp=Z,2µm,20.0s								
TNCH	**TengChong**	**111.44**		**65**	*e*PKP	**PKiKP**	**23**	**27**	**40.4** **-4.7**
B21K	**Ikpikpuk River**	**111.59**	**347**		IAMs_20	IAMs_20	00	24	09.5
	comp=Z,952nm,18.0s								
K27K	**Chicken**	**111.60**	**339**		IAMs_20	IAMs_20	00	09	51.1
	comp=Z,4µm,20.0s								
D22K	**Ayikyak River**	**111.68**	**346**		IAMs_20	IAMs_20	00	11	51.0
	comp=Z,2µm,19.0s								
G24K	**Hadweenzic Riv**	**111.76**	**342**		IAMs_20	IAMs_20	00	10	52.3
	comp=Z,2µm,21.0s								
B20K	**Meade River**	**111.86**	**348**		IAMs_20	IAMs_20	00	13	32.5
	comp=Z,3µm,18.0s								
J26L	**Joseph Creek**	**111.86**	**339**		IAMs_20	IAMs_20	00	09	54.9
	comp=Z,3µm,19.0s								
PRP	**Porcupine Dome**	**111.90**	**341**		IAMs_20	IAMs_20	00	11	15.1
	comp=Z,3µm,19.0s								
L27K	**Beaver Creek,**	**112.05**	**338**		IAMs_20	IAMs_20	00	09	23.1
	comp=Z,5µm,21.0s								
CMAR	**Chiang Mai Arr**	**112.12**		**72**	*i* PKiKP	**PKiKP**	**23**	**27**	**47.0** **+0.7**
CMAR	**Chiang Mai Arr**	**112.12**		**72**	PKiKP	**PKiKP**	**23**	**27**	**47.0** **+0.7**
	comp=Z,1.1nm,0.3s,baz=302,slow=4.2,SNR=4.5								
SCRK	**Sand Creek**	**112.32**	**339**		IAMs_20	IAMs_20	00	09	46.2
	comp=Z,5µm,18.0s								
J25K	**Salcha River,**	**112.41**	**340**		IAMs_20	IAMs_20	00	09	52.5
	comp=Z,3µm,22.0s								
H24K	**Noodor Dome**	**112.45**	**342**		IAMs_20	IAMs_20	00	10	26.5
	comp=Z,3µm,22.0s								
G23K	**Bananza Creek**	**112.51**	**343**		IAMs_20	IAMs_20	00	11	22.8
	comp=Z,3µm,18.0s								
L26K	**Log Cabin Wild**	**112.64**	**338**		IAMs_20	IAMs_20	00	09	12.8
	comp=Z,5µm,18.0s								
POKR	**Poker Plat Res**	**112.78**	**341**		IAMs_20	IAMs_20	00	10	15.3
	comp=Z,2µm,20.0s								
ILAR	**Eielson Array**	**112.82**	**341**		PKKPbc	PKKPbc	23	38	34.0 -2.5
	comp=Z,0.7nm,1.0s,baz=235,slow=4.3,SNR=3.4								
ILAR					PKKPab	**PKKPab**	**23**	**38**	**41.5** **-0.7**
	comp=Z,0.9nm,0.9s,baz=258,slow=4.5,SNR=4.8								
MENT	**Mentasta**	**112.83**	**338**		IAMs_20	IAMs_20	00	09	07.8
	comp=Z,6µm,20.0s								
M26K	**Nabesna, AK**	**112.87**	**337**		IAMs_20	IAMs_20	00	07	50.6
	comp=Z,2µm,20.0s								
COLA	**College**	**113.07**	**341**		IAMs_20	IAMs_20	00	09	08.1
	comp=Z,967nm,20.0s								
HDA	**Harding Lake**	**113.08**	**340**		IAMs_20	IAMs_20	00	09	43.1
	comp=Z,4µm,18.0s								
C19K	**Lookout Ridge**	**113.09**	**348**		IAMs_20	IAMs_20	00	13	49.3
	comp=Z,6µm,18.0s								
F21K	**Alatna River**	**113.10**	**345**		IAMs_20	IAMs_20	00	11	29.4
	comp=Z,3µm,20.0s								
CCB	**Clear Creek Bu**	**113.21**	**341**		IAMs_20	IAMs_20	00	09	46.6
	comp=Z,4µm,18.0s								
D19K	**Kuna River**	**113.26**	**347**		IAMs_20	IAMs_20	00	13	20.7
	comp=Z,5µm,18.0s								
I23K	**Minto, Yukon-K**	**113.37**	**342**		IAMs_20	IAMs_20	00	10	03.9
	comp=Z,3µm,20.0s								
SONM	**Songino Array**	**113.41**		**40**	PKiKP	**PKiKP**	**23**	**27**	**48.4** **+0.3**
	comp=Z,1.2nm,0.9s,baz=227,slow=3.5,SNR=5.2								
SONM					PP	**PP**	**23**	**28**	**40.1** **+1.2**
	comp=Z,1.4nm,1.1s,baz=300,slow=12,SNR=4.3								
WRH	**Wood River Hil**	**113.41**	**341**		IAMs_20	IAMs_20	00	10	10.1
	comp=Z,3µm,18.0s								
MCARA	**McCarthy VSAT**	**113.46**	**336**		IAMs_20	IAMs_20	00	08	15.5
	comp=Z,5µm,18.0s								
G21K	**Allakaket**	**113.63**	**344**		IAMs_20	IAMs_20	00	11	19.3
	comp=Z,3µm,20.0s								
NEA2	**Nenana**	**113.65**	**341**		IAMs_20	IAMs_20	00	21	40.3
	comp=Z,1µm,18.0s								
VRDI	**Verde Repeater**	**113.72**	**336**		IAMs_20	IAMs_20	00	06	49.4
	comp=Z,2µm,20.0s								
GLB	**Gilahina Butte**	**113.74**	**337**		IAMs_20	IAMs_20	00	08	11.9
	comp=Z,5µm,18.0s								
C18K	**Utukok River**	**113.80**	**348**		IAMs_20	IAMs_20	00	14	04.1
	comp=Z,5µm,18.0s								
F20K	**Avaraart Lake**	**113.81**	**345**		IAMs_20	IAMs_20	00	11	34.5
	comp=Z,5µm,22.0s								
E19K	**Redstone River**	**113.87**	**346**		IAMs_20	IAMs_20	00	12	15.8
	comp=Z,5µm,21.0s								
MLY	**Manley**	**113.88**	**342**		IAMs_20	IAMs_20	00	09	50.4
	comp=Z,4µm,21.0s								
H21K	**Melozitna Rive**	**114.05**	**343**		IAMs_20	IAMs_20	00	10	26.9
	comp=Z,4µm,22.0s								
BWN	**Browne**	**114.06**	**341**		IAMs_20	IAMs_20	00	07	39.7
	comp=Z,1µm,18.0s								
DHY	**Denali Highway**	**114.07**	**339**		IAMs_20	IAMs_20	00	07	08.5
	comp=Z,1µm,19.0s								
I21K	**Tanana**	**114.15**	**343**		IAMs_20	IAMs_20	00	07	59.5
	comp=Z,980nm,21.0s								
PZH	**PanZhiHua**	**114.21**		**64**	PKP	**PKiKP**	**23**	**27**	**50.6** **+0.3**
RND	**Reindeer**	**114.37**	**340**		IAMs_20	IAMs_20	00	09	07.4
	comp=Z,4µm,18.0s								
KLU	**Klutina**	**114.53**	**337**		IAMs_20	IAMs_20	00	08	02.6
	comp=Z,5µm,20.0s								
BPAW	**Bear Paw Mtn.**	**114.60**	**341**		IAMs_20	IAMs_20	00	07	29.4
	comp=Z,1µm,20.0s								
TRF	**Thorofare Moun**	**114.82**	**341**		IAMs_20	IAMs_20	00	09	01.2
	comp=Z,4µm,21.0s								
SCM	**Sheep Creek Mo**	**114.84**	**338**		IAMs_20	IAMs_20	00	06	06.0
	comp=Z,1µm,19.0s								
KAIM	**Kayak Island**	**114.86**	**336**		IAMs_20	IAMs_20	00	05	59.6
	comp=Z,5µm,19.0s								
KTH	**Kantishna Hill**	**114.96**	**341**		IAMs_20	IAMs_20	00	09	16.9
	comp=Z,5µm,18.0s								
SML	**Sawmill**	**115.23**	**339**		IAMs_20	IAMs_20	00	06	47.1
	comp=Z,1µm,20.0s								
CD2	**Chengdu**	**115.41**		**59**	PKP	**PKPdf**	**23**	**27**	**51.0** **-1.4**
GHO	**Glory Hole Cre**	**115.47**	**339**		IAMs_20	IAMs_20	00	15	28.4
	comp=Z,4µm,21.0s								
KNK	**Knik Glacier**	**115.53**	**338**		IAMs_20	IAMs_20	00	07	11.0
	comp=Z,3µm,21.0s								
PMR	**Palmer**	**115.66**	**339**		IAMs_20	IAMs_20	00	08	01.4
	comp=Z,5µm,21.0s								
MID	**Middleton Isla**	**115.94**	**336**		IAMs_20	IAMs_20	00	01	54.2
	comp=Z,1µm,20.0s								
Q23K	**Middleton Isla**	**115.95**	**336**		IAMs_20	IAMs_20	00	01	54.2
	comp=Z,1µm,20.0s								
SUA	**Susitna One**	**116.32**	**339**		IAMs_20	IAMs_20	00	06	57.0
	comp=Z,3µm,18.0s								
O22K	**Cooper Landing**	**116.61**	**338**		IAMs_20	IAMs_20	00	05	30.5
	comp=Z,824nm,18.0s								
BTO	**Baotou**	**118.14**		**47**	*e*PKP	**PKiKP**	**23**	**27**	**57.8** **+0.3**
BTO					PP	**PP**	**23**	**29**	**18.0** **+5.7**
XAN	**Xi'an**	**119.08**		**54**	PKP	**PKiKP**	**23**	**28**	**00.0** **+0.6**
XAN					LR	LR			
	comp=Z,700nm,16.4s								
XAN					LR	LR			
	comp=Z,640nm,14.6s								
XAN					LR	LR			
	comp=Z,820nm,16.1s								
HHC	**Hu-ho-hao-te**	**119.17**		**46**	*e*PKP	**PKPdf**	**23**	**27**	**53.9** **-5.5**
XLT	**XiLinHaoTe**	**121.14**		**41**	*e*PKP	**PKPdf**	**23**	**28**	**03.0** **-0.1**
DLV	**T Lat**	**121.45**		**80**	IAMs_20	IAMs_20	00	17	48.4
	comp=Z,538nm,18.0s								
QIZ	**Qiongzhong**	**122.39**		**71**	PKP	**PKPdf**	**23**	**28**	**05.9** **-0.1**
QIZ					PP	**PP**	**23**	**29**	**41.4** **-0.8**
QIZ					SS	SS	23	46	23.8 +0.2
QIZ					LR	LR			
	comp=Z,230nm,12.1s								
QIZ					LR	LR			
	comp=Z,190nm,14.5s								
QIZ					LR	LR			
	comp=Z,290nm,21.4s								
SDPT	**Sand Point**	**124.28**	**338**		IAMs_20	IAMs_20	00	07	11.4
	comp=Z,4µm,21.0s								
WHN	**Wuhan**	**124.40**		**57**	PKP	**PKiKP**	**23**	**28**	**10.3** **+0.4**
MA2	**Magadan**	**124.77**		**10**	IAMs_20	IAMs_20	00	24	20.5
	comp=Z,5µm,20.0s								
TAOE	**Nuku Hiva Isla**	**125.84**	**255**		*e*LR	LR	00	07	27.9
	comp=Z,159nm,24.4s								
PSAA1	**Pilbara Seismi**	**125.98**	**122**		IAMs_20	IAMs_20	00	13	37.0
	comp=Z,1µm,22.0s								
PSAD1	**Pilbara Seismi**	**126.03**	**122**		IAMs_20	IAMs_20	00	27	34.2
	comp=Z,941nm,21.0s								
PSAC2	**Pilbara Seismi**	**126.04**	**122**		IAMs_20	IAMs_20	00	14	35.6
	comp=Z,1µm,22.0s								
KLR	**Kul'dur**	**127.18**		**29**	*i* PKIKP	**PKPdf**	**23**	**28**	**13.3** **-1.1**
NJ2	**Nanjing**	**127.64**		**54**	*e*PKP	**PKPdf**	**23**	**28**	**15.3** **-0.4**
TBI	**Tubuai**	**129.00**	**234**		*e*LR	LR	00	08	49.3
	comp=Z,2µm,35.2s								
TBI					*e*LR	LR	00	08	55.3
	comp=Z,1µm,31.0s								
MDJ	**Mudanjiang**	**129.06**		**34**	PKP	**PKPdf**	**23**	**28**	**17.8** **-0.3**
MDJ					sPKP		23	28	22.4
MDJ					SKS	**SKSac**	**23**	**35**	**28.3** **+1.7**
MDJ					SS	**SS**	**23**	**47**	**45.5** **+0.8**
CLES	**Cleveland East**	**129.51**	**342**		IAMs_20	IAMs_20	00	14	18.7
	comp=Z,3µm,20.0s								
PPT2	**Papeete2**	**131.70**	**240**		*e*LR	LR	00	10	03.1
	comp=Z,159nm,29.2s								
PPT2					*e*LR	LR	00	10	04.9
	comp=Z,148nm,21.8s								
ADK	**Adak**	**132.16**	**347**		IAMs_20	IAMs_20	00	15	10.5
	comp=Z,3µm,20.0s								
PET	**Petropavlovsk**	**132.29**		**7**	IAMs_20	IAMs_20	00	23	46.2
	comp=Z,3µm,19.0s								
BKZ	**Black Stump Fm**	**134.56**	**190**		IAMs_20	IAMs_20	00	17	07.7
	comp=Z,523nm,20.0s								
STKA	**Stephens Creek**	**135.19**	**148**		PKhKP	PKPpre	23	28	22.3
	comp=Z,0.6nm,0.3s,baz=349,slow=8.7,SNR=1.9								
ASAR	**Alice Springs**	**136.09**	**133**			PKPpre	23	28	18.8
ASAR	**Alice Springs**	**136.09**	**133**		PKhKP	PKPpre	23	28	21.2
	comp=Z,1.0nm,0.7s,baz=210,slow=2.8,SNR=8.2								
ASAR					PKP	**PKPdf**	**23**	**28**	**32.1** **+0.1**
	comp=Z,3.3nm,0.9s,baz=221,slow=1.5,SNR=11								
TOZ	**Tahuroa Road**	**136.13**	**189**		IAMs_20	IAMs_20	00	19	04.1
	comp=Z,695nm,20.0s								
WRA	**Warramunga Arr**	**138.60**	**129**			PKPpre	23	28	26.3
WRA	**Warramunga Arr**	**138.60**	**129**		PKhKP	PKPpre	23	28	27.4
	comp=Z,2.4nm,0.8s,baz=231,slow=2.5,SNR=9.3								
WRA					PKP	**PKPdf**	**23**	**28**	**35.2** **-1.5**
	comp=Z,2.1nm,0.9s,baz=232,slow=2.7,SNR=5.4								
WB2	**Warramunga Arr**	**138.60**	**129**		IAMs_20	IAMs_20	00	25	27.6
	comp=Z,693nm,20.0s								
WB3	**Warramunga Arr**	**138.62**	**129**		IAMs_20	IAMs_20	00	16	03.9
	comp=Z,519nm,18.0s								
WB4	**Warramunga Arr**	**138.63**	**129**		IAMs_20	IAMs_20	00	32	10.3
	comp=Z,4µm,21.0s								
WR7	**Warramunga Arr**	**138.69**	**129**		IAMs_20	IAMs_20	00	13	37.9
	comp=Z,664nm,22.0s								
BYL	**Byron's Ledge**	**141.30**	**294**		IAMs_20	IAMs_20	00	38	18.6
	comp=Z,4µm,22.0s								
CTA	**Charters Tower**	**146.91**	**141**		PKPbc	**PKPbc**	**23**	**28**	**53.5** **+0.3**
	comp=Z,26nm,0.9s,baz=228,slow=3.0,SNR=17								
COEN	**Coen**	**148.93**	**129**			**PKPbc**	**23**	**28**	**58.1** **-0.7**
DZM	**Mont Dzumac**	**152.35**	**178**		PKPbc	**PKiKP**	**23**	**29**	**08.1** **+1.0**
	comp=Z,9.4nm,1.1s,baz=102,slow=17,SNR=2.6								
PMG	**Port Moresby**	**154.76**	**126**		PKP	**PKPdf**	**23**	**29**	**04.0** **+0.4**
	comp=Z,5.8nm,0.3s,baz=227,slow=21,SNR=4.8								
PMG					PKPab	**PKPab**	**23**	**29**	**27.1** **+0.1**
	comp=Z,6.4nm,0.3s,baz=262,slow=3.9,SNR=4.7								
MANU	**Manus Island**	**158.46**	**110**		IAMs_20	IAMs_20	00	42	37.4
	comp=Z,664nm,18.0s								

IDC ***23*** *23:10:22.3±3.3, 55.83N×150.13W, h0km, mb3.2/1, mbtmp3.2/5, ML2.8/4, Error ellipse: s-maj=45.3km s-min=36.0km az=160.0*

NEIC ***23*** *23:10:23.6±1.8, 56.03N±0.09×150.2W±0.1, h10km±2km, ML3.5/40, ML3.3(AEIC), Error ellipse: s-maj=14.7km s-min=10.3km az=178.0*

AEIC ***23*** *23:10:27.9±1.7, 56.0N±0.1×150.0W±0.1, h10km±8km, Error ellipse: s-maj=15.1km s-min=9.3km az=172.0*

ISC 23 23:10:24.5±1.6, 56.1N±0.1×150.11W±0.06, h10km, n153, σ0 0.86/163, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
OHAK	**Old Harbor**	**2.08**	**304**		**Pn**	**23**	**10**	**57.9**	**-1.4**
OHAK					**Sn**	**23**	**11**	**23.1**	**-2.1**
OHAK	**Old Harbor**	**2.08**	**304**	P	**Pn**	**23**	**10**	**59.2**	**-0.1**
	baz=124								
OHAK				S	**Sn**	**23**	**11**	**23.8**	**-1.4**
	baz=124								
KDAK	**Kodiak Island**	**2.15**	**322**	Pn	**Pn**	**23**	**11**	**00.3**	**0.0**
KDAK	**Kodiak Island**	**2.15**	**322**	Pn	**Pn**	**23**	**11**	**00.7**	**+0.3**
	14nm,0.3s,baz=149,slow=8.0,SNR=3.8								
KDAK				Sn	**Sn**	**23**	**11**	**26.4**	**-0.7**
	4.2nm,0.3s,baz=324,slow=19,SNR=5.9								
	37nm,0.3s								
SYI	**Shuyak Island**	**2.79**	**335**	Pn	**Pn**	**23**	**11**	**08.7**	**-0.4**
SYI				Sn	**Sn**	**23**	**11**	**42.9**	**+0.1**
Q20K	**Shuyak Island**	**2.79**	**335**	P	**Pn**	**23**	**11**	**09.9**	**+0.7**
	baz=154								
Q20K				S	**Sn**	**23**	**11**	**43.9**	**+1.0**
	baz=154								
R18K	**Karluk**	**2.79**	**303**	Pn	**Pn**	**23**	**11**	**08.2**	**-1.0**
R18K				IAML		23	11	51.0	
	comp=E,86nm,0.5s								
R18K				IAML		23	11	51.0	
	comp=N,85nm,0.6s								
R18K	**Karluk**	**2.79**	**303**	P	**Pn**	**23**	**11**	**09.5**	**+0.4**
	baz=121								
Q19K	**Cape Douglas,**	**3.41**	**327**	Pn	**Pn**	**23**	**11**

M18K	Stony River	6.16	334			Pn		23 11 55.4	0.0
M18K	Stony River	6.16	334	P		Pn		23 11 55.4	0.0
	baz=149								
VRDI	Verde Repeater	6.19	31	Pn		Pn		23 11 55.9	-0.2
N25K	Chitina, Valde	6.21	25	Pn		Pn		23 11 56.0	-0.1
M19K	Big River Lodg	6.21	341	Pn		Pn		23 11 55.1	-1.1
KIAG	Kiagna River	6.30	37			Pn		23 11 57.6	+0.1
N16K	Nishlik Lake	6.32	317			Pn		23 11 58.8	+1.2
N16K	Nishlik Lake	6.32	317	P		Pn		23 11 58.8	+1.2
	baz=131								
M24K	Tolsona, Glenn	6.34	17	Pn		Pn		23 11 59.3	+1.3
MCARA	McCarthy VSAT	6.44	32	Pn		Pn		23 11 59.4	+0.1
MCARA	McCarthy VSAT	6.44	32	P		Pn		23 11 59.6	+0.3
	baz=218								
PTPK	Patty Peak	6.46	35			Pn		23 11 59.9	+0.1
M17K	Holitna River	6.53	327	Pn		Pn		23 12 01.3	+0.9
M17K	Holitna River	6.53	327	P		Pn		23 12 01.3	+0.9
	baz=142								
L19K	White Mountain	6.56	340	Pn		Pn		23 12 01.0	+0.1
PCA	Pinnacle	6.57	49	Pn		Pn		23 12 01.2	+0.1
PINM	Pinnacle	6.58	49	P		Pn		23 12 01.2	+0.1
	baz=236								
BARN	Barnard Glacie	6.64	38	Pn		Pn		23 12 01.4	-0.8
N15K	Kwethluk River	6.66	312	Pn		Pn		23 12 03.8	+1.5
CTGM	Chitina Glacie	6.69	40	Pn		Pn		23 12 02.8	0.0
LOGN	Logan Glacier	6.72	42	Pn		Pn		23 12 02.9	-0.3
PNL	Peninsula	6.73	54			Pn		23 12 03.5	+0.2
PNL	Peninsula	6.73	54	P		Pn		23 12 03.5	+0.2
	baz=242								
M16K	Timber Creek	6.75	320	Pn		Pn		23 12 04.1	+0.5
O14K	Tigyukauivet M	6.76	302	Pn		Pn		23 12 04.2	+0.7
BCPM	Bancas Point	6.76	51	Pn		Pn		23 12 03.4	-0.3
HARP	HAARP	6.80	20			Pn		23 12 05.7	+1.6
HARP	HAARP	6.80	20	P		Pn		23 12 05.7	+1.6
	baz=204								
L18K	Granite Mounta	6.99	334	Pn		Pn		23 12 06.1	-0.7
DHY	Denali Highway	7.12	10	Pn		Pn		23 12 11.0	+2.3
M26K	Nabesna, AK	7.28	27	Pn		Pn		23 12 11.4	+0.6
TRF	Thorofare Moun	7.36	359	Pn		Pn		23 12 13.2	+1.2
O29M	Mount Kennedy	7.40	51	Pn		Pn		23 12 12.8	+0.3
L16K	Owhat River	7.41	323	Pn		Pn		23 12 12.7	+0.2
KTH	Kantishna Hill	7.48	357	Pn		Pn		23 12 15.8	+2.2
P29M	Windy Craggy	7.48	57	Pn		Pn		23 12 12.4	-1.1
M27K	Edge Creek, AK	7.55	31	Pn		Pn		23 12 14.8	+0.2
YUK3	Moose Creek	7.56	37			Pn		23 12 15.4	+0.7
YUK3	Moose Creek	7.56	37	P		Pn		23 12 15.5	+0.7
	baz=225								
M14K	Bethel	7.76	312	Pn		Pn		23 12 17.1	-0.2
YUK6	Outpost Mounta	7.82	47			Pn		23 12 18.6	+0.2
YUK6	Outpost Mounta	7.82	47	P		Pn		23 12 18.6	+0.2
	baz=237								
K17K	Iditarod	7.82	331	Pn		Pn		23 12 17.2	-1.0
YUK4	Talbot Arm	7.94	44	P		Pn		23 12 21.0	+1.1
	baz=233								
BPAW	Bear Paw Mtn.	8.03	357	Pn		Pn		23 12 20.7	-0.3
RIDG	Independent Ri	8.09	17	Pn		Pn		23 12 23.0	+1.1
HYT	Haines Junctio	8.12	49	Pn		Pn		23 12 21.9	-0.5
YUK5	Granite Creek	8.13	47			Pn		23 12 22.9	+0.4
L27K	Beaver Creek,	8.13	28	Pn		Pn		23 12 22.5	0.0
BCAR	Beaver Creek A	8.15	28	Pn		Pn		23 12 22.2	-0.5
M13K	Dall Lake	8.20	307	Pn		Pn		23 12 23.8	+0.5
J20K	Nowinta River	8.34	348	Pn		Pn		23 12 27.4	+2.2
J19K	Poorman	8.37	343	Pn		Pn		23 12 25.8	+0.1
L14K	Kuka Creek	8.37	314	Pn		Pn		23 12 26.7	+1.0
K15K	Wolf Creek Mou	8.52	321	Pn		Pn		23 12 28.2	+0.4
SKAG	Skagway	8.58	61	Pn		Pn		23 12 27.5	-1.0
N30M	Aishikik Lake	8.62	46	Pn		Pn		23 12 29.1	-0.1
M29M	Somme Creek	8.70	38	Pn		Pn		23 12 29.9	-0.5
O30N	Mendenhall	8.70	52	Pn		Pn		23 12 29.4	-0.9
ILAR	Eielson Array	8.83	9	Pn		Pn		23 12 32.4	+0.4
	comp=E,0.1nm,0.3s,baz=194,slow=13,SNR=2.1								
ILAR					Sn	Sn		23 14 09.3	-2.2
	comp=E,0.2nm,0.3s,baz=191,slow=20,SNR=4.8								
	comp=E,0.3nm,0.5s								
K27K	Chicken	8.89	23	Pn		Pn		23 12 32.7	-0.1
J16K	Anvik River	8.92	328	Pn		Pn		23 12 33.2	0.0
J26L	Joseph Creek	9.02	18	Pn		Pn		23 12 34.4	-0.2
N31M	Braeburn, Yuko	9.17	48	Pn		Pn		23 12 37.4	+0.7
WHY	Whitehorse	9.20	54	Pn		Pn		23 12 36.1	-0.9
L29M	L29M	9.27	36	Pn		Pn		23 12 38.1	+0.1
M30M	Minto, Yukon	9.38	41	Pn		Pn		23 12 39.7	+0.1
P32M	Atlin	9.41	62	Pn		Pn		23 12 38.9	-1.1
H21K	Melozitna Rive	9.67	353	Pn		Pn		23 12 42.9	-0.6
H18K	Honhosa River	9.92	339	Pn		Pn		23 12 48.0	+1.0
K29M	Barlow Dome	9.98	34	Pn		Pn		23 12 47.7	-0.1
IMAR	Indian Mountai	10.06	351	Pn		Pn		23 12 49.6	+0.8
H17K	Granite Mounta	10.07	336	Pn		Pn		23 12 47.9	-1.0
N32M	Quiet Lake	10.20	53	Pn		Pn		23 12 50.7	-0.1
G23K	Bananza Creek	10.64	0	Pn		Pn		23 12 58.0	+1.2
G24K	Hadweenzic Riv	10.70	6	Pn		Pn		23 12 59.5	+1.9
R33M	Jennings River	10.74	64	Pn		Pn		23 12 57.1	-1.1
J30M	Hart River	10.87	33	Pn		Pn		23 13 01.2	+1.3
ANM	Nome	11.32	325	Pn		Pn		23 13 06.6	+0.5
F19K	Shaleruckik Mo	11.35	344	Pn		Pn		23 13 07.4	+1.0
BMAR	Burnt Mountain	11.65	11	Pn		Pn		23 13 11.3	+0.8
INK	Inuvik	14.40	25	Pn		Pn		23 13 50.2	+2.2
	comp=E,0.1nm,0.3s,baz=154,slow=9.1,SNR=1.4								
INK					Lg	Lg		23 18 09.7	
	baz=122,slow=9.9,SNR=1.3								
	comp=E,0.5nm,0.7s								
YKA	Yellowknife Ar	19.02	56	P		Pn		23 14 47.5	+0.6
	baz=264,slow=10.0,SNR=5.1								
	comp=E,0.7nm,1.1s								
MKAR	Makanchi Array	68.46	324	P		P		23 21 27.0	+0.6
	comp=E,0.2nm,0.7s,baz=26,slow=4.4,SNR=2.3								
	comp=E,0.2nm,0.7s								

MOS ***23*** *23:13:58.8₀1.8, 34.°95N×23.°25E, h11km, mb4.9/25, Error ellipse: s-maj=6.4km s-min=3.3km az=84.3*

ISK ***23*** *23:13:59.3, 35.°08N×22.°90E, h19km, ML4.3/24*

NAO ***23*** *23:14:01.4, 35.°08N×24.°47E, h33km, mb4.0*

NEIC ***23*** *23:14:01.5±1.8, 35.°11N±0.°08×23.°20E±0.°08, h10km±1km, mb4.6/53, Error ellipse: s-maj=13.4km s-min=10.8km az=193.0*

ATH ***23*** *23:14:03.5, 35.°05N×23.°15E, h7km±2km, ML4.4/6, Error ellipse: s-maj=3.2km s-min=1.1km az=52.0*

IDC ***23*** *23:14:04.0±3.4, 35.°16N×23.°30E, h31km±26km, mb4.2/22, mbtmp4.4/32, ML4.0/9, MS3.8/10, Error ellipse: s-maj=13.0km s-min=11.4km az=165.0*

THE ***23*** *23:14:04.2, 35.°07N×23.°15E, h8km±2km, ML4.3/4, Error ellipse: s-maj=3.3km s-min=1.7km az=43.0*

TIR ***23*** *23:14:06.7, 35.°84N×23.°12E, h21km±82km, Ml4.4*

AFAD ***23*** *23:14:07.0±0.0, 35.°23N×23.°54E, h51km, ML3.9*

GII ***23*** *23:14:09.9±0.4, 34.°88N±0.°04×24.°18E±0.°01, h1km, mB4.5, Md4.4/4, confirmed*

PDG ***23*** *23:14:12.2±0.9, 35.°90N×22.°60E, h10km±11km, ML4.5/10, Error ellipse: s-maj=24.7km s-min=10.6km az=90.0*

BEO ***23*** *23:14:25.0±0.7, 36.°81N×22.°46E, h0km, ML4.0/7*

ISC 23 23:14:03.8±0.9, **35.°11N**±0.°04×**23.°09E**±0.°03, **h33**km±6km, **n568**, σ**1890**/584, **mb4.6**/68, **MS3.6**/4, **37C-48D, Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time			Res
							h	m	s	ISC
RODP	Rodopos	0.71	50	Pg	Pb		23 14 16.8			-1.0
RODP				Sg	Sn		23 14 28.4			+1.1
RODP	Rodopos	0.71	50	P	Pb		23 14 17.0			-0.8
RODP				S	Sn		23 14 28.1			+0.8
ANKY	Antikythira Is	0.78	13	P	Pn		23 14 19.2			+0.7
ANKY	Antikythira Is	0.78	13	P	Pn		23 14 19.1			+0.7
ANKY				S	Sn		23 14 30.8			+1.8
ANKY				AML	AML		23 14 39.9			
	comp=E,70235μm,0.8s									
ANKY				AML	AML		23 14 41.3			
	comp=N,43720μm,0.7s									
IMMV	Iera Moni Meta	0.81	64	Pg	Pb		23 14 18.6			-0.8
IMMV				Sg	Sn		23 14 32.4			+2.6
IMMV	Iera Moni Meta	0.81	64	P	Pb		23 14 18.3			-1.1
IMMV				S	Sn		23 14 30.8			+1.0
	comp=N,59μm,0.7s									
IMMV	Iera Moni Meta	0.81	64	P	Pb		23 14 17.9			-1.6
IMMV				S	Sn		23 14 29.4			-0.3
IMMV				AML	AML		23 14 38.3			
IMMV				AML	AML		23 14 38.9			
GVD	Gavdhos	0.86	108	Pg	Pn		23 14 19.1			-0.5
GVD				Sg	Sn		23 14 33.3			+2.3
GVD	Gavdhos	0.86	108	P	Pn		23 14 19.0			-0.5
GVD				S	Sn		23 14 31.8			+0.8
	comp=N,40μm,0.5s									
GVD	Gavdhos	0.86	108	P	Pn		23 14 18.7			-0.8
GVD				S	Sb		23 14 30.1			-1.4
GVD				AML	AML		23 14 35.4			
	comp=E,75106μm,0.5s									
GVD				AML	AML		23 14 36.3			
	comp=N,84987μm,0.6s									
CHAN	Chania	0.88	62	P	Pn		23 14 19.4			-0.4
CHAN				S	Sn		23 14 32.0			+0.5
CHAN				AML	AML		23 14 37.9			
	comp=E,89527μm,0.5s									
CHAN				AML	AML		23 14 38.0			
PRNS	Prines Rethymn	1.18	77	P	Pn		23 14 24.0			0.0
PRNS				S	Sb		23 14 40.5			-0.2
TMBK	Timbaki Herakl	1.37	91	P	Pb		23 14 28.1			-0.8
TMBK	Timbaki Herakl	1.37	91	P	Pb		23 14 27.4			-1.5
IDI	Anoyia	1.48	82	Pn	Pn		23 14 28.6			+0.4
IDI	Anoyia	1.48	82	P	Pb		23 14 29.6			-1.2
IDI				S	Sb		23 14 48.4			-0.9
	comp=E,4μm,1.1s									
IDI	Anoyia	1.48	82	LR	LR		23 14 39.9			
	comp=E,133nm,18.9s,baz=294,slow=27									
IDI	Anoyia	1.48	82	P	Pb		23 14 29.3			-1.5
IDI				AML	AML		23 14 59.6			
	comp=N,10389μm,0.8s									
IDI				AML	AML		23 15 05.3			
	comp=E,8217μm,1.4s									
VLI	Veliai	1.61	356	P	Pb		23 14 34.7			+1.8
VLI	Veliai	1.61	356	P	Pb		23 14 33.0			+0.1
VLI				AML	AML		23 15 04.0			
	comp=E,6986μm,1.3s									
VLI				AML	AML		23 15 08.1			
	comp=N,12026μm,0.9s									
IACM	Heraklion	1.63	82	P	Pb		23 14 32.4			-0.9
MHLO	Agia Marina, M	1.91	34	P	Pn		23 14 35.4			+1.4
MHLO	Agia Marina, M	1.91	34	P	Pn		23 14 35.3			+1.4
PYL	PYLOS	2.09	329	P	Pn		23 14 38.8			+2.3
PYL	PYLOS	2.09	329	P	Pn		23 14 38.4			+1.8
KRND	KRANIDI	2.27	1	P	Pb		23 14 43.3			-0.8
KRND	KRANIDI	2.27	1	P	Pb		23 14 42.5			-1.7
SNT5	Nea Kammeni, S	2.28	55	P	Pn		23 14 40.0			+0.9
THR3	Thira Island,	2.29	55	P	Pn		23 14 40.1			+1.0
CMBO	Columbo, Santo	2.32	53	P	Pn		23 14 40.8			+1.1
EPID	Epidavros	2.50	1	P	Pb		23 14 45.3			-2.7
ZKR	Zakros	2.56	89	Pn	Pn		23 14 43.4			+0.4
ZKR	Zakros	2.56	89	P	Pn		23 14 44.9			+1.9
APE	Apeiranthos	2.78	45	⇑P	Pb		23 14 56.9			+4.1
APE	Apeiranthos	2.78	45	Pn	Pn		23 14 46.2			+0.2
APE	Apeiranthos	2.78	45	*ce*P	Pn		23 14 46.5			+0.5
APE	Apeiranthos	2.78	45	P	Pn		23 14 46.5			+0.5
VLY	Voula,Athens	2.80	11	P	Pn		23 14 48.8			+2.5
LOUT	Loutraki	2.88	358	P	Pb		23 14 51.7			-2.7
GUR	Goura	2.89	348	P	Pn		23 14 51.0			+3.4
ATH	Athens Observa	2.91	10	P	Pn		23 14 50.1			+2.5
ATHU	Athens Univers	2.91	11	P	Pn		23 14 49.9			+2.2
THAL	Thalero	2.95	353	P	Pb		23 14 52.3			-3.3
PTL	Penteli	3.00	12	P	Pn		23 14 52.4			+3.4
KLV	Kalavryta, Ach	3.03	346	P	Pn		23 14 52.8			+3.4
DION	Dionisos Attik	3.04	13	P	Pn		23 14 53.1			+3.5
KARP	Karpathos	3.36	81	Pn	Pn		23 14 54.6			+0.7
KARP	Karpathos	3.36	81		Pn		23 14 54.7			+0.7
KARP	Karpathos	3.36	81	P	Pn		23 14 55.3			+1.4
KARP	Karpathos	3.36	81	P	Pn		23 14 55.0			+1.1
ANX	Ano Chora	3.60	345	P	Pn		23 15 00.7			+3.3
AXAR	Agios Charalam	3.67	355	P	Pn		23 15 00.8			+2.6
PVO	Paravola	3.72	341	P	Pn		23 15 02.9			+4.0
YAZI	Mula-Datça-	3.88	65	P	Pn		23 15 01.6			+0.6
YAZI				S	Sn		23 15 43.1			-2.3
BODT	Bodrum	3.94	59	Pn	Pn		23 15 02.4			+0.5
AGG	Agios Georgios	3.96	351	Pn	Pn		23 15 04.8			+2.6
AGG	Agios Georgios	3.96	351	P	Pn		23 15 04.8			+2.6
DAT	Datca	3.98	65	Pn	Pn		23 15 03.1			+0.5
DAT	Datca	3.98	65	P	Pn		23 15 02.6			0.0
DAT				S	Sn		23 15 45.8			-2.5
DAT				*i* AML	AML		23 17 12.0			
	comp=N,563nm,4.5s									
BDRM	Kayabasi	4.03	60	P	Pn		23 15 03.5			+0.3
BDRM				S	Sn		23 15 47.4			-1.8
DDIM	Aydin, Didim	4.09	54	P	Pn		23 15 05.1			+1.1
DDIM				S	Sn		23 15 55.6			+4.9
DDIM				*i* AML	AML		23 15 56.0			
	comp=N,382nm,2.2s									
DDIM				*i* AML	AML		23 16 45.0			
	comp=N,284nm,1.7s									
DDIM				*i* AML	AML		23 16 50.0			
	comp=N,295nm,1.5s									
ZEYE	Izmir, Urla-Ze	4.16	40	P	Pn		23 15 06.1			+1.2
LKD2	Lefkada island	4.16	333	P	Pn		23 15 08.1			+3.1
	baz=328									
LKD2				S	Sb		23 16 00.0			-6.0
	baz=328									
RFTAA	Mazikoy-Bodrum	4.22	62	Pn	Pn		23 15 06.9			+1.2
GCAM	G?zelcami?	4.23	51	Pn	Pn		23 15 07.1			+1.3
GCAM	G?zelcami?	4.23	51	P	Pn		23 15 07.8			+2.0
GCAM				*i* AML	AML		23 16 32.0			
	comp=N,139nm,1.0s									
GCAM				*i* AML	AML		23 16 47.0			
	comp=N,164nm,1.1s									
ARG	Arkhangelos	4.25	73	Pn	Pn		23 15 06.7			+0.5
ARG	Arkhangelos	4.25	73	Pn	Pn		23 15 06.6			+0.5
ARG	Arkhangelos	4.25	73	P	Pn		23 15 06.6			+0.5
URLA	Izmir	4.30	40	Pn	Pn		23 15 07.8			+0.9
URLA	Izmir	4.30	40	P	Pn		23 15 07.8			+0.9
URLA				*i* AML	AML		23 16 10.0			
	comp=N,340nm,1.4s									
URLA				*i* AML	AML		23 16 11.0			
	comp=N,238nm,0.8s									
MLSB	Milas	4.37	59	Pn	Pn		23 15 08.7			+0.8
TURN	Turunc	4.50	67	Pn	Pn		23 15 10.5			+0.9
TURN	Turunc	4.50	67	P	Pn		23 15 10.9			+1.4
TURN				S	Sn		23 15 59.8			-1.0
TURN				*i* AML	AML		23 16 01.0			
	comp=N,145nm,1.0s									
TURN				*i* AML	AML		23 16 27.0			
	comp=N,144nm,1.0s									
BLCB	Balcova	4.56	43	Pn	Pn		23 15 11.1			+0.7
SIGR	SIGRI	4.66	28	Pn	Pn		23 15 12.4			+0.7
YER	Yerkesik	4.67	63	Pn	Pn		23 15 12.6			+0.7
MULA	Mugla, Merkez-	4.74	62	P	Pn		23 15 14.5			+1.5
MULA				S	Sn		23 16 07.0			+0.1
MULA				*i* AML	AML		23 16 11.0			
	comp=N,181nm,1.3s									
MULA				*i* AML	AML		23 16 28.0			
	comp=N,73nm,1.1s									
DALY	Dalyan (Mula)	4.82	68	Pn	Pn		23 15 15.3			+1.3
RFT7	Candarli	4.92	37	Pn	Pn		23 15 16.8			+1.5
IGT	Igoumenitsa	4.94	334	P	Pn		23 15 17.2			+1.6
	baz=330									
IGT				S	Sn		23 16 08.2			-3.3
	baz=330									
IGT				AMP						
	comp=E,0.6nm,0.6s,baz=330									
IZMR	zmir-demi	4.94	51	P	Pn		23 15 17.4			+1.7
DKL	Dikili	5.00	36	Pn	Pn		23 15 17.9			+1.5
ESEN	Aydn-Nazilli	5.02	56	P	Pn		23 15 19.0			+2.4
ESEN				S	Sn		23 16 17.5			+3.9
FETY	Fethiye	5.10	71	Pn	Pn		23 15 18.7			+0.8
FETY	Fethiye	5.10	71	P	Pn		23 15 19.4			+1.5
IZZE	Mula-Seydike	5.16	73	P	Pn		23 15 18.9			+0.2
IZZE				S	Sn		23 16 12.8			-4.4
IZZE				*i* AML	AML		23 16 17.0			
	comp=E,164nm,0.4s									
IZZE				*i* AML	AML		23 16 19.0			
	comp=E,134nm,0.3s									
IZZE				*i* AML	AML		23 16 23.0			
	comp=E,210nm,0.5s									
TAVA	DENIZLI_Tavas	5.26	62	P	Pn		23 15 22.3			+2.2
KIRA	zmir-Kiraz	5.27	53	P	Pn		23 15 22.3			+2.1
KEK	Kerkira	5.29	331	Pn	Pn		23 15 20.1			-0.4
CAME	Cameli-Denizli	5.36	68	Pn	Pn		23 15 22.4			+0.9
SRN	Sarande	5.36	334	P	Pn		23 15 22.7			+1.2
	baz=330									
SRN				S	Sn		23 16 22.0			0.0
	baz=330									
SRN				AMP						
	comp=E,0.6nm,1.2s,baz=330									
LSK	Leskovik	5.41	339	P	Pn		23 15 25.3			+3.1
	baz=336									
LSK				S	Sn		23 16 13.8			-9.5
	baz=336									
LSK				AMP						
	comp=N,1.9nm,0.9s,baz=336									
DNIZ	Denizli-Tavas-	5.42	61	P	Pn		23 15 24.8			+2.5
DNIZ				*i* AML	AML		23 16 28.0			
	comp=N,100nm,1.0s									
DNIZ				*i* AML	AML		23 16 32.0			
	comp=N,92nm,0.5s									
CAEL	Denizli, Camel	5.43	66	P	Pn		23 15 23.0			+0.5
CAEL				*i* AML	AML		23 16 46.0			
	comp=N,367nm,1.1s									
CAEL				*i* AML	AML		23 16 51.0			
	comp=N,329nm,0.9s									
CAEL				*i* AML	AML		23 17 10.0			
	comp=N,361nm,1.3s									
APMY	Acipayam-Deniz	5.54	63	Pn	Pn		23 15 25.1			+1.1
KULA	Kula-Manisa	5.62	51	Pn	Pn		23 15 26.2			+1.2
ELL	Elmali	5.77	72	Pn	Pn		23 15 28.6			+1.4
ELL	Elmali	5.77	72	Pn	Pn		23 15 27.9			+0.7
ELL	Elmali	5.77	72	P	Pn		23 15 27.9			+0.7
KBN	Korca	5.80	342	Pn	Pn		23 15 29.8			+2.2
KBN	Korca	5.80	342	P	Pn		23 15 30.8			+3.3
	baz=340									
KBN				S	Sn		23 16 29.4			-3.6
	baz=340									
KBN				AMP						
	comp=N,1.0nm,1.0s,baz=340									
KBN	Korca	5.80	342	P	Pn		23 15 29.8			+2.2
FNA	Florina	5.83	347	Pn	Pn		23 15 29.3			+1.4
FNA	Florina	5.83	347	P	Pn		23 15 29.6			+1.7
	baz=346									
FNA				S	Sn		23 16 35.3			+1.7
	baz=346									
FNA	Florina	5.83	347	*e*Pn	Pn		23 15 29.2			+1.3
FNA				*e*Sn	Sn		23 16 14.9			-19
FNA	Florina	5.83	347	P	Pn		23 15 29.3			+1.4
BALB	Balikesir	5.92	39	Pn	Pn		23 15 30.0			+1.0
VLO	Vlora	6.06	333	Pn	Pn		23 15 32.4			+1.3
VLO	Vlora	6.06	333	P	Pn		23 15 32.4			+1.3
SCTE	Santa Cesarea	6.17	325	Pn	Pn		23 15 32.7			+0.2
SCTE	Santa Cesarea	6.17	325	P	Pn		23 15 33.8			+1.3
	baz=321									
KORT	Korkueli	6.18	70	Pn	Pn		23 15 34.7			+1.9
VAY	Valandovo	6.22	356	*i* Pn	Pn		23 15 35.4			+2.2
ALN	Alexandroupoli	6.23	21	Pn	Pn		23 15 34.0			+0.6
ALN	Alexandroupoli	6.23	21	P	Pn		23 15 34.0			+0.6
OHR	Ohrid	6.26	344	*e*Pn	Pn		23 15 34.5			+0.6
OHR				*e*Sn	Sn		23 16 26.4			-18
OHR	Ohrid	6.26	344	*i* Pn	Pn		23 15 36.1			+2.2
BASM	Basmaki-Afyon	6.27	61	Pn	Pn		23 15 35.5			+1.5
RDO	Rodhopi	6.33	17	Pn	Pn		23 15 35.4			+0.6
ANTB	Antalya	6.39	72	Pn	Pn		23 15 37.3			+1.8
MMB	Musomishta	6.45	4	P	Pn		23 15 38.4			+2.0
TIP	Timpagrande	6.49	311	Pn	Pn		23 15 37.8			+0.8
CEL	Celeste	6.58	301	Pn	Pn		23 15 38.4			+0.1
RZN	Rozhen	6.70	11	P	Pn		23 15 41.9			+1.9
KKB	Krupnik	6.72	0	P	Pn		23 15 43.2			+3.0
TIR	Tirane	6.73	339	Pn	Pn		23 15 41.5			+1.3
TIR	Tirane	6.73	339	P	Pn		23 15 42.3			+2.1
	baz=337									
TIR	Tirane	6.73	339	P	Pn		23 15 41.5			+1.3
KDZ	Kurdzhali	6.75	14	P	Pn		23 15 41.9			+1.4
PHP	Peshkopia	6.89	343	P	Pn		23 15 43.6			+1.2
	baz=342									
PHP				S	Sn		23 16 58.0			-1.8
	baz=342									
SKO	Skopje	6.98	350	*e*Pn	Pn		23 15 43.7			+0.1
SKO				*e*Sn	Sn		23 16 42.9			-19
SKO	Skopje	6.98	350	*i* Pn	Pn		23 15 45.1			+1.5
PLD	Plovdiv	7.15	10	P	Pn		23 15 47.6			+1.6
PLD	Plovdiv	7.15	10	*e*Pn	Pn		23 15 47.9			+1.9
PLNA	Plana	7.36	2	P	Pn		23 15 51.4			+2.4
PUK	Puka	7.36	341	Pn	Pn		23 15 49.6			+0.6
PUK

MDVR **Moldovita** 9.72 354 ⇑P Pn 23 16 20.8 -0.5
HERR **Herculane** 9.78 357 ⇑P Pn 23 16 23.0 +1.0
TEKS **Tekeris** 9.82 345 *e*Pn Pn 23 16 21.2 -1.4
TEKS **Tekeris** 9.82 345 *e*Pn Pn 23 16 21.3 -1.4
INTR **Introdacqua** 9.96 317 Pn Pn 23 16 25.0 +0.4
GZR **Gura Zlata** 10.28 359 ⇓P Pn 23 16 30.8 +1.9
GZR **Gura Zlata** 10.28 359 ⇓P Pn 23 16 30.8 +1.9
ARR **Arges** 10.32 6 ⇑P Pn 23 16 32.6 +3.2
ISR **Istrita** 10.34 14 ⇓P Pn 23 16 33.8 +4.0
ISR **Istrita** 10.34 14 ⇓P Pn 23 16 33.8 +4.0
LOT **Lotru** 10.34 ⇓P Pn 23 16 34.4 +4.3
FRGS **Fruska Gora** 10.35 347 ⇓P Pn 23 16 28.9 -0.9
FRGS **Fruska Gora** 10.35 347 *e*Pn Pn 23 16 28.8 -1.0
FRGS **Fruska Gora** 10.35 347 *e*Pn Pn 23 16 28.5 -1.3
SLTI **Sal'it** 10.36 103 P Pn 23 16 26.4 -3.7
SLTI **Sal'it** 10.36 103 S Sn 23 18 13.7 -11
KZIT **Kziot** 10.37 111 P Pn 23 16 27.6 -2.6
KZIT **Kziot** 10.37 111 S Sn 23 18 14.7 -11
KZIT **Kziot** 10.37 111 P Pn 23 16 27.1 -3.2
MGRS **Mrkonjic Grad** 10.38 335 *e*Pn Pn 23 16 29.1 -1.2
MMAI **Mount Meron Ar** 10.43 98 Pn Pn 23 16 28.4 -2.6
comp=N,5.4nm,0.3s,baz=280,slow=11,SNR=25
MMAI Sn Sn 23 18 16.2 -10
comp=N,3.7nm,0.3s,baz=262,slow=20,SNR=2.7
comp=N,6.1nm,0.4s
VOIR 10.43 8 ⇑P Pn 23 16 33.9 +2.9
VOIR 10.43 8 ⇑P Pn 23 16 33.9 +2.9
AMAZ **Amatzia** 10.51 106 P Pn 23 16 29.0 -3.2
AMAZ P Pn 23 16 29.0 -3.2
AMAZ **Amatzia** 10.51 106 S Sn 23 18 18.5 -10
SALP **Salfit** 10.54 103 P Pn 23 16 29.0 -3.5
BZS **Buzias** 10.56 354 ⇓P Pn 23 16 32.0 -0.7
BZS **Buzias** 10.56 354 ⇓P Pn 23 16 32.0 -0.7
GEM **Giv'at Ha'Em** 10.59 97 P Pn 23 16 29.3 -3.9
NEHR **Nehoiu** 10.60 12 ⇑P Pn 23 16 36.1 +2.8
MLR **Muntele Rosu** 10.60 11 ⇑P Pn 23 16 36.0 +2.7
MLR **Muntele Rosu** 10.60 11 Pn Pn 23 16 33.1 -0.3
MLR **Muntele Rosu** 10.60 11 P Pn 23 16 33.1 -0.3
MLR **Muntele Rosu** 10.60 11 Pn Pn 23 16 34.0 +0.6
comp=N,0.1nm,0.3s,baz=156,slow=8.4,SNR=10
MLR LR LR 23 21 35.6
comp=N,570nm,18.8s,baz=191,slow=43
comp=N,4.8nm,0.6s
A050A **Klekovaca** 10.63 334 *e*Pn Pn 23 16 33.1 -0.7
BLY **Banja Luka** 10.64 337 *e*Pn Pn 23 16 32.8 -1.0
YTIR **Yattir** 10.74 107 S Sn 23 18 23.2 -11
YTIR **Yattir** 10.74 107 P Pn 23 16 31.6 -3.7
HMDT **Nahal Hemdat** 10.74 102 P Pn 23 16 32.8 -2.5
QRNJ **Al-Qirein** 10.76 101 P Pn 23 16 32.2 -3.2
DEV **Deva** 10.77 359 ⇓P Pn 23 16 42.7 +7.2
DEV **Deva** 10.77 359 ⇓P Pn 23 16 42.7 +7.2
SHMJ **Saham** 10.79 99 P Pn 23 16 34.9 -1.1
UJAP **Al Uja** 10.79 103 P Pn 23 16 32.3 -3.6
DSI **Dead Sea** 10.87 105 P Pn 23 16 33.8 -3.2
DSI **Dead Sea** 10.87 105 P Pn 23 16 33.1 -3.9
NRCA **Norcia** 10.94 318 Pn Pn 23 16 40.2 +2.1
MDBI **Mazsada** 10.95 107 P Pn 23 16 35.2 -2.9
MSBI **Mazada** 10.95 107 S Sn 23 18 28.0 -11
MSBI **Mazada** 10.95 107 P Pn 23 16 34.5 -3.6
A051A **Mrakovica** 10.97 336 *e*Pn Pn 23 16 36.8 -1.5
GUMA **Gualdo di Mace** 10.97 319 Pn Pn 23 16 40.7 +2.2
COVR **Voineasa-Covas** 10.98 11 ⇓P Pn 23 16 42.3 +3.7
DOPR **Dopca** 10.99 8 ⇑P Pn 23 16 42.1 +3.5
KRMI **Paran Flat** 11.00 114 P Pn 23 16 34.9 -3.9
PRIJ **Prijedor** 11.00 336 *e*Pn Pn 23 16 34.1 -4.6
PLOR **Plostina** 11.07 13 ⇑P Pn 23 16 44.7 +5.0
PLOR **Plostina** 11.07 13 ⇑P Pn 23 16 44.7 +5.0
FDMO **Fiordimonte** 11.09 319 Pn Pn 23 16 41.6 +1.5
VRI **Vrincioaia** 11.10 13 ⇓P Pn 23 16 40.8 +0.7
VRI **Vrincioaia** 11.10 13 ⇓P Pn 23 16 40.8 +0.7
GHAJ **Ghor Haditha** 11.12 106 Pn Pn 23 16 38.4 -2.0
GHAJ **Ghor Haditha** 11.12 106 P Pn 23 16 37.9 -2.5
BOSR **Bodos** 11.13 9 ⇓P Pn 23 16 45.0 +4.5
ZFRI **Zfri** 11.13 111 P Pn 23 16 36.8 -3.8
ZFRI **Zfri** 11.13 111 S Sn 23 18 32.7 -11
TURR **Turia** 11.16 11 ⇑P Pn 23 16 45.6 +4.6
OZUR 11.17 10 ⇑P Pn 23 16 45.1 +4.0
SIRR **Siria** 11.20 355 ⇑P Pn 23 16 42.2 +0.7
HRFI **Mount Harif** 11.27 113 S Sn 23 18 36.5 -11
HRFI **Mount Harif** 11.27 113 P Pn 23 16 40.0 -2.6
MBRI **Mt Berech** 11.30 115 P Pn 23 16 40.9 -2.1
EIL **Elat** 11.39 115 Pn Pn 23 16 41.2 -3.0
comp=N,3.5nm,0.3s,baz=272,slow=2.8,SNR=35
EIL Sn Sn 23 18 39.5 -11
comp=N,3.2nm,0.3s,baz=317,slow=20,SNR=8.3
comp=N,9.0nm,0.3s
EIL **Elat** 11.39 115 P Pn 23 16 41.4 -2.8
EIL **Elat** 11.39 115 P Pn 23 16 40.9 -3.2
EIL **Elat** 11.39 115 S Sn 23 18 39.7 -11
MURB **Monte Urbino** 11.55 318 Pn Pn 23 16 48.1 +1.8
MARR **Marisel-Cluj** 11.56 0 ⇓P Pn 23 16 52.2 +5.8
MORH **Mrgy, Hungar** 11.60 344 ⇓P Pn 23 16 45.3 -1.5
GAZ **Gaziantep** 11.60 76 Pn Pn 23 16 47.2 +0.1
DRGR 11.68 359 ⇑P Pn 23 16 51.7 +3.7
DRGR 11.68 359 ⇑P Pn 23 16 51.7 +3.7
ASF **Jabal al Asfar** 11.87 100 Pn Pn 23 16 47.3 -3.5
comp=N,0.8nm,0.3s,baz=62,slow=24,SNR=12
ASF Sn Sn 23 18 50.0 -12
comp=N,0.5nm,0.3s,baz=248,slow=22,SNR=2.0
comp=N,4.5nm,0.6s
BOJS **Bojanci** 11.98 332 *e*Pn Pn 23 16 50.3 -1.8
ARCR **ARCALIA** 12.01 4 ⇓P P 23 17 01.3 -3.7
CRES **Cresnjev** 12.18 334 *e*Pn Pn 23 16 53.5 -1.3
CEY **Cerknica** 12.49 331 *e*Pn Pn 23 16 58.6 -0.6
SKDS **Skadanscina** 12.51 329 *e*Pn Pn 23 16 57.3 -2.1
BURAR **Bucovina Array** 12.60 7 ⇑P Pn 23 17 05.4 +4.7
BURAR **Bucovina Array** 12.60 7 Pn Pn 23 17 02.8 +2.1
BURAR **Bucovina Array** 12.60 7 ⇑P Pn 23 17 05.4 +4.7
BUR08 **Bucovina Ar. S** 12.63 7 Pn Pn 23 17 02.0 +0.9
SABO **M.te Sabotino** 13.03 329 Pn Pn 23 17 04.8 -1.7
SOKA **Soboth** 13.06 335 *e*Pn Pn 23 17 05.9 -1.0
comp=N,2.6nm,0.6s
OBKA **Obir** 13.09 333 *e*Pn Pn 23 17 07.8 +0.4
comp=N,2.0nm,0.3s
OBKA **Obir** 13.09 333 *e*Pn Pn 23 17 00.5 -6.9
ARSA **Arzberg** 13.39 337 *e*Pn Pn 23 17 09.1 -2.4
comp=N,1.9nm,0.5s
PRED **Cave del Predi** 13.42 330 Pn Pn 23 17 09.9 -1.9
RONA **Rosalia, Austr** 13.57 340 *e*Pn Pn 23 17 14.6 +0.8
comp=N,0.5nm,0.2s
SORM **Soroca** 13.59 15 ⇑P Pn 23 17 15.4 +1.3
SORM **Soroca** 13.59 15 ⇑P Pn 23 17 15.4 +1.3
CLUD **Cludinico** 13.71 329 Pn Pn 23 17 15.8 -0.1
VYHS **Vyhne** 13.74 348 *e*P P 23 17 23.9 -0.5
VYHS **Vyhne** 13.74 348 *e*PN P 23 17 23.9 -0.5
KOLS **Kolonicke sedl** 13.83 358 *e*P P 23 17 24.4 -0.9
KOLS **Kolonicke sedl** 13.83 358 *e*PN P 23 17 24.4 -0.9
CONA **Conrad Observa** 13.90 339 *e*Pn Pn 23 17 18.1 -0.3
comp=N,0.2nm,0.2s
MODS **Modra-Piesok** 13.94 344 *e*P P 23 17 27.3 +0.7
MODS **Modra-Piesok** 13.94 344 *e*PN P 23 17 27.3 +0.7
CTI **Castel Tesino** 13.95 325 Pn Pn 23 17 19.0 -0.1
CTI **Castel Tesino** 13.95 325 P Pn 23 17 19.0 -0.1
KBA **Koelnbreinsper** 14.02 331 *e*Pn Pn 23 17 20.4 +0.3
comp=N,0.5nm,0.3s
ABTA **Abfaltersbach** 14.10 329 *e*Pn Pn 23 17 21.6 +0.5
comp=N,1.6nm,0.5s
LANS **Liptovska Anna** 14.29 350 *e*P P 23 17 33.8 +3.4
LANS **Liptovska Anna** 14.29 350 *e*PN P 23 17 33.8 +3.4
JAVC **Velka Javorina** 14.31 345 *e*P P 23 17 32.3 +1.5
MOA **Molln** 14.33 335 *e*Pn Pn 23 17 23.9 -0.4
comp=N,1.3nm,0.4s
BIOA **Bad Ischl, Aus** 14.42 334 *e*Pn Pn 23 17 24.5 -0.9
comp=N,1.5nm,0.3s
LESA **Schwarzleotal** 14.57 331 *e*Pn Pn 23 17 28.1 +0.5
comp=N,1.8nm,0.3s
MAUC **Maruska** 14.77 346 *e*P P 23 17 38.1 +2.3
KRUC **Moravsky** 14.79 343 *e*P P 23 17 37.2 +1.2
WTTA **Wattenberg** 14.88 328 *e*Pn Pn 23 17 32.1 +0.3
comp=N,3.2nm,0.4s
WATA **Walderalm** 14.96 328 *e*Pn Pn 23 17 34.3 +1.5
comp=N,3.4nm,0.5s
VRAC **Vranov** 14.98 343 ⇓P P 23 17 38.7 +0.6
VRAC **Vranov** 14.98 343 *e*P P 23 17 39.2 +1.1
VRAC **Vranov** 14.98 343 Pn P 23 17 36.9 -1.1
comp=N,0.7nm,0.3s,baz=156,slow=9.7,SNR=7.8
VRAC LR LR 23 24 59.0
comp=N,512nm,20.4s,baz=178,slow=44
FUORN **Ofenpass-Fuorn** 15.03 324 Pn Pn 23 17 34.8 +1.0
FUORN IAmb IAmb 23 17 55.8
comp=Z,11nm,0.8s

SQTA **Sankt Quirin** 15.03 327 *e*Pn Pn 23 17 34.1 +0.4
comp=Z,0.8nm,0.3s
FETA **Feichten** 15.10 326 *e*Pn P 23 17 39.0 -0.6
comp=Z,5.8nm,0.7s,SNR=8.8
OKC **Ostrava-Krasne** 15.16 348 *e*P P 23 17 42.1 +2.0
OKC **Ostrava-Krasne** 15.16 348 *e*P P 23 17 42.1 +2.0
CKRC **Cesky Krumlov** 15.16 337 *e*P P 23 17 42.3 +2.1
CKRC ex x 23 17 50.8
CKRC **Cesky Krumlov** 15.16 337 *e*P P 23 17 42.3 +2.1
MOTA **Mosaim** 15.17 327 *e*Pn Pn 23 17 36.3 +0.6
comp=Z,0.8nm,0.3s
MORC **Moravsky Berou** 15.21 346 ⇓P P 23 17 42.8 +2.0
MORC **Moravsky Berou** 15.21 346 Pn Pn 23 17 35.9 -0.2
MORC **Moravsky Berou** 15.21 346 *e*P P 23 17 42.0 +1.3
MORC **Moravsky Berou** 15.21 346 P Pn 23 17 35.9 -0.2
MORC pmax pmax
comp=Z,11nm,0.8s
TREC **Trest** 15.24 341 *e*P P 23 17 42.5 +1.5
TREC **Trest** 15.24 341 *e*P P 23 17 42.5 +1.5
OJC **Ojcow** 15.29 352 Pn Pn 23 17 38.0 +0.9
OJC **Ojcow** 15.29 352 P Pn 23 17 38.0 +0.9
OJC pmax pmax
comp=Z,7.0nm,0.7s
DAVOX **Davos/Dischmat** 15.33 324 Pn P 23 17 41.9 -0.3
comp=Z,0.4nm,0.3s,baz=114,slow=11,SNR=9.9
TUE **Stuetta** 15.38 322 Pn 23 17 39.5 +1.1
TUE IAmb IAmb 23 18 02.2
comp=Z,18nm,0.8s
GEC2 **GERESS Array S** 15.38 336 Pn Pn 23 17 39.0 +0.6
GEC2 IAmb IAmb 23 17 55.8
comp=Z,12nm,0.7s
GERES **GERESS Array B** 15.38 336 Pn 23 17 38.8 +0.4
GERES **GERESS Array B** 15.38 336 P Pn 23 17 38.8 +0.4
GERES **GERESS Array B** 15.38 336 Pn Pn 23 17 38.4 +0.1
comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=2.7
GERES LR LR 23 24 47.9
comp=Z,377nm,21.6s,baz=164,slow=42
comp=Z,0.8nm,0.4s
RETA **Reutte** 15.43 327 *e*Pn Pn 23 17 39.0 0.0
comp=Z,3.5nm,0.5s
GURO **Guroymak-BITLI** 15.55 72 Pn Pn 23 17 40.3 -0.4
KRLC **Kraliky** 15.65 345 *e*P P 23 17 47.3 +1.7
KRLC **Kraliky** 15.65 345 *e*P P 23 17 47.3 +1.7
KHC **Kasperske Hory** 15.67 336 Pn Pn 23 17 43.0 +1.0
KHC **Kasperske Hory** 15.67 336 *e*P P 23 17 47.9 +2.1
KHC ex x 23 17 56.2
KHC **Kasperske Hory** 15.67 336 *e*P P 23 17 47.9 +2.1
DAVA **Damuels** 15.69 325 *e*Pn P 23 17 45.8 -0.3
comp=Z,8.4nm,0.7s
ZVC **Zvikov** 15.75 338 *e*P P 23 17 48.7 +2.1
GOPC **GO Pecny, Ondr** 16.00 340 *e*P P 23 17 50.2 +0.8
GOPC **GO Pecny, Ondr** 16.00 340 *e*P P 23 17 50.2 +0.8
DPC **Dobruska-Polom** 16.02 344 *e*P P 23 17 49.9 +0.3
DPC **Dobruska-Polom** 16.02 344 *e*P P 23 17 49.9 +0.3
PRU **Pruhonice** 16.13 340 *e*P P 23 17 52.4 +1.5
PRU ex x 23 18 01.7
PRU **Pruhonice** 16.13 340 *e*P P 23 17 52.4 +1.5
KIEV **Kiev** 16.20 14 Pn Pn 23 17 47.1 -1.7
KIEV **Kiev** 16.20 14 P Pn 23 17 47.1 -1.7
KIEV pmax pmax
comp=Z,23nm,1.0s
AKASG **Malin Array Be** 16.21 14 Pn Pn 23 17 48.8 -0.1
AKASG **Malin Array Be** 16.21 14 P Pn 23 17 48.8 -0.1
AKASG pmax pmax
comp=Z,16nm,0.9s
AKASG **Malin Array Be** 16.21 14 Pn Pn 23 17 47.0 -1.9
comp=Z,1.6nm,0.3s,baz=209,slow=10.0,SNR=16
AKASG LR LR 23 24 47.4
comp=Z,228nm,19.0s,baz=196,slow=40
comp=Z,0.8nm,0.3s
AKBB **Malin Array Si** 16.21 14 Pn Pn 23 17 47.0 -1.9
AKBB **Malin Array Si** 16.21 14 P Pn 23 17 47.0 -1.9
AKBB pmax pmax
comp=Z,23nm,1.0s
OSTC **Ostas** 16.23 344 *e*P P 23 17 54.2 +2.2
OSTC **Ostas** 16.23 344 *e*P P 23 17 54.2 +2.2
UPC **Upice** 16.23 344 *e*P P 23 17 53.0 +1.0
UPC **Upice** 16.23 344 *e*P P 23 17 53.0 +1.0
PRA **Prague** 16.24 340 *e*P P 23 17 53.4 +1.4
PRA **Prague** 16.24 340 *e*P P 23 17 53.4 +1.4
CHVC **Chvalec** 16.30 344 *e*P P 23 17 55.1 +2.4
CHVC **Chvalec** 16.30 344 *e*P P 23 17 55.1 +2.4
PVCC **Panska Ves** 16.61 341 *e*P P 23 17 57.7 +1.5
PVCC **Panska Ves** 16.61 341 *e*P P 23 17 57.7 +1.5
GRA1 **Grafenberg Arr** 16.98 333 Pn 23 17 59.7 +1.1
GRA1 IAmb IAmb 23 18 22.6
comp=Z,50nm,1.1s
GRF **Grafenberg Arr** 16.98 333 P Pn 23 17 59.7 +1.1
GRF pmax pmax
comp=Z,51nm,1.1s
GRFO **Grafenberg** 16.98 333 P 23 18 01.1 +0.9
GRFO IAmb IAmb 23 18 22.6
comp=Z,44nm,1.0s
GRFO **Grafenberg** 16.98 333 P P 23 18 01.1 +0.9
GRFO pmax pmax
comp=Z,44nm,1.0s
NKC **Novy Kostel** 17.00 336 *e*P P 23 18 02.8 +2.4
NKC **Novy Kostel** 17.00 336 *e*P P 23 18 02.8 +2.4
BRG **Berggiesshubel** 17.10 340 Amp 23 18 08.1
comp=Z,6.3nm,1.1s
BRG **Berggiesshubel** 17.10 340 Amp 23 18 14.1
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 17.10 340 *e*P P 23 18 07.5 +6.0
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 17.10 340 *e*P P 23 18 07.6 +6.0
BRG **Berggiesshubel** 17.10 340 P P 23 18 12.1 +11
AKH **Akhalkalaki** 17.20 62 Pn Pn 23 18 00.5 -1.1
AKH IAmb IAmb 23 18 17.3
comp=Z,39nm,0.9s
AKH **Akhalkalaki** 17.20 62 P Pn 23 18 00.5 -1.1
AKH pmax pmax
comp=Z,39nm,0.9s
KIV **Kislovodsk** 17.48 54 Pn Pn 23 18 04.0 -0.9
KIV **Kislovodsk** 17.48 54 *e*P P 23 18 06.0 +0.1
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,82nm,14.0s
KBZ **Khabaz** 17.53 55 P Pn 23 18 04.8 -0.7
comp=Z,0.6nm,0.3s,baz=232,slow=2.9,SNR=18
KBZ LR LR 23 26 18.1
comp=Z,90nm,18.6s,baz=259,slow=42
comp=Z,2.8nm,0.5s
ECH **Echery** 17.65 323 P 23 18 08.2 +0.5
ECH **Echery** 17.65 323 P P 23 18 08.2 +0.5
ECH pmax pmax
comp=Z,9.0nm,1.1s
CLL **Collm** 17.76 339 *e*P P 23 18 12.0 +3.2
CLL **Collm** 17.76 339 AMS AMS 23 26 00.0
comp=Z,400nm,20.0s
CLL **Collm** 17.76 339 *e*P P 23 18 12.0 +3.2
CLL **Collm** 17.76 339 *e*PP P 23 18 19.0 +10
GNI **Garni** 17.86 67 P 23 18 10.1 -0.1
GNI IAmb IAmb 23 18 35.7
comp=Z,28nm,1.1s
GNI **Garni** 17.86 67 P Pn 23 18 09.1 -0.7
comp=Z,0.3nm,0.3s,baz=254,slow=18,SNR=1.8
GNI LR LR 23 26 15.5
comp=Z,405nm,19.1s,baz=255,slow=41
comp=Z,4.3nm,0.7s
ZEI **Tsey** 17.89 58 *e*P P 23 18 11.2 +0.7
ZEI pmax pmax
comp=Z,13nm,1.2s
NCK **Nalchik** 17.91 56⇓ *e*P P 23 18 12.3 +1.7
NCK pmax pmax
comp=Z,20nm,0.9s
GOF **Gofitskoye** 18.18 51 *ce*P P 23 18 14.6 +1.1
WLF **Walferdange** 19.12 325 *d*PP Pn 23 18 39.1 +14
GROC **Groznyy** 19.34 58 *e*P Pn 23 18 27.0 -0.5
GROC pmax pmax
comp=Z,25nm,1.6s
BHOU **Houvegnez** 19.67 326 *d*P Pn 23 18 37.4 +6.0
MNK **Minsk** 19.68 8 *i* P Pn 23 18 34.1 +2.6
comp=E,5.0nm,1.1s
MNK *i* P Pn 23 18 34.1 +2.6
comp=N,46nm,1.0s
MNK *i* P Pn 23 18 34.1 +2.6
comp=Z,44nm,0.9s,baz=191
MNK *i* PP PnPn 23 18 49.1 +3.7
MNK *i* S Sn 23 22 18.5 +7.1
MNK *i* SS SnSn 23 22 33.4 +7.5

MNK *i* LQ LQ 23 24 30.3
MNK *i* LR LR 23 26 00.3
MNK **Minsk** 19.68 8 *i* P Pn 23 18 34.0 +2.6
MNK *i* S Sn 23 22 18.5 +7.1
MNK pmax pmax
comp=Z,44nm,0.9s
MNK pmax pmax
comp=N,46nm,1.0s
MNK pmax pmax
comp=E,5.0nm,1.1s
VORD **Divnogorie** 19.72 32 *e*P P 23 18 29.7 -0.6
VORD pmax pmax
comp=Z,10.0nm,1.0s
BTNL **Ternell** 19.77 327 *d*P Pn 23 18 32.7 0.0
BTNL *d*PP pwP 23 18 44.7 +1.4
MEM **Membach** 19.85 327 *d*P Pn 23 18 34.6 +1.1
MEM *d*PP PnPn 23 18 46.4 -1.4
VSR **Storozhevoye** 19.85 31 *e*P P 23 18 30.0 -1.7
VSR pmax pmax
comp=Z,7.0nm,0.4s
RCHB **Rochefort** 19.90 325 *d*PP Pn 23 18 45.2 +11
NACGM **Naroch** 19.96 6 *e*P P 23 18 31.7 -1.2
comp=E,843nm,1.1s
BSTI **Sart Tilman** 20.03 326 *d*P Pn 23 18 36.8 +1.1
BSTI *d*PP PnPn 23 18 48.0 -2.3
BCLA **Clavier** 20.04 325 *d*P Pn 23 18 37.3 +1.5
DOU **Dourbes** 20.16 324 *d*P Pn 23 18 37.3 +0.1
PABE **Paberze** 20.41 1 P P 23 18 37.4 -0.4
BSD **Bornholm Skovb** 20.80 347 *i* P P 23 18 40.0 -1.9
BSD *i* P P 23 18 40.0 -1.9
BSD IAmb IAmb 23 18 42.2
comp=Z,77nm,1.2s
LPSR **Galich'ya Gora** 20.81 28 *e*P P 23 18 39.3 -2.8
LPSR pmax pmax
comp=Z,30nm,0.6s
VRH **Novokhopyorsk** 20.96 34 *e*P P 23 18 41.7 -2.1
VRH pmax pmax
comp=Z,30nm,0.7s
BLEU **Blekinge** 21.78 349 *i* P P 23 18 51.0 -1.4
ESDC **Sonseca Array** 21.94 290 P P 23 18 57.1 +2.6
comp=Z,4.1nm,0.9s,baz=87,slow=9.7,SNR=15
comp=Z,4.1nm,0.9s
BJUU **Bjuv** 22.08 345 *i* P P 23 18 55.8 +0.1
OBN **Obninsk** 22.08 21 *de*P P 23 18 56.1 +0.4
OBN *e* 23 19 22.1
OBN *e*S S 23 22 49.7 -7.4
OBN pmax pmax
comp=Z,50nm,1.7s
OBN MLR MLR
comp=Z,173nm,21.0s
OBN **Obninsk** 22.08 21 P P 23 18 55.4 -0.3
comp=Z,14nm,0.5s,baz=12,slow=11,SNR=4.9
comp=Z,14nm,0.5s
DEL **Delary** 22.27 346 *i* P P 23 18 57.0 -0.8
DEL *i* P P 23 18 57.0 -0.8
MOS **Moscow** 22.93 21 *e*P P 23 19 00.4 -4.3
MOS *e*S S 23 23 05.5 -6.8
MOS pmax pmax
comp=Z,25nm,0.8s
VSU **Vasula** 23.49 5⇓ *e*P P 23 19 08.8 -1.5
VSU pmax pmax
comp=Z,56nm,1.6s
BORU **Boraas** 23.58 346 *i* P P 23 19 10.2 -1.0
MVO **Moncorvo** 24.38 293 *e*P P 23 19 28.6 +10
comp=Z,38nm,1.7s
BELG **Belogornoye** 24.57 38 *d i* P P 23 19 19.3 -1.1
BELG pmax pmax
comp=Z,5.0nm,1.2s
MTE **Manteigas** 24.72 291 *e*P P 23 19 20.9 -1.2
comp=Z,33nm,1.9s
PVRL **Vila Real** 24.90 294 *e*P P 23 19 28.1 +4.4
comp=Z,40nm,1.7s
POLO **Lamas de Olo** 24.97 294 *e*P P 23 19 34.3 +10
comp=Z,13nm,1.9s
PCAS **Casmilo, Conde** 25.44 291 *e*P P 23 19 24.0 -4.5
comp=Z,51nm,1.9s
SNART **Snartemo** 25.53 340 *e*P P 23 19 30.4 +1.3
HFS **Hagfors** 25.78 349 P P 23 19 31.1 -0.2
comp=Z,8.5nm,0.5s,baz=146,slow=11,SNR=42
comp=Z,8.5nm,0.5s
PFVI **Vila Bisbo** 25.80 284 *e*P P 23 19 40.9 +9.1
comp=Z,117nm,1.5s
KONO **Kongsberg** 26.09 344 P P 23 19 34.4 +0.2
KONO **Kongsberg** 26.09 344 *e*P P 23 19 34.8 +0.7
KONO **Kongsberg** 26.09 344 P P 23 19 34.4 +0.2
KONO pmax pmax
comp=Z,55nm,1.3s
OSL **Oslo** 26.12 346 *e*P P 23 19 35.7 +1.3
FINES **FINESS Array B** 26.43 3 P P 23 19 35.8 -1.4
FINES **FINESS Array B** 26.43 3 P P 23 19 36.0 -1.2
comp=Z,3.3nm,0.5s,baz=159,slow=12,SNR=29
FINES PcP PcP 23 23 02.6 +0.9
comp=Z,0.7nm,0.4s,baz=174,slow=2.5,SNR=4.0
comp=Z,3.3nm,0.5s
FIA1 **FINESS Array S** 26.43 3 P P 23 19 35.4 -1.8
BLS5 **Blasjo** 26.66 341 *e*P P 23 19 41.8 +2.4
NC602 **NORSAR Array S** 26.70 347 P P 23 19 40.1 +0.5
NC602 IAmb IAmb 23 19 53.2
comp=Z,17nm,0.9s
NC602 **NORSAR Array S** 26.70 347 *e*P P 23 19 39.9 +0.2
KMY **Karmoy** 26.82 340 *e*P P 23 19 42.3 +1.6
NAO01 **NORSAR Array S** 26.93 347 P P 23 19 40.1 -1.6
ODD1 **Odda** 27.04 342 *e*P P 23 19 44.7 +1.9
NB2 **NORSAR Subarra** 27.05 347 P P 23 19 42.7 -0.1
comp=Z,1.1nm,0.5s,baz=156,slow=9.3
NB2 **NORSAR Subarra** 27.05 347 P P 23 19 42.7 -0.1
baz=156,slow=9.3
NOA **NORSAR Array B** 27.05 347 P P 23 19 42.7 -0.1
comp=Z,0.6nm,0.4s,baz=157,slow=10.0,SNR=17
NOA LR LR 23 33 42.2
comp=Z,200nm,19.2s,baz=170,slow=44
comp=Z,0.6nm,0.4s
EKA **Eskdalemuir Ar** 27.12 326 P P 23 19 44.8 +1.3
comp=Z,3.2nm,0.6s,baz=124,slow=8.9,SNR=6.1
comp=Z,3.2nm,0.6s
SKAR **Skarslia** 27.31 344 *e*P P 23 19 46.6 +1.4
SKAR IAmb IAmb 23 19 48.7
comp=Z,102nm,1.9s
KLMR **Klimovskoe** 27.85 17 *e*P P 23 19 52.5 +2.6
KLMR pmax pmax
comp=Z,33nm,1.7s
GEYT **Alibeck** 28.19 74 P P 23 19 52.6 -0.7
GEYT IAmb IAmb 23 20 16.8
comp=Z,6.1nm,0.9s
GEYT **Alibeck** 28.19 74 P P 23 19 52.7 -0.7
GEYT pmax pmax
comp=Z,6.0nm,1.0s
GEYT **Alibeck** 28.19 74 P P 23 19 53.1 -0.2
comp=Z,3.2nm,0.4s,baz=270,slow=8.4,SNR=14
comp=Z,3.2nm,0.4s
GYA0B **ALIBECK ARRAY** 28.19 74 P P 23 19 52.5 -0.8
GYA0B IAmb IAmb 23 20 14.0
comp=Z,5.9nm,0.6s
DOMB **Dombas** 28.38 346 *e*P P 23 19 56.2 +1.5
AKN **Aaknes** 28.93 344 *e*P P 23 20 00.4 +0.8
TOA0 **Torodi Ar. Sit** 29.19 227 P P 23 20 03.2 +0.9
TOA0 IAmb IAmb 23 20 05.5
comp=Z,11nm,1.1s
TORD **Torodi Ar. Bea** 29.19 227 P P 23 20 04.0 +1.7
TORD **Torodi Ar. Bea** 29.19 227 P P 23 20 04.0 +1.7
comp=Z,2.9nm,0.5s,baz=33,slow=9.7,SNR=32
comp=Z,2.9nm,0.5s
KIRV **Kirov** 29.24 28 LR LR 23 32 32.2
comp=Z,179nm,18.2s,baz=288,slow=38
NSS **Namsos** 30.22 350 *e*P P 23 20 10.7 -0.3
ABKAR **Akbulak array** 30.42 51 P P 23 20 11.9 -1.0
MOR8 **Moi Rana** 31.52 353 *e*P P 23 20 22.8 +0.4
MOR8 IAmb IAmb 23 20 24.2
comp=Z,133nm,1.9s
ARU **Arti** 32.11 37 P P 23 20 25.8 -1.9
ARU IAmb IAmb 23 20 27.4
comp=Z,6.8nm,0.9s
ARU **Arti** 32.11 37 *c i* P P 23 20 26.7 -1.0
ARU 23 21 28.4
ARU S S 23 25 34.9 -2.9
ARU pmax pmax
comp=Z,7.0nm,0.8s
FAUS **Fauske** 32.63 354 *e*P P 23 20 32.2 +0.1
STEI **Steigen** 33.18 355 *e*P P 23 20 36.9 0.0
STEI IAmb IAmb 23 20 37.7
comp=Z,74nm,0.2s
SVE **Sverdlovsk** 33.32 38 *e*P P 23 20 37.1 -1.2
SVE pmax pmax
comp=Z,10.0nm,0.7s
KTK1 **Kautokeino** 33.96 0 *e*P P 23 20 43.0 -0.6

KTK1 IAmb IAmb 23 20 44.3
comp=Z,42nm,1.3s
ARA0 ARCESS Array S 34.51 1 *e*P **P** **23 20 47.2 -1.3**
ARA0 IAmb IAmb 23 20 53.8
comp=Z,39nm,1.3s
ARCES ARCESS Array B 34.51 1 P **P** **23 20 46.8 -1.7**
ARCES IAmb IAmb 23 20 59.2
comp=Z,19nm,1.4s
ARCES ARCESS Array B 34.51 1 P **P** **23 20 46.8 -1.7**
ARCES pmax pmax
comp=Z,19nm,1.4s
ARCES ARCESS Array B 34.51 1 P **P** **23 20 47.4 -1.1**
comp=Z,2.8nm,0.5s,baz=176,slow=7.6,SNR=15
comp=Z,2.8nm,0.5s
JETT Jettan, Norway 34.54 358 *e*P **P** **23 20 49.0 +0.2**
TRO Tromso 34.66 357 *e*P **P** **23 20 49.8 +0.1**
VADS Vadso 35.24 4 *e*P **P** **23 20 55.1 +0.4**
SIMJ Simiganj 36.61 71 P **P** **23 21 06.6 -0.4**
SIMJ IAmb IAmb 23 21 24.9
comp=Z,9.0nm,1.2s
KK31 Karatay Array 37.24 63 P **P** **23 21 11.5 -0.7**
KK31 IAmb IAmb 23 21 32.6
comp=Z,12nm,1.4s
KK31 Karatay Array 37.24 63 P **P** **23 21 11.5 -0.7**
KK31 pmax pmax
comp=Z,12nm,1.5s
KKAR Karatay Array 37.24 63 P **P** **23 21 11.1 -1.1**
KKAR Karatay Array 37.24 63 P **P** **23 21 11.1 -1.1**
KBL Kabul 37.47 77 P **P** **23 21 13.0 -1.5**
KBL Kabul 37.47 77 P **P** **23 21 13.0 -1.5**
KBL pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 37.56 47 P **P** **23 21 14.7 0.0**
BRVK Borovoye 37.56 47 P **P** **23 21 14.7 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 37.61 47 P **P** **23 21 14.5 -0.7**
comp=Z,0.8nm,0.4s,baz=244,slow=6.3,SNR=5.3
comp=Z,0.8nm,0.4s
DBIC Dimbokro 38.23 229 P **P** **23 21 21.2 +0.4**
DBIC IAmb IAmb 23 21 24.3
comp=Z,22nm,1.1s
DBIC Dimbokro 38.23 229 P **P** **23 21 22.6 +1.8**
comp=Z,17nm,0.9s,baz=32,slow=7.6,SNR=17
comp=Z,17nm,0.9s
TIC Toumodi 38.35 229⇑ *i*P **P** **23 21 23.7 +1.9**
comp=Z,23nm,0.8s
KIC Kosan Boka 38.40 228⇑ *i*P **P** **23 21 24.2 +1.9**
comp=Z,42nm,0.9s
LIC Lamto 38.69 229⇑ *i*P **P** **23 21 26.6 +2.0**
comp=Z,55nm,0.8s
AAK Ala-Archa 40.20 63⇓ *e*P **P** **23 21 37.4 +0.2**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 40.20 63 LR LR 23 40 41.5
comp=Z,92nm,20.5s,baz=300,slow=40
NIL Nilore 41.07 77 P **P** **23 21 44.7 +0.3**
NIL Nilore 41.07 77 P **P** **23 21 44.7 +0.3**
NIL pmax pmax
comp=Z,55nm,1.2s
KURBB Kurchatov Arra 42.47 51 P **P** **23 21 54.6 -0.9**
comp=Z,2.0nm,0.4s,baz=274,slow=8.6,SNR=40
comp=Z,2.0nm,0.4s
KURK Kurchatov 42.53 51 P **P** **23 21 54.4 -1.5**
KURK IAmb IAmb 23 22 15.7
comp=Z,6.2nm,0.8s
KURK Kurchatov 42.53 51 P **P** **23 21 54.6 -1.4**
SPB2 Spitsbergen Ar 43.27 358 P **P** **23 22 02.0 +0.3**
SPA0 Spitsbergen Ar 43.27 358 *e*P **P** **23 22 02.2 +0.6**
SPA0 IAML 23 22 03.3
comp=Z,5.5nm,0.5s
SPITS Spitsbergen Ar 43.27 358 P **P** **23 22 02.0 +0.3**
SPITS pmax pmax
comp=Z,38nm,1.3s
SPITS Spitsbergen Ar 43.27 358 P **P** **23 22 01.7 +0.1**
comp=Z,3.4nm,0.5s,baz=154,slow=12,SNR=23
comp=Z,3.4nm,0.5s
KBS Kingsbay 44.17 357 P **P** **23 22 09.3 +0.4**
KBS Kingsbay 44.17 357 *e*P **P** **23 22 09.4 +0.5**
KBS IAmb IAmb 23 22 11.0
comp=Z,12nm,0.8s
KBS Kingsbay 44.17 357 P **P** **23 22 09.3 +0.4**
KBS pmax pmax
comp=Z,23nm,1.2s
KBS Kingsbay 44.17 357 *i*P **P** **23 22 08.8 -0.1**
MAKZ Makanchi 45.00 56 P **P** **23 22 14.9 -1.0**
MAKZ IAmb IAmb 23 22 43.6
comp=Z,11nm,1.2s
MAKZ Makanchi 45.00 56 P **P** **23 22 15.0 -1.0**
MAKZ pmax pmax
comp=Z,11nm,1.3s
MK31 Makanchi Array 45.22 56 P **P** **23 22 16.8 -0.9**
MK31 IAmb IAmb 23 22 38.3
comp=Z,5.3nm,0.6s
MK31 Makanchi Array 45.22 56 *ci*P **P** **23 22 16.7 -0.9**
MKAR Makanchi Array 45.22 56 P **P** **23 22 16.8 -0.9**
MKAR Makanchi Array 45.22 56 P **P** **23 22 16.8 -0.9**
MKAR Makanchi Array 45.22 56 P **P** **23 22 16.9 -0.8**
comp=Z,4.4nm,0.4s,baz=271,slow=7.7,SNR=102
comp=Z,4.4nm,0.4s
ZAA0 Zalesovo Array 46.26 46 P **P** **23 22 24.4 -1.4**
ZALV Zalesovo Beam 46.26 46 P **P** **23 22 24.4 -1.4**
comp=Z,6.2nm,0.4s,baz=270,slow=8.5,SNR=38
comp=Z,6.2nm,0.4s
DGZ Jazzator, Alta 48.25 52⇑ *i*P **P** **23 22 40.7 -0.8**
DGZ pmax pmax
comp=Z,2.0nm,0.5s
WMQ Urumqi 49.49 59 *e*P **P** **23 22 53.3 +2.3**
WMQ pmax pmax
comp=Z,13nm,0.9s
ZAK Zakamensk 58.05 48 *e*P **P** **23 23 51.2 -2.3**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
GTA Gaotai 59.48 61 *e*P **P** **23 24 04.0 +0.3**
GTA pP pP 23 24 09.6 -3.1
GTA pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 60.83 50 P **P** **23 24 12.4 -0.4**
SONM Songino Array 60.83 50 P **P** **23 24 12.4 -0.4**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 60.83 50 P **P** **23 24 12.7 -0.1**
comp=Z,1.8nm,0.5s,baz=287,slow=6.7,SNR=20
comp=Z,1.8nm,0.5s
VOI Vohitsoka 61.00 155 P **P** **23 24 14.9 +0.8**
ULN Ulaanbaatar 61.23 50 P **P** **23 24 14.9 -0.7**
ULN IAmb IAmb 23 24 17.6
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 61.23 50 P **P** **23 24 14.9 -0.7**
ULN pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 61.81 20⇓ *e*P **P** **23 24 18.7 -0.2**
SCHQ Schefferville 62.12 319 P **P** **23 24 21.9 +0.6**
SCHQ IAmb IAmb 23 24 38.0
comp=Z,7.2nm,0.9s
SCHQ Schefferville 62.12 319 P **P** **23 24 22.1 +0.8**
comp=Z,1.5nm,0.5s,baz=71,slow=7.6,SNR=6.1
comp=Z,1.5nm,0.5s
BOSA Boshof 63.41 178 P **P** **23 24 31.3 +1.1**
BOSA Boshof 63.41 178 P **P** **23 24 31.3 +1.1**
BOSA pmax pmax
comp=Z,13nm,1.4s
BOSA Boshof 63.41 178 P **P** **23 24 31.1 +0.9**
comp=Z,2.8nm,0.8s,baz=10,slow=6.8,SNR=7.5
comp=Z,2.8nm,0.8s
PZH PanZhiHua 66.50 73 P **P** **23 24 51.8 +1.2**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.3s
YAK Yakutsk 66.76 29⇑ *e*P **P** **23 24 50.6 -0.8**
YAK pmax pmax
comp=Z,12nm,0.6s
HHC Hu-ho-hao-te 67.07 55 *e*P **P** **23 24 54.8 +0.8**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,590nm,4.8s
CMAR Chiang Mai Arr 68.26 82 P **P** **23 25 00.0 -1.6**
comp=Z,2.2nm,0.3s,baz=301,slow=7.3,SNR=6.5
comp=Z,2.2nm,0.3s
CRAI Chiangrai 68.51 80 P **P** **23 25 02.5 -0.7**
CRAI IAmb IAmb 23 25 14.9
comp=Z,9.1nm,1.5s
ZEA Zeya 70.04 38 *e*P P 23 25 02.9 -9.2
ZEA pmax pmax
comp=Z,10.0nm,0.5s
A36M Sachs Harbour 70.92 350 P **P** **23 25 18.0 +0.9**
HEH HeiHe 72.01 41 *e*P **P** **23 25 23.4 -0.7**
CN2 Changchun 74.47 47 P **P** **23 25 38.3 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 74.91 40⇑ *e*P **P** **23 25 40.7 -0.5**
KLR pmax pmax
comp=Z,37nm,3.1s
USA0B Ussuriysk Arra 78.07 44 P **P** **23 25 59.0 -0.2**
USA0B Ussuriysk Arra 78.07 44 P **P** **23 25 59.0 -0.2**
USRK Ussuriysk Ar. 78.07 44 P **P** **23 25 58.3 -0.8**
USRK Ussuriysk Ar. 78.07 44 P **P** **23 25 58.3 -0.8**
USRK Ussuriysk Ar. 78.07 44 P **P** **23 25 58.9 -0.3**
comp=Z,3.9nm,0.7s,baz=303,slow=4.3,SNR=13
comp=Z,3.9nm,0.7s
R53A Hurricane 79.27 309 P **P** **23 26 05.7 -0.2**
ULM Lac du Bonnet 79.39 325 P **P** **23 26 07.3 +1.0**
comp=Z,1.0nm,0.6s,baz=112,slow=20,SNR=1.7
comp=Z,1.0nm,0.6s
KSRS Korea Array 79.65 51 *e*P **P** **23 26 08.1 +0.1**
KSRS pmax pmax
comp=Z,2.0nm,0.4s
KSRS Korea Array 79.65 51 P **P** **23 26 07.8 -0.2**
comp=Z,1.7nm,0.5s,baz=309,slow=4.1,SNR=8.8
comp=Z,1.7nm,0.5s
ECSD EROS Data Cent 84.27 321 P **P** **23 26 32.6 +0.4**
ECSD IAmb IAmb 23 26 36.5
comp=Z,5.0nm,1.1s
PLCA Paso Flores 114.31 236 PKP PKPdf 23 32 35.3 -4.6
comp=Z,1.4nm,0.8s,baz=148,slow=4.4,SNR=2.9
WRA Warramunga Arr 118.27 95 PKP **PKPdf** **23 32 47.6 -0.4**
comp=Z,0.5nm,0.6s,baz=315,slow=1.5,SNR=4.6
ASAR Alice Springs 119.71 99 PKP **PKPdf** **23 32 50.5 -0.3**
comp=Z,0.3nm,0.3s,baz=315,slow=1.4,SNR=2.5

LJU 23 23:16:53.8, 46.39N×15.07E, h0km, ML0.3, 1D,
Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAVS	**Zavodnje**	**0.05**	**325**	*i*Pg	Pg	23 16 54.7	-0.1
PERS	**Pernice**	**0.25**	**7**	*e*Pg	Pg	23 16 58.3	-0.3
PERS				IAML		23 17 06.4	
comp=Z,7.6nm,0.3s							
GROS	**Grobnik**	**0.31**	**76**	*e*Pg	Pg	23 17 00.8	+1.1
GROS				IAML		23 17 16.2	
comp=Z,2.6nm,0.2s							

*NEIC **23** 23:21:22.7±1.6, 56.60N±0.06×148.14W±0.10, h10km±1km, mb5.2/470, ML5.5/72, Ms_20 4.8/120, Mwr5.1/101, Mww5.3/15, ML5.3(AEIC), Error ellipse: s-maj=10.8km s-min=9.0km az=190.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 2.74; Mθθ-5.25; Mφφ 2.52; Mrθ-0.10; Mθφ 2.03; Mφr-2.19; Fault plane solution: M0 5.45000×10^16 NP1: φs 247.47000°, δ 58.51000°, λ 31.59000°. NP2: φs 139.67000°, δ 63.47000°, λ 144.28000°. Principal axes: T 5.0423, Plg 43.0000°, Azm 102.0000°; N 0.7349, Plg 47.0000°, Azm 288.0000°; P -5.7772, Plg 3.0000°, Azm 195.0000°;*
*NEIC **23** 23:21:22.8, 56.60N×148.09W, h10km*
*MOS **23** 23:21:24.1±1.0, 56.66N×148.14W, h26km, mb5.2/57, MS4.6/11, Error ellipse: s-maj=10.0km s-min=4.0km az=97.3*
*GCMT **23** 23:21:24.7±0.4, 56.53N±0.03×148.12W±0.03, h37km±1km, MW5.3/96, Moment Tensor Solution. s23,c25; s96,c130; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.75±.11; Mθθ-1.17±.06; Mφφ 0.42±.06; Mrθ-0.12±.05; Mθφ 0.49±.03; Mφr-0.61±.05; Best double couple: M0 1.29400×10^17 NP1: φs 139.00000°, δ 59.00000°, λ 139.00000°. NP2: φs 253.00000°, δ 56.00000°, λ 39.00000°. Principal axes: T 1.2800, Plg 50.0000°, Azm 104.0000°; N 0.0350, Plg 40.0000°, Azm 288.0000°; P -1.3090, Plg 2.0000°, Azm 196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 23:21:25.8, 56.61N×148.13W, h36km*
*NEIC **23** 23:21:25.8, 56.31N×147.95W, h36km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17 Nm; Mrr 0.63; Mθθ-0.88; Mφφ 0.26; Mrθ-0.20; Mθφ 0.43; Mφr-0.51; Fault plane solution: M0 1.05000×10^17 NP1: φs 256.29000°, δ 57.52000°, λ 41.67000°. NP2: φs 140.75000°, δ 55.88000°, λ 139.56000°. Principal axes: T 1.0715, Plg 51.0000°, Azm 109.0000°; N -0.0430, Plg 39.0000°, Azm 287.0000°; P -1.0286, Plg 1.0000°, Azm 18.0000°;*
*IDC **23** 23:21:27.4±1.8, 56.61N×148.16W, h38km±14km, mb4.5/36, mbtmp4.7/39, ML5.2/5, MS4.5/53 Error ellipse: s-maj=13.7km s-min=9.0km az=30.0*
*AEIC **23** 23:21:28.1±1.6, 56.61N±0.06×148.16W±0.09, h10km±2km, Error ellipse: s-maj=9.8km s-min=6.1km az=203.0*
*BGR **23** 23:21:37.8, 57.66N×154.99W, h33km, mb4.7*
ISC 23 23:21:23.2±0.6, **56.55N**±0.04×**148.07W**±0.03, **h14**km±3km, **h14**km:**pP-P, n1371**, **s1936**/1164, **mb5.1**/321, **MS4.7**/120, **24C-31D, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.75**	**298**	Pn	**Pn**	**23 22 06.3**	**-0.6**
KDAK				Sn	**Sn**	**23 22 36.0**	**-3.8**
KDAK	**Kodiak Island**	**2.75**	**298**	P	**Pn**	**23 22 06.3**	**-0.6**
baz=115							
KDAK				S	**Sn**	**23 22 36.5**	**-3.4**
baz=115							
KDAK	**Kodiak Island**	**2.75**	**298**	Pn	**Pn**	**23 22 05.9**	**-0.9**
256nm,0.3s,baz=143,slow=5.3,SNR=443							
KDAK				Sn	**Sn**	**23 22 36.1**	**-3.8**
286nm,0.3s,baz=114,slow=8.6,SNR=7.3							
KDAK				LR		23 23 19.1	
comp=Z,13μm,21.0s,baz=32,slow=42							
1μm,0.4s							
OHAK	**Old Harbor**	**2.94**	**285**	Pn	**Pn**	**23 22 08.4**	**-1.1**
OHAK				Sn	**Sn**	**23 22 39.7**	**-4.9**
OHAK	**Old Harbor**	**2.94**	**285**	P	**Pn**	**23 22 08.6**	**-0.9**
OHAK	**Old Harbor**	**2.94**	**285**	P	**Pn**	**23 22 08.5**	**-1.1**
baz=101,SNR=148							
OHAK				S	**Sn**	**23 22 40.1**	**-4.5**
baz=101							
MID	**Middleton Isla**	**3.02**	**17**	Pn	**Pn**	**23 22 10.2**	**-0.4**
MID				Sn	**Sn**	**23 22 43.3**	**-3.3**
MID	**Middleton Isla**	**3.02**	**17**	P	**Pn**	**23 22 10.6**	**0.0**
Q23K	**Middleton Isla**	**3.02**	**17**	Pn	**Pn**	**23 22 10.0**	**-0.6**
Q23K				Sn	**Sn**	**23 22 43.5**	**-3.1**
Q23K	**Middleton Isla**	**3.02**	**17**	P	**Pn**	**23 22 10.4**	**-0.2**
baz=199,SNR=69							
Q23K				S	**Sn**	**23 22 43.9**	**-2.7**
baz=199							
SYI	**Shuyak Island**	**3.11**	**313**	Pn	**Pn**	**23 22 10.9**	**-0.9**
SYI				Sn	**Sn**	**23 22 45.0**	**-3.7**
SYI				IAML		23 22 46.8	
comp=E,9μm,0.4s							
SYI				IAML		23 22 47.2	
comp=N,11μm,0.6s							
Q20K	**Shuyak Island**	**3.11**	**313**	P	**Pn**	**23 22 11.4**	**-0.4**
baz=130,SNR=97							
Q20K				S	**Sn**	**23 22 45.4**	**-3.4**
baz=130							
CNPM	**China Poot**	**3.42**	**332**	Pn	**Pn**	**23 22 15.1**	**-1.0**
CNPM					**Sn**	**23 22 53.0**	**-3.5**
CNPM				IAML		23 22 55.0	
comp=N,7μm,0.6s							
P23K	**Montague Islan**	**3.47**	**6**		**Pn**	**23 22 16.6**	**-0.1**
P23K					**Sn**	**23 22 54.7**	**-3.0**
P23K	**Montague Islan**	**3.47**	**6**	P	**Pn**	**23 22 16.8**	**0.0**
baz=187,SNR=179							
P23K				S	**Sn**	**23 22 54.6**	**-3.0**
baz=187							
BRSE	**Bradley Lake S**	**3.50**	**337**		**Pn**	**23 22 16.5**	**-0.7**
BRSE					**Sn**	**23 22 55.4**	**-2.9**
BRSE	**Bradley Lake S**	**3.50**	**337**	P	**Pn**	**23 22 16.6**	**-0.5**
baz=155,SNR=237							
BRSE				S	**Sn**	**23 22 54.5**	**-3.8**
baz=155							
BRLK	**Bradley Lake**	**3.55**	**336**	Pn	**Pn**	**23 22 16.6**	**-1.2**
BRLK				IAML		23 22 59.3	
comp=E,7μm,0.6s							
R18K	**Karluk**	**3.63**	**289**		**Pn**	**23 22 18.5**	**-0.5**
comp=N,13μm,0.5s							
R18K				IAML		23 23 02.4	
comp=E,12μm,0.4s							
R18K	**Karluk**	**3.63**	**289**	P	**Pn**	**23 22 18.7**	**-0.3**
baz=103							
SEW	**Seward**	**3.63**	**349**		**Pn**	**23 22 18.2**	**-0.8**
SEW	**Seward**	**3.63**	**349**	P	**Pn**	**23 22 18.2**	**-0.8**
baz=168,SNR=247							
SEW				S	**Sn**	**23 22 57.4**	**-4.2**
baz=168							
HOM	**Homer**	**3.65**	**330**	Pn	**Pn**	**23 22 18.7**	**-0.4**
HOM				Sn	**Sn**	**23 22 59.7**	**-2.2**
HOM				IAML		23 23 05.4	
comp=N,15μm,0.4s							
HOM				IAML		23 23 10.1	
comp=E,18μm,0.7s							
HOM	**Homer**	**3.65**	**330**	P	**Pn**	**23 22 19.4**	**+0.2**
baz=147,SNR=25							
Q19K	**Cape Douglas,**	**3.82**	**311**	Pn	**Pn**	**23 22 21.2**	**-0.5**
Q19K				IAML		23 23 09.7	
comp=E,14μm,0.6s							
Q19K	**Cape Douglas,**	**3.82**	**311**	P	**Pn**	**23 22 21.5**	**-0.1**
baz=126,SNR=175							
KAIM	**Kayak Island**	**3.89**	**28**	Pn	**Pn**	**23 22 22.4**	**-0.1**
KAIM				IAML		23 23 12.6	
comp=N,6μm,0.5s							
KAIM				IAML		23 23 13.2	
comp=E,6μm,0.6s							
KAIM	**Kayak Island**	**3.89**	**28**	P	**Pn**	**23 22 23.1**	**+0.6**
baz=212,SNR=88							
HIN	**Hinchinbrook I**	**3.94**	**11**	Pn	**Pn**	**23 22 23.2**	**0.0**
HIN				IAML		23 23 10.6	
comp=E,9μm,0.5s							
AU22	**Augustine Moun**	**3.99**	**317**		**Pn**	**23 22 23.9**	**0.0**
KAHG	**Katmai Hook Gl**	**4.00**	**302**		**Pn**	**23 22 24.4**	**+0.3**
AUCH	**Augustine Cone**	**4.02**	**317**		**Pn**	**23 22 24.5**	**+0.2**
AUL	**Augustine Lava**	**4.03**	**317**		**Pn**	**23 22 24.6**	**+0.2**
O22K	**Cooper Landing**	**4.03**	**348**	Pn	**Pn**	**23 22 23.2**	**-1.3**
O22K	**Cooper Landing**	**4.03**	**348**	P	**Pn**	**23 22 23.8**	**-0.7**
baz=167,SNR=204							
SLKM	**Skilak Lake**	**4.12**	**345**		**Pn**	**23 22 25.1**	**-0.6**
P19K	**Oil Pt**	**4.14**	**321**	Pn	**Pn**	**23 22 25.8**	**-0.3**
P19K	**Oil Pt**	**4.14**	**321**	P	**Pn**	**23 22 26.2**	**+0.2**
baz=137,SNR=74							
EYAK	**Cordova Ski Ar**	**4.19**	**16**		**Pn**	**23 22 27.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.19**	**16**	P	**Pn**	**23 22 26.9**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.19**	**16**	P	**Pn**	**23 22 27.0**	**+0.5**
baz=198,SNR=550							
EYAK				S	**Sn**	**23 23 12.4**	**-2.8**
baz=198							
RAGM	**Ragged Mountai**	**4.24**	**23**	Pn	**Pn**	**23 22 27.2**	**-0.1**
RAGM				IAML		23 23 21.0	
comp=E,6μm,0.5s							
ACHA	**Angle Creek He**	**4.27**	**296**		**Pn**	**23 22 28.3**	**+0.5**
O20K	**Slope Mountain**	**4.28**	**328**		**Pn**	**23 22 27.4**	**-0.5**
O20K	**Slope Mountain**	**4.28**	**328**	P	**Pn**	**23 22 27.7**	**-0.2**
baz=144,SNR=30							
O20K				S	**Sn**	**23 23 16.3**	**-1.3**
baz=144							
IVE	**Iliamna Volcan**	**4.34**	**325**		**Pn**	**23 22 28.1**	**-0.7**
ANCK	**Angle Creek**	**4.35**	**295**		**Pn**	**23 22 29.5**	**+0.7**
GOAT	**Goat Mountain**	**4.40**	**22**		**Pn**	**23 22 30.2**	**+0.7**
BERG	**Berg Lake**	**4.48**	**29**		**Pn**	**23 22 30.6**	**-0.1**
BERG				IAML		23 23 22.3	
comp=N,8μm,0.3s							
CAPN	**Captain Cook N**	**4.52**	**340**	Pn	**Pn**	**23 22 31.7**	**+0.5**
CAPN	**Captain Cook N**	**4.52**	**340**	P	**Pn**	**23 22 32.0**	**+0.8**
baz=158,SNR=42							
SNH	**Sunshine Point**	**4.56**	**35**		**Pn**	**23 22 32.7**	**+1.0**
SNH	**Sunshine Point**	**4.56**	**35**	IAML		23 23 33.8	
comp=E,3μm,0.6s							
CNTC	**Contact Creek**	**4.56**	**295**		**Pn**	**23 22 32.2**	**+0.3**
Q17K	**Contact Creek**	**4.56**	**295**	P	**Pn**	**23 22 32.3**	**+0.5**
baz=109,SNR=407							
RED	**Redoubt Volcan**	**4.59**	**329**		**Pn**	**23 22 31.3**	**-1.0**
CYK	**Cape Yakataga**	**4.60**	**37**		**Pn**	**23 22 33.1**	**+0.9**
PLK3	**Peulik 3**	**4.61**	**288**		**Pn**	**23 22 32.4**	**-0.1**
RDSO	**Redoubt South**	**4.62**	**330**		**Pn**	**23 22 31.5**	**-1.1**
RDT	**Redoubt**	**4.63**	**332**		**Pn**	**23 22 31.6**	**-1.1**
RC01	**Rabbit Creek A**	**4.63**	**350**	Pn	**Pn**	**23 22 32.0**	**-0.7**
RC01	**Rabbit Creek A**	**4.63**	**350**	P	**Pn**	**23 22 32.5**	**-0.2**
baz=169,SNR=422							
RC01				S	**Sn**	**23 23 22.5**	**-3.7**
baz=169							
RDWB	**Redoubt West**	**4.67**	**330**		**Pn**	**23 22 32.3**	**-1.1**
DFR	**Drift River**	**4.72**	**331**		**Pn**	**23 22 32.8**	**-1.2**
FIS	**Fire Island**	**4.74**	**347**	Pn	**Pn**	**23 22 34.4**	**+0.2**
DIV	**Divide**	**4.74**	**14**		**Pn**	**23 22 34.5**	**+0.3**
RDJH	**Redoubt Jeurge**	**4.75**	**330**		**Pn**	**23 22 33.5**	**-1.0**
NCT	**North Crescent**	**4.76**	**330**		**Pn**	**23 22 33.5**	**-1.0**
P18K	**Big Mountain,**	**4.76**	**310**		**Pn**	**23 22 33.4**	**-1.1**
P18K	**Big Mountain,**	**4.76**	**310**	P	**Pn**	**23 22 33.6**	**-0.9**
baz=124,SNR=110							
P18K				S	**Sn**	**23 23 24.3**	**-5.1**
baz=124							
BMRM	**Bremner River**	**4.78**	**21**		**Pn**	**23 22 35.2**	**+0.5**
BMRM	**Bremner River**	**4.78**	**21**	P	**Pn**	**23 22 35.3**	**+0.5**
baz=204,SNR=528							
PLK1	**Peulik 1**	**4.81**	**289**		**Pn**	**23 22 35.3**	**+0.1**
BARK	**Barkley Ridge**	**4.84**	**35**		**Pn**	**23 22 36.5**	**+0.8**
KNK	**Knik Glacier**	**4.88**	**358**	Pn	**Pn**	**23 22 35.3**	**-0.8**
KNK				IAML		23 23 31.5	
comp=E,3μm,0.6s							
KNK				IAML		23 23 38.0	
comp=N,3μm,0.6s							
KNK	**Knik Glacier**	**4.88**	**358**	P	**Pn**	**23 22 35.9**	**-0.3**
baz=178,SNR=152							
KNK				S	**Sn**	**23 23 28.1**	**-4.2**
baz=178							
PLBL	**Peulik Blue Cr**	**4.91**	**287**		**Pn**	**23 22 36.6**	**+0.1**
O19K	**Port Alsworth**	**4.92**	**321**	P	**Pn**	**23 22 35.9**	**-0.6**
baz=136,SNR=75							
O18K	**Koktuh Hills**	**5.02**	**314**		**Pn**	**23 22 37.2**	**-0.9**
O18K	**Koktuh Hills**	**5.02**	**314**	IAML		23 23 47.0	
comp=N,3μm,0.7s							
O18K	**Koktuh Hills**	**5.02**	**314**	P	**Pn**	**23 22 37.1**	**-0.9**
baz=128,SNR=90							
KLU	**Klutina**	**5.08**	**12**		**Pn**	**23 22 39.2**	**+0.4**
KLU	**Klutina**	**5.08**	**12**	IAML		23 23 36.5	
comp=N,2μm,0.6s							
KLU				IAML		23 23 36.8	
comp=E,2μm,0.5s							
KLU	**Klutina**	**5.08**	**12**	P	**Pn**	**23 22 39.6**	**+0.7**
baz=194,SNR=1000							
PMR	**Palmer**	**5.08**	**354**		**Pn**	**23 22 38.6**	**-0.2**
PMR	**Palmer**	**5.08**	**354**	IAML		23 23 34.8	
comp=E,3μm,0.7s							
PMR				IAML		23 23 35.4	
comp=N,2μm,0.6s							
PMR	**Palmer**	**5.08**	**354**	P	**Pn**	**23 22 38.7**	**-0.2**
PMR	**Palmer**	**5.08**	**354**	P	**Pn**	**23 22 38.6**	**-0.2**
baz=174,SNR=545							
PMR				S	**Sn**	**23 23 33.2**	**-4.1**
baz=174							
PMR	**Palmer**	**5.08**	**354**	P	**Pn**	**23 22 38.6**	**-0.2**
Q16K	**King Salmon**	**5.08**	**298**		**Pn**	**23 22 38.8**	**-0.1**
Q16K	**King Salmon**	**5.08**	**298**	P	**Pn**	**23 22 39.1**	**+0.2**
baz=111,SNR=176							
SUA	**Susitna One**	**5.12**	**345**		**Pn**	**23 22 38.6**	**-0.9**
SUA	**Susitna One**	**5.12**	**345**	IAML		23 23 36.1	
comp=N,4μm,0.6s							
SUA				IAML		23 23 37.0	
comp=E,2μm,0.7s							
SUA	**Susitna One**	**5.12**	**345**	P	**Pn**	**23 22 38.8**	**-0.6**
baz=164,SNR=187							
N20K	**Mount Spurr**	**5.13**	**337**	P	**Pn**	**23 22 38.8**	**-0.8**
baz=154,SNR=126							
SPCR	**Spurr Chakacha**	**5.13**	**337**		**Pn**	**23 22 38.7**	**-0.9**
SPCG	**Spurr Capps Gl**	**5.17**	**338**		**Pn**	**23 22 39.6**	**-0.6**
P17K	**Kvichak River**	**5.19**	**304**	P	**Pn**	**23 22 40.2**	**-0.2**
baz=117,SNR=456							
SAMH	**Samovar Hills**	**5.25**	**44**		**Pn**	**23 22 42.7**	**+1.4**
GHO	**Glory Hole Cre**	**5.25**	**356**	Pn	**Pn**	**23 22 41.0**	**-0.3**
GHO				IAML		23 23 40.3	
comp=E,4μm,0.7s							
M23K	**Glacier View**	**5.26**	**2**		**Pn**	**23 22 41.8**	**+0.5**
M23K	**Glacier View**	**5.26**	**2**	P	**Pn**	**23 22 42.1**	**+0.7**
baz=182,SNR=667							
VRDI	**Verde Repeater**	**5.26**	**25**		**Pn**	**23 22 41.7**	**+0.2**
SML	**Sawmill**	**5.27**	**359**	Pn	**Pn**	**23 22 41.7**	**+0.1**
SML				IAML		23 23 41.2	
comp=E,5μm,0.6s							
SML				IAML		23 23 43.0	
comp=N,4μm,1.0s							

SML	Sawmill	5.27	359		P		Pn	23 22 42.0 +0.5	R31K	City Hall, Gus	6.90	69		P		Pn	23 23 04.7 +0.9	CRAG	Craig	8.45	91		P		Pn	23 23 23.0 -2.0
	baz=179,SNR=561									baz=260,SNR=21										baz=284,SNR=9.8									
R16K	Pilot Point	5.29	285				Pn	23 22 41.1 -0.5	L26K	Log Cabin Wild	6.91	18				Pn	23 23 05.0 +1.0	CRAG	Craig	8.45	91		P		Pn	23 23 22.7 -2.3
R16K	Pilot Point	5.29	285		IAML			23 23 46.6	L26K	Log Cabin Wild	6.91	18		P		Pn	23 23 05.2 +1.2		baz=284,SNR=9.8									
	comp=E,2µm,0.9s									baz=203,SNR=240								L15K	Ungalak Mounta	8.60	312				Pn	23 23 26.4 -0.7
R16K					IAML			23 23 58.4	BVCY	Beaver Creek	6.92	29				Pn	23 23 05.6 +1.4	L15K	Ungalak Mounta	8.60	312		P		Pn	23 23 26.8 -0.3
	comp=N,2µm,0.7s								BVCY	Beaver Creek	6.92	29		P		Pn	23 23 05.7 +1.5		baz=121									
R16K	Pilot Point	5.29	285		P		Pn	23 22 41.2 -0.5		baz=216,SNR=216								POKR	Poker Plat Res	8.60	2				Pn	23 23 26.9 -0.2
	baz=97								HYT	Haines Junctio	6.97	48		P		Pn	23 23 06.6 +1.7	POKR	Poker Plat Res	8.60	2		P		Pn	23 23 27.2 +0.1
KIAG	Kiagna River	5.29	32				Pn	23 22 42.5 +0.6		baz=237,SNR=194									baz=183,SNR=110									
SCM	Sheep Creek Mo	5.31	4				Pn	23 22 42.9 +0.8	TRF	Thorofare Moun	7.01	352				Pn	23 23 05.8 +0.3	MLY	Manley	8.61	352				Pn	23 23 26.6 -0.6
SCM	Sheep Creek Mo	5.31	4	IAML				23 23 43.3	TRF	Thorofare Moun	7.01	352		P		Pn	23 23 05.8 +0.3	MLY	Manley	8.61	352		P		Pn	23 23 26.6 -0.6
	comp=E,3µm,0.6s									baz=170,SNR=236									baz=170,SNR=244									
SCM					IAML			23 23 48.1	SIT	Sitka	7.02	81		Pn		Pn	23 23 03.2 -2.2	I23K	Minto, Yukon-K	8.65	356				Pn	23 23 27.6 -0.1
	comp=N,3µm,0.7s								SIT	Sitka	7.02	81		P		Pn	23 23 03.5 -1.9	I23K	Minto, Yukon-K	8.65	356		P		Pn	23 23 27.7 0.0
SCM	Sheep Creek Mo	5.31	4		P		Pn	23 22 42.9 +0.8	SIT	Sitka	7.02	81		P		Pn	23 23 03.4 -1.9		baz=176,SNR=197									
	baz=185,SNR=347									baz=272,SNR=27								DAWY	Dawson	8.67	26				Pn	23 23 28.9 +0.8
SCM	Sheep Creek Mo	5.31	4		P		Pn	23 22 42.9 +0.8	SIT	Sitka	7.02	81		P		Pn	23 23 03.2 -2.2	DAWY	Dawson	8.67	26		P		Pn	23 23 29.0 +0.8
STLK	Strandline Lak	5.33	340				Pn	23 22 41.9 -0.4	SDPT	Sand Point	7.08	265		Pn		Pn	23 23 05.1 -1.1		baz=214,SNR=140									
YKU2	Yakutat	5.36	53		Pn		Pn	23 22 43.3 +0.7	SDPT	Sand Point	7.08	265		P		Pn	23 23 06.2 0.0	WRAK	Wrangell Islan	8.70	84				Pn	23 23 27.5 -1.0
YKU2					IAML			23 23 47.3	SDPT	Sand Point	7.08	265		P		Pn	23 23 06.1 -0.1	WRAK	Wrangell Islan	8.70	84		P		Pn	23 23 27.4 -1.0
	comp=N,4µm,0.4s									baz=75,SNR=34									baz=278,SNR=21									
YKU2	Yakutat	5.36	53		P		Pn	23 22 44.4 +1.8	KTH	Kantishna Hill	7.17	350				Pn	23 23 07.6 +0.1	Q32M	Nakina River	8.78	68				Pn	23 23 31.0 +1.2
GLB	Gilahina Butte	5.37	22				Pn	23 22 43.4 +0.5	CAST	Castle Rocks	7.17	345				Pn	23 23 07.2 -0.4	Q32M	Nakina River	8.78	68		P		Pn	23 23 31.1 +1.2
N25K	Chitina, Valde	5.37	18				Pn	23 22 43.6 +0.6	CAST	Castle Rocks	7.17	345		P		Pn	23 23 07.3 -0.3		baz=261,SNR=37									
N25K	Chitina, Valde	5.37	18	IAML				23 23 45.5		baz=162,SNR=288								P33M	Teslin, Yukon	8.80	59				Pn	23 23 31.2 +1.2
	comp=N,2µm,0.6s								L18K	Granite Mounta	7.18	326				Pn	23 23 06.7 -1.0	P33M	Teslin, Yukon	8.80	59		P		Pn	23 23 31.2 +1.2
N25K					IAML			23 23 46.0	L18K	Granite Mounta	7.18	326		P		Pn	23 23 06.5 -1.2		baz=252,SNR=432									
	comp=E,2µm,0.8s									baz=139,SNR=44								FALS	False Pass	8.84	265				Pn	23 23 29.9 -0.5
N25K	Chitina, Valde	5.37	18		P		Pn	23 22 43.7 +0.8	M16K	Timber Creek	7.21	313		P		Pn	23 23 07.9 -0.3	FALS	False Pass	8.84	265		P		Pn	23 23 29.8 -0.5
	baz=201,SNR=821									baz=124,SNR=126								I20K	Naaghedeneel	8.84	342				Pn	23 23 29.1 -1.3
N19K	Bonanza Creek	5.42	325				Pn	23 22 42.7 -0.9	MCK	McKinley	7.21	357				Pn	23 23 08.7 +0.5	I20K	Naaghedeneel	8.84	342		P		Pn	23 23 29.9 -0.5
N19K	Bonanza Creek	5.42	325	IAML				23 23 45.8	MCK	McKinley	7.21	357		P		Pn	23 23 09.0 +0.8		baz=156									
	comp=N,2µm,0.6s									baz=176,SNR=534								I21K	Tanana	8.86	349		P		Pn	23 23 30.8 +0.1
N19K					IAML			23 23 47.0	MCK	McKinley	7.21	357		P		Pn	23 23 08.7 +0.5		baz=166,SNR=202									
	comp=E,3µm,0.6s								L27K	Beaver Creek,	7.24	23		Pn		Pn	23 23 08.3 -0.2	M13K	Dall Lake	8.89	302				Pn	23 23 31.5 +0.5
N19K	Bonanza Creek	5.42	325		P		Pn	23 22 42.8 -0.9	L27K	Beaver Creek,	7.24	23		P		Pn	23 23 09.2 +0.6	M13K	Dall Lake	8.89	302		P		Pn	23 23 31.4 +0.4
	baz=139,SNR=77									baz=209									baz=109,SNR=19									
PCA	Pinnacle	5.43	46				Pn	23 22 44.9 +1.1	N15K	Kwethluk River	7.29	305				Pn	23 23 09.3 +0.2	EGAK	Eagle	8.91	19		P		Pn	23 23 32.2 +0.8
PINM	Pinnacle	5.44	46		P		Pn	23 22 44.9 +1.1	N15K	Kwethluk River	7.29	305		P		Pn	23 23 09.2 +0.1		baz=206,SNR=86									
	baz=233,SNR=150									baz=115								L14K	Kuka Creek	8.94	308				Pn	23 23 31.5 -0.3
PTPK	Patty Peak	5.48	30				Pn	23 22 45.4 +0.9	K24K	Donnelly Dome	7.36	8				Pn	23 23 11.1 +0.9	L14K	Kuka Creek	8.94	308		P		Pn	23 23 31.7 -0.1
MCARA	McCarthy VSAT	5.50	26				Pn	23 22 45.3 +0.7	K24K	Donnelly Dome	7.36	8		P		Pn	23 23 11.0 +0.8		baz=116,SNR=101									
MCARA	McCarthy VSAT	5.50	26		P		Pn	23 22 45.3 +0.7		baz=190,SNR=275								K15K	Wolf Creek Mou	8.94	316				Pn	23 23 31.1 -0.7
	baz=211,SNR=275								SKAG	Skagway	7.37	61				Pn	23 23 11.6 +1.5	K15K	Wolf Creek Mou	8.94	316		P		Pn	23 23 31.6 -0.2
PNL	Peninsula	5.55	52				Pn	23 22 46.3 +1.0	SKAG	Skagway	7.37	61		P		Pn	23 23 11.8 +1.6		baz=124									
PNL	Peninsula	5.55	52		P		Pn	23 22 46.4 +1.0	SKAG	Skagway	7.37	61		P		Pn	23 23 11.7 +1.5	M31M	Drury Creek, Y	8.97	45		Pn		Pn	23 23 33.7 +1.4
BCPM	Bancas Point	5.61	49		Pn		Pn	23 22 46.6 +0.6		baz=252,SNR=118								M31M	Drury Creek, Y	8.97	45		P		Pn	23 23 34.6 +2.3
BARN	Barnard Glacie	5.61	34				Pn	23 22 47.3 +0.9	RIDG	Independent Ri	7.38	11				Pn	23 23 11.4 +0.9		baz=237,SNR=389									
CTG	Chitna Glacier	5.64	36		P		Pn	23 22 47.6 +0.9	RIDG	Independent Ri	7.38	11		P		Pn	23 23 11.5 +1.0	K29M	Barlow Dome	8.99	31				Pn	23 23 33.9 +1.4
	baz=222									baz=194,SNR=536								K29M	Barlow Dome	8.99	31		P		Pn	23 23 33.9 +1.4
CTGM	Chitina Glacie	5.64	36				Pn	23 22 47.4 +0.7	BESE	Bessie Mountai	7.39	69				Pn	23 23 11.4 +0.8		baz=221,SNR=220									
LOGN	Logan Glacier	5.65	38				Pn	23 22 47.5 +0.8	S32K	Killisnoo	7.42	77		P		Pn	23 23 10.3 -0.7	N32M	Quiet Lake	9.02	53				Pn	23 23 34.2 +1.3
M24K	Tolsona, Glenn	5.65	9				Pn	23 22 48.1 +1.3		baz=269,SNR=46								N32M	Quiet Lake	9.02	53		P		Pn	23 23 34.3 +1.3
M24K	Tolsona, Glenn	5.65	9		P		Pn	23 22 48.3 +1.5	K20K	Telida	7.46	339				Pn	23 23 10.5 -1.0		baz=246									
	baz=191,SNR=739								K20K	Telida	7.46	339		P		Pn	23 23 10.4 -1.0	ISLZ	Isanotski Laza	9.04	265				Pn	23 23 32.4 -0.8
SKT	Skwentna	5.72	343				Pn	23 22 47.2 -0.5		baz=154								PRP	Porcupine Dome	9.08	7				Pn	23 23 32.7 -1.1
SKT	Skwentna	5.72	343		P		Pn	23 22 47.3 -0.4	N30M	Aishikik Lake	7.50	44				Pn	23 23 13.3 +1.2	PRP	Porcupine Dome	9.08	7		P		Pn	23 23 33.2 -0.5
	baz=161,SNR=150								N30M	Aishikik Lake	7.50	44		P		Pn	23 23 13.8 +1.7		baz=189,SNR=191									
CHGN	Chignik	5.75	272		Pn		Pn	23 22 47.3 -0.7		baz=234,SNR=476								I26K	Coal Creek Min	9.10	13				Pn	23 23 34.5 +0.6
CHGN	Chignik	5.75	272		P		Pn	23 22 47.8 -0.2	R32K	Eaglecrest	7.52	71				Pn	23 23 12.9 +0.6	I26K	Coal Creek Min	9.10	13		P		Pn	23 23 34.5 +0.6
	baz=83,SNR=36								R32K	Eaglecrest	7.52	71		P		Pn	23 23 13.2 +0.9		baz=198									
O17K	Koliganek Bris	5.77	308				Pn	23 22 47.4 -0.8		baz=263,SNR=37								SSLN	Shishaldin Nor	9.17	266				Pn	23 23 34.7 -0.3
O17K	Koliganek Bris	5.77	308		P		Pn	23 22 47.4 -0.8	O14K	Tigyukauivet M	7.53	297		P		Pn	23 23 12.8 +0.4	J16K	Anvik River	9.21	322		P		Pn	23 23 34.1 -1.4
	baz=120									baz=155,SNR=44									baz=132,SNR=34									
N18K	Kilae Creek	5.81	319				Pn	23 22 47.9 -1.1	O30N	Mendenhall	7.54	51				Pn	23 23 14.0 +1.4	GCSA	Galena City Sc	9.28	336		P		Pn	23 23 35.2 -1.2
N18K	Kilae Creek	5.81	319		P		Pn	23 22 47.9 -1.1	O30N	Mendenhall	7.54	51		P		Pn	23 23 14.1 +1.5		baz=148									
	baz=132									baz=242,SNR=180								J29N	Klondike Camp	9.28	27				Pn	23 23 37.7 +1.2
P16K	Nushagak River	5.86	299				Pn	23 22 49.7 +0.1	TTA	Tatalina	7.54	331				Pn	23 23 11.0 -1.7	J29N	Klondike Camp	9.28	27		P		Pn	23 23 37.8 +1.2
P16K	Nushagak River	5.86	299		P		Pn	23 22 49.8 +0.3	TTA	Tatalina	7.54	331		P		Pn	23 23 11.6 -1.1		baz=216,SNR=80									
	baz=111,SNR=182								TTA	Tatalina	7.54	331		P		Pn	23 23 11.3 -1.4	S34M	Telegraph Cree	9.28	75				Pn	23 23 37.4 +0.9
WAZA	Wrangell Mount	5.89	18				Pn	23 22 51.2 +1.0		baz=145,SNR=58								S34M	Telegraph Cree	9.28	75		P		Pn	23 23 37.5 +1.0
M20K	Styx River	5.94	336				Pn	23 22 50.1 -0.6	TTA	Tatalina	7.54	331		P		Pn	23 23 11.0 -1.7		baz=269,SNR=38									
M20K	Styx River	5.94	336		P		Pn	23 22 50.4 -0.4	JIS	Juneau Island	7.59	71				Pn	23 23 13.8 +0.6	MAYO	Mayo, Yukon	9.30	36		P		Pn	23 23 38.2 +1.4
	baz=152								JIS	Juneau Island	7.59	71		P		Pn	23 23 13.8 +0.6		baz=226,SNR=36									
CUT	Chulitna	5.97	350		Pn		Pn	23 22 50.9 -0.2	CHUM	Lake Minchumin	7.65	346				Pn	23 23 13.5 -0.6	V35K	Ketchikan	9.31	91		Pn		Pn	23 23 35.5 -1.4
CUT	Chulitna	5.97	350		P		Pn	23 22 51.4 +0.3	CHUM	Lake Minchumin	7.65	346		P		Pn	23 23 13.8 -0.2	V35K	Ketchikan	9.31	91		P		Pn	23 23 35.5 -1.4
	baz=169,SNR=40									baz=162,SNR=188									baz=284,SNR=11									
SVW2	Sparrevohn	6.00	323				Pn	23 22 50.2 -1.2	L17K	Donlin	7.65	321				Pn	23 23 12.9 -1.2	H24K	Noodor Dome	9.32	0				Pn	23 23 37.3 +0.3
SVW2	Sparrevohn	6.00	323		P		Pn	23 22 50.5 -1.0	L17K	Donlin	7.65	321		P		Pn	23 23 13.1 -1.0	H24K	Noodor Dome	9.32	0		P		Pn	23 23 38.4 +1.4
HARP	HAARP	6.05	13				Pn	23 22 53.5 +1.3		baz=133									baz=181,SNR=104									
HARP	HAARP	6.05	13		P		Pn	23 22 53.5 +1.3	M29M	Somme Creek	7.66	36				Pn	23 23 15.8 +1.5	FARO	Faro, Yukon	9.40	47		Pn		Pn	23 23 40.4 +2.2
	baz=196,SNR=742								M29M	Somme Creek	7.66	36		P		Pn	23 23 15.9 +1.5	FARO	Faro, Yukon	9.40	47		P		Pn	23 23 40.4 +2.2
WAT6	Susitna Watana	6.05	1				Pn	23 22 52.7 +0.4		baz=224									baz=240,SNR=173									
WAT6	Susitna Watana	6.05	1		P		Pn	23 22 52.8 +0.5	BWN	Browne	7.67	355		Pn		Pn	23 23 13.9 -0.6	H21K	Melozitna Rive	9.41	348		P		Pn	23 23 37.2 -1.0
	baz=182,SNR=493								BPAW	Bear Paw Mtn.	7.71	350				Pn	23 23 14.2 -0.7		baz=164,SNR=256									
O16K	Kokwok River B	6.13	304				Pn	23 22 52.7 -0.6	BPAW	Bear Paw Mtn.	7.71	350		P		Pn	23 23 14.5 -0.5	H22K	Ishtalitna Cre	9.51	352				Pn	23 23 39.0 -0.6
O16K	Kokwok River B	6.13	304		P		Pn	23 22 52.9 -0.4		baz=168,SNR=287								H22K	Ishtalitna Cre	9.51	352		P		Pn	23 23 38.9 -0.6
	baz=116,SNR=136								SCRK	Sand Creek	7.72	14				Pn	23 23 15.4 +0.3		baz=169,SNR=180									
N17K	Nushagak Hills	6.22	314				Pn	23 22 53.6 -0.9	SCRK	Sand Creek	7.72	14		P		Pn	23 23 15.4 +0.3	R33M	Jennings River	9.52	66				Pn	23 23 41.2 +1.4
N17K	Nushagak Hills	6.22	314		P		Pn	23 22 53.6 -0.9		baz=197,SNR=200								R33M	Jennings River	9.52	66		P		Pn	23 23 41.2 +1.4
	baz=126								PS1A	Pavlof South-1	7.76	267				Pn	23 23 15.3 -0.3		baz=260									
O29M	Mount Kennedy	6.24	49				Pn	23 22 56.5 +1.6	M15K	Kasigluk River	7.78	307				Pn	23 23 15.3 -0.6	H20K	Anotleneega Mo	9.55	343				Pn	23 23 39.1 -1.1
O29M	Mount Kennedy	6.24	49		P		Pn	23 22 56.5 +1.6	M15K	Kasigluk River	7.78	307		P		Pn	23 23 15.3 -0.6	H20K	Anotleneega Mo	9.55	343		P		Pn	23 23 39.5 -0.6
	baz=238,SNR=541									baz=117									baz=157,SNR=83									
M19K	Big River Lodg	6.27	331				Pn	23 22 54.3 -0.8	PVV	Pavlof Volcano	7.79	267				Pn	23 23 15.5 -0.6	DIB	Dawson Inlet,	9.59	104		Pn		Pn	23 23 39.6 -1.0
M19K	Big River Lodg	6.27	331		P		Pn	23 22 54.2 -1.0	L16K	Owhat River	7.81	316				Pn	23 23 15.3 -1.0	I27K	Kandik River	9.60	16				Pn	23 23 41.6 +0.8
	baz=146								L16K	Owhat River	7.81	316		P		Pn	23 23 15.4 -1.0	I27K	Kandik River	9.60	16		P		Pn	23 23 41.8 +1.0
P29M	Windy Craggy	6.28	56				Pn	23 22 56.0 +0.6		baz=126,SNR=55									baz=202,SNR=171									
P29M	Windy Craggy	6.28	56		P		Pn	23 22 56.4 +1.0	PS4A	Pavlof South-4	7.84	267				Pn	23 23 16.1 -0.6	I17K	Unalakleet	9.65	325				Pn	23 23 39.7 -1.8
	baz=246								PN7A	Pavlof North-7	7.89	268				Pn	23 23 16.9 -0.6	I17K	Unalakleet	9.65	325		P		Pn	23 23 40.4 -1.1
WAT1	Susitna Watana	6.30	358				Pn	23 22 56.2 +0.5	HDA	Harding Lake	7.90	4				Pn	23 23 18.0 +0.4		baz=134,SNR=30									
WAT1	Susitna Watana	6.30	358		P		Pn	23 22 56.2 +0.5	HDA	Harding Lake	7.90	4		P		Pn	23 23 18.1 +0.6	I28M	Miner Creek	9.75	20		P		Pn	23 23 43.7 +0.8
	baz=178									baz=185,SNR=226									baz=208,SNR=97									
WAT7	Susitna Watana	6.31	357				Pn	23 22 56.3 +0.5	N14K	Kuskokwak Cree	7.94	301				Pn	23 23 17.8 -0.2	T35M	Bob Quinn	9.79	80		P		Pn	23 23 44.9 +1.4
M18K	Stony River	6.37	324				Pn	23 22 54.9 -1.6	N14K	Kuskokwak Cree	7.94	301		P		Pn	23 23 17.8 -0.2		baz=275,SNR=18									
M18K	Stony River	6.37	324		P		Pn	23 22 55.3 -1.2		baz=109								H19K	Roundabout Mou	9.87	339		P		Pn	23 23 44.0 -0.4
	baz=138								WHY	Whitehorse	8.02	54				Pn	23 23 20.7 +1.5		baz=152									
S14K	Fog Glacier	6.38	272		P		Pn	23 22 56.9 0.0	WHY	Whitehorse	8.02	54		P		Pn	23 23 20.9 +1.7	J30M	Hart River	9.88	31		P		Pn	23 23 46.2 +1.4
	baz=83									baz=245,SNR=264									baz=221,SNR=118									
VNFG	Fog Glacier, M	6.38	272				Pn	23 22 56.8 0.0	N31M	Braeburn, Yuko	8.03	47				Pn	23 23 21.3 +2.0	DLBC	Dease Lake	9.89	72		P		Pn	23 23 46.4 +1.5
YUK8	Steele Glacier	6.40	39		P		Pn	23 22 59.4 +2.2	N31M	Braeburn, Yuko	8.03	47		P		Pn	23 23 21.4 +2.0		baz=267,SNR=84									
	baz=226,SNR=489									baz=238,SNR=396								DLBC	Dease Lake	9.89	72		Pn		Pn	23 23 46.4 +1.5
M26K	Nabesna, AK	6.41	22				Pn	23 22 57.6 +0.5	K17K	Iditarod	8.06	324		P		Pn	23 23 18.7 -1.0		comp=E,35nm,0.3s,baz=247,slow=11,SNR=173									
M26K	Nabesna, AK	6.41	22		P		Pn	23 22 57.8 +0.7		baz=136,SNR=99								DLBC						Sn		Sn	23 25 30.0 -5.6
	baz=206								K27K	Chicken	8.06	19				Pn	23 23 20.2 +0.5		comp=E,5.3nm,0.3s,baz=227,slow=9.1,SNR=1.6									
YUK3	Moose Creek	6.53	34		P		Pn	23 23 00.9 +1.9	K27K	Chicken	8.06	19		P		Pn	23 23 20.3 +0.5	DLBC						LR		LR	23 27 14.5
	baz=220,SNR=463									baz=205									comp=E,5µm,18.4s,baz=275,slow=35									
DHY	Denali Highway	6.55	3				Pn	23 22 60.0 +0.8	NEA2	Nenana	8.08	357				Pn	23 23 20.1 +0.1	H18K	Honhosa River	9.96	334		P		Pn	23 23 44.8 -1.0
DHY	Denali Highway	6.55	3		P		Pn	23 22 60.0 +0.8	NEA2	Nenana	8.08	357		P		Pn	23 23 19.9 -0.2		baz=145									
	baz=184,SNR=1000									baz=176,SNR=423								J14K	Nanvaranak Lak	9.98	315		P		Pn	23 23 45.8 -0.2
PAX	Paxson	6.57	10				Pn	23 22 59.8 +0.5	CCB	Clear Creek Bu	8.12	1				Pn	23 23 20.2 -0.4		baz=122,SNR=28									
PAX	Paxson	6.57	10		P		Pn	23 22 59.9 +0.5	DT1	Dutton Round H	8.13	266				Pn	23 23 20.1 -0.7	I29M	Ogilvie Camp,	10.01	24		P		Pn	23 23 47.3 +0.9
	baz=193,SNR=726								J18K	Innoko River	8.17	332				Pn	23 23 20.0 -1.2		baz=213,SNR=64									
PAX	Paxson	6.57	10		P		Pn	23 22 59.8 +0.5	J18K	Innoko River	8.17	332		P		Pn	23 23 20.0 -1.2	U35K	Hyder	10.06	86		Pn		Pn	23 23 45.8 -1.4
S31K	Pelican	6.57	73				Pn	23 22 58.9 -0.4		baz=144								U35K	Hyder	10.06	86		P		Pn	23 23 46.3 -0.9
S31K	Pelican	6.57	73		P		Pn	23 22 58.5 -0.8	P32M	Atlin	8.19	62				Pn	23 23 22.7 +1.1		baz=281,SNR=21									
	baz=263,SNR=233								P32M	Atlin	8.19	62		P		Pn	23 23 22.8 +1.2	G24K	Hadweenzic Riv	10.19	1		P		Pn	23 23 48.9 0.0
M27K	Edge Creek, AK	6.62	26				Pn	23 23 01.1 +1.0		baz=255,SNR=113									baz=182,SNR=216									
M27K	Edge Creek, AK	6.62	26		P		Pn	23 23 01.1 +1.0	J25K	Salcha River,	8.19	8				Pn	23 23 21.0 -0.6	H17K	Granite Mounta	10.19	330		P		Pn	23 23 47.7 -1.2
	baz=212								J25K	Salcha River,	8.19	8		P		Pn	23 23 21.1 -0.6		baz=140,SNR=81									
L19K	White Mountain	6.62	331				Pn	23 22 59.0 -1.1		baz=191,SNR=220								H27K	Steamboat Moun	10.20	15		P		Pn	23 23 49.4 +0.4
L19K	White Mountain	6.62	331		P		Pn	23 22 59.0 -1.1	J20K	Nowinta River	8.21	341				Pn	23 23 20.4 -1.4		baz=201									
	baz=146,SNR=151								J20K	Nowinta River	8.21	341		P		Pn	23 23 20.9 -1.0	M11K	Mekoryuk	10.23	300		P		Pn	23 23 50.6 +1.2
L20K	Farewell, AK	6.64	336				Pn	23 22 59.1 -1.1		baz=156,SNR=100									baz=104,SNR=6.0									
L20K	Farewell, AK	6.64	336		P		Pn	23 22 59.2 -1.0	L29M	L29M	8.25	33				Pn	23 23 23.8 +1.3	G23K	Bananza Creek	10.23	356		P		Pn	23 23 49.5 0.0
	baz=151,SNR=52								L29M	L29M	8.25	33		P		Pn	23 23 23.9 +1.5		baz=174									
PPLA	Purkeypile	6.69	344				Pn	23 23 01.3 +0.1		baz=222,SNR=255								G25K	Bearman Lake	10.29	4		P		Pn	23 23 50.4 +0.2
PPLA	Purkeypile	6.69	344		P		Pn	23 23 01.7 +0.6	ILAR	Eielson Array	8.27	4		Pn		Pn	23 23 22.1 -0.5		baz=186									
	baz=160,SNR=63									comp=E,32nm,0.3s,baz=182,slow=13,SNR=344								G21K	Allakaket	10.32	348		P		Pn	23 23 50.1 -0.6
YUK6	Outpost Mounta	6.69	45				Pn	23 23 03.5 +2.3	ILAR					Sn		Sn	23 24 50.0 -5.6		baz=163									
YUK6	Outpost Mounta	6.69	45		P		Pn	23 23 03.6 +2.4		comp=E,24nm,0.3s,baz=192,slow=23,SNR=16								RUBB	Prince Rupert	10.36	95		Pn		Pn	23 23 49.6 -1.7
	baz=234,SNR=894								ILAR					LR		LR	23 26 46.0	AKUT	Akutan	10.37	264		Pn		Pn	23 23 50.3 -1.0
CHNA	Chernabura Isl	6.74	260		P		Pn	23 23 00.9 -0.7		comp=E,4µm,20.7s,baz=184,slow=39								AKUT	Akutan	10.37	264		P		Pn	23 23 50.8 -0.5
	baz=

F21K	**Alatna River**	**11.00**	**349**	P		**Pn**	**23 24 00.1**	**+0.1**
	baz=164								
F24K	**Squaw Lake**	**11.01**	**0**	P		**Pn**	**23 24 01.0**	**+1.0**
	baz=181,SNR=326								
BMAR	**Burnt Mountain**	**11.03**	**7**	Pn		**Pn**	**23 24 00.3**	**-0.2**
F20K	**Avaraart Lake**	**11.12**	**344**	P		**Pn**	**23 24 00.9**	**-0.7**
	baz=158								
F25K	**Christian Rive**	**11.14**	**5**	P		**Pn**	**23 24 01.4**	**-0.5**
	baz=187								
F22K	**John River**	**11.16**	**352**	P		**Pn**	**23 24 01.6**	**-0.5**
	baz=168								
EPYK	**Eagle Plains**	**11.22**	**24**	P		**Pn**	**23 24 02.8**	**-0.1**
	baz=214,SNR=36								
G16K	**Koyuk River**	**11.23**	**328**	P		**Pn**	**23 24 02.0**	**-1.0**
	baz=136								
F19K	**Shaleruckik Mo**	**11.28**	**340**	P		**Pn**	**23 24 03.6**	**-0.1**
	baz=152								
TGTN	**Hyland Airport**	**11.32**	**56**	P		**Pn**	**23 24 06.4**	**+1.9**
	baz=253,SNR=175								
F26K	**Sheenjek River**	**11.33**	**8**	P		**Pn**	**23 24 04.4**	**0.0**
	baz=191								
G29M	**Pine Creek**	**11.41**	**20**	P		**Pn**	**23 24 06.3**	**+0.8**
	baz=209								
G15K	**Niukluk**	**11.48**	**324**	P		**Pn**	**23 24 05.8**	**-0.6**
	baz=130								
E23K	**Chandalar**	**11.57**	**357**	P		**Pn**	**23 24 07.3**	**-0.5**
	baz=176								
ANM	**Nome**	**11.66**	**321**	Pn		**Pn**	**23 24 08.4**	**-0.6**
ANM	**Nome**	**11.66**	**321**	P		**Pn**	**23 24 08.7**	**-0.4**
	baz=126,SNR=39								
ANM	**Nome**	**11.66**	**321**	P		**Pn**	**23 24 08.4**	**-0.6**
E25K	**Arctic Village**	**11.67**	**5**	P		**Pn**	**23 24 08.8**	**-0.3**
	baz=187,SNR=110								
F17K	**Baldwin Pennin**	**11.71**	**333**	P		**Pn**	**23 24 08.7**	**-0.9**
	baz=142								
F28M	**Old Crow**	**11.73**	**16**	P		**Pn**	**23 24 10.9**	**+1.0**
	baz=203,SNR=61								
E19K	**Redstone River**	**11.74**	**342**	P		**Pn**	**23 24 09.3**	**-0.8**
	baz=154								
G30M	**tAoh Zraii Nji**	**11.84**	**23**	P		**Pn**	**23 24 12.5**	**+1.1**
	baz=214,SNR=71								
E27K	**Coleen River**	**12.04**	**12**	P		**Pn**	**23 24 14.5**	**+0.3**
	baz=198,SNR=70								
F15K	**North Star Dit**	**12.14**	**326**	P		**Pn**	**23 24 14.3**	**-1.1**
	baz=131								
SPIA	**Saint Paul Isl**	**12.14**	**282**	P		**Pn**	**23 24 15.7**	**+0.1**
SPIA	**Saint Paul Isl**	**12.14**	**282**	P		**Pn**	**23 24 15.0**	**-0.6**
	baz=84,SNR=9.0								
G31M	**Satah River**	**12.24**	**26**	Pn		**Pn**	**23 24 17.1**	**+0.3**
G31M	**Satah River**	**12.24**	**26**	P		**Pn**	**23 24 17.6**	**+0.7**
	baz=219,SNR=111								
E20K	**Nigu River**	**12.32**	**346**	P		**Pn**	**23 24 17.6**	**-0.4**
	baz=159								
E17K	**Hotham Inlet**	**12.36**	**334**	P		**Pn**	**23 24 17.3**	**-1.2**
	baz=142,SNR=57								
BBB	**Bella Bella**	**12.41**	**102**	Pn		**Pn**	**23 24 18.0**	**-1.3**
	comp=E,2.7nm,0.3s,baz=289,slow=14,SNR=8.5								
BBB				Sn		**Sn**	**23 26 30.7**	**-6.6**
	comp=E,2.4nm,0.3s,baz=63,slow=16,SNR=6.2								
BBB				LR		LR	23 28 10.2		
	comp=E,4µm,18.9s,baz=297,slow=32								
F30M	**Barrier River**	**12.46**	**22**	P		**Pn**	**23 24 21.1**	**+1.2**
	baz=213								
D23K	**Nanushuk River**	**12.52**	**356**	P		**Pn**	**23 24 22.9**	**+2.3**
	baz=174								
NIKH	**Nikolski High**	**12.52**	**262**	P		**Pn**	**23 24 20.2**	**-0.5**
NIKH	**Nikolski High**	**12.52**	**262**	P		**Pn**	**23 24 19.4**	**-1.3**
	baz=65,SNR=16								
F14K	**Arctic Creek**	**12.53**	**323**	P		**Pn**	**23 24 20.7**	**-0.1**
	baz=127								
D22K	**Ayikyak River**	**12.55**	**352**			**Pn**	**23 24 20.0**	**-1.0**
D22K	**Ayikyak River**	**12.55**	**352**	P		**Pn**	**23 24 21.7**	**+0.7**
	baz=168,SNR=119								
D24K	**Happy Valley**	**12.65**	**359**	Pn		**Pn**	**23 24 23.1**	**+0.6**
D24K	**Happy Valley**	**12.65**	**359**	P		**Pn**	**23 24 23.0**	**+0.5**
	baz=178,SNR=76								
E28M	**Babbage River**	**12.70**	**14**	P		**Pn**	**23 24 24.4**	**+1.3**
	baz=202								
E29M	**Blow River**	**12.74**	**17**	P		**Pn**	**23 24 25.3**	**+1.5**
	baz=206								
F31M	**Tsiigehtchic**	**12.78**	**26**	P		**Pn**	**23 24 25.2**	**+1.0**
	baz=218,SNR=54								
D20K	**Etivluk River**	**12.80**	**346**	P		**Pn**	**23 24 24.4**	**-0.2**
	baz=158								
D19K	**Kuna River**	**12.82**	**343**	P		**Pn**	**23 24 24.6**	**-0.2**
	baz=154								
D25K	**Kavik River**	**12.84**	**3**	P		**Pn**	**23 24 27.6**	**+2.5**
	baz=184								
C21K	**Knifeblade Rid**	**13.00**	**349**	P		**Pn**	**23 24 27.4**	**+0.1**
	baz=163								
KOTAN	**Kotaneelee Air**	**13.08**	**64**	P		**Pn**	**23 24 31.3**	**+3.0**
	baz=265,SNR=99								
TNA	**Tin City**	**13.12**	**322**	P		**Pn**	**23 24 29.3**	**+0.4**
	baz=124,SNR=9.3								
D27M	**Malcolm River**	**13.13**	**11**	P		**Pn**	**23 24 30.8**	**+1.8**
	baz=196								
CLES	**Cleveland East**	**13.15**	**263**	Pn		**Pn**	**23 24 29.2**	**-0.2**
C24K	**Franklin Bluff**	**13.22**	**359**	P		**Pn**	**23 24 30.2**	**0.0**
	baz=179								
FLDN	**Fort Liard**	**13.38**	**64**	Pn		**Pn**	**23 24 36.1**	**+3.7**
FLDN	**Fort Liard**	**13.38**	**64**	P		**Pn**	**23 24 35.0**	**+2.6**
	baz=265,SNR=44								
B21K	**Ikpikpuk River**	**13.43**	**350**	P		**Pn**	**23 24 32.3**	**-0.8**
	baz=164								
D28M	**Stokes Point**	**13.48**	**14**	P		**Pn**	**23 24 34.6**	**+0.9**
	baz=203								
C18K	**Utukok River**	**13.51**	**339**	P		**Pn**	**23 24 32.9**	**-1.3**
	baz=148								
INK	**Inuvik**	**13.52**	**24**	P		**Pn**	**23 24 35.5**	**+1.2**
	baz=217,SNR=114								
INK	**Inuvik**	**13.52**	**24**	Pn		**Pn**	**23 24 35.2**	**+0.9**
	comp=E,5.4nm,0.3s,baz=211,slow=16,SNR=164								
INK				Sn		**Sn**	**23 27 02.0**	**-2.1**
	comp=E,0.3nm,0.3s,baz=343,slow=25,SNR=1.2								
INK				Lg		Lg	23 28 22.2		
	baz=148,slow=26								
INK				LR		LR	23 30 02.0		
	comp=E,2µm,18.2s,baz=184,slow=38								
	comp=E,71nm,0.8s								
C19K	**Lookout Ridge**	**13.61**	**342**	P		**Pn**	**23 24 34.9**	**-0.7**
	baz=152								
GAMB	**Gambell**	**13.74**	**311**	P		**Pn**	**23 24 36.8**	**-0.6**
	baz=111								
C17K	**DeLong Mountai**	**13.78**	**336**	P		**Pn**	**23 24 37.5**	**-0.4**
	baz=143,SNR=24								
WRGLY	**Wrigley**	**13.97**	**51**	Pn		**Pn**	**23 24 42.4**	**+1.9**
WRGLY	**Wrigley**	**13.97**	**51**	P		**Pn**	**23 24 42.7**	**+2.2**
	baz=253,SNR=7.8								
B22K	**Teshekpuk Lake**	**14.04**	**353**	P		**Pn**	**23 24 41.6**	**+0.3**
	baz=168								
B20K	**Meade River**	**14.08**	**347**	P		**Pn**	**23 24 40.3**	**-1.6**
	baz=159,SNR=103								
C16K	**Lisburne Hills**	**14.14**	**333**	P		**Pn**	**23 24 42.1**	**-0.7**
	baz=138								
B18K	**Kokolik River**	**14.23**	**340**	P		**Pn**	**23 24 43.8**	**-0.2**
	baz=148								
A22K	**Sinclair Lake**	**14.81**	**351**	P		**Pn**	**23 24 50.3**	**-1.5**
	baz=165								
A19K	**Wainwright**	**14.83**	**343**	P		**Pn**	**23 24 50.4**	**-1.7**
	baz=151								
A21K	**Barrow**	**15.27**	**350**	P		**Pn**	**23 24 56.1**	**-1.9**
	baz=162,SNR=40								
ATKA	**Atka Island**	**15.79**	**265**	IAmb		IAmb	23 25 10.6		
	comp=E,81nm,0.8s								
ATKA	**Atka Island**	**15.79**	**265**	P		**Pn**	**23 25 03.3**	**-1.6**
CLRS	**Cowichan Lake**	**16.38**	**108**	IAmb		IAmb	23 25 17.1		
	comp=E,505nm,2.0s								
C36M	**Paulatuk**	**16.66**	**30**	IAmb		IAmb	23 25 20.3		
	comp=E,390nm,1.9s								
C36M	**Paulatuk**	**16.66**	**30**	P		**Pn**	**23 25 14.6**	**-1.3**
	baz=232,SNR=68								
HILA	**High Level**	**16.70**	**70**	P		**P**	**23 25 19.9**	**+1.0**
ADK	**Adak**	**17.30**	**266**	Pn		**Pn**	**23 25 22.5**	**-1.6**
ADK	**Adak**	**17.30**	**266**	P		**Pn**	**23 25 24.7**	**+0.6**
ADK	**Adak**	**17.30**	**266**	P		**Pn**	**23 25 22.5**	**-1.6**
ADK				pmax		pmax			
	comp=E,50nm,0.7s								
NLWA	**Neilton Lookou**	**17.42**	**112**	IAmb		IAmb	23 25 31.2		
	comp=E,294nm,1.8s								
BRLDA	**Berland Lookou**	**17.55**	**85**	IAmb		IAmb	23 25 33.6		
	comp=E,490nm,1.8s								
YKA	**Yellowknife Ar**	**17.83**	**57**	P		**P**	**23 25 31.4**	**+0.3**
	comp=E,2.7nm,0.3s,baz=98,slow=4.0,SNR=139								
YKA				PcP		**PcP**	**23 30 06.5**	**-0.2**
	comp=E,2.1nm,0.7s,baz=261,slow=1.6,SNR=4.4								
YKA				LR		LR	23 32 20.0		
	comp=E,3µm,18.6s,baz=273,slow=36								
YKA				ScP		**ScP**	**23 33 36.8**	**-4.3**
	comp=Z,0.4nm,0.7s,baz=251,slow=1.0,SNR=3.0								
	comp=Z,14nm,0.6s								
GNW	**Green Mountain**	**17.85**	**110**	IAmb		IAmb	23 25 35.8		
	comp=Z,194nm,1.5s								
A36M	**Sachs Harbour**	**18.16**	**23**			**Pn**	**23 25 33.8**	**-0.8**
A36M	**Sachs Harbour**	**18.16**	**23**	P		**Pn**	**23 25 34.4**	**-0.2**
	baz=224,SNR=108								
LON	**Lonmire**	**18.90**	**110**	IAmb		IAmb	23 25 48.8		
	comp=Z,325nm,1.9s								
F04A	**Amboy**	**19.14**	**113**	IAmb		IAmb	23 25 51.3		
	comp=Z,383nm,1.8s								
LTY	**Liberty**	**19.17**	**107**	P		**P**	**23 25 47.4**	**+1.2**
G03D	**McMinnville, O**	**19.21**	**116**	IAmb		IAmb	23 25 52.7		
	comp=Z,117nm,1.2s								
B08A	**Colville Reser**	**19.22**	**103**	IAmb		IAmb	23 25 51.6		
	comp=Z,125nm,1.1s								
MXC	**Moxie City**	**19.81**	**108**	P		**P**	**23 25 54.5**	**+1.4**
HOOD	**Mount Hood Mea**	**19.95**	**113**	IAmb		IAmb	23 26 00.6		
	comp=Z,112nm,1.4s								
C09A	**Chrisman Ranch**	**20.12**	**103**	IAmb		IAmb	23 26 02.9		
	comp=Z,296nm,1.8s								
H04A	**Detroit Lake**	**20.12**	**115**	P		**P**	**23 25 57.2**	**+0.6**
H04A				IAmb		IAmb	23 26 03.5		
	comp=Z,105nm,1.0s								
G05A	**Wamic**	**20.17**	**113**	IAmb		IAmb	23 26 10.6		
	comp=Z,341nm,1.9s								
D08A	**Wollman Farm,**	**20.23**	**106**	P		**P**	**23 25 58.7**	**+1.1**
I03D	**Drain, OR**	**20.27**	**119**	IAmb		IAmb	23 26 05.2		
	comp=Z,263nm,1.7s								
HAWA	**Hanford**	**20.33**	**108**	IAmb		IAmb	23 26 02.6		
	comp=Z,128nm,1.6s								
J01E	**Myrtle Point**	**20.39**	**121**	P		**P**	**23 26 00.9**	**+1.5**
J01E				IAmb		IAmb	23 26 06.7		
	comp=Z,64nm,0.8s								
KEBM	**Edson Butte**	**20.42**	**122**	P		**P**	**23 26 01.2**	**+1.4**
F07A	**Phinny Hill Vi**	**20.45**	**109**	IAmb		IAmb	23 26 07.1		
	comp=Z,75nm,0.7s								
NEW	**Newport**	**20.47**	**101**	P		**P**	**23 26 01.1**	**+0.8**
NEW				IAmb		IAmb	23 26 06.7		
	comp=Z,55nm,0.8s								
NEW	**Newport**	**20.47**	**101**	P		**P**	**23 26 01.3**	**+1.0**
	baz=306,SNR=34								
NEW	**Newport**	**20.47**	**101**	P		Pn	23 26 02.6	+0.2	
	comp=Z,36nm,0.6s,baz=310,slow=8.2,SNR=26								
NEW				LR		LR	23 32 43.3		
	comp=Z,2µm,21.9s,baz=296,slow=33								
	comp=Z,36nm,0.6s								
E08A	**Dider Farm, EI**	**20.51**	**107**	IAmb		IAmb	23 26 07.3		
	comp=Z,90nm,1.2s								
DBO	**Dodson Butte**	**20.75**	**120**	IAmb		IAmb	23 26 10.8		
	comp=Z,73nm,0.7s								
I05D	**Terrebonne, OR**	**20.80**	**115**	IAmb		IAmb	23 26 11.4		
	comp=Z,53nm,0.8s								
K02D	**Willamette Mer**	**20.87**	**121**	P		**P**	**23 26 05.8**	**+1.1**
K02D				IAmb		IAmb	23 26 11.2		
	comp=Z,89nm,0.9s								
E09A	**Wood Farm, Sta**	**20.98**	**106**	IAmb		IAmb	23 26 09.3		
	comp=Z,314nm,1.9s								
HUMO	**Hull Mountain**	**21.28**	**120**	P		**P**	**23 26 10.1**	**+1.0**
HUMO				IAmb		IAmb	23 26 14.2		
	comp=Z,81nm,0.9s								
PINE	**Pine Mountain**	**21.39**	**115**	IAmb		IAmb	23 26 17.7		
	comp=Z,113nm,1.1s								
KSXB	**Camp Six Broad**	**21.45**	**123**	IAmb		IAmb	23 26 18.4		
	comp=Z,157nm,1.5s								
J05D	**Fort Rock, OR**	**21.61**	**116**	P		**P**	**23 26 13.9**	**+1.2**
KRMB	**Red Mountain**	**21.67**	**124**	IAmb		IAmb	23 26 18.4		
	comp=Z,262nm,1.7s								
F10A	**Beach Ranch, E**	**21.82**	**106**	IAmb		IAmb	23 26 20.4		
	comp=Z,61nm,0.8s								
L04D	**Klamath Falls**	**21.89**	**120**	IAmb		IAmb	23 26 20.4		
	comp=Z,194nm,1.5s								
I07A	**Izee**	**21.91**	**113**	IAmb		IAmb	23 26 20.6		
	comp=Z,63nm,1.1s								
KRPM	**Rodgers**	**21.91**	**124**	IAmb		IAmb	23 26 20.9		
	comp=Z,160nm,1.3s								
SHEM	**Shemya Is, AI**	**22.03**	**276**	LR		LR	23 35 35.1		
	comp=Z,1µm,18.5s,baz=88,slow=39								
YBH	**Yreka Blue Hor**	**22.07**	**121**	P		**P**	**23 26 18.4**	**+0.8**
YBH				IAMs_20		IAMs_20	23 32 32.1		
	comp=Z,2µm,21.0s								
YBH	**Yreka Blue Hor**	**22.07**	**121**	P		**P**	**23 26 20.1**	**+2.5**
	comp=Z,20nm,0.7s,baz=355,slow=6.8,SNR=37								
YBH				LR		LR	23 32 52.1		
	comp=Z,2µm,18.8s,baz=311,slow=31								
	comp=Z,20nm,0.7s								
JCC	**Jacoby Creek,**	**22.18**	**125**	IAMs_20		IAMs_20	23 32 18.1		
	comp=Z,3µm,22.0s								
KMPM	**Mount Pierce**	**22.46**	**126**	IAmb		IAmb	23 26 26.3		
	comp=Z,78nm,1.0s								
BMO	**Blue Mountains**	**22.52**	**108**	IAmb		IAmb	23 26 28.1		
	comp=Z,148nm,1.8s								
KMRM	**Mail Ridge**	**22.80**	**125**	IAmb		IAmb	23 26 35.3		
	comp=Z,51nm,1.0s								
J08A	**Oak Bar Ban**	**22.95**	**113**	IAmb		IAmb	23 26 32.2		
	comp=Z,150nm,1.7s								
PLID	**Pearl Lake**	**23.05**	**106**	P		**P**	**23 26 28.4**	**+0.3**
MSO	**Missoula**	**23.06**	**100**	IAMs_20		IAMs_20	23 34 14.8		
	comp=Z,2µm,21.0s								
MSO	**Missoula**	**23.06**	**100**	P		**P**	**23 26 28.5**	**+0.5**
	baz=308,SNR=27								
BILL	**Bilibino**	**23.49**	**318**	*e*P		**P**	**23 26 32.0**	**-0.1**
WVOR	**Wild Horse Val**	**23.53**	**114**	IAmb		IAmb	23 26 36.9		
	comp=Z,79nm,1.0s								
WVOR				IAMs_20		IAMs_20	23 34 05.7		
	comp=Z,2µm,19.0s								
HOPS	**Hopland Field**	**24.09**	**126**	IAMs_20		IAMs_20	23 33 25.6		
	comp=Z,3µm,20.0s								
MFID	**Camas Ranch**	**24.28**	**109**	IAMs_20		IAMs_20	23 34 55.3		
	comp=Z,2µm,19.0s								
EGMT	**Eagleton**	**24.65**	**94**	IAMs_20		IAMs_20	23 35 43.8		
	comp=Z,3µm,18.0s								
EGMT	**Eagleton**	**24.65**	**94**	P		**P**	**23 26 44.1**	**+0.8**
	baz=305,SNR=21								
HLID	**Hailey**	**24.92**	**107**	IAmb		IAmb	23 26 50.1		
	comp=Z,150nm,2.0s								
HLID	**Hailey**	**24.92**	**107**	P		**P**	**23 26 47.4**	**+1.5**
	baz=313,SNR=26								
PAHR	**Pah Rah Range**	**25.23**	**120**	IAmb		IAmb	23 26 52.7		
	comp=Z,112nm,1.6s								
EMB	**Emerald Bay**	**25.46**	**122**	IAmb		IAmb	23 26 54.9		
	comp=Z,32nm,0.7s								
PNTR	**Pine Nut**	**25.61**	**121**	P		**P**	**23 26 53.1**	**+0.9**
PNTR						**PcP**	**23 30 22.1**	**-0.5**
FFC	**Flin Flon**	**25.70**	**74**	P		**P**	**23 26 52.7**	**+0.1**
FFC				IAmb		IAmb	23 26 57.7		
	comp=Z,77nm,1.6s								
FFC	**Flin Flon**	**25.70**	**74**	P		**P**	**23 26 52.7**	**+0.1**
FFC				pmax		pmax			
	comp=Z,77nm,1.6s								
CMB	**Columbia Colle**	**26.09**	**123**	IAMs_20		IAMs_20	23 34 34.5		
	comp=Z,2µm,21.0s								
YNR	**Norris Junctio**	**26.16**	**101**	IAmb		IAmb	23 27 03.9		
	comp=Z,44nm,1.2s								
H17A	**Grant Village**	**26.42**	**101**	IAmb		IAmb	23 27 12.8		
	comp=Z,47nm,1.4s								
H17A	**Grant Village**	**26.42**	**101**	P		**P**	**23 27 01.5**	**+2.0**
	baz=311,SNR=11								
YMP	**Mirror Lake Pl**	**26.43**	**100**	IAmb		IAmb	23 27 09.3		
	comp=Z,106nm,1.8s								
ELK	**Elko**	**26.50**	**113**	P		**P**	**23 27 01.0**	**+0.8**
ELK	**Elko**	**26.50**	**113**	P		**P**	**23 27 01.0**	**+0.8**
ELK				pmax		pmax			
	comp=Z,15nm,1.0s								
ELK				MLR		MLR			
	comp=Z,1µm,21.0s								
ELK	**Elko**	**26.50**	**113**	LR		LR	23 35 57.9		
	comp=Z,1µm,20.9s,baz=318,slow=33								
IMW	**Indian Meadow**	**26.55**	**103**	IAmb		IAmb	23 27 04.4		
	comp=Z,67nm,1.6s								
SAO	**San Andreas Ge**	**26.65**	**127**	IAMs_20		IAMs_20	23 34 39.4		
	comp=Z,2µm,18.0s								
RLMT	**Red Lodge**	**26.67**	**99**	IAmb		IAmb	23 27 05.2		
	comp=Z,98nm,1.9s								
RLMT				IAMs_20		IAMs_20	23 36 42.4		
	comp=Z,2µm,20.0s								
RLMT	**Red Lodge**	**26.67**	**99**	P		**P**	**23 27 03.1**	**+1.4**
	baz=310,SNR=11								
NVAR	**Mina Array Bea**	**26.75**	**120**	P		**P**	**23 27 03.5**	**+1.0**
NVAR	**Mina Array Bea**	**26.75**	**120**	P		**P**	**23 27 04.4**	**+1.9**
	comp=Z,16nm,0.7s,baz=309,slow=9.3,SNR=134								
NVAR				PcP		**PcP**	**23 30 26.0**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=320,slow=2.4,SNR=12								
NVAR				LR		LR	23 35 49.8		
	comp=Z,1µm,18.8s,baz=312,slow=32								
	comp=Z,16nm,0.7s								
NV11	**Mina Array Sit**	**26.82**	**120**	P		**P**	**23 27 03.2**	**+0.2**
Q09A	**Carvers**	**26.98**	**118**	IAmb		IAmb	23 27 11.8		
	comp=Z,55nm,0.7s								
BBGB	**Big Mountain B**	**26.98**	**126**	IAmb		IAmb	23 27 14.4		
	comp=Z,36nm,0.9s								
RES	**Resolute Bay**	**27.00**	**28**	P		**P**	**23 27 03.0**	**-1.2**
RES	**Resolute Bay**	**27.00**	**28**	P		**P**	**23 27 03.0**	**-1.2**
RES				pmax		pmax			
	comp=Z,20nm,0.8s								
OMMB	**Old Mammoth Mi**	**27.07**	**122**	IAmb		IAmb	23 27 08.5		
	comp=Z,26nm,0.8s								
MLAC	**Mammoth, Mammo**	**27.14**	**122**	P		**P**	**23 27 07.4**	**+1.4**
	baz=324								
LAO	**LASA Array**	**27.38**	**93**	P		**P**	**23 27 08.1**	**+0.2**
LAO				IAmb		IAmb	23 27 11.2		
	comp=Z,100nm,1.7s								
LAO	**LASA Array**	**27.38**	**93**	P		**P**	**23 27 07.9**	**0.0**
	baz=307								
LAO	**LASA Array**	**27.38**	**93**	P		**P**	**23 27 09.7**	**+1.8**
	baz=307								
DGMT	**Dagmar**	**27.48**	**88**	IAmb		IAmb	23 27 11.5		
	comp=Z,29nm,0.8s								
DGMT	**Dagmar**	**27.48**	**88**	IAMs_20		IAMs_20	23 37 54.4		
	comp=Z,2µm,18.0s								
DGMT	**Dagmar**	**27.48**	**88**	P		**P**	**23 27 09.4**	**+0.6**
	baz=304,SNR=7.7								
DGMT	**Dagmar**	**27.48**	**88**	P		**P**	**23 27 10.2**	**+1.5**
	baz=304,SNR=7.7								
BGU	**Big Grassy Mou**	**27.51**	**110**	IAmb		IAmb	23 27 16.3		
	comp=Z,72nm,2.0s								
TIN	**Tinemaha, Big**	**27.89**	**122**	P		**P**	**23 27 13.3**	**+0.7**
	baz=324								
VOG	**Valley Oaks Go**	**27.95**	**124**	P		**P**	**23 27 14.2**	**+1.3**
	baz=326								
Q12A	**Willow Creek R**	**27.99**	**115**	IAmb		IAmb	23 27 16.2		
	comp=Z,28nm,0.8s								
BW06	**Boulder Array**	**28.06**	**103**	P		**P**	**23 27 13.6**	**-0.7**
	baz=313,SNR=21								
PDAR	**Pinedale Array**	**28.06**	**103**	P		**P**	**23 27 15.4**	**+1.2**
	comp=Z,11nm,0.6s,baz=309,slow=5.1,SNR=87								
PDAR				PcP		**PcP**	**23 30 28.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=258,slow=0.8,SNR=4.0								
PDAR				LR		LR	23 37 14.8		
	comp=Z,287nm,21.8s,baz=317,slow=34								
	comp=Z,11nm,0.6s								
R11B	**Troy Canyon, C**	**28.14**	**116**	P		**P**	**23 27 15.4**	**+0.4**
R11B				IAmb		IAmb	23 27 17.2		
	comp=Z,22nm,0.8s								
R11B	**Troy Canyon, C**	**28.14**	**116**	P		**P**	**23 27 15.3**	**+0.4**
	baz=321,SNR=44								
DUG	**Dugway, Tooele**	**28.16**	**110**	IAmb		IAmb	23 27 23.9		
	comp=Z,53nm,1.8s								
DUG	**Dugway, Tooele**	**28.16**	**110**	P		**P**	**23 27 15.6**	**+0.6**
	baz=318								
TCUT	**Toone Canyon**	**28.22**	**107**	IAmb		IAmb	23 27 25.1		
	comp=Z,32nm,1.2s								
FCC	**Fort Churchill**	**28.31**	**63**	P		**P**	**23 27 16.2**	**+0.2**
FCC				IAmb		IAmb	23 27 26.7		
	comp=Z,54nm,1.4s								
FCC	**Fort Churchill**	**28.31**	**63**	P		**P**	**23 27 16.2**	**+0.2**
FCC				pmax		pmax			
	comp=Z,54nm,1.4s								
GRAC	**Grapevine Rang**	**28.34**	**121**	IAmb		IAmb	23 27 19.7		
	comp=Z,27nm,0.8s								
GRAC	**Grapevine Rang**	**28.34**	**121**	P		**P**	**23 27 17.9**	**+1.3**
	baz=324,SNR=22								
CWC	**Cottonwood Cre**	**28.45**	**122**	P		**P**	**23 27 19.3**	**+1.6**
	baz=325								
VES	**Vestal, Richgr**	**28.48**	**124**	P		**P**	**23 27 18.5**	**+0.8**
	baz=326								
SMMC	**Simmler**	**28.50**	**126**	P		**P**	**23 27 19.9**	**+1.9**
	baz=327,SNR=5.6								
NLU	**North Lily Min**	**28.71**	**110**	P		**P**	**23 27 21.0**	**+1.0**
WCT	**Wildcat Mounta**	**28.86**	**120**	P		**P**	**23 27 22.2**	**+1.0**
ISA	**Isabella, Lake**	**28.91**	**124**	P		**P**	**23 27 23.3**	**+1.7**
	baz=326,SNR=14								
TPNV	**Topopah Spring**	**28.92**	**119**	IAmb		IAmb	23 27 24.3		
	comp=Z,21nm,0.8s								
TPNV				IAMs_20		IAMs_20	23 38 16.3		
	comp=Z,2µm,18.0s								
**TP

O20A	White River Ci	30.61	105	P	P	23 27 38.1	+1.4		baz=316,SNR=40		
FMP	Fort Macarthur	30.61	126	P	P	23 27 38.5	+2.0		baz=327		
PETK	Petropavlovsk-	30.74	287	P	P	23 27 38.0	+0.4		comp=Z,5.6nm,0.7s,baz=72,slow=14,SNR=4.2		
PETK				LR	LR	23 39 24.4			comp=Z,524nm,21.9s,baz=77,slow=35 comp=Z,5.6nm,0.7s		
BBRC	Big Bear Solar	30.78	123	P	P	23 27 40.1	+1.8		baz=326		
CIS	Catalina Islan	30.82	126	P	P	23 27 39.1	+0.7		baz=328		
HMU	Henry Mountain	30.91	111	IAmb	IAmb	23 27 42.0			comp=Z,19nm,0.7s		
GMRC	Granite Mounta	30.94	121	P	P	23 27 41.2	+1.5		baz=325,SNR=20		
ULM	Lac du Bonnet	31.09	79	P	P	23 27 42.0	+1.3		comp=Z,12nm,0.6s,baz=299,slow=8.8,SNR=26		
ULM				PcP	PcP	23 30 34.8	-0.9		comp=Z,4.5nm,0.7s,baz=359,slow=20,SNR=3.3		
ULM				LR	LR	23 40 11.5			comp=Z,3µm,18.1s,baz=304,slow=36 comp=Z,12nm,0.6s		
MURC	Murrieta	31.20	124	P	P	23 27 43.1	+1.2		baz=327		
PHWY	Pilot Hill	31.29	101	IAMs_20	IAMs_20	23 38 57.6			comp=Z,1µm,21.0s		
N23A	Red Feather La	31.31	102	P	P	23 27 43.5	+0.5		baz=314,SNR=5.8		
BELC	Belle Mtn. Jos	31.42	122	P	P	23 27 45.4	+1.4		baz=326,SNR=27		
NEE2	Needles Airpor	31.45	120	P	P	23 27 45.6	+1.5		baz=324		
MA2	Magadan	31.49	301	IAMs_20	IAMs_20	23 41 05.7			comp=Z,1µm,20.0s		
MA2	Magadan	31.49	301⇑	*e*P	P	23 27 45.1	+0.9				
MA2				pmax	pmax				comp=Z,32nm,1.1s		
MA2	Magadan	31.49	301	LR	LR	23 41 17.5			comp=Z,1µm,20.3s,baz=72,slow=38		
PFO	Pinyon Flats O	31.53	123	P	P	23 27 44.8	-0.1				
PFO				IAmb	IAmb	23 27 47.8			comp=Z,59nm,1.9s		
PFO	Pinyon Flats O	31.53	123	P	P	23 27 46.0	+1.1		baz=326		
PFO	Pinyon Flats O	31.53	123⇑	*i*P	P	23 27 46.3	+1.4				
PFO				pmax	pmax				comp=Z,43nm,2.0s		
PFO	Pinyon Flats O	31.53	123	LR	LR	23 38 10.8			comp=Z,1µm,20.1s,baz=320,slow=32		
TPFO	Pinon Flats	31.54	123	P	P	23 27 46.1	+1.2		baz=326,SNR=5.5		
W13A	Hualapai Mount	31.54	118	IAmb	IAmb	23 27 48.8			comp=Z,20nm,0.7s		
IRM	Iron Mountain	31.70	121	P	P	23 27 48.3	+2.1		baz=325,SNR=35		
109C	Camp Elliot, M	31.84	125	IAmb	IAmb	23 27 50.2			comp=Z,24nm,0.8s		
109C	Camp Elliot, M	31.84	125	P	P	23 27 48.8	+1.4		baz=327		
BC3	Big Chuckawall	31.96	122	P	P	23 27 49.8	+1.1		baz=326,SNR=13		
SMCO	Snowmass	31.98	105	IAMs_20	IAMs_20	23 39 14.9			comp=Z,1µm,22.0s		
PDMCI	Parker Dam,Lak	32.06	119	P	P	23 27 50.9	+1.6		baz=324,SNR=11		
MONP2	Monument Peak	32.15	124	P	P	23 27 52.1	+1.7		baz=327,SNR=7.2		
AGMN	Agassiz Nation	32.17	82	IAmb	IAmb	23 27 51.9			comp=Z,25nm,0.7s		
AGMN				IAMs_20	IAMs_20	23 40 36.4			comp=Z,2µm,18.0s		
AGMN	Agassiz Nation	32.17	82	P	P	23 27 51.0	+0.8		baz=305,SNR=14		
AGMN	Agassiz Nation	32.17	82	P	P	23 27 51.3	+1.0		baz=305,SNR=14		
BAR	Barrett	32.21	124	P	P	23 27 51.8	+1.1				
BAR				IAmb	IAmb	23 27 55.1			comp=Z,24nm,1.2s		
ISCO	Idaho Springs	32.26	103	P	P	23 27 52.5	+1.1		baz=316		
SWSC	Sam W. Stewart	32.39	123	P	P	23 27 53.9	+1.6		baz=327,SNR=5.7		
BRIGG	Briggsdale	32.41	101	IAMs_20	IAMs_20	23 39 53.3			comp=Z,1µm,20.0s		
WUAZ	Wupatki	32.45	115	P	P	23 27 55.0	+2.0		baz=322,SNR=39		
IKP	In-Ko-Pah, Jac	32.49	124	P	P	23 27 55.3	+2.1		baz=327,SNR=8.4		
RMX	La Rumorosa	32.55	124	IAmb	IAmb	23 27 57.0			comp=Z,16nm,0.7s		
YUH	Yuha Desert	32.58	124	IAmb	IAmb	23 27 56.5			comp=Z,20nm,0.8s		
MVCO	Mesa Verde	32.62	109	IAmb	IAmb	23 27 56.7			comp=Z,21nm,0.7s		
MVCO	Mesa Verde	32.62	109	P	P	23 27 55.5	+0.9		baz=319,SNR=20		
GLA	Glamis	32.76	122	P	P	23 27 57.2	+1.7		baz=326		
SUSD	Miller	32.79	90	P	P	23 27 56.3	+0.7		baz=310		
Y14A	Wickenburg	32.91	118	IAmb	IAmb	23 27 59.5			comp=Z,31nm,0.7s		
S22A	4UR Ranch, Cre	33.10	107	P	P	23 28 00.5	+1.6		baz=318,SNR=21		
Q24A	Divide	33.11	104	IAmb	IAmb	23 28 01.2			comp=Z,14nm,0.7s		
Q24A	Divide	33.11	104	P	P	23 28 00.5	+1.6		baz=316,SNR=14		
X16A	Lo Mia Camp, P	33.29	116	P	P	23 28 01.3	+0.9				
X16A				IAmb	IAmb	23 28 03.5			comp=Z,21nm,0.8s		
F33A	5 Mile Ranch,	33.39	86	IAmb	IAmb	23 28 02.5			comp=Z,25nm,0.7s		
F33A	5 Mile Ranch,	33.39	86	P	P	23 28 01.9	+1.0		baz=308,SNR=12		
OGNE	Ogallala	33.40	98	IAmb	IAmb	23 28 03.4			comp=Z,39nm,0.8s		
OGNE				IAMs_20	IAMs_20	23 40 48.5			comp=Z,2µm,20.0s		
OGNE	Ogallala	33.40	98	P	P	23 28 02.9	+1.7		baz=314,SNR=12		
OGNE	Ogallala	33.40	98	P	P	23 28 02.7	+1.5		baz=314,SNR=12		
TULEG	Thule	33.52	25	IAMs_20	IAMs_20	23 37 09.6			comp=Z,1µm,21.0s		
K30B	Basset	33.57	93	P	P	23 28 04.4	+1.8		baz=312		
W18A	Petrified Fore	33.60	113	IAmb	IAmb	23 28 05.5			comp=Z,20nm,0.7s		
W18A	Petrified Fore	33.60	113	P	P	23 28 04.9	+1.9		baz=322,SNR=6.7		
SDCO	Great Sand Dun	33.81	105	IAmb	IAmb	23 28 07.4			comp=Z,29nm,1.4s		
SDCO	Great Sand Dun	33.81	105	P	P	23 28 06.8	+1.9		baz=318,SNR=21		
SDCO	Great Sand Dun	33.81	105	P	P	23 28 06.6	+1.7		baz=318,SNR=21		
X18A	Snowflake	33.95	114	IAmb	IAmb	23 28 09.2			comp=Z,31nm,0.6s		
KSCO	Kaye Shedlock'	34.44	101	P	P	23 28 12.0	+1.7		baz=316		
ECSD	EROS Data Cent	34.54	89	IAmb	IAmb	23 28 13.1			comp=Z,24nm,0.8s		
ECSD	EROS Data Cent	34.54	89	IAMs_20	IAMs_20	23 42 05.2			comp=Z,2µm,18.0s		
ECSD	EROS Data Cent	34.54	89	P	P	23 28 11.5	+0.5		baz=310,SNR=22		
ECSD	EROS Data Cent	34.54	89	P	P	23 28 11.4	+0.5		baz=310,SNR=22		
214A	Organ Pipe Nat	34.62	120	P	P	23 28 13.7	+2.0		baz=326,SNR=8.1		
PIX	Pinacate	34.64	121	IAmb	IAmb	23 28 14.4			comp=Z,18nm,0.9s		
EYMN	Ely	34.76	80	P	P	23 28 12.9	+0.1				
EYMN	Ely	34.76	80	IAMs_20	IAMs_20	23 42 03.8			comp=Z,2µm,18.0s		
EYMN	Ely	34.76	80	P	P	23 28 14.1	+1.3		baz=306,SNR=12		
EYMN	Ely	34.76	80	P	P	23 28 14.1	+1.3		baz=306,SNR=12		
T25A	Trinidad	34.84	105	IAmb	IAmb	23 28 17.4			comp=Z,24nm,0.8s		
T25A	Trinidad	34.84	105	P	P	23 28 16.0	+2.1		baz=318,SNR=14		
F36A	Milaca	34.90	84	P	P	23 28 14.9	+0.9		baz=308,SNR=7.9		
BGNE	Belgrade	35.23	94	P	P	23 28 18.2	+1.3		baz=313		
TUC	Tucson	35.31	117	IAMs_20	IAMs_20	23 41 08.6			comp=Z,1µm,19.0s		
TUC	Tucson	35.31	117	P	P	23 28 19.9	+2.1		baz=325		
ANMO	Albuquerque	35.42	110	P	P	23 28 18.0	-0.8				
ANMO				IAmb	IAmb	23 28 21.0			comp=Z,36nm,1.6s		
ANMO	Albuquerque	35.42	110	P	P	23 28 20.5	+1.7		baz=321		
ANMO	Albuquerque	35.42	110	P	P	23 28 20.3	+1.6		baz=321,SNR=15		
ANMO	Albuquerque	35.42	110⇑	*i*P	P	23 28 20.4	+1.6				
ANMO				pmax	pmax				comp=Z,24nm,1.6s		
ANMO	Albuquerque	35.42	110	LR	LR	23 41 56.6			comp=Z,467nm,19.4s,baz=37,slow=35		
E38A	The Farm, Brul	35.53	82	P	P	23 28 20.6	+1.2		baz=308,SNR=13		
SPMN	Marine on St.	35.70	84	IAmb	IAmb	23 28 23.8			comp=Z,34nm,0.7s		
SPMN	Marine on St.	35.70	84	P	P	23 28 21.8	+1.0		baz=309,SNR=9.6		
SPMN	Marine on St.	35.70	84	P	P	23 28 22.1	+1.2		baz=309,SNR=9.6		
TIXI	Tiksi	35.81	327⇓	*i*P	P	23 28 21.2	-0.3				
TIXI				pmax	pmax				comp=Z,5.0nm,0.8s		
TIXI	Tiksi	35.81	327	LR	LR	23 45 04.4			comp=Z,509nm,18.8s,baz=82,slow=40		
L34A	Svendsen Farm,	35.83	92	P	P	23 28 23.4	+1.3		baz=312		
Y22D	IRIS PASSCAL I	35.85	111	IAMs_20	IAMs_20	23 41 49.8			comp=Z,1µm,19.0s		
Y22D	IRIS PASSCAL I	35.85	111	P	P	23 28 24.4	+1.9		baz=322		
Y22F	Passcal Instru	35.85	111	P	P	23 28 24.6	+2.1		baz=322		
Y22A	Socorro	35.94	111	P	P	23 28 25.2	+1.9		baz=322,SNR=10		
I37A	Lemond, Waseca	36.13	87	IAmb	IAmb	23 28 26.5			comp=Z,49nm,0.9s		
I37B	Waseca	36.13	87	P	P	23 28 25.9	+1.2		baz=310,SNR=9.8		
CBKS	Cedar Bluff	36.16	98	IAmb	IAmb	23 28 27.2			comp=Z,34nm,0.8s		
CBKS				IAMs_20	IAMs_20	23 42 46.4			comp=Z,1µm,18.0s		
CBKS	Cedar Bluff	36.16	98	P	P	23 28 26.4	+1.5		baz=316,SNR=8.3		
CBKS	Cedar Bluff	36.16	98	P	P	23 28 26.6	+1.7		baz=316,SNR=8.3		
RTBA	Rita Blanca	36.26	104	IAmb	IAmb	23 28 28.1			comp=Z,23nm,0.7s		
121A	Cookes Peak, D	36.63	114	IAmb	IAmb	23 28 33.1			comp=Z,29nm,0.7s		
121A	Cookes Peak, D	36.63	114	P	P	23 28 31.0	+1.8		baz=323,SNR=27		
121A	Cookes Peak, D	36.63	114	P	P	23 28 31.1	+1.9		baz=323,SNR=27		
N35A	Tabor	36.98	92	P	P	23 28 32.4	+0.5				
N35A	Tabor	36.98	92	P	P	23 28 33.7	+1.8		baz=313,SNR=14		
R32A	Long Quarter,	37.00	98	IAmb	IAmb	23 28 34.0			comp=Z,19nm,0.7s		
R32A	Long Quarter,	37.00	98	P	P	23 28 33.6	+1.5		baz=316		
NEEM	North Greenlan	37.08	21	*i*P	P	23 28 32.5	-0.2				
NEEM				IAmb	IAmb	23 28 34.7			comp=Z,9.1nm,0.8s		
G40A	Rib Lake	37.10	82	IAmb	IAmb	23 28 34.9			comp=Z,34nm,0.7s		
G40A	Rib Lake	37.10	82	P	P	23 28 34.0	+1.1		baz=309,SNR=9.9		
SCIA	State Center	37.62	89	P	P	23 28 38.2	+0.9		baz=312		
KSU1	Kansas State U	37.67	95	P	P	23 28 38.7	+0.9		baz=315,SNR=6.5		
KSU1	Kansas State U	37.67	95	P	P	23 28 38.7	+0.9		baz=315,SNR=6.5		
I40A	Norwalk	37.75	85	P	P	23 28 39.5	+1.1		baz=310,SNR=12		
FRB	Frobisher Bay	37.76	46	LR	LR	23 44 19.4			comp=Z,2µm,19.7s,baz=293,slow=36		
UPNV	Upernavik	37.87	29	*i*P	P	23 28 39.3	+0.2				
UPNV				IAmb	IAmb	23 28 59.2			comp=Z,12nm,0.8s		
EPT	El Paso	37.89	113	IAMs_20	IAMs_20	23 42 44.7			comp=Z,937nm,21.0s		
F42A	Maple Grove Fa	37.92	80	IAmb	IAmb	23 28 42.1			comp=Z,37nm,0.7s		
F42A	Maple Grove Fa	37.92	80	P	P	23 28 41.8	+2.0		baz=309		
HSIG		37.95	121	IAmb	IAmb	23 28 43.5			comp=Z,69nm,1.6s		
AMTX	Amarillo	37.99	105	IAmb	IAmb	23 28 42.9			comp=Z,44nm,0.7s		
AMTX				IAMs_20	IAMs_20	23 43 21.2			comp=Z,1µm,19.0s		
AMTX	Amarillo	37.99	105	P	P	23 28 42.1	+1.5		baz=320		
AMTX	Amarillo	37.99	105	P	P	23 28 42.1	+1.5		baz=320,SNR=13		
MSTX	Muleshoe	38.11	107	IAmb	IAmb	23 28 44.7			comp=Z,32nm,0.8s		
MSTX	Muleshoe	38.11	107	P	P	23 28 42.9	+1.3		baz=320,SNR=8.9		
MSTX	Muleshoe	38.11	107	P	P	23 28 43.1	+1.5		baz=321,SNR=8.9		
E43A	Lone Tree Farm	38.16	79	IAmb	IAmb	23 28 44.8			comp=Z,36nm,0.8s		
KAN12	Harper NE Stat	38.20	99	IAmb	IAmb	23 28 44.0			comp=Z,36nm,1.0s		
OK035	E0210 Rd and N	38.24	100	IAMs_20	IAMs_20	23 43 26.6			comp=Z,1µm,20.0s		
KAN08	Anthony NE Sta	38.27	99	P	P	23 28 43.0	+0.2				
U32A	Winter Ranch,	38.32	101	P	P	23 28 45.1	+1.8		baz=318,SNR=5.9		
N38A	Joes South For	38.36	90	IAmb	IAmb	23 28 46.0			comp=Z,56nm,0.8s		
N38A	Joes South For	38.36	90	P	P	23 28 43.6	+0.1		baz=313,SNR=11		
OK038	West end E0370	38.39	100	IAmb	IAmb	23 28 48.0			comp=Z,35nm,0.6s		
OK038				IAMs_20	IAMs_20	23 43 28.6			comp=Z,1µm,20.0s		
OK032	Salt Plains WL	38.44	99	IAmb	IAmb	23 28 47.1			comp=Z,27nm,0.7s		
OK032				IAMs_20	IAMs_20	23 44 18.0			comp=Z,1µm,20.0s		
KAN14	Manchester OK	38.47	99	IAmb	IAmb	23 28 48.5			comp=Z,28nm,0.5s		
MNTX	Cornudas Mount	38.52	112	P	P	23 28 46.7	+1.7		baz=323,SNR=27		
MNTX	Cornudas Mount	38.52	112	P	P	23 28 46.9	+1.9		baz=323,SNR=27		
KAN09	Caldwell North	38.52	98	IAmb	IAmb	23 28 47.6			comp=Z,44nm,0.7s		
JFWS	Jewell Farm	38.59	85	P	P	23 28 45.2	-0.3				
JFWS				IAmb	IAmb	23 28 46.8			comp=Z,35nm,0.6s		
JFWS	Jewell Farm	38.59	85	P	P	23 28 45.8	+0.3		baz=311,SNR=7.9		
JFWS	Jewell Farm	38.59	85	P	P	23 28 45.6	+0.2		baz=312,SNR=7.9		
JFWS	Jewell Farm	38.59	85	P	P	23 28 45.2	-0.3				
JFWS				pmax	pmax				comp=Z,35nm,0.6s		
JFWS				MLR	MLR				comp=Z,2µm,18.0s		
SMWD	Samnorwood	38.60	103	IAmb	IAmb	23 28 49.6			comp=Z,43nm,0.8s		
L40A	Anamosa	38.62	87	IAmb	IAmb	23 28 47.1			comp=Z,50nm,0.7s		
L40A	Anamosa	38.62	87	P	P	23 28 46.4	+0.7		baz=312,SNR=9.8		
KAN13	South Haven SW	38.69	98	IAmb	IAmb	23 28 47.9			comp=Z,34nm,0.7s		
CROK	Carrier	38.78	99	IAmb	IAmb	23 28 49.9			comp=Z,19nm,0.6s		
P38A	Dawn	39.01	92	P	P	23 28 48.9	-0.1				
P38A				IAmb	IAmb	23 28 51.4			comp=Z,38nm,0.7s		
P38A	Dawn	39.01	92	P	P	23 28 49.7	+0.8		baz=314,SNR=19		
T35B	Sooner Cattle	39.29	98	P	P	23 28 52.3	+1.0		baz=317,SNR=7.7		
DKNS	Dickens	39.32	105	P	P	23 28 52.3	+0.5				
VHRN	Van Horn	39.45	112	IAmb	IAmb	23 28 56.7			comp=Z,24nm,0.7s		
L42A	Oliver, Polo	39.52	86	P	P	23 28 53.4	+0.1		baz=312,SNR=6.2		
OK029	Liberty Lake	39.59	100	IAmb	IAmb	23 28 56.5			comp=Z,29nm,0.7s		
OK029				IAMs_20	IAMs_20	23 45 24.5			comp=Z,962nm,18.0s		
E46A	Sault Ste Mari	39.62	77	P	P	23 28 55.5	+1.5		baz=309		
ODSA	Odessa	39.66	108	IAmb	IAmb	23 28 56.5			comp=Z,29nm,0.8s		
WMOK	Wichita Mounta	39.66	102		P	23 28 55.5	+1.0				
WMOK				IAmb	IAmb	23 28 56.6			comp=Z,33nm,0.7s		
WMOK	Wichita Mounta	39.66	102	P	P	23 28 55.9	+1.4		baz=319,SNR=18		
WMOK	Wichita Mounta	39.66	102	P	P	23 28 55.5	+1.0		baz=319,SNR=18		
WMOK	Wichita Mounta	39.66	102	P	P	23 28 55.5	+1.0				
WMOK				pmax	pmax				comp=Z,33nm,0.7s		
WMOK				MLR	MLR				comp=Z,700nm,21.0s		
YAK	Yakutsk	39.69	313	P	P	23 28 53.3	-1.1				
YAK	Yakutsk	39.69	313	*e*P	P	23 28 54.9	+0.5				
YAK				*e**PP	pwP	23 29 06.2	+3.4				
YAK				*e*S	S	23 34 58.0	+1.0				
YAK				*e*SS	SS	23 37 46.0	-5.9				
YAK				pmax	pmax				comp=Z,31nm,0.9s		
YAK				pmax	pmax				comp=E,7.0nm,1.0s		
YAK				smax	smax				comp=N,85nm,12.6s		
YAK				MLR	MLR				comp=Z,621nm,22.0s		
YAK	Yakutsk	39.69	313	LR	LR	23 46 07.9			comp=Z,613nm,19.4s,baz=56,slow=37		
OK033	Mehan	39.70	99	IAmb	IAmb	23 28 57.0			comp=Z,29nm,0.8s		
OK033				IAMs_20	IAMs_20	23 44 37.1			comp=Z,1µm,18.0s		
N41A	Harden Midland	39.74	88	P	P	23 28 55.7	+0.6		baz=314,SNR=21		
OK052	Battle Ridge R	39.81	99	IAMs_20	IAMs_20	23 45 10.1			comp=Z,1µm,19.0s		
P40A	Paris	39.89	91	IAmb	IAmb	23 28 57.5			comp=Z,33nm,0.8s		
P40A	Paris	39.89	91	P	P	23 28 56.6	+0.3		baz=314,SNR=14		
OKCSW	OKLAHOMA CITY	39.89	100	IAmb	IAmb	23 28 59.0			comp=Z,73nm,0.9s		
APMT	Aspermont	40.01	105	P	P	23 28 56.8	-0.6				
FNO	Franklin	40.02	100	IAmb	IAmb	23 29 00.1			comp=Z,40nm,0.8s		
L44A	Lake County Fo	40.37	84	IAMs_20	IAMs_20	23 45 02.4			comp=Z,2µm,22.0s		
L44A	Lake County Fo	40.37	84	P	P	23 29 00.7	+0.4		baz=312		
W35A	Tecumseh	40.39	100	IAmb	IAmb	23 29 02.5			comp=Z,34nm,0.6s		
TUL3	Leonard	40.42	98	IAmb	IAmb	23 29 03.1			comp=Z,138nm,1.9s		
TUL3				IAMs_20	IAMs_20	23 45 19.3			comp=Z,2µm,20.0s		
TUL3	Leonard	40.42	98	P	P	23 29 01.1	+0.3		baz=318		
TUL3	Leonard	40.42	98	P	P	23 29 01.9	+1.1		baz=318		
GLMI	Grayling	40.43	79	P	P	23 29 02.1	+1.3		baz=310		
WTFS	Witchita Falls	40.57	103	IAmb	IAmb	23 29 04.1			comp=Z,45nm,0.6s		
R40A	Maddies Statio	40.64	92	P	P	23 29 01.7	-0.9				
R40A				IAmb	IAmb	23 29 03.4			comp=Z,29nm,0.6s		
R40A	Maddies Statio	40.64	92	P	P	23 29 02.2	-0.4		baz=316,SNR=20		
RLO	Rose Lookout	40.66	97	IAmb	IAmb	23 29 03.9			comp=Z,16nm,0.8s		
HQIL	Hanson Quary C	40.66	85	IAMs_20	IAMs_20	23 45 38.0			comp=Z,2µm,20.0s		
HDIL	Hopedale	40.71	87	IAMs_20	IAMs_20	23 45 56.5			comp=Z,1µm,19.0s		
HDIL	Hopedale	40.71	87	P	P	23 29 03.5	+0.4		baz=314,SNR=26		
HDIL	Hopedale	40.71	87	P	P	23 29 03.3	+0.3		baz=314,SNR=26		
U38A	Gravette	40.81	96	P	P	23 29 04.4	+0.4		baz=317,SNR=11		
ABTX	Abilene, Hawle	40.81	105	IAmb	IAmb	23 29 05.6			comp=Z,29nm,0.7s		
ABTX	Abilene, Hawle	40.81	105	P	P	23 29 04.9	+0.9		baz=321,SNR=15		
ABTX	Abilene, Hawle	40.81	105	P	P	23 29 04.7	+0.6		baz=321,SNR=15		
LOOK	Love County	41.09	101	IAmb	IAmb	23 29 08.4			comp=Z,32nm,0.7s		
P43A	Skaggs, Pawnee	41.22	89	IAmb	IAmb	23 29 09.4			comp=Z,47nm,0.8s		
P43A	Skaggs, Pawnee	41.22	89	P	P	23 29 08.0	+0.8		baz=314,SNR=9.8		
TX31	Lajitas Ar. Si	41.30	112	P	P	23 29 08.2	+0.1				
TX31	Lajitas Ar. Si	41.30	112	P	P	23 29 09.6	+1.5		baz=324,SNR=23		
TXAR	Lajitas Array	41.30	112	P	P	23 29 09.9	+1.7		comp=Z,6.0nm,0.7s,baz=328,slow=6.1,SNR=82		
TXAR				PcP	PcP	23 31 06.6	0.0		comp=Z,2.9nm,0.6s,baz=209,slow=0.5,SNR=8.6		
TXAR				ScP	ScP	23 34 54.6	-1.2		comp=Z,0.4nm,0.8s,baz=318,slow=1.2,SNR=2.7		
TXAR				LR	LR	23 45 46.8			comp=Z,484nm,18.1s,baz=324,slow=35 comp=Z,6.0nm,0.7s		
FW03	Perrin-Whitt E	41.34	103	IAmb	IAmb	23 29 10.2			comp=Z,33nm,0.6s		
OZNA	Ozona	41.35	108	IAmb	IAmb	23 29 10.6			comp=Z,35nm,0.6s		
CCM	Cathedral Cave	41.38	92	P	P	23 29 08.0	-0.6				
CCM				IAmb	IAmb	23 29 10.1			comp=Z,30nm,0.7s		
CCM	Cathedral Cave	41.38	92	IAMs_20	IAMs_20	23 45 49.4			comp=Z,2µm,20.0s		
CCM	Cathedral Cave	41.38	92	P	P	23 29 08.4	-0.2		baz=316		
CCM	Cathedral Cave	41.38	92	P	P	23 29 08.4	-0.2		baz=316,SNR=15		
CCM	Cathedral Cave	41.38	92	P	P	23 29 08.0	-0.6				
CCM				pmax	pmax				comp=Z,30nm,0.7s		
CCM				MLR	MLR				comp=Z,2µm,20.0s		
PLPT	Palo Pinto	41.38	104	IAmb	IAmb	23 29 10.1			comp=Z,24nm,0.7s		
O44A	Mansfield	41.44	87	IAmb	IAmb	23 29 10.8			comp=Z,26nm,0.8s		
Z35A	Perchaven, San	41.55	102	IAmb	IAmb	23 29 12.3			comp=Z,53nm,0.7s		
FW06	Azle	41.66	103	IAmb	IAmb	23 29 14.4			comp=Z,24nm,0.7s		
U40A	Yellville	41.71	95	P	P	23 29 11.4	0.0		baz=317,SNR=7.2		
U40A				P	P	23 29 11.4	0.0		baz=317,SNR=7.2		
FVM	French Village	41.88	91	IAmb	IAmb	23 29 15.4			comp=Z,98nm,1.8s		
FVM	French Village	41.88	91	P	P	23 29 12.3	-0.5		baz=316,SNR=7.0		
Q44A	Meyer Farm, Va	42.01	89	IAmb	IAmb	23 29 14.7			comp=Z,29nm,0.8s		
Q44A	Meyer Farm, Va	42.01	89	P	P	23 29 14.2	+0.4		baz=315		
SFIN	Lafayette	42.04	86	P	P	23 29 14.7	+0.7		baz=314,SNR=5.2		
SFIN	Lafayette	42.04	86	P	P	23 29 14.8	+0.7		baz=314,SNR=5.2		
YSS	Yuzh-Sakhalins	42.14	287	*e*P	P	23 29 14.6	-0.2				
FW14	Alvarado	42.30	103	IAmb	IAmb	23 29 18.5			comp=Z,37nm,0.6s		
JCT	Junction City	42.40	107	P	P	23 29 18.2	+1.1		baz=322,SNR=21		
JCT	Junction City	42.40	107	P	P	23 29 18.3	+1.1		baz=322,SNR=21		
LPIG	La Paz	42.42	124	LR	LR	23 44 48.2			comp=Z,389nm,19.9s,baz=1.0,slow=33		
SUMG	Summit	42.44	25	P	P	23 29 17.1	-0.2				

SUMG IAmb IAmb 23 29 19.3
comp=Z,26nm,0.8s
SUMG Summit 42.44 25 P **P** **23 29 17.1 -0.2**
SUMG pmax pmax
comp=Z,26nm,0.8s
SUMG Summit 42.44 25 *i* P **P** **23 29 18.0 +0.6**
SUMG IAmb IAmb 23 29 19.6
comp=Z,17nm,0.8s
L48A N Adams 42.44 82 IAmb IAmb 23 29 19.0
comp=Z,24nm,0.6s
WHTX Lake Whitney, 42.47 103 P **P** **23 29 18.3 +0.7**
baz=321
WHTX Lake Whitney, 42.47 103 P **P** **23 29 19.1 +1.5**
baz=321
P46A Rosedale 42.51 87 IAmb IAmb 23 29 20.2
comp=Z,41nm,0.9s
P46A Rosedale 42.51 87 P **P** **23 29 18.6 +0.7**
baz=314,SNR=8.0
OLIL Olney 42.64 88 IAmb IAmb 23 29 20.2
comp=Z,55nm,0.8s
OLIL Olney 42.64 88 P **P** **23 29 19.5 +0.6**
baz=315,SNR=12
S44A Carbondale 42.74 90 P **P** **23 29 20.1 +0.3**
baz=316,SNR=12
SIUC Southern Illin 42.74 90 IAmb IAmb 23 29 20.6
comp=Z,28nm,0.7s
PBMO Poplar Bluff 42.74 92 P **P** **23 29 19.5 -0.2**
baz=317,SNR=7.5
CGM3 Cape Girardeau 42.80 91 IAmb IAmb 23 29 21.5
comp=Z,25nm,0.7s
Z38A Mt. Pleasant 42.84 100 IAmb IAmb 23 29 23.3
comp=Z,36nm,0.8s
Z38A Mt. Pleasant 42.84 100 P **P** **23 29 22.2 +1.6**
baz=320
O48B Farmland 43.20 84 IAMs_20 IAMs_20 23 47 19.3
comp=Z,2µm,20.0s
O48B Farmland 43.20 84 P **P** **23 29 23.2 -0.3**
baz=314
BLO Bloomington 43.20 87 P **P** **23 29 23.1 -0.4**
BLO IAmb IAmb 23 29 25.6
comp=Z,37nm,0.7s
BLO Bloomington 43.20 87 P **P** **23 29 23.1 -0.4**
BLO pmax pmax
comp=Z,37nm,0.7s
SCHQ Schefferville 43.28 57 P **P** **23 29 24.9 +0.9**
comp=Z,12nm,0.8s,baz=309,slow=7.9,SNR=25
comp=Z,12nm,0.8s
435B Jarrell 43.34 105 IAmb IAmb 23 29 27.3
comp=Z,43nm,0.8s
435B IAMs_20 IAMs_20 23 46 39.8
comp=Z,1µm,20.0s
435B Jarrell 43.34 105 P **P** **23 29 25.8 +1.1**
baz=322
WLAR White Oak Lake 43.54 98 IAmb IAmb 23 29 28.6
comp=Z,53nm,1.4s
P48A Milroy 43.60 85 IAmb IAmb 23 29 28.0
comp=Z,89nm,1.6s
P48A Milroy 43.60 85 P **P** **23 29 26.5 -0.3**
baz=315,SNR=8.4
P48A P **P** **23 29 26.5 -0.3**
baz=315,SNR=8.4
P49A Miami Univ. Ec 43.95 85 IAMs_20 IAMs_20 23 47 23.0
comp=Z,1µm,21.0s
P49A Miami Univ. Ec 43.95 85 P **P** **23 29 29.2 -0.3**
baz=315
WCI Wyandotte Cave 43.99 87 P **P** **23 29 28.2 -1.7**
WCI Wyandotte Cave 43.99 87 IAMs_20 IAMs_20 23 47 51.5
comp=Z,1µm,19.0s
WCI Wyandotte Cave 43.99 87 P **P** **23 29 30.1 +0.2**
baz=316
WCI Wyandotte Cave 43.99 87 P **P** **23 29 28.2 -1.7**
WCI pmax pmax
comp=Z,12nm,0.7s
WCI MLR MLR
comp=Z,1µm,19.0s
ASAJ Asahikawa 44.08 284 LR LR 23 45 24.8
comp=Z,516nm,21.7s,baz=356,slow=33
NATX Nacogdoches 44.16 101 P **P** **23 29 31.3 +0.1**
baz=320
N51A Ashland 44.27 82 IAmb IAmb 23 29 33.5
comp=Z,30nm,0.6s
833A Chaparral WMA, 44.32 109 IAmb IAmb 23 29 35.8
comp=Z,15nm,0.7s
833A Chaparral WMA, 44.32 109 P **P** **23 29 33.7 +1.1**
baz=324
ICESG Greenland Ices 44.41 29 *i* P **P** **23 29 32.4 -0.8**
ICESG IAmb IAmb 23 29 36.0
comp=Z,12nm,0.7s
ACSO Alum Creek Sta 44.41 83 IAMs_20 IAMs_20 23 47 53.3
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 44.41 83 P **P** **23 29 32.8 -0.4**
baz=314,SNR=6.1
ACSO Alum Creek Sta 44.41 83 P **P** **23 29 33.8 +0.6**
baz=314,SNR=6.1
T47A Sharon Grove 44.43 89 P **P** **23 29 34.2 +0.8**
baz=316,SNR=6.8
WVT Waverly 44.65 91 P **P** **23 29 35.3 +0.1**
WVT IAmb IAmb 23 31 17.9
comp=Z,21nm,0.6s
WVT Waverly 44.65 91 P **P** **23 29 35.5 +0.3**
baz=317
WVT Waverly 44.65 91 P **P** **23 29 35.9 +0.7**
baz=317,SNR=13
WVT Waverly 44.65 91 P **P** **23 29 35.3 +0.1**
WVT pmax pmax
comp=Z,21nm,0.6s
WVT MLR MLR
comp=Z,2µm,18.0s
ERPA Erie 44.75 79 P **P** **23 29 35.8 0.0**
baz=313
ERPA Erie 44.75 79 P **P** **23 29 37.0 +1.1**
baz=313
M53A WI Miller and 44.84 80 IAmb IAmb 23 29 38.3
comp=Z,26nm,0.7s
M53A IAMs_20 IAMs_20 23 47 59.5
comp=Z,1µm,21.0s
M53A WI Miller and 44.84 80 P **P** **23 29 36.3 -0.4**
baz=314,SNR=5.7
TRQ Mont Tremblant 44.89 71 P **P** **23 29 36.7 -0.3**
TRQ IAmb IAmb 23 29 39.0
comp=Z,93nm,1.9s
P51A Williamsport 44.89 84 IAmb IAmb 23 29 38.9
comp=Z,37nm,1.2s
P51A Williamsport 44.89 84 P **P** **23 29 37.7 +0.7**
baz=315
P51A P **P** **23 29 37.7 +0.7**
baz=315
HKT Hockley 44.93 104 P **P** **23 29 36.8 -0.6**
HKT IAmb IAmb 23 29 41.0
comp=Z,25nm,1.0s
HKT Hockley 44.93 104 IAMs_20 IAMs_20 23 48 00.6
comp=Z,1µm,19.0s
HKT Hockley 44.93 104 *c i* P **P** **23 29 39.1 +1.8**
HKT pmax pmax
comp=Z,35nm,1.1s
OXF Oxford 44.97 94 P **P** **23 29 38.0 +0.3**
baz=318,SNR=7.3
OXF Oxford 44.97 94 P **P** **23 29 38.1 +0.4**
baz=318,SNR=7.3
ALLY Alegheny Colle 44.98 79 P **P** **23 29 38.9 +1.1**
baz=314
R50A Paris 45.04 86 IAmb IAmb 23 29 39.2
comp=Z,25nm,0.8s
R50A Paris 45.04 86 P **P** **23 29 38.7 +0.4**
baz=316,SNR=12
R50A P **P** **23 29 38.7 +0.4**
baz=316,SNR=12
Q51A Peebles 45.06 84 IAmb IAmb 23 29 40.5
comp=Z,31nm,0.8s
Q51A Peebles 45.06 84 P **P** **23 29 38.9 +0.5**
baz=315,SNR=11
Q51A P **P** **23 29 38.9 +0.5**
baz=315,SNR=11
O52A Adamsville 45.12 82 IAmb IAmb 23 29 39.8
comp=Z,19nm,0.7s
SPITS Spitsbergen Ar 45.19 4 P **P** **23 29 38.6 -0.3**
comp=Z,7.8nm,0.7s,baz=37,slow=8.4,SNR=8.3
comp=Z,7.8nm,0.7s
N53A Lisbon 45.19 81 IAmb IAmb 23 29 40.8
comp=Z,21nm,0.6s
N53A Lisbon 45.19 81 P **P** **23 29 40.2 +0.8**
baz=314,SNR=6.2
N53A P **P** **23 29 40.2 +0.8**
baz=314,SNR=6.2
P52A Corning 45.30 83 IAmb IAmb 23 29 41.5
comp=Z,21nm,0.7s
P52A IAMs_20 IAMs_20 23 48 21.7
comp=Z,1µm,19.0s
P52A Corning 45.30 83 P **P** **23 29 40.3 0.0**
baz=315,SNR=5.3
WBO Williamsburg 45.33 72 P **P** **23 29 40.0 -0.4**
WBO IAmb IAmb 23 29 42.0
comp=Z,16nm,0.6s
PLAL Pickwick Lake 45.36 92 IAmb IAmb 23 29 43.0
comp=Z,31nm,0.8s
O53A New Philadelph 45.37 81 P **P** **23 29 40.8 -0.1**
baz=314
LDAQ Lac Daran 45.46 67 P **P** **23 29 41.2 -0.4**
LDAQ IAmb IAmb 23 29 43.8
comp=Z,15nm,0.7s
V48A Smith Brothers 45.50 90 IAmb IAmb 23 29 44.2
comp=Z,49nm,1.4s
V48A Smith Brothers 45.50 90 P **P** **23 29 42.7 +0.8**
baz=317,SNR=7.5
U49A Red Boiling Sp 45.51 89 IAmb IAmb 23 31 21.8
comp=Z,17nm,0.8s
ZEA Zeya 45.55 304 *e* P P 23 29 48.9 +6.8
ZEA pmax pmax
comp=Z,20nm,1.3s
T50A Nancy 45.66 87 P **P** **23 29 43.6 +0.4**
HBVL Hebbronville 45.72 109 IAmb IAmb 23 29 47.9
comp=Z,20nm,1.0s
P53A Whipple 45.81 82 P **P** **23 29 44.7 +0.4**
P53A baz=315,SNR=8.5 P **P** **23 29 44.7 +0.4**
baz=315,SNR=8.5
M55A Ridgway 45.86 78 IAmb IAmb 23 29 46.1
comp=Z,24nm,0.8s
M55A Ridgway 45.86 78 P **P** **23 29 45.5 +0.8**
baz=314,SNR=5.2
M55A P **P** **23 29 45.5 +0.8**
baz=314,SNR=5.2
O54A Avella 45.88 81 IAmb IAmb 23 29 46.7
comp=Z,30nm,0.7s
O54A Avella 45.88 81 P **P** **23 29 45.0 +0.2**
baz=315,SNR=9.0
O54A P **P** **23 29 45.0 +0.2**
baz=315,SNR=9.0
S51A Beattyville 45.91 86 IAmb IAmb 23 31 22.6
comp=Z,25nm,0.7s
S51A Beattyville 45.91 86 P **P** **23 29 45.5 +0.4**
baz=316,SNR=7.9
S51A P **P** **23 29 45.5 +0.4**
baz=316,SNR=7.9
LONY Lake Ozonia 45.95 72 IAMs_20 IAMs_20 23 48 40.5
comp=Z,2µm,19.0s
LONY Lake Ozonia 45.95 72 P **P** **23 29 45.4 +0.1**
baz=312
L56A Greenwood 46.05 77 P **P** **23 29 47.3 +1.0**
L56A P **P** **23 29 47.3 +1.0**
baz=314,SNR=8.1
VBMS Vicksburg 46.08 97 IAMs_20 IAMs_20 23 49 05.0
comp=Z,1µm,19.0s
VBMS Vicksburg 46.08 97 P **P** **23 29 47.2 +0.8**
baz=320
PSDB Penn State Uni 46.10 79 P **P** **23 29 48.0 +1.4**
baz=314
KLR Kul'dur 46.31 297 ⇑ *e* P **P** **23 29 49.5 +1.3**
KLR pmax pmax
comp=Z,56nm,1.0s
KLR Kul'dur 46.31 297 LR LR 23 51 47.9
comp=Z,429nm,18.0s,baz=40,slow=39
R53A Hurricane 46.32 84 P **P** **23 29 49.2 +0.9**
baz=316,SNR=11
R53A P **P** **23 29 49.2 +0.9**
baz=316,SNR=11
X48A Hartselle 46.32 92 P **P** **23 29 48.9 +0.6**
baz=318,SNR=13
FRNY Flat Rock 46.33 71 P **P** **23 29 48.2 -0.1**
baz=313
SWET Sewanee 46.37 90 P **P** **23 29 48.7 -0.1**
J58A Remsen 46.43 74 IAmb IAmb 23 29 50.6
comp=Z,20nm,0.8s
Q54A Coxs Mills 46.47 82 IAmb IAmb 23 29 50.5
comp=Z,22nm,0.7s
Q54A Coxs Mills 46.47 82 P **P** **23 29 50.3 +0.8**
baz=315,SNR=5.7
Q54A P **P** **23 29 50.3 +0.8**
baz=315,SNR=5.7
MCWV Mont Chateau 46.53 81 IAmb IAmb 23 29 51.0
comp=Z,28nm,0.8s
MCWV Mont Chateau 46.53 81 P **P** **23 29 50.2 +0.2**
baz=315,SNR=5.3
MCWV Mont Chateau 46.53 81 P **P** **23 29 50.5 +0.5**
baz=315,SNR=5.3
TZTN Tazewell 46.72 87 IAMs_20 IAMs_20 23 49 33.7
comp=Z,2µm,21.0s
TZTN Tazewell 46.72 87 P **P** **23 29 52.3 +0.8**
baz=317
W50A Signal Mountai 46.73 90 P **P** **23 29 52.8 +1.1**
baz=318,SNR=7.6
M57A Sunshine Farm, 46.84 77 P **P** **23 29 53.0 +0.7**
baz=314,SNR=5.7
M57A P **P** **23 29 53.0 +0.7**
baz=314,SNR=5.7
BINY Binghamton 46.85 76 IAmb IAmb 23 29 54.0
comp=Z,23nm,0.7s
BINY Binghamton 46.85 76 P **P** **23 29 52.7 +0.2**
baz=314
SSPA Standing Stone 46.91 79 IAMs_20 IAMs_20 23 49 21.3
comp=Z,1µm,20.0s
SSPA Standing Stone 46.91 79 P **P** **23 29 53.3 +0.3**
baz=315
ISOG Isortoq, Green 47.02 33 *i* P **P** **23 29 52.7 -0.7**
ISOG IAmb IAmb 23 29 54.6
comp=Z,19nm,0.5s
Y49A Blount Mountai 47.11 92 IAmb IAmb 23 29 55.8
comp=Z,23nm,0.8s
Y49A Blount Mountai 47.11 92 P **P** **23 29 55.3 +0.7**
baz=318,SNR=6.6
SOEG Soedalen 47.19 27 *i* P **P** **23 29 55.6 +0.8**
SOEG IAmb IAmb 23 30 16.5
comp=Z,6.5nm,0.7s
V52A Sevierville 47.21 88 P **P** **23 29 55.2 -0.1**
V52A IAmb IAmb 23 31 27.2
comp=Z,12nm,0.7s
E62A Clayton Lake 47.23 67 IAmb IAmb 23 30 20.2
comp=Z,15nm,0.8s
ANGG Ammassalik, Gr 47.37 32 *i* P **P** **23 29 55.6 -0.6**
ANGG IAmb IAmb 23 29 57.4
comp=Z,13nm,0.6s
LRAL Lakeview Retre 47.40 93 P **P** **23 29 57.3 +0.4**
baz=319
LRAL Lakeview Retre 47.40 93 P **P** **23 29 57.3 +0.4**
baz=319
N58A Sunbury 47.41 78 IAmb IAmb 23 29 59.1
comp=Z,21nm,0.8s
X51A Calhoun 47.45 90 P **P** **23 29 58.3 +1.1**
baz=318,SNR=11
X51A P **P** **23 29 58.3 +1.1**
baz=318,SNR=11
W52A Murphy 47.57 89 IAmb IAmb 23 30 01.3
comp=Z,37nm,1.4s
LBNH Lisbon 47.60 71 IAMs_20 IAMs_20 23 48 20.2
comp=Z,1µm,20.0s
LBNH Lisbon 47.60 71 P **P** **23 29 58.6 +0.3**
baz=313
U54A Nelsons Funny 47.69 86 P **P** **23 30 00.5 +1.3**
baz=317,SNR=11
U54A P **P** **23 30 00.5 +1.3**
baz=317,SNR=11
HEH HeiHe 47.75 300 *e* P **P** **23 29 57.6 -1.7**
V53A Saluda 47.77 87 P **P** **23 30 00.5 +0.8**
baz=317,SNR=6.4
V53A P **P** **23 30 00.5 +0.8**
baz=317,SNR=6.4
HNH Hanover 47.78 72 IAMs_20 IAMs_20 23 48 00.9
comp=Z,2µm,20.0s
PQI Presque Isle 47.96 66 IAMs_20 IAMs_20 23 50 03.2
comp=Z,2µm,20.0s
BLA Blacksburg 47.97 84 IAmb IAmb 23 30 04.4
comp=Z,19nm,0.7s
BLA Blacksburg 47.97 84 P **P** **23 30 01.9 +0.6**
baz=317
NRIK Noril'sk 48.12 337 P **P** **23 30 00.4 -1.6**
NRIK IAmb IAmb 23 30 15.3
comp=Z,39nm,1.4s
NRIK Noril'sk 48.12 337 P **P** **23 30 02.2 +0.2**
comp=Z,8.4nm,0.6s,baz=52,slow=6.5,SNR=24
NRIK LR LR 23 54 07.9
comp=Z,851nm,19.1s,baz=42,slow=41
comp=Z,8.4nm,0.6s
CASEE Lake Jocassee 48.20 88 P **P** **23 30 03.8 +0.8**
baz=318,SNR=9.9
Z51A Franklin 48.20 91 P **P** **23 30 03.8 +0.7**
baz=319,SNR=12
PKME Peaks-Kenny Pk 48.27 68 P **P** **23 30 03.5 +0.1**
baz=313
Y52A Lilburn 48.41 90 P **P** **23 30 05.7 +1.1**
baz=318,SNR=16
Y52A P **P** **23 30 05.7 +1.1**
baz=318,SNR=16
L61B Northampton 48.44 73 P **P** **23 30 05.7 +0.9**
baz=314
BOD Bodaibo 48.51 315 *e* P **P** **23 30 04.8 -0.3**
BOD pmax pmax
comp=Z,35nm,1.8s
V55A Taylorsville 48.52 86 P **P** **23 30 06.5 +1.0**
baz=317,SNR=10
V55A P **P** **23 30 06.5 +1.0**
baz=317,SNR=10
250A Grady 48.60 93 P **P** **23 30 07.1 +0.9**
baz=320,SNR=21
U56A King 48.61 85 IAmb IAmb 23 30 07.8
comp=Z,20nm,0.8s
WUPA West Chester U 48.65 78 IAmb IAmb 23 30 23.9
comp=Z,46nm,1.8s
BRAL Brewton 48.79 95 P **P** **23 30 08.9 +1.3**
baz=320,SNR=5.1
BRAL Brewton 48.79 95 P **P** **23 30 09.5 +2.0**
baz=320,SNR=5.1
PAL Palisades 48.80 75 P **P** **23 30 08.3 +0.7**
baz=315
CBN Corbin Frederi 48.92 81 IAMs_20 IAMs_20 23 50 42.6
comp=Z,2µm,20.0s
152A Waverly Hall 48.94 91 IAmb IAmb 23 30 09.5
comp=Z,25nm,0.7s
152A Waverly Hall 48.94 91 P **P** **23 30 08.9 +0.1**
baz=319,SNR=10
KMSC Kings Mountain 48.97 86 P **P** **23 30 08.2 -0.8**
KMSC IAmb IAmb 23 30 11.3
comp=Z,27nm,0.8s
KMSC Kings Mountain 48.97 86 P **P** **23 30 09.4 +0.4**
baz=318,SNR=6.1
KMSC Kings Mountain 48.97 86 P **P** **23 30 09.6 +0.7**
baz=318,SNR=6.1
HRV Adam Dziewonsk 49.00 72 P **P** **23 30 10.0 +1.0**
baz=315
GOGA Godfrey 49.08 90 IAmb IAmb 23 30 11.9
comp=Z,22nm,0.9s
GOGA Godfrey 49.08 90 P **P** **23 30 10.0 +0.3**
baz=319,SNR=7.0
GOGA Godfrey 49.08 90 P **P** **23 30 09.9 +0.1**
baz=319,SNR=7.0
HODGE Hodges 49.13 88 P **P** **23 30 10.8 +0.5**
baz=318,SNR=16
USRK Ussuriysk Ar. 49.60 292 P **P** **23 30 14.1 +0.4**
comp=Z,1.5nm,0.7s,baz=54,slow=6.1,SNR=2.9
USRK LR LR 23 51 39.1
comp=Z,470nm,20.9s,baz=59,slow=37
comp=Z,1.5nm,0.7s
H11N2 WAKE ISLAND Hy 49.61 241 T T 00 24 03.1
baz=33,slow=76
H11N3 WAKE ISLAND Hy 49.61 241 T T 00 23 57.5
baz=33,slow=76
H11N1 WAKE ISLAND Hy 49.62 241 T T 00 23 59.7
baz=33,slow=76
W57A Gilead 49.70 85 IAmb IAmb 23 30 15.8
comp=Z,16nm,0.7s
U59A Littleton 50.03 83 IAmb IAmb 23 30 18.3
comp=Z,21nm,0.8s
U59A Littleton 50.03 83 P **P** **23 30 18.0 +1.0**
baz=317
U59A P **P** **23 30 18.0 +1.0**
baz=317
TIGA Tifton 50.49 91 P **P** **23 30 20.6 0.0**
baz=320
MDJ Mudanjiang 50.54 294 P **P** **23 30 24.8 +4.0**
MDJ pmax pmax
comp=Z,14nm,2.3s
MDJ pmax pmax
comp=Z,1µm,5.2s
W59A Clinton 50.55 84 IAmb IAmb 23 30 22.4
comp=Z,26nm,0.7s
255A Hazlehurst 50.74 90 P **P** **23 30 22.6 +0.2**
baz=320
H11S1 WAKE ISLAND Hy 50.75 240 T T 00 25 37.2
baz=27,slow=74
H11S2 WAKE ISLAND Hy 50.76 240 T T 00 26 30.5
baz=27,slow=74
H11S3 WAKE ISLAND Hy 50.76 240 T T 00 26 31.2
baz=27,slow=74
CNNC Cliffs of the 50.80 84 P **P** **23 30 23.5 +0.6**
baz=318
BNX BinXian 50.85 296 ⇑ P P 23 30 30.9 +7.8
BNX pmax pmax
comp=Z,24nm,1.6s
BNX pmax pmax
comp=Z,2µm,4.9s
NHSC New Hope 51.12 87 IAMs_20 IAMs_20 23 52 03.2
comp=Z,2µm,21.0s
NHSC New Hope 51.12 87 P **P** **23 30 25.8 +0.5**
baz=319
DRLN Deer Lake 51.28 57 IAmb IAmb 23 30 28.5
comp=Z,34nm,0.8s
MJAR Matsushiro Arr 51.78 280 P **P** **23 30 29.5 -0.7**
comp=Z,1.0nm,0.3s,baz=53,slow=8.3,SNR=1.5
MJAR LR LR 23 51 20.0
comp=Z,316nm,21.7s,baz=46,slow=35
comp=Z,1.0nm,0.3s
656A Willston 52.66 92 P **P** **23 30 37.3 +0.5**
baz=321
CN2 Changchun 53.21 296 P **P** **23 30 45.0 +4.3**
CN2 pP pwP 23 30 49.4 +0.3
CN2 sP pP 23 30 52.8 +9.1
CN2 pmax pmax
comp=Z,30nm,0.8s
TLIG Tlapa 53.64 116 IAmb IAmb 23 30 47.8
comp=Z,22nm,0.8s
ARCES ARCESS Array B 54.13 3 P **P** **23 30 45.0 -2.1**
ARCES IAmb IAmb 23 31 02.7
comp=Z,33nm,1.2s
ARCES ARCESS Array B 54.13 3 P **P** **23 30 46.5 -0.5**
comp=Z,2.6nm,0.5s,baz=351,slow=7.4,SNR=24
comp=Z,2.6nm,0.5s
DWPF Disney Wildern 54.25 92 IAMs_20 IAMs_20 23 53 49.1
comp=Z,2µm,20.0s
APA Apatity 56.19 359 ⇓ *i* P P 23 31 13.0 +11
APA pmax pmax
comp=Z,7.0nm,0.8s
APA MLR MLR
comp=Z,700nm,19.0s
KSRS Korea Array 56.62 289 P **P** **23 31 06.1 +0.7**
comp=Z,2.7nm,0.7s,baz=54,slow=7.3,SNR=5.1
KSRS LR LR 23 54 11.4
comp=Z,191nm,21.4s,baz=45,slow=35
comp=Z,2.7nm,0.7s
JCJ Chichijima 56.76 270 LR LR 23 52 34.5
comp=Z,223nm,21.9s,baz=40,slow=33
TEIG Tepich 56.78 104 P **P** **23 31 05.8 -0.9**
TEIG IAmb IAmb 23 31 07.7
comp=Z,25nm,0.7s
TEIG Tepich 56.78 104 LR LR 23 57 11.9
comp=Z,2µm,20.8s,baz=162,slow=38
XLT XiLinHaoTe 57.69 302 *e* P P 23 31 19.6 +6.6
XLT pmax pmax
comp=Z,14nm,0.7s
XLT pmax pmax
comp=Z,1µm,5.5s
ZAK Zakamensk 58.24 314 *e* P **P** **23 31 16.3 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,0.7s
JNU Nakatsue 58.33 283 LR LR 23 55 03.9
comp=Z,262nm,21.8s,baz=34,slow=35
ULN Ulaanbaatar 58.68 310 P **P** **23 31 19.2 -0.8**
ULN Ulaanbaatar 58.68 310 ⇑ *i* P **P** **23 31 21.0 +1.0**
ULN pmax pmax
comp=Z,15nm,0.9s
SONM Songino Array 58.98 311 P **P** **23 31 21.9 -0.2**
SONM Songino Array 58.98 311 P **P** **23 31 23.1 +1.1**
comp=Z,7.0nm,0.8s,baz=41,slow=5.8,SNR=39
SONM LR LR 00 00 27.4
comp=Z,506nm,18.1s,baz=2.5,slow=40
comp=Z,7.0nm,0.8s
BJI Beijing 60.60 299 P **P** **23 31 36.0 +2.9**
BJI pP **pwP** **23 31 39.1 -2.5**
MTO3 Montecristo 61.02 109 P **P** **23 31 35.3 -1.3**
MTO3 IAmb IAmb 23 31 37.4
comp=Z,31nm,1.6s
NB2 NORSAR Subarra 61.62 11 P **P** **23 31 40.0 +0.2**
comp=Z,13nm,0.9s,baz=347,slow=6.9
NOA NORSAR Array B 61.62 11 P **P** **23 31 39.6 -0.1**
comp=Z,3.0nm,0.7s,baz=349,slow=6.7,SNR=6.2

comp=Z,3.0nm,0.7s
SNET Serv Nac Est T 61.69 109 IAMs_20 IAMs_20 23 58 24.0
comp=Z,447nm,22.0s
ZAA0 Zalesovo Array 61.70 328 P **P** **23 31 39.4 -0.9**
ZALV Zalesovo Beam 61.70 328 **P** **23 31 39.9 -0.5**
ZALV Zalesovo Beam 61.70 328 P **P** **23 31 40.4 +0.1**
comp=Z,8.1nm,0.7s,baz=31,slow=7.4,SNR=42
ZALV LR LR 00 02 21.9
comp=Z,464nm,18.3s,baz=10,slow=40
comp=Z,8.1nm,0.7s
HHC Hu-ho-hao-te 62.16 302 ⇑P **P** **23 31 45.0 +1.2**
HHC sP pwP 23 31 55.9 +3.5
HHC *e*S **S** **23 40 09.3 +0.6**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,310nm,4.5s
HHC LR LR
comp=Z,870nm,14.5s
HHC LR LR
comp=Z,590nm,13.7s
HHC LR LR
comp=Z,1μm,13.3s
FINES FINESS Array B 62.25 3 P **P** **23 31 43.5 -0.5**
FINES FINESS Array B 62.25 3 P **P** **23 31 44.5 +0.6**
comp=Z,5.7nm,0.7s,baz=4.3,slow=8.2,SNR=35
comp=Z,5.7nm,0.7s
HFS Hagfors 62.76 10 P **P** **23 31 47.6 +0.2**
comp=Z,3.0nm,0.7s,baz=35,slow=5.4,SNR=6.9
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 62.78 356 *e*P **P** **23 31 46.4 -1.1**
KLMR pmax pmax
comp=Z,59nm,1.6s
BTO Baotou 63.08 303 *e*P **P** **23 31 50.4 +0.5**
BTO pP **pwP** **23 31 55.1 -3.3**
BTO sP pP 23 31 57.4 +4.4
BTO PP **PP** **23 34 10.4 +2.2**
BTO pmax pmax
comp=Z,15nm,2.0s
BTO pmax pmax
comp=Z,1μm,5.3s
BTO LR LR
comp=Z,1μm,12.8s
BTO LR LR
comp=Z,1μm,12.5s
BTO LR LR
comp=Z,3μm,16.0s
HNS HongShan 63.38 298 ⇑P **P** **23 31 53.3 +1.5**
HNS pmax pmax
comp=Z,9.0nm,0.9s
MATN Matagalpa 64.06 107 P **P** **23 31 56.6 0.0**
KIRV Kirov 64.36 350⇓*e*P **P** **23 31 58.8 +0.9**
DGZ Jazzator, Alta 64.56 324⇑*i*P **P** **23 32 00.7 +1.1**
DGZ pmax pmax
comp=Z,24nm,1.6s
SVE Sverdlovsk 64.62 343⇓*e*P **P** **23 32 00.6 +0.9**
SVE pmax pmax
comp=Z,27nm,0.7s
JOW Kunigami 64.63 281 LR LR 23 59 35.9
comp=Z,189nm,21.9s,baz=119,slow=35
EKA Eskdalemuir Ar 64.88 21 P **P** **23 32 02.0 +0.6**
EKA Eskdalemuir Ar 64.88 21 P **P** **23 32 02.0 +0.6**
comp=Z,8.8nm,0.7s,baz=312,slow=4.9,SNR=22
comp=Z,8.8nm,0.7s
VSU Vasula 65.26 3⇑*e*P **P** **23 32 04.3 +0.5**
VSU pmax pmax
comp=Z,57nm,1.7s
ARU Arti 65.33 344 P **P** **23 32 04.1 -0.2**
ARU Arti 65.33 344*d i*P **P** **23 32 04.1 -0.2**
ARU 23 32 36.0
ARU 23 34 26.2
ARU S **S** **23 40 48.2 +0.9**
ARU SS **SS** **23 44 54.2 -4.9**
ARU pmax pmax
comp=Z,11nm,0.7s
ARU Arti 65.33 344 LR LR 00 02 06.1
comp=Z,501nm,21.1s,baz=68,slow=37
NJ2 Nanjing 65.51 291 *e*P **P** **23 32 04.9 -0.9**
NJ2 sP **pwP** **23 32 16.5 +2.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,410nm,4.1s
SEM Semipalatinsk 66.15 329 *e*P **P** **23 32 10.5 +0.5**
comp=Z,23nm,2.1s,baz=328
SEM Semipalatinsk 66.15 329 *e*P **P** **23 32 10.5 +0.5**
SEM pmax pmax
comp=Z,23nm,2.1s
BRVK Borovoye 66.31 336 P **P** **23 32 10.2 -0.5**
BRVK Borovoye 66.31 336⇓*i*P **P** **23 32 10.6 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 66.32 336 P **P** **23 32 10.9 +0.2**
comp=Z,7.9nm,0.7s,baz=30,slow=7.1,SNR=23
comp=Z,7.9nm,0.7s
KURK Kurchatov 66.34 330 P **P** **23 32 10.2 -0.7**
KURK IAmb IAmb 23 32 23.4
comp=Z,9.8nm,0.6s
KURK Kurchatov 66.34 330 P **P** **23 32 11.4 +0.5**
KURBB Kurchatov Arra 66.45 330 P **P** **23 32 11.4 -0.2**
comp=Z,3.9nm,0.5s,baz=29,slow=6.5,SNR=46
comp=Z,3.9nm,0.5s
LYN LuoYang 66.74 298 *e*P **P** **23 32 13.3 -0.4**
LYN pmax pmax
comp=Z,18nm,0.6s
LYN pmax pmax
comp=Z,420nm,4.8s
LYN LR LR
comp=Z,390nm,5.8s
LYN LR LR
comp=Z,590nm,5.8s
LYN LR LR
comp=Z,650nm,12.7s
JTS Las Juntas de 66.78 107 LR LR 00 04 21.3
comp=Z,221nm,19.8s,baz=317,slow=38
SDDR Presa de Saban 67.10 90 P **P** **23 32 16.5 +0.2**
SDDR IAmb IAmb 23 32 18.3
comp=Z,21nm,0.8s
ZSN Zaisan 67.36 324 *e*P **P** **23 32 18.5 +1.0**
comp=Z,11nm,0.8s,baz=324
ZSN Zaisan 67.36 324 *e*P **P** **23 32 18.4 +1.0**
ZSN pmax pmax
comp=Z,11nm,0.8s
BRZS Berezniki 68.59 333 *e*P **P** **23 32 25.7 +0.6**
comp=Z,12nm,1.4s,baz=333
BRZS Berezniki 68.59 333 *e*P **P** **23 32 25.7 +0.6**
BRZS pmax pmax
comp=Z,12nm,1.4s
GTA Gaotai 68.59 310 P **P** **23 32 25.9 +0.4**
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA LR LR
comp=Z,620nm,17.1s
GTA LR LR
comp=Z,410nm,20.7s
GTA LR LR
comp=Z,520nm,18.3s
OBN Obninsk 68.63 357⇑*e*P **P** **23 32 25.7 +0.5**
OBN *e* 23 32 51.0
OBN *e* 23 35 00.9
OBN *e*S **S** **23 41 32.7 +5.7**
OBN pmax pmax
comp=Z,36nm,2.1s
MK31 Makanchi Array 68.76 325 P **P** **23 32 25.6 -0.7**
MK31 Makanchi Array 68.76 325*de*P **P** **23 32 25.9 -0.4**
MKAR Makanchi Array 68.76 325 P **P** **23 32 26.0 -0.3**
comp=Z,3.1nm,0.6s,baz=34,slow=6.2,SNR=66
MKAR LR LR 00 06 29.4
comp=Z,577nm,18.1s,baz=15,slow=39
comp=Z,3.1nm,0.6s
MAKZ Makanchi 68.84 326 P **P** **23 32 26.0 -0.8**
MAKZ IAmb IAmb 23 32 40.2
comp=Z,7.5nm,0.7s
MAKZ Makanchi 68.84 326 P **P** **23 32 26.0 -0.8**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
XAN Xi'an 68.87 300 P **P** **23 32 27.8 +0.6**
XAN pmax pmax
comp=Z,41nm,0.7s
MNK Minsk 69.25 3 *i* P **P** **23 32 31.3 +2.1**
MNK *i* 23 35 03.9
MNK *i* S **S** **23 41 40.3 +5.8**
MNK *i* SS **SS** **23 46 05.1 +5.3**
MNK *i* SSS SSS 23 49 09.6
MNK pmax pmax
comp=E,20nm,1.5s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,17nm,1.1s
MNK MLR MLR
comp=N,163nm,20.0s
MNK MLR MLR
comp=Z,225nm,20.0s
MNK MLR MLR
comp=E,32nm,15.0s
LZH Lanzhou 69.57 305 *e*P P 23 32 38.6 +6.9
LZH pP pwP 23 32 44.3 +4.1
LZH pmax pmax
comp=Z,15nm,1.4s
LZH LR LR
comp=N,840nm,17.9s
LZH LR LR
comp=E,610nm,19.6s
LZH LR LR
comp=Z,1μm,17.5s
WMQ Urumqi 69.57 320 *e*P **P** **23 32 36.0 +4.6**
WMQ sP pwP 23 32 45.8 +5.8
WMQ PcP **PcP** **23 32 59.6 +5.1**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ LR LR
comp=Z,420nm,15.3s
WMQ LR LR
comp=Z,490nm,15.3s
WMQ LR LR
comp=Z,460nm,18.7s
GCPR Guaynabo City 70.53 86 IAmb IAmb 23 32 37.9
comp=Z,27nm,0.9s
SJG San Juan 70.65 86 LR LR 00 03 54.2
comp=Z,160nm,20.6s,baz=356,slow=36
BELG Belogornoye 70.65 350*d i*P **P** **23 32 37.5 -0.3**
BELG pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 71.06 355 *e*P **P** **23 32 43.8 +3.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
BGES Gesves 71.13 18 *d*P P 23 32 46.4 +5.6
BMRD Maredsous 71.15 18 *d*P **P** **23 32 42.4 +1.5**
DOU Dourbes 71.32 18 *d*P P 23 32 48.8 +6.9
CLL Collm 71.37 12 *e*P **P** **23 32 43.0 +0.8**
CLL *i* *PP **pwP** **23 32 50.2 -0.6**
CLL Collm 71.37 12 *e*P **P** **23 32 43.0 +0.8**
CLL *i* x x 23 32 50.2
TDK Taldyqorghan 71.56 327 *e*P **P** **23 32 43.8 +0.2**
comp=Z,11nm,1.4s,baz=327
TDK *i* S **S** **23 42 03.1 +1.3**
baz=327
TDK Taldyqorghan 71.56 327 *e*P **P** **23 32 43.7 +0.2**
TDK *i* S **S** **23 42 03.1 +1.3**
TDK pmax pmax
comp=Z,11nm,1.4s
BRG Berggiesshubel 71.91 12 *e*P **P** **23 32 46.8 +1.3**
BRG Amp 23 32 50.1
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 71.91 12 *e*P **P** **23 32 46.7 +1.3**
BRG 23 32 59.8
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG MLR MLR
comp=E,569nm,15.4s
BRG MLR MLR
comp=N,620nm,12.6s
BRG MLR MLR
comp=Z,1μm,15.9s
HSKC Hora Svate Kat 72.11 12 *e*P P 23 32 59.5 +13
VRH Novokhopyorsk 72.30 354 *e*P **P** **23 32 45.7 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.6s
PVCC Panska Ves 72.32 12 *e*P **P** **23 32 48.8 +0.9**
PVCC Panska Ves 72.32 12 *e*P **P** **23 32 48.8 +0.9**
NKC Novy Kostel 72.36 13 *e*P **P** **23 32 48.9 +0.7**
NKC Novy Kostel 72.36 13 *e*P **P** **23 32 48.9 +0.7**
SMRT St. Maarten 72.39 84 IAMs_20 IAMs_20 00 03 54.4
comp=Z,541nm,21.0s
CHVC Chvalec 72.42 11 *e*P **P** **23 32 49.4 +0.9**
CHVC Chvalec 72.42 11 *e*P **P** **23 32 49.4 +0.9**
VSR Storozhevoye 72.43 355 *e*P **P** **23 32 47.2 -1.3**
VSR pmax pmax
comp=Z,7.0nm,0.5s
UPC Upice 72.49 11 *e*P P 23 32 57.1 +8.1
SABA Saba 72.65 84 IAMs_20 IAMs_20 00 07 26.2
comp=Z,468nm,19.0s
VORD Divnogorie 72.67 355 *e*P **P** **23 32 48.5 -1.5**
VORD pmax pmax
comp=Z,8.0nm,0.5s
DPC Dobruska-Polom 72.68 10 *e*P **P** **23 32 52.2 +2.1**
DPC Dobruska-Polom 72.68 10 *e*P **P** **23 32 52.2 +2.1**
GRF Grafenberg Arr 72.73 14 *e*P P 23 32 59.0 +8.6
comp=Z,4.8nm,0.7s,baz=349,slow=5.5
PRA Prague 72.75 12 *e*P P 23 33 03.6 +13
BTLS Baital 72.78 330 *e*P **P** **23 32 50.9 +0.1**
baz=330
BTLS Baital 72.78 330 *e*P **P** **23 32 50.8 +0.1**
PRU Pruhonice 72.85 12 *e*P P 23 32 58.3 +7.2
KPKS Kokpek 72.87 326 *e*P **P** **23 32 51.7 +0.3**
baz=326
KPKS Kokpek 72.87 326 *e*P **P** **23 32 51.7 +0.3**
SHLS Shalkode 72.91 326 *e*P **P** **23 32 51.7 0.0**
comp=Z,22nm,1.8s,baz=325
SHLS Shalkode 72.91 326 *e*P **P** **23 32 51.7 0.0**
SHLS pmax pmax
comp=Z,22nm,1.8s
GOPC GO Pecny, Ondr 72.95 12 *e*P P 23 33 04.8 +13
KRLC Kraliky 73.00 10 *e*P **P** **23 32 52.3 +0.3**
KRLC Kraliky 73.00 10 *e*P **P** **23 32 52.3 +0.3**
CHKK Chushkaly 73.03 328 *e*P **P** **23 32 52.3 0.0**
baz=328
CHKK Chushkaly 73.03 328 *e*P **P** **23 32 52.3 0.0**
UZB Uzynbulak 73.05 326 *e*P **P** **23 32 52.4 -0.3**
baz=326
UZB Uzynbulak 73.05 326 *e*P **P** **23 32 52.3 -0.3**
AKASG Malin Array Be 73.09 2 P **P** **23 32 52.5 +0.1**
comp=Z,2.4nm,0.6s,baz=356,slow=5.6,SNR=12
comp=Z,2.4nm,0.6s
AKBB Malin Array Si 73.09 2⇓*e*P **P** **23 32 53.3 +0.9**
AKBB pmax pmax
comp=Z,38nm,1.6s
KIEV Kiev 73.09 2 ⇓P **P** **23 32 53.3 +0.8**
KIEV Kiev 73.09 2 P **P** **23 32 53.3 +0.8**
KUU Kurty 73.18 328 *e*P **P** **23 32 53.2 0.0**
baz=328
KUU Kurty 73.18 328 *e*P **P** **23 32 53.2 0.0**
ZHN Zhinishke 73.22 326 *e*P **P** **23 32 53.7 +0.2**
baz=326
ZHN Zhinishke 73.22 326 *e*P **P** **23 32 53.7 +0.2**
SATY Saty 73.32 326 *e*P **P** **23 32 54.6 +0.4**
baz=326
SATY Saty 73.32 326 *e*P **P** **23 32 54.6 +0.4**
ZVC Zvikov 73.35 12 *e*P **P** **23 32 55.1 +1.1**
MORC Moravsky Berou 73.36 10 ⇓P **P** **23 32 55.1 +0.9**
MORC Moravsky Berou 73.36 10 IAmb IAmb 23 33 09.3
comp=Z,51nm,2.0s
MORC Moravsky Berou 73.36 10 *e*P **P** **23 32 54.9 +0.7**
MORC Moravsky Berou 73.36 10 P **P** **23 32 55.1 +0.9**
GOMU GeErMu 73.41 311 P **P** **23 32 54.0 -1.1**
GOMU pP pwP 23 32 58.9 -4.8
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU LR LR
comp=Z,300nm,19.8s
GOMU LR LR
comp=Z,480nm,19.0s
GOMU LR LR
comp=Z,470nm,20.4s
KHC Kasperske Hory 73.58 12 *e*P **P** **23 32 56.4 +0.9**
KHC *e*PCP **PcP** **23 33 08.9 -2.5**
KHC Kasperske Hory 73.58 12⇓*e*P **P** **23 32 57.5 +2.0**
KHC pmax pmax
comp=Z,59nm,1.9s
TREC Trest 73.64 11 *e*P **P** **23 32 55.5 -0.3**
TREC Trest 73.64 11 *e*P **P** **23 32 55.5 -0.3**
AAA Alma-Ata 73.64 327 *e*P **P** **23 32 56.3 +0.4**
comp=Z,30nm,1.5s,baz=327
AAA Alma-Ata 73.64 327 *e*P **P** **23 32 56.3 +0.4**
AAA pmax pmax
comp=Z,29nm,1.5s
MDOK Medeo 73.64 327 *e*P **P** **23 32 56.3 +0.2**
baz=327
MDOK Medeo 73.64 327 *e*P **P** **23 32 56.3 +0.2**
VRAC Vranov 73.74 10 ⇓P **P** **23 32 57.5 +1.1**
VRAC Vranov 73.74 10 *e*P **P** **23 32 57.4 +1.1**
VRAC Vranov 73.74 10 P **P** **23 32 57.4 +1.1**
MAUC Maruska 73.80 10 *e*P **P** **23 32 57.6 +0.9**
PPT Papeete 73.85 182 LR LR 23 58 16.0
comp=Z,399nm,18.9s,baz=3.5,slow=30
PPT2 Papeete2 73.87 182 *e*S **SKiKP** **23 42 22.8 -2.9**
comp=Z,102nm,26.2s
PPT2 *e*S **S** **23 42 26.8 -1.7**
comp=Z,112nm,31.2s
PPT2 *e*SS SS 23 47 04.6 -8.6
comp=Z,171nm,26.0s
PPT2 *e*SS SS 23 47 09.9 -3.3
comp=Z,124nm,30.0s
PPT2 *e*LR LR 23 55 19.0
comp=Z,432nm,21.8s
PPT2 *e*LR LR 23 55 27.6
comp=Z,358nm,22.0s
GEC2 GERESS Array S 73.88 12 IAmb IAmb 23 33 13.0
comp=Z,38nm,1.9s
GERES GERESS Array B 73.88 12 P **P** **23 32 58.0 +0.7**
comp=Z,1.5nm,0.6s,baz=12,slow=6.8,SNR=4.9
comp=Z,1.5nm,0.6s
CD2 Chengdu 73.91 302 *e*P **P** **23 33 00.3 +2.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KRUC Moravsky 73.96 11 *e*P **P** **23 32 58.4 +0.8**
CKRC Cesky Krumlov 73.97 12 *e*P **P** **23 32 53.6 -4.1**
CKRC Cesky Krumlov 73.97 12 *e*P **P** **23 32 53.6 -4.1**
SGDS Sogindy 74.08 329 *e*P **P** **23 32 58.8 +0.2**
baz=329
SGDS Sogindy 74.08 329 *e*P **P** **23 32 58.7 +0.2**
LANS Liptovska Anna 74.15 8 *e*P **P** **23 33 00.7 +1.9**
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 74.15 8 *e*P **P** **23 33 00.7 +1.9**
JAVC Velka Javorina 74.28 10 *e*P **P** **23 33 01.4 +1.8**
TKM2 Tokmak 2 74.29 328 P **P** **23 33 00.7 +0.7**
SNR=6.0
CHMS Chumysh 74.46 329 P **P** **23 33 01.6 +0.9**
SNR=6.6
KBK Karagaybulak 74.72 329 P **P** **23 33 03.6 +1.2**
SNR=5.8
MODS Modra-Piesok 74.73 10 *e*P **P** **23 33 03.7 +1.6**
MODS pmax pmax
comp=Z,97nm,1.7s
MODS Modra-Piesok 74.73 10 *e*P **P** **23 33 03.7 +1.6**
VYHS Vyhne 74.75 9 *e*P **P** **23 33 03.4 +1.1**
VYHS pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 74.75 9 *e*P **P** **23 33 03.4 +1.1**
AAK Ala-Archa 74.87 329 P **P** **23 33 01.0 -2.2**
AAK Ala-Archa 74.87 329*c i*P **P** **23 33 04.1 +0.8**
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 74.87 329 LR LR 00 11 06.9
comp=Z,542nm,18.8s,baz=12,slow=40
MOA Molln 74.92 12 *e*P **P** **23 33 03.2 -0.1**
comp=Z,14nm,1.7s
BIOA Bad Ischl, Aus 75.00 13 *e*P **P** **23 33 03.7 -0.1**
comp=Z,12nm,1.0s
CONA Conrad Observa 75.03 11 *e*P **P** **23 33 04.2 +0.3**
comp=Z,29nm,1.9s
EKS2 Erkin-Say 75.05 329 P **P** **23 33 05.5 +1.2**
SNR=5.4
WATA Walderalm 75.09 14 *e*P **P** **23 33 04.7 +0.3**
comp=Z,2.7nm,0.6s
SQTA Sankt Quirin 75.15 14 *e*P **P** **23 33 05.9 +1.2**
comp=Z,2.9nm,0.7s
WTTA Wattenberg 75.17 14 *e*P **P** **23 33 05.6 +0.7**
comp=Z,5.9nm,0.5s
FETA Feichten 75.28 15 *e*P **P** **23 33 06.5 +1.0**
comp=Z,1.5nm,0.6s
RONA Rosalia, Austr 75.30 11 *e*P **P** **23 33 05.2 -0.3**
comp=Z,3.9nm,1.1s
DZA Taraz 75.51 331 *e*P **P** **23 33 07.3 +0.5**
baz=331
DZA Taraz 75.51 331 *e*P **P** **23 33 07.3 +0.5**
KKAR Karatay Array 75.53 332 P **P** **23 33 06.1 -0.8**
KKAR Karatay Array 75.53 332 P **P** **23 33 06.1 -0.8**
NRN Naryn 75.54 327 IAmb IAmb 23 33 21.9
comp=Z,48nm,1.9s
AML Almayashu 75.56 329 P **P** **23 33 08.3 +0.8**
SNR=6.0
KBA Koelnbreinsper 75.57 13 *e*P **P** **23 33 07.7 +0.5**
comp=Z,7.0nm,0.7s
FUORN Ofenpass-Fuorn 75.61 15 IAmb IAmb 23 33 18.4
comp=Z,40nm,2.0s
SORM Soroca 75.64 2 ⇓P **P** **23 33 07.5 +0.2**
SORM Soroca 75.64 2 P **P** **23 33 07.5 +0.2**
ARSA Arzberg 75.66 11 *e*P **P** **23 33 06.4 -1.2**
comp=Z,6.4nm,1.2s
SDV Santo Domingo 75.71 96 P **P** **23 33 07.1 -1.3**
SDV IAmb IAmb 23 33 10.4
comp=Z,13nm,0.8s
SDV Santo Domingo 75.71 96 LR LR 00 08 29.7
comp=Z,207nm,19.1s,baz=314,slow=37
BUR08 Bucovina Ar. S 76.02 5 IAmb IAmb 23 33 24.2
comp=Z,25nm,1.7s
BURAR Bucovina Array 76.05 5 ⇑P **P** **23 33 10.7 +0.8**
BURAR Bucovina Array 76.05 5 P **P** **23 33 10.6 +0.8**
PGAV Gavieira, Arco 76.15 30 *e*P **P** **23 33 13.0 +2.5**
comp=Z,39nm,1.5s
SOKA Soboth 76.17 12 *e*P **P** **23 33 10.8 +0.3**
comp=Z,5.3nm,1.0s
GYA Guiyang 76.22 297 *e*P P 23 33 16.5 +5.4
GYA pmax pmax
comp=Z,10.0nm,0.8s
OBKA Obir 76.28 12 *e*P **P** **23 33 11.5 +0.4**
comp=Z,9.5nm,0.8s
CHM Chimkent 76.50 332 *e*P **P** **23 33 13.2 +0.7**
baz=332
CHM Chimkent 76.50 332 *e*P **P** **23 33 13.1 +0.7**
DRGR 76.73 6 ⇑P **P** **23 33 15.2 +1.4**
DRGR 76.73 6 P **P** **23 33 15.1 +1.4**
POLO Lamas de Olo 76.83 30 *e*P **P** **23 33 15.3 +0.9**
comp=Z,14nm,1.8s
MARR Marisel-Cluj 76.87 6 ⇓P **P** **23 33 15.7 +1.2**
PVRL Vila Real 76.94 30 *e*P **P** **23 33 16.1 +1.1**
comp=Z,46nm,1.8s
MORH Mrgy, Hungar 77.00 9 ⇑P **P** **23 33 15.7 +0.7**
ROSC El Rosal 77.04 101 P **P** **23 33 17.8 +1.6**
comp=Z,6.4nm,0.4s,baz=298,slow=21,SNR=4.4
comp=Z,6.4nm,0.4s
SIRR Siria 77.19 7 ⇓P **P** **23 33 17.3 +1.1**
MVO Moncorvo 77.23 29 *e*P **P** **23 33 17.7 +1.1**
comp=Z,27nm,1.6s
KSH Kashi 77.30 327 P **P** **23 33 20.8 +3.7**
KSH PcP **PcP** **23 33 32.6 +4.9**
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH LR LR
comp=Z,390nm,11.7s
KSH LR LR
comp=Z,360nm,12.4s
PVIS Viseu 77.42 30 *e*P **P** **23 33 18.4 +0.8**
OZUR 77.59 4 ⇓P **P** **23 33 20.3 +1.8**
SURR Surduc 77.73 7 ⇑P **P** **23 33 19.9 +0.7**
MTE Manteigas 77.81 30 *e*P **P** **23 33 20.9 +1.1**
comp=Z,41nm,1.7s
MTE Manteigas 77.81 30 IAmb IAmb 23 34 21.9
comp=Z,63nm,1.9s
BZS Buzias 77.83 7 ⇑P **P** **23 33 20.4 +0.6**
BZS Buzias 77.83 7 P **P** **23 33 20.3 +0.6**
COVR Voineasa-Covas 77.86 4 ⇓P **P** **23 33 21.8 +1.8**
PCAS Casmilo, Conde 77.86 31 *e*P **P** **23 33 21.1 +1.0**
comp=Z,30nm,1.7s
PLOR Plostina 77.87 4 ⇓P **P** **23 33 21.7 +1.6**
PLOR Plostina 77.87 4 P **P** **23 33 21.6 +1.6**
PCRV Puerto La Cruz 77.96 90 LR LR 00 07 06.0
comp=Z,202nm,20.7s,slow=35
GZR Gura Zlata 78.13 7 ⇑P **P** **23 33 22.7 +1.1**
GZR Gura Zlata 78.13 7 P **P** **23 33 22.6 +1.1**
MLR Muntele Rosu 78.20 4 ⇑P **P** **23 33 23.6 +1.5**
MLR Muntele Rosu 78.20 4 IAmb IAmb 23 33 37.5
comp=Z,32nm,1.5s
MLR Muntele Rosu 78.20 4 P **P** **23 33 23.5 +1.5**
VOIR 78.21 5 ⇓P **P** **23 33 22.6 +0.5**
VOIR 78.21 5 P **P** **23 33 22.5 +0.5**
PSBE So Bento 78.28 31 *e*P **P** **23 33 24.8 +2.4**
comp=Z,46nm,1.9s
BTK Batken 78.29 331 IAmb IAmb 23 33 37.1
comp=Z,16nm,1.2s

PCBR	**Castelo Branco**	**78.35**	**30**	*e*P		**P**	**23 33 23.1**	**+0.4**
	comp=Z,26nm,1.7s							
PZH	**PanZhiHua**	**78.56**	**301**	P		**P**	**23 33 24.6**	**+0.3**
PZH				S		**S**	**23 43 21.8**	**+1.3**
PZH				pmax	pmax			
	comp=Z,20nm,1.1s							
PZH				pmax	pmax			
	comp=Z,250nm,4.6s							
PZH				LR	LR			
	comp=Z,290nm,19.6s							
PZH				LR	LR			
	comp=Z,290nm,22.7s							
PZH				LR	LR			
	comp=Z,310nm,18.8s							
CFR	**Carcaliu**	**78.59**	**3**	⇓P		**P**	**23 33 25.0**	**+1.1**
CFR	**Carcaliu**	**78.59**	**3**	P		**P**	**23 33 25.0**	**+1.1**
HERR	**Herculane**	**78.62**	**7**	⇑P		**P**	**23 33 24.8**	**+0.7**
TULM	**Tulcn-Chalpat**	**78.63**	**106**	IAmb	IAmb		23 33 28.8	
	comp=Z,28nm,1.1s							
PMAFR	**Mafra**	**78.66**	**32**	*e*P		**P**	**23 33 26.6**	**+2.1**
	comp=Z,112nm,1.6s							
MDVR	**Moldovita**	**78.67**	**7**	⇓P		**P**	**23 33 25.6**	**+1.1**
OTAV	**Otavalo**	**78.68**	**107**	P		**P**	**23 33 24.4**	**-1.0**
OTAV				IAmb	IAmb		23 33 26.6	
	comp=Z,54nm,2.0s							
OTAV	**Otavalo**	**78.68**	**107**	P		**P**	**23 33 24.4**	**-1.0**
OTAV				pmax	pmax			
	comp=Z,54nm,2.0s							
PMRV	**Marv??o**	**78.76**	**30**	*e*P		**P**	**23 33 25.9**	**+0.9**
	comp=Z,14nm,1.7s							
PMTG	**Montargil**	**78.86**	**31**	*e*P		**P**	**23 33 25.7**	**+0.1**
	comp=Z,30nm,1.7s							
ANN	**Anapa**	**78.91**	**356**	*e*P		**P**	**23 33 22.7**	**-3.0**
ANN				*e**PP		**pP**	**23 33 27.0**	**-1.9**
ANN				*e*S		**S**	**23 43 19.7**	**-3.6**
ANN				pmax	pmax			
	comp=Z,81nm,1.8s							
TGY	**Tagaytay City**	**78.92**	**279**	LR	LR		00 05 48.2	
	comp=Z,85nm,22.0s,baz=154,slow=34							
KMI	**Kunming**	**79.25**	**299**	⇑P		P	23 33 34.3	+6.1
KMI				pmax	pmax			
	comp=Z,9.0nm,1.3s							
EVO	**Evora**	**79.42**	**31**	*e*P		**P**	**23 33 30.5**	**+1.9**
	comp=Z,19nm,1.9s							
ESBB	**Sonseca Array**	**79.44**	**27**	P		**P**	**23 33 27.6**	**-1.2**
ESDC	**Sonseca Array**	**79.44**	**27**	IAmb	IAmb		23 33 39.5	
	comp=Z,31nm,1.7s							
ESDC	**Sonseca Array**	**79.44**	**27**	P		**P**	**23 33 29.3**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=336,slow=5.1,SNR=65							
	comp=Z,5.9nm,0.8s							
KIV	**Kislovodsk**	**79.45**	**352**	P		**P**	**23 33 29.2**	**+0.3**
KIV				IAmb	IAmb		23 33 50.4	
	comp=Z,15nm,0.6s							
KIV	**Kislovodsk**	**79.45**	**352**	*e*P		**P**	**23 33 29.7**	**+0.8**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,148nm,19.0s							
SGRR	**Singureni**	**79.47**	**4**	⇓P		**P**	**23 33 30.0**	**+1.2**
KBZ	**Khabaz**	**79.66**	**352**	P		**P**	**23 33 31.5**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=351,slow=5.5,SNR=6.7							
KBZ				LR	LR		00 11 31.9	
	comp=Z,144nm,22.0s,baz=354,slow=38							
	comp=Z,3.7nm,0.8s							
PNCL	**Nicolau / Gran**	**79.66**	**31**	*e*P		**P**	**23 33 30.4**	**+0.4**
	comp=Z,42nm,1.8s							
NCK	**Nalchik**	**79.84**	**351**	⇓*e*P		**P**	**23 33 32.8**	**+1.9**
NCK				pmax	pmax			
	comp=Z,29nm,1.4s							
BLKB	**Belogradchik**	**79.89**	**7**	⇓P		**P**	**23 33 31.2**	**+0.1**
GROC	**Groznyy**	**79.93**	**350**	*e*P		**P**	**23 33 33.4**	**+2.1**
GROC				*e*			23 36 34.2	
GROC				pmax	pmax			
	comp=Z,8.0nm,1.3s							
MAK	**Makhachkala**	**79.99**	**348**	*e*P		P	23 33 27.1	-4.5
MAK				*e*PPP		PPP	23 38 21.8	
MAK				*e*S		**S**	**23 43 29.0**	**-5.8**
MAK				*e*SS		**SS**	**23 48 40.5**	**-2.6**
MAK				*e*SSS		SSS	23 52 09.4	
MAK				pmax	pmax			
	comp=Z,85nm,2.1s							
SOC	**Sochi**	**80.02**	**354**	*e*P		**P**	**23 33 31.1**	**-0.7**
SOC				*e*			23 36 30.0	
SOC				*e*PPP		PPP	23 38 22.5	
SOC				*e*S		**S**	**23 43 35.3**	**+0.2**
SOC				*e*SS		**SS**	**23 48 50.1**	**+6.6**
SOC				*e*SSS		SSS	23 52 12.6	
PBAR	**Barrancos**	**80.02**	**30**	*e*P		**P**	**23 33 32.6**	**+0.7**
	comp=Z,31nm,1.6s							
SIMJ	**Simiganj**	**80.09**	**331**	P		**P**	**23 33 32.4**	**-0.1**
SIMJ				IAmb	IAmb		23 33 47.3	
	comp=Z,17nm,0.8s							
LSA	**Lhasa**	**80.57**	**311**	IAMs_20	IAMs_20		00 12 15.0	
	comp=Z,388nm,19.0s							
PBDV	**Barranco-do-Ve**	**80.64**	**31**	*e*P		**P**	**23 33 36.7**	**+1.4**
	comp=Z,33nm,1.3s							
TNCH	**TengChong**	**81.33**	**303**	⇓P		**P**	**23 33 40.8**	**+1.4**
TNCH				S		**S**	**23 43 44.5**	**-5.3**
TNCH				SS		**SS**	**23 49 09.3**	**+4.6**
TNCH				pmax	pmax			
	comp=Z,20nm,0.5s							
TNCH				pmax	pmax			
	comp=Z,160nm,4.1s							
TNCH				LR	LR			
	comp=Z,190nm,6.1s							
TNCH				LR	LR			
	comp=Z,250nm,4.8s							
TNCH				LR	LR			
	comp=Z,250nm,16.4s							
DAV	**Davao City (W)**	**82.14**	**271**	LR	LR		00 05 09.4	
	comp=Z,140nm,21.9s,baz=4.5,slow=32							
CART	**Cartagena**	**82.15**	**26**	IAMs_20	IAMs_20		00 17 38.6	
	comp=Z,371nm,19.0s							
RDO	**Rodhopi**	**82.52**	**5**	IAmb	IAmb		23 33 59.6	
	comp=Z,19nm,0.7s							
GNI	**Garni**	**83.05**	**350**	LR	LR		00 16 06.4	
	comp=Z,134nm,19.1s,baz=8.0,slow=40							
GEYT	**Alibeck**	**83.29**	**339**	IAmb	IAmb		23 34 04.5	
	comp=Z,30nm,1.4s							
GEYT	**Alibeck**	**83.29**	**339**	P		**P**	**23 33 50.3**	**+1.0**
	comp=Z,5.2nm,0.8s,baz=15,slow=6.2,SNR=15							
GEYT				LR	LR		00 18 57.0	
	comp=Z,247nm,18.3s,baz=9.0,slow=41							
	comp=Z,5.2nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**83.29**	**339**	P		**P**	**23 33 49.1**	**-0.2**
GYA0B				IAmb	IAmb		23 34 04.4	
	comp=Z,27nm,1.5s							
NIL	**Nilore**	**83.55**	**326**	P		**P**	**23 33 49.8**	**-0.9**
NIL	**Nilore**	**83.55**	**326**	P		**P**	**23 33 49.8**	**-0.9**
KBL	**Kabul**	**83.95**	**330**	P		**P**	**23 33 51.2**	**-1.7**
KBL	**Kabul**	**83.95**	**330**	P		**P**	**23 33 51.2**	**-1.7**
KBL				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BR131	**Keskin Array S**	**84.08**	**359**	IAmb	IAmb		23 34 07.3	
	comp=Z,31nm,1.6s							
BR131	**Keskin Array S**	**84.08**	**359**	⇑*e*P		**P**	**23 33 54.2**	**+0.8**
BRTR	**Keskin Array B**	**84.08**	**359**	P		**P**	**23 33 54.2**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=344,slow=3.7,SNR=8.1							
BRTR				PKKPbc		**PKKPbc**	**23 52 04.3**	**-0.5**
	comp=Z,1.5nm,1.0s,baz=163,slow=6.3,SNR=3.6							
	comp=Z,1.8nm,0.7s							
PMG	**Port Moresby**	**84.40**	**244**	P		**P**	**23 33 55.3**	**+0.3**
	comp=Z,7.1nm,0.3s,baz=307,slow=13,SNR=1.7							
	comp=Z,7.1nm,0.3s							
CRAI	**Chiangrai**	**84.54**	**299**	P		**P**	**23 33 55.2**	**-0.6**
CRAI				IAmb	IAmb		23 34 09.5	
	comp=Z,13nm,1.0s							
VAE	**Valguarnera**	**85.16**	**14**	LR	LR		00 16 01.3	
	comp=Z,214nm,18.0s,baz=8.0,slow=38							
MDT	**Midelt**	**85.73**	**30**	LR	LR		00 12 26.0	
	comp=Z,238nm,18.3s,baz=11,slow=36							
KEST	**Kesra**	**86.09**	**18**	P		**P**	**23 34 04.5**	**+1.1**
	comp=Z,5.1nm,0.9s,baz=347,slow=6.7,SNR=4.1							
KEST				LR	LR		00 17 48.1	
	comp=Z,99nm,18.4s,baz=279,slow=39							
	comp=Z,5.1nm,0.9s							
UBPT	**Khong Chiam**	**86.18**	**292**	IAmb	IAmb		23 34 18.6	
	comp=Z,27nm,1.1s							
CHTO	**Chiang Mai**	**86.44**	**299**	IAMs_20	IAMs_20		00 17 27.1	
	comp=Z,333nm,18.0s							
CMAR	**Chiang Mai Arr**	**86.75**	**299**	P		**P**	**23 34 07.3**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=15,slow=5.0,SNR=25							
	comp=Z,5.1nm,0.7s							
DLV	**T Lat**	**87.41**	**288**	IAMs_20	IAMs_20		00 17 49.4	
	comp=Z,524nm,18.0s							
IDI	**Anoyia**	**88.32**	**6**	LR	LR		00 17 26.3	
	comp=Z,40nm,20.4s,baz=329,slow=38							
MDP	**Montagnes des**	**88.77**	**83**	LR	LR		00 12 35.3	
	comp=Z,394nm,21.2s,baz=346,slow=34							
MMAI	**Mount Meron Ar**	**90.73**	**357**	P		**P**	**23 34 26.5**	**+0.9**
	comp=Z,8.2nm,1.0s,baz=354,slow=5.9,SNR=2.3							
	comp=Z,8.2nm,1.0s							
SBUM	**Sibu**	**93.33**	**279**	IAMs_20	IAMs_20		00 19 34.9	
	comp=Z,132nm,20.0s							
ETMB	**Extrema**	**93.65**	**102**	IAmb	IAmb		23 34 38.6	
	comp=Z,6.6nm,0.7s							
CTA	**Charters Tower**	**94.01**	**239**	P		**P**	**23 34 41.2**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=135,slow=2.9,SNR=2.2							
	comp=Z,3.5nm,0.8s							
SAML	**Samuel**	**94.58**	**99**	P		**P**	**23 34 41.3**	**-2.1**
SAML	**Samuel**	**94.58**	**99**	P		**P**	**23 34 41.3**	**-2.1**
SAML				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KULM	**Kulim**	**97.12**	**291**	IAMs_20	IAMs_20		00 22 28.6	
	comp=Z,262nm,18.0s							
MYKOM	**Kota Tinggi**	**98.39**	**286**	IAMs_20	IAMs_20		00 26 55.7	
	comp=Z,228nm,19.0s							
WRA	**Warramunga Arr**	**99.81**	**249**	P		**Pdif**	**23 35 05.6**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=39,slow=5.4,SNR=6.2							
WRA				PKiKP		**PKiKP**	**23 39 35.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=5.4,slow=1.0,SNR=2.5							
	comp=Z,0.9nm,0.7s							
ASAR	**Alice Springs**	**103.12**	**247**	Pdiff		**Pdif**	**23 35 21.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=45,slow=5.8,SNR=1.7							
ASAR				PKiKP		**PKiKP**	**23 39 41.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=48,slow=1.4,SNR=1.7							
GVZ	**Greta Valley S**	**104.43**	**208**	IAMs_20	IAMs_20		00 21 57.2	
	comp=Z,818nm,18.0s							
MQZ	**McQueen's Vall**	**105.22**	**208**	IAMs_20	IAMs_20		00 22 43.1	
	comp=Z,781nm,22.0s							
KMBO	**Kilima Mbogo**	**124.58**	**354**	PKhKP	PKPpre		23 40 20.0	
	comp=Z,2.4nm,0.8s,baz=48,slow=6.7,SNR=6.9							
VNDA	**Vanda**	**137.35**	**194**	PKP		**PKPdf**	**23 40 45.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=85,slow=9.9,SNR=1.5							
TSUM	**Tsumeb**	**141.19**	**22**	PKPdf		**PKPdf**	**23 40 51.2**	**-2.1**
QSPA	**South Pole Qui**	**146.35**	**180**	PKPdf		**PKPdf**	**23 41 01.3**	**+0.6**
QSPA	**South Pole Qui**	**146.35**	**180**	PKPbc		**PKPdf**	**23 41 01.7**	**+1.0**
	comp=Z,31nm,0.6s,baz=59,slow=0.7,SNR=100							
LBTB	**Lobatse**	**148.16**	**11**	PKPdf		**PKPdf**	**23 41 05.2**	**+0.1**
LBTB	**Lobatse**	**148.16**	**11**	PKiKP		**PKPdf**	**23 41 05.2**	**+0.1**
BOSA	**Boshof**	**151.67**	**12**			**PKPbc**	**23 41 15.8**	**-1.0**
BOSA	**Boshof**	**151.67**	**12**	PKPbc		**PKPbc**	**23 41 16.5**	**-0.4**
	comp=Z,20nm,0.6s,baz=354,slow=2.5,SNR=76							
TROLL	**Troll, Antarti**	**160.28**	**153**	⇑PKPab		**PKPab**	**23 42 00.8**	**-0.6**
	comp=Z,387nm,0.7s							
ELIB	**Princess Elisa**	**164.13**	**170**	*d*PKP		**PKPab**	**23 42 17.5**	**-0.7**

IDC 23 23:40:51.1±9.3, 23°11N×143°36E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=368.2km s-min=33.4km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.69**	**192**	P	P	23 48 57.7	-0.3
	0.3nm,0.7s,baz=8.5,slow=7.6,SNR=1.8						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**53.22**	**321**	P	P	23 50 10.3	-0.8
	0.2nm,0.3s,baz=100,slow=7.7,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**53.88**	**312**	P	P	23 50 16.7	+0.5
	0.4nm,0.6s,baz=91,slow=7.2,SNR=5.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.62**	**316**	P	P	23 50 35.8	0.0
	0.3nm,0.6s,baz=95,slow=8.7,SNR=4.9						
	0.3nm,0.6s						

*AEIC **23** 23:44:09.9±1.8, 56°22N±0°08×149°2W±0°1, h8km±8km, Error ellipse: s-maj=11.9km s-min=9.6km az=173.0*

NEIC 23 23:44:07.3±1.9, 56°2N±0°1×149°3W±0°1, h22km±10km, ML3.3/36, ML3.0(AEIC), Error ellipse: s-maj=17.5km s-min=7.8km az=166.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.37**	**312**		Pn	23 44 44.2	-0.5
KDAK					Sn	23 45 12.6	-0.5
OHAK	**Old Harbor**	**2.40**	**296**	Pn	Pn	23 44 44.5	-0.7
OHAK				Sn	Sn	23 45 12.8	-1.1
SYI	**Shuyak Island**	**2.90**	**326**	Pn	Pn	23 44 50.1	-2.0
R18K	**Karluk**	**3.12**	**297**	Pn	Pn	23 44 54.2	-0.9
R18K				Sn	Sn	23 45 30.3	-1.2
CNPM	**China Poot**	**3.45**	**344**	Pn	Pn	23 44 57.8	-2.0
CNPM				IAML		23 46 11.6	
	comp=E,35nm,1.5s						
Q19K	**Cape Douglas,**	**3.56**	**321**	Pn	Pn	23 45 01.7	+0.4
Q19K				IAML		23 47 09.1	
	comp=N,112nm,1.1s						
Q23K	**Middleton Isla**	**3.57**	**25**	Pn	Pn	23 44 60.0	-1.4
MID	**Middleton Isla**	**3.58**	**25**	Pn	Pn	23 44 59.4	-2.0
BRSE	**Bradley Lake S**	**3.60**	**348**		Pn	23 45 01.1	-0.6
BRLK	**Bradley Lake**	**3.63**	**347**	Pn	Pn	23 45 01.4	-0.9
BRLK				IAML		23 45 47.7	
	comp=E,35nm,1.5s						
P23K	**Montague Islan**	**3.91**	**14**		Pn	23 45 05.2	-0.7
P19K	**Oil Pt**	**4.01**	**330**	Pn	Pn	23 45 07.9	+0.5
P19K				IAML		23 46 30.5	
	comp=E,61nm,1.3s						
P19K				IAML		23 47 31.0	
	comp=N,90nm,2.0s						
HIN	**Hinchinbrook I**	**4.43**	**18**	Pn	Pn	23 45 10.3	-2.9
HIN				IAML		23 46 03.1	
	comp=N,40nm,1.5s						
HIN				IAML		23 46 06.1	
	comp=E,34nm,1.4s						
P18K	**Big Mountain,**	**4.47**	**317**	Pn	Pn	23 45 12.5	-1.3
P18K				IAML		23 46 52.4	
	comp=N,28nm,4.3s						
P18K				IAML		23 47 41.4	
	comp=E,30nm,3.4s						
KAIM	**Kayak Island**	**4.52**	**33**	Pn	Pn	23 45 13.7	-0.7
KAIM				IAML		23 47 40.6	
	comp=E,61nm,1.1s						
BERG	**Berg Lake**	**5.11**	**33**	Pn	Pn	23 45 21.9	-0.6
BERG				IAML		23 48 14.2	
	comp=N,32nm,1.4s						
KNK	**Knik Glacier**	**5.21**	**5**	Pn	Pn	23 45 24.4	+0.5
KNK				IAML		23 46 40.5	
	comp=E,8.1nm,1.0s						
KNK				IAML		23 46 42.2	
	comp=N,8.8nm,1.4s						
SNH	**Sunshine Point**	**5.23**	**38**	Pn	Pn	23 45 23.7	-0.5
SNH				IAML		23 46 45.2	
	comp=E,30nm,1.3s						
SUA	**Susitna One**	**5.30**	**353**	Pn	Pn	23 45 25.1	0.0
SUA				IAML		23 47 42.0	
	comp=N,32nm,3.5s						
N19K	**Bonanza Creek**	**5.33**	**332**	Pn	Pn	23 45 24.5	-1.1
N19K				IAML		23 47 16.5	
	comp=E,20nm,3.8s						
GHO	**Glory Hole Cre**	**5.56**	**2**	Pn	Pn	23 45 29.2	+0.5
KLU	**Klutina**	**5.56**	**17**	Pn	Pn	23 45 29.2	+0.5
SML	**Sawmill**	**5.61**	**5**	Pn	Pn	23 45 30.0	+0.6
N18K	**Kilae Creek**	**5.63**	**325**	Pn	Pn	23 45 29.7	0.0
SCM	**Sheep Creek Mo**	**5.71**	**10**	Pn	Pn	23 45 31.6	+0.8
O16K	**Kokwok River B**	**5.76**	**309**	Pn	Pn	23 45 32.3	+0.9
VRDI	**Verde Repeater**	**5.86**	**29**	Pn	Pn	23 45 32.5	-0.5
N25K	**Chitina, Valde**	**5.91**	**22**	Pn	Pn	23 45 34.1	+0.6
GLB	**Gilahina Butte**	**5.95**	**26**	Pn	Pn	23 45 34.2	+0.2
N17K	**Nushagak Hills**	**5.97**	**319**	Pn	Pn	23 45 34.6	+0.4
M24K	**Tolsona, Glenn**	**6.11**	**14**	Pn	Pn	23 45 37.6	+1.4
MCARA	**McCarthy VSAT**	**6.11**	**30**	Pn	Pn	23 45 36.4	+0.3
BARN	**Barnard Glacie**	**6.27**	**36**	Pn	Pn	23 45 38.7	+0.1
CTGM	**Chitina Glacie**	**6.31**	**38**	Pn	Pn	23 45 38.6	-0.6
LOGN	**Logan Glacier**	**6.33**	**40**	Pn	Pn	23 45 38.9	-0.5
BCPM	**Bancas Point**	**6.34**	**50**	Pn	Pn	23 45 39.3	0.0
L19K	**White Mountain**	**6.60**	**337**	Pn	Pn	23 45 43.7	+0.8
M17K	**Holitna River**	**6.67**	**324**	Pn	Pn	23 45 45.1	+1.2
N15K	**Kwethluk River**	**6.92**	**309**	Pn	Pn	23 45 48.7	+1.3
DHY	**Denali Highway**	**6.93**	**7**	Pn	Pn	23 45 48.9	+1.3
M16K	**Timber Creek**	**6.95**	**318**	Pn	Pn	23 45 48.1	+0.4
O29M	**Mount Kennedy**	**6.98**	**50**	Pn	Pn	23 45 48.5	+0.3
P29M	**Windy Craggy**	**7.04**	**56**	Pn	Pn	23 45 48.3	-0.7
O14K	**Tigyukauivet M**	**7.07**	**300**	Pn	Pn	23 45 50.1	+0.8
M27K	**Edge Creek, AK**	**7.22**	**29**	Pn	Pn	23 45 52.9	+1.4
L16K	**Owhat River**	**7.59**	**320**	Pn	Pn	23 45 57.1	+0.7
HYT	**Haines Junctio**	**7.70**	**48**	Pn	Pn	23 45 57.7	-0.4
BPAW	**Bear Paw Mtn.**	**7.93**	**355**	Pn	Pn	23 46 01.1	-0.1
N30M	**Aishikik Lake**	**8.22**	**45**	Pn	Pn	23 46 05.4	+0.3
O30N	**Mendenhall**	**8.28**	**51**	Pn	Pn	23 46 05.1	-0.9
J20K	**Nowinta River**	**8.32**	**345**	Pn	Pn	23 46 03.9	-2.5
M29M	**Somme Creek**	**8.33**	**37**	Pn	Pn	23 46 05.8	-0.9
N31M	**Braeburn, Yuko**	**8.76**	**48**	Pn	Pn	23 46 12.9	+0.4
WHY	**Whitehorse**	**8.77**	**54**	Pn	Pn	23 46 11.9	-0.8
K29M	**Barlow Dome**	**9.63**	**33**	Pn	Pn	23 46 24.9	+0.3

*NEIC **23** 23:48:31.4±1.6, 56°32N±0°08×149°35W±0°09, h22km±7km, ML3.3/34, ML2.7(AEIC), Error ellipse: s-maj=12.3km s-min=7.3km az=189.0*

AEIC 23 23:48:33.3±1.5, 56°24N±0°06×149°2W±0°1, h9km±6km, Error ellipse: s-maj=10.8km s-min=7.0km az=125.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.41**	**311**		Pn	23 49 08.5	-4.4
KDAK					Sn	23 49 35.0	-7.4
OHAK	**Old Harbor**	**2.45**	**295**	Pn	Pn	23 49 08.5	-5.0
OHAK				Sn	Sn	23 49 35.1	-8.4
SYI	**Shuyak Island**	**2.93**	**326**	Pn	Pn	23 49 13.7	-6.4
SYI				Sn	Sn	23 49 47.9	-7.5
R18K	**Karluk**	**3.16**	**297**	Pn	Pn	23 49 17.8	-5.4
R18K				IAML		23 50 32.4	
	comp=E,65nm,1.1s						
R18K				IAML		23 51 12.8	
	comp=N,61nm,1.3s						
CNPM	**China Poot**	**3.47**	**343**	Pn	Pn	23 49 22.8	-4.8
CNPM				Sn	Sn	23 50 00.6	-8.1
CNPM				IAML		23 51 16.7	
	comp=N,49nm,1.3s						
CNPM				IAML		23 51 19.8	
	comp=E,43nm,1.2s						
Q19K	**Cape Douglas,**	**3.60**	**320**	Pn	Pn	23 49 22.7	-6.6
Q19K				IAML		23 51 35.2	
	comp=N,140nm,1.3s						
BRSE	**Bradley Lake S**	**3.61**	**348**		Pn	23 49 24.7	-4.7
BRLK	**Bradley Lake**	**3.65**	**347**	Pn	Pn	23 49 24.9	-5.1
BRLK				IAML		23 51 20.4	
	comp=N,54nm,1.4s						
BRLK				IAML		23 51 22.9	
	comp=E,46nm,1.4s						
HOM	**Homer**	**3.67**	**340**	Pn	Pn	23 49 25.3	-4.9
P19K	**Oil Pt**	**4.04**	**330**	Pn	Pn	23 49 29.9	-5.4
P19K				IAML		23 51 32.6	
	comp=E,78nm,1.5s						
P19K				IAML		23 51 41.0	
	comp=N,64nm,1.0s						
HIN	**Hinchinbrook I**	**4.41**	**18**	Pn	Pn	23 49 35.6	-4.8
HIN				IAML		23 51 34.8	
	comp=E,38nm,1.5s						
HIN				IAML		23 51 38.0	
	comp=N,50nm,0.9s						
KAIM	**Kayak Island**	**4.49**	**33**	Pn	Pn	23 49 36.8	-4.7
P18K	**Big Mountain,**	**4.51**	**317**	Pn	Pn	23 49 37.4	-4.4
RSO	**Redoubt South**	**4.63**	**338**	Pn	Pn	23 49 39.5	-4.1
FID	**Port Fidalgo**	**4.75**	**16**	Pn	Pn	23 49 39.9	-5.2
RAGM	**Ragged Mountai**	**4.80**	**28**	Pn	Pn	23 49 41.9	-3.9
RAGM				IAML		23 52 19.9	
	comp=E,49nm,0.9s						
BERG	**Berg Lake**	**5.08**	**33**	Pn	Pn	23 49 44.9	-4.8
BERG				IAML		23 53 10.9	
	comp=N,43nm,0.8s						
SNH	**Sunshine Point**	**5.20**	**38**	Pn	Pn	23 49 47.2	-4.0
SNH				IAML		23 53 13.0	
	comp=E,32nm,1.1s						
KNK	**Knik Glacier**	**5.21**	**4**	Pn	Pn	23 49 46.6	-4.7
KNK				IAML		23 51 56.8	
	comp=N,12nm,1.0s						
KNK				IAML		23 52 04.3	
	comp=E,14nm,1.3s						
N19K	**Bonanza Creek**	**5.35**	**331**	Pn	Pn	23 49 46.8	-6.7
KLU	**Klutina**	**5.54**	**17**	Pn	Pn	23 49 51.8	-4.2
GHO	**Glory Hole Cre**	**5.55**	**1**	Pn	Pn	23 49 52.2	-3.9
SML	**Sawmill**	**5.61**	**4**	Pn	Pn	23 49 52.5	-4.3
SCM	**Sheep Creek Mo**	**5.70**	**9**	Pn	Pn	23 49 54.4	-3.8
O16K	**Kokwok River B**	**5.80**	**309**	Pn	Pn	23 49 55.7	-3.8
MCARA	**McCarthy VSAT**	**6.08**	**29**	Pn	Pn	23 50 01.6	-1.8
M24K	**Tolsona, Glenn**	**6.09**	**14**	Pn	Pn	23 50 00.6	-3.0
BARN	**Barnard Glacie**	**6.24**	**36**	Pn	Pn	23 50 01.5	-4.2
CTGM	**Chitina Glacie**	**6.28**	**38**	Pn	Pn	23 50 01.9	-4.2
LOGN	**Logan Glacier**	**6.29**	**40**	Pn	Pn	23 50 02.2	-4.3
BCPM	**Bancas Point**	**6.30**	**50**	Pn	Pn	23 50 02.5	-3.9
SDPT	**Sand Point**	**6.41**	**267**	Pn	Pn	23 50 03.9	-4.0
M17K	**Holitna River**	**6.71**	**324**	Pn	Pn	23 50 08.6	-3.3
O29M	**Mount Kennedy**	**6.93**	**50**	Pn	Pn	23 50 11.4	-3.7
N15K	**Kwethluk River**	**6.96**	**309**	Pn

HIN				IAML		23 51 27.7		
	comp=E,86nm,2.4s							
HIN				IAML		23 53 25.9		
	comp=N,88nm,2.2s							
P18K	**Big Mountain,**	**4.41**	**316**	Pn	**Pn**	**23 50 49.1**	**+0.6**	
P18K				IAML		23 51 29.5		
	comp=E,42nm,3.3s							
P18K	**Big Mountain,** baz=131	**4.41**	**316**	P	**Pn**	**23 50 49.6**	**+1.1**	
KAIM	**Kayak Island**	**4.42**	**34**	Pn	**Pn**	**23 50 49.0**	**+0.4**	
KAIM	**Kayak Island** baz=217	**4.42**	**34**	P	**Pn**	**23 50 49.6**	**+1.0**	
RSO	**Redoubt South**	**4.51**	**338**	Pn	**Pn**	**23 50 51.3**	**+1.2**	
EYAK	**Cordova Ski Ar**	**4.60**	**22**	Pn	**Pn**	**23 50 51.6**	**+0.5**	
EYAK	**Cordova Ski Ar** baz=205	**4.60**	**22**	P	**Pn**	**23 50 51.9**	**+0.8**	
Q16K	**King Salmon**	**4.61**	**303**		**Pn**	**23 50 53.4**	**+2.1**	
Q16K	**King Salmon** baz=117	**4.61**	**303**	P	**Pn**	**23 50 53.4**	**+2.1**	
O18K	**Koktuh Hills**	**4.72**	**321**	Pn	**Pn**	**23 50 53.4**	**+0.7**	
O18K				IAML		23 52 50.2		
	comp=E,31nm,2.9s							
O18K				IAML		23 53 11.1		
	comp=N,39nm,3.0s							
RAGM	**Ragged Mountai**	**4.72**	**29**	Pn	**Pn**	**23 50 53.8**	**+1.0**	
RAGM				IAML		23 52 30.2		
	comp=E,58nm,2.5s							
P17K	**Kvichak River**	**4.78**	**310**		**Pn**	**23 50 55.5**	**+2.0**	
P17K	**Kvichak River** baz=124	**4.78**	**310**	P	**Pn**	**23 50 55.5**	**+2.0**	
GOAT	**Goat Mountain**	**4.87**	**27**		**Pn**	**23 50 56.5**	**+1.7**	
BERG	**Berg Lake**	**5.00**	**34**	Pn	**Pn**	**23 50 56.9**	**+0.3**	
BERG				IAML		23 52 26.3		
	comp=E,63nm,3.0s							
BERG				IAML		23 53 37.3		
	comp=N,52nm,3.2s							
SNH	**Sunshine Point**	**5.13**	**39**	Pn	**Pn**	**23 50 58.9**	**+0.5**	
N19K	**Bonanza Creek**	**5.24**	**331**	Pn	**Pn**	**23 50 59.1**	**-0.9**	
N19K				IAML		23 52 31.1		
	comp=N,24nm,3.9s							
N19K				IAML		23 52 34.3		
	comp=E,22nm,2.8s							
N19K	**Bonanza Creek** baz=146	**5.24**	**331**	P	**Pn**	**23 51 00.6**	**+0.6**	
P16K	**Nushagak River**	**5.39**	**304**		**Pn**	**23 51 03.9**	**+1.9**	
P16K	**Nushagak River** baz=116	**5.39**	**304**	P	**Pn**	**23 51 03.9**	**+1.9**	
KLU	**Klutina**	**5.44**	**17**	Pn	**Pn**	**23 51 03.8**	**+1.1**	
KLU	**Klutina** baz=200	**5.44**	**17**	P	**Pn**	**23 51 04.3**	**+1.5**	
N18K	**Kilae Creek**	**5.56**	**324**	Pn	**Pn**	**23 51 02.1**	**-2.2**	
N18K	**Kilae Creek** baz=138	**5.56**	**324**	P	**Pn**	**23 51 04.8**	**+0.5**	
O16K	**Kokwok River B**	**5.71**	**308**	Pn	**Pn**	**23 51 07.4**	**+1.1**	
O16K	**Kokwok River B** baz=121	**5.71**	**308**	P	**Pn**	**23 51 08.1**	**+1.8**	
SVW2	**Sparrevohn**	**5.78**	**328**	Pn	**Pn**	**23 51 08.1**	**+0.7**	
N25K	**Chitina, Valde**	**5.80**	**23**	Pn	**Pn**	**23 51 08.0**	**+0.4**	
KIAG	**Kiagna River**	**5.84**	**35**		**Pn**	**23 51 09.2**	**+1.0**	
SAMH	**Samovar Hills**	**5.87**	**46**		**Pn**	**23 51 10.1**	**+1.4**	
N17K	**Nushagak Hills**	**5.90**	**319**	Pn	**Pn**	**23 51 08.7**	**-0.3**	
M24K	**Tolsona, Glenn**	**5.99**	**14**	Pn	**Pn**	**23 51 08.8**	**-1.5**	
MCARA	**McCarthy VSAT**	**6.00**	**30**	Pn	**Pn**	**23 51 09.2**	**-1.1**	
PCA	**Pinnacle**	**6.07**	**48**	Pn	**Pn**	**23 51 12.2**	**+0.9**	
PINM	**Pinnacle** baz=235	**6.07**	**48**	P	**Pn**	**23 51 12.2**	**+0.8**	
PNL	**Peninsula**	**6.21**	**54**		**Pn**	**23 51 14.1**	**+0.8**	
PNL	**Peninsula** baz=241	**6.21**	**54**	P	**Pn**	**23 51 14.1**	**+0.8**	
LOGN	**Logan Glacier**	**6.23**	**41**	Pn	**Pn**	**23 51 12.3**	**-1.3**	
BCPM	**Bancas Point**	**6.25**	**51**	Pn	**Pn**	**23 51 14.2**	**+0.5**	
L19K	**White Mountain**	**6.51**	**336**	Pn	**Pn**	**23 51 17.4**	**0.0**	
M17K	**Holitna River**	**6.60**	**324**	Pn	**Pn**	**23 51 19.4**	**+0.8**	
M17K	**Holitna River** baz=136	**6.60**	**324**	P	**Pn**	**23 51 20.0**	**+1.4**	
M26K	**Nabesna, AK**	**6.86**	**25**	Pn	**Pn**	**23 51 24.4**	**+2.2**	
N15K	**Kwethluk River**	**6.87**	**308**	Pn	**Pn**	**23 51 24.4**	**+2.2**	
M16K	**Timber Creek** baz=129	**6.88**	**317**	P	**Pn**	**23 51 23.5**	**+1.0**	
O29M	**Mount Kennedy**	**6.89**	**50**	Pn	**Pn**	**23 51 23.5**	**+0.9**	
O29M	**Mount Kennedy** baz=239	**6.89**	**50**	P	**Pn**	**23 51 23.5**	**+0.9**	
P29M	**Windy Craggy**	**6.96**	**57**	Pn	**Pn**	**23 51 23.7**	**+0.2**	
P29M	**Windy Craggy** baz=246	**6.96**	**57**	P	**Pn**	**23 51 24.1**	**+0.6**	
L18K	**Granite Mounta**	**7.00**	**330**	Pn	**Pn**	**23 51 24.3**	**+0.2**	
O14K	**Tigyukauivet M**	**7.04**	**299**	Pn	**Pn**	**23 51 27.1**	**+2.6**	
M27K	**Edge Creek, AK**	**7.11**	**29**	Pn	**Pn**	**23 51 27.3**	**+1.6**	
S31K	**Pelican**	**7.28**	**72**	Pn	**Pn**	**23 51 26.4**	**-1.4**	
S31K	**Pelican** baz=262	**7.28**	**72**	P	**Pn**	**23 51 26.5**	**-1.3**	
L16K	**Owhat River**	**7.52**	**320**	Pn	**Pn**	**23 51 32.0**	**+0.9**	
HYT	**Haines Junctio**	**7.61**	**49**	Pn	**Pn**	**23 51 30.6**	**-1.9**	
BCAR	**Beaver Creek A**	**7.72**	**26**	Pn	**Pn**	**23 51 33.1**	**-0.9**	
RIDG	**Independent Ri**	**7.74**	**15**	Pn	**Pn**	**23 51 33.8**	**-0.4**	
K17K	**Iditarod**	**7.86**	**328**	Pn	**Pn**	**23 51 35.7**	**-0.1**	
K17K	**Iditarod** baz=140	**7.86**	**328**	P	**Pn**	**23 51 36.3**	**+0.5**	
SKAG	**Skagway**	**8.05**	**61**	Pn	**Pn**	**23 51 39.0**	**+0.5**	
N30M	**Aishikik Lake**	**8.12**	**46**	Pn	**Pn**	**23 51 40.3**	**+0.8**	
J20K	**Nowinta River**	**8.22**	**345**	Pn	**Pn**	**23 51 43.1**	**+2.4**	
R32K	**Eaglecrest**	**8.22**	**70**	Pn	**Pn**	**23 51 40.6**	**-0.2**	
M29M	**Somme Creek**	**8.22**	**38**		**Pn**	**23 51 42.8**	**+1.8**	
M13K	**Dall Lake**	**8.44**	**305**	Pn	**Pn**	**23 51 45.7**	**+1.9**	
K27K	**Chicken**	**8.49**	**22**	Pn	**Pn**	**23 51 46.4**	**+1.9**	
IL31		**8.53**	**7**	Pn	**Pn**	**23 51 46.0**	**+1.0**	
L14K	**Kuka Creek**	**8.56**	**311**	Pn	**Pn**	**23 51 47.2**	**+1.8**	
J26L	**Joseph Creek**	**8.65**	**17**	Pn	**Pn**	**23 51 48.2**	**+1.5**	
N31M	**Braeburn, Yuko**	**8.67**	**48**	Pn	**Pn**	**23 51 47.2**	**+0.3**	
WHY	**Whitehorse**	**8.68**	**54**	Pn	**Pn**	**23 51 46.5**	**-0.7**	
L29M	**L29M**	**8.80**	**35**	Pn	**Pn**	**23 51 50.4**	**+1.6**	
P32M	**Atlin**	**8.88**	**62**	Pn	**Pn**	**23 51 50.4**	**+0.6**	
M30M	**Minto, Yukon**	**8.90**	**40**	Pn	**Pn**	**23 51 51.3**	**+1.2**	
I21K	**Tanana**	**8.96**	**353**	Pn	**Pn**	**23 51 51.6**	**+0.7**	
J16K	**Anvik River**	**8.98**	**325**	Pn	**Pn**	**23 51 51.3**	**+0.1**	
H21K	**Melozitna Rive**	**9.49**	**351**	Pn	**Pn**	**23 51 58.8**	**+0.6**	
K29M	**Barlow Dome**	**9.52**	**33**	Pn	**Pn**	**23 51 59.6**	**+0.9**	
M31M	**Drury Creek, Y**	**9.60**	**46**	Pn	**Pn**	**23 52 01.4**	**+1.7**	
R33M	**Jennings River**	**10.21**	**65**	Pn	**Pn**	**23 52 08.5**	**+0.3**	
J30M	**Hart River**	**10.41**	**32**	Pn	**Pn**	**23 52 12.9**	**+2.0**	
G24K	**Hadweenzic Riv**	**10.43**	**4**	Pn	**Pn**	**23 52 12.7**	**+1.8**	
E19K	**Redstone River**	**11.75**	**345**	Pn	**Pn**	**23 52 31.0**	**+2.0**	

*IDC **23** 23:50:36.5±3.3,55°.46N×150°.94W,h0km,mb3.2/1, mbtmp3.1/3,ML3.1/2,Error ellipse: s-maj=56.9km s-min=39.9km az=128.0*
*AEIC **23** 23:50:46.8±2.6,55°.9N±0°.2×150°.1W±0°.1,h12km±9km, Error ellipse: s-maj=21.2km s-min=10.8km az=182.0*
*NEIC **23** 23:50:47.1±1.3,56°.1N±0°.2×150°.3W±0°.1,h26km±19km, ML3.3/20,ML2.9(AEIC),Error ellipse: s-maj=25.5km s-min=9.7km az=176.0*

ISC 23 23:50:44.9±2.6,56°.1N±0°.2×150°.3W±0°.1,h10km,n52, σ0s78/52,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.00**	**305**		**Pn**	**23 51 18.0**	**-0.7**
OHAK				IAML		23 51 43.6	
	comp=E,132nm,0.5s						
KDAK	**Kodiak Island**	**2.10**	**324**	Pn	**Pn**	**23 51 19.9**	**-0.2**
SYI	**Shuyak Island**	**2.76**	**337**	Pn	**Pn**	**23 51 29.7**	**+0.5**
SYI				IAML		23 52 07.7	
	comp=E,79nm,1.2s						
Q19K	**Cape Douglas,**	**3.37**	**329**	Pn	**Pn**	**23 51 38.5**	**+1.0**
CNPM	**China Poot**	**3.47**	**352**	Pn	**Pn**	**23 51 38.4**	**-0.6**
CNPM				IAML		23 52 22.8	
	comp=N,79nm,0.7s						
CNPM				IAML		23 52 23.7	
	comp=E,68nm,1.4s						
BRLK	**Bradley Lake**	**3.69**	**355**	Pn	**Pn**	**23 51 41.2**	**-0.7**
BRLK				IAML		23 52 28.4	
	comp=N,46nm,1.3s						
BRLK				IAML		23 52 28.9	
	comp=E,50nm,1.2s						
P19K	**Oil Pt**	**3.89**	**337**	Pn	**Pn**	**23 51 44.0**	**-0.7**
P19K				IAML		23 52 36.5	
	comp=E,137nm,0.6s						
P18K	**Big Mountain,**	**4.23**	**323**	Pn	**Pn**	**23 51 48.5**	**-0.9**
P18K				IAML		23 52 43.3	
	comp=E,20nm,1.5s						
KAIM	**Kayak Island**	**4.95**	**37**	Pn	**Pn**	**23 51 58.3**	**-0.8**
N19K	**Bonanza Creek**	**5.21**	**337**	Pn	**Pn**	**23 52 03.1**	**+0.2**
N19K				IAML		23 53 19.8	
	comp=E,12nm,0.8s						
N19K				IAML		23 53 23.0	
	comp=N,14nm,0.9s						
N18K	**Kilae Creek**	**5.46**	**330**	Pn	**Pn**	**23 52 05.4**	**-0.8**
N17K	**Nushagak Hills**	**5.74**	**324**	Pn	**Pn**	**23 52 10.7**	**+0.7**
SKT	**Skwentna**	**5.93**	**354**	Pn	**Pn**	**23 52 11.5**	**-1.2**
M17K	**Holitna River**	**6.49**	**328**	Pn	**Pn**	**23 52 20.5**	**+0.2**
N15K	**Kwethluk River**	**6.60**	**312**	Pn	**Pn**	**23 52 22.6**	**+0.8**
O14K	**Tigyukauivet M**	**6.68**	**303**	Pn	**Pn**	**23 52 23.2**	**+0.3**
L18K	**Granite Mounta**	**6.96**	**334**	Pn	**Pn**	**23 52 27.4**	**+0.6**
L16K	**Owhat River**	**7.36**	**324**	Pn	**Pn**	**23 52 32.6**	**+0.3**
CAST	**Castle Rocks**	**7.40**	**354**	Pn	**Pn**	**23 52 32.4**	**-0.4**
O29M	**Mount Kennedy**	**7.48**	**51**	Pn	**Pn**	**23 52 34.1**	**0.0**
K20K	**Telida**	**7.53**	**347**	Pn	**Pn**	**23 52 34.5**	**-0.1**
P29M	**Windy Craggy**	**7.57**	**57**	Pn	**Pn**	**23 52 34.8**	**-0.3**
M27K	**Edge Creek, AK**	**7.61**	**31**	Pn	**Pn**	**23 52 36.5**	**+0.7**
M14K	**Bethel**	**7.70**	**312**	Pn	**Pn**	**23 52 37.6**	**+0.8**
L26K	**Log Cabin Wild**	**7.79**	**24**	Pn	**Pn**	**23 52 39.9**	**+1.7**
M13K	**Dall Lake**	**8.13**	**308**	Pn	**Pn**	**23 52 43.3**	**+0.6**
RIDG	**Independent Ri**	**8.13**	**17**	Pn	**Pn**	**23 52 44.4**	**+1.5**
L27K	**Beaver Creek,**	**8.19**	**28**	Pn	**Pn**	**23 52 44.0**	**+0.3**
BCAR	**Beaver Creek A**	**8.21**	**28**	Pn	**Pn**	**23 52 43.9**	**0.0**
L14K	**Kuka Creek**	**8.31**	**314**	Pn	**Pn**	**23 52 45.9**	**+0.6**
J19K	**Poorman**	**8.35**	**344**	Pn	**Pn**	**23 52 45.8**	**0.0**
K15K	**Wolf Creek Mou**	**8.47**	**322**	Pn	**Pn**	**23 52 47.1**	**-0.3**
HDA	**Harding Lake**	**8.50**	**10**	Pn	**Pn**	**23 52 47.7**	**-0.2**
SCRK	**Sand Creek**	**8.50**	**19**	Pn	**Pn**	**23 52 48.5**	**+0.4**
M29M	**Somme Creek**	**8.57**	**39**	Pn	**Pn**	**23 52 52.1**	**+0.4**
ILAR	**Eielson Array** comp=N,0.2nm,0.3s,baz=194,slow=14,SNR=5.7	**8.86**	**10**	Pn	**Pn**	**23 52 52.2**	**-0.6**
ILAR	comp=N,0.2nm,0.3s,baz=197,slow=22,SNR=4.3 comp=N,0.7nm,0.5s			Sn	**Sn**	**23 54 31.7**	**-0.8**
J26L	**Joseph Creek**	**9.06**	**19**	Pn	**Pn**	**23 52 55.6**	**0.0**
L29M	**L29M**	**9.33**	**36**	Pn	**Pn**	**23 52 59.4**	**+0.1**
M30M	**Minto, Yukon**	**9.46**	**41**	Pn	**Pn**	**23 53 01.2**	**+0.2**
DAWY	**Dawson**	**9.65**	**30**	Pn	**Pn**	**23 53 05.0**	**+1.3**
H21K	**Melozitna Rive**	**9.67**	**354**	Pn	**Pn**	**23 53 03.0**	**-0.9**
EGLK	**Eagle**	**9.79**	**24**	Pn	**Pn**	**23 53 07.1**	**+1.5**
K29M	**Barlow Dome**	**10.04**	**34**	Pn	**Pn**	**23 53 09.2**	**+0.1**
M31M	**Drury Creek, Y**	**10.18**	**47**	Pn	**Pn**	**23 53 11.8**	**+0.8**
G23K	**Bananza Creek**	**10.65**	**1**	Pn	**Pn**	**23 53 17.4**	**0.0**
J30M	**Hart River**	**10.93**	**33**	Pn	**Pn**	**23 53 21.8**	**+0.5**
BMAR	**Burnt Mountain**	**11.68**	**11**	Pn	**Pn**	**23 53 30.7**	**-0.7**
G31M	**Satah River**	**13.22**	**28**	Pn	**Pn**	**23 53 51.6**	**-0.7**
D25K	**Kavik River**	**13.39**	**6**	Pn	**Pn**	**23 53 56.3**	**+1.6**
INK	**Inuvik**	**14.45**	**25**	Pn	**Pn**	**23 54 10.8**	**+1.7**
YKA	**Yellowknife Ar** comp=N,0.1nm,0.3s,baz=266,slow=9.7,SNR=2.8 comp=N,0.2nm,0.7s	**19.11**	**56**	P	**P**	**23 55 07.4**	**-0.1**
MKAR	**Makanchi Array** comp=N,0.2nm,0.9s,baz=46,slow=5.8,SNR=1.4 comp=N,0.2nm,0.9s	**68.42**	**324**	P	P	00 01 41.4	-5.0

*IGQ **23** 23:54:46±0.9,3°.5±.6°×.7°.6W×°,h12km*
*IDC **23** 23:54:52.7±0.6,2°.55S×76°.62W,h116km±4km,mb4.0/18, mbtmp4.5/21,Error ellipse: s-maj=16.9km s-min=9.6km az=64.0*
*VAO **23** 23:54:53.6±0.4,2°.65S×76°.41W,h101km,mb4.6*
*NEIC **23** 23:54:53.6±2.3,2°.69S±0°.04×76°.71W±0°.07,h122km±6km, mb4.6/86,Error ellipse: s-maj=10.6km s-min=5.4km az=83.0*

ISC 23 23:54:52.1±0.5,2.72S±0°.04×76°.69W±0°.05,h115km±4km, h115km:pP-P,n254,σ1948/251,mb4.6/57,10C-3D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.81**	**313**	P	**Pn**	**23 55 23.0**	**0.0**
BOSC	**San Juan Bosco**	**1.85**	**257**		**Pn**	**23 55 22.9**	**-0.7**
BOSC				Sn	**Sn**	**23 55 45.1**	**-2.5**
BOSC	**San Juan Bosco**	**1.85**	**257**	P	**Pn**	**23 55 22.0**	**-1.6**
BOSC				S	**Sn**	**23 55 45.6**	**-2.6**
BMAS	**Trigal station**	**2.16**	**304**	P	**Pn**	**23 55 27.0**	**-0.7**
BRUN	**Tungurahua Vol**	**2.17**	**307**	P	**Pn**	**23 55 27.0**	**-0.7**
BBIL	**Ulba Tungurahu**	**2.20**	**305**	P	**Pn**	**23 55 28.0**	**-0.1**
PIAT	**Ana Tenorio**	**2.33**	**317**	iP	**Pn**	**23 55 30.1**	**+0.3**
PIAT	**Ana Tenorio**	**2.33**	**317**	P	**Pn**	**23 55 30.0**	**+0.3**
PIAT				S	**Sn**	**23 55 58.0**	**-0.6**
PIS1	**Pisayambo**	**2.37**	**314**	P	**Pn**	**23 55 31.0**	**+0.6**
TAMH	**Tambohuasha Ch**	**2.40**	**299**	P	**Pn**	**23 55 31.0**	**+0.2**
PORT	**Chimborazo Vol**	**2.43**	**301**	P	**Pn**	**23 55 32.0**	**+0.7**
CHSH	**Refugio Sur-Vo**	**2.50**	**299**	Pn	**Pn**	**23 55 32.1**	**-0.1**
CHSH	**Refugio Sur-Vo**	**2.50**	**299**	P	**Pn**	**23 55 32.0**	**-0.1**
VCES	**Cotopaxi**	**2.56**	**318**	P	**Pn**	**23 55 33.0**	**+0.1**
COHC	**Cochancay**	**2.57**	**276**	Pn	**Pn**	**23 55 32.3**	**-0.3**
COHC	**Cochancay**	**2.57**	**276**	eP	**Pn**	**23 55 32.8**	**+0.2**
COHC				eS	**Sn**	**23 56 03.4**	**-0.3**
COHC	**Cochancay**	**2.57**	**276**	P	**Pn**	**23 55 32.0**	**-0.6**
BTAM	**Cotopaxi Volca**	**2.66**	**320**	P	**Pn**	**23 55 35.0**	**+0.8**
ANTM	**Antisana-La Mi**	**2.66**	**325**	P	**Pn**	**23 55 34.0**	**-0.2**
ANTS	**Antisana-Sarah**	**2.66**	**326**	P	**Pn**	**23 55 34.0**	**-0.3**
BVC2	**Cotopaxi Volca**	**2.68**	**320**	P	**Pn**	**23 55 35.0**	**+0.5**
SLOR	**San Lorenzo -**	**2.68**	**318**	Pn	**Pn**	**23 55 35.4**	**+1.0**
BREF	**Cotopaxi Volca**	**2.69**	**319**	P	**Pn**	**23 55 36.0**	**+1.3**
ANTG	**Antisana-Guama**	**2.70**	**325**	P	**Pn**	**23 55 35.0**	**+0.2**
BNAS	**Cotopaxi Volca**	**2.71**	**319**	P	**Pn**	**23 55 37.0**	**+2.1**
MILO	**Milagro-Astudi**	**2.90**	**279**	P	**Pn**	**23 55 36.0**	**-0.8**
CASC	**Dorado de Casc**	**2.91**	**347**	P	**Pn**	**23 55 37.0**	**-0.2**
ANGU	**Angureal**	**3.05**	**334**	P	**Pn**	**23 55 40.0**	**+0.5**
CAYA	**Cayambe**	**3.06**	**335**	P	**Pn**	**23 55 40.0**	**+0.4**
GGPT	**Toaza - Volcan**	**3.14**	**322**	P	**Pn**	**23 55 41.0**	**+0.5**
TERV	**Terraza Guagua**	**3.17**	**323**	P	**Pn**	**23 55 42.0**	**+1.0**
BONI	**La Bonita**	**3.27**	**345**	eP	**Pn**	**23 55 42.0**	**0.0**
BONI	**La Bonita**	**3.27**	**345**	P	**Pn**	**23 55 42.0**	**0.0**
PULU	**Pululahua**	**3.27**	**326**	Pn	**Pn**	**23 55 43.7**	**+1.5**
PULU	**Pululahua**	**3.27**	**326**	P	**Pn**	**23 55 43.0**	**+0.8**
IMBA	**Imbabura, San**	**3.34**	**333**	Pn	**Pn**	**23 55 45.4**	**+2.2**
OTAV	**Otavalo**	**3.43**	**329**	Pn	**Pn**	**23 55 44.7**	**+0.4**
OTAV	**Otavalo**	**3.43**	**329**	eP	**Pn**	**23 55 45.4**	**+1.1**
OTAV	**Otavalo**	**3.43**	**329**	P	**Pn**	**23 55 45.0**	**+0.7**
OTAV	**Otavalo**	**3.43**	**329**	eP	**Pn**	**23 55 45.9**	**+1.6**
PTLC	**Puerto Leguiza**	**3.44**	**33**	iP	**Pn**	**23 55 41.4**	**-2.7**
PTLC	**Puerto Leguiza**	**3.44**	**33**	P	Pn	23 55 41.0	-3.1
COTA	**Cotacachi**	**3.46**	**332**	P	**Pn**	**23 55 47.0**	**+2.3**
CUSE	**Cuicocha Este**	**3.46**	**330**	eP	**Pn**	**23 55 47.7**	**+3.0**
ARNL	**Arenillas**	**3.47**	**256**	Pn	**Pn**	**23 55 42.0**	**-2.4**
ARNL	**Arenillas**	**3.47**	**256**	P	**Pn**	**23 55 41.0**	**-3.4**
ISPG	**Isla Puna-Puer**	**3.48**	**266**	P	**Pn**	**23 55 43.0**	**-1.6**
URCU	**Urcuqui**	**3.51**	**334**	P	**Pn**	**23 55 47.0**	**+1.6**
TULM	**Tulcn-Chalpat**	**3.59**	**342**	Pn	**Pn**	**23 55 46.4**	**-0.1**
TULM	**Tulcn-Chalpat**	**3.59**	**342**	eP	**Pn**	**23 55 48.0**	**+1.5**
TULM	**Tulcn-Chalpat**	**3.59**	**342**	P	**Pn**	**23 55 47.0**	**+0.5**
PAC1	**Pacto, Paraso**	**3.64**	**325**	eP	**Pn**	**23 55 48.2**	**+1.4**
PAC1	**Pacto, Paraso**	**3.64**	**325**	P	**Pn**	**23 55 48.0**	**+1.2**
MCRA	**Macar, Loja**	**3.65**	**243**	Pn	**Pn**	**23 55 44.5**	**-2.3**
MCRA	**Macar, Loja**	**3.65**	**243**	eP	**Pn**	**23 55 47.8**	**-2.0**
MCRA	**Macar, Loja**	**3.65**	**243**	P	**Pn**	**23 55 44.0**	**-2.8**
CHL1	**Volcn Chiles**	**3.71**	**340**	P	**Pn**	**23 55 51.0**	**+2.8**
CMBC	**Cumbal**	**3.81**	**343**	P	**Pn**	**23 55 52.0**	**+2.6**
GCUF	**Volcan Galeras**	**3.98**	**351**	eP	**Pn**	**23 55 53.4**	**+1.7**
PPLP	**Puerto Lpez**	**4.25**	**286**	eP	**Pn**	**23 55 52.5**	**-2.3**
CRUC	**La Cruz**	**4.27**	**357**	eP	Pn	23 55 42.2	-13
SALI	**Salinas**	**4.33**	**277**	Pn	**Pn**	**23 55 54.3**	**-1.6**
SALI	**Salinas**	**4.33**	**277**	P	**Pn**	**23 55 54.0**	**-1.9**
ISPT	**Isla de la Pla**	**4.61**	**288**	P	**Pn**	**23 55 59.0**	**-0.8**
ATAH	**Atahualpa** 794nm,0.6s,baz=25,slow=10,SNR=488	**4.70**	**201**	P	**Pn**	**23 56 03.7**	**+2.4**
ATAH	170nm,0.6s,baz=275,slow=17,SNR=2.6			S	**Sn**	**23 56 53.1**	**-2.0**
BBAC	**Balboa, Cauca**	**4.75**	**353**	eP	**Pn**	**23 56 03.3**	**+1.5**
BBAC	**Balboa, Cauca**	**4.75**	**353**	P	**Pn**	**23 56 03.0**	**+1.2**
GARC	**Garzon, Huila**	**5.02**	**14**	iP	**Pn**	**23 56 05.6**	**+0.1**
POPC	**Popayan, Colom**	**5.23**	**0**	eP	**Pn**	**23 56 09.5**	**+1.2**
BETC	**Betania**	**5.51**	**13**	eP	**Pn**	**23 56 14.0**	**+2.0**
JAMC	**Jamundi, Valle**	**5.90**	**0**	eP	**Pn**	**23 56 19.5**	**+2.2**
CZSB	**Cruzeiro do Su**	**6.36**	**142**	Pn	**Pn**	**23 56 24.7**	**+1.3**
CZSB	**Cruzeiro do Su**	**6.36**	**142**	eP	**Pn**	**23 56 25.1**	**+1.7**
PRAC	**Prado**	**6.64**	**16**	eP	**Pn**	**23 56 28.6**	**+1.3**
YOTC	**Yotoco, Valle**	**6.67**	**3**	eP	**Pn**	**23 56 28.2**	**+0.5**
ORTC	**Ortega, Tolima**	**6.75**	**12**	eP	**Pn**	**23 56 29.6**	**+1.0**
TBTG	**Tabatinga, AM**	**6.92**	**102**	Pn	**Pn**	**23 56 31.6**	**+0.6**
VILC	**Villavicencio,**	**7.42**	**24**	eP	**Pn**	**23 56 38.9**	**+1.1**
PLMC	**San Jos del P**	**7.59**	**3**	eP	**Pn**	**23 56 40.5**	**+0.4**
CVER	**Cruz Verde, Cu**	**7.66**	**20**	eP	**Pn**	**23 56 44.2**	**+2.8**
ROSC	**El Rosal**	**7.88**	**18**	Pn	**Pn**	**23 56 45.3**	**+1.0**
ROSC	**El Rosal** 16nm,0.5s,baz=212,slow=20,SNR=8.4	**7.88**	**18**	P	**Pn**	**23 56 47.2**	**+2.9**
ROSC	**El Rosal**	**7.88**	**18**	eP	**Pn**	**23 56 46.9**	**+2.6**
GUY2C	**Guyana, Caldas**	**8.01**	**10**	eP	**Pn**	**23 56 49.2**	**+3.1**
PTGC	**Puerto Gaitan,**	**8.25**	**34**	eP	**Pn**	**23 56 49.0**	**0.0**
CBOC	**Ciudad Bolivar**	**8.56**	**5**	eP	**Pn**	**23 56 56.7**	**+3.4**
SPBC	**San Pablo de B**	**8.72**	**17**	eP	**Pn**	**23 56 56.0**	**+0.5**
SOLC	**Bahia Solano**	**8.92**	**355**	eP	Pn	23 56 47.9	-10
NNA	**Nana**	**9.21**	**181**	Pn	**Pn**	**23 57 02.9**	**+0.9**
NNA	**Nana** 38nm,0.3s,baz=346,slow=11,SNR=31	**9.21**	**181**	P	**Pn**	**23 57 03.0**	**+1.1**
NNA	42nm,0.3s,baz=0.5,slow=19,SNR=8.5			S	**Sn**	**23 58 35.7**	**-8.1**
NNA	**Nana**	**9.21**	**181**	eP	**Pn**	**23 57 03.5**	**+1.5**
PTBC	**PUERTO BERRIO,**	**9.47**	**14**	eP	**Pn**	**23 57 06.0**	**+0.5**
DBBC	**Dabeiba**	**9.69**	**3**	eP	**Pn**	**23 57 11.8**	**+3.2**
BARC	**Barichara**	**9.89**	**21**	eP	**Pn**	**23 57 14.5**	**+3.0**
TAMC	**Tame, Arauca**	**10.33**	**28**	eP	**Pn**	**23 57 18.7**	**+1.5**
UREC	**San Jos de Ur**	**10.47**	**6**	eP	**Pn**	**23 57 20.7**	**+1.6**
PAMC	**Pamplona, Colo**	**10.76**	**22**	eP	**Pn**	**23 57 24.3**	**+0.9**
TEFE	**Tefe**	**12.06**	**94**	eP	**Pn**	**23 57 39.5**	**-0.8**
ETMB	**Extrema**	**12.57**	**125**	Pn	**Pn**	**23 57 44.5**	**-2.5**
ETMB	**Extrema**	**12.57**	**125**	eP	**Pn**	**23 57 45.4**	**-1.6**
SDV	**Santo Domingo**	**13.02**	**28**	Pn	**Pn**	**23 57 53.8**	**+0.8**
SDV	**Santo Domingo** 7.2nm,0.3s,baz=237,slow=11,SNR=6.7	**13.02**	**28**	P	**Pn**	**23 57 53.7**	**+0.7**
SDV	**Santo Domingo**	**13.02**	**28**	eP	**Pn**	**23 57 52.6**	**-0.4**
SDV	**Santo Domingo**	**13.02**	**28**	eP	**Pn**	**23 57 53.2**	**+0.2**
BAUV	**El Baul**	**14.45**	**37**	Pn	**Pn**	**23 58 10.7**	**-0.6**
SAML	**Samuel**	**14.79**	**115**	Pn	**Pn**	**23 58 13.3**	**-2.2**
SAML	**Samuel**	**14.79**	**115**	eP	**Pn**	**23 58 13.4**	**-2.2**
SAML	**Samuel**	**14.79**	**115**	eP	**Pn**	**23 58 14.0**	**-1.5**
LPAZ	**La Paz**	**15.89**	**149**	Pn	**Pn**	**23 58 29.7**	**-0.3**
MACA	**Manacapuru-AM**	**15.99**	**92**	Pn	**Pn**	**23 58 30.6**

319A					IAmb	IAmb	00 03 05.5		
	comp=Z,16nm,1.3s								
ANMO	**Albuquerque**	**46.73**	**326**	P	**P**		**00 03 10.3**	**+0.2**	
ANMO					IAmb	IAmb	00 03 11.5		
	comp=Z,9.0nm,0.7s								
G62A	**West of Eustis**	**48.05**	**6**	P	**P**		**00 03 20.1**	**+0.3**	
SDCO	**Great Sand Dun**	**48.31**	**329**	P	**P**		**00 03 21.8**	**-0.5**	
SDCO					IAmb	IAmb	00 03 23.9		
	comp=Z,7.4nm,0.9s								
214A	**Organ Pipe Nat**	**48.62**	**318**	P	P		00 03 17.5	-7.0	
W18A	**Petrified Fore**	**48.75**	**324**	IAmb	IAmb		00 03 27.4		
	comp=Z,12nm,1.0s								
E62A	**Clayton Lake**	**49.54**	**6**	P	**P**		**00 03 31.5**	**+0.3**	
E62A					IAmb	IAmb	00 04 08.0		
	comp=Z,14nm,1.2s								
WUAZ	**Wupatki**	**50.00**	**323**	P	**P**		**00 03 34.8**	**-0.3**	
WUAZ					IAmb	IAmb	00 04 07.3		
	comp=Z,9.9nm,1.0s								
HMU	**Henry Mountain**	**51.28**	**325**	P	**P**		**00 03 45.4**	**+0.6**	
HMU					IAmb	IAmb	00 03 47.4		
	comp=Z,6.9nm,0.9s								
W13A	**Hualapai Mount**	**51.29**	**321**	P	**P**		**00 03 44.7**	**-0.1**	
LCMT	**Little Creek M**	**52.12**	**323**	P	**P**		**00 03 50.0**	**-0.9**	
MVU	**Marysvale**	**52.51**	**325**	P	**P**		**00 03 53.9**	**+0.1**	
BSUT	**Blindstream Ca**	**53.13**	**328**	IAmb	IAmb		00 04 01.0		
	comp=Z,8.8nm,1.2s								
TCUT	**Toone Canyon**	**53.88**	**328**	IAmb	IAmb		00 04 05.0		
	comp=Z,8.3nm,0.8s								
TPNV	**Topopah Spring**	**53.94**	**321**	IAmb	IAmb		00 04 06.6		
	comp=Z,6.2nm,1.0s								
DUG	**Dugway, Tooele**	**54.01**	**326**	IAmb	IAmb		00 04 06.9		
	comp=Z,3.9nm,0.8s								
SPR3	**Spring Creek 3**	**54.07**	**324**	P	**P**		**00 04 05.1**	**-0.3**	
SPR3					IAmb	IAmb	00 04 06.4		
	comp=Z,3.3nm,0.7s								
PDAR	**Pinedale Array**	**54.13**	**330**	P	**P**		**00 04 05.3**	**-0.3**	
	comp=Z,0.8nm,0.5s,baz=128,slow=10,SNR=10								
PDAR				PcP	**PcP**		**00 05 08.2**	**-0.7**	
	comp=Z,0.4nm,0.3s,baz=118,slow=5.4,SNR=4.5								
	comp=Z,0.8nm,0.5s								
HWUT	**Hardware Ranch**	**54.31**	**328**	IAmb	IAmb		00 04 07.6		
	comp=Z,5.8nm,1.0s								
SPUT	**South Promonto**	**54.58**	**327**	IAmb	IAmb		00 04 10.4		
	comp=Z,11nm,1.1s								
BGU	**Big Grassy Mou**	**54.63**	**327**	IAmb	IAmb		00 04 10.2		
	comp=Z,8.5nm,1.3s								
ULM	**Lac du Bonnet**	**55.29**	**345**	P	**P**		**00 04 11.4**	**-2.1**	
	comp=Z,2.5nm,0.5s,baz=158,slow=8.1,SNR=8.5								
ULM				pP	**pP**		**00 04 40.3**	**-0.7**	
	comp=Z,1.8nm,0.6s,baz=160,slow=10,SNR=2.9								
	comp=Z,2.5nm,0.5s								
OMMB	**Old Mammoth Mi**	**56.09**	**320**	P	**P**		**00 04 20.1**	**+0.2**	
OMMB					IAmb	IAmb	00 04 21.3		
	comp=Z,3.6nm,0.8s								
NVAR	**Mina Array Bea**	**56.13**	**321**	P	**P**		**00 04 20.0**	**-0.1**	
NVAR	**Mina Array Bea**	**56.13**	**321**	P	**P**		**00 04 20.7**	**+0.7**	
	comp=Z,1.6nm,0.6s,baz=127,slow=7.0,SNR=14								
NVAR				pP	**pP**		**00 04 48.1**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=117,slow=5.6,SNR=3.5								
	comp=Z,1.6nm,0.6s								
MFID	**Camas Ranch**	**57.84**	**327**	P	**P**		**00 04 31.9**	**0.0**	
SCHQ	**Schefferville**	**57.94**	**7**	P	**P**		**00 04 32.0**	**-0.2**	
	comp=Z,1.0nm,0.3s,baz=222,slow=7.9,SNR=6.4								
	comp=Z,1.0nm,0.3s								
WVOR	**Wild Horse Val**	**58.78**	**325**	IAmb	IAmb		00 04 39.6		
	comp=Z,4.7nm,0.8s								
ORV	**Oroville**	**58.81**	**320**	IAmb	IAmb		00 05 11.4		
	comp=Z,9.6nm,1.1s								
NEW	**Newport**	**61.78**	**331**	P	**P**		**00 04 58.1**	**-0.5**	
	comp=Z,2.6nm,0.6s,baz=13,slow=8.1,SNR=4.6								
	comp=Z,2.6nm,0.6s								
YKA	**Yellowknife Ar**	**71.09**	**342**	P	**P**		**00 05 56.5**	**-1.1**	
	comp=Z,1.2nm,0.6s,baz=140,slow=5.8,SNR=15								
	comp=Z,1.2nm,0.6s								
LIC	**Lamto**	**72.10**	**83**	⇑*e*P	**P**		**00 06 05.0**	**+0.3**	
	comp=Z,19nm,0.7s								
TIC	**Toumodi**	**72.14**	**82**	⇑*e*P	**P**		**00 06 04.7**	**-0.3**	
	comp=Z,9.6nm,0.8s								
DBIC	**Dimbokro**	**72.31**	**82**	P	**P**		**00 06 05.3**	**-0.6**	
DBIC					IAmb	IAmb	00 06 06.7		
	comp=Z,9.4nm,1.0s								
DBIC	**Dimbokro**	**72.31**	**82**	P	**P**		**00 06 06.1**	**+0.2**	
	comp=Z,4.8nm,0.4s,baz=272,slow=3.9,SNR=20								
	comp=Z,4.8nm,0.4s								
KIC	**Kosan Boka**	**72.40**	**82**	⇑*e*P	**P**		**00 06 06.5**	**0.0**	
	comp=Z,11nm,0.5s								
PESTR	**Estremoz**	**75.60**	**49**	P	**P**		**00 06 24.0**	**-0.7**	
PESTR					IAmb	IAmb	00 06 25.8		
	comp=Z,6.3nm,0.8s								
BELA	**Belgrano 2**	**78.29**	**172**	P	**P**		**00 06 39.9**	**+0.9**	
BELA					IAmb	IAmb	00 06 41.3		
	comp=Z,14nm,1.3s								
ESDC	**Sonseca Array**	**78.53**	**49**	P	**P**		**00 06 40.2**	**-0.8**	
ESDC	**Sonseca Array**	**78.53**	**49**	P	**P**		**00 06 40.5**	**-0.5**	
	comp=Z,1.4nm,0.8s,baz=265,slow=5.9,SNR=18								
	comp=Z,1.4nm,0.8s								
TOA0	**Torodi Ar. Sit**	**79.33**	**76**	P	**P**		**00 06 44.7**	**-1.1**	
TORD	**Torodi Ar. Bea**	**79.33**	**76**	P	**P**		**00 06 44.7**	**-1.1**	
TORD	**Torodi Ar. Bea**	**79.33**	**76**	P	**P**		**00 06 45.5**	**-0.4**	
	comp=Z,1.2nm,0.4s,baz=283,slow=5.9,SNR=15								
TORD				pP	**pP**		**00 07 14.4**	**-0.7**	
	comp=Z,1.6nm,0.7s,baz=302,slow=6.6,SNR=4.6								
	comp=Z,1.2nm,0.4s								
VNA3	**Neumayer Olymp**	**80.17**	**162**	⇑P	**P**		**00 06 50.3**	**+1.0**	
	comp=Z,8.7nm,0.7s								
VNA2	**Neumayer--Wats**	**80.75**	**162**	⇑P	**P**		**00 06 53.5**	**+1.1**	
	comp=Z,4.5nm,0.6s,baz=299,slow=5.0								
INK	**Inuvik**	**80.83**	**342**	P	**P**		**00 06 52.8**	**0.0**	
INK					IAmb	IAmb	00 06 53.6		
	comp=Z,7.9nm,1.1s								
INK	**Inuvik**	**80.83**	**342**	P	**P**		**00 06 52.9**	**+0.1**	
	comp=Z,3.6nm,0.5s,baz=108,slow=8.9,SNR=5.8								
	comp=Z,3.6nm,0.5s								
SNAA	**Sanae**	**82.38**	**162**	P	**P**		**00 07 01.5**	**+0.5**	
SNAA					IAmb	IAmb	00 07 03.1		
	comp=Z,14nm,1.3s								
SNAA	**Sanae**	**82.38**	**162**	⇑P	**P**		**00 07 02.0**	**+1.0**	
	comp=Z,94nm,0.6s								
KLU	**Klutina**	**82.62**	**333**	P	**P**		**00 07 02.1**	**-0.3**	
EKA	**Eskdalemuir Ar**	**82.93**	**34**	P	**P**		**00 07 03.0**	**-1.0**	
	comp=Z,2.4nm,0.9s,baz=246,slow=4.4,SNR=4.0								
	comp=Z,2.4nm,0.9s								
TROLL	**Troll, Antarti**	**84.09**	**162**	⇑P	**P**		**00 07 11.5**	**+1.5**	
	comp=Z,536nm,0.7s								
QSPA	**South Pole Qui**	**87.35**	**180**	P	**P**		**00 07 27.7**	**+1.6**	
	comp=Z,11nm,0.8s,baz=170,slow=1.9,SNR=27								
	comp=Z,11nm,0.8s								
ELIB	**Princess Elisa**	**90.54**	**162**	*d*P	**P**		**00 07 41.7**	**+0.7**	
ELIB				*d*pP	pP		00 08 02.7	-8.1	
BVAR	**Borovoye Array**	**122.96**	**23**	PKP	**PKPdf**		**00 13 34.6**	**-0.3**	
	comp=Z,0.4nm,0.3s,baz=315,slow=2.3,SNR=1.5								
BVAR				pPKP	**pPKPdf**		**00 14 06.4**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=228,slow=41,SNR=2.2								
GEYT	**Alibeck**	**125.84**	**44**	PKP	**PKiKP**		**00 13 41.1**	**-0.3**	
	comp=Z,0.6nm,0.4s,baz=293,slow=7.5,SNR=1.9								
GEYT				pPKP	**pPKPdf**		**00 14 13.6**	**+1.5**	
	comp=Z,2.2nm,0.7s,baz=251,slow=4.4,SNR=3.7								
ZALV	**Zalesovo Beam**	**126.73**	**14**	PKP	**PKPdf**		**00 13 41.8**	**-0.3**	
	comp=Z,1.8nm,0.5s,baz=280,slow=1.5,SNR=9.2								
ZALV				pPKP	**pPKPdf**		**00 14 12.9**	**-0.4**	
	comp=Z,1.2nm,0.3s,baz=346,slow=3.0,SNR=5.7								
KURBB	**Kurchatov Arra**	**127.88**	**20**	PKP	**PKiKP**		**00 13 44.5**	**-0.5**	
	comp=Z,1.1nm,0.6s,baz=327,slow=2.8,SNR=2.5								
KURBB				pPKP	**pPKPdf**		**00 14 17.1**	**+1.5**	
	comp=Z,1.6nm,0.5s,baz=325,slow=2.3,SNR=3.6								
STKA	**Stephens Creek**	**129.96**	**223**	PKP	**PKiKP**		**00 13 49.1**	**-0.6**	
	comp=Z,0.7nm,0.4s,baz=164,slow=7.7,SNR=3.9								
MKAR	**Makanchi Array**	**132.45**	**20**	PKP	**PKPdf**		**00 13 52.7**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=350,slow=2.8,SNR=8.2								
MKAR				pPKP	**pPKPdf**		**00 14 24.1**	**-0.3**	
	comp=Z,0.5nm,0.4s,baz=292,slow=2.7,SNR=3.2								
SONM	**Songino Array**	**134.98**	**357**	PKP	**PKPdf**		**00 13 57.9**	**-0.2**	
	comp=Z,1.0nm,0.8s,baz=12,slow=1.8,SNR=2.6								
KSRS	**Korea Array**	**138.70**	**330**	PKP	**PKPdf**		**00 14 05.3**	**+0.3**	
	comp=Z,1.7nm,0.7s,baz=326,slow=1.3,SNR=2.5								
ASAR	**Alice Springs**	**140.31**	**227**	PKhKP	PKPpre		00 14 01.1		
	comp=Z,1.1nm,0.5s,baz=125,slow=3.6,SNR=12								
ASAR				PKP	**PKPdf**		**00 14 08.2**	**-0.4**	
	comp=Z,1.5nm,0.6s,baz=99,slow=1.9,SNR=15								
WRA	**Warramunga Arr**	**142.11**	**232**	PKhKP	PKPpre		00 14 06.6		
	comp=Z,1.7nm,0.5s,baz=119,slow=2.6,SNR=13								

*NEIC **23** 23:56:30.3±1.9, 55°.93N±0°.09×150°.22W±0°.03, h10km±2km, ML3.5/30, ML3.2(AEIC), Error ellipse: s-maj=14.5km s-min=3.5km az=182.0*
*AEIC **23** 23:56:34.5±1.8, 55°.89N±0°.09×150°.1W±0°.1, h10km±8km,*

Error ellipse: s-maj=14.6km s-min=7.8km az=155.0
ISC 23 23:56:29.6±2.4, 55°.9N±0°.1×150°.19W±0°.07, h10km, n100, σ1s17/106, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
OHAK	**Old Harbor**	**2.14**	**308**		**Pn**		**23 57 03.6**	**-1.7**
OHAK					**Sn**		**23 57 29.4**	**-2.6**
OHAK	**Old Harbor**	**2.14**	**308**	P	**Pn**		**23 57 06.3**	**+0.9**
	baz=126							
OHAK				S	**Sn**		**23 57 30.0**	**-1.9**
	baz=126							
KDAK	**Kodiak Island**	**2.27**	**325**	Pn	**Pn**		**23 57 07.8**	**+0.8**
KDAK	**Kodiak Island**	**2.27**	**325**	S	**Sn**		**23 57 34.6**	**-0.4**
	baz=143							
R18K	**Karluk**	**2.86**	**307**	Pn	**Pn**		**23 57 15.5**	**+0.4**
R18K				IAML			23 57 37.7	
	comp=E,94nm,3.0s							
R18K	**Karluk**	**2.86**	**307**	P	**Pn**		**23 57 16.3**	**+1.1**
	baz=123							
SYI	**Shuyak Island**	**2.93**	**337**	Pn	**Pn**		**23 57 16.9**	**+0.7**
SYI				Sn	**Sn**		**23 57 51.1**	**-0.3**
SYI				IAML			23 57 54.4	
	comp=E,115nm,3.3s							
Q20K	**Shuyak Island**	**2.93**	**337**	P	**Pn**		**23 57 17.0**	**+0.9**
	baz=154							
Q20K				S	**Sn**		**23 57 51.8**	**+0.4**
	baz=154							
Q19K	**Cape Douglas,**	**3.53**	**329**	Pn	**Pn**		**23 57 25.2**	**+0.8**
Q19K				IAML			23 57 56.9	
	comp=N,130nm,1.6s							
Q19K				IAML			23 59 10.2	
	comp=E,184nm,1.3s							
Q19K	**Cape Douglas,**	**3.53**	**329**	P	**Pn**		**23 57 25.7**	**+1.3**
	baz=146							
CNPM	**China Poot**	**3.64**	**352**	Pn	**Pn**		**23 57 26.0**	**+0.1**
CNPM				IAML			23 58 00.9	
	comp=N,82nm,3.3s							
CNPM				IAML			23 59 29.7	
	comp=E,78nm,2.6s							
BRSE	**Bradley Lake S**	**3.82**	**356**		**Pn**		**23 57 29.0**	**+0.6**
BRSE					**Sn**		**23 58 11.4**	**-2.0**
BRSE	**Bradley Lake S**	**3.82**	**356**	P	**Pn**		**23 57 29.0**	**+0.6**
	baz=175							
BRSE				S	**Sn**		**23 58 11.4**	**-2.0**
	baz=175							
BRLK	**Bradley Lake**	**3.85**	**355**	Pn	**Pn**		**23 57 28.4**	**-0.5**
BRLK				IAML			23 58 31.5	
	comp=E,67nm,3.3s							
BRLK				IAML			23 59 08.3	
	comp=N,55nm,3.1s							
CNTC	**Contact Creek**	**3.88**	**309**		**Pn**		**23 57 30.6**	**+1.3**
Q17K	**Contact Creek**	**3.88**	**309**	P	**Pn**		**23 57 30.6**	**+1.3**
	baz=125							
P19K	**Oil Pt**	**4.06**	**338**	Pn	**Pn**		**23 57 32.5**	**+0.8**
P19K				IAML			23 58 37.1	
	comp=N,96nm,2.8s							
P19K	**Oil Pt**	**4.06**	**338**	P	**Pn**		**23 57 33.6**	**+1.8**
	baz=155							
P23K	**Montague Islan**	**4.33**	**19**		**Pn**		**23 57 35.7**	**+0.3**
P23K	**Montague Islan**	**4.33**	**19**	P	**Pn**		**23 57 35.7**	**+0.3**
	baz=200							
IVE	**Iliamna Volcan**	**4.36**	**341**		**Pn**		**23 57 37.5**	**+1.7**
P18K	**Big Mountain,**	**4.39**	**324**	Pn	**Pn**		**23 57 36.9**	**+0.6**
P18K				IAML			23 59 02.4	
	comp=E,37nm,3.4s							
P18K	**Big Mountain,**	**4.39**	**324**	P	**Pn**		**23 57 37.4**	**+1.1**
	baz=140							
P17K	**Kvichak River**	**4.69**	**317**		**Pn**		**23 57 41.9**	**+1.6**
P17K	**Kvichak River**	**4.69**	**317**	P	**Pn**		**23 57 41.9**	**+1.6**
	baz=132							
RSO	**Redoubt South**	**4.73**	**344**	Pn	**Pn**		**23 57 40.8**	**-0.3**
O18K	**Koktuh Hills**	**4.75**	**328**	Pn	**Pn**		**23 57 41.5**	**+0.4**
O18K				IAML			23 58 29.6	
	comp=N,29nm,3.0s							
O18K				IAML			23 59 38.4	
	comp=E,29nm,2.9s							
O18K	**Koktuh Hills**	**4.75**	**328**	P	**Pn**		**23 57 42.1**	**+1.0**
	baz=143							
RDWB	**Redoubt West**	**4.77**	**344**		**Pn**		**23 57 42.0**	**+0.5**
HIN	**Hinchinbrook I**	**4.88**	**22**	Pn	**Pn**		**23 57 42.9**	**0.0**
KAIM	**Kayak Island**	**5.04**	**35**	Pn	**Pn**		**23 57 45.6**	**+0.5**
RC01	**Rabbit Creek A**	**5.17**	**2**	Pn	**Pn**		**23 57 48.0**	**+1.1**
RC01				IAML			23 58 59.4	
	comp=N,39nm,3.4s							
RC01				IAML			23 59 24.2	
	comp=E,27nm,3.0s							
P16K	**Nushagak River**	**5.23**	**310**		**Pn**		**23 57 49.0**	**+1.3**
P16K	**Nushagak River**	**5.23**	**310**	P	**Pn**		**23 57 49.0**	**+1.3**
	baz=123							
O17K	**Koliganek Bris**	**5.33**	**319**		**Pn**		**23 57 50.2**	**+1.2**
O17K	**Koliganek Bris**	**5.33**	**319**	P	**Pn**		**23 57 50.2**	**+1.2**
	baz=133							
RAGM	**Ragged Mountai**	**5.33**	**31**	Pn	**Pn**		**23 57 48.1**	**-1.0**
N19K	**Bonanza Creek**	**5.38**	**337**	Pn	**Pn**		**23 57 49.5**	**-0.5**
N19K				IAML			23 58 51.8	
	comp=N,20nm,3.5s							
N19K				IAML			00 01 22.6	
	comp=E,19nm,3.9s							
N19K	**Bonanza Creek**	**5.38**	**337**	P	**Pn**		**23 57 51.0**	**+1.1**
	baz=153							
CNBA	**Chernabura Isl**	**5.48**	**262**	Pn	**Pn**		**23 57 51.5**	**+0.4**
SUA	**Susitna One**	**5.55**	**357**	Pn	**Pn**		**23 57 52.9**	**+0.7**
O16K	**Kokwok River B**	**5.59**	**314**	Pn	**Pn**		**23 57 53.8**	**+1.1**
O16K	**Kokwok River B**	**5.59**	**314**	P	**Pn**		**23 57 53.7**	**+1.0**
	baz=128							
N18K	**Kilae Creek**	**5.62**	**330**	Pn	**Pn**		**23 57 53.5**	**+0.4**
N18K	**Kilae Creek**	**5.62**	**330**	P	**Pn**		**23 57 54.0**	**+0.8**
	baz=145							
BERG	**Berg Lake**	**5.63**	**35**	Pn	**Pn**		**23 57 52.6**	**-0.6**
SNH	**Sunshine Point**	**5.77**	**40**	Pn	**Pn**		**23 57 56.6**	**+1.4**
GHO	**Glory Hole Cre**	**5.88**	**6**	Pn	**Pn**		**23 57 56.1**	**-0.7**
SVW2	**Sparrevohn**	**5.89**	**334**	Pn	**Pn**		**23 57 56.7**	**-0.1**
N17K	**Nushagak Hills**	**5.90**	**324**	Pn	**Pn**		**23 57 56.8**	**-0.1**
SML	**Sawmill**	**5.96**	**9**	Pn	**Pn**		**23 57 57.5**	**-0.3**
KLU	**Klutina**	**5.99**	**20**	Pn	**Pn**		**23 57 57.6**	**-0.7**
O15K	**Ungalikthiuk R**	**6.12**	**306**		**Pn**		**23 58 00.7**	**+0.8**
O15K	**Ungalikthiuk R**	**6.12**	**306**	P	**Pn**		**23 58 00.7**	**+0.8**
	baz=118							
M20K	**Styx River**	**6.15**	**347**	Pn	**Pn**		**23 58 00.3**	**-0.1**
M18K	**Stony River**	**6.29**	**335**		**Pn**		**23 58 02.5**	**+0.3**
M18K	**Stony River**	**6.29**	**335**	P	**Pn**		**23 58 02.5**	**+0.3**
	baz=150							
VRDI	**Verde Repeater**	**6.36**	**31**	Pn	**Pn**		**23 58 04.8**	**+1.4**
N25K	**Chitina, Valde**	**6.38**	**25**	Pn	**Pn**		**23 58 03.2**	**-0.4**
N16K	**Nishlik Lake**	**6.42**	**319**		**Pn**		**23 58 05.1**	**+1.1**
N16K	**Nishlik Lake**	**6.42**	**319**	P	**Pn**		**23 58 05.1**	**+1.1**
	baz=131							
GLB	**Gilahina Butte**	**6.44**	**28**	Pn	**Pn**		**23 58 05.7**	**+1.3**
KIAG	**Kiagna River**	**6.47**	**36**		**Pn**		**23 58 04.9**	**+0.1**
MCARA	**McCarthy VSAT**	**6.61**	**31**	Pn	**Pn**		**23 58 07.0**	**+0.3**
M17K	**Holitna River**	**6.65**	**328**	Pn	**Pn**		**23 58 08.5**	**+1.2**
M17K	**Holitna River**	**6.65**	**328**	P	**Pn**		**23 58 08.5**	**+1.2**
	baz=142							
PN7A	**Pavlof North-7**	**6.70**	**271**		**Pn**		**23 58 10.2**	**+2.2**
L19K	**White Mountain**	**6.70**	**341**	Pn	**Pn**		**23 58 06.9**	**-1.1**
N15K	**Kwethluk River**	**6.75**	**313**	Pn	**Pn**		**23 58 10.1**	**+1.5**
N15K	**Kwethluk River**	**6.75**	**313**	P	**Pn**		**23 58 10.3**	**+1.7**
	baz=125							
BARN	**Barnard Glacie**	**6.80**	**38**	Pn	**Pn**		**23 58 10.3**	**+0.9**
M16K	**Timber Creek**	**6.86**	**322**	Pn	**Pn**		**23 58 11.6**	**+1.5**
M16K	**Timber Creek**	**6.86**	**322**	P	**Pn**		**23 58 11.7**	**+1.5**
	baz=134							
LOGN	**Logan Glacier**	**6.87**	**41**	Pn	**Pn**		**23 58 12.0**	**+1.6**
L18K	**Granite Mounta**	**7.13**	**335**	Pn	**Pn**		**23 58 12.6**	**-1.2**
M15K	**Kasigluk River**	**7.30**	**315**		**Pn**		**23 58 17.9**	**+1.8**
M15K	**Kasigluk River**	**7.30**	**315**	P	**Pn**		**23 58 17.9**	**+1.8**
	baz=126							
L16K	**Owhat River**	**7.52**	**324**	Pn	**Pn**		**23 58 20.3**	**+1.1**
L16K	**Owhat River**	**7.52**	**324**	P	**Pn**		**23 58 20.9**	**+1.7**
	baz=136							
CAST	**Castle Rocks**	**7.56**	**353**	Pn	**Pn**		**23 58 22.2**	**+2.5**
P29M	**Windy Craggy**	**7.61**	**56**	Pn	**Pn**		**23 58 21.3**	**+0.9**
KTH	**Kantishna Hill**	**7.64**	**358**	Pn	**Pn**		**23 58 22.3**	**+1.4**
M27K	**Edge Creek, AK**	**7.72**	**30**	Pn	**Pn**		**23 58 23.0**	**+1.0**
MENT	**Mentasta**	**7.75**	**22**	Pn	**Pn**		**23 58 23.5**	**+1.2**
M14K	**Bethel**	**7.84**	**313**	Pn	**Pn**		**23 58 25.0**	**+1.4**
K17K	**Iditarod**	**7.96**	**332**	Pn	**Pn**		**23 58 26.5**	**+1.4**
HYT	**Haines Junctio**	**8.26**	**48**	Pn	**Pn**		**23 58 29.7**	**+0.2**
RIDG	**Independent Ri**	**8.27**	**17**	Pn	**Pn**		**23 58 31.0**	**+1.5**
L27K	**Beaver Creek,**	**8.30**	**27**	Pn	**Pn**		**23 58 31.0**	**+1.1**
BCAR	**Beaver Creek A**	**8.32**	**27**	Pn	**Pn**		**23 58 31.6**	**+1.5**
L14K	**Kuka Creek**	**8.46**	**315**	Pn	**Pn**		**23 58 33.2**	**+1.2**
K15K	**Wolf Creek Mou**	**8.63**	**322**	Pn	**Pn**		**23 58 35.5**	**+1.1**
M29M	**Somme Creek**	**8.86**	**38**	Pn	**Pn**		**23 58 39.6**	**+2.0**
J16K	**Anvik River**	**9.05**	**329**	Pn	**Pn**		**23 58 41.2**	**+1.2**
J26L	**Joseph Creek**	**9.19**	**18**	Pn	**Pn**		**23 58 42.4**	**+0.3**
L29M	**L29M**	**9.43**	**35**	Pn	**Pn**		**23 58 45.1**	**-0.2**
M30M	**Minto, Yukon**	**9.54**	**40**	Pn	**Pn**		**23 58 48.1**	**+1.2**
K29M	**Barlow Dome**	**10.14**	**33**	Pn	**Pn**		**23 58 56.0**	**+0.8**
H17K	**Granite Mounta**	**10.21**	**336**	Pn	**Pn**		**23 58 56.6**	**+0.7**
J30M	**Hart River**	**11.03**	**33**	Pn	**Pn**		**23 59 08.8**	**+1.5**

*IDC **23** 23:59:34.8±3.0, 55°.66N×150°.12W, h0km, mb3.3/1, mbtmp3.4/6, ML3.1/5, Error ellipse: s-maj=42.0km s-min=26.6km az=2.0*
*NEIC **23** 23:59:34.9±1.9, 55°.7N±0°.1×150°.1W±0°.1, h10km±2km, mb3.8/1, ML4.2/28, ML4.2(AEIC), Error ellipse: s-maj=20.2km s-min=12.9km az=188.0*
*AEIC **23** 23:59:44.2±2.2, 56°.1N±0°.1×150°.1W±0°.1, h9km±8km, Error ellipse: s-maj=19.3km s-min=10.0km az=178.0*
ISC 23 23:59:37.7±1.9, 56°.0N±0°.1×150°.05W±0°.07, h10km, n109, σ1s13/106, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
OHAK	**Old Harbor**	**2.19**	**307**		**Pn**		**00 00 13.0**	**-1.1**
OHAK	**Old Harbor**	**2.19**	**307**	P	**Pn**		**00 00 12.9**	**-1.3**
	baz=129							
KDAK	**Kodiak Island**	**2.30**	**324**	Pn	**Pn**		**00 00 14.3**	**-1.3**
KDAK	**Kodiak Island**	**2.30**	**324**	Pn	**Pn**		**00 00 14.9**	**-0.7**
	5.8nm,0.3s,baz=134,slow=4.4,SNR=30							
KDAK					Sn	**Sn**	**00 00 41.6**	**-2.2**
	12nm,0.3s,baz=246,slow=19,SNR=14							
	20nm,0.3s							
Q20K	**Shuyak Island**	**2.94**	**335**	P	**Pn**		**00 00 24.4**	**-0.1**
	baz=156							
SYI	**Shuyak Island**	**2.94**	**335**	Pn	**Pn**		**00 00 24.4**	**0.0**
Q19K	**Cape Douglas,**	**3.55**	**328**	Pn	**Pn**		**00 00 33.3**	**+0.4**
Q19K					IAML		00 01 45.1	
	comp=N,879nm,0.8s							
Q19K	**Cape Douglas,**	**3.55**	**328**	P	**Pn**		**00 00 33.0**	**+0.1**
	baz=148							
CNPM	**China Poot**	**3.63**	**350**	Pn	**Pn**		**00 00 33.3**	**-0.7**
KAHC	**Katmai Hardscr**	**3.81**	**317**	P	**Pn**		**00 00 37.1**	**+0.7**
	baz=136							
BRLK	**Bradley Lake**	**3.84**	**354**	Pn	**Pn**		**00 00 35.0**	**-1.8**
BRLK					IAML		00 01 44.4	
	comp=E,156nm,0.6s							
Q17K	**Contact Creek**	**3.93**	**308**	P	**Pn**		**00 00 38.2**	**0.0**
	baz=127							
Q23K	**Middleton Isla**	**4.00**	**28**	Pn	**Pn**		**00 00 38.2**	**-0.8**
MID	**Middleton Isla**	**4.01**	**28**	Pn	**Pn**		**00 00 38.3**	**-0.8**
P19K	**Oil Pt**	**4.07**	**337**	Pn	**Pn**		**00 00 41.5**	**+1.5**
P19K					IAML		00 01 51.4

IMAR	Indian Mountai	10.21	351	Pn	Pn	00 02 04.3	+0.2	
DLBC	Dease Lake	11.13	69	Pn	Pn	00 02 17.9	+1.1	
	comp=N,0.1nm,0.3s,baz=32,slow=22,SNR=1.6							
DLBC				Sn	Sn	00 04 21.3	0.0	
	comp=N,0.3nm,0.3s,baz=284,slow=24,SNR=1.3							
	comp=N,1.7nm,1.0s							
ANM	Nome	11.47	325	Pn	Pn	00 02 22.8	+1.5	
BMAR	Burnt Mountain	11.79	10	Pn	Pn	00 02 26.0	+0.2	
G31M	Satah River	13.28	28	Pn	Pn	00 02 47.2	+1.3	
INK	Inuvik	14.52	25	Pn	Pn	00 03 04.7	+1.8	
	baz=204,slow=16,SNR=6.5							
	comp=N,1.3nm,0.8s							
YKA	Yellowknife Ar	19.08	55	P	Pn	00 04 01.6	+0.8	
	comp=N,0.1nm,0.3s,baz=264,slow=9.9,SNR=9.6							
	comp=N,0.7nm,0.8s							
A36M	Sachs Harbour	19.15	23	Pn	Pn	00 04 01.9	+0.4	
A36M				IAmb	IAmb	00 04 04.5		
	comp=Z,4.6nm,0.8s							
H11N2	WAKE ISLAND Hy	48.35	239	T	T	01 00 47.9		
	baz=30							
H11N3	WAKE ISLAND Hy	48.35	239	T	T	01 00 17.0		
	baz=30							
H11N1	WAKE ISLAND Hy	48.37	239	T	T	01 00 55.7		
	baz=30							
H11S1	WAKE ISLAND Hy	49.49	239	T	T	01 02 43.0		
	baz=29,slow=76,SNR=3.6							
H11S2	WAKE ISLAND Hy	49.50	239	T	T	01 02 42.6		
	baz=29,slow=76,SNR=2.8							
H11S3	WAKE ISLAND Hy	49.51	239	T	T	01 02 47.0		
	baz=29,slow=76,SNR=2.3							
MKAR	Makanchi Array	68.61	324	P	P	00 10 40.4	-0.1	
	comp=Z,0.3nm,0.9s,baz=49,slow=7.4,SNR=2.1							
	comp=Z,0.3nm,0.9s							

NEIC ***23*** *23:59:55.8±1.8,55.70N±0.09×150.1W±0.1,h10km±2km, mb4.3/3,ML4.3/34,ML4.2(AEIC),Error ellipse: s-maj=15.4km s-min=11.8km az=174.0*

AEIC ***24*** *00:00:04.9±1.9,56.0N±0.1×150.1W±0.1,h12km±7km, Error ellipse: s-maj=17.5km s-min=8.6km az=179.0*

ISC 23 23:59:54.9±1.3,55.7N±0.1×150.16W±0.07,h10km,n104, σ1§55/107,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.29	312	Pn	Pn	00 00 33.5	+0.9
OHAK	Old Harbor	2.29	312	P	Pn	00 00 34.2	+1.5
	baz=123						
OHAK				S	Sn	00 00 58.6	-2.2
	baz=123						
KDAK	Kodiak Island	2.45	328	Pn	Pn	00 00 34.7	-0.2
R18K	Karluk	3.00	310		Pn	00 00 44.1	+1.7
R18K	Karluk	3.00	310	P	Pn	00 00 44.6	+2.2
	baz=121						
R18K				S	Sn	00 01 16.8	-1.6
	baz=121						
Q20K	Shuyak Island	3.13	338	P	Pn	00 00 45.3	+1.0
	baz=154						
SYI	Shuyak Island	3.13	338	Pn	Pn	00 00 45.0	+0.7
SYI					Sn	00 01 18.4	-3.2
Q19K	Cape Douglas,	3.72	331	Pn	Pn	00 00 54.1	+1.7
Q19K				IAML		00 03 08.0	
	comp=N,975nm,1.0s						
Q19K	Cape Douglas,	3.72	331	P	Pn	00 00 54.3	+1.9
	baz=145						
CNPM	China Poot	3.85	352	Pn	Pn	00 00 54.0	-0.1
CNPM				IAML		00 01 38.0	
	comp=N,228nm,0.5s						
CNPM				IAML		00 01 38.1	
	comp=E,268nm,0.6s						
KAHC	Katmai Hardscr	3.94	320	P	Pn	00 00 58.3	+2.8
	baz=133						
Q17K	Contact Creek	4.03	311	P	Pn	00 00 59.3	+2.6
	baz=123						
BRLK	Bradley Lake	4.06	355	Pn	Pn	00 00 56.3	-0.8
BRLK				IAML		00 03 46.0	
	comp=N,285nm,0.8s						
Q23K	Middleton Isla	4.24	27	Pn	Pn	00 00 59.8	+0.4
Q23K				IAML		00 02 51.2	
	comp=N,253nm,2.6s						
Q23K				IAML		00 03 48.9	
	comp=E,306nm,2.1s						
Q23K	Middleton Isla	4.24	27	P	Pn	00 00 59.8	+0.4
	baz=212						
MID	Middleton Isla	4.24	27	Pn	Pn	00 00 59.5	+0.1
MID				IAML		00 03 21.0	
	comp=N,233nm,1.7s						
MID				IAML		00 03 55.3	
	comp=E,311nm,1.3s						
P19K	Oil Pt	4.26	339	Pn	Pn	00 01 01.6	+1.7
P23K	Montague Islan	4.52	18	P	Pn	00 01 03.7	+0.3
	baz=201						
P18K	Big Mountain,	4.57	325	Pn	Pn	00 01 04.9	+0.8
P18K				IAML		00 04 02.3	
	comp=N,188nm,0.5s						
P18K				IAML		00 04 02.7	
	comp=E,161nm,0.7s						
P18K	Big Mountain,	4.57	325	P	Pn	00 01 05.5	+1.4
	baz=139						
CHGN	Chignik	4.67	280	Pn	Pn	00 01 05.4	+0.1
CHGN				IAML		00 02 28.3	
	comp=E,191nm,0.1s						
CHGN				IAML		00 02 40.9	
	comp=N,328nm,0.1s						
O22K	Cooper Landing	4.77	3	Pn	Pn	00 01 07.1	+0.4
P17K	Kvichak River	4.85	318	P	Pn	00 01 10.2	+2.3
	baz=130						
O18K	Koktuh Hills	4.94	329	Pn	Pn	00 01 10.6	+1.6
RSO	Redoubt South	4.94	345	Pn	Pn	00 01 10.2	+1.0
O19K	Port Alsworth	4.99	335	Pn	Pn	00 01 10.1	+0.3
HIN	Hinchinbrook I	5.06	21	Pn	Pn	00 01 10.9	+0.1
HIN				IAML		00 04 12.0	
	comp=E,373nm,1.2s						
HIN				IAML		00 04 13.9	
	comp=N,380nm,0.8s						
KAIM	Kayak Island	5.20	34	Pn	Pn	00 01 13.6	+0.8
KAIM				IAML		00 04 34.9	
	comp=N,313nm,1.1s						
KAIM	Kayak Island	5.20	34	P	Pn	00 01 13.6	+0.8
	baz=220						
EYAK	Cordova Ski Ar	5.36	24	Pn	Pn	00 01 15.7	+0.8
P16K	Nushagak River	5.37	311	P	Pn	00 01 17.5	+2.4
	baz=122						
CNBA	Chernabura Isl	5.47	264	Pn	Pn	00 01 17.3	+0.9
RAGM	Ragged Mountai	5.50	30	Pn	Pn	00 01 17.7	+0.9
N19K	Bonanza Creek	5.58	338	Pn	Pn	00 01 18.9	+0.9
O16K	Kokwok River B	5.75	316	Pn	Pn	00 01 22.2	+2.0
O16K	Kokwok River B	5.75	316	P	Pn	00 01 22.4	+2.2
	baz=127						
SUA	Susitna One	5.76	357	Pn	Pn	00 01 20.6	+0.1
N18K	Kilae Creek	5.81	331	Pn	Pn	00 01 21.9	+0.8
DIV	Divide	5.88	21	Pn	Pn	00 01 22.1	0.0
SNH	Sunshine Point	5.92	38	Pn	Pn	00 01 23.9	+1.3
BMRM	Bremner River	6.01	27	Pn	Pn	00 01 23.0	-0.8
N17K	Nushagak Hills	6.08	325	Pn	Pn	00 01 26.4	+1.7
SVW2	Sparrevohn	6.08	334	Pn	Pn	00 01 25.8	+1.0
KLU	Klutina	6.18	19	Pn	Pn	00 01 26.5	+0.2
O15K	Ungalikthiuk R	6.25	307	P	Pn	00 01 29.8	+2.6
	baz=117						
SCM	Sheep Creek Mo	6.29	12	Pn	Pn	00 01 29.1	+1.4
SKT	Skwentna	6.31	354	Pn	Pn	00 01 27.7	-0.2
M20K	Styx River	6.36	347	Pn	Pn	00 01 29.6	+0.9
VRDI	Verde Repeater	6.54	30	Pn	Pn	00 01 32.0	+0.8
N25K	Chitina, Valde	6.56	24	Pn	Pn	00 01 32.0	+0.6
GLB	Gilahina Butte	6.62	27	Pn	Pn	00 01 33.5	+1.4
MCARA	McCarthy VSAT	6.78	30	Pn	Pn	00 01 35.5	+1.1
M17K	Holitna River	6.84	329	Pn	Pn	00 01 36.2	+1.1
N15K	Kwethluk River	6.90	314	Pn	Pn	00 01 38.6	+2.5
O14K	Tigyukauivet M	6.95	305	Pn	Pn	00 01 38.3	+1.7
BARN	Barnard Glacie	6.96	36	Pn	Pn	00 01 38.6	+1.6
LOGN	Logan Glacier	7.02	40	Pn	Pn	00 01 38.1	+0.3
L18K	Granite Mounta	7.32	335	Pn	Pn	00 01 42.7	+0.9
M26K	Nabesna, AK	7.63	26	Pn	Pn	00 01 47.3	+1.1
PAX	Paxson	7.64	16	Pn	Pn	00 01 48.1	+1.8
L16K	Owhat River	7.70	325	Pn	Pn	00 01 48.3	+1.3
P29M	Windy Craggy	7.72	54	Pn	Pn	00 01 48.6	+1.3
CAST	Castle Rocks	7.77	354	Pn	Pn	00 01 47.7	-0.3
M27K	Edge Creek, AK	7.89	29	Pn	Pn	00 01 51.8	+2.1
K20K	Telida	7.90	347	Pn	Pn	00 01 52.0	+2.2
S31K	Pelican	7.96	68	Pn	Pn	00 01 48.2	-2.3
K17K	Iditarod	8.15	333	Pn	Pn	00 01 54.0	+0.9
M13K	Dall Lake	8.41	309	Pn	Pn	00 01 58.4	+1.7
L27K	Beaver Creek,	8.48	27	Pn	Pn	00 01 58.1	+0.3
L14K	Kuka Creek	8.62	316	Pn	Pn	00 02 01.2	+1.7
J20K	Nowinta River	8.70	348	Pn	Pn	00 02 02.8	+2.1
K15K	Wolf Creek Mou	8.80	323	Pn	Pn	00 02 04.1	+2.0
HDA	Harding Lake	8.85	9	Pn	Pn	00 02 04.3	+1.6
N30M	Aishikik Lake	8.91	45	Pn	Pn	00 02 04.8	+1.3
JIS	Juneau Island	8.98	67	Pn	Pn	00 02 03.7	-0.7
M29M	Somme Creek	9.02	37	Pn	Pn	00 02 06.9	+1.8
CCB	Clear Creek Bu	9.02	6	Pn	Pn	00 02 06.2	+1.2
J16K	Anvik River	9.23	329	Pn	Pn	00 02 09.2	+1.2
K27K	Chicken	9.25	23	Pn	Pn	00 02 09.7	+1.4
I20K	Naaghedeneel	9.34	349	Pn	Pn	00 02 08.9	-0.5
I21K	Tanana	9.52	355	Pn	Pn	00 02 13.8	+1.9
L29M	L29M	9.59	35	Pn	Pn	00 02 15.1	+2.2
P32M	Atlin	9.62	60	Pn	Pn	00 02 15.0	+1.7
I17K	Unalakleet	9.73	331	Pn	Pn	00 02 15.4	+0.7
K13K	Kusilvak Mount	9.73	316	Pn	Pn	00 02 17.8	+2.9
J14K	Nanvaranak Lak	9.81	321	Pn	Pn	00 02 16.5	+0.7
DAWY	Dawson	9.94	28	Pn	Pn	00 02 19.2	+1.5
H21K	Melozitna Rive	10.04	354	Pn	Pn	00 02 19.7	+0.7
PRP	Porcupine Dome	10.07	11	Pn	Pn	00 02 21.2	+1.6
EGAK	Eagle	10.10	22	Pn	Pn	00 02 20.2	+0.4
P33M	Teslin, Yukon	10.23	57	Pn	Pn	00 02 22.8	+1.0
K29M	Barlow Dome	10.31	33	Pn	Pn	00 02 24.0	+1.2
H17K	Granite Mounta	10.40	336	Pn	Pn	00 02 26.7	+2.7
G18K	Tagagawik	10.99	341	Pn	Pn	00 02 33.5	+1.5
G24K	Hadweenzic Riv	11.08	6	Pn	Pn	00 02 35.0	+1.7
J30M	Hart River	11.20	32	Pn	Pn	00 02 36.8	+1.8
G16K	Koyuk River	11.37	333	Pn	Pn	00 02 40.0	+2.9
ANM	Nome	11.62	326	Pn	Pn	00 02 42.9	+2.3
F15K	North Star Dit	12.22	331		Pn	00 02 51.5	+2.7
G31M	Satah River	13.51	28	Pn	Pn	00 03 08.2	+1.9
YKA	Yellowknife Ar	19.26	55	P	P	00 04 19.8	+0.6
A36M	Sachs Harbour	19.38	23	P	P	00 04 20.6	+0.2
A36M				IAmb	IAmb	00 04 26.4	
	comp=Z,16nm,1.0s						
J05D	Fort Rock, OR	22.34	112	P	P	00 04 52.4	-0.5
J05D				IAmb	IAmb	00 05 05.5	
	comp=Z,15nm,1.3s						
L04D	Klamath Falls	22.55	115	P	P	00 04 52.3	-2.7
L04D				IAmb	IAmb	00 05 21.0	
	comp=Z,29nm,1.5s						

IDC ***24*** *00:02:03.4±0.9,55.96N×149.96W,h0km,mb4.0/12, mbtmp4.0/17,ML3.8/5,Error ellipse: s-maj=23.7km s-min=15.4km az=37.0*

NEIC ***24*** *00:02:07.1±2.1,56.07N±0.08×150.12W±0.10,h25km±6km, mb4.5/22,ML4.6/46,ML4.9(AEIC),Error ellipse: s-maj=11.3km s-min=7.9km az=181.0*

AEIC ***24*** *00:02:09.2±1.7,56.09N±0.07×150.02W±0.10,h2km±4km, Error ellipse: s-maj=10.8km s-min=8.0km az=183.0*

ISC 24 00:02:07.7±1.1,56.08N±0.07×150.06W±0.05,h26km±7km, n245,σ1§24/249,mb4.4/32,1C,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.12	304		Pn	00 02 39.0	-2.4
OHAK					Sn	00 03 03.7	-3.1
OHAK	Old Harbor	2.12	304	P	Pn	00 02 39.5	-1.9
	baz=121						
OHAK				S	Sn	00 03 04.1	-2.8
	baz=121						
KDAK	Kodiak Island	2.20	322	Sn	Sn	00 03 06.2	-2.6
KDAK	Kodiak Island	2.20	322	Pn	Pn	00 02 40.7	-1.8
KDAK	Kodiak Island	2.20	322	Pn	Pn	00 02 41.2	-1.3
	71nm,0.3s,baz=145,slow=6.9,SNR=23						
KDAK				Sn	Sn	00 03 07.6	-1.3
	39nm,0.3s,baz=234,slow=19,SNR=14						
	292nm,0.5s						
SYI	Shuyak Island	2.83	334	Pn	Pn	00 02 50.0	-1.3
SYI				Sn	Sn	00 03 23.2	-1.3
SYI				IAML		00 03 26.9	
	comp=E,1μm,0.7s						
Q20K	Shuyak Island	2.84	334	P	Pn	00 02 50.5	-0.7
	baz=152						
Q20K				S	Sn	00 03 24.4	-0.1
	baz=152						
R18K	Karluk	2.84	304		Pn	00 02 49.8	-1.5
R18K				Sn	Sn	00 03 21.7	-2.9
KAHG	Katmai Hook Gl	3.43	317		Pn	00 02 59.9	+0.3
Q19K	Cape Douglas,	3.45	327	Pn	Pn	00 02 58.7	-1.1
Q19K				IAML		00 03 45.1	
	comp=N,3μm,0.7s						
Q19K	Cape Douglas,	3.45	327	P	Pn	00 02 59.8	0.0
	baz=144						
CNPM	China Poot	3.51	350	Pn	Pn	00 02 58.7	-1.9
CNPM				Sn	Sn	00 03 40.0	-1.3
CNPM				IAML		00 03 42.5	
	comp=E,850nm,0.6s						
KCG	Knife Ck. Glac	3.54	311		Pn	00 03 00.9	-0.1
ACHA	Angle Creek He	3.58	309		Pn	00 03 01.5	0.0
ANCK	Angle Creek	3.65	308		Pn	00 03 02.5	0.0
HOM	Homer	3.69	347	Pn	Pn	00 03 02.0	-0.9
HOM				IAML		00 03 55.8	
	comp=N,2μm,0.7s						
HOM				IAML		00 04 02.9	
	comp=E,2μm,0.8s						
BRSE	Bradley Lake S	3.69	355		Pn	00 03 01.8	-1.3
BRSE	Bradley Lake S	3.69	355	P	Pn	00 03 01.7	-1.3
	baz=174						
KAHC	Katmai Hardscr	3.72	316		Pn	00 03 03.2	-0.2
KAHC	Katmai Hardscr	3.72	316	P	Pn	00 03 03.5	0.0
	baz=131						
BRLK	Bradley Lake	3.72	354	Pn	Pn	00 03 01.4	-2.1
BRLK				IAML		00 03 48.3	
	comp=E,525nm,0.7s						
AU22	Augustine Moun	3.74	333		Pn	00 03 03.7	0.0
AUL	Augustine Lava	3.77	333		Pn	00 03 04.8	+0.6
CNTC	Contact Creek	3.85	307		Pn	00 03 04.8	-0.5
Q17K	Contact Creek	3.85	307	P	Pn	00 03 04.7	-0.7
	baz=122						
Q23K	Middleton Isla	3.90	29	Pn	Pn	00 03 03.8	-2.1
Q23K				IAML		00 05 43.4	
	comp=N,842nm,0.5s						
Q23K				IAML		00 05 45.6	
	comp=E,560nm,0.5s						
MID	Middleton Isla	3.91	29	Pn	Pn	00 03 04.2	-1.7
MID				IAML		00 05 43.4	
	comp=N,753nm,0.6s						
MID				IAML		00 05 45.6	
	comp=E,687nm,0.5s						
P19K	Oil Pt	3.96	336	Pn	Pn	00 03 05.9	-0.9
P19K				IAML		00 03 55.9	
	comp=E,1μm,0.5s						
P19K				IAML		00 03 58.2	
	comp=N,2μm,0.5s						
P19K	Oil Pt	3.96	336	P	Pn	00 03 07.1	+0.3
	baz=153						
PLK1	Peulik 1	3.98	298		Pn	00 03 06.6	-0.4
P23K	Montague Islan	4.18	19	P	Pn	00 03 08.8	-0.9
	baz=201						
O20K	Slope Mountain	4.24	342		Pn	00 03 09.9	-0.7
O20K	Slope Mountain	4.24	342	P	Pn	00 03 11.6	+1.0
	baz=160						
IVE	Iliamna Volcan	4.25	340		Pn	00 03 09.6	-1.2
P18K	Big Mountain,	4.33	322	Pn	Pn	00 03 09.9	-1.8
P18K	Big Mountain,	4.33	322	P	Pn	00 03 10.8	-0.9
	baz=138						
R16K	Pilot Point	4.39	293	Pn	Pn	00 03 12.3	-0.3
R16K				IAML		00 03 45.5	
	comp=N,455nm,1.8s						
R16K				IAML		00 04 40.0	
	comp=E,408nm,1.8s						
O22K	Cooper Landing	4.42	2	Pn	Pn	00 03 13.4	+0.4
SKLM	Skilak Lake	4.44	359		Pn	00 03 11.3	-2.1
RED	Redoubt Volcan	4.58	343		Pn	00 03 13.3	-2.0
RDSO	Redoubt South	4.61	343		Pn	00 03 13.6	-2.2
RSO	Redoubt South	4.62	343	Pn	Pn	00 03 14.2	-1.7
P17K	Kvichak River	4.64	315		Pn	00 03 15.0	-0.9
P17K	Kvichak River	4.64	315	P	Pn	00 03 15.9	-0.1
	baz=129						
CHGN	Chignik	4.67	276	Pn	Pn	00 03 14.2	-2.2
CHGN				IAML		00 06 21.8	
	comp=E,331nm,1.0s						
CHGN				IAML		00 06 23.3	
	comp=N,297nm,0.6s						
O18K	Koktuh Hills	4.67	326	Pn	Pn	00 03 15.4	-1.1
O18K				IAML		00 04 10.6	
	comp=N,389nm,1.0s						
O18K				IAML		00 04 24.9	
	comp=E,340nm,0.8s						
O18K	Koktuh Hills	4.67	326	P	Pn	00 03 15.8	-0.8
	baz=142						
O19K	Port Alsworth	4.71	333	Pn	Pn	00 03 16.3	-0.5
O19K	Port Alsworth	4.71	333	P	Pn	00 03 16.6	-0.3
	baz=149						
HIN	Hinchinbrook I	4.72	22	Pn	Pn	00 03 16.1	-1.1
HIN				IAML		00 06 02.6	
	comp=E,1μm,0.8s						
CAPN	Captain Cook N	4.74	353	Pn	Pn	00 03 17.9	+0.5
CAPN				IAML		00 06 20.7	
	comp=E,1μm,1.0s						
KAIM	Kayak Island	4.89	36	Pn	Pn	00 03 18.0	-1.4
EYAK	Cordova Ski Ar	5.02	25	Pn	Pn	00 03 20.3	-1.0
EYAK	Cordova Ski Ar	5.02	25	P	Pn	00 03 20.5	-0.8
	baz=208						
RC01	Rabbit Creek A	5.03	2	Pn	Pn	00 03 20.2	-1.1
RC01				IAML		00 06 31.1	
	comp=E,517nm,1.0s						
RC01				IAML		00 06 41.1	
	comp=N,602nm,0.8s						
RAGM	Ragged Mountai	5.17	31	Pn	Pn	00 03 22.6	-0.8
P16K	Nushagak River	5.20	308	P	Pn	00 03 23.2	-0.4
	baz=121						
SPCR	Spurr Chakacha	5.26	349		Pn	00 03 23.3	-1.3
O17K	Koliganek Bris	5.27	318		Pn	00 03 23.2	-1.4
N19K	Bonanza Creek	5.29	336	Pn	Pn	00 03 24.3	-0.7
N19K				IAML		00 06 48.6	
	comp=N,372nm,1.2s						
N19K				IAML		00 06 59.4	
	comp=E,243nm,1.2s						
GOAT	Goat Mountain	5.32	30		Pn	00 03 24.7	-0.7
SPCG	Spurr Capps Gl	5.33	350		Pn	00 03 24.6	-1.0
SUA	Susitna One	5.41	356	Pn	Pn	00 03 25.2	-1.5
KNK	Knik Glacier	5.42	8		Pn	00 03 25.8	-0.9
BERG	Berg Lake	5.47	35		Pn	00 03 26.7	-0.8
N18K	Kilae Creek	5.54	329	Pn	Pn	00 03 27.1	-1.3
PMR	Palmer	5.55	5		Pn	00 03 28.0	-0.5
O16K	Kokwok River B	5.55	313	Pn	Pn	00 03 27.9	-0.6
CNBA	Chernabura Isl	5.57	261	Pn	Pn	00 03 28.4	-0.4
SNH	Sunshine Point	5.62	40	Pn	Pn	00 03 28.5	-0.9
BMRM	Bremner River	5.67	28		Pn	00 03 29.6	-0.7
BMRM	Bremner River	5.67	28	P	Pn	00 03 29.8	-0.5
	baz=212						
GHO	Glory Hole Cre	5.74	5	Pn	Pn	00 03 31.0	-0.2
SVW2	Sparrevohn	5.80	332	Pn	Pn	00 03 30.2	-1.8
SML	Sawmill	5.81	8		Pn	00 03 31.6	-0.6
N17K	Nushagak Hills	5.83	323	Pn	Pn	00 03 31.5	-0.8
N17K	Nushagak Hills	5.83	323	P	Pn	00 03 31.8	-0.6
	baz=137						
KLU	Klutina	5.84	20	Pn	Pn	00 03 32.3	-0.3
KLU	Klutina	5.84	20	P	Pn	00 03 32.8	+0.2
	baz=203						
BARK	Barkley Ridge	5.89	40		Pn	00 03 32.6	-0.8
SDPT	Sand Point	5.94	267	Pn	Pn	00 03 32.5	-1.3
SCM	Sheep Creek Mo	5.94	13	Pn	Pn	00 03 33.9	-0.1
M20K	Styx River	6.03	346		Pn	00 03 34.9	-0.3
O15K	Ungalikthiuk R	6.09	305		Pn	00 03 35.5	-0.5
M18K	Stony River	6.20	333		Pn	00 03 36.2	-1.2
VRDI	Verde Repeater	6.21	31	Pn	Pn	00 03 36.0	-1.7
N25K	Chitina, Valde	6.22	25	Pn	Pn	00 03 37.1	-0.8
N25K	Chitina, Valde	6.22	25	P	Pn	00 03 37.8	0.0
	baz=209						
GLB	Gilahina Butte	6.28	29	Pn	Pn	00 03 37.8	-0.8
KIAG	Kiagna River	6.31	37		Pn	00 03 38.3	-0.8
N16K	Nishlik Lake	6.36	317		Pn	00 03 39.5	-0.2
M24K	Tolsona, Glenn	6.37	17	Pn	Pn	00 03 41.1	+1.3
SAMH	Samovar Hills	6.38	47		Pn	00 03 40.0	+0.1
MCARA	McCarthy VSAT	6.46	32	Pn	Pn	00 03 39.8	-1.1
MCARA	McCarthy VSAT	6.46	32	P	Pn	00 03 40.5	-0.4
	baz=217						
PTPK	Patty Peak	6.47	35		Pn	00 03 40.9	-0.4
M17K	Holitna River	6.57	327	Pn	Pn	00 03 42.3	-0.3
M17K	Holitna River	6.57	327	P	Pn	00 03 42.1	-0.4
	baz=141						
PINM	Pinnacle	6.57	48	P	Pn	00 03 42.5	-0.2
	baz=236						
L19K	White Mountain	6.60	340	Pn	Pn	00 03 41.7	-1.2
WACK	Wrangell Chich	6.62	24		Pn	00 03 43.3	-0.1
WAT6	Susitna Watana	6.63	9		Pn	00 03 43.3	-0.2
BARN	Barnard Glacie	6.65	38	Pn	Pn	00 03 43.2	-0.5
CTGM	Chitina Glacie	6.70	39		Pn	00 03 43.7	-0.7
N15K	Kwethluk River	6.71	312	Pn	Pn	00 03 44.9	+0.4
N15K	Kwethluk River	6.71	312	P	Pn	00 03 44.5	+0.1
	baz=123						
LOGN	Logan Glacier	6.72	41	Pn	Pn	00 03 43.7	-1.0
PNL	Peninsula	6.73	53		Pn	00 03 44.0	-0.7
PNL	Peninsula	6.73	53	P	Pn	00 03 44.3	-0.3
	baz=242						
WAZA	Wrangell Mount	6.74	24		Pn	00 03 45.7	+0.6
BCPM	Bancas Point	6.76	51	Pn	Pn	00 03 43.8	-1.4
PNT7A	Pavlof North-7	6.77	269		Pn	00 03 43.3	-2.0
M16K	Timber Creek	6.80	320	Pn	Pn	00 03 45.0	-0.7
O14K	Tigyukauivet M	6.80	303	Pn	Pn	00 03 44.5	-1.1
HARP	HAARP	6.82	20		Pn	00 03 46.3	+0.3
HARP	HAARP	6.82	20	P	Pn	00 03 47.3	+1.4
	baz=204						
L18K	Granite Mounta	7.04	334		Pn	00 03 49.4	+0.5
M15K	Kasigluk River	7.25	314		Pn	00 03 51.7	-0.1
N14K	Kuskokwak Cree	7.28	307		Pn	00 03 52.0	-0.1
M26K	Nabesna, AK	7.30	27		Pn	00 03 52.7	+0.1
O29M	Mount Kennedy	7.40	50		Pn	00 03 53.8	-0.2
TRF	Thorofare Moun	7.40	359	Pn	Pn	00 03 55.1	+1.1
L17K	Donlin	7.40	328		Pn	00 03 54.0	0.0
CAST	Castle Rocks	7.43	353		Pn	00 03 54.8	+0.4
YUK2	White River	7.44	36		Pn	00 03 54.8	+0.2
L16K	Owhat River	7.46	323	Pn	Pn	00 03 53.6	-1

comp=E,0.3nm,0.3s,baz=130,slow=16,SNR=2.2
comp=E,1.3nm,0.4s

ANM	**Nome**	**11.37**	**325**	Pn		**Pn**	**00 04 47.6**	**-0.6**
ANM	**Nome**	**11.37**	**325**	P		**Pn**	**00 04 48.6**	**+0.4**
	baz=131							
BMAR	**Burnt Mountain**	**11.68**	**10**	Pn		**Pn**	**00 04 52.4**	**0.0**
G30M	**tAoh Zraii Nji**	**12.73**	**25**	Pn		**Pn**	**00 05 07.8**	**+1.0**
G31M	**Satah River**	**13.18**	**28**	Pn		**Pn**	**00 05 14.0**	**+1.2**
G31M	**Satah River**	**13.18**	**28**	P		**Pn**	**00 05 14.1**	**+1.3**
	baz=222							
INK	**Inuvik**	**14.41**	**25**	Pn		**Pn**	**00 05 30.4**	**+0.7**
INK	**Inuvik**	**14.41**	**25**	P		**Pn**	**00 05 30.8**	**+1.1**
	baz=220							
INK	**Inuvik**	**14.41**	**25**	Pn		**Pn**	**00 05 28.9**	**-0.7**
	comp=E,0.2nm,0.3s,baz=209,slow=11,SNR=17							
	comp=E,15nm,0.9s							
WRGLY	**Wrigley**	**15.14**	**51**	Pn		**Pn**	**00 05 40.2**	**+0.8**
WRGLY				IAmb		IAmb	00 05 59.6	
	comp=Z,32nm,1.2s							
C36M	**Paulatuk**	**17.64**	**31**			**P**	**00 06 11.9**	**-0.1**
C36M				IAmb		IAmb	00 06 22.2	
	comp=Z,21nm,0.8s							
YKA	**Yellowknife Ar**	**19.01**	**56**			**P**	**00 06 25.8**	**-1.4**
YKA	**Yellowknife Ar**	**19.01**	**56**	P		**P**	**00 06 26.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=264,slow=11,SNR=14							
	comp=Z,5.9nm,1.0s							
A36M	**Sachs Harbour**	**19.04**	**24**	P		**Pn**	**00 06 27.8**	**-0.4**
A36M	**Sachs Harbour**	**19.04**	**24**	P		**Pn**	**00 06 29.5**	**+1.3**
	baz=226							
HUMO	**Hull Mountain**	**22.03**	**116**	P		**P**	**00 06 59.4**	**-0.7**
OVMT	**Ovando**	**24.47**	**96**	P		**P**	**00 07 24.9**	**+0.4**
PNTR	**Pine Nut**	**26.35**	**117**	P		**P**	**00 07 42.1**	**+0.4**
PNTR				IAmb		IAmb	00 08 14.1	
	comp=Z,18nm,1.5s							
ELK	**Elko**	**27.37**	**109**	P		**P**	**00 07 51.6**	**+0.8**
NVAR	**Mina Array Bea**	**27.50**	**116**	P		**P**	**00 07 51.6**	**-0.4**
NVAR	**Mina Array Bea**	**27.50**	**116**	P		**P**	**00 07 50.9**	**-1.1**
	comp=Z,2.0nm,1.0s,baz=306,slow=7.7,SNR=7.4							
	comp=Z,2.0nm,1.0s							
R11B	**Troy Canyon, C**	**28.95**	**113**	P		**P**	**00 08 04.6**	**-0.2**
PDAR	**Pinedale Array**	**29.05**	**100**	P		**P**	**00 08 05.3**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=302,slow=2.0,SNR=2.1							
	comp=Z,0.2nm,0.4s							
SPR3	**Spring Creek 3**	**29.12**	**111**	P		**P**	**00 08 06.5**	**0.0**
PRN	**Pahroc Range**	**29.94**	**114**	P		**P**	**00 08 13.6**	**-0.1**
PRN				IAmb		IAmb	00 08 30.1	
	comp=Z,6.7nm,1.2s							
VTX	**Valle De La Tr**	**34.37**	**121**	P		**P**	**00 08 53.4**	**+1.0**
TIXI	**Tiksi**	**35.61**	**327**	P		**P**	**00 09 02.6**	**+0.1**
TIXI				IAmb		IAmb	00 09 12.5	
	comp=Z,8.0nm,1.4s							
TXAR	**Lajitas Array**	**42.16**	**110**	P		**P**	**00 09 58.6**	**+0.6**
TXAR	**Lajitas Array**	**42.16**	**110**	P		**P**	**00 09 55.8**	**-2.2**
	comp=Z,2.1nm,1.1s,baz=332,slow=9.2,SNR=2.1							
	comp=Z,2.1nm,1.1s							
JCT	**Junction City**	**43.33**	**105**	P		**P**	**00 10 07.4**	**0.0**
JCT				IAmb		IAmb	00 10 08.5	
	comp=Z,14nm,1.4s							
NRIK	**Noril'sk**	**48.12**	**336**	P		**P**	**00 10 44.6**	**-0.1**
NRIK				IAmb		IAmb	00 10 46.7	
	comp=Z,9.5nm,1.1s							
NRIK	**Noril'sk**	**48.12**	**336**	P		**P**	**00 10 44.5**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=56,slow=6.1,SNR=9.3							
	comp=Z,3.8nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**49.55**	**239**	T		T	01 05 01.4	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**49.56**	**239**	T		T	01 04 59.7	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**49.56**	**239**	T		T	01 05 05.8	
	baz=29							
MDJ	**Mudanjiang**	**49.70**	**293**	P		P	00 11 02.3	+5.1
MDJ				pmax		pmax		
	comp=Z,23nm,1.8s							
MDJ				pmax		pmax		
	comp=Z,2μm,5.2s							
SONM	**Songino Array**	**58.44**	**310**	P		**P**	**00 12 00.8**	**-0.2**
SONM				IAmb		IAmb	00 12 03.1	
	comp=Z,3.6nm,1.0s							
SONM	**Songino Array**	**58.44**	**310**	P		**P**	**00 12 01.7**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=41,slow=7.8,SNR=9.1							
	comp=Z,2.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**61.47**	**301**	*e*P		**P**	**00 12 24.0**	**+2.1**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,1μm,4.7s							
ZAA0	**Zalesovo Array**	**61.49**	**327**	P		**P**	**00 12 21.6**	**0.0**
ZAA0				IAmb		IAmb	00 12 41.0	
	comp=Z,7.0nm,1.5s							
ZALV	**Zalesovo Beam**	**61.49**	**327**	P		**P**	**00 12 20.9**	**-0.7**
ZALV	**Zalesovo Beam**	**61.49**	**327**	P		**P**	**00 12 22.6**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=33,slow=7.9,SNR=9.3							
	comp=Z,1.8nm,0.6s							
HNS	**HongShan**	**62.61**	**297**	⇑P		**P**	**00 12 30.3**	**+0.9**
FINES	**FINESS Array B**	**62.78**	**2**	P		**P**	**00 12 31.2**	**+1.1**
	comp=Z,3.5nm,0.9s,baz=11,slow=9.1,SNR=4.4							
	comp=Z,3.5nm,0.9s							
NJ2	**Nanjing**	**64.64**	**290**	*e*P		P	00 12 48.1	+5.2
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
ARU	**Arti**	**65.47**	**343**	P		**P**	**00 12 47.5**	**-0.4**
ACON	**Acoyapa**	**66.20**	**104**	P		**P**	**00 12 52.6**	**-0.6**
BVAR	**Borovoye Array**	**66.28**	**335**	P		**P**	**00 12 53.1**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=39,slow=7.4,SNR=7.5							
	comp=Z,1.6nm,0.8s							
MK31	**Makanchi Array**	**68.51**	**324**	P		**P**	**00 13 07.1**	**-0.3**
MK31				IAmb		IAmb	00 13 27.9	
	comp=Z,3.8nm,1.4s							
MKAR	**Makanchi Array**	**68.51**	**324**	P		**P**	**00 13 07.2**	**-0.1**
MKAR	**Makanchi Array**	**68.51**	**324**	P		**P**	**00 13 07.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=48,slow=6.0,SNR=10							
	comp=Z,1.2nm,0.7s							
MAKZ	**Makanchi**	**68.60**	**324**	P		**P**	**00 13 06.8**	**-1.1**
MAKZ				IAmb		IAmb	00 13 29.9	
	comp=Z,3.0nm,0.9s							
ABKAR	**Akbulak array**	**72.09**	**340**	P		**P**	**00 13 29.4**	**+0.1**
DPC	**Dobruska-Polom**	**73.33**	**9**	*e*P		**P**	**00 13 38.0**	**+1.3**
DPC				*e*pP		**sP**	**00 13 46.3**	**+0.6**
AKASG	**Malin Array Be**	**73.58**	**0**	P		**P**	**00 13 38.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=360,slow=5.3,SNR=1.9							
	comp=Z,0.3nm,0.4s							
KRLC	**Kraliky**	**73.65**	**9**	*e*P		**P**	**00 13 40.5**	**+2.0**
KHC	**Kasperske Hory**	**74.27**	**11**	*e*P		**P**	**00 13 42.8**	**+0.6**
GERES	**GERESS Array B**	**74.57**	**11**	P		**P**	**00 13 44.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=342,slow=9.3,SNR=1.9							
	comp=Z,0.4nm,0.5s							
KK31	**Karatay Array**	**75.41**	**331**	P		**P**	**00 13 48.7**	**-0.1**
KKAR	**Karatay Array**	**75.41**	**331**	P		**P**	**00 13 49.4**	**+0.5**
MOTA	**Moosalm**	**75.74**	**13**	*e*pP		**P**	**00 13 55.4**	**+4.6**
	comp=Z,4.9nm,1.2s							
WATA	**Walderalm**	**75.81**	**13**	*e*P		**P**	**00 13 53.4**	**+2.2**
	comp=Z,2.7nm,0.6s							
SQTA	**Sankt Quirin**	**75.88**	**13**	*e*pP		**P**	**00 13 56.2**	**+4.6**
	comp=Z,5.3nm,1.1s							
WTTA	**Wattenberg**	**75.89**	**13**	*e*P		**P**	**00 13 55.2**	**+3.5**
	comp=Z,2.3nm,0.5s							
FETA	**Feichten**	**76.01**	**13**	*e*P		**P**	**00 13 54.9**	**+2.5**
	comp=Z,3.5nm,1.1s							
KBA	**Koelnbreinsper**	**76.27**	**12**	*e*P		**P**	**00 13 55.6**	**+1.7**
	comp=Z,1.7nm,0.7s							
ABTA	**Abfaltersbach**	**76.50**	**12**	*e*P		**P**	**00 13 57.3**	**+2.3**
	comp=Z,0.7nm,0.5s							
SOKA	**Soboth**	**76.85**	**10**	*e*P		**P**	**00 13 59.2**	**+2.2**
	comp=Z,0.3nm,0.2s							
OBKA	**Obir**	**76.97**	**11**	*e*P		**P**	**00 13 59.2**	**+1.5**
	comp=Z,3.0nm,0.6s							
ESDC	**Sonseca Array**	**80.36**	**26**	P		**P**	**00 14 17.7**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=322,slow=4.4,SNR=6.6							
	comp=Z,1.6nm,1.0s							
GEYT	**Alibeck**	**83.33**	**338**	P		**P**	**00 14 31.1**	**-1.0**
GEYT				IAmb		IAmb	00 14 59.5	
	comp=Z,5.2nm,1.2s							
QSPA	**South Pole Qui**	**145.87**	**180**	PKPbc		**PKPdf**	**00 21 42.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=129,slow=2.2,SNR=3.8							

*BJI **24** 00:04:46.2±0.0,56.19N×148.70W,h10km,mb5.2/79, mB5.9/57,Ms5.6/69,Ms7 5.4/68*
*NEIC **24** 00:04:48.5,56.50N×148.51W,h12km*
*NEIC **24** 00:04:48.5,56.50N×148.51W,h10km*
*IDC **24** 00:04:48.2±0.5,56.53N×148.47W,h0km,mb4.8/33, mbtmp4.9/39,ML4.6/6,MS4.9/76,Error ellipse: s-maj=14.2km s-min=9.7km az=17.0*
*NEIC **24** 00:04:48.7±1.9,56.55N±0.06×148.54W±0.08,h10km±1km, mb5.3/397,ML5.3/66,Ms_20 5.3/692,Mwr5.3/30,*

Mww5.5/77,ML5.1(AEIC),Error ellipse: s-maj=10.9km s-min=7.7km az=175.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.04; Mθθ 0.19; Mφφ 0.85; Mrθ 0.01; Mrφ 0.14; Mθφ-0.76; Fault plane solution: M₀1.24000×10¹⁷ NP1:φs195.89000°,δ26.29000°, λ-79.71000°. NP2:φs4.44000°,δ64.17000°,λ-95.04000°. Principal axes: T 1.1369, Plg19.0000°, Azm98.0000°; N 0.1772, Plg5.0000°, Azm7.0000°; P -1.3141, Plg70.0000°, Azm264.0000°;
*NEIC **24** 00:04:48.5,56.50N×148.51W,h12km,Moment Tensor Solution. Duration: 28 Moment tensor: Scale 10¹⁷Nm; Mrr-2.07; Mθθ 0.15; Mφφ 1.92; Mrθ-0.10; Mrφ 0.35; Mθφ 0.00; Fault plane solution: M₀2.03000×10¹⁷ NP1:φs13.45000°, δ45.32000°,λ-86.39000°. NP2:φs188.33000°,δ44.80000°, λ-93.64000°. Principal axes: T 1.9833, Plg0.0000°, Azm101.0000°; N 0.0911, Plg3.0000°, Azm191.0000°; P -2.0744, Plg87.0000°, Azm5.0000°;*
*GCMT **24** 00:04:50.7±0.1,56.51N±0.02×148.42W±0.01,h12km, MW5.5/147,Moment Tensor Solution. s73,c112; s147,c278; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr-2.27±.03; Mθθ 0.22±.03; Mφφ 2.05±.03; Mrθ 0.19±.14; Mθφ 0.29±.03; Mφr-0.85±.10; Best double couple: M₀2.34900×10¹⁷ NP1:φs2.00000°,δ56.00000°, λ-98.00000°. NP2:φs195.00000°,δ35.00000°, λ-79.00000°. Principal axes: T 2.2440, Plg10.0000°, Azm97.0000°; N 0.2100, Plg6.0000°, Azm6.0000°; P -2.4540, Plg78.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **24** 00:04:50.2±1.0,56.63N×148.39W,h22km,mb5.7/76, MS5.1/12 Error ellipse: s-maj=10.2km s-min=3.5km az=95.5*
*BGR **24** 00:04:51.4,55.97N×148.85W,h27km±3km,mb4.9*
*AEIC **24** 00:04:53.9±1.7,56.57N±0.07×148.50W±0.08,h12km±3km, Error ellipse: s-maj=9.5km s-min=6.7km az=178.0*

ISC 24 00:04:50.2±0.4,56.47N±0.04×148.49W±0.03,h17km±2km, h16km:pP-P,n1701,σ1§72/1376,mb5.3/352,MS5.2/423, 40C-103D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.59**	**302**	Pn		**Pn**	**00 05 28.5**	**-2.9**
KDAK	**Kodiak Island**	**2.59**	**302**			**Sn**	**00 05 57.4**	**-5.1**
KDAK	**Kodiak Island**	**2.59**	**302**	P		**Pn**	**00 05 28.9**	**-2.5**
	baz=118							
KDAK	**Kodiak Island**	**2.59**	**302**	*ce*P		**Pn**	**00 05 29.4**	**-2.0**
KDAK	**Kodiak Island**	**2.59**	**302**	Pn		**Pn**	**00 05 29.0**	**-2.4**
	62nm,0.3s,baz=143,slow=6.1,SNR=22							
KDAK				Sn		**Sn**	**00 05 58.0**	**-4.5**
	351nm,0.3s,baz=154,slow=11,SNR=20							
KDAK				LR		LR	00 06 44.4	
	comp=Z,64μm,19.9s,baz=189,slow=45							
	183nm,0.3s							
OHAK	**Old Harbor**	**2.74**	**288**	Pn		**Pn**	**00 05 30.5**	**-3.0**
OHAK				Sn		**Sn**	**00 06 00.9**	**-5.2**
OHAK	**Old Harbor**	**2.74**	**288**	P		**Pn**	**00 05 31.2**	**-2.2**
SYI	**Shuyak Island**	**3.01**	**317**	Pn		**Pn**	**00 05 34.9**	**-2.2**
SYI				Sn		**Sn**	**00 06 08.1**	**-4.6**
Q20K	**Shuyak Island**	**3.01**	**317**	P		**Pn**	**00 05 35.5**	**-1.6**
	baz=133,SNR=24							
MID	**Middleton Isla**	**3.19**	**20**	Pn		**Pn**	**00 05 36.8**	**-2.7**
MID				Sn		**Sn**	**00 06 11.0**	**-6.0**
MID				IAML			00 06 23.3	
	comp=E,5μm,0.8s							
MID	**Middleton Isla**	**3.19**	**20**	P		**Pn**	**00 05 37.2**	**-2.3**
MID	**Middleton Isla**	**3.19**	**20**	P		**Pn**	**00 05 36.8**	**-2.7**
MID							00 06 11.0	
Q23K	**Middleton Isla**	**3.19**	**20**	Pn		**Pn**	**00 05 37.1**	**-2.4**
Q23K				Sn		**Sn**	**00 06 11.6**	**-5.5**
Q23K				IAML			00 06 23.3	
	comp=E,6μm,0.8s							
Q23K	**Middleton Isla**	**3.19**	**20**	P		**Pn**	**00 05 37.3**	**-2.2**
	baz=203,SNR=14							
CNPM	**China Poot**	**3.40**	**336**	Pn		**Pn**	**00 05 40.1**	**-2.4**
CNPM						**Sn**	**00 06 17.2**	**-5.3**
R18K	**Karluk**	**3.44**	**291**			**Pn**	**00 05 40.2**	**-2.9**
R18K				IAML			00 06 26.7	
	comp=N,8μm,0.5s							
R18K				IAML			00 06 27.9	
	comp=E,9μm,0.4s							
R18K	**Karluk**	**3.44**	**291**	P		**Pn**	**00 05 41.4**	**-1.6**
	baz=105							
BRSE	**Bradley Lake S**	**3.50**	**341**			**Pn**	**00 05 41.6**	**-2.3**
BRSE						**Sn**	**00 06 19.9**	**-4.9**
BRSE	**Bradley Lake S**	**3.50**	**341**	P		**Pn**	**00 05 41.7**	**-2.1**
	baz=159,SNR=33							
BRLK	**Bradley Lake**	**3.54**	**340**	Pn		**Pn**	**00 05 41.7**	**-2.8**
P23K	**Montague Islan**	**3.59**	**9**			**Pn**	**00 05 42.6**	**-2.5**
P23K	**Montague Islan**	**3.59**	**9**	P		**Pn**	**00 05 43.0**	**-2.2**
	baz=190,SNR=31							
HOM	**Homer**	**3.61**	**334**	Pn		**Pn**	**00 05 43.4**	**-2.1**
HOM				IAML			00 06 39.1	
	comp=E,10μm,0.9s							
HOM				IAML			00 06 39.1	
	comp=N,10μm,1.5s							
HOM	**Homer**	**3.61**	**334**	P		**Pn**	**00 05 44.0**	**-1.4**
	baz=151,SNR=28							
SEW	**Seward**	**3.69**	**352**			**Pn**	**00 05 43.3**	**-3.1**
SEW	**Seward**	**3.69**	**352**	P		**Pn**	**00 05 44.5**	**-1.9**
	baz=172,SNR=38							
Q19K	**Cape Douglas,**	**3.71**	**314**	Pn		**Pn**	**00 05 45.1**	**-1.7**
Q19K				IAML			00 06 32.6	
	comp=N,9μm,1.1s							
Q19K	**Cape Douglas,**	**3.71**	**314**	P		**Pn**	**00 05 45.6**	**-1.2**
	baz=129,SNR=18							
KAHG	**Katmai Hook Gl**	**3.85**	**304**			**Pn**	**00 05 48.1**	**-0.7**
AU22	**Augustine Moun**	**3.90**	**320**			**Pn**	**00 05 48.1**	**-1.2**
AUCH	**Augustine Cone**	**3.93**	**320**			**Pn**	**00 05 49.0**	**-0.8**
AUL	**Augustine Lava**	**3.94**	**320**			**Pn**	**00 05 49.2**	**-0.7**
P19K	**Oil Pt**	**4.07**	**324**	Pn		**Pn**	**00 05 49.7**	**-2.0**
P19K				IAML			00 06 39.9	
	comp=N,6μm,0.7s							
P19K				IAML			00 06 45.2	
	comp=E,5μm,0.4s							
P19K	**Oil Pt**	**4.07**	**324**	P		**Pn**	**00 05 50.3**	**-1.5**
	baz=139,SNR=15							
HIN	**Hinchinbrook I**	**4.08**	**14**	Pn		**Pn**	**00 05 49.5**	**-2.4**
HIN				IAML			00 06 36.6	
	comp=E,8μm,0.9s							
O22K	**Cooper Landing**	**4.08**	**351**	Pn		**Pn**	**00 05 49.3**	**-2.5**
O22K	**Cooper Landing**	**4.08**	**351**	P		**Pn**	**00 05 49.6**	**-2.3**
	baz=170,SNR=13							
KAIM	**Kayak Island**	**4.09**	**30**			**Pn**	**00 05 50.0**	**-1.9**
KAIM	**Kayak Island**	**4.09**	**30**	IAML			00 06 40.4	
	comp=E,6μm,1.0s							
KAIM	**Kayak Island**	**4.09**	**30**	P		**Pn**	**00 05 50.6**	**-1.3**
	baz=214,SNR=23							
ACHA	**Angle Creek He**	**4.10**	**298**			**Pn**	**00 05 51.2**	**-0.9**
KAHC	**Katmai Hardscr**	**4.14**	**305**			**Pn**	**00 05 52.0**	**-0.7**
KVTA	**Katmai Vly 10**	**4.15**	**300**			**Pn**	**00 05 52.2**	**-0.6**
SLKM	**Skilak Lake**	**4.16**	**348**			**Pn**	**00 05 50.7**	**-2.2**
ANCK	**Angle Creek**	**4.17**	**298**			**Pn**	**00 05 52.7**	**-0.5**
O20K	**Slope Mountain**	**4.23**	**331**			**Pn**	**00 05 52.3**	**-1.8**
O20K	**Slope Mountain**	**4.23**	**331**	P		**Pn**	**00 05 52.2**	**-1.8**
	baz=147							
EYAK	**Cordova Ski Ar**	**4.34**	**18**	P		**Pn**	**00 05 54.0**	**-1.4**
EYAK	**Cordova Ski Ar**	**4.34**	**18**	P		**Pn**	**00 05 53.8**	**-1.6**
	baz=201,SNR=98							
CNTC	**Contact Creek**	**4.39**	**297**			**Pn**	**00 05 55.6**	**-0.6**
Q17K	**Contact Creek**	**4.39**	**297**	P		**Pn**	**00 05 55.4**	**-0.8**
	baz=110,SNR=36							
RAGM	**Ragged Mountai**	**4.42**	**25**	Pn		**Pn**	**00 05 54.7**	**-1.8**
PLK3	**Peulik 3**	**4.42**	**289**			**Pn**	**00 05 56.0**	**-0.6**
CAPN	**Captain Cook N**	**4.54**	**343**	Pn		**Pn**	**00 05 56.9**	**-1.1**
CAPN	**Captain Cook N**	**4.54**	**343**	P		**Pn**	**00 05 56.0**	**-2.1**
	baz=161							
GOAT	**Goat Mountain**	**4.58**	**24**			**Pn**	**00 05 57.6**	**-1.1**
RDT	**Redoubt**	**4.60**	**335**			**Pn**	**00 05 56.4**	**-2.7**
PLK1	**Peulik 1**	**4.62**	**290**			**Pn**	**00 05 57.7**	**-1.5**
P18K	**Big Mountain,**	**4.64**	**312**	Pn		**Pn**	**00 05 56.9**	**-2.6**
P18K	**Big Mountain,**	**4.64**	**312**	P		**Pn**	**00 05 57.6**	**-1.9**
	baz=126							
BERG	**Berg Lake**	**4.67**	**31**			**Pn**	**00 05 57.8**	**-2.2**
BERG	**Berg Lake**	**4.67**	**31**	IAML			00 07 16.1	
	comp=N,3μm,0.8s							
RC01	**Rabbit Creek A**	**4.68**	**353**	Pn		**Pn**	**00 05 57.7**	**-2.5**
RC01				IAML			00 06 49.8	
	comp=N,2μm,0.8s							
RC01				IAML			00 06 52.5	
	comp=E,3μm,1.1s							

RC01	**Rabbit Creek A**	**4.68**	**353**	P		**Pn**	**00 05 58.2**	**-1.9**
	baz=172,SNR=13							
DFR	**Drift River**	**4.69**	**334**			**Pn**	**00 05 57.5**	**-2.7**
RDJH	**Redoubt Jeurge**	**4.71**	**333**			**Pn**	**00 05 58.4**	**-2.3**
SNH	**Sunshine Point**	**4.77**	**36**			**Pn**	**00 05 59.9**	**-1.5**
SNH	**Sunshine Point**	**4.77**	**36**	IAML			00 07 14.0	
	comp=E,2μm,1.0s							
SNH				IAML			00 07 20.4	
	comp=N,2μm,0.9s							
FIS	**Fire Island**	**4.78**	**350**	Pn		**Pn**	**00 05 59.3**	**-2.1**
CYK	**Cape Yakataga**	**4.82**	**39**			**Pn**	**00 06 00.5**	**-1.5**
O19K	**Port Alsworth**	**4.84**	**323**			**Pn**	**00 06 00.3**	**-1.9**
O19K	**Port Alsworth**	**4.84**	**323**	P		**Pn**	**00 06 00.3**	**-1.9**
	baz=138,SNR=14							
DIV	**Divide**	**4.89**	**16**			**Pn**	**00 06 01.2**	**-1.8**
O18K	**Koktuh Hills**	**4.92**	**316**	IAML			00 07 00.1	
	comp=N,2μm,1.3s							
O18K	**Koktuh Hills**	**4.92**	**316**	P		**Pn**	**00 06 01.4**	**-2.0**
	baz=130							
Q16K	**King Salmon**	**4.92**	**300**	P		**Pn**	**00 06 02.6**	**-0.8**
	baz=113							
BMRM	**Bremner River**	**4.95**	**23**			**Pn**	**00 06 02.3**	**-1.5**
BMRM	**Bremner River**	**4.95**	**23**	P		**Pn**	**00 06 02.4**	**-1.4**
	baz=206,SNR=20							
KNK	**Knik Glacier**	**4.96**	**0**	Pn		**Pn**	**00 06 01.6**	**-2.4**
KNK				IAML			00 07 09.8	
	comp=N,1μm,0.9s							
KNK				IAML			00 07 10.4	
	comp=E,2μm,0.8s							
KNK	**Knik Glacier**	**4.96**	**0**	P		**Pn**	**00 06 02.4**	**-1.6**
	baz=180							
BARK	**Barkley Ridge**	**5.05**	**36**			**Pn**	**00 06 03.7**	**-1.5**
P17K	**Kvichak River**	**5.05**	**306**			**Pn**	**00 06 04.2**	**-0.9**
P17K	**Kvichak River**	**5.05**	**306**	P		**Pn**	**00 06 03.9**	**-1.2**
	baz=119,SNR=23							
R16K	**Pilot Point**	**5.08**	**286**			**Pn**	**00 06 05.5**	**-0.1**
R16K	**Pilot Point**	**5.08**	**286**	IAML			00 07 44.4	
	comp=E,2μm,2.1s							
R16K				IAML			00 08 07.7	
	comp=N,3μm,2.1s							
R16K	**Pilot Point**	**5.08**	**286**	P		**Pn**	**00 06 04.4**	**-1.2**
	baz=98							
N20K	**Mount Spurr**	**5.13**	**339**	P		**Pn**	**00 06 04.2**	**-2.1**
	baz=156,SNR=7.2							
SPCR	**Spurr Chakachna**	**5.13**	**339**			**Pn**	**00 06 04.3**	**-2.0**
SPCN	**Chakachatna No**	**5.14**	**340**			**Pn**	**00 06 04.8**	**-1.7**
SUA	**Susitna One**	**5.15**	**348**			**Pn**	**00 06 04.5**	**-2.2**
SUA	**Susitna One**	**5.15**	**348**	IAML			00 07 05.2	
	comp=N,1μm,0.9s							
SUA				IAML			00 07 07.8	
	comp=E,1μm,0.9s							
SUA	**Susitna One**	**5.15**	**348**	P		**Pn**	**00 06 04.7**	**-1.9**
	baz=166,SNR=12							
PMR	**Palmer**	**5.15**	**357**	Pn		**Pn**	**00 06 04.5**	**-2.1**
PMR				IAML			00 07 01.8	
	comp=E,2μm,0.9s							
PMR				IAML			00 07 03.5	
	comp=N,1μm,0.9s							
PMR	**Palmer**	**5.15**	**357**	P		**Pn**	**00 06 05.1**	**-1.5**
PMR	**Palmer**	**5.15**	**357**	P		**Pn**	**00 06 04.8**	**-1.7**
	baz=176,SNR=12							
PMR	**Palmer**	**5.15**	**357**	P		**Pn**	**00 06 04.5**	**-2.1**
SPCG	**Spurr Capps Gl**	**5.17**	**341**			**Pn**	**00 06 05.1**	**-1.9**
SPCP	**Crater Peak Br**	**5.18**	**340**			**Pn**	**00 06 05.4**	**-1.6**
KLU	**Klutina**	**5.21**	**14**	Pn		**Pn**	**00 06 05.6**	**-1.9**
KLU				IAML			00 07 15.2	
	comp=N,1μm,1.1s							
KLU				IAML			00 07 16.1	
	comp=E,3μm,1.0s							
KLU	**Klutina**	**5.21**	**14**	P		**Pn**	**00 06 06.1**	**-1.4**
	baz=196,SNR=30							
GHO	**Glory Hole Cre**	**5.33**	**358**	Pn		**Pn**	**00 06 07.5**	**-1.5**
GHO				IAML			00 07 08.3	
	comp=E,3μm,0.7s							
GHO				IAML			00 07 19.9	
	comp=N,3μm,1.0s							
STLK	**Strandline Lak**	**5.34**	**343**			**Pn**	**00 06 07.5**	**-1.6**
M23K	**Glacier View**	**5.36**	**4**			**Pn**	**00 06 08.2**	**-1.2**
M23K	**Glacier View**	**5.36**	**4**	P		**Pn**	**00 06 08.0**	**-1.5**
	baz=185,SNR=15							
SML	**Sawmill**	**5.36**	**1**			**Pn**

WAT1 Susitna Watana 6.38 360 Pn 00 06 22.4 -1.1
WAT1 Susitna Watana 6.38 360 P Pn 00 06 22.3 -1.2
baz=180
O29M Mount Kennedy 6.48 49 Pn 00 06 24.1 -0.7
O29M Mount Kennedy 6.48 49 P Pn 00 06 24.2 -0.7
baz=239
CHNA Chernabura Isl 6.49 260 P Pn 00 06 23.6 -1.4
baz=70
CNBA Chernabura Isl 6.50 260 Pn 00 06 23.5 -1.4
P29M Windy Craggy 6.53 56 Pn 00 06 24.5 -1.0
P29M Windy Craggy 6.53 56 P Pn 00 06 24.8 -0.7
baz=246
M26K Nabesna, AK 6.58 23 Pn Pn 00 06 23.8 -2.4
M26K Nabesna, AK 6.58 23 P Pn 00 06 24.8 -1.4
baz=208
L19K White Mountain 6.59 333 Pn 00 06 24.1 -2.3
L19K White Mountain 6.59 333 P Pn 00 06 24.1 -2.3
baz=148
YUK8 Steele Glacier 6.62 39 Pn 00 06 27.1 +0.2
YUK8 Steele Glacier 6.62 39 P Pn 00 06 25.9 -1.0
baz=228
L20K Farewell, AK 6.62 338 Pn 00 06 24.9 -1.9
L20K Farewell, AK 6.62 338 P Pn 00 06 25.1 -1.7
baz=153
YUK2 White River 6.63 33 Pn 00 06 26.7 -0.2
O15K Ungalikthiuk R 6.64 299 Pn 00 06 25.9 -1.0
O15K Ungalikthiuk R 6.64 299 P Pn 00 06 26.1 -0.8
baz=109
DHY Denali Highway 6.66 4 Pn 00 06 26.3 -1.0
DHY Denali Highway 6.66 4 P Pn 00 06 26.1 -1.2
baz=186,SNR=20
PAX Paxson 6.70 12 Pn 00 06 25.4 -2.5
PAX Paxson 6.70 12 P Pn 00 06 26.4 -1.5
baz=195,SNR=16
PAX Paxson 6.70 12 P Pn 00 06 25.4 -2.5
PPLA Purkeypile 6.72 345 P Pn 00 06 27.0 -1.1
baz=162
N16K Nishlik Lake 6.72 311 Pn 00 06 26.4 -1.7
N16K Nishlik Lake 6.72 311 P Pn 00 06 27.0 -1.1
baz=122,SNR=18
YUK3 Moose Creek 6.74 34 Pn 00 06 28.0 -0.6
YUK3 Moose Creek 6.74 34 P Pn 00 06 27.2 -1.3
baz=222,SNR=22
M17K Holitna River 6.77 321 Pn 00 06 26.9 -1.9
M17K Holitna River 6.77 321 P Pn 00 06 27.2 -1.6
baz=133,SNR=10
YUK7 Dusty Glacier 6.78 49 Pn 00 06 28.8 -0.4
M27K Edge Creek, AK 6.80 27 Pn 00 06 28.5 -0.9
M27K Edge Creek, AK 6.80 27 P Pn 00 06 27.9 -1.5
baz=213
S31K Pelican 6.83 72 P Pn 00 06 27.7 -1.8
baz=263,SNR=148
SDPT Sand Point 6.83 266 Pn Pn 00 06 28.5 -1.1
SDPT Sand Point 6.83 266 P Pn 00 06 29.3 -0.3
SDPT Sand Point 6.83 266 P Pn 00 06 28.9 -0.6
baz=75,SNR=9.5
YUK6 Outpost Mounta 6.92 45 Pn 00 06 31.0 -0.1
YUK6 Outpost Mounta 6.92 45 P Pn 00 06 30.9 -0.2
baz=235,SNR=41
RND Reindeer 6.97 359 Pn 00 06 31.0 -0.5
RND Reindeer 6.97 359 P Pn 00 06 31.0 -0.5
YUK4 Talbot Arm 7.06 42 P Pn 00 06 34.3 +1.3
baz=231,SNR=26
TRF Thorofare Moun 7.07 353 Pn 00 06 32.0 -1.0
TRF Thorofare Moun 7.07 353 P Pn 00 06 32.1 -0.9
baz=172,SNR=5.8
L26K Log Cabin Wild 7.07 19 P Pn 00 06 32.6 -0.4
baz=204,SNR=11
P30M Million Dollar 7.09 54 Pn 00 06 32.9 -0.4
P30M Million Dollar 7.09 54 P Pn 00 06 32.6 -0.7
baz=245
M16K Timber Creek 7.11 314 Pn 00 06 32.0 -1.4
M16K Timber Creek 7.11 314 P Pn 00 06 31.9 -1.5
baz=125
PLBC Pleasant Camp 7.11 60 Pn 00 06 33.5 0.0
PLBC Pleasant Camp 7.11 60 P Pn 00 06 33.5 0.0
baz=251,SNR=16
BVCY Beaver Creek 7.12 30 Pn 00 06 33.1 -0.5
BVCY Beaver Creek 7.12 30 P Pn 00 06 32.7 -0.9
baz=217,SNR=13
L18K Granite Mounta 7.13 327 Pn 00 06 31.2 -2.5
L18K Granite Mounta 7.13 327 P Pn 00 06 31.6 -2.1
baz=140
N15K Kwethluk River 7.15 306 P Pn 00 06 33.4 -0.5
baz=116,SNR=14
R31K City Hall, Gus 7.16 69 Pn 00 06 33.2 -0.8
R31K City Hall, Gus 7.16 69 P Pn 00 06 32.7 -1.3
baz=260,SNR=12
CAST Castle Rocks 7.21 347 Pn 00 06 33.9 -0.9
CAST Castle Rocks 7.21 347 P Pn 00 06 33.2 -1.6
baz=164,SNR=6.0
HYT Haines Junctio 7.21 48 Pn 00 06 33.7 -1.1
HYT Haines Junctio 7.21 48 P Pn 00 06 34.1 -0.7
baz=238,SNR=10
KTH Kantishna Hill 7.21 351 Pn 00 06 34.1 -0.9
YUK5 Granite Creek 7.23 45 Pn 00 06 35.5 +0.2
SIT Sitka 7.26 80 Pn Pn 00 06 31.7 -3.8
SIT Sitka 7.26 80 P Pn 00 06 32.0 -3.5
SIT Sitka 7.26 80 P Pn 00 06 32.5 -3.0
baz=272,SNR=11
SIT Sitka 7.26 80 P Pn 00 06 31.7 -3.8
MCK McKinley 7.29 358 Pn 00 06 35.5 -0.5
MCK McKinley 7.29 358 P Pn 00 06 35.1 -0.9
baz=178
MCK McKinley 7.29 358 P Pn 00 06 35.5 -0.5
O14K Tigyukauivet M 7.36 298 Pn 00 06 36.6 -0.2
O14K Tigyukauivet M 7.36 298 P Pn 00 06 36.2 -0.7
baz=106
L27K Beaver Creek, 7.42 24 Pn 00 06 36.8 -0.9
L27K Beaver Creek, 7.42 24 P Pn 00 06 36.2 -1.5
baz=210,SNR=9.0
K20K Telida 7.46 340 Pn 00 06 36.8 -1.4
K20K Telida 7.46 340 P Pn 00 06 36.9 -1.3
baz=155
K24K Donnelly Dome 7.49 9 Pn 00 06 38.4 -0.2
K24K Donnelly Dome 7.49 9 P Pn 00 06 38.3 -0.2
baz=192
TTA Tatalina 7.51 333 Pn Pn 00 06 36.8 -2.2
TTA Tatalina 7.51 333 P Pn 00 06 37.7 -1.3
TTA Tatalina 7.51 333 P Pn 00 06 37.4 -1.6
baz=146
TTA Tatalina 7.51 333 P Pn 00 06 36.8 -2.2
PS1A Pavlof South-1 7.52 268 Pn 00 06 38.7 -0.3
RIDG Independent Ri 7.52 12 Pn 00 06 38.6 -0.5
RIDG Independent Ri 7.52 12 P Pn 00 06 37.8 -1.3
baz=196,SNR=15
L17K Donlin 7.58 323 Pn 00 06 37.9 -1.9
L17K Donlin 7.58 323 P Pn 00 06 38.4 -1.4
baz=134,SNR=6.6
SKAG Skagway 7.62 61 Pn Pn 00 06 39.2 -1.1
SKAG Skagway 7.62 61 P Pn 00 06 40.0 -0.3
baz=253,SNR=20
BESE Bessie Mountai 7.64 68 Pn 00 06 39.2 -1.6
M15K Kasigluk River 7.65 309 Pn 00 06 39.9 -0.9
M15K Kasigluk River 7.65 309 P Pn 00 06 39.8 -1.1
baz=118
PN7A Pavlof North-7 7.66 268 Pn 00 06 40.1 -0.9
S32K Killisnoo 7.67 77 Pn 00 06 38.2 -2.9
S32K Killisnoo 7.67 77 P Pn 00 06 39.4 -1.8
baz=269,SNR=26
CHUM Lake Minchumin 7.68 347 Pn 00 06 38.8 -2.4
CHUM Lake Minchumin 7.68 347 P Pn 00 06 39.6 -1.6
baz=164,SNR=19
L16K Owhat River 7.72 317 Pn 00 06 40.1 -1.7
L16K Owhat River 7.72 317 P Pn 00 06 40.0 -1.7
baz=128,SNR=5.4
N30M Aishikik Lake 7.73 45 Pn 00 06 41.2 -0.7
N30M Aishikik Lake 7.73 45 P Pn 00 06 41.0 -1.0
baz=235
BPAW Bear Paw Mtn. 7.76 352 Pn 00 06 40.8 -1.6
BPAW Bear Paw Mtn. 7.76 352 P Pn 00 06 40.1 -2.2
baz=170
R32K Eaglecrest 7.77 71 P Pn 00 06 41.7 -0.8
baz=263,SNR=24
O30N Mendenhall 7.78 51 Pn 00 06 41.8 -0.8
O30N Mendenhall 7.78 51 P Pn 00 06 42.0 -0.6
baz=242
N14K Kuskokwak Cree 7.78 302 Pn 00 06 42.2 -0.4
N14K Kuskokwak Cree 7.78 302 P Pn 00 06 41.8 -0.8
baz=110,SNR=8.8
JIS Juneau Island 7.84 71 Pn 00 06 42.0 -1.3
SCRK Sand Creek 7.86 15 P Pn 00 06 42.4 -1.4
baz=199
M29M Somme Creek 7.87 36 Pn 00 06 43.2 -0.7
M29M Somme Creek 7.87 36 P Pn 00 06 43.0 -1.0
baz=225
K17K Iditarod 8.00 326 Pn 00 06 43.7 -1.8
K17K Iditarod 8.00 326 P Pn 00 06 44.1 -1.4
baz=137
HDA Harding Lake 8.01 5 Pn 00 06 45.1 -0.6
HDA Harding Lake 8.01 5 P Pn 00 06 44.3 -1.4
baz=186
J18K Innoko River 8.14 333 Pn 00 06 45.7 -1.8
J18K Innoko River 8.14 333 P Pn 00 06 46.0 -1.5
baz=146
NEA2 Nenana 8.16 358 Pn Pn 00 06 45.4 -2.4
NEA2 Nenana 8.16 358 P Pn 00 06 45.9 -1.9
baz=178,SNR=11
J20K Nowinta River 8.23 342 P Pn 00 06 47.2 -1.5
baz=158
K27K Chicken 8.23 20 P Pn 00 06 46.9 -1.8
baz=206
M14K Bethel 8.23 307 Pn Pn 00 06 46.6 -2.2
M14K Bethel 8.23 307 P Pn 00 06 48.0 -0.8
baz=115
WHY Whitehorse 8.26 54 P Pn 00 06 48.4 -0.9
baz=246,SNR=24
N31M Braeburn, Yuko 8.27 47 P Pn 00 06 48.4 -0.9
baz=239,SNR=7.8
J25K Salcha River, 8.32 9 P Pn 00 06 48.6 -1.5
baz=192
J19K Poorman 8.34 338 P Pn 00 06 48.7 -1.6
baz=152
ILAR Eielson Array 8.37 5 P Pn 00 06 48.0 -2.7
ILAR Eielson Array 8.37 5 Pn Pn 00 06 48.0 -2.7
comp=N,4.1nm,0.3s,baz=187,slow=13,SNR=9.4
ILAR Sn Sn 00 08 16.6 -8.1
comp=N,6.2nm,0.3s,baz=192,slow=16,SNR=4.6
ILAR LR LR 00 10 03.1
comp=N,3µm,19.9s,baz=200,slow=38
comp=N,12nm,0.5s
J26L Joseph Creek 8.42 15 P Pn 00 06 50.2 -1.2
baz=199
P32M Atlin 8.44 62 P Pn 00 06 51.0 -0.7
baz=255,SNR=19
COLA College 8.44 2 Pn Pn 00 06 50.3 -1.4
COLA College 8.44 2 P Pn 00 06 50.8 -0.8
COLA College 8.44 2 P Pn 00 06 51.4 -0.3
baz=183
COLA College 8.44 2 P Pn 00 06 50.3 -1.4
L29M L29M 8.46 34 P Pn 00 06 51.2 -0.7
baz=223,SNR=29
L15K Ungalak Mounta 8.48 313 P Pn 00 06 50.9 -1.4
baz=122
M30M Minto, Yukon 8.53 39 P Pn 00 06 52.5 -0.4
baz=230
U33K Whale Pass 8.56 86 Pn Pn 00 06 49.6 -3.7
U33K Whale Pass 8.56 86 P Pn 00 06 50.5 -2.8
baz=279
T33K Petersburg 8.57 81 P Pn 00 06 52.1 -1.4
baz=275
FALS False Pass 8.59 265 P Pn 00 06 52.7 -1.1
baz=72,SNR=6.0
MLY Manley 8.66 354 P Pn 00 06 52.9 -1.9
baz=172,SNR=10
CRAG Craig 8.68 90 Pn Pn 00 06 50.2 -4.7
CRAG Craig 8.68 90 P Pn 00 06 51.3 -3.6
CRAG Craig 8.68 90 P Pn 00 06 52.7 -2.3
baz=284
POKR Poker Plat Res 8.70 3 P Pn 00 06 53.9 -1.2
baz=184
I23K Minto, Yukon-K 8.72 358 P Pn 00 06 55.0 -0.5
baz=177,SNR=11
M13K Dall Lake 8.73 303 P Pn 00 06 54.5 -1.2
baz=110
L14K Kuka Creek 8.81 310 P Pn 00 06 55.7 -1.0
baz=117,SNR=12
K15K Wolf Creek Mou 8.85 317 P Pn 00 06 55.6 -1.6
baz=125
DAWY Dawson 8.85 27 P Pn 00 06 56.4 -0.9
baz=215,SNR=9.2
I20K Naaghedeneel 8.86 343 P Pn 00 06 54.8 -2.5
baz=158
I21K Tanana 8.91 350 P Pn 00 06 57.1 -0.9
baz=168,SNR=15
WRAK Wrangell Islan 8.95 84 P Pn 00 06 57.3 -1.3
baz=278
Q32M Nakina River 9.03 67 Pn Pn 00 06 59.3 -0.7
Q32M Nakina River 9.03 67 P Pn 00 06 59.8 -0.2
baz=261
P33M Teslin, Yukon 9.05 59 P Pn 00 06 59.4 -0.8
baz=253,SNR=28
EGAK Eagle 9.08 20 P Pn 00 06 58.5 -1.8
baz=207
J16K Anvik River 9.14 323 P Pn 00 06 59.2 -2.0
baz=133
K29M Barlow Dome 9.19 32 P Pn 00 07 01.0 -1.0
baz=222,SNR=13
PRP Porcupine Dome 9.20 8 P Pn 00 06 59.9 -2.3
baz=191
M31M Drury Creek, Y 9.21 46 P Pn 00 07 02.2 0.0
baz=238,SNR=15
I26K Coal Creek Min 9.24 14 P Pn 00 07 01.6 -1.0
baz=199
N32M Quiet Lake 9.26 53 P Pn 00 07 02.3 -0.7
baz=247
GCSA Galena City Sc 9.27 337 P Pn 00 07 00.6 -2.2
baz=150
H24K Noodor Dome 9.41 2 P Pn 00 07 03.8 -1.2
baz=182
H21K Melozitna Rive 9.46 349 P Pn 00 07 03.7 -1.9
baz=165
J29N Klondike Camp 9.47 28 P Pn 00 07 04.2 -1.6
baz=217,SNR=13
MAYO Mayo, Yukon 9.52 36 Pn Pn 00 07 04.4 -2.0
MAYO Mayo, Yukon 9.52 36 P Pn 00 07 05.1 -1.3
baz=227
S34M Telegraph Cree 9.54 74 Pn Pn 00 07 05.0 -1.7
S34M Telegraph Cree 9.54 74 P Pn 00 07 06.2 -0.5
baz=269,SNR=12
V35K Ketchikan 9.55 90 Pn Pn 00 07 05.5 -1.3
V35K Ketchikan 9.55 90 P Pn 00 07 04.7 -2.1
baz=284
H22K Ishtalitna Cre 9.56 353 P Pn 00 07 05.2 -1.9
baz=170
H20K Anotleneega Mo 9.57 344 P Pn 00 07 05.2 -1.9
baz=158
I17K Unalakleet 9.59 326 P Pn 00 07 04.1 -3.3
baz=135
FARO Faro, Yukon 9.64 47 P Pn 00 07 06.1 -2.0
baz=240,SNR=12
I27K Kandik River 9.75 17 P Pn 00 07 07.6 -2.0
baz=203
R33M Jennings River 9.77 65 P Pn 00 07 09.2 -0.7
baz=261,SNR=20
H19K Roundabout Mou 9.87 340 P Pn 00 07 08.8 -2.4
baz=153
J14K Nanvaranak Lak 9.88 316 P Pn 00 07 09.2 -2.1
baz=123
I28M Miner Creek 9.91 21 P Pn 00 07 10.1 -1.8
baz=209
H18K Honhosa River 9.95 335 P Pn 00 07 09.9 -2.3
baz=146
T35M Bob Quinn 10.04 79 Pn Pn 00 07 12.0 -1.6
T35M Bob Quinn 10.04 79 P Pn 00 07 12.4 -1.2
baz=275,SNR=8.2
M11K Mekoryuk 10.07 300 P Pn 00 07 11.9 -2.1
baz=105
J30M Hart River 10.08 31 P Pn 00 07 12.7 -1.6
baz=222
AKUT Akutan 10.12 264 Pn Pn 00 07 12.9 -1.8
DLBC Dease Lake 10.14 71 P Pn 00 07 14.3 -0.7
baz=267
DLBC Dease Lake 10.14 71 Pn Pn 00 07 14.3 -0.7
comp=N,15nm,0.3s,baz=261,slow=8.7,SNR=65
DLBC Sn Sn 00 09 05.6 -2.7
comp=N,3.0nm,0.3s,baz=207,slow=25,SNR=1.0
DLBC LR LR 00 10 32.0
comp=N,19µm,20.9s,baz=275,slow=34
comp=N,28nm,0.3s
H17K Granite Mounta 10.16 331 P Pn 00 07 12.7 -2.4
baz=141
I29M Ogilvie Camp, 10.19 25 P Pn 00 07 12.5 -3.1
baz=214
G24K Hadweenzic Riv 10.28 2 P Pn 00 07 15.1 -1.7
baz=183
U35K Hyder 10.31 85 Pn Pn 00 07 17.2 +0.1
U35K Hyder 10.31 85 P Pn 00 07 16.3 -0.8
baz=281
G23K Bananza Creek 10.31 357 P Pn 00 07 15.9 -1.3
baz=175
H27K Steamboat Moun 10.35 16 P Pn 00 07 15.8 -1.9
baz=202
G21K Allakaket 10.36 349 P Pn 00 07 16.1 -1.9
baz=164
G25K Bearman Lake 10.40 5 P Pn 00 07 16.8 -1.6
baz=188
G19K Purcell Mounta 10.54 341 P Pn 00 07 18.2 -2.1
baz=153
I30M Mount Dempster 10.56 29 P Pn 00 07 18.9 -1.9
baz=220
G22K Bettles 10.59 354 P Pn 00 07 18.8 -2.2
baz=171
H16K Elim 10.60 326 P Pn 00 07 19.1 -2.1
baz=134,SNR=8.7
UNV Unalaska Valle 10.63 263 P Pn 00 07 19.8 -1.9
baz=68
G18K Tagagawik 10.64 337 P Pn 00 07 19.7 -2.0
baz=148
G26K Porcupine Rive 10.75 10 P Pn 00 07 20.8 -2.5
baz=194
G17K Kiwalik Mounta 10.79 332 P Pn 00 07 21.3 -2.6
baz=141
COLD Coldfoot 10.83 356 P Pn 00 07 22.6 -1.8
baz=175,SNR=6.6
H29M Whitestone 10.91 22 P Pn 00 07 23.4 -2.0
baz=211
WTLY Watson Lake, Y 10.98 62 Pn Pn 00 07 25.7 -0.7
WTLY Watson Lake, Y 10.98 62 P Pn 00 07 26.0 -0.4
baz=260,SNR=11
F21K Alatna River 11.04 350 P Pn 00 07 25.7 -1.6
baz=166
F24K Squaw Lake 11.10 1 P Pn 00 07 26.3 -1.7
baz=182
F20K Avaraart Lake 11.15 345 P Pn 00 07 26.3 -2.3
baz=159
BMAR Burnt Mountain 11.15 8 Pn Pn 00 07 25.3 -3.5
G16K Koyuk River 11.18 329 P Pn 00 07 26.4 -2.7
baz=137
F22K John River 11.21 353 P Pn 00 07 27.7 -1.9
baz=170
F25K Christian Rive 11.25 6 P Pn 00 07 27.9 -2.1
baz=188
F19K Shaleruckik Mo 11.28 341 P Pn 00 07 28.5 -2.0
baz=153
EPYK Eagle Plains 11.40 25 P Pn 00 07 30.3 -1.8
baz=215,SNR=11
G15K Niukluk 11.41 325 P Pn 00 07 30.2 -2.1
baz=131
F26K Sheenjek River 11.45 8 P Pn 00 07 30.8 -2.0
baz=192
TGTN Hyland Airport 11.57 56 P Pn 00 07 33.7 -0.8
baz=253,SNR=17
G29M Pine Creek 11.58 21 P Pn 00 07 33.1 -1.5
baz=210
ANM Nome 11.59 321 Pn Pn 00 07 32.8 -1.8
ANM Nome 11.59 321 P Pn 00 07 33.9 -0.8
baz=126,SNR=21
ANM Nome 11.59 321 P Pn 00 07 32.8 -1.8
P08K Saint George I 11.62 279 P Pn 00 07 34.3 -0.9
baz=82
E23K Chandalar 11.65 358 P Pn 00 07 34.7 -0.9
baz=177
F17K Baldwin Pennin 11.69 334 P Pn 00 07 34.7 -1.3
baz=143
E19K Redstone River 11.75 343 P Pn 00 07 35.8 -1.2
baz=156
E25K Arctic Village 11.78 5 Pn Pn 00 07 34.8 -2.5
E25K Arctic Village 11.78 5 P Pn 00 07 35.7 -1.6
baz=188
F28M Old Crow 11.88 16 P Pn 00 07 36.9 -1.8
baz=204
SPIA Saint Paul Isl 11.93 282 P Pn 00 07 38.5 -1.0
baz=84
G30M tAoh Zraii Nji 12.01 24 P Pn 00 07 38.9 -1.6
baz=215
F15K North Star Dit 12.08 327 P Pn 00 07 39.6 -1.8
baz=132
E27K Coleen River 12.18 12 P Pn 00 07 40.7 -2.1
baz=199
NIKH Nikolski High 12.27 262 P Pn 00 07 43.0 -1.1
baz=65
E17K Hotham Inlet 12.34 335 P Pn 00 07 42.7 -2.3
baz=143,SNR=19
E20K Nigu River 12.35 347 P Pn 00 07 44.0 -1.1
baz=160
G31M Satah River 12.43 27 Pn Pn 00 07 46.0 -0.1
G31M Satah River 12.43 27 P Pn 00 07 45.6 -0.5
baz=220,SNR=20
F14K Arctic Creek 12.46 324 P Pn 00 07 45.1 -1.5
baz=128
D23K Nanushuk River 12.59 356 P Pn 00 07 46.8 -1.5
baz=174
D22K Ayikyak River 12.61 353 P Pn 00 07 46.5 -2.1
baz=169
BBB Bella Bella 12.63 101 Pn Pn 00 07 47.0 -1.9
comp=N,0.6nm,0.3s,baz=304,slow=7.3,SNR=5.7
BBB Sn Sn 00 10 02.5 -6.5
comp=N,0.5nm,0.3s,baz=357,slow=17,SNR=0.9
BBB LR LR 00 11 36.1
comp=N,15µm,20.2s,baz=282,slow=32
comp=N,30nm,1.0s
F30M Barrier River 12.63 23 P Pn 00 07 47.4 -1.5
baz=214
D24K Happy Valley 12.74 359 P Pn 00 07 48.7 -1.7
baz=179
D20K Etivluk River 12.83 347 P Pn 00 07 49.7 -2.0
baz=159
D19K Kuna River 12.84 344 P Pn 00 07 49.5 -2.4
baz=155
E28M Babbage River 12.84 15 P Pn 00 07 50.0 -1.8
baz=203
E29M Blow River 12.90 18 P Pn 00 07 50.5 -2.1
baz=207
D25K Kavik River 12.94 3 Pn Pn 00 07 52.0 -1.2
D25K Kavik River 12.94 3 P Pn 00 07 51.1 -2.1
baz=185
F31M Tsiigehtchic 12.96 26 P Pn 00 07 51.4 -2.0
baz=219
C21K Knifeblade Rid 13.05 350 P Pn 00 07 52.5 -2.1
baz=164
TNA Tin City 13.05 322 P Pn 00 07 52.0 -2.6
baz=125
D27M Malcolm River 13.26 12 P Pn 00 07 55.7 -1.9
baz=199
C24K Franklin Bluff 13.31 360 P Pn 00 07 56.2 -1.9
baz=180,SNR=25
KOTAN Kotaneelee Air 13.33 64 P Pn 00 07 57.4 -1.1
baz=265,SNR=70
B21K Ikpikpuk River 13.48 351 P Pn 00 07 58.3 -2.2
baz=165
C18K Utukok River 13.51 340 P Pn 00 07 58.7 -2.3
baz=148
D28M Stokes Point 13.62 15 P Pn 00 08 01.1 -1.3
baz=204
C19K Lookout Ridge 13.63 343 P Pn 00 08 00.5 -2.0
baz=153
GAMB Gambell 13.63 312 P Pn 00 07 59.8 -2.7
baz=112
FLDN Fort Liard 13.63 64 Pn Pn 00 08 03.8 +1.2
FLDN Fort Liard 13.63 64 P Pn 00 08 01.0 -1.6
baz=265
INK Inuvik 13.70 24 P Pn 00 08 01.9 -1.5
baz=218
INK Inuvik 13.70 24 Pn Pn 00 08 02.7 -0.7
comp=N,1.2nm,0.3s,baz=207,slow=11,SNR=20
INK LR LR 00 13 30.3
comp=N,3µm,20.0s,baz=192,slow=38
comp=N,47nm,1.0s
C17K DeLong Mountai 13.77 337 P Pn 00 08 02.5 -2.0
baz=144
B22K Teshekpuk Lake 14.10 353 P Pn 00 08 05.8 -3.0
baz=169
C16K Lisburne Hills 14.12 334 P Pn 00 08 06.5 -2.7
baz=139
B20K Meade River 14.12 348 P Pn 00 08 06.6 -2.6
baz=160
WRGLY Wrigley 14.21 51 Pn Pn 00 08 10.1 -0.4
WRGLY Wrigley 14.21 51 P Pn 00 08 09.7 -0.8
baz=253,SNR=17
B18K Kokolik River 14.24 341 P Pn 00 08 08.6 -2.3
baz=149
A19K Wainwright 14.85 343 P Pn 00 08 17.2 -1.8
baz=152
A22K Sinclair Lake 14.86 352 P Pn 00 08 16.2 -3.0
baz=166
A21K Barrow 15.31 350 P Pn 00 08 22.0 -3.2
baz=163,SNR=8.0
ATKA Atka Island 15.54 265 IAmb IAmb 00 08 35.9
comp=Z,151nm,0.9s
GSTR Great Sitkin T 16.62 266 P 00 08 43.4 -1.3

C36M	**Paulatuk**	**16.86**	**30**	IAmb	IAmb	00 08 48.3				
	comp=Z,434nm,1.8s									
C36M	**Paulatuk**	**16.86**	**30**	P	**Pn**	**00 08 43.4**	**-1.8**			
	baz=232,SNR=31									
ADK	**Adak**	**17.06**	**266**	Pn	**Pn**	**00 08 46.2**	**-1.6**			
ADK				IAmb	IAmb	00 08 54.2				
	comp=Z,216nm,1.4s									
ADK	**Adak**	**17.06**	**266**	P	**Pn**	**00 08 46.2**	**-1.6**			
ADK				pmax	pmax					
	comp=Z,217nm,1.5s									
YKA	**Yellowknife Ar**	**18.07**	**57**		**Pn**	**00 08 59.7**	**-0.5**			
YKA	**Yellowknife Ar**	**18.07**	**57**	P	**Pn**	**00 09 00.0**	**-0.2**			
	comp=Z,1.3nm,0.3s,baz=267,slow=12,SNR=53									
YKA				S	**S**	**00 12 26.2**	**-0.7**			
	comp=Z,0.4nm,0.6s,baz=120,slow=14,SNR=0.7									
YKA				PcP	**PcP**	**00 13 33.8**	**+0.2**			
	comp=Z,1.1nm,0.6s,baz=262,slow=1.5,SNR=4.2									
YKA				LR	LR	00 15 56.2				
	comp=Z,9µm,18.1s,baz=262,slow=37									
	comp=Z,79nm,1.0s									
A36M	**Sachs Harbour**	**18.34**	**23**	IAmb	IAmb	00 09 13.4				
	comp=Z,202nm,0.8s									
A36M	**Sachs Harbour**	**18.34**	**23**	P	**Pn**	**00 09 01.7**	**-1.7**			
	baz=224,SNR=68									
D05A	**Enumclaw**	**18.72**	**108**	IAmb	IAmb	00 09 17.0				
	comp=Z,401nm,1.9s									
F04A	**Amboy**	**19.32**	**112**		**Pn**	**00 09 15.8**	**+0.3**			
LTY	**Liberty**	**19.37**	**107**	IAmb	IAmb	00 09 29.1				
	comp=Z,409nm,1.8s									
B08A	**Colville Reser**	**19.43**	**102**	P	**Pn**	**00 09 18.3**	**+1.5**			
B08A				IAmb	IAmb	00 09 28.9				
	comp=Z,334nm,1.8s									
HOOD	**Mount Hood Mea**	**20.13**	**112**	IAmb	IAmb	00 09 37.7				
	comp=Z,403nm,1.8s									
BUCK	**Buck Mountain**	**20.25**	**117**	IAMs_20	IAMs_20	00 14 56.2				
	comp=Z,9µm,20.0s									
E07A	**Sunnyside**	**20.25**	**107**	P	Pn	00 09 25.9	-0.6			
E07A				IAmb	IAmb	00 09 38.3				
	comp=Z,478nm,1.8s									
H04A	**Detroit Lake**	**20.30**	**114**	P	Pn	00 09 26.8	-0.3			
H04A				IAmb	IAmb	00 09 38.6				
	comp=Z,513nm,1.8s									
C09A	**Chrisman Ranch**	**20.33**	**102**	IAmb	IAmb	00 09 40.3				
	comp=Z,165nm,1.4s									
C09A				IAMs_20	IAMs_20	00 15 33.7				
	comp=Z,9µm,22.0s									
EDM	**Edmonton**	**20.35**	**84**	IAMs_20	IAMs_20	00 16 38.0				
	comp=Z,9µm,19.0s									
G05A	**Wamic**	**20.36**	**112**	IAmb	IAmb	00 09 42.4				
	comp=Z,362nm,1.6s									
D08A	**Wollman Farm,**	**20.43**	**105**	IAmb	IAmb	00 09 41.2				
	comp=Z,216nm,1.5s									
HAWA	**Hanford**	**20.53**	**107**	IAmb	IAmb	00 09 42.5				
	comp=Z,134nm,1.6s									
KEBM	**Edson Butte**	**20.58**	**121**	IAMs_20	IAMs_20	00 15 02.0				
	comp=Z,8µm,18.0s									
F07A	**Phinny Hill Vi**	**20.64**	**109**	P	Pn	00 09 30.8	-0.3			
F07A				IAMs_20	IAMs_20	00 15 50.4				
	comp=Z,10µm,20.0s									
NEW	**Newport**	**20.68**	**100**	IAmb	IAmb	00 09 44.5				
	comp=Z,346nm,1.6s									
NEW	**Newport**	**20.68**	**100**	IAMs_20	IAMs_20	00 15 57.8				
	comp=Z,8µm,21.0s									
NEW	**Newport**	**20.68**	**100**	P	**P**	**00 09 29.1**	**-0.2**			
	baz=305,SNR=24									
NEW	**Newport**	**20.68**	**100**	P	**P**	**00 09 30.2**	**+0.9**			
	comp=Z,18nm,0.9s,baz=297,slow=9.0,SNR=16									
NEW				S	**S**	**00 13 14.5**	**-5.1**			
	comp=Z,0.9nm,0.4s,baz=346,slow=19,SNR=1.1									
NEW				LR	LR	00 16 19.4				
	comp=Z,7µm,21.5s,baz=295,slow=33									
E08A	**Dider Farm, El**	**20.71**	**106**	IAmb	IAmb	00 09 43.7				
	comp=Z,123nm,1.5s									
I05D	**Terrebonne, OR**	**20.97**	**114**	IAmb	IAmb	00 09 46.8				
	comp=Z,204nm,1.8s									
K02D	**Willamette Mer**	**21.03**	**120**	P	**P**	**00 09 33.6**	**+0.5**			
K02D				IAMs_20	IAMs_20	00 15 18.0				
	comp=Z,7µm,21.0s									
KBO	**Bosley Butte**	**21.14**	**122**	IAMs_20	IAMs_20	00 15 17.8				
	comp=Z,7µm,19.0s									
HUMO	**Hull Mountain**	**21.44**	**119**	P	**P**	**00 09 37.9**	**+0.4**			
HUMO				IAmb	IAmb	00 09 43.1				
	comp=Z,65nm,0.8s									
HUMO				IAMs_20	IAMs_20	00 15 41.8				
	comp=Z,7µm,18.0s									
G08A	**Pilot Rock**	**21.55**	**109**	IAMs_20	IAMs_20	00 16 18.5				
	comp=Z,9µm,20.0s									
PINE	**Pine Mountain**	**21.57**	**114**	IAmb	IAmb	00 09 50.9				
	comp=Z,120nm,1.2s									
KSXB	**Camp Six Broad**	**21.60**	**122**	IAMs_20	IAMs_20	00 15 33.0				
	comp=Z,7µm,19.0s									
J05D	**Fort Rock, OR**	**21.78**	**116**	P	**P**	**00 09 42.3**	**+1.1**			
J05D				IAmb	IAmb	00 09 46.6				
	comp=Z,76nm,0.9s									
J05D				IAMs_20	IAMs_20	00 15 57.8				
	comp=Z,6µm,19.0s									
SHEM	**Shemya Is, Ala**	**21.81**	**276**	P	**P**	**00 09 41.5**	**+0.3**			
	comp=Z,40nm,0.5s,baz=30,slow=7.5,SNR=6.6									
SHEM				S	**S**	**00 13 39.7**	**-1.7**			
	comp=Z,29nm,0.3s,baz=150,slow=2.4,SNR=8.2									
SHEM				LR	LR	00 18 58.5				
	comp=Z,4µm,18.0s,baz=84,slow=39									
	comp=Z,40nm,0.5s									
KRMB	**Red Mountain**	**21.82**	**123**	IAMs_20	IAMs_20	00 15 28.0				
	comp=Z,8µm,21.0s									
F10A	**Beach Ranch, E**	**22.02**	**105**	IAmb	IAmb	00 09 56.9				
	comp=Z,369nm,1.9s									
L04D	**Klamath Falls**	**22.05**	**119**	P	**P**	**00 09 44.8**	**+0.7**			
L04D				IAmb	IAmb	00 09 56.7				
	comp=Z,342nm,1.8s									
L04D				IAMs_20	IAMs_20	00 16 02.9				
	comp=Z,7µm,19.0s									
KRPM	**Rodgers**	**22.05**	**124**	IAMs_20	IAMs_20	00 15 47.2				
	comp=Z,8µm,21.0s									
I07A	**Izee**	**22.09**	**112**	IAmb	IAmb	00 09 56.9				
	comp=Z,248nm,2.0s									
I07A				IAMs_20	IAMs_20	00 16 55.9				
	comp=Z,6µm,18.0s									
YBH	**Yreka Blue Hor**	**22.22**	**121**	P	**P**	**00 09 46.8**	**+0.9**			
YBH				IAMs_20	IAMs_20	00 16 06.6				
	comp=Z,6µm,18.0s									
YBH	**Yreka Blue Hor**	**22.22**	**121**	P	**P**	**00 09 46.8**	**+0.9**			
YBH				pmax	pmax					
	comp=Z,57nm,1.0s									
YBH	**Yreka Blue Hor**	**22.22**	**121**	LR	LR	00 16 17.3				
	comp=Z,7µm,20.5s,baz=316,slow=31									
JCC	**Jacoby Creek,**	**22.32**	**124**	IAMs_20	IAMs_20	00 15 54.3				
	comp=Z,11µm,21.0s									
K05A	**Summer Lake**	**22.36**	**116**	IAmb	IAmb	00 10 01.3				
	comp=Z,229nm,1.5s									
KHMM	**Horse Mountain**	**22.41**	**124**	IAMs_20	IAMs_20	00 15 57.7				
	comp=Z,9µm,21.0s									
KMPM	**Mount Pierce**	**22.60**	**125**	IAMs_20	IAMs_20	00 16 01.7				
	comp=Z,8µm,21.0s									
BMO	**Blue Mountains**	**22.72**	**107**	IAmb	IAmb	00 10 05.7				
	comp=Z,137nm,2.0s									
BMO				IAMs_20	IAMs_20	00 16 43.8				
	comp=Z,7µm,22.0s									
KMRM	**Mail Ridge**	**22.94**	**125**	P	**P**	**00 09 54.7**	**+1.1**			
KMRM				IAMs_20	IAMs_20	00 16 24.2				
	comp=Z,14µm,19.0s									
J08A	**Circle Bar Ran**	**23.13**	**112**	IAmb	IAmb	00 10 08.4				
	comp=Z,94nm,1.4s									
PLID	**Pearl Lake**	**23.25**	**105**	P	**P**	**00 09 57.5**	**+0.6**			
PLID				IAmb	IAmb	00 10 10.1				
	comp=Z,160nm,2.0s									
MSO	**Missoula**	**23.27**	**100**	IAmb	IAmb	00 10 07.8				
	comp=Z,256nm,1.9s									
MSO				IAMs_20	IAMs_20	00 17 28.3				
	comp=Z,9µm,22.0s									
MSO	**Missoula**	**23.27**	**100**	P	**P**	**00 09 56.5**	**-0.4**			
	baz=308									
BILL	**Bilibino**	**23.40**	**318**	IAMs_20	IAMs_20	00 19 39.5				
	comp=Z,6µm,19.0s									
BILL	**Bilibino**	**23.40**	**318**	*i* P	**P**	**00 09 57.4**	**-0.5**			
KCPM	**Cahto Peak**	**23.43**	**125**	IAMs_20	IAMs_20	00 16 25.7				
	comp=Z,11µm,20.0s									
WVOR	**Wild Horse Val**	**23.71**	**114**	IAmb	IAmb	00 10 13.1				
	comp=Z,234nm,1.8s									
WVOR				IAMs_20	IAMs_20	00 17 41.4				
	comp=Z,6µm,19.0s									
HOPS	**Hopland Field**	**24.23**	**125**	IAmb	IAmb	00 10 32.2				
	comp=Z,155nm,1.8s									
HOPS				IAMs_20	IAMs_20	00 16 49.7				
	comp=Z,10µm,22.0s									
MFID	**Camas Ranch**	**24.47**	**108**	IAMs_20	IAMs_20	00 18 01.4				
	comp=Z,6µm,21.0s									
ORV	**Oroville**	**24.50**	**122**	P	**P**	**00 10 07.3**	**-1.2**			
ORV	**Oroville**	**24.50**	**122**	P	**P**	**00 10 07.3**	**-1.2**			
	comp=Z,50nm,1.8s									
GDXM	**Geysers**	**24.50**	**125**	IAMs_20	IAMs_20	00 17 10.0				
	comp=Z,8µm,20.0s									
EGMT	**Eagleton**	**24.88**	**93**	IAmb	IAmb	00 10 28.5				
	comp=Z,254nm,1.9s									
EGMT				IAMs_20	IAMs_20	00 19 09.1				
	comp=Z,13µm,19.0s									
EGMT	**Eagleton**	**24.88**	**93**	P	**P**	**00 10 12.0**	**0.0**			
	baz=305,SNR=13									
MCCM	**Marconi Confer**	**25.00**	**126**	IAMs_20	IAMs_20	00 17 09.4				
	comp=Z,6µm,21.0s									
HLID	**Hailey**	**25.12**	**106**	P	**P**	**00 10 13.9**	**-0.4**			
	baz=313,SNR=17									
PAHR	**Pah Rah Range**	**25.39**	**119**	IAmb	IAmb	00 10 30.0				
	comp=Z,116nm,1.6s									
PAHR				IAMs_20	IAMs_20	00 18 20.3				
	comp=Z,7µm,18.0s									
MPK	**Martis Peak**	**25.40**	**120**	IAmb	IAmb	00 10 30.1				
	comp=Z,160nm,1.8s									
EMB	**Emerald Bay**	**25.62**	**121**	IAmb	IAmb	00 10 32.1				
	comp=Z,94nm,1.6s									
EMB				IAMs_20	IAMs_20	00 18 06.5				
	comp=Z,5µm,19.0s									
PNTR	**Pine Nut**	**25.77**	**120**	IAmb	IAmb	00 10 33.9				
	comp=Z,220nm,1.7s									
PNTR				IAMs_20	IAMs_20	00 18 02.4				
	comp=Z,6µm,22.0s									
BMN	**Battle Mountai**	**25.91**	**115**	IAmb	IAmb	00 10 35.0				
	comp=Z,72nm,1.6s									
FFC	**Flin Flon**	**25.95**	**74**	P	**P**	**00 10 21.6**	**+0.2**			
FFC				IAmb	IAmb	00 10 35.4				
	comp=Z,160nm,1.6s									
FFC	**Flin Flon**	**25.95**	**74**	IAMs_20	IAMs_20	00 20 09.7				
	comp=Z,10µm,18.0s									
FFC	**Flin Flon**	**25.95**	**74**	P	**P**	**00 10 21.7**	**+0.2**			
FFC				pmax	pmax					
	comp=Z,160nm,1.7s									
FFC				MLR	MLR					
	comp=Z,10µm,18.0s									
YHL	**Hebgen Lake**	**26.01**	**101**	IAmb	IAmb	00 10 34.9				
	comp=Z,64nm,1.3s									
YERR	**Yerington**	**26.02**	**120**	IAmb	IAmb	00 10 36.2				
	comp=Z,197nm,2.0s									
YERR				IAMs_20	IAMs_20	00 18 33.2				
	comp=Z,5µm,20.0s									
CMB	**Columbia Colle**	**26.24**	**123**	IAMs_20	IAMs_20	00 18 09.9				
	comp=Z,7µm,21.0s									
WAKR	**Walker**	**26.31**	**121**	IAmb	IAmb	00 10 55.7				
	comp=Z,207nm,1.8s									
WAKR				IAMs_20	IAMs_20	00 18 29.7				
	comp=Z,6µm,21.0s									
YNM	**Yellowstone No**	**26.36**	**100**	IAMs_20	IAMs_20	00 20 50.4				
	comp=Z,5µm,18.0s									
YNR	**Norris Junctio**	**26.38**	**100**	IAmb	IAmb	00 10 43.5				
	comp=Z,72nm,1.5s									
YFT	**Old Faithful**	**26.46**	**101**	IAmb	IAmb	00 10 48.3				
	comp=Z,55nm,1.4s									
YFT				IAMs_20	IAMs_20	00 20 49.2				
	comp=Z,6µm,18.0s									
KVN	**Kaiserville**	**26.53**	**118**	IAMs_20	IAMs_20	00 19 25.5				
	comp=Z,6µm,18.0s									
H17A	**Grant Village**	**26.64**	**101**	IAmb	IAmb	00 10 45.1				
	comp=Z,79nm,1.6s									
H17A	**Grant Village**	**26.64**	**101**	P	**P**	**00 10 27.3**	**-0.8**			
	baz=311,SNR=7.2									
RYN	**Ryan**	**26.65**	**119**	P	**P**	**00 10 28.5**	**+0.4**			
RYN				IAMs_20	IAMs_20	00 18 53.7				
	comp=Z,5µm,19.0s									
ELK	**Elko**	**26.68**	**112**	LR	LR	00 19 22.9				
	comp=Z,4µm,21.6s,baz=320,slow=33									
IMW	**Indian Meadow**	**26.77**	**102**	IAmb	IAmb	00 10 48.5				
	comp=Z,62nm,1.6s									
FLWY	**Flagg Ranch**	**26.77**	**101**	IAmb	IAmb	00 10 49.5				
	comp=Z,140nm,1.6s									
SAO	**San Andreas Ge**	**26.79**	**126**	IAMs_20	IAMs_20	00 18 03.5				
	comp=Z,5µm,22.0s									
RLMT	**Red Lodge**	**26.89**	**98**	IAmb	IAmb	00 10 59.7				
	comp=Z,99nm,1.8s									
RLMT				IAMs_20	IAMs_20	00 20 07.3				
	comp=Z,7µm,20.0s									
RLMT	**Red Lodge**	**26.89**	**98**	P	**P**	**00 10 29.8**	**-0.5**			
	baz=309,SNR=8.5									
NVAR	**Mina Array Bea**	**26.91**	**119**	P	**P**	**00 10 31.4**	**+0.8**			
	comp=Z,9.0nm,0.8s,baz=308,slow=7.8,SNR=33									
NVAR				PcP	**PcP**	**00 13 53.0**	**+0.7**			
	comp=Z,2.4nm,0.7s,baz=343,slow=2.8,SNR=5.9									
NVAR				LR	LR	00 19 23.9				
	comp=Z,5µm,18.2s,baz=322,slow=32									
	comp=Z,9.0nm,0.8s									
LOHW	**Long Hollow**	**27.14**	**102**	IAmb	IAmb	00 11 01.5				
	comp=Z,80nm,1.8s									
MDPB	**Devils Postpil**	**27.17**	**121**	IAmb	IAmb	00 10 44.9				
	comp=Z,88nm,1.8s									
MDPB				IAMs_20	IAMs_20	00 18 53.6				
	comp=Z,5µm,21.0s									
RES	**Resolute Bay**	**27.19**	**28**	P	**P**	**00 10 31.4**	**-1.1**			
RES	**Resolute Bay**	**27.19**	**28**	P	**P**	**00 10 31.4**	**-1.1**			
RES				pmax	pmax					
	comp=Z,31nm,1.0s									
RES	**Resolute Bay**	**27.19**	**28**	LR	LR	00 21 31.2				
	comp=Z,1µm,19.2s,baz=242,slow=37									
OMMB	**Old Mammoth Mi**	**27.23**	**121**	IAmb	IAmb	00 10 45.5				
	comp=Z,56nm,1.5s									
OMMB				IAMs_20	IAMs_20	00 18 56.0				
	comp=Z,5µm,21.0s									
HVU	**Hansel Valley**	**27.23**	**107**	IAMs_20	IAMs_20	00 20 16.6				
	comp=Z,5µm,18.0s									
MLAC	**Mammoth, Mammo**	**27.29**	**121**	P	**P**	**00 10 33.0**	**-1.0**			
	baz=323									
LAO	**LASA Array**	**27.61**	**93**	IAmb	IAmb	00 11 12.6				
	comp=Z,130nm,1.9s									
LAO	**LASA Array**	**27.61**	**93**	P	**P**	**00 10 35.6**	**-1.0**			
	baz=307									
LAO	**LASA Array**	**27.61**	**93**	P	**P**	**00 10 39.0**	**+2.3**			
	baz=307									
BGU	**Big Grassy Mou**	**27.70**	**109**	IAmb	IAmb	00 10 49.1				
	comp=Z,95nm,2.0s									
BGU				IAMs_20	IAMs_20	00 19 53.3				
	comp=Z,5µm,20.0s									
DGMT	**Dagmar**	**27.72**	**88**	P	**P**	**00 10 37.0**	**-0.5**			
DGMT				IAmb	IAmb	00 11 14.2				
	comp=Z,95nm,1.6s									
DGMT	**Dagmar**	**27.72**	**88**	IAMs_20	IAMs_20	00 21 10.9				
	comp=Z,8µm,19.0s									
DGMT	**Dagmar**	**27.72**	**88**	P	**P**	**00 10 36.4**	**-1.1**			
	baz=304									
TPH	**Tonopah**	**27.72**	**118**	IAmb	IAmb	00 10 49.2				
	comp=Z,78nm,1.1s									
SPUT	**South Promonto**	**27.73**	**108**	IAMs_20	IAMs_20	00 20 24.0				
	comp=Z,5µm,18.0s									
HWUT	**Hardware Ranch**	**27.99**	**106**	IAMs_20	IAMs_20	00 19 54.8				
	comp=Z,5µm,22.0s									
TIN	**Tinemaha, Big**	**28.04**	**121**	P	**P**	**00 10 40.2**	**-0.3**			
	baz=324									
VOG	**Valley Oaks Go**	**28.09**	**123**	P	**P**	**00 10 40.4**	**-0.4**			
	baz=325									
Q12A	**Willow Creek R**	**28.17**	**114**	IAmb	IAmb	00 10 53.5				
	comp=Z,75nm,1.6s									
Q12A				IAMs_20	IAMs_20	00 20 41.7				
	comp=Z,5µm,18.0s									
BW06	**Boulder Array**	**28.27**	**102**	P	**P**	**00 10 41.6**	**-1.1**			
	baz=313									
PDAR	**Pinedale Array**	**28.27**	**102**	P	**P**	**00 10 44.0**	**+1.3**			
	comp=Z,3.6nm,0.7s,baz=316,slow=5.0,SNR=25									
PDAR				LR	LR	00 21 11.3				
	comp=Z,1µm,19.2s,baz=320,slow=35									
	comp=Z,3.6nm,0.7s									
R11B	**Troy Canyon, C**	**28.31**	**116**	P	**P**	**00 10 43.5**	**+0.4**			
R11B				IAmb	IAmb	00 11 11.8				
	comp=Z,56nm,1.9s									
R11B	**Troy Canyon, C**	**28.31**	**116**	P	**P**	**00 10 42.9**	**-0.2**			
	baz=321,SNR=24									
DUG	**Dugway, Tooele**	**28.35**	**110**	IAmb	IAmb	00 11 29.7				
	comp=Z,65nm,1.8s									
DUG				IAMs_20	IAMs_20	00 20 13.3				
	comp=Z,4µm,21.0s									
DUG	**Dugway, Tooele**	**28.35**	**110**	P	**P**	**00 10 42.9**	**-0.4**			
	baz=317									
TCUT	**Toone Canyon**	**28.42**	**107**	IAMs_20	IAMs_20	00 21 05.2				
	comp=Z,5µm,18.0s									
SPR3	**Spring Creek 3**	**28.45**	**113**	IAmb	IAmb	00 10 56.8				
	comp=Z,94nm,1.9s									
SPR3				IAMs_20	IAMs_20	00 21 02.2				
	comp=Z,5µm,18.0s									
GRAC	**Grapevine Rang**	**28.50**	**120**	P	**P**	**00 10 44.9**	**+0.2**			
GRAC				IAmb	IAmb	00 11 15.5				
	comp=Z,147nm,1.8s									
GRAC				IAMs_20	IAMs_20	00 20 04.7				
	comp=Z,8µm,20.0s									
GRAC	**Grapevine Rang**	**28.50**	**120**	P	**P**	**00 10 44.8**	**+0.2**			
	baz=323									
CTU	**Camp Tracy**	**28.54**	**108**	IAMs_20	IAMs_20	00 20 59.5				
	comp=Z,4µm,18.0s									
FCC	**Fort Churchill**	**28.56**	**62**	IAmb	IAmb	00 10 54.9				
	comp=Z,27nm,0.8s									
FCC				IAMs_20	IAMs_20	00 22 01.2				
	comp=Z,7µm,19.0s									
CWC	**Cottonwood Cre**	**28.61**	**122**	P	**P**	**00 10 45.6**	**0.0**			
	baz=324									
VES	**Vestal, Richgr**	**28.62**	**124**	P	**P**	**00 10 46.7**	**+1.1**			
	baz=326									
SMMC	**Simmler**	**28.64**	**126**	P	**P**	**00 10 46.7**	**+0.9**			
	baz=327									
S11A	**Rachel**	**28.78**	**117**	IAmb	IAmb	00 11 38.9				
	comp=Z,144nm,1.6s									
S11A				IAMs_20	IAMs_20	00 20 26.0				
	comp=Z,4µm,19.0s									
NLU	**North Lily Min**	**28.91**	**109**	IAMs_20	IAMs_20	00 20 41.1				
	comp=Z,5µm,20.0s									
ISA	**Isabella, Lake**	**29.05**	**123**	IAMs_20	IAMs_20	00 19 52.5				
	comp=Z,6µm,20.0s									
ISA	**Isabella, Lake**	**29.05**	**123**	P	**P**	**00 10 50.3**	**+0.8**			
	baz=325,SNR=11									
PKM	**Mcpherson Peak**	**29.08**	**126**	P	**P**	**00 10 50.1**	**+0.2**			
	baz=327,SNR=5.1									
TPNV	**Topopah Spring**	**29.08**	**118**	IAmb	IAmb	00 11 29.8				
	comp=Z,92nm,1.9s									
TPNV	**Topopah Spring**	**29.08**	**118**	P	**P**	**00 10 50.3**	**+0.5**			
	baz=323,SNR=19									
MPU	**Maple Canyon**	**29.09**	**109**	IAMs_20	IAMs_20	00 21 17.1				
	comp=Z,5µm,19.0s									
FURC	**Furnace Creek,**	**29.17**	**120**	P	**P**	**00 10 51.2**	**+0.9**			
	baz=324									
BSUT	**Blindstream Ca**	**29.18**	**107**	P	**P**	**00 10 51.1**	**+0.1**			
BSUT				IAmb	IAmb	00 11 27.3				
	comp=Z,60nm,1.6s									
BSUT				IAMs_20	IAMs_20	00 21 39.3				
	comp=Z,5µm,18.0s									
MPMC	**Manual Prospec**	**29.20**	**121**	P	**P**	**00 10 51.2**	**+0.3**			
	baz=324									
PRN	**Pahroc Range**	**29.31**	**116**	IAmb	IAmb	00 11 31.9				
	comp=Z,107nm,1.9s									
PRN				IAMs_20	IAMs_20	00 21 01.0				
	comp=Z,5µm,19.0s									
ARVC	**Arvin**	**29.33**	**124**	P	**P**	**00 10 52.0**	**+0.1**			
	baz=326									
SEY	**Seymchan**	**29.54**	**307**	*i* P	**P**	**00 10 54.2**	**+0.7**			
SEY				pmax	pmax					
	comp=Z,105nm,1.5s									
SEY	**Seymchan**	**29.54**	**307**	LR	LR	00 23 54.9				
	comp=Z,7µm,18.1s,baz=82,slow=39									
LRMC	**Laurel Mtn Rad**	**29.57**	**122**	P	**P**	**00 10 55.0**	**+0.8**			
	baz=325,SNR=13									
CCAC	**Calif City Air**	**29.68**	**123**	IAMs_20	IAMs_20	00 20 11.2				
	comp=Z,6µm,21.0s									
RDMU	**Red Mountain**	**29.79**	**106**	IAMs_20	IAMs_20	00 21 05.4				
	comp=Z,4µm,22.0s									
OSI	**Osito Audit: C**	**29.80**	**125**	P	**P**	**00 10 56.0**	**-0.2**			
	baz=327									
SHOC	**Shoshone, Teco**	**29.90**	**120**	P	**P**	**00 10 56.3**	**-0.7**			
	baz=324									
MVU	**Marysvale**	**29.91**	**111**	IAmb	IAmb	00 11 14.4				
	comp=Z,134nm,1.5s									
EDW2	**Edwards Air Fo**	**29.92**	**123**	P	**P**	**00 10 57.8**	**+0.6**			
	baz=326									
P17A	**Butcher Ranch,**	**29.96**	**108**	IAMs_20	IAMs_20	00 21 56.0				
	comp=Z,4µm,18.0s									
K22A	**Casper**	**30.00**	**99**	IAMs_20	IAMs_20	00 21 34.8				
	comp=Z,6µm,22.0s									
K22A	**Casper**	**30.00**	**99**	P	**P**	**00 10 56.4**	**-1.6**			
	baz=312									
PET	**Petropavlovsk**	**30.08**	**286**	*e* P	P	00 11 03.3	+5.0			
PET				*e* S	**S**	**00 15 53.2**	**-2.5**			
PET				MLR	MLR					
	comp=Z,2µm,17.0s									
PET				MLR	MLR					
	comp=Z,3µm,15.0s									
P18A	**Preston Nutter**	**30.11**	**108**	IAMs_20	IAMs_20	00 22 10.9				
	comp=Z,4µm,18.0s									
GSC	**Goldstone, Bar**	**30.13**	**121**	P	**P**	**00 10 59.3**	**+0.

ULM S S 00 16 16.5 +0.9
comp=Z,1.6nm,0.9s,baz=207,slow=18,SNR=0.9
ULM LR LR 00 23 38.0
comp=Z,9μm,18.6s,baz=302,slow=36
comp=Z,5.8nm,0.7s
MA2 Magadan 31.34 301 P P **00 11 08.8 -0.6**
MA2 IAMs_20 IAMs_20 00 24 10.0
comp=Z,6μm,21.0s
MA2 Magadan 31.34 301 *c i* P P **00 11 11.0 +1.6**
MA2 pmax pmax
comp=Z,144nm,1.8s
MA2 Magadan 31.34 301 LR LR 00 24 31.4
comp=Z,5μm,20.9s,baz=80,slow=38
MURC Murrieta 31.35 124 P P **00 11 09.7 0.0**
baz=327
U15A North Rim 31.46 114 IAMs_20 IAMs_20 00 22 47.8
comp=Z,4μm,18.0s
PHWY Pilot Hill 31.50 100 IAMs_20 IAMs_20 00 22 34.5
comp=Z,4μm,22.0s
N23A Red Feather La 31.52 101 IAmb IAmb 00 11 34.4
comp=Z,34nm,1.4s
N23A Red Feather La 31.52 101 P P **00 11 10.6 -0.9**
baz=314
BELC Belle Mtn. Jos 31.58 122 P P **00 11 11.9 0.0**
baz=326
NEE2 Needles Airpor 31.62 119 P P **00 11 11.6 -0.5**
baz=324
PFO Pinyon Flats O 31.68 123 IAMs_20 IAMs_20 00 21 22.0
comp=Z,4μm,20.0s
PFO Pinyon Flats O 31.68 123 P P **00 11 11.7 -1.1**
baz=326
PFO Pinyon Flats O 31.68 123 LR LR 00 21 45.3
comp=Z,5μm,20.1s,baz=326,slow=32
TPFO Pinon Flats 31.69 123 P P **00 11 11.7 -1.2**
baz=326
W13A Hualapai Mount 31.71 118 IAmb IAmb 00 11 24.9
comp=Z,71nm,2.0s
W13A IAMs_20 IAMs_20 00 22 08.5
comp=Z,6μm,20.0s
IRM Iron Mountain 31.86 120 P P **00 11 13.3 -0.9**
baz=325,SNR=19
109C Camp Elliot, M 31.98 124 P P **00 11 15.3 0.0**
baz=327
BC3 Big Chuckawall 32.12 121 P P **00 11 17.1 +0.5**
baz=326,SNR=7.9
PDMCI Parker Dam, Lak 32.22 119 P P **00 11 17.2 -0.2**
baz=324,SNR=7.5
MONP2 Monument Peak 32.30 123 P P **00 11 18.7 +0.4**
baz=327
AGMN Agassiz Nation 32.42 82 IAmb IAmb 00 11 30.4
comp=Z,28nm,1.0s
AGMN IAMs_20 IAMs_20 00 23 53.0
comp=Z,8μm,19.0s
AGMN Agassiz Nation 32.42 82 P P **00 11 18.3 -0.7**
baz=305,SNR=12
AGMN Agassiz Nation 32.42 82 P P **00 11 19.9 +0.9**
baz=305,SNR=12
D32A Dogwood Acres, 32.45 84 IAMs_20 IAMs_20 00 24 06.0
comp=Z,5μm,19.0s
ISCO Idaho Springs 32.47 102 P P **00 11 19.9 0.0**
ISCO Idaho Springs 32.47 102 P P **00 11 19.1 -0.8**
baz=316
ISCO Idaho Springs 32.47 102 P P **00 11 19.9 0.0**
ISCO pmax pmax
comp=Z,11nm,1.2s
ISCO MLR MLR
comp=Z,2μm,18.0s
BLYC Blythe 32.49 120 IAmb IAmb 00 11 24.9
comp=Z,36nm,0.8s
BLYC IAMs_20 IAMs_20 00 19 32.2
comp=Z,4μm,21.0s
SWSC Sam W. Stewart 32.54 122 P P **00 11 20.5 +0.3**
baz=326
WUAZ Wupatki 32.63 114 IAmb IAmb 00 11 33.1
comp=Z,23nm,0.8s
WUAZ Wupatki 32.63 114 P P **00 11 21.4 +0.2**
baz=322,SNR=20
IKP In-Ko-Pah, Jac 32.64 123 P P **00 11 22.3 +1.1**
baz=327
YUH Yuha Desert 32.73 123 IAMs_20 IAMs_20 00 21 30.8
comp=Z,4μm,21.0s
MVCO Mesa Verde 32.82 109 P P **00 11 23.8 +0.9**
baz=319
GLA Glamis 32.91 121 P P **00 11 23.0 -0.5**
baz=326
UABX UABC, Campus M 32.97 122 IAMs_20 IAMs_20 00 21 38.0
comp=Z,4μm,21.0s
SUSD Miller 33.02 90 P P **00 11 24.1 -0.2**
baz=309
Y14A Wickenburg 33.07 118 IAMs_20 IAMs_20 00 22 58.6
comp=Z,5μm,19.0s
S22A 4UR Ranch, Cre 33.30 106 IAMs_20 IAMs_20 00 24 15.4
comp=Z,5μm,18.0s
S22A 4UR Ranch, Cre 33.30 106 P P **00 11 27.3 +0.1**
baz=318
Q24A Divide 33.32 103 IAmb IAmb 00 11 50.7
comp=Z,66nm,2.0s
Q24A Divide 33.32 103 P P **00 11 26.3 -1.1**
baz=316
X16A Lo Mia Camp, P 33.47 115 IAMs_20 IAMs_20 00 23 53.0
comp=Z,4μm,18.0s
B35A Bob, Littlefor 33.55 80 P P **00 11 28.2 -0.7**
B35A IAmb IAmb 00 11 52.2
comp=Z,33nm,1.3s
B35A IAMs_20 IAMs_20 00 24 36.0
comp=Z,8μm,19.0s
OGNE Ogallala 33.63 97 IAmb IAmb 00 11 39.7
comp=Z,30nm,0.9s
OGNE IAMs_20 IAMs_20 00 24 23.6
comp=Z,6μm,20.0s
OGNE Ogallala 33.63 97 P P **00 11 29.3 -0.4**
baz=314
F33A 5 Mile Ranch, 33.63 86 IAmb IAmb 00 11 32.1
comp=Z,61nm,1.6s
F33A IAMs_20 IAMs_20 00 24 54.2
comp=Z,8μm,20.0s
F33A 5 Mile Ranch, 33.63 86 P P **00 11 30.3 +0.6**
baz=308,SNR=6.9
W18A Petrified Fore 33.78 113 IAMs_20 IAMs_20 00 23 30.2
comp=Z,3μm,20.0s
W18A Petrified Fore 33.78 113 P P **00 11 30.8 -0.4**
baz=322
K30B Basset 33.80 93 IAmb IAmb 00 12 19.3
comp=Z,98nm,1.4s
K30B IAMs_20 IAMs_20 00 24 30.0
comp=Z,7μm,19.0s
SDCO Great Sand Dun 34.01 105 IAmb IAmb 00 11 36.9
comp=Z,54nm,2.0s
SDCO IAMs_20 IAMs_20 00 23 58.1
comp=Z,3μm,22.0s
SDCO Great Sand Dun 34.01 105 P P **00 11 32.1 -1.3**
baz=318,SNR=6.4
SDCO Great Sand Dun 34.01 105 P P **00 11 35.1 +1.8**
baz=318,SNR=6.4
KSCO Kaye Shedlock' 34.65 100 IAmb IAmb 00 11 49.1
comp=Z,35nm,0.9s
KSCO Kaye Shedlock' 34.65 100 P P **00 11 37.5 -1.2**
baz=316,SNR=7.5
KSCO Kaye Shedlock' 34.65 100 P P **00 11 41.1 +2.3**
baz=316,SNR=7.5
ECSD EROS Data Cent 34.77 89 IAmb IAmb 00 12 02.8
comp=Z,78nm,1.9s
ECSD EROS Data Cent 34.77 89 P P **00 11 36.6 -2.9**
baz=310
ECSD EROS Data Cent 34.77 89 P P **00 11 40.3 +0.7**
baz=310
ECSD S S **00 17 16.2 +7.1**
baz=310
214A Organ Pipe Nat 34.78 120 P P **00 11 40.2 +0.5**
baz=326
EYMN Ely 35.01 79 P P **00 11 41.3 -0.3**
EYMN IAmb IAmb 00 11 51.8
comp=Z,57nm,0.9s
EYMN Ely 35.01 79 IAMs_20 IAMs_20 00 25 39.5
comp=Z,8μm,18.0s
EYMN Ely 35.01 79 P P **00 11 40.6 -1.0**
baz=306
EYMN Ely 35.01 79 S S **00 17 15.0 +2.3**
baz=306
T25A Trinidad 35.05 105 IAmb IAmb 00 12 05.4
comp=Z,84nm,2.0s
T25A Trinidad 35.05 105 P P **00 11 40.2 -2.0**
baz=318
F36A Milaca 35.15 84 IAmb IAmb 00 12 06.2
comp=Z,126nm,2.0s
F36A IAMs_20 IAMs_20 00 25 46.3
comp=Z,6μm,18.0s
F36A Milaca 35.15 84 P P **00 11 44.4 +1.7**
baz=308
F36A S S **00 17 15.6 +0.8**
baz=308
BGNE Belgrade 35.46 93 IAMs_20 IAMs_20 00 25 22.8
comp=Z,9μm,20.0s
BGNE Belgrade 35.46 93 P P **00 11 43.7 -1.8**
baz=313
TUC Tucson 35.48 117 IAMs_20 IAMs_20 00 24 13.4
comp=Z,3μm,21.0s
TUC Tucson 35.48 117 P P **00 11 44.9 -1.0**
baz=324
ANMO Albuquerque 35.61 109 P P **00 11 46.8 -0.3**
ANMO Albuquerque 35.61 109 P P **00 11 47.4 +0.3**
baz=321
ANMO Albuquerque 35.61 109 P P **00 11 48.7 +1.7**
baz=321,SNR=6.1
ANMO S S **00 17 27.1 +4.6**
baz=321
ANMO Albuquerque 35.61 109 ‖ *e* P P **00 11 48.3 +1.2**
ANMO pmax pmax
comp=Z,20nm,1.9s
ANMO Albuquerque 35.61 109 LR LR 00 26 21.0
comp=Z,2μm,18.5s,baz=38,slow=36
TIXI Tiksi 35.76 327 P P **00 11 45.5 -2.2**
TIXI IAmb IAmb 00 11 57.1
comp=Z,108nm,1.6s
TIXI Tiksi 35.76 327 P P **00 11 48.4 +0.7**
TIXI Tiksi 35.76 327 LR LR 00 28 28.1
comp=Z,1μm,19.5s,baz=80,slow=40
E38A The Farm, Brul 35.78 81 IAmb IAmb 00 11 58.0
comp=Z,54nm,0.9s
E38A IAMs_20 IAMs_20 00 25 55.8
comp=Z,9μm,20.0s
SPMN Marine on St. 35.94 84 IAmb IAmb 00 12 12.4
comp=Z,99nm,1.8s
SPMN IAMs_20 IAMs_20 00 25 54.3
comp=Z,4μm,19.0s
SPMN Marine on St. 35.94 84 P P **00 11 47.3 -2.3**
baz=309
Y22D IRIS PASSCAL I 36.04 111 IAMs_20 IAMs_20 00 25 24.1
comp=Z,3μm,18.0s
Y22D IRIS PASSCAL I 36.04 111 P P **00 11 49.5 -1.2**
baz=322
Y22F Passcal Instru 36.04 111 P P **00 11 49.0 -1.7**
baz=322
L34A Svendsen Farm, 36.06 91 IAmb IAmb 00 12 06.7
comp=Z,27nm,0.8s
L34A Svendsen Farm, 36.06 91 P P **00 11 51.8 +1.1**
baz=312
Y22A Socorro 36.13 111 P P **00 11 53.9 +2.4**
baz=322,SNR=5.8
DUN6 Lazy B Ranch 36.13 115 IAmb IAmb 00 12 00.9
comp=Z,48nm,0.6s
I37A Lemond, Waseca 36.38 86 IAmb IAmb 00 12 16.1
comp=Z,95nm,1.5s
I37B Waseca 36.38 86 P P **00 11 56.1 +2.8**
baz=310
CBKS Cedar Bluff 36.38 98 IAmb IAmb 00 12 16.5
comp=Z,66nm,1.4s
CBKS IAMs_20 IAMs_20 00 25 40.4
comp=Z,4μm,21.0s
CBKS Cedar Bluff 36.38 98 P P **00 11 51.7 -1.7**
baz=316
RTBA Rita Blanca 36.47 104 IAmb IAmb 00 11 57.5
comp=Z,81nm,1.8s
121A Cookes Peak, D 36.81 113 P P **00 11 57.7 +0.4**
121A IAmb IAmb 00 12 14.8
comp=Z,48nm,1.4s
121A Cookes Peak, D 36.81 113 P P **00 11 57.7 +0.4**
baz=323,SNR=5.7
121A Cookes Peak, D 36.81 113 P P **00 11 59.5 +2.1**
baz=323,SNR=5.7
319A Douglas 36.98 116 IAMs_20 IAMs_20 00 25 44.2
comp=Z,4μm,19.0s
D41A Chassel 37.13 79 IAMs_20 IAMs_20 00 26 54.6
comp=Z,7μm,18.0s
N35A Tabor 37.22 92 IAmb IAmb 00 12 17.6
comp=Z,66nm,0.9s
N35A IAMs_20 IAMs_20 00 26 47.4
comp=Z,7μm,18.0s
N35A Tabor 37.22 92 P P **00 12 03.7 +3.2**
baz=313
R32A Long Quarter, 37.22 97 IAMs_20 IAMs_20 00 26 27.7
comp=Z,5μm,20.0s
NEEM North Greenlan 37.25 21 *i* P P **00 11 59.5 -1.2**
NEEM IAmb IAmb 00 12 10.1
comp=Z,20nm,0.6s
G40A Rib Lake 37.35 82 S S **00 17 52.0 +3.6**
baz=309
K38A Parkersburg 37.61 87 IAMs_20 IAMs_20 00 27 27.8
comp=Z,7μm,18.0s
SCIA State Center 37.86 89 P P **00 12 04.5 -1.4**
baz=312
KSU1 Kansas State U 37.90 95 IAmb IAmb 00 12 18.1
comp=Z,131nm,2.0s
KSU1 IAMs_20 IAMs_20 00 26 58.6
comp=Z,8μm,20.0s
KSU1 Kansas State U 37.90 95 P P **00 12 07.2 +0.9**
baz=315
KSU1 Kansas State U 37.90 95 P P **00 12 08.4 +2.1**
baz=315
KSU1 S S **00 18 03.1 +6.2**
baz=315
FRB Frobisher Bay 37.99 45 LR LR 00 28 05.2
comp=Z,5μm,18.2s,baz=294,slow=37
I40A Norwalk 37.99 84 IAmb IAmb 00 12 09.6
comp=Z,76nm,1.4s
I40A IAMs_20 IAMs_20 00 27 08.7
comp=Z,5μm,21.0s
UPNV Upernavik 38.07 29 *i* P P **00 12 07.3 0.0**
UPNV IAmb IAmb 00 12 17.6
comp=Z,14nm,0.6s
EPT El Paso 38.07 112 IAMs_20 IAMs_20 00 26 19.8
comp=Z,3μm,21.0s
AMTX Amarillo 38.20 104 IAmb IAmb 00 12 12.2
comp=Z,121nm,1.8s
AMTX IAMs_20 IAMs_20 00 26 34.9
comp=Z,4μm,22.0s
AMTX Amarillo 38.20 104 P P **00 12 08.4 -0.6**
baz=319
AMTX Amarillo 38.20 104 P P **00 12 10.6 +1.6**
baz=319,SNR=6.4
AMTX S S 00 18 12.7 +11
baz=319
MSTX Muleshoe 38.31 106 P P **00 12 09.8 -0.1**
MSTX IAMs_20 IAMs_20 00 26 52.9
comp=Z,3μm,19.0s
MSTX Muleshoe 38.31 106 P P **00 12 07.6 -2.4**
baz=320
E43A Lone Tree Farm 38.41 78 IAMs_20 IAMs_20 00 27 43.4
comp=Z,6μm,18.0s
OK035 E0210 Rd and N 38.46 99 IAMs_20 IAMs_20 00 27 07.6
comp=Z,3μm,19.0s
KAN08 Anthony NE Sta 38.48 98 IAmb IAmb 00 12 33.7
comp=Z,94nm,1.7s
KAN06 Argonia West S 38.53 98 IAmb IAmb 00 12 14.3
comp=Z,54nm,1.5s
U32A Winter Ranch, 38.54 100 IAmb IAmb 00 12 41.9
comp=Z,210nm,1.9s
U32A IAMs_20 IAMs_20 00 26 59.7
comp=Z,3μm,22.0s
ELIS Ellis County 38.54 101 IAmb IAmb 00 12 22.0
comp=Z,30nm,0.8s
OK038 West end E0370 38.61 100 IAMs_20 IAMs_20 00 27 12.6
comp=Z,3μm,20.0s
KAN01 Argonia South 38.66 98 P **00 12 13.2 +0.5**
OK032 Salt Plains WL 38.66 99 IAMs_20 IAMs_20 00 27 12.0
comp=Z,3μm,20.0s
MNTX Cornudas Mount 38.71 111 P P **00 12 14.2 +1.1**
baz=323,SNR=10
MNTX Cornudas Mount 38.71 111 P P **00 12 15.3 +2.1**
baz=323,SNR=10
MNTX S S **00 18 15.3 +6.1**
baz=323
KAN17 Caldwell West 38.73 98 IAmb IAmb 00 12 35.8
comp=Z,114nm,1.9s
KAN09 Caldwell North 38.74 98 IAmb IAmb 00 12 17.4
comp=Z,122nm,1.8s
JFWS Jewell Farm 38.84 85 P P **00 12 13.2 -1.0**
baz=311
L40A Anamosa 38.86 87 IAMs_20 IAMs_20 00 28 15.7
comp=Z,7μm,18.0s
KAN13 South Haven SW 38.91 98 IAmb IAmb 00 12 37.3
comp=Z,96nm,1.7s
I42A Draeger Farm, 38.93 83 S S **00 18 13.9 +1.5**
baz=311
CROK Carrier 39.00 99 IAMs_20 IAMs_20 00 27 34.1
comp=Z,3μm,20.0s
H43A Windswept, Lux 39.19 81 IAMs_20 IAMs_20 00 28 10.1
comp=Z,8μm,19.0s
BLOK Blackwell 39.24 98 IAMs_20 IAMs_20 00 27 41.2
comp=Z,5μm,21.0s
P38A Dawn 39.24 91 IAMs_20 IAMs_20 00 27 53.0
comp=Z,6μm,19.0s
P38A Dawn 39.24 91 S S **00 18 21.6 +4.5**
baz=314
T35A Sooner Cattle 39.51 97 IAmb IAmb 00 12 37.9
comp=Z,84nm,1.9s
T35A IAMs_20 IAMs_20 00 27 58.5
comp=Z,5μm,20.0s
YAK Yakutsk 39.58 313 P P **00 12 19.5 -0.5**
YAK Yakutsk 39.58 313 IAMs_20 IAMs_20 00 30 16.4
comp=Z,3μm,20.0s
YAK Yakutsk 39.58 313 *e* P P **00 12 20.9 +0.9**
YAK *e* *PP **pwP** **00 12 28.9 -0.5**
YAK *eS* **S** **00 18 23.4 +1.8**
YAK *eSS* **SS** **00 21 12.9 -3.2**
YAK pmax pmax
comp=Z,115nm,0.9s
YAK pmax pmax
comp=N,37nm,1.1s
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=Z,362nm,10.1s
YAK pmax pmax
comp=N,130nm,10.9s
YAK pmax pmax
comp=E,176nm,10.4s
YAK smax smax
comp=N,212nm,12.9s
YAK MLR MLR
comp=Z,2μm,22.0s
YAK Yakutsk 39.58 313 LR LR 00 30 55.2
comp=Z,2μm,18.2s,baz=60,slow=40
TYV Tymovskoe 39.61 292 *e* P P **00 12 22.0 +1.5**
TYV pmax pmax
comp=Z,28nm,1.0s
TYV pmax pmax
comp=Z,1μm,3.9s
OK051 E0350 and S346 39.63 98 IAMs_20 IAMs_20 00 28 16.7
comp=Z,4μm,18.0s
OK048 Pawnee Station 39.64 98 IAMs_20 IAMs_20 00 28 15.8
comp=Z,5μm,20.0s
OK029 Liberty Lake 39.81 99 IAmb IAmb 00 12 44.8
comp=Z,69nm,1.5s
OK029 IAMs_20 IAMs_20 00 27 49.5
comp=Z,3μm,22.0s
ODSA Odessa 39.86 108 IAmb IAmb 00 12 25.9
comp=Z,62nm,1.5s
WMOK Wichita Mounta 39.88 102 P P **00 12 23.0 +0.1**
WMOK Wichita Mounta 39.88 102 S S **00 18 34.5 +7.7**
baz=319
WMOK Wichita Mounta 39.88 102 P P **00 12 23.0 +0.1**
WMOK pmax pmax
comp=Z,17nm,0.9s
OK033 Mehan 39.91 98 IAMs_20 IAMs_20 00 28 12.2
comp=Z,4μm,21.0s
G45A Suttons Bay 39.98 79 IAMs_20 IAMs_20 00 28 32.9
comp=Z,5μm,19.0s
N41A Harden Midland 39.98 88 IAmb IAmb 00 12 32.9
comp=Z,46nm,0.7s
OK052 Battle Ridge R 40.03 98 IAMs_20 IAMs_20 00 28 16.1
comp=Z,4μm,20.0s
K43A Burlington 40.03 84 IAMs_20 IAMs_20 00 28 21.6
comp=Z,6μm,21.0s
P40A Paris 40.13 90 IAmb IAmb 00 12 26.9
comp=Z,91nm,1.6s
P40A Paris 40.13 90 P P **00 12 25.5 +0.6**
baz=314,SNR=5.1
P40A S S **00 18 32.0 +1.6**
baz=314
FNO Franklin 40.24 100 IAMs_20 IAMs_20 00 27 50.9
comp=Z,3μm,22.0s
L44A Lake County Fo 40.61 84 IAMs_20 IAMs_20 00 28 49.0
comp=Z,7μm,21.0s
L44A Lake County Fo 40.61 84 P P **00 12 28.2 -0.7**
baz=312
TUL3 Leonard 40.64 98 IAMs_20 IAMs_20 00 28 44.4
comp=Z,5μm,20.0s
TUL3 Leonard 40.64 98 P P **00 12 28.3 -0.9**
baz=318
GLMI Grayling 40.68 79 IAMs_20 IAMs_20 00 29 04.6
comp=Z,5μm,18.0s
GLMI Grayling 40.68 79 P P **00 12 28.1 -1.4**
baz=310
WTFS Witchita Falls 40.78 102 P P **00 12 30.1 -0.2**
WTFS IAmb IAmb 00 13 01.1
comp=Z,59nm,1.5s
HDIL Hopedale 40.95 87 IAmb IAmb 00 12 40.9
comp=Z,53nm,0.7s
HDIL IAMs_20 IAMs_20 00 29 22.0
comp=Z,4μm,19.0s
HDIL Hopedale 40.95 87 P P **00 12 30.0 -1.7**
baz=314
ABTX Abilene, Hawle 41.02 104 IAMs_20 IAMs_20 00 28 23.5
comp=Z,5μm,21.0s
ABTX Abilene, Hawle 41.02 104 P P **00 12 31.1 -1.3**
baz=321
U38A Gravette 41.03 96 IAmb IAmb 00 12 34.4
comp=Z,101nm,1.8s
U38A IAMs_20 IAMs_20 00 28 55.6
comp=Z,7μm,19.0s
U38A Gravette 41.03 96 P P **00 12 32.6 +0.2**
baz=317,SNR=7.2
U38A S S **00 18 47.6 +3.6**
baz=317
ILULI Ilulissat 41.27 32 *e* P P **00 12 36.2 +2.2**
ILULI IAmb IAmb 00 12 57.8
comp=Z,14nm,1.0s
HHAR Hobbs 41.39 95 IAmb IAmb 00 12 37.2
comp=Z,73nm,1.8s
HHAR IAMs_20 IAMs_20 00 29 07.2
comp=Z,7μm,20.0s
P43A Skaggs, Pawnee 41.45 88 IAmb IAmb 00 12 39.1
comp=Z,159nm,1.9s
TX31 Lajitas Ar. Si 41.48 112 IAmb IAmb 00 12 40.0
comp=Z,75nm,1.9s
TX31 Lajitas Ar. Si 41.48 112 P P **00 12 38.7 +2.4**
baz=324,SNR=8.0
TXAR Lajitas Array 41.48 112 P P **00 12 36.3 0.0**
TXAR Lajitas Array 41.48 112 P P **00 12 37.8 +1.5**
comp=Z,1.7nm,0.7s,baz=327,slow=6.5,SNR=14
TXAR PcP **PcP** **00 14 34.3 +0.5**
comp=Z,1.9nm,0.9s,baz=228,slow=1.1,SNR=2.4
TXAR S S **00 18 47.1 -3.8**
comp=Z,0.1nm,0.4s,baz=20,slow=4.0,SNR=1.6
TXAR LR LR 00 29 02.4
comp=Z,1μm,20.4s,baz=317,slow=35
comp=Z,1.7nm,0.7s
OZNA Ozona 41.55 108 IAmb IAmb 00 12 39.5
comp=Z,80nm,1.6s
J47A Sunmer 41.61 81 IAMs_20 IAMs_20 00 29 25.1
comp=Z,6μm,21.0s
CCM Cathedral Cave 41.61 91 P P **00 12 35.7 -1.5**
CCM IAmb IAmb 00 12 38.7
comp=Z,52nm,1.5s
CCM Cathedral Cave 41.61 91 IAMs_20 IAMs_20 00 29 25.7
comp=Z,7μm,19.0s
CCM Cathedral Cave 41.61 91 P P **00 12 35.6 -1.6**
baz=316
CCM Cathedral Cave 41.61 91 P P **00 12 35.7 -1.5**
CCM pmax pmax
comp=Z,52nm,1.5s
CCM MLR MLR
comp=Z,7μm,19.0s
L46A Eue Claire 41.62 83 IAMs_20 IAMs_20 00 29 44.5
comp=Z,6μm,18.0s
O44A Mansfield 41.68 87 IAMs_20 IAMs_20 00 29 53.4
comp=Z,5μm,18.0s
Z35A Perchaven, San 41.77 101 IAmb IAmb 00 13 02.0
comp=Z,162nm,1.9s
Z35A IAMs_20 IAMs_20 00 29 05.4
comp=Z,3μm,22.0s
U40A Yellville 41.94 94 P P **00 12 39.3 -0.6**
baz=317,SNR=5.8
U40A P P **00 12 39.3 -0.6**
baz=317,SNR=5.8
U40A S S **00 18 56.8 -0.7**
baz=317
U40A S S **00 18 56.8 -0.7**
baz=317
FVM French Village 42.12 91 S S **00 18 57.5 -2.5**
baz=316
I49A Point Hope 42.23 78 IAMs_20 IAMs_20 00 29 54.6
comp=Z,6μm,19.0s

SFIN **Lafayette** 42.29 85 P P 00 12 39.8 -2.8
baz=314
SFIN **Lafayette** 42.29 85 S S 00 19 03.6 +1.2
baz=314
VLDQ **Val d'Or** 42.42 70 IAMs_20 IAMs_20 00 29 51.5
comp=Z,4µm,18.0s
HPIG 42.42 116 IAMs_20 IAMs_20 00 29 32.2
comp=Z,3µm,20.0s
LPIG **La Paz** 42.57 123 LR LR 00 28 01.9
comp=Z,2µm,20.7s,baz=321,slow=33
JCT **Junction City** 42.60 107 IAmb IAmb 00 12 55.0
comp=Z,29nm,0.8s
JCT **Junction City** 42.60 107 P P 00 12 45.5 +0.1
baz=322,SNR=8.9
JCT **Junction City** 42.60 107 P P 00 12 46.3 +1.0
baz=322,SNR=8.9
JCT S S 00 19 17.2 +10
baz=322
SUMG **Summit** 42.62 25 P P 00 12 44.3 -1.1
SUMG **Summit** 42.62 25 P P 00 12 44.3 -1.1
SUMG pmax pmax
comp=Z,245nm,1.6s
SUMG **Summit** 42.62 25 *i* P P 00 12 45.5 +0.1
SUMG IAmb IAmb 00 12 55.5
comp=Z,38nm,0.8s
WHTX **Lake Whitney,** 42.68 103 IAmb IAmb 00 12 48.7
comp=Z,61nm,1.6s
WHTX IAMs_20 IAMs_20 00 29 49.6
comp=Z,3µm,20.0s
WHTX **Lake Whitney,** 42.68 103 P P 00 12 44.7 -1.2
baz=321
SFJD **Kangerlussuaq** 42.69 35 P P 00 12 44.7 -0.9
SFJD IAmb IAmb 00 12 48.1
comp=Z,179nm,1.6s
SFJD **Kangerlussuaq** 42.69 35 P P 00 12 44.7 -0.9
SFJD pmax pmax
comp=Z,179nm,1.6s
SFJD **Kangerlussuaq** 42.69 35 LR LR 00 30 04.4
comp=Z,2µm,18.8s,baz=306,slow=36
SFJD **Kangerlussuaq** 42.69 35 *i* P P 00 12 46.5 +0.9
SFJD IAmb IAmb 00 12 47.7
comp=Z,18nm,1.5s
N47A **Urbana** 42.72 84 IAMs_20 IAMs_20 00 30 12.7
comp=Z,6µm,20.0s
P46A **Rosedale** 42.75 86 IAMs_20 IAMs_20 00 30 27.7
comp=Z,5µm,19.0s
GRNR **Gornyy** 42.84 296 ⇓ *i* P P 00 12 47.5 +0.5
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,3µm,17.0s
GRNR MLR MLR
comp=N,3µm,24.0s
GRNR MLR MLR
comp=Z,4µm,15.0s
AAM **Ann Arbor** 42.87 81 P P 00 12 45.5 -1.9
baz=313
OLIL **Olney** 42.88 88 P P 00 12 46.7 -0.7
OLIL IAmb IAmb 00 12 49.7
comp=Z,116nm,1.4s
S44A **Carbondale** 42.97 90 S S 00 19 11.7 -0.8
baz=316
CGM3 **Cape Girardeau** 43.03 91 P P 00 12 47.2 -1.5
CGM3 IAmb IAmb 00 12 50.3
comp=Z,112nm,1.9s
Z38A **Mt. Pleasant** 43.06 99 IAMs_20 IAMs_20 00 30 58.5
comp=Z,3µm,18.0s
LCAR **Lake Charles** 43.09 93 P P 00 12 48.5 -0.7
LCAR IAMs_20 IAMs_20 00 30 09.9
comp=Z,7µm,20.0s
LCAR **Lake Charles** 43.09 93 S S 00 19 14.0 -0.3
baz=317
K50A **Casco** 43.12 79 IAMs_20 IAMs_20 00 30 21.1
comp=Z,3µm,20.0s
X40A **Basin Creek Fa** 43.32 96 IAMs_20 IAMs_20 00 30 18.3
comp=Z,5µm,19.0s
X40A **Basin Creek Fa** 43.32 96 S S 00 19 25.8 +8.0
baz=318
X40A S S 00 19 25.8 +8.0
baz=318
BLO **Bloomington** 43.44 86 IAMs_20 IAMs_20 00 30 58.0
comp=Z,6µm,18.0s
O48B **Farmland** 43.44 84 IAMs_20 IAMs_20 00 30 35.9
comp=Z,6µm,20.0s
O48B **Farmland** 43.44 84 P P 00 12 48.1 -3.9
baz=314
N49A **Columbus Grove** 43.52 83 IAMs_20 IAMs_20 00 30 51.9
comp=Z,5µm,18.0s
N49A **Columbus Grove** 43.52 83 S S 00 19 20.8 +0.2
baz=314
N49A S S 00 19 20.8 +0.2
baz=314
SCHQ **Schefferville** 43.53 56 IAmb IAmb 00 12 54.8
comp=Z,104nm,1.5s
SCHQ **Schefferville** 43.53 56 P P 00 12 53.4 +0.9
comp=Z,26nm,1.1s,baz=315,slow=8.3,SNR=13
SCHQ S S 00 19 23.1 +2.7
comp=Z,2.8nm,0.9s,baz=135,slow=16,SNR=1.8
SCHQ LR LR 00 30 59.1
comp=Z,3µm,18.8s,baz=310,slow=36
comp=Z,26nm,1.1s
435B **Jarrell** 43.55 104 IAMs_20 IAMs_20 00 30 02.5
comp=Z,5µm,21.0s
435B **Jarrell** 43.55 104 P P 00 12 51.5 -1.5
baz=322
237A **Washetta, Mont** 43.57 101 IAMs_20 IAMs_20 00 31 07.0
comp=Z,2µm,18.0s
SADO **Sadowa** 43.68 75 IAMs_20 IAMs_20 00 30 38.6
comp=Z,3µm,18.0s
SADO **Sadowa** 43.68 75 LR LR 00 30 41.3
comp=Z,3µm,18.7s,baz=273,slow=36
WLAR **White Oak Lake** 43.77 97 IAMs_20 IAMs_20 00 31 02.1
comp=Z,5µm,19.0s
ASAJ **Asahikawa** 43.87 284 LR LR 00 32 54.1
comp=Z,2µm,18.8s,baz=30,slow=38
O49A **Covington** 43.94 83 IAMs_20 IAMs_20 00 30 49.1
comp=Z,5µm,19.0s
NUUK **Nuuk** 44.01 39 *i* P P 00 12 58.5 +2.3
NUUK IAmb IAmb 00 13 12.7
comp=Z,18nm,1.1s
P49A **Miami Univ. Ec** 44.19 84 P P 00 12 56.2 -1.8
baz=315
WCI **Wyandotte Cave** 44.23 87 IAMs_20 IAMs_20 00 31 17.0
comp=Z,4µm,19.0s
WCI **Wyandotte Cave** 44.23 87 P P 00 12 57.0 -1.4
baz=316
KBS **Kingsbay** 44.35 5 P P 00 12 58.4 -0.5
KBS **Kingsbay** 44.35 5 *eP* P 00 13 00.1 +1.3
KBS IAmb IAmb 00 13 01.5
comp=Z,145nm,1.4s
KBS **Kingsbay** 44.35 5 P P 00 12 58.4 -0.5
KBS pmax pmax
comp=Z,129nm,1.4s
KBS **Kingsbay** 44.35 5 *i* P P 00 13 05.6 +6.7
NATX **Nacogdoches** 44.38 101 IAMs_20 IAMs_20 00 30 56.4
comp=Z,2µm,20.0s
NATX **Nacogdoches** 44.38 101 P P 00 12 58.8 -0.8
baz=320
DY2G **Dye2** 44.38 34 *i* P P 00 13 00.2 +0.7
DY2G IAmb IAmb 00 13 01.1
comp=Z,23nm,1.6s
833A **Chaparral WMA,** 44.52 108 P P 00 12 59.5 -1.3
baz=324
ICESG **Greenland Ices** 44.60 29 *i* P P 00 13 00.5 -0.9
ICESG IAmb IAmb 00 13 10.9
comp=Z,35nm,0.7s
M52A **Chesterland** 44.65 80 IAMs_20 IAMs_20 00 31 19.5
comp=Z,4µm,19.0s
DELO **Deloro Mine** 44.66 74 IAMs_20 IAMs_20 00 31 08.5
comp=Z,5µm,19.0s
ACSO **Alum Creek Sta** 44.66 82 IAMs_20 IAMs_20 00 32 00.7
comp=Z,5µm,18.0s
ACSO **Alum Creek Sta** 44.66 82 P P 00 13 00.7 -1.0
baz=314
WVT **Waverly** 44.89 90 P P 00 13 03.4 -0.3
baz=317
WVT **Waverly** 44.89 90 S S 00 19 49.1 +8.5
baz=317
735A **Kenedy** 44.94 106 IAMs_20 IAMs_20 00 31 34.5
comp=Z,2µm,18.0s
J54A **Appleton** 44.94 76 IAMs_20 IAMs_20 00 31 22.2
comp=Z,6µm,20.0s
ERPA **Erie** 45.00 78 P P 00 13 03.6 -0.9
baz=313
M53A **WI Miller and** 45.09 79 IAMs_20 IAMs_20 00 31 34.2
comp=Z,5µm,21.0s
M53A **WI Miller and** 45.09 79 P P 00 13 02.7 -2.5
baz=314

HKT **Hockley** 45.14 103 P P 00 13 05.1 -0.5
HKT **Hockley** 45.14 103 IAMs_20 IAMs_20 00 31 26.4
comp=Z,5µm,19.0s
HKT **Hockley** 45.14 103 *c i* P P 00 13 08.4 +2.8
HKT pmax pmax
comp=Z,60nm,2.0s
P51A **Williamsport** 45.14 83 IAMs_20 IAMs_20 00 31 34.7
comp=Z,4µm,19.0s
TRQ **Mont Tremblant** 45.15 70 IAmb IAmb 00 13 28.5
comp=Z,115nm,1.8s
TRQ IAMs_20 IAMs_20 00 31 23.4
comp=Z,4µm,18.0s
OXF **Oxford** 45.20 93 IAmb IAmb 00 13 15.5
comp=Z,47nm,0.9s
OXF **Oxford** 45.20 93 P P 00 13 04.6 -1.5
baz=318
R50A **Paris** 45.29 85 IAmb IAmb 00 13 35.2
comp=Z,38nm,1.4s
SPA0 **Spitsbergen Ar** 45.29 4 *eP* P 00 13 06.2 -0.2
SPA0 IAmb IAmb 00 13 08.1
comp=Z,138nm,1.3s
SPITS **Spitsbergen Ar** 45.29 4 P P 00 13 06.4 0.0
comp=Z,24nm,0.8s,baz=12,slow=7.4,SNR=12
SPITS LR LR 00 32 14.7
comp=Z,549nm,18.5s,baz=326,slow=36
comp=Z,24nm,0.8s
Q51A **Peebles** 45.30 84 IAmb IAmb 00 13 29.3
comp=Z,48nm,1.3s
Q51A IAMs_20 IAMs_20 00 31 42.1
comp=Z,5µm,20.0s
J55A **Hilton** 45.39 76 IAMs_20 IAMs_20 00 31 27.0
comp=Z,4µm,19.0s
ZEA **Zeya** 45.40 304 *eP* P 00 13 08.7 +1.2
ZEA pmax pmax
comp=Z,30nm,1.3s
ZEA MLR MLR
comp=N,2µm,16.0s
ZEA MLR MLR
comp=Z,2µm,16.0s
N53A **Lisbon** 45.44 80 IAMs_20 IAMs_20 00 31 44.4
comp=Z,5µm,20.0s
P52A **Corning** 45.54 82 IAMs_20 IAMs_20 00 32 05.4
comp=Z,5µm,18.0s
P52A **Corning** 45.54 82 P P 00 13 06.7 -2.1
baz=315
WBO **Williamsburg** 45.58 72 IAMs_20 IAMs_20 00 31 35.8
comp=Z,6µm,19.0s
O53A **New Philadelph** 45.62 81 P P 00 13 07.5 -1.9
baz=314
LDAQ **Lac Daran** 45.71 66 IAMs_20 IAMs_20 00 31 45.0
comp=Z,3µm,20.0s
V48A **Smith Brothers** 45.73 90 IAmb IAmb 00 13 27.9
comp=Z,93nm,1.9s
V48A **Smith Brothers** 45.73 90 S S 00 19 55.8 +3.0
baz=317
CLTN **Cedars of Leba** 45.75 89 P P 00 13 09.5 -1.0
CLTN IAmb IAmb 00 13 13.4
comp=Z,119nm,1.8s
U49A **Red Boiling Sp** 45.75 88 S S 00 19 56.5 +3.5
baz=317
J56A **Wolcott** 45.90 75 IAMs_20 IAMs_20 00 31 39.4
comp=Z,3µm,20.0s
T50A **Nancy** 45.91 87 IAmb IAmb 00 13 27.9
comp=Z,104nm,1.9s
T50A **Nancy** 45.91 87 S S 00 20 03.7 +8.5
baz=316
T50A S S 00 20 03.7 +8.5
baz=316
Q52A **Bidwell** 45.94 83 IAmb IAmb 00 13 21.1
comp=Z,35nm,0.8s
Q52A IAMs_20 IAMs_20 00 31 60.0
comp=Z,3µm,19.0s
P53A **Whipple** 46.05 82 IAmb IAmb 00 13 41.1
comp=Z,89nm,1.6s
MNTQ **Montreal, Queb** 46.11 70 IAMs_20 IAMs_20 00 32 01.8
comp=Z,4µm,19.0s
KLR **Kul'dur** 46.14 297 ⇑ *i* P P 00 13 14.9 +1.5
KLR pmax pmax
comp=Z,103nm,1.7s
KLR **Kul'dur** 46.14 297 LR LR 00 34 54.1
comp=Z,2µm,18.3s,baz=31,slow=39
S51A **Beattyville** 46.15 85 IAmb IAmb 00 13 27.1
comp=Z,24nm,1.1s
LONY **Lake Ozonia** 46.20 72 IAMs_20 IAMs_20 00 31 56.1
comp=Z,5µm,20.0s
LONY **Lake Ozonia** 46.20 72 P P 00 13 12.1 -1.8
baz=313
J57A **Williamstown** 46.27 74 IAMs_20 IAMs_20 00 32 25.1
comp=Z,4µm,18.0s
L56A **Greenwood** 46.30 76 P P 00 13 13.5 -1.3
L56A IAmb IAmb 00 13 25.5
comp=Z,55nm,1.1s
VBMS **Vicksburg** 46.30 96 IAMs_20 IAMs_20 00 32 21.8
comp=Z,5µm,20.0s
VBMS **Vicksburg** 46.30 96 P P 00 13 15.0 +0.2
baz=320
LMQ **La Malbaie** 46.45 66 IAMs_20 IAMs_20 00 32 16.5
comp=Z,4µm,18.0s
K57A **Scipio Center** 46.45 75 IAMs_20 IAMs_20 00 32 08.1
comp=Z,3µm,21.0s
X48A **Hartselle** 46.55 91 P P 00 13 17.8 +1.0
baz=318,SNR=7.0
X48A S S 00 20 06.0 +1.4
baz=318
R53A **Hurricane** 46.56 83 IAMs_20 IAMs_20 00 32 20.4
comp=Z,3µm,20.0s
R53A **Hurricane** 46.56 83 P P 00 13 17.8 +0.9
baz=316,SNR=5.9
R53A P P 00 13 17.8 +0.9
baz=316,SNR=5.9
FRNY **Flat Rock** 46.58 71 IAMs_20 IAMs_20 00 32 26.2
comp=Z,5µm,18.0s
J58A **Rensen** 46.68 74 IAMs_20 IAMs_20 00 32 21.0
comp=Z,5µm,19.0s
Q54A **Coxs Mills** 46.72 82 IAMs_20 IAMs_20 00 34 29.4
comp=Z,2µm,19.0s
MCWV **Mont Chateau** 46.78 81 P P 00 13 16.4 -2.1
baz=315
146A **Union** 46.79 95 IAMs_20 IAMs_20 00 32 26.1
comp=Z,5µm,21.0s
TZTN **Tazewell** 46.96 86 P P 00 13 17.5 -2.5
baz=317
V51A **Loudon** 47.06 88 S S 00 20 15.9 +4.1
baz=317
BINY **Binghamton** 47.10 75 IAMs_20 IAMs_20 00 32 29.3
comp=Z,3µm,21.0s
BINY **Binghamton** 47.10 75 P P 00 13 19.3 -1.8
baz=314
SSPA **Standing Stone** 47.16 78 P P 00 13 20.8 -0.7
SSPA IAmb IAmb 00 13 23.7
comp=Z,83nm,1.7s
SSPA **Standing Stone** 47.16 78 P P 00 13 18.5 -3.0
baz=315
ISOG **Isortoq, Green** 47.22 32 *i* P P 00 13 25.8 +4.1
ISOG IAmb IAmb 00 13 29.8
comp=Z,27nm,0.6s
HOPEN **Hopen** 47.23 2 *eP* P 00 13 21.9 +0.3
FPAL **Fort Paine** 47.28 90 IAmb IAmb 00 13 37.2
comp=Z,34nm,1.1s
S54A **Dingess, Becki** 47.30 84 IAMs_20 IAMs_20 00 32 43.8
comp=Z,3µm,19.0s
Y49A **Blount Mountai** 47.35 91 S S 00 20 20.7 +4.7
baz=318
VT1 **Waterbury** 47.36 71 IAMs_20 IAMs_20 00 33 00.0
comp=Z,5µm,19.0s
SOEG **Soedalen** 47.38 27 *i* P P 00 13 23.2 +0.4
SOEG IAmb IAmb 00 13 31.7
comp=Z,31nm,0.7s
D62A **Allapoint, All** 47.41 66 IAMs_20 IAMs_20 00 33 03.8
comp=Z,4µm,20.0s
E62A **Clayton Lake** 47.48 67 IAMs_20 IAMs_20 00 32 57.7
comp=Z,4µm,18.0s
TKL **Tuckaleechee C** 47.48 87 S S 00 20 21.6 +3.8
baz=317
TKL **Tuckaleechee C** 47.48 87 LR LR 00 33 20.1
comp=Z,8µm,19.4s,baz=320,slow=36
346A **Big Creek Wild** 47.52 96 IAMs_20 IAMs_20 00 33 20.3
comp=Z,5µm,19.0s
ACCN **Adirondack Com** 47.52 73 IAMs_20 IAMs_20 00 32 55.3
comp=Z,6µm,20.0s
ANGG **Ammassalik, Gr** 47.57 32 *i* P P 00 13 24.1 -0.2
ANGG IAmb IAmb 00 13 33.1
comp=Z,31nm,0.7s
HEH **HeiHe** 47.59 300 *eP* P 00 13 24.8 +0.1
HEH PcP PcP 00 14 55.8 +1.6
HEH pmax pmax
comp=Z,61nm,1.3s
L59A **Walton** 47.62 75 IAMs_20 IAMs_20 00 32 50.8
comp=Z,3µm,19.0s
LRAL **Lakeview Retre** 47.64 93 P P 00 13 23.7 -1.5
baz=319
LRAL **Lakeview Retre** 47.64 93 S S 00 20 21.1 +1.1
baz=319
KSPA **Keystone Colle** 47.67 76 IAMs_20 IAMs_20 00 32 57.2
comp=Z,4µm,19.0s
X51A **Calhoun** 47.69 89 P P 00 13 27.0 +1.4
baz=318,SNR=6.4
X51A P P 00 13 27.0 +1.4
baz=318,SNR=6.4
LBNH **Lisbon** 47.85 71 IAMs_20 IAMs_20 00 33 05.9
comp=Z,4µm,18.0s
LBNH **Lisbon** 47.85 71 P P 00 13 22.4 -4.5
baz=314
P57A **Homestead Farm** 47.91 79 IAmb IAmb 00 13 29.4
comp=Z,69nm,1.5s
G62A **West of Eustis** 47.91 69 IAMs_20 IAMs_20 00 33 09.3
comp=Z,3µm,18.0s
U54A **Nelsons Funny** 47.94 85 P P 00 13 29.1 +1.4
baz=317,SNR=5.7
U54A P P 00 13 29.1 +1.4
baz=317,SNR=5.7
545A **Edgard** 47.98 98 IAMs_20 IAMs_20 00 34 47.7
comp=Z,5µm,19.0s
H62A **Milan** 48.03 70 IAMs_20 IAMs_20 00 33 03.4
comp=Z,3µm,18.0s
NRIK **Noril'sk** 48.11 337 P P 00 13 27.8 -0.7
NRIK IAMs_20 IAMs_20 00 37 33.4
comp=Z,3µm,20.0s
NRIK **Noril'sk** 48.11 337 *d i* P P 00 13 29.0 +0.5
NRIK pmax pmax
comp=Z,180nm,1.6s
NRIK **Noril'sk** 48.11 337 P P 00 13 28.6 +0.1
comp=Z,35nm,0.6s,baz=54,slow=6.2,SNR=67
NRIK S S 00 20 31.4 +5.4
comp=Z,0.7nm,0.4s,baz=187,slow=18,SNR=1.9
NRIK LR LR 00 37 25.7
comp=Z,2µm,19.3s,baz=46,slow=41
comp=Z,35nm,0.6s
PQI **Presque Isle** 48.21 66 IAMs_20 IAMs_20 00 33 30.0
comp=Z,4µm,19.0s
BLA **Blacksburg** 48.21 83 IAMs_20 IAMs_20 00 33 22.8
comp=Z,3µm,19.0s
BLA **Blacksburg** 48.21 83 P P 00 13 25.8 -4.0
baz=317
F63A **Nahmakanta, Br** 48.31 67 IAMs_20 IAMs_20 00 33 30.9
comp=Z,3µm,18.0s
BOD **Bodaibo** 48.40 315 *eP* P 00 13 31.3 +0.4
BOD pmax pmax
comp=Z,169nm,1.5s
I62A **Tamworth** 48.41 71 IAMs_20 IAMs_20 00 33 23.7
comp=Z,4µm,18.0s
Z51A **Franklin** 48.44 91 IAmb IAmb 00 13 41.1
comp=Z,32nm,0.8s
PKME **Peaks-Kenny Pk** 48.52 68 IAMs_20 IAMs_20 00 33 29.3
comp=Z,3µm,20.0s
PKME **Peaks-Kenny Pk** 48.52 68 P P 00 13 30.3 -1.6
baz=314
LUPA **Lehigh Univers** 48.55 76 IAMs_20 IAMs_20 00 33 26.7
comp=Z,5µm,20.0s
F64A **Sherman** 48.59 67 IAMs_20 IAMs_20 00 33 50.2
comp=Z,3µm,19.0s
SDMD **Soldier's Deli** 48.60 79 IAMs_20 IAMs_20 00 33 41.0
comp=Z,3µm,19.0s
ODNJ **Ogdensburg** 48.62 75 IAMs_20 IAMs_20 00 33 24.5
comp=Z,3µm,21.0s
Y52A **Lilburn** 48.65 89 P P 00 13 34.5 +1.4
baz=318,SNR=7.2
Y52A P P 00 13 34.5 +1.4
baz=318,SNR=7.2
I63A **Otisfield** 48.69 70 IAMs_20 IAMs_20 00 33 31.9
comp=Z,4µm,18.0s
L61B **Northampton** 48.69 73 P P 00 13 31.3 -2.1
baz=314
KSCT **Kent School, K** 48.77 74 IAMs_20 IAMs_20 00 33 35.4
comp=Z,4µm,18.0s
BATG **Bathurst New B** 48.78 64 P P 00 13 33.4 -0.6
TRNY **Table Rock, Ra** 48.78 75 IAMs_20 IAMs_20 00 34 39.8
comp=Z,3µm,19.0s
WVL **Waterville** 48.81 69 IAMs_20 IAMs_20 00 33 38.1
comp=Z,3µm,18.0s
250A **Grady** 48.84 93 P P 00 13 35.3 +0.8
baz=320,SNR=5.8
U56A **King** 48.86 84 IAMs_20 IAMs_20 00 33 55.2
comp=Z,5µm,19.0s
WUPA **West Chester U** 48.90 77 IAMs_20 IAMs_20 00 33 48.9
comp=Z,4µm,19.0s
QUA2 **Belchertown** 48.99 73 IAMs_20 IAMs_20 00 33 49.0
comp=Z,5µm,19.0s
T57A **Hurt** 49.01 83 IAMs_20 IAMs_20 00 34 05.1
comp=Z,5µm,18.0s
BRAL **Brewton** 49.02 94 IAMs_20 IAMs_20 00 33 56.5
comp=Z,5µm,20.0s
BRAL **Brewton** 49.02 94 P P 00 13 33.7 -2.2
baz=320
PAL **Palisades** 49.05 75 IAMs_20 IAMs_20 00 34 47.9
comp=Z,3µm,18.0s
PAL **Palisades** 49.05 75 P P 00 13 33.3 -2.8
baz=315
CBN **Corbin Frederi** 49.17 80 P P 00 13 33.9 -3.2
baz=316
PAULI **Pauline** 49.18 87 IAmb IAmb 00 13 39.7
comp=Z,102nm,1.7s
KMSC **Kings Mountain** 49.21 86 P P 00 13 34.9 -2.5
baz=318
WSPT **Westport, CT** 49.25 74 IAMs_20 IAMs_20 00 33 51.0
comp=Z,3µm,18.0s
HRV **Adam Dziewonsk** 49.25 72 IAMs_20 IAMs_20 00 33 47.9
comp=Z,4µm,19.0s
HRV **Adam Dziewonsk** 49.25 72 P P 00 13 33.9 -3.7
baz=315
GOGA **Godfrey** 49.31 89 IAmb IAmb 00 13 47.2
comp=Z,20nm,0.9s
GOGA **Godfrey** 49.31 89 P P 00 13 36.1 -2.1
baz=319
N62A **Caumsett State** 49.34 75 IAMs_20 IAMs_20 00 34 56.3
comp=Z,3µm,18.0s
YLE **Yale** 49.35 74 IAMs_20 IAMs_20 00 34 09.9
comp=Z,4µm,19.0s
H11N2 **WAKE ISLAND Hy** 49.36 241 T T 01 06 51.8
baz=30,slow=76,SNR=20
H11N3 **WAKE ISLAND Hy** 49.36 241 T T 01 06 56.0
baz=30,slow=76,SNR=21
H11N1 **WAKE ISLAND Hy** 49.37 241 T T 01 06 58.3
baz=30,slow=76,SNR=18
HODGE **Hodges** 49.37 88 IAmb IAmb 00 13 41.2
comp=Z,103nm,1.6s
USRK **Ussuriysk Ar.** 49.42 291 P P 00 13 39.0 +0.1
comp=Z,2.4nm,0.6s,baz=56,slow=8.8,SNR=7.1
USRK PcP **PcP** 00 15 02.2 +1.3
comp=Z,2.6nm,0.6s,baz=354,slow=1.4,SNR=5.9
USRK LR LR 00 35 04.5
comp=Z,2µm,21.0s,baz=53,slow=37
comp=Z,2.4nm,0.6s
G65A **Princeton** 49.45 67 IAMs_20 IAMs_20 00 34 08.9
comp=Z,4µm,18.0s
JMIC **Jan Mayen** 49.72 16 LR LR 00 36 04.8
comp=Z,216nm,20.9s,baz=302,slow=38
GGN **Saint George** 49.87 66 IAMs_20 IAMs_20 00 34 22.1
comp=Z,4µm,19.0s
JSC **Jenkinsville** 49.89 87 IAmb IAmb 00 15 23.8
comp=Z,32nm,0.9s
V58A **Windy Hill, Pi** 49.96 84 IAMs_20 IAMs_20 00 34 27.1
comp=Z,4µm,21.0s
MDJ **Mudanjiang** 50.36 293 P P 00 13 44.9 -1.1
MDJ pP pP 00 13 48.0 -1.9
MDJ sP sP 00 13 50.8 -0.6
MDJ PcP **PcP** 00 15 05.8 +1.4
MDJ PP **PP** 00 15 40.8 -0.4
MDJ PcS **PcS** 00 19 04.3 +2.9
MDJ S **S** 00 20 54.5 -3.5
MDJ ScS **ScS** 00 23 35.8 -0.2
MDJ SS **SS** 00 24 28.0 -3.2
MDJ pmax pmax
comp=Z,30nm,2.0s
MDJ pmax pmax
comp=Z,2µm,5.3s
MDJ LR LR
comp=Z,2µm,17.3s
MDJ LR LR
comp=Z,4µm,18.8s
MDJ LR LR
comp=Z,4µm,15.8s
LMN **Caledonia Moun** 50.39 64 IAMs_20 IAMs_20 00 34 57.5
comp=Z,4µm,18.0s
H11S1 **WAKE ISLAND Hy** 50.50 240 T T 01 08 56.0
baz=28,slow=76,SNR=61

H11S2 WAKE ISLAND Hy 50.51 240 T T 01 08 57.0
baz=28,slow=76,SNR=38
H11S3 WAKE ISLAND Hy 50.51 240 T T 01 08 56.5
baz=28,slow=76,SNR=42
BNX BinXian 50.68 296 ⇑P **P** **00 13 49.5 +1.1**
BNX pmax pmax
comp=Z,51nm,1.8s
BNX pmax pmax
comp=Z,2μm,5.9s
MOIG Morelia 50.72 117 IAMs_20 IAMs_20 00 35 14.7
comp=Z,2μm,20.0s
W59A Clinton 50.79 84 IAMs_20 IAMs_20 00 35 04.2
comp=Z,5μm,20.0s
CNNC Cliffs of the 51.05 83 IAMs_20 IAMs_20 00 35 27.8
comp=Z,4μm,18.0s
V61A Roper 51.36 82 IAMs_20 IAMs_20 00 35 26.1
comp=Z,4μm,19.0s
DRLN Deer Lake 51.53 57 IAMs_20 IAMs_20 00 35 45.4
comp=Z,5μm,19.0s
MJAR Matsushiro Arr 51.57 280 P **P** **00 13 55.7 +0.5**
comp=Z,1.7nm,0.3s,baz=43,slow=6.9,SNR=4.7
MJAR LR LR 00 34 56.2
comp=Z,1μm,21.8s,baz=36,slow=35
comp=Z,1.7nm,0.3s
HAL Halifax 51.85 65 IAMs_20 IAMs_20 00 35 52.3
comp=Z,4μm,20.0s
HIA Hailar 51.88 304 IAmb IAmb 00 14 07.3
comp=Z,43nm,1.1s
HIA Hailar 51.88 304⇑*i*P **P** **00 13 58.1 +0.7**
HIA pmax pmax
comp=Z,46nm,1.1s
UNM Universidad Na 52.02 115 IAMs_20 IAMs_20 00 35 42.9
comp=Z,3μm,20.0s
GBN Guysborough 52.34 63 IAMs_20 IAMs_20 00 36 12.1
comp=Z,4μm,18.0s
CIT Chita 52.66 310 *e*P **P** **00 14 05.4 +2.2**
CIT *e* 00 14 12.7
CIT *e* 00 14 18.0
CN2 Changchun 53.03 295 ⇓P **P** **00 14 06.6 +0.6**
CN2 *e*sP pwP 00 14 13.0 -2.5
CN2 *e*S **S** **00 21 31.9 -3.0**
CN2 pmax pmax
comp=Z,60nm,0.7s
CN2 pmax pmax
comp=Z,1μm,5.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,2μm,15.0s
HAMF Hammerfest 53.07 3 *e*P **P** **00 14 05.9 0.0**
JHJ Hachijo jima 2 53.24 276 LR LR 00 34 24.7
comp=Z,740nm,21.9s,baz=98,slow=33
VADS Vadso 53.71 1 *e*P **P** **00 14 10.6 0.0**
VADS IAmb IAmb 00 14 13.2
comp=Z,60nm,1.1s
TLIG Tlapa 53.82 115 IAMs_20 IAMs_20 00 36 45.1
comp=Z,2μm,20.0s
TRO Tromso 53.88 5 *e*P **P** **00 14 10.8 -1.0**
JETT Jettan, Norway 54.02 5 *e*P **P** **00 14 12.6 -0.4**
JETT IAmb IAmb 00 14 14.4
comp=Z,41nm,0.6s
KEV Kevo 54.04 2 P **P** **00 14 11.0 -2.0**
KEV Kevo 54.04 2 P **P** **00 14 11.0 -2.0**
KEV pmax pmax
comp=Z,136nm,1.7s
ARA0 ARCESS Array S 54.23 3 *e*P **P** **00 14 13.8 -0.6**
ARA0 IAmb IAmb 00 14 15.1
comp=Z,258nm,1.9s
ARCES ARCESS Array B 54.23 3 P **P** **00 14 13.9 -0.5**
comp=Z,5.8nm,0.5s,baz=358,slow=6.2,SNR=34
comp=Z,5.8nm,0.5s
KTK1 Kautokeino 54.68 4 *e*P **P** **00 14 17.5 -0.2**
STEI Steigen 55.33 7 *e*P **P** **00 14 22.6 +0.2**
STEI IAmb IAmb 00 14 23.5
comp=Z,193nm,1.6s
SNY Shenyang 55.41 295 ⇓P **P** **00 14 24.1 +0.8**
SNY S **S** **00 22 09.8 +2.8**
SNY pmax pmax
comp=Z,64nm,1.5s
SNY pmax pmax
comp=Z,1μm,4.8s
SNY LR LR
comp=Z,2μm,16.7s
SNY LR LR
comp=Z,1μm,12.7s
SNY LR LR
comp=Z,2μm,16.7s
FAUS Fauske 55.88 7 *e*P **P** **00 14 26.4 +0.1**
FAUS IAmb IAmb 00 14 27.4
comp=Z,474nm,2.4s
LVZ Lovozero 55.93 359 P **P** **00 14 26.0 -0.8**
LVZ Lovozero 55.93 359 P **P** **00 14 28.6 +1.9**
CMIG Matias Romero 56.09 112 LR LR 00 37 46.6
comp=Z,2μm,20.9s,baz=320,slow=35
IRK Irkutsk 56.30 315 *e*P **P** **00 14 30.3 +0.7**
IRK pmax pmax
comp=Z,200nm,2.2s
KSRS Korea Array 56.42 288 P **P** **00 14 32.5 +1.8**
comp=Z,14nm,1.0s,baz=36,slow=7.5,SNR=14
KSRS S S 00 22 10.9 -10
comp=Z,0.6nm,0.4s,baz=153,slow=13,SNR=1.2
KSRS LR LR 00 37 25.5
comp=Z,970nm,21.9s,baz=45,slow=35
comp=Z,14nm,1.0s
KSAR Wonju Array Be 56.45 288 P **P** **00 14 30.0 -0.8**
KSAR Wonju Array Be 56.45 288 P **P** **00 14 30.0 -0.8**
JCJ Chichijima 56.52 269 LR LR 00 35 58.8
comp=Z,732nm,22.0s,baz=48,slow=33
TEIG Tepich 56.99 104 LR LR 00 41 10.4
comp=Z,7μm,21.2s,baz=108,slow=38
MOR8 Moi Rana 57.01 8 *e*P **P** **00 14 34.3 -0.2**
INCN Inchon 57.08 289 IAMs_20 IAMs_20 00 40 39.8
comp=Z,1μm,18.0s
XLT XiLinHaoTe 57.53 301 *e*P **P** **00 14 39.9 +1.4**
XLT sP pwP 00 14 46.8 -1.2
XLT PcP **PcP** **00 15 33.9 +2.0**
XLT pmax pmax
comp=Z,35nm,2.1s
XLT pmax pmax
comp=Z,900nm,4.1s
XLT LR LR
comp=Z,1μm,13.4s
XLT LR LR
comp=Z,1μm,15.1s
MOY Mondy 58.02 317 *e*P **P** **00 14 42.8 +0.9**
MOY pmax pmax
comp=Z,198nm,3.8s
JNU Nakatsue 58.12 283 S **S** **00 22 44.6 +1.6**
comp=Z,13nm,1.1s,baz=112,slow=20,SNR=1.6
JNU LR LR 00 38 17.5
comp=Z,1μm,21.7s,baz=42,slow=35
ZAK Zakamensk 58.14 314 *e*P **P** **00 14 43.4 +0.7**
ZAK pmax pmax
comp=Z,25nm,1.5s
NSS Namsos 58.41 10 *e*P **P** **00 14 44.5 +0.3**
CAMR Camarioca 58.48 95 IAMs_20 IAMs_20 00 40 40.7
comp=Z,6μm,18.0s
ULN Ulaanbaatar 58.55 310 P **P** **00 14 46.1 +0.4**
ULN IAmb IAmb 00 14 56.1
comp=Z,59nm,1.3s
ULN Ulaanbaatar 58.55 310 IAMs_20 IAMs_20 00 42 08.5
comp=Z,3μm,20.0s
ULN Ulaanbaatar 58.55 310⇓*e*P **P** **00 14 46.7 +1.0**
ULN pmax pmax
comp=Z,52nm,1.3s
ULN Ulaanbaatar 58.55 310 P **P** **00 14 47.0 +1.3**
ULN P **P** **00 14 47.0 +1.3**
ULN Ulaanbaatar 58.55 310 P **P** **00 14 42.8 -2.9**
SONM Songino Array 58.86 311 P **P** **00 14 48.9 +1.1**
SONM Songino Array 58.86 311 P **P** **00 14 49.3 +1.5**
comp=Z,34nm,1.1s,baz=44,slow=6.5,SNR=53
SONM PcP **PcP** **00 15 37.5 +0.4**
comp=Z,16nm,1.0s,baz=75,slow=1.3,SNR=6.0
SONM LR LR 00 42 39.8
comp=Z,2μm,19.0s,baz=36,slow=39
SONM PKP2bc 00 44 29.8
comp=Z,0.8nm,0.9s,baz=187,slow=2.3,SNR=5.2
comp=Z,34nm,1.1s
AKN Aaknes 60.16 13 *e*P **P** **00 14 56.9 +0.5**
BJI Beijing 60.43 298 P **P** **00 14 59.5 +0.9**
BJI pmax pmax
comp=Z,14nm,1.1s
BJI LR LR
comp=Z,600nm,17.4s
BJI LR LR
comp=Z,760nm,15.3s
BJI LR LR
comp=Z,1μm,19.6s
BJT Baijiatuao 60.45 298 IAmb IAmb 00 15 08.7
comp=Z,66nm,1.5s
BJT Baijiatuao 60.45 298 IAMs_20 IAMs_20 00 43 22.3
comp=Z,2μm,21.0s
DOMB Dombas 60.53 12 IAmb IAmb 00 14 58.9
comp=Z,171nm,2.0s
DOMB *e*P **P** **00 14 59.0 -0.1**
ESQI Esquipulas 61.09 108 P **P** **00 15 02.9 -0.6**
MTO3 Montecristo 61.22 108 P **P** **00 15 02.6 -1.8**
MTO3 IAmb IAmb 00 15 06.8
comp=Z,55nm,1.9s
MTO3 IAMs_20 IAMs_20 00 41 04.8
comp=Z,1μm,21.0s
ZAA0 Zalesovo Array 61.65 327 P **P** **00 15 06.7 +0.1**
ZAA0 IAMs_20 IAMs_20 00 45 18.4
comp=Z,1μm,20.0s
ZALV Zalesovo Beam 61.65 327 P **P** **00 15 07.0 +0.5**
comp=Z,27nm,0.6s,baz=30,slow=7.0,SNR=87
ZALV PKP2bc 00 44 29.1
comp=Z,0.3nm,0.4s,baz=270,slow=1.4,SNR=4.9
ZALV LR LR 00 45 30.9
comp=Z,952nm,18.2s,baz=28,slow=40
comp=Z,27nm,0.6s
NB2 NORSAR Subarra 61.75 11 P **P** **00 15 06.9 -0.4**
comp=Z,3.2nm,0.7s,baz=348,slow=6.9
NB2 NORSAR Subarra 61.75 11 P **P** **00 15 06.9 -0.4**
baz=348,slow=6.9
NOA NORSAR Array B 61.75 11 P **P** **00 15 07.0 -0.2**
comp=Z,4.1nm,0.7s,baz=348,slow=6.7,SNR=14
NOA LR LR 00 44 04.3
comp=Z,172nm,20.3s,baz=335,slow=38
comp=Z,4.1nm,0.7s
SKAR Skarsla 61.77 13 *e*P **P** **00 15 07.3 -0.1**
HHC Hu-ho-hao-te 62.01 302 ⇓P **P** **00 15 10.8 +1.4**
HHC sP pwP 00 15 18.1 -0.8
HHC PcP **PcP** **00 15 47.5 -2.3**
HHC PP **PP** **00 17 30.8 +5.3**
HHC S **S** **00 23 37.6 +4.5**
HHC sS sS 00 23 42.8 +3.2
HHC pmax pmax
comp=Z,160nm,1.6s
HHC pmax pmax
comp=Z,830nm,5.1s
HHC LR LR
comp=Z,2μm,18.6s
HHC LR LR
comp=Z,2μm,14.9s
HHC LR LR
comp=Z,3μm,17.7s
FIA1 FINESS Array S 62.35 3 P **P** **00 15 09.9 -1.3**
FINES FINESS Array B 62.35 3 P **P** **00 15 11.3 +0.1**
comp=Z,10.0nm,0.5s,baz=2.6,slow=8.3,SNR=73
comp=Z,10.0nm,0.5s
TGUH Tegucigalpa,Un 62.61 107 IAMs_20 IAMs_20 00 44 26.6
comp=Z,1μm,20.0s
KLMR Klimovskoe 62.85 356 *e*P **P** **00 15 12.7 -1.9**
KLMR *e* 00 17 31.4
KLMR pmax pmax
comp=Z,210nm,1.5s
HFS Hagfors 62.89 10 P **P** **00 15 14.1 -0.7**
comp=Z,5.1nm,0.7s,baz=2.3,slow=3.7,SNR=15
HFS LR LR 00 45 07.8
comp=Z,214nm,18.2s,baz=360,slow=38
comp=Z,5.1nm,0.7s
BTO Baotou 62.93 303 *e*P **P** **00 15 16.0 +0.5**
BTO pP **pwP** **00 15 26.3 +1.3**
BTO sP sP 00 15 30.0 +9.0
BTO PP **PP** **00 17 35.8 +2.3**
BTO S **S** **00 23 44.3 -0.2**
BTO sS **sS** **00 23 57.8 +6.7**
BTO SS **SS** **00 27 47.3 -1.8**
BTO pmax pmax
comp=Z,71nm,1.6s
BTO pmax pmax
comp=Z,2μm,4.8s
BTO LR LR
comp=Z,4μm,16.1s
BTO LR LR
comp=Z,4μm,16.3s
BTO LR LR
comp=Z,6μm,12.8s
TIA Tai'an 62.94 295 P **P** **00 15 16.4 +0.9**
TIA pmax pmax
comp=Z,17nm,1.6s
TIA pmax pmax
comp=Z,320nm,4.5s
TIA LR LR
comp=Z,580nm,15.9s
TIA LR LR
comp=Z,810nm,20.8s
TIA LR LR
comp=Z,780nm,17.8s
HNS HongShan 63.21 298 ⇓P **P** **00 15 18.3 +1.0**
HNS S **S** **00 23 54.5 +6.6**
HNS pmax pmax
comp=Z,61nm,1.6s
HNS LR LR
comp=Z,1μm,20.1s
HNS LR LR
comp=Z,2μm,21.1s
HNS LR LR
comp=Z,1μm,19.6s
TIY Taiyuan 64.07 299 P **P** **00 15 24.6 +1.5**
TIY S **S** **00 24 00.3 +1.5**
TIY pmax pmax
comp=Z,43nm,0.5s
TIY pmax pmax
comp=Z,630nm,5.9s
TIY LR LR
comp=Z,2μm,13.1s
TIY LR LR
comp=Z,770nm,19.9s
TIY LR LR
comp=Z,2μm,16.5s
MATN Matagalpa 64.26 106 P **P** **00 15 23.8 -0.8**
MATN IAmb IAmb 00 15 34.9
comp=Z,20nm,0.9s
KIRV Kirov 64.41 350*d i*P **P** **00 15 24.9 +0.1**
KIRV Kirov 64.41 350 LR LR 00 46 17.1
comp=Z,406nm,21.8s,baz=29,slow=39
JOW Kunigami 64.41 280 LR LR 00 42 59.0
comp=Z,624nm,21.9s,baz=110,slow=36
MTDJ Mount Denham 64.49 95 IAMs_20 IAMs_20 00 44 00.8
comp=Z,2μm,20.0s
DGZ Jazzator, Alta 64.49 323*d i*P **P** **00 15 26.9 +1.1**
DGZ pmax pmax
comp=Z,164nm,1.7s
SVE Sverdlovsk 64.64 343*ce*P **P** **00 15 27.1 +0.7**
SVE *e*S **S** **00 24 05.6 +0.5**
SVE pmax pmax
comp=Z,173nm,1.5s
BOAB BOACO BROADBAND 64.80 106 IAMs_20 IAMs_20 00 44 07.7
comp=Z,2μm,22.0s
SSE Sheshan 64.86 289 P **P** **00 15 26.8 -1.4**
SSE S **S** **00 24 08.3 -0.2**
SSE pmax pmax
comp=Z,18nm,0.8s
SSE pmax pmax
comp=Z,230nm,3.7s
SSE LR LR
comp=Z,280nm,15.7s
SSE LR LR
comp=Z,410nm,14.2s
EKA Eskdalemuir Ar 65.05 21 P **P** **00 15 28.4 -0.7**
comp=Z,3.0nm,0.6s,baz=316,slow=5.0,SNR=11
comp=Z,3.0nm,0.6s
NJ2 Nanjing 65.32 291 *e*P **P** **00 15 29.6 -1.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,1μm,18.6s
NJ2 LR LR
comp=Z,1μm,15.7s
NJ2 LR LR
comp=Z,2μm,20.6s
ARU Arti 65.35 344 P **P** **00 15 30.2 -0.8**
ARU Arti 65.35 344*d i*P **P** **00 15 31.2 +0.2**
ARU 00 16 01.8
ARU 00 17 51.9
ARU PPP PPP 00 19 29.5
ARU S **S** **00 24 16.9 +3.0**
ARU SS **SS** **00 28 20.0 -5.8**
ARU pmax pmax
comp=Z,207nm,1.7s
ARU Arti 65.35 344 LR LR 00 48 11.1
comp=Z,629nm,19.8s,baz=30,slow=40
VSU Vasula 65.36 3⇑*e*P **P** **00 15 31.9 +0.9**
VSU pmax pmax
comp=Z,149nm,1.7s
VSU Vasula 65.36 3 *e*P **P** **00 15 31.6 +0.5**
GUMO Guam 65.91 258 LR LR 00 41 29.4
comp=Z,312nm,19.6s,baz=119,slow=33
SEM Semipalatinsk 66.11 328⇓*i*P **P** **00 15 35.8 -0.5**
comp=Z,22nm,1.1s,baz=328
SEM Semipalatinsk 66.11 328*d i*P **P** **00 15 35.8 -0.5**
SEM pmax pmax
comp=Z,22nm,1.1s
BRVK Borovoye 66.29 336 P **P** **00 15 36.9 -0.3**
BRVK Borovoye 66.29 336 IAMs_20 IAMs_20 00 48 54.1
comp=Z,1μm,21.0s
BRVK Borovoye 66.29 336 P **P** **00 15 36.9 -0.3**
BRVK pmax pmax
comp=Z,387nm,1.9s
BRVK MLR MLR
comp=Z,1μm,21.0s
BRVK Borovoye 66.29 336 P **P** **00 15 38.1 +0.9**
KURK Kurchatov 66.30 329 P **P** **00 15 36.2 -1.0**
KURK Kurchatov 66.30 329 IAMs_20 IAMs_20 00 48 09.4
comp=Z,2μm,22.0s
KURK Kurchatov 66.30 329 P **P** **00 15 38.2 +0.9**
KURK Kurchatov 66.30 329 P **P** **00 15 38.1 +0.9**
BVA0 Borovoye Array 66.30 336 *i* P **P** **00 15 37.2 0.0**
BVAR Borovoye Array 66.30 336 P **P** **00 15 37.5 +0.3**
comp=Z,26nm,0.6s,baz=29,slow=6.4,SNR=78
BVAR PKP2bc 00 44 19.6
comp=Z,0.8nm,0.7s,baz=163,slow=10,SNR=2.6
BVAR LR LR 00 47 51.2
comp=Z,1μm,20.3s,baz=29,slow=39
comp=Z,26nm,0.6s
KURBB Kurchatov Array 66.41 329 P **P** **00 15 38.1 +0.2**
comp=Z,11nm,0.6s,baz=23,slow=5.9,SNR=59
KURBB PKP2bc 00 44 18.2
comp=Z,0.6nm,0.3s,baz=216,slow=3.1,SNR=5.8
KURBB LR LR 00 47 31.2
comp=Z,1μm,19.0s,baz=3.0,slow=39
comp=Z,11nm,0.6s
LYN LuoYang 66.57 297 ⇓P **P** **00 15 40.6 +1.4**
LYN sP pwP 00 15 47.8 -0.9
LYN S **S** **00 24 32.5 +3.2**
LYN sS sS 00 24 40.5 +4.5
LYN pmax pmax
comp=Z,120nm,1.5s
LYN pmax pmax
comp=Z,1μm,3.5s
LYN LR LR
comp=Z,2μm,17.9s
LYN LR LR
comp=Z,2μm,17.2s
LYN LR LR
comp=Z,3μm,21.6s
ARE1 Arenal 1 66.96 107 IAMs_20 IAMs_20 00 46 26.0
comp=Z,1μm,18.0s
JTS Las Juntas de 66.98 107 IAMs_20 IAMs_20 00 44 23.5
comp=Z,974nm,18.0s
ZSN Zaisan 67.29 324⇓*i*P **P** **00 15 44.2 +0.5**
comp=Z,34nm,0.8s,baz=324
ZSN Zaisan 67.29 324*d i*P **P** **00 15 44.1 +0.5**
ZSN pmax pmax
comp=Z,34nm,0.8s
SDDR Presa de Saban 67.34 90 IAMs_20 IAMs_20 00 46 42.0
comp=Z,2μm,18.0s
JACO JACO, Garabito 67.66 107 IAMs_20 IAMs_20 00 47 46.6
comp=Z,1μm,21.0s
MOS Moscow 68.04 356 *e*P **P** **00 15 46.6 -1.6**
MOS *e* 00 18 19.6
MOS pmax pmax
comp=Z,185nm,1.8s
MOS pmax pmax
comp=Z,600nm,2.5s
PABE Paberze 68.22 5 P **P** **00 15 48.4 -0.9**
PABE Paberze 68.22 5 *e*P **P** **00 15 50.0 +0.8**
GTA Gaotai 68.47 309 P **P** **00 15 51.9 +0.6**
GTA sP pwP 00 16 00.4 -0.4
GTA pmax pmax
comp=Z,37nm,1.8s
GTA LR LR
comp=Z,2μm,20.7s
GTA LR LR
comp=Z,1μm,21.1s
GTA LR LR
comp=Z,3μm,21.5s
BRZS Berezniki 68.56 333⇓*i*P **P** **00 15 51.6 0.0**
comp=Z,50nm,1.4s,baz=333
BRZS Berezniki 68.56 333*d i*P **P** **00 15 51.6 0.0**
BRZS pmax pmax
comp=Z,51nm,1.4s
BSEG Bad Segeberg 68.60 13 *e*P **P** **00 15 53.3 +1.6**
comp=Z,9.5nm,1.0s,baz=348,slow=5.9
MK31 Makanchi Array 68.70 325 P **P** **00 15 51.4 -1.1**
MK31 Makanchi Array 68.70 325 *i* P **P** **00 15 52.4 -0.1**
MKAR Makanchi Array 68.70 325 P **P** **00 15 52.3 -0.2**
comp=Z,6.2nm,0.6s,baz=46,slow=7.1,SNR=36
MKAR PP **PP** **00 18 23.4 -0.2**
comp=Z,5.8nm,0.9s,baz=50,slow=8.0,SNR=3.8
MKAR PKP2bc 00 44 07.7
comp=Z,1.1nm,1.0s,baz=174,slow=1.2,SNR=6.5
MKAR LR LR 00 50 27.4
comp=Z,1μm,18.4s,baz=330,slow=40
comp=Z,6.2nm,0.6s
OBN Obninsk 68.70 357⇑P **P** **00 15 53.0 +0.7**
OBN Obninsk 68.70 357 P **P** **00 15 52.1 -0.2**
OBN Obninsk 68.70 357*d i*P **P** **00 15 51.9 -0.4**
OBN *i* 00 16 00.6
OBN *e* 00 18 23.9
OBN pmax pmax
comp=Z,205nm,1.7s
XAN Xi'an 68.71 300 ⇓P **P** **00 15 53.3 +0.5**
XAN pP sP 00 15 56.9 -1.4
XAN S **S** **00 24 56.5 +1.3**
XAN pmax pmax
comp=Z,110nm,1.6s
XAN pmax pmax
comp=Z,940nm,3.9s
XAN LR LR
comp=Z,3μm,16.0s
XAN LR LR
comp=Z,1μm,18.8s
XAN LR LR
comp=Z,3μm,14.9s
MAKZ Makanchi 68.78 325 P **P** **00 15 52.6 -0.5**
MAKZ Makanchi 68.78 325 P **P** **00 15 53.5 +0.4**
RGM0 Gandoca 68.82 105 IAMs_20 IAMs_20 00 43 40.1
comp=Z,1μm,19.0s
WHN Wuhan 68.84 293 ⇑P **P** **00 15 54.5 +0.9**
WHN pP **sP** **00 15 58.8 -0.3**
WHN sP **pwP** **00 16 02.4 -0.7**
WHN S **S** **00 24 59.8 +3.2**
WHN pmax pmax
comp=Z,180nm,1.3s
WHN pmax pmax
comp=Z,2μm,4.9s
WHN LR LR
comp=Z,3μm,17.1s
WHN LR LR
comp=Z,3μm,16.9s
WHN LR LR
comp=Z,4μm,21.9s
KLNR Kaliningrad 68.91 7⇑*e*P **P** **00 15 54.3 +0.7**
KLNR pmax pmax
comp=Z,301nm,1.4s
MNK Minsk 69.35 2 *i* P **P** **00 15 55.7 -0.7**
MNK *i* 00 16 19.1
MNK *i* 00 18 26.0
MNK *i* PPP PPP 00 20 09.0
MNK *i* S **S** **00 25 02.9 +0.9**
MNK *i* 00 25 56.7
MNK *i* SS **SS** **00 29 30.6 +2.9**
MNK pmax pmax
comp=N,62nm,1.4s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,27nm,0.9s
LZH Lanzhou 69.43 304 ⇓P **P** **00 15 57.5 +0.1**
LZH sP pwP 00 16 05.8 -1.1
LZH S **S** **00 25 04.3 +0.5**
LZH pmax pmax
comp=Z,64nm,1.3s

LZH pmax pmax
comp=Z,530nm,4.4s
LZH LR LR
comp=Z,3μm,15.1s
LZH LR LR
comp=Z,3μm,15.5s
LZH LR LR
comp=Z,5μm,14.8s
WMQ Urumqi 69.49 320 *e*P **P 00 15 59.5 +2.0**
WMQ sP pwP 00 16 12.8 +5.7
WMQ S **S 00 25 07.4 +3.3**
WMQ pmax pmax
comp=Z,85nm,1.7s
WMQ pmax pmax
comp=Z,1μm,3.7s
WMQ LR LR
comp=Z,2μm,14.9s
WMQ LR LR
comp=Z,2μm,15.9s
WMQ LR LR
comp=Z,960nm,19.1s
YHNB Yeheng 69.87 284 IAMs_20 IAMs_20 00 43 43.6
comp=Z,1μm,22.0s
NRDL Niedersach Rie 69.98 14 *e*P **P 00 16 01.6 +1.3**
baz=348,slow=5.9
NRDL epP **pwP 00 16 09.1 -0.6**
NACB Ninganchiao 70.15 284 IAMs_20 IAMs_20 00 44 41.1
comp=Z,991nm,21.0s
OTUK Ortayu 70.25 332 P **P 00 16 01.1 -1.0**
FLTG Flechtingen 70.29 13 *e*P **P 00 16 02.9 +0.8**
baz=348,slow=5.9
FLTG epP **pwP 00 16 10.5 -1.2**
ASSE Asse, Remlinge 70.41 13 *e*P **P 00 16 04.0 +1.1**
comp=Z,110nm,1.8s,baz=348,slow=5.9
RUE Ruedersdorf 70.44 11 *e*P **P 00 16 04.2 +1.2**
RUE Ruedersdorf 70.44 11 *e*P **P 00 16 04.3 +1.2**
baz=348,slow=5.9
RUE epP **pwP 00 16 11.9 -0.7**
CRPR Cabo Rojo, PR 70.44 87 IAMs_20 IAMs_20 00 47 48.1
comp=Z,1μm,20.0s
MLPR Magueyes Islan 70.51 87 IAMs_20 IAMs_20 00 49 26.8
comp=Z,1μm,18.0s
BUG Bochum--Univer 70.61 16 *e*P **P 00 16 05.0 +0.8**
comp=Z,21nm,0.6s,baz=348,slow=5.9
BUG epP **pwP 00 16 12.6 -1.1**
CLZ Clausthal 70.66 14 *e*P **P 00 16 04.9 +0.4**
comp=Z,8.6nm,0.7s,baz=348,slow=5.9
BELG Belogornoye 70.70 350 *d* iP **P 00 16 04.1 -0.5**
BELG pmax pmax
comp=Z,41nm,1.5s
BELG Belogornoye 70.70 350 LR LR 00 50 57.4
comp=Z,578nm,20.8s,baz=343,slow=39
GCPR Guaynabo City 70.77 86 P **P 00 16 04.7 -0.9**
SSLB Suanglung 70.81 284 IAMs_20 IAMs_20 00 45 01.4
comp=Z,1μm,22.0s
SJG San Juan 70.89 86 IAMs_20 IAMs_20 00 50 36.9
comp=Z,1μm,18.0s
SJG San Juan 70.89 86 *e*P **P 00 16 06.0 -0.3**
GTTG Gottingen 70.89 14 *e*P **P 00 16 06.3 +0.4**
baz=348,slow=5.9
BEBN Eben Emael 70.98 17 *d*P **P 00 16 06.7 +0.2**
KASTN Kahler Asten 71.01 15 *e*P **P 00 16 07.2 +0.6**
baz=348,slow=5.9
HUMP Col San Antoni 71.03 86 IAMs_20 IAMs_20 00 48 53.6
comp=Z,1μm,19.0s
IGPR InterUniversit 71.03 86 IAmb IAmb 00 16 15.8
comp=Z,31nm,0.9s
IGPR IAMs_20 IAMs_20 00 50 45.6
comp=Z,860nm,18.0s
LPSR Galich'ya Gora 71.13 355 *e*P **P 00 16 07.1 -0.2**
LPSR pmax pmax
comp=Z,90nm,1.5s
BSTI Sart Tilman 71.17 17 *d*P **P 00 16 08.6 +1.0**
BSTI *d*x x 00 16 16.2
MEM Membach 71.22 17 *d*P **P 00 16 08.4 +0.5**
MEM *d*x x 00 16 16.2
AKTO Aktyubinsk 71.22 342 P **P 00 16 06.2 -1.7**
AKTO Aktyubinsk 71.22 342 LR LR 00 52 41.6
comp=Z,566nm,18.4s,baz=32,slow=40
BTNL Ternell 71.26 17 *d*P **P 00 16 08.4 +0.2**
BTNL *d*x x 00 16 16.6
BGES Gesves 71.29 18 *d*P **P 00 16 08.5 +0.2**
BGES *d*x x 00 16 16.8
BCLA Clavier 71.29 17 *d*P **P 00 16 08.0 -0.3**
BCLA *d*x x 00 16 16.8
BMRD Maredsous 71.31 18 *d*P **P 00 16 09.4 +1.0**
TPUB Ta-pu 71.38 284 IAMs_20 IAMs_20 00 44 55.5
comp=Z,1μm,20.0s
NEUB Neuenburg 71.46 13 *e*P **P 00 16 09.8 +0.5**
comp=Z,11nm,0.7s,baz=348,slow=5.9
BHOU Houvegnez 71.47 17 *d*P **P 00 16 09.9 +0.5**
CNSH ChangSha 71.47 293 ⇓P **P 00 16 10.8 +1.0**
CNSH S **S 00 25 29.8 +2.3**
CNSH pmax pmax
comp=Z,42nm,1.2s
CNSH LR LR
comp=Z,720nm,21.6s
CNSH LR LR
comp=Z,910nm,16.3s
CNSH LR LR
comp=Z,1μm,18.9s
CNSH pmax pmax
comp=Z,79nm,1.5s
DOU Dourbes 71.48 18 *d*P **P 00 16 09.5 +0.1**
ENH Enshi 71.50 297 IAMs_20 IAMs_20 00 49 52.9
comp=Z,1μm,20.0s
CLL Collm 71.51 12 IAmb IAmb 00 16 11.6
comp=Z,88nm,1.8s
CLL Collm 71.51 12 *i* P **P 00 16 09.8 +0.2**
CLL *i* 00 16 18.1
CLL pmax pmax
comp=Z,118nm,2.0s
CLL MLR MLR
comp=Z,300nm,19.9s
CLL Collm 71.51 12 *i* P **P 00 16 09.8 +0.2**
comp=Z,118nm,2.0s
CLL *i* x x 00 16 15.9
CLL *i* x x 00 16 18.1
CLL AMS AMS 00 49 00.0
comp=Z,300nm,19.9s
CLL Collm 71.51 12 *e*P **P 00 16 09.9 +0.2**
comp=Z,4.5nm,0.7s,baz=348,slow=5.9
CLL epP **pwP 00 16 17.6 -1.5**
TDK Taldyqorghan 71.51 327 ⇓ *i* P **P 00 16 10.6 +0.8**
comp=Z,48nm,1.4s,baz=327
TDK Taldyqorghan 71.51 327 *d* iP **P 00 16 10.6 +0.8**
TDK pmax pmax
comp=Z,48nm,1.4s
RCHB Rochefort 71.53 17 *d*P **P 00 16 09.9 +0.2**
RCHB *d*x x 00 16 17.9
UBBA Unterbreizbach 71.61 14 *e*P **P 00 16 10.0 -0.1**
comp=Z,2.7nm,0.7s,baz=348,slow=5.9
UBBA epP **pwP 00 16 18.8 -0.8**
TNS Taunus Mts 71.97 15 *e*P **P 00 16 13.4 +0.9**
baz=348,slow=5.9
TNS epP **pwP 00 16 21.1 -0.9**
MOX Moxa 71.99 13 *e*P **P 00 16 12.9 +0.4**
baz=348,slow=5.9
AB31 Akbulak array 72.02 341 P **P 00 16 12.8 +0.1**
ABKAR Akbulak array 72.02 341 P **P 00 16 12.8 +0.1**
VORR Voronezh 72.04 355 *e*P **P 00 16 12.5 -0.3**
VORR pmax pmax
comp=Z,36nm,1.3s
BRG Berggiesshubel 72.04 12 *i* P **P 00 16 13.6 +0.8**
BRG Amp 00 16 16.1
comp=Z,78nm,1.8s
BRG Berggiesshubel 72.04 12 *i* P **P 00 16 13.6 +0.8**
BRG 00 16 32.8
BRG pmax pmax
comp=Z,78nm,1.8s
BRG pmax pmax
comp=Z,23nm,1.3s
BRG MLR MLR
comp=Z,502nm,18.2s
BRG Berggiesshubel 72.04 12 *e*P **P 00 16 12.8 0.0**
baz=348,slow=5.9
WLF Walferdange 72.16 17 *d*P **P 00 16 14.5 +0.9**
WLF *d*x x 00 16 20.8
WLF Walferdange 72.16 17 *e*P **P 00 16 14.8 +1.3**
baz=348,slow=5.9
HSKC Hora Svate Kat 72.25 12 *e*P **P 00 16 14.8 +0.7**
KSP Ksiaz 72.32 10 *e*P **P 00 16 15.2 +0.7**
TANN Tannenbergstha 72.32 13 *e*P **P 00 16 15.1 +0.5**
baz=348,slow=5.9
VRH Novokhopyorsk 72.37 353 *e*P **P 00 16 13.7 -1.0**
VRH pmax pmax
comp=Z,81nm,1.7s
PVCC Panska Ves 72.45 11 *e*P **P 00 16 16.2 +0.9**
PVCC *e*pP **pwP 00 16 22.4 -2.4**
PVCC Panska Ves 72.45 11 *e*P **P 00 16 16.2 +0.9**
PVCC *e**PP **pwP 00 16 22.4 -2.4**
VSR Storozhevoye 72.50 355 *e*P **P 00 16 15.6 +0.1**
VSR pmax pmax
comp=Z,90nm,1.6s
NKC Novy Kostel 72.50 13 *e*P **P 00 16 16.5 +0.9**
NKC *e*pP **pwP 00 16 24.2 -1.0**
NKC Novy Kostel 72.50 13 *e*P **P 00 16 16.5 +0.9**
NKC *e**PP **pwP 00 16 24.2 -1.0**
CHVC Chvalec 72.55 10 *e*P **P 00 16 16.6 +0.7**
CHVC Chvalec 72.55 10 *e*P **P 00 16 16.6 +0.7**
OSTC Ostas 72.59 10 *e*P **P 00 16 17.2 +1.0**
OSTC Ostas 72.59 10 *e*P **P 00 16 17.2 +1.0**
SJCC San Jacinto, C 72.60 98 *e*P **P 00 16 16.9 +0.2**
SMRT St. Maarten 72.64 84 IAMs_20 IAMs_20 00 47 04.0
comp=Z,2μm,22.0s
MANZ Manzenberg 72.70 13 *e*P **P 00 16 17.2 +0.4**
comp=Z,1.6nm,1.0s,baz=348,slow=5.9
MANZ epP **pwP 00 16 25.1 -1.2**
BTLS Baital 72.74 330 ⇓ *i*P **P 00 16 17.6 +0.5**
comp=Z,28nm,1.4s,baz=330
BTLS Baital 72.74 330 *d* iP **P 00 16 17.6 +0.5**
BTLS pmax pmax
comp=Z,28nm,1.4s
VORD Divnogorie 72.74 355 *e*P **P 00 16 16.9 -0.1**
VORD pmax pmax
comp=Z,90nm,1.6s
DPC Dobruska-Polom 72.81 10 *e*P **P 00 16 18.2 +0.7**
DPC Dobruska-Polom 72.81 10 *e*P **P 00 16 18.2 +0.7**
KPKS Kokpek 72.81 326 ⇓ *i*P **P 00 16 18.2 +0.4**
comp=Z,63nm,1.8s,baz=326
KPKS Kokpek 72.81 326 *d* iP **P 00 16 18.1 +0.4**
KPKS pmax pmax
comp=Z,63nm,1.8s
SHLS Shalkode 72.85 325 ⇓ *i*P **P 00 16 18.1 +0.1**
baz=325
SHLS Shalkode 72.85 325 *d* iP **P 00 16 18.0 +0.1**
GRF Grafenberg Arr 72.88 14 *e*P **P 00 16 18.5 +0.6**
comp=Z,8.4nm,0.7s,baz=348,slow=5.9
GRFO Grafenberg 72.88 14 P **P 00 16 15.9 -1.9**
GRFO Grafenberg 72.88 14 P **P 00 16 15.9 -1.9**
GRFO pmax pmax
comp=Z,149nm,1.9s
ROTZ Rotzenmuhle 72.93 13 *e*P **P 00 16 18.8 +0.6**
baz=348,slow=5.9
ROTZ epP **pwP 00 16 26.7 -1.0**
CRJC Cerrejon, Guaj 72.94 96 *e*P **P 00 16 19.5 +0.7**
CHKK Chushkaly 72.98 327 ⇓ *i*P **P 00 16 18.4 -0.2**
baz=327
CHKK Chushkaly 72.98 327 ⇓ *i*P **P 00 16 18.3 -0.2**
PRU Pruhonice 72.98 11 *e*P **P 00 16 18.9 +0.4**
PRU epP **pwP 00 16 26.7 -1.3**
PRU Pruhonice 72.98 11 *e*P **P 00 16 18.9 +0.4**
PRU *e**PP **pwP 00 16 26.7 -1.3**
UZB Uzynbulak 72.99 326 ⇓ *i*P **P 00 16 19.1 +0.2**
comp=Z,50nm,1.5s,baz=326
UZB Uzynbulak 72.99 326 *d* iP **P 00 16 19.0 +0.2**
UZB pmax pmax
comp=Z,50nm,1.5s
GOPC GO Pecny, Ondr 73.08 11 *e*P **P 00 16 19.9 +0.8**
GOPC GO Pecny, Ondr 73.08 11 *e*P **P 00 16 19.9 +0.8**
KRLC Kraliky 73.12 10 *e*P **P 00 16 19.7 +0.3**
KRLC Kraliky 73.12 10 *e*P **P 00 16 19.7 +0.3**
KUU Kurty 73.13 328 ⇓ *i*P **P 00 16 19.2 -0.3**
comp=Z,88nm,1.9s,baz=328
KUU Kurty 73.13 328 *d* iP **P 00 16 19.2 -0.3**
KUU pmax pmax
comp=Z,88nm,1.9s
ZHN Zhinishke 73.16 326 ⇓ *i*P **P 00 16 20.4 +0.5**
comp=Z,38nm,1.5s,baz=326
ZHN Zhinishke 73.16 326 *d* iP **P 00 16 20.3 +0.5**
ZHN pmax pmax
comp=Z,38nm,1.5s
AKASG Malin Array Be 73.18 2 P **P 00 16 19.6 0.0**
comp=Z,7.1nm,0.6s,baz=354,slow=5.5,SNR=45
comp=Z,7.1nm,0.6s
AKBB Malin Array Si 73.18 2 *d* iP **P 00 16 19.6 0.0**
AKBB pmax pmax
comp=Z,140nm,1.7s
KIEV Kiev 73.19 2 ⇓P **P 00 16 19.8 +0.1**
KIEV Kiev 73.19 2 P **P 00 16 19.7 +0.1**
OJC Ojcow 73.24 8 *e*P **P 00 16 20.4 +0.4**
SATY Saty 73.27 326 ⇓ *i*P **P 00 16 21.2 +0.8**
comp=Z,70nm,1.4s,baz=326
SATY Saty 73.27 326 *d* iP **P 00 16 21.2 +0.8**
SATY pmax pmax
comp=Z,70nm,1.4s
GOMU GeErMu 73.30 311 P **P 00 16 22.5 +1.5**
GOMU pP pwP 00 16 27.8 -2.8
GOMU sP sP 00 16 29.4 +2.9
GOMU S S 00 25 39.1 -10
GOMU pmax pmax
comp=Z,9.0nm,0.7s
GOMU LR LR
comp=Z,2μm,19.9s
GOMU LR LR
comp=Z,1μm,17.2s
GOMU LR LR
comp=Z,3μm,21.6s
PTAC Punta Ardita, 73.44 102 *e*P **P 00 16 20.2 -1.4**
ZVC Zvikov 73.48 12 *e*P **P 00 16 22.6 +1.2**
ZVC *e*pP **pwP 00 16 29.9 -1.1**
MORC Moravsky Berou 73.49 9 ⇑P **P 00 16 22.3 +0.7**
MORC Moravsky Berou 73.49 9 IAmb IAmb 00 16 23.9
comp=Z,96nm,1.9s
MORC Moravsky Berou 73.49 9 *e*P **P 00 16 21.8 +0.3**
MORC Moravsky Berou 73.49 9 P **P 00 16 22.2 +0.7**
AAA Alma-Ata 73.59 327 ⇓ *i*P **P 00 16 23.0 +0.8**
comp=Z,79nm,1.7s,baz=327
AAA Alma-Ata 73.59 327 *d* iP **P 00 16 23.0 +0.8**
AAA pmax pmax
comp=Z,79nm,1.7s
MDOK Medeo 73.59 327 *i* P **P 00 16 22.8 +0.4**
baz=327
MDOK Medeo 73.59 327 *i* P **P 00 16 22.8 +0.4**
WET Wettzell 73.62 13 *e*P **P 00 16 22.9 +0.6**
baz=348,slow=5.9
KHC Kasperske Hory 73.72 12 *e*P **P 00 16 23.7 +0.8**
KHC *e*pP **pwP 00 16 31.7 -0.7**
KHC Kasperske Hory 73.72 12 *e*P **P 00 16 23.7 +0.8**
KHC *e**PP **pwP 00 16 31.7 -0.7**
ECH Echery 73.73 17 IAmb IAmb 00 16 25.1
comp=Z,95nm,1.7s
TNSS Tian-Shan 73.73 327 ⇓ *i*P **P 00 16 22.8 -0.8**
baz=327
TNSS Tian-Shan 73.73 327 ⇓ *i*P **P 00 16 22.7 -0.8**
PPT Papeete 73.75 181 LR LR 00 40 06.7
comp=Z,220nm,19.5s,baz=0.0,slow=29
CD2 Chengdu 73.75 302 *e*P **P 00 16 21.0 -2.4**
CD2 Chengdu 73.75 302 P **P 00 16 24.3 +0.9**
CD2 S **S 00 25 54.5 +0.9**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,1μm,15.9s
CD2 LR LR
comp=Z,1μm,17.2s
CD2 LR LR
comp=Z,2μm,14.3s
TREC Trest 73.77 11 *e*P **P 00 16 23.6 +0.5**
TREC *e*pP **sP 00 16 29.5 +0.8**
TREC Trest 73.77 11 *e*P **P 00 16 23.6 +0.5**
TREC *e**PP **sP 00 16 29.5 +0.8**
PPT2 Papeete2 73.77 181 *e*S **SKiKP 00 25 47.7 -4.1**
comp=Z,98nm,24.5s
PPT2 *e*SS **SS 00 30 31.8 -6.3**
comp=Z,148nm,25.8s
PPT2 *e*LR LR 00 38 42.0
comp=Z,559nm,33.0s
PPT2 *e*LR LR 00 39 07.7
comp=Z,654nm,26.2s
LL6C La Loma 6 Bece 73.78 97 *e*P **P 00 16 23.6 0.0**
PRZ Przheval'sk 73.79 326 IAMs_20 IAMs_20 00 52 57.4
comp=Z,2μm,18.0s
BFO Black Forest 73.80 16 P **P 00 16 21.9 -1.4**
BFO IAmb IAmb 00 16 25.6
comp=Z,81nm,1.7s
BFO Black Forest 73.80 16 P **P 00 16 21.9 -1.4**
BFO Black Forest 73.80 16 *e*P **P 00 16 24.1 +0.8**
baz=348,slow=5.9
BFO *e*pP **pwP 00 16 31.7 -1.2**
VRAC Vranov 73.87 10 ⇑P **P 00 16 24.4 +0.7**
VRAC Vranov 73.87 10 *e*P **P 00 16 24.4 +0.7**
VRAC Vranov 73.87 10 P **P 00 16 24.4 +0.7**
VRAC Vranov 73.87 10 LR LR 00 52 19.5
comp=Z,274nm,18.3s,baz=358,slow=39
LVV L'vov 73.90 5 *e*P **P 00 16 23.7 -0.2**
MAUC Maruska 73.92 9 *e*P **P 00 16 25.0 +0.9**
MAUC *e*pP **pwP 00 16 32.8 -0.8**
GEC2 GERESS Array S 74.01 12 IAmb IAmb 00 16 27.1
comp=Z,100nm,1.9s
GEC2 GERESS Array S 74.01 12 *e*P **P 00 16 25.4 +0.7**
comp=Z,4.4nm,0.7s,baz=348,slow=5.9
GEC2 *e*pP **pwP 00 16 32.7 -1.5**
GERES GERESS Array B 74.01 12 P **P 00 16 24.9 +0.2**
comp=Z,4.3nm,0.6s,baz=0.0,slow=4.9,SNR=15
comp=Z,4.3nm,0.6s
KWP Kalwaria Pacla 74.02 6 *e*P **P 00 16 25.4 +0.8**
KWP Kalwaria Pacla 74.02 6 IAmb IAmb 00 16 33.9
comp=Z,73nm,1.5s
SGDS Sogindy 74.04 329 ⇓ *i*P **P 00 16 25.4 +0.5**
comp=Z,33nm,1.4s,baz=329
SGDS Sogindy 74.04 329 *d* iP **P 00 16 25.3 +0.5**
SGDS pmax pmax
comp=Z,33nm,1.4s
NIE Niedzica 74.07 8 *e*P **P 00 16 26.1 +1.1**
KRUC Moravsky 74.09 10 *e*P **P 00 16 25.5 +0.5**
CKRC Cesky Krumlov 74.11 12 *e*P **P 00 16 25.4 +0.3**
CKRC *e*pP **pwP 00 16 32.9 -1.8**
CKRC Cesky Krumlov 74.11 12 *e*P **P 00 16 25.4 +0.3**
CKRC *e**PP **pwP 00 16 32.9 -1.8**
STHS Stebnicka Huta 74.14 7 *e*P **P 00 16 25.9 +0.6**
STHS *e* 00 16 33.6
STHS pmax pmax
comp=Z,57nm,1.9s
STHS Stebnicka Huta 74.14 7 *e*P **P 00 16 25.9 +0.6**
STHS *e* 00 16 33.6
TKM2 Tokmak 2 74.24 328 P **P 00 16 27.4 +1.1**
SNR=26
TKM2 Tokmak 2 74.24 328 P **P 00 16 25.9 -0.4**
USP Ospenovka 74.24 329 P **P 00 16 27.1 +1.1**
SNR=13
LANS Liptovska Anna 74.28 8 *e*P **P 00 16 27.8 +1.7**
LANS *e* 00 16 35.5
LANS pmax pmax
comp=Z,41nm,1.8s
LANS Liptovska Anna 74.28 8 *e*P **P 00 16 27.8 +1.7**
LANS *e* 00 16 35.5
FUR Furstenfeldbru 74.38 14 *e*P **P 00 16 27.3 +0.6**
comp=Z,15nm,0.8s,baz=348,slow=5.9
FUR epP **pwP 00 16 35.0 -1.3**
JAVC Velka Javorina 74.41 9 *e*P **P 00 16 28.6 +1.6**
CHMS Chumysh 74.42 329 P **P 00 16 28.3 +1.2**
SNR=24
DBBC Dabeiba 74.42 101 *e*P **P 00 16 27.4 0.0**
FRU1 Bishkek 74.63 329 IAMs_20 IAMs_20 00 52 48.8
comp=Z,2μm,19.0s
CRVS Cervenica-Dubn 74.67 7 *e*P **P 00 16 29.8 +1.4**
CRVS pmax pmax
comp=Z,255nm,2.0s
CRVS Cervenica-Dubn 74.67 7 *e*P **P 00 16 29.8 +1.4**
KBK Karagaybulak 74.67 328 P **P 00 16 30.0 +1.3**
SNR=21
KOLS Kolonicke sedl 74.69 6 *e*P **P 00 16 29.6 +1.1**
KOLS *e* 00 16 36.9
KOLS pmax pmax
comp=Z,33nm,1.8s
KOLS Kolonicke sedl 74.69 6 *e*P **P 00 16 29.6 +1.1**
KOLS *e* 00 16 36.9
UBR Ueberruh 74.69 15 *e*P **P 00 16 29.0 +0.4**
baz=348,slow=5.9
UBR epP **pwP 00 16 37.0 -1.2**
SMOL Smolenice 74.73 10 *e*P **P 00 16 30.8 +2.1**
SMOL pmax pmax
comp=Z,50nm,1.8s
ABD La Joyeuse, An 74.79 83 IAMs_20 IAMs_20 00 47 43.1
comp=Z,2μm,22.0s
GDHS Morne Mazeau, 74.81 84 IAMs_20 IAMs_20 00 47 22.1
comp=Z,2μm,22.0s
AAK Ala-Archa 74.82 329 P **P 00 16 30.8 +1.2**
SNR=17
AAK Ala-Archa 74.82 329 P **P 00 16 29.4 -0.1**
AAK IAmb IAmb 00 16 45.2
comp=Z,46nm,1.2s
AAK Ala-Archa 74.82 329 IAMs_20 IAMs_20 00 53 04.0
comp=Z,2μm,18.0s
AAK Ala-Archa 74.82 329 *d* iP **P 00 16 29.6 0.0**
AAK pmax pmax
comp=Z,67nm,1.7s
AAK Ala-Archa 74.82 329 LR LR 00 53 06.5
comp=Z,1μm,20.3s,baz=28,slow=39
AAK Ala-Archa 74.82 329 P **P 00 16 31.1 +1.6**
MODS Modra-Piesok 74.86 10 *e*P **P 00 16 30.7 +1.2**
MODS *e* 00 16 38.6
MODS pmax pmax
comp=Z,260nm,1.8s
MODS Modra-Piesok 74.86 10 *e*P **P 00 16 30.7 +1.2**
MODS *e* 00 16 38.6
VYHS Vyhne 74.88 9 *e*P **P 00 16 30.3 +0.7**
VYHS *e* 00 16 38.2
VYHS pmax pmax
comp=Z,130nm,1.9s
VYHS Vyhne 74.88 9 *e*P **P 00 16 30.3 +0.7**
VYHS *e* 00 16 38.2
RETA Reutte 74.97 14 *e*P **P 00 16 30.9 +0.7**
comp=Z,23nm,1.7s
RJOB Jochberg 75.00 13 *e*P **P 00 16 30.9 +0.5**
baz=348,slow=5.9
RJOB *e*pP **pwP 00 16 39.0 -0.9**
EKS2 Erkin-Say 75.01 329 P **P 00 16 32.0 +1.4**
SNR=31
ZST Bratislava 75.02 10 *e*P **P 00 16 32.1 +1.7**
ZST *e* 00 16 39.7
ZST Bratislava 75.02 10 *e*P **P 00 16 32.1 +1.7**
ZST *e* 00 16 39.7
KECS Kecovo 75.02 8 *e*P **P 00 16 31.3 +0.9**
KECS *e* 00 16 39.4
KECS pmax pmax
comp=Z,15nm,0.7s
KECS Kecovo 75.02 8 *e*P **P 00 16 31.3 +0.9**
KECS *e* 00 16 39.4
DAVA Damuels 75.05 15 *e*P **P 00 16 31.5 +0.8**
comp=Z,9.4nm,0.9s,SNR=6.0
CBE Ff, Capester 75.06 84 IAMs_20 IAMs_20 00 47 53.1
comp=Z,3μm,22.0s
MOA Molln 75.06 12 *e*P **P 00 16 30.4 -0.3**
comp=Z,0.5nm,0.3s,SNR=7.1
BIOA Bad Ischl, Aus 75.14 12 *e*P **P 00 16 31.8 +0.7**
comp=Z,3.7nm,0.4s,SNR=8.7
GULI GuiLin 75.15 293 ⇓P **P 00 16 27.3 -4.2**
GULI S **S 00 26 10.5 +1.2**
GULI pmax pmax
comp=Z,30nm,1.7s
GULI pmax pmax
comp=Z,190nm,3.5s
GULI LR LR
comp=Z,600nm,17.9s
GULI LR LR
comp=Z,570nm,17.9s
GULI LR LR
comp=Z,860nm,18.4s
CONA Conrad Observa 75.16 11 *e*P **P 00 16 32.2 +0.9**
comp=Z,2.8nm,0.6s,SNR=13
MOTA Moosalm 75.16 14 *e*P **P 00 16 32.0 +0.5**
comp=Z,34nm,1.7s,SNR=11
UCH Uchtor 75.19 328 P **P 00 16 33.5 +1.4**
SNR=9.3
WATA Walderalm 75.23 14 *e*P **P 00 16 32.3 +0.5**
comp=Z,58nm,1.8s,SNR=15
LESA Schwarzleotal 75.29 13 *e*P **P 00 16 32.7 +0.6**
comp=Z,27nm,1.8s
SQTA Sankt Quirin 75.30 14 *e*P **P 00 16 33.0 +0.8**
comp=Z,60nm,1.7s,SNR=16
WTTA Wattenberg 75.31 14 *e*P **P 00 16 33.2 +0.9**
comp=Z,23nm,0.7s,SNR=18
FETA Feichten 75.43 15 *e*P **P 00 16 33.8 +0.8**
comp=Z,28nm,1.7s,SNR=7.3
RONA Rosalia, Austr 75.43 11 *i* P **P 00 16 33.6 +0.7**
comp=Z,2.3nm,0.5s,SNR=9.7
DZA Taraz 75.47 331 ⇓ *i*P **P 00 16 33.8 +0.6**
baz=331
DZA Taraz 75.47 331 *d* iP **P 00 16 33.7 +0.6**
CBOC Ciudad Bolivar 75.48 101 *e*P **P 00 16 33.6 -0.1**
KK31 Karatay Array 75.50 332 P **P 00 16 32.5 -0.7**
KK31 Karatay Array 75.50 332 *i* P **P 00 16 33.4 +0.1**

SRO	**Srobarova**	**75.51**	**9**	*eP*		**P**		**00 16 34.4**	**+1.2**	
SRO	comp=Z,81nm,2.0s			pmax	pmax					
SRO	**Srobarova**	**75.51**	**9**	*eP*		**P**		**00 16 34.3**	**+1.1**	
AML	**Almayashu**	**75.52**	**329**	P		**P**		**00 16 35.3**	**+1.4**	
	SNR=24									
AML	**Almayashu**	**75.52**	**329**	P		**P**		**00 16 34.2**	**+0.3**	
PSZ	**Piszkesteto**	**75.53**	**8**	⇓P		**P**		**00 16 34.9**	**+1.5**	
PSZ	**Piszkesteto**	**75.53**	**8**	P		**P**		**00 16 34.9**	**+1.5**	
DAVOX	**Davos/Dischmat**	**75.54**	**15**	LR	LR			00 53 27.2		
	comp=Z,192nm,19.4s,baz=342,slow=39									
HKPS	**Hong Kong Po S**	**75.66**	**289**		IAMs_20	IAMs_20		00 54 28.7		
	comp=Z,1μm,19.0s									
KBA	**Koelnbreinsper**	**75.71**	**13**	*eP*		**P**		**00 16 35.7**	**+1.1**	
	comp=Z,78nm,1.9s,SNR=17									
SORM	**Soroca**	**75.74**	**2**	⇑P		**P**		**00 16 34.8**	**+0.3**	
SORM	**Soroca**	**75.74**	**2**	P		**P**		**00 16 34.7**	**+0.3**	
FUORN	**Ofenpass-Fuorn**	**75.75**	**15**	IAmb		IAmb		00 16 37.9		
	comp=Z,98nm,1.9s									
PTBC	**PUERTO BERRIO,**	**75.77**	**100**	*eP*		**P**		**00 16 34.3**	**-0.9**	
ARSA	**Arzberg**	**75.79**	**11**	*eP*		**P**		**00 16 35.5**	**+0.6**	
	comp=Z,2.1nm,0.6s,SNR=9.5									
ABTA	**Abfaltersbach**	**75.93**	**13**	*eP*		**P**		**00 16 36.6**	**+0.8**	
	comp=Z,21nm,1.7s,SNR=6.6									
SDV	**Santo Domingo**	**75.94**	**95**	P		**P**		**00 16 35.5**	**-0.9**	
SDV				IAmb		IAmb		00 16 38.0		
	comp=Z,48nm,1.6s									
SDV	**Santo Domingo**	**75.94**	**95**	*eP*		**P**		**00 16 36.3**	**0.0**	
SDV	**Santo Domingo**	**75.94**	**95**	*eP*		**P**		**00 16 36.7**	**+0.4**	
GYA	**Guiyang**	**76.05**	**297**	⇑ *iP*		**P**		**00 16 37.8**	**+1.0**	
GYA				S		**S**		**00 26 17.1**	**-2.3**	
GYA				pmax	pmax					
	comp=Z,48nm,1.6s									
GYA				pmax	pmax					
	comp=Z,600nm,3.9s									
GYA				LR	LR					
	comp=Z,950nm,15.8s									
GYA				LR	LR					
	comp=Z,810nm,20.4s									
GYA				LR	LR					
	comp=Z,1μm,19.0s									
BUR08	**Bucovina Ar. S**	**76.13**	**4**	P		**P**		**00 16 36.8**	**-0.1**	
BUR08				IAmb		IAmb		00 16 47.3		
	comp=Z,14nm,0.8s									
BURAR	**Bucovina Array**	**76.16**	**4**	⇓P		**P**		**00 16 37.6**	**+0.5**	
BURAR	**Bucovina Array**	**76.16**	**4**	IAmb		IAmb		00 16 47.3		
	comp=Z,21nm,0.7s									
BURAR	**Bucovina Array**	**76.16**	**4**	P		**P**		**00 16 37.5**	**+0.5**	
MYKA	**Terra Mystica**	**76.19**	**13**	*eP*		**P**		**00 16 37.6**	**+0.4**	
	comp=Z,7.4nm,0.7s									
SOKA	**Soboth**	**76.30**	**12**	*eP*		**P**		**00 16 38.5**	**+0.6**	
	comp=Z,52nm,1.6s,SNR=21									
PGAV	**Gavieira, Arco**	**76.35**	**29**	*eP*		**P**		**00 16 40.7**	**+2.5**	
PGAV				*epP*		**pwP**		**00 16 47.1**	**-0.7**	
PGAV	**Gavieira, Arco**	**76.35**	**29**	*eLR*		LR		00 44 51.0		
	comp=Z,633nm,18.0s									
PERS	**Pernice**	**76.35**	**12**	*i P*		**P**		**00 16 38.6**	**+0.4**	
PRED	**Cave del Predi**	**76.36**	**13**	IAmb		IAmb		00 16 39.0		
	comp=Z,54nm,1.7s									
GUY2C	**Guyana, Caldas**	**76.37**	**101**	*eP*		**P**		**00 16 38.5**	**-0.7**	
FDF	**Fort de France**	**76.40**	**84**	IAMs_20		IAMs_20		00 49 18.7		
	comp=Z,2μm,20.0s									
OBKA	**Obir**	**76.42**	**12**	*eP*		**P**		**00 16 39.1**	**+0.6**	
	comp=Z,21nm,0.7s,SNR=13									
BARC	**Barichara**	**76.43**	**99**	*eP*		**P**		**00 16 39.1**	**-0.1**	
PRAR	**RASCA**	**76.45**	**4**	⇓P		**P**		**00 16 38.9**	**+0.2**	
CTI	**Castel Tesino**	**76.51**	**14**	IAmb		IAmb		00 16 40.8		
	comp=Z,50nm,1.7s									
MESR	**Meseseni**	**76.51**	**6**	⇓P		**P**		**00 16 40.5**	**+1.6**	
BIM	**Bigot**	**76.62**	**84**	IAMs_20		IAMs_20		00 49 23.6		
	comp=Z,2μm,21.0s									
KOGS	**Kog**	**76.66**	**11**	*i* P		**P**		**00 16 40.3**	**+0.5**	
KOGS				*i*				00 16 48.2		
SPBC	**San Pablo de B**	**76.72**	**100**	*eP*		**P**		**00 16 39.8**	**-0.9**	
MPOM	**Morne Pois Mar**	**76.80**	**84**	IAMs_20		IAMs_20		00 48 45.2		
	comp=Z,2μm,22.0s									
SABO	**M.te Sabotino**	**76.82**	**13**	IAmb		IAmb		00 16 42.3		
	comp=Z,135nm,1.9s									
DRGR		**76.85**	**6**	⇓P		**P**		**00 16 41.7**	**+0.7**	
DRGR		**76.85**	**6**	P		**P**		**00 16 41.6**	**+0.7**	
GIRR	**Girov**	**76.86**	**4**	⇓P		**P**		**00 16 41.0**	**0.0**	
YOTC	**Yotoco, Valle**	**76.87**	**103**	*eP*		**P**		**00 16 40.1**	**-1.4**	
KIS	**Kishinev**	**76.88**	**2**	⇓ *iP*		**P**		**00 16 41.0**	**0.0**	
	comp=Z,170nm,1.9s									
KIS				*eL*		L		00 58 56.0		
KIS				LRM		MLR		01 01 34.0		
	comp=Z,200nm,14.0s									
KIS	**Kishinev**	**76.88**	**2**	*eP*		**P**		**00 16 41.0**	**0.0**	
KIS				*i*				00 16 49.0		
KIS				pmax	pmax					
	comp=Z,170nm,1.9s									
PBRG	**Braganca**	**76.91**	**28**	*eP*		**P**		**00 16 42.4**	**+1.1**	
	comp=Z,44nm,1.7s									
PBRG				*epP*		**pwP**		**00 16 50.3**	**-0.6**	
MILM	**Milestii Mici**	**76.96**	**2**	⇓ *iP*		**P**		**00 16 41.0**	**-0.5**	
	comp=Z,380nm,2.1s									
MILM				*eL*		L		01 01 26.0		
MILM				LRM		MLR		01 03 25.0		
	comp=Z,400nm,14.0s									
MILM	**Milestii Mici**	**76.96**	**2**	*d iP*		**P**		**00 16 41.0**	**-0.5**	
MILM				pmax	pmax					
	comp=Z,380nm,2.1s									
CJR	**Cluj-Napoca**	**76.98**	**6**	⇑P		**P**		**00 16 42.4**	**+0.8**	
CJR	**Cluj-Napoca**	**76.98**	**6**	P		**P**		**00 16 42.4**	**+0.8**	
MARR	**Marisel-Cluj**	**76.99**	**6**	⇓P		**P**		**00 16 42.4**	**+0.6**	
POLO	**Lamas de Olo**	**77.03**	**29**	*eP*		**P**		**00 16 43.8**	**+1.7**	
	comp=Z,27nm,1.6s									
POLO				*epP*		**pwP**		**00 16 51.1**	**-0.6**	
MORH	**Mrgy, Hungar**	**77.12**	**9**	⇓P		**P**		**00 16 43.2**	**+0.8**	
PVRL	**Vila Real**	**77.14**	**29**	*eP*		**P**		**00 16 43.8**	**+1.2**	
	comp=Z,69nm,1.8s									
PVRL				*epP*		**pwP**		**00 16 51.7**	**-0.5**	
TEOL	**Teolo**	**77.18**	**14**	IAmb		IAmb		00 16 51.6		
	comp=Z,25nm,0.8s									
VASR	**Vaslui**	**77.22**	**3**	⇓P		**P**		**00 16 43.3**	**+0.4**	
KSH	**Kashi**	**77.25**	**326**	P		**P**		**00 16 47.1**	**+3.7**	
KSH				sP		PcP		00 16 55.4	+1.4	
KSH				pmax	pmax					
	comp=Z,42nm,1.6s									
KSH				LR	LR					
	comp=Z,1μm,19.9s									
KSH				LR	LR					
	comp=Z,2μm,18.6s									
KSH				LR	LR					
	comp=Z,2μm,18.5s									
ROSC	**El Rosal**	**77.26**	**101**	IAMs_20		IAMs_20		00 52 33.4		
	comp=Z,1μm,20.0s									
ROSC	**El Rosal**	**77.26**	**101**	P		**P**		**00 16 43.9**	**-0.1**	
	comp=Z,3.3nm,0.3s,baz=338,slow=16,SNR=10									
	comp=Z,3.3nm,0.3s									
ROSC	**El Rosal**	**77.26**	**101**	*eP*		**P**		**00 16 44.6**	**+0.5**	
SIRR	**Siria**	**77.30**	**7**	⇑P		**P**		**00 16 44.3**	**+0.9**	
TESR	**Tescani**	**77.31**	**3**	⇑P		**P**		**00 16 43.8**	**+0.3**	
TAMC	**Tame, Arauca**	**77.32**	**98**	*eP*		**P**		**00 16 43.6**	**-0.4**	
JAMC	**Jamundi, Valle**	**77.33**	**104**	*eP*		**P**		**00 16 44.0**	**-0.3**	
PURM	**Purcari**	**77.37**	**1**	⇑P		**P**		**00 16 44.3**	**+0.5**	
LEOM	**Leova**	**77.39**	**2**	⇓P		**P**		**00 16 44.5**	**+0.6**	
LEOM	**Leova**	**77.39**	**2**	P		**P**		**00 16 44.5**	**+0.6**	
MVO	**Moncorvo**	**77.43**	**29**	*eP*		**P**		**00 16 46.0**	**+1.7**	
	comp=Z,42nm,2.0s									
MVO				*epP*		**pwP**		**00 16 53.4**	**-0.5**	
MVO	**Moncorvo**	**77.43**	**29**	*eLR*		LR		00 45 37.0		
	comp=Z,584nm,18.0s									
BOJS	**Bojanci**	**77.49**	**12**	*i* P		**P**		**00 16 44.6**	**+0.2**	
BOJS				*i*				00 16 52.4		
ORTC	**Ortega, Tolima**	**77.53**	**102**	*eP*		**P**		**00 16 44.2**	**-0.9**	
PVIS	**Viseu**	**77.61**	**30**	*eP*		**P**		**00 16 46.2**	**+0.9**	
PVIS				*epP*		**pwP**		**00 16 54.2**	**-0.7**	
OZUR		**77.70**	**4**	⇓P		**P**		**00 16 47.0**	**+1.3**	
BOSR	**Bodos**	**77.71**	**4**	⇓P		**P**		**00 16 47.3**	**+1.5**	
TURR	**Turia**	**77.75**	**4**	⇓P		**P**		**00 16 47.4**	**+1.4**	
GHRR		**77.79**	**3**	⇑P		**P**		**00 16 47.6**	**+1.5**	
DOPR	**Dopca**	**77.81**	**4**	⇓P		**P**		**00 16 47.5**	**+1.2**	
SURR	**Surduc**	**77.85**	**7**	⇑P		**P**		**00 16 47.4**	**+0.9**	
POPC	**Popayan, Colom**	**77.90**	**104**	*eP*		**P**		**00 16 46.5**	**-0.9**	
ERBR	**Yeremizino-Bor**	**77.91**	**354**	*eP*		**P**		**00 16 47.6**	**+0.8**	
ERBR				*eS*		**S**		**00 26 39.2**	**+0.3**	
ERBR				pmax	pmax					
	comp=Z,129nm,1.4s									
BZS	**Buzias**	**77.95**	**7**	⇓P		**P**		**00 16 47.2**	**+0.1**	
BZS	**Buzias**	**77.95**	**7**	P		**P**		**00 16 47.1**	**+0.1**	
RAR	**Rarotonga**	**77.96**	**191**	LR		LR		00 47 03.3		
	comp=Z,98nm,18.6s,baz=327,slow=32									
VRI	**Vrincioaia**	**77.96**	**3**	⇑P		**P**		**00 16 47.4**	**+0.3**	

VRI	**Vrincioaia**	**77.96**	**3**	P		**P**		**00 16 47.4**	**+0.3**	
COVR	**Voineasa-Covas**	**77.96**	**4**	⇑P		**P**		**00 16 49.0**	**+1.8**	
PLOR	**Plostina**	**77.97**	**3**	⇑P		**P**		**00 16 48.5**	**+1.3**	
MTE	**Manteigas**	**78.00**	**29**	*eP*		**P**		**00 16 48.6**	**+1.1**	
	comp=Z,27nm,0.8s									
MTE				*epP*		**pwP**		**00 16 56.0**	**-1.1**	
MTE	**Manteigas**	**78.00**	**29**	*eLR*		LR		00 45 36.1		
	comp=Z,502nm,18.0s									
MTE	**Manteigas**	**78.00**	**29**	IAmb		IAmb		00 16 57.2		
	comp=Z,17nm,0.7s									
VLDR	**Vladesti**	**78.02**	**2**	⇑P		**P**		**00 16 48.5**	**+1.1**	
BBAC	**Balboa, Cauca**	**78.02**	**105**	*eP*		**P**		**00 16 48.1**	**0.0**	
PCAS	**Casmilo, Conde**	**78.06**	**30**	*eP*		**P**		**00 16 51.0**	**+3.2**	
	comp=Z,72nm,1.8s									
PCAS				*epP*		**pwP**		**00 16 56.7**	**-0.7**	
HNR	**Honiara**	**78.17**	**232**	LR		LR		00 44 17.8		
	comp=Z,9μm,21.5s,baz=357,slow=30									
GZR	**Gura Zlata**	**78.25**	**6**	⇓P		**P**		**00 16 49.4**	**+0.7**	
BTK	**Batken**	**78.25**	**330**	IAMs_20		IAMs_20		00 55 59.7		
	comp=Z,2μm,20.0s									
FRGS	**Fruska Gora**	**78.27**	**8**	⇓P		**P**		**00 16 49.5**	**+0.7**	
MLR	**Muntele Rosu**	**78.31**	**4**	⇓P		**P**		**00 16 51.3**	**+2.1**	
MLR	**Muntele Rosu**	**78.31**	**4**	LR		LR		00 51 39.9		
	comp=Z,308nm,21.7s,baz=12,slow=36									
VOIR		**78.32**	**5**	⇑P		**P**		**00 16 51.2**	**+1.9**	
GOF	**Gofitskoye**	**78.38**	**352**	*ceP*		**P**		**00 16 49.9**	**+0.5**	
NEHR	**Nehoiu**	**78.38**	**4**	⇑P		**P**		**00 16 49.6**	**+0.1**	
PZH	**PanZhiHua**	**78.40**	**301**	P		**P**		**00 16 50.3**	**+0.3**	
PZH				S		**S**		**00 26 42.1**	**-3.0**	
PZH				pmax	pmax					
	comp=Z,50nm,1.6s									
PZH				pmax	pmax					
	comp=Z,560nm,4.1s									
PZH				LR	LR					
	comp=Z,990nm,19.0s									
PZH				LR	LR					
	comp=Z,670nm,16.9s									
PZH				LR	LR					
	comp=Z,1μm,21.7s									
PSBE	**So Bento**	**78.48**	**31**	*epP*		pP		00 16 57.6	+3.4	
PCBR	**Castelo Branco**	**78.54**	**30**	*eP*		**P**		**00 16 51.0**	**+0.6**	
	comp=Z,42nm,1.8s									
PCBR				*epP*		**pwP**		**00 16 59.0**	**-1.0**	
GCUF	**Volcan Galeras**	**78.64**	**105**	*eP*		**P**		**00 16 53.2**	**+1.4**	
PAC1	**Pacto, Paraso**	**78.67**	**107**	*eP*		**P**		**00 16 51.9**	**+0.3**	
CFR	**Carcaliu**	**78.69**	**2**	⇓P		**P**		**00 16 51.6**	**+0.5**	
TLCR		**78.69**	**2**	⇑P		**P**		**00 16 51.9**	**+0.8**	
TGY	**Tagaytay City**	**78.69**	**278**	LR		LR		00 49 22.4		
	comp=Z,253nm,21.5s,baz=26,slow=34									
HERR	**Herculane**	**78.73**	**7**	⇓P		**P**		**00 16 51.7**	**+0.3**	
MDVR	**Moldovita**	**78.79**	**7**	⇓P		**P**		**00 16 52.3**	**+0.5**	
TULM	**Tulcn-Chalpat**	**78.83**	**106**	*eP*		**P**		**00 16 51.1**	**-1.7**	
GARC	**Garzon, Huila**	**78.83**	**103**	*eP*		**P**		**00 16 51.9**	**-0.7**	
CUSE	**Cuicocha Este**	**78.85**	**107**	*eP*		**P**		**00 16 54.6**	**+1.7**	
PMAFR	**Mafra**	**78.86**	**31**	*eP*		**P**		**00 16 52.7**	**+0.5**	
	comp=Z,104nm,1.5s									
PMAFR				*epP*		**pwP**		**00 17 01.0**	**-0.7**	
OTAV	**Otavalo**	**78.88**	**107**	P		**P**		**00 16 52.1**	**-1.0**	
OTAV	**Otavalo**	**78.88**	**107**	P		**P**		**00 16 52.1**	**-1.0**	
OTAV				pmax	pmax					
	comp=Z,132nm,2.0s									
OTAV				MLR	MLR					
	comp=Z,500nm,20.0s									
OTAV	**Otavalo**	**78.88**	**107**	*eP*		**P**		**00 16 53.8**	**+0.7**	
OSSC	**Osservatorio P**	**78.93**	**15**	IAmb		IAmb		00 17 02.2		
	comp=Z,18nm,0.9s									
SIM	**Simferopol'**	**78.93**	**358**	P		**P**		**00 16 53.7**	**+1.2**	
SIM				pmax	pmax					
	comp=Z,70nm,3.7s									
PMRV	**Marv??o**	**78.95**	**30**	*eP*		**P**		**00 16 53.2**	**+0.5**	
	comp=Z,39nm,1.9s									
PMRV				*epP*		**PcP**		**00 17 01.0**	**-0.3**	
PMRV	**Marv??o**	**78.95**	**30**	*eLR*		LR		00 46 13.4		
	comp=Z,560nm,20.0s									
LABN	**Labinsk**	**78.97**	**353**	*eP*		**P**		**00 16 54.2**	**+1.5**	
LABN				*eS*		**S**		**00 26 52.8**	**+2.5**	
LABN				pmax	pmax					
	comp=Z,77nm,1.7s									
PTGC	**Puerto Gaitan,**	**78.98**	**99**	*eP*		**P**		**00 16 51.6**	**-1.5**	
TPGR	**Topolog**	**79.02**	**2**	⇑P		**P**		**00 16 50.9**	**-2.1**	
PULU	**Pululahua**	**79.03**	**107**	IAMs_20		IAMs_20		00 54 28.9		
	comp=Z,2μm,19.0s									
PMTG	**Montargil**	**79.05**	**30**	*eP*		**P**		**00 16 53.6**	**+0.4**	
	comp=Z,34nm,1.8s									
PMTG				*epP*		**PcP**		**00 17 01.5**	**-0.2**	
KMI	**Kunming**	**79.08**	**299**	⇑P		**P**		**00 16 54.9**	**+1.0**	
KMI				pP		PcP		00 17 01.5	-0.8	
KMI				S		**S**		**00 26 51.8**	**-0.8**	
KMI				SS		**SS**		**00 31 58.3**	**+0.7**	
KMI				pmax	pmax					
	comp=Z,27nm,1.8s									
KMI				pmax	pmax					
	comp=Z,380nm,3.8s									
KMI				LR	LR					
	comp=Z,760nm,16.4s									
KMI				LR	LR					
	comp=Z,1μm,25.4s									
KMI				LR	LR					
	comp=Z,1μm,21.8s									
BONI	**La Bonita**	**79.19**	**106**	*eP*		**P**		**00 16 56.5**	**+1.9**	
PESTR	**Estremoz**	**79.42**	**30**	*eLQ*		LQ		00 17 03.4		
PESTR				*epP*		pP		00 17 03.4	+4.0	
TBI	**Tubuai**	**79.50**	**181**	*eS*		**S**		**00 26 50.5**	**-5.5**	
	comp=Z,730nm,40.2s									
TBI				*eSS*		**SS**		**00 31 59.7**	**-4.9**	
	comp=Z,836nm,25.8s									
TBI				*eLR*		LR		00 41 45.5		
	comp=Z,2μm,26.0s									
KVAR	**Kislovodsk Arr**	**79.51**	**352**	LR		LR		00 56 07.2		
	comp=Z,230nm,20.6s,baz=280,slow=39									
KIV	**Kislovodsk**	**79.51**	**352**	⇓P		**P**		**00 16 56.8**	**+1.0**	
KIV	**Kislovodsk**	**79.51**	**352**	P		**P**		**00 16 55.3**	**-0.4**	
KIV				IAmb		IAmb		00 17 05.2		
	comp=Z,29nm,0.6s									
KIV	**Kislovodsk**	**79.51**	**352**	*eP*		**P**		**00 16 55.7**	**-0.1**	
KIV				pmax	pmax					
	comp=Z,34nm,1.1s									
KIV				MLR	MLR					
	comp=Z,244nm,19.0s									
KIV	**Kislovodsk**	**79.51**	**352**	P		**P**		**00 16 57.1**	**+1.4**	
KIV				P		**P**		**00 16 57.1**	**+1.4**	
EVO	**Evora**	**79.61**	**30**	*eP*		**P**		**00 16 57.8**	**+1.5**	
	comp=Z,46nm,1.7s									
EVO				*epP*		**pwP**		**00 17 04.8**	**-1.1**	
ESBB	**Sonseca Array**	**79.62**	**27**	IAmb		IAmb		00 17 06.0		
	comp=Z,25nm,0.8s									
ESBB				IAMs_20		IAMs_20		00 51 29.2		
	comp=Z,992nm,20.0s									
ESDC	**Sonseca Array**	**79.62**	**27**	IAmb		IAmb		00 17 06.0		
	comp=Z,21nm,0.8s									
ESDC	**Sonseca Array**	**79.62**	**27**	P		**P**		**00 16 57.4**	**+0.9**	
	comp=Z,6.2nm,0.6s,baz=336,slow=5.1,SNR=98									
ESDC				LR		LR		00 51 46.8		
	comp=Z,578nm,19.0s,baz=325,slow=35									
	comp=Z,6.2nm,0.6s									
PAB	**San Pablo**	**79.65**	**27**	P		**P**		**00 16 55.9**	**-0.7**	
PAB				IAmb		IAmb		00 16 59.2		
	comp=Z,93nm,1.9s									
PAB	**San Pablo**	**79.65**	**27**	P		**P**		**00 16 55.9**	**-0.7**	
PAB				pmax	pmax					
	comp=Z,93nm,1.9s									
ES11	**SONSECA Array**	**79.66**	**27**	IAMs_20		IAMs_20		00 51 50.1		
	comp=Z,972nm,19.0s									
GUMA	**Gualdo di Mace**	**79.66**	**13**	IAmb		IAmb		00 17 06.4		
	comp=Z,31nm,0.8s									
KBZ	**Khabaz**	**79.72**	**352**	P		**P**		**00 16 58.0**	**+1.3**	
	comp=Z,5.5nm,0.6s,baz=24,slow=5.1,SNR=20									
KBZ				LR		LR		00 57 48.3		
	comp=Z,160nm,19.6s,baz=14,slow=40									
	comp=Z,5.5nm,0.6s									
VLAD	**Vladila**	**79.73**	**5**	⇑P		**P**		**00 16 58.0**	**+1.2**	
PNCL	**Nicolau / Gran**	**79.86**	**31**	*eP*		**P**		**00 16 58.6**	**+1.0**	
	comp=Z,78nm,1.7s									
PNCL				*epP*		**pwP**		**00 17 06.5**	**-0.7**	
NCK	**Nalchik**	**79.89**	**351**	*deP*		**P**		**00 16 59.2**	**+1.5**	
NCK				pmax	pmax					
	comp=Z,155nm,1.9s									
BOVS	**Bovan**	**79.93**	**7**	⇑P		**P**		**00 16 59.4**	**+1.5**	
GROC	**Groznyy**	**79.97**	**349**	*eP*		**P**		**00 16 58.8**	**+0.6**	
GROC				*e*				00 17 06.4		
GROC				*e*				00 20 01.8		
GROC				pmax	pmax					
	comp=Z,44nm,1.7s									
BLKB	**Belogradchik**	**80.00**	**7**	⇑P		**P**		**00 16 58.5**	**+0.1**	
PIAT	**Ana Tenorio**	**80.02**	**107**	*eP*		**P**		**00 16 59.5**	**+0.2**	

MAK	**Makhachkala**	**80.03**	**348**	*eP*		**P**		**00 16 56.9**	**-1.5**	
MAK				*eS*		**S**		**00 27 00.3**	**-1.2**	
MAK				pmax	pmax					
	comp=Z,215nm,1.8s									
SIMJ	**Simiganj**	**80.05**	**331**	P		**P**		**00 16 58.5**	**-0.3**	
SIMJ				IAMs_20		IAMs_20		00 56 47.3		
	comp=Z,2μm,20.0s									
SOC	**Sochi**	**80.08**	**354**	*eP*		**P**		**00 16 57.6**	**-1.1**	
SOC				*e*				00 19 58.8		
SOC				*eS*		**S**		**00 27 02.7**	**+0.6**	
SOC				*eSS*		**SS**		**00 32 13.0**	**+2.2**	
SOC				*eSSS*		SSS		00 35 37.4		
SOC				pmax	pmax					
	comp=Z,30nm,0.7s									
PBEJ	**Beja**	**80.13**	**31**	*eP*		**P**		**00 16 59.4**	**+0.3**	
	comp=Z,34nm,1.9s									
PBEJ				*epP*		**pwP**		**00 17 07.8**	**-0.8**	
MESJ	**Messejana**	**80.20**	**31**	IAMs_20		IAMs_20		00 51 03.6		
	comp=Z,1μm,18.0s									
PBAR	**Barrancos**	**80.22**	**30**	*eP*		**P**		**00 17 00.2**	**+0.6**	
	comp=Z,58nm,1.7s									
PBAR				*epP*		**PcP**		**00 17 07.0**	**+0.2**	
PLVB	**Pleven**	**80.35**	**5**	⇓P		**P**		**00 17 00.5**	**+0.4**	
LSA	**Lhasa**	**80.44**	**310**	IAMs_20		IAMs_20		00 55 41.1		
	comp=Z,2μm,19.0s									
LSA	**Lhasa**	**80.44**	**310**	P		**P**		**00 17 03.9**	**+2.4**	
LSA				P		**P**		**00 17 03.9**	**+2.4**	
LOZB	**Loznitsa**	**80.45**	**4**	⇑P		**P**		**00 17 00.6**	**-0.2**	
ZEI	**Tsey**	**80.56**	**351**	*eP*		**P**		**00 17 01.3**	**-0.3**	
ZEI				pmax	pmax					
	comp=Z,20nm,1.4s									
MORF	**Marmelete**	**80.58**	**31**	*eP*		**P**		**00 17 02.1**	**+0.5**	
MORF				*epP*		**pwP**		**00 17 10.3**	**-0.8**	
MORF	**Marmelete**	**80.58**	**31**	*eP*		**P**		**00 17 01.8**	**+0.2**	
MORF				IAmb		IAmb		00 17 04.3		
	comp=Z,17nm,0.9s									
MORF				*eS*		**S**		**00 27 08.8**	**+1.2**	
MORF	**Marmelete**	**80.58**	**31**	*eP*		**P**		**00 17 01.8**	**+0.2**	
MORF				*eS*		**S**		**00 27 08.8**	**+1.2**	
MORF				pmax	pmax					
	comp=Z,17nm,0.9s									
QIZ	**Qiongzhong**	**80.59**	**290**	P		**P**		**00 16 59.6**	**-2.3**	
QIZ				PP		**PP**		**00 20 05.5**	**+0.4**	
QIZ				S		**S**		**00 27 08.8**	**+0.6**	
QIZ				SS		**SS**		**00 32 19.1**	**-1.0**	
QIZ				LR	LR					
	comp=Z,350nm,18.0s									
QIZ				LR	LR					
	comp=Z,670nm,18.2s									
QIZ				LR	LR					
	comp=Z,750nm,24.7s									
COHC	**Cochancay**	**80.73**	**109**	*eP*		**P**		**00 17 02.4**	**-0.2**	
PVAQ	**Vaqueiros**	**80.75**	**31**	*eP*		**P**		**00 17 03.9**	**+1.5**	
	comp=Z,5.7nm,1.6s									
PVAQ				*epP*		**pwP**		**00 17 11.2**	**-0.8**	
PVAQ	**Vaqueiros**	**80.75**	**31**	*eLR*		LR		00 46 13.4		
PBDV	**Barranco-do-Ve**

BOAV	**Boa Vista**	86.89	90	*e*P		**P**		00 17 32.8	-1.3
BOAV	**Boa Vista**	86.89	90	*e*P		**P**		00 17 34.1	0.0
DZM	**Mont Dzumac**	86.97	221	LR	LR			00 49 15.8	
	comp=Z,290nm,21.0s,baz=80,slow=31								
ELL	**Elmali**	87.14	1	IAMs_20	IAMs_20			00 58 32.3	
	comp=Z,1μm,22.0s								
DLV	**T Lat**	87.21	287	IAMs_20	IAMs_20			01 00 25.7	
	comp=Z,1μm,20.0s								
CZSB	**Cruzeiro do Su**	88.63	106	*e*P		**P**		00 17 42.0	-0.4
CZSB	**Cruzeiro do Su**	88.63	106	*e*P		**P**		00 17 41.3	-1.1
MDP	**Montagnes des**	89.02	82	LR	LR			00 56 01.3	
	comp=Z,2μm,21.0s,baz=330,slow=34								
TEFE	**Tefe**	89.50	97	*e*P		**P**		00 17 46.3	-0.2
RPN	**Rapa Nui**	89.64	146	LR	LR			00 48 17.8	
	comp=Z,489nm,21.7s,baz=308,slow=29								
SRDT	**SRDT**	90.00	296	P		**P**		00 17 47.9	-1.0
	comp=Z,87nm,1.6s								
MPSI	**Mapaga**	90.61	272	P		**P**		00 17 50.1	-1.6
	comp=Z,13nm,1.9s								
MMAI	**Mount Meron Ar**	90.81	357	P		**P**		00 17 52.9	+0.4
	comp=Z,2.1nm,0.5s,baz=28,slow=3.9,SNR=6.8								
	comp=Z,2.1nm,0.5s								
MACA	**Manacapuru-AM**	91.40	94	*e*P		**P**		00 17 53.8	-1.6
SBUM	**Sibu**	93.11	279	P		**P**		00 18 03.2	-0.1
BKB	**Balikpapan**	93.60	273	IAMs_20	IAMs_20			00 53 54.7	
	comp=Z,889nm,22.0s								
CTA	**Charters Tower**	93.76	239	LR	LR			00 54 19.9	
	comp=Z,322nm,21.2s,baz=48,slow=32								
MCPB	**Macapa, AP**	93.86	85	*e*P		**P**		00 18 07.2	+0.4
ETMB	**Extrema**	93.86	102	IAmb	IAmb			00 18 07.7	
	comp=Z,22nm,1.3s								
ETMB				IAMs_20	IAMs_20			01 04 06.7	
	comp=Z,646nm,20.0s								
MALB	**Monte Alegre**	93.88	88	*e*P		**P**		00 18 07.5	+0.7
SAML	**Samuel**	94.80	99	P		**P**		00 18 09.0	-2.0
SAML				IAmb	IAmb			00 18 11.4	
	comp=Z,46nm,1.9s								
SAML	**Samuel**	94.80	99	P		**P**		00 18 09.0	-2.0
SAML				pmax	pmax				
	comp=Z,46nm,1.9s								
SAML				MLR	MLR				
	comp=Z,2μm,20.0s								
SAML	**Samuel**	94.80	99	*e*P		**P**		00 18 10.4	-0.6
KAPI	**Kappang**	95.12	269	LR	LR			00 57 21.4	
	comp=Z,185nm,21.8s,baz=27,slow=33								
PBA	**Port Blair**	95.43	300	IAMs_20	IAMs_20			01 06 21.6	
	comp=Z,1μm,20.0s								
EIDS	**Eidsvold**	96.12	232	IAMs_20	IAMs_20			00 53 18.2	
	comp=Z,1μm,21.0s								
HATD	**Hatta, Dubai**	96.38	338	P		**P**		00 18 18.8	+0.6
ASHO	**Ashiyiah**	96.53	338	P		**P**		00 18 18.8	-0.1
FAQ	**Al Faqa, Dubai**	96.57	338	P		**P**		00 18 20.1	+1.1
ASUD	**Al Ashush, Dub**	96.74	338	P		**P**		00 18 20.1	+0.3
AJN	**Ajban**	96.87	339	P		**P**		00 18 21.3	+0.9
JRN	**Qarnain Island**	96.92	341	P		**P**		00 18 20.8	+0.3
SOHO	**SOHO**	96.97	337	P		**P**		00 18 21.2	+0.4
BIDO	**Bidbid**	97.20	336	P		Pdif		00 18 23.3	+1.4
ALNE	**Al Ain**	97.21	338	P		Pdif		00 18 22.2	+0.2
WSAR	**Wadi Sarin**	97.36	335	P		Pdif		00 18 22.6	-0.1
TRNA	**Turayna**	97.41	342	P		Pdif		00 18 23.4	+0.5
SMRA	**Abu-Samra**	97.47	342	P		Pdif		00 18 23.9	+0.8
NPGB	**Novo Progresso**	97.55	91	*e*P		**P**		00 18 22.9	-0.6
SMDO	**Samad**	97.67	335	P		**P**		00 18 23.9	-0.2
SMDO				P		**P**		00 18 23.9	-0.2
ARQ	**Araqi**	97.74	337	P		Pdif		00 18 24.8	+0.4
	SNR=5.1								
GHWR	**Ruwais**	97.87	340	P		Pdif		00 18 26.5	+1.6
MZWR	**Madinat Zayed**	97.87	339	P		**P**		00 18 24.8	-0.1
SLWR	**Sila**	97.98	341	P		Pdif		00 18 26.4	+1.0
BSY	**Bisya**	98.16	336	P		Pdif		00 18 26.6	+0.3
	SNR=6.0								
BSY				P		Pdif		00 18 26.6	+0.3
	SNR=6.0								
MYKOM	**Kota Tinggi**	98.19	286	IAMs_20	IAMs_20			01 08 54.9	
	comp=Z,676nm,20.0s								
JMDO	**Jabal Madar**	98.32	335	P		Pdif		00 18 28.0	+1.0
JMDO				P		Pdif		00 18 28.0	+1.0
PB18	**Visviri**	98.56	109	IAMs_20	IAMs_20			00 57 46.7	
	comp=Z,660nm,18.0s								
UMZA	**Um Al Zommool**	98.63	338	P		Pdif		00 18 28.3	-0.1
UMZA				P		Pdif		00 18 28.3	-0.1
TOZ	**Tahuroa Road**	98.68	208	IAMs_20	IAMs_20			01 03 32.5	
	comp=Z,480nm,18.0s								
URZ	**Urewera**	98.77	207	LR	LR			00 55 19.0	
	comp=Z,165nm,21.0s,baz=121,slow=31								
PB16	**IPOC Station P**	99.17	109	IAMs_20	IAMs_20			01 07 38.7	
	comp=Z,635nm,19.0s								
WR0	**Warramunga Arr**	99.47	248	IAMs_20	IAMs_20			01 00 13.2	
	comp=Z,760nm,20.0s								
WRA	**Warramunga Arr**	99.56	248	*i* P		**Pdif**		00 18 32.9	+0.5
WRA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
WRA	**Warramunga Arr**	99.56	248	P		**Pdif**		00 18 31.9	-0.5
	comp=Z,2.0nm,0.9s,baz=37,slow=5.9,SNR=7.9								
WRA				PKKPbc		**PKKPbc**		00 34 52.6	+0.3
	comp=Z,2.3nm,1.2s,baz=343,slow=3.8,SNR=4.7								
	comp=Z,2.0nm,0.9s								
MHTO	**MHTO**	99.68	335	P		**Pdif**		00 18 34.3	+1.3
MHTO				P		**Pdif**		00 18 34.3	+1.3
VILB	**Vilhena**	99.74	99	*e*P		**Pdif**		00 18 33.6	+0.4
BKNI	**Bangkinang**	100.92	287	IAMs_20	IAMs_20			01 09 16.0	
	comp=Z,613nm,21.0s								
OXZ	**Oxford**	104.84	209	IAMs_20	IAMs_20			01 13 48.4	
	comp=Z,642nm,21.0s								
TOB1	**Torodi Ar. Sit**	106.31	30	IAMs_20	IAMs_20			01 05 40.3	
	comp=Z,786nm,19.0s								
TOB5	**Torodi Ar. Sit**	106.32	30	IAMs_20	IAMs_20			01 05 39.4	
	comp=Z,817nm,19.0s								
TOC6	**Torodi Ar. Sit**	106.32	30	IAMs_20	IAMs_20			01 05 40.4	
	comp=Z,747nm,19.0s								
TOB2	**Torodi Ar. Sit**	106.32	30	IAMs_20	IAMs_20			01 05 39.6	
	comp=Z,756nm,20.0s								
TORD	**Torodi Ar. Bea**	106.33	30	IAMs_20	IAMs_20			01 05 40.7	
	comp=Z,665nm,19.0s								
TORD	**Torodi Ar. Bea**	106.33	30	PP		**PKiKP**		00 23 18.0	+4.1
	comp=Z,0.4nm,0.7s,baz=0.0,slow=3.6,SNR=3.7								
TORD				PKKPbc		**PKKPbc**		00 34 33.1	+1.2
	comp=Z,0.6nm,0.8s,baz=131,slow=2.5,SNR=4.3								
TOA2	**Torodi Ar. Sit**	106.33	30	IAMs_20	IAMs_20			01 05 40.7	
	comp=Z,847nm,19.0s								
TOA3	**Torodi Ar. Sit**	106.33	30	IAMs_20	IAMs_20			01 05 41.8	
	comp=Z,766nm,19.0s								
TOB4	**Torodi Ar. Sit**	106.33	30	IAMs_20	IAMs_20			01 05 40.8	
	comp=Z,774nm,19.0s								
TOB3	**Torodi Ar. Sit**	106.34	30	IAMs_20	IAMs_20			01 05 41.0	
	comp=Z,785nm,19.0s								
TOC5	**Torodi Ar. Sit**	106.34	30	IAMs_20	IAMs_20			01 05 41.0	
	comp=Z,971nm,20.0s								
TOC3	**Torodi Ar. Sit**	106.34	30	IAMs_20	IAMs_20			01 05 42.1	
	comp=Z,851nm,19.0s								
TOC4	**Torodi Ar. Sit**	106.35	30	IAMs_20	IAMs_20			01 05 41.4	
	comp=Z,820nm,19.0s								
AQDB	**Aquidauana**	108.34	99	IAMs_20	IAMs_20			01 10 23.1	
	comp=Z,2μm,21.0s								
PSA00	**Pilbara Seismi**	108.61	259	IAMs_20	IAMs_20			00 54 03.7	
	comp=Z,560nm,19.0s								
PSAB3	**Pilbara Seismi**	108.62	259	IAMs_20	IAMs_20			01 10 15.1	
	comp=Z,1μm,21.0s								
BDFB	**Brasilia**	108.67	90	IAMs_20	IAMs_20			01 06 48.3	
	comp=Z,837nm,19.0s								
DBIC	**Dimbokro**	110.36	39	IAMs_20	IAMs_20			01 05 44.2	
	comp=Z,729nm,20.0s								
SPB	**Sao Paulo**	115.39	95	IAMs_20	IAMs_20			01 14 19.6	
	comp=Z,1μm,20.0s								
KMBO	**Kilima Mbogo**	124.64	353	PKP		**PKPdf**		00 23 47.5	-1.7
	comp=Z,2.0nm,0.9s,baz=348,slow=5.7,SNR=7.5								
KMBO	**Kilima Mbogo**	124.64	353	P		**PKiKP**		00 23 50.8	+1.3
LSZ	**Lusaka**	138.81	5	P		**PKiKP**		00 24 17.4	-0.4
TSUM	**Tsumeb**	141.36	21	PKPdf		**PKPdf**		00 24 17.0	-3.1
WIN	**Windhoek**	144.52	23	PKPdf		**PKPab**		00 24 23.3	-0.8
WIN	**Windhoek**	144.52	23	PKIKP		**PKPab**		00 24 23.3	-0.8
QSPA	**South Pole Qui**	146.26	180	PKPdf		**PKPab**		00 24 29.0	-0.2
QSPA	**South Pole Qui**	146.26	180	IAMs_20	IAMs_20			01 17 26.2	
	comp=Z,378nm,20.0s								
QSPA	**South Pole Qui**	146.26	180	PKPbc		**PKPbc**		00 24 28.5	+0.1
	comp=Z,46nm,0.8s,baz=56,slow=1.3,SNR=57								
LBTB	**Lobatse**	148.29	10	PKPdf		**PKPdf**		00 24 31.3	-0.6
LBTB	**Lobatse**	148.29	10	PKIKP		**PKPdf**		00 24 31.3	-0.6
BELA	**Belgrano 2**	149.37	158	PKPdf		**PKPdf**		00 24 29.6	-2.3
BOSA	**Boshof**	151.81	12	PKPdf		**PKPdf**		00 24 36.1	-1.2
BOSA	**Boshof**	151.81	12	PKPbc		**PKPbc**		00 24 43.6	-0.1
	comp=Z,16nm,0.6s,baz=348,slow=2.1,SNR=65								
BOSA				PKPab		**PKPab**		00 24 51.7	-1.0
	comp=Z,31nm,0.8s,baz=356,slow=3.5,SNR=18								
VNA3	**Neumayer Olymp**	157.26	147	⇑PKPab		**PKPab**		00 25 22.3	+7.5
	comp=Z,18nm,0.8s								
VNA2	**Neumayer--Watz**	158.06	146	⇑PKPab		**PKPab**		00 25 23.9	+5.7
	comp=Z,5.1nm,0.7s,baz=267,slow=6.0								
SNAA	**Sanae**	159.08	150	PKPdf		**PKPdf**		00 24 43.1	-2.6
SNAA	**Sanae**	159.08	150	⇑PKPab		**PKPab**		00 25 22.1	-0.6
	comp=Z,49nm,0.8s								
SNAA	**Sanae**	159.08	150	PKIKP		**PKPdf**		00 24 43.1	-2.6
TROLL	**Troll, Antarti**	160.31	153	⇑PKPab		**PKPab**		00 25 29.1	+0.9
	comp=Z,532nm,0.7s								
MAW	**Mawson**	161.79	220	PKPab		**PKPab**		00 25 34.5	0.0
	comp=Z,7.8nm,0.4s,baz=71,slow=17,SNR=15								
ELIB	**Princess Elisa**	164.08	171	*d*PKP		**PKPab**		00 25 45.3	+0.6

*NEIC **24** 00:14:51.2±2.1,56˚56N±0˚.09×148˚.6W±0˚.1, h22km±9km, mb4.0/1,ML3.7/46,ML3.4(AEIC),Error ellipse: s-maj=13.6km s-min=7.8km az=166.0*
*AEIC **24** 00:14:54.2±2.0,56˚.49N±0˚.09×148˚.69W±0˚.09, h10km±5km, Error ellipse: s-maj=13.4km s-min=7.3km az=174.0*

ISC 24 00:14:49.2±1.7,56˚.6N±0˚.1×148˚.67W±0˚.06,h10km,n115,
σ1§15/119,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	2.46	301			**Pn**	00 15 28.2	-1.1
KDAK	**Kodiak Island**	2.46	301			**Sn**	00 15 57.7	-1.6
KDAK	**Kodiak Island**	2.46	301	S		**Sn**	00 15 58.1	-1.3
	baz=120							
OHAK	**Old Harbor**	2.62	286	Pn		**Pn**	00 15 31.0	-0.6
OHAK				Sn		**Sn**	00 16 00.9	-2.4
OHAK				IAML			00 17 02.0	
	comp=E,218nm,0.3s							
OHAK				IAML			00 17 02.4	
	comp=N,314nm,0.3s							
OHAK	**Old Harbor**	2.62	286	P		**Pn**	00 15 31.6	+0.1
	baz=104							
OHAK				S		**Sn**	00 16 00.8	-2.6
	baz=104							
SYI	**Shuyak Island**	2.87	317	Pn		**Pn**	00 15 35.4	+0.5
Q20K	**Shuyak Island**	2.87	317	P		**Pn**	00 15 35.8	+0.8
	baz=135							
Q23K	**Middleton Isla**	3.13	22	Pn		**Pn**	00 15 38.1	-0.4
Q23K				IAML			00 16 57.8	
	comp=E,206nm,1.4s							
Q23K				IAML			00 17 28.1	
	comp=N,172nm,1.1s							
Q23K	**Middleton Isla**	3.13	22	P		**Pn**	00 15 38.7	+0.3
	baz=204							
MID	**Middleton Isla**	3.13	22	Pn		**Pn**	00 15 38.0	-0.5
MID				IAML			00 16 57.8	
	comp=E,213nm,1.5s							
MID				IAML			00 17 28.0	
	comp=N,179nm,1.1s							
CNPM	**China Poot**	3.27	336	Pn		**Pn**	00 15 40.6	+0.1
CNPM				Sn		**Sn**	00 16 18.5	-0.9
CNPM				IAML			00 17 27.0	
	comp=E,94nm,1.0s							
BRSE	**Bradley Lake S**	3.37	342			**Pn**	00 15 42.5	+0.6
BRSE	**Bradley Lake S**	3.37	342	P		**Pn**	00 15 42.5	+0.6
	baz=161							
HOM	**Homer**	3.48	334	Pn		**Pn**	00 15 43.0	-0.4
P23K	**Montague Islan**	3.51	10			**Pn**	00 15 44.3	+0.6
P23K						**Sn**	00 16 23.0	-2.2
P23K	**Montague Islan**	3.51	10	P		**Pn**	00 15 44.3	+0.6
	baz=191							
P23K				S		**Sn**	00 16 23.0	-2.2
	baz=191							
Q19K	**Cape Douglas,**	3.57	314	Pn		**Pn**	00 15 45.1	+0.5
Q19K				IAML			00 16 39.4	
	comp=N,171nm,1.3s							
Q19K	**Cape Douglas,**	3.57	314	P		**Pn**	00 15 45.7	+1.0
	baz=130							
KAHG	**Katmai Hook Gl**	3.71	304			**Pn**	00 15 47.4	+0.7
AUCH	**Augustine Cone**	3.79	320			**Pn**	00 15 49.1	+1.4
P19K	**Oil Pt**	3.93	324	Pn		**Pn**	00 15 51.0	+1.4
P19K				IAML			00 17 42.3	
	comp=N,154nm,0.3s							
P19K				IAML			00 17 42.8	
	comp=E,131nm,0.8s							
P19K	**Oil Pt**	3.93	324	P		**Pn**	00 15 51.2	+1.6
	baz=141							
ACHA	**Angle Creek He**	3.96	297			**Pn**	00 15 51.6	+1.5
O22K	**Cooper Landing**	3.97	352	Sn		**Sn**	00 16 36.1	-0.4
HIN	**Hinchinbrook I**	4.01	16	Pn		**Pn**	00 15 51.1	+0.4
HIN				IAML			00 16 43.4	
	comp=N,128nm,0.8s							
ANCK	**Angle Creek**	4.04	297			**Pn**	00 15 53.5	+2.3
KAIM	**Kayak Island**	4.05	32	Pn		**Pn**	00 15 51.5	+0.3
KAIM				IAML			00 17 52.2	
	comp=E,141nm,0.9s							
KAIM	**Kayak Island**	4.05	32	P		**Pn**	00 15 51.9	+0.7
	baz=215							
O20K	**Slope Mountain**	4.10	331			**Pn**	00 15 52.4	+0.5
O20K	**Slope Mountain**	4.10	331	P		**Pn**	00 15 52.4	+0.5
	baz=148							
IVE	**Iliamna Volcan**	4.15	328			**Pn**	00 15 53.2	+0.5
CNTC	**Contact Creek**	4.26	297			**Pn**	00 15 55.7	+1.5
Q17K	**Contact Creek**	4.26	297	P		**Pn**	00 15 55.7	+1.5
	baz=112							
EYAK	**Cordova Ski Ar**	4.28	20	Pn		**Pn**	00 15 55.0	+0.7
EYAK	**Cordova Ski Ar**	4.28	20	P		**Pn**	00 15 54.8	+0.5
	baz=202							
RAGM	**Ragged Mountai**	4.37	27	Pn		**Pn**	00 15 56.2	+0.6
CAPN	**Captain Cook N**	4.41	344	Pn		**Pn**	00 15 55.1	-1.0
RSO	**Redoubt South**	4.46	333	Pn		**Pn**	00 15 56.3	-0.7
P18K	**Big Mountain,**	4.50	312	Pn		**Pn**	00 15 57.2	-0.2
GOAT	**Goat Mountain**	4.52	25			**Pn**	00 15 58.9	+1.1
RC01	**Rabbit Creek A**	4.57	353	Pn		**Pn**	00 15 57.8	-0.6
RC01				IAML			00 16 56.1	
	comp=N,58nm,1.3s							
RC01				IAML			00 17 58.6	
	comp=E,68nm,1.2s							
BERG	**Berg Lake**	4.64	32	Pn		**Pn**	00 15 59.1	-0.2
SNH	**Sunshine Point**	4.75	38	Pn		**Pn**	00 16 00.7	-0.1
SNH				IAML			00 16 57.9	
	comp=E,65nm,1.5s							
SNH				IAML			00 18 10.7	
	comp=N,69nm,1.1s							
DIV	**Divide**	4.82	17	Pn		**Pn**	00 16 01.6	-0.2
BMRM	**Bremner River**	4.89	24	Pn		**Pn**	00 16 02.5	-0.4
BMRM	**Bremner River**	4.89	24	P		**Pn**	00 16 03.7	+0.9
	baz=207							
P17K	**Kvichak River**	4.92	306			**Pn**	00 16 04.1	+1.1
SUA	**Susitna One**	5.03	349	Pn		Pn	00 16 02.1	-2.7
KLU	**Klutina**	5.14	15	Pn		**Pn**	00 16 06.9	+0.7
KLU				IAML			00 18 16.3	
	comp=E,46nm,0.4s							
KLU				IAML			00 18 16.5	
	comp=N,46nm,1.3s							
GHO	**Glory Hole Cre**	5.22	359	Pn		**Pn**	00 16 08.5	+1.1
GHO				IAML			00 17 10.6	
	comp=E,38nm,0.8s							
GHO				IAML			00 17 12.1	
	comp=N,62nm,1.2s							
N19K	**Bonanza Creek**	5.23	327	Pn		**Pn**	00 16 07.9	+0.5
SML	**Sawmill**	5.26	2	Pn		**Pn**	00 16 08.9	+1.0
SML				IAML			00 17 36.7	
	comp=N,26nm,1.4s							
SML				IAML			00 18 17.6	
	comp=E,27nm,1.1s							
SCM	**Sheep Creek Mo**	5.33	7	Pn		**Pn**	00 16 09.9	+1.0
SCM				IAML			00 18 19.6	
	comp=E,57nm,1.2s							
SCM				IAML			00 18 21.7	
	comp=N,33nm,0.7s							
VRDI	**Verde Repeater**	5.40	28	Pn		**Pn**	00 16 09.4	-0.5
CHGN	**Chignik**	5.42	271	Pn		**Pn**	00 16 11.4	+1.4
N25K	**Chitina, Valde**	5.47	21	Pn		**Pn**	00 16 11.5	+0.7
GLB	**Gilahina Butte**	5.50	25	Pn		**Pn**	00 16 11.1	0.0
N18K	**Kilae Creek**	5.59	321	Pn		**Pn**	00 16 14.1	+1.7
SKT	**Skwentna**	5.63	346	Pn		**Pn**	00 16 13.4	+0.6
MCARA	**McCarthy VSAT**	5.64	29	Pn		**Pn**	00 16 12.5	-0.6
M24K	**Tolsona, Glenn**	5.70	12	Pn		**Pn**	00 16 15.9	+2.0
SVW2	**Sparrevohn**	5.79	325	Pn		**Pn**	00 16 17.0	+1.9
BARN	**Barnard Glacie**	5.79	36	Pn		**Pn**	00 16 15.8	+0.5
M20K	**Styx River**	5.80	339	Pn		**Pn**	00 16 16.0	+0.6
CTGM	**Chitina Glacie**	5.83	38	Pn		**Pn**	00 16 16.1	+0.3
LOGN	**Logan Glacier**	5.85	40	Pn		**Pn**	00 16 16.0	0.0
O16K	**Kokwok River B**	5.85	305	Pn		**Pn**	00 16 16.6	+0.8
BCPM	**Bancas Point**	5.85	51	Pn		**Pn**	00 16 14.5	-1.5
N17K	**Nushagak Hills**	5.97	315	Pn		**Pn**	00 16 18.3	+0.7
M19K	**Big River Lodg**	6.11	334	Pn		**Pn**	00 16 19.3	-0.1
L19K	**White Mountain**	6.46	333	Pn		**Pn**	00 16 24.6	+0.3
O29M	**Mount Kennedy**	6.49	51	Pn		**Pn**	00 16 25.7	+0.9
M26K	**Nabesna, AK**	6.53	24	Pn		**Pn**	00 16 24.4	-0.8
P29M	**Windy Craggy**	6.56	58	Pn		**Pn**	00 16 26.2	+0.5
DHY	**Denali Highway**	6.56	5	Pn		**Pn**	00 16 27.6	+1.7
M17K	**Holitna River**	6.63	321	Pn		**Pn**	00 16 26.2	-0.4
M27K	**Edge Creek, AK**	6.76	28	Pn		**Pn**	00 16 29.1	+0.6
S31K	**Pelican**	6.89	73	Pn		**Pn**	00 16 29.0	-1.1
TRF	**Thorofare Moun**	6.96	354	Pn		**Pn**	00 16 32.7	+1.5
M16K	**Timber Creek**	6.97	314	Pn		**Pn**	00 16 32.5	+1.3
N15K	**Kwethluk River**	7.01	306	Pn		**Pn**	00 16 33.9	+2.1
CAST	**Castle Rocks**	7.09	347	Pn		**Pn**	00 16 33.9	+1.0
KTH	**Kantishna Hill**	7.10	352	Pn		**Pn**	00 16 36.8	+3.7
HYT	**Haines Junctio**	7.21	49	Pn		**Pn**	00 16 34.6	-0.1
O14K	**Tigyukauivet M**	7.23	297	Pn		**Pn**	00 16 36.7	+1.9
K20K	**Telida**	7.33	341	Pn		**Pn**	00 16 35.6	-0.6
L27K	**Beaver Creek,**	7.37	25	Pn		**Pn**	00 16 36.0	-0.8
TTA	**Tatalina**	7.38	333	Pn		**Pn**	00 16 38.3	+1.4
BCAR	**Beaver Creek A**	7.38	25	Pn		**Pn**	00 16 36.7	-0.3
RIDG	**Independent Ri**	7.45	13	Pn		**Pn**	00 16 39.1	+1.3
L16K	**Owhat River**	7.58	317	Pn		**Pn**	00 16 40.5	+0.9
BPAW	**Bear Paw Mtn.**	7.65	352	Pn		**Pn**	00 16 42.5	+1.9
SKAG	**Skagway**	7.65	62	Pn		**Pn**	00 16 41.7	+1.0
N30M	**Aishikik Lake**	7.73	46	Pn		**Pn**	00 16 42.1	+0.4
SCRK	**Sand Creek**	7.79	15	Pn		**Pn**	00 16 44.6	+2.0
M29M	**Somme Creek**	7.85	37	Pn		**Pn**	00 16 44.8	+1.4
K17K	**Iditarod**	7.86	326	Pn		**Pn**	00 16 44.0	+0.6
J18K	**Innoko River**	8.00	333	Pn		**Pn**	00 16 47.0	+1.6
K27K	**Chicken**	8.17	21	Pn		**Pn**	00 16 48.5	+0.8
N31M	**Braeburn, Yuko**	8.27	48	Pn		**Pn**	00 16 50.2	+1.1
WHY	**Whitehorse**	8.28	55	Pn		**Pn**	00 16 49.2	-0.1
J26L	**Joseph Creek**	8.35	15	Pn		**Pn**	00 16 51.8	+1.5
L29M	**L29M**	8.43	35	Pn		**Pn**	00 16 52.7	+1.4
P32M	**Atlin**	8.48	63	Pn		**Pn**	00 16 51.5	-0.5
P33M	**Teslin, Yukon**	9.09	60	Pn		**Pn**	00 17 00.4	+0.1
K29M	**Barlow Dome**	9.16	33	Pn		**Pn**	00 17 01.4	+0.1
M31M	**Drury Creek, Y**	9.21	46	Pn		**Pn**	00 17 02.9	+1.0
H21K	**Melozitna Rive**	9.34	349	Pn		**Pn**	00 17 04.3	+0.6
H17K	**Granite Mounta**	10.02	331	Pn		**Pn**	00 17 14.7	+1.6
J30M	**Hart River**	10.05	32	Pn		**Pn**	00 17 14.1	+0.5
G24K	**Hadweenzic Riv**	10.19	3	Pn		**Pn**	00 17 16.4	+1.1
G23K	**Bananza Creek**	10.20	357	Pn		**Pn**	00 17 16.3	+0.7
G21K	**Allakaket**	10.24	349	Pn		**Pn**	00 17 18.1	+2.0
YKA	**Yellowknife Ar**	18.10	57			**Pn**	00 19 01.4	+1.0
A36M	**Sachs Harbour**	18.29	23			**Pn**	00 19 01.9	-0.6
A36M				IAmb	IAmb		00 19 07.7	
	comp=Z,9.8nm,0.8s							

*IDC **24** 00:15:52.5±2.9,56˚.14N×149˚.20W, h0km, mb3.2/1, mbtmp3.5/5,ML3.4/4

SKAG	Skagway	7.93	62	Pn	Pn	00 17 52.3	+1.5
N30M	Aishikik Lake	7.97	47	Pn	Pn	00 17 51.9	+0.6
HDA	Harding Lake	7.99	7	Pn	Pn	00 17 52.5	+1.0
O30N	Mendenhall	8.05	53	Pn	Pn	00 17 53.7	+1.4
M29M	Somme Creek	8.06	38	Pn	Pn	00 17 54.8	+2.2
R32K	Eaglecrest	8.12	71	Pn	Pn	00 17 52.9	-0.4
JIS	Juneau Island	8.19	71	Pn	Pn	00 17 54.3	0.0
K27K	Chicken	8.31	22	Pn	Pn	00 17 57.2	+1.3
IL31		8.35	7	Pn	Pn	00 17 57.1	+0.7
ILAR	Eielson Array	8.35	7	Pn	Pn	00 17 58.0	+1.6
ILAR	Eielson Array	8.35	7	Pn	Pn	00 17 57.0	+0.6
	comp=E,0.6nm,0.3s,baz=190,slow=14,SNR=7.5						
ILAR				Sn	Sn	00 19 30.7	0.0
	comp=E,0.5nm,0.3s,baz=198,slow=23,SNR=4.9						
	comp=E,1.1nm,0.3s						
J26L	Joseph Creek	8.47	17	Pn	Pn	00 17 59.1	+1.0
N31M	Braeburn, Yuko	8.52	49	Pn	Pn	00 17 60.0	+1.2
WHY	Whitehorse	8.54	55	Pn	Pn	00 18 00.5	+1.3
L29M	L29M	8.63	36	Pn	Pn	00 18 02.5	+2.1
I23K	Minto, Yukon-K	8.65	360	Pn	Pn	00 18 02.3	+1.7
M30M	Minto, Yukon	8.73	41	Pn	Pn	00 18 03.7	+1.9
P32M	Atlin	8.76	63	Pn	Pn	00 18 02.8	+0.7
I26K	Coal Creek Min	9.28	16	Pn	Pn	00 18 10.0	+0.8
H21K	Melozitna Rive	9.33	351	Pn	Pn	00 18 08.8	-1.0
K29M	Barlow Dome	9.35	34	Pn	Pn	00 18 10.9	+0.7
P33M	Teslin, Yukon	9.36	60	Pn	Pn	00 18 11.2	+0.9
Q32M	Nakina River	9.37	68	Pn	Pn	00 18 11.9	+1.3
M31M	Drury Creek, Y	9.45	47	Pn	Pn	00 18 13.8	+2.3
N32M	Quiet Lake	9.54	54	Pn	Pn	00 18 14.0	+1.1
FARO	Faro, Yukon	9.89	48	Pn	Pn	00 18 19.6	+2.0
R33M	Jennings River	10.10	66	Pn	Pn	00 18 21.4	+0.9
G21K	Allakaket	10.23	350	Pn	Pn	00 18 23.7	+1.6
G23K	Bananza Creek	10.23	358	Pn	Pn	00 18 23.9	+1.7
J30M	Hart River	10.24	33	Pn	Pn	00 18 24.1	+1.7
G24K	Hadweenzic Riv	10.24	4	Pn	Pn	00 18 23.6	+1.2
DLBC	Dease Lake	10.49	72	Pn	Pn	00 18 26.9	+1.1
	comp=E,0.5nm,0.3s,baz=247,slow=7.7,SNR=6.0						
	comp=E,4.5nm,0.7s						
E25K	Arctic Village	11.76	7	Pn	Pn	00 18 45.2	+2.2
YKA	Yellowknife Ar	18.37	57	P	Pn	00 20 09.9	-0.1
	baz=267,slow=10,SNR=1.6						
	comp=E,0.6nm,0.9s						
H11S1	WAKE ISLAND Hy	50.19	239	T	T	01 18 54.5	
	baz=31						
H11S2	WAKE ISLAND Hy	50.20	239	T	T	01 18 54.2	
	baz=31						
H11S3	WAKE ISLAND Hy	50.21	239	T	T	01 18 58.4	
	baz=31						
MKAR	Makanchi Array	68.42	325	P	P	00 26 57.2	+0.1
	comp=E,0.1nm,0.5s,baz=35,slow=7.7,SNR=2.0						
	comp=E,0.1nm,0.5s						

*IDC **24** 00:22:27.8±3.3,55°.88N×149°.63W,h0ᵏᵐ,mb3.4/2, mbtmp3.3/6,ML2.8/4,MS3.7/1,Error ellipse: s-maj=58.4km s-min=33.7km az=162.0*

*NEIC **24** 00:22:33.0±1.9,56°.31N±0°.05×150°.0W±0°.1,h26ᵏᵐ±7ᵏᵐ, mb3.9/1,ML3.6/50,ML3.4(AEIC),Error ellipse: s-maj=9.5km s-min=5.5km az=117.0*

*AEIC **24** 00:22:34.7±2.0,56°.30N±0°.09×150°.0W±0°.1,h3ᵏᵐ±7ᵏᵐ, Error ellipse: s-maj=12.7km s-min=8.0km az=163.0*

ISC 24 00:22:31.2±1.1,56°.33N±0°.09×150°.01W±0°.06,h10ᵏᵐ, n180,σ0ˢ97/177,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.01	298	Pn	Pn	00 23 04.1	-1.0
OHAK					Sn	00 23 28.1	-2.3
OHAK	Old Harbor	2.01	298	P	Pn	00 23 04.9	-0.3
	baz=115						
OHAK				S	Sn	00 23 28.5	-1.8
	baz=115						
KDAK	Kodiak Island	2.02	317	Pn	Pn	00 23 05.2	-0.1
KDAK	Kodiak Island	2.02	317	Pn	Pn	00 23 05.9	+0.6
	4.9nm,0.3s,baz=125,slow=8.2,SNR=5.9						
KDAK				Sn	Sn	00 23 28.7	-1.9
	16nm,0.3s,baz=352,slow=22,SNR=13						
	18nm,0.6s						
SYI	Shuyak Island	2.62	332	Pn	Pn	00 23 13.5	0.0
SYI					Sn	00 23 44.1	-1.3
Q20K	Shuyak Island	2.62	332	P	Pn	00 23 13.2	-0.4
	baz=149						
Q20K				S	Sn	00 23 44.5	-0.8
	baz=149						
R18K	Karluk	2.73	299		Pn	00 23 14.3	-0.7
R18K				Sn	Sn	00 23 47.5	-0.5
R18K				IAML		00 23 55.1	
	comp=N,193nm,0.5s						
R18K				IAML		00 23 59.5	
	comp=E,200nm,0.6s						
R18K	Karluk	2.73	299	P	Pn	00 23 15.1	+0.1
	baz=115						
R18K				S	Sn	00 23 48.0	0.0
	baz=115						
Q19K	Cape Douglas,	3.25	325	P	Pn	00 23 23.1	+0.8
Q19K	Cape Douglas,	3.25	325	P	Pn	00 23 23.6	+1.3
	baz=142						
CNPM	China Poot	3.27	349	Pn	Pn	00 23 21.6	-0.9
CNPM				Sn	Sn	00 24 01.0	-0.4
CNPM				IAML		00 24 05.6	
	comp=E,83nm,1.1s						
KAHG	Katmai Hook Gl	3.27	313		Pn	00 23 24.0	+1.4
BRSE	Bradley Lake S	3.44	354		Pn	00 23 24.7	-0.1
BRSE	Bradley Lake S	3.44	354	P	Pn	00 23 24.7	-0.1
	baz=173						
BRLK	Bradley Lake	3.47	353	Pn	Pn	00 23 24.0	-1.3
BRLK				IAML		00 24 09.5	
	comp=E,64nm,1.3s						
ANCK	Angle Creek	3.52	304		Pn	00 23 27.7	+1.7
KAHC	Katmai Hardscr	3.56	313		Pn	00 23 27.7	+1.2
KAHC	Katmai Hardscr	3.56	313	P	Pn	00 23 27.7	+1.2
	baz=129						
Q23K	Middleton Isla	3.67	31	Pn	Pn	00 23 26.0	-1.9
Q23K				IAML		00 24 10.2	
	comp=E,148nm,1.5s						
Q23K				IAML		00 25 09.7	
	comp=N,116nm,1.2s						
Q23K	Middleton Isla	3.67	31	P	Pn	00 23 27.7	-0.2
	baz=213						
MID	Middleton Isla	3.67	31	Pn	Pn	00 23 26.7	-1.3
MID				IAML		00 24 11.0	
	comp=N,155nm,1.5s						
MID				IAML		00 25 10.0	
	comp=E,137nm,1.3s						
CNTC	Contact Creek	3.73	304		Pn	00 23 30.2	+1.4
Q17K	Contact Creek	3.73	304	P	Pn	00 23 30.2	+1.3
	baz=119						
P19K	Oil Pt	3.74	334	Pn	Pn	00 23 29.0	0.0
P19K				IAML		00 24 20.6	
	comp=N,162nm,0.5s						
P19K				IAML		00 24 20.6	
	comp=E,158nm,0.5s						
P19K	Oil Pt	3.74	334	P	Pn	00 23 29.7	+0.7
	baz=151						
SEW	Seward	3.79	4	Pn	Pn	00 23 29.2	-0.5
SEW	Seward	3.79	4	P	Pn	00 23 29.5	-0.1
	baz=184						
P23K	Montague Islan	3.92	20		Pn	00 23 31.4	-0.1
P23K	Montague Islan	3.92	20	P	Pn	00 23 31.4	-0.1
	baz=201						
O20K	Slope Mountain	4.00	341		Pn	00 23 33.0	+0.3
O20K	Slope Mountain	4.00	341	P	Pn	00 23 33.0	+0.3
	baz=158						
P18K	Big Mountain,	4.14	320	Pn	Pn	00 23 34.7	+0.2
P18K	Big Mountain,	4.14	320	P	Pn	00 23 35.4	+0.9
	baz=136						
Q22K	Cooper Landing	4.16	2	Pn	Pn	00 23 35.4	+0.7
SLKM	Skilak Lake	4.19	359		Pn	00 23 34.5	-0.7
RSO	Redoubt South	4.38	342	Pn	Pn	00 23 36.8	-1.1
HIN	Hinchinbrook I	4.47	23	Pn	Pn	00 23 38.6	-0.5
HIN				IAML		00 24 32.7	
	comp=N,86nm,1.2s						
HIN				IAML		00 24 44.0	
	comp=E,77nm,1.1s						
O18K	Koktuh Hills	4.48	324	Pn	Pn	00 23 38.7	-0.4
O18K				IAML		00 24 45.6	
	comp=E,46nm,0.8s						
O18K				IAML		00 24 50.3	
	comp=N,48nm,1.0s						
O18K	Koktuh Hills	4.48	324	P	Pn	00 23 39.7	+0.6
	baz=140						
P17K	Kvichak River	4.48	312		Pn	00 23 40.4	+1.3
P17K	Kvichak River	4.48	312	P	Pn	00 23 40.4	+1.3
	baz=127						
CAPN	Captain Cook N	4.49	353	Pn	Pn	00 23 37.7	-1.4
CAPN	Captain Cook N	4.49	353	P	Pn	00 23 40.4	+1.2
	baz=172						
KAIM	Kayak Island	4.66	37	Pn	Pn	00 23 41.4	-0.3
KAIM				IAML		00 25 03.3	
	comp=E,95nm,1.4s						
KAIM	Kayak Island	4.66	37	P	Pn	00 23 42.1	+0.4
	baz=221						
CHGN	Chignik	4.68	273	Pn	Pn	00 23 42.2	+0.4
CHGN				IAML		00 25 22.9	
	comp=E,90nm,0.1s						
RC01	Rabbit Creek A	4.77	2	Pn	Pn	00 23 43.1	0.0
RC01				IAML		00 24 38.8	
	comp=E,33nm,1.4s						
RC01				IAML		00 24 47.0	
	comp=N,29nm,1.5s						
EYAK	Cordova Ski Ar	4.78	26	Pn	Pn	00 23 42.9	-0.3
EYAK	Cordova Ski Ar	4.78	26	P	Pn	00 23 43.5	+0.3
	baz=209						
RAGM	Ragged Mountai	4.94	32	Pn	Pn	00 23 45.8	+0.3
N19K	Bonanza Creek	5.06	334	Pn	Pn	00 23 47.2	0.0
N19K				IAML		00 25 01.8	
	comp=N,19nm,1.3s						
P16K	Nushagak River	5.06	306		Pn	00 23 48.1	+1.0
P16K	Nushagak River	5.06	306	P	Pn	00 23 48.1	+1.0
	baz=119						
GOAT	Goat Mountain	5.08	31		Pn	00 23 47.6	+0.1
O17K	Koliganek Bris	5.10	315		Pn	00 23 49.0	+1.4
O17K	Koliganek Bris	5.10	315	P	Pn	00 23 49.0	+1.4
	baz=130						
KNK	Knik Glacier	5.16	8	Pn	Pn	00 23 47.1	-1.4
KNK				IAML		00 24 52.5	
	comp=E,24nm,0.7s						
KNK				IAML		00 25 11.1	
	comp=N,19nm,0.9s						
KNK	Knik Glacier	5.16	8	P	Pn	00 23 48.6	+0.2
	baz=189						
SUA	Susitna One	5.16	356	Pn	Pn	00 23 46.4	-2.2
SUA				IAML		00 24 50.6	
	comp=N,18nm,1.1s						
SUA				IAML		00 25 21.9	
	comp=E,24nm,1.1s						
BERG	Berg Lake	5.25	37	Pn	Pn	00 23 49.8	+0.1
DIV	Divide	5.29	23	Pn	Pn	00 23 50.1	-0.2
PMR	Palmer	5.29	5	Pn	Pn	00 23 51.0	+0.8
PMR				IAML		00 24 52.6	
	comp=N,18nm,1.5s						
PMR				IAML		00 25 12.2	
	comp=E,16nm,1.5s						
N18K	Kilae Creek	5.34	327	Pn	Pn	00 23 50.4	-0.5
N18K				IAML		00 25 15.0	
	comp=E,16nm,1.0s						
N18K	Kilae Creek	5.34	327	P	Pn	00 23 51.2	+0.3
	baz=142						
O16K	Kokwok River B	5.40	311	Pn	Pn	00 23 52.7	+0.9
O16K	Kokwok River B	5.40	311	P	Pn	00 23 53.0	+1.3
	baz=124						
SNH	Sunshine Point	5.40	42	Pn	Pn	00 23 51.9	0.0
BMRM	Bremner River	5.44	29	Pn	Pn	00 23 52.7	+0.4
BMRM	Bremner River	5.44	29	P	Pn	00 23 52.8	+0.5
	baz=213						
GHO	Glory Hole Cre	5.48	5	Pn	Pn	00 23 53.5	+0.5
SML	Sawmill	5.56	8	Pn	Pn	00 23 54.1	+0.1
SVW2	Sparrevohn	5.59	331	Pn	Pn	00 23 53.5	-0.8
KLU	Klutina	5.59	21	Pn	Pn	00 23 55.3	+0.9
KLU	Klutina	5.59	21	P	Pn	00 23 55.0	+0.6
	baz=204						
CNBA	Chernabura Isl	5.64	258	Pn	Pn	00 23 54.7	-0.3
N17K	Nushagak Hills	5.64	321	Pn	Pn	00 23 56.5	+1.5
SCM	Sheep Creek Mo	5.69	13	Pn	Pn	00 23 53.4	-2.3
M20K	Styx River	5.79	345	Pn	Pn	00 23 57.6	+0.4
VRDI	Verde Repeater	5.97	32	Pn	Pn	00 24 01.1	+1.3
O15K	Ungalikthiuk R	5.98	303		Pn	00 24 00.8	+1.2
O15K	Ungalikthiuk R	5.98	303	P	Pn	00 24 00.8	+1.2
	baz=114						
SDPT	Sand Point	5.98	265	Pn	Pn	00 23 58.1	-1.6
N25K	Chitina, Valde	5.98	26	Pn	Pn	00 23 60.0	+0.2
M19K	Big River Lodg	6.02	340	Pn	Pn	00 24 00.6	+0.3
GLB	Gillahina Butte	6.04	30	Pn	Pn	00 24 00.7	0.0
KIAG	Kiagna River	6.09	38		Pn	00 24 01.4	0.0
M24K	Tolsona, Glenn	6.12	17	Pn	Pn	00 24 02.9	+1.3
N16K	Nishlik Lake	6.20	316		Pn	00 24 04.0	+1.3
N16K	Nishlik Lake	6.20	316	P	Pn	00 24 04.0	+1.3
	baz=128						
MCARA	McCarthy VSAT	6.22	33	Pn	Pn	00 24 03.7	+0.7
MCARA	McCarthy VSAT	6.22	33	P	Pn	00 24 03.5	+0.4
	baz=218						
PTPK	Patty Peak	6.25	36		Pn	00 24 03.8	+0.2
L19K	White Mountain	6.37	339	Pn	Pn	00 24 05.4	+0.4
M17K	Holitna River	6.37	326	Pn	Pn	00 24 05.5	+0.4
BARN	Barnard Glacie	6.43	39	Pn	Pn	00 24 06.5	+0.4
CTGM	Chitina Glacie	6.48	41	Pn	Pn	00 24 06.3	-0.5
LOGN	Logan Glacier	6.51	43	Pn	Pn	00 24 06.3	-0.8
N15K	Kwethluk River	6.56	310	Pn	Pn	00 24 09.2	+1.5
BCPM	Bancas Point	6.58	52	Pn	Pn	00 24 07.9	-0.1
M16K	Timber Creek	6.62	319	Pn	Pn	00 24 09.4	+1.0
O14K	Tigyukauivet M	6.69	301	Pn	Pn	00 24 10.4	+1.1
L18K	Granite Mounta	6.82	333	Pn	Pn	00 24 09.9	-1.2
M26K	Nabesna, AK	7.06	28	Pn	Pn	00 24 14.7	+0.2
RND	Reindeer	7.12	4	Pn	Pn	00 24 14.7	-0.7
TRF	Thorofare Moun	7.14	359	Pn	Pn	00 24 16.6	+0.8
CAST	Castle Rocks	7.18	353	Pn	Pn	00 24 16.8	+0.6
O29M	Mount Kennedy	7.21	52	Pn	Pn	00 24 17.1	+0.4
KTH	Kantishna Hill	7.26	357	Pn	Pn	00 24 17.5	+0.2
L16K	Owhat River	7.27	322	Pn	Pn	00 24 18.7	+1.4
TTA	Tatalina	7.28	338	Pn	Pn	00 24 17.3	-0.2
P29M	Windy Craggy	7.31	58	Pn	Pn	00 24 17.8	-0.2
M27K	Edge Creek, AK	7.33	31	Pn	Pn	00 24 19.3	+1.0
M14K	Bethel	7.66	311	Pn	Pn	00 24 22.3	+0.6
K17K	Iditarod	7.66	330	Pn	Pn	00 24 22.3	-0.4
S31K	Pelican	7.67	72	Pn	Pn	00 24 20.6	-2.2
BPAW	Bear Paw Mtn.	7.81	357	Pn	Pn	00 24 24.9	+0.1
RIDG	Independent Ri	7.86	17	Pn	Pn	00 24 27.1	+1.5
J18K	Innoko River	7.90	338	Pn	Pn	00 24 25.4	-0.6
L27K	Beaver Creek,	7.91	28	Pn	Pn	00 24 26.1	-0.1
BCAR	Beaver Creek A	7.92	28	Pn	Pn	00 24 27.0	+0.6
HYT	Haines Junctio	7.93	50	Pn	Pn	00 24 26.6	0.0
M13K	Dall Lake	8.11	306	Pn	Pn	00 24 30.1	+1.2
J19K	Poorman	8.17	342	Pn	Pn	00 24 29.2	-0.6
HDA	Harding Lake	8.24	9	Pn	Pn	00 24 31.9	+1.2
L14K	Kuka Creek	8.26	313	Pn	Pn	00 24 30.8	-0.1
K15K	Wolf Creek Mou	8.38	320	Pn	Pn	00 24 34.5	+1.9
CCB	Clear Creek Bu	8.41	7	Pn	Pn	00 24 33.6	+0.6
SKAG	Skagway	8.42	62	Pn	Pn	00 24 33.8	+0.6
N30M	Aishikik Lake	8.43	47	Pn	Pn	00 24 33.9	+0.5
M29M	Somme Creek	8.49	39	Pn	Pn	00 24 35.2	+1.0
O30N	Mendenhall	8.52	53	Pn	Pn	00 24 35.1	+0.5
IL31		8.60	9	Pn	Pn	00 24 36.5	+1.0
ILAR	Eielson Array	8.60	9	Pn	Pn	00 24 37.2	+1.6
ILAR	Eielson Array	8.60	9	Pn	Pn	00 24 38.1	+2.5
	comp=E,0.3nm,0.3s,baz=196,slow=13,SNR=4.6						
ILAR				Sn	Sn	00 26 10.2	-2.4
	comp=E,0.1nm,0.3s,baz=189,slow=23,SNR=4.9						
	comp=E,1.3nm,0.6s						
R32K	Eaglecrest	8.61	71	Pn	Pn	00 24 34.2	-1.5
JIS	Juneau Island	8.68	71	Pn	Pn	00 24 35.6	-1.1
MLY	Manley	8.73	358	Pn	Pn	00 24 38.3	+0.8
J16K	Anvik River	8.77	327	Pn	Pn	00 24 37.5	-0.4
J26L	Joseph Creek	8.79	19	Pn	Pn	00 24 38.4	+0.1
N31M	Braeburn, Yuko	8.98	49	Pn	Pn	00 24 41.5	+0.6
WHY	Whitehorse	9.02	55	Pn	Pn	00 24 41.6	+0.1
L29M	L29M	9.05	37	Pn	Pn	00 24 42.5	+0.7
M30M	Minto, Yukon	9.18	42	Pn	Pn	00 24 43.1	-0.4
P32M	Atlin	9.25	63	Pn	Pn	00 24 44.6	0.0
DAWY	Dawson	9.37	30	Pn	Pn	00 24 46.4	+0.2
J14K	Nanvaranak Lak	9.40	319	Pn	Pn	00 24 47.5	+0.9
H21K	Melozitna Rive	9.45	353	Pn	Pn	00 24 45.5	-1.7
H24K	Noodor Dome	9.59	5	Pn	Pn	00 24 50.8	+1.5
K29M	Barlow Dome	9.76	34	Pn	Pn	00 24 51.6	0.0
P33M	Teslin, Yukon	9.85	60	Pn	Pn	00 24 52.8	0.0
IMAR	Indian Mountai	9.85	351	Pn	Pn	00 24 52.6	0.0
Q32M	Nakina River	9.86	67	Pn	Pn	00 24 51.1	-2.0
H17K	Granite Mounta	9.89	335	Pn	Pn	00 24 52.2	-1.1
M31M	Drury Creek, Y	9.91	47	Pn	Pn	00 24 54.3	+0.7
G24K	Hadweenzic Riv	10.47	6	Pn	Pn	00 25 02.0	+0.8
R33M	Jennings River	10.59	65	Pn	Pn	00 25 01.7	-1.3
J30M	Hart River	10.65	34	Pn	Pn	00 25 05.8	+2.0
ANM	Nome	11.18	324	Pn	Pn	00 25 10.5	-0.3
F24K	Squaw Lake	11.27	4	Pn	Pn	00 25 12.5	+0.3
BMAR	Burnt Mountain	11.42	11	Pn	Pn	00 25 12.9	-1.3
E25K	Arctic Village	12.01	8	Pn	Pn	00 25 23.5	+1.3
G30M	tAoh Zraii Nji	12.49	26	Pn	Pn	00 25 29.2	+0.4
D22K	Ayikyak River	12.65	356	Pn	Pn	00 25 32.9	+1.9
G31M	Satah River	12.94	29	Pn	Pn	00 25 35.8	+0.9
D25K	Kavik River	13.14	6	Pn	Pn	00 25 37.8	+0.1
F31M	Tsiigehtchic	13.46	28	Pn	Pn	00 25 40.7	-1.3
INK	Inuvik	14.17	26	Pn	Pn	00 25 50.0	-1.7
INK	Inuvik	14.17	26	Pn	Pn	00 25 52.6	+0.9
	comp=E,0.1nm,0.3s,baz=220,slow=10,SNR=2.8						
	comp=E,1.3nm,1.0s						
ATKA	Atka Island	14.69	264	Pn	Pn	00 25 57.7	-1.2
A36M	Sachs Harbour	18.80	24	P	P	00 26 51.8	+1.5
A36M				IAmb	IAmb	00 27 10.1	
	comp=Z,6.7nm,0.8s						
YKA	Yellowknife Ar	18.85	56	P	P	00 26 49.4	-1.7
	baz=268,slow=10,SNR=2.4						
	comp=Z,0.2nm,0.9s						
H11N2	WAKE ISLAND Hy	48.56	239	T	T	01 24 05.0	
	baz=30						
H11N3	WAKE ISLAND Hy	48.56	239	T	T	01 24 12.0	
	baz=30						
H11N1	WAKE ISLAND Hy	48.58	239	T	T	01 24 17.1	
	baz=30						
H11S1	WAKE ISLAND Hy	49.70	239	T	T	01 25 35.0	
	baz=29						
H11S2	WAKE ISLAND Hy	49.72	239	T	T	01 25 39.6	
	baz=29						
H11S3	WAKE ISLAND Hy	49.72	239	T	T	01 25 25.7	
	baz=29						
JCJ	Chichijima	55.68	268	LR	LR	00 54 07.4	
	comp=Z,74nm,21.6s,baz=64,slow=34						
SONM	Songino Array	58.29	310	P	P	00 32 28.2	+2.3
	comp=Z,0.2nm,0.5s,baz=49,slow=5.9,SNR=2.2						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	68.32	324	P	P	00 33 33.2	+1.0
	comp=Z,0.4nm,0.9s,baz=29,slow=6.0,SNR=4.5						
	comp=Z,0.4nm,0.9s						

*CATAC **24** 00:23:44.6±0.5, 12°.87N×89°.38W, h26ᵏᵐ±5ᵏᵐ, ML3.7*
*SNET **24** 00:23:45.1±1.4, 12°.89N×89°.39W, h29ᵏᵐ, ML3.9*

ISC 24 00:23:43.9±2.1,12°.84N±0°.08×89°.41W±0°.06,h26ᵏᵐ±13ᵏᵐ, n46,σ0ˢ42/83,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.65	8	eP	Pn	00 23 57.9	+0.4
LALI				eS	Sn	00 24 06.6	-0.3
LALI	Alcalda de L	0.65	8	iP	Pn	00 23 57.8	+0.4
LALI				iS	Sn	00 24 06.4	-0.5
LALI				IAML		00 24 07.2	
	comp=Z,810nm,1.0s						
PANCS	Alcalda de	0.80	16	iP	Pn	00 23 59.6	0.0
PANCS				iS	Sn	00 24 10.2	-0.5
PANCS				IAML		00 24 11.3	
	comp=Z,11μm,1.0s						
JAYA	Jayaque - finc	0.81	357	eP	Pn	00 24 00.0	+0.2
JAYA				eS	Sn	00 24 10.8	-0.3
JAYA	Jayaque - finc	0.81	357	iP	Pn	00 24 00.0	+0.2
JAYA				iS	Sn	00 24 10.4	-0.7
JAYA				IAML		00 24 12.9	
	comp=Z,8μm,1.0s						
LOMA	Loma Larga	0.83	16	eP	Pn	00 24 00.3	+0.2
LOMA				eS	Sn	00 24 12.0	+0.4
LOMA	Loma Larga	0.83	16	iP	Pn	00 24 00.2	+0.1
LOMA				iS	Sn	00 24 11.7	+0.1
LOMA				IAML		00 24 12.7	
	comp=Z,6μm,1.0s						
LFRS	El Faro	0.85	24	eS	Sn	00 24 12.0	0.0
SNET	Serv Nac Est T	0.86	12	iP	Pb	00 24 00.4	+0.2
SNET				iS	Sn	00 24 12.3	+0.1
SNET				IAML		00 24 14.3	
	comp=Z,5μm,1.0s						
SJTE	Alcalda de S	0.86	27	iP	Pb	00 24 00.2	-0.1
SJTE				iS	Sn	00 24 12.1	-0.2
SJTE				IAML		00 24 14.0	
	comp=Z,2μm,1.0s						
PMON	Piamonte	0.87	6	iP	Pb	00 24 00.5	0.0
PMON				iS	Sn	00 24 12.7	+0.1
PMON				IAML		00 24 14.1	
	comp=Z,3μm,1.0s						
SEMO	Seminario San	0.88	12	iP	Pb	00 24 00.3	-0.2
SEMO				iS	Sn	00 24 12.3	-0.4
SEMO				IAML		00 24 14.6	
	comp=Z,6μm,1.0s						
UTEC	Universidad Te	0.88	13	iP	Pb	00 24 00.8	+0.2
UTEC				iS	Sn	00 24 12.8	+0.1
UTEC				IAML		00 24 14.8	
	comp=Z,2μm,1.0s						
UEES	Universidad Ev	0.89	11	iP	Pb	00 24 00.9	+0.2
UEES				iS	Sn	00 24 13.0	+0.1
UEES				IAML		00 24 15.2	
	comp=Z,2μm,1.0s						
AEIL	Aeropuerto Ilo	0.90	19	eP	Pb	00 24 01.6	+0.7
AEIL				eS	Sn	00 24 13.9	+0.7
BOQS	Boqueron	0.90	8	eP	Pn	00 24 01.3	+0.2
BOQS				eS	Sn	00 24 13.4	0.0
IGN	Direccin Gen	0.90	15	iP	Pb	00 24 01.2	+0.3
IGN				iS	Sn	00 24 13.3	+0.1
IGN				IAML		00 24 16

LLGN *i* S **Sn** **00 24 25.3 -0.1**
MTO3 Montecristo 1.55 2 *e*P **Pn** **00 24 10.2 +0.1**
MTO3 Montecristo 1.55 2 *i* P **Pn** **00 24 10.0 -0.1**
MTO3 IAML 00 24 10.8
comp=Z,370nm,1.0s
LCND La Caada 1.55 72 *i* P **Pn** **00 24 10.0 +0.1**
LCND *i* S **Sn** **00 24 29.3 +0.1**
LCND IAML 00 24 31.7
comp=Z,1μm,1.0s
CNCH Conchagua 1.60 74 *e*P **Pn** **00 24 10.8 +0.2**
CNCH *e*S **Sn** **00 24 31.0 +0.5**
CNCH Conchagua 1.60 74 *i* P **Pn** **00 24 10.6 0.0**
CNCH IAML 00 24 33.5
comp=Z,2μm,1.0s
CNGA Al SSO del Vol 2.67 97 *i* P **Pn** **00 24 25.1 -0.2**
CNGA IAML 00 25 02.2
comp=Z,160nm,1.0s
MACN El Madrono 2.70 98 *i* P **Pn** **00 24 25.5 -0.2**
MACN IAML 00 25 00.3
comp=Z,85nm,1.0s
LIMN Finca el Limon 2.98 85 *i* P **Pn** **00 24 29.5 -0.1**
LIMN IAML 00 25 08.9
comp=Z,47nm,1.0s

IDC ***24*** *00:25:57.1±1.2,56°.11N×149°.50W,h0km,mb3.5/8, mbtmp3.5/13,ML3.5/5,MS3.4/1,Error ellipse: s-maj=27.7km s-min=16.2km az=36.0*
NEIC ***24*** *00:26:00.3±1.8,56°.26N±0°.09×149°.32W±0°.10,h21km±9km, mb4.1/2,ML3.9/50,ML3.6(AEIC),Error ellipse: s-maj=12.9km s-min=7.6km az=168.0*
AEIC ***24*** *00:26:02.6±2.2,56°.17N±0°.09×149°.2W±0°.1,h10km±7km, Error ellipse: s-maj=12.9km s-min=7.7km az=166.0*

ISC 24 00:25:59.0±0.7,56°.31N±0°.08×149°.32W±0°.05,h10km, n276,σ1§06/276,mb3.6/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.31**	**311**	Pn	**Pn**	**00 26 36.9**	**-0.2**
KDAK	**Kodiak Island**	**2.31**	**311**		**Sn**	**00 27 04.0**	**-1.6**
KDAK	**Kodiak Island**	**2.31**	**311**	Pn	**Pn**	**00 26 37.5**	**+0.4**
KDAK	4.0nm,0.3s,baz=126,slow=9.0,SNR=9.2			Sn	**Sn**	**00 27 04.6**	**-1.0**
	28nm,0.3s,baz=28,slow=22,SNR=24 9.0nm,0.3s						
OHAK	**Old Harbor**	**2.37**	**294**	Pn	**Pn**	**00 26 37.2**	**-0.6**
OHAK				Sn	**Sn**	**00 27 04.2**	**-2.7**
OHAK	**Old Harbor**	**2.37**	**294**	P	**Pn**	**00 26 37.7**	**-0.1**
	baz=114						
OHAK				S	**Sn**	**00 27 04.8**	**-2.0**
	baz=114						
SYI	**Shuyak Island**	**2.84**	**326**	Pn	**Pn**	**00 26 45.4**	**+1.0**
Q20K	**Shuyak Island**	**2.84**	**326**	P	**Pn**	**00 26 45.0**	**+0.7**
	baz=144						
Q20K				S	**Sn**	**00 27 18.8**	**+0.3**
	baz=144						
R18K	**Karluk**	**3.08**	**296**	Pn	**Pn**	**00 26 47.2**	**-0.4**
R18K				Sn	**Sn**	**00 27 22.1**	**-2.4**
R18K				IAML		00 27 25.0	
	comp=N,343nm,0.5s						
R18K				IAML		00 27 27.8	
	comp=E,341nm,0.4s						
R18K	**Karluk**	**3.08**	**296**	P	**Pn**	**00 26 47.9**	**+0.3**
	baz=114						
R18K				S	**Sn**	**00 27 22.9**	**-1.5**
	baz=114						
CNPM	**China Poot**	**3.38**	**343**	Pn	**Pn**	**00 26 52.6**	**+0.8**
CNPM				Sn	**Sn**	**00 27 32.5**	**+0.6**
CNPM				IAML		00 27 35.0	
	comp=E,138nm,0.8s						
Q19K	**Cape Douglas,**	**3.51**	**320**	Pn	**Pn**	**00 26 54.4**	**+0.8**
Q19K				IAML		00 27 43.0	
	comp=N,406nm,0.7s						
Q19K	**Cape Douglas,**	**3.51**	**320**	P	**Pn**	**00 26 55.3**	**+1.7**
	baz=137						
Q23K	**Middleton Isla**	**3.51**	**26**	Pn	**Pn**	**00 26 53.3**	**-0.2**
Q23K				Sn	**Sn**	**00 27 32.6**	**-2.3**
Q23K				IAML		00 27 42.8	
	comp=N,295nm,2.5s						
Q23K				IAML		00 28 20.2	
	comp=E,252nm,3.2s						
Q23K	**Middleton Isla**	**3.51**	**26**	P	**Pn**	**00 26 53.4**	**0.0**
	baz=206						
Q23K				S	**Sn**	**00 27 33.3**	**-1.6**
	baz=206						
MID	**Middleton Isla**	**3.51**	**26**	Pn	**Pn**	**00 26 52.7**	**-0.8**
MID				IAML		00 27 42.7	
	comp=N,295nm,3.3s						
MID				IAML		00 28 05.9	
	comp=E,240nm,2.0s						
MID	**Middleton Isla**	**3.51**	**26**	P	**Pn**	**00 26 53.5**	**0.0**
BRSE	**Bradley Lake S**	**3.52**	**348**		**Pn**	**00 26 54.2**	**+0.4**
BRSE	**Bradley Lake S**	**3.52**	**348**	P	**Pn**	**00 26 54.2**	**+0.4**
	baz=167						
BRLK	**Bradley Lake**	**3.56**	**347**	Pn	**Pn**	**00 26 54.5**	**+0.3**
BRLK				IAML		00 27 40.5	
	comp=E,125nm,0.5s						
KAHG	**Katmai Hook Gl**	**3.57**	**310**		**Pn**	**00 26 56.0**	**+1.5**
HOM	**Homer**	**3.58**	**341**	Pn	Pn	00 26 52.3	-2.1
HOM				IAML		00 28 41.0	
	comp=N,390nm,2.4s						
AUJK	**Augustine Jueg**	**3.75**	**326**		**Pn**	**00 26 58.2**	**+1.4**
ACHA	**Angle Creek He**	**3.77**	**303**		**Pn**	**00 26 59.0**	**+1.7**
SEW	**Seward**	**3.81**	**359**	Pn	**Pn**	**00 26 56.6**	**-0.9**
SEW	**Seward**	**3.81**	**359**	P	**Pn**	**00 26 57.8**	**+0.3**
	baz=178						
P23K	**Montague Islan**	**3.83**	**15**	P	**Pn**	**00 26 58.4**	**+0.3**
	baz=195						
ANCK	**Angle Creek**	**3.85**	**302**		**Pn**	**00 27 00.0**	**+1.7**
KAHC	**Katmai Hardscr**	**3.86**	**310**		**Pn**	**00 26 59.9**	**+1.4**
KAHC	**Katmai Hardscr**	**3.86**	**310**	P	**Pn**	**00 26 59.9**	**+1.4**
	baz=126						
P19K	**Oil Pt**	**3.94**	**330**	Pn	**Pn**	**00 26 59.8**	**+0.2**
P19K				IAML		00 27 52.2	
	comp=E,275nm,0.4s						
P19K				IAML		00 27 52.2	
	comp=N,260nm,0.4s						
P19K	**Oil Pt**	**3.94**	**330**	P	**Pn**	**00 27 00.8**	**+1.2**
	baz=147						
CNTC	**Contact Creek**	**4.06**	**302**		**Pn**	**00 27 02.9**	**+1.6**
Q17K	**Contact Creek**	**4.06**	**302**	P	**Pn**	**00 27 02.9**	**+1.6**
	baz=117						
O20K	**Slope Mountain**	**4.17**	**337**		**Pn**	**00 27 03.2**	**+0.6**
O20K	**Slope Mountain**	**4.17**	**337**	P	**Pn**	**00 27 03.2**	**+0.6**
	baz=154						
O22K	**Cooper Landing**	**4.19**	**357**	Pn	**Pn**	**00 27 03.3**	**+0.5**
O22K				IAML		00 27 59.9	
	comp=E,244nm,0.4s						
O22K				IAML		00 28 15.3	
	comp=N,237nm,0.9s						
O22K	**Cooper Landing**	**4.19**	**357**	P	**Pn**	**00 27 03.4**	**+0.5**
	baz=176						
IVE	**Iliamna Volcan**	**4.20**	**334**		**Pn**	**00 27 03.6**	**+0.5**
HIN	**Hinchinbrook I**	**4.36**	**19**	Pn	**Pn**	**00 27 05.5**	**+0.3**
HIN				IAML		00 27 58.6	
	comp=E,122nm,1.7s						
HIN				IAML		00 28 01.8	
	comp=N,135nm,0.5s						
P18K	**Big Mountain,**	**4.42**	**317**	Pn	**Pn**	**00 27 06.5**	**+0.5**
P18K				IAML		00 28 00.5	
	comp=E,64nm,3.5s						
P18K	**Big Mountain,**	**4.42**	**317**	P	**Pn**	**00 27 06.7**	**+0.6**
	baz=133						
KAIM	**Kayak Island**	**4.46**	**34**	Pn	**Pn**	**00 27 06.9**	**+0.3**
KAIM	**Kayak Island**	**4.46**	**34**	P	**Pn**	**00 27 07.2**	**+0.6**
	baz=216						
RED	**Redoubt Volcan**	**4.50**	**338**		**Pn**	**00 27 07.3**	**+0.1**
RDSO	**Redoubt South**	**4.53**	**338**		**Pn**	**00 27 07.6**	**0.0**
RSO	**Redoubt South**	**4.54**	**338**	Pn	**Pn**	**00 27 08.0**	**+0.1**
RDWB	**Redoubt West**	**4.58**	**338**		**Pn**	**00 27 08.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.65**	**22**	Pn	**Pn**	**00 27 08.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.65**	**22**	P	**Pn**	**00 27 09.9**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.65**	**22**	P	**Pn**	**00 27 09.7**	**+0.6**
	baz=204						
O19K	**Port Alsworth**	**4.70**	**328**	Pn	**Pn**	**00 27 09.1**	**-0.8**
O19K	**Port Alsworth**	**4.70**	**328**	P	**Pn**	**00 27 10.3**	**+0.3**
	baz=144						
O18K	**Koktuh Hills**	**4.73**	**321**	P	**Pn**	**00 27 11.1**	**+0.7**
	baz=137						
RAGM	**Ragged Mountai**	**4.76**	**29**	Pn	**Pn**	**00 27 11.2**	**+0.4**
P17K	**Kvichak River**	**4.78**	**310**		**Pn**	**00 27 12.3**	**+1.3**
P17K	**Kvichak River**	**4.78**	**310**	P	**Pn**	**00 27 12.3**	**+1.3**
	baz=125						
RC01	**Rabbit Creek A**	**4.80**	**358**	Pn	**Pn**	**00 27 11.3**	**+0.1**
RC01				IAML		00 28 16.5	
	comp=E,50nm,0.8s						
RC01				IAML		00 28 18.0	
	comp=N,55nm,1.0s						
RC01	**Rabbit Creek A**	**4.80**	**358**	P	**Pn**	**00 27 11.7**	**+0.4**
	baz=177						
GOAT	**Goat Mountain**	**4.92**	**27**		**Pn**	**00 27 13.7**	**+0.8**
BERG	**Berg Lake**	**5.05**	**34**		**Pn**	**00 27 15.0**	**+0.3**
CHGN	**Chignik**	**5.06**	**274**	Pn	**Pn**	**00 27 14.7**	**-0.2**
N20K	**Mount Spurr**	**5.13**	**344**	P	**Pn**	**00 27 15.9**	**+0.1**
	baz=162						
SPCR	**Spurr Chakacha**	**5.13**	**344**		**Pn**	**00 27 15.9**	**+0.1**
KNK	**Knik Glacier**	**5.14**	**5**	Pn	**Pn**	**00 27 16.7**	**+0.8**
KNK				IAML		00 28 06.5	
	comp=N,35nm,4.6s						
KNK				IAML		00 28 16.8	
	comp=E,40nm,3.6s						
KNK	**Knik Glacier**	**5.14**	**5**	P	**Pn**	**00 27 16.7**	**+0.8**
	baz=185						
DIV	**Divide**	**5.17**	**19**		**Pn**	**00 27 17.2**	**+0.7**
SNH	**Sunshine Point**	**5.17**	**39**	Pn	**Pn**	**00 27 16.9**	**+0.4**
SNH				IAML		00 28 09.6	
	comp=N,96nm,2.6s						
SNH				IAML		00 28 19.6	
	comp=E,92nm,1.7s						
SPCP	**Crater Peak Br**	**5.18**	**345**		**Pn**	**00 27 17.5**	**+0.9**
SPCG	**Spurr Capps Gl**	**5.19**	**345**		**Pn**	**00 27 17.1**	**+0.4**
SUA	**Susitna One**	**5.22**	**352**	Pn	**Pn**	**00 27 16.1**	**-1.0**
SUA				IAML		00 27 59.5	
	comp=E,54nm,3.2s						
SUA				IAML		00 28 32.4	
	comp=N,47nm,3.7s						
SUA	**Susitna One**	**5.22**	**352**	P	**Pn**	**00 27 17.6**	**+0.4**
	baz=171						
N19K	**Bonanza Creek**	**5.26**	**331**	Pn	**Pn**	**00 27 17.5**	**-0.2**
N19K	**Bonanza Creek**	**5.26**	**331**	P	**Pn**	**00 27 18.0**	**+0.3**
	baz=147						
BMRM	**Bremner River**	**5.28**	**26**		**Pn**	**00 27 18.5**	**+0.6**
BMRM	**Bremner River**	**5.28**	**26**	P	**Pn**	**00 27 18.5**	**+0.6**
	baz=209						
PMR	**Palmer**	**5.30**	**1**	Pn	**Pn**	**00 27 18.6**	**+0.5**
PMR				IAML		00 28 35.0	
	comp=N,35nm,3.5s						
PMR	**Palmer**	**5.30**	**1**	P	**Pn**	**00 27 19.5**	**+1.4**
PMR	**Palmer**	**5.30**	**1**	P	**Pn**	**00 27 19.0**	**+1.0**
	baz=180						
SPNN	**North Nagishla**	**5.37**	**342**		**Pn**	**00 27 20.1**	**+0.9**
O17K	**Koliganek Bris**	**5.39**	**313**		**Pn**	**00 27 20.4**	**+1.0**
O17K	**Koliganek Bris**	**5.39**	**313**	P	**Pn**	**00 27 20.4**	**+1.0**
	baz=127						
P16K	**Nushagak River**	**5.39**	**304**		**Pn**	**00 27 20.6**	**+1.3**
P16K	**Nushagak River**	**5.39**	**304**	P	**Pn**	**00 27 20.6**	**+1.3**
	baz=118						
BARK	**Barkley Ridge**	**5.46**	**38**		**Pn**	**00 27 20.7**	**+0.4**
GHO	**Glory Hole Cre**	**5.48**	**2**	Pn	**Pn**	**00 27 21.9**	**+1.2**
KLU	**Klutina**	**5.49**	**17**	Pn	**Pn**	**00 27 21.6**	**+0.9**
KLU	**Klutina**	**5.49**	**17**	P	**Pn**	**00 27 21.8**	**+1.0**
	baz=199						
SML	**Sawmill**	**5.54**	**5**	Pn	**Pn**	**00 27 22.4**	**+0.9**
SML	**Sawmill**	**5.54**	**5**	P	**Pn**	**00 27 22.8**	**+1.4**
	baz=185						
M23K	**Glacier View**	**5.56**	**8**		**Pn**	**00 27 23.3**	**+1.5**
M23K	**Glacier View**	**5.56**	**8**	P	**Pn**	**00 27 23.3**	**+1.5**
	baz=188						
N18K	**Kilae Creek**	**5.57**	**325**	Pn	**Pn**	**00 27 21.5**	**-0.4**
N18K	**Kilae Creek**	**5.57**	**325**	P	**Pn**	**00 27 22.3**	**+0.4**
	baz=139						
SCM	**Sheep Creek Mo**	**5.63**	**10**	Pn	**Pn**	**00 27 23.8**	**+1.1**
SCM	**Sheep Creek Mo**	**5.63**	**10**	P	**Pn**	**00 27 23.9**	**+1.1**
	baz=191						
O16K	**Kokwok River B**	**5.71**	**309**	Pn	**Pn**	**00 27 25.0**	**+1.3**
O16K	**Kokwok River B**	**5.71**	**309**	P	**Pn**	**00 27 24.8**	**+1.1**
	baz=122						
SKT	**Skwentna**	**5.80**	**350**	Pn	**Pn**	**00 27 25.5**	**+0.5**
SKT	**Skwentna**	**5.80**	**350**	P	**Pn**	**00 27 26.0**	**+1.0**
	baz=167						
VRDI	**Verde Repeater**	**5.80**	**29**	Pn	**Pn**	**00 27 25.2**	**0.0**
SVW2	**Sparrevohn**	**5.80**	**328**	Pn	**Pn**	**00 27 24.7**	**-0.3**
SVW2	**Sparrevohn**	**5.80**	**328**	P	**Pn**	**00 27 25.4**	**+0.4**
N25K	**Chitina, Valde**	**5.84**	**23**	Pn	**Pn**	**00 27 25.6**	**-0.1**
N25K	**Chitina, Valde**	**5.84**	**23**	P	**Pn**	**00 27 26.0**	**+0.3**
	baz=206						
KIAG	**Kiagna River**	**5.88**	**35**		**Pn**	**00 27 26.5**	**+0.2**
GLB	**Gilahina Butte**	**5.88**	**27**	Pn	**Pn**	**00 27 26.1**	**-0.1**
N17K	**Nushagak Hills**	**5.91**	**319**	Pn	**Pn**	**00 27 26.1**	**-0.3**
N17K	**Nushagak Hills**	**5.91**	**319**	P	**Pn**	**00 27 27.3**	**+0.8**
	baz=133						
SAMH	**Samovar Hills**	**5.92**	**46**		**Pn**	**00 27 26.3**	**-0.4**
M20K	**Styx River**	**5.92**	**342**	Pn	**Pn**	**00 27 26.9**	**+0.1**
M20K	**Styx River**	**5.92**	**342**	P	**Pn**	**00 27 27.2**	**+0.5**
	baz=159						
CNBA	**Chernabura Isl**	**6.01**	**260**	Pn	**Pn**	**00 27 26.8**	**-1.1**
M24K	**Tolsona, Glenn**	**6.03**	**14**	Pn	**Pn**	**00 27 29.6**	**+1.4**
M24K	**Tolsona, Glenn**	**6.03**	**14**	P	**Pn**	**00 27 29.8**	**+1.6**
	baz=196						
MCARA	**McCarthy VSAT**	**6.04**	**30**	Pn	**Pn**	**00 27 29.1**	**+0.8**
MCARA	**McCarthy VSAT**	**6.04**	**30**	P	**Pn**	**00 27 29.3**	**+1.0**
	baz=214						
PTPK	**Patty Peak**	**6.05**	**33**		**Pn**	**00 27 29.3**	**+0.7**
PCA	**Pinnacle**	**6.11**	**48**		**Pn**	**00 27 30.1**	**+0.7**
PINM	**Pinnacle**	**6.11**	**48**	P	**Pn**	**00 27 30.1**	**+0.7**
	baz=234						
M19K	**Big River Lodg**	**6.18**	**337**	Pn	**Pn**	**00 27 29.4**	**-0.9**
M19K	**Big River Lodg**	**6.18**	**337**	P	**Pn**	**00 27 30.3**	**0.0**
	baz=153						
M18K	**Stony River**	**6.19**	**330**		**Pn**	**00 27 30.4**	**+0.1**
M18K	**Stony River**	**6.19**	**330**	P	**Pn**	**00 27 30.4**	**+0.1**
	baz=144						
BARN	**Barnard Glacie**	**6.21**	**37**	Pn	**Pn**	**00 27 31.3**	**+0.5**
CTG	**Chitna Glacier**	**6.25**	**38**	P	**Pn**	**00 27 31.5**	**+0.2**
	baz=224						
CTGM	**Chitina Glacie**	**6.26**	**38**		**Pn**	**00 27 31.5**	**+0.1**
PNL	**Peninsula**	**6.26**	**53**		**Pn**	**00 27 31.4**	**+0.1**
PNL	**Peninsula**	**6.26**	**53**	P	**Pn**	**00 27 32.2**	**+0.9**
PNL	**Peninsula**	**6.26**	**53**	P	**Pn**	**00 27 31.4**	**+0.1**
	baz=240						
LOGN	**Logan Glacier**	**6.28**	**40**	Pn	**Pn**	**00 27 32.2**	**+0.5**
BCPM	**Bancas Point**	**6.30**	**51**	Pn	**Pn**	**00 27 32.0**	**+0.2**
O15K	**Ungalikthiuk R**	**6.31**	**301**		**Pn**	**00 27 33.7**	**+1.7**
O15K	**Ungalikthiuk R**	**6.31**	**301**	P	**Pn**	**00 27 33.7**	**+1.7**
	baz=113						
WAT6	**Susitna Watana**	**6.34**	**7**		**Pn**	**00 27 33.3**	**+0.8**
WAT6	**Susitna Watana**	**6.34**	**7**	P	**Pn**	**00 27 33.3**	**+0.8**
	baz=187						
SDPT	**Sand Point**	**6.36**	**266**	Pn	**Pn**	**00 27 31.9**	**-0.8**
SDPT	**Sand Point**	**6.36**	**266**	P	**Pn**	**00 27 33.1**	**+0.5**
HARP	**HAARP**	**6.47**	**17**		**Pn**	**00 27 35.6**	**+1.5**
HARP	**HAARP**	**6.47**	**17**	P	**Pn**	**00 27 35.6**	**+1.5**
	baz=200						
N16K	**Nishlik Lake**	**6.48**	**314**		**Pn**	**00 27 36.0**	**+1.6**
N16K	**Nishlik Lake**	**6.48**	**314**	P	**Pn**	**00 27 36.0**	**+1.6**
	baz=126						
L19K	**White Mountain**	**6.53**	**337**	Pn	**Pn**	**00 27 34.7**	**-0.4**
L19K	**White Mountain**	**6.53**	**337**	P	**Pn**	**00 27 35.6**	**+0.5**
	baz=152						
WAT1	**Susitna Watana**	**6.55**	**3**		**Pn**	**00 27 36.3**	**+1.0**
WAT1	**Susitna Watana**	**6.55**	**3**	P	**Pn**	**00 27 36.3**	**+1.0**
	baz=183						
L20K	**Farewell, AK**	**6.61**	**341**		**Pn**	**00 27 37.1**	**+1.0**
L20K	**Farewell, AK**	**6.61**	**341**	P	**Pn**	**00 27 37.1**	**+1.0**
	baz=157						
M17K	**Holitna River**	**6.61**	**324**	Pn	**Pn**	**00 27 36.6**	**+0.4**
M17K	**Holitna River**	**6.61**	**324**	P	**Pn**	**00 27 37.1**	**+0.9**
	baz=137						
DHY	**Denali Highway**	**6.86**	**7**	Pn	**Pn**	**00 27 40.6**	**+0.9**
DHY	**Denali Highway**	**6.86**	**7**	P	**Pn**	**00 27 40.9**	**+1.2**
	baz=188						
N15K	**Kwethluk River**	**6.87**	**309**	Pn	**Pn**	**00 27 41.5**	**+1.8**
N15K	**Kwethluk River**	**6.87**	**309**	P	**Pn**	**00 27 41.2**	**+1.5**
	baz=120						
M16K	**Timber Creek**	**6.89**	**317**	Pn	**Pn**	**00 27 41.0**	**+1.0**
M16K	**Timber Creek**	**6.89**	**317**	P	**Pn**	**00 27 41.1**	**+1.2**
	baz=130						
O29M	**Mount Kennedy**	**6.93**	**50**	Pn	**Pn**	**00 27 41.3**	**+0.6**
O29M	**Mount Kennedy**	**6.93**	**50**	P	**Pn**	**00 27 40.7**	**+0.1**
	baz=238						
PAX	**Paxson**	**6.96**	**15**		**Pn**	**00 27 42.4**	**+1.5**
PAX	**Paxson**	**6.96**	**15**	P	**Pn**	**00 27 42.4**	**+1.5**
	baz=197						
P29M	**Windy Craggy**	**7.00**	**57**	Pn	**Pn**	**00 27 41.7**	**+0.2**
P29M	**Windy Craggy**	**7.00**	**57**	P	**Pn**	**00 27 41.2**	**-0.3**
	baz=245						
L18K	**Granite Mounta**	**7.02**	**331**	Pn	**Pn**	**00 27 41.3**	**-0.5**
L18K	**Granite Mounta**	**7.02**	**331**	P	**Pn**	**00 27 41.9**	**+0.2**
	baz=144						
O14K	**Tigyukauivet M**	**7.03**	**300**	Pn	**Pn**	**00 27 42.9**	**+1.1**
YUK8	**Steele Glacier**	**7.03**	**41**		**Pn**	**00 27 43.7**	**+1.6**
YUK8	**Steele Glacier**	**7.03**	**41**	P	**Pn**	**00 27 43.7**	**+1.6**
	baz=228						
RND	**Reindeer**	**7.12**	**2**	Pn	**Pn**	**00 27 44.3**	**+1.1**
YUK3	**Moose Creek**	**7.13**	**36**		**Pn**	**00 27 45.3**	**+1.9**
YUK3	**Moose Creek**	**7.13**	**36**	P	**Pn**	**00 27 45.3**	**+1.9**
	baz=223						
M27K	**Edge Creek, AK**	**7.16**	**29**	Pn	**Pn**	**00 27 45.0**	**+1.3**
M27K	**Edge Creek, AK**	**7.16**	**29**	P	**Pn**	**00 27 45.4**	**+1.7**
	baz=214						
TRF	**Thorofare Moun**	**7.18**	**357**	Pn	**Pn**	**00 27 44.9**	**+0.9**
TRF	**Thorofare Moun**	**7.18**	**357**	P	**Pn**	**00 27 45.0**	**+0.9**
	baz=175						
PN7A	**Pavlof North-7**	**7.19**	**268**		**Pn**	**00 27 44.6**	**+0.6**
YUK7	**Dusty Glacier**	**7.23**	**50**		**Pn**	**00 27 46.3**	**+1.5**
CAST	**Castle Rocks**	**7.26**	**350**	Pn	**Pn**	**00 27 45.6**	**+0.6**
CAST	**Castle Rocks**	**7.26**	**350**	P	**Pn**	**00 27 45.9**	**+0.8**
	baz=168						
KTH	**Kantishna Hill**	**7.31**	**354**	Pn	**Pn**	**00 27 46.0**	**+0.2**
L26K	**Log Cabin Wild**	**7.38**	**22**	Pn	**Pn**	**00 27 47.9**	**+1.2**
MCK	**McKinley**	**7.45**	**1**		**Pn**	**00 27 49.6**	**+2.0**
MCK	**McKinley**	**7.45**	**1**	P	**Pn**	**00 27 49.6**	**+2.0**
	baz=181						
TTA	**Tatalina**	**7.45**	**336**	Pn	**Pn**	**00 27 47.5**	**-0.2**
TTA	**Tatalina**	**7.45**	**336**	P	**Pn**	**00 27 48.3**	**+0.6**
K20K	**Telida**	**7.46**	**343**	Pn	Pn	00 27 46.2	-1.5
YUK4	**Talbot Arm**	**7.49**	**43**	P	**Pn**	**00 27 51.3**	**+3.0**
	baz=231						
L16K	**Owhat River**	**7.53**	**320**	Pn	**Pn**	**00 27 48.3**	**-0.4**
L16K	**Owhat River**	**7.53**	**320**	P	**Pn**	**00 27 49.9**	**+1.2**
	baz=132						
HYT	**Haines Junctio**	**7.65**	**49**	Pn	**Pn**	**00 27 51.1**	**+0.6**
YUK5	**Granite Creek**	**7.67**	**46**		**Pn**	**00 27 52.4**	**+1.6**
SIT	**Sitka**	**7.75**	**79**	P	**Pn**	00 27 48.6	-3.1
L27K	**Beaver Creek,**	**7.76**	**26**	Pn	**Pn**	**00 27 52.8**	**+0.9**
BCAR	**Beaver Creek A**	**7.77**	**26**	Pn	**Pn**	**00 27 53.6**	**+1.6**
RIDG	**Independent Ri**	**7.78**	**15**	Pn	**Pn**	**00 27 53.2**	**+1.0**
BPAW	**Bear Paw Mtn.**	**7.86**	**355**	Pn	**Pn**	**00 27 53.0**	**-0.3**
BPAW	**Bear Paw Mtn.**	**7.86**	**355**	P	**Pn**	**00 27 53.4**	**+0.2**
	baz=173						
K17K	**Iditarod**	**7.87**	**328**	Pn	**Pn**	**00 27 53.2**	**-0.2**
BWN	**Browne**	**7.89**	**360**	Pn	**Pn**	**00 27 54.6**	**+1.0**
J18K	**Innoko River**	**8.08**	**336**	Pn	**Pn**	**00 27 56.1**	**-0.1**
SKAG	**Skagway**	**8.10**	**61**	P	**Pn**	**00 27 55.7**	**-0.7**
FALS	**False Pass**	**8.12**	**266**	P	**Pn**	**00 27 57.1**	**+0.3**
SCRK	**Sand Creek**	**8.13**	**17**	Pn	**Pn**	**00 27 58.1**	**+1.0**
N30M	**Aishikik Lake**	**8.16**	**46**	Pn	**Pn**	**00 27 57.8**	**+0.3**
HDA	**Harding Lake**	**8.21**	**7**	Pn	**Pn**	**00 27 58.6**	**+0.5**
O30N	**Mendenhall**	**8.23**	**52**	Pn	**Pn**	**00 27 59.3**	**+0.9**
J20K	**Nowinta River**	**8.24**	**345**	Pn	**Pn**	**00 27 58.4**	**-0.1**
J19K	**Poorman**	**8.32**	**340**	Pn	**Pn**	**00 27 58.1**	**-1.4**
ISLZ	**Isanotski Laza**	**8.32**	**265**		**Pn**	**00 27 59.4**	**-0.2**
CCB	**Clear Creek Bu**	**8.40**	**4**	Pn	**Pn**	**00 28 01.9**	**+1.3**
K27K	**Chicken**	**8.54**	**22**	Pn	**Pn**	**00 28 03.6**	**+1.1**
J25K	**Salcha River,**	**8.55**	**12**	Pn	**Pn**	**00 28 02.6**	**-0.2**
L14K	**Kuka Creek**	**8.56**	**312**	Pn	**Pn**	**00 28 04.6**	**+1.8**
IL31		**8.57**	**7**	Pn	**Pn**	**00 28 04.2**	**+1.3**
ILAR	**Eielson Array**	**8.57**	**7**	Pn	**Pn**	**00 28 04.6**	**+1.6**
ILAR	**Eielson Array**	**8.57**	**7**	Pn	**Pn**	**00 28 03.5**	**+0.6**
	comp=N,1.1nm,0.3s,baz=188,slow=14,SNR=20						
ILAR				Sn	**Sn**	**00 29 36.5**	**-3.2**
	comp=N,0.2nm,0.3s,baz=176,slow=16,SNR=2.7 comp=N,2.5nm,0.4s						
K15K	**Wolf Creek Mou**	**8.65**	**319**	Pn	**Pn**	**00 28 04.3**	**+0.2**
J26L	**Joseph Creek**	**8.69**	**17**	Pn	**Pn**	**00 28 05.9**	**+1.2**
WHY	**Whitehorse**	**8.72**	**54**	Pn	**Pn**	**00 28 06.2**	**+1.0**
MLY	**Manley**	**8.78**	**356**	Pn	**Pn**	**00 28 06.0**	**+0.2**
L29M	**L29M**	**8.85**	**35**	Pn	**Pn**	**00 28 07.6**	**+0.8**
I23K	**Minto, Yukon-K**	**8.87**	**360**	Pn	**Pn**	**00 28 08.1**	**+1.1**
P32M	**Atlin**	**8.92**	**62**	Pn	**Pn**	**00 28 08.3**	**+0.4**
M30M	**Minto, Yukon**	**8.94**	**40**	Pn	**Pn**	**00 28 09.6**	**+1.5**
J16K	**Anvik River**	**9.00**	**326**	Pn	**Pn**	**00 28 08.3**	**-0.6**
U33K	**Whale Pass**	**9.03**	**85**	Pn	Pn	00 28 05.6	-3.7
DAWY	**Dawson**	**9.21**	**28**	Pn	**Pn**	**00 28 12.1**	**+

*SJA **24** 00:28:16.6±0.8,30.82S×69.02W,h108km±3km,ML3.6, MW3.4*

ISC 24 00:28:17.0±1.5,**30.82S**±0.03×**69.04W**±0.04,**h115**km±9km, **n29,σ0s87/47,7C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACCO	**Cerro Coronel**	**0.23**	**354**	*i* P	**Pn**	**00 28 33.2**	**-0.3**
ACCO				*e*S	**Sn**	**00 28 46.1**	**+0.1**
ACCO				IAML		00 28 47.0	
	comp=Z,757nm,1.3s						
ACDV	**Cuesta del Vie**	**0.65**	**354**	*i* P	**Pn**	**00 28 35.4**	**-0.2**
ACDV				*e*S	**Sn**	**00 28 49.0**	**-0.7**
ACDV				IAML		00 28 50.0	
	comp=Z,2μm,0.2s						
RTLL	**Cerro Villicun**	**0.70**	**137**	*i* P	**Pn**	**00 28 35.4**	**-0.6**
RTLL				*e*S	**Sn**	**00 28 49.1**	**-1.1**
RTLL				IAML		00 28 49.5	
	comp=Z,1μm,0.4s						
AROD	**Rodeo**	**0.75**	**330**	*i* P	**Pn**	**00 28 36.7**	**+0.1**
AROD				*e*S	**Sn**	**00 28 51.7**	**+0.3**
RTLS	**Leoncito**	**1.00**	**193**	*i* P	**Pn**	**00 28 39.2**	**+0.2**
RTLS				*e*S	**Sn**	**00 28 56.0**	**+0.4**
CFA	**Coronel Fontan**	**1.04**	**139**	*i* P	**Pn**	**00 28 39.0**	**-0.1**
CFA				*e*S	**Sn**	**00 28 55.2**	**-0.6**
CFA				IAML		00 28 56.4	
	comp=Z,1μm,0.7s						
RTCV	**Cerro Valdivia**	**1.13**	**158**	*i* P	**Pn**	**00 28 40.3**	**+0.4**
RTCV				*e*S	**Sn**	**00 28 57.4**	**+0.1**
CO01	**Juntas del Tor**	**1.24**	**312**	⇑*i* P	**Pn**	**00 28 42.5**	**+1.1**
CO01				*i* S	**Sn**	**00 29 01.4**	**+1.6**
CO01				IAML		00 29 01.9	
	comp=E,1μm,0.3s						
AVFE	**Valle Fertil**	**1.37**	**84**	*i* P	**Pn**	**00 28 42.5**	**-0.2**
AVFE				*e*S	**Sn**	**00 29 01.9**	**-0.3**
AVFE				IAML		00 29 02.7	
	comp=Z,876nm,0.5s						
AGUA	**GUANDACOL**	**1.41**	**20**	*i* P	**Pn**	**00 28 43.9**	**+0.8**
AGUA				*e*S	**Sn**	**00 29 02.9**	**0.0**
AGUA				IAML		00 29 05.3	
	comp=Z,579nm,0.3s						
CO03	**El Pedregal**	**1.42**	**269**	⇑*i* P	**Pn**	**00 28 43.8**	**+0.5**
CO03				*i* S	**Sn**	**00 29 04.2**	**+0.9**
CO03				IAML		00 29 05.0	
	comp=E,725nm,0.2s						
AUSP	**Uspallata**	**1.44**	**192**	*i* P	**Pn**	**00 28 44.0**	**+0.4**
GO04	**Tololo Observa**	**1.65**	**292**	*i* P	**Pn**	**00 28 46.2**	**+0.1**
GO04	**Tololo Observa**	**1.65**	**292**	⇑*i* P	**Pn**	**00 28 46.3**	**+0.1**
GO04				*i* S	**Sn**	**00 29 08.8**	**+0.5**
CO02	**Combarbal**	**1.73**	**257**	⇑*i* P	**Pn**	**00 28 47.0**	**+0.1**
CO02				*i* S	**Sn**	**00 29 10.2**	**+0.4**
CO02				IAML		00 29 11.2	
	comp=N,1μm,0.2s						
ASAL	**Salagasta**	**1.78**	**174**	*i* P	**Pn**	**00 28 48.1**	**+0.6**
ACHE	**Chepes**	**2.07**	**100**	*i* P	**Pn**	**00 28 51.1**	**-0.1**
CO05	**La Serena**	**2.10**	**295**	*e*P	**Pn**	**00 28 50.8**	**-0.6**
CO05				*i* S	**Sn**	**00 29 16.8**	**-1.1**
CO05				IAML		00 29 20.7	
	comp=N,340nm,0.3s						
VCA	**Vinchina**	**2.19**	**19**	*i* P	**Pn**	**00 28 53.1**	**+0.3**
CO06	**Fray Jorge**	**2.24**	**273**	⇑*i* P	**Pn**	**00 28 52.0**	**-1.2**
CO06				*i* S	**Sn**	**00 29 18.0**	**-3.0**
AC05	**El Transito**	**2.25**	**331**	*e*P	**Pn**	**00 28 54.3**	**+0.8**
AC05				*i* S	**Sn**	**00 29 22.5**	**+1.1**
AC05				IAML		00 29 24.9	
	comp=N,141nm,0.2s						
AAGR	**Agrelo**	**2.27**	**176**	*i* P	**Pn**	**00 28 54.1**	**+0.4**
LCO	**Las Campanas**	**2.31**	**321**	⇑*i* P	**Pn**	**00 28 54.2**	**-0.1**
LCO				*e*S	**Sn**	**00 29 23.3**	**+0.3**
FCH	**Farellones**	**2.72**	**203**	⇑*e*P	**Pn**	**00 29 00.9**	**+1.2**
FCH				*i* S	**Sn**	**00 29 34.4**	**+1.8**
FCH				IAML		00 29 40.0	
	comp=E,75nm,0.3s						
ROCH	**El Roble**	**2.73**	**217**	*e*P	**Pn**	**00 28 59.4**	**-0.4**
ROCH				IAML		00 29 36.0	
	comp=N,137nm,0.6s						
MT10	**Hacienda Santa**	**2.76**	**207**	*e*P	**Pn**	**00 29 00.6**	**+0.5**
MT10				IAML		00 29 36.4	
	comp=E,150nm,0.5s						
AC04	**Llanos de Chal**	**3.15**	**325**	⇓*i* P	**Pn**	**00 29 04.5**	**-0.6**
GO03	**Copiap**	**3.38**	**342**	*e*P	**Pn**	**00 29 07.8**	**-0.4**
GO03				IAML		00 29 50.0	
	comp=N,62nm,0.3s						
MT01	**Popeta**	**3.57**	**211**	*e*P	**Pn**	**00 29 09.0**	**-1.6**

*NEIC **24** 00:33:58.4±1.6,15.8S±0.1×175.5W±0.1,h305km±7km, mb4.2/32,Error ellipse: s-maj=20.5km s-min=15.2km az=127.0*
*IDC **24** 00:33:59.1±5.6,15.75S×175.53W,h319km±53km,mb3.5/8, mbtmp4.2/9,Error ellipse: s-maj=32.5km s-min=18.1km az=142.0*

ISC 24 00:33:57.4±0.5,**15.8S**±0.1×**175.62W**±0.09,**h300**km,**n53, σ0s89/55,mb4.2/23,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.16**	**64**		**Pn**	**00 35 06.2**	**+0.7**
AFI	**Afiamalu**	**4.16**	**64**	P	**Pn**	**00 35 07.6**	**+2.1**
NIUE	**Niue**	**6.34**	**122**	Pn	**Pn**	**00 35 31.5**	**+0.7**
DZM	**Mont Dzumac**	**18.08**	**247**	P	**P**	**00 37 49.0**	**+0.9**
DZM				IAmb	IAmb	00 38 10.4	
	comp=Z,10.0nm,1.0s						
DZM	**Mont Dzumac**	**18.08**	**247**	P	**P**	**00 37 49.5**	**+1.4**
	comp=Z,6.0nm,0.6s,baz=70,slow=18,SNR=5.5						
MXZ	**Matakaoa Point**	**22.34**	**193**	P	**P**	**00 38 29.2**	**-1.3**
RTZ	**Ruatahuna**	**23.65**	**195**	P	**P**	**00 38 40.8**	**-1.7**
RTZ				IAmb	IAmb	00 38 55.2	
	comp=Z,7.8nm,1.1s						
MRZ	**Mangatainoka R**	**25.94**	**195**	P	**P**	**00 39 01.4**	**-1.5**
MRZ				IAmb	IAmb	00 39 05.6	
	comp=Z,6.1nm,0.9s						
THZ	**Tophouse**	**27.71**	**199**	P	**P**	**00 39 17.7**	**-1.0**
THZ				IAmb	IAmb	00 39 20.5	
	comp=Z,11nm,0.9s						
RPZ	**Rata Peaks**	**30.06**	**199**	P	**P**	**00 39 39.9**	**+0.6**
RPZ				IAmb	IAmb	00 40 01.8	
	comp=Z,19nm,1.2s						
EIDS	**Eidsvold**	**32.52**	**247**	P	**P**	**00 40 00.9**	**-0.2**
EIDS				IAmb	IAmb	00 40 25.1	
	comp=Z,6.9nm,1.1s						
WHZ	**Wether Hill Ro**	**33.02**	**201**	P	**P**	**00 40 04.6**	**-0.5**
ARMA	**Armidale**	**33.32**	**238**	P	**P**	**00 40 08.5**	**+0.5**
COEN	**Coen**	**39.83**	**267**	P	**P**	**00 41 04.2**	**+1.5**
COEN				IAmb	IAmb	00 41 06.0	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**41.99**	**240**	P	**P**	**00 41 20.9**	**+0.9**
STKA	**Stephens Creek**	**41.99**	**240**	P	**P**	**00 41 20.3**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=82,slow=12,SNR=9.8						
	comp=Z,2.4nm,0.5s						
BBOO	**Buckleboo**	**46.77**	**240**	P	**P**	**00 41 56.8**	**-0.8**
WR0	**Warramunga Arr**	**47.48**	**257**	P	**P**	**00 42 03.5**	**+0.2**
WR0				IAmb	IAmb	00 42 05.1	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**47.64**	**257**	P	**P**	**00 42 04.8**	**+0.3**
WB0				IAmb	IAmb	00 42 05.7	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**47.66**	**257**	P	**P**	**00 42 05.0**	**+0.3**
WRA	**Warramunga Arr**	**47.68**	**257**	P	**P**	**00 42 04.2**	**-0.5**
WRA	**Warramunga Arr**	**47.68**	**257**	P	**P**	**00 42 05.4**	**+0.7**
	comp=Z,11nm,0.6s,baz=90,slow=7.1,SNR=114						
WRA				PcP	**PcP**	**00 43 27.6**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=89,slow=4.3,SNR=4.6						
	comp=Z,11nm,0.6s						
AS31	**Alice Springs**	**47.96**	**252**	P	**P**	**00 42 07.3**	**+0.4**
ASAR	**Alice Springs**	**47.96**	**252**	P	**P**	**00 42 07.8**	**+0.9**
ASAR	**Alice Springs**	**47.96**	**252**	P	**P**	**00 42 07.6**	**+0.7**
	comp=Z,79nm,0.6s,baz=87,slow=8.0,SNR=635						
ASAR				PcP	**PcP**	**00 43 28.6**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=84,slow=4.7,SNR=1.7						
MTN	**Manton Dam**	**51.57**	**266**	P	**P**	**00 42 33.5**	**-0.5**
FORT	**Forrest**	**53.34**	**243**	P	**P**	**00 42 46.1**	**-0.6**
PSA00	**Pilbara Seismi**	**61.05**	**254**	P	**P**	**00 43 40.2**	**-0.2**
PSA00				IAmb	IAmb	00 43 54.5	
	comp=Z,14nm,1.1s						
VNDA	**Vanda**	**62.78**	**185**	P	**P**	**00 43 51.3**	**+0.3**
QSPA	**South Pole Qui**	**74.25**	**180**	P	**P**	**00 45 02.2**	**+0.3**
	comp=Z,12nm,1.3s,baz=25,slow=1.8,SNR=6.3						
	comp=Z,12nm,1.3s						
NVAR	**Mina Array Bea**	**76.06**	**43**	P	**P**	**00 45 11.5**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=228,slow=8.0,SNR=6.5						
	comp=Z,1.1nm,0.8s						
KAIM	**Kayak Island**	**79.56**	**15**	P	**P**	**00 45 32.4**	**+1.3**
J16K	**Anvik River**	**79.69**	**7**	P	**P**	**00 45 32.2**	**+0.6**
J16K				IAmb	IAmb	00 45 40.1	
	comp=Z,3.2nm,1.1s						
J18K	**Innoko River**	**80.36**	**8**	P	**P**	**00 45 35.5**	**+0.3**
J18K				IAmb	IAmb	00 45 36.4	
	comp=Z,4.8nm,1.1s						
TXAR	**Lajitas Array**	**82.61**	**57**	P	**P**	**00 45 48.2**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=219,slow=7.0,SNR=3.8						
	comp=Z,0.4nm,0.8s						
RDMU	**Red Mountain**	**82.96**	**45**	P	**P**	**00 45 49.1**	**-0.5**
IMAR	**Indian Mountai**	**83.17**	**9**	P	**P**	**00 45 49.8**	**+0.1**
ILAR	**Eielson Array**	**83.25**	**12**	P	**P**	**00 45 49.5**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=214,slow=5.5,SNR=9.2						
	comp=Z,0.8nm,0.5s						
J25K	**Salcha River,**	**83.42**	**13**	P	**P**	**00 45 50.7**	**-0.5**
J25K				IAmb	IAmb	00 45 51.6	
	comp=Z,2.7nm,0.8s						
G21K	**Allakaket**	**83.70**	**9**	P	**P**	**00 45 52.7**	**+0.2**
BELA	**Belgrano 2**	**83.91**	**172**	P	**P**	**00 45 54.6**	**+1.1**
YHL	**Hebgen Lake**	**83.95**	**40**	P	**P**	**00 45 54.6**	**0.0**
YHL				IAmb	IAmb	00 45 55.2	
	comp=Z,5.3nm,1.2s						
PDAR	**Pinedale Array**	**83.99**	**43**	P	**P**	**00 45 54.4**	**-0.4**
PDAR	**Pinedale Array**	**83.99**	**43**	P	**P**	**00 45 53.6**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=193,slow=3.6,SNR=11						
	comp=Z,1.3nm,0.8s						
E19K	**Redstone River**	**84.10**	**7**	P	**P**	**00 45 54.3**	**-0.2**
EGAK	**Eagle**	**84.50**	**14**	P	**P**	**00 45 56.4**	**-0.1**
EGAK				IAmb	IAmb	00 45 57.0	
	comp=Z,3.4nm,0.9s						
INK	**Inuvik**	**89.16**	**14**	P	**P**	**00 46 17.6**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=215,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**124.68**	**351**	PKP	**PKPdf**	**00 52 19.6**	**-1.3**
	comp=Z,3.9nm,1.1s,baz=15,slow=5.3,SNR=4.4						
BRTR	**Keskin Array B**	**145.08**	**319**	PKPbc	**PKPdf**	**00 52 59.8**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=63,slow=3.9,SNR=6.9						
GERES	**GERESS Array B**	**146.16**	**349**	PKPbc	**PKPdf**	**00 53 01.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=0.0,slow=3.2,SNR=1.8						
MMAI	**Mount Meron Ar**	**147.12**	**307**	PKPbc	**PKPbc**	**00 53 05.4**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=90,slow=4.3,SNR=1.6						
FUORN	**Ofenpass-Fuorn**	**148.87**	**352**		**PKPbc**	**00 53 09.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**176.30**	**135**	PKP	**PKPdf**	**00 53 30.9**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=266,slow=4.3,SNR=2.6						

*DJA **24** 00:40:14.7±0.3,5.5S×103.3E±*,h58km±8km,M4.9/15, mb4.8/9,mB5.0/3,MLv5.0/15,Mw(mB)4.3/3*
*NEIC **24** 00:40:15.2±1.4,4.65S±0.08×102.60E±0.08,h69km±7km, mb4.7/52,Error ellipse: s-maj=12.7km s-min=9.4km az=48.0*
*IDC **24** 00:40:16.8±3.3,4.35S×102.87E,h75km±28km,mb4.3/19, mbtmp4.6/20,Error ellipse: s-maj=26.5km s-min=11.6km az=55.0*

ISC 24 00:40:14.0±0.4,**4.60S**±0.05×**102.72E**±0.05,**h56**km,**n173,** σ1s41/159,**mb4.7/64,16C-1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGSI	**Enggano, Bengk**	**0.87**	**210**	P	**Pn**	**00 40 32.0**	**+1.8**
EGSI				S	**Sn**	**00 40 43.9**	**+1.9**
UBSI	**University, Be**	**0.94**	**332**	P	**Pn**	**00 40 33.1**	**+1.9**
UBSI				S	**Sn**	**00 40 45.2**	**+1.4**
LHSI	**Lahat**	**1.11**	**46**	P	**Pn**	**00 40 34.8**	**+1.4**
LWLI	**Liwa**	**1.40**	**107**	P	**Pn**	**00 40 37.9**	**+0.5**
LWLI				S	**Sn**	**00 40 54.2**	**-0.7**
KASI	**Kota Agung**	**2.00**	**117**	P	**Pn**	**00 40 45.8**	**+0.4**
KASI				S	**Sn**	**00 41 08.6**	**-0.7**
PMBI	**Palembang**	**2.64**	**51**		**Pn**	**00 40 54.8**	**+0.6**
PMBI	**Palembang**	**2.64**	**51**	P	Pn	00 41 04.7	+11
PPSI	**Pulau Pagai**	**3.26**	**304**	P	**Pn**	**00 41 05.5**	**+2.9**
PDSI	**Padang**	**4.30**	**328**	P	**Pn**	**00 41 19.9**	**+2.9**
SISI	**Saibi**	**4.87**	**312**	P	**Pn**	**00 41 26.6**	**+1.9**
CNJI	**Cibinong**	**5.15**	**122**	P	**Pn**	**00 41 28.9**	**+0.3**
	45nm,0.9s,1μm0.6nm						
BKNI	**Bangkinang**	**5.17**	**341**	Pn	**Pn**	**00 41 31.8**	**+2.9**
LEM	**Lembang**	**5.36**	**115**	P	**Pn**	**00 41 35.4**	**+3.9**
	57nm,0.8s,baz=345,slow=20,SNR=8.4						
LEM				S	**Sn**	**00 42 34.9**	**+2.9**
	119nm,0.7s,baz=307,slow=20,SNR=4.2						
LEM	**Lembang**	**5.36**	**115**	P	**Pn**	**00 41 33.0**	**+1.4**
	93nm,0.9s,0.6nm						
BBJI	**Bungbulang**	**5.67**	**120**	P	**Pn**	**00 41 36.2**	**+0.4**
	108nm,0.8s,2μm1.1nm						
PBSI	**Pulau Batu**	**6.33**	**315**	P	**Pn**	**00 41 46.6**	**+1.9**
	246nm,1.4s,1.3nm						
MYKOM	**Kota Tinggi**	**6.45**	**10**	Pn	**Pn**	**00 41 49.3**	**+2.9**
CMJI	**Cimerak**	**6.52**	**119**	P	**Pn**	**00 41 47.7**	**+0.3**
	85nm,1.2s,0.6nm						
XMIS	**Christmas Isla**	**6.53**	**154**		**Pn**	**00 41 43.0**	**-4.5**
KPJI	**Karang Pucung**	**6.75**	**114**	P	**Pn**	**00 41 51.8**	**+1.2**
	42nm,1.6s,1μm0.3nm						
GSI	**Gunungsitoli**	**7.79**	**319**	Pn	**Pn**	**00 42 04.8**	**-0.1**
GSI	**Gunungsitoli**	**7.79**	**319**	P	**Pn**	**00 42 05.6**	**+0.7**
	41nm,0.7s,0.3nm						
UGM	**Wanagama**	**8.43**	**113**	Pn	**Pn**	**00 42 14.0**	**+0.4**
UGM	**Wanagama**	**8.43**	**113**	P	**Pn**	**00 42 14.3**	**+0.7**
COCO	**West Island**	**9.52**	**217**	Pn	**Pn**	**00 42 27.9**	**-0.6**
KULM	**Kulim**	**10.04**	**348**	Pn	**Pn**	**00 42 38.2**	**+2.7**
SBUM	**Sibu**	**11.80**	**54**	Pn	**Pn**	**00 43 02.1**	**+2.4**
JAGI	**Jajag, Banyuwa**	**11.99**	**109**	Pn	**Pn**	**00 43 02.5**	**+0.1**
SRIT	**Nakonsritamara**	**13.47**	**347**	P	**P**	**00 43 29.0**	**-1.0**
PLAI	**Plampang**	**15.53**	**106**	P	**P**	**00 43 55.2**	**+2.2**
TOLI2	**Tolitoli**	**18.92**	**73**	P	**Pn**	**00 44 31.6**	**0.0**
TOLI2				IAmb	IAmb	00 44 38.5	
	comp=Z,28nm,0.7s						
TOLI2	**Tolitoli**	**18.92**	**73**	P	**Pn**	**00 44 33.1**	**+1.5**
UBPT	**Khong Chiam**	**19.94**	**8**	P	**P**	**00 44 41.4**	**-0.1**
UBPT	**Khong Chiam**	**19.94**	**8**	P	**P**	**00 44 41.9**	**+0.4**
SOEI	**Soe**	**21.98**	**105**	P	**P**	**00 45 04.3**	**+0.6**
SOEI				IAmb	IAmb	00 45 20.5	
	comp=Z,26nm,0.7s						
NONG	**Nongkai**	**22.52**	**1**	P	**P**	**00 45 11.1**	**+1.8**
CM31	**Chiang Mai Arr**	**23.21**	**351**	P	**P**	**00 45 15.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**23.21**	**351**	P	**P**	**00 45 15.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**23.21**	**351**	P	**P**	**00 45 15.4**	**-0.9**
	comp=Z,6.5nm,0.9s,baz=183,slow=8.5,SNR=32						
	comp=Z,6.5nm,0.9s						
CHTO	**Chiang Mai**	**23.56**	**351**	P	**P**	**00 45 18.9**	**-0.7**
CHTO	**Chiang Mai**	**23.56**	**351**	P	**P**	**00 45 20.2**	**+0.6**
PSA00	**Pilbara Seismi**	**23.68**	**137**	P	**P**	**00 45 21.4**	**+0.7**
PSA00				IAmb	IAmb	00 45 47.2	
	comp=Z,26nm,1.4s						
CRAI	**Chiangrai**	**24.78**	**355**	P	**P**	**00 45 30.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**26.13**	**123**	P	**P**	**00 45 42.0**	**-1.1**
KNRA	**Kununurra**	**27.86**	**115**	P	**P**	**00 45 57.4**	**-1.2**
KNRA				IAmb	IAmb	00 46 02.3	
	comp=Z,17nm,0.8s						
MTN	**Manton Dam**	**29.23**	**108**	P	**P**	**00 46 09.4**	**-1.5**
H08S2	**Diego Garcia H**	**30.20**	**263**	T	T	01 17 38.3	
	baz=87,slow=74,SNR=12						
H08S3	**Diego Garcia H**	**30.20**	**263**	T	T	01 17 31.1	
	baz=87,slow=74,SNR=35						
H08S1	**Diego Garcia H**	**30.21**	**263**	T	T	01 18 13.6	
	baz=87,SNR=3.7						
PZH	**PanZhiHua**	**30.93**	**358**	P	**P**	**00 46 29.4**	**+3.5**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.2s						
SHL	**Shillong**	**31.78**	**341**	P	**P**	**00 46 31.2**	**-2.2**
SHL				IAmb	IAmb	00 46 32.6	
	comp=Z,8.0nm,0.7s						
H01W3	**Cape Leeuwin H**	**31.94**	**162**	T	T	01 20 32.3	
	baz=339,slow=76,SNR=60						
H01W2	**Cape Leeuwin H**	**31.95**	**162**	T	T	01 20 24.6	
	baz=339,slow=76,SNR=63						
H01W1	**Cape Leeuwin H**	**31.95**	**162**	T	T	01 20 24.2	
	baz=339,slow=76,SNR=55						
WB0	**Warramunga Arr**	**34.34**	**119**	P	**P**	**00 46 55.4**	**-0.3**
WRA	**Warramunga Arr**	**34.36**	**119**	P	**P**	**00 46 55.6**	**-0.3**
WRA	**Warramunga Arr**	**34.36**	**119**	P	**P**	**00 46 55.6**	**-0.3**
	comp=Z,7.4nm,0.8s,baz=301,slow=9.1,SNR=42						
WRA				PcP	**PcP**	**00 49 31.3**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=294,slow=2.4,SNR=4.2						
	comp=Z,7.4nm,0.8s						
WRAB	**Tennant Creek**	**34.36**	**119**	P	**P**	**00 46 56.3**	**+0.4**
WB2	**Warramunga Arr**	**34.37**	**119**	P	**P**	**00 46 55.5**	**-0.4**
WR0	**Warramunga Arr**	**34.54**	**119**	P	**P**	**00 46 57.0**	**-0.4**
AS31	**Alice Springs**	**35.55**	**125**	P	**P**	**00 47 05.4**	**-0.7**
ASAR	**Alice Springs**	**35.55**	**125**	P	**P**	**00 47 05.8**	**-0.2**
ASAR	**Alice Springs**	**35.55**	**125**	P	**P**	**00 47 06.5**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=301,slow=8.5,SNR=32						
ASAR				PcP	**PcP**	**00 49 34.8**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=314,slow=2.8,SNR=7.3						
	comp=Z,4.3nm,0.6s						
XAN	**Xi'an**	**38.88**	**8**	P	**P**	**00 47 34.0**	**-0.1**
XAN				pP	pP	00 47 48.8	+0.3
XAN				pmax	pmax		
	comp=Z,26nm,0.9s						
NJ2	**Nanjing**	**39.55**	**22**	*e*P	**P**	**00 47 42.4**	**+2.7**
NJ2				sP	**sP**	**00 48 05.1**	**+4.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
LYN	**LuoYang**	**40.01**	**13**	⇑P	**P**	**00 47 44.6**	**+1.1**
LYN				pmax	pmax		
	comp=Z,22nm,0.7s						
GOMU	**GeErMu**	**41.25**	**350**	P	**P**	**00 47 54.9**	**+0.7**
GOMU				pP	pP	00 47 59.9	-8.7
GOMU				sP	sP	00 48 01.1	-14
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BBOO	**Buckleboo**	**41.91**	**136**	P	**P**	**00 47 59.3**	**+0.1**
BBOO				IAmb	IAmb	00 48 02.5	
	comp=Z,9.0nm,0.8s						
GTA	**Gaotai**	**43.87**	**357**	P	**P**	**00 48 15.5**	**+0.4**
GTA				pP	pP	00 48 21.8	-7.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**45.41**	**131**	P	**P**	**00 48 28.0**	**+0.6**
STKA				IAmb	IAmb	00 48 29.1	
	comp=Z,5.3nm,0.6s						
STKA	**Stephens Creek**	**45.41**	**131**	P	**P**	**00 48 28.4**	**+1.0**
	comp=Z,24nm,0.6s,baz=306,slow=7.7,SNR=58						
	comp=Z,24nm,0.6s						
HHC	**Hu-ho-hao-te**	**45.95**	**9**	⇑P	**P**	**00 48 33.0**	**+1.4**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,1μm,6.5s						
BJI	**Beijing**	**46.12**	**14**	P	**P**	**00 48 32.8**	**+0.1**
BJI				pP	**pP**	**00 48 47.9**	**+0.5**
BJI				sP	**sP**	**00 48 55.9**	**+2.0**
NIL	**Nilore**	**47.15**	**326**	P	**P**	**00 48 39.8**	**-1.3**
KSRS	**Korea Array**	**47.97**	**27**	P	**P**	**00 48 46.3**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=226,slow=8.3,SNR=5.3						
	comp=Z,2.7nm,0.8s						
WMQ	**Urumqi**	**50.06**	**346**	*e*P	**P**	**00 49 03.5**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,18nm,1.3s						
KBL	**Kabul**	**50.22**	**323**	P	**P**	**00 49 03.6**	**-1.1**
KSH	**Kashi**	**50.35**	**333**	P	**P**	**00 49 04.3**	**-1.3**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NRN	**Naryn**	**51.90**	**335**	P	**P**	**00 49 17.3**	**-0.1**
NRN				IAmb	IAmb	00 49 18.4	
	comp=Z,10nm,1.1s						
SHLS	**Shalkode**	**51.98**	**338**	*e*P	**P**	**00 49 16.8**	**-0.9**
	comp=Z,11nm,0.9s,baz=339						
UZB	**Uzynbulak**	**52.14**	**338**	*e*P	**P**	**00 49 19.0**	**0.0**
	comp=Z,7.5nm,0.8s,baz=338						
SATY	**Saty**	**52.29**	**338**	*e*P	**P**	**00 49 20.4**	**+0.3**
	comp=Z,9.2nm,1.1s,baz=338						
SONM	**Songino Array**	**52.31**	**3**	P	**P**	**00 49 20.4**	**+0.2**
SONM	**Songino Array**	**52.31**	**3**	P	**P**	**00 49 20.3**	**+0.2**
	comp=Z,17nm,0.7s,baz=180,slow=9.2,SNR=115						
SONM				PcP	**PcP**	**00 50 30.1**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=169,slow=4.7,SNR=4.0						
	comp=Z,17nm,0.7s						
ULN	**Ulaanbaatar**	**52.38**	**4**	P	**P**	**00 49 20.6**	**0.0**
ULN				IAmb	IAmb	00 49 21.9	
	comp=Z,8.7nm,0.9s						
KPKS	**Kokpek**	**52.54**	**338**	*e*P	**P**	**00 49 21.8**	**-0.1**
	comp=Z,5.0nm,1.1s,baz=338						
MJAR	**Matsushiro Arr**	**52.67**	**36**	P	**P**	**00 49 20.4**	**-2.5**
	comp=Z,5.1nm,0.8s,baz=224,slow=8.8,SNR=8.1						
	comp=Z,5.1nm,0.8s						
ARMA	**Armidale**	**52.70**	**125**	P	**P**	**00 49 24.2**	**+0.8**
ARMA				IAmb	IAmb	00 49 42.4	
	comp=Z,14nm,1.3s						
SIMJ	**Simiganj**	**53.15**	**327**	P	**P**	**00 49 24.4**	**-2.2**

RTZ	**Ruatahuna**	**74.85**	**129**	P	**P**	**00 51 48.0**	**-1.0**
RTZ				IAmb	IAmb	00 51 49.6	
	comp=Z,12nm,0.9s						
BR131	**Keskin Array S**	**77.06**	**312**	P	**P**	**00 52 00.4**	**-1.2**
BR131				IAmb	IAmb	00 52 02.9	
	comp=Z,5.5nm,0.9s						
BRTR	**Keskin Array B**	**77.06**	**312**	P	**P**	**00 52 00.6**	**-1.0**
BRTR	**Keskin Array B**	**77.06**	**312**	P	**P**	**00 52 01.4**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=133,slow=7.4,SNR=15						
	comp=Z,3.3nm,0.8s						
AKASG	**Malin Array Be**	**83.19**	**322**	P	**P**	**00 52 33.4**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=85,slow=4.6,SNR=8.2						
	comp=Z,1.3nm,0.7s						
TESR	**Tescani**	**83.79**	**318**	⇑P	**P**	**00 52 38.5**	**+1.1**
MLR	**Muntele Rosu**	**84.04**	**316**	P	**P**	**00 52 37.8**	**-1.1**
MLR				IAmb	IAmb	00 52 41.5	
	comp=Z,8.1nm,1.0s						
PRAR	**RASCA**	**84.27**	**318**	⇑P	**P**	**00 52 40.2**	**+0.4**
OZUR		**84.28**	**317**	⇑P	P	00 52 59.4	+19
DOPR	**Dopca**	**84.52**	**317**	⇑P	P	00 53 00.4	+19
BURAR	**Bucovina Array**	**84.99**	**318**	⇑P	**P**	**00 52 45.3**	**+1.8**
BURAR	**Bucovina Array**	**84.99**	**318**	P	**P**	**00 52 43.3**	**-0.3**
BURAR				IAmb	IAmb	00 52 46.3	
	comp=Z,5.4nm,0.8s						
BUR08	**Bucovina Ar. S**	**85.01**	**318**	P	**P**	**00 52 43.4**	**-0.3**
BUR08				IAmb	IAmb	00 52 46.1	
	comp=Z,6.2nm,0.8s						
BLKB	**Belogradchik**	**85.96**	**314**	⇑P	**P**	**00 52 49.0**	**+0.5**
MARR	**Marisel-Cluj**	**86.20**	**317**	⇑P	**P**	**00 52 51.6**	**+1.9**
HERR	**Herculane**	**86.36**	**315**	⇑P	P	00 53 04.4	+14
DRGR		**86.50**	**317**	⇑P	P	00 53 00.6	+10
SURR	**Surduc**	**86.72**	**316**	⇑P	**P**	**00 52 53.1**	**+1.1**
BZS	**Buzias**	**87.05**	**316**	⇑P	**P**	**00 52 55.1**	**+1.5**
SIRR	**Siria**	**87.13**	**317**	⇑P	**P**	**00 52 55.2**	**+1.1**
KOLS	**Kolonicke sedl**	**87.18**	**319**	*e*P	**P**	**00 52 56.2**	**+2.0**
FINES	**FINESS Array B**	**87.66**	**332**	P	**P**	**00 52 55.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=117,slow=4.8,SNR=6.0						
	comp=Z,2.2nm,0.8s						
STHS	**Stebnicka Huta**	**87.92**	**320**	*e*P	**P**	**00 52 58.5**	**+0.7**
KECS	**Kecovo**	**88.27**	**319**	*e*P	**P**	**00 52 58.8**	**-0.6**
LANS	**Liptovska Anna**	**89.03**	**319**	*e*P	P	00 52 58.2	-4.9
MORH	**Mrgy, Hungar**	**89.19**	**316**	⇑P	**P**	**00 53 04.8**	**+1.1**
VYHS	**Vyhne**	**89.36**	**319**	*e*P	**P**	**00 52 59.9**	**-4.7**
ARCES	**ARCESS Array B**	**89.83**	**340**	P	**P**	**00 53 06.6**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=99,slow=5.6,SNR=2.3						
	comp=Z,2.9nm,0.8s						
JAVC	**Velka Javorina**	**90.17**	**319**	*e*P	P	00 53 00.9	-7.5
MORC	**Moravsky Berou**	**90.36**	**320**	⇑P	P	00 52 57.4	-12
MORC	**Moravsky Berou**	**90.36**	**320**	*e*P	P	00 52 57.1	-12
VRAC	**Vranov**	**90.92**	**319**	*e*P	P	00 52 59.4	-12
RONA	**Rosalia, Austr**	**90.95**	**318**	*e*P	P	00 53 03.9	-8.2
	comp=Z,3.9nm,1.1s						
KRUC	**Moravsky**	**91.03**	**319**	*e*P	P	00 52 59.8	-13
CONA	**Conrad Observa**	**91.27**	**318**	*e*P	P	00 53 03.8	-10
	comp=Z,4.2nm,0.9s						
SOKA	**Soboth**	**91.72**	**317**	*e*P	P	00 53 06.5	-9.2
	comp=Z,4.8nm,1.1s						
OBKA	**Obir**	**92.04**	**316**	*e*P	P	00 53 06.3	-11
	comp=Z,4.9nm,1.3s						
MOA	**Molln**	**92.33**	**318**	*e*P	P	00 53 04.8	-14
	comp=Z,3.0nm,0.9s						
MYKA	**Terra Mystica**	**92.67**	**316**	*i* P	P	00 53 07.5	-13
	comp=Z,4.6nm,1.0s						
KBA	**Koelnbreinsper**	**92.90**	**317**	*i* P	P	00 53 05.8	-15
	comp=Z,3.0nm,1.0s						
NVAR	**Mina Array Bea**	**129.79**	**42**	PKP	**PKPdf**	**00 59 17.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=320,slow=2.4,SNR=3.7						
PDAR	**Pinedale Array**	**132.42**	**32**	PKP	**PKPdf**	**00 59 22.9**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=325,slow=2.5,SNR=3.7						
BDFB	**Brasilia**	**144.73**	**235**	PKPbc	**PKPdf**	**00 59 46.1**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=155,slow=3.5,SNR=6.7						
TXAR	**Lajitas Array**	**144.94**	**42**	PKP	PKPbc	00 59 45.4	+0.4
	comp=Z,6.5nm,0.7s,baz=284,slow=1.4,SNR=79						

NEIC ***24*** *00:41:01.5±2.3, 56°.29N±0°.09×150°.4W±0°.1, h10km±2km, ML3.5/44, ML3.2(AEIC), Error ellipse: s-maj=14.7km s-min=9.5km az=179.0*

AEIC ***24*** *00:41:04.7±1.7, 56°.2N±0°.1×150°.2W±0°.1, h12km±8km, Error ellipse: s-maj=16.0km s-min=9.2km az=168.0*

ISC 24 00:40:59.6±2.5, 56°.2N±0°.1×150°.29W±0°.06, h10km, n123, σ 1§01/132, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.94**	**303**	Pn	**Pn**	**00 41 32.0**	**-0.7**
OHAK					**Sn**	**00 41 55.0**	**-2.1**
OHAK	**Old Harbor**	**1.94**	**303**	P	**Pn**	**00 41 32.3**	**-0.3**
	baz=121						
OHAK				S	**Sn**	**00 41 55.6**	**-1.5**
	baz=121						
KDAK	**Kodiak Island**	**2.02**	**323**	Pn	**Pn**	**00 41 33.8**	**0.0**
KDAK				Sn	**Sn**	**00 41 58.5**	**-0.5**
R18K	**Karluk**	**2.66**	**303**	Pn	**Pn**	**00 41 42.1**	**-0.4**
R18K	**Karluk**	**2.66**	**303**	P	**Pn**	**00 41 42.9**	**+0.4**
	baz=120						
R18K				S	**Sn**	**00 42 13.7**	**-1.1**
	baz=120						
Q20K	**Shuyak Island**	**2.67**	**336**	P	**Pn**	**00 41 43.6**	**+0.9**
	baz=154						
Q20K				S	**Sn**	**00 42 15.2**	**+0.2**
	baz=154						
SYI	**Shuyak Island**	**2.67**	**336**	Pn	**Pn**	**00 41 43.1**	**+0.5**
SYI				Sn	**Sn**	**00 42 15.7**	**+0.7**
KAHG	**Katmai Hook Gl**	**3.26**	**317**		**Pn**	**00 41 52.3**	**+1.6**
Q19K	**Cape Douglas,**	**3.28**	**328**	Pn	**Pn**	**00 41 52.4**	**+1.3**
Q19K				IAML		00 42 22.6	
	comp=E,206nm,1.6s						
Q19K				Sn	**Sn**	**00 42 28.1**	**-2.0**
Q19K				IAML		00 42 49.9	
	comp=N,132nm,1.4s						
Q19K	**Cape Douglas,**	**3.28**	**328**	P	**Pn**	**00 41 52.7**	**+1.7**
	baz=145						
Q19K				S	**Sn**	**00 42 29.1**	**-1.0**
	baz=145						
KCG	**Knife Ck. Glac**	**3.36**	**311**		**Pn**	**00 41 53.8**	**+1.5**
CNPM	**China Poot**	**3.37**	**352**	Pn	**Pn**	**00 41 51.1**	**-1.2**
CNPM				IAML		00 42 18.3	
	comp=E,74nm,2.7s						
CNPM				Sn	**Sn**	**00 42 31.5**	**-0.9**
ACHA	**Angle Creek He**	**3.40**	**308**		**Pn**	**00 41 53.4**	**+0.6**
ACHA					**Sn**	**00 42 33.4**	**+0.3**
ANCK	**Angle Creek**	**3.47**	**307**		**Pn**	**00 41 55.0**	**+1.3**
KAHC	**Katmai Hardscr**	**3.54**	**316**		**Pn**	**00 41 56.4**	**+1.7**
KAHC	**Katmai Hardscr**	**3.54**	**316**	P	**Pn**	**00 41 56.4**	**+1.7**
	baz=132						
HOM	**Homer**	**3.54**	**349**	Pn	**Pn**	**00 41 54.5**	**-0.1**
BRSE	**Bradley Lake S**	**3.56**	**356**		**Pn**	**00 41 55.0**	**+0.1**
BRSE	**Bradley Lake S**	**3.56**	**356**	P	**Pn**	**00 41 55.0**	**+0.1**
	baz=175						
BRLK	**Bradley Lake**	**3.59**	**355**	Pn	**Pn**	**00 41 55.6**	**+0.3**
BRLK				IAML		00 42 33.8	
	comp=N,63nm,2.5s						
BRLK				IAML		00 42 49.5	
	comp=E,85nm,3.3s						
AUCH	**Augustine Cone**	**3.59**	**333**		**Pn**	**00 41 57.1**	**+1.7**
CNTC	**Contact Creek**	**3.68**	**307**		**Pn**	**00 41 57.5**	**+0.9**
Q17K	**Contact Creek**	**3.68**	**307**	P	**Pn**	**00 41 57.5**	**+0.9**
	baz=122						
P19K	**Oil Pt**	**3.80**	**337**	Pn	**Pn**	**00 41 58.8**	**+0.6**
P19K				IAML		00 43 18.2	
	comp=N,81nm,1.5s						
P19K				IAML		00 43 53.8	
	comp=E,121nm,3.0s						
P19K	**Oil Pt**	**3.80**	**337**	P	**Pn**	**00 41 59.7**	**+1.5**
	baz=154						
Q23K	**Middleton Isla**	**3.86**	**31**	Pn	**Pn**	**00 41 58.0**	**-1.0**
Q23K	**Middleton Isla**	**3.86**	**31**	P	**Pn**	**00 41 59.3**	**+0.3**
	baz=214						
O20K	**Slope Mountain**	**4.08**	**343**		**Pn**	**00 42 03.1**	**+1.0**
O20K	**Slope Mountain**	**4.08**	**343**	P	**Pn**	**00 42 03.1**	**+1.0**
	baz=161						
IVE	**Iliamna Volcan**	**4.09**	**340**		**Pn**	**00 42 03.0**	**+0.7**
P23K	**Montague Islan**	**4.11**	**21**		**Pn**	**00 42 03.0**	**+0.6**
P23K	**Montague Islan**	**4.11**	**21**	P	**Pn**	**00 42 03.0**	**+0.6**
	baz=202						
P18K	**Big Mountain,**	**4.15**	**323**	Pn	**Pn**	**00 42 03.5**	**+0.5**
P18K				IAML		00 44 07.6	
	comp=E,35nm,3.1s						
P18K	**Big Mountain,**	**4.15**	**323**	P	**Pn**	**00 42 03.8**	**+0.7**
	baz=138						
R16K	**Pilot Point**	**4.22**	**292**	Pn	**Pn**	**00 42 03.9**	**-0.1**
R16K	**Pilot Point**	**4.22**	**292**	P	**Pn**	**00 42 04.1**	**+0.1**
	baz=106						
RED	**Redoubt Volcan**	**4.43**	**344**		**Pn**	**00 42 06.5**	**-0.4**
P17K	**Kvichak River**	**4.46**	**315**		**Pn**	**00 42 08.5**	**+1.3**
P17K	**Kvichak River**	**4.46**	**315**	P	**Pn**	**00 42 08.5**	**+1.3**
	baz=130						
O18K	**Koktuh Hills**	**4.50**	**327**	Pn	**Pn**	**00 42 07.9**	**+0.1**
O18K				IAML		00 43 37.6	
	comp=N,31nm,3.1s						
O18K	**Koktuh Hills**	**4.50**	**327**	P	**Pn**	**00 42 08.8**	**+1.0**
	baz=142						
HIN	**Hinchinbrook I**	**4.66**	**24**	Pn	**Pn**	**00 42 09.8**	**-0.1**
HIN				IAML		00 44 13.2	
	comp=E,73nm,2.6s						
KAIM	**Kayak Island**	**4.87**	**37**	Pn	**Pn**	**00 42 12.9**	**+0.1**
KAIM	**Kayak Island**	**4.87**	**37**	P	**Pn**	**00 42 13.3**	**+0.4**
	baz=222						
RC01	**Rabbit Creek A**	**4.91**	**3**	Pn	**Pn**	**00 42 13.8**	**+0.3**
RC01				IAML		00 43 10.4	
	comp=N,29nm,3.6s						
RC01				IAML		00 44 21.2	
	comp=E,31nm,3.6s						
RC01	**Rabbit Creek A**	**4.91**	**3**	P	**Pn**	**00 42 14.3**	**+0.8**
	baz=183						
P16K	**Nushagak River**	**5.02**	**308**		**Pn**	**00 42 16.1**	**+1.2**
P16K	**Nushagak River**	**5.02**	**308**	P	**Pn**	**00 42 16.1**	**+1.2**
	baz=121						
O17K	**Koliganek Bris**	**5.09**	**318**		**Pn**	**00 42 16.9**	**+1.0**
O17K	**Koliganek Bris**	**5.09**	**318**	P	**Pn**	**00 42 16.9**	**+1.0**
	baz=132						
N20K	**Mount Spurr**	**5.11**	**350**	P	**Pn**	**00 42 16.6**	**+0.3**
	baz=168						
SPCR	**Spurr Chakacha**	**5.11**	**350**		**Pn**	**00 42 16.6**	**+0.3**
N19K	**Bonanza Creek**	**5.12**	**336**	Pn	**Pn**	**00 42 17.1**	**+0.7**
N19K				IAML		00 43 15.3	
	comp=N,24nm,3.7s						
N19K				IAML		00 43 50.1	
	comp=E,21nm,3.6s						
N19K	**Bonanza Creek**	**5.12**	**336**	P	**Pn**	**00 42 16.7**	**+0.3**
	baz=153						
RAGM	**Ragged Mountai**	**5.14**	**33**	Pn	**Pn**	**00 42 17.4**	**+0.8**
SPCP	**Crater Peak Br**	**5.17**	**350**		**Pn**	**00 42 17.2**	**+0.1**
SUA	**Susitna One**	**5.29**	**358**	Pn	Pn	00 42 16.8	-1.9
SUA				IAML		00 43 38.0	
	comp=E,51nm,3.2s						
SUA				IAML		00 43 54.0	
	comp=N,46nm,3.5s						
KNK	**Knik Glacier**	**5.32**	**10**	Pn	**Pn**	**00 42 19.5**	**+0.5**
KNK				IAML		00 43 16.5	
	comp=N,21nm,3.5s						
KNK				IAML		00 43 26.4	
	comp=E,23nm,3.3s						
N18K	**Kilae Creek**	**5.37**	**329**	Pn	**Pn**	**00 42 20.6**	**+0.8**
N18K				IAML		00 43 08.7	
	comp=N,25nm,3.1s						
N18K				IAML		00 43 40.9	
	comp=E,27nm,3.7s						
N18K	**Kilae Creek**	**5.37**	**329**	P	**Pn**	**00 42 20.4**	**+0.7**
	baz=144						
O16K	**Kokwok River B**	**5.37**	**313**	Pn	**Pn**	**00 42 20.8**	**+1.0**
O16K				IAML		00 43 03.0	
	comp=N,17nm,2.7s						
O16K				IAML		00 43 43.7	
	comp=E,20nm,3.9s						
O16K	**Kokwok River B**	**5.37**	**313**	P	**Pn**	**00 42 20.3**	**+0.5**
	baz=126						
STLK	**Strandline Lak**	**5.37**	**352**		**Pn**	**00 42 20.3**	**+0.4**
DIV	**Divide**	**5.48**	**24**	Pn	**Pn**	**00 42 20.5**	**-0.7**
SNH	**Sunshine Point**	**5.61**	**42**	Pn	**Pn**	**00 42 22.6**	**-0.5**
BMRM	**Bremner River**	**5.63**	**30**	Pn	**Pn**	**00 42 23.2**	**-0.1**
BMRM	**Bremner River**	**5.63**	**30**	P	**Pn**	**00 42 23.9**	**+0.5**
	baz=214						
SVW2	**Sparrevohn**	**5.63**	**333**	Pn	**Pn**	**00 42 23.0**	**-0.3**
GHO	**Glory Hole Cre**	**5.63**	**7**	Pn	**Pn**	**00 42 23.3**	**-0.2**
N17K	**Nushagak Hills**	**5.65**	**323**	Pn	**Pn**	**00 42 24.2**	**+0.5**
N17K	**Nushagak Hills**	**5.65**	**323**	P	**Pn**	**00 42 24.6**	**+1.0**
	baz=137						
SML	**Sawmill**	**5.71**	**9**	Pn	**Pn**	**00 42 25.2**	**+0.7**
KLU	**Klutina**	**5.77**	**21**	Pn	**Pn**	**00 42 26.1**	**+0.8**
M20K	**Styx River**	**5.88**	**347**	Pn	**Pn**	**00 42 26.7**	**-0.2**
M20K	**Styx River**	**5.88**	**347**	P	**Pn**	**00 42 27.2**	**+0.3**
	baz=164						
O15K	**Ungalikthiuk R**	**5.92**	**304**		**Pn**	**00 42 27.9**	**+0.6**
O15K	**Ungalikthiuk R**	**5.92**	**304**	P	**Pn**	**00 42 27.9**	**+0.6**
	baz=116						
M18K	**Stony River**	**6.03**	**334**		**Pn**	**00 42 29.4**	**+0.6**
M18K	**Stony River**	**6.03**	**334**	P	**Pn**	**00 42 29.4**	**+0.6**
	baz=149						
M19K	**Big River Lodg**	**6.10**	**341**	Pn	**Pn**	**00 42 28.5**	**-1.2**
N16K	**Nishlik Lake**	**6.18**	**317**		**Pn**	**00 42 32.4**	**+1.4**
N16K	**Nishlik Lake**	**6.18**	**317**	P	**Pn**	**00 42 32.3**	**+1.4**
	baz=130						
M17K	**Holitna River**	**6.40**	**328**	Pn	**Pn**	**00 42 35.1**	**+1.3**
M17K	**Holitna River**	**6.40**	**328**	P	**Pn**	**00 42 34.9**	**+1.1**
	baz=141						
L19K	**White Mountain**	**6.44**	**341**	Pn	**Pn**	**00 42 34.4**	**0.0**
N15K	**Kwethluk River**	**6.53**	**312**	Pn	**Pn**	**00 42 36.8**	**+1.1**
N15K	**Kwethluk River**	**6.53**	**312**	P	**Pn**	**00 42 37.3**	**+1.6**
	baz=123						
M16K	**Timber Creek**	**6.62**	**320**	Pn	**Pn**	**00 42 38.1**	**+1.2**
M16K	**Timber Creek**	**6.62**	**320**	P	**Pn**	**00 42 38.5**	**+1.6**
	baz=133						
O14K	**Tigyukauivet M**	**6.62**	**302**	Pn	**Pn**	**00 42 38.1**	**+1.2**
O14K	**Tigyukauivet M**	**6.62**	**302**	P	**Pn**	**00 42 37.9**	**+1.0**
	baz=113						
BARN	**Barnard Glacie**	**6.63**	**39**	Pn	**Pn**	**00 42 37.0**	**-0.2**
CTGM	**Chitina Glacie**	**6.69**	**41**	Pn	**Pn**	**00 42 38.2**	**+0.2**
LOGN	**Logan Glacier**	**6.72**	**43**	Pn	**Pn**	**00 42 38.9**	**+0.5**
L18K	**Granite Mounta**	**6.87**	**334**	Pn	**Pn**	**00 42 40.4**	**+0.1**
M15K	**Kasigluk River**	**7.07**	**314**		**Pn**	**00 42 44.3**	**+1.2**
M15K	**Kasigluk River**	**7.07**	**314**	P	**Pn**	**00 42 44.3**	**+1.2**
	baz=125						
N14K	**Kuskokwak Cree**	**7.10**	**306**		**Pn**	**00 42 44.6**	**+1.2**
N14K	**Kuskokwak Cree**	**7.10**	**306**	P	**Pn**	**00 42 44.6**	**+1.2**
	baz=117						
L17K	**Donlin**	**7.23**	**329**		**Pn**	**00 42 46.7**	**+1.5**
L17K	**Donlin**	**7.23**	**329**	P	**Pn**	**00 42 46.7**	**+1.5**
	baz=142						
L16K	**Owhat River**	**7.28**	**323**	Pn	**Pn**	**00 42 46.2**	**+0.3**
L16K	**Owhat River**	**7.28**	**323**	P	**Pn**	**00 42 47.5**	**+1.6**
	baz=135						
TTA	**Tatalina**	**7.35**	**339**	Pn	**Pn**	**00 42 45.5**	**-1.4**
KTH	**Kantishna Hill**	**7.38**	**358**	Pn	**Pn**	**00 42 49.8**	**+2.4**
K20K	**Telida**	**7.43**	**347**	Pn	**Pn**	**00 42 48.8**	**+0.9**
M27K	**Edge Creek, AK**	**7.53**	**31**	Pn	**Pn**	**00 42 50.9**	**+1.5**
M14K	**Bethel**	**7.62**	**312**	Pn	**Pn**	**00 42 51.8**	**+1.2**
K17K	**Iditarod**	**7.70**	**331**	Pn	**Pn**	**00 42 50.2**	**-1.4**
BPAW	**Bear Paw Mtn.**	**7.93**	**358**	Pn	**Pn**	**00 42 55.3**	**+0.4**
M13K	**Dall Lake**	**8.06**	**307**	Pn	**Pn**	**00 42 58.6**	**+2.0**
L14K	**Kuka Creek**	**8.24**	**314**	Pn	**Pn**	**00 43 00.1**	**+1.1**
J19K	**Poorman**	**8.26**	**343**	Pn	**Pn**	**00 42 58.8**	**-0.5**
K15K	**Wolf Creek Mou**	**8.39**	**321**	Pn	**Pn**	**00 43 02.8**	**+1.7**
CCB	**Clear Creek Bu**	**8.56**	**7**	Pn	**Pn**	**00 43 03.5**	**0.0**
N30M	**Aishikik Lake**	**8.63**	**47**	Pn	**Pn**	**00 43 04.9**	**+0.4**
M29M	**Somme Creek**	**8.69**	**39**	Pn	**Pn**	**00 43 06.3**	**+0.9**
J16K	**Anvik River**	**8.80**	**328**	Pn	**Pn**	**00 43 05.7**	**-1.0**
K13K	**Kusilvak Mount**	**9.35**	**314**	Pn	**Pn**	**00 43 16.4**	**+2.0**
H17K	**Granite Mounta**	**9.95**	**336**	Pn	**Pn**	**00 43 23.1**	**+0.7**
IMAR	**Indian Mountai**	**9.96**	**352**	Pn	**Pn**	**00 43 23.3**	**+0.7**
K29M	**Barlow Dome**	**9.96**	**35**	Pn	**Pn**	**00 43 23.1**	**+0.3**
G23K	**Bananza Creek**	**10.55**	**1**	Pn	**Pn**	**00 43 31.3**	**+0.6**

NEIC ***24*** *00:45:21±1.4, 56°.2N±0°.1×149°.8W±0°.1, h23km±10km, ML3.5/36, ML2.8(AEIC), Error ellipse: s-maj=16.1km s-min=8.9km az=175.0*

AEIC ***24*** *00:45:24.1±1.5, 56°.2N±0°.1×149°.8W±0°.1, h12km±8km, Error ellipse: s-maj=15.8km s-min=9.2km az=174.0*

ISC 24 00:45:18.1±2.2, 56°.2N±0°.1×149°.78W±0°.06, h10km, n109, σ 1§22/118, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.21**	**300**		**Pn**	**00 45 54.8**	**0.0**
OHAK					**Sn**	**00 46 20.8**	**-1.3**
OHAK	**Old Harbor**	**2.21**	**300**	P	**Pn**	**00 45 55.4**	**+0.6**
	baz=116						
OHAK				S	**Sn**	**00 46 21.2**	**-0.9**
	baz=116						
KDAK	**Kodiak Island**	**2.24**	**318**	Pn	**Pn**	**00 45 55.3**	**+0.2**
KDAK				Sn	**Sn**	**00 46 21.7**	**-1.1**
Q20K	**Shuyak Island**	**2.83**	**331**	P	**Pn**	**00 46 04.8**	**+1.5**
	baz=148						
Q20K				S	**Sn**	**00 46 35.3**	**-2.2**
	baz=148						
SYI	**Shuyak Island**	**2.83**	**331**	Pn	**Pn**	**00 46 04.4**	**+1.0**
SYI				Sn	**Sn**	**00 46 35.5**	**-1.9**
R18K	**Karluk**	**2.93**	**301**	Pn	**Pn**	**00 46 05.3**	**+0.7**
R18K				Sn	**Sn**	**00 46 39.8**	**0.0**
R18K				IAML		00 47 30.2	
	comp=E,98nm,0.4s						
R18K				IAML		00 47 35.7	
	comp=N,101nm,0.5s						
R18K	**Karluk**	**2.93**	**301**	P	**Pn**	**00 46 05.9**	**+1.3**
	baz=116						
R18K				S	**Sn**	**00 46 37.7**	**-2.1**
	baz=116						
CNPM	**China Poot**	**3.46**	**348**	Pn	**Pn**	**00 46 12.6**	**+0.6**
CNPM				IAML		00 47 42.5	
	comp=E,51nm,1.5s						
CNPM				IAML		00 47 46.1	
	comp=N,51nm,1.2s						
Q19K	**Cape Douglas,**	**3.47**	**325**	Sn	**Sn**	**00 46 54.5**	**+1.2**
Q19K	**Cape Douglas,**	**3.47**	**325**	P	**Pn**	**00 46 13.7**	**+1.6**
	baz=141						
Q19K				S	**Sn**	**00 46 52.8**	**-0.5**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.49**	**314**		**Pn**	**00 46 13.6**	**+1.2**
KAHG					**Sn**	**00 46 51.9**	**-1.8**
BRSE	**Bradley Lake S**	**3.63**	**352**		**Pn**	**00 46 14.9**	**+0.7**
BRSE	**Bradley Lake S**	**3.63**	**352**	P	**Pn**	**00 46 14.9**	**+0.7**
	baz=171						
ACHA	**Angle Creek He**	**3.65**	**307**		**Pn**	**00 46 16.2**	**+1.5**
BRLK	**Bradley Lake**	**3.66**	**351**	Pn	**Pn**	**00 46 14.4**	**-0.3**
BRLK				IAML		00 47 48.5	
	comp=N,46nm,1.3s						
BRLK				IAML		00 47 49.6	
	comp=E,60nm,1.4s						
ANCK	**Angle Creek**	**3.72**	**306**		**Pn**	**00 46 17.0**	**+1.4**
Q23K	**Middleton Isla**	**3.75**	**28**	Pn	**Pn**	**00 46 15.8**	**-0.2**
Q23K				IAML		00 47 21.3	
	comp=E,116nm,1.4s						
Q23K				IAML		00 48 40.4	
	comp=N,143nm,1.5s						
Q23K	**Middleton Isla**	**3.75**	**28**	P	**Pn**	**00 46 16.5**	**+0.5**
	baz=211						
MID	**Middleton Isla**	**3.75**	**28**	Pn	**Pn**	**00 46 15.4**	**-0.6**
MID				IAML		00 47 09.4	
	comp=N,128nm,1.4s						
MID				IAML		00 47 27.9	
	comp=E,158nm,1.5s						
CNTC	**Contact Creek**	**3.93**	**305**		**Pn**	**00 46 19.9**	**+1.3**
Q17K	**Contact Creek**	**3.94**	**305**	P	**Pn**	**00 46 19.9**	**+1.3**
	baz=119						
P19K	**Oil Pt**	**3.96**	**334**	Pn	**Pn**	**00 46 19.4**	**+0.6**
P19K				IAML		00 48 00.1	
	comp=N,104nm,1.0s						
P19K				IAML		00 48 00.3	
	comp=E,124nm,0.7s						
P19K	**Oil Pt**	**3.96**	**334**	P	**Pn**	**00 46 20.5**	**+1.7**
	baz=150						
P23K	**Montague Islan**	**4.05**	**17**		**Pn**	**00 46 20.8**	**+0.8**
P23K	**Montague Islan**	**4.05**	**17**	P	**Pn**	**00 46 20.8**	**+0.8**
	baz=199						
O20K	**Slope Mountain**	**4.21**	**340**		**Pn**	**00 46 23.2**	**+0.9**
O20K	**Slope Mountain**	**4.21**	**340**	P	**Pn**	**00 46 23.2**	**+0.9**
	baz=157						
IVE	**Iliamna Volcan**	**4.23**	**337**		**Pn**	**00 46 23.5**	**+0.8**
O22K	**Cooper Landing**	**4.33**	**0**	Pn	**Pn**	**00 46 24.3**	**+0.4**
O22K	**Cooper Landing**	**4.33**	**0**	P	**Pn**	**00 46 24.7**	**+0.8**
	baz=180						
P18K	**Big Mountain,**	**4.36**	**320**	Pn	**Pn**	**00 46 25.3**	**+1.0**
P18K	**Big Mountain,**	**4.36**	**320**	P	**Pn**	**00 46 25.0**	**+0.6**
	baz=135						
R16K	**Pilot Point**	**4.51**	**291**	Pn	**Pn**	**00 46 27.7**	**+1.4**
R16K	**Pilot Point**	**4.51**	**291**	P	**Pn**	**00 46 28.4**	**+2.1**
	baz=104						
HIN	**Hinchinbrook I**	**4.58**	**21**	Pn	**Pn**	**00 46 27.8**	**+0.4**
HIN				IAML		00 48 06.4	
	comp=E,73nm,1.4s						
HIN				IAML		00 49 09.9	
	comp=N,62nm,0.9s						
P17K	**Kvichak River**	**4.69**	**313**		**Pn**	**00 46 30.6**	**+1.8**
P17K	**Kvichak River**	**4.69**	**313**	P	**Pn**	**00 46 30.6**	**+1.8**
	baz=127						
O18K	**Koktuh Hills**	**4.70**	**324**	Pn	**Pn**	**00 46 29.3**	**+0.4**
O18K				IAML		00 49 28.0	
	comp=E,17nm,1.4s						
KAIM	**Kayak Island**	**4.73**	**35**	Pn	**Pn**	**00 46 29.8**	**+0.4**
KAIM	

RIDG	Independent Ri	7.99	16	Pn	Pn	00 47 13.8	-0.3
M13K	Dall Lake	8.32	306	Pn	Pn	00 47 18.5	-0.1
L14K	Kuka Creek	8.48	313	Pn	Pn	00 47 23.5	+2.8
M29M	Somme Creek	8.54	38	Pn	Pn	00 47 23.7	+1.9
K15K	Wolf Creek Mou	8.60	320	Pn	Pn	00 47 23.4	+0.9
J26L	Joseph Creek	8.91	18	Pn	Pn	00 47 25.6	-1.2
L29M	L29M	9.11	35	Pn	Pn	00 47 31.4	+1.8
P32M	Atlin	9.21	61	Pn	Pn	00 47 30.3	-0.7
M30M	Minto, Yukon	9.22	40	Pn	Pn	00 47 30.8	-0.2
H21K	Melozitna Rive	9.64	352	Pn	Pn	00 47 37.3	+0.6
R33M	Jennings River	10.54	64	Pn	Pn	00 47 49.0	-0.1

IDC ***24*** *00:45:53.7±3.3,55°.42N×149°.17W,h0km,mb3.6/1, mbtmp3.5/6,ML3.3/5,Error ellipse: s-maj=56.2km s-min=29.3km az=0.0*

NEIC ***24*** *00:45:55.9±1.3,55°.69N±0°.09×149°.3W±0°.1,h10km±2km, mb3.6/1,ML4.0/32,ML3.8(AEIC),Error ellipse: s-maj=14.6km s-min=11.9km az=176.0*

AEIC ***24*** *00:46:00.3±1.4,55°.72N±0°.10×149°.3W±0°.1,h5km±7km, Error ellipse: s-maj=14.4km s-min=8.9km az=176.0*

ISC 24 00:45:56.7±1.2,55°.79N±0°.10×149°.31W±0°.06,h10km, n191,σ0s99/196,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.63**	**305**		**Pn**	**00 46 38.6**	**-0.5**
OHAK					**Sn**	**00 47 08.6**	**-2.5**
OHAK	**Old Harbor** baz=123	**2.63**	**305**	P	**Pn**	**00 46 39.1**	**-0.1**
OHAK	baz=123			S	**Sn**	**00 47 09.1**	**-2.0**
KDAK	**Kodiak Island**	**2.69**	**319**	Pn	**Pn**	**00 46 39.5**	**-0.4**
KDAK				Sn	**Sn**	**00 47 10.7**	**-1.8**
KDAK	**Kodiak Island** 89nm,3.4s	**2.69**	**319**	IAML		00 47 06.7	
KDAK	90nm,3.4s			IAML		00 48 02.3	
KDAK	**Kodiak Island** 3.3nm,0.3s,baz=128,slow=9.3,SNR=5.2	**2.69**	**319**	Pn	**Pn**	**00 46 40.4**	**+0.4**
KDAK	13nm,0.3s,baz=16,slow=20,SNR=13 7.3nm,0.3s			Sn	**Sn**	**00 47 11.3**	**-1.3**
Q20K	**Shuyak Island** baz=148	**3.29**	**331**	P	**Pn**	**00 46 48.4**	**+0.2**
Q20K	baz=148			S	**Sn**	**00 47 26.5**	**-0.8**
SYI	**Shuyak Island**	**3.29**	**331**	Pn	**Pn**	**00 46 47.4**	**-0.8**
SYI				Sn	**Sn**	**00 47 27.3**	**0.0**
SYI	comp=E,175nm,0.6s			IAML		00 48 58.8	
R18K	**Karluk**	**3.35**	**304**	Pn	**Pn**	**00 46 49.2**	**+0.2**
R18K	**Karluk** baz=121	**3.35**	**304**	P	**Pn**	**00 46 49.7**	**+0.6**
R18K	baz=121			S	**Sn**	**00 47 27.9**	**-0.8**
CNPM	**China Poot**	**3.89**	**345**	Pn	Pn	00 46 54.0	-2.5
CNPM				Sn	**Sn**	**00 47 40.6**	**-1.5**
Q19K	**Cape Douglas,**	**3.92**	**325**	Pn	**Pn**	**00 46 57.4**	**+0.4**
Q19K	comp=E,444nm,1.1s			IAML		00 49 19.6	
Q19K	comp=N,268nm,0.8s			IAML		00 49 29.8	
Q19K	**Cape Douglas,** baz=142	**3.92**	**325**	P	**Pn**	**00 46 58.1**	**+1.1**
KAHG	**Katmai Hook Gl**	**3.93**	**316**		**Pn**	**00 46 57.8**	**+0.6**
Q23K	**Middleton Isla**	**3.98**	**22**	Pn	**Pn**	**00 46 56.8**	**-0.9**
MID	**Middleton Isla**	**3.98**	**22**	Pn	**Pn**	**00 46 57.1**	**-0.7**
BRSE	**Bradley Lake S**	**4.04**	**350**		**Pn**	**00 46 58.6**	**0.0**
BRSE					**Sn**	**00 47 44.0**	**-1.8**
BRSE	**Bradley Lake S** baz=168	**4.04**	**350**	P	**Pn**	**00 46 58.6**	**0.0**
BRSE	baz=168			S	**Sn**	**00 47 44.0**	**-1.8**
BRLK	**Bradley Lake**	**4.07**	**349**	Pn	**Pn**	**00 46 58.0**	**-1.0**
ACHA	**Angle Creek He**	**4.09**	**309**		**Pn**	**00 47 00.3**	**+1.0**
ANCK	**Angle Creek**	**4.16**	**308**		**Pn**	**00 47 05.5**	**+0.3**
AUCH	**Augustine Cone**	**4.22**	**330**		**Pn**	**00 47 01.4**	**+0.3**
P23K	**Montague Islan**	**4.34**	**13**		**Pn**	**00 47 02.5**	**-0.2**
P23K	**Montague Islan** baz=194	**4.34**	**13**	P	**Pn**	**00 47 02.5**	**-0.2**
CNTC	**Contact Creek**	**4.36**	**307**		**Pn**	**00 47 03.9**	**+0.8**
Q17K	**Contact Creek** baz=123	**4.37**	**307**	P	**Pn**	**00 47 04.2**	**+1.1**
P19K	**Oil Pt**	**4.41**	**333**	Pn	**Pn**	**00 47 04.7**	**+1.1**
P19K	**Oil Pt** baz=150	**4.41**	**333**	P	**Pn**	**00 47 04.6**	**+1.0**
O20K	**Slope Mountain**	**4.65**	**339**		**Pn**	**00 47 08.5**	**+1.5**
O20K	**Slope Mountain** baz=156	**4.65**	**339**	P	**Pn**	**00 47 08.5**	**+1.5**
O22K	**Cooper Landing** baz=177	**4.71**	**358**	P	**Pn**	**00 47 08.8**	**+1.0**
P18K	**Big Mountain,**	**4.81**	**321**	Pn	**Pn**	**00 47 09.3**	**+0.1**
P18K	**Big Mountain,** baz=137	**4.81**	**321**	P	**Pn**	**00 47 09.7**	**+0.5**
HIN	**Hinchinbrook I**	**4.86**	**17**	Pn	**Pn**	**00 47 09.5**	**-0.2**
KAIM	**Kayak Island**	**4.90**	**30**	Pn	**Pn**	**00 47 09.9**	**-0.5**
KAIM	**Kayak Island** baz=213	**4.90**	**30**	P	**Pn**	**00 47 10.2**	**-0.2**
RSO	**Redoubt South**	**5.03**	**340**	Pn	**Pn**	**00 47 11.0**	**-1.3**
CHGN	**Chignik**	**5.13**	**279**	Pn	**Pn**	**00 47 13.8**	**+0.3**
EYAK	**Cordova Ski Ar** baz=202	**5.13**	**20**	P	**Pn**	**00 47 13.7**	**+0.2**
P17K	**Kvichak River**	**5.14**	**315**		**Pn**	**00 47 14.3**	**+0.6**
P17K	**Kvichak River** baz=129	**5.14**	**315**	P	**Pn**	**00 47 14.3**	**+0.6**
O18K	**Koktuh Hills**	**5.15**	**325**	Pn	**Pn**	**00 47 12.7**	**-1.1**
O18K	**Koktuh Hills** baz=140	**5.15**	**325**	P	**Pn**	**00 47 14.6**	**+0.7**
RAGM	**Ragged Mountai**	**5.22**	**26**	Pn	**Pn**	**00 47 14.8**	**-0.1**
RC01	**Rabbit Creek A**	**5.32**	**358**	Pn	**Pn**	**00 47 15.9**	**-0.2**
GOAT	**Goat Mountain**	**5.38**	**25**		**Pn**	**00 47 17.4**	**+0.4**
BERG	**Berg Lake**	**5.49**	**30**	Pn	**Pn**	**00 47 17.8**	**-0.6**
KNK	**Knik Glacier**	**5.66**	**4**	Pn	**Pn**	**00 47 20.7**	**-0.1**
KNK	**Knik Glacier** baz=184	**5.66**	**4**	P	**Pn**	**00 47 21.5**	**+0.7**
DIV	**Divide**	**5.67**	**18**	Pn	**Pn**	**00 47 20.8**	**-0.1**
P16K	**Nushagak River**	**5.71**	**308**		**Pn**	**00 47 22.3**	**+0.9**
P16K	**Nushagak River** baz=122	**5.71**	**308**	P	**Pn**	**00 47 22.3**	**+0.9**
N19K	**Bonanza Creek**	**5.73**	**334**	Pn	**Pn**	**00 47 20.6**	**-1.1**
SUA	**Susitna One**	**5.74**	**353**	Pn	**Pn**	**00 47 21.9**	**-0.1**
SUA	**Susitna One** baz=172	**5.74**	**353**	P	**Pn**	**00 47 22.6**	**+0.6**
BMRM	**Bremner River** baz=207	**5.75**	**24**	P	**Pn**	**00 47 22.4**	**+0.3**
O17K	**Koliganek Bris**	**5.77**	**317**		**Pn**	**00 47 23.3**	**+1.0**
O17K	**Koliganek Bris** baz=131	**5.77**	**317**	P	**Pn**	**00 47 23.3**	**+1.0**
PMR	**Palmer**	**5.82**	**1**	Pn	**Pn**	**00 47 23.5**	**+0.5**
PMR	**Palmer** baz=181	**5.82**	**1**	P	**Pn**	**00 47 23.8**	**+0.8**
BARK	**Barkley Ridge**	**5.87**	**35**		**Pn**	**00 47 23.8**	**0.0**
STLK	**Strandline Lak**	**5.88**	**348**		**Pn**	**00 47 24.4**	**+0.6**
CNBA	**Chernabura Isl**	**5.95**	**265**	Pn	**Pn**	**00 47 23.6**	**-1.2**
KLU	**Klutina**	**5.99**	**16**	Pn	**Pn**	**00 47 25.9**	**+0.6**
KLU	**Klutina** baz=198	**5.99**	**16**	P	**Pn**	**00 47 25.8**	**+0.4**
GHO	**Glory Hole Cre**	**6.00**	**2**	Pn	**Pn**	**00 47 26.4**	**+0.8**
N18K	**Kilae Creek**	**6.01**	**327**	Pn	**Pn**	**00 47 25.3**	**-0.3**
N18K	**Kilae Creek** baz=142	**6.01**	**327**	P	**Pn**	**00 47 25.8**	**+0.2**
O16K	**Kokwok River B**	**6.06**	**313**	Pn	**Pn**	**00 47 26.6**	**+0.4**
O16K	**Kokwok River B** baz=126	**6.06**	**313**	P	**Pn**	**00 47 26.9**	**+0.7**
SML	**Sawmill** baz=185	**6.06**	**4**	P	**Pn**	**00 47 27.1**	**+0.8**
SCM	**Sheep Creek Mo**	**6.15**	**9**	Pn	**Pn**	**00 47 28.1**	**+0.5**
VRDI	**Verde Repeater**	**6.26**	**27**	Pn	**Pn**	**00 47 29.2**	**0.0**
SAMH	**Samovar Hills**	**6.29**	**43**		**Pn**	**00 47 29.6**	**+0.1**
KIAG	**Kiagna River**	**6.31**	**33**		**Pn**	**00 47 29.8**	**-0.1**
SKT	**Skwentna**	**6.32**	**350**	Pn	**Pn**	**00 47 30.1**	**+0.3**
SKT	**Skwentna** baz=168	**6.32**	**350**	P	**Pn**	**00 47 30.6**	**+0.8**
N25K	**Chitina, Valde**	**6.33**	**21**	Pn	**Pn**	**00 47 29.9**	**-0.2**
N25K	**Chitina, Valde** baz=204	**6.33**	**21**	P	**Pn**	**00 47 30.8**	**+0.7**
SDPT	**Sand Point**	**6.35**	**271**	Pn	**Pn**	**00 47 27.9**	**-2.3**
GLB	**Gilahina Butte**	**6.35**	**25**	Pn	**Pn**	**00 47 30.2**	**-0.2**
PCA	**Pinnacle**	**6.47**	**44**	Pn	**Pn**	**00 47 32.0**	**+0.1**
PINM	**Pinnacle** baz=231	**6.47**	**44**	P	**Pn**	**00 47 31.9**	**-0.1**
PTPK	**Patty Peak**	**6.49**	**31**		**Pn**	**00 47 32.6**	**+0.3**
MCARA	**McCarthy VSAT**	**6.50**	**28**	Pn	**Pn**	**00 47 32.7**	**+0.4**
MCARA	**McCarthy VSAT** baz=212	**6.50**	**28**	P	**Pn**	**00 47 32.9**	**+0.6**
M24K	**Tolsona, Glenn**	**6.54**	**13**	Pn	**Pn**	**00 47 34.4**	**+1.4**
M24K	**Tolsona, Glenn** baz=195	**6.54**	**13**	P	**Pn**	**00 47 34.6**	**+1.7**
PNL	**Peninsula**	**6.58**	**50**		**Pn**	**00 47 33.2**	**-0.2**
PNL	**Peninsula** baz=237	**6.58**	**50**	P	**Pn**	**00 47 33.2**	**-0.2**
O15K	**Ungalikthiuk R**	**6.61**	**305**		**Pn**	**00 47 34.8**	**+1.1**
O15K	**Ungalikthiuk R** baz=117	**6.61**	**305**	P	**Pn**	**00 47 34.8**	**+1.1**
BARN	**Barnard Glacie**	**6.64**	**34**	Pn	**Pn**	**00 47 34.0**	**-0.3**
BCPM	**Bancas Point**	**6.64**	**47**	Pn	**Pn**	**00 47 34.0**	**-0.2**
M18K	**Stony River**	**6.65**	**332**		**Pn**	**00 47 34.9**	**+0.6**
M18K	**Stony River** baz=147	**6.65**	**332**	P	**Pn**	**00 47 34.9**	**+0.6**
CTG	**Chitna Glacier** baz=222	**6.67**	**36**	P	**Pn**	**00 47 34.7**	**-0.1**
CTGM	**Chitina Glacie**	**6.67**	**36**	Pn	**Pn**	**00 47 34.3**	**-0.5**
LOGN	**Logan Glacier**	**6.68**	**38**	Pn	**Pn**	**00 47 35.1**	**+0.2**
WACK	**Wrangell Chich**	**6.73**	**20**		**Pn**	**00 47 36.7**	**+1.1**
WAZA	**Wrangell Mount**	**6.84**	**21**		**Pn**	**00 47 38.7**	**+1.4**
WAT6	**Susitna Watana**	**6.86**	**6**		**Pn**	**00 47 37.9**	**+0.5**
WAT6	**Susitna Watana** baz=187	**6.86**	**6**	P	**Pn**	**00 47 38.8**	**+1.4**
N16K	**Nishlik Lake**	**6.86**	**317**		**Pn**	**00 47 38.3**	**+1.0**
N16K	**Nishlik Lake** baz=130	**6.86**	**317**	P	**Pn**	**00 47 38.8**	**+1.5**
M17K	**Holitna River**	**7.04**	**326**	Pn	**Pn**	**00 47 40.1**	**+0.3**
M17K	**Holitna River** baz=140	**7.04**	**326**	P	**Pn**	**00 47 40.5**	**+0.8**
WAT7	**Susitna Watana**	**7.07**	**2**		**Pn**	**00 47 41.3**	**+1.1**
N15K	**Kwethluk River**	**7.22**	**312**	Pn	**Pn**	**00 47 42.8**	**+0.6**
N15K	**Kwethluk River** baz=123	**7.22**	**312**	P	**Pn**	**00 47 43.3**	**+1.1**
O29M	**Mount Kennedy**	**7.27**	**47**	Pn	**Pn**	**00 47 43.0**	**0.0**
O29M	**Mount Kennedy** baz=235	**7.27**	**47**	P	**Pn**	**00 47 43.3**	**+0.3**
M16K	**Timber Creek**	**7.29**	**320**	Pn	**Pn**	**00 47 43.7**	**+0.6**
M16K	**Timber Creek** baz=132	**7.29**	**320**	P	**Pn**	**00 47 44.2**	**+1.1**
P29M	**Windy Craggy**	**7.30**	**53**	Pn	**Pn**	**00 47 42.4**	**-0.9**
P29M	**Windy Craggy** baz=242	**7.30**	**53**	P	**Pn**	**00 47 42.9**	**-0.3**
O14K	**Tigyukauivet M**	**7.31**	**303**	Pn	**Pn**	**00 47 43.6**	**+0.2**
O14K	**Tigyukauivet M** baz=114	**7.31**	**303**	P	**Pn**	**00 47 44.9**	**+1.5**
DHY	**Denali Highway**	**7.38**	**7**	Pn	**Pn**	**00 47 45.3**	**+0.9**
DHY	**Denali Highway** baz=188	**7.38**	**7**	P	**Pn**	**00 47 45.8**	**+1.3**
M26K	**Nabesna, AK**	**7.38**	**24**	Pn	**Pn**	**00 47 44.4**	**0.0**
M26K	**Nabesna, AK** baz=208	**7.38**	**24**	P	**Pn**	**00 47 45.8**	**+1.3**
YUK8	**Steele Glacier**	**7.43**	**38**		**Pn**	**00 47 46.6**	**+1.2**
YUK8	**Steele Glacier** baz=226	**7.43**	**38**	P	**Pn**	**00 47 46.6**	**+1.2**
YUK2	**White River**	**7.45**	**33**		**Pn**	**00 47 46.7**	**+1.3**
PAX	**Paxson**	**7.46**	**14**	Pn	**Pn**	**00 47 46.4**	**+0.7**
PAX	**Paxson** baz=196	**7.46**	**14**	P	**Pn**	**00 47 47.1**	**+1.5**
S31K	**Pelican**	**7.49**	**68**	Pn	**Pn**	**00 47 42.6**	**-3.2**
M27K	**Edge Creek, AK**	**7.62**	**27**	Pn	**Pn**	**00 47 48.3**	**+0.5**
RND	**Reindeer**	**7.64**	**2**	Pn	**Pn**	**00 47 48.5**	**+0.5**
TRF	**Thorofare Moun**	**7.70**	**357**	Pn	**Pn**	**00 47 50.4**	**+1.5**
TRF	**Thorofare Moun** baz=176	**7.70**	**357**	P	**Pn**	**00 47 50.9**	**+2.0**
M15K	**Kasigluk River**	**7.75**	**314**		**Pn**	**00 47 51.4**	**+1.9**
M15K	**Kasigluk River** baz=125	**7.75**	**314**	P	**Pn**	**00 47 51.4**	**+1.9**
CAST	**Castle Rocks**	**7.78**	**351**	Pn	**Pn**	**00 47 51.1**	**+1.3**
CAST	**Castle Rocks** baz=168	**7.78**	**351**	P	**Pn**	**00 47 51.7**	**+1.8**
N14K	**Kuskokwak Cree**	**7.79**	**307**		**Pn**	**00 47 51.2**	**+1.3**
N14K	**Kuskokwak Cree** baz=117	**7.79**	**307**	P	**Pn**	**00 47 51.3**	**+1.3**
KTH	**Kantishna Hill**	**7.83**	**355**	Pn	**Pn**	**00 47 50.7**	**+0.1**
L17K	**Donlin**	**7.87**	**328**		**Pn**	**00 47 52.5**	**+1.4**
L17K	**Donlin** baz=140	**7.87**	**328**	P	**Pn**	**00 47 52.5**	**+1.4**
P30M	**Million Dollar**	**7.87**	**51**	Pn	**Pn**	**00 47 51.1**	**0.0**
P30M	**Million Dollar** baz=241	**7.87**	**51**	P	**Pn**	**00 47 51.7**	**+0.5**
L16K	**Owhat River**	**7.94**	**323**	Pn	**Pn**	**00 47 52.8**	**+0.8**
HYT	**Haines Junctio**	**8.00**	**46**	Pn	**Pn**	**00 47 53.4**	**+0.4**
L27K	**Beaver Creek,** baz=210	**8.23**	**24**	P	**Pn**	**00 47 57.0**	**+1.0**
BCAR	**Beaver Creek A**	**8.24**	**25**	Pn	**Pn**	**00 47 56.7**	**+0.5**
RIDG	**Independent Ri**	**8.29**	**14**	Pn	**Pn**	**00 47 57.8**	**+0.9**
ISLZ	**Isanotski Laza**	**8.30**	**269**		**Pn**	**00 47 56.4**	**-0.6**
S32K	**Killisnoo**	**8.30**	**72**	Pn	Pn	00 47 52.7	-4.3
SKAG	**Skagway**	**8.35**	**58**	Pn	**Pn**	**00 47 57.0**	**-0.7**
BPAW	**Bear Paw Mtn.**	**8.38**	**355**	Pn	**Pn**	**00 47 57.4**	**-0.7**
N30M	**Aishikik Lake**	**8.54**	**43**	Pn	**Pn**	**00 48 00.1**	**-0.2**
O30N	**Mendenhall**	**8.56**	**49**	Pn	**Pn**	**00 48 00.2**	**-0.4**
M29M	**Somme Creek**	**8.69**	**35**	Pn	**Pn**	**00 48 02.6**	**+0.2**
M13K	**Dall Lake**	**8.75**	**308**	Pn	**Pn**	**00 48 04.0**	**+0.8**
J20K	**Nowinta River**	**8.75**	**346**	Pn	**Pn**	**00 48 03.5**	**+0.4**
CCB	**Clear Creek Bu**	**8.92**	**4**	Pn	**Pn**	**00 48 06.2**	**+0.8**
L14K	**Kuka Creek**	**8.92**	**314**	Pn	**Pn**	**00 48 06.3**	**+0.9**
K27K	**Chicken**	**9.02**	**21**	Pn	**Pn**	**00 48 07.5**	**+0.6**
WHY	**Whitehorse**	**9.04**	**51**	Pn	**Pn**	**00 48 06.8**	**-0.4**
J25K	**Salcha River,**	**9.07**	**11**	Pn	**Pn**	**00 48 07.9**	**+0.4**
N31M	**Braeburn, Yuko**	**9.07**	**45**	Pn	**Pn**	**00 48 07.6**	**+0.1**
IL31		**9.09**	**7**	Pn	**Pn**	**00 48 09.0**	**+1.3**
ILAR	**Eielson Array** comp=N,0.2nm,0.3s,baz=191,slow=13,SNR=6.6 comp=N,0.4nm,0.4s	**9.09**	**7**	Pn	**Pn**	**00 48 09.3**	**+1.5**
U33K	**Whale Pass**	**9.09**	**81**	Pn	Pn	00 48 03.4	-4.4
P32M	**Atlin**	**9.18**	**59**	Pn	**Pn**	**00 48 08.2**	**-0.8**
J26L	**Joseph Creek**	**9.19**	**16**	Pn	**Pn**	**00 48 10.4**	**+1.2**
L29M	**L29M**	**9.28**	**33**	Pn	**Pn**	**00 48 11.0**	**+0.6**
M30M	**Minto, Yukon**	**9.35**	**38**	Pn	**Pn**	**00 48 11.3**	**-0.1**
K29M	**Barlow Dome**	**10.01**	**31**	Pn	**Pn**	**00 48 21.7**	**+1.2**
M31M	**Drury Creek, Y**	**10.01**	**44**	Pn	**Pn**	**00 48 21.5**	**+1.1**
I26K	**Coal Creek Min**	**10.01**	**15**	Pn	**Pn**	**00 48 20.3**	**-0.1**
N32M	**Quiet Lake**	**10.04**	**51**	Pn	**Pn**	**00 48 21.2**	**+0.3**
H21K	**Melozitna Rive**	**10.05**	**352**	Pn	**Pn**	**00 48 21.1**	**+0.2**
FARO	**Faro, Yukon**	**10.44**	**45**	Pn	**Pn**	**00 48 27.1**	**+0.8**
IMAR	**Indian Mountai**	**10.45**	**350**	Pn	**Pn**	**00 48 26.9**	**+0.5**
R33M	**Jennings River**	**10.48**	**62**	Pn	**Pn**	**00 48 25.9**	**-1.1**
I28M	**Miner Creek**	**10.71**	**21**	Pn	**Pn**	**00 48 32.7**	**+2.6**
DLBC	**Dease Lake** comp=N,0.2nm,0.3s,baz=233,slow=12,SNR=6.1 comp=N,2.4nm,0.7s	**10.81**	**68**	Pn	**Pn**	**00 48 30.3**	**-1.1**
J30M	**Hart River**	**10.90**	**31**	Pn	**Pn**	**00 48 33.6**	**+1.0**
G24K	**Hadweenzic Riv**	**10.98**	**4**	Pn	**Pn**	**00 48 34.8**	**+1.1**
BMAR	**Burnt Mountain**	**11.89**	**9**	Pn	**Pn**	**00 48 46.8**	**+0.6**
G29M	**Pine Creek**	**12.37**	**21**	Pn	**Pn**	**00 48 56.0**	**+3.3**
G31M	**Satah River**	**13.24**	**27**	Pn	**Pn**	**00 49 04.2**	**-0.3**
D25K	**Kavik River**	**13.65**	**4**	Pn	**Pn**	**00 49 09.3**	**-0.8**
D27M	**Malcolm River**	**14.02**	**12**	P	Pn	00 49 20.1	+5.0
INK	**Inuvik**	**14.50**	**24**	Pn	**Pn**	**00 49 19.9**	**-1.7**
INK	**Inuvik** comp=N,0.1nm,0.3s,baz=219,slow=15,SNR=5.7 comp=N,2.5nm,1.0s	**14.50**	**24**	Pn	**Pn**	**00 49 23.1**	**+1.4**
YKA	**Yellowknife Ar** comp=N,0.1nm,0.3s,baz=260,slow=10.0,SNR=3.1 comp=N,0.3nm,0.7s	**18.83**	**55**	P	**P**	**00 50 17.2**	**+0.8**
A36M	**Sachs Harbour**	**19.14**	**23**	P	**P**	**00 50 19.6**	**0.0**
A36M	comp=Z,2.6nm,0.8s			IAmb	IAmb	00 50 25.1	
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=30,slow=6.8,SNR=7.3 comp=Z,0.3nm,0.5s	**68.99**	**325**	P	**P**	**00 57 02.7**	**+0.8**

IDC ***24*** *00:47:33.9±1.1,55°.97N×149°.76W,h0km,mb3.5/9, mbtmp3.6/14,ML3.5/5,Error ellipse: s-maj=26.6km s-min=15.9km az=36.0*

NEIC ***24*** *00:47:37.9±1.8,56°.11N±0°.09×149°.6W±0°.1,h23km±9km, mb4.0/1,ML3.9/40,ML3.7(AEIC),Error ellipse: s-maj=13.2km s-min=8.8km az=172.0*

AEIC ***24*** *00:47:40.9±1.7,56°.10N±0°.08×149°.6W±0°.1,h12km±7km, Error ellipse: s-maj=12.0km s-min=8.5km az=161.0*

ISC 24 00:47:36.0±0.7,56°.17N±0°.08×149°.57W±0°.05,h10km, n265,σ1s33/275,mb3.4/9,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.31**	**299**		**Pn**	**00 48 13.5**	**-0.5**
OHAK					**Sn**	**00 48 39.8**	**-2.6**
OHAK	**Old Harbor**	**2.31**	**299**	P	**Pn**	**00 48 13.8**	**-0.2**
OHAK	baz=118			S	**Sn**	**00 48 40.0**	**-2.4**
KDAK	**Kodiak Island**	**2.31**	**316**	Pn	**Pn**	**00 48 13.9**	**-0.1**
KDAK				Sn	**Sn**	**00 48 40.5**	**-2.1**
KDAK	**Kodiak Island** 14nm,0.3s,baz=161,slow=6.5,SNR=11	**2.31**	**316**	Pn	**Pn**	**00 48 14.0**	**-0.1**
KDAK	33nm,0.3s,baz=23,slow=22,SNR=16 36nm,0.3s			Sn	**Sn**	**00 48 41.0**	**-1.5**
SYI	**Shuyak Island**	**2.89**	**329**	Sn	**Sn**	**00 48 56.3**	**-0.4**
Q20K	**Shuyak Island** baz=148	**2.89**	**329**	P	**Pn**	**00 48 22.9**	**+0.8**
Q20K	baz=148			S	**Sn**	**00 48 56.4**	**-0.3**
R18K	**Karluk**	**3.02**	**300**	Pn	**Pn**	**00 48 23.0**	**-0.9**
R18K				Sn	**Sn**	**00 48 57.7**	**-2.4**
R18K	comp=E,218nm,0.3s			IAML		00 49 01.0	
R18K	comp=N,246nm,0.5s			IAML		00 49 34.6	
R18K	**Karluk** baz=117	**3.02**	**300**	P	**Pn**	**00 48 24.4**	**+0.5**
R18K	baz=117			S	**Sn**	**00 48 57.9**	**-2.2**
CNPM	**China Poot**	**3.48**	**346**	Pn	**Pn**	**00 48 30.7**	**+0.5**
CNPM	comp=E,120nm,0.5s			IAML		00 49 13.1	
CNPM	comp=N,164nm,1.4s			IAML		00 49 13.8	
Q19K	**Cape Douglas,**	**3.53**	**323**	Pn	**Pn**	**00 48 32.2**	**+1.3**
Q19K	comp=N,309nm,0.9s			IAML		00 49 49.2	
Q19K	**Cape Douglas,** baz=141	**3.53**	**323**	P	**Pn**	**00 48 32.0**	**+1.1**
Q19K	baz=141			S	**Sn**	**00 49 11.7**	**-1.1**
KAHG	**Katmai Hook Gl**	**3.56**	**313**		**Pn**	**00 48 32.1**	**+0.7**
KAHG					**Sn**	**00 49 12.2**	**-1.4**
BRSE	**Bradley Lake S**	**3.64**	**351**		**Pn**	**00 48 32.7**	**+0.3**
BRSE	**Bradley Lake S** baz=170	**3.64**	**351**	P	**Pn**	**00 48 32.7**	**+0.3**
HOM	**Homer** baz=162	**3.67**	**343**	P	**Pn**	**00 48 33.5**	**+0.7**
BRLK	**Bradley Lake**	**3.68**	**350**	Pn	**Pn**	**00 48 33.0**	**+0.1**
BRLK	comp=E,105nm,0.6s			IAML		00 49 19.9	
Q23K	**Middleton Isla**	**3.70**	**26**	Pn	**Pn**	**00 48 33.2**	**0.0**
Q23K	comp=E,275nm,3.2s			IAML		00 49 25.5	
Q23K	comp=N,337nm,2.4s			IAML		00 49 48.8	
Q23K	**Middleton Isla** baz=209	**3.70**	**26**	P	**Pn**	**00 48 33.7**	**+0.6**
MID	**Middleton Isla**	**3.70**	**27**	Pn	**Pn**	**00 48 33.0**	**-0.1**
MID	comp=E,260nm,2.8s			IAML		00 49 25.5	
MID	comp=N,295nm,2.2s			IAML		00 49 48.8	
MID	**Middleton Isla**	**3.70**	**27**	P	**Pn**	**00 48 33.5**	**+0.3**
ACHA	**Angle Creek He**	**3.74**	**306**		**Pn**	**00 48 34.6**	**+0.8**
ANCK	**Angle Creek**	**3.81**	**305**		**Pn**	**00 48 35.5**	**+0.7**
AUL	**Augustine Lava**	**3.83**	**329**		**Pn**	**00 48 36.9**	**+1.9**
SEW	**Seward**	**3.95**	**1**	Pn	**Pn**	**00 48 36.4**	**-0.2**
SEW	**Seward** baz=181	**3.95**	**1**	P	**Pn**	**00 48 36.9**	**+0.2**
P19K	**Oil Pt**	**4.00**	**332**	Pn	**Pn**	**00 48 38.6**	**+1.2**
P19K	comp=N,228nm,0.5s			IAML		00 49 27.8	
P19K	comp=E,197nm,0.4s			IAML		00 49 31.1	
P19K	**Oil Pt** baz=150	**4.00**	**332**	P	**Pn**	**00 48 38.4**	**+1.0**
P23K	**Montague Islan**	**4.01**	**16**		**Pn**	**00 48 38.0**	**+0.6**
P23K	**Montague Islan** baz=198	**4.01**	**16**	P	**Pn**	**00 48 38.0**	**+0.6**
CNTC	**Contact Creek**	**4.02**	**304**		**Pn**	**00 48 38.6**	**+0.8**
Q17K	**Contact Creek** baz=120	**4.03**	**304**	P	**Pn**	**00 48 38.6**	**+0.8**
O20K	**Slope Mountain**	**4.25**	**339**		**Pn**	**00 48 41.7**	**+1.0**
O20K	**Slope Mountain** baz=157	**4.25**	**339**	P	**Pn**	**00 48 41.7**	**+1.0**
IVE	**Iliamna Volcan**	**4.27**	**336**		**Pn**	**00 48 41.4**	**+0.2**
O22K	**Cooper Landing**	**4.33**	**359**	Pn	**Pn**	**00 48 42.1**	**+0.3**
O22K	**Cooper Landing** baz=179	**4.33**	**359**	P	**Pn**	**00 48 42.6**	**+0.8**
SLKM	**Skilak Lake**	**4.37**	**356**		**Pn**	**00 48 43.0**	**+0.6**
P18K	**Big Mountain,**	**4.43**	**319**	Pn	**Pn**	**00 48 43.4**	**+0.1**
P18K	**Big Mountain,** baz=135	**4.43**	**319**	P	**Pn**	**00 48 43.5**	**+0.3**
HIN	**Hinchinbrook I**	**4.54**	**20**	Pn	**Pn**	**00 48 45.2**	**+0.5**
HIN	comp=E,150nm,1.1s			IAML		00 49 52.1	
R16K	**Pilot Point**	**4.61**	**291**	Pn	**Pn**	**00 48 46

SML	Sawmill	5.70	6	Pn	Pn	00 49 01.4	+0.8
SML	Sawmill baz=187	5.70	6	P	Pn	00 49 01.6	+1.0
O16K	Kokwok River B	5.70	311	Pn	Pn	00 49 00.8	+0.2
O16K	Kokwok River B baz=124	5.70	311	P	Pn	00 49 01.1	+0.5
M23K	Glacier View	5.72	9		Pn	00 49 02.1	+1.1
M23K	Glacier View baz=190	5.72	9	P	Pn	00 49 02.1	+1.1
SCM	Sheep Creek Mo	5.80	11	Pn	Pn	00 49 03.7	+1.6
SCM	Sheep Creek Mo baz=192	5.80	11	P	Pn	00 49 03.2	+1.0
CHNA	Chernabura Isl baz=73	5.85	261	P	Pn	00 49 01.5	-1.2
SVW2	Sparrevohn	5.86	330	Pn	Pn	00 49 02.1	-0.7
N17K	Nushagak Hills	5.93	321	Pn	Pn	00 49 03.6	-0.2
N17K	Nushagak Hills baz=135	5.93	321	P	Pn	00 49 04.6	+0.8
VRDI	Verde Repeater	5.99	30	Pn	Pn	00 49 05.7	+0.8
N25K	Chitina, Valde	6.03	23	Pn	Pn	00 49 06.3	+1.0
N25K	Chitina, Valde baz=207	6.03	23	P	Pn	00 49 06.6	+1.3
GLB	Gilahina Butte	6.08	27	Pn	Pn	00 49 06.7	+0.8
KIAG	Kiagna River	6.08	35		Pn	00 49 07.3	+1.2
SAMH	Samovar Hills	6.12	46		Pn	00 49 08.0	+1.5
GRNC	Granite Creek	6.15	39	Pn	Pn	00 49 08.3	+1.3
M24K	Tolsona, Glenn	6.21	15	Pn	Pn	00 49 09.0	+1.3
M24K	Tolsona, Glenn baz=198	6.21	15	P	Pn	00 49 09.6	+1.9
SDPT	Sand Point	6.21	267	Pn	Pn	00 49 07.0	-0.7
SDPT	Sand Point	6.21	267	P	Pn	00 49 07.5	-0.1
MCARA	McCarthy VSAT	6.24	30	Pn	Pn	00 49 09.5	+1.4
MCARA	McCarthy VSAT baz=216	6.24	30	P	Pn	00 49 09.7	+1.6
M18K	Stony River	6.25	331		Pn	00 49 08.2	0.0
M18K	Stony River baz=146	6.25	331	P	Pn	00 49 08.1	0.0
PTPK	Patty Peak	6.25	33		Pn	00 49 09.8	+1.4
M19K	Big River Lodg	6.27	339	Pn	Pn	00 49 09.0	+0.5
M19K	Big River Lodg baz=155	6.27	339	P	Pn	00 49 09.7	+1.3
O15K	Ungalikthiuk R	6.27	303		Pn	00 49 09.0	+0.5
O15K	Ungalikthiuk R baz=115	6.27	303	P	Pn	00 49 09.0	+0.5
PCA	Pinnacle	6.31	48	Pn	Pn	00 49 10.2	+1.1
PINM	Pinnacle baz=235	6.31	48	P	Pn	00 49 10.5	+1.3
BARN	Barnard Glacie	6.41	37	Pn	Pn	00 49 11.6	+0.9
WASW	Wrangell South	6.41	23		Pn	00 49 12.5	+1.8
WACK	Wrangell Chich	6.43	23		Pn	00 49 12.9	+2.0
CTG	Chitna Glacier baz=225	6.46	38	P	Pn	00 49 12.0	+0.8
PNL	Peninsula	6.46	53		Pn	00 49 12.5	+1.4
PNL	Peninsula	6.46	53	P	Pn	00 49 12.7	+1.6
PNL	Peninsula baz=241	6.46	53	P	Pn	00 49 12.5	+1.4
LOGN	Logan Glacier	6.48	40	Pn	Pn	00 49 12.7	+1.2
N16K	Nishlik Lake	6.49	316		Pn	00 49 12.3	+0.8
N16K	Nishlik Lake baz=128	6.49	316	P	Pn	00 49 12.3	+0.8
BCPM	Bancas Point	6.50	50	Pn	Pn	00 49 13.1	+1.5
WAT6	Susitna Watana	6.50	8		Pn	00 49 13.1	+1.3
WAT6	Susitna Watana baz=189	6.50	8	P	Pn	00 49 13.1	+1.3
WAZA	Wrangell Mount	6.55	23		Pn	00 49 13.7	+1.2
HARP	HAARP	6.65	18		Pn	00 49 15.8	+2.1
HARP	HAARP baz=202	6.65	18	P	Pn	00 49 15.7	+2.1
M17K	Holitna River	6.65	325	Pn	Pn	00 49 14.1	+0.4
M17K	Holitna River baz=139	6.65	325	P	Pn	00 49 14.5	+0.9
N15K	Kwethluk River	6.86	310	Pn	Pn	00 49 17.6	+1.1
N15K	Kwethluk River baz=122	6.86	310	P	Pn	00 49 18.0	+1.4
PS1A	Pavlof South-1	6.90	269		Pn	00 49 16.9	-0.3
M16K	Timber Creek	6.91	319	Pn	Pn	00 49 17.5	+0.3
M16K	Timber Creek baz=131	6.91	319	P	Pn	00 49 18.3	+1.1
O14K	Tigyukauivet M	6.98	301	Pn	Pn	00 49 18.6	+0.4
O14K	Tigyukauivet M baz=112	6.98	301	P	Pn	00 49 19.3	+1.0
DHY	Denali Highway baz=190	7.02	8	P	Pn	00 49 21.2	+2.3
PN7A	Pavlof North-7	7.04	269		Pn	00 49 18.2	-0.9
L18K	Granite Mounta baz=146	7.08	332	P	Pn	00 49 21.7	+2.1
M26K	Nabesna, AK	7.10	26	Pn	Pn	00 49 21.5	+1.6
M26K	Nabesna, AK baz=211	7.10	26	P	Pn	00 49 22.0	+2.1
O29M	Mount Kennedy	7.13	50	Pn	Pn	00 49 21.6	+1.1
O29M	Mount Kennedy baz=239	7.13	50	P	Pn	00 49 21.9	+1.5
PAX	Paxson	7.13	15	Pn	Pn	00 49 21.8	+1.4
PAX	Paxson baz=199	7.13	15	P	Pn	00 49 22.5	+2.1
P29M	Windy Craggy	7.20	56	Pn	Pn	00 49 21.6	+0.4
P29M	Windy Craggy baz=246	7.20	56	P	Pn	00 49 21.9	+0.6
YUK2	White River	7.21	35		Pn	00 49 23.6	+2.1
YUK8	Steele Glacier	7.24	41		Pn	00 49 24.5	+2.6
YUK8	Steele Glacier baz=229	7.24	41	P	Pn	00 49 24.5	+2.6
RND	Reindeer	7.27	3	Pn	Pn	00 49 21.4	-0.9
YUK3	Moose Creek	7.33	36		Pn	00 49 25.6	+2.3
YUK3	Moose Creek baz=224	7.33	36	P	Pn	00 49 25.6	+2.3
M27K	Edge Creek, AK	7.35	29	Pn	Pn	00 49 25.4	+2.0
M27K	Edge Creek, AK baz=216	7.35	29	P	Pn	00 49 25.8	+2.4
CAST	Castle Rocks baz=169	7.38	351	P	Pn	00 49 26.1	+2.4
M15K	Kasigluk River	7.39	312		Pn	00 49 25.3	+1.5
M15K	Kasigluk River baz=124	7.39	312	P	Pn	00 49 25.3	+1.5
YUK7	Dusty Glacier	7.43	49		Pn	00 49 26.6	+1.9
N14K	Kuskokwak Cree	7.45	305		Pn	00 49 25.8	+1.2
N14K	Kuskokwak Cree baz=116	7.45	305	P	Pn	00 49 25.8	+1.2
L17K	Donlin	7.47	327		Pn	00 49 26.3	+1.3
L17K	Donlin baz=140	7.47	327	P	Pn	00 49 26.3	+1.3
L16K	Owhat River	7.55	321	Pn	Pn	00 49 25.6	-0.4
L16K	Owhat River baz=133	7.55	321	P	Pn	00 49 26.9	+0.9
YUK6	Outpost Mounta	7.57	46		Pn	00 49 28.9	+2.4
YUK6	Outpost Mounta baz=235	7.57	46	P	Pn	00 49 28.9	+2.4
L26K	Log Cabin Wild baz=207	7.57	22	P	Pn	00 49 28.6	+2.3
BVCY	Beaver Creek	7.69	32		Pn	00 49 30.1	+2.1
BVCY	Beaver Creek baz=219	7.69	32	P	Pn	00 49 30.1	+2.1
YUK4	Talbot Arm baz=232	7.69	43	P	Pn	00 49 31.7	+3.5
P30M	Million Dollar	7.76	54	Pn	Pn	00 49 30.3	+1.3
P30M	Million Dollar baz=244	7.76	54	P	Pn	00 49 30.8	+1.8
HYT	Haines Junctio	7.86	49	Pn	Pn	00 49 31.5	+1.2
SIT	Sitka	7.91	78	P	Pn	00 49 29.8	-1.2
K17K	Iditarod	7.93	330	Pn	Pn	00 49 32.0	+0.8
L27K	Beaver Creek,	7.95	26	Pn	Pn	00 49 32.2	+0.7
L27K	Beaver Creek, baz=213	7.95	26	P	Pn	00 49 33.4	+1.8
M14K	Bethel	7.95	310	Pn	Pn	00 49 32.1	+0.6
RIDG	Independent Ri	7.96	15	Pn	Pn	00 49 32.0	+0.3
BCAR	Beaver Creek A	7.96	26	Pn	Pn	00 49 32.9	+1.2
FALS	False Pass	7.97	266	P	Pn	00 49 31.4	-0.4
FALS	False Pass baz=75	7.97	266	P	Pn	00 49 31.1	-0.6
ISLZ	Isanotski Laza	8.17	266		Pn	00 49 33.9	-0.6
ISNN	Isanotski Nort	8.18	267		Pn	00 49 34.6	-0.1
L15K	Ungalak Mounta	8.27	317		Pn	00 49 37.0	+1.1
L15K	Ungalak Mounta baz=127	8.27	317	P	Pn	00 49 37.0	+1.1
SKAG	Skagway	8.29	61	Pn	Pn	00 49 36.4	+0.3
SKAG	Skagway	8.29	61	P	Pn	00 49 37.2	+1.1
SSLN	Shishaldin Nor	8.30	267		Pn	00 49 36.3	-0.1
SCRK	Sand Creek	8.31	17	Pn	Pn	00 49 36.9	+0.3
S32K	Killisnoo	8.33	75	Pn	Pn	00 49 35.6	-1.1
HDA	Harding Lake	8.37	8	Pn	Pn	00 49 39.2	+2.0
M13K	Dall Lake	8.41	306	Pn	Pn	00 49 38.5	+0.8
R32K	Eaglecrest	8.44	69	Pn	Pn	00 49 38.0	-0.2
M29M	Somme Creek	8.47	37	Pn	Pn	00 49 40.9	+2.1
CCB	Clear Creek Bu	8.55	5	Pn	Pn	00 49 41.0	+1.3
L14K	Kuka Creek	8.56	313	Pn	Pn	00 49 41.1	+1.3
K15K	Wolf Creek Mou	8.67	320	Pn	Pn	00 49 43.4	+2.0
J25K	Salcha River,	8.72	12	Pn	Pn	00 49 43.7	+1.5
K27K	Chicken	8.72	22	Pn	Pn	00 49 43.8	+1.7
WESE	West Dahl East	8.73	265		Pn	00 49 42.1	-0.2
IL31		8.73	8	Pn	Pn	00 49 44.2	+2.0
ILAR	Eielson Array	8.73	8	Pn	Pn	00 49 44.6	+2.4
ILAR	Eielson Array comp=N,0.4nm,0.3s,baz=189,slow=13,SNR=7.6	8.73	8	Pn	Pn	00 49 42.8	+0.5
ILAR	comp=N,0.7nm,0.3s,baz=160,slow=23,SNR=6.3 comp=N,0.9nm,0.4s			Sn	Sn	00 51 17.3	-3.4
J26L	Joseph Creek	8.87	17	Pn	Pn	00 49 45.8	+1.6
N31M	Braeburn, Yuko	8.91	48	Pn	Pn	00 49 47.0	+2.2
MLY	Manley	8.91	357	Pn	Pn	00 49 46.5	+1.8
WHY	Whitehorse	8.92	54	Pn	Pn	00 49 46.9	+2.0
J16K	Anvik River	9.04	327	Pn	Pn	00 49 46.8	+0.4
L29M	L29M	9.05	35	Pn	Pn	00 49 48.4	+1.8
P32M	Atlin	9.12	61	Pn	Pn	00 49 47.2	-0.3
I21K	Tanana	9.12	354	Pn	Pn	00 49 49.2	+1.7
M30M	Minto, Yukon	9.14	40	Pn	Pn	00 49 48.8	+0.9
M30M	Minto, Yukon baz=231	9.14	40	P	Pn	00 49 50.2	+2.3
CRAG	Craig comp=N,49nm,0.5s	9.29	87	P	Pn	00 49 50.2	+0.4
DAWY	Dawson	9.40	28	Pn	Pn	00 49 52.5	+1.1
EGAK	Eagle	9.57	22	Pn	Pn	00 49 54.8	+1.0
PRP	Porcupine Dome	9.59	10	Pn	Pn	00 49 55.6	+1.6
H21K	Melozitna Rive	9.65	352	Pn	Pn	00 49 56.4	+1.6
K13K	Kusilvak Mount	9.67	313	Pn	Pn	00 49 57.1	+2.0
J14K	Nanvaranak Lak	9.69	319	Pn	Pn	00 49 56.2	+0.9
Q32M	Nakina River	9.71	66	Pn	Pn	00 49 57.6	+1.8
P33M	Teslin, Yukon	9.72	58	Pn	Pn	00 49 54.6	-1.3
P33M	Teslin, Yukon baz=252	9.72	58	P	Pn	00 49 57.1	+1.2
H24K	Noodor Dome	9.74	4	Pn	Pn	00 49 57.8	+1.8
K29M	Barlow Dome	9.77	33	Pn	Pn	00 49 58.2	+1.7
M31M	Drury Creek, Y	9.85	46	Pn	Pn	00 49 59.6	+2.1
N32M	Quiet Lake	9.93	53	Pn	Pn	00 49 58.5	-0.1
UNV	Unalaska/Dutch	10.00	264	P	Pn	00 49 58.2	-1.4
FARO	Faro, Yukon	10.28	47	Pn	Pn	00 50 06.0	+2.5
I28M	Miner Creek	10.42	23	Pn	Pn	00 50 07.5	+2.1
R33M	Jennings River	10.44	64	Pn	Pn	00 50 06.3	+0.5
G23K	Bananza Creek	10.59	359	Pn	Pn	00 50 08.0	+0.3
G24K	Hadweenzic Riv	10.62	5	Pn	Pn	00 50 09.6	+1.5
J30M	Hart River	10.66	32	Pn	Pn	00 50 11.4	+2.7
T35M	Bob Quinn	10.69	78	Pn	Pn	00 50 10.2	+1.1
DLBC	Dease Lake comp=N,0.6nm,0.3s,baz=172,slow=16,SNR=1.8	10.81	70	Pn	Pn	00 50 12.8	+2.0
DLBC	comp=N,0.2nm,0.3s,baz=180,slow=7.6,SNR=1.4 comp=N,1.3nm,0.3s			Sn	Sn	00 52 07.5	-4.2
I30M	Mount Dempster	11.12	30	Pn	Pn	00 50 17.6	+2.6
F24K	Squaw Lake	11.42	3	Pn	Pn	00 50 21.1	+2.1
ANM	Nome	11.46	324	Pn	Pn	00 50 21.7	+2.3
BMAR	Burnt Mountain	11.54	10	Pn	Pn	00 50 22.0	+1.3
F15K	North Star Dit	12.01	329	Pn	Pn	00 50 29.6	+2.5
G29M	Pine Creek	12.08	22	Pn	Pn	00 50 28.7	+0.7
E25K	Arctic Village	12.14	7	Pn	Pn	00 50 29.9	+1.0
G31M	Satah River	12.97	28	Pn	Pn	00 50 41.2	+1.1
INK	Inuvik	14.22	25	Pn	Pn	00 50 57.5	+0.4
INK	Inuvik comp=N,0.1nm,0.3s,baz=202,slow=12,SNR=7.7 comp=N,3.1nm,0.9s	14.22	25	Pn	Pn	00 50 59.0	+1.9
YKA	Yellowknife Ar	18.74	56	P	P	00 51 54.0	-0.7
YKA	Yellowknife Ar comp=N,0.1nm,0.3s,baz=266,slow=9.8,SNR=8.7 comp=N,0.4nm,0.7s	18.74	56	P	P	00 51 55.8	+1.2
A36M	Sachs Harbour A36M	18.85	23	P IAmb	P IAmb	00 51 57.2 00 52 20.5	+1.5
NVAR	comp=Z,8.7nm,0.9s Mina Array Bea comp=Z,0.2nm,0.5s,baz=309,slow=9.1,SNR=1.3 comp=Z,0.2nm,0.5s	27.30	117	P	P	00 53 20.7	-0.2
PDAR	Pinedale Array comp=Z,0.3nm,0.6s,baz=297,slow=8.8,SNR=2.6 comp=Z,0.3nm,0.6s	28.80	101	P	P	00 53 34.0	-0.3
TXAR	Lajitas Array comp=Z,0.4nm,0.9s,baz=315,slow=13,SNR=2.6 comp=Z,0.4nm,0.9s	41.94	110	P	P	00 55 27.0	+0.2
SONM	Songino Array comp=Z,0.2nm,0.6s,baz=38,slow=51,SNR=1.9 comp=Z,0.2nm,0.6s	58.59	310	P	P	00 57 33.2	+0.4
ZALV	Zalesovo Beam comp=Z,0.5nm,0.6s,baz=19,slow=6.1,SNR=3.5 comp=Z,0.5nm,0.6s	61.57	327	P	P	00 57 53.0	+0.1
FINES	FINESS Array B comp=Z,2.0nm,0.9s,baz=345,slow=10,SNR=3.4 comp=Z,2.0nm,0.9s	62.68	2	P	P	00 58 00.4	+0.2
BVAR	Borovoye Array comp=Z,0.5nm,0.5s,baz=54,slow=7.3,SNR=3.5 comp=Z,0.5nm,0.5s	66.32	335	P	P	00 58 23.7	-0.5
KURBB	Kurchatov Arra comp=Z,0.2nm,0.4s,baz=31,slow=6.8,SNR=2.9 comp=Z,0.2nm,0.4s	66.36	329	P	P	00 58 24.2	-0.3
MKAR	Makanchi Array comp=Z,0.1nm,0.5s,baz=23,slow=6.5,SNR=4.3 comp=Z,0.1nm,0.5s	68.59	325	P	P	00 58 38.5	-0.2

*IDC **24** 00:47:56.4±0.9,56°.57N×148°.76W, h0km, mb4.0/12, mbtmp4.0/14, ML3.3/2, Error ellipse: s-maj=32.4km s-min=16.1km az=29.0*
*NEIC **24** 00:48:00.2±2.9,56°.60N±0°.07×147°.6W±0°.2, h16km±7km, ML3.9/16, Error ellipse: s-maj=14.1km s-min=7.7km az=59.0*
ISC 24 00:47:58.9±0.9,56°.7N±0°.1×148°.16W±0°.10, h10km, n46,
σ1s90/37, mb4.2/13, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island 9.0nm,0.3s,baz=305,slow=22,SNR=6.0	2.66	297	Sn	Sn	00 49 05.8	-8.2
MID	Middleton Isla	2.94	18	Pn	Pn	00 48 45.2	-0.4
MID	comp=E,148nm,1.2s			IAML		00 49 52.2	
Q23K	Middleton Isla	2.94	18	Pn	Pn	00 48 44.3	-1.3
Q19K	Cape Douglas,	3.72	310	Pn	Pn	00 49 00.6	+4.2
O22K	Cooper Landing	3.92	349	Pn	Pn	00 49 03.0	+3.9
O22K	comp=E,327nm,0.5s			IAML		00 49 39.4	
RAGM	Ragged Mountai	4.16	25	Pn	Pn	00 49 02.9	+0.5
RAGM	comp=E,192nm,1.0s			IAML		00 50 04.4	
CAPN	Captain Cook N	4.41	341	Pn	Pn	00 49 11.3	+5.6
CAPN	comp=E,217nm,0.7s			IAML		00 49 55.5	
RSO	Redoubt South	4.51	330	Pn	Pn	00 49 11.3	+3.9
O18K	Koktuh Hills	4.91	314	Pn	Pn	00 49 19.7	+6.9
O18K	comp=N,36nm,0.9s			IAML		00 49 57.5	
O18K	comp=E,38nm,0.9s			IAML		00 50 10.8	
GLB	Gilahina Butte	5.30	23	Pn	Pn	00 49 16.4	-1.6
GLB	comp=E,28nm,0.7s			IAML		00 50 19.3	
BARN	Barnard Glacie	5.55	35	Pn	Pn	00 49 22.4	+0.7
S32K	Killisnoo	7.45	78	Pn	Pn	00 49 47.0	-0.5
J26L	Joseph Creek	8.19	14	Pn	Pn	00 49 58.7	+1.0
I26K	Coal Creek Min	9.01	14	Pn	Pn	00 50 09.9	+1.0
H24K	Noodor Dome	9.22	1	Pn	Pn	00 50 13.9	+2.2
V35K	Ketchikan	9.37	91	Pn	Pn	00 50 08.4	-5.4
DLBC	Dease Lake comp=E,0.3nm,0.3s,baz=302,slow=7.2,SNR=2.1 comp=E,2.8nm,0.5s	9.90	72	Pn	Pn	00 50 26.9	+5.7
G24K	Hadweenzic Riv	10.09	2	Pn	Pn	00 50 24.3	+0.7
G21K	Allakaket	10.21	348	Pn	Pn	00 50 28.3	+2.9
F21K	Alatna River	10.89	349	Pn	Pn	00 50 36.4	+1.7
BMAR	Burnt Mountain	10.94	7	Pn	Pn	00 50 38.8	+3.5
E25K	Arctic Village	11.57	5	Pn	Pn	00 50 44.2	+0.3
F17K	Baldwin Pennin	11.60	333	Pn	Pn	00 50 47.1	+2.9
F28M	Old Crow	11.64	16	Pn	Pn	00 50 45.5	+0.6
G30M	tAoh Zraii Nji	11.77	24	Pn	Pn	00 50 46.0	-0.6
E27K	Coleen River	11.95	12	Pn	Pn	00 50 48.0	-1.2
G31M	Satah River	12.18	27	Pn	Pn	00 50 52.3	+0.2
E28M	Babbage River	12.61	15	Pn	Pn	00 50 56.5	-1.6
E29M	Blow River	12.66	18	Pn	Pn	00 50 57.4	-1.4
F31M	Tsiigehtchic	12.71	26	Pn	Pn	00 50 58.4	-1.0
INK	Inuvik	13.45	24	Pn	Pn	00 51 06.0	-3.5
YKA	Yellowknife Ar comp=E,0.1nm,0.3s,baz=269,slow=12,SNR=7.0 comp=E,0.8nm,0.8s	17.81	57	P	Pn	00 52 09.2	+2.7
NVAR	Mina Array Bea comp=E,0.2nm,0.4s,baz=323,slow=9.3,SNR=4.4	26.85	120	P	P	00 53 40.7	+1.1
PDAR	comp=E,0.2nm,0.4s Pinedale Array comp=E,0.2nm,0.5s,baz=29,slow=3.4,SNR=1.8 comp=E,0.2nm,0.5s	28.13	103	P	P	00 53 51.5	+0.4
TXAR	Lajitas Array comp=E,0.1nm,0.6s,baz=347,slow=7.4,SNR=1.4	41.38	112	P	P	00 55 47.2	+2.1
NRIK	Norilsk comp=E,2.4nm,0.5s,baz=43,slow=5.2,SNR=6.2 comp=E,2.4nm,0.5s	48.01	337	P	P	00 56 36.5	-0.9
SONM	Songino Array comp=E,2.0nm,0.9s,baz=52,slow=7.7,SNR=9.7 comp=E,2.0nm,0.9s	58.87	311	P	P	00 57 55.6	-2.0
ZALV	Zalesovo Beam comp=E,1.8nm,0.8s,baz=28,slow=6.7,SNR=9.6 comp=E,1.8nm,0.8s	61.58	328	P	P	00 58 13.6	-2.3
FINES	FINESS Array B comp=E,2.7nm,0.9s,baz=35,slow=4.7,SNR=1.8 comp=E,2.7nm,0.9s	62.15	3	P	P	00 58 18.4	-1.2
BVAR	Borovoye Array comp=E,2.6nm,0.8s,baz=42,slow=6.8,SNR=8.7 comp=E,2.6nm,0.8s	66.20	336	P	P	00 58 44.9	-1.4
KURBB	Kurchatov Arra comp=E,1.2nm,0.8s,baz=24,slow=6.0,SNR=4.8 comp=E,1.2nm,0.8s	66.34	330	P	P	00 58 45.2	-2.0
MKAR	Makanchi Array comp=E,0.8nm,0.9s,baz=45,slow=5.3,SNR=6.2 comp=E,0.8nm,0.9s	68.65	325	P	P	00 59 00.4	-1.5
ESDC	Sonseca Array comp=E,1.0nm,0.8s,baz=342,slow=5.9,SNR=6.2 comp=E,1.0nm,0.8s	79.37	27	P	P	01 00 05.1	+0.3
GEYT	Ailbeck comp=E,1.7nm,0.8s,baz=301,slow=6.6,SNR=4.5 comp=E,1.7nm,0.8s	83.18	339	P	P	01 00 24.4	-0.6
CMAR	Chiang Mai Arr comp=E,0.9nm,0.3s,baz=21,slow=4.6,SNR=7.5 comp=E,0.9nm,0.3s	86.65	299	P	P	01 00 41.5	-1.2
QSPA	South Pole Qui comp=E,2.1nm,0.4s,baz=25,slow=1.8,SNR=11	146.45	180	PKPbc	PKPdf	01 07 36.6	-0.6

*NEIC **24** 00:53:07.1±1.6,56°.1N±0°.1×149°.296W±0°.008, h21km±10km, ML4.0/24, ML3.4(AEIC), Error ellipse: s-maj=15.6km s-min=0.6km az=179.0*
*AEIC **24** 00:53:09.9±1.6,56°.0N±0°.1×149°.2W±0°.1, h8km±7km, Error ellipse: s-maj=15.5km s-min=9.1km az=179.0*
ISC 24 00:53:05.9±2.0,56°.1N±0°.1×149°.35W±0°.07, h10km, n142,
σ0s79/149, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.46	299		Pn	00 53 44.4	-1.5
OHAK					Sn	00 54 14.2	-1.7
OHAK	Old Harbor baz=116	2.46	299	P	Pn	00 53 45.8	-0.1
OHAK				S	Sn	00 54 14.4	-1.5
KDAK	Kodiak Island	2.46	315	Sn	Sn	00 54 16.0	0.0
SYI	Shuyak Island	3.02	328	Pn	Pn	00 53 54.0	+0.3
SYI				Sn	Sn	00 54 30.7	+0.7
Q20K	Shuyak Island baz=145	3.02	328	P	Pn	00 53 54.2	+0.4
Q20K				S	Sn	00 54 30.8	+0.9
R18K	Karluk	3.17	300	Pn	Pn	00 53 55.6	-0.2
R18K	Karluk baz=116	3.17	300	P	Pn	00 53 55.5	-0.3
R18K	baz=116			S	Sn	00 54 33.0	-0.6
CNPM	China Poot	3.60	345	Sn	Sn	00 54 45.3	+1.1
Q19K	Cape Douglas, baz=139	3.67	323	P	Pn	00 54 03.8	+1.0
KAHG	Katmai Hook Gl	3.71	313		Pn	00 54 04.7	+1.4
Q23K	Middleton Isla	3.72	24	Pn	Pn	00 54 02.9	-0.4
Q23K	Middleton Isla baz=206	3.72	24	P	Pn	00 54 03.4	0.0
BRSE	Bradley Lake S	3.74	349		Pn	00 54 03.6	-0.1
BRSE					Sn	00 54 47.2	-0.6
BRSE	Bradley Lake S baz=168	3.74	349	P	Pn	00 54 03.6	-0.1
BRSE	baz=168			S	Sn	00 54 47.2	-0.6
BRLK	Bradley Lake	3.78	348	Pn	Pn	00 54 04.0	-0.2
BRLK	comp=N,134nm,0.9s			IAML		00 56 01.8	
BRLK	comp=E,162nm,1.0s			IAML		00 56 36.3	
ACHA	Angle Creek He	3.89	306		Pn	00 54 06.6	+0.8
AU22	Augustine Moun	3.93	329		Pn	00 54 07.3	+1.0
ANCK	Angle Creek	3.96	305		Pn	00 54 07.8	+1.1
KAHC	Katmai Hardscr	4.00	312		Pn	00 54 08.4	+1.2
KAHC	Katmai Hardscr baz=128	4.00	312	P	Pn	00 54 08.4	+1.2
SEW	Seward	4.03	359	Pn	Pn	00 54 06.5	-1.1
SEW	Seward baz=179	4.03	359	P	Pn	00 54 07.2	-0.4
P23K	Montague Islan	4.06	14		Pn	00 54 08.0	0.0
P23K	Montague Islan baz=195	4.06	14	P	Pn	00 54 08.0	0.0
P19K	Oil Pt	4.14	332	Pn	Pn	00 54 08.9	-0.2
P19K	Oil Pt baz=148	4.14	332	P	Pn	00 54 09.1	0.0
CNTC	Contact Creek	4.17	304		Pn	00 54 10.2	+0.6
Q17K	Contact Creek baz=119	4.17	304	P	Pn	00 54 10.2	+0.5
O20K	Slope Mountain	4.37	338		Pn	00 54 11.6	-0.7
O20K	Slope Mountain baz=155	4.37	338	P	Pn	00 54 11.6	-0.7
P18K	Big Mountain,	4.57	319	Pn	Pn	00 54 14.6	-0.5
P18K	Big Mountain, baz=134	4.57	319	P	Pn	00 54 14.8	-0.3
RDSO	Redoubt South	4.74	339		Pn	00 54 16.8	-0.6
RSO	Redoubt South	4.75	339	Pn	Pn	00 54 16.7	-0.8
CAPN	Captain Cook N	4.79	349	Pn	Pn	00 54 18.6	+0.6
O18K	Koktuh Hills	4.90	323	Pn	Pn	00 54 19.6	+0.1
O18K

M20K	Styx River	6.14	343	Pn	Pn	00 54 36.2	-0.3
MCARA	McCarthy VSAT	6.25	29	Pn	Pn	00 54 39.4	+1.3
M24K	Tolsona, Glenn	6.26	14	Pn	Pn	00 54 38.9	+0.7
M18K	Stony River	6.38	331		Pn	00 54 39.2	-0.6
M18K	Stony River baz=145	6.38	331	P	Pn	00 54 39.2	-0.6
M19K	Big River Lodg	6.39	338	Pn	Pn	00 54 40.6	+0.6
BARN	Barnard Glacie	6.41	36	Pn	Pn	00 54 39.2	-1.2
O15K	Ungalikthiuk R	6.42	303		Pn	00 54 41.2	+0.8
O15K	Ungalikthiuk R baz=114	6.42	303	P	Pn	00 54 41.2	+0.8
CTGM	Chitina Glacie	6.45	37	Pn	Pn	00 54 40.3	-0.6
BCPM	Bancas Point	6.46	49	Pn	Pn	00 54 40.0	-0.9
LOGN	Logan Glacier	6.46	39	Pn	Pn	00 54 41.6	+0.5
N16K	Nishlik Lake	6.63	315		Pn	00 54 44.4	+1.1
N16K	Nishlik Lake baz=127	6.63	315	P	Pn	00 54 44.4	+1.1
L19K	White Mountain	6.74	337	Pn	Pn	00 54 43.4	-1.3
M17K	Holitna River	6.79	325	Pn	Pn	00 54 45.8	+0.3
M17K	Holitna River baz=138	6.79	325	P	Pn	00 54 45.9	+0.5
N15K	Kwethluk River	7.01	310	Pn	Pn	00 54 50.0	+1.6
M16K	Timber Creek	7.05	319	Pn	Pn	00 54 50.1	+1.1
M16K	Timber Creek baz=130	7.05	319	P	Pn	00 54 49.9	+0.9
DHY	Denali Highway	7.09	7	Pn	Pn	00 54 50.7	+1.1
O29M	Mount Kennedy	7.09	49	Pn	Pn	00 54 49.4	-0.3
O14K	Tigyukauivet M	7.13	301	Pn	Pn	00 54 50.2	0.0
P29M	Windy Craggy	7.14	55	Pn	Pn	00 54 49.2	-1.1
P29M	Windy Craggy baz=245	7.14	55	P	Pn	00 54 49.5	-0.8
L18K	Granite Mounta	7.21	332	Pn	Pn	00 54 50.4	-0.9
M27K	Edge Creek, AK	7.37	28	Pn	Pn	00 54 53.3	-0.2
TRF	Thorofare Moun	7.41	357	Pn	Pn	00 54 54.6	+0.6
CAST	Castle Rocks	7.49	351	Pn	Pn	00 54 55.2	+0.2
KTH	Kantishna Hill	7.54	355	Pn	Pn	00 54 55.6	-0.2
L16K	Owhat River	7.70	321	Pn	Pn	00 54 58.2	+0.3
SIT	Sitka	7.81	77	Pn	Pn	00 54 58.5	-0.9
K17K	Iditarod	8.06	329	Pn	Pn	00 55 02.5	-1.3
BPAW	Bear Paw Mtn.	8.09	355	Pn	Pn	00 55 02.2	-1.1
SKAG	Skagway	8.22	60	Pn	Pn	00 55 03.4	-1.6
J18K	Innoko River	8.28	336	Pn	Pn	00 55 05.8	-0.1
N30M	Aishikik Lake	8.34	45	Pn	Pn	00 55 06.2	-0.6
J20K	Nowinta River	8.46	346	Pn	Pn	00 55 09.1	+0.8
M29M	Somme Creek	8.46	37	Pn	Pn	00 55 09.2	+0.7
J19K	Poorman	8.53	341	Pn	Pn	00 55 08.0	-1.3
M13K	Dall Lake	8.56	306	Pn	Pn	00 55 10.7	+1.1
L14K	Kuka Creek	8.70	313	Pn	Pn	00 55 13.4	+1.8
J25K	Salcha River,	8.78	11	Pn	Pn	00 55 12.7	-0.1
K15K	Wolf Creek Mou	8.81	320	Pn	Pn	00 55 13.2	0.0
COLA	College	8.85	4	Pn	Pn	00 55 13.6	-0.1
WHY	Whitehorse	8.87	53	Pn	Pn	00 55 13.0	-1.1
N31M	Braeburn, Yuko	8.88	47	Pn	Pn	00 55 14.4	+0.3
J26L	Joseph Creek	8.92	16	Pn	Pn	00 55 15.1	+0.4
MLY	Manley	9.01	356	Pn	Pn	00 55 15.8	0.0
L29M	L29M	9.04	34	Pn	Pn	00 55 17.5	+1.1
P32M	Atlin	9.05	61	Pn	Pn	00 55 15.0	-1.4
I20K	Naaghedeneel	9.10	346	Pn	Pn	00 55 16.8	-0.3
J16K	Anvik River	9.18	326	Pn	Pn	00 55 18.3	+0.1
I21K	Tanana	9.22	353	Pn	Pn	00 55 18.7	0.0
Q32M	Nakina River	9.63	66	Pn	Pn	00 55 24.1	-0.4
P33M	Teslin, Yukon	9.66	58	Pn	Pn	00 55 24.4	-0.5
H21K	Melozitna Rive	9.75	352	Pn	Pn	00 55 26.2	+0.2
H24K	Noodor Dome	9.81	4	Pn	Pn	00 55 29.5	+2.6
K13K	Kusilvak Mount	9.82	313	Pn	Pn	00 55 28.6	+1.7
J14K	Nanvaranak Lak	9.83	319	Pn	Pn	00 55 28.3	+1.2
N32M	Quiet Lake	9.88	52	Pn	Pn	00 55 28.3	+0.5
H19K	Roundabout Mou	10.08	343	Pn	Pn	00 55 31.0	+0.5
H17K	Granite Mounta	10.28	334	Pn	Pn	00 55 31.9	-1.3
G21K	Allakaket	10.65	351	Pn	Pn	00 55 37.8	-0.5
G23K	Bananza Creek	10.67	359	Pn	Pn	00 55 37.6	-1.0
G24K	Hadweenzic Riv	10.69	4	Pn	Pn	00 55 39.8	+0.9
G19K	Purcell Mounta	10.75	343	Pn	Pn	00 55 40.3	+0.6
F20K	Avaraart Lake	11.41	347	Pn	Pn	00 55 49.0	+0.3
BMAR	Burnt Mountain	11.60	9	Pn	Pn	00 55 51.6	+0.2
E19K	Redstone River	11.99	345	Pn	Pn	00 55 57.8	+1.1
F15K	North Star Dit	12.15	329	Pn	Pn	00 55 58.1	-0.7
INK	Inuvik	14.24	24	P	P	00 56 34.7	0.0

IDC ***24*** *00:54:06.4±1.5,55˚.79N×149˚.86W,h0km,mb3.7/5, mbtmp3.6/10,ML3.4/5,MS4.0/1,Error ellipse: s-maj=28.7km s-min=22.2km az=19.0*
NEIC ***24*** *00:54:10.8±1.9,56˚.01N±0˚.10×150˚.2W±0˚.1,h21km±11km, mb3.8/3,ML4.1/36,ML4.2(AEIC),Error ellipse: s-maj=14.1km s-min=8.7km az=187.0*
AEIC ***24*** *00:54:12.1±2.0,55˚.79N±0˚.10×150˚.1W±0˚.1,h12km±7km, Error ellipse: s-maj=13.8km s-min=9.3km az=184.0*
ISC 24 00:54:09.6±1.0,56˚06N±0˚.10×150˚14W±0˚06,h10km, n168,σ0s97/169,mb3.8/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.09	305		Pn	00 54 43.8	-0.9
OHAK					Sn	00 55 08.6	-2.1
OHAK	Old Harbor baz=128	2.09	305	P	Pn	00 54 44.5	-0.2
OHAK				S	Sn	00 55 09.0	-1.7
KDAK	Kodiak Island	2.18	323	Pn	Pn	00 54 45.4	-0.5
KDAK	Kodiak Island 9.1nm,0.3s,baz=144,slow=4.2,SNR=9.0	2.18	323	Pn	Pn	00 54 45.5	-0.5
KDAK	8.9nm,0.3s,baz=44,slow=23,SNR=15 52nm,0.7s			Sn	Sn	00 55 11.5	-1.5
R18K	Karluk	2.81	304	Pn	Pn	00 54 53.3	-1.2
R18K	Karluk baz=125	2.81	304	P	Pn	00 54 54.0	-0.5
R18K	baz=125			S	Sn	00 55 27.1	-1.3
Q20K	Shuyak Island baz=155	2.83	335	P	Pn	00 54 55.3	+0.4
Q20K	baz=155			S	Sn	00 55 28.4	-0.6
SYI	Shuyak Island	2.83	335	Pn	Pn	00 54 54.4	-0.5
KAHG	Katmai Hook Gl	3.42	317		Pn	00 55 04.1	+1.1
Q19K	Cape Douglas, comp=N,796nm,0.8s	3.44	328	Pn	Pn	00 55 03.9	+0.7
Q19K				IAML		00 55 50.1	
Q19K	Cape Douglas, baz=147	3.44	328	P	Pn	00 55 04.9	+1.6
CNPM	China Poot comp=E,162nm,2.3s	3.52	351	Pn	Pn	00 55 04.2	-0.1
CNPM				IAML		00 57 27.0	
ACHA	Angle Creek He	3.55	309		Pn	00 55 05.4	+0.6
HOM	Homer	3.69	348	Pn	Pn	00 55 06.6	-0.1
KAHC	Katmai Hardscr	3.70	317		Pn	00 55 08.1	+1.2
KAHC	Katmai Hardscr baz=135	3.70	317	P	Pn	00 55 08.1	+1.2
BRLK	Bradley Lake	3.73	354	Pn	Pn	00 55 07.2	-0.1
CNTC	Contact Creek	3.83	308		Pn	00 55 09.2	+0.6
Q17K	Contact Creek baz=126	3.83	308	P	Pn	00 55 09.2	+0.6
Q23K	Middleton Isla	3.94	29	Pn	Pn	00 55 08.7	-1.3
Q23K	Middleton Isla baz=211	3.94	29	P	Pn	00 55 09.3	-0.8
MID	Middleton Isla	3.94	30	Pn	Pn	00 55 09.0	-1.0
P19K	Oil Pt	3.96	337	Pn	Pn	00 55 11.7	+1.3
SEW	Seward baz=185	4.07	5	P	Pn	00 55 11.5	-0.4
P23K	Montague Islan	4.21	19		Pn	00 55 13.0	-0.7
P23K	Montague Islan baz=200	4.21	19	P	Pn	00 55 13.0	-0.7
O20K	Slope Mountain	4.24	343		Pn	00 55 14.7	+0.4
O20K	Slope Mountain baz=162	4.24	343	P	Pn	00 55 14.7	+0.4
IVE	Iliamna Volcan	4.25	340		Pn	00 55 14.7	+0.2
P18K	Big Mountain,	4.31	323	Pn	Pn	00 55 15.6	+0.4
P18K	Big Mountain, baz=141	4.31	323	P	Pn	00 55 15.6	+0.4
R16K	Pilot Point	4.36	293	Pn	Pn	00 55 14.3	-1.4
R16K	Pilot Point baz=110	4.36	293	P	Pn	00 55 13.9	-1.8
P17K	Kvichak River	4.62	315		Pn	00 55 18.5	-0.9
P17K	Kvichak River baz=132	4.62	315	P	Pn	00 55 18.5	-0.9
O18K	Koktuh Hills	4.66	327	Pn	Pn	00 55 19.2	-0.8
HIN	Hinchinbrook I	4.75	22	Pn	Pn	00 55 20.6	-0.7
KAIM	Kayak Island	4.93	36	Pn	Pn	00 55 23.4	-0.2
KAIM	Kayak Island baz=219	4.93	36	P	Pn	00 55 23.2	-0.4
EYAK	Cordova Ski Ar	5.06	25	Pn	Pn	00 55 25.5	+0.1
EYAK	Cordova Ski Ar baz=208	5.06	25	P	Pn	00 55 25.3	-0.1
P16K	Nushagak River	5.17	308		Pn	00 55 27.5	+0.5
P16K	Nushagak River baz=124	5.17	308	P	Pn	00 55 27.5	+0.5
RAGM	Ragged Mountai	5.21	31	Pn	Pn	00 55 26.9	-0.7
O17K	Koliganek Bris	5.25	318		Pn	00 55 28.7	+0.6
O17K	Koliganek Bris baz=134	5.25	318	P	Pn	00 55 28.7	+0.6
N19K	Bonanza Creek	5.28	336	Pn	Pn	00 55 28.8	+0.2
N19K	comp=E,60nm,0.9s			IAML		00 57 41.7	
N19K	comp=N,47nm,2.8s			IAML		00 58 06.1	
N19K	Bonanza Creek baz=154	5.28	336	P	Pn	00 55 28.6	0.0
GOAT	Goat Mountain	5.35	30		Pn	00 55 29.8	+0.3
SUA	Susitna One	5.43	357	Pn	Pn	00 55 29.6	-1.0
BERG	Berg Lake	5.51	35	Pn	Pn	00 55 31.7	0.0
CNBA	Chernabura Isl	5.52	261	Pn	Pn	00 55 29.8	-2.0
N19K	Kilae Creek	5.53	329	Pn	Pn	00 55 31.4	-0.6
O16K	Kokhanok River B	5.53	313	Pn	Pn	00 55 32.2	+0.3
SNH	Sunshine Point	5.66	40	Pn	Pn	00 55 33.0	-0.7
BMRM	Bremner River	5.71	28	Pn	Pn	00 55 34.1	-0.3
BMRM	Bremner River baz=212	5.71	28	P	Pn	00 55 34.5	+0.1
GHO	Glory Hole Cre	5.76	6	Pn	Pn	00 55 35.0	-0.2
SVW2	Sparrevohn	5.79	333	Pn	Pn	00 55 36.0	+0.4
N17K	Nushagak Hills	5.82	323	Pn	Pn	00 55 36.1	+0.3
SML	Sawmill	5.84	8	Pn	Pn	00 55 36.0	-0.2
SML	Sawmill baz=190	5.84	8	P	Pn	00 55 37.4	+1.2
KLU	Klutina baz=203	5.87	20	P	Pn	00 55 37.5	+0.8
SCM	Sheep Creek Mo	5.97	13	Pn	Pn	00 55 38.4	+0.4
VRDI	Verde Repeater	6.24	31	Pn	Pn	00 55 41.2	-0.7
N25K	Chitina, Valde	6.26	25	Pn	Pn	00 55 42.2	+0.2
N25K	Chitina, Valde baz=209	6.26	25	P	Pn	00 55 42.8	+0.8
GLB	Gilahina Butte	6.32	29	Pn	Pn	00 55 42.7	-0.1
M24K	Tolsona, Glenn	6.40	17	Pn	Pn	00 55 45.2	+1.4
MCARA	McCarthy VSAT	6.49	32	Pn	Pn	00 55 44.8	-0.4
MCARA	McCarthy VSAT baz=217	6.49	32	P	Pn	00 55 45.0	-0.2
M17K	Holitna River	6.56	328	Pn	Pn	00 55 46.5	+0.4
L19K	White Mountain	6.60	340	Pn	Pn	00 55 46.5	-0.1
N15K	Kwethluk River	6.69	312	Pn	Pn	00 55 48.4	+0.6
BARN	Barnard Glacie	6.69	38	Pn	Pn	00 55 48.3	+0.3
CTGM	Chitina Glacie	6.74	40	Pn	Pn	00 55 47.6	-1.1
LOGN	Logan Glacier	6.76	41	Pn	Pn	00 55 47.7	-1.3
O14K	Tigyukauivet M	6.77	303	Pn	Pn	00 55 49.9	+1.0
PNL	Peninsula	6.77	53		Pn	00 55 48.0	-1.0
PNL	Peninsula baz=240	6.77	53	P	Pn	00 55 48.0	-1.0
M16K	Timber Creek	6.78	321	Pn	Pn	00 55 50.5	+1.4
BCPM	Bancas Point	6.81	51	Pn	Pn	00 55 49.4	-0.1
HARP	HAARP	6.85	20		Pn	00 55 51.3	+1.3
HARP	HAARP baz=203	6.85	20	P	Pn	00 55 51.3	+1.3
L18K	Granite Mounta	7.03	334	Pn	Pn	00 55 53.2	+0.8
DHY	Denali Highway	7.17	10	Pn	Pn	00 55 55.5	+0.9
M26K	Tanesna, AK	7.33	27	Pn	Pn	00 55 57.0	+0.3
L16K	Owhat River	7.44	323	Pn	Pn	00 55 59.1	+1.0
O29M	Mount Kennedy	7.44	50	Pn	Pn	00 55 58.5	+0.2
CAST	Castle Rocks	7.45	353	Pn	Pn	00 56 00.2	+2.0
P29M	Windy Craggy	7.52	56	Pn	Pn	00 55 58.7	-0.6
M27K	Edge Creek, AK	7.60	30	Pn	Pn	00 56 00.3	-0.1
YUK3	Moose Creek baz=224	7.61	37	P	Pn	00 56 01.5	+0.9
MENT	Mentasta	7.63	23	Pn	Pn	00 56 00.8	+0.1
M14K	Bethel	7.78	312	Pn	Pn	00 56 03.8	+1.1
M14K	Bethel baz=123	7.78	312	P	Pn	00 56 03.8	+1.1
L26K	Log Cabin Wild	7.79	23	Pn	Pn	00 56 04.7	+1.9
S31K	Pelican	7.83	70	Pn	Pn	00 56 01.7	-1.7
K17K	Iditarod	7.86	331	Pn	Pn	00 56 03.8	-0.1
YUK6	Outpost Mounta baz=235	7.87	47	P	Pn	00 56 05.1	+0.9
YUK4	Talbot Arm baz=232	7.99	44	P	Pn	00 56 08.8	+3.0
BPAW	Bear Paw Mtn.	8.07	357	Pn	Pn	00 56 07.6	+0.7
J18K	Innoko River	8.13	339	Pn	Pn	00 56 08.8	+1.3
L15K	Ungalak Mounta	8.13	318		Pn	00 56 08.1	+0.6
L15K	Ungalak Mounta baz=130	8.13	318	P	Pn	00 56 08.1	+0.6
RIDG	Independent Ri	8.14	17	Pn	Pn	00 56 08.9	+1.1
HYT	Haines Junctio	8.16	49	Pn	Pn	00 56 09.7	+1.6
L27K	Beaver Creek	8.19	28	Pn	Pn	00 56 09.4	+1.0
BCAR	Beaver Creek A	8.20	28	Pn	Pn	00 56 08.9	+0.3
M13K	Dall Lake	8.22	307	Pn	Pn	00 56 10.1	+1.4
L14K	Kuka Creek	8.40	314	Pn	Pn	00 56 12.7	+1.5
J19K	Poorman	8.41	343	Pn	Pn	00 56 12.3	+0.8
SCRK	Sand Creek	8.51	19	Pn	Pn	00 56 13.7	+0.8
K15K	Wolf Creek Mou	8.55	322	Pn	Pn	00 56 14.3	+1.0
N30M	Aishikik Lake	8.67	46	Pn	Pn	00 56 15.6	+0.6
O30N	Mendenhall	8.75	52	Pn	Pn	00 56 15.8	-0.3
JIS	Juneau Island	8.84	69	Pn	Pn	00 56 19.1	+1.8
IL31		8.88	9	Pn	Pn	00 56 19.2	+1.3
ILAR	Eielson Array	8.88	9	Pn	Pn	00 56 17.8	-0.1
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=187,slow=14,SNR=7.7	8.88	9	Pn	Pn	00 56 16.7	-1.2
ILAR	comp=N,0.3nm,0.3s,baz=206,slow=20,SNR=4.1 comp=N,1.1nm,0.6s			Sn	Sn	00 57 54.8	-3.1
J25K	Salcha River,	8.90	13	Pn	Pn	00 56 18.6	+0.5
K27K	Chicken	8.94	23	Pn	Pn	00 56 19.0	+0.3
J16K	Anvik River	8.96	328	Pn	Pn	00 56 19.1	+0.2
J26L	Joseph Creek	9.07	18	Pn	Pn	00 56 20.0	-0.5
N31M	Braeburn, Yuko	9.22	48	Pn	Pn	00 56 22.5	0.0
WHY	Whitehorse	9.24	54	Pn	Pn	00 56 23.4	+0.5
L29M	L29M	9.31	36	Pn	Pn	00 56 23.7	-0.1
M30M	Minto, Yukon	9.43	41	Pn	Pn	00 56 25.4	0.0
P32M	Atlin	9.44	61	Pn	Pn	00 56 25.2	-0.4
J14K	Nanvaranak Lak	9.56	320	Pn	Pn	00 56 28.0	+0.9
DAWY	Dawson	9.64	29	Pn	Pn	00 56 28.9	+0.5
H21K	Melozitna Rive	9.71	353	Pn	Pn	00 56 29.0	-0.3
PRP	Porcupine Dome	9.75	11	Pn	Pn	00 56 30.4	+0.5
EGAK	Eagle	9.79	23	Pn	Pn	00 56 30.2	-0.1
H24K	Noodor Dome	9.87	5	Pn	Pn	00 56 32.2	+0.8
I26K	Coal Creek Min	9.88	17	Pn	Pn	00 56 32.3	+0.8
K29M	Barlow Dome	10.03	34	Pn	Pn	00 56 33.3	-0.4
Q32M	Nakina River	10.04	66	Pn	Pn	00 56 35.1	+1.2
P33M	Teslin, Yukon	10.05	58	Pn	Pn	00 56 33.2	-0.7
H17K	Granite Mounta	10.11	336	Pn	Pn	00 56 35.8	+1.2
M31M	Drury Creek, Y	10.15	46	Pn	Pn	00 56 34.9	-0.3
FARO	Faro, Yukon	10.59	47	Pn	Pn	00 56 41.9	+0.7
I28M	Miner Creek	10.64	24	Pn	Pn	00 56 43.4	+1.4
R33M	Jennings River	10.77	64	Pn	Pn	00 56 43.7	-0.1
FYU	Fort Yukon	10.80	11	Pn	Pn	00 56 45.2	+1.2
J30M	Hart River	10.91	33	Pn	Pn	00 56 47.6	+1.8
DLBC	Dease Lake comp=N,0.7nm,0.3s,baz=203,slow=23,SNR=6.8 comp=N,1.2nm,0.3s	11.14	69	Pn	Pn	00 56 44.5	-4.4
ANM	Nome	11.36	325	Pn	Pn	00 56 54.1	+2.4
BMAR	Burnt Mountain	11.70	11	Pn	Pn	00 56 57.9	+1.4
G29M	Pine Creek	12.29	23	Pn	Pn	00 57 05.9	+1.4
F28M	Old Crow	12.54	18	Pn	Pn	00 57 09.5	+1.7
G31M	Satah River	13.21	28	Pn	Pn	00 57 17.8	+0.8
E29M	Blow River	13.58	20	Pn	Pn	00 57 23.8	+1.8
F31M	Tsiigehtchic	13.74	27	Pn	Pn	00 57 24.2	+0.1
C16K	Lisburne Hills	14.10	336	P	P	00 57 37.5	+0.7
INK	Inuvik	14.45	25	Pn	Pn	00 57 34.5	+0.7
INK	Inuvik comp=N,0.1nm,0.3s,baz=194,slow=11,SNR=7.4 comp=N,2.3nm,0.8s	14.45	25	Pn	Pn	00 57 35.1	+1.3
FLDN	Fort Liard	14.63	62	P	Pn	00 57 41.7	+5.3
WRGLY	Wrigley	15.18	51	Pn	Pn	00 57 44.3	+0.5
WRGLY	comp=Z,3.6nm,0.7s			IAmb	IAmb	00 57 53.0	
C36M	Paulatuk	17.68	31		Pn	00 58 16.5	+1.0
C36M	comp=Z,4.1nm,0.8s			IAmb	IAmb	00 58 19.9	
YKA	Yellowknife Ar baz=265,slow=10.0,SNR=11 comp=Z,0.4nm,0.6s	19.06	56	P	P	00 58 32.1	+0.4
HUMO	Hull Mountain	22.06	116	P	P	00 59 05.1	+0.6
HUMO	comp=Z,7.9nm,1.1s			IAmb	IAmb	00 59 13.8	
TXAR	Lajitas Array comp=Z,0.2nm,0.7s,baz=339,slow=2.2,SNR=1.4 comp=Z,0.2nm,0.7s	42.20	110	P	P	01 01 59.2	-3.4
SPITS	Spitsbergen Ar comp=Z,156nm,20.0s,baz=42,slow=35	45.76	4	LR	LR	01 21 07.9	
SONM	Songino Array comp=Z,0.6nm,0.8s,baz=55,slow=7.1,SNR=4.0 comp=Z,0.6nm,0.8s	58.41	310	P	P	01 04 05.5	+0.3
ZALV	Zalesovo Beam comp=Z,0.3nm,0.4s,baz=33,slow=5.5,SNR=2.0 comp=Z,0.3nm,0.4s	61.48	327	P	P	01 04 26.0	0.0
HFS	Hagfors comp=Z,5.5nm,1.1s,baz=255,slow=4.3,SNR=1.6 comp=Z,5.5nm,1.1s	63.44	9	P	P	01 04 38.2	-0.8
MKAR	Makanchi Array comp=Z,0.5nm,0.8s,baz=48,slow=6.7,SNR=3.9 comp=Z,0.5nm,0.8s	68.50	324	P	P	01 05 12.6	+0.9

IDC ***24*** *00:54:41.7±0.6,55˚.65N×149˚.22W,h0km,mb4.6/31, mbtmp4.5/36,ML3.8/5,MS3.8/9,Error ellipse: s-maj=16.9km s-min=11.2km az=30.0*
MOS ***24*** *00:54:42.3±0.8,55˚.71N×149˚.26W,h10km,mb5.1/37, Error ellipse: s-maj=14.7km s-min=4.8km az=96.1*
NEIC ***24*** *00:54:42.5±1.9,55˚.64N±0˚.07×149˚.24W±0˚.09,h10km±1km, mb4.7/122,ML4.3/36,ML4.2(AEIC),Error ellipse: s-maj=13.0km s-min=7.8km az=196.0*
AEIC ***24*** *00:54:49.0±3.2,55˚.87N±0˚.08×149˚.23W±0˚.03,h3km±4km, Error ellipse: s-maj=12.3km s-min=2.3km az=172.0*
BGR ***24*** *00:54:54.4,56˚.61N×149˚.29W,h33km,mb4.8*
ISC 24 00:54:43.0±0.4,55˚68N±0˚.06×149˚18W±0˚.04,h10km, n764,σ1s04/732,mb4.9/165,MS3.7/8,23C-30D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.76	306		Pn	00 55 25.4	-1.9
OHAK					Sn	00 55 56.5	-4.0
OHAK	Old Harbor baz=120,SNR=6.3	2.76	306	P	Pn	00 55 25.0	-2.2
KDAK	Kodiak Island	2.82	320	Sn	Sn	00 55 58.7	-3.5
KDAK	Kodiak Island	2.82	320	Pn	Pn	00 55 25.8	-2.3
KDAK	Kodiak Island baz=135	2.82	320	P	Pn	00 55 26.1	-2.0
KDAK	Kodiak Island 22nm,0.3s,baz=157,slow=11,SNR=9.7	2.82	320	Pn	Pn	00 55 27.0	-1.1
KDAK	15nm,0.3s,baz=151,slow=22,SNR=1.6			Sn	Sn	00 55 58.1	-4.1
KDAK	comp=Z,2µm,18.6s,baz=160,slow=44 81nm,0.3s			LR	LR	00 56 46.8	
Q20K	Shuyak Island baz=147	3.42	331	P	Pn	00 55 35.7	-0.7
SYI	Shuyak Island	3.42	331	Sn	Sn	00 56 15.0	-2.0
R18K	Karluk	3.48	305	Pn	Pn	00 55 35.7	-1.4
R18K	comp=N,482nm,0.6s			IAML		00 56 19.1	
R18K	comp=E,397nm,0.5s			IAML		00 56 29.3	
R18K	Karluk baz=118,SNR=7.4	3.48	305	P	Pn	00 55 35.7	-1.4
CNPM	China Poot	4.02	345	Pn	Pn	00 55 43.4	-1.2
CNPM				Sn	Sn	00 56 29.0	-2.6
Q23K	Middleton Isla	4.06	21	Pn	Pn	00 55 43.7	-1.4
Q23K				Sn	Sn	00 56 29.4	-3.3
Q23K	comp=N,330nm,0.8s			IAML		00 56 33.2	
Q23K	comp=E,533nm,1.1s			IAML		00 57 06.2	
Q23K	Middleton Isla baz=205	4.06	21	P	Pn	00 55 44.5	-0.6
MID	Middleton Isla	4.06	21	Pn	Pn	00 55 44.1	-1.0
MID	comp=N,400nm,0.8s			IAML		00 56 33.2	
MID	comp=E,451nm,1.1s			IAML		00 57 06.2	
Q19K	Cape Douglas,	4.06	325	Pn	Pn	00 55 44.6	-0.6
Q19K	comp=N,715nm,0.9s			IAML		00 56 57.1	
Q19K	Cape Douglas, baz=140,SNR=5.5	4.06	325	P	Pn	00 55 44.3	-0.9
KAHG	Katmai Hook Gl	4.07	316		Pn	00 55 46.2	+0.9
BRSE	Bradley Lake S	4.16	349		Pn	00 55 45.5	-1.1
BRSE	Bradley Lake S baz=168,SNR=5.7	4.16	349	P	Pn	00 55 45.6	-0.9
KCG	Knife Ck. Glac	4.18	312		Pn	00 55 47.3	+0.4
BRLK	Bradley Lake	4.20	348	Pn	Pn	00 55 45.2	-1.9
BRLK	comp=N,166nm,1.1s			IAML		00 56 42.3	
BRLK	comp=E,181nm,2.2s			IAML		00 56 56.9	
HOM	Homer	4.21	343	Pn	Pn	00 55 46.8	-0.4
HOM	comp=N,694nm,0.9s			IAML		00 56 45.4	
HOM	comp=E,582nm,1.2s			IAML		00 57 05.6	
HOM	Homer baz=160	4.21	343	P	Pn	00 55 46.4	-0.8
ACHA	Angle Creek He	4.22	310		Pn	00 55 47.5	+0.1
ANCK	Angle Creek	4.28	309		Pn	00 55 49.0	+0.7
KAHC	Katmai Hardscr	4.35	316		Pn	00 55 49.5	+0.2
P23K	Montague Islan baz=194	4.44	12	P	Pn	00 55 50.0	-0.3
SEW	Seward baz=178,SNR=7.2	4.44	358	P	Pn	00 55 49.7	-0.7
CNTC	Contact Creek	4.49	308		Pn	00 55 50.8	-0.4
Q17K	Contact Creek baz=121,SNR=12	4.49	308	P	Pn	00 55 50.0	-1.2
P19K	Oil Pt	4.54	333	Pn	Pn	00 55 50.2	-1.6
P19K	comp=E,311nm,0.8s			IAML		00 56 48.6	
P19K	comp=N,222nm,1.1s			IAML		00 57 02.9	
P19K	Oil Pt baz

DIV Divide 5.75 17 Pn 00 56 08.0 -0.5
N20K Mount Spurr 5.76 345 P Pn 00 56 07.7 -0.9
baz=162
KNK Knik Glacier 5.77 3 Pn Pn 00 56 07.3 -1.3
KNK Knik Glacier 5.77 3 P Pn 00 56 07.9 -0.7
baz=184
CKL Chakachamna La 5.78 345 Pn 00 56 07.9 -0.9
BMRM Bremner River 5.83 23 Pn 00 56 09.0 -0.4
BMRM Bremner River 5.83 23 P Pn 00 56 09.1 -0.4
baz=207
P16K Nushagak River 5.83 309 Pn 00 56 09.1 -0.4
P16K Nushagak River 5.83 309 P Pn 00 56 08.7 -0.8
baz=120,SNR=11
N19K Bonanza Creek 5.86 334 P Pn 00 56 09.0 -0.9
baz=149
SUA Susitna One 5.86 353 Pn Pn 00 56 09.7 -0.3
SUA Susitna One 5.86 353 P Pn 00 56 09.1 -0.9
baz=171
O17K Koliganek Bris 5.90 317 P Pn 00 56 08.8 -1.6
baz=130
PMR Palmer 5.94 0 Pn Pn 00 56 10.7 -0.1
PMR Palmer 5.94 0 P Pn 00 56 10.8 -0.1
baz=181
CHNA Chernabura Isl 6.01 266 P Pn 00 56 10.6 -1.3
baz=76
KLU Klutina 6.08 15 Pn Pn 00 56 13.1 +0.2
KLU Klutina 6.08 15 P Pn 00 56 12.6 -0.3
baz=198
GHO Glory Hole Cre 6.12 1 Pn Pn 00 56 13.5 +0.1
N18K Kilae Creek 6.14 328 P Pn 00 56 13.0 -0.7
baz=141
SML Sawmill 6.17 4 Pn Pn 00 56 13.6 -0.5
SML Sawmill 6.17 4 P Pn 00 56 13.6 -0.5
baz=185,SNR=11
M23K Glacier View 6.18 6 P Pn 00 56 13.8 -0.5
baz=188
O16K Kokwok River B 6.19 313 P Pn 00 56 13.7 -0.7
baz=124
SCM Sheep Creek Mo 6.25 8 P Pn 00 56 15.4 +0.2
baz=190,SNR=5.1
SVW2 Sparrevohn 6.39 331 Pn Pn 00 56 15.3 -1.9
N25K Chitina, Valde 6.41 20 Pn Pn 00 56 18.0 +0.5
N25K Chitina, Valde 6.41 20 P Pn 00 56 17.2 -0.3
baz=205,SNR=5.7
SDPT Sand Point 6.43 272 Pn Pn 00 56 14.8 -2.8
SDPT Sand Point 6.43 272 P Pn 00 56 16.4 -1.2
baz=81
SKT Skwentna 6.44 350 Pn Pn 00 56 17.9 +0.1
SKT Skwentna 6.44 350 P Pn 00 56 17.7 -0.1
baz=168
N17K Nushagak Hills 6.45 322 P Pn 00 56 17.1 -0.9
baz=135
PINM Pinnacle 6.50 43 P Pn 00 56 19.4 +0.7
baz=232
M20K Styx River 6.55 343 P Pn 00 56 19.5 +0.1
baz=160
MCARA McCarthy VSAT 6.57 27 Pn Pn 00 56 19.8 +0.2
MCARA McCarthy VSAT 6.57 27 P Pn 00 56 19.5 -0.1
baz=213
PNL Peninsula 6.60 49 Pn 00 56 20.2 +0.1
PNL Peninsula 6.60 49 P Pn 00 56 20.1 +0.1
baz=238,SNR=6.2
M24K Tolsona, Glenn 6.63 12 P Pn 00 56 21.1 +0.6
baz=196
BCPM Bancas Point 6.66 46 Pn Pn 00 56 20.5 -0.3
CTG Chitna Glacier 6.72 35 P Pn 00 56 21.8 +0.1
baz=222
O15K Ungalikthiuk R 6.73 306 P Pn 00 56 21.6 -0.2
baz=116
CUT Chulitna 6.77 356 P Pn 00 56 22.6 +0.3
baz=175
M18K Stony River 6.78 332 P Pn 00 56 21.6 -0.9
baz=146
M19K Big River Lodg 6.81 339 P Pn 00 56 22.8 0.0
baz=154
WAT6 Susitna Watana 6.97 6 P Pn 00 56 24.9 -0.3
baz=187
N16K Nishlik Lake 7.00 317 P Pn 00 56 25.3 -0.1
baz=128
HARP HAARP 7.05 15 Pn 00 56 26.9 +0.6
HARP HAARP 7.05 15 P Pn 00 56 25.9 -0.3
baz=200
L19K White Mountain 7.15 338 P Pn 00 56 26.7 -0.9
baz=153
M17K Holitna River 7.18 326 P Pn 00 56 27.7 -0.3
baz=139
WAT1 Susitna Watana 7.18 2 P Pn 00 56 27.6 -0.4
baz=183
L20K Farewell, AK 7.24 342 P Pn 00 56 28.1 -0.7
baz=158
O29M Mount Kennedy 7.29 46 P Pn 00 56 30.3 +0.7
baz=236
P29M Windy Craggy 7.30 52 P Pn 00 56 30.0 +0.3
baz=243
N15K Kwethluk River 7.35 312 P Pn 00 56 30.1 -0.2
baz=122,SNR=7.5
PPLA Purkeypile 7.40 349 P Pn 00 56 31.5 +0.3
baz=167
M16K Timber Creek 7.42 320 P Pn 00 56 31.1 -0.2
baz=131
O14K Tigyukauivet M 7.43 304 Pn 00 56 31.1 -0.3
O14K Tigyukauivet M 7.43 304 P Pn 00 56 31.4 0.0
baz=112
M26K Nabesna, AK 7.46 23 P Pn 00 56 32.9 +1.1
baz=209
S31K Pelican 7.47 67 P Pn 00 56 32.7 +0.9
baz=259
YUK8 Steele Glacier 7.48 37 P Pn 00 56 33.4 +1.1
baz=226
DHY Denali Highway 7.48 6 Pn 00 56 32.8 +0.6
DHY Denali Highway 7.48 6 P Pn 00 56 32.8 +0.6
baz=188,SNR=6.6
YUK2 White River 7.50 32 Pn 00 56 33.0 +0.5
PAX Paxson 7.56 13 P Pn 00 56 33.5 +0.3
baz=197
YUK3 Moose Creek 7.61 33 Pn 00 56 35.1 +1.0
YUK3 Moose Creek 7.61 33 P Pn 00 56 34.8 +0.8
baz=221,SNR=6.3
L18K Granite Mounta 7.62 333 P Pn 00 56 33.9 -0.1
baz=146
M27K Edge Creek, AK 7.68 26 P Pn 00 56 35.4 +0.5
baz=213
YUK6 Outpost Mounta 7.76 43 P Pn 00 56 36.7 +0.6
baz=233,SNR=10
SIT Sitka 7.82 74 P Pn 00 56 37.2 +0.5
baz=267
TRF Thorofare Moun 7.82 356 P Pn 00 56 36.8 -0.1
baz=176
PLBC Pleasant Camp 7.86 56 P Pn 00 56 37.6 +0.4
baz=248
P30M Million Dollar 7.88 51 P Pn 00 56 38.2 +0.5
baz=242
M15K Kasigluk River 7.89 314 P Pn 00 56 37.0 -0.6
baz=124
CAST Castle Rocks 7.91 350 Pn Pn 00 56 39.5 +1.6
CAST Castle Rocks 7.91 350 P Pn 00 56 38.2 +0.3
baz=168,SNR=8.0
YUK4 Talbot Arm 7.91 40 P Pn 00 56 40.2 +2.0
baz=230,SNR=6.0
N14K Kuskokwak Cree 7.92 308 P Pn 00 56 36.9 -1.1
baz=116
L26K Log Cabin Wild 7.95 20 P Pn 00 56 39.2 +0.7
baz=205
KTH Kantishna Hill 7.95 354 Pn Pn 00 56 36.0 -2.6
BVCY Beaver Creek 8.00 29 P Pn 00 56 40.1 +0.9
baz=217
L17K Donlin 8.01 328 P Pn 00 56 39.4 +0.1
baz=139
HYT Haines Junctio 8.03 45 P Pn 00 56 39.6 -0.1
baz=236
TTA Tatalina 8.07 337 P Pn 00 56 39.5 -0.7
baz=151
L16K Owhat River 8.08 323 P Pn 00 56 39.7 -0.5
baz=133
MCK McKinley 8.08 1 P Pn 00 56 40.3 0.0
baz=181
K20K Telida 8.09 344 P Pn 00 56 40.1 -0.3
baz=160
FALS False Pass 8.18 270 P Pn 00 56 41.1 -0.5
baz=77
L27K Beaver Creek, 8.30 24 P Pn 00 56 44.2 +0.8
baz=211
K24K Donnelly Dome 8.33 10 Pn 00 56 44.2 +0.4
K24K Donnelly Dome 8.33 10 P Pn 00 56 43.9 +0.2
baz=194
SKAG Skagway 8.35 57 P Pn 00 56 44.1 +0.1
baz=250

RIDG Independent Ri 8.38 13 P Pn 00 56 44.6 +0.2
baz=198,SNR=5.0
CHUM Lake Minchumin 8.38 350 P Pn 00 56 44.9 +0.5
baz=168,SNR=5.4
R32K Eaglecrest 8.42 66 P Pn 00 56 45.2 +0.2
baz=260
M14K Bethel 8.44 312 P Pn 00 56 45.1 -0.1
baz=121
K17K Iditarod 8.46 330 P Pn 00 56 44.9 -0.6
baz=142
BPAW Bear Paw Mtn. 8.50 355 P Pn 00 56 46.2 +0.1
baz=173
N30M Aishikik Lake 8.57 42 P Pn 00 56 47.6 +0.6
baz=234
O30N Mendenhall 8.58 48 Pn Pn 00 56 48.0 +0.7
O30N Mendenhall 8.58 48 P Pn 00 56 47.6 +0.4
baz=240
J18K Innoko River 8.69 337 P Pn 00 56 48.1 -0.6
baz=150
SCRK Sand Creek 8.72 15 P Pn 00 56 49.7 +0.4
baz=200
M29M Somme Creek 8.74 35 P Pn 00 56 49.7 +0.3
baz=225
L15K Ungalak Mounta 8.78 318 P Pn 00 56 49.7 -0.1
baz=127
HDA Harding Lake 8.83 6 P Pn 00 56 50.6 0.0
baz=189
M13K Dall Lake 8.88 308 Pn Pn 00 56 51.9 +0.7
M13K Dall Lake 8.88 308 P Pn 00 56 50.6 -0.6
baz=115
J20K Nowinta River 8.88 346 P Pn 00 56 50.9 -0.3
baz=161
J19K Poorman 8.95 341 P Pn 00 56 51.6 -0.5
baz=156
NEA2 Nenana 8.95 0 P Pn 00 56 52.2 +0.1
baz=181
CCB Clear Creek Bu 9.03 4 Pn 00 56 53.4 +0.1
U33K Whale Pass 9.04 81 P Pn 00 56 53.4 0.0
baz=275
WHY Whitehorse 9.05 51 Pn Pn 00 56 53.8 +0.1
WHY Whitehorse 9.05 51 P Pn 00 56 53.8 +0.1
baz=244
L14K Kuka Creek 9.05 314 P Pn 00 56 53.2 -0.4
baz=122
N31M Braeburn, Yuko 9.09 45 P Pn 00 56 54.4 +0.2
baz=237
K27K Chicken 9.10 20 P Pn 00 56 54.8 +0.5
baz=207
J25K Salcha River, 9.16 10 P Pn 00 56 55.2 0.0
baz=194
P32M Atlin 9.17 58 Pn Pn 00 56 54.8 -0.4
P32M Atlin 9.17 58 P Pn 00 56 55.6 +0.4
baz=252
K15K Wolf Creek Mou 9.19 321 P Pn 00 56 55.1 -0.3
baz=130
ILAR Eielson Array 9.20 6 Pn Pn 00 56 53.8 -1.8
comp=N,1.1nm,0.3s,baz=194,slow=12,SNR=14
ILAR Sn Sn 00 58 34.5 -4.5
comp=N,0.7nm,0.3s,baz=185,slow=22,SNR=9.7
ILAR LR LR 01 00 35.2
comp=N,745nm,19.9s,baz=222,slow=38
comp=N,4.2nm,0.4s
COLA College 9.25 4 Pn Pn 00 56 56.3 0.0
COLA College 9.25 4 P Pn 00 56 57.0 +0.7
baz=185
J26L Joseph Creek 9.28 15 P Pn 00 56 57.3 +0.5
baz=201
L29M L29M 9.33 33 P Pn 00 56 58.2 +0.7
baz=223
M30M Minto, Yukon 9.39 38 P Pn 00 56 58.7 +0.4
baz=229
MLY Manley 9.42 356 Pn Pn 00 56 57.3 -1.4
MLY Manley 9.42 356 P Pn 00 56 59.4 +0.8
baz=175
WRAK Wrangell Islan 9.45 79 P Pn 00 56 59.9 +0.9
baz=274
I23K Minto, Yukon-K 9.51 360 P Pn 00 56 59.9 +0.2
baz=180
POKR Poker Plat Res 9.51 4 Pn Pn 00 57 00.5 +0.6
POKR Poker Plat Res 9.51 4 P Pn 00 57 00.7 +0.8
baz=186
I20K Naaghedeneel 9.52 346 P Pn 00 57 00.3 +0.4
baz=162
J16K Anvik River 9.57 327 P Pn 00 57 00.6 -0.2
baz=157
I21K Tanana 9.63 353 P Pn 00 57 02.1 +0.5
baz=170,SNR=7.2
Q32M Nakina River 9.72 63 P Pn 00 57 03.2 +0.3
baz=259
DAWY Dawson 9.73 26 Pn Pn 00 57 02.6 -0.4
DAWY Dawson 9.73 26 P Pn 00 57 03.8 +0.8
baz=215
P33M Teslin, Yukon 9.80 56 P Pn 00 57 04.9 +0.9
baz=251
EGAK Eagle 9.95 20 P Pn 00 57 06.7 +0.8
baz=208
PRP Porcupine Dome 10.04 9 Pn Pn 00 57 06.5 -0.7
PRP Porcupine Dome 10.04 9 P Pn 00 57 07.4 +0.2
baz=192
M31M Drury Creek, Y 10.04 43 P Pn 00 57 07.7 +0.5
baz=237
I17K Unalakleet 10.06 330 P Pn 00 57 07.2 -0.1
baz=139
N32M Quiet Lake 10.06 50 P Pn 00 57 08.0 +0.6
baz=245
K29M Barlow Dome 10.06 31 P Pn 00 57 08.1 +0.5
baz=222
I26K Coal Creek Min 10.10 15 P Pn 00 57 08.4 +0.4
baz=200
S34M Telegraph Cree 10.15 70 P Pn 00 57 09.8 +1.2
baz=266
K13K Kusilvak Mount 10.17 314 Pn Pn 00 57 07.4 -1.4
K13K Kusilvak Mount 10.17 314 P Pn 00 57 08.3 -0.6
baz=120
H21K Melozitna Rive 10.17 351 P Pn 00 57 09.4 +0.5
baz=168
M11K Mekoryuk 10.17 305 P Pn 00 57 08.4 -0.5
baz=109
J14K Nanvaranak Lak 10.21 320 P Pn 00 57 09.1 -0.3
baz=127
H24K Noodor Dome 10.22 3 P Pn 00 57 10.4 +0.8
baz=184
H20K Anoleneega Mo 10.23 347 P Pn 00 57 10.0 +0.2
baz=162
H22K Ishtalitna Cre 10.31 355 P Pn 00 57 11.0 +0.2
baz=173
J29N Klondike Camp 10.35 27 Pn Pn 00 57 11.4 -0.1
J29N Klondike Camp 10.35 27 P Pn 00 57 12.7 +1.3
baz=218
MAYO Mayo, Yukon 10.38 35 P Pn 00 57 12.6 +0.7
baz=227
R33M Jennings River 10.47 62 P Pn 00 57 13.7 +0.6
baz=258
FARO Faro, Yukon 10.47 45 Pn Pn 00 57 13.4 +0.4
FARO Faro, Yukon 10.47 45 P Pn 00 57 14.2 +1.2
baz=239
H19K Roundabout Mou 10.50 343 P Pn 00 57 14.3 +1.0
baz=157
H18K Honhosa River 10.52 338 P Pn 00 57 14.3 +0.6
baz=150
IMAR Indian Mountai 10.58 350 Pn Pn 00 57 13.0 -1.4
T35M Bob Quinn 10.59 75 Pn Pn 00 57 15.6 +0.9
T35M Bob Quinn 10.59 75 P Pn 00 57 15.8 +1.1
baz=272
I27K Kandik River 10.62 17 P Pn 00 57 16.0 +0.9
baz=204
H17K Granite Mounta 10.69 335 P Pn 00 57 16.8 +0.8
baz=145
DLBC Dease Lake 10.78 67 P Pn 00 57 17.9 +0.5
baz=264
DLBC Dease Lake 10.78 67 Pn Pn 00 57 18.1 +0.7
comp=N,0.8nm,0.3s,baz=274,slow=16,SNR=3.5
DLBC LR LR 01 00 43.7
comp=N,1μm,21.9s,baz=274,slow=34
comp=N,1.9nm,0.2s
I28M Miner Creek 10.79 21 P Pn 00 57 18.3 +0.8
baz=210
J30M Hart River 10.96 30 P Pn 00 57 21.0 +1.1
baz=222
H16K Elim 11.07 330 P Pn 00 57 21.1 -0.1
baz=138
G21K Allakaket 11.07 351 P Pn 00 57 21.4 +0.2
baz=167
G23K Bananza Creek 11.08 358 P Pn 00 57 21.4 0.0
baz=178
G24K Hadweenzic Riv 11.09 4 P Pn 00 57 21.9 +0.4
baz=185
G19K Purcell Mounta 11.17 343 P Pn 00 57 22.8 +0.2
baz=156
H27K Steamboat Moun 11.21 16 P Pn 00 57 23.7 +0.6
baz=203
G25K Bearman Lake 11.22 6 P Pn 00 57 23.9 +0.7
baz=189
G18K Tagagawik 11.23 340 P Pn 00 57 23.1 -0.3
baz=151
G17K Kiwalik Mounta 11.33 335 P Pn 00 57 25.1 +0.3
baz=145
G22K Bettles 11.34 355 P Pn 00 57 24.8 -0.1
baz=173
P08K Saint George I 11.40 283 P Pn 00 57 24.3 -1.4
baz=85
I30M Mount Dempster 11.44 28 P Pn 00 57 27.9 +1.5
baz=220
G26K Porcupine Rive 11.60 11 P Pn 00 57 29.2 +0.8
baz=196
COLD Coldfoot 11.60 358 P Pn 00 57 29.1 +0.6
baz=177
G16K Koyuk River 11.68 332 P Pn 00 57 30.0 +0.5
baz=140
WTLY Watson Lake, Y 11.70 59 P Pn 00 57 29.7 -0.2
baz=258
SPIA Saint Paul Isl 11.75 286 P Pn 00 57 29.7 -0.8
baz=88
F21K Alatna River 11.76 352 P Pn 00 57 31.4 +0.7
baz=168
H29M Whitestone 11.79 22 P Pn 00 57 31.5 +0.5
baz=212
NIKH Nikolski High 11.80 265 P Pn 00 57 29.6 -1.6
baz=68
F20K Avaraart Lake 11.83 347 Pn Pn 00 57 31.7 +0.3
F20K Avaraart Lake 11.83 347 P Pn 00 57 32.1 +0.6
baz=162
G15K Niukluk 11.86 328 P Pn 00 57 31.7 -0.2
baz=135
F24K Squaw Lake 11.90 2 P Pn 00 57 33.1 +0.5
baz=184
F19K Shaleruckik Mo 11.92 343 P Pn 00 57 33.1 +0.3
baz=156
F22K John River 11.96 354 P Pn 00 57 34.9 +1.6
baz=172
ANM Nome 11.98 325 Pn Pn 00 57 34.0 +0.3
ANM Nome 11.98 325 P Pn 00 57 33.5 -0.2
baz=130
BMAR Burnt Mountain 11.99 9 Pn Pn 00 57 36.0 +2.1
F25K Christian Rive 12.07 6 P Pn 00 57 35.5 +0.5
baz=190,SNR=5.1
F17K Baldwin Pennin 12.25 337 P Pn 00 57 37.5 +0.2
baz=146
EPYK Eagle Plains 12.28 24 P Pn 00 57 38.9 +1.1
baz=216,SNR=5.4
F26K Sheenjek River 12.29 9 P Pn 00 57 39.4 +1.5
baz=194
E19K Redstone River 12.41 345 P Pn 00 57 40.9 +1.3
baz=158
E23K Chandalar 12.43 359 P Pn 00 57 42.0 +2.1
baz=179
G29M Pine Creek 12.45 21 P Pn 00 57 41.8 +1.7
baz=211
F15K North Star Dit 12.55 329 P Pn 00 57 41.8 +0.4
baz=136
E25K Arctic Village 12.60 6 P Pn 00 57 42.9 +0.8
baz=190
F28M Old Crow 12.75 16 P Pn 00 57 46.0 +1.9
baz=205,SNR=8.4
F14K Arctic Creek 12.89 327 P Pn 00 57 47.1 +1.1
baz=131
G30M tAoh Zraii Nji 12.89 23 P Pn 00 57 47.8 +1.7
baz=215
E17K Hotham Inlet 12.91 337 P Pn 00 57 46.5 +0.2
baz=146,SNR=5.5
E20K Nigu River 13.04 348 P Pn 00 57 48.7 +0.6
baz=162
E27K Coleen River 13.04 13 P Pn 00 57 49.9 +1.8
baz=200
G31M Satah River 13.31 26 Pn Pn 00 57 51.6 -0.1
G31M Satah River 13.31 26 P Pn 00 57 52.4 +0.7
baz=220
D22K Ayikyak River 13.35 354 P Pn 00 57 53.0 +0.7
baz=171
D23K Nanushuk River 13.36 358 P Pn 00 57 53.1 +0.7
baz=176
TNA Tin City 13.46 325 P Pn 00 57 53.4 -0.3
baz=128
D19K Kuna River 13.50 346 P Pn 00 57 54.4 0.0
baz=158
F30M Barrier River 13.51 22 P Pn 00 57 55.6 +1.1
baz=215
D20K Etivluk River 13.52 348 P Pn 00 57 55.1 +0.5
baz=162
D24K Happy Valley 13.53 1 P Pn 00 57 55.8 +1.1
baz=181
E28M Babbage River 13.71 15 P Pn 00 57 58.0 +0.8
baz=204
D25K Kavik River 13.76 4 P Pn 00 57 59.1 +1.3
baz=187
C21K Knifeblade Rid 13.77 352 P Pn 00 57 58.7 +0.7
baz=167
E29M Blow River 13.77 18 P Pn 00 57 58.6 +0.5
baz=208
F31M Tsiigehtchic 13.84 25 P Pn 00 57 59.5 +0.5
baz=220,SNR=14
GAMB Gambell 13.89 315 P Pn 00 57 58.7 -1.0
baz=115
KOTAN Kotaneelee Air 14.04 61 P Pn 00 58 02.4 +0.6
baz=263
C24K Franklin Bluff 14.10 1 P Pn 00 58 02.7 +0.2
baz=181
D27M Malcolm River 14.11 12 P Pn 00 58 03.5 +0.7
baz=200
C18K Utukok River 14.13 342 P Pn 00 58 03.0 0.0
baz=151
B21K Ikpikpuk River 14.21 352 P Pn 00 58 05.0 +1.0
baz=167
C19K Lookout Ridge 14.28 345 P Pn 00 58 05.8 +0.7
baz=155
FLDN Fort Liard 14.34 61 P Pn 00 58 07.2 +1.4
baz=264
C17K DeLong Mountai 14.36 339 P Pn 00 58 06.0 -0.1
baz=146
D28M Stokes Point 14.49 15 P Pn 00 58 10.8 +3.0
baz=204
INK Inuvik 14.58 23 Pn Pn 00 58 07.7 -1.3
INK Inuvik 14.58 23 P Pn 00 58 10.2 +1.2
baz=218,SNR=17
INK Inuvik 14.58 23 Pn Pn 00 58 09.7 +0.6
comp=N,0.2nm,0.3s,baz=208,slow=12,SNR=25
comp=N,41nm,1.1s
C16K Lisburne Hills 14.67 336 P Pn 00 58 10.6 +0.3
baz=141
B20K Meade River 14.82 349 P Pn 00 58 12.1 -0.2
baz=162
B22K Teshekpuk Lake 14.84 354 P Pn 00 58 12.6 0.0
baz=171
B18K Kokolik River 14.87 342 P Pn 00 58 13.2 +0.3
baz=151
WRGLY Wrigley 15.02 49 Pn Pn 00 58 16.6 +1.6
WRGLY IAmb IAmb 00 58 28.4
comp=Z,36nm,1.3s
WRGLY Wrigley 15.02 49 P Pn 00 58 15.6 +0.6
baz=252
A19K Wainwright 15.50 345 P Pn 00 58 21.6 +0.2
baz=154
A22K Sinclair Lake 15.59 353 P Pn 00 58 21.7 -0.8
baz=168
A21K Barrow 16.03 351 P Pn 00 58 27.1 -1.0
baz=165
C36M Paulatuk 17.74 30 IAmb IAmb 00 58 53.1
comp=Z,86nm,1.4s
C36M Paulatuk 17.74 30 P Pn 00 58 49.5 -0.2
baz=232,SNR=11
YKA Yellowknife Ar 18.84 55 P Pn 00 59 03.8 +0.6
YKA Yellowknife Ar 18.84 55 P P 00 59 02.5 -0.2
comp=Z,0.2nm,0.3s,baz=264,slow=11,SNR=19
YKA PcP PcP 01 03 27.9 -0.9
comp=Z,0.5nm,0.8s,baz=274,slow=1.8,SNR=3.3
comp=Z,5.2nm,0.9s
A36M Sachs Harbour 19.22 23 P Pn 00 59 08.8 +1.1
A36M IAmb IAmb 00 59 09.9
comp=Z,53nm,0.9s
A36M Sachs Harbour 19.22 23 P P 00 59 07.0 +0.2
baz=225,SNR=10
D08A Wollman Farm, 20.62 102 P P 00 59 22.0 -0.3
EDM Edmonton 20.83 82 P P 00 59 25.1 +0.6
EDM IAmb IAmb 00 59 29.9
comp=Z,46nm,1.4s
E08A Dider Farm, El 20.89 103 IAmb IAmb 00 59 27.1

comp=Z,24nm,1.4s
NEW **Newport** 20.95 97 P P 00 59 26.7 +0.9
NEW **Newport** 20.95 97 P P 00 59 26.7 +0.9
baz=303
NEW **Newport** 20.95 97 P P 00 59 26.4 +0.6
comp=Z,5.9nm,0.8s,baz=313,slow=8.3,SNR=9.2
comp=Z,5.9nm,0.8s
E09A **Wood Farm, Sta** 21.38 102 IAmb IAmb 00 59 31.5
comp=Z,20nm,1.2s
HUMO **Hull Mountain** 21.41 117 P P 00 59 32.1 +1.3
HUMO IAmb IAmb 00 59 41.4
comp=Z,35nm,1.4s
SHEM **Shemya Is, Ala** 21.52 278 LR LR 01 07 19.6
comp=Z,264nm,21.4s,baz=84,slow=35
PINE **Pine Mountain** 21.61 112 P P 00 59 34.0 +0.9
PINE IAmb IAmb 00 59 40.2
comp=Z,28nm,1.2s
J05D **Fort Rock, OR** 21.81 113 IAmb IAmb 00 59 43.0
comp=Z,37nm,1.3s
I07A **Izee** 22.18 109 IAmb IAmb 00 59 55.9
comp=Z,22nm,1.3s
F10A **Beach Ranch, E** 22.21 102 IAmb IAmb 00 59 44.6
comp=Z,22nm,1.2s
MSO **Missoula** 23.54 97 P P 00 59 53.3 0.0
baz=306
BILL **Bilibino** 23.73 319 *e*P P 00 59 55.0 +0.1
WVOR **Wild Horse Val** 23.77 111 IAmb IAmb 01 00 05.3
comp=Z,13nm,1.2s
ORV **Oroville** 24.42 120 P P 01 00 00.6 -0.9
EGMT **Eagleton** 25.24 91 IAmb IAmb 01 00 20.6
comp=Z,8.0nm,0.9s
EGMT **Eagleton** 25.24 91 P P 01 00 09.2 +0.2
baz=303
HLID **Hailey** 25.29 104 P P 01 00 09.2 -0.4
baz=311
MPK **Martis Peak** 25.35 118 IAmb IAmb 01 00 19.5
comp=Z,27nm,1.4s
PNTR **Pine Nut** 25.73 118 IAmb IAmb 01 00 23.4
comp=Z,21nm,1.4s
NVAR **Mina Array Bea** 26.88 117 P P 01 00 24.8 +0.7
comp=Z,1.7nm,0.7s,baz=310,slow=8.9,SNR=9.9
NVAR PcP PcP 01 03 46.8 +0.7
comp=Z,1.0nm,0.7s,baz=336,slow=2.0,SNR=3.8
comp=Z,1.7nm,0.7s
H17A **Grant Village** 26.89 98 P P 01 00 23.6 -0.6
baz=309
OMMB **Old Mammoth Mi** 27.16 119 P P 01 00 24.9 -1.8
RLMT **Red Lodge** 27.18 96 P P 01 00 26.3 -0.4
baz=308
BGU **Big Grassy Mou** 27.83 107 P P 01 00 30.7 -1.8
LAO **LASA Array** 27.98 91 P P 01 00 33.3 -0.4
baz=305
RES **Resolute Bay** 28.07 27 P P 01 00 34.2 0.0
RES **Resolute Bay** 28.07 27 P P 01 00 34.8 +0.6
comp=Z,3.0nm,0.8s,baz=245,slow=13,SNR=11
comp=Z,3.0nm,0.8s
R11B **Troy Canyon, C** 28.34 114 P P 01 00 37.1 0.0
baz=319,SNR=5.9
DUG **Dugway, Tooele** 28.46 108 P P 01 00 38.3 +0.2
baz=316
GRAC **Grapevine Rang** 28.46 118 P P 01 00 37.5 -0.5
baz=322
BW06 **Boulder Array** 28.50 100 P P 01 00 37.7 -0.8
baz=311
PDAR **Pinedale Array** 28.50 100 P P 01 00 38.6 +0.1
comp=Z,0.5nm,0.6s,baz=304,slow=5.3,SNR=6.0
PDAR LR LR 01 11 54.6
comp=Z,143nm,18.2s,baz=70,slow=36
comp=Z,0.5nm,0.6s
SPR3 **Spring Creek 3** 28.51 111 IAmb IAmb 01 00 41.8
comp=Z,15nm,1.4s
VES **Vestal, Richgr** 28.52 121 P P 01 00 38.7 +0.2
baz=324
CWC **Cottonwood Cre** 28.54 119 P P 01 00 38.4 -0.5
baz=323
ISA **Isabella, Lake** 28.96 121 P P 01 00 41.9 -0.6
baz=324
TPNV **Topopah Spring** 29.06 116 P P 01 00 43.6 +0.2
baz=321
MPMC **Manual Prospec** 29.13 119 P P 01 00 43.8 -0.4
baz=323
FCC **Fort Churchill** 29.28 61 P P 01 00 44.3 -0.7
FCC IAmb IAmb 01 00 46.9
comp=Z,11nm,0.9s
PRN **Pahroc Range** 29.32 114 IAmb IAmb 01 00 48.7
comp=Z,6.0nm,1.0s
BSUT **Blindstream Ca** 29.34 105 IAmb IAmb 01 00 48.4
comp=Z,8.8nm,1.4s
LRMC **Laurel Mtn Rad** 29.50 120 P P 01 00 47.2 -0.1
baz=324
QSM **Queen of Sheba** 29.52 118 IAmb IAmb 01 00 49.9
comp=Z,10nm,1.4s
SEY **Seymchan** 29.72 308↓ *e*P P 01 00 49.2 +0.3
SEY pmax pmax
comp=Z,5.0nm,1.0s
EDW2 **Edwards Air Fo** 29.82 121 P P 01 00 49.8 -0.3
baz=324
MVU **Marysvale** 30.00 109 IAmb IAmb 01 00 54.7
comp=Z,32nm,1.2s
MSU **Marysvale** 30.01 109 P P 01 00 52.2 +0.3
GSC **Goldstone, Bar** 30.07 119 P P 01 00 52.3 0.0
baz=323
PETK **Petropavlovsk-** 30.41 288 P P 01 00 55.5 +0.5
comp=Z,6.0nm,1.1s,baz=63,slow=12,SNR=1.4
comp=Z,6.0nm,1.1s
SRU **San Rafael Swe** 30.47 107 IAmb IAmb 01 00 57.9
comp=Z,5.4nm,0.9s
BFSC **Mount Baldy Ra** 30.51 121 P P 01 00 56.2 -0.1
baz=325
V12A **Nelson** 30.72 116 P P 01 00 57.8 -0.3
V12A IAmb IAmb 01 01 00.2
comp=Z,7.2nm,1.1s
RSSD **Black Hills** 30.74 93 P P 01 00 57.5 -0.9
RSSD IAmb IAmb 01 00 59.8
comp=Z,5.2nm,0.8s
RSSD **Black Hills** 30.74 93 P P 01 00 57.9 -0.5
baz=309
O20A **White River Ci** 31.00 103 P P 01 01 00.8 +0.2
baz=314
EUNU **Eureka** 31.06 17 P P 01 01 00.3 -0.4
EUNU IAmb IAmb 01 01 03.7
comp=Z,5.9nm,0.9s
MDND **Maddock** 31.07 83 P P 01 01 00.8 -0.2
baz=304
HMU **Henry Mountain** 31.20 108 IAmb IAmb 01 01 04.3
comp=Z,10.0nm,1.1s
MA2 **Magadan** 31.43 302↓ *i*P P 01 01 05.5 +1.5
MA2 pmax pmax
comp=Z,26nm,1.7s
MA2 **Magadan** 31.43 302 LR LR 01 14 07.8
comp=Z,119nm,18.5s,baz=62,slow=37
BELC **Belle Mtn. Jos** 31.51 120 P P 01 01 05.8 +0.7
baz=324
PFO **Pinyon Flats O** 31.60 121 P P 01 01 05.8 -0.1
baz=325
PFO **Pinyon Flats O** 31.60 121 LR LR 01 11 31.4
comp=Z,152nm,18.7s,baz=312,slow=32
TPFO **Pinon Flats** 31.60 121 P P 01 01 05.7 -0.2
baz=325
IRM **Iron Mountain** 31.81 118 P P 01 01 07.8 +0.2
baz=323
ULM **Lac du Bonnet** 31.88 77 P P 01 01 08.8 +0.7
comp=Z,1.4nm,0.6s,baz=327,slow=10,SNR=3.2
comp=Z,1.4nm,0.6s
PDMCI **Parker Dam,Lak** 32.19 117 P P 01 01 11.5 +0.6
baz=323
WUAZ **Wupatki** 32.68 112 P P 01 01 14.4 -1.0
WUAZ IAmb IAmb 01 01 17.9
comp=Z,17nm,1.5s
WUAZ **Wupatki** 32.68 112 P P 01 01 15.2 -0.1
baz=320
AGMN **Agassiz Nation** 32.92 80 P P 01 01 16.2 -1.1
AGMN IAmb IAmb 01 01 18.4
comp=Z,5.3nm,0.8s
AGMN **Agassiz Nation** 32.92 80 P P 01 01 16.3 -0.9
baz=304
MVCO **Mesa Verde** 32.95 107 P P 01 01 17.0 -0.8
baz=318
SUSD **Miller** 33.42 88 P P 01 01 20.7 -1.0
SUSD IAmb IAmb 01 01 22.8
comp=Z,15nm,0.7s
S22A **4UR Ranch, Cre** 33.47 104 P P 01 01 22.3 -0.1
baz=317
X16A **Lo Mia Camp, P** 33.49 114 IAmb IAmb 01 01 24.9
comp=Z,4.5nm,0.8s
Q24A **Divide** 33.53 101 P P 01 01 22.4 -0.6
baz=315
OGNE **Ogallala** 33.92 96 P P 01 01 25.6 -0.5
baz=312
X18A **Snowflake** 34.18 112 IAmb IAmb 01 01 30.5
comp=Z,4.9nm,1.0s
SDCO **Great Sand Dun** 34.20 103 P P 01 01 28.4 -0.3
baz=316
214A **Organ Pipe Nat** 34.74 118 P P 01 01 33.6 +0.4
baz=324
ECSD **EROS Data Cent** 35.19 87 P P 01 01 36.8 -0.1
baz=309
T25A **Trinidad** 35.23 103 P P 01 01 37.6 0.0
baz=317
TUC **Tucson** 35.48 115 P P 01 01 39.6 0.0
baz=323
EYMN **Ely** 35.55 78 P P 01 01 39.3 -0.7
baz=305
ANMO **Albuquerque** 35.73 107 P P 01 01 41.3 -0.6
baz=319
TIXI **Tiksi** 36.22 328 P P 01 01 45.1 -0.3
TIXI IAmb IAmb 01 01 47.6
comp=Z,16nm,1.2s
TIXI **Tiksi** 36.22 328↓ *i*P P 01 01 46.5 +1.1
TIXI pmax pmax
comp=Z,17nm,1.3s
SPMN **Marine on St.** 36.42 82 P P 01 01 46.5 -1.0
baz=308
CBKS **Cedar Bluff** 36.66 96 P P 01 01 48.9 -0.8
CBKS IAmb IAmb 01 01 51.2
comp=Z,14nm,1.1s
CBKS **Cedar Bluff** 36.66 96 P P 01 01 49.2 -0.4
baz=314
121A **Cookes Peak, D** 36.87 111 P P 01 01 51.5 -0.1
baz=322
NEEM **North Greenlan** 38.13 21 *i* P P 01 02 01.8 -0.2
NEEM IAmb IAmb 01 02 04.2
comp=Z,26nm,1.0s
MNTX **Cornudas Mount** 38.79 110 P P 01 02 07.6 -0.1
baz=322
UPNV **Upernavik** 38.95 28 *i* P P 01 02 07.5 -0.9
UPNV IAmb IAmb 01 02 10.7
comp=Z,19nm,1.1s
SMWD **Samnorwood** 39.03 101 P P 01 02 09.2 -0.5
JFWS **Jewell Farm** 39.30 83 P P 01 02 11.5 -0.3
baz=310
YAK **Yakutsk** 39.84 313 *de*P P 01 02 16.4 +0.4
YAK pmax pmax
comp=Z,8.0nm,0.6s
ODSA **Odessa** 39.99 106 P P 01 02 17.1 -0.7
ODSA IAmb IAmb 01 02 25.9
comp=Z,7.6nm,0.8s
WMOK **Wichita Mounta** 40.11 100 P P 01 02 18.6 0.0
baz=318
TUL3 **Leonard** 40.93 96 P P 01 02 25.3 -0.2
baz=316
L44A **Lake County Fo** 41.09 83 P P 01 02 26.7 +0.1
baz=311
ABTX **Abilene, Hawle** 41.20 103 P P 01 02 28.1 +0.4
baz=320
HDIL **Hopedale** 41.39 86 P P 01 02 29.2 +0.1
baz=313
TX31 **Lajitas Ar. Si** 41.56 110 P P 01 02 28.6 -2.1
TXAR **Lajitas Array** 41.56 110 P P 01 02 31.8 +1.0
comp=Z,2.6nm,1.1s,baz=316,slow=6.9,SNR=6.2
TXAR PcP PcP 01 04 27.0 -0.9
comp=Z,0.8nm,0.8s,baz=329,slow=1.1,SNR=4.2
comp=Z,2.6nm,1.1s
YSS **Yuzh-Sakhalins** 41.81 288 *e*P P 01 02 32.9 +0.4
CCM **Cathedral Cave** 41.99 90 P P 01 02 33.5 -0.6
baz=315
Z35A **Perchaven, San** 42.00 100 P P 01 02 33.9 -0.3
Z35A IAmb IAmb 01 03 07.2
comp=Z,7.6nm,0.5s
SFIN **Lafayette** 42.74 84 P P 01 02 40.3 +0.1
baz=313
JCT **Junction City** 42.75 105 P P 01 02 39.2 -1.2
JCT IAmb IAmb 01 02 42.3
comp=Z,18nm,1.2s
JCT **Junction City** 42.75 105 P P 01 02 40.7 +0.3
baz=321
DRIO **Del Rio** 43.13 107 P P 01 02 42.8 -0.7
SUMG **Summit** 43.50 24 P P 01 02 45.1 -1.3
SUMG IAmb IAmb 01 02 48.6
comp=Z,25nm,1.0s
SUMG **Summit** 43.50 24 *i* P P 01 02 46.0 -0.4
SUMG IAmb IAmb 01 02 48.8
comp=Z,20nm,0.9s
SFJD **Kangerlussuaq** 43.56 34 P P 01 02 46.5 +0.1
SFJD IAmb IAmb 01 02 48.1
comp=Z,43nm,1.3s
SFJD **Kangerlussuaq** 43.56 34 *i* P P 01 02 45.3 -1.2
SFJD IAmb IAmb 01 02 49.0
comp=Z,52nm,1.4s
SCHQ **Schefferville** 44.29 55 P P 01 02 53.4 +0.9
comp=Z,11nm,0.8s,baz=308,slow=8.2,SNR=12
comp=Z,11nm,0.8s
ACSO **Alum Creek Sta** 45.16 81 P P 01 02 59.2 -0.3
baz=313
ICESG **Greenland Ices** 45.48 28 *i* P P 01 03 00.4 -1.8
ICESG IAmb IAmb 01 03 03.9
comp=Z,13nm,1.2s
ZEA **Zeya** 45.52 304 *e*P P 01 03 03.4 +1.1
OXF **Oxford** 45.55 92 P P 01 03 02.4 -0.3
baz=317
M53A **WI Miller and** 45.62 78 P P 01 03 03.4 +0.2
baz=313
P52A **Corning** 46.04 81 P P 01 03 06.5 -0.1
baz=314
SPITS **Spitsbergen Ar** 46.11 4 P P 01 03 07.4 +0.7
comp=Z,16nm,0.8s,baz=14,slow=7.4,SNR=8.1
comp=Z,16nm,0.8s
O53A **New Philadelph** 46.13 80 P P 01 03 07.4 +0.1
baz=314
KLR **Kul'dur** 46.15 297↓ *i*P P 01 03 08.3 +1.0
KLR pmax pmax
comp=Z,70nm,2.5s
LONY **Lake Ozonia** 46.82 71 P P 01 03 11.6 -1.0
baz=312
R53A **Hurricane** 47.05 82 P P 01 03 13.3 -1.1
MCWV **Mont Chateau** 47.30 79 P P 01 03 16.3 -0.1
baz=314
ZAIG **Zacatecas** 47.45 114 P P 01 03 16.2 -1.8
HEH **HeiHe** 47.65 300 *e*P P 01 03 18.3 -0.7
BINY **Binghamton** 47.69 74 P P 01 03 19.9 +0.5
baz=313
SSPA **Standing Stone** 47.71 77 P P 01 03 19.4 -0.2
baz=314
LRAL **Lakeview Retre** 48.00 91 P P 01 03 20.5 -1.4
baz=318
SOEG **Soedalen** 48.26 26 *i* P P 01 03 25.3 +1.8
LBNH **Lisbon** 48.49 69 P P 01 03 23.4 -2.2
baz=313
H11N2 **WAKE ISLAND Hy** 48.63 241 T T 01 55 41.3
baz=32,slow=76,SNR=28
H11N3 **WAKE ISLAND Hy** 48.63 241 T T 01 56 05.6
baz=32,slow=76,SNR=31
H11N1 **WAKE ISLAND Hy** 48.65 241 T T 01 55 51.6
baz=32,slow=76,SNR=20
BOD **Bodaibo** 48.69 315 *e*P P 01 03 26.6 -0.3
BOD pmax pmax
comp=Z,17nm,1.6s
NRIK **Noril'sk** 48.69 337 P P 01 03 26.3 -0.5
NRIK **Noril'sk** 48.69 337 P P 01 03 27.4 +0.7
comp=Z,7.7nm,0.5s,baz=46,slow=6.3,SNR=22
comp=Z,7.7nm,0.5s
BLA **Blacksburg** 48.69 82 P P 01 03 26.7 -0.6
baz=316
L61B **Northampton** 49.30 72 P P 01 03 31.5 -0.3
baz=314
BRAL **Brewton** 49.35 93 P P 01 03 32.2 -0.1
baz=319
PAL **Palisades** 49.64 74 P P 01 03 33.6 -0.7
baz=314
KMSC **Kings Mountain** 49.66 85 P P 01 03 34.9 +0.2
baz=317
GOGA **Godfrey** 49.72 88 P P 01 03 35.1 0.0
baz=318
H11S1 **WAKE ISLAND Hy** 49.77 240 T T 01 58 24.4
baz=28,slow=76,SNR=11
H11S2 **WAKE ISLAND Hy** 49.78 240 T T 01 58 10.0
baz=28,slow=76,SNR=3.3
H11S3 **WAKE ISLAND Hy** 49.78 240 T T 01 58 13.0
baz=28,slow=76,SNR=7.4
MDJ **Mudanjiang** 50.32 293 P P 01 03 37.4 -2.1
MDJ pmax pmax
comp=Z,19nm,1.5s
MDJ pmax pmax
comp=Z,1μm,5.5s
NHSC **New Hope** 51.80 86 P P 01 03 50.1 -0.7
baz=318
DWPF **Disney Wildern** 54.85 91 P P 01 04 12.7 -0.5
baz=320
ARCES **ARCESS Array B** 55.03 2 P P 01 04 14.1 +0.1
comp=Z,2.9nm,0.5s,baz=1.9,slow=8.1,SNR=27
comp=Z,2.9nm,0.5s
KSRS **Korea Array** 56.30 288 P P 01 04 24.0 +0.4
KSRS **Korea Array** 56.30 288 P P 01 04 23.9 +0.4
comp=Z,2.5nm,0.9s,baz=58,slow=12,SNR=4.5
comp=Z,2.5nm,0.9s
LVZ **Lovozero** 56.71 358 P P 01 04 23.7 -2.5
LVZ **Lovozero** 56.71 358↓ *e*P P 01 04 27.0 +0.9
LVZ pmax pmax
comp=Z,60nm,1.1s
JNU **Nakatsue** 57.91 283 LR LR 01 28 23.8
comp=Z,78nm,21.5s,baz=42,slow=35
ULN **Ulaanbaatar** 58.77 310↑ *e*P P 01 04 41.7 +0.6
ULN pmax pmax
comp=Z,22nm,3.4s
SONM **Songino Array** 59.08 310 P P 01 04 44.1 +0.9
comp=Z,6.3nm,1.1s,baz=44,slow=7.3,SNR=20
SONM PcP PcP 01 05 33.1 +1.2
comp=Z,2.4nm,0.9s,baz=52,slow=1.7,SNR=4.9
comp=Z,6.3nm,1.1s
ZAA0 **Zalesovo Array** 62.10 327 P P 01 05 04.0 +0.5
ZAA0 IAmb IAmb 01 05 05.1
comp=Z,9.9nm,0.9s
ZALV **Zalesovo Beam** 62.10 327 P P 01 05 02.6 -0.9
ZALV **Zalesovo Beam** 62.10 327 *i* P P 01 05 04.3 +0.8
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV **Zalesovo Beam** 62.10 327 P P 01 05 03.9 +0.4
comp=Z,6.0nm,0.7s,baz=29,slow=7.0,SNR=27
comp=Z,6.0nm,0.7s
HHC **Hu-ho-hao-te** 62.11 302 *e*P P 01 05 02.3 -1.6
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,490nm,5.3s
NC204 **NORSAR Array S** 62.32 11 P P 01 05 05.0 +0.1
NB201 **NORSAR Array S** 62.60 11 P P 01 05 06.8 0.0
NB2 **NORSAR Subarra** 62.60 11 P P 01 05 06.7 -0.1
comp=Z,3.0nm,0.7s,baz=348,slow=6.9
NOA **NORSAR Array B** 62.60 11 P P 01 05 07.4 +0.6
comp=Z,5.7nm,0.8s,baz=348,slow=6.8,SNR=11
comp=Z,5.7nm,0.8s
FIA1 **FINESS Array S** 63.16 3 P P 01 05 11.1 +0.6
FINES **FINESS Array B** 63.16 3 P P 01 05 10.9 +0.5
FINES **FINESS Array B** 63.16 3 *i* P P 01 05 11.8 +1.4
FINES pmax pmax
comp=Z,14nm,0.8s
FINES **FINESS Array B** 63.16 3 P P 01 05 11.4 +1.0
comp=Z,16nm,0.8s,baz=1.8,slow=8.6,SNR=30
comp=Z,16nm,0.8s
KLMR **Klimovskoe** 63.61 355 *e*P P 01 05 11.3 -2.1
KLMR pmax pmax
comp=Z,35nm,1.3s
HFS **Hagfors** 63.74 9 P P 01 05 14.7 +0.4
comp=Z,4.4nm,0.7s,baz=343,slow=3.9,SNR=14
comp=Z,4.4nm,0.7s
DGZ **Jazzator, Alta** 64.89 323↑ *e*P P 01 05 23.5 +1.3
DGZ pmax pmax
comp=Z,35nm,1.6s
PUL **Pulkovo** 64.90 0↑ *e*P P 01 05 24.1 +2.2
PUL pmax pmax
comp=Z,45nm,0.9s
KIRV **Kirov** 65.12 349 *de*P P 01 05 24.0 +0.7
KIRV **Kirov** 65.12 349 P P 01 05 23.2 -0.1
comp=Z,9.2nm,0.7s,baz=56,slow=7.3,SNR=5.1
comp=Z,9.2nm,0.7s
NJ2 **Nanjing** 65.25 291 *e*P P 01 05 23.3 -1.3
NJ2 sP pP 01 05 26.8 +0.5
NJ2 pmax pmax
comp=Z,13nm,0.5s
SVE **Sverdlovsk** 65.28 342↑ *e*P P 01 05 25.5 +1.1
SVE pmax pmax
comp=Z,28nm,1.4s
EKA **Eskdalemuir Ar** 65.93 20 P P 01 05 29.3 +0.7
comp=Z,7.1nm,0.9s,baz=340,slow=5.3,SNR=5.1
comp=Z,7.1nm,0.9s
ARU **Arti** 66.00 344 P P 01 05 28.4 -0.7
ARU **Arti** 66.00 344 *c i*P P 01 05 29.4 +0.3
ARU 01 05 58.8
ARU S S 01 14 17.9 +1.5
ARU SS SS 01 18 28.2 -2.2
ARU pmax pmax
comp=Z,38nm,1.6s
ARU **Arti** 66.00 344 P P 01 05 28.9 -0.2
comp=Z,7.2nm,0.6s,baz=32,slow=7.0,SNR=13
comp=Z,7.2nm,0.6s
VSU **Vasula** 66.17 2 *d i*P P 01 05 31.5 +1.4
VSU pmax pmax
comp=Z,80nm,1.7s
SEM **Semipalatinsk** 66.57 328 *e*P P 01 05 32.4 -0.7
baz=328
SEM **Semipalatinsk** 66.57 328 *e*P P 01 05 32.4 -0.7
KURK **Kurchatov** 66.78 329 P P 01 05 34.3 +0.1
KURK IAmb IAmb 01 05 35.7
comp=Z,16nm,1.2s
KURK **Kurchatov** 66.78 329 P P 01 05 35.0 +0.8
BRVK **Borovoye** 66.85 335 P P 01 05 34.8 +0.2
BRVK **Borovoye** 66.85 335 *ce*P P 01 05 35.0 +0.4
BRVK pmax pmax
comp=Z,29nm,1.7s
BVAR **Borovoye Array** 66.86 335 P P 01 05 35.2 +0.6
comp=Z,12nm,0.9s,baz=31,slow=7.0,SNR=38
comp=Z,12nm,0.9s
KURBB **Kurchatov Arra** 66.89 329 P P 01 05 35.0 +0.1
comp=Z,5.8nm,0.9s,baz=27,slow=6.1,SNR=25
KURBB PP PP 01 08 02.6 +1.0
comp=Z,0.6nm,1.1s,baz=19,slow=9.6,SNR=4.6
comp=Z,5.8nm,0.9s
ZSN **Zaisan** 67.70 324 *e*P P 01 05 41.2 +1.1
comp=Z,9.4nm,0.6s,baz=324
ZSN **Zaisan** 67.70 324 *e*P P 01 05 41.2 +1.1
ZSN pmax pmax
comp=Z,9.0nm,0.6s
GTA **Gaotai** 68.67 309 *e*P P 01 05 46.6 +0.2
GTA pP pwP 01 05 55.4 +1.1
GTA pmax pmax
comp=Z,4.0nm,1.1s
XAN **Xi'an** 68.77 299 *e*P P 01 05 45.9 -1.1
XAN pmax pmax
comp=Z,14nm,2.3s
PABE **Paberze** 69.04 4 P P 01 05 50.2 +1.9
BRZS **Berezniki** 69.08 333 *e*P P 01 05 48.6 -0.2
comp=Z,12nm,1.2s,baz=332
BRZS **Berezniki** 69.08 333 *e*P P 01 05 48.5 -0.2
BRZS pmax pmax
comp=Z,12nm,1.2s
MK31 **Makanchi Array** 69.12 325 P P 01 05 48.8 -0.2
MK31 IAmb IAmb 01 05 50.4
comp=Z,9.2nm,1.0s
MK31 **Makanchi Array** 69.12 325 *c i*P P 01 05 48.9 -0.2
MKAR **Makanchi Array** 69.12 325 P P 01 05 49.4 +0.3
comp=Z,8.4nm,0.9s,baz=41,slow=6.2,SNR=35
comp=Z,8.4nm,0.9s
MAKZ **Makanchi** 69.21 325 P P 01 05 49.4 -0.2
MAKZ **Makanchi** 69.21 325 P P 01 05 50.3 +0.7
BSEG **Bad Segeberg** 69.46 13 *e*P P 01 05 52.2 +1.3
comp=Z,7.7nm,0.8s,baz=349,slow=6.0
OBN **Obninsk** 69.47 356 P P 01 05 50.8 -0.1
OBN **Obninsk** 69.47 356↓ *e*P P 01 05 50.9 -0.1
OBN pmax pmax
comp=Z,49nm,2.5s
LZH **Lanzhou** 69.56 304 *e*P P 01 05 51.6 -0.4
LZH pP sP 01 05 57.3 +2.8
LZH pmax pmax
comp=Z,9.0nm,1.2s
KLNR **Kaliningrad** 69.74 7 *de*P P 01 05 51.3 -1.3
KLNR pmax pmax
comp=Z,340nm,1.7s
WMQ **Urumqi** 69.85 320 *e*P P 01 05 55.3 +1.7
WMQ pP pwP 01 05 59.5 -1.9
WMQ PP PP 01 08 37.1 +10
WMQ pmax pmax
comp=Z,15nm,1.1s
MNK **Minsk** 70.16 2 *i*P P 01 05 56.7 +1.5
MNK *i* 01 06 18.6
MNK *i* 01 08 31.5
MNK *i* PPP PPP 01 10 13.3
MNK *i* S S 01 15 08.3 +2.3
MNK *i* 01 15 59.0
MNK *i* SS SS 01 19 38.8 +4.3
MNK pmax pmax
comp=Z,67nm,1.0s

MNK pmax pmax
comp=N,42nm,1.1s
MNK pmax pmax
comp=E,7.0nm,1.0s
MNK MLR MLR
comp=Z,105nm,17.0s
NRDL Niedersach Rie 70.84 13 *e*P **P 01 06 00.3 +1.0**
comp=Z,12nm,0.9s,baz=349,slow=6.0
FLTG Flechtingen 71.15 13 *e*P **P 01 06 02.5 +1.2**
comp=Z,11nm,0.9s,baz=349,slow=6.0
RUE Ruedersdorf 71.29 11 *e*P **P 01 06 03.4 +1.3**
comp=Z,14nm,0.7s,baz=349,slow=6.0
BELG Belogornoye 71.40 349⇑*e*P **P 01 06 01.8 -1.0**
BELG pmax pmax
comp=Z,9.0nm,1.1s
BUG Bochum--Univer 71.47 15 *e*P **P 01 06 03.9 +0.6**
comp=Z,17nm,0.8s,baz=349,slow=6.0
CLZ Clausthal 71.52 13 *e*P **P 01 06 04.6 +1.0**
comp=Z,14nm,0.9s,baz=349,slow=6.0
GTTG Gottingen 71.75 14 *e*P **P 01 06 06.0 +1.0**
comp=Z,16nm,0.8s,baz=349,slow=6.0
AKTO Aktyubinsk 71.86 342 P **P 01 06 06.0 +0.4**
comp=Z,7.5nm,0.7s,baz=18,slow=8.7,SNR=19
comp=Z,7.5nm,0.7s
KASTN Kahler Asten 71.88 15 *e*P **P 01 06 07.0 +1.3**
comp=Z,8.3nm,1.0s,baz=349,slow=6.0
LPSR Galich'ya Gora 71.88 355 *e*P **P 01 06 04.2 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TDK Taldyqorghan 71.96 327 *e*P **P 01 06 07.1 +0.8**
comp=Z,16nm,1.1s,baz=326
TDK Taldyqorghan 71.96 327 *e*P **P 01 06 07.1 +0.8**
TDK pmax pmax
comp=Z,16nm,1.1s
NEUB Neuenburg 72.31 12 *e*P **P 01 06 09.5 +1.2**
comp=Z,15nm,0.8s,baz=349,slow=6.0
CLL Collm 72.36 12 *i*P **P 01 06 09.3 +0.7**
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 72.36 12 *i*P **P 01 06 09.3 +0.7**
comp=Z,20nm,1.1s
CLL Collm 72.36 12 *e*P **P 01 06 09.4 +0.7**
comp=Z,7.9nm,0.8s,baz=349,slow=6.0
ABKAR Akbulak array 72.64 340 P **P 01 06 11.0 +0.7**
VORR Voronezh 72.79 355 *e*P **P 01 06 09.3 -1.8**
VORR pmax pmax
comp=Z,40nm,0.3s
TNS Taunus Mts 72.83 15 *e*P **P 01 06 12.8 +1.3**
comp=Z,11nm,1.1s,baz=349,slow=6.0
MOX Moxa 72.85 13 *e*P **P 01 06 12.5 +1.0**
comp=Z,9.9nm,0.8s,baz=349,slow=6.0
BRG Berggiesshubel 72.89 11 *i*P **P 01 06 13.2 +1.4**
BRG Amp 01 06 14.1
comp=Z,17nm,1.0s
BRG Berggiesshubel 72.89 11 P P 01 06 19.4 +7.6
BRG Amp 01 06 22.2
comp=Z,4.3nm,1.0s
BRG Berggiesshubel 72.89 11 *i*P **P 01 06 13.1 +1.4**
BRG 01 06 19.4
BRG pmax pmax
comp=Z,17nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 72.89 11 *e*P **P 01 06 12.8 +1.1**
comp=Z,9.3nm,0.9s,baz=349,slow=6.0
PPT Papeete 72.95 180 LR LR 01 29 25.9
comp=Z,84nm,21.6s,baz=3.0,slow=29
HSKC Hora Svate Kat 73.10 11 *e*P **P 01 06 14.5 +1.4**
VRH Novokhopyorsk 73.11 353 *e*P **P 01 06 11.1 -1.9**
VRH pmax pmax
comp=Z,10.0nm,1.2s
TANN Tannenbergstha 73.18 12 *e*P **P 01 06 14.6 +1.1**
comp=Z,5.4nm,0.9s,baz=349,slow=6.0
BTLS Baital 73.23 330 *e*P **P 01 06 14.3 +0.4**
baz=329
BTLS Baital 73.23 330 *e*P **P 01 06 14.3 +0.4**
KPKS Kokpek 73.25 326 *e*P **P 01 06 14.9 +0.8**
comp=Z,8.4nm,1.2s,baz=326
KPKS Kokpek 73.25 326 *e*P **P 01 06 14.9 +0.8**
KPKS pmax pmax
comp=Z,8.0nm,1.2s
VSR Storozhevoye 73.25 355 *e*P **P 01 06 11.8 -2.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
SHLS Shalkode 73.28 325 *e*P **P 01 06 14.3 0.0**
comp=Z,16nm,1.0s,baz=325
SHLS Shalkode 73.28 325 *e*P **P 01 06 14.3 0.0**
SHLS pmax pmax
comp=Z,15nm,1.0s
PVCC Panska Ves 73.30 11 *e*P **P 01 06 15.6 +1.4**
PVCC Panska Ves 73.30 11 *e*P **P 01 06 15.6 +1.4**
NKC Novy Kostel 73.35 12 *e*P **P 01 06 15.9 +1.3**
NKC Novy Kostel 73.35 12 *e*P **P 01 06 15.9 +1.3**
CHVC Chvalec 73.39 10 *e*P **P 01 06 15.7 +0.9**
CHVC Chvalec 73.39 10 *e*P **P 01 06 15.7 +0.9**
CHKK Chushkaly 73.43 327 *e*P **P 01 06 14.8 -0.4**
baz=327
CHKK Chushkaly 73.43 327 *e*P **P 01 06 14.7 -0.4**
OSTC Ostas 73.44 10 *e*P **P 01 06 16.1 +1.0**
OSTC Ostas 73.44 10 *e*P **P 01 06 16.1 +1.0**
UPC Upice 73.47 10 *e*P **P 01 06 16.6 +1.4**
UPC Upice 73.47 10 *e*P **P 01 06 16.6 +1.4**
MANZ Manzenberg 73.56 12 *e*P **P 01 06 16.5 +0.8**
comp=Z,1.1nm,0.9s,baz=349,slow=6.0
KUU Kurty 73.60 327 *e*P **P 01 06 15.6 -0.6**
comp=Z,8.7nm,1.6s,baz=327
KUU Kurty 73.60 327 *e*P **P 01 06 15.5 -0.6**
KUU pmax pmax
comp=Z,9.0nm,1.6s
ZHN Zhinishke 73.60 326 *e*P **P 01 06 16.7 +0.5**
baz=326
ZHN Zhinishke 73.60 326 *e*P **P 01 06 16.7 +0.5**
DPC Dobruska-Polom 73.65 10 *e*P **P 01 06 18.0 +1.7**
DPC Dobruska-Polom 73.65 10 *e*P **P 01 06 18.0 +1.7**
SATY Saty 73.70 326 *e*P **P 01 06 16.9 0.0**
baz=326
SATY Saty 73.70 326 *e*P **P 01 06 16.9 0.0**
GRF Grafenberg Arr 73.73 13 *e*P **P 01 06 18.1 +1.3**
comp=Z,8.3nm,0.8s,baz=349,slow=6.0
ROTZ Rotzenmuhle 73.78 12 *e*P **P 01 06 18.3 +1.2**
comp=Z,2.1nm,0.8s,baz=349,slow=6.0
PRU Pruhonice 73.83 11 *e*P **P 01 06 18.1 +0.8**
PRU Pruhonice 73.83 11 *e*P **P 01 06 18.1 +0.8**
GOPC GO Pecny, Ondr 73.93 11 *e*P **P 01 06 19.2 +1.2**
GOPC GO Pecny, Ondr 73.93 11 *e*P **P 01 06 19.2 +1.2**
KRLC Kraliky 73.97 9 *e*P **P 01 06 19.3 +1.1**
KRLC *ex* x 01 06 26.2
KRLC Kraliky 73.97 9 *e*P **P 01 06 19.3 +1.1**
KRLC *e* 01 06 26.2
AKASG Malin Array Be 73.98 1 *i*P **P 01 06 18.7 +0.5**
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 73.98 1 P **P 01 06 18.2 0.0**
comp=Z,12nm,0.9s,baz=356,slow=5.7,SNR=31
comp=Z,12nm,0.9s
AKBB Malin Array Si 73.98 1 *ce*P **P 01 06 18.3 +0.1**
AKBB pmax pmax
comp=Z,35nm,1.1s
KIEV Kiev 73.99 1 ⇓P **P 01 06 18.8 +0.5**
KIEV Kiev 73.99 1 P **P 01 06 18.7 +0.5**
AAA Alma-Ata 74.04 327 *e*P **P 01 06 18.6 -0.2**
baz=327
AAA Alma-Ata 74.04 327 *e*P **P 01 06 18.5 -0.2**
OJC Ojcow 74.07 7 IAmb IAmb 01 06 22.0
comp=Z,14nm,1.2s
MORC Moravsky Berou 74.33 9 ⇓P **P 01 06 21.3 +1.0**
MORC Moravsky Berou 74.33 9 IAmb IAmb 01 06 21.9
comp=Z,12nm,1.2s
MORC Moravsky Berou 74.33 9 *e*P **P 01 06 20.9 +0.6**
MORC Moravsky Berou 74.33 9 P **P 01 06 21.3 +1.0**
ZVC Zvikov 74.34 11 *e*P **P 01 06 21.4 +1.1**
WET Wettzell 74.48 12 *e*P **P 01 06 22.6 +1.5**
comp=Z,4.8nm,0.9s,baz=349,slow=6.0
SGDS Sogindy 74.51 328 *e*P **P 01 06 22.2 +0.7**
baz=328
SGDS Sogindy 74.51 328 *e*P **P 01 06 22.2 +0.7**
KHC Kasperske Hory 74.57 12 IAmb IAmb 01 06 24.4
comp=Z,13nm,1.1s
KHC Kasperske Hory 74.57 12 *e*P **P 01 06 23.1 +1.4**
KHC Kasperske Hory 74.57 12 *e*P **P 01 06 23.1 +1.4**
ECH Echery 74.59 16 IAmb IAmb 01 06 23.9
comp=Z,13nm,1.1s
BFO Black Forest 74.66 15 *e*P **P 01 06 23.5 +1.3**
baz=349,slow=6.0
TKM2 Tokmak 2 74.70 328 P **P 01 06 24.2 +1.4**
SNR=9.7

VRAC Vranov 74.71 10 ⇑P **P 01 06 23.9 +1.3**
VRAC Vranov 74.71 10 *e*P **P 01 06 23.4 +0.9**
VRAC Vranov 74.71 10 P **P 01 06 23.8 +1.3**
USP Ospenovka 74.72 328 P **P 01 06 24.1 +1.4**
SNR=9.2
MAUC Maruska 74.77 9 *e*P **P 01 06 24.0 +1.2**
GEC2 GERESS Array S 74.87 12 IAmb IAmb 01 06 24.9
comp=Z,13nm,1.4s
GEC2 GERESS Array S 74.87 12 *e*P **P 01 06 24.5 +1.0**
comp=Z,3.8nm,0.7s,baz=349,slow=6.0
GERES GERESS Array B 74.87 12 P **P 01 06 24.1 +0.6**
comp=Z,4.0nm,0.7s,baz=1.0,slow=5.9,SNR=9.9
comp=Z,4.0nm,0.7s
CHMS Chumysh 74.89 328 P **P 01 06 24.9 +1.2**
SNR=6.1
KRUC Moravsky 74.94 10 *e*P **P 01 06 24.5 +0.7**
CKRC Cesky Krumlov 74.96 11 *e*P **P 01 06 24.9 +0.9**
CKRC Cesky Krumlov 74.96 11 *e*P **P 01 06 24.9 +0.9**
STHS Stebnicka Huta 74.97 6 *e*P **P 01 06 25.2 +1.2**
STHS pmax pmax
comp=Z,16nm,0.8s
STHS Stebnicka Huta 74.97 6 *e*P **P 01 06 25.2 +1.2**
KBK Karagaybulak 75.14 328 P **P 01 06 26.8 +1.5**
SNR=9.6
JAVC Velka Javorina 75.25 9 *e*P **P 01 06 27.2 +1.5**
AAK Ala-Archa 75.30 328 P **P 01 06 27.0 +0.8**
SNR=5.8
AAK Ala-Archa 75.30 328 P **P 01 06 25.4 -0.8**
AAK IAmb IAmb 01 06 28.3
comp=Z,13nm,1.1s
AAK Ala-Archa 75.30 328 P **P 01 06 26.8 +0.6**
comp=Z,4.4nm,0.7s,baz=42,slow=4.9,SNR=12
comp=Z,4.4nm,0.7s
EKS2 Erkin-Say 75.48 329 P **P 01 06 28.8 +1.6**
SNR=7.5
CRVS Cervenica-Dubn 75.50 6 *e*P **P 01 06 29.0 +2.0**
CRVS Cervenica-Dubn 75.50 6 *e*P **P 01 06 29.0 +2.0**
KOLS Kolonicke sedl 75.52 6 *e*P **P 01 06 29.0 +1.9**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 75.52 6 *e*P **P 01 06 29.0 +1.9**
UBR Ueberruh 75.56 14 *e*P **P 01 06 28.6 +1.1**
comp=Z,5.7nm,0.8s,baz=349,slow=6.0
SMOL Smolenice 75.58 9 *e*P **P 01 06 30.3 +2.8**
MODS Modra-Piesok 75.70 9 *e*P **P 01 06 29.7 +1.5**
MODS pmax pmax
comp=Z,46nm,1.2s
MODS Modra-Piesok 75.70 9 *e*P **P 01 06 29.7 +1.5**
VYHS Vyhne 75.72 8 *e*P **P 01 06 29.6 +1.3**
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 75.72 8 *e*P **P 01 06 29.6 +1.3**
KECS Kecovo 75.85 7 *e*P **P 01 06 30.7 +1.7**
KECS pmax pmax
comp=Z,13nm,0.9s
KECS Kecovo 75.85 7 *e*P **P 01 06 30.7 +1.7**
RJOB Jochberg 75.85 12 *e*P **P 01 06 30.3 +1.1**
comp=Z,6.9nm,0.8s,baz=349,slow=6.0
ZST Bratislava 75.86 9 *e*P **P 01 06 30.9 +1.8**
ZST pmax pmax
comp=Z,95nm,1.6s
ZST Bratislava 75.86 9 *e*P **P 01 06 30.9 +1.8**
MOA Molln 75.91 11 *ep*P **P 01 06 30.2 +0.7**
comp=Z,5.0nm,0.9s
NRN Naryn 75.93 327 IAmb IAmb 01 06 32.5
comp=Z,10nm,1.1s
DZA Taraz 75.97 331 *e*P **P 01 06 30.2 +0.3**
baz=330
DZA Taraz 75.97 331 *e*P **P 01 06 30.2 +0.3**
AML Almayashu 76.00 329 P **P 01 06 31.8 +1.3**
SNR=8.8
BIOA Bad Ischl, Aus 76.00 12 *ep*P **P 01 06 30.8 +0.9**
comp=Z,9.2nm,0.9s,SNR=5.6
KK31 Karatay Array 76.00 331 P **P 01 06 29.6 -0.4**
KK31 IAmb IAmb 01 06 31.7
comp=Z,12nm,0.9s
KKAR Karatay Array 76.00 331 P **P 01 06 30.1 0.0**
KKAR IAmb IAmb 01 06 31.7
comp=Z,12nm,0.9s
CONA Conrad Observa 76.01 10 *ep*P **P 01 06 31.2 +1.2**
comp=Z,9.8nm,0.9s,SNR=6.0
MOTA Moosalm 76.02 14 *ep*P **P 01 06 31.5 +1.3**
comp=Z,17nm,1.2s,SNR=5.6
GYA Guiyang 76.05 296 *e*P **P 01 06 31.3 +0.6**
GYA pmax pmax
comp=Z,12nm,1.0s
WATA Walderalm 76.09 13 *i*P **P 01 06 32.0 +1.3**
comp=Z,28nm,1.3s,SNR=7.3
LESA Schwarzleotal 76.14 13 *ep*P **P 01 06 32.2 +1.3**
comp=Z,14nm,1.6s
SQTA Sankt Quirin 76.16 14 *i*P **P 01 06 32.4 +1.5**
comp=Z,13nm,0.8s,SNR=9.8
WTTA Wattenberg 76.17 13 *i*P **P 01 06 32.4 +1.3**
comp=Z,16nm,0.8s,SNR=8.6
RONA Rosalia, Austr 76.28 10 *ep*P **P 01 06 32.7 +1.2**
comp=Z,4.1nm,0.8s
FETA Feichten 76.29 14 *i*P **P 01 06 33.0 +1.3**
comp=Z,10nm,0.9s
SRO Srobarova 76.35 9 *e*P **P 01 06 33.5 +1.7**
SRO pmax pmax
comp=Z,21nm,1.6s
SRO Srobarova 76.35 9 *e*P **P 01 06 33.5 +1.7**
PSZ Piszkesteto 76.37 8 ⇓P **P 01 06 33.9 +1.8**
PSZ Piszkesteto 76.37 8 P **P 01 06 33.9 +1.8**
SORM Soroca 76.54 2 ⇓P **P 01 06 33.4 +0.4**
SORM Soroca 76.54 2 P **P 01 06 33.3 +0.4**
KBA Koelnbreinsper 76.57 12 *ep*P **P 01 06 34.5 +1.2**
comp=Z,17nm,0.8s,SNR=12
FUORN Ofenpass-Fuorn 76.62 14 IAmb IAmb 01 06 36.4
comp=Z,16nm,1.3s
ARSA Arzberg 76.64 11 *ep*P **P 01 06 34.9 +1.3**
comp=Z,7.9nm,1.0s
ABTA Abfaltersbach 76.79 13 *ep*P **P 01 06 35.6 +1.1**
comp=Z,9.3nm,1.1s
BMR Baia Mare 76.84 5 ⇓P **P 01 06 36.0 +1.4**
BMR Baia Mare 76.84 5 P **P 01 06 36.0 +1.4**
BUR08 Bucovina Ar. S 76.94 4 IAmb IAmb 01 06 37.6
comp=Z,7.4nm,0.9s
BURAR Bucovina Array 76.97 4 ⇓P **P 01 06 36.5 +0.9**
BURAR Bucovina Array 76.97 4 P **P 01 06 36.4 +0.9**
SOKA Soboth 77.16 11 *ep*P **P 01 06 37.6 +1.0**
comp=Z,12nm,0.9s,SNR=14
PERS Pernice 77.20 11 *i*P **P 01 06 37.8 +0.9**
PRED Cave del Predi 77.22 12 IAmb IAmb 01 06 38.3
comp=Z,15nm,1.4s
OBKA Obir 77.27 11 *ep*P **P 01 06 38.0 +0.8**
comp=Z,21nm,0.9s,SNR=9.8
MESR Meseseni 77.33 5⇑P **P 01 06 39.1 +1.6**
HNR Honiara 77.38 232 LR LR 01 33 47.2
comp=Z,1μm,20.9s,baz=336,slow=30
GROS Grobnik 77.42 11 *i*P **P 01 06 38.6 +0.6**
DRGR 77.68 6 ⇓P **P 01 06 40.5 +1.0**
DRGR 77.68 6 P **P 01 06 40.5 +1.0**
KSH Kashi 77.69 326 P **P 01 06 43.8 +4.1**
KSH pmax pmax
comp=Z,15nm,1.5s
MILM Milestii Mici 77.76 1 ⇓P **P 01 06 40.3 +0.5**
MILM Milestii Mici 77.76 1 P **P 01 06 40.3 +0.5**
CJR Cluj-Napoca 77.80 5 ⇓P **P 01 06 41.2 +1.1**
CJR Cluj-Napoca 77.80 5 P **P 01 06 41.2 +1.1**
MARR Marisel-Cluj 77.81 5 ⇓P **P 01 06 41.2 +0.9**
MORH Mrgy, Hungar 77.96 9⇑P **P 01 06 41.8 +0.8**
TESR Tescani 78.12 3⇑P **P 01 06 42.2 +0.3**
SIRR Siria 78.14 6 ⇓P **P 01 06 43.4 +1.5**
PZH PanZhiHua 78.47 300 P **P 01 06 43.5 -0.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
OZUR 78.51 4⇑P **P 01 06 45.7 +1.6**
BOSR Bodos 78.53 4⇑P **P 01 06 46.0 +1.9**
TURR Turia 78.56 3 ⇓P **P 01 06 44.8 +0.5**
DOPR Dupca 78.62 4 ⇓P **P 01 06 45.2 +1.5**
SURR Surduc 78.68 6⇑P **P 01 06 45.8 +0.8**
BTK Batken 78.74 330 IAmb IAmb 01 06 47.3
comp=Z,14nm,0.9s
COVR Voineasa-Covas 78.78 3⇑P **P 01 06 47.1 +1.6**
BZS Buzias 78.78 7⇑P **P 01 06 46.4 +0.9**
BZS Buzias 78.78 7 P **P 01 06 46.4 +0.9**
PLOR Plostina 78.78 3 ⇓P **P 01 06 46.0 +0.4**
PLOR Plostina 78.78 3 P **P 01 06 45.9 +0.4**
GZR Gura Zlata 79.07 6⇑P **P 01 06 48.1 +0.8**
GZR Gura Zlata 79.07 6 P **P 01 06 48.0 +0.8**
FRGS Fruska Gora 79.11 8 ⇓P **P 01 06 48.4 +1.1**
GOF Gofitskoye 79.11 351 *ce*P **P 01 06 48.1 +0.8**

MLR Muntele Rosu 79.12 3⇑P **P 01 06 49.1 +1.5**
MLR Muntele Rosu 79.12 3 P **P 01 06 48.4 +0.9**
MLR IAmb IAmb 01 06 51.1
comp=Z,28nm,1.5s
MLR Muntele Rosu 79.12 3 P **P 01 06 49.0 +1.5**
VOIR 79.14 4⇑P **P 01 06 48.0 +0.4**
VOIR 79.14 4 P **P 01 06 47.9 +0.4**
CFR Carcaliu 79.49 2 ⇓P **P 01 06 50.4 +1.0**
CFR Carcaliu 79.49 2 P **P 01 06 50.4 +1.0**
MDVR Moldovita 79.62 7 ⇓P **P 01 06 51.0 +0.8**
KIV Kislovodsk 80.23 351 *e*P **P 01 06 54.9 +1.3**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 80.44 351 *d i*P **P 01 06 56.3 +1.8**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 80.44 351 P **P 01 06 54.5 0.0**
comp=Z,6.3nm,0.9s,baz=354,slow=8.3,SNR=7.0
comp=Z,6.3nm,0.9s
ESBB Sonseca Array 80.50 27 IAmb IAmb 01 06 57.4
comp=Z,12nm,1.0s
ESDC Sonseca Array 80.51 27 IAmb IAmb 01 06 57.4
comp=Z,12nm,1.1s
ESDC Sonseca Array 80.51 27 P **P 01 06 55.2 +0.2**
comp=Z,7.0nm,0.9s,baz=338,slow=5.2,SNR=39
comp=Z,7.0nm,0.9s
SIMJ Simiganj 80.56 331 P **P 01 06 54.6 -0.9**
NCK Nalchik 80.61 351⇓*e*P **P 01 06 56.5 +1.0**
NCK pmax pmax
comp=Z,22nm,0.9s
BOVS Bovan 80.76 7⇑P **P 01 06 56.3 0.0**
MCRA Macar, Loja 82.07 110 P **P 01 07 02.3 -1.3**
GNI Garni 83.81 349 P **P 01 07 12.7 +0.1**
GNI Garni 83.81 349⇓*e*P **P 01 07 13.9 +1.4**
GNI pmax pmax
comp=Z,22nm,1.6s
GEYT Alibeck 83.89 339 P **P 01 07 14.0 +1.2**
comp=Z,9.0nm,0.9s,baz=20,slow=4.6,SNR=27
comp=Z,9.0nm,0.9s
KBL Kabul 84.39 329 P **P 01 07 14.3 -1.3**
KBL IAmb IAmb 01 07 15.7
comp=Z,6.4nm,1.1s
TIP Timpagrande 84.75 11 P **P 01 07 18.0 +0.8**
BRTR Keskin Array B 84.94 358 P **P 01 07 18.8 +0.6**
comp=Z,4.1nm,0.9s,baz=33,slow=2.3,SNR=10
comp=Z,4.1nm,0.9s
GURO Guroymak-BITLI 85.65 351 IAmb IAmb 01 07 26.0
comp=Z,13nm,1.4s
UBPT Khong Chiam 85.92 291 P **P 01 07 23.5 +0.2**
CZSB Cruzeiro do Su 88.79 105 P **P 01 07 35.2 -1.8**
QSPA South Pole Qui 145.47 180 PKPbc **PKPdf 01 14 19.1 -0.6**
comp=Z,18nm,0.9s,baz=36,slow=0.7,SNR=32
BOSA Boshof 152.66 11 PKPbc **PKPbc 01 14 37.8 -1.9**
comp=Z,4.4nm,0.9s,baz=24,slow=4.1,SNR=8.1

NEIC ***24*** *00:58:09.0±1.2,56°.49N±0°.08×148°.8W±0°.1, h22km±9km, ML3.7/44, ML3.4(AEIC), Error ellipse: s-maj=12.1km s-min=7.5km az=150.0*
AEIC ***24*** *00:58:11.2±1.6,56°.43N±0°.10×148°.7W±0°.1, h3km±8km, Error ellipse: s-maj=14.5km s-min=8.1km az=162.0*
ISC 24 00:58:06.6±1.9,56°.5N±0°.1×148°.76W±0°.05, h10km, n86, σ1§10/93, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.46**	**304**		**Pn**	**00 58 46.5**	**-0.3**
KDAK					**Sn**	**00 59 15.7**	**-1.2**
OHAK	**Old Harbor**	**2.60**	**289**	Pn	**Pn**	**00 58 49.5**	**+0.9**
OHAK				Sn	**Sn**	**00 59 19.2**	**-1.0**
OHAK	**Old Harbor**	**2.60**	**289**	P	**Pn**	**00 58 50.3**	**+1.7**
	baz=105						
OHAK				S	**Sn**	**00 59 20.3**	**+0.1**
	baz=105						
SYI	**Shuyak Island**	**2.90**	**319**	Pn	**Pn**	**00 58 53.2**	**+0.4**
Q20K	**Shuyak Island**	**2.90**	**319**	P	**Pn**	**00 58 53.8**	**+1.0**
	baz=136						
Q20K				S	**Sn**	**00 59 28.5**	**+0.8**
	baz=136						
Q23K	**Middleton Isla**	**3.23**	**22**	Pn	**Pn**	**00 58 57.2**	**0.0**
Q23K				Sn	**Sn**	**00 59 32.6**	**-3.1**
Q23K	**Middleton Isla**	**3.23**	**22**	P	**Pn**	**00 58 58.1**	**+0.8**
	baz=203						
Q23K				S	**Sn**	**00 59 35.1**	**-0.6**
	baz=203						
MID	**Middleton Isla**	**3.23**	**23**	Pn	**Pn**	**00 58 57.8**	**+0.5**
R18K	**Karluk**	**3.30**	**292**	P	**Pn**	**00 58 58.4**	**+0.1**
	baz=107						
CNPM	**China Poot**	**3.33**	**338**	Pn	**Pn**	**00 59 00.0**	**+1.3**
CNPM				Sn	**Sn**	**00 59 37.2**	**-1.1**
BRSE	**Bradley Lake S**	**3.44**	**343**		**Pn**	**00 59 01.8**	**+1.6**
BRSE	**Bradley Lake S**	**3.44**	**343**	P	**Pn**	**00 59 01.8**	**+1.6**
	baz=161						
BRLK	**Bradley Lake**	**3.49**	**342**	Pn	**Pn**	**00 59 01.9**	**+1.0**
BRLK				IAML		01 00 00.6	
	comp=E,104nm,3.6s						
Q19K	**Cape Douglas,**	**3.59**	**315**	P	**Pn**	**00 59 03.0**	**+0.7**
	baz=131						
P23K	**Montague Islan**	**3.60**	**11**		**Pn**	**00 59 03.2**	**+0.8**
P23K	**Montague Islan**	**3.60**	**11**	P	**Pn**	**00 59 03.2**	**+0.8**
	baz=191						
SEW	**Seward**	**3.66**	**355**	Pn	**Pn**	**00 59 04.1**	**+0.9**
SEW	**Seward**	**3.66**	**355**	P	**Pn**	**00 59 04.0**	**+0.9**
	baz=173						
KAHG	**Katmai Hook Gl**	**3.72**	**305**		**Pn**	**00 59 04.3**	**+0.1**
AUCH	**Augustine Cone**	**3.83**	**321**		**Pn**	**00 59 06.7**	**+1.2**
P19K	**Oil Pt**	**3.97**	**325**	Pn	**Pn**	**00 59 08.6**	**+1.1**
P19K				IAML		00 59 59.3	
	comp=N,130nm,2.4s						
P19K				IAML		01 00 02.1	
	comp=E,117nm,1.6s						
P19K	**Oil Pt**	**3.97**	**325**	P	**Pn**	**00 59 08.5**	**+0.9**
	baz=141						
ANCK	**Angle Creek**	**4.04**	**298**		**Pn**	**00 59 07.9**	**-0.6**
O22K	**Cooper Landing**	**4.05**	**353**	Pn	**Pn**	**00 59 08.9**	**+0.4**
O22K				IAML		01 00 01.9	
	comp=N,144nm,1.7s						
O22K	**Cooper Landing**	**4.05**	**353**	P	**Pn**	**00 59 09.3**	**+0.7**
	baz=172						
HIN	**Hinchinbrook I**	**4.11**	**16**	Pn	**Pn**	**00 59 10.2**	**+0.8**
HIN				IAML		00 59 40.7	
	comp=E,96nm,2.6s						
HIN				IAML		00 59 43.6	
	comp=N,95nm,2.7s						
SLKM	**Skilak Lake**	**4.12**	**350**		**Pn**	**00 59 10.2**	**+0.7**
KAIM	**Kayak Island**	**4.15**	**32**	Pn	**Pn**	**00 59 10.3**	**+0.3**
KAIM	**Kayak Island**	**4.15**	**32**	P	**Pn**	**00 59 10.8**	**+0.9**
	baz=214						
O20K	**Slope Mountain**	**4.15**	**332**		**Pn**	**00 59 11.8**	**+1.8**
O20K	**Slope Mountain**	**4.15**	**332**	P	**Pn**	**00 59 11.8**	**+1.8**
	baz=148						
IVE	**Iliamna Volcan**	**4.20**	**329**		**Pn**	**00 59 11.8**	**+1.0**
RAGM	**Ragged Mountai**	**4.47**	**27**	Pn	**Pn**	**00 59 16.0**	**+1.6**
RAGM				IAML		01 02 06.8	
	comp=E,85nm,2.0s						
P18K	**Big Mountain,**	**4.52**	**313**	Pn	**Pn**	**00 59 13.6**	**-1.5**
P18K	**Big Mountain,**	**4.52**	**313**	P	**Pn**	**00 59 14.5**	**-0.6**
	baz=127						
GOAT	**Goat Mountain**	**4.63**	**25**		**Pn**	**00 59 18.0**	**+1.4**
NCT	**North Crescent**	**4.64**	**334**		**Pn**	**00 59 17.8**	**+0.9**
RC01	**Rabbit Creek A**	**4.66**	**354**	Pn	**Pn**	**00 59 17.9**	**+1.0**
RC01				IAML		01 00 03.9	
	comp=N,42nm,2.9s						
RC01				IAML		01 00 55.7	
	comp=E,62nm,2.3s						
RC01	**Rabbit Creek A**	**4.66**	**354**	P	**Pn**	**00 59 18.4**	**+1.5**
	baz=173						
BERG	**Berg Lake**	**4.74**	**32**	Pn	**Pn**	**00 59 18.8**	**+0.8**
BERG				IAML		01 02 03.4	
	comp=N,70nm,2.5s						
BERG				IAML		01 02 14.7	
	comp=E,87nm,2.3s						
O18K	**Koktuh Hills**	**4.81**	**317**	Pn	**Pn**	**00 59 19.6**	**+0.6**
O18K				IAML		01 00 50.1	
	comp=E,45nm,3.1s						
O18K				IAML		01 00 52.3	
	comp=N,46nm,3.4s						
SNH	**Sunshine Point**	**4.85**	**38**	Pn	**Pn**	**00 59 20.6**	**+1.0**
DIV	**Divide**	**4.92**	**17**	Pn	**Pn**	**00 59 21.0**	**+0.4**
P17K	**Kvichak River**	**4.93**	**307**		**Pn**	**00 59 20.1**	**-0.5**
P17K	**Kvichak River**	**4.93**	**307**	P	**Pn**	**00 59 20.1**	**-0.5**
	baz=120						
KNK	**Knik Glacier**	**4.96**	**2**	Pn	**Pn**	**00 59 22.4**	**+1.4**
KNK				IAML		01 00 12.6	
	comp=E,52nm,3.4s						

KNK					IAML			01 00 24.4	
	comp=N,35nm,1.9s								
KNK	**Knik Glacier**	**4.96**	**2**	P	**Pn**		**00 59 22.0**	**+1.0**	
	baz=181								
BMRM	**Bremner River**	**5.00**	**24**	Pn	**Pn**		**00 59 22.3**	**+0.7**	
BMRM	**Bremner River**	**5.00**	**24**	P	**Pn**		**00 59 22.7**	**+1.0**	
	baz=207								
SUA	**Susitna One**	**5.11**	**349**	Pn	**Pn**		**00 59 23.6**	**+0.4**	
SUA					IAML		01 00 05.6		
	comp=N,49nm,2.9s								
SUA	**Susitna One**	**5.11**	**349**	P	**Pn**		**00 59 24.6**	**+1.4**	
	baz=167								
BARK	**Barkley Ridge**	**5.13**	**37**		**Pn**		**00 59 25.0**	**+1.5**	
KLU	**Klutina**	**5.24**	**15**	Pn	**Pn**		**00 59 25.8**	**+0.8**	
KLU					IAML		01 02 18.0		
	comp=E,25nm,3.7s								
KLU					IAML		01 02 28.5		
	comp=N,27nm,4.2s								
KLU	**Klutina**	**5.24**	**15**	P	**Pn**		**00 59 26.5**	**+1.5**	
	baz=197								
N19K	**Bonanza Creek**	**5.28**	**328**	Pn	**Pn**		**00 59 26.3**	**+0.7**	
N19K					IAML		01 00 21.8		
	comp=E,36nm,2.6s								
N19K					IAML		01 00 48.8		
	comp=N,37nm,2.6s								
N19K	**Bonanza Creek**	**5.28**	**328**	P	**Pn**		**00 59 26.8**	**+1.3**	
	baz=143								
SML	**Sawmill**	**5.35**	**2**	Pn	**Pn**		**00 59 27.6**	**+1.1**	
SML					IAML		01 00 52.1		
	comp=N,45nm,3.8s								
SML					IAML		01 02 19.4		
	comp=E,45nm,2.9s								
SML	**Sawmill**	**5.35**	**2**	P	**Pn**		**00 59 28.3**	**+1.8**	
	baz=182								
SCM	**Sheep Creek Mo**	**5.42**	**7**	Pn	**Pn**		**00 59 29.3**	**+1.8**	
VRDI	**Verde Repeater**	**5.50**	**28**	Pn	**Pn**		**00 59 29.3**	**+0.6**	
KIAG	**Kiagna River**	**5.57**	**34**		**Pn**		**00 59 31.1**	**+1.5**	
N25K	**Chitina, Valde**	**5.58**	**21**	Pn	**Pn**		**00 59 30.7**	**+1.1**	
N25K	**Chitina, Valde**	**5.58**	**21**	P	**Pn**		**00 59 31.0**	**+1.4**	
	baz=204								
SAMH	**Samovar Hills**	**5.58**	**46**		**Pn**		**00 59 31.1**	**+1.5**	
GLB	**Gilahina Butte**	**5.60**	**25**	Pn	**Pn**		**00 59 30.6**	**+0.7**	
N18K	**Kilae Creek**	**5.63**	**321**	Pn	**Pn**		**00 59 30.7**	**+0.4**	
MCARA	**McCarthy VSAT**	**5.75**	**29**	Pn	**Pn**		**00 59 33.5**	**+1.6**	
PCA	**Pinnacle**	**5.77**	**47**	Pn	**Pn**		**00 59 33.1**	**+0.9**	
PINM	**Pinnacle**	**5.77**	**47**	P	**Pn**		**00 59 33.6**	**+1.3**	
	baz=234								
M24K	**Tolsona, Glenn**	**5.80**	**12**	Pn	**Pn**		**00 59 33.5**	**+0.8**	
O16K	**Kokwok River B**	**5.86**	**306**	P	**Pn**		**00 59 32.8**	**-0.6**	
	baz=118								
PNL	**Peninsula**	**5.91**	**53**		**Pn**		**00 59 35.2**	**+1.1**	
PNL	**Peninsula**	**5.91**	**53**	P	**Pn**		**00 59 35.2**	**+1.1**	
	baz=240								
CTG	**Chitna Glacier**	**5.93**	**38**	P	**Pn**		**00 59 35.7**	**+1.2**	
	baz=223								
CTGM	**Chitina Glacie**	**5.93**	**38**	Pn	**Pn**		**00 59 35.2**	**+0.6**	
LOGN	**Logan Glacier**	**5.95**	**40**	Pn	**Pn**		**00 59 35.3**	**+0.5**	
BCPM	**Bancas Point**	**5.95**	**50**	Pn	**Pn**		**00 59 35.9**	**+1.2**	
M19K	**Big River Lodg**	**6.16**	**334**	Pn	**Pn**		**00 59 37.7**	**+0.1**	
CNBA	**Chernabura Isl**	**6.35**	**259**	Pn	**Pn**		**00 59 41.3**	**+1.2**	
O29M	**Mount Kennedy**	**6.58**	**50**	Pn	**Pn**		**00 59 44.9**	**+1.4**	
P29M	**Windy Craggy**	**6.65**	**57**	Pn	**Pn**		**00 59 44.1**	**-0.1**	
DHY	**Denali Highway**	**6.66**	**5**	Pn	**Pn**		**00 59 45.1**	**+0.6**	
M17K	**Holitna River**	**6.67**	**321**	Pn	**Pn**		**00 59 44.9**	**+0.3**	
M27K	**Edge Creek, AK**	**6.86**	**28**	Pn	**Pn**		**00 59 48.4**	**+1.1**	
S31K	**Pelican**	**6.96**	**72**	Pn	**Pn**		**00 59 46.9**	**-1.6**	
M16K	**Timber Creek**	**6.99**	**315**	Pn	**Pn**		**00 59 48.0**	**-1.0**	

ROM 24 01:04:17.8±0.0, 43°32.7'N±0.0'002×12°38.3'E±0.0'003, h11km, ML0.9/14, 2C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSV	**Fossato di Vic**	**0.04**	**223**	P	Pg	01 04 20.3	+0.4
FOSV				S	Sg	01 04 21.9	+0.5
FOSV				AML	AML		
	comp=N,125μm,0.2s						
FOSV				AML	AML		
	comp=E,140μm,0.1s						
SSFR	**Montelago di S**	**0.11**	**352**	P	Pg	01 04 21.2	+0.4
SSFR				S	Sg	01 04 23.6	+0.8
SNTG	**Esanatoglia**	**0.12**	**125**	P	Pg	01 04 21.3	+0.5
SNTG				S	Sg	01 04 23.7	+0.6
SNTG				AML	AML		
	comp=E,52μm,1.2s						
SNTG				AML	AML		
	comp=N,58μm,0.3s						
SNTG				AML	AML		
	comp=N,58μm,1.7s						
SNTG				AML	AML		
	comp=E,52μm,0.8s						
MMUR	**Monte Murano**	**0.18**	**51**	P	Pg	01 04 21.8	0.0
MMUR				S	Sg	01 04 25.7	+1.1
ATCC	**AVT- Casa Cast**	**0.18**	**220**	P	Pg	01 04 22.4	+0.6
ATCC				S	Sg	01 04 25.8	+1.2
ATCC				AML	AML		
	comp=E,109μm,0.2s						
ATCC				AML	AML		
	comp=N,127μm,0.1s						
ATCC				AML	AML		
	comp=E,109μm,0.2s						
ATCC				AML	AML		
	comp=N,127μm,0.1s						
ATCC				AML	AML		
	comp=E,109μm,1.8s						
ARVD	**Arcevia**	**0.20**	**31**	P	Pg	01 04 22.6	+0.5
ARVD				S	Sg	01 04 26.0	+1.0
ARVD				AML	AML		
	comp=N,40μm,0.1s						
ARVD				AML	AML		
	comp=E,32μm,1.1s						
ARVD				AML	AML		
	comp=N,40μm,0.1s						
MURB	**Monte Urbino**	**0.21**	**253**	P	Pg	01 04 23.0	+0.7
MURB				S	Sg	01 04 27.0	+1.6
MURB				AML	AML		
	comp=E,107μm,0.2s						
MURB				AML	AML		
	comp=N,131μm,0.2s						
EL6	**Elcito**	**0.22**	**89**	P	Pg	01 04 23.0	+0.5
EL6				S	Sg	01 04 26.8	+1.2
PIEI	**Pieia**	**0.29**	**317**	P	Pg	01 04 24.0	+0.4
PIEI				S	Sg	01 04 28.6	+1.1
PIEI				AML	AML		
	comp=E,44μm,0.3s						
PIEI				AML	AML		
	comp=N,35μm,1.1s						
PIEI				AML	AML		
	comp=N,35μm,0.9s						
CING	**Cingoli**	**0.29**	**80**	P	Pg	01 04 24.3	+0.6
CING				S	Sb	01 04 29.2	-0.7
ATVO	**AVT- Monte Val**	**0.29**	**281**	⇑P	Pg	01 04 24.2	+0.5
ATVO				S	Sb	01 04 29.0	-1.0
ATVO				AML	AML		
	comp=N,27μm,0.1s						
ATVO				AML	AML		
	comp=E,36μm,0.6s						
ASSB	**Assisi San Ben**	**0.30**	**200**	⇓P	Pg	01 04 24.2	+0.3
ASSB				S	Sg	01 04 29.0	+0.9
NARO	**Abbazia di Nar**	**0.33**	**330**	P	Pg	01 04 24.6	+0.3
NARO				S	Sb	01 04 30.0	-1.0
CESI	**CESI - Serrava**	**0.33**	**167**	⇑P	Pg	01 04 24.8	+0.3
CESI				S	Sg	01 04 29.9	+1.0
FDMO	**Fiordimonte**	**0.36**	**144**	P	Pg	01 04 25.3	+0.4
FDMO				AML	AML		
	comp=E,24μm,1.1s						
FDMO				AML	AML		
	comp=N,20μm,1.1s						
FDMO				AML	AML		
	comp=N,20μm,0.9s						
CSP1	**Cessapalombo**	**0.38**	**128**	P	Pg	01 04 25.8	+0.5
CSP1				S	Sb	01 04 31.8	-0.7

*AEIC **24** 01:04:56.9±3.2, 55°9N±0'2×150°2W±0'2, h10km±9km, Error ellipse: s-maj=23.6km s-min=15.3km az=169.0*

NEIC 24 01:04:49.2±1.7, 55°9N±0'1×149°7W±0'1, h10km±2km, ML3.1/14, ML2.6(AEIC), Error ellipse: s-maj=22.2km s-min=9.1km az=197.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.41**	**305**		Pn	01 05 28.2	-0.5
OHAK					Sn	01 05 53.0	-5.2
KDAK	**Kodiak Island**	**2.49**	**321**	Pn	Pn	01 05 29.2	-0.4
KDAK					Sn	01 05 54.7	-5.3
SYI	**Shuyak Island**	**3.10**	**333**	Pn	Pn	01 05 38.6	+0.4
SYI				IAML		01 06 46.4	
	comp=N,38nm,1.1s						
SYI				IAML		01 07 13.1	
	comp=E,57nm,1.5s						
R18K	**Karluk**	**3.13**	**305**	Pn	Pn	01 05 37.6	-0.9
KAHG	**Katmai Hook Gl**	**3.73**	**317**		Pn	01 05 46.3	-0.5
ACHA	**Angle Creek He**	**3.87**	**309**		Pn	01 05 49.2	+0.4
ANCK	**Angle Creek**	**3.94**	**308**		Pn	01 05 50.0	+0.3
BRLK	**Bradley Lake**	**3.94**	**351**	Pn	Pn	01 05 47.7	-2.0
BRLK				IAML		01 07 03.7	
	comp=N,27nm,1.4s						
BRLK				IAML		01 07 40.5	
	comp=E,28nm,1.4s						
AUCH	**Augustine Cone**	**4.03**	**331**		Pn	01 05 52.5	+1.5
CNTC	**Contact Creek**	**4.15**	**308**		Pn	01 05 52.7	+0.1
P19K	**Oil Pt**	**4.23**	**335**	Pn	Pn	01 05 53.2	-0.5
P23K	**Montague Islan**	**4.29**	**15**		Pb	01 05 59.9	-4.8
O20K	**Slope Mountain**	**4.49**	**341**		Pn	01 05 59.4	+2.1
IVE	**Iliamna Volcan**	**4.51**	**338**		Pn	01 05 59.1	+1.5
P18K	**Big Mountain,**	**4.61**	**322**	Pn	Pn	01 05 58.2	-0.7
P18K				IAML		01 07 47.6	
	comp=E,13nm,1.4s						
Q16K	**King Salmon**	**4.71**	**309**		Pn	01 06 00.5	+0.3
P16K	**Nushagak River**	**5.49**	**308**		Pn	01 06 11.2	+0.3
N19K	**Bonanza Creek**	**5.55**	**335**	Pn	Pn	01 06 10.2	-1.7
KNK	**Knik Glacier**	**5.58**	**6**	Pn	Pn	01 06 11.7	-0.5
N18K	**Kilae Creek**	**5.82**	**328**	Pn	Pn	01 06 14.8	-0.7
GHO	**Glory Hole Cre**	**5.92**	**3**	Pn	Pn	01 06 15.8	-1.1
KLU	**Klutina**	**5.95**	**18**	Pn	Pn	01 06 17.2	-0.1
SML	**Sawmill**	**5.98**	**6**	Pn	Pn	01 06 16.5	-1.2
SCM	**Sheep Creek Mo**	**6.08**	**11**	Pn	Pn	01 06 19.3	+0.1
SKT	**Skwentna**	**6.19**	**352**	Pn	Pn	01 06 21.3	+0.8
M24K	**Tolsona, Glenn**	**6.49**	**15**	Pn	Pn	01 06 25.4	+0.7
BARN	**Barnard Glacie**	**6.67**	**36**	Pn	Pn	01 06 27.2	-0.1
CTGM	**Chitina Glacie**	**6.71**	**37**	Pn	Pn	01 06 27.2	-0.7
BCPM	**Bancas Point**	**6.72**	**49**	Pn	Pn	01 06 28.6	+0.8
LOGN	**Logan Glacier**	**6.72**	**39**	Pn	Pn	01 06 27.2	-0.9
M17K	**Holitna River**	**6.85**	**327**	Pn	Pn	01 06 28.7	-1.0
N15K	**Kwethluk River**	**7.00**	**312**	Pn	Pn	01 06 31.7	0.0
DHY	**Denali Highway**	**7.30**	**8**	Pn	Pn	01 06 36.8	+0.8
RND	**Reindeer**	**7.55**	**3**	Pn	Pn	01 06 38.2	-1.1
TRF	**Thorofare Moun**	**7.59**	**358**	Pn	Pn	01 06 39.9	0.0
CAST	**Castle Rocks**	**7.65**	**352**	Pn	Pn	01 06 41.0	+0.4
KTH	**Kantishna Hill**	**7.72**	**356**	Pn	Pn	01 06 42.4	+0.8
BPAW	**Bear Paw Mtn.**	**8.27**	**356**	Pn	Pn	01 06 48.0	-1.0

*IDC **24** 01:05:45.9±2.8, 55°.63N×149°.45W, h0km, mb3.7/5, mbtmp3.4/8, ML3.0/3, Error ellipse: s-maj=57.9km s-min=35.9km az=177.0*

*NEIC **24** 01:05:47.7±2.7, 55°.96N±0°.02×149°.4W±0°.1, h10km±2km, mb3.5/1, ML3.8/28, ML3.0(AEIC), Error ellipse: s-maj=11.2km s-min=4.7km az=83.0*

*AEIC **24** 01:05:54.1±2.5, 56°.1N±0°.1×149°.4W±0°.1, h11km±8km, Error ellipse: s-maj=16.1km s-min=9.8km az=177.0*

ISC 24 01:05:49.6±1.3, 56°2N±0°.1×149°41W±0°.06, h10km, n108, σ1§36/116, mb3.8/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.39**	**315**	Pn	**Pn**	**01 06 27.5**	**-1.2**
KDAK				Sn	**Sn**	**01 06 57.3**	**-0.7**
KDAK	**Kodiak Island**	**2.39**	**315**	IAML		01 06 58.8	
	47nm,1.5s						
KDAK				IAML		01 06 59.7	
	43nm,1.0s						
KDAK	**Kodiak Island**	**2.39**	**315**	Pn	**Pn**	**01 06 29.1**	**+0.3**
	2.1nm,0.3s,baz=147,slow=23,SNR=4.1						
KDAK				Sn	**Sn**	**01 06 56.0**	**-2.1**
	3.9nm,0.3s,baz=327,slow=23,SNR=7.5 6.3nm,0.3s						
OHAK	**Old Harbor**	**2.40**	**298**		**Pn**	**01 06 27.2**	**-1.5**
OHAK					**Sn**	**01 06 55.8**	**-2.3**
OHAK	**Old Harbor**	**2.40**	**298**	P	**Pn**	**01 06 28.4**	**-0.4**
	baz=119						
OHAK				S	**Sn**	**01 06 56.4**	**-1.8**
	baz=119						
Q20K	**Shuyak Island**	**2.95**	**328**	P	**Pn**	**01 06 37.6**	**+1.1**
	baz=147						
Q20K				S	**Sn**	**01 07 14.6**	**+2.7**
	baz=147						
SYI	**Shuyak Island**	**2.95**	**328**	Pn	**Pn**	**01 06 36.8**	**+0.4**
SYI				Sn	**Sn**	**01 07 13.9**	**+2.0**
R18K	**Karluk**	**3.12**	**299**	Pn	**Pn**	**01 06 38.0**	**-0.7**
R18K				Sn	**Sn**	**01 07 14.2**	**-1.7**
R18K				IAML		01 08 36.1	
	comp=E,304nm,0.4s						
R18K				IAML		01 08 36.5	
	comp=N,211nm,0.2s						
R18K	**Karluk**	**3.12**	**299**	P	**Pn**	**01 06 38.4**	**-0.3**
	baz=118						
R18K				S	**Sn**	**01 07 14.1**	**-1.7**
	baz=118						
CNPM	**China Poot**	**3.53**	**345**	Pn	**Pn**	**01 06 44.0**	**-0.3**
CNPM				IAML		01 08 55.8	
	comp=E,55nm,1.5s						
Q19K	**Cape Douglas,**	**3.60**	**322**	Pn	**Pn**	**01 06 46.0**	**+0.5**
Q19K				Sn	**Sn**	**01 07 27.8**	**-0.2**
Q19K				IAML		01 07 37.4	
	comp=N,129nm,1.4s						
Q19K				IAML		01 07 38.0	
	comp=E,195nm,1.1s						
Q19K	**Cape Douglas,**	**3.60**	**322**	P	**Pn**	**01 06 46.3**	**+0.9**
	baz=140						
Q19K				S	**Sn**	**01 07 29.4**	**+1.4**
	baz=140						
KAHG	**Katmai Hook Gl**	**3.65**	**312**		**Pn**	**01 06 47.3**	**+1.2**
Q23K	**Middleton Isla**	**3.68**	**25**	P	**Pb**	**01 06 52.0**	**-2.5**
	baz=207						
BRLK	**Bradley Lake**	**3.71**	**348**	Pn	**Pn**	**01 06 45.8**	**-1.1**
BRLK				IAML		01 08 54.0	
	comp=N,55nm,1.4s						
BRLK				IAML		01 09 25.3	
	comp=E,132nm,0.6s						
ACHA	**Angle Creek He**	**3.83**	**305**		**Pn**	**01 06 49.1**	**+0.5**
ANCK	**Angle Creek**	**3.90**	**304**		**Pn**	**01 06 50.8**	**+1.3**
P23K	**Montague Islan**	**4.01**	**15**		**Pn**	**01 06 49.3**	**-1.6**
P23K					Pb	01 06 54.7	-5.5
P23K	**Montague Islan**	**4.01**	**15**	P	**Pn**	**01 06 54.7**	**+3.7**
	baz=196						
P19K	**Oil Pt**	**4.07**	**331**	Pn	**Pn**	**01 06 51.5**	**-0.2**
P19K	**Oil Pt**	**4.07**	**331**	P	**Pn**	**01 06 53.0**	**+1.2**
	baz=149						
CNTC	**Contact Creek**	**4.11**	**304**		**Pn**	**01 06 53.2**	**+0.7**
Q17K	**Contact Creek**	**4.11**	**304**	P	**Pn**	**01 06 53.2**	**+0.7**
	baz=120						
O20K	**Slope Mountain**	**4.30**	**338**		**Pn**	**01 06 56.8**	**+1.7**
O20K	**Slope Mountain**	**4.30**	**338**	P	**Pn**	**01 06 56.8**	**+1.7**
	baz=156						
P18K	**Big Mountain,**	**4.51**	**319**	Pn	**Pn**	**01 06 57.4**	**-0.4**
P18K				IAML		01 09 46.3	
	comp=E,51nm,0.3s						
P18K				IAML		01 09 46.4	
	comp=N,53nm,0.4s						
P18K	**Big Mountain,**	**4.51**	**319**	P	**Pn**	**01 06 58.5**	**+0.7**
	baz=135						
KAIM	**Kayak Island**	**4.62**	**33**	Pn	**Pn**	**01 07 00.3**	**+0.9**
KAIM	**Kayak Island**	**4.62**	**33**	P	**Pn**	**01 07 04.1**	**+4.7**
	baz=216						
CAPN	**Captain Cook N**	**4.73**	**350**	P	**Pn**	**01 07 03.5**	**+2.8**
	baz=168						
EYAK	**Cordova Ski Ar**	**4.82**	**22**	Pn	**Pn**	**01 07 00.8**	**-1.3**
EYAK	**Cordova Ski Ar**	**4.82**	**22**	P	Pn	01 07 07.2	+5.2
	baz=204						
O19K	**Port Alsworth**	**4.82**	**329**	P	**Pn**	**01 07 03.5**	**+1.4**
	baz=146						
O18K	**Koktuh Hills**	**4.83**	**323**	Pn	**Pn**	**01 07 02.9**	**+0.7**
O18K				IAML		01 09 55.8	
	comp=N,55nm,0.8s						
O18K				IAML		01 10 06.3	
	comp=E,43nm,1.1s						
O18K	**Koktuh Hills**	**4.83**	**323**	P	**Pn**	**01 07 03.3**	**+1.1**
	baz=139						
P17K	**Kvichak River**	**4.86**	**312**		**Pn**	**01 07 01.9**	**-0.7**
P17K	**Kvichak River**	**4.86**	**312**	P	**Pn**	**01 07 02.7**	**+0.1**
	baz=128						
RAGM	**Ragged Mountai**	**4.93**	**28**	Pn	**Pn**	**01 07 04.3**	**+0.6**
RC01	**Rabbit Creek A**	**4.96**	**358**	P	**Pn**	**01 07 06.9**	**+2.9**
	baz=178						
CHGN	**Chignik**	**5.03**	**276**	Pn	Pn	01 06 59.5	-5.4
BERG	**Berg Lake**	**5.21**	**33**	Pn	**Pn**	**01 07 06.7**	**-0.8**
N20K	**Mount Spurr**	**5.28**	**345**	P	**Pn**	**01 07 10.3**	**+1.9**
	baz=163						
SPCR	**Spurr Chakacha**	**5.28**	**345**		**Pn**	**01 07 10.3**	**+1.9**
KNK	**Knik Glacier**	**5.31**	**5**	Pn	**Pn**	**01 07 08.4**	**-0.4**
SNH	**Sunshine Point**	**5.33**	**38**	Pn	**Pn**	**01 07 08.7**	**-0.5**
SUA	**Susitna One**	**5.38**	**353**	Pn	**Pn**	**01 07 11.9**	**+2.1**
N19K	**Bonanza Creek**	**5.38**	**332**	Pn	**Pn**	**01 07 08.5**	**-1.4**
P16K	**Nushagak River**	**5.45**	**306**		**Pn**	**01 07 10.7**	**0.0**
P16K	**Nushagak River**	**5.45**	**306**	P	**Pn**	**01 07 09.6**	**-1.1**
	baz=120						
GHO	**Glory Hole Cre**	**5.65**	**2**	Pn	**Pn**	**01 07 13.8**	**+0.2**
KLU	**Klutina**	**5.66**	**17**	Pn	**Pn**	**01 07 13.0**	**-0.7**
N18K	**Kilae Creek**	**5.68**	**326**	Pn	**Pn**	**01 07 13.2**	**-0.7**
SML	**Sawmill**	**5.71**	**5**	Pn	**Pn**	**01 07 13.4**	**-0.8**
O16K	**Kokwok River B**	**5.78**	**310**	Pn	**Pn**	**01 07 15.8**	**+0.6**
SCM	**Sheep Creek Mo**	**5.80**	**10**	Pn	**Pn**	**01 07 16.0**	**+0.3**
SVW2	**Sparrevohn**	**5.92**	**330**	Pn	**Pn**	**01 07 15.4**	**-1.7**
SKT	**Skwentna**	**5.95**	**350**	Pn	**Pn**	**01 07 19.6**	**+1.9**
VRDI	**Verde Repeater**	**5.97**	**29**	Pn	**Pn**	**01 07 17.8**	**-0.2**
N17K	**Nushagak Hills**	**6.00**	**320**	Pn	**Pn**	**01 07 17.4**	**-0.9**
GLB	**Gilahina Butte**	**6.05**	**26**	Pn	**Pn**	**01 07 19.4**	**+0.3**
M20K	**Styx River**	**6.07**	**343**	Pn	**Pn**	**01 07 18.6**	**-0.7**
M24K	**Tolsona, Glenn**	**6.21**	**14**	Pn	**Pn**	**01 07 23.3**	**+2.1**
MCARA	**McCarthy VSAT**	**6.21**	**30**	Pn	**Pn**	**01 07 22.1**	**+0.9**
BARN	**Barnard Glacie**	**6.37**	**36**	Pn	**Pn**	**01 07 23.0**	**-0.6**
CTGM	**Chitina Glacie**	**6.42**	**38**	Pn	**Pn**	**01 07 23.7**	**-0.5**
LOGN	**Logan Glacier**	**6.43**	**40**	Pn	**Pn**	**01 07 24.7**	**+0.3**
L19K	**White Mountain**	**6.67**	**337**	Pn	**Pn**	**01 07 26.7**	**-0.8**
M17K	**Holitna River**	**6.72**	**325**	Pn	**Pn**	**01 07 27.1**	**-1.0**
N15K	**Kwethluk River**	**6.94**	**310**	Pn	**Pn**	**01 07 32.1**	**+0.9**
M16K	**Timber Creek**	**6.98**	**318**	Pn	**Pn**	**01 07 32.0**	**+0.2**
O29M	**Mount Kennedy**	**7.07**	**49**	Pn	**Pn**	**01 07 32.9**	**-0.2**
O14K	**Tigyukauivet M**	**7.07**	**301**	Pn	**Pn**	**01 07 34.5**	**+1.5**
P29M	**Windy Craggy**	**7.13**	**56**	Pn	**Pn**	**01 07 32.8**	**-1.1**
L18K	**Granite Mounta**	**7.14**	**331**	Pn	**Pn**	**01 07 32.2**	**-1.7**
M27K	**Edge Creek, AK**	**7.32**	**29**	Pn	**Pn**	**01 07 38.0**	**+1.5**
MENT	**Mentasta**	**7.40**	**21**	Pn	**Pn**	**01 07 39.0**	**+1.5**
CAST	**Castle Rocks**	**7.42**	**351**	Pn	**Pn**	**01 07 38.9**	**+1.1**
K20K	**Telida**	**7.61**	**344**	Pn	**Pn**	**01 07 40.2**	**-0.1**
L16K	**Owhat River**	**7.63**	**321**	Pn	**Pn**	**01 07 39.9**	**-0.7**
RIDG	**Independent Ri**	**7.95**	**15**	Pn	**Pn**	**01 07 47.1**	**+2.0**
K17K	**Iditarod**	**7.99**	**329**	Pn	**Pn**	**01 07 44.5**	**-1.0**
SKAG	**Skagway**	**8.22**	**60**	Pn	**Pn**	**01 07 48.5**	**-0.1**
M29M	**Somme Creek**	**8.43**	**37**	Pn	**Pn**	**01 07 52.2**	**+0.4**
J19K	**Poormans**	**8.46**	**341**	Pn	**Pn**	**01 07 53.4**	**+1.4**
CCB	**Clear Creek Bu**	**8.57**	**5**	Pn	**Pn**	**01 07 55.1**	**+1.7**
L14K	**Kuka Creek**	**8.64**	**313**	Pn	**Pn**	**01 07 55.1**	**+0.7**
ILAR	**Eielson Array**	**8.74**	**7**	Pn	**Pn**	**01 07 58.1**	**+2.2**
	comp=E,0.1nm,0.3s,baz=188,slow=13,SNR=4.2						
ILAR				Sn	**Sn**	**01 09 31.6**	**-2.8**
	comp=E,0.1nm,0.3s,baz=189,slow=21,SNR=2.8 comp=E,0.4nm,0.6s						
K15K	**Wolf Creek Mou**	**8.74**	**320**	Pn	**Pn**	**01 07 57.2**	**+1.3**
WHY	**Whitehorse**	**8.86**	**53**	Pn	**Pn**	**01 07 57.0**	**-0.5**
L29M	**L29M**	**9.01**	**35**	Pn	**Pn**	**01 08 00.2**	**+0.6**
P32M	**Atlin**	**9.04**	**61**	Pn	**Pn**	**01 07 58.4**	**-1.6**
P33M	**Tesiin, Yukon**	**9.65**	**58**	Pn	**Pn**	**01 08 06.9**	**-1.6**
H21K	**Melozitna Rive**	**9.68**	**352**	Pn	**Pn**	**01 08 08.5**	**-0.3**
K29M	**Barlow Dome**	**9.73**	**33**	Pn	**Pn**	**01 08 10.4**	**+0.8**
IMAR	**Indian Mountai**	**10.09**	**350**	Pn	**Pn**	**01 08 14.1**	**-0.2**
H17K	**Granite Mounta**	**10.21**	**334**	Pn	**Pn**	**01 08 17.3**	**+1.4**
FARO	**Faro, Yukon**	**10.23**	**47**	Pn	**Pn**	**01 08 16.2**	**-0.1**
R33M	**Jennings River**	**10.37**	**64**	Pn	**Pn**	**01 08 17.3**	**-0.9**
G24K	**Hadweenzic Riv**	**10.63**	**4**	Pn	**Pn**	**01 08 22.3**	**+0.6**
BMAR	**Burnt Mountain**	**11.55**	**9**	Pn	**Pn**	**01 08 35.0**	**+0.7**
D22K	**Ayikyak River**	**12.87**	**355**	Pn	**Pn**	**01 08 51.9**	**-0.4**
YKA	**Yellowknife Ar**	**18.68**	**56**	P	**Pn**	**01 10 08.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=265,slow=10,SNR=3.7 comp=E,0.4nm,1.0s						
A36M	**Sachs Harbour**	**18.83**	**23**	P	**P**	**01 10 09.2**	**+0.1**
A36M				IAmb	IAmb	01 10 22.9	
	comp=Z,3.2nm,1.0s						
ZALV	**Zalesovo Beam**	**61.64**	**327**	P	**P**	**01 16 06.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=27,slow=6.6,SNR=2.3 comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**62.70**	**2**	P	**P**	**01 16 14.5**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=345,slow=10,SNR=3.7 comp=Z,2.9nm,0.9s						
KURBB	**Kurchatov Arra**	**66.42**	**329**	P	**P**	**01 16 39.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=48,slow=4.1,SNR=1.6 comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**68.67**	**325**	P	**P**	**01 16 53.7**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=31,slow=5.7,SNR=11 comp=Z,0.2n

baz=161
KCG Knife Ck. Glac 3.75 307 Pn 01 08 45.0 +1.4
ACHA Angle Creek He 3.79 305 Pn 01 08 45.3 +1.1
AU22 Augustine Moun 3.83 329 Pn 01 08 46.2 +1.6
ANCK Angle Creek 3.86 304 Pn 01 08 46.4 +1.2
KVTA Katmai Vly 10 3.87 307 Pn 01 08 47.1 +1.9
KAHC Katmai Hardscr 3.90 312 Pn 01 08 47.3 +1.6
KAHC Katmai Hardscr 3.90 312 P Pn 01 08 47.3 +1.6
baz=128
SEW Seward 3.94 0 Pn Pn 01 08 45.8 -0.4
SEW Seward 3.94 0 P Pn 01 08 46.3 +0.1
baz=180
P23K Montague Islan 3.99 15 Pn 01 08 47.3 +0.4
P23K Montague Islan 3.99 15 P Pn 01 08 47.3 +0.4
baz=197
P19K Oil Pt 4.03 332 Pn Pn 01 08 47.9 +0.4
P19K IAML 01 09 37.4
comp=N,378nm,0.5s
P19K IAML 01 09 38.6
comp=E,342nm,0.5s
P19K Oil Pt 4.03 332 P Pn 01 08 48.3 +0.8
baz=149
CNTC Contact Creek 4.08 304 Pn 01 08 49.3 +1.1
Q17K Contact Creek 4.08 304 P Pn 01 08 49.3 +1.1
baz=120
O20K Slope Mountain 4.26 338 Pn 01 08 51.4 +0.6
O20K Slope Mountain 4.26 338 P Pn 01 08 51.4 +0.6
baz=156
IVE Iliamna Volcan 4.29 335 Pn 01 08 51.7 +0.5
O22K Cooper Landing 4.32 358 Pn Pn 01 08 52.2 +0.8
O22K Cooper Landing 4.32 358 P Pn 01 08 51.8 +0.3
baz=178
SLKM Skilak Lake 4.37 355 Pn 01 08 52.4 +0.3
P18K Big Mountain, 4.47 319 Pn Pn 01 08 54.2 +0.7
P18K Big Mountain, 4.47 319 P Pn 01 08 54.0 +0.5
baz=135
HIN Hinchinbrook I 4.51 19 Pn Pn 01 08 54.8 +0.7
HIN IAML 01 09 46.2
comp=E,128nm,0.8s
HIN IAML 01 09 47.6
comp=N,153nm,0.4s
RED Redoubt Volcan 4.60 339 Pn 01 08 55.4 0.0
KAIM Kayak Island 4.62 33 Pn Pn 01 08 56.8 +1.3
KAIM IAML 01 09 53.2
comp=N,244nm,0.4s
KAIM Kayak Island 4.62 33 P Pn 01 08 56.8 +1.3
baz=217
Q16K King Salmon 4.63 306 Pn 01 08 56.6 +0.9
Q16K King Salmon 4.63 306 P Pn 01 08 56.6 +0.9
baz=121
RSO Redoubt South 4.64 339 Pn Pn 01 08 56.1 +0.1
R16K Pilot Point 4.67 291 P Pn 01 08 56.9 +0.6
baz=105
RDT Redoubt 4.68 342 Pn 01 08 56.5 +0.1
RDWB Redoubt West 4.68 339 Pn 01 08 56.6 0.0
CAPN Captain Cook N 4.69 350 Pn Pn 01 08 55.4 -1.1
NCT North Crescent 4.77 339 Pn 01 08 57.6 -0.1
O19K Port Alsworth 4.78 329 Pn Pn 01 08 56.0 -1.8
O19K Port Alsworth 4.78 329 P Pn 01 08 58.2 +0.4
baz=146
O18K Koktuh Hills 4.79 323 Pn Pn 01 08 57.8 -0.2
O18K Koktuh Hills 4.79 323 P Pn 01 08 58.6 +0.7
baz=139
EYAK Cordova Ski Ar 4.80 22 Pn Pn 01 08 58.6 +0.6
EYAK Cordova Ski Ar 4.80 22 P Pn 01 08 59.4 +1.4
EYAK Cordova Ski Ar 4.80 22 P Pn 01 08 59.1 +1.1
baz=205
P17K Kvichak River 4.82 312 Pn 01 08 59.4 +1.1
P17K Kvichak River 4.82 312 P Pn 01 08 59.4 +1.1
baz=127
RAGM Ragged Mountai 4.92 29 Pn Pn 01 09 00.8 +1.1
RAGM IAML 01 10 06.0
comp=E,197nm,0.6s
RC01 Rabbit Creek A 4.93 358 Pn Pn 01 09 00.3 +0.5
RC01 IAML 01 09 56.2
comp=N,85nm,0.3s
RC01 IAML 01 09 56.7
comp=E,113nm,0.5s
RC01 Rabbit Creek A 4.93 358 P Pn 01 09 00.4 +0.5
baz=178
CHGN Chignik 5.00 275 Pn Pn 01 09 01.0 +0.2
GOAT Goat Mountain 5.07 27 Pn 01 09 03.0 +1.2
N20K Mount Spurr 5.24 345 P Pn 01 09 05.2 +1.0
baz=163
SPCR Spurr Chakacha 5.24 345 Pn 01 09 05.2 +1.0
KNK Knik Glacier 5.28 5 Pn Pn 01 09 05.2 +0.6
KNK IAML 01 10 08.9
comp=N,42nm,0.4s
KNK IAML 01 10 12.0
comp=E,64nm,0.8s
KNK Knik Glacier 5.28 5 P Pn 01 09 05.4 +0.7
baz=186
SPCP Crater Peak Br 5.30 346 Pn 01 09 05.8 +0.8
SPCG Spurr Capps Gl 5.30 346 Pn 01 09 06.3 +1.2
SNH Sunshine Point 5.33 38 Pn Pn 01 09 06.3 +1.0
SNH IAML 01 10 26.5
comp=E,73nm,1.6s
SNH IAML 01 11 06.4
comp=N,95nm,3.0s
DIV Divide 5.33 20 Pn Pn 01 09 06.1 +0.7
N19K Bonanza Creek 5.35 333 Pn Pn 01 09 05.8 +0.1
N19K Bonanza Creek 5.35 333 P Pn 01 09 05.8 +0.1
baz=149
SUA Susitna One 5.35 353 Pn Pn 01 09 05.5 -0.1
SUA IAML 01 09 50.6
comp=N,54nm,3.2s
SUA IAML 01 10 25.6
comp=E,44nm,2.3s
SUA Susitna One 5.35 353 P Pn 01 09 05.9 +0.3
baz=173
P16K Nushagak River 5.41 305 Pn 01 09 07.6 +1.2
P16K Nushagak River 5.41 305 P Pn 01 09 07.6 +1.2
baz=119
BMRM Bremner River 5.43 26 Pn Pn 01 09 07.6 +0.8
BMRM Bremner River 5.43 26 P Pn 01 09 08.1 +1.3
baz=210
O17K Koliganek Bris 5.44 315 Pn 01 09 07.2 +0.5
O17K Koliganek Bris 5.44 315 P Pn 01 09 07.2 +0.5
baz=129
PMR Palmer 5.44 2 Pn Pn 01 09 07.1 +0.3
PMR Palmer 5.44 2 P Pn 01 09 08.3 +1.6
STLK Strandline Lak 5.48 348 Pn 01 09 08.0 +0.5
BARK Barkley Ridge 5.61 38 Pn 01 09 10.5 +1.3
GHO Glory Hole Cre 5.62 3 Pn Pn 01 09 10.3 +0.9
KLU Klutina 5.64 17 Pn Pn 01 09 10.8 +1.2
KLU Klutina 5.64 17 P Pn 01 09 10.9 +1.2
baz=200
N18K Kilae Creek 5.64 326 Pn Pn 01 09 09.7 +0.1
N18K Kilae Creek 5.64 326 P Pn 01 09 09.9 +0.3
baz=141
SML Sawmill 5.68 5 Pn Pn 01 09 11.3 +1.1
SML Sawmill 5.68 5 P Pn 01 09 11.4 +1.3
baz=186
M23K Glacier View 5.71 8 Pn 01 09 12.1 +1.6
M23K Glacier View 5.71 8 P Pn 01 09 12.1 +1.6
baz=190
O16K Kokwok River B 5.74 310 Pn Pn 01 09 12.1 +1.1
O16K Kokwok River B 5.74 310 P Pn 01 09 12.1 +1.1
baz=124
SCM Sheep Creek Mo 5.78 10 Pn Pn 01 09 13.0 +1.4
SCM Sheep Creek Mo 5.78 10 P Pn 01 09 13.4 +1.8
baz=192
SVW2 Sparrevohn 5.88 330 Pn Pn 01 09 12.4 -0.5
CHNA Chernabura Isl 5.92 261 P Pn 01 09 13.1 -0.2
baz=74
CNBA Chernabura Isl 5.92 261 Pn Pn 01 09 12.8 -0.6
SKT Skwentna 5.92 350 Pn Pn 01 09 13.9 +0.5
SKT Skwentna 5.92 350 P Pn 01 09 14.8 +1.4
baz=169
VRDI Verde Repeater 5.95 29 Pn Pn 01 09 15.1 +1.1
N17K Nushagak Hills 5.97 320 Pn Pn 01 09 14.2 +0.2
N17K Nushagak Hills 5.97 320 P Pn 01 09 14.7 +0.6
baz=134
N25K Chitina, Valde 6.00 23 Pn Pn 01 09 15.8 +1.2
N25K Chitina, Valde 6.00 23 P Pn 01 09 16.2 +1.6
baz=207
M20K Styx River 6.03 343 Pn Pn 01 09 15.7 +0.6
M20K Styx River 6.03 343 P Pn 01 09 16.0 +1.0
baz=160
KIAG Kiagna River 6.04 35 Pn 01 09 16.7 +1.6
GLB Gilahina Butte 6.04 27 Pn Pn 01 09 16.4 +1.3
SAMH Samovar Hills 6.07 46 Pn 01 09 17.5 +2.1
M24K Tolsona, Glenn 6.18 14 Pn Pn 01 09 18.6 +1.5
M24K Tolsona, Glenn 6.18 14 P Pn 01 09 19.1 +2.0
baz=197

MCARA McCarthy VSAT 6.20 30 Pn Pn 01 09 19.4 +2.1
MCARA McCarthy VSAT 6.20 30 P Pn 01 09 19.0 +1.7
baz=215
PTPK Patty Peak 6.21 33 Pn 01 09 19.3 +1.8
PCA Pinnacle 6.26 47 Pn Pn 01 09 20.0 +1.9
PINM Pinnacle 6.26 47 P Pn 01 09 19.7 +1.6
baz=235
M18K Stony River 6.27 331 Pn 01 09 18.2 0.0
M18K Stony River 6.27 331 P Pn 01 09 18.2 0.0
baz=146
SDPT Sand Point 6.28 267 Pn Pn 01 09 18.0 -0.3
SDPT Sand Point 6.28 267 P Pn 01 09 18.6 +0.3
M19K Big River Lodg 6.29 338 Pn Pn 01 09 19.6 +1.1
O15K Ungalikthiuk R 6.33 303 Pn 01 09 19.9 +1.0
O15K Ungalikthiuk R 6.33 303 P Pn 01 09 20.0 +1.0
baz=115
BARN Barnard Glacie 6.37 36 Pn Pn 01 09 21.2 +1.5
WASW Wrangell South 6.38 23 Pn 01 09 21.9 +2.0
WACK Wrangell Chich 6.40 22 Pn 01 09 21.6 +1.4
PNL Peninsula 6.40 53 Pn 01 09 21.9 +1.9
PNL Peninsula 6.40 53 P Pn 01 09 22.2 +2.2
PNL Peninsula 6.40 53 P Pn 01 09 21.9 +1.9
baz=241
CTG Chitina Glacier 6.41 38 P Pn 01 09 21.9 +1.7
baz=225
CTGM Chitina Glacie 6.41 38 Pn Pn 01 09 21.8 +1.5
LOGN Logan Glacier 6.43 40 Pn Pn 01 09 22.1 +1.6
BCPM Bancas Point 6.44 50 Pn Pn 01 09 22.3 +1.7
WAT6 Susitna Watana 6.49 7 Pn 01 09 22.4 +1.0
WAT6 Susitna Watana 6.49 7 P Pn 01 09 22.4 +1.0
baz=189
WAZA Wrangell Mount 6.52 23 Pn 01 09 23.1 +1.3
N16K Nishlik Lake 6.53 315 Pn 01 09 22.9 +1.2
N16K Nishlik Lake 6.53 315 P Pn 01 09 22.9 +1.2
baz=128
HARP HAARP 6.62 18 Pn 01 09 24.5 +1.5
HARP HAARP 6.62 18 P Pn 01 09 24.5 +1.5
baz=201
L19K White Mountain 6.63 338 Pn Pn 01 09 23.2 0.0
M17K Holitna River 6.68 325 Pn Pn 01 09 24.4 +0.6
M17K Holitna River 6.68 325 P Pn 01 09 25.1 +1.2
baz=139
WAT7 Susitna Watana 6.69 2 Pn 01 09 25.3 +1.3
WAT1 Susitna Watana 6.69 4 Pn 01 09 25.6 +1.5
WAT1 Susitna Watana 6.69 4 P Pn 01 09 25.6 +1.5
baz=184
L20K Farewell, AK 6.72 342 Pn 01 09 25.6 +1.3
L20K Farewell, AK 6.72 342 P Pn 01 09 25.6 +1.3
baz=159
N15K Kwethluk River 6.90 310 Pn Pn 01 09 28.8 +1.9
N15K Kwethluk River 6.90 310 P Pn 01 09 28.6 +1.7
baz=122
M16K Timber Creek 6.95 318 Pn Pn 01 09 28.2 +0.8
M16K Timber Creek 6.95 318 P Pn 01 09 28.8 +1.3
baz=131
PS1A Pavlof South-1 6.97 269 Pn 01 09 28.1 +0.3
DHY Denali Highway 7.00 8 Pn Pn 01 09 29.6 +1.3
DHY Denali Highway 7.00 8 P Pn 01 09 29.7 +1.3
baz=190
O14K Tigyukauivet M 7.04 301 Pn Pn 01 09 29.2 +0.5
O14K Tigyukauivet M 7.04 301 P Pn 01 09 30.1 +1.4
baz=112
M26K Nabesna, AK 7.06 25 Pn Pn 01 09 30.6 +1.5
M26K Nabesna, AK 7.06 25 P Pn 01 09 31.5 +2.3
baz=211
O29M Mount Kennedy 7.08 50 Pn Pn 01 09 31.4 +2.0
O29M Mount Kennedy 7.08 50 P Pn 01 09 31.6 +2.2
baz=238
PAX Paxson 7.11 15 Pn Pn 01 09 30.6 +0.8
PAX Paxson 7.11 15 P Pn 01 09 31.3 +1.5
baz=198
PN7A Pavlof North-7 7.11 269 Pn 01 09 30.4 +0.6
P29M Windy Craggy 7.14 56 Pn Pn 01 09 31.0 +0.8
P29M Windy Craggy 7.14 56 P Pn 01 09 31.4 +1.3
baz=246
YUK2 White River 7.17 35 Pn 01 09 32.7 +2.1
YUK8 Steele Glacier 7.18 41 Pn 01 09 34.2 +3.3
YUK8 Steele Glacier 7.18 41 P Pn 01 09 34.2 +3.3
baz=228
RND Reindeer 7.26 2 Pn Pn 01 09 33.9 +2.0
YUK3 Moose Creek 7.29 36 Pn 01 09 35.5 +3.2
YUK3 Moose Creek 7.29 36 P Pn 01 09 35.5 +3.2
baz=223
M27K Edge Creek, AK 7.31 29 Pn Pn 01 09 35.4 +2.8
M27K Edge Creek, AK 7.31 29 P Pn 01 09 34.4 +1.8
baz=215
TRF Thorofare Moun 7.31 357 Pn Pn 01 09 34.2 +1.6
TRF Thorofare Moun 7.31 357 P Pn 01 09 33.9 +1.3
baz=176
YUK7 Dusty Glacier 7.38 49 Pn 01 09 36.0 +2.4
MENT Mentasta 7.38 21 Pn Pn 01 09 35.0 +1.6
CAST Castle Rocks 7.39 351 Pn Pn 01 09 35.7 +2.2
S31K Pelican 7.43 71 Pn Pn 01 09 32.8 -1.3
S31K Pelican 7.43 71 P Pn 01 09 33.0 -1.0
baz=261
M15K Kasigluk River 7.43 312 Pn 01 09 35.5 +1.4
M15K Kasigluk River 7.43 312 P Pn 01 09 35.5 +1.4
baz=123
KTH Kantishna Hill 7.44 355 Pn Pn 01 09 35.5 +1.2
N14K Kuskokwak Cree 7.50 305 Pn 01 09 36.2 +1.2
N14K Kuskokwak Cree 7.50 305 P Pn 01 09 36.2 +1.2
baz=116
L17K Donlin 7.50 326 Pn 01 09 36.1 +1.0
L17K Donlin 7.50 326 P Pn 01 09 36.1 +1.0
baz=139
TTA Tatalina 7.55 337 Pn Pn 01 09 33.4 -2.3
MCK McKinley 7.59 2 Pn Pn 01 09 37.4 +1.1
MCK McKinley 7.59 2 P Pn 01 09 37.7 +1.4
baz=182
L16K Owhat River 7.59 321 Pn Pn 01 09 37.4 +1.1
L16K Owhat River 7.59 321 P Pn 01 09 37.4 +1.1
baz=133
P30M Million Dollar 7.70 54 Pn Pn 01 09 39.7 +1.8
P30M Million Dollar 7.70 54 P Pn 01 09 39.9 +2.0
baz=244
HYT Haines Junctio 7.80 48 Pn Pn 01 09 40.9 +1.6
SIT Sitka 7.85 78 Pn Pn 01 09 38.4 -1.4
SIT Sitka 7.85 78 P Pn 01 09 38.7 -1.1
K24K Donnelly Dome 7.87 12 Pn Pn 01 09 42.5 +2.3
K24K Donnelly Dome 7.87 12 P Pn 01 09 42.5 +2.3
baz=195
L27K Beaver Creek, 7.91 26 Pn Pn 01 09 42.6 +1.9
L27K Beaver Creek, 7.91 26 P Pn 01 09 42.9 +2.1
baz=212
BCAR Beaver Creek A 7.92 26 Pn Pn 01 09 42.3 +1.4
RIDG Independent Ri 7.93 15 Pn Pn 01 09 41.7 +0.7
RIDG Independent Ri 7.93 15 P Pn 01 09 43.7 +2.6
baz=199
K17K Iditarod 7.95 329 Pn Pn 01 09 42.1 +0.8
BPAW Bear Paw Mtn. 7.99 355 Pn Pn 01 09 42.8 +1.0
M14K Bethel 8.00 310 Pn Pn 01 09 42.2 +0.4
M14K Bethel 8.00 310 P Pn 01 09 44.4 +2.5
baz=120
BWN Browne 8.03 360 Pn Pn 01 09 43.2 +1.0
FALS False Pass 8.04 266 Pn Pn 01 09 42.2 -0.2
FALS False Pass 8.04 266 P Pn 01 09 42.7 +0.3
FALS False Pass 8.04 266 P Pn 01 09 43.0 +0.6
baz=76
SKAG Skagway 8.23 61 Pn Pn 01 09 46.6 +1.7
SKAG Skagway 8.23 61 P Pn 01 09 47.0 +2.0
ISLZ Isanotski Laza 8.24 266 Pn 01 09 45.5 +0.3
ISNN Isanotski Nort 8.24 267 Pn 01 09 45.8 +0.5
BESE Bessie Mountai 8.25 67 Pn Pn 01 09 44.7 -0.7
S32K Killisnoo 8.27 75 Pn Pn 01 09 45.6 +0.1
S32K Killisnoo 8.27 75 P Pn 01 09 45.7 +0.1
baz=267
SCRK Sand Creek 8.29 17 Pn Pn 01 09 47.5 +1.5
SCRK Sand Creek 8.29 17 P Pn 01 09 47.9 +1.9
baz=202
L15K Ungalak Mounta 8.31 317 Pn 01 09 47.7 +1.5
L15K Ungalak Mounta 8.31 317 P Pn 01 09 47.7 +1.5
baz=127
N30M Aishikik Lake 8.31 45 Pn Pn 01 09 47.9 +1.6
N30M Aishikik Lake 8.31 45 P Pn 01 09 48.3 +2.0
baz=236
HDA Harding Lake 8.36 8 Pn Pn 01 09 49.2 +2.5
SSLN Shishaldin Nor 8.37 267 Pn 01 09 48.0 +0.9
R32K Eaglecrest 8.37 69 Pn Pn 01 09 48.1 +1.0
O30N Mendenhall 8.38 51 Pn Pn 01 09 48.9 +1.7
O30N Mendenhall 8.38 51 P Pn 01 09 48.9 +1.7
baz=242
M29M Somme Creek 8.42 37 P Pn 01 09 50.2 +2.4
baz=226
J19K Poorman 8.43 341 Pn Pn 01 09 47.7 0.0

J19K Poorman 8.43 341 P Pn 01 09 49.0 +1.3
baz=156
JIS Juneau Island 8.44 69 Pn Pn 01 09 49.3 +1.3
M13K Dall Lake 8.46 306 Pn Pn 01 09 49.7 +1.6
M13K Dall Lake 8.46 306 P Pn 01 09 50.4 +2.3
baz=115
CCB Clear Creek Bu 8.54 5 Pn Pn 01 09 51.2 +1.9
L14K Kuka Creek 8.60 312 Pn Pn 01 09 51.3 +1.2
L14K Kuka Creek 8.60 312 P Pn 01 09 51.7 +1.6
baz=122
K27K Chicken 8.69 22 Pn Pn 01 09 52.5 +1.1
K27K Chicken 8.69 22 P Pn 01 09 53.3 +1.9
baz=208
J25K Salcha River, 8.70 12 Pn Pn 01 09 52.4 +0.8
K15K Wolf Creek Mou 8.71 320 Pn Pn 01 09 52.8 +1.2
IL31 8.72 7 Pn Pn 01 09 52.9 +1.2
ILAR Eielson Array 8.72 7 Pn Pn 01 09 53.0 +1.2
ILAR Eielson Array 8.72 7 Pn Pn 01 09 54.1 +2.4
comp=E,0.8nm,0.3s,baz=192,slow=13,SNR=14
ILAR Sn Sn 01 11 27.1 -2.9
comp=E,0.9nm,0.3s,baz=192,slow=22,SNR=7.7
comp=E,2.0nm,0.3s
COLA College 8.77 4 Pn Pn 01 09 54.3 +1.9
COLA College 8.77 4 P Pn 01 09 55.2 +2.9
J26L Joseph Creek 8.85 17 Pn Pn 01 09 54.6 +1.0
N31M Braeburn, Yuko 8.86 47 Pn Pn 01 09 55.4 +1.7
WHY Whitehorse 8.86 54 Pn Pn 01 09 55.8 +2.0
MLY Manley 8.91 356 Pn Pn 01 09 54.3 -0.1
I20K Naaghedeneel 9.00 346 Pn Pn 01 09 56.5 +0.9
L29M L29M 9.00 35 Pn Pn 01 09 57.7 +2.1
POKR Poker Plat Res 9.03 5 Pn Pn 01 09 56.4 +0.4
P32M Atlin 9.05 61 Pn Pn 01 09 56.5 +0.1
J16K Anvik River 9.07 326 Pn Pn 01 09 56.5 0.0
M30M Minto, Yukon 9.10 40 Pn Pn 01 09 58.4 +1.5
I21K Tanana 9.12 353 Pn Pn 01 09 58.1 +0.9
DAWY Dawson 9.36 28 Pn Pn 01 10 01.6 +1.0
EGAK Eagle 9.54 22 Pn Pn 01 10 05.1 +2.1
PRP Porcupine Dome 9.57 10 Pn Pn 01 10 04.5 +1.0
Q32M Nakina River 9.64 66 Pn Pn 01 10 06.7 +2.1
H21K Melozitna Rive 9.65 352 Pn Pn 01 10 04.5 -0.1
I26K Coal Creek Min 9.66 16 Pn Pn 01 10 04.3 -0.4
P33M Teslin, Yukon 9.66 58 Pn Pn 01 10 06.3 +1.5
K29M Barlow Dome 9.72 33 Pn Pn 01 10 07.3 +1.7
H24K Noodor Dome 9.73 4 Pn Pn 01 10 07.3 +1.7
J14K Nanvaranak Lak 9.73 318 Pn Pn 01 10 06.0 +0.5
M31M Drury Creek, Y 9.79 46 Pn Pn 01 10 09.0 +2.5
N32M Quiet Lake 9.87 53 Pn Pn 01 10 09.7 +2.2
J29N Klondike Camp 9.98 29 Pn Pn 01 10 10.6 +1.4
IMAR Indian Mountai 10.06 350 Pn Pn 01 10 11.2 +1.1
UNV Unalaska Valle 10.07 264 Pn Pn 01 10 09.8 -0.4
FARO Faro, Yukon 10.23 47 Pn Pn 01 10 15.2 +2.7
R33M Jennings River 10.38 64 Pn Pn 01 10 14.2 -0.4
I28M Miner Creek 10.38 23 Pn Pn 01 10 15.5 +0.9
J30M Hart River 10.61 32 Pn Pn 01 10 20.5 +2.7
DLBC Dease Lake 10.74 70 Pn Pn 01 10 21.2 +1.7
comp=E,0.6nm,0.3s,baz=260,slow=6.7,SNR=5.9
DLBC Sn Sn 01 12 14.7 -5.1
comp=E,0.2nm,0.3s,baz=191,slow=21,SNR=1.6
comp=E,1.7nm,0.4s
F20K Avaraart Lake 11.30 347 Pn Pn 01 10 27.5 +0.4
F24K Squaw Lake 11.41 3 Pn Pn 01 10 30.9 +2.3
ANM Nome 11.49 324 Pn Pn 01 10 30.0 +0.4
BMAR Burnt Mountain 11.52 9 Pn Pn 01 10 30.5 +0.3
G29M Pine Creek 12.04 22 Pn Pn 01 10 39.0 +1.8
E25K Arctic Village 12.12 7 Pn Pn 01 10 40.4 +2.1
G30M tAoh Zrail Nji 12.50 25 Pn Pn 01 10 47.0 +3.5
D22K Ayikyak River 12.84 355 Pn Pn 01 10 50.1 +2.0
G31M Satah River 12.93 27 Pn Pn 01 10 51.4 +2.1
F31M Tsiigehtchic 13.46 27 Pn Pn 01 10 58.5 +2.0
INK Inuvik 14.18 25 Pn Pn 01 11 07.8 +1.4
INK Inuvik 14.18 25 Pn Pn 01 11 08.9 +2.5
comp=E,0.1nm,0.3s,baz=205,slow=14,SNR=14
comp=E,5.6nm,1.0s
ADK Adak 16.51 266 Pn Pn 01 11 36.2 -0.9
ADK IAmb IAmb 01 12 10.9
comp=Z,42nm,1.3s
ADK Adak 16.51 266 P Pn 01 11 37.1 -0.1
C36M Paulatuk 17.38 31 Pn 01 11 50.2 +2.2
C36M IAmb IAmb 01 11 59.9
comp=Z,4.8nm,1.3s
YKA Yellowknife Ar 18.68 56 P P 01 12 05.6 +1.9
comp=Z,0.1nm,0.3s,baz=264,slow=13,SNR=6.4
comp=Z,0.5nm,0.6s
A36M Sachs Harbour 18.82 23 P P 01 12 06.2 +1.1
A36M IAmb IAmb 01 12 18.2
comp=Z,5.7nm,0.8s
NVAR Mina Array Bea 27.25 117 P P 01 13 29.0 -1.0
comp=Z,0.7nm,0.8s,baz=309,slow=9.4,SNR=3.6
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 28.74 101 P P 01 13 43.3 -0.1
comp=Z,0.4nm,0.5s,baz=327,slow=4.5,SNR=5.4
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 41.88 110 P P 01 15 34.5 -1.6
comp=Z,0.5nm,0.8s,baz=328,slow=4.4,SNR=4.2
comp=Z,0.5nm,0.8s
SONM Songino Array 58.64 310 P P 01 17 42.4 -0.5
comp=Z,0.2nm,0.7s,baz=68,slow=8.0,SNR=1.8
comp=Z,0.2nm,0.7s
ZALV Zalesovo Beam 61.60 327 P P 01 18 03.6 +0.7
comp=Z,0.2nm,0.3s,baz=32,slow=3.8,SNR=1.7
comp=Z,0.2nm,0.3s
BVAR Borovoye Array 66.34 335 P P 01 18 35.9 +1.8
comp=Z,0.5nm,0.6s,baz=29,slow=3.3,SNR=2.9
comp=Z,0.5nm,0.6s
ESDC Sonseca Array 80.13 26 P P 01 19 56.1 +0.4
comp=Z,0.4nm,0.8s,baz=348,slow=5.6,SNR=2.8
comp=Z,0.4nm,0.8s

AEIC ***24*** *01:10:06.1±2.1,56°1N±0°1×148°6W±0°1, h12km±8km, Error ellipse: s-maj=17.2km s-min=9.0km az=171.0*
NEIC ***24*** *01:10:06.3±2.1,56°4N±0°1×148°7W±0°1, h21km±10km, ML3.5/36,ML3.2(AEIC), Error ellipse: s-maj=16.2km s-min=9.2km az=172.0*

ISC 24 01:10:01.4±2.5, 56°1N±0°1×148°63W±0°07, h10km, n63, σ1832/72, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.73	309		Pn	01 10 45.0	-0.3
KDAK					Sn	01 11 18.6	+0.3
OHAK	Old Harbor	2.80	295	Pn	Pn	01 10 44.4	-1.7
OHAK				Sn	Sn	01 11 19.0	-0.9
OHAK	Old Harbor	2.80	295	P	Pn	01 10 45.3	-0.9
baz=115							
OHAK				S	Sn	01 11 19.5	-0.5
baz=115							
SYI	Shuyak Island	3.22	322	Pn	Pn	01 10 52.6	+0.6
SYI				Sn	Sn	01 11 27.1	-3.3
Q20K	Shuyak Island	3.22	322	P	Pn	01 10 53.8	+1.7
baz=141							
Q20K				S	Sn	01 11 30.5	0.0
baz=141							
Q23K	Middleton Isla	3.54	19	Pn	Pn	01 10 55.8	-0.6
Q23K				IAML		01 11 38.1	
comp=E,120nm,1.0s							
Q23K				IAML		01 12 16.2	
comp=N,150nm,1.1s							
Q23K	Middleton Isla	3.54	19	P	Pn	01 10 57.2	+0.9
baz=199							
MID	Middleton Isla	3.54	19	Pn	Pn	01 10 55.6	-0.7
CNPM	China Poot	3.69	339	Pn	Pn	01 10 59.0	+0.5
CNPM				Sn	Sn	01 11 38.6	-3.4
BRSE	Bradley Lake S	3.80	344		Pn	01 11 01.3	+1.2
BRSE	Bradley Lake S	3.80	344	P	Pn	01 11 01.3	+1.2
baz=162							
BRLK	Bradley Lake	3.85	343	Pn	Pn	01 10 59.4	-1.3
BRLK				IAML		01 11 46.5	
comp=N,46nm,1.1s							
BRLK				IAML		01 11 47.5	
comp=E,51nm,0.8s							
Q19K	Cape Douglas,	3.91	318	Pn	Pn	01 11 01.2	-0.2
Q19K				Sn	Sn	01 11 46.2	-1.1
Q19K				IAML		01 12 23.2	
comp=N,127nm,1.1s							
Q19K				IAML		01 13 18.0	
comp=E,132nm,1.1s							
Q19K	Cape Douglas,	3.91	318	P	Pn	01 11 03.2	+1.8
baz=136							
Q19K				S	Sn	01 11 47.5	+0.2
baz=136							
P23K	Montague Islan	3.94	9		Pn	01 11 02.4	+0.5
P23K	Montague Islan	3.94	9	P	Pn	01 11 02.4	+0.5
baz=189							

KAHG	**Katmai Hook Gl**	4.00	309			**Pn**	**01 11 04.2**	**+1.5**
KAHG						**Sn**	**01 11 48.7**	**-0.9**
SEW	**Seward**	**4.02**	**354**	Pn		**Pn**	**01 11 02.0**	**-1.0**
SEW	**Seward** baz=173	**4.02**	**354**	P		**Pn**	**01 11 03.7**	**+0.7**
AU22	**Augustine Moun**	**4.13**	**324**			**Pn**	**01 11 07.5**	**+3.0**
ANCK	**Angle Creek**	**4.28**	**302**			**Pn**	**01 11 07.6**	**+1.0**
P19K	**Oil Pt**	**4.31**	**327**	Pn		**Pn**	**01 11 07.0**	**-0.1**
P19K	comp=E,66nm,0.7s			IAML			01 12 00.4	
P19K	comp=N,76nm,0.5s			IAML			01 12 01.6	
P19K	**Oil Pt** baz=144	**4.31**	**327**	P		**Pn**	**01 11 09.1**	**+2.1**
O22K	**Cooper Landing**	**4.41**	**353**	Pn		**Pn**	**01 11 07.8**	**-0.6**
KAIM	**Kayak Island**	**4.43**	**29**	Pn		**Pn**	**01 11 08.9**	**+0.4**
KAIM	comp=N,73nm,0.8s			IAML			01 12 03.5	
KAIM	comp=E,59nm,1.1s			IAML			01 12 39.8	
KAIM	**Kayak Island** baz=210	**4.43**	**29**	P		**Pn**	**01 11 10.0**	**+1.4**
HIN	**Hinchinbrook I**	**4.44**	**14**	Pn		**Pn**	**01 11 08.9**	**+0.2**
HIN	comp=E,85nm,1.1s			IAML			01 12 07.8	
SLKM	**Skilak Lake**	**4.48**	**350**			**Pn**	**01 11 10.3**	**+1.0**
CNTC	**Contact Creek**	**4.49**	**302**			**Pn**	**01 11 10.1**	**+0.5**
Q17K	**Contact Creek** baz=118	**4.50**	**302**	P		**Pn**	**01 11 10.1**	**+0.5**
O20K	**Slope Mountain**	**4.50**	**334**			**Pn**	**01 11 11.0**	**+1.3**
O20K	**Slope Mountain** baz=151	**4.50**	**334**	P		**Pn**	**01 11 11.0**	**+1.3**
IVE	**Iliamna Volcan**	**4.55**	**331**			**Pn**	**01 11 11.8**	**+1.5**
RAGM	**Ragged Mountai**	**4.76**	**24**	Pn		**Pn**	**01 11 13.9**	**+0.6**
P18K	**Big Mountain,** baz=131	**4.82**	**316**	P		**Pn**	**01 11 15.1**	**+1.0**
RSO	**Redoubt South**	**4.87**	**335**	Pn		**Pn**	**01 11 16.4**	**+1.5**
BERG	**Berg Lake**	**5.01**	**29**	Pn		**Pn**	**01 11 17.3**	**+0.6**
BERG	comp=N,57nm,1.0s			IAML			01 12 14.7	
O19K	**Port Alsworth**	**5.08**	**326**	Pn		**Pn**	**01 11 18.3**	**+0.8**
O19K	comp=E,61nm,0.5s			IAML			01 12 18.1	
O19K	**Port Alsworth** baz=142	**5.08**	**326**	P		**Pn**	**01 11 19.2**	**+1.7**
R16K	**Pilot Point**	**5.12**	**290**	Pn		**Pn**	**01 11 17.6**	**-0.5**
R16K	**Pilot Point** baz=105	**5.12**	**290**	P		**Pn**	**01 11 18.4**	**+0.4**
O18K	**Koktuh Hills**	**5.12**	**320**	Pn		**Pn**	**01 11 17.8**	**-0.4**
O18K	comp=N,16nm,0.8s			IAML			01 12 32.8	
O18K	**Koktuh Hills** baz=135	**5.12**	**320**	P		**Pn**	**01 11 19.6**	**+1.4**
P17K	**Kvichak River**	**5.21**	**310**			**Pn**	**01 11 20.6**	**+1.4**
P17K	**Kvichak River** baz=124	**5.21**	**310**	P		**Pn**	**01 11 20.6**	**+1.4**
DIV	**Divide**	**5.24**	**15**	Pn		**Pn**	**01 11 20.6**	**+0.7**
BMRM	**Bremner River**	**5.30**	**22**	Pn		**Pn**	**01 11 21.2**	**+0.5**
BMRM	**Bremner River** baz=204	**5.30**	**22**	P		**Pn**	**01 11 22.2**	**+1.5**
KLU	**Klutina**	**5.57**	**14**	Pn		**Pn**	**01 11 23.7**	**-0.6**
KLU	comp=N,15nm,0.4s			IAML			01 12 37.1	
KLU	comp=E,18nm,0.7s			IAML			01 12 40.6	
N25K	**Chitina, Valde**	**5.89**	**19**	Pn		**Pn**	**01 11 30.1**	**+1.4**
GLB	**Gilahina Butte**	**5.90**	**23**	Pn		**Pn**	**01 11 29.8**	**+0.9**
O16K	**Kokwok River B**	**6.13**	**309**	Pn		**Pn**	**01 11 32.4**	**+0.4**
BARN	**Barnard Glacie**	**6.15**	**33**	Pn		**Pn**	**01 11 33.5**	**+1.1**
CTGM	**Chitina Glacie**	**6.18**	**35**	Pn		**Pn**	**01 11 34.1**	**+1.3**
LOGN	**Logan Glacier**	**6.18**	**37**	Pn		**Pn**	**01 11 33.0**	**+0.2**
L19K	**White Mountain**	**6.87**	**335**	Pn		**Pn**	**01 11 42.6**	**+0.5**
M17K	**Holitna River**	**7.00**	**323**	Pn		**Pn**	**01 11 46.0**	**+2.1**
S31K	**Pelican**	**7.01**	**70**	Pn		**Pn**	**01 11 47.0**	**+2.9**
N15K	**Kwethluk River**	**7.30**	**309**	Pn		**Pn**	**01 11 49.3**	**+1.3**
M16K	**Timber Creek**	**7.30**	**317**	Pn		**Pn**	**01 11 50.0**	**+2.0**
L16K	**Owhat River**	**7.93**	**319**	Pn		**Pn**	**01 11 58.3**	**+1.7**
M13K	**Dall Lake**	**8.87**	**305**	Pn		**Pn**	**01 12 10.7**	**+1.3**
L14K	**Kuka Creek**	**8.98**	**311**	Pn		**Pn**	**01 12 12.4**	**+1.5**

IDC ***24*** *01:14:06.0±1.7,55°.91N×149°.66W, h0km, mb3.8/10, mbtmp3.7/15, ML3.3/5, Error ellipse: s-maj=35.2km s-min=23.6km az=168.0*

NEIC ***24*** *01:14:06.7±2.1,55°.96N±0°.08×149°.8W±0°.1, h10km±2km, mb4.2/2, ML4.1/42, ML3.5(AEIC), Error ellipse: s-maj=12.8km s-min=10.1km az=179.0*

AEIC ***24*** *01:14:13.0±1.9,56°.16N±0°.08×149°.8W±0°.1, h4km±7km, Error ellipse: s-maj=12.0km s-min=8.5km az=174.0*

ISC 24 01:14:08.3±0.9,56°.14N±0°.09×149°.87W±0°.06,h10km, n242,σ1§42/234,mb3.8/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**301**		**Pn**	**01 14 44.2**	**-0.3**
OHAK					**Sn**	**01 15 09.8**	**-1.6**
OHAK	**Old Harbor**	**2.18**	**301**	P	**Pn**	**01 14 44.7**	**+0.2**
OHAK	**Old Harbor** baz=119	**2.18**	**301**	P	Pn	01 14 38.7	-5.8
OHAK	baz=119			S	**Sn**	**01 15 04.0**	**-7.5**
OHAK	**Old Harbor** baz=117	**2.18**	**301**	P	**Pn**	**01 14 44.6**	**+0.2**
OHAK	baz=117			S	**Sn**	**01 15 10.1**	**-1.3**
KDAK	**Kodiak Island**	**2.22**	**319**	Pn	**Pn**	**01 14 45.0**	**-0.1**
KDAK	**Kodiak Island**	**2.22**	**319**	Sn	**Sn**	**01 15 11.9**	**-0.6**
KDAK	**Kodiak Island** 8.4nm,0.3s,baz=131,slow=4.5,SNR=42	**2.22**	**319**	Pn	**Pn**	**01 14 46.0**	**+0.9**
KDAK	55nm,0.3s,baz=26,slow=21,SNR=38 23nm,0.2s			Sn	**Sn**	**01 15 12.4**	**-0.1**
SYI	**Shuyak Island**	**2.83**	**332**	Pn	**Pn**	**01 14 53.3**	**-0.2**
Q20K	**Shuyak Island** baz=151	**2.83**	**332**	P	Pn	01 14 48.7	-4.8
Q20K	baz=151			S	**Sn**	**01 15 19.5**	**-8.1**
Q20K	**Shuyak Island** baz=149	**2.83**	**332**	P	**Pn**	**01 14 54.5**	**+1.0**
Q20K	baz=149			S	**Sn**	**01 15 27.8**	**+0.2**
Q19K	**Cape Douglas,**	**3.46**	**326**	Pn	**Pn**	**01 14 59.9**	**-2.3**
Q19K				Sn	**Sn**	**01 15 42.1**	**-1.0**
Q19K	**Cape Douglas,** baz=143	**3.46**	**326**	P	**Pn**	**01 14 58.7**	**-3.5**
Q19K	**Cape Douglas,** baz=141	**3.46**	**326**	P	**Pn**	**01 15 03.8**	**+1.7**
Q19K	baz=141			S	**Sn**	**01 15 43.3**	**+0.1**
KAHG	**Katmai Hook Gl**	**3.46**	**315**		**Pn**	**01 15 03.8**	**+1.5**
KAHG					**Sn**	**01 15 44.0**	**+0.6**
CNPM	**China Poot**	**3.48**	**348**	Pn	**Pn**	**01 15 02.2**	**-0.2**
CNPM				Sn	**Sn**	**01 15 42.8**	**-0.8**
CNPM	comp=E,141nm,0.5s			IAML		01 15 45.0	
CNPM	comp=N,137nm,0.3s			IAML		01 15 45.6	
KCE	**Katmai Mt Cerb**	**3.58**	**308**		**Pn**	**01 15 06.0**	**+2.2**
ACHA	**Angle Creek He**	**3.62**	**307**		**Pn**	**01 15 06.0**	**+1.5**
BRSE	**Bradley Lake S**	**3.64**	**353**		**Pn**	**01 15 04.9**	**+0.2**
BRSE	**Bradley Lake S** baz=173	**3.64**	**353**	P	**Pn**	**01 15 00.9**	**-3.8**
BRSE	**Bradley Lake S** baz=171	**3.64**	**353**	P	**Pn**	**01 15 04.9**	**+0.2**
HOM	**Homer**	**3.66**	**346**	Pn	**Pn**	**01 15 06.1**	**+1.3**
HOM	comp=N,435nm,2.2s			IAML		01 15 53.8	
BRLK	**Bradley Lake**	**3.68**	**352**	Pn	**Pn**	**01 15 05.1**	**-0.1**
ANCK	**Angle Creek**	**3.69**	**306**		**Pn**	**01 15 07.2**	**+1.8**
KVTA	**Katmai Vly 10**	**3.71**	**310**		**Pn**	**01 15 07.5**	**+1.9**
AU22	**Augustine Moun**	**3.74**	**332**		**Pn**	**01 15 07.6**	**+1.6**
KAHC	**Katmai Hardscr**	**3.75**	**314**		**Pn**	**01 15 07.5**	**+1.3**
KAHC	**Katmai Hardscr** baz=129	**3.75**	**314**	P	**Pn**	**01 15 07.5**	**+1.3**
Q23K	**Middleton Isla**	**3.80**	**28**	Pn	**Pn**	**01 15 06.2**	**-0.6**
Q23K	comp=E,336nm,2.3s			IAML		01 16 26.6	
Q23K	comp=N,267nm,2.7s			IAML		01 16 35.1	
Q23K	**Middleton Isla** baz=210	**3.80**	**28**	P	**Pn**	**01 15 06.5**	**-0.3**
MID	**Middleton Isla**	**3.80**	**28**	Pn	**Pn**	**01 15 05.5**	**-1.3**
MID	comp=N,236nm,3.0s			IAML		01 15 38.1	
MID	comp=E,320nm,2.1s			IAML		01 16 26.5	
MID	**Middleton Isla**	**3.80**	**28**	P	**Pn**	**01 15 06.5**	**-0.3**
CNTC	**Contact Creek**	**3.90**	**306**		**Pn**	**01 15 09.6**	**+1.3**
Q17K	**Contact Creek** baz=121	**3.90**	**306**	P	Pn	01 15 03.4	-4.9
Q17K	**Contact Creek** baz=120	**3.90**	**306**	P	**Pn**	**01 15 09.6**	**+1.3**
P19K	**Oil Pt**	**3.95**	**334**	Pn	**Pn**	**01 15 07.1**	**-1.9**
P19K	comp=N,357nm,0.5s			IAML		01 16 02.6	
P19K	**Oil Pt** baz=152	**3.95**	**334**	P	Pn	01 15 04.2	-4.8
P19K	**Oil Pt** baz=150	**3.95**	**334**	P	**Pn**	**01 15 10.6**	**+1.6**
SEW	**Seward**	**3.98**	**3**	Pn	**Pn**	**01 15 08.8**	**-0.6**
SEW	**Seward** baz=182	**3.98**	**3**	P	**Pn**	**01 15 09.1**	**-0.2**
P23K	**Montague Islan**	**4.09**	**18**		**Pn**	**01 15 10.9**	**+0.2**
P23K	**Montague Islan** baz=199	**4.09**	**18**	P	**Pn**	**01 15 10.9**	**+0.2**
O20K	**Slope Mountain**	**4.21**	**341**		**Pn**	**01 15 13.9**	**+1.3**
O20K	**Slope Mountain** baz=159	**4.21**	**341**	P	Pn	01 15 07.9	-4.7
O20K	**Slope Mountain** baz=158	**4.21**	**341**	P	**Pn**	**01 15 13.9**	**+1.3**
IVE	**Iliamna Volcan**	**4.23**	**338**		**Pn**	**01 15 13.4**	**+0.6**
P18K	**Big Mountain,**	**4.34**	**321**	Pn	**Pn**	**01 15 15.1**	**+0.7**
P18K	**Big Mountain,** baz=137	**4.34**	**321**	P	Pn	01 15 09.8	-4.5
P18K	**Big Mountain,** baz=136	**4.34**	**321**	P	**Pn**	**01 15 15.1**	**+0.7**
O22K	**Cooper Landing**	**4.36**	**1**	Pn	**Pn**	**01 15 14.3**	**-0.2**
O22K	comp=E,226nm,0.4s			IAML		01 16 08.4	
O22K	comp=N,266nm,0.8s			IAML		01 17 54.1	
O22K	**Cooper Landing** baz=180	**4.36**	**1**	P	**Pn**	**01 15 14.6**	**+0.2**
SLKM	**Skilak Lake**	**4.39**	**358**		**Pn**	**01 15 14.8**	**-0.1**
R16K	**Pilot Point**	**4.46**	**292**	Pn	**Pn**	**01 15 17.2**	**+1.3**
R16K	comp=N,254nm,3.0s			IAML		01 16 47.8	
R16K	**Pilot Point** baz=105	**4.46**	**292**	P	**Pn**	**01 15 17.6**	**+1.6**
RSO	**Redoubt South**	**4.59**	**342**	Pn	**Pn**	**01 15 16.6**	**-1.4**
HIN	**Hinchinbrook I**	**4.63**	**21**	Pn	**Pn**	**01 15 18.2**	**0.0**
HIN	comp=E,83nm,1.4s			IAML		01 16 13.9	
HIN	comp=N,154nm,0.7s			IAML		01 17 42.7	
P17K	**Kvichak River**	**4.67**	**314**		**Pn**	**01 15 20.7**	**+1.9**
P17K	**Kvichak River** baz=129	**4.67**	**314**	P	**Pn**	**01 15 15.0**	**-3.7**
P17K	**Kvichak River** baz=127	**4.67**	**314**	P	**Pn**	**01 15 20.7**	**+1.9**
O18K	**Koktuh Hills**	**4.68**	**325**	Pn	**Pn**	**01 15 19.2**	**+0.2**
O18K	comp=N,91nm,0.8s			IAML		01 16 16.4	
O18K	comp=E,53nm,0.7s			IAML		01 16 29.0	
O18K	**Koktuh Hills** baz=140	**4.68**	**325**	P	**Pn**	**01 15 19.9**	**+1.0**
CAPN	**Captain Cook N**	**4.69**	**352**	Pn	**Pn**	**01 15 19.1**	**0.0**
CAPN	**Captain Cook N** baz=170	**4.69**	**352**	P	**Pn**	**01 15 20.3**	**+1.3**
O19K	**Port Alsworth**	**4.70**	**332**	Pn	**Pn**	**01 15 19.8**	**+0.6**
CHGN	**Chignik**	**4.77**	**276**	Pn	**Pn**	**01 15 19.6**	**-0.5**
CHGN	comp=E,124nm,0.1s			IAML		01 17 28.8	
CHGN	comp=N,201nm,0.1s			IAML		01 17 28.8	
KAIM	**Kayak Island**	**4.78**	**35**	Pn	**Pn**	**01 15 20.1**	**-0.2**
KAIM	comp=E,195nm,2.3s			IAML		01 16 47.1	
KAIM	comp=N,187nm,2.5s			IAML		01 16 47.4	
KAIM	**Kayak Island** baz=219	**4.78**	**35**	P	**Pn**	**01 15 20.2**	**0.0**
EYAK	**Cordova Ski Ar** baz=209	**4.93**	**24**	P	**Pn**	**01 15 19.5**	**-2.8**
RC01	**Rabbit Creek A**	**4.97**	**1**	Pn	**Pn**	**01 15 22.8**	**0.0**
RC01	comp=N,44nm,0.4s			IAML		01 16 24.8	
RC01	comp=E,66nm,0.3s			IAML		01 16 25.2	
RC01	**Rabbit Creek A** baz=180	**4.97**	**1**	P	**Pn**	**01 15 23.1**	**+0.2**
RAGM	**Ragged Mountai**	**5.07**	**31**	Pn	**Pn**	**01 15 24.3**	**0.0**
RAGM	comp=E,162nm,0.8s			IAML		01 17 55.4	
GOAT	**Goat Mountain**	**5.21**	**29**		**Pn**	**01 15 26.8**	**+0.5**
N20K	**Mount Spurr** baz=165	**5.22**	**347**	P	**Pn**	**01 15 27.0**	**+0.6**
SPCR	**Spurr Chakacha**	**5.22**	**347**		**Pn**	**01 15 27.0**	**+0.6**
P16K	**Nushagak River**	**5.24**	**307**		**Pn**	**01 15 28.0**	**+1.4**
P16K	**Nushagak River** baz=120	**5.24**	**307**	P	Pn	01 15 21.9	-4.7
P16K	**Nushagak River** baz=119	**5.24**	**307**	P	**Pn**	**01 15 28.0**	**+1.4**
SPCN	**Chakachatna No**	**5.24**	**348**		**Pn**	**01 15 27.9**	**+1.2**
N19K	**Bonanza Creek**	**5.28**	**335**	Pn	**Pn**	**01 15 26.9**	**-0.3**
N19K	**Bonanza Creek** baz=151	**5.28**	**335**	P	Pn	01 15 22.8	-4.3
N19K	**Bonanza Creek** baz=150	**5.28**	**335**	P	**Pn**	**01 15 27.5**	**+0.4**
SPCP	**Crater Peak Br**	**5.28**	**348**		**Pn**	**01 15 28.8**	**+1.5**
O17K	**Koliganek Bris**	**5.30**	**316**		**Pn**	**01 15 28.2**	**+0.9**
O17K	**Koliganek Bris** baz=131	**5.30**	**316**	P	Pn	01 15 22.7	-4.7
O17K	**Koliganek Bris** baz=130	**5.30**	**316**	P	**Pn**	**01 15 28.2**	**+0.9**
KNK	**Knik Glacier**	**5.34**	**7**	Pn	**Pn**	**01 15 27.5**	**-0.5**
SUA	**Suntna One**	**5.36**	**356**	Pn	**Pn**	**01 15 27.7**	**-0.7**
BERG	**Berg Lake**	**5.37**	**35**	Pn	**Pn**	**01 15 27.5**	**-0.8**
DIV	**Divide**	**5.44**	**21**	Pn	**Pn**	**01 15 28.9**	**-0.6**
STLK	**Strandline Lak**	**5.47**	**350**		**Pn**	**01 15 30.3**	**+0.5**
PMR	**Palmer**	**5.49**	**4**	Pn	**Pn**	**01 15 29.9**	**0.0**
PMR	**Palmer**	**5.49**	**4**	P	**Pn**	**01 15 31.6**	**+1.7**
SNH	**Sunshine Point**	**5.50**	**40**	Pn	**Pn**	**01 15 29.6**	**-0.7**
N18K	**Kilae Creek**	**5.54**	**328**	Pn	**Pn**	**01 15 31.2**	**+0.4**
N18K	**Kilae Creek** baz=143	**5.54**	**328**	P	Pn	01 15 26.2	-4.6
N18K	**Kilae Creek** baz=142	**5.54**	**328**	P	**Pn**	**01 15 31.9**	**+1.1**
BMRM	**Bremner River**	**5.57**	**27**	Pn	**Pn**	**01 15 31.3**	**+0.1**
BMRM	**Bremner River** baz=211	**5.57**	**27**	P	**Pn**	**01 15 31.8**	**+0.6**
O16K	**Kokwok River B**	**5.59**	**312**	Pn	**Pn**	**01 15 31.8**	**+0.4**
O16K	**Kokwok River B** baz=125	**5.59**	**312**	P	Pn	01 15 26.8	-4.6
O16K	**Kokwok River B** baz=124	**5.59**	**312**	P	**Pn**	**01 15 32.9**	**+1.5**
GHO	**Glory Hole Cre**	**5.67**	**5**	Pn	**Pn**	**01 15 33.4**	**+0.8**
CNBA	**Chernabura Isl**	**5.68**	**261**	Pn	**Pn**	**01 15 31.1**	**-1.6**
SML	**Sawmill**	**5.74**	**7**	Pn	**Pn**	**01 15 33.7**	**+0.1**
SML	**Sawmill** baz=188	**5.74**	**7**	P	**Pn**	**01 15 34.6**	**+1.0**
KLU	**Klutina**	**5.75**	**19**	Pn	**Pn**	**01 15 33.3**	**-0.4**
KLU	**Klutina** baz=202	**5.75**	**19**	P	**Pn**	**01 15 34.5**	**+0.9**
SVW2	**Sparrevohn**	**5.80**	**331**	Pn	**Pn**	**01 15 34.7**	**+0.5**
N17K	**Nushagak Hills**	**5.85**	**322**	Pn	**Pn**	**01 15 35.8**	**+0.9**
N17K	**Nushagak Hills** baz=136	**5.85**	**322**	P	**Pn**	**01 15 31.0**	**-4.0**
SCM	**Sheep Creek Mo**	**5.86**	**12**	Pn	**Pn**	**01 15 35.9**	**+0.7**
SCM	**Sheep Creek Mo** baz=193	**5.86**	**12**	P	**Pn**	**01 15 36.3**	**+1.1**
SKT	**Skwentna**	**5.92**	**352**	Pn	**Pn**	**01 15 35.2**	**-0.8**
M20K	**Styx River**	**6.00**	**345**	Pn	**Pn**	**01 15 36.9**	**-0.2**
SDPT	**Sand Point**	**6.04**	**267**	Pn	**Pn**	**01 15 36.4**	**-1.2**
SDPT	**Sand Point**	**6.04**	**267**	P	**Pn**	**01 15 37.4**	**-0.2**
VRDI	**Verde Repeater**	**6.10**	**31**	Pn	**Pn**	**01 15 37.8**	**-0.8**
N25K	**Chitina, Valde**	**6.13**	**24**	Pn	**Pn**	**01 15 38.9**	**+0.1**
O15K	**Ungalikthiuk R** baz=116	**6.15**	**304**	P	Pn	01 15 34.1	-4.9
GLB	**Gilahina Butte**	**6.18**	**28**	Pn	**Pn**	**01 15 39.9**	**+0.4**
M18K	**Stony River**	**6.19**	**333**		**Pn**	**01 15 40.3**	**+0.6**
M18K	**Stony River** baz=148	**6.19**	**333**	P	Pn	01 15 35.0	-4.7
M18K	**Stony River** baz=147	**6.19**	**333**	P	**Pn**	**01 15 40.3**	**+0.6**
M19K	**Big River Lodg**	**6.24**	**340**	Pn	**Pn**	**01 15 40.9**	**+0.6**
SAMH	**Samovar Hills**	**6.26**	**47**		**Pn**	**01 15 41.7**	**+1.0**
M24K	**Tolsona, Glenn**	**6.28**	**16**	Pn	**Pn**	**01 15 40.4**	**-0.5**
M24K	**Tolsona, Glenn** baz=199	**6.28**	**16**	P	**Pn**	**01 15 41.3**	**+0.3**
MCARA	**McCarthy VSAT**	**6.35**	**31**	Pn	**Pn**	**01 15 41.8**	**-0.1**
MCARA	**McCarthy VSAT** baz=217	**6.35**	**31**	P	**Pn**	**01 15 42.9**	**+1.0**
PTPK	**Patty Peak**	**6.37**	**34**		**Pn**	**01 15 42.5**	**+0.3**
PCA	**Pinnacle**	**6.46**	**48**	Pn	**Pn**	**01 15 42.7**	**-0.6**
PINM	**Pinnacle** baz=236	**6.46**	**48**	P	**Pn**	**01 15 43.5**	**+0.2**
BARN	**Barnard Glacie**	**6.54**	**38**	Pn	**Pn**	**01 15 44.6**	**+0.1**
L19K	**White Mountain**	**6.58**	**339**	Pn	**Pn**	**01 15 44.8**	**-0.2**
CTGM	**Chitina Glacie**	**6.58**	**39**	Pn	**Pn**	**01 15 44.7**	**-0.5**
LOGN	**Logan Glacier**	**6.61**	**41**	Pn	**Pn**	**01 15 45.4**	**-0.2**
BCPM	**Bancas Point**	**6.64**	**51**	Pn	**Pn**	**01 15 45.7**	**-0.1**
M16K	**Timber Creek**	**6.82**	**320**	Pn	**Pn**	**01 15 49.4**	**+1.1**
DHY	**Denali Highway**	**7.07**	**9**	Pn	**Pn**	**01 15 51.5**	**-0.4**
M26K	**Nabesna, AK**	**7.20**	**26**	Pn	**Pn**	**01 15 54.2**	**+0.7**
O29M	**Mount Kennedy**	**7.28**	**50**	Pn	**Pn**	**01 15 53.6**	**-1.0**
RND	**Reindeer**	**7.31**	**4**	Pn	**Pn**	**01 15 56.0**	**+1.0**
TRF	**Thorofare Moun**	**7.34**	**359**	Pn	**Pn**	**01 15 56.2**	**+0.7**
P29M	**Windy Craggy**	**7.35**	**57**	Pn	**Pn**	**01 15 54.9**	**-0.7**
CAST	**Castle Rocks**	**7.39**	**352**	Pn	**Pn**	**01 15 57.3**	**+1.2**
KTH	**Kantishna Hill**	**7.46**	**356**	Pn	**Pn**	**01 15 57.3**	**+0.2**
M27K	**Edge Creek, AK**	**7.46**	**30**	Pn	**Pn**	**01 15 58.0**	**+0.8**
L16K	**Owhat River**	**7.47**	**322**	Pn	**Pn**	**01 15 59.3**	**+2.1**
TTA	**Tatalina**	**7.49**	**338**	Pn	**Pn**	**01 15 58.6**	**+1.1**
MENT	**Mentasta**	**7.50**	**22**	Pn	**Pn**	**01 15 59.4**	**+1.8**
K20K	**Telida**	**7.54**	**345**	Pn	**Pn**	**01 15 58.5**	**+0.3**
S31K	**Pelican**	**7.66**	**71**	Pn	**Pn**	**01 15 57.4**	**-2.4**
M14K	**Bethel**	**7.84**	**311**	Pn	**Pn**	**01 16 04.0**	**+1.8**
K17K	**Iditarod**	**7.87**	**330**	Pn	**Pn**	**01 16 02.7**	**+0.1**
HYT	**Haines Junctio**	**8.00**	**49**	Pn	**Pn**	**01 16 05.0**	**+0.4**
BPAW	**Bear Paw Mtn.**	**8.01**	**356**	Pn	**Pn**	**01 16 04.2**	**-0.4**
RIDG	**Independent Ri**	**8.03**	**16**	Pn	**Pn**	**01 16 04.1**	**-0.8**
L27K	**Beaver Creek,**	**8.05**	**27**	Pn	**Pn**	**01 16 05.3**	**+0.2**
BCAR	**Beaver Creek A**	**8.06**	**27**	Pn	**Pn**	**01 16 05.7**	**+0.3**
BWN	**Browne**	**8.06**	**1**	Pn	**Pn**	**01 16 07.2**	**+1.9**
SIT	**Sitka**	**8.08**	**77**	P	**Pn**	**01 16 01.9**	**-3.7**
J18K	**Innoko River**	**8.11**	**338**	Pn	**Pn**	**01 16 07.8**	**+1.8**
M13K	**Dall Lake**	**8.29**	**307**	Pn	**Pn**	**01 16 09.6**	**+1.2**
J20K	**Nowinta River**	**8.34**	**347**	Pn	**Pn**	**01 16 08.4**	**-0.6**
J19K	**Poorman**	**8.38**	**342**	Pn	**Pn**	**01 16 10.2**	**+0.5**
SCRK	**Sand Creek**	**8.39**	**18**	Pn	**Pn**	**01 16 09.7**	**-0.2**
HDA	**Harding Lake**	**8.42**	**9**	Pn	**Pn**	**01 16 11.8**	**+1.6**
L14K	**Kuka Creek**	**8.45**	**313**	Pn	**Pn**	**01 16 12.5**	**+1.9**
S32K	**Killisnoo**	**8.50**	**75**	Pn	**Pn**	**01 16 09.0**	**-2.3**
N30M	**Aishikik Lake**	**8.51**	**46**	Pn	**Pn**	**01 16 11.2**	**-0.2**
O30N	**Mendenhall**	**8.58**	**52**	Pn	**Pn**	**01 16 11.8**	**-0.7**
K15K	**Wolf Creek Mou**	**8.58**	**321**	Pn	**Pn**	**01 16 14.3**	**+1.9**
M29M	**Somme Creek**	**8.60**	**38**	Pn	**Pn**	**01 16 13.2**	**+0.5**
CCB	**Clear Creek Bu**	**8.60**	**6**	Pn	**Pn**	**01 16 13.3**	**+0.7**
JIS	**Juneau Island**	**8.68**	**69**	Pn	**Pn**	**01 16 11.1**	**-2.6**
IL31		**8.79**	**8**	Pn	**Pn**	**01 16 16.9**	**+1.8**
ILAR	**Eielson Array**	**8.79**	**8**	Pn	**Pn**	**01 16 16.4**	**+1.2**
ILAR	**Eielson Array** comp=E,0.6nm,0.3s,baz=188,slow=14,SNR=21	**8.79**	**8**	Pn	**Pn**	**01 16 14.2**	**-0.9**
ILAR	comp=E,0.5nm,0.3s,baz=206,slow=22,SNR=7.5 comp=E,1.7nm,0.5s			Sn	**Sn**	**01 17 52.2**	**-2.0**
J25K	**Salcha River,**	**8.79**	**13**	Pn	**Pn**	**01 16 15.9**	**+0.6**
COLA	**College**	**8.82**	**6**	P	**Pn**	**01 16 17.0**	**+1.4**
MLY	**Manley**	**8.93**	**358**	Pn	**Pn**	**01 16 16.7**	**-0.6**
J26L	**Joseph Creek**	**8.95**	**18**	Pn	**Pn**	**01 16 17.6**	**+0.1**
I23K	**Minto, Yukon-K**	**9.04**	**1**	Pn	**Pn**	**01 16 18.8**	**+0.1**
N31M	**Braeburn, Yuko**	**9.06**	**48**	Pn	**Pn**	**01 16 19.8**	**+0.9**
WHY	**Whitehorse**	**9.07**	**54**	Pn	**Pn**	**01 16 19.0**	**-0.3**
POKR	**Poker Plat Res**	**9.09**	**7**	Pn	**Pn**	**01 16 21.4**	**+2.1**
I21K	**Tanana**	**9.13**	**354**	Pn	**Pn**	**01 16 21.3**	**+1.4**
L29M	**L29M**	**9.17**	**36**	Pn	**Pn**	**01 16 21.4**	**+0.9**
M30M	**Minto, Yukon**	**9.27**	**41**	Pn	**Pn**	**01 16 22.7**	**+0.8**
P32M	**Atlin**	**9.28**	**61**	Pn	**Pn**	**01 16 20.6**	**-1.4**
U33K	**Whale Pass**	**9.36**	**83**	Pn	**Pn**	**01 16 18.8**	**-4.2**
CRAG	**Craig**	**9.46**	**87**	P	**Pn**	**01 16 22.0**	**-2.4**
DAWY	**Dawson**	**9.51**	**29**	Pn	**Pn**	**01 16 25.4**	**+0.3**
J14K	**Nanuranak Lak**	**9.60**	**319**	Pn	**Pn**	**01 16 28.5**	**+2.2**
PRP	**Porcupine Dome**	**9.64**	**11**	Pn	**Pn**	**01 16 27.7**	**+0.6**
H21K	**Melozitna Rive**	**9.66**	**353**	Pn	**Pn**	**01 16 26.8**	**-0.4**
EGAK	**Eagle**	**9.66**	**23**	Pn	**Pn**	**01 16 28.8**	**+1.6**
I26K	**Coal Creek Min**	**9.76**	**17**	Pn	**Pn**	**01 16 29.0**	**+0.5**
H24K	**Noodor Dome**	**9.78**	**5**	Pn	**Pn**	**01 16 30.6**	**+1.8**
UNV	**Unalaska Valle**	**9.83**	**263**	P	**Pn**	**01 16 28.1**	**-1.4**
Q32M	**Nakina River**	**9.87**	**66**	Pn	**Pn**	**01 16 30.0**	**-0.2**
K29M	**Barlow Dome**	**9.88**	**34**	Pn	**Pn**	**

mbtmp3.8/19,ML3.1/4,Error ellipse: s-maj=25.3km s-min=16.2km az=42.0
NEIC 24 01:15:29.2±1.8,55°52N±0.06×149°2W±0.1,h10km±2km, mb3.8/2,ML3.6/22,ML3.2(AEIC),Error ellipse: s-maj=15.0km s-min=8.2km az=124.0
AEIC 24 01:15:32.8±2.1,55°6N±0.1×149°1W±0.1,h10km±8km, Error ellipse: s-maj=16.7km s-min=10.4km az=164.0
ISC 24 01:15:30.1±0.8,55°66N±0.10×149°22W±0.08,h10km,n93, σ1§21/93,mb4.2/14,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.75**	**306**	Pn	Pn	01 16 12.5	-1.7
KDAK	**Kodiak Island**	**2.83**	**320**	Pn	**Pn**	**01 16 14.4**	**-0.9**
KDAK	**Kodiak Island**	**2.83**	**320**	Pn	**Pn**	**01 16 13.9**	**-1.3**
	1.3nm,0.3s,baz=129,slow=13,SNR=1.9						
KDAK				Sn	**Sn**	**01 16 47.1**	**-2.2**
	3.7nm,0.3s,baz=85,slow=14,SNR=1.3						
	22nm,0.3s						
SYI	**Shuyak Island**	**3.43**	**331**	Pn	**Pn**	**01 16 23.7**	**+0.2**
SYI				IAML		01 17 12.3	
	comp=E,91nm,1.4s						
SYI				IAML		01 17 28.9	
	comp=N,54nm,1.3s						
CNPM	**China Poot**	**4.03**	**345**	Pn	**Pn**	**01 16 31.5**	**-0.3**
CNPM				IAML		01 17 25.1	
	comp=E,57nm,1.4s						
CNPM				IAML		01 17 44.0	
	comp=N,45nm,1.5s						
Q19K	**Cape Douglas,**	**4.07**	**326**	Pn	**Pn**	**01 16 34.1**	**+1.7**
Q23K	**Middleton Isla**	**4.09**	**21**	Pn	**Pn**	**01 16 31.6**	**-1.0**
Q23K				IAML		01 17 10.7	
	comp=N,172nm,1.2s						
MID	**Middleton Isla**	**4.09**	**21**	Pn	**Pn**	**01 16 30.9**	**-1.7**
BRLK	**Bradley Lake**	**4.22**	**348**	Pn	**Pn**	**01 16 33.0**	**-1.4**
BRLK				IAML		01 17 13.8	
	comp=N,43nm,1.4s						
BRLK				IAML		01 17 36.7	
	comp=E,38nm,1.5s						
P19K	**Oil Pt**	**4.55**	**333**	Pn	**Pn**	**01 16 39.2**	**+0.2**
P19K				IAML		01 17 40.7	
	comp=E,93nm,1.3s						
P19K				IAML		01 18 00.6	
	comp=N,92nm,0.9s						
P18K	**Big Mountain,**	**4.95**	**322**	Pn	**Pn**	**01 16 45.0**	**+0.5**
P18K				IAML		01 17 41.2	
	comp=N,22nm,1.2s						
HIN	**Hinchinbrook I**	**4.97**	**16**	Pn	**Pn**	**01 16 44.4**	**-0.3**
HIN				IAML		01 18 05.9	
	comp=E,78nm,1.0s						
KAIM	**Kayak Island**	**4.99**	**29**	Pn	**Pn**	**01 16 44.7**	**-0.3**
KAIM				IAML		01 17 43.7	
	comp=E,75nm,1.2s						
O19K	**Port Alsworth**	**5.30**	**331**	Pn	**Pn**	**01 16 51.0**	**+1.7**
RAGM	**Ragged Mountai**	**5.32**	**25**	Pn	**Pn**	**01 16 49.5**	**-0.1**
SNH	**Sunshine Point**	**5.67**	**34**	Pn	**Pn**	**01 16 53.4**	**-0.9**
CNBA	**Chernabura Isl**	**5.99**	**266**	Pn	**Pn**	**01 16 57.8**	**-0.9**
KLU	**Klutina**	**6.10**	**15**	Pn	**Pn**	**01 17 00.7**	**+0.4**
GLB	**Gilahina Butte**	**6.45**	**24**	Pn	**Pn**	**01 17 05.8**	**+0.6**
MCARA	**McCarthy VSAT**	**6.59**	**27**	Pn	**Pn**	**01 17 07.9**	**+0.9**
N15K	**Kwethluk River**	**7.34**	**312**	Pn	**Pn**	**01 17 17.1**	**-0.2**
M16K	**Timber Creek**	**7.43**	**320**	Pn	**Pn**	**01 17 18.6**	**+0.2**
O14K	**Tigyukauivet M**	**7.43**	**304**	Pn	**Pn**	**01 17 17.8**	**-0.6**
HYT	**Haines Junctio**	**8.06**	**45**	Pn	**Pn**	**01 17 26.6**	**-0.6**
L27K	**Beaver Creek,**	**8.33**	**24**	Pn	**Pn**	**01 17 30.8**	**0.0**
SKAG	**Skagway**	**8.38**	**57**	Pn	**Pn**	**01 17 30.9**	**-0.5**
RIDG	**Independent Ri**	**8.40**	**13**	Pn	**Pn**	**01 17 34.5**	**+2.6**
M14K	**Bethel**	**8.44**	**312**	Pn	**Pn**	**01 17 31.9**	**-0.4**
R32K	**Eaglecrest**	**8.45**	**66**	Pn	**Pn**	**01 17 32.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**8.52**	**355**	Pn	**Pn**	**01 17 32.8**	**-0.6**
N30M	**Aishikik Lake**	**8.60**	**42**	Pn	**Pn**	**01 17 34.8**	**+0.3**
O30N	**Mendenhall**	**8.61**	**48**	Pn	**Pn**	**01 17 34.3**	**-0.4**
J18K	**Innoko River**	**8.70**	**337**	Pn	**Pn**	**01 17 38.1**	**+2.2**
M29M	**Somme Creek**	**8.77**	**35**	Pn	**Pn**	**01 17 36.9**	**0.0**
HDA	**Harding Lake**	**8.86**	**6**	Pn	**Pn**	**01 17 40.2**	**+2.2**
M13K	**Dall Lake**	**8.88**	**308**	Pn	**Pn**	**01 17 37.4**	**-0.9**
CCB	**Clear Creek Bu**	**9.05**	**4**	Pn	**Pn**	**01 17 41.3**	**+0.7**
L14K	**Kuka Creek**	**9.05**	**314**	Pn	**Pn**	**01 17 41.5**	**+0.8**
WHY	**Whitehorse**	**9.08**	**51**	Pn	**Pn**	**01 17 39.9**	**-1.3**
N31M	**Braeburn, Yuko**	**9.12**	**45**	Pn	**Pn**	**01 17 41.6**	**-0.1**
K27K	**Chicken**	**9.13**	**20**	Pn	**Pn**	**01 17 42.3**	**+0.5**
P32M	**Atlin**	**9.20**	**58**	Pn	**Pn**	**01 17 42.6**	**-0.1**
ILAR	**Eielson Array**	**9.22**	**6**	Pn	**Pn**	**01 17 43.8**	**+0.9**
	comp=E,0.2nm,0.3s,baz=193,slow=13,SNR=4.6						
ILAR				Sn	**Sn**	**01 19 23.1**	**-3.5**
	baz=186,slow=21						
	comp=E,1.2nm,0.5s						
J26L	**Joseph Creek**	**9.31**	**15**	Pn	**Pn**	**01 17 44.4**	**+0.1**
L29M	**L29M**	**9.36**	**33**	Pn	**Pn**	**01 17 45.9**	**+0.9**
M30M	**Minto, Yukon**	**9.42**	**38**	Pn	**Pn**	**01 17 45.8**	**+0.1**
J16K	**Anvik River**	**9.58**	**328**	Pn	**Pn**	**01 17 48.1**	**+0.2**
I21K	**Tanana**	**9.65**	**353**	Pn	**Pn**	**01 17 49.9**	**+1.0**
DAWY	**Dawson**	**9.76**	**26**	Pn	**Pn**	**01 17 51.3**	**+0.9**
P33M	**Teslin, Yukon**	**9.83**	**56**	Pn	**Pn**	**01 17 51.3**	**-0.1**
M31M	**Drury Creek, Y**	**10.07**	**43**	Pn	**Pn**	**01 17 56.0**	**+1.4**
K29M	**Barlow Dome**	**10.09**	**31**	Pn	**Pn**	**01 17 55.6**	**+0.5**
K13K	**Kusilvak Mount**	**10.17**	**315**	Pn	**Pn**	**01 17 56.2**	**+0.2**
H21K	**Melozitna Rive**	**10.19**	**352**	Pn	**Pn**	**01 17 56.1**	**-0.1**
J14K	**Nanvaranak Lak**	**10.21**	**320**	Pn	**Pn**	**01 17 59.0**	**+2.6**
R33M	**Jennings River**	**10.49**	**62**	Pn	**Pn**	**01 17 59.6**	**-0.9**
FARO	**Faro, Yukon**	**10.50**	**45**	Pn	**Pn**	**01 18 00.8**	**+0.3**
H17K	**Granite Mounta**	**10.70**	**335**	Pn	**Pn**	**01 18 04.1**	**+0.9**
J30M	**Hart River**	**10.99**	**30**	Pn	**Pn**	**01 18 09.2**	**+1.9**
G21K	**Allakaket**	**11.09**	**351**	Pn	**Pn**	**01 18 09.7**	**+1.1**
G24K	**Hadweenzic Riv**	**11.12**	**4**	Pn	**Pn**	**01 18 10.3**	**+1.4**
I30M	**Mount Dempster**	**11.47**	**28**	Pn	**Pn**	**01 18 16.7**	**+2.8**
F21K	**Alatna River**	**11.78**	**352**	Pn	**Pn**	**01 18 19.1**	**+1.1**
H29M	**Whitestone**	**11.81**	**22**	Pn	**Pn**	**01 18 21.0**	**+2.6**
F20K	**Avaraart Lake**	**11.84**	**347**	Pn	**Pn**	**01 18 19.3**	**+0.6**
ANM	**Nome**	**11.99**	**325**	Pn	**Pn**	**01 18 21.9**	**+1.1**
F28M	**Old Crow**	**12.77**	**16**	Pn	**Pn**	**01 18 33.3**	**+1.7**
G31M	**Satah River**	**13.34**	**26**	Pn	**Pn**	**01 18 40.6**	**+1.5**
D25K	**Kavik River**	**13.78**	**4**	Pn	**Pn**	**01 18 46.2**	**+0.9**
E29M	**Blow River**	**13.80**	**18**	Pn	**Pn**	**01 18 46.3**	**+0.8**
F31M	**Tsiigehtchic**	**13.87**	**25**	Pn	**Pn**	**01 18 48.2**	**+1.7**
D27M	**Malcolm River**	**14.14**	**12**	Pn	**Pn**	**01 18 53.1**	**+2.9**
INK	**Inuvik**	**14.61**	**24**	Pn	**Pn**	**01 18 56.8**	**+0.3**
INK	**Inuvik**	**14.61**	**24**	Pn	**Pn**	**01 18 57.4**	**+0.9**
	comp=E,0.1nm,0.3s,baz=204,slow=13,SNR=7.6						
	comp=E,4.6nm,0.9s						
C36M	**Paulatuk**	**17.77**	**30**		**Pn**	**01 19 37.5**	**+0.4**
C36M				IAmb	IAmb	01 19 38.4	
	comp=Z,5.0nm,0.9s						
YKA	**Yellowknife Ar**	**18.87**	**55**	P	**P**	**01 19 50.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=3.9						
	comp=Z,0.5nm,0.8s						
A36M	**Sachs Harbour**	**19.25**	**23**	P	**P**	**01 19 55.6**	**+1.5**
A36M				IAmb	IAmb	01 19 58.0	
	comp=Z,8.2nm,0.8s						
NEW	**Newport**	**20.97**	**97**	P	**P**	**01 20 11.1**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=299,slow=10,SNR=1.6						
	comp=Z,0.6nm,0.3s						
NVAR	**Mina Array Bea**	**26.89**	**117**	P	**P**	**01 21 10.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=7.1,slow=6.0,SNR=3.6						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**28.51**	**100**	P	P	01 21 23.4	-2.4
	comp=Z,0.1nm,0.5s,baz=311,slow=7.1,SNR=1.9						
	comp=Z,0.1nm,0.5s						
NRIK	**Noril'sk**	**48.70**	**337**	P	**P**	**01 24 14.2**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=57,slow=5.4,SNR=3.5						
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**55.06**	**2**	P	**P**	**01 25 00.9**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=14,slow=7.5,SNR=4.7						
	comp=Z,2.2nm,0.7s						
SONM	**Songino Array**	**59.07**	**310**	P	**P**	**01 25 28.9**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=65,slow=5.1,SNR=3.9						
	comp=Z,0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**62.11**	**327**	P	**P**	**01 25 50.5**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=30,slow=6.8,SNR=5.8						
	comp=Z,1.2nm,0.7s						
NOA	**NORSAR Array B**	**62.62**	**11**	P	**P**	**01 25 54.3**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=350,slow=9.8,SNR=2.9						
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**63.18**	**3**	P	**P**	**01 25 58.4**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=356,slow=8.0,SNR=9.3						
	comp=Z,2.7nm,0.7s						
BVAR	**Borovoye Array**	**66.87**	**335**	P	**P**	**01 26 21.9**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=46,slow=8.5,SNR=6.4						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**66.90**	**329**	P	**P**	**01 26 21.4**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=29,slow=6.8,SNR=6.4						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**69.13**	**325**	P	**P**	**01 26 36.4**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=41,slow=6.0,SNR=9.6						
	comp=Z,1.3nm,0.8s						
AKASG	**Malin Array Be**	**74.00**	**1**	P	**P**	**01 27 05.7**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=360,slow=6.1,SNR=4.2						
	comp=Z,0.9nm,0.7s						
ESDC	**Sonseca Array**	**80.53**	**26**	P	**P**	**01 27 43.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=338,slow=5.8,SNR=4.8						
	comp=Z,0.6nm,0.8s						
GEYT	**Alibeck**	**83.90**	**339**	P	**P**	**01 28 01.5**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=45,slow=4.4,SNR=3.9						
	comp=Z,1.1nm,0.7s						
QSPA	**South Pole Qui**	**145.45**	**180**	PKPbc	**PKPdf**	**01 35 05.3**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=25,slow=1.7,SNR=5.4						

AEIC 24 01:21:46.0±2.5,56°0N±0.1×149°4W±0.1,h3km±9km,Error ellipse: s-maj=18.2km s-min=10.8km az=163.0
NEIC 24 01:21:44.8±1.8,56°13N±0.09×149°5W±0.1,h20km±11km, ML3.1/24,ML2.9(AEIC),Error ellipse: s-maj=12.9km s-min=10.6km az=160.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.38**	**299**		Pn	01 22 21.8	-0.8
OHAK					Sn	01 22 50.4	-0.7
KDAK	**Kodiak Island**	**2.38**	**315**	Pn	Pn	01 22 21.7	-1.0
KDAK				Sn	Sn	01 22 51.1	-0.1
SYI	**Shuyak Island**	**2.95**	**329**	Pn	Pn	01 22 29.4	-1.1
SYI				Sn	Sn	01 23 04.7	-0.5
SYI				IAML		01 23 13.6	
	comp=N,35nm,1.3s						
SYI				IAML		01 23 16.9	
	comp=E,40nm,1.4s						
CNPM	**China Poot**	**3.54**	**345**	Pn	Pn	01 22 38.0	-0.5
CNPM				IAML		01 23 09.6	
	comp=N,18nm,1.5s						
CNPM				IAML		01 23 14.1	
	comp=E,34nm,1.5s						
CNPM				Sn	Sn	01 23 18.8	-1.0
Q19K	**Cape Douglas,**	**3.60**	**323**	Pn	Pn	01 22 39.5	0.0
Q19K				Sn	Sn	01 23 22.4	+1.1
KAHG	**Katmai Hook Gl**	**3.64**	**313**		Pn	01 22 40.5	+0.5
BRSE	**Bradley Lake S**	**3.69**	**350**		Pn	01 22 40.5	-0.1
BRSE					Sn	01 23 24.1	+0.7
BRLK	**Bradley Lake**	**3.72**	**349**	Pn	Pn	01 22 40.1	-1.1
BRLK				IAML		01 23 35.7	
	comp=N,14nm,1.5s						
BRLK				IAML		01 24 21.2	
	comp=E,18nm,1.3s						
ACHA	**Angle Creek He**	**3.81**	**306**		Pn	01 22 43.8	+1.4
ANCK	**Angle Creek**	**3.88**	**305**		Pn	01 22 45.0	+1.6
P23K	**Montague Islan**	**4.03**	**15**		Pn	01 22 45.5	+0.2
P19K	**Oil Pt**	**4.06**	**332**	Pn	Pn	01 22 46.1	+0.3
P19K				IAML		01 24 21.0	
	comp=N,56nm,1.3s						
P19K				IAML		01 24 58.5	
	comp=E,65nm,1.3s						
CNTC	**Contact Creek**	**4.10**	**304**		Pn	01 22 46.7	+0.4
O20K	**Slope Mountain**	**4.30**	**338**		Pn	01 22 49.1	0.0
IVE	**Iliamna Volcan**	**4.33**	**336**		Pn	01 22 48.9	-0.6
SLKM	**Skilak Lake**	**4.41**	**355**		Pn	01 22 50.5	0.0
P18K	**Big Mountain,**	**4.50**	**319**	Pn	Pn	01 22 51.4	-0.4
HIN	**Hinchinbrook I**	**4.55**	**19**	Pn	Pn	01 22 50.9	-1.7
HIN				IAML		01 24 36.7	
	comp=N,35nm,1.5s						
KAIM	**Kayak Island**	**4.66**	**33**	Pn	Pn	01 22 54.0	+0.1
RSO	**Redoubt South**	**4.68**	**340**	Pn	Pn	01 22 52.3	-2.1
R16K	**Pilot Point**	**4.68**	**291**	Pn	Pn	01 22 52.1	-2.1
RDT	**Redoubt**	**4.72**	**342**		Pn	01 22 54.9	+0.1
N19K	**Bonanza Creek**	**5.38**	**333**	Pn	Pn	01 23 03.6	-0.4
N19K				IAML		01 23 46.9	
	comp=E,5.3nm,1.4s						
N19K				IAML		01 26 27.9	
	comp=N,5.7nm,1.5s						
GHO	**Glory Hole Cre**	**5.67**	**3**	Pn	Pn	01 23 08.1	+0.3
N18K	**Kilae Creek**	**5.68**	**326**	Pn	Pn	01 23 07.2	-0.7
O16K	**Kokwok River B**	**5.77**	**311**	Pn	Pn	01 23 09.5	+0.4
SCM	**Sheep Creek Mo**	**5.83**	**10**	Pn	Pn	01 23 11.2	+1.1
M17K	**Holitna River**	**6.71**	**325**	Pn	Pn	01 23 22.6	+0.4
N15K	**Kwethluk River**	**6.93**	**310**	Pn	Pn	01 23 26.4	+1.3
M16K	**Timber Creek**	**6.98**	**319**	Pn	Pn	01 23 26.8	+1.0
H21K	**Melozitna Rive**	**9.70**	**352**	Pn	Pn	01 24 03.9	+0.9

AEIC 24 01:24:03.1±1.7,56°0N±0.1×149°7W±0.2,h4km±8km,Error ellipse: s-maj=16.1km s-min=11.7km az=161.0
NEIC 24 01:24:01.1±1.4,56°09N±0.07×149°8W±0.1,h21km±12km, ML3.1/22,ML2.8(AEIC),Error ellipse: s-maj=11.6km s-min=10.3km az=62.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.26**	**302**		Pn	01 24 36.1	-1.1
KDAK	**Kodiak Island**	**2.30**	**319**	Pn	Pn	01 24 37.1	-0.6
KDAK				Sn	Sn	01 25 05.0	-0.3
SYI	**Shuyak Island**	**2.90**	**332**	Pn	Pn	01 24 45.7	-0.3
SYI				Sn	Sn	01 25 18.9	-1.3
SYI				IAML		01 26 02.3	
	comp=N,24nm,1.5s						
SYI				IAML		01 26 24.9	
	comp=E,34nm,1.4s						
CNPM	**China Poot**	**3.53**	**348**	Pn	Pn	01 24 54.1	-0.6
CNPM				Sn	Sn	01 25 35.6	-0.2
CNPM				IAML		01 26 08.5	
	comp=E,19nm,1.3s						
Q19K	**Cape Douglas,**	**3.54**	**325**	Pn	Pn	01 24 54.5	-0.2
Q19K				IAML		01 25 36.7	
	comp=N,140nm,1.5s						
KAHG	**Katmai Hook Gl**	**3.55**	**315**		Pn	01 24 56.0	+1.1
KAHG					Sn	01 25 36.7	+0.5
BRSE	**Bradley Lake S**	**3.70**	**352**		Pn	01 24 57.0	+0.1
BRSE					Sn	01 25 40.6	+0.7
ACHA	**Angle Creek He**	**3.71**	**307**		Pn	01 24 57.6	+0.5
BRLK	**Bradley Lake**	**3.73**	**351**	Pn	Pn	01 24 56.5	-0.9
BRLK				IAML		01 26 20.2	
	comp=N,11nm,1.4s						
BRLK				IAML		01 27 02.4	
	comp=E,17nm,1.5s						
Q23K	**Middleton Isla**	**3.81**	**27**	Pn	Pn	01 24 57.3	-1.1
AUCH	**Augustine Cone**	**3.83**	**330**		Pn	01 24 59.2	+0.4
CNTC	**Contact Creek**	**3.99**	**306**		Pn	01 25 00.6	-0.4
P23K	**Montague Islan**	**4.11**	**17**		Pn	01 25 02.9	+0.3
O20K	**Slope Mountain**	**4.28**	**340**		Pn	01 25 05.4	+0.4
IVE	**Iliamna Volcan**	**4.30**	**338**		Pn	01 25 05.4	+0.1
O22K	**Cooper Landing**	**4.40**	**0**	Pn	Pn	01 25 05.6	-1.0
O22K				IAML		01 26 44.6	
	comp=N,46nm,1.1s						
O22K				IAML		01 27 16.1	
	comp=E,47nm,1.1s						
P18K	**Big Mountain,**	**4.42**	**321**	Pn	Pn	01 25 06.9	-0.1
P18K				IAML		01 27 41.9	
	comp=E,6.5nm,1.5s						
SLKM	**Skilak Lake**	**4.44**	**357**		Pn	01 25 07.1	0.0
R16K	**Pilot Point**	**4.55**	**292**	Pn	Pn	01 25 07.7	-0.8
HIN	**Hinchinbrook I**	**4.64**	**20**	Pn	Pn	01 25 10.1	+0.1
HIN				IAML		01 25 53.4	
	comp=E,47nm,1.4s						
HIN				IAML		01 27 14.5	
	comp=N,48nm,1.4s						
P17K	**Kvichak River**	**4.75**	**314**		Pn	01 25 12.4	+1.0
N18K	**Kilae Creek**	**5.62**	**327**	Pn	Pn	01 25 23.3	0.0
O16K	**Kokwok River B**	**5.67**	**312**	Pn	Pn	01 25 23.8	-0.2
M17K	**Holitna River**	**6.66**	**326**	Pn	Pn	01 25 37.3	-0.3
N15K	**Kwethluk River**	**6.83**	**311**	Pn	Pn	01 25 40.8	+0.9
M16K	**Timber Creek**	**6.90**	**320**	Pn	Pn	01 25 41.6	+0.7

MOS 24 01:28:48.0±1.2,55°78N×149°03W,h12km,mb4.5/13, Error ellipse: s-maj=19.6km s-min=6.5km az=93.0
IDC 24 01:28:48.6±0.8,55°68N×149°24W,h0km,mb4.0/19, mbtmp4.0/24,ML3.7/5,MS3.3/2,Error ellipse: s-maj=20.7km s-min=13.6km az=30.0
NEIC 24 01:28:48.1±2.3,55°60N±0.08×149°3W±0.1,h10km±2km, mb4.1/4,ML4.2/38,ML3.9(AEIC),Error ellipse: s-maj=13.9km s-min=9.7km az=165.0
AEIC 24 01:28:53.8±2.1,55°80N±0.09×149°2W±0.1,h1km±7km, Error ellipse: s-maj=13.1km s-min=8.4km az=174.0
ISC 24 01:28:50.6±0.6,55°83N±0.07×149°26W±0.05,h10km, n304,σ0§92/285,mb4.4/29,8C-5D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.63**	**304**		**Pn**	**01 29 31.9**	**-1.1**
OHAK					**Sn**	**01 30 02.0**	**-3.0**
OHAK				IAML		01 30 03.5	
	comp=E,510nm,0.5s						
OHAK				IAML		01 30 03.6	
	comp=N,428nm,0.5s						
OHAK	**Old Harbor**	**2.63**	**304**	P	**Pn**	**01 29 32.1**	**-0.9**
OHAK	**Old Harbor**	**2.63**	**304**	P	**Pn**	**01 29 32.2**	**-0.9**
	baz=124						
OHAK				S	**Sn**	**01 30 02.6**	**-2.4**
	baz=124						
KDAK	**Kodiak Island**	**2.68**	**318**	Pn	**Pn**	**01 29 33.2**	**-0.5**
KDAK	**Kodiak Island**	**2.68**	**318**	Sn	**Sn**	**01 30 03.9**	**-2.3**
KDAK	**Kodiak Island**	**2.68**	**318**	Pn	**Pn**	**01 29 33.6**	**-0.1**
	comp=N,15nm,0.3s,baz=138,slow=8.2,SNR=63						
KDAK				Sn	**Sn**	**01 30 04.1**	**-2.1**
	comp=N,13nm,0.3s,baz=22,slow=21,SNR=9.2						
KDAK				LR	LR	01 30 53.9	
	comp=N,378nm,18.7s,baz=134,slow=45						
	comp=N,89nm,0.6s						
Q20K	**Shuyak Island**	**3.27**	**330**	P	**Pn**	**01 29 42.0**	**+0.2**
	baz=149						
Q20K				S	**Sn**	**01 30 20.3**	**-0.4**
	baz=149						
SYI	**Shuyak Island**	**3.27**	**330**	Pn	**Pn**	**01 29 41.4**	**-0.4**
SYI				Sn	**Sn**	**01 30 20.0**	**-0.7**
CNPM	**China Poot**	**3.86**	**345**	Pn	Pn	01 29 48.7	-1.2
CNPM				Sn	**Sn**	**01 30 33.7**	**-1.6**
CNPM				IAML		01 30 36.3	
	comp=N,154nm,0.5s						
Q19K	**Cape Douglas,**	**3.91**	**324**	Pn	**Pn**	**01 29 51.0**	**+0.3**
Q19K				IAML		01 30 51.0	
	comp=N,464nm,1.0s						
Q19K	**Cape Douglas,**	**3.91**	**324**	P	**Pn**	**01 29 51.5**	**+0.9**
	baz=143						
KAHG	**Katmai Hook Gl**	**3.93**	**315**		**Pn**	**01 29 51.5**	**+0.6**
MID	**Middleton Isla**	**3.94**	**22**	Pn	**Pn**	**01 29 50.4**	**-0.5**
MID				Sn	**Sn**	**01 30 35.2**	**-1.9**
MID				IAML		01 30 35.3	
	comp=N,226nm,1.8s						
MID				IAML		01 31 09.0	
	comp=E,252nm,2.2s						
MID	**Middleton Isla**	**3.94**	**22**	P	**Pn**	**01 29 50.4**	**-0.5**
MID						01 30 35.2	
Q23K	**Middleton Isla**	**3.94**	**22**	Pn	**Pn**	**01 29 50.8**	**-0.1**
Q23K				IAML		01 30 30.0	
	comp=E,247nm,1.8s						
Q23K				Sn	**Sn**	**01 30 36.1**	**-1.0**
Q23K				IAML		01 31 09.0	
	comp=N,241nm,2.1s						
BRSE	**Bradley Lake S**	**4.00**	**349**		**Pn**	**01 29 51.7**	**-0.2**
BRSE	**Bradley Lake S**	**4.00**	**349**	P	**Pn**	**01 29 51.5**	**-0.4**
	baz=169						
KCE	**Katmai Mt Cerb**	**4.04**	**309**		**Pn**	**01 29 53.4**	**+0.9**
BRLK	**Bradley Lake**	**4.04**	**348**	Pn	**Pn**	**01 29 51.9**	**-0.6**
BRLK				Sn	**Sn**	**01 30 38.6**	**-1.2**
BRLK				IAML		01 30 44.1	
	comp=E,167nm,0.5s						
ACHA	**Angle Creek He**	**4.09**	**308**		**Pn**	**01 29 53.4**	**+0.3**
ANCK	**Angle Creek**	**4.16**	**307**		**Pn**	**01 29 54.6**	**+0.5**
KVTA	**Katmai Vly 10**	**4.17**	**310**		**Pn**	**01 29 55.0**	**+0.8**
AUCH	**Augustine Cone**	**4.20**	**329**		**Pn**	**01 29 55.4**	**+0.7**
AUL	**Augustine Lava**	**4.21**	**330**		**Pn**	**01 29 55.6**	**+0.8**
KAHC	**Katmai Hardscr**	**4.21**	**315**		**Pn**	**01 29 55.6**	**+0.8**
KAHC	**Katmai Hardscr**	**4.21**	**315**	P	**Pn**	**01 29 55.6**	**+0.8**
	baz=132						
SEW	**Seward**	**4.29**	**359**	Pn	Pn	01 29 54.8	-1.0
SEW	**Seward**	**4.29**	**359**	P	**Pn**	**01 29 55.3**	**-0.5**
	baz=179						
P23K	**Montague Islan**	**4.30**	**13**		**Pn**	**01 29 56.0**	**0.0**
P23K	**Montague Islan**	**4.30**	**13**	P	**Pn**	**01 29 56.1**	**+0.2**
	baz=194						
CNTC	**Contact Creek**	**4.37**	**307**		**Pn**	**01 29 57.2**	**+0.2**
Q17K	**Contact Creek**	**4.37**	**307**	P	**Pn**	**01 29 57.2**	**+0.2**
	baz=124						
P19K	**Oil Pt**	**4.39**	**333**	Pn	**Pn**	**01 29 57.5**	**+0.3**
P19K				IAML		01 30 53.2	
	comp=E,226nm,0.5s						
P19K				IAML		01 30 53.2	
	comp=N,162nm,0.7s						
P19K	**Oil Pt**	**4.39**	**333**	P

GHO	Glory Hole Cre	5.96	2	Pn		Pn		01 30 19.4	+0.5
CNBA	Chernabura Isl	5.98	265	Pn		Pn		01 30 15.4	-3.6
N18K	Kilae Creek	5.99	327	Pn		Pn		01 30 18.7	-0.5
SML	Sawmill	6.02	4	Pn		Pn		01 30 20.3	+0.7
O16K	Kokwok River B	6.05	312	Pn		Pn		01 30 20.4	+0.3
SCM	Sheep Creek Mo	6.11	9	Pn		Pn		01 30 22.0	+1.2
SCM	Sheep Creek Mo	6.11	9	P		Pn		01 30 22.0	+1.2
VRDI	Verde Repeater	6.21	27	Pn		Pn		01 30 22.2	-0.1
SVW2	Sparrevohn	6.24	330	Pn		Pn		01 30 21.9	-0.6
SVW2	Sparrevohn	6.24	330	P		Pn		01 30 22.1	-0.5
SAMH	Samovar Hills	6.24	43			Pn		01 30 23.4	+0.7
KIAG	Kiagna River	6.26	33			Pn		01 30 23.2	+0.1
N25K	Chitina, Valde	6.28	21	Pn		Pn		01 30 23.4	+0.2
SKT	Skwentna	6.28	350	Pn		Pn		01 30 22.7	-0.5
N17K	Nushagak Hills	6.30	322	Pn		Pn		01 30 23.3	-0.1
GLB	Gilahina Butte	6.31	25	Pn		Pn		01 30 23.0	-0.6
SDPT	Sand Point	6.38	270	Pn		Pn		01 30 22.1	-2.4
SDPT	Sand Point	6.38	270	P		Pn		01 30 22.7	-1.8
M20K	Styx River	6.40	343	Pn		Pn		01 30 24.3	-0.5
PTPK	Patty Peak	6.44	31			Pn		01 30 25.7	+0.1
MCARA	McCarthy VSAT	6.45	28	Pn		Pn		01 30 26.1	+0.6
M24K	Tolsona, Glenn	6.50	13	Pn		Pn		01 30 26.8	+0.6
PNL	Peninsula	6.53	50	P		Pn		01 30 27.2	+0.6
BARN	Barnard Glacie	6.59	34	Pn		Pn		01 30 27.6	0.0
BCPM	Bancas Point	6.59	47	Pn		Pn		01 30 27.8	+0.4
O15K	Ungalikthiuk R	6.61	305			Pn		01 30 27.8	+0.1
CTGM	Chitina Glacie	6.62	36			Pn		01 30 27.9	0.0
M18K	Stony River	6.63	332			Pn		01 30 27.3	-0.7
M19K	Big River Lodg	6.65	339	Pn		Pn		01 30 27.5	-0.7
WAZA	Wrangell Mount	6.80	21			Pn		01 30 31.6	+1.1
WAT6	Susitna Watana	6.82	6			Pn		01 30 31.5	+0.8
N16K	Nishlik Lake	6.86	317			Pn		01 30 31.5	+0.4
HAAP	HAARP	6.92	16			Pn		01 30 32.7	+0.8
L19K	White Mountain	7.00	338	Pn		Pn		01 30 32.3	-0.7
M17K	Holitna River	7.03	326	Pn		Pn		01 30 33.2	-0.2
WAT7	Susitna Watana	7.03	2			Pn		01 30 34.1	+0.6
WAT1	Susitna Watana	7.03	3			Pn		01 30 34.3	+0.8
L20K	Farewell, AK	7.08	342			Pn		01 30 34.8	+0.7
PS1A	Pavlof South-1	7.08	272			Pn		01 30 34.6	+0.4
N15K	Kwethluk River	7.21	312	Pn		Pn		01 30 36.4	+0.5
O29M	Mount Kennedy	7.22	47	Pn		Pn		01 30 36.6	+0.4
PN7A	Pavlof North-7	7.23	272			Pn		01 30 35.0	-1.2
P29M	Windy Craggy	7.25	54	Pn		Pn		01 30 36.0	-0.5
M16K	Timber Creek	7.28	320	Pn		Pn		01 30 37.0	+0.1
O14K	Tigyukauivet M	7.32	303	Pn		Pn		01 30 37.4	+0.1
DHY	Denali Highway	7.33	7	Pn		Pn		01 30 39.3	+1.5
M26K	Nabesna, AK	7.33	23	Pn		Pn		01 30 38.2	+0.5
YUK8	Steele Glacier	7.38	38			Pn		01 30 39.9	+1.4
S31K	Pelican	7.45	68	Pn		Pn		01 30 36.0	-3.1
L18K	Granite Mounta	7.46	332	Pn		Pn		01 30 38.3	-1.1
YUK3	Moose Creek	7.51	34			Pn		01 30 41.4	+1.2
M27K	Edge Creek, AK	7.57	27	Pn		Pn		01 30 41.7	+0.8
RND	Reindeer	7.61	1	Pn		Pn		01 30 42.4	+1.0
RND	Reindeer	7.61	1	P		Pn		01 30 42.4	+1.0
TRF	Thorofare Moun	7.67	357	Pn		Pn		01 30 42.7	+0.4
YUK6	Outpost Mounta	7.68	44			Pn		01 30 43.8	+1.2
CAST	Castle Rocks	7.75	351	Pn		Pn		01 30 44.3	+1.0
M15K	Kasigluk River	7.75	314			Pn		01 30 44.0	+0.8
N14K	Kuskokwak Cree	7.79	307			Pn		01 30 44.4	+0.6
KTH	Kantishna Hill	7.80	354	Pn		Pn		01 30 44.3	+0.3
PLBC	Pleasant Camp	7.81	57			Pn		01 30 44.4	+0.3
L26K	Log Cabin Wild	7.82	20	Pn		Pn		01 30 45.9	+1.6
SIT	Sitka	7.82	75	Pn		Pn		01 30 39.7	-4.5
SIT	Sitka	7.82	75	P		Pn		01 30 41.0	-3.3
SIT	Sitka	7.82	75	P		Pn		01 30 39.7	-4.6
P30M	Million Dollar	7.82	52			Pn		01 30 44.9	+0.5
L17K	Donlin	7.89	327			Pn		01 30 45.7	+0.4
BVCY	Beaver Creek	7.89	30			Pn		01 30 46.6	+1.4
TTA	Tatalina	7.91	337	Pn		Pn		01 30 45.0	-0.6
TTA	Tatalina	7.91	337	P		Pn		01 30 45.6	0.0
TTA	Tatalina	7.91	337	P		Pn		01 30 45.0	-0.6
L16K	Owhat River	7.93	322	Pn		Pn		01 30 45.4	-0.4
K20K	Telida	7.94	344	Pn		Pn		01 30 44.3	-1.5
HYT	Haines Junctio	7.95	46	Pn		Pn		01 30 46.5	+0.3
YUK5	Granite Creek	7.99	44			Pn		01 30 48.2	+1.5
L27K	Beaver Creek,	8.18	24	Pn		Pn		01 30 49.6	+0.4
BCAR	Beaver Creek A	8.19	25	Pn		Pn		01 30 50.2	+0.9
RIDG	Independent Ri	8.24	14	Pn		Pn		01 30 51.6	+1.5
S32K	Killisnoo	8.26	72	Pn		Pn		01 30 46.8	-3.4
BESE	Bessie Mountai	8.29	65			Pn		01 30 49.4	-1.4
M14K	Bethel	8.31	312	Pn		Pn		01 30 51.2	+0.3
SKAG	Skagway	8.31	58	Pn		Pn		01 30 50.6	-0.3
SKAG	Skagway	8.31	58	P		Pn		01 30 51.2	+0.3
K17K	Iditarod	8.31	330	Pn		Pn		01 30 49.8	-1.1
ISNN	Isanotski Nort	8.34	269			Pn		01 30 49.9	-1.5
BPAW	Bear Paw Mtn.	8.34	355	Pn		Pn		01 30 51.0	-0.4
R32K	Eaglecrest	8.40	67	Pn		Pn		01 30 50.9	-1.4
JIS	Juneau Island	8.47	67	Pn		Pn		01 30 51.1	-2.1
JIS	Juneau Island	8.47	67	P		Pn		01 30 52.5	-0.6
N30M	Aishikik Lake	8.48	43	Pn		Pn		01 30 54.3	+0.9
O30N	Mendenhall	8.52	49	Pn		Pn		01 30 53.7	-0.1
J18K	Innoko River	8.53	337	Pn		Pn		01 30 52.4	-1.6
SCRK	Sand Creek	8.59	16	Pn		Pn		01 30 55.4	+0.5
L15K	Ungalak Mounta	8.64	318			Pn		01 30 55.9	+0.4
M29M	Somme Creek	8.64	35			Pn		01 30 56.2	+0.6
HDA	Harding Lake	8.69	7	Pn		Pn		01 30 57.7	+1.6
J20K	Nowinta River	8.72	346	Pn		Pn		01 30 56.2	-0.4
M13K	Dall Lake	8.75	307	Pn		Pn		01 30 57.4	+0.4
J19K	Poorman	8.79	341	Pn		Pn		01 30 56.0	-1.5
CCB	Clear Creek Bu	8.88	4	Pn		Pn		01 31 00.3	+1.5
L14K	Kuka Creek	8.92	314	Pn		Pn		01 30 59.7	+0.4
WEBT	Westdahl Beart	8.95	262			Pn		01 31 00.4	+0.6
WHY	Whitehorse	8.99	52	Pn		Pn		01 31 00.6	+0.2
N31M	Braeburn, Yuko	9.02	46	Pn		Pn		01 31 01.4	+1.7
J25K	Salcha River,	9.02	11	Pn		Pn		01 31 01.3	+0.5
K15K	Wolf Creek Mou	9.04	321	Pn		Pn		01 31 01.3	+0.3
IL31		9.05	6	Pn		Pn		01 31 01.0	0.0
ILAR	Eielson Array	9.05	6	Pn		Pn		01 31 02.3	+1.2
ILAR	Eielson Array	9.05	6	P		Pn		01 31 02.3	+1.2
ILAR	Eielson Array	9.05	6	Pn		Pn		01 31 02.1	+1.0
	comp=E,0.3nm,0.3s,baz=191,slow=13,SNR=14								
ILAR						Sn		Sn	01 32 39.6 -3.3
	comp=E,0.6nm,0.3s,baz=201,slow=15,SNR=6.5								
	comp=E,0.7nm,0.5s								
COLA	College	9.10	4	Pn		Pn		01 31 02.3	+0.5
COLA	College	9.10	4	P		Pn		01 31 02.3	+0.5
P32M	Atlin	9.13	59	Pn		Pn		01 31 01.4	-0.8
CRAG	Craig	9.13	86	P		Pn		01 30 58.9	-3.3
J26L	Joseph Creek	9.15	16	Pn		Pn		01 31 02.9	+0.4
L29M	L29M	9.23	33	Pn		Pn		01 31 05.0	+1.4
MLY	Manley	9.26	356	Pn		Pn		01 31 03.6	-0.4
M30M	Minto, Yukon	9.29	38	Pn		Pn		01 31 04.6	+0.1
I23K	Minto, Yukon-K	9.35	360	Pn		Pn		01 31 05.3	+0.1
J16K	Anvik River	9.42	327	Pn		Pn		01 31 05.8	-0.5
I21K	Tanana	9.48	353	Pn		Pn		01 31 07.7	+0.7
DAWY	Dawson	9.62	27	Pn		Pn		01 31 09.3	+0.3
Q32M	Nakina River	9.69	64	Pn		Pn		01 31 09.4	-0.6
P33M	Teslin, Yukon	9.76	57	Pn		Pn		01 31 10.4	-0.5
EGAK	Eagle	9.83	21	Pn		Pn		01 31 12.9	+1.2
PRP	Porcupine Dome	9.89	9	Pn		Pn		01 31 14.5	+1.8
K29M	Barlow Dome	9.96	31	Pn		Pn		01 31 14.7	+1.1
M31M	Drury Creek, Y	9.96	44	Pn		Pn		01 31 14.3	+0.7
N32M	Quiet Lake	9.99	51	Pn		Pn		01 31 14.0	-0.1
H21K	Melozitna Rive	10.01	352	Pn		Pn		01 31 13.2	-1.1
J14K	Nanvaranak Lak	10.06	319	Pn		Pn		01 31 16.1	+1.2
H24K	Noodor Dome	10.07	3	Pn		Pn		01 31 16.1	+1.1
S34M	Telegraph Cree	10.14	71	Pn		Pn		01 31 14.2	-1.8
MAYO	Mayo, Yukon	10.29	35	Pn		Pn		01 31 17.5	-0.5
H19K	Roundabout Mou	10.34	343	Pn		Pn		01 31 18.1	-0.6
FARO	Faro, Yukon	10.39	45	Pn		Pn		01 31 20.3	+0.8
IMAR	Indian Mountai	10.42	350	Pn		Pn		01 31 19.4	-0.4
R33M	Jennings River	10.43	62	Pn		Pn		01 31 19.9	-0.3
H17K	Granite Mounta	10.53	334	Pn		Pn		01 31 20.4	-1.0
T35M	Bob Quinn	10.60	76	Pn		Pn		01 31 21.5	-0.8
I28M	Miner Creek	10.66	21	Pn		Pn		01 31 24.9	+1.6
DLBC	Dease Lake	10.77	68	Pn		Pn		01 31 23.1	-1.5
DLBC	Dease Lake	10.77	68	Pn		Pn		01 31 23.8	-0.9
	comp=E,1.2nm,0.3s,baz=265,slow=8.3,SNR=34								
	comp=E,2.7nm,0.3s								
J30M	Hart River	10.85	31	Pn		Pn		01 31 27.3	+1.4
G19K	Purcell Mounta	11.01	343	Pn		Pn		01 31 30.9	+3.0
G18K	Tagagawik	11.07	340	Pn		Pn		01 31 29.6	+0.9
F24K	Squaw Lake	11.75	3	Pn		Pn		01 31 40.1	+2.1
ANM	Nome	11.84	324	Pn		Pn		01 31 39.2	0.0
ANM	Nome	11.84	324	P		Pn		01 31 39.2	0.0
BMAR	Burnt Mountain	11.85	9	Pn		Pn		01 31 40.5	+1.1
F17K	Baldwin Pennin	12.09	337	Pn		Pn		01 31 42.6	-0.1
G29M	Pine Creek	12.33	21	Pn		Pn		01 31 48.2	+2.3
E25K	Arctic Village	12.46	6	Pn		Pn		01 31 49.0	+1.4
F28M	Old Crow	12.61	17	Pn		Pn		01 31 52.3	+2.5
G30M	tAoh Zraii Nji	12.77	24	Pn		Pn		01 31 54.6	+2.6
G31M	Satah River	13.19	27	Pn		Pn		01 31 58.3	+0.6
D22K	Ayikyak River	13.19	355	Pn		Pn		01 31 57.5	-0.2
TNA	Tin City	13.30	325	Pn		Pn		01 31 58.5	-0.7
E29M	Blow River	13.64	18	Pn		Pn		01 32 05.5	+1.7
F31M	Tsiigehtchic	13.72	26	Pn		Pn		01 32 04.2	-0.7
C18K	Utukok River	13.97	342	Pn		Pn		01 32 07.1	-1.2
C19K	Lookout Ridge	14.12	345			Pn		01 32 11.8	+1.4
INK	Inuvik	14.46	24	Pn		Pn		01 32 15.8	+0.9
INK	Inuvik	14.46	24	P		Pn		01 32 15.8	+0.9
INK	Inuvik	14.46	24	Pn		Pn		01 32 16.3	+1.4
	comp=E,0.1nm,0.3s,baz=206,slow=15,SNR=19								
	comp=E,7.3nm,1.0s								
C16K	Lisburne Hills	14.51	336	Pn		Pn		01 32 16.2	+0.5
WRGLY	Wrigley	14.95	50	Pn		Pn		01 32 22.7	+1.1
C36M	Paulatuk	17.63	30	Pn		Pn		01 32 55.1	-0.8
C36M						IAmb	IAmb	01 32 59.7	
	comp=Z,22nm,1.4s								
YKA	Yellowknife Ar	18.79	55	P		P		01 33 09.1	-0.5
YKA	Yellowknife Ar	18.79	55	P		P		01 33 09.1	-0.5
YKA	Yellowknife Ar	18.79	55	P		P		01 33 10.7	+1.0
	comp=Z,0.1nm,0.3s,baz=261,slow=11,SNR=17								
	comp=Z,1.9nm,0.8s								
A36M	Sachs Harbour	19.09	23	P		P		01 33 14.6	+1.7
NEW	Newport	21.01	98	P		P		01 33 33.8	-0.3
	comp=Z,0.8nm,0.4s,baz=324,slow=7.3,SNR=2.7								
	comp=Z,0.8nm,0.4s								
BILL	Bilibino	23.59	319	*e*P		P		01 34 01.2	+0.2
NVAR	Mina Array Bea	26.99	117	P		P		01 34 32.1	-0.4
	comp=Z,0.6nm,0.8s,baz=303,slow=8.9,SNR=4.0								
	comp=Z,0.6nm,0.8s								
PDAR	Pinedale Array	28.57	100	P		P		01 34 46.0	-0.7
	comp=Z,0.4nm,0.9s,baz=327,slow=6.5,SNR=2.6								
	comp=Z,0.4nm,0.9s								
FCC	Fort Churchill	29.24	61	P		P		01 34 50.9	-1.3
FCC					IAmb	IAmb		01 34 53.1	
	comp=Z,2.8nm,0.8s								
FCC	Fort Churchill	29.24	61	P		P		01 34 50.9	-1.3
FCC					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TIXI	Tiksi	36.07	328	⇓ *i* P		P		01 35 52.7	+1.1
TIXI					pmax	pmax			
	comp=Z,10.0nm,2.5s								
TXAR	Lajitas Array	41.65	110	P		P		01 36 37.7	-1.4
	comp=Z,0.4nm,0.9s,baz=300,slow=9.0,SNR=2.6								
	comp=Z,0.4nm,0.9s								
KLR	Kul'dur	46.05	297	⇓ *i* P		P		01 37 13.7	-0.3
KLR					pmax	pmax			
	comp=Z,89nm,3.8s								
KLR	Kul'dur	46.05	297	P		P		01 37 14.4	+0.4
	comp=Z,2.5nm,0.5s,baz=73,slow=7.6,SNR=10								
	comp=Z,2.5nm,0.5s								
NRIK	Noril'sk	48.53	337	*de*P		P		01 37 34.1	+1.0
NRIK					pmax	pmax			
	comp=Z,7.0nm,1.0s								
NRIK	Noril'sk	48.53	337	P		P		01 37 34.0	+1.0
	comp=Z,2.4nm,0.4s,baz=51,slow=7.8,SNR=5.5								
	comp=Z,2.4nm,0.4s								
H11N2	WAKE ISLAND Hy	48.67	240	T		T		02 30 20.2	
	baz=49,slow=75,SNR=6.9								
H11N3	WAKE ISLAND Hy	48.67	240	T		T		02 30 18.4	
	baz=49,slow=75,SNR=9.8								
H11N1	WAKE ISLAND Hy	48.69	240	T		T		02 30 19.5	
	baz=49,slow=75,SNR=5.1								
H11S1	WAKE ISLAND Hy	49.80	240	T		T		02 32 06.0	
	baz=29								
H11S2	WAKE ISLAND Hy	49.82	240	T		T		02 32 07.3	
	baz=29								
H11S3	WAKE ISLAND Hy	49.82	240	T		T		02 32 09.9	
	baz=29								
ARCES	ARCESS Array B	54.88	2	P		P		01 38 20.3	-0.2
	comp=Z,4.9nm,1.0s,baz=350,slow=6.5,SNR=7.9								
	comp=Z,4.9nm,1.0s								
SONM	Songino Array	58.94	310	P		P		01 38 50.8	+1.0
	comp=Z,1.3nm,0.8s,baz=27,slow=6.4,SNR=6.7								
	comp=Z,1.3nm,0.8s								
ZALV	Zalesovo Beam	61.95	327	P		P		01 39 10.5	+0.5
	comp=Z,1.9nm,0.6s,baz=29,slow=6.4,SNR=11								
	comp=Z,1.9nm,0.6s								
HHC	Hu-ho-hao-te	61.99	302	*e*P		P		01 39 08.3	-2.4
HHC					pmax	pmax			
	comp=Z,17nm,0.6s								
HHC					pmax	pmax			
	comp=Z,570nm,5.5s								
FINES	FINESS Array B	63.01	3	P		P		01 39 17.8	+0.8
	comp=Z,1.4nm,0.5s,baz=356,slow=6.6,SNR=13								
	comp=Z,1.4nm,0.5s								
JOW	Kunigami	64.10	280	LR		LR		02 05 39.5	
	comp=Z,32nm,21.9s,baz=13,slow=34								
DGZ	Jazzator, Alta	64.74	323	*ce*P		P		01 39 27.7	-1.1
DGZ					pmax	pmax			
	comp=Z,2.0nm,0.5s								
ARU	Arti	65.84	343	*d i* P		P		01 39 35.0	-0.6
ARU								01 41 57.4	
ARU					S	S		01 48 22.1	+0.1
ARU					SS	SS		01 52 32.0	-3.4
KURK	Kurchatov	66.63	329	⇑ *e*P		P		01 39 40.9	+0.2
KURK					pmax	pmax			
	comp=Z,3.0nm,1.4s								
BRVK	Borovoye	66.70	335	⇑ *e*P		P		01 39 39.8	-1.3
BRVK					pmax	pmax			
	comp=Z,10.0nm,2.5s								
BVAR	Borovoye Array	66.70	335	P		P		01 39 41.5	+0.3
	comp=Z,2.2nm,0.7s,baz=33,slow=7.5,SNR=9.1								
	comp=Z,2.2nm,0.7s								
KURBB	Kurchatov Arra	66.74	329	P		P		01 39 41.6	+0.2
	comp=Z,1.3nm,0.7s,baz=28,slow=6.3,SNR=9.5								
	comp=Z,1.3nm,0.7s								
MK31	Makanchi Array	68.97	325	⇑ *e*P		P		01 39 55.5	-0.1
MKAR	Makanchi Array	68.97	325	*ce*P		P		01 39 56.0	+0.3
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MKAR	Makanchi Array	68.97	325	P		P		01 39 56.0	+0.3
	comp=Z,1.7nm,0.6s,baz=32,slow=6.3,SNR=24								
	comp=Z,1.7nm,0.6s								
OBN	Obninsk	69.32	356	⇓ *e*P		P		01 39 58.1	+0.6
OBN					*e*			01 42 31.7	
OBN					pmax	pmax			
	comp=Z,36nm,2.2s								
MNK	Minsk	70.01	2	*i* P		P		01 40 00.0	-1.8
MNK				*i*				01 40 21.8	
MNK				*i*				01 42 34.8	
MNK				*i*	PPP	PPP		01 44 16.6	
MNK				*i*	S	S		01 49 11.6	-0.2
MNK				*i*				01 50 02.3	
MNK				*i*	SS	SS		01 53 42.2	+2.5
MNK					pmax	pmax			
	comp=Z,9.0nm,1.0s								
MNK					pmax	pmax			
	comp=N,9.0nm,0.9s								
MNK					pmax	pmax			
	comp=E,7.0nm,0.9s								
MNK					MLR	MLR			
	comp=Z,92nm,17.0s								
AKASG	Malin Array Be	73.83	1	*ce*P		P		01 40 25.2	+0.4
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.6s								
AKASG	Malin Array Be	73.83	1	P		P		01 40 24.7	-0.1
	comp=Z,1.5nm,0.6s,baz=2.5,slow=5.9,SNR=6.7								
	comp=Z,1.5nm,0.6s								
GERES	GERESS Array B	74.73	12	P		P		01 40 31.0	+0.8
	comp=Z,0.7nm,0.6s,baz=348,slow=4.2,SNR=1.6								
	comp=Z,0.7nm,0.6s								
AAK	Ala-Archa	75.14	328	⇑ *i* P		P		01 40 33.7	+0.9
AAK					pmax	pmax			
	comp=Z,2.0nm,0.9s								
PZH	PanZhiHua	78.36	300	P		P		01 40 49.4	-1.8
PZH					pmax	pmax			
	comp=Z,6.0nm,0.8s								
PZH					pmax	pmax			
	comp=Z,100nm,5.0s								
ESDC	Sonseca Array	80.39	26	P		P		01 41 03.0	+1.1
	comp=Z,0.5nm,0.8s,baz=335,slow=6.2,SNR=3.1								
	comp=Z,0.5nm,0.8s								
GEYT	Alibeck	83.73	339	P		P		01 41 20.9	+1.3
	comp=Z,2.0nm,0.8s,baz=29,slow=3.4,SNR=6.4								
	comp=Z,2.0nm,0.8s								
BRTR	Keskin Array B	84.78	358	P		P		01 41 24.1	-0.9
	comp=Z,1.2nm,1.0s,baz=7.5,slow=3.3,SNR=2.2								
	comp=Z,1.2nm,1.0s								
CMAR	Chiang Mai Arr	86.51	298	*ce*P		P		01 41 33.7	0.0
CMAR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
CMAR	Chiang Mai Arr	86.51	298	P		P		01 41 33.7	0.0
	comp=Z,1.2nm,0.4s,baz=8.3,slow=5.4,SNR=7.2								
	comp=Z,1.2nm,0.4s								
QSPA	South Pole Qui	145.62	180	PKPbc		PKPdf		01 48 26.2	-1.3
	comp=Z,1.5nm,0.6s,baz=44,slow=2.5,SNR=5.4								

*NEIC **24** 01:33:23.4±1.8,56.49N±0.08×148.7W±0.1,h23km±10km, ML3.6/48,ML3.3(AEIC),Error ellipse: s-maj=12.2km s-min=7.9km az=165.0*
*AEIC **24** 01:33:27.1±2.0,56.54N±0.10×148.6W±0.1,h7km±7km, Error ellipse: s-maj=14.5km s-min=8.0km az=172.0*
ISC 24 01:33:22.4±2.0,56.6N±0.1×148.66W±0.06,h10km,n198, σ1s12/204,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.44	301		Pn	01 34 02.2	-0.2
KDAK					Sn	01 34 30.4	-1.9
OHAK	Old Harbor	2.61	286	Pn	Pn	01 34 03.9	-0.7
OHAK				Sn	Sn	01 34 33.8	-2.7
OHAK	Old Harbor	2.61	286	P	Pn	01 34 04.0	-0.7
	baz=103						
OHAK				S	Sn	01 34 35.7	-0.7
	baz=103						
SYI	Shuyak Island	2.85	317	Pn	Pn	01 34 06.8	-1.0
Q20K	Shuyak Island	2.85	317	P	Pn	01 34 07.2	-0.7
	baz=134						
MID	Middleton Isla	3.10	23	Pn	Pn	01 34 10.4	-0.9
MID				IAML		01 35 56.5	
	comp=N,190nm,2.2s						
Q23K	Middleton Isla	3.10	22	Pn	Pn	01 34 09.6	-1.7
Q23K				IAML		01 35 27.6	
	comp=N,219nm,2.2s						
Q23K	Middleton Isla	3.10	22	P	Pn	01 34 11.4	+0.1
	baz=204						
Q23K				S	Sn	01 34 46.9	-1.4
	baz=204						
CNPM	China Poot	3.24	336	Pn	Pn	01 34 13.8	+0.4
CNPM				IAML		01 34 58.4	
	comp=E,96nm,3.4s						
CNPM				IAML		01 35 39.5	
	comp=N,95nm,3.0s						
BRSE	Bradley Lake S	3.34	342		Pn	01 34 15.1	+0.3
BRSE					Sn	01 34 54.0	-0.5
BRSE	Bradley Lake S	3.34	342	P	Pn	01 34 15.1	+0.3
	baz=160						
BRSE				S	Sn	01 34 54.0	-0.5
	baz=160						
HOM	Homer	3.46	334	Pn	Pn	01 34 16.1	-0.1
HOM	Homer	3.46	334	P	Pn	01 34 16.7	+0.5
	baz=151						
P23K	Montague Islan	3.48	10		Pn	01 34 17.1	+0.5
P23K					Sn	01 34 56.2	-1.5
P23K	Montague Islan	3.48	10	P	Pn	01 34 17.1	+0.5
	baz=191						
P23K				S	Sn	01 34 56.2	-1.5
	baz=191						
SEW	Seward	3.55	354	Pn	Pn	01 34 17.4	0.0
SEW	Seward	3.55	354	P	Pn	01 34 18.2	+0.8
	baz=172						
Q19K	Cape Douglas,	3.55	313	Pn	Pn	01 34 17.2	-0.4
Q19K				IAML		01 35 55.3	
	comp=N,169nm,1.6s						
Q19K	Cape Douglas,	3

	baz=185						
SCM	Sheep Creek Mo	5.30	7	Pn	Pn	01 34 43.5	+1.8
VRDI	Verde Repeater	5.37	28	Pn	Pn	01 34 42.2	-0.6
KIAG	Kiagna River	5.44	34		Pn	01 34 44.1	+0.4
N25K	Chitina, Valde	5.45	21	P	Pn	01 34 44.1	+0.5
	baz=204						
SAMH	Samovar Hills	5.46	46		Pn	01 34 44.8	+1.0
GLB	Gilahina Butte	5.47	25	Pn	Pn	01 34 43.9	0.0
O17K	Koliganek Bris	5.48	309		Pn	01 34 44.2	+0.2
O17K	Koliganek Bris	5.48	309	P	Pn	01 34 44.3	+0.2
	baz=122						
N18K	Kilae Creek	5.57	320	Pn	Pn	01 34 44.2	-1.1
N18K	Kilae Creek	5.57	320	P	Pn	01 34 45.6	+0.3
	baz=134						
SKT	Skwentna	5.60	346	Pn	Pn	01 34 46.8	+1.1
PTPK	Patty Peak	5.62	32		Pn	01 34 46.9	+0.8
MCARA	McCarthy VSAT	5.62	29	P	Pn	01 34 46.5	+0.6
	baz=213						
PCA	Pinnacle	5.65	48	Pn	Pn	01 34 46.5	+0.1
PINM	Pinnacle	5.65	48	P	Pn	01 34 47.1	+0.7
	baz=235						
M24K	Tolsona, Glenn	5.67	12	Pn	Pn	01 34 48.1	+1.3
M24K	Tolsona, Glenn	5.67	12	P	Pn	01 34 48.5	+1.8
	baz=194						
BARN	Barnard Glacie	5.77	36	Pn	Pn	01 34 48.6	+0.4
SVW2	Sparrevohn	5.77	324	Pn	Pn	01 34 47.8	-0.2
M20K	Styx River	5.78	338	Pn	Pn	01 34 48.3	+0.1
M20K	Styx River	5.78	338	P	Pn	01 34 49.1	+0.9
	baz=155						
PNL	Peninsula	5.79	54		Pn	01 34 48.9	+0.5
PNL	Peninsula	5.79	54	P	Pn	01 34 48.9	+0.5
	baz=241						
CTG	Chitna Glacier	5.80	38	P	Pn	01 34 49.1	+0.5
	baz=224						
CTGM	Chitina Glacie	5.81	38	Pn	Pn	01 34 49.2	+0.6
LOGN	Logan Glacier	5.82	40	Pn	Pn	01 34 48.5	-0.4
BCPM	Bancas Point	5.83	51	Pn	Pn	01 34 49.2	+0.4
O16K	Kokwok River B	5.84	305	Pn	Pn	01 34 49.7	+0.8
O16K	Kokwok River B	5.84	305	P	Pn	01 34 50.0	+1.1
	baz=117						
N17K	Nushagak Hills	5.95	315	Pn	Pn	01 34 51.0	+0.4
N17K	Nushagak Hills	5.95	315	P	Pn	01 34 51.5	+0.9
	baz=128						
WAZA	Wrangell Mount	5.96	21		Pn	01 34 52.8	+1.9
M19K	Big River Lodg	6.08	334	Pn	Pn	01 34 52.5	+0.2
M19K	Big River Lodg	6.08	334	P	Pn	01 34 52.9	+0.6
	baz=149						
HARP	HAARP	6.09	16		Pn	01 34 54.5	+2.1
HARP	HAARP	6.09	16	P	Pn	01 34 54.5	+2.1
	baz=198						
M18K	Stony River	6.14	326		Pn	01 34 54.0	+0.8
M18K	Stony River	6.14	326	P	Pn	01 34 54.0	+0.8
	baz=140						
WAT7	Susitna Watana	6.26	359		Pn	01 34 56.5	+1.7
L19K	White Mountain	6.43	333	Pn	Pn	01 34 56.4	-0.8
O29M	Mount Kennedy	6.47	51	Pn	Pn	01 34 58.5	+0.8
O15K	Ungalikthiuk R	6.49	298		Pn	01 34 59.5	+1.6
O15K	Ungalikthiuk R	6.49	298	P	Pn	01 34 59.5	+1.6
	baz=109						
M26K	Nabesna, AK	6.50	24	Pn	Pn	01 34 58.8	+0.7
M26K	Nabesna, AK	6.50	24	P	Pn	01 35 00.0	+1.9
	baz=208						
DHY	Denali Highway	6.54	5	Pn	Pn	01 35 01.1	+2.5
DHY	Denali Highway	6.54	5	P	Pn	01 35 01.9	+3.3
	baz=186						
P29M	Windy Craggy	6.54	58	Pn	Pn	01 34 59.0	+0.3
P29M	Windy Craggy	6.54	58	P	Pn	01 34 59.1	+0.5
	baz=246						
N16K	Nishlik Lake	6.57	311		Pn	01 34 59.9	+0.9
N16K	Nishlik Lake	6.57	311	P	Pn	01 34 59.9	+0.9
	baz=122						
YUK2	White River	6.57	34		Pn	01 35 00.9	+1.8
M17K	Holitna River	6.61	320	Pn	Pn	01 35 00.4	+0.8
M17K	Holitna River	6.61	320	P	Pn	01 35 00.8	+1.2
	baz=133						
M27K	Edge Creek, AK	6.73	28	Pn	Pn	01 35 02.4	+1.0
YUK7	Dusty Glacier	6.77	50		Pn	01 35 03.2	+1.3
S31K	Pelican	6.88	73	Pn	Pn	01 35 02.0	-1.2
YUK6	Outpost Mounta	6.90	47		Pn	01 35 05.4	+1.6
YUK6	Outpost Mounta	6.90	47	P	Pn	01 35 05.4	+1.6
	baz=235						
TRF	Thorofare Moun	6.93	354	Pn	Pn	01 35 05.7	+1.6
M16K	Timber Creek	6.95	314	Pn	Pn	01 35 04.7	+0.6
M16K	Timber Creek	6.95	314	P	Pn	01 35 05.4	+1.2
	baz=125						
L18K	Granite Mounta	6.97	327	Pn	Pn	01 35 04.3	-0.1
L26K	Log Cabin Wild	6.98	20	Pn	Pn	01 35 06.3	+1.6
N15K	Kwethluk River	7.00	306	Pn	Pn	01 35 06.2	+1.3
YUK4	Talbot Arm	7.03	43	P	Pn	01 35 08.3	+2.8
	baz=231						
CAST	Castle Rocks	7.06	347	Pn	Pn	01 35 06.3	+0.6
KTH	Kantishna Hill	7.07	352	Pn	Pn	01 35 08.9	+2.9
P30M	Million Dollar	7.10	55	Pn	Pn	01 35 06.0	-0.3
P30M	Million Dollar	7.10	55	P	Pn	01 35 07.1	+0.8
	baz=245						
HYT	Haines Junctio	7.19	49	Pn	Pn	01 35 08.3	+0.7
YUK5	Granite Creek	7.21	46		Pn	01 35 09.7	+1.8
O14K	Tigyukauivet M	7.22	297	Pn	Pn	01 35 08.2	+0.3
K20K	Telida	7.30	340	Pn	Pn	01 35 11.6	+2.5
L27K	Beaver Creek,	7.34	25	Pn	Pn	01 35 11.7	+2.1
L27K	Beaver Creek,	7.34	25	P	Pn	01 35 11.4	+1.8
	baz=210						
BCAR	Beaver Creek A	7.36	25	Pn	Pn	01 35 11.2	+1.4
TTA	Tatalina	7.36	333	Pn	Pn	01 35 09.3	-0.5
RIDG	Independent Ri	7.42	13	Pn	Pn	01 35 12.5	+1.9
L16K	Owhat River	7.56	317	Pn	Pn	01 35 13.2	+0.7
L16K	Owhat River	7.56	317	P	Pn	01 35 13.7	+1.2
	baz=128						
BPAW	Bear Paw Mtn.	7.62	352	Pn	Pn	01 35 13.9	+0.5
SKAG	Skagway	7.64	62	Pn	Pn	01 35 15.2	+1.6
N30M	Aishikik Lake	7.71	46	Pn	Pn	01 35 15.2	+0.6
N30M	Aishikik Lake	7.71	46	P	Pn	01 35 15.5	+0.9
	baz=235						
S32K	Killisnoo	7.74	78	P	Pn	01 35 14.7	-0.3
	baz=269						
SCRK	Sand Creek	7.76	15	Pn	Pn	01 35 17.4	+1.9
O30N	Mendenhall	7.77	52	Pn	Pn	01 35 14.4	-1.0
O30N	Mendenhall	7.77	52	P	Pn	01 35 16.1	+0.6
	baz=242						
R32K	Eaglecrest	7.82	72	Pn	Pn	01 35 14.7	-1.4
M29M	Somme Creek	7.82	37	Pn	Pn	01 35 17.4	+1.1
M29M	Somme Creek	7.82	37	P	Pn	01 35 17.9	+1.6
	baz=226						
K17K	Iditarod	7.84	326	Pn	Pn	01 35 15.7	-0.7
K17K	Iditarod	7.84	326	P	Pn	01 35 16.5	+0.1
	baz=137						
J18K	Innoko River	7.98	333	Pn	Pn	01 35 18.8	+0.5
J20K	Nowinta River	8.07	343	Pn	Pn	01 35 20.5	+0.9
K27K	Chicken	8.14	21	Pn	Pn	01 35 21.7	+1.2
J19K	Poorman	8.18	338	Pn	Pn	01 35 21.5	+0.4
N31M	Braeburn, Yuko	8.25	48	Pn	Pn	01 35 23.4	+1.4
IL31		8.25	5	Pn	Pn	01 35 24.0	+2.0
WHY	Whitehorse	8.26	55	Pn	Pn	01 35 23.2	+0.9
J26L	Joseph Creek	8.32	15	Pn	Pn	01 35 24.8	+1.7
L29M	L29M	8.40	35	Pn	Pn	01 35 25.5	+1.3
P32M	Atlin	8.47	63	Pn	Pn	01 35 24.6	-0.4
M30M	Minto, Yukon	8.49	40	Pn	Pn	01 35 25.6	+0.3
MLY	Manley	8.53	354	Pn	Pn	01 35 26.9	+1.1
U33K	Whale Pass	8.64	87	Pn	Pn	01 35 24.0	-3.4
L14K	Kuka Creek	8.66	309	Pn	Pn	01 35 29.1	+1.5
DAWY	Dawson	8.78	28	Pn	Pn	01 35 30.3	+1.0
J16K	Anvik River	8.98	323	Pn	Pn	01 35 31.7	-0.3
P33M	Teslin, Yukon	9.07	60	Pn	Pn	01 35 33.5	+0.1
Q32M	Nakina River	9.07	68	Pn	Pn	01 35 33.5	0.0
K29M	Barlow Dome	9.13	33	Pn	Pn	01 35 35.2	+1.0
I26K	Coal Creek Min	9.14	15	Pn	Pn	01 35 35.7	+1.6
M31M	Drury Creek, Y	9.19	46	Pn	Pn	01 35 36.0	+1.2
N32M	Quiet Lake	9.26	54	Pn	Pn	01 35 36.8	+0.8
H24K	Nooder Dome	9.28	2	Pn	Pn	01 35 37.6	+1.4
H21K	Melozitna Rive	9.31	349	Pn	Pn	01 35 37.8	+1.2
IMAR	Indian Mountai	9.73	348	Pn	Pn	01 35 41.7	-0.5
R33M	Jennings River	9.80	66	Pn	Pn	01 35 43.2	-0.2
I28M	Miner Creek	9.83	22	Pn	Pn	01 35 45.4	+1.7
H17K	Granite Mounta	10.00	331	Pn	Pn	01 35 46.6	+0.6
J30M	Hart River	10.02	32	Pn	Pn	01 35 45.8	-0.6
G24K	Hadweenzic Riv	10.16	3	Pn	Pn	01 35 48.1	-0.1
G23K	Bananza Creek	10.18	357	Pn	Pn	01 35 48.3	-0.1
G21K	Allakaket	10.22	349	Pn	Pn	01 35 50.0	+1.1
F20K	Avaraart Lake	11.00	345	Pn	Pn	01 35 55.7	-3.9
BMAR	Burnt Mountain	11.04	8	Pn	Pn	01 36 00.7	+0.5
G31M	Satah River	12.36	27	Pn	Pn	01 36 19.5	+1.4

*AEIC **24** 01:37:33.2±2.5,55°.9N±0°.1×150°.2W±0°.1, h8km±8km, Error ellipse: s-maj=18.3km s-min=10.3km az=175.0*
NEIC 24 01:37:29.1±2.3,**55.95N**±0°.09×**150°.27W**±0°.10,**h10**km±2km, **ML3.4**/28,**ML2.9**(AEIC),**Error ellipse: s-maj=15.7km s-min=8.0km az=160.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.10**	**309**		Pn	01 38 04.5	+0.2
OHAK					Sn	01 38 29.8	-0.6
KDAK	**Kodiak Island**	**2.23**	**326**	Pn	Pn	01 38 06.2	+0.1
KDAK				Sn	Sn	01 38 32.3	-1.4
SYI	**Shuyak Island**	**2.91**	**338**	Pn	Pn	01 38 15.0	-0.3
SYI				Sn	Sn	01 38 49.9	-0.4
SYI				IAML		01 39 53.0	
	comp=N,45nm,1.4s						
SYI				IAML		01 40 06.6	
	comp=E,47nm,1.5s						
KAHG	**Katmai Hook Gl**	**3.45**	**319**		Pn	01 38 24.2	+1.3
KAHG					Sn	01 39 03.6	-0.2
Q19K	**Cape Douglas,**	**3.50**	**330**	Pn	Pn	01 38 24.8	+1.3
Q19K				Sn	Sn	01 39 05.6	+0.6
Q19K				IAML		01 39 06.0	
	comp=N,139nm,1.4s						
Q19K				IAML		01 39 46.2	
	comp=E,173nm,1.5s						
CNPM	**China Poot**	**3.62**	**352**	Pn	Pn	01 38 25.1	-0.2
CNPM				IAML		01 40 27.6	
	comp=N,34nm,1.5s						
CNPM				IAML		01 40 32.4	
	comp=E,36nm,1.2s						
ANCK	**Angle Creek**	**3.63**	**311**		Pn	01 38 27.2	+1.8
BRSE	**Bradley Lake S**	**3.81**	**356**		Pn	01 38 27.9	+0.1
AUCH	**Augustine Cone**	**3.82**	**335**		Pn	01 38 29.5	+1.4
BRLK	**Bradley Lake**	**3.84**	**355**	Pn	Pn	01 38 27.5	-0.7
CNTC	**Contact Creek**	**3.84**	**309**		Pn	01 38 29.9	+1.7
P19K	**Oil Pt**	**4.04**	**338**	Pn	Pn	01 38 30.8	-0.1
Q23K	**Middleton Isla**	**4.08**	**29**	Pn	Pn	01 38 31.1	-0.3
O20K	**Slope Mountain**	**4.33**	**344**		Pn	01 38 35.8	+0.8
IVE	**Iliamna Volcan**	**4.33**	**341**		Pn	01 38 35.8	+0.7
R16K	**Pilot Point**	**4.33**	**295**	Pn	Pn	01 38 33.3	-1.6
P23K	**Montague Islan**	**4.34**	**19**		Pn	01 38 34.9	-0.1
P18K	**Big Mountain,**	**4.36**	**324**	Pn	Pn	01 38 36.6	+1.3
O22K	**Cooper Landing**	**4.55**	**3**	Pn	Pn	01 38 36.8	-1.2
O22K				IAML		01 40 50.2	
	comp=N,74nm,0.8s						
O22K				IAML		01 40 52.2	
	comp=E,64nm,0.7s						
HIN	**Hinchinbrook I**	**4.88**	**23**	Pn	Pn	01 38 42.4	-0.2
KAIM	**Kayak Island**	**5.06**	**36**	Pn	Pn	01 38 44.1	-0.9
N19K	**Bonanza Creek**	**5.36**	**337**	Pn	Pn	01 38 49.2	+0.2
N19K				IAML		01 41 16.1	
	comp=E,8.0nm,1.0s						
O16K	**Kokwok River B**	**5.55**	**314**	Pn	Pn	01 38 52.9	+1.2
N18K	**Kilae Creek**	**5.59**	**330**	Pn	Pn	01 38 53.7	+1.5
BERG	**Berg Lake**	**5.65**	**35**	Pn	Pn	01 38 52.4	-0.6
PMR	**Palmer**	**5.69**	**6**	Pn	Pn	01 38 51.6	-1.9
SNH	**Sunshine Point**	**5.79**	**40**	Pn	Pn	01 38 54.5	-0.5
M17K	**Holitna River**	**6.62**	**329**	Pn	Pn	01 39 07.4	+1.1
N15K	**Kwethluk River**	**6.71**	**313**	Pn	Pn	01 39 10.0	+2.5
M16K	**Timber Creek**	**6.82**	**322**	Pn	Pn	01 39 10.9	+1.8
LOGN	**Logan Glacier**	**6.90**	**41**	Pn	Pn	01 39 10.0	-0.3
O29M	**Mount Kennedy**	**7.57**	**50**	Pn	Pn	01 39 19.5	0.0
P29M	**Windy Craggy**	**7.64**	**56**	Pn	Pn	01 39 19.5	-0.9
N30M	**Aishikik Lake**	**8.80**	**46**	Pn	Pn	01 39 35.4	-0.9
M29M	**Somme Creek**	**8.88**	**38**	Pn	Pn	01 39 37.1	-0.3
L29M	**L29M**	**9.45**	**36**	Pn	Pn	01 39 46.3	+1.1

*TEH **24** 01:40:38.4,33°.79N×45°.62E, h10km±69km, ML2.6*
*ISN **24** 01:40:40.5±1.5,33°.78N×45°.60E, h37km±6km, ML2.6*
ISC 24 01:40:39.2±2.1,**33.79N**±0°.04×**45.62E**±0°.06,**h11**km±17km, **n9,σ1s01/14,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**109**	Pg	**Pb**	**01 40 48.6**	**-1.7**
ILBA				Sg	**Sg**	**01 40 56.8**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.71**	**358**	Pg	**Pb**	**01 40 52.6**	**-1.1**
IBDR	**Badra**	**0.73**	**159**	*e*Pg	**Pb**	**01 40 54.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**01 41 06.0**	**-0.5**
IGHG	**Ghaleghazi**	**0.95**	**55**	Pg	**Pb**	**01 40 57.1**	**-0.8**
IDHR	**Dehrash**	**1.11**	**35**	Pg	**Pb**	**01 40 59.7**	**-0.9**
BHD	**Baghdad**	**1.16**	**244**	*e*Pg	**Pn**	**01 41 01.0**	**-0.4**
BHD				*e*Sg	**Sb**	**01 41 17.0**	**+0.7**
BHD				AML	AML	01 41 31.1	
	comp=E,202nm,0.6s						
ILIN	**Lien**	**1.58**	**44**	Pg	**Pn**	**01 41 08.7**	**+1.2**
IKRK	**Kirkuk**	**1.92**	**327**	*e*Pn	**Pn**	**01 41 12.0**	**+0.1**
IKRK				*e*Sn	**Sn**	**01 41 37.0**	**+0.9**
IKRK				AML	AML	01 41 44.8	
	comp=N,60nm,0.5s						
IKRK				AML	AML	01 41 47.8	
	comp=E,50nm,0.5s						
RAFI	**Al-Rafai**	**2.10**	**168**	*e*Pn	**Pn**	**01 41 15.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**01 41 40.0**	**-0.5**

*IDC **24** 01:48:57.0±1.6, 7°.00S×105°.76E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=35.6km s-min=18.1km az=1.0*
*DJA **24** 01:49:02.2±0.6, 7°.S±3°.×107°.6E±°, h11km±5km, M4.5/13, mb4.8/3, MLv4.4/13*
ISC 24 01:49:01.7±1.1,**7.18S**±0°.07×**106°.00E**±0°.06,**h10**km,**n31,** σ0s**99/24,mb3.5/4,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.58**	**73**	P	**Pn**	**01 49 15.9**	**-0.1**
SKJI				S	**Sb**	**01 49 23.4**	**+1.2**
DBJI	**Dramaga**	**0.97**	**50**	P	**Pn**	**01 49 21.7**	**+0.3**
SBJI	**Serang**	**1.06**	**7**	P	**Pn**	**01 49 23.0**	**+0.4**
CNJI	**Cibinong**	**1.13**	**97**	P	**Pb**	**01 49 23.2**	**-0.1**
CBJI	**Citeko**	**1.13**	**48**	P	**Pb**	**01 49 22.8**	**-0.5**
CBJI				S	**Sg**	**01 49 36.8**	**-1.4**
TNG	**Tangerang**	**1.19**	**33**	P	**Pg**	**01 49 24.9**	**+0.4**
TNG				S	**Sn**	**01 49 40.4**	**-0.2**
LEM	**Lembang**	**1.64**	**78**	Pg	**Pb**	**01 49 32.5**	**+0.3**
	292nm,0.3s,baz=167,slow=23,SNR=66						
LEM				Lg	Lg	01 49 55.1	
	109nm,0.3s,baz=126,slow=20,SNR=10						
LEM	**Lembang**	**1.64**	**78**	P	**Pb**	**01 49 32.2**	**0.0**
BBJI	**Bungbulang**	**1.66**	**100**	P	**Pn**	**01 49 31.1**	**+0.1**
KASI	**Kota Agung**	**2.22**	**318**	P	**Pn**	**01 49 40.3**	**+1.7**
CMJI	**Cimerak**	**2.50**	**104**	P	**Pn**	**01 49 42.7**	**+0.2**
LWLI	**Liwa**	**2.88**	**318**	P	**Pn**	**01 49 48.9**	**+1.0**
KPJI	**Karang Pucung**	**2.91**	**93**	P	**Pn**	**01 49 50.4**	**+2.3**
EGSI	**Enggano, Bengk**	**4.12**	**296**	P	**Pn**	**01 50 06.3**	**+1.6**
UGM	**Wanagama**	**4.54**	**100**	P	**Pn**	**01 50 11.3**	**+0.7**
PPSI	**Pulau Pagai**	**7.40**	**306**	P	**Pn**	**01 50 50.3**	**+0.4**
	382nm,1.1s,1.3nm						
JAGI	**Jajag, Banyuwa**	**8.18**	**100**	P	**Pn**	**01 51 01.9**	**+1.3**
	31nm,1.2s						
SISI	**Saibi**	**9.01**	**310**	P	**Pn**	**01 51 11.5**	**-0.5**
H01W3	**Cape Leeuwin H**	**28.57**	**166**	T	T	02 25 25.0	
	baz=344,slow=76,SNR=51						
H01W1	**Cape Leeuwin H**	**28.59**	**166**	T	T	02 25 25.4	
	baz=344,slow=76,SNR=49						
H01W2	**Cape Leeuwin H**	**28.59**	**166**	T	T	02 25 26.4	
	baz=344,slow=76,SNR=74						
WRA	**Warramunga Arr**	**30.27**	**118**	P	**P**	**01 55 12.2**	**-1.0**
	0.7nm,0.7s,baz=290,slow=11,SNR=6.2						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**31.40**	**125**	P	**P**	**01 55 22.2**	**-1.0**
	0.2nm,0.4s,baz=311,slow=7.0,SNR=2.2						
	0.2nm,0.4s						
H08S2	**Diego Garcia H**	**33.23**	**267**	T	T	02 31 08.5	
	baz=92,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**33.23**	**267**	T	T	02 31 09.1	
	baz=92,slow=76,SNR=40						
H08S1	**Diego Garcia H**	**33.24**	**267**	T	T	02 31 10.1	
	baz=92,slow=76,SNR=21						
STKA	**Stephens Creek**	**41.27**	**131**	P	**P**	**01 56 47.3**	**0.0**
	0.9nm,0.5s,baz=311,slow=11,SNR=3.2						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**57.72**	**341**	P	P	01 58 47.7	-5.0
	0.1nm,0.5s,baz=150,slow=7.9,SNR=1.9						
	0.1nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.48**	**220**	T	T	03 05 18.5	
	baz=67,slow=75,SNR=94						
H04N1	**CROZET ISLANDS**	**60.50**	**220**	T	T	03 05 11.5	
	baz=67,slow=75,SNR=94						
H04N3	**CROZET ISLANDS**	**60.50**	**220**	T	T	03 05 17.5	
	baz=67,slow=75,SNR=89						

*NEIC **24** 01:53:33.2±2.2, 17°.8S±0°.1×178°.6W±0°.1, h523km±8km, mb4.2/108, Error ellipse: s-maj=22.9km s-min=15.2km az=144.0*
*IDC **24** 01:53:35.2±2.5, 17°.72S×178°.72W, h546km±27km, mb3.6/15, mbtmp4.5/16, Error ellipse: s-maj=19.8km s-min=14.0km az=136.0*
ISC 24 01:53:35.1±0.4,**17.88S**±0°.08×**178°.65W**±0°.08,**h550**km, **n240,σ1s63/239,mb4.2/68,13C-14D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**60**	P	**P**	01 55 26.8	-3.3
NIUE	**Niue**	**8.37**	**100**	P	**P**	**01 55 35.1**	**-1.4**
LIFNC	**LIFOU**	**13.62**	**256**	P	**P**	**01 56 29.0**	**-1.4**
PINNC	**Pines Island,**	**13.87**	**248**	P	**P**	**01 56 32.6**	**-0.2**
OUENC	**Ouen Island, N**	**14.35**	**249**	P	**P**	**01 56 37.0**	**-0.8**
DZM	**Mont Dzumac**	**14.61**	**251**	P	**P**	**01 56 40.5**	**-0.2**
DZM	**Mont Dzumac**	**14.61**	**251**	P	**P**	**01 56 40.5**	**-0.2**
	19nm,0.6s,baz=68,slow=18,SNR=22						
KOUNC	**Koumac, New Ca**	**16.33**	**258**	P	**P**	**01 56 58.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**16.33**	**258**	P	**P**	**01 56 58.3**	**+0.5**
TOZ	**Tahuroa Road**	**20.43**	**193**	P	**P**	**01 57 35.1**	**+0.3**
TOZ				IAmb	IAmb	01 57 39.2	
	comp=Z,7.3nm,1.0s						
MRZ	**Mangatainoka R**	**23.24**	**191**	P	**P**	**01 57 58.2**	**-1.8**
MRZ				IAmb	IAmb	01 58 14.3	
	comp=Z,16nm,1.2s						
QRZ	**Quartz Range**	**24.09**	**197**	P	**P**	**01 58 07.6**	**0.0**
MRNZ	**Matariki Terra**	**24.57**	**196**	P	**P**	**01 58 12.1**	**+0.2**
LTZ	**Lake Taylor**	**25.99**	**195**	P	**P**	**01 58 23.1**	**-1.3**
LTZ				IAmb	IAmb	01 58 26.6	
	comp=Z,7.4nm,0.6s						
FOZ	**Fox Glacier**	**27.36**	**198**	P	**P**	**01 58 35.7**	**-0.7**
EIDS	**Eidsvold**	**29.06**	**250**	P	**P**	**01 58 51.2**	**-0.2**
ARMA	**Armidale**	**29.75**	**240**	P	**P**	**01 58 58.6**	**+1.1**
WHZ	**Wether Hill Ro**	**30.07**	**199**	P	**P**	**01 59 01.0**	**+1.1**
CTA	**Charters Tower**	**33.22**	**261**	P	**P**	**01 59 27.3**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=84,slow=11,SNR=6.2						
	comp=Z,9.1nm,0.6s						
CNB	**Canberra Magne**	**33.26**	**232**	P	**P**	**01 59 28.9**	**+1.5**
CAN	**Canberra**	**33.53**	**232**	P	**P**	**01 59 30.5**	**+0.8**
PMG	**Port Moresby**	**34.23**	**280**	P	**P**	**01 59 35.0**	**-0.6**
	comp=Z,7.3nm,0.3s,baz=90,slow=1.0,SNR=5.6						
	comp=Z,7.3nm,0.3s						
COEN	**Coen**	**36.87**	**270**	P	**P**	**01 59 57.9**	**+0.3**
TOO	**Toolangi**	**37.00**	**231**	P	**P**	**01 59 59.8**	**+1.4**
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**02 00 11.0**	**+0.8**
STKA				IAmb	IAmb	02 00 12.2	
	comp=Z,5.5nm,1.1s						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**02 00 11.2**	**+1.0**
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**02 00 11.4**	**+1.2**
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**02 00 11.3**	**+1.2**
	comp=Z,11nm,0.4s,baz=91,slow=10,SNR=39						
	comp=Z,11nm,0.4s						
INKA	**Innaminka**	**38.54**	**248**	P	**P**	**02 00 12.5**	**+1.5**
ARPS	**Mount Arapiles**	**39.48**	**233**	P	**P**	**02 00 19.3**	**+0.8**
MCQ	**Macquarie Isla**	**40.40**	**200**	P	**P**	**02 00 24.2**	**-1.3**
HTT	**Hallett**	**40.96**	**239**	P	**P**	**02 00 31.2**	**+0.8**
HTT	**Hallett**	**40.96**	**239**	P	**P**	**02 00 31.4**	**+1.0**
LCRK	**Leigh Creek**	**41.06**	**244**	P	**P**	**02 00 32.0**	**+0.8**
WHYH	**Whyalla**	**41.99**	**240**	P	**P**	**02 00 39.5**	**+1.0**
OOD	**Oodnadatta**	**43.01**	**248**	P	**P**	**02 00 47.5**	**+0.9**
OOD	**Oodnadatta**	**43.01**	**248**	P	**P**	**02 00 47.7**	**+1.1**
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**02 00 48.5**	**+0.4**
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**02 00 48.6**	**+0.5**
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**02 00 48.7**	**+0.6**
WR0	**Warramunga Arr**	**44.22**	**260**	P	**P**	**02 00 55.1**	**-1.0**
WR0				IAmb	IAmb	02 00 59.3	
	comp=Z,4.3nm,0.7s						
WB0	**Warramunga Arr**	**44.37**	**260**	P	**P**	**02 00 56.2**

M14K	**Bethel**	**79.51**	**8**	P	**P**	**02 04 42.9**	**-1.5**
M14K				IAmb	IAmb	02 05 07.1		
	comp=Z,11nm,1.1s							
RYN	**Ryan**	**79.53**	**44**	P	**P**	**02 04 45.3**	**-0.1**
PAHR	**Pah Rah Range**	**79.56**	**42**	P	**P**	**02 04 45.7**	**+0.2**
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**02 04 46.3**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=228,slow=8.0,SNR=16							
	comp=Z,2.8nm,0.6s							
O18K	**Koktuh Hills**	**79.78**	**12**	P	**P**	**02 04 44.6**	**-1.3**
KVN	**Kaiserville**	**80.04**	**44**	P	**P**	**02 04 48.2**	**+0.1**
TPNV	**Topopah Spring**	**80.17**	**46**	P	**P**	**02 04 49.3**	**+0.6**
M16K	**Timber Creek**	**80.21**	**10**	P	**P**	**02 04 48.4**	**+0.2**
K05A	**Summer Lake**	**80.33**	**39**	P	**P**	**02 04 50.4**	**+0.9**
K05A				IAmb	IAmb	02 04 50.8		
	comp=Z,7.0nm,0.7s							
N18K	**Kilae Creek**	**80.42**	**11**	P	**P**	**02 04 48.2**	**-1.0**
J05D	**Fort Rock, OR**	**80.45**	**39**	P	**P**	**02 04 50.7**	**+0.7**
J05D				IAmb	IAmb	02 04 51.9		
	comp=Z,12nm,0.8s							
BRLK	**Bradley Lake**	**80.61**	**14**	P	**P**	**02 04 49.3**	**-1.0**
BRLK				IAmb	IAmb	02 05 15.4		
	comp=Z,6.3nm,1.0s							
L16K	**Owhat River**	**80.79**	**9**	P	**P**	**02 04 50.8**	**-0.3**
L16K				IAmb	IAmb	02 04 54.5		
	comp=Z,5.2nm,0.9s							
M17K	**Holitna River**	**80.82**	**10**	P	**P**	**02 04 51.4**	**+0.1**
M17K				IAmb	IAmb	02 04 53.0		
	comp=Z,11nm,0.8s							
SVW2	**Sparrevohn**	**80.86**	**11**	P	**P**	**02 04 50.4**	**-1.1**
SVW2				IAmb	IAmb	02 04 58.0		
	comp=Z,5.8nm,1.1s							
K15K	**Wolf Creek Mou**	**81.05**	**8**	P	**P**	**02 04 53.0**	**+0.5**
J14K	**Nanvaranak Lak**	**81.24**	**7**	P	**P**	**02 04 53.3**	**-0.1**
R11B	**Troy Canyon, C**	**81.34**	**45**	P	**P**	**02 04 55.1**	**+0.3**
BMN	**Battle Mountai**	**81.35**	**43**	P	**P**	**02 04 54.6**	**-0.2**
BMN				IAmb	IAmb	02 04 56.3		
	comp=Z,7.9nm,1.1s							
WVOR	**Wild Horse Val**	**81.54**	**40**	P	**P**	**02 04 55.8**	**+0.2**
WVOR				IAmb	IAmb	02 04 57.8		
	comp=Z,6.9nm,0.9s							
L18K	**Granite Mounta**	**81.71**	**10**	P	**P**	**02 04 56.3**	**+0.4**
L18K				IAmb	IAmb	02 04 56.9		
	comp=Z,5.3nm,0.6s							
K17K	**Iditarod**	**81.92**	**9**	P	**P**	**02 04 56.4**	**-0.5**
K17K				IAmb	IAmb	02 05 15.4		
	comp=Z,8.0nm,1.1s							
G06A	**Carlson Farm,**	**81.93**	**37**	P	**P**	**02 04 57.5**	**+0.1**
I07A	**Izee**	**81.93**	**39**	P	**P**	**02 04 57.6**	**0.0**
I07A				IAmb	IAmb	02 04 59.2		
	comp=Z,6.1nm,0.8s							
L19K	**White Mountain**	**82.00**	**11**	P	**P**	**02 04 57.3**	**-0.1**
J16K	**Anvik River**	**82.13**	**8**	P	**P**	**02 04 58.0**	**0.0**
J16K				IAmb	IAmb	02 04 59.2		
	comp=Z,12nm,1.0s							
SUA	**Susitna One**	**82.16**	**13**	P	**P**	**02 04 57.3**	**-1.0**
LCMT	**Little Creek M**	**82.28**	**47**	P	**P**	**02 04 59.5**	**-0.1**
TTA	**Tatalina**	**82.49**	**10**	P	**P**	**02 04 59.3**	**-0.6**
SPR3	**Spring Creek 3**	**82.52**	**45**	P	**P**	**02 05 00.7**	**-0.3**
KNB	**Kanab**	**82.58**	**47**	P	**P**	**02 05 01.6**	**+0.4**
KNB				IAmb	IAmb	02 05 03.0		
	comp=Z,4.6nm,0.9s							
KNK	**Knik Glacier**	**82.63**	**14**	P	**P**	**02 04 59.7**	**-0.9**
KNK				IAmb	IAmb	02 05 01.0		
	comp=Z,7.9nm,0.8s							
U15A	**North Rim**	**82.68**	**48**	P	**P**	**02 05 02.6**	**+0.8**
U15A				IAmb	IAmb	02 05 03.8		
	comp=Z,8.1nm,0.8s							
ANM	**Nome**	**82.82**	**6**	P	**P**	**02 05 01.4**	**-0.1**
GHO	**Glory Hole Cre**	**82.84**	**14**	P	**P**	**02 05 00.6**	**-1.1**
J18K	**Innoko River**	**82.88**	**10**	P	**P**	**02 05 01.5**	**-0.3**
J18K				IAmb	IAmb	02 05 02.5		
	comp=Z,8.4nm,0.8s							
K20K	**Telida**	**83.23**	**11**	P	**P**	**02 05 03.2**	**-0.3**
K20K				IAmb	IAmb	02 05 04.0		
	comp=Z,7.5nm,0.8s							
SCM	**Sheep Creek Mo**	**83.26**	**14**	P	**P**	**02 05 03.4**	**-0.4**
MTPU	**Mount Pierson**	**83.52**	**47**	P	**P**	**02 05 06.8**	**+0.8**
J19K	**Poorman**	**83.55**	**10**	P	**P**	**02 05 05.1**	**0.0**
J19K				IAmb	IAmb	02 05 05.6		
	comp=Z,2.9nm,0.6s							
CAST	**Castle Rocks**	**83.65**	**12**	P	**P**	**02 05 03.5**	**-2.2**
CAST				IAmb	IAmb	02 05 05.1		
	comp=Z,9.0nm,0.7s							
VRDI	**Verde Repeater**	**83.72**	**16**	P	**P**	**02 05 05.4**	**-0.8**
VRDI				IAmb	IAmb	02 05 06.1		
	comp=Z,5.3nm,0.7s							
N25K	**Chitina, Valde**	**83.74**	**16**	P	**P**	**02 05 05.9**	**-0.3**
M24K	**Tolsona, Glenn**	**83.78**	**15**	P	**P**	**02 05 06.2**	**-0.1**
H17K	**Granite Mounta**	**83.80**	**8**	P	**P**	**02 05 05.0**	**-1.3**
GLB	**Gilahina Butte**	**83.81**	**16**	P	**P**	**02 05 05.8**	**-0.6**
J20K	**Nowinta River**	**83.97**	**11**	P	**P**	**02 05 06.5**	**-0.6**
J20K				IAmb	IAmb	02 05 07.8		
	comp=Z,6.3nm,0.8s							
TRF	**Thorofare Moun**	**84.04**	**12**	P	**P**	**02 05 06.6**	**-1.2**
BARN	**Barnard Glacie**	**84.07**	**17**	P	**P**	**02 05 07.7**	**-0.3**
BARN				IAmb	IAmb	02 05 08.2		
	comp=Z,6.2nm,0.8s							
DHY	**Denali Highway**	**84.33**	**14**	P	**P**	**02 05 08.0**	**-1.1**
DHY				IAmb	IAmb	02 05 16.1		
	comp=Z,7.2nm,1.1s							
PLID	**Pearl Lake**	**84.58**	**39**	P	**P**	**02 05 11.3**	**+0.4**
HLID	**Hailey**	**84.77**	**41**	P	**P**	**02 05 12.2**	**+0.4**
G18K	**Tagagawik**	**84.88**	**8**	P	**P**	**02 05 10.6**	**-1.0**
M27K	**Edge Creek, AK**	**85.08**	**16**	P	**P**	**02 05 12.4**	**-0.5**
M27K				IAmb	IAmb	02 05 13.7		
	comp=Z,8.6nm,1.1s							
HDA	**Harding Lake**	**85.59**	**13**	P	**P**	**02 05 13.9**	**-1.2**
CCB	**Clear Creek Bu**	**85.61**	**13**	P	**P**	**02 05 14.1**	**-1.0**
CCB				IAmb	IAmb	02 05 14.2		
	comp=Z,3.9nm,0.6s							
IL31		**85.92**	**13**	P	**P**	**02 05 15.2**	**-1.4**
IL31				IAmb	IAmb	02 05 17.2		
	comp=Z,3.8nm,1.1s							
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**02 05 15.3**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=223,slow=5.2,SNR=50							
	comp=Z,1.8nm,0.4s							
TX31	**Lajitas Ar. Si**	**86.18**	**58**	P	**P**	**02 05 19.8**	**+1.0**
TX31				IAmb	IAmb	02 05 21.4		
	comp=Z,4.5nm,0.9s							
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**02 05 20.1**	**+1.3**
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**02 05 20.4**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=215,slow=6.0,SNR=29							
	comp=Z,3.2nm,0.7s							
FXWY	**Fox Creek**	**86.95**	**42**	P	**P**	**02 05 22.3**	**0.0**
HHC	**Hu-ho-hao-te**	**87.09**	**315**	*eP*	**P**	**02 05 25.8**	**+3.0**
HHC				pmax	pmax			
	comp=Z,22nm,0.8s							
HHC				pmax	pmax			
	comp=Z,560nm,6.0s							
BW06	**Boulder Array**	**87.50**	**44**	P	**P**	**02 05 24.8**	**0.0**
BW06				IAmb	IAmb	02 05 25.3		
	comp=Z,2.1nm,0.6s							
PD31	**Pinedale Array**	**87.50**	**44**	P	**P**	**02 05 24.8**	**0.0**
PD31				IAmb	IAmb	02 05 25.3		
	comp=Z,1.9nm,0.6s							
PDAR	**Pinedale Array**	**87.50**	**44**	P	**P**	**02 05 25.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=209,slow=3.3,SNR=30							
	comp=Z,2.0nm,0.5s							
SAND	**Sanderson**	**87.66**	**58**	P	**P**	**02 05 26.2**	**+0.5**
SAND				IAmb	IAmb	02 05 27.4		
	comp=Z,2.7nm,0.9s							
PZH	**PanZhiHua**	**88.94**	**298**	P	**P**	**02 05 32.3**	**+0.5**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
ELIB	**Princess Elisa**	**89.16**	**187**	*dP*	**P**	**02 05 28.9**	**-3.1**
G30M	**tAoh Zrail Nji**	**90.24**	**15**	P	**P**	**02 05 35.5**	**-1.3**
G30M				IAmb	IAmb	02 05 37.2		
	comp=Z,4.7nm,0.8s							
G31M	**Satah River**	**90.70**	**16**	P	**P**	**02 05 37.8**	**-1.1**
SONM	**Songino Array**	**93.38**	**319**	P	**P**	**02 05 51.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=106,slow=4.7,SNR=2.3							
	comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**94.41**	**25**	P	**P**	**02 05 55.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=246,slow=4.5,SNR=11							
	comp=Z,0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**108.07**	**322**	PKiKP	**PKiKP**	**02 10 59.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=338,slow=1.6,SNR=1.5							
MKAR	**Makanchi Array**	**108.95**	**314**	PKiKP	**PKiKP**	**02 11 01.1**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=225,slow=1.3,SNR=11							
KURBB	**Kurchatov Arra**	**111.71**	**318**	PKiKP	**PKiKP**	**02 11 06.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=83,slow=2.0,SNR=6.1							
BVAR	**Borovoye Array**	**116.68**	**321**	PKP	**PKPdf**	**02 11 16.1**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=121,slow=2.4,SNR=14							

ARCES	**ARCESS Array B**	**126.25**	**350**	PKP	**PKPdf**	**02 11 34.3**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=26,slow=0.5,SNR=9.9							
FINES	**FINESS Array B**	**133.10**	**344**	PKP	**PKPdf**	**02 11 47.0**	**-0.9**
	comp=Z,5.3nm,1.1s,baz=98,slow=2.9,SNR=5.8							
AKASG	**Malin Array Be**	**140.43**	**332**	PKhKP	PKPpre	02 11 54.8		
	comp=Z,0.3nm,0.3s,baz=45,slow=4.0,SNR=4.9							
AKASG				PKP	**PKPdf**	**02 12 03.0**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=39,slow=2.6,SNR=4.9							
SORM	**Soroca**	**142.65**	**330**	⇓P	**PKPdf**	**02 12 02.5**	**-3.3**
BNN	**Bunyan**	**143.46**	**312**	PKPdf	PKPab	02 12 06.7	+0.5
VASR	**Vaslui**	**143.97**	**329**	⇑P	PKPbc	02 12 07.9	+0.4
VLDR	**Vladesti**	**144.37**	**327**	⇑P	**PKPdf**	**02 12 09.4**	**+0.6**
BUR08	**Bucovina Ar. S**	**144.47**	**332**		**PKPdf**	**02 12 09.0**	**-0.1**
BURAR	**Bucovina Array**	**144.48**	**332**	⇑P	**PKPdf**	**02 12 10.1**	**+1.0**
GHRR		**144.56**	**328**	⇑P	**PKPdf**	**02 12 10.5**	**+1.3**
BRTR	**Keskin Array B**	**144.60**	**315**	PKP	**PKPdf**	**02 12 09.7**	**0.0**
	comp=Z,1.7nm,0.5s,baz=107,slow=1.6,SNR=16							
KOLS	**Kolonicke sedl**	**144.69**	**336**	*e*PKP	**PKPdf**	**02 12 10.3**	**+0.9**
TPGR	**Topolog**	**144.85**	**326**	⇓P	**PKPdf**	**02 12 11.0**	**+1.3**
TURR	**Turia**	**145.25**	**329**	⇓P	**PKPbc**	**02 12 13.7**	**+2.2**
OSTC	**Ostas**	**145.30**	**343**	*e*PKP	**PKPdf**	**02 12 12.1**	**+1.7**
CHVC	**Chvalec**	**145.32**	**343**	*e*PKP	**PKPdf**	**02 12 11.3**	**+0.9**
CLL	**Collm**	**145.39**	**347**	PKPdf	**PKPdf**	**02 12 10.6**	**+0.2**
CLL	**Collm**	**145.39**	**347**	*i* PKPbc	**PKPdf**	**02 12 11.3**	**+0.9**
	comp=Z,11nm,0.6s							
UPC	**Upice**	**145.40**	**343**	*e*PKP	**PKPdf**	**02 12 11.4**	**+0.9**
DPC	**Dobruska-Polom**	**145.46**	**343**	*e*PKP	**PKPdf**	**02 12 12.3**	**+1.6**
KRLC	**Kraliky**	**145.57**	**342**	*e*PKP	**PKPdf**	**02 12 12.4**	**+1.5**
BRG	**Berggiesshubel**	**145.59**	**346**	*e*PKP	**PKPdf**	**02 12 12.4**	**+1.6**
BRG				Amp		02 12 13.9		
	comp=Z,7.9nm,1.1s							
MORC	**Moravsky Berou**	**145.61**	**341**	*e*PKP	**PKPdf**	**02 12 12.5**	**+1.5**
DOPR	**Dopca**	**145.62**	**330**	⇑P	**PKPdf**	**02 12 13.3**	**+2.2**
PVCC	**Panska Ves**	**145.76**	**345**	*e*PKP	**PKPdf**	**02 12 13.1**	**+2.0**
CBBR	**Cluj-Babes-Bol**	**145.87**	**332**	⇓P	**PKPdf**	**02 12 10.1**	**-1.3**
CJR	**Cluj-Napoca**	**145.89**	**332**	⇑P	**PKPdf**	**02 12 13.6**	**+2.1**
MMAI	**Mount Meron Ar**	**145.93**	**303**	PKPbc	**PKPdf**	**02 12 14.5**	**+2.4**
	comp=Z,1.2nm,0.4s,baz=74,slow=6.2,SNR=8.3							
HSKC	**Hora Svate Kat**	**145.95**	**346**	*e*PKP	**PKPdf**	**02 12 13.5**	**+2.0**
MARR	**Marisel-Cluj**	**146.13**	**333**	⇓P	**PKPdf**	**02 12 14.4**	**+2.4**
DRGR		**146.21**	**333**	⇑P	**PKPdf**	**02 12 14.4**	**+2.3**
PRU	**Pruhonice**	**146.26**	**345**	*e*PKP	**PKPdf**	**02 12 14.1**	**+2.1**
VYHS	**Vyhne**	**146.31**	**339**	*e*PKP	**PKPdf**	**02 12 14.5**	**+2.4**
VRAC	**Vranov**	**146.32**	**342**	*e*PKP	**PKPdf**	**02 12 14.2**	**+2.1**
JAVC	**Velka Javorina**	**146.38**	**340**	*e*PKP	**PKPbc**	**02 12 15.9**	**+1.3**
ARR	**Arges**	**146.42**	**330**	⇑P	**PKPdf**	**02 12 15.3**	**+2.8**
PSZ	**Piszkesteto**	**146.42**	**337**	⇑P	**PKPdf**	**02 12 14.1**	**+1.7**
PSZ	**Piszkesteto**	**146.42**	**337**		**PKPdf**	**02 12 14.7**	**+2.3**
KRUC	**Moravsky**	**146.59**	**342**	*e*PKP	**PKPdf**	**02 12 14.9**	**+2.3**
TREC	**Trest**	**146.65**	**343**	*e*PKP	**PKPdf**	**02 12 15.2**	**+2.5**
ZVC	**Zvikov**	**146.86**	**345**	*e*PKP	**PKPdf**	**02 12 15.5**	**+2.5**
MORS	**Modra-Piesok**	**146.93**	**340**	*e*PKP	**PKPbc**	**02 12 16.8**	**+0.7**
SIRR	**Siria**	**147.07**	**334**	⇓P	**PKPdf**	**02 12 16.8**	**+3.3**
SRO	**Srobarova**	**147.08**	**339**	*e*PKP	**PKPbc**	**02 12 17.5**	**+1.1**
MEM	**Membach**	**147.14**	**355**	*d*PKPdf	**PKPdf**	**02 12 12.8**	**-0.6**
BSTI	**Sart Tilman**	**147.20**	**355**	*d*PKPdf	**PKPdf**	**02 12 12.7**	**-0.8**
KHC	**Kasperske Hory**	**147.29**	**345**	PKPbc	**PKPdf**	**02 12 16.4**	**+2.6**
KHC	**Kasperske Hory**	**147.29**	**345**	*e*PKP	**PKPdf**	**02 12 17.0**	**+3.2**
KHC				*ex*	x	02 12 21.2		
BCLA	**Clavier**	**147.39**	**355**	*d*PKPdf	**PKPdf**	**02 12 13.7**	**-0.1**
CKRC	**Cesky Krumlov**	**147.40**	**344**	*e*PKP	**PKPdf**	**02 12 17.3**	**+3.4**
BGES	**Gesves**	**147.44**	**356**	*d*PKP	**PKPdf**	**02 12 16.0**	**+2.1**
GEC2	**GERESS Array S**	**147.53**	**345**	PKPbc	**PKPdf**	**02 12 17.8**	**+3.5**
GERES	**GERESS Array B**	**147.53**	**345**	PKPbc	**PKPdf**	**02 12 17.7**	**+3.5**
	comp=Z,3.8nm,0.5s,baz=9.7,slow=3.9,SNR=14							
BZS	**Buzias**	**147.61**	**333**	⇑P	**PKPdf**	**02 12 17.9**	**+3.5**
DOU	**Dourbes**	**147.76**	**356**	*d*PKP	**PKPdf**	**02 12 18.1**	**+3.7**
CONA	**Conrad Observa**	**147.77**	**342**	*i* PKP	**PKPdf**	**02 12 18.6**	**+3.9**
	comp=Z,3.6nm,0.6s							
HERR	**Herculane**	**147.82**	**331**	⇑P	**PKPdf**	**02 12 18.2**	**+3.5**
RONA	**Rosalia, Austr**	**147.84**	**341**	*i* PKP	**PKPdf**	**02 12 18.7**	**+4.0**
	comp=Z,3.1nm,0.6s,SNR=5.7							
WLF	**Walferdange**	**148.06**	**354**	*d*PKP	**PKPdf**	**02 12 18.8**	**+3.9**
MOA	**Molln**	**148.30**	**343**	*i* PKP	**PKPdf**	**02 12 19.4**	**+4.0**
	comp=Z,7.4nm,1.4s							
BLKB	**Belogradchik**	**148.65**	**329**	⇓P	**PKPdf**	**02 12 20.2**	**+4.1**
FRGS	**Fruska Gora**	**148.74**	**334**	⇑P	**PKPdf**	**02 12 20.5**	**+4.3**
LESA	**Schwarzleotal**	**149.10**	**345**	*i* PKP	**PKPdf**	**02 12 21.3**	**+4.5**
	comp=Z,2.9nm,0.4s							
BOVS	**Bovan**	**149.10**	**331**	⇑P	**PKPdf**	**02 12 20.9**	**+4.1**
SOKA	**Soboth**	**149.14**	**341**	*i* PKP	**PKPdf**	**02 12 21.1**	**+4.2**
	comp=Z,5.5nm,1.2s							
KBA	**Koelnbreinsper**	**149.25**	**344**	*i* PKP	**PKPdf**	**02 12 21.2**	**+4.0**
	comp=Z,3.3nm,0.4s,SNR=11							
WATA	**Walderalm**	**149.45**	**346**	*i* PKP	**PKPdf**	**02 12 22.1**	**+4.6**
	comp=Z,3.3nm,0.4s,SNR=4.7							
RETA	**Reutte**	**149.48**	**347**	*i* PKP	**PKPbc**	**02 12 22.4**	**-0.2**
	comp=Z,2.5nm,0.6s							
WTTA	**Wattenberg**	**149.50**	**346**	*i* PKP	**PKPbc**	**02 12 22.5**	**-0.3**
	comp=Z,5.2nm,0.4s,SNR=11							
MOTA	**Moosalm**	**149.54**	**347**	*i* PKP	**PKPbc**	**02 12 22.4**	**-0.5**
	comp=Z,9.2nm,1.2s,SNR=4.4							
MYKA	**Terra Mystica**	**149.59**	**343**	*e*PKP	**PKPdf**	**02 12 21.9**	**+4.3**
	comp=Z,2.8nm,0.5s,SNR=7.1							
SQTA	**Sankt Quirin**	**149.64**	**347**	*i* PKP	**PKPbc**	**02 12 22.7**	**-0.3**
	comp=Z,6.5nm,0.5s,SNR=8.4							
ABTA	**Abfaltersbach**	**149.78**	**345**	*e*PKP	**PKPdf**	**02 12 22.4**	**+4.5**
	comp=Z,4.2nm,0.6s,SNR=5.1							
PRED	**Cave del Predi**	**149.78**	**343**	PKPbc	**PKPdf**	**02 12 22.0**	**+4.1**
DAVA	**Damuels**	**149.85**	**348**	*e*PKiKP	**PKPbc**	**02 12 24.0**	**+4.0**
	comp=Z,1.7nm,0.5s							
FETA	**Feichten**	**149.93**	**347**	*i* PKP	**PKPbc**	**02 12 23.6**	**-0.2**
	comp=Z,3.0nm,0.7s,SNR=4.2							
STAL	**STALIGIAL**	**150.18**	**344**	PKPbc	**PKPdf**	**02 12 23.1**	**+4.6**
FUORN	**Ofenpass-Fuorn**	**150.41**	**348**	PKPbc	**PKPbc**	**02 12 25.3**	**+0.3**
FNA	**Florina**	**151.40**	**327**	PKPbc	**PKPbc**	**02 12 26.3**	**-0.9**
ESDC	**Sonseca Array**	**157.80**	**11**	PKPab	**PKPab**	**02 13 04.7**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=342,slow=4.9,SNR=6.9							

*AEIC **24** 01:58:56.7±2.6,56°.2N±0°.1×149°.5W±0°.1,h10km±8km,*
Error ellipse: s-maj=16.9km s-min=9.4km az=172.0
NEIC 24 01:58:56.2±1.5,56°.31N±0°.08×149°.8W±0°.1,h21km±9km,
ML3.1/22,ML2.7(AEIC),Error ellipse: s-maj=13.2km
s-min=7.9km az=153.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.12**	**315**		Pn	01 59 29.8	-0.6
KDAK					Sn	01 59 55.1	-0.9
OHAK	**Old Harbor**	**2.13**	**297**	Pn	Pn	01 59 28.8	-1.7
OHAK				Sn	Sn	01 59 54.0	-2.3
SYI	**Shuyak Island**	**2.70**	**330**	Pn	Pn	01 59 37.1	-1.2
SYI				Sn	Sn	02 00 08.1	-2.1
SYI				IAML		02 00 10.4		
	comp=N,32nm,1.3s							
SYI				IAML		02 01 03.0		
	comp=E,31nm,1.2s							
CNPM	**China Poot**	**3.31**	**347**	Sn	Sn	02 00 27.6	+2.2
Q19K	**Cape Douglas,**	**3.34**	**323**	Pn	Pn	01 59 47.0	-0.2
KAHG	**Katmai Hook Gl**	**3.38**	**312**		Pn	01 59 48.3	+0.6
KAHG					Sn	02 00 27.2	+0.1
BRSE	**Bradley Lake S**	**3.47**	**352**		Pn	01 59 49.0	0.0
BRLK	**Bradley Lake**	**3.51**	**351**	Pn	Pn	01 59 49.2	-0.2
BRLK				IAML		02 00 39.5		
	comp=N,20nm,1.5s							
BRLK				IAML		02 01 30.1		
	comp=E,13nm,1.4s							
ACHA	**Angle Creek He**	**3.56**	**305**		Pn	01 59 50.5	+0.3
Q23K	**Middleton Isla**	**3.62**	**29**	Pn	Pn	01 59 49.9	-1.1
ANCK	**Angle Creek**	**3.63**	**304**		Pn	01 59 51.4	+0.2
P19K	**Oil Pt**	**3.81**	**333**	Pn	Pn	01 59 53.2	-0.5
P19K				IAML		02 00 47.1		
	comp=N,53nm,1.1s							
P19K				IAML		02 00 51.0		
	comp=E,74nm,1.3s							
CNTC	**Contact Creek**	**3.84**	**303**		Pn	01 59 53.7	-0.4
P23K	**Montague Islan**	**3.91**	**18**		Pn	01 59 54.3	-0.6
IVE	**Iliamna Volcan**	**4.09**	**337**		Pn	01 59 57.0	-0.5
P18K	**Big Mountain,**	**4.24**	**319**	Pn	Pn	01 59 58.9	-0.7
P18K				IAML		02 01 05.5		
	comp=N,10nm,1.5s							
O18K	**Koktuh Hills**	**4.57**	**323**	Pn	Pn	02 00 03.2	-0.8
O18K				IAML		02 01 02.3		
	comp=E,9.7nm,0.9s							
O18K				IAML		02 03 08.9		
	comp=N,8.5nm,1.2s							
RAGM	**Ragged Mountai**	**4.89**	**31**	Pn	Pn	02 00 08.9	+0.4
RAGM				IAML		02 00 53.5		
	comp=E,31nm,1.4s							
BERG	**Berg Lake**	**5.20**	**36**	Pn	Pn	02 00 12.9	+0.3
BERG				IAML		02 02 03.9		
	comp=E,36nm,1.5s							

N18K	**Kilae Creek**	**5.42**	**326**	Pn	Pn	02 00 15.8	+0.1
O16K	**Kokwok River B**	**5.51**	**310**	Pn	Pn	02 00 15.9	-1.0
SVW2	**Sparrevohn**	**5.67**	**330**	Pn	Pn	02 00 19.2	+0.2
N17K	**Nushagak Hills**	**5.74**	**320**	Pn	Pn	02 00 20.2	+0.2
GLB	**Gilahina Butte**	**6.00**	**29**	Pn	Pn	02 00 21.3	-2.4
BARN	**Barnard Glacie**	**6.37**	**38**	Pn	Pn	02 00 28.2	-0.8
CTGM	**Chitina Glacie**	**6.42**	**40**	Pn	Pn	02 00 29.4	-0.2
LOGN	**Logan Glacier**	**6.45**	**42**	Pn	Pn	02 00 30.3	+0.3
M17K	**Holitna River**	**6.46**	**325**	Pn	Pn	02 00 31.0	+1.1
BCPM	**Bancas Point**	**6.50**	**52**	Pn	Pn	02 00 30.6	+0.1
N15K	**Kwethluk River**	**6.67**	**310**	Pn	Pn	02 00 33.2	+0.4
M16K	**Timber Creek**	**6.71**	**318**	Pn	Pn	02 00 34.1	+0.7
O29M	**Mount Kennedy**	**7.13**	**51**	Pn	Pn	02 00 39.5	+0.2
P29M	**Windy Craggy**	**7.22**	**58**	Pn	Pn	02 00 38.8	-1.7
L16K	**Owhat River**	**7.36**	**321**	Pn	Pn	02 00 42.4	+0.1
L14K	**Kuka Creek**	**8.37**	**312**	Pn	Pn	02 00 56.0	0.0
M29M	**Somme Creek**	**8.43**	**39**	Pn	Pn	02 00 57.0	-0.1
K15K	**Wolf Creek Mou**	**8.48**	**320**	Pn	Pn	02 01 00.0	+2.4
WHY	**Whitehorse**	**8.94**	**55**	Pn	Pn	02 01 02.1	-1.9
L29M	**L29M**	**9.00**	**36**	Pn	Pn	02 01 05.6	+0.8

*SJA **24** 01:59:56.5±0.6,21°.59S×68°.57W,h128km±3km,ML3.8,*
MW3.6
*GUC **24** 01:59:58.0±0.6,21°.62S×68°.50W,h116km±3km,ML3.7*
ISC 24 01:59:58.1±1.5,21°.59S±0°.03×68°.61W±0°.06,
h124km±10km,n38,σ0.63/71,11C,Chile-Bolivia border
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.62**	**250**	*eP*	**Pn**	**02 00 17.3**	**-0.2**
PB09				*eS*	**Sn**	**02 00 32.5**	**+0.3**
PB09				IAML		02 00 34.6		
	comp=Z,810nm,0.5s							
PB09	**IPOC Station P**	**0.62**	**250**	⇑*iP*	**Pn**	**02 00 17.3**	**-0.2**
PB09				*iS*	**Sn**	**02 00 32.2**	**+0.1**
PB09				IAML		02 00 36.5		
	comp=N,809nm,0.2s							
PB01	**IPOC

OHAK	**Old Harbor**	**2.08**	**301**	Pn	Pn	02 19 42.2	-1.6
OHAK					Sn	02 20 07.3	-1.8
KDAK	**Kodiak Island**	**2.13**	**320**	Pn	Pn	02 19 43.7	-0.9
KDAK	**Kodiak Island**	**2.13**	**320**	Sn	Sn	02 20 10.1	-0.2
SYI	**Shuyak Island**	**2.75**	**333**	Pn	Pn	02 19 52.5	-0.6
KAHG	**Katmai Hook Gl**	**3.38**	**315**		Pn	02 20 02.2	+0.4
KAHG					Pb	02 20 11.2	+1.5
Q19K	**Cape Douglas,**	**3.38**	**326**	Pn	Pn	02 20 01.0	-0.7
Q19K				IAML		02 21 40.4	
	comp=N,170nm,1.6s						
Q19K				IAML		02 21 40.9	
	comp=E,234nm,2.1s						
CNPM	**China Poot**	**3.42**	**350**	Pn	Pn	02 20 01.6	-0.6
CNPM				IAML		02 21 10.5	
	comp=E,109nm,2.8s						
CNPM				IAML		02 21 42.7	
	comp=N,63nm,2.7s						
ACHA	**Angle Creek He**	**3.53**	**307**		Pn	02 20 03.4	-0.5
BRSE	**Bradley Lake S**	**3.59**	**354**		Pn	02 20 03.5	-1.1
BRSE					Pb	02 20 08.9	-4.4
BRSE					Sn	02 20 46.1	-0.2
ANCK	**Angle Creek**	**3.60**	**306**		Pn	02 20 04.8	-0.1
ANCK					Pb	02 20 16.2	+2.8
BRLK	**Bradley Lake**	**3.62**	**353**	Pn	Pn	02 20 04.1	-1.0
BRLK				IAML		02 20 59.2	
	comp=N,78nm,3.0s						
BRLK				IAML		02 21 15.6	
	comp=E,102nm,3.1s						
Q23K	**Middleton Isla**	**3.80**	**30**	Pn	Pn	02 20 06.4	-1.1
Q23K				IAML		02 21 36.5	
	comp=N,118nm,1.4s						
MID	**Middleton Isla**	**3.81**	**30**	Pn	Pn	02 20 07.5	0.0
CNTC	**Contact Creek**	**3.81**	**306**		Pn	02 20 07.2	-0.6
CNTC					Pb	02 20 18.9	+1.9
P19K	**Oil Pt**	**3.88**	**335**	Pn	Pn	02 20 09.3	+0.7
P19K				IAML		02 20 58.0	
	comp=N,83nm,2.5s						
P19K				IAML		02 22 13.2	
	comp=E,100nm,2.7s						
SEW	**Seward**	**3.95**	**4**	Pn	Pn	02 20 10.1	+0.7
P23K	**Montague Islan**	**4.07**	**19**		Pn	02 20 10.5	-0.7
O20K	**Slope Mountain**	**4.15**	**342**		Pn	02 20 14.2	+1.8
O20K					Pb	02 20 18.0	-4.8
IVE	**Iliamna Volcan**	**4.16**	**339**		Pn	02 20 12.4	-0.1
IVE					Pb	02 20 17.7	-5.3
P18K	**Big Mountain,**	**4.26**	**321**	Pn	Pn	02 20 12.4	-1.4
P18K				IAML		02 22 09.6	
	comp=E,31nm,3.5s						
P18K				IAML		02 22 52.6	
	comp=N,26nm,3.1s						
R16K	**Pilot Point**	**4.37**	**292**	Pn	Pn	02 20 15.7	+0.3
RED	**Redoubt Volcan**	**4.49**	**342**		Pn	02 20 16.9	-0.1
RED					Pb	02 20 22.9	-5.8
RSO	**Redoubt South**	**4.53**	**343**	Pn	Pn	02 20 16.7	-1.0
P17K	**Kvichak River**	**4.58**	**314**		Pn	02 20 18.5	+0.3
P17K					Pb	02 20 27.7	-2.4
HIN	**Hinchinbrook I**	**4.62**	**22**	Pn	Pn	02 20 17.7	-1.1
HIN				IAML		02 21 12.2	
	comp=N,46nm,0.7s						
HIN				IAML		02 21 18.7	
	comp=E,41nm,1.5s						
KAIM	**Kayak Island**	**4.79**	**36**	Pn	Pn	02 20 20.4	-0.7
KAIM				IAML		02 21 25.2	
	comp=E,71nm,1.4s						
KAIM				IAML		02 22 46.7	
	comp=N,80nm,1.5s						
EYAK	**Cordova Ski Ar**	**4.92**	**25**	Pn	Pn	02 20 22.9	+0.1
RAGM	**Ragged Mountai**	**5.07**	**32**	Pn	Pn	02 20 25.2	+0.2
P16K	**Nushagak River**	**5.15**	**307**		Pn	02 20 25.3	-0.7
N19K	**Bonanza Creek**	**5.20**	**335**	Pn	Pn	02 20 25.9	-0.9
N19K				IAML		02 21 30.0	
	comp=E,19nm,3.3s						
N19K				IAML		02 21 33.5	
	comp=N,23nm,3.4s						
O17K	**Koliganek Bris**	**5.21**	**317**		Pn	02 20 26.5	-0.3
GOAT	**Goat Mountain**	**5.22**	**30**		Pn	02 20 28.0	+1.0
SPCP	**Crater Peak Br**	**5.22**	**349**		Pn	02 20 31.8	+4.7
KNK	**Knik Glacier**	**5.31**	**8**	Pn	Pn	02 20 29.1	+0.9
KNK				IAML		02 21 44.5	
	comp=N,14nm,1.4s						
SUA	**Susitna One**	**5.31**	**356**	Pn	Pn	02 20 28.0	-0.4
BERG	**Berg Lake**	**5.38**	**36**	Pn	Pn	02 20 28.5	-0.7
BERG				IAML		02 21 31.3	
	comp=N,52nm,1.5s						
DIV	**Divide**	**5.44**	**22**	Pn	Pn	02 20 29.4	-0.6
N18K	**Kilae Creek**	**5.47**	**328**	Pn	Pn	02 20 29.7	-0.6
O16K	**Kokwok River B**	**5.50**	**312**	Pn	Pn	02 20 30.5	-0.3
SNH	**Sunshine Point**	**5.52**	**40**	Pn	Pn	02 20 30.4	-0.8
BMRM	**Bremner River**	**5.57**	**28**	Pn	Pn	02 20 31.6	-0.3
GHO	**Glory Hole Cre**	**5.64**	**5**	Pn	Pn	02 20 33.7	+0.9
SML	**Sawmill**	**5.71**	**8**	Pn	Pn	02 20 34.9	+1.1
SVW2	**Sparrevohn**	**5.72**	**332**	Pn	Pn	02 20 33.7	-0.2
KLU	**Klutina**	**5.74**	**20**	Pn	Pn	02 20 34.3	+0.1
N17K	**Nushagak Hills**	**5.76**	**322**	Pn	Pn	02 20 34.2	-0.3
SCM	**Sheep Creek Mo**	**5.84**	**13**	Pn	Pn	02 20 36.9	+1.3
M20K	**Styx River**	**5.94**	**346**	Pn	Pn	02 20 38.3	+1.4
SDPT	**Sand Point**	**5.96**	**266**	Pn	Pn	02 20 40.5	+3.4
O15K	**Ungalikthiuk R**	**6.06**	**304**		Pn	02 20 38.0	-0.5
VRDI	**Verde Repeater**	**6.11**	**31**	Pn	Pn	02 20 39.2	-0.1
M18K	**Stony River**	**6.12**	**333**		Pn	02 20 38.6	-0.7
N25K	**Chitina, Valde**	**6.12**	**25**	Pn	Pn	02 20 39.7	+0.2
M19K	**Big River Lodg**	**6.17**	**340**	Pn	Pn	02 20 38.0	-2.0
GLB	**Gilahina Butte**	**6.18**	**29**	Pn	Pn	02 20 37.0	-3.2
KIAG	**Kiagna River**	**6.22**	**37**		Pn	02 20 39.2	-1.6
M24K	**Tolsona, Glenn**	**6.26**	**17**	Pn	Pn	02 20 40.7	-0.6
MCARA	**McCarthy VSAT**	**6.36**	**32**	Pn	Pn	02 20 43.3	+0.7
PTPK	**Patty Peak**	**6.38**	**35**		Pn	02 20 43.5	+0.5
PCA	**Pinnacle**	**6.49**	**49**	Pn	Pn	02 20 44.5	+0.1
M17K	**Holitna River**	**6.50**	**327**	Pn	Pn	02 20 44.4	-0.1
L19K	**White Mountain**	**6.51**	**340**	Pn	Pn	02 20 44.6	-0.1
BARN	**Barnard Glacie**	**6.55**	**38**	Pn	Pn	02 20 45.8	+0.4
CTGM	**Chitina Glacie**	**6.60**	**40**	Pn	Pn	02 20 46.0	-0.1
LOGN	**Logan Glacier**	**6.63**	**42**	Pn	Pn	02 20 46.5	+0.1
PNL	**Peninsula**	**6.65**	**54**		Pn	02 20 47.5	+0.9
N15K	**Kwethluk River**	**6.66**	**311**	Pn	Pn	02 20 47.1	+0.4
BCPM	**Bancas Point**	**6.68**	**51**	Pn	Pn	02 20 47.4	+0.4
M16K	**Timber Creek**	**6.74**	**320**	Pn	Pn	02 20 48.0	+0.2
O14K	**Tigyukauivet M**	**6.77**	**302**	Pn	Pn	02 20 47.6	-0.5
L18K	**Granite Mounta**	**6.96**	**333**	Pn	Pn	02 20 49.6	-1.1
DHY	**Denali Highway**	**7.05**	**10**	Pn	Pn	02 20 53.1	+1.0
O29M	**Mount Kennedy**	**7.31**	**51**	Pn	Pn	02 20 56.2	+0.4
L16K	**Owhat River**	**7.39**	**323**	Pn	Pn	02 20 56.7	0.0
P29M	**Windy Craggy**	**7.40**	**57**	Pn	Pn	02 20 56.3	-0.6
KTH	**Kantishna Hill**	**7.41**	**357**	Pn	Pn	02 20 58.2	+1.1
TTA	**Tatalina**	**7.42**	**338**	Pn	Pn	02 20 57.4	+0.2
M27K	**Edge Creek, AK**	**7.46**	**31**	Pn	Pn	02 21 00.0	+2.2
YUK7	**Dusty Glacier**	**7.62**	**50**		Pn	02 21 00.7	+0.7
S31K	**Pelican**	**7.72**	**71**	Pn	Pn	02 20 58.7	-2.5
M14K	**Bethel**	**7.75**	**311**	Pn	Pn	02 21 01.4	-0.3
K17K	**Iditarod**	**7.79**	**331**	Pn	Pn	02 21 01.9	-0.3
RIDG	**Independent Ri**	**8.01**	**17**	Pn	Pn	02 21 07.2	+1.9
HYT	**Haines Junctio**	**8.03**	**49**	Pn	Pn	02 21 05.3	-0.4
J20K	**Nowinta River**	**8.28**	**347**	Pn	Pn	02 21 09.8	+0.9
L14K	**Kuka Creek**	**8.37**	**313**	Pn	Pn	02 21 10.5	+0.5
SKAG	**Skagway**	**8.50**	**61**	Pn	Pn	02 21 11.2	-0.7
K15K	**Wolf Creek Mou**	**8.50**	**321**	Pn	Pn	02 21 12.6	+0.6
N30M	**Aishikik Lake**	**8.54**	**46**	Pn	Pn	02 21 12.6	+0.1
M29M	**Somme Creek**	**8.61**	**38**	Pn	Pn	02 21 14.5	+0.9
O30N	**Mendenhall**	**8.62**	**52**	Pn	Pn	02 21 13.6	0.0
R32K	**Eaglecrest**	**8.67**	**70**	Pn	Pn	02 21 13.0	-1.2
JIS	**Juneau Island**	**8.74**	**70**	Pn	Pn	02 21 15.4	+0.3
IL31		**8.76**	**9**	Pn	Pn	02 21 16.5	+1.1
ILAR	**Eielson Array**	**8.76**	**9**	Pn	Pn	02 21 15.6	+0.1
K27K	**Chicken**	**8.81**	**23**	Pn	Pn	02 21 15.3	-0.8
J16K	**Anvik River**	**8.90**	**328**	Pn	Pn	02 21 16.4	-0.9
J26L	**Joseph Creek**	**8.94**	**18**	Pn	Pn	02 21 17.6	-0.3
N31M	**Braeburn, Yuko**	**9.09**	**48**	Pn	Pn	02 21 19.7	-0.4
WHY	**Whitehorse**	**9.12**	**54**	Pn	Pn	02 21 21.0	+0.5
L29M	**L29M**	**9.18**	**36**	Pn	Pn	02 21 22.6	+1.3
M30M	**Minto, Yukon**	**9.29**	**41**	Pn	Pn	02 21 23.1	+0.2
P32M	**Atlin**	**9.33**	**62**	Pn	Pn	02 21 23.1	-0.2
H21K	**Melozitna Rive**	**9.61**	**353**	Pn	Pn	02 21 27.3	+0.3
PRP	**Porcupine Dome**	**9.62**	**11**	Pn	Pn	02 21 27.6	+0.2
K29M	**Barlow Dome**	**9.89**	**34**	Pn	Pn	02 21 31.7	+0.6
P33M	**Teslin, Yukon**	**9.93**	**59**	Pn	Pn	02 21 31.6	+0.1
Q32M	**Nakina River**	**9.93**	**66**	Pn	Pn	02 21 30.3	-1.4
IMAR	**Indian Mountai**	**10.00**	**351**	Pn	Pn	02 21 34.1	+1.6
M31M	**Drury Creek, Y**	**10.02**	**47**	Pn	Pn	02 21 33.5	+0.8
N32M	**Quiet Lake**	**10.12**	**54**	Pn	Pn	02 21 34.0	-0.1
G23K	**Bananza Creek**	**10.57**	**360**	Pn	Pn	02 21 39.7	-0.6
G24K	**Hadweenzic Riv**	**10.63**	**5**	Pn	Pn	02 21 43.0	+2.0
R33M	**Jennings River**	**10.66**	**65**	Pn	Pn	02 21 40.1	-1.5
J30M	**Hart River**	**10.78**	**33**	Pn	Pn	02 21 44.1	+0.9
DLBC	**Dease Lake**	**11.04**	**70**	Pn	Pn	02 21 45.5	-1.3
BMAR	**Burnt Mountain**	**11.57**	**11**	Pn	Pn	02 21 55.6	+1.6

NEIC ***24*** *02:23:52.1±2.0,56°2N±0.1°×149°7W±0.1°,1,h21km±10km, ML3.6/32,ML3.1(AEIC),Error ellipse: s-maj=15.6km s-min=9.3km az=174.0*

AEIC ***24*** *02:23:54.7±2.4,56°1N±0.1°×149°6W±0.1°,1,h12km±8km, Error ellipse: s-maj=16.4km s-min=9.4km az=171.0*

ISC 24 02:23:50.0±2.4,56°2N±0.1°×149°7W±0.07,h10km,n93, σ1§13/97,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.21**	**300**		**Pn**	**02 24 27.4**	**+0.8**
OHAK					**Sn**	**02 24 52.6**	**-1.4**
OHAK	**Old Harbor**	**2.21**	**300**	P	**Pn**	**02 24 27.0**	**+0.4**
	baz=116						
OHAK				S	**Sn**	**02 24 53.5**	**-0.5**
	baz=116						
KDAK	**Kodiak Island**	**2.23**	**317**	Sn	**Sn**	**02 24 55.0**	**+0.4**
Q20K	**Shuyak Island**	**2.83**	**331**	P	**Pn**	**02 24 34.9**	**-0.2**
	baz=148						
Q20K				S	**Sn**	**02 25 07.8**	**-1.4**
	baz=148						
SYI	**Shuyak Island**	**2.83**	**331**	Pn	**Pn**	**02 24 34.2**	**-0.9**
SYI				Sn	**Sn**	**02 25 08.3**	**-0.9**
CNPM	**China Poot**	**3.45**	**347**	Pn	**Pn**	**02 24 44.0**	**+0.2**
CNPM				Sn	**Sn**	**02 25 24.7**	**+0.1**
Q19K	**Cape Douglas,**	**3.46**	**325**	Pn	**Pn**	**02 24 45.3**	**+1.3**
Q19K	**Cape Douglas,**	**3.46**	**325**	P	**Pn**	**02 24 45.4**	**+1.5**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.48**	**314**		**Pn**	**02 24 46.3**	**+2.1**
BRSE	**Bradley Lake S**	**3.62**	**352**		**Pn**	**02 24 46.7**	**+0.7**
BRSE	**Bradley Lake S**	**3.62**	**352**	P	**Pn**	**02 24 46.7**	**+0.7**
	baz=171						
BRLK	**Bradley Lake**	**3.65**	**351**	Pn	**Pn**	**02 24 46.4**	**-0.1**
BRLK				IAML		02 26 44.8	
	comp=E,68nm,0.9s						
Q23K	**Middleton Isla**	**3.74**	**28**	Pn	**Pn**	**02 24 46.0**	**-1.7**
Q23K				IAML		02 25 29.0	
	comp=E,175nm,1.3s						
Q23K				IAML		02 25 50.8	
	comp=N,139nm,1.4s						
Q23K	**Middleton Isla**	**3.74**	**28**	P	**Pn**	**02 24 47.6**	**-0.1**
	baz=211						
CNTC	**Contact Creek**	**3.93**	**305**		**Pn**	**02 24 52.1**	**+1.7**
Q17K	**Contact Creek**	**3.93**	**305**	P	**Pn**	**02 24 52.1**	**+1.7**
	baz=119						
P19K	**Oil Pt**	**3.95**	**334**	Pn	**Pn**	**02 24 52.2**	**+1.6**
P19K	**Oil Pt**	**3.95**	**334**	P	**Pn**	**02 24 52.5**	**+2.0**
	baz=150						
P23K	**Montague Islan**	**4.04**	**17**		**Pn**	**02 24 52.5**	**+0.7**
P23K	**Montague Islan**	**4.04**	**17**	P	**Pn**	**02 24 52.5**	**+0.7**
	baz=199						
O20K	**Slope Mountain**	**4.20**	**340**		**Pn**	**02 24 55.5**	**+1.4**
O20K	**Slope Mountain**	**4.20**	**340**	P	**Pn**	**02 24 55.5**	**+1.4**
	baz=157						
IVE	**Iliamna Volcan**	**4.22**	**337**		**Pn**	**02 24 55.5**	**+1.2**
P18K	**Big Mountain,**	**4.35**	**320**	Pn	**Pn**	**02 24 57.0**	**+0.9**
P18K	**Big Mountain,**	**4.35**	**320**	P	**Pn**	**02 24 57.6**	**+1.4**
	baz=135						
R16K	**Pilot Point**	**4.51**	**291**	Pn	**Pn**	**02 24 58.8**	**+0.7**
R16K	**Pilot Point**	**4.51**	**291**	P	**Pn**	**02 24 59.3**	**+1.2**
	baz=104						
HIN	**Hinchinbrook I**	**4.57**	**21**	Pn	**Pn**	**02 24 59.3**	**+0.2**
RSO	**Redoubt South**	**4.58**	**341**	Pn	**Pn**	**02 24 59.6**	**+0.2**
P17K	**Kvichak River**	**4.69**	**313**		**Pn**	**02 25 02.3**	**+1.6**
P17K	**Kvichak River**	**4.69**	**313**	P	**Pn**	**02 25 02.3**	**+1.6**
	baz=127						
KAIM	**Kayak Island**	**4.71**	**35**	Pn	**Pn**	**02 25 01.2**	**+0.1**
KAIM				IAML		02 27 09.9	
	comp=E,101nm,0.7s						
KAIM	**Kayak Island**	**4.71**	**35**	P	**Pn**	**02 25 00.6**	**-0.4**
	baz=219						
RAGM	**Ragged Mountai**	**5.01**	**30**	Pn	**Pn**	**02 25 04.2**	**-0.9**
N19K	**Bonanza Creek**	**5.27**	**334**	Pn	**Pn**	**02 25 09.4**	**+0.6**
N19K				IAML		02 27 48.0	
	comp=E,14nm,1.1s						
KNK	**Knik Glacier**	**5.30**	**7**	Pn	**Pn**	**02 25 09.3**	**+0.2**
BERG	**Berg Lake**	**5.30**	**35**	Pn	**Pn**	**02 25 09.4**	**+0.4**
SUA	**Susitna One**	**5.33**	**355**	Pn	**Pn**	**02 25 09.7**	**+0.1**
SUA				IAML		02 27 35.4	
	comp=E,18nm,1.1s						
SUA				IAML		02 27 57.8	
	comp=N,14nm,1.3s						
SNH	**Sunshine Point**	**5.44**	**40**	Pn	**Pn**	**02 25 11.0**	**-0.1**
N18K	**Kilae Creek**	**5.54**	**327**	Pn	**Pn**	**02 25 12.8**	**+0.3**
O16K	**Kokwok River B**	**5.61**	**311**	Pn	**Pn**	**02 25 14.9**	**+1.6**
GHO	**Glory Hole Cre**	**5.63**	**4**	Pn	**Pn**	**02 25 13.3**	**-0.4**
KLU	**Klutina**	**5.70**	**19**	Pn	**Pn**	**02 25 15.2**	**+0.6**
SML	**Sawmill**	**5.70**	**7**	Pn	**Pn**	**02 25 13.8**	**-0.8**
SVW2	**Sparrevohn**	**5.79**	**331**	Pn	**Pn**	**02 25 17.5**	**+1.6**
SCM	**Sheep Creek Mo**	**5.81**	**11**	Pn	**Pn**	**02 25 15.8**	**-0.5**
N17K	**Nushagak Hills**	**5.86**	**321**	Pn	**Pn**	**02 25 17.5**	**+0.8**
SKT	**Skwentna**	**5.89**	**352**	Pn	**Pn**	**02 25 17.6**	**+0.4**
M20K	**Styx River**	**5.98**	**345**	Pn	**Pn**	**02 25 18.0**	**-0.6**
VRDI	**Verde Repeater**	**6.04**	**30**	Pn	Pn	02 25 16.7	-2.7
N25K	**Chitina, Valde**	**6.07**	**24**	Pn	**Pn**	**02 25 19.1**	**-0.7**
GLB	**Gilahina Butte**	**6.12**	**28**	Pn	**Pn**	**02 25 20.3**	**-0.1**
M19K	**Big River Lodg**	**6.22**	**339**	Pn	**Pn**	**02 25 21.7**	**0.0**
M24K	**Tolsona, Glenn**	**6.23**	**16**	Pn	**Pn**	**02 25 22.0**	**+0.1**
MCARA	**McCarthy VSAT**	**6.29**	**31**	Pn	**Pn**	**02 25 23.1**	**+0.5**
BARN	**Barnard Glacie**	**6.47**	**37**	Pn	**Pn**	**02 25 26.1**	**+0.8**
CTGM	**Chitina Glacie**	**6.52**	**39**	Pn	**Pn**	**02 25 26.9**	**+0.9**
LOGN	**Logan Glacier**	**6.54**	**41**	Pn	**Pn**	**02 25 27.0**	**+0.7**
L19K	**White Mountain**	**6.57**	**339**	Pn	**Pn**	**02 25 27.8**	**+1.3**
BCPM	**Bancas Point**	**6.58**	**51**	Pn	**Pn**	**02 25 27.7**	**+1.1**
M17K	**Holitna River**	**6.58**	**326**	Pn	**Pn**	**02 25 28.5**	**+1.8**
N15K	**Kwethluk River**	**6.77**	**311**	Pn	**Pn**	**02 25 31.4**	**+2.2**
M16K	**Timber Creek**	**6.83**	**319**	Pn	**Pn**	**02 25 31.7**	**+1.6**
O14K	**Tigyukauivet M**	**6.89**	**301**	Pn	**Pn**	**02 25 30.6**	**-0.3**
L18K	**Granite Mounta**	**7.03**	**333**	Pn	**Pn**	**02 25 34.4**	**+1.9**
DHY	**Denali Highway**	**7.03**	**9**	Pn	**Pn**	**02 25 34.4**	**+1.4**
O29M	**Mount Kennedy**	**7.21**	**50**	Pn	**Pn**	**02 25 36.1**	**+0.7**
RND	**Reindeer**	**7.27**	**3**	Pn	**Pn**	**02 25 34.3**	**-1.9**
P29M	**Windy Craggy**	**7.28**	**57**	Pn	**Pn**	**02 25 36.6**	**+0.3**
TRF	**Thorofare Moun**	**7.30**	**358**	Pn	**Pn**	**02 25 36.8**	**0.0**
M27K	**Edge Creek, AK**	**7.40**	**30**	Pn	**Pn**	**02 25 39.4**	**+1.4**
KTH	**Kantishna Hill**	**7.43**	**356**	Pn	**Pn**	**02 25 39.0**	**+0.7**
MENT	**Mentasta**	**7.44**	**22**	Pn	**Pn**	**02 25 37.0**	**-1.6**
L16K	**Owhat River**	**7.48**	**322**	Pn	**Pn**	**02 25 40.9**	**+1.9**
K17K	**Iditarod**	**7.87**	**330**	Pn	**Pn**	**02 25 45.0**	**+0.7**
HYT	**Haines Junctio**	**7.93**	**49**	Pn	**Pn**	**02 25 44.5**	**-0.8**
BPAW	**Bear Paw Mtn.**	**7.97**	**356**	Pn	**Pn**	**02 25 47.2**	**+1.4**
J20K	**Nowinta River**	**8.32**	**347**	Pn	**Pn**	**02 25 49.6**	**-0.9**
HDA	**Harding Lake**	**8.38**	**8**	Pn	**Pn**	**02 25 49.8**	**-1.5**
L14K	**Kuka Creek**	**8.47**	**313**	Pn	**Pn**	**02 25 54.3**	**+1.8**
M29M	**Somme Creek**	**8.53**	**38**	Pn	**Pn**	**02 25 55.0**	**+1.5**
K15K	**Wolf Creek Mou**	**8.59**	**320**	Pn	**Pn**	**02 25 55.5**	**+1.3**
WHY	**Whitehorse**	**9.01**	**54**	Pn	**Pn**	**02 26 00.1**	**+0.1**
L29M	**L29M**	**9.10**	**35**	Pn	**Pn**	**02 26 02.4**	**+1.1**
P32M	**Atlin**	**9.21**	**62**	Pn	**Pn**	**02 26 01.7**	**-1.0**
M30M	**Minto, Yukon**	**9.21**	**41**	Pn	**Pn**	**02 26 02.5**	**-0.3**
H21K	**Melozitna Rive**	**9.63**	**352**	Pn	**Pn**	**02 26 09.2**	**+0.8**
P33M	**Teslin, Yukon**	**9.81**	**59**	Pn	**Pn**	**02 26 13.3**	**+2.3**
K29M	**Barlow Dome**	**9.82**	**33**	Pn	**Pn**	**02 26 12.2**	**+1.1**
M31M	**Drury Creek, Y**	**9.92**	**46**	Pn	**Pn**	**02 26 13.6**	**+1.1**
H19K	**Roundabout Mou**	**9.93**	**344**	Pn	**Pn**	**02 26 12.2**	**-0.2**
G23K	**Bananza Creek**	**10.58**	**359**	Pn	**Pn**	**02 26 22.7**	**+1.3**
J30M	**Hart River**	**10.71**	**33**	Pn	**Pn**	**02 26 24.8**	**+1.5**

IDC ***24*** *02:25:01.4±1.7,56°14N×148°58W,h0km,mb3.4/4, mbtmp3.4/9,ML3.3/5,MS2.6/1,Error ellipse: s-maj=35.7km s-min=23.3km az=24.0*

NEIC ***24*** *02:25:02.6±2.0,56°2N±0.1°×148°8W±0.1°,h20km±9km, mb3.8/1,ML3.8/36,ML3.5(AEIC),Error ellipse: s-maj=14.8km s-min=9.0km az=176.0*

AEIC ***24*** *02:25:04.5±2.4,56°14N±0.1°×148°7W±0.1°,h7km±7km, Error ellipse: s-maj=14.4km s-min=7.8km az=168.0*

ISC 24 02:25:02.5±1.1,56°35N±0.09°×148°72W±0.05,h10km, n209,σ1§17/215,mb3.5/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.55**	**306**		**Pn**	**02 25 42.9**	**-1.0**
KDAK					**Sn**	**02 26 12.6**	**-2.3**
KDAK	**Kodiak Island**	**2.55**	**306**	Pn	**Pn**	**02 25 44.0**	**+0.2**
	3.4nm,0.3s,baz=106,slow=5.9,SNR=7.3						
KDAK					Sn	**Sn**	**02 26 13.6**	**-1.3**
	6.6nm,0.3s,baz=206,slow=20,SNR=6.9						
	8.8nm,0.4s						
OHAK	**Old Harbor**	**2.66**	**291**		**Pn**	**02 25 44.5**	**-0.8**
OHAK					**Sn**	**02 26 13.5**	**-4.1**
OHAK	**Old Harbor**	**2.66**	**291**	P	**Pn**	**02 25 44.0**	**-1.3**
	baz=112						
OHAK				S	**Sn**	**02 26 15.2**	**-2.4**
	baz=112						
SYI	**Shuyak Island**	**3.01**	**320**	Pn	Pn	02 25 47.6	-2.5
SYI				Sn	**Sn**	**02 26 24.9**	**-1.2**
Q20K	**Shuyak Island**	**3.01**	**320**	P	**Pn**	**02 25 50.0**	**-0.1**
	baz=140						
Q20K				S	**Sn**	**02 26 25.9**	**-0.3**
	baz=140						
Q23K	**Middleton Isla**	**3.34**	**21**	Pn	**Pn**	**02 25 55.0**	**+0.3**
Q23K				IAML		02 26 36.5	
	comp=E,262nm,2.4s						
Q23K				IAML		02 27 15.7	
	comp=N,253nm,2.1s						
Q23K	**Middleton Isla**	**3.34**	**21**	P	**Pn**	**02 25 54.7**	**+0.1**
	baz=202						
MID	**Middleton Isla**	**3.34**	**21**	Pn	**Pn**	**02 25 54.2**	**-0.4**
MID				IAML		02 26 36.5	
	comp=E,225nm,2.4s						
MID				IAML		02 27 03.6	
	comp=N,206nm,2.3s						
MID	**Middleton Isla**	**3.34**	**21**	P	**Pn**	**02 25 54.8**	**+0.2**
CNPM	**China Poot**	**3.45**	**338**	Pn	**Pn**	**02 25 56.4**	**+0.1**
CNPM				Sn	**Sn**	**02 26 36.3**	**-0.9**
CNPM				IAML		02 26 45.2	
	comp=E,90nm,1.3s						
BRSE	**Bradley Lake S**	**3.56**	**343**		**Pn**	**02 25 57.7**	**-0.1**
BRSE					**Sn**	**02 26 39.1**	**-0.9**
BRSE	**Bradley Lake S**	**3.56**	**343**	P	**Pn**	**02 25 57.7**	**-0.1**
	baz=162						
BRSE				S	**Sn**	**02 26 39.1**	**-0.9**
	baz=162						
Q19K	**Cape Douglas,**	**3.70**	**316**	Pn	**Pn**	**02 26 00.8**	**+1.2**
Q19K				Sn	**Sn**	**02 26 41.3**	**-1.9**
Q19K				IAML		02 26 51.1	
	comp=N,163nm,0.8s						
Q19K	**Cape Douglas,**	**3.70**	**316**	P	**Pn**	**02 25 58.4**	**-1.2**
	baz=134						
Q19K				S	**Sn**	**02 26 40.3**	**-2.9**
	baz=134						
P23K	**Montague Islan**	**3.72**	**10**		**Pn**	**02 26 00.2**	**+0.2**
P23K	**Montague Islan**	**3.72**	**10**	P	**Pn**	**02 26 00.2**	**+0.2**
	baz=191						
SEW	**Seward**	**3.78**	**354**	Pn	**Pn**	**02 26 00.2**	**-0.6**
SEW	**Seward**	**3.78**	**354**	P	**Pn**	**02 26 00.7**	**0.0**
	baz=174						
P19K	**Oil Pt**	**4.09**	**326**	Pn	**Pn**	**02 26 06.3**	**+1.3**
P19K				IAML		02 27 00.1	
	comp=N,111nm,0.6s						
P19K				IAML		02 27 03.7	
	comp=E,100nm,0.6s						
P19K	**

	baz=222								
CTGM	Chitina Glacier	6.02	37	Pn		Pn	02 26 31.8	+0.1	
LOGN	Logan Glacier	6.03	39	Pn		Pn	02 26 31.6	-0.3	
N17K	Nushagak Hills	6.10	317	Pn		Pn	02 26 30.5	-2.2	
WAT6	Susitna Watana	6.27	4			Pn	02 26 35.5	+0.5	
WAT6	Susitna Watana	6.27	4	P		Pn	02 26 35.5	+0.5	
	baz=185								
M19K	Big River Lodg	6.28	335	Pn		Pn	02 26 34.6	-0.6	
M18K	Stony River	6.33	327			Pn	02 26 35.1	-0.6	
M18K	Stony River	6.33	327	P		Pn	02 26 35.1	-0.6	
	baz=142								
HARP	HAARP	6.33	15			Pn	02 26 36.3	+0.5	
HARP	HAARP	6.33	15	P		Pn	02 26 36.3	+0.5	
	baz=198								
WAT7	Susitna Watana	6.50	359			Pn	02 26 38.2	0.0	
L19K	White Mountain	6.63	334	Pn		Pn	02 26 38.8	-1.1	
O29M	Mount Kennedy	6.65	49	Pn		Pn	02 26 41.1	+0.8	
P29M	Windy Craggy	6.70	56	Pn		Pn	02 26 41.0	+0.1	
M26K	Nabesna, AK	6.73	23	Pn		Pn	02 26 42.3	+1.0	
DHY	Denali Highway	6.78	5	Pn		Pn	02 26 43.8	+1.8	
DHY	Denali Highway	6.78	5	P		Pn	02 26 43.3	+1.2	
	baz=186								
M17K	Holitna River	6.78	322	Pn		Pn	02 26 42.0	+0.1	
YUK8	Steele Glacier	6.79	40			Pn	02 26 43.0	+0.8	
YUK8	Steele Glacier	6.79	40	P		Pn	02 26 43.0	+0.8	
	baz=226								
YUK2	White River	6.79	33			Pn	02 26 43.9	+1.7	
YUK3	Moose Creek	6.91	35			Pn	02 26 45.0	+1.2	
YUK3	Moose Creek	6.91	35	P		Pn	02 26 45.0	+1.2	
	baz=221								
YUK7	Dusty Glacier	6.96	49			Pn	02 26 45.5	+1.0	
M27K	Edge Creek, AK	6.96	27	Pn		Pn	02 26 45.6	+1.1	
S31K	Pelican	6.99	71	Pn		Pn	02 26 42.8	-1.9	
M16K	Timber Creek	7.09	316	Pn		Pn	02 26 46.6	+0.4	
N15K	Kwethluk River	7.11	307	Pn		Pn	02 26 47.9	+1.4	
L18K	Granite Mounta	7.16	329	Pn		Pn	02 26 47.8	+0.8	
TRF	Thorofare Moun	7.17	354	Pn		Pn	02 26 49.0	+1.6	
L26K	Log Cabin Wild	7.22	20	Pn		Pn	02 26 50.4	+2.3	
CAST	Castle Rocks	7.29	348	Pn		Pn	02 26 50.2	+1.3	
O14K	Tigyukauivet M	7.30	299	Pn		Pn	02 26 50.0	+1.0	
KTH	Kantishna Hill	7.31	352	Pn		Pn	02 26 51.7	+2.5	
HYT	Haines Junctio	7.38	48	Pn		Pn	02 26 51.2	+1.0	
HYT	Haines Junctio	7.38	48	P		Pn	02 26 50.9	+0.7	
	baz=236								
YUK5	Granite Creek	7.41	45			Pn	02 26 51.8	+1.1	
K20K	Telida	7.52	341	Pn		Pn	02 26 54.2	+2.1	
TTA	Tatalina	7.56	334	Pn		Pn	02 26 54.5	+1.9	
TTA	Tatalina	7.56	334	P		Pn	02 26 53.1	+0.5	
L27K	Beaver Creek,	7.58	25	Pn		Pn	02 26 54.7	+1.8	
BCAR	Beaver Creek A	7.59	25	Pn		Pn	02 26 55.3	+2.2	
RIDG	Independent Ri	7.66	13	Pn		Pn	02 26 55.7	+1.7	
L16K	Owhat River	7.71	319	Pn		Pn	02 26 53.9	-0.9	
SKAG	Skagway	7.78	61	P		Pn	02 26 58.8	+3.2	
S32K	Killisnoo	7.83	76	Pn		Pn	02 26 54.8	-1.4	
BPAW	Bear Paw Mtn.	7.85	353	Pn		Pn	02 26 57.2	+0.5	
N30M	Aishikik Lake	7.90	45	P		Pn	02 26 58.1	+0.8	
	baz=234								
O30N	Mendenhall	7.95	51	Pn		Pn	02 26 58.3	+0.4	
SCRK	Sand Creek	8.00	15	Pn		Pn	02 26 59.8	+1.0	
K17K	Iditarod	8.02	327	Pn		Pn	02 26 58.5	-0.4	
M29M	Somme Creek	8.04	36	Pn		Pn	02 27 00.6	+1.3	
J18K	Innoko River	8.18	334	Pn		Pn	02 27 01.1	0.0	
J20K	Nowinta River	8.30	343	Pn		Pn	02 27 04.8	+2.1	
CCB	Clear Creek Bu	8.34	3	Pn		Pn	02 27 04.4	+1.2	
K27K	Chicken	8.38	20	Pn		Pn	02 27 04.6	+0.8	
J19K	Poorman	8.40	339	Pn		Pn	02 27 03.0	-1.0	
WHY	Whitehorse	8.43	53	Pn		Pn	02 27 05.5	+0.9	
N31M	Braeburn, Yuko	8.44	47	Pn		Pn	02 27 05.5	+0.8	
J25K	Salcha River,	8.45	10	Pn		Pn	02 27 05.7	+0.8	
IL31		8.50	5	Pn		Pn	02 27 06.4	+1.0	
ILAR	Eielson Array	8.50	5	Pn		Pn	02 27 06.4	-1.3	
ILAR	Eielson Array	8.50	5	Pn		Pn	02 27 07.4	+2.0	
	comp=E,0.3nm,0.3s,baz=189,slow=14,SNR=6.3								
ILAR				Sn		Sn	02 28 37.7	-3.6	
	comp=E,0.3nm,0.3s,baz=181,slow=20,SNR=7.0								
ILAR				LR		LR	02 30 05.8		
	comp=E,33nm,18.5s,baz=229,slow=35 comp=E,0.4nm,0.3s								
J26L	Joseph Creek	8.56	15	Pn		Pn	02 27 07.8	+1.4	
P32M	Atlin	8.61	62	Pn		Pn	02 27 06.5	-0.6	
P32M	Atlin	8.61	62	P		Pn	02 27 06.8	-0.2	
	baz=253								
L29M	L29M	8.62	34	Pn		Pn	02 27 08.5	+1.2	
M30M	Minto, Yukon	8.70	39	Pn		Pn	02 27 07.9	-0.4	
MLY	Manley	8.76	354	Pn		Pn	02 27 09.4	+0.3	
L14K	Kuka Creek	8.79	310	Pn		Pn	02 27 10.4	+1.0	
K15K	Wolf Creek Mou	8.84	318	Pn		Pn	02 27 11.3	+1.2	
DAWY	Dawson	9.01	27	Pn		Pn	02 27 13.3	+0.8	
J16K	Anvik River	9.16	324	Pn		Pn	02 27 14.7	+0.2	
Q32M	Nakina River	9.20	67	Pn		Pn	02 27 15.8	+0.5	
P33M	Teslin, Yukon	9.22	59	Pn		Pn	02 27 15.6	+0.1	
EGAK	Eagle	9.23	21	Pn		Pn	02 27 17.4	+2.0	
PRP	Porcupine Dome	9.33	8	Pn		Pn	02 27 16.7	-0.2	
K29M	Barlow Dome	9.35	34	Pn		Pn	02 27 18.9	+1.6	
I26K	Coal Creek Min	9.38	14	Pn		Pn	02 27 18.8	+1.3	
N32M	Quiet Lake	9.44	53	Pn		Pn	02 27 19.0	+0.7	
H24K	Noodor Dome	9.53	2	Pn		Pn	02 27 22.1	+2.6	
H21K	Melozitna Rive	9.54	350	Pn		Pn	02 27 19.9	+0.1	
FARO	Faro, Yukon	9.81	47	Pn		Pn	02 27 24.7	+1.2	
R33M	Jennings River	9.93	65	Pn		Pn	02 27 26.0	+0.7	
IMAR	Indian Mountai	9.96	348	Pn		Pn	02 27 27.2	+1.8	
H18K	Honhosa River	9.99	336	Pn		Pn	02 27 25.3	-0.6	
I28M	Miner Creek	10.07	21	Pn		Pn	02 27 26.3	-0.7	
H17K	Granite Mounta	10.20	332	Pn		Pn	02 27 28.0	-0.7	
J30M	Hart River	10.25	31	Pn		Pn	02 27 29.9	+0.3	
DLBC	Dease Lake	10.30	71	Pn		Pn	02 27 31.3	+1.1	
DLBC	Dease Lake	10.30	71	Pn		Pn	02 27 30.6	+0.4	
	comp=E,0.2nm,0.3s,baz=67,slow=18,SNR=2.1								
DLBC				Sn		Sn	02 29 21.9	-3.7	
	comp=E,0.2nm,0.3s,baz=219,slow=7.4,SNR=2.3 comp=E,0.7nm,0.3s								
FYU	Fort Yukon	10.38	8	Pn		Pn	02 27 31.9	+0.7	
G24K	Hadweenzic Riv	10.40	3	Pn		Pn	02 27 32.5	+1.0	
G23K	Bananza Creek	10.41	357	Pn		Pn	02 27 33.5	+1.8	
G21K	Allakaket	10.45	349	Pn		Pn	02 27 33.2	+1.1	
G18K	Tagagawik	10.69	338	Pn		Pn	02 27 36.3	+0.8	
I30M	Mount Dempster	10.73	29	Pn		Pn	02 27 38.0	+2.0	
F21K	Alatna River	11.13	350	Pn		Pn	02 27 39.5	-2.1	
F24K	Squaw Lake	11.21	2	Pn		Pn	02 27 44.1	+1.5	
F20K	Avaraart Lake	11.23	346	Pn		Pn	02 27 43.9	+1.2	
BMAR	Burnt Mountain	11.28	8	Pn		Pn	02 27 42.3	-1.3	
ANM	Nome	11.59	322	Pn		Pn	02 27 48.1	+0.3	
G29M	Pine Creek	11.73	21	Pn		Pn	02 27 51.0	+1.3	
E19K	Redstone River	11.83	344	Pn		Pn	02 27 53.2	+2.3	
E25K	Arctic Village	11.90	6	Pn		Pn	02 27 53.0	+1.0	
G30M	tAoh Zraii Nji	12.17	24	Pn		Pn	02 27 58.8	+3.1	
G31M	Satah River	12.59	27	Pn		Pn	02 28 02.9	+1.6	
D22K	Ayikyak River	12.70	353	Pn		Pn	02 28 04.9	+2.0	
D19K	Kuna River	12.91	344	Pn		Pn	02 28 06.6	+0.8	
E29M	Blow River	13.05	18	Pn		Pn	02 28 08.2	+0.5	
D27M	Malcolm River	13.40	12	Pn		Pn	02 28 12.5	0.0	
B21K	Ikpikpuk River	13.57	351	Pn		Pn	02 28 15.8	+1.1	
INK	Inuvik	13.85	24	Pn		Pn	02 28 18.8	+0.3	
INK	Inuvik	13.85	24	Pn		Pn	02 28 19.9	+1.3	
	comp=E,0.1nm,0.3s,baz=203,slow=9.1,SNR=4.8 comp=E,3.0nm,1.1s								
C16K	Lisburne Hills	14.16	334	Pn		Pn	02 28 22.2	-0.6	
YKA	Yellowknife Ar	18.24	56			Pn	02 29 15.5	+0.1	
YKA	Yellowknife Ar	18.24	56	P		Pn	02 29 15.7	+0.3	
	comp=E,0.1nm,0.3s,baz=263,slow=11,SNR=4.5 comp=E,0.4nm,0.8s								
A36M	Sachs Harbour	18.49	23	P		P	02 29 19.0	+0.8	
A36M				IAmb		IAmb	02 29 31.0		
	comp=Z,6.1nm,0.8s								
NVAR	Mina Array Bea	26.97	119	P		P	02 30 43.8	-0.5	
	comp=Z,0.3nm,0.7s,baz=306,slow=7.6,SNR=2.6 comp=Z,0.3nm,0.7s								
KURBB	Kurchatov Arra	66.44	329	P		P	02 35 54.4	+3.0	
	comp=Z,0.1nm,0.3s,baz=29,slow=5.5,SNR=2.2 comp=Z,0.1nm,0.3s								
MKAR	Makanchi Array	68.72	325	P		P	02 36 07.9	+2.0	
	comp=Z,0.4nm,1.0s,baz=30,slow=7.2,SNR=2.5 comp=Z,0.4nm,1.0s								
AKASG	Malin Array Be	73.30	1	P		P	02 36 33.8	+0.2	
	comp=Z,0.5nm,0.6s,baz=3.6,slow=6.3,SNR=3.0 comp=Z,0.5nm,0.6s								

EAF 24 02:26:29.5±2.9, 8°.85N×40°.05E, h39km±46km, ML3.5, Ethiopia

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

FURI	Furi	1.35	272	eP		Pn	02 26 55.8	+3.6	
FURI				eS		Sn	02 27 08.8	-0.3	
FURI				IAML			02 27 13.5		
	comp=Z,735nm,0.4s								
FURI				IAML			02 27 17.6		
	690nm,0.4s								
WLRA	Wolmera	1.35	280	eP		Pn	02 26 53.2	+1.0	
WLRA				eS		Sn	02 27 06.7	-2.5	
HARA	HARA	3.22	82	eP		Pn	02 27 17.9	+0.2	
HARA				eS		Sn	02 27 52.2	-2.8	
GRD1	Great Renaissa	5.41	295	eP		Pn	02 27 45.2	-2.6	
GRD1				eS		Sn	02 28 45.5	-3.5	

*IDC **24** 02:28:16.9±1.2, 30°.80S×153°.20E, h0km, mb4.0/3, mbtmp4.1/7, ML3.7/4, MS3.5/7, Error ellipse: s-maj=37.4km s-min=15.5km az=34.0*
*AUST **24** 02:28:19.9±1.2, 30°.65S×153°.03E, h10km, Error ellipse: s-maj=14.3km s-min=11.7km az=44.0*
*NOU **24** 02:28:23.5, 30°.625×152°.83E, h20km, mb4.5/10, Near East Coast of Australia*

ISC 24 02:28:19.7±0.8, 30°.61S±0°.06×153°.07E±0°.06, h10km, n42, σ1°46/43, MS3.5/3, Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	Armidale	1.26	278	P	Pn	02 28 42.8	-0.5
	baz=1.2,SNR=1000						
ARMA				S	Sb	02 28 59.7	-0.1
	baz=1.2,SNR=5.4						
ARMA	Armidale	1.26	278	P	Pn	02 28 42.9	-0.5
AUPHS	Peel High Scho	1.94	255	P	Pn	02 28 51.8	-0.8
	baz=1.9						
MGCD	Mangrove Creek	3.08	212	P	Pn	02 29 08.6	+0.2
	baz=3.0,SNR=24						
MGCD				S	Sb	02 29 52.6	+0.4
	baz=3.0						
MGCD	Mangrove Creek	3.08	212	P	Pn	02 29 09.5	+1.1
RIV	Riverview	3.59	206	P	Pn	02 29 15.7	+0.3
	baz=3.6,SNR=5.8						
RIV				S	Sb	02 30 08.0	+1.0
	baz=3.6,SNR=8.1						
RIV	Riverview	3.59	206	P	Pn	02 29 16.4	+1.0
SYDH	Sydney Hard Ro	3.71	212	P	Pn	02 29 18.7	+1.7
AUDCS	Dubbo College	4.12	246	P	Pn	02 29 22.5	-0.2
	baz=4.1						
LHI	Lord Howe Isla	5.22	102	P	Pn	02 29 37.1	-0.7
	baz=5.2,SNR=24						
LHI				S	Sn	02 30 30.7	-7.4
	baz=5.2						
YNG	Young	5.39	226	P	Pn	02 29 37.9	-2.3
	baz=5.3						
EIDS	Eidsvold	5.51	341	P	Pn	02 29 43.8	+1.9
	baz=5.5,SNR=8.6						
EIDS	Eidsvold	5.51	341	P	Pn	02 29 43.7	+1.9
RMQ	Roma	5.59	316	P	Pn	02 29 43.2	+0.2
	baz=5.6						
RMQ	Roma	5.59	316	P	Pn	02 29 43.8	+0.9
CNB	Canberra Magne	5.63	213	P	Pn	02 29 43.6	+0.2
	baz=5.6,SNR=5.5						
CNB	Canberra Magne	5.63	213	P	Pn	02 29 44.3	+0.8
CAN	Canberra	5.81	215	P	Pn	02 29 46.6	+0.7
CMSA	Cobar Meteorol	6.39	260	P	Pn	02 29 53.8	-0.1
	baz=6.3,SNR=95						
CMSA	Cobar Meteorol	6.39	260	P	Pn	02 29 53.7	-0.2
MILA	Mila	7.20	206	P	Pn	02 30 04.4	-0.6
	baz=7.2,SNR=12						
MILA	Mila	7.20	206	P	Pn	02 30 06.1	+1.0
QLP	Quilpie	8.74	295	P	Pn	02 30 26.3	+0.1
	baz=8.7,SNR=5.8						
STKA	Stephens Creek	9.90	260	P	Pn	02 30 41.0	-1.1
	baz=9.8						
STKA	Stephens Creek	9.90	260	Pn	Pn	02 30 39.5	-2.5
	0.4nm,0.3s,baz=87,slow=13,SNR=5.1						
STKA				Sn	Sn	02 32 21.0	-12
	0.5nm,0.3s,baz=86,slow=21,SNR=1.5						
STKA				Lg	Lg	02 33 24.8	
	2.4nm,0.3s,baz=165,slow=22,SNR=2.0						
STKA				LR	LR	02 34 48.8	
	comp=Z,225nm,19.1s,baz=96,slow=39 1.6nm,0.5s						
INKA	Innaminka	11.14	282	P	Pn	02 30 59.1	0.0
	baz=11,SNR=4.0						
CTA	Charters Tower	12.15	328	Pn	Pn	02 31 13.0	+0.1
	0.3nm,0.3s,baz=150,slow=15,SNR=1.6						
CTA				Lg	Lg	02 34 42.5	
	0.3nm,0.3s,baz=76,slow=22,SNR=1.5 1.2nm,0.5s						
HTT	Hatt	12.33	253	P	Pn	02 31 15.0	-0.3
	baz=12,SNR=12						
LCRK	Leigh Creek	12.81	267	P	Pn	02 31 19.9	-1.9
	baz=13,SNR=9.8						
DZM	Mont Dzumac	14.69	58	Pn	Pn	02 31 46.4	-1.3
	0.2nm,0.3s,baz=202,slow=19,SNR=2.0						
DZM				LR	LR	02 36 30.8	
	comp=Z,105nm,21.0s,baz=48,slow=34 2.9nm,0.8s						
OOD	Oodnadatta	15.44	276	P	Pn	02 31 56.6	-0.9
	baz=15,SNR=5.7						
MULG	Mulgathing	16.40	266	P	Pn	02 32 07.7	-2.3
	baz=16,SNR=3.8						
ASAR	Alice Springs	18.39	287	P	Pn	02 32 33.9	-1.0
	0.3nm,0.3s,baz=120,slow=11,SNR=44						
ASAR				S	Sn	02 35 58.2	-2.3
	0.6nm,0.5s,baz=108,slow=13,SNR=2.4						
ASAR				LR	LR	02 40 21.4	
	comp=Z,200nm,18.5s,baz=128,slow=39 10nm,0.9s						
RPZ	Rata Peaks	19.35	137	LR	LR	02 37 43.7	
	comp=Z,62nm,20.2s,baz=169,slow=30						
WRA	Warramunga Arr	19.96	298	P	P	02 32 52.7	+0.6
	3.4nm,0.6s,baz=127,slow=11,SNR=16						
WRA				S	Sn	02 36 41.4	+3.0
	1.4nm,0.7s,baz=126,slow=23,SNR=3.5 3.4nm,0.6s						
URZ	Urewera	21.21	118	P	P	02 33 00.4	-5.0
	2.5nm,0.5s,baz=255,slow=10.0,SNR=1.8						
URZ				LR	LR	02 40 25.0	
	comp=Z,116nm,19.3s,baz=301,slow=35 2.5nm,0.5s						
NWAO	Narrogin (SRO)	30.46	256	LR	LR	02 46 57.8	
	comp=Z,151nm,19.2s,baz=183,slow=37						
KAPI	Kappang	40.39	302	LR	LR	02 54 37.5	
	comp=Z,60nm,18.1s,baz=136,slow=39						
QSPA	South Pole Qui	59.48	180	P	P	02 38 19.9	-2.8
	2.7nm,0.5s,baz=354,slow=1.3,SNR=11 2.7nm,0.5s						
GERES	GERESS Array B	144.35	312	PKP	PKPab	02 47 54.4	+0.5
	2.3nm,1.0s,baz=44,slow=5.9,SNR=3.6						
TORD	Torodi Ar. Bea	148.40	243	PKPbc	PKPdf	02 48 06.7	+3.1
	1.3nm,0.8s,baz=93,slow=3.4,SNR=7.0						
DBIC	Dimbokro	148.44	225	PKPbc	PKPdf	02 48 06.6	+2.9
	2.0nm,0.7s,baz=213,slow=5.1,SNR=3.7						

*NEIC **24** 02:29:51.8±1.8, 56°.1N±0°.1×149°.6W±0°.1, h23km±10km, mb3.4/1, ML3.7/28, ML3.6(AEIC), Error ellipse: s-maj=14.9km s-min=9.1km az=179.0*
*AEIC **24** 02:29:55.1±2.0, 56°.04N±0°.08×149°.5W±0°.1, h12km±7km, Error ellipse: s-maj=12.1km s-min=9.0km az=167.0*

ISC 24 02:29:52.1±2.2, 56°.0N±0°.1×149°.59W±0°.08, h47km±42km, n121, σ0°92/128, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.37	302		Pn	02 30 28.7	+0.4
OHAK					Sn	02 30 54.6	-1.4
OHAK	Old Harbor	2.37	302	P	Pn	02 30 29.0	+0.7
	baz=118						
OHAK				S	Sn	02 30 55.0	-1.0
	baz=118						
KDAK	Kodiak Island	2.40	318	Pn	Pn	02 30 28.8	0.0
KDAK					Sn	02 30 55.3	-1.6
SYI	Shuyak Island	2.99	331	Pn	Pn	02 30 36.3	-0.6
SYI					Sn	02 31 10.8	-0.7
Q20K	Shuyak Island	2.99	331	P	Pn	02 30 37.4	+0.5
	baz=148						
Q20K				S	Sn	02 31 11.5	-0.1
	baz=148						
CNPM	China Poot	3.61	347	Pn	Pn	02 30 44.9	-0.5
Q19K	Cape Douglas,	3.63	325	Pn	Pn	02 30 46.6	+0.9
Q19K	Cape Douglas,	3.63	325	P	Pn	02 30 46.8	+1.1
	baz=141						
Q19K				S	Sn	02 31 27.4	+0.1
	baz=141						
KAHG	Katmai Hook Gl	3.65	314		Pn	02 30 46.6	+0.6
KAHG					Sn	02 31 29.0	+1.2
BRSE	Bradley Lake S	3.76	351		Pn	02 30 49.0	+1.4
BRSE	Bradley Lake S	3.76	351	P	Pn	02 30 49.0	+1.4
	baz=170						
BRLK	Bradley Lake	3.80	350	Pn	Pn	02 30 47.0	-1.0
BRLK				IAML		02 33 02.7	
	comp=E,88nm,2.6s						
BRLK				IAML		02 33 05.8	
	comp=N,102nm,0.7s						
ACHA	Angle Creek He	3.81	307		Pn	02 30 49.6	+1.3
ANCK	Angle Creek	3.88	306		Pn	02 30 50.8	+1.7
AUCH	Augustine Cone	3.92	330		Pn	02 30 51.4	+1.6
CNTC	Contact Creek	4.09	306		Pn	02 30 53.2	+1.1
Q17K	Contact Creek	4.09	306	P	Pn	02 30 53.2	+1.1
	baz=120						
P19K	Oil Pt	4.11	333	Pn	Pn	02 30 52.6	+0.3
P19K	Oil Pt	4.11	333	P	Pn	02 30 53.2	+0.9
	baz=150						
P23K	Montague Islan	4.14	15		Pn	02 30 52.4	-0.2
P23K	Montague Islan	4.14	15	P	Pn	02 30 52.4	-0.2
	baz=197						
O20K	Slope Mountain	4.36	340		Pn	02 30 55.7	0.0
O20K	Slope Mountain	4.36	340	P	Pn	02 30 55.7	0.0
	baz=157						
O22K	Cooper Landing	4.46	359	Pn	Pn	02 30 55.9	-1.1
O22K	Cooper Landing	4.46	359	P	Pn	02 30 57.4	+0.5
	baz=178						
SLKM	Skilak Lake	4.49	356		Pn	02 30 57.2	-0.3
P18K	Big Mountain,	4.52	320	Pn	Pn	02 30 58.2	+0.3
P18K				IAML		02 33 43.2	
	comp=N,42nm,3.3s						
R16K	Pilot Point	4.65	293	Pn	Pn	02 31 00.2	+0.6
R16K	Pilot Point	4.65	293	P	Pn	02 31 01.0	+1.4
	baz=106						
RSO	Redoubt South	4.74	341	Pn	Pn	02 31 02.9	+1.8
KAIM	Kayak Island	4.77	33	P	Pn	02 31 01.4	+0.1
	baz=217						
EYAK	Cordova Ski Ar	4.95	23	Pn	Pn	02 31 03.2	-0.6
EYAK	Cordova Ski Ar	4.95	23	P	Pn	02 31 03.7	0.0
	baz=205						
RC01	Rabbit Creek A	5.07	359	Pn	Pn	02 31 04.2	-1.2
RC01	Rabbit Creek A	5.07	359	P	Pn	02 31 04.6	-0.8
	baz=179						
RAGM	Ragged Mountai	5.07	29	Pn	Pn	02 31 05.8	+0.3
GOAT	Goat Mountain	5.22	27		Pn	02 31 08.0	+0.4
BERG	Berg Lake	5.36	33	Pn	Pn	02 31 09.5	+0.2
P16K	Nushagak River	5.43	307		Pn	02 31 10.9	+0.6
P16K	Nushagak River	5.43	307	P	Pn	02 31 10.9	+0.6
	baz=120						
N19K	Bonanza Creek	5.43	334	Pn	Pn	02 31 09.1	-1.4
N19K	Bonanza Creek	5.43	334	P	Pn	02 31 10.0	-0.5
	baz=149						
SNH	Sunshine Point	5.48	38	Pn	Pn	02 31 10.9	-0.1
DIV	Divide	5.48	20	Pn	Pn	02 31 11.3	+0.2
BMRM	Bremner River	5.59	26	Pn	Pn	02 31 13.6	+1.0
BMRM	Bremner River	5.59	26	P	Pn	02 31 12.6	0.0
	baz=210						
N18K	Kilae Creek	5.71	327	Pn	Pn	02 31 14.3	0.0
N18K	Kilae Creek	5.71	327	P	Pn	02 31 14.5	+0.2
	baz=142						
BARK	Barkley Ridge	5.76	38		Pn	02 31 15.4	+0.5
GHO	Glory Hole Cre	5.76	3	Pn	Pn	02 31 15.1	+0.1
O16K	Kokwok River B	5.78	312	Pn	Pn	02 31 16.1	+1.0
KLU	Klutina	5.79	18	Pn	Pn	02 31 15.3	-0.1
KLU	Klutina	5.79	18	P	Pn	02 31 15.6	+0.2
	baz=200						
SML	Sawmill	5.82	6	Pn	Pn	02 31 16.6	+0.9
SCM	Sheep Creek Mo	5.93	10	Pn	Pn	02 31 16.3	-0.9
SVW2	Sparrevohn	5.96	331	Pn	Pn	02 31 16.4	-1.2
N17K	Nushagak Hills	6.03	321	Pn	Pn	02 31 19.1	+0.6
SKT	Skwentna	6.04	351	Pn	Pn	02 31 20.6	+1.8
VRDI	Verde Repeater	6.11	29	Pn	Pn	02 31 19.8	-0.1
M20K	Styx River	6.14	344	Pn	Pn	02 31 20.3	+0.1
N25K	Chitina, Valde	6.15	23	Pn	Pn	02 31 21.6	+1.2
KIAG	Kiagna River	6.19	35		Pn	02 31 21.0	0.0
GLB	Gilahina Butte	6.19	27	Pn	Pn	02 31 21.3	+0.5
SAMH	Samovar Hills	6.21	45		Pn	02 31 22.2	+1.1
MCARA	McCarthy VSAT	6.35	30	Pn	Pn	02 31 24.0	+1.0
MCARA	McCarthy VSAT	6.35	30	P	Pn	02 31 23.5	+0.5
	baz=215						
M18K	Stony River	6.36	332		Pn	02 31 22.9	-0.1
M18K	Stony River	6.36	332	P	Pn	02 31 22.9	-0.1
	baz=146						
PTPK	Patty Peak	6.36	33		Pn	02 31 23.7	+0.5
PCA	Pinnacle	6.40	47	Pn	Pn

25nm,0.3s
OHAK Old Harbor 2.62 284 Pn Pn 02 32 11.2 -1.8
OHAK **Sn** **02 32 41.5 -3.8**
OHAK Old Harbor 2.62 284 P Pn 02 32 11.7 -1.2
baz=100
OHAK S **Sn** **02 32 41.3 -3.9**
baz=100
SYI Shuyak Island 2.82 316 Pn Pn 02 32 15.3 -0.4
SYI Sn **Sn** **02 32 48.4 -1.7**
Q20K Shuyak Island 2.82 316 P **Pn** **02 32 16.2 +0.5**
baz=133
Q20K S **Sn** **02 32 47.6 -2.5**
baz=133
Q23K Middleton Isla 3.03 23 Pn **Pn** **02 32 18.3 -0.3**
Q23K IAML 02 32 46.1
comp=E,282nm,2.7s
Q23K Sn **Sn** **02 32 52.6 -2.8**
Q23K IAML 02 33 23.7
comp=N,254nm,2.5s
Q23K Middleton Isla 3.03 23 P **Pn** **02 32 18.4 -0.1**
baz=205
Q23K S **Sn** **02 32 52.4 -2.9**
baz=205
MID Middleton Isla 3.03 23 Pn **Pn** **02 32 18.5 0.0**
MID IAML 02 33 19.2
comp=E,274nm,2.0s
MID IAML 02 33 23.7
comp=N,264nm,2.6s
SII Sitkinak Islan 3.08 270 Pn Pn 02 32 17.1 -2.2
SII IAML 02 32 58.8
comp=N,306nm,0.8s
SII IAML 02 33 26.1
comp=E,279nm,2.7s
CNPM China Poot 3.19 335 Pn **Pn** **02 32 21.2 +0.3**
CNPM Sn **Sn** **02 32 57.8 -1.7**
BRSE Bradley Lake S 3.29 341 Pn 02 32 21.8 -0.4
BRSE Bradley Lake S 3.29 341 P Pn 02 32 21.8 -0.4
baz=160
BRLK Bradley Lake 3.34 340 Pn Pn 02 32 22.4 -0.4
P23K Montague Islan 3.41 10 **Pn** **02 32 23.7 -0.1**
P23K **Sn** **02 33 02.8 -2.0**
P23K Montague Islan 3.41 10 P **Pn** **02 32 23.7 -0.1**
baz=192
P23K S **Sn** **02 33 02.8 -2.0**
baz=192
SEW Seward 3.48 353 P Pn 02 32 24.4 -0.4
baz=173
Q19K Cape Douglas, 3.52 312 Pn **Pn** **02 32 26.4 +1.0**
Q19K Cape Douglas, 3.52 312 P Pn 02 32 24.5 -0.9
baz=128
KAHG Katmai Hook Gl 3.68 302 **Pn** **02 32 27.8 +0.2**
P19K Oil Pt 3.87 323 Pn **Pn** **02 32 30.4 +0.3**
P19K IAML 02 33 19.4
comp=E,149nm,0.5s
P19K IAML 02 33 26.1
comp=N,155nm,0.5s
P19K Oil Pt 3.87 323 P **Pn** **02 32 30.1 -0.1**
baz=139
KCE Katmai Mt Cerb 3.89 297 **Pn** **02 32 31.1 +0.7**
HIN Hinchinbrook I 3.91 16 Pn **Pn** **02 32 31.0 +0.3**
SLKM Skilak Lake 3.95 348 **Pn** **02 32 31.3 +0.1**
KAIM Kayak Island 3.96 32 Pn **Pn** **02 32 30.6 -0.6**
KAIM Kayak Island 3.96 32 P **Pn** **02 32 31.2 -0.1**
baz=216
O20K Slope Mountain 4.03 330 **Pn** 02 32 32.2 -0.2
O20K Slope Mountain 4.03 330 P Pn 02 32 32.2 -0.2
baz=147
EYAK Cordova Ski Ar 4.18 20 P **Pn** **02 32 34.7 +0.4**
baz=203
CNTC Contact Creek 4.24 295 **Pn** **02 32 35.6 +0.3**
Q17K Contact Creek 4.24 295 P **Pn** **02 32 35.6 +0.3**
baz=109
RAGM Ragged Mountai 4.27 27 Pn **Pn** **02 32 36.6 +0.9**
CAPN Captain Cook N 4.33 343 Pn **Pn** **02 32 37.9 +1.5**
RED Redoubt Volcan 4.35 332 Pn 02 32 36.5 -0.3
RDSO Redoubt South 4.38 332 Pn 02 32 36.9 -0.3
RSO Redoubt South 4.39 332 Pn Pn 02 32 37.1 -0.2
GOAT Goat Mountain 4.43 26 **Pn** **02 32 38.1 +0.2**
RDWB Redoubt West 4.43 332 Pn 02 32 37.7 -0.2
P18K Big Mountain, 4.46 311 Pn **Pn** **02 32 38.2 0.0**
RC01 Rabbit Creek A 4.48 353 Pn **Pn** **02 32 39.2 +0.6**
RC01 IAML 02 33 32.5
comp=E,92nm,0.4s
RC01 IAML 02 33 36.0
comp=N,84nm,0.8s
NCT North Crescent 4.52 332 Pn 02 32 38.9 -0.2
BERG Berg Lake 4.55 32 Pn **Pn** **02 32 39.0 -0.4**
BERG IAML 02 33 42.9
comp=N,110nm,0.8s
O19K Port Alsworth 4.64 322 Pn **Pn** **02 32 40.9 +0.2**
O19K Port Alsworth 4.64 322 P **Pn** **02 32 41.2 +0.5**
baz=138
SNH Sunshine Point 4.66 38 Pn **Pn** **02 32 40.7 -0.3**
SNH IAML 02 33 53.9
comp=E,85nm,1.1s
SNH IAML 02 33 59.4
comp=N,83nm,1.0s
O18K Koktuh Hills 4.73 315 Pn **Pn** **02 32 42.3 +0.4**
O18K IAML 02 33 44.2
comp=N,44nm,1.6s
O18K IAML 02 33 50.5
comp=E,37nm,1.6s
KNK Knik Glacier 4.77 1 Pn **Pn** **02 32 44.2 +1.7**
KNK IAML 02 33 43.2
comp=E,48nm,1.0s
KNK IAML 02 33 50.9
comp=N,42nm,0.6s
KNK Knik Glacier 4.77 1 P **Pn** **02 32 43.8 +1.3**
baz=182
BMRM Bremner River 4.80 24 Pn **Pn** **02 32 42.8 -0.1**
BMRM Bremner River 4.80 24 P **Pn** **02 32 43.5 +0.6**
baz=208
P17K Kvichak River 4.88 305 **Pn** **02 32 44.6 +0.6**
P17K Kvichak River 4.88 305 P **Pn** **02 32 44.6 +0.6**
baz=118
BARK Barkley Ridge 4.94 38 **Pn** **02 32 45.0 +0.1**
SUA Susitna One 4.94 348 Pn Pn 02 32 44.4 -0.6
SUA IAML 02 33 52.6
comp=N,47nm,2.6s
SUA IAML 02 34 01.5
comp=E,52nm,4.0s
PMR Palmer 4.96 357 Pn **Pn** **02 32 46.4 +1.4**
PMR IAML 02 33 45.0
comp=N,35nm,0.9s
PMR IAML 02 33 51.4
comp=E,31nm,0.5s
PMR Palmer 4.96 357 P **Pn** **02 32 45.2 +0.3**
baz=177
KLU Klutina 5.04 15 Pn **Pn** **02 32 46.7 +0.4**
KLU IAML 02 33 49.7
comp=N,50nm,0.5s
KLU IAML 02 33 50.7
comp=E,51nm,1.1s
KLU Klutina 5.04 15 P **Pn** **02 32 46.7 +0.4**
baz=198
STLK Strandline Lak 5.13 342 **Pn** **02 32 48.3 +0.8**
GHO Glory Hole Cre 5.13 358 Pn **Pn** **02 32 49.0 +1.5**
GHO IAML 02 33 55.4
comp=E,72nm,0.7s
GHO IAML 02 33 55.7
comp=N,67nm,0.8s
N19K Bonanza Creek 5.17 326 Pn **Pn** **02 32 49.2 +1.3**
N19K IAML 02 33 51.7
comp=E,34nm,0.6s
SML Sawmill 5.17 2 Pn Pn 02 32 47.7 -0.2
SML IAML 02 33 55.5
comp=N,62nm,1.2s
SML IAML 02 33 56.1
comp=E,63nm,1.0s
SML Sawmill 5.17 2 P **Pn** **02 32 48.7 +0.7**
baz=182
SCM Sheep Creek Mo 5.23 7 Pn **Pn** **02 32 49.2 +0.3**
SCM Sheep Creek Mo 5.23 7 P **Pn** **02 32 49.9 +1.0**
baz=188
VRDI Verde Repeater 5.30 28 Pn **Pn** **02 32 50.8 +0.8**
KIAG Kiagna River 5.37 35 **Pn** **02 32 51.0 +0.1**
N25K Chitina, Valde 5.38 21 Pn **Pn** **02 32 52.2 +1.3**
N25K Chitina, Valde 5.38 21 P **Pn** **02 32 51.8 +1.0**
baz=205
GLB Gilahina Butte 5.40 25 Pn **Pn** **02 32 50.9 -0.3**
O17K Koliganek Bris 5.46 308 **Pn** **02 32 52.1 +0.2**
O17K Koliganek Bris 5.46 308 P **Pn** **02 32 52.1 +0.2**
baz=121
N18K Kilae Creek 5.54 320 Pn **Pn** **02 32 53.4 +0.4**
N18K Kilae Creek 5.54 320 P **Pn** **02 32 53.2 +0.2**
baz=134
SKT Skwentna 5.54 346 Pn **Pn** **02 32 53.3 +0.2**
PTPK Patty Peak 5.55 32 **Pn** **02 32 53.9 +0.6**
MCARA McCarthy VSAT 5.55 29 Pn **Pn** **02 32 53.3 +0.1**
PCA Pinnacle 5.59 48 Pn Pn 02 32 52.3 -1.4
PINM Pinnacle 5.59 48 P **Pn** **02 32 53.4 -0.4**
baz=236
M24K Tolsona, Glenn 5.61 12 Pn **Pn** **02 32 55.2 +1.2**
BARN Barnard Glacier 5.70 36 Pn **Pn** **02 32 55.6 +0.2**
M20K Styx River 5.73 338 Pn **Pn** **02 32 55.9 +0.2**
SVW2 Sparrevohn 5.73 324 Pn Pn 02 32 55.4 -0.3
PNL Peninsula 5.74 54 **Pn** **02 32 55.3 -0.5**
PNL Peninsula 5.74 54 P **Pn** **02 32 55.3 -0.5**
baz=243
CTGM Chitina Glacie 5.74 38 Pn **Pn** **02 32 56.5 +0.6**
LOGN Logan Glacier 5.76 40 Pn **Pn** **02 32 55.6 -0.6**
BCPM Bancas Point 5.77 51 Pn **Pn** **02 32 56.7 +0.4**
O16K Kokwok River B 5.82 304 Pn Pn 02 32 55.8 -1.1
WAZA Wrangell Mount 5.89 21 **Pn** **02 32 58.2 +0.1**
N17K Nushagak Hills 5.92 314 Pn **Pn** **02 32 58.6 +0.3**
N17K Nushagak Hills 5.92 314 P **Pn** **02 32 58.2 -0.1**
baz=127
M19K Big River Lodg 6.03 333 Pn Pn 02 32 58.6 -1.2
S14K Fog Glacier 6.07 271 P **Pn** **02 32 59.4 -1.1**
baz=82
VNFG Fog Glacier, M 6.07 271 Pn Pn 02 32 58.6 -1.8
L19K White Mountain 6.39 333 Pn **Pn** 02 33 03.6 -1.0
O29M Mount Kennedy 6.41 51 Pn **Pn** **02 33 05.2 +0.1**
M26K Nabesna, AK 6.43 24 Pn **Pn** **02 33 05.9 +0.6**
CNBA Chernabura Isl 6.46 258 Pn Pn 02 33 02.9 -2.8
DHY Denali Highway 6.47 5 Pn **Pn** **02 33 07.3 +1.4**
O15K Ungalikthiuk R 6.48 298 **Pn** 02 33 04.7 -1.3
O15K Ungalikthiuk R 6.48 298 P **Pn** 02 33 04.7 -1.3
baz=108
P29M Windy Craggy 6.49 58 Pn **Pn** **02 33 05.8 -0.2**
M17K Holitna River 6.58 320 Pn **Pn** **02 33 07.6 +0.3**
M27K Edge Creek, AK 6.66 28 Pn **Pn** **02 33 08.4 -0.2**
RND Reindeer 6.77 359 Pn **Pn** **02 33 10.9 +0.9**
S31K Pelican 6.84 74 Pn **Pn** **02 33 08.6 -2.2**
S31K Pelican 6.84 74 P **Pn** **02 33 08.6 -2.2**
baz=264
YUK6 Outpost Mounta 6.84 47 **Pn** **02 33 11.8 +0.7**
YUK6 Outpost Mounta 6.84 47 P **Pn** **02 33 11.8 +0.7**
baz=236
TRF Thorofare Moun 6.87 354 Pn **Pn** **02 33 13.0 +1.6**
L26K Log Cabin Wild 6.92 20 Pn **Pn** **02 33 12.5 +0.6**
M16K Timber Creek 6.92 313 Pn **Pn** **02 33 12.4 +0.4**
L18K Granite Mounta 6.93 327 Pn **Pn** **02 33 12.1 0.0**
YUK4 Talbot Arm 6.97 43 P **Pn** **02 33 13.8 +1.0**
baz=232
N15K Kwethluk River 6.98 305 Pn **Pn** **02 33 12.4 -0.4**
CAST Castle Rocks 7.00 347 Pn **Pn** **02 33 13.2 +0.2**
HYT Haines Junctio 7.13 50 Pn Pn 02 33 11.9 -3.0
O14K Tigyukauivet M 7.21 296 Pn Pn 02 33 14.2 -1.7
K20K Telida 7.25 340 Pn **Pn** **02 33 16.9 +0.4**
L27K Beaver Creek, 7.27 25 Pn **Pn** **02 33 16.3 -0.5**
BCAR Beaver Creek A 7.29 25 Pn **Pn** **02 33 17.2 +0.1**
SIT Sitka 7.30 81 Pn Pn 02 33 12.9 -4.3
TTA Tatalina 7.31 332 Pn **Pn** 02 33 17.3 -0.1
RIDG Independent Ri 7.35 13 Pn **Pn** **02 33 19.6 +1.8**
L16K Owhat River 7.53 317 Pn **Pn** **02 33 20.6 +0.4**
BWN Browne 7.55 357 Pn Pn 02 33 19.7 -0.9
BPAW Bear Paw Mtn. 7.56 352 Pn Pn 02 33 20.6 -0.1
SKAG Skagway 7.59 63 Pn **Pn** **02 33 20.1 -1.0**
N30M Aishikik Lake 7.64 46 Pn Pn 02 33 20.5 -1.5
SCRK Sand Creek 7.69 15 Pn **Pn** **02 33 23.2 +0.5**
S32K Killisnoo 7.70 78 Pn **Pn** **02 33 20.3 -2.3**
O30N Mendenhall 7.71 53 Pn **Pn** **02 33 22.2 -0.7**
M29M Somme Creek 7.76 37 Pn **Pn** **02 33 24.0 +0.4**
R32K Eaglecrest 7.78 72 Pn **Pn** **02 33 22.0 -1.7**
K17K Iditarod 7.80 325 Pn Pn 02 33 23.1 -0.9
HDA Harding Lake 7.82 5 Pn **Pn** **02 33 24.8 +0.5**
JIS Juneau Island 7.85 72 Pn Pn 02 33 22.0 -2.6
J18K Innoko River 7.93 333 Pn **Pn** **02 33 26.5 +0.7**
NEA2 Nenana 7.96 359 Pn **Pn** **02 33 27.9 +1.6**
J20K Nowinta River 8.02 342 Pn Pn 02 33 25.1 -1.9
CCB Clear Creek Bu 8.03 3 Pn **Pn** **02 33 27.2 +0.1**
M14K Bethel 8.06 306 Pn Pn 02 33 26.9 -0.7
K27K Chicken 8.07 21 Pn **Pn** **02 33 28.7 +1.0**
J19K Poorman 8.13 338 Pn **Pn** **02 33 29.0 +0.5**
J25K Salcha River, 8.14 10 Pn **Pn** **02 33 29.1 +0.4**
IL31 8.19 5 Pn **Pn** **02 33 30.4 +1.1**
ILAR Eielson Array 8.19 5 Pn **Pn** **02 33 31.6 +2.3**
ILAR Eielson Array 8.19 5 Pn Pn **02 33 30.1 +0.8**
comp=E,0.4nm,0.3s,baz=170,slow=14,SNR=8.5
ILAR Sn **Sn** **02 34 59.9 -2.3**
comp=E,0.6nm,0.3s,baz=191,slow=22,SNR=7.7
comp=E,0.8nm,0.4s
N31M Braeburn, Yuko 8.19 48 Pn **Pn** **02 33 30.4 +1.0**
WHY Whitehorse 8.20 55 Pn **Pn** **02 33 30.3 +0.6**
J26L Joseph Creek 8.25 15 Pn **Pn** **02 33 31.4 +1.1**
J26L Joseph Creek 8.25 15 P **Pn** **02 33 31.0 +0.7**
baz=200
L29M L29M 8.34 35 Pn **Pn** **02 33 32.4 +0.9**
P32M Atlin 8.42 63 Pn **Pn** **02 33 31.6 -0.9**
P32M Atlin 8.42 63 P **Pn** **02 33 31.7 -0.9**
baz=256
M30M Minto, Yukon 8.43 40 Pn Pn 02 33 31.1 -1.5
MLY Manley 8.46 354 Pn Pn 02 33 32.6 -0.6
I23K Minto, Yukon-K 8.53 358 Pn Pn 02 33 33.5 -0.5
U33K Whale Pass 8.62 87 Pn Pn 02 33 31.0 -4.2
L14K Kuka Creek 8.64 309 Pn **Pn** **02 33 35.1 -0.3**
K15K Wolf Creek Mou 8.65 316 Pn **Pn** **02 33 36.8 +1.0**
I21K Tanana 8.70 351 Pn **Pn** **02 33 38.3 +1.9**
DAWY Dawson 8.71 28 Pn **Pn** **02 33 38.0 +1.4**
ISLZ Isanotski Laza 8.74 264 **Pn** **02 33 36.0 -1.0**
EGAK Eagle 8.92 21 Pn **Pn** **02 33 39.2 -0.2**
J16K Anvik River 8.95 323 Pn Pn 02 33 39.4 -0.3
PRP Porcupine Dome 9.01 8 Pn **Pn** **02 33 41.4 +0.7**
P33M Teslin, Yukon 9.02 60 Pn **Pn** **02 33 40.0 -0.7**
P33M Teslin, Yukon 9.02 60 P **Pn** **02 33 40.5 -0.3**
baz=254
Q32M Nakina River 9.03 68 Pn **Pn** **02 33 39.6 -1.4**
K29M Barlow Dome 9.06 33 Pn **Pn** **02 33 42.8 +1.3**
I26K Coal Creek Min 9.07 15 Pn **Pn** **02 33 43.0 +1.5**
M31M Drury Creek, Y 9.12 47 Pn **Pn** **02 33 43.1 +0.9**
N32M Quiet Lake 9.21 54 Pn **Pn** **02 33 42.8 -0.5**
H24K Noodor Dome 9.22 2 Pn **Pn** **02 33 46.7 +3.2**
H21K Melozitna Rive 9.25 349 Pn **Pn** **02 33 43.9 0.0**
H21K Melozitna Rive 9.25 349 P **Pn** **02 33 45.1 +1.2**
baz=166
J29N Klondike Camp 9.33 29 Pn **Pn** **02 33 46.3 +1.2**
S34M Telegraph Cree 9.55 75 Pn **Pn** **02 33 46.0 -2.1**
FARO Faro, Yukon 9.56 48 Pn **Pn** **02 33 47.9 -0.2**
H19K Roundabout Mou 9.66 340 Pn **Pn** **02 33 50.3 +0.8**
IMAR Indian Mountai 9.67 347 Pn **Pn** **02 33 50.9 +1.3**
J14K Nazanak Lak 9.69 315 Pn Pn 02 33 49.2 -0.7
K13K Kusilvak Mount 9.74 309 Pn **Pn** **02 33 51.0 +0.4**
R33M Jennings River 9.75 66 Pn **Pn** **02 33 49.9 -1.0**
I28M Miner Creek 9.76 22 Pn **Pn** **02 33 52.5 +1.6**
H17K Granite Mounta 9.95 331 Pn Pn 02 33 52.2 -1.2
J30M Hart River 9.96 32 Pn **Pn** **02 33 55.7 +2.0**
FYU Fort Yukon 10.07 8 Pn **Pn** **02 33 54.8 -0.3**
T35M Bob Quinn 10.08 80 Pn **Pn** **02 33 53.9 -1.3**
G24K Hadweenzic Riv 10.09 3 Pn **Pn** **02 33 55.5 0.0**
G23K Bananza Creek 10.11 357 Pn **Pn** **02 33 56.8 +1.1**
DLBC Dease Lake 10.15 72 Pn **Pn** **02 33 55.4 -0.9**
DLBC Dease Lake 10.15 72 Pn **Pn** **02 33 57.2 +1.0**
comp=E,0.6nm,0.3s,baz=226,slow=12,SNR=8.0
comp=E,1.1nm,0.3s
G21K Allakaket 10.16 349 Pn **Pn** **02 33 56.3 0.0**
G18K Tagagawik 10.43 337 Pn Pn 02 33 60.0 -0.1
F21K Alatna River 10.84 350 Pn **Pn** **02 34 06.2 +0.5**
F24K Squaw Lake 10.91 1 Pn **Pn** **02 34 06.7 +0.2**
F20K Avaraart Lake 10.94 345 Pn Pn 02 34 06.6 -0.4
BMAR Burnt Mountain 10.97 8 Pn **Pn** **02 34 07.5 +0.1**
ANM Nome 11.39 321 Pn **Pn** **02 34 13.4 +0.3**
G30M tAoh Zraii Nji 11.87 24 Pn **Pn** **02 34 21.3 +1.6**
G31M Satah River 12.29 27 Pn **Pn** **02 34 25.1 -0.3**
D22K Ayikyak River 12.40 353 Pn **Pn** **02 34 28.6 +1.6**
D25K Kavik River 12.75 4 Pn **Pn** **02 34 31.8 0.0**
INK Inuvik 13.55 24 Pn **Pn** **02 34 43.5 +0.9**
INK Inuvik 13.55 24 Pn **Pn** **02 34 44.8 +2.2**
baz=216,slow=16,SNR=5.0
comp=E,1.4nm,0.9s
C16K Lisburne Hills 13.91 334 Pn **Pn** **02 34 48.8 +1.3**
C36M Paulatuk 16.73 31 Pn **Pn** **02 35 22.9 -1.9**
C36M IAmb IAmb 02 35 36.3
comp=Z,4.6nm,0.8s
YKA Yellowknife Ar 18.03 57 **Pn** **02 35 39.2 -1.8**
YKA Yellowknife Ar 18.03 57 P **P** **02 35 42.4 +0.9**
comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=11
comp=Z,1.0nm,0.9s
A36M Sachs Harbour 18.19 23 **Pn** **02 35 43.0 +0.1**
A36M IAmb IAmb 02 35 53.7
comp=Z,15nm,0.9s
NEW Newport 20.79 100 P **P** **02 36 11.6 -0.3**
comp=Z,2.1nm,1.0s,baz=312,slow=9.5,SNR=2.5
comp=Z,2.1nm,1.0s
RES Resolute Bay 27.05 28 P **P** **02 37 13.4 +0.6**
comp=Z,1.2nm,1.0s,baz=245,slow=12,SNR=2.6
comp=Z,1.2nm,1.0s
NVAR Mina Array Bea 27.07 119 P **P** **02 37 13.3 -0.3**
comp=Z,0.6nm,0.7s,baz=312,slow=8.8,SNR=4.5
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 28.38 103 P **P** **02 37 24.8 -0.6**
comp=Z,0.2nm,0.6s,baz=325,slow=7.8,SNR=1.9
comp=Z,0.2nm,0.6s
ULM Lac du Bonnet 31.37 79 LR LR 02 50 19.6
comp=Z,78nm,19.1s,baz=14,slow=36
NRIK Noril'sk 47.91 337 P **P** **02 40 08.2 -0.4**
comp=Z,2.3nm,0.3s,baz=55,slow=7.0,SNR=6.8
comp=Z,2.3nm,0.3s
H11N2 WAKE ISLAND Hy 49.39 240 T T 03 33 29.6
baz=31
H11N3 WAKE ISLAND Hy 49.39 240 T T 03 33 31.3
baz=31
H11N1 WAKE ISLAND Hy 49.41 240 T T 03 33 33.2
baz=31
TEIG Tepich 57.10 104 LR LR 03 09 33.2
comp=Z,507nm,18.2s,baz=187,slow=40
SONM Songino Array 58.68 310 P **P** **02 41 29.9 +1.6**
comp=Z,3.3nm,0.8s,baz=47,slow=7.6,SNR=20
SONM PcP **PcP** **02 42 19.7 +1.4**
comp=Z,0.6nm,1.1s,baz=38,slow=3.7,SNR=3.6
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 61.44 327 P **P** **02 41 48.0 +1.0**
comp=Z,2.4nm,0.8s,baz=30,slow=7.0,SNR=14
comp=Z,2.4nm,0.8s
FINES FINESS Array B 62.16 3 P **P** **02 41 52.0 +0.3**
comp=Z,3.2nm,0.9s,baz=12,slow=8.7,SNR=1.9
comp=Z,3.2nm,0.9s
BVAR Borovoye Array 66.09 335 P **P** **02 42 18.5 +0.8**
comp=Z,3.4nm,0.8s,baz=38,slow=7.5,SNR=19
comp=Z,3.4nm,0.8s
KURBB Kurchatov Arra 66.20 329 P **P** **02 42 18.7 +0.3**
comp=Z,1.3nm,0.8s,baz=23,slow=6.2,SNR=9.4
comp=Z,1.3nm,0.8s
MKAR Makanchi Array 68.50 325 P **P** **02 42 33.5 +0.5**
comp=Z,1.1nm,0.8s,baz=38,slow=6.3,SNR=9.8
comp=Z,1.1nm,0.8s
AKASG Malin Array Be 72.99 1 P **P** **02 43 00.0 -0.2**
comp=Z,0.5nm,0.5s,baz=357,slow=5.9,SNR=4.6
comp=Z,0.5nm,0.5s
ESDC Sonseca Array 79.48 27 P **P** **02 43 38.3 +0.8**
comp=Z,1.5nm,0.9s,baz=342,slow=5.2,SNR=11
comp=Z,1.5nm,0.9s
GEYT Alibeck 83.09 339 P **P** **02 43 57.9 +1.3**
comp=Z,2.2nm,0.8s,baz=319,slow=4.3,SNR=6.5
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 83.96 358 P **P** **02 44 01.7 +0.5**
comp=Z,0.6nm,0.7s,baz=347,slow=5.9,SNR=2.0
comp=Z,0.6nm,0.7s
CMAR Chiang Mai Arr 86.43 298 P **P** **02 44 14.3 +0.6**
comp=Z,1.4nm,0.3s,baz=21,slow=5.5,SNR=9.3
comp=Z,1.4nm,0.3s
QSPA South Pole Sui 146.45 180 PKPbc **PKPdf** **02 51 09.5 +0.1**
comp=Z,6.0nm,0.8s,baz=39,slow=2.5,SNR=14
BOSA Boshof 151.63 11 PKPbc **PKPbc** **02 51 24.5 -0.7**
comp=Z,3.1nm,0.8s,baz=60,slow=7.1,SNR=5.1

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*IDC **24** 02:35:35.2±3.7,55.90N×149.72W,h0km,mb3.2/1, mbtmp3.4/6,ML3.1/4, Error ellipse: s-maj=60.4km s-min=29.1km az=5.0*
*AEIC **24** 02:35:35.0±3.0,55.90N±0.10×149.7W±0.1,h3km±7km, Error ellipse: s-maj=14.5km s-min=8.7km az=170.0*
*NEIC **24** 02:35:36.2±2.7,56.07N±0.10×150.0W±0.1,h21km±10km, mb3.9/1,ML4.0/38,ML3.8(AEIC), Error ellipse: s-maj=14.5km s-min=8.4km az=171.0*

ISC 24 02:35:37.0±1.5,56.2N±0.1×150.01W±0.07,h10km,n150, σ1°46/142,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.09**	**302**		Pn	02 36 09.2	-2.8
OHAK					**Sn**	**02 36 35.8**	**-2.4**
OHAK	**Old Harbor**	**2.09**	**302**	P	**Pn**	**02 36 09.8**	**-2.3**
	baz=123						
OHAK				S	**Sn**	**02 36 38.0**	**-0.1**
	baz=123						
KDAK	**Kodiak Island**	**2.14**	**320**	Pn	**Pn**	**02 36 10.9**	**-1.9**
KDAK				Sn	**Sn**	**02 36 37.6**	**-1.8**
KDAK	**Kodiak Island**	**2.14**	**320**	Pn	**Pn**	**02 36 13.2**	**+0.4**
	7.6nm,0.3s,baz=128,slow=4.6,SNR=46						
KDAK				Sn	**Sn**	**02 36 39.0**	**-0.4**
	7.8nm,0.3s,baz=6.7,slow=23,SNR=7.5						
	20nm,0.4s						
SII	**Sitkinak Islan**	**2.35**	**281**	Pn	**Pn**	**02 36 12.9**	**-2.8**
SII				IAML		02 36 44.9	
	comp=E,605nm,1.3s						
SYI	**Shuyak Island**	**2.76**	**333**	Pn	Pn	02 36 18.8	-2.5
SYI				Sn	**Sn**	**02 36 53.8**	**-0.9**
SYI				IAML		02 38 05.5	
	comp=N,275nm,0.6s						
Q20K	**Shuyak Island**	**2.76**	**333**	P	**Pn**	**02 36 19.3**	**-2.0**
	baz=151						
Q20K				S	**Sn**	**02 36 55.1**	**+0.4**
	baz=151						
KAHG	**Katmai Hook Gl**	**3.38**	**315**		**Pn**	**02 36 28.8**	**-1.1**
Q19K	**Cape Douglas,**	**3.39**	**326**	Pn	**Pn**	**02 36 28.1**	**-1.9**
Q19K				Sn	**Sn**	**02 37 07.9**	**-2.3**
Q19K	**Cape Douglas,**	**3.39**	**326**	P	**Pn**	**02 36 28.6**	**-1.4**
	baz=144						
Q19K				S	**Sn**	**02 37 08.9**	**-1.2**
	baz=144						
CNPM	**China Poot**	**3.42**	**349**	Pn	**Pn**	**02 36 29.5**	**-1.0**
CNPM				Sn	**Sn**	**02 37 08.9**	**-2.2**
ACHA	**Angle Creek He**	**3.54**	**307**		**Pn**	**02 36 31.1**	**-1.0**
BRSE	**Bradley Lake S**	**3.60**	**354**		Pn	02 36 30.4	-2.4
BRSE					**Sn**	**02 37 14.9**	**-0.5**
BRSE	**Bradley Lake S**	**3.60**	**354**	P	Pn	02 36 30.4	-2.4
	baz=172						
BRSE				S	**Sn**	**02 37 14.9**	**-0.5**
	baz=172						
BRLK	**Bradley Lake**	**3.63**	**353**	Pn	**Pn**	**02 36 33.6**	**+0.4**
Q23K	**Middleton Isla**	**3.81**	**29**	Pn	**Pn**	**02 36 34.7**	**-0.9**
Q23K	**Middleton Isla**	**3.81**	**29**	P	Pn	02 36 33.0	-2.7
	baz=208						
MID	**Middleton Isla**	**3.81**	**30**	Pn	**Pn**	**02 36 34.2**	**-1.5**
CNTC	**Contact Creek**	**3.82**	**306**		**Pn**	**02 36 34.5**	**-1.4**
Q17K	**Contact Creek**	**3.82**	**306**	P	**Pn**	**02 36 34.5**	**-1.4**
	baz=123						
P19K	**Oil Pt**	**3.89**	**335**	Pn	**Pn**	**02 36 36.9**	**+0.1**
P19K	**Oil Pt**	**3.89**	**335**	P	**Pn**	**02 36 34.7**	**-2.1**
	baz=152						
P23K	**Montague Islan**	**4.08**	**19**		Pn	02 36 36.8	-2.6
P23K	**Montague Islan**	**4.08**	**19**	P	Pn	02 36 36.8	-2.6
	baz=198						
O20K	**Slope Mountain**	**4.16**	**342**		Pn	02 36 37.9	-2.6
O20K	**Slope Mountain**	**4.16**	**342**	P	Pn	02 36 37.9	-2.6
	baz=159						
IVE	**Iliamna Volcan**	**4.17**	**339**		Pn	02 36 38.4	-2.4
P18K	**Big Mountain,**	**4.27**	**321**	Pn	**Pn**	**02 36 39.9**	**-2.2**
P18K	**Big Mountain,**	**4.27**	**321**	P	**Pn**	**02 36 40.0**	**-2.0**
	baz=138						
Q16K	**King Salmon**	**4.38**	**308**		**Pn**	**02 36 41.5**	**-2.1**
Q16K	**King Salmon**	**4.38**	**308**	P	**Pn**	**02 36 41.5**	**-2.1**
	baz=124						
RSO	**Redoubt South**	**4.54**	**343**	Pn	**Pn**	**02 36 44.1**	**-1.8**
P17K	**Kvichak River**	**4.59**	**314**		**Pn**	**02 36 44.6**	**-1.8**
P17K	**Kvichak River**	**4.59**	**314**	P	**Pn**	**02 36 44.6**	**-1.8**
	baz=130						
O18K	**Koktuh Hills**	**4.61**	**325**	Pn	**Pn**	**02 36 44.3**	**-2.4**
O18K	**Koktuh Hills**	**4.61**	**325**	P	**Pn**	**02 36 44.5**	**-2.2**
	baz=142						
HIN	**Hinchinbrook I**	**4.62**	**22**	Pn	Pn	02 36 43.5	-3.4
O19K	**Port Alsworth**	**4.63**	**332**	Pn	**Pn**	**02 36 47.3**	**+0.3**
CHGN	**Chignik**	**4.69**	**275**	Pn	Pn	02 36 43.6	-4.2
CHGN				IAML		02 38 39.2	
	comp=N,130nm,0.1s						
CHGN				IAML		02 38 53.6	
	comp=E,123nm,0.6s						
KAIM	**Kayak Island**	**4.79**	**36**	Pn	**Pn**	**02 36 47.0**	**-2.2**
KAIM	**Kayak Island**	**4.79**	**36**	P	Pn	02 36 46.1	-3.1
	baz=217						
EYAK	**Cordova Ski Ar**	**4.93**	**25**	Pn	Pn	02 36 48.4	-2.6
EYAK	**Cordova Ski Ar**	**4.93**	**25**	P	**Pn**	**02 36 48.8**	**-2.3**

baz=206
RC01 Rabbit Creek A 4.93 2 Pn Pn 02 36 50.9 -0.2
RC01 IAML 02 38 59.2
comp=N,148nm,0.4s
RC01 IAML 02 39 00.3
comp=E,132nm,0.6s
RAGM Ragged Mountai 5.08 31 Pn Pn 02 36 52.2 -0.9
P16K Nushagak River 5.16 307 Pn 02 36 52.9 -1.4
P16K Nushagak River 5.16 307 P Pn 02 36 52.8 -1.4
baz=122
N19K Bonanza Creek 5.21 335 Pn Pn 02 36 55.7 +0.7
N19K IAML 02 39 25.8
comp=E,49nm,0.9s
O17K Koliganek Bris 5.22 317 Pn 02 36 53.6 -1.4
O17K Koliganek Bris 5.22 317 P Pn 02 36 53.6 -1.4
baz=132
GOAT Goat Mountain 5.22 30 Pn 02 36 52.7 -2.4
KNK Knik Glacier 5.32 8 Pn Pn 02 36 55.2 -1.2
SUA Susitna One 5.32 356 Pn Pn 02 36 56.3 -0.2
BERG Berg Lake 5.38 36 Pn Pn 02 36 53.4 -3.8
N18K Kilae Creek 5.47 328 Pn Pn 02 36 56.7 -1.9
N18K Kilae Creek 5.47 328 P Pn 02 36 57.1 -1.5
baz=143
O16K Kokwok River B 5.51 312 Pn Pn 02 36 58.3 -0.7
SNH Sunshine Point 5.52 40 Pn Pn 02 36 56.4 -2.8
GHO Glory Hole Cre 5.64 5 Pn Pn 02 37 02.2 +1.2
SML Sawmill 5.72 8 Pn Pn 02 37 02.0 +0.1
SVW2 Sparrevohn 5.73 332 Pn Pn 02 37 02.3 +0.2
KLU Klutina 5.74 20 Pn Pn 02 37 01.2 -1.1
N17K Nushagak Hills 5.77 322 Pn Pn 02 37 02.8 +0.2
M20K Styx River 5.95 346 Pn Pn 02 37 05.6 +0.5
VRDI Verde Repeater 6.11 31 Pn Pn 02 37 06.2 -1.3
N25K Chitina, Valde 6.13 25 Pn Pn 02 37 05.9 -1.7
M19K Big River Lodg 6.17 340 Pn Pn 02 37 09.1 +0.9
GLB Gilahina Butte 6.18 29 Pn Pn 02 37 07.0 -1.4
M24K Tolsona, Glenn 6.27 17 Pn Pn 02 37 11.7 +2.2
MCARA McCarthy VSAT 6.36 32 Pn Pn 02 37 08.6 -2.1
M17K Holitna River 6.51 327 Pn Pn 02 37 11.7 -1.1
L19K White Mountain 6.52 340 Pn Pn 02 37 13.5 +0.6
BARN Barnard Glacie 6.56 38 Pn Pn 02 37 09.4 -4.1
CTGM Chitina Glacie 6.61 40 Pn Pn 02 37 12.5 -1.7
LOGN Logan Glacier 6.63 42 Pn Pn 02 37 12.4 -2.2
N15K Kwethluk River 6.67 311 Pn Pn 02 37 14.4 -0.5
BCPM Bancas Point 6.68 51 Pn Pn 02 37 13.0 -2.1
M16K Timber Creek 6.74 320 Pn Pn 02 37 15.5 -0.4
O14K Tigyukauivet M 6.77 302 Pn Pn 02 37 14.8 -1.5
L18K Granite Mounta 6.96 333 Pn Pn 02 37 18.2 -0.8
DHY Denali Highway 7.05 10 Pn Pn 02 37 21.1 +0.8
O29M Mount Kennedy 7.31 51 Pn Pn 02 37 21.4 -2.6
CAST Castle Rocks 7.34 353 Pn Pn 02 37 22.3 -1.9
L16K Owhat River 7.40 323 Pn Pn 02 37 23.2 -1.7
P29M Windy Craggy 7.40 57 Pn Pn 02 37 22.4 -2.5
KTH Kantishna Hill 7.42 357 Pn Pn 02 37 24.7 -0.5
M27K Edge Creek, AK 7.47 31 Pn Pn 02 37 24.9 -1.1
S31K Pelican 7.72 71 Pn Pn 02 37 24.5 -4.8
K17K Iditarod 7.80 331 Pn Pn 02 37 30.1 -0.3
BPAW Bear Paw Mtn. 7.97 357 Pn Pn 02 37 33.2 +0.5
RIDG Independent Ri 8.02 17 Pn Pn 02 37 33.1 -0.4
L27K Beaver Creek, 8.05 28 Pn Pn 02 37 33.3 -0.6
BCAR Beaver Creek A 8.06 28 Pn Pn 02 37 33.2 -0.9
J19K Poorman 8.33 343 Pn Pn 02 37 38.6 +0.9
L14K Kuka Creek 8.37 313 Pn Pn 02 37 38.2 -0.1
SCRK Sand Creek 8.38 19 Pn Pn 02 37 37.2 -1.3
SKAG Skagway 8.50 61 Pn Pn 02 37 39.2 -0.8
K15K Wolf Creek Mou 8.51 321 Pn Pn 02 37 40.8 +0.7
N30M Aishikik Lake 8.54 46 Pn Pn 02 37 38.2 -2.4
CCB Clear Creek Bu 8.57 6 Pn Pn 02 37 40.6 -0.4
M29M Somme Creek 8.62 38 Pn Pn 02 37 40.1 -1.6
O30N Mendenhall 8.62 52 Pn Pn 02 37 41.1 -0.6
R32K Eaglecrest 8.66 70 Pn Pn 02 37 40.0 -2.3
IL31 8.76 9 Pn Pn 02 37 44.0 +0.5
ILAR Eielson Array 8.76 9 Pn Pn 02 37 42.7 -1.0
ILAR Eielson Array 8.76 9 Pn Pn 02 37 44.2 +0.6
comp=E,0.2nm,0.3s,baz=191,slow=13,SNR=2.8
comp=E,0.3nm,0.3s
J25K Salcha River, 8.77 13 Pn Pn 02 37 44.4 +0.6
K27K Chicken 8.81 23 Pn Pn 02 37 43.7 -0.6
MLY Manley 8.89 358 Pn Pn 02 37 45.4 -0.1
J16K Anvik River 8.90 328 Pn Pn 02 37 45.1 -0.5
J26L Joseph Creek 8.94 18 Pn Pn 02 37 44.9 -1.3
I21K Tanana 9.09 355 Pn Pn 02 37 49.7 +1.6
N31M Braeburn, Yuko 9.09 48 Pn Pn 02 37 45.9 -2.2
WHY Whitehorse 9.12 54 Pn Pn 02 37 47.1 -1.5
L29M L29M 9.18 36 Pn Pn 02 37 47.9 -1.5
M30M Minto, Yukon 9.30 41 Pn Pn 02 37 48.8 -2.1
P32M Atlin 9.32 62 Pn Pn 02 37 48.0 -3.4
DAWY Dawson 9.51 29 Pn Pn 02 37 53.9 0.0
H21K Melozitna Rive 9.61 353 Pn Pn 02 37 55.7 +0.5
PRP Porcupine Dome 9.62 11 Pn Pn 02 37 57.5 +1.9
EGAK Eagle 9.66 23 Pn Pn 02 37 55.0 -1.0
I26K Coal Creek Min 9.75 17 Pn Pn 02 37 57.2 +0.1
H24K Noodor Dome 9.75 5 Pn Pn 02 37 56.2 -1.0
K29M Barlow Dome 9.89 34 Pn Pn 02 37 57.1 -2.1
Q32M Nakina River 9.93 66 Pn Pn 02 37 57.9 -1.9
IMAR Indian Mountai 10.01 351 Pn Pn 02 38 00.5 -0.1
M31M Drury Creek, Y 10.02 47 Pn Pn 02 37 58.6 -2.2
H17K Granite Mounta 10.04 335 Pn Pn 02 38 00.6 -0.4
N32M Quiet Lake 10.12 54 Pn Pn 02 37 59.6 -2.6
FARO Faro, Yukon 10.46 48 Pn Pn 02 38 07.3 +0.4
I28M Miner Creek 10.51 24 Pn Pn 02 38 06.9 -0.7
G21K Allakaket 10.51 352 Pn Pn 02 38 10.1 +2.5
G23K Bananza Creek 10.57 360 Pn Pn 02 38 08.4 0.0
G24K Hadweenzic Riv 10.63 5 Pn Pn 02 38 09.7 +0.4
R33M Jennings River 10.66 65 Pn Pn 02 38 09.1 -0.6
FYU Fort Yukon 10.67 10 Pn Pn 02 38 10.7 +1.0
J30M Hart River 10.78 33 Pn Pn 02 38 11.0 -0.4
DLBC Dease Lake 11.04 70 Pn Pn 02 38 11.8 -3.1
DLBC Dease Lake 11.04 70 Pn Pn 02 38 12.8 -2.0
comp=E,0.1nm,0.3s,baz=277,slow=8.1,SNR=1.6
comp=E,1.5nm,0.7s
I30M Mount Dempster 11.24 31 Pn Pn 02 38 18.1 +0.5
F20K Avaraart Lake 11.24 348 Pn Pn 02 38 19.3 +1.8
ANM Nome 11.31 324 Pn Pn 02 38 20.0 +1.6
BMAR Burnt Mountain 11.58 10 Pn Pn 02 38 23.1 +1.0
F15K North Star Dit 11.88 329 Pn Pn 02 38 27.6 +1.3
G31M Satah River 13.08 28 Pn Pn 02 38 43.1 +0.5
INK Inuvik 14.31 25 Pn Pn 02 38 58.9 -0.5
INK Inuvik 14.31 25 Pn Pn 02 39 01.2 +1.8
comp=E,0.1nm,0.3s,baz=215,slow=13,SNR=3.6
comp=E,1.4nm,0.9s
YKA Yellowknife Ar 18.94 56 P P 02 39 58.4 +0.7
comp=E,1.0nm,1.0s,baz=263,slow=11,SNR=6.0
A36M Sachs Harbour 18.94 24 Pn P 02 39 58.2 +0.5
A36M IAmb IAmb 02 40 11.9
comp=Z,7.1nm,0.8s
MKAR Makanchi Array 68.45 324 P P 02 46 41.0 +2.2
comp=Z,0.1nm,0.6s,baz=31,slow=6.7,SNR=2.3
comp=Z,0.1nm,0.6s

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*IDC **24** 02:36:44.3±1.1,56°04'N×149°93'W,h0^{km},mb3.7/11, mbtmp3.8/16,ML3.7/5,MS3.6/16,Error ellipse: s-maj=25.9km s-min=16.2km az=32.0*

*NEIC **24** 02:36:45.7±1.9,56°05'N±0°08'×149°91'W±0°10',h20^{km}±9^{km}, mb4.1/2,ML4.1/40,ML3.9(AEIC),Error ellipse: s-maj=11.6km s-min=7.8km az=168.0*

*AEIC **24** 02:36:50.4±2.3,56°16'N±0°09'×149°8'W±0°1',h12^{km}±7^{km}, Error ellipse: s-maj=12.5km s-min=8.0km az=170.0*

ISC 24 02:36:46.0±0.7,56°21'N±0°08'×149°88'W±0°05,h10^{km}, n248,σ1^{s}06/233,mb3.9/11,MS3.7/11,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.14**	**300**	Pn	Pn	02 37 19.9	-1.7
OHAK					**Sn**	**02 37 44.7**	**-3.5**
OHAK	**Old Harbor**	**2.14**	**300**	P	**Pn**	**02 37 20.6**	**-1.1**
baz=118							
OHAK				S	**Sn**	**02 37 45.4**	**-2.8**
baz=118							
KDAK	**Kodiak Island**	**2.16**	**318**	Pn	**Pn**	**02 37 21.4**	**-0.7**
KDAK	**Kodiak Island**	**2.16**	**318**	Sn	**Sn**	**02 37 46.2**	**-2.7**
KDAK	**Kodiak Island**	**2.16**	**318**	Pn	**Pn**	**02 37 22.0**	**-0.1**
36nm,0.3s,baz=170,slow=5.7,SNR=17							
KDAK				Sn	**Sn**	**02 37 47.4**	**-1.5**
35nm,0.3s,baz=10,slow=21,SNR=9.1							
KDAK				LR	LR	02 38 32.5	
comp=Z,1μm,19.1s,baz=226,slow=48							
84nm,0.4s							
SII	**Sitkinak Islan**	**2.42**	**280**	Pn	Pn	02 37 23.1	-2.6
SII				IAML		02 37 52.8	
comp=N,1μm,0.8s							

SYI	**Shuyak Island**	**2.76**	**332**	Pn	**Pn**	**02 37 30.2**	**-0.1**
Q20K	**Shuyak Island**	**2.76**	**332**	P	**Pn**	**02 37 30.4**	**0.0**
baz=149							
Q20K				S	**Sn**	**02 38 03.3**	**-0.4**
baz=149							
Q19K	**Cape Douglas,**	**3.40**	**325**	Pn	**Pn**	**02 37 39.3**	**+0.2**
Q19K				Sn	**Sn**	**02 38 18.1**	**-1.3**
Q19K	**Cape Douglas,**	**3.40**	**325**	P	**Pn**	**02 37 39.9**	**+0.9**
baz=142							
Q19K				S	**Sn**	**02 38 17.2**	**-2.2**
baz=142							
CNPM	**China Poot**	**3.40**	**348**	Pn	**Pn**	**02 37 38.4**	**-0.7**
CNPM				IAML		02 38 21.9	
comp=N,246nm,0.4s							
CNPM				IAML		02 38 22.1	
comp=E,227nm,0.6s							
KAHG	**Katmai Hook Gl**	**3.41**	**314**		**Pn**	**02 37 40.2**	**+0.9**
KCE	**Katmai Mt Cerb**	**3.53**	**307**		**Pn**	**02 37 41.8**	**+0.9**
BRSE	**Bradley Lake S**	**3.57**	**353**		**Pn**	**02 37 41.0**	**-0.4**
BRSE					**Sn**	**02 38 22.5**	**-1.2**
BRSE	**Bradley Lake S**	**3.57**	**353**	P	**Pn**	**02 37 41.0**	**-0.4**
baz=172							
BRSE				S	**Sn**	**02 38 23.4**	**-0.2**
baz=172							
ACHA	**Angle Creek He**	**3.58**	**306**		**Pn**	**02 37 41.8**	**+0.2**
HOM	**Homer**	**3.58**	**345**	Pn	**Pn**	**02 37 40.5**	**-1.1**
HOM				IAML		02 38 29.8	
comp=E,552nm,0.6s							
HOM	**Homer**	**3.58**	**345**	P	**Pn**	**02 37 41.7**	**+0.1**
baz=164							
BRLK	**Bradley Lake**	**3.60**	**352**	Pn	**Pn**	**02 37 40.9**	**-1.0**
BRLK				IAML		02 38 28.3	
comp=N,211nm,1.0s							
BRLK				IAML		02 38 29.5	
comp=E,164nm,0.5s							
ANCK	**Angle Creek**	**3.65**	**305**		**Pn**	**02 37 42.8**	**+0.2**
ANCK					**Sn**	**02 38 23.9**	**-1.8**
KVTA	**Katmai Vly 10**	**3.66**	**309**		**Pn**	**02 37 43.4**	**+0.8**
AUCH	**Augustine Cone**	**3.69**	**330**		**Pn**	**02 37 44.4**	**+1.2**
KAHC	**Katmai Hardscr**	**3.70**	**313**		**Pn**	**02 37 44.1**	**+0.8**
KAHC	**Katmai Hardscr**	**3.70**	**313**	P	**Pn**	**02 37 43.9**	**+0.6**
baz=129							
Q23K	**Middleton Isla**	**3.74**	**29**	Pn	**Pn**	**02 37 42.5**	**-1.2**
Q23K				IAML		02 38 17.7	
comp=N,241nm,2.2s							
Q23K				IAML		02 39 46.7	
comp=E,309nm,2.1s							
MID	**Middleton Isla**	**3.74**	**29**	Pn	**Pn**	**02 37 43.6**	**-0.1**
MID				IAML		02 38 54.0	
comp=N,225nm,1.7s							
MID				IAML		02 39 46.7	
comp=E,286nm,2.1s							
MID	**Middleton Isla**	**3.74**	**29**	P	**Pn**	**02 37 43.8**	**+0.1**
CNTC	**Contact Creek**	**3.86**	**305**		**Pn**	**02 37 45.0**	**-0.5**
Q17K	**Contact Creek**	**3.86**	**305**	P	**Pn**	**02 37 45.0**	**-0.5**
baz=120							
P19K	**Oil Pt**	**3.89**	**334**	Pn	**Pn**	**02 37 44.3**	**-1.5**
P19K				IAML		02 38 37.1	
comp=N,309nm,0.5s							
P19K				IAML		02 38 37.4	
comp=E,355nm,0.6s							
P19K	**Oil Pt**	**3.89**	**334**	P	**Pn**	**02 37 45.5**	**-0.2**
baz=151							
SEW	**Seward**	**3.91**	**3**	Pn	**Pn**	**02 37 45.0**	**-1.1**
SEW	**Seward**	**3.91**	**3**	P	**Pn**	**02 37 45.7**	**-0.3**
baz=183							
P23K	**Montague Islan**	**4.02**	**18**		**Pn**	**02 37 47.6**	**0.0**
P23K					**Sn**	**02 38 32.9**	**-1.7**
P23K	**Montague Islan**	**4.02**	**18**	P	**Pn**	**02 37 47.9**	**+0.3**
baz=200							
O20K	**Slope Mountain**	**4.14**	**341**		**Pn**	**02 37 49.3**	**0.0**
O20K	**Slope Mountain**	**4.14**	**341**	P	**Pn**	**02 37 49.5**	**+0.1**
baz=158							
IVE	**Iliamna Volcan**	**4.16**	**338**		**Pn**	**02 37 49.4**	**-0.2**
P18K	**Big Mountain,**	**4.29**	**320**	Pn	**Pn**	**02 37 50.3**	**-1.0**
P18K	**Big Mountain,**	**4.29**	**320**	P	**Pn**	**02 37 50.8**	**-0.5**
baz=136							
Q16K	**King Salmon**	**4.42**	**307**		**Pn**	**02 37 52.9**	**-0.1**
Q16K	**King Salmon**	**4.42**	**307**	P	**Pn**	**02 37 52.5**	**-0.6**
baz=121							
R16K	**Pilot Point**	**4.43**	**291**	Pn	Pn	02 37 51.0	-2.2
R16K				IAML		02 39 01.8	
comp=N,276nm,3.9s							
R16K	**Pilot Point**	**4.43**	**291**	P	**Pn**	**02 37 52.9**	**-0.4**
baz=105							
RED	**Redoubt Volcan**	**4.49**	**341**		**Pn**	**02 37 53.6**	**-0.5**
RSO	**Redoubt South**	**4.52**	**342**	Pn	**Pn**	**02 37 54.4**	**-0.3**
HIN	**Hinchinbrook I**	**4.56**	**22**	Pn	**Pn**	**02 37 55.4**	**+0.4**
HIN				IAML		02 38 47.4	
comp=E,262nm,1.1s							
HIN				IAML		02 38 50.7	
comp=N,177nm,0.4s							
P17K	**Kvichak River**	**4.62**	**313**		**Pn**	**02 37 56.0**	**+0.2**
P17K	**Kvichak River**	**4.62**	**313**	P	**Pn**	**02 37 56.0**	**+0.2**
baz=128							
CAPN	**Captain Cook N**	**4.62**	**352**	Pn	**Pn**	**02 37 56.3**	**+0.5**
O18K	**Koktuh Hills**	**4.62**	**324**	Pn	**Pn**	**02 37 55.6**	**-0.3**
O18K				IAML		02 38 51.7	
comp=N,217nm,0.8s							
O18K				IAML		02 38 52.5	
comp=E,111nm,0.9s							
O18K	**Koktuh Hills**	**4.62**	**324**	P	**Pn**	**02 37 55.8**	**-0.1**
baz=140							
O19K	**Port Alsworth**	**4.63**	**331**	Pn	Pn	02 37 54.0	-2.0
O19K				IAML		02 38 59.3	
comp=E,258nm,0.4s							
NCT	**North Crescent**	**4.65**	**341**		**Pn**	**02 37 55.9**	**-0.4**
KAIM	**Kayak Island**	**4.72**	**36**	Pn	**Pn**	**02 37 57.7**	**+0.5**
KAIM				IAML		02 38 51.7	
comp=N,216nm,2.5s							
KAIM				IAML		02 38 58.0	
comp=E,214nm,0.5s							
EYAK	**Cordova Ski Ar**	**4.86**	**25**	Pn	**Pn**	**02 37 58.9**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.86**	**25**	P	**Pn**	**02 37 59.3**	**+0.2**
baz=208							
RAGM	**Ragged Mountai**	**5.00**	**31**	Pn	**Pn**	**02 38 01.1**	**-0.1**
N20K	**Mount Spurr**	**5.15**	**347**	P	**Pn**	**02 38 02.5**	**-0.7**
baz=165							
SPCR	**Spurr Chakacha**	**5.15**	**347**		**Pn**	**02 38 03.7**	**+0.5**
GOAT	**Goat Mountain**	**5.15**	**30**		**Pn**	**02 38 03.5**	**+0.3**
P16K	**Nushagak River**	**5.20**	**306**		**Pn**	**02 38 04.0**	**+0.2**
P16K	**Nushagak River**	**5.20**	**306**	P	**Pn**	**02 38 03.8**	**+0.1**
baz=120							
N19K	**Bonanza Creek**	**5.21**	**334**	Pn	**Pn**	**02 38 03.2**	**-0.8**
N19K	**Bonanza Creek**	**5.21**	**334**	P	**Pn**	**02 38 03.7**	**-0.3**
baz=150							
O17K	**Koliganek Bris**	**5.24**	**316**		**Pn**	**02 38 04.4**	**0.0**
O17K	**Koliganek Bris**	**5.24**	**316**	P	**Pn**	**02 38 04.1**	**-0.2**
baz=130							
KNK	**Knik Glacier**	**5.27**	**7**	Pn	**Pn**	**02 38 03.9**	**-0.8**
BERG	**Berg Lake**	**5.31**	**35**	Pn	**Pn**	**02 38 05.2**	**-0.1**
DIV	**Divide**	**5.38**	**22**	Pn	**Pn**	**02 38 07.2**	**+0.9**
PMR	**Palmer**	**5.41**	**4**	P	**Pn**	**02 38 09.7**	**+3.0**
SNH	**Sunshine Point**	**5.45**	**40**	Pn	**Pn**	**02 38 08.0**	**+0.7**
N18K	**Kilae Creek**	**5.48**	**327**	Pn	**Pn**	**02 38 07.0**	**-0.6**
N18K	**Kilae Creek**	**5.48**	**327**	P	**Pn**	**02 38 07.4**	**-0.2**
baz=142							
CYK	**Cape Yakataga**	**5.51**	**42**		**Pn**	**02 38 07.9**	**-0.1**
O16K	**Kokwok River B**	**5.54**	**311**	Pn	**Pn**	**02 38 08.4**	**-0.1**
O16K	**Kokwok River B**	**5.54**	**311**	P	**Pn**	**02 38 08.3**	**-0.1**
baz=124							
GHO	**Glory Hole Cre**	**5.60**	**5**	Pn	Pn	02 38 07.5	-1.9
CNBA	**Chernabura Isl**	**5.69**	**260**	Pn	Pn	02 38 07.5	-3.0
BARK	**Barkley Ridge**	**5.73**	**40**		**Pn**	**02 38 11.3**	**+0.2**
SVW2	**Sparrevohn**	**5.73**	**331**	Pn	**Pn**	**02 38 10.4**	**-0.7**
SVW2	**Sparrevohn**	**5.73**	**331**	P	**Pn**	**02 38 11.4**	**+0.3**
N17K	**Nushagak Hills**	**5.79**	**321**	Pn	**Pn**	**02 38 11.8**	**0.0**
SCM	**Sheep Creek Mo**	**5.79**	**12**	Pn	Pn	02 38 09.4	-2.5
SKT	**Skwentna**	**5.85**	**352**	Pn	Pn	02 38 10.7	-2.0
M20K	**Styx River**	**5.93**	**345**	Pn	**Pn**	**02 38 13.2**	**-0.6**
VRDI	**Verde Repeater**	**6.04**	**31**	Pn	**Pn**	**02 38 15.1**	**-0.5**
SDPT	**Sand Point**	**6.04**	**266**	P	**Pn**	**02 38 13.6**	**-1.8**
N25K	**Chitina, Valde**	**6.06**	**25**	Pn	**Pn**	**02 38 15.3**	**-0.4**
O15K	**Ungalikthiuk R**	**6.11**	**303**		**Pn**	**02 38 16.0**	**-0.2**
GLB	**Gilahina Butte**	**6.12**	**28**	Pn	**Pn**	**02 38 17.1**	**+0.7**
M18K	**Stony River**	**6.13**	**332**		**Pn**	**02 38 16.1**	**-0.3**
KIAG	**Kiagna River**	**6.14**	**37**		**Pn**	**02 38 17.1**	**+0.1**
M19K	**Big River Lodg**	**6.16**	**340**	Pn	**Pn**	**02 38 17.6**	**+0.6**
SAMH	**Samovar Hills**	**6.21**	**47**		**Pn**	**02 38 18.1**	**+0.4**
M24K	**Tolsona, Glenn**	**6.21**	**16**	Pn	**Pn**	**02 38 19.3**	**+1.6**
CUT	**Chulitna**	**6.22**	**358**	Pn	**Pn**	**02 38 19.4**	**+1.7**
MCARA	**McCarthy VSAT**	**6.29**	**32**	Pn	**Pn**	**02 38 18.5**	**-0.2**
PTPK	**Patty Peak**	**6.31**	**35**		**Pn**	**02 38 19.7**	**+0.6**
N16K	**Nishlik Lake**	**6.34**	**316**		**Pn**	**02 38 20.0**	**+0.6**

PCA	**Pinnacle**	**6.41**	**49**	Pn	**Pn**	**02 38 21.4**	**+1.0**
WASW	**Wrangell South**	**6.44**	**25**		**Pn**	**02 38 21.6**	**+0.5**
WACK	**Wrangell Chich**	**6.46**	**24**		**Pn**	**02 38 21.4**	**+0.2**
BARN	**Barnard Glacie**	**6.48**	**38**	Pn	**Pn**	**02 38 21.8**	**+0.3**
WAT6	**Susitna Watana**	**6.48**	**9**		**Pn**	**02 38 22.0**	**+0.4**
L19K	**White Mountain**	**6.51**	**339**	Pn	**Pn**	**02 38 21.5**	**-0.3**
M17K	**Holitna River**	**6.52**	**326**	Pn	**Pn**	**02 38 21.8**	**-0.1**
CTGM	**Chitina Glacie**	**6.53**	**40**	Pn	**Pn**	**02 38 22.1**	**0.0**
LOGN	**Logan Glacier**	**6.55**	**41**	Pn	**Pn**	**02 38 22.6**	**+0.1**
PNL	**Peninsula**	**6.57**	**54**		**Pn**	**02 38 22.2**	**-0.4**
PNL	**Peninsula**	**6.57**	**54**	P	**Pn**	**02 38 23.3**	**+0.7**
WAZA	**Wrangell Mount**	**6.57**	**24**		**Pn**	**02 38 23.9**	**+0.9**
BCPM	**Bancas Point**	**6.60**	**51**	Pn	**Pn**	**02 38 23.2**	**+0.2**
HARP	**HAARP**	**6.66**	**19**		**Pn**	**02 38 24.8**	**+0.9**
N15K	**Kwethluk River**	**6.70**	**311**	Pn	**Pn**	**02 38 25.0**	**+0.6**
M16K	**Timber Creek**	**6.76**	**319**	Pn	**Pn**	**02 38 25.4**	**+0.2**
O14K	**Tigyukauivet M**	**6.82**	**301**	Pn	**Pn**	**02 38 25.5**	**-0.4**
PN7A	**Pavlof North-7**	**6.88**	**269**		**Pn**	**02 38 25.4**	**-1.4**
L18K	**Granite Mounta**	**6.96**	**333**	Pn	**Pn**	**02 38 26.8**	**-1.1**
DHY	**Denali Highway**	**7.00**	**9**	Pn	**Pn**	**02 38 29.2**	**+0.6**
M26K	**Nabesna, AK**	**7.13**	**27**	Pn	**Pn**	**02 38 30.7**	**+0.3**
PAX	**Paxson**	**7.14**	**16**	Pn	**Pn**	**02 38 30.9**	**+0.4**
M15K	**Kasigluk River**	**7.23**	**313**		**Pn**	**02 38 32.9**	**+1.2**
O29M	**Mount Kennedy**	**7.23**	**51**	Pn	**Pn**	**02 38 31.5**	**-0.3**
RND	**Reindeer**	**7.24**	**4**	Pn	**Pn**	**02 38 32.6**	**+0.8**
TRF	**Thorofare Moun**	**7.26**	**359**	Pn	**Pn**	**02 38 32.3**	**0.0**
YUK2	**White River**	**7.28**	**36**		**Pn**	**02 38 32.3**	**-0.1**
N14K	**Kuskokwak Cree**	**7.28**	**306**		**Pn**	**02 38 32.8**	**+0.5**
YUK8	**Steele Glacier**	**7.31**	**42**		**Pn**	**02 38 34.5**	**+1.5**
P29M	**Windy Craggy**	**7.31**	**57**	Pn	**Pn**	**02 38 32.1**	**-0.8**
CAST	**Castle Rocks**	**7.32**	**352**	Pn	**Pn**	**02 38 34.0**	**+1.2**
L17K	**Donlin**	**7.34**	**327**		**Pn**	**02 38 33.9**	**+0.8**
KTH	**Kantishna Hill**	**7.38**	**356**	Pn	**Pn**	**02 38 35.4**	**+1.6**
M27K	**Edge Creek, AK**	**7.40**	**30**	Pn	**Pn**	**02 38 34.9**	**+0.9**
YUK3	**Moose Creek**	**7.40**	**37**		**Pn**	**02 38 35.7**	**+1.6**
L16K	**Owhat River**	**7.41**	**322**	Pn	**Pn**	**02 38 34.0**	**-0.1**
TTA	**Tatalina**	**7.42**	**338**	Pn	**Pn**	**02 38 35.9**	**+1.6**
TTA	**Tatalina**	**7.42**	**338**	P	**Pn**	**02 38 36.2**	**+1.9**
K20K	**Telida**	**7.47**	**345**	Pn	**Pn**	**02 38 34.0**	**-1.0**
YUK7	**Dusty Glacier**	**7.53**	**50**		**Pn**	**02 38 36.6**	**+0.6**
L26K	**Log Cabin Wild**	**7.59**	**23**	Pn	**Pn**	**02 38 36.6**	**+2.0**
S31K	**Pelican**	**7.64**	**71**	Pn	Pn	02 38 34.9	-2.3
YUK6	**Outpost Mounta**	**7.66**	**47**		**Pn**	**02 38 38.9**	**+1.1**
BVCY	**Beaver Creek**	**7.74**	**33**		**Pn**	**02 38 39.5**	**+0.9**
M14K	**Bethel**	**7.79**	**311**	Pn	**Pn**	**02 38 39.2**	**-0.1**
K17K	**Iditarod**	**7.80**	**330**	Pn	**Pn**	**02 38 38.5**	**-0.9**
BPAW	**Bear Paw Mtn.**	**7.93**	**356**	Pn	**Pn**	**02 38 41.8**	**+0.5**
HYT	**Haines Junctio**	**7.95**	**49**	Pn	**Pn**	**02 38 42.1**	**+0.4**
RIDG	**Independent Ri**	**7.96**	**16**	Pn	**Pn**	**02 38 42.8**	**+1.1**
L27K	**Beaver Creek,**	**7.98**	**27**	Pn	**Pn**	**02 38 43.4**	**+1.4**
BWN	**Browne**	**7.99**	**1**	Pn	**Pn**	**02 38 42.7**	**+0.6**
BCAR	**Beaver Creek A**	**8.00**	**27**	Pn	**Pn**	**02 38 43.5**	**+1.3**
ISLZ	**Isanotski Laza**	**8.00**	**265**		Pn	02 38 39.9	-2.4
ISNN	**Isanotski Nort**	**8.01**	**266**		**Pn**	**02 38 40.9**	**-1.5**
J18K	**Innoko River**	**8.04**	**338**	Pn	**Pn**	**02 38 43.5**	**+0.7**
SIT	**Sitka**	**8.07**	**78**	Pn	Pn	02 38 39.9	-3.2
SIT	**Sitka**	**8.07**	**78**	P	Pn	02 38 40.6	-2.5
L15K	**Ungalak Mounta**	**8.12**	**317**		**Pn**	**02 38 43.2**	**-0.6**
M13K	**Dall Lake**	**8.24**	**306**	Pn	**Pn**	**02 38 45.5**	**0.0**
J20K	**Nowinta River**	**8.27**	**347**	Pn	**Pn**	**02 38 44.4**	**-1.4**
J19K	**Poorman**	**8.31**	**342**	Pn	**Pn**	**02 38 46.5**	**0.0**
SCRK	**Sand Creek**	**8.32**	**18**	Pn	**Pn**	**02 38 45.9**	**-0.8**
HDA	**Harding Lake**	**8.35**	**9**	Pn	**Pn**	**02 38 49.2**	**+2.2**
L14K	**Kuka Creek**	**8.40**	**313**	Pn	**Pn**	**02 38 48.1**	**+0.5**
SKAG	**Skagway**	**8.41**	**61**	Pn	**Pn**	**02 38 47.9**	**0.0**
SKAG	**Skagway**	**8.41**	**61**	P	**Pn**	**02 38 48.6**	**+0.8**
NEA2	**Nenana**	**8.42**	**2**	Pn	**Pn**	**02 38 48.0**	**0.0**
BESE	**Bessie Mountai**	**8.45**	**67**		**Pn**	**02 38 47.0**	**-1.5**
N30M	**Aishikik Lake**	**8.46**	**46**	Pn

	comp=Z,159nm,19.5s,baz=340,slow=39							
TXAR	**Lajitas Array**	**42.11**	**110**	P		**P**	**02 44 38.1**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=282,slow=6.3,SNR=3.5							
	comp=Z,0.5nm,0.9s							
KLR	**Kul'dur**	**45.56**	**296**	LR		LR	03 06 19.3	
	comp=Z,70nm,18.7s,baz=222,slow=39							
H11N2	**WAKE ISLAND Hy**	**48.56**	**239**	T		T	03 37 39.7	
	baz=23							
H11N3	**WAKE ISLAND Hy**	**48.57**	**239**	T		T	03 37 43.5	
	baz=23							
H11N1	**WAKE ISLAND Hy**	**48.58**	**239**	T		T	03 37 42.5	
	baz=23							
H11S1	**WAKE ISLAND Hy**	**49.70**	**239**	T		T	03 39 44.7	
	baz=33							
H11S2	**WAKE ISLAND Hy**	**49.72**	**239**	T		T	03 39 45.9	
	baz=33							
H11S3	**WAKE ISLAND Hy**	**49.72**	**239**	T		T	03 39 44.6	
	baz=33							
ARCES	**ARCESS Array B**	**54.51**	**2**	P		**P**	**02 46 12.7**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=356,slow=9.1,SNR=2.0							
	comp=Z,2.5nm,0.8s							
CMIG	**Matias Romero**	**56.72**	**110**	LR		LR	03 09 50.9	
	comp=Z,55nm,18.0s,baz=8.5,slow=35							
SONM	**Songino Array**	**58.43**	**310**	P		**P**	**02 46 42.1**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=44,slow=5.8,SNR=5.9							
SONM				LR		LR	03 12 27.2	
	comp=Z,97nm,18.0s,baz=350,slow=37							
	comp=Z,1.4nm,0.9s							
ZALV	**Zalesovo Beam**	**61.44**	**327**	P		**P**	**02 47 02.4**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=15,slow=6.9,SNR=4.3							
	comp=Z,0.5nm,0.4s							
BVAR	**Borovoye Array**	**66.21**	**335**	P		**P**	**02 47 34.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=67,slow=8.2,SNR=4.4							
BVAR				LR		LR	03 22 59.4	
	comp=Z,45nm,18.2s,baz=40,slow=42							
	comp=Z,0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**66.23**	**329**	P		**P**	**02 47 34.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=26,slow=6.3,SNR=4.0							
KURBB				LR		LR	03 18 06.8	
	comp=Z,58nm,21.2s,baz=176,slow=37							
	comp=Z,0.6nm,0.7s							
MKAR	**Makanchi Array**	**68.46**	**324**	P		**P**	**02 47 48.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=30,slow=5.8,SNR=7.3							
	comp=Z,0.5nm,0.6s							
AAK	**Ala-Archa**	**74.63**	**328**	LR		LR	03 23 32.3	
	comp=Z,65nm,20.5s,baz=34,slow=38							
KBZ	**Khabaz**	**79.85**	**351**	LR		LR	03 27 36.4	
	comp=Z,34nm,18.2s,baz=346,slow=38							
ESDC	**Sonseca Array**	**80.20**	**26**	P		**P**	**02 48 57.8**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=342,slow=5.2,SNR=4.0							
	comp=Z,0.4nm,0.9s							
GEYT	**Alibeck**	**83.25**	**338**	P		**P**	**02 49 13.6**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=327,slow=7.6,SNR=2.6							
	comp=Z,1.1nm,0.7s							

*IDC **24** 02:44:37.0±1.6, 55.°54N×149.°09W, h0km, mb3.3/3, mbtmp3.4/8, ML3.2/5, MS3.0/1, Error ellipse: s-maj=29.2km s-min=22.7km az=31.0*

*NEIC **24** 02:44:37.9±1.6, 55.°66N±0.°08×149.°12W±0.°07, h10km±2km, mb3.7/1, ML3.7/38, ML3.5(AEIC), Error ellipse: s-maj=14.0km s-min=5.6km az=165.0*

*AEIC **24** 02:44:42.5±1.7, 55.°65N±0.°09×149.°1W±0.°1, h10km±6km, Error ellipse: s-maj=12.9km s-min=8.1km az=168.0*

ISC 24 02:44:38.5±1.0, 55.°75N±0.°08×149.°16W±0.°05, h10km, n229, σ0.°91/237, mb3.6/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.72**	**304**	Pn	**Pn**	**02 45 21.8**	**-0.4**
OHAK	**Old Harbor**	**2.72**	**304**	P	**Pn**	**02 45 22.1**	**-0.2**
OHAK	**Old Harbor**	**2.72**	**304**	P	**Pn**	**02 45 21.9**	**-0.4**
	baz=123						
OHAK				S	**Sn**	**02 45 52.8**	**-2.4**
	baz=123						
KDAK	**Kodiak Island**	**2.77**	**319**	Pn	**Pn**	**02 45 22.8**	**-0.2**
KDAK	**Kodiak Island**	**2.77**	**319**	Sn	**Sn**	**02 45 54.4**	**-2.1**
KDAK	**Kodiak Island**	**2.77**	**319**	Pn	**Pn**	**02 45 23.2**	**+0.2**
	6.1nm,0.3s,baz=307,slow=19,SNR=28						
KDAK				Sn	**Sn**	**02 45 55.0**	**-1.5**
	24nm,0.3s,baz=24,slow=21,SNR=26						
	15nm,0.3s						
SII	**Sitkinak Islan**	**2.93**	**288**		**Pn**	**02 45 23.9**	**-1.2**
SII				Sn	**Sn**	**02 45 59.0**	**-1.2**
SII				IAML		02 46 00.2	
	comp=N,175nm,0.6s						
SYI	**Shuyak Island**	**3.36**	**330**	Pn	**Pn**	**02 45 31.4**	**+0.4**
SYI				Sn	**Sn**	**02 46 10.3**	**-0.6**
SYI				IAML		02 46 14.6	
	comp=E,102nm,1.1s						
Q20K	**Shuyak Island**	**3.36**	**330**	P	**Pn**	**02 45 31.4**	**+0.4**
	baz=148						
Q20K				S	**Sn**	**02 46 11.0**	**0.0**
	baz=148						
CNPM	**China Poot**	**3.95**	**344**	Pn	**Pn**	**02 45 39.0**	**-0.1**
CNPM				IAML		02 46 26.7	
	comp=N,120nm,0.4s						
CNPM				IAML		02 46 27.3	
	comp=E,91nm,1.0s						
MID	**Middleton Isla**	**3.99**	**21**	Pn	**Pn**	**02 45 39.3**	**-0.3**
MID				Sn	**Sn**	**02 46 23.7**	**-2.6**
MID				IAML		02 46 37.4	
	comp=E,112nm,1.2s						
MID				IAML		02 47 17.0	
	comp=N,108nm,1.0s						
MID	**Middleton Isla**	**3.99**	**21**	P	**Pn**	**02 45 39.7**	**+0.1**
Q23K	**Middleton Isla**	**3.99**	**21**	Pn	**Pn**	**02 45 38.6**	**-1.0**
Q23K				Sn	**Sn**	**02 46 25.4**	**-0.9**
Q23K				IAML		02 47 17.1	
	comp=N,108nm,1.1s						
Q23K				IAML		02 47 26.0	
	comp=E,103nm,1.1s						
Q19K	**Cape Douglas,**	**4.01**	**325**	Pn	**Pn**	**02 45 41.4**	**+1.4**
Q19K	**Cape Douglas,**	**4.01**	**325**	P	**Pn**	**02 45 40.7**	**+0.8**
	baz=141						
Q19K				S	**Sn**	**02 46 26.9**	**-0.1**
	baz=141						
KAHG	**Katmai Hook Gl**	**4.02**	**315**		**Pn**	**02 45 41.2**	**+1.0**
KAHG					**Sn**	**02 46 26.7**	**-0.7**
BRSE	**Bradley Lake S**	**4.09**	**349**		**Pn**	**02 45 41.1**	**0.0**
BRSE					**Sn**	**02 46 27.0**	**-1.9**
BRSE	**Bradley Lake S**	**4.09**	**349**	P	**Pn**	**02 45 41.5**	**+0.4**
	baz=167						
BRSE				S	**Sn**	**02 46 27.0**	**-1.9**
	baz=167						
BRLK	**Bradley Lake**	**4.13**	**348**	Pn	**Pn**	**02 45 41.1**	**-0.5**
BRLK				IAML		02 46 32.4	
	comp=E,75nm,0.4s						
BRLK				IAML		02 46 33.6	
	comp=N,61nm,0.9s						
HOM	**Homer**	**4.14**	**342**	Pn	**Pn**	**02 45 42.5**	**+0.7**
ACHA	**Angle Creek He**	**4.18**	**309**		**Pn**	**02 45 43.2**	**+0.8**
ANCK	**Angle Creek**	**4.25**	**308**		**Pn**	**02 45 44.4**	**+1.1**
KVTA	**Katmai Vly 10**	**4.26**	**311**		**Pn**	**02 45 44.8**	**+1.4**
KAHC	**Katmai Hardscr**	**4.31**	**315**		**Pn**	**02 45 45.4**	**+1.2**
KAHC	**Katmai Hardscr**	**4.31**	**315**	P	**Pn**	**02 45 45.4**	**+1.2**
	baz=131						
P23K	**Montague Islan**	**4.36**	**12**		**Pn**	**02 45 44.8**	**+0.1**
P23K	**Montague Islan**	**4.36**	**12**	P	**Pn**	**02 45 45.0**	**+0.2**
	baz=193						
SEW	**Seward**	**4.37**	**358**	Pn	**Pn**	**02 45 44.4**	**-0.5**
SEW	**Seward**	**4.37**	**358**	P	**Pn**	**02 45 44.7**	**-0.2**
	baz=178						
PLK3	**Peulik 3**	**4.37**	**299**		**Pn**	**02 45 45.6**	**+0.7**
CNTC	**Contact Creek**	**4.46**	**307**		**Pn**	**02 45 47.0**	**+0.8**
Q17K	**Contact Creek**	**4.46**	**307**	P	**Pn**	**02 45 46.8**	**+0.6**
	baz=122						
P19K	**Oil Pt**	**4.48**	**332**	Pn	**Pn**	**02 45 47.0**	**+0.5**
P19K				IAML		02 46 44.0	
	comp=N,165nm,0.6s						
P19K	**Oil Pt**	**4.48**	**332**	P	**Pn**	**02 45 47.1**	**+0.7**
	baz=150						
O20K	**Slope Mountain**	**4.72**	**338**		**Pn**	**02 45 50.3**	**+0.5**
O20K	**Slope Mountain**	**4.72**	**338**	P	**Pn**	**02 45 50.5**	**+0.8**
	baz=156						
O22K	**Cooper Landing**	**4.75**	**357**	Pn	**Pn**	**02 45 48.7**	**-1.4**
O22K	**Cooper Landing**	**4.75**	**357**	P	**Pn**	**02 45 50.7**	**+0.6**
	baz=176						
SLKM	**Skilak Lake**	**4.80**	**354**		**Pn**	**02 45 50.7**	**-0.1**
HIN	**Hinchinbrook I**	**4.87**	**16**		**Pn**	**02 45 51.8**	**0.0**
HIN				IAML		02 46 47.9	
	comp=E,62nm,0.8s						
HIN				IAML		02 46 48.3	
	comp=N,61nm,0.4s						
KAIM	**Kayak Island**	**4.89**	**29**	Pn	**Pn**	**02 45 51.9**	**-0.2**
KAIM				IAML		02 48 28.2	
	comp=E,41nm,1.1s						
KAIM				IAML		02 48 50.5	
	comp=N,51nm,1.0s						
KAIM	**Kayak Island**	**4.89**	**29**	P	**Pn**	**02 45 52.0**	**-0.1**
	baz=212						
P18K	**Big Mountain,**	**4.90**	**321**	Pn	**Pn**	**02 45 51.6**	**-0.6**
P18K	**Big Mountain,**	**4.90**	**321**	P	**Pn**	**02 45 52.3**	**+0.1**
	baz=136						
R16K	**Pilot Point**	**4.99**	**295**	Pn	**Pn**	**02 45 53.8**	**+0.5**
R16K				IAML		02 46 43.8	
	comp=N,100nm,1.1s						
R16K				IAML		02 48 10.6	
	comp=E,95nm,1.1s						
R16K	**Pilot Point**	**4.99**	**295**	P	**Pn**	**02 45 53.2**	**-0.2**
	baz=109						
Q16K	**King Salmon**	**5.02**	**309**		**Pn**	**02 45 53.6**	**-0.2**
RSO	**Redoubt South**	**5.09**	**340**	Pn	**Pn**	**02 45 54.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.14**	**19**	Pn	**Pn**	**02 45 55.4**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.14**	**19**	P	**Pn**	**02 45 56.0**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.14**	**19**	P	**Pn**	**02 45 55.7**	**+0.2**
	baz=201						
RAGM	**Ragged Mountai**	**5.22**	**25**	Pn	**Pn**	**02 45 56.9**	**+0.2**
RAGM				IAML		02 46 57.0	
	comp=E,44nm,1.1s						
RAGM				IAML		02 46 58.4	
	comp=N,83nm,1.0s						
CHGN	**Chignik**	**5.22**	**280**	Pn	**Pn**	**02 45 56.2**	**-0.4**
P17K	**Kvichak River**	**5.23**	**314**		**Pn**	**02 45 57.0**	**+0.3**
P17K	**Kvichak River**	**5.23**	**314**	P	**Pn**	**02 45 57.0**	**+0.3**
	baz=129						
O18K	**Koktuh Hills**	**5.23**	**324**	Pn	**Pn**	**02 45 57.5**	**+0.8**
O18K				IAML		02 46 58.6	
	comp=N,26nm,0.7s						
O18K	**Koktuh Hills**	**5.23**	**324**	P	**Pn**	**02 45 56.9**	**+0.1**
	baz=140						
O19K	**Port Alsworth**	**5.23**	**330**	P	**Pn**	**02 45 56.7**	**0.0**
	baz=146						
RC01	**Rabbit Creek A**	**5.36**	**357**	Pn	**Pn**	**02 45 57.9**	**-0.6**
GOAT	**Goat Mountain**	**5.38**	**24**		**Pn**	**02 45 59.4**	**+0.6**
BERG	**Berg Lake**	**5.48**	**30**	Pn	**Pn**	**02 45 59.7**	**-0.4**
SNH	**Sunshine Point**	**5.57**	**35**	Pn	**Pn**	**02 46 01.6**	**+0.2**
DIV	**Divide**	**5.68**	**17**	Pn	**Pn**	**02 46 03.6**	**+0.7**
KNK	**Knik Glacier**	**5.69**	**3**	Pn	**Pn**	**02 46 03.5**	**+0.4**
KNK	**Knik Glacier**	**5.69**	**3**	P	**Pn**	**02 46 04.0**	**+0.9**
	baz=184						
BMRM	**Bremner River**	**5.75**	**23**	Pn	**Pn**	**02 46 03.5**	**-0.4**
BMRM	**Bremner River**	**5.75**	**23**	P	**Pn**	**02 46 04.5**	**+0.6**
	baz=206						
SUA	**Susitna One**	**5.79**	**352**	Pn	**Pn**	**02 46 04.5**	**+0.1**
SUA	**Susitna One**	**5.79**	**352**	P	**Pn**	**02 46 05.0**	**+0.5**
	baz=171						
P16K	**Nushagak River**	**5.80**	**308**		**Pn**	**02 46 05.2**	**+0.7**
P16K	**Nushagak River**	**5.80**	**308**	P	**Pn**	**02 46 05.0**	**+0.6**
	baz=121						
N19K	**Bonanza Creek**	**5.80**	**333**	Pn	**Pn**	**02 46 04.3**	**-0.4**
N19K	**Bonanza Creek**	**5.80**	**333**	P	**Pn**	**02 46 04.5**	**-0.1**
	baz=149						
BARK	**Barkley Ridge**	**5.85**	**34**		**Pn**	**02 46 05.6**	**+0.3**
O17K	**Koliganek Bris**	**5.86**	**317**		**Pn**	**02 46 05.8**	**+0.6**
O17K	**Koliganek Bris**	**5.86**	**317**	P	**Pn**	**02 46 05.8**	**+0.6**
	baz=131						
PMR	**Palmer**	**5.86**	**0**	Pn	**Pn**	**02 46 05.3**	**0.0**
PMR	**Palmer**	**5.86**	**0**	P	**Pn**	**02 46 06.3**	**+1.0**
STLK	**Strandline Lak**	**5.93**	**347**		**Pn**	**02 46 07.2**	**+0.8**
KLU	**Klutina**	**6.00**	**15**	Pn	**Pn**	**02 46 07.8**	**+0.4**
KLU	**Klutina**	**6.00**	**15**	P	**Pn**	**02 46 08.3**	**+1.0**
	baz=197						
CNBA	**Chernabura Isl**	**6.03**	**265**	Pn	**Pn**	02 46 05.3	-2.4
GHO	**Glory Hole Cre**	**6.04**	**1**	Pn	**Pn**	**02 46 09.4**	**+1.5**
N18K	**Kilae Creek**	**6.09**	**327**	Pn	**Pn**	**02 46 08.0**	**-0.5**
N18K	**Kilae Creek**	**6.09**	**327**	P	**Pn**	**02 46 08.7**	**+0.2**
	baz=142						
SML	**Sawmill**	**6.09**	**4**	Pn	**Pn**	**02 46 09.5**	**+1.0**
SML	**Sawmill**	**6.09**	**4**	P	**Pn**	**02 46 09.5**	**+1.0**
	baz=184						
M23K	**Glacier View**	**6.11**	**6**		**Pn**	**02 46 09.8**	**+1.1**
M23K	**Glacier View**	**6.11**	**6**	P	**Pn**	**02 46 09.9**	**+1.1**
	baz=187						
O16K	**Kokwok River B**	**6.15**	**312**	Pn	**Pn**	**02 46 09.9**	**+0.7**
O16K	**Kokwok River B**	**6.15**	**312**	P	**Pn**	**02 46 10.0**	**+0.7**
	baz=126						
SCM	**Sheep Creek Mo**	**6.17**	**8**	Pn	**Pn**	**02 46 10.7**	**+1.0**
SCM	**Sheep Creek Mo**	**6.17**	**8**	P	**Pn**	**02 46 10.5**	**+0.8**
	baz=189						
VRDI	**Verde Repeater**	**6.25**	**26**	Pn	**Pn**	**02 46 10.6**	**-0.3**
SAMH	**Samovar Hills**	**6.26**	**42**		**Pn**	**02 46 11.5**	**+0.6**
KIAG	**Kiagna River**	**6.30**	**32**		**Pn**	**02 46 11.8**	**+0.2**
SVW2	**Sparrevohn**	**6.33**	**330**	Pn	**Pn**	**02 46 11.5**	**-0.4**
N25K	**Chitina, Valde**	**6.33**	**20**	Pn	**Pn**	**02 46 12.5**	**+0.5**
N25K	**Chitina, Valde**	**6.33**	**20**	P	**Pn**	**02 46 12.6**	**+0.6**
	baz=204						
GLB	**Gilahina Butte**	**6.35**	**24**	Pn	**Pn**	**02 46 12.5**	**+0.3**
SKT	**Skwentna**	**6.37**	**350**	Pn	**Pn**	**02 46 12.5**	**+0.1**
SKT	**Skwentna**	**6.37**	**350**	P	**Pn**	**02 46 13.4**	**+1.1**
	baz=168						
N17K	**Nushagak Hills**	**6.40**	**322**	Pn	**Pn**	**02 46 12.6**	**-0.1**
N17K	**Nushagak Hills**	**6.40**	**322**	P	**Pn**	**02 46 13.6**	**+0.8**
	baz=135						
PINM	**Pinnacle**	**6.44**	**44**	P	**Pn**	**02 46 13.7**	**+0.4**
	baz=230						
SDPT	**Sand Point**	**6.44**	**271**	Pn	**Pn**	**02 46 12.0**	**-1.3**
SDPT	**Sand Point**	**6.44**	**271**	P	**Pn**	**02 46 12.1**	**-1.2**
PTPK	**Patty Peak**	**6.48**	**30**		**Pn**	**02 46 14.5**	**+0.4**
M20K	**Styx River**	**6.49**	**343**	Pn	**Pn**	**02 46 14.3**	**+0.3**
MCARA	**McCarthy VSAT**	**6.49**	**27**	Pn	**Pn**	**02 46 14.2**	**+0.2**
PNL	**Peninsula**	**6.54**	**49**		**Pn**	**02 46 14.4**	**-0.3**
PNL	**Peninsula**	**6.54**	**49**	P	**Pn**	**02 46 15.0**	**+0.3**
PNL	**Peninsula**	**6.54**	**49**	P	**Pn**	**02 46 14.4**	**-0.3**
	baz=236						
M24K	**Tolsona, Glenn**	**6.56**	**12**	Pn	**Pn**	**02 46 15.8**	**+0.8**
BCPM	**Bancas Point**	**6.60**	**46**	Pn	**Pn**	**02 46 15.9**	**+0.4**
BARN	**Barnard Glacie**	**6.62**	**33**	Pn	**Pn**	**02 46 16.1**	**+0.2**
CTGM	**Chitina Glacie**	**6.65**	**35**	Pn	**Pn**	**02 46 16.2**	**-0.1**
LOGN	**Logan Glacier**	**6.66**	**37**	Pn	**Pn**	**02 46 16.3**	**-0.1**
O15K	**Ungalikthiuk R**	**6.70**	**305**		**Pn**	**02 46 17.4**	**+0.5**
WASW	**Wrangell South**	**6.71**	**21**		**Pn**	**02 46 17.8**	**+0.7**
M18K	**Stony River**	**6.72**	**332**		**Pn**	**02 46 16.7**	**-0.5**
WACK	**Wrangell Chich**	**6.73**	**20**		**Pn**	**02 46 18.6**	**+1.0**
M19K	**Big River Lodg**	**6.74**	**338**	Pn	**Pn**	**02 46 16.7**	**-0.8**
WAZA	**Wrangell Mount**	**6.85**	**20**		**Pn**	**02 46 18.4**	**-0.8**
WAT6	**Susitna Watana**	**6.89**	**5**		**Pn**	**02 46 20.5**	**+0.9**
N16K	**Nishlik Lake**	**6.95**	**317**		**Pn**	**02 46 21.2**	**+0.9**
HARP	**HAARP**	**6.98**	**16**		**Pn**	**02 46 21.5**	**+0.8**
L19K	**White Mountain**	**7.09**	**338**	Pn	**Pn**	**02 46 22.0**	**-0.2**
WAT7	**Susitna Watana**	**7.11**	**1**		**Pn**	**02 46 23.6**	**+1.1**
WAT1	**Susitna Watana**	**7.11**	**2**		**Pn**	**02 46 23.6**	**+1.1**
M17K	**Holitna River**	**7.12**	**326**	Pn	**Pn**	**02 46 22.9**	**+0.2**
O29M	**Mount Kennedy**	**7.23**	**47**	Pn	**Pn**	**02 46 24.8**	**+0.5**
P29M	**Windy Craggy**	**7.25**	**53**	Pn	**Pn**	**02 46 24.6**	**+0.1**
N15K	**Kwethluk River**	**7.31**	**312**	Pn	**Pn**	**02 46 26.7**	**+1.5**
M16K	**Timber Creek**	**7.38**	**320**	Pn	**Pn**	**02 46 26.7**	**+0.6**
M26K	**Nabesna, AK**	**7.38**	**23**	Pn	**Pn**	**02 46 26.4**	**+0.1**
DHY	**Denali Highway**	**7.40**	**6**	Pn	**Pn**	**02 46 28.0**	**+1.3**
O14K	**Tigyukauivet M**	**7.40**	**303**	Pn	**Pn**	**02 46 26.7**	**+0.2**
YUK8	**Steele Glacier**	**7.41**	**38**		**Pn**	**02 46 28.4**	**+1.6**
S31K	**Pelican**	**7.42**	**67**	Pn	**Pn**	02 46 23.7	-3.0
YUK2	**White River**	**7.43**	**32**		**Pn**	**02 46 28.4**	**+1.4**
PAX	**Paxson**	**7.48**	**13**	Pn	**Pn**	**02 46 28.3**	**+0.6**
YUK3	**Moose Creek**	**7.54**	**33**		**Pn**	**02 46 29.9**	**+1.3**
YUK7	**Dusty Glacier**	**7.54**	**46**		**Pn**	**02 46 29.6**	**+1.0**
L18K	**Granite Mounta**	**7.56**	**332**	Pn	**Pn**	**02 46 27.8**	**-0.9**
M27K	**Edge Creek, AK**	**7.61**	**27**	Pn	**Pn**	**02 46 29.2**	**-0.2**
RND	**Reindeer**	**7.68**	**1**	Pn	**Pn**	**02 46 31.1**	**+0.7**
YUK6	**Outpost Mounta**	**7.70**	**43**		**Pn**	**02 46 32.3**	**+1.5**
TRF	**Thorofare Moun**	**7.75**	**356**	Pn	**Pn**	**02 46 31.8**	**+0.5**
SIT	**Sitka**	**7.79**	**75**	P	**Pn**	**02 46 30.2**	**-1.5**
P30M	**Million Dollar**	**7.83**	**51**	Pn	**Pn**	**02 46 32.6**	**+0.2**
CAST	**Castle Rocks**	**7.83**	**350**	Pn	**Pn**	**02 46 33.9**	**+1.5**
M15K	**Kasigluk River**	**7.84**	**314**		**Pn**	**02 46 34.0**	**+1.4**
KTH	**Kantishna Hill**	**7.88**	**354**	Pn	**Pn**	**02 46 34.5**	**+1.4**
N14K	**Kuskokwak Cree**	**7.88**	**307**		**Pn**	**02 46 34.0**	**+1.0**
BVCY	**Beaver Creek**	**7.92**	**29**		**Pn**	**02 46 35.5**	**+1.7**
HYT	**Haines Junctio**	**7.97**	**46**	Pn	**Pn**	**02 46 35.0**	**+0.6**
TTA	**Tatalina**	**8.00**	**337**	Pn	**Pn**	**02 46 35.2**	**+0.5**
YUK5	**Granite Creek**	**8.01**	**43**		**Pn**	**02 46 36.4**	**+1.4**
K20K	**Telida**	**8.02**	**344**	Pn	**Pn**	**02 46 33.9**	**-1.1**
L16K	**Owhat River**	**8.03**	**322**	Pn	**Pn**	**02 46 34.8**	**-0.2**
L27K	**Beaver Creek,**	**8.22**	**24**	Pn	**Pn**	**02 46 38.1**	**+0.3**
S32K	**Killisnoo**	**8.23**	**72**	Pn	**Pn**	**02 46 35.6**	**-2.2**
BCAR	**Beaver Creek A**	**8.24**	**24**	Pn	**Pn**	**02 46 38.9**	**+0.9**
K24K	**Donnelly Dome**	**8.26**	**10**		**Pn**	**02 46 40.1**	**+1.9**
BESE	**Bessie Mountai**	**8.27**	**64**	Pn	**Pn**	**02 46 36.9**	**-1.6**
SKAG	**Skagway**	**8.30**	**58**	Pn	**Pn**	**02 46 39.3**	**+0.5**
SKAG	**Skagway**	**8.30**	**58**	P	**Pn**	**02 46 39.5**	**+0.7**
RIDG	**Independent Ri**	**8.30**	**13**	Pn	**Pn**	**02 46 39.2**	**+0.4**
R32K	**Eaglecrest**	**8.38**	**66**	Pn	**Pn**	**02 46 39.4**	**-0.5**
ISNN	**Isanotski Nort**	**8.40**	**270**		**Pn**	**02 46 39.3**	**-0.9**
M14K	**Bethel**	**8.40**	**312**	Pn	**Pn**	**02 46 41.3**	**+1.1**
K17K	**Iditarod**	**8.40**	**330**	Pn	**Pn**	**02 46 40.2**	**0.0**
BPAW	**Bear Paw Mtn.**	**8.43**	**355**	Pn	**Pn**	**02 46 40.9**	**+0.3**
N30M	**Aishikik Lake**	**8.50**	**43**	Pn	**Pn**	**02 46 42.1**	**+0.4**
O30N	**Mendenhall**	**8.52**	**48**	Pn	**Pn**	**02 46 42.1**	**+0.2**
SCRK	**Sand Creek**	**8.65**	**15**	Pn	**Pn**	**02 46 44.1**	**+0.4**
M29M	**Somme Creek**	**8.67**	**35**	Pn	**Pn**	**02 46 45.0**	**+1.1**
L15K	**Ungalak Mounta**	**8.73**	**318**		**Pn**	**02 46 45.8**	**+1.1**
HDA	**Harding Lake**	**8.76**	**6**	Pn	**Pn**	**02 46 46.0**	**+0.9**
J20K	**Nowinta River**	**8.81**	**346**	Pn	**Pn**	**02 46 46.1**	**+0.3**
M13K	**Dall Lake**	**8.85**	**308**	Pn	**Pn**	**02 46 47.4**	**+1.2**
J19K	**Poorman**	**8.88**	**341**	Pn	**Pn**	**02 46 46.2**	**-0.6**
CCB	**Clear Creek Bu**	**8.95**	**4**	Pn	**Pn**	**02 46 47.9**	**+0.3**
WHY	**Whitehorse**	**8.99**	**51**	Pn	**Pn**	**02 46 48.8**	**+0.4**
L14K	**Kuka Creek**	**9.01**	**314**	Pn	**Pn**	**02 46 49.7**	**+1.2**
K27K	**Chicken**	**9.03**	**20**	Pn	**Pn**	**02 46 48.9**	**+0.1**
N31M	**Braeburn, Yuko**	**9.03**	**45**	Pn	**Pn**	**02 46 48.9**	**+0.1**
IL31		**9.12**	**6**	Pn	**Pn**	**02 46 51.2**	**+1.3**
ILAR	**Eielson Array**	**9.12**	**6**	Pn	**Pn**	**02 46 49.6**	**-0.4**
ILAR	**Eielson Array**	**9.12**	**6**	Pn	**Pn**	**02 46 50.9**	**+0.8**
	comp=N,0.3nm,0.3s,baz=187,slow=13,SNR=10						
ILAR				Sn	**Sn**	**02 48 30.6**	**-2.0**
	comp=N,0.3nm,0.3s,baz=177,slow=21,SNR=8.6						
	comp=N,0.7nm,0.4s						
P32M	**Atlin**	**9.12**	**59**	Pn	**Pn**	**02 46 49.3**	**-0.8**
K15K	**Wolf Creek Mou**	**9.14**	**321**	Pn	**Pn**	**02 46 50.2**	**-0.1**
J26L	**Joseph Creek**	**9.21**	**15**	Pn	**Pn**	**02 46 52.2**	**+0.9**
L29M	**L29M**	**9.26**	**33**	Pn	**Pn**	**02 46 52.7**	**+0.7**
M30M	**Minto, Yukon**	**9.32**	**38**	Pn	**Pn**	**02 46 53.5**	**+0.7**
MLY	**Manley**	**9.34**	**356**	Pn	**Pn**	**02 46 53.4**	**+0.3**
I20K	**Naaghedeneel**	**9.45**	**346**	Pn	**Pn**	**02 46 54.5**	**+0.1**
J16K	**Anvik River**	**9.52**	**327**	Pn	**Pn**	**02 46 54.7**	**-0.7**
DAWY	**Dawson**	**9.66**	**26**	Pn	**Pn**	**02 46 58.2**	**+0.7**
P33M	**Teslin, Yukon**	**9.75**	**56**	Pn	**Pn**	**02 46 58.5**	**-0.3**
EGAK	**Eagle**	**9.88**	**20**	Pn	**Pn**	**02 47 01.4**	**+1.0**
PRP	**Porcupine Dome**	**9.96**	**9**	Pn	**Pn**	**02 47 01.6**	**0.0**
K29M	**Barlow Dome**	**9.99**	**31**	Pn	**Pn**	**02 47 02.8**	**+0.6**
H21K	**Melozitna Rive**	**10.10**	**351**	Pn	**Pn**	**02 47 03.3**	**-0.1**
J14K	**Nanvaranak Lak**	**10.16**	**320**	Pn	**Pn**	**02 47 06.7**	**+2.6**
J29N	**Klondike Camp**	**10.28**	**27**	Pn	**Pn**	**02 47 07.3**	**+1.4**
FARO	**Faro, Yukon**	**10.40**	**45**	Pn	**Pn**	**02 47 08.1**	**+0.5**
R33M	**Jennings River**	**10.

comp=E,68nm,1.2s
KAIM IAML 02 50 37.2
comp=N,70nm,1.3s
KAIM Kayak Island 4.95 30 P **Pn 02 48 22.9 +0.2**
baz=214
EYAK Cordova Ski Ar 5.18 20 Pn **Pn 02 48 26.1 +0.2**
EYAK Cordova Ski Ar 5.18 20 P **Pn 02 48 26.6 +0.7**
baz=203
RAGM Ragged Mountai 5.27 26 Pn **Pn 02 48 27.9 +0.6**
RAGM IAML 02 49 36.4
comp=E,50nm,1.4s
GOAT Goat Mountain 5.43 25 Pn 02 48 29.9 +0.5
BERG Berg Lake 5.54 30 Pn **Pn 02 48 30.4 -0.4**
SNH Sunshine Point 5.63 35 Pn **Pn 02 48 31.6 -0.6**
N19K Bonanza Creek 5.77 334 Pn **Pn 02 48 33.2 -0.9**
BMRM Bremner River 5.80 23 Pn **Pn 02 48 35.4 +0.9**
BMRM Bremner River 5.80 23 P **Pn 02 48 35.5 +1.0**
baz=207
BARK Barkley Ridge 5.91 35 Pn 02 48 36.5 +0.5
KLU Klutina 6.04 16 Pn **Pn 02 48 38.4 +0.6**
N18K Kilae Creek 6.05 328 Pn **Pn 02 48 38.1 +0.2**
GHO Glory Hole Cre 6.06 2 Pn **Pn 02 48 39.0 +1.0**
O16K Kokwok River B 6.09 313 Pn **Pn 02 48 39.5 +1.1**
SML Sawmill 6.11 4 Pn **Pn 02 48 38.8 +0.1**
SCM Sheep Creek Mo 6.20 9 Pn **Pn 02 48 42.5 +2.5**
VRDI Verde Repeater 6.30 27 Pn **Pn 02 48 41.1 -0.4**
SAMH Samovar Hills 6.33 42 Pn 02 48 42.3 +0.6
KIAG Kiagna River 6.36 32 Pn 02 48 42.6 +0.3
N25K Chitina, Valde 6.38 21 P **Pn 02 48 43.3 +0.8**
baz=204
GLB Gilahina Butte 6.40 24 Pn **Pn 02 48 43.4 +0.6**
PCA Pinnacle 6.51 44 Pn **Pn 02 48 44.5 +0.3**
PINM Pinnacle 6.51 44 P **Pn 02 48 44.9 +0.6**
baz=231
MCARA McCarthy VSAT 6.55 28 Pn **Pn 02 48 44.3 -0.3**
M24K Tolsona, Glenn 6.59 13 Pn **Pn 02 48 44.8 +2.6**
BCPM Bancas Point 6.67 47 Pn **Pn 02 48 46.6 +0.2**
BARN Barnard Glacie 6.68 34 Pn **Pn 02 48 46.9 +0.2**
CTGM Chitina Glacie 6.71 35 Pn **Pn 02 48 47.2 +0.1**
LOGN Logan Glacier 6.72 37 Pn **Pn 02 48 46.9 -0.4**
M17K Holitna River 7.09 327 Pn **Pn 02 48 51.7 -0.4**
N15K Kwethluk River 7.25 312 Pn **Pn 02 48 55.9 +1.6**
O29M Mount Kennedy 7.31 47 Pn **Pn 02 48 56.0 +0.8**
P29M Windy Craggy 7.33 53 Pn **Pn 02 48 55.3 -0.1**
M16K Timber Creek 7.33 320 Pn **Pn 02 48 56.1 +0.7**
O14K Tigyukauivet M 7.34 304 Pn **Pn 02 48 56.4 +0.9**
M27K Edge Creek, AK 7.66 27 Pn **Pn 02 49 02.0 +1.9**
N30M Aishikik Lake 8.57 43 Pn **Pn 02 49 13.4 +0.9**
M29M Somme Creek 8.73 35 Pn **Pn 02 49 15.8 +1.0**
WHY Whitehorse 9.07 51 Pn **Pn 02 49 19.2 -0.2**
N31M Braeburn, Yuko 9.10 45 Pn **Pn 02 49 20.6 +0.8**
L29M L29M 9.32 33 Pn **Pn 02 49 23.6 +0.9**
M31M Drury Creek, Y 10.05 44 Pn **Pn 02 49 34.5 +1.8**
K29M Barlow Dome 10.05 31 Pn **Pn 02 49 34.0 +1.2**
J30M Hart River 10.95 31 Pn **Pn 02 49 46.4 +1.3**

*IDC **24** 03:00:15.5±5.7, 12°.65N×143°.35E, h114^{km}±77^{km}, mb3.2/5, mbtmp3.6/5, Error ellipse: s-maj=96.3km s-min=19.8km az=89.0*

ISC 24 03:00:09.2±1.1, 12°.7N±0°.2×142°.8E±0°.1, h35^{km}, n6, σ19°75/7, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.27**	**65**	P	**Pn**	**03 00 46.2**	**+2.0**
	53nm,0.3s,baz=202,slow=16,SNR=15						
GUMO				S	**Sn**	**03 01 08.7**	**-2.3**
	206nm,0.3s,baz=345,slow=23,SNR=16						
WRA	**Warramunga Arr**	**33.42**	**194**	P	**P**	**03 06 43.7**	**-1.2**
	1.7nm,1.0s,baz=18,slow=9.7,SNR=6.5 1.7nm,1.0s						
ASAR	**Alice Springs**	**37.11**	**194**	P	**P**	**03 07 17.2**	**+0.6**
	0.5nm,0.8s,baz=20,slow=12,SNR=5.9 0.5nm,0.8s						
SONM	**Songino Array**	**46.34**	**326**	P	**P**	**03 08 31.1**	**-0.9**
	0.2nm,0.3s,baz=134,slow=4.2,SNR=1.6 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.02**	**320**	P	**P**	**03 10 40.0**	**+0.8**
	0.4nm,0.8s,baz=101,slow=8.2,SNR=2.9 0.4nm,0.8s						
BVAR	**Borovoye Array**	**69.39**	**322**	P	**P**	**03 11 13.6**	**+0.1**
	0.4nm,0.4s,baz=116,slow=8.9,SNR=4.4 0.4nm,0.4s						

*AEIC **24** 03:05:44.1±2.3, 56°.02N±0°.09×150°.0W±0°.2, h10^{km}±9^{km}, Error ellipse: s-maj=20.3km s-min=8.3km az=54.0*

NEIC 24 03:05:28.9±1.9, 55°.9N±0°.1×148°.24W±0°.10, h8^{km}±9^{km}, ML3.3/24, ML2.6(AEIC), Error ellipse: s-maj=18.7km s-min=3.3km az=157.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**3.02**	**310**		Pn	03 06 16.5	-0.3
KDAK					Sn	03 06 53.1	0.0
OHAK	**Old Harbor**	**3.07**	**297**		Pn	03 06 15.2	-2.4
SYI	**Shuyak Island**	**3.50**	**322**		Pn	03 06 25.0	+1.5
SYI					Sn	03 07 04.9	0.0
SYI	**Shuyak Island**	**3.50**	**322**	IAML		03 08 34.3	
	comp=E,75nm,1.1s						
SYI				IAML		03 08 34.3	
	comp=N,52nm,0.8s						
Q23K	**Middleton Isla**	**3.64**	**15**		Pn	03 06 24.8	-0.6
Q23K	**Middleton Isla**	**3.64**	**15**	IAML		03 07 11.7	
	comp=E,113nm,1.2s						
CNPM	**China Poot**	**3.94**	**337**		Pn	03 06 30.3	+0.8
CNPM					Sn	03 07 15.8	0.0
CNPM	**China Poot**	**3.94**	**337**	IAML		03 09 02.9	
	comp=E,37nm,0.7s						
BRSE	**Bradley Lake S**	**4.04**	**342**		Pn	03 06 31.7	+0.8
BRSE					Pb	03 06 35.4	-4.8
BRLK	**Bradley Lake**	**4.08**	**341**		Pn	03 06 33.1	+1.5
BRLK				IAML		03 09 03.5	
	comp=N,27nm,0.2s						
BRLK				IAML		03 09 03.6	
	comp=E,34nm,1.1s						
P23K	**Montague Islan**	**4.09**	**6**		Pn	03 06 31.5	-0.1
P23K					Sn	03 07 17.6	-2.0
Q19K	**Cape Douglas,**	**4.18**	**318**		Pn	03 06 35.0	+2.1
KAHG	**Katmai Hook Gl**	**4.28**	**309**		Pn	03 06 35.2	+0.9
ACHA	**Angle Creek He**	**4.49**	**303**		Pn	03 06 36.7	-0.4
KAIM	**Kayak Island**	**4.49**	**25**		Pn	03 06 37.1	0.0
KAIM	**Kayak Island**	**4.49**	**25**	IAML		03 07 41.7	
	comp=N,30nm,1.0s						
KAIM				IAML		03 09 36.4	
	comp=E,56nm,1.2s						
ANCK	**Angle Creek**	**4.56**	**303**		Pn	03 06 37.6	-0.5
HIN	**Hinchinbrook I**	**4.56**	**11**		Pn	03 06 37.3	-0.9
P19K	**Oil Pt**	**4.58**	**326**		Pn	03 06 38.4	0.0
Q22K	**Cooper Landing**	**4.62**	**351**		Pn	03 06 38.5	-0.4
SLKM	**Skilak Lake**	**4.70**	**348**		Pn	03 06 39.5	-0.4
O20K	**Slope Mountain**	**4.76**	**333**		Pn	03 06 40.2	-0.7
CNTC	**Contact Creek**	**4.77**	**302**		Pn	03 06 40.3	-0.8
P18K	**Big Mountain,**	**5.10**	**316**		Pn	03 06 46.1	+0.6
Q16K	**King Salmon**	**5.32**	**304**		Pn	03 06 46.7	-1.8
O18K	**Koktuh Hills**	**5.40**	**319**		Pn	03 06 51.0	+1.3
P17K	**Kvichak River**	**5.49**	**310**		Pn	03 06 51.1	+0.4

NEIC 24 03:06:07.0±0.9, 56°.1N±0°.1×149°.8W±0°.1, h21^{km}±11^{km}, ML3.3/28, MB3.3(AEIC), Error ellipse: s-maj=15.8km s-min=9.2km az=165.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.26**	**303**		Pn	03 06 42.3	-0.6
OHAK					Sn	03 07 07.5	-2.6
OHAK	**Old Harbor**	**2.26**	**303**	IAML		03 07 19.7	
	comp=N,14nm,1.2s						
OHAK				IAML		03 07 27.9	
	comp=E,16nm,0.9s						
OHAK	**Old Harbor**	**2.26**	**303**	P	Pn	03 06 42.3	-0.6
	baz=120						
OHAK				S	Sn	03 07 07.5	-2.6
	baz=120						
KDAK	**Kodiak Island**	**2.31**	**320**		Pn	03 06 43.1	-0.6
KDAK					Sn	03 07 09.4	-2.1
Q20K	**Shuyak Island**	**2.93**	**332**	P	Pn	03 06 51.6	-0.6
	baz=150						
Q20K				S	Sn	03 07 24.6	-2.1
	baz=150						
SYI	**Shuyak Island**	**2.93**	**332**		Pn	03 06 51.6	-0.6
SYI					Sn	03 07 24.6	-2.0
SYI	**Shuyak Island**	**2.93**	**332**	IAML		03 08 44.6	
	comp=N,206nm,0.3s						
KAHG	**Katmai Hook Gl**	**3.56**	**316**		Pn	03 07 01.6	+0.7
Q19K	**Cape Douglas,**	**3.56**	**326**		Pn	03 07 01.0	+0.2
Q19K					Sn	03 07 38.8	-3.4
Q19K	**Cape Douglas,**	**3.56**	**326**	IAML		03 09 06.8	
	comp=N,125nm,1.0s						
Q19K	**Cape Douglas,**	**3.56**	**326**	P	Pn	03 07 00.8	-0.1
	baz=143						
Q19K				S	Sn	03 07 38.8	-3.4
	baz=143						
CNPM	**China Poot**	**3.57**	**348**		Pn	03 07 00.7	-0.4
CNPM					Sn	03 07 40.3	-2.3
CNPM	**China Poot**	**3.57**	**348**	IAML		03 08 58.1	
	comp=N,33nm,0.9s						
CNPM				IAML		03 09 13.2	
	comp=E,42nm,1.0s						
ACHA	**Angle Creek He**	**3.71**	**308**		Pn	03 07 03.1	+0.1
ACHA					Sn	03 07 42.3	-3.8
BRSE	**Bradley Lake S**	**3.74**	**353**		Pn	03 07 03.4	0.0
BRSE	**Bradley Lake S**	**3.74**	**353**	P	Pn	03 07 03.4	0.0
	baz=172						
ANCK	**Angle Creek**	**3.78**	**307**		Pn	03 07 04.2	+0.3
ANCK					Sn	03 07 44.0	-3.7
Q23K	**Middleton Isla**	**3.87**	**27**		Pn	03 07 04.0	-1.1
Q23K	**Middleton Isla**	**3.87**	**27**	IAML		03 08 14.0	
	comp=N,91nm,0.9s						
Q23K	**Middleton Isla**	**3.87**	**27**	P	Pn	03 07 04.2	-0.8
	baz=210						
MID	**Middleton Isla**	**3.87**	**27**	Pn	Pn	03 07 04.3	-0.7
MID				IAML		03 08 14.0	
	comp=N,92nm,1.0s						
MID				IAML		03 08 44.6	
	comp=E,88nm,1.0s						
CNTC	**Contact Creek**	**3.99**	**306**		Pn	03 07 07.0	+0.1
Q17K	**Contact Creek**	**3.99**	**306**	P	Pn	03 07 07.1	+0.3
	baz=121						
P19K	**Oil Pt**	**4.05**	**335**		Pn	03 07 07.8	+0.1
P19K	**Oil Pt**	**4.05**	**335**	IAML		03 09 16.9	
	comp=N,100nm,0.6s						
P19K				IAML		03 09 19.4	
	comp=E,90nm,0.6s						
P19K	**Oil Pt**	**4.05**	**335**	P	Pn	03 07 07.8	+0.1
	baz=152						
SEW	**Seward**	**4.08**	**2**		Pn	03 07 08.0	0.0
SEW	**Seward**	**4.08**	**2**	P	Pn	03 07 08.0	0.0
	baz=183						
P23K	**Montague Islan**	**4.16**	**17**		Pn	03 07 08.6	-0.6
P23K	**Montague Islan**	**4.16**	**17**	P	Pn	03 07 08.6	-0.6
	baz=199						
O20K	**Slope Mountain**	**4.31**	**341**		Pn	03 07 11.0	-0.3
O20K	**Slope Mountain**	**4.31**	**341**	P	Pn	03 07 11.0	-0.3
	baz=158						
IVE	**Iliamna Volcan**	**4.33**	**338**		Pn	03 07 10.9	-0.7
P18K	**Big Mountain,**	**4.44**	**321**		Pn	03 07 12.5	-0.5
P18K	**Big Mountain,**	**4.44**	**321**	IAML		03 09 36.2	
	comp=E,5.4nm,1.1s						
P18K				IAML		03 09 39.3	
	comp=N,7.2nm,1.1s						
P18K	**Big Mountain,**	**4.44**	**321**	P	Pn	03 07 12.5	-0.5
	baz=137						
HIN	**Hinchinbrook I**	**4.70**	**20**		Pn	03 07 16.2	-0.4
HIN	**Hinchinbrook I**	**4.70**	**20**	IAML		03 08 48.3	
	comp=N,23nm,1.2s						
HIN				IAML		03 08 53.9	
	comp=E,24nm,1.2s						
RDWB	**Redoubt West**	**4.73**	**341**		Pn	03 07 16.6	-0.6
P17K	**Kvichak River**	**4.76**	**314**		Pn	03 07 17.4	0.0
P17K	**Kvichak River**	**4.76**	**314**	P	Pn	03 07 17.4	0.0
	baz=129						
KAIM	**Kayak Island**	**4.83**	**34**		Pn	03 07 18.2	-0.2
KAIM	**Kayak Island**	**4.83**	**34**	IAML		03 10 05.9	
	comp=N,32nm,1.2s						
KAIM	**Kayak Island**	**4.83**	**34**	P	Pn	03 07 18.2	-0.2
	baz=219						
EYAK	**Cordova Ski Ar**	**5.00**	**24**		Pn	03 07 20.2	-0.4
EYAK	**Cordova Ski Ar**	**5.00**	**24**	P	Pn	03 07 20.2	-0.4
	baz=207						
RC01	**Rabbit Creek A**	**5.06**	**0**		Pn	03 07 21.4	-0.1
RC01	**Rabbit Creek A**	**5.06**	**0**	IAML		03 08 19.7	
	comp=E,12nm,0.5s						
RC01				IAML		03 09 58.7	
	comp=N,10nm,1.1s						
RC01	**Rabbit Creek A**	**5.06**	**0**	P	Pn	03 07 21.4	-0.1
	baz=180						
RAGM	**Ragged Mountai**	**5.13**	**30**		Pn	03 07 22.3	-0.1
RAGM				IAML		03 08 11.1	
	comp=E,25nm,0.9s						
GOAT	**Goat Mountain**	**5.28**	**28**		Pn	03 07 24.5	-0.1
N20K	**Mount Spurr**	**5.32**	**347**	P	Pn	03 07 25.2	+0.1
	baz=165						
SPCR	**Spurr Chakacha**	**5.32**	**347**		Pn	03 07 25.2	+0.1
P16K	**Nushagak River**	**5.33**	**308**		Pn	03 07 25.5	+0.4
P16K	**Nushagak River**	**5.33**	**308**	P	Pn	03 07 25.5	+0.4
	baz=121						
N19K	**Bonanza Creek**	**5.37**	**335**		Pn	03 07 26.4	+0.5
N19K	**Bonanza Creek**	**5.37**	**335**	IAML		03 09 57.7	
	comp=E,6.2nm,1.1s						
N19K	**Bonanza Creek**	**5.37**	**335**	P	Pn	03 07 26.4	+0.5
	baz=151						
O17K	**Koliganek Bris**	**5.39**	**317**		Pn	03 07 26.0	0.0
O17K	**Koliganek Bris**	**5.39**	**317**	P	Pn	03 07 27.0	+1.0
	baz=131						
BERG	**Berg Lake**	**5.42**	**34**		Pn	03 07 26.1	-0.4
SNH	**Sunshine Point**	**5.55**	**39**		Pn	03 07 28.1	-0.1
BMRM	**Bremner River**	**5.64**	**27**		Pn	03 07 29.3	-0.1
BMRM	**Bremner River**	**5.64**	**27**	P	Pn	03 07 29.3	-0.1
	baz=211						
N18K	**Kilae Creek**	**5.64**	**328**		Pn	03 07 28.6	-0.8
N18K	**Kilae Creek**	**5.64**	**328**	P	Pn	03 07 29.2	-0.3
	baz=143						
O16K	**Kokwok River B**	**5.68**	**312**		Pn	03 07 30.0	+0.1
O16K	**Kokwok River B**	**5.68**	**312**	P	Pn	03 07 30.0	+0.1
	baz=125						
GHO	**Glory Hole Cre**	**5.76**	**4**		Pn	03 07 31.4	+0.2
KLU	**Klutina**	**5.82**	**19**		Pn	03 07 31.7	-0.4
KLU	**Klutina**	**5.82**	**19**	P	Pn	03 07 31.7	-0.4
	baz=202						
SML	**Sawmill**	**5.83**	**7**		Pn	03 07 32.2	+0.2
SML	**Sawmill**	**5.83**	**7**	P	Pn	03 07 32.2	+0.2
	baz=188						
BARK	**Barkley Ridge**	**5.83**	**38**		Pn	03 07 32.0	-0.2
N17K	**Nushagak Hills**	**5.94**	**322**		Pn	03 07 33.6	0.0
N17K	**Nushagak Hills**	**5.94**	**322**	P	Pn	03 07 33.6	0.0
	baz=136						
N25K	**Chitina, Valde**	**6.20**	**24**		Pn	03 07 37.0	-0.2
N25K	**Chitina, Valde**	**6.20**	**24**	P	Pn	03 07 37.3	+0.2
	baz=208						
O15K	**Ungalikthiuk R**	**6.23**	**304**		Pn	03 07 37.8	+0.3
O15K	**Ungalikthiuk R**	**6.23**	**304**	P	Pn	03 07 37.9	+0.3
	baz=116						
KIAG	**Kiagna River**	**6.26**	**36**		Pn	03 07 38.0	-0.1
M18K	**Stony River**	**6.29**	**333**		Pn	03 07 37.2	-1.1
M18K	**Stony River**	**6.29**	**333**	P	Pn	03 07 37.8	-0.5
	baz=148						
SAMH	**Samovar Hills**	**6.30**	**46**		Pn	03 07 38.8	+0.3
M24K	**Tolsona, Glenn**	**6.36**	**16**		Pn	03 07 40.0	+0.6
M24K	**Tolsona, Glenn**	**6.36**	**16**	P	Pn	03 07 40.0	+0.6
	baz=199						
MCARA	**McCarthy VSAT**	**6.41**	**31**		Pn	03 07 40.3	+0.3
MCARA	**McCarthy VSAT**	**6.41**	**31**	P	Pn	03 07 40.3	+0.3
	baz=216						
PTPK	**Patty Peak**	**6.42**	**34**		Pn	03 07 40.4	0.0
N16K	**Nishlik Lake**	**6.48**	**317**		Pn	03 07 41.5	+0.5
N16K	**Nishlik Lake**	**6.48**	**317**	P	Pn	03 07 41.6	+0.5
	baz=129						
PCA	**Pinnacle**	**6.49**	**47**		Pn	03 07 41.1	-0.1
PINM	**Pinnacle**	**6.49**	**47**	P	Pn	03 07 41.1	-0.1
	baz=235						
BARN	**Barnard Glacie**	**6.59**	**37**		Pn	03 07 42.2	-0.4
CTG	**Chitna Glacier**	**6.63**	**38**	P	Pn	03 07 42.9	-0.2
	baz=226						
CTGM	**Chitina Glacie**	**6.63**	**38**		Pn	03 07 42.9	-0.3
PNL	**Peninsula**	**6.63**	**53**		Pn	03 07 43.0	-0.1
PNL	**Peninsula**	**6.63**	**53**	P	Pn	03 07 43.0	-0.1
	baz=241						
LOGN	**Logan Glacier**	**6.65**	**40**		Pn	03 07 43.1	-0.4
BCPM	**Bancas Point**	**6.67**	**50**		Pn	03 07 43.6	-0.1
M17K	**Holitna River**	**6.68**	**327**		Pn	03 07 43.6	0.0
M17K	**Holitna River**	**6.68**	**327**	P	Pn	03 07 43.6	0.0
	baz=140						
PVV	**Pavlof Volcano**	**6.81**	**269**		Pn	03 07 45.8	+0.3
N15K	**Kwethluk River**	**6.84**	**311**		Pn	03 07 46.5	+0.6
N15K	**Kwethluk River**	**6.84**	**311**	P	Pn	03 07 46.5	+0.6
	baz=123						
M16K	**Timber Creek**	**6.91**	**320**		Pn	03 07 47.5	+0.6
M16K	**Timber Creek**	**6.91**	**320**	P	Pn	03 07 47.6	+0.6
	baz=132						
O14K	**Tigyukauivet M**	**6.94**	**302**		Pn	03 07 47.8	+0.6
O14K	**Tigyukauivet M**	**6.94**	**302**	P	Pn	03 07 47.8	+0.6
	baz=113						
P29M	**Windy Craggy**	**7.37**	**56**		Pn	03 07 52.8	-0.4
P29M	**Windy Craggy**	**7.37**	**56**	P	Pn	03 07 52.8	-0.4
	baz=246						
M15K	**Kasigluk River**	**7.38**	**314**		Pn	03 07 53.7	+0.4
M15K	**Kasigluk River**	**7.38**	**314**	P	Pn	03 07 54.0	+0.8
	baz=124						
N14K	**Kuskokwak Cree**	**7.41**	**307**		Pn	03 07 53.6	-0.1
N14K	**Kuskokwak Cree**	**7.41**	**307**	P	Pn	03 07 54.2	+0.5
	baz=116						
L17K	**Donlin**	**7.50**	**328**		Pn	03 07 55.1	+0.1
L17K	**Donlin**	**7.50**	**328**	P	Pn	03 07 55.1	+0.1
	baz=141						
M27K	**Edge Creek, AK**	**7.52**	**29**		Pn	03 07 55.7	+0.3
M27K	**Edge Creek, AK**	**7.52**	**29**	P	Pn	03 07 55.7	+0.3
	baz=216						
L16K	**Owhat River**	**7.57**	**323**		Pn	03 07 55.8	-0.1
L16K	**Owhat River**	**7.57**	**323**	P	Pn	03 07 55.8	-0.1
	baz=134						
P30M	**Million Dollar**	**7.94**	**54**		Pn	03 08 01.2	+0.3
P30M	**Million Dollar**	**7.94**	**54**	P	Pn	03 08 01.2	+0.3
	baz=245						

*IDC **24** 03:06:19.1±1.0, 53°.90N×170°.71E, h0^{km}, mb3.5/9, mbtmp3.5/10, ML3.3/1, MS3.7/1, Error ellipse: s-maj=35.1km s-min=16.8km az=12.0*

ISC 24 03:06:24.2±0.8, 53°.9N±0°.2×170°.8E±0°.1, h35^{km}, n11, σ0^{s}97/11, mb3.5/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.31**	**118**		Pn	**03 06 58.0**	**-1.8**
	7.3nm,0.3s,baz=248,slow=7.1,SNR=6.2						
SHEM					Sn	**03 07 27.6**	**+0.6**
	8.6nm,0.3s,baz=266,slow=21,SNR=7.6 17nm,0.3s						
USRK	**Ussuriysk Ar.**	**26.88**	**265**	LR	LR	03 22 24.8	
	comp=Z,166nm,21.5s,baz=261,slow=36						
YKA	**Yellowknife Ar**	**38.14**	**46**	P	**P**	**03 13 39.5**	**0.0**
	0.1nm,0.3s,baz=290,slow=7.2,SNR=6.2 0.1nm,0.3s						
SONM	**Songino Array**	**39.81**	**288**	P	**P**	**03 13 52.8**	**-1.0**
	0.5nm,0.6s,baz=49,slow=9.7,SNR=4.2 0.5nm,0.6s						
NVAR	**Mina Array Bea**	**49.41**	**78**	P	**P**	**03 15 11.2**	**+0.6**
	0.3nm,0.7s,baz=282,slow=8.8,SNR=3.4 0.3nm,0.7s						
PDAR	**Pinedale Array**	**51.45**	**68**	P	**P**	**03 15 26.1**	**+0.1**
	0.5nm,0.8s,baz=320,slow=3.9,SNR=3.8 0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**52.66**	**307**	P	**P**	**03 15 34.2**	**-0.2**
	0.6nm,0.8s,baz=59,slow=7.9,SNR=6.1 0.6nm,0.8s						
MKAR	**Makanchi Array**	**53.38**	**301**	P	**P**	**03 15 39.7**	**-0.3**
	0.3nm,0.6s,baz=53,slow=6.8,SNR=7.8 0.3nm,0.6s						
TXAR	**Lajitas Array**	**64.37**	**75**	P	**P**	**03 16 57.2**	**+0.7**
	0.9nm,0.7s,baz=301,slow=4.2,SNR=7.7 0.9nm,0.7s						
ASAR	**Alice Springs**	**83.52**	**214**	P	**P**	**03 18 49.6**	**+1.4**
	0.5nm,0.7s,baz=17,slow=6.8,SNR=3.1 0.5nm,0.7s						
ESDC	**Sonseca Array**	**86.71**	**356**	P	**P**	**03 19 04.3**	**+0.1**
	0.3nm,0.8s,baz=352,slow=5.1,SNR=2.0 0.3nm,0.8s						

*NEIC **24** 03:12:28.3±1.1, 56°.10N±0°.02×150°.3W±0°.1, h10^{km}±2^{km}, ML3.6/36, ML3.3(AEIC), Error ellipse: s-maj=10.7km s-min=3.4km az=97.0*
*AEIC **24** 03:12:32.4±1.2, 56°.09N±0°.03×150°.2W±0°.1, h7^{km}±6^{km}, Error ellipse: s-maj=10.4km s-min=3.7km az=93.0*

ISC 24 03:12:27.2±2.4, 56°.1N±0°.1×150°.24W±0°.05, h10^{km}, n134, σ0^{s}81/134, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.05**	**306**		Pn	**03 13 01.4**	**-0.2**
OHAK					Sn	**03 13 26.0**	**-1.3**
OHAK	**Old Harbor**	**2.05**	**306**	P	Pn	**03 13 01.4**	**-0.2**
	baz=121						
OHAK				S	Sn	**03 13 26.0**	**-1.3**
	baz=121						
KDAK	**Kodiak Island**	**2.16**	**325**		Pn	**03 13 03.3**	**+0.1**
KDAK					Sn	**03 13 28.9**	**-1.1**
Q20K	**Shuyak Island**	**2.82**	**336**	P	Pn	**03 13 12.5**	**+0.2**
	baz=153						
Q20K				S	Sn	**03 13 45.5**	**-0.7**
	baz=153						
SYI	**Shuyak Island**	**2.82**	**337**		Pn	**03 13 12.5**	**+0.2**
SYI					Sn	**03 13 45.5**	**-0.7**
KAHG	**Katmai Hook Gl**	**3.39**	**318**		Pn	**03 13 21.6**	**+1.6**
KAHG					Sn	**03 13 59.6**	**-0.7**
Q19K	**Cape Douglas,**	**3.42**	**329**		Pn	**03 13 21.8**	**+1.2**
Q19K					Sn	**03 14 00.9**	**-0.3**
Q19K	**Cape Douglas,**	**3.42**	**329**	IAML		03 14 08.2	
	comp=N,217nm,0.8s						
Q19K	**Cape Douglas,**	**3.42**	**329**	P	Pn	**03 13 21.8**	**+1.2**
	baz=145						
Q19K				S	Sn	**03 14 00.9**	**-0.3**
	baz=145						
ACHA	**Angle Creek He**	**3.52**	**310**		Pn	**03 13 22.9**	**+1.1**
CNPM	**China Poot**	**3.53**	**352**		Pn	**03 13 22.2**	**+0.2**
CNPM					Sn	**03 14 02.7**	**-1.0**
CNPM	**China Poot**	**3.53**	**352**	IAML		03 14 09.7	
	comp=N,79nm,2.9s						
CNPM				IAML		03 14 34.7	
	comp=E,95nm,3.1s						
ANCK	**Angle Creek**	**3.58**	**309**		Pn	**03 13 24.2**	**+1.4**
KVTA	**Katmai Vly 10**	**3.61**	**313**		Pn	**03 13 24.4**	**+1.4**
BRSE	**Bradley Lake S**	**3.71**	**356**		Pn	**03 13 24.3**	**-0.2**
BRSE	**Bradley Lake S**	**3.71**	**356**	P	Pn	**03 13 24.3**	**-0.2**
	baz=175						
BRLK	**Bradley Lake**	**3.74**	**355**		Pn	**03 13 24.9**	**-0.1**
BRLK	**Bradley

O19K	Port Alsworth	4.69	334			Pn	03 13 38.1	+0.2	
O19K	Port Alsworth	4.69	334	IAML			03 14 37.3		
	comp=N,66nm,0.5s								
O19K				IAML			03 14 40.4		
	comp=E,99nm,0.5s								
O19K	Port Alsworth	4.69	334	P		Pn	03 13 38.1	+0.2	
	baz=150								
CAPN	Captain Cook N	4.76	355			Pn	03 13 39.7	+0.9	
CAPN	Captain Cook N	4.76	355	P		Pn	03 13 39.7	+0.9	
	baz=173								
HIN	Hinchinbrook I	4.79	23			Pn	03 13 39.2	-0.1	
HIN	Hinchinbrook I	4.79	23	IAML			03 14 26.2		
	comp=N,66nm,3.0s								
HIN				IAML			03 14 33.7		
	comp=E,70nm,2.5s								
KAIM	Kayak Island	4.97	36			Pn	03 13 41.9	+0.1	
KAIM	Kayak Island	4.97	36	P		Pn	03 13 41.9	+0.1	
	baz=221								
RC01	Rabbit Creek A	5.06	3	Pn		Pn	03 13 44.3	+1.3	
RC01				IAML			03 14 45.7		
	comp=E,40nm,1.7s								
RC01				IAML			03 16 38.6		
	comp=N,27nm,3.3s								
EYAK	Cordova Ski Ar	5.10	26			Pn	03 13 43.5	0.0	
EYAK	Cordova Ski Ar	5.10	26	P		Pn	03 13 43.5	0.0	
	baz=209								
FID	Port Fidalgo	5.11	21			Pn	03 13 43.6	-0.1	
P16K	Nushagak River	5.13	309			Pn	03 13 45.0	+1.1	
P16K	Nushagak River	5.13	309	P		Pn	03 13 45.0	+1.1	
	baz=127								
O17K	Koliganek Bris	5.22	318			Pn	03 13 45.8	+0.6	
RAGM	Ragged Mountai	5.25	32			Pn	03 13 45.9	+0.2	
N19K	Bonanza Creek	5.27	337			Pn	03 13 46.0	+0.1	
N19K	Bonanza Creek	5.27	337	IAML			03 15 51.7		
	comp=N,18nm,3.5s								
N19K				IAML			03 16 09.8		
	comp=E,19nm,3.6s								
N19K	Bonanza Creek	5.27	337	P		Pn	03 13 46.7	+0.7	
	baz=152								
GOAT	Goat Mountain	5.39	30			Pn	03 13 48.5	+0.9	
O16K	Kokwok River B	5.50	314			Pn	03 13 49.7	+0.7	
O16K	Kokwok River B	5.50	314	P		Pn	03 13 49.7	+0.7	
	baz=126								
N18K	Kilae Creek	5.51	330			Pn	03 13 49.4	+0.1	
N18K	Kilae Creek	5.51	330	P		Pn	03 13 49.4	+0.1	
	baz=144								
STLK	Strandline Lak	5.53	352			Pn	03 13 49.5	-0.1	
BERG	Berg Lake	5.56	36			Pn	03 13 50.0	+0.1	
DIV	Divide	5.61	23			Pn	03 13 51.3	+0.7	
SNH	Sunshine Point	5.71	40			Pn	03 13 52.3	+0.4	
BMRM	Bremner River	5.75	29			Pn	03 13 53.2	+0.7	
BMRM	Bremner River	5.75	29	P		Pn	03 13 53.5	+1.0	
	baz=213								
GHO	Glory Hole Cre	5.78	6			Pn	03 13 53.6	+0.6	
N17K	Nushagak Hills	5.79	324			Pn	03 13 53.5	+0.5	
N17K	Nushagak Hills	5.79	324	P		Pn	03 13 53.2	+0.2	
	baz=137								
SML	Sawmill	5.86	9			Pn	03 13 54.6	+0.6	
SML	Sawmill	5.86	9	P		Pn	03 13 54.6	+0.6	
	baz=190								
KLU	Klutina	5.90	21			Pn	03 13 55.0	+0.3	
KLU	Klutina	5.90	21	P		Pn	03 13 55.0	+0.3	
	baz=204								
BARK	Barkley Ridge	5.99	40			Pn	03 13 56.0	+0.2	
SKT	Skwentna	5.99	354			Pn	03 13 56.2	+0.5	
SKT	Skwentna	5.99	354	P		Pn	03 13 56.2	+0.5	
	baz=172								
O15K	Ungalikthiuk R	6.03	305			Pn	03 13 57.1	+0.9	
O15K	Ungalikthiuk R	6.03	305	P		Pn	03 13 57.1	+0.9	
	baz=116								
M18K	Stony River	6.18	334			Pn	03 13 58.2	-0.2	
M18K	Stony River	6.18	334	P		Pn	03 13 58.2	-0.2	
	baz=149								
VRDI	Verde Repeater	6.29	31			Pn	03 14 00.6	+0.6	
N25K	Chitina, Valde	6.30	25			Pn	03 14 01.1	+1.0	
N25K	Chitina, Valde	6.30	25	P		Pn	03 14 01.1	+1.0	
	baz=210								
N16K	Nishlik Lake	6.32	318			Pn	03 14 01.5	+1.2	
N16K	Nishlik Lake	6.32	318	P		Pn	03 14 00.9	+0.6	
	baz=130								
GLB	Gilahina Butte	6.36	29			Pn	03 14 01.2	+0.4	
KIAG	Kiagna River	6.40	37			Pn	03 14 01.8	+0.2	
M24K	Tolsona, Glenn	6.43	17			Pn	03 14 03.5	+1.7	
M24K	Tolsona, Glenn	6.43	17	P		Pn	03 14 03.5	+1.7	
	baz=200								
MCARA	McCarthy VSAT	6.54	32			Pn	03 14 04.2	+0.9	
MCARA	McCarthy VSAT	6.54	32	P		Pn	03 14 04.2	+0.9	
	baz=218								
M17K	Holitna River	6.54	328			Pn	03 14 04.2	+0.9	
M17K	Holitna River	6.54	328	P		Pn	03 14 04.2	+0.9	
	baz=141								
PTPK	Patty Peak	6.56	35			Pn	03 14 04.6	+0.8	
N15K	Kwethluk River	6.65	312			Pn	03 14 06.2	+1.3	
N15K	Kwethluk River	6.65	312	P		Pn	03 14 04.8	-0.1	
	baz=123								
PCA	Pinnacle	6.67	48			Pn	03 14 05.8	+0.6	
PINM	Pinnacle	6.67	48	P		Pn	03 14 06.1	+0.9	
	baz=237								
WAT6	Susitna Watana	6.68	10			Pn	03 14 06.1	+0.8	
WAT6	Susitna Watana	6.68	10	P		Pn	03 14 06.1	+0.8	
	baz=192								
L20K	Farewell, AK	6.71	345			Pn	03 14 06.2	+0.5	
L20K	Farewell, AK	6.71	345	P		Pn	03 14 06.2	+0.5	
	baz=162								
O14K	Tigyukauivet M	6.73	303			Pn	03 14 07.0	+1.1	
O14K	Tigyukauivet M	6.73	303	P		Pn	03 14 07.0	+1.1	
	baz=113								
BARN	Barnard Glacie	6.74	38			Pn	03 14 06.6	+0.4	
M16K	Timber Creek	6.76	321			Pn	03 14 07.6	+1.3	
M16K	Timber Creek	6.76	321	P		Pn	03 14 07.6	+1.3	
	baz=133								
CTG	Chitna Glacier	6.78	40	P		Pn	03 14 07.2	+0.4	
	baz=227								
CTGM	Chitina Glacie	6.79	40			Pn	03 14 07.2	+0.4	
LOGN	Logan Glacier	6.81	42			Pn	03 14 07.7	+0.5	
PNL	Peninsula	6.83	53			Pn	03 14 07.6	+0.3	
PNL	Peninsula	6.83	53	P		Pn	03 14 07.6	+0.3	
	baz=243								
BCPM	Bancas Point	6.86	51			Pn	03 14 08.3	+0.5	
M15K	Kasigluk River	7.20	315			Pn	03 14 13.0	+0.7	
M15K	Kasigluk River	7.20	315	P		Pn	03 14 13.0	+0.7	
	baz=125								
N14K	Kuskokwak Cree	7.21	307			Pn	03 14 13.5	+1.0	
N14K	Kuskokwak Cree	7.21	307	P		Pn	03 14 13.5	+1.0	
	baz=117								
L17K	Donlin	7.38	329			Pn	03 14 16.1	+1.4	
L17K	Donlin	7.38	329	P		Pn	03 14 16.1	+1.4	
	baz=142								
L16K	Owhat River	7.42	324			Pn	03 14 16.1	+0.8	
L16K	Owhat River	7.42	324	P		Pn	03 14 16.5	+1.1	
	baz=135								
O29M	Mount Kennedy	7.50	51			Pn	03 14 16.4	-0.1	
O29M	Mount Kennedy	7.50	51	P		Pn	03 14 17.2	+0.6	
	baz=241								
KTH	Kantishna Hill	7.54	358	Pn		Pn	03 14 18.7	+1.7	
P29M	Windy Craggy	7.58	57			Pn	03 14 17.8	+0.2	
P29M	Windy Craggy	7.58	57	P		Pn	03 14 17.8	+0.2	
	baz=247								

IDC ***24*** *03:14:39.9±0.4,26˚.40N×140˚.80E,h470km±3km,mb4.5/29, mbtmp5.3/32,Error ellipse: s-maj=9.8km s-min=7.6km az=80.0*

BJI ***24*** *03:14:41.2±0.0,26˚.45N×140˚.75E,h500km,mb5.0/65, mB5.0/35*

NEIC ***24*** *03:14:42.4±1.9,26˚.44N±0˚.08×140˚.8E±0˚.1,h488km±6km, mb4.7/398,Error ellipse: s-maj=13.9km s-min=11.4km az=66.0*

JMA ***24*** *03:14:44.1±0.1,26˚.7N±0˚.9×14˚0E±˚,h464km,MD5.6/15, MV5.4/15,W OFF OGASAWARA*

JMA Felt I J1 at W OFF OGASAWARA .

BGR ***24*** *03:15:01.4,29˚.93N×138˚.03E,h500km,mb5.0*

ISC 24 03:14:41.8±0.4,26˚.42N±0˚.04×140˚.78E±0˚.05,h493km±3km, h494km:pP-P,n916,σ1º24/833,mb4.8/301,63C-25D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.27	80	P	P	03 15 44.4	+1.3
JHH2				S	S	03 16 31.5	-1.5
JHH2	Haha-jima-NKT2	1.27	80	A	A	03 15 44.4	
	comp=E,72nm,0.4s,comp=N,30nm,0.4s						
CBIJ	Chichi jima	1.42	62	P	P	03 15 44.1	+0.4
CBIJ				S	S	03 16 31.3	-2.7
CBIJ	Chichi jima	1.42	62	A	A	03 15 44.1	
	comp=E,24nm,0.6s,comp=N,16nm,1.0s						
JCJ	Chichijima	1.42	62		P	03 15 43.7	0.0
JCJ				S	S	03 16 31.5	-2.5
JCJ	Chichijima	1.42	62	P	P	03 15 40.1	-3.6
	comp=N,4μm,0.3s,baz=252,slow=2.2,SNR=795						
JCJ				S	S	03 16 27.3	-6.7
	comp=N,6μm,0.5s,baz=295,slow=22,SNR=18						
JHJ2	Mitsune	6.72	353	P	P	03 16 24.4	-0.4
JHJ2	Mitsune	6.72	353	*e*P	P	03 16 25.0	+0.3
JHJ2				*e*S	S	03 17 44.3	-4.9
JHJ	Hachijo jima 2	6.73	353	P	P	03 16 24.1	-0.8
	comp=N,179nm,0.3s,baz=78,slow=23,SNR=9.3						
JHJ				S	S	03 17 45.8	-3.6
	comp=N,542nm,0.3s,baz=76,slow=23,SNR=6.8						
JMYK	Miyake Tsubota	7.69	352	*e*P	P	03 16 34.5	-0.2
BSO1	Boso 1	8.21	1	P	P	03 16 40.7	+1.2
BSO1				S	S	03 18 14.3	-1.8
BSO3	Boso 3	8.36	358	P	P	03 16 42.1	+0.8
BSO3				*e*S	S	03 18 17.6	-1.9
JMZ	Minamidaito 2	8.61	268		P	03 16 44.7	+0.3
JMZ	Minamidaito 2	8.61	268	P	P	03 16 44.7	+0.3
JMZ	Minamidaito 2	8.61	268	P	P	03 16 44.6	+0.1
JOD2	Odawara 2	8.93	351	P	P	03 16 48.2	+0.5
JOD2				*e*S	S	03 18 27.2	-3.9
JWY	Kouya	8.97	331	P	P	03 16 50.6	+2.5
JYN	Shimob	9.25	349	P	P	03 16 51.6	+0.6
JYN				*e*S	S	03 18 37.1	-0.3
JMN	Monobe	9.42	322		P	03 16 53.3	+0.4
JMN	Monobe	9.42	322	P	P	03 16 55.3	+2.4
JTO	Tosashimizu	9.45	315	P	P	03 16 55.4	+2.2
INU	Inuyama	9.47	341	P	P	03 16 55.1	+1.8
INU	Inuyama	9.47	341	P	P	03 16 55.5	+2.2
MJAR	Matsushiro Arr	10.32	348	P	P	03 17 01.9	-0.5
	comp=N,6.6nm,0.3s,baz=170,slow=11,SNR=28						
MJAR				S	S	03 18 42.9	-15
	comp=N,14nm,0.5s,baz=151,slow=11,SNR=5.4						
MAJO	Matsushiro	10.32	348	P	P	03 17 02.0	-0.4
MAJO	Matsushiro	10.32	348	P	P	03 17 04.2	+1.8
MJB9	Matsu-Tunnel	10.33	348	P	P	03 17 03.1	+0.6
JNU	Nakatsue	10.88	310	P	P	03 17 10.8	+2.3
JNU	Nakatsue	10.88	310	P	P	03 17 10.4	+1.9
	comp=N,18nm,0.6s,baz=6.5,slow=3.5,SNR=16						
JOW	Kunigami	11.20	275	P	P	03 17 13.2	+1.3
JOW	Kunigami	11.20	275	P	P	03 17 13.0	+1.1
	comp=N,643nm,0.7s,baz=114,slow=7.8,SNR=67						
JMM	Marumori	11.41	0	P	P	03 17 15.3	+1.3
JMM	Marumori	11.41	0	P	P	03 17 15.6	+1.7
JTM	Tenmabayashi	14.33	1	P	P	03 17 45.4	+0.5
TJN	Taejon	15.14	314	P	P	03 17 55.2	+1.7
TJN	Taejon	15.14	314	P	P	03 17 56.1	+2.6
KSRS	Korea Array	15.48	318	P	P	03 17 59.2	+2.2
	comp=N,90nm,0.6s,baz=144,slow=8.8,SNR=174						
KSRS				S	S	03 20 40.1	+2.1
	comp=N,15nm,0.9s,baz=146,slow=16,SNR=12						
KSRS				PcP	PcP	03 22 26.9	+0.8
	comp=N,3.8nm,0.7s,baz=162,slow=0.4,SNR=7.1						
KSAR	Wonju Array Be	15.49	318	P	P	03 17 58.9	+1.7
KS19	Wonju Array Si	15.54	318	P	P	03 17 59.5	+1.8
INCN	Inchon	16.28	316	P	P	03 18 06.4	+0.9
INCN	Inchon	16.28	316	P	P	03 18 07.4	+1.9
YHNB	Yeheng	17.60	269	P	P	03 18 17.3	-1.7
ASAJ	Asahikawa	17.72	4	P	P	03 18 21.0	+1.3
	comp=N,9.4nm,0.5s,baz=233,slow=14,SNR=7.0						
JKA	Kamikawa-asahi	17.72	4	P	P	03 18 21.2	+1.5
YULB	Yu-li	17.93	265	P	P	03 18 21.0	-1.0
YULB	Yu-li	17.93	265	P	P	03 18 21.7	-0.3
SSLB	Suanglung	18.15	266	P	P	03 18 23.2	-0.8
SSLB	Suanglung	18.15	266	P	P	03 18 24.5	+0.5
TWGBT	Beinan	18.27	263	P	P	03 18 25.1	0.0
TWG	Pinlang	18.27	263	P	P	03 18 24.5	-0.7
USA0B	Ussuriysk Arra	19.11	340	P	P	03 18 32.4	-0.1
USRK	Ussuriysk Ar.	19.11	340	P	P	03 18 33.3	+0.8
USRK	Ussuriysk Ar.	19.11	340	P	P	03 18 33.5	+1.0
	comp=N,84nm,0.7s,baz=142,slow=8.9,SNR=150						
NJ2	Nanjing	19.93	292	*e*P	P	03 18 40.8	+0.7
NJ2				sP	sP	03 20 47.3	-1.4
NJ2				pmax	pmax		
	comp=N,22nm,0.6s						
NJ2				pmax	pmax		
	comp=N,270nm,3.8s						
MDJ	Mudanjiang	20.27	336	P	P	03 18 44.6	+1.5
MDJ				sP	sP	03 20 53.4	+0.7
MDJ				S	S	03 22 04.1	+4.9
MDJ				PcP	PcP	03 22 33.8	-0.4
MDJ				ScP	ScP	03 25 23.1	-0.6
MDJ				PcS	PcS	03 26 11.8	-0.3
MDJ				ScS	ScS	03 29 07.3	+0.3
MDJ				pmax	pmax		
	comp=N,83nm,0.8s						
MDJ				pmax	pmax		
	comp=N,2μm,5.8s						
MDJ	Mudanjiang	20.27	336	P	P	03 18 43.9	+0.8
BNX	BinXian	22.05	334	⇑P	P	03 18 59.8	+0.7
BNX				pmax	pmax		
	comp=N,58nm,0.8s						
BNX				pmax	pmax		
	comp=N,790nm,6.3s						
TIA	Tai'an	22.39	302	P	P	03 19 02.3	-0.1
TIA				pmax	pmax		
	comp=N,14nm,0.8s						
WHN	Wuhan	23.57	286	P	P	03 19 13.0	0.0
WHN				pmax	pmax		
	comp=N,52nm,0.8s						
BJI	Beijing	24.56	310	P	P	03 19 22.0	+0.3
BJI				PcP	PcP	03 22 43.6	+0.4
HNS	HongShan	24.61	303	⇓P	P	03 19 21.8	-0.4
HNS				pmax	pmax		
	comp=N,22nm,1.2s						
LYN	LuoYang	25.65	295	⇓P	P	03 19 30.8	-0.6
LYN				pmax	pmax		
	comp=N,22nm,0.8s						
HEH	HeiHe	25.92	340	*e*P	P	03 19 33.5	-0.1
HEH				PcP	PcP	03 22 46.3	+0.2
HEH				S	S	03 23 27.5	-0.7
HEH				pmax	pmax		
	comp=N,200nm,0.7s						
HEH				pmax	pmax		
	comp=N,900nm,4.8s						
XLT	XiLinHaoTe	26.53	317	*e*P	P	03 19 39.4	+0.2
XLT				PcP	PcP	03 22 48.3	+0.4
XLT				pmax	pmax		
	comp=N,23nm,1.0s						
XLT				pmax	pmax		
	comp=N,310nm,6.0s						
ENH	Enshi	27.76	285	P	P	03 19 49.2	-0.9
HIA	Hailar	28.04	330	P	P	03 19 52.4	+0.2
HIA				IAmb	IAmb	03 19 53.5	
	comp=Z,41nm,0.9s						
HHC	Hu-ho-hao-te	28.11	308	⇑*i*P	P	03 19 53.1	0.0
HHC				pmax	pmax		
	comp=Z,43nm,1.3s						
HHC				pmax	pmax		
	comp=Z,430nm,4.5s						
XAN	Xi'an	28.47	293	P	P	03 19 55.8	-0.5
XAN				PcP	PcP	03 22 53.5	+0.7
XAN				S	S	03 24 04.9	-3.8
XAN				pmax	pmax		
	comp=Z,34nm,0.7s						
BTO	Baotou	29.12	307	*e*P	P	03 20 03.3	+1.3
BTO				sP	sP	03 22 28.1	+6.5
BTO				pmax	pmax		
	comp=Z,33nm,1.4s						
BTO				pmax	pmax		
	comp=Z,730nm,5.3s						
PETK	Petropavlovsk-	29.50	21	P	P	03 20 05.4	+0.4
	comp=Z,3.9nm,0.7s,baz=188,slow=3.0,SNR=6.0						
PETK				PcP	PcP	03 22 54.9	-0.2
	comp=Z,4.0nm,0.7s,baz=151,slow=3.3,SNR=4.0						
GYA	Guiyang	30.50	278	*e*P	P	03 20 15.9	+1.8
GYA				pmax	pmax		
	comp=Z,16nm,0.9s						
GYA				pmax	pmax		
	comp=Z,210nm,4.2s						
GTOI	Gorontalo	30.82	217	P	P	03 20 16.7	-0.2
	comp=Z,16nm,0.8s						
TOLI2	Tolitoli	31.68	221	P	P	03 20 23.0	-1.2
TOLI2	Tolitoli	31.68	221	P	P	03 20 24.1	-0.1
KRAI	Karang Ratu	31.90	204	P	P	03 20 27.2	+1.0
	comp=Z,35nm,1.0s,comp=Z,4μm						
LUWI	Luwuk	32.36	215	P	P	03 20 29.3	-0.8
LUWI				IAmb	IAmb	03 20 35.9	
	comp=Z,24nm,0.7s						
LZH	Lanzhou	32.85	296	⇓P	P	03 20 34.3	+0.1
LZH				PcP	PcP	03 23 05.8	+1.1
LZH				pmax	pmax		
	comp=Z,59nm,1.4s						
MA2	Magadan	33.86	9	P	P	03 20 42.8	+0.6
MA2				IAmb	IAmb	03 20 44.1	
	comp=Z,42nm,1.5s						
MA2	Magadan	33.86	9	P	P	03 20 43.0	+0.8
ULN	Ulaanbaatar	33.96	318	P	P	03 20 42.0	-1.5
	comp=Z,251nm,1.0s						
KMI	Kunming	34.20	276	⇑P	P	03 20 46.9	+1.0
KMI				pmax	pmax		
	comp=Z,20nm,0.9s						
SONM	Songino Array	34.35	318	P	P	03 20 46.9	+0.2
SONM				IAmb	IAmb	03 20 47.4	
	comp=Z,24nm,0.6s						
SONM	Songino Array	34.35	318	P	P	03 20 46.8	+0.2
	comp=Z,22nm,0.5s,baz=127,slow=8.0,SNR=198						
SONM				PcP	PcP	03 23 08.9	+0.1
	comp=Z,9.7nm,0.8s,baz=112,slow=2.5,SNR=10						
	comp=Z,22nm,0.5s						
PZH	PanZhiHua	34.86	279	P	P	03 20 52.6	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
NONG	Nongkai	35.71	264	P	P	03 21 00.0	+1.7
SHEM	Shemya Is, Ala	36.19	34	P	P	03 21 00.0	-1.8
	comp=Z,14nm,0.3s,baz=292,slow=5.4,SNR=2.0						
	comp=Z,14nm,0.3s						
YAK	Yakutsk	36.37	351	P	P	03 21 02.9	-0.2
GTA	Gaotai	36.45	301	⇑P	P	03 21 04.1	-0.2
GTA				pP	pP	03 22 31.0	+0.8
GTA				PcP	PcP	03 23 15.9	+0.6
GTA				S	S	03 26 08.1	-2.3
GTA				pmax	pmax		
	comp=Z,33nm,0.9s						
CRAI	Chiangrai	37.50	269	P	P	03 21 13.3	+0.2
CRAI				IAmb	IAmb	03 21 14.9	
	comp=Z,27nm,1.1s						
CMMT	Chiang Mai	39.22	268	P	P	03 21 27.5	+0.4
	comp=Z,33nm,1.2s						
CHTO	Chiang Mai	39.22	268	P	P	03 21 27.8	+0.7
CHTO	Chiang Mai	39.22	268	P	P	03 21 27.5	+0.4
	comp=Z,12nm,1.2s,comp=Z,373nm						
CMAR	Chiang Mai Arr	39.34	267	P	P	03 21 28.4	+0.4
	comp=Z,2.6nm,0.5s,baz=57,slow=8.3,SNR=25						
CMAR				PcP	PcP	03 23 25.0	+0.5
	comp=Z,2.3nm,0.3s,baz=63,slow=1.7,SNR=9.3						
MTN	Manton Dam	40.14	195	P	P	03 21 34.8	+0.3
GOMU	GeErMu	40.15	296	P	P	03 21 36.4	+1.6
GOMU				pmax	pmax		
	comp=Z,79nm,0.9s						
SRDT	SRDT	40.68	261	P	P	03 21 39.7	+0.8
MND	Mandalay	40.82	274	P	P	03 21 40.2	+0.3
LSA	Lhasa	43.65	286	P	P	03 22 02.7	-0.1
LSA				IAmb	IAmb	03 22 05.7	
	comp=Z,20nm,0.7s						
LSA	Lhasa	43.65	286	P	P	03 22 04.2	+1.4
SHL	Shillong	43.75	280	P	P	03 22 02.6	-0.6
KPJI	Karang Pucung	45.62	227	P	P	03 22 17.7	+0.2
	comp=Z,41nm,0.7s						
TIXI	Tiksi	45.76	355	P	P	03 22 17.8	+0.1
TIXI				IAmb	IAmb	03 22 21.1	
	comp=Z,16nm,0.8s						
WMQ	Urumqi	45.95	306	*e*P	P	03 22 20.3	+0.5
WMQ				S	S	03 28 26.9	-1.0
WMQ				pmax	pmax		
	comp=Z,110nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,220nm,3.7s						
WB0	Warramunga Arr	46.33	188	P	P	03 22 22.6	-0.2
WB0				IAmb	IAmb	03 22 23.4	
	comp=Z,20nm,0.7s						
PSI	Prapat	46.48	247	P	P	03 22 27.2	+2.9
	comp=Z,12nm,1.0s						
WR0	Warramunga Arr	46.50	188	P	P	03 22 23.9	-0.3
WR0				IAmb	IAmb	03 22 24.6	
	comp=Z,15nm,0.6s						
WB2	Warramunga Arr	46.51	188	P	P	03 22 24.3	+0.1
WB2				IAmb	IAmb	03 22 24.7	
	comp=Z,18nm,0.7s						
WRA	Warramunga Arr	46.51	188	P	P	03 22 23.0	-1.2
WRA	Warramunga Arr	46.51	188	P	P	03 22 24.0	-0.2
	comp=Z,13nm,0.5s,baz=6.5,slow=8.2,SNR=114						
WRA				PcP	PcP	03 23 49.4	+0.5
	comp=Z,5.4nm,0.5s,baz=3.8,slow=3.8,SNR=11						
WRA				ScP	ScP	03 26 55.1	+0.1
	comp=Z,2.1nm,0.8s,baz=4.6,slow=4.7,SNR=4.5						
	comp=Z,13nm,0.5s						
RPSI	Rantau Prapat	46.54	247	P	P	03 22 24.5	-0.1
QIS	Mount Isa	46.71	182	P	P	03 22 25.8	0.0
ZSN	Zaisan	48.23	311	⇓*i*P	P	03 22 37.6	+0.7
	comp=Z,51nm,1.3s,baz=311						
GAMB	Gambell	48.27	26	P	P	03 22 38.3	+1.4
	baz=242						
ZAA0	Zalesovo Array	49.18	320	P	P	03 22 43.4	-0.4
ZALV	Zalesovo Beam	49.18	320	P	P	03 22 43.4	-0.4
ZALV	Zalesovo Beam	49.18	320	P	P	03 22 43.6	-0.2
	comp=Z,84nm,0.6s,baz=108,slow=8.0,SNR=377						
ZALV				PcP	PcP	03 23 57.6	-0.5
	comp=Z,30nm,0.7s,baz=110,slow=3.9,SNR=17						
ZALV				ScP	ScP	03 27 05.4	-0.4
	comp=Z,3.2nm,0.9s,baz=99,slow=4.7,SNR=3.6						
	comp=Z,84nm,0.6s						
M11K	Mekoryuk	49.30	32	P	P	03 22 46.2	+1.6
	baz=251						
MK31	Makanchi Array	49.94	310	P	P	03 22 49.7	+0.1
MK31				IAmb	IAmb	03 22 50.9	
	comp=Z,45nm,0.8s						
MKAR	Makanchi Array	49.94	310	P	P	03 22 49.9	+0.2
	comp=Z,41nm,0.7s,baz=92,slow=8.9,SNR=464						
MKAR				PcP	PcP	03 24 01.1	0.0
	comp=Z,18nm,0.7s,baz=79,slow=6.3,SNR=9.9						
MKAR				ScP	ScP	03 27 09.4	0.0
	comp=Z,0.6nm,0.5s,baz=74,slow=5.3

N15K **Kwethluk River** 52.17 33 P P 03 23 07.1 +1.6
baz=257
UZB **Uzynbulak** 52.26 305 ⇓*i*P P 03 23 06.9 +0.2
baz=305
H16K **Elim** 52.42 27 P P 03 23 08.8 +1.5
baz=252,SNR=17
KPKS **Kokpek** 52.49 306 ⇓*i*P P 03 23 08.5 +0.2
baz=306
KURK **Kurchatov** 52.56 315 P P 03 23 08.5 0.0
C16K **Lisburne Hills** 52.59 22 P P 03 23 10.0 +1.6
baz=246
G16K **Koyuk River** 52.62 26 P P 03 23 10.1 +1.4
baz=251
KURBB **Kurchatov Arra** 52.62 315 P P 03 23 08.9 -0.1
comp=Z,149nm,0.8s,baz=93,slow=7.9,SNR=1310
KURBB PcP PcP 03 24 10.6 -0.4
comp=Z,8.6nm,0.7s,baz=91,slow=4.0,SNR=4.8
comp=Z,149nm,0.8s
TDK **Taldyqorghan** 52.63 308 ⇓*e*P P 03 23 09.7 +0.4
comp=Z,20nm,0.4s,baz=308
ZHN **Zhinishke** 52.68 305 ⇓*e*P P 03 23 10.0 +0.3
baz=305
J16K **Anvik River** 52.71 29 P P 03 23 11.2 +1.8
baz=254,SNR=7.0
NRIK **Noril'sk** 52.82 339 P P 03 23 10.2 +0.1
NRIK **Noril'sk** 52.82 339 P P 03 23 10.2 +0.1
comp=Z,54nm,0.6s,baz=111,slow=8.8,SNR=89
NRIK PcP PcP 03 24 11.1 -0.3
comp=Z,16nm,0.8s,baz=135,slow=6.4,SNR=5.1
comp=Z,54nm,0.6s
I17K **Unalakleet** 52.84 28 P P 03 23 12.5 +2.2
I17K IAmb IAmb 03 23 13.1
comp=Z,28nm,0.8s
I17K **Unalakleet** 52.84 28 P P 03 23 12.2 +1.9
baz=254,SNR=15
N16K **Nishlik Lake** 52.88 33 P P 03 23 12.3 +1.6
baz=258
M16K **Timber Creek** 52.90 32 P P 03 23 12.4 +1.6
baz=257
P16K **Nushagak River** 52.99 35 P P 03 23 12.9 +1.4
baz=260
O16K **Kokwok River B** 53.04 34 P P 03 23 13.2 +1.4
baz=259
D17K **Noatak River** 53.15 23 P P 03 23 13.9 +1.4
baz=248
TARG **Taragay, Kyrgy** 53.24 304 P P 03 23 13.9 -0.2
TARG IAmb IAmb 03 23 16.2
comp=Z,46nm,1.0s
G17K **Kiwalik Mounta** 53.33 26 P P 03 23 15.3 +1.5
baz=252,SNR=16
E17K **Hotham Inlet** 53.38 24 P P 03 23 15.6 +1.5
baz=250,SNR=6.8
F17K **Baldwin Pennin** 53.39 25 P P 03 23 15.4 +1.2
F17K IAmb IAmb 03 23 16.8
comp=Z,20nm,0.7s
F17K **Baldwin Pennin** 53.39 25 P P 03 23 16.0 +1.8
baz=251,SNR=13
C17K **DeLong Mountai** 53.40 22 P P 03 23 15.7 +1.4
baz=248,SNR=7.7
L17K **Donlin** 53.45 31 P P 03 23 16.4 +1.7
baz=257
H17K **Granite Mounta** 53.46 27 P P 03 23 16.6 +1.8
H17K PcP PcP 03 24 15.7 +1.7
H17K **Granite Mounta** 53.46 27 P P 03 23 16.6 +1.8
baz=254,SNR=15
O17K **Koliganek Bris** 53.57 34 P P 03 23 17.2 +1.6
baz=260
K17K **Iditarod** 53.58 30 P P 03 23 16.7 +1.1
K17K IAmb IAmb 03 23 18.7
comp=Z,41nm,0.8s
K17K PcP PcP 03 24 16.3 +1.8
K17K **Iditarod** 53.58 30 P P 03 23 17.8 +2.2
baz=257,SNR=11
N17K **Nushagak Hills** 53.66 33 P P 03 23 17.9 +1.7
baz=260
CHKK **Chushkaly** 53.70 306 ⇓*e*P P 03 23 16.9 +0.1
baz=306
MDOK **Medeo** 53.70 305 *i* P P 03 23 17.0 0.0
baz=306
MDOK *e*S S 03 30 12.6 -0.9
baz=306
M17K **Holitna River** 53.70 32 P P 03 23 18.2 +1.7
baz=259
TNSS **Tian-Shan** 53.78 305 ⇓*e*P P 03 23 17.8 -0.1
baz=305
AAA **Alma-Ata** 53.79 306 *e*P P 03 23 17.9 +0.3
comp=Z,54nm,0.8s,baz=306
P17K **Kvichak River** 53.80 35 P P 03 23 17.6 +0.4
baz=261
C18K **Utukok River** 54.15 23 P P 03 23 20.6 +0.9
C18K **Utukok River** 54.15 23 P P 03 23 20.5 +0.9
baz=250
H18K **Honhosa River** 54.15 27 P P 03 23 20.7 +1.1
H18K **Honhosa River** 54.15 27 P P 03 23 20.9 +1.2
baz=255
KUU **Kurty** 54.16 306 ⇓*i*P P 03 23 20.2 0.0
baz=306
KUU *e*S S 03 30 19.2 -0.2
baz=306
B18K **Kokolik River** 54.20 22 P P 03 23 21.6 +1.7
baz=249
L18K **Granite Mounta** 54.21 31 P P 03 23 21.2 +1.1
L18K **Granite Mounta** 54.21 31 P P 03 23 22.3 +2.1
baz=259
G18K **Tagagawik** 54.23 26 P P 03 23 20.9 +0.6
G18K PcP PcP 03 24 17.5 +0.6
G18K **Tagagawik** 54.23 26 P P 03 23 21.2 +1.0
baz=254,SNR=11
N18K **Kilae Creek** 54.31 33 P P 03 23 22.4 +1.5
baz=261
ULHL **Ulahol** 54.36 304 P P 03 23 22.6 +0.8
SNR=14
J18K **Innoko River** 54.45 29 P P 03 23 22.9 +1.1
J18K **Innoko River** 54.45 29 P P 03 23 22.8 +1.1
baz=258
M18K **Stony River** 54.48 32 P P 03 23 23.5 +1.5
baz=260
O18K **Koktuh Hills** 54.52 34 P P 03 23 24.1 +1.7
baz=262
TTA **Tatalina** 54.66 30 P P 03 23 24.9 +1.6
baz=259
A19K **Wainwright** 54.74 21 P P 03 23 25.4 +1.8
baz=249
TKM2 **Tokmak 2** 54.78 305 P P 03 23 25.7 +1.0
SNR=56
F19K **Shaleruckih Mo** 54.83 25 P P 03 23 25.2 +0.8
baz=254
C19K **Lookout Ridge** 54.85 22 P P 03 23 26.5 +2.0
C19K IAmb IAmb 03 23 27.2
comp=Z,33nm,1.0s
C19K **Lookout Ridge** 54.85 22 P P 03 23 26.4 +1.8
baz=251,SNR=28
KSH **Kashi** 54.85 301 P P 03 23 28.9 +3.7
KSH pmax pmax
comp=Z,54nm,0.7s
G19K **Purcell Mounta** 54.91 26 P P 03 23 25.8 +0.8
G19K **Purcell Mounta** 54.91 26 P P 03 23 26.1 +1.1
baz=256,SNR=7.6
O19K **Port Alsworth** 55.01 34 P P 03 23 27.4 +1.7
baz=262
N19K **Bonanza Creek** 55.02 33 P P 03 23 27.4 +1.5
baz=262
H19K **Roundabout Mou** 55.02 27 P P 03 23 27.1 +1.3
baz=257
J19K **Poorman** 55.04 29 P P 03 23 27.3 +1.4
J19K **Poorman** 55.04 29 P P 03 23 27.3 +1.4
baz=258
L19K **White Mountain** 55.05 31 P P 03 23 26.6 +0.6
L19K **White Mountain** 55.05 31 P P 03 23 27.7 +1.6
baz=260
D19K **Kuna River** 55.17 23 P P 03 23 28.1 +1.3
D19K IAmb IAmb 03 23 29.2
comp=Z,39nm,1.4s
D19K PcP PcP 03 24 21.3 +0.7
D19K **Kuna River** 55.17 23 P P 03 23 28.0 +1.3
baz=253
E19K **Redstone River** 55.20 24 P P 03 23 28.2 +1.3
E19K **Redstone River** 55.20 24 P P 03 23 28.4 +1.4
baz=255
M19K **Big River Lodg** 55.22 31 P P 03 23 28.6 +1.3
baz=261
OHAK **Old Harbor** 55.23 37 P P 03 23 28.7 +1.4
baz=265
KBK **Karagaybulak** 55.28 305 P P 03 23 29.1 +0.9
SNR=26
CHMS **Chumysh** 55.39 305 P P 03 23 29.3 +0.6
SNR=15

SGDS **Sogindy** 55.43 306 ⇓*i*P P 03 23 29.3 +0.2
baz=306
USP **Ospenovka** 55.55 306 P P 03 23 30.4 +0.5
SNR=26
L20K **Farewell, AK** 55.55 31 P P 03 23 31.0 +1.4
baz=261,SNR=5.5
K20K **Telida** 55.60 30 P P 03 23 30.9 +1.0
K20K **Telida** 55.60 30 P P 03 23 31.8 +2.0
baz=260,SNR=8.5
AAK **Ala-Archa** 55.61 305 P P 03 23 30.9 +0.4
SNR=21
AAK **Ala-Archa** 55.61 305 P P 03 23 30.9 +0.4
AAK IAmb IAmb 03 23 31.5
comp=Z,22nm,0.6s
AAK **Ala-Archa** 55.61 305 *i* P P 03 23 31.1 +0.6
SNR=26
UCH **Uchtor** 55.64 305 P P 03 23 32.4 +1.3
SNR=57
H20K **Anotleneega Mo** 55.65 27 P P 03 23 31.7 +1.5
baz=258,SNR=27
F20K **Avaraart Lake** 55.66 25 P P 03 23 31.6 +1.4
F20K **Avaraart Lake** 55.66 25 P P 03 23 31.6 +1.4
baz=256
I20K **Naaghedeneel** 55.68 28 P P 03 23 31.5 +1.2
I20K IAmb IAmb 03 23 33.7
comp=Z,42nm,0.8s
I20K **Naaghedeneel** 55.68 28 P P 03 23 32.2 +1.9
baz=259
J20K **Nowinta River** 55.71 29 P P 03 23 32.7 +2.1
J20K IAmb IAmb 03 23 33.5
comp=Z,46nm,1.1s
J20K **Nowinta River** 55.71 29 P P 03 23 32.4 +1.8
baz=260,SNR=21
BTLS **Baital** 55.72 308 ⇓*i*P P 03 23 31.2 +0.2
comp=Z,17nm,0.6s,baz=308
D20K **Etivluk River** 55.76 23 P P 03 23 32.2 +1.3
baz=254
E20K **Nigu River** 55.79 24 P P 03 23 32.6 +1.4
baz=255
B20K **Meade River** 55.94 22 P P 03 23 33.7 +1.6
B20K IAmb IAmb 03 23 34.3
comp=Z,21nm,0.7s
B20K **Meade River** 55.94 22 P P 03 23 33.5 +1.4
baz=253
EKS2 **Erkin-Say** 56.13 305 P P 03 23 34.5 +0.5
SNR=15
AML **Almayashu** 56.26 305 P P 03 23 36.4 +1.2
SNR=12
BRZS **Berezniki** 56.37 314 ⇓*i*P P 03 23 35.2 -0.2
baz=314
PPLA **Purkeypile** 56.38 30 P P 03 23 37.0 +1.6
baz=262
G21K **Allakaket** 56.41 26 P P 03 23 37.0 +1.7
G21K **Allakaket** 56.41 26 P P 03 23 36.9 +1.5
baz=259
CHUM **Lake Minchumin** 56.46 29 P P 03 23 37.7 +1.9
baz=262
CAST **Castle Rocks** 56.49 30 P P 03 23 37.2 +1.2
CAST IAmb IAmb 03 23 38.7
comp=Z,27nm,0.9s
CAST **Castle Rocks** 56.49 30 P P 03 23 37.7 +1.6
baz=262,SNR=14
A21K **Barrow** 56.50 20 P P 03 23 37.3 +1.4
baz=253,SNR=6.4
C21K **Knifeblade Rid** 56.51 23 P P 03 23 37.7 +1.6
baz=256
H21K **Melozitna Rive** 56.53 27 P P 03 23 38.1 +1.8
baz=260,SNR=15
F21K **Alatna River** 56.55 25 P P 03 23 37.2 +0.8
F21K **Alatna River** 56.55 25 P P 03 23 37.5 +1.0
baz=258
SKT **Skwentna** 56.57 32 P P 03 23 36.7 0.0
SKT **Skwentna** 56.57 32 P P 03 23 37.0 +0.3
baz=264
B21K **Ikpikpuk River** 56.69 22 P P 03 23 39.0 +1.7
B21K IAmb IAmb 03 23 39.7
comp=Z,35nm,0.8s
B21K **Ikpikpuk River** 56.69 22 P P 03 23 38.8 +1.6
baz=256
BRSE **Bradley Lake S** 56.75 34 P P 03 23 38.9 +1.0
baz=266
I21K **Tanana** 56.79 28 P P 03 23 39.7 +1.7
I21K IAmb IAmb 03 23 40.9
comp=Z,31nm,0.8s
I21K **Tanana** 56.79 28 P P 03 23 40.0 +1.9
baz=261
SUA **Susitna One** 56.89 32 P P 03 23 39.8 +0.9
baz=265
A22K **Sinclair Lake** 56.92 21 P P 03 23 40.4 +1.6
baz=254
KTH **Kantishna Hill** 57.03 30 P P 03 23 40.6 +0.7
BPAW **Bear Paw Mtn.** 57.07 29 P P 03 23 41.0 +1.0
BPAW IAmb IAmb 03 23 42.4
comp=Z,26nm,1.0s
BPAW **Bear Paw Mtn.** 57.07 29 P P 03 23 41.6 +1.6
baz=263,SNR=8.8
F22K **John River** 57.10 25 P P 03 23 42.0 +1.8
baz=260
H22K **Ishtalitna Cre** 57.15 27 P P 03 23 42.3 +1.8
baz=261,SNR=15
D22K **Ayikyak River** 57.19 23 P P 03 23 42.6 +1.9
D22K IAmb IAmb 03 23 43.5
comp=Z,48nm,0.9s
D22K **Ayikyak River** 57.19 23 P P 03 23 42.6 +1.9
baz=258,SNR=48
CUT **Chulitna** 57.20 31 P P 03 23 41.8 +0.9
CUT IAmb IAmb 03 23 42.3
comp=Z,38nm,1.0s
CUT **Chulitna** 57.20 31 P P 03 23 41.0 +0.1
baz=265
B22K **Teshekpuk Lake** 57.26 22 P P 03 23 42.4 +1.3
baz=256
G22K **Bettles** 57.26 26 P P 03 23 42.6 +1.4
baz=260
MLY **Manley** 57.29 28 P P 03 23 42.8 +1.2
MLY IAmb IAmb 03 23 44.0
comp=Z,22nm,0.6s
MLY **Manley** 57.29 28 P P 03 23 42.9 +1.4
baz=262,SNR=20
TRF **Thorofare Moun** 57.30 30 P P 03 23 42.7 +0.9
TRF IAmb IAmb 03 23 43.6
comp=Z,25nm,0.9s
TRF **Thorofare Moun** 57.30 30 P P 03 23 42.7 +0.9
baz=264,SNR=8.9
RC01 **Rabbit Creek A** 57.35 33 P P 03 23 43.0 +1.0
baz=266
SEW **Seward** 57.42 34 P P 03 23 43.1 +0.7
baz=267
PMR **Palmer** 57.67 32 P P 03 23 45.0 +0.8
PMR IAmb IAmb 03 23 45.4
comp=Z,28nm,0.9s
PMR **Palmer** 57.67 32 Pn P 03 23 44.8 +0.7
PMR **Palmer** 57.67 32 P P 03 23 44.4 +0.3
baz=266
BVAR **Borovoye Array** 57.69 318 P P 03 23 44.7 +0.3
comp=Z,124nm,0.4s,baz=84,slow=6.8,SNR=785
BVAR PcP PcP 03 24 30.5 -0.3
comp=Z,19nm,0.5s,baz=96,slow=3.8,SNR=5.6
comp=Z,124nm,0.4s
BWN **Browne** 57.74 29 P P 03 23 45.1 +0.6
BWN IAmb IAmb 03 23 48.2
comp=Z,54nm,0.8s
BRVK **Borovoye** 57.75 318 P P 03 23 45.4 +0.6
GHO **Glory Hole Cre** 57.78 32 P P 03 23 45.9 +0.9
GHO IAmb IAmb 03 23 55.2
comp=Z,18nm,0.7s
G23K **Bananza Creek** 57.81 26 P P 03 23 46.6 +1.5
baz=262
COLD **Coldfoot** 57.81 25 P P 03 23 46.4 +1.4
baz=262,SNR=14
I23K **Minto, Yukon-K** 57.89 28 P P 03 23 46.8 +1.4
I23K **Minto, Yukon-K** 57.89 28 P P 03 23 46.9 +1.4
baz=264,SNR=10
DZA **Taraz** 57.89 306 *e*P P 03 23 46.3 +0.2
baz=306
D23K **Nanushuk River** 57.91 23 P P 03 23 47.5 +1.8
baz=260
MCK **McKinley** 57.93 30 P P 03 23 46.4 +0.5
baz=265,SNR=25
RND **Reindeer** 57.94 30 IAmb IAmb 03 23 47.3
comp=Z,27nm,0.6s
NEA2 **Nenana** 57.95 29 IAmb IAmb 03 23 48.2
comp=Z,33nm,0.7s
NEA2 **Nenana** 57.95 29 P P 03 23 46.7 +0.6
baz=264,SNR=21
STKA **Stephens Creek** 57.98 179 P P 03 23 46.4 -0.2
comp=Z,7.4nm,0.9s,baz=342,slow=7.4,SNR=14
comp=Z,7.4nm,0.9s
KNK **Knik Glacier** 57.98 32 IAmb IAmb 03 23 47.9
comp=Z,37nm,0.6s
KNK **Knik Glacier** 57.98 32 P P 03 23 46.9 +0.6
baz=267,SNR=5.2
NIL **Nilore** 57.99 295 P P 03 23 47.1 +0.2
WAT1 **Susitna Watana** 58.03 31 P P 03 23 47.1 +0.5
baz=266
SML **Sawmill** 58.07 32 IAmb IAmb 03 23 48.9
comp=Z,28nm,0.7s
SML **Sawmill** 58.07 32 P P 03 23 47.6 +0.7
baz=267
E23K **Chandalar** 58.16 24 P P 03 23 49.3 +1.8
baz=262
M23K **Glacier View** 58.35 32 P P 03 23 49.4 +0.6
baz=267
WAT6 **Susitna Watana** 58.39 31 P P 03 23 49.7 +0.5
baz=267
COLA **College** 58.50 28 P P 03 23 50.9 +1.2
COLA IAmb IAmb 03 23 52.4
comp=Z,26nm,0.7s
COLA **College** 58.50 28 P P 03 23 50.6 +1.0
baz=265
SCM **Sheep Creek Mo** 58.54 32 Pn P 03 23 49.3 -0.8
SCM **Sheep Creek Mo** 58.54 32 P P 03 23 50.9 +0.8
baz=268
H24K **Noodor Dome** 58.57 27 P P 03 23 51.8 +1.5
baz=265,SNR=13
DHY **Denali Highway** 58.58 30 P P 03 23 51.8 +1.3
baz=267
D24K **Happy Valley** 58.60 23 P P 03 23 51.8 +1.4
baz=262
POKR **Poker Plat Res** 58.69 28 P P 03 23 51.7 +0.7
baz=266,SNR=6.2
C24K **Franklin Bluff** 58.73 23 P P 03 23 52.5 +1.3
baz=262
F24K **Squaw Lake** 58.74 25 P P 03 23 53.0 +1.7
baz=264
G24K **Hadweenzic Riv** 58.81 26 P P 03 23 53.5 +1.7
baz=264
HDA **Harding Lake** 58.85 29 IAmb IAmb 03 23 52.6
comp=Z,19nm,0.6s
HDA **Harding Lake** 58.85 29 P P 03 23 52.0 -0.1
baz=266,SNR=12
ILAR **Eielson Array** 58.90 28 P P 03 23 52.2 -0.2
comp=Z,12nm,0.8s,baz=257,slow=5.7,SNR=83
ILAR PcP PcP 03 24 35.4 -0.1
comp=Z,3.6nm,0.7s,baz=288,slow=4.6,SNR=5.6
ILAR pP pP 03 25 29.0 -0.2
comp=Z,0.8nm,0.8s,baz=262,slow=5.6,SNR=1.3
comp=Z,12nm,0.8s
KLU **Klutina** 59.20 32 IAmb IAmb 03 23 56.6
comp=Z,31nm,0.7s
KLU **Klutina** 59.20 32 P P 03 23 54.5 -0.2
baz=269
CHM **Chimkent** 59.24 305 *e*P P 03 23 55.5 +0.4
baz=305
EYAK **Cordova Ski Ar** 59.28 33 P P 03 23 55.8 +0.8
baz=270
K24K **Donnelly Dome** 59.33 30 P P 03 23 56.2 +0.8
baz=268,SNR=6.9
G25K **Bearman Lake** 59.36 26 P P 03 23 57.2 +1.7
baz=266
PAX **Paxson** 59.45 31 P P 03 23 57.1 +0.9
baz=269,SNR=5.9
D25K **Kavik River** 59.49 23 IAmb IAmb 03 23 58.8
comp=Z,42nm,0.7s
D25K **Kavik River** 59.49 23 P P 03 23 57.7 +1.4
baz=264
PRP **Porcupine Dome** 59.52 28 P P 03 23 56.7 0.0
baz=267,SNR=9.0
J25K **Salcha River,** 59.54 29 P P 03 23 57.3 +0.4
baz=268,SNR=5.8
HARP **HAARP** 59.58 31 P P 03 23 58.4 +1.4
baz=269,SNR=6.3
F25K **Christian Rive** 59.60 25 P P 03 23 59.3 +2.1
baz=266
E25K **Arctic Village** 59.67 25 IAmb IAmb 03 24 00.6
comp=Z,26nm,1.1s
E25K **Arctic Village** 59.67 25 P P 03 23 59.4 +1.8
baz=265,SNR=20
FYU **Fort Yukon** 59.70 26 IAmb IAmb 03 24 00.6
comp=Z,26nm,1.0s
RIDG **Independent Ri** 59.75 30 IAmb IAmb 03 23 59.6
comp=Z,29nm,0.6s
RIDG **Independent Ri** 59.75 30 P P 03 23 58.6 +0.5
baz=269,SNR=11
BMRM **Bremner River** 59.84 33 P P 03 23 59.6 +0.8
baz=270,SNR=5.2
N25K **Chitina, Valde** 59.84 32 P P 03 23 59.5 +0.6
baz=270
PALK **Pallekele** 60.04 263 P P 03 24 00.9 0.0
PALK IAmb IAmb 03 24 01.9
comp=Z,17nm,0.8s
SCRK **Sand Creek** 60.13 29 P P 03 24 01.4 +0.6
baz=269,SNR=38
F26K **Sheenjek River** 60.18 25 P P 03 24 03.1 +2.1
baz=267
MENT **Mentasta** 60.25 31 P P 03 24 02.7 +1.2
MENT IAmb IAmb 03 24 03.4
comp=Z,16nm,0.6s
G26K **Porcupine Rive** 60.29 26 P P 03 24 03.5 +1.9
baz=268
J26L **Joseph Creek** 60.32 29 IAmb IAmb 03 24 03.4
comp=Z,42nm,0.7s
J26L **Joseph Creek** 60.32 29 P P 03 24 02.3 +0.3
baz=269,SNR=33
SIMJ **Simiganj** 60.33 301 P P 03 24 02.7 0.0
L26K **Log Cabin Wild** 60.42 31 IAmb IAmb 03 24 04.8
comp=Z,24nm,0.6s
L26K **Log Cabin Wild** 60.42 31 P P 03 24 03.6 +1.0
baz=270,SNR=15
I26K **Coal Creek Min** 60.51 28 P P 03 24 03.5 +0.4
baz=269
M26K **Nabesna, AK** 60.59 31 P P 03 24 04.4 +0.6
baz=271
MCARA **McCarthy VSAT** 60.60 32 P P 03 24 04.8 +1.0
baz=272
K27K **Chicken** 60.97 29 P P 03 24 07.7 +1.5
baz=271
L27K **Beaver Creek,** 61.11 31 P P 03 24 08.4 +1.2
baz=272,SNR=10
M27K **Edge Creek, AK** 61.11 31 P P 03 24 08.3 +0.9
baz=272
I27K **Kandik River** 61.15 28 P P 03 24 08.5 +1.1
baz=270
E27K **Coleen River** 61.16 25 P P 03 24 09.2 +1.7
baz=269
H27K **Steamboat Moun** 61.18 27 P P 03 24 09.1 +1.5
baz=270
KBL **Kabul** 61.20 297 P P 03 24 08.3 -0.2
EGAK **Eagle** 61.35 29 P P 03 24 09.5 +0.7
EGAK **Eagle** 61.35 29 P P 03 24 09.1 +0.4
baz=271,SNR=8.3
D27M **Malcolm River** 61.41 23 IAmb IAmb 03 24 11.7
comp=Z,21nm,0.9s
D27M **Malcolm River** 61.41 23 P P 03 24 10.6 +1.5
baz=269
BVCY **Beaver Creek** 61.58 31 P P 03 24 11.7 +1.4
baz=273,SNR=5.2
YUK3 **Moose Creek** 61.80 32 P P 03 24 13.0 +1.0
baz=274,SNR=8.6
F28M **Old Crow** 61.81 25 IAmb IAmb 03 24 14.4
comp=Z,28nm,0.8s
F28M **Old Crow** 61.81 25 P P 03 24 13.1 +1.4
baz=271,SNR=37
I28M **Miner Creek** 61.85 28 IAmb IAmb 03 24 14.3
comp=Z,27nm,0.8s
I28M **Miner Creek** 61.85 28 P P 03 24 13.5 +1.4
baz=272,SNR=32
E28M **Babbage River** 61.92 24 IAmb IAmb 03 24 15.2
comp=Z,29nm,0.8s
E28M **Babbage River** 61.92 24 P P 03 24 14.1 +1.7
baz=271,SNR=42
PINM **Pinnacle** 62.03 34 P P 03 24 14.4 +1.0
baz=275
DAWY **Dawson** 62.15 29 P P 03 24 15.3 +1.2
DAWY **Dawson** 62.15 29 P P 03 24 15.2 +1.2
baz=273,SNR=12
YUK8 **Steele Glacier** 62.17 32 P P 03 24 15.9 +1.4
baz=274
D28M **Stokes Point** 62.20 23 P P 03 24 15.9 +1.7
baz=271
H29M **Whitestone** 62.46 27 IAmb IAmb 03 24 18.4
comp=Z,20nm,0.9s
H29M **Whitestone** 62.46 27 P P 03 24 17.5 +1.6
baz=273
PNL **Peninsula** 62.50 34 P P 03 24 17.5 +1.1

baz=276
E29M Blow River 62.53 24 IAmb IAmb 03 24 18.8
comp=Z,13nm,0.8s
E29M Blow River 62.53 24 P **P** **03 24 17.7 +1.3**
baz=272
I29M Ogilvie Camp, 62.54 28 IAmb IAmb 03 24 18.7
comp=Z,24nm,1.0s
I29M Ogilvie Camp, 62.54 28 P **P** **03 24 17.8 +1.3**
baz=274,SNR=12
G29M Pine Creek 62.56 26 P **P** **03 24 18.2 +1.6**
baz=273
J29N Klondike Camp 62.64 29 IAmb IAmb 03 24 19.7
comp=Z,30nm,0.7s
J29N Klondike Camp 62.64 29 P **P** **03 24 19.0 +1.8**
baz=274,SNR=13
M29M Somme Creek 62.69 31 IAmb IAmb 03 24 20.4
comp=Z,24nm,0.8s
M29M Somme Creek 62.69 31 P **P** **03 24 19.6 +2.0**
baz=275
YUK4 Talbot Arm 62.70 32 P **P** **03 24 19.9 +2.0**
baz=276,SNR=10
L29M L29M 62.78 30 IAmb IAmb 03 24 21.1
comp=Z,29nm,0.7s
L29M L29M 62.78 30 P **P** **03 24 20.0 +1.8**
baz=275
O29M Mount Kennedy 62.84 34 IAmb IAmb 03 24 21.7
comp=Z,23nm,0.8s
O29M Mount Kennedy 62.84 34 P **P** **03 24 20.3 +1.6**
baz=276
YUK6 Outpost Mounta 62.88 33 P **P** **03 24 20.8 +1.8**
baz=276
K29M Barlow Dome 62.99 29 IAmb IAmb 03 24 22.1
comp=Z,27nm,0.9s
K29M Barlow Dome 62.99 29 P **P** **03 24 20.9 +1.4**
baz=275
EPYK Eagle Plains 63.11 27 P **P** **03 24 21.6 +1.4**
baz=275,SNR=22
G30M tAoh Zraii Nji 63.26 26 P **P** **03 24 22.1 +1.0**
baz=275,SNR=25
HYT Haines Junctio 63.31 33 IAmb IAmb 03 24 25.1
comp=Z,24nm,1.0s
HYT Haines Junctio 63.31 33 P **P** **03 24 23.7 +2.0**
baz=277,SNR=9.8
P29M Windy Craggy 63.34 34 P **P** **03 24 23.7 +2.0**
baz=277
I30M Mount Dempster 63.36 28 IAmb IAmb 03 24 23.9
comp=Z,13nm,0.8s
I30M Mount Dempster 63.36 28 P **P** **03 24 22.8 +0.9**
baz=275
F30M Barrier River 63.38 25 P **P** **03 24 23.2 +1.4**
baz=275
N30M Aishikik Lake 63.44 32 IAmb IAmb 03 24 25.1
comp=Z,15nm,0.8s
N30M Aishikik Lake 63.44 32 P **P** **03 24 23.9 +1.5**
baz=277,SNR=7.5
J30M Hart River 63.44 29 P **P** **03 24 23.9 +1.5**
baz=276,SNR=8.8
M30M Minto, Yukon 63.45 31 IAmb IAmb 03 24 24.9
comp=Z,13nm,0.6s
M30M Minto, Yukon 63.45 31 P **P** **03 24 23.9 +1.4**
baz=276,SNR=9.5
P30M Million Dollar 63.67 34 P **P** **03 24 25.5 +1.6**
baz=278,SNR=6.9
MAYO Mayo, Yukon 63.74 30 IAmb IAmb 03 24 26.8
comp=Z,40nm,1.0s
MAYO Mayo, Yukon 63.74 30 P **P** **03 24 25.8 +1.5**
baz=277
TOO Toolangi 63.81 176 P **P** **03 24 25.8 +0.8**
TOO IAmb IAmb 03 24 27.0
comp=Z,20nm,1.1s
O30N Mendenhall 64.01 33 IAmb IAmb 03 24 28.4
comp=Z,29nm,1.3s
O30N Mendenhall 64.01 33 P **P** **03 24 27.4 +1.4**
baz=278
G31M Satah River 64.03 26 P **P** **03 24 26.4 +0.4**
baz=276,SNR=24
N31M Braeburn, Yuko 64.06 32 IAmb IAmb 03 24 29.1
comp=Z,35nm,0.9s
N31M Braeburn, Yuko 64.06 32 P **P** **03 24 28.0 +1.7**
baz=278,SNR=8.1
INK Inuvik 64.16 24 IAmb IAmb 03 24 28.1
comp=Z,14nm,0.8s
INK Inuvik 64.16 24 P **P** **03 24 27.2 +0.5**
baz=276,SNR=22
INK Inuvik 64.16 24 P **P** **03 24 27.3 +0.5**
comp=Z,14nm,0.6s,baz=297,slow=5.9,SNR=98
comp=Z,14nm,0.6s
F31M Tsiigehtchic 64.18 25 IAmb IAmb 03 24 28.1
comp=Z,13nm,0.8s
F31M Tsiigehtchic 64.18 25 P **P** **03 24 27.4 +0.5**
baz=277,SNR=10
ARU Arti 64.19 322 P **P** **03 24 27.2 +0.1**
SKAG Skagway 64.58 34 P **P** **03 24 31.0 +1.4**
baz=279
M31M Drury Creek, Y 64.61 31 IAmb IAmb 03 24 32.0
comp=Z,24nm,0.8s
M31M Drury Creek, Y 64.61 31 P **P** **03 24 31.0 +1.2**
baz=279,SNR=16
WHY Whitehorse 64.61 33 IAmb IAmb 03 24 32.6
comp=Z,19nm,0.9s
WHY Whitehorse 64.61 33 P **P** **03 24 31.5 +1.5**
baz=279,SNR=10
ABKAR Akbulak array 64.67 314 P **P** **03 24 30.4 +0.1**
ABKAR Akbulak array 64.67 314 IAmb IAmb 03 24 31.0
comp=Z,79nm,0.7s
FARO Faro, Yukon 65.08 31 IAmb IAmb 03 24 35.1
comp=Z,17nm,0.9s
FARO Faro, Yukon 65.08 31 P **P** **03 24 34.0 +1.1**
baz=280,SNR=12
R32K Eaglecrest 65.20 35 P **P** **03 24 34.6 +1.1**
baz=280
S32K Killisnoo 65.31 36 P **P** **03 24 35.3 +1.0**
baz=281
P32M Atlin 65.37 34 P **P** **03 24 36.0 +1.3**
baz=280
N32M Quiet Lake 65.40 32 IAmb IAmb 03 24 37.1
comp=Z,16nm,0.8s
N32M Quiet Lake 65.40 32 P **P** **03 24 36.3 +1.4**
baz=280
P33M Teslin, Yukon 65.70 33 IAmb IAmb 03 24 39.3
comp=Z,23nm,1.2s
P33M Teslin, Yukon 65.70 33 P **P** **03 24 38.5 +1.7**
baz=281,SNR=7.3
Q32M Nakina River 66.22 34 P **P** **03 24 41.8 +1.6**
baz=282
A36M Sachs Harbour 66.34 20 P **P** **03 24 41.5 +1.0**
baz=282
CRAG Craig 66.51 38 P **P** **03 24 43.5 +1.8**
baz=283
R33M Jennings River 66.78 34 P **P** **03 24 45.3 +1.7**
baz=283
S34M Telegraph Cree 67.03 35 IAmb IAmb 03 24 48.1
comp=Z,24nm,1.1s
S34M Telegraph Cree 67.03 35 P **P** **03 24 46.7 +1.7**
baz=283,SNR=7.5
C36M Paulatuk 67.34 23 IAmb IAmb 03 24 48.0
comp=Z,37nm,0.9s
C36M Paulatuk 67.34 23 P **P** **03 24 47.2 +0.5**
baz=285,SNR=37
DLBC Dease Lake 67.48 35 IAmb IAmb 03 24 50.8
comp=Z,35nm,1.2s
DLBC Dease Lake 67.48 35 P **P** **03 24 49.5 +1.7**
baz=284,SNR=7.6
DLBC Dease Lake 67.48 35 P **P** **03 24 48.9 +1.0**
comp=Z,14nm,0.9s,baz=281,slow=7.3,SNR=14
comp=Z,14nm,0.9s
WTLY Watson Lake, Y 67.68 33 IAmb IAmb 03 24 51.6
comp=Z,29nm,0.8s
WTLY Watson Lake, Y 67.68 33 P **P** **03 24 50.9 +1.9**
baz=284,SNR=16
T35M Bob Quinn 67.72 36 P **P** **03 24 51.3 +2.0**
baz=284
GEYT Alibeck 68.81 303 P **P** **03 24 56.9 +0.5**
comp=Z,23nm,0.8s,baz=86,slow=2.1,SNR=55
comp=Z,23nm,0.8s
GYA0B ALIBECK ARRAY 68.81 303 IAmb IAmb 03 24 57.9
comp=Z,43nm,1.1s
WRGLY Wrigley 69.28 29 IAmb IAmb 03 25 00.9
comp=Z,25nm,0.9s
WRGLY Wrigley 69.28 29 P **P** **03 25 00.1 +1.5**
baz=287,SNR=13
KOTAN Kotaneelee Air 69.96 32 P **P** **03 25 04.0 +1.2**
baz=288
HOPEN Hopen 70.20 347 *eP* **P** **03 25 04.8 +0.9**
HOPEN IAmb IAmb 03 25 05.4
comp=Z,44nm,0.7s
EUNU Eureka 70.74 8 IAmb IAmb 03 25 08.7
comp=Z,27nm,0.9s

SPA0 Spitsbergen Ar 70.82 350 *eP* **P** **03 25 08.0 +0.5**
SPA0 IAmb IAmb 03 25 10.1
comp=Z,39nm,1.1s
SPB2 Spitsbergen Ar 70.82 350 IAmb IAmb 03 25 36.3
comp=Z,40nm,1.1s
SPITS Spitsbergen Ar 70.82 350 P **P** **03 25 08.1 +0.5**
comp=Z,11nm,0.5s,baz=93,slow=7.9,SNR=57
comp=Z,11nm,0.5s
KBS Kingsbay 71.00 351 *eP* **P** **03 25 09.7 +1.0**
KBS Kingsbay 71.00 351 *i* P **P** **03 25 08.7 +0.1**
LVZ Lovozero 71.61 337 P **P** **03 25 12.1 -0.3**
LVZ IAmb IAmb 03 25 13.8
comp=Z,32nm,0.9s
HSPB Hornsund (broa 71.70 349 *eP* **P** **03 25 13.4 +0.7**
HSPB Hornsund (broa 71.70 349 *eP* **P** **03 25 13.0 +0.3**
VADS Vadso 72.31 340 *eP* **P** **03 25 17.1 +0.7**
VADS IAmb IAmb 03 25 17.5
comp=Z,55nm,0.9s
BJO1 Bjornoya 72.58 346 *eP* **P** **03 25 17.0 -0.9**
RES Resolute Bay 73.00 13 IAmb IAmb 03 25 21.9
comp=Z,23nm,0.8s
KEV Kevo 73.20 341 P **P** **03 25 21.2 -0.2**
BKZ Black Stump Fm 73.28 152 P **P** **03 25 22.2 -0.3**
YKA Yellowknife Ar 73.33 28 P **P** **03 25 22.8 +0.4**
comp=Z,22nm,0.7s,baz=296,slow=5.8,SNR=259
YKA pP **pP** **03 27 04.5 -1.8**
comp=Z,0.6nm,0.7s,baz=298,slow=6.5,SNR=1.8
comp=Z,22nm,0.7s
HAMF Hammerfest 73.68 342 *eP* **P** **03 25 23.9 -0.3**
HAMF IAmb IAmb 03 25 24.8
comp=Z,45nm,0.9s
ARA0 ARCESS Array S 73.76 341 *eP* **P** **03 25 25.1 +0.3**
ARA0 IAmb IAmb 03 25 25.9
comp=Z,58nm,0.8s
ARCES ARCESS Array B 73.76 341 P **P** **03 25 25.2 +0.5**
comp=Z,44nm,0.6s,baz=70,slow=8.2,SNR=249
comp=Z,44nm,0.6s
SHME Shamm 74.41 292 *i* P **P** **03 25 30.1 +0.9**
SNR=8.2
KTK1 Kautokeino 74.72 341 *eP* **P** **03 25 30.2 0.0**
KTK1 IAmb IAmb 03 25 31.0
comp=Z,30nm,0.8s
SOHO SOHO 74.81 290 *i* P **P** **03 25 31.7 +0.2**
SNR=20
HATD Hatta, Dubai 74.88 290 *i* P **P** **03 25 32.3 +0.3**
SNR=9.0
ASHO Ashiyiah 75.00 290 *i* P **P** **03 25 33.0 +0.3**
SNR=7.3
GNW Green Mountain 75.05 44 P **P** **03 25 32.5 0.0**
GNW IAmb IAmb 03 25 35.6
comp=Z,24nm,1.0s
NAZ Nazwa, Dubai 75.22 291 P **P** **03 25 33.8 0.0**
JETT Jettan, Norway 75.22 342 *eP* **P** **03 25 33.5 +0.4**
JETT IAmb IAmb 03 25 34.0
comp=Z,57nm,0.7s
FAQ Al Faqa, Dubai 75.37 291 *i* P **P** **03 25 34.5 -0.1**
SNR=6.2
B06A Marblemount 75.50 43 IAmb IAmb 03 25 37.3
comp=Z,22nm,1.0s
TRO Tromso 75.59 342 *eP* **P** **03 25 34.9 -0.1**
TRO IAmb IAmb 03 25 35.4
comp=Z,62nm,1.1s
ASUD Al Ashush, Dub 75.63 291 P **P** **03 25 36.1 0.0**
TULEG Thule 75.67 7 *i* P **P** **03 25 35.3 0.0**
TULEG IAmb IAmb 03 25 36.5
comp=Z,20nm,0.6s
F04A Amboy 75.94 46 IAmb IAmb 03 25 40.1
comp=Z,32nm,0.8s
NEEM North Greenlan 76.12 3 *i* P **P** **03 25 38.2 -0.1**
NEEM IAmb IAmb 03 25 39.7
comp=Z,40nm,0.7s
OBN Obninsk 76.36 325 ⇑P **P** **03 25 39.9 +0.4**
OBN Obninsk 76.36 325 P **P** **03 25 39.3 -0.3**
H04A Detroit Lake 76.59 47 IAmb IAmb 03 25 44.3
comp=Z,44nm,1.3s
I04A Tendick Farm, 76.81 48 IAmb IAmb 03 25 44.7
comp=Z,23nm,0.8s
MXC Moxie City 77.03 44 IAmb IAmb 03 25 46.2
comp=Z,22nm,0.8s
E07A Sunnyside 77.31 44 IAmb IAmb 03 25 47.7
comp=Z,20nm,0.9s
YBH Yreka Blue Hor 77.44 50 P **P** **03 25 46.9 +1.0**
YBH IAmb IAmb 03 25 48.7
comp=Z,16nm,0.8s
KBZ Khabaz 77.54 313 P **P** **03 25 46.8 +0.5**
comp=Z,92nm,0.8s,baz=97,slow=3.6,SNR=176
comp=Z,92nm,0.8s
F07A Phinny Hill Vi 77.55 45 IAmb IAmb 03 25 49.0
comp=Z,20nm,0.9s
KIV Kislovodsk 77.59 313 ⇓P **P** **03 25 47.1 +0.5**
KIV Kislovodsk 77.59 313 P **P** **03 25 47.2 +0.5**
KIV Kislovodsk 77.59 313 *i* P **P** **03 25 47.2 +0.6**
SNR=9.8
KCPM Cahto Peak 77.67 52 IAmb IAmb 03 25 50.0
comp=Z,39nm,1.0s
D08A Wollman Farm, 77.68 44 IAmb IAmb 03 25 49.3
comp=Z,24nm,0.9s
STEI Steigen 77.71 342 *eP* **P** **03 25 46.8 +0.1**
STEI IAmb IAmb 03 25 47.4
comp=Z,114nm,1.0s
K04D Chiloquin, OR 77.72 48 IAmb IAmb 03 25 50.1
comp=Z,39nm,0.7s
C09A Chrisman Ranch 77.75 43 IAmb IAmb 03 25 49.2
comp=Z,20nm,0.6s
GNI Garni 77.76 309 P **P** **03 25 48.1 +0.3**
GNI IAmb IAmb 03 25 53.6
comp=Z,32nm,1.1s
GNI Garni 77.76 309 P **P** **03 25 48.4 +0.6**
J05D Fort Rock, OR 77.80 48 P **P** **03 25 48.6 +0.8**
J05D IAmb IAmb 03 25 50.7
comp=Z,30nm,0.7s
E08A Dider Farm, El 77.84 44 IAmb IAmb 03 25 49.9
comp=Z,13nm,0.7s
FINES FINESS Array B 77.99 333 P **P** **03 25 48.0 -0.3**
comp=Z,40nm,0.6s,baz=72,slow=4.9,SNR=498
FINES pP **pP** **03 27 34.1 +0.5**
comp=Z,2.5nm,0.7s,baz=69,slow=7.6,SNR=1.4
comp=Z,40nm,0.6s
LOF Lofoten 78.05 342 *eP* **P** **03 25 49.3 +0.7**
FAUS Fauske 78.07 341 *eP* **P** **03 25 48.7 +0.1**
EDM Edmonton 78.10 36 IAmb IAmb 03 25 51.2
comp=Z,25nm,1.0s
NEW Newport 78.25 42 IAmb IAmb 03 25 52.3
comp=Z,27nm,0.8s
NEW Newport 78.25 42 P **P** **03 25 51.5 +1.4**
baz=296,SNR=19
E09A Wood Farm, Sta 78.40 44 IAmb IAmb 03 25 53.4
comp=Z,26nm,0.9s
MOR8 Moi Rana 79.13 341 *eP* **P** **03 25 52.5 -1.9**
MEF Metsahovi 79.36 333 *eP* **P** **03 25 55.5 -0.2**
BCA Borcka 79.37 311 ⇑P **P** **03 25 56.1 0.0**
VSU Vasula 79.37 331 *eP* **P** **03 25 56.0 +0.3**
J08A Circle Bar Ran 79.58 47 IAmb IAmb 03 25 60.0
comp=Z,24nm,0.9s
BMO Blue Mountains 79.66 45 IAmb IAmb 03 26 00.1
comp=Z,22nm,0.9s
RAF Rauma 79.94 334 *eP* **P** **03 25 58.5 -0.2**
PLTX Planet X, Gerl 80.09 50 IAmb IAmb 03 26 02.6
comp=Z,34nm,0.7s
MPK Martis Peak 80.33 51 IAmb IAmb 03 26 04.0
comp=Z,38nm,1.3s
UPNV Upernavik 80.39 5 *i* P **P** **03 26 00.5 -0.3**
UPNV IAmb IAmb 03 26 02.4
comp=Z,17nm,0.8s
MTSE Matsula 80.48 332 *eP* **P** **03 26 01.9 +0.3**
PAHR Pah Rah Range 80.59 50 IAmb IAmb 03 26 04.9
comp=Z,15nm,0.8s
PNTR Pine Nut 80.72 51 IAmb IAmb 03 26 06.0
comp=Z,18nm,0.8s
BBGB Big Mountain B 80.80 54 IAmb IAmb 03 26 06.5
comp=Z,22nm,1.0s
MSO Missoula 80.82 42 P **P** **03 26 04.3 +0.5**
baz=299,SNR=6.3
YERR Yerington 81.01 51 IAmb IAmb 03 26 07.3
comp=Z,14nm,0.7s
NSS Namsos 81.02 340 *eP* **P** **03 26 03.8 -0.5**
NSS IAmb IAmb 03 26 04.2
comp=Z,41nm,0.8s
SUMG Summit 81.26 360 *i* P **P** **03 26 06.0 +0.1**
SUMG IAmb IAmb 03 26 07.5
comp=Z,11nm,0.7s
ISAL Salakas 81.27 329 *eP* **P** **03 26 07.5 +1.7**
MFID Camas Ranch 81.27 46 IAmb IAmb 03 26 08.7
comp=Z,21nm,0.7s
RYN Ryan 81.67 51 IAmb IAmb 03 26 10.8
comp=Z,15nm,0.9s

BMN Battle Mountai 81.74 49 IAmb IAmb 03 26 11.4
comp=Z,29nm,1.4s
KVN Kaiserville 81.78 51 IAmb IAmb 03 26 11.2
comp=Z,17nm,0.7s
NVAR Mina Array Bea 81.92 51 P **P** **03 26 11.1 +1.3**
comp=Z,10nm,0.7s,baz=280,slow=5.4,SNR=80
NVAR pP **pP** **03 27 56.6 +0.1**
comp=Z,2.1nm,0.8s,baz=280,slow=4.8,SNR=5.4
comp=Z,10nm,0.7s
VSVD Vaisvydziai 82.04 340 *eP* **P** **03 26 09.8 +0.2**
HLID Hailey 82.11 45 P **P** **03 26 12.0 +1.4**
baz=299,SNR=16
SMMC Simmler 82.12 55 P **P** **03 26 12.0 +1.4**
baz=297
PABE Paberze 82.31 329 *eP* **P** **03 26 11.1 0.0**
AKASG Malin Array Be 82.41 323 P **P** **03 26 11.0 -0.7**
comp=Z,58nm,0.6s,baz=51,slow=5.1,SNR=318
comp=Z,58nm,0.6s
KIEV Kiev 82.42 323 P **P** **03 26 11.3 -0.5**
KIEV Kiev 82.42 323 *i* P **P** **03 26 11.0 -0.7**
SNR=51
PKM Mcpherson Peak 82.44 55 P **P** **03 26 13.8 +1.4**
baz=297,SNR=5.5
TBLU Trondheim 82.47 340 *eP* **P** **03 26 10.2 -1.5**
TBLU IAmb IAmb 03 26 11.0
comp=Z,57nm,1.3s
VES Vestal, Richgr 82.54 54 P **P** **03 26 13.3 +0.6**
baz=297,SNR=5.4
TIN Tinemaha, Big 82.60 52 P **P** **03 26 14.2 +1.1**
baz=298
EGMT Eagleton 82.68 40 IAmb IAmb 03 26 15.2
comp=Z,27nm,0.8s
EGMT Eagleton 82.68 40 P **P** **03 26 14.4 +1.2**
baz=302,SNR=16
BCW Bitter Crk WRg 82.71 55 IAmb IAmb 03 26 16.5
comp=Z,24nm,1.0s
SBC Santa Barbara 82.72 55 P **P** **03 26 14.9 +1.3**
baz=297
ELK Elko 82.93 48 IAmb IAmb 03 26 17.2
comp=Z,13nm,0.7s
FFC Flin Flon 82.97 31 P **P** **03 26 15.2 +0.8**
FFC IAmb IAmb 03 26 16.0
comp=Z,29nm,0.8s
CWC Cottonwood Cre 82.99 53 P **P** **03 26 16.2 +1.0**
baz=298
ARVC Arvin 83.05 54 P **P** **03 26 16.5 +1.2**
baz=297
ISA Isabella, Lake 83.06 54 P **P** **03 26 15.7 +0.3**
baz=298,SNR=6.7
GMN Gold Mountain 83.17 52 IAmb IAmb 03 26 18.3
comp=Z,12nm,0.6s
GRAC Grapevine Rang 83.24 52 IAmb IAmb 03 26 18.2
comp=Z,9.9nm,0.7s
GRAC Grapevine Rang 83.24 52 P **P** **03 26 17.5 +1.3**
baz=298
YHL Hebgen Lake 83.48 43 IAmb IAmb 03 26 20.4
comp=Z,28nm,0.7s
HFS Hagfors 83.54 336 P **P** **03 26 16.0 -1.2**
comp=Z,28nm,0.6s,baz=72,slow=4.8,SNR=78
HFS PP **PP** **03 29 36.5 -1.0**
comp=Z,5.2nm,0.8s,baz=46,slow=13,SNR=3.6
comp=Z,28nm,0.6s
MPMC Manual Prospec 83.59 53 P **P** **03 26 19.4 +1.1**
baz=298
LRMC Laurel Mtn Rad 83.72 54 P **P** **03 26 20.0 +1.2**
baz=298,SNR=22
DOMB Dombas 83.73 339 *eP* **P** **03 26 17.2 -1.0**
DOMB IAmb IAmb 03 26 18.1
comp=Z,36nm,0.7s
NB2 NORSAR Subarra 83.76 338 P **P** **03 26 17.0 -1.3**
comp=Z,17nm,0.6s,baz=45,slow=4.8
NB2 PP **PP** **03 29 38.6 -0.8**
comp=Z,6.2nm,1.0s,baz=48,slow=8.6
NB2 NORSAR Subarra 83.76 338 P **P** **03 26 17.0 -1.3**
baz=45,slow=4.8
NOA NORSAR Array B 83.76 338 P **P** **03 26 17.2 -1.1**
comp=Z,28nm,0.6s,baz=45,slow=4.8,SNR=75
NOA PP **PP** **03 29 32.0 -7.4**
comp=Z,1.6nm,0.9s,baz=43,slow=8.2,SNR=2.2
comp=Z,28nm,0.6s
EDW2 Edwards Air Fo 83.78 54 P **P** **03 26 20.5 +1.5**
baz=298,SNR=19
MOL Molde 83.81 340 *eP* **P** **03 26 17.5 -0.9**
DECC Green Verdugo 83.82 55 P **P** **03 26 20.3 +1.1**
baz=298
R11B Troy Canyon, C 83.84 50 IAmb IAmb 03 26 21.7
comp=Z,14nm,0.8s
R11B Troy Canyon, C 83.84 50 P **P** **03 26 20.7 +1.3**
baz=299,SNR=25
FURC Furnace Creek, 83.84 52 P **P** **03 26 20.8 +1.6**
baz=298,SNR=14
YNR Norris Junctio 83.86 43 IAmb IAmb 03 26 23.6
comp=Z,22nm,1.0s
NC602 NORSAR Array S 83.87 337 *eP* **P** **03 26 17.2 -1.6**
YFT Old Faithful 83.90 43 IAmb IAmb 03 26 23.9
comp=Z,29nm,0.8s
NBO00 NORSAR Array S 83.92 338 IAmb IAmb 03 26 18.6
comp=Z,22nm,0.8s
PASC Pasadena Art C 83.96 55 IAmb IAmb 03 26 21.7
comp=Z,17nm,1.0s
NAO01 NORSAR Array S 84.02 338 IAmb IAmb 03 26 19.3
comp=Z,20nm,0.8s
Q12A Willow Creek R 84.03 49 IAmb IAmb 03 26 27.7
comp=Z,14nm,1.0s
HVU Hansel Valley 84.03 46 IAmb IAmb 03 26 22.8
comp=Z,11nm,0.7s
TPNV Topopah Spring 84.05 52 IAmb IAmb 03 26 22.5
comp=Z,24nm,0.7s
TPNV Topopah Spring 84.05 52 P **P** **03 26 22.1 +1.6**
baz=299,SNR=26
S11A Rachel 84.07 51 IAmb IAmb 03 26 22.8
comp=Z,22nm,1.1s
H17A Grant Village 84.08 43 IAmb IAmb 03 26 24.9
comp=Z,48nm,1.4s
H17A Grant Village 84.08 43 P **P** **03 26 23.5 +3.0**
baz=301,SNR=21
FMP Fort Macarthur 84.10 55 P **P** **03 26 21.4 +0.9**
baz=298
GWY Greenwater Val 84.12 53 IAmb IAmb 03 26 22.9
comp=Z,29nm,0.8s
IMW Indian Meadow 84.12 44 IAmb IAmb 03 26 23.7
comp=Z,22nm,0.8s
CIS Catalina Islan 84.15 56 P **P** **03 26 21.5 +0.7**
baz=298
YMP Mirror Lake Pl 84.16 43 IAmb IAmb 03 26 24.3
comp=Z,35nm,1.1s
FLWY Flagg Ranch 84.17 43 IAmb IAmb 03 26 24.2
comp=Z,28nm,0.8s
FXWY Fox Creek 84.20 44 IAmb IAmb 03 26 24.0
comp=Z,26nm,1.4s
ILULI Ilulissat 84.25 4 IAmb IAmb 03 26 21.8
comp=Z,39nm,0.9s
ILULI Ilulissat 84.25 4 *i* P **P** **03 26 20.0 -0.5**
ILULI IAmb IAmb 03 26 21.6
comp=Z,21nm,0.7s
AKN Aaknes 84.28 340 *eP* **P** **03 26 20.5 -0.3**
SORM Soroca 84.29 322 ⇑P **P** **03 26 20.3 -0.9**
PURM Purcari 84.31 320 ⇑P **P** **03 26 20.7 -0.5**
BFSC Mount Baldy Ra 84.32 55 P **P** **03 26 22.5 +0.7**
baz=298,SNR=6.1
TPAW Teton Pass 84.32 44 IAmb IAmb 03 26 24.5
comp=Z,16nm,0.8s
GAZ Gaziantep 84.36 309 IAmb IAmb 03 26 22.6
comp=Z,16nm,0.7s
GSC Goldstone, Bar 84.44 53 IAmb IAmb 03 26 24.5
comp=Z,30nm,0.8s
GSC Goldstone, Bar 84.44 53 P **P** **03 26 23.6 +1.3**
baz=298,SNR=31
SNOW Snow King Moun 84.46 44 IAmb IAmb 03 26 25.1
comp=Z,9.0nm,0.8s
LOHW Long Hollow 84.47 44 IAmb IAmb 03 26 25.0
comp=Z,9.2nm,0.8s
RLMT Red Lodge 84.50 42 IAmb IAmb 03 26 24.8
comp=Z,18nm,0.6s
RLMT Red Lodge 84.50 42 P **P** **03 26 24.1 +1.6**
baz=302,SNR=14
SHOC Shoshone, Teco 84.53 53 P **P** **03 26 24.0 +1.3**
baz=299,SNR=11
AHID Auburn Hatcher 84.60 45 IAmb IAmb 03 26 25.4
comp=Z,14nm,0.9s
PRN Pahroc Range 84.67 51 IAmb IAmb 03 26 25.9
comp=Z,19nm,1.0s
OSL Oslo 84.73 337 *eP* **P** **03 26 22.4 -0.7**
ICESG Greenland Ices 84.77 0 *i* P **P** **03 26 23.1 -0.5**
ICESG IAmb IAmb 03 26 25.0
comp=Z,26nm,0.8s
DUG Dugway, Tooele 84.81 48 IAmb IAmb 03 26 26.3
comp=Z,17nm,0.9s

DUG Dugway, Tooele 84.81 48 P P 03 26 25.4 +1.3
baz=300,SNR=21
BBRC Big Bear Solar 84.85 54 P P 03 26 25.1 +0.6
baz=298
HWUT Hardware Ranch 84.90 46 IAmb IAmb 03 26 27.5
comp=Z,24nm,1.1s
MURC Murrieta 84.96 55 P P 03 26 25.8 +1.0
baz=298,SNR=6.1
SKAR Skarslia 85.00 339 eP P 03 26 25.3 +0.9
HEC Hector,Ludlow 85.00 54 P P 03 26 26.5 +1.4
baz=299,SNR=13
TUQ Turquoise Moun 85.01 53 P P 03 26 26.4 +1.3
baz=299,SNR=14
CTU Camp Tracy 85.25 47 IAmb IAmb 03 26 28.3
comp=Z,12nm,0.9s
TCUT Toone Canyon 85.26 46 IAmb IAmb 03 26 28.5
comp=Z,11nm,0.9s
LEOM Leova 85.28 320 ↑P P 03 26 24.7 -1.2
HYA Hoyanger 85.30 340 eP P 03 26 25.4 -0.3
FOO Floro 85.31 340 eP P 03 26 25.7 -0.2
KONO Kongsberg 85.33 337 eP P 03 26 25.1 -0.9
109C Camp Elliot, M 85.36 56 P P 03 26 27.9 +1.2
baz=298
LAO LASA Array 85.42 39 IAmb IAmb 03 26 29.0
comp=Z,14nm,0.8s
LAO LASA Array 85.42 39 P P 03 26 28.2 +1.3
baz=304,SNR=7.2
SOEG Soedalen 85.48 357 iP P 03 26 25.0 -1.5
PFO Pinyon Flats O 85.49 55 P P 03 26 28.1 +0.6
PFO IAmb IAmb 03 26 29.5
comp=Z,18nm,0.8s
PFO Pinyon Flats O 85.49 55 P P 03 26 28.7 +1.2
baz=299,SNR=14
TPFO Pinon Flats 85.50 55 P P 03 26 28.7 +1.2
baz=299,SNR=14
GMRC Granite Mounta 85.51 53 P P 03 26 28.7 +1.1
baz=299,SNR=17
DGMT Dagmar 85.53 37 IAmb IAmb 03 26 28.8
comp=Z,20nm,0.8s
DGMT Dagmar 85.53 37 P P 03 26 27.9 +0.6
baz=306,SNR=6.5
BR131 Keskin Array S 85.53 312 IAmb IAmb 03 26 27.5
comp=Z,25nm,0.8s
BRTR Keskin Array B 85.53 312 P P 03 26 26.6 -1.1
comp=Z,17nm,0.7s,baz=94,slow=3.4,SNR=75
BRTR pP pP 03 28 14.6 -0.7
comp=Z,1.9nm,1.0s,baz=86,slow=3.4,SNR=3.1
comp=Z,17nm,0.7s
PMD Palm Desert 85.54 55 IAmb IAmb 03 26 29.5
comp=Z,20nm,0.7s
BW06 Boulder Array 85.57 44 P P 03 26 28.7 +0.9
baz=302,SNR=12
PDAR Pinedale Array 85.57 44 P P 03 26 28.8 +0.9
comp=Z,6.7nm,0.8s,baz=283,slow=2.4,SNR=47
PDAR pP pP 03 28 14.5 -1.8
comp=Z,0.8nm,0.8s,baz=313,slow=2.0,SNR=3.0
comp=Z,6.7nm,0.8s
V12A Nelson 85.63 52 IAmb IAmb 03 26 30.5
comp=Z,11nm,0.9s
BELC Belle Mtn. Jos 85.64 54 P P 03 26 29.3 +1.0
baz=299,SNR=14
TLCR 85.66 319 ↑P P 03 26 27.0 -0.8
VLDR Vladesti 85.72 320 ↑P P 03 26 28.1 0.0
BIR Birlad 85.75 320 P P 03 26 28.4 +0.1
BAR Barrett 85.78 56 IAmb IAmb 03 26 30.3
comp=Z,11nm,0.8s
SUE Sulen 85.82 340 eP P 03 26 28.6 +0.3
MONP2 Monument Peak 85.87 55 P P 03 26 30.7 +1.3
baz=299,SNR=6.7
GHRR 85.99 320 ↑P P 03 26 29.6 +0.2
GIRR Girov 85.99 321 P P 03 26 29.1 -0.3
ANTO Ankara 86.02 313 P P 03 26 29.6 -0.3
ANTO IAmb IAmb 03 26 29.9
comp=Z,18nm,0.7s
BR231 Keskin MP Arra 86.04 313 IAmb IAmb 03 26 30.1
comp=Z,17nm,0.7s
CFR Carcaliu 86.06 319 ↓P P 03 26 29.0 -0.7
TPGR Topolog 86.07 319 ↓↑P P 03 26 29.8 -0.1
LCMT Little Creek M 86.12 50 IAmb IAmb 03 26 33.0
comp=Z,8.2nm,0.8s
ODD1 Odda 86.12 339 eP P 03 26 29.5 -0.4
TESR Tescani 86.17 321 ↑P P 03 26 29.9 -0.4
BER Bergen 86.17 340 eP P 03 26 29.9 -0.1
IRM Iron Mountain 86.19 54 P P 03 26 32.1 +1.4
baz=299,SNR=9.7
BC3 Big Chuckawall 86.21 54 P P 03 26 32.0 +1.1
baz=299,SNR=8.5
IKP In-Ko-Pah, Jac 86.21 55 P P 03 26 32.0 +1.0
baz=299,SNR=6.6
PANC Panciu 86.25 320 ↑P P 03 26 30.6 0.0
SWSC Sam W. Stewart 86.30 55 P P 03 26 32.0 +0.8
baz=299
BURAR Bucovina Array 86.33 322 ↑P P 03 26 30.9 -0.2
YUH Yuha Desert 86.35 55 IAmb IAmb 03 26 33.6
comp=Z,20nm,1.2s
ODBI Odobesti 86.36 320 ↑P P 03 26 31.3 +0.1
KNB Kanab 86.41 50 IAmb IAmb 03 26 35.2
comp=Z,18nm,1.0s
KWP Kalwaria Pacla 86.45 325 eP P 03 26 31.3 -0.4
HARR Harsova 86.45 319 ↑P P 03 26 31.5 -0.2
TLBR Topalu 86.47 319 ↑P P 03 26 31.6 -0.1
SFJD Kangerlussuaq 86.47 4 P P 03 26 31.6 +0.4
SFJD Kangerlussuaq 86.47 4 iP P 03 26 31.0 -0.3
SFJD IAmb IAmb 03 26 32.2
comp=Z,29nm,0.6s
VRI Vrincioaia 86.49 320 ↑P P 03 26 31.6 -0.2
PLOR Plostina 86.54 320 ↑P P 03 26 31.7 -0.4
ESJX Sierra Juarez 86.64 56 IAmb IAmb 03 26 35.4
comp=Z,12nm,0.9s
RDMU Red Mountain 86.73 46 IAmb IAmb 03 26 35.5
comp=Z,11nm,1.0s
GKP Gorka Klasztor 86.78 330 eP P 03 26 32.1 -0.9
GKP Gorka Klasztor 86.78 330 eP P 03 26 32.6 -0.4
TURR Turia 86.79 321 ↑P P 03 26 33.7 +0.4
COVR Voineasa-Covas 86.80 320 ↑P P 03 26 32.4 -1.0
PDMCI Parker Dam,Lak 86.84 53 P P 03 26 34.8 +1.1
baz=300,SNR=5.9
OZUR 86.89 321 ↑P P 03 26 33.6 -0.2
BOSR Bodos 86.98 321 ↑P P 03 26 34.5 +0.3
NEHR Nehoiu 86.99 320 ↑P P 03 26 33.2 -1.1
ISR Istrita 87.02 320 ↑P P 03 26 34.6 +0.2
KOLS Kolonicke sedl 87.11 325 eP P 03 26 34.3 -0.4
ARCR ARCALIA 87.11 322 ↑P P 03 26 35.2 +0.5
MLR Muntele Rosu 87.15 320 ↑P P 03 26 34.4 -0.7
MLR Muntele Rosu 87.15 320 IAmb IAmb 03 26 35.9
comp=Z,8.5nm,0.7s
DOPR Dopca 87.19 321 ↑P P 03 26 35.4 +0.2
BMR Baia Mare 87.22 323 ↑P P 03 26 35.7 +0.4
DY2G Dye2 87.24 3 iP P 03 26 34.8 -0.4
DY2G IAmb IAmb 03 26 36.7
comp=Z,25nm,0.6s
STHS Stebnicka Huta 87.34 325 eP P 03 26 35.6 -0.2
K22A Casper 87.51 43 P P 03 26 37.8 +0.9
baz=304
CRVS Cervenica-Dubn 87.55 325 eP P 03 26 36.8 0.0
OJC Ojcow 87.56 327 eP P 03 26 36.2 -0.6
MDB Medias 87.66 321 ↑P P 03 26 37.7 +0.3
MMAI Mount Meron Ar 87.69 306 P P 03 26 37.5 -0.3
comp=Z,21nm,0.9s,baz=73,slow=5.7,SNR=11
comp=Z,21nm,0.9s
VOIR 87.70 321 ↑P P 03 26 36.9 -0.8
CJR Cluj-Napoca 87.75 322 ↑P P 03 26 38.0 +0.2
NIE Niedzica 87.81 326 eP P 03 26 37.9 -0.1
O20A White River Ci 87.82 46 IAmb IAmb 03 26 40.3
comp=Z,9.8nm,0.9s
O20A White River Ci 87.82 46 P P 03 26 39.5 +1.1
baz=303,SNR=7.0
Y14A Wickenburg 87.83 53 IAmb IAmb 03 26 40.8
comp=Z,16nm,0.8s
MESR Meseseni 87.84 323 ↑P P 03 26 38.4 +0.3
ARR Arges 87.97 321 ↑P P 03 26 39.2 +0.3
LOZB Loznitsa 88.00 318 ↑P P 03 26 38.6 -0.4
MARR Marisel-Cluj 88.03 322 ↑P P 03 26 38.9 -0.3
RSSD Black Hills 88.15 41 P P 03 26 39.8 -0.2
RSSD IAmb IAmb 03 26 42.6
comp=Z,11nm,0.7s
RSSD Black Hills 88.15 41 P P 03 26 40.6 +0.6
baz=306
WUAZ Wupatki 88.18 51 P P 03 26 41.3 +1.1
baz=301
DRGR 88.19 323 ↓P P 03 26 39.5 -0.3
HUMR Humele 88.27 320 ↑P P 03 26 39.2 -1.1
KECS Kecovo 88.31 325 eP P 03 26 40.5 +0.2
MDND Maddock 88.36 36 P P 03 26 41.3 +0.7
baz=309

COPA Copaceanca 88.37 319 ↓P P 03 26 39.9 -0.8
LOT Lotru 88.42 321 ↑P P 03 26 40.5 -0.6
OKC Ostrava-Krasne 88.61 327 eP P 03 26 41.2 -0.5
DEV Deva 88.64 322 ↑P P 03 26 40.6 -1.2
ELND Elena 88.68 318 ↑P P 03 26 42.0 -0.2
ULM Lac du Bonnet 88.69 32 P P 03 26 41.8 -0.3
comp=Z,3.8nm,0.7s,baz=333,slow=4.8,SNR=7.2
comp=Z,3.8nm,0.7s
KSP Ksiaz 88.83 328 eP P 03 26 42.3 -0.4
N23A Red Feather La 88.85 44 P P 03 26 44.9 +1.5
baz=305,SNR=12
VLAD Vladila 88.92 320 ↑P P 03 26 42.8 -0.4
MORC Moravsky Berou 88.95 327 IAmb IAmb 03 26 43.7
comp=Z,13nm,0.7s
MORC Moravsky Berou 88.95 327 eP P 03 26 42.7 -0.7
PSZ Piszkesteto 88.98 325 ↑P P 03 26 43.5 -0.1
214A Organ Pipe Nat 88.98 55 P P 03 26 45.4 +1.6
baz=301
GZR Gura Zlata 89.00 322 ↑P P 03 26 43.1 -0.6
OSTC Ostas 89.06 328 eP P 03 26 43.5 -0.3
MAUC Maruska 89.08 327 eP P 03 26 43.7 -0.3
SIRR Siria 89.08 323 ↑P P 03 26 43.0 -1.0
CHVC Chvalec 89.12 328 eP P 03 26 43.8 -0.3
KRLC Krzilky 89.12 328 eP P 03 26 43.5 -0.6
SURR Surduc 89.14 322 ↑P P 03 26 43.9 -0.4
VYHS Vyhne 89.15 326 eP P 03 26 44.1 -0.2
DPC Dobruska-Polom 89.15 328 eP P 03 26 43.9 -0.4
PLVB Pleven 89.16 319 ↑P P 03 26 44.0 -0.4
SMCO Snowmass 89.16 46 IAmb IAmb 03 26 47.5
comp=Z,12nm,1.1s
BSZH Besenyszg 89.18 324 ↑P P 03 26 44.8 +0.4
UPC Upice 89.19 328 eP P 03 26 44.1 -0.3
SRE Strehaia 89.21 321 ↑P P 03 26 44.1 -0.5
MVCO Mesa Verde 89.24 48 P P 03 26 46.6 +1.3
baz=303
BSEG Bad Segeberg 89.26 333 eP P 03 26 43.8 -0.8
comp=Z,27nm,0.8s,baz=45,slow=4.8
JAVC Velka Javorina 89.49 326 eP P 03 26 46.5 +0.6
BZS Buzias 89.51 322 ↑P P 03 26 45.1 -0.8
BAIL Bailesti 89.52 320 ↓P P 03 26 45.2 -0.8
HERR Herculane 89.52 321 ↓↑P P 03 26 45.2 -0.8
ISCO Idaho Springs 89.68 45 IAmb IAmb 03 26 49.6
comp=Z,10nm,0.8s
ISCO Idaho Springs 89.68 45 P P 03 26 48.4 +1.1
baz=305,SNR=11
X18A Snowflake 89.69 51 IAmb IAmb 03 26 49.6
comp=Z,12nm,1.2s
VRAC Vranov 89.72 327 ↑P P 03 26 47.0 +0.1
VRAC Vranov 89.72 327 eP P 03 26 46.6 -0.3
PVCC Panska Ves 89.85 329 eP P 03 26 47.3 -0.1
BRG Berggiesshubel 89.90 330 iP P 03 26 46.9 -0.7
BRG Amp 03 26 47.9
comp=Z,13nm,0.8s
BRG Berggiesshubel 89.90 330 eP P 03 26 46.7 -0.9
comp=Z,9.1nm,0.8s,baz=45,slow=4.8
MDVR Moldovita 89.97 322 ↑P P 03 26 47.5 -0.7
KRUC Moravsky 89.98 327 eP P 03 26 47.5 -0.6
AGMN Agassiz Nation 89.99 34 IAmb IAmb 03 26 49.4
comp=Z,16nm,1.1s
AGMN Agassiz Nation 89.99 34 P P 03 26 48.3 +0.2
baz=312
CLL Collm 90.02 330 iP P 03 26 47.2 -1.0
comp=Z,23nm,0.9s
CLL Collm 90.02 330 eP P 03 26 47.4 -0.8
comp=Z,12nm,0.8s,baz=45,slow=4.8
FLTG Flechtingen 90.05 332 eP P 03 26 47.4 -0.9
comp=Z,8.6nm,0.8s,baz=45,slow=4.8
S22A 4UR Ranch, Cre 90.06 47 IAmb IAmb 03 26 51.7
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 90.06 47 P P 03 26 50.3 +1.3
baz=304,SNR=13
BLKB Belogradchik 90.14 320 ↑P P 03 26 48.3 -0.7
GOPC GO Pecny, Ondr 90.17 328 eP P 03 26 48.5 -0.5
PRA Prague 90.23 329 eP P 03 26 48.6 -0.6
PRU Pruhonice 90.24 329 eP P 03 26 48.8 -0.4
TREC Trest 90.27 328 eP P 03 26 48.8 -0.6
TUC Tucson 90.27 53 P P 03 26 51.2 +1.3
baz=302
HSKC Hora Svate Kat 90.32 330 eP P 03 26 48.8 -0.8
NRDL Niedersach Rie 90.41 332 eP P 03 26 49.4 -0.5
comp=Z,5.9nm,0.8s,baz=45,slow=4.8
Q24A Divide 90.45 45 IAmb IAmb 03 26 53.0
comp=Z,9.4nm,0.8s
Q24A Divide 90.45 45 P P 03 26 51.5 +0.6
baz=305,SNR=9.3
NEUB Neuenburg 90.63 331 eP P 03 26 50.3 -0.7
comp=Z,12nm,0.8s,baz=45,slow=4.8
MORH Mrgy, Hungar 90.73 324 ↑P P 03 26 51.0 -0.5
CLZ Clausthal 90.77 332 eP P 03 26 50.9 -0.9
baz=45,slow=4.8
ZVC Zvikov 90.78 328 eP P 03 26 51.2 -0.6
SUSD Miller 90.85 38 P P 03 26 52.3 +0.1
baz=309
TANN Tannenbergstha 90.89 330 eP P 03 26 51.5 -0.9
comp=Z,4.8nm,0.9s,baz=45,slow=4.8
SDCO Great Sand Dun 90.92 47 IAmb IAmb 03 26 55.3
comp=Z,11nm,0.8s
SDCO Great Sand Dun 90.92 47 P P 03 26 54.2 +1.1
baz=305,SNR=18
RONA Rosalia, Austr 90.95 326 iP P 03 26 52.2 -0.4
comp=Z,11nm,0.8s,SNR=9.5
CONA Conrad Observa 91.01 327 iP P 03 26 52.5 -0.5
comp=Z,22nm,1.1s,SNR=9.6
NKC Novy Kostel 91.03 330 eP P 03 26 52.2 -0.7
MOX Moxa 91.10 330 eP P 03 26 52.6 -0.7
comp=Z,8.1nm,0.9s,baz=45,slow=4.8
CKRC Cesky Krumlov 91.16 328 eP P 03 26 52.9 -0.6
GTTG Gottingen 91.17 332 eP P 03 26 52.8 -0.7
comp=Z,7.5nm,0.7s,baz=45,slow=4.8
OGNE Ogallala 91.23 42 P P 03 26 54.8 +0.7
baz=307
KHC Kasperske Hory 91.28 328 eP P 03 26 53.7 -0.5
MANZ Manzenberg 91.36 330 eP P 03 26 53.5 -0.9
comp=Z,1.5nm,0.9s,baz=45,slow=4.8
F33A 5 Mile Ranch, 91.39 36 IAmb IAmb 03 26 56.2
comp=Z,16nm,0.9s
GEC2 GERESS Array S 91.43 328 eP P 03 26 53.8 -1.1
comp=Z,13nm,0.8s,baz=45,slow=4.8
GERES GERESS Array B 91.43 328 P P 03 26 53.9 -1.0
comp=Z,12nm,0.8s,baz=39,slow=5.1,SNR=35
comp=Z,12nm,0.8s
ROTZ Rotzenmuhle 91.47 330 eP P 03 26 53.8 -1.1
comp=Z,2.5nm,0.9s,baz=45,slow=4.8
IBBN Ibbenburen 91.51 333 eP P 03 26 54.2 -0.8
comp=Z,27nm,0.8s,baz=45,slow=4.8
WET Wettzell 91.60 329 eP P 03 26 54.9 -0.8
comp=Z,6.8nm,1.0s,baz=45,slow=4.8
ARSA Arzberg 91.64 326 iP P 03 26 55.1 -0.8
comp=Z,14nm,1.1s,SNR=6.5
UBBA Unterbreizbach 91.68 331 eP P 03 26 54.8 -0.9
baz=45,slow=4.8
319A Douglas 91.85 54 IAmb IAmb 03 27 00.3
comp=Z,11nm,1.1s
MOA Molln 91.85 327 iP P 03 26 56.1 -0.7
comp=Z,13nm,0.7s,SNR=5.8
ANMO Albuquerque 91.87 49 P P 03 26 58.0 +0.6
ANMO IAmb IAmb 03 26 59.8
comp=Z,13nm,0.9s
ANMO Albuquerque 91.87 49 P P 03 26 58.7 +1.3
baz=304
GRF Grafenberg Arr 91.97 330 eP P 03 26 56.6 -0.7
comp=Z,17nm,0.9s,baz=45,slow=4.8
GRFO Grafenberg 91.97 330 P P 03 26 57.3 0.0
T25A Trinidad 91.98 47 IAmb IAmb 03 27 00.3
comp=Z,17nm,1.1s
T25A Trinidad 91.98 47 P P 03 26 58.8 +1.0
baz=306,SNR=7.8
KASTN Kahler Asten 92.07 332 eP P 03 26 57.2 -0.5
baz=45,slow=4.8
BIOA Bad Ischl, Aus 92.26 327 iP P 03 26 57.8 -0.9
comp=Z,23nm,1.5s,SNR=5.6
PERS Pernice 92.27 326 iP P 03 26 57.7 -1.1
SOKA Soboth 92.28 326 eP P 03 26 57.9 -1.0
comp=Z,16nm,1.0s,SNR=10
SOKA ePP PP 03 30 45.8 -1.2
comp=Z,5.4nm,1.2s
121A Cookes Peak, D 92.29 52 IAmb IAmb 03 27 02.2
comp=Z,11nm,1.2s
121A Cookes Peak, D 92.29 52 P P 03 27 00.5 +1.2
baz=303
ECSD EROS Data Cent 92.60 38 IAmb IAmb 03 27 01.4
comp=Z,6.1nm,1.0s
ECSD EROS Data Cent 92.60 38 P P 03 27 00.8 +0.5
baz=311
OBKA Obir 92.64 326 eP P 03 26 59.1 -1.4
comp=Z,9.2nm,0.8s

OBKA iPP PP 03 30 46.6 -3.1
comp=Z,8.3nm,1.2s
RJOB Jochberg 92.64 328 eP P 03 26 59.6 -0.8
comp=Z,18nm,0.9s,baz=45,slow=4.8
TNS Taunus Mts 92.79 332 eP P 03 27 00.6 -0.5
comp=Z,7.3nm,0.7s,baz=45,slow=4.8
KBA Koelnbreinsper 92.83 327 eP P 03 27 00.0 -1.5
comp=Z,8.9nm,1.2s
KBA ePP PP 03 30 49.5 -1.9
comp=Z,9.8nm,1.5s
LESA Schwarzleotal 92.91 328 eP P 03 27 00.6 -1.1
comp=Z,12nm,0.6s
LESA ePP PP 03 30 49.8 -2.0
comp=Z,4.3nm,1.0s
EKA Eskdalemuir Ar 92.92 340 P P 03 27 00.6 -0.9
comp=Z,2.9nm,0.7s,baz=22,slow=4.6,SNR=3.9
comp=Z,2.9nm,0.7s
LJU Ljubljana 92.97 326 iP P 03 27 00.8 -1.1
BOJS Bojanci 92.97 325 iP P 03 27 01.0 -1.0
MYKA Terra Mystica 93.00 327 eP P 03 27 00.8 -1.4
comp=Z,9.0nm,0.6s,SNR=5.9
FUR Furstenfeldbru 93.05 329 eP P 03 27 01.8 -0.5
comp=Z,27nm,0.8s,baz=45,slow=4.8
PRED Cave del Predi 93.17 327 IAmb IAmb 03 27 01.5
comp=Z,4.1nm,0.7s
BGNE Belgrade 93.24 40 P P 03 27 03.9 +0.6
baz=310
ABTA Abfaltersbach 93.47 327 eP P 03 27 02.5 -1.8
comp=Z,12nm,0.8s,SNR=8.0
SABO M.te Sabotino 93.48 326 IAmb IAmb 03 27 03.2
comp=Z,18nm,0.9s
RTBA Rita Blanca 93.48 46 IAmb IAmb 03 27 07.5
comp=Z,11nm,1.0s
WATA Walderalm 93.50 328 eP P 03 27 03.1 -1.5
comp=Z,3.1nm,0.7s
WTTA Wattenberg 93.53 328 eP P 03 27 03.3 -1.4
comp=Z,5.9nm,0.6s
STU Stuttgart 93.55 330 eP P 03 27 03.6 -0.9
comp=Z,31nm,0.9s,baz=45,slow=4.8
SPMN Marine on St. 93.62 35 IAmb IAmb 03 27 06.2
comp=Z,11nm,0.9s
SPMN Marine on St. 93.62 35 P P 03 27 05.3 +0.4
baz=314
MOTA Moosalm 93.72 328 eP P 03 27 03.9 -1.6
comp=Z,5.5nm,0.7s
SQTA Sankt Quirin 93.76 328 eP P 03 27 04.3 -1.4
comp=Z,5.4nm,0.7s
RETA Reutte 93.78 329 iP P 03 27 04.6 -1.0
comp=Z,4.3nm,0.7s
CBKS Cedar Bluff 93.93 43 P P 03 27 06.8 +0.3
baz=309
FETA Feichten 94.13 328 iP P 03 27 06.2 -1.2
comp=Z,6.5nm,0.7s
WLF Walferdange 94.18 332 eP P 03 27 07.2 -0.1
comp=Z,9.4nm,0.8s,baz=45,slow=4.8
BFO Black Forest 94.26 330 eP P 03 27 07.0 -0.8
comp=Z,8.2nm,0.8s,baz=45,slow=4.8
DAVA Damuels 94.33 329 eP P 03 27 07.2 -1.1
comp=Z,14nm,0.9s
CTI Castel Tesino 94.39 327 IAmb IAmb 03 27 07.4
comp=Z,7.2nm,0.9s
MNTX Cornudas Mount 94.44 51 P P 03 27 09.7 +0.7
baz=305,SNR=5.1
MSTX Muleshoe 94.92 48 P P 03 27 11.6 +0.4
baz=306
AMTX Amarillo 95.10 47 P P 03 27 12.4 +0.4
baz=307
CASY Casey 95.24 192 P P 03 27 13.3 +1.7
KSU1 Kansas State U 95.62 41 P P 03 27 14.1 -0.1
baz=311
TX31 Lajitas Ar. Si 97.01 53 IAmb IAmb 03 27 22.8
comp=Z,3.8nm,0.8s
TXAR Lajitas Array 97.01 53 P Pdif 03 27 22.0 +1.3
comp=Z,2.8nm,0.7s,baz=308,slow=2.3,SNR=29
comp=Z,2.8nm,0.7s
CCM Cathedral Cave 99.43 39 P Pdif 03 27 30.6 -0.6
baz=314
ESDC Sonseca Array 106.48 332 PP PP 03 32 21.0 -12
comp=Z,1.0nm,0.8s,baz=26,slow=7.4,SNR=8.8
QSPA South Pole Qui 116.20 180 PKiKP 03 32 28.4 +0.5
QSPA South Pole Qui 116.20 180 PKP PKPdf 03 32 27.3 -0.6
comp=Z,3.5nm,0.7s,baz=264,slow=1.6,SNR=11
QSPA PKKPbc PKKPbc 03 42 59.3 -2.1
comp=Z,0.8nm,0.2s,baz=25,slow=1.2,SNR=5.5
TOA0 Torodi Ar. Sit 124.06 310 PKPdf PKPdf 03 32 44.2 -0.3
TORD Torodi Ar. Bea 124.06 310 PKP PKPdf 03 32 44.2 -0.4
comp=Z,10nm,0.7s,baz=31,slow=1.9,SNR=70
TORD PP PP 03 34 20.5 -15
comp=Z,2.8nm,1.1s,baz=18,slow=10,SNR=5.3
TORD PKKPbc PKKPbc 03 42 30.9 -0.8
comp=Z,0.5nm,0.6s,baz=215,slow=3.1,SNR=5.3
TROLL Troll, Antarti 128.94 195 ↑PKPdf PKPdf 03 32 52.5 +0.2
comp=Z,176nm,0.6s
TROLL ↓SKPbc SKPbc 03 35 25.0
comp=Z,240nm,0.8s
SJCC San Jacinto, C 129.76 49 eP PKPdf 03 32 53.0 -2.5
SNAA Sanae 130.41 194 ↑PKPdf PKPdf 03 32 54.0 -1.0
comp=Z,41nm,0.6s
SNAA ↓SKPbc SKPbc 03 35 29.9 -2.3
comp=Z,67nm,0.9s
VNA2 Neumayer--Watz 131.95 193 ↑PKPdf PKPdf 03 32 57.9 0.0
comp=Z,13nm,0.6s,baz=120,slow=1.0
VNA2 ↓SKPbc SKPbc 03 35 36.6 -1.0
comp=Z,2.9nm,0.6s,baz=95,slow=3.0
CBOC Ciudad Bolivar 132.03 53 eP PKPdf 03 32 56.5 -3.4
VNA3 Neumayer Olymp 132.16 192 ↑PKPdf PKPdf 03 32 57.8 -0.5
comp=Z,5.1nm,0.5s
VNA3 ↓SKPbc SKPbc 03 35 36.9 -1.4
comp=Z,2.3nm,0.7s
PLMC San Jos del P 132.48 55 eP PKPdf 03 33 01.1 +0.4
PTBC PUERTO BERRIO 132.66 51 eP PKPdf 03 32 48.3 -13
GUY2C Guyana, Caldas 132.93 53 eP PKPdf 03 33 01.9 -0.2
YOTC Yotoco, Valle 133.06 55 eP PKPdf 03 33 01.7 -0.1
DBIC Dimbokro 133.17 310 PKPdf PKPdf 03 33 01.7 -0.2
DBIC Dimbokro 133.17 310 PKP PKPdf 03 33 02.4 +0.5
comp=Z,13nm,0.7s,baz=355,slow=0.7,SNR=18
TIC Toumodi 133.31 310 ↑iP PKiKP 03 33 02.9 -0.6
comp=Z,17nm,0.6s
KIC Kosan Boka 133.31 309 ↑eP PKPdf 03 33 02.0 -0.2
comp=Z,28nm,0.6s
SDV Santo Domingo 133.50 45 PKPdf PKPdf 03 33 02.4 -0.4
SDV Santo Domingo 133.50 45 eP PKPdf 03 33 02.9 +0.2
BARC Barichara 133.50 50 eP PKPdf 03 33 03.4 +0.5
SPBC San Pablo de B 133.56 52 eP PKPdf 03 33 01.8 -1.0
LIC Lamto 133.61 309 ↑iP PKiKP 03 33 03.5 -0.6
comp=Z,40nm,0.7s
BBAC Balboa, Cauca 133.66 58 eP PKPdf 03 33 02.8 -0.3
POPC Popayan, Colom 133.76 57 eP PKPdf 03 33 02.1 -1.2
ORTC Ortega, Tolima 133.91 55 eP PKiKP 03 33 04.1 -0.7
GCUF Volcan Galeras 134.09 59 eP PKPdf 03 33 04.7 +0.4
VILC Villavicencio, 134.90 53 eP PKiKP 03 33 06.3 -0.6
BAUV El Baul 135.06 42 PKPdf 03 33 05.4 0.0
NNA Nana 141.84 75 eP PKPdf 03 33 11.8 -6.0
CZSB Cruzeiro do Su 143.16 66 PKPdf PKPbc 03 33 18.1 0.0
CZSB Cruzeiro do Su 143.16 66 eP PKPab 03 33 17.2 -0.4
BOAV Boa Vista 144.72 39 PKPdf PKPdf 03 33 22.9 +0.1
BOAV Boa Vista 144.72 39 eP PKPdf 03 33 22.5 -0.4
COYC Coyhaique 147.57 135 PKiKP 03 33 31.1 -0.6
GO06 Curarrehue 150.11 124 PKiKP 03 33 37.3 0.0
PLCA Paso Flores 150.43 127 PKiKP 03 33 38.1 +0.2
PLCA Paso Flores 150.43 127 PKPbc PKiKP 03 33 37.9 0.0
comp=Z,19nm,0.7s,baz=240,slow=2.8,SNR=52
SAML Samuel 151.40 57 PKPdf 03 33 33.5 -0.1
SAML Samuel 151.40 57 eP PKPbc 03 33 40.0 -0.2
BO01 Tunca 151.48 114 PKiKP 03 33 40.2 0.0
PEL Peldehue 151.95 111 PKiKP 03 33 41.2 -0.1
LCO Las Campanas 152.05 103 PKPbc 03 33 41.6 -0.1
CPUP Villa Florida 163.77 94 PKP PKPdf 03 33 48.0 -0.3
comp=Z,4.1nm,0.9s,baz=331,slow=4.3,SNR=7.3
BDFB Brasilia 166.50 39 PKP PKPdf 03 33 51.1 +0.1
comp=Z,4.6nm,0.9s,baz=104,slow=4.2,SNR=5.4

AEIC ***24*** *03:19:19.0±1.4, 55°9N±0°.1×150°.1W±0°.2, h12km±9km, Error ellipse: s-maj=18.1km s-min=12.5km az=170.0*
NEIC 24 03:19:13.6±1.8, 56°.0N±0°.1×150°.11W±0°.03, h5km±9km, ML3.3/30, ML3.1(AEIC)**, Error ellipse: s-maj=18.7km s-min=1.6km az=174.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.17**	**307**			03 19 49.7	-0.7
OHAK					Sn	03 20 14.9	-2.8
OHAK	**Old Harbor** baz=126	**2.17**	**307**	P	Pn	03 19 49.7	-0.7
OHAK					Sn	03 20 15.2	-2.5

baz=126
KDAK Kodiak Island 2.28 324 Pn 03 19 51.9 -0.1
KDAK Sn 03 20 18.1 -2.4
Q20K Shuyak Island 2.94 336 P Pn 03 20 00.1 -0.9
baz=154
Q20K S Sn 03 20 34.8 -1.8
baz=154
SYI Shuyak Island 2.94 336 Pn 03 20 00.8 -0.1
SYI IAML 03 21 10.0
comp=E,31nm,1.2s
SYI Shuyak Island 2.94 336 Sn 03 20 34.8 -1.8
KAHG Katmai Hook Gl 3.51 318 Pn 03 20 09.7 +0.8
Q19K Cape Douglas, 3.54 329 Pn 03 20 10.2 +0.8
Q19K Sn 03 20 50.6 -1.0
Q19K Cape Douglas, 3.54 329 IAML 03 21 02.4
comp=N,121nm,0.9s
Q19K Cape Douglas, 3.54 329 P Pn 03 20 08.8 -0.6
baz=146
Q19K S Sn 03 20 50.6 -1.0
baz=146
CNPM China Poot 3.63 351 Pn 03 20 10.4 -0.1
CNPM Sn 03 20 51.4 -2.4
CNPM China Poot 3.63 351 IAML 03 22 05.5
comp=N,21nm,1.2s
ANCK Angle Creek 3.70 310 Pn 03 20 12.1 +0.6
BRSE Bradley Lake S 3.81 355 Pn 03 20 14.0 +0.9
BRSE Bradley Lake S 3.81 355 P Pn 03 20 14.0 +0.9
baz=175
BRLK Bradley Lake 3.84 354 Pn Pn 03 20 13.0 -0.4
BRLK IAML 03 22 42.1
comp=N,36nm,0.9s
BRLK IAML 03 22 42.5
comp=E,17nm,0.5s
CNTC Contact Creek 3.91 309 Pn 03 20 15.1 +0.7
Q17K Contact Creek 3.91 309 P Pn 03 20 15.4 +1.0
baz=124
Q23K Middleton Isla 4.03 28 Pn 03 20 15.9 0.0
Q23K Middleton Isla 4.03 28 IAML 03 20 45.5
comp=N,108nm,1.1s
Q23K IAML 03 22 13.7
comp=E,102nm,1.0s
Q23K Middleton Isla 4.03 28 P Pn 03 20 15.9 0.0
baz=211
P19K Oil Pt 4.07 337 Pn 03 20 16.2 -0.3
P19K Oil Pt 4.07 337 P Pn 03 20 16.2 -0.3
baz=155
P23K Montague Islan 4.30 18 Pn 03 20 19.3 -0.4
P23K Montague Islan 4.30 18 P Pn 03 20 19.3 -0.5
baz=200
O20K Slope Mountain 4.35 343 Pn 03 20 20.2 -0.3
O20K Slope Mountain 4.35 343 P Pn 03 20 20.2 -0.3
baz=161
P18K Big Mountain, 4.41 324 Pn 03 20 21.2 -0.1
P18K Big Mountain, 4.41 324 P Pn 03 20 21.2 -0.1
baz=140
RSO Redoubt South 4.73 344 Pn Pn 03 20 25.8 -0.1
O18K Koktuh Hills 4.76 327 Pn 03 20 25.4 -0.7
O18K Koktuh Hills 4.76 327 P Pn 03 20 25.4 -0.7
baz=143
O19K Port Alsworth 4.80 334 Pn Pn 03 20 27.8 +1.2
HIN Hinchinbrook I 4.85 22 Pn 03 20 27.1 -0.1
KAIM Kayak Island 5.00 35 Pn 03 20 29.7 +0.4
KAIM Kayak Island 5.00 35 IAML 03 23 27.1
comp=E,52nm,1.2s
KAIM Kayak Island 5.00 35 P Pn 03 20 29.3 0.0
baz=219
EYAK Cordova Ski Ar 5.15 25 Pn 03 20 31.8 +0.4
EYAK Cordova Ski Ar 5.15 25 P Pn 03 20 31.8 +0.4
baz=208
P16K Nushagak River 5.25 309 Pn 03 20 33.3 +0.6
P16K Nushagak River 5.25 309 P Pn 03 20 33.3 +0.6
baz=123
RAGM Ragged Mountai 5.29 31 Pn 03 20 33.8 +0.4
O17K Koliganek Bris 5.34 319 Pn 03 20 34.5 +0.5
O17K Koliganek Bris 5.34 319 P Pn 03 20 34.5 +0.5
baz=133
N19K Bonanza Creek 5.39 337 Pn Pn 03 20 35.0 +0.2
N19K IAML 03 22 45.8
comp=N,8.9nm,1.1s
N19K IAML 03 23 45.4
comp=E,11nm,1.0s

*NEIC **24** 03:20:59.9±1.1,56°3N±0°.1×148°.7W±0°.1,h20km±11km, ML3.5/40,ML3.2(AEIC), Error ellipse: s-maj=17.4km s-min=9.6km az=167.0*
*AEIC **24** 03:21:02.8±1.5,56°3N±0°.1×148°.6W±0°.1,h8km±8km, Error ellipse: s-maj=18.4km s-min=9.9km az=168.0*
ISC 24 03:20:58.1±2.2,56°3N±0°.1×148°.72W±0°.06,h10km,n71, σ0§83/67,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.59	307		Pn	03 21 41.5	+1.6
KDAK	Kodiak Island	2.59	307		Sn	03 22 12.2	+0.7
KDAK	Kodiak Island	2.59	307	S	Sn	03 22 12.2	+0.7
	baz=126						
OHAK	Old Harbor	2.69	292		Pn	03 21 41.4	+0.1
OHAK					Sn	03 22 12.9	-0.9
OHAK	Old Harbor	2.69	292	P	Pn	03 21 41.4	+0.1
	baz=111						
OHAK				S	Sn	03 22 12.9	-0.9
	baz=111						
SYI	Shuyak Island	3.06	321		Pn	03 21 47.4	+1.0
SYI					Sn	03 22 22.0	-1.0
SYI	Shuyak Island	3.06	321	IAML		03 22 30.9	
	comp=E,62nm,1.3s						
Q20K	Shuyak Island	3.06	321	P	Pn	03 21 47.4	+1.0
	baz=139						
Q20K				S	Sn	03 22 22.0	-1.0
	baz=139						
Q23K	Middleton Isla	3.39	21		Pn	03 21 51.0	+0.1
Q23K	Middleton Isla	3.39	21	IAML		03 22 57.6	
	comp=E,152nm,1.1s						
Q23K				IAML		03 23 25.4	
	comp=N,142nm,1.4s						
Q23K	Middleton Isla	3.39	21	P	Pn	03 21 51.5	+0.6
	baz=201						
MID	Middleton Isla	3.39	21		Pn	03 21 51.0	0.0
MID	Middleton Isla	3.39	21	IAML		03 22 57.5	
	comp=E,163nm,1.2s						
MID				IAML		03 23 15.1	
	comp=N,141nm,1.5s						
CNPM	China Poot	3.51	339		Pn	03 21 53.2	+0.5
CNPM					Sn	03 22 32.5	-1.7
BRSE	Bradley Lake S	3.62	344		Pn	03 21 54.4	+0.2
BRSE					Sn	03 22 35.8	-1.2
BRSE	Bradley Lake S	3.62	344	P	Pn	03 21 54.4	+0.2
	baz=162						
BRSE				S	Sn	03 22 37.2	+0.2
	baz=162						
BRLK	Bradley Lake	3.67	343		Pn	03 21 55.2	+0.3
BRLK	Bradley Lake	3.67	343	IAML		03 22 47.8	
	comp=E,39nm,1.4s						
HOM	Homer	3.72	336		Pn	03 21 55.6	+0.2
HOM	Homer	3.72	336	P	Pn	03 21 55.6	+0.2
	baz=154						
Q19K	Cape Douglas,	3.74	317		Pn	03 21 54.8	-1.0
Q19K					Pb	03 21 57.0	-7.2
Q19K	Cape Douglas,	3.74	317	P	Pn	03 21 54.8	-1.0
	baz=134						
P23K	Montague Islan	3.78	10		Pn	03 21 55.8	-0.6
P23K	Montague Islan	3.78	10	P	Pn	03 21 55.7	-0.6
	baz=190						
SEW	Seward	3.84	354		Pn	03 21 57.4	+0.3
SEW	Seward	3.84	354	P	Pn	03 21 57.4	+0.3
	baz=173						
KAHG	Katmai Hook Gl	3.85	307		Pn	03 21 55.9	-1.4
KAHG					Pb	03 21 58.4	-7.6
ACHA	Angle Creek He	4.07	301		Pn	03 22 00.1	-0.4
P19K	Oil Pt	4.14	326		Pn	03 22 02.5	+1.2
P19K	Oil Pt	4.14	326	IAML		03 22 54.8	
	comp=E,72nm,0.8s						
P19K				IAML		03 23 06.2	
	comp=N,91nm,0.5s						
P19K	Oil Pt	4.14	326	P	Pn	03 22 02.5	+1.2
	baz=143						
ANCK	Angle Creek	4.15	300		Pn	03 22 01.1	-0.4
O22K	Cooper Landing	4.24	353		Pn	03 22 03.8	+1.2
O22K	Cooper Landing	4.24	353	P	Pn	03 22 03.8	+1.2
	baz=172						
HIN	Hinchinbrook I	4.28	15		Pn	03 22 03.2	0.0
HIN	Hinchinbrook I	4.28	15	IAML		03 22 50.2	
	comp=N,66nm,0.9s						
HIN				IAML		03 22 57.6	
	comp=E,62nm,1.0s						
KAIM	Kayak Island	4.30	30		Pn	03 22 03.6	+0.1
KAIM	Kayak Island	4.30	30	P	Pn	03 22 03.6	+0.1
	baz=212						
SLKM	Skilak Lake	4.30	350		Pn	03 22 04.0	+0.5
O20K	Slope Mountain	4.33	333		Pn	03 22 04.8	+0.9
O20K	Slope Mountain	4.33	333	P	Pn	03 22 03.8	-0.1
	baz=150						
CNTC	Contact Creek	4.36	300		Pn	03 22 04.5	0.0
CNTC					Pb	03 22 07.6	-7.2
Q17K	Contact Creek	4.37	300	P	Pn	03 22 04.5	0.0
	baz=115						
IVE	Iliamna Volcan	4.37	330		Pn	03 22 04.4	-0.2
EYAK	Cordova Ski Ar	4.54	19		Pn	03 22 07.0	+0.2
EYAK	Cordova Ski Ar	4.54	19	P	Pn	03 22 07.0	+0.2
	baz=200						
RAGM	Ragged Mountai	4.62	26		Pn	03 22 08.3	+0.4
RAGM	Ragged Mountai	4.62	26	IAML		03 23 12.7	
	comp=N,143nm,0.9s						
RAGM				IAML		03 23 16.2	
	comp=E,91nm,1.1s						
P18K	Big Mountain,	4.67	314		Pn	03 22 10.2	+1.6
P18K	Big Mountain,	4.67	314	IAML		03 23 12.2	
	comp=N,11nm,1.1s						
P18K				IAML		03 23 12.5	
	comp=E,16nm,1.3s						
P18K	Big Mountain,	4.67	314	P	Pn	03 22 10.1	+1.6
	baz=130						
RSO	Redoubt South	4.69	335	Pn	Pn	03 22 10.0	+0.9
GOAT	Goat Mountain	4.78	24		Pn	03 22 10.6	+0.4
RC01	Rabbit Creek A	4.84	354	Pn	Pn	03 22 10.9	+0.1
RC01				IAML		03 23 05.5	
	comp=N,24nm,0.8s						
RC01				IAML		03 23 05.6	
	comp=E,32nm,0.3s						
BERG	Berg Lake	4.89	31		Pn	03 22 11.7	+0.1
BERG	Berg Lake	4.89	31	IAML		03 23 13.3	
	comp=E,51nm,0.7s						
BERG				IAML		03 23 57.1	
	comp=N,38nm,1.2s						
SNH	Sunshine Point	4.98	36		Pn	03 22 13.1	+0.2
SNH	Sunshine Point	4.98	36	IAML		03 23 45.8	
	comp=E,35nm,1.4s						
SNH				IAML		03 23 50.5	
	comp=N,43nm,1.5s						
KNK	Knik Glacier	5.14	1		Pn	03 22 14.5	-0.5
KNK	Knik Glacier	5.14	1	P	Pn	03 22 14.5	-0.5
	baz=181						
BMRM	Bremner River	5.16	23		Pn	03 22 15.4	+0.1
BMRM	Bremner River	5.16	23	P	Pn	03 22 15.4	+0.1
	baz=205						
BARK	Barkley Ridge	5.26	36		Pn	03 22 17.1	+0.3
KLU	Klutina	5.41	14		Pn	03 22 19.7	+0.8
KLU	Klutina	5.41	14	IAML		03 23 21.6	
	comp=N,18nm,1.5s						
KLU				IAML		03 23 48.0	
	comp=E,15nm,1.0s						
KLU	Klutina	5.41	14	P	Pn	03 22 19.7	+0.8
	baz=196						
GHO	Glory Hole Cre	5.50	359		Pn	03 22 20.9	+0.9
SCM	Sheep Creek Mo	5.60	7	Pn	Pn	03 22 23.4	+1.9
M24K	Tolsona, Glenn	5.98	12	Pn	Pn	03 22 28.4	+1.9
O29M	Mount Kennedy	6.69	49		Pn	03 22 36.8	+0.5
P29M	Windy Craggy	6.73	56		Pn	03 22 37.5	+0.6

*AEIC **24** 03:22:25.3±1.3,56°0N±0°.1×148°.7W±0°.1,h9km±9km, Error ellipse: s-maj=19.1km s-min=11.2km az=163.0*
NEIC 24 03:22:20.4±1.4,56°0N±0°.1×148°.7W±0°.1,h7km±9km, ML3.1/6,ML3.1(AEIC),Error ellipse: s-maj=19.6km s-min=11.2km az=162.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.79	312		Pn	03 23 05.8	+0.4
KDAK					Sn	03 23 38.1	-1.1
KDAK	Kodiak Island	2.79	312	IAML		03 23 49.5	
	60nm,3.0s						
KDAK				IAML		03 24 29.1	
	65nm,3.0s						
OHAK	Old Harbor	2.81	298		Pn	03 23 05.9	+0.1
OHAK					Sn	03 23 38.6	-1.3
OHAK	Old Harbor	2.81	298	IAML		03 24 54.6	
	comp=E,63nm,3.6s						
SYI	Shuyak Island	3.31	325		Pn	03 23 13.2	+0.7
SYI					Sn	03 23 50.2	-1.8
SYI	Shuyak Island	3.31	325	IAML		03 24 44.9	
	comp=N,70nm,3.6s						
Q23K	Middleton Isla	3.69	19		Pn	03 23 17.7	-0.1
CNPM	China Poot	3.81	340		Pn	03 23 19.4	-0.1
CNPM					Sn	03 24 00.8	-3.6
BRLK	Bradley Lake	3.97	344		Pn	03 23 21.4	-0.4
BRLK					Sn	03 24 05.5	-3.0
Q19K	Cape Douglas,	3.98	320		Pn	03 23 20.9	-0.9
KAHG	Katmai Hook Gl	4.05	311		Pn	03 23 23.3	+0.6
P23K	Montague Islan	4.10	9		Pn	03 23 23.3	-0.1
SEW	Seward	4.16	355		Pn	03 23 24.5	+0.3
AU22	Augustine Moun	4.22	326		Pn	03 23 25.5	+0.5
ANCK	Angle Creek	4.31	304		Pn	03 23 25.7	-0.7
P19K	Oil Pt	4.41	329		Pn	03 23 28.2	+0.6
CNTC	Contact Creek	4.53	303		Pn	03 23 29.3	-0.1
O22K	Cooper Landing	4.55	354		Pn	03 23 29.9	+0.3
KAIM	Kayak Island	4.58	28		Pn	03 23 30.4	+0.4
HIN	Hinchinbrook I	4.59	14		Pn	03 23 30.4	+0.2
O20K	Slope Mountain	4.61	335		Pn	03 23 30.3	-0.2
P18K	Big Mountain,	4.89	317		Pn	03 23 34.2	-0.1

*NEIC **24** 03:24:26.4±1.1,56°1N±0°.1×150°.4W±0°.1,h28km±17km, ML3.1/32,ML3.1(AEIC), Error ellipse: s-maj=20.4km s-min=9.2km az=170.0*
*AEIC **24** 03:24:27.8±1.7,56°0N±0°.1×150°.2W±0°.1,h7km±9km, Error ellipse: s-maj=21.3km s-min=11.1km az=173.0*
ISC 24 03:24:23.8±2.3,56°1N±0°.1×150°.37W±0°.05,h10km,n108, σ1§11/108,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.96	306		Pn	03 24 57.3	+0.4
OHAK					Sn	03 25 20.4	-1.1
OHAK	Old Harbor	1.96	306	P	Pn	03 24 57.4	+0.5
	baz=123						
OHAK				S	Sn	03 25 20.4	-1.1
	baz=123						
KDAK	Kodiak Island	2.06	325		Pn	03 24 59.0	+0.5
KDAK					Sn	03 25 24.0	-0.2
SYI	Shuyak Island	2.73	337		Pn	03 25 08.2	+0.6
SYI	Shuyak Island	2.73	337		Sn	03 25 40.7	+0.1
SYI	Shuyak Island	2.73	337	IAML		03 25 28.2	
	comp=E,33nm,1.1s						
Q20K	Shuyak Island	2.73	337	P	Pn	03 25 08.2	+0.6
	baz=155						
Q20K				S	Sn	03 25 39.3	-1.3
	baz=155						
KAHG	Katmai Hook Gl	3.29	318		Pn	03 25 17.2	+1.9
KAHG					Sn	03 25 51.4	-3.1
Q19K	Cape Douglas,	3.33	329		Pn	03 25 17.4	+1.5
Q19K					Sn	03 25 53.6	-1.8
Q19K	Cape Douglas,	3.33	329	P	Pn	03 25 17.9	+2.0
	baz=146						
Q19K				S	Sn	03 25 53.6	-1.8
	baz=146						
ACHA	Angle Creek He	3.42	310		Pn	03 25 18.6	+1.4
CNPM	China Poot	3.45	353		Pn	03 25 18.5	+1.0
CNPM	China Poot	3.45	353	IAML		03 26 00.7	
	comp=E,29nm,0.7s						
ANCK	Angle Creek	3.48	309		Pn	03 25 19.5	+1.4
BRSE	Bradley Lake S	3.64	357		Pn	03 25 20.4	+0.2
BRSE	Bradley Lake S	3.64	357	P	Pn	03 25 20.7	+0.6
	baz=177						
BRLK	Bradley Lake	3.67	356	Pn	Pn	03 25 21.7	+1.2
CNTC	Contact Creek	3.69	308		Pn	03 25 21.9	+1.0
Q17K	Contact Creek	3.69	308	P	Pn	03 25 21.9	+1.0
	baz=123						
P19K	Oil Pt	3.86	338		Pn	03 25 25.2	+2.0
P19K	Oil Pt	3.86	338	IAML		03 26 12.6	
	comp=E,61nm,1.1s						
P19K	Oil Pt	3.86	338	P	Pn	03 25 25.2	+2.0
	baz=155						
Q23K	Middleton Isla	3.96	31		Pn	03 25 24.2	-0.2
Q23K	Middleton Isla	3.96	31	P	Pn	03 25 24.6	+0.2
	baz=214						
O20K	Slope Mountain	4.15	344		Pn	03 25 28.4	+1.2
O20K	Slope Mountain	4.15	344	P	Pn	03 25 28.4	+1.2
	baz=162						
IVE	Iliamna Volcan	4.16	341		Pn	03 25 29.2	+1.9
P18K	Big Mountain,	4.19	324		Pn	03 25 28.6	+0.9
P18K	Big Mountain,	4.19	324	P	Pn	03 25 28.6	+0.9
	baz=140						
P23K	Montague Islan	4.20	21		Pn	03 25 28.2	+0.4
P23K	Montague Islan	4.20	21	P	Pn	03 25 28.9	+1.1
	baz=203						
R16K	Pilot Point	4.21	293		Pn	03 25 28.0	0.0
R16K	Pilot Point	4.21	293	P	Pn	03 25 28.0	0.0
	baz=107						
O22K	Cooper Landing	4.39	4		Pn	03 25 32.0	+1.7
O22K	Cooper Landing	4.39	4	P	Pn	03 25 32.0	+1.7
	baz=185						
SLKM	Skilak Lake	4.41	1		Pn	03 25 32.1	+1.5
P17K	Kvichak River	4.49	316		Pn	03 25 33.4	+1.7
P17K	Kvichak River	4.49	316	P	Pn	03 25 33.4	+1.7
	baz=131						
O18K	Koktuh Hills	4.55	328		Pn	03 25 33.6	+1.1
O18K	Koktuh Hills	4.55	328	IAML		03 26 41.9	
	comp=N,8.0nm,0.8s						
O18K				IAML		03 26 52.1	
	comp=E,7.0nm,0.6s						
O18K	Koktuh Hills	4.55	328	P	Pn	03 25 33.6	+1.1
	baz=143						
HIN	Hinchinbrook I	4.75	24		Pn	03 25 36.0	+0.6
HIN	Hinchinbrook I	4.75	24	IAML		03 26 54.7	
	comp=E,19nm,0.8s						
KAIM	Kayak Island	4.96	37		Pn	03 25 38.8	+0.5
KAIM	Kayak Island	4.96	37	P	Pn	03 25 38.8	+0.5
	baz=222						
P16K	Nushagak River	5.04	309		Pn	03 25 39.9	+0.7
P16K	Nushagak River	5.04	309	P	Pn	03 25 39.9	+0.7
	baz=122						
EYAK	Cordova Ski Ar	5.07	27		Pn	03 25 40.0	+0.3
EYAK	Cordova Ski Ar	5.07	27	P	Pn	03 25 40.0	+0.3
	baz=210						
O17K	Koliganek Bris	5.12	318		Pn	03 25 41.2	+0.8
O17K	Koliganek Bris	5.12	318	P	Pn	03 25 41.2	+0.8
	baz=133						
N19K	Bonanza Creek	5.18	337		Pn	03 25 42.0	+0.6
N19K	Bonanza Creek	5.18	337	IAML		03 28 00.7	
	comp=N,7.1nm,1.1s						
N19K	Bonanza Creek	5.18	337	P	Pn	03 25 42.0	+0.6
	baz=154						
RAGM	Ragged Mountai	5.23	33		Pn	03 25 42.9	+0.8
RAGM	Ragged Mountai	5.23	33	IAML		03 28 37.3	
	comp=E,27nm,1.1s						
GOAT	Goat Mountain	5.37	31		Pn	03 25 44.9	+1.0
O16K	Kokwok River B	5.40	313		Pn	03 25 45.1	+0.9
O16K	Kokwok River B	5.40	313	P	Pn	03 25 45.1	+0.9
	baz=127						
N18K	Kilae Creek	5.42	330		Pn	03 25 45.3	+0.8
N18K	Kilae Creek	5.42	330	P	Pn	03 25 45.3	+0.8
	baz=145						
BERG	Berg Lake	5.55	37		Pn	03 25 46.8	+0.5
DIV	Divide	5.57	24		Pn	03 25 47.4	+0.7
N17K	Nushagak Hills	5.70	324		Pn	03 25 49.7	+1.3
N17K	Nushagak Hills	5.70	324	P	Pn	03 25 49.7	+1.3
	baz=138						
SNH	Sunshine Point	5.70	41		Pn	03 25 49.0	+0.5
BMRM	Bremner River	5.72	29		Pn	03 25 49.9	+1.1
BMRM	Bremner River	5.72	29	P	Pn	03 25 49.9	+1.1
	baz=214						
KLU	Klutina	5.87	21		Pn	03 25 51.4	+0.7
KLU	Klutina	5.87	21	P	Pn	03 25 51.4	+0.7
	baz=205						
O15K	Ungalikthiuk R	5.93	305		Pn	03 25 52.7	+1.2
O15K	Ungalikthiuk R	5.93	305	P	Pn	03 25 52.9	+1.4
	baz=117						
BARK	Barkley Ridge	5.98	41		Pn	03 25 52.7	+0.4
M18K	Stony River	6.09	335		Pn	03 25 54.5	+0.8
M18K	Stony River	6.09	335	P	Pn	03 25 54.5	+0.8
	baz=150						
M19K	Big River Lodg	6.16	342	Pn	Pn	03 25 55.2	+0.4
N16K	Nishlik Lake	6.22	318		Pn	03 25 56.6	+1.1
N16K	Nishlik Lake	6.22	318	P	Pn	03 25 56.5	+1.0
	baz=131						
N25K	Chitina, Valde	6.26	26		Pn	03 25 57.1	+0.9
N25K	Chitina, Valde	6.26	26	P	Pn	03 25 57.1	+0.9
	baz=211						
KIAG	Kiagna River	6.39	38		Pn	03 25 58.0	0.0
M17K	Holitna River	6.45	328		Pn	03 25 58.5	-0.1
M17K	Holitna River	6.45	328	P	Pn	03 25 58.5	-0.1
	baz=142						
SAMH	Samovar Hills	6.48	48		Pn	03 26 00.3	+1.2
PTPK	Patty Peak	6.54	36		Pn	03 26 01.4	+1.2
N15K	Kwethluk River	6.55	312		Pn	03 26 01.9	+1.8
N15K	Kwethluk River	6.55	312	P	Pn	03 26 01.9	+1.8
	baz=124						
M16K	Timber Creek	6.66	321		Pn	03 26 02.7	+1.1
M16K	Timber Creek	6.66	321	P	Pn	03 26 02.7	+1.1
	baz=134						
PCA	Pinnacle	6.68	49		Pn	03 26 02.5	+0.7
PINM	Pinnacle	6.68	49	P	Pn	03 26 02.6	+0.6
	baz=238						
BARN	Barnard Glacie	6.73	39		Pn	03 26 03.4	+0.7
CTG	Chitna Glacier	6.78	40	P	Pn	03 26 03.9	+0.7
	baz=228						
CTGM	Chitina Glacie	6.78	40		Pn	03 26 03.9	+0.6
LOGN	Logan Glacier	6.81	42		Pn	03 26 04.0	+0.2
PNL	Peninsula	6.85	54		Pn	03 26 04.3	+0.2
PNL	Peninsula	6.85	54	P	Pn	03 26 04.4	+0.2
	baz=243						
L18K	Granite Mounta	6.93	335	Pn	Pn	03 26 06.1	+0.9
M15K	Kasigluk River	7.10	315		Pn	03 26 09.0	+1.4
M15K	Kasigluk River	7.10	315	P	Pn	03 26 09.0	+1.4
	baz=126						
L16K	Owhat River	7.32	324		Pn	03 26 12.2	+1.6
L16K	Owhat River	7.32	324	P	Pn	03 26 12.3	+1.6
	baz=136						
M26K	Nabesna, AK	7.34	28		Pn	03 26 12.5	+1.5
M26K	Nabesna, AK	7.34	28	P	Pn	03 26 12.5	+1.5
	baz=214						
O29M	Mount Kennedy	7.51	51		Pn	03 26 14.4	+1.1
O29M	Mount Kennedy	7.51	51	P	Pn	03 26 14.4	+1.1
	baz=241						
P29M	Windy Craggy	7.60	57		Pn	03 26 14.7	+0.2
P29M	Windy Craggy	7.60	57	P	Pn	03 26 14.7	+0.2
	baz=248						

*NEIC **24** 03:45:23.4±0.9,56°2N±0°.1×149°.4W±0°.1,h21km±10km, ML3.7/36,ML3.4(AEIC), Error ellipse: s-maj=16.0km s-min=8.5km az=165.0*
*AEIC **24** 03:45:26.4±1.3,56°2N±0°.1×149°.3W±0°.1,h3km±8km, Error ellipse: s-maj=15.0km s-min=10.0km az=168.0*
ISC 24 03:45:21.5±1.9,56°2N±0°.1×149°.34W±0°.05,h10km,n103, σ1§08/104,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.37	313		Pn	03 45 59.7	-0.7
KDAK					Sn	03 46 28.3	-1.3
OHAK	Old Harbor	2.40	297		Pn	03 46 01.4	+0.6
OHAK					Sn	03 46 29.0	-1.2
OHAK	Old Harbor	2.40	297	P	Pn	03 46 01.4	+0.6
	baz=113						
OHAK				S	Sn	03 46 29.0	-1.2
	baz=113						
Q20K	Shuyak Island	2.92	327	P	Pn	03 46 08.7	+0.8
	baz=144						
Q20K				S	Sn	03 46 43.0	0.0
	baz=144						
SYI	Shuyak Island	2.92	327		Pn	03 46 08.7	+0.8
SYI					Sn	03 46 43.0	0.0
CNPM	China Poot	3.48	344		Pn	03 46 16.3	+0.6
CNPM					Sn	03 46 56.4	-0.4
CNPM	China Poot	3.48	344	IAML		03 47 12.9	
	comp=E,82nm,2.5s						
Q19K	Cape Douglas,	3.58	321		Pn	03 46 17.2	+0.2
Q19K	Cape Douglas,	3.58	321	IAML		03 46 52.1	
	comp=E,257nm,1.4s						
Q19K				IAML		03 47 22.4	
	comp=N,165nm,1.6s						
Q19K	Cape Douglas,	3.58	321	P	Pn	03 46 17.8	+0.8
	baz=138						
Q23K	Middleton Isla	3.60	25		Pn	03 46 17.3	0.0
Q23K					Sn	03 46 57.1	-2.8
Q23K	Middleton Isla	3.60	25	IAML		03 48 39.8	
	comp=N,232nm,3.7s						
Q23K				IAML		03 48 42.9	
	comp=E,258nm,2.7s						
Q23K	Middleton Isla	3.60	25	P	Pn	03 46 17.4	+0.1

	baz=208							
Q23K				S	Sn	03 46 57.7	-2.2	
	baz=208							
BRSE	**Bradley Lake S**	3.62	349		Pn	03 46 18.1	+0.5	
BRSE					Sn	03 46 58.6	-1.7	
BRSE	**Bradley Lake S**	3.62	349	P	Pn	03 46 18.1	+0.5	
	baz=167							
BRSE				S	Sn	03 47 00.6	+0.3	
	baz=167							
BRLK	**Bradley Lake**	3.66	348		Pn	03 46 18.2	+0.1	
BRLK	**Bradley Lake**	3.66	348	IAML		03 46 47.2		
	comp=N,93nm,3.2s							
BRLK				IAML		03 47 21.3		
	comp=E,72nm,2.8s							
SEW	**Seward**	3.91	359		Pn	03 46 21.6	+0.1	
SEW	**Seward**	3.91	359	P	Pn	03 46 21.6	+0.1	
	baz=179							
P23K	**Montague Islan**	3.94	14		Pn	03 46 22.1	+0.1	
P23K	**Montague Islan**	3.94	14	P	Pn	03 46 22.1	+0.1	
	baz=196							
P19K	**Oil Pt**	4.03	331		Pn	03 46 23.1	-0.1	
P19K	**Oil Pt**	4.03	331	IAML		03 47 15.5		
	comp=N,85nm,1.1s							
P19K				IAML		03 48 20.1		
	comp=E,88nm,3.3s							
P19K	**Oil Pt**	4.03	331	P	Pn	03 46 23.1	-0.1	
	baz=147							
CNTC	**Contact Creek**	4.11	303		Pn	03 46 25.0	+0.6	
Q17K	**Contact Creek**	4.11	303	P	Pn	03 46 25.0	+0.6	
	baz=117							
O20K	**Slope Mountain**	4.25	337		Pn	03 46 27.5	+1.1	
O20K	**Slope Mountain**	4.25	337	P	Pn	03 46 27.5	+1.1	
	baz=154							
O22K	**Cooper Landing**	4.29	357		Pn	03 46 27.9	+1.1	
O22K	**Cooper Landing**	4.29	357	P	Pn	03 46 27.9	+1.1	
	baz=177							
SLKM	**Skilak Lake**	4.33	354		Pn	03 46 27.9	+0.5	
HIN	**Hinchinbrook I**	4.46	18		Pn	03 46 29.4	+0.3	
HIN	**Hinchinbrook I**	4.46	18	IAML		03 47 18.8		
	comp=E,79nm,2.4s							
HIN				IAML		03 47 19.6		
	comp=N,111nm,0.3s							
P18K	**Big Mountain,**	4.48	318		Pn	03 46 30.3	+0.9	
P18K	**Big Mountain,**	4.48	318	P	Pn	03 46 30.3	+0.9	
	baz=133							
KAIM	**Kayak Island**	4.55	33		Pn	03 46 30.5	+0.1	
KAIM	**Kayak Island**	4.55	33	P	Pn	03 46 30.5	+0.1	
	baz=217							
RSO	**Redoubt South**	4.63	339	Pn	Pn	03 46 31.1	-0.5	
EYAK	**Cordova Ski Ar**	4.74	22		Pn	03 46 33.9	+0.9	
EYAK	**Cordova Ski Ar**	4.74	22	P	Pn	03 46 33.9	+0.9	
	baz=205							
RAGM	**Ragged Mountai**	4.86	29		Pn	03 46 35.2	+0.6	
RAGM	**Ragged Mountai**	4.86	29	IAML		03 47 37.5		
	comp=E,84nm,0.5s							
RC01	**Rabbit Creek A**	4.90	358		Pn	03 46 35.9	+0.7	
RC01	**Rabbit Creek A**	4.90	358	P	Pn	03 46 35.9	+0.7	
	baz=177							
GOAT	**Goat Mountain**	5.01	27		Pn	03 46 37.5	+0.7	
BERG	**Berg Lake**	5.14	33		Pn	03 46 39.0	+0.5	
KNK	**Knik Glacier**	5.24	5		Pn	03 46 40.6	+0.7	
KNK	**Knik Glacier**	5.24	5	IAML		03 49 54.8		
	comp=E,28nm,3.0s							
KNK				IAML		03 50 03.2		
	comp=N,26nm,3.3s							
KNK	**Knik Glacier**	5.24	5	P	Pn	03 46 40.6	+0.7	
	baz=185							
SNH	**Sunshine Point**	5.26	38		Pn	03 46 40.4	+0.2	
DIV	**Divide**	5.27	19		Pn	03 46 40.8	+0.4	
SUA	**Susitna One**	5.32	353	Pn	Pn	03 46 41.3	+0.3	
SUA				IAML		03 48 45.9		
	comp=N,45nm,3.2s							
SUA				IAML		03 49 29.8		
	comp=E,44nm,3.2s							
N19K	**Bonanza Creek**	5.34	332		Pn	03 46 42.0	+0.7	
N19K	**Bonanza Creek**	5.34	332	IAML		03 47 36.7		
	comp=N,21nm,2.8s							
N19K				IAML		03 48 08.2		
	comp=E,21nm,3.3s							
N19K	**Bonanza Creek**	5.34	332	P	Pn	03 46 42.4	+1.1	
	baz=147							
BMRM	**Bremner River**	5.38	25		Pn	03 46 42.6	+0.8	
BMRM	**Bremner River**	5.38	25	P	Pn	03 46 42.6	+0.8	
	baz=210							
BARK	**Barkley Ridge**	5.54	38		Pn	03 46 44.7	+0.7	
GHO	**Glory Hole Cre**	5.58	2		Pn	03 46 45.5	+0.9	
KLU	**Klutina**	5.59	17		Pn	03 46 45.4	+0.7	
KLU	**Klutina**	5.59	17	P	Pn	03 46 45.4	+0.7	
	baz=200							
SML	**Sawmill**	5.64	5	Pn	Pn	03 46 45.7	+0.3	
SCM	**Sheep Creek Mo**	5.74	10	Pn	Pn	03 46 47.9	+1.2	
VRDI	**Verde Repeater**	5.89	29		Pn	03 46 49.5	+0.5	
SKT	**Skwentna**	5.90	350	Pn	Pn	03 46 50.7	+1.8	
N25K	**Chitina, Valde**	5.94	22		Pn	03 46 50.6	+1.0	
N25K	**Chitina, Valde**	5.94	22	P	Pn	03 46 50.6	+1.0	
	baz=206							
KIAG	**Kiagna River**	5.97	35		Pn	03 46 51.0	+0.9	
CNBA	**Chernabura Isl**	5.99	261		Pn	03 46 50.0	0.0	
SAMH	**Samovar Hills**	6.00	46		Pn	03 46 51.4	+1.1	
M24K	**Tolsona, Glenn**	6.13	14	Pn	Pn	03 46 53.8	+1.6	
MCARA	**McCarthy VSAT**	6.14	30		Pn	03 46 53.2	+1.1	
MCARA	**McCarthy VSAT**	6.14	30	P	Pn	03 46 53.2	+1.1	
	baz=215							
PTPK	**Patty Peak**	6.14	33		Pn	03 46 53.5	+1.1	
PCA	**Pinnacle**	6.19	47		Pn	03 46 53.6	+0.7	
PINM	**Pinnacle**	6.19	47	P	Pn	03 46 54.1	+1.2	
	baz=235							
BARN	**Barnard Glacie**	6.30	36		Pn	03 46 55.6	+1.1	
PNL	**Peninsula**	6.33	53		Pn	03 46 55.6	+0.8	
PNL	**Peninsula**	6.33	53	P	Pn	03 46 55.6	+0.8	
	baz=241							
CTGM	**Chitina Glacie**	6.34	38	Pn	Pn	03 46 55.7	+0.6	
LOGN	**Logan Glacier**	6.36	40		Pn	03 46 55.9	+0.5	
BCPM	**Bancas Point**	6.37	50		Pn	03 46 56.3	+0.9	
DHY	**Denali Highway**	6.96	7	Pn	Pn	03 47 05.2	+1.7	
O29M	**Mount Kennedy**	7.00	50		Pn	03 47 05.1	+1.0	
P29M	**Windy Craggy**	7.07	56		Pn	03 47 05.2	+0.2	
P29M	**Windy Craggy**	7.07	56	P	Pn	03 47 05.2	+0.2	
	baz=246							
YUK2	**White River**	7.11	35		Pn	03 47 07.4	+1.8	
YUK8	**Steele Glacier**	7.12	40		Pn	03 47 07.6	+1.8	
YUK8	**Steele Glacier**	7.12	40	P	Pn	03 47 07.6	+1.8	
	baz=229							
YUK3	**Moose Creek**	7.22	36		Pn	03 47 09.0	+1.8	
YUK3	**Moose Creek**	7.22	36	P	Pn	03 47 09.0	+1.8	
	baz=223							
M27K	**Edge Creek, AK**	7.25	29		Pn	03 47 09.1	+1.5	
M27K	**Edge Creek, AK**	7.25	29	P	Pn	03 47 09.1	+1.5	
	baz=215							
TRF	**Thorofare Moun**	7.28	357	Pn	Pn	03 47 08.6	+0.6	
YUK7	**Dusty Glacier**	7.31	49		Pn	03 47 09.3	+0.9	
YUK6	**Outpost Mounta**	7.44	46		Pn	03 47 12.1	+1.8	
YUK6	**Outpost Mounta**	7.44	46	P	Pn	03 47 12.1	+1.8	
	baz=235							
YUK4	**Talbot Arm**	7.57	43	P	Pn	03 47 15.4	+3.4	
	baz=232							
BVCY	**Beaver Creek**	7.58	31		Pn	03 47 13.5	+1.5	
BVCY	**Beaver Creek**	7.58	31	P	Pn	03 47 13.5	+1.5	
	baz=219							
P30M	**Million Dollar**	7.63	54		Pn	03 47 13.8	+1.1	
P30M	**Million Dollar**	7.63	54	P	Pn	03 47 13.8	+1.1	
	baz=245							
M29M	**Somme Creek**	8.36	37		Pn	03 47 24.1	+1.4	

NEIC ***24*** *03:47:01.2±1.4,56˚.5N±0˚.1×149˚.2W±0˚.1,h20km±11km, ML3.2/26,ML3.0(AEIC),Error ellipse: s-maj=17.1km s-min=8.4km az=149.0*

AEIC ***24*** *03:47:04.0±1.1,56˚.4N±0˚.1×149˚.2W±0˚.1,h9km±9km,Error ellipse: s-maj=19.7km s-min=9.0km az=161.0*

ISC 24 03:47:03.0±1.8,56˚.59N±0˚.08×149˚.30W±0˚.05,h10km,n58, σ2s00/62,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	2.15	305		Pn	03 47 37.6	-1.3
KDAK					Sn	03 48 02.8	-2.7
OHAK	**Old Harbor**	2.28	288		Pn	03 47 38.3	-2.4
OHAK					Sn	03 48 05.1	-3.6
OHAK	**Old Harbor**	2.28	288	P	Pn	03 47 38.3	-2.4
	baz=108						
OHAK				S	Sn	03 48 05.1	-3.6
	baz=108						
OHAK	**Old Harbor**	2.28	288	P	Pb	03 47 46.5	+2.3
	baz=118						
OHAK				S	Sn	03 48 11.7	+3.0
	baz=118						
SYI	**Shuyak Island**	2.62	322		Pn	03 47 43.8	-1.6
SYI					Sn	03 48 15.7	-1.5
SYI				IAML		03 49 23.8	
	comp=E,51nm,1.4s						
Q20K	**Shuyak Island**	2.62	322	P	Pn	03 47 44.1	-1.3
	baz=141						
Q20K				S	Sn	03 48 16.0	-1.2
	baz=141						
Q20K	**Shuyak Island**	2.62	322	P	Pg	03 47 55.2	+2.0
	baz=148						
Q20K				S	Sg	03 48 29.4	+2.2
	baz=148						
CNPM	**China Poot**	3.12	342		Pn	03 47 51.0	-1.2
CNPM					Sn	03 48 27.3	-2.2
CNPM	**China Poot**	3.12	342	IAML		03 49 53.9	
	comp=N,45nm,1.4s						
CNPM				IAML		03 49 56.9	
	comp=E,51nm,1.5s						
BRSE	**Bradley Lake S**	3.25	347		Pn	03 47 52.6	-1.5
BRSE					Sn	03 48 31.4	-1.4
BRSE	**Bradley Lake S**	3.25	347	P	Pn	03 47 52.6	-1.5
	baz=166						
BRSE				S	Sn	03 48 31.4	-1.4
	baz=166						
BRSE	**Bradley Lake S**	3.25	347	P	Pg	03 48 05.8	+0.5
	baz=170						
BRSE				S	Sg	03 48 47.1	-0.2
	baz=170						
Q23K	**Middleton Isla**	3.25	28		Pn	03 47 52.3	-1.7
Q23K	**Middleton Isla**	3.25	28	P	Pn	03 47 52.3	-1.7
	baz=209						
Q23K	**Middleton Isla**	3.25	28	P	Pg	03 48 06.8	+1.5
	baz=209						
BRLK	**Bradley Lake**	3.29	346		Pn	03 47 52.8	-1.8
BRLK	**Bradley Lake**	3.29	346	IAML		03 49 58.0	
	comp=N,46nm,1.3s						
BRLK				IAML		03 50 00.0	
	comp=E,48nm,1.4s						
Q19K	**Cape Douglas,**	3.30	317		Pn	03 47 53.7	-1.1
Q19K	**Cape Douglas,**	3.30	317	IAML		03 48 58.0	
	comp=N,113nm,1.2s						
Q19K	**Cape Douglas,**	3.30	317	P	Pn	03 47 53.7	-1.1
	baz=135						
Q19K	**Cape Douglas,**	3.30	317	P	Pb	03 48 04.6	+2.9
	baz=141						
KAHG	**Katmai Hook Gl**	3.41	306		Pn	03 47 55.3	-1.0
AUCH	**Augustine Cone**	3.55	323		Pn	03 47 57.9	-0.3
P23K	**Montague Islan**	3.56	16		Pn	03 47 56.7	-1.6
P23K	**Montague Islan**	3.56	16	P	Pn	03 47 56.7	-1.6
	baz=196						
P23K	**Montague Islan**	3.56	16	P	Pg	03 48 11.6	+0.5
	baz=197						
P19K	**Oil Pt**	3.71	327		Pn	03 47 59.7	-0.6
P19K	**Oil Pt**	3.71	327	IAML		03 50 11.4	
	comp=E,77nm,0.6s						
P19K				IAML		03 50 12.7	
	comp=N,84nm,0.6s						
P19K	**Oil Pt**	3.71	327	P	Pn	03 47 59.7	-0.6
	baz=145						
P19K	**Oil Pt**	3.71	327	P	Pb	03 48 11.3	+2.7
	baz=150						
O22K	**Cooper Landing**	3.91	357	P	Pb	03 48 15.6	+3.7
	baz=179						
O20K	**Slope Mountain**	3.91	335		Pn	03 48 01.6	-1.7
O20K	**Slope Mountain**	3.91	335	P	Pn	03 48 01.6	-1.7
	baz=153						
O20K	**Slope Mountain**	3.91	335	P	Pb	03 48 14.6	+2.5
	baz=157						
CNTC	**Contact Creek**	3.93	298		Pn	03 48 02.3	-1.2
Q17K	**Contact Creek**	3.94	298	P	Pn	03 48 02.3	-1.2
	baz=114						
Q17K	**Contact Creek**	3.94	298	P	Pb	03 48 10.9	-1.6
	baz=120						
HIN	**Hinchinbrook I**	4.09	20		Pn	03 48 04.0	-1.6
P18K	**Big Mountain,**	4.22	314		Pn	03 48 05.2	-2.2
P18K	**Big Mountain,**	4.22	314	IAML		03 50 18.1	
	comp=N,15nm,1.5s						
P18K	**Big Mountain,**	4.22	314	P	Pn	03 48 05.3	-2.2
	baz=130						
P18K	**Big Mountain,**	4.22	314	P	Pb	03 48 16.0	-1.3
	baz=135						
RED	**Redoubt Volcan**	4.25	336		Pn	03 48 05.8	-2.0
RDSO	**Redoubt South**	4.27	336		Pn	03 48 06.2	-2.1
RDT	**Redoubt**	4.31	339		Pn	03 48 06.7	-1.9
RC01	**Rabbit Creek A**	4.52	357		Pn	03 48 09.9	-1.5
RC01	**Rabbit Creek A**	4.52	357	P	Pn	03 48 09.9	-1.5
	baz=177						
P17K	**Kvichak River**	4.62	307	P	Pb	03 48 21.6	-2.5
	baz=128						
R16K	**Pilot Point**	4.62	286	P	Pn	03 48 17.5	+4.7
	baz=106						
GOAT	**Goat Mountain**	4.66	29		Pn	03 48 11.1	-2.4
SUA	**Susitna One**	4.94	352		Pn	03 48 16.2	-1.2
SUA	**Susitna One**	4.94	352	IAML		03 50 32.0	
	comp=E,9.3nm,1.3s						
SUA				IAML		03 50 46.6	
	comp=N,13nm,1.4s						
SUA	**Susitna One**	4.94	352	P	Pn	03 48 16.2	-1.2
	baz=171						
N19K	**Bonanza Creek**	5.02	330		Pn	03 48 17.0	-1.4
N19K	**Bonanza Creek**	5.02	330	IAML		03 49 42.1	
	comp=N,8.3nm,1.4s						
N19K				IAML		03 50 42.8	
	comp=E,7.5nm,1.5s						
N19K	**Bonanza Creek**	5.02	330	P	Pn	03 48 17.0	-1.4
	baz=146						
N18K	**Kilae Creek**	5.35	323		Pn	03 48 21.3	-1.6
N18K	**Kilae Creek**	5.35	323	P	Pn	03 48 21.3	-1.6
	baz=138						

NEIC ***24*** *03:48:14.2±1.2,56˚.26N±0˚.10×148˚.755W±0˚.010, h21km±9km,ML3.7/44,ML3.4(AEIC),Error ellipse: s-maj=14.0km s-min=0.7km az=178.0*

AEIC ***24*** *03:48:16.3±1.1,56˚.22N±0˚.08×148˚.7W±0˚.1,h4km±7km, Error ellipse: s-maj=11.9km s-min=9.0km az=149.0*

ISC 24 03:48:11.7±1.5,56˚.21N±0˚.09×148˚.73W±0˚.06,h10km, n191,σ0s90/188,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	2.64	308		Pn	03 48 54.8	+0.5
KDAK					Sn	03 49 24.6	-1.6
OHAK	**Old Harbor**	2.71	294		Pn	03 48 55.5	+0.2
OHAK					Sn	03 49 25.8	-2.3
OHAK	**Old Harbor**	2.71	294	P	Pn	03 48 55.5	+0.2
	baz=111						
OHAK				S	Sn	03 49 25.8	-2.3
	baz=111						
SII	**Sitkinak Islan**	3.06	279		Pn	03 48 59.8	-0.3
SII	**Sitkinak Islan**	3.06	279	IAML		03 50 35.1	
	comp=N,239nm,2.7s						
SII				IAML		03 50 44.6	
	comp=E,233nm,2.5s						
SII	**Sitkinak Islan**	3.06	279	P	Pn	03 48 59.8	-0.3
	baz=95						
SYI	**Shuyak Island**	3.12	322		Pn	03 49 01.8	+0.9
SYI					Sn	03 49 37.1	-1.1
Q20K	**Shuyak Island**	3.12	322	P	Pn	03 49 01.8	+0.8
	baz=139						
Q20K				S	Sn	03 49 37.1	-1.1
	baz=139						
Q23K	**Middleton Isla**	3.47	20		Pn	03 49 05.4	-0.3
Q23K	**Middleton Isla**	3.47	20	IAML		03 49 49.2	
	comp=N,233nm,2.9s						
Q23K	**Middleton Isla**	3.47	20	P	Pn	03 49 05.4	-0.3
	baz=202						
MID	**Middleton Isla**	3.47	21	P	Pn	03 49 05.5	-0.2
CNPM	**China Poot**	3.59	339		Pn	03 49 07.3	-0.1
CNPM					Sn	03 49 46.7	-3.1
CNPM	**China Poot**	3.59	339	IAML		03 49 55.2	
	comp=N,69nm,2.4s						
CNPM				IAML		03 51 24.3	
	comp=E,80nm,2.5s						
BRSE	**Bradley Lake S**	3.70	344		Pn	03 49 09.0	0.0
BRSE	**Bradley Lake S**	3.70	344	P	Pn	03 49 09.0	0.0
	baz=162						
BRLK	**Bradley Lake**	3.75	343		Pn	03 49 09.4	-0.2
BRLK				IAML		03 49 54.6	
	comp=N,77nm,3.2s						
BRLK				IAML		03 49 58.6	
	comp=E,75nm,2.3s						
HOM	**Homer**	3.79	337		Pn	03 49 10.9	+0.7
	baz=155						
HOM	**Homer**	3.79	337	P	Pn	03 49 11.1	+0.9
	baz=155						
Q19K	**Cape Douglas,**	3.80	318		Pn	03 49 11.3	+1.0
Q19K					Sn	03 49 54.2	-0.9
Q19K	**Cape Douglas,**	3.80	318	IAML		03 50 25.9	
	comp=N,167nm,2.4s						
Q19K				IAML		03 50 47.3	
	comp=E,204nm,1.4s						
Q19K	**Cape Douglas,**	3.80	318	P	Pn	03 49 10.8	+0.5
	baz=134						
Q19K				S	Sn	03 49 54.3	-0.9
	baz=134						
P23K	**Montague Islan**	3.87	10		Pn	03 49 11.0	-0.2
P23K	**Montague Islan**	3.87	10	P	Pn	03 49 11.0	-0.2
	baz=191						
KAHG	**Katmai Hook Gl**	3.90	308		Pn	03 49 12.5	+0.8
KAHG					Sn	03 49 57.4	-0.1
SEW	**Seward**	3.93	355		Pn	03 49 11.8	-0.2
SEW	**Seward**	3.93	355	P	Pn	03 49 11.8	-0.2
	baz=179						
AUCH	**Augustine Cone**	4.05	323		Pn	03 49 15.0	+1.3
ACHA	**Angle Creek He**	4.11	302		Pn	03 49 16.0	+1.4
P19K	**Oil Pt**	4.21	327		Pn	03 49 16.8	+0.9
P19K	**Oil Pt**	4.21	327	IAML		03 50 31.5	
	comp=N,89nm,2.9s						
P19K				IAML		03 52 01.2	
	comp=E,88nm,2.6s						
P19K	**Oil Pt**	4.21	327	P	Pn	03 49 16.8	+0.9
	baz=144						
O22K	**Cooper Landing**	4.32	353		Pn	03 49 18.6	+1.2
O22K	**Cooper Landing**	4.32	353	IAML		03 50 15.9	
	comp=E,138nm,1.1s						
O22K	**Cooper Landing**	4.32	353	P	Pn	03 49 18.6	+1.2
	baz=173						
HIN	**Hinchinbrook I**	4.36	15		Pn	03 49 18.1	+0.1
HIN	**Hinchinbrook I**	4.36	15	IAML		03 50 08.0	
	comp=N,143nm,0.8s						
HIN				IAML		03 50 08.8	
	comp=E,102nm,1.1s						
KAIM	**Kayak Island**	4.38	30		Pn	03 49 18.2	0.0
KAIM	**Kayak Island**	4.38	30	P	Pn	03 49 18.2	0.0
	baz=213						
SLKM	**Skilak Lake**	4.38	350		Pn	03 49 18.8	+0.4
O20K	**Slope Mountain**	4.40	334		Pn	03 49 19.0	+0.4
O20K	**Slope Mountain**	4.40	334	P	Pn	03 49 19.0	+0.4
	baz=151						
CNTC	**Contact Creek**	4.40	301		Pn	03 49 19.4	+0.8
Q17K	**Contact Creek**	4.40	301	P	Pn	03 49 19.4	+0.8
	baz=115						
IVE	**Iliamna Volcan**	4.45	331		Pn	03 49 19.2	-0.1
EYAK	**Cordova Ski Ar**	4.63	19		Pn	03 49 21.9	+0.3
EYAK	**Cordova Ski Ar**	4.63	19	P	Pn	03 49 21.9	+0.3
	baz=201						
RAGM	**Ragged Mountai**	4.70	25		Pn	03 49 22.9	+0.2
P18K	**Big Mountain,**	4.72	315		Pn	03 49 23.3	+0.3
P18K	**Big Mountain,**	4.72	315	P	Pn	03 49 23.3	+0.3
	baz=130						
RED	**Redoubt Volcan**	4.73	335		Pn	03 49 23.0	-0.2
CAPN	**Captain Cook N**	4.75	345		Pn	03 49 24.7	+1.5
CAPN	**Captain Cook N**	4.75	345	P	Pn	03 49 24.7	+1.5
	baz=164						
RDSO	**Redoubt South**	4.76	335		Pn	03 49 23.0	-0.6
RSO	**Redoubt South**	4.77	335	Pn	Pn	03 49 23.9	+0.2
RDWB	**Redoubt West**	4.81	335		Pn	03 49 23.5	-0.8
GOAT	**Goat Mountain**	4.86	24		Pn	03 49 25.5	+0.5
NCT	**North Crescent**	4.89	335		Pn	03 49 25.3	-0.1
RC01	**Rabbit Creek A**	4.92	354	Pn	Pn	03 49 26.4	+0.7
RC01				IAML		03 50 20.8	
	comp=N,38nm,0.4s						
RC01				IAML		03 50 21.6	
	comp=E,54nm,1.2s						
BERG	**Berg Lake**	4.96	30		Pn	03 49 26.3	0.0
BERG	**Berg Lake**	4.96	30	IAML		03 50 22.6	
	comp=N,76nm,0.5s						
BERG				IAML		03 50 24.0	
	comp=E,74nm,0.5s						
O19K	**Port Alsworth**	4.97	326		Pn	03 49 26.8	+0.4
O19K	**Port Alsworth**	4.97	326	IAML		03 50 36.0	
	comp=E,64nm,0.5s						
O19K	**Port Alsworth**	4.97	326	P	Pn	03 49 26.8	+0.4
	baz=141						
O18K	**Koktuh Hills**	5.02	319		Pn	03 49 27.6	+0.5
O18K	**Koktuh Hills**	5.02	319	IAML		03 50 25.7	
	comp=N,32nm,3.1s						
O18K				IAML		03 51 00.9	
	comp=E,34nm,2.4s						
O18K	**Koktuh Hills**	5.02	319	P	Pn	03 49 27.6	+0.5
	baz=134						
R16K	**Pilot Point**	5.04	289		Pn	03 49 25.9	-1.4
R16K	**Pilot Point**	5.04	289	P	Pn	03 49 25.9	-1.4
	baz=102						
SNH	**Sunshine Point**	5.06	36		Pn	03 49 27.8	+0.3
SNH	**Sunshine Point**	5.06	36	IAML		03 50 09.9	
	comp=E,55nm,3.4s						
SNH				IAML		03 50 58.6	
	comp=N,83nm,2.9s						
P17K	**Kvichak River**	5.11	309		Pn	03 49 29.2	+1.0
P17K	**Kvichak River**	5.11	309	P	Pn	03 49 29.2	+1.0
	baz=123						
DIV	**Divide**	5.17	16		Pn	03 49 29.9	+0.7
KNK	**Knik Glacier**	5.22	1		Pn	03 49 30.4	+0.5
KNK	**Knik Glacier**	5.22	1	IAML		03 50 32.1	
	comp=E,27nm,0.8s						
KNK	**Knik Glacier**	5.22	1	P	Pn	03 49 30.4	+0.5
	baz=182						
BMRM	**Bremner River**	5.24	23		Pn	03 49 28.8	-1.3
BMRM	**Bremner River**	5.24	23	P	Pn	03 49 30.4	+0.3
	baz=206						
N20K	**Mount Spurr**	5.33	342	P	Pn	03 49 31.9	+0.6
	baz=159						
SPCR	**Spurr Chakacha**	5.33	342		Pn	03 49 31.9	+0.6
BARK	**Barkley Ridge**	5.34	35		Pn	03 49 31.8	+0.3
SPCG	**Spurr Capps Gl**	5.38	343		Pn	03 49 32.7	+0.6
KLU	**Klutina**	5.50	14		Pn	03 49 34.0	+0.4
KLU	**Klutina**	5.50	14	P	Pn	03 49 34.0	+0.4
	baz=197						
N19K	**Bonanza Creek**	5.52	329		Pn	03 49 33.8	-0.2
N19K	**Bonanza Creek**	5.52	329	P	Pn	03 49 34.2	+0.2
	baz=145						
STLK	**Strandline Lak**	5.55	344		Pn	03 49 35.3	+1.0
SPNN	**North Nagishla**	5.57	340		Pn	03 49 35.0	+0.2
GHO	**Glory Hole Cre

BARN	Barnard Glacie	6.10	34			Pn	03 49 42.5	+0.4
BCPM	Bancas Point	6.11	48			Pn	03 49 42.9	+0.9
M20K	Styx River	6.13	340			Pn	03 49 42.0	-0.3
M20K	Styx River baz=156	6.13	340	P		Pn	03 49 42.6	+0.3
CTG	Chitna Glacier baz=222	6.13	36	P		Pn	03 49 42.7	+0.3
CTGM	Chitina Glacie	6.14	36			Pn	03 49 42.7	+0.2
LOGN	Logan Glacier	6.15	38			Pn	03 49 42.9	+0.3
N17K	Nushagak Hills	6.21	318			Pn	03 49 43.9	+0.5
N17K	Nushagak Hills baz=131	6.21	318	P		Pn	03 49 43.9	+0.5
M19K	Big River Lodg	6.42	335			Pn	03 49 46.2	0.0
M19K	Big River Lodg baz=151	6.42	335	P		Pn	03 49 46.2	0.0
M18K	Stony River	6.45	328			Pn	03 49 46.6	0.0
M18K	Stony River baz=142	6.45	328	P		Pn	03 49 46.6	0.0
HARP	HAARP	6.47	15			Pn	03 49 48.0	+1.0
HARP	HAARP baz=198	6.47	15	P		Pn	03 49 48.0	+1.0
O15K	Ungalikthiuk R	6.65	301			Pn	03 49 50.1	+0.7
O15K	Ungalikthiuk R baz=112	6.65	301	P		Pn	03 49 50.1	+0.7
SDPT	Sand Point	6.69	267	P		Pn	03 49 51.8	+1.9
O29M	Mount Kennedy	6.75	48			Pn	03 49 51.9	+1.1
O29M	Mount Kennedy baz=237	6.75	48	P		Pn	03 49 51.9	+1.1
L19K	White Mountain	6.77	335			Pn	03 49 50.9	-0.1
L19K	White Mountain baz=150	6.77	335	P		Pn	03 49 50.9	-0.1
P29M	Windy Craggy	6.78	55			Pn	03 49 51.5	+0.3
P29M	Windy Craggy baz=244	6.78	55	P		Pn	03 49 51.5	+0.3
N16K	Nishlik Lake	6.80	313			Pn	03 49 52.0	+0.5
N16K	Nishlik Lake baz=125	6.80	313	P		Pn	03 49 52.0	+0.5
L20K	Farewell, AK	6.82	339			Pn	03 49 52.5	+0.8
L20K	Farewell, AK baz=155	6.82	339	P		Pn	03 49 52.5	+0.8
M26K	Nabesna, AK	6.87	23			Pn	03 49 52.7	+0.2
M26K	Nabesna, AK baz=208	6.87	23	P		Pn	03 49 52.7	+0.2
M17K	Holitna River	6.90	323			Pn	03 49 53.4	+0.6
M17K	Holitna River baz=135	6.90	323	P		Pn	03 49 53.4	+0.6
YUK8	Steele Glacier	6.90	39			Pn	03 49 54.7	+1.7
YUK8	Steele Glacier baz=226	6.90	39	P		Pn	03 49 54.7	+1.7
YUK2	White River	6.92	33			Pn	03 49 54.6	+1.4
DHY	Denali Highway	6.92	5	Pn		Pn	03 49 53.3	0.0
YUK3	Moose Creek	7.03	34			Pn	03 49 56.2	+1.4
YUK3	Moose Creek baz=221	7.03	34	P		Pn	03 49 56.2	+1.4
S31K	Pelican	7.03	70			Pn	03 49 53.0	-1.6
S31K	Pelican baz=261	7.03	70	P		Pn	03 49 53.0	-1.6
YUK7	Dusty Glacier	7.05	48			Pn	03 49 56.3	+1.2
M27K	Edge Creek, AK	7.09	27			Pn	03 49 56.0	+0.4
M27K	Edge Creek, AK baz=213	7.09	27	P		Pn	03 49 56.0	+0.4
M16K	Timber Creek	7.20	316			Pn	03 49 57.5	+0.6
M16K	Timber Creek baz=128	7.20	316	P		Pn	03 49 57.5	+0.6
N15K	Kwethluk River	7.20	308			Pn	03 49 58.1	+1.1
N15K	Kwethluk River baz=119	7.20	308	P		Pn	03 49 57.3	+0.3
YUK6	Outpost Mounta	7.20	44			Pn	03 49 58.6	+1.5
YUK6	Outpost Mounta baz=233	7.20	44	P		Pn	03 49 58.6	+1.5
L18K	Granite Mounta	7.28	329			Pn	03 49 58.7	+0.7
L18K	Granite Mounta baz=142	7.28	329	P		Pn	03 49 58.7	+0.7
YUK4	Talbot Arm baz=230	7.34	41	P		Pn	03 50 02.0	+2.9
P30M	Million Dollar	7.35	53			Pn	03 50 00.4	+1.3
P30M	Million Dollar baz=243	7.35	53	P		Pn	03 50 00.4	+1.3
SIT	Sitka	7.44	78	P		Pn	03 49 58.4	-1.8
YUK5	Granite Creek	7.51	44			Pn	03 50 03.2	+1.9
TTA	Tatalina	7.69	334	P		Pn	03 50 05.4	+1.7
M15K	Kasigluk River	7.72	311			Pn	03 50 05.0	+1.0
M15K	Kasigluk River baz=121	7.72	311	P		Pn	03 50 05.0	+1.0
BPAW	Bear Paw Mtn.	8.00	353			Pn	03 50 08.4	+0.5
BPAW	Bear Paw Mtn. baz=171	8.00	353	P		Pn	03 50 08.4	+0.5
N30M	Aishikik Lake	8.00	44			Pn	03 50 08.6	+0.6
WHY	Whitehorse	8.52	53			Pn	03 50 16.5	+1.4
N31M	Braeburn, Yuko	8.54	46			Pn	03 50 16.7	+1.4
N31M	Braeburn, Yuko baz=237	8.54	46	P		Pn	03 50 16.8	+1.5
IL31		8.64	5			Pn	03 50 17.4	+0.8
ISLZ	Isanotski Laza	8.64	266			Pn	03 50 17.8	+1.1
P32M	Atlin	8.68	61			Pn	03 50 18.0	+0.7
P32M	Atlin baz=253	8.68	61	P		Pn	03 50 18.0	+0.7
UNV	Unalaska Valle	10.47	264	P		Pn	03 50 42.7	+0.9

*IDC **24** 03:52:57.6±2.5,56˚18N×149˚46W, h0km, mb3.8/4, mbtmp3.7/9, ML3.5/5, MS2.9/2, Error ellipse: s-maj=50.5km s-min=23.9km az=175.0*

*NEIC **24** 03:53:00.9±1.5,56˚50N±0˚08×149˚44W±0˚09, h18km±6km, ML3.8/46, ML3.6(AEIC), Error ellipse: s-maj=11.7km s-min=6.7km az=159.0*

*AEIC **24** 03:53:05.3±1.4, 56˚57N±0˚08×149˚39W±0˚10, h11km±5km, Error ellipse: s-maj=12.1km s-min=7.3km az=165.0*

ISC 24 03:53:00.3±0.8, 56˚57N±0˚07×149˚44W±0˚05, h10km, n338, σ0.85/335, mb3.9/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KDAK	Kodiak Island	2.10	307			Pn		03 53 35.2	-0.2
KDAK						Sn		03 53 60.0	-1.7
KDAK	Kodiak Island 11nm,0.3s,baz=125,slow=5.0,SNR=46	2.10	307	Pn		Pn		03 53 35.6	+0.1
KDAK	 23nm,0.3s,baz=324,slow=23,SNR=15			Sn		Sn		03 53 59.8	-1.8
OHAK	Old Harbor 19nm,0.3s	2.21	289			Pn		03 53 36.1	-0.9
OHAK						Sn		03 54 01.4	-3.0
OHAK	Old Harbor baz=104	2.21	289	P		Pn		03 53 36.1	-0.9
OHAK	 baz=104			S		Sn		03 54 01.8	-2.5
SYI	Shuyak Island	2.59	323			Pn		03 53 42.5	+0.4
SYI						Sn		03 54 12.8	-0.9
Q20K	Shuyak Island baz=140	2.59	323	P		Pn		03 53 42.5	+0.3
Q20K	 baz=140			S		Sn		03 54 12.8	-0.9
SII	Sitkinak Islan	2.63	272			Pn		03 53 42.8	0.0
SII						Sn		03 54 11.4	-3.3
SII						Sb		03 54 13.7	-6.1
SII	Sitkinak Islan comp=E,252nm,0.8s	2.63	272	IAML				03 54 23.4	
SII	 comp=N,267nm,1.6s			IAML				03 54 28.3	
SII	Sitkinak Islan baz=87	2.63	272	P		Pn		03 53 42.8	0.0
SII	 baz=87			S		Sn		03 54 13.7	-1.0
CNPM	China Poot	3.11	343	Pn		Pn		03 53 49.5	+0.1
CNPM	China Poot	3.11	343			Sn		03 54 25.4	-1.3
BRSE	Bradley Lake S	3.25	348			Pn		03 53 51.2	-0.1
BRSE						Sn		03 54 28.4	-1.7
BRSE	Bradley Lake S baz=167	3.25	348	P		Pn		03 53 51.2	-0.1
BRSE	 baz=167			S		Sn		03 54 28.4	-1.7
Q19K	Cape Douglas,	3.27	318			Pn		03 53 52.7	+1.2
Q19K	Cape Douglas, baz=134	3.27	318	P		Pn		03 53 52.7	+1.2
BRLK	Bradley Lake	3.29	347			Pn		03 53 51.8	-0.1
Q23K	Middleton Isla	3.30	29			Pn		03 53 51.2	-0.8
Q23K						Sn		03 54 29.3	-1.9
Q23K	Middleton Isla baz=211	3.30	29	P		Pn		03 53 51.2	-0.8
Q23K	 baz=211			S		Sn		03 54 29.3	-1.9
HOM	Homer	3.31	340			Pn		03 53 52.6	+0.5
HOM	Homer baz=158	3.31	340	P		Pn		03 53 52.6	+0.5
KAHG	Katmai Hook Gl	3.36	307			Pn		03 53 54.4	+1.5
SEW	Seward	3.54	360			Pn		03 53 54.9	-0.4
SEW	Seward baz=180	3.54	360	P		Pn		03 53 54.9	-0.4
ACHA	Angle Creek He	3.59	300			Pn		03 53 57.3	+1.3
P23K	Montague Islan	3.60	16			Pn		03 53 56.0	-0.1
P23K	Montague Islan baz=198	3.60	16	P		Pn		03 53 56.0	-0.1
KVTA	Katmai Vly 10	3.65	302			Pn		03 53 58.3	+1.5
ANCK	Angle Creek	3.66	299			Pn		03 53 58.3	+1.3
P19K	Oil Pt	3.69	328			Pn		03 53 58.1	+0.8
P19K	Oil Pt baz=145	3.69	328	P		Pn		03 53 58.1	+0.8
CNTC	Contact Creek	3.88	299			Pn		03 54 00.7	+0.7
Q17K	Contact Creek baz=112	3.88	299	P		Pn		03 54 01.4	+1.4
O20K	Slope Mountain	3.90	336			Pn		03 54 00.4	+0.1
O20K	Slope Mountain baz=153	3.90	336	P		Pn		03 54 00.4	+0.1
O22K	Cooper Landing	3.92	358			Pn		03 54 00.5	0.0
O22K	Cooper Landing baz=177	3.92	358	P		Pn		03 54 00.5	0.0
IVE	Iliamna Volcan	3.94	333			Pn		03 54 00.8	-0.1
SLKM	Skilak Lake	3.97	354			Pn		03 54 01.1	-0.1
HIN	Hinchinbrook I	4.13	21			Pn		03 54 03.6	+0.1
HIN	 comp=N,196nm,0.6s				IAML			03 54 58.2	
HIN	 comp=E,202nm,0.7s				IAML			03 54 58.9	
P18K	Big Mountain,	4.18	315			Pn		03 54 04.2	+0.1
P18K	Big Mountain, baz=129	4.18	315	P		Pn		03 54 04.2	+0.1
RED	Redoubt Volcan	4.24	337			Pn		03 54 04.2	-0.7
RDSO	Redoubt South	4.26	337			Pn		03 54 04.7	-0.6
RSO	Redoubt South	4.27	337			Pn		03 54 05.6	+0.1
KAIM	Kayak Island	4.28	36			Pn		03 54 05.2	-0.2
KAIM	Kayak Island comp=E,197nm,1.3s	4.28	36		IAML			03 54 59.1	
KAIM	Kayak Island baz=220	4.28	36	P		Pn		03 54 05.2	-0.2
CAPN	Captain Cook N	4.30	349			Pn		03 54 06.9	+1.2
CAPN	Captain Cook N baz=167	4.30	349	P		Pn		03 54 06.9	+1.2
RDT	Redoubt	4.30	340			Pn		03 54 05.2	-0.6
RDWB	Redoubt West	4.31	337			Pn		03 54 05.1	-0.9
DFR	Drift River	4.38	338			Pn		03 54 06.6	-0.2
NCT	North Crescent	4.40	337			Pn		03 54 06.8	-0.3
EYAK	Cordova Ski Ar	4.43	24			Pn		03 54 07.5	+0.1
EYAK	Cordova Ski Ar baz=207	4.43	24	P		Pn		03 54 07.5	+0.1
O19K	Port Alsworth	4.45	327			Pn		03 54 08.0	+0.3
O19K	Port Alsworth baz=142	4.45	327	P		Pn		03 54 08.0	+0.3
O18K	Koktuh Hills	4.49	320			Pn		03 54 08.5	+0.2
O18K	Koktuh Hills baz=134	4.49	320	P		Pn		03 54 08.5	+0.2
RC01	Rabbit Creek A	4.53	358			Pn		03 54 09.2	+0.3
RC01	 comp=E,106nm,0.5s				IAML			03 55 04.9	
RC01	 comp=N,61nm,0.6s				IAML			03 55 07.7	
RC01	Rabbit Creek A baz=178	4.53	358	P		Pn		03 54 08.9	0.0
R16K	Pilot Point	4.55	286			Pn		03 54 09.6	+0.5
R16K	Pilot Point baz=99	4.55	286	P		Pn		03 54 09.6	+0.5
RAGM	Ragged Mountai	4.57	31			Pn		03 54 09.3	-0.2
P17K	Kvichak River	4.57	308			Pn		03 54 10.3	+1.0
P17K	Kvichak River baz=122	4.57	308	P		Pn		03 54 10.3	+1.0
FIS	Fire Island	4.60	355			Pn		03 54 10.6	+0.8
GOAT	Goat Mountain	4.71	30			Pn		03 54 11.6	+0.2
N20K	Mount Spurr baz=161	4.86	344	P		Pn		03 54 13.0	-0.4
SPCR	Spurr Chakacha	4.86	344			Pn		03 54 13.1	-0.4
CKN	Chakachatna No	4.88	344			Pn		03 54 13.8	+0.2
SPCN	Chakachatna No	4.88	344			Pn		03 54 13.6	-0.1
KNK	Knik Glacier	4.88	6			Pn		03 54 13.6	-0.2
KNK	Knik Glacier comp=E,46nm,0.6s	4.88	6		IAML			03 55 23.7	
KNK	 comp=N,44nm,1.1s				IAML			03 55 30.6	
KNK	Knik Glacier baz=186	4.88	6	P		Pn		03 54 13.6	-0.2
SPCP	Crater Peak Br	4.91	344			Pn		03 54 14.4	+0.2
SPCG	Spurr Capps Gl	4.92	345			Pn		03 54 14.5	+0.2
DIV	Divide	4.95	21			Pn		03 54 14.9	+0.3
SUA	Susitna One	4.95	353			Pn		03 54 14.8	0.0
SUA	 comp=N,49nm,3.1s				IAML			03 55 21.1	
SUA	 comp=E,46nm,2.8s				IAML			03 55 35.4	
SUA	Susitna One baz=171	4.95	353	P		Pn		03 54 14.5	-0.2
CHGN	Chignik	4.99	271			Pn		03 54 14.9	-0.2
CHGN	 comp=N,70nm,0.6s				IAML			03 55 14.2	
CHGN	 comp=E,56nm,0.6s				IAML			03 55 14.8	
N19K	Bonanza Creek	5.00	330			Pn		03 54 15.0	-0.5
N19K	Bonanza Creek baz=146	5.00	330	P		Pn		03 54 15.0	-0.5
SNH	Sunshine Point	5.01	41			Pn		03 54 15.4	-0.1
SNH	Sunshine Point comp=N,118nm,2.6s	5.01	41		IAML			03 55 15.8	
SNH	 comp=E,107nm,2.3s				IAML			03 55 33.5	
PMR	Palmer	5.04	2			Pn		03 54 15.8	+0.1
PMR	Palmer comp=N,36nm,0.5s	5.04	2		IAML			03 55 17.4	
PMR	 comp=E,37nm,0.6s				IAML			03 55 20.5	
PMR	Palmer baz=182	5.04	2	P		Pn		03 54 16.3	+0.5
BMRM	Bremner River	5.07	28			Pn		03 54 16.8	+0.4
BMRM	Bremner River baz=212	5.07	28	P		Pn		03 54 16.8	+0.4
STLK	Strandline Lak	5.09	347			Pn		03 54 16.9	+0.2
SPNN	North Nagishla	5.10	342			Pn		03 54 17.0	+0.2
O17K	Koliganek Bris	5.17	312			Pn		03 54 18.4	+0.7
O17K	Koliganek Bris baz=125	5.17	312	P		Pn		03 54 18.4	+0.7
P16K	Nushagak River	5.20	302			Pn		03 54 19.1	+1.1
P16K	Nushagak River baz=114	5.20	302	P		Pn		03 54 19.1	+1.1
GHO	Glory Hole Cre	5.22	3			Pn		03 54 19.3	+0.9
GHO	Glory Hole Cre comp=N,106nm,0.5s	5.22	3		IAML			03 55 22.3	
GHO	 comp=E,72nm,0.8s				IAML			03 55 26.8	
KLU	Klutina	5.26	19			Pn		03 54 19.5	+0.6
KLU	 comp=N,64nm,0.3s				IAML			03 55 19.8	
KLU	 comp=E,59nm,0.4s				IAML			03 55 21.1	
KLU	Klutina baz=202	5.26	19	P		Pn		03 54 19.5	+0.6
SML	Sawmill	5.28	6			Pn		03 54 19.6	+0.4
SML	Sawmill comp=E,54nm,0.8s	5.28	6		IAML			03 55 21.9	
SML	 comp=N,56nm,0.8s				IAML			03 55 28.2	
SML	Sawmill baz=186	5.28	6	P		Pn		03 54 19.6	+0.4
BARK	Barkley Ridge	5.29	41			Pn		03 54 19.4	0.0
M23K	Glacier View	5.31	9			Pn		03 54 20.3	+0.7
M23K	Glacier View baz=190	5.31	9	P		Pn		03 54 20.3	+0.7
N18K	Kilae Creek	5.32	323			Pn		03 54 19.6	-0.1
N18K	Kilae Creek comp=E,29nm,0.9s	5.32	323		IAML			03 55 41.0	
N18K	Kilae Creek baz=138	5.32	323	P		Pn		03 54 19.6	-0.1
SCM	Sheep Creek Mo	5.39	11			Pn		03 54 21.2	+0.5
SCM	Sheep Creek Mo baz=192	5.39	11	P		Pn		03 54 21.2	+0.5
O16K	Kokwok River B	5.50	307			Pn		03 54 22.9	+0.8
O16K	Kokwok River B baz=119	5.50	307	P		Pn		03 54 22.9	+0.8
SKT	Skwentna	5.53	350			Pn		03 54 23.1	+0.5
SKT	Skwentna baz=168	5.53	350	P		Pn		03 54 23.1	+0.5
SVW2	Sparrevohn	5.55	327			Pn		03 54 22.6	-0.2
VRDI	Verde Repeater	5.60	31			Pn		03 54 23.9	+0.1
N25K	Chitina, Valde	5.63	24			Pn		03 54 24.4	+0.4
N25K	Chitina, Valde baz=208	5.63	24	P		Pn		03 54 24.4	+0.4
M20K	Styx River	5.65	342			Pn		03 54 24.3	0.0
M20K	Styx River baz=158	5.65	342	P		Pn		03 54 24.3	0.0
N17K	Nushagak Hills	5.67	318			Pn		03 54 24.7	+0.2
N17K	Nushagak Hills baz=131	5.67	318	P		Pn		03 54 24.7	+0.2
GLB	Gilahina Butte	5.68	28			Pn		03 54 25.0	+0.2
KIAG	Kiagna River	5.71	37			Pn		03 54 24.8	-0.4
SAMH	Samovar Hills	5.79	48			Pn		03 54 26.7	+0.5
M24K	Tolsona, Glenn	5.80	15			Pn		03 54 26.9	+0.6
M24K	Tolsona, Glenn baz=198	5.80	15	P		Pn		03 54 26.9	+0.6
MCARA	McCarthy VSAT	5.85	32			Pn		03 54 27.2	+0.2
MCARA	McCarthy VSAT baz=217	5.85	32	P		Pn		03 54 27.2	+0.2
PTPK	Patty Peak	5.87	35			Pn		03 54 27.7	+0.3
M19K	Big River Lodg	5.92	337			Pn		03 54 27.6	-0.4
M19K	Big River Lodg baz=152	5.92	337	P		Pn		03 54 27.6	-0.4
M18K	Stony River	5.93	329			Pn		03 54 27.7	-0.4
M18K	Stony River baz=143	5.93	329	P		Pn		03 54 27.7	-0.4
PCA	Pinnacle	5.99	50			Pn		03 54 28.6	-0.4
PINM	Pinnacle baz=238	5.99	50	P		Pn		03 54 28.5	-0.4
CHNA	Chernabura Isl baz=69	6.00	257	P		Pn		03 54 28.2	-0.8
CNBA	Chernabura Isl	6.00	257			Pn		03 54 28.2	-0.8
WACK	Wrangell Chich	6.03	24			Pn		03 54 30.2	+0.6
BARN	Barnard Glacie	6.04	39			Pn		03 54 30.1	+0.3
WAT6	Susitna Watana	6.09	7			Pn		03 54 30.9	+0.5
WAT6	Susitna Watana baz=189	6.09	7	P		Pn		03 54 30.9	+0.5
CTG	Chitna Glacier baz=227	6.09	40	P		Pn		03 54 30.5	+0.1
CTGM	Chitina Glacie	6.09	40			Pn		03 54 30.6	+0.1
LOGN	Logan Glacier	6.12	42			Pn		03 54 30.8	-0.1
O15K	Ungalikthiuk R	6.13	300			Pn		03 54 31.7	+1.0
O15K	Ungalikthiuk R baz=110	6.13	300	P		Pn		03 54 31.7	+1.0
WAZA	Wrangell Mount	6.14	24			Pn		03 54 31.9	+0.6
PNL	Peninsula	6.16	56			Pn		03 54 31.2	0.0
PNL	Peninsula baz=244	6.16	56	P		Pn		03 54 31.2	0.0
BCPM	Bancas Point	6.18	53			Pn		03 54 31.8	+0.3
HARP	HAARP	6.24	19			Pn		03 54 33.4	+1.1
HARP	HAARP baz=202	6.24	19	P		Pn		03 54 33.4	+1.1
N16K	Nishlik Lake	6.26	313			Pn		03 54 33.4	+0.8
N16K	Nishlik Lake baz=124	6.26	313	P		Pn		03 54 33.4	+0.8
L19K	White Mountain	6.27	336			Pn		03 54 32.5	-0.2
L19K	White Mountain baz=151	6.27	336	P		Pn		03 54 32.5	-0.2
WAT7	Susitna Watana	6.29	2			Pn		03 54 33.8	+0.7
WAT1	Susitna Watana	6.29	4			Pn		03 54 34.0	+0.9
WAT1	Susitna Watana baz=184	6.29	4	P		Pn		03 54 34.0	+0.9
SDPT	Sand Point	6.32	263			Pn		03 54 33.2	-0.2
SDPT	Sand Point baz=74	6.32	263	P		Pn		03 54 33.3	-0.2
L20K	Farewell, AK	6.34	341			Pn		03 54 33.3	-0.4
L20K	Farewell, AK baz=157	6.34	341	P		Pn		03 54 33.3	-0.4
M17K	Holitna River	6.37	323			Pn		03 54 34.3	+0.3
M17K	Holitna River baz=136	6.37	323	P		Pn		03 54 34.3	+0.3
DHY	Denali Highway	6.61	8			Pn		03 54 38.0	+0.5
DHY	Denali Highway baz=190	6.61	8	P		Pn		03 54 38.0	+0.5
M16K	Timber Creek	6.66	316			Pn		03 54 38.7	+0.7
M16K	Timber Creek baz=128	6.66	316	P		Pn		03 54 38.7	+0.7
N15K	Kwethluk River	6.66	307			Pn		03 54 39.5	+1.3
N15K	Kwethluk River baz=118	6.66	307	P		Pn		03 54 39.5	+1.3
M26K	Nabesna, AK	6.70	27			Pn		03 54 39.4	+0.7
M26K	Nabesna, AK baz=212	6.70	27	P		Pn		03 54 39.4	+0.7
PAX	Paxson	6.72	16			Pn		03 54 39.3	+0.3
PAX	Paxson baz=199	6.72	16	P		Pn		03 54 39.3	+0.3
L18K	Granite Mounta	6.76	330			Pn		03 54 39.1	-0.4
L18K	Granite Mounta baz=143	6.76	330	P		Pn		03 54 39.1	-0.4
O29M	Mount Kennedy	6.81	52			Pn		03 54 40.5	+0.1
O29M	Mount Kennedy baz=242	6.81	52	P		Pn		03 54 40.5	+0.1
YUK2	White River	6.84	37			Pn		03 54 41.5	+0.9
O14K	Tigyukauivet M	6.85	298			Pn		03 54 41.8	+1.1
O14K	Tigyukauivet M baz=108	6.85	298	P		Pn		03 54 41.8	+1.1
RND	Reindeer	6.86	2			Pn		03 54 41.6	+0.7
YUK8	Steele Glacier	6.88	43			Pn		03 54 42.3	+1.0
YUK8	Steele Glacier baz=231	6.88	43	P		Pn		03 54 42.3	+1.0
P29M	Windy Craggy	6.91	59			Pn		03 54 41.7	+0.1
P29M	Windy Craggy baz=249	6.91	59	P		Pn		03 54 41.7	+0.1
TRF	Thorofare Moun	6.91	357			Pn		03 54 42.6	+0.9
TRF	Thorofare Moun baz=176	6.91	357	P		Pn		03 54 42.6	+0.9
YUK3	Moose Creek	6.96	38			Pn		03 54 43.5	+1.2
YUK3	Moose Creek baz=226	6.96	38	P		Pn		03 54 43.6	+1.2
M27K	Edge Creek, AK	6.96	30			Pn		03 54 43.4	+1.1
M27K	Edge Creek, AK baz=217	6.96	30	P		Pn		03 54 43.4	+1.1
CAST	Castle Rocks	7.00	350			Pn		03 54 43.2	+0.5
CAST	Castle Rocks baz=168	7.00	350	P		Pn		03 54 43.2	+0.5
PS1A	Pavlof South-1	7.00	266			Pn		03 54 42.7	-0.1
MENT	Mentasta	7.00	22			Pn		03 54 45.0	+2.1
YUK7	Dusty Glacier	7.12	51			Pn		03 54 45.4	+0.8
PN7A	Pavlof North-7	7.14	266			Pn		03 54 44.8	+0.1
M15K	Kasigluk River	7.18	310			Pn		03 54 46.2	+1.0
M15K	Kasigluk River baz=120	7.18	310	P		Pn		03 54 46.2	+1.0
L17K	Donlin	7.18	325			Pn		03 54 45.5	+0.3
L17K	Donlin baz=137	7.18	325	P		Pn		03 54 45.5	+0.3
TTA	Tatalina	7.19	335			Pn		03 54 45.4	+0.1
TTA	Tatalina baz=149	7.19	335	P		Pn		03 54 45.4	+0.1
MCK	McKinley	7.19	2			Pn		03 54 46.1	+0.8
MCK	McKinley baz=182	7.19	2	P		Pn		03 54 46.1	+0.8
K20K	Telida	7.19	343			Pn		03 54 45.3	-0.1
K20K	Telida baz=159	7.19	343	P		Pn		03 54 45.3	-0.1
YUK6	Outpost Mounta	7.23	48			Pn		03 54 47.2	+1.1
YUK6	Outpost Mounta baz=238	7.23	48	P		Pn	

baz=262
K17K Iditarod 7.62 328 Pn 03 54 50.7 -0.5
K17K Iditarod 7.62 328 P Pn 03 54 50.7 -0.5
baz=140
J18K Innoko River 7.81 335 Pn 03 54 54.1 +0.2
J18K Innoko River 7.81 335 P Pn 03 54 54.1 +0.2
baz=149
SCRK Sand Creek 7.90 18 Pn 03 54 55.6 +0.4
SCRK Sand Creek 7.90 18 P Pn 03 54 55.6 +0.4
baz=202
HDA Harding Lake 7.96 8 Pn 03 54 56.8 +0.9
J20K Nowinta River 7.98 345 Pn 03 54 55.7 -0.4
SKAG Skagway 8.03 63 Pn 03 54 57.0 +0.1
N30M Aishikik Lake 8.03 47 Pn 03 54 57.0 0.0
N30M Aishikik Lake 8.03 47 P Pn 03 54 57.0 0.0
baz=238
L15K Ungalak Mounta 8.03 315 Pn 03 54 57.8 +0.9
L15K Ungalak Mounta 8.03 315 P Pn 03 54 57.8 +0.9
baz=124
NEA2 Nenana 8.05 1 Pn 03 54 57.3 +0.2
NEA2 Nenana 8.05 1 P Pn 03 54 57.3 +0.2
baz=181
BESE Bessie Mountai 8.09 70 Pn 03 54 57.4 -0.4
M29M Somme Creek 8.10 39 Pn 03 54 58.9 +0.9
M29M Somme Creek 8.10 39 P Pn 03 54 58.9 +0.9
baz=228
O30N Mendenhall 8.12 53 Pn 03 54 58.4 +0.2
O30N Mendenhall 8.12 53 P Pn 03 54 58.4 +0.2
baz=245
CCB Clear Creek Bu 8.14 5 Pn 03 54 58.8 +0.4
M13K Dall Lake 8.24 304 Pn 03 55 00.5 +0.8
M13K Dall Lake 8.24 304 P Pn 03 55 00.5 +0.8
baz=112
ISLZ Isanotski Laza 8.29 263 Pn 03 54 60.0 -0.5
ISNN Isanotski Nort 8.29 264 Pn 03 55 00.3 -0.1
JIS Juneau Island 8.30 72 Pn 03 55 00.1 -0.4
J25K Salcha River, 8.31 12 Pn 03 55 01.5 +0.7
J25K Salcha River, 8.31 12 P Pn 03 55 01.5 +0.7
baz=196
K27K Chicken 8.32 23 Pn 03 55 01.4 +0.6
K27K Chicken 8.32 23 P Pn 03 55 01.4 +0.6
baz=209
IL31 8.32 8 Pn 03 55 01.4 +0.7
ILAR Eielson Array 8.32 8 Pn Pn 03 55 01.6 +0.8
comp=E,0.8nm,0.3s,baz=193,slow=13,SNR=22
ILAR Sn Sn 03 56 32.2 -2.6
comp=E,0.7nm,0.3s,baz=187,slow=19,SNR=7.3
ILAR LR LR 03 58 36.9
comp=E,73nm,19.5s,baz=98,slow=39
comp=E,1.5nm,0.3s
L14K Kuka Creek 8.34 310 Pn 03 55 02.1 +1.0
L14K Kuka Creek 8.34 310 P Pn 03 55 02.1 +1.0
baz=119
COLA College 8.37 5 Pn Pn 03 55 02.1 +0.7
SSLN Shishaldin Nor 8.41 264 Pn 03 55 02.1 -0.1
MDM Murphy Dome 8.44 3 Pn 03 55 03.0 +0.6
SSLS Shishaldin Sou 8.45 263 Pn 03 55 02.7 0.0
J26L Joseph Creek 8.46 18 Pn 03 55 02.8 0.0
J26L Joseph Creek 8.46 18 P Pn 03 55 02.8 0.0
baz=203
MLY Manley 8.51 356 Pn 03 55 04.0 +0.5
MLY Manley 8.51 356 P Pn 03 55 04.0 +0.5
baz=175
N31M Braeburn, Yuko 8.59 49 Pn 03 55 04.9 +0.4
N31M Braeburn, Yuko 8.59 49 P Pn 03 55 04.9 +0.4
baz=241
I23K Minto, Yukon-K 8.61 0 Pn 03 55 05.6 +0.9
I23K Minto, Yukon-K 8.61 0 P Pn 03 55 05.6 +0.9
baz=180
I20K Naaghedeneel 8.61 345 Pn Pn 03 55 05.8 +1.0
WHY Whitehorse 8.62 56 Pn Pn 03 55 06.0 +0.9
POKR Poker Plat Res 8.63 6 Pn 03 55 05.7 +0.6
POKR Poker Plat Res 8.63 6 P Pn 03 55 05.7 +0.6
baz=187
L29M L29M 8.67 36 Pn 03 55 06.0 +0.4
L29M L29M 8.67 36 P Pn 03 55 06.0 +0.4
baz=226
I21K Tanana 8.72 353 Pn 03 55 06.9 +0.6
I21K Tanana 8.72 353 P Pn 03 55 06.9 +0.6
baz=170
J16K Anvik River 8.75 325 Pn 03 55 06.7 0.0
J16K Anvik River 8.75 325 P Pn 03 55 06.7 0.0
baz=135
M30M Minto, Yukon 8.79 42 Pn 03 55 07.5 +0.2
M30M Minto, Yukon 8.79 42 P Pn 03 55 07.5 +0.2
baz=232
P32M Atlin 8.86 64 Pn 03 55 08.1 -0.2
P32M Atlin 8.86 64 P Pn 03 55 08.1 -0.2
baz=257
WEBT Westdahl Beart 8.90 264 Pn 03 55 09.5 +0.7
DAWY Dawson 9.01 29 Pn 03 55 11.4 +1.2
PRP Porcupine Dome 9.17 10 Pn 03 55 12.3 -0.3
PRP Porcupine Dome 9.17 10 P Pn 03 55 12.3 -0.3
baz=194
H21K Melozitna Rive 9.26 351 Pn 03 55 13.1 -0.6
I26K Coal Creek Min 9.27 17 Pn 03 55 14.9 +1.1
H24K Noodor Dome 9.33 4 Pn 03 55 16.1 +1.4
K29M Barlow Dome 9.38 34 Pn Pn 03 55 16.1 +0.6
P33M Teslin, Yukon 9.45 60 Pn 03 55 16.2 -0.2
P33M Teslin, Yukon 9.45 60 P Pn 03 55 16.2 -0.2
baz=255
S34M Telegraph Cree 10.01 75 Pn 03 55 23.4 -0.6
S34M Telegraph Cree 10.01 75 P Pn 03 55 23.4 -0.6
baz=270
G21K Allakaket 10.16 351 Pn 03 55 27.4 +1.3
G23K Bananza Creek 10.18 359 Pn 03 55 27.1 +0.7
G24K Hadweenzic Riv 10.21 4 Pn 03 55 28.0 +1.4
FYU Fort Yukon 10.22 10 Pn 03 55 27.3 +0.5
J30M Hart River 10.27 33 Pn 03 55 28.7 +1.0
DLBC Dease Lake 10.60 72 Pn Pn 03 55 32.6 +0.4
comp=E,0.9nm,0.3s,baz=271,slow=8.5,SNR=11
DLBC Sn Sn 03 57 27.6 -3.3
comp=E,0.2nm,0.3s,baz=191,slow=25,SNR=1.6
comp=E,2.2nm,0.3s
F21K Alatna River 10.85 352 Pn 03 55 36.1 +0.6
F24K Squaw Lake 11.01 3 Pn 03 55 39.1 +1.4
E19K Redstone River 11.51 345 Pn 03 55 45.7 +1.3
D27M Malcolm River 13.27 13 Pn Pn 03 56 09.4 +0.9
INK Inuvik 13.82 25 Pn Pn 03 56 18.0 +2.1
INK Inuvik 13.82 25 Pn Pn 03 56 18.9 +3.0
comp=E,0.1nm,0.3s,baz=216,slow=8.7,SNR=4.5
comp=E,1.1nm,0.8s
ADK Adak 16.55 265 Pn Pn 03 56 51.1 -1.1
KIWB Kanaga Island 16.82 265 Pn Pn 03 56 55.0 -0.6
YKAB2 New Yellowknif 18.45 57 Pn P 03 57 17.5 +1.8
YKA Yellowknife Ar 18.45 57 P 03 57 16.4 +0.7
YKA Yellowknife Ar 18.45 57 P P 03 57 18.2 +2.5
baz=265,slow=11,SNR=3.9
comp=E,0.2nm,0.7s
NEW Newport 21.22 99 LR LR 04 03 35.8
comp=E,38nm,21.2s,baz=266,slow=30
PETK Petropavlovsk- 30.01 286 P P 03 59 08.4 -0.4
H11N2 WAKE ISLAND Hy 48.96 240 T T 04 54 38.4
baz=30,slow=74,SNR=3.5
H11N3 WAKE ISLAND Hy 48.96 240 T T 04 54 37.7
baz=30
H11N1 WAKE ISLAND Hy 48.97 240 T T 04 54 35.5
baz=30,slow=74,SNR=3.4
H11S1 WAKE ISLAND Hy 50.10 239 T T 04 56 31.7
baz=28,slow=76,SNR=4.9
H11S2 WAKE ISLAND Hy 50.11 239 T T 04 56 32.8
baz=28,slow=76,SNR=4.3
H11S3 WAKE ISLAND Hy 50.12 239 T T 04 56 26.7
baz=28,slow=76,SNR=4.2
SONM Songino Array 58.39 310 P P 04 02 55.7 +0.1
comp=E,0.7nm,0.8s,baz=27,slow=8.5,SNR=4.8
comp=E,0.7nm,0.8s
ZALV Zalesovo Beam 61.27 327 P P 04 03 16.5 +1.3
comp=E,0.8nm,0.6s,baz=43,slow=6.5,SNR=4.0
comp=E,0.8nm,0.6s
FINES FINESS Array B 62.27 2 P P 04 03 20.3 -1.4
FINES FINESS Array B 62.27 2 P P 04 03 22.8 +1.0
comp=E,2.6nm,0.8s,baz=352,slow=9.6,SNR=6.6
comp=E,2.6nm,0.8s
MKAR Makanchi Array 68.31 325 P P 04 04 02.1 +0.9
MKAR Makanchi Array 68.31 325 P P 04 04 02.2 +1.0
comp=E,0.3nm,0.5s,baz=36,slow=6.9,SNR=7.1
comp=E,0.3nm,0.5s
ABKAR Akbulak array 71.75 340 P P 04 04 22.9 +0.7

IDC 24 03:53:28.0±1.8, 4°42S×144°48E, h0km, mb3.3/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=134.8km s-min=29.9km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.32	212	P	Pn	03 57 41.7	-2.1
	0.1nm,0.3s,baz=33,slow=11,SNR=5.1						
	0.5nm,0.7s						
ASAR	Alice Springs	21.69	207	P	P	03 58 20.7	+0.1
	0.5nm,0.8s,baz=32,slow=12,SNR=4.2						
	0.5nm,0.8s						
ILAR	Eielson Array	85.03	24	P	P	04 06 05.8	+0.6
	0.3nm,0.7s,baz=252,slow=4.9,SNR=5.7						
	0.3nm,0.7s						

*RSNC **24** 04:02:38.5±1.4, 7°.52N×73°.61W, h100km±7km, ML3.4, Mw4.0, Fault plane solution: NP1:ϕ▷58.00000°, δ68.00000°, λ-148.00000°.*
*IDC **24** 04:02:39.8±3.3, 7°.47N×73°.77W, h133km±29km, mb3.0/2, mbtmp3.5/3, Error ellipse: s-maj=61.6km s-min=28.4km az=81.0*

ISC 24 04:02:37.2±0.9, 7°.54N±0°.03×73°.58W±0°.04, h109km±8km, n36, σ1f62/64, 4C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	Ocana	0.74	20	i P	Pn	04 02 56.5	+0.4
OCAC				eS	Sn	04 03 10.8	+0.6
PAMC	Pamplona, Colo	0.90	103	↓ i P	Pn	04 02 58.2	+0.3
PAMC				eS	Sn	04 03 13.8	+0.4
PAMC				i		04 03 14.6	
	comp=Z,492nm,0.2s						
BARC	Barichara	1.02	157	↓ i P	Pn	04 02 58.6	-0.2
BARC				eS	Sn	04 03 14.4	-0.7
PTBC	PUERTO BERRIO,	1.32	221	↑ eP	Pn	04 03 01.1	-0.9
PTBC				eS	Sn	04 03 21.1	+0.5
PTBC				i		04 03 23.0	
	comp=Z,270nm,0.5s						
SPBC	San Pablo de B	1.94	195	eP	Pn	04 03 08.8	-0.7
SPBC				eS	Sn	04 03 34.5	+0.4
SPBC				i		04 03 38.0	
	comp=Z,392nm,0.3s						
UREC	San Jos de Ur	1.95	276	↓ eP	Pn	04 03 09.2	-0.4
UREC				eS	Sn	04 03 32.0	-2.2
UREC				i		04 03 40.9	
	comp=Z,489nm,0.2s						
TAMC	Tame, Arauca	2.09	122	↓ i P	Pn	04 03 11.5	+0.2
TAMC				eS	Sn	04 03 36.6	-0.8
TAMC				i		04 03 36.9	
	comp=Z,307nm,0.4s						
LL6C	La Loma 6 Bece	2.21	8	eP	Pn	04 03 13.6	+0.7
LL6C				eS	Sn	04 03 41.3	+1.2
LL6C				i		04 03 46.8	
	comp=Z,234nm,0.3s						
ARGC	Ariguani, Magd	2.40	344	eP	Pn	04 03 17.0	+1.7
ARGC				eS	Sn	04 03 49.7	+5.1
ARGC				i		04 03 53.4	
	comp=Z,136nm,0.3s						
DBBC	Dabeiba	2.66	259	eP	Pn	04 03 19.7	+0.9
DBBC				eS	Sn	04 03 49.7	-1.1
DBBC				i		04 04 02.3	
	comp=Z,66nm,0.3s						
ROSC	El Rosal	2.78	195	P	Pn	04 03 22.3	+1.6
	comp=Z,31nm,0.3s,baz=48,slow=3.8,SNR=18						
ROSC				S	Sn	04 03 56.1	+2.1
	comp=Z,184nm,0.7s,baz=9.8,slow=24,SNR=14						
ROSC	El Rosal	2.78	195	eP	Pn	04 03 22.7	+2.0
ROSC				eS	Sn	04 03 57.3	+3.3
ROSC				i		04 04 02.3	
	comp=Z,204nm,0.8s						
SJCC	San Jacinto, C	2.83	326	↑ i P	Pn	04 03 21.3	+0.2
SJCC				eS	Sn	04 03 54.0	-0.8
SJCC				i		04 04 02.6	
	comp=Z,116nm,0.4s						
GUY2C	Guyana, Caldas	2.90	218	eP	Pn	04 03 23.3	+0.9
GUY2C				eS	Sn	04 03 57.5	+0.4
GUY2C				i		04 04 08.6	
	comp=Z,149nm,0.5s						
CBOC	Ciudad Bolivar	2.93	236	eP	Pn	04 03 23.3	+0.8
CBOC				eS	Sn	04 03 59.9	+2.5
CBOC				i		04 04 09.7	
	comp=Z,66nm,0.4s						
CVER	Cruz Verde, Cu	3.04	189	eP	Pn	04 03 26.1	+1.9
CVER				eS	Sn	04 04 01.8	+1.5
CVER				i		04 04 18.1	
	comp=Z,121nm,0.4s						
VILC	Villavicencio,	3.40	182	eP	Pn	04 03 29.5	+0.7
VILC				eS	Sn	04 04 11.0	+2.4
VILC				i		04 04 20.0	
	comp=Z,277nm,0.4s						
CRJC	Cerrejon, Guaj	3.53	11	eP	Pn	04 03 30.4	0.0
CRJC				eS	Sn	04 04 11.1	-0.4
PTGC	Puerto Gaitan,	3.61	156	eP	Pn	04 03 30.2	-1.2
PTGC				eS	Sn	04 04 09.9	-3.5
PTGC				i		04 04 12.5	
	comp=Z,109nm,0.4s						
SMRC	Santa Marta, M	3.66	350	eP	Pn	04 03 33.5	+1.4
SMRC				eS	Sn	04 04 16.0	+1.5
PLMC	San Jos del P	3.75	226	↓ eP	Pn	04 03 34.0	+0.7
PLMC				eS	Sn	04 04 19.4	+2.7
PLMC				i		04 04 25.4	
	comp=Z,35nm,0.3s						
CAPC	Capurgana	3.89	287	eS	Sn	04 04 17.1	-2.9
ORTC	Ortega, Tolima	3.97	205	eP	Pn	04 03 36.8	+0.6
ORTC				eS	Sn	04 04 25.5	+3.6
ORTC				i		04 04 29.3	
	comp=Z,60nm,0.4s						
PRAC	Prado	4.01	199	eP	Pn	04 03 36.7	-0.1
PRAC				eS	Sn	04 04 23.2	+0.1
PRAC				i		04 04 37.0	
	comp=Z,79nm,0.3s						
PTAC	Punta Ardita,	4.21	265	eP	Pn	04 03 40.0	+0.5
PTAC				eS	Sn	04 04 28.2	+0.5
PTAC				i		04 04 33.2	
	comp=Z,20nm,0.2s						
YOTC	Yotoco, Valle	4.47	218	eP	Pn	04 03 44.2	+1.1
UPD2	Meteti	4.50	283	eP	Pn	04 03 43.1	-0.3
UPD2				eS	Sn	04 04 33.9	-0.9
UPD2				i		04 04 39.7	
	comp=Z,54nm,0.3s						
JAMC	Jamundi, Valle	5.28	216	eP	Pn	04 03 54.5	+0.3
GARC	Garzon, Huila	5.65	200	eP	Pn	04 03 58.4	-0.7
GARC				eS	Sn	04 05 03.9	+1.1
GARC				i		04 05 05.2	
	comp=Z,34nm,0.3s						
POPC	Popayan, Colom	5.84	212	eP	Pn	04 04 04.5	+2.7
BBAC	Balboa, Cauca	6.58	214	eP	Pn	04 04 13.2	+1.4
BBAC				eS	Sn	04 05 22.8	-2.8
GMAL	Guarumal, Vera	7.59	272	eP	Pn	04 04 25.8	+0.6
GMAL				i P	Pn	04 04 25.8	+0.6
TXAR	Lajitas Array	35.65	311	P	P	04 09 24.7	-0.4
	comp=Z,0.3nm,0.6s,baz=116,slow=8.1,SNR=2.2						
	comp=Z,0.3nm,0.6s						
YKA	Yellowknife Ar	62.44	340	P	P	04 12 48.4	-0.2
	comp=Z,0.3nm,0.6s,baz=131,slow=6.4,SNR=10						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	149.15	236	PKPbc	PKPbc	04 22 12.3	-1.6
	comp=Z,0.6nm,0.8s,baz=124,slow=3.1,SNR=5.1						
WRA	Warramunga Arr	150.27	243	PKPbc	PKPbc	04 22 15.4	-1.2
	comp=Z,0.4nm,0.5s,baz=106,slow=2.8,SNR=5.2						

*NEIC **24** 04:04:42.5±1.5, 56°.0N±0°.1×149°.9W±0°.1, h20km±10km, ML3.5/22, ML3.3(AEIC), Error ellipse: s-maj=15.7km s-min=8.3km az=163.0*
*AEIC **24** 04:04:47.0±1.4, 56°.05N±0°.09×149°.9W±0°.1, h12km±8km, Error ellipse: s-maj=13.1km s-min=9.5km az=161.0*

ISC 24 04:04:40.7±2.0, 56°.0N±0°.1×149°.88W±0°.06, h10km, n120, σ1f10/123, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.22	304		Pn	04 05 18.0	+0.4
OHAK					Sn	04 05 43.2	-1.8
OHAK	Old Harbor	2.22	304	P	Pn	04 05 18.0	+0.4
	baz=120						
OHAK				S	Sn	04 05 43.2	-1.8
	baz=120						
KDAK	Kodiak Island	2.29	321		Pn	04 05 19.2	+0.7
KDAK					Sn	04 05 45.5	-1.2
SII	Sitkinak Islan	2.45	284		Sn	04 05 49.2	-1.6
SII	Sitkinak Islan	2.45	284	Pn	Pn	04 05 22.2	+1.4
SII				IAML		04 06 08.4	
	comp=N,297nm,3.0s						
SII				IAML		04 06 50.6	
	comp=E,254nm,3.3s						
SII	Sitkinak Islan	2.45	284	S	Sn	04 05 49.2	-1.6
	baz=100						
SYI	Shuyak Island	2.91	333		Pn	04 05 27.9	+0.9
SYI					Sn	04 06 01.6	-0.4
SYI	Shuyak Island	2.91	333	IAML		04 06 18.2	
	comp=N,82nm,3.0s						
Q20K	Shuyak Island	2.91	333	P	Pn	04 05 27.9	+0.9
	baz=151						
Q20K				S	Sn	04 06 01.6	-0.5
	baz=151						
KAHG	Katmai Hook Gl	3.53	316		Pn	04 05 37.5	+1.9
Q19K	Cape Douglas,	3.54	326		Pn	04 05 37.6	+1.9
Q19K					Sn	04 06 15.9	-1.6
Q19K	Cape Douglas,	3.54	326	P	Pn	04 05 37.6	+1.9
	baz=143						
Q19K				S	Sn	04 06 15.9	-1.6
	baz=143						
CNPM	China Poot	3.57	349		Pn	04 05 36.3	+0.2
CNPM					Sn	04 06 17.3	-1.0
CNPM	China Poot	3.57	349	IAML		04 07 02.3	
	comp=E,74nm,2.7s						
CNPM				IAML		04 07 58.0	
	comp=N,72nm,2.8s						
ACHA	Angle Creek He	3.68	308		Pn	04 05 39.0	+1.4
BRSE	Bradley Lake S	3.74	353		Pn	04 05 38.2	-0.2
BRSE	Bradley Lake S	3.74	353	P	Pn	04 05 38.2	-0.2
	baz=172						
ANCK	Angle Creek	3.75	308		Pn	04 05 40.1	+1.5
KVTA	Katmai Vly 10	3.76	311		Pn	04 05 41.0	+2.3
BRLK	Bradley Lake	3.77	352		Pn	04 05 38.8	-0.1
BRLK	Bradley Lake	3.77	352	IAML		04 06 40.3	
	comp=N,64nm,3.4s						
BRLK				IAML		04 07 03.3	
	comp=E,69nm,3.2s						
Q23K	Middleton Isla	3.89	28		Pn	04 05 40.3	-0.2
Q23K	Middleton Isla	3.89	28	P	Pn	04 05 40.3	-0.2
	baz=210						
CNTC	Contact Creek	3.96	307		Pn	04 05 43.0	+1.5
Q17K	Contact Creek	3.96	307	P	Pn	04 05 43.0	+1.5
	baz=122						
P19K	Oil Pt	4.04	335		Pn	04 05 43.7	+1.2
P19K	Oil Pt	4.04	335	P	Pn	04 05 43.7	+1.2
	baz=152						
P23K	Montague Islan	4.18	17		Pn	04 05 44.4	-0.1
P23K	Montague Islan	4.18	17	P	Pn	04 05 44.4	-0.1
	baz=199						
O20K	Slope Mountain	4.30	341		Pn	04 05 46.7	+0.5
O20K	Slope Mountain	4.30	341	P	Pn	04 05 46.7	+0.5
	baz=159						
P18K	Big Mountain,	4.42	322		Pn	04 05 48.6	+0.9
P18K	Big Mountain,	4.42	322	P	Pn	04 05 48.6	+0.9
	baz=137						
O22K	Cooper Landing	4.45	1		Pn	04 05 49.1	+0.9
O22K	Cooper Landing	4.45	1	P	Pn	04 05 49.1	+0.9
	baz=181						
SLKM	Skilak Lake	4.48	358		Pn	04 05 49.1	+0.4
HIN	Hinchinbrook I	4.72	21		Pn	04 05 52.0	+0.1
HIN	Hinchinbrook I	4.72	21	IAML		04 08 22.1	
	comp=N,60nm,2.9s						
P17K	Kvichak River	4.73	315		Pn	04 05 53.3	+1.3
P17K	Kvichak River	4.73	315	P	Pn	04 05 53.3	+1.3
	baz=129						
O18K	Koktuh Hills	4.76	326		Pn	04 05 53.6	+1.2
O18K	Koktuh Hills	4.76	326	P	Pn	04 05 53.6	+1.2
	baz=141						
KAIM	Kayak Island	4.86	34		Pn	04 05 53.9	+0.2
KAIM	Kayak Island	4.86	34	P	Pn	04 05 53.9	+0.2
	baz=219						
EYAK	Cordova Ski Ar	5.02	24		Pn	04 05 56.2	+0.3
EYAK	Cordova Ski Ar	5.02	24	P	Pn	04 05 56.2	+0.3
	baz=207						
RC01	Rabbit Creek A	5.06	1	Pn	Pn	04 05 56.5	0.0
RC01				IAML		04 07 18.9	
	comp=E,32nm,3.3s						
RC01				IAML		04 08 08.2	
	comp=N,26nm,3.4s						
P16K	Nushagak River	5.30	308		Pn	04 06 00.7	+1.0
P16K	Nushagak River	5.30	308	P	Pn	04 06 00.7	+1.0
	baz=121						
GOAT	Goat Mountain	5.30	29		Pn	04 06 00.5	+0.6
N19K	Bonanza Creek	5.36	335		Pn	04 06 01.1	+0.3
N19K	Bonanza Creek	5.36	335	IAML		04 07 05.8	
	comp=N,26nm,3.9s						
N19K				IAML		04 07 09.4	
	comp=E,18nm,4.4s						
N19K	Bonanza Creek	5.36	335	P	Pn	04 06 01.1	+0.3
	baz=151						
O17K	Koliganek Bris	5.36	317		Pn	04 06 01.8	+1.2
O17K	Koliganek Bris	5.36	317	P	Pn	04 06 01.8	+1.2
	baz=131						
KNK	Knik Glacier	5.44	7		Pn	04 06 01.5	-0.3
KNK	Knik Glacier	5.44	7	P	Pn	04 06 01.5	-0.3
	baz=188						
BERG	Berg Lake	5.45	34		Pn	04 06 02.0	+0.2
DIV	Divide	5.54	21		Pn	04 06 03.8	+0.7
SNH	Sunshine Point	5.58	39		Pn	04 06 04.2	+0.4
N18K	Kilae Creek	5.62	328		Pn	04 06 04.3	0.0
N18K	Kilae Creek	5.62	328	P	Pn	04 06 04.3	0.0
	baz=143						
BMRM	Bremner River	5.66	27		Pn	04 06 05.5	+0.7
BMRM	Bremner River	5.66	27	P	Pn	04 06 05.5	+0.7
	baz=211						
KLU	Klutina	5.84	19		Pn	04 06 07.4	0.0
KLU	Klutina	5.84	19	P	Pn	04 06 07.4	0.0
	baz=202						
BARK	Barkley Ridge	5.86	39		Pn	04 06 07.8	+0.2
N17K	Nushagak Hills	5.92	322		Pn	04 06 09.7	+1.3
N17K	Nushagak Hills	5.92	322	P	Pn	04 06 09.7	+1.3
	baz=136						
SCM	Sheep Creek Mo	5.96	12		Pn	04 06 10.2	+1.3
SCM	Sheep Creek Mo	5.96	12	P	Pn	04 06 10.2	+1.3
	baz=194						
M20K	Styx River	6.09	345		Pn	04 06 12.1	+1.3
M20K	Styx River	6.09	345	P	Pn	04 06 12.1	+1.3
	baz=162						
VRDI	Verde Repeater	6.19	30		Pn	04 06 12.4	+0.2
O15K	Ungalikthiuk R	6.20	305		Pn	04 06 13.3	+1.2
O15K	Ungalikthiuk R	6.20	305	P	Pn	04 06 13.3	+1.2
	baz=116						
N25K	Chitina, Valde	6.22	24		Pn	04 06 12.9	+0.4
N25K	Chitina, Valde	6.22	24	P	Pn	04 06 12.9	+0.4
	baz=208						
GLB	Gilahina Butte	6.27	28		Pn	04 06 14.0	+0.9
M18K	Stony River	6.28	333		Pn	04 06 13.0	-0.2
M18K	Stony River	6.28	333	P	Pn	04 06 13.0	-0.2
	baz=148						
KIAG	Kiagna River	6.28	36		Pn	04 06 13.9	+0.4
SAMH	Samovar Hills	6.33	46		Pn	04 06 14.6	+0.6
MCARA	McCarthy VSAT	6.43	31		Pn	04 06 16.3	+0.9
MCARA	McCarthy VSAT	6.43	31	P	Pn	04 06 16.3	+0.9
	baz=216						
PTPK	Patty Peak	6.45	34		Pn	04 06 16.8	+1.0
N16K	Nishlik Lake	6.46	317		Pn	04 06 17.3	+1.5
N16K	Nishlik Lake	6.46	317	P	Pn	04 06 17.3	+1.5
	baz=130						
PCA	Pinnacle	6.52	48		Pn	04 06 17.4	+0.7
PINM	Pinnacle	6.53	48	P	Pn	04 06 17.4	+0.7
	baz=236						
WASW	Wrangell South	6.60	24		Pn	04 06 18.6	+0.7
BARN	Barnard Glacie	6.62	37		Pn	04 06 18.7	+0.6
CTG	Chitna Glacier	6.66	39	P	Pn	04 06 19.0	+0.4
	baz=226						
CTGM	Chitina Glacie	6.66	39		Pn	04 06 19.0	+0.3
PNL	Peninsula	6.67	53		Pn	04 06 19.1	+0.4
PNL	Peninsula	6.67	53	P	Pn	04 06 19.1	+0.4
	baz=241						
LOGN	Logan Glacier	6.68	41		Pn	04 06 19.4	+0.4
BCPM	Bancas Point	6.71	50		Pn	04 06 19.8	+0.6
WAZA	Wrangell Mount	6.73	24		Pn	04 06 21.4	+1.7
N15K	Kwethluk River	6.81	312		Pn	04 06 22.7	+2.1
N15K	Kwethluk River	6.81	312	P	Pn	04 06 22.7	+2.1
	baz=123						
M16K	Timber Creek	6.89	320		Pn	04 06 23.1	+1.5
M16K	Timber Creek	6.89	320	P	Pn	04 06 23.1	+1.5
	baz=132						
O14K	Tigyukauivet M	6.90	302		Pn	04 06 23.4	+1.6
O14K	Tigyukauivet M	6.90	302	P	Pn	04 06 23.4	+1.6
	baz=113						
L18K	Granite Mounta	7.11	333		Pn	04 06 26.4	+1.8
L18K	Granite Mounta	7.11	333	P	Pn	04 06 26.4	+1.8
	baz=147						
DHY	Denali Highway	7.17	9		Pn	04 06 27.9	+2.3
DHY	Denali Highway	7.17	9	P	Pn	04 06 27.9	+2.3

	baz=191					
O29M	Mount Kennedy	7.34 50		Pn	04 06 28.9	+0.9
O29M	Mount Kennedy baz=239	7.34 50	P	Pn	04 06 28.9	+0.9
M15K	Kasigluk River	7.35 314		Pn	04 06 29.6	+1.7
M15K	Kasigluk River baz=125	7.35 314	P	Pn	04 06 29.6	+1.7
N14K	Kuskokwak Cree	7.38 307		Pn	04 06 29.8	+1.4
N14K	Kuskokwak Cree baz=117	7.38 307	P	Pn	04 06 29.8	+1.4
P29M	Windy Craggy	7.41 56		Pn	04 06 28.8	0.0
P29M	Windy Craggy baz=246	7.41 56	P	Pn	04 06 28.8	0.0
KTH	Kantishna Hill	7.55 356	Pn	Pn	04 06 31.1	+0.3
R31K	City Hall, Gus	8.03 67		Pn	04 06 38.5	+1.2
R31K	City Hall, Gus baz=259	8.03 67	P	Pn	04 06 38.5	+1.2

IDC ***24*** *04:08:37.8±0.8,30°.87S×179°.38E,h468km±8km,mb3.7/7, mbtmp4.6/11,Error ellipse: s-maj=17.3km s-min=13.8km az=129.0*

NEIC ***24*** *04:08:37.0±1.4,30°.9S±0°.1×179°.4E±0°.1,h466km±8km, mb4.5/22,Error ellipse: s-maj=19.2km s-min=11.8km az=212.0*

WEL ***24*** *04:08:44.1±0.6,32°.5S±5°×18°.0E±1°.3,h440km±10km, M3.9/24,mB4.5/23,ML5.2/10,MLv5.0/24,Mw(mB)3.6/23, Error ellipse: s-maj=0.0km s-min=0.0km az=107.8, confirmed*

NOU ***24*** *04:08:54.0,32°.40S×178°.87E,h499km,mb4.3/13,South of Kermadec Islands*

ISC 24 04:08:37.1±0.4,30°.96S±0°.04×179°.05E±0°.07,h450km, n164,σ2°15/186,mb4.4/16,5C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	3.12	58	P	P	04 09 46.0	+1.0
GLKZ				S	S	04 10 45.2	+5.0
RIZ	Raoul Island	3.12	58	P	P	04 09 46.4	+1.3
RIZ				S	S	04 10 46.0	+5.7
RAO	Raoul Island	3.13	58	P	P	04 09 46.4	+1.3
RAO				S	S	04 10 39.1	-1.2
RAO	Raoul Island 329nm,0.3s,baz=82,slow=22,SNR=2.5	3.13	58	P	P	04 09 46.5	+1.3
RAO	329nm,0.3s,baz=88,slow=22,SNR=3.5			S	S	04 10 39.5	-0.8
OUZ	Omahuta	6.25	226	P	P	04 10 22.0	+8.2
OUZ	Omahuta	6.25	226	P	P	04 10 22.1	+8.3
WCZ	Waipu Caves	6.33	217	P	P	04 10 22.2	+7.5
KUZ	Kuaotunu	6.40	205	P	P	04 10 22.5	+7.1
MXZ	Matakaoa Point	6.61	185	P	P	04 10 23.0	+5.4
MARZ	Manawahe	7.28	195	P	P	04 10 31.1	+6.4
TOZ	Tahuroa Road	7.36	203		P	04 10 32.1	+6.6
URZ	Urewera	7.45	192	P	P	04 10 29.2	+2.7
URZ	Urewera 52nm,0.3s,baz=59,slow=1.9,SNR=50	7.45	192	P	P	04 10 28.6	+2.2
URZ	39nm,0.5s,baz=239,slow=23,SNR=10			S	S	04 11 54.2	-1.9
RTZ	Ruatahuna	7.82	192		P	04 10 33.5	+3.0
TLZ	Tolley Road	7.90	201	P	P	04 10 37.9	+6.6
SNGZ	Shannon Statio	7.93	190	P	P	04 10 34.6	+3.0
SNGZ				S	S	04 10 45.0	-0.4
PRGZ	Paritu Road	8.00	187	P	P	04 10 37.3	+5.0
PRGZ				S	S	04 12 07.8	+0.7
RAHZ	Arahi	8.10	191	P	P	04 10 34.7	+1.3
RAHZ				S	S	04 12 08.6	-0.3
MRHZ	Matea Rd	8.15	195	P	P	04 10 37.1	+3.1
MRHZ				S	S	04 12 11.4	+1.5
WHHZ	Waihua	8.23	190	P	P	04 10 38.0	+3.1
WHHZ				S	S	04 12 13.9	+2.3
HIZ	Hauiti	8.29	203		P	04 10 39.8	+4.3
HIZ	Hauiti	8.29	203	P	P	04 10 39.7	+4.3
HIZ	Hauiti	8.29	203	P	P	04 10 42.4	+7.0
NMHZ	Naumai	8.32	192	P	P	04 10 36.9	+1.0
NMHZ				S	S	04 12 13.4	-0.1
RATZ	Rangitukua	8.33	198	P	P	04 10 39.8	+3.8
RITZ	Rihia Road	8.41	197	P	P	04 10 41.6	+4.8
BKZ	Black Stump Fm	8.45	194	P	P	04 10 38.5	+1.3
BKZ	Black Stump Fm	8.45	194	P	P	04 10 39.7	+2.4
ARHZ	Aropaoanui	8.45	191	P	P	04 10 39.4	+2.2
ARHZ				S	S	04 12 15.7	-0.2
NTVZ	North Tongarir	8.58	198	P	P	04 10 41.6	+2.9
TMVZ	Te Maari	8.59	198	P	P	04 10 42.4	+3.6
ETVZ	East Tongariro	8.60	198	P	P	04 10 42.5	+3.5
WTVZ	West Tongariro	8.62	198	P	P	04 10 42.4	+3.3
TWVZ	Taurewa	8.62	199	P	P	04 10 42.9	+3.8
NNVZ	North Ngauruho	8.62	198	P	P	04 10 42.5	+3.3
OTVZ	Oturere	8.64	198	P	P	04 10 42.6	+3.2
SNVZ	South Ngauruho	8.67	198	P	P	04 10 43.1	+3.3
NGZ	Ngauruhoe	8.67	198	P	P	04 10 43.1	+3.4
MCHZ	McNeill Hill	8.68	192	P	P	04 10 42.4	+2.7
MCHZ				S	S	04 12 20.8	+0.4
KWHZ	Kaweka Forest	8.71	194	P	P	04 10 42.8	+2.7
KWHZ				S	S	04 12 18.8	-2.5
MAVZ	Matarangi	8.77	198	P	P	04 10 43.9	+2.9
TRVZ	Turoa	8.80	198	P	P	04 10 44.2	+3.0
WWVZ	Wahianoa	8.81	198	P	P	04 10 44.3	+2.7
CKHZ	Cape Kidnapper	8.83	190	P	P	04 10 44.0	+2.8
CKHZ				S	S	04 12 22.9	-0.5
PKVZ	Pokaka	8.85	199	P	P	04 10 44.9	+3.3
MOVZ	Moawhango	8.85	197	P	P	04 10 44.0	+2.4
MOVZ				S	S	04 12 23.1	-0.9
BHHZ	Black Hill Sta	8.85	195	P	P	04 10 42.8	+1.2
BHHZ				S	S	04 12 21.8	-2.2
KRHZ	Kereru	8.94	193	P	P	04 10 44.9	+2.4
KRHZ				S	S	04 12 23.9	-1.7
KAHZ	Kahuranaki	8.99	191	P	P	04 10 46.3	+3.2
KAHZ				S	S	04 12 26.3	-0.4
PXZ	Pawanui	9.22	191	P	P	04 10 47.0	+1.5
PXZ				S	S	04 12 28.4	-2.8
NEZ	North Egmont	9.23	205	P	P	04 10 52.9	+7.1
PNHZ	Pukenui	9.23	194	P	P	04 10 47.2	+1.5
PREZ	Palmer Road	9.27	204	P	P	04 10 52.4	+6.2
KHEZ	Kahui Hut	9.28	205	P	P	04 10 52.3	+6.0
NBEZ	Newall Road No	9.31	206	P	P	04 10 53.7	+7.2
TSZ	Takapari Road	9.42	195	P	P	04 10 49.7	+2.0
TSZ				S	S	04 12 36.0	+0.7
NMEZ	Namu Road	9.43	205	P	P	04 10 54.4	+6.6
PRHZ	Porangahau	9.49	191	P	P	04 10 50.8	+2.3
PRHZ				S	S	04 12 33.4	-3.3
DVHZ	Dannevirke	9.61	193	P	P	04 10 51.9	+2.1
DVHZ				S	S	04 12 36.4	-2.7
ANWZ	Angora Road	9.71	192	P	P	04 10 55.0	+4.2
ANWZ				S	S	04 12 38.3	-2.6
BFZ	Birch Farm	9.96	192		P	04 10 54.7	+1.1
BFZ	Birch Farm	9.96	192	P	P	04 10 54.6	+1.0
BFZ	Birch Farm	9.96	192	P	P	04 10 55.0	+1.4
BFZ				S	S	04 12 41.7	-4.4
MRZ	Mangatainoka R	10.08	195	P	P	04 10 55.7	+0.8
MRZ	Mangatainoka R	10.08	195	P	P	04 10 55.7	+0.8
MRZ				S	S	04 12 45.7	-2.7
CPWZ	Castlepoint	10.19	192	P	P	04 10 60.0	+3.9
HOWZ	Holdsworth Sta	10.32	195	P	P	04 10 59.1	+1.6
HOWZ				S	S	04 12 49.5	-3.8
OGWZ	Otaki Gorge	10.32	197	P	P	04 10 58.6	+1.1
OGWZ				S	S	04 12 49.6	-3.7
KIW	Kapiti Island	10.43	198	P	P	04 11 00.1	+1.4
KIW				S	S	04 12 51.4	-4.0
TMWZ	Te Maipa	10.44	193	P	P	04 11 01.1	+2.3
TMWZ				S	S	04 12 53.2	-2.5
MTW	Mount Morrison	10.57	195	P	P	04 11 00.9	+0.7
MTW				S	S	04 12 54.0	-4.2
CAW	Cannon Point	10.62	197	P	P	04 11 03.3	+2.4
CAW				S	S	04 12 56.9	-2.4
DUWZ	D'Urville Isla	10.66	202	P	P	04 11 02.2	+0.9
DUWZ				S	S	04 12 58.0	-2.1
TRWZ	Traveller	10.76	194	P	P	04 11 04.0	+1.6
TRWZ				S	S	04 12 59.4	-2.7
PAWZ	Paruwai Farm	10.80	195	P	P	04 11 04.1	+1.4
PAWZ				S	S	04 12 59.6	-3.3
TCW	Tory Channel	10.93	199	P	P	04 11 04.8	+0.6
TCW	Tory Channel	10.93	199	P	P	04 11 05.0	+0.9
TCW				S	S	04 13 04.0	-1.4
BHW	Baring Head	10.96	197	P	P	04 11 04.9	+0.5
BHW	Baring Head	10.96	197	P	P	04 11 05.4	+0.9
PLWZ	Palliser	11.02	195	P	P	04 11 06.0	+0.9
PLWZ	Palliser	11.02	195	P	P	04 11 06.2	+1.1
PLWZ				S	S	04 13 04.0	-3.2
QRZ	Quartz Range	11.17	206	P	P	04 11 08.9	+2.1
QRZ	Quartz Range	11.17	206	P	P	04 11 09.0	+2.2
TKNZ	Takaka Hill	11.19	204	P	P	04 11 07.7	+0.7
TKNZ	Takaka Hill	11.19	204	P	P	04 11 08.9	+1.9
NNZ	Nelson	11.21	203	P	P	04 11 08.4	+1.2
NNZ	Nelson	11.21	203	P	P	04 11 08.3	+1.2
TUWZ	Tuamarina	11.23	200	P	P	04 11 08.7	+1.4
TUWZ	Tuamarina	11.23	200	P	P	04 11 09.1	+1.8
CMWZ	Cape Campbell	11.45	199	P	P	04 11 12.0	+2.3
CMWZ	Cape Campbell	11.45	199	P	P	04 11 12.8	+3.0
BSWZ	Blackbirch Sta	11.51	200	P	P	04 11 11.9	+1.4
MRNZ	Matariki Terra	11.59	204		P	04 11 12.8	+1.5
THZ	Tophouse	11.86	203	P	P	04 11 15.4	+1.1
THZ	Tophouse	11.86	203	P	P	04 11 15.8	+1.5
DSZ	Denniston Nort	12.24	206	P	P	04 11 19.7	+1.3
KHZ	Kahutara	12.25	200		P	04 11 19.6	+1.1
KHZ	Kahutara	12.25	200	P	P	04 11 20.5	+2.0
KHZ	Kahutara	12.25	200	P	P	04 11 20.6	+2.1
GVZ	Greta Valley S	12.91	200	P	P	04 11 26.6	+1.0
LTZ	Lake Taylor	12.98	203		P	04 11 27.6	+1.2
CTZ	Chatham Island	13.21	166		P	04 11 32.4	+3.7
CTZ	Chatham Island	13.21	166	P	P	04 11 32.5	+3.7
INZ	Inchbonnie	13.22	205		P	04 11 30.1	+1.2
OXZ	Oxford	13.54	202	P	P	04 11 31.1	-1.3
MQZ	McQueen's Vall	13.70	200	P	P	04 11 34.5	+0.5
RPZ	Rata Peaks	14.22	204		P	04 11 39.3	-0.4
RPZ	Rata Peaks	14.22	204	P	P	04 11 41.3	+1.6
RPZ	Rata Peaks 18nm,0.5s,baz=357,slow=2.9,SNR=16	14.22	204	P	P	04 11 40.6	+0.8
DZM	Mont Dzumac 9.1nm,0.7s,baz=271,slow=21,SNR=2.8	14.34	305	P	P	04 11 44.4	+3.1
FOZ	Fox Glacier	14.53	208	P	P	04 11 44.4	+1.4
LBZ	Lake Benmore	15.12	205	P	P	04 11 49.1	-0.1
LBZ				IAmb	IAmb	04 12 21.4	
JCZ	comp=Z,24nm,1.2s Jackson Bay	15.40	209	P	P	04 11 54.3	+1.9
ODZ	Otahua Downs	15.53	203	P	P	04 11 54.6	+1.0
ODZ	comp=Z,16nm,1.0s			IAmb	IAmb	04 11 55.1	
ODZ	Otahua Downs	15.53	203	P	P	04 11 54.9	+1.3
WKZ	Wanaka	15.93	207	P	P	04 11 58.2	+0.3
MLZ	Mavora Lakes	16.73	208	P	P	04 12 07.6	+1.3
MLZ	comp=Z,28nm,1.3s			IAmb	IAmb	04 12 46.9	
DCZ	Deep Cove	17.21	209	P	P	04 12 11.8	+0.5
DCZ	comp=Z,36nm,1.5s			IAmb	IAmb	04 12 20.1	
WHZ	Wether Hill Ro	17.23	207	P	P	04 12 11.8	+0.1
WHZ	comp=Z,12nm,0.7s			IAmb	IAmb	04 12 17.1	
SYZ	Scrubby Hill	17.34	203	P	P	04 12 14.8	+2.0
STKA	Stephens Creek comp=Z,1.4nm,0.6s,baz=132,slow=12,SNR=2.9	31.88	258	P	P	04 14 26.5	+2.8
BBOO	comp=Z,1.4nm,0.6s Buckleboo	36.37	256	P	P	04 15 03.6	+1.9
BBOO	comp=Z,17nm,1.4s			IAmb	IAmb	04 15 42.9	
COEN	Coen	37.02	289	P	P	04 15 08.6	+1.3
COEN	comp=Z,28nm,1.5s			IAmb	IAmb	04 15 46.8	
AS31	Alice Springs	40.55	269	P	P	04 15 35.8	-0.2
ASAR	Alice Springs	40.55	269	P	P	04 15 36.9	+0.9
ASAR	Alice Springs comp=Z,2.5nm,0.5s,baz=107,slow=7.6,SNR=32	40.55	269	P	P	04 15 37.5	+1.4
ASAR	comp=Z,1.1nm,0.8s,baz=121,slow=4.8,SNR=5.6			ScP	ScP	04 20 30.9	-3.0
WR0	comp=Z,2.5nm,0.5s Warramunga Arr	41.41	274	P	P	04 15 43.8	+0.8
WB2	Warramunga Arr	41.58	274	P	P	04 15 45.5	+1.2
WB2	comp=Z,12nm,1.1s			IAmb	IAmb	04 15 46.3	
WRA	Warramunga Arr	41.59	274	P	P	04 15 45.1	+0.7
WRA	Warramunga Arr comp=Z,7.8nm,0.4s,baz=111,slow=8.0,SNR=94	41.59	274	P	P	04 15 45.9	+1.5
WB0	comp=Z,7.8nm,0.4s Warramunga Arr	41.62	275	P	P	04 15 45.9	+1.3
WB0	comp=Z,16nm,1.1s			IAmb	IAmb	04 15 46.5	
KNRA	Kununurra comp=Z,45nm,1.4s	48.23	276	P	P	04 16 35.7	0.0
KNRA				IAmb	IAmb	04 17 02.9	
FITZ	Fitzroy Crossi	49.83	272	P	P	04 16 48.2	+0.6
GIRL	Giralia	57.75	261	P	P	04 17 43.8	-0.2
QSPA	South Pole Qui	59.15	180	P	P	04 17 53.0	0.0
QSPA	comp=Z,13nm,0.8s			IAmb	IAmb	04 17 54.4	
QSPA	South Pole Qui comp=Z,11nm,0.7s,baz=355,slow=0.7,SNR=59	59.15	180	P	P	04 17 53.3	+0.4
BELA	comp=Z,11nm,0.7s Belgrano 2	69.56	173	P	P	04 18 58.4	-0.6
BELA	comp=Z,6.9nm,0.5s			IAmb	IAmb	04 18 58.8	
TROLL	Troll, Antarti comp=Z,321nm,0.8s	77.28	181	⇑P	P	04 19 43.0	-0.6
SNAA	Sanae	77.64	179	P	P	04 19 44.8	-0.7
SNAA	Sanae comp=Z,63nm,0.4s	77.64	179	⇑P	P	04 19 44.7	-0.7
SSLB	Suanglung	77.85	307	P	P	04 19 45.7	-1.5
VNA3	Neumayer Olymp comp=Z,14nm,0.5s	77.89	177	⇑P	P	04 19 45.9	-0.9
VNA2	Neumayer--Watz comp=Z,9.0nm,0.5s,baz=181,slow=5.0	78.30	178	⇑P	P	04 19 48.3	-0.7
VNA1	Neumayer--Stat comp=Z,15nm,0.9s	78.54	178	⇑P	P	04 19 50.0	-0.2
ADK	Adak	82.57	3	P	P	04 20 09.3	-2.0
KSRS	Korea Array comp=Z,2.2nm,0.7s,baz=144,slow=6.0,SNR=5.7	83.17	321	P	P	04 20 14.7	0.0
PEA0B	comp=Z,2.2nm,0.7s Petropavlovsk-	85.76	347	P	P	04 20 25.6	-1.5
PETK	Petropavlovsk- comp=Z,5.4nm,0.9s,baz=157,slow=8.0,SNR=6.0	85.76	347	P	P	04 20 26.0	-1.1
NVAR	comp=Z,5.4nm,0.9s Mina Array Bea comp=Z,1.0nm,0.7s,baz=217,slow=7.3,SNR=10	90.39	44	P	P	04 20 48.2	-1.3
MKAR	comp=Z,1.0nm,0.7s Makanchi Array	116.20	311	PKP	PKPdf	04 26 26.0	-2.0
KURBB	comp=Z,0.4nm,0.6s,baz=124,slow=2.2,SNR=4.6 Kurchatov Arra	119.64	314	PKP	PKPdf	04 26 32.7	-1.7
BVAR	comp=Z,0.9nm,0.2s,baz=107,slow=2.5,SNR=4.4 Borovoye Array	125.03	316	PKP	PKPdf	04 26 43.5	-1.2
GEYT	comp=Z,1.2nm,0.4s,baz=128,slow=1.6,SNR=8.8 Alibeck	131.50	295	SKPbc	SKPbc	04 29 37.7	-2.6
ARCES	comp=Z,1.6nm,0.3s,baz=287,slow=5.9,SNR=4.1 ARCESS Array B	138.56	346	PKP	PKPdf	04 27 08.5	-1.2
KBZ	comp=Z,6.5nm,1.2s,baz=5.7,slow=1.2,SNR=4.8 Khabaz	143.30	303	PKP	PKPab	04 27 16.6	-0.1
FINES	comp=Z,2.8nm,0.7s,baz=150,slow=3.2,SNR=9.3 FINESS Array B	144.75	338	PKP	PKPdf	04 27 19.6	-1.4
NB2	comp=Z,1.1nm,0.4s,baz=58,slow=4.8,SNR=186 NORSAR Subarra	148.86	349	PKP	PKPbc	04 27 30.7	-1.7
NOA	comp=Z,2.3nm,0.6s,baz=20,slow=4.3 NORSAR Array B	148.86	349	PKPbc	PKPbc	04 27 30.6	-1.7
MMAI	comp=Z,2.3nm,0.6s,baz=17,slow=4.2,SNR=4.4 Mount Meron Ar	149.19	283	PKPbc	PKPbc	04 27 34.0	-0.1
HFS	comp=Z,1.5nm,0.3s,baz=72,slow=8.0,SNR=6.6 Hagfors	149.22	346	PKPbc	PKPdf	04 27 31.3	+2.9
GERES	comp=Z,2.3nm,0.5s,baz=100,slow=1.8,SNR=16 GERESS Array B	158.96	332	PKPab	PKPab	04 28 20.7	-0.9
TORD	comp=Z,1.0nm,0.8s,baz=5.7,slow=2.0,SNR=2.5 Torodi Ar. Bea	162.10	188	PKPab	PKPab	04 28 34.6	-1.3
	comp=Z,0.7nm,0.5s,baz=166,slow=4.4,SNR=5.8						

AEIC ***24*** *04:10:34.8±1.7,56°.2N±0°.1×150°.1W±0°.2,h10km±8km, Error ellipse: s-maj=18.3km s-min=11.1km az=158.0*

NEIC 24 04:10:30.1±1.7,56°.24N±0°.04×150°.1W±0°.1,h10km±2km, ML2.8/14,ML2.8(AEIC),Error ellipse: s-maj=13.0km s-min=4.7km az=114.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.04	300		Pn	04 11 03.9	-0.5
OHAK					Sn	04 11 27.0	-2.9
KDAK	Kodiak Island	2.07	319		Pn	04 11 04.8	-0.2
KDAK					Sn	04 11 28.5	-2.4
SYI	Shuyak Island	2.69	333		Pn	04 11 13.3	-0.1
SYI					Sn	04 11 43.9	-2.1
Q19K	Cape Douglas,	3.32	326		Pn	04 11 22.7	+0.6
KAHG	Katmai Hook Gl	3.32	315		Pn	04 11 22.5	+0.3
CNPM	China Poot	3.35	350		Pn	04 11 22.1	-0.5
ACHA	Angle Creek He	3.48	307		Pn	04 11 24.7	+0.3
BRSE	Bradley Lake S	3.53	354		Pn	04 11 24.1	-0.9
BRLK	Bradley Lake	3.56	353	Pn	Pn	04 11 24.6	-0.9
BRLK	comp=N,20nm,1.4s			IAML		04 12 00.8	
BRLK	comp=E,17nm,1.3s			IAML		04 13 30.1	
CNTC	Contact Creek	3.76	305		Pn	04 11 27.7	-0.6
Q23K	Middleton Isla	3.76	30		Pn	04 11 28.9	+0.8
P19K	Oil Pt	3.82	335		Pn	04 11 29.6	+0.7
O20K	Slope Mountain	4.08	342		Pn	04 11 33.1	+0.5
P18K	Big Mountain,	4.20	321		Pn	04 11 34.3	+0.1
P17K	Kvichak River	4.53	314		Pn	04 11 39.2	+0.6
Q19K	Port Alsworth	4.56	332	Pn	Pn	04 11 38.2	-0.9
N19K	Bonanza Creek	5.14	335	Pn	Pn	04 11 47.1	-0.1
N19K	comp=E,5.5nm,1.5s			IAML		04 13 01.3	
N18K	Kilae Creek	5.40	328	Pn	Pn	04 11 50.8	+0.1
N18K	comp=N,4.8nm,1.5s			IAML		04 12 54.4	
N18K	comp=E,5.6nm,1.2s			IAML		04 14 22.0	
O16K	Kokwok River B	5.45	311	Pn	Pn	04 11 52.0	+0.7
SVW2	Sparrevohn	5.66	332	Pn	Pn	04 11 53.9	-0.4
KLU	Klutina	5.69	20	Pn	Pn	04 11 54.1	-0.6
SCM	Sheep Creek Mo	5.78	13	Pn	Pn	04 11 55.1	-0.9
SKT	Skwentna	5.81	353	Pn	Pn	04 11 56.3	0.0
M20K	Styx River	5.88	346	Pn	Pn	04 11 57.8	+0.5
SDPT	Sand Point	5.95	266	Pn	Pn	04 11 58.5	+0.4
GLB	Gilahina Butte	6.14	29	Pn	Pn	04 12 00.6	-0.3
MCARA	McCarthy VSAT	6.32	32	Pn	Pn	04 12 02.5	-0.7
M17K	Holitna River	6.44	327	Pn	Pn	04 12 05.1	+0.2
L19K	White Mountain	6.45	340	Pn	Pn	04 12 04.1	-0.9
BARN	Barnard Glacie	6.52	39	Pn	Pn	04 12 04.9	-1.3
CTGM	Chitina Glacie	6.57	40	Pn	Pn	04 12 06.7	-0.1
LOGN	Logan Glacier	6.60	42	Pn	Pn	04 12 07.8	+0.5
N15K	Kwethluk River	6.60	311	Pn	Pn	04 12 07.8	+0.6
M16K	Timber Creek	6.67	320	Pn	Pn	04 12 07.8	-0.3
O14K	Tigyukauivet M	6.71	301	Pn	Pn	04 12 08.2	-0.5
L16K	Kwhat River	7.33	322	Pn	Pn	04 12 17.2	+0.1
BPAW	Bear Paw Mtn.	7.90	357	Pn	Pn	04 12 25.9	+1.0
RIDG	Indepedent Ri	7.96	17	Pn	Pn	04 12 26.3	+0.5
L14K	Kuka Creek	8.31	313	Pn	Pn	04 12 29.6	-0.8
CCB	Clear Creek Bu	8.51	7	Pn	Pn	04 12 33.2	0.0
M29M	Somme Creek	8.58	39	Pn	Pn	04 12 33.6	-0.7
J26L	Joseph Creek	8.88	18	Pn	Pn	04 12 39.3	+0.8

IDC ***24*** *04:10:34.2±3.5,55°.33N×149°.21W,h0km,mb3.4/1, mbtmp3.2/5,ML3.0/3,Error ellipse: s-maj=52.7km s-min=35.8km az=7.0*

NEIC ***24*** *04:10:40.3±1.9,56°.0N±0°.1×149°.5W±0°.1,h10km±2km, ML3.2/22,ML3.0(AEIC),Error ellipse: s-maj=17.9km s-min=10.9km az=165.0*

AEIC ***24*** *04:10:44.3±2.0,55°.9N±0°.1×149°.4W±0°.1,h10km±9km, Error ellipse: s-maj=19.1km s-min=11.1km az=173.0*

ISC 24 04:10:38.2±1.7,55°.9N±0°.1×149°.50W±0°.05,h10km,n65, σ1°13/61,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.51	305		Pn	04 11 19.9	+0.8
OHAK	Old Harbor	2.51	305		Sn	04 11 47.6	-2.1
OHAK	Old Harbor baz=122	2.51	305	P	Pn	04 11 19.9	+0.8
OHAK	baz=122			S	Sn	04 11 47.6	-2.1
KDAK	Kodiak Island	2.58	320		Pn	04 11 21.3	+1.3
KDAK	Kodiak Island	2.58	320		Sn	04 11 49.6	-1.7
KDAK	Kodiak Island 20nm,1.2s	2.58	320	IAML		04 11 54.4	
KDAK	32nm,1.5s			IAML		04 12 15.7	
KDAK	Kodiak Island baz=138	2.58	320	S	Sn	04 11 49.6	-1.7
KDAK	Kodiak Island 3.2nm,0.3s,baz=135,slow=4.4,SNR=7.9	2.58	320	Pn	Pn	04 11 21.4	+1.5
KDAK	1.0nm,0.3s,baz=100,slow=23,SNR=1.4 8.9nm,0.3s			Sn	Sb	04 11 57.5	+1.4
Q20K	Shuyak Island baz=149	3.19	332	P	Pn	04 11 29.6	+1.3
Q20K	baz=149			S	Sn	04 12 04.3	-2.0
SYI	Shuyak Island	3.19	332		Pn	04 11 29.6	+1.3
SYI	Shuyak Island	3.19	332		Sn	04 12 04.3	-2.0
SYI	Shuyak Island comp=E,42nm,1.4s	3.19	332	IAML		04 12 00.8	
SYI	Shuyak Island comp=N,38nm,1.3s	3.19	332	IAML		04 12 26.4	
CNPM	China Poot	3.81	347		Pn	04 11 37.8	+0.9
CNPM	China Poot comp=E,24nm,1.3s	3.81	347	IAML		04 12 31.3	
Q19K	Cape Douglas, baz=142	3.82	326	P	Pn	04 11 38.0	+0.9
KAHG	Katmai Hook Gl	3.82	316		Pn	04 11 38.0	+0.9
KAHG					Sn	04 12 19.0	-3.0
BRSE	Bradley Lake S	3.96	351		Pn	04 11 38.7	-0.3
BRSE	Bradley Lake S baz=170	3.96	351	P	Pn	04 11 39.6	+0.6
Q23K	Middleton Isla	3.97	24		Pn	04 11 39.8	+0.7
Q23K	Middleton Isla baz=206	3.97	24	P	Pn	04 11 39.8	+0.7
MID	Middleton Isla	3.97	24	Pn	Pn	04 11 38.9	-0.2
BRLK	Bradley Lake	4.00	350		Pn	04 11 39.9	+0.4
BRLK	Bradley Lake comp=N,20nm,1.3s	4.00	350	IAML		04 12 21.4	
BRLK	comp=E,19nm,1.3s			IAML		04 12 50.2	
ANCK	Angle Creek	4.04	308		Pn	04 11 39.6	-0.5
ANCK					Pb	04 11 41.9	-7.5
CNTC	Contact Creek	4.24	307		Pn	04 11 42.3	-0.7
CNTC					Pb	04 11 44.6	-8.3
Q17K	Contact Creek baz=122	4.25	307	P	Pn	04 11 42.3	-0.7
P19K	Oil Pt	4.31	334		Pn	04 11 43.2	-0.6
P19K	Oil Pt baz=151	4.31	334	P	Pn	04 11 43.2	-0.6
P23K

GHO	**Glory Hole Cre**	**5.95**	**3**			**Pn**	04 12 07.7	**+1.3**
KLU	**Klutina**	**5.96**	**17**			**Pn**	04 12 07.1	**+0.6**
KLU	**Klutina**	**5.96**	**17**	P		**Pn**	04 12 07.1	**+0.6**
	baz=200							
SML	**Sawmill**	**6.01**	**5**			**Pn**	04 12 07.8	**+0.6**
SML	**Sawmill**	**6.01**	**5**	P		**Pn**	04 12 07.8	**+0.6**
	baz=186							
GLB	**Gilahina Butte**	**6.35**	**26**	Pn		**Pn**	04 12 11.3	**-0.5**
ILAR	**Eielson Array**	**9.05**	**7**	Pn		**Pn**	04 12 51.4	**+2.7**
	comp=N,0.1nm,0.3s,baz=189,slow=13,SNR=6.4							
ILAR				Sn		**Sn**	**04 14 28.8**	**-1.7**
	comp=N,0.1nm,0.3s,baz=196,slow=20,SNR=1.8							
	comp=N,0.4nm,0.4s							
INK	**Inuvik**	**14.49**	**24**	Pn		**Pn**	04 14 04.9	**+1.8**
	baz=221,slow=7.2,SNR=3.1							
	comp=N,0.7nm,0.8s							
YKA	**Yellowknife Ar**	**18.89**	**55**	P		**P**	**04 14 57.9**	**-0.6**
	comp=N,0.4nm,1.0s,baz=267,slow=11,SNR=3.8							
MKAR	**Makanchi Array**	**68.88**	**325**	P		**P**	**04 21 43.6**	**+0.8**
	comp=N,0.2nm,0.5s,baz=40,slow=6.4,SNR=4.4							
	comp=N,0.2nm,0.5s							

IDC ***24*** *04:23:10.6±2.2, 12°.94N×88°.54W, h0km, mb3.5/3, mbtmp3.6/5, ML3.5/2, MS3.0/1, Error ellipse: s-maj=94.1km s-min=23.3km az=40.0*
SNET ***24*** *04:23:10.0±1.9, 12°.21N×89°.19W, h6km, ML3.8*
CATAC ***24*** *04:23:10.3±1.8, 12°.12N×89°.16W, h27km±31km, ML3.8*
GCG ***24*** *04:23:14.6±0.7, 12°.70N×89°.52W, h194km±58km, MD3.9*
ISC 24 04:23:08.3±2.2, **12°.16N**±0°.06×**89°.20W**±0°.04, **h6**km±13km, **n34**, σ0°**91**/44, **mb3.4**/3, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LALI	**Alcalda de L**	**1.32**	**355**	*i* P	**Pb**	**04 23 33.6**		**+0.1**
LALI				*i* S	**Sn**	**04 23 51.6**		**+0.3**
LALI				IAML		04 23 55.6		
	comp=Z,270nm,1.0s							
TECO	**Alcaldia de Te**	**1.43**	**17**	*i* P	**Pn**	**04 23 34.3**		**-0.5**
TECO				*i* S	**Sb**	**04 23 53.5**		**-0.3**
TECO				IAML		04 24 02.3		
	comp=Z,400nm,1.0s							
SJTE	**Alcalda de S**	**1.46**	**7**	*i* P	**Pn**	**04 23 35.1**		**-0.1**
SJTE				*i* S	**Sb**	**04 23 54.6**		**-0.1**
SJTE				IAML		04 23 57.1		
	comp=Z,1μm,1.0s							
LFRS	**El Faro**	**1.46**	**5**	*e*P	**Pb**	**04 23 35.8**		**-0.1**
LOMA	**Loma Larga**	**1.47**	**1**	*e*P	**Pb**	**04 23 36.3**		**+0.1**
LOMA	**Loma Larga**	**1.47**	**1**	*i* P	**Pn**	**04 23 35.9**		**+0.4**
LOMA				IAML		04 24 02.3		
	comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**1.48**	**12**	*e*P	**Pg**	**04 23 36.9**		**+0.1**
COEG				*e*S	**Sn**	**04 23 54.4**		**-0.9**
COEG	**Centro de Oper**	**1.48**	**12**	*i* P	**Pn**	**04 23 35.2**		**-0.4**
COEG				IAML		04 24 04.2		
	comp=Z,520nm,1.0s							
JAYA	**Jayaque - finc**	**1.50**	**351**	*e*P	**Pb**	**04 23 36.6**		**-0.1**
JAYA				*e*S	**Sn**	**04 23 56.2**		**+0.2**
JAYA	**Jayaque - finc**	**1.50**	**351**	*i* P	**Pn**	**04 23 36.0**		**+0.1**
JAYA				IAML		04 23 58.0		
	comp=Z,10μm,1.0s							
UESV	**Universidad de**	**1.52**	**15**	*i* P	**Pn**	**04 23 36.2**		**+0.1**
UESV				IAML		04 24 01.5		
	comp=Z,620nm,1.0s							
PMON	**Piamonte**	**1.54**	**356**	*i* P	**Pn**	**04 23 37.0**		**+0.5**
PMON				IAML		04 24 02.4		
	comp=Z,2μm,1.0s							
PACA	**Pacayal**	**1.56**	**33**	*i* PA		04 23 37.0		
PACA				IAML		04 24 13.3		
	comp=Z,4μm,1.0s							
PAVA	**Las Pavas**	**1.56**	**9**	*i* PA		04 23 37.0		
PAVA				IAML		04 24 02.2		
	comp=Z,1μm,1.0s							
BOQS	**Boqueron**	**1.56**	**357**	*e*P	**Pb**	**04 23 37.7**		**-0.1**
SCLA	**Alcaldia de Sa**	**1.60**	**17**	*i* PA		04 23 37.5		
SCLA				IAML		04 24 03.2		
	comp=Z,360nm,1.0s							
LCND	**La Caada**	**1.71**	**48**	*e*P	**Pn**	**04 23 38.5**		**-0.2**
LCND				*e*S	**Sb**	**04 24 03.0**		**+1.0**
LCND	**La Caada**	**1.71**	**48**	*i* P	**Pn**	**04 23 37.7**		**-1.0**
LCND				IAML		04 24 10.5		
	comp=Z,330nm,1.0s							
NUBE	**Las Nubes**	**1.82**	**342**	*i* P	**Pn**	**04 23 40.5**		**+0.2**
NUBE				*e*S	**Sn**	**04 24 02.8**		**-1.0**
NUBE	**Las Nubes**	**1.82**	**342**	*i* P	**Pn**	**04 23 40.3**		**0.0**
NUBE				IAML		04 24 06.3		
	comp=Z,2μm,1.0s							
POTN	**Potosi Cosigui**	**1.85**	**63**	*i* P	**Pn**	**04 23 40.2**		**-0.4**
POTN				IAML		04 24 07.9		
	comp=Z,120nm,1.0s							
AMPH	**Amapala**	**1.87**	**53**	*e*P	**Pn**	**04 23 41.0**		**+0.2**
AMPH				*e*S	**Sb**	**04 24 06.8**		**+0.2**
MTO3	**Montecristo**	**2.23**	**356**	*e*P	**Pn**	**04 23 47.3**		**+1.3**
MTO3				*e*S	**Sb**	**04 24 16.0**		**-1.1**
PKGN	**Cerro Pekin**	**2.23**	**77**	*i* P	**Pn**	**04 23 44.9**		**-0.9**
PKGN				IAML		04 24 19.2		
	comp=Z,880nm,1.0s							
PCG	**Pacaya**	**2.60**	**328**	*i* P	**Pb**	**04 23 54.4**		**-1.1**
PCG				*i* S	**Sb**	**04 24 26.2**		**-1.8**
NBG	**Las Nubes**	**2.66**	**335**	*i* P	**Pb**	**04 23 54.7**		**-1.7**
FUG	**Fuego 3**	**2.78**	**325**	*i* P	**Pn**	**04 23 54.3**		**+0.8**
FUG				*i* S	**Sn**	**04 24 27.6**		**+0.1**
STG3	**Santiaguito 3,**	**3.42**	**318**	*i* P	**Pn**	**04 24 03.3**		**+0.8**
STG3				*i* S	**Sn**	**04 24 41.9**		**-1.6**
JTS	**Las Juntas de**	**4.56**	**114**	Pn	**Pn**	**04 24 18.6**		**+0.6**
	comp=Z,2.3nm,0.3s,baz=314,slow=18,SNR=10							
JTS				Sn	**Sn**	**04 25 11.1**		**-0.2**
	comp=Z,1.8nm,0.3s,baz=311,slow=20,SNR=1.8							
	comp=Z,5.8nm,0.3s							
CMIG	**Matias Romero**	**7.37**	**312**	Pn	**Pn**	**04 24 57.9**		**+1.5**
	comp=Z,1.0nm,0.3s,baz=141,slow=13,SNR=10							
CMIG				Sn	**Sn**	**04 26 19.0**		**-1.4**
	comp=Z,0.6nm,0.3s,baz=85,slow=19,SNR=1.8							
	comp=Z,2.9nm,0.5s							
TEIG	**Tepich**	**8.07**	**6**	LR	LR	04 27 25.0		
	comp=Z,117nm,19.5s,baz=17,slow=35							
TXAR	**Lajitas Array**	**21.75**	**324**	P	**P**	**04 28 01.7**		**+0.9**
	comp=Z,1.1nm,0.8s,baz=142,slow=12,SNR=7.7							
	comp=Z,1.1nm,0.8s							
NVAR	**Mina Array Bea**	**36.81**	**320**	P	**P**	**04 30 19.7**		**+2.3**
	comp=Z,0.5nm,0.7s,baz=132,slow=8.7,SNR=4.5							
	comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**53.45**	**346**	P	**P**	**04 32 27.7**		**-1.2**
	comp=Z,0.7nm,0.8s,baz=144,slow=7.4,SNR=11							
	comp=Z,0.7nm,0.8s							

JMA ***24*** *04:25:51.8±0.1, 36°.6N±0°.2×141°.1E±0°.6, h33km±1km, MV3.9/35, E OFF IBARAKI PREF .*
JMA Felt II J1 at E OFF IBARAKI PREF .
NIED ***24*** *04:25:51.8, 36°.56N×141°.08E, h33km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.05; Mθθ-3.09; Mϕϕ5.14; Mrθ0.29; Mθϕ0.01; Mϕr-0.49; Fault plane solution: Mo4.17000×10¹⁴ NP1: φs316.00000°, δ82.00000°, λ-167.00000°. NP2: φs225.00000°, δ77.00000°, λ-8.00000°.*
IDC ***24*** *04:25:58.1±1.8, 36°.35N×140°.44E, h0km, mb3.7/5, mbtmp3.7/6, ML3.2/1, MS3.2/1 Error ellipse: s-maj=43.9km s-min=23.0km az=48.0*
ISC 24 04:25:51.7±2.4, **36°.58N**±0°.06×**141°.1E**±0°.1, **h28**km±11km, **n22**, σ1°**39**/19, **mb3.7**/5, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JHO	**Hitachi**	**0.44**	**274**	P	**Pb**	**04 26 00.8**		**-0.3**
JHO				S	**Sb**	**04 26 07.0**		**-0.5**
JHYU	**Hitachinakayam**	**0.49**	**241**	P	**Pb**	**04 26 01.6**		**-0.2**
JHYU				S	**Sb**	**04 26 08.4**		**-0.2**
ONAJ	**Iwakimizuishiy**	**0.58**	**334**	P	**Pn**	**04 26 03.4**		**-0.8**
ONAJ				S	**Sb**	**04 26 11.6**		**+0.2**
JFFD	**Fukushimafurud**	**0.68**	**319**	P	**Pn**	**04 26 04.8**		**-0.7**
JFFD				S	**Sn**	**04 26 13.8**		**-1.4**
JFK	**Kawauchi**	**0.81**	**346**	*i* P	**Pn**	**04 26 06.5**		**-0.8**
JFK				S	**Sn**	**04 26 17.0**		**-1.4**
JYT	**Yasato**	**0.82**	**245**	P	**Pn**	**04 26 06.3**		**-1.1**
JYT				S	**Sn**	**04 26 16.7**		**-1.9**
JSB	**Shiboa**	**1.04**	**292**	P	**Pb**	**04 26 10.9**		**-0.1**
JSB				S	**Sb**	**04 26 24.4**		**+0.2**
JOTO	**OTAMA OYAMA**	**1.16**	**328**	P	**Pb**	**04 26 12.9**		**-0.2**
JOTO				S	**Sb**	**04 26 27.8**		**0.0**
MJAR	**Matsushiro Arr**	**2.34**	**270**	Pn	**Pn**	**04 26 29.5**		**+1.2**
	1.6nm,0.3s,baz=86,slow=9.2,SNR=55							
MJAR				Sn	**Sn**	**04 26 55.0**		**-1.2**
	2.1nm,0.3s,baz=330,slow=22,SNR=3.3							
KSRS	**Korea Array**	**10.59**	**279**	Pn	**Pn**	**04 28 25.4**		**+3.9**
	0.2nm,0.3s,baz=93,slow=14,SNR=4.6							
	1.7nm,0.5s							
JOW	**Kugami**	**14.61**	**232**	LR	LR	04 33 33.6		
	comp=Z,16nm,20.8s,baz=294,slow=32							
SONM	**Songino Array**	**27.84**	**305**	P	P	04 31 46.1		+7.3
	0.2nm,0.2s,baz=103,slow=10,SNR=2.3							
	0.2nm,0.2s							
H11N2	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	05 01 06.1		
	baz=313,slow=75,SNR=84							
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	05 01 21.2		
	baz=313,slow=75,SNR=72							
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	05 01 23.9		
	baz=313,slow=75,SNR=65							
H11S1	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	05 02 08.6		
	baz=314,slow=76,SNR=171							
H11S3	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	05 02 08.5		
	baz=314,slow=76,SNR=127							
H11S2	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	05 02 09.3		
	baz=314,slow=76,SNR=99							
ZALV	**Zalesovo Beam**	**42.05**	**313**	P	P	04 33 49.1		+8.5
	0.8nm,0.5s,baz=86,slow=7.6,SNR=4.7							
	0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**46.09**	**308**	P	P	04 34 21.6		+8.5
	1.5nm,0.7s,baz=83,slow=8.2,SNR=10							
	1.5nm,0.7s							
WRA	**Warramunga Arr**	**56.58**	**188**	P	P	04 35 40.5		+8.6
	0.6nm,0.7s,baz=1.5,slow=7.4,SNR=2.3							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**60.31**	**188**	P	P	04 36 06.5		+8.6
	0.5nm,0.8s,baz=12,slow=9.9,SNR=2.9							
	0.5nm,0.8s							

AEIC ***24*** *04:26:08.4±1.1, 55°.9N±0°.1×149°.3W±0°.1, h4km±9km, Error ellipse: s-maj=18.9km s-min=10.8km az=177.0*
NEIC 24 04:26:04.8±0.6, **56°.0N**±0°.1×**149°.31W**±0°.04, **h8**km±8km, **ML3.3**/28, **ML3.1**(AEIC), **Error ellipse: s-maj=18.2km s-min=2.8km az=185.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
OHAK	**Old Harbor**	**2.54**	**302**		Pn	04 26 45.9		-0.3
OHAK					Sn	04 27 15.7		-1.7
OHAK	**Old Harbor**	**2.54**	**302**	P	Pn	04 26 45.9		-0.3
	baz=119							
OHAK				S	Sn	04 27 15.7		-1.7
	baz=119							
KDAK	**Kodiak Island**	**2.57**	**317**		Pn	04 26 46.5		-0.1
KDAK					Sn	04 27 17.1		-0.9
SYI	**Shuyak Island**	**3.15**	**329**		Pn	04 26 54.5		0.0
SYI					Sn	04 27 31.6		-0.7
SYI	**Shuyak Island**	**3.15**	**329**	IAML		04 27 34.6		
	comp=N,28nm,1.1s							
Q20K	**Shuyak Island**	**3.15**	**329**	P	Pn	04 26 54.5		-0.1
	baz=147							
Q20K				S	Sn	04 27 31.6		-0.8
	baz=147							
CNPM	**China Poot**	**3.73**	**345**		Pn	04 27 02.7		+0.1
CNPM					Sn	04 27 45.7		-1.0
CNPM	**China Poot**	**3.73**	**345**	IAML		04 27 48.1		
	comp=E,24nm,1.1s							
CNPM				IAML		04 27 54.3		
	comp=N,36nm,1.1s							
Q19K	**Cape Douglas,**	**3.79**	**324**		Pn	04 27 04.4		+0.9
Q19K	**Cape Douglas,**	**3.79**	**324**	P	Pn	04 27 04.4		+0.9
	baz=140							
Q23K	**Middleton Isla**	**3.83**	**23**		Pn	04 27 04.1		+0.1
Q23K	**Middleton Isla**	**3.83**	**23**	P	Pn	04 27 04.1		+0.1
	baz=205							
BRSE	**Bradley Lake S**	**3.88**	**349**		Pn	04 27 04.5		-0.1
BRSE	**Bradley Lake S**	**3.88**	**349**	P	Pn	04 27 04.5		-0.1
	baz=168							
BRLK	**Bradley Lake**	**3.92**	**348**		Pn	04 27 05.0		-0.2
BRLK	**Bradley Lake**	**3.92**	**348**	IAML		04 27 51.4		
	comp=E,20nm,1.0s							
BRLK				IAML		04 27 55.6		
	comp=N,29nm,1.2s							
ACHA	**Angle Creek He**	**3.99**	**307**		Pn	04 27 06.4		+0.2
P23K	**Montague Islan**	**4.18**	**13**		Pn	04 27 09.0		+0.1
P23K					Sn	04 27 55.6		-2.3
P23K	**Montague Islan**	**4.18**	**13**	P	Pn	04 27 09.0		+0.1
	baz=194							
P23K				S	Sn	04 27 55.9		-2.0
	baz=194							
P19K	**Oil Pt**	**4.26**	**332**		Pn	04 27 10.8		+0.9
P19K	**Oil Pt**	**4.26**	**332**	IAML		04 28 05.5		
	comp=E,47nm,1.2s							
P19K				IAML		04 29 30.9		
	comp=N,45nm,1.1s							
P19K	**Oil Pt**	**4.26**	**332**	P	Pn	04 27 10.8		+0.9
	baz=149							
CNTC	**Contact Creek**	**4.27**	**306**		Pn	04 27 10.0		-0.1
Q17K	**Contact Creek**	**4.27**	**306**	P	Pn	04 27 10.0		-0.1
	baz=121							
O22K	**Cooper Landing**	**4.55**	**357**		Pn	04 27 13.0		-0.9
O22K	**Cooper Landing**	**4.55**	**357**	P	Pn	04 27 13.4		-0.4
	baz=177							
P18K	**Big Mountain,**	**4.69**	**320**		Pn	04 27 15.6		-0.2
P18K	**Big Mountain,**	**4.69**	**320**	P	Pn	04 27 15.6		-0.2
	baz=135							
HIN	**Hinchinbrook I**	**4.70**	**17**		Pn	04 27 16.0		0.0
HIN	**Hinchinbrook I**	**4.70**	**17**	IAML		04 28 43.5		
	comp=E,24nm,1.1s							
KAIM	**Kayak Island**	**4.76**	**31**		Pn	04 27 16.4		-0.4
KAIM	**Kayak Island**	**4.76**	**31**	IAML		04 28 10.5		
	comp=N,45nm,1.1s							
KAIM				IAML		04 30 22.9		
	comp=E,46nm,1.2s							
KAIM	**Kayak Island**	**4.76**	**31**	P	Pn	04 27 16.4		-0.4
	baz=215							
EYAK	**Cordova Ski Ar**	**4.98**	**21**		Pn	04 27 20.0		+0.3
EYAK	**Cordova Ski Ar**	**4.98**	**21**	P	Pn	04 27 20.4		+0.6
	baz=203							
NCT	**North Crescent**	**5.00**	**339**		Pn	04 27 20.5		+0.3
O19K	**Port Alsworth**	**5.02**	**330**		Pn	04 27 20.3		0.0
O19K	**Port Alsworth**	**5.02**	**330**	P	Pn	04 27 20.3		0.0
	baz=146							
BERG	**Berg Lake**	**5.35**	**31**		Pn	04 27 25.0		+0.1
BERG	**Berg Lake**	**5.35**	**31**	IAML		04 28 27.0		
	comp=E,30nm,0.5s							
BERG				IAML		04 28 55.9		
	comp=N,25nm,1.2s							
SNH	**Sunshine Point**	**5.46**	**36**		Pn	04 27 26.4		0.0
N19K	**Bonanza Creek**	**5.58**	**333**		Pn	04 27 28.0		-0.1
N19K	**Bonanza Creek**	**5.58**	**333**	P	Pn	04 27 28.0		-0.1
	baz=149							
BCPM	**Bancas Point**	**6.53**	**48**	Pn	Pn	04 27 40.8		-0.2
CTGM	**Chitina Glacie**	**6.54**	**36**	Pn	Pn	04 27 41.4		+0.1
LOGN	**Logan Glacier**	**6.55**	**38**	Pn	Pn	04 27 41.7		+0.2
O29M	**Mount Kennedy**	**7.16**	**48**		Pn	04 27 50.1		+0.3
P29M	**Windy Craggy**	**7.20**	**54**		Pn	04 27 50.1		-0.2

IDC ***24*** *04:28:05.1±1.3, 23°.25N×121°.88E, h0km, mb3.7/6, mbtmp3.7/6, MS3.1/2, Error ellipse: s-maj=51.1km s-min=22.8km az=65.0*
TAP ***24*** *04:28:09.1, 23°.05N×121°.34E, h19km, ML4.2, C*
ASIES ***24*** *04:28:09.1, 23°.05N×121°.34E, h19km, ML4.2, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr7.22; Mθθ-1.00; Mϕϕ-2.17; Mrθ1.39; Mθϕ-2.18; Mϕr5.25; Fault plane solution: Mo7.94561×10²¹ NP1: φs22.66000°, δ67.39000°, λ,80.18000°. NP2: φs226.89000°, δ24.54000°, λ112.26000°. Principal axes: T Plg66.2100°, Azm275.2820°; N Plg9.0520°, Azm26.4680°; P Plg21.8040°, Azm120.1220°;*
JMA ***24*** *04:28:09.1±0.1, 23°.1N±0°.3×121°.4E±0°.9, h21km±1km, MV3.8/14, TAIWAN REGION*
ISC 24 04:28:09.0±0.8, **23°.04N**±0°.02×**121°.37E**±0°.02, **h18**km±3km, **n130**, σ1°**04**/195, **mb3.8**/7, **11C-9D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CHKT	**Chengkung**	**0.06**	**353**	*i*P	**Pg**	**04 28 12.9**		**+0.6**
	baz=40							
CHKT				S	**Sg**	**04 28 15.6**		**+1.1**
	baz=40							
EDH	**Donghe**	**0.09**	**224**	*i*P	**Pg**	**04 28 13.1**		**+0.5**
	baz=195							
EDH				S	**Sg**	**04 28 15.7**		**+0.7**
	baz=195							
CHKH	**Chenggong**	**0.15**	**8**	P	**Pg**	**04 28 14.0**		**+0.7**
	baz=24							
CHKH				S	**Sg**	**04 28 17.2**		**+1.0**
	baz=24							
ECS	**Chishang**	**0.15**	**291**	*i*P	**Pg**	**04 28 13.9**		**+0.6**
	baz=292							
ECS				S	**Sg**	**04 28 18.0**		**+1.8**
	baz=292							
FULB	**Fuli**	**0.17**	**335**	*i*P	**Pg**	**04 28 13.8**		**+0.2**
	baz=347							
FULB				S	**Sg**	**04 28 17.8**		**+1.0**
	baz=347							
EHD	**Haiduan**	**0.19**	**305**	*i* P	**Pg**	**04 28 13.8**		**+0.1**
	baz=296							
EHD				S	**Sg**	**04 28 17.4**		**+0.4**
	baz=296							
LONT	**Longtian**	**0.26**	**239**	*i*P	**Pg**	**04 28 15.4**		**+0.5**
	baz=243							
LONT				S	**Sg**	**04 28 20.0**		**+1.0**
	baz=243							
ECBN	**Changbin**	**0.28**	**15**	*e*P	**Pb**	**04 28 16.1**		**+0.5**
	baz=27							
ECBN				*e*S	**Sb**	**04 28 21.1**		**+1.1**
	baz=27							
EYUL	**Yuli**	**0.31**	**351**	P	**Pb**	**04 28 16.8**		**+0.7**
	baz=343							
EYUL				S	**Sb**	**04 28 22.1**		**+1.3**
	baz=343							
TWF1	**Yuli**	**0.32**	**347**	*i*P	**Pb**	**04 28 16.0**		**-0.2**
	baz=340							
TWF1				S	**Sb**	**04 28 20.8**		**-0.3**
	baz=340							
TWGBT	**Beinan**	**0.35**	**231**	*i*P	**Pb**	**04 28 16.4**		**-0.3**
	baz=238							
TWGBT				*i* S	**Sb**	**04 28 21.6**		**-0.4**
	baz=238							
TTN	**Taitung**	**0.35**	**216**	P	**Pb**	**04 28 17.2**		**+0.4**
	baz=200							
TTN				S	**Sn**	**04 28 24.8**		**-1.0**
	baz=200							
TWG	**Pinlang**	**0.35**	**232**	*i*P	**Pg**	**04 28 16.4**		**0.0**
	baz=238							
TWG				*i* S	**Sb**	**04 28 21.5**		**-0.5**
	baz=238							
YULB	**Yu-li**	**0.36**	**349**	*i*P	**Pg**	**04 28 16.4**		**-0.1**
	baz=340							
YULB				S	**Sg**	**04 28 21.3**		**-0.3**
	baz=340							
ELDTW	**Lidau**	**0.36**	**294**	*i*P	**Pg**	**04 28 15.9**		**-0.7**
	baz=295							
ELDTW				S	**Sg**	**04 28 20.6**		**-1.2**
	baz=295							
LDUT	**Ludao**	**0.38**	**166**	*i*P	**Pb**	**04 28 17.6**		**+0.4**
	baz=161							
LDUT				S	**Sb**	**04 28 24.3**		**+1.6**
	baz=161							
HGSD	**Ruisui**	**0.45**	**6**	P	**Pb**	**04 28 18.8**		**+0.3**
	baz=26							
EHY	**Hungye**	**0.47**	**354**	P	**Pg**	**04 28 18.1**		**-0.4**
	baz=342							
EHY				S	**Sb**	**04 28 25.5**		**+0.2**
	baz=342							
STYH	**Taoyuan**	**0.57**	**283**	P	**Pb**	**04 28 19.7**		**-0.7**
	baz=288							
STYH				S	**Sg**	**04 28 26.9**		**-0.9**
	baz=288							
STYT	**Tauyuan**	**0.58**	**282**	*i*P	**Pb**	**04 28 19.9**		**-0.8**
	baz=287							
STYT				S	**Sb**	**04 28 27.6**		**-0.9**
	baz=287							
ECL	**Taimali**	**0.59**	**221**	*i*P	**Pb**	**04 28 19.6**		**-1.2**
	baz=228							
ECL				S	**Sb**	**04 28 27.4**		**-1.3**
	baz=228							
EGFH	**Guangfu**	**0.63**	**5**	*e*P	**Pb**	**04 28 20.9**		**-0.5**
	baz=351							
SLGT	**Liugui**	**0.67**	**266**	P	**Pg**	**04 28 22.0**		**-0.3**
	baz=266							
SLGT				S	**Sb**	**04 28 30.1**		**-1.0**
	baz=266							
WARBT	**Fenglin Townsh**	**0.67**	**1**	*e*P	**Pb**	**04 28 21.2**		**-1.1**
	baz=3.0							
TEGC	**Jichi Village**	**0.68**	**13**	*e*P	**Pg**	**04 28 23.1**		**+0.6**
	baz=359							
TEGC				*e*S	**Sn**	**04 28 33.9**		**-0.1**
	baz=359							
ALS	**Alishan**	**0.70**	**312**	*i*P	**Pg**	**04 28 22.5**		**-0.4**
	baz=312							
ALS				*i* S	**Sg**	**04 28 31.6**		**-0.7**
	baz=312							
SGST	**Jiashian**	**0.73**	**273**	P	**Pb**	**04 28 22.3**		**-0.9**
	baz=276							
SGST				S	**Sg**	**04 28 32.0**		**-1.0**
	baz=276							
WTP	**Ta-pu**	**0.73**	**286**	*i*P	**Pg**	**04 28 22.9**		**-0.4**
	baz=286							
WTP				*i* S	**Sn**	**04 28 33.2**		**-1.9**
	baz=286							
TPUB	**Ta-pu**	**0.73**	**291**	⇓P	**Pg**	**04 28 23.0**		**-0.4**
	baz=295							
TPUB				S	**Sg**	**04 28 32.9**		**-0.2**
	baz=295							
VWDT	**VWDT**	**0.74**	**343**	P	**Pb**	**04 28 23.0**		**-0.4**
	baz=353							
VWDT				S	**Sb**	**04 28 32.4**		**-0.8**
	baz=353							
TSMG	**Majia**	**0.75**	**244**	*e*P	**Pb**	**04 28 22.7**		**-0.8**
	baz=243							
SHUL	**Shoufeng**	**0.76**	**13**	*e*P	**Pg**	**04 28 24.0**		**0.0**
	baz=359							
ESL	**Shilin**	**0.77**	**4**	P	**Pb**	**04 28 22.8**		**-1.2**
	baz=353							
CHN1	**Nanshi**	**0.79**	**281**	⇓P	**Pn**	**04 28 24.5**		**-0.8**
	baz=281							
CHN1				*i* S	**Sn**	**04 28 36.0**		**-0.7**
	baz=281							
MASBT	**Mashibuluo**	**0.81**

HWA	**Hwalien**	0.96	13	*e*P	Pn	04 28 27.3	-0.2	
	baz=358								
SCZT	**Fangliau**	0.96	226	⇑*i*P	Pb	04 28 26.4	-0.7	
	baz=222								
WUSB	**Renai**	0.98	346	*e*P	Pb	04 28 27.1	-0.4	
	baz=353								
LXIB	**Xiulin Townshi**	0.98	2	P	Pb	04 28 26.0	-1.5	
WJS	**Zhushan**	0.98	323	*e*P	Pg	04 28 28.7	+0.6	
	baz=321								
WJS				*e*S	Sn	04 28 42.6	+1.3	
	baz=321								
TYC	**Yuchr**	0.98	331	P	Pg	04 28 28.4	+0.3	
	baz=330								
TYC				S	Sn	04 28 42.1	+0.8		
	baz=330								
CHY	**Chiayi**	0.98	298	*e*S	Sn	04 28 42.6	+1.2	
	baz=297								
WGK	**Gukeng**	0.98	311	P	Pg	04 28 28.4	+0.2	
	baz=309								
WGK				S	Sn	04 28 42.7	+1.2		
	baz=309								
SNJT	**Kaohsiung City**	1.00	254	*e*P	Pg	04 28 29.9	+1.5	
	baz=255								
SNJT				*e*S	Sn	04 28 45.6	+3.8		
	baz=255								
WDLH	**Douliu**	1.00	310	P	Pg	04 28 29.3	+0.8	
	baz=308								
WDLH				S	Sn	04 28 43.3	+1.4		
	baz=308								
SSHA	**Shanhua**	1.00	276	*e*P	Pg	04 28 29.2	+0.7	
	baz=287								
SSHA				*e*S	Sn	04 28 45.3	+3.4		
	baz=287								
LAY	**Lan-yu**	1.01	171	*e*P	Pb	04 28 26.7	-1.3	
	baz=160								
CHGB	**Renai**	1.03	350	P	Pb	04 28 27.9	-0.6	
	baz=356								
WNT	**Mingjian**	1.05	323	P	Pg	04 28 29.6	+0.3	
	baz=321								
WNT				S	Sg	04 28 43.7	+0.6		
	baz=321								
LYUB	**Lan-yu**	1.05	169	*e*P	Pb	04 28 26.0	-2.7	
	baz=159								
TWD	**Chiawan**	1.05	11	P	Pb	04 28 27.6	-1.2	
	baz=357								
ICHU	**Yihu**	1.06	288	*e*P	Pg	04 28 29.3	-0.2	
	baz=287								
ICHU				*e*S	Sg	04 28 45.3	+1.9		
	baz=287								
SCLT	**Jiali**	1.09	277	*e*P	Pg	04 28 29.9	-0.3	
	baz=287								
SCLT				*e*S	Sg	04 28 46.5	+1.9		
	baz=287								
WCS	**Beigang Elemen**	1.10	337	*e*P	Pg	04 28 30.1	-0.2	
	baz=349								
WSSB	**Gushan**	1.10	249	*e*P	Pg	04 28 31.4	+1.1	
	baz=249								
WHF	**Hehuan Shan**	1.10	355	*e*P	Pb	04 28 29.2	-0.7	
	baz=6.0								
WTK	**Tuku**	1.11	306	*e*P	Pg	04 28 30.2	-0.3	
	baz=304								
WTK				*e*S	Sg	04 28 46.0	+0.9		
	baz=304								
CHN8	**Yiju**	1.11	286	*e*P	Pg	04 28 30.3	-0.3	
	baz=287								
CHN8				*e*S	Sg	04 28 46.6	+1.5		
	baz=287								
ETL	**Fush Village**	1.14	12	*e*P	Pn	04 28 29.6	-0.5	
	baz=357								
NACB	**Ninganchiao**	1.15	10	*e*P	Pn	04 28 28.3	-1.8	
	baz=9.0								
ETLH	**Xiulin Townshi**	1.17	5	*e*P	Pn	04 28 28.9	-1.6	
	baz=2.0								
HEN	**Hengchun**	1.19	210	*e*P	Pg	04 28 32.1	+0.1	
	baz=197								
TSCK	**Chigu Township**	1.19	275	*e*P	Pg	04 28 31.5	-0.5	
	baz=276								
TSCK				S	Sg	04 28 48.0	+0.4		
	baz=276								
TWKBT	**Hengchun**	1.21	205	*e*P	Pn	04 28 29.8	-1.2	
	baz=193								
WSF	**Szhu**	1.21	300	*e*P	Pb	04 28 31.3	-0.1	
	baz=298								
WSF				*e*S	Sg	04 28 48.3	-0.1		
	baz=298								
TWT	**Tachien**	1.22	351	P	Pn	04 28 30.9	-0.4	
	baz=348								
TDCB	**Techi**	1.22	351	*e*P	Pn	04 28 31.2	-0.1	
	baz=348								
WRL	**Guolierlin Hig**	1.25	313	*e*P	Pg	04 28 32.8	-0.4	
	baz=311								
WRL				*e*S	Sg	04 28 49.6	-0.1		
	baz=311								
TCU	**Taichung**	1.27	330	*e*P	Pg	04 28 34.4	+0.8	
	baz=327								
TCU				*e*S	Sg	04 28 51.4	+1.0		
	baz=327								
WCHH	**Zhanghua**	1.28	324	P	Pg	04 28 33.6	-0.1	
	baz=321								
WCHH				*e*S	Sg	04 28 52.0	+1.6		
	baz=321								
WHP	**Taichung City**	1.29	342	*e*P	Pg	04 28 34.1	+0.1	
	baz=351								
EOS4	**EOS4**	1.38	39	*e*P	Pn	04 28 32.7	-0.3	
	baz=40								
NNSB	**Datong**	1.38	0	*e*P	Pn	04 28 33.0	-0.5	
	baz=16								
NNS	**Nan Shan**	1.39	360	*e*P	Pg	04 28 35.2	-0.7	
	baz=15								
TWQ1	**Liyutan**	1.41	337	P	Pg	04 28 35.5	-0.8	
	baz=333								
TWQ1				S	Sg	04 28 54.8	+0.1		
	baz=333								
ENA	**Nanau**	1.42	14	*e*P	Pn	04 28 33.9	-0.1	
	baz=359								
EWUT	**Wuta**	1.45	15	*e*P	Pn	04 28 34.5	+0.2	
	baz=359								
WDJ	**Dajia District**	1.47	333	*e*P	Pg	04 28 36.5	-0.8	
	baz=314								
NSY	**Sanyi**	1.48	338	*e*P	Pg	04 28 37.0	-0.5	
	baz=334								
NSY				*e*S	Sg	04 28 57.1	+0.2		
	baz=334								
LATG	**Datong**	1.50	5	*e*P	Pn	04 28 34.4	-0.7	
	baz=20								
EOS3	**EOS3**	1.51	35	*e*P	Pn	04 28 34.9	-0.1	
	baz=47								
NDT	**Datong Townshi**	1.56	5	*e*P	Pb	04 28 36.6	-0.8	
	baz=19								
NMLH	**Miaoli**	1.58	340	*e*P	Pg	04 28 38.3	-1.2	
	baz=337								
WDGT	**Dungji**	1.59	278	*e*P	Pn	04 28 36.1	-0.2	
	baz=279								
WDGT				*e*S	Sb	04 28 56.7	-1.0		
	baz=279								
NFF	**Wufeng Townshi**	1.60	352	*e*P	Pb	04 28 38.5	+0.4	
	baz=355								
NSTT	**Nanjuang**	1.62	348	*e*P	Pb	04 28 38.3	0.0	
	baz=345								
TWC	**Suao**	1.62	15	*e*P	Pb	04 28 38.2	-0.2	
	baz=359								
YHNB	**Yeheng**	1.62	0	*e*P	Pn	04 28 37.1	+0.3	
	baz=14								
NSK	**Sanguang**	1.63	359	*e*P	Pn	04 28 36.9	0.0	
	baz=14								
LIOB	**Emei**	1.63	348	*e*P	Pb	04 28 39.1	+0.5	
	baz=345								
PHUB	**P'eng-hu**	1.72	286	*e*P	Pn	04 28 37.8	-0.2	
	baz=286								
PHUB				*e*S	Sn	04 28 58.7	-0.9		
	baz=286								
FUSB	**Fushanzhiwuyua**	1.72	6	*e*P	Pb	04 28 39.4	-0.8	
	baz=20								
PNG	**Penghu**	1.75	288	*e*P	Pn	04 28 38.4	-0.1	
	baz=287								
PNG				*e*S	Sn	04 28 59.8	-0.6		
	baz=287								
VCHM	**Qimei**	1.80	276	*e*P	Pn	04 28 39.0	-0.1	
	baz=275								
TIPB	**Shuangxi**	1.97	12	*e*P	Pb	04 28 43.3	-1.0	
	baz=9.0								
JYNG	**Yonagunijimaku**	2.01	45	*e*P	Pn	04 28 43.0	+1.0	
JYNG				S	Sn	04 29 06.6	-0.2	
YOJ	**Yonaguni jima**	2.06	46	*e*P	Pn	04 28 43.3	+0.5	
YOJ				*e*S	Sn	04 29 08.2	+0.2	
SXI1	**Grass Mountain**	2.10	13	*e*P	Pb	04 28 45.2	-1.3	
	baz=9.0								
HATJ	**Hateruma jima**	2.45	65	*e*P	Pn	04 28 49.4	+1.3	
HATJ				S	Sn	04 29 16.8	-0.8	
IRIF	**Iriomote-Funau**	2.52	59	P	Pn	04 28 50.4	+1.4	
IRIF				S	Sn	04 29 18.9	-0.4	
JKRS	**Kuro-shima**	2.69	63	*e*P	Pn	04 28 51.9	+0.5	
JKRS				S	Sn	04 29 23.3	-0.3	
JIJ	**Ishigaki jima**	2.86	62	P	Pn	04 28 54.0	+0.3	
JIJ				*e*S	Sn	04 29 25.8	-1.9	
JISG	**Ishigakijimahi**	3.10	60	P	Pn	04 28 57.0	-0.1	
JISG				S	Sn	04 29 32.9	-0.7	
MATB	**Ma-tsu**	3.36	338	*e*P	Pn	04 29 00.6	0.0	
	baz=336								
JTJ	**Tarama**	3.44	62	*e*P	Pn	04 29 03.5	+1.8	
JTJ				S	Sn	04 29 42.0	0.0	
AXDP	**Jialang**	3.62	301	*e*P	Pn	04 29 04.1	-0.1	
	baz=301								
DAV	**Davao City (W)**	16.39	165	LR	LR	04 38 01.6		
	comp=Z,58nm,18.4s,baz=29,slow=36								
CMAR	**Chiang Mai Arr**	21.46	262	P	P	04 33 00.2	+3.6	
	0.7nm,0.3s,baz=60,slow=8.4,SNR=4.7								
CMAR				LR	LR	04 41 59.1			
	comp=Z,61nm,19.2s,baz=80,slow=38								
MKAR	**Makanchi Array**	39.28	317	P	P	04 35 37.5	+0.7	
	0.5nm,0.6s,baz=106,slow=11,SNR=3.5								
	0.5nm,0.6s								
ZALV	**Zalesovo Beam**	41.30	328	P	P	04 35 53.1	-0.2	
	1.0nm,0.5s,baz=130,slow=7.9,SNR=4.6								
	1.0nm,0.5s								
WRA	**Warramunga Arr**	44.56	162	P	P	04 36 19.0	-1.0	
	1.1nm,0.7s,baz=341,slow=8.9,SNR=2.5								
	1.1nm,0.7s								
ASAR	**Alice Springs**	48.00	164	P	P	04 36 47.1	0.0	
	0.4nm,0.5s,baz=339,slow=6.5,SNR=2.2								
	0.4nm,0.5s								
FINES	**FINESS Array B**	72.52	330	P	P	04 39 33.9	-0.6	
	12nm,1.2s,baz=82,slow=10.0,SNR=7.5								
NOA	**NORSAR Array B**	79.31	332	P	P	04 40 11.6	-1.8	
	0.9nm,0.8s,baz=59,slow=5.1,SNR=1.9								
	0.9nm,0.8s								

IGIL ***24*** *04:33:56.3,37.˚23N×14.˚25W,h5km,ML2.0*
MDD ***24*** *04:33:56.8±0.8,37.˚23N×14.˚32W,h25km±14km,Mb4.3/14, M_mb3.7/15, Error ellipse: s-maj=15.3km s-min=5.0km az=78.0*
INMG ***24*** *04:33:58.7±1.7,37.˚13N×14.˚49W,h10km,ML2.4, Error ellipse: s-maj=7.0km s-min=3.4km az=122.0*
CNRM ***24*** *04:34:01.4,36.˚83N×13.˚73W,h95km*
ISC 24 04:33:51.2±1.6,37.07N±0.05×14.26W±0.09,h10km,n71,
σ3.919/122,12C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	4.33	204	*e*Pn	Pn		04 34 59.6	+2.4
PMPST				*e*Sn	Sn		04 35 42.3	-5.4
PFVI	**Vila Bisbo**	4.34	88	*e*Pn	Pn		04 35 00.8	+3.5
PFVI				*e*Sn	Sn		04 35 46.4	-1.6
PFVI	**Vila Bisbo**	4.34	88	Pn	Pn		04 35 00.6	+3.4
PFVI	**Vila Bisbo**	4.34	88	P	Pn		04 35 00.8	+3.5
PFVI	**Vila Bisbo**	4.34	88	S	Sn		04 35 44.7	-3.3
PMPS	**Porto Santo**	4.35	204	*e*Pn	Pn		04 34 59.1	+1.7
PMPS				*e*Sn	Sn		04 35 42.6	-5.6
PMAFR	**Mafra**	4.36	63	⇓*e*Pn	Pn		04 35 00.7	+3.2
PMAFR				*e*Sn	Sn		04 35 50.0	+1.7
PMAFR	**Mafra**	4.36	63	Pn	Pn		04 35 00.6	+3.2
PMAFR				Sn	Sn		04 35 45.9	-2.4
PTEO	**Sao Teotonio**	4.44	82	*e*Pn	Pn		04 35 02.0	+3.4
PTEO				*e*Sn	Sn		04 35 50.7	+0.4
MORF	**Marmelete**	4.48	85	*e*Pn	Pn		04 35 02.6	+3.4
MORF				*e*Sn	Sn		04 35 48.9	-2.6
MORF				A	A		04 35 53.3	
	4.0nm,0.2s							
MORF	**Marmelete**	4.48	85	*e*P	Pn		04 35 02.7	+3.4
PACT	**Alcochete**	4.61	67	*e*Pn	Pn		04 35 05.3	+4.4
PACT				*e*Sn	Sn		04 35 56.6	+2.1
PACT				A	A		04 35 58.7	
	7.6nm,0.1s							
PNCL	**Nicolau / Gran**	4.67	75	*e*Pn	Pn		04 35 04.8	+3.1
PNCL				*e*Sn	Sn		04 35 54.9	-1.0
PNCL				A	A		04 36 01.1	
	3.6nm,0.1s							
PNCL	**Nicolau / Gran**	4.67	75	Pn	Pn		04 35 04.7	+3.0
PNCL				Sn	Sn		04 35 54.2	-1.7
PMAR	**Madeira**	4.86	207	*e*Sn	Sn		04 35 57.7	-3.2
MESJ	**Messejana**	4.87	79	*e*Pn	Pn		04 35 07.8	+3.3
MESJ				*e*Sn	Sn		04 36 00.6	-0.2
MESJ				A	A		04 36 06.2	
	3.2nm,0.2s							
MESJ	**Messejana**	4.87	79	*e*P	Pn		04 35 07.6	+3.1
MESJ				*e*S	Sn		04 35 59.7	-1.1
MESJ				IAML			04 36 03.6	
	comp=N,2.5nm,0.1s							
PSBE	**So Bento**	4.94	59	*e*Pn	Pn		04 35 10.1	+4.6
PSBE				*e*Sn	Sn		04 36 03.2	+0.5
PCVE	**Castro Verde**	4.99	82	*e*Pn	Pn		04 35 09.5	+3.3
PCVE				*e*Sn	Sn		04 36 03.3	-0.5
PCVE				A	A		04 36 08.3	
	comp=N,2.2nm,0.2s							
PCVE	**Castro Verde**	4.99	82	Pn	Pn		04 35 09.5	+3.3
PBDV	**Barranco-do-Ve**	5.06	86	*e*Pn	Pn		04 35 11.1	+4.0
PBDV				*e*Sn	Sn		04 36 07.3	+1.7
PBDV				A	A		04 36 08.7	
	comp=N,2.5nm,0.1s							
EVO	**Evora**	5.16	72	*e*Pn	Pn		04 35 12.0	+3.5
EVO				*e*Sn	Sn		04 36 06.7	-1.3
EVO				A	A		04 36 11.3	
	comp=N,5.0nm,0.1s							
EVO	**Evora**	5.16	72	Pn	Pn		04 35 11.5	+3.0
EVO				Sn	Sn		04 36 05.5	-2.5
PMTG	**Montargil**	5.16	65	*e*Pn	Pn		04 35 11.2	+2.7
PMTG				*e*Sn	Sn		04 36 07.0	-1.1
PMTG				A	A		04 36 12.1	
	comp=N,2.7nm,0.2s							
PBEJ	**Beja**	5.17	77	*e*Pn	Pn		04 35 12.5	+3.9
PBEJ				*e*Sn	Sn		04 36 08.6	+0.3
PBEJ				A	A		04 36 10.9	
	comp=N,2.4nm,0.2s							
PVAQ	**Vaqueiros**	5.23	84	*e*Pn	Pn		04 35 13.4	+3.9
PVAQ				*e*Sn	Sn		04 36 08.5	-1.3
PCAS	**Casmilo, Conde**	5.41	55	*e*Pn	Pn		04 35 15.8	+3.9
PCAS				*e*Sn	Sn		04 36 13.9	-0.3
EGRO	**El Granado**	5.42	83	Pn	Pn		04 35 15.7	+3.6
EGRO				Sn	Sn		04 36 12.8	-1.7
EGRO	**El Granado**	5.42	83	Pn	Pn		04 35 15.4	+3.3
EGRO				⇑*i*Vmb_V			04 35 19.7	
	comp=N,175nm,SNR=2.6							
EGRO				Sn	Sn		04 36 13.2	-1.3
PESTR	**Estremoz**	5.56	69	*e*Pn	Pn		04 35 17.6	+3.5
PESTR				*e*Sn	Sn		04 36 16.6	-1.5
PESTR				A	A		04 36 23.3	
	comp=N,3.1nm,0.3s							
PESTR	**Estremoz**	5.56	69	Pn	Pn		04 35 16.3	+2.3
PESTR				Sn	Sn		04 36 15.8	-2.3
PESTR	**Estremoz**	5.56	69	P	Pn		04 35 18.0	+3.9
PESTR	**Estremoz**	5.56	69	S	Sn		04 36 16.8	-1.3
PBAR	**Barrancos**	5.84	77	*e*Pn	Pn		04 35 21.8	+4.0
PBAR				*e*Sn	Sn		04 36 24.4	-0.4
PBAR				A	A		04 36 29.8	
	comp=N,2.6nm,0.3s							
PBAR	**Barrancos**	5.84	77	Pn	Pn		04 35 21.3	+3.5
PBAR				Sn	Sn		04 36 22.2	-2.6
PMRV	**Marv??o**	5.89	64	*e*Pn	Pn		04 35 21.5	+2.9
PMRV				*e*Sn	Sn		04 36 24.1	-2.1
PMRV				A	A		04 36 31.4	
	comp=N,3.3nm,0.2s							
EBAD	**Badajoz**	5.97	71	Pn	Pn		04 35 22.4	+2.8
EBAD				Sn	Sn		04 36 25.1	-3.0
EBAD	**Badajoz**	5.97	71	Pn	Pn		04 35 22.9	+3.2
EBAD				⇑*i*Vmb_V			04 35 25.0	
	comp=N,142nm,SNR=3.3							
EBAD				Sn	Sn		04 36 25.2	-2.8
PCBR	**Castelo Branco**	6.00	61	*e*Pn	Pn		04 35 23.3	+3.3
PCBR				*e*Sn	Sn		04 36 27.6	-1.1
PCBR				A	A		04 36 30.7	
	comp=N,2.6nm,0.3s							
EMIN	**Mina Concepcio**	6.08	81	Pn	Pn		04 35 24.4	+3.3
EMIN				Sn	Sn		04 36 28.5	-2.2
EMIN	**Mina Concepcio**	6.08	81	Pn	Pn		04 35 24.0	+2.9
EMIN				⇑*i*Vmb_V			04 35 24.6	
	comp=N,101nm,SNR=1.8							
EMIN				Sn	Sn		04 36 29.3	-1.4
PVIS	**Viseu**	6.15	52	*e*Pn	Pn		04 35 24.5	+2.3
PVIS				*e*Sn	Sn		04 36 29.3	-3.3
PVIS				A	A		04 36 35.5	
	comp=N,3.5nm,0.1s							
MTE	**Manteigas**	6.21	56	*e*Pn	Pn		04 35 24.9	+1.9
MTE				*e*Sn	Sn		04 36 33.3	-0.8
MTE				A	A		04 36 37.5	
	comp=N,3.6nm,0.3s							
PVRL	**Vila Real**	6.59	48	*e*Pn	Pn		04 35 31.0	+2.8
PVRL				*e*Sn	Sn		04 36 39.8	-3.6
PVRL				A	A		04 36 43.5	
	comp=N,3.1nm,0.1s							
POLO	**Lamas de Olo**	6.60	47	*e*Pn	Pn		04 35 31.6	+3.2
POLO				*e*Sn	Sn		04 36 39.9	-3.9
POLO				A	A		04 36 43.0	
	comp=N,0.4nm,0.1s							
PCAB	**Cabril**	6.69	44	*e*Pn	Pn		04 35 32.4	+2.9
PCAB				*e*Sn	Sn		04 36 42.8	-3.0
PCAB				A	A		04 36 47.8	
	comp=N,4.5nm,0.1s							
PGAV	**Gavieira, Arco**	6.73	42	*e*Pn	Pn		04 35 32.6	+2.5
PGAV				*e*Sn	Sn		04 36 42.8	-4.1
PGAV				A	A		04 36 45.2	
	comp=N,2.8nm,0.2s							
ESPR	**Espera**	6.73	89	Pn	Pn		04 35 34.1	+4.0
ESPR	**Espera**	6.73	89	Pn	Pn		04 35 33.8	+3.7
ESPR				⇑*i*Vmb_V			04 35 35.3	
	comp=N,97nm,SNR=1.5							
ESPR				Sn	Sn		04 36 45.0	-1.8
AVE	**Averroes**	6.75	122	Pn	Pn		04 35 34.6	+4.2
ELOB	**Lobios**	6.77	43	Pn	Pn		04 35 33.2	+2.4
ELOB				⇑*i*Vmb_V			04 35 38.7	
	comp=N,143nm,SNR=0.9							
ELOB				Sn	Sn		04 36 43.6	-4.3
MVO	**Moncorvo**	6.95	52	*e*Pn	Pn		04 35 35.9	+2.8
MVO				*e*Sn	Sn		04 36 47.7	-4.5
MVO				A	A		04 36 51.9	
	comp=N,3.3nm,0.1s							
EPLA	**Plasencia**	7.07	63	Pn	Pn		04 35 37.7	+2.9
EPLA				⇑*i*Vmb_V			04 35 40.5	
	comp=N,132nm,SNR=1.9							
EPLA				Sn	Sn		04 36 51.5	-3.7
ECAB	**El Cabril**	7.09	79	Pn	Pn		04 35 37.9	+2.9
ECAB				Sn	Sn		04 36 51.7	-4.0
ECAB	**El Cabril**	7.09	79	Pn	Pn		04 35 38.0	+2.9
ECAB				⇑*i*Vmb_V			04 35 39.2	
	comp=N,89nm,SNR=1.4							
ECAB				Sn	Sn		04 36 53.0	-2.8
EMAZ	**Mazaricos**	7.13	33	Sn	Sn		04 36 49.5	-7.1
ZHG	**ZHG**	7.21	118	P	Pn		04 35 36.8	+0.2
ZHG	**ZHG**	7.21	118	S	Sn		04 36 53.6	-5.0
EAGO	**Agolada(Pontev**	7.43	38	Pn	Pn		04 35 41.6	+2.0
EAGO				⇑*i*Vmb_V			04 35 44.8	
	comp=N,241nm,SNR=1.4							
EAGO				Sn	Sn		04 36 57.4	-6.6
PBRG	**Braganca**	7.49	49	*e*Pn	Pn		04 35 43.6	+3.0
PBRG				*e*Sn	Sn		04 37 01.9	-3.7
EADA	**Adamuz**	7.76	79	Pn	Pn		04 35 47.0	+2.7
EADA	**Adamuz**	7.76	79	Pn	Pn		04 35 46.6	+2.3
EADA				⇑*i*Vmb_V			04 35 51.7	
	comp=N,81nm,SNR=1.3							
EADA				Sn	Sn		04 37 09.0	-3.2
TTIG	**Tnine Tigouga,**	8.11	142	P	Pn		04 35 49.6	+0.5
PAB	**San Pablo**	8.17	69	Pn	Pn		04 35 52.4	+2.4
PAB				⇑*i*Vmb_V			04 35 55.1	
	comp=N,70nm,SNR=1.6							
PAB				Sn	Sn		04 37 18.4	-4.0
IFR	**Ifrane**	8.27	113	Pn	Pn		04 35 55.6	+4.3
IFR				Sn	Sn		04 37 19.9	-4.9
EPON	**Pontenova**	8.28	39	Sn	Sn		04 37 17.4	-7.5
TIO	**Tiouine**	8.44	135	Pn	Pn		04 35 58.8	+5.0
TIO				Sn	Sn		04 37 27.5	-1.7
ESDC	**Sonseca Array**	8.49	69	Pn	Pn		04 35 57.0	+2.7
ESDC				⇑*i*Vmb_V			04 35 58.5	
	comp=N,55nm,SNR=0.8							
OUZM	**OUZ**	8.75	132	P	Pn		04 35 58.4	+0.5
AKLM	**AKL**	8.83	104	P	Pn		04 35 58.4	-0.5
EQES	**Quesada**	8.93	82	Pn	Pn		04 36 03.2	+2.8
EQES				⇑*i*Vmb_V			04 36 07.0	
	comp=N,94nm,SNR=1.3							
EQES				Sn	Sn		04 37 36.5	-4.6

AEIC ***24*** *04:42:08.9±1.5,56.˚1N±0.˚1×149.˚89W±0.˚05,h8km±9km, Error ellipse: s-maj=19.2km s-min=3.1km az=171.0*
NEIC 24 04:42:05.1±1.8,56.1N±0.˚1×149.9W±0.˚1,h19km±11km,
ML3.1/26,**ML2.9**(AEIC)**,Error ellipse: s-maj=19.1km**
s-min=10.3km az=166.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	2.15	302		Pn		04 42 40.0	+0.2
OHAK					Sn		04 43 04.5	-1.4
KDAK	**Kodiak Island**	2.20	320		Pn		04 42 40.4	-0.1
KDAK					Sn		04 43 06.7	-0.5
SYI	**Shuyak Island**	2.81	333		Pn		04 42 49.0	0.0
SYI					Sn		04 43 21.9	-0.5
SYI	**Shuyak Island**	2.81	333	IAML			04 43 52.1	
	comp=N,26nm,1.2s							
KAHG	**Katmai Hook Gl**	3.44	315		Pn		04 42 58.5	+0.9
KAHG					Sn		04 43 35.2	-2.7
Q19K	**Cape Douglas,**	3.44	326		Pn		04 42 58.2	+0.6
Q19K	**Cape Douglas,**	3.44	326	IAML			04 43 22.6	
	comp=N,77nm,1.1s							
Q19K				IAML			04 44 59.2	
	comp=E,79nm,1.1s							
CNPM	**China Poot**	3.47	349		Pn		04 42 58.2	+0.2
CNPM					Sn		04 43 37.6	-1.0
CNPM	**China Poot**	3.47	349	IAML			04 43 47.5	
	comp=E,20nm,1.1s							
CNPM				IAML			04 44 36.5	
	comp=N,17nm,1.1s							
BRSE	**Bradley Lake S**	3.64	354		Pn		04 43 00.3	-0.2
ANCK	**Angle Creek**	3.66	307		Pn		04 43 02.2	+1.5
BRLK	**Bradley Lake**	3.68	353		Pn		04 43 00.6

CNPM				Sn	04 44 56.7	-1.8	
CNPM	**China Poot**	**3.58**	**353**	IAML	04 46 10.6		
	comp=E,20nm,0.9s						
CNTC	**Contact Creek**	**3.78**	**309**	Pn	04 44 18.8	0.0	
P19K	**Oil Pt**	**3.98**	**338**	Pn	04 44 21.9	+0.3	
P19K	**Oil Pt**	**3.98**	**338**	IAML	04 45 23.3		
	comp=N,49nm,1.1s						
P19K				IAML	04 45 55.5		
	comp=E,75nm,1.1s						
Q23K	**Middleton Isla**	**4.06**	**30**	Pn	04 44 22.7	+0.1	
O20K	**Slope Mountain**	**4.28**	**345**	Pn	04 44 26.0	+0.4	
R16K	**Pilot Point**	**4.28**	**295**	Pn	04 44 25.6	+0.1	
IVE	**Iliamna Volcan**	**4.28**	**342**	Pn	04 44 25.9	+0.3	
P18K	**Big Mountain,**	**4.30**	**325**	Pn	04 44 25.7	-0.2	
P18K	**Big Mountain,**	**4.30**	**325**	IAML	04 45 09.1		
	comp=N,4.8nm,1.1s						
P18K				IAML	04 45 33.1		
	comp=E,5.8nm,1.1s						
P23K	**Montague Islan**	**4.31**	**20**	Pn	04 44 25.7	-0.3	
P17K	**Kvichak River**	**4.59**	**317**	Pn	04 44 30.4	+0.6	
O18K	**Koktuh Hills**	**4.66**	**328**	Pn	04 44 30.7	-0.1	
O18K	**Koktuh Hills**	**4.66**	**328**	IAML	04 46 60.0		
	comp=E,9.7nm,0.9s						
RDT	**Redoubt**	**4.72**	**348**	Pn	04 44 31.0	-0.7	

*AEIC **24** 04:44:47.7±0.8,56°.23N±0°.09×150°.0W±0°.1,h22km±11km,*
Error ellipse: s-maj=23.3km s-min=10.4km az=175.0
NEIC 24 04:44:46.2±1.0,56°.23N±0°.09×150°.0W±0°.1,h22km±11km,
ML3.3/28,ML2.8(AEIC),Error ellipse: s-maj=13.6km
s-min=9.5km az=152.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.09**	**300**		Pn	04 45 18.9	-0.9
OHAK					Sn	04 45 41.9	-3.2
OHAK	**Old Harbor**	**2.09**	**300**	P	Pn	04 45 18.9	-0.9
	baz=117						
OHAK				S	Sn	04 45 41.8	-3.2
	baz=117						
KDAK	**Kodiak Island**	**2.12**	**319**		Pn	04 45 20.0	-0.2
KDAK					Sn	04 45 45.2	-0.7
Q20K	**Shuyak Island**	**2.73**	**332**	P	Pn	04 45 29.1	+0.6
	baz=150						
Q20K				S	Sn	04 46 00.1	-0.8
	baz=150						
SYI	**Shuyak Island**	**2.73**	**332**		Pn	04 45 28.7	+0.1
SYI					Sn	04 46 00.1	-0.7
SYI	**Shuyak Island**	**2.73**	**332**	IAML		04 46 48.9	
	comp=N,43nm,0.4s						
Q19K	**Cape Douglas,**	**3.36**	**325**		Pn	04 45 37.8	+0.5
Q19K	**Cape Douglas,**	**3.36**	**325**	IAML		04 46 25.6	
	comp=N,101nm,1.1s						
Q19K				IAML		04 46 27.0	
	comp=E,179nm,1.1s						
Q19K	**Cape Douglas,**	**3.36**	**325**	P	Pn	04 45 37.3	0.0
	baz=142						
CNPM	**China Poot**	**3.38**	**349**		Pn	04 45 37.5	0.0
CNPM	**China Poot**	**3.38**	**349**		Sn	04 46 13.6	-3.3
CNPM	**China Poot**	**3.38**	**349**	IAML		04 47 39.9	
	comp=E,32nm,1.2s						
CNPM	**China Poot**	**3.38**	**349**	IAML		04 46 07.3	
	comp=N,30nm,1.0s						
BRSE	**Bradley Lake S**	**3.55**	**354**		Pn	04 45 39.3	-0.6
BRLK	**Bradley Lake**	**3.58**	**352**		Pn	04 45 39.8	-0.6
Q23K	**Middleton Isla**	**3.75**	**30**		Pn	04 45 41.4	-1.2
Q23K	**Middleton Isla**	**3.75**	**30**	P	Pn	04 45 42.0	-0.6
	baz=212						
CNTC	**Contact Creek**	**3.81**	**305**		Pn	04 45 42.8	-0.8
Q17K	**Contact Creek**	**3.81**	**305**	P	Pn	04 45 42.8	-0.8
	baz=120						
P19K	**Oil Pt**	**3.85**	**334**		Pn	04 45 43.8	-0.3
P19K	**Oil Pt**	**3.85**	**334**	P	Pn	04 45 43.8	-0.3
	baz=152						
P23K	**Montague Islan**	**4.02**	**19**		Pn	04 45 46.3	0.0
P23K	**Montague Islan**	**4.02**	**19**	P	Pn	04 45 46.3	0.0
	baz=201						
P18K	**Big Mountain,**	**4.25**	**321**	Pn	Pn	04 45 49.4	0.0
HIN	**Hinchinbrook I**	**4.56**	**22**		Pn	04 45 54.1	+0.3
O18K	**Koktuh Hills**	**4.58**	**325**	Pn	Pn	04 45 54.5	+0.4
O18K				IAML		04 46 52.0	
	comp=N,13nm,0.8s						
KAIM	**Kayak Island**	**4.74**	**36**		Pn	04 45 55.7	-0.5
KAIM	**Kayak Island**	**4.74**	**36**	P	Pn	04 45 55.0	-1.1
	baz=221						
EYAK	**Cordova Ski Ar**	**4.87**	**25**		Pn	04 45 57.7	-0.3
EYAK	**Cordova Ski Ar**	**4.87**	**25**	P	Pn	04 45 57.7	-0.3
	baz=209						
RAGM	**Ragged Mountai**	**5.02**	**32**	Pn	Pn	04 46 00.0	-0.1
GOAT	**Goat Mountain**	**5.16**	**30**		Pn	04 46 02.0	-0.1
BERG	**Berg Lake**	**5.32**	**36**		Pn	04 46 04.0	-0.2
N18K	**Kilae Creek**	**5.44**	**328**	Pn	Pn	04 46 06.2	+0.3
SNH	**Sunshine Point**	**5.47**	**41**	Pn	Pn	04 46 06.2	0.0
O16K	**Kokwok River B**	**5.49**	**311**	Pn	Pn	04 46 07.3	+0.7
GHO	**Glory Hole Cre**	**5.59**	**5**	Pn	Pn	04 46 08.2	+0.3

*NEIC **24** 04:59:53.0±0.9,55°.7N±0°.1×149°.3W±0°.2,h7km±9km,*
ML3.4/26,ML3.2(AEIC),Error ellipse: s-maj=18.2km
s-min=11.1km az=157.0
*AEIC **24** 04:59:55.3±1.1,55°.6N±0°.1×149°.1W±0°.2,h3km±9km,Error*
ellipse: s-maj=20.1km s-min=11.9km az=160.0
ISC 24 04:59:52.4±2.7,55°.7N±0°.1×149°.24W±0°.07,h10km,n51,
σ0s55/54,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.74**	**307**		**Pn**	**05 00 36.4**	**0.0**
OHAK					**Sn**	**05 01 08.2**	**-1.3**
OHAK	**Old Harbor**	**2.74**	**307**	P	**Pn**	**05 00 36.4**	**0.0**
	baz=124						
OHAK				S	**Sn**	**05 01 08.2**	**-1.3**
	baz=124						
KDAK	**Kodiak Island**	**2.82**	**321**		**Pn**	**05 00 37.8**	**+0.4**
KDAK					**Sn**	**05 01 10.9**	**-0.5**
SYI	**Shuyak Island**	**3.42**	**331**		**Pn**	**05 00 45.9**	**+0.2**
SYI					**Sn**	**05 01 26.2**	**-0.2**
SYI	**Shuyak Island**	**3.42**	**331**	IAML		05 02 40.9	
	comp=E,28nm,0.5s						
SYI				IAML		05 02 51.6	
	comp=N,32nm,1.1s						
Q20K	**Shuyak Island**	**3.42**	**331**	P	**Pn**	**05 00 45.9**	**+0.2**
	baz=148						
Q20K				S	**Sn**	**05 01 26.2**	**-0.2**
	baz=148						
CNPM	**China Poot**	**4.03**	**345**		**Pn**	**05 00 54.3**	**+0.2**
CNPM					**Sn**	**05 01 41.3**	**0.0**
Q19K	**Cape Douglas,**	**4.06**	**326**		**Pn**	**05 00 55.6**	**+1.1**
Q19K	**Cape Douglas,**	**4.06**	**326**	IAML		05 01 50.8	
	comp=N,80nm,1.1s						
Q19K	**Cape Douglas,**	**4.06**	**326**	P	**Pn**	**05 00 55.6**	**+1.1**
	baz=142						
KAHG	**Katmai Hook Gl**	**4.06**	**317**		**Pn**	**05 00 55.8**	**+1.2**
Q23K	**Middleton Isla**	**4.09**	**21**		**Pn**	**05 00 55.3**	**+0.3**
Q23K	**Middleton Isla**	**4.09**	**21**	IAML		05 01 43.9	
	comp=E,97nm,1.1s						
Q23K	**Middleton Isla**	**4.09**	**21**	P	**Pn**	**05 00 55.3**	**+0.3**
	baz=202						
BRSE	**Bradley Lake S**	**4.17**	**350**		**Pn**	**05 00 55.7**	**-0.4**
BRSE					**Sn**	**05 01 45.1**	**+0.1**
BRSE	**Bradley Lake S**	**4.17**	**350**	P	**Pn**	**05 00 56.3**	**+0.1**
	baz=167						
BRSE				S	**Sn**	**05 01 45.1**	**+0.1**
	baz=167						
BRLK	**Bradley Lake**	**4.21**	**349**		**Pn**	**05 00 56.6**	**-0.1**
AUCH	**Augustine Cone**	**4.35**	**330**		**Pn**	**05 00 59.5**	**+0.8**
SEW	**Seward**	**4.46**	**359**		**Pn**	**05 01 00.1**	**0.0**
SEW	**Seward**	**4.46**	**359**	P	**Pn**	**05 01 00.1**	**0.0**
	baz=178						
P23K	**Montague Islan**	**4.46**	**12**		**Pn**	**05 01 00.2**	**+0.1**
P23K	**Montague Islan**	**4.46**	**12**	P	**Pn**	**05 01 00.2**	**+0.1**
	baz=192						
CNTC	**Contact Creek**	**4.48**	**308**		**Pn**	**05 01 01.4**	**+1.0**
Q17K	**Contact Creek**	**4.48**	**308**	P	**Pn**	**05 01 01.4**	**+1.0**
	baz=123						
P19K	**Oil Pt**	**4.54**	**334**		**Pn**	**05 01 01.8**	**+0.6**
P19K	**Oil Pt**	**4.54**	**334**	P	**Pn**	**05 01 02.1**	**+0.8**
	baz=150						
O20K	**Slope Mountain**	**4.79**	**339**		**Pn**	**05 01 04.9**	**+0.3**
O20K	**Slope Mountain**	**4.79**	**339**	P	**Pn**	**05 01 04.9**	**+0.3**
	baz=156						
O22K	**Cooper Landing**	**4.85**	**357**		**Pn**	**05 01 05.5**	**+0.2**
O22K	**Cooper Landing**	**4.85**	**357**	P	**Pn**	**05 01 05.5**	**+0.2**
	baz=176						

P18K	**Big Mountain,**	**4.94**	**322**		**Pn**	**05 01 07.1**	**+0.4**
P18K	**Big Mountain,**	**4.94**	**322**	P	**Pn**	**05 01 07.1**	**+0.4**
	baz=137						
HIN	**Hinchinbrook I**	**4.97**	**16**		**Pn**	**05 01 07.2**	**+0.2**
HIN	**Hinchinbrook I**	**4.97**	**16**	IAML		05 02 05.0	
	comp=N,55nm,1.2s						
HIN				IAML		05 03 44.8	
	comp=E,28nm,1.2s						
R16K	**Pilot Point**	**4.99**	**296**		**Pn**	**05 01 07.4**	**+0.2**
R16K	**Pilot Point**	**4.99**	**296**	P	**Pn**	**05 01 07.4**	**+0.2**
	baz=110						
KAIM	**Kayak Island**	**5.00**	**29**		**Pn**	**05 01 07.0**	**-0.4**
KAIM	**Kayak Island**	**5.00**	**29**	IAML		05 02 13.1	
	comp=E,30nm,1.0s						
KAIM				IAML		05 03 49.1	
	comp=N,39nm,1.1s						
KAIM	**Kayak Island**	**5.00**	**29**	P	**Pn**	**05 01 07.0**	**-0.4**
	baz=212						
RDSO	**Redoubt South**	**5.16**	**340**		**Pn**	**05 01 09.6**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.24**	**19**		**Pn**	**05 01 10.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**5.24**	**19**	P	**Pn**	**05 01 10.8**	**+0.1**
	baz=201						
P17K	**Kvichak River**	**5.26**	**315**		**Pn**	**05 01 11.4**	**+0.4**
P17K	**Kvichak River**	**5.26**	**315**	P	**Pn**	**05 01 11.4**	**+0.4**
	baz=129						
P16K	**Nushagak River**	**5.82**	**309**		**Pn**	**05 01 19.2**	**+0.6**
P16K	**Nushagak River**	**5.82**	**309**	P	**Pn**	**05 01 19.2**	**+0.6**
	baz=122						
SPCP	**Crater Peak Br**	**5.83**	**346**		**Pn**	**05 01 19.2**	**+0.3**
BMRM	**Bremner River**	**5.86**	**23**		**Pn**	**05 01 19.0**	**-0.3**
BMRM	**Bremner River**	**5.86**	**23**	P	**Pn**	**05 01 19.0**	**-0.3**
	baz=206						
GLB	**Gilahina Butte**	**6.46**	**24**	Pn	**Pn**	**05 01 28.0**	**+0.4**
BARN	**Barnard Glacie**	**6.72**	**33**	Pn	**Pn**	**05 01 32.3**	**+1.0**

*AEIC **24** 05:01:21.6±1.3,56°.1N±0°.1×149°.2W±0°.1,h12km±9km,*
Error ellipse: s-maj=18.1km s-min=11.0km az=179.0
NEIC 24 05:01:25.7±2.6,56°.78N±0°.04×149°.42W±0°.05,
h21km±10km,ML3.1/32,ML3.0(AEIC),Error ellipse:
s-maj=5.6km s-min=3.6km az=155.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.99**	**302**		Pn	05 01 57.6	-0.5
KDAK					Sb	05 02 25.4	-0.2
OHAK	**Old Harbor**	**2.17**	**283**		Pn	05 01 57.5	-2.9
OHAK					Sn	05 02 25.3	-1.3
OHAK	**Old Harbor**	**2.17**	**283**	IAML		05 02 26.3	
	comp=N,47nm,1.5s						
OHAK	**Old Harbor**	**2.17**	**283**	P	Pn	05 01 57.6	-2.9
	baz=115						
OHAK				S	Sn	05 02 25.3	-1.3
	baz=115						
SYI	**Shuyak Island**	**2.43**	**320**		Pn	05 02 04.4	+0.2
SYI	**Shuyak Island**	**2.43**	**320**		Sb	05 02 39.1	+0.9
SYI	**Shuyak Island**	**2.43**	**320**	IAML		05 02 34.4	
	comp=N,33nm,1.4s						
Q20K	**Shuyak Island**	**2.44**	**320**	P	Pn	05 02 05.1	+1.0
	baz=144						
Q20K				S	Sb	05 02 39.1	+0.8
	baz=144						
CNPM	**China Poot**	**2.92**	**341**		Pn	05 02 12.2	+1.3
CNPM					Sb	05 02 52.1	-0.1
CNPM	**China Poot**	**2.92**	**341**	IAML		05 02 55.8	
	comp=E,29nm,1.5s						
CNPM				IAML		05 02 57.8	
	comp=N,23nm,1.3s						
BRSE	**Bradley Lake S**	**3.05**	**347**		Pn	05 02 14.1	+1.4
BRSE					Sb	05 02 55.5	-0.6
BRSE	**Bradley Lake S**	**3.05**	**347**	P	Pn	05 02 14.1	+1.4
	baz=167						
BRSE				S	Sb	05 02 55.5	-0.6
	baz=167						
BRLK	**Bradley Lake**	**3.09**	**346**		Pn	05 02 14.5	+1.2
BRLK	**Bradley Lake**	**3.09**	**346**	IAML		05 03 00.3	
	comp=N,26nm,1.0s						
BRLK				IAML		05 03 02.3	
	comp=E,23nm,1.4s						
Q23K	**Middleton Isla**	**3.12**	**30**		Pn	05 02 13.5	0.0
Q23K	**Middleton Isla**	**3.12**	**30**	P	Pn	05 02 13.5	0.0
	baz=206						
Q19K	**Cape Douglas,**	**3.12**	**315**		Pn	05 02 14.4	+0.8
Q19K	**Cape Douglas,**	**3.12**	**315**	P	Pn	05 02 14.5	+0.8
	baz=138						
KAHG	**Katmai Hook Gl**	**3.25**	**304**		Pn	05 02 15.6	+0.1
P23K	**Montague Islan**	**3.40**	**17**		Pn	05 02 18.2	+0.7
P23K	**Montague Islan**	**3.40**	**17**	P	Pn	05 02 18.2	+0.7
	baz=195						
P19K	**Oil Pt**	**3.52**	**327**		Pn	05 02 20.1	+1.0
P19K	**Oil Pt**	**3.52**	**327**	IAML		05 03 08.9	
	comp=E,80nm,1.5s						
P19K				IAML		05 03 11.5	
	comp=N,78nm,1.4s						
P19K	**Oil Pt**	**3.52**	**327**	P	Pn	05 02 20.5	+1.4
	baz=147						
O20K	**Slope Mountain**	**3.72**	**334**		Pn	05 02 24.0	+2.1
O20K	**Slope Mountain**	**3.72**	**334**	P	Pn	05 02 24.0	+2.1
	baz=154						
IVE	**Iliamna Volcan**	**3.76**	**331**		Pn	05 02 24.0	+1.5
SLKM	**Skilak Lake**	**3.76**	**354**		Pn	05 02 24.6	+2.1
HIN	**Hinchinbrook I**	**3.94**	**22**		Pn	05 02 24.8	0.0
HIN	**Hinchinbrook I**	**3.94**	**22**	IAML		05 03 16.8	
	comp=N,44nm,1.3s						
HIN				IAML		05 03 33.8	
	comp=E,45nm,1.4s						
P18K	**Big Mountain,**	**4.05**	**313**		Pn	05 02 26.3	-0.1
P18K	**Big Mountain,**	**4.05**	**313**	P	Pn	05 02 26.3	-0.1
	baz=133						
RED	**Redoubt Volcan**	**4.05**	**336**		Pn	05 02 27.5	+1.0
KAIM	**Kayak Island**	**4.11**	**38**		Pn	05 02 26.4	-0.8
KAIM	**Kayak Island**	**4.11**	**38**	IAML		05 03 10.3	
	comp=N,57nm,1.4s						
KAIM	**Kayak Island**	**4.11**	**38**	P	Pn	05 02 26.4	-0.8
	baz=216						
EYAK	**Cordova Ski Ar**	**4.24**	**25**		Pn	05 02 29.4	+0.5
EYAK	**Cordova Ski Ar**	**4.24**	**25**	P	Pn	05 02 29.4	+0.5
	baz=204						
RAGM	**Ragged Mountai**	**4.39**	**32**		Pn	05 02 31.3	+0.2
RAGM	**Ragged Mountai**	**4.39**	**32**	IAML		05 03 44.8	
	comp=E,38nm,1.3s						
GOAT	**Goat Mountain**	**4.53**	**31**		Pn	05 02 33.2	+0.2
BERG	**Berg Lake**	**4.70**	**37**		Pn	05 02 34.4	-0.9
BERG	**Berg Lake**	**4.70**	**37**	IAML		05 04 22.8	
	comp=N,22nm,1.2s						
SUA	**Susitna One**	**4.75**	**352**		Pn	05 02 37.9	+1.8
SUA	**Susitna One**	**4.75**	**352**	IAML		05 03 48.2	
	comp=N,8.9nm,1.5s						
SUA				IAML		05 04 20.4	
	comp=E,7.4nm,1.5s						
SUA	**Susitna One**	**4.75**	**352**	P	Pn	05 02 37.9	+1.8
	baz=171						
N19K	**Bonanza Creek**	**4.83**	**329**		Pn	05 02 38.1	+1.0
N19K	**Bonanza Creek**	**4.83**	**329**	IAML		05 03 13.2	
	comp=N,8.7nm,1.5s						
N19K				IAML		05 05 11.4	
	comp=E,7.5nm,1.5s						
N19K	**Bonanza Creek**	**4.83**	**329**	P	Pn	05 02 38.1	+1.0
	baz=147						
SNH	**Sunshine Point**	**4.85**	**43**		Pn	05 02 36.2	-1.2
SNH	**Sunshine Point**	**4.85**	**43**	IAML		05 03 49.0	
	comp=E,26nm,1.1s						
BMRM	**Bremner River**	**4.89**	**29**		Pn	05 02 38.2	+0.3
BMRM	**Bremner River**	**4.89**	**29**	P	Pn	05 02 38.2	+0.3
	baz=208						
M24K	**Tolsona, Glenn**	**5.59**	**16**		Pn	05 02 46.3	-1.3
P29M	**Windy Craggy**	**6.80**	**60**		Pn	05 03 01.4	-2.7

*AEIC **24** 05:08:27.7±0.7,56°.2N±0°.1×148°.5W±0°.1,h10km±9km,*
Error ellipse: s-maj=20.6km s-min=9.4km az=165.0
NEIC 24 05:08:24.9±1.4,56°.2N±0°.1×148°.6W±0°.1,h21km±12km,
ML3.4/26,ML3.1(AEIC),Error ellipse: s-maj=20.0km
s-min=8.8km az=161.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.69**	**307**		Pn	05 09 07.5	+0.7
KDAK					Sn	05 09 38.7	-0.1
OHAK	**Old Harbor**	**2.79**	**293**		Pn	05 09 08.2	+0.1
OHAK					Sn	05 09 39.6	-1.5
OHAK	**Old Harbor**	**2.79**	**293**	P	Pn	05 09 08.2	+0.1
	baz=110						
OHAK				S	Sn	05 09 39.6	-1.5
	baz=110						

SYI	**Shuyak Island**	**3.15**	**320**		Pn	05 09 12.9	-0.2
SYI					Sn	05 09 49.4	-0.7
SYI	**Shuyak Island**	**3.15**	**320**	IAML		05 10 47.9	
	comp=N,39nm,1.5s						
SYI				IAML		05 11 02.4	
	comp=E,40nm,1.5s						
Q20K	**Shuyak Island**	**3.15**	**320**	P	Pn	05 09 12.9	-0.2
	baz=138						
Q20K				S	Sn	05 09 49.4	-0.8
	baz=138						
Q23K	**Middleton Isla**	**3.40**	**19**		Pn	05 09 16.1	-0.5
Q23K					Sn	05 09 55.7	-0.5
Q23K	**Middleton Isla**	**3.40**	**19**	IAML		05 10 01.6	
	comp=E,145nm,1.1s						
Q23K				IAML		05 10 28.2	
	comp=N,145nm,1.5s						
Q23K	**Middleton Isla**	**3.40**	**19**	P	Pn	05 09 16.1	-0.5
	baz=200						
Q23K				S	Sn	05 09 55.7	-0.5
	baz=200						
CNPM	**China Poot**	**3.59**	**338**		Pn	05 09 19.8	+0.6
CNPM				IAML		05 11 11.2	
	comp=N,28nm,1.3s						
CNPM	**China Poot**	**3.59**	**338**		Sn	05 09 59.7	-1.2
CNPM	**China Poot**	**3.59**	**338**	IAML		05 09 49.7	
	comp=E,30nm,1.5s						
BRSE	**Bradley Lake S**	**3.70**	**343**		Pn	05 09 21.1	+0.4
BRSE	**Bradley Lake S**	**3.70**	**343**	P	Pn	05 09 21.1	+0.4
	baz=160						
BRLK	**Bradley Lake**	**3.74**	**342**		Pn	05 09 21.6	+0.3
P23K	**Montague Islan**	**3.81**	**9**		Pn	05 09 22.2	-0.1
P23K	**Montague Islan**	**3.81**	**9**	P	Pn	05 09 22.2	-0.1
	baz=189						
Q19K	**Cape Douglas,**	**3.84**	**317**		Pn	05 09 22.1	-0.6
Q19K	**Cape Douglas,**	**3.84**	**317**	P	Pn	05 09 22.1	-0.6
	baz=133						
SEW	**Seward**	**3.90**	**353**		Pn	05 09 23.7	+0.3
SEW	**Seward**	**3.90**	**353**	P	Pn	05 09 23.7	+0.3
	baz=172						
KAHG	**Katmai Hook Gl**	**3.95**	**307**		Pn	05 09 25.6	+1.3
P19K	**Oil Pt**	**4.23**	**326**		Pn	05 09 28.9	+0.9
P19K	**Oil Pt**	**4.23**	**326**	P	Pn	05 09 28.9	+0.9
	baz=142						
KAIM	**Kayak Island**	**4.29**	**29**		Pn	05 09 29.1	+0.3
KAIM	**Kayak Island**	**4.29**	**29**	IAML		05 11 12.1	
	comp=E,88nm,1.5s						
KAIM				IAML		05 12 17.9	
	comp=N,67nm,1.1s						
KAIM	**Kayak Island**	**4.29**	**29**	P	Pn	05 09 29.1	+0.3
	baz=211						
O22K	**Cooper Landing**	**4.29**	**352**		Pn	05 09 29.3	+0.5
O22K	**Cooper Landing**	**4.29**	**352**	P	Pn	05 09 29.3	+0.4
	baz=171						
HIN	**Hinchinbrook I**	**4.30**	**14**		Pn	05 09 28.9	-0.1
O20K	**Slope Mountain**	**4.41**	**332**		Pn	05 09 32.0	+1.4
O20K	**Slope Mountain**	**4.41**	**332**	P	Pn	05 09 32.0	+1.4
	baz=149						
IVE	**Iliamna Volcan**	**4.46**	**330**		Pn	05 09 32.0	+0.8
EYAK	**Cordova Ski Ar**	**4.56**	**18**		Pn	05 09 32.5	0.0
EYAK	**Cordova Ski Ar**	**4.56**	**18**	P	Pn	05 09 32.5	0.0
	baz=199						
FID	**Port Fidalgo**	**4.65**	**13**		Pn	05 09 33.9	+0.2
RED	**Redoubt Volcan**	**4.74**	**334**		Pn	05 09 35.4	+0.3
P18K	**Big Mountain,**	**4.77**	**314**		Pn	05 09 36.3	+1.0
P18K	**Big Mountain,**	**4.77**	**314**	P	Pn	05 09 36.3	+1.0
	baz=129						
BERG	**Berg Lake**	**4.88**	**30**		Pn	05 09 36.8	-0.1
BERG	**Berg Lake**	**4.88**	**30**	IAML		05 11 29.3	
	comp=N,50nm,0.9s						
BERG				IAML		05 11 36.2	
	comp=E,42nm,1.1s						

*IDC **24** 05:10:04.9±3.7,55°.59N×149°.08W,h0km,mb4.6/1,*
mbtmp3.6/5,ML2.9/4,Error ellipse: s-maj=48.9km
s-min=41.9km az=14.0
*NEIC **24** 05:10:06.0±1.6,55°.8N±0°.1×149°.3W±0°.1,h8km±8km,*
ML3.6/30,ML3.4(AEIC),Error ellipse: s-maj=18.4km
s-min=10.7km az=184.0
*AEIC **24** 05:10:11.0±1.8,55°.8N±0°.1×149°.2W±0°.1,h3km±8km,Error*
ellipse: s-maj=17.1km s-min=10.8km az=183.0
ISC 24 05:10:07.0±1.9,55°.8N±0°.1×149°.29W±0°.06,h10km,n108,
σ0s73/101,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.62**	**304**		**Pn**	**05 10 48.7**	**-0.7**
OHAK	**Old Harbor**	**2.62**	**304**	IAML		05 11 20.3	
	comp=N,127nm,1.4s						
OHAK	**Old Harbor**	**2.62**	**304**	P	**Pn**	**05 10 48.7**	**-0.7**
	baz=120						
OHAK				S	**Sn**	**05 11 19.1**	**-2.1**
	baz=120						
KDAK	**Kodiak Island**	**2.67**	**319**		**Pn**	**05 10 49.7**	**-0.3**
KDAK					**Sn**	**05 11 20.6**	**-1.7**
KDAK	**Kodiak Island**	**2.67**	**319**	Pn	**Pn**	**05 10 49.8**	**-0.2**
	comp=N,1.8nm,0.3s,baz=144,slow=7.4,SNR=1.8						
KDAK				Sn	**Sn**	**05 11 21.4**	**-0.9**
	comp=N,9.6nm,0.3s,baz=132,slow=9.5,SNR=13						
	comp=N,5.3nm,0.3s						
SYI	**Shuyak Island**	**3.26**	**330**		**Pn**	**05 10 57.9**	**-0.2**
SYI					**Sn**	**05 11 36.9**	**0.0**
SYI	**Shuyak Island**	**3.26**	**330**	IAML		05 11 41.1	
	comp=E,69nm,1.3s						
Q20K	**Shuyak Island**	**3.26**	**330**	P	**Pn**	**05 10 57.9**	**-0.2**
	baz=147						
Q20K				S	**Sn**	**05 11 36.9**	**0.0**
	baz=147						
CNPM	**China Poot**	**3.85**	**345**		**Pn**	**05 11 06.3**	**0.0**
CNPM					**Sn**	**05 11 51.4**	**-0.2**
CNPM	**China Poot**	**3.85**	**345**	IAML		05 11 53.4	
	comp=E,58nm,1.2s						
CNPM				IAML		05 12 00.8	
	comp=N,44nm,1.1s						
Q19K	**C

HIN	Hinchinbrook I	4.81	17			Pn	05 11 19.2	-0.4
HIN	Hinchinbrook I	4.81	17	IAML			05 12 17.1	
	comp=N,63nm,0.7s							
HIN				IAML			05 12 17.5	
	comp=E,46nm,0.9s							
KAIM	Kayak Island	4.86	30			Pn	05 11 19.6	-0.6
KAIM	Kayak Island	4.86	30	IAML			05 12 56.8	
	comp=E,54nm,1.5s							
KAIM				IAML			05 13 49.5	
	comp=N,88nm,1.5s							
KAIM	Kayak Island	4.86	30	P		Pn	05 11 19.6	-0.6
	baz=214							
R16K	Pilot Point	4.89	294			Pn	05 11 20.2	-0.2
R16K	Pilot Point	4.89	294	IAML			05 14 03.7	
	comp=E,143nm,1.4s							
R16K				IAML			05 14 12.3	
	comp=N,148nm,1.4s							
R16K	Pilot Point	4.89	294	P		Pn	05 11 20.2	-0.2
	baz=107							
EYAK	Cordova Ski Ar	5.09	20			Pn	05 11 23.3	0.0
EYAK	Cordova Ski Ar	5.09	20	P		Pn	05 11 23.3	0.0
	baz=203							
RAGM	Ragged Mountai	5.18	26			Pn	05 11 23.8	-0.8
RAGM	Ragged Mountai	5.18	26	IAML			05 12 35.1	
	comp=E,52nm,1.0s							
RC01	Rabbit Creek A	5.28	358	Pn		Pn	05 11 25.0	-0.9
RC01				IAML			05 12 29.5	
	comp=N,18nm,0.5s							
RC01				IAML			05 12 32.5	
	comp=E,26nm,0.5s							
SNH	Sunshine Point	5.55	36			Pn	05 11 29.2	-0.4
KNK	Knik Glacier	5.62	4	Pn		Pn	05 11 31.6	+1.0
DIV	Divide	5.63	18			Pn	05 11 30.8	+0.1
SPCP	Crater Peak Br	5.66	346			Pn	05 11 31.9	+0.7
P16K	Nushagak River	5.69	308			Pn	05 11 31.9	+0.3
P16K	Nushagak River	5.69	308	P		Pn	05 11 31.9	+0.3
	baz=120							
BMRM	Bremner River	5.71	24			Pn	05 11 31.8	-0.1
BMRM	Bremner River	5.71	24	P		Pn	05 11 31.8	-0.1
	baz=207							
PMR	Palmer	5.78	1	Pn		Pn	05 11 33.1	+0.4
BARK	Barkley Ridge	5.83	35			Pn	05 11 33.2	-0.3
KLU	Klutina	5.94	16			Pn	05 11 35.3	+0.2
KLU	Klutina	5.94	16	P		Pn	05 11 35.5	+0.5
	baz=198							
GHO	Glory Hole Cre	5.96	2			Pn	05 11 35.9	+0.6
N18K	Kilae Creek	5.98	327	Pn		Pn	05 11 35.7	+0.2
SML	Sawmill	6.02	4	Pn		Pn	05 11 36.6	+0.6
O16K	Kokwok River B	6.04	312	Pn		Pn	05 11 36.0	-0.3
VRDI	Verde Repeater	6.21	27	Pn		Pn	05 11 38.9	0.0
SAMH	Samovar Hills	6.25	43			Pn	05 11 39.3	+0.1
PTPK	Patty Peak	6.45	31			Pn	05 11 41.2	-0.9
MCARA	McCarthy VSAT	6.46	28			Pn	05 11 41.9	-0.2
MCARA	McCarthy VSAT	6.46	28	P		Pn	05 11 42.8	+0.7
	baz=213							
PNL	Peninsula	6.54	50			Pn	05 11 42.7	-0.5
PNL	Peninsula	6.54	50	P		Pn	05 11 43.1	-0.1
	baz=238							
L19K	White Mountain	6.99	338	Pn		Pn	05 11 49.0	-0.3
M17K	Holitna River	7.02	326	Pn		Pn	05 11 50.5	+0.8
N15K	Kwethluk River	7.20	312	Pn		Pn	05 11 53.2	+0.9
M16K	Timber Creek	7.27	320	Pn		Pn	05 11 53.5	+0.3
O14K	Tigyukauivet M	7.30	303	Pn		Pn	05 11 52.9	-0.7
M26K	Nabesna, AK	7.34	24	Pn		Pn	05 11 55.0	+0.8
YUK2	White River	7.41	33			Pn	05 11 56.5	+1.3
S31K	Pelican	7.46	68	Pn		Pn	05 11 53.7	-2.1
YUK3	Moose Creek	7.52	34	P		Pn	05 11 58.9	+2.2
	baz=221							
YUK7	Dusty Glacier	7.54	47			Pn	05 11 57.8	+0.7
M27K	Edge Creek, AK	7.57	27	Pn		Pn	05 11 57.7	+0.2
YUK6	Outpost Mounta	7.69	44			Pn	05 12 00.3	+1.1
YUK6	Outpost Mounta	7.69	44	P		Pn	05 12 00.3	+1.1
	baz=233							
BVCY	Beaver Creek	7.89	30			Pn	05 12 02.3	+0.6
BVCY	Beaver Creek	7.89	30	P		Pn	05 12 02.3	+0.6
	baz=217							
HYT	Haines Junctio	7.97	46	Pn		Pn	05 12 03.5	+0.6
L27K	Beaver Creek,	8.18	25	Pn		Pn	05 12 06.2	+0.4
RIDG	Independent Ri	8.24	14	Pn		Pn	05 12 08.2	+1.6
SKAG	Skagway	8.32	58	Pn		Pn	05 12 06.9	-0.7
SCRK	Sand Creek	8.59	16	Pn		Pn	05 12 10.5	-0.9
K27K	Chicken	8.98	21	Pn		Pn	05 12 17.5	+0.9
WHY	Whitehorse	9.00	52	Pn		Pn	05 12 17.4	+0.4
ILAR	Eielson Array	9.05	7	Pn		Pn	05 12 18.8	+1.2
	comp=E,0.2nm,0.3s,baz=189,slow=14,SNR=7.1							
ILAR				Sn		Sn	05 13 57.9	-1.5
	comp=E,0.2nm,0.3s,baz=187,slow=24,SNR=4.9							
	comp=E,0.6nm,0.4s							
P32M	Atlin	9.14	59	Pn		Pn	05 12 17.7	-1.2
M30M	Minto, Yukon	9.30	38	Pn		Pn	05 12 22.0	+0.9
EGAK	Eagle	9.83	21	Pn		Pn	05 12 27.2	-1.0
I26K	Coal Creek Min	9.97	15	Pn		Pn	05 12 31.4	+1.3
IMAR	Indian Mountai	10.41	350	Pn		Pn	05 12 36.7	+0.4
J30M	Hart River	10.86	31	Pn		Pn	05 12 42.9	+0.4
G23K	Bananza Creek	10.93	358	Pn		Pn	05 12 43.3	+0.1
G24K	Hadweenzic Riv	10.94	4	Pn		Pn	05 12 43.8	+0.4
INK	Inuvik	14.46	24	Pn		Pn	05 13 32.6	+1.1
	baz=210,slow=14,SNR=5.7							
	comp=E,2.0nm,0.9s							
YKA	Yellowknife Ar	18.80	55	P		P	05 14 25.9	-0.4
	baz=264,slow=10,SNR=4.5							
	comp=E,0.4nm,0.8s							
FINES	FINESS Array B	63.01	2	P		P	05 20 34.4	+1.0
	comp=E,6.4nm,1.0s,baz=353,slow=9.8,SNR=4.0							
	comp=E,6.4nm,1.0s							

*AEIC **24** 05:11:43.5±1.3,55.9N±0.1×150.1W±0.2,h12km±9km,*
Error ellipse: s-maj=16.7km s-min=11.9km az=157.0
NEIC 24 05:11:38.6±2.6,55.9N±0.1×150.3W±0.1,h5km±9km,
ML3.4/26,ML3.1(AEIC),Error ellipse: s-maj=15.9km
s-min=10.7km az=156.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
OHAK	Old Harbor	2.10	309		Pn	05	12	15.3	+0.9
OHAK					Sn	05	12	40.1	-0.9
OHAK	Old Harbor	2.10	309	P	Pn	05	12	15.3	+0.9
	baz=126								
OHAK				S	Sn	05	12	40.1	-0.9
	baz=126								
KDAK	Kodiak Island	2.24	327		Pn	05	12	17.1	+0.8
KDAK					Sn	05	12	43.7	-0.6
Q20K	Shuyak Island	2.91	338	P	Pn	05	12	26.1	+0.6
	baz=155								
Q20K				S	Sn	05	12	58.8	-2.1
	baz=155								
SYI	Shuyak Island	2.91	338		Pn	05	12	26.1	+0.6
SYI					Sn	05	12	58.8	-2.1
SYI	Shuyak Island	2.91	338	IAML		05	13	02.0	
	comp=N,41nm,1.1s								
KAHG	Katmai Hook Gl	3.46	320		Pn	05	12	34.6	+1.5
Q19K	Cape Douglas,	3.51	330		Pn	05	12	35.1	+1.3
Q19K					Sn	05	13	14.7	-0.9
Q19K	Cape Douglas,	3.51	330	IAML		05	13	30.8	
	comp=N,158nm,1.2s								
Q19K	Cape Douglas,	3.51	330	P	Pn	05	12	35.1	+1.3
	baz=147								
Q19K				S	Sn	05	13	14.7	-0.9
	baz=147								
CNPM	China Poot	3.63	352		Pn	05	12	35.5	0.0
CNPM					Sn	05	13	17.1	-1.6
CNPM	China Poot	3.63	352	IAML		05	13	27.8	
	comp=N,31nm,1.4s								
CNPM				IAML		05	14	31.9	
	comp=E,27nm,1.5s								
ANCK	Angle Creek	3.64	311		Pn	05	12	37.3	+1.7
BRSE	Bradley Lake S	3.82	356		Pn	05	12	37.9	-0.2
BRSE	Bradley Lake S	3.82	356	P	Pn	05	12	37.9	-0.2
	baz=175								
CNTC	Contact Creek	3.85	310		Pn	05	12	39.5	+1.0
Q17K	Contact Creek	3.85	310	P	Pn	05	12	39.5	+1.0
	baz=125								
P19K	Oil Pt	4.04	338		Pn	05	12	41.4	+0.2
P19K	Oil Pt	4.04	338	IAML		05	13	34.6	
	comp=E,76nm,0.6s								
P19K				IAML		05	13	35.6	
	comp=N,87nm,1.5s								
P19K	Oil Pt	4.04	338	P	Pn	05	12	41.4	+0.2
	baz=155								
Q23K	Middleton Isla	4.08	29		Pn	05	12	40.8	-0.8
Q23K	Middleton Isla	4.08	29	P	Pn	05	12	40.8	-0.8
	baz=211								
SEW	Seward	4.20	6		Pn	05	12	42.5	-0.7
	baz=185								
R16K	Pilot Point	4.34	295		Pn	05	12	45.0	0.0
R16K	Pilot Point	4.34	295	P	Pn	05	12	45.0	0.0
	baz=109								
P23K	Montague Islan	4.35	19		Pn	05	12	44.8	-0.5
P23K	Montague Islan	4.35	19	P	Pn	05	12	44.8	-0.5
	baz=200								
P18K	Big Mountain,	4.37	325		Pn	05	12	46.0	+0.4
P18K	Big Mountain,	4.37	325	P	Pn	05	12	46.0	+0.4
	baz=140								
CHGN	Chignik	4.57	278		Pn	05	12	48.1	-0.2
CHGN				IAML		05	13	23.0	
	comp=E,53nm,0.2s								
CHGN				IAML		05	13	31.1	
	comp=N,83nm,0.1s								
HIN	Hinchinbrook I	4.89	23		Pn	05	12	52.5	-0.3
HIN	Hinchinbrook I	4.89	23	IAML		05	13	34.0	
	comp=E,35nm,1.3s								
HIN				IAML		05	15	09.8	
	comp=N,33nm,1.3s								
KAIM	Kayak Island	5.07	36		Pn	05	12	54.9	-0.3
KAIM	Kayak Island	5.07	36	IAML		05	15	18.6	
	comp=E,40nm,1.4s								
KAIM	Kayak Island	5.07	36	P	Pn	05	12	54.9	-0.3
	baz=219								
RC01	Rabbit Creek A	5.17	3		Pn	05	12	56.8	+0.2
RC01	Rabbit Creek A	5.17	3	IAML		05	13	36.5	
	comp=N,8.3nm,1.4s								
RC01				IAML		05	13	57.5	
	comp=E,14nm,1.3s								
RC01	Rabbit Creek A	5.17	3	P	Pn	05	12	56.8	+0.2
	baz=182								
EYAK	Cordova Ski Ar	5.20	25		Pn	05	12	56.9	-0.1
EYAK	Cordova Ski Ar	5.20	25	P	Pn	05	12	56.9	-0.1
	baz=208								
GOAT	Goat Mountain	5.50	30		Pn	05	13	01.7	+0.6
M16K	Timber Creek	6.83	322	Pn	Pn	05	13	20.3	+1.0
TRF	Thorofare Moun	7.54	360	Pn	Pn	05	13	26.1	-3.0
KTH	Kantishna Hill	7.65	358		Pn	05	13	29.6	-0.9

IDC 24 05:18:01.8±2.0,7.09S×123.25E,h0km,mb3.2/1,
mbtmp3.4/3,ML3.5/2,Error ellipse: s-maj=301.4km
s-min=30.9km az=58.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	Warramunga Arr	16.70	141	Pn	P	05	21	59.0	-0.9
	0.1nm,0.3s,baz=319,slow=12,SNR=6.1								
	0.6nm,0.6s								
ASAR	Alice Springs	19.40	149	P	P	05	22	28.9	-0.7
	0.2nm,0.3s,baz=331,slow=14,SNR=8.8								
	1.7nm,0.7s								
MKAR	Makanchi Array	64.80	330	P	P	05	28	42.4	0.0
	0.2nm,0.6s,baz=126,slow=7.3,SNR=1.8								
	0.2nm,0.6s								

*NEIC **24** 05:19:19.5±1.2,56.20N±0.07×149.6W±0.1,h23km±8km,*
ML3.5/48,ML3.3(AEIC),Error ellipse: s-maj=11.5km
s-min=7.8km az=146.0
*AEIC **24** 05:19:21.6±1.4,56.19N±0.09×149.6W±0.1,h2km±8km,*
Error ellipse: s-maj=14.1km s-min=9.6km az=159.0
ISC 24 05:19:17.3±1.5,56.16N±0.09×149.62W±0.06,h10km,
n200,s095/194,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
OHAK	Old Harbor	2.29	299		Pn	05	19	55.2	+0.2
OHAK					Sn	05	20	21.2	-2.0
OHAK	Old Harbor	2.29	299	IAML		05	20	21.7	
	comp=N,138nm,0.2s								
OHAK	Old Harbor	2.29	299	P	Pn	05	19	55.3	+0.2
OHAK	Old Harbor	2.29	299	P	Pn	05	19	55.2	+0.2
	baz=115								
OHAK				S	Sn	05	20	21.2	-2.0
	baz=115								
KDAK	Kodiak Island	2.30	316		Pn	05	19	55.8	+0.6
KDAK					Sn	05	20	21.9	-1.6
SII	Sitkinak Islan	2.57	281		Pn	05	19	58.9	-0.1
SII					Sn	05	20	29.0	-1.3
SII	Sitkinak Islan	2.57	281	IAML		05	21	14.2	
	comp=N,125nm,1.4s								
SII				IAML		05	21	23.5	
	comp=E,138nm,1.2s								
SII	Sitkinak Islan	2.57	281	P	Pn	05	19	58.9	-0.1
	baz=96								
SII				S	Sn	05	20	29.0	-1.3
	baz=96								
SYI	Shuyak Island	2.88	330		Pn	05	20	04.1	+0.9
SYI					Sn	05	20	36.9	-0.9
SYI	Shuyak Island	2.88	330	IAML		05	20	39.1	
	comp=N,80nm,0.5s								
SYI				IAML		05	20	39.8	
	comp=E,90nm,0.6s								
Q20K	Shuyak Island	2.88	330	P	Pn	05	20	04.1	+0.9
	baz=147								
Q20K				S	Sn	05	20	36.9	-0.9
	baz=147								
CNPM	China Poot	3.48	346		Pn	05	20	11.5	0.0
CNPM					Sn	05	20	51.0	-1.8
CNPM	China Poot	3.48	346	IAML		05	20	53.3	
	comp=N,72nm,0.8s								
Q19K	Cape Douglas,	3.52	324		Sn	05	20	54.2	+0.4
Q19K	Cape Douglas,	3.52	324		Pn	05	20	12.5	+0.5
Q19K	Cape Douglas,	3.52	324	P	Pn	05	20	12.5	+0.5
	baz=140								
BRSE	Bradley Lake S	3.64	351		Pn	05	20	13.3	-0.4
BRSE	Bradley Lake S	3.64	351	P	Pn	05	20	13.3	-0.4
	baz=170								
BRLK	Bradley Lake	3.67	350		Pn	05	20	13.6	-0.5
BRLK					Sn	05	20	56.0	-1.5
KCG	Knife Ck. Glac	3.68	308		Pn	05	20	15.1	+0.9
Q23K	Middleton Isla	3.71	27		Pn	05	20	14.2	-0.5
Q23K	Middleton Isla	3.71	27	IAML		05	21	18.6	
	comp=E,132nm,1.3s								
Q23K				IAML		05	22	13.5	
	comp=N,124nm,1.4s								
Q23K	Middleton Isla	3.71	27	P	Pn	05	20	14.2	-0.5
	baz=209								
MID	Middleton Isla	3.71	27	Pn	Pn	05	20	13.5	-1.1
MID				IAML		05	20	58.9	
	comp=N,135nm,1.3s								
MID				IAML		05	21	18.6	
	comp=E,129nm,1.3s								
MID	Middleton Isla	3.71	27	P	Pn	05	20	14.5	-0.1
ACHA	Angle Creek He	3.72	306		Pn	05	20	15.7	+0.8
ANCK	Angle Creek	3.79	305		Pn	05	20	17.4	+1.6
SEW	Seward	3.96	1	P	Pn	05	20	17.5	-0.4
	baz=181								
P19K	Oil Pt	4.00	333		Pn	05	20	19.1	+0.5
P19K	Oil Pt	4.00	333	IAML		05	21	10.6	
	comp=E,103nm,0.6s								
P19K				IAML		05	21	10.6	
	comp=N,106nm,0.5s								
P19K	Oil Pt	4.00	333	P	Pn	05	20	19.1	+0.5
	baz=149								
CNTC	Contact Creek	4.01	304		Pn	05	20	20.1	+1.4
Q17K	Contact Creek	4.01	304	P	Pn	05	20	20.1	+1.3
	baz=119								
P23K	Montague Islan	4.02	16		Pn	05	20	18.7	-0.2
P23K	Montague Islan	4.02	16	P	Pn	05	20	18.7	-0.2
	baz=198								
O20K	Slope Mountain	4.24	339		Pn	05	20	22.2	+0.3
O20K	Slope Mountain	4.24	339	P	Pn	05	20	22.2	+0.3
	baz=156								
IVE	Iliamna Volcan	4.26	336		Pn	05	20	22.4	+0.1
O22K	Cooper Landing	4.33	359		Pn	05	20	23.1	0.0
O22K	Cooper Landing	4.33	359	IAML		05	21	18.7	
	comp=N,78nm,0.7s								
O22K				IAML		05	22	03.1	
	comp=E,91nm,0.9s								
O22K	Cooper Landing	4.33	359	P	Pn	05	20	23.1	0.0
	baz=179								
SLKM	Skilak Lake	4.37	356		Pn	05	20	23.3	-0.4
P18K	Big Mountain,	4.42	319		Pn	05	20	24.8	+0.5
P18K	Big Mountain,	4.42	319	P	Pn	05	20	24.8	+0.5
	baz=134								
HIN	Hinchinbrook I	4.55	20	IAML		05	21	19.0	
	comp=E,42nm,0.8s								
HIN				IAML		05	21	19.1	
	comp=N,40nm,1.2s								
RED	Redoubt Volcan	4.58	340		Pn	05	20	27.1	+0.4
R16K	Pilot Point	4.59	291		Pn	05	20	27.2	+0.5
	baz=104								
R16K	Pilot Point	4.59	291	P	Pn	05	20	27.2	+0.5
RSO	Redoubt South	4.62	340	Pn	Pn	05	20	27.9	+0.6
RDWB	Redoubt West	4.66	340		Pn	05	20	28.2	+0.4
KAIM	Kayak Island	4.68	34		Pn	05	20	28.0	+0.2
KAIM	Kayak Island	4.68	34	IAML		05	21	23.1	
	comp=E,50nm,0.8s								
KAIM	Kayak Island	4.68	34	P	Pn	05	20	28.0	+0.2
	baz=218								
CAPN	Captain Cook N	4.69	351		Pn	05	20	28.8	+0.7
CAPN	Captain Cook N	4.69	351	P	Pn	05	20	28.8	+0.7
	baz=169								
EYAK	Cordova Ski Ar	4.85	23		Pn	05	20	30.2	0.0
EYAK	Cordova Ski Ar	4.85	23	P	Pn	05	20	30.5	+0.3
EYAK	Cordova Ski Ar	4.85	23	P	Pn	05	20	30.2	0.0
	baz=206								
CHGN	Chignik	4.91	275	Pn	Pn	05	20	31.5	+0.5
RC01	Rabbit Creek A	4.94	359	IAML		05	21	29.1	
	comp=E,20nm,0.9s								
RC01				IAML		05	21	31.6	
	comp=N,16nm,0.7s								
RC01	Rabbit Creek A	4.94	359	P	Pn	05	20	31.5	0.0
	baz=179								
RAGM	Ragged Mountai	4.97	30		Pn	05	20	31.9	-0.2
RAGM	Ragged Mountai	4.97	30	IAML		05	21	28.5	
	comp=E,59nm,0.3s								
GOAT	Goat Mountain	5.12	28		Pn	05	20	34.4	+0.3
N20K	Mount Spurr	5.23	346	P	Pn	05	20	35.6	0.0
	baz=164								
SPCR	Spurr Chakacha	5.23	346		Pn	05	20	35.6	0.0
BERG	Berg Lake	5.27	34		Pn	05	20	36.1	+0.1
KNK	Knik Glacier	5.30	6		Pn	05	20	36.4	-0.1
KNK	Knik Glacier	5.30	6	IAML		05	21	35.6	
	comp=E,16nm,1.5s								
KNK				IAML		05	21	50.1	
	comp=N,13nm,1.4s								
KNK	Knik Glacier	5.30	6	P	Pn	05	20	36.4	-0.1
	baz=187								
N19K	Bonanza Creek	5.32	333		Pn	05	20	36.8	0.0
N19K	Bonanza Creek	5.32	333	P	Pn	05	20	36.8	0.0
	baz=149								
P16K	Nushagak River	5.34	306		Pn	05	20	38.1	+1.1
P16K	Nushagak River	5.34	306	P	Pn	05	20	38.1	+1.1
	baz=119								
SUA	Susitna One	5.35	354		Pn	05	20	37.2	0.0
SUA	Susitna One	5.35	354	P	Pn	05	20	37.2	0.0
	baz=173								
DIV	Divide	5.37	20		Pn	05	20	37.7	+0.2
SNH	Sunshine Point	5.39	39		Pn	05	20	37.9	+0.1
SNH	Sunshine Point	5.39	39	IAML		05	21	23.7	
	comp=N,32nm,1.5s								
SNH				IAML		05	24	15.6	
	comp=E,29nm,1.3s								
PMR	Palmer	5.45	2		Pn	05	20	39.0	+0.5
PMR	Palmer	5.45	2	P	Pn	05	20	39.7	+1.2
PMR	Palmer	5.45	2	P	Pn	05	20	39.0	+0.5
	baz=183								
STLK	Strandline Lak	5.47	349		Pn	05	20	39.5	+0.5
BMRM	Bremner River	5.49	26		Pn	05	20	39.6	+0.5
BMRM	Bremner River	5.49	26	P	Pn	05	20	39.6	+0.5
	baz=211								
N18K	Kilae Creek	5.60	327		Pn	05	20	40.9	+0.3
N18K	Kilae Creek	5.60	327	P	Pn	05	20	40.9	+0.3
	baz=141								
GHO	Glory Hole Cre	5.64	3		Pn	05	20	41.5	+0.4
BARK	Barkley Ridge	5.67	39		Pn	05	20	42.0	+0.4
KLU	Klutina	5.68	18		Pn	05	20	42.2	+0.5
KLU	Klutina	5.68	18	P	Pn	05	20	42.2	+0.5
	baz=201								
O16K	Kokwok River B	5.68	311		Pn	05	20	42.6	+1.0
O16K	Kokwok River B	5.68	311	P	Pn	05	20	42.6	+1.0
	baz=123								
SML	Sawmill	5.70	6		Pn	05	20	42.4	+0.4
SML	Sawmill	5.70	6	P	Pn	05	20	42.4	+0.4
	baz=187								
M23K	Glacier View	5.73	9		Pn	05	20	42.9	+0.5
M23K	Glacier View	5.73	9	P	Pn	05	20	42.9	+0.5
	baz=190								
SCM	Sheep Creek Mo	5.81	11		Pn	05	20	44.1	+0.6
SCM	Sheep Creek Mo	5.81	11	P	Pn	05	20	44.1	+0.6
	baz=193								
CHNA	Chernabura Isl	5.82	261	P	Pn	05	20	43.5	-0.1
	baz=72								
CNBA	Chernabura Isl	5.83	261		Pn	05	20	43.5	-0.1
SVW2	Sparrevohn	5.85	330	Pn	Pn	05	20	43.6	-0.4
SKT	Skwentna	5.92	351	Pn	Pn	05	20	45.2	+0.2
N25K	Chitina, Valde	6.05	23		Pn	05	20	47.3	+0.5
N25K	Chitina, Valde	6.05	23	P	Pn	05	20	47.3	+0.5
	baz=208								
GLB	Gilahina Butte	6.09	27		Pn	05	20	47.8	+0.4
KIAG	Kiagna River	6.10	36		Pn	05	20	47.7	+0.1
SAMH	Samovar Hills	6.14	46		Pn	05	20	49.1	+1.1
SDPT	Sand Point	6.19	267		Pn	05	20	49.2	+0.6
SDPT	Sand Point	6.19	267	P	Pn	05	20	49.2	+0.6
M24K	Tolsona, Glenn	6.22	15		Pn	05	20	50.3	+1.2
M24K	Tolsona, Glenn	6.22	15	P	Pn	05	20	50.3	+1.2
	baz=198								
O15K	Ungalikthiuk R	6.25	303	

CAST	Castle Rocks	7.38	351			Pn	05 21 07.0	+1.9
CAST	Castle Rocks baz=169	7.38	351	P		Pn	05 21 07.0	+1.9
N14K	Kuskokwak Cree	7.43	305			Pn	05 21 07.4	+1.8
N14K	Kuskokwak Cree baz=115	7.43	305	P		Pn	05 21 07.4	+1.8
KTH	Kantishna Hill	7.44	355	Pn		Pn	05 21 06.4	+0.5
YUK7	Dusty Glacier	7.46	49			Pn	05 21 07.5	+1.3
S31K	Pelican	7.52	71	Pn		Pn	05 21 04.5	-2.3
YUK6	Outpost Mounta	7.59	46			Pn	05 21 09.4	+1.4
YUK6	Outpost Mounta baz=236	7.59	46	P		Pn	05 21 09.4	+1.4
YUK4	Talbot Arm baz=232	7.71	43	P		Pn	05 21 12.6	+2.9
P30M	Million Dollar	7.78	54			Pn	05 21 11.7	+1.2
P30M	Million Dollar baz=245	7.78	54	P		Pn	05 21 11.7	+1.2
K17K	Iditarod	7.92	330	Pn		Pn	05 21 12.0	-0.3
SIT	Sitka	7.94	78	P		Pn	05 21 09.8	-2.8
FALS	False Pass	7.95	266	P		Pn	05 21 13.7	+1.0
BCAR	Beaver Creek A	7.98	27	Pn		Pn	05 21 14.0	+0.8
BPAW	Bear Paw Mtn.	7.99	356	Pn		Pn	05 21 13.2	-0.2
SKAG	Skagway	8.31	61	Pn		Pn	05 21 18.2	+0.5
SKAG	Skagway	8.31	61	P		Pn	05 21 17.5	-0.2
N30M	Aishikik Lake	8.39	46	Pn		Pn	05 21 19.4	+0.6
M29M	Somme Creek	8.49	38	Pn		Pn	05 21 21.6	+1.3
CCB	Clear Creek Bu	8.56	5	Pn		Pn	05 21 23.0	+1.9
J25K	Salcha River,	8.73	12	Pn		Pn	05 21 23.4	-0.2
K27K	Chicken	8.74	22	Pn		Pn	05 21 24.7	+1.1
IL31		8.74	8	Pn		Pn	05 21 24.0	+0.5
ILAR	Eielson Array	8.74	8	Pn		Pn	05 21 24.0	+0.4
COLA	College	8.78	5	P		Pn	05 21 26.1	+1.9
J26L	Joseph Creek	8.88	17	Pn		Pn	05 21 26.3	+0.6
MLY	Manley	8.92	357	Pn		Pn	05 21 26.2	+0.1
N31M	Braeburn, Yuko	8.93	48	Pn		Pn	05 21 27.1	+0.7
WHY	Whitehorse	8.95	54	Pn		Pn	05 21 27.5	+1.0
L29M	L29M	9.06	35	Pn		Pn	05 21 29.4	+1.4
P32M	Atlin	9.14	61	Pn		Pn	05 21 29.0	-0.1
CRAG	Craig	9.31	87	P		Pn	05 21 28.7	-2.7
H21K	Melozitna Rive	9.65	352	Pn		Pn	05 21 36.5	+0.4
IMAR	Indian Mountai	10.05	350	Pn		Pn	05 21 42.0	+0.5
R33M	Jennings River	10.46	64	Pn		Pn	05 21 47.4	+0.1
G24K	Hadweenzic Riv	10.62	5	Pn		Pn	05 21 50.9	+1.5
BMAR	Burnt Mountain	11.55	10	Pn		Pn	05 22 02.3	+0.3

*ISN **24** 05:21:14.5±1.3,33°.80N×45°.64E,h6km±17km,ML2.8*
*TEH **24** 05:21:15.5,33°.79N×45°.77E,h17km±43km,ML2.8*
ISC 24 05:21:15.1±1.0,**33°.73N**±0°.05×**45°.77E**±0°.04,**h10**km,**n11**,
σ**0°.79**/14,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.38	106	Pg	Pb	05 21 23.8	-0.1
IBDR	Badra	0.63	168	*e*Pg	Pn	05 21 30.0	-0.1
IBDR				*e*Sg	Sn	05 21 40.0	-0.3
KGS1	Ghasr-e-Shirin	0.79	349	Pg	Pg	05 21 30.0	-0.3
IGHG	Ghaleghazi	0.89	48	Pg	Pb	05 21 32.7	-0.1
IDHR	Dehrash	1.09	28	Pg	Pg	05 21 34.8	-1.3
KCHF	Cheshme Sefid,	1.18	62	Pg	Pn	05 21 38.1	+0.2
BHD	Baghdad	1.25	249	*e*Pg	Pb	05 21 39.0	+0.3
BHD				*e*Sg	Sn	05 21 56.0	+0.5
ILIN	Lien	1.54	39	Pg	Pb	05 21 43.6	-0.2
IKRK	Kirkuk	2.04	325	*e*Pn	Pn	05 21 49.0	-0.5
IKRK				*e*Sn	Sn	05 22 16.0	+1.0
HSAM	Samen	2.40	78	Pn	Pn	05 21 55.6	+0.9
HAGD	Aghdareh	2.99	68	Pn	Pn	05 22 04.4	+1.6

*AEIC **24** 05:21:32.9±1.5,56°.1N±0°.1×149°.6W±0°.1,h12km±9km,*
Error ellipse: s-maj=16.8km s-min=10.9km az=160.0
NEIC 24 05:21:30.6±0.7,**56°.19N**±0°.07×**149°.7W**±0°.1,**h20**km±9km,
ML3.4/32,**ML3.0**(AEIC),**Error ellipse: s-maj=13.2km**
s-min=7.4km az=133.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.25	299		Pn	05 22 06.9	+0.3
OHAK					Sn	05 22 32.9	-0.9
OHAK	Old Harbor baz=118	2.25	299	P	Pn	05 22 06.9	+0.3
OHAK				S	Sn	05 22 32.9	-0.9
KDAK	Kodiak Island baz=118	2.26	316		Pn	05 22 07.3	+0.5
KDAK					Sn	05 22 33.5	-0.5
SII	Sitkinak Islan	2.54	280	Pn	Pn	05 22 10.6	0.0
SII	comp=E,144nm,1.3s			IAML		05 23 05.7	
SII	comp=N,146nm,1.5s			IAML		05 23 25.5	
Q20K	Shuyak Island baz=148	2.84	330	P	Pn	05 22 15.6	+0.8
Q20K				S	Sn	05 22 48.5	+0.1
SYI	Shuyak Island baz=148	2.84	330		Pn	05 22 15.6	+0.8
SYI					Sn	05 22 48.5	+0.1
CNPM	China Poot	3.45	347		Pn	05 22 23.1	-0.1
CNPM					Sn	05 23 03.1	-0.3
CNPM	China Poot comp=N,26nm,1.5s	3.45	347	IAML		05 23 06.0	
Q19K	Cape Douglas,	3.48	324		Pn	05 22 23.8	+0.2
Q19K	Cape Douglas, comp=N,109nm,1.1s	3.48	324	IAML		05 23 13.0	
Q19K	Cape Douglas, baz=141	3.48	324	P	Pn	05 22 23.8	+0.2
BRSE	Bradley Lake S	3.61	351		Pn	05 22 25.1	-0.3
BRSE					Sn	05 23 07.3	0.0
BRSE	Bradley Lake S baz=170	3.61	351	P	Pn	05 22 25.1	-0.3
BRSE	baz=170			S	Sn	05 23 07.3	0.0
BRLK	Bradley Lake	3.65	350		Pn	05 22 25.4	-0.4
BRLK	Bradley Lake comp=N,29nm,1.4s	3.65	350	IAML		05 23 08.3	
Q23K	Middleton Isla	3.70	27		Pn	05 22 26.1	-0.5
Q23K	Middleton Isla baz=208	3.70	27	P	Pn	05 22 26.1	-0.5
ANCK	Angle Creek	3.76	305		Pn	05 22 26.6	-0.8
AUCH	Augustine Cone	3.77	329		Pn	05 22 27.5	-0.1
SEW	Seward	3.93	2		Pn	05 22 28.8	-0.9
SEW	Seward baz=181	3.93	2	P	Pn	05 22 28.8	-0.9
P19K	Oil Pt	3.96	333		Pn	05 22 29.9	-0.3
P19K	Oil Pt comp=N,62nm,1.2s	3.96	333	IAML		05 23 12.1	
P19K	comp=E,55nm,1.2s			IAML		05 24 16.2	
P19K	Oil Pt baz=150	3.96	333	P	Pn	05 22 29.9	-0.3
CNTC	Contact Creek	3.97	304		Pn	05 22 29.5	-0.9
CNTC					Sn	05 23 15.1	-1.3
Q17K	Contact Creek baz=120	3.97	304	P	Pn	05 22 29.5	-0.9
Q17K	baz=120			S	Sn	05 23 15.1	-1.3
P23K	Montague Islan	4.00	17		Pn	05 22 30.2	-0.6
P23K	Montague Islan baz=197	4.00	17	P	Pn	05 22 30.2	-0.6
O20K	Slope Mountain	4.21	339		Pn	05 22 34.0	+0.4
O20K	Slope Mountain baz=157	4.21	339	P	Pn	05 22 34.0	+0.4
IVE	Iliamna Volcan	4.23	337		Pn	05 22 34.1	+0.1
O22K	Cooper Landing	4.31	360		Pn	05 22 34.8	-0.1
O22K	Cooper Landing comp=N,75nm,0.9s	4.31	360	IAML		05 24 07.6	
O22K	Cooper Landing baz=179	4.31	360	P	Pn	05 22 34.8	-0.1
SLKM	Skilak Lake	4.34	356		Pn	05 22 35.0	-0.4
HIN	Hinchinbrook I	4.54	20		Pn	05 22 37.9	-0.2
HIN	Hinchinbrook I comp=E,32nm,1.2s	4.54	20	IAML		05 24 54.5	
HIN	comp=N,30nm,1.5s			IAML		05 24 58.3	
KAIM	Kayak Island	4.67	34		Pn	05 22 39.8	-0.1
KAIM	Kayak Island baz=217	4.67	34	P	Pn	05 22 39.8	-0.1
EYAK	Cordova Ski Ar	4.83	24		Pn	05 22 41.9	-0.3
EYAK	Cordova Ski Ar baz=206	4.83	24	P	Pn	05 22 41.9	-0.3
RC01	Rabbit Creek A	4.92	360		Pn	05 22 43.1	-0.2
RC01	Rabbit Creek A comp=N,21nm,0.8s	4.92	360	IAML		05 25 33.7	
RC01	Rabbit Creek A	4.92	360	P	Pn	05 22 43.1	-0.2
	baz=179						
GOAT	Goat Mountain	5.11	28		Pn	05 22 46.3	+0.2
BERG	Berg Lake	5.26	34		Pn	05 22 47.8	-0.2
KNK	Knik Glacier	5.28	6		Pn	05 22 48.5	+0.2
KNK	Knik Glacier comp=E,26nm,0.7s	5.28	6	IAML		05 25 20.4	
KNK	comp=N,34nm,0.7s			IAML		05 25 21.0	
KNK	Knik Glacier baz=187	5.28	6	P	Pn	05 22 48.5	+0.2
O17K	Koliganek Bris	5.34	315		Pn	05 22 49.2	+0.2
O17K	Koliganek Bris baz=130	5.34	315	P	Pn	05 22 49.2	+0.2
DIV	Divide	5.36	21		Pn	05 22 49.4	0.0
SNH	Sunshine Point	5.39	39		Pn	05 22 50.0	+0.2
SNH	Sunshine Point comp=N,32nm,1.4s	5.39	39	IAML		05 25 46.5	
BMRM	Bremner River	5.47	27		Pn	05 22 51.0	0.0
BMRM	Bremner River baz=210	5.47	27	P	Pn	05 22 51.1	+0.1
GHO	Glory Hole Cre	5.62	4		Pn	05 22 53.5	+0.6
KLU	Klutina	5.66	19		Pn	05 22 54.0	+0.4
KLU	Klutina baz=201	5.66	19	P	Pn	05 22 54.0	+0.4
BARK	Barkley Ridge	5.67	39		Pn	05 22 54.0	+0.3
SML	Sawmill	5.68	6		Pn	05 22 54.5	+0.7
SML	Sawmill baz=187	5.68	6	P	Pn	05 22 54.5	+0.7

*AEIC **24** 05:30:47.8±1.9,56°.0N±0°.1×149°.9W±0°.1,h10km±9km,*
Error ellipse: s-maj=17.8km s-min=10.6km az=170.0
NEIC 24 05:30:45.7±1.5,**56°.1N**±0°.1×**149°.9W**±0°.1,**h21**km±10km,
ML3.3/28,**ML3.1**(AEIC),**Error ellipse: s-maj=16.5km**
s-min=8.2km az=163.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.19	302		Pn	05 31 20.3	-0.5
OHAK					Sn	05 31 45.3	-1.9
OHAK	Old Harbor baz=122	2.19	302	P	Pn	05 31 20.3	-0.5
OHAK	baz=122			S	Sn	05 31 45.3	-1.9
KDAK	Kodiak Island	2.24	320		Pn	05 31 21.5	0.0
KDAK					Sn	05 31 47.9	-0.6
SII	Sitkinak Islan	2.44	282	Pn	Pn	05 31 24.5	+0.2
SII	comp=N,150nm,1.4s			IAML		05 32 06.2	
SII	comp=E,183nm,1.4s			IAML		05 32 26.7	
SYI	Shuyak Island	2.86	333		Pn	05 31 30.3	+0.3
SYI					Sn	05 32 02.4	-1.2
Q20K	Shuyak Island baz=151	2.86	333	P	Pn	05 31 30.3	+0.3
Q20K	baz=151			S	Sn	05 32 02.4	-1.2
Q19K	Cape Douglas,	3.48	326		Pn	05 31 39.5	+0.9
Q19K					Sn	05 32 16.6	-2.6
Q19K	Cape Douglas, baz=144	3.48	326	P	Pn	05 31 39.5	+0.9
Q19K	baz=144			S	Sn	05 32 16.6	-2.6
KAHG	Katmai Hook Gl	3.48	315		Pn	05 31 39.8	+1.2
CNPM	China Poot	3.50	349		Pn	05 31 38.7	-0.2
CNPM					Sn	05 32 19.7	0.0
BRSE	Bradley Lake S	3.67	353		Pn	05 31 41.1	-0.1
BRSE	Bradley Lake S baz=172	3.67	353	P	Pn	05 31 41.1	-0.1
BRLK	Bradley Lake	3.71	352		Pn	05 31 40.7	-1.0
ANCK	Angle Creek	3.71	307		Pn	05 31 41.9	+0.2
Q23K	Middleton Isla	3.83	28		Pn	05 31 42.5	-0.8
Q23K	Middleton Isla baz=210	3.83	28	P	Pn	05 31 42.5	-0.8
CNTC	Contact Creek	3.92	306		Pn	05 31 45.0	+0.3
Q17K	Contact Creek baz=122	3.92	306	P	Pn	05 31 45.0	+0.3
P19K	Oil Pt	3.98	335		Pn	05 31 45.7	+0.2
P19K	Oil Pt comp=E,78nm,1.4s	3.98	335	IAML		05 33 08.1	
P19K	Oil Pt baz=152	3.98	335	P	Pn	05 31 45.7	+0.2
P23K	Montague Islan	4.12	18		Pn	05 31 47.4	+0.2
P23K	Montague Islan baz=199	4.12	18	P	Pn	05 31 47.4	+0.2
O20K	Slope Mountain	4.24	341		Pn	05 31 50.1	+1.0
O20K	Slope Mountain baz=159	4.24	341	P	Pn	05 31 50.1	+1.0
IVE	Iliamna Volcan	4.26	338		Pn	05 31 50.3	+1.0
P18K	Big Mountain,	4.37	321		Pn	05 31 50.8	+0.1
P18K	Big Mountain, baz=138	4.37	321	P	Pn	05 31 50.8	+0.1
HIN	Hinchinbrook I	4.66	21		Pn	05 31 54.3	-0.4
HIN	Hinchinbrook I comp=E,35nm,1.5s	4.66	21	IAML		05 33 12.8	
P17K	Kvichak River	4.69	314		Pn	05 31 54.2	-0.9
P17K	Kvichak River baz=129	4.69	314	P	Pn	05 31 54.2	-0.9
KAIM	Kayak Island	4.80	35		Pn	05 31 56.3	-0.4
KAIM	Kayak Island baz=219	4.80	35	P	Pn	05 31 56.3	-0.4
EYAK	Cordova Ski Ar	4.96	24		Pn	05 31 57.9	-0.9
EYAK	Cordova Ski Ar baz=207	4.96	24	P	Pn	05 31 57.9	-0.9
N19K	Bonanza Creek	5.30	335		Pn	05 32 04.1	+0.5
N19K	Bonanza Creek comp=N,8.7nm,1.4s	5.30	335	IAML		05 34 37.2	
N19K	comp=E,8.1nm,1.5s			IAML		05 34 44.0	
N19K	Bonanza Creek baz=151	5.30	335	P	Pn	05 32 04.1	+0.5
O17K	Koliganek Bris	5.32	317		Pn	05 32 04.5	+0.8
O17K	Koliganek Bris baz=131	5.32	317	P	Pn	05 32 04.5	+0.8
BERG	Berg Lake	5.39	35		Pn	05 32 03.9	-1.0
SNH	Sunshine Point	5.53	39		Pn	05 32 06.8	+0.2
N18K	Kilae Creek	5.57	328		Pn	05 32 07.4	+0.2
N18K	Kilae Creek baz=143	5.57	328	P	Pn	05 32 07.4	+0.2
BMRM	Bremner River	5.60	27		Pn	05 32 07.6	-0.1
BMRM	Bremner River baz=211	5.60	27	P	Pn	05 32 07.6	-0.1
O16K	Kokwok River B	5.61	312	Pn	Pn	05 32 08.8	+1.1
SML	Sawmill	5.77	7		Pn	05 32 10.3	+0.2
SML	Sawmill baz=188	5.77	7	P	Pn	05 32 10.3	+0.2
BARK	Barkley Ridge	5.81	39		Pn	05 32 10.0	-0.6
N17K	Nushagak Hills	5.87	322		Pn	05 32 11.7	+0.4
N17K	Nushagak Hills baz=136	5.87	322	P	Pn	05 32 11.7	+0.4
SCM	Sheep Creek Mo	5.89	12	Pn	Pn	05 32 10.4	-1.3
O15K	Ungalikthiuk R	6.16	304		Pn	05 32 15.6	+0.2
O15K	Ungalikthiuk R baz=116	6.16	304	P	Pn	05 32 15.6	+0.2
M18K	Stony River	6.22	333		Pn	05 32 16.3	+0.1
M18K	Stony River baz=148	6.22	333	P	Pn	05 32 16.3	+0.1
KIAG	Kiagna River	6.23	36		Pn	05 32 16.3	-0.2
PCA	Pinnacle	6.48	48		Pn	05 32 19.4	-0.3
PINM	Pinnacle baz=235	6.48	48	P	Pn	05 32 19.4	-0.4
BARN	Barnard Glacie	6.56	37	Pn	Pn	05 32 20.2	-0.9
M17K	Holitna River	6.60	327	Pn	Pn	05 32 22.6	+1.2
LOGN	Logan Glacier	6.63	41	Pn	Pn	05 32 22.0	+0.1
P29M	Windy Craggy	7.37	56	Pn	Pn	05 32 31.9	0.0
J26L	Joseph Creek	8.98	18	Pn	Pn	05 32 55.1	+1.0

IDC 24 05:31:37.0±2.8,**54°.06N**×**86°.51E**,**h0**km,**mbtmp2.5**/2,
ML2.4/2,**Error ellipse: s-maj=22.7km s-min=13.6km**
az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=83,slow=351,SNR=5.6	1.00	264	I	I	05 37 30.0	
ZALV	Zalesovo Beam 0.3nm,0.3s,baz=83,slow=17,SNR=5.9	1.00	264	Pg	Pg	05 31 55.5	-0.7
ZALV	1.0nm,0.3s,baz=83,slow=26,SNR=11			Lg	Lg	05 32 10.5	
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=57,slow=14,SNR=3.7 0.2nm,0.3s	5.98	238	Pn	Pn	05 33 07.3	+0.7
MKAR	Makanchi Array 0.1nm,0.3s,baz=25,slow=13,SNR=5.1	7.75	202	Pn	Pn	05 33 32.2	+1.1
	0.1nm,0.3s						

*CATAC **24** 05:34:11.7±0.7,13°.24N×89°.97W,h19km±5km,ML3.3*
*GCG **24** 05:34:14.5±0.7,13°.31N×90°.19W,h16km±11km,MD3.6*
*SNET **24** 05:34:14.1±1.6,13°.28N×89°.91W,h20km,ML3.3*
ISC 24 05:34:12.5±1.8,**13°.23N**±0°.08×**89°.95W**±0°.04,**h29**km±12km,
n37,σ**0°.45**/56,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.64	49	*e*P	Pn	05 34 25.6	-0.2
JAYA				*e*S	Sn	05 34 35.1	0.0
JAYA	Jayaque - finc	0.64	49	*i* P	Pb	05 34 25.5	+0.1
JAYA				*i* S	Sn	05 34 35.4	+0.3
JAYA	comp=Z,3μm,1.0s			IAML		05 34 37.0	
LALI	Alcalda de L	0.66	67	*e*P	Pn	05 34 25.8	-0.1
LALI				*e*S	Sn	05 34 35.3	0.0
LALI	Alcalda de L	0.66	67	*i* P	Pb	05 34 25.3	-0.2
LALI	comp=Z,200nm,1.0s			IAML		05 34 38.2	
CEVE	Cerro Verde	0.67	28	*e*P	Pn	05 34 26.8	+0.5
CEVE				*e*S	Sn	05 34 36.8	+0.7
CEVE	Cerro Verde	0.67	28	*i* P	Pb	05 34 25.9	0.0
CEVE	comp=Z,1μm,1.0s			IAML		05 34 38.2	
NUBE	Las Nubes	0.69	13	*i* P	Pb	05 34 26.2	0.0
NUBE				*e*S	Sb	05 34 35.7	+0.3
NUBE	Las Nubes	0.69	13	*i* P	Pb	05 34 25.6	-0.5
NUBE	comp=Z,2μm,1.0s			IAML		05 34 36.5	
LOAL	Lomas de Alarc	0.78	12	*i* P	Pn	05 34 27.3	-0.4
LOAL	comp=Z,3μm,1.0s			IAML		05 34 42.9	
CEDA	San Andres	0.78	43	*i* P	Pn	05 34 27.5	-0.1
CEDA				*e*S	Sn	05 34 38.6	+0.2
SLOZ	Alcaldia de Sa	0.81	11	*e*P	Pn	05 34 27.9	-0.1
SLOZ				*e*S	Sb	05 34 39.4	+0.7
SNET	Serv Nac Est T	0.83	57	*e*P	Pb	05 34 28.4	0.0
SNET				*e*S	Sb	05 34 39.6	+0.2
SNET	Serv Nac Est T	0.83	57	*i* P	Pn	05 34 27.8	-0.5
SNET	comp=Z,1μm,1.0s			IAML		05 34 41.2	
PANCS	Alcalda de	0.84	63	*i* P	Pn	05 34 27.6	-0.8
PANCS	comp=Z,2μm,1.0s			IAML		05 34 40.3	
UEES	Universidad Ev	0.84	55	*i* P	Pn	05 34 28.1	-0.4
UEES	comp=Z,590nm,1.0s			IAML		05 34 45.0	
UNIC	Universidad Ca	0.84	27	*i* P	Pn	05 34 27.8	-0.7
UNIC	comp=Z,300nm,1.0s			IAML		05 34 33.0	
LOMA	Loma Larga	0.86	61	*i* P	Pn	05 34 28.4	-0.4
LOMA	comp=Z,590nm,1.0s			IAML		05 34 45.6	
UTEC	Universidad Te	0.86	57	*i* P	Pn	05 34 28.4	-0.4
UTEC	comp=Z,470nm,1.0s			IAML		05 34 42.8	
QUEZ	Alcaldia de Qu	0.89	47	*i* P	Pn	05 34 28.6	-0.5
QUEZ	comp=Z,3μm,1.0s			IAML		05 34 42.8	
SJTE	Alcalda de S	0.99	67	*e*P	Pb	05 34 30.6	-0.6
SJTE				*e*S	Sn	05 34 43.5	-0.1
PAVA	Las Pavas	1.09	64	*e*P	Pb	05 34 32.7	-0.2
PAVA				*e*S	Sb	05 34 47.1	+0.2
PAVA	Las Pavas	1.09	64	*i* P	Pn	05 34 32.1	+0.1
PAVA				*i* S	Sb	05 34 46.8	0.0
PAVA	comp=Z,560nm,1.0s			IAML		05 34 49.9	
COEG	Centro de Oper	1.11	69	*e*P	Pb	05 34 32.4	-0.7
COEG				*e*S	Sb	05 34 46.8	-0.4
COEG	Centro de Oper	1.11	69	*i* P	Pn	05 34 31.9	-0.2
COEG				*i* S	Sb	05 34 46.8	-0.4
COEG	comp=Z,310nm,1.0s			IAML		05 34 53.2	
TECO	Alcaldia de Te	1.17	75	*i* P	Pn	05 34 32.7	-0.3
TECO				*i* S	Sn	05 34 48.0	-0.1
TECO	comp=Z,220nm,1.0s			IAML		05 34 52.3	
UESV	Universidad de	1.20	70	*i* P	Pn	05 34 33.4	+0.1
UESV				*i* S	Sn	05 34 48.7	0.0
UESV	comp=Z,460nm,1.0s			IAML		05 34 53.5	
JAMO	Monjas	1.26	3	*i* P	Pn	05 34 34.0	-0.3
JAMO	comp=Z,470nm,1.0s			IAML		05 35 08.4	
SCLA	Alcaldia de Sa	1.27	68	*i* P	Pn	05 34 34.4	0.0
SCLA				*i* S	Sb	05 34 53.2	+1.2
SCLA	comp=Z,110nm,1.0s			IAML		05 34 59.6	
MTO3	Montecristo	1.29	26	*i* P	Pn	05 34 34.2	-0.7
MTO3	comp=Z,130nm,1.0s			IAML		05 34 35.6	
PCG	Pacaya	1.32	331	*e*S	Sn	05 34 52.1	0.0
LLGN	La Laguna	1.34	46	*i* P	Pn	05 34 34.8	-0.6
LLGN				*i* S	Sn	05 34 53.5	+1.1
LLGN	comp=Z,310nm,1.0s			IAML		05 34 54.8	
NBG	Las Nubes	1.41	344	*i* P	Pb	05 34 38.0	-0.3
FUG	Fuego 3	1.49	324	*e*P	Pn	05 34 37.2	-0.4
FUG				*e*S	Sn	05 34 56.3	+0.1
PACA	Pacayal	1.60	81	*i* P	Pn	05 34 39.7	+0.8
PACA				*i* S	Sb	05 35 01.5	+0.2
PACA	comp=Z,1μm,1.0s			IAML		05 35 03.8	
LCND	La Caada	2.00	87	*i* P	Pn	05 34 44.7	+0.3
LCND	comp=Z,100nm,1.0s			IAML		05 35 14.6	
CNCH	Conchagua	2.06	88	*i* PA		05 34 46.6	
CNCH	comp=Z,290nm,1.0s			IAML		05 35 19.6	
STG3	Santiaguito 3,	2.16	313	*e*P	Pn	05 34 47.3	+0.6
STG3				*e*S	Sn	05 35 12.4	-0.3

*AEIC **24** 05:35:04.8±1.8,56°.1N±0°.1×149°.8W±0°.1,h10km±9km,*
Error ellipse: s-maj=19.2km s-min=11.4km az=182.0
NEIC 24 05:35:02.8±0.9,**56°.2N**±0°.1×**149°.9W**±0°.1,**h19**km±10km,
ML3.0/20,**ML2.8**(AEIC),**Error ellipse: s-maj=18.9km**
s-min=10.2km az=173.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.15	301		Pn	05 35 37.1	-0.4
OHAK					Sn	05 36 02.8	-0.7
KDAK	Kodiak Island	2.19	319		Pn	05 35 37.9	-0.2
KDAK					Sn	05 36 03.8	-0.9
SYI	Shuyak Island	2.81	333		Pn	05 35 46.2	-0.4
SYI					Sn	05 36 19.6	-0.2
SYI	Shuyak Island comp=N,34nm,1.4s	2.81	333	IAML		05 36 21.1	
SYI	comp=E,28nm,1.4s			IAML		05 37 34.0	
Q19K	Cape Douglas,	3.43	326		Pn	05 35 55.1	-0.1
CNPM	China Poot	3.46	349		Pn	05 35 55.4	-0.2
CNPM	comp=E,36nm,1.4s			IAML		05 36 40.9	
CNPM	China Poot	3.46	349		Sn	05 36 35.9	0.0
CNPM	China Poot comp=N,23nm,1.5s	3.46	349	IAML		05 36 33.8	
ACHA	Angle Creek He	3.59	307		Pn	05 35 57.3	-0.2
BRSE	Bradley Lake S	3.63	353		Pn	05 35 58.0	+0.1
BRLK	Bradley Lake	3.66	352		Pn	05 35 58.0	-0.3
P18K	Big Mountain,	4.32	321	Pn	Pn	05 36 07.9	+0.6
P18K	comp=N,8.7nm,1.4s			IAML		05 36 58.2	
RSO	Redoubt South	4.58	342

M17K	**Holitna River**	**6.55**	**327**	Pn	Pn	05 36 39.2	+1.2
CTGM	**Chitina Glacier**	**6.59**	**39**	Pn	Pn	05 36 38.7	0.0
LOGN	**Logan Glacier**	**6.62**	**41**	Pn	Pn	05 36 38.5	-0.6
N15K	**Kwethluk River**	**6.72**	**311**	Pn	Pn	05 36 40.3	0.0
O29M	**Mount Kennedy**	**7.29**	**51**	Pn	Pn	05 36 48.6	+0.3
P29M	**Windy Craggy**	**7.37**	**57**	Pn	Pn	05 36 49.0	-0.2
CAST	**Castle Rocks**	**7.37**	**352**	Pn	Pn	05 36 51.2	+1.9

AEIC ***24*** *05:36:13.6±2.1,55°.7N±0°.1×149°.1W±0°.1, h8km±8km, Error ellipse: s-maj=17.3km s-min=9.7km az=162.0*

NEIC 24 05:36:09.8±1.8,55°.8N±0°.1×149°.2W±0°.1, h8km±8km, ML3.4/30, ML3.3(AEIC)**, Error ellipse: s-maj=17.1km s-min=9.6km az=166.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.68**	**304**		Pn	05 36 52.7	-0.5
OHAK					Sn	05 37 24.1	-1.7
OHAK	**Old Harbor** baz=122	**2.68**	**304**	P	Pn	05 36 52.7	-0.5
OHAK	baz=122			S	Sn	05 37 24.1	-1.7
KDAK	**Kodiak Island**	**2.73**	**318**		Pn	05 36 53.9	0.0
KDAK					Sn	05 37 25.6	-1.4
SII	**Sitkinak Islan**	**2.89**	**287**		Pn	05 36 56.3	+0.1
SII					Sn	05 37 30.0	-1.0
SII	**Sitkinak Islan** comp=E,149nm,1.5s	**2.89**	**287**	IAML		05 37 33.9	
SII	comp=N,114nm,1.0s			IAML		05 38 43.1	
SII	**Sitkinak Islan** baz=105	**2.89**	**287**	P	Pn	05 36 56.3	+0.1
SII	baz=105			S	Sn	05 37 30.0	-1.0
SYI	**Shuyak Island**	**3.31**	**330**		Pn	05 37 02.2	+0.3
SYI					Sn	05 37 41.5	0.0
SYI	**Shuyak Island** comp=E,48nm,1.5s	**3.31**	**330**	IAML		05 37 46.8	
Q20K	**Shuyak Island** baz=147	**3.31**	**330**	P	Pn	05 37 02.2	+0.3
Q20K	baz=147			S	Sn	05 37 41.5	0.0
CNPM	**China Poot**	**3.90**	**345**		Pn	05 37 10.0	0.0
CNPM					Sn	05 37 55.0	-0.9
Q23K	**Middleton Isla**	**3.95**	**22**		Pn	05 37 10.4	-0.3
Q23K	**Middleton Isla** comp=N,120nm,1.2s	**3.95**	**22**	IAML		05 38 16.6	
Q23K	**Middleton Isla** baz=203	**3.95**	**22**	P	Pn	05 37 10.4	-0.3
Q19K	**Cape Douglas,**	**3.96**	**324**		Pn	05 37 12.0	+1.2
Q19K	**Cape Douglas,** baz=141	**3.96**	**324**	P	Pn	05 37 12.0	+1.2
KAHG	**Katmai Hook Gl**	**3.97**	**315**		Pn	05 37 12.4	+1.3
BRSE	**Bradley Lake S**	**4.04**	**349**		Pn	05 37 11.7	-0.3
BRSE	**Bradley Lake S** baz=167	**4.04**	**349**	P	Pn	05 37 11.7	-0.3
BRLK	**Bradley Lake**	**4.08**	**348**		Pn	05 37 12.0	-0.5
BRLK	**Bradley Lake** comp=E,29nm,1.1s	**4.08**	**348**	IAML		05 38 01.4	
BRLK	comp=N,31nm,1.1s			IAML		05 38 01.4	
ACHA	**Angle Creek He**	**4.13**	**308**		Pn	05 37 14.3	+1.0
P23K	**Montague Islan**	**4.32**	**12**		Pn	05 37 15.4	-0.4
P23K	**Montague Islan** baz=192	**4.32**	**12**	P	Pn	05 37 15.4	-0.4
SEW	**Seward**	**4.32**	**358**		Pn	05 37 16.9	+1.1
SEW	**Seward** baz=177	**4.32**	**358**	P	Pn	05 37 16.9	+1.1
CNTC	**Contact Creek**	**4.41**	**307**		Pn	05 37 17.8	+0.7
Q17K	**Contact Creek** baz=122	**4.41**	**307**	P	Pn	05 37 17.8	+0.7
P19K	**Oil Pt**	**4.43**	**332**		Pn	05 37 17.8	+0.5
P19K	**Oil Pt** baz=149	**4.43**	**332**	P	Pn	05 37 17.8	+0.5
O20K	**Slope Mountain**	**4.67**	**338**		Pn	05 37 20.9	+0.2
O20K	**Slope Mountain** baz=155	**4.67**	**338**	P	Pn	05 37 20.9	+0.2
IVE	**Iliamna Volcan**	**4.70**	**336**		Pn	05 37 20.6	-0.4
O22K	**Cooper Landing**	**4.71**	**357**		Pn	05 37 20.6	-0.4
O22K	**Cooper Landing** baz=176	**4.71**	**357**	P	Pn	05 37 20.6	-0.4
SLKM	**Skilak Lake**	**4.76**	**354**		Pn	05 37 21.3	-0.5
HIN	**Hinchinbrook I**	**4.83**	**16**		Pn	05 37 22.6	-0.2
HIN	**Hinchinbrook I** comp=N,41nm,1.4s	**4.83**	**16**	IAML		05 38 16.5	
HIN	comp=E,32nm,1.5s			IAML		05 40 33.6	
P18K	**Big Mountain,**	**4.85**	**321**		Pn	05 37 22.8	-0.2
P18K	**Big Mountain,** baz=136	**4.85**	**321**	P	Pn	05 37 22.8	-0.2
KAIM	**Kayak Island**	**4.87**	**30**		Pn	05 37 22.5	-0.8
KAIM	**Kayak Island** comp=E,41nm,1.5s	**4.87**	**30**	IAML		05 38 05.6	
KAIM	comp=N,65nm,1.3s			IAML		05 39 06.6	
KAIM	**Kayak Island** baz=212	**4.87**	**30**	P	Pn	05 37 22.5	-0.8
R16K	**Pilot Point**	**4.95**	**294**		Pn	05 37 23.6	-0.7
R16K	**Pilot Point** baz=108	**4.95**	**294**	P	Pn	05 37 23.6	-0.7
RDT	**Redoubt**	**5.08**	**342**		Pn	05 37 26.4	0.0
EYAK	**Cordova Ski Ar**	**5.11**	**20**		Pn	05 37 26.3	-0.2
EYAK	**Cordova Ski Ar** baz=201	**5.11**	**20**	P	Pn	05 37 26.3	-0.2
P17K	**Kvichak River**	**5.18**	**314**		Pn	05 37 28.5	+1.0
P17K	**Kvichak River** baz=128	**5.18**	**314**	P	Pn	05 37 28.5	+1.0
RC01	**Rabbit Creek A**	**5.32**	**357**		Pn	05 37 29.6	+0.1
RC01	**Rabbit Creek A** comp=N,15nm,1.3s	**5.32**	**357**	IAML		05 38 30.8	
RC01	comp=E,17nm,0.9s			IAML		05 38 32.4	
RC01	**Rabbit Creek A** baz=176	**5.32**	**357**	P	Pn	05 37 29.6	+0.1
GOAT	**Goat Mountain**	**5.35**	**24**		Pn	05 37 29.9	0.0
BERG	**Berg Lake**	**5.46**	**30**		Pn	05 37 30.9	-0.4
SNH	**Sunshine Point**	**5.55**	**35**		Pn	05 37 32.2	-0.5
KNK	**Knik Glacier**	**5.65**	**4**		Pn	05 37 34.7	+0.7
KNK	**Knik Glacier** baz=184	**5.65**	**4**	P	Pn	05 37 34.7	+0.7
BMRM	**Bremner River**	**5.72**	**23**		Pn	05 37 35.0	-0.1
BMRM	**Bremner River** baz=206	**5.72**	**23**	P	Pn	05 37 35.0	-0.1
N19K	**Bonanza Creek**	**5.75**	**333**		Pn	05 37 35.2	-0.2
N19K	**Bonanza Creek** baz=149	**5.75**	**333**	P	Pn	05 37 35.2	-0.2
P16K	**Nushagak River**	**5.75**	**308**		Pn	05 37 36.1	+0.7
P16K	**Nushagak River** baz=121	**5.75**	**308**	P	Pn	05 37 36.1	+0.7
BARK	**Barkley Ridge**	**5.83**	**35**		Pn	05 37 36.1	-0.4
N18K	**Kilae Creek**	**6.04**	**327**		Pn	05 37 39.5	+0.1
N18K	**Kilae Creek** baz=141	**6.04**	**327**	P	Pn	05 37 39.4	+0.1
O16K	**Kokwok River B**	**6.10**	**312**		Pn	05 37 40.7	+0.5
O16K	**Kokwok River B** baz=125	**6.10**	**312**	P	Pn	05 37 40.7	+0.5
SCM	**Sheep Creek Mo**	**6.13**	**8**	Pn	Pn	05 37 35.7	-5.1
VRDI	**Verde Repeater**	**6.22**	**27**		Pn	05 37 41.6	-0.4
SAMH	**Samovar Hills**	**6.24**	**42**		Pn	05 37 42.0	-0.2
KIAG	**Kiagna River**	**6.28**	**32**		Pn	05 37 42.3	-0.5
SKT	**Skwentna**	**6.32**	**350**	Pn	Pn	05 37 38.9	-4.3
PCA	**Pinnacle**	**6.42**	**44**		Pn	05 37 44.1	-0.5
PINM	**Pinnacle** baz=231	**6.42**	**44**	P	Pn	05 37 44.1	-0.6
M20K	**Styx River**	**6.44**	**343**	Pn	Pn	05 37 42.8	-2.1
PTPK	**Patty Peak**	**6.46**	**30**		Pn	05 37 45.2	-0.1
PNL	**Peninsula**	**6.53**	**49**		Pn	05 37 45.5	-0.6
PNL	**Peninsula** baz=237	**6.53**	**49**	P	Pn	05 37 45.5	-0.6
BCPM	**Bancas Point**	**6.59**	**47**		Pn	05 37 46.5	-0.3
BARN	**Barnard Glacie**	**6.60**	**34**		Pn	05 37 47.1	-0.1
CTG	**Chitna Glacier** baz=221	**6.63**	**35**	P	Pn	05 37 47.2	-0.4
CTGM	**Chitina Glacie**	**6.63**	**35**		Pn	05 37 47.2	-0.4
LOGN	**Logan Glacier**	**6.64**	**37**		Pn	05 37 47.3	-0.4
O15K	**Ungalikthiuk R**	**6.65**	**305**		Pn	05 37 48.2	+0.5
O15K	**Ungalikthiuk R** baz=116	**6.65**	**305**	P	Pn	05 37 48.2	+0.5
O29M	**Mount Kennedy**	**7.22**	**47**		Pn	05 37 55.5	-0.2
O29M	**Mount Kennedy** baz=235	**7.22**	**47**	P	Pn	05 37 55.5	-0.2
P29M	**Windy Craggy**	**7.24**	**53**		Pn	05 37 55.1	-0.7
P29M	**Windy Craggy**	**7.24**	**53**	P	Pn	05 37 55.1	-0.7
	baz=242						
N15K	**Kwethluk River**	**7.26**	**312**	Pn	Pn	05 37 57.3	+1.2
M16K	**Timber Creek**	**7.33**	**320**	Pn	Pn	05 37 57.1	+0.1
DHY	**Denali Highway**	**7.36**	**6**	Pn	Pn	05 37 59.1	+1.5
BPAW	**Bear Paw Mtn.**	**8.38**	**355**	Pn	Pn	05 38 10.8	-0.7
N30M	**Aishikik Lake**	**8.49**	**43**	Pn	Pn	05 38 13.2	+0.2
N31M	**Braeburn, Yuko**	**9.02**	**45**	Pn	Pn	05 38 20.6	+0.4
L29M	**L29M**	**9.24**	**33**	Pn	Pn	05 38 23.8	+0.5
M31M	**Drury Creek, Y**	**9.96**	**44**	Pn	Pn	05 38 34.1	+0.9
H21K	**Melozitna Rive**	**10.05**	**351**	Pn	Pn	05 38 34.7	+0.4

NEIC ***24*** *05:39:54.8±1.9,56°.3N±0°.1×149°.3W±0°.1, h21km±11km, ML3.3/30, ML3.2(AEIC), Error ellipse: s-maj=17.5km s-min=9.2km az=165.0*

AEIC ***24*** *05:39:57.7±1.9,56°.2N±0°.1×149°.2W±0°.1, h12km±9km, Error ellipse: s-maj=18.6km s-min=10.1km az=167.0*

ISC 24 05:39:52.3±2.4, 56°.3N±0°.1×149°.27W±0°.06, h10km, n44, σ1§18/48, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.38**	**312**		Pn	**05 40 32.3**	**+1.1**
KDAK	**Kodiak Island**	**2.38**	**312**		Sn	**05 40 58.7**	**-1.7**
KDAK	**Kodiak Island** baz=130	**2.38**	**312**	S	Sn	**05 41 00.4**	**0.0**
OHAK	**Old Harbor**	**2.42**	**295**		Pn	**05 40 32.3**	**+0.5**
OHAK					Sn	**05 40 59.6**	**-1.9**
OHAK	**Old Harbor** baz=113	**2.42**	**295**	P	Pn	**05 40 32.3**	**+0.5**
OHAK	baz=113			S	Sn	**05 40 59.6**	**-1.9**
SII	**Sitkinak Islan**	**2.75**	**279**	Pn	Pn	**05 40 36.8**	**+0.4**
SII	comp=E,127nm,1.5s			IAML		05 41 35.3	
SII	comp=N,147nm,1.3s			IAML		05 42 20.9	
Q20K	**Shuyak Island** baz=143	**2.91**	**326**	P	Pn	**05 40 40.2**	**+1.6**
Q20K	baz=143			S	Sn	**05 41 13.2**	**-0.3**
SYI	**Shuyak Island**	**2.91**	**326**		Pn	**05 40 39.6**	**+1.1**
SYI					Sn	**05 41 12.6**	**-0.9**
SYI	**Shuyak Island** comp=N,75nm,1.5s	**2.91**	**326**	IAML		05 42 32.1	
SYI	comp=E,81nm,1.2s			IAML		05 42 32.4	
CNPM	**China Poot**	**3.45**	**343**		Pn	**05 40 47.1**	**+1.1**
CNPM					Sn	**05 41 25.2**	**-1.8**
Q23K	**Middleton Isla**	**3.55**	**25**		Pn	**05 40 47.4**	**0.0**
Q23K	**Middleton Isla** baz=206	**3.55**	**25**	P	Pn	**05 40 47.4**	**0.0**
Q19K	**Cape Douglas,**	**3.57**	**321**		Pn	**05 40 47.8**	**0.0**
Q19K	**Cape Douglas,** baz=137	**3.57**	**321**	P	Pn	**05 40 47.8**	**0.0**
BRSE	**Bradley Lake S**	**3.59**	**348**		Pn	**05 40 48.3**	**+0.4**
BRSE	**Bradley Lake S** baz=166	**3.59**	**348**	P	Pn	**05 40 48.3**	**+0.4**
BRLK	**Bradley Lake**	**3.63**	**347**		Pn	**05 40 48.8**	**+0.3**
P23K	**Montague Islan**	**3.89**	**14**		Pn	**05 40 52.0**	**0.0**
P23K	**Montague Islan** baz=195	**3.89**	**14**	P	Pn	**05 40 52.0**	**0.0**
P19K	**Oil Pt**	**4.01**	**330**		Pn	**05 40 55.8**	**+2.0**
P19K	**Oil Pt** baz=147	**4.01**	**330**	P	Pn	**05 40 55.8**	**+2.0**
CNTC	**Contact Creek**	**4.12**	**302**		Pn	**05 40 57.4**	**+2.1**
Q17K	**Contact Creek** baz=117	**4.12**	**302**	P	Pn	**05 40 57.4**	**+2.1**
O20K	**Slope Mountain**	**4.23**	**337**		Pn	**05 40 57.4**	**+0.6**
O20K	**Slope Mountain** baz=154	**4.23**	**337**	P	Pn	**05 40 57.4**	**+0.6**
O22K	**Cooper Landing**	**4.25**	**357**		Pn	**05 40 57.5**	**+0.5**
O22K	**Cooper Landing** baz=176	**4.25**	**357**	P	Pn	**05 40 57.5**	**+0.5**
SLKM	**Skilak Lake**	**4.30**	**354**		Pn	**05 40 58.4**	**+0.7**
HIN	**Hinchinbrook I**	**4.41**	**18**		Pn	**05 40 59.7**	**+0.5**
KAIM	**Kayak Island**	**4.50**	**33**		Pn	**05 41 00.6**	**+0.3**
KAIM	**Kayak Island** baz=216	**4.50**	**33**	P	Pn	**05 41 00.6**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.69**	**22**		Pn	**05 41 03.8**	**+0.8**
EYAK	**Cordova Ski Ar** baz=204	**4.69**	**22**	P	Pn	**05 41 03.8**	**+0.8**
RAGM	**Ragged Mountai**	**4.80**	**28**	Pn	Pn	**05 41 06.0**	**+1.3**
GOAT	**Goat Mountain**	**4.96**	**27**		Pn	**05 41 08.2**	**+1.5**
BERG	**Berg Lake**	**5.09**	**33**		Pn	**05 41 09.2**	**+0.8**
BMRM	**Bremner River**	**5.32**	**25**		Pn	**05 41 12.8**	**+1.0**
BMRM	**Bremner River** baz=208	**5.32**	**25**	P	Pn	**05 41 12.8**	**+1.0**
KLU	**Klutina**	**5.54**	**17**	Pn	Pn	**05 41 16.1**	**+1.3**
GHO	**Glory Hole Cre**	**5.54**	**2**	Pn	Pn	**05 41 16.0**	**+1.2**
SML	**Sawmill**	**5.60**	**5**	Pn	Pn	**05 41 14.9**	**-0.6**
LOGN	**Logan Glacier**	**6.30**	**40**	Pn	Pn	**05 41 26.7**	**+1.4**
N15K	**Kwethluk River**	**6.94**	**309**	Pn	Pn	**05 41 36.8**	**+2.9**
O29M	**Mount Kennedy**	**6.95**	**50**	Pn	Pn	**05 41 35.1**	**+0.9**

IDC ***24*** *05:41:05.2±3.7,56°.26N×148°.77W, h0km, mb3.7/3, mbtmp3.5/5, ML3.0/2, MS2.6/1, Error ellipse: s-maj=76.9km s-min=39.9km az=157.0*

NEIC ***24*** *05:41:08.3±1.6,56°.51N±0°.09×148°.6W±0°.1, h22km±10km, ML3.5/60, ML3.3(AEIC), Error ellipse: s-maj=13.0km s-min=7.6km az=164.0*

AEIC ***24*** *05:41:12.4±1.7,56°.59N±0°.09×148°.55W±0°.10, h10km±7km, Error ellipse: s-maj=12.9km s-min=7.0km az=161.0*

ISC 24 05:41:08.1±1.1, 56°.63N±0°.08×148°.61W±0°.05, h10km, n221, σ0§88/211, mb3.8/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**300**		Pn	**05 41 48.5**	**+0.5**
KDAK	**Kodiak Island**	**2.45**	**300**		Sn	**05 42 15.9**	**-2.1**
KDAK	**Kodiak Island** baz=117	**2.45**	**300**	S	Sn	**05 42 15.9**	**-2.1**
KDAK	**Kodiak Island** comp=Z,128nm,20.2s,baz=212,slow=40	**2.45**	**300**	LR	LR	05 42 48.9	
OHAK	**Old Harbor**	**2.63**	**285**		Pn	**05 41 50.2**	**-0.4**
OHAK					Sn	**05 42 19.5**	**-3.0**
OHAK	**Old Harbor**	**2.63**	**285**	P	Pn	**05 41 50.4**	**-0.1**
OHAK	**Old Harbor** baz=102	**2.63**	**285**	P	Pn	**05 41 50.2**	**-0.4**
OHAK	baz=102			S	Sn	**05 42 19.5**	**-3.0**
SYI	**Shuyak Island**	**2.84**	**316**		Pn	**05 41 53.9**	**+0.5**
SYI					Sn	**05 42 26.7**	**-0.9**
Q20K	**Shuyak Island** baz=133	**2.84**	**316**	P	Pn	**05 41 53.9**	**+0.5**
Q20K	baz=133			S	Sn	**05 42 26.7**	**-1.0**
MID	**Middleton Isla**	**3.05**	**22**	Pn	Pn	**05 41 55.3**	**-1.0**
MID	comp=N,136nm,1.2s			IAML		05 42 23.4	
MID	comp=E,129nm,1.4s			IAML		05 42 32.1	
MID	**Middleton Isla**	**3.05**	**22**	P	Pn	**05 41 55.8**	**-0.5**
Q23K	**Middleton Isla**	**3.05**	**22**		Pn	**05 41 55.7**	**-0.5**
Q23K					Sn	**05 42 30.9**	**-1.8**
Q23K	**Middleton Isla** comp=E,151nm,1.4s	**3.05**	**22**	IAML		05 42 45.3	
Q23K	comp=N,114nm,1.1s			IAML		05 43 26.0	
Q23K	**Middleton Isla** baz=203	**3.05**	**22**	P	Pn	**05 41 55.7**	**-0.5**
Q23K	baz=203			S	Sn	**05 42 30.9**	**-1.8**
SII	**Sitkinak Islan**	**3.08**	**271**	Pn	Pn	**05 41 55.6**	**-1.1**
SII	comp=N,197nm,1.5s			IAML		05 42 38.2	
SII	comp=E,154nm,1.4s			IAML		05 42 39.2	
CNPM	**China Poot**	**3.22**	**335**		Pn	**05 41 58.8**	**+0.2**
CNPM					Sn	**05 42 36.0**	**-1.0**
CNPM	**China Poot** comp=E,52nm,1.3s	**3.22**	**335**	IAML		05 42 43.8	
CNPM	comp=N,47nm,1.1s			IAML		05 42 53.3	
BRSE	**Bradley Lake S**	**3.31**	**341**		Pn	**05 41 59.9**	**0.0**
BRSE					Sn	**05 42 37.7**	**-1.7**
BRSE	**Bradley Lake S** baz=159	**3.31**	**341**	P	Pn	**05 41 59.9**	**0.0**
BRSE	baz=159			S	Sn	**05 42 37.7**	**-1.7**
BRLK	**Bradley Lake**	**3.36**	**340**		Pn	**05 42 00.6**	**0.0**
BRLK	**Bradley Lake**	**3.36**	**340**	IAML		05 42 43.2	
	comp=E,54nm,0.5s						
BRLK	comp=N,56nm,1.3s			IAML		05 42 46.2	
HOM	**Homer**	**3.43**	**333**	Pn	Pn	**05 42 02.1**	**+0.5**
P23K	**Montague Islan**	**3.43**	**10**		Pn	**05 42 01.2**	**-0.3**
P23K	**Montague Islan** baz=190	**3.43**	**10**	P	Pn	**05 42 01.2**	**-0.3**
SEW	**Seward**	**3.51**	**353**		Pn	**05 42 02.0**	**-0.5**
SEW	**Seward** baz=172	**3.51**	**353**	P	Pn	**05 42 02.0**	**-0.5**
Q19K	**Cape Douglas,**	**3.54**	**313**		Pn	**05 42 03.6**	**+0.5**
Q19K	**Cape Douglas,** comp=N,134nm,0.9s	**3.54**	**313**	IAML		05 42 53.7	
Q19K	comp=E,228nm,0.8s			IAML		05 42 57.4	
Q19K	**Cape Douglas,** baz=128	**3.54**	**313**	P	Pn	**05 42 03.6**	**+0.5**
KAHG	**Katmai Hook Gl**	**3.70**	**303**		Pn	**05 42 06.6**	**+1.3**
P19K	**Oil Pt**	**3.89**	**323**		Pn	**05 42 08.8**	**+0.8**
P19K	**Oil Pt** comp=E,118nm,0.9s	**3.89**	**323**	IAML		05 42 57.8	
P19K	comp=N,145nm,0.6s			IAML		05 42 58.0	
P19K	**Oil Pt** baz=139	**3.89**	**323**	P	Pn	**05 42 08.8**	**+0.8**
O22K	**Cooper Landing**	**3.90**	**352**		Pn	**05 42 08.3**	**+0.3**
O22K	**Cooper Landing** comp=N,170nm,0.7s	**3.90**	**352**	IAML		05 42 58.7	
O22K	comp=E,166nm,0.8s			IAML		05 43 00.1	
O22K	**Cooper Landing** baz=170	**3.90**	**352**	P	Pn	**05 42 08.3**	**+0.3**
HIN	**Hinchinbrook I** comp=N,190nm,0.7s	**3.93**	**15**	IAML		05 42 52.4	
HIN	comp=E,118nm,0.9s			IAML		05 42 52.7	
ACHA	**Angle Creek He**	**3.96**	**296**		Pn	**05 42 10.6**	**+1.7**
KAIM	**Kayak Island**	**3.97**	**32**		Pn	**05 42 08.8**	**-0.2**
KAIM	**Kayak Island** comp=N,116nm,0.6s	**3.97**	**32**	IAML		05 42 58.1	
KAIM	comp=E,96nm,1.5s			IAML		05 42 59.8	
KAIM	**Kayak Island** baz=215	**3.97**	**32**	P	Pn	**05 42 08.8**	**-0.2**
KVTA	**Katmai Vly 10**	**4.01**	**299**		Pn	**05 42 11.4**	**+1.9**
O20K	**Slope Mountain**	**4.05**	**330**		Pn	**05 42 10.2**	**+0.1**
O20K	**Slope Mountain** baz=147	**4.05**	**330**	P	Pn	**05 42 10.2**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.20**	**20**		Pn	**05 42 12.1**	**0.0**
EYAK	**Cordova Ski Ar**	**4.20**	**20**	P	Pn	**05 42 12.2**	**+0.1**
EYAK	**Cordova Ski Ar** baz=201	**4.20**	**20**	P	Pn	**05 42 12.1**	**0.0**
CNTC	**Contact Creek**	**4.26**	**296**		Pn	**05 42 14.7**	**+1.8**
Q17K	**Contact Creek** baz=110	**4.26**	**296**	P	Pn	**05 42 14.7**	**+1.8**
RAGM	**Ragged Mountai**	**4.29**	**27**		Pn	**05 42 13.5**	**+0.1**
CAPN	**Captain Cook N**	**4.35**	**343**	Pn	Pn	**05 42 14.1**	**-0.1**
RED	**Redoubt Volcan**	**4.38**	**332**		Pn	**05 42 14.7**	**+0.1**
RDSO	**Redoubt South**	**4.40**	**332**		Pn	**05 42 14.7**	**-0.3**
RSO	**Redoubt South**	**4.41**	**332**		Pn	**05 42 15.4**	**+0.2**
RDT	**Redoubt**	**4.42**	**335**		Pn	**05 42 14.9**	**-0.3**
GOAT	**Goat Mountain**	**4.45**	**26**		Pn	**05 42 15.7**	**+0.1**
RDWB	**Redoubt West**	**4.46**	**332**		Pn	**05 42 15.6**	**-0.1**
P18K	**Big Mountain,**	**4.48**	**311**		Pn	**05 42 16.2**	**+0.3**
P18K	**Big Mountain,** baz=126	**4.48**	**311**	P	Pn	**05 42 16.2**	**+0.3**
RC01	**Rabbit Creek A**	**4.51**	**353**		Pn	**05 42 16.4**	**+0.1**
RC01	**Rabbit Creek A** comp=N,45nm,0.4s	**4.51**	**353**	IAML		05 43 08.4	
RC01	comp=E,38nm,0.3s			IAML		05 43 09.5	
RC01	**Rabbit Creek A** baz=172	**4.51**	**353**	P	Pn	**05 42 16.4**	**+0.1**
BERG	**Berg Lake**	**4.56**	**32**		Pn	**05 42 17.4**	**+0.3**
BERG	comp=E,56nm,0.4s			IAML		05 43 10.0	
O19K	**Port Alsworth**	**4.67**	**322**		Pn	**05 42 18.8**	**+0.4**
O19K	**Port Alsworth** baz=138	**4.67**	**322**	P	Pn	**05 42 18.8**	**+0.4**
SNH	**Sunshine Point**	**4.67**	**38**		Pn	**05 42 18.2**	**-0.5**
SNH	**Sunshine Point** comp=N,38nm,1.3s	**4.67**	**38**	IAML		05 43 16.0	
SNH	comp=E,38nm,1.4s			IAML		05 43 23.6	
DIV	**Divide**	**4.74**	**17**		Pn	**05 42 19.8**	**+0.2**
O18K	**Koktuh Hills**	**4.75**	**316**		Pn	**05 42 20.2**	**+0.5**
O18K	**Koktuh Hills** baz=130	**4.75**	**316**	P	Pn	**05 42 20.2**	**+0.5**
Q16K	**King Salmon**	**4.78**	**299**		Pn	**05 42 20.8**	**+0.8**
Q16K	**King Salmon** baz=112	**4.78**	**299**	P	Pn	**05 42 20.8**	**+0.8**
KNK	**Knik Glacier**	**4.79**	**1**		Pn	**05 42 20.9**	**+0.6**
KNK	**Knik Glacier** comp=N,22nm,0.5s	**4.79**	**1**	IAML		05 43 18.1	
KNK	comp=E,24nm,0.6s			IAML		05 43 18.5	
KNK	**Knik Glacier** baz=181	**4.79**	**1**	P	Pn	**05 42 20.9**	**+0.6**
BMRM	**Bremner River**	**4.82**	**24**		Pn	**05 42 20.6**	**-0.1**
BMRM	**Bremner River** baz=207	**4.82**	**24**	P	Pn	**05 42 20.6**	**-0.1**
P17K	**Kvichak River**	**4.90**	**305**		Pn	**05 42 22.9**	**+1.2**
P17K	**Kvichak River** baz=118	**4.90**	**305**	P	Pn	**05 42 22.9**	**+1.2**
N20K	**Mount Spurr** baz=156	**4.95**	**339**	P	Pn	**05 42 22.8**	**+0.4**
SPCR	**Spurr Chakacha**	**4.95**	**339**		Pn	**05 42 22.8**	**+0.4**
BARK	**Barkley Ridge**	**4.96**	**38**		Pn	**05 42 22.6**	**0.0**
SUA	**Susitna One**	**4.97**	**348**		Pn	**05 42 22.8**	**0.0**
SUA	**Susitna One** baz=166	**4.97**	**348**	P	Pn	**05 42 22.8**	**0.0**
PMR	**Palmer**	**4.98**	**357**	Pn	Pn	**05 42 22.8**	**0.0**
PMR	comp=N,24nm,1.0s			IAML		05 43 18.7	
PMR	comp=E,24nm,0.7s			IAML		05 43 19.2	
PMR	**Palmer**	**4.98**	**357**	P	Pn	**05 42 23.4**	**+0.6**
KLU	**Klutina**	**5.07**	**15**		Pn	**05 42 24.1**	**+0.1**
KLU	comp=E,32nm,0.4s			IAML		05 43 20.5	
KLU	comp=N,30nm,0.5s			IAML		05 43 20.7	
KLU	**Klutina** baz=196	**5.07**	**15**	P	Pn	**05 42 24.5**	**+0.5**
GHO	**Glory Hole Cre**	**5.16**	**358**		Pn	**05 42 25.7**	**+0.4**
GHO	**Glory Hole Cre** comp=E,37nm,0.6s	**5.16**	**358**	IAML		05 43 25.9	
GHO	comp=N,44nm,0.6s			IAML		05 43 29.8	
N19K	**Bonanza Creek**	**5.19**	**326**		Pn	**05 42 25.8**	**+0.1**
N19K	**Bonanza Creek** comp=N,16nm,1.3s	**5.19**	**326**	IAML		05 43 32.1	
N19K	**Bonanza Creek** baz=141	**5.19**	**326**	P	Pn	**05 42 25.8**	**+0.1**
SML	**Sawmill** comp=N,39nm,1.4s	**5.19**	**1**	IAML		05 43 25.4	
SML	comp=E,33nm,1.1s			IAML		05 43 28.1	
SML	**Sawmill** baz=181	**5.19**	**1**	P	Pn	**05 42 26.6**	**+0.8**
SCM	**Sheep Creek Mo**	**5.26**	**7**		Pn	**05 42 26.8**	**+0.2**
SCM	**Sheep Creek Mo** comp=E,39nm,0.8s	**5.26**	**7**	IAML		05 43 35.5

PTPK	Patty Peak	5.56	32			Pn		05 42 30.8	-0.2
SKT	Skwentna	5.57	346		Pn	Pn		05 42 31.7	+0.8
MCARA	McCarthy VSAT	5.57	29			Pn		05 42 31.5	+0.6
MCARA	McCarthy VSAT baz=213	5.57	29		P	Pn		05 42 31.5	+0.6
PCA	Pinnacle	5.60	48			Pn		05 42 31.1	-0.3
PINM	Pinnacle baz=235	5.60	48		P	Pn		05 42 31.1	-0.3
M24K	Tolsona, Glenn	5.63	12			Pn		05 42 32.7	+1.0
M24K	Tolsona, Glenn baz=193	5.63	12		P	Pn		05 42 32.1	+0.4
BARN	Barnard Glacie	5.72	36			Pn		05 42 32.9	-0.2
PNL	Peninsula	5.75	54			Pn		05 42 32.9	-0.4
PNL	Peninsula baz=241	5.75	54		P	Pn		05 42 32.9	-0.4
M20K	Styx River	5.75	338			Pn		05 42 33.5	0.0
M20K	Styx River baz=154	5.75	338		P	Pn		05 42 33.5	0.0
CTG	Chitna Glacier baz=224	5.75	38		P	Pn		05 42 33.5	-0.1
CTGM	Chitina Glacie	5.76	38			Pn		05 42 33.5	-0.1
LOGN	Logan Glacier	5.77	40			Pn		05 42 33.6	-0.2
BCPM	Bancas Point	5.78	51		Pn	Pn		05 42 35.1	+1.2
O16K	Kokwok River B	5.84	304		Pn	Pn		05 42 35.4	+0.9
CUT	Chulitna	5.85	352		Pn	Pn		05 42 36.9	+2.2
N17K	Nushagak Hills	5.95	315			Pn		05 42 36.2	+0.1
N17K	Nushagak Hills baz=127	5.95	315		P	Pn		05 42 36.2	+0.1
WAT6	Susitna Watana	5.98	4			Pn		05 42 37.3	+0.6
WAT6	Susitna Watana baz=184	5.98	4		P	Pn		05 42 37.3	+0.6
M19K	Big River Lodg baz=148	6.06	333		P	Pn		05 42 37.4	-0.2
M18K	Stony River	6.13	326			Pn		05 42 38.4	-0.1
M18K	Stony River baz=140	6.13	326		P	Pn		05 42 38.4	-0.1
WAT1	Susitna Watana	6.22	0			Pn		05 42 40.4	+0.6
WAT1	Susitna Watana baz=180	6.22	0		P	Pn		05 42 40.4	+0.6
WAT7	Susitna Watana	6.22	359			Pn		05 42 40.6	+0.7
L19K	White Mountain	6.41	333			Pn		05 42 42.2	-0.3
O29M	Mount Kennedy	6.42	51			Pn		05 42 42.7	0.0
O29M	Mount Kennedy baz=239	6.42	51		P	Pn		05 42 42.7	0.0
M26K	Nabesna, AK	6.45	24		Pn	Pn		05 42 43.8	+0.8
CHNA	Chernabura Isl baz=70	6.46	258		P	Pn		05 42 43.0	-0.1
CNBA	Chernabura Isl	6.46	258			Pn		05 42 43.0	-0.2
DHY	Denali Highway	6.49	5			Pn		05 42 45.0	+1.3
DHY	Denali Highway baz=186	6.49	5		P	Pn		05 42 44.9	+1.2
P29M	Windy Craggy	6.49	58			Pn		05 42 42.9	-0.6
P29M	Windy Craggy baz=247	6.49	58		P	Pn		05 42 42.9	-0.6
O15K	Ungalikthiuk R	6.50	298			Pn		05 42 45.2	+1.6
O15K	Ungalikthiuk R baz=108	6.50	298		P	Pn		05 42 45.2	+1.6
YUK2	White River	6.52	34			Pn		05 42 45.2	+1.1
PAX	Paxson	6.55	13			Pn		05 42 45.3	+0.9
PAX	Paxson baz=195	6.55	13		P	Pn		05 42 45.3	+0.9
M17K	Holitna River	6.60	320			Pn		05 42 45.3	+0.2
M17K	Holitna River baz=132	6.60	320		P	Pn		05 42 45.3	+0.2
YUK3	Moose Creek	6.64	36			Pn		05 42 46.5	+0.8
YUK3	Moose Creek baz=222	6.64	36		P	Pn		05 42 46.5	+0.8
M27K	Edge Creek, AK	6.68	28		Pn	Pn		05 42 46.8	+0.5
YUK7	Dusty Glacier	6.72	50			Pn		05 42 47.5	+0.6
SDPT	Sand Point	6.78	264		Pn	Pn		05 42 47.9	+0.4
SDPT	Sand Point	6.78	264		P	Pn		05 42 48.4	+0.9
S31K	Pelican	6.84	74			Pn		05 42 46.3	-1.9
YUK6	Outpost Mounta baz=235	6.85	47		P	Pn		05 42 49.6	+0.8
TRF	Thorofare Moun	6.89	354			Pn		05 42 50.4	+1.3
TRF	Thorofare Moun baz=172	6.89	354		P	Pn		05 42 50.4	+1.3
M16K	Timber Creek	6.94	314			Pn		05 42 50.5	+0.8
M16K	Timber Creek baz=125	6.94	314		P	Pn		05 42 50.5	+0.8
L18K	Granite Mounta	6.95	327		Pn	Pn		05 42 49.3	-0.5
YUK4	Talbot Arm baz=231	6.98	43		P	Pn		05 42 52.9	+2.5
CAST	Castle Rocks	7.03	347		Pn	Pn		05 42 52.1	+1.2
KTH	Kantishna Hill	7.04	352		Pn	Pn		05 42 51.7	+0.6
P30M	Million Dollar	7.05	55			Pn		05 42 51.4	+0.2
P30M	Million Dollar baz=245	7.05	55		P	Pn		05 42 51.4	+0.2
HYT	Haines Junctio	7.14	49		Pn	Pn		05 42 52.9	+0.3
O14K	Tigyukauivet M	7.23	297			Pn		05 42 55.4	+1.8
O14K	Tigyukauivet M baz=106	7.23	297		P	Pn		05 42 55.4	+1.8
L27K	Beaver Creek,	7.29	25		Pn	Pn		05 42 54.8	+0.2
SIT	Sitka	7.30	81		Pn	Pn		05 42 51.0	-3.6
SIT	Sitka	7.30	81		P	Pn		05 42 51.0	-3.6
BCAR	Beaver Creek A	7.30	25		Pn	Pn		05 42 55.8	+1.0
K24K	Donnelly Dome	7.33	10			Pn		05 42 56.5	+1.5
K24K	Donnelly Dome baz=192	7.33	10		P	Pn		05 42 56.5	+1.5
TTA	Tatalina	7.33	332		Pn	Pn		05 42 55.5	+0.4
BPAW	Bear Paw Mtn.	7.58	352			Pn		05 42 58.9	+0.4
BPAW	Bear Paw Mtn. baz=170	7.58	352		P	Pn		05 42 58.9	+0.4
SKAG	Skagway	7.59	63		P	Pn		05 42 58.9	+0.3
N30M	Aishikik Lake	7.66	46			Pn		05 42 59.3	-0.3
N30M	Aishikik Lake baz=236	7.66	46		P	Pn		05 42 59.3	-0.3
S32K	Killisnoo	7.70	78		Pn	Pn		05 42 58.6	-1.4
SCRK	Sand Creek	7.71	15		Pn	Pn		05 43 01.6	+1.2
O30N	Mendenhall	7.72	52		Pn	Pn		05 43 00.8	+0.4
M29M	Somme Creek	7.77	37		Pn	Pn		05 43 02.2	+1.0
R32K	Eaglecrest	7.78	72		Pn	Pn		05 43 00.6	-0.6
K17K	Iditarod	7.82	325		Pn	Pn		05 43 01.9	+0.2
JIS	Juneau Island	7.85	72		P	Pn		05 43 01.6	-0.5
J18K	Innoko River	7.96	333		Pn	Pn		05 43 03.2	-0.4
J20K	Nowinta River	8.04	342		Pn	Pn		05 43 05.7	+0.9
CCB	Clear Creek Bu	8.05	2		Pn	Pn		05 43 06.4	+1.5
K27K	Chicken	8.09	21		Pn	Pn		05 43 05.4	-0.1
J25K	Salcha River,	8.16	10		Pn	Pn		05 43 06.8	+0.3
N31M	Braeburn, Yuko	8.20	48		Pn	Pn		05 43 07.6	+0.6
ILAR	Eielson Array	8.21	5		Pn	Pn		05 43 07.3	+0.3
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=188,slow=13,SNR=3.2	8.21	5		Pn	Pn		05 43 07.4	+0.4
ILAR	comp=N,0.3nm,0.3s,baz=190,slow=19,SNR=9.3 comp=N,0.3nm,0.4s				Sn	Sn		05 44 33.5	-6.3
WHY	Whitehorse	8.21	55		Pn	Pn		05 43 07.5	+0.3
COLA	College	8.28	2		P	Pn		05 43 09.4	+1.4
L29M	L29M	8.35	35		Pn	Pn		05 43 09.3	+0.2
P32M	Atlin	8.42	63		Pn	Pn		05 43 09.8	-0.2
FALS	False Pass	8.54	264		P	Pn		05 43 13.4	+1.8
K15K	Wolf Creek Mou	8.68	316		Pn	Pn		05 43 14.8	+1.4
DAWY	Dawson	8.73	28		Pn	Pn		05 43 15.5	+1.2
CRAG	Craig	8.75	91		P	Pn		05 43 11.6	-2.8
H21K	Melozitna Rive	9.28	349		Pn	Pn		05 43 21.1	-0.6
R33M	Jennings River	9.76	66		Pn	Pn		05 43 27.6	-0.8
UNV	Unalaska Valle	10.59	262		P	Pn		05 43 38.6	-1.1
YKA	Yellowknife Ar comp=N,0.1nm,0.3s,baz=263,slow=11,SNR=5.8 comp=N,0.8nm,0.9s	18.03	57		P	Pn		05 45 20.1	+1.7
SONM	Songino Array comp=N,0.2nm,0.3s,baz=44,slow=4.8,SNR=1.5 comp=N,0.2nm,0.3s	58.70	310		P	P		05 51 05.3	-0.2
ZALV	Zalesovo Beam comp=N,0.8nm,0.5s,baz=44,slow=5.4,SNR=4.5 comp=N,0.8nm,0.5s	61.47	327		P	P		05 51 24.1	-0.1
MKAR	Makanchi Array comp=N,0.3nm,0.4s,baz=28,slow=5.6,SNR=4.9 comp=N,0.3nm,0.4s	68.52	325		P	P		05 52 11.4	+1.1

SFS **24** *05:46:23.8, 37.54N×8.02W, h8km, ML3.5/22, ML3.5/22, MLv3.3/22*
LDG **24** *05:46:23.9±0.1, 37.55N×7.98W, h4km, Ml3.2/5, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
IGIL **24** *05:46:23.9, 37.56N×7.99W, h6km, ML3.0*
MDD **24** *05:46:24.0±0.2, 37.55N×8.04W, h12km, mb_Lg3.3/36, Error ellipse: s-maj=2.1km s-min=1.5km az=51.0*
INMG **24** *05:46:24.0±1.8, 37.57N×7.99W, h2km±2km, ML3.1, Error ellipse: s-maj=1.5km s-min=1.2km az=87.0*
ISC 24 05:46:22.5±0.9, 37.57N±0.01×7.95W±0.01, h18km±3km, n98, σ1§79/208, 6C-5D, Portugal

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCVE	Castro Verde	0.09	311	⇓*i*Pg		Pg	05 46 26.1	-0.1
PCVE				*e*Sg		Sg	05 46 27.5	-1.1
PCVE				A		A	05 46 27.7	
	4μm,0.2s							
PVAQ	Vaqueiros	0.25	132	⇓*i*Pg		Pg	05 46 29.0	+0.7
PVAQ				*e*Sg		Sg	05 46 33.1	+0.9
PVAQ				A		A	05 46 34.9	
	297nm,0.3s							
PVAQ	Vaqueiros	0.25	132	Pg		Pg	05 46 28.9	+0.7
PBDV	Barranco-do-Ve	0.33	177	⇓*i*Pg		Pb	05 46 30.0	+0.2
PBDV				*e*Sg		Sg	05 46 34.1	-0.3
PBDV				A		A	05 46 34.4	
	2μm,0.3s							
PBDV	Barranco-do-Ve	0.33	177	Sg		Sg	05 46 34.0	-0.3
PBDV				Pg		Pb	05 46 29.9	0.0
MESJ	Messejana	0.34	322	⇓*i*Pg		Pg	05 46 30.1	+0.3
MESJ				*e*Sg		Sg	05 46 34.3	-0.5
MESJ				A		A	05 46 35.9	
	806nm,0.2s							
MESJ	Messejana	0.34	322	*e*P		Pg	05 46 30.1	+0.3
MESJ				*e*S		Sg	05 46 34.2	-0.5
MESJ				IAML			05 46 36.6	
	comp=N,777nm,0.1s							
EGRO	El Granado	0.38	95	⇑Pg		Pb	05 46 31.5	+0.9
EGRO				Sg		Sb	05 46 36.6	+0.4
EGRO				*i* Vmb_Lg			05 46 38.3	
PBEJ	Beja	0.46	8	⇑*e*Pg		Pb	05 46 33.0	+0.9
PBEJ				*e*Sg		Sb	05 46 39.0	+0.4
PBEJ				A		A	05 46 40.5	
	comp=N,368nm,0.2s							
PTAV	Tavira	0.50	152	*e*Sg		Sb	05 46 39.8	+0.1
PALBU	Albufeira	0.53	207	*e*Pg		Pb	05 46 33.8	+0.6
PALBU				*e*Sg		Sg	05 46 40.1	-0.2
PALBU				A		A	05 46 48.2	
	comp=N,412nm,0.8s							
PFARO	Faro	0.55	177	*e*Pg		Pg	05 46 34.4	+1.0
PFARO				*e*Sg		Sb	05 46 41.4	+0.6
PTEO	Sao Teotonio	0.61	268	⇑*e*P		Pb	05 46 34.5	-0.1
PTEO				*e*S		Sb	05 46 42.8	0.0
PTEO				A		A	05 46 46.7	
	comp=N,569nm,0.9s							
MORF	Marmelete	0.62	245	⇑*i*P		Pb	05 46 34.6	-0.1
MORF				*e*S		Sg	05 46 43.6	+0.5
MORF				A		A	05 46 46.1	
	comp=N,367nm,0.2s							
MORF	Marmelete	0.62	245	*e*P		Pb	05 46 34.6	-0.1
MORF				*e*S		Sb	05 46 42.1	-0.9
MORF				IAML			05 46 47.3	
	comp=E,687nm,0.2s							
PPOR	Portimao	0.64	227	*e*P		Pg	05 46 35.5	+0.4
PPOR				*e*S		Sb	05 46 43.4	-0.1
PNCL	Nicolau / Gran	0.71	320	⇓*i*P		Pb	05 46 36.0	-0.3
PNCL				*e*S		Sg	05 46 46.5	+0.6
PNCL				A		A	05 46 49.1	
	comp=E,589nm,0.4s							
PNCL	Nicolau / Gran	0.71	320	Sg		Sg	05 46 46.4	+0.5
PNCL				Pg		Pb	05 46 35.9	-0.3
PALJ	Aljezur	0.72	250	*e*S		Sb	05 46 45.5	-0.4
PLAGO	Lagos	0.75	231	*e*P		Pn	05 46 38.1	-0.1
PLAGO				*e*S		Sg	05 46 47.5	+0.2
PLAGO				A		A	05 46 50.4	
	comp=E,453nm,0.2s							
PFVI	Vila Bisbo	0.82	238	*e*P		Pb	05 46 38.3	+0.1
PFVI				*e*S		Sb	05 46 48.6	-0.3
PFVI				A		A	05 46 52.2	
	comp=E,283nm,0.3s							
PFVI	Vila Bisbo	0.82	238	Sg		Sb	05 46 48.6	-0.3
PBAR	Barrancos	0.94	50	⇑*e*P		Pg	05 46 42.2	+1.4
PBAR				*e*S		Sn	05 46 55.1	+1.3
PBAR				A		A	05 46 57.6	
	comp=E,120nm,0.2s							
PBAR	Barrancos	0.94	50	Sg		Sn	05 46 56.1	+2.4
PBAR				Pg		Pg	05 46 42.1	+1.4
EVO	Evora	0.96	357	*e*P		Pg	05 46 41.8	+0.6
EVO				*e*S		Sn	05 46 54.8	+0.5
EVO				A		A	05 46 57.1	
	comp=E,689nm,0.1s							
EVO	Evora	0.96	357	Pg		Pg	05 46 42.5	+1.3
EVO				Sg		Sn	05 46 54.7	+0.4
PSVI	Cabo S. Vicent	1.00	237	*e*S		Sg	05 46 54.7	-0.3
EMIN	Mina Concepcio	1.03	79	Pn		Pg	05 46 43.2	+0.6
EMIN	Mina Concepcio	1.03	79	Pg		Pg	05 46 43.2	+0.6
EMIN				Sg		Sg	05 46 56.8	+0.6
EMIN				*i* Vmb_Lg			05 46 59.7	
ARNO	Arenosillo	1.08	115	Pn		Pg	05 46 44.4	+1.0
ARNO				Sn		Sg	05 47 00.8	+3.1
PESTR	Estremoz	1.32	12	⇑*e*Pn		Pg	05 46 48.5	+0.4
PESTR				*e*Sn		Sg	05 47 05.7	+0.3
PESTR				A		A	05 47 10.4	
	comp=E,155nm,0.7s							
EBAD	Badajoz	1.40	32	Pn		Pb	05 46 48.5	+0.5
EBAD				Sn		Sg	05 47 08.4	+0.8
EBAD	Badajoz	1.40	32	Pn		Pb	05 46 48.5	+0.5
EBAD				Pg		Pg	05 46 49.9	+0.5
EBAD				Sg		Sg	05 47 08.0	+0.3
EBAD				*i* Vmb_Lg			05 47 12.2	
LIS	Lisbon	1.48	321	*e*Pn		Pg	05 46 51.2	+0.1
LIS				*e*Sg		Sg	05 47 10.7	+0.2
LIS				A		A	05 47 14.7	
	comp=E,152nm,0.2s							
LIS	Lisbon	1.48	321	*e*P		Pn	05 46 49.0	+0.7
LIS				*e*SG		Sg	05 47 09.7	-0.8
LIS				IAML			05 47 15.3	
	comp=E,324nm,0.2s							
PMTG	Montargil	1.51	352	*e*Pn		Pb	05 46 50.1	+0.1
PMTG	Montargil	1.51	352	*e*Pg		Pg	05 46 51.5	-0.1
PMTG				*e*Sg		Sg	05 47 12.1	+0.8
PMTG				A		A	05 47 15.6	
	comp=E,188nm,0.2s							
PBEN	Benavente	1.54	334	*e*Sg		Sg	05 47 13.6	+1.5
PMAFR	Mafra	1.73	323	*e*Pn		Pb	05 46 53.0	-0.8
PMAFR	Mafra	1.73	323	*e*Pg		Pg	05 46 55.2	-0.7
PMAFR				*e*Sg		Sg	05 47 19.3	+0.9
PMAFR				A		A	05 47 21.8	
	comp=E,108nm,0.3s							
PMAFR	Mafra	1.73	323	Pn		Pb	05 46 53.9	+0.1
ESPR	Espera	1.81	112	Pn		Pb	05 46 55.0	-0.1
ESPR				Sn		Sb	05 47 18.7	+1.2
ESPR	Espera	1.81	112	Pn		Pb	05 46 54.9	-0.2
ESPR				Pg		Pg	05 46 56.6	-0.8
ESPR				Sn		Sb	05 47 17.9	+0.4
ESPR				Sg		Sg	05 47 22.6	+1.6
ESPR				*i* Vmb_Lg			05 47 27.5	
PMRV	Marv??o	1.91	13	*e*Pn		Pn	05 46 55.5	+1.4
PMRV	Marv??o	1.91	13	*e*Pg		Pg	05 46 58.6	-0.5
PMRV				*e*Sg		Sg	05 47 24.5	+0.6
PMRV				A		A	05 47 26.0	
	comp=E,332nm,0.3s							
PSBE	So Bento	2.05	341	*e*Pn		Pb	05 46 58.0	-1.2
PSBE	So Bento	2.05	341	*e*Pg		Pg	05 47 01.8	-0.1
PSBE				*e*Sg		Sg	05 47 27.8	-0.7
PSBE				A		A	05 47 32.0	
	comp=E,62nm,0.4s							
ECAB	El Cabril	2.07	75	Pn		Pb	05 46 58.7	-0.8
ECAB	El Cabril	2.07	75	Pg		Pg	05 47 01.4	-0.8
ECAB				Sn		Sn	05 47 21.1	-0.6
ECAB				Sg		Sb	05 47 26.3	+1.4
ECAB				*i* Vmb_Lg			05 47 32.4	
EJIF	Jimena Fronter	2.28	119	Pn		Pn	05 47 01.0	+1.8
EJIF				Pg		Pg	05 47 05.5	-0.8
EJIF				Sn		Sn	05 47 28.8	+1.9
EJIF				Sg		Sg	05 47 35.7	-0.2
PCBR	Castelo Branco	2.30	9	*e*Pn		Pn	05 47 01.0	+1.6
PCBR				A		A	05 47 40.6	
	comp=E,57nm,0.5s							
PCAS	Casmilo, Conde	2.52	350	*e*Pn		Pn	05 47 04.5	+2.1
PCAS	Casmilo, Conde	2.52	350	*e*Pg		Pg	05 47 10.3	-0.4
PCAS				*e*Sg		Sg	05 47 44.1	+0.7
PCAS				A		A	05 47 45.0	
	comp=E,70nm,0.6s							
COI	Coimbra	2.66	352	*e*Pn		Pn	05 47 05.7	+1.3
COI				*e*Sg		Sg	05 47 48.6	+0.7
COI				A		A	05 47 53.3	
	comp=E,62nm,0.9s							
CEU	Ceuta	2.66	128	Pn		Pb	05 47 07.7	-1.8
EMIJ	Mijas	2.73	111	Pn		Pn	05 47 07.1	+1.6
EMIJ	Mijas	2.73	111	Pn		Pn	05 47 07.1	+1.6
EMIJ				Pg		Pb	05 47 12.1	+1.3
EMIJ				Sn		Sn	05 47 40.6	+2.5
EMIJ				Sg		Sg	05 47 48.3	-2.1
EMIJ				*i* Vmb_Lg			05 48 02.5	
EADA	Adamuz	2.74	76	Pn		Pn	05 47 07.0	+1.5
EADA	Adamuz	2.74	76	Pn		Pn	05 47 07.0	+1.5
EADA				Pg		Pb	05 47 12.4	+1.5
EADA				Sn		Sb	05 47 41.5	-2.6
EADA				Sg		Sg	05 47 48.3	-2.2
EADA				*i* Vmb_Lg			05 47 55.6	
MTE	Manteigas	2.84	6	*e*Pn		Pn	05 47 08.4	+1.4
MTE				*e*Sg		Sg	05 47 53.9	0.0
MTE				A		A	05 48 00.0	
	comp=E,119nm,0.5s							
EPLA	Plasencia	2.89	30	Pn		Pn	05 47 08.9	+1.3
EPLA				Sn		Sn	05 47 43.5	+1.6
EPLA				Sg		Sg	05 47 53.0	-2.3
EPLA				*i* Vmb_Lg			05 48 02.0	
EMAL	Malaga-Limoner	2.93	105	Pn		Pn	05 47 09.9	+1.8
EGOR	Sierra Gorda,	3.10	97	Pn		Pn	05 47 12.8	+2.3
EGOR	Sierra Gorda,	3.10	97	Pn		Pn	05 47 13.0	+2.5
EGOR				Sn		Sn	05 47 49.9	+2.7
EGOR				Sg		Sg	05 48 00.1	-1.9
EGOR				*i* Vmb_Lg			05 48 09.2	
PVIS	Viseu	3.14	1	*e*Pn		Pn	05 47 13.3	+2.2
PVIS				*e*Sn		Sn	05 47 50.1	+2.0
PVIS				*e*Sg		Sg	05 48 02.2	-1.2
PVIS				A		A	05 48 05.7	
	comp=E,44nm,0.4s							
PAB	San Pablo	3.44	54	Pn		Pn	05 47 16.7	+1.4
PAB				Sn		Sn	05 47 56.8	+1.1
PAB				Sg		Sg	05 48 11.6	-1.5
PAB				*i* Vmb_Lg			05 48 22.1	
ELGU	Los Guajares,	3.52	100	Pn		Pn	05 47 20.0	+3.6
ELGU	Los Guajares,	3.52	100	Pn		Pn	05 47 20.0	+3.6
ELGU				Sn		Sn	05 47 59.7	+2.1
ELGU				*i* Vmb_Lg			05 48 28.1	
PTO	Porto	3.60	352	*e*Pn		Pn	05 47 19.3	+2.0
PTO				*e*Sn		Sn	05 47 58.8	-0.5
EQUE	Quentar	3.61	94	Pn		Pn	05 47 19.8	+2.1
EQUE				Sn		Sn	05 48 01.0	+1.2
EQUE				Sg		Sg	05 48 15.0	-3.5
EQUE				*i* Vmb_Lg			05 48 26.4	
MVO	Moncorvo	3.66	11	*e*Pn		Pn	05 47 19.7	+1.5
MVO				*e*Sn		Sn	05 48 00.8	-0.1
MVO				*e*Sg		Sg	05 48 20.1	+0.1
MVO				A		A	05 48 24.0	
	comp=E,47nm,0.4s							
PVRL	Vila Real	3.70	3	*e*Pn		Pn	05 47 20.7	+1.9
PVRL				*e*Sn		Sn	05 48 01.9	-0.1
PVRL				*e*Sg		Sg	05 48 20.8	-0.7
PVRL				A		A	05 48 29.1	
	comp=E,36nm,0.5s							
ESDC	Sonseca Array	3.76	55	Pn		Pn	05 47 21.4	+1.7
ESDC				Pg		Pb	05 47 27.5	-0.9
ESDC				Sn		Sn	05 48 03.8	+0.3
ESDC				Sg		Sg	05 48 19.8	-3.6
ESDC				*i* Vmb_Lg			05 48 31.4	
PVLZ	Peæn de	3.80	128	Pn		Pn	05 47 22.1	+2.1
POLO	Lamas de Olo	3.80	2	*e*Pn		Pn	05 47 21.6	+1.4
POLO				*e*Sn		Sn	05 48 05.5	+1.1
POLO				*e*Sg		Sg	05 48 24.7	+0.2
POLO				A		A	05 48 29.2	
	comp=E,16nm,0.6s							
EQES	Quesada	3.88	85	Pn		Pn	05 47 22.8	+1.5
EQES				Pg		Pb	05 47 31.5	+1.1
EQES				Sn		Sn	05 48 07.8	+1.4
EQES				Sg		Sb	05 48 21.9	+4.9
EQES				*i* Vmb_Lg			05 48 31.5	
EBER	Berja	4.09	98	Pn		Pn	05 47 26.9	+2.6
EBER				Sn		Sn	05 48 13.4	+1.6
EBER	Berja	4.09	98	Pn		Pn	05 47 26.3	+1.9
EBER				Pg		Pb	05 47 36.0	+1.8
EBER				Sn		Sn	05 48 12.9	+1.0
EBER				Sg		Sg	05 48 30.2	-3.8
EBER				*i* Vmb_Lg			05 48 47.9	
PCAB	Cabril	4.13	359	*e*Pn		Pn	05 47 26.2	+1.5
PCAB				*e*Sn		Sn	05 48 13.7	+1.1
PCAB				*e*Sg		Sg	05 48 32.7	-2.5
PCAB				A		A	05 48 46.2	
	comp=E,26nm,0.5s							
GUD	Guadarrama	4.26	43	Pn		Pn	05 47 28.0	+1.5
GUD				Sn		Sn	05 48 16.2	+0.3
GUD				Sg		Sg	05 48 34.0	-5.3
GUD				*i* Vmb_Lg			05 48 45.6	
AVE	Averroes	4.29	174	Pn		Pn	05 47 27.7	+0.9
AVE				Sn		Sn	05 48 13.6	-2.7
ELOB	Lobios	4.29	359	Pn		Pn	05 47 28.0	+1.0
ELOB				Sn		Sn	05 48 16.2	-0.3
ELOB				Sg		Sb	05 48 33.9	+5.0
ELOB				*i* Vmb_Lg			05 48 47.5	
PBRG	Braganca	4.33	12	*e*Pn		Pn	05 47 28.9	+1.5
PBRG				*e*Sn		Sn	05 48 17.7	+0.3
PBRG				*e*Sg		Sg	05 48 42.1	+0.6
PBRG				A		A	05 48 43.2	
	comp=E,24nm,0.6s							
PGAV	Gavieira, Arco	4.40	357	*e*Pn		Pn	05 47 29.8	+1.4
PGAV				*e*Sn		Sn	05 48 18.6	-0.5
PGAV				*e*Sg		Sg	05 48 41.8	-1.8
PGAV				A		A	05 48 50.0	
	comp=E,20nm,0.5s							
ECAL	Calabor	4.46	12

	baz=104						
SYI	**Shuyak Island**	**2.86**	**320**			**Pn**	**05 47 37.7 +1.0**
SYI						**Sn**	**05 48 10.4 -0.7**
SYI	**Shuyak Island**	**2.86**	**320**		IAML		05 48 12.3
	comp=N,112nm,0.6s						
Q20K	**Shuyak Island**	**2.86**	**320**	P		**Pn**	**05 47 37.7 +1.0**
	baz=137						
Q20K				S		**Sn**	**05 48 10.4 -0.8**
	baz=137						
MID	**Middleton Isla**	**3.28**	**24**	Pn		**Pn**	**05 47 42.6 +0.3**
MID					IAML		05 48 21.8
	comp=E,195nm,1.3s						
MID					IAML		05 48 52.2
	comp=N,131nm,1.5s						
Q23K	**Middleton Isla**	**3.28**	**23**			**Pn**	**05 47 42.8 +0.5**
Q23K						**Sn**	**05 48 18.3 -3.0**
Q23K	**Middleton Isla**	**3.28**	**23**		IAML		05 48 35.2
	comp=E,174nm,1.4s						
Q23K					IAML		05 48 59.0
	comp=N,195nm,1.4s						
Q23K	**Middleton Isla**	**3.28**	**23**	P		**Pn**	**05 47 42.8 +0.5**
	baz=206						
Q23K				S		**Sn**	**05 48 18.3 -3.0**
	baz=206						
CNPM	**China Poot**	**3.32**	**339**			**Pn**	**05 47 44.0 +1.0**
CNPM						**Sn**	**05 48 21.8 -0.6**
BRSE	**Bradley Lake S**	**3.44**	**344**			**Pn**	**05 47 45.0 +0.5**
BRSE						**Sn**	**05 48 24.5 -0.8**
BRSE	**Bradley Lake S**	**3.44**	**344**	P		**Pn**	**05 47 45.0 +0.5**
	baz=162						
BRSE				S		**Sn**	**05 48 24.5 -0.8**
	baz=162						
BRLK	**Bradley Lake**	**3.48**	**343**			**Pn**	**05 47 45.7 +0.5**
HOM	**Homer**	**3.52**	**337**			**Pn**	**05 47 47.0 +1.3**
HOM	**Homer**	**3.52**	**337**	P		**Pn**	**05 47 47.0 +1.3**
	baz=154						
Q19K	**Cape Douglas,**	**3.55**	**316**			**Pn**	**05 47 47.8 +1.6**
Q19K	**Cape Douglas,**	**3.55**	**316**		IAML		05 48 35.4
	comp=N,150nm,0.7s						
Q19K					IAML		05 48 37.2
	comp=E,204nm,1.2s						
Q19K	**Cape Douglas,**	**3.55**	**316**	P		**Pn**	**05 47 47.7 +1.6**
	baz=132						
P23K	**Montague Islan**	**3.64**	**12**			**Pn**	**05 47 47.7 +0.4**
P23K	**Montague Islan**	**3.64**	**12**	P		**Pn**	**05 47 47.7 +0.4**
	baz=193						
KAHG	**Katmai Hook Gl**	**3.67**	**306**			**Pn**	**05 47 50.0 +2.2**
SEW	**Seward**	**3.67**	**356**			**Pn**	**05 47 48.0 +0.3**
SEW						**Sn**	**05 48 28.7 -2.2**
SEW	**Seward**	**3.67**	**356**	P		**Pn**	**05 47 48.0 +0.3**
	baz=175						
SEW				S		**Sn**	**05 48 28.7 -2.2**
	baz=175						
ACHA	**Angle Creek He**	**3.90**	**299**			**Pn**	**05 47 53.3 +2.3**
P19K	**Oil Pt**	**3.94**	**326**			**Pn**	**05 47 53.0 +1.4**
P19K	**Oil Pt**	**3.94**	**326**		IAML		05 48 40.6
	comp=N,102nm,0.4s						
P19K	**Oil Pt**	**3.94**	**326**	P		**Pn**	**05 47 53.0 +1.4**
	baz=142						
O22K	**Cooper Landing**	**4.06**	**354**			**Pn**	**05 47 53.9 +0.8**
O22K	**Cooper Landing**	**4.06**	**354**		IAML		05 48 54.6
	comp=N,133nm,1.0s						
O22K	**Cooper Landing**	**4.06**	**354**	P		**Pn**	**05 47 53.9 +0.8**
	baz=174						
SLKM	**Skilak Lake**	**4.12**	**351**			**Pn**	**05 47 54.5 +0.5**
O20K	**Slope Mountain**	**4.13**	**333**			**Pn**	**05 47 54.9 +0.7**
O20K	**Slope Mountain**	**4.13**	**333**	P		**Pn**	**05 47 54.9 +0.7**
	baz=150						
HIN	**Hinchinbrook I**	**4.15**	**17**		IAML		05 48 41.4
	comp=N,116nm,0.3s						
HIN					IAML		05 48 42.5
	comp=E,105nm,1.1s						
IVE	**Iliamna Volcan**	**4.18**	**330**			**Pn**	**05 47 55.4 +0.6**
CNTC	**Contact Creek**	**4.19**	**298**			**Pn**	**05 47 56.5 +1.5**
Q17K	**Contact Creek**	**4.19**	**298**	P		**Pn**	**05 47 56.5 +1.5**
	baz=112						
KAIM	**Kayak Island**	**4.21**	**32**			**Pn**	**05 47 56.0 +0.9**
KAIM	**Kayak Island**	**4.21**	**32**		IAML		05 48 45.0
	comp=N,117nm,1.4s						
KAIM	**Kayak Island**	**4.21**	**32**	P		**Pn**	**05 47 56.0 +0.9**
	baz=217						
EYAK	**Cordova Ski Ar**	**4.42**	**21**	P		**Pn**	**05 47 58.9 +0.8**
	baz=204						
RED	**Redoubt Volcan**	**4.46**	**335**			**Pn**	**05 47 59.1 +0.4**
P18K	**Big Mountain,**	**4.48**	**314**	P		**Pn**	**05 47 59.8 +1.0**
	baz=128						
RSO	**Redoubt South**	**4.50**	**335**	Pn		**Pn**	**05 47 60.0 +0.7**
RAGM	**Ragged Mountai**	**4.52**	**28**			**Pn**	**05 48 00.3 +0.8**
DFR	**Drift River**	**4.60**	**336**			**Pn**	**05 48 01.2 +0.7**
RC01	**Rabbit Creek A**	**4.67**	**355**			**Pn**	**05 48 02.5 +1.1**
RC01	**Rabbit Creek A**	**4.67**	**355**		IAML		05 48 55.5
	comp=E,38nm,0.8s						
RC01					IAML		05 48 56.8
	comp=N,28nm,0.6s						
RC01	**Rabbit Creek A**	**4.67**	**355**	P		**Pn**	**05 48 02.5 +1.1**
	baz=174						
GOAT	**Goat Mountain**	**4.68**	**26**			**Pn**	**05 48 02.8 +1.1**
O19K	**Port Alsworth**	**4.71**	**325**			**Pn**	**05 48 03.2 +1.2**
O19K	**Port Alsworth**	**4.71**	**325**	P		**Pn**	**05 48 03.2 +1.2**
	baz=140						
O18K	**Koktuh Hills**	**4.77**	**318**			**Pn**	**05 48 03.8 +0.9**
O18K	**Koktuh Hills**	**4.77**	**318**	P		**Pn**	**05 48 03.8 +0.9**
	baz=132						
BERG	**Berg Lake**	**4.80**	**33**			**Pn**	**05 48 04.2 +1.0**
R16K	**Pilot Point**	**4.87**	**287**			**Pn**	**05 48 06.2 +2.0**
R16K	**Pilot Point**	**4.87**	**287**	P		**Pn**	**05 48 06.2 +2.0**
	baz=99						
P17K	**Kvichak River**	**4.87**	**307**			**Pn**	**05 48 06.2 +1.9**
P17K	**Kvichak River**	**4.87**	**307**	P		**Pn**	**05 48 06.2 +1.9**
	baz=120						
SNH	**Sunshine Point**	**4.91**	**38**			**Pn**	**05 48 06.0 +1.1**
SNH	**Sunshine Point**	**4.91**	**38**		IAML		05 49 01.1
	comp=N,49nm,1.0s						
SNH					IAML		05 49 03.2
	comp=E,44nm,1.2s						
DIV	**Divide**	**4.96**	**18**			**Pn**	**05 48 06.4 +0.8**
KNK	**Knik Glacier**	**4.98**	**2**			**Pn**	**05 48 06.8 +1.1**
KNK	**Knik Glacier**	**4.98**	**2**		IAML		05 49 11.8
	comp=E,27nm,1.4s						
KNK	**Knik Glacier**	**4.98**	**2**	P		**Pn**	**05 48 06.8 +1.1**
	baz=183						
BMRM	**Bremner River**	**5.05**	**25**	P		**Pn**	**05 48 07.7 +1.0**
	baz=208						
N20K	**Mount Spurr**	**5.06**	**342**	P		**Pn**	**05 48 08.0 +1.1**
	baz=158						
SPCR	**Spurr Chakacha**	**5.06**	**342**			**Pn**	**05 48 08.0 +1.1**
KLU	**Klutina**	**5.28**	**16**		IAML		05 49 09.5
	comp=N,33nm,0.4s						
KLU					IAML		05 49 11.3
	comp=E,35nm,0.3s						
KLU	**Klutina**	**5.28**	**16**	P		**Pn**	**05 48 11.1 +1.2**
	baz=198						
GHO	**Glory Hole Cre**	**5.33**	**360**		IAML		05 49 14.3
	comp=N,29nm,0.6s						
GHO					IAML		05 49 25.7
	comp=E,22nm,1.0s						
SML	**Sawmill**	**5.37**	**3**		IAML		05 49 12.2
	comp=E,22nm,0.7s						
SML					IAML		05 49 23.7
	comp=N,18nm,1.1s						
SML	**Sawmill**	**5.37**	**3**	P		**Pn**	**05 48 12.9 +1.7**
	baz=183						
SCM	**Sheep Creek Mo**	**5.45**	**8**		IAML		05 49 14.6
	comp=E,40nm,1.1s						
SCM					IAML		05 49 17.1
	comp=N,49nm,0.7s						
SCM	**Sheep Creek Mo**	**5.45**	**8**	P		**Pn**	**05 48 14.5 +2.2**
	baz=189						
VRDI	**Verde Repeater**	**5.56**	**28**			**Pn**	**05 48 14.7 +0.8**
N25K	**Chitina, Valde**	**5.62**	**21**			**Pn**	**05 48 15.7 +1.1**
N25K	**Chitina, Valde**	**5.62**	**21**	P		**Pn**	**05 48 15.8 +1.2**
	baz=205						
GLB	**Gilahina Butte**	**5.65**	**26**			**Pn**	**05 48 15.8 +0.8**
MCARA	**McCarthy VSAT**	**5.80**	**29**	P		**Pn**	**05 48 18.4 +1.4**
	baz=214						
M24K	**Tolsona, Glenn**	**5.84**	**13**	P		**Pn**	**05 48 20.2 +2.7**
	baz=195						
PCA	**Pinnacle**	**5.84**	**48**			**Pn**	**05 48 18.9 +1.3**
PINM	**Pinnacle**	**5.84**	**48**	P		**Pn**	**05 48 18.9 +1.3**
	baz=236						
BARN	**Barnard Glacie**	**5.96**	**36**			**Pn**	**05 48 20.2 +0.9**
PNL	**Peninsula**	**5.98**	**54**	P		**Pn**	**05 48 20.7 +1.1**
	baz=242						
CTG	**Chitna Glacier**	**5.99**	**38**	P		**Pn**	**05 48 20.8 +1.0**
	baz=225						
CTGM	**Chitina Glacie**	**6.00**	**38**			**Pn**	**05 48 21.0 +1.2**
WAT6	**Susitna Watana**	**6.17**	**5**	P		**Pn**	**05 48 24.6 +2.4**
	baz=186						
HARP	**HAARP**	**6.26**	**16**	P		**Pn**	**05 48 26.6 +3.4**
	baz=200						
O29M	**Mount Kennedy**	**6.66**	**50**			**Pn**	**05 48 30.4 +1.5**
DHY	**Denali Highway**	**6.68**	**6**	P		**Pn**	**05 48 31.5 +2.2**
	baz=187						
YUK8	**Steele Glacier**	**6.77**	**41**	P		**Pn**	**05 48 33.3 +2.8**
	baz=229						
YUK3	**Moose Creek**	**6.88**	**36**	P		**Pn**	**05 48 34.1 +2.2**
	baz=223						
M27K	**Edge Creek, AK**	**6.92**	**28**	P		**Pn**	**05 48 34.8 +2.4**
	baz=214						
YUK6	**Outpost Mounta**	**7.09**	**46**	P		**Pn**	**05 48 37.1 +2.1**
	baz=236						
L26K	**Log Cabin Wild**	**7.16**	**21**			**Pn**	**05 48 37.6 +2.0**
YUK4	**Talbot Arm**	**7.22**	**43**	P		**Pn**	**05 48 40.2 +3.5**
	baz=232						
BVCY	**Beaver Creek**	**7.24**	**31**	P		**Pn**	**05 48 39.1 +2.3**
	baz=218						
N31M	**Braeburn, Yuko**	**8.44**	**48**			**Pn**	**05 48 55.0 +1.8**
N31M	**Braeburn, Yuko**	**8.44**	**48**	P		**Pn**	**05 48 55.4 +2.2**
	baz=239						
WHY	**Whitehorse**	**8.45**	**54**			**Pn**	**05 48 55.1 +1.7**
P33M	**Teslin, Yukon**	**9.25**	**59**	P		**Pn**	**05 49 05.7 +1.3**
	baz=253						

NEIC ***24*** *05:49:56±1.5,56˚.1N±0˚.1×149˚.8W±0˚.1, h22km±11km, ML3.6/40, ML3.3(AEIC), Error ellipse: s-maj=16.2km s-min=9.4km az=167.0*

AEIC ***24*** *05:49:59.1±2.1,56˚.05N±0˚.09×149˚.7W±0˚.1, h10km±7km, Error ellipse: s-maj=15.1km s-min=8.4km az=146.0*

ISC 24 05:49:53.3±2.2,56˚.1N±0˚.1×149˚.70W±0˚.06, h10km, n133, σ1§12/131, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.30**	**302**			**Pn**	**05 50 31.2**	**0.0**
OHAK	**Old Harbor**	**2.30**	**302**			**Sn**	**05 50 57.7**	**-1.9**
OHAK	**Old Harbor**	**2.30**	**302**		IAML		05 50 53.4	
	comp=E,71nm,3.4s							
OHAK	**Old Harbor**	**2.30**	**302**	P		**Pn**	**05 50 31.2**	**0.0**
	baz=119							
OHAK				S		**Sn**	**05 50 57.7**	**-1.9**
	baz=119							
KDAK	**Kodiak Island**	**2.34**	**319**			**Pn**	**05 50 32.1**	**+0.2**
KDAK						**Sn**	**05 50 57.9**	**-2.7**
SYI	**Shuyak Island**	**2.95**	**331**			**Pn**	**05 50 40.9**	**+0.8**
SYI						**Sn**	**05 51 14.8**	**-0.7**
Q20K	**Shuyak Island**	**2.95**	**331**	P		**Pn**	**05 50 40.9**	**+0.8**
	baz=149							
Q20K				S		**Sn**	**05 51 14.8**	**-0.8**
	baz=149							
CNPM	**China Poot**	**3.58**	**347**			**Pn**	**05 50 49.0**	**+0.2**
CNPM						**Sn**	**05 51 30.2**	**-0.8**
CNPM	**China Poot**	**3.58**	**347**		IAML		05 51 30.6	
	comp=E,75nm,3.4s							
CNPM					IAML		05 52 06.8	
	comp=N,74nm,2.8s							
Q19K	**Cape Douglas,**	**3.58**	**325**			**Pn**	**05 50 50.0**	**+1.2**
Q19K	**Cape Douglas,**	**3.58**	**325**		IAML		05 51 46.8	
	comp=N,175nm,0.9s							
Q19K					IAML		05 53 11.5	
	comp=E,189nm,1.7s							
Q19K	**Cape Douglas,**	**3.58**	**325**	P		**Pn**	**05 50 50.0**	**+1.2**
	baz=142							
KAHG	**Katmai Hook Gl**	**3.59**	**315**			**Pn**	**05 50 50.5**	**+1.5**
BRSE	**Bradley Lake S**	**3.74**	**352**			**Pn**	**05 50 51.3**	**+0.3**
BRSE						**Sn**	**05 51 34.5**	**-0.5**
BRSE	**Bradley Lake S**	**3.74**	**352**	P		**Pn**	**05 50 51.3**	**+0.3**
	baz=171							
BRSE				S		**Sn**	**05 51 34.5**	**-0.5**
	baz=171							
ACHA	**Angle Creek He**	**3.75**	**307**			**Pn**	**05 50 52.3**	**+1.1**
BRLK	**Bradley Lake**	**3.77**	**351**			**Pn**	**05 50 51.5**	**0.0**
BRLK	**Bradley Lake**	**3.77**	**351**		IAML		05 51 40.2	
	comp=E,61nm,2.2s							
BRLK					IAML		05 52 04.9	
	comp=N,64nm,3.6s							
Q23K	**Middleton Isla**	**3.83**	**27**			**Pn**	**05 50 52.3**	**+0.1**
Q23K	**Middleton Isla**	**3.83**	**27**	P		**Pn**	**05 50 52.3**	**+0.1**
	baz=209							
MID	**Middleton Isla**	**3.83**	**27**	Pn		**Pn**	**05 50 52.4**	**+0.2**
MID					IAML		05 52 50.8	
	comp=N,227nm,2.1s							
KAHC	**Katmai Hardscr**	**3.88**	**314**			**Pn**	**05 50 54.5**	**+1.5**
KAHC	**Katmai Hardscr**	**3.88**	**314**	P		**Pn**	**05 50 54.5**	**+1.5**
	baz=130							
CNTC	**Contact Creek**	**4.03**	**306**			**Pn**	**05 50 56.1**	**+1.0**
Q17K	**Contact Creek**	**4.03**	**306**	P		**Pn**	**05 50 56.1**	**+1.0**
	baz=121							
SEW	**Seward**	**4.06**	**2**			**Pn**	**05 50 55.6**	**+0.3**
SEW	**Seward**	**4.06**	**2**	P		**Pn**	**05 50 55.6**	**+0.3**
	baz=182							
P19K	**Oil Pt**	**4.07**	**334**			**Pn**	**05 50 56.8**	**+1.2**
P19K	**Oil Pt**	**4.07**	**334**		IAML		05 51 40.5	
	comp=N,82nm,2.8s							
P19K					IAML		05 53 03.3	
	comp=E,95nm,2.5s							
P19K	**Oil Pt**	**4.07**	**334**	P		**Pn**	**05 50 56.8**	**+1.2**
	baz=151							
P23K	**Montague Islan**	**4.14**	**16**			**Pn**	**05 50 57.1**	**+0.7**
P23K	**Montague Islan**	**4.14**	**16**	P		**Pn**	**05 50 57.1**	**+0.7**
	baz=198							
O20K	**Slope Mountain**	**4.33**	**340**			**Pn**	**05 51 00.2**	**+1.1**
O20K	**Slope Mountain**	**4.33**	**340**	P		**Pn**	**05 51 00.3**	**+1.1**
	baz=158							
IVE	**Iliamna Volcan**	**4.34**	**337**			**Pn**	**05 51 00.0**	**+0.6**
P18K	**Big Mountain,**	**4.47**	**321**			**Pn**	**05 51 01.8**	**+0.7**
P18K	**Big Mountain,**	**4.47**	**321**	P		**Pn**	**05 51 01.8**	**+0.7**
	baz=136							
R16K	**Pilot Point**	**4.59**	**293**			**Pn**	**05 51 03.8**	**+1.2**
R16K	**Pilot Point**	**4.59**	**293**	P		**Pn**	**05 51 03.8**	**+1.2**
	baz=106							
HIN	**Hinchinbrook I**	**4.67**	**20**			**Pn**	**05 51 04.3**	**+0.6**
HIN	**Hinchinbrook I**	**4.67**	**20**		IAML		05 52 04.0	
	comp=N,72nm,3.1s							
HIN					IAML		05 53 21.9	
	comp=E,63nm,3.4s							
RSO	**Redoubt South**	**4.70**	**341**	Pn		**Pn**	**05 51 04.4**	**-0.1**
CAPN	**Captain Cook N**	**4.79**	**351**			**Pn**	**05 51 05.6**	**+0.3**
CAPN	**Captain Cook N**	**4.79**	**351**	P		**Pn**	**05 51 05.6**	**+0.3**
	baz=170							
KAIM	**Kayak Island**	**4.79**	**34**			**Pn**	**05 51 05.8**	**+0.4**
KAIM	**Kayak Island**	**4.79**	**34**	P		**Pn**	**05 51 05.8**	**+0.4**
	baz=218							
P17K	**Kvichak River**	**4.80**	**314**			**Pn**	**05 51 06.6**	**+1.1**
P17K	**Kvichak River**	**4.80**	**314**	P		**Pn**	**05 51 06.6**	**+1.1**
	baz=128							
O18K	**Koktuh Hills**	**4.81**	**325**			**Pn**	**05 51 06.1**	**+0.4**
O18K	**Koktuh Hills**	**4.81**	**325**		IAML		05 53 37.7	
	comp=E,35nm,2.8s							
O18K	**Koktuh Hills**	**4.81**	**325**	P		**Pn**	**05 51 06.1**	**+0.4**
	baz=140							
EYAK	**Cordova Ski Ar**	**4.96**	**23**			**Pn**	**05 51 08.4**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.96**	**23**	P		**Pn**	**05 51 08.4**	**+0.6**
	baz=206							
RC01	**Rabbit Creek A**	**5.05**	**360**	Pn		**Pn**	**05 51 07.5**	**-1.5**
RC01					IAML		05 53 19.4	
	comp=E,29nm,3.3s							
RC01					IAML		05 53 48.2	
	comp=N,35nm,3.3s							
RAGM	**Ragged Mountai**	**5.09**	**29**	Pn		**Pn**	**05 51 10.8**	**+1.3**
RAGM					IAML		05 53 41.7	
	comp=E,54nm,3.5s							
GOAT	**Goat Mountain**	**5.24**	**28**			**Pn**	**05 51 13.0**	**+1.4**
P16K	**Nushagak River**	**5.37**	**307**			**Pn**	**05 51 14.7**	**+1.3**
P16K	**Nushagak River**	**5.37**	**307**	P		**Pn**	**05 51 14.7**	**+1.3**
	baz=120							
BERG	**Berg Lake**	**5.38**	**34**			**Pn**	**05 51 14.2**	**+0.7**
BERG	**Berg Lake**	**5.38**	**34**		IAML		05 52 22.2	
	comp=N,70nm,3.2s							
BERG					IAML		05 53 05.6	
	comp=E,57nm,3.6s							
N19K	**Bonanza Creek**	**5.39**	**334**			**Pn**	**05 51 13.9**	**+0.1**
N19K	**Bonanza Creek**	**5.39**	**334**		IAML		05 54 02.0	
	comp=E,19nm,3.5s							
N19K	**Bonanza Creek**	**5.39**	**334**	P		**Pn**	**05 51 13.9**	**+0.1**
	baz=150							
KNK	**Knik Glacier**	**5.41**	**6**	Pn		**Pn**	**05 51 14.2**	**+0.2**
KNK					IAML		05 54 21.6	
	comp=N,24nm,3.4s							
KNK					IAML		05 54 41.2	
	comp=E,29nm,4.5s							
SUA	**Susitna One**	**5.45**	**355**	Pn		**Pn**	**05 51 14.7**	**+0.1**
DIV	**Divide**	**5.49**	**20**			**Pn**	**05 51 15.6**	**+0.6**
SNH	**Sunshine Point**	**5.50**	**38**			**Pn**	**05 51 15.6**	**+0.4**
PMR	**Palmer**	**5.56**	**3**			**Pn**	**05 51 16.1**	**+0.2**
PMR	**Palmer**	**5.56**	**3**	P		**Pn**	**05 51 16.1**	**+0.2**
	baz=183							
BMRM	**Bremner River**	**5.60**	**26**			**Pn**	**05 51 17.6**	**+1.0**
BMRM	**Bremner River**	**5.60**	**26**	P		**Pn**	**05 51 17.6**	**+1.0**
	baz=210							
N18K	**Kilae Creek**	**5.67**	**327**			**Pn**	**05 51 17.8**	**+0.3**
N18K	**Kilae Creek**	**5.67**	**327**	P		**Pn**	**05 51 17.7**	**+0.3**
	baz=142							
O16K	**Kokwok River B**	**5.72**	**312**			**Pn**	**05 51 19.0**	**+0.8**
O16K	**Kokwok River B**	**5.72**	**312**	P		**Pn**	**05 51 19.0**	**+0.8**
	baz=125							
GHO	**Glory Hole Cre**	**5.75**	**4**	Pn		**Pn**	**05 51 20.6**	**+2.0**
BARK	**Barkley Ridge**	**5.78**	**38**			**Pn**	**05 51 19.9**	**+0.8**
KLU	**Klutina**	**5.79**	**18**			**Pn**	**05 51 20.5**	**+1.2**
KLU	**Klutina**	**5.79**	**18**	P		**Pn**	**05 51 20.5**	**+1.2**
	baz=201							
SML	**Sawmill**	**5.81**	**6**			**Pn**	**05 51 20.8**	**+1.3**
SML	**Sawmill**	**5.81**	**6**	P		**Pn**	**05 51 20.8**	**+1.3**
	baz=188							
SCM	**Sheep Creek Mo**	**5.92**	**11**	Pn		**Pn**	**05 51 21.9**	**+0.9**
M20K	**Styx River**	**6.11**	**345**	Pn		**Pn**	**05 51 23.5**	**-0.1**
VRDI	**Verde Repeater**	**6.12**	**30**	Pn		**Pn**	**05 51 24.3**	**+0.4**
N25K	**Chitina, Valde**	**6.16**	**23**			**Pn**	**05 51 25.8**	**+1.5**
GLB	**Gilahina Butte**	**6.21**	**27**	Pn		**Pn**	**05 51 26.2**	**+1.3**
KIAG	**Kiagna River**	**6.21**	**35**			**Pn**	**05 51 26.1**	**+1.1**
SAMH	**Samovar Hills**	**6.24**	**45**			**Pn**	**05 51 27.1**	**+1.7**
O15K	**Ungalikthiuk R**	**6.28**	**304**			**Pn**	**05 51 27.0**	**+1.2**
O15K	**Ungalikthiuk R**	**6.28**	**304**	P		**Pn**	**05 51 27.0**	**+1.2**
	baz=116							
M19K	**Big River Lodg**	**6.34**	**339**	Pn		**Pn**	**05 51 27.6**	**+0.8**
MCARA	**McCarthy VSAT**	**6.37**	**30**			**Pn**	**05 51 28.5**	**+1.4**
MCARA	**McCarthy VSAT**	**6.37**	**30**	P		**Pn**	**05 51 28.5**	**+1.4**
	baz=216							
PTPK	**Patty Peak**	**6.38**	**33**			**Pn**	**05 51 28.8**	**+1.4**
PCA	**Pinnacle**	**6.44**	**47**			**Pn**	**05 51 29.7**	**+1.6**
PINM	**Pinnacle**	**6.44**	**47**	P		**Pn**	**05 51 29.7**	**+1.6**
	baz=235							
N16K	**Nishlik Lake**	**6.52**	**317**			**Pn**	**05 51 30.4**	**+1.2**
N16K	**Nishlik Lake**	**6.52**	**317**	P		**Pn**	**05 51 30.4**	**+1.2**
	baz=129							
BARN	**Barnard Glacie**	**6.54**	**37**			**Pn**	**05 51 30.7**	**+1.1**
PNL	**Peninsula**	**6.58**	**52**			**Pn**	**05 51 30.9**	**+0.9**
PNL	**Peninsula**	**6.58**	**52**	P		**Pn**	**05 51 30.9**	**+0.9**
	baz=241							
CTG	**Chitna Glacier**	**6.58**	**38**	P		**Pn**	**05 51 31.1**	**+1.0**
	baz=225							
CTGM	**Chitina Glacie**	**6.59**	**38**			**Pn**	**05 51 31.1**	**+0.9**
LOGN	**Logan Glacier**	**6.61**	**40**			**Pn**	**05 51 31.5**	**+1.0**
BCPM	**Bancas Point**	**6.62**	**50**			**Pn**	**05 51 31.5**	**+1.0**
WAT6	**Susitna Watana**	**6.62**	**8**			**Pn**	**05 51 31.6**	**+0.9**
WAT6	**Susitna Watana**	**6.62**	**8**	P		**Pn**	**05 51 31.6**	**+0.9**
	baz=190							
L19K	**White Mountain**	**6.69**	**339**	Pn		**Pn**	**05 51 31.6**	**+0.1**
M17K	**Holitna River**	**6.70**	**326**			**Pn**	**05 51 32.2**	**+0.5**
M17K	**Holitna River**	**6.70**	**326**	P		**Pn**	**05 51 32.2**	**+0.5**
	baz=140							
WAT7	**Susitna Watana**	**6.81**	**3**			**Pn**	**05 51 34.3**	**+1.0**
N15K	**Kwethluk River**	**6.88**	**311**			**Pn**	**05 51 35.8**	**+1.7**
N15K	**Kwethluk River**	**6.88**	**311**	P		**Pn**	**05 51 35.8**	**+1.7**
	baz=122							
M16K	**Timber Creek**	**6.95**	**320**			**Pn**	**05 51 36.3**	**+1.3**
M16K	**Timber Creek**	**6.95**	**320**	P		**Pn**	**05 51 36.3**	**+1.3**
	baz=132							
PN7A	**Pavlof North-7**	**6.97**	**270**			**Pn**	**05 51 36.0**	**+0.6**
O14K	**Tigyukauivet M**	**6.98**	**302**	Pn		**Pn**	**05 51 37.3**	**+1.8**
L18K	**Granite Mounta**	**7.15**	**333**	Pn		**Pn**	**05 51 39.0**	**+1.3**
O29M	**Mount Kennedy**	**7.25**	**50**			**Pn**	**05 51 40.8**	**+1.4**
O29M	**Mount Kennedy**	**7.25**	**50**	P		**Pn**	**05 51 40.8**	**+1.4**
	baz=239							
P29M	**Windy Craggy**	**7.32**	**56**			**Pn**	**05 51 41.1**	**+1.0**
P29M	**Windy Craggy**	**7.32**	**56**	P		**Pn**	**05 51 41.1**	**+1.0**
	baz=246							
M15K	**Kasigluk River**	**7.41**	**313**			**Pn**	**05 51 43.2**	**+1.8**
M15K	**Kasigluk River**	**7.41**	**313**	P		**Pn**	**05 51 43.2**	**+1.8**
	baz=124							
YUK3	**Moose Creek**	**7.46**	**36**	P		**Pn**	**05 51 44.2**	**+1.9**
	baz=224							
M27K	**Edge Creek, AK**	**7.48**	**29**	Pn		**Pn**	**05 51 44.3**	**+1.8**
CAST	**Castle Rocks**	**7.48**	**352**	Pn		**Pn**	**05 51 45.2**	**+2.8**
L16K	**Lowhat River**	**7.60**	**322**	Pn		**Pn**	**05 51 44.9**	**+1.0**
HYT	**Haines Junctio**	**7.98**	**48**	Pn		**Pn**	**05 51 51.0**	**+1.7**
K17K	**Iditarod**	**

	comp=Z,0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**52.04**	**321**	P		**P**	**05 59 13.9**	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=109,slow=5.7,SNR=2.2								
ZALV				PcP		**PcP**	**06 00 25.5**	**+0.2**	
	comp=Z,0.7nm,0.5s,baz=104,slow=5.8,SNR=3.1								
	comp=Z,0.4nm,0.3s								
MK31	**Makanchi Array**	**52.65**	**312**	P		**P**	**05 59 19.1**	**+0.1**	
MKAR	**Makanchi Array**	**52.65**	**312**	P		**P**	**05 59 18.4**	**-0.6**	
MKAR	**Makanchi Array**	**52.65**	**312**	P		**P**	**05 59 19.3**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=84,slow=9.5,SNR=10								
	comp=Z,0.5nm,0.5s								
ANM	**Nome**	**52.96**	**25**	P		**P**	**05 59 21.9**	**+0.9**	
ANM				IAmb		IAmb	05 59 21.9		
	comp=Z,8.2nm,1.4s								
K15K	**Wolf Creek Mou**	**53.72**	**29**	P		**P**	**05 59 27.7**	**+1.1**	
K15K				IAmb		IAmb	06 00 04.0		
	comp=Z,8.0nm,1.2s								
C16K	**Lisburne Hills**	**54.59**	**21**	P		**P**	**05 59 33.5**	**+0.8**	
C16K				IAmb		IAmb	05 59 34.7		
	comp=Z,3.0nm,0.9s								
KURBB	**Kurchatov Arra**	**55.41**	**316**	P		**P**	**05 59 39.0**	**0.0**	
	comp=Z,1.3nm,0.5s,baz=94,slow=7.8,SNR=19								
	comp=Z,1.3nm,0.5s								
C19K	**Lookout Ridge**	**56.85**	**21**	P		**P**	**05 59 50.9**	**+1.9**	
C19K				IAmb		IAmb	05 59 51.8		
	comp=Z,4.0nm,0.7s								
K20K	**Telida**	**57.30**	**29**	P		**P**	**05 59 53.4**	**+1.1**	
IMAR	**Indian Mountai**	**58.04**	**26**	P		**P**	**05 59 58.1**	**+0.8**	
B21K	**Ikpikpuk River**	**58.68**	**21**	P		**P**	**06 00 03.3**	**+1.5**	
D22K	**Ayikyak River**	**59.15**	**23**	P		**P**	**06 00 06.8**	**+1.8**	
BVAR	**Borovoye Array**	**60.53**	**319**	P		**P**	**06 00 14.9**	**+0.2**	
	comp=Z,2.1nm,0.4s,baz=88,slow=6.8,SNR=14								
	comp=Z,2.1nm,0.4s								
ILAR	**Eielson Array**	**60.65**	**28**	P		**P**	**06 00 15.1**	**-0.3**	
	comp=Z,1.7nm,0.8s,baz=259,slow=5.5,SNR=16								
	comp=Z,1.7nm,0.8s								
RIDG	**Independent Ri**	**61.44**	**29**	P		**P**	**06 00 21.2**	**+0.4**	
D25K	**Kavik River**	**61.45**	**23**	P		**P**	**06 00 22.3**	**+1.6**	
D25K				IAmb		IAmb	06 00 22.6		
	comp=Z,2.4nm,0.8s								
SCRK	**Sand Creek**	**61.84**	**29**	P		**P**	**06 00 23.9**	**+0.4**	
SCRK				IAmb		IAmb	06 00 24.6		
	comp=Z,4.3nm,0.7s								
BMAR	**Burnt Mountain**	**61.87**	**25**	P		**P**	**06 00 25.5**	**+1.9**	
D27M	**Malcolm River**	**63.36**	**23**	P		**P**	**06 00 35.2**	**+1.7**	
E28M	**Babbage River**	**63.84**	**24**	P		**P**	**06 00 38.4**	**+1.8**	
E28M				IAmb		IAmb	06 00 39.3		
	comp=Z,3.0nm,0.8s								
DAWY	**Dawson**	**63.86**	**29**	P		**P**	**06 00 37.9**	**+1.1**	
G29M	**Pine Creek**	**64.40**	**25**	P		**P**	**06 00 41.8**	**+1.5**	
G29M				IAmb		IAmb	06 00 46.4		
	comp=Z,6.6nm,1.4s								
I30M	**Mount Dempster**	**65.12**	**27**	P		**P**	**06 00 45.7**	**+0.6**	
INK	**Inuvik**	**66.07**	**24**	P		**P**	**06 00 51.0**	**+0.1**	
ABKAR	**Akbulak array**	**67.45**	**315**	P		**P**	**06 01 00.4**	**+0.3**	
SPITS	**Spitsbergen Ar**	**73.67**	**350**	P		**P**	**06 01 38.6**	**+1.2**	
	comp=Z,17nm,1.1s,baz=76,slow=7.0,SNR=4.3								
	comp=Z,17nm,1.1s								
YKA	**Yellowknife Ar**	**75.08**	**28**	P		**P**	**06 01 45.9**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=295,slow=6.1,SNR=12								
	comp=Z,0.7nm,0.6s								
ARCES	**ARCESS Array B**	**76.69**	**341**	P		**P**	**06 01 55.5**	**+0.6**	
	comp=Z,2.8nm,0.6s,baz=74,slow=9.1,SNR=14								
	comp=Z,2.8nm,0.6s								
KBZ	**Khabaz**	**80.29**	**313**	P		**P**	**06 02 16.1**	**+0.9**	
	comp=Z,5.9nm,0.9s,baz=172,slow=4.2,SNR=7.4								
	comp=Z,5.9nm,0.9s								
FINES	**FINESS Array B**	**80.94**	**334**	P		**P**	**06 02 18.0**	**-0.2**	
	comp=Z,1.6nm,0.4s,baz=76,slow=5.0,SNR=21								
	comp=Z,1.6nm,0.4s								
AKASG	**Malin Array Be**	**85.31**	**324**	P		**P**	**06 02 40.5**	**-0.4**	
	comp=Z,0.8nm,0.5s,baz=52,slow=5.0,SNR=12								
	comp=Z,0.8nm,0.5s								
BRTR	**Keskin Array B**	**88.28**	**313**	P		**P**	**06 02 55.5**	**-0.3**	
	comp=Z,1.5nm,0.7s,baz=76,slow=5.2,SNR=5.7								
	comp=Z,1.5nm,0.7s								

IDC ***24*** *05:52:50.1±1.2, 6.92S×81.05W, h0km, mb4.1/6, mbtmp4.1/6, MS3.1/4, Error ellipse: s-maj=42.0km s-min=34.3km az=117.0*

ISC 24 05:52:55.5±1.1, 6.9S±0.2×81.1W±0.3, h35km, n18, σ0s55/8, mb4.2/6, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**6.56**	**141**	LR	LR	05 57 19.9	
	comp=Z,60nm,21.0s,baz=301,slow=41						
ROSC	**El Rosal**	**13.45**	**30**	LR	LR	06 01 45.4	
	comp=Z,132nm,19.5s,baz=226,slow=40						
SDV	**Santo Domingo**	**18.80**	**34**	LR	LR	06 05 56.6	
	comp=Z,69nm,20.1s,baz=108,slow=42						
PCRV	**Puerto La Cruz**	**23.55**	**44**	P	**P**	**05 58 02.3**	**-0.6**
	11nm,0.9s,baz=219,slow=6.5,SNR=2.1						
	11nm,0.9s						
H03N2	**Juan Fernandez**	**26.50**	**176**	T	T	06 26 02.2	
	baz=356,slow=76,SNR=287						
H03N1	**Juan Fernandez**	**26.51**	**176**	T	T	06 26 03.1	
	baz=356,slow=76,SNR=308						
H03N3	**Juan Fernandez**	**26.52**	**176**	T	T	06 26 01.9	
	baz=356,slow=76,SNR=356						
MDP	**Montagnes des**	**30.76**	**68**	LR	LR	06 11 49.8	
	comp=Z,60nm,18.4s,baz=266,slow=37						
PDAR	**Pinedale Array**	**55.80**	**335**	P	**P**	**06 02 29.6**	**+0.1**
	0.4nm,0.6s,baz=134,slow=8.6,SNR=4.4						
	0.4nm,0.6s						
DBIC	**Dimbokro**	**77.21**	**82**	P	**P**	**06 04 47.0**	**+0.4**
	1.5nm,0.7s,baz=259,slow=5.2,SNR=2.3						
	1.5nm,0.7s						
QSPA	**South Pole Qui**	**83.22**	**180**	P	**P**	**06 05 18.1**	**0.0**
	1.3nm,0.2s,baz=78,slow=2.7,SNR=4.4						
	1.3nm,0.2s						
ESDC	**Sonseca Array**	**84.53**	**49**	P	**P**	**06 05 25.9**	**+0.6**
	1.6nm,0.8s,baz=275,slow=5.6,SNR=8.7						
	1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.55**	**76**	P	**P**	**06 05 25.4**	**-0.4**
	0.5nm,1.0s,baz=287,slow=5.2,SNR=4.3						
	0.5nm,1.0s						
H11S2	**WAKE ISLAND Hyl**	**13.20**	**287**	T	T	08 14 31.6	
	baz=87,slow=71,SNR=13						
H11S1	**WAKE ISLAND Hyl**	**13.21**	**287**	T	T	08 14 32.2	
	baz=87,slow=71,SNR=10						
H11S3	**WAKE ISLAND Hyl**	**13.22**	**287**	T	T	08 14 33.6	
	baz=87,slow=71,SNR=7.1						
ASAR	**Alice Springs**	**134.31**	**227**	PKP	**PKPdf**	**06 12 10.0**	**-0.6**
	0.3nm,0.6s,baz=117,slow=2.4,SNR=4.7						
WRA	**Warramunga Arr**	**136.14**	**232**	PKP	**PKPdf**	**06 12 14.1**	**-0.1**
	0.7nm,0.9s,baz=120,slow=1.9,SNR=4.7						

AEIC ***24*** *05:55:19.3±1.3, 56.2N±0.1×150.1W±0.1, h8km±8km, Error ellipse: s-maj=17.5km s-min=10.7km az=172.0*

NEIC 24 05:55:18.8±1.5, 56.30N±0.08×150.1W±0.1, h30km±15km, ML3.1/40, ML3.1(AEIC), Error ellipse: s-maj=14.5km s-min=6.8km az=138.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.99**	**299**		Pn	05 55 49.1	-1.2
OHAK					Sn	05 56 12.8	-1.4
OHAK	**Old Harbor**	**1.99**	**299**	P	Pn	05 55 49.1	-1.2
	baz=120						
OHAK				S	Sn	05 56 12.8	-1.4
	baz=120						
KDAK	**Kodiak Island**	**2.02**	**319**		Pn	05 55 50.2	-0.5
KDAK					Sn	05 56 14.1	-0.8
SYI	**Shuyak Island**	**2.63**	**333**		Pn	05 55 59.1	0.0
SYI					Sn	05 56 29.6	-0.4
Q20K	**Shuyak Island**	**2.63**	**333**	P	Pn	05 55 59.2	0.0
	baz=152						
Q20K				S	Sn	05 56 29.6	-0.4
	baz=152						
Q19K	**Cape Douglas,**	**3.26**	**326**		Pn	05 56 08.3	+0.5
Q19K					Sn	05 56 45.8	+0.3
Q19K	**Cape Douglas,**	**3.26**	**326**	IAML		05 57 04.1	
	comp=N,136nm,1.4s						
Q19K	**Cape Douglas,**	**3.26**	**326**	P	Pn	05 56 08.3	+0.5
	baz=144						
Q19K				S	Sn	05 56 45.8	+0.3
	baz=144						
KAHG	**Katmai Hook Gl**	**3.26**	**314**		Pn	05 56 07.9	0.0
KAHG					Sn	05 56 44.2	-1.6
CNPM	**China Poot**	**3.29**	**350**		Pn	05 56 07.8	-0.5
CNPM	**China Poot**	**3.29**	**350**	IAML		05 56 32.4	
	comp=E,28nm,1.2s						
KCG	**Knife Ck. Glac**	**3.39**	**309**		Pn	05 56 09.6	-0.1
ACHA	**Angle Creek He**	**3.43**	**306**		Pn	05 56 10.3	0.0
ACHA					Sn	05 56 47.4	-2.4
BRSE	**Bradley Lake S**	**3.47**	**355**		Pn	05 56 09.8	-0.9
BRSE	**Bradley Lake S**	**3.47**	**355**	P	Pn	05 56 09.8	-0.9
	baz=174						
ANCK	**Angle Creek**	**3.50**	**305**		Pn	05 56 11.3	+0.1
BRLK	**Bradley Lake**	**3.50**	**353**		Pn	05 56 09.9	-1.3
BRLK	**Bradley Lake**	**3.50**	**353**	IAML		05 57 53.0	
	comp=E,23nm,1.0s						
CNTC	**Contact Creek**	**3.71**	**305**		Pn	05 56 13.8	-0.3
Q17K	**Contact Creek**	**3.71**	**304**	P	Pn	05 56 13.8	-0.3
	baz=121						
Q23K	**Middleton Isla**	**3.72**	**31**		Pn	05 56 13.5	-0.6
Q23K	**Middleton Isla**	**3.72**	**31**	P	Pn	05 56 13.5	-0.6
	baz=213						
SEW	**Seward**	**3.83**	**5**		Pn	05 56 14.6	-1.1
SEW	**Seward**	**3.83**	**5**	P	Pn	05 56 14.6	-1.1
	baz=185						
P23K	**Montague Islan**	**3.98**	**20**		Pn	05 56 17.0	-0.6
P23K	**Montague Islan**	**3.98**	**20**	P	Pn	05 56 17.0	-0.6
	baz=201						
P18K	**Big Mountain,**	**4.14**	**321**		Pn	05 56 19.8	-0.2
P18K	**Big Mountain,**	**4.14**	**321**	P	Pn	05 56 19.8	-0.2
	baz=137						
O22K	**Cooper Landing**	**4.20**	**3**		Pn	05 56 20.6	-0.1
O22K	**Cooper Landing**	**4.20**	**3**	P	Pn	05 56 20.6	-0.1
	baz=183						
SLKM	**Skilak Lake**	**4.22**	**359**		Pn	05 56 21.0	-0.1
RDSO	**Redoubt South**	**4.40**	**343**		Pn	05 56 22.5	-1.1
RSO	**Redoubt South**	**4.41**	**343**	Pn	Pn	05 56 24.4	+0.6
P17K	**Kvichak River**	**4.47**	**313**		Pn	05 56 22.7	-1.7
P17K	**Kvichak River**	**4.47**	**313**	P	Pn	05 56 22.7	-1.7
	baz=129						
O18K	**Koktuh Hills**	**4.48**	**325**	Pn	Pn	05 56 25.1	+0.4
HIN	**Hinchinbrook I**	**4.53**	**23**		Pn	05 56 24.7	-0.5
HIN	**Hinchinbrook I**	**4.53**	**23**	IAML		05 57 48.6	
	comp=E,23nm,1.5s						
CHGN	**Chignik**	**4.63**	**274**	Pn	Pn	05 56 27.5	+0.8
CHGN				IAML		05 57 18.8	
	comp=N,40nm,1.0s						
KAIM	**Kayak Island**	**4.72**	**37**		Pn	05 56 27.6	-0.3
KAIM	**Kayak Island**	**4.72**	**37**	P	Pn	05 56 27.6	-0.3
	baz=221						
RC01	**Rabbit Creek A**	**4.81**	**2**	Pn	Pn	05 56 29.0	-0.1
RC01				IAML		05 57 25.6	
	comp=N,11nm,1.2s						
EYAK	**Cordova Ski Ar**	**4.84**	**26**		Pn	05 56 29.0	-0.4
EYAK	**Cordova Ski Ar**	**4.84**	**26**	P	Pn	05 56 29.0	-0.4
	baz=209						
FID	**Port Fidalgo**	**4.85**	**21**		Pn	05 56 28.7	-0.9
RAGM	**Ragged Mountai**	**5.00**	**33**		Pn	05 56 31.7	0.0
RAGM	**Ragged Mountai**	**5.00**	**33**	IAML		05 57 39.5	
	comp=E,31nm,1.5s						
GOAT	**Goat Mountain**	**5.14**	**31**		Pn	05 56 33.6	0.0
SUA	**Susitna One**	**5.19**	**357**		Pn	05 56 34.0	-0.5
SUA	**Susitna One**	**5.19**	**357**	IAML		05 58 26.7	
	comp=E,8.3nm,1.3s						
SUA				IAML		05 58 51.5	
	comp=N,6.8nm,1.5s						
SUA	**Susitna One**	**5.19**	**357**	P	Pn	05 56 34.0	-0.5
	baz=176						
KNK	**Knik Glacier**	**5.20**	**9**		Pn	05 56 34.0	-0.5
KNK	**Knik Glacier**	**5.20**	**9**	IAML		05 58 03.3	
	comp=E,20nm,1.2s						
KNK				IAML		05 58 05.1	
	comp=N,13nm,0.9s						
KNK	**Knik Glacier**	**5.20**	**9**	P	Pn	05 56 34.0	-0.5
	baz=190						
BERG	**Berg Lake**	**5.31**	**37**		Pn	05 56 35.8	-0.1
BERG	**Berg Lake**	**5.31**	**37**	IAML		05 57 39.6	
	comp=N,29nm,1.0s						
PMR	**Palmer**	**5.33**	**5**	Pn	Pn	05 56 36.9	+0.7
PMR				IAML		05 58 12.6	
	comp=N,8.9nm,0.7s						
DIV	**Divide**	**5.34**	**23**		Pn	05 56 35.9	-0.6
N18K	**Kilae Creek**	**5.34**	**328**		Pn	05 56 36.2	-0.3
N18K	**Kilae Creek**	**5.34**	**328**	IAML		05 58 27.2	
	comp=N,6.5nm,1.4s						
N18K				IAML		05 58 51.1	
	comp=E,7.3nm,1.2s						
N18K	**Kilae Creek**	**5.34**	**328**	P	Pn	05 56 36.2	-0.3
	baz=144						
SNH	**Sunshine Point**	**5.46**	**42**		Pn	05 56 37.9	-0.2
BMRM	**Bremner River**	**5.49**	**29**		Pn	05 56 38.4	-0.1
BMRM	**Bremner River**	**5.49**	**29**	P	Pn	05 56 38.3	-0.1
	baz=213						
GHO	**Glory Hole Cre**	**5.53**	**6**		Pn	05 56 38.5	-0.4
SML	**Sawmill**	**5.60**	**9**	Pn	Pn	05 56 39.9	-0.1
KLU	**Klutina**	**5.64**	**21**	Pn	Pn	05 56 41.2	+0.6
SCM	**Sheep Creek Mo**	**5.73**	**13**	Pn	Pn	05 56 42.9	+1.1
SKT	**Skwentna**	**5.75**	**353**	Pn	Pn	05 56 41.5	-0.5
O15K	**Ungalikthiuk R**	**5.96**	**303**		Pn	05 56 45.0	+0.1
O15K	**Ungalikthiuk R**	**5.96**	**303**	P	Pn	05 56 45.0	+0.1
	baz=116						
VRDI	**Verde Repeater**	**6.03**	**32**		Pn	05 56 45.8	-0.2
N25K	**Chitina, Valde**	**6.03**	**26**		Pn	05 56 45.9	-0.1
N25K	**Chitina, Valde**	**6.03**	**26**	P	Pn	05 56 45.9	-0.1
	baz=210						
GLB	**Gilahina Butte**	**6.10**	**30**		Pn	05 56 47.0	+0.1
KIAG	**Kiagna River**	**6.15**	**38**		Pn	05 56 47.2	-0.4
SAMH	**Samovar Hills**	**6.24**	**48**		Pn	05 56 48.9	+0.1
MCARA	**McCarthy VSAT**	**6.28**	**33**	Pn	Pn	05 56 50.1	+0.8
PTPK	**Patty Peak**	**6.31**	**26**		Pn	05 56 49.9	+0.1
M17K	**Holitna River**	**6.38**	**326**	Pn	Pn	05 56 51.3	+0.6
PCA	**Pinnacle**	**6.44**	**50**		Pn	05 56 51.2	-0.4
PINM	**Pinnacle**	**6.45**	**50**	P	Pn	05 56 51.2	-0.4
	baz=237						
BARN	**Barnard Glacie**	**6.49**	**39**		Pn	05 56 52.4	0.0
CTG	**Chitna Glacier**	**6.54**	**41**	P	Pn	05 56 52.9	0.0
	baz=227						
CTGM	**Chitina Glacier**	**6.54**	**41**		Pn	05 56 52.9	-0.1
N15K	**Kwethluk River**	**6.55**	**310**	Pn	Pn	05 56 54.3	+1.3
LOGN	**Logan Glacier**	**6.57**	**43**		Pn	05 56 53.0	-0.5
PNL	**Peninsula**	**6.62**	**55**		Pn	05 56 53.4	-0.5
PNL	**Peninsula**	**6.62**	**55**	P	Pn	05 56 53.4	-0.5
	baz=243						
M16K	**Timber Creek**	**6.62**	**319**	Pn	Pn	05 56 54.9	+1.0
BCPM	**Bancas Point**	**6.64**	**52**		Pn	05 56 53.7	-0.5
DHY	**Denali Highway**	**6.94**	**10**	Pn	Pn	05 57 00.2	+1.7
P29M	**Windy Craggy**	**7.37**	**58**	Pn	Pn	05 57 04.2	-0.1
RIDG	**Independent Ri**	**7.91**	**17**	Pn	Pn	05 57 12.8	+1.0
BCAR	**Beaver Creek A**	**7.98**	**28**	Pn	Pn	05 57 12.7	+0.1

NEIC ***24*** *06:02:31.9±1.8, 36.91N±0.03×121.75W±0.03, h16km±2km, Error ellipse: s-maj=4.7km s-min=1.1km az=218.0*

NCEDC ***24*** *06:02:33.0±1.3, 36.94N±0.03×121.66W±0.04, h7km±2km, Mwr3.6/6, ML3.4/72(NEIC), Error ellipse: s-maj=6.8km s-min=1.8km az=49.0*

ISC 24 06:02:32.5±0.8, 36.92N±0.02×121.72W±0.02, h14km±5km, n242, σ0s66/242, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCOM	**Corn Cob Canyo**	**0.03**	**165**		**Pg**	**06 02 35.1**	**+0.2**
HCBM	**Chamberlain**	**0.05**	**72**		**Pg**	**06 02 34.3**	**-0.7**
JELB	**Ellicott, Sant**	**0.09**	**277**		**Pg**	**06 02 36.3**	**+0.9**
ANZ	**Anzar Road**	**0.11**	**107**		**Pg**	**06 02 35.1**	**-0.5**
HTUM	**Tustin Road**	**0.11**	**146**		**Pg**	**06 02 35.7**	**+0.1**
HERM	**Elkhorn Road**	**0.12**	**177**		**Pb**	**06 02 36.5**	**0.0**
HLPM	**Lions Peak**	**0.14**	**29**		**Pg**	**06 02 35.7**	**-0.4**
HBTM	**San Juan Bauti**	**0.15**	**116**		**Pg**	**06 02 35.9**	**-0.3**
HJGM	**San Juan Grade**	**0.17**	**136**		**Pg**	**06 02 35.0**	**-1.4**
OCR	**O'Connell Ranc**	**0.17**	**90**		**Pg**	**06 02 35.9**	**-0.5**
CDC	**Canada Road**	**0.22**	**60**		**Pg**	**06 02 37.1**	**-0.1**
HCAM	**Canada Road**	**0.22**	**60**		**Pg**	**06 02 37.1**	**-0.1**
HCAM	**Canada Road**	**0.22**	**60**		**Sg**	**06 02 40.4**	**-0.1**
JLAB	**Laurel Hill**	**0.24**	**357**		**Pg**	**06 02 38.0**	**+0.3**
JLAB					**Sg**	**06 02 41.8**	**+0.7**
FRP	**Fremont Peak**	**0.24**	**132**		**Pg**	**06 02 37.6**	**-0.1**
CADM	**Anderson Res.**	**0.26**	**17**		**Pg**	**06 02 38.0**	**+0.1**
HFEM	**San Felipe**	**0.26**	**75**		**Pg**	**06 02 38.0**	**0.0**
SAO	**San Andreas Ge**	**0.27**	**125**	Pg	**Pg**	**06 02 38.0**	**0.0**
BSRM	**Salinas Radio**	**0.30**	**147**		**Pg**	**06 02 38.8**	**+0.1**
BSLM	**Silva Ranch**	**0.33**	**115**		**Pb**	**06 02 40.1**	**0.0**
CCOB	**Coe Ranch Numb**	**0.34**	**6**		**Pb**	**06 02 40.5**	**+0.1**
BPCNC	**Pine Canyon**	**0.35**	**168**		**Pb**	**06 02 40.4**	**-0.1**
HMOM	**Monterey**	**0.35**	**207**		**Pb**	**06 02 40.8**	**+0.2**
JJOM	**Saint Joseph's**	**0.36**	**324**		**Pg**	**06 02 40.1**	**+0.4**
PACP	**Pacheco Peak**	**0.36**	**75**		**Pg**	**06 02 39.8**	**+0.1**
C054	**Valleyhaven Wa**	**0.36**	**346**		**Pb**	**06 02 40.3**	**-0.4**
C072	**Blauer Lane Sa**	**0.37**	**355**		**Pb**	**06 02 40.8**	**-0.1**
HPCM	**Pacheco Lake**	**0.38**	**68**		**Pg**	**06 02 40.2**	**0.0**
SCCB	**Santa Clara Co**	**0.39**	**342**		**Pb**	**06 02 40.8**	**-0.3**
SCZ	**Santa Cruz**	**0.41**	**141**		**Pg**	**06 02 40.5**	**-0.1**
C059	**Quail Canyon R**	**0.43**	**354**		**Pb**	**06 02 42.0**	**+0.1**
MHC	**Mount Hamilton**	**0.43**	**8**		**Pg**	**06 02 41.7**	**-0.2**
SLD	**San Luis Dam**	**0.43**	**68**		**Pg**	**06 02 41.1**	**+0.1**
BJOM	**Mount Johnson**	**0.43**	**131**		**Pg**	**06 02 41.1**	**0.0**
BJCM	**Johnson Can.**	**0.45**	**145**		**Pg**	**06 02 41.5**	**0.0**
C046	**N 16th Street**	**0.46**	**343**		**Pb**	**06 02 42.4**	**+0.1**
ARN	**Arnold Ranch**	**0.46**	**19**		**Pb**	**06 02 42.0**	**-0.4**
C041	**El Campo Drive**	**0.47**	**349**		**Pb**	**06 02 43.0**	**+0.5**
C016	**Longford Drive**	**0.49**	**346**		**Pb**	**06 02 43.3**	**+0.4**
BPRM	**Ponciano Ridge**	**0.51**	**181**		**Pb**	**06 02 43.3**	**0.0**
JSJM	**St Joseph**	**0.51**	**324**		**Pb**	**06 02 43.2**	**0.0**
JBMM	**Black Mountain**	**0.53**	**319**		**Pg**	**06 02 43.2**	**+0.3**
CALM	**Calaveras Res.**	**0.54**	**353**		**Pb**	**06 02 43.8**	**+0.1**
BVL	**Bear Valley**	**0.54**	**129**		**Pg**	**06 02 43.0**	**-0.1**
CMPM	**Mikes Peak**	**0.54**	**36**		**Pb**	**06 02 43.5**	**-0.4**
HAST	**Hastings Reser**	**0.54**	**166**		**Pg**	**06 02 43.6**	**+0.5**
HAST					**Sg**	**06 02 51.2**	**+0.8**
BEMM	**Emmet**	**0.56**	**117**		**Pb**	**06 02 43.9**	**-0.2**
CMLM	**Mount Lewis**	**0.56**	**5**		**Pb**	**06 02 44.2**	**0.0**
CMMM	**Mount Mocho**	**0.57**	**18**		**Pb**	**06 02 44.2**	**-0.1**
JPSM		**0.58**	**299**		**Pg**	**06 02 44.1**	**+0.3**
BSMM	**Soledad Missio**	**0.58**	**156**		**Pg**	**06 02 44.2**	**+0.4**
JFP	**Foothills Park**	**0.58**	**320**		**Pg**	**06 02 44.1**	**+0.2**
SCKWR	**San Luis Creek**	**0.58**	**63**		**Pb**	**06 02 44.6**	**+0.1**
JSFB	**Stanford Teles**	**0.61**	**323**		**Pb**	**06 02 45.0**	**+0.1**
C017	**S Grimmer Bl F**	**0.61**	**344**		**Pb**	**06 02 45.4**	**+0.4**
C017					**Sb**	**06 02 54.6**	**+1.1**
BPIM	**Pinnacles**	**0.61**	**134**		**Pg**	**06 02 44.0**	**-0.4**
BAVM	**Antelope Valle**	**0.61**	**116**		**Pb**	**06 02 44.7**	**-0.3**
BSGM	**Shirttail Gulc**	**0.62**	**143**		**Pg**	**06 02 44.4**	**-0.3**
C001	**Firth Court Fr**	**0.63**	**345**		**Pb**	**06 02 45.7**	**+0.5**
C050	**Festivo Court**	**0.63**	**345**		**Pb**	**06 02 45.5**	**+0.2**
JRSC	**Jasper Ridge**	**0.64**	**320**		**Pg**	**06 02 45.0**	**0.0**
BBGB	**Big Mountain B**	**0.64**	**122**		**Pb**	**06 02 45.3**	**-0.2**
BBNM	**San Benito**	**0.66**	**128**		**Pg**	**06 02 45.4**	**+0.1**
MTOS	**Mt Oso, Westle**	**0.66**	**28**		**Pb**	**06 02 45.7**	**-0.1**
C015	**Bright Common**	**0.68**	**341**		**Pb**	**06 02 46.4**	**+0.3**
C002	**Farnham Drive**	**0.69**	**339**		**Pb**	**06 02 46.4**	**+0.1**
C048	**Posada Way Fre**	**0.69**	**342**		**Pb**	**06 02 46.6**	**+0.3**
WENL	**Wente Vineyard**	**0.70**	**357**		**Pb**	**06 02 47.0**	**+0.5**
CYD1	**Coyote D'meter**	**0.71**	**335**		**Pb**	**06 02 46.6**	**-0.1**
CVLM	**Vallecito**	**0.71**	**352**		**Pb**	**06 02 47.2**	**+0.5**
CNIC	**Niles Canyon**	**0.72**	**344**		**Pb**	**06 02 47.0**	**+0.2**
CSTL	**Corral Hollow**	**0.74**	**14**		**Pb**	**06 02 47.9**	**+0.6**
CSTL	**Corral Hollow**	**0.74**	**14**		**Pb**	**06 02 47.8**	**+0.6**
LRV	**Little Rabbit**	**0.75**	**131**		**Pg**	**06 02 47.0**	**0.0**
CSAM	**Sandia**	**0.76**	**1**		**Pb**	**06 02 48.2**	**+0.7**
C062	**Calle Reynoso**	**0.76**	**349**		**Pb**	**06 02 48.5**	**-0.4**
CGPM	**Gavin Park**	**0.76**	**342**		**Pb**	**06 02 47.8**	**+0.2**
CBZL	**Buffer Zone**	**0.77**	**0**		**Pn**	**06 02 48.7**	**-0.3**
JCHM	**Cahill Ridge**	**0.80**	**319**		**Pg**	**06 02 47.8**	**-0.1**
CDOM	**Doolan Road**	**0.82**	**353**		**Pn**	**06 02 49.2**	**-0.4**
JCPM	**Coyote Point**	**0.82**	**324**		**Pg**	**06 02 48.5**

SMMC	**Simmler**	2.12	138	P		Pn	06 03 07.1	-0.5
	baz=321,SNR=13							
GRTM	**Round Top Moun**	2.15	340			Pn	06 03 07.2	-0.8
CARC	**Carrizo Plain**	2.21	136			Pn	06 03 08.9	+0.1
MRHM	**Rocky Hill**	2.21	106			Pn	06 03 08.2	-0.5
PMLM	**Mount Lospe**	2.21	156			Pn	06 03 08.4	-0.4
MDPB	**Devils Postpil**	2.22	70			Pn	06 03 10.2	+1.0
MRDM	**Red Cones**	2.23	71			Pn	06 03 10.3	+1.0
MDCM	**Deadman Creek**	2.27	69			Pn	06 03 11.2	+1.2
OMMB	**Old Mammoth Mi**	2.28	71			Pn	06 03 10.8	+0.8
SUTB	**Sutter Butte**	2.31	359			Pn	06 03 09.3	-0.8
HOPS	**Hopland Field**	2.33	333			Pn	06 03 10.4	0.0
HOPS				IAML			06 03 59.1	
	comp=N,158nm,1.4s							
HOPS				IAML			06 04 02.3	
	comp=E,210nm,1.2s							
MEMM	**East Mammoth H**	2.34	71			Pb	06 03 12.8	-1.8
OSUM	**Sutter Buttes**	2.35	357			Pn	06 03 10.0	-0.7
GHLM	**Highland Sprin**	2.36	335			Pn	06 03 09.8	-1.1
MCSM	**Casa Diablo Ho**	2.36	71			Pb	06 03 13.1	-1.8
MCBM	**Casa Benchmark**	2.36	71			Pb	06 03 13.2	-1.9
VES	**Vestal, Richgr**	2.38	116	P		Pn	06 03 10.9	-0.2
	baz=299,SNR=30							
VES				S		Sn	06 03 40.1	0.0
	baz=299							
WAKR	**Walker**	2.41	48	IAML			06 03 50.4	
	comp=E,324nm,0.6s							
WAKR				IAML			06 03 51.4	
	comp=N,171nm,0.7s							
MLAC	**Mammoth, Mammo**	2.41	72	P		Pn	06 03 13.1	+1.4
	baz=254							
MLAC				S		Sb	06 03 44.0	-1.3
	baz=254							
OHCM	**Honcut**	2.42	4			Pn	06 03 11.8	+0.2
GTSM	**Trough Springs**	2.49	344			Pn	06 03 12.4	-0.3
PKM	**Mcpherson Peak**	2.55	142	P		Pn	06 03 13.8	+0.2
	baz=324,SNR=7.1							
ORV	**Oroville**	2.64	4			Pn	06 03 14.8	+0.1
ORV				IAML			06 04 06.8	
	comp=E,114nm,1.0s							
BCW	**Bitter Crk WRg**	2.72	136			Pn	06 03 17.0	+1.1
BCW				IAML			06 04 17.7	
	comp=E,170nm,0.9s							
BCW				IAML			06 04 19.4	
	comp=N,143nm,1.4s							
PNTR	**Pine Nut**	2.74	37			Pn	06 03 18.1	+1.8
ISA	**Isabella, Lake**	2.90	115	Pn		Pn	06 03 18.6	+0.2
ISA	**Isabella, Lake**	2.90	115	P		Pn	06 03 18.7	+0.4
	baz=297,SNR=42							
ISA				S		Sn	06 03 54.4	+1.3
	baz=297							
ARVC	**Arvin**	2.94	126	P		Pn	06 03 18.5	-0.4
	baz=309,SNR=12							
CWC	**Cottonwood Cre**	2.96	98	P		Pn	06 03 20.1	+0.8
	baz=281							
RYN	**Ryan**	3.05	55			Pn	06 03 21.9	+1.3
RYN				IAML			06 04 14.9	
	comp=E,96nm,0.9s							
RYN				IAML			06 04 16.1	
	comp=N,71nm,0.9s							
NVAR	**Mina Array Bea**	3.10	60			Pn	06 03 21.6	+0.4
NV11	**Mina Array Sit**	3.21	61	IAML			06 04 15.8	
	comp=N,66nm,1.4s							
NV11				IAML			06 04 16.9	
	comp=E,74nm,1.2s							
PAHR	**Pah Rah Range**	3.34	33	IAML			06 04 22.1	
	comp=N,84nm,1.1s							
PAHR				IAML			06 04 33.3	
	comp=E,72nm,1.7s							
CCAC	**Calif City Air**	3.48	119			Pn	06 03 26.6	+0.4
CCAC				IAML			06 04 38.3	
	comp=E,99nm,1.2s							
CCAC				IAML			06 04 45.6	
	comp=N,105nm,1.2s							
GRAC	**Grapevine Rang**	3.49	87			Pn	06 03 29.4	+3.0
GRAC				IAML			06 04 39.3	
	comp=N,105nm,1.1s							
GRAC				IAML			06 04 48.7	
	comp=E,97nm,1.2s							
GRAC	**Grapevine Rang**	3.49	87	P		Pn	06 03 27.2	+0.8
	baz=270,SNR=8.1							
MPMC	**Manual Prospec**	3.51	103	P		Pn	06 03 27.0	+0.2
	baz=286,SNR=16							
KVN	**Kaiserville**	3.56	52	IAML			06 04 27.7	
	comp=E,54nm,1.4s							
KVN				IAML			06 04 30.8	
	comp=N,76nm,1.3s							
LRMC	**Laurel Mtn Rad**	3.56	113	P		Pn	06 03 27.2	-0.4
	baz=296,SNR=14							
GMN	**Gold Mountain**	3.58	83	IAML			06 04 40.9	
	comp=N,51nm,0.7s							
EDW2	**Edwards Air Fo**	3.64	123	P		Pn	06 03 28.4	-0.1
	baz=306							
KMRM	**Mail Ridge**	3.65	335	Pg		Pg	06 03 40.2	-2.2
KMRM				IAML			06 04 37.9	
	comp=E,74nm,3.8s							
KMRM				IAML			06 05 07.6	
	comp=N,72nm,3.4s							
FURC	**Furnace Creek,**	3.93	95	P		Pn	06 03 33.7	+1.3
	baz=278							
PASC	**Pasadena Art C**	3.98	133	Pn		Pn	06 03 33.1	0.0
GWY	**Greenwater Val**	4.13	99	Pn		Pn	06 03 35.3	0.0
GWY				IAML			06 04 54.5	
	comp=E,45nm,1.0s							
GWY				IAML			06 05 03.0	
	comp=N,30nm,1.0s							
FMP	**Fort Macarthur**	4.25	138	P		Pn	06 03 36.6	-0.2
	baz=320							
BFSC	**Mount Baldy Ra**	4.25	128	P		Pn	06 03 37.6	+0.6
	baz=311							
GSC	**Goldstone, Bar**	4.29	111	Pn		Pn	06 03 37.0	-0.4
GSC				IAML			06 05 07.1	
	comp=N,24nm,1.5s							
GSC				IAML			06 05 18.1	
	comp=E,39nm,2.5s							
GSC	**Goldstone, Bar**	4.29	111	P		Pn	06 03 37.6	+0.1
	baz=294							
TPNV	**Topopah Spring**	4.38	88	Pn		Pn	06 03 40.6	+1.9
TPNV				IAML			06 05 04.2	
	comp=E,62nm,1.2s							
TPNV				IAML			06 05 15.1	
	comp=E,40nm,1.1s							
TPNV	**Topopah Spring**	4.38	88	P		Pn	06 03 38.7	0.0
	baz=272,SNR=8.8							
SHOC	**Shoshone, Teco**	4.51	101	P		Pn	06 03 41.2	+0.8
	baz=285							
BBRC	**Big Bear Solar**	4.72	123	P		Pn	06 03 43.6	+0.1
	baz=306							
HEC	**Hector,Ludlow**	4.84	114	P		Pn	06 03 44.8	-0.3
	baz=298							
TUQ	**Turquoise Moun**	4.91	106	P		Pn	06 03 47.0	+0.9
	baz=290							
MURC	**Murrieta**	4.96	130	P		Pn	06 03 48.2	+1.5
	baz=314							
R11B	**Troy Canyon, C**	5.07	72	Pb		Pb	06 04 03.1	+2.0
	baz=256							
GMRC	**Granite Mounta**	5.36	112	P		Pn	06 03 51.0	-1.2
	baz=296							
PFO	**Pinyon Flats O**	5.42	126	P		Pn	06 03 53.3	+0.3
	baz=310							
BELC	**Belle Mtn. Jos**	5.50	120	P		Pn	06 03 53.5	-0.6
	baz=304							
MONP2	**Monument Peak**	5.92	131	P		Pn	06 03 59.5	-0.4
	baz=315							
IRM	**Iron Mountain**	6.02	115	P		Pn	06 04 01.1	-0.2
	baz=300							

IDC 24 06:05:28.6±2.5, 54°12N×86°45E, h0^{km}, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=20.4km s-min=12.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	0.97	260	I		I	06 11 20.0	
	0.1nm,0.7s,baz=80,slow=346,SNR=3.1							
ZALV	**Zalesovo Beam**	0.97	260	Pg		Pg	06 05 46.1	-1.2
	0.8nm,0.3s,baz=78,slow=17,SNR=11							
ZALV				Lg		Lg	06 06 01.1	
	1.3nm,0.3s,baz=77,slow=31,SNR=8.8							
KURBB	**Kurchatov Arra**	5.98	237	Pn		Pn	06 06 59.5	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=4.4							
KURBB				Lg		Lg	06 08 40.9	
	baz=53,slow=29,SNR=2.2 0.3nm,0.3s							
MKAR	**Makanchi Array**	7.80	202	Pn		Pn	06 07 24.5	+1.2
	0.3nm,0.3s,baz=26,slow=13,SNR=12							
MKAR				Sn		Sn	06 08 51.2	-1.1
	baz=25,slow=26,SNR=1.5 0.2nm,0.3s							

*MOS **24** 06:15:42.4±0.8, 43°.56N×132°.82E, h475^{km}, mb4.2/14, Error ellipse: s-maj=10.4km s-min=6.9km az=104.6*
*IDC **24** 06:15:43.6±0.5, 43°.58N×132°.78E, h474^{km}±4^{km}, mb3.6/26, mbtmp4.4/34, Error ellipse: s-maj=9.0km s-min=8.5km az=115.0*
*SKHL **24** 06:15:43.5±0.4, 43°.58N×133°.06E, h495^{km}±5^{km}, mb4.7/11, msh4.3/4*
*NEIC **24** 06:15:43.8±1.5, 43°.5N±0°.1×132°.79E±0°.05, h483^{km}±7^{km}, mb4.3/187, Error ellipse: s-maj=16.9km s-min=4.8km az=170.0*

ISC 24 06:15:45.0±0.4, 43°.52N±0°.06×132°.92E±0°.05, h500^{km}, n535, σ1§83/484, mb4.3/129, 2C-3D, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GRTR	**Gornotajezhnoj**	0.59	289	⇑*i*P		P	06 16 41.5	-3.8
GRTR				AMB		AMB	06 16 41.6	
	478nm,0.4s							
GRTR				*e*S		S	06 17 27.5	-7.0
GRTR				A		A	06 17 28.4	
	141nm,1.0s							
VLA	**Vladivostok**	0.85	243	*e*P		P	06 16 41.8	-4.1
VLA				AMB		AMB	06 16 42.1	
	337nm,0.6s							
USA0B	**Ussuriysk Arra**	0.96	316	P		P	06 16 41.8	-4.2
USA0B	**Ussuriysk Arra**	0.96	316	P		P	06 16 41.8	-4.2
USRK	**Ussuriysk Ar.**	0.96	316	P		P	06 16 41.7	-4.3
USRK	**Ussuriysk Ar.**	0.96	316	P		P	06 16 41.8	-4.3
	122nm,0.6s,baz=82,slow=2.4,SNR=853							
USRK				S		S	06 17 30.4	-5.5
	17nm,0.8s,baz=146,slow=26,SNR=1.2							
USRK	**Ussuriysk Ar.**	0.96	316	*e*P		P	06 16 41.7	-4.3
USRK				AMB		AMB	06 16 42.8	
	122nm,0.6s							
USRK				*e*S		S	06 17 30.4	-5.5
PSTR	**Posyet**	1.78	242	⇑*i*P		P	06 16 45.4	-3.6
PSTR				AMB		AMB	06 16 45.6	
	348nm,0.6s							
PSTR				*e*S		S	06 17 34.8	-6.2
PSTR				A		A	06 17 36.7	
	80nm,0.6s							
MDJ	**Mudanjiang**	2.64	296	Pg		P	06 16 49.9	-3.6
MDJ				Sg		S	06 17 40.5	-9.0
MDJ				smax		smax		
	comp=N,240nm,0.9s							
MDJ				smax		smax		
	comp=E,140nm,1.0s							
MDJ	**Mudanjiang**	2.64	296	P		P	06 16 49.7	-3.8
TEY	**Ternei**	3.05	59	*e*P		P	06 16 52.7	-3.4
TEY				AMB		AMB	06 16 53.3	
	comp=E,34nm,0.9s							
TEY				*e*S		S	06 17 47.9	-6.3
TEY				A		A	06 17 48.8	
	comp=E,36nm,0.7s							
CN2	**Changchun**	5.43	276	⇓P		P	06 17 13.3	-2.5
CN2				*e*sP			06 18 28.3	
CN2				*e*S		S	06 18 28.4	-1.7
CN2				pmax		pmax		
	comp=Z,100nm,0.5s							
CN2				pmax		pmax		
	comp=Z,800nm,4.0s							
KLR	**Kul'dur**	5.77	352	P		P	06 17 16.1	-2.9
	comp=Z,54nm,0.4s,baz=182,slow=9.6,SNR=296							
KLR				S		S	06 18 30.5	-5.4
	comp=Z,19nm,0.9s,baz=261,slow=22,SNR=8.4							
JTM	**Tenmabayashi**	6.64	111			P	06 17 23.3	-4.2
ASAJ	**Asahikawa**	7.02	82	P		P	06 17 28.7	-2.6
	comp=Z,38nm,0.4s,baz=274,slow=5.1,SNR=21							
ASAJ				S		S	06 18 53.1	-5.4
	comp=Z,9.2nm,0.5s,baz=53,slow=33,SNR=2.1							
ASAJ	**Asahikawa**	7.02	82	*e*P		P	06 17 28.7	-2.6
ASAJ				AMB		AMB	06 17 29.7	
	comp=Z,38nm,0.4s							
ASAJ				*e*S		S	06 18 53.1	-5.4
ASAJ				A		A	06 18 53.8	
	comp=Z,9.0nm,0.5s							
JKA	**Kamikawa-asahi**	7.03	82	P		P	06 17 28.3	-3.0
JKA	**Kamikawa-asahi**	7.03	82	*e*P		P	06 17 28.3	-3.0
KS19	**Wonju Array Si**	7.13	214	P		P	06 17 31.1	-1.6
KSRS	**Korea Array**	7.15	214	P		P	06 17 31.9	-0.9
	comp=Z,29nm,0.7s,baz=31,slow=10,SNR=61							
KSRS	**Korea Array**	7.15	214	*e*P		P	06 17 31.9	-0.9
KSRS				AMB		AMB	06 17 32.9	
	comp=Z,29nm,0.7s							
ERM	**Erimo**	7.68	98			P	06 17 34.8	-3.2
ERM	**Erimo**	7.68	98	P		P	06 17 34.8	-3.2
INCN	**Inchon**	7.70	221			P	06 17 37.1	-1.3
INCN	**Inchon**	7.70	221	P		P	06 17 37.1	-1.3
INCN	**Inchon**	7.70	221	*e*P		P	06 17 37.6	-0.8
INCN				Pn		P	06 17 38.6	+0.2
	comp=Z,125nm,0.7s							
HEH	**HeiHe**	7.72	333	*e*P		P	06 17 35.5	-2.8
HEH				PcP		S	06 19 06.4	-5.0
HEH				pmax		pmax		
	comp=Z,71nm,0.7s							
MJB9	**Matsu-Tunnel**	8.05	148	P		P	06 17 40.7	-1.3
MAJO	**Matsushiro**	8.06	148	P		P	06 17 39.7	-2.4
MAJO	**Matsushiro**	8.06	148	P		P	06 17 39.7	-2.4
MJAR	**Matsushiro Arr**	8.06	148	P		P	06 17 39.9	-2.2
	comp=Z,17nm,0.9s,baz=335,slow=11,SNR=18							
JMM	**Marumori**	8.22	131	P		P	06 17 39.4	-4.3
AKK	**Akkeshi**	8.71	89	*e*P		P	06 17 44.9	-3.8
INU	**Inuyama**	8.75	157	P		P	06 17 47.3	-1.9
NMR	**Nemuro--Hokkai**	9.32	86	*e*P		P	06 17 52.1	-2.9
NMR				AMB		AMB	06 17 52.8	
	comp=Z,59nm,0.3s							
EKMR	**Ekimchan**	9.56	0	⇓*i*P		P	06 17 55.4	-2.1
EKMR				AMB		AMB	06 17 56.1	
	comp=Z,26nm,0.4s							
JMN	**Monobe**	9.80	175	P		P	06 17 59.3	-1.1
TYV	**Tymovskoe**	9.89	39	*e*P		P	06 18 00.5	-0.4
TYV				*e*S		S	06 19 50.0	-2.8
TYV				pmax		pmax		
	comp=Z,26nm,0.8s							
TYV				pmax		pmax		
	comp=Z,600nm,3.6s							
TYV				smax		smax		
	comp=N,1μm,3.6s							
TYV				smax		smax		
	comp=E,500nm,3.6s							
TYV				smax		smax		
	comp=N,13nm,1.4s							
TYV				smax		smax		
	comp=E,15nm,1.4s							
SHO	**Shikotan**	10.08	83	*e*P		P	06 17 59.7	-3.4
SHO				*e*S		S	06 19 48.9	-7.8
SHO				pmax		pmax		
	comp=Z,33nm,0.3s							
SHO				pmax		pmax		
	comp=N,20nm,0.1s							
SHO	**Shikotan**	10.08	83	*e*P		P	06 17 59.9	-3.2
SHO				AMB		AMB	06 18 00.7	
	comp=N,30nm,0.4s							
JNU	**Nakatsue**	10.50	189	P		P	06 18 06.7	-1.1
JNU	**Nakatsue**	10.50	189	P		P	06 18 06.0	-1.8
	comp=N,4.5nm,0.3s,baz=19,slow=5.9,SNR=7.7							
HIA	**Hailar**	10.76	307	P		P	06 18 08.1	-2.1
HIA	**Hailar**	10.76	307	P		P	06 18 08.1	-2.1
ZEA	**Zeya**	10.89	342	*e*P		P	06 18 09.5	-2.0
ZEA				pmax		pmax		
	comp=N,30nm,1.0s							
ZEA				pmax		pmax		
	comp=Z,50nm,0.8s							
OKH	**Okha**	12.02	30	*de*P		P	06 18 29.9	+6.5
XLT	**XiLinHaoTe**	12.20	278	*e*P		P	06 18 23.9	-1.8
XLT				pmax		pmax		
	comp=Z,15nm,0.8s							
XLT				pmax		pmax		
	comp=Z,200nm,5.2s							
JCJ	**Chichijima**	18.02	152	P		P	06 19 24.2	-1.4
ULN	**Ulaanbaatar**	18.55	293	P		P	06 19 28.4	-2.0
ULN				IAmb		IAmb	06 19 29.7	
	comp=Z,8.4nm,1.0s							
ULN	**Ulaanbaatar**	18.55	293	P		P	06 19 28.4	-2.0
ULN				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ULN	**Ulaanbaatar**	18.55	293	P		P	06 19 28.4	-2.0
BOD	**Bodaibo**	18.58	327	*e*P		P	06 19 27.5	-2.8
BOD				pmax		pmax		
	comp=Z,14nm,1.2s							
PETK	**Petropavlovsk-**	18.98	51	P		P	06 19 34.8	+0.8
PETK	**Petropavlovsk-**	18.98	51	P		P	06 19 34.8	+0.8
PETK	**Petropavlovsk-**	18.98	51	P		P	06 19 34.2	+0.1
	comp=Z,1.0nm,0.5s,baz=215,slow=7.5,SNR=6.2							
SONM	**Songino Array**	18.99	292	P		P	06 19 33.3	-1.1
SONM	**Songino Array**	18.99	292	P		P	06 19 33.0	-1.4
	comp=Z,3.5nm,0.5s,baz=88,slow=8.8,SNR=40							
SONM				PcP		PcP	06 23 35.2	+1.0
	comp=Z,0.7nm,0.5s,baz=190,slow=1.5,SNR=3.3							
MA2	**Magadan**	19.43	28			P	06 19 37.3	-0.7
MA2	**Magadan**	19.43	28	P		P	06 19 38.0	0.0
	comp=Z,36nm,0.6s,baz=218,slow=9.1,SNR=40							
ZAK	**Zakamensk**	21.27	299	*e*P		P	06 19 53.2	-1.8
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SEY	**Seymchan**	22.50	23	P		P	06 20 05.5	-0.2
	comp=Z,5.3nm,0.5s,baz=213,slow=8.0,SNR=10 comp=Z,5.3nm,0.5s							
AMKA	**Amchitka**	31.88	59	P		P	06 21 27.3	-0.8
ZAA0	**Zalesovo Array**	32.80	306	P		P	06 21 35.0	-1.0
ZAA0				IAmb		IAmb	06 21 35.5	
	comp=Z,8.5nm,0.9s							
ZALV	**Zalesovo Beam**	32.80	306	P		P	06 21 34.9	-1.1
ZALV	**Zalesovo Beam**	32.80	306	P		P	06 21 34.8	-1.2
	comp=Z,5.1nm,0.5s,baz=80,slow=8.3,SNR=40							
ZALV				PcP		PcP	06 24 06.6	+0.3
	comp=Z,1.8nm,0.4s,baz=94,slow=2.1,SNR=8.8							
ZALV				ScP		ScP	06 27 05.3	+2.8
	comp=Z,4.0nm,0.7s,baz=82,slow=3.5,SNR=17 comp=Z,5.1nm,0.5s							
KIWB	**Kanaga Island**	34.04	58	P		P	06 21 45.8	-0.6
NRIK	**Noril'sk**	34.63	334	P		P	06 21 50.5	-0.7
	comp=Z,1.8nm,0.4s,baz=72,slow=6.1,SNR=5.2 comp=Z,1.8nm,0.4s							
MK31	**Makanchi Array**	35.36	293	P		P	06 21 57.1	-0.5
MK31	**Makanchi Array**	35.36	293	P		P	06 21 57.1	-0.5
MK31				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	35.36	293	P		P	06 21 56.9	-0.8
	comp=Z,2.6nm,0.5s,baz=84,slow=10,SNR=47							
MKAR				PcP		PcP	06 24 14.3	+0.3
	comp=Z,0.5nm,0.3s,baz=69,slow=3.6,SNR=7.0							
MKAR				ScP		ScP	06 27 14.7	+2.8
	comp=Z,0.8nm,0.8s,baz=78,slow=6.1,SNR=5.9 comp=Z,2.6nm,0.5s							
MAKZ	**Makanchi**	35.56	293	P		P	06 21 58.7	-0.6
MAKZ				IAmb		IAmb	06 21 59.5	
	comp=Z,4.7nm,0.7s							
MAKZ	**Makanchi**	35.56	293	P		P	06 21 58.7	-0.6
MAKZ				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KURK	**Kurchatov**	36.92	301	P		P	06 22 09.6	-0.9
KURK	**Kurchatov**	36.92	301	P		P	06 22 10.1	-0.4
KURK							06 24 19.4	
KURK							06 27 19.5	
KURBB	**Kurchatov Arra**	36.99	301	P		P	06 22 10.1	-1.0
	comp=Z,15nm,0.6s,baz=81,slow=8.8,SNR=144							
KURBB				PcP		PcP	06 24 19.4	+0.6
	comp=Z,1.7nm,0.8s,baz=86,slow=3.1,SNR=5.8							
KURBB				ScP		S	06 27 19.5	-0.6
	comp=Z,0.6nm,0.9s,baz=67,slow=4.2,SNR=5.3 comp=Z,15nm,0.6s							
SPIA	**Saint Paul Isl**	37.61	48	P		P	06 22 16.8	+0.8
	baz=274							
CMAR	**Chiang Mai Arr**	37.95	240	P		P	06 22 19.5	+0.1
	comp=Z,1.0nm,0.3s,baz=41,slow=7.1,SNR=5.0 comp=Z,1.0nm,0.3s							
TNA	**Tin City**	38.82	35	P		P	06 22 26.8	+1.0
	baz=265,SNR=6.3							
NIKH	**Nikolski High**	38.91	55	P		P	06 22 27.2	+0.5
	baz=280							
F14K	**Arctic Creek**	39.48	35	P		P	06 22 32.4	+1.3
	baz=267							
M11K	**Mekoryuk**	39.52	43	P		P	06 22 33.1	+1.6
	baz=273							
ANM	**Nome**	39.85	36	P		P	06 22 35.4	+1.3
ANM				IAmb		IAmb	06 22 36.1	
	comp=Z,7.8nm,0.8s							
ANM	**Nome**	39.85	36	P		P	06 22 35.2	+1.1
	baz=269,SNR=5.7							
ANM	**Nome**	39.85	36	P		P	06 22 35.4	+1.3
ANM				pmax		pmax		
	comp=Z,8.0nm,0.8s							
C16K	**Lisburne Hills**	40.09	31	IAmb		IAmb	06 22 37.1	
	comp=Z,11nm,0.9s							
C16K	**Lisburne Hills**	40.09	31	P		P	06 22 36.4	+0.4
	baz=264							
UNV	**Unalaska Valle**	40.14	53	P		P	06 22 38.3	+1.7
	baz=281							
F15K	**North Star Dit**	40.19	35	IAmb		IAmb	06 22 38.7	
	comp=Z,7.2nm,0.8s							
F15K	**North Star Dit**	40.19	35	P		P	06 22 37.9	+1.0
	baz=268,SNR=5.3							
G15K	**Niukluk**	40.42	36	P		P	06 22 39.9	+1.2
	baz=270,SNR=9.9							
J14K	**Nanvaranak Lak**	40.68	39	P		P	06 22 41.6	+0.9
J14K				IAmb		IAmb	06 23 25.8	
	comp=Z,21nm,1.5s							
J14K	**Nanvaranak Lak**	40.68	39	P		P	06 22 41.8	+1.1
	baz=272							
D17K	**Noatak River**	40.89	32	P		P	06 22 43.4	+0.9
	baz=267							
C17K	**DeLong Mountai**	40.91	30	P		P	06 22 43.4	+0.8
	baz=266,SNR=11							
M13K	**Dall Lake**	40.93	43	P		P	06 22 44.5	+1.7
	baz=275							
BOOM	**Boomskoye usch**	40.98	289	P		P	06 22 43.8	+0.1
BOOM				IAmb		IAmb	06 22 44.5	
	comp=Z,6.2nm,0.6s							
BOOM	**Boomskoye usch**	40.98	289	P		P	06 22 43.8	+0.1
BOOM				pmax		pmax		
	comp=Z,6.0nm,0.6s							
G16K	**Koyuk River**	41.14	35	IAmb		IAmb	06 22 46.0	
	comp=Z,6.2nm,0.7s							
G16K	**Koyuk River**	41.14	35	P		P	06 22 45.2	+0.8
	baz=270							
L14K	**Kuka Creek**	41.17	41	P		P	06 22 45.8	+1.0
L14K	**Kuka Creek**	41.17	41	P		P	06 22 46.5	+1.7
	baz=275							
H16K	**Elim**	41.20	36	P		P	06 22 45.8	+0.9
	baz=272,SNR=17							
E17K	**Hotham Inlet**	41.36	33	P		P	06 22 47.0	+0.8
	baz=269							
BVAR	**Borovoye Array**	41.45	306	P		P	06 22 46.4	-0.7
	comp=Z,4.2nm,0.5s,baz=77,slow=8.0,SNR=29							
BVAR				PcP		PcP	06 24 34.2	+1.1
	comp=Z,2.5nm,0.4s,baz

O14K	Tigyukauivet M	42.12	44	P	P	06 22 53.4	+1.1
	baz=278						
H17K	Granite Mounta	42.18	36	IAmb	IAmb	06 22 54.8	
	comp=Z,9.8nm,0.7s						
H17K	Granite Mounta	42.18	36	P	P	06 22 54.0	+1.2
	baz=273,SNR=8.3						
M15K	Kasigluk River	42.21	42	P	P	06 22 54.3	+1.3
	baz=277						
C19K	Lookout Ridge	42.24	30	P	P	06 22 54.1	+1.0
	baz=269						
N15K	Kwethluk River	42.57	43	P	P	06 22 57.4	+1.6
	baz=278						
G18K	Tagagawik	42.65	34	IAmb	IAmb	06 22 58.2	
	comp=Z,12nm,0.7s						
G18K	Tagagawik	42.65	34	P	P	06 22 57.4	+1.0
	baz=273						
L16K	Owhat River	42.67	41	P	P	06 22 57.8	+1.2
	baz=277						
D19K	Kuna River	42.77	30	P	P	06 22 58.2	+0.9
	baz=271						
H18K	Honhosa River	42.82	35	P	P	06 22 58.7	+1.0
	baz=274						
O15K	Ungalikthiuk R	42.86	44	P	P	06 22 59.5	+1.4
	baz=280						
F19K	Shaleruckik Mo	42.96	33	P	P	06 22 59.6	+0.8
	baz=273						
M16K	Timber Creek	43.00	41	P	P	06 23 00.5	+1.3
	baz=278						
K17K	Iditarod	43.09	39	P	P	06 23 01.4	+1.5
	baz=277						
B20K	Meade River	43.10	28	IAmb	IAmb	06 23 01.1	
	comp=Z,8.2nm,0.6s						
B20K	Meade River	43.10	28	P	P	06 23 00.5	+0.7
	baz=270						
E19K	Redstone River	43.14	32	P	P	06 23 01.3	+1.1
	baz=273,SNR=21						
L17K	Donlin	43.16	40	P	P	06 23 02.5	+2.0
	baz=278						
N16K	Nishlik Lake	43.18	42	P	P	06 23 02.0	+1.4
	baz=279						
SDPT	Sand Point	43.26	50	P	P	06 23 02.9	+1.6
	baz=283						
G19K	Purcell Mounta	43.28	34	IAmb	IAmb	06 23 03.4	
	comp=Z,7.0nm,0.9s						
G19K	Purcell Mounta	43.28	34	P	P	06 23 02.0	+0.7
	baz=274,SNR=12						
A21K	Barrow	43.29	26	P	P	06 23 01.7	+0.5
	baz=269						
D20K	Etivluk River	43.32	30	P	P	06 23 02.5	+0.9
	baz=272						
GCSA	Galena City Sc	43.49	36	P	P	06 23 03.8	+0.9
	baz=276						
E20K	Nigu River	43.49	31	P	P	06 23 04.0	+1.0
	baz=273						
H19K	Roundabout Mou	43.59	35	P	P	06 23 05.1	+1.4
	baz=276						
O16K	Kokwok River B	43.66	43	P	P	06 23 05.7	+1.4
	baz=280						
M17K	Holitna River	43.68	41	P	P	06 23 05.4	+0.9
M17K	Holitna River	43.68	41	P	P	06 23 06.4	+1.9
	baz=279						
J18K	Innoko River	43.71	38	P	P	06 23 05.6	+0.9
	baz=278						
F20K	Avaraart Lake	43.75	33	P	P	06 23 05.6	+0.7
	baz=275						
P16K	Nushagak River	43.82	44	P	P	06 23 05.4	-0.2
	baz=281						
A22K	Sinclair Lake	43.82	27	P	P	06 23 06.2	+0.8
	baz=271						
CHNA	Chernabura Isl	43.88	50	P	P	06 23 06.8	+0.7
	baz=284						
L18K	Granite Mounta	43.90	40	P	P	06 23 07.5	+1.4
	baz=279						
N17K	Nushagak Hills	43.94	42	P	P	06 23 08.3	+1.7
	baz=280						
C21K	Knifeblade Rid	43.96	29	P	P	06 23 07.6	+1.1
	baz=273						
B21K	Ikpikpuk River	43.99	29	P	P	06 23 08.0	+1.3
	baz=273						
TTA	Tatalina	44.10	38	P	P	06 23 08.8	+0.9
	baz=279						
J19K	Poorman	44.12	37	IAmb	IAmb	06 23 09.8	
	comp=Z,18nm,1.1s						
J19K	Poorman	44.12	37	P	P	06 23 08.9	+1.0
	baz=278						
O17K	Koliganek Bris	44.13	43	P	P	06 23 09.5	+1.5
	baz=281						
H20K	Anotleneega Mo	44.24	35	P	P	06 23 10.1	+1.3
	baz=277						
B22K	Teshekpuk Lake	44.36	28	P	P	06 23 10.6	+1.0
	baz=273						
M18K	Stony River	44.42	40	P	P	06 23 11.8	+1.6
	baz=280						
KK31	Karatay Array	44.45	292	P	P	06 23 09.8	-0.9
KK31	Karatay Array	44.45	292	P	P	06 23 09.8	-0.9
KK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	Karatay Array	44.45	292	P	P	06 23 10.0	-0.7
KKAR	Karatay Array	44.45	292	IAmb	IAmb	06 23 11.0	
	comp=Z,4.7nm,0.8s						
KKAR	Karatay Array	44.45	292	P	P	06 23 10.0	-0.7
N18K	Kilae Creek	44.54	42	P	P	06 23 12.8	+1.6
	baz=281						
F21K	Alatna River	44.60	32	IAmb	IAmb	06 23 13.4	
	comp=Z,10.0nm,0.8s						
F21K	Alatna River	44.60	32	P	P	06 23 12.6	+1.0
	baz=276						
IMAR	Indian Mountai	44.65	34	P	P	06 23 12.8	+0.9
G21K	Allakaket	44.68	33	P	P	06 23 13.4	+1.3
	baz=277						
D22K	Ayikyak River	44.73	30	P	P	06 23 13.7	+1.1
	baz=276						
J20K	Nowinta River	44.74	37	IAmb	IAmb	06 23 15.1	
	comp=Z,14nm,0.9s						
J20K	Nowinta River	44.74	37	P	P	06 23 14.0	+1.4
	baz=279						
L19K	White Mountain	44.75	39	P	P	06 23 14.1	+1.3
	baz=280						
K20K	Telida	44.90	38	IAmb	IAmb	06 23 16.4	
	comp=Z,7.4nm,0.8s						
K20K	Telida	44.90	38	P	P	06 23 15.3	+1.4
	baz=280						
M19K	Big River Lodg	45.02	40	P	P	06 23 16.4	+1.5
	baz=281						
Q17K	Contact Creek	45.06	45	P	P	06 23 16.3	+1.0
	baz=283						
F22K	John River	45.07	32	P	P	06 23 16.5	+1.4
	baz=277						
H21K	Melozitna Rive	45.08	34	IAmb	IAmb	06 23 17.3	
	comp=Z,8.5nm,0.9s						
H21K	Melozitna Rive	45.08	34	P	P	06 23 16.4	+1.1
	baz=279,SNR=5.6						
P18K	Big Mountain,	45.13	43	P	P	06 23 17.2	+1.4
	baz=283						
L20K	Farewell, AK	45.15	39	P	P	06 23 17.3	+1.4
	baz=281						
N19K	Bonanza Creek	45.19	41	P	P	06 23 17.4	+1.1
	baz=282						
O19K	Port Alsworth	45.40	42	P	P	06 23 19.5	+1.7
	baz=283						
G22K	Bettles	45.41	32	P	P	06 23 18.6	+0.9
	baz=278						
D23K	Nanushuk River	45.44	30	P	P	06 23 19.0	+1.1
	baz=277						
I21K	Tanana	45.49	35	IAmb	IAmb	06 23 20.9	
	comp=Z,8.5nm,0.9s						
I21K	Tanana	45.49	35	P	P	06 23 19.8	+1.4
	baz=280						
M20K	Styx River	45.61	40	P	P	06 23 21.2	+1.7
	baz=282						
H22K	Ishtalitna Cre	45.62	34	P	P	06 23 20.9	+1.4
	baz=280						
CAST	Castle Rocks	45.77	37	P	P	06 23 22.1	+1.5
CAST				IAmb	IAmb	06 23 23.0	
	comp=Z,10nm,0.8s						
CAST	Castle Rocks	45.77	37	P	P	06 23 22.1	+1.5
	baz=281,SNR=7.5						
PPLA	Purkeypile	45.83	38	P	P	06 23 22.9	+1.7
	baz=282						
COLD	Coldfoot	45.87	32	P	P	06 23 22.5	+1.2
	baz=279,SNR=7.2						
E23K	Chandalar	45.96	31	P	P	06 23 23.1	+1.0
	baz=279						
G23K	Bananza Creek	46.02	33	IAmb	IAmb	06 23 24.4	
	comp=Z,12nm,0.8s						
G23K	Bananza Creek	46.02	33	P	P	06 23 23.4	+0.8
	baz=280						
MLY	Manley	46.04	35	P	P	06 23 24.1	+1.4
	baz=281						
C24K	Franklin Bluff	46.04	28	P	P	06 23 23.3	+0.8
	baz=278						
P19K	Oil Pt	46.06	43	P	P	06 23 24.3	+1.4
	baz=284						
D24K	Happy Valley	46.08	29	P	P	06 23 23.9	+1.1
	baz=279						
BPAW	Bear Paw Mtn.	46.12	36	P	P	06 23 24.6	+1.4
BPAW				IAmb	IAmb	06 23 25.5	
	comp=Z,5.9nm,0.7s						
BPAW	Bear Paw Mtn.	46.12	36	P	P	06 23 24.7	+1.4
	baz=282						
N20K	Mount Spurr	46.19	40	P	P	06 23 25.3	+1.4
	baz=283						
SKT	Skwentna	46.33	39	P	P	06 23 26.4	+1.5
	baz=283						
SII	Sitkinak Islan	46.38	47	P	P	06 23 26.3	+1.0
	baz=286						
TRF	Thorofare Moun	46.55	37	P	P	06 23 28.0	+1.2
	baz=283						
I23K	Minto, Yukon-K	46.59	35	IAmb	IAmb	06 23 29.1	
	comp=Z,6.9nm,0.9s						
I23K	Minto, Yukon-K	46.59	35	P	P	06 23 28.3	+1.6
	baz=282,SNR=5.9						
OHAK	Old Harbor	46.67	46	P	P	06 23 28.8	+1.3
	baz=286						
F24K	Squaw Lake	46.70	31	IAmb	IAmb	06 23 29.7	
	comp=Z,9.8nm,0.7s						
F24K	Squaw Lake	46.70	31	P	P	06 23 28.9	+1.2
	baz=281						
CUT	Chulitna	46.80	38	P	P	06 23 30.1	+1.7
	baz=284						
SUA	Susitna One	46.81	40	P	P	06 23 29.5	+0.9
SUA				IAmb	IAmb	06 23 32.7	
	comp=Z,9.4nm,0.9s						
SUA	Susitna One	46.81	40	P	P	06 23 29.6	+0.9
	baz=284						
NEA2	Nenana	46.83	35	IAmb	IAmb	06 23 30.7	
	comp=Z,8.4nm,0.8s						
NEA2	Nenana	46.83	35	P	P	06 23 30.0	+1.4
	baz=283,SNR=9.2						
HOM	Homer	46.84	42	P	P	06 23 30.6	+1.8
	baz=285						
KDAK	Kodiak Island	46.88	45	P	P	06 23 30.2	+1.2
	baz=286						
D25K	Kavik River	46.91	29	IAmb	IAmb	06 23 30.6	
	comp=Z,6.7nm,0.6s						
D25K	Kavik River	46.91	29	P	P	06 23 30.1	+0.9
	baz=281						
G24K	Hadweenzic Riv	47.02	32	P	P	06 23 31.3	+1.3
	baz=282						
H24K	Noodor Dome	47.05	34	IAmb	IAmb	06 23 32.6	
	comp=Z,7.1nm,0.8s						
H24K	Noodor Dome	47.05	34	P	P	06 23 31.9	+1.6
	baz=283						
MCK	McKinley	47.08	36	P	P	06 23 31.7	+1.1
	baz=284,SNR=6.1						
MDM	Murphy Dome	47.10	35	IAmb	IAmb	06 23 32.9	
	comp=Z,8.7nm,0.8s						
BRSE	Bradley Lake S	47.26	42	P	P	06 23 33.4	+1.4
	baz=286						
COLA	College	47.27	35	P	P	06 23 32.8	+0.9
COLA	College	47.27	35	P	P	06 23 33.1	+1.2
	baz=283						
COLA	College	47.27	35	P	P	06 23 32.8	+0.9
COLA				pmax	pmax		
	comp=Z,20nm,0.8s						
CCB	Clear Creek Bu	47.35	35	IAmb	IAmb	06 23 34.2	
	comp=Z,6.1nm,0.8s						
SIMJ	Simiganj	47.37	287	P	P	06 23 31.6	-1.7
SIMJ				IAmb	IAmb	06 23 33.9	
	comp=Z,6.6nm,0.8s						
RC01	Rabbit Creek A	47.38	40	P	P	06 23 34.1	+1.3
	baz=285						
POKR	Poker Plat Res	47.39	34	P	P	06 23 34.1	+1.2
POKR				IAmb	IAmb	06 23 35.7	
	comp=Z,11nm,0.8s						
POKR	Poker Plat Res	47.39	34	P	P	06 23 34.1	+1.2
	baz=284						
E25K	Arctic Village	47.44	30	P	P	06 23 34.4	+1.2
	baz=282,SNR=5.1						
F25K	Christian Rive	47.53	31	P	P	06 23 35.3	+1.4
	baz=283						
PMR	Palmer	47.53	39	P	P	06 23 34.4	+0.5
	baz=285						
G25K	Bearman Lake	47.54	32	P	P	06 23 35.3	+1.4
	baz=283						
IL31		47.70	35	P	P	06 23 35.5	+0.4
IL31				IAmb	IAmb	06 23 37.4	
	comp=Z,9.0nm,0.5s						
ILAR	Eielson Array	47.70	35	P	P	06 23 34.9	-0.2
ILAR	Eielson Array	47.70	35	P	P	06 23 35.6	+0.5
	comp=Z,6.4nm,0.5s,baz=280,slow=7.6,SNR=79						
	comp=Z,6.4nm,0.5s						
HDA	Harding Lake	47.76	35	P	P	06 23 36.0	+0.3
HDA	Harding Lake	47.76	35	P	P	06 23 36.3	+0.6
	baz=285,SNR=9.9						
SEW	Seward	47.78	41	P	P	06 23 36.6	+0.8
	baz=286						
SML	Sawmill	47.84	39	P	P	06 23 37.4	+1.1
	baz=286						
KNK	Knik Glacier	47.89	39	IAmb	IAmb	06 23 38.5	
	comp=Z,11nm,0.6s						
KNK	Knik Glacier	47.89	39	P	P	06 23 37.7	+1.0
	baz=286						
WAT6	Susitna Watana	47.90	38	P	P	06 23 37.6	+0.8
	baz=286						
DHY	Denali Highway	47.92	37	IAmb	IAmb	06 23 38.6	
	comp=Z,7.2nm,0.7s						
DHY	Denali Highway	47.92	37	P	P	06 23 37.6	+0.6
	baz=285,SNR=6.0						
BMAR	Burnt Mountain	47.96	31	P	P	06 23 37.8	+0.7
F26K	Sheenjek River	48.06	31	P	P	06 23 39.6	+1.8
	baz=284						
PRP	Porcupine Dome	48.07	34	P	P	06 23 39.0	+0.9
	baz=285,SNR=16						
M23K	Glacier View	48.12	39	P	P	06 23 39.3	+0.9
	baz=286						
SCM	Sheep Creek Mo	48.29	39	P	P	06 23 40.8	+1.1
	baz=287,SNR=7.6						
J25K	Salcha River,	48.37	35	P	P	06 23 40.4	+0.1
	baz=286						
G26K	Porcupine Rive	48.38	32	P	P	06 23 42.1	+1.9
	baz=285						
K24K	Donnelly Dome	48.42	36	P	P	06 23 41.1	+0.5
	baz=286,SNR=9.5						
M24K	Tolsona, Glenn	48.73	38	P	P	06 23 44.6	+1.6
	baz=287						
PAX	Paxson	48.79	37	P	P	06 23 44.6	+1.2
	baz=287						
D27M	Malcolm River	48.80	28	IAmb	IAmb	06 23 45.7	
	comp=Z,6.3nm,0.7s						
D27M	Malcolm River	48.80	28	P	P	06 23 44.9	+1.4
	baz=285						
RIDG	Independent Ri	48.83	36	P	P	06 23 44.4	+0.7
RIDG				IAmb	IAmb	06 23 44.8	
	comp=Z,24nm,1.2s						
RIDG	Independent Ri	48.83	36	P	P	06 23 44.4	+0.7
	baz=287,SNR=8.7						
ABKAR	Akbulak array	48.86	304	P	P	06 23 43.2	-0.9
ABKAR	Akbulak array	48.86	304	IAmb	IAmb	06 23 45.5	
	comp=Z,5.1nm,0.7s						
E27K	Coleen River	48.87	30	P	P	06 23 45.4	+1.5
	baz=286						
KLU	Klutina	49.03	39	P	P	06 23 46.9	+1.6
	baz=288						
I26K	Coal Creek Min	49.08	34	P	P	06 23 46.4	+1.0
	baz=287						
HARP	HAARP	49.10	38	P	P	06 23 47.2	+1.5
	baz=288,SNR=6.5						
SCRK	Sand Creek	49.13	35	IAmb	IAmb	06 23 47.3	
	comp=Z,14nm,1.0s						
SCRK	Sand Creek	49.13	35	P	P	06 23 46.5	+0.5
	baz=287,SNR=11						
J26L	Joseph Creek	49.15	35	P	P	06 23 46.3	+0.2
	baz=287						
EYAK	Cordova Ski Ar	49.41	40	P	P	06 23 49.4	+1.5
	baz=289						
H27K	Steamboat Moun	49.45	32	P	P	06 23 50.1	+1.8
	baz=287						
E28M	Babbage River	49.48	29	P	P	06 23 49.8	+1.5
	baz=287						
D28M	Stokes Point	49.54	28	P	P	06 23 50.3	+1.6
	baz=287						
MENT	Mentasta	49.56	37	IAmb	IAmb	06 23 51.8	
	comp=Z,10nm,0.8s						
N25K	Chitina, Valde	49.60	38	P	P	06 23 51.1	+1.7
	baz=289						
I27K	Kandik River	49.61	33	P	P	06 23 51.0	+1.6
	baz=288						
F28M	Old Crow	49.66	30	IAmb	IAmb	06 23 52.5	
	comp=Z,8.9nm,0.8s						
F28M	Old Crow	49.66	30	P	P	06 23 51.4	+1.7
	baz=288						
L26K	Log Cabin Wild	49.70	36	P	P	06 23 51.1	+1.1
	baz=289						
BMRM	Bremner River	49.80	39	P	P	06 23 52.2	+1.2
	baz=289						
K27K	Chicken	49.91	35	IAmb	IAmb	06 23 53.9	
	comp=Z,14nm,1.1s						
K27K	Chicken	49.91	35	P	P	06 23 53.1	+1.5
	baz=289						
EGAK	Eagle	50.05	34	P	P	06 23 53.6	+1.1
EGAK				IAmb	IAmb	06 23 54.3	
	comp=Z,13nm,0.7s						
EGAK	Eagle	50.05	34	P	P	06 23 53.7	+1.1
	baz=289,SNR=12						
M26K	Nabesna, AK	50.05	37	IAmb	IAmb	06 23 55.9	
	comp=Z,11nm,0.8s						
M26K	Nabesna, AK	50.05	37	P	P	06 23 54.5	+1.8
	baz=289						
E29M	Blow River	50.12	29	IAmb	IAmb	06 23 55.6	
	comp=Z,9.5nm,0.8s						
E29M	Blow River	50.12	29	P	P	06 23 54.6	+1.5
	baz=289						
VRDI	Verde Repeater	50.24	39	P	P	06 23 55.9	+1.6
VRDI				IAmb	IAmb	06 23 56.3	
	comp=Z,11nm,0.6s						
I28M	Miner Creek	50.32	33	IAmb	IAmb	06 23 57.0	
	comp=Z,9.9nm,0.5s						
I28M	Miner Creek	50.32	33	P	P	06 23 56.4	+1.7
	baz=289						
L27K	Beaver Creek,	50.34	36	IAmb	IAmb	06 23 57.3	
	comp=Z,20nm,1.4s						
L27K	Beaver Creek,	50.34	36	P	P	06 23 56.6	+1.8
	baz=290						
BCAR	Beaver Creek A	50.35	36	P	P	06 23 56.4	+1.5
MCARA	McCarthy VSAT	50.38	38	P	P	06 23 56.8	+1.7
MCARA	McCarthy VSAT	50.38	38	P	P	06 23 57.0	+1.9
	baz=290,SNR=5.7						
M27K	Edge Creek, AK	50.56	37	IAmb	IAmb	06 23 59.1	
	comp=Z,12nm,1.0s						
M27K	Edge Creek, AK	50.56	37	P	P	06 23 58.2	+1.6
	baz=290						
G29M	Pine Creek	50.56	31	P	P	06 23 58.0	+1.6
	baz=290						
H29M	Whitestone	50.67	32	P	P	06 23 58.7	+1.6
	baz=290						
BVCY	Beaver Creek	50.98	37	P	P	06 24 01.2	+1.7
	baz=291,SNR=5.8						
I29M	Ogilvie Camp,	50.99	33	P	P	06 24 00.8	+1.3
	baz=291						
DAWY	Dawson	51.01	34	P	P	06 24 00.7	+1.0
DAWY	Dawson	51.01	34	P	P	06 24 01.0	+1.3
	baz=291,SNR=5.0						
BARN	Barnard Glacie	51.12	39	P	P	06 24 02.3	+1.6
F30M	Barrier River	51.13	29	P	P	06 24 02.2	+1.7
	baz=291						
G30M	tAoh Zraii Nji	51.20	30	IAmb	IAmb	06 24 03.5	
	comp=Z,20nm,0.8s						
G30M	tAoh Zraii Nji	51.20	30	P	P	06 24 02.1	+1.0
	baz=291,SNR=18						
EPYK	Eagle Plains	51.24	31	P	P	06 24 02.7	+1.3
	baz=291,SNR=22						
CTG	Chitna Glacier	51.29	39	P	P	06 24 03.5	+1.6
	baz=292,SNR=7.8						
J29N	Klondike Camp	51.35	34	IAmb	IAmb	06 24 04.6	
	comp=Z,8.3nm,0.4s						
J29N	Klondike Camp	51.35	34	P	P	06 24 03.8	+1.6
	baz=291						
YUK3	Moose Creek	51.39	37	P	P	06 24 04.2	+1.5
	baz=292						
INK	Inuvik	51.67	28	P	P	06 24 05.3	+1.0
INK				IAmb	IAmb	06 24 06.2	
	comp=Z,15nm,0.7s						
INK	Inuvik	51.67	28	P	P	06 24 05.4	+1.1
	baz=292,SNR=17						
INK	Inuvik	51.67	28	P	P	06 24 05.3	+1.0
INK				pmax	pmax		
	comp=Z,15nm,0.7s						
I30M	Mount Dempster	51.80	32	P	P	06 24 06.9	+1.5
	baz=292						
K29M	Barlow Dome	51.86	34	IAmb	IAmb	06 24 08.6	
	comp=Z,15nm,1.0s						
K29M	Barlow Dome	51.86	34	P	P	06 24 07.7	+1.8
	baz=292						
L29M	L29M	51.89	35	IAmb	IAmb	06 24 10.5	
	comp=Z,15nm,1.2s						
L29M	L29M	51.89	35	P	P	06 24 08.4	+2.3
	baz=292						
F31M	Tsiigehtchic	51.93	29	IAmb	IAmb	06 24 08.0	
	comp=Z,15nm,1.0s						
F31M	Tsiigehtchic	51.93	29	P	P	06 24 07.0	+0.9
	baz=293,SNR=12						
G31M	Satah River	51.94	30	P	P	06 24 07.1	+0.8
	baz=293						
M29M	Somme Creek	52.01	36	P	P	06 24 09.4	+2.4
	baz=293						
J30M	Hart River	52.06	33	IAmb	IAmb	06 24 09.4	
	comp=Z,7.4nm,0.5s						
J30M	Hart River	52.06	33	P	P	06 24 08.9	+1.5
	baz=293,SNR=12						
PINM	Pinnacle	52.12	39	P	P	06 24 09.6	+1.7
	baz=293						
YUK4	Talbot Arm	52.36	37	P	P	06 24 11.3	+1.7
	baz=293,SNR=7.5						
MAYO	Mayo, Yukon	52.63	34	P	P	06 24 12.8	+1.5
MAYO	Mayo, Yukon	52.63	34	P	P	06 24 13.2	+1.9
	baz=294,SNR=8.3						
YUK6	Outpost Mounta	52.64	38	P	P	06 24 13.6	+1.9
	baz=294						
M30M	Minto, Yukon	52.66	36	P	P	06 24 13.9	+2.2
	baz=294,SNR=5.1						
PNL	Peninsula	52.69	40	P	P	06 24 13.7	+1.8
	baz=294						
A36M	Sachs Harbour	52.72	22	P	P	06 24 13.0	+1.1
	baz=297,SNR=49						
O29M	Mount Kennedy	52.81	39	IAmb	IAmb	06 24 16.3	
	comp=Z,34nm,1.4s						
O29M	Mount Kennedy	52.81	39	P	P	06 24 15.0	+2.2
	baz=294						
SPITS	Spitsbergen Ar	52.82	347	P	P	06 24 12.7	+0.1
	comp=Z,5.6nm,0.8s,baz=78,slow=7.9,SNR=11						
	comp=Z,5.6nm,0.8s						
N30M	Aishikik Lake	52.99	37	P	P	06 24 16.3	+2.2
	baz=294						
HYT	Haines Junctio	53.08	38	IAmb	IAmb	06 24 17.8	
	comp=Z,14nm,0.8s						
HYT	Haines Junctio	53.08	38	P	P	06 24 16.9	+2.2
	baz=295,SNR=10						
P29M	Windy Craggy	53.47	39	P	P	06 24 19.9	+2.4
	baz=295						
N31M	Braeburn, Yuko	53.55	37	IAmb	IAmb	06 24 21.0	
	comp=Z,17nm,1.1s						
N31M	Braeburn, Yuko	53.55	37	P	P	06 24 20.4	+2.4
	baz=295						
P30M	Million Dollar	53.62	38	P	P	06 24 20.7	+2.2
	baz=295						
O30N	Mendenhall	53.73	37	P	P	06 24 21.1	+1.9
	baz=296						
M31M	Drury Creek, Y	53.84	35	P	P	06 24 21.8	+1.8
	baz=296						
PLBC	Pleasant Camp	54.18	39	P	P	06 24 24.6	+2.2
	baz=296						
FARO	Faro, Yukon	54.27	35	IAmb	IAmb	06 24 25.6	
	comp=Z,15nm,1.3s						
FARO	Faro, Yukon	54.27	35	P	P	06 24 24.9	+1.9
	baz=297						
WHY	Whitehorse	54.31	37	P	P	06 24 25.2	+1.7
	baz=297						
C36M	Paulatuk	54.31	25	P	P	06 24 24.1	+1.0
	baz=299						
SKAG	Skagway	54.65	39	P	P	06 24 27.9	+2.2
	baz=297						
S31K	Pelican	54.91	41	P	P	06 24 29.9	+2.3
	baz=297						
R31K	City Hall, Gus	54.94	40	P	P	06 24 30.1	+2.4
	baz=297						
P33M	Teslin, Yukon	55.42	37	IAmb	IAmb	06 24 33.7	
	comp=Z,8.5nm,0.6s						
P33M	Teslin, Yukon	55.42	37	P	P	06 24 33.4	+2.1
	baz=298,SNR=7.4						
ARCES	ARCESS Array B	55.55	336	P	P	06 24 32.0	+0.2
	comp=Z,1.0nm,0.6s,baz=64,slow=7.9,SNR=9.0						
ARCES				PcP	PcP	06 25 25.2	+0.9
	comp=Z,2.6nm,0.8s,ba

comp=Z,1.0nm,0.6s
SIT Sitka 55.77 41 P P 06 24 35.9 +2.3
baz=298
Q32M Nakina River 56.27 38 P P 06 24 39.6 +2.3
baz=299
R33M Jennings River 56.64 38 P P 06 24 41.9 +2.1
baz=300
WTLY Watson Lake, Y 57.22 36 P P 06 24 45.6 +2.0
baz=301
U33K Whale Pass 57.30 42 P P 06 24 46.5 +2.4
baz=300
S34M Telegraph Cree 57.32 39 P P 06 24 46.4 +2.2
baz=301
WRAK Wrangell Islan 57.51 41 P P 06 24 47.8 +2.2
baz=301
DLBC Dease Lake 57.55 38 P P 06 24 48.3 +2.4
baz=301
WRGLY Wrigley 57.71 31 IAmb IAmb 06 24 49.1
comp=Z,19nm,1.5s
WRGLY Wrigley 57.71 31 P P 06 24 48.3 +1.5
baz=303
RES Resolute Bay 57.88 13 IAmb IAmb 06 24 48.9
comp=Z,11nm,0.7s
T35M Bob Quinn 58.21 40 P P 06 24 52.1 +1.8
baz=302
KOTAN Kotaneelee Air 59.21 35 P P 06 24 58.8 +1.8
baz=304
NEEM North Greenlan 59.29 1 *i* P P 06 24 57.2 -0.4
FINES FINESS Array B 59.97 328 P P 06 25 02.0 -0.1
comp=Z,2.1nm,0.5s,baz=71,slow=7.1,SNR=10
FINES PcP PcP 06 25 42.1 0.0
comp=Z,2.1nm,0.5s,baz=56,slow=3.8,SNR=9.4
comp=Z,2.1nm,0.5s
YKA Yellowknife Ar 61.41 29 P P 06 25 12.2 +0.7
comp=Z,4.6nm,0.7s,baz=310,slow=6.7,SNR=71
comp=Z,4.6nm,0.7s
WRA Warramunga Arr 63.16 179 P P 06 25 24.0 +0.6
comp=Z,0.9nm,0.4s,baz=352,slow=7.0,SNR=15
WRA PcP PcP 06 25 56.9 +1.3
comp=Z,0.2nm,0.4s,baz=355,slow=4.9,SNR=4.8
comp=Z,0.9nm,0.4s
UPNV Upernavik 63.83 3 *i* P P 06 25 26.2 -0.8
UPNV IAmb IAmb 06 25 27.5
comp=Z,9.6nm,0.5s
SUMG Summit 64.05 357 *i* P P 06 25 29.0 0.0
SUMG IAmb IAmb 06 25 30.5
comp=Z,4.9nm,0.8s
AKASG Malin Array Be 65.17 317 P P 06 25 35.5 -0.4
comp=Z,0.4nm,0.3s,baz=46,slow=7.2,SNR=6.1
comp=Z,0.4nm,0.3s
HFS Hagfors 65.41 331 P P 06 25 37.1 -0.2
comp=Z,4.3nm,0.7s,baz=102,slow=5.1,SNR=7.5
comp=Z,4.3nm,0.7s
NB2 NORSAR Subarra 65.59 333 P P 06 25 38.4 0.0
comp=Z,0.9nm,0.6s,baz=42,slow=6.2
NOA NORSAR Array B 65.59 333 P P 06 25 38.6 +0.1
comp=Z,1.5nm,0.6s,baz=23,slow=20,SNR=4.6
comp=Z,1.5nm,0.6s
ICESG Greenland Ices 67.58 357 *i* P P 06 25 51.1 +0.1
ICESG IAmb IAmb 06 25 52.5
comp=Z,5.1nm,0.7s
BRTR Keskin Array B 69.74 306 P P 06 26 04.6 +0.2
comp=Z,0.6nm,0.7s,baz=26,slow=3.7,SNR=1.7
comp=Z,0.6nm,0.7s
DY2G Dye2 70.34 360 *i* P P 06 26 08.1 +0.5
DY2G IAmb IAmb 06 26 09.1
comp=Z,8.9nm,0.6s
FCC Fort Churchill 70.91 24 P P 06 26 11.3 +0.6
FCC IAmb IAmb 06 26 12.3
comp=Z,8.4nm,0.8s
FCC Fort Churchill 70.91 24 P P 06 26 11.3 +0.6
FCC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 71.56 30 P P 06 26 15.3 +0.6
FFC IAmb IAmb 06 26 16.3
comp=Z,8.0nm,0.8s
FFC Flin Flon 71.56 30 P P 06 26 15.3 +0.6
FFC pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 72.16 325 *i* P P 06 26 18.9 +0.7
CLL Collm 72.16 325 *i* P P 06 26 18.9 +0.7
MSO Missoula 72.39 41 P P 06 26 21.8 +2.0
baz=316
J08A Circle Bar Ran 72.53 46 IAmb IAmb 06 26 23.8
comp=Z,13nm,1.1s
EGMT Eagleton 73.48 38 P P 06 26 27.0 +1.0
EGMT Eagleton 73.48 38 P P 06 26 27.6 +1.6
baz=318,SNR=7.6
GERES GERESS Array B 73.71 323 P P 06 26 27.3 -0.1
comp=Z,0.9nm,0.6s,baz=26,slow=6.9,SNR=3.0
comp=Z,0.9nm,0.6s
MFID Camas Ranch 73.87 45 IAmb IAmb 06 26 31.2
comp=Z,9.4nm,0.8s
HLID Hailey 74.49 44 P P 06 26 34.0 +2.0
baz=316,SNR=5.6
EKA Eskdalemuir Ar 74.71 336 P P 06 26 33.5 +0.8
comp=Z,1.1nm,0.3s,baz=34,slow=5.2,SNR=6.8
comp=Z,1.1nm,0.3s
PNTR Pine Nut 74.88 50 P P 06 26 36.5 +2.2
PNTR IAmb IAmb 06 26 37.1
comp=Z,6.6nm,0.9s
YHL Hebgen Lake 75.15 41 IAmb IAmb 06 26 38.8
comp=Z,12nm,1.1s
YERR Yerington 75.15 50 IAmb IAmb 06 26 38.5
comp=Z,11nm,1.2s
STKA Stephens Creek 75.45 172 P P 06 26 38.7 +1.7
comp=Z,2.8nm,0.4s,baz=6.1,slow=6.5,SNR=14
comp=Z,2.8nm,0.4s
DGMT Dagmar 75.56 35 P P 06 26 39.1 +1.4
baz=321
YFT Old Faithful 75.61 42 IAmb IAmb 06 26 42.9
comp=Z,7.0nm,1.0s
KVN Kaiserville 75.74 49 IAmb IAmb 06 26 41.8
comp=Z,5.6nm,0.7s
H17A Grant Village 75.78 41 IAmb IAmb 06 26 43.7
comp=Z,9.3nm,0.8s
H17A Grant Village 75.78 41 P P 06 26 43.0 +3.7
baz=318,SNR=8.5
RLMT Red Lodge 75.86 40 P P 06 26 41.3 +1.6
baz=319
IMW Indian Meadow 75.97 42 IAmb IAmb 06 26 43.9
comp=Z,5.4nm,0.8s
LAO LASA Array 76.06 38 P P 06 26 42.2 +1.7
baz=320
NVAR Mina Array Bea 76.06 50 P P 06 26 42.7 +1.8
NVAR Mina Array Bea 76.06 50 P P 06 26 43.0 +2.0
comp=Z,5.1nm,0.6s,baz=299,slow=5.3,SNR=53
comp=Z,5.1nm,0.6s
ELK Elko 76.08 47 P P 06 26 42.8 +1.8
ELK Elko 76.08 47 P P 06 26 42.8 +1.8
ELK pmax pmax
comp=Z,2.0nm,0.8s
MOOW Moose Ponds 76.18 42 IAmb IAmb 06 26 44.8
comp=Z,8.3nm,1.1s
TPAW Teton Pass 76.27 42 P P 06 26 44.0 +2.0
HWUT Hardware Ranch 77.36 44 IAmb IAmb 06 26 50.9
comp=Z,10.0nm,0.7s
ULM Lac du Bonnet 77.38 30 IAmb IAmb 06 26 48.6
comp=Z,8.3nm,0.7s
ULM Lac du Bonnet 77.38 30 P P 06 26 48.0 +0.4
comp=Z,8.7nm,0.5s,baz=324,slow=6.3,SNR=28
comp=Z,8.7nm,0.5s
VES Vestal, Richgr 77.44 52 P P 06 26 50.0 +1.8
baz=315
BW06 Boulder Array 77.49 42 P P 06 26 49.2 +0.6
BW06 IAmb IAmb 06 26 50.6
comp=Z,7.2nm,0.9s
BW06 Boulder Array 77.49 42 P P 06 26 50.0 +1.3
baz=319,SNR=13
PD31 Pinedale Array 77.49 42 P P 06 26 49.1 +0.5
PDAR Pinedale Array 77.49 42 P P 06 26 49.5 +0.9
PDAR Pinedale Array 77.49 42 P P 06 26 49.8 +1.2
comp=Z,4.6nm,0.6s,baz=44,slow=1.7,SNR=59
comp=Z,4.6nm,0.6s
Q12A Willow Creek R 77.53 48 IAmb IAmb 06 26 51.8
comp=Z,7.2nm,0.7s
CWC Cottonwood Cre 77.60 51 P P 06 26 51.0 +1.7
baz=315
GRAC Grapevine Rang 77.60 51 IAmb IAmb 06 26 52.1
comp=Z,7.6nm,0.9s
GRAC Grapevine Rang 77.60 51 P P 06 26 51.4 +2.3
baz=316
R11B Troy Canyon, C 77.62 49 P P 06 26 51.4 +2.0
baz=316
PKM Mcpherson Peak 77.69 53 P P 06 26 51.8 +2.0
baz=315
DUG Dugway, Tooele 77.75 46 P P 06 26 52.2 +2.2
baz=317,SNR=5.4

ISA Isabella, Lake 77.92 52 P P 06 26 52.1 +1.2
baz=315
MDND Maddock 77.94 33 P P 06 26 52.0 +1.3
baz=324
ARVC Arvin 78.09 53 P P 06 26 53.8 +2.0
baz=315
MPMC Manual Prospec 78.20 51 P P 06 26 54.3 +1.7
baz=316
TPNV Topopah Spring 78.26 50 IAmb IAmb 06 26 55.1
comp=Z,5.9nm,0.5s
TPNV Topopah Spring 78.26 50 P P 06 26 54.9 +2.0
baz=316,SNR=8.5
FURC Furnace Creek, 78.26 51 P P 06 26 54.8 +2.2
baz=316,SNR=6.1
LRMC Laurel Mtn Rad 78.50 52 P P 06 26 55.6 +1.5
baz=316
OSI Oaito Audit: C 78.52 53 P P 06 26 56.0 +1.9
baz=315
BSUT Blindstream Ca 78.56 44 P P 06 26 56.5 +1.9
GWY Greenwater Val 78.57 51 IAmb IAmb 06 26 56.7
comp=Z,4.4nm,0.5s
QSM Queen of Sheba 78.62 51 IAmb IAmb 06 26 57.3
comp=Z,7.1nm,0.8s
EDW2 Edwards Air Fo 78.75 52 P P 06 26 57.1 +1.7
baz=316
SHOC Shoshone, Teco 79.00 51 P P 06 26 58.3 +1.7
baz=316
AGMN Agassiz Nation 79.01 31 P P 06 26 56.8 +0.4
baz=326
K22A Casper 79.03 40 P P 06 26 58.1 +1.2
baz=320
RSSD Black Hills 79.03 38 P P 06 26 58.2 +1.3
RSSD Black Hills 79.03 38 P P 06 26 58.2 +1.3
baz=322
RSSD Black Hills 79.03 38 P P 06 26 58.2 +1.3
RSSD pmax pmax
comp=Z,4.0nm,0.7s
GSC Goldstone, Bar 79.13 51 P P 06 26 59.2 +1.8
baz=316
RDMU Red Mountain 79.13 43 IAmb IAmb 06 26 59.8
comp=Z,5.7nm,0.6s
TMUT Trail Mountain 79.25 45 IAmb IAmb 06 27 01.0
comp=Z,6.3nm,0.8s
P17A Butcher Ranch, 79.36 45 IAmb IAmb 06 27 02.2
comp=Z,16nm,1.4s
P18A Preston Nutter 79.50 44 IAmb IAmb 06 27 02.4
comp=Z,11nm,0.8s
TUQ Turquoise Moun 79.53 51 P P 06 27 01.8 +2.2
baz=316
SRU San Rafael Swe 79.74 45 IAmb IAmb 06 27 03.2
comp=Z,4.7nm,0.6s
BBRC Big Bear Solar 79.81 52 P P 06 27 02.9 +1.7
baz=316
V12A Nelson 79.92 50 P P 06 27 02.1 +0.5
O20A White River Ci 80.12 43 P P 06 27 04.2 +1.5
baz=320
MURC Murrieta 80.13 53 P P 06 27 04.4 +1.8
baz=316
GMRC Granite Mounta 80.15 51 P P 06 27 04.9 +2.0
baz=317
PFO Pinyon Flats O 80.55 52 P P 06 27 06.5 +1.5
baz=316
TPFO Pinon Flats 80.55 52 P P 06 27 06.7 +1.7
baz=316
SCHQ Scheffer ville 80.59 11 P P 06 27 05.1 +0.5
comp=Z,1.2nm,0.4s,baz=4.0,slow=7.1,SNR=7.2
comp=Z,1.2nm,0.4s
N23A Red Feather La 80.66 41 P P 06 27 07.2 +1.6
baz=321
109C Camp Elliot, M 80.69 53 P P 06 27 06.9 +1.4
baz=316
U15A North Rim 80.81 48 IAmb IAmb 06 27 09.7
comp=Z,8.8nm,0.8s
EYMN Ely 80.88 28 P P 06 27 06.9 +0.7
baz=329
IRM Iron Mountain 80.90 51 P P 06 27 08.8 +2.2
baz=317
SUSD Miller 80.96 35 P P 06 27 08.2 +1.4
baz=325
MONP2 Monument Peak 81.09 53 P P 06 27 09.6 +1.8
baz=317
BC3 Big Chuckawall 81.09 52 P P 06 27 09.8 +2.1
baz=317
PDMCI Parker Dam,Lak 81.36 50 P P 06 27 11.3 +2.4
baz=318
SMCO Snowmass 81.48 43 P P 06 27 10.8 +0.7
SMCO IAmb IAmb 06 27 12.7
comp=Z,4.9nm,0.7s
ISCO Idaho Springs 81.67 42 P P 06 27 12.9 +2.1
baz=321
GLA Glamis 81.89 52 P P 06 27 14.0 +2.2
baz=317
WUAZ Wupatki 81.98 48 P P 06 27 14.7 +2.4
baz=319
MVCO Mesa Verde 82.22 45 P P 06 27 15.7 +2.1
baz=320
OGNE Ogallala 82.44 39 P P 06 27 16.1 +1.6
baz=323
ECSD EROS Data Cent 82.50 34 IAmb IAmb 06 27 16.1
comp=Z,5.9nm,0.6s
ECSD EROS Data Cent 82.50 34 P P 06 27 15.7 +1.1
baz=326
Q24A Divide 82.54 42 P P 06 27 16.9 +1.5
baz=322
S22A 4UR Ranch, Cre 82.66 44 P P 06 27 17.7 +1.8
baz=321
SPMN Marine on St. 82.73 31 P P 06 27 17.3 +1.6
baz=328
SDCO Great Sand Dun 83.32 43 P P 06 27 20.9 +1.7
baz=322
X18A Snowflake 83.50 48 IAmb IAmb 06 27 23.1
comp=Z,5.3nm,0.8s
BGNE Belgrade 83.78 36 P P 06 27 22.7 +1.5
baz=325
214A Organ Pipe Nat 83.84 51 P P 06 27 23.5 +1.9
baz=318
T25A Trinidad 84.34 43 P P 06 27 25.7 +1.5
baz=322
TUC Tucson 84.72 50 P P 06 27 27.6 +1.6
baz=319
ANMO Albuquerque 85.02 45 P P 06 27 29.9 +2.3
baz=321
CBKS Cedar Bluff 85.21 39 P P 06 27 29.7 +1.5
baz=325
SCIA State Center 85.39 33 P P 06 27 30.5 +1.5
baz=328
RTBA Rita Blanca 85.71 42 IAmb IAmb 06 27 32.9
comp=Z,7.1nm,0.7s
121A Cookes Peak, D 86.18 48 P P 06 27 34.8 +1.6
baz=321
KSU1 Kansas State U 86.35 36 P P 06 27 35.1 +1.5
baz=326
AMTX Amarillo 87.47 42 P P 06 27 41.0 +1.9
baz=324
MNTX Cornudas Mount 88.11 47 P P 06 27 44.2 +2.2
baz=322
ESDC Sonseca Array 88.49 328 P P 06 27 44.0 +0.4
comp=Z,0.3nm,0.5s,baz=15,slow=5.3,SNR=2.6
comp=Z,0.3nm,0.5s
LONY Lake Ozonia 88.88 19 P P 06 27 46.2 +0.8
baz=340
TUL3 Leonard 89.37 38 P P 06 27 49.5 +1.7
baz=327
CCM Cathedral Cave 89.47 33 P P 06 27 49.8 +1.6
baz=330
O48B Farmland 89.81 28 P P 06 27 50.9 +1.2
baz=334
M53A WI Miller and 90.18 25 P P 06 27 52.4 +1.0
baz=336
ABTX Abilene, Hawle 90.29 42 P P 06 27 53.7 +1.6
baz=325
ACSO Alum Creek Sta 90.56 27 P P 06 27 54.3 +1.1
baz=335
P49A Miami Univ. Ec 90.60 28 P P 06 27 54.7 +1.3
baz=334
TX31 Lajitas Ar. Si 90.88 47 IAmb IAmb 06 27 58.2
comp=Z,4.4nm,1.2s
TXAR Lajitas Array 90.88 47 P P 06 27 56.9 +1.9
comp=Z,1.5nm,0.7s,baz=277,slow=3.4,SNR=17
comp=Z,1.5nm,0.7s
WCI Wyandotte Cave 91.21 30 P P 06 27 57.6 +1.4
baz=333
JCT Junction City 91.95 43 P P 06 28 01.6 +1.7
baz=325
QSPA South Pole Qui 133.25 180 PKP PKiKP 06 34 04.4 +0.6
comp=Z,1.4nm,0.9s,baz=304,slow=3.0,SNR=4.1
SNAA Sanae 144.66 202 PKPdf 06 34 23.4 +0.4
SNAA Sanae 144.66 202 PKIKP PKPdf 06 34 23.4 +0.4

LPAZ La Paz 147.49 40 PKPdf 06 34 31.3 +1.2
LPAZ La Paz 147.49 40 PKIKP PKPdf 06 34 31.3 +1.2
VILB Vilhena 147.51 24 PKiKP 06 34 34.6 +0.1
BDFB Brasilia 152.21 2 PKPbc PKiKP 06 34 44.6 +0.4
comp=Z,2.2nm,0.7s,baz=237,slow=3.5,SNR=5.2

IDC ***24*** *06:29:26.2±1.2,55.98N×150.02W,h0km,mb3.6/6, mbtmp3.7/11,ML3.9/5,MS3.3/12,Error ellipse: s-maj=26.0km s-min=17.1km az=36.0*
NEIC ***24*** *06:29:29.0±1.9,56.0N±0.1×150.1W±0.1,h34km±13km, ML4.0/46,ML3.9(AEIC),Error ellipse: s-maj=15.7km s-min=8.3km az=159.0*
AEIC ***24*** *06:29:30.6±2.4,55.98N±0.09×149.99W±0.10,h12km±7km, Error ellipse: s-maj=13.0km s-min=7.8km az=171.0*
ISC 24 06:29:27.7±0.9,56.11N±0.08×150.06W±0.05,h10km, n229,σ0685/215,mb3.7/6,MS3.4/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.10**	**303**		Pn	06 30 01.2	-1.6
OHAK					**Sn**	**06 30 26.2**	**-2.8**
OHAK	**Old Harbor**	**2.10**	**303**	P	Pn	06 30 01.2	-1.6
	baz=122						
OHAK				S	**Sn**	**06 30 25.9**	**-3.1**
	baz=122						
KDAK	**Kodiak Island**	**2.17**	**322**	Pn	**Pn**	**06 30 03.2**	**-0.6**
KDAK	**Kodiak Island**	**2.17**	**322**		**Sn**	**06 30 29.9**	**-0.8**
KDAK	**Kodiak Island**	**2.17**	**322**	Pn	**Pn**	**06 30 03.3**	**-0.6**
	22nm,0.3s,baz=168,slow=5.9,SNR=73						
KDAK				Sn	**Sn**	**06 30 30.2**	**-0.6**
	11nm,0.3s,baz=172,slow=14,SNR=4.2						
KDAK				LR	LR	06 31 05.2	
	comp=Z,338nm,21.9s,baz=186,slow=43						
	59nm,0.5s						
SII	**Sitkinak Islan**	**2.34**	**283**		Pn	06 30 03.8	-2.4
SII					**Sn**	**06 30 32.0**	**-2.9**
SII	**Sitkinak Islan**	**2.34**	**283**	IAML		06 30 48.0	
	comp=N,500nm,0.8s						
SII	**Sitkinak Islan**	**2.34**	**283**	P	Pn	06 30 04.4	-1.8
	baz=101						
SYI	**Shuyak Island**	**2.81**	**334**		**Pn**	**06 30 12.3**	**-0.3**
SYI	**Shuyak Island**	**2.81**	**334**		**Sn**	**06 30 45.5**	**-0.9**
Q20K	**Shuyak Island**	**2.81**	**334**	P	**Pn**	**06 30 12.5**	**0.0**
	baz=152						
Q20K				S	**Sn**	**06 30 45.5**	**-0.9**
	baz=152						
KAHG	**Katmai Hook Gl**	**3.41**	**316**		**Pn**	**06 30 21.3**	**+0.3**
Q19K	**Cape Douglas,**	**3.42**	**327**		**Pn**	**06 30 21.7**	**+0.7**
Q19K					**Sn**	**06 31 01.1**	**-0.5**
Q19K	**Cape Douglas,**	**3.42**	**327**	P	**Pn**	**06 30 22.0**	**+0.9**
	baz=144						
Q19K				S	**Sn**	**06 31 01.1**	**-0.5**
	baz=144						
CNPM	**China Poot**	**3.48**	**350**	Pn	**Pn**	**06 30 21.7**	**-0.1**
CNPM				IAML		06 31 04.8	
	comp=E,250nm,0.6s						
CNPM	**China Poot**	**3.48**	**350**		**Sn**	**06 31 02.4**	**-0.7**
KCE	**Katmai Mt Cerb**	**3.51**	**310**		**Pn**	**06 30 23.0**	**+0.7**
ACHA	**Angle Creek He**	**3.56**	**308**		**Pn**	**06 30 22.7**	**-0.2**
ACHA					**Sn**	**06 31 02.1**	**-3.0**
ANCK	**Angle Creek**	**3.62**	**308**		**Pn**	**06 30 24.0**	**+0.2**
KVTA	**Katmai Vly 10**	**3.64**	**311**		**Pn**	**06 30 24.4**	**+0.3**
HOM	**Homer**	**3.66**	**347**	Pn	**Pn**	**06 30 25.0**	**+0.8**
HOM				IAML		06 31 10.4	
	comp=N,492nm,0.8s						
HOM				IAML		06 31 36.0	
	comp=E,450nm,1.7s						
BRSE	**Bradley Lake S**	**3.66**	**355**		**Pn**	**06 30 23.4**	**-0.8**
BRSE	**Bradley Lake S**	**3.66**	**355**	P	**Pn**	**06 30 23.4**	**-0.8**
	baz=173						
BRLK	**Bradley Lake**	**3.69**	**354**		**Pn**	**06 30 23.8**	**-1.0**
BRLK	**Bradley Lake**	**3.69**	**354**	IAML		06 31 09.5	
	comp=N,175nm,0.7s						
BRLK				IAML		06 31 10.6	
	comp=E,188nm,0.9s						
KAHC	**Katmai Hardscr**	**3.69**	**316**		**Pn**	**06 30 25.2**	**+0.3**
KAHC	**Katmai Hardscr**	**3.69**	**316**	P	**Pn**	**06 30 25.5**	**+0.7**
	baz=132						
AUCH	**Augustine Cone**	**3.73**	**332**		**Pn**	**06 30 25.4**	**0.0**
Q17K	**Contact Creek**	**3.83**	**307**	P	**Pn**	**06 30 26.6**	**-0.2**
	baz=122						
Q23K	**Middleton Isla**	**3.88**	**29**		**Pn**	**06 30 26.3**	**-1.0**
Q23K	**Middleton Isla**	**3.88**	**29**	IAML		06 31 05.1	
	comp=N,224nm,2.4s						
Q23K				IAML		06 31 26.3	
	comp=E,330nm,3.3s						
Q23K	**Middleton Isla**	**3.88**	**29**	P	**Pn**	**06 30 26.3**	**-1.0**
	baz=211						
MID	**Middleton Isla**	**3.88**	**29**	Pn	**Pn**	**06 30 26.3**	**-1.0**
MID				IAML		06 31 16.6	
	comp=N,234nm,3.4s						
MID				IAML		06 31 26.3	
	comp=E,354nm,3.2s						
MID	**Middleton Isla**	**3.88**	**29**	P	**Pn**	**06 30 26.6**	**-0.6**
P19K	**Oil Pt**	**3.93**	**336**		**Pn**	**06 30 28.6**	**+0.5**
P19K	**Oil Pt**	**3.93**	**336**	P	**Pn**	**06 30 28.6**	**+0.5**
	baz=153						
SEW	**Seward**	**4.02**	**4**		**Pn**	**06 30 27.9**	**-1.2**
SEW	**Seward**	**4.02**	**4**	P	**Pn**	**06 30 27.9**	**-1.2**
	baz=184						
P23K	**Montague Islan**	**4.14**	**19**		**Pn**	**06 30 30.0**	**-0.9**
P23K	**Montague Islan**	**4.14**	**19**	P	**Pn**	**06 30 30.0**	**-0.9**
	baz=200						
IVE	**Iliamna Volcan**	**4.22**	**339**		**Pn**	**06 30 31.9**	**-0.2**
P18K	**Big Mountain,**	**4.30**	**322**		**Pn**	**06 30 32.8**	**-0.3**
P18K	**Big Mountain,**	**4.30**	**322**	P	**Pn**	**06 30 32.8**	**-0.3**
	baz=138						
R16K	**Pilot Point**	**4.38**	**293**		**Pn**	**06 30 33.4**	**-0.7**
R16K	**Pilot Point**	**4.38**	**293**	IAML		06 32 52.8	
	comp=N,228nm,3.3s						
R16K				IAML		06 33 09.4	
	comp=E,302nm,2.1s						
R16K	**Pilot Point**	**4.38**	**293**	P	**Pn**	**06 30 32.8**	**-1.3**
	baz=107						
O22K	**Cooper Landing**	**4.39**	**2**		**Sn**	**06 31 24.9**	**-0.4**
O22K	**Cooper Landing**	**4.39**	**2**		**Pn**	**06 30 33.8**	**-0.4**
O22K	**Cooper Landing**	**4.39**	**2**	P	**Pn**	**06 30 33.4**	**-0.8**
	baz=182						
Q16K	**King Salmon**	**4.40**	**309**		**Pn**	**06 30 34.2**	**-0.3**
Q16K	**King Salmon**	**4.40**	**309**	P	**Pn**	**06 30 34.1**	**-0.3**
	baz=124						
SLKM	**Skilak Lake**	**4.41**	**359**		**Pn**	**06 30 34.0**	**-0.7**
RED	**Redoubt Volcan**	**4.55**	**343**		**Pn**	**06 30 35.6**	**-1.0**
RSO	**Redoubt South**	**4.59**	**343**		**Pn**	**06 30 37.2**	**0.0**
P17K	**Kvichak River**	**4.61**	**315**		**Pn**	**06 30 37.0**	**-0.3**
P17K	**Kvichak River**	**4.61**	**315**	P	**Pn**	**06 30 36.4**	**-1.0**
	baz=130						
O18K	**Koktuh Hills**	**4.65**	**326**		**Pn**	**06 30 37.3**	**-0.5**
O18K	**Koktuh Hills**	**4.65**	**326**	IAML		06 31 32.5	
	comp=N,97nm,0.9s						
O18K				IAML		06 31 47.5	
	comp=E,87nm,0.7s						
O18K	**Koktuh Hills**	**4.65**	**326**	P	**Pn**	**06 30 36.8**	**-1.1**
	baz=142						
CHGN	**Chignik**	**4.67**	**276**	Pn	Pn	06 30 36.2	-1.9
CHGN				IAML		06 31 38.1	
	comp=N,74nm,0.8s						
CHGN				IAML		06 31 38.9	
	comp=E,85nm,1.0s						
Q19K	**Port Alsworth**	**4.67**	**333**		**Pn**	**06 30 38.4**	**+0.2**
Q19K	**Port Alsworth**	**4.67**	**333**	P	**Pn**	**06 30 38.4**	**+0.2**
	baz=149						
HIN	**Hinchinbrook I**	**4.69**	**22**		**Pn**	**06 30 38.2**	**-0.3**
HIN				IAML		06 31 35.1	
	comp=E,119nm,1.1s						
HIN				IAML		06 31 38.2	
	comp=N,122nm,0.8s						
DFR	**Drift River**	**4.70**	**344**		**Pn**	**06 30 38.5**	**-0.1**
CAPN	**Captain Cook N**	**4.71**	**353**		**Pn**	**06 30 39.3**	**+0.7**
CAPN	**Captain Cook N**	**4.71**	**353**	P	**Pn**	**06 30 39.5**	**+0.9**
	baz=172						
KAIM	**Kayak Island**	**4.86**	**36**		**Pn**	**06 30 40.1**	**-0.6**
KAIM	**Kayak Island**	**4.86**	**36**	IAML		06 31 33.6	
	comp=E,150nm,3.5s						
KAIM				IAML		06 31 35.7	
	comp=N,157nm,2.2s						
KAIM	**Kayak Island**	**4.86**	**36**	P	**Pn**	**06 30 40.4**	**-0.4**
	baz=219						
EYAK	**Cordova Ski Ar**	**5.00**	**25**		**Pn**	**06 30 42.1**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.00**	**25**	P	**Pn**	**06 30 42.6**	**0.0**
EYAK	**Cordova Ski Ar**	**5.00**	**25**	P	**Pn**	**06 30 42.3**	**-0.3**
	baz=208						
RC01	**Rabbit Creek A**	**5.00**	**2**		**Pn**	**06 30 41.8**	**-0.8**

RC01	**Rabbit Creek A**	5.00	2	IAML			06 31 44.7	
	comp=E,68nm,0.9s							
RC01				IAML			06 31 44.8	
	comp=N,63nm,0.4s							
RC01	**Rabbit Creek A**	5.00	2	P		Pn	06 30 42.0	-0.7
	baz=181							
FID	**Port Fidalgo**	5.02	21			Pn	06 30 42.2	-0.7
RAGM	**Ragged Mountai**	5.14	31			Pn	06 30 44.4	-0.3
RAGM	**Ragged Mountai**	5.14	31	IAML			06 31 53.1	
	comp=E,110nm,0.9s							
P16K	**Nushagak River**	5.17	308			Pn	06 30 45.0	-0.1
P16K	**Nushagak River**	5.17	308	P		Pn	06 30 44.6	-0.4
	baz=122							
N20K	**Mount Spurr**	5.23	349	P		Pn	06 30 45.2	-0.7
	baz=166							
SPCR	**Spurr Chakacha**	5.23	349			Pn	06 30 45.2	-0.7
O17K	**Koliganek Bris**	5.24	317			Pn	06 30 45.7	-0.3
O17K	**Koliganek Bris**	5.24	317	P		Pn	06 30 45.7	-0.3
	baz=132							
N19K	**Bonanza Creek**	5.25	336			Pn	06 30 45.8	-0.5
N19K	**Bonanza Creek**	5.25	336	IAML			06 32 04.6	
	comp=N,43nm,1.0s							
N19K	**Bonanza Creek**	5.25	336	P		Pn	06 30 45.8	-0.5
	baz=152							
GOAT	**Goat Mountain**	5.29	30			Pn	06 30 46.5	-0.2
SUA	**Susitna One**	5.38	356			Pn	06 30 47.1	-0.9
KNK	**Knik Glacier**	5.38	8			Pn	06 30 47.5	-0.4
BERG	**Berg Lake**	5.45	35			Pn	06 30 48.2	-0.7
STLK	**Strandline Lak**	5.48	351			Pn	06 30 48.8	-0.6
DIV	**Divide**	5.51	22			Pn	06 30 49.5	-0.2
N18K	**Kilae Creek**	5.51	329			Pn	06 30 49.3	-0.4
N18K	**Kilae Creek**	5.51	329	P		Pn	06 30 49.3	-0.4
	baz=144							
PMR	**Palmer**	5.52	5	Pn		Pn	06 30 50.7	+0.9
PMR	**Palmer**	5.52	5	P		Pn	06 30 50.9	+1.1
O16K	**Kokwok River B**	5.53	312			Pn	06 30 49.8	-0.2
O16K	**Kokwok River B**	5.53	312	P		Pn	06 30 49.3	-0.6
	baz=126							
CNBA	**Chernabura Isl**	5.57	261			Pn	06 30 49.4	-1.1
SNH	**Sunshine Point**	5.59	40			Pn	06 30 50.1	-0.7
BMRM	**Bremner River**	5.64	28			Pn	06 30 51.0	-0.6
BMRM	**Bremner River**	5.64	28	P		Pn	06 30 51.3	-0.3
	baz=212							
CYK	**Cape Yakataga**	5.66	42			Pn	06 30 51.0	-0.7
GHO	**Glory Hole Cre**	5.71	5			Pn	06 30 52.4	-0.1
SML	**Sawmill**	5.78	8			Pn	06 30 53.5	0.0
SML	**Sawmill**	5.78	8	P		Pn	06 30 53.5	0.0
	baz=189							
N17K	**Nushagak Hills**	5.80	323			Pn	06 30 53.4	-0.3
N17K	**Nushagak Hills**	5.80	323	P		Pn	06 30 53.4	-0.3
	baz=137							
KLU	**Klutina**	5.81	20			Pn	06 30 53.8	0.0
KLU	**Klutina**	5.81	20	P		Pn	06 30 53.9	0.0
	baz=203							
M23K	**Glacier View**	5.83	11			Pn	06 30 54.0	-0.1
M23K	**Glacier View**	5.83	11	P		Pn	06 30 54.2	+0.1
	baz=192							
BARK	**Barkley Ridge**	5.87	40			Pn	06 30 54.3	-0.4
SCM	**Sheep Creek Mo**	5.91	13			Pn	06 30 55.7	+0.4
SCM	**Sheep Creek Mo**	5.91	13	P		Pn	06 30 56.0	+0.7
	baz=194							
SDPT	**Sand Point**	5.94	267	P		Pn	06 30 58.4	+2.9
SKT	**Skwentna**	5.94	353			Pn	06 30 55.4	-0.2
M20K	**Styx River**	6.00	346			Pn	06 30 56.0	-0.5
O15K	**Ungalikthiuk R**	6.08	304			Pn	06 30 57.2	-0.3
O15K	**Ungalikthiuk R**	6.08	304	P		Pn	06 30 56.8	-0.6
	baz=117							
M18K	**Stony River**	6.17	333			Pn	06 30 57.9	-0.8
VRDI	**Verde Repeater**	6.18	31			Pn	06 30 58.4	-0.6
N25K	**Chitina, Valde**	6.20	25			Pn	06 30 59.2	+0.1
N25K	**Chitina, Valde**	6.20	25	P		Pn	06 30 59.5	+0.4
	baz=209							
M19K	**Big River Lodg**	6.22	341			Pn	06 30 59.2	-0.3
GLB	**Gilahina Butte**	6.25	29			Pn	06 30 59.6	-0.3
KIAG	**Kiagna River**	6.29	37			Pn	06 31 00.1	-0.5
M24K	**Tolsona, Glenn**	6.34	17			Pn	06 31 01.4	+0.3
N16K	**Nishlik Lake**	6.34	317			Pn	06 31 01.5	+0.4
N16K	**Nishlik Lake**	6.34	317	P		Pn	06 31 01.2	+0.1
	baz=130							
SAMH	**Samovar Hills**	6.35	47			Pn	06 31 01.1	-0.2
PTPK	**Patty Peak**	6.45	35			Pn	06 31 02.5	-0.2
YKU2	**Yakutat**	6.51	54			Pn	06 31 03.0	-0.4
M17K	**Holitna River**	6.54	327			Pn	06 31 04.1	+0.3
PCA	**Pinnacle**	6.55	48			Pn	06 31 03.5	+0.6
L19K	**White Mountain**	6.57	340	Pn		Pn	06 31 04.2	0.0
WACK	**Wrangell Chich**	6.59	24			Pn	06 31 04.8	0.0
N15K	**Kwethluk River**	6.69	312			Pn	06 31 06.5	+0.7
PNL	**Peninsula**	6.71	54	P		Pn	06 31 06.0	-0.2
WAZA	**Wrangell Mount**	6.71	25			Pn	06 31 06.5	+0.1
BCPM	**Bancas Point**	6.74	51			Pn	06 31 06.3	-0.3
WAT7	**Susitna Watana**	6.77	5			Pn	06 31 06.9	-0.2
M16K	**Timber Creek**	6.77	320			Pn	06 31 07.5	+0.5
O14K	**Tigyukauivet M**	6.78	302			Pn	06 31 06.9	-0.2
WAT1	**Susitna Watana**	6.78	6			Pn	06 31 07.6	+0.4
HARP	**HAARP**	6.79	20			Pn	06 31 07.6	+0.4
L18K	**Granite Mounta**	7.01	334			Pn	06 31 10.0	-0.2
DHY	**Denali Highway**	7.12	10			Pn	06 31 12.3	+0.4
M15K	**Kasigluk River**	7.23	314			Pn	06 31 13.6	+0.4
N14K	**Kuskokwak Cree**	7.26	307			Pn	06 31 13.6	0.0
PAX	**Paxson**	7.26	17			Pn	06 31 14.4	+0.6
M26K	**Nabesna, AK**	7.27	27			Pn	06 31 14.4	+0.5
TRF	**Thorofare Moun**	7.36	359			Pn	06 31 16.6	+1.4
L17K	**Donlin**	7.37	328			Pn	06 31 16.3	+1.1
O29M	**Mount Kennedy**	7.38	51			Pn	06 31 15.1	-0.3
CAST	**Castle Rocks**	7.40	353			Pn	06 31 17.1	+1.5
YUK2	**White River**	7.42	36			Pn	06 31 16.6	+0.7
L16K	**Owhat River**	7.43	323			Pn	06 31 16.9	+1.0
P29M	**Windy Craggy**	7.46	57			Pn	06 31 15.5	-0.9
YUK8	**Steele Glacier**	7.46	42			Pn	06 31 17.6	+1.0
TTA	**Tatalina**	7.48	339	P		Pn	06 31 17.6	+0.9
KTH	**Kantishna Hill**	7.48	357			Pn	06 31 18.6	+1.9
M27K	**Edge Creek, AK**	7.54	30			Pn	06 31 17.9	+0.3
K20K	**Telida**	7.54	346			Pn	06 31 17.3	-0.3
YUK7	**Dusty Glacier**	7.68	50			Pn	06 31 20.1	+0.5
M14K	**Bethel**	7.78	312			Pn	06 31 22.3	+1.5
YUK6	**Outpost Mounta**	7.80	47			Pn	06 31 22.0	+0.6
K17K	**Iditarod**	7.84	331			Pn	06 31 21.9	+0.3
BVCY	**Beaver Creek**	7.88	33			Pn	06 31 23.2	+1.0
P30M	**Million Dollar**	8.01	55			Pn	06 31 24.2	+0.1
BPAW	**Bear Paw Mtn.**	8.03	357			Pn	06 31 24.9	+0.7
HYT	**Haines Junctio**	8.10	49	Pn		Pn	06 31 25.7	+0.5
J18K	**Innoko River**	8.10	338			Pn	06 31 24.8	-0.4
YUK5	**Granite Creek**	8.11	47			Pn	06 31 25.8	+0.3
L27K	**Beaver Creek,**	8.12	28			Pn	06 31 25.4	-0.1
BCAR	**Beaver Creek A**	8.13	28	Pn		Pn	06 31 26.6	+0.9
SIT	**Sitka**	8.19	77	P		Pn	06 31 24.6	-1.8
M13K	**Dall Lake**	8.22	307			Pn	06 31 27.2	+0.4
J20K	**Nowinta River**	8.34	348	Pn		Pn	06 31 30.0	+1.5
J19K	**Poorman**	8.38	343			Pn	06 31 29.0	-0.1
L14K	**Kuka Creek**	8.39	314			Pn	06 31 29.9	+0.8
SCRK	**Sand Creek**	8.45	19			Pn	06 31 30.6	+0.5
K15K	**Wolf Creek Mou**	8.54	321			Pn	06 31 32.0	+0.8
SKAG	**Skagway**	8.55	61			Pn	06 31 31.0	-0.3
SKAG	**Skagway**	8.55	61	P		Pn	06 31 31.1	-0.3
N30M	**Aishikik Lake**	8.60	46			Pn	06 31 32.0	-0.1
O30N	**Mendenhall**	8.68	52			Pn	06 31 32.9	-0.3
M29M	**Somme Creek**	8.68	38			Pn	06 31 33.3	0.0
IL31		8.83	9			Pn	06 31 35.6	+0.5
ILAR	**Eielson Array**	8.83	9	Pn		Pn	06 31 36.3	+1.1
ILAR	**Eielson Array**	8.83	9	Pn		Pn	06 31 34.1	-1.0
	comp=N,0.8nm,0.3s,baz=187,slow=14,SNR=35							
ILAR				Sn		Sn	06 33 11.2	-3.4
	comp=N,0.8nm,0.3s,baz=198,slow=24,SNR=7.3							
ILAR				LR		LR	06 35 21.7	
	comp=N,54nm,19.7s,baz=266,slow=40							
	comp=N,2.1nm,0.6s							
COLA	**College**	8.86	6			Pn	06 31 36.1	+0.6
COLA	**College**	8.86	6	P		Pn	06 31 36.8	+1.3
J16K	**Anvik River**	8.94	328	Pn		Pn	06 31 37.2	+0.5
MLY	**Manley**	8.96	358			Pn	06 31 39.0	+2.0
POKR	**Poker Plat Res**	9.13	7	Pn		Pn	06 31 40.8	+1.5
N31M	**Braeburn, Yuko**	9.15	48			Pn	06 31 39.6	0.0
J14K	**Nanvaranak Lak**	9.55	320	Pn		Pn	06 31 46.4	+1.4
H21K	**Melozitna Rive**	9.67	353			Pn	06 31 45.9	-0.8
PRP	**Porcupine Dome**	9.69	11			Pn	06 31 47.5	+0.4
H18K	**Honhosa River**	9.93	339			Pn	06 31 49.5	-0.8
P33M	**Teslin, Yukon**	9.98	59	Pn		Pn	06 31 49.3	-1.8
IMAR	**Indian Mountai**	10.06	351	Pn		Pn	06 31 51.9	-0.2
H17K	**Granite Mounta**	10.08	335			Pn	06 31 52.9	+0.5
N32M	**Quiet Lake**	10.18	53	Pn		Pn	06 31 53.4	-0.3
FARO	**Faro, Yukon**	10.52	48	Pn		Pn	06 31 59.5	+1.1
G21K	**Allakaket**	10.57	352	Pn		Pn	06 31 59.6	+0.7
J30M	**Hart River**	10.85	33			Pn	06 32 04.1	+1.1
DLBC	**Dease Lake**	11.09	70	Pn		Pn	06 32 06.1	0.0
	comp=N,0.7nm,0.3s,baz=238,slow=8.5,SNR=7.7							
	comp=N,1.4nm,0.3s							
I30M	**Mount Dempster**	11.31	31			Pn	06 32 10.5	+1.3
ANM	**Nome**	11.34	325	Pn		Pn	06 32 10.4	+0.9
BBB	**Bella Bella**	13.43	98	LR		LR	06 36 32.2	
	comp=N,59nm,20.8s,baz=258,slow=32							
INK	**Inuvik**	14.38	25	Pn		Pn	06 32 52.2	+1.2
INK	**Inuvik**	14.38	25	Pn		Pn	06 32 52.5	+1.5
	comp=N,0.2nm,0.3s,baz=207,slow=15,SNR=26							
INK				LR		LR	06 38 33.1	
	comp=N,90nm,18.2s,baz=183,slow=38							
	comp=N,6.8nm,0.9s							
C36M	**Paulatuk**	17.61	31			Pn	06 33 32.1	-0.6
YKA	**Yellowknife Ar**	19.00	56	P		P	06 33 49.6	+0.6
	comp=N,0.4nm,0.3s,baz=265,slow=10,SNR=34							
YKA				LR		LR	06 40 03.5	
	comp=N,76nm,21.5s,baz=274,slow=33							
	comp=N,1.4nm,0.6s							
NEW	**Newport**	21.50	97	LR		LR	06 40 37.3	
	comp=N,74nm,19.9s,baz=310,slow=31							
YBH	**Yreka Blue Hor**	22.82	118	LR		LR	06 40 53.0	
	comp=N,101nm,20.4s,baz=331,slow=30							
NVAR	**Mina Array Bea**	27.52	117	P		P	06 35 14.0	-0.4
	comp=N,0.6nm,0.8s,baz=304,slow=6.4,SNR=4.0							
NVAR				LR		LR	06 44 22.2	
	comp=N,95nm,18.4s,baz=266,slow=33							
	comp=N,0.6nm,0.8s							
SEY	**Seymchan**	29.06	307	LR		LR	06 49 08.0	
	comp=N,88nm,18.2s,baz=353,slow=40							
MA2	**Magadan**	30.78	301	LR		LR	06 48 16.5	
	comp=N,32nm,21.7s,baz=58,slow=37							
FRB	**Frobisher Bay**	38.86	45	LR		LR	06 51 26.8	
	comp=N,89nm,18.1s,baz=150,slow=34							
TXAR	**Lajitas Array**	42.17	110	P		P	06 37 19.9	-0.6
	comp=N,6nm,1.0s,baz=330,slow=9.1,SNR=3.8							
	comp=N,0.6nm,1.0s							
SFJD	**Kangerlussuaq**	43.48	34	LR		LR	06 56 16.9	
	comp=N,91nm,18.4s,baz=152,slow=37							
SONM	**Songino Array**	58.41	310	P		P	06 39 24.3	+1.1
	comp=N,0.5nm,0.5s,baz=74,slow=3.5,SNR=3.6							
	comp=N,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	61.47	327	P		P	06 39 45.1	+1.3
	comp=N,0.9nm,0.7s,baz=35,slow=5.4,SNR=4.1							
	comp=N,0.9nm,0.7s							
KURBB	**Kurchatov Arra**	66.26	329	P		P	06 40 15.5	+0.1
	comp=N,0.3nm,0.8s,baz=22,slow=5.4,SNR=2.9							
	comp=N,0.3nm,0.8s							
MKAR	**Makanchi Array**	68.48	324	P		P	06 40 30.7	+1.1
	comp=N,0.7nm,0.8s,baz=31,slow=5.7,SNR=4.6							
	comp=N,0.7nm,0.8s							

IDC ***24*** *06:32:38.4±0.6,7˚.00S×105˚.76E, h0km, mb4.2/15, mbtmp4.2/15, MS3.4/8, Error ellipse: s-maj=23.6km s-min=13.0km az=50.0*

NEIC ***24*** *06:32:44.7±1.2, 7˚.12S±0.˚07×105˚.81E±0.˚07, h35km±8km, mb4.5/24, Error ellipse: s-maj=11.4km s-min=9.0km az=122.0*

DJA ***24*** *06:32:45.6±0.2, 7˚.S±2˚×10˚6E±˚, h46km±3km, M5.0/30, mB5.5/7, mb4.8/30, MLv5.1/24, Mw(mB)4.9/7*

ISC 24 06:32:45.9±0.9, 7˚.15S±0˚.05×105˚.99E±0˚.04, h53km±9km, n131,σ1§64/126, mb4.4/27, MS3.3/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	0.58	76	P		Pn	06 32 56.9	-1.4
DBJI	**Dramaga**	0.96	52	P		Pn	06 33 02.6	-0.6
DBJI				S		Sn	06 33 15.0	-0.9
SBJI	**Serang**	1.03	8	P		Pn	06 33 04.0	-0.2
CBJI	**Citeko**	1.12	50	P		Pn	06 33 03.7	-1.6
CNJI	**Cibinong**	1.14	98	P		Pn	06 33 04.5	-1.1
CNJI				S		Sn	06 33 17.9	-2.4
TNG	**Tangerang**	1.17	34	P		Pn	06 33 05.9	-0.1
TNG				S		Sn	06 33 20.8	-0.2
LEM	**Lembang**	1.65	79	Pn		Pn	06 33 13.2	+0.6
	3μm,0.3s,baz=50,slow=2.6,SNR=366							
LEM				Sn		Sn	06 33 37.0	+4.2
	536nm,0.3s,baz=142,slow=22,SNR=6.3							
LEM				LR		LR	06 33 59.8	
	comp=Z,1μm,18.4s,baz=262,slow=44							
LEM	**Lembang**	1.65	79	P		Pn	06 33 13.1	+0.5
LEM				S		Sn	06 33 34.8	+2.0
BBJI	**Bungbulang**	1.68	101	P		Pn	06 33 12.4	-0.6
BBJI	**Bungbulang**	1.68	101	P		Pn	06 33 12.2	-0.8
BBJI				S		Sn	06 33 30.8	-2.6
BLSI	**Bandar Lampung**	1.92	337	P		Pn	06 33 17.0	+0.8
KASI	**Kota Agung**	2.19	317	P		Pn	06 33 21.8	+1.9
KASI				S		Sn	06 33 47.2	+1.3
JCJI	**Jatiwangi**	2.36	74	P		Pn	06 33 21.5	-0.7
CMJI	**Cimerak**	2.52	105	P		Pn	06 33 23.6	-0.8
CMJI				S		Sn	06 33 51.1	-2.8
LWLI	**Liwa**	2.86	318	P		Pn	06 33 31.4	+2.2
KPJI	**Karang Pucung**	2.92	94	P		Pn	06 33 30.5	+0.5
XMI	**Christmas Isla**	3.29	185	P		Pn	06 33 33.8	-1.2
XMIS	**Christmas Isla**	3.33	186	Pn		Pn	06 33 33.8	-1.7
XMIS	**Christmas Isla**	3.33	186	P		Pn	06 33 34.0	-1.5
EGSI	**Enggano, Bengk**	4.10	296	P		Pn	06 33 48.0	+1.9
EGSI				S		Sn	06 34 31.6	-1.2
LHSI	**Lahat**	4.11	323	P		Pn	06 33 49.3	+3.0
LHSI				S		Sn	06 34 37.4	+4.2
SMRI	**Semarang**	4.42	89	Pn		Pn	06 33 51.3	+1.0
SMRI	**Semarang**	4.42	89	P		Pn	06 33 51.0	+0.5
UGM	**Wanagama**	4.56	100			Pn	06 33 52.8	+0.4
UGM	**Wanagama**	4.56	100	P		Pn	06 33 52.5	+0.1
UGM	**Wanagama**	4.56	100	P		Pn	06 33 52.1	-0.3
UGM				S		Sn	06 34 41.2	-3.0
PPBI	**Pangkal Pinang**	4.96	2	P		Pn	06 33 58.6	+0.7
	144nm,0.8s,1.3nm							
UWJI	**Ujung Watu**	4.98	82	P		Pn	06 33 58.5	+0.4
NGJI	**Ngawi**	5.43	93	P		Pn	06 34 08.1	+3.7
	154nm,0.8s,1.5nm							
SJI	**Sawahan**	5.76	96	P		Pn	06 34 09.7	+0.7
	196nm,0.8s,6μm3.6nm							
GRJI	**Curesik**	6.45	88	P		Pn	06 34 18.3	0.0
	270nm,0.8s,0.9nm							
KRKI	**Karangkates**	6.49	99	P		Pn	06 34 21.4	+2.6
DSRI	**Dabo**	6.77	348	P		Pn	06 34 23.4	+0.6
	33nm,0.6s,0.2nm							
PPSI	**Pulau Pagai**	7.38	306	P		Pn	06 34 30.5	-0.6
	304nm,0.6s,1.6nm							
BLJI	**Banyuglugur**	7.57	95	P		Pn	06 34 36.5	+2.9
	72nm,0.6s,3μm0.5nm							
JAGI	**Jajag, Banyuwa**	8.19	100	Pn		Pn	06 34 43.4	+1.2
JAGI	**Jajag, Banyuwa**	8.19	100	P		Pn	06 34 43.8	+1.5
JAGI	**Jajag, Banyuwa**	8.19	100	P		Pn	06 34 43.7	+1.4
	116nm,0.6s,2μm							
ABJI	**Asem Bagus**	8.20	95	P		Pn	06 34 45.0	+2.6
	192nm,0.9s							
PDSI	**Padang**	8.29	318	P		Pn	06 34 43.8	+0.2
	51nm,0.7s							
BYJI	**Banyuwangi**	8.36	98	P		Pn	06 34 47.2	+2.7
	180nm,1.2s							
SISI	**Saibi**	8.99	310	P		Pn	06 34 50.9	-2.2
	104nm,1.1s							
SRBI	**Singaraja**	9.19	96	P		Pn	06 34 54.9	-1.0
	82nm,0.7s,1μm							
DNP	**Denpasar**	9.26	100	P		Pn	06 34 57.6	+0.7
PBSI	**Pulau Batu**	10.43	312	P		Pn	06 35 11.5	-1.4
	250nm,1.8s							
TWSI	**Taliwang, Sumb**	10.90	99	P		Pn	06 35 18.9	-0.5
	38nm,0.5s							
SBUM	**Sibu**	11.38	33	P		Pn	06 35 33.7	+7.8
PLAI	**Plampang**	11.79	99	P		Pn	06 35 31.5	0.0
PLAI	**Plampang**	11.79	99	P		Pn	06 35 30.0	-1.5
	45nm,0.7s							
GSI	**Gunungsitoli**	11.87	315	Pn		Pn	06 35 29.4	-3.2
GSI	**Gunungsitoli**	11.87	315	P		Pn	06 35 30.5	-2.1
	63nm,0.6s,4μm							
DBNI	**Kabupaten Domp**	12.28	97	P		Pn	06 35 37.3	-0.9
	30nm,1.1s							
KAPI	**Kappang**	13.85	82	LR		LR	06 41 58.4	
	comp=Z,179nm,19.0s,baz=246,slow=40							
EDFI	**Ende, Flores**	15.63	97	P		Pn	06 36 20.4	-2.7
	25nm,0.7s							
GIRL	**Giralia**	17.33	154			Pn	06 36 44.3	+0.1
GIRL	**Giralia**	17.33	154	P		Pn	06 36 45.4	+1.2
SOEI	**Soe**	18.26	99	P		P	06 36 56.3	+0.8
SOEI	**Soe**	18.26	99	P		P	06 36 56.3	+0.8
	66nm,0.8s							
GTOI	**Gorontalo**	18.66	66	P		P	06 37 00.0	+0.3
	5.6nm,0.9s							
PSA00	**Pilbara Seismi**	19.62	138	P		P	06 37 11.7	+1.5
PSA00				IAmb		IAmb	06 37 13.2	
	comp=Z,15nm,0.8s							
PSA00	**Pilbara Seismi**	19.62	138	P		P	06 37 11.4	+1.3
PSA00				IAmb		IAmb	06 37 13.2	
	comp=Z,7.7nm,0.8s							
PSA00	**Pilbara Seismi**	19.62	138	P		P	06 37 12.8	+2.7
NLAI	**Namlea**	21.38	81	P		P	06 37 30.3	+1.1
	comp=Z,14nm,0.5s							
FITZ	**Fitzroy Crossi**	22.02	121	P		P	06 37 37.5	+1.4
MORW	**Morawa**	23.77	158	P		P	06 37 54.7	+0.9
MORW				IAmb		IAmb	06 37 58.2	
	comp=Z,21nm,1.1s							
MORW	**Morawa**	23.77	158	P		P	06 37 56.4	+2.7
KNRA	**Kununurra**	23.86	113	P		P	06 37 54.6	0.0
KNRA	**Kununurra**	23.86	113	P		P	06 37 56.0	+1.4
MTN	**Manton Dam**	25.39	105	P		P	06 38 08.8	+0.2
SWI	**Sorong**	25.96	77	P		P	06 38 12.4	-1.4
	comp=Z,29nm,0.9s,comp=Z,1μm							
SIJI	**Sorong**	25.96	77	P		P	06 38 11.9	-1.9
	comp=Z,24nm,0.9s							
CMAR	**Chiang Mai Arr**	26.38	345	P		P	06 38 15.7	-1.8
	comp=Z,1.2nm,0.3s,baz=179,slow=8.1,SNR=1.7							
CMAR				LR		LR	06 49 50.6	
	comp=Z,62nm,19.7s,baz=170,slow=39							
	comp=Z,1.2nm,0.3s							
NWAO	**Narrogin (SRO)**	27.69	159	LR		LR	06 48 18.3	
	comp=Z,116nm,21.7s,baz=322,slow=34							
WRKA	**Warakurna**	27.77	132	P		P	06 38 31.5	+1.5
KMBL	**Kambalda**	28.31	150	P		P	06 38 36.4	+1.7
H01W3	**Cape Leeuwin H**	28.60	166	T		T	07 08 18.3	
	baz=347,slow=76,SNR=352							
H01W1	**Cape Leeuwin H**	28.62	166	T		T	07 08 37.6	
	baz=347,slow=76,SNR=315							
H01W2	**Cape Leeuwin H**	28.62	166	T		T	07 08 20.6	
	baz=347,slow=76,SNR=410							
PALK	**Pallekele**	29.01	299	LR		LR	06 49 42.4	
	comp=Z,51nm,19.5s,baz=230,slow=36							
WB0	**Warramunga Arr**	30.27	117	P		P	06 38 53.4	+1.1
WB0				IAmb		IAmb	06 39 00.2	
	comp=Z,7.8nm,0.9s							
WRA	**Warramunga Ar**	30.29	118	P		P	06 38 53.2	+0.8
WRA	**Warramunga Ar**	30.29	118	P		P	06 38 53.2	+0.8
	comp=Z,4.4nm,0.8s,baz=291,slow=11,SNR=29							
	comp=Z,4.4nm,0.8s							
WB2	**Warramunga Arr**	30.30	118	P		P	06 38 53.2	+0.7
WB2				IAmb		IAmb	06 38 54.5	
	comp=Z,8.0nm,0.6s							
WR0	**Warramunga Arr**	30.47	118	P		P	06 38 55.0	+1.0
WR0				IAmb		IAmb	06 39 02.2	
	comp=Z,9.1nm,0.7s							
ASAR	**Alice Springs**	31.42	125	P		P	06 39 03.1	+0.7
ASAR	**Alice Springs**	31.42	125	P		P	06 39 03.4	+0.9
	comp=Z,2.7nm,0.8s,baz=303,slow=8.2,SNR=43							
ASAR				S		S	06 44 05.0	-1.7
	comp=Z,1.3nm,0.9s,baz=294,slow=14,SNR=6.3							
ASAR				LR		LR	06 54 37.5	
	comp=Z,62nm,18.2s,baz=309,slow=42							
	comp=Z,2.7nm,0.8s							
AS31	**Alice Springs**	31.43	125	P		P	06 39 03.5	+1.1
AS01	**Alice Springs**	31.46	125	P		P	06 39 04.1	+1.3
H08S2	**Diego Garcia H**	33.22	267	T		T	07 14 52.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.62**	**303**		**Pn**	**06 35 42.3**	**+0.5**
OHAK					**Sn**	**06 36 11.3**	**-2.3**
OHAK	**Old Harbor** baz=119	**2.62**	**303**	P	**Pn**	**06 35 42.3**	**+0.5**
OHAK	baz=119			S	**Sn**	**06 36 11.3**	**-2.3**
KDAK	**Kodiak Island**	**2.65**	**318**		**Pn**	**06 35 43.0**	**+0.8**
KDAK					**Sn**	**06 36 13.5**	**-1.0**
SII	**Sitkinak Islan**	**2.84**	**286**		**Sn**	**06 36 17.8**	**-1.4**
SII	**Sitkinak Islan** baz=102	**2.84**	**286**	S	**Sn**	**06 36 17.7**	**-1.4**
SYI	**Shuyak Island**	**3.23**	**329**		**Pn**	**06 35 51.1**	**+0.8**
SYI	comp=N,41nm,1.5s			IAML		06 37 02.7	
SYI	**Shuyak Island**	**3.23**	**329**		**Sn**	**06 36 28.8**	**-0.1**
Q20K	**Shuyak Island** baz=146	**3.24**	**329**	P	**Pn**	**06 35 51.1**	**+0.8**
Q20K	baz=146			S	**Sn**	**06 36 28.8**	**-0.1**
CNPM	**China Poot**	**3.82**	**345**		**Pn**	**06 35 58.6**	**+0.3**
CNPM					**Sn**	**06 36 41.6**	**-1.6**
CNPM	**China Poot** comp=N,32nm,1.5s	**3.82**	**345**	IAML		06 36 46.5	
CNPM	comp=E,41nm,1.4s			IAML		06 36 50.9	
Q19K	**Cape Douglas,**	**3.88**	**324**		**Pn**	**06 36 00.7**	**+1.5**
Q19K	**Cape Douglas,** comp=N,132nm,1.4s	**3.88**	**324**	IAML		06 38 06.1	
Q19K	**Cape Douglas,** baz=140	**3.88**	**324**	P	**Pn**	**06 36 00.7**	**+1.5**
Q23K	**Middleton Isla**	**3.90**	**22**		**Pn**	**06 35 59.8**	**+0.4**
Q23K					**Sn**	**06 36 43.6**	**-1.4**
Q23K	**Middleton Isla** comp=E,134nm,1.5s	**3.90**	**22**	IAML		06 38 23.6	
Q23K	**Middleton Isla** baz=204	**3.90**	**22**	P	**Pn**	**06 35 59.8**	**+0.4**
Q23K	baz=204			S	**Sn**	**06 36 43.6**	**-1.4**
KAHG	**Katmai Hook Gl**	**3.90**	**315**		**Pn**	**06 36 01.4**	**+1.8**
BRSE	**Bradley Lake S**	**3.96**	**349**		**Pn**	**06 36 00.4**	**+0.1**
BRSE	**Bradley Lake S** baz=167	**3.96**	**349**	P	**Pn**	**06 36 00.4**	**+0.1**
BRLK	**Bradley Lake**	**4.00**	**348**		**Pn**	**06 36 00.8**	**-0.1**
BRLK	**Bradley Lake** comp=E,54nm,0.8s	**4.00**	**348**	IAML		06 36 50.0	
BRLK	comp=N,37nm,1.2s			IAML		06 36 52.8	
HOM	**Homer**	**4.01**	**342**	Pn	**Pn**	**06 36 02.3**	**+1.4**
ACHA	**Angle Creek He**	**4.07**	**308**		**Pn**	**06 36 03.5**	**+1.7**
AUCH	**Augustine Cone**	**4.17**	**329**		**Pn**	**06 36 04.4**	**+1.2**
SEW	**Seward**	**4.25**	**359**		**Pn**	**06 36 04.1**	**-0.1**
SEW	**Seward** baz=178	**4.25**	**359**	P	**Pn**	**06 36 04.1**	**-0.1**
P23K	**Montague Islan**	**4.25**	**13**		**Pn**	**06 36 04.8**	**+0.5**
P23K	**Montague Islan** baz=194	**4.25**	**13**	P	**Pn**	**06 36 04.8**	**+0.5**
CNTC	**Contact Creek**	**4.34**	**306**		**Pn**	**06 36 06.8**	**+1.2**
Q17K	**Contact Creek** baz=120	**4.34**	**306**	P	**Pn**	**06 36 06.8**	**+1.2**
P19K	**Oil Pt**	**4.35**	**332**		**Pn**	**06 36 06.5**	**+0.8**
P19K	**Oil Pt** comp=N,67nm,1.3s	**4.35**	**332**	IAML		06 37 06.4	
P19K	comp=E,67nm,1.2s			IAML		06 37 25.6	
P19K	**Oil Pt** baz=149	**4.35**	**332**	P	**Pn**	**06 36 06.5**	**+0.8**
O20K	**Slope Mountain**	**4.59**	**338**		**Pn**	**06 36 09.4**	**+0.4**
O20K	**Slope Mountain** baz=155	**4.59**	**338**	P	**Pn**	**06 36 09.4**	**+0.4**
IVE	**Iliamna Volcan**	**4.62**	**336**		**Pn**	**06 36 09.6**	**+0.2**
HIN	**Hinchinbrook I**	**4.77**	**17**		**Pn**	**06 36 11.7**	**+0.3**
HIN	**Hinchinbrook I** comp=N,66nm,0.6s	**4.77**	**17**	IAML		06 37 04.5	
HIN	comp=E,49nm,1.4s			IAML		06 37 05.0	
P18K	**Big Mountain,**	**4.77**	**320**		**Pn**	**06 36 11.9**	**+0.4**
P18K	**Big Mountain,** baz=135	**4.77**	**320**	P	**Pn**	**06 36 11.9**	**+0.4**
KAIM	**Kayak Island**	**4.81**	**30**		**Pn**	**06 36 12.4**	**+0.4**
KAIM	**Kayak Island** comp=E,68nm,1.5s	**4.81**	**30**	IAML		06 38 15.1	
KAIM	comp=N,65nm,1.3s			IAML		06 38 15.9	
KAIM	**Kayak Island** baz=214	**4.81**	**30**	P	**Pn**	**06 36 12.4**	**+0.4**
R16K	**Pilot Point**	**4.89**	**294**		**Pn**	**06 36 14.0**	**+1.0**
R16K	**Pilot Point** baz=107	**4.89**	**294**	P	**Pn**	**06 36 14.0**	**+1.0**
RED	**Redoubt Volcan**	**4.93**	**339**		**Pn**	**06 36 13.6**	**-0.1**
RSO	**Redoubt South**	**4.96**	**340**	Pn	**Pn**	**06 36 14.9**	**+0.7**
CAPN	**Captain Cook N**	**5.01**	**349**		**Pn**	**06 36 16.3**	**+1.6**
CAPN	**Captain Cook N** baz=167	**5.01**	**349**	P	**Pn**	**06 36 16.3**	**+1.6**
EYAK	**Cordova Ski Ar**	**5.04**	**20**		**Pn**	**06 36 15.8**	**+0.7**
EYAK	**Cordova Ski Ar** baz=203	**5.04**	**20**	P	**Pn**	**06 36 15.8**	**+0.7**
O18K	**Koktuh Hills**	**5.11**	**324**		**Pn**	**06 36 16.7**	**+0.7**
O18K	**Koktuh Hills** comp=N,12nm,1.2s	**5.11**	**324**	IAML		06 37 21.1	
O18K	**Koktuh Hills** baz=139	**5.11**	**324**	P	**Pn**	**06 36 16.7**	**+0.7**
O19K	**Port Alsworth**	**5.11**	**330**		**Pn**	**06 36 16.2**	**+0.3**
O19K	**Port Alsworth** comp=N,28nm,0.5s	**5.11**	**330**	IAML		06 37 21.3	
O19K	comp=E,37nm,0.4s			IAML		06 37 24.8	
O19K	**Port Alsworth** baz=146	**5.11**	**330**	P	**Pn**	**06 36 16.2**	**+0.3**
P17K	**Kvichak River**	**5.11**	**314**		**Pn**	**06 36 17.7**	**+1.7**
P17K	**Kvichak River** baz=127	**5.11**	**314**	P	**Pn**	**06 36 17.7**	**+1.7**
RAGM	**Ragged Mountai**	**5.14**	**26**		**Pn**	**06 36 17.3**	**+0.8**
RAGM	**Ragged Mountai** comp=E,54nm,0.8s	**5.14**	**26**	IAML		06 37 17.6	
RC01	**Rabbit Creek A**	**5.24**	**357**		**Pn**	**06 36 18.1**	**+0.2**
RC01	**Rabbit Creek A** baz=177	**5.24**	**357**	P	**Pn**	**06 36 18.1**	**+0.2**
GOAT	**Goat Mountain**	**5.29**	**25**		**Pn**	**06 36 19.9**	**+1.2**
BERG	**Berg Lake**	**5.40**	**31**		**Pn**	**06 36 20.3**	**+0.2**
SNH	**Sunshine Point**	**5.50**	**36**		**Pn**	**06 36 21.9**	**+0.4**
KNK	**Knik Glacier**	**5.58**	**4**		**Pn**	**06 36 23.4**	**+0.9**
KNK	**Knik Glacier** baz=184	**5.58**	**4**	P	**Pn**	**06 36 23.4**	**+0.9**
DIV	**Divide**	**5.58**	**18**		**Pn**	**06 36 23.3**	**+0.7**
SPCP	**Crater Peak Br**	**5.62**	**346**		**Pn**	**06 36 24.1**	**+0.8**
SPCG	**Spurr Capps Gl**	**5.63**	**346**		**Pn**	**06 36 24.5**	**+1.3**
BMRM	**Bremner River**	**5.66**	**24**		**Pn**	**06 36 24.4**	**+0.7**
BMRM	**Bremner River** baz=207	**5.66**	**24**	P	**Pn**	**06 36 24.4**	**+0.7**
SUA	**Susitna One**	**5.67**	**353**		**Pn**	**06 36 24.1**	**+0.3**
SUA	**Susitna One** baz=171	**5.67**	**353**	P	**Pn**	**06 36 24.1**	**+0.3**
N19K	**Bonanza Creek**	**5.67**	**333**		**Pn**	**06 36 23.9**	**+0.1**
N19K	**Bonanza Creek** baz=148	**5.67**	**333**	P	**Pn**	**06 36 23.9**	**+0.1**
P16K	**Nushagak River**	**5.68**	**307**		**Pn**	**06 36 25.4**	**+1.5**
P16K	**Nushagak River** baz=120	**5.68**	**307**	P	**Pn**	**06 36 25.4**	**+1.5**
O17K	**Koliganek Bris**	**5.73**	**316**		**Pn**	**06 36 25.8**	**+1.2**
O17K	**Koliganek Bris** baz=130	**5.73**	**316**	P	**Pn**	**06 36 25.8**	**+1.2**
PMR	**Palmer**	**5.74**	**1**		**Pn**	**06 36 25.6**	**+0.9**
PMR	**Palmer** baz=180	**5.74**	**1**	P	**Pn**	**06 36 25.6**	**+0.9**
BARK	**Barkley Ridge**	**5.78**	**35**		**Pn**	**06 36 26.1**	**+0.7**
STLK	**Strandline Lak**	**5.80**	**348**		**Pn**	**06 36 26.1**	**+0.5**
KLU	**Klutina**	**5.90**	**16**		**Pn**	**06 36 27.9**	**+1.0**
KLU	**Klutina** baz=198	**5.90**	**16**	P	**Pn**	**06 36 27.9**	**+1.0**
GHO	**Glory Hole Cre**	**5.92**	**1**		**Pn**	**06 36 28.5**	**+1.3**
N18K	**Kilae Creek**	**5.96**	**327**		**Pn**	**06 36 28.2**	**+0.4**
N18K	**Kilae Creek** baz=141	**5.96**	**327**	P	**Pn**	**06 36 28.2**	**+0.4**
SML	**Sawmill**	**5.97**	**4**		**Pn**	**06 36 28.9**	**+0.9**
SML	**Sawmill** baz=185	**5.97**	**4**	P	**Pn**	**06 36 28.9**	**+0.9**
CNBA	**Chernabura Isl**	**5.99**	**264**	Pn	**Pn**	**06 36 28.7**	**+0.6**
O16K	**Kokwok River B**	**6.03**	**312**		**Pn**	**06 36 30.2**	**+1.5**
O16K	**Kokwok River B** baz=124	**6.03**	**312**	P	**Pn**	**06 36 30.2**	**+1.5**
SCM	**Sheep Creek Mo**	**6.06**	**9**		**Pn**	**06 36 30.9**	**+1.7**
SCM	**Sheep Creek Mo** baz=190	**6.06**	**9**	P	**Pn**	**06 36 30.9**	**+1.7**
VRDI	**Verde Repeater**	**6.17**	**27**		**Pn**	**06 36 31.2**	**+0.5**
SAMH	**Samovar Hills**	**6.20**	**43**		**Pn**	**06 36 32.3**	**+1.2**
KIAG	**Kiagna River**	**6.23**	**33**		**Pn**	**06 36 32.0**	**+0.4**
N25K	**Chitina, Valde**	**6.24**	**21**		**Pn**	**06 36 32.8**	**+1.2**
N25K	**Chitina, Valde** baz=205	**6.24**	**21**	P	**Pn**	**06 36 32.8**	**+1.2**
SKT	**Skwentna**	**6.24**	**350**	Pn	**Pn**	**06 36 32.5**	**+0.9**
GLB	**Gilahina Butte**	**6.27**	**25**	Pn	**Pn**	**06 36 32.5**	**+0.6**
N17K	**Nushagak Hills**	**6.28**	**321**		**Pn**	**06 36 32.7**	**+0.7**
N17K	**Nushagak Hills** baz=134	**6.28**	**321**	P	**Pn**	**06 36 32.7**	**+0.7**
M20K	**Styx River**	**6.36**	**343**	Pn	**Pn**	**06 36 33.5**	**+0.3**
PCA	**Pinnacle**	**6.39**	**45**		**Pn**	**06 36 34.5**	**+0.9**
PINM	**Pinnacle** baz=232	**6.39**	**45**	P	**Pn**	**06 36 34.5**	**+0.9**
MCARA	**McCarthy VSAT**	**6.41**	**28**		**Pn**	**06 36 35.0**	**+1.1**
MCARA	**McCarthy VSAT** baz=213	**6.41**	**28**	P	**Pn**	**06 36 35.0**	**+1.1**
M24K	**Tolsona, Glenn**	**6.45**	**13**		**Pn**	**06 36 36.2**	**+1.6**
M24K	**Tolsona, Glenn** baz=195	**6.45**	**13**	P	**Pn**	**06 36 36.2**	**+1.6**
PNL	**Peninsula** baz=238	**6.50**	**50**	P	**Pn**	**06 36 36.2**	**+1.1**
BCPM	**Bancas Point**	**6.55**	**47**		**Pn**	**06 36 37.0**	**+1.2**
CTG	**Chitna Glacier** baz=222	**6.58**	**36**	P	**Pn**	**06 36 37.0**	**+0.6**
CTGM	**Chitina Glacie**	**6.58**	**36**		**Pn**	**06 36 37.0**	**+0.6**
O15K	**Ungalikthiuk R**	**6.59**	**305**		**Pn**	**06 36 38.1**	**+1.8**
O15K	**Ungalikthiuk R** baz=116	**6.59**	**305**	P	**Pn**	**06 36 38.1**	**+1.8**
LOGN	**Logan Glacier**	**6.59**	**38**		**Pn**	**06 36 37.5**	**+0.9**
WAT6	**Susitna Watana**	**6.78**	**6**		**Pn**	**06 36 40.1**	**+1.1**
WAT6	**Susitna Watana** baz=187	**6.78**	**6**	P	**Pn**	**06 36 40.1**	**+1.1**
N16K	**Nishlik Lake**	**6.83**	**316**		**Pn**	**06 36 41.2**	**+1.6**
N16K	**Nishlik Lake** baz=128	**6.83**	**316**	P	**Pn**	**06 36 41.2**	**+1.6**
L19K	**White Mountain**	**6.96**	**338**	Pn	**Pn**	**06 36 41.5**	**+0.1**
N15K	**Kwethluk River**	**7.19**	**311**		**Pn**	**06 36 46.6**	**+2.1**
N15K	**Kwethluk River** baz=122	**7.19**	**311**	P	**Pn**	**06 36 46.7**	**+2.1**
O29M	**Mount Kennedy**	**7.19**	**47**		**Pn**	**06 36 45.9**	**+1.2**
O29M	**Mount Kennedy** baz=236	**7.19**	**47**	P	**Pn**	**06 36 45.9**	**+1.2**
P29M	**Windy Craggy**	**7.22**	**54**		**Pn**	**06 36 45.7**	**+0.7**
P29M	**Windy Craggy** baz=243	**7.22**	**54**	P	**Pn**	**06 36 45.7**	**+0.7**
M16K	**Timber Creek**	**7.25**	**319**		**Pn**	**06 36 46.9**	**+1.5**
M16K	**Timber Creek** baz=131	**7.25**	**319**	P	**Pn**	**06 36 46.9**	**+1.5**
DHY	**Denali Highway**	**7.29**	**7**		**Pn**	**06 36 47.8**	**+1.6**
DHY	**Denali Highway** baz=188	**7.29**	**7**	P	**Pn**	**06 36 47.8**	**+1.6**
O14K	**Tigyukauivet M**	**7.30**	**303**		**Pn**	**06 36 48.0**	**+2.0**
O14K	**Tigyukauivet M** baz=112	**7.30**	**303**	P	**Pn**	**06 36 48.0**	**+2.0**
YUK8	**Steele Glacier**	**7.35**	**38**		**Pn**	**06 36 48.1**	**+1.1**
YUK8	**Steele Glacier** baz=226	**7.35**	**38**	P	**Pn**	**06 36 48.1**	**+1.1**
YUK2	**White River**	**7.36**	**33**		**Pn**	**06 36 48.9**	**+1.9**
YUK3	**Moose Creek**	**7.47**	**34**		**Pn**	**06 36 50.6**	**+2.0**
YUK3	**Moose Creek** baz=221	**7.47**	**34**	P	**Pn**	**06 36 50.6**	**+2.0**
YUK7	**Dusty Glacier**	**7.50**	**47**		**Pn**	**06 36 50.4**	**+1.4**
M27K	**Edge Creek, AK**	**7.53**	**27**		**Pn**	**06 36 50.1**	**+0.7**
M27K	**Edge Creek, AK** baz=213	**7.53**	**27**	P	**Pn**	**06 36 50.1**	**+0.7**
YUK6	**Outpost Mounta** baz=233	**7.65**	**44**	P	**Pn**	**06 36 53.0**	**+1.9**
M15K	**Kasigluk River**	**7.72**	**313**		**Pn**	**06 36 54.0**	**+2.1**
M15K	**Kasigluk River** baz=124	**7.72**	**313**	P	**Pn**	**06 36 54.0**	**+2.1**
YUK4	**Talbot Arm** baz=230	**7.79**	**41**	P	**Pn**	**06 36 56.1**	**+3.0**
P30M	**Million Dollar**	**7.79**	**52**		**Pn**	**06 36 54.0**	**+1.0**
P30M	**Million Dollar** baz=242	**7.79**	**52**	P	**Pn**	**06 36 53.9**	**+1.0**
BESE	**Bessie Mountai**	**8.27**	**65**		**Pn**	**06 36 59.6**	**+0.2**
K17K	**Iditarod**	**8.28**	**330**		**Pn**	**06 36 59.8**	**+0.4**
K17K	**Iditarod** baz=142	**8.28**	**330**	P	**Pn**	**06 36 59.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**8.30**	**355**		**Pn**	**06 37 00.6**	**+0.7**
BPAW	**Bear Paw Mtn.** baz=173	**8.30**	**355**	P	**Pn**	**06 37 00.6**	**+0.7**
N30M	**Aishikik Lake**	**8.45**	**44**		**Pn**	**06 37 03.0**	**+1.1**
N30M	**Aishikik Lake** baz=234	**8.45**	**44**	P	**Pn**	**06 37 03.0**	**+1.1**
O30N	**Mendenhall** baz=240	**8.48**	**49**	P	**Pn**	**06 37 03.6**	**+1.3**
M29M	**Somme Creek**	**8.60**	**36**		**Pn**	**06 37 05.3**	**+1.2**
M29M	**Somme Creek** baz=225	**8.60**	**36**	P	**Pn**	**06 37 05.3**	**+1.2**
L15K	**Ungalak Mounta**	**8.61**	**318**		**Pn**	**06 37 05.8**	**+1.8**
L15K	**Ungalak Mounta** baz=127	**8.61**	**318**	P	**Pn**	**06 37 05.8**	**+1.8**

*NNC **24** 06:35:34.1±3.7,54°.38N×86°.28E,h0km,mb3.1,mpv2.5, Error ellipse: s-maj=64.9km s-min=18.0km az=161.0, Suspected Mining explosion.*

*IDC **24** 06:35:36.6±2.4,54°.30N×86°.14E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=18.4km s-min=10.9km az=54.0*

ISC 24 06:35:38.1±4.4,54°.3N±0°.2×86°.0E±0°.2,h0km,n9,σ0s77/10, 3C-7D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** 0.1nm,1.0s,baz=66,slow=349,SNR=11	**0.77**	**248**	I	I	06 40 45.0	
ZAA0	**Zalesovo Array** 0.2nm,0.3s	**0.77**	**248**	⇓P	**Pg**	**06 35 52.0**	**-0.8**
ZAA0	1.8nm,0.8s			⇓S	**Sb**	**06 36 05.9**	**+0.5**
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=60,slow=17,SNR=11	**0.77**	**248**	Pg	**Pg**	**06 35 51.8**	**-1.1**
ZALV	7.1nm,0.3s,baz=67,slow=28,SNR=30			Lg	Lg	06 36 04.8	
KURK	**Kurchatov** 0.1nm,0.3s	**5.74**	**235**	⇓Pn	**Pn**	**06 37 05.2**	**+0.7**
KURK	1.9nm,0.8s			⇓Lg	Lg	06 38 44.4	
KURBB	**Kurchatov Arra** 0.4nm,0.3s	**5.85**	**235**	⇓Pn	**Pn**	**06 37 06.8**	**+0.8**
KURBB	1.7nm,0.7s			⇑Lg	Lg	06 38 49.1	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=14,SNR=9.8	**5.85**	**235**	Pn	**Pn**	**06 37 06.7**	**+0.8**
KURBB	baz=48,slow=34,SNR=2.7 0.7nm,0.5s			Lg	Lg	06 38 47.1	
MK31	**Makanchi Array** 0.2nm,0.4s,baz=25,slow=13,SNR=22	**7.83**	**199**	⇓Pn	**Pn**	**06 37 33.2**	**0.0**
MK31	1.0nm,1.1s,baz=24,slow=30,SNR=2.5			⇑Lg	Lg	06 39 48.6	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=24,slow=12,SNR=17	**7.83**	**199**	Pn	**Pn**	**06 37 33.4**	**+0.2**
MKAR	0.1nm,0.3s,baz=20,slow=26,SNR=2.4			Sn	**Sn**	**06 39 02.7**	**+0.1**
MKAR	0.1nm,0.3s,baz=22,slow=31,SNR=2.5			Lg	Lg	06 39 49.2	
MAKZ	**Makanchi** 0.2nm,0.3s	**7.88**	**201**	⇑Pn	**Pn**	**06 37 34.5**	**+0.6**
MAKZ	0.8nm,0.9s			⇓Lg	Lg	06 39 47.9	

*NEIC **24** 06:49:52.7±1.2,56°.16N±0°.09×150°.0W±0°.1,h31km±13km, ML3.9/48,ML3.8(AEIC),Error ellipse: s-maj=13.7km s-min=7.2km az=154.0*

*AEIC **24** 06:49:56.1±2.3,56°.26N±0°.08×149°.9W±0°.1,h12km±6km, Error ellipse: s-maj=12.2km s-min=8.6km az=154.0*

ISC 24 06:49:51.0±1.2,56°.24N±0°.08×150°.06W±0°.06,h10km, n254,σ0s81/248,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.03**	**300**		**Pn**	**06 50 25.4**	**+0.2**
OHAK					**Sn**	**06 50 49.1**	**-1.5**
OHAK	**Old Harbor** comp=N,519nm,0.3s	**2.03**	**300**	IAML		06 50 49.8	
OHAK	**Old Harbor**	**2.03**	**300**	P	**Pn**	**06 50 25.6**	**+0.4**
OHAK	**Old Harbor** baz=116	**2.03**	**300**	P	**Pn**	**06 50 25.4**	**+0.2**
OHAK	baz=116			S	**Sn**	**06 50 49.1**	**-1.5**
KDAK	**Kodiak Island**	**2.07**	**319**		**Pn**	**06 50 26.4**	**+0.6**
KDAK	**Kodiak Island**	**2.07**	**319**		**Sn**	**06 50 51.0**	**-0.6**
SII	**Sitkinak Islan**	**2.31**	**280**		**Pn**	**06 50 29.2**	**+0.1**
SII	**Sitkinak Islan** comp=E,660nm,0.6s	**2.31**	**280**	IAML		06 50 56.7	
SII	comp=N,444nm,0.7s			IAML		06 50 57.6	
SII	**Sitkinak Islan** baz=96	**2.31**	**280**	P	**Pn**	**06 50 29.2**	**+0.1**
SII	baz=96			S	**Sn**	**06 50 56.1**	**-1.4**
Q20K	**Shuyak Island** baz=149	**2.69**	**333**	P	**Pn**	**06 50 34.6**	**+0.3**
Q20K	baz=149			S	**Sn**	**06 51 06.4**	**-0.5**
SYI	**Shuyak Island**	**2.69**	**333**		**Pn**	**06 50 34.6**	**+0.3**
SYI					**Sn**	**06 51 06.4**	**-0.4**
Q19K	**Cape Douglas,**	**3.32**	**326**		**Pn**	**06 50 43.6**	**+0.7**
Q19K					**Sn**	**06 51 21.6**	**-0.7**
Q19K	**Cape Douglas,** comp=N,335nm,0.8s	**3.32**	**326**	IAML		06 51 37.5	
Q19K	**Cape Douglas,** baz=142	**3.32**	**326**	P	**Pn**	**06 50 43.6**	**+0.7**
Q19K	baz=142			S	**Sn**	**06 51 21.6**	**-0.7**
KAHG	**Katmai Hook Gl**	**3.32**	**315**		**Pn**	**06 50 44.8**	**+1.9**
CNPM	**China Poot**	**3.36**	**350**		**Pn**	**06 50 43.3**	**-0.1**
CNPM					**Sn**	**06 51 22.1**	**-1.3**
CNPM	**China Poot** comp=N,215nm,0.5s	**3.36**	**350**	IAML		06 51 23.7	
CNPM	comp=E,182nm,0.3s			IAML		06 51 23.8	
KCE	**Katmai Mt Cerb**	**3.43**	**308**		**Pn**	**06 50 46.8**	**+2.3**
ACHA	**Angle Creek He**	**3.48**	**307**		**Pn**	**06 50 46.0**	**+0.9**
BRSE	**Bradley Lake S**	**3.53**	**354**		**Pn**	**06 50 45.4**	**-0.5**
BRSE	**Bradley Lake S** baz=172	**3.53**	**354**	P	**Pn**	**06 50 45.4**	**-0.5**
KVTA	**Katmai Vly 10**	**3.56**	**309**		**Pn**	**06 50 48.0**	**+1.8**
BRLK	**Bradley Lake**	**3.56**	**353**		**Pn**	**06 50 45.8**	**-0.5**
BRLK	**Bradley Lake** comp=E,148nm,0.5s	**3.56**	**353**	IAML		06 51 30.2	
KAHC	**Katmai Hardscr**	**3.60**	**314**		**Pn**	**06 50 48.4**	**+1.4**
KAHC	**Katmai Hardscr** baz=129	**3.60**	**314**	P	**Pn**	**06 50 48.4**	**+1.4**
CNTC	**Contact Creek**	**3.76**	**305**		**Pn**	**06 50 50.2**	**+1.2**
Q17K	**Contact Creek** baz=119	**3.76**	**305**	P	**Pn**	**06 50 50.2**	**+1.2**
Q23K	**Middleton Isla**	**3.77**	**30**		**Pn**	**06 50 48.4**	**-0.6**
Q23K	**Middleton Isla** comp=E,165nm,1.4s	**3.77**	**30**	IAML		06 51 40.9	
Q23K	comp=N,141nm,0.8s			IAML		06 53 23.1	
Q23K	**Middleton Isla** baz=212	**3.77**	**30**	P	**Pn**	**06 50 48.4**	**-0.6**
MID	**Middleton Isla**	**3.77**	**30**	Pn	**Pn**	**06 50 48.6**	**-0.5**
MID	comp=N,190nm,1.5s			IAML		06 51 30.6	
MID	comp=E,132nm,0.9s			IAML		06 51 42.7	
MID	**Middleton Isla**	**3.77**	**30**	P	**Pn**	**06 50 48.4**	**-0.6**
P19K	**Oil Pt**	**3.82**	**335**		**Pn**	**06 50 50.6**	**+0.8**
P19K	**Oil Pt** comp=N,286nm,0.4s	**3.82**	**335**	IAML		06 51 39.1	
P19K	comp=E,235nm,0.4s			IAML		06 51 39.3	
P19K	**Oil Pt** baz=151	**3.82**	**335**	P	**Pn**	**06 50 50.6**	**+0.8**
SEW	**Seward**	**3.89**	**5**		**Pn**	**06 50 50.0**	**-0.7**
SEW	**Seward** baz=184	**3.89**	**5**	P	**Pn**	**06 50 50.0**	**-0.7**
P23K	**Montague Islan**	**4.03**	**19**		**Pn**	**06 50 52.2**	**-0.4**
P23K	**Montague Islan** baz=200	**4.03**	**19**	P	**Pn**	**06 50 52.2**	**-0.4**
O20K	**Slope Mountain**	**4.09**	**342**		**Pn**	**06 50 53.7**	**+0.2**
O20K	**Slope Mountain** baz=158	**4.09**	**342**	P	**Pn**	**06 50 53.7**	**+0.2**
P18K	**Big Mountain,** baz=136	**4.20**	**321**	P	**Pn**	**06 50 55.4**	**+0.4**
SLKM	**Skilak Lake**	**4.28**	**359**		**Pn**	**06 50 55.4**	**-0.8**
Q16K	**King Salmon**	**4.32**	**307**		**Pn**	**06 50 57.4**	**+0.8**
Q16K	**King Salmon** baz=121	**4.32**	**307**	P	**Pn**	**06 50 57.4**	**+0.8**
R16K	**Pilot Point**	**4.33**	**291**		**Pn**	**06 50 57.9**	**+1.2**
R16K	**Pilot Point** comp=E,112nm,1.4s	**4.33**	**291**	IAML		06 52 21.9	
R16K	comp=N,119nm,1.4s			IAML		06 52 54.5	
R16K	**Pilot Point** baz=104	**4.33**	**291**	P	**Pn**	**06 50 57.9**	**+1.2**
RED	**Redoubt Volcan**	**4.43**	**342**		**Pn**	**06 50 57.4**	**-0.8**
RSO	**Redoubt South**	**4.47**	**343**	Pn	**Pn**	**06 51 00.5**	**+1.7**
P17K	**Kvichak River**	**4.52**	**314**		**Pn**	**06 51 00.4**	**+1.0**
P17K	**Kvichak River** baz=127	**4.52**	**314**	P	**Pn**	**06 51 00.4**	**+1.0**
O18K	**Koktuh Hills**	**4.54**	**325**		**Pn**	**06 50 59.9**	**+0.2**
O18K	**Koktuh Hills** baz=140	**4.54**	**325**	P	**Pn**	**06 50 59.9**	**+0.2**
O19K	**Port Alsworth**	**4.56**	**332**		**Pn**	**06 51 00.4**	**+0.5**
O19K	**Port Alsworth** baz=148	**4.56**	**332**	P	**Pn**	**06 51 00.4**	**+0.5**
HIN	**Hinchinbrook I**	**4.57**	**23**		**Pn**	**06 50 59.9**	**-0.3**
HIN	**Hinchinbrook I** comp=E,146nm,0.4s	**4.57**	**23**	IAML		06 51 52.1	
CAPN	**Captain Cook N**	**4.58**	**353**		**Pn**	**06 51 01.2**	**+1.0**
CAPN	**Captain Cook N** baz=171	**4.58**	**353**	P	**Pn**	**06 51 01.2**	**+1.0**
CHGN	**Chignik**	**4.66**	**274**	Pn	**Pn**	**06 51 01.8**	**+0.6**
CHGN	comp=E,88nm,0.1s			IAML		06 51 55.4	
CHGN	comp=N,114nm,0.1s			IAML		06 51 58.5	
KAIM	**Kayak Island**	**4.76**	**37**		**Pn**	**06 51 02.5**	**-0.2**
KAIM	**Kayak Island** baz=221	**4.76**	**37**	P	**Pn**	**06 51 02.5**	**-0.2**
RC01	**Rabbit Creek A**	**4.87**	**2**		**Pn**	**06 51 03.9**	**-0.3**
RC01	**Rabbit Creek A** comp=E,86nm,0.2s	**4.87**	**2**	IAML		06 52 00.0	
RC01	comp=N,96nm,0.3s			IAML		06 52 02.6	
RC01	**Rabbit Creek A** baz=181	**4.87**	**2**	P	**Pn**	**06 51 03.9**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.88**	**26**		**Pn**	**06 51 04.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.88**	**26**	P	**Pn**	**06 51 04.4**	**+0.1**
EYAK	**Cordova Ski Ar** baz=209	**4.88**	**26**	P	**Pn**	**06 51 04.2**	**-0.1**
RAGM	**Ragged Mountai**	**5.04**	**32**		**

N18K	Kilae Creek	5.40	328		Pn	06 51 11.8	+0.3
N18K	Kilae Creek baz=142	5.40	328	P	Pn	06 51 11.8	+0.3
O16K	Kokwok River B	5.44	311		Pn	06 51 13.2	+1.2
O16K	Kokwok River B baz=124	5.44	311	P	Pn	06 51 13.2	+1.2
SNH	Sunshine Point	5.50	41	Pn	Pn	06 51 12.6	-0.2
BMRM	Bremner River	5.53	29		Pn	06 51 13.7	+0.3
BMRM	Bremner River baz=213	5.53	29	P	Pn	06 51 13.7	+0.3
CYK	Cape Yakataga	5.56	43		Pn	06 51 13.5	-0.2
GHO	Glory Hole Cre	5.58	6		Pn	06 51 14.2	+0.1
CHNA	Chernabura Isl baz=72	5.59	259	P	Pn	06 51 13.5	-0.6
CNBA	Chernabura Isl	5.59	259		Pn	06 51 13.5	-0.6
SML	Sawmill	5.66	8		Pn	06 51 15.5	+0.5
SML	Sawmill baz=189	5.66	8	P	Pn	06 51 15.5	+0.5
KLU	Klutina	5.69	20		Pn	06 51 15.8	+0.3
KLU	Klutina baz=203	5.69	20	P	Pn	06 51 15.8	+0.3
M23K	Glacier View	5.70	11		Pn	06 51 16.0	+0.3
M23K	Glacier View baz=192	5.70	11	P	Pn	06 51 16.0	+0.3
N17K	Nushagak Hills	5.70	322		Pn	06 51 16.2	+0.6
N17K	Nushagak Hills baz=135	5.70	322	P	Pn	06 51 16.2	+0.6
BARK	Barkley Ridge	5.78	41		Pn	06 51 16.8	0.0
SCM	Sheep Creek Mo	5.79	13		Pn	06 51 17.4	+0.5
SCM	Sheep Creek Mo baz=194	5.79	13	P	Pn	06 51 17.4	+0.5
SKT	Skwentna	5.81	353		Pn	06 51 17.3	+0.2
SKT	Skwentna baz=171	5.81	353	P	Pn	06 51 17.3	+0.2
M20K	Styx River	5.88	346		Pn	06 51 17.8	-0.4
M20K	Styx River baz=162	5.88	346	P	Pn	06 51 17.8	-0.4
SDPT	Sand Point	5.94	266	Pn	Pn	06 51 18.8	-0.1
SDPT	Sand Point	5.94	266	P	Pn	06 51 19.1	+0.2
O15K	Ungalikthiuk R	6.00	303		Pn	06 51 20.9	+1.1
O15K	Ungalikthiuk R baz=115	6.00	303	P	Pn	06 51 20.9	+1.1
M18K	Stony River	6.05	333		Pn	06 51 20.4	0.0
M18K	Stony River baz=147	6.05	333	P	Pn	06 51 20.4	0.0
VRDI	Verde Repeater	6.07	32		Pn	06 51 20.5	-0.3
N25K	Chitina, Valde	6.08	25		Pn	06 51 21.1	+0.2
N25K	Chitina, Valde baz=209	6.08	25	P	Pn	06 51 21.1	+0.2
M19K	Big River Lodg	6.10	340		Pn	06 51 21.7	+0.5
M19K	Big River Lodg baz=156	6.10	340	P	Pn	06 51 21.7	+0.5
GLB	Gilahina Butte	6.14	29		Pn	06 51 21.8	0.0
M24K	Tolsona, Glenn	6.22	17		Pn	06 51 23.6	+0.8
M24K	Tolsona, Glenn baz=200	6.22	17	P	Pn	06 51 23.6	+0.8
N16K	Nishlik Lake	6.25	316		Pn	06 51 24.5	+1.4
N16K	Nishlik Lake baz=128	6.25	316	P	Pn	06 51 24.5	+1.4
SAMH	Samovar Hills	6.27	48		Pn	06 51 23.9	+0.4
MCARA	McCarthy VSAT	6.32	32	Pn	Pn	06 51 24.7	+0.6
MCARA	McCarthy VSAT baz=218	6.32	32	P	Pn	06 51 24.9	+0.8
PTPK	Patty Peak	6.35	35		Pn	06 51 24.8	+0.2
M17K	Holitna River	6.44	327		Pn	06 51 26.6	+0.9
M17K	Holitna River baz=140	6.44	327	P	Pn	06 51 26.6	+0.9
L19K	White Mountain	6.45	340		Pn	06 51 25.9	+0.1
L19K	White Mountain baz=155	6.45	340	P	Pn	06 51 25.9	+0.1
PINM	Pinnacle baz=237	6.47	49	P	Pn	06 51 26.1	-0.1
WAT6	Susitna Watana	6.47	10		Pn	06 51 26.7	+0.4
WAT6	Susitna Watana baz=191	6.47	10	P	Pn	06 51 26.7	+0.4
WACK	Wrangell Chich	6.48	25		Pn	06 51 26.6	+0.1
BARN	Barnard Glacie	6.53	39	Pn	Pn	06 51 27.6	+0.5
CTG	Chitna Glacier baz=227	6.57	40	P	Pn	06 51 27.9	+0.2
CTGM	Chitina Glacie	6.58	40	Pn	Pn	06 51 28.7	+0.9
N15K	Kwethluk River	6.60	311		Pn	06 51 29.9	+1.9
N15K	Kwethluk River baz=122	6.60	311	P	Pn	06 51 29.9	+1.9
LOGN	Logan Glacier	6.60	42	Pn	Pn	06 51 28.1	-0.1
PNL	Peninsula	6.64	54		Pn	06 51 28.4	0.0
PNL	Peninsula	6.64	54	P	Pn	06 51 28.8	+0.3
PNL	Peninsula baz=243	6.64	54	P	Pn	06 51 28.4	0.0
WAT7	Susitna Watana	6.64	5		Pn	06 51 29.3	+0.7
WAT1	Susitna Watana	6.66	6		Pn	06 51 29.7	+1.0
WAT1	Susitna Watana baz=187	6.66	6	P	Pn	06 51 29.7	+1.0
BCPM	Bancas Point	6.66	52	Pn	Pn	06 51 29.2	+0.4
HARP	HAARP	6.67	20		Pn	06 51 29.7	+0.8
HARP	HAARP baz=204	6.67	20	P	Pn	06 51 29.7	+0.8
M16K	Timber Creek	6.67	320		Pn	06 51 29.9	+1.0
M16K	Timber Creek baz=131	6.67	320	P	Pn	06 51 29.9	+1.0
L18K	Granite Mounta	6.89	333		Pn	06 51 31.8	-0.1
L18K	Granite Mounta baz=147	6.89	333	P	Pn	06 51 31.8	-0.1
DHY	Denali Highway	6.99	10		Pn	06 51 33.9	+0.4
DHY	Denali Highway baz=192	6.99	10	P	Pn	06 51 33.9	+0.4
M15K	Kasigluk River	7.14	313		Pn	06 51 37.4	+2.1
M15K	Kasigluk River baz=124	7.14	313	P	Pn	06 51 37.4	+2.1
M26K	Nabesna, AK	7.16	27		Pn	06 51 36.9	+1.2
M26K	Nabesna, AK baz=213	7.16	27	P	Pn	06 51 36.9	+1.2
TRF	Thorofare Moun	7.24	359		Pn	06 51 37.4	+0.6
TRF	Thorofare Moun baz=178	7.24	359	P	Pn	06 51 37.4	+0.6
L17K	Donlin	7.26	328		Pn	06 51 37.9	+0.9
L17K	Donlin baz=140	7.26	328	P	Pn	06 51 37.9	+0.9
CAST	Castle Rocks	7.28	353		Pn	06 51 37.8	+0.6
CAST	Castle Rocks baz=170	7.28	353	P	Pn	06 51 37.8	+0.6
O29M	Mount Kennedy	7.30	51	Pn	Pn	06 51 38.2	+0.6
O29M	Mount Kennedy baz=241	7.30	51	P	Pn	06 51 37.9	+0.2
YUK2	White River	7.32	37		Pn	06 51 38.9	+1.0
L16K	Owhat River	7.33	322		Pn	06 51 38.9	+1.0
L16K	Owhat River baz=134	7.33	322	P	Pn	06 51 38.9	+1.0
YUK8	Steele Glacier baz=231	7.36	42	P	Pn	06 51 40.2	+1.6
P29M	Windy Craggy	7.39	58		Pn	06 51 38.5	-0.3
P29M	Windy Craggy baz=248	7.39	58	P	Pn	06 51 38.5	-0.3
K20K	Telida	7.42	346	Pn	Pn	06 51 39.0	-0.2
M27K	Edge Creek, AK	7.43	31		Pn	06 51 40.5	+1.0
M27K	Edge Creek, AK baz=217	7.43	31	P	Pn	06 51 40.5	+1.0
YUK3	Moose Creek baz=226	7.44	38	P	Pn	06 51 40.9	+1.2
FALS	False Pass	7.70	265		Pn	06 51 43.1	+0.1
FALS	False Pass	7.70	265	P	Pn	06 51 43.4	+0.4
FALS	False Pass baz=74	7.70	265	P	Pn	06 51 43.1	+0.1
YUK6	Outpost Mounta	7.72	48		Pn	06 51 44.4	+0.9
YUK6	Outpost Mounta baz=237	7.72	48	P	Pn	06 51 44.3	+0.9
K17K	Iditarod	7.73	331		Pn	06 51 43.8	+0.4
K17K	Iditarod baz=143	7.73	331	P	Pn	06 51 43.8	+0.4
S31K	Pelican	7.73	71		Pn	06 51 40.7	-2.7
S31K	Pelican baz=263	7.73	71	P	Pn	06 51 40.7	-2.7
CHUM	Lake Minchumin	7.75	353		Pn	06 51 45.6	+1.9
CHUM	Lake Minchumin baz=170	7.75	353	P	Pn	06 51 45.6	+1.9
BVCY	Beaver Creek	7.77	33		Pn	06 51 45.6	+1.6
BVCY	Beaver Creek baz=221	7.77	33	P	Pn	06 51 45.6	+1.6
YUK4	Talbot Arm baz=234	7.83	44	P	Pn	06 51 47.4	+2.4
BPAW	Bear Paw Mtn.	7.90	357		Pn	06 51 46.1	+0.3
BPAW	Bear Paw Mtn. baz=176	7.90	357	P	Pn	06 51 46.1	+0.3
ISNN	Isanotski Nort	7.91	265		Pn	06 51 46.3	+0.3
BRPK	Brown Peak	7.94	264		Pn	06 51 46.1	-0.2
P30M	Million Dollar	7.94	55		Pn	06 51 46.6	+0.2
P30M	Million Dollar baz=246	7.94	55	P	Pn	06 51 46.6	+0.2
L27K	Beaver Creek,	8.01	28		Pn	06 51 47.9	+0.6
L27K	Beaver Creek, baz=214	8.01	28	P	Pn	06 51 47.9	+0.6
HYT	Haines Junctio baz=240	8.02	50	P	Pn	06 51 48.0	+0.5
YUK5	Granite Creek	8.02	47		Pn	06 51 48.6	+0.9
SSLN	Shishaldin Nor	8.04	266		Pn	06 51 48.1	+0.4
SSLS	Shishaldin Sou	8.06	265		Pn	06 51 48.3	+0.2
L14K	Kuka Creek	8.31	313		Pn	06 51 51.8	+0.5
L14K	Kuka Creek baz=122	8.31	313	P	Pn	06 51 51.8	+0.5
SKAG	Skagway	8.49	62	P	Pn	06 51 54.1	+0.2
CCB	Clear Creek Bu	8.51	7		Pn	06 51 55.5	+1.4
N30M	Aishikik Lake baz=238	8.52	47	P	Pn	06 51 54.5	+0.2
BESE	Bessie Mountai	8.54	68		Pn	06 51 53.9	-0.7
M29M	Somme Creek baz=228	8.58	39	P	Pn	06 51 56.2	+0.9
O30N	Mendenhall baz=244	8.61	52	P	Pn	06 51 55.5	0.0
IL31		8.70	9		Pn	06 51 57.9	+1.2
ILAR	Eielson Array	8.70	9	Pn	Pn	06 51 58.6	+1.9
JIS	Juneau Island	8.74	70		Pn	06 51 56.2	-1.1
JIS	Juneau Island	8.74	70	P	Pn	06 51 56.6	-0.7
K27K	Chicken	8.77	24	Pn	Pn	06 51 58.8	+1.2
MLY	Manley	8.83	358		Pn	06 51 59.6	+1.0
MLY	Manley baz=177	8.83	358	P	Pn	06 51 59.6	+1.0
J16K	Anvik River	8.83	327		Pn	06 51 58.8	+0.3
J16K	Anvik River baz=138	8.83	327	P	Pn	06 51 58.8	+0.3
N31M	Braeburn, Yuko baz=241	9.07	49	P	Pn	06 52 02.0	+0.2
L29M	L29M baz=226	9.15	36	P	Pn	06 52 03.5	+0.6
M30M	Minto, Yukon baz=232	9.27	41	P	Pn	06 52 05.1	+0.5
P32M	Atlin	9.32	62		Pn	06 52 04.6	-0.7
P32M	Atlin baz=256	9.32	62	P	Pn	06 52 04.6	-0.7
H21K	Melozitna Rive	9.54	353		Pn	06 52 08.7	+0.4
CRAG	Craig	9.56	88	P	Pn	06 52 07.7	-0.8
PRP	Porcupine Dome	9.57	11	Pn	Pn	06 52 10.2	+1.5
EGAK	Eagle	9.62	23	Pn	Pn	06 52 09.6	+0.4
H24K	Noodor Dome	9.69	5	Pn	Pn	06 52 11.7	+1.4
I26K	Coal Creek Min	9.70	17	Pn	Pn	06 52 11.5	+1.2
UNV	Unalaska Valle	9.74	263	P	Pn	06 52 10.2	-0.7
P33M	Teslin, Yukon baz=254	9.92	59	P	Pn	06 52 13.3	-0.2
IMAR	Indian Mountai	9.94	351	Pn	Pn	06 52 14.5	+0.9
H17K	Granite Mounta	9.96	335	Pn	Pn	06 52 14.2	+0.2
N32M	Quiet Lake	10.10	54	Pn	Pn	06 52 15.9	-0.1
R33M	Jennings River	10.66	65	Pn	Pn	06 52 23.5	-0.2
NIKH	Nikolski High	11.37	261	P	Pn	06 52 34.1	+0.8
ADK	Adak	16.17	266	P	Pn	06 53 37.3	-0.8

NEIC ***24*** *06:52:21.4±1.5,55°.87N±0°.07×149°.3W±0°.1, h7km±7km, mb4.1/2,ML4.1/44,ML3.9(AEIC), Error ellipse: s-maj=10.5km s-min=9.2km az=122.0*

IDC ***24*** *06:52:21.5±1.1,55°.98N×149°.11W, h0km, mb3.8/7, mbtmp3.8/11,ML3.7/4,MS2.8/2, Error ellipse: s-maj=30.0km s-min=18.4km az=28.0*

AEIC ***24*** *06:52:27.7±2.1,56°.02N±0°.09×149°.3W±0°.1, h12km±7km, Error ellipse: s-maj=13.2km s-min=9.2km az=158.0*

ISC 24 06:52:22.5±0.8, 56°.00N±0°.07×149°.30W±0°.05, h10km, n209, σ0.98/207, mb3.8/7, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.52	301		Pn	06 53 02.9	-0.5
OHAK	Old Harbor baz=117	2.52	301	P	Pn	06 53 02.9	-0.5
OHAK				S	Sn	06 53 31.4	-2.8
KDAK	Kodiak Island	2.54	316		Pn	06 53 03.5	-0.1
KDAK	Kodiak Island 7.7nm,0.3s,baz=173,slow=6.0,SNR=4.7	2.54	316	Pn	Pn	06 53 03.7	0.0
KDAK	37nm,0.3s,baz=36,slow=19,SNR=16			Sn	Sn	06 53 32.2	-2.4
KDAK	comp=Z,129nm,20.9s,baz=188,slow=43 19nm,0.3s			LR	LR	06 54 13.9	
SII	Sitkinak Islan	2.78	284		Pn	06 53 06.7	-0.4
SII	Sitkinak Islan baz=99	2.78	284	P	Pn	06 53 06.7	-0.4
SII	baz=99			S	Sn	06 53 36.9	-3.7
Q20K	Shuyak Island baz=146	3.11	329	P	Pn	06 53 11.6	+0.1
Q20K	baz=146			S	Sn	06 53 46.6	-2.1
SYI	Shuyak Island	3.11	329		Pn	06 53 11.5	0.0
CNPM	China Poot	3.68	344		Pn	06 53 19.1	-0.4
CNPM	China Poot comp=N,164nm,0.4s	3.68	344	IAML		06 54 03.0	
CNPM	comp=E,260nm,0.6s			IAML		06 54 04.1	
Q19K	Cape Douglas,	3.76	323		Pn	06 53 21.2	+0.7
Q19K	Cape Douglas, comp=N,372nm,0.7s	3.76	323	IAML		06 54 20.3	
Q19K	Cape Douglas, baz=139	3.76	323	P	Pn	06 53 21.2	+0.7
Q19K	baz=139			S	Sn	06 54 02.9	-1.9
Q23K	Middleton Isla	3.79	23		Pn	06 53 20.5	-0.3
Q23K	Middleton Isla comp=E,314nm,3.2s	3.79	23	IAML		06 54 02.0	
Q23K	comp=N,261nm,1.4s			IAML		06 54 03.0	
Q23K	Middleton Isla baz=206	3.79	23	P	Pn	06 53 20.5	-0.3
Q23K	baz=206			S	Sn	06 54 03.2	-2.1
MID	Middleton Isla	3.79	24		Pn	06 53 20.4	-0.4
MID	Middleton Isla comp=E,312nm,3.2s	3.79	24	IAML		06 54 02.0	
MID	comp=N,249nm,0.9s			IAML		06 54 03.0	
MID	Middleton Isla	3.79	24	P	Pn	06 53 20.5	-0.3
KAHG	Katmai Hook Gl	3.79	313		Pn	06 53 22.2	+1.3
BRSE	Bradley Lake S	3.83	349		Pn	06 53 21.0	-0.5
BRSE	Bradley Lake S baz=168	3.83	349	P	Pn	06 53 21.0	-0.5
BRLK	Bradley Lake	3.87	348		Pn	06 53 21.8	-0.2
BRLK	comp=E,207nm,0.4s			IAML		06 54 07.2	
BRLK	comp=N,145nm,0.2s			IAML		06 54 07.6	
HOM	Homer	3.88	342	Pn	Pn	06 53 23.8	+1.7
HOM					Sn	06 54 08.8	+1.2
HOM	comp=E,446nm,1.8s			IAML		06 54 21.3	
KCG	Knife Ck. Glac	3.92	309		Pn	06 53 23.8	+1.0
ACHA	Angle Creek He	3.96	306		Pn	06 53 23.9	+0.6
ANCK	Angle Creek	4.03	306		Pn	06 53 25.1	+0.8
KVTA	Katmai Vly 10	4.04	309		Pn	06 53 25.4	+1.0
SEW	Seward baz=179	4.12	359	P	Pn	06 53 24.6	-0.7
P23K	Montague Islan baz=195	4.13	13	P	Pn	06 53 25.4	-0.2
P19K	Oil Pt	4.22	332		Sn	06 54 17.0	+0.8
P19K	comp=E,357nm,0.5s			IAML		06 54 18.4	
P19K	comp=N,309nm,0.6s			IAML		06 54 18.5	
P19K	Oil Pt	4.22	332		Pn	06 53 27.4	+0.6
P19K	Oil Pt baz=148	4.22	332	P	Pn	06 53 27.5	+0.6
Q17K	Contact Creek baz=119	4.25	305	P	Pn	06 53 27.9	+0.6
O20K	Slope Mountain	4.46	338		Pn	06 53 30.1	0.0
O20K	Slope Mountain baz=155	4.46	338	P	Pn	06 53 30.2	0.0
IVE	Iliamna Volcan	4.49	335		Pn	06 53 30.3	-0.2
O22K	Cooper Landing	4.50	357		Pn	06 53 30.0	-0.7
O22K	Cooper Landing baz=177	4.50	357	P	Pn	06 53 30.2	-0.5
HIN	Hinchinbrook I	4.65	17		Pn	06 53 32.6	-0.2
HIN	Hinchinbrook I comp=E,206nm,0.6s	4.65	17	IAML		06 54 27.5	
P18K	Big Mountain,	4.66	319		Pn	06 53 32.6	-0.2
P18K	Big Mountain, baz=134	4.66	319	P	Pn	06 53 32.8	0.0
KAIM	Kayak Island	4.72	31		Pn	06 53 33.7	+0.1
KAIM	Kayak Island comp=E,216nm,1.0s	4.72	31	IAML		06 54 28.3	
KAIM	comp=N,217nm,2.5s			IAML		06 54 48.7	
KAIM	Kayak Island baz=216	4.72	31	P	Pn	06 53 33.7	+0.1
R16K	Pilot Point	4.81	292		Pn	06 53 35.2	+0.3
R16K	Pilot Point comp=E,241nm,2.0s	4.81	292	IAML		06 56 00.8	
R16K	comp=N,238nm,2.5s			IAML		06 56 14.1	
R16K	Pilot Point baz=105	4.81	292	P	Pn	06 53 35.2	+0.3
RSO	Redoubt South	4.83	339	Pn	Pn	06 53 37.0	+1.6
RDT	Redoubt	4.87	342		Pn	06 53 35.1	-0.7
CAPN	Captain Cook N	4.88	349		Pn	06 53 36.7	+0.9
CAPN	Captain Cook N baz=168	4.88	349	P	Pn	06 53 36.7	+0.9
EYAK	Cordova Ski Ar	4.93	21		Pn	06 53 36.4	-0.1
EYAK	Cordova Ski Ar	4.93	21	P	Pn	06 53 36.9	+0.4
EYAK	Cordova Ski Ar baz=204	4.93	21	P	Pn	06 53 36.7	+0.1
O19K	Port Alsworth	4.98	330		Pn	06 53 36.6	-0.6
O19K	Port Alsworth baz=145	4.98	330	P	Pn	06 53 36.9	-0.2
O18K	Koktuh Hills	4.98	323		Pn	06 53 37.1	-0.2
O18K	Koktuh Hills comp=N,67nm,0.8s	4.98	323	IAML		06 54 36.3	
O18K	Koktuh Hills baz=138	4.98	323	P	Pn	06 53 37.1	-0.2
P17K	Kvichak River	5.00	313		Pn	06 53 38.2	+0.7
P17K	Kvichak River baz=126	5.00	313	P	Pn	06 53 38.2	+0.7
RAGM	Ragged Mountai	5.03	27		Pn	06 53 38.1	+0.1
CHGN	Chignik	5.10	277	Pn	Pn	06 53 38.8	-0.1
CHGN	comp=N,80nm,0.4s			IAML		06 54 38.6	
CHGN	comp=E,73nm,0.5s			IAML		06 54 38.7	
RC01	Rabbit Creek A	5.11	358		Pn	06 53 38.7	-0.2
RC01	Rabbit Creek A comp=E,193nm,0.3s	5.11	358	IAML		06 54 37.2	
RC01	comp=N,136nm,0.5s			IAML		06 54 38.9	
RC01	Rabbit Creek A baz=177	5.11	358	P	Pn	06 53 38.8	-0.2
GOAT	Goat Mountain	5.19	26		Pn	06 53 40.6	+0.4
BERG	Berg Lake	5.31	32		Pn	06 53 42.0	+0.3
SNH	Sunshine Point	5.41	37		Pn	06 53 43.5	+0.3
N20K	Mount Spurr baz=162	5.43	345	P	Pn	06 53 43.4	-0.1
SPCR	Spurr Chakacha	5.43	345		Pn	06 53 43.4	-0.1
KNK	Knik Glacier	5.45	4		Pn	06 53 43.8	+0.2
KNK	Knik Glacier baz=185	5.45	4	P	Pn	06 53 43.9	+0.2
CYK	Cape Yakataga	5.46	39		Pn	06 53 44.0	+0.1
DIV	Divide	5.47	18		Pn	06 53 44.2	+0.3
SPCP	Crater Peak Br	5.49	345		Pn	06 53 44.9	+0.6
SPCG	Spurr Capps Gl	5.49	346		Pn	06 53 44.5	+0.1
SUA	Susitna One	5.53	353		Pn	06 53 44.4	-0.5
SUA	Susitna One baz=171	5.53	353	P	Pn	06 53 44.4	-0.5
N19K	Bonanza Creek	5.54	333		Pn	06 53 44.4	-0.6
N19K	Bonanza Creek baz=148	5.54	333	P	Pn	06 53 44.4	-0.6
BMRM	Bremner River	5.56	24		Pn	06 53 45.2	0.0
BMRM	Bremner River baz=208	5.56	24	P	Pn	06 53 45.3	+0.1
P16K	Nushagak River	5.58	307		Pn	06 53 45.8	+0.3
P16K	Nushagak River baz=119	5.58	307	P	Pn	06 53 45.8	+0.3
PMR	Palmer	5.61	1		Pn	06 53 45.6	-0.2
PMR	Palmer	5.61	1	P	Pn	06 53 47.2	+1.4
PMR	Palmer baz=181	5.61	1	P	Pn	06 53 45.9	0.0
O17K	Koliganek Bris	5.62	316		Pn	06 53 45.9	-0.1
O17K	Koliganek Bris baz=129	5.62	316	P	Pn	06 53 46.1	+0.2
SPNN	North Nagishla	5.67	343		Pn	06 53 47.1	+0.3
BARK	Barkley Ridge	5.70	36		Pn	06 53 47.5	+0.4
CRQM	Cirque	5.77	32		Pn	06 53 48.5	+0.3
KLU	Klutina	5.78	16		Pn	06 53 48.6	+0.3
KLU	Klutina baz=199	5.78	16	P	Pn	06 53 48.5	+0.1
GHO	Glory Hole Cre	5.79	2		Pn	06 53 48.9	+0.4
N18K	Kilae Creek	5.83	326		Pn	06 53 48.5	-0.5
N18K	Kilae Creek baz=140	5.83	326	P	Pn	06 53 48.5	-0.5
SML	Sawmill	5.85	5		Pn	06 53 49.8	+0.6
SML	Sawmill baz=185	5.85	5	P	Pn	06 53 49.6	+0.4
M23K	Glacier View	5.87	7		Pn	06 53 50.0	+0.6
M23K	Glacier View baz=189	5.87	7	P	Pn	06 53 50.0	+0.6
O16K	Kokwok River B	5.92	311		Pn	06 53 50.5	+0.3
O16K	Kokwok River B baz=123	5.92	311	P	Pn	06 53 50.3	+0.2
SCM	Sheep Creek Mo	5.94	9		Pn	06 53 51.1	+0.6
SCM	Sheep Creek Mo baz=191	5.94	9	P	Pn	06 53 51.0	+0.5
CHNA	Chernabura Isl baz=74	5.98	263	P	Pn	06 53 49.7	-1.2
CNBA	Chernabura Isl	5.98	263		Pn	06 53 49.7	-1.2
VRDI	Verde Repeater	6.07	28		Pn	06 53 52.6	+0.3
SKT	Skwentna	6.11	350		Pn	06 53 54.0	+1.2
N25K	Chitina, Valde	6.13	22		Pn	06 53 53.5	+0.4
N25K	Chitina, Valde baz=206	6.13	22	P	Pn	06 53 53.5	+0.4
SAMH	Samovar Hills	6.13	44		Pn	06 53 53.9	+0.8
N17K	Nushagak Hills	6.16	321		Pn	06 53 53.6	+0.3
N17K	Nushagak Hills baz=134	6.16	321	P	Pn	06 53 53.8	+0.4
GLB	Gilahina Butte	6.16	25		Pn	06 53 53.7	+0.2
M20K	Styx River	6.22	343		Pn	06 53 54.3	-0.1
YKU2	Yakutat	6.24	52		Pn	06 53 55.0	+0.5
MCARA	McCarthy VSAT	6.31	29		Pn	06 53 56.4	+0.9
M24K	Tolsona, Glenn	6.33	13		Pn	06 53 56.9	+1.0
SDPT	Sand Point	6.36	269	Pn	Pn	06 53 55.7	-0.4
PNL	Peninsula	6.44	51		Pn	06 53 57.6	+0.3
PNL	Peninsula	6.44	51	P	Pn	06 53 58.2	+0.9
M18K	Stony River	6.47	331		Pn	06 53 57.0	-0.6
M19K	Big River Lodg	6.48	338	Pn	Pn	06 53 59.4	+1.6
BCPM	Bancas Point	6.49	48		Pn	06 53 58.0	+0.7
O15K	Ungalikthiuk R	6.49	304		Pn	06 53 58.6	+0.7
CTGM	Chitina Glacie	6.50	37		Pn	06 53 58.5	+0.3
WACK	Wrangell Chich	6.53	21		Pn	06 53 59.8	+1.1
N16K	Nishlik Lake	6.71	316		Pn	06 54 02.3	+1.3
L19K	White Mountain	6.83	338	Pn	Pn	06 54 04.0	+1.4
WAT7	Susitna Watana	6.86	2		Pn	06 54 03.9	+0.8
WAT1	Susitna Watana	6.86	3		Pn	06 54 03.7	+0.6
M17K	Holitna River	6.87	325		Pn	06 54 03.5	+0.3
L20K	Farewell, AK	6.91	342		Pn	06 54 03.2	-0.5
PS1A	Pavlof South-1	7.05	270		Pn	06 54 05.2	-0.5
N15K	Kwethluk River	7.08	311		Pn	06 54 07.5	+1.4
O29M	Mount Kennedy	7.12	48		Pn	06 54 07.6	+0.8
M16K	Timber Creek	7.13	319		Pn	06 54 07.5	+0.7
DHY	Denali Highway	7.17	7		Pn	06 54 08.1	+0.8
P29M	Windy Craggy	7.17	55		Pn	06 54 07.3	0.0
M26K	Nabesna, AK	7.19	24		Pn	06 54 08.7	+1.1
O14K	Tigyukauivet M	7.20	302		Pn	06 54 08.5	+0.8
PAX	Paxson	7.26	14		Pn	06 54 09.4	+0.8
S31K	Pelican	7.41	69		Pn	06 54 08.2	-2.3
M27K	Edge Creek, AK	7.42	28		Pn	06 54 12.0	+1.1
RND	Reindeer	7.43	2		Pn	06 54 11.8

RIDG	Independent Ri	8.08	14	Pn		Pn		06 54 21.8	+2.0	
FALS	False Pass	8.11	268			Pn		06 54 19.7	-0.4	
FALS	False Pass	8.11	268	P		Pn		06 54 19.8	-0.4	
BPAW	Bear Paw Mtn.	8.17	355			Pn		06 54 20.3	-0.7	
S32K	Killisnoo	8.23	74			Pn		06 54 20.0	-1.8	
SKAG	Skagway	8.24	59	P		Pn		06 54 22.4	+0.5	
BESE	Bessie Mountai	8.24	66			Pn		06 54 21.5	-0.6	
ISNN	Isanotski Nort	8.32	268			Pn		06 54 22.9	-0.2	
N30M	Aishikik Lake	8.38	44			Pn		06 54 24.5	+0.6	
O30N	Mendenhall	8.42	50			Pn		06 54 24.8	+0.3	
JIS	Juneau Island	8.43	68	P		Pn		06 54 24.2	-0.3	
NEA2	Nenana	8.62	1	Pn		Pn		06 54 28.0	+0.8	
CCB	Clear Creek Bu	8.71	4	Pn		Pn		06 54 29.4	+1.1	
K27K	Chicken	8.82	21	Pn		Pn		06 54 31.2	+1.3	
J25K	Salcha River,	8.86	11	Pn		Pn		06 54 30.8	+0.4	
IL31		8.88	7			Pn		06 54 30.7	0.0	
ILAR	Eielson Array	8.88	7	Pn		Pn		06 54 32.5	+1.8	
ILAR	Eielson Array	8.88	7	Pn		Pn		06 54 30.9	+0.2	
	comp=N,0.7nm,0.3s,baz=187,slow=13,SNR=5.1									
ILAR				Sn		Sn		06 56 05.4	-5.3	
	comp=N,1.0nm,0.3s,baz=189,slow=18,SNR=14									
ILAR				LR		LR		06 58 03.6		
	comp=N,84nm,21.5s,baz=150,slow=38									
WHY	Whitehorse	8.90	52	Pn		Pn		06 54 31.8	+0.7	
N31M	Braeburn, Yuko	8.91	46			Pn		06 54 32.2	+1.0	
COLA	College	8.93	4	P		Pn		06 54 33.6	+2.2	
J25L	Joseph Creek	8.99	16	Pn		Pn		06 54 33.0	+0.8	
CRAG	Craig	9.14	87	P		Pn		06 54 32.1	-2.2	
	comp=N,65nm,2.2s									
P33M	Teslin, Yukon	9.68	57	Pn		Pn		06 54 42.1	+0.3	
H21K	Melozitna Rive	9.84	351			Pn		06 54 45.1	+1.2	
M31M	Drury Creek, Y	9.86	45			Pn		06 54 45.4	+1.3	
J29N	Klondike Camp	10.10	28	Pn		Pn		06 54 48.2	+0.8	
UNV	Unalaska Valle	10.13	265	P		Pn		06 54 46.9	-1.0	
FARO	Faro, Yukon	10.29	46	Pn		Pn		06 54 51.3	+1.2	
R33M	Jennings River	10.38	63	Pn		Pn		06 54 51.2	-0.1	
DLBC	Dease Lake	10.73	69	Pn		Pn		06 54 56.0	0.0	
	comp=N,1.0nm,0.3s,baz=265,slow=6.5,SNR=21									
DLBC				Sn		Sn		06 56 48.4	-7.7	
	comp=N,0.6nm,0.3s,baz=166,slow=22,SNR=2.4									
	comp=N,2.4nm,0.3s									
INK	Inuvik	14.31	24	Pn		Pn		06 55 45.7	+0.9	
INK	Inuvik	14.31	24	Pn		Pn		06 55 45.2	+0.4	
	comp=N,0.1nm,0.3s,baz=201,slow=15,SNR=20									
	comp=N,7.9nm,0.9s									
C36M	Paulatuk	17.49	30	P		Pn		06 56 25.2	-0.9	
C36M				IAmb		IAmb		06 56 28.8		
	comp=Z,7.9nm,0.8s									
YKA	Yellowknife Ar	18.71	55	P		P		06 56 40.9	+0.1	
	comp=Z,0.2nm,0.3s,baz=266,slow=9.7,SNR=11									
	comp=Z,0.9nm,0.7s									
A36M	Sachs Harbour	18.95	23	P		P		06 56 43.3	+0.1	
A36M				IAmb		IAmb		06 56 46.1		
	comp=Z,12nm,0.7s									
NVAR	Mina Array Bea	27.09	117	P		P		06 58 05.4	0.0	
	comp=Z,0.6nm,0.7s,baz=311,slow=9.3,SNR=5.3									
	comp=Z,0.6nm,0.7s									
PDAR	Pinedale Array	28.62	101	P		P		06 58 18.6	-0.5	
	comp=Z,0.3nm,0.4s,baz=323,slow=4.4,SNR=4.3									
	comp=Z,0.3nm,0.4s									
ARCES	ARCESS Array B	54.71	2	P		P		07 01 50.3	-0.9	
	comp=Z,2.5nm,0.8s,baz=1.6,slow=8.5,SNR=5.4									
	comp=Z,2.5nm,0.8s									
SONM	Songino Array	58.81	310	P		P		07 02 22.8	+2.0	
	comp=Z,0.5nm,0.7s,baz=37,slow=5.5,SNR=2.5									
	comp=Z,0.5nm,0.7s									
FINES	FINESS Array B	62.84	2	P		P		07 02 47.6	-0.2	
	comp=Z,2.3nm,0.8s,baz=346,slow=6.5,SNR=3.7									
	comp=Z,2.3nm,0.8s									
KURBB	Kurchatov Arra	66.58	329	P		P		07 03 13.8	+1.5	
	comp=Z,0.4nm,0.6s,baz=27,slow=6.6,SNR=3.5									
	comp=Z,0.4nm,0.6s									
MKAR	Makanchi Array	68.82	325	P		P		07 03 28.2	+1.6	
	comp=Z,0.5nm,0.5s,baz=27,slow=5.6,SNR=7.1									
	comp=Z,0.5nm,0.5s									
QSPA	South Pole Qui	145.79	180	PKPbc		PKPdf		07 11 59.1	-0.7	
	comp=Z,1.9nm,0.6s,baz=150,slow=1.8,SNR=4.9									

*IDC **24** 06:57:03.8±0.7,2.°62N×95.°50E,h0km,mb4.4/22, mbtmp4.5/23,ML4.9/1,MS3.8/25,Error ellipse: s-maj=24.3km s-min=13.5km az=49.0*

*BJI **24** 06:57:05.7±0.0,2.°68N×95.°54E,h22km,mb4.9/62, mB5.2/32,Ms4.5/19,Ms7 4.4/19*

*DJA **24** 06:57:07.6±0.5,3°N±2°×9°E±°,h37km±6km,M5.2/19, mb5.0/19,mB5.8/7,MLv5.1/12,Mw(mB)5.4/7,MwMwp6.5/1, Mwp6.4/1*

*NEIC **24** 06:57:08.7±1.6,2.°67N±0.°07×95.°51E±0.°08,h28km±5km, mb4.9/57,Error ellipse: s-maj=13.2km s-min=8.9km az=58.0*

ISC 24 06:57:07.5±0.4,2.°60N±0.°05×95.°50E±0.°05,h25km,n165, σ1§17/137,mb4.9/80,MS4.0/33,5C-5D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.85	103	P	Pb	06 57 23.1	-0.4
SNSI				S	Sb	06 57 35.4	+0.9
MLSI	Meulaboh, Aceh	1.89	29	P	Pn	06 57 37.0	-1.2
MLSI				S	Sb	06 58 04.4	-0.1
GSI	Gunungsitoli	2.44	122		Pn	06 57 46.1	+0.4
GSI	Gunungsitoli	2.44	122	P	Pn	06 57 45.7	-0.1
GSI				S	Sn	06 58 12.9	-1.9
KCSI	Kotacane, Aceh	2.45	68	P	Pn	06 57 46.3	+0.4
LHMI	Lhok Sumawe	2.99	29	Pn	Pn	06 57 53.5	+0.3
LHMI	Lhok Sumawe	2.99	29	P	Pn	06 57 53.2	-0.1
RPSI	Rantau Prapat	3.42	88		Pn	06 58 00.1	+0.8
PBSI	Pulau Batu	3.83	133	P	Pn	06 58 05.6	+0.7
PBSI				S	Sn	06 58 46.0	-3.1
SISI	Saibi	5.30	137	P	Pn	06 58 25.4	+0.3
	109nm,0.9s,0.9nm						
SISI				S	Sn	06 59 22.2	-3.2
	109nm,0.9s,0.9nm						
KULM	Kulim	5.79	62	Pn	Pn	06 58 32.2	+0.3
KULM	Kulim	5.79	62	P	Pn	06 58 32.0	+0.1
	390nm,0.9s,3μm1.4nm						
PDSI	Padang	6.06	125	P	Pn	06 58 36.3	+0.7
	67nm,0.6s,8μm1.1nm						
PPSI	Pulau Pagai	6.98	140	P	Pn	06 58 46.9	-1.2
	294nm,1.0s,1.7nm						
SRIT	Nakonsritamara	7.22	34	Pn	Pn	06 58 51.2	-0.3
MYKOM	Kota Tinggi	8.38	95		Pn	06 59 07.4	-0.1
MYKOM	Kota Tinggi	8.38	95	P	Pn	06 59 09.0	+1.5
	62nm,0.6s,0.3nm						
EGSI	Enggano, Bengk	10.40	139	P	Pn	06 59 35.2	0.0
	232nm,1.2s						
KASI	Kota Agung	12.08	132	P	Pn	06 59 58.0	-0.1
	57nm,0.6s						
KSM	Kuching	14.84	94	Pn	Pn	07 00 36.6	+0.7
KSM	Kuching	14.84	94	P	P	07 00 43.2	+1.7
LEM	Lembang	15.30	128	LR	LR	07 07 23.0	
	comp=Z,380nm,18.6s,baz=263,slow=40						
PALK	Pallekele	15.45	288	Pn	Pn	07 00 42.7	-1.3
PALK	Pallekele	15.45	288	Pn	P	07 00 49.6	+1.3
	0.2nm,0.3s,baz=208,slow=11,SNR=5.3						
PALK				LR	LR	07 06 15.6	
	comp=Z,407nm,18.8s,baz=210,slow=36						
UBPT	Khong Chiam	15.98	37	Pn	Pn	07 00 49.7	-1.1
CM31	Chiang Mai Arr	16.12	12	Pn	Pn	07 00 53.0	+0.4
CMAR	Chiang Mai Arr	16.12	12	Pn	Pn	07 00 51.5	-1.1
CMAR	Chiang Mai Arr	16.12	12	Pn	Pn	07 00 52.7	+0.1
	1.6nm,0.3s,baz=200,slow=11,SNR=18						
CMAR				LR	LR	07 06 54.6	
	comp=Z,154nm,21.4s,baz=200,slow=37						
	26nm,0.8s						
STKI	Sintang	16.17	99	P	Pn	07 00 53.4	+0.2
CHTO	Chiang Mai	16.47	12	P	Pn	07 00 56.2	-0.8
CMMT	Chiang Mai	16.47	12	P	Pn	07 00 55.2	-1.8
	71nm,1.1s,2μm136μm						
SBUM	Sibu	16.70	90	Pn	Pn	07 00 59.0	-1.0
SBUM	Sibu	16.70	90	P	Pn	07 01 00.7	+0.7
	18nm,1.1s						
CRAI	Chiangrai	18.16	15		Pn	07 01 17.1	-0.9
VIS	Vishakhapatnam	19.20	322	*ex*	x	07 01 37.2	
SAIH	SAIHA	19.92	353	*eP*	Pn	07 01 38.8	-0.6
SAIH				IAmb	IAmb	07 01 42.9	
	comp=Z,7.3nm,0.6s						
KKM	Kota Kinabalu	20.94	80	P	P	07 01 48.7	0.0
AZL	Aizawl	21.19	353	*eP*	P	07 01 49.2	-2.2
AZL				IAmb	IAmb	07 01 50.2	
	comp=Z,28nm,0.5s						
QIZ	Qiongzhong	21.54	40	P	P	07 01 55.8	+0.8
QIZ				LR	LR		
	comp=Z,370nm,12.0s						
QIZ				LR	LR		
	comp=Z,310nm,15.3s						
QIZ				LR	LR		
	comp=Z,440nm,16.3s						
TNCH	TengChong	22.49	7	*eP*	P	07 02 06.9	+1.5
TNCH				S	S	07 06 07.1	-4.0
TNCH				pmax	pmax		
	comp=Z,140nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,280nm,3.5s						
TNCH				LR	LR		
	comp=Z,630nm,11.6s						
TNCH				LR	LR		
	comp=Z,430nm,10.5s						
TNCH				LR	LR		
	comp=Z,410nm,12.8s						
BOK	Bokaro	23.03	337	*eP*	P	07 02 10.4	-0.6
BOK				IAmb	IAmb	07 02 12.0	
	comp=Z,17nm,0.6s						
SHL	Shillong	23.10	352	P	P	07 02 08.5	-3.3
SHL				IAmb	IAmb	07 02 12.2	
	comp=Z,27nm,0.8s						
SHL	Shillong	23.10	352	*ex*	x	07 02 08.7	
SHL				IAmb	IAmb	07 02 10.7	
	comp=Z,111nm,0.6s						
SHL				*eP*	P	07 02 10.7	-1.1
KMI	Kunming	23.46	17	⇑P	P	07 02 15.1	-0.3
KMI				pmax	pmax		
	comp=Z,42nm,1.0s						
KMI				LR	LR		
	comp=Z,930nm,13.0s						
KMI				LR	LR		
	comp=Z,260nm,19.3s						
KMI				LR	LR		
	comp=Z,960nm,13.2s						
PZH	PanZhiHua	24.51	14	P	P	07 02 25.0	-0.2
PZH				S	S	07 06 48.1	+3.6
PZH				pmax	pmax		
	comp=Z,40nm,1.4s						
PZH				pmax	pmax		
	comp=Z,150nm,5.7s						
PZH				LR	LR		
	comp=Z,380nm,14.5s						
PZH				LR	LR		
	comp=Z,280nm,15.1s						
PZH				LR	LR		
	comp=Z,620nm,15.9s						
LKP	Lekhapani	24.60	1	IAmb	IAmb	07 05 45.5	
	comp=Z,594nm,0.3s						
H08S2	Diego Garcia H	25.11	246	T	T	07 28 26.6	
	baz=67,slow=76,SNR=3674						
H08S3	Diego Garcia H	25.11	246	T	T	07 28 31.6	
	baz=67,slow=76,SNR=4780						
H08S1	Diego Carcia H	25.12	246	T	T	07 28 29.2	
	baz=67,slow=76,SNR=1226						
TOLI2	Tolitoli	25.31	93	P	P	07 02 32.4	-0.1
TOLI2				IAmb	IAmb	07 02 38.9	
	comp=Z,13nm,0.7s						
KAPI	Kappang	25.38	107	P	P	07 02 33.5	+0.4
KAPI				IAmb	IAmb	07 02 43.1	
	comp=Z,29nm,0.9s						
GTK	Tadong	25.45	346	*eP*	P	07 02 31.8	-1.9
GTK				IAmb	IAmb	07 02 37.1	
	comp=Z,29nm,0.8s						
BKSI	Bulukumba	25.82	108	P	P	07 02 51.3	+14
GYA	Guiyang	26.03	23	⇓*i*P	P	07 02 38.8	-0.2
GYA				S	S	07 07 10.6	+1.9
GYA				pmax	pmax		
	comp=Z,38nm,0.8s						
GYA				LR	LR		
	comp=Z,500nm,14.2s						
GULI	GuiLin	26.72	31	⇓P	P	07 02 40.0	-5.1
GULI				pmax	pmax		
	comp=Z,20nm,0.9s						
GULI				LR	LR		
	comp=Z,350nm,16.8s						
GULI				LR	LR		
	comp=Z,340nm,20.6s						
LSA	Lhasa	27.27	352	P	P	07 02 50.3	-0.1
LSA				IAmb	IAmb	07 03 02.8	
	comp=Z,19nm,0.7s						
LUWI	Luwuk	27.50	97	P	P	07 02 50.5	-1.7
	comp=Z,26nm,0.6s						
CD2	Chengdu	29.22	15	P	P	07 03 08.0	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	Enshi	30.55	24	P	P	07 03 17.4	-1.7
ENH				IAmb	IAmb	07 03 18.9	
	comp=Z,25nm,0.8s						
WHN	Wuhan	33.03	31	⇓P	P	07 03 41.3	+0.4
WHN				pmax	pmax		
	comp=Z,44nm,0.7s						
SMLA	Simla	33.24	331	*eP*	P	07 03 42.5	-0.2
SMLA				IAmb	IAmb	07 03 46.2	
	comp=Z,8.9nm,0.5s						
GOMU	GeErMu	33.44	359	P	P	07 03 44.6	-0.3
GOMU				pP	pP	07 03 48.1	-3.9
GOMU				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN	Xi'an	33.70	20	⇑P	P	07 03 45.8	-1.0
XAN				pP	pP	07 03 50.5	-3.6
XAN				LR	LR		
	comp=Z,440nm,12.6s						
XAN				LR	LR		
	comp=Z,680nm,14.1s						
XAN				LR	LR		
	comp=Z,700nm,13.3s						
LZH	Lanzhou	34.21	12	⇑P	P	07 03 50.4	-0.9
LZH				pP	pP	07 03 57.8	-0.8
LZH				sP	sP	07 04 01.9	+0.3
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
LZH				LR	LR		
	comp=Z,350nm,14.4s						
DHRM	DHARAMSHALA	34.58	331	*eP*	P	07 03 55.2	+0.6
DHRM				IAmb	IAmb	07 04 00.2	
	comp=Z,12nm,0.7s						
LYN	LuoYang	35.51	25	⇑P	P	07 04 02.3	0.0
LYN				pmax	pmax		
	comp=Z,80nm,0.8s						
LYN				pmax	pmax		
	comp=Z,220nm,5.5s						
LYN				LR	LR		
	comp=Z,990nm,13.7s						
LYN				LR	LR		
	comp=Z,450nm,13.4s						
LYN				LR	LR		
	comp=Z,800nm,14.4s						
SIJI	Sorong	35.92	95	P	P	07 04 05.8	-0.4
	comp=Z,19nm,0.9s						
NJ2	Nanjing	36.62	34	*eP*	P	07 04 13.1	+1.2
NJ2				pP	pP	07 04 19.0	-0.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	Gaotai	36.85	6	P	P	07 04 13.3	-0.6
GTA				pP	pP	07 04 19.8	-1.5
GTA				pmax	pmax		
	comp=Z,16nm,0.8s						
HNS	HongShan	38.88	25	⇓P	P	07 04 31.9	+1.0
HNS				pmax	pmax		
	comp=Z,58nm,1.0s						
BTO	Baotou	40.05	17	*eP*	P	07 04 41.8	+1.0
BTO				pP	pP	07 04 47.6	-0.6
BTO				sP	sP	07 04 50.8	-0.4
BTO				PP	PnPn	07 06 18.4	+1.7
BTO				pmax	pmax		
	comp=Z,60nm,0.9s						
BTO				pmax	pmax		
	comp=Z,750nm,5.0s						
BTO				LR	LR		
	comp=Z,2μm,11.6s						
BTO				LR	LR		
	comp=Z,750nm,10.6s						
BTO				LR	LR		
	comp=Z,2μm,13.4s						
HHC	Hu-ho-hao-te	40.75	19	⇑P	P	07 04 47.4	+0.8
HHC				pmax	pmax		
	comp=Z,35nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,4.7s						
HHC				LR	LR		
	comp=Z,900nm,14.3s						
HHC				LR	LR		
	comp=Z,820nm,12.3s						
KSH	Kashi	40.81	337	P	P	07 04 46.0	-1.2
KSH				pP	pP	07 04 52.8	-1.7
KSH				pmax	pmax		
	comp=Z,15nm,0.7s						
NWAO	Narrogin (SRO)	40.88	152	LR	LR	07 20 40.4	
	comp=Z,41nm,18.6s,baz=44,slow=35						
WSAR	Wadi Sarin	41.17	303	P	P	07 04 55.4	+5.2
	comp=Z,2.8nm,0.7s,baz=146,slow=3.6,SNR=1.9						
H01W3	Cape Leeuwin H	41.19	156	T	T	07 48 34.9	
	baz=332,slow=76,SNR=969						
H01W2	Cape Leeuwin H	41.20	156	T	T	07 48 35.7	
	baz=332,slow=76,SNR=850						
H01W1	Cape Leeuwin H	41.20	156	T	T	07 48 31.3	
	baz=332,slow=76,SNR=1268						
WMQ	Urumqi	41.63	351	P	P	07 04 54.5	+0.8
WMQ				pP	pP	07 05 01.0	0.0
WMQ				pmax	pmax		
	comp=Z,35nm,1.5s						
BJT	Baijiatuau	41.70	24	P	P	07 04 54.7	+0.4
BJT				IAmb	IAmb	07 04 56.5	
	comp=Z,21nm,0.8s						
BJI	Beijing	41.72	24	P	P	07 04 56.0	+1.6
BJI				pP	pP	07 05 01.8	0.0
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
TARG	Taragay, Kyrgy	42.08	340	IAmb	IAmb	07 05 01.3	
	comp=Z,12nm,0.6s						
NRN	Naryn	42.46	338	P	P	07 05 01.0	+0.1
NRN				IAmb	IAmb	07 05 09.4	
	comp=Z,11nm,0.8s						
SIMJ	Simiganj	43.28	329	P	P	07 05 05.7	-1.6
BOOM	Boomskoye usch	43.40	339	P	P	07 05 07.4	-0.9
BOOM				IAmb	IAmb	07 05 16.8	
	comp=Z,14nm,0.9s						
BTK	Batken	43.49	332	IAmb	IAmb	07 05 19.9	
	comp=Z,35nm,1.1s						
ARSB	Arslanbob	43.56	335	IAmb	IAmb	07 05 18.4	
	comp=Z,9.5nm,0.7s						
AAK	Ala-Archa	44.06	338	P	P	07 05 13.2	-0.4
AAK	Ala-Archa	44.06	338		P	07 05 13.8	+0.2
AAK	Ala-Archa	44.06	338	P	P	07 05 15.4	+1.8
	comp=Z,5.3nm,0.9s,baz=142,slow=9.1,SNR=4.9						
AAK				LR	LR	07 24 42.4	
	comp=Z,106nm,20.5s,baz=152,slow=38						
	comp=Z,5.3nm,0.9s						
WB0	Warramunga Arr	44.18	122	P	P	07 05 15.0	+0.3
WB0				IAmb	IAmb	07 05 22.6	
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	44.21	122	P	P	07 05 15.2	+0.2
	comp=Z,7.4nm,0.8s,baz=300,slow=9.1,SNR=23						
	comp=Z,7.4nm,0.8s						
WB2	Warramunga Arr	44.22	122	P	P	07 05 15.2	+0.2
WB2				IAmb	IAmb	07 05 16.2	
	comp=Z,18nm,1.1s						
WR0	Warramunga Arr	44.39	122	P	P	07 05 16.5	+0.1
WR0				IAmb	IAmb	07 05 17.6	
	comp=Z,17nm,0.8s						
JNU	Nakatsue	44.93	43	LR	LR	07 26 11.8	
	comp=Z,79nm,18.1s,baz=196,slow=39						
FORT	Forrest	45.43	139	P	P	07 05 26.7	+2.2
MKAR	Makanchi Array	45.50	347	P	P	07 05 24.9	+0.1
	comp=Z,24nm,0.7s,baz=164,slow=8.0,SNR=197						
MKAR				LR	LR	07 26 48.8	
	comp=Z,105nm,21.0s,baz=187,slow=39						
	comp=Z,24nm,0.7s						
MAKZ	Makanchi	45.58	347	P	P	07 05 25.9	+0.4
AS31	Alice Springs	45.59	127	P	P	07 05 26.1	+0.2
ASAR	Alice Springs	45.59	127	P	P	07 05 26.8	+0.9
ASAR	Alice Springs	45.59	127	P	P	07 05 26.1	+0.2
	comp=Z,2.9nm,0.7s,baz=299,slow=7.9,SNR=39						
ASAR				LR	LR	07 26 54.9	
	comp=Z,86nm,19.7s,baz=300,slow=39						
	comp=Z,2.9nm,0.7s						
KSRS	Korea Array	45.71	37	P	P	07 05 25.9	-0.7
	comp=Z,3.5nm,0.7s,baz=235,slow=8.2,SNR=8.1						
KSRS				LR	LR	07 28 09.9	
	comp=Z,88nm,18.2s,baz=265,slow=41						
	comp=Z,3.5nm,0.7s						
SONM	Songino Array	46.04	10	P	P	07 05 29.1	-0.1
SONM	Songino Array	46.04	10	P	P	07 05 28.9	-0.3
	comp=Z,3.6nm,0.6s,baz=190,slow=8.8,SNR=24						
SONM				PcP	PcP	07 07 05.8	+0.4
	comp=Z,1.9nm,0.7s,baz=193,slow=3.4,SNR=3.7						
SONM				LR	LR	07 25 55.9	
	comp=Z,154nm,18.1s,baz=218,slow=38						
	comp=Z,3.6nm,0.6s						
KKAR	Karatay Array	46.07	335	IAmb	IAmb	07 05 38.3	
	comp=Z,16nm,0.9s						
ULN	Ulaanbaatar	46.19	11	P	P	07 05 37.9	+7.5
GEYT	Alibeck	49.06	321	P	P	07 05 53.3	+0.5
	comp=Z,2.2nm,0.6s,baz=115,slow=16,SNR=4.4						
	comp=Z,2.2nm,0.6s						
KURBB	Kurchatov Arra	49.96	346	P	P	07 05 59.5	+0.2
	comp=Z,7.0nm,0.6s,baz=166,slow=7.0,SNR=42						
KURBB				LR	LR	07 29 36.5	
	comp=Z,88nm,21.3s,baz=180,slow=39						
	comp=Z,7.0nm,0.6s						
KURK	Kurchatov	50.02	346	P	P	07 06 00.2	+0.4
KURK				IAmb	IAmb	07 06 08.3	
	comp=Z,22nm,0.9s						
BNX	BinXian	51.24	28	⇓P	P	07 06 09.6	+0.5
BNX				pmax	pmax		
	comp=Z,11nm,0.8s						
BNX				pmax	pmax		
	comp=Z,740nm,5.9s						
MDJ	Mudanjiang	51.51	31	P	P	07 06 12.3	+1.2
MDJ				pmax	pmax		
	comp=Z,22nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,1μm,5.9s						
MJAR	Matsushiro Arr	51.84	44	LR	LR	07 31 05.8	
	comp=Z,83nm,18.1s,baz=234,slow=39						
ZAA0	Zalesovo Array	51.93	352	P	P	07 06 14.1	0.0
ZALV	Zalesovo Beam	51.93	352	P	P	07 06 14.2	+0.1
	comp=Z,19nm,0.7s,baz=180,slow=6.5,SNR=79						
	comp=Z,19nm,0.7s						
BBOO	Buckleboo	52.06	136	P	P	07 06 15.9	+0.5
USRK	Ussuriysk Ar.	52.49	33	P	P	07 06 18.2	-0.2
	comp=Z,3.3nm,0.8s,baz=192,slow=3.5,SNR=5.3						
USRK				LR	LR	07 30 53.6	
	comp=Z,81nm,19.0s,baz=243,slow=39						
	comp=Z,3.3nm,0.8s						
PMG	Port Moresby	52.83	104	P	P	07 06 21.4	0.0
	comp=Z,11nm,0.7s,baz=302,slow=4.8,SNR=4.2						
	comp=Z,11nm,0.7s						
BVAR	Borovoye Array	54.39	342	P	P	07 06 32.0	-0.2
	comp=Z,12nm,0.6s,baz=146,slow=8.8,SNR=59						
	comp=Z,12nm,0.6s						
BRVK	Borovoye	54.45	342	P	P	07 06 32.1	-0.6
BRVK				IAmb	IAmb	07 06 40.5	
	comp=Z,18nm,0.8s						
HEH	HeiHe	54.63	25	*eP*	P	07 06 33.9	-0.1
CTA	Charters Tower	54.64	117	LR	LR	07 33 35.4	
	comp=Z,122nm,18.7s,baz=278,slow=40						
ABKAR	Akbulak array	55.49	332	P	P	07 06 39.9	-0.3
ABKAR				IAmb	IAmb	07 06 48.5	
	comp=Z,20nm,0.9s						
STKA	Stephens Creek	55.55	132

H04S2 CROZET ISLANDS 62.37 212 T T 08 15 04.7
baz=52,slow=75,SNR=891
EIL Elat 63.28 302 LR LR 07 35 39.1
comp=Z,107nm,18.1s,baz=84,slow=37
MMAI Mount Meron Ar 63.71 306 P P 07 07 42.9 +5.6
comp=Z,4.3nm,0.7s,baz=110,slow=8.4,SNR=2.9
YAK Yakutsk 64.58 17 LR LR 07 37 42.6
comp=Z,79nm,18.6s,baz=124,slow=38
KIRV Kirov 66.34 336 P P 07 07 59.7 +5.9
comp=Z,9.5nm,0.6s,baz=90,slow=1.0,SNR=2.7
NRIK Noril'sk 66.84 357 P **P 07 07 55.9 -1.0**
NRIK IAmb IAmb 07 08 04.8
comp=Z,15nm,1.2s
NRIK Noril'sk 66.84 357 P **P 07 07 56.5 -0.3**
comp=Z,3.2nm,0.5s,baz=148,slow=6.2,SNR=8.3
comp=Z,3.2nm,0.5s
BRTR Keskin Array B 66.92 312 P **P 07 07 59.4 +1.3**
comp=Z,0.7nm,0.8s,baz=36,slow=28,SNR=3.6
comp=Z,0.7nm,0.8s
TIXI Tiksi 72.12 11 P **P 07 08 27.8 -1.6**
TIXI IAmb IAmb 07 09 05.1
comp=Z,16nm,1.1s
LBTB Lobatse 72.99 243 LR LR 07 36 39.5
comp=Z,74nm,19.8s,baz=110,slow=32
AKASG Malin Array Be 73.12 323 P **P 07 08 34.6 -1.1**
comp=Z,0.3nm,0.4s,baz=94,slow=3.8,SNR=5.0
AKASG LR LR 07 45 30.3
comp=Z,47nm,18.5s,baz=3.0,slow=40
FINES FINESS Array B 77.98 333 P **P 07 09 03.3 -0.1**
comp=Z,2.3nm,0.7s,baz=48,slow=4.1,SNR=1.6
comp=Z,2.3nm,0.7s
ARCES ARCESS Array B 80.66 340 P **P 07 09 18.0 +0.1**
comp=Z,2.2nm,0.8s,baz=60,slow=7.2,SNR=4.2
comp=Z,2.2nm,0.8s
SHEM Shemya Is, Ala 81.04 37 LR LR 07 49 41.2
comp=Z,43nm,18.0s,baz=72,slow=39
GERES GERESS Array B 82.65 319 P **P 07 09 30.3 +1.3**
comp=Z,0.3nm,0.3s,baz=91,slow=7.8,SNR=1.4
comp=Z,0.3nm,0.3s
URZ Urewera 85.01 129 LR LR 07 51 00.1
comp=Z,44nm,19.1s,baz=305,slow=38
SPITS Spitsbergen Ar 85.25 348 LR LR 07 52 13.5
comp=Z,49nm,21.8s,baz=88,slow=39
C16K Lisburne Hills 91.00 22 IAmb IAmb 07 10 18.1
comp=Z,11nm,1.4s
C18K Utukok River 92.43 21 IAmb IAmb 07 10 24.5
comp=Z,7.0nm,0.8s
G16K Koyuk River 92.70 24 IAmb IAmb 07 10 26.3
comp=Z,6.7nm,1.1s
TORD Torodi Ar. Bea 93.12 283 P **P 07 10 21.3 +1.2**
comp=Z,0.4nm,0.6s,baz=77,slow=7.3,SNR=3.5
comp=Z,0.4nm,0.6s
F19K Shaleruckik Mo 94.15 22 IAmb IAmb 07 10 32.1
comp=Z,7.5nm,1.0s
G19K Purcell Mounta 94.62 23 P **P 07 10 26.1 +0.2**
J19K Poorman 95.86 25 P **P 07 10 31.8 +0.2**
J19K IAmb IAmb 07 10 40.9
comp=Z,6.5nm,0.9s
G21K Allakaket 95.87 22 IAmb IAmb 07 10 40.1
comp=Z,5.9nm,0.9s
D25K Kavik River 97.19 18 IAmb IAmb 07 10 46.4
comp=Z,5.6nm,1.1s
ILAR Eielson Array 99.08 23 PP **PP 07 14 48.6 +0.5**
comp=Z,0.7nm,0.8s,baz=298,slow=6.0,SNR=5.5
TXAR Lajitas Array 143.32 29 PKP **PKiKP 07 16 42.6 -1.3**
comp=Z,0.4nm,0.6s,baz=270,slow=2.5,SNR=4.8
CPUP Villa Florida 144.83 225 PKP **PKPdf 07 16 43.1 0.0**
comp=Z,1.8nm,0.6s,baz=3.2,slow=18,SNR=4.6

*AEIC **24** 06:57:35.8±1.6,56.˝1N±0.˝1×149.˝8W±0.˝1, h11km±9km, Error ellipse: s-maj=18.3km s-min=9.4km az=168.0*
NEIC 24 06:57:33.8±1.8, 56.˚3N±0.˚1×149.˚99W±0.˚07, h20km±11km, ML3.1/28, ML3.0(AEIC), **Error ellipse: s-maj=17.6km s-min=5.4km az=171.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.06**	**299**		Pn	06 58 06.2	-0.9
OHAK					Sn	06 58 31.1	-1.0
KDAK	**Kodiak Island**	**2.08**	**318**		Pn	06 58 07.4	0.0
KDAK					Sn	06 58 32.8	0.0
SYI	**Shuyak Island**	**2.69**	**332**		Pn	06 58 15.7	-0.1
SYI					Sn	06 58 49.1	+1.5
SYI	**Shuyak Island** comp=N,46nm,1.5s	**2.69**	**332**	IAML		06 59 29.0	
Q19K	**Cape Douglas,**	**3.32**	**325**		Pn	06 58 25.4	+0.9
Q19K					Sn	06 59 03.2	-0.1
Q19K	**Cape Douglas,** comp=N,112nm,1.3s	**3.32**	**325**	IAML		07 00 04.4	
KAHG	**Katmai Hook Gl**	**3.33**	**314**		Pn	06 58 25.6	+0.9
KAHG					Sn	06 59 04.8	+1.1
CNPM	**China Poot**	**3.34**	**349**		Pn	06 58 25.2	+0.4
CNPM	**China Poot** comp=N,23nm,1.3s	**3.34**	**349**	IAML		06 58 53.3	
CNPM				IAML		06 59 09.3	
KCG	**Knife Ck. Glac** comp=E,20nm,1.3s	**3.45**	**309**		Pn	06 58 27.1	+0.7
ACHA	**Angle Creek He**	**3.50**	**306**		Pn	06 58 27.8	+0.8
BRSE	**Bradley Lake S**	**3.51**	**354**		Pn	06 58 26.8	-0.4
BRLK	**Bradley Lake**	**3.54**	**353**	Pn	Pn	06 58 27.0	-0.6
ANCK	**Angle Creek**	**3.57**	**305**		Pn	06 58 28.7	+0.8
MID	**Middleton Isla**	**3.72**	**30**	Pn	Pn	06 58 29.8	-0.2
CNTC	**Contact Creek**	**3.78**	**305**		Pn	06 58 31.1	+0.2
P19K	**Oil Pt**	**3.81**	**334**		Pn	06 58 33.5	+2.2
P19K	**Oil Pt** comp=N,60nm,1.3s	**3.81**	**334**	IAML		06 59 32.3	
P19K				IAML		07 00 38.6	
Q20K	**Slope Mountain**	**4.08**	**341**		Pn	06 58 36.4	+1.5
IVE	**Iliamna Volcan**	**4.09**	**338**		Pn	06 58 35.4	+0.2
P18K	**Big Mountain,**	**4.21**	**320**		Pn	06 58 36.8	+0.1
RSO	**Redoubt South**	**4.46**	**342**	Pn	Pn	06 58 39.9	-0.4
HIN	**Hinchinbrook I**	**4.53**	**22**		Pn	06 58 40.8	-0.3
HIN	**Hinchinbrook I** comp=N,27nm,1.3s	**4.53**	**22**	IAML		06 59 46.1	
KAIM	**Kayak Island**	**4.71**	**37**		Pn	06 58 43.1	-0.5
EYAK	**Cordova Ski Ar**	**4.84**	**26**		Pn	06 58 44.6	-0.7
RC01	**Rabbit Creek A**	**4.84**	**1**	Pn	Pn	06 58 45.1	-0.2
RC01	comp=E,9.5nm,1.4s			IAML		06 59 46.1	
RAGM	**Ragged Mountai**	**4.99**	**32**	Pn	Pn	06 58 46.9	-0.6
RAGM	comp=E,28nm,1.1s			IAML		06 59 46.6	
BERG	**Berg Lake**	**5.30**	**36**	Pn	Pn	06 58 51.8	+0.1
BERG	comp=N,21nm,1.1s			IAML		07 00 11.7	
GHO	**Glory Hole Cre**	**5.55**	**5**	Pn	Pn	06 58 55.0	-0.2
KLU	**Klutina**	**5.65**	**20**	Pn	Pn	06 58 55.7	-0.9
N17K	**Nushagak Hills**	**5.71**	**321**	Pn	Pn	06 58 56.4	-0.9
SCM	**Sheep Creek Mo**	**5.75**	**13**	Pn	Pn	06 58 57.0	-1.0
VRDI	**Verde Repeater**	**6.03**	**32**	Pn	Pn	06 59 00.3	-1.5
N25K	**Chitina, Valde**	**6.04**	**25**	Pn	Pn	06 59 01.5	-0.4
MCARA	**McCarthy VSAT**	**6.28**	**32**	Pn	Pn	06 59 05.7	+0.6
M17K	**Holitna River**	**6.44**	**326**	Pn	Pn	06 59 07.8	+0.6
BARN	**Barnard Glacie**	**6.48**	**39**	Pn	Pn	06 59 08.6	+0.6
N15K	**Kwethluk River**	**6.62**	**310**	Pn	Pn	06 59 10.7	+0.9
M16K	**Timber Creek**	**6.68**	**319**	Pn	Pn	06 59 11.1	+0.5
O29M	**Mount Kennedy**	**7.25**	**51**	Pn	Pn	06 59 18.6	0.0

IDC 24 07:02:31.4±2.5, 54.˚13N×86.˚22E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=19.3km s-min=11.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** 0.1nm,0.8s,baz=77,slow=348,SNR=1.9	**0.84**	**258**	I	I	07 07 20.0	
ZALV	**Zalesovo Beam** 1.1nm,0.3s,baz=73,slow=17,SNR=10	**0.84**	**258**	Pg	Pg	07 02 46.9	-0.7
ZALV	3.9nm,0.3s,baz=78,slow=31,SNR=19			Lg	Lg	07 02 59.7	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=13,SNR=7.0 0.5nm,0.4s	**5.87**	**236**	Pn	Pn	07 04 00.6	+1.0
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=22,slow=14,SNR=6.5 0.2nm,0.3s	**7.76**	**200**	Pn	Pn	07 04 26.3	+0.8

*AEIC **24** 07:02:42.0±1.8, 56.˚0N±0.˚1×149.˚3W±0.˚1, h12km±9km, Error ellipse: s-maj=20.5km s-min=11.4km az=178.0*
NEIC 24 07:02:40.2±1.2, 56.˚2N±0.˚1×149.˚5W±0.˚1, h20km±11km, ML3.1/28, ML2.8(AEIC), **Error ellipse: s-maj=18.4km s-min=8.0km az=162.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.36**	**315**		Pn	07 03 18.0	+0.3
KDAK					Sn	07 03 45.5	-0.5
OHAK	**Old Harbor**	**2.36**	**299**		Pn	07 03 17.8	+0.1
OHAK					Sn	07 03 45.1	-0.9
SYI	**Shuyak Island**	**2.92**	**329**		Pn	07 03 26.2	+0.7
SYI					Sn	07 04 00.3	+0.3
CNPM	**China Poot**	**3.51**	**345**		Pn	07 03 33.3	-0.3
CNPM					Sn	07 04 14.8	+0.3
Q19K	**Cape Douglas,**	**3.58**	**323**		Pn	07 03 34.8	+0.3
Q19K					Sn	07 04 18.1	+2.0
BRSE	**Bradley Lake S**	**3.66**	**350**		Pn	07 03 35.5	-0.2
BRLK	**Bradley Lake**	**3.70**	**349**		Pn	07 03 35.5	-0.8
BRLK	**Bradley Lake** comp=N,18nm,1.2s	**3.70**	**349**	IAML		07 05 19.8	
BRLK	comp=E,21nm,1.2s			IAML		07 05 25.0	
AUL	**Augustine Lava**	**3.87**	**328**		Pn	07 03 38.4	-0.1
P23K	**Montague Islan**	**4.01**	**15**		Pn	07 03 39.8	-0.6
P19K	**Oil Pt**	**4.04**	**332**		Pn	07 03 41.9	+1.0
P19K	**Oil Pt** comp=E,44nm,1.1s	**4.04**	**332**	IAML		07 05 49.8	
P18K	**Big Mountain,**	**4.47**	**319**	Pn	Pn	07 03 45.2	-1.6
P18K	comp=N,7.6nm,1.1s			IAML		07 04 44.4	
HIN	**Hinchinbrook I**	**4.54**	**19**		Pn	07 03 46.9	-0.9
HIN	**Hinchinbrook I** comp=N,27nm,1.0s	**4.54**	**19**	IAML		07 05 38.4	
HIN	comp=E,23nm,1.1s			IAML		07 06 20.4	
KAIM	**Kayak Island**	**4.64**	**33**	Pn	Pn	07 03 48.8	-0.4
KAIM	comp=N,29nm,1.2s			IAML		07 06 08.0	
RSO	**Redoubt South**	**4.65**	**340**	Pn	Pn	07 03 48.7	-0.7
RAGM	**Ragged Mountai**	**4.95**	**29**	Pn	Pn	07 03 53.5	+0.2
RAGM	comp=E,22nm,1.2s			IAML		07 05 37.2	
RC01	**Rabbit Creek A**	**4.96**	**359**	Pn	Pn	07 03 53.2	-0.2
RC01	comp=E,9.0nm,1.1s			IAML		07 05 51.7	
RC01	comp=N,8.1nm,0.4s			IAML		07 07 06.1	
BERG	**Berg Lake**	**5.23**	**33**	Pn	Pn	07 03 56.5	-0.8
BERG	comp=N,24nm,1.2s			IAML		07 05 56.3	
SNH	**Sunshine Point**	**5.36**	**38**	Pn	Pn	07 03 59.4	+0.5
SNH	comp=E,17nm,1.1s			IAML		07 05 32.3	
PMR	**Palmer**	**5.46**	**2**	Pn	Pn	07 03 59.5	-0.8
GHO	**Glory Hole Cre**	**5.65**	**3**	Pn	Pn	07 04 03.8	+0.9
N18K	**Kilae Creek**	**5.65**	**326**	Pn	Pn	07 04 02.7	-0.3
KLU	**Klutina**	**5.67**	**18**	Pn	Pn	07 04 04.0	+0.8
SML	**Sawmill**	**5.70**	**6**	Pn	Pn	07 04 03.7	-0.1
SKT	**Skwentna**	**5.94**	**351**	Pn	Pn	07 04 07.1	+0.1
VRDI	**Verde Repeater**	**5.98**	**29**	Pn	Pn	07 04 07.7	0.0
N25K	**Chitina, Valde**	**6.03**	**23**	Pn	Pn	07 04 07.7	-0.5
MCARA	**McCarthy VSAT**	**6.23**	**30**	Pn	Pn	07 04 11.1	+0.2
BARN	**Barnard Glacie**	**6.39**	**36**	Pn	Pn	07 04 12.4	-0.9
LOGN	**Logan Glacier**	**6.46**	**40**	Pn	Pn	07 04 14.6	+0.5
M29M	**Somme Creek**	**8.45**	**37**	Pn	Pn	07 04 41.7	+0.2

*AEIC **24** 07:05:45.6±1.9, 56.˚1N±0.˚1×149.˚9W±0.˚1, h9km±8km, Error ellipse: s-maj=18.3km s-min=10.2km az=165.0*
NEIC 24 07:05:44.0±1.9, 56.˚2N±0.˚1×150.˚0W±0.˚1, h25km±15km, ML3.2/40, ML2.9(AEIC), **Error ellipse: s-maj=17.5km s-min=7.8km az=151.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.07**	**301**		Pn	07 06 16.5	-0.7
OHAK					Sn	07 06 41.0	-1.1
KDAK	**Kodiak Island**	**2.12**	**320**		Pn	07 06 17.3	-0.4
KDAK					Sn	07 06 43.1	-0.1
SII	**Sitkinak Islan**	**2.34**	**281**		Pn	07 06 21.4	+0.5
SII					Sn	07 06 47.6	-1.2
SII	**Sitkinak Islan** comp=N,189nm,1.3s	**2.34**	**281**	IAML		07 06 53.7	
SII	comp=E,156nm,1.1s			IAML		07 07 36.3	
SYI	**Shuyak Island**	**2.73**	**333**		Pn	07 06 26.1	-0.1
SYI					Sn	07 06 59.9	+1.4
SYI	**Shuyak Island** comp=N,43nm,1.3s	**2.73**	**333**	IAML		07 08 06.9	
Q19K	**Cape Douglas,**	**3.36**	**326**		Pn	07 06 35.8	+1.0
Q19K					Sn	07 07 13.5	-0.5
KAHG	**Katmai Hook Gl**	**3.36**	**315**		Pn	07 06 35.8	+0.8
CNPM	**China Poot**	**3.40**	**349**		Pn	07 06 35.2	-0.2
CNPM					Sn	07 07 16.0	+1.2
CNPM	**China Poot** comp=N,28nm,1.5s	**3.40**	**349**	IAML		07 07 41.6	
CNPM	comp=E,30nm,1.4s			IAML		07 07 47.7	
ACHA	**Angle Creek He**	**3.52**	**307**		Pn	07 06 37.4	+0.3
BRSE	**Bradley Lake S**	**3.57**	**354**		Pn	07 06 36.9	-0.9
ANCK	**Angle Creek**	**3.59**	**306**		Pn	07 06 38.5	+0.5
BRLK	**Bradley Lake**	**3.60**	**353**	Pn	Pn	07 06 36.0	-2.2
Q23K	**Middleton Isla**	**3.79**	**30**		Pn	07 06 41.0	+0.3
MID	**Middleton Isla**	**3.79**	**30**		Pn	07 06 41.2	+0.5
CNTC	**Contact Creek**	**3.80**	**305**		Pn	07 06 40.1	-0.9
P19K	**Oil Pt**	**3.86**	**335**		Pn	07 06 42.0	+0.3
P19K	**Oil Pt** comp=E,63nm,1.5s	**3.86**	**335**	IAML		07 07 38.7	
P19K	comp=N,76nm,1.4s			IAML		07 07 58.6	
P18K	**Big Mountain,**	**4.24**	**321**		Pn	07 06 46.5	-0.5
RSO	**Redoubt South**	**4.51**	**343**	Pn	Pn	07 06 50.4	-0.4
O18K	**Koktuh Hills**	**4.58**	**325**		Pn	07 06 51.4	-0.3
O18K	**Koktuh Hills** comp=N,11nm,1.2s	**4.58**	**325**	IAML		07 08 10.5	
HIN	**Hinchinbrook I**	**4.60**	**22**	Pn	Pn	07 06 50.8	-1.1
HIN	comp=E,31nm,1.2s			IAML		07 07 56.7	
HIN	comp=N,36nm,1.4s			IAML		07 08 12.0	
O19K	**Port Alsworth**	**4.60**	**332**	Pn	Pn	07 06 52.6	+0.7
O19K	comp=E,41nm,0.5s			IAML		07 07 54.5	
O19K	comp=N,28nm,1.2s			IAML		07 07 54.6	
KAIM	**Kayak Island**	**4.77**	**36**	Pn	Pn	07 06 53.3	-0.9
RC01	**Rabbit Creek A**	**4.90**	**2**	Pn	Pn	07 06 56.0	-0.1
RC01	comp=N,9.9nm,1.5s			IAML		07 07 49.5	
RC01	comp=E,9.8nm,1.3s			IAML		07 07 51.8	
RAGM	**Ragged Mountai**	**5.05**	**32**	Pn	Pn	07 06 57.4	-0.8
N19K	**Bonanza Creek**	**5.18**	**335**	Pn	Pn	07 07 00.6	+0.6
N19K	comp=N,6.1nm,1.5s			IAML		07 07 49.9	
SUA	**Susitna One**	**5.29**	**356**	Pn	Pn	07 06 59.7	-1.8
SUA	comp=E,9.3nm,1.4s			IAML		07 09 15.2	
BERG	**Berg Lake**	**5.36**	**36**	Pn	Pn	07 07 02.5	+0.2
BERG	comp=N,25nm,1.1s			IAML		07 08 06.8	
BERG	comp=E,26nm,1.4s			IAML		07 09 08.4	
PMR	**Palmer**	**5.43**	**5**	Pn	Pn	07 07 03.8	+0.6
N18K	**Kilae Creek**	**5.45**	**328**	Pn	Pn	07 07 02.7	-0.8
O16K	**Kokwok River B**	**5.48**	**312**	Pn	Pn	07 07 04.1	+0.1
SNH	**Sunshine Point**	**5.51**	**41**	Pn	Pn	07 07 05.1	+0.7
GHO	**Glory Hole Cre**	**5.62**	**5**	Pn	Pn	07 07 06.1	+0.2
SML	**Sawmill**	**5.69**	**8**	Pn	Pn	07 07 06.8	-0.1
KLU	**Klutina**	**5.72**	**20**	Pn	Pn	07 07 06.8	-0.4
N17K	**Nushagak Hills**	**5.75**	**322**	Pn	Pn	07 07 07.2	-0.4
SCM	**Sheep Creek Mo**	**5.82**	**13**	Pn	Pn	07 07 09.4	+0.8
VRDI	**Verde Repeater**	**6.09**	**31**	Pn	Pn	07 07 11.5	-1.0
N25K	**Chitina, Valde**	**6.10**	**25**	Pn	Pn	07 07 11.0	-1.6
GLB	**Gilahina Butte**	**6.16**	**29**	Pn	Pn	07 07 13.5	+0.1
M24K	**Tolsona, Glenn**	**6.24**	**17**	Pn	Pn	07 07 16.6	+2.1
MCARA	**McCarthy VSAT**	**6.34**	**32**	Pn	Pn	07 07 16.7	+0.9
BARN	**Barnard Glacie**	**6.54**	**38**	Pn	Pn	07 07 19.4	+0.7
LOGN	**Logan Glacier**	**6.62**	**42**	Pn	Pn	07 07 19.0	-0.7
M16K	**Timber Creek**	**6.72**	**320**	Pn	Pn	07 07 20.8	-0.2
O29M	**Mount Kennedy**	**7.30**	**51**	Pn	Pn	07 07 28.6	-0.4
CAST	**Castle Rocks**	**7.31**	**353**	Pn	Pn	07 07 29.9	+0.8
L16K	**Owhat River**	**7.37**	**322**	Pn	Pn	07 07 30.0	+0.1

*AEIC **24** 07:25:36.9±2.3, 55.˚9N±0.˚1×149.˚8W±0.˚1, h9km±8km, Error ellipse: s-maj=17.4km s-min=10.7km az=175.0*
NEIC 24 07:25:33.8±1.6, 55.˚99N±0.˚09×150.˚0W±0.˚1, h8km±7km, ML3.2/26, ML3.1(AEIC), **Error ellipse: s-maj=14.6km s-min=6.5km az=147.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.21**	**305**		Pn	07 26 11.1	+0.5
OHAK					Sn	07 26 36.1	-1.9
OHAK	**Old Harbor** baz=123	**2.21**	**305**	P	Pn	07 26 11.1	+0.5
OHAK	baz=123			S	Sn	07 26 36.1	-1.9
KDAK	**Kodiak Island**	**2.29**	**323**		Pn	07 26 11.9	0.0
KDAK					Sn	07 26 38.9	-1.4
SII	**Sitkinak Islan**	**2.41**	**285**		Sn	07 26 42.2	-0.9
SII	**Sitkinak Islan**	**2.41**	**285**	Pn	Pn	07 26 12.6	-0.9
SII	comp=E,160nm,1.4s			IAML		07 26 28.8	
SII	comp=N,134nm,1.2s			IAML		07 26 54.1	
SII	**Sitkinak Islan** baz=104	**2.41**	**285**	S	Sn	07 26 42.2	-0.9
SYI	**Shuyak Island**	**2.93**	**335**		Pn	07 26 20.6	0.0
SYI					Sn	07 26 55.9	-0.1
SYI	**Shuyak Island** comp=N,34nm,1.3s	**2.93**	**335**	IAML		07 27 11.5	
SYI	comp=E,33nm,1.3s			IAML		07 27 46.8	
Q20K	**Shuyak Island** baz=152	**2.93**	**335**	P	Pn	07 26 20.6	0.0
Q20K	baz=152			S	Sn	07 26 55.9	-0.1
KAHG	**Katmai Hook Gl**	**3.53**	**317**		Pn	07 26 28.9	+0.1
Q19K	**Cape Douglas,**	**3.55**	**328**		Sn	07 27 11.0	-0.2
Q19K	**Cape Douglas,**	**3.55**	**328**		Pn	07 26 29.8	+0.7
Q19K	comp=N,130nm,1.4s			IAML		07 28 18.4	
Q19K	**Cape Douglas,** comp=E,192nm,1.4s	**3.55**	**328**	IAML		07 26 53.9	
Q19K	**Cape Douglas,** baz=144	**3.55**	**328**	P	Pn	07 26 29.8	+0.7
CNPM	**China Poot**	**3.61**	**350**		Pn	07 26 29.7	-0.2
CNPM					Sn	07 27 12.4	-0.3
CNPM	**China Poot** comp=N,25nm,1.4s	**3.61**	**350**	IAML		07 28 01.3	
CNPM	comp=E,33nm,1.5s			IAML		07 28 32.3	
ACHA	**Angle Creek He**	**3.67**	**310**		Pn	07 26 30.1	-0.6
BRSE	**Bradley Lake S**	**3.78**	**354**		Pn	07 26 31.5	-0.8
BRSE	**Bradley Lake S** baz=172	**3.78**	**354**	P	Pn	07 26 31.5	-0.8
BRLK	**Bradley Lake**	**3.81**	**353**	Pn	Pn	07 26 31.7	-1.1
CNTC	**Contact Creek**	**3.94**	**308**		Pn	07 26 35.5	+1.0
Q17K	**Contact Creek** baz=123	**3.94**	**308**	P	Pn	07 26 35.5	+0.9
P19K	**Oil Pt**	**4.06**	**336**		Pn	07 26 37.0	+0.9
P19K	**Oil Pt** baz=153	**4.06**	**336**	P	Pn	07 26 37.0	+0.9
P23K	**Montague Islan**	**4.25**	**18**		Pn	07 26 38.3	-0.4
P23K	**Montague Islan** baz=198	**4.25**	**18**	P	Pn	07 26 38.3	-0.4
O20K	**Slope Mountain**	**4.34**	**342**		Pn	07 26 40.9	+0.9
O20K	**Slope Mountain** baz=159	**4.34**	**342**	P	Pn	07 26 40.9	+0.9
P18K	**Big Mountain,**	**4.42**	**323**	Pn	Pn	07 26 41.1	0.0
P17K	**Kvichak River**	**4.73**	**315**		Pn	07 26 46.0	+0.7
P17K	**Kvichak River** baz=130	**4.73**	**315**	P	Pn	07 26 46.0	+0.7
O18K	**Koktuh Hills**	**4.77**	**326**		Pn	07 26 46.5	+0.6
O18K	**Koktuh Hills** comp=E,12nm,1.4s	**4.77**	**326**	IAML		07 28 18.8	
O18K	**Koktuh Hills** baz=142	**4.77**	**326**	P	Pn	07 26 46.5	+0.6
HIN	**Hinchinbrook I**	**4.79**	**21**		Pn	07 26 44.9	-1.3
KAIM	**Kayak Island**	**4.93**	**35**		Pn	07 26 46.7	-1.4
KAIM	**Kayak Island** baz=218	**4.93**	**35**	P	Pn	07 26 46.7	-1.4
EYAK	**Cordova Ski Ar**	**5.09**	**24**		Pn	07 26 49.2	-1.0
EYAK	**Cordova Ski Ar** baz=206	**5.09**	**24**	P	Pn	07 26 49.2	-1.0
RAGM	**Ragged Mountai**	**5.23**	**30**	Pn	Pn	07 26 51.8	-0.4
BERG	**Berg Lake**	**5.52**	**34**	Pn	Pn	07 26 54.9	-1.3
N18K	**Kilae Creek**	**5.64**	**329**	Pn	Pn	07 26 57.7	-0.1
SNH	**Sunshine Point**	**5.66**	**39**	Pn	Pn	07 26 58.8	+0.7
GHO	**Glory Hole Cre**	**5.83**	**5**	Pn	Pn	07 27 01.1	+0.6
SML	**Sawmill**	**5.90**	**8**	Pn	Pn	07 27 01.1	-0.3
KLU	**Klutina**	**5.91**	**19**	Pn	Pn	07 27 01.5	-0.1
N17K	**Nushagak Hills**	**5.93**	**323**	Pn	Pn	07 27 01.2	-0.5
VRDI	**Verde Repeater**	**6.26**	**30**	Pn	Pn	07 27 05.9	-0.6
N25K	**Chitina, Valde**	**6.29**	**24**	Pn	Pn	07 27 07.2	+0.5
GLB	**Gilahina Butte**	**6.34**	**28**	Pn	Pn	07 27 07.5	+0.1
M24K	**Tolsona, Glenn**	**6.44**	**16**	Pn	Pn	07 27 10.2	+1.3
MCARA	**McCarthy VSAT**	**6.51**	**31**	Pn	Pn	07 27 09.8	+0.1
M17K	**Holitna River**	**6.67**	**327**	Pn	Pn	07 27 12.1	+0.2
BARN	**Barnard Glacie**	**6.69**	**37**	Pn	Pn	07 27 11.9	-0.5
CTGM	**Chitina Glacie**	**6.74**	**39**	Pn	Pn	07 27 12.6	-0.4
LOGN	**Logan Glacier**	**6.76**	**41**	Pn	Pn	07 27 14.0	+0.7
BCPM	**Bancas Point**	**6.79**	**50**	Pn	Pn	07 27 13.7	+0.1
M16K	**Timber Creek**	**6.89**	**321**	Pn	Pn	07 27 15.6	+0.6
O29M	**Mount Kennedy**	**7.42**	**50**	Pn	Pn	07 27 22.5	+0.2
P29M	**Windy Craggy**	**7.49**	**56**	Pn	Pn	07 27 22.2	-1.0
M27K	**Edge Creek, AK**	**7.62**	**30**	Pn	Pn	07 27 25.7	+0.7
HYT	**Haines Junctio**	**8.14**	**48**	Pn	Pn	07 27 32.0	-0.2
M29M	**Somme Creek**	**8.75**	**38**	Pn	Pn	07 27 40.8	+0.3
N31M	**Braeburn, Yuko**	**9.20**	**47**	Pn	Pn	07 27 46.5	-0.1
DAWY	**Dawson**	**9.66**	**29**	Pn	Pn	07 27 53.4	+0.4

IDC 24 07:26:08.3±3.7, 53.˚65N×87.˚92E, h0km, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=29.6km s-min=15.7km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** 0.1nm,0.9s,baz=100,slow=350,SNR=10	**1.87**	**281**	I	I	07 37 45.6	
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=102,slow=15,SNR=23	**1.87**	**281**	Pg	Pn	07 26 40.6	-0.9
ZALV	2.5nm,0.3s,baz=100,slow=26,SNR=16			Lg	Lg	07 27 08.4	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=26,slow=13,SNR=4.0	**7.75**	**210**	Pn	Pn	07 28 03.7	+1.3
MKAR	0.1nm,0.3s,baz=30,slow=24,SNR=4.8			Sn	Sn	07 29 31.5	+0.8
MKAR

	comp=E,3µm,0.5s							
CO05	**La Serena**	**0.98**	**7**	*eP*		**Pn**	**07 28 08.0**	**-0.3**
CO05				*i* S		**Sn**	**07 28 21.6**	**+0.7**
CO01	**Juntas del Tor**	**1.44**	**51**	*eP*		**Pn**	**07 28 14.7**	**-0.2**
CO01				*eS*		**Sn**	**07 28 33.7**	**+1.1**
CO01				IAML			07 28 34.1	
	comp=Z,238nm,0.5s							
CO01	**Juntas del Tor**	**1.44**	**51**	⇓*iP*		**Pn**	**07 28 14.8**	**-0.1**
CO01				*i* S		**Sn**	**07 28 33.3**	**+0.7**
VA06	**Catapilco**	**1.67**	**177**	*eP*		**Pn**	**07 28 17.0**	**-0.8**
VA06				*i* S		**Sn**	**07 28 37.4**	**-0.5**
VA06				IAML			07 28 40.0	
	comp=E,534nm,0.4s							
LCO	**Las Campanas**	**1.96**	**18**	*eP*		**Pn**	**07 28 22.1**	**0.0**
LCO				*eS*		**Sn**	**07 28 46.3**	**+0.7**
LCO				IAML			07 28 51.2	
	comp=Z,521nm,0.3s							
LCO	**Las Campanas**	**1.96**	**18**	⇓*iP*		**Pn**	**07 28 22.1**	**0.0**
LCO				*i* S		**Sn**	**07 28 46.2**	**+0.5**
LCO				IAML			07 28 50.0	
	comp=Z,2µm,0.3s							
DOCA	**Reserva Natura**	**1.98**	**92**	*eP*		**Pn**	**07 28 23.2**	**+0.8**
DOCA				*eS*		**Sn**	**07 28 50.1**	**+3.9**
VA03	**San Esteban**	**2.00**	**159**	*eP*		**Pn**	**07 28 21.8**	**-0.6**
VA03				*eS*		**Sn**	**07 28 47.9**	**+1.6**
VA03				IAML			07 28 52.2	
	comp=Z,196nm,0.1s							
VA03	**San Esteban**	**2.00**	**159**	*eP*		**Pn**	**07 28 21.7**	**-0.7**
VA03				*i* S		**Sn**	**07 28 47.5**	**+1.2**
VA03				IAML			07 28 51.7	
	comp=E,779nm,0.1s							
RTLS	**Leoncito**	**2.00**	**117**	*eP*		**Pn**	**07 28 23.6**	**+1.0**
RTLS				IAML			07 28 56.5	
	comp=Z,205nm,0.2s							
ROCH	**El Roble**	**2.10**	**171**	*eP*		**Pn**	**07 28 23.2**	**-0.8**
ROCH				IAML			07 28 54.8	
	comp=N,365nm,0.3s							
ROC1	**El Roble**	**2.10**	**172**	*eP*		**Pn**	**07 28 23.3**	**-0.7**
ROC1				*eS*		**Sn**	**07 28 52.5**	**+3.4**
VA01	**Torpederas**	**2.14**	**186**	*eP*		Pn	07 28 18.5	-5.8
AC05	**El Transito**	**2.26**	**26**	*eP*		**Pn**	**07 28 26.5**	**+0.4**
AC05				*eS*		**Sn**	**07 28 44.9**	**-7.9**
AC05				IAML			07 29 00.4	
	comp=Z,84nm,0.9s							
AC05	**El Transito**	**2.26**	**26**	⇓*iP*		**Pn**	**07 28 26.4**	**+0.3**
PEL	**Peldehue**	**2.32**	**165**	*eP*		**Pn**	**07 28 26.9**	**+0.1**
PEL				*eS*		Sn	07 28 41.6	-13
PEL	**Peldehue**	**2.32**	**165**	*eP*		**Pn**	**07 28 26.6**	**-0.3**
PEL				*eS*		**Sn**	**07 28 55.6**	**+1.3**
PEL				IAML			07 29 01.1	
	comp=E,235nm,0.3s							
MT02	**Curacav**	**2.37**	**175**	*eP*		**Pn**	**07 28 26.1**	**-1.4**
MT02				*eS*		Sn	07 28 42.3	-13
MT02				IAML			07 29 10.4	
	comp=Z,82nm,0.3s							
MT02	**Curacav**	**2.37**	**175**	*eP*		**Pn**	**07 28 26.0**	**-1.5**
MT10	**Hacienda Santa**	**2.48**	**163**	*eP*		**Pn**	**07 28 29.1**	**-0.1**
MT10				*i* S		**Sn**	**07 28 59.2**	**+1.0**
MT10				IAML			07 29 05.3	
	comp=N,500nm,0.4s							
RTLL	**Cerro Villicun**	**2.53**	**101**	*eP*		**Pn**	**07 28 30.2**	**+0.5**
RTLL				*eS*		Sn	07 29 07.7	+8.3
RTLL				IAML			07 29 08.8	
	comp=Z,94nm,0.3s							
MT05	**Renca**	**2.55**	**168**	*eP*		**Pn**	**07 28 29.4**	**-0.6**
MT05				*eS*		Sn	07 28 45.2	-15
MT05				IAML			07 29 11.2	
	comp=Z,132nm,0.5s							
MT05	**Renca**	**2.55**	**168**	*eP*		**Pn**	**07 28 29.4**	**-0.6**
MT05				*i* S		**Sn**	**07 29 00.5**	**+0.5**
MT05				IAML			07 29 11.9	
	comp=N,331nm,0.3s							
MT14	**Cerro Calµn**	**2.60**	**164**	*eP*		**Pn**	**07 28 30.4**	**-0.3**
RTCV	**Cerro Valdivia**	**2.62**	**112**	*eP*		Pn	07 28 32.6	+1.7
RTCV				*eS*		Sn	07 28 49.9	-12
AC04	**Llanos de Chal**	**2.69**	**6**	*eP*		**Pn**	**07 28 31.3**	**-0.5**
AC04				IAML			07 29 14.4	
	comp=Z,77nm,0.6s							
MT03	**Universidad Ad**	**2.70**	**164**	*eP*		**Pn**	**07 28 31.9**	**-0.2**
MT03				IAML			07 29 15.7	
	comp=Z,156nm,0.5s							
MT03	**Universidad Ad**	**2.70**	**164**	*eP*		**Pn**	**07 28 31.8**	**-0.2**
MT04	**Ro Olivares**	**2.72**	**157**	*eP*		**Pn**	**07 28 33.2**	**+0.7**
AGUA	**GUANDACOL**	**2.87**	**62**	*eP*		Pn	07 28 37.5	+3.2
AGUA				IAML			07 29 21.2	
	comp=Z,126nm,0.5s							
MT09	**Talagante**	**2.90**	**173**	*eP*		**Pn**	**07 28 34.2**	**-0.6**
MT12	**Pirque**	**2.92**	**166**	*eP*		**Pn**	**07 28 34.5**	**-0.6**
MT01	**Popeta**	**2.97**	**178**	*eP*		**Pn**	**07 28 34.2**	**-1.4**
MT01				IAML			07 29 24.7	
	comp=Z,58nm,0.3s							
MT01	**Popeta**	**2.97**	**178**	*eP*		**Pn**	**07 28 34.4**	**-1.3**
MT13	**San Alfonso**	**2.99**	**162**	*eP*		**Pn**	**07 28 36.5**	**+0.3**
LMEL	**Las Melosas**	**3.11**	**162**	*eP*		**Pn**	**07 28 38.1**	**+0.3**
GO03	**Copiap**	**3.43**	**17**	*eP*		**Pn**	**07 28 43.6**	**+1.4**
GO03				*eS*		Sn	07 29 33.4	+12
BO01	**Tunca**	**3.50**	**176**	*eP*		**Pn**	**07 28 41.5**	**-1.5**
BO02	**Sierra Bellavi**	**3.92**	**173**	*eP*		**Pn**	**07 28 48.1**	**-0.8**
BO02				IAML			07 29 55.2	
	comp=Z,36nm,0.5s							
ACLC	**CERRO LA CRUZ**	**4.11**	**70**	*eP*		**Pn**	**07 28 52.0**	**+0.6**
ACLC				*eS*		Sn	07 29 45.7	+7.3
GO05	**Huala**	**4.13**	**186**	*eP*		**Pn**	**07 28 49.2**	**-2.5**

IDC ***24*** *07:31:11.2*s*4.7,21°.31*S*×178°.40*W,h578*km*±52*km*,mb3.1/4, mbtmp4.1/6,Error ellipse: s-maj=38.9km s-min=30.4km az=178.0*

ISC 24 07:31:07.3±1.1,**21°.1S**±0°.2×**178°.1W**±0°.2,**h550**km,**n12,** σ0s**69**/**11**,**mb3.7**/4,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.39**	**263**	P		**P**	**07 34 11.1**	**+0.4**
	4.5nm,0.6s,baz=175,slow=11,SNR=2.4							
URZ	**Urewera**	**17.55**	**193**	P		**P**	**07 34 41.1**	**+0.2**
	3.4nm,0.3s,baz=336,slow=3.0,SNR=9.0							
URZ				S		S	07 37 22.3	-13
	2.6nm,0.7s,baz=96,slow=14,SNR=1.6							
ASAR	**Alice Springs**	**44.27**	**257**	P		**P**	**07 38 28.9**	**+0.1**
	4.2nm,0.8s,baz=96,slow=7.7,SNR=46							
ASAR				PcP		**PcP**	**07 40 00.9**	**-0.2**
	0.7nm,0.6s,baz=105,slow=3.9,SNR=7.2							
	4.2nm,0.8s							
WRA	**Warramunga Arr**	**44.41**	**263**	P		**P**	**07 38 29.2**	**-0.6**
	1.7nm,0.5s,baz=98,slow=7.7,SNR=36							
	1.7nm,0.5s							
ILAR	**Eielson Array**	**88.96**	**13**	P		**P**		
	0.2nm,0.6s,baz=218,slow=5.6,SNR=2.4						**07 43 03.5**	**+0.5**
	0.2nm,0.6s							
PDAR	**Pinedale Array**	**89.50**	**43**	P		P	07 43 10.8	+4.3
	0.5nm,0.8s,baz=223,slow=6.1,SNR=4.2							
	0.5nm,0.8s							
BVAR	**Borovoye Array**	**119.49**	**320**	PKP		**PKiKP**	**07 48 55.4**	**+0.9**
	0.6nm,0.3s,baz=123,slow=2.1,SNR=4.6							
ARCES	**ARCESS Array B**	**129.53**	**349**	PKP		**PKiKP**	**07 49 14.4**	**+0.4**
	3.2nm,0.9s,baz=316,slow=3.3,SNR=3.6							
HFS	**Hagfors**	**140.15**	**351**	PKhKP		PKPpre	07 49 28.2	
	3.7nm,0.9s,baz=79,slow=7.5,SNR=4.1							
AKASG	**Malin Array Be**	**143.51**	**331**	PKP		**PKPdf**	**07 49 38.5**	**-0.9**
	1.7nm,0.4s,baz=43,slow=4.3,SNR=15							
BRTR	**Keskin Array B**	**147.18**	**312**	PKPbc		**PKiKP**	**07 49 50.0**	**-1.1**
	0.7nm,0.8s,baz=54,slow=4.6,SNR=1.9							
MMAI	**Mount Meron Ar**	**148.03**	**299**	PKPbc		**PKPbc**	**07 49 51.7**	**0.0**
	1.1nm,0.4s,baz=69,slow=7.9,SNR=1.9							

IDC ***24*** *07:36:12.7*s*2.5,56°.16N*×*149°.51W,h0km,mb3.5/2, mbtmp3.3/6,ML2.9/4,MS3.2/2,Error ellipse: s-maj=43.0km s-min=27.4km az=0.0*

NEIC ***24*** *07:36:12.8*±*1.6,56°.11N*±*0°.10*×*149°.7W*±*0°.1,h20km*±*9km, ML3.5/36,ML3.3(AEIC),Error ellipse: s-maj=16.1km s-min=6.2km az=151.0*

AEIC ***24*** *07:36:15.8*±*1.7,56°.0N*±*0°.1*×*149°.6W*±*0°.1,h10km*±*8km, Error ellipse: s-maj=17.3km s-min=10.2km az=166.0*

ISC 24 07:36:13.1±1.3,**56°.17N**±0°.09×**149°.70W**±0°.05,**h10**km, **n100,** σ0s**99**/**99**,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.24**	**300**			**Pn**	**07 36 49.1**	**-1.2**
OHAK						**Sn**	**07 37 15.1**	**-2.8**
OHAK	**Old Harbor**	**2.24**	**300**	P		**Pn**	**07 36 49.1**	**-1.2**
	baz=118							
OHAK						S	**Sn**	**07 37 15.1**	**-2.8**
	baz=118							
KDAK	**Kodiak Island**	**2.26**	**317**			**Pn**	**07 36 49.6**	**-0.9**
KDAK						**Sn**	**07 37 16.7**	**-1.7**
KDAK	**Kodiak Island**	**2.26**	**317**	Pn		**Pn**	**07 36 49.6**	**-0.9**
	7.1nm,0.3s,baz=134,slow=11,SNR=17							
KDAK						Sn	**Sn**	**07 37 16.0**	**-2.4**
	4.6nm,0.3s,baz=54,slow=19,SNR=2.6							
KDAK						LR	LR	07 37 19.2	
	comp=Z,110nm,19.7s,baz=222,slow=28							
	14nm,0.3s							
SII	**Sitkinak Islan**	**2.52**	**281**			**Sn**	**07 37 22.3**	**-2.6**
SII	**Sitkinak Isla**	**2.52**	**281**	Pn		**Pn**	**07 36 52.9**	**-1.2**
SII	**Sitkinak Islan**	**2.52**	**281**	IAML			07 37 25.2	
	comp=E,329nm,0.6s							
SII				IAML			07 37 27.0	
	comp=N,299nm,0.7s							
Q20K	**Shuyak Island**	**2.85**	**330**	P		**Pn**	**07 36 58.2**	**-0.3**
	baz=148							
Q20K				S		**Sn**	**07 37 33.1**	**+0.2**
	baz=148							
SYI	**Shuyak Island**	**2.85**	**330**			**Pn**	**07 36 58.2**	**-0.3**
SYI						**Sn**	**07 37 33.1**	**+0.2**
CNPM	**China Poot**	**3.47**	**347**			**Pn**	**07 37 06.3**	**-0.8**
CNPM						**Sn**	**07 37 47.4**	**-0.8**
CNPM	**China Poot**	**3.47**	**347**	IAML			07 37 52.4	
	comp=N,48nm,1.4s							
Q19K	**Cape Douglas,**	**3.49**	**324**			**Pn**	**07 37 08.0**	**+0.6**
Q19K						**Sn**	**07 37 48.5**	**-0.2**
Q19K	**Cape Douglas,**	**3.49**	**324**	P		**Pn**	**07 37 08.0**	**+0.6**
	baz=141							
Q19K				S		**Sn**	**07 37 48.5**	**-0.2**
	baz=141							
KAHG	**Katmai Hook Gl**	**3.51**	**314**			**Pn**	**07 37 08.6**	**+0.8**
BRSE	**Bradley Lake S**	**3.63**	**352**			**Pn**	**07 37 08.5**	**-0.8**
BRSE						**Sn**	**07 37 50.4**	**-1.8**
BRSE	**Bradley Lake S**	**3.63**	**352**	P		**Pn**	**07 37 08.5**	**-0.8**
	baz=170							
BRSE				S		**Sn**	**07 37 50.4**	**-1.8**
	baz=170							
BRLK	**Bradley Lake**	**3.66**	**351**			**Pn**	**07 37 08.7**	**-1.1**
BRLK						**Sn**	**07 37 52.0**	**-1.0**
BRLK	**Bradley Lake**	**3.66**	**351**	IAML			07 37 56.3	
	comp=E,42nm,0.5s							
BRLK				IAML			07 37 57.6	
	comp=N,45nm,1.4s							
ACHA	**Angle Creek He**	**3.68**	**306**			**Pn**	**07 37 10.2**	**+0.1**
Q23K	**Middleton Isla**	**3.73**	**27**			**Pn**	**07 37 09.6**	**-1.1**
Q23K	**Middleton Isla**	**3.73**	**27**	P		**Pn**	**07 37 09.6**	**-1.1**
	baz=209							
MID	**Middleton Isla**	**3.73**	**27**	Pn		**Pn**	**07 37 09.5**	**-1.2**
ANCK	**Angle Creek**	**3.75**	**305**			**Pn**	**07 37 11.4**	**+0.4**
KVTA	**Katmai Vly 10**	**3.76**	**308**			**Pn**	**07 37 11.6**	**+0.4**
KAHC	**Katmai Hardscr**	**3.80**	**313**	P		**Pn**	**07 37 12.4**	**+0.7**
	baz=129							
Q17K	**Contact Creek**	**3.96**	**305**	P		**Pn**	**07 37 13.8**	**-0.2**
	baz=120							
P19K	**Oil Pt**	**3.97**	**333**			**Pn**	**07 37 12.9**	**-1.2**
P19K	**Oil Pt**	**3.97**	**333**	IAML			07 38 06.4	
	comp=E,82nm,1.1s							
P19K				IAML			07 38 14.9	
	comp=N,75nm,0.6s							
P19K	**Oil Pt**	**3.97**	**333**	P		**Pn**	**07 37 12.9**	**-1.2**
	baz=150							
IVE	**Iliamna Volcan**	**4.24**	**337**			**Pn**	**07 37 17.2**	**-0.6**
SLKM	**Skilak Lake**	**4.36**	**357**			**Pn**	**07 37 18.7**	**-0.7**
P18K	**Big Mountain,**	**4.38**	**320**			**Pn**	**07 37 19.0**	**-0.7**
P18K	**Big Mountain,**	**4.38**	**320**	P		**Pn**	**07 37 19.5**	**-0.2**
	baz=135							
RED	**Redoubt Volcan**	**4.56**	**340**			**Pn**	**07 37 21.0**	**-1.1**
HIN	**Hinchinbrook I**	**4.57**	**20**			**Pn**	**07 37 21.4**	**-0.8**
HIN	**Hinchinbrook I**	**4.57**	**20**	IAML			07 38 21.4	
	comp=N,45nm,1.4s							
HIN				IAML			07 38 45.8	
	comp=E,44nm,1.3s							
RSO	**Redoubt South**	**4.60**	**341**	Pn		**Pn**	**07 37 22.9**	**+0.1**
KAIM	**Kayak Island**	**4.70**	**34**			**Pn**	**07 37 22.9**	**-1.1**
KAIM	**Kayak Island**	**4.70**	**34**	IAML			07 38 30.1	
	comp=N,51nm,1.4s							
KAIM	**Kayak Island**	**4.70**	**34**	P		**Pn**	**07 37 23.3**	**-0.7**
	baz=218							
O18K	**Koktuh Hills**	**4.71**	**324**			**Pn**	**07 37 23.3**	**-0.9**
O18K				IAML			07 38 24.7	
	comp=E,22nm,1.5s							
O18K				IAML			07 38 24.8	
	comp=N,37nm,1.1s							
P17K	**Kvichak River**	**4.72**	**313**			**Pn**	**07 37 24.3**	**+0.1**
P17K	**Kvichak River**	**4.72**	**313**	P		**Pn**	**07 37 24.6**	**+0.4**
	baz=127							
CHGN	**Chignik**	**4.86**	**275**	Pn		Pn	07 37 24.8	-1.4
CHGN				IAML			07 38 22.1	
	comp=E,53nm,0.9s							
CHGN				IAML			07 38 27.8	
	comp=N,56nm,0.4s							
EYAK	**Cordova Ski Ar**	**4.86**	**24**			**Pn**	**07 37 25.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.86**	**24**	P		**Pn**	**07 37 25.8**	**-0.5**
	baz=206							
RAGM	**Ragged Mountai**	**4.99**	**30**			**Pn**	**07 37 28.1**	**0.0**
RAGM	**Ragged Mountai**	**4.99**	**30**	IAML			07 38 24.1	
	comp=E,39nm,1.2s							
GOAT	**Goat Mountain**	**5.14**	**29**			**Pn**	**07 37 29.6**	**-0.6**
SPCP	**Crater Peak Br**	**5.27**	**347**			**Pn**	**07 37 31.6**	**-0.4**
BERG	**Berg Lake**	**5.29**	**34**	Pn		**Pn**	**07 37 31.2**	**-0.9**
BERG				IAML			07 38 39.3	
	comp=N,36nm,1.4s							
P16K	**Nushagak River**	**5.30**	**306**			**Pn**	**07 37 32.5**	**+0.3**
P16K	**Nushagak River**	**5.30**	**306**	P		**Pn**	**07 37 32.5**	**+0.3**
	baz=120							
KNK	**Knik Glacier**	**5.30**	**6**	Pn		Pn	07 37 29.5	-2.8
KNK				IAML			07 38 33.7	
	comp=E,18nm,1.5s							
KNK				IAML			07 38 37.4	
	comp=N,15nm,1.5s							
SUA	**Susitna One**	**5.34**	**355**	Pn		**Pn**	**07 37 32.1**	**-0.9**
SNH	**Sunshine Point**	**5.42**	**39**			**Pn**	**07 37 33.2**	**-0.7**
PMR	**Palmer**	**5.45**	**3**	Pn		**Pn**	**07 37 34.2**	**-0.1**
BMRM	**Bremner River**	**5.50**	**27**			**Pn**	**07 37 34.7**	**-0.4**
BMRM	**Bremner River**	**5.50**	**27**	P		**Pn**	**07 37 34.7**	**-0.4**
	baz=210							
N18K	**Kilae Creek**	**5.57**	**327**			**Pn**	**07 37 35.0**	**-1.0**
N18K	**Kilae Creek**	**5.57**	**327**	P		**Pn**	**07 37 35.0**	**-1.0**
	baz=142							
GHO	**Glory Hole Cre**	**5.64**	**4**			**Pn**	**07 37 37.4**	**+0.4**
O16K	**Kokwok River B**	**5.64**	**311**			**Pn**	**07 37 37.2**	**+0.3**
O16K	**Kokwok River B**	**5.64**	**311**	P		**Pn**	**07 37 37.2**	**+0.3**
	baz=124							
KLU	**Klutina**	**5.69**	**19**			**Pn**	**07 37 37.4**	**-0.3**
KLU	**Klutina**	**5.69**	**19**	P		**Pn**	**07 37 37.4**	**-0.3**
	baz=201							
BARK	**Barkley Ridge**	**5.70**	**39**			**Pn**	**07 37 37.3**	**-0.5**
SML	**Sawmill**	**5.70**	**7**	Pn		**Pn**	**07 37 37.6**	**-0.2**
SCM	**Sheep Creek Mo**	**5.81**	**11**	Pn		**Pn**	**07 37 37.7**	**-1.7**
VRDI	**Verde Repeater**	**6.03**	**30**	Pn		**Pn**	**07 37 41.4**	**-1.0**
GLB	**Gilahina Butte**	**6.11**	**28**	Pn		**Pn**	**07 37 43.4**	**-0.1**
KIAG	**Kiagna River**	**6.12**	**36**			**Pn**	**07 37 43.1**	**-0.6**
SAMH	**Samovar Hills**	**6.17**	**46**			**Pn**	**07 37 44.2**	**0.0**
MCARA	**McCarthy VSAT**	**6.28**	**31**	Pn		**Pn**	**07 37 44.7**	**-1.0**
PTPK	**Patty Peak**	**6.29**	**34**			**Pn**	**07 37 45.2**	**-0.8**
PCA	**Pinnacle**	**6.37**	**48**			**Pn**	**07 37 46.8**	**-0.2**
PINM	**Pinnacle**	**6.37**	**48**	P		**Pn**	**07 37 46.8**	**-0.2**
	baz=235							
N16K	**Nishlik Lake**	**6.44**	**316**	P		**Pn**	**07 37 48.1**	**+0.2**
	baz=128							
BARN	**Barnard Glacie**	**6.46**	**37**			**Pn**	**07 37 48.1**	**-0.2**
LOGN	**Logan Glacier**	**6.52**	**41**	Pn		**Pn**	**07 37 48.0**	**-1.2**
L19K	**White Mountain**	**6.59**	**338**	Pn		**Pn**	**07 37 48.8**	**-1.1**
M17K	**Holitna River**	**6.61**	**326**			**Pn**	**07 37 50.0**	**-0.2**
N15K	**Kwethluk River**	**6.80**	**310**			**Pn**	**07 37 53.7**	**+0.8**
M16K	**Timber Creek**	**6.86**	**319**			**Pn**	**07 37 54.1**	**+0.5**
M16K	**Timber Creek**	**6.86**	**319**	P		**Pn**	**07 37 54.1**	**+0.5**
	baz=131							
O29M	**Mount Kennedy**	**7.19**	**50**			**Pn**	**07 37 57.5**	**-0.8**
P29M	**Windy Craggy**	**7.26**	**56**			**Pn**	**07 37 57.8**	**-1.4**
CAST	**Castle Rocks**	**7.37**	**352**	Pn		**Pn**	**07 38 01.5**	**+0.8**
L16K	**Owhat River**	**7.51**	**322**	P		**Pn**	**07 38 02.6**	**+0.1**
	baz=134							
BPAW	**Bear Paw Mtn.**	**7.99**	**356**	Pn		**Pn**	**07 38 09.6**	**+0.5**
BCAR	**Beaver Creek A**	**7.99**	**27**	Pn		**Pn**	**07 38 09.5**	**+0.3**
ILAR	**Eielson Array**	**8.74**	**8**	Pn		**Pn**	**07 38 17.8**	**-1.6**
	baz=187,slow=14,SNR=2.0							
ILAR						Sn	Sn	07 39 51.1	-6.8
	comp=N,0.1nm,0.3s,baz=197,slow=22,SNR=1.7							
	comp=N,0.2nm,0.3s							
DLBC	**Dease Lake**	**10.88**	**70**	Pn		**Pn**	**07 38 47.7**	**-1.0**
	comp=N,0.1nm,0.3s,baz=272,slow=18,SNR=2.5							
	comp=N,0.6nm,0.6s							
YKA	**Yellowknife Ar**	**18.80**	**56**	P		**P**	**07 40 32.0**	**-0.4**
	baz=265,slow=11,SNR=4.2							
	comp=N,0.6nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**49.76**	**239**	T		T	08 39 22.2	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**49.78**	**239**	T		T	08 39 20.9	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**49.78**	**239**	T		T	08 39 22.6	
	baz=29							
KIRV	**Kirov**	**64.58**	**349**	LR		LR	08 18 02.9	
	comp=N,68nm,18.8s,baz=349,slow=39							
BVAR	**Borovoye Array**	**66.29**	**335**	P		**P**	**07 47 01.7**	**+0.6**
	comp=N,0.6nm,0.7s,baz=14,slow=6.5,SNR=1.5							
	comp=N,0.6nm,0.7s							
MKAR	**Makanchi Array**	**68.55**	**324**	P		**P**	**07 47 18.2**	**+2.7**
	comp=N,0.2nm,0.5s,baz=45,slow=6.3,SNR=5.3							
	comp=N,0.2nm,0.5s							

VAO ***24*** *07:45:54.5*±*0.4,20°.17S*×*69°.23W,h10km,mb5.6*

MOS ***24*** *07:46:03.4*±*1.1,20°.25S*×*68°.99W,h101km,mb5.3/16, Error ellipse: s-maj=13.9km s-min=7.3km az=104.4*

SJA ***24*** *07:46:04.1*±*0.7,20°.31S*×*69°.10W,h111km*±*3km,ML5.4, MW5.1*

IDC ***24*** *07:46:05.8*±*0.3,20°.30S*×*68°.90W,h109km*±*2km,mb4.6/16, mbtmp5.0/19,MS4.0/36,Error ellipse: s-maj=12.8km s-min=6.5km az=85.0*

NEIC ***24*** *07:46:05.3*±*2.2,20°.33S*±*0°.05*×*69°.00W*±*0°.07,h105km*±*4km, mb5.2/304,Mww5.3/23,Error ellipse: s-maj=9.5km s-min=6.6km az=93.0*

NEIC ***24*** *07:46:05.6,20°.35S*×*69°.08W,h100km,Moment Tensor Solution. Duration: 2*s*4 Moment tensor: Scale 10*^{17}*Nm; Mrr-0.54; Mθθ-0.37; Mφφ0.91; Mrθ0.52; Mrφ0.05; Mθr-0.80; Fault plane solution: M*o*1.24000×10*^{17} *NP1: ϕs332.71000°,δ74.89000°,λ-116.83000°. NP2: ϕs215.44000°,δ30.52000°,λ-30.89000°. Principal axes: T 1.2812, Plg25.0000°, Azm83.0000°; N -0.0914, Plg26.0000°, Azm340.0000°; P -1.1899, Plg53.0000°, Azm211.0000°;*

NEIC ***24*** *07:46:05.6,20°.35S*×*69°.08W,h96km*

GUC ***24*** *07:46:06.0*±*0.9,20°.31S*×*69°.11W,h106km*±*3km,ML5.3*

BJI ***24*** *07:46:06.0*±*0.0,20°.30S*×*69°.00W,h100km,mB5.2/1*

GCMT ***24*** *07:46:09.3*±*0.2,20°.33S*±*0°.01*×*69°.22W*±*0°.01,h129km*±*1km, MW5.3/136,Moment Tensor Solution. s86,c124; s136,c231; Duration: 1*s*1 Moment tensor: Scale 10*^{17} *Nm; Mrr-0.46*±*.02; Mθθ-0.17*±*.03; Mφφ0.63*±*.03; Mrθ0.55*±*.01; Mrφ0.11*±*.02; Mθr-1.01*±*.02; Best double couple: M*o*1.28700×10*^{17} *NP1:ϕs336.00000°,δ79.00000°, λ-107.00000°. NP2:ϕs215.00000°,δ20.00000°, λ-32.00000°. Principal axes: T 1.2620, Plg32.0000°, Azm80.0000°; N 0.0500, Plg17.0000°, Azm339.0000°; P -1.3120, Plg52.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 07:46:05.0±0.2,**20°.31S**±0°.02×**69°.05W**±0°.04,**h107**km±2km, **h107**km:**pP-P**,**n699,** σ1s**52**/**681**,**mb5.2**/**171**,**23C-21D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB08	**IPOC Station P**	**0.20**	**331**			**Pn**	**07 46 21.2**	**+0.7**
PB08	**IPOC Station P**	**0.20**	**331**	*eP*		**Pn**	**07 46 21.0**	**+0.5**
PB08				*eS*		**Sn**	**07 46 32.4**	**+0.4**
PB08				IAML			07 46 36.1	
	comp=Z,48µm,1.2s							
PB08	**IPOC Station P**	**0.20**	**331**	⇓*iP*		**Pn**	**07 46 20.7**	**+0.3**
PB08				*i* S		**Sn**	**07 46 32.3**	**+0.4**
PB08				IAML			07 46 33.3	
	comp=E,118µm,0.3s							
GO01	**Chusmiza**	**0.66**	**348**			**Pn**	**07 46 24.1**	**+0.8**
GO01	**Chusmiza**	**0.66**	**348**	*eP*		**Pn**	**07 46 23.6**	**+0.3**
GO01				*eS*		**Sn**	**07 46 38.7**	**+1.8**
GO01	**Chusmiza**	**0.66**	**348**	*iP*		**Pn**	**07 46 23.4**	**+0.2**
GO01				*eS*		**Sn**	**07 46 37.3**	**+0.4**
GO01				IAML	

comp=E,19µm,0.5s
PB12 IPOC Station P 2.08 324 Pn Pn 07 46 39.5 +0.5
PB12 IPOC Station P 2.08 324 *eP* **Pn 07 46 38.6 -0.3**
PB12 *eS* **Sn 07 47 04.9 +0.1**
PB12 IAML 07 47 08.4
comp=Z,22µm,0.5s
PB12 IPOC Station P 2.08 324⇑ *iP* **Pn 07 46 38.6 -0.3**
PB12 *i* S **Sn 07 47 04.2 -0.6**
PB12 IAML 07 47 09.9
comp=N,56µm,0.5s
PB04 IPOC Station P 2.25 207 Pn 07 46 40.9 -0.4
PB04 IPOC Station P 2.25 207 *eP* **Pn 07 46 40.8 -0.4**
PB04 IAML 07 47 18.9
comp=Z,13µm,0.3s
PB04 IPOC Station P 2.25 207⇑ *iP* **Pn 07 46 40.6 -0.6**
PB04 *i* S **Sn 07 47 06.3 -2.8**
PB04 IAML 07 47 20.8
comp=E,14µm,0.5s
AP01 Chacalluta 2.28 328 Pn 07 46 41.8 +0.3
AP01 Chacalluta 2.28 328 *eP* **Pn 07 46 41.7 +0.3**
AP01 IAML 07 47 19.6
comp=Z,23µm,0.8s
AP01 Chacalluta 2.28 328⇑ *iP* **Pn 07 46 41.4 -0.1**
AP01 *i* S **Sn 07 47 09.5 0.0**
LVC Limon Verde 2.29 177 Pn **Pn 07 46 43.1 +1.2**
LVC Limon Verde 2.29 177 *eP* **Pn 07 46 42.7 +0.9**
LVC *eS* **Sn 07 47 11.9 +1.8**
LVC IAML 07 47 14.3
comp=Z,11µm,0.6s
LVC Limon Verde 2.29 177 P **Pn 07 46 42.8 +0.9**
comp=Z,1µm,0.3s,baz=15,slow=9.0,SNR=627
LVC S **Sn 07 47 11.0 +0.9**
comp=Z,6µm,0.4s,baz=134,slow=21,SNR=46
LVC Limon Verde 2.29 177⇓ *iP* **Pn 07 46 42.9 +1.0**
LVC *i* S **Sn 07 47 11.3 +1.2**
LVC IAML 07 47 13.0
comp=Z,38µm,0.2s
PB06 IPOC Station P 2.43 191 Pn 07 46 43.7 +0.2
PB06 IPOC Station P 2.43 191 *eP* **Pn 07 46 43.4 -0.2**
PB06 *eS* **Sn 07 47 13.8 +0.7**
PB06 IAML 07 47 16.4
comp=Z,18µm,1.1s
PB06 IPOC Station P 2.43 191⇓ *iP* **Pn 07 46 43.3 -0.2**
PB06 *i* S **Sn 07 47 11.7 -1.3**
PB06 IAML 07 47 12.3
comp=E,15µm,0.4s
PB18 Visviri 2.74 351 Pn 07 46 50.7 +2.7
PB18 Visviri 2.74 351⇓ *iP* **Pn 07 46 50.7 +2.7**
PB18 *i* S **Sn 07 47 21.9 +0.9**
PB18 IAML 07 47 54.4
comp=N,9µm,0.8s
PB05 IPOC Station P 2.74 203 Pn **Pn 07 46 47.5 -0.1**
PB05 IPOC Station P 2.74 203 *eP* **Pn 07 46 47.0 -0.7**
PB05 *eS* **Sn 07 47 14.6 -5.8**
PB05 IAML 07 47 46.4
comp=Z,8µm,0.8s
PB05 IPOC Station P 2.74 203⇑ *iP* **Pn 07 46 46.6 -1.0**
PB05 *i* S **Sn 07 47 17.1 -3.3**
PB05 IAML 07 47 19.0
comp=E,11µm,0.5s
AF01 San Pedro de A 2.75 163 Pn 07 46 49.7 +1.8
AF01 San Pedro de A 2.75 163⇓ *iP* **Pn 07 46 49.8 +1.9**
AF01 *i* S **Sn 07 47 22.3 +1.5**
PB15 IPOC Station P 2.91 188 *eP* **Pn 07 46 50.2 +0.4**
PB15 *eS* **Sn 07 47 23.6 -0.8**
PB15 IAML 07 47 29.1
comp=Z,27µm,0.3s
PB15 IPOC Station P 2.91 188⇓ *iP* **Pn 07 46 49.7 -0.1**
PB15 *i* S **Sn 07 47 23.5 -0.8**
YJA Yavi 3.79 120 *eP* **Pn 07 47 04.5 +2.7**
LPAZ La Paz 4.10 12 Pn **Pn 07 47 09.3 +3.2**
LPAZ La Paz 4.10 12 P **Pn 07 47 09.4 +3.2**
LPAZ La Paz 4.10 12 *eP* **Pn 07 47 09.2 +3.0**
PB14 IPOC Station P 4.47 196 Pn **Pn 07 47 09.4 -1.4**
PB14 IPOC Station P 4.47 196 *eP* **Pn 07 47 08.9 -2.0**
PB14 IAML 07 48 34.8
comp=Z,2µm,0.8s
PB14 IPOC Station P 4.47 196⇓ *iP* **Pn 07 47 08.9 -2.0**
PB14 *i* S **Sn 07 47 53.4 -8.6**
GO02 Mina Guanaco 4.85 186 Pn **Pn 07 47 15.8 -0.3**
GO02 Mina Guanaco 4.85 186 *eP* **Pn 07 47 15.2 -0.9**
GO02 Mina Guanaco 4.85 186⇓ *iP* **Pn 07 47 14.6 -1.5**
GO02 *i* S **Sn 07 48 10.0 -1.2**
SIV San Ignacio 8.72 62 P **Pn 07 48 05.9 -2.4**
comp=Z,247nm,1.0s,baz=246,slow=12,SNR=367
SIV S **Sn 07 49 38.8 -6.1**
comp=Z,57nm,1.0s,baz=274,slow=16,SNR=1.4
BBRB Robore, Bolivi 8.96 78 *eP* **Pn 07 48 07.5 -4.1**
CO06 Fray Jorge 10.57 192 Pn 07 48 28.0 -5.4
PTLB Pontes e Lacer 10.61 64 Pn **Pn 07 48 32.7 -1.2**
MURT Porto Murtinho 10.77 99 *eP* **Pn 07 48 33.2 -2.9**
NNA Nana 11.16 317 Pn **Pn 07 48 39.4 -2.0**
NNA Nana 11.16 317 *iP* **Pn 07 48 39.8 -1.6**
NNA Nana 11.16 317 P **Pn 07 48 39.5 -1.9**
comp=Z,12nm,0.7s,baz=189,slow=6.9,SNR=9.2
NNA S **Sn 07 50 39.2 -5.0**
comp=Z,40nm,0.5s,baz=58,slow=16,SNR=2.8
NNA LR LR 07 52 43.6
comp=Z,414nm,19.1s,baz=172,slow=35
NNA Nana 11.16 317 *eP* **Pn 07 48 39.1 -2.3**
VILB Vilhena 11.20 51 Pn **Pn 07 48 41.7 -0.3**
BDQN Bodoquena, MS 11.54 93 *eP* **Pn 07 48 42.9 -3.6**
ANTJ Antonio Joao (12.29 100 *eP* **Pn 07 48 53.9 -2.5**
CPUP Villa Florida 12.32 121 Pn **Pn 07 48 55.7 -1.0**
CPUP Villa Florida 12.32 121 P **Pn 07 48 55.7 -1.0**
CPUP Villa Florida 12.32 121 P **Pn 07 48 55.1 -1.7**
comp=Z,71nm,0.8s,baz=301,slow=12,SNR=106
CPUP LR LR 07 54 17.1
comp=Z,631nm,19.8s,baz=313,slow=40
CPUP Villa Florida 12.32 121 *eP* **Pn 07 48 53.6 -3.1**
AQDB Aquidauana 12.52 93 Pn **Pn 07 48 56.4 -3.0**
AQDB Aquidauana 12.52 93 *eP* **Pn 07 48 56.2 -3.3**
SAML Samuel 12.64 27 Pn **Pn 07 48 58.0 -3.1**
SAML Samuel 12.64 27 P **Pn 07 48 58.0 -3.1**
PEL Peldehue 12.86 186 Pn 07 49 02.8 -1.1
PEL Peldehue 12.86 186 P **Pn 07 49 02.8 -1.1**
VA01 Torpederas 12.87 190 Pn **Pn 07 49 03.5 -0.4**
CZSB Cruzeiro do Su 13.00 344 *eP* **Pn 07 49 03.7 -2.1**
RVDE Rio Verde (Bra 13.36 87 *eP* **Pn 07 49 06.7 -3.8**
SALV Santo Antonio 13.44 73 *eP* **Pn 07 49 08.3 -3.1**
PP1B Ponte de Pedra 13.68 81 *eP* **Pn 07 49 11.5 -3.1**
RPRD Ribas do Rio P 14.40 93 *eP* **Pn 07 49 21.7 -2.2**
ITQB Itaqui 14.61 132 Pn **Pn 07 49 25.1 -1.3**
ITQB Itaqui 14.61 132 *eP* **Pn 07 49 25.3 -1.1**
PDRB Porto dos Gac 14.66 56 *eP* **Pn 07 49 22.8 -4.5**
UNIS Unistalda (Bra 15.40 127 *eP* **Pn 07 49 34.7 -1.7**
CRSM Crissiumal (Br 15.47 120 *eP* **Pn 07 49 36.1 -1.2**
H03N1 Juan Fernandez 15.74 212 T T 08 05 09.2
baz=34,slow=72,SNR=21
FRBT Francisco Belt 15.74 114 *eP* **Pn 07 49 40.4 -0.4**
H03N2 Juan Fernandez 15.75 212 T T 08 05 06.8
baz=34,slow=72,SNR=18
H03N3 Juan Fernandez 15.76 212 T T 08 05 07.5
baz=34,slow=72,SNR=35
CLDB Colider 15.84 56 *eP* **Pn 07 49 38.7 -3.3**
VA04 Juan Fernndez 15.87 211 P **P 07 49 43.3 -0.5**
ATAH Atahualpa 15.93 324 P **P 07 49 44.6 -0.4**
comp=Z,4.7nm,0.9s,baz=75,slow=23,SNR=3.3
ATAH LR LR 07 56 44.7
comp=Z,504nm,20.9s,baz=164,slow=40
RODS Rosario do Sul 16.01 131 *eP* **Pn 07 49 43.5 -0.5**
TBTG Tabatinga, AM 16.05 357 *eP* **Pn 07 49 42.9 -1.8**
PTGB Pitanga 16.30 109 *eP* **Pn 07 49 47.5 -0.2**
PCMB Pacaembu 16.67 98 *eP* **Pn 07 49 51.2 -1.1**
BI05 Punta Hualpn 16.77 192 Pn 07 49 51.9 -1.4
ALGR Alto Alegre (B 16.84 123 *eP* **Pn 07 49 53.7 -0.6**
LDASE Londrina, Braz 16.93 104 *eP* **Pn 07 49 54.0 -1.5**
ITAB Concordia 16.94 117 Pn 07 49 54.8 -0.8
ITAB Concordia 16.94 117 *eP* **Pn 07 49 54.3 -1.3**
CPSB Cacapava Do Su 17.30 129 *eP* **P 07 49 58.3 -1.4**
ITRB Iturama 17.58 91 *eP* **Pn 07 50 03.4 0.0**
PLTB Pedras Altas 17.94 133 P 07 50 04.2 -2.5
PLTB Pedras Altas 17.94 133 *eP* **P 07 50 05.6 -1.1**
FRTB Fartura 18.34 103 *eP* **P 07 50 11.3 0.0**
NPGB Novo Progresso 18.71 47 *eP* **P 07 50 13.5 -1.8**
TRQA Tornquist 18.71 162 P **P 07 50 15.4 +0.2**
TRQA Tornquist 18.71 162 P **P 07 50 15.4 +0.2**
CNLB Canela 18.78 122 *eP* **P 07 50 14.9 -1.0**
MACA Manacapuru-AM 18.90 27 P **P 07 50 15.9 -1.5**
MACA Manacapuru-AM 18.90 27 *eP* **P 07 50 15.8 -1.5**
SNDB Serra Nova Dou 18.95 67 *eP* **P 07 50 17.2 -0.7**
MCRA Macar, Loja 19.07 325 P **Pn 07 50 22.0 +0.7**
MCRA Macar, Loja 19.07 325 *eP* **Pn 07 50 22.6 +1.4**
BB19B Bebedouro 19.22 96 *eP* **P 07 50 19.8 -1.1**
BOSC San Juan Bosco 19.39 330 P **Pn 07 50 24.9 -0.1**
IPMB Ipameri, GO 19.82 87 *eP* **P 07 50 26.0 -1.5**
LR05 Ćurrie 20.01 187 P **P 07 50 29.8 +0.6**
RCLB Rio Claro- Sao 20.15 100 *eP* **P 07 50 30.0 -1.0**
SPB Sao Paulo 20.32 103 P **P 07 50 31.3 -1.3**
SPB Sao Paulo 20.32 103 *eP* **P 07 50 32.4 -0.2**
COHC Cochancay 20.34 329 *eP* Pn 07 50 37.4 +1.4
PLCA Paso Flores 20.39 183 P **P 07 50 34.0 +0.6**
PLCA Paso Flores 20.39 183 P **P 07 50 34.3 +0.9**
comp=Z,236nm,0.9s,baz=8.1,slow=12,SNR=233
comp=Z,236nm,0.9s
PLCA Paso Flores 20.39 183 *eP* **P 07 50 34.2 +0.9**
ITTB Itaituba 20.48 41 *eP* **P 07 50 32.8 -1.7**
PET01 Itanhaem-SP 20.53 105 *eP* **P 07 50 33.9 -1.0**
BDFB Brasilia 20.54 80 P **P 07 50 33.5 -1.8**
BDFB Brasilia 20.54 80 P **P 07 50 34.6 -0.7**
comp=Z,71nm,0.4s,baz=255,slow=10,SNR=59
BDFB LR LR 07 59 30.1
comp=Z,1µm,19.6s,baz=245,slow=39
comp=Z,71nm,0.4s
PMNB Patos De Minas 21.40 89 *eP* **P 07 50 43.0 -1.5**
BONI La Bonita 22.25 337 *eP* **P 07 50 57.3 +3.8**
TULM Tulcn-Chalpat 22.58 337 *eP* **P 07 51 02.9 +5.7**
BSCB Bom Sucesso 22.73 96 *eP* **P 07 50 57.5 -0.7**
GCUF Volcan Galeras 22.90 338 *eP* **P 07 51 03.9 +3.5**
MALB Monte Alegre 23.35 40 *eP* **P 07 51 01.9 -2.2**
BBAC Balboa, Cauca 23.61 339 *eP* **P 07 51 08.9 +2.3**
POPC Popayan, Colom 23.91 341 *eP* **P 07 51 12.1 +2.6**
BOAV Boa Vista 24.07 21 P **P 07 51 10.3 -0.3**
BOAV Boa Vista 24.07 21⇑ *eP* **P 07 51 10.2 -0.3**
BOAV Boa Vista 24.07 21 *eP* **P 07 51 10.4 -0.1**
PTGC Puerto Gaitan, 24.55 353 *eP* **P 07 51 14.9 0.0**
JAMC Jamundi, Valle 24.55 341 *eP* **P 07 51 19.4 +4.2**
VILC Villavicencio, 24.70 349 *eP* **P 07 51 17.8 +1.4**
ORTC Ortega, Tolima 24.83 345 *eP* **P 07 51 19.1 +1.6**
DUB01 Friburgo-RJ 24.93 99 *eP* **P 07 51 18.4 -0.1**
YOTC Yotoco, Valle 25.19 343 *eP* **P 07 51 21.3 +0.5**
COYC Coyhaique 25.31 185 P **P 07 51 21.3 -0.3**
COYC IAmb IAmb 07 51 23.0
comp=Z,146nm,0.9s
ROSC El Rosal 25.53 348 P **P 07 51 25.4 +1.2**
ROSC IAmb IAmb 07 52 04.2
comp=Z,92nm,1.5s
ROSC El Rosal 25.53 348 P **P 07 51 25.8 +1.6**
comp=Z,12nm,0.4s,baz=98,slow=14,SNR=9.5
comp=Z,12nm,0.4s
MCPB Macapa, AP 25.88 42 *eP* **P 07 51 25.6 -1.4**
PLMC San Jos del P 26.05 343 *eP* **P 07 51 29.3 +0.7**
GUY2C Guyana, Caldas 26.13 346 *eP* **P 07 51 30.7 +0.9**
SPBC San Pablo de B 26.27 349 *eP* **P 07 51 30.6 0.0**
SJMB Sao Joao De Ma 26.31 91 *eP* **P 07 51 30.7 -0.2**
ALF01 Guarapari-ES 26.53 96 *eP* **P 07 51 32.5 -0.3**
CBOC Ciudad Bolivar 26.90 345 *eP* **P 07 51 35.4 -0.9**
AY03 Cochrane 27.03 185 IAmb IAmb 07 51 39.9
comp=Z,59nm,1.0s
PTBC PUERTO BERRIO, 27.21 348 *eP* **P 07 51 37.1 -1.9**
PAMC Pamplona, Colo 27.71 352 *eP* **P 07 51 43.8 -0.1**
DBBC Dabeiba 28.06 345 *eP* **P 07 51 47.6 +1.0**
GO08 Villa O'Higgin 28.23 185 IAmb IAmb 07 51 51.0
comp=Z,166nm,1.6s
OCAC Ocana 28.68 351 *eP* **P 07 51 50.6 -1.6**
ABR01 Arolhos, BA 28.76 91 *eP* **P 07 51 52.6 -0.1**
SDV Santo Domingo 29.06 357 P **P 07 51 54.6 -1.0**
SDV Santo Domingo 29.06 357 LR LR 08 05 45.0
comp=Z,112nm,21.2s,baz=172,slow=41
SDV Santo Domingo 29.06 357 *eP* **P 07 51 51.9 -3.7**
SDV Santo Domingo 29.06 357 *eP* **P 07 51 55.4 -0.2**
BAUV El Baul 29.09 2 P **P 07 51 54.5 -1.1**
MDP Montagnes des 29.97 34 LR LR 08 05 01.5
comp=Z,1µm,18.3s,baz=213,slow=38
ARGC Ariguani, Magd 30.41 350 *eP* **P 07 52 06.6 -0.8**
PCRV Puerto La Cruz 30.61 9 LR LR 08 05 04.8
comp=Z,657nm,20.8s,slow=37
SJCC San Jacinto, C 30.62 348 *eP* **P 07 52 08.0 -1.3**
GO09 Cerro Castillo 31.00 184 IAmb IAmb 07 52 14.5
comp=Z,61nm,1.1s
EFI East Falkland 32.46 167 P **P 07 52 25.3 +0.3**
EFI East Falkland 32.46 167 P **P 07 52 25.3 +0.3**
EFI pmax pmax
comp=Z,177nm,1.0s
EFI East Falkland 32.46 167⇓ *iP* **P 07 52 25.7 +0.8**
JTS Las Juntas de 34.20 331 *i* P **P 07 52 40.1 -0.4**
JTS Las Juntas de 34.20 331 LR LR 08 08 36.9
comp=Z,280nm,18.2s,baz=162,slow=39
RCBR Riachuelo 35.26 70 LR LR 08 08 23.5
comp=Z,375nm,21.5s,baz=231,slow=38
RCBR Riachuelo 35.26 70⇓ P **P 07 52 49.8 +0.1**
RCBR Riachuelo 35.26 70 *eP* **P 07 52 49.5 -0.2**
MPOM Morne Pois Mar 35.47 14 *eP* **P 07 52 50.2 -1.1**
MLPR Magueyes Islan 38.10 3 P **P 07 53 11.1 -2.4**
CRPR Cabo Rojo, PR 38.13 3 IAmb IAmb 07 53 53.9
comp=Z,54nm,1.0s
OBIP Obispado Ponce 38.20 4 P **P 07 53 12.0 -2.4**
SJG San Juan 38.29 4 P **P 07 53 13.6 -1.7**
SJG pP **pP 07 53 39.1 -1.8**
SJG sP **sP 07 53 50.7 -2.9**
HUMP Col San Antoni 38.35 5 IAmb IAmb 07 53 15.0
comp=Z,82nm,1.4s
GCPR Guaynabo City 38.49 5 IAmb IAmb 07 53 16.1
comp=Z,93nm,1.2s
TGUH Tegucigalpa,Un 38.57 331 P **P 07 53 17.2 -0.6**
TGUH IAmb IAmb 07 53 51.1
comp=Z,64nm,1.4s
HOPE Hope Point 41.98 152 P **P 07 53 46.6 +1.3**
HOPE pP **pP 07 54 13.1 +1.9**
HOPE sP **sP 07 54 26.1 +2.3**
PMSA Palmer Station 44.56 177 LR LR 08 12 23.1
comp=Z,259nm,19.3s,baz=324,slow=35
PMSA Palmer Station 44.56 177 *eP* **P 07 54 07.9 +2.0**
TLIG Tlapa 47.49 320 IAmb IAmb 07 55 10.0
comp=Z,60nm,1.8s
SMAI San Martin Ant 47.82 179 P **P 07 54 32.3 +1.0**
DWPF Disney Wildern 49.61 346 P **P 07 54 47.0 +1.5**
baz=165
TIGA Tifton 53.31 344 P **P 07 55 14.7 +1.6**
baz=163
ZAIG Zacatecas 53.88 321 IAmb IAmb 07 55 58.2
comp=Z,22nm,1.1s
BRAL Brewton 54.03 341 P **P 07 55 20.7 +2.4**
baz=159
NHSC New Hope 54.17 348 P **P 07 55 22.0 +2.7**
baz=167
NHSC New Hope 54.17 348 P **P 07 55 20.6 +1.3**
baz=167
154A Montrose 54.32 345 P **P 07 55 22.0 +1.6**
baz=164
152A Waverly Hall 54.77 344 IAmb IAmb 07 56 02.6
comp=Z,34nm,1.1s
Y57A Sumter 55.10 349 P **P 07 55 26.7 +0.7**
baz=167,SNR=5.2
Y57A P **P 07 55 26.7 +0.7**
baz=167,SNR=5.2
GOGA Godfrey 55.17 345 P **P 07 55 28.5 +2.0**
baz=164
X58A Rowland 55.44 350 IAmb IAmb 07 55 31.1
comp=Z,27nm,0.7s
JSC Jenkinsville 55.52 348 IAmb IAmb 07 56 08.2
comp=Z,32nm,1.1s
BIRD Birdtown, Kers 55.72 349 P **P 07 55 30.8 +0.4**
BIRD **pP 07 55 57.6 +0.5**
BIRD Birdtown, Kers 55.72 349 P **P 07 55 31.0 +0.5**
baz=167,SNR=9.8
LRAL Lakeview Retre 55.75 342 P **P 07 55 32.3 +1.6**
baz=160
W57A Gilead 56.13 349 IAmb IAmb 07 55 36.1
comp=Z,26nm,0.8s
HKT Hockley 56.24 332 P **P 07 55 33.9 -0.2**
HKT *PP **pP 07 56 00.7 -0.1**
HKT pmax pmax
comp=Z,92nm,1.8s
KMSC Kings Mountain 56.37 348 P **P 07 55 36.2 +1.2**
KMSC Kings Mountain 56.37 348 P **P 07 55 37.1 +2.0**
baz=166
833A Chaparral WMA, 56.55 328 P **P 07 55 36.8 +0.3**
833A pP **pP 07 56 01.6 -1.4**
833A Chaparral WMA, 56.55 328 P **P 07 55 37.5 +1.0**
baz=146
BG3 Lake Jocassee 56.56 346 IAmb IAmb 07 56 34.5
comp=Z,21nm,1.1s
CASEE Lake Jocassee 56.56 346 P **P 07 55 38.5 +2.1**
baz=164
V55A Taylorsville 57.03 348 IAmb IAmb 07 56 08.5
comp=Z,55nm,1.2s
V55A Taylorsville 57.03 348 P **P 07 55 40.9 +1.1**
baz=166,SNR=7.0
V55A P **P 07 55 40.9 +1.1**
baz=166,SNR=7.0
X48A Hartselle 57.09 342 IAmb IAmb 07 56 19.1
comp=Z,56nm,1.5s
NATX Nacogdoches 57.30 334 P **P 07 55 43.5 +1.8**
baz=151
TKL Tuckaleechee C 57.39 346 LR LR 08 23 10.9
comp=Z,73nm,18.9s,baz=162,slow=39
SWET Sewanee 57.50 344 P **P 07 55 42.2 -0.9**
V52A Sevierville 57.52 346 P **P 07 55 44.3 +1.1**
baz=164,SNR=5.5
U54A Nelsons Funny 57.80 348 IAmb IAmb 07 56 24.9
comp=Z,57nm,1.2s
OXF Oxford 57.86 340 IAmb IAmb 07 56 23.6
comp=Z,56nm,1.1s
OXF Oxford 57.86 340 P **P 07 55 46.4 +0.9**
baz=158
PLAL Pickwick Lake 57.88 342 P **P 07 55 44.5 -1.2**
PLAL pP **pP 07 56 11.7 -1.0**
PLAL IAmb IAmb 07 56 24.1
comp=Z,24nm,1.1s
DRIO Del Rio 58.06 327 IAmb IAmb 07 56 26.3
comp=Z,56nm,1.5s
TZTN Tazewell 58.19 346 P **P 07 55 49.5 +1.7**
baz=164
BLA Blacksburg 58.21 349 P **P 07 55 49.8 +1.7**
baz=168
V48A Smith Brothers 58.24 343 P **P 07 55 47.7 -0.5**
baz=160,SNR=9.3
JCT Junction City 58.52 329 P **P 07 55 49.7 -0.7**
JCT **pP 07 56 14.4 -2.6**
JCT IAmb IAmb 07 56 29.8
comp=Z,54nm,1.6s
JCT Junction City 58.52 329 P **P 07 55 51.4 +1.0**
baz=146
U49A Red Boiling Sp 58.69 344 IAmb IAmb 07 56 29.6
comp=Z,21nm,1.1s
WHTX Lake Whitney, 58.70 332 P **P 07 55 53.4 +1.9**
baz=149
BRDY Brady 58.81 330 P **P 07 55 52.0 -0.3**
BRDY pP **pP 07 56 17.9 -1.2**
BRDY IAmb IAmb 07 56 31.5
comp=Z,34nm,1.6s
HPIG 58.86 322 IAmb IAmb 07 56 33.0
comp=Z,42nm,1.5s
WVT Waverly 58.88 342 P **P 07 55 51.5 -1.1**
WVT IAmb IAmb 07 56 31.0
comp=Z,48nm,1.2s
WVT Waverly 58.88 342 P **P 07 55 53.6 +0.9**
baz=160
WVT Waverly 58.88 342 P **P 07 55 52.0 -0.7**
baz=160,SNR=8.1
WVT Waverly 58.88 342 P **P 07 55 51.5 -1.1**
WVT pmax pmax
comp=Z,49nm,1.2s
WVT Waverly 58.88 342 P **P 07 55 52.0 -0.7**
WVT pP **pP 07 56 18.9 -0.8**
WVT PcP **PcP 07 56 41.1 +0.2**
S54A Dingess, Beckl 58.94 349 P **P 07 55 54.8 +1.6**
baz=167,SNR=5.2
S54A P **P 07 55 54.8 +1.6**
baz=167,SNR=5.2
SAND Sanderson 59.26 327 IAmb IAmb 07 56 35.3
comp=Z,52nm,1.5s
T47A Sharon Grove 59.49 343 P **P 07 55 56.7 -0.1**
baz=160,SNR=9.9
OZNA Ozona 59.54 328 P **P 07 55 57.1 -0.3**
OZNA IAmb IAmb 07 56 36.7
comp=Z,64nm,1.6s
R53A Hurricane 59.58 348 IAmb IAmb 07 56 03.6
comp=Z,51nm,1.3s
TXAR Lajitas Array 59.59 325 P **P 07 55 56.6 -1.2**
TXAR Lajitas Array 59.59 325 P **P 07 55 58.4 +0.6**
comp=Z,1.6nm,0.9s,baz=156,slow=9.2,SNR=11
TXAR pP **pP 07 56 25.7 +1.2**
comp=Z,1.7nm,0.6s,baz=144,slow=8.7,SNR=7.3
TXAR LR LR 08 20 38.1
comp=Z,82nm,18.0s,baz=128,slow=35
comp=Z,1.6nm,0.9s
TX31 Lajitas Ar. Si 59.59 325 IAmb IAmb 07 56 37.5
comp=Z,29nm,1.4s
PLPT Palo Pinto 59.78 332 IAmb IAmb 07 56 29.2
comp=Z,21nm,1.0s
LCAR Lake Charles 59.85 339 P **P 07 55 58.5 -0.8**
LCAR IAmb IAmb 07 56 38.2
comp=Z,57nm,1.7s
LCAR Lake Charles 59.85 339 P **P 07 55 58.9 -0.4**
baz=156
FW03 Perrin-Whitt E 59.86 332 IAmb IAmb 07 57 16.4
comp=Z,48nm,1.6s
BELA Belgrano 2 59.94 172 P **P 07 55 59.7 +0.2**
T45B Paducah 59.94 342 P **P 07 55 59.6 -0.4**
baz=159
FCAR Ozark Folk Cen 60.02 338 IAmb IAmb 07 56 39.2
comp=Z,56nm,1.7s
R50A Paris 60.02 346 P **P 07 56 02.2 +1.8**
baz=164
R50A P **P 07 56 02.2 +1.8**
baz=164
ABTX Abilene, Hawle 60.22 330 IAmb IAmb 07 56 32.1
comp=Z,33nm,1.1s
ABTX Abilene, Hawle 60.22 330 P **P 07 56 02.6 +0.6**
baz=147,SNR=6.1
ABTX Abilene, Hawle 60.22 330 P **P 07 56 02.7 +0.7**
baz=147,SNR=6.1
Q52A Bidwell 60.25 348 P **P 07 56 04.2 +2.2**
baz=166
Q52A P **P 07 56 04.2 +2.2**
baz=166
PBMO Poplar Bluff 60.27 340 P **P 07 56 01.9 -0.3**
baz=157,SNR=6.1
SGCY Sterling City 60.34 329 IAmb IAmb 07 56 42.1
comp=Z,69nm,1.6s
ALPN Alpine 60.39 326 IAmb IAmb 07 56 43.0
comp=Z,32nm,1.4s
WCI Wyandotte Cave 60.44 344 P **P 07 56 04.4 +1.1**
WCI Wyandotte Cave 60.44 344 P **P 07 56 04.6 +1.3**
baz=162
WCI Wyandotte Cave 60.44 344 P **P 07 56 04.7 +1.4**
baz=162
WCI Wyandotte Cave 60.44 344 P **P 07 56 04.4 +1.1**
WCI pmax pmax
comp=Z,96nm,1.8s
WCI Wyandotte Cave 60.44 344 P **P 07 56 03.0 -0.3**
WCI pP **pP 07 56 29.9 -0.5**
MCWV Mont Chateau 60.51 350 IAmb IAmb 07 56 07.5
comp=Z,42nm,1.1s
MCWV Mont Chateau 60.51 350 P **P 07 56 05.1 +1.4**
baz=168
MCWV Mont Chateau 60.51 350 P **P 07 56 04.5 +0.7**
baz=168,SNR=6.2
Q51A Peebles 60.53 347 P **P 07 56 05.0 +1.1**
baz=165
Q51A P **P 07 56 05.0 +1.1**
baz=165
P53A Whipple 60.60 349 P **P 07 56 04.4 0.0**
P53A pP **pP 07 56 31.1 -0.6**
P53A Whipple 60.60 349 P **P 07 56 05.4 +1.1**
baz=167,SNR=8.9
P53A P **P 07 56 05.4 +1.1**
baz=167,SNR=8.9
WTFS Witchita Falls 60.65 332 P **P 07 56 04.7 -0.1**
U40A Yellville 60.69 338 P **P 07 56 05.1 0.0**
baz=154
U40A P **P 07 56 05.1 0.0**
baz=154
P52A Corning 60.88 348 P **P 07 56 07.5 +1.2**
baz=166
SN01 Snyder 1 61.01 329 IAmb IAmb 07 56 46.9
comp=Z,83nm,1.6s
HHAR Hobbs 61.01 337 P **P 07 56 07.1 -0.2**
HHAR pP **pP 07 56 33.8 -0.4**
HHAR IAmb IAmb 07 56 46.5
comp=Z,64nm,1.7s
APMT Aspermont 61.03 330 IAmb IAmb 07 56 47.1
comp=Z,32nm,1.1s
X34A Smith Ranch, M 61.09 333 IAmb IAmb 07 56 40.6
comp=Z,42nm,1.2s
O54A Avella 61.10 350 P **P 07 56 08.4 +0.6**
baz=168,SNR=5.1
O54A P **P 07 56 08.4 +0.6**
baz=168,SNR=5.1
SSPA Standing Stone 61.19 352 P **P 07 56 09.7 +1.3**
baz=171

VNA3	**Neumayer Olymp**	**61.24**	**161**	⇓P		**P**	**07 56 09.5**	**+1.1**
	comp=Z,26nm,0.9s							
VNA3				⇑pP		**pP**	**07 56 38.0**	**+2.2**
	comp=Z,27nm,0.8s							
O52A	**Adamsville**	**61.29**	**349**	IAmb		IAmb	07 56 11.6	
	comp=Z,24nm,0.9s							
O53A	**New Philadelph**	**61.31**	**349**	P		**P**	**07 56 10.3**	**+1.1**
	baz=167							
P49A	**Miami Univ. Ec**	**61.31**	**346**	IAmb		IAmb	07 56 47.9	
	comp=Z,47nm,1.2s							
P49A	**Miami Univ. Ec**	**61.31**	**346**	P		**P**	**07 56 10.7**	**+1.5**
	baz=163							
RLO	**Rose Lookout**	**61.31**	**336**	IAmb		IAmb	07 56 48.1	
	comp=Z,38nm,1.1s							
U38A	**Gravette**	**61.32**	**337**	P		**P**	**07 56 08.5**	**-0.8**
U38A				IAmb		IAmb	07 56 48.8	
	comp=Z,62nm,1.9s							
FVM	**French Village**	**61.37**	**341**	P		**P**	**07 56 09.6**	**0.0**
	baz=157,SNR=12							
TUL3	**Leonard**	**61.38**	**335**	P		**P**	**07 56 10.7**	**+1.0**
	baz=151							
TUL3	**Leonard**	**61.38**	**335**	P		**P**	**07 56 09.9**	**+0.2**
	baz=151							
VHRN	**Van Horn**	**61.43**	**325**	IAmb		IAmb	07 56 50.1	
	comp=Z,52nm,1.3s							
VNA1	**Neumayer--Stat**	**61.44**	**161**	⇓P		**P**	**07 56 11.1**	**+1.5**
	comp=Z,39nm,1.1s							
VNA1				⇑pP		**pP**	**07 56 39.7**	**+2.5**
	comp=Z,32nm,0.9s							
POST	**Post**	**61.47**	**329**	P		**P**	**07 56 11.0**	**+0.5**
POST						**pP**	**07 56 36.8**	**-0.7**
POST				IAmb		IAmb	07 56 39.0	
	comp=Z,29nm,1.1s							
DEOK	**Depew**	**61.60**	**335**			**P**	**07 56 11.6**	**+0.4**
DEOK						**pP**	**07 56 38.5**	**+0.2**
DEOK				IAmb		IAmb	07 56 45.5	
	comp=Z,37nm,0.9s							
ACSO	**Alum Creek Sta**	**61.62**	**348**	P		**P**	**07 56 12.7**	**+1.4**
	baz=165							
CCM	**Cathedral Cave**	**61.69**	**340**	P		**P**	**07 56 13.5**	**+1.7**
CCM				IAmb		IAmb	07 56 50.8	
	comp=Z,84nm,1.6s							
CCM	**Cathedral Cave**	**61.69**	**340**	P		**P**	**07 56 12.7**	**+0.9**
	baz=156							
CCM	**Cathedral Cave**	**61.69**	**340**	P		**P**	**07 56 11.6**	**-0.1**
	baz=156,SNR=5.1							
CCM	**Cathedral Cave**	**61.69**	**340**	P		**P**	**07 56 13.5**	**+1.7**
CCM				pmax		pmax		
	comp=Z,84nm,1.7s							
CCM	**Cathedral Cave**	**61.69**	**340**	P		**P**	**07 56 12.1**	**+0.3**
CCM				pP		**pP**	**07 56 39.2**	**+0.2**
MBO	**M'Bour**	**61.74**	**60**	P		**P**	**07 56 12.7**	**+0.2**
VNA2	**Neumayer--Watz**	**61.81**	**161**	⇓P		**P**	**07 56 13.4**	**+1.2**
	comp=Z,21nm,0.8s,baz=289,slow=8.0							
VNA2				⇑pP		**pP**	**07 56 41.8**	**+2.1**
	comp=Z,31nm,0.9s,baz=296,slow=6.0							
O49A	**Covington**	**61.85**	**347**	IAmb		IAmb	07 56 15.4	
	comp=Z,45nm,1.2s							
OK029	**Liberty Lake**	**61.95**	**334**	IAmb		IAmb	07 56 54.9	
	comp=Z,39nm,1.3s							
S39A	**Bolivar**	**62.05**	**338**	P		**P**	**07 56 13.5**	**-0.7**
S39A	**Bolivar**	**62.05**	**338**	P		**P**	**07 56 13.3**	**-0.9**
	baz=154,SNR=13							
O48B	**Farmland**	**62.10**	**346**	P		**P**	**07 56 15.1**	**+0.6**
	baz=163							
M55A	**Ridgway**	**62.12**	**352**	P		**P**	**07 56 14.9**	**+0.3**
R40A	**Maddies Statio**	**62.24**	**339**	IAmb		IAmb	07 56 55.3	
	comp=Z,74nm,1.6s							
OK051	**E0350 and 5346**	**62.31**	**335**	IAmb		IAmb	07 56 44.1	
	comp=Z,36nm,1.0s							
MNTX	**Cornudas Mount**	**62.35**	**325**	P		**P**	**07 56 16.3**	**-0.1**
	baz=141,SNR=8.0							
MNTX	**Cornudas Mount**	**62.35**	**325**	P		**P**	**07 56 16.3**	**-0.1**
	baz=141,SNR=8.0							
M53A	**WI Miller and**	**62.38**	**350**	IAmb		IAmb	07 56 19.1	
	comp=Z,37nm,0.8s							
M53A	**WI Miller and**	**62.38**	**350**	P		**P**	**07 56 17.5**	**+1.2**
	baz=168							
N49A	**Columbus Grove**	**62.52**	**347**	P		**P**	**07 56 18.5**	**+1.2**
	baz=164,SNR=7.8							
N49A				P		**P**	**07 56 18.5**	**+1.2**
	baz=164,SNR=7.8							
BINY	**Binghamton**	**62.53**	**354**	P		**P**	**07 56 18.5**	**+1.2**
	baz=173							
T35A	**Sooner Cattle**	**62.55**	**335**	P		**P**	**07 56 16.1**	**-1.4**
T35A				pP		**pP**	**07 56 44.3**	**-0.3**
T35A				IAmb		IAmb	07 56 52.6	
	comp=Z,52nm,1.5s							
HRV	**Adam Dziewonsk**	**62.55**	**358**	P		**P**	**07 56 18.7**	**+1.3**
	baz=177							
SMWD	**Samnorwood**	**62.57**	**331**	IAmb		IAmb	07 56 50.7	
	comp=Z,39nm,1.1s							
L56A	**Greenwood**	**62.63**	**353**	P		**P**	**07 56 18.7**	**+0.7**
	baz=171							
L56A				P		**P**	**07 56 18.7**	**+0.7**
	baz=171							
P43A	**Skaggs, Pawnee**	**62.63**	**342**	P		**P**	**07 56 17.5**	**-0.5**
	baz=158,SNR=8.4							
SFIN	**Lafayette**	**62.68**	**345**	P		**P**	**07 56 18.3**	**0.0**
	baz=161							
BLOK	**Blackwell**	**62.69**	**335**	IAmb		IAmb	07 56 51.1	
	comp=Z,37nm,1.1s							
CROK	**Carrier**	**62.78**	**334**	IAmb		IAmb	07 56 53.2	
	comp=Z,28nm,0.9s							
MSTX	**Muleshoe**	**62.82**	**329**	IAmb		IAmb	07 56 49.4	
	comp=Z,47nm,1.1s							
MSTX	**Muleshoe**	**62.82**	**329**	P		**P**	**07 56 19.6**	**+0.1**
	baz=144,SNR=10							
MSTX	**Muleshoe**	**62.82**	**329**	P		**P**	**07 56 19.9**	**+0.4**
	baz=144,SNR=10							
ERPA	**Erie**	**62.93**	**351**	P		**P**	**07 56 20.2**	**+0.2**
ERPA	**Erie**	**62.93**	**351**	P		**P**	**07 56 20.4**	**+0.4**
	baz=169							
ERPA	**Erie**	**62.93**	**351**	P		**P**	**07 56 20.7**	**+0.7**
	baz=169,SNR=10.0							
ELIS	**Ellis County**	**63.01**	**333**	IAmb		IAmb	07 57 00.6	
	comp=Z,32nm,1.2s							
KAN13	**South Haven SW**	**63.01**	**335**	IAmb		IAmb	07 56 55.7	
	comp=Z,31nm,1.1s							
WVNY	**West Valley, N**	**63.02**	**352**	IAmb		IAmb	07 56 55.0	
	comp=Z,47nm,1.1s							
AMTX	**Amarillo**	**63.04**	**330**	P		**P**	**07 56 21.1**	**+0.1**
	baz=146							
KAN09	**Caldwell North**	**63.17**	**335**	IAmb		IAmb	07 57 00.4	
	comp=Z,98nm,1.9s							
KAN01	**Argonia South**	**63.25**	**335**	IAmb		IAmb	07 57 13.6	
	comp=Z,35nm,1.2s							
P40A	**Paris**	**63.30**	**340**	P		**P**	**07 56 21.8**	**-0.6**
	baz=156,SNR=8.3							
HDIL	**Hopedale**	**63.42**	**343**	P		**P**	**07 56 23.9**	**+0.7**
	baz=159							
SNAA	**Sanae**	**63.44**	**161**	P		**P**	**07 56 23.4**	**+0.3**
SNAA				IAmb		IAmb	07 56 25.3	
	comp=Z,63nm,1.1s							
SNAA	**Sanae**	**63.44**	**161**	⇓P		**P**	**07 56 24.1**	**+1.0**
	comp=Z,684nm,0.8s							
SNAA				⇑pP		**pP**	**07 56 52.8**	**+2.0**
	comp=Z,548nm,0.8s							
SNAA	**Sanae**	**63.44**	**161**	P		**P**	**07 56 23.4**	**+0.3**
SNAA				pmax		pmax		
	comp=Z,63nm,1.1s							
J59A	**Piesco**	**63.66**	**356**	IAmb		IAmb	07 57 08.0	
	comp=Z,36nm,1.1s							
P38A	**Dawn**	**63.86**	**339**	IAmb		IAmb	07 57 05.7	
	comp=Z,46nm,1.2s							
P38A	**Dawn**	**63.86**	**339**	P		**P**	**07 56 25.8**	**-0.3**
	baz=154,SNR=8.2							
319A	**Douglas**	**64.27**	**322**	IAmb		IAmb	07 57 09.9	
	comp=Z,61nm,1.2s							
121A	**Cookes Peak, D**	**64.29**	**324**	IAmb		IAmb	07 57 10.4	
	comp=Z,48nm,1.4s							
121A	**Cookes Peak, D**	**64.29**	**324**	P		**P**	**07 56 29.9**	**+0.5**
	baz=140,SNR=5.6							
121A	**Cookes Peak, D**	**64.29**	**324**	P		**P**	**07 56 30.9**	**+1.6**
	baz=140,SNR=5.6							
KSU1	**Kansas State U**	**64.49**	**336**	IAmb		IAmb	07 57 08.9	
	comp=Z,38nm,1.3s							
KSU1	**Kansas State U**	**64.49**	**336**	P		**P**	**07 56 31.0**	**+0.7**
	baz=151							
L44A	**Lake County Fo**	**64.58**	**345**	P		**P**	**07 56 31.9**	**+1.2**
	baz=160							
R32A	**Long Quarter,**	**64.72**	**335**	IAmb		IAmb	07 57 06.9	
	comp=Z,31nm,1.1s							
R32A	**Long Quarter,**	**64.72**	**335**	P		**P**	**07 56 32.3**	**+0.5**
	baz=149							
LONY	**Lake Ozonia**	**64.81**	**356**	P		**P**	**07 56 33.4**	**+1.2**
	baz=174							
J47A	**Sunmer**	**64.88**	**347**	P		**P**	**07 56 33.2**	**+0.5**
	baz=164							
J47A				P		**P**	**07 56 33.2**	**+0.5**
	baz=164							
TROLL	**Troll, Antarti**	**65.15**	**161**	⇓P		**P**	**07 56 35.5**	**+1.1**
	comp=Z,1µm,0.6s							
TROLL				⇑pP		**pP**	**07 57 03.7**	**+1.5**
	comp=Z,438nm,0.6s							
PKME	**Peaks-Kenny Pk**	**65.26**	**360**	P		**P**	**07 56 36.5**	**+1.4**
	baz=180							
SADO	**Sadowa**	**65.42**	**352**	LR		LR	08 29 01.8	
	comp=Z,54nm,18.2s,baz=272,slow=39							
ANMO	**Albuquerque**	**65.44**	**327**	P		**P**	**07 56 36.2**	**-0.5**
ANMO	**Albuquerque**	**65.44**	**327**	P		**P**	**07 56 37.6**	**+0.8**
	baz=141							
ANMO	**Albuquerque**	**65.44**	**327**	P		**P**	**07 56 38.1**	**+1.4**
	baz=141							
ANMO	**Albuquerque**	**65.44**	**327**	*i*P		**P**	**07 56 36.7**	**-0.1**
ANMO				pmax		pmax		
	comp=Z,8.0nm,1.2s							
ANMO	**Albuquerque**	**65.44**	**327**	P		**P**	**07 56 37.5**	**+0.8**
ANMO				pP		**pP**	**07 57 04.4**	**+0.4**
ANMO				sP		**sP**	**07 57 16.6**	**+0.5**
CBKS	**Cedar Bluff**	**65.47**	**334**	IAmb		IAmb	07 57 12.1	
	comp=Z,24nm,0.9s							
CBKS	**Cedar Bluff**	**65.47**	**334**	P		**P**	**07 56 38.0**	**+1.3**
	baz=148							
CBKS	**Cedar Bluff**	**65.47**	**334**	P		**P**	**07 56 37.6**	**+0.9**
	baz=148							
MNTQ	**Montreal, Queb**	**65.63**	**356**	IAmb		IAmb	07 57 10.4	
	comp=Z,25nm,0.9s							
N35A	**Tabor**	**65.69**	**338**	IAmb		IAmb	07 57 11.9	
	comp=Z,84nm,1.4s							
N35A	**Tabor**	**65.69**	**338**	P		**P**	**07 56 37.9**	**-0.1**
	baz=153							
SCIA	**State Center**	**65.82**	**340**	IAmb		IAmb	07 56 41.2	
	comp=Z,32nm,1.0s							
SCIA	**State Center**	**65.82**	**340**	P		**P**	**07 56 40.4**	**+1.6**
	baz=155							
SCIA	**State Center**	**65.82**	**340**	P		**P**	**07 56 39.1**	**+0.3**
	baz=155							
TUC	**Tucson**	**65.83**	**322**	P		**P**	**07 56 39.8**	**+0.7**
	baz=137							
JFWS	**Jewell Farm**	**65.88**	**343**	IAmb		IAmb	07 57 12.4	
	comp=Z,24nm,0.9s							
JFWS	**Jewell Farm**	**65.88**	**343**	P		**P**	**07 56 40.1**	**+1.0**
	baz=158							
T25A	**Trinidad**	**66.16**	**330**	IAmb		IAmb	07 57 15.8	
	comp=Z,33nm,1.4s							
T25A	**Trinidad**	**66.16**	**330**	P		**P**	**07 56 42.3**	**+0.9**
	baz=144							
GLMI	**Grayling**	**66.36**	**348**	P		**P**	**07 56 44.0**	**+1.8**
	baz=164							
TRQ	**Mont Tremblant**	**66.41**	**356**	IAmb		IAmb	07 57 15.7	
	comp=Z,50nm,1.4s							
214A	**Organ Pipe Nat**	**66.77**	**320**			**PcP**	**07 57 13.8**	**+0.5**
214A				IAmb		IAmb	07 57 27.2	
	comp=Z,45nm,1.2s							
214A	**Organ Pipe Nat**	**66.77**	**320**	P		**P**	**07 56 46.0**	**+0.9**
	baz=135,SNR=7.1							
KSCO	**Kaye Shedlock'**	**66.87**	**332**			**PcP**	**07 57 14.4**	**+0.7**
KSCO	**Kaye Shedlock'**	**66.87**	**332**	P		**P**	**07 56 46.9**	**+1.2**
	baz=146							
L34A	**Svendsen Farm,**	**66.93**	**338**	IAmb		IAmb	07 57 40.2	
	comp=Z,37nm,0.7s							
X18A	**Snowflake**	**66.98**	**324**	IAmb		IAmb	07 57 27.9	
	comp=Z,44nm,1.5s							
BGNE	**Belgrade**	**67.08**	**337**	P		**P**	**07 56 47.4**	**+0.6**
	baz=150							
D62A	**Allapoint, All**	**67.08**	**0**	P		**P**	**07 56 47.4**	**+0.7**
D62A				IAmb		IAmb	07 56 53.9	
	comp=Z,90nm,1.6s							
SDCO	**Great Sand Dun**	**67.16**	**329**	IAmb		IAmb	07 57 28.6	
	comp=Z,101nm,1.9s							
SDCO	**Great Sand Dun**	**67.16**	**329**	P		**P**	**07 56 48.5**	**+0.6**
	baz=143,SNR=12							
SDCO	**Great Sand Dun**	**67.16**	**329**	P		**P**	**07 56 49.3**	**+1.5**
	baz=143,SNR=12							
W18A	**Petrified Fore**	**67.31**	**325**	IAmb		IAmb	07 57 29.7	
	comp=Z,68nm,1.6s							
W18A	**Petrified Fore**	**67.31**	**325**	P		**P**	**07 56 50.1**	**+1.5**
	baz=139							
I37A	**Lemond, Waseca**	**67.79**	**341**	IAmb		IAmb	07 57 41.4	
	comp=Z,42nm,1.2s							
S22A	**4UR Ranch, Cre**	**67.81**	**328**	P		**P**	**07 56 52.8**	**+0.8**
	baz=142,SNR=8.0							
Q24A	**Divide**	**67.97**	**330**	IAmb		IAmb	07 57 33.6	
	comp=Z,48nm,1.6s							
Q24A	**Divide**	**67.97**	**330**	P		**P**	**07 56 53.9**	**+1.0**
	baz=144,SNR=7.4							
NVL	**N'lazarevskaya**	**67.98**	**159**	*e*P		**P**	**07 56 52.0**	**-0.2**
NVL				pmax		pmax		
	comp=Z,95nm,1.4s							
LIC	**Lamto**	**68.19**	**74**	⇑*i*P		**P**	**07 56 53.6**	**-0.8**
	comp=Z,22nm,0.4s							
OGNE	**Ogallala**	**68.22**	**334**	P		**P**	**07 56 56.0**	**+1.9**
	baz=147							
MVCO	**Mesa Verde**	**68.23**	**327**	IAmb		IAmb	07 57 35.3	
	comp=Z,99nm,1.7s							
MVCO	**Mesa Verde**	**68.23**	**327**	P		**P**	**07 56 55.4**	**+0.9**
	baz=140,SNR=6.6							
TIC	**Toumodi**	**68.37**	**74**	⇑*i*P		**P**	**07 56 54.9**	**-0.7**
	comp=Z,9.9nm,0.3s							
WUAZ	**Wupatki**	**68.50**	**324**	IAmb		IAmb	07 57 25.9	
	comp=Z,39nm,1.1s							
WUAZ	**Wupatki**	**68.50**	**324**	P		**P**	**07 56 57.2**	**+1.1**
	baz=137,SNR=11							
KIC	**Kosan Boka**	**68.51**	**74**	⇑*i*P		**P**	**07 56 55.7**	**-0.7**
	comp=Z,44nm,0.4s							
VLDQ	**Val d'Or**	**68.53**	**354**	IAmb		IAmb	07 57 46.9	
	comp=Z,65nm,1.5s							
DBIC	**Dimbokro**	**68.53**	**74**	P		**P**	**07 56 55.8**	**-0.8**
DBIC	**Dimbokro**	**68.53**	**74**	P		**P**	**07 56 55.9**	**-0.7**
	comp=Z,41nm,0.8s,baz=233,slow=5.9,SNR=40							
DBIC				pP		**pP**	**07 57 23.5**	**-1.2**
	comp=Z,24nm,0.8s,baz=217,slow=5.2,SNR=4.7							
DBIC				LR		LR	08 24 48.0	
	comp=Z,215nm,22.0s,baz=230,slow=34							
	comp=Z,41nm,0.8s							
DBIC	**Dimbokro**	**68.53**	**74**	⇑P		**P**	**07 56 55.9**	**-0.7**
DBIC				pP		**pP**	**07 57 24.0**	**-0.7**
DBIC				sP		**sP**	**07 57 36.0**	**-0.8**
K30B	**Basset**	**68.72**	**336**	IAmb		IAmb	07 57 55.5	
	comp=Z,48nm,1.1s							
K30B	**Basset**	**68.72**	**336**	P		**P**	**07 56 58.1**	**+0.9**
	baz=149							
SPMN	**Marine on St.**	**68.72**	**342**	IAmb		IAmb	07 57 46.0	
	comp=Z,46nm,1.6s							
SPMN	**Marine on St.**	**68.72**	**342**	P		**P**	**07 56 58.4**	**+1.3**
	baz=156							
ISCO	**Idaho Springs**	**68.85**	**331**	P		**P**	**07 56 59.5**	**+1.1**
ISCO	**Idaho Springs**	**68.85**	**331**	P		**P**	**07 56 59.2**	**+0.8**
	baz=143							
ISCO	**Idaho Springs**	**68.85**	**331**	P		**P**	**07 56 59.5**	**+1.1**
ISCO				pmax		pmax		
	comp=Z,12nm,1.0s							
BRIGG	**Briggsdale**	**68.90**	**332**	IAmb		IAmb	07 57 41.8	
	comp=Z,48nm,1.2s							
PDMCI	**Parker Dam,Lak**	**69.21**	**321**	P		**P**	**07 57 01.8**	**+1.4**
	baz=135							
IKP	**In-Ko-Pah, Jac**	**69.26**	**319**	P		**P**	**07 57 02.6**	**+1.8**
	baz=133,SNR=5.6							
SWSC	**Sam W. Stewart**	**69.27**	**319**	P		**P**	**07 57 02.4**	**+1.7**
	baz=133							
BC3	**Big Chuckawall**	**69.54**	**320**	P		**P**	**07 57 03.8**	**+1.2**
	baz=134,SNR=9.0							
MONP2	**Monument Peak**	**69.62**	**319**	P		**P**	**07 57 04.6**	**+1.5**
	baz=133							
U15A	**North Rim**	**69.67**	**324**	IAmb		IAmb	07 57 45.3	
	comp=Z,68nm,1.5s							
IRM	**Iron Mountain**	**69.70**	**320**	P		**P**	**07 57 05.5**	**+2.1**
	baz=134,SNR=17							
NEE2	**Needles Airpor**	**69.82**	**321**	P		**P**	**07 57 05.6**	**+1.5**
	baz=135							
QSPA	**South Pole Qui**	**69.87**	**180**	P		**P**	**07 57 05.0**	**+0.8**
QSPA				IAmb		IAmb	07 57 33.8	
	comp=Z,47nm,1.0s							
QSPA	**South Pole Qui**	**69.87**	**180**	P		**P**	**07 57 05.6**	**+1.4**
	comp=Z,30nm,1.0s,baz=153,slow=2.3,SNR=43							
QSPA				pP		**pP**	**07 57 33.0**	**+1.0**
	comp=Z,39nm,1.0s,baz=159,slow=2.6,SNR=12							
QSPA				LR		LR	08 27 52.0	
	comp=Z,114nm,18.8s,baz=192,slow=36							
	comp=Z,30nm,1.0s							
QSPA	**South Pole Qui**	**69.87**	**180**	⇓P		**P**	**07 57 05.7**	**+1.5**
QSPA				pP		**pP**	**07 57 32.8**	**+0.8**
N23A	**Red Feather La**	**69.88**	**331**	P		**P**	**07 57 06.4**	**+1.7**
	baz=143							
HMU	**Henry Mountain**	**69.95**	**326**	IAmb		IAmb	07 57 46.8	
	comp=Z,46nm,1.2s							
BELC	**Belle Mtn. Jos**	**70.11**	**320**	P		**P**	**07 57 07.2**	**+1.2**
	baz=133,SNR=9.0							
TPFO	**Pinon Flats**	**70.12**	**319**	P		**P**	**07 57 07.6**	**+1.5**
	baz=133,SNR=5.5							
PFO	**Pinyon Flats O**	**70.13**	**319**	P		**P**	**07 57 06.6**	**+0.5**
PFO	**Pinyon Flats O**	**70.13**	**319**	P		**P**	**07 57 07.7**	**+1.5**
	baz=133,SNR=6.1							
PFO	**Pinyon Flats O**	**70.13**	**319**	P		**P**	**07 57 06.6**	**+0.5**
PFO				pmax		pmax		
	comp=Z,23nm,1.2s							
PFO	**Pinyon Flats O**	**70.13**	**319**	P		**P**	**07 57 07.9**	**+1.8**
PFO				pP		**pP**	**07 57 35.2**	**+1.6**
PFO				sP		**sP**	**07 57 47.2**	**+1.8**
O20A	**White River Ci**	**70.36**	**329**	P		**P**	**07 57 09.5**	**+2.0**
	baz=141,SNR=6.6							
PKCU	**Pink Cliffs**	**70.42**	**325**	IAmb		IAmb	07 58 01.2	
	comp=Z,53nm,1.4s							
GMRC	**Granite Mounta**	**70.44**	**321**	P		**P**	**07 57 09.5**	**+1.5**
	baz=134,SNR=15							
MURC	**Murrieta**	**70.57**	**319**	P		**P**	**07 57 10.4**	**+1.7**
	baz=132							
LCMT	**Little Creek M**	**70.62**	**324**	IAmb		IAmb	07 57 50.8	
	comp=Z,36nm,1.2s							
MTPU	**Mount Pierson**	**70.79**	**325**	IAmb		IAmb	07 57 51.8	
	comp=Z,54nm,1.6s							
BBRC	**Big Bear Solar**	**70.85**	**319**	P		**P**	**07 57 12.1**	**+1.5**
	baz=133							
EYMN	**Ely**	**70.87**	**344**	P		**P**	**07 57 11.4**	**+1.3**
	baz=158							
HEC	**Hector,Ludlow**	**70.88**	**320**	P		**P**	**07 57 12.7**	**+2.1**
	baz=133,SNR=11							
SZCU	**Shurtz Canyon**	**70.96**	**324**	IAmb		IAmb	07 57 53.0	
	comp=Z,41nm,1.4s							
P18A	**Preston Nutter**	**70.96**	**327**	IAmb		IAmb	07 57 52.6	
	comp=Z,65nm,1.4s							
TUQ	**Turquoise Moun**	**71.05**	**321**	P		**P**	**07 57 13.3**	**+1.6**
	baz=134,SNR=5.8							
P17A	**Butcher Ranch,**	**71.10**	**327**	IAmb		IAmb	07 57 53.8	
	comp=Z,30nm,1.0s							
BFSC	**Mount Baldy Ra**	**71.28**	**319**	P		**P**	**07 57 14.2**	**+1.0**
	baz=132,SNR=6.5							
GSC	**Goldstone, Bar**	**71.48**	**320**	P		**P**	**07 57 15.8**	**+1.5**
	baz=133,SNR=8.6							
K22A	**Casper**	**71.54**	**332**	P		**P**	**07 57 15.6**	**+1.0**
	baz=143							
PASC	**Pasadena Art C**	**71.57**	**319**	IAmb		IAmb	07 57 56.3	
	comp=Z,59nm,1.4s							
SHOC	**Shoshone, Teco**	**71.58**	**321**	P		**P**	**07 57 16.5**	**+1.8**
	baz=134							
ELIB	**Princess Elisa**	**71.60**	**161**	*d*P		**P**	**07 57 15.7**	**+1.2**
	comp=Z,23nm,0.8s							
ELIB				*d*pP		**pP**	**07 57 43.3**	**+0.6**
RSSD	**Black Hills**	**71.68**	**334**	P		**P**	**07 57 14.9**	**-0.5**
RSSD	**Black Hills**	**71.68**	**334**	P		**P**	**07 57 16.8**	**+1.4**
	baz=146							
RSSD	**Black Hills**	**71.68**	**334**	P		**P**	**07 57 14.9**	**-0.5**
RSSD				pmax		pmax		
	comp=Z,17nm,1.0s							
RSSD	**Black Hills**	**71.68**	**334**	P		**P**	**07 57 16.6**	**+1.2**
RSSD				pP		**pP**	**07 57 44.3**	**+1.2**
RSSD				sP		**sP**	**07 57 56.1**	**+1.3**
DECC	**Green Verdugo**	**71.71**	**319**	P		**P**	**07 57 16.5**	**+0.9**
	baz=132							
D32B	**Dogwood Acres,**	**71.71**	**340**	P		**P**	**07 57 15.6**	**+0.3**
	baz=152							
SNCC	**San Nicolas Is**	**71.81**	**317**	P		**P**	**07 57 17.3**	**+1.1**
	baz=130							
BSUT	**Blindstream Ca**	**71.91**	**328**	IAmb		IAmb	07 57 59.9	
	comp=Z,60nm,1.6s							
EDW2	**Edwards Air Fo**	**71.92**	**319**	P		**P**	**07 57 18.7**	**+1.8**
	baz=132,SNR=9.4							
QSM	**Queen of Sheba**	**71.97**	**321**	IAmb		IAmb	07 57 58.6	
	comp=Z,38nm,1.3s							
CCAC	**Calif City Air**	**72.11**	**319**	IAmb		IAmb	07 57 59.6	
	comp=Z,44nm,1.2s							
LRMC	**Laurel Mtn Rad**	**72.13**	**320**	P		**P**	**07 57 19.6**	**+1.4**
	baz=132,SNR=9.1							
TPNV	**Topopah Spring**	**72.28**	**322**	IAmb		IAmb	07 58 01.2	
	comp=Z,51nm,1.2s							
TPNV	**Topopah Spring**	**72.28**	**322**	P		**P**	**07 57 21.0**	**+1.9**
	baz=134,SNR=16							
FURC	**Furnace Creek,**	**72.31**	**321**	P		**P**	**07 57 20.6**	**+1.6**
	baz=133,SNR=12							
WCT	**Wildcat Mounta**	**72.39**	**322**	IAmb		IAmb	07 58 02.5	
	comp=Z,32nm,1.1s							
AGMN	**Agassiz Nation**	**72.39**	**342**	P		**P**	**07 57 20.0**	**+0.7**
	baz=154							
AGMN	**Agassiz Nation**	**72.39**	**342**	P		**P**	**07 57 19.5**	**+0.2**
	baz=154							
MPMC	**Manual Prospec**	**72.40**	**321**	P		**P**	**07 57 21.5**	**+1.6**
	baz=133							
ARVC	**Arvin**	**72.59**	**319**	P		**P**	**07 57 22.1**	**+1.3**
	baz=132							
SBC	**Santa Barbara**	**72.70**	**318**	P		**P**	**07 57 23.0**	**+1.7**
	baz=131							
DUG	**Dugway, Tooele**	**72.70**	**326**

baz=144
LAO LASA Array 74.66 334 P **P** 07 57 33.9 +1.2
baz=144
RLMT Red Lodge 74.71 332 P **P** 07 57 35.2 +2.0
baz=141
H17A Grant Village 74.75 330 P **P** 07 57 34.4 +0.9
baz=140
SCHQ Schefferville 74.86 1 P **P** 07 57 33.0 -0.6
SCHQ Schefferville 74.86 1 P **P** 07 57 33.7 +0.1
comp=Z,15nm,0.8s,baz=206,slow=4.8,SNR=24
SCHQ pP **pP** 07 58 02.2 +0.2
comp=Z,13nm,0.8s,baz=164,slow=4.3,SNR=5.2
SCHQ LR LR 08 34 15.3
comp=Z,99nm,18.1s,baz=208,slow=39
comp=Z,15nm,0.8s
DGMT Dagmar 75.33 337 P **P** 07 57 37.2 +0.7
DGMT IAmb IAmb 07 58 12.0
comp=Z,30nm,1.0s
DGMT Dagmar 75.33 337 P **P** 07 57 38.2 +1.7
baz=146
DGMT Dagmar 75.33 337 P **P** 07 57 38.0 +1.5
baz=146
PNTR Pine Nut 75.67 322 IAmb IAmb 07 58 21.0
comp=Z,37nm,1.2s
PAHR Pah Rah Range 75.96 322 IAmb IAmb 07 58 10.8
comp=Z,32nm,0.9s
HLID Hailey 75.97 328 P **P** 07 57 41.7 +1.2
baz=137
MFID Camas Ranch 76.58 327 IAmb IAmb 07 58 33.8
comp=Z,53nm,1.4s
TORD Torodi Ar. Bea 77.09 71 P **P** 07 57 46.5 -0.6
TORD Torodi Ar. Bea 77.09 71 P **P** 07 57 46.2 -0.9
comp=Z,14nm,0.4s,baz=256,slow=5.5,SNR=104
TORD pP **pP** 07 58 15.1 -0.7
comp=Z,50nm,0.9s,baz=272,slow=3.6,SNR=9.6
TORD S **S** 08 07 24.2 -3.6
comp=Z,3.0nm,1.0s,baz=259,slow=7.6,SNR=10
TORD LR LR 08 31 25.0
comp=Z,175nm,19.4s,baz=290,slow=35
comp=Z,14nm,0.4s
ORV Oroville 77.09 321 IAmb IAmb 07 58 29.3
comp=Z,60nm,1.2s
EGMT Eagleton 77.18 333 IAmb IAmb 07 58 19.6
comp=Z,32nm,1.1s
EGMT Eagleton 77.18 333 P **P** 07 57 48.2 +1.2
baz=141
VNDA Vanda 77.99 190 P **P** 07 57 52.8 +1.7
comp=Z,6.1nm,0.9s,baz=132,slow=5.1,SNR=7.1
comp=Z,6.1nm,0.9s
MSO Missoula 78.13 330 P **P** 07 57 54.0 +1.6
baz=138
K05A Summer Lake 78.81 324 IAmb IAmb 07 58 38.3
comp=Z,122nm,1.9s
F10A Beach Ranch, E 79.10 328 IAmb IAmb 07 58 55.6
comp=Z,56nm,1.7s
PINE Pine Mountain 79.54 325 IAmb IAmb 07 58 42.4
comp=Z,55nm,1.4s
FFC Flin Flon 79.87 341 P **P** 07 58 01.0 -0.5
FFC Flin Flon 79.87 341 P **P** 07 58 01.0 -0.5
FFC pmax pmax
comp=Z,14nm,1.1s
I05D Terrebonne, OR 80.12 325 IAmb IAmb 07 58 33.7
comp=Z,40nm,1.1s
TSUM Tsumeb 80.51 107 P **P** 07 58 06.5 +0.4
TSUM Tsumeb 80.51 107 LR LR 08 31 07.6
comp=Z,82nm,20.6s,baz=311,slow=34
HAWA Hanford 80.54 327 IAmb IAmb 07 58 36.0
comp=Z,43nm,1.4s
MORF Marmelete 80.71 45 *e*P **P** 07 58 08.9 +2.4
comp=Z,57nm,1.4s
MORF *e*pP **pP** 07 58 37.3 +2.0
C09A Chrisman Ranch 80.89 329 IAmb IAmb 07 58 09.8
comp=Z,90nm,1.8s
MDT Midelt 81.10 50 LR LR 08 32 26.2
comp=Z,114nm,21.0s,baz=264,slow=34
PBDV Barranco-do-Ve 81.16 45 *e*P **P** 07 58 10.2 +1.3
comp=Z,62nm,1.6s
PBDV *e*pP **pP** 07 58 39.0 +1.3
PNCL Nicolau / Gran 81.25 44 *e*P **P** 07 58 09.9 +0.6
comp=Z,36nm,2.0s
PNCL *e*pP **pP** 07 58 40.5 +2.4
MESJ Messejana 81.30 44 *e*pP **pP** 07 58 41.8 +3.4
MESJ A A 07 58 55.1
comp=Z,45nm,1.7s
PCVE Castro Verde 81.30 45 *e*P **P** 07 58 11.6 +2.0
comp=Z,32nm,1.9s
PCVE *e*pP **pP** 07 58 40.3 +1.9
LTY Liberty 81.70 327 IAmb IAmb 07 58 41.8
comp=Z,50nm,1.4s
PMTG Montargil 81.98 43 *e*P **P** 07 58 13.7 +0.6
comp=Z,59nm,1.4s
PMTG *e*pP **pP** 07 58 43.7 +1.7
PBAR Barrancos 82.26 45 *e*P **P** 07 58 15.4 +0.8
comp=Z,38nm,1.4s
PBAR *e*pP **pP** 07 58 45.0 +1.5
PESTR Estremoz 82.28 44 *e*P **P** 07 58 16.3 +1.6
comp=Z,45nm,1.2s
PESTR *e*pP **pP** 07 58 46.7 +3.1
EDM Edmonton 82.64 335 IAmb IAmb 07 58 48.1
comp=Z,61nm,1.0s
RAR Rarotonga 83.50 250 LR LR 08 28 10.6
comp=Z,90nm,20.7s,baz=90,slow=30
MVO Moncorvo 83.91 42 *e*P **P** 07 58 24.8 +1.7
MVO *e*pP **pP** 07 58 53.6 +1.5
BOSA Boshof 84.12 118 P **P** 07 58 25.0 +0.3
BOSA IAmb IAmb 07 58 55.0
comp=Z,24nm,1.1s
BOSA Boshof 84.12 118 P **P** 07 58 24.9 +0.2
comp=Z,9.2nm,0.9s,baz=264,slow=5.7,SNR=9.2
BOSA pP **pP** 07 58 52.9 -0.8
comp=Z,14nm,0.9s,baz=245,slow=5.9,SNR=6.9
BOSA LR LR 08 35 40.4
comp=Z,71nm,18.2s,baz=224,slow=35
comp=Z,9.2nm,0.9s
TAM Tamanrasset 84.41 63 P **P** 07 58 26.4 +0.2
TAM IAmb IAmb 07 58 58.0
comp=Z,57nm,1.2s
TAM Tamanrasset 84.41 63 P **P** 07 58 26.4 +0.2
TAM pmax pmax
comp=Z,57nm,1.2s
PBRG Braganca 84.44 42 *e*P **P** 07 58 25.9 +0.1
PBRG *e*pP **pP** 07 58 54.9 +0.1
PAB San Pablo 84.77 45 P **P** 07 58 27.0 -0.5
PAB IAmb IAmb 07 59 00.8
comp=Z,37nm,1.3s
PAB San Pablo 84.77 45 P **P** 07 58 27.0 -0.5
PAB pmax pmax
comp=Z,37nm,1.3s
BRLDA Berland Lookou 84.92 334 IAmb IAmb 07 58 59.1
comp=Z,31nm,1.2s
ESDC Sonseca Array 85.09 45 IAmb IAmb 07 59 02.6
comp=Z,35nm,1.4s
ESDC Sonseca Array 85.09 45 P **P** 07 58 29.1 0.0
comp=Z,5.1nm,1.0s,baz=237,slow=5.5,SNR=20
ESDC pP **pP** 07 58 57.7 -0.4
comp=Z,16nm,1.2s,baz=239,slow=5.9,SNR=8.5
comp=Z,5.1nm,1.0s
ESBB Sonseca Array 85.09 45 IAmb IAmb 07 59 02.6
comp=Z,48nm,1.6s
MAW Mawson 85.50 163 P **P** 07 58 31.2 +0.6
MAW Mawson 85.50 163 P **P** 07 58 31.1 +0.5
comp=Z,15nm,0.8s,baz=223,slow=5.1,SNR=14
MAW pP **pP** 07 59 00.5 +1.0
comp=Z,14nm,1.0s,baz=243,slow=7.2,SNR=4.4
MAW LR LR 08 37 01.3
comp=Z,58nm,20.3s,baz=232,slow=36
comp=Z,15nm,0.8s
LBTB Lobatse 85.64 115 P **P** 07 58 33.1 +0.8
LBTB IAmb IAmb 07 59 02.9
comp=Z,22nm,1.0s
LBTB Lobatse 85.64 115 P **P** 07 58 33.1 +0.8
LBTB pmax pmax
comp=Z,22nm,1.0s
LBTB Lobatse 85.64 115 LR LR 08 34 05.8
comp=Z,118nm,19.3s,baz=236,slow=34
SFJD Kangerlussuaq 88.13 7 LR LR 08 40 47.5
comp=Z,46nm,18.2s,baz=177,slow=37
YKA Yellowknife Ar 90.03 341 P **P** 07 58 52.8 +0.7
comp=Z,9.5nm,0.8s,baz=132,slow=4.0,SNR=61
YKA pP **pP** 07 59 20.6 -0.7
comp=Z,16nm,0.9s,baz=136,slow=4.7,SNR=8.7
comp=Z,9.5nm,0.8s
LSZ Lusaka 91.36 107 LR LR 08 37 19.0
comp=Z,72nm,19.2s,baz=240,slow=34
KOTAN Kotaneelee Air 91.68 336 P **P** 07 59 01.6 +1.8
baz=130
BORG Borgarnes 92.35 19 LR LR 08 39 55.1
comp=Z,43nm,18.1s,baz=235,slow=35
KEST Kesra 92.70 53 LR LR 08 41 39.8
baz=120
comp=Z,197nm,20.1s,baz=276,slow=36
DLBC Dease Lake 93.09 333 P **P** 07 59 08.0 +1.4
baz=125
WTLY Watson Lake, Y 93.55 334 P **P** 07 59 10.1 +1.6
baz=126
Q32M Nakina River 94.36 332 P **P** 07 59 13.7 +1.2
baz=123
SUMG Summit 94.92 9 *i* P **P** 07 59 18.6 +3.6
URZ Urewera 94.92 226 LR LR 08 33 02.5
comp=Z,85nm,21.3s,baz=126,slow=30
P33M Teslin, Yukon 95.27 333 P **P** 07 59 17.9 +1.4
baz=122
RPZ Rata Peaks 95.83 219 LR LR 08 34 40.5
comp=Z,37nm,20.3s,baz=108,slow=30
SKAG Skagway 95.96 332 P **P** 07 59 20.8 +1.3
baz=120
RES Resolute Bay 96.21 353 LR LR 08 43 45.2
comp=Z,58nm,21.5s,baz=138,slow=36
FARO Faro, Yukon 96.56 335 P **P** 07 59 23.5 +1.2
baz=122
O30N Mendenhall 96.95 333 P **P** 07 59 25.5 +1.4
baz=120
VAE Valguarnera 97.13 53 LR LR 08 43 43.7
comp=Z,134nm,20.5s,baz=312,slow=36
DAVOX Davos/Dischmat 97.29 43 LR LR 08 43 01.8
comp=Z,112nm,18.8s,baz=260,slow=35
J30M Hart River 98.91 336 P Pdif 07 59 33.6 +0.7
baz=119
K29M Barlow Dome 99.02 335 P **Pdif** 07 59 34.2 +0.8
baz=118
F31M Tsiigehtchic 99.42 339 P **Pdif** 07 59 35.9 +1.0
baz=121
INK Inuvik 99.79 340 P **Pdif** 07 59 38.0 +1.5
baz=121
INK Inuvik 99.79 340 LR LR 08 50 29.6
comp=Z,57nm,18.6s,baz=262,slow=39
GERES GERESS Array B 100.42 42 PP **PP** 08 03 43.0 -5.0
comp=Z,0.3nm,0.3s,baz=258,slow=6.7,SNR=3.7
G29M Pine Creek 100.62 338 P **Pdif** 07 59 40.7 +0.4
baz=117
M26K Nabesna, AK 100.63 333 P **Pdif** 07 59 40.7 +0.2
baz=114
EGAK Eagle 100.85 335 P **Pdif** 07 59 41.7 +0.4
baz=115
Q23K Middleton Isla 101.02 329 P **Pdif** 07 59 43.4 +1.2
baz=111
E28M Babbage River 101.89 339 P **Pdif** 07 59 47.5 +1.5
baz=115
SCM Sheep Creek Mo 102.31 332 P **Pdif** 07 59 49.5 +1.5
baz=110
ILAR Eielson Array 103.12 335 PP **PP** 08 04 02.6 -5.2
comp=Z,0.6nm,0.9s,baz=160,slow=5.1,SNR=4.3
L17K Donlin 107.39 331 P **PKiKP** 08 04 19.6 +1.1
baz=100
K17K Iditarod 107.50 331 P **PKiKP** 08 04 19.8 +1.1
baz=100
H17K Granite Mounta 108.56 333 P **PKiKP** 08 04 21.5 +0.9
baz=98
J16K Anvik River 108.62 332 P **PKiKP** 08 04 21.8 +1.0
baz=98
I17K Unalakleet 108.75 332 P **PKiKP** 08 04 22.5 +1.6
baz=98
NACGM Naroch 109.69 38 PP **PP** 08 04 50.6 -5.6
baz=262
FINES FINESS Array B 110.06 31 PKKPbc PKKPbc 08 15 26.4 -1.5
comp=Z,3.1nm,0.9s,baz=147,slow=4.5,SNR=3.6
MNK Minsk 110.27 38 *i* P **Pdif** 08 00 24.0 +0.5
MNK *i* 08 05 01.0
MNK *i* PPP PPP 08 07 21.0
MNK *i* PS **PS** 08 14 32.3 +1.1
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.7s
MNK pmax pmax
comp=N,23nm,1.0s
MNK MLR MLR
comp=E,213nm,23.0s
MNK MLR MLR
comp=N,381nm,17.0s
MNK MLR MLR
comp=Z,103nm,17.0s
AKASG Malin Array Be 110.63 42 PP **PP** 08 04 58.3 -4.8
comp=Z,1.0nm,0.7s,baz=268,slow=6.2,SNR=4.2
AKBB Malin Array Si 110.63 42 *i* PKiKP **PKiKP** 08 04 24.2 -0.7
BRTR Keskin Array B 112.25 54 PP **PP** 08 05 11.8 -3.6
comp=Z,4.4nm,1.2s,baz=264,slow=2.5,SNR=6.0
KBZ Khabaz 119.48 51 PKP **PKiKP** 08 04 42.5 +0.4
comp=Z,2.3nm,0.8s,baz=236,slow=3.6,SNR=2.4
STKA Stephens Creek 120.37 210 PKP **PKiKP** 08 04 44.5 +0.1
comp=Z,1.2nm,0.5s,baz=336,slow=6.6,SNR=6.2
STKA pPKP **pPKPdf** 08 05 14.4 0.0
comp=Z,2.1nm,0.9s,baz=76,slow=8.6,SNR=3.1
ARU Arti 127.24 34 *i* PKiKP **PKiKP** 08 04 57.0 -0.1
ARU 08 06 56.9
ARU 08 11 58.7
ARU SS SS 08 24 00.3 +2.6
H11S2 WAKE ISLAND Hyl 127.59 278 T T 10 24 51.7
baz=102,slow=74,SNR=525
H11S1 WAKE ISLAND Hyl 127.60 278 T T 10 24 51.2
baz=102,slow=74,SNR=352
TIXI Tiksi 127.61 353 *i* PKiKP **PKPdf** 08 04 56.6 -0.2
H11S3 WAKE ISLAND Hyl 127.61 278 T T 10 24 56.2
baz=102,slow=74,SNR=312
H11N3 WAKE ISLAND Hyl 127.64 280 T T 10 24 55.8
baz=102,slow=75,SNR=141
H11N2 WAKE ISLAND Hyl 127.65 280 T T 10 24 57.0
baz=102,slow=75,SNR=133
H11N1 WAKE ISLAND Hyl 127.65 280 T T 10 24 57.1
baz=102,slow=75,SNR=132
NRIK Noril'sk 128.93 10 *i* PKiKP **PKPdf** 08 04 59.3 -0.2
SEY Seymchan 128.96 337 *i* PKiKP **PKPdf** 08 04 59.8 +0.1
ABKAR Abkulak array 130.37 42 PKPdf **PKPdf** 08 05 02.7 0.0
ABKAR Abkulak array 130.37 42 PKPdf **PKPdf** 08 05 03.1 +0.4
AS31 Alice Springs 130.89 208 PKPdf **PKPdf** 08 05 03.8 -0.9
ASAR Alice Springs 130.89 208 PKPdf **PKPdf** 08 05 02.8 -1.9
ASAR Alice Springs 130.89 208 PKP **PKPdf** 08 05 04.8 +0.1
comp=Z,3.8nm,0.5s,baz=145,slow=1.4,SNR=4.3
ASAR pPKP **pPKPdf** 08 05 34.0 -0.7
comp=Z,3.7nm,0.9s,baz=161,slow=2.2,SNR=6.3
ASAR PP **PP** 08 07 17.7 -3.0
comp=Z,0.4nm,0.7s,baz=138,slow=6.4,SNR=4.8
GEYT Alibeck 131.28 57 PP **PP** 08 07 22.6 -1.7
comp=Z,2.4nm,0.8s,baz=213,slow=5.1,SNR=5.4
WR0 Warramunga Arr 133.78 211 **PKPdf** 08 05 09.7 -0.5
WRA Warramunga Ar 133.90 211 PKP **PKPdf** 08 05 10.9 +0.5
comp=Z,4.2nm,0.7s,baz=161,slow=1.7,SNR=23
WRA SKPbc **SKPbc** 08 08 27.9 -2.0
comp=Z,5.8nm,1.2s,baz=166,slow=2.9,SNR=5.9
BRVK Borovoye 134.82 34 *i* PKiKP **PKPdf** 08 05 11.2 +0.2
BVAR Borovoye Array 134.89 34 PKP **PKiKP** 08 05 12.1 -0.6
comp=Z,2.1nm,0.7s,baz=276,slow=2.8,SNR=11
BVAR pPKP **pPKPdf** 08 05 40.8 -1.0
comp=Z,2.4nm,0.7s,baz=308,slow=7.3,SNR=5.5
BVAR SKPbc **SKPbc** 08 08 28.9 -3.1
comp=Z,1.3nm,0.9s,baz=254,slow=9.0,SNR=5.0
KURK Kurchatov 140.41 32 PKiKP **PKPdf** 08 05 21.0 -0.4
KURK 08 05 52.2
KURBB Kurchatov Arra 140.42 32 PKP **PKPdf** 08 05 20.9 -0.5
comp=Z,2.4nm,0.8s,baz=297,slow=2.4,SNR=15
KURBB pPKP **pPKPdf** 08 05 52.2 +0.2
comp=Z,1.8nm,0.7s,baz=308,slow=2.7,SNR=4.8
KURBB PP **PP** 08 08 21.5 +0.7
comp=Z,0.8nm,1.0s,baz=296,slow=5.2,SNR=1.9
ZAA0 Zalesovo Array 140.94 24 PKPdf **PKPdf** 08 05 22.1 -0.2
ZALV Zalesovo Beam 140.94 24 PKP **PKPdf** 08 05 20.7 -1.6
comp=Z,7.5nm,0.9s,baz=286,slow=2.0,SNR=19
ZALV pPKP **pPKPdf** 08 05 53.2 +0.5
comp=Z,5.2nm,0.7s,baz=295,slow=2.2,SNR=4.0
AAK Ala-Archa 142.19 46 *i* PKiKP **PKPdf** 08 05 24.1 -1.0
GENI Genyem 143.40 235 PKP **PKPdf** 08 05 27.0 -0.9
KSH Kashi 144.45 50 PKP **PKPdf** 08 05 29.1 0.0
KSH pPKP pPKPdf 08 05 58.6 -1.2
MAKZ Makanchi 144.57 35 PKPdf PKPbc 08 05 28.2 +0.3
MAKZ Makanchi 144.57 35 PKiKP PKPbc 08 05 28.2 +0.3
MK31 Makanchi Array 144.75 35 **PKPab** 08 05 28.2 -0.2
MK31 Makanchi Array 144.75 35 PKiKP **PKPab** 08 05 28.2 -0.2
MKAR Makanchi Array 144.75 35 PKPdf **PKPab** 08 05 28.3 -0.1
MKAR Makanchi Array 144.75 35 PKP PKPbc 08 05 28.9 +0.4
comp=Z,7.4nm,0.8s,baz=322,slow=4.7,SNR=45
MKAR pPKP pPKPdf 08 05 59.1 -0.7
comp=Z,5.6nm,0.7s,baz=338,slow=2.6,SNR=5.5
DGZ Jazzator, Alta 145.21 27 *i* PKiKP **PKPdf** 08 05 30.2 0.0
ERM Erimo 145.28 316 *i* PKP2 **PKPbc** 08 05 28.5 -1.7
KLR Kul'dur 146.70 335 PKPbc **PKPbc** 08 05 34.7 +0.4
comp=Z,4.5nm,0.7s,baz=52,slow=2.5,SNR=8.7
SOEI Soe 147.37 205 PKP **PKPbc** 08 05 36.9 -0.5
SOEI PKP **PKiKP** 08 05 39.6 0.0
HEH HeiHe 147.40 340 PKPbc **PKPdf** 08 05 34.9 +1.3
MOY Mondy 147.75 12 *e*PKP2 **PKiKP** 08 05 39.1 -0.1
MOY pmax pmax
comp=Z,15nm,2.3s
PALK Pallekele 147.97 110 PKPbc **PKPbc** 08 05 39.8 +0.9
comp=Z,4.9nm,0.6s,baz=52,slow=4.7,SNR=5.5
FAKI Fak Fak 148.85 225 PKPab **PKiKP** 08 05 42.0 -0.5
HYB Hyderabad 149.24 90 *e*PKPbc **PKPbc** 08 05 41.1 -0.9
ZAK Zakamensk 149.39 10 *e*PKP2 **PKiKP** 08 05 42.3 -0.3
ZAK pmax pmax
comp=Z,19nm,1.6s
WMQ Urumqi 149.58 34 *e*PKPbc **PKPdf** 08 05 36.4 -1.1
HIA Hailar 150.27 348 **PKiKP** 08 05 44.0 -0.3
HIA Hailar 150.27 348 PKIKP **PKiKP** 08 05 44.1 -0.3
USRK Ussuriysk Ar. 150.44 328 PKPbc **PKiKP** 08 05 44.6 -0.2
USRK Ussuriysk Ar. 150.44 328 PKPbc **PKiKP** 08 05 45.1 +0.3
comp=Z,9.2nm,0.8s,baz=63,slow=0.6,SNR=17
USRK pPKPbc **pPKPbc** 08 06 13.8 -0.4
comp=Z,7.0nm,0.7s,baz=47,slow=1.1,SNR=5.5
MJAR Matsushiro Arr 151.22 310 PKPbc **PKiKP** 08 05 46.8 +0.1
comp=Z,7.4nm,0.8s,baz=62,slow=1.3,SNR=11
MJAR pPKPbc **pPKPbc** 08 06 16.1 +0.1
comp=Z,10nm,1.0s,baz=66,slow=2.1,SNR=5.9
BNX BinXian 151.25 336 ||PKPbc **PKPbc** 08 05 46.0 0.0
SONM Songino Array 152.30 7 PKP **PKPdf** 08 05 42.8 +1.2
comp=Z,2.7nm,0.9s,baz=327,slow=1.3,SNR=15
SONM PKPbc **PKiKP** 08 05 49.4 +0.6
comp=Z,3.9nm,0.4s,baz=306,slow=1.1,SNR=38
SONM pPKPbc **pPKPbc** 08 06 18.0 -1.0
comp=Z,8.1nm,0.6s,baz=312,slow=1.1,SNR=7.7
LEM Lembang 152.83 173 PKPbc **PKiKP** 08 05 52.4 +1.5
comp=Z,55nm,0.7s,baz=113,slow=14,SNR=6.0
XLT XiLinHaoTe 156.09 351 *e*PKP **PKPdf** 08 05 54.3 +7.3
XLT pPKP pPKPdf 08 06 17.8 +0.1
KSRS Korea Array 157.42 323 PKP **PKPdf** 08 05 49.1 +0.3
comp=Z,1.1nm,0.4s,baz=56,slow=3.1,SNR=4.2
KSRS PKPab **PKPab** 08 06 22.1 +1.4
comp=Z,1.5nm,0.5s,baz=54,slow=4.8,SNR=4.6
KSRS pPKPab **pPKPab** 08 06 50.3 +0.5
comp=Z,3.0nm,0.9s,baz=64,slow=4.5,SNR=3.7
GTA Gaotai 158.69 24 PKP **PKPdf** 08 05 52.3 +1.8
GTA pPKP pPKPdf 08 06 20.9 -0.1
GOMU GeErMu 158.78 38 PKP **PKPdf** 08 05 52.9 +1.9
HHC Hu-ho-hao-te 159.52 359 *e*PKP **PKPdf** 08 05 50.1 -1.3
BTO Baotou 159.76 2 *e*PKP **PKPdf** 08 05 52.3 +0.7
BTO PP **PP** 08 10 16.4 +4.7
IPM Ipoh 161.53 147 **PKPdf** 08 05 51.3 -3.0
XAN Xi'an 166.21 7 *e*PKP **PKPdf** 08 05 59.3 +1.3
XAN pPKP pPKPdf 08 06 30.5 +1.9
XAN PKPab **PKPab** 08 07 03.4 +4.2
NJ2 Nanjing 166.33 330 *e*PKP **PKPdf** 08 05 58.3 +0.3
CD2 Chengdu 167.62 30 PKP **PKPdf** 08 05 58.4 -0.7
CMAR Chiang Mai Arr 168.52 97 PKP **PKPdf** 08 06 00.1 +0.1
comp=Z,1.3nm,0.4s,baz=250,slow=2.6,SNR=2.0
CMAR pPKP **pPKPdf** 08 06 31.3 +0.7
comp=Z,0.9nm,0.3s,baz=289,slow=1.8,SNR=1.6
CMAR PKPab **PKPab** 08 07 10.3 +0.2
comp=Z,1.2nm,0.3s,baz=266,slow=6.3,SNR=6.1
CMAR PP **PP** 08 11 01.7 +1.9
comp=Z,0.8nm,0.3s,baz=264,slow=3.6,SNR=4.1
PZH PanZhiHua 169.54 52 PKP **PKPdf** 08 05 59.6 -1.0
QIZ Qiongzhong 178.35 141 PKP **PKPdf** 08 06 03.0 -0.7
QIZ PP **PP** 08 11 48.0 +1.8
QIZ SS SS 08 33 17.3 +0.6
QIZ LR LR
comp=Z,230nm,36.3s

*IDC **24** 07:49:03.7±8.6,31°.78S×179°.99E,h308km±9.4km,mb3.2/2, mbtmp3.9/3,Error ellipse: s-maj=98.0km s-min=41.6km az=2.0*
*WEL **24** 07:49:08.8±0.9,32°S±14°×17°9E±3°5,h234km±31km, M3.9/7,mB4.4/7,ML4.5/13,MLv4.3/7,Mw(mB)3.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=110.9,confirmed*
ISC 24 07:49:06.5±1.1,31°.82S±0°.08×179°.1E±0°.1,h250km,n42,
σ1§93/62,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.60**	**46**	P	**Pn**	**07 50 06.8**	**+1.1**
GLKZ				S	**S**	**07 50 52.5**	**-0.1**
WCZ	**Waipu Caves**	**5.72**	**223**	P	**Pn**	**07 50 35.0**	**+3.9**
MXZ	**Matakaoa Point**	**5.77**	**187**	P	**Pn**	**07 50 34.0**	**+2.3**
WMGZ	**Waiomatatini S**	**6.02**	**185**	P	**Pn**	**07 50 37.2**	**+2.5**
WMGZ				S	**S**	**07 51 48.6**	**+3.3**
HAZ	**Te Kaha**	**6.03**	**190**	P	**Pn**	**07 50 36.5**	**+1.6**
HAZ				S	**S**	**07 51 48.1**	**+2.5**
PUZ	**Puketiti**	**6.28**	**186**	P	**Pn**	**07 50 39.3**	**+1.2**
PUZ				S	**S**	**07 51 51.1**	**-0.3**
TWGZ	**Tauwhareparae**	**6.42**	**188**	P	**Pn**	**07 50 43.4**	**+3.7**
TWGZ				S	**S**	**07 51 56.9**	**+2.4**
MWZ	**Matawai**	**6.63**	**191**	P	**Pn**	**07 50 44.1**	**+1.7**
MWZ				S	**S**	**07 51 59.6**	**+0.1**
URZ	**Urewera**	**6.64**	**194**	P	**Pn**	**07 50 45.5**	**+3.0**
	4.9nm,0.4s,baz=351,slow=3.7,SNR=26						
URZ				S	**S**	**07 52 02.2**	**+2.7**
	4.4nm,0.3s,baz=323,slow=20,SNR=9.6						
URZ	**Urewera**	**6.64**	**194**	P	**Pn**	**07 50 44.9**	**+2.5**
URZ				S	**S**	**07 51 57.9**	**-1.6**
TKGZ	**Te Karaka**	**6.69**	**189**	P	**Pn**	**07 50 44.0**	**+0.9**
TKGZ				S	**S**	**07 52 00.3**	**-0.4**
MUGZ	**Murupara**	**6.92**	**196**	P	**Pn**	**07 50 47.8**	**+1.7**
MUGZ				S	**S**	**07 52 06.7**	**+0.7**
RIGZ	**Rimuhau**	**6.96**	**189**	P	**Pn**	**07 50 46.9**	**+0.3**
RIGZ				S	**S**	**07 52 05.3**	**-1.7**
SNGZ	**Shannon Statio**	**7.10**	**191**	P	**Pn**	**07 50 49.3**	**+1.0**
SNGZ				S	**S**	**07 52 10.6**	**+0.4**
RAHZ	**Arahi**	**7.28**	**193**	P	**Pn**	**07 50 52.2**	**+1.6**
KNZ	**Kokohu**	**7.29**	**189**	P	**Pn**	**07 50 50.3**	**-0.4**
KNZ				S	**S**	**07 52 13.1**	**-1.3**
NMHZ	**Naumai**	**7.51**	**194**	P	**Pn**	**07 50 55.2**	**+1.7**
HIZ	**Hauiti**	**7.54**	**206**	P	Pn	07 51 00.8	+6.9
ARHZ	**Aropaoanui**	**7.63**	**193**	P	**Pn**	**07 50 56.2**	**+1.2**
BKZ	**Black Stump Fm**	**7.64**	**196**	P	**Pn**	**07 50 56.8**	**+1.6**
NTVZ	**North Tongariro**	**7.79**	**200**	P	**Pn**	**07 51 00.6**	**+3.4**
ETVZ	**East Tongariro**	**7.82**	**200**	P	**Pn**	**07 51 00.4**	**+2.9**
WTVZ	**West Tongariro**	**7.83**	**201**	P	**Pn**	**07 51 00.1**	**+2.4**
OTVZ	**Oturere**	**7.86**	**200**	P	**Pn**	**07 51 00.1**	**+2.1**
SNVZ	**South Ngauruho**	**7.88**	**200**	P	**Pn**	**07 51 00.6**	**+2.2**
NGZ	**Ngauruhoe**	**7.89**	**200**	P	**Pn**	**07 51 01.0**	**+2.6**
KWHZ	**Kaweka Forest**	**7.90**	**195**	P	**Pn**	**07 50 58.2**	**-0.3**
KWHZ				S	**S**	**07 52 27.6**	**-1.1**
FWVZ	**Far West T-bar**	**7.97**	**200**	P	**Pn**	**07 51 02.3**	**+2.7**
MAVZ	**Matarangi**	**7.98**	**200**	P	**Pn**	**07 51 01.6**	**+1.8**
CKHZ	**Cape Kidnapper**	**8.00**	**191**	P	**Pn**	**07 51 00.5**	**+0.9**
CKHZ				S	**S**	**07 52 29.9**	**-0.9**
TRVZ	**Turoa**	**8.02**	**200**	P	**Pn**	**07 51 01.8**	**+1.7**
WNVZ	**Wahianoa**	**8.03**	**200**	P	**Pn**	**07 51 01.6**	**+1.4**
BHHZ	**Black Hill Sta**	**8.05**	**197**	P	**Pn**	**07 51 00.9**	**+0.5**
BHHZ				S	**S**	**07 52 31.6**	**-0.6**
KRHZ	**Kereru**	**8.12**	**195**	P	**Pn**	**07 51 01.0**	**-0.3**
KRHZ				S	**S**	**07 52 33.8**	**0.0**
KAHZ	**Kahuranaki**	**8.17**	**192**	P	**Pn**	**07 51 02.1**	**+0.3**
KAHZ				S	**S**	**07 52 34.4**	**-0.4**
PXZ	**Pawanui**	**8.40**	**192**	P	**Pn**	**07 51 04.7**	**0.0**
PXZ				S	**S**	**07 52 37.4**	**-2.7**
PNHZ	**Pukenui**	**8.42**	**196**	P	**Pn**	**07 51 03.9**	**-1.1**
PNHZ				S	**S**	**07 52 37.6**	**-3.1**
TSZ	**Takapari Road**	**8.62**	**196**	P	**Pn**	**07 51 06.2**	**-1.3**
TSZ				S	**S**	**07 52 42.4**	**-2.8**
ANWZ	**Angora Road**	**8.89**	**193**	P	**Pn**	**07 51 10.7**	**-0.2**
ANWZ				S	**S**	**07 52 49.3**	**-2.1**
ASAR	**Alice Springs**	**40.61**	**270**	P	**P**	**07 56 20.4**	**-2.0**
	0.5nm,0.5s,baz=106,slow=7.7,SNR=14						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**41.73**	**275**	P	**P**	**07 56 29.3**	**-2.2**
	0.8nm,0.3s,baz=112,slow=8.0,SNR=19						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**145.56**	**337**	PKPbc	PKPdf	08 08 05.0	-9.0
	3.5nm,0.9s,baz=42,slow=2.3,SNR=6.6						

IDC 24 07:51:21.9±10.0,57°.51N×163°.18E,h0km,mb3.3/4, mbtmp3.3/4,MS2.9/1,Error ellipse: s-maj=520.0km s-min=32.9km az=7.0,Near east coast of Kamchatka Peninsula

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

ILAR	**Eielson Array**	**24.57**	**52**	LR	LR	08 07 44.0		
	comp=E,28nm,18.4s,baz=251,slow=40							
ZALV	**Zalesovo Beam**	**41.98**	**300**	P	P	07 59 14.2	0.0	
	0.2nm,0.3s,baz=38,slow=7.3,SNR=1.9							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**47.08**	**300**	P	P	07 59 54.8	-0.2	
	0.1nm,0.4s,baz=44,slow=8.0,SNR=2.2							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**47.90**	**294**	P	P	08 00 01.3	-0.2	
	0.2nm,0.4s,baz=31,slow=6.7,SNR=4.7							
	0.2nm,0.4s							
TXAR	**Lajitas Array**	**67.39**	**71**	P	P	08 02 19.0	0.0	
	0.3nm,0.7s,baz=321,slow=7.0,SNR=2.4							
	0.3nm,0.7s							

*AEIC **24** 07:52:48.5±1.6,55°.9N±0°.1×149°.2W±0°.2,h11km±9km, Error ellipse: s-maj=20.2km s-min=12.3km az=168.0*

NEIC 24 07:52:46.6±1.4,56°.0N±0°.1×149°.3W±0°.2,h20km±12km, ML3.0/18,ML2.9(AEIC),Error ellipse: s-maj=19.3km s-min=11.6km az=163.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.50**	**301**		Pn	07 53 26.6	+0.5
OHAK					Sn	07 53 55.3	-0.6
KDAK	**Kodiak Island**	**2.52**	**316**		Pn	07 53 26.1	-0.1
KDAK					Sn	07 53 56.8	+0.6
SYI	**Shuyak Island**	**3.09**	**329**		Pn	07 53 34.3	+0.2
SYI					Sn	07 54 09.6	-0.8
SYI	**Shuyak Island**	**3.09**	**329**	IAML		07 54 32.9	
	comp=E,32nm,1.4s						
SYI				IAML		07 54 46.0	
	comp=N,32nm,1.4s						
CNPM	**China Poot**	**3.67**	**345**		Pn	07 53 42.0	-0.1
CNPM	**China Poot**	**3.67**	**345**	IAML		07 54 40.6	
	comp=N,23nm,1.3s						
CNPM				IAML		07 56 05.5	
	comp=E,33nm,1.4s						
Q19K	**Cape Douglas,**	**3.74**	**323**		Pn	07 53 42.8	-0.3
KAHG	**Katmai Hook Gl**	**3.77**	**313**		Pn	07 53 43.4	-0.2
KAHG					Sn	07 54 26.7	-0.6
BRSE	**Bradley Lake S**	**3.81**	**349**		Pn	07 53 43.7	-0.4
BRSE					Sn	07 54 28.2	-0.1
BRLK	**Bradley Lake**	**3.85**	**348**		Pn	07 53 44.9	+0.2
BRLK	**Bradley Lake**	**3.85**	**348**	IAML		07 55 06.9	
	comp=E,25nm,1.5s						
BRLK				IAML		07 55 07.6	
	comp=N,23nm,1.5s						
KCG	**Knife Ck. Glac**	**3.90**	**308**		Pn	07 53 45.5	+0.2
ACHA	**Angle Creek He**	**3.94**	**306**		Pn	07 53 46.0	+0.1
P23K	**Montague Islan**	**4.12**	**14**		Pn	07 53 46.9	-1.4
CNTC	**Contact Creek**	**4.22**	**305**		Pn	07 53 50.1	+0.3
IVE	**Iliamna Volcan**	**4.47**	**335**		Pn	07 53 53.3	+0.2
P18K	**Big Mountain,**	**4.63**	**319**	Pn	Pn	07 53 55.9	+0.5
P18K				IAML		07 56 11.5	
	comp=N,10.0nm,1.5s						
RAGM	**Ragged Mountai**	**5.03**	**27**	Pn	Pn	07 54 01.8	+1.0
RC01	**Rabbit Creek A**	**5.09**	**358**	Pn	Pn	07 54 03.7	+2.1
RC01				IAML		07 55 37.0	
	comp=E,10.0nm,1.5s						
RC01				IAML		07 55 38.3	
	comp=N,11nm,1.5s						
KNK	**Knik Glacier**	**5.43**	**4**	Pn	Pn	07 54 04.5	-1.8

*AEIC **24** 07:55:06.3±1.7,56°.0N±0°.1×150°.2W±0°.1,h10km±9km, Error ellipse: s-maj=19.7km s-min=12.2km az=182.0*

NEIC 24 07:55:09.6±1.9,56°.46N±0°.06×150°.5W±0°.1,h24km±13km, ML3.0/18,ML3.0(AEIC),Error ellipse: s-maj=12.6km s-min=0.9km az=47.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.73**	**297**		Pn	07 55 36.5	-1.6
OHAK					Sb	07 56 00.9	-1.0
KDAK	**Kodiak Island**	**1.76**	**320**		Pn	07 55 37.9	-0.7
KDAK					Sb	07 56 03.8	+1.0
SYI	**Shuyak Island**	**2.39**	**335**		Pn	07 55 47.4	+0.2
SYI					Sb	07 56 21.2	+0.2
SYI	**Shuyak Island**	**2.39**	**335**	IAML		07 56 45.2	
	comp=N,39nm,1.3s						
SYI				IAML		07 57 22.2	
	comp=E,34nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.00**	**314**		Pn	07 55 56.0	+0.3
KAHG					Sn	07 56 33.1	+2.1
Q19K	**Cape Douglas,**	**3.01**	**327**		Pn	07 55 56.3	+0.6
Q19K	**Cape Douglas,**	**3.01**	**327**	IAML		07 56 41.0	
	comp=E,152nm,1.4s						
Q19K				IAML		07 57 04.1	
	comp=N,114nm,1.3s						
KCG	**Knife Ck. Glac**	**3.12**	**308**		Pn	07 55 57.4	-0.1
ACHA	**Angle Creek He**	**3.17**	**306**		Pn	07 55 57.5	-0.5
ANCK	**Angle Creek**	**3.24**	**305**		Pn	07 55 58.8	-0.1
BRLK	**Bradley Lake**	**3.32**	**356**	Pn	Pn	07 55 59.6	-0.4
CNTC	**Contact Creek**	**3.45**	**304**		Pn	07 56 01.6	-0.3
P19K	**Oil Pt**	**3.52**	**336**		Pn	07 56 03.5	+0.6
P19K	**Oil Pt**	**3.52**	**336**	IAML		07 56 30.0	
	comp=N,78nm,1.5s						
P19K				IAML		07 56 59.5	
	comp=E,67nm,1.4s						
Q23K	**Middleton Isla**	**3.69**	**35**		Pn	07 56 02.3	-2.8
O20K	**Slope Mountain**	**3.81**	**343**		Pn	07 56 06.8	0.0
P18K	**Big Mountain,**	**3.88**	**321**		Pn	07 56 07.6	-0.2
P18K	**Big Mountain,**	**3.88**	**321**	IAML		07 56 47.1	
	comp=E,9.8nm,1.4s						
P18K				IAML		07 56 58.9	
	comp=N,6.5nm,1.5s						
O22K	**Cooper Landing**	**4.05**	**5**	Pn	Pn	07 56 08.7	-1.3
SNH	**Sunshine Point**	**5.48**	**44**	Pn	Pn	07 56 32.4	+2.7

*NEIC **24** 07:55:55.9±1.1,56°.49N±0°.09×149°.4W±0°.1,h20km±9km, ML3.2/46,ML3.1(AEIC),Error ellipse: s-maj=13.0km s-min=7.5km az=165.0*

*AEIC **24** 07:55:57.8±2.0,56°.41N±0°.09×149°.4W±0°.1,h5km±7km, Error ellipse: s-maj=13.7km s-min=9.0km az=163.0*

ISC 24 07:55:54.2±1.5,56°.50N±0°.09×149°.35W±0°.05,h10km, n126,σ1s15/120,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.19**	**308**		**Pn**	**07 56 31.1**	**+0.6**
KDAK	**Kodiak Island**	**2.19**	**308**		**Sn**	**07 56 56.8**	**-0.8**
KDAK	**Kodiak Island**	**2.19**	**308**	IAML		07 56 58.5	
	27nm,1.4s						
KDAK				IAML		07 57 00.3	
	17nm,1.4s						
KDAK	**Kodiak Island**	**2.19**	**308**	P	**Pn**	**07 56 31.2**	**+0.6**
	baz=127						
OHAK	**Old Harbor**	**2.28**	**290**		**Pn**	**07 56 32.1**	**+0.3**
OHAK					**Sn**	**07 56 57.6**	**-2.4**
OHAK	**Old Harbor**	**2.28**	**290**	P	**Pn**	**07 56 32.1**	**+0.3**
	baz=109						
OHAK				S	**Sn**	**07 56 57.6**	**-2.4**
	baz=109						
SYI	**Shuyak Island**	**2.68**	**324**		**Pn**	**07 56 38.7**	**+1.4**
SYI					**Sn**	**07 57 09.6**	**-0.2**
Q20K	**Shuyak Island**	**2.68**	**324**	P	**Pn**	**07 56 38.7**	**+1.4**
	baz=142						
Q20K				S	**Sn**	**07 57 09.6**	**-0.2**
	baz=142						
CNPM	**China Poot**	**3.20**	**343**		**Pn**	**07 56 44.7**	**+0.2**
CNPM					**Sn**	**07 57 21.9**	**-0.8**
CNPM	**China Poot**	**3.20**	**343**	IAML		07 57 23.7	
	comp=E,40nm,1.4s						
BRSE	**Bradley Lake S**	**3.34**	**348**		**Pn**	**07 56 46.5**	**+0.1**
BRSE	**Bradley Lake S**	**3.34**	**348**	P	**Pn**	**07 56 46.5**	**+0.1**
	baz=167						
Q23K	**Middleton Isla**	**3.35**	**27**		**Pn**	**07 56 46.5**	**0.0**
Q23K	**Middleton Isla**	**3.35**	**27**	P	**Pn**	**07 56 46.5**	**0.0**
	baz=209						
MID	**Middleton Isla**	**3.35**	**27**	Pn	**Pn**	**07 56 46.7**	**+0.2**
MID				IAML		07 57 22.3	
	comp=N,105nm,0.9s						
MID	**Middleton Isla**	**3.35**	**27**	P	**Pn**	**07 56 47.1**	**+0.6**
Q19K	**Cape Douglas,**	**3.36**	**318**		**Pn**	**07 56 46.6**	**0.0**
Q19K	**Cape Douglas,**	**3.36**	**318**	P	**Pn**	**07 56 46.6**	**0.0**
	baz=136						
BRLK	**Bradley Lake**	**3.38**	**347**		**Pn**	**07 56 47.0**	**+0.1**
BRLK	**Bradley Lake**	**3.38**	**347**	IAML		07 57 26.4	
	comp=N,26nm,0.9s						
BRLK				IAML		07 57 30.8	
	comp=E,35nm,1.3s						
SEW	**Seward**	**3.62**	**359**		**Pn**	**07 56 50.0**	**-0.2**
SEW	**Seward**	**3.62**	**359**	P	**Pn**	**07 56 50.0**	**-0.2**
	baz=179						
P23K	**Montague Islan**	**3.66**	**16**		**Pn**	**07 56 50.7**	**-0.1**
P23K					**Sn**	**07 57 31.4**	**-2.5**
P23K	**Montague Islan**	**3.66**	**16**	P	**Pn**	**07 56 50.7**	**-0.1**
	baz=197						
P23K				S	**Sn**	**07 57 31.4**	**-2.5**
	baz=197						
P19K	**Oil Pt**	**3.78**	**329**		**Pn**	**07 56 51.8**	**-0.7**
P19K	**Oil Pt**	**3.78**	**329**	IAML		07 57 53.9	
	comp=E,60nm,0.9s						
P19K				IAML		07 58 18.7	
	comp=N,66nm,1.2s						
P19K	**Oil Pt**	**3.78**	**329**	P	**Pn**	**07 56 51.8**	**-0.7**
	baz=146						
O22K	**Cooper Landing**	**4.00**	**357**		**Pn**	**07 56 56.1**	**+0.6**
O22K	**Cooper Landing**	**4.00**	**357**	P	**Pn**	**07 56 56.1**	**+0.6**
	baz=177						
IVE	**Iliamna Volcan**	**4.03**	**333**		**Pn**	**07 56 56.0**	**0.0**
SLKM	**Skilak Lake**	**4.05**	**354**		**Pn**	**07 56 56.2**	**0.0**
HIN	**Hinchinbrook I**	**4.19**	**20**		**Pn**	**07 56 58.5**	**+0.4**
HIN	**Hinchinbrook I**	**4.19**	**20**	IAML		07 57 46.9	
	comp=E,40nm,1.2s						
HIN				IAML		07 58 42.7	
	comp=N,32nm,1.2s						
KAIM	**Kayak Island**	**4.32**	**35**		**Pn**	**07 57 00.2**	**+0.4**
KAIM	**Kayak Island**	**4.32**	**35**	IAML		07 58 12.8	
	comp=E,47nm,1.5s						
KAIM	**Kayak Island**	**4.32**	**35**	P	**Pn**	**07 57 00.2**	**+0.4**
	baz=219						
RDSO	**Redoubt South**	**4.35**	**337**		**Pn**	**07 57 00.5**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.48**	**23**	P	**Pn**	**07 57 03.2**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.48**	**23**	P	**Pn**	**07 57 02.6**	**+0.6**
	baz=206						
RAGM	**Ragged Mountai**	**4.61**	**30**		**Pn**	**07 57 04.3**	**+0.4**
RAGM	**Ragged Mountai**	**4.61**	**30**	IAML		07 58 01.4	
	comp=E,32nm,1.3s						
RC01	**Rabbit Creek A**	**4.61**	**358**		**Pn**	**07 57 04.0**	**+0.2**
RC01	**Rabbit Creek A**	**4.61**	**358**	IAML		07 57 56.4	
	comp=E,24nm,0.4s						
RC01				IAML		07 57 57.5	
	comp=N,16nm,1.3s						
RC01	**Rabbit Creek A**	**4.61**	**358**	P	**Pn**	**07 57 04.0**	**+0.2**
	baz=177						
GOAT	**Goat Mountain**	**4.76**	**29**		**Pn**	**07 57 06.7**	**+0.7**
BERG	**Berg Lake**	**4.91**	**35**		**Pn**	**07 57 08.3**	**+0.4**
BERG	**Berg Lake**	**4.91**	**35**	IAML		07 58 04.8	
	comp=E,22nm,0.9s						
BERG				IAML		07 58 08.7	
	comp=N,31nm,1.4s						
KNK	**Knik Glacier**	**4.96**	**5**		**Pn**	**07 57 09.3**	**+0.7**
KNK	**Knik Glacier**	**4.96**	**5**	IAML		07 58 09.0	
	comp=E,9.4nm,1.3s						
KNK	**Knik Glacier**	**4.96**	**5**	P	**Pn**	**07 57 09.3**	**+0.7**
	baz=186						
DIV	**Divide**	**5.01**	**20**		**Pn**	**07 57 09.8**	**+0.5**
SUA	**Susitna One**	**5.04**	**352**	Pn	**Pn**	**07 57 10.6**	**+0.8**
SUA				IAML		07 58 11.7	
	comp=N,8.2nm,1.5s						
CHGN	**Chignik**	**5.04**	**272**	Pn	**Pn**	**07 57 10.6**	**+0.9**
SNH	**Sunshine Point**	**5.04**	**40**		**Pn**	**07 57 10.2**	**+0.4**
SNH	**Sunshine Point**	**5.04**	**40**	IAML		07 58 12.3	
	comp=N,32nm,1.3s						
SNH				IAML		07 59 29.4	
	comp=E,19nm,1.4s						
N19K	**Bonanza Creek**	**5.09**	**330**		**Pn**	**07 57 11.2**	**+0.6**
N19K	**Bonanza Creek**	**5.09**	**330**	P	**Pn**	**07 57 11.2**	**+0.6**
	baz=146						
BMRM	**Bremner River**	**5.12**	**27**		**Pn**	**07 57 11.4**	**+0.5**
BMRM	**Bremner River**	**5.12**	**27**	P	**Pn**	**07 57 11.4**	**+0.5**
	baz=210						
STLK	**Strandline Lak**	**5.18**	**347**		**Pn**	**07 57 12.3**	**+0.6**
GHO	**Glory Hole Cre**	**5.30**	**2**		**Pn**	**07 57 14.7**	**+1.3**
GHO	**Glory Hole Cre**	**5.30**	**2**	IAML		07 58 15.6	
	comp=N,16nm,1.0s						
GHO				IAML		07 58 17.4	
	comp=E,16nm,1.3s						
KLU	**Klutina**	**5.32**	**18**	IAML		07 58 15.0	
	comp=N,11nm,0.3s						
KLU				IAML		07 58 16.1	
	comp=E,9.5nm,0.2s						
KLU	**Klutina**	**5.32**	**18**	P	**Pn**	**07 57 14.6**	**+1.0**
	baz=201						
BARK	**Barkley Ridge**	**5.32**	**40**		**Pn**	**07 57 14.3**	**+0.6**
SML	**Sawmill**	**5.36**	**5**		**Pn**	**07 57 15.1**	**+1.0**
SML	**Sawmill**	**5.36**	**5**	IAML		07 57 55.1	
	comp=N,9.1nm,1.4s						
SML				IAML		07 58 21.7	
	comp=E,11nm,1.5s						
SML	**Sawmill**	**5.36**	**5**	P	**Pn**	**07 57 15.1**	**+1.0**
	baz=186						
M23K	**Glacier View**	**5.38**	**8**		**Pn**	**07 57 15.6**	**+1.1**
M23K	**Glacier View**	**5.38**	**8**	P	**Pn**	**07 57 15.6**	**+1.1**
	baz=190						
SCM	**Sheep Creek Mo**	**5.46**	**10**		**Pn**	**07 57 16.6**	**+1.1**
SCM	**Sheep Creek Mo**	**5.46**	**10**	P	**Pn**	**07 57 16.6**	**+1.1**
	baz=192						
N25K	**Chitina, Valde**	**5.68**	**24**		**Pn**	**07 57 19.6**	**+0.9**
N25K	**Chitina, Valde**	**5.68**	**24**	P	**Pn**	**07 57 19.6**	**+0.9**
	baz=207						
GLB	**Gilahina Butte**	**5.73**	**28**		**Pn**	**07 57 20.0**	**+0.8**
KIAG	**Kiagna River**	**5.74**	**36**		**Pn**	**07 57 19.9**	**+0.4**
SAMH	**Samovar Hills**	**5.80**	**48**		**Pn**	**07 57 21.5**	**+1.2**
M24K	**Tolsona, Glenn**	**5.86**	**15**		**Pn**	**07 57 22.4**	**+1.3**
M24K	**Tolsona, Glenn**	**5.86**	**15**	P	**Pn**	**07 57 22.4**	**+1.3**
	baz=197						
MCARA	**McCarthy VSAT**	**5.89**	**31**		**Pn**	**07 57 22.1**	**+0.7**
MCARA	**McCarthy VSAT**	**5.89**	**31**	P	**Pn**	**07 57 22.1**	**+0.7**
	baz=216						
PCA	**Pinnacle**	**6.00**	**49**		**Pn**	**07 57 23.6**	**+0.6**
PINM	**Pinnacle**	**6.00**	**49**	P	**Pn**	**07 57 23.6**	**+0.6**
	baz=236						
CHNA	**Chernabura Isl**	**6.03**	**258**	P	**Pn**	**07 57 23.4**	**+0.1**
	baz=70						
CNBA	**Chernabura Isl**	**6.03**	**258**		**Pn**	**07 57 23.4**	**0.0**
WASW	**Wrangell South**	**6.06**	**24**		**Pn**	**07 57 24.3**	**+1.3**
BARN	**Barnard Glacie**	**6.08**	**38**		**Pn**	**07 57 24.8**	**+0.7**
WACK	**Wrangell Chich**	**6.08**	**23**		**Pn**	**07 57 25.4**	**+1.1**
CTG	**Chitna Glacier**	**6.12**	**40**	P	**Pn**	**07 57 25.5**	**+0.8**
	baz=226						
LOGN	**Logan Glacier**	**6.15**	**42**		**Pn**	**07 57 25.7**	**+0.6**
WAT6	**Susitna Watana**	**6.16**	**7**		**Pn**	**07 57 26.1**	**+0.9**
WAT6	**Susitna Watana**	**6.16**	**7**	P	**Pn**	**07 57 26.1**	**+0.9**
	baz=188						
PNL	**Peninsula**	**6.16**	**55**	P	**Pn**	**07 57 25.9**	**+0.8**
	baz=243						
BCPM	**Bancas Point**	**6.19**	**52**		**Pn**	**07 57 26.4**	**+0.9**
HARP	**HAARP**	**6.29**	**18**		**Pn**	**07 57 28.8**	**+1.8**
HARP	**HAARP**	**6.29**	**18**	P	**Pn**	**07 57 28.8**	**+1.8**
	baz=202						
DHY	**Denali Highway**	**6.68**	**8**	Pn	**Pn**	**07 57 34.0**	**+1.7**
DHY					**Sn**	**07 58 48.0**	**-0.4**
M26K	**Nabesna, AK**	**6.75**	**26**		**Pn**	**07 57 35.1**	**+1.9**
M26K	**Nabesna, AK**	**6.75**	**26**	P	**Pn**	**07 57 35.1**	**+1.9**
	baz=211						
O29M	**Mount Kennedy**	**6.83**	**52**		**Pn**	**07 57 35.4**	**+1.0**
O29M	**Mount Kennedy**	**6.83**	**52**	P	**Pn**	**07 57 35.4**	**+1.0**
	baz=240						
P29M	**Windy Craggy**	**6.92**	**58**		**Pn**	**07 57 36.1**	**+0.6**
P29M	**Windy Craggy**	**6.92**	**58**	P	**Pn**	**07 57 36.1**	**+0.6**
	baz=247						
M27K	**Edge Creek, AK**	**7.00**	**30**		**Pn**	**07 57 38.6**	**+1.8**
M27K	**Edge Creek, AK**	**7.00**	**30**	P	**Pn**	**07 57 38.6**	**+1.8**
	baz=216						
CAST	**Castle Rocks**	**7.08**	**350**		**Pn**	**07 57 40.4**	**+2.7**
CAST	**Castle Rocks**	**7.08**	**350**	P	**Pn**	**07 57 40.4**	**+2.7**
	baz=168						
KTH	**Kantishna Hill**	**7.12**	**354**		**Pn**	**07 57 40.8**	**+2.4**
YUK6	**Outpost Mounta**	**7.25**	**48**	P	**Pn**	**07 57 42.1**	**+1.8**
	baz=236						
YUK4	**Talbot Arm**	**7.37**	**44**	P	**Pn**	**07 57 44.9**	**+3.0**
	baz=233						
P30M	**Million Dollar**	**7.47**	**56**		**Pn**	**07 57 44.5**	**+1.3**
P30M	**Million Dollar**	**7.47**	**56**	P	**Pn**	**07 57 44.5**	**+1.3**
	baz=246						
HYT	**Haines Junctio**	**7.55**	**50**	Pn	**Pn**	**07 57 46.0**	**+1.8**
YUK5	**Granite Creek**	**7.56**	**47**		**Pn**	**07 57 46.3**	**+1.9**
RIDG	**Independent Ri**	**7.61**	**15**	Pn	**Pn**	**07 57 46.5**	**+1.5**
BCAR	**Beaver Creek A**	**7.61**	**27**	Pn	**Pn**	**07 57 46.6**	**+1.5**
BPAW	**Bear Paw Mtn.**	**7.67**	**355**	Pn	**Pn**	**07 57 46.6**	**+0.7**
SIT	**Sitka**	**7.73**	**80**	P	**Pn**	**07 57 45.2**	**-1.4**
SKAG	**Skagway**	**8.02**	**62**	P	**Pn**	**07 57 53.2**	**+2.6**
N30M	**Aishikik Lake**	**8.05**	**47**		**Pn**	**07 57 52.0**	**+0.9**
N30M	**Aishikik Lake**	**8.05**	**47**	P	**Pn**	**07 57 52.0**	**+0.9**
	baz=237						
M29M	**Somme Creek**	**8.13**	**38**		**Pn**	**07 57 53.8**	**+1.5**
M29M	**Somme Creek**	**8.13**	**38**	P	**Pn**	**07 57 53.8**	**+1.5**
	baz=227						
JIS	**Juneau Island**	**8.28**	**71**	Pn	**Pn**	**07 57 54.5**	**+0.4**
JIS	**Juneau Island**	**8.28**	**71**	P	**Pn**	**07 57 54.4**	**+0.2**
	comp=E,25nm,1.7s						
ISLZ	**Isanotski Laza**	**8.32**	**264**		**Pn**	**07 57 55.4**	**+0.6**

IDC 24 07:59:50.5±3.6,55°.42N×86°.21E,h0km,mbtmp2.5/2, ML2.4/2,Error ellipse: s-maj=28.1km s-min=24.1km az=28.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**209**	I	I	08 10 03.2	
	0.1nm,0.7s,baz=25,slow=347,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.68**	**209**	Pg	Pn	08 00 20.4	-0.8
	2.0nm,0.3s,baz=31,slow=16,SNR=21						
ZALV				Lg	Lg	08 00 44.5	
	1.5nm,0.3s,baz=31,slow=29,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.67**	**227**	Pn	Pn	08 01 30.0	+0.4
	baz=46,slow=14,SNR=4.5						
KURBB				Lg	Lg	08 03 21.2	
	baz=42,slow=31,SNR=2.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.98**	**197**	Pn	Pn	08 02 01.3	-0.1
	0.1nm,0.3s,baz=16,slow=10,SNR=2.3						
	0.1nm,0.4s						

*AEIC **24** 08:01:32.9±2.1,56°.2N±0°.1×149°.3W±0°.2,h10km±9km, Error ellipse: s-maj=19.3km s-min=12.0km az=170.0*

NEIC 24 08:01:30.1±2.0,56°.3N±0°.1×149°.4W±0°.1,h20km±11km, ML3.0/32,ML2.9(AEIC),Error ellipse: s-maj=19.6km s-min=10.0km az=165.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.30**	**312**		Pn	08 02 07.0	+0.2
KDAK					Sn	08 02 33.4	-1.0
OHAK	**Old Harbor**	**2.34**	**295**		Pn	08 02 07.8	+0.4
OHAK					Sn	08 02 33.9	-1.7
SYI	**Shuyak Island**	**2.83**	**326**		Pn	08 02 15.8	+1.7
SYI					Sn	08 02 47.3	-0.2
SYI	**Shuyak Island**	**2.83**	**326**	IAML		08 03 31.9	
	comp=N,33nm,1.4s						
SYI				IAML		08 03 47.3	
	comp=E,32nm,1.4s						
CNPM	**China Poot**	**3.38**	**344**		Pn	08 02 21.6	-0.1
CNPM					Sn	08 03 01.1	-0.1
CNPM	**China Poot**	**3.38**	**344**	IAML		08 03 13.0	
	comp=N,28nm,1.5s						
CNPM				IAML		08 04 03.4	
	comp=E,20nm,1.4s						
Q19K	**Cape Douglas,**	**3.49**	**321**		Pn	08 02 24.2	+0.9
BRSE	**Bradley Lake S**	**3.52**	**349**		Pn	08 02 23.2	-0.5
BRSE					Sn	08 03 04.7	-0.1
Q23K	**Middleton Isla**	**3.53**	**26**		Pn	08 02 24.6	+0.9
KAHG	**Katmai Hook Gl**	**3.56**	**310**		Pn	08 02 25.4	+1.2
KAHG					Sn	08 03 04.6	-1.1
BRLK	**Bradley Lake**	**3.56**	**348**		Pn	08 02 24.0	-0.3
P23K	**Montague Islan**	**3.85**	**15**		Pn	08 02 27.6	-0.5
P19K	**Oil Pt**	**3.94**	**330**		Pn	08 02 29.3	-0.1
P19K	**Oil Pt**	**3.94**	**330**	IAML		08 02 58.4	
	comp=E,50nm,1.4s						
CNTC	**Contact Creek**	**4.04**	**302**		Pn	08 02 31.4	+0.5
HIN	**Hinchinbrook I**	**4.38**	**19**		Pn	08 02 35.3	-0.1
P18K	**Big Mountain,**	**4.40**	**317**	Pn	Pn	08 02 36.9	+1.1
RAGM	**Ragged Mountai**	**4.79**	**29**	Pn	Pn	08 02 40.7	-0.3
RAGM				IAML		08 04 36.7	
	comp=E,28nm,1.5s						
RC01	**Rabbit Creek A**	**4.80**	**358**	Pn	Pn	08 02 39.1	-2.2
RC01				IAML		08 04 07.2	
	comp=N,9.1nm,1.4s						
RC01				IAML		08 05 10.9	
	comp=E,14nm,1.3s						
BERG	**Berg Lake**	**5.07**	**34**	Pn	Pn	08 02 44.6	-0.3
BERG				IAML		08 04 37.1	
	comp=N,19nm,1.3s						
KNK	**Knik Glacier**	**5.15**	**5**	Pn	Pn	08 02 47.0	+1.0
KNK				IAML		08 03 49.3	
	comp=E,7.8nm,1.5s						
KNK				IAML		08 05 19.2	
	comp=N,7.8nm,1.5s						
SUA	**Susitna One**	**5.22**	**353**	Pn	Pn	08 02 48.4	+1.2
SUA				IAML		08 03 35.3	
	comp=N,6.5nm,1.3s						
PMR	**Palmer**	**5.31**	**1**	Pn	Pn	08 02 47.8	-0.3
PMR				IAML		08 04 53.7	
	comp=N,6.2nm,1.5s						
PMR				IAML		08 05 24.2	
	comp=E,5.8nm,1.2s						
GHO	**Glory Hole Cre**	**5.49**	**2**	Pn	Pn	08 02 51.4	+0.6
KLU	**Klutina**	**5.50**	**18**	Pn	Pn	08 02 50.0	-0.9
SML	**Sawmill**	**5.55**	**5**	Pn	Pn	08 02 52.0	+0.6
SCM	**Sheep Creek Mo**	**5.65**	**10**	Pn	Pn	08 02 53.0	+0.9
GLB	**Gilahina Butte**	**5.91**	**27**	Pn	Pn	08 02 56.0	-0.4
M24K	**Tolsona, Glenn**	**6.05**	**14**	Pn	Pn	08 02 59.7	+1.3
MCARA	**McCarthy VSAT**	**6.07**	**30**	Pn	Pn	08 02 59.5	+0.9
BARN	**Barnard Glacie**	**6.24**	**37**	Pn	Pn	08 03 00.6	-0.5

BRSE	**Bradley Lake S**	**4.02**	**349**	P		Pn	08 08 48.6	-0.5
	baz=167							
BRSE				S		Sn	08 09 34.4	-1.9
	baz=167							
BRLK	**Bradley Lake**	**4.06**	**348**			Pn	08 08 49.2	-0.4
BRLK						Sn	08 09 35.8	-1.5
BRLK	**Bradley Lake**	**4.06**	**348**	IAML			08 09 39.3	
	comp=N,26nm,1.1s							
BRLK				IAML			08 11 09.9	
	comp=E,22nm,1.4s							
ACHA	**Angle Creek He**	**4.11**	**308**			Pn	08 08 50.4	+0.1
P23K	**Montague Islan**	**4.31**	**12**			Pn	08 08 52.8	-0.1
P23K	**Montague Islan**	**4.31**	**12**	P		Pn	08 08 52.8	-0.1
	baz=193							
CNTC	**Contact Creek**	**4.39**	**307**			Pn	08 08 54.7	+0.6
Q17K	**Contact Creek**	**4.39**	**307**	P		Pn	08 08 54.7	+0.5
	baz=122							
P19K	**Oil Pt**	**4.41**	**332**			Pn	08 08 55.1	+0.7
P19K	**Oil Pt**	**4.41**	**332**	IAML			08 11 10.9	
	comp=E,54nm,1.4s							
P19K				IAML			08 11 33.8	
	comp=N,66nm,1.5s							
P19K	**Oil Pt**	**4.41**	**332**	P		Pn	08 08 55.1	+0.7
	baz=149							
O22K	**Cooper Landing**	**4.69**	**357**			Pn	08 08 58.8	+0.7
O22K	**Cooper Landing**	**4.69**	**357**	IAML			08 11 08.4	
	comp=E,62nm,1.3s							
O22K	**Cooper Landing**	**4.69**	**357**	P		Pn	08 08 58.8	+0.7
	baz=176							
HIN	**Hinchinbrook I**	**4.82**	**16**			Pn	08 09 00.0	+0.1
HIN	**Hinchinbrook I**	**4.82**	**16**	IAML			08 09 49.9	
	comp=N,44nm,1.4s							
HIN				IAML			08 10 43.9	
	comp=E,34nm,1.4s							
P18K	**Big Mountain,**	**4.83**	**320**			Pn	08 09 00.9	+0.8
P18K	**Big Mountain,**	**4.83**	**320**	P		Pn	08 09 00.9	+0.8
	baz=136							
KAIM	**Kayak Island**	**4.86**	**30**			Pn	08 08 60.0	-0.4
KAIM	**Kayak Island**	**4.86**	**30**	IAML			08 11 42.5	
	comp=E,49nm,1.4s							
KAIM				IAML			08 12 12.2	
	comp=N,55nm,1.2s							
KAIM	**Kayak Island**	**4.86**	**30**	P		Pn	08 08 60.0	-0.4
	baz=212							
R16K	**Pilot Point**	**4.93**	**294**			Pn	08 09 01.8	+0.4
R16K	**Pilot Point**	**4.93**	**294**	P		Pn	08 09 01.8	+0.4
	baz=109							
EYAK	**Cordova Ski Ar**	**5.09**	**20**			Pn	08 09 03.8	+0.1
EYAK	**Cordova Ski Ar**	**5.09**	**20**	P		Pn	08 09 03.8	+0.1
	baz=202							
FID	**Port Fidalgo**	**5.16**	**15**			Pn	08 09 04.6	0.0
RAGM	**Ragged Mountai**	**5.18**	**26**	Pn		Pn	08 09 05.3	+0.4
RAGM				IAML			08 10 34.4	
	comp=E,24nm,1.4s							
RC01	**Rabbit Creek A**	**5.30**	**357**	Pn		Pn	08 09 04.2	-2.3
GOAT	**Goat Mountain**	**5.34**	**25**			Pn	08 09 07.4	+0.3
BERG	**Berg Lake**	**5.44**	**30**			Pn	08 09 08.3	-0.2
SNH	**Sunshine Point**	**5.54**	**35**			Pn	08 09 09.7	-0.1
KNK	**Knik Glacier**	**5.63**	**4**			Pn	08 09 11.7	+0.6
KNK	**Knik Glacier**	**5.63**	**4**	P		Pn	08 09 11.7	+0.6
	baz=184							
BMRM	**Bremner River**	**5.71**	**23**			Pn	08 09 12.2	0.0
BMRM	**Bremner River**	**5.71**	**23**	P		Pn	08 09 12.2	0.0
	baz=206							
SUA	**Susitna One**	**5.72**	**353**	Pn		Pn	08 09 14.2	+1.8
P16K	**Nushagak River**	**5.73**	**308**			Pn	08 09 13.0	+0.6
P16K	**Nushagak River**	**5.73**	**308**	P		Pn	08 09 13.0	+0.6
	baz=121							
BARK	**Barkley Ridge**	**5.82**	**35**			Pn	08 09 13.4	-0.3
KLU	**Klutina**	**5.95**	**15**	Pn		Pn	08 09 16.4	+0.9
GHO	**Glory Hole Cre**	**5.98**	**1**	Pn		Pn	08 09 16.8	+0.9
SML	**Sawmill**	**6.03**	**4**	Pn		Pn	08 09 17.0	+0.4
VRDI	**Verde Repeater**	**6.21**	**27**	Pn		Pn	08 09 20.1	+0.9
N25K	**Chitina, Valde**	**6.29**	**21**	Pn		Pn	08 09 20.8	+0.6
GLB	**Gilahina Butte**	**6.31**	**24**	Pn		Pn	08 09 20.6	+0.1
MCARA	**McCarthy VSAT**	**6.45**	**28**	Pn		Pn	08 09 23.5	+1.1
M24K	**Tolsona, Glenn**	**6.50**	**13**	Pn		Pn	08 09 21.1	-2.0
BARN	**Barnard Glacie**	**6.59**	**34**	Pn		Pn	08 09 24.7	+0.4
CTGM	**Chitina Glacie**	**6.62**	**35**	Pn		Pn	08 09 24.6	-0.1
LOGN	**Logan Glacier**	**6.63**	**37**	Pn		Pn	08 09 25.0	+0.1
P29M	**Windy Craggy**	**7.24**	**53**	Pn		Pn	08 09 33.0	-0.1
N15K	**Kwethluk River**	**7.24**	**312**	Pn		Pn	08 09 33.9	+0.7

IDC 24 08:08:44.7±3.2, 54°31N×86°79E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.7km s-min=16.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**253**	I	I	08 15 47.5	
	0.1nm,1.0s,baz=71,slow=348,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.21**	**253**	Pg	Pg	08 09 07.0	-0.9
	0.7nm,0.3s,baz=70,slow=16,SNR=10						
ZALV				Lg	Lg	08 09 24.6	
	0.9nm,0.3s,baz=72,slow=32,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.25**	**237**	Pn	Pn	08 10 19.2	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=3.5						
KURBB				Lg	Lg	08 12 03.1	
	0.1nm,0.3s,baz=47,slow=31,SNR=2.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.05**	**203**	Pn	Pn	08 10 43.9	+1.0
	0.1nm,0.3s,baz=26,slow=12,SNR=4.2						
MKAR				Lg	Lg	08 12 58.2	
	baz=23,slow=30						
	0.2nm,0.4s						

*NEIC **24** 08:15:45.7±1.5, 47°28N±0°07×128°92W±0°07, h10km±2km, ML2.9/12, Error ellipse: s-maj=14.2km s-min=5.0km az=329.0*

*PGC **24** 08:15:48.9±1.9, 47°57N×128°97W, h10km, MLSn3.0/14, Mw3.7/14, 286km Wsw of Tofino, Bc Off Coast Of Washington*

ISC 24 08:15:46.5±2.6, 47°5N±0°1×128°9W±0°1, h10km, n33, σ1§31/40, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMO	**NEPTUNE Canada**	**0.47**	**342**	P	**Pg**	**08 15 55.8**	**+0.1**
KEMO				S	**Sg**	**08 16 00.0**	**-1.9**
KEMF	**NEPTUNE Canada**	**0.50**	**344**	P	**Pg**	**08 15 56.2**	**+0.1**
KEMF				S	**Sg**	**08 16 00.7**	**-1.9**
NCHR	**NEPTUNE Canada**	**0.52**	**346**	P	**Pg**	**08 15 56.5**	**0.0**
NCHR				S	**Sg**	**08 16 01.3**	**-2.0**
NC27	**ODP1027**	**0.82**	**69**	P	**Pn**	**08 16 03.9**	**+1.3**
B928	**Bamfield**	**2.86**	**60**	Pn	**Pn**	**08 16 32.8**	**+0.7**
B928				Sn	**Sn**	**08 17 05.5**	**-1.0**
B928	**Bamfield**	**2.86**	**60**	Pn	**Pn**	**08 16 32.8**	**+0.7**
B928				Sn	**Sn**	**08 17 05.5**	**-1.0**
WOSB	**Woss**	**3.10**	**29**	Pn	**Pn**	**08 16 36.9**	**+1.4**
WOSB	**Woss**	**3.10**	**29**	Pn	**Pn**	**08 16 36.7**	**+1.2**
MAYB	**Maynard**	**3.15**	**21**	Pn	**Pn**	**08 16 37.1**	**+0.9**
MAYB	**Maynard**	**3.15**	**21**	Pn	**Pn**	**08 16 37.1**	**+0.9**
PTRF	**Port Renfrew**	**3.19**	**69**	Pn	**Pn**	**08 16 37.5**	**+0.8**
SPLB	**Strathcona Par**	**3.24**	**40**	Pn	**Pn**	**08 16 39.1**	**+1.8**
SPLB	**Strathcona Par**	**3.24**	**40**	Pn	**Pn**	**08 16 39.1**	**+1.8**
B926	**Mesachie Lake**	**3.46**	**65**	Pn	**Pn**	**08 16 41.2**	**+0.8**
B926				Sn	**Sn**	**08 17 20.0**	**-1.4**
B926	**Mesachie Lake**	**3.46**	**65**	Pn	**Pn**	**08 16 41.2**	**+0.8**
B926				Sn	**Sn**	**08 17 20.0**	**-1.4**
CLRS	**Cowichan Lake**	**3.46**	**65**	Pn	**Pn**	**08 16 41.2**	**+0.8**
CLRS	**Cowichan Lake**	**3.46**	**65**	Pn	**Pn**	**08 16 41.5**	**+1.1**
NCSB	**Newcastle Ridg**	**3.48**	**31**	Pn	**Pn**	**08 16 42.3**	**+1.5**
NCSB				Sn	**Sn**	**08 17 20.8**	**-1.3**
WISH	**Wishkah**	**3.50**	**94**	Pn	**Pn**	**08 16 39.7**	**-1.3**
WISH				IAML		08 18 14.9	
	comp=E,34nm,1.0s						
SYMB	**Survey Mountai**	**3.59**	**70**	Pn	**Pn**	**08 16 43.5**	**+1.2**
SYMB	**Survey Mountai**	**3.59**	**70**	Pn	**Pn**	**08 16 43.5**	**+1.2**
B010	**North Saanich**	**3.84**	**70**	Pn	**Pn**	**08 16 46.6**	**+1.1**
B010	**North Saanich**	**3.84**	**70**	Pn	**Pn**	**08 16 46.6**	**+1.1**
PGC	**Sidney**	**3.84**	**70**	Pn	**Pn**	**08 16 46.2**	**+0.7**
PGC				IAML		08 17 57.8	
	comp=N,9.7nm,1.2s						
PGC	**Sidney**	**3.84**	**70**	Pn	**Pn**	**08 16 46.6**	**+1.1**
B011	**North Saanich**	**3.84**	**70**	Pn	**Pn**	**08 16 46.8**	**+1.3**
B011	**North Saanich**	**3.84**	**70**	Pn	**Pn**	**08 16 46.8**	**+1.3**
SHB	**Sechelt**	**3.96**	**56**	Pn	**Pn**	**08 16 48.6**	**+1.3**
SHB	**Sechelt**	**3.96**	**56**	Pn	**Pn**	**08 16 48.6**	**+1.3**
BBB	**Bella Bella**	**4.75**	**6**	Pn	**Pn**	**08 16 59.5**	**+1.5**
BBB				IAML		08 19 17.6	
	comp=E,15nm,1.1s						
BBB				IAML		08 19 59.5	
	comp=N,11nm,1.0s						
BBB	**Bella Bella**	**4.75**	**6**	Pn	**Pn**	**08 16 59.5**	**+1.5**
LON	**Longmire**	**4.89**	**96**	Pn	Pn	08 16 56.6	-3.5
LON				IAML		08 17 46.2	
	comp=N,4.1nm,1.1s						
LON				IAML		08 18 16.7	
	comp=E,7.6nm,0.9s						
LLLB	**Lillooet**	**5.58**	**53**	Pn	**Pn**	**08 17 11.5**	**+2.0**

*IDC **24** 08:28:46.9±6.3, 41°95N×144°30E, h0km, mb3.4/3, mbtmp3.4/5, ML2.3/2, MS3.1/2, Error ellipse: s-maj=111.5km s-min=48.1km az=99.0*

*JMA **24** 08:29:03.8±0.1, 42°3N±0°4×143°0E±0°4, h49km±1km, MV3.2/38, HIDAKA MOUNTAINS REGION*

ISC 24 08:29:02.9±1.2, 42°29N±0°08×143°05E±0°06, h57km±9km, n25, σ0§85/19, mb3.4/3, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.19**	**90**	P	**Pn**	**08 29 12.1**	**+0.2**
JTHR				*eS*	**Sn**	**08 29 18.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.22**	**267**	P	**Pn**	**08 29 11.7**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.22**	**267**	A	A	08 29 11.7	
	comp=E,6.0nm,0.5s,comp=N,6.0nm,0.7s						
JEM	**Erimo**	**0.29**	**163**	P	**Pn**	**08 29 13.1**	**+0.5**
JEM				*eS*	**Sn**	**08 29 20.2**	**+0.6**
JCH	**Churui**	**0.40**	**36**	*eP*	**Pn**	**08 29 13.8**	**+0.2**
JCH				*eS*	**Sn**	**08 29 21.7**	**+0.5**
JSHD	**Hidakashinhida**	**0.44**	**285**	*eP*	**Pn**	**08 29 14.0**	**0.0**
JBT2	**Biratori 2**	**0.70**	**314**	*eP*	**Pn**	**08 29 16.8**	**-0.1**
JOB	**Onbets**	**0.84**	**43**	*eP*	**Pn**	**08 29 19.9**	**+1.2**
JIAM	**Iburiatsuma**	**0.90**	**292**	*eP*	**Pn**	**08 29 20.2**	**+0.9**
JAR	**Ashorobuto**	**1.14**	**28**	*eP*	**Pn**	**08 29 22.8**	**+0.2**
JAR				*eS*	**Sn**	**08 29 36.7**	**-0.6**
JEW	**Eniwo**	**1.30**	**295**	*eP*	**Pn**	**08 29 25.0**	**+0.2**
JAB	**Ashibetsu**	**1.35**	**334**	*eP*	**Pn**	**08 29 26.4**	**+0.9**
MJAR	**Matsushiro Arr**	**6.85**	**215**	Pn	Pn	08 30 33.3	-7.5
	baz=40,slow=17,SNR=1.2						
	comp=N,0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**8.29**	**287**	Pn	**Pn**	**08 31 02.2**	**+1.8**
	comp=N,0.1nm,0.3s,baz=105,slow=16,SNR=1.3						
	comp=N,0.9nm,0.6s						
KSRS	**Korea Array**	**12.58**	**252**	LR	LR	08 36 06.1	
	comp=N,24nm,19.1s,baz=110,slow=33						
H11N2	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	09 06 40.2	
	baz=324,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	09 06 39.6	
	baz=324,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**30.22**	**131**	T	T	09 06 40.7	
	baz=324,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**31.08**	**132**	T	T	09 07 44.0	
	baz=325,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**31.08**	**133**	T	T	09 07 46.8	
	baz=325,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**31.10**	**132**	T	T	09 07 44.6	
	baz=325,slow=76,SNR=7.4						
ZALV	**Zalesovo Beam**	**39.49**	**308**	P	**P**	**08 36 26.9**	**-0.6**
	comp=N,0.3nm,0.4s,baz=87,slow=8.7,SNR=1.9						
	comp=N,0.3nm,0.4s						
MKAR	**Makanchi Array**	**42.59**	**298**	P	**P**	**08 36 51.6**	**-1.5**
	comp=N,0.2nm,0.6s,baz=84,slow=8.5,SNR=2.7						
	comp=N,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**43.93**	**304**	P	**P**	**08 37 03.2**	**-0.6**
	comp=N,0.5nm,0.6s,baz=75,slow=8.6,SNR=4.8						
	comp=N,0.5nm,0.6s						
BVAR	**Borovoye Array**	**48.09**	**309**	LR	LR	09 00 04.3	
	comp=N,77nm,21.0s,baz=300,slow=38						

*AEIC **24** 08:40:37.2±0.9, 56°4N±0°1×149°0W±0°2, h10km±9km, Error ellipse: s-maj=19.6km s-min=11.1km az=159.0*

NEIC 24 08:40:35.3±1.1, 56°6N±0°1×149°2W±0°1, h21km±11km, ML3.0/22, ML2.9(AEIC), Error ellipse: s-maj=18.7km s-min=8.0km az=156.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.23**	**305**		Pn	08 41 11.1	+0.1
KDAK					Sn	08 41 37.9	0.0
OHAK	**Old Harbor**	**2.36**	**288**		Pn	08 41 12.7	-0.1
OHAK					Sn	08 41 39.9	-1.2
SYI	**Shuyak Island**	**2.69**	**321**		Pn	08 41 17.8	+0.5
SYI				IAML		08 42 09.4	
	comp=E,30nm,1.5s						
SYI	**Shuyak Island**	**2.69**	**321**		Sn	08 41 49.7	+0.4
SYI	**Shuyak Island**	**2.69**	**321**	IAML		08 41 39.0	
	comp=N,33nm,1.5s						
CNPM	**China Poot**	**3.17**	**340**		Pn	08 41 24.1	+0.1
CNPM					Sn	08 42 01.5	+0.4
CNPM	**China Poot**	**3.17**	**340**	IAML		08 42 37.4	
	comp=E,22nm,1.5s						
Q23K	**Middleton Isla**	**3.24**	**26**		Pn	08 41 24.4	-0.4
BRSE	**Bradley Lake S**	**3.30**	**346**		Pn	08 41 25.3	-0.3
BRLK	**Bradley Lake**	**3.34**	**345**	Pn	Pn	08 41 26.2	-0.1
Q19K	**Cape Douglas,**	**3.38**	**316**		Pn	08 41 25.9	-0.9
Q19K	**Cape Douglas,**	**3.38**	**316**	IAML		08 42 08.1	
	comp=N,92nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.49**	**306**		Pn	08 41 28.0	-0.4
KAHG					Sn	08 42 07.4	-1.7
P23K	**Montague Islan**	**3.57**	**14**		Pn	08 41 28.9	-0.5
P23K					Sn	08 42 08.7	-2.2
P19K	**Oil Pt**	**3.78**	**327**		Pn	08 41 33.3	+1.0
P19K	**Oil Pt**	**3.78**	**327**	IAML		08 42 05.5	
	comp=E,54nm,1.4s						
P19K				IAML		08 43 30.6	
	comp=N,49nm,1.1s						
ANCK	**Angle Creek**	**3.80**	**298**		Pn	08 41 33.0	+0.3
O22K	**Cooper Landing**	**3.94**	**356**		Pn	08 41 35.4	+0.9
O22K	**Cooper Landing**	**3.94**	**356**	IAML		08 43 47.1	
	comp=E,60nm,1.5s						
O20K	**Slope Mountain**	**3.98**	**334**		Pn	08 41 35.9	+0.9
RAGM	**Ragged Mountai**	**4.50**	**30**	Pn	Pn	08 41 42.2	0.0
RAGM				IAML		08 42 49.6	
	comp=E,34nm,1.3s						
RC01	**Rabbit Creek A**	**4.55**	**356**	Pn	Pn	08 41 42.8	-0.1
RC01				IAML		08 43 01.5	
	comp=E,12nm,1.4s						

PGC 24 08:45:50.5±11.0, 47°57N×128°98W, h10km, MLSn3.1/13, Mw3.7/13, 286km Wsw of Tofino, Bc Off Coast Of Washington, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMO	**NEPTUNE Canada**	**0.36**	**347**	P	Pg	08 45 57.4	-0.2
KEMO				S	Sg	08 46 01.6	-0.8
KEMF	**NEPTUNE Canada**	**0.38**	**348**	P	Pg	08 45 57.7	-0.3
KEMF				S	Sg	08 46 02.2	-0.8
NCHR	**NEPTUNE Canada**	**0.41**	**351**	P	Pg	08 45 57.9	-0.5
NCHR				S	Sg	08 46 02.8	-0.9
NC27	**ODP1027**	**0.85**	**77**	P	Pg	08 46 05.4	-1.5
WOSB	**Woss**	**3.04**	**31**	Pn	Pn	08 46 38.2	-0.5
WOSB				Sn	Sn	08 47 12.0	-3.2
MAYB	**Maynard**	**3.07**	**22**	Pn	Pn	08 46 38.3	-1.0
SPLB	**Strathcona Par**	**3.20**	**42**	Pn	Pn	08 46 40.5	-0.4
NCSB	**Newcastle Ridg**	**3.43**	**33**	Pn	Pn	08 46 43.9	-0.2
NCSB				Sn	Sn	08 47 22.9	-1.8
B926	**Mesachie Lake**	**3.48**	**67**	Pn	Pn	08 46 43.2	-1.5
CLRS	**Cowichan Lake**	**3.48**	**67**	Pn	Pn	08 46 43.2	-1.5
SYMB	**Survey Mountai**	**3.61**	**72**	Pn	Pn	08 46 44.9	-1.7
B010	**North Saanich**	**3.86**	**72**	Pn	Pn	08 46 48.5	-1.4
B011	**North Saanich**	**3.86**	**72**	Pn	Pn	08 46 48.7	-1.3
SHB	**Sechelt**	**3.95**	**57**	Pn	Pn	08 46 50.8	-0.4
BBB	**Bella Bella**	**4.65**	**7**	Pn	Pn	08 47 01.5	+0.8
MBW	**Mount Baker**	**4.89**	**73**	Pn	Pn	08 47 04.2	-0.1
BUTB	**Butedale**	**5.51**	**3**	Pn	Pn	08 47 13.5	+0.9
LLLB	**Lillooet**	**5.57**	**54**	Pn	Pn	08 47 13.7	+0.2

*IDC **24** 08:54:48.1±2.6, 55°57N×150°07W, h0km, mb3.2/2, mbtmp3.0/4, ML2.8/2, Error ellipse: s-maj=53.8km s-min=35.3km az=35.0*

*NEIC **24** 08:54:55.3±2.4, 56°03N±0°09×150°1W±0°1, h29km±14km, ML3.6/42, ML3.3(AEIC), Error ellipse: s-maj=14.5km s-min=7.1km az=151.0*

*AEIC **24** 08:54:59.3±2.0, 56°15N±0°09×150°0W±0°1, h12km±8km, Error ellipse: s-maj=14.5km s-min=9.0km az=158.0*

ISC 24 08:54:52.3±1.4, 56°05N±0°09×150°02W±0°05, h10km, n170, σ1§61/176, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.15**	**304**		**Pn**	**08 55 28.1**	**-0.2**
OHAK					**Sn**	**08 55 52.6**	**-2.4**
OHAK	**Old Harbor**	**2.15**	**304**	P	**Pn**	**08 55 28.0**	**-0.2**
OHAK	**Old Harbor**	**2.15**	**304**	P	**Pn**	**08 55 28.1**	**-0.2**
	baz=121						
OHAK				S	**Sn**	**08 55 52.6**	**-2.4**
	baz=121						
KDAK	**Kodiak Island**	**2.23**	**322**		**Pn**	**08 55 29.9**	**+0.5**
KDAK					**Sn**	**08 55 55.1**	**-1.8**
SII	**Sitkinak Islan**	**2.38**	**284**		**Pn**	**08 55 32.1**	**+0.8**
SII					**Sn**	**08 55 58.1**	**-2.3**
SII	**Sitkinak Islan**	**2.38**	**284**	IAML		08 55 58.8	
	comp=E,290nm,0.7s						
SII				IAML		08 55 59.8	
	comp=N,174nm,0.6s						
SII	**Sitkinak Islan**	**2.38**	**284**	P	**Pn**	**08 55 32.1**	**+0.8**
	baz=100						
SII				S	**Sn**	**08 55 58.1**	**-2.3**
	baz=100						
Q20K	**Shuyak Island**	**2.87**	**334**	P	**Pn**	**08 55 38.7**	**+0.7**
	baz=152						
Q20K				S	**Sn**	**08 56 11.4**	**-1.3**
	baz=152						
SYI	**Shuyak Island**	**2.87**	**334**		**Pn**	**08 55 38.8**	**+0.7**
SYI					**Sn**	**08 56 11.4**	**-1.3**
KAHG	**Katmai Hook Gl**	**3.47**	**317**		**Pn**	**08 55 48.1**	**+1.7**
Q19K	**Cape Douglas,**	**3.49**	**327**		**Pn**	**08 55 48.1**	**+1.5**
Q19K					**Sn**	**08 56 27.0**	**-0.9**
Q19K	**Cape Douglas,**	**3.49**	**327**	IAML		08 56 39.5	
	comp=N,173nm,1.4s						
Q19K				IAML		08 56 40.3	
	comp=E,247nm,1.4s						
Q19K	**Cape Douglas,**	**3.49**	**327**	P	**Pn**	**08 55 48.1**	**+1.5**
	baz=144						
Q19K				S	**Sn**	**08 56 27.0**	**-0.9**
	baz=144						
CNPM	**China Poot**	**3.55**	**350**		**Pn**	**08 55 47.8**	**+0.4**
CNPM					**Sn**	**08 56 28.7**	**-0.7**
CNPM	**China Poot**	**3.55**	**350**	IAML		08 56 30.1	
	comp=E,96nm,0.6s						
KCG	**Knife Ck. Glac**	**3.58**	**311**		**Pn**	**08 55 49.5**	**+1.7**
ACHA	**Angle Creek He**	**3.61**	**309**		**Pn**	**08 55 49.6**	**+1.3**
ANCK	**Angle Creek**	**3.68**	**308**		**Pn**	**08 55 50.7**	**+1.4**
HOM	**Homer**	**3.72**	**347**	Pn	**Pn**	**08 55 48.2**	**-1.5**
BRSE	**Bradley Lake S**	**3.72**	**354**		**Pn**	**08 55 50.1**	**+0.3**
BRSE	**Bradley Lake S**	**3.72**	**354**	P	**Pn**	**08 55 50.1**	**+0.3**
	baz=174						
KAHC	**Katmai Hardscr**	**3.75**	**316**		**Pn**	**08 55 51.8**	**+1.5**
KAHC	**Katmai Hardscr**	**3.75**	**316**	P	**Pn**	**08 55 51.8**	**+1.5**
	baz=132						
BRLK	**Bradley Lake**	**3.75**	**353**		**Sn**	**08 56 33.2**	**-1.3**
BRLK				IAML		08 56 35.7	
	comp=N,46nm,0.5s						
BRLK				IAML		08 56 36.7	
	comp=E,46nm,0.8s						
BRLK	**Bradley Lake**	**3.75**	**353**		**Pn**	**08 55 50.3**	**0.0**
Q17K	**Contact Creek**	**3.89**	**307**	P	**Pn**	**08 55 53.2**	**+1.0**
	baz=122						
Q23K	**Middleton Isla**	**3.92**	**29**		**Pn**	**08 55 53.1**	**+0.6**
Q23K	**Middleton Isla**	**3.92**	**29**	IAML		08 58 04.3	
	comp=E,156nm,1.5s						
Q23K	**Middleton Isla**	**3.92**	**29**	P	**Pn**	**08 55 53.1**	**+0.6**
	baz=212						
MID	**Middleton Isla**	**3.92**	**29**	Pn	**Pn**	**08 55 52.9**	**+0.4**
MID				IAML		08 57 36.7	
	comp=N,136nm,1.5s						
MID	**Middleton Isla**	**3.92**	**29**	P	**Pn**	**08 55 53.7**	**+1.2**
P19K	**Oil Pt**	**4.00**	**336**		**Pn**	**08 55 55.0**	**+1.3**
P19K	**Oil Pt**	**4.00**	**336**	IAML		08 56 44.6	
	comp=E,90nm,1.1s						
P19K				IAML		08 56 49.5	
	comp=N,108nm,1.1s						
P19K	**Oil Pt**	**4.00**	**336**	P	**Pn**	**08 55 55.0**	**+1.3**
	baz=153						
SEW	**Seward**	**4.08**	**4**		**Pn**	**08 55 55.3**	**+0.6**
SEW	**Seward**	**4.08**	**4**	P	**Pn**	**08 55 55.3**	**+0.6**
	baz=184						
P23K	**Montague Islan**	**4.20**	**18**		**Pn**	**08 55 57.0**	**+0.7**
P23K	**Montague Islan**	**4.20**	**18**	P	**Pn**	**08 55 57.0**	**+0.7**
	baz=200						
O20K	**Slope Mountain**	**4.27**	**342**		**Pn**	**08 55 58.2**	**+0.8**
O20K	**Slope Mountain**	**4.27**	**342**	P	**Pn**	**08 55 58.2**	**+0.8**
	baz=160						
IVE	**Iliamna Volcan**	**4.29**	**339**		**Pn**	**08 55 58.0**	**+0.4**
P18K	**Big Mountain,**	**4.36**	**322**		**Pn**	**08 55 59.1**	**+0.5**
P18K	**Big Mountain,**	**4.36**	**322**	P	**Pn**	**08 55 59.2**	**+0.5**
	baz=138						
O22K	**Cooper Landing**	**4.45**	**2**	Pn	**Pn**	**08 56 01.4**	**+1.7**
O22K					**Sn**	**08 56 51.2**	**-0.3**
O22K				IAML		08 56 54.3	
	comp=E,112nm,0.9s						
RSO	**Redoubt South**	**4.66**	**343**	Pn	**Pn**	**08 56 02.3**	**-0.5**

GHO						Sn	08 57 21.4	-2.8	
SML	Sawmill	5.84	8	Pn		Pn	08 56 21.1	+2.1	
SML						Sn	08 57 23.3	-2.6	
KLU	Klutina	5.86	20			Pn	08 56 20.2	+1.0	
KLU	Klutina	5.86	20			Sn	08 57 21.4	-5.0	
KLU	Klutina baz=203	5.86	20	P		Pn	08 56 20.2	+1.0	
N17K	Nushagak Hills	5.87	323			Pn	08 56 20.1	+0.8	
N17K	Nushagak Hills baz=137	5.87	323	P		Pn	08 56 20.1	+0.8	
BARK	Barkley Ridge	5.91	39			Pn	08 56 21.0	+1.2	
SDPT	Sand Point	5.95	268	Pn		Pn	08 56 18.7	-1.7	
SCM	Sheep Creek Mo	5.97	12			Pn	08 56 22.0	+1.3	
SCM	Sheep Creek Mo baz=195	5.97	12	P		Pn	08 56 22.0	+1.3	
M20K	Styx River	6.07	346	Pn		Pn	08 56 23.1	+1.0	
M20K						Sn	08 57 31.3	-0.2	
O15K	Ungalikthiuk R	6.13	305			Pn	08 56 23.5	+0.7	
O15K	Ungalikthiuk R baz=116	6.13	305	P		Pn	08 56 23.5	+0.7	
VRDI	Verde Repeater	6.22	31			Pn	08 56 25.6	+1.3	
N25K	Chitina, Valde	6.24	25			Pn	08 56 25.7	+1.2	
N25K	Chitina, Valde	6.24	25			Sn	08 57 34.2	-1.7	
N25K	Chitina, Valde baz=209	6.24	25	P		Pn	08 56 25.7	+1.2	
M19K	Big River Lodg	6.29	341	Pn		Pn	08 56 26.9	+1.9	
GLB	Gilahina Butte	6.30	28			Pn	08 56 26.7	+1.5	
KIAG	Kiagna River	6.33	36			Pn	08 56 26.8	+1.1	
SAMH	Samovar Hills	6.38	46			Pn	08 56 28.5	+2.2	
M24K	Tolsona, Glenn	6.39	16	Pn		Pn	08 56 28.8	+2.3	
N16K	Nishlik Lake	6.40	317			Pn	08 56 28.0	+1.4	
N16K	Nishlik Lake baz=130	6.40	317	P		Pn	08 56 28.0	+1.4	
MCARA	McCarthy VSAT	6.47	31			Pn	08 56 28.8	+1.3	
MCARA	McCarthy VSAT baz=217	6.47	31	P		Pn	08 56 28.8	+1.3	
PTPK	Patty Peak	6.49	34			Pn	08 56 29.3	+1.4	
PCA	Pinnacle	6.58	48			Pn	08 56 30.6	+1.6	
PINM	Pinnacle baz=236	6.58	48	P		Pn	08 56 30.6	+1.6	
M17K	Holitna River	6.61	327			Pn	08 56 30.4	+1.0	
M17K	Holitna River baz=141	6.61	327	P		Pn	08 56 30.4	+1.0	
BARN	Barnard Glacie	6.66	38			Pn	08 56 31.8	+1.5	
CTG	Chitna Glacier baz=226	6.70	39	P		Pn	08 56 32.2	+1.3	
CTGM	Chitina Glacie	6.71	39			Pn	08 56 32.2	+1.3	
PNL	Peninsula	6.73	53	P		Pn	08 56 32.8	+1.7	
PNL	Peninsula baz=242	6.73	53	P		Pn	08 56 32.7	+1.7	
LOGN	Logan Glacier	6.73	41			Pn	08 56 32.6	+1.4	
N15K	Kwethluk River	6.75	312			Pn	08 56 32.9	+1.6	
N15K	Kwethluk River baz=123	6.75	312	P		Pn	08 56 32.9	+1.6	
PN7A	Pavlof North-7	6.79	270			Pn	08 56 32.0	0.0	
O14K	Tigyukauivet M	6.83	303			Pn	08 56 33.7	+1.3	
O14K	Tigyukauivet M baz=113	6.83	303	P		Pn	08 56 33.7	+1.3	
M16K	Timber Creek	6.83	321			Pn	08 56 33.8	+1.3	
M16K	Timber Creek baz=133	6.83	321	P		Pn	08 56 33.7	+1.3	
HARP	HAARP	6.84	19			Pn	08 56 34.4	+1.8	
HARP	HAARP baz=203	6.84	19	P		Pn	08 56 34.4	+1.8	
L18K	Granite Mounta	7.07	334	Pn		Pn	08 56 37.0	+1.2	
DHY	Denali Highway	7.18	10	Pn		Pn	08 56 40.6	+3.3	
M26K	Nabesna, AK	7.32	27	Pn		Pn	08 56 41.8	+2.6	
O29M	Mount Kennedy	7.40	50			Pn	08 56 42.4	+2.0	
O29M	Mount Kennedy baz=240	7.40	50	P		Pn	08 56 42.3	+2.0	
TRF	Thorofare Moun	7.43	359	Pn		Pn	08 56 43.6	+2.9	
CAST	Castle Rocks	7.47	353	Pn		Pn	08 56 43.9	+2.7	
P29M	Windy Craggy	7.47	56			Pn	08 56 42.2	+1.0	
P29M	Windy Craggy baz=247	7.47	56	P		Pn	08 56 42.5	+1.2	
L16K	Owhat River	7.49	323	Pn		Pn	08 56 43.1	+1.6	
KTH	Kantishna Hill	7.54	357	Pn		Pn	08 56 44.1	+1.9	
YUK3	Moose Creek baz=225	7.58	37	P		Pn	08 56 45.5	+2.6	
M27K	Edge Creek, AK	7.58	30			Pn	08 56 45.3	+2.4	
M27K	Edge Creek, AK baz=217	7.58	30	P		Pn	08 56 45.3	+2.4	
YUK7	Dusty Glacier	7.70	49			Pn	08 56 46.7	+2.1	
YUK6	Outpost Mounta	7.83	46			Pn	08 56 48.6	+2.3	
YUK6	Outpost Mounta baz=236	7.83	46	P		Pn	08 56 48.6	+2.3	
K17K	Iditarod	7.91	331	Pn		Pn	08 56 49.0	+1.9	
YUK4	Talbot Arm baz=233	7.95	43	P		Pn	08 56 52.1	+4.2	
P30M	Million Dollar baz=245	8.03	54	P		Pn	08 56 52.2	+3.2	
BPAW	Bear Paw Mtn.	8.09	357	Pn		Pn	08 56 51.4	+1.6	
HYT	Haines Junctio	8.12	49	Pn		Pn	08 56 52.0	+1.7	
RIDG	Independent Ri	8.14	16	Pn		Pn	08 56 53.0	+2.6	
L27K	Beaver Creek,	8.17	27	Pn		Pn	08 56 51.9	+1.1	
BCAR	Beaver Creek A	8.18	27	Pn		Pn	08 56 52.6	+1.6	
SKAG	Skagway	8.56	60	P		Pn	08 56 57.9	+1.7	
O30N	Mendenhall	8.70	51	Pn		Pn	08 57 00.2	+2.1	
M29M	Somme Creek	8.72	38			Pn	08 57 00.6	+2.2	
ILAR	Eielson Array comp=E,0.1nm,0.3s,baz=190,slow=12,SNR=1.8 comp=E,0.1nm,0.3s	8.89	9	Pn		Pn	08 57 00.5	-0.1	
N31M	Braeburn, Yuko baz=240	9.18	48	P		Pn	08 57 07.1	+2.5	
DAWY	Dawson	9.62	29	Pn		Pn	08 57 12.8	+2.1	
H21K	Melozitna Rive	9.74	353	Pn		Pn	08 57 13.0	+0.7	
EGAK	Eagle	9.78	23	Pn		Pn	08 57 15.2	+2.4	
I26K	Coal Creek Min	9.87	17	Pn		Pn	08 57 16.6	+2.6	
Q32M	Nakina River	9.98	66	Pn		Pn	08 57 17.5	+1.8	
H17K	Granite Mounta	10.15	335	Pn		Pn	08 57 19.5	+1.7	
YKA	Yellowknife Ar baz=263,slow=9.1,SNR=4.2 comp=E,0.2nm,0.7s	19.02	56	P		P	08 59 14.5	+0.6	
PDAR	Pinedale Array comp=E,0.1nm,0.5s,baz=320,slow=8.3,SNR=1.6 comp=E,0.1nm,0.5s	29.03	100	P		P	09 00 49.3	-3.2	
MKAR	Makanchi Array comp=E,0.4nm,1.0s,baz=46,slow=5.3,SNR=1.3 comp=E,0.4nm,1.0s	68.55	324	P		P	09 05 54.5	-0.2	

IDC 24 08:55:31.2±2.7, 54°25N×86°09E, h0km, mbtmp3.1/1, ML2.9/1, Error ellipse: s-maj=19.6km s-min=10.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA 0.1nm,0.9s,baz=67,slow=350,SNR=6.0	0.81	249	I	I	09 00 26.6	
ZALV	Zalesovo Beam 2.0nm,0.3s,baz=69,slow=17,SNR=12	0.81	249	Pg	Pg	08 55 45.9	-0.8
ZALV				Lg	Lg	08 55 58.6	
KURBB	5.2nm,0.3s,baz=69,slow=30,SNR=9.5 Kurchatov Arra 0.1nm,0.3s,baz=48,slow=34,SNR=1.9	5.88	235	Lg	Lg	08 58 41.1	
MKAR	Makanchi Array 0.2nm,0.3s,baz=24,slow=13,SNR=11	7.84	200	Pn	Pn	08 57 28.0	+1.5
MKAR				Sn	Sn	08 58 54.4	-1.5
MKAR	baz=22,slow=27,SNR=2.7			Lg	Lg	08 59 39.3	
	baz=17,slow=33,SNR=2.1 0.6nm,0.5s						

NEIC 24 09:02:11.1±0.9, 56°5N±0°1×148°9W±0°1, h19km±10km, ML3.6/30, ML3.2(AEIC), Error ellipse: s-maj=18.2km s-min=9.9km az=179.0
AEIC 24 09:02:13.0±1.3, 56°30N±0°09×148°8W±0°1, h10km±8km, Error ellipse: s-maj=13.5km s-min=10.3km az=167.0
ISC 24 09:02:09.2±2.2, 56°5N±0°1×148°83W±0°06, h10km, n69, σ0s83/74, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.44	305		Pn	09 02 49.9	+0.8
KDAK	Kodiak Island	2.44	305		Pn	09 02 50.1	+1.0
KDAK	65nm,0.5s			IAML		09 04 01.5	
KDAK	64nm,0.2s			IAML		09 04 02.6	
OHAK	Old Harbor	2.57	289		Pn	09 02 50.9	+0.1
OHAK	Old Harbor baz=105	2.57	289	P	Pn	09 02 50.6	-0.2
OHAK				S	Sn	09 03 19.0	-3.0
SYI	Shuyak Island	2.89	320		Pn	09 02 55.9	+0.7
Q20K	Shuyak Island baz=137	2.89	320	P	Pn	09 02 56.1	+0.8
Q20K				S	Sn	09 03 30.0	-0.1
Q23K	Middleton Isla	3.27	23		Pn	09 03 00.5	+0.1
Q23K	Middleton Isla baz=205	3.27	23	P	Pn	09 03 00.5	+0.1
Q23K	baz=205			S	Sn	09 03 38.1	-1.1
MID	Middleton Isla	3.27	23	Pn	Pn	09 03 00.2	-0.2
MID	comp=E,171nm,2.0s			IAML		09 03 26.5	
MID	comp=N,211nm,1.6s			IAML		09 03 31.0	
CNPM	China Poot	3.34	338		Pn	09 03 02.2	+0.8
BRSE	Bradley Lake S	3.45	344		Pn	09 03 03.7	+0.7
BRSE					Sn	09 03 43.9	0.0
BRSE	Bradley Lake S baz=162	3.45	344	P	Pn	09 03 03.7	+0.7
BRSE	baz=162			S	Sn	09 03 43.9	0.0
BRLK	Bradley Lake	3.49	343		Pn	09 03 04.1	+0.5
Q19K	Cape Douglas,	3.58	316	Pn	Pn	09 03 05.1	+0.3
Q19K	Cape Douglas, baz=132	3.58	316	P	Pn	09 03 05.9	+1.1
P23K	Montague Islan	3.63	11		Pn	09 03 05.9	+0.4
P23K	Montague Islan baz=195	3.63	11	P	Pn	09 03 05.9	+0.4
SEW	Seward	3.68	355		Pn	09 03 06.4	+0.3
KAHG	Katmai Hook Gl	3.70	306		Pn	09 03 07.3	+0.8
AU22	Augustine Moun	3.79	322		Pn	09 03 09.1	+1.5
P19K	Oil Pt	3.97	326		Pn	09 03 11.0	+0.9
P19K	Oil Pt baz=142	3.97	326	P	Pn	09 03 11.5	+1.4
ANCK	Angle Creek	4.01	299		Pn	09 03 11.6	+0.9
O22K	Cooper Landing	4.07	354		Pn	09 03 11.9	+0.5
O22K	Cooper Landing baz=173	4.07	354	P	Pn	09 03 12.7	+1.3
SLKM	Skilak Lake	4.13	350		Pn	09 03 13.0	+0.7
HIN	Hinchinbrook I	4.14	16		Pn	09 03 12.3	-0.1
O20K	Slope Mountain	4.15	333		Pn	09 03 13.3	+0.7
O20K	Slope Mountain baz=150	4.15	333	P	Pn	09 03 13.3	+0.7
KAIM	Kayak Island	4.19	32		Pn	09 03 13.0	-0.2
KAIM	comp=E,111nm,1.9s			IAML		09 04 07.3	
KAIM	Kayak Island baz=216	4.19	32	P	Pn	09 03 13.2	0.0
IVE	Iliamna Volcan	4.20	330		Pn	09 03 14.0	+0.6
CNTC	Contact Creek	4.23	298		Pn	09 03 14.1	+0.4
Q17K	Contact Creek baz=112	4.23	298	P	Pn	09 03 14.1	+0.3
EYAK	Cordova Ski Ar	4.41	20		Pn	09 03 16.2	0.0
RED	Redoubt Volcan	4.48	334		Pn	09 03 17.6	+0.4
P18K	Big Mountain,	4.51	313		Pn	09 03 18.1	+0.6
P18K	comp=N,23nm,1.2s			IAML		09 04 54.4	
P18K	Big Mountain, baz=128	4.51	313	P	Pn	09 03 17.8	+0.3
RDSO	Redoubt South	4.51	335		Pn	09 03 18.0	+0.4
RAGM	Ragged Mountai	4.51	27	Pn	Pn	09 03 18.5	+1.0
RAGM	comp=E,81nm,1.3s			IAML		09 05 01.4	
NCT	North Crescent	4.65	334		Pn	09 03 20.0	+0.5
BERG	Berg Lake	4.78	32		Pn	09 03 21.7	+0.4
BMRM	Bremner River	5.04	24	Pn	Pn	09 03 23.1	-1.6
SPNN	North Nagishla	5.32	339		Pn	09 03 29.9	+1.1
KIAG	Kiagna River	5.61	34		Pn	09 03 33.3	+0.5
N25K	Chitina, Valde	5.61	21		Pn	09 03 32.4	-0.3
N18K	Kilae Creek	5.62	322	Pn	Pn	09 03 32.9	+0.2
PTPK	Patty Peak	5.78	32		Pn	09 03 35.7	+0.5
MCARA	McCarthy VSAT	5.79	29		Pn	09 03 36.0	+0.9
M24K	Tolsona, Glenn	5.83	12	Pn	Pn	09 03 35.6	-0.1
BARN	Barnard Glacie	5.94	36		Pn	09 03 38.1	+0.8
PNL	Peninsula	5.96	53		Pn	09 03 38.0	+0.7
CTGM	Chitina Glacie	5.98	38		Pn	09 03 38.4	+0.6
N17K	Nushagak Hills	5.99	316	Pn	Pn	09 03 38.2	+0.4
LOGN	Logan Glacier	5.99	40		Pn	09 03 38.6	+0.6
WACK	Wrangell Chich	6.01	21		Pn	09 03 40.2	+1.8
M19K	Big River Lodg	6.17	335	Pn	Pn	09 03 41.3	+1.0
L19K	White Mountain	6.52	334	Pn	Pn	09 03 44.4	-0.6
O29M	Mount Kennedy	6.63	50	Pn	Pn	09 03 46.8	+0.1
M17K	Holitna River	6.66	322	Pn	Pn	09 03 48.0	+0.9
YUK2	White River	6.74	34		Pn	09 03 50.2	+1.9
HYT	Haines Junctio	7.36	49	Pn	Pn	09 03 57.8	+1.2
L27K	Beaver Creek,	7.51	25	Pn	Pn	09 03 58.8	+0.1
BCAR	Beaver Creek A	7.52	25	Pn	Pn	09 03 59.5	+0.6
K17K	Iditarod	7.90	327	Pn	Pn	09 04 04.1	+0.1
SCRK	Sand Creek	7.92	16	Pn	Pn	09 04 04.2	-0.2
O30N	Mendenhall	7.93	52	Pn	Pn	09 04 04.5	+0.1
M29M	Somme Creek	7.99	37	Pn	Pn	09 04 04.8	-0.6
P32M	Atlin	8.61	62	Pn	Pn	09 04 14.5	+0.7

NEIC 24 09:02:55.0±1.1, 56°20N±0°07×149°4W±0°1, h21km±10km, ML3.5/40, ML3.2(AEIC), Error ellipse: s-maj=11.0km s-min=7.7km az=198.0
AEIC 24 09:02:56.2±2.4, 56°0N±0°1×149°3W±0°1, h12km±8km, Error ellipse: s-maj=15.1km s-min=9.5km az=163.0
ISC 24 09:02:52.9±1.9, 56°2N±0°1×149°37W±0°06, h10km, n73, σ0s79/81, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.40	314		Pn	09 03 32.3	0.0
KDAK					Sn	09 04 00.4	-1.3
OHAK	Old Harbor	2.41	298		Pn	09 03 33.0	+0.7
OHAK					Sn	09 04 00.5	-1.4
OHAK	comp=N,157nm,1.0s			IAML		09 04 00.8	
OHAK	comp=E,138nm,0.4s			IAML		09 04 01.0	
OHAK	Old Harbor baz=114	2.41	298	P	Pn	09 03 33.2	+0.8
OHAK	baz=114			S	Sn	09 04 00.4	-1.6
Q20K	Shuyak Island baz=145	2.96	328	P	Pn	09 03 40.7	+0.9
Q20K	baz=145			S	Sn	09 04 15.5	+0.2
SYI	Shuyak Island	2.96	328		Pn	09 03 40.7	+0.8
SYI					Sn	09 04 15.2	-0.1
SYI	comp=E,84nm,0.6s			IAML		09 04 16.2	
CNPM	China Poot	3.52	344		Pn	09 03 48.0	+0.3
CNPM					Sn	09 04 28.0	-1.4
CNPM	comp=E,52nm,1.4s			IAML		09 04 31.9	
Q19K	Cape Douglas,	3.61	322	Pn	Pn	09 03 47.5	-1.4
Q19K	comp=N,137nm,1.4s			IAML		09 04 53.3	
Q19K	Cape Douglas, baz=138	3.61	322	P	Pn	09 03 48.8	-0.1
Q19K	baz=138			S	Sn	09 04 32.2	+0.7
KAHG	Katmai Hook Gl	3.66	312		Pn	09 03 49.2	-0.4
KAHG					Sn	09 04 32.7	0.0
Q23K	Middleton Isla	3.66	25		Pn	09 03 49.3	-0.2
Q23K	comp=N,153nm,1.6s			IAML		09 06 15.0	
Q23K	Middleton Isla baz=208	3.66	25	P	Pn	09 03 49.9	+0.3
MID	Middleton Isla	3.66	25	Pn	Pn	09 03 49.3	-0.3
MID	comp=N,129nm,1.5s			IAML		09 04 25.1	
BRSE	Bradley Lake S	3.67	349		Pn	09 03 49.1	-0.6
BRSE	Bradley Lake S baz=168	3.67	349	P	Pn	09 03 49.7	-0.1
BRLK	Bradley Lake	3.71	348		Pn	09 03 50.3	0.0
AUCH	Augustine Cone	3.89	328		Pn	09 03 53.9	+1.1
SEW	Seward	3.96	359	Pn	Pn	09 03 53.1	-0.6
SEW	Seward baz=180	3.96	359	P	Pn	09 03 55.2	+1.5
P23K	Montague Islan	3.99	14		Pn	09 03 53.7	-0.4
P23K					Pb	09 03 55.7	-7.6
P23K	Montague Islan baz=196	3.99	14	P	Pn	09 03 55.7	+1.6
P19K	Oil Pt	4.07	331	Pn	Pn	09 03 54.0	-1.1
P19K	comp=N,115nm,2.0s			IAML		09 04 42.9	
P19K				IAML		09 04 54.0	
P19K	Oil Pt baz=148	4.07	331	P	Pn	09 03 56.4	+1.2
CNTC	Contact Creek	4.12	304		Pn	09 03 57.0	+1.0
Q17K	Contact Creek baz=118	4.13	304	P	Pn	09 03 57.0	+0.9
O20K	Slope Mountain	4.30	338		Pn	09 03 58.9	+0.5
O20K	Slope Mountain baz=155	4.30	338	P	Pn	09 03 58.9	+0.5
IVE	Iliamna Volcan	4.33	335		Pn	09 03 59.4	+0.5
O22K	Cooper Landing	4.34	358	Pn	Pn	09 03 59.3	+0.4
O22K	comp=E,79nm,0.8s			IAML		09 04 59.8	
P18K	Big Mountain,	4.51	318		Pn	09 04 01.3	0.0
P18K	Big Mountain, baz=133	4.51	318	P	Pn	09 04 02.2	+0.9
HIN	Hinchinbrook I	4.52	18		Pn	09 03 59.9	-1.4
HIN	comp=N,91nm,0.3s			IAML		09 04 51.1	
HIN	comp=E,65nm,1.8s			IAML		09 04 53.5	
KAIM	Kayak Island	4.61	33		Pn	09 04 01.5	-1.0
KAIM	Kayak Island baz=217	4.61	33	P	Pn	09 04 03.8	+1.3
R16K	Pilot Point baz=104	4.72	291	P	Pn	09 04 04.9	+0.8
RAGM	Ragged Mountai	4.91	28		Pn	09 04 07.2	+0.3
RC01	Rabbit Creek A	4.95	358	Pn	Pn	09 04 07.4	+0.1
RC01	comp=E,32nm,0.4s			IAML		09 05 04.4	
RC01	comp=N,26nm,0.4s			IAML		09 05 06.0	
RC01	Rabbit Creek A baz=178	4.95	358	P	Pn	09 04 07.5	+0.1
GOAT	Goat Mountain	5.07	27		Pn	09 04 09.8	+0.9
BERG	Berg Lake	5.20	33		Pn	09 04 10.7	0.0
KNK	Knik Glacier	5.30	5		Pn	09 04 12.0	-0.1
KNK	comp=E,17nm,2.0s			IAML		09 04 59.8	
KNK	comp=N,16nm,1.8s			IAML		09 05 25.7	
KNK	Knik Glacier baz=186	5.30	5	P	Pn	09 04 12.4	+0.4
SNH	Sunshine Point	5.31	38		Pn	09 04 12.1	-0.2
SNH	comp=E,51nm,1.8s			IAML		09 05 12.0	
SNH	comp=N,48nm,1.6s			IAML		09 05 15.0	
SUA	Susitna One	5.37	353	Pn	Pn	09 04 12.5	-0.7
SUA	comp=N,20nm,1.5s			IAML		09 05 15.0	
SUA	comp=E,20nm,1.9s			IAML		09 05 17.9	
N19K	Bonanza Creek	5.39	332	Pn	Pn	09 04 13.4	+0.1
PMR	Palmer	5.46	1	Pn	Pn	09 04 14.6	+0.4
GHO	Glory Hole Cre	5.64	2	Pn	Pn	09 04 17.4	+0.6
KLU	Klutina	5.64	17		Pn	09 04 17.3	+0.5
KLU	Klutina baz=200	5.64	17	P	Pn	09 04 18.5	+1.6
SML	Sawmill	5.70	5	Pn	Pn	09 04 18.1	+0.6
SCM	Sheep Creek Mo	5.79	10	Pn	Pn	09 04 19.2	+0.3
CNBA	Chernabura Isl	5.96	261	Pn	Pn	09 04 21.7	+0.6
N25K	Chitina, Valde	6.00	22	Pn	Pn	09 04 22.6	+0.9
MCARA	McCarthy VSAT	6.19	30		Pn	09 04 25.0	+0.7
MCARA	McCarthy VSAT baz=215	6.19	30	P	Pn	09 04 25.4	+1.1
PCA	Pinnacle	6.24	47		Pn	09 04 25.4	+0.4
PINM	Pinnacle baz=235	6.24	47	P	Pn	09 04 25.6	+0.6
SDPT	Sand Point	6.32	267	Pn	Pn	09 04 27.1	+1.0
BARN	Barnard Glacie	6.36	36		Pn	09 04 27.3	+0.5
PNL	Peninsula	6.38	52		Pn	09 04 27.2	+0.4
PNL	Peninsula baz=241	6.38	52	P	Pn	09 04 27.2	+0.4
CTGM	Chitina Glacie	6.40	38	Pn	Pn	09 04 27.3	0.0
LOGN	Logan Glacier	6.41	40	Pn	Pn	09 04 27.7	+0.2
BCPM	Bancas Point	6.42	50		Pn	09 04 27.9	+0.5
O29M	Mount Kennedy	7.05	49	Pn	Pn	09 04 36.9	+0.7
P29M	Windy Craggy	7.11	56	Pn	Pn	09 04 36.9	0.0
RND	Reindeer	7.28	2	Pn	Pn	09 04 40.4	+1.1
M27K	Edge Creek, AK	7.31	29	Pn	Pn	09 04 40.6	+0.9
IL31		8.73	7	Pn	Pn	09 04 59.3	+0.2
WHY	Whitehorse	8.84	53	Pn	Pn	09 05 01.4	+0.7
P32M	Atlin	9.02	61	Pn	Pn	09 05 03.2	+0.1
P33M	Teslin, Yukon	9.63	58	Pn	Pn	09 05 12.3	+0.8
H21K	Melozitna Rive	9.68	352	Pn	Pn	09 05 12.9	+0.8
K29M	Barlow Dome	9.71	33	Pn	Pn	09 05 13.9	+1.2

NSSP 24 09:20:49.4, 38°35N×45°43E, h9km, Ms3.0
TEH 24 09:20:49.7, 38°36N×45°47E, h9km±73km, ML2.7
AZER 24 09:20:50.9, 38°50N×45°49E, h6km, ml2.3
ISC 24 09:20:49.9±1.1, 38°36N±0°03×45°48E±0°04, h10km±9km, n24, σ0s85/40, 4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.13	126	Pg	Pg	09 20 53.1	0.0
IMRD	Marand	0.39	26	Pg	Pg	09 20 57.8	0.0
IMRD				Sg	Sg	09 21 03.8	+0.8
ITBZ	Tabriz	0.54	103	Pg	Pg	09 20 59.6	-0.8
ITBZ				Sg	Sg	09 21 07.5	0.0
ORD	Ordubad	0.69	35	P	Pg	09 21 03.5	+0.2
ORD				S	Sb	09 21 13.8	0.0
IAZR	Azarshahr	0.79	150	Pg	Pb	09 21 05.5	-0.3
NAX	Nakhchivan	0.81	1	P	Pb	09 21 06.0	-0.1
NAX				S	Sb	09 21 17.6	+0.3
SBZ	Shahbuz	1.04	3	P	Pg	09 21 09.7	-0.2
SBZ				S	Sb	09 21 24.5	+0.8
MAKU	Maku	1.17	328	Pg	Pg	09 21 11.4	-1.1
IHRS	Heris	1.23	91	Pg	Pb	09 21 13.3	0.0
IHRS				Sg	Sn	09 21 31.1	+1.0
HYR	Heyderabad	1.44	340	P	Pb	09 21 17.0	0.0
HYR				S	Sg	09 21 37.1	+0.7
MAHB	Mahabad	1.60	174	Pg	Pb	09 21 19.7	+0.1
IHSH	Hashtrud	1.76	126	Pg	Pb	09 21 22.2	-0.2
NRKZ	NAREK	1.76	339	eP	Pb	09 21 21.9	-0.4
NRKZ				eS	Sg	09 21 46.0	-0.5
ISRB	Sarab	1.80	107	Pn	Pb	09 21 23.3	+0.2
QRD	Qoradiz	1.81	52	S	Sg	09 21 49.0	+1.0
GNI	Garni	1.88	342	⇓iP	Pb	09 21 24.4	+0.1
GNI				⇓iS	Sg	09 21 51.0	+0.7
GRMI	Germi	1.94	76	Pn	Pb	09 21 25.6	+0.1
KAPZ	Kaputan	2.05	343	⇓iP	Pg	09 21 28.5	-0.8
KAPZ				⇓iS	Sg	09 21 56.3	+0.4
YRD	Yardimli	2.23	75	P	Pg	09 21 31.6	-1.0
YRD				S	Sg	09 22 01.1	-0.5
AMBZ	Amberd	2.24	335	eP	Pg	09 21 32.3	-0.5
AMBZ				eS	Sg	09 22 04.6	+2.8
LRK	Lerik	2.26	82	P	Pg	09 21 32.9	-0.3
LRK				S	Sg	09 22 02.5	0.0
GDB	GEDABAY	2.37	5	P	Pb	09 21 32.4	-0.3
GDB				S	Sb	09 22 03.0	+0.9
GANJ	Ganja	2

comp=N,131nm,1.5s
KAHG Katmai Hook Gl 4.10 316 Pn 09 22 27.3 -0.4
BRSE Bradley Lake S 4.18 349 Pn 09 22 28.4 -0.3
BRLK Bradley Lake 4.22 348 Pn 09 22 29.0 -0.3
BRLK IAML 09 23 29.0
comp=E,25nm,2.0s
BRLK IAML 09 25 12.4
comp=N,25nm,2.0s
ACHA Angle Creek He 4.25 309 Pn 09 22 30.3 +0.5
KVTA Katmai Vly 10 4.34 311 Pn 09 22 31.2 +0.3
P23K Montague Islan 4.44 11 Pn 09 22 31.9 -0.4
CNTC Contact Creek 4.53 308 Pn 09 22 33.5 -0.1
P19K Oil Pt 4.57 333 Pn 09 22 34.4 +0.3
P19K IAML 09 24 38.9
comp=E,88nm,2.0s
P19K IAML 09 24 58.2
comp=N,82nm,2.0s
O20K Slope Mountain 4.81 339 Pn 09 22 37.6 +0.3
O22K Cooper Landing 4.84 356 Pn Pn 09 22 36.4 -1.3
O22K IAML 09 23 58.1
comp=N,73nm,0.8s
SLKM Skilak Lake 4.89 354 Pn 09 22 38.4 -0.1
HIN Hinchinbrook I 4.94 15 Pn Pn 09 22 39.6 +0.4
HIN IAML 09 23 58.2
comp=E,62nm,1.3s
HIN IAML 09 23 59.9
comp=N,59nm,2.0s
P18K Big Mountain, 4.98 321 Pn 09 22 40.0 +0.2
RED Redoubt Volcan 5.15 339 Pn 09 22 42.4 +0.3
RSO Redoubt South 5.18 340 Pn Pn 09 22 42.1 -0.5
CAPN Captain Cook N 5.23 349 Pn Pn 09 22 44.4 +1.3

*NEIC **24** 09:25:15.1±0.8,56°.5N±0°.1×148°.88W±0°.07,h20km±10km, ML3.5/30,ML3.2(AEIC),Error ellipse: s-maj=15.9km s-min=5.1km az=169.0*
*AEIC **24** 09:25:17.9±1.3,56°.4N±0°.1×148°.78W±0°.10,h12km±8km, Error ellipse: s-maj=16.4km s-min=4.3km az=155.0*
ISC 24 09:25:13.2±2.0,56°.5N±0°.1×148°.89W±0°.06,h10km,n48, σ0§81/55,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.41**	**305**			**Pn**	**09 25 52.1**	**-0.6**
KDAK						**Sn**	**09 26 21.6**	**-0.6**
KDAK	**Kodiak Island**	**2.41**	**305**			**Pn**	**09 25 54.2**	**+1.6**
KDAK					IAML		09 26 22.3	
	20nm,0.9s							
KDAK					IAML		09 26 37.3	
	15nm,1.0s							
OHAK	**Old Harbor**	**2.53**	**289**			**Pn**	**09 25 54.8**	**+0.5**
OHAK						**Sn**	**09 26 24.1**	**-1.1**
OHAK	**Old Harbor**	**2.53**	**289**	P		**Pn**	**09 25 54.4**	**+0.1**
	baz=105							
OHAK				S		**Sn**	**09 26 23.7**	**-1.5**
	baz=105							
SYI	**Shuyak Island**	**2.86**	**320**			**Pn**	**09 25 59.1**	**+0.3**
SYI						**Sn**	**09 26 33.4**	**+0.1**
Q20K	**Shuyak Island**	**2.86**	**320**	P		**Pn**	**09 25 59.1**	**+0.3**
	baz=137							
Q20K				S		**Sn**	**09 26 33.5**	**+0.2**
	baz=137							
Q23K	**Middleton Isla**	**3.26**	**23**	P		**Pn**	**09 26 05.2**	**+0.8**
	baz=206							
CNPM	**China Poot**	**3.31**	**339**			**Pn**	**09 26 06.0**	**+0.9**
CNPM					IAML		09 26 47.2	
	comp=E,23nm,1.1s							
CNPM					IAML		09 27 59.6	
	comp=N,33nm,1.2s							
BRSE	**Bradley Lake S**	**3.43**	**344**			**Pn**	**09 26 07.2**	**+0.6**
BRSE						**Sn**	**09 26 46.2**	**-1.1**
BRSE	**Bradley Lake S**	**3.43**	**344**	P		**Pn**	**09 26 07.2**	**+0.6**
	baz=162							
BRSE				S		**Sn**	**09 26 46.2**	**-1.1**
	baz=162							
BRLK	**Bradley Lake**	**3.47**	**343**			**Pn**	**09 26 07.6**	**+0.3**
BRLK					IAML		09 28 03.0	
	comp=N,25nm,0.9s							
BRLK					IAML		09 28 04.9	
	comp=E,22nm,0.9s							
Q19K	**Cape Douglas,**	**3.55**	**316**			**Pn**	**09 26 08.4**	**0.0**
Q19K					IAML		09 28 07.9	
	comp=E,164nm,1.0s							
Q19K					IAML		09 28 15.2	
	comp=N,99nm,1.1s							
Q19K	**Cape Douglas,**	**3.55**	**316**	P		**Pn**	**09 26 09.2**	**+0.9**
	baz=132							
P23K	**Montague Islan**	**3.62**	**12**			**Pn**	**09 26 09.4**	**0.0**
P23K	**Montague Islan**	**3.62**	**12**	P		**Pn**	**09 26 09.4**	**0.0**
	baz=193							
SEW	**Seward**	**3.66**	**356**			**Pn**	**09 26 09.4**	**-0.4**
SEW	**Seward**	**3.66**	**356**	P		**Pn**	**09 26 10.1**	**+0.3**
	baz=175							
KAHG	**Katmai Hook Gl**	**3.67**	**306**			**Pn**	**09 26 11.0**	**+0.9**
P19K	**Oil Pt**	**3.94**	**326**			**Pn**	**09 26 14.2**	**+0.5**
P19K					IAML		09 28 50.8	
	comp=E,110nm,0.8s							
P19K					IAML		09 28 52.0	
	comp=N,124nm,0.5s							
P19K	**Oil Pt**	**3.94**	**326**	P		**Pn**	**09 26 15.0**	**+1.3**
	baz=142							
O20K	**Slope Mountain**	**4.12**	**333**			**Pn**	**09 26 17.4**	**+1.1**
O20K	**Slope Mountain**	**4.12**	**333**	P		**Pn**	**09 26 17.4**	**+1.1**
	baz=150							
HIN	**Hinchinbrook I**	**4.13**	**17**			**Pn**	**09 26 16.4**	**0.0**
CNTC	**Contact Creek**	**4.19**	**298**			**Pn**	**09 26 19.4**	**+2.1**
Q17K	**Contact Creek**	**4.19**	**298**	P		**Pn**	**09 26 19.4**	**+2.1**
	baz=112							
KAIM	**Kayak Island**	**4.20**	**32**			**Pn**	**09 26 17.5**	**+0.3**
KAIM					IAML		09 28 04.3	
	comp=E,88nm,0.6s							
KAIM	**Kayak Island**	**4.20**	**32**	P		**Pn**	**09 26 17.5**	**+0.3**
	baz=216							
EYAK	**Cordova Ski Ar**	**4.41**	**21**			**Pn**	**09 26 20.2**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.41**	**21**	P		**Pn**	**09 26 20.5**	**+0.3**
	baz=203							
CAPN	**Captain Cook N**	**4.47**	**346**	Pn		**Pn**	**09 26 21.0**	**0.0**
P18K	**Big Mountain,**	**4.47**	**314**			**Pn**	**09 26 21.4**	**+0.3**
P18K					IAML		09 29 03.6	
	comp=N,14nm,1.0s							
P18K	**Big Mountain,**	**4.47**	**314**	P		**Pn**	**09 26 22.1**	**+1.1**
	baz=128							
RSO	**Redoubt South**	**4.49**	**335**	Pn		**Pn**	**09 26 22.3**	**+0.8**
RAGM	**Ragged Mountai**	**4.51**	**28**			**Pn**	**09 26 22.1**	**+0.5**
GOAT	**Goat Mountain**	**4.57**	**26**			**Pn**	**09 26 24.5**	**+0.8**
BERG	**Berg Lake**	**4.79**	**33**			**Pn**	**09 26 25.6**	**+0.3**
SNH	**Sunshine Point**	**4.90**	**38**			**Pn**	**09 26 27.1**	**+0.1**
SNH					IAML		09 29 15.8	
	comp=E,55nm,0.9s							
SNH					IAML		09 29 34.2	
	comp=N,42nm,1.2s							
SML	**Sawmill**	**5.36**	**3**	Pn		**Pn**	**09 26 33.5**	**+0.2**
VRDI	**Verde Repeater**	**5.54**	**28**	Pn		**Pn**	**09 26 36.1**	**+0.2**
N25K	**Chitina, Valde**	**5.61**	**21**	Pn		**Pn**	**09 26 37.6**	**+1.0**
MCARA	**McCarthy VSAT**	**5.79**	**29**	Pn		**Pn**	**09 26 40.0**	**+0.9**
BARN	**Barnard Glacie**	**5.94**	**36**	Pn		**Pn**	**09 26 41.6**	**+0.2**
CTGM	**Chitina Glacie**	**5.98**	**38**	Pn		**Pn**	**09 26 42.0**	**+0.1**
BCPM	**Bancas Point**	**6.01**	**51**	Pn		**Pn**	**09 26 42.5**	**+0.4**
O29M	**Mount Kennedy**	**6.64**	**50**	Pn		**Pn**	**09 26 51.9**	**+0.9**
P29M	**Windy Craggy**	**6.71**	**57**	Pn		**Pn**	**09 26 51.7**	**0.0**
WHY	**Whitehorse**	**8.44**	**54**	Pn		**Pn**	**09 27 15.6**	**+0.1**
P32M	**Atlin**	**8.63**	**62**	Pn		**Pn**	**09 27 18.6**	**+0.4**

*IDC **24** 09:26:58.6±2.0,56°.34N×148°.60W,h0km,mb3.1/2, mbtmp3.3/6,ML3.2/4,MS3.2/2,Error ellipse: s-maj=38.8km s-min=23.5km az=26.0*
*NEIC **24** 09:26:59.7±1.5,56°.46N±0°.08×148°.61W±0°.09,h22km±8km, mb3.7/4,ML3.7/54,ML3.4(AEIC),Error ellipse: s-maj=11.9km s-min=6.5km az=160.0*
*AEIC **24** 09:27:03.3±1.4,56°.57N±0°.08×148°.63W±0°.10,h4km±7km, Error ellipse: s-maj=12.4km s-min=8.0km az=177.0*
ISC 24 09:26:58.7±0.9,56°.58N±0°.07×148°.59W±0°.05,h10km, n221,σ1§30/228,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.49**	**301**	Pn		**Pn**	**09 27 39.0**	**-0.2**
KDAK	**Kodiak Island**	**2.49**	**301**			**Sn**	**09 28 07.6**	**-2.0**
KDAK	**Kodiak Island**	**2.49**	**301**	Pn		**Pn**	**09 27 39.0**	**-0.2**
	3.1nm,0.3s,baz=127,slow=5.1,SNR=8.4							
KDAK						Sn	**09 28 07.4**	**-2.2**
	7.8nm,0.3s,baz=252,slow=20,SNR=9.8							
KDAK						LR		
	comp=Z,306nm,19.1s,baz=157,slow=44						09 28 54.3	
	7.4nm,0.3s							
OHAK	**Old Harbor**	**2.66**	**286**	Pn		**Pn**	**09 27 40.5**	**-1.0**
OHAK	**Old Harbor**	**2.66**	**286**			**Sn**	**09 28 10.8**	**-3.0**
OHAK	**Old Harbor**	**2.66**	**286**	P		**Pn**	**09 27 40.9**	**-0.6**
OHAK	**Old Harbor**	**2.66**	**286**	P		**Pn**	**09 27 40.8**	**-0.6**
	baz=105							
OHAK				S		**Sn**	**09 28 10.8**	**-3.0**
	baz=105							
SYI	**Shuyak Island**	**2.89**	**317**	Pn		**Pn**	**09 27 45.5**	**+0.8**
SYI	**Shuyak Island**	**2.89**	**317**			**Sn**	**09 28 18.5**	**-1.0**
Q20K	**Shuyak Island**	**2.89**	**317**	P		**Pn**	**09 27 44.5**	**-0.2**
	baz=135							
Q20K				S		**Sn**	**09 28 18.5**	**-1.1**
	baz=135							
Q23K	**Middleton Isla**	**3.10**	**22**	Pn		**Pn**	**09 27 48.1**	**+0.5**
Q23K					IAML		09 28 51.0	
	comp=E,276nm,2.7s							
Q23K					IAML		09 29 36.2	
	comp=N,280nm,2.9s							
Q23K	**Middleton Isla**	**3.10**	**22**			**Sn**	**09 28 23.5**	**-1.2**
Q23K	**Middleton Isla**	**3.10**	**22**	P		**Pn**	**09 27 48.0**	**+0.3**
	baz=203							
Q23K				S		**Sn**	**09 28 23.5**	**-1.2**
	baz=203							
MID	**Middleton Isla**	**3.10**	**22**	Pn		**Pn**	**09 27 47.8**	**+0.2**
MID					IAML		09 29 36.2	
	comp=N,230nm,2.8s							
MID					IAML		09 29 39.9	
	comp=E,292nm,3.5s							
MID	**Middleton Isla**	**3.10**	**22**	P		**Pn**	**09 27 48.0**	**+0.4**
CNPM	**China Poot**	**3.28**	**336**	Pn		**Pn**	**09 27 50.8**	**+0.7**
CNPM					IAML		09 29 54.9	
	comp=N,101nm,3.1s							
CNPM	**China Poot**	**3.28**	**336**			**Sn**	**09 28 28.1**	**-1.0**
BRSE	**Bradley Lake S**	**3.37**	**341**			**Pn**	**09 27 51.4**	**0.0**
BRSE						**Sn**	**09 28 29.9**	**-1.6**
BRSE	**Bradley Lake S**	**3.37**	**341**	P		**Pn**	**09 27 51.4**	**0.0**
	baz=160							
BRSE				S		**Sn**	**09 28 29.9**	**-1.6**
	baz=160							
BRLK	**Bradley Lake**	**3.42**	**340**			**Pn**	**09 27 52.7**	**+0.6**
HOM	**Homer**	**3.49**	**334**	Pn		**Pn**	**09 27 54.1**	**+1.1**
P23K	**Montague Islan**	**3.49**	**10**			**Pn**	**09 27 52.9**	**-0.1**
P23K						**Sn**	**09 28 32.8**	**-1.5**
P23K	**Montague Islan**	**3.49**	**10**	P		**Pn**	**09 27 52.9**	**-0.1**
	baz=191							
P23K				S		**Sn**	**09 28 32.8**	**-1.5**
	baz=191							
SEW	**Seward**	**3.57**	**353**			**Pn**	**09 27 54.1**	**0.0**
SEW						**Sn**	**09 28 34.4**	**-1.9**
SEW	**Seward**	**3.57**	**353**	P		**Pn**	**09 27 54.1**	**0.0**
	baz=173							
SEW				S		**Sn**	**09 28 34.4**	**-1.9**
	baz=173							
Q19K	**Cape Douglas,**	**3.59**	**313**	Pn		**Pn**	**09 27 55.9**	**+1.5**
Q19K					IAML		09 28 43.3	
	comp=N,172nm,1.3s							
Q19K					IAML		09 28 45.8	
	comp=E,242nm,1.1s							
Q19K	**Cape Douglas,**	**3.59**	**313**	P		**Pn**	**09 27 54.8**	**+0.3**
	baz=130							
Q19K				S		**Sn**	**09 28 36.5**	**-0.4**
	baz=130							
KAHG	**Katmai Hook Gl**	**3.74**	**303**			**Pn**	**09 27 56.9**	**+0.4**
P19K	**Oil Pt**	**3.95**	**323**	Pn		**Pn**	**09 27 59.3**	**0.0**
P19K					IAML		09 28 49.4	
	comp=N,136nm,1.6s							
P19K					IAML		09 29 59.0	
	comp=E,121nm,2.3s							
P19K	**Oil Pt**	**3.95**	**323**	P		**Pn**	**09 28 00.5**	**+1.1**
	baz=141							
O22K	**Cooper Landing**	**3.96**	**352**	Pn		**Pn**	**09 28 01.8**	**+2.3**
O22K	**Cooper Landing**	**3.96**	**352**	P		**Pn**	**09 28 00.4**	**+0.9**
	baz=171							
HIN	**Hinchinbrook I**	**3.99**	**15**			**Pn**	**09 28 00.7**	**+0.8**
HIN					IAML		09 28 45.9	
	comp=N,126nm,0.9s							
HIN					IAML		09 28 46.6	
	comp=E,111nm,1.1s							
KAIM	**Kayak Island**	**4.02**	**32**	Pn		**Pn**	**09 28 01.3**	**+1.1**
KAIM	**Kayak Island**	**4.02**	**32**	P		**Pn**	**09 28 00.9**	**+0.6**
	baz=214							
SLKM	**Skilak Lake**	**4.04**	**348**			**Pn**	**09 28 01.2**	**+0.7**
ANCK	**Angle Creek**	**4.07**	**296**			**Pn**	**09 28 02.0**	**+0.9**
O20K	**Slope Mountain**	**4.11**	**331**			**Pn**	**09 28 02.3**	**+0.7**
O20K	**Slope Mountain**	**4.11**	**331**	P		**Pn**	**09 28 02.3**	**+0.7**
	baz=148							
IVE	**Iliamna Volcan**	**4.17**	**328**			**Pn**	**09 28 02.9**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.25**	**19**			**Pn**	**09 28 04.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.25**	**19**	P		**Pn**	**09 28 04.6**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.25**	**19**	P		**Pn**	**09 28 04.1**	**+0.6**
	baz=201							
CNTC	**Contact Creek**	**4.29**	**296**			**Pn**	**09 28 05.3**	**+1.2**
Q17K	**Contact Creek**	**4.29**	**296**	P		**Pn**	**09 28 05.3**	**+1.2**
	baz=112							
RAGM	**Ragged Mountai**	**4.34**	**27**			**Pn**	**09 28 05.8**	**+1.0**
CAPN	**Captain Cook N**	**4.41**	**343**	Pn		**Pn**	**09 28 08.0**	**+2.4**
CAPN	**Captain Cook N**	**4.41**	**343**	P		**Pn**	**09 28 07.7**	**+2.1**
	baz=162							
RSO	**Redoubt South**	**4.47**	**333**	Pn		**Pn**	**09 28 05.7**	**-0.9**
RDT	**Redoubt**	**4.48**	**335**			**Pn**	**09 28 06.8**	**+0.2**
GOAT	**Goat Mountain**	**4.50**	**25**			**Pn**	**09 28 07.8**	**+0.9**
P18K	**Big Mountain,**	**4.52**	**311**	Pn		**Pn**	**09 28 07.5**	**+0.3**
P18K	**Big Mountain,**	**4.52**	**311**	P		**Pn**	**09 28 07.3**	**+0.1**
	baz=127							
RC01	**Rabbit Creek A**	**4.57**	**353**	Pn		**Pn**	**09 28 09.0**	**+1.2**
RC01					IAML		09 29 02.5	
	comp=E,76nm,0.6s							
RC01					IAML		09 29 03.5	
	comp=N,51nm,1.3s							
RC01	**Rabbit Creek A**	**4.57**	**353**	P		**Pn**	**09 28 09.0**	**+1.2**
	baz=172							
BERG	**Berg Lake**	**4.61**	**32**			**Pn**	**09 28 09.4**	**+1.1**
BERG					IAML		09 29 04.8	
	comp=N,94nm,0.5s							
SNH	**Sunshine Point**	**4.72**	**38**			**Pn**	**09 28 10.7**	**+0.8**
SNH					IAML		09 28 50.1	
	comp=E,68nm,3.9s							
SNH					IAML		09 29 39.4	
	comp=N,81nm,3.8s							
O19K	**Port Alsworth**	**4.72**	**323**			**Pn**	**09 28 11.0**	**+1.2**
O19K	**Port Alsworth**	**4.72**	**323**	P		**Pn**	**09 28 11.0**	**+1.2**
	baz=139							
DIV	**Divide**	**4.80**	**17**			**Pn**	**09 28 12.0**	**+1.0**
O18K	**Koktuh Hills**	**4.80**	**316**	Pn		**Pn**	**09 28 11.2**	**+0.2**
O18K					IAML		09 29 25.0	
	comp=N,34nm,3.2s							
O18K					IAML		09 30 23.2	
	comp=E,35nm,4.2s							
O18K	**Koktuh Hills**	**4.80**	**316**	P		**Pn**	**09 28 12.2**	**+1.2**
	baz=131							
KNK	**Knik Glacier**	**4.85**	**1**	Pn		**Pn**	**09 28 12.5**	**+0.7**
KNK					IAML		09 29 29.3	
	comp=E,41nm,3.0s							
KNK	**Knik Glacier**	**4.85**	**1**	P		**Pn**	**09 28 13.2**	**+1.4**
	baz=181							
BMRM	**Bremner River**	**4.87**	**24**			**Pn**	**09 28 12.9**	**+0.9**
BMRM	**Bremner River**	**4.87**	**24**	P		**Pn**	**09 28 12.9**	**+0.9**
	baz=206							
P17K	**Kvichak River**	**4.94**	**305**			**Pn**	**09 28 14.2**	**+1.3**
P17K	**Kvichak River**	**4.94**	**305**	P		**Pn**	**09 28 14.2**	**+1.3**
	baz=120							
N20K	**Mount Spurr**	**5.00**	**340**	P		**Pn**	**09 28 14.8**	**+0.9**
	baz=157							
SPCR	**Spurr Chakacha**	**5.00**	**340**			**Pn**	**09 28 14.8**	**+0.9**
SUA	**Susitna One**	**5.03**	**348**	Pn		**Pn**	**09 28 15.1**	**+0.9**
SUA					IAML		09 29 01.5	
	comp=E,53nm,4.0s							
SUA					IAML		09 29 12.0	
	comp=N,58nm,4.3s							
SUA	**Susitna One**	**5.03**	**348**	P		**Pn**	**09 28 15.2**	**+0.9**
	baz=167							
PMR	**Palmer**	**5.04**	**357**	Pn		**Pn**	**09 28 14.4**	**+0.1**
PMR	**Palmer**	**5.04**	**357**	P		**Pn**	**09 28 16.0**	**+1.7**
PMR	**Palmer**	**5.04**	**357**	P		**Pn**	**09 28 15.8**	**+1.6**
	baz=177							
KLU	**Klutina**	**5.12**	**14**			**Pn**	**09 28 16.2**	**+0.7**
KLU					IAML		09 29 16.3	
	comp=E,31nm,1.0s							
KLU					IAML		09 29 21.9	
	comp=N,32nm,0.7s							
KLU	**Klutina**	**5.12**	**14**	P		**Pn**	**09 28 16.6**	**+1.1**
	baz=196							
STLK	**Strandline Lak**	**5.21**	**343**			**Pn**	**09 28 18.0**	**+1.3**
GHO	**Glory Hole Cre**	**5.22**	**358**			**Pn**	**09 28 18.0**	**+1.2**
GHO					IAML		09 29 20.9	
	comp=N,65nm,0.7s							
GHO					IAML		09 29 21.1	
	comp=E,45nm,0.6s							
N19K	**Bonanza Creek**	**5.24**	**327**			**Pn**	**09 28 18.1**	**+1.0**
N19K	**Bonanza Creek**	**5.24**	**327**	IAML			09 29 37.4	
	comp=E,25nm,2.1s							
N19K	**Bonanza Creek**	**5.24**	**327**	P		**Pn**	**09 28 18.1**	**+1.0**
	baz=142							
SML	**Sawmill**	**5.25**	**1**			**Pn**	**09 28 18.7**	**+1.5**
SML					IAML		09 29 20.9	
	comp=N,34nm,1.1s							
SML					IAML		09 31 52.6	
	comp=E,35nm,3.0s							
SML	**Sawmill**	**5.25**	**1**	P		**Pn**	**09 28 18.5**	**+1.2**
	baz=182							
SPNN	**North Nagishla**	**5.25**	**338**			**Pn**	**09 28 18.4**	**+1.1**
SCM	**Sheep Creek Mo**	**5.32**	**6**	Pn		**Pn**	**09 28 20.1**	**+2.0**
VRDI	**Verde Repeater**	**5.37**	**28**			**Pn**	**09 28 20.2**	**+1.2**
KIAG	**Kiagna River**	**5.43**	**34**			**Pn**	**09 28 20.5**	**+0.6**
SAMH	**Samovar Hills**	**5.44**	**46**			**Pn**	**09 28 21.1**	**+1.2**
N25K	**Chitina, Valde**	**5.45**	**21**	Pn		**Pn**	**09 28 21.6**	**+1.6**
N25K	**Chitina, Valde**	**5.45**	**21**	P		**Pn**	**09 28 21.0**	**+1.0**
	baz=204							
CHGN	**Chignik**	**5.46**	**271**			**Pn**	**09 28 21.5**	**+1.5**
GLB	**Gilahina Butte**	**5.47**	**25**			**Pn**	**09 28 21.6**	**+1.3**
P16K	**Nushagak River**	**5.60**	**300**			**Pn**	**09 28 22.7**	**+0.8**
P16K	**Nushagak River**	**5.60**	**300**	P		**Pn**	**09 28 22.7**	**+0.8**
	baz=113							
N18K	**Kilae Creek**	**5.61**	**320**			**Pn**	**09 28 23.3**	**+1.2**
N18K	**Kilae Creek**	**5.61**	**320**	P		**Pn**	**09 28 23.3**	**+1.2**
	baz=135							
PTPK	**Patty Peak**	**5.61**	**32**			**Pn**	**09 28 23.2**	**+1.0**
MCARA	**McCarthy VSAT**	**5.62**	**29**			**Pn**	**09 28 23.4**	**+1.2**
MCARA	**McCarthy VSAT**	**5.62**	**29**	P		**Pn**	**09 28 22.8**	**+0.6**
	baz=213							
PCA	**Pinnacle**	**5.63**	**48**			**Pn**	**09 28 23.1**	**+0.6**
PINM	**Pinnacle**	**5.63**	**48**	P		**Pn**	**09 28 23.1**	**+0.6**
	baz=234							
M24K	**Tolsona, Glenn**	**5.69**	**12**			**Pn**	**09 28 24.6**	**+1.4**
M24K	**Tolsona, Glenn**	**5.69**	**12**	P		**Pn**	**09 28 25.0**	**+1.8**
	baz=193							
BARN	**Barnard Glacie**	**5.76**	**36**			**Pn**	**09 28 25.5**	**+1.1**
PNL	**Peninsula**	**5.78**	**54**			**Pn**	**09 28 25.2**	**+0.8**
PNL	**Peninsula**	**5.78**	**54**	P		**Pn**	**09 28 25.7**	**+1.3**
PNL	**Peninsula**	**5.78**	**54**	P		**Pn**	**09 28 25.2**	**+0.8**
	baz=241							
CTG	**Chitna Glacier**	**5.80**	**38**	P		**Pn**	**09 28 25.6**	**+0.8**
	baz=223							
CTGM	**Chitina Glacie**	**5.80**	**38**			**Pn**	**09 28 25.7**	**+0.9**
LOGN	**Logan Glacier**	**5.81**	**40**			**Pn**	**09 28 25.8**	**+0.7**
BCPM	**Bancas Point**	**5.81**	**51**			**Pn**	**09 28 26.1**	**+1.1**
CUT	**Chulitna**	**5.91**	**352**	Pn		**Pn**	**09 28 27.3**	**+1.1**
N17K	**Nushagak Hills**	**5.99**	**315**			**Pn**	**09 28 27.8**	**+0.5**
N17K	**Nushagak Hills**	**5.99**	**315**	P		**Pn**	**09 28 27.8**	**+0.5**
	baz=128							
HARP	**HAARP**	**6.10**	**15**			**Pn**	**09 28 30.3**	**+1.5**
HARP	**HAARP**	**6.10**	**15**	P		**Pn**	**09 28 30.3**	**+1.5**
	baz=198							
M19K	**Big River Lodg**	**6.12**	**333**	Pn		**Pn**	**09 28 29.3**	**+0.3**
M19K	**Big River Lodg**	**6.12**	**333**	P		**Pn**	**09 28 28.9**	**-0.1**
	baz=149							
M18K	**Stony River**	**6.18**	**326**			**Pn**	**09 28 29.6**	**-0.3**
M18K	**Stony River**	**6.18**	**326**	P		**Pn**	**09 28 29.6**	**-0.3**
	baz=140							
WAT7	**Susitna Watana**	**6.28**	**359**			**Pn**	**09 28 32.5**	**+1.1**
O29M	**Mount Kennedy**	**6.45**	**50**			**Pn**	**09 28 34.0**	**+0.3**
O29M	**Mount Kennedy**	**6.45**	**50**	P		**Pn**	**09 28 34.0**	**+0.3**
	baz=238							
M26K	**Nabesna, AK**	**6.50**	**24**			**Pn**	**09 28 35.3**	**+0.9**
M26K	**Nabesna, AK**	**6.50**	**24**	P		**Pn**	**09 28 35.3**	**+0.9**
	baz=208							
P29M	**Windy Craggy**	**6.52**	**57**			**Pn**	**09 28 34.8**	**+0.2**
P29M	**Windy Craggy**	**6.52**	**57**	P		**Pn**	**09 28 34.8**	**+0.2**
	baz=246							
O15K	**Ungalikthiuk R**	**6.53**	**298**			**Pn**	**09 28 35.8**	**+1.0**
O15K	**Ungalikthiuk R**	**6.53**	**298**	P		**Pn**	**09 28 35.8**	**+1.0**
	baz=110							
DHY	**Denali Highway**	**6.55**	**5**			**Pn**	**09 28 36.3**	**+1.1**
DHY	**Denali Highway**	**6.55**	**5**	P		**Pn**	**09 28 36.6**	**+1.5**
	baz=186							
YUK2	**White River**	**6.57**	**34**			**Pn**	**09 28 37.1**	**+1.7**
N16K	**Nishlik Lake**	**6.61**	**310**			**Pn**	**09 28 36.7**	**+0.9**
N16K	**Nishlik Lake**	**6.61**	**310**	P		**Pn**	**09 28 36.7**	**+0.9**
	baz=123							
YUK3	**Moose Creek**	**6.68**	**35**			**Pn**	**09 28 38.6**	**+1.6**
YUK3	**Moose Creek**	**6.68**	**35**	P		**Pn**	**09 28 38.6**	**+1.6**
	baz=222							
M27K	**Edge Creek, AK**	**6.73**	**28**			**Pn**	**09 28 38.7**	**+1.0**
M27K	**Edge Creek, AK**	**6.73**	**28**	P		**Pn**	**09 28 38.7**	**+1.0**
	baz=213							
YUK7	**Dusty Glacier**	**6.75**	**50**			**Pn**	**09 28 39.5**	**+1.5**
MENT	**Mentasta**	**6.84**	**19**	Pn		**Pn**	**09 28 40.7**	**+1.7**
S31K	**Pelican**	**6.85**	**73**			**Pn**	**09 28 38.7**	**-0.3**
S31K	**Pelican**	**6.85**	**73**	P		**Pn**	**09 28 38.4**	**-0.6**
	baz=263							
YUK6	**Outpost Mounta**	**6.89**	**46**			**Pn**	**09 28 41.8**	**+1.9**
YUK6	**Outpost

P33M	**Teslin, Yukon**	**9.04**	**60**	Pn		**Pn**	**09 29 09.4**	**+0.1**
P33M	**Teslin, Yukon**	**9.04**	**60**	P		**Pn**	**09 29 10.6**	**+1.3**
	baz=252							
M31M	**Drury Creek, Y**	**9.17**	**46**			**Pn**	**09 29 12.8**	**+1.9**
H21K	**Melozitna Rive**	**9.34**	**349**	P		**Pn**	**09 29 14.6**	**+1.4**
	baz=166							
MAYO	**Mayo, Yukon**	**9.46**	**37**	Pn		**Pn**	**09 29 16.3**	**+1.4**
S34M	**Telegraph Cree**	**9.56**	**75**	Pn		**Pn**	**09 29 15.5**	**-0.7**
IMAR	**Indian Mountai**	**9.76**	**347**	Pn		**Pn**	**09 29 19.6**	**+0.6**
T35M	**Bob Quinn**	**10.07**	**80**	Pn		**Pn**	**09 29 23.9**	**+0.6**
FYU	**Fort Yukon**	**10.15**	**8**	Pn		**Pn**	**09 29 25.4**	**+1.1**
DLBC	**Dease Lake**	**10.16**	**72**	Pn		**Pn**	**09 29 25.7**	**+1.2**
	comp=E,0.2nm,0.3s,baz=266,slow=8.9,SNR=5.2							
	comp=E,1.0nm,0.3s							
G21K	**Allakaket**	**10.24**	**349**			**Pn**	**09 29 26.0**	**+0.5**
BMAR	**Burnt Mountain**	**11.05**	**8**	Pn		**Pn**	**09 29 38.0**	**+1.3**
ANM	**Nome**	**11.46**	**321**	Pn		**Pn**	**09 29 43.4**	**+1.1**
E25K	**Arctic Village**	**11.67**	**6**	Pn		**Pn**	**09 29 46.0**	**+0.8**
F28M	**Old Crow**	**11.79**	**17**	Pn		**Pn**	**09 29 46.5**	**-0.2**
G31M	**Satah River**	**12.36**	**27**	Pn		**Pn**	**09 29 55.4**	**+0.9**
D22K	**Ayikyak River**	**12.49**	**353**	Pn		**Pn**	**09 29 55.4**	**-0.9**
D19K	**Kuna River**	**12.72**	**344**	Pn		Pn	09 29 57.6	-1.8
D25K	**Kavik River**	**12.84**	**4**	Pn		**Pn**	**09 30 01.3**	**+0.3**
F31M	**Tsiigehtchic**	**12.89**	**26**	Pn		Pn	09 29 59.1	-2.6
HOLB	**Holberg**	**13.49**	**107**	Pn		Pn	09 30 06.5	-3.6
C36M	**Paulatuk**	**16.79**	**31**	Pn		**Pn**	**09 30 54.3**	**+0.7**
C36M				IAmb		IAmb	09 30 59.1	
	comp=Z,2.9nm,0.9s							
YKA	**Yellowknife Ar**	**18.06**	**57**	P		**Pn**	**09 31 09.4**	**+0.1**
YKA	**Yellowknife Ar**	**18.06**	**57**	P		**Pn**	**09 31 11.9**	**+2.6**
	baz=267,slow=11,SNR=13							
	comp=Z,1.3nm,0.9s							
A36M	**Sachs Harbour**	**18.26**	**23**	P		**Pn**	**09 31 11.0**	**-0.7**
D05A	**Enumclaw**	**18.81**	**109**	P		**P**	**09 31 15.7**	**-2.5**
D05A				IAmb		IAmb	09 31 28.1	
	comp=Z,4.3nm,0.7s							
F04A	**Amboy**	**19.41**	**112**	P		**P**	**09 31 21.6**	**-3.2**
F04A				IAmb		IAmb	09 31 22.8	
	comp=Z,6.7nm,0.8s							
YBH	**Yreka Blue Hor**	**22.33**	**121**	LR		LR	09 38 15.5	
	comp=Z,92nm,18.7s,baz=314,slow=30							
NVAR	**Mina Array Bea**	**27.02**	**119**	P		**P**	**09 32 41.7**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=309,slow=11,SNR=1.8							
	comp=Z,0.2nm,0.7s							
MKAR	**Makanchi Array**	**68.58**	**325**	P		**P**	**09 38 04.5**	**+3.2**
	comp=Z,0.1nm,0.4s,baz=35,slow=5.3,SNR=1.8							
	comp=Z,0.1nm,0.4s							

IDC 24 09:32:32.2±3.8, 53°74N×88°11E, h0km, mbtmp2.4/1, ML2.2/1, Error ellipse: s-maj=34.2km s-min=20.4km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**277**	I	I	09 44 00.0	
	baz=93,slow=349,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.96**	**277**	Pn	Pn	09 33 06.5	-0.2
	0.5nm,0.3s,baz=100,slow=14,SNR=9.9						
ZALV				Lg	Lg	09 33 34.6	
	0.8nm,0.3s,baz=98,slow=26,SNR=7.3						
MKAR	**Makanchi Array**	**7.89**	**211**	Pn	Pn	09 34 29.3	+1.2
	baz=30,slow=15,SNR=1.8						
	0.2nm,0.8s						

IDC 24 09:38:46.5±14.0, 2°13S×126°01E, h0km, mb3.8/2, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=214.6km s-min=166.0km az=138.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.49**	**156**	P	P	09 43 15.3	+0.1
	0.6nm,0.3s,baz=334,slow=11,SNR=20						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**22.73**	**161**	P	P	09 43 49.6	-0.7
	1.0nm,0.4s,baz=350,slow=12,SNR=23						
	1.0nm,0.4s						
STKA	**Stephens Creek**	**33.04**	**155**	P	P	09 45 24.3	+0.6
	0.5nm,0.3s,baz=349,slow=11,SNR=4.5						
	0.5nm,0.3s						

IDC 24 09:40:51.6±3.2, 56°.31N×148°.98W, h0km, mb3.4/1, mbtmp3.0/5, ML2.9/3, Error ellipse: s-maj=47.2km s-min=32.2km az=156.0
NEIC 24 09:40:55.9±1.2, 56°.4N±0°.1×149°.30W±0°.09, h21km±10km, mb3.4/2, ML3.2/47, ML3.0(AEIC), Error ellipse: s-maj=15.4km s-min=7.2km az=180.0
AEIC 24 09:40:58.6±1.9, 56°.4N±0°.1×149°.2W±0°.1, h9km±8km, Error ellipse: s-maj=15.7km s-min=9.1km az=170.0

ISC 24 09:40:54.2±1.5, 56°.5N±0°.1×149°21W±0°.05, h10km, n111, σ1§34/115, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.25**	**307**		**Pn**	**09 41 31.7**	**+0.3**
KDAK					**Sn**	**09 41 58.3**	**-0.9**
KDAK	**Kodiak Island**	**2.25**	**307**	Pn	Pn	09 41 29.7	-1.8
	2.0nm,0.3s,baz=86,slow=6.7,SNR=7.4						
KDAK				Sn	**Sn**	**09 41 57.7**	**-1.5**
	1.9nm,0.3s,baz=244,slow=23,SNR=7.9						
	4.8nm,0.2s						
OHAK	**Old Harbor**	**2.36**	**290**		**Pn**	**09 41 32.2**	**-0.7**
OHAK					**Sn**	**09 41 59.8**	**-2.1**
OHAK	**Old Harbor**	**2.36**	**290**	P	**Pn**	**09 41 31.9**	**-1.0**
	baz=109						
OHAK				S	**Sn**	**09 41 59.6**	**-2.2**
	baz=109						
SYI	**Shuyak Island**	**2.73**	**322**		**Pn**	**09 41 38.8**	**+0.8**
SYI					**Sn**	**09 42 12.3**	**+1.2**
SYI				IAML		09 42 13.0	
	comp=N,41nm,1.0s						
Q20K	**Shuyak Island**	**2.73**	**322**	P	**Pn**	**09 41 38.5**	**+0.4**
	baz=142						
Q20K				S	**Sn**	**09 42 09.9**	**-1.2**
	baz=142						
CNPM	**China Poot**	**3.23**	**341**		**Pn**	**09 41 45.9**	**+0.9**
CNPM				IAML		09 42 34.6	
	comp=E,23nm,1.2s						
Q23K	**Middleton Isla**	**3.32**	**26**		**Pn**	**09 41 46.6**	**+0.6**
Q23K	**Middleton Isla**	**3.32**	**26**	IAML		09 43 30.1	
	comp=N,88nm,0.9s						
Q23K	**Middleton Isla**	**3.32**	**26**	P	**Pn**	**09 41 46.6**	**+0.6**
	baz=208						
MID	**Middleton Isla**	**3.32**	**26**	Pn	**Pn**	**09 41 46.6**	**+0.6**
MID				IAML		09 43 30.1	
	comp=N,98nm,1.0s						
BRSE	**Bradley Lake S**	**3.36**	**347**		**Pn**	**09 41 47.2**	**+0.5**
BRSE	**Bradley Lake S**	**3.36**	**347**	P	**Pn**	**09 41 47.3**	**+0.5**
	baz=167						
BRLK	**Bradley Lake**	**3.40**	**346**		**Pn**	**09 41 48.1**	**+0.8**
BRLK				IAML		09 42 32.4	
	comp=E,22nm,1.1s						
Q19K	**Cape Douglas,**	**3.41**	**318**		**Pn**	**09 41 49.0**	**+1.5**
Q19K				IAML		09 42 31.2	
	comp=E,90nm,1.2s						
Q19K	**Cape Douglas,**	**3.41**	**318**	P	**Pn**	**09 41 47.8**	**+0.4**
	baz=136						
Q19K				S	**Sn**	**09 42 28.1**	**+0.2**
	baz=136						
KAHG	**Katmai Hook Gl**	**3.51**	**307**		**Pn**	**09 41 49.6**	**+0.8**
SEW	**Seward**	**3.63**	**358**		**Pn**	**09 41 50.9**	**+0.5**
SEW	**Seward**	**3.63**	**358**	P	**Pn**	**09 41 50.8**	**+0.5**
	baz=179						
P23K	**Montague Islan**	**3.64**	**14**		**Pn**	**09 41 51.4**	**+0.8**
P23K	**Montague Islan**	**3.64**	**14**	P	**Pn**	**09 41 51.4**	**+0.8**
	baz=196						
ACHA	**Angle Creek He**	**3.74**	**300**		**Pn**	**09 41 52.5**	**+0.5**
KVTA	**Katmai Vly 10**	**3.80**	**302**		**Pn**	**09 41 53.1**	**+0.4**
ANCK	**Angle Creek**	**3.81**	**299**		**Pn**	**09 41 53.9**	**+0.9**
P19K	**Oil Pt**	**3.82**	**328**		**Pn**	**09 41 54.4**	**+1.3**
P19K				IAML		09 42 44.7	
	comp=E,46nm,1.1s						
P19K				IAML		09 43 44.8	
	comp=N,47nm,1.1s						
P19K	**Oil Pt**	**3.82**	**328**	P	**Pn**	**09 41 54.0**	**+0.9**
	baz=146						
Q22K	**Cooper Landing**	**4.01**	**356**		**Pn**	**09 41 55.9**	**+0.3**
Q22K	**Cooper Landing**	**4.01**	**356**	P	**Pn**	**09 41 56.1**	**+0.5**
	baz=177						
Q20K	**Slope Mountain**	**4.03**	**335**		**Pn**	**09 41 56.6**	**+0.7**
Q20K	**Slope Mountain**	**4.03**	**335**	P	**Pn**	**09 41 56.6**	**+0.7**
	baz=153						
CNTC	**Contact Creek**	**4.03**	**299**		**Pn**	**09 41 56.7**	**+0.7**
Q17K	**Contact Creek**	**4.03**	**299**	P	**Pn**	**09 41 56.7**	**+0.7**
	baz=115						
SLKM	**Skilak Lake**	**4.06**	**353**		**Pn**	**09 41 56.9**	**+0.5**
IVE	**Iliamna Volcan**	**4.07**	**332**		**Pn**	**09 41 57.0**	**+0.4**
HIN	**Hinchinbrook I**	**4.17**	**19**		**Pn**	**09 41 58.7**	**+0.9**
HIN				IAML		09 42 48.3	
	comp=E,41nm,1.0s						
KAIM	**Kayak Island**	**4.28**	**34**		**Pn**	**09 41 59.7**	**+0.4**
KAIM	**Kayak Island**	**4.28**	**34**	IAML		09 42 54.0	
	comp=E,32nm,1.0s						
KAIM				IAML		09 43 00.7	
	comp=N,39nm,0.9s						
KAIM	**Kayak Island**	**4.28**	**34**	P	**Pn**	**09 41 59.7**	**+0.4**
	baz=218						
P18K	**Big Mountain,**	**4.33**	**315**		**Pn**	**09 42 00.7**	**+0.6**
P18K	**Big Mountain,**	**4.33**	**315**	P	**Pn**	**09 41 60.0**	**-0.1**
	baz=131						
RED	**Redoubt Volcan**	**4.36**	**336**		**Pn**	**09 42 00.7**	**+0.1**
RSO	**Redoubt South**	**4.40**	**336**	Pn	**Pn**	**09 42 02.0**	**+0.9**
CAPN	**Captain Cook N**	**4.41**	**347**		**Pn**	**09 42 03.0**	**+2.0**
CAPN	**Captain Cook N**	**4.41**	**347**	P	**Pn**	**09 42 02.5**	**+1.5**
	baz=167						
EYAK	**Cordova Ski Ar**	**4.45**	**23**		**Pn**	**09 42 02.7**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.45**	**23**	P	**Pn**	**09 42 02.7**	**+1.0**
	baz=206						
NCT	**North Crescent**	**4.53**	**336**		**Pn**	**09 42 03.1**	**+0.3**
RAGM	**Ragged Mountai**	**4.57**	**29**	Pn	**Pn**	**09 42 05.0**	**+1.6**
RAGM				IAML		09 43 03.5	
	comp=E,38nm,0.6s						
O19K	**Port Alsworth**	**4.59**	**326**		**Pn**	**09 42 03.8**	**+0.3**
O19K	**Port Alsworth**	**4.59**	**326**	P	**Pn**	**09 42 03.8**	**+0.3**
	baz=143						
RC01	**Rabbit Creek A**	**4.62**	**357**		**Pn**	**09 42 04.8**	**+0.7**
RC01				IAML		09 42 59.3	
	comp=E,21nm,1.1s						
RC01				IAML		09 43 07.1	
	comp=N,11nm,0.8s						
RC01	**Rabbit Creek A**	**4.62**	**357**	P	**Pn**	**09 42 04.4**	**+0.4**
	baz=177						
P17K	**Kvichak River**	**4.72**	**308**		**Pn**	**09 42 05.3**	**0.0**
P17K	**Kvichak River**	**4.72**	**308**	P	**Pn**	**09 42 05.4**	**0.0**
	baz=123						
BERG	**Berg Lake**	**4.86**	**34**	Pn	**Pn**	**09 42 08.5**	**+1.2**
BERG				IAML		09 43 05.3	
	comp=E,32nm,1.1s						
BERG				IAML		09 43 08.6	
	comp=N,29nm,0.9s						
KNK	**Knik Glacier**	**4.95**	**4**	Pn	**Pn**	**09 42 10.0**	**+1.4**
KNK				IAML		09 43 17.4	
	comp=E,13nm,1.0s						
KNK				IAML		09 43 24.3	
	comp=N,8.2nm,1.1s						
DIV	**Divide**	**4.98**	**20**	Pn	**Pn**	**09 42 10.3**	**+1.3**
SUA	**Susitna One**	**5.05**	**352**	Pn	**Pn**	**09 42 10.2**	**+0.2**
SUA				IAML		09 43 53.6	
	comp=N,5.4nm,1.2s						
BMRM	**Bremner River**	**5.09**	**26**	Pn	**Pn**	**09 42 11.8**	**+1.3**
PMR	**Palmer**	**5.12**	**0**	Pn	**Pn**	**09 42 11.6**	**+0.8**
PMR				IAML		09 43 11.4	
	comp=E,6.4nm,1.2s						
N19K	**Bonanza Creek**	**5.14**	**330**	Pn	**Pn**	**09 42 11.3**	**+0.2**
N19K				IAML		09 43 20.2	
	comp=N,4.8nm,1.0s						
KLU	**Klutina**	**5.29**	**17**	Pn	**Pn**	**09 42 14.6**	**+1.2**
KLU				IAML		09 43 17.6	
	comp=E,13nm,0.4s						
KLU				IAML		09 43 18.4	
	comp=N,14nm,0.4s						
GHO	**Glory Hole Cre**	**5.30**	**1**	Pn	**Pn**	**09 42 14.9**	**+1.5**
GHO				IAML		09 43 20.6	
	comp=N,14nm,1.1s						
GHO				IAML		09 43 25.8	
	comp=E,9.8nm,1.0s						
SML	**Sawmill**	**5.35**	**4**	Pn	**Pn**	**09 42 15.7**	**+1.6**
N18K	**Kilae Creek**	**5.46**	**323**	Pn	**Pn**	**09 42 15.8**	**+0.2**
VRDI	**Verde Repeater**	**5.61**	**30**	Pn	**Pn**	**09 42 19.4**	**+1.7**
O16K	**Kokwok River B**	**5.65**	**307**	Pn	**Pn**	**09 42 18.7**	**+0.6**
N25K	**Chitina, Valde**	**5.65**	**23**	Pn	**Pn**	**09 42 19.8**	**+1.6**
GLB	**Gilahina Butte**	**5.69**	**27**	Pn	**Pn**	**09 42 20.8**	**+2.0**
N17K	**Nushagak Hills**	**5.82**	**317**	Pn	**Pn**	**09 42 20.9**	**+0.4**
MCARA	**McCarthy VSAT**	**5.86**	**31**		**Pn**	**09 42 23.1**	**+2.2**
PCA	**Pinnacle**	**5.94**	**49**	Pn	**Pn**	**09 42 24.4**	**+2.1**
BARN	**Barnard Glacie**	**6.03**	**37**	Pn	**Pn**	**09 42 25.0**	**+1.5**
LOGN	**Logan Glacier**	**6.10**	**41**	Pn	**Pn**	**09 42 26.6**	**+2.2**
L19K	**White Mountain**	**6.40**	**336**	Pn	**Pn**	**09 42 27.6**	**-0.8**
M17K	**Holitna River**	**6.51**	**323**	Pn	**Pn**	**09 42 30.4**	**+0.5**
DHY	**Denali Highway**	**6.67**	**7**	Pn	**Pn**	**09 42 33.1**	**+0.8**
O29M	**Mount Kennedy**	**6.77**	**51**	Pn	**Pn**	**09 42 35.2**	**+1.6**
M16K	**Timber Creek**	**6.81**	**316**	Pn	**Pn**	**09 42 34.7**	**+0.7**
M27K	**Edge Creek, AK**	**6.97**	**29**	Pn	**Pn**	**09 42 38.9**	**+2.6**
KTH	**Kantishna Hill**	**7.14**	**354**	Pn	**Pn**	**09 42 40.9**	**+2.3**
HYT	**Haines Junctio**	**7.49**	**50**	Pn	**Pn**	**09 42 45.1**	**+1.7**
L27K	**Beaver Creek, A**	**7.56**	**26**	Pn	**Pn**	**09 42 45.6**	**+1.2**
BCAR	**Beaver Creek A**	**7.58**	**26**	Pn	**Pn**	**09 42 46.0**	**+1.3**
K17K	**Iditarod**	**7.76**	**327**	Pn	**Pn**	**09 42 47.5**	**+0.5**
SCRK	**Sand Creek**	**7.94**	**17**	Pn	**Pn**	**09 42 51.4**	**+1.7**
N30M	**Aishikik Lake**	**7.99**	**46**	Pn	**Pn**	**09 42 51.7**	**+1.4**
M29M	**Somme Creek**	**8.09**	**38**	Pn	**Pn**	**09 42 53.3**	**+1.6**
K27K	**Chicken**	**8.35**	**22**	Pn	**Pn**	**09 42 57.5**	**+2.5**
J25K	**Salcha River,**	**8.36**	**11**	Pn	**Pn**	**09 42 56.5**	**+1.1**
ILAR	**Eielson Array**	**8.39**	**7**	Pn	**Pn**	**09 42 57.0**	**+1.4**
ILAR	**Eielson Array**	**8.39**	**7**	Pn	Pn	09 42 53.4	-2.2
	comp=E,0.2nm,0.3s,baz=188,slow=13,SNR=1.7						
ILAR				Sn	**Sn**	**09 44 26.8**	**-3.5**
	comp=E,0.2nm,0.3s,baz=184,slow=21,SNR=4.4						
J26L	**Joseph Creek**	**8.50**	**17**	Pn	**Pn**	**09 42 59.6**	**+2.3**
N31M	**Braeburn, Yuko**	**8.54**	**49**	Pn	**Pn**	**09 42 59.6**	**+1.8**
WHY	**Whitehorse**	**8.57**	**55**	Pn	**Pn**	**09 42 59.8**	**+1.6**
L29M	**L29M**	**8.66**	**35**		**Pn**	**09 43 01.8**	**+2.3**
M30M	**Minto, Yukon**	**8.76**	**41**	Pn	**Pn**	**09 43 02.8**	**+1.9**
DAWY	**Dawson**	**9.02**	**29**	Pn	**Pn**	**09 43 05.2**	**+0.8**
H21K	**Melozitna Rive**	**9.36**	**351**	Pn	**Pn**	**09 43 09.6**	**+0.6**
K29M	**Barlow Dome**	**9.38**	**33**	Pn	**Pn**	**09 43 11.6**	**+2.2**
J30M	**Hart River**	**10.27**	**33**	Pn	**Pn**	**09 43 22.9**	**+1.4**
G24K	**Hadweenzic Riv**	**10.28**	**4**	Pn	**Pn**	**09 43 22.5**	**+0.9**
G31M	**Satah River**	**12.59**	**28**	Pn	**Pn**	**09 43 54.4**	**+1.4**
D27M	**Malcolm River**	**13.32**	**13**	Pn	**Pn**	**09 44 04.3**	**+1.2**
INK	**Inuvik**	**13.84**	**25**	Pn	**Pn**	**09 44 11.4**	**+1.4**
INK	**Inuvik**	**13.84**	**25**	Pn	**Pn**	**09 44 11.2**	**+1.2**
	baz=222,slow=4.1,SNR=2.2						
	comp=E,1.0nm,1.1s						
C36M	**Paulatuk**	**17.04**	**31**	P	**Pn**	**09 44 54.3**	**+2.1**
C36M				IAmb	IAmb	09 45 16.5	
	comp=Z,4.5nm,1.4s						
YKA	**Yellowknife Ar**	**18.39**	**57**	P	**Pn**	**09 45 06.5**	**-2.4**
YKA	**Yellowknife Ar**	**18.39**	**57**	Pn	**Pn**	**09 45 04.9**	**-4.0**
	baz=264,slow=15,SNR=2.1						
	comp=Z,0.1nm,0.4s						
A36M	**Sachs Harbour**	**18.47**	**24**	P	**P**	**09 45 09.8**	**+0.1**
A36M				IAmb	IAmb	09 45 29.8	
	comp=Z,2.9nm,1.0s						
MKAR	**Makanchi Array**	**68.45**	**325**	P	**P**	**09 51 57.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=31,slow=7.1,SNR=4.2						
	comp=Z,0.2nm,0.6s						

NEIC 24 09:53:56.4±1.2, 55°.80N±0°.08×149°.2W±0°.1, h8km±7km, mb3.7/3, ML3.4/32, ML3.2(AEIC), Error ellipse: s-maj=11.1km s-min=9.6km az=181.0
AEIC 24 09:53:59.0±1.6, 55°.6N±0°.1×149°.1W±0°.1, h9km±7km, Error ellipse: s-maj=16.5km s-min=9.9km az=182.0

ISC 24 09:53:55.9±1.5, 55°78N±0°.10×149°22W±0°.05, h10km, n79, σ0§69/87, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.68**	**304**		**Pn**	**09 54 38.8**	**-0.3**
OHAK					**Sn**	**09 55 10.7**	**-0.8**
OHAK	**Old Harbor**	**2.68**	**304**	P	**Pn**	**09 54 39.0**	**0.0**
	baz=120						
OHAK				S	**Sn**	**09 55 10.3**	**-1.1**
	baz=120						
KDAK	**Kodiak Island**	**2.73**	**319**		**Pn**	**09 54 40.4**	**+0.7**
KDAK					**Sn**	**09 55 12.6**	**-0.1**
Q20K	**Shuyak Island**	**3.32**	**330**	P	**Pn**	**09 54 48.4**	**+0.5**
	baz=147						
Q20K				S	**Sn**	**09 55 28.1**	**+0.8**
	baz=147						
SYI	**Shuyak Island**	**3.32**	**330**		**Pn**	**09 54 47.9**	**+0.1**
SYI				IAML		09 55 19.8	
	comp=N,23nm,1.1s						
CNPM	**China Poot**	**3.91**	**345**		**Pn**	**09 54 56.5**	**+0.6**
CNPM					**Sn**	**09 55 42.7**	**+0.9**
CNPM				IAML		09 55 46.5	
	comp=N,22nm,1.0s						
CNPM				IAML		09 56 56.5	
	comp=E,18nm,1.2s						
Q19K	**Cape Douglas,**	**3.96**	**325**		**Pn**	**09 54 57.3**	**+0.6**
Q19K	**Cape Douglas,**	**3.96**	**325**	P	**Pn**	**09 54 57.7**	**+1.0**
	baz=141						
MID	**Middleton Isla**	**3.97**	**22**	Pn	**Pn**	**09 54 57.2**	**+0.5**
MID				IAML		09 57 08.3	
	comp=N,100nm,1.1s						
Q23K	**Middleton Isla**	**3.97**	**22**	Pn	**Pn**	**09 54 56.4**	**-0.3**
Q23K					Pb	09 54 57.2	-8.6
Q23K				IAML		09 56 10.9	
	comp=E,99nm,1.1s						
Q23K	**Middleton Isla**	**3.97**	**22**	P	**Pn**	**09 54 57.1**	**+0.4**
	baz=204						
Q23K				S	**Sn**	**09 55 42.4**	**-0.9**
	baz=204						
KAHG	**Katmai Hook Gl**	**3.98**	**315**		**Pn**	**09 54 58.1**	**+1.2**
BRSE	**Bradley Lake S**	**4.05**	**349**		**Pn**	**09 54 58.1**	**+0.2**
BRSE					**Sn**	**09 55 44.8**	**-0.6**
BRSE	**Bradley Lake S**	**4.05**	**349**	P	**Pn**	**09 54 58.1**	**+0.2**
	baz=168						
BRSE				S	**Sn**	**09 55 44.8**	**-0.6**
	baz=168						
BRLK	**Bradley Lake**	**4.09**	**348**	Pn	**Pn**	**09 54 58.4**	**-0.1**
BRLK				IAML		09 56 05.1	
	comp=N,20nm,1.1s						
ACHA	**Angle Creek He**	**4.13**	**309**		**Pn**	**09 55 00.1**	**+1.0**
KVTA	**Katmai Vly 10**	**4.22**	**311**		**Pn**	**09 55 01.5**	**+1.3**
SEW	**Seward**	**4.33**	**358**		**Pn**	**09 55 01.8**	**+0.1**
SEW	**Seward**	**4.33**	**358**	P	**Pn**	**09 55 02.3**	**+0.6**
	baz=178						
P23K	**Montague Islan**	**4.34**	**12**		**Pn**	**09 55 02.3**	**+0.5**
P23K	**Montague Islan**	**4.34**	**12**	P	**Pn**	**09 55 02.3**	**+0.5**
	baz=194						
CNTC	**Contact Creek**	**4.41**	**307**		**Pn**	**09 55 03.8**	**+0.8**
Q17K	**Contact Creek**	**4.41**	**307**	P	**Pn**	**09 55 03.8**	**+0.8**
	baz=121						
P19K	**Oil Pt**	**4.44**	**333**		**Pn**	**09 55 03.9**	**+0.7**
P19K				IAML		09 55 59.1	
	comp=N,57nm,1.1s						
P19K				IAML		09 56 00.2	
	comp=E,56nm,1.1s						
P19K	**Oil Pt**	**4.44**	**333**	P	**Pn**	**09 55 04.2**	**+0.9**
	baz=149						
O20K	**Slope Mountain**	**4.68**	**339**		**Pn**	**09 55 07.2**	**+0.6**
O20K	**Slope Mountain**	**4.68**	**339**	P	**Pn**	**09 55 07.2**	**+0.6**
	baz=156						
IVE	**Iliamna Volcan**	**4.70**	**336**		**Pn**	**09 55 07.8**	**+0.8**
O22K	**Cooper Landing**	**4.72**	**357**		**Pn**	**09 55 07.2**	**+0.1**
O22K	**Cooper Landing**	**4.72**	**357**	P	**Pn**	**09 55 07.6**	**+0.6**
	baz=176						
SLKM	**Skilak Lake**	**4.77**	**354**		**Pn**	**09 55 07.8**	**+0.1**
HIN	**Hinchinbrook I**	**4.84**	**16**		**Pn**	**09 55 09.2**	**+0.4**
HIN				IAML		09 56 07.2	
	comp=N,44nm,1.1s						
HIN				IAML		09 56 23.5	
	comp=E,34nm,1.1s						
P18K	**Big Mountain,**	**4.85**	**321**		**Pn**	**09 55 09.3**	**+0.4**
P18K	**Big Mountain,**	**4.85**	**321**	P	**Pn**	**09 55 09.6**	**+0.7**
	baz=135						
KAIM	**Kayak Island**	**4.88**	**30**		**Pn**	**09 55 09.2**	**0.0**
KAIM				IAML		09 56 05.7	
	comp=N,41nm,1.2s						
KAIM				IAML		09 56 10.3	
	comp=E,33nm,1.2s						
KAIM	**Kayak Island**	**4.88**	**30**	P	**Pn**	**09 55 09.8**	**+0.5**
	baz=214						
R16K	**Pilot Point**	**4.94**	**295**		**Pn**	**09 55 09.5**	**-0.7**
R16K				IAML		09 55 48.6	
	comp=N,46nm,0.9s						
R16K				IAML		09 56 08.8	
	comp=E,44nm,1.1s						
R16K	**Pilot Point**	**4.94**	**295**	P	**Pn**	**09 55 10.5**	**+0.4**
	baz=108						
RSO	**Redoubt South**	**5.05**	**340**	Pn	**Pn**	**09 55 11.9**	**+0.1**
RDT	**Redoubt**	**5.09**	**342**		**Pn**	**09 55 13.2**	**+1.0**
EYAK	**Cordova Ski Ar**	**5.12**	**20**		**Pn**	**09 55 13.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.12**	**20**	P	**Pn**	**09 55 13.0**	**+0.5**
	baz=202						
RAGM	**Ragged Mountai**	**5.21**	**26**	Pn	**Pn**	**09 55 14.5**	**+0.7**
RC01	**Rabbit Creek A**	**5.33**	**357**	Pn	**Pn**	**09 55 15.7**	**+0.3**
RC01				IAML		09 56 18.5	
	comp=N,15nm,1.1s						
RC01				IAML		09 56 19.4	
	comp=E,14nm,1.0s						
BERG	**Berg Lake**	**5.47**	**30**		**Pn**	**09 55 17.6**	**+0.3**
SNH	**Sunshine Point**	**5.56**	**35**	Pn	**Pn**	**09 55 18.5**	**-0.2**
SUA	**Susitna One**	**5.75**	**353**	Pn	**Pn**	**09 55 21.4**	**0.0**
**N19

KOSE	Korovin Southe	1.08	64			Pn	09 54 30.9	+0.5
TAPA	Tanaga Point A	1.36	268			Pn	09 54 35.0	+1.1
TAFP	Tanaga Falls P	1.46	272			Pn	09 54 36.0	+0.8
TAFP						Sn	09 54 55.0	+1.2
TASE	Tanaga Southea	1.49	269			Pn	09 54 36.6	+0.9
TANO	Tanaga North	1.54	273			Pn	09 54 37.3	+1.0
GAEA	Gareloi East	1.94	269			Pn	09 54 42.5	+1.0
GANO	Gareloi North	1.97	270			Pn	09 54 42.8	+0.8
CEAP	Semis' Anvil P	2.97	274			Pn	09 54 56.2	+0.8
AMKA	Amchitka	3.20	263			Pn	09 54 59.1	+0.6
LSNW	Little Sitkin	3.63	274			Pn	09 55 05.3	+1.0
CLES	Cleveland East	3.64	73	Pn		Pn	09 55 05.0	+0.5
CLES				IAML			09 56 05.4	
	comp=E,446nm,0.8s							
CLES				IAML			09 56 10.3	
	comp=N,716nm,0.8s							
CLCO	Concord Point,	3.74	74			Pn	09 55 07.3	+1.5
NIKH	Nikolski High	4.29	72			Pn	09 55 15.3	+2.0
NIKH	Nikolski High	4.29	72	P		Pn	09 55 15.3	+2.0
MAPS	Pakushin South	5.61	66			Pn	09 55 33.0	+1.6
UNV	Unalaska Valle	5.87	67			Pn	09 55 36.3	+1.4
UNV	Unalaska Valle	5.87	67	P		Pn	09 55 36.2	+1.4
SPIA	Saint Paul Isl	6.17	28	Pn		Pn	09 55 39.6	+0.8
SPIA	Saint Paul Isl	6.17	28	P		Pn	09 55 41.0	+2.1
AKUT	Akutan	6.37	65	Pn		Pn	09 55 43.7	+2.1
AKUT	Akutan	6.37	65	P		Pn	09 55 43.9	+2.3
SDPT	Sand Point	9.65	63	P		Pn	09 56 28.0	+1.6
CNBA	Chernabura Isl	10.03	67	Pn		Pn	09 56 29.2	-2.4
KDAK	Kodiak Island	14.50	57	P		Pn	09 57 29.0	-2.6
	comp=N,0.9nm,0.3s,baz=235,slow=8.9,SNR=1.5							
	comp=N,5.8nm,0.3s							
J18K	Innoko River	15.32	33	Pn		Pn	09 57 40.4	-1.8
J18K				IAmb		IAmb	09 57 50.6	
	comp=Z,4.1nm,0.8s							
BRLK	Bradley Lake	15.91	51	Pn		Pn	09 57 48.6	-1.0
J19K	Poorman	16.04	33	Pn		Pn	09 57 50.6	-0.5
K20K	Telida	16.20	36	Pn		Pn	09 57 50.9	-2.3
PPLA	Purkeypile	16.66	39			P	09 58 01.4	+1.1
SEW	Seward	16.70	50	Pn		Pn	09 57 57.5	-1.9
RC01	Rabbit Creek A	16.91	47	P		Pn	09 58 00.3	-1.7
RC01				IAmb		IAmb	09 58 16.5	
	comp=Z,13nm,1.3s							
G19K	Purcell Mounta	17.09	26	P		P	09 58 07.0	+2.2
C16K	Lisburne Hills	17.19	13	P		P	09 58 08.1	+2.3
PMR	Palmer	17.36	46	P		Pn	09 58 07.3	-0.3
PMR				IAmb		IAmb	09 58 16.1	
	comp=Z,16nm,1.4s							
KTH	Kantishna Hill	17.49	39	P		P	09 58 10.7	+1.3
KNK	Knik Glacier	17.60	47			Pn	09 58 09.6	-0.9
KNK				IAmb		IAmb	09 58 21.4	
	comp=Z,13nm,1.1s							
BPAW	Bear Paw Mtn.	17.75	37	P		Pn	09 58 13.1	+0.8
BPAW				IAmb		IAmb	09 58 19.1	
	comp=Z,9.6nm,1.3s							
H21K	Melozitna Rive	18.03	31	P		Pn	09 58 15.3	-0.3
H21K				IAmb		IAmb	09 58 19.0	
	comp=Z,4.4nm,0.8s							
E19K	Redstone River	18.05	23	P		Pn	09 58 15.7	-0.2
SCM	Sheep Creek Mo	18.25	46	P		P	09 58 17.4	-0.3
MCK	McKinley	18.35	39	P		P	09 58 19.1	+0.3
MCK				IAmb		IAmb	09 58 20.8	
	comp=Z,7.5nm,1.1s							
G21K	Allakaket	18.37	29	P		P	09 58 19.1	+0.2
G21K				IAmb		IAmb	09 58 23.0	
	comp=Z,5.5nm,1.1s							
D19K	Kuna River	18.68	20	P		Pn	09 58 22.8	-0.6
DHY	Denali Highway	18.70	42	P		P	09 58 22.6	-0.1
CCB	Clear Creek Bu	19.22	38	P		P	09 58 27.4	-0.7
CCB				IAmb		IAmb	09 58 32.5	
	comp=Z,6.8nm,1.2s							
N25K	Chitina, Valde	19.42	48	P		P	09 58 30.3	-0.1
N25K				IAmb		IAmb	09 58 39.9	
	comp=Z,10nm,1.2s							
HDA	Harding Lake	19.44	39	P		P	09 58 30.1	-0.4
HDA				IAmb		IAmb	09 58 35.0	
	comp=Z,5.2nm,0.8s							
G23K	Bananza Creek	19.57	31	P		P	09 58 31.4	-0.6
IL31		19.63	38	P		P	09 58 32.6	0.0
ILAR	Eielson Array	19.63	38	P		P	09 58 30.7	-1.9
	comp=Z,0.7nm,0.3s,baz=237,slow=10,SNR=20							
	comp=Z,1.2nm,0.6s							
H24K	Noodor Dome	19.79	34	P		P	09 58 34.7	+0.2
H24K				IAmb		IAmb	09 58 36.5	
	comp=Z,6.5nm,0.9s							
RIDG	Independent Ri	20.01	42	P		P	09 58 36.6	-0.2
J25K	Salcha River,	20.14	39	P		P	09 58 37.4	-0.9
J25K				IAmb		IAmb	09 58 40.9	
	comp=Z,4.4nm,0.6s							
SEY	Seymchan	20.24	316	P		P	09 58 39.5	+0.3
	comp=Z,0.9nm,0.5s,baz=90,slow=20,SNR=4.6							
	comp=Z,0.9nm,0.5s							
D22K	Ayikyak River	20.25	24	P		P	09 58 40.0	+0.6
D22K				IAmb		IAmb	09 58 41.8	
	comp=Z,2.6nm,0.7s							
B21K	Ikpikpuk River	20.34	21	P		P	09 58 40.6	+0.3
L26K	Log Cabin Wild	20.39	44	P		P	09 58 41.2	+0.2
SCRK	Sand Creek	20.45	41	P		P	09 58 40.9	-0.7
SCRK				IAmb		IAmb	09 58 43.0	
	comp=Z,6.1nm,0.7s							
J26L	Joseph Creek	20.81	40	P		P	09 58 45.2	-0.4
J26L				IAmb		IAmb	09 58 46.6	
	comp=Z,4.3nm,0.7s							
M27K	Edge Creek, AK	20.86	47	P		P	09 58 46.0	0.0
M27K				IAmb		IAmb	09 59 28.4	
	comp=Z,11nm,1.4s							
L27K	Beaver Creek,	21.07	45	P		P	09 58 48.0	-0.2
BCAR	Beaver Creek A	21.09	45	P		P	09 58 48.0	-0.5
BCPM	Bancas Point	21.49	54	P		P	09 58 52.8	+0.1
E25K	Arctic Village	21.79	30	P		P	09 58 56.0	+0.1
D25K	Kavik River	22.24	27	P		P	09 58 60.0	-0.7
D25K				IAmb		IAmb	09 59 03.1	
	comp=Z,6.5nm,1.5s							
DAWY	Dawson	22.39	43	P		P	09 59 02.3	-0.1
DAWY				IAmb		IAmb	09 59 15.6	
	comp=Z,6.9nm,1.4s							
I28M	Miner Creek	22.59	39	P		P	09 59 03.3	-1.3
I28M				IAmb		IAmb	09 59 43.9	
	comp=Z,6.8nm,1.5s							
L29M	L29M	22.71	46	P		P	09 59 05.0	-0.8
L29M				IAmb		IAmb	09 59 33.4	
	comp=Z,4.0nm,1.2s							
K29M	Barlow Dome	23.14	44	P		P	09 59 09.1	-1.0
K29M				IAmb		IAmb	09 59 09.6	
	comp=Z,7.6nm,1.3s							
F28M	Old Crow	23.44	34	P		P	09 59 12.6	-0.1
J30M	Hart River	23.81	43	P		P	09 59 15.3	-1.0
J30M				IAmb		IAmb	09 59 20.3	
	comp=Z,4.1nm,1.1s							
G29M	Pine Creek	23.83	37	P		P	09 59 15.4	-0.9
I30M	Mount Dempster	23.95	41	P		P	09 59 16.3	-1.2
I30M				IAmb		IAmb	09 59 19.5	
	comp=Z,3.0nm,1.0s							
EPYK	Eagle Plains	24.14	38	P		P	09 59 18.7	-0.4
G31M	Satah River	25.24	38	P		P	09 59 27.4	-1.5
G31M				IAmb		IAmb	09 59 58.5	
	comp=Z,6.8nm,1.4s							
INK	Inuvik	25.92	35	P		P	09 59 33.6	-1.5
INK				IAmb		IAmb	10 00 17.3	
	comp=Z,4.4nm,1.5s							
INK	Inuvik	25.92	35	P		P	09 59 32.2	-2.9
	comp=Z,0.3nm,0.3s,baz=236,slow=6.7,SNR=5.6							
	comp=Z,0.3nm,0.3s							
A36M	Sachs Harbour	29.69	29	P		P	10 00 07.9	-0.8
A36M				IAmb		IAmb	10 00 38.2	
	comp=Z,2.3nm,0.9s							
PGC	Sidney	32.92	75	P		P	10 00 37.7	+0.4
YKA	Yellowknife Ar	33.45	47	P		P	10 00 39.8	-2.0
	comp=Z,0.2nm,0.5s,baz=284,slow=7.6,SNR=11							
	comp=Z,0.2nm,0.5s							
H11N2	WAKE ISLAND Hy	34.88	210	T		T	10 37 45.9	
	baz=18,slow=76,SNR=70							
H11N3	WAKE ISLAND Hy	34.89	210	T		T	10 37 46.5	
	baz=18,slow=76,SNR=66							
H11N1	WAKE ISLAND Hy	34.90	210	T		T	10 37 49.6	
	baz=18,slow=76,SNR=69							
G05A	Wamic	35.82	79	P		P	10 01 03.8	+1.3
H11S1	WAKE ISLAND Hy	36.09	209	T		T	10 39 18.8	
	baz=18,slow=76,SNR=37							
H11S2	WAKE ISLAND Hy	36.10	209	T		T	10 39 17.1	
	baz=18,slow=76,SNR=20							
H11S3	WAKE ISLAND Hy	36.11	209	T		T	10 39 16.5	
	baz=18,slow=76,SNR=13							
HAWA	Hanford	36.32	76	P		P	10 01 08.5	+1.7
NEW	Newport	36.85	72	P		P	10 01 11.0	-0.3

	comp=Z,3.4nm,0.6s,baz=304,slow=6.6,SNR=9.4							
	comp=Z,3.4nm,0.6s							
I07A	Izee	37.53	79	P		P	10 01 19.0	+1.9
HLID	Hailey	40.90	77	P		P	10 01 46.1	+0.8
HLID				IAmb		IAmb	10 01 47.1	
	comp=Z,1.5nm,0.9s							
NVAR	Mina Array Bea	41.53	86	P		P	10 01 50.5	0.0
	comp=Z,0.4nm,0.7s,baz=301,slow=7.0,SNR=3.8							
	comp=Z,0.4nm,0.7s							
PDAR	Pinedale Array	44.27	75	P		P	10 02 13.0	+0.3
	comp=Z,3.0nm,0.7s,baz=305,slow=3.6,SNR=31							
	comp=Z,3.0nm,0.7s							
TXAR	Lajitas Array	56.63	84	P		P	10 03 46.0	+0.3
	comp=Z,0.8nm,0.6s,baz=296,slow=5.8,SNR=12							
	comp=Z,0.8nm,0.6s							
H03N2	Juan Fernandez	119.39	108	T		T	12 24 34.1	
	baz=317,slow=77,SNR=9.4							
H03N1	Juan Fernandez	119.41	108	T		T	12 24 33.3	
	baz=317,slow=77,SNR=7.6							
H03N3	Juan Fernandez	119.41	108	T		T	12 24 33.9	
	baz=317,slow=77,SNR=8.7							

IDC 24 09:58:57.6±3.0, 54°07N×86°54E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=14.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02	264	I	I	10 04 52.8	
	0.1nm,1.0s,baz=82,slow=351,SNR=16						
ZALV	Zalesovo Beam	1.02	264	Pg	Pg	09 59 15.7	-1.5
	0.3nm,0.3s,baz=85,slow=18,SNR=2.9						
ZALV				Lg	Lg	09 59 32.1	
	0.8nm,0.3s,baz=84,slow=27,SNR=5.7						
KURBB	Kurchatov Arra	6.00	238	Pn	Pn	10 00 27.9	+0.4
	0.1nm,0.3s,baz=56,slow=15,SNR=1.6						
	1.3nm,0.2s						
MKAR	Makanchi Array	7.77	202	Pn	Pn	10 00 53.4	+1.5
	0.1nm,0.3s,baz=24,slow=14,SNR=4.2						
	0.1nm,0.3s						

IDC 24 09:59:36.0±1.4, 55°44N×149°24W, h0km, mb4.0/8, mbtmp4.0/13, ML3.7/5, MS3.2/10, Error ellipse: s-maj=31.9km s-min=20.5km az=19.0
NEIC 24 09:59:38.5±1.6, 55°71N±0°09×149°3W±0°1, h8km±6km, mb4.1/8, ML4.2/42, ML3.9(AEIC), Error ellipse: s-maj=12.8km s-min=8.6km az=170.0
AEIC 24 09:59:43.9±1.6, 55°74N±0°09×149°3W±0°1, h12km±6km, Error ellipse: s-maj=12.9km s-min=8.7km az=175.0

ISC 24 09:59:39.5±4.1, 55.75N±0.07×149.22W±0.05, h16km±28km, n224, σ1$03/227, mb4.2/10, MS3.1/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.69	305		Pn	10 00 22.1	0.0
OHAK				Sn	Sn	10 00 53.1	-1.2
OHAK	Old Harbor	2.69	305	P	Pn	10 00 22.0	-0.1
OHAK	Old Harbor	2.69	305	P	Pn	10 00 21.6	-0.5
	baz=122						
OHAK				S	Sn	10 00 52.4	-1.9
	baz=122						
KDAK	Kodiak Island	2.75	319	Pn	Pn	10 00 23.0	+0.1
KDAK				Sn	Sn	10 00 54.6	-1.1
KDAK	Kodiak Island	2.75	319	Pn	Pn	10 00 23.0	+0.1
	32nm,0.3s,baz=140,slow=4.8,SNR=260						
KDAK				Sn	Sn	10 00 52.9	-2.8
	20nm,0.3s,baz=104,slow=22,SNR=6.2						
KDAK				LR	LR	10 01 41.3	
	comp=Z,500nm,18.9s,baz=182,slow=42						
	72nm,0.3s						
SII	Sitkinak Islan	2.89	288		Pn	10 00 23.9	-0.9
SII				IAML		10 01 00.4	
	comp=E,611nm,0.5s						
SII				IAML		10 01 03.6	
	comp=N,643nm,0.6s						
SII	Sitkinak Islan	2.89	288	P	Pn	10 00 24.4	-0.5
	baz=105						
SII				S	Sn	10 00 56.4	-2.9
	baz=105						
Q20K	Shuyak Island	3.35	330	P	Pn	10 00 31.6	+0.5
	baz=148						
Q20K				S	Sn	10 01 09.8	-0.6
	baz=148						
SYI	Shuyak Island	3.35	330		Pn	10 00 31.6	+0.5
CNPM	China Poot	3.94	345	Pn	Pn	10 00 39.4	+0.2
CNPM				Sn	Sn	10 01 25.0	0.0
CNPM				IAML		10 01 26.7	
	comp=E,128nm,0.8s						
CNPM				IAML		10 01 28.9	
	comp=N,188nm,0.3s						
Q19K	Cape Douglas,	3.99	325	Pn	Pn	10 00 40.9	+1.0
Q19K				IAML		10 01 13.8	
	comp=E,357nm,1.7s						
Q19K				IAML		10 01 38.2	
	comp=N,239nm,0.8s						
Q19K	Cape Douglas,	3.99	325		Sn	10 01 24.1	-2.1
Q19K	Cape Douglas,	3.99	325	P	Pn	10 00 40.4	+0.5
	baz=142						
Q19K				S	Sn	10 01 24.1	-2.1
	baz=142						
KAHG	Katmai Hook Gl	4.00	316		Pn	10 00 41.1	+1.1
Q23K	Middleton Isla	4.00	22	Pn	Pn	10 00 40.0	0.0
Q23K				IAML		10 01 15.6	
	comp=E,205nm,1.6s						
Q23K				IAML		10 01 25.7	
	comp=N,293nm,1.1s						
Q23K	Middleton Isla	4.00	22	P	Pn	10 00 39.8	-0.2
	baz=204						
MID	Middleton Isla	4.00	22	Pn	Pn	10 00 40.1	+0.1
MID				IAML		10 01 25.6	
	comp=N,295nm,1.5s						
MID				IAML		10 01 29.7	
	comp=E,241nm,1.7s						
MID	Middleton Isla	4.00	22		Sn	10 01 23.1	-3.3
MID	Middleton Isla	4.00	22	P	Pn	10 00 40.1	+0.1
BRSE	Bradley Lake S	4.08	349		Pn	10 00 40.9	-0.3
BRSE					Sn	10 01 26.2	-2.4
BRSE	Bradley Lake S	4.08	349	P	Pn	10 00 40.9	-0.3
	baz=168						
BRSE				S	Sn	10 01 26.2	-2.4
	baz=168						
KCE	Katmai Mt Cerb	4.11	310		Pn	10 00 42.3	+0.8
BRLK	Bradley Lake	4.12	348		Pn	10 00 41.6	-0.1
BRLK				IAML		10 01 31.5	
	comp=E,166nm,0.4s						
BRLK				IAML		10 01 32.9	
	comp=N,165nm,0.3s						
HOM	Homer	4.13	343	Pn	Pn	10 00 42.5	+0.7
HOM				IAML		10 01 42.8	
	comp=E,440nm,1.7s						
HOM	Homer	4.13	343	P	Pn	10 00 42.3	+0.6
	baz=161						
ACHA	Angle Creek He	4.15	309		Pn	10 00 42.9	+0.7
ANCK	Angle Creek	4.22	308		Pn	10 00 44.0	+0.9
KVTA	Katmai Vly 10	4.24	311		Pn	10 00 44.1	+0.8
AUCH	Augustine Cone	4.28	330		Pn	10 00 44.8	+0.9
KAHC	Katmai Hardscr	4.28	315		Pn	10 00 45.0	+1.0
KAHC	Katmai Hardscr	4.28	315	P	Pn	10 00 45.0	+1.0
	baz=131						
PLK3	Peulik 3	4.34	299		Pn	10 00 45.7	+1.0
P23K	Montague Islan	4.37	12		Pn	10 00 44.9	-0.2
P23K	Montague Islan	4.37	12	P	Pn	10 00 44.9	-0.2
	baz=194						
SEW	Seward	4.37	358		Pn	10 00 44.6	-0.4
SEW	Seward	4.37	358	P	Pn	10 00 44.5	-0.6
	baz=179						
CNTC	Contact Creek	4.43	307		Pn	10 00 46.6	+0.6
Q17K	Contact Creek	4.43	307	P	Pn	10 00 46.6	+0.6
	baz=122						
P19K	Oil Pt	4.46	333		Pn	10 00 47.0	+0.6
P19K				IAML		10 01 42.3	
	comp=E,348nm,0.3s						
P19K				IAML		10 01 48.9	
	comp=N,211nm,0.6s						
P19K	Oil Pt	4.46	333	P	Pn	10 00 47.0	+0.6
	baz=150						
PLK1	Peulik 1	4.55	300		Pn	10 00 48.6	+1.0
O20K	Slope Mountain	4.71	339		Pn	10 00 49.7	0.0
O20K	Slope Mountain	4.71	339	P	Pn	10 00 49.8	0.0
	baz=156						
IVE	Iliamna Volcan	4.73	336		Pn	10 00 49.8	-0.4
O22K	Cooper Landing	4.75	357		Pn	10 00 51.0	+0.7
O22K	Cooper Landing	4.75	357	P	Pn	10 00 50.4	+0.1
	baz=177						
SLKM	Skilak Lake	4.80	354		Pn	10 00 50.6	-0.4
P18K	Big Mountain,	4.88	321		Pn	10 00 52.1	0.0
P18K	Big Mountain,	4.88	321	P	Pn	10 00 51.9	-0.2
	baz=136						
HIN	Hinchinbrook I	4.88	16		Pn	10 00 52.7	+0.6
HIN				IAML		10 01 49.4	
	comp=E,289nm,1.0s						
KAIM	Kayak Island	4.91	30	Pn	Pn	10 00 52.8	+0.3
KAIM				IAML		10 01 52.2	
	comp=E,203nm,1.1s						
KAIM				IAML		10 01 52.8	
	comp=N,278nm,1.6s						
KAIM	Kayak Island	4.91	30	P	Pn	10 00 52.6	+0.1
	baz=214						
R16K	Pilot Point	4.96	295			10 00 52.9	-0.2
R16K				IAML		10 02 56.7	
	comp=N,270nm,1.9s						
R16K	Pilot Point	4.96	295	P	Pn	10 00 53.8	+0.7
	baz=109						
RED	Redoubt Volcan	5.05	340		Pn	10 00 54.0	-0.4
RSO	Redoubt South	5.08	340	Pn	Pn	10 00 54.9	-0.2
RDT	Redoubt	5.12	342		Pn	10 00 54.9	-0.6
RDWB	Redoubt West	5.12	340		Pn	10 00 54.7	-0.8
CAPN	Captain Cook N	5.14	349		Pn	10 00 56.5	+0.9
CAPN	Captain Cook N	5.14	349	P	Pn	10 00 56.4	+0.9
	baz=168						
EYAK	Cordova Ski Ar	5.15	19		Pn	10 00 56.4	+0.6
EYAK	Cordova Ski Ar	5.15	19	P	Pn	10 00 56.4	+0.6
EYAK	Cordova Ski Ar	5.15	19	P	Pn	10 00 55.9	+0.1
	baz=202						
CHGN	Chignik	5.19	280	Pn	Pn	10 00 56.2	-0.1
CHGN				IAML		10 01 54.8	
	comp=E,223nm,0.4s						
DFR	Drift River	5.19	341		Pn	10 00 56.1	-0.4
P17K	Kvichak River	5.21	315		Pn	10 00 57.5	+1.0
P17K	Kvichak River	5.21	315	P	Pn	10 00 57.6	+1.0
	baz=129						
NCT	North Crescent	5.21	339		Pn	10 00 56.3	-0.4
O18K	Koktuh Hills	5.21	325		Pn	10 00 56.3	-0.3
O18K	Koktuh Hills	5.21	325	P	Pn	10 00 56.4	-0.3
	baz=140						
O19K	Port Alsworth	5.22	331		Pn	10 00 56.7	0.0
O19K				IAML		10 01 59.4	
	comp=N,207nm,0.4s						
O19K				IAML		10 02 01.7	
	comp=E,166nm,0.4s						
O19K	Port Alsworth	5.22	331	P	Pn	10 00 56.6	-0.1
	baz=147						
RAGM	Ragged Mountai	5.24	26		Pn	10 00 57.5	+0.5
RC01	Rabbit Creek A	5.36	357		Pn	10 00 59.1	+0.4
RC01	Rabbit Creek A	5.36	357	P	Pn	10 00 58.5	-0.2
	baz=177						
GOAT	Goat Mountain	5.40	24		Pn	10 00 59.5	+0.3
BERG	Berg Lake	5.50	30		Pn	10 01 00.8	+0.2
SNH	Sunshine Point	5.59	35		Pn	10 01 02.3	+0.4
CYK	Cape Yakataga	5.63	37		Pn	10 01 02.7	+0.3
N20K	Mount Spurr	5.69	345	P	Pn	10 01 02.8	-0.5
	baz=163						
SPCR	Spurr Chakacha	5.69	345		Pn	10 01 02.8	-0.5
DIV	Divide	5.69	17		Pn	10 01 04.2	+0.9
KNK	Knik Glacier	5.69	4		Pn	10 01 04.1	+0.8
KNK	Knik Glacier	5.69	4	P	Pn	10 01 03.7	+0.4
	baz=185						
SPCN	Chakachatna No	5.71	345		Pn	10 01 03.3	-0.2
SPCP	Crater Peak Br	5.74	346		Pn	10 01 04.1	0.0
SPCG	Spurr Cpps Gl	5.75	346		Pn	10 01 04.1	-0.1
BMRM	Bremner River	5.77	23		Pn	10 01 05.0	+0.6
BMRM	Bremner River	5.77	23	P	Pn	10 01 04.7	+0.4
	baz=207						
P16K	Nushagak River	5.77	308		Pn	10 01 05.2	+0.9
N19K	Bonanza Creek	5.79	334		Pn	10 01 04.2	-0.4
SUA	Susitna One	5.79	353		Pn	10 01 04.8	+0.1
O17K	Koliganek Bris	5.83	317		Pn	10 01 05.6	+0.4
PMR	Palmer	5.86	0		Pn	10 01 06.5	+1.0
PMR	Palmer	5.86	0	P	Pn	10 01 06.9	+1.4
BARK	Barkley Ridge	5.87	35		Pn	10 01 06.2	+0.3
SPNN	North Nagishla	5.92	344		Pn	10 01 06.6	0.0
STLK	Strandline Lak	5.92	348		Pn	10 01 06.6	+0.1
CNBA	Chernabura Isl	6.00	265	Pn	Pn	10 01 05.5	-1.9
KLU	Klutina	6.01	15		Pn	10 01 08.6	+0.9
GHO	Glory Hole Cre	6.04	1		Pn	10 01 09.2	+1.0
N18K	Kilae Creek	6.07	327		Pn	10 01 08.4	0.0
SML	Sawmill	6.09	4		Pn	10 01 09.9	+1.1
O16K	Kokwok River B	6.12	313		Pn	10 01 10.1	+0.9
SCM	Sheep Creek Mo	6.18	8		Pn	10 01 11.4	+1.4
VRDI	Verde Repeater	6.27	26	Pn	Pn	10 01 11.6	+0.3
SAMH	Samovar Hills	6.28	42		Pn	10 01 12.2	+0.8
SVW2	Sparrevohn	6.32	331	Pn	Pn	10 01 11.5	-0.3
KIAG	Kiagna River	6.32	32		Pn	10 01 12.5	+0.5
N25K	Chitina, Valde	6.35	20	Pn	Pn	10 01 13.3	+1.0
SKT	Skwentna	6.36	350	Pn	Pn	10 01 12.8	+0.3
YKU2	Yakutat	6.36	50	Pn	Pn	10 01 12.7	+0.3
YKU2	Yakutat	6.36	50	P	Pn	10 01 13.6	+1.2
GLB	Gilahina Butte	6.37	24		Pn	10 01 13.0	+0.4
N17K	Nushagak Hills	6.38	322		Pn	10 01 12.6	0.0
SDPT	Sand Point	6.40	271	Pn	Pn	10 01 12.6	-0.4
SDPT	Sand Point	6.40	271	P	Pn	10 01 12.8	-0.2
PCA	Pinnacle	6.46	44		Pn	10 01 14.7	+0.8
M20K	Styx River	6.48	343		Pn	10 01 14.0	-0.1
PTPK	Patty Peak	6.50	30		Pn	10 01 15.0	+0.5
MCARA	McCarthy VSAT	6.51	27		Pn	10 01 15.3	+0.8
PNL	Peninsula	6.57	49		Pn	10 01 15.6	+0.3
PNL	Peninsula	6.57	49	P	Pn	10 01 15.8	+0.5
M24K	Tolsona, Glenn	6.57	13		Pn	10 01 16.7	+1.4
BCPM	Bancas Point	6.62	47		Pn	10 01 16.9	+0.8
O15K	Ungalikthiuk R

ILAR	**Eielson Array**	**9.12**	**6**	Pn		**Pn**	**10 01 52.1**	**+1.8**
	comp=E,0.6nm,0.3s,baz=191,slow=13,SNR=17							
ILAR				Sn		**Sn**	**10 03 28.6**	**-3.9**
	comp=E,2.0nm,0.3s,baz=186,slow=22,SNR=11							
ILAR				LR		LR	10 05 18.7	
	comp=E,57nm,19.4s,baz=236,slow=36							
	comp=E,1.0nm,0.3s							
P32M	**Atlin**	**9.15**	**59**			**Pn**	**10 01 50.9**	**+0.2**
COLA	**College**	**9.18**	**4**	P		**Pn**	**10 01 53.9**	**+2.9**
M30M	**Minto, Yukon**	**9.34**	**38**			**Pn**	**10 01 54.4**	**+1.1**
DAWY	**Dawson**	**9.68**	**27**	Pn		**Pn**	**10 01 58.9**	**+1.0**
I17K	**Unalakleet**	**9.98**	**329**	Pn		**Pn**	**10 02 02.0**	**+0.1**
S34M	**Telegraph Cree**	**10.14**	**70**	Pn		**Pn**	**10 02 03.5**	**-0.7**
UNV	**Unalaska Valle**	**10.16**	**266**	P		**Pn**	**10 02 04.3**	**-0.2**
	comp=E,32nm,2.3s							
J29N	**Klondike Camp**	**10.29**	**28**			**Pn**	**10 02 06.7**	**+0.3**
MAYO	**Mayo, Yukon**	**10.34**	**35**			**Pn**	**10 02 07.3**	**+0.4**
FARO	**Faro, Yukon**	**10.43**	**45**			**Pn**	**10 02 10.0**	**+1.8**
H17K	**Granite Mounta**	**10.61**	**335**	Pn		**Pn**	**10 02 10.4**	**-0.2**
DLBC	**Dease Lake**	**10.78**	**68**	Pn		**Pn**	**10 02 12.8**	**-0.1**
DLBC	**Dease Lake**	**10.78**	**68**	Pn		**Pn**	**10 02 12.9**	**0.0**
	comp=E,1.7nm,0.3s,baz=263,slow=7.8,SNR=63							
DLBC				LR		LR	10 05 49.0	
	comp=E,110nm,20.2s,baz=251,slow=34							
	comp=E,3.8nm,0.2s							
C18K	**Utukok River**	**14.05**	**342**			**Pn**	**10 02 58.4**	**+0.8**
C19K	**Lookout Ridge**	**14.20**	**345**	Pn		**Pn**	**10 02 59.8**	**+0.1**
INK	**Inuvik**	**14.52**	**24**			**Pn**	**10 03 04.0**	**0.0**
INK	**Inuvik**	**14.52**	**24**	Pn		**Pn**	**10 03 05.7**	**+1.8**
	comp=E,0.1nm,0.3s,baz=211,slow=15,SNR=18							
	comp=E,6.8nm,1.0s							
C16K	**Lisburne Hills**	**14.59**	**336**			**Pn**	**10 03 04.7**	**-0.2**
B20K	**Meade River**	**14.74**	**349**	Pn		**Pn**	**10 03 06.0**	**-0.9**
ADK	**Adak**	**16.62**	**268**	Pn		**Pn**	**10 03 30.1**	**-1.3**
ADK				IAmb		IAmb	10 03 40.7	
	comp=Z,17nm,1.1s							
PGC	**Sidney**	**17.25**	**104**	P		**Pn**	**10 03 37.5**	**-1.9**
C36M	**Paulatuk**	**17.68**	**30**	P		**Pn**	**10 03 45.2**	**+0.6**
YKA	**Yellowknife Ar**	**18.81**	**55**	P		**P**	**10 03 57.9**	**-0.1**
YKA	**Yellowknife Ar**	**18.81**	**55**	P		**P**	**10 03 58.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=259,slow=11,SNR=15							
YKA				LR		LR	10 11 07.2	
	comp=Z,72nm,18.9s,baz=308,slow=36							
	comp=Z,1.0nm,0.7s							
A36M	**Sachs Harbour**	**19.16**	**23**	P		**P**	**10 04 01.2**	**-0.5**
A36M				IAmb		IAmb	10 04 07.7	
	comp=Z,8.1nm,0.9s							
HUMO	**Hull Mountain**	**21.46**	**117**	P		**P**	**10 04 26.6**	**-0.3**
HUMO				IAmb		IAmb	10 04 44.7	
	comp=Z,12nm,1.1s							
PINE	**Pine Mountain**	**21.66**	**112**	P		**P**	**10 04 28.9**	**-0.4**
PINE				IAmb		IAmb	10 04 39.5	
	comp=Z,12nm,1.1s							
YBH	**Yreka Blue Hor**	**22.23**	**118**	LR		LR	10 10 47.0	
	comp=Z,60nm,20.3s,baz=340,slow=30							
ELK	**Elko**	**26.81**	**110**	LR		LR	10 13 55.9	
	comp=Z,53nm,19.2s,baz=317,slow=32							
NVAR	**Mina Airway Bea**	**26.93**	**117**	P		**P**	**10 05 18.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=296,slow=8.1,SNR=4.7							
	comp=Z,0.4nm,0.5s							
RLMT	**Red Lodge**	**27.21**	**96**	P		**P**	**10 05 25.2**	**+2.8**
MA2	**Magadan**	**31.37**	**302**	LR		LR	10 20 40.8	
	comp=Z,43nm,18.3s,baz=77,slow=40							
YAK	**Yakutsk**	**39.77**	**313**	LR		LR	10 23 08.8	
	comp=Z,40nm,19.7s,baz=50,slow=35							
NRIK	**Noril'sk**	**48.61**	**337**	P		**P**	**10 08 22.8**	**+1.2**
NRIK				LR		LR	10 30 45.7	
	comp=Z,2.3nm,0.4s,baz=23,slow=2.0,SNR=3.6							
	comp=Z,40nm,18.9s,baz=160,slow=38							
	comp=Z,2.3nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**49.78**	**240**	T		T	11 03 03.9	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**49.80**	**240**	T		T	11 03 00.8	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**49.80**	**240**	T		T	11 03 00.3	
	baz=29							
JCJ	**Chichijima**	**56.11**	**269**	LR		LR	10 32 47.8	
	comp=Z,13nm,20.4s,baz=159,slow=36							
SONM	**Songino Array**	**59.01**	**310**	P		**P**	**10 09 38.1**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=48,slow=6.2,SNR=5.1							
	comp=Z,0.9nm,0.8s							
ZALV	**Zalesovo Beam**	**62.03**	**327**	P		**P**	**10 09 59.3**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=28,slow=10,SNR=5.1							
	comp=Z,0.9nm,0.6s							
FINES	**FINESS Array B**	**63.09**	**3**	P		**P**	**10 10 07.1**	**+1.7**
	comp=Z,3.4nm,0.9s,baz=0.7,slow=11,SNR=1.5							
	comp=Z,3.4nm,0.9s							
BVAR	**Borovoye Array**	**66.78**	**335**	P		**P**	**10 10 29.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=28,slow=6.7,SNR=5.9							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**69.05**	**325**	P		**P**	**10 10 45.1**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=47,slow=5.8,SNR=6.8							
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**73.91**	**1**	P		**P**	**10 11 14.2**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=1.6,slow=6.1,SNR=4.3							
	comp=Z,0.9nm,0.6s							

*AEIC **24** 10:07:52.7±1.2,56˚4N±0˚1×148˚5W±0˚1,h12km±8km, Error ellipse: s-maj=17.8km s-min=8.8km az=177.0*
NEIC 24 10:07:49.5±0.8,56˚4N±0˚1×148˚6W±0˚1,h20km±11km, ML3.3/46,ML3.0(AEIC)**,Error ellipse: s-maj=17.3km s-min=9.0km az=178.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.58**	**304**		Pn	10 08 29.6	-0.4
KDAK					Sn	10 09 00.4	-0.3
OHAK	**Old Harbor**	**2.71**	**289**	Pn	Pn	10 08 31.3	-0.5
OHAK					Pb	10 08 32.5	-4.7
SYI	**Shuyak Island**	**3.01**	**319**		Pn	10 08 35.1	-0.8
SYI				IAML		10 09 30.7	
	comp=N,65nm,2.0s						
SYI				IAML		10 10 01.9	
	comp=E,72nm,2.0s						
Q23K	**Middleton Isla**	**3.25**	**21**		Pn	10 08 38.8	-0.5
MID	**Middleton Isla**	**3.25**	**21**	Pn	Pn	10 08 38.7	-0.5
CNPM	**China Poot**	**3.42**	**337**		Pn	10 08 41.9	+0.3
CNPM				IAML		10 09 34.2	
	comp=N,37nm,1.9s						
BRSE	**Bradley Lake S**	**3.53**	**342**		Pn	10 08 43.2	+0.1
BRSE					Sn	10 09 23.3	-0.8
BRLK	**Bradley Lake**	**3.58**	**341**		Pn	10 08 43.3	-0.4
BRLK				IAML		10 09 27.5	
	comp=E,32nm,1.7s						
P23K	**Montague Islan**	**3.65**	**9**		Pn	10 08 44.5	-0.2
P23K					Sn	10 09 23.5	-3.6
Q19K	**Cape Douglas,**	**3.71**	**315**		Pn	10 08 45.3	-0.3
SEW	**Seward**	**3.73**	**353**		Pn	10 08 45.8	0.0
KAHG	**Katmai Hook Gl**	**3.83**	**305**		Pn	10 08 47.2	-0.2
AU22	**Augustine Moun**	**3.91**	**321**		Pn	10 08 50.0	+1.8
P19K	**Oil Pt**	**4.08**	**325**		Pn	10 08 52.2	+1.6
P19K				IAML		10 10 35.5	
	comp=N,80nm,1.8s						
Q22K	**Cooper Landing**	**4.12**	**352**		Pn	10 08 51.5	+0.3
O22K				IAML		10 09 41.4	
	comp=N,75nm,1.3s						
HIN	**Hinchinbrook I**	**4.14**	**14**		Pn	10 08 51.4	-0.2
HIN				IAML		10 09 36.7	
	comp=E,44nm,1.3s						
HIN				IAML		10 10 12.9	
	comp=N,49nm,2.0s						
KAIM	**Kayak Island**	**4.16**	**30**		Pn	10 08 51.6	-0.1
SLKM	**Skilak Lake**	**4.20**	**349**		Pn	10 08 52.2	0.0
O20K	**Slope Mountain**	**4.25**	**332**		Pn	10 08 53.9	+0.8
IVE	**Iliamna Volcan**	**4.30**	**329**		Pn	10 08 54.3	+0.5
EYAK	**Cordova Ski Ar**	**4.41**	**19**		Pn	10 08 55.1	0.0
RAGM	**Ragged Mountai**	**4.48**	**26**	Pn	Pn	10 08 56.1	-0.1
RAGM				IAML		10 10 58.7	
	comp=E,38nm,1.6s						
RED	**Redoubt Volcan**	**4.58**	**333**		Pn	10 08 57.6	0.0
RDT	**Redoubt**	**4.63**	**336**		Pn	10 08 58.1	-0.1
P18K	**Big Mountain,**	**4.63**	**313**		Pn	10 08 58.8	+0.6
RC01	**Rabbit Creek A**	**4.73**	**353**	Pn	Pn	10 08 59.6	+0.1
RC01				IAML		10 09 37.5	
	comp=E,15nm,1.7s						
NCT	**North Crescent**	**4.74**	**333**		Pn	10 08 60.0	+0.1
BERG	**Berg Lake**	**4.75**	**31**	Pn	Pn	10 08 59.5	-0.3
SNH	**Sunshine Point**	**4.84**	**36**	Pn	Pn	10 09 00.8	-0.3
SNH				IAML		10 09 47.3	
	comp=N,38nm,1.9s						
SNH				IAML		10 11 06.6	
	comp=E,39nm,1.7s						
O19K	**Port Alsworth**	**4.85**	**324**	Pn	Pn	10 09 00.3	-0.8
O19K				IAML		10 11 56.5	
	comp=E,24nm,0.6s						
O19K				IAML		10 11 56.7	
	comp=N,42nm,0.5s						
BMRM	**Bremner River**	**5.02**	**23**		Pn	10 09 03.5	0.0
BARK	**Barkley Ridge**	**5.12**	**36**		Pn	10 09 04.9	-0.2
SUA	**Susitna One**	**5.19**	**348**	Pn	Pn	10 09 06.6	+0.7
SUA				IAML		10 12 09.6	
	comp=N,13nm,1.9s						
PMR	**Palmer**	**5.20**	**357**	Pn	Pn	10 09 06.4	+0.4
KLU	**Klutina**	**5.28**	**14**		Pn	10 09 07.7	+0.5
KLU				IAML		10 10 07.2	
	comp=E,12nm,1.3s						
KLU				IAML		10 10 08.7	
	comp=N,10nm,1.6s						
GHO	**Glory Hole Cre**	**5.38**	**358**	Pn	Pn	10 09 09.6	+1.1
GHO				IAML		10 10 18.2	
	comp=N,16nm,1.8s						
GHO				IAML		10 12 13.7	
	comp=E,13nm,1.8s						
N19K	**Bonanza Creek**	**5.38**	**328**		Pn	10 09 08.9	+0.3
N19K				IAML		10 10 05.2	
	comp=E,9.3nm,1.7s						
N19K				IAML		10 10 59.1	
	comp=N,9.6nm,1.6s						
VRDI	**Verde Repeater**	**5.51**	**27**		Pn	10 09 10.1	-0.4
KIAG	**Kiagna River**	**5.57**	**33**		Pn	10 09 10.6	-0.6
GLB	**Gilahina Butte**	**5.62**	**24**		Pn	10 09 11.2	-0.6
N18K	**Kilae Creek**	**5.74**	**321**		Pn	10 09 14.4	+1.0
PTPK	**Patty Peak**	**5.75**	**31**		Pn	10 09 13.7	0.0
BARN	**Barnard Glacie**	**5.89**	**35**	Pn	Pn	10 09 15.8	+0.1
BCPM	**Bancas Point**	**5.92**	**49**	Pn	Pn	10 09 15.8	0.0
LOGN	**Logan Glacier**	**5.94**	**39**	Pn	Pn	10 09 16.0	-0.3
BESE	**Bessie Mountai**	**7.71**	**68**	Pn	Pn	10 09 39.8	-0.7
N30M	**Aishikik Lake**	**7.80**	**45**	Pn	Pn	10 09 41.9	+0.1
M29M	**Somme Creek**	**7.94**	**36**	Pn	Pn	10 09 44.2	+0.5
WHY	**Whitehorse**	**8.33**	**54**	Pn	Pn	10 09 49.1	0.0
P32M	**Atlin**	**8.51**	**62**	Pn	Pn	10 09 51.2	-0.3

*NEIC **24** 10:13:14.6±1.1,56˚2N±0˚1×149˚2W±0˚1,h21km±10km, ML3.5/36,ML3.2(AEIC),Error ellipse: s-maj=14.9km s-min=8.7km az=185.0*
*AEIC **24** 10:13:16.6±1.3,56˚1N±0˚1×149˚2W±0˚1,h10km±8km, Error ellipse: s-maj=15.8km s-min=9.5km az=181.0*
ISC 24 10:13:12.4±1.8,56˚1N±0˚1×149˚24W±0˚05,h10km,n102, σ0s90/112,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.46**	**313**		Pn	10 13 53.1	+0.5
KDAK					Sn	10 14 21.9	-0.8
KDAK	**Kodiak Island**	**2.46**	**313**	Pn	Pn	10 13 52.8	+0.3
KDAK				IAML		10 14 23.7	
	35nm,1.4s						
KDAK				IAML		10 14 29.2	
	21nm,1.8s						
OHAK	**Old Harbor**	**2.48**	**298**		Pn	10 13 52.8	0.0
OHAK					Sn	10 14 20.9	-2.2
OHAK	**Old Harbor**	**2.48**	**298**	P	Pn	10 13 52.6	-0.3
	baz=113						
OHAK				S	Sn	10 14 21.0	-2.2
	baz=113						
SYI	**Shuyak Island**	**3.01**	**327**		Pn	10 14 00.9	+0.9
Q20K	**Shuyak Island**	**3.01**	**327**	P	Pn	10 14 00.7	+0.7
	baz=144						
Q20K				S	Sn	10 14 36.5	+0.4
	baz=144						
CNPM	**China Poot**	**3.56**	**343**		Pn	10 14 08.0	+0.3
CNPM				IAML		10 14 36.7	
	comp=E,43nm,1.9s						
CNPM					Sn	10 14 49.6	-0.1
CNPM				IAML		10 15 06.2	
	comp=N,43nm,1.9s						
Q23K	**Middleton Isla**	**3.64**	**24**		Pn	10 14 09.1	+0.3
Q23K	**Middleton Isla**	**3.64**	**24**	P	Pn	10 14 08.5	-0.2
	baz=206						
Q23K				S	Sn	10 14 51.4	-0.3
	baz=206						
MID	**Middleton Isla**	**3.64**	**24**	Pn	Pn	10 14 09.1	+0.3
MID				IAML		10 14 56.3	
	comp=N,148nm,1.8s						
Q19K	**Cape Douglas,**	**3.67**	**321**		Pn	10 14 10.9	+1.8
Q19K	**Cape Douglas,**	**3.67**	**321**	P	Pn	10 14 10.4	+1.2
	baz=137						
BRSE	**Bradley Lake S**	**3.70**	**348**		Pn	10 14 09.8	+0.2
BRSE					Sn	10 14 51.8	-1.4
BRSE	**Bradley Lake S**	**3.70**	**348**	P	Pn	10 14 09.8	+0.2
	baz=167						
BRSE				S	Sn	10 14 52.3	-0.8
	baz=167						
KAHG	**Katmai Hook Gl**	**3.72**	**312**		Pn	10 14 11.5	+1.5
BRLK	**Bradley Lake**	**3.74**	**347**		Pn	10 14 10.5	+0.4
BRLK				IAML		10 14 58.6	
	comp=E,35nm,1.5s						
KCG	**Knife Ck. Glac**	**3.86**	**307**		Pn	10 14 13.2	+1.4
AU22	**Augustine Moun**	**3.92**	**327**		Pn	10 14 13.9	+1.4
SEW	**Seward**	**3.98**	**358**		Pn	10 14 13.3	0.0
SEW	**Seward**	**3.98**	**358**	P	Pn	10 14 13.6	+0.2
	baz=178						
P23K	**Montague Islan**	**3.99**	**13**		Pn	10 14 14.2	+0.7
P23K					Sn	10 14 58.1	-2.2
P23K	**Montague Islan**	**3.99**	**13**	P	Pn	10 14 14.2	+0.7
	baz=195						
P23K				S	Sn	10 14 58.8	-1.5
	baz=195						
KAHC	**Katmai Hardscr**	**4.01**	**311**		Pn	10 14 15.2	+1.3
KAHC	**Katmai Hardscr**	**4.01**	**311**	P	Pn	10 14 15.2	+1.3
	baz=126						
P19K	**Oil Pt**	**4.11**	**330**		Pn	10 14 16.1	+0.8
P19K				IAML		10 15 26.1	
	comp=N,71nm,1.9s						
P19K				IAML		10 16 04.0	
	comp=E,80nm,1.6s						
P19K	**Oil Pt**	**4.11**	**330**	P	Pn	10 14 16.3	+1.0
	baz=147						
CNTC	**Contact Creek**	**4.19**	**303**		Pn	10 14 17.3	+0.8
Q17K	**Contact Creek**	**4.19**	**303**	P	Pn	10 14 17.3	+0.8
	baz=117						
O20K	**Slope Mountain**	**4.34**	**337**		Pn	10 14 19.0	+0.6
O20K	**Slope Mountain**	**4.34**	**337**	P	Pn	10 14 19.0	+0.6
	baz=154						
SLKM	**Skilak Lake**	**4.41**	**354**		Pn	10 14 19.6	+0.3
HIN	**Hinchinbrook I**	**4.50**	**18**		Pn	10 14 20.8	+0.1
HIN				IAML		10 14 56.5	
	comp=E,58nm,1.7s						
HIN				IAML		10 15 12.1	
	comp=N,66nm,1.6s						
P18K	**Big Mountain,**	**4.57**	**318**		Pn	10 14 21.8	+0.3
P18K	**Big Mountain,**	**4.57**	**318**	P	Pn	10 14 21.9	+0.3
	baz=132						
KAIM	**Kayak Island**	**4.58**	**32**		Pn	10 14 21.9	+0.3
KAIM	**Kayak Island**	**4.58**	**32**	P	Pn	10 14 21.8	+0.1
	baz=216						
RSO	**Redoubt South**	**4.71**	**338**	Pn	Pn	10 14 24.0	+0.3
RDT	**Redoubt**	**4.75**	**341**		Pn	10 14 23.9	-0.1
CAPN	**Captain Cook N**	**4.75**	**349**	Pn	Pn	10 14 25.0	+1.1
RDWB	**Redoubt West**	**4.75**	**338**		Pn	10 14 24.0	-0.2
EYAK	**Cordova Ski Ar**	**4.79**	**21**	Pn	Pn	10 14 24.6	+0.2
O19K	**Port Alsworth**	**4.87**	**329**		Pn	10 14 26.1	+0.4
O19K				IAML		10 15 27.4	
	comp=E,34nm,0.4s						
O19K				IAML		10 15 27.5	
	comp=N,54nm,0.5s						
O19K	**Port Alsworth**	**4.87**	**329**	P	Pn	10 14 25.6	-0.1
	baz=144						
RAGM	**Ragged Mountai**	**4.89**	**28**	Pn	Pn	10 14 26.2	+0.2
RAGM				IAML		10 15 06.0	
	comp=N,59nm,1.9s						
RAGM				IAML		10 16 05.7	
	comp=E,45nm,1.7s						
BERG	**Berg Lake**	**5.17**	**32**		Pn	10 14 29.8	+0.1
BERG				IAML		10 15 37.5	
	comp=E,33nm,1.5s						
BERG				IAML		10 17 35.2	
	comp=N,30nm,1.7s						
SNH	**Sunshine Point**	**5.28**	**37**		Pn	10 14 31.3	0.0
SNH				IAML		10 15 23.2	
	comp=E,34nm,1.8s						
SNH				IAML		10 15 38.7	
	comp=N,33nm,1.6s						
N20K	**Mount Spurr**	**5.30**	**344**	P	Pn	10 14 31.8	+0.2
	baz=162						
SPCR	**Spurr Chakacha**	**5.30**	**344**		Pn	10 14 31.8	+0.2
SUA	**Susitna One**	**5.39**	**352**		Pn	10 14 33.2	+0.3
SUA				IAML		10 17 26.5	
	comp=N,14nm,1.9s						
SUA				IAML		10 17 43.2	
	comp=E,11nm,1.8s						
SUA	**Susitna One**	**5.39**	**352**	P	Pn	10 14 33.3	+0.3
	baz=171						
BMRM	**Bremner River**	**5.41**	**25**		Pn	10 14 33.8	+0.6
BMRM	**Bremner River**	**5.41**	**25**	P	Pn	10 14 33.7	+0.5
	baz=205						
N19K	**Bonanza Creek**	**5.43**	**332**		Pn	10 14 33.5	0.0
N19K	**Bonanza Creek**	**5.43**	**332**	P	Pn	10 14 33.5	0.0
	baz=147						
BARK	**Barkley Ridge**	**5.56**	**37**		Pn	10 14 35.6	+0.4
KLU	**Klutina**	**5.64**	**16**		Pn	10 14 37.7	+1.4
KLU	**Klutina**	**5.64**	**16**	P	Pn	10 14 37.6	+1.4
	baz=199						
GHO	**Glory Hole Cre**	**5.65**	**2**		Pn	10 14 37.9	+1.4
N18K	**Kilae Creek**	**5.74**	**325**		Pn	10 14 37.5	0.0
N18K	**Kilae Creek**	**5.74**	**325**	P	Pn	10 14 37.6	0.0
	baz=139						
O16K	**Kokwok River B**	**5.86**	**310**	Pn	Pn	10 14 40.2	+1.0
VRDI	**Verde Repeater**	**5.92**	**28**		Pn	10 14 40.8	+0.5
KIAG	**Kiagna River**	**6.00**	**34**		Pn	10 14 41.7	+0.4
SAMH	**Samovar Hills**	**6.00**	**45**		Pn	10 14 41.8	+0.5
GLB	**Gilahina Butte**	**6.02**	**26**		Pn	10 14 42.4	+0.9
N17K	**Nushagak Hills**	**6.07**	**320**		Pn	10 14 42.2	+0.1
N17K	**Nushagak Hills**	**6.07**	**320**	P	Pn	10 14 42.7	+0.6
	baz=133						
M20K	**Styx River**	**6.10**	**342**		Pn	10 14 42.9	+0.3
M20K	**Styx River**	**6.10**	**342**	P	Pn	10 14 43.1	+0.5
	baz=159						
PCA	**Pinnacle**	**6.19**	**46**		Pn	10 14 44.2	+0.3
PINM	**Pinnacle**	**6.19**	**47**	P	Pn	10 14 44.2	+0.3
	baz=234						
BARN	**Barnard Glacie**	**6.32**	**36**		Pn	10 14 46.4	+0.6
PNL	**Peninsula**	**6.33**	**52**		Pn	10 14 45.6	0.0
PNL	**Peninsula**	**6.33**	**52**	P	Pn	10 14 45.6	0.0
	baz=240						
CTG	**Chitna Glacier**	**6.36**	**37**	P	Pn	10 14 46.6	+0.3
	baz=224						
CTGM	**Chitina Glacie**	**6.36**	**37**		Pn	10 14 46.6	+0.4
BCPM	**Bancas Point**	**6.37**	**49**	Pn	Pn	10 14 46.7	+0.5
LOGN	**Logan Glacier**	**6.38**	**39**		Pn	10 14 46.6	+0.1
O15K	**Ungalikthiuk R**	**6.44**	**303**		Pn	10 14 48.1	+0.9
O15K	**Ungalikthiuk R**	**6.44**	**303**	P	Pn	10 14 48.1	+0.9
	baz=113						
N16K	**Nishlik Lake**	**6.64**	**315**		Pn	10 14 51.4	+1.5
N16K	**Nishlik Lake**	**6.64**	**315**	P	Pn	10 14 51.3	+1.5
	baz=126						
L20K	**Farewell, AK**	**6.78**	**341**		Pn	10 14 53.9	+1.9
L20K	**Farewell, AK**	**6.78**	**341**	P	Pn	10 14 53.9	+1.9
	baz=157						
O29M	**Mount Kennedy**	**7.00**	**49**		Pn	10 14 55.7	+0.7
O29M	**Mount Kennedy**	**7.00**	**49**	P	Pn	10 14 55.8	+0.7
	baz=238						
N15K	**Kwethluk River**	**7.02**	**310**		Pn	10 14 57.2	+2.1
N15K	**Kwethluk River**	**7.02**	**310**	P	Pn	10 14 56.9	+1.8
	baz=120						
P29M	**Windy Craggy**	**7.06**	**56**		Pn	10 14 55.8	+0.1
P29M	**Windy Craggy**	**7.06**	**56**	P	Pn	10 14 55.5	-0.1
	baz=245						
YUK7	**Dusty Glacier**	**7.31**	**48**		Pn	10 15 00.4	+1.1
YUK6	**Outpost Mounta**	**7.45**	**45**	P	Pn	10 15 03.1	+1.8
	baz=235						
L16K	**Owhat River**	**7.69**	**321**	Pn	Pn	10 15 05.4	+1.1
BPAW	**Bear Paw Mtn.**	**8.03**	**355**	Pn	Pn	10 15 10.3	+1.3
K17K	**Iditarod**	**8.04**	**329**	Pn	Pn	10 15 09.4	+0.2
SKAG	**Skagway**	**8.14**	**60**	Pn	Pn	10 15 10.7	+0.2
O30N	**Mendenhall**	**8.30**	**51**	Pn	Pn	10 15 12.6	-0.2
JIS	**Juneau Island**	**8.34**	**69**	Pn	Pn	10 15 12.3	-1.0
M29M	**Somme Creek**	**8.38**	**37**	Pn	Pn	10 15 15.2	+1.3
WHY	**Whitehorse**	**8.79**	**53**	Pn	Pn	10 15 20.2	+0.7
N31M	**Braeburn, Yuko**	**8.79**	**47**	Pn	Pn	10 15 20.8	+1.3
RUBB	**Prince Rupert**	**10.99**	**92**	Pn	Pn	10 15 49.8	+0.2

*IDC **24** 10:17:55.4±0.7,36˚25N×144˚24E,h0km,mb3.7/12, mbtmp3.9/17,ML3.9/5,MS2.6/1,Error ellipse: s-maj=19.6km s-min=17.2km az=88.0*
*NIED **24** 10:18:00.4,36˚47N×143˚93E,h57km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-7.35; $M_{\theta\theta}$3.01; $M_{\phi\phi}$4.33; $M_{r\theta}$2.67; $M_{r\phi}$2.82; $M_{\theta\phi}$1.98; Fault plane solution: $M_0$7.71000×10^{14} NP1: ϕ_s224.00000°,δ58.00000°,λ-84.00000°. NP2:ϕ_s34.00000°, δ33.00000°,λ-99.00000°.*
*JMA **24** 10:18:00.4±0.3,36˚5N±0˚7×147˚4E±˚,h57km,MV4.2/28, FAR E OFF CENTRAL HONSHU*
ISC 24 10:18:00.8±0.8,36˚48N±0˚06×144˚05E±0˚07,h35km,n38, σ2s65/44,mb3.7/12,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.68**	**284**	*e*S	**Sn**	**10 19 11.0**	**-1.9**
JFK	**Kawauchi**	**2.69**	**290**	*e*P	**Pn**	**10 18 41.5**	**-0.1**
JFK				*e*S	**Sn**	10 19 11.4	-1.7
**JIK

0.8nm,0.3s,baz=83,slow=8.2,SNR=1.9
0.8nm,0.3s
ILAR Eielson Array 48.83 32 P **P** **10 26 43.5 +1.2**
0.7nm,0.6s,baz=261,slow=6.0,SNR=11
0.7nm,0.6s
BVAR Borovoye Array 52.50 313 P **P** **10 27 11.9 +1.7**
0.3nm,0.3s,baz=106,slow=11,SNR=2.7
0.3nm,0.3s
WRA Warramunga Arr 56.87 191 P **P** **10 27 40.1 -2.0**
1.0nm,0.4s,baz=9.3,slow=7.0,SNR=16
1.0nm,0.4s
ASAR Alice Springs 60.59 191 P **P** **10 28 06.7 -1.3**
0.4nm,0.3s,baz=4.0,slow=6.1,SNR=20
0.4nm,0.3s
FINES FINESS Array B 70.27 333 P **P** **10 29 11.9 +1.8**
3.3nm,1.0s,baz=75,slow=11,SNR=1.4
3.3nm,1.0s
NVAR Mina Array Bea 73.61 54 P **P** **10 29 30.6 -0.2**
0.8nm,0.8s,baz=270,slow=5.9,SNR=5.5
0.8nm,0.8s
PDAR Pinedale Array 76.52 47 P **P** **10 29 47.8 +0.2**
0.2nm,0.5s,baz=326,slow=2.7,SNR=2.7
0.2nm,0.5s
TXAR Lajitas Array 88.75 54 P **P** **10 30 51.5 +0.3**
0.2nm,0.5s,baz=339,slow=3.1,SNR=5.0
0.2nm,0.5s

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*NEIC **24** 10:30:12.6±1.7,55.87N±0.08×150.2W±0.1, h5km±6km, mb4.2/5,ML3.8/39,ML3.5(AEIC),Error ellipse: s-maj=12.2km s-min=8.8km az=173.0*
*IDC **24** 10:30:14.2±1.3,55.90N×149.98W,h0km, mb3.4/5, mbtmp3.5/10,ML3.5/5,MS3.2/7,Error ellipse: s-maj=27.5km s-min=17.7km az=43.0*
*AEIC **24** 10:30:17.9±2.2,55.91N±0.09×149.9W±0.1, h12km±6km, Error ellipse: s-maj=12.9km s-min=9.2km az=172.0*

ISC 24 10:30:14.5±0.7,55.97N±0.07×150.10W±0.05,h10km, n159,σ0.89/160,mb3.5/6,MS3.2/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.17**	**307**			**10 30 49.9**	**-0.7**
OHAK				Sn	**Sn**	**10 31 15.2**	**-2.2**
OHAK	**Old Harbor**	**2.17**	**307**	P	**Pn**	**10 30 49.8**	**-0.7**
OHAK	**Old Harbor**	**2.17**	**307**	P	**Pn**	**10 30 49.7**	**-0.8**
	baz=127						
OHAK				S	**Sn**	**10 31 15.0**	**-2.5**
	baz=127						
KDAK	**Kodiak Island**	**2.27**	**324**	Pn	**Pn**	**10 30 51.8**	**-0.3**
KDAK				Sn	**Sn**	**10 31 19.2**	**-0.9**
KDAK	**Kodiak Island**	**2.27**	**324**	Pn	**Pn**	**10 30 51.8**	**-0.3**
	18nm,0.3s,baz=165,slow=4.8,SNR=47						
KDAK				Sn	**Sn**	**10 31 18.0**	**-2.1**
	8.7nm,0.3s,baz=108,slow=20,SNR=4.5						
KDAK				LR	LR	10 32 02.4	
	comp=Z,491nm,20.2s,baz=168,slow=46						
	51nm,0.3s						
SII	**Sitkinak Islan**	**2.35**	**286**	Pn	Pn	10 30 51.2	-2.0
SII				IAML		10 31 27.2	
	comp=E,383nm,0.7s						
SII				IAML		10 31 32.8	
	comp=N,407nm,0.8s						
SII	**Sitkinak Islan**	**2.35**	**286**		**Sn**	**10 31 19.5**	**-2.6**
Q20K	**Shuyak Island**	**2.93**	**336**	P	**Pn**	**10 31 00.6**	**-0.5**
	baz=155						
Q20K				S	**Sn**	**10 31 35.8**	**-0.5**
	baz=155						
SYI	**Shuyak Island**	**2.93**	**336**	Pn	**Pn**	**10 31 01.0**	**-0.1**
SYI				Sn	**Sn**	**10 31 36.3**	**+0.1**
KAHG	**Katmai Hook Gl**	**3.50**	**318**		**Pn**	**10 31 09.8**	**+0.8**
KAHG					**Sn**	**10 31 49.6**	**-0.9**
Q19K	**Cape Douglas,**	**3.53**	**329**	Pn	**Pn**	**10 31 10.5**	**+1.1**
Q19K	**Cape Douglas,**	**3.53**	**329**		**Sn**	**10 31 50.6**	**-0.6**
Q19K	**Cape Douglas,**	**3.53**	**329**	P	**Pn**	**10 31 10.1**	**+0.7**
	baz=147						
Q19K				S	**Sn**	**10 31 50.6**	**-0.6**
	baz=147						
KCE	**Katmai Mt Cerb**	**3.59**	**312**		**Pn**	**10 31 11.1**	**+0.9**
CNPM	**China Poot**	**3.62**	**351**	Pn	**Pn**	**10 31 10.2**	**-0.4**
CNPM				IAML		10 31 53.7	
	comp=E,98nm,0.6s						
ACHA	**Angle Creek He**	**3.63**	**310**		**Pn**	**10 31 11.1**	**+0.3**
ANCK	**Angle Creek**	**3.70**	**310**		**Pn**	**10 31 12.3**	**+0.6**
KVTA	**Katmai Vly 10**	**3.72**	**313**		**Pn**	**10 31 12.8**	**+0.9**
KAHC	**Katmai Hardscr**	**3.78**	**317**		**Pn**	**10 31 13.6**	**+0.7**
KAHC	**Katmai Hardscr**	**3.78**	**317**	P	**Pn**	**10 31 13.6**	**+0.7**
	baz=135						
HOM	**Homer**	**3.79**	**348**	Pn	**Pn**	**10 31 12.1**	**-0.9**
HOM				IAML		10 32 10.6	
	comp=E,255nm,0.9s						
HOM				IAML		10 32 53.9	
	comp=N,252nm,0.9s						
BRSE	**Bradley Lake S**	**3.80**	**355**		**Pn**	**10 31 11.9**	**-1.2**
BRLK	**Bradley Lake**	**3.83**	**354**		**Pn**	**10 31 12.2**	**-1.3**
BRLK				IAML		10 31 59.3	
	comp=E,77nm,0.9s						
AU22	**Augustine Moun**	**3.84**	**334**		**Pn**	**10 31 14.2**	**+0.7**
CNTC	**Contact Creek**	**3.90**	**309**		**Pn**	**10 31 14.8**	**+0.3**
Q17K	**Contact Creek**	**3.91**	**309**	P	**Pn**	**10 31 14.8**	**+0.3**
	baz=125						
Q23K	**Middleton Isla**	**4.02**	**29**	Pn	**Pn**	**10 31 15.3**	**-0.6**
Q23K				IAML		10 32 17.1	
	comp=E,108nm,1.2s						
Q23K				IAML		10 32 44.4	
	comp=N,115nm,1.1s						
Q23K	**Middleton Isla**	**4.02**	**29**	P	**Pn**	**10 31 15.1**	**-0.9**
	baz=212						
MID	**Middleton Isla**	**4.02**	**29**	Pn	**Pn**	**10 31 15.5**	**-0.5**
MID				IAML		10 32 44.4	
	comp=N,114nm,1.2s						
MID				IAML		10 33 06.8	
	comp=E,130nm,1.2s						
MID	**Middleton Isla**	**4.02**	**29**	P	**Pn**	**10 31 15.5**	**-0.5**
P19K	**Oil Pt**	**4.06**	**337**	Pn	**Pn**	**10 31 16.6**	**+0.1**
P19K				IAML		10 32 08.0	
	comp=N,138nm,0.8s						
P19K				IAML		10 32 09.8	
	comp=E,126nm,0.4s						
P19K	**Oil Pt**	**4.06**	**337**	P	**Pn**	**10 31 16.7**	**+0.1**
	baz=155						
P23K	**Montague Islan**	**4.29**	**18**		**Pn**	**10 31 18.8**	**-1.0**
P23K	**Montague Islan**	**4.29**	**18**	P	**Pn**	**10 31 18.8**	**-1.0**
	baz=201						
O20K	**Slope Mountain**	**4.34**	**343**		**Pn**	**10 31 20.6**	**+0.1**
IVE	**Iliamna Volcan**	**4.35**	**340**		**Pn**	**10 31 20.1**	**-0.6**
P18K	**Big Mountain,**	**4.40**	**323**		**Pn**	**10 31 21.1**	**-0.2**
P18K	**Big Mountain,**	**4.40**	**323**	P	**Pn**	**10 31 21.0**	**-0.4**
	baz=140						
O22K	**Cooper Landing**	**4.54**	**2**		**Pn**	**10 31 21.9**	**-1.1**
O22K	**Cooper Landing**	**4.54**	**2**	P	**Pn**	**10 31 22.7**	**-0.4**
	baz=183						
P17K	**Kvichak River**	**4.70**	**316**		**Pn**	**10 31 26.1**	**+0.7**
P17K	**Kvichak River**	**4.70**	**316**	P	**Pn**	**10 31 26.1**	**+0.7**
	baz=132						
RSO	**Redoubt South**	**4.72**	**344**		**Pn**	**10 31 25.3**	**-0.6**
O18K	**Koktuh Hills**	**4.75**	**327**	Pn	**Pn**	**10 31 25.4**	**-0.8**
O18K				IAML		10 32 21.8	
	comp=E,42nm,1.0s						
O18K				IAML		10 32 37.5	
	comp=N,52nm,1.1s						
O18K	**Koktuh Hills**	**4.75**	**327**	P	**Pn**	**10 31 26.5**	**+0.3**
	baz=144						
O19K	**Port Alsworth**	**4.80**	**334**		**Pn**	**10 31 27.4**	**+0.7**
O19K	**Port Alsworth**	**4.80**	**334**	P	**Pn**	**10 31 27.1**	**+0.4**
	baz=151						
HIN	**Hinchinbrook I**	**4.84**	**22**		**Pn**	**10 31 27.0**	**-0.3**
HIN				IAML		10 32 21.9	
	comp=E,97nm,1.1s						
HIN				IAML		10 32 32.4	
	comp=N,64nm,1.1s						
CAPN	**Captain Cook N**	**4.85**	**354**	Pn	**Pn**	**10 31 27.9**	**+0.5**
CAPN	**Captain Cook N**	**4.85**	**354**	P	**Pn**	**10 31 27.5**	**+0.1**
	baz=174						
KAIM	**Kayak Island**	**5.00**	**35**		**Pn**	**10 31 28.8**	**-0.6**
KAIM				IAML		10 32 29.9	
	comp=N,93nm,1.1s						
KAIM				IAML		10 32 39.4	
	comp=E,50nm,1.1s						
KAIM	**Kayak Island**	**5.00**	**35**	P	**Pn**	**10 31 28.4**	**-1.0**
	baz=220						
EYAK	**Cordova Ski Ar**	**5.14**	**25**		**Pn**	**10 31 31.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.14**	**25**	P	**Pn**	**10 31 31.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.14**	**25**	P	**Pn**	**10 31 30.9**	**-0.5**
	baz=208						
RC01	**Rabbit Creek A**	**5.14**	**2**	Pn	**Pn**	**10 31 30.7**	**-0.8**
RC01				IAML		10 32 34.9	
	comp=N,28nm,0.9s						
RC01				IAML		10 32 37.3	
	comp=E,30nm,0.8s						
RC01	**Rabbit Creek A**	**5.14**	**2**	P	**Pn**	**10 31 30.4**	**-1.1**
	baz=183						
P16K	**Nushagak River**	**5.25**	**309**		**Pn**	**10 31 33.0**	**+0.1**
P16K	**Nushagak River**	**5.25**	**309**	P	**Pn**	**10 31 33.0**	**+0.1**
	baz=124						
RAGM	**Ragged Mountai**	**5.28**	**31**		**Pn**	**10 31 32.7**	**-0.7**
RAGM				IAML		10 32 48.0	
	comp=E,74nm,0.7s						
N19K	**Bonanza Creek**	**5.38**	**336**	Pn	**Pn**	**10 31 35.2**	**+0.4**
GOAT	**Goat Mountain**	**5.43**	**29**		**Pn**	**10 31 34.2**	**-1.2**
SUA	**Susitna One**	**5.53**	**357**	Pn	**Pn**	**10 31 36.1**	**-0.8**
CNBA	**Chernabura Isl**	**5.53**	**262**	Pn	**Pn**	**10 31 35.7**	**-1.0**
BERG	**Berg Lake**	**5.58**	**35**		**Pn**	**10 31 37.0**	**-0.6**
O16K	**Kokwok River B**	**5.61**	**314**		**Pn**	**10 31 38.0**	**+0.1**
N18K	**Kilae Creek**	**5.62**	**330**	Pn	**Pn**	**10 31 37.7**	**-0.4**
DIV	**Divide**	**5.65**	**22**		**Pn**	**10 31 37.9**	**-0.6**
PMR	**Palmer**	**5.67**	**5**	Pn	**Pn**	**10 31 38.2**	**-0.4**
PMR	**Palmer**	**5.67**	**5**	P	**Pn**	**10 31 39.1**	**+0.5**
SNH	**Sunshine Point**	**5.72**	**39**	Pn	**Pn**	**10 31 39.3**	**-0.2**
BMRM	**Bremner River**	**5.79**	**28**		**Pn**	**10 31 40.2**	**-0.2**
BMRM	**Bremner River**	**5.79**	**28**	P	**Pn**	**10 31 39.7**	**-0.6**
	baz=212						
GHO	**Glory Hole Cre**	**5.86**	**6**		**Pn**	**10 31 41.9**	**+0.6**
SDPT	**Sand Point**	**5.91**	**268**	Pn	**Pn**	**10 31 41.0**	**-0.9**
SDPT	**Sand Point**	**5.91**	**268**	P	**Pn**	**10 31 42.0**	**+0.1**
N17K	**Nushagak Hills**	**5.91**	**324**		**Pn**	**10 31 41.9**	**-0.1**
SML	**Sawmill**	**5.93**	**8**		**Pn**	**10 31 42.2**	**-0.2**
SML	**Sawmill**	**5.93**	**8**	P	**Pn**	**10 31 41.9**	**-0.5**
	baz=190						
KLU	**Klutina**	**5.96**	**20**		**Pn**	**10 31 42.7**	**0.0**
KLU	**Klutina**	**5.96**	**20**	P	**Pn**	**10 31 42.4**	**-0.3**
	baz=203						
BARK	**Barkley Ridge**	**6.00**	**39**		Pn	10 31 41.4	-1.9
SCM	**Sheep Creek Mo**	**6.06**	**13**	Pn	**Pn**	**10 31 44.6**	**+0.5**
M20K	**Styx River**	**6.14**	**346**		**Pn**	**10 31 44.3**	**-0.9**
M20K	**Styx River**	**6.14**	**346**	P	**Pn**	**10 31 44.5**	**-0.7**
	baz=164						
O15K	**Ungalikthiuk R**	**6.14**	**306**		**Pn**	**10 31 45.1**	**0.0**
O15K	**Ungalikthiuk R**	**6.14**	**306**	P	**Pn**	**10 31 45.1**	**0.0**
	baz=118						
M18K	**Stony River**	**6.29**	**334**		**Pn**	**10 31 46.4**	**-0.8**
M18K	**Stony River**	**6.29**	**334**	P	**Pn**	**10 31 46.4**	**-0.8**
	baz=150						
VRDI	**Verde Repeater**	**6.32**	**31**	Pn	**Pn**	**10 31 47.5**	**-0.3**
N25K	**Chitina, Valde**	**6.34**	**25**	Pn	**Pn**	**10 31 48.0**	**0.0**
N25K	**Chitina, Valde**	**6.34**	**25**	P	**Pn**	**10 31 47.7**	**-0.3**
	baz=209						
M19K	**Big River Lodg**	**6.36**	**341**	Pn	**Pn**	**10 31 47.4**	**-0.7**
GLB	**Gilahina Butte**	**6.39**	**28**		**Pn**	**10 31 49.0**	**+0.2**
KIAG	**Kiagna River**	**6.42**	**36**		**Pn**	**10 31 48.5**	**-0.6**
SAMH	**Samovar Hills**	**6.47**	**46**		Pn	10 31 46.4	-3.4
M24K	**Tolsona, Glenn**	**6.49**	**17**		**Pn**	**10 31 50.0**	**+0.1**
M24K	**Tolsona, Glenn**	**6.49**	**17**	P	**Pn**	**10 31 49.2**	**-0.7**
	baz=200						
MCARA	**McCarthy VSAT**	**6.57**	**31**		**Pn**	**10 31 51.0**	**-0.1**
M17K	**Holitna River**	**6.66**	**328**		**Pn**	**10 31 52.4**	**+0.2**
PCA	**Pinnacle**	**6.67**	**48**		**Pn**	**10 31 53.0**	**+0.5**
PINM	**Pinnacle**	**6.67**	**48**	P	Pn	10 31 48.7	-3.8
	baz=236						
L19K	**White Mountain**	**6.70**	**341**		**Pn**	**10 31 52.2**	**-0.7**
BARN	**Barnard Glacie**	**6.75**	**37**		**Pn**	**10 31 54.0**	**+0.2**
N15K	**Kwethluk River**	**6.77**	**313**		**Pn**	**10 31 55.1**	**+1.3**
CTGM	**Chitina Glacie**	**6.80**	**39**		**Pn**	**10 31 54.4**	**0.0**
PNL	**Peninsula**	**6.82**	**53**	P	**Pn**	**10 31 54.4**	**-0.1**
LOGN	**Logan Glacier**	**6.83**	**41**		**Pn**	**10 31 54.6**	**-0.1**
O14K	**Tigyukauivet M**	**6.84**	**303**	Pn	**Pn**	**10 31 55.1**	**+0.3**
BCPM	**Bancas Point**	**6.85**	**50**		**Pn**	**10 31 54.8**	**-0.1**
L18K	**Granite Mounta**	**7.13**	**334**	Pn	**Pn**	**10 31 58.1**	**-0.6**
DHY	**Denali Highway**	**7.27**	**10**		**Pn**	**10 32 00.9**	**+0.2**
RND	**Reindeer**	**7.49**	**4**	Pn	**Pn**	**10 32 03.6**	**-0.2**
L16K	**Owhat River**	**7.53**	**324**		**Pn**	**10 32 04.5**	**+0.2**
TTA	**Tatalina**	**7.60**	**339**	Pn	**Pn**	**10 32 04.2**	**-1.1**
TTA	**Tatalina**	**7.60**	**339**	P	**Pn**	**10 32 05.9**	**+0.6**
KTH	**Kantishna Hill**	**7.62**	**357**	Pn	**Pn**	**10 32 05.8**	**+0.3**
S31K	**Pelican**	**7.84**	**69**	Pn	Pn	10 32 06.4	-2.1
BPAW	**Bear Paw Mtn.**	**8.17**	**357**	Pn	**Pn**	**10 32 12.3**	**-0.8**
HYT	**Haines Junctio**	**8.21**	**48**	Pn	**Pn**	**10 32 14.1**	**+0.4**
RIDG	**Independent Ri**	**8.23**	**17**		**Pn**	**10 32 13.8**	**-0.1**
BCAR	**Beaver Creek A**	**8.28**	**27**	Pn	**Pn**	**10 32 14.5**	**0.0**
SCRK	**Sand Creek**	**8.60**	**18**	Pn	**Pn**	**10 32 18.5**	**-0.5**
SKAG	**Skagway**	**8.65**	**60**	Pn	**Pn**	**10 32 19.2**	**-0.3**
O30N	**Mendenhall**	**8.79**	**51**	Pn	**Pn**	**10 32 21.4**	**-0.1**
JIS	**Juneau Island**	**8.86**	**68**	Pn	**Pn**	**10 32 21.7**	**-0.7**
IL31		**8.98**	**9**		**Pn**	**10 32 24.8**	**+0.8**
ILAR	**Eielson Array**	**8.98**	**9**	Pn	**Pn**	**10 32 24.1**	**+0.1**
	comp=E,0.2nm,0.3s,baz=188,slow=13,SNR=7.1						
ILAR				Sn	**Sn**	**10 34 00.1**	**-5.0**
	comp=E,0.3nm,0.3s,baz=194,slow=21,SNR=5.8						
ILAR				LR	LR	10 35 17.0	
	comp=E,18nm,20.5s,baz=270,slow=34						
	comp=E,0.6nm,0.3s						
N31M	**Braeburn, Yuko**	**9.27**	**47**		**Pn**	**10 32 28.6**	**+0.5**
WHY	**Whitehorse**	**9.28**	**53**	Pn	**Pn**	**10 32 28.7**	**+0.4**
P32M	**Atlin**	**9.47**	**61**	Pn	**Pn**	**10 32 30.2**	**-0.7**
M30M	**Minto, Yukon**	**9.49**	**40**	Pn	**Pn**	**10 32 30.6**	**-0.5**
P33M	**Teslin, Yukon**	**10.08**	**58**	Pn	**Pn**	**10 32 39.2**	**-0.1**
M31M	**Drury Creek, Y**	**10.20**	**46**		**Pn**	**10 32 41.6**	**+0.8**
MAYO	**Mayo, Yukon**	**10.46**	**37**	Pn	**Pn**	**10 32 43.0**	**-1.3**
FARO	**Faro, Yukon**	**10.64**	**47**	Pn	**Pn**	**10 32 47.5**	**+0.7**
DLBC	**Dease Lake**	**11.16**	**69**	Pn	**Pn**	**10 32 53.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=300,slow=5.9,SNR=7.0						
	comp=E,0.8nm,0.3s						
BMAR	**Burnt Mountain**	**11.79**	**10**	Pn	**Pn**	**10 33 02.7**	**+0.1**
F28M	**Old Crow**	**12.62**	**18**	Pn	**Pn**	**10 33 14.2**	**+0.3**
F31M	**Tsiigehtchic**	**13.81**	**27**	Pn	**Pn**	**10 33 30.5**	**+0.5**
B22K	**Teshekpuk Lake**	**14.51**	**356**	Pn	**Pn**	**10 33 38.7**	**-0.8**
INK	**Inuvik**	**14.53**	**25**	Pn	**Pn**	**10 33 38.7**	**-1.1**
INK	**Inuvik**	**14.53**	**25**	Pn	**Pn**	**10 33 40.7**	**+0.9**
	comp=E,0.1nm,0.3s,baz=210,slow=16,SNR=8.2						
INK				LR	LR	10 39 30.8	
	comp=E,145nm,18.4s,baz=206,slow=38						
	comp=E,1.5nm,0.8s						
ADK	**Adak**	**16.13**	**266**	Pn	**Pn**	**10 33 59.4**	**-1.6**
ADK				IAmb	IAmb	10 34 22.6	
	comp=Z,20nm,1.1s						
C36M	**Paulatuk**	**17.75**	**31**	P	**Pn**	**10 34 21.4**	**+0.1**
NLWA	**Neilton Lookou**	**18.30**	**107**	P	**Pn**	**10 34 25.9**	**-2.3**
NLWA				IAmb	IAmb	10 34 50.0	
	comp=Z,22nm,1.1s						
WISH	**Wishkah**	**18.52**	**107**	P	**P**	**10 34 29.4**	**-1.4**
YKA	**Yellowknife Ar**	**19.10**	**55**	P	**P**	**10 34 37.4**	**+0.4**
YKA	**Yellowknife Ar**	**19.10**	**55**	P	**P**	**10 34 38.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=265,slow=9.7,SNR=25						
	comp=Z,0.6nm,0.6s						
A36M	**Sachs Harbour**	**19.16**	**23**	P	**P**	**10 34 38.2**	**+0.7**
A36M				IAmb	IAmb	10 34 48.2	
	comp=Z,11nm,0.8s						
YBH	**Yreka Blue Hor**	**22.77**	**117**	LR	LR	10 41 54.3	
	comp=Z,82nm,20.3s,baz=347,slow=31						
ELK	**Elko**	**27.35**	**109**	LR	LR	10 45 01.7	
	comp=Z,52nm,20.3s,baz=306,slow=32						
NVAR	**Mina Array Bea**	**27.48**	**116**	P	**P**	**10 36 02.2**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=290,slow=11,SNR=4.2						
NVAR				LR	LR	10 45 08.6	
	comp=Z,82nm,18.3s,baz=268,slow=33						
	comp=Z,0.7nm,0.9s						
PDAR	**Pinedale Array**	**29.06**	**100**	P	**P**	**10 36 14.2**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=355,slow=5.4,SNR=1.6						
	comp=Z,0.1nm,0.6s						
PFO	**Pinyon Flats O**	**32.19**	**120**	LR	LR	10 48 30.2	
	comp=Z,67nm,18.4s,baz=324,slow=34						
TXAR	**Lajitas Array**	**42.15**	**109**	P	**P**	**10 38 08.2**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=324,slow=6.2,SNR=3.5						
	comp=Z,0.4nm,0.9s						
SPITS	**Spitsbergen Ar**	**45.86**	**4**	P	**P**	**10 38 38.1**	**+1.9**
	comp=Z,16nm,1.1s,baz=327,slow=10,SNR=1.9						
SONM	**Songino Array**	**58.49**	**310**	P	**P**	**10 40 12.2**	**+1.6**
	comp=Z,0.8nm,1.0s,baz=54,slow=7.5,SNR=3.5						
	comp=Z,0.8nm,1.0s						
MKAR	**Makanchi Array**	**68.59**	**324**	P	**P**	**10 41 18.6**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=27,slow=5.8,SNR=3.8						
	comp=Z,0.2nm,0.5s						

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*MDD **24** 10:39:37.8±0.3,38.28N×1.24W,h0km, mb_Lg2.7/22, Error ellipse: s-maj=2.4km s-min=1.7km az=119.0*
*SFS **24** 10:39:38.1,38.26N×1.22W,h1km,ML2.8/12,ML2.9/12, MLv2.8/12*
*INMG **24** 10:39:38.2±1.8,38.20N×1.13W,h24km±4km,ML2.4, Error ellipse: s-maj=5.7km s-min=2.9km az=110.0*

ISC 24 10:39:37.0±1.0,38.27N±0.02×1.29W±0.02,h10km±9km, n42,σ1.11/82,1D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETOB	**Tobarra**	**0.42**	**331**	Sg	**Sb**	**10 39 53.2**	**0.0**
ETOB				Pg	**Pb**	**10 39 47.1**	**+0.5**
EMUR	**La Murta**	**0.43**	**175**	Sg	**Sg**	**10 39 51.0**	**-0.1**
EMUR				Pg	**Pg**	**10 39 45.5**	**+0.1**
EMUR	**La Murta**	**0.43**	**175**	⇓Pg	**Pg**	**10 39 45.3**	**-0.1**
EMUR				Sg	**Sg**	**10 39 51.0**	**-0.1**
EMUR				*i* Vmb_Lg		10 39 54.2	
EZAR	**Zarzadilla de**	**0.51**	**219**	Pg	**Pg**	**10 39 47.1**	**+0.2**
EZAR				Sg	**Sb**	**10 39 54.9**	**-0.7**
EZAR				*i* Vmb_Lg		10 39 56.2	
TLOR	**Lorca, Murcia**	**0.69**	**208**	Pg	**Pb**	**10 39 51.4**	**+0.3**
TLOR				Sg	**Sb**	**10 40 01.4**	**+0.7**
AFON	**Font Roja**	**0.70**	**56**	Pg	**Pb**	**10 39 51.8**	**+0.4**
AFON				Sg	**Sg**	**10 39 57.6**	**-2.2**
AFON				*i* Vmb_Lg		10 40 08.6	
CART	**Cartagena**	**0.72**	**162**	Pg	**Pg**	**10 39 50.4**	**-0.4**
CART				Sg	**Sg**	**10 39 60.0**	**-0.3**
EVIV	**Cofrentes, Val**	**1.00**	**7**	Pg	**Pg**	**10 39 56.7**	**+0.4**
EVIV				Sg	**Sn**	**10 40 12.1**	**+0.8**
EVIV				*i* Vmb_Lg		10 40 13.5	
ECHE	**Chera**	**1.34**	**11**	Pn	**Pn**	**10 40 01.5**	**-0.2**
ECHE				Sn	**Sn**	**10 40 20.6**	**+0.9**
ECHE	**Chera**	**1.34**	**11**	Pn	**Pn**	**10 40 01.7**	**-0.1**
ECHE				Pg	**Pg**	**10 40 03.5**	**+0.8**
ECHE				Sg	**Sg**	**10 40 21.2**	**+1.0**
ECHE				*i* Vmb_Lg		10 40 26.2	
EQES	**Quesada**	**1.48**	**252**	Pg	**Pg**	**10 40 05.3**	**-0.1**
EQES				Sn	**Sg**	**10 40 24.9**	**+0.2**
EQES				Sg	**Sb**	**10 40 27.3**	**+3.7**
EQES				*i* Vmb_Lg		10 40 30.0	
ENIJ	**Nijar**	**1.49**	**210**	Pn	**Pn**	**10 40 03.4**	**-0.4**
ENIJ				Sn	**Sg**	**10 40 25.5**	**+0.7**
ENIJ	**Nijar**	**1.49**	**210**	Pn	**Pn**	**10 40 03.1**	**-0.4**
ENIJ				Sg	**Sg**	**10 40 27.7**	**+2.8**
ENIJ				*i* Vmb_Lg		10 40 30.4	
EBER	**Berja**	**1.87**	**223**	Pn	**Pn**	**10 40 09.3**	**+0.1**
EBER				Sn	**Sb**	**10 40 34.6**	**-0.3**
EBER	**Berja**	**1.87**	**223**	Pn	**Pn**	**10 40 09.6**	**+0.4**
EBER				Sg	**Sg**	**10 40 39.8**	**+2.7**
EBER				*i* Vmb_Lg		10 40 44.9	
EQTA	**Presa de Quent**	**2.01**	**239**	Pn	**Pb**	**10 40 13.7**	**0.0**
EQTA				Sn	**Sb**	**10 40 39.5**	**+0.6**
EMOS	**Mosqueruela**	**2.18**	**17**	Pg	**Pb**	**10 40 15.7**	**-0.9**
EMOS				Sg	**Sb**	**10 40 45.1**	**+1.3**
EMOS				*i* Vmb_Lg		10 40 57.7	
EIBI	**Ibiza**	**2.19**	**69**	Sn	**Sn**	**10 40 41.0**	**+0.4**
ECOL	**Islas Columbre**	**2.23**	**43**	Pn	**Pn**	**10 40 13.6**	**-0.4**
ECOL				Pg	**Pg**	**10 40 19.4**	**-0.4**
ECOL				Sn	**Sn**	**10 40 42.1**	**+0.5**
ECOL				Sg	**Sg**	**10 40 48.0**	**-0.7**
ELGU	**Los Guajares,**	**2.33**	**234**	Pn	**Pb**	**10 40 17.6**	**-1.4**
ELGU	**Los Guajares,**	**2.33**	**234**	Pn	**Pb**	**10 40 18.0**	**-1.0**
ELGU				Pg	**Pg**	**10 40 21.4**	**-0.2**
ELGU				*i* Vmb_Lg		10 41 05.8	
ESDC	**Sonseca Array**	**2.51**	**305**	Pn	**Pn**	**10 40 18.6**	**+0.7**
ESDC				Pg	**Pg**	**10 40 24.0**	**-1.1**
ESDC				Sg	**Sg**	**10 40 57.6**	**-0.1**
ESDC				*i* Vmb_Lg		10 41 02.5	
EGOR	**Sierra Gorda,**	**2.52**	**243**	Pn	**Pb**	**10 40 20.3**	**-2.1**
EGOR	**Sierra Gorda,**	**2.52**	**243**	Pn	**Pb**	**10 40 20.6**	**-1.8**
EGOR				*i* Vmb_Lg		10 41 08.8	
UCM	**Universidad Co**	**2.54**	**324**	Sn	**Sn**	**10 40 50.8**	**+1.6**
UCM				Pn	**Pn**	**10 40 19.7**	**+1.4**
EADA	**Adamuz**	**2.59**	**269**	Pn	**Pn**	**10 40 19.1**	**+0.2**
EADA				Sn	**Sn**	**10 40 50.7**	**+0.1**
EADA	**Adamuz**	**2.59**	**269**	Pn	**Pn**	**10 40 19.2**	**+0.2**
EADA				Pg	**Pg**	**10 40 26.8**	**+0.1**
EADA				Sg	**Sg**	**10 41 02.6**	**+1.7**

comp=E,11nm,1.0s

CNTC	**Contact Creek**	**3.69**	**306**		Pn	10 45 06.8	+0.3
HIN	**Hinchinbrook I**	**4.61**	**24**	Pn	Pn	10 45 19.3	+0.2
HIN				IAML		10 48 22.2	

comp=N,26nm,1.1s

KAIM	**Kayak Island**	**4.81**	**37**	Pn	Pn	10 45 22.0	+0.1
O16K	**Kokwok River B**	**5.38**	**312**	Pn	Pn	10 45 29.3	-0.4
O16K				IAML		10 46 18.0	

comp=N,3.8nm,1.1s

O16K				IAML		10 48 48.3	

comp=E,3.8nm,1.2s

BERG	**Berg Lake**	**5.40**	**37**	Pn	Pn	10 45 29.6	-0.3
SNH	**Sunshine Point**	**5.55**	**42**	Pn	Pn	10 45 32.4	+0.3
KLU	**Klutina**	**5.72**	**21**	Pn	Pn	10 45 35.6	+1.2
VRDI	**Verde Repeater**	**6.12**	**32**	Pn	Pn	10 45 39.0	-1.0
N25K	**Chitina, Valde**	**6.12**	**26**	Pn	Pn	10 45 37.9	-2.0
GLB	**Gilahina Butte**	**6.19**	**30**	Pn	Pn	10 45 40.7	-0.1
MCARA	**McCarthy VSAT**	**6.37**	**33**	Pn	Pn	10 45 42.3	-0.9
BARN	**Barnard Glacie**	**6.58**	**39**	Pn	Pn	10 45 46.0	-0.3
CTGM	**Chitina Glacie**	**6.63**	**41**	Pn	Pn	10 45 47.0	+0.1
LOGN	**Logan Glacier**	**6.66**	**43**	Pn	Pn	10 45 48.1	+0.7
BCPM	**Bancas Point**	**6.73**	**52**	Pn	Pn	10 45 47.8	-0.4
KTH	**Kantishna Hill**	**7.35**	**358**	Pn	Pn	10 45 56.6	-0.1
RIDG	**Independent Ri**	**7.99**	**17**	Pn	Pn	10 46 03.0	-2.5
BCAR	**Beaver Creek A**	**8.06**	**28**	Pn	Pn	10 46 12.5	+1.0
J26L	**Joseph Creek**	**8.91**	**19**	Pn	Pn	10 46 17.8	-0.4
F19K	**Shaleruckik Mo**	**11.21**	**344**	Pn	Pn	10 46 48.3	-1.2

MEX 24 10:47:36.0±0.6, 17°38N×95°05W, h130km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**151**	*i* P	Pn	10 47 52.8	-1.5
CMIG				*i* S	Sn	10 48 06.1	-2.0
NEUV	**Arroyo Zacate**	**0.79**	**295**	*e*P	Pn	10 47 55.7	-1.4
NEUV				*i* S	Sn	10 48 10.9	-2.1
UXUV	**UXUV**	**0.87**	**94**	*i* P	Pn	10 47 55.9	-1.8
UXUV				*i* S	Sn	10 48 10.8	-3.4
NILT	**Santiago Nilte**	**0.91**	**153**	*i* S	Sn	10 48 13.5	-1.5
HUIG	**Huatulco**	**1.90**	**212**	*e*P	Pn	10 48 06.8	-2.0
HUIG				*i* S	Sn	10 48 32.0	-1.9
TGIG		**1.94**	**108**	*i* P	Pn	10 48 07.6	-1.7
TGIG				*e*S	Sn	10 48 30.7	-4.1
TOIG	**Toxpalan**	**2.04**	**291**	*e*P	Pn	10 48 10.1	-0.6
TOIG				*e*S	Sn	10 48 35.8	-1.4
PCIG		**2.42**	**133**	*e*P	Pn	10 48 14.2	-1.0
PCIG				*e*S	Sn	10 48 44.3	-1.1
TPIG	**Tehuac#an**	**2.43**	**295**	*i* P	Pn	10 48 15.1	-0.3
TPIG				*i* S	Sn	10 48 44.2	-1.6
PEIG	**Puerto Escondi**	**2.44**	**236**	*e*P	Pn	10 48 12.8	-2.7
PEIG				*i* S	Sn	10 48 41.0	-4.7
YOIG	**Yosondua**	**2.44**	**258**	*i* P	Pn	10 48 14.7	-1.1
YOIG				*i* S	Sn	10 48 42.6	-3.7
JAUV	**Jalcomulco**	**2.58**	**320**	*e*P	Pn	10 48 14.6	-2.7
JAUV				*e*S	Sn	10 48 41.4	-7.6
TXIG	**Tlaxiaco**	**2.60**	**268**	*i* P	Pn	10 48 16.6	-1.1
TXIG				*i* S	Sn	10 48 40.4	-9.4
FTIG	**Fresnillo de T**	**2.98**	**281**	*i* P	Pn	10 48 22.2	-0.3
FTIG				*i* S	Sn	10 48 56.1	-2.4
FTIG	**Fresnillo de T**	**2.98**	**281**	*i* P	Pn	10 48 22.2	-0.3
FTIG				*i* S	Sn	10 48 53.4	-5.0
CCIG	**Comitan**	**3.00**	**111**	*e*P	Pn	10 48 21.2	-1.6
CCIG				*e*S	Sn	10 48 55.7	-3.1
PNIG	**Pinotepa**	**3.11**	**252**	*i* P	Pn	10 48 21.3	-2.7
TLIG	**Tlapa**	**3.36**	**274**	*e*P	Pn	10 48 24.5	-2.9
TLIG				*i* S	Sn	10 48 58.3	-8.9
MGIG	**Malinaltepec**	**3.43**	**268**	*i* P	Pn	10 48 26.8	-1.5
MGIG				*i* S	Sn	10 48 58.1	-11
PAVE	**Pavencul**	**3.52**	**128**	*e*P	Pn	10 48 29.6	0.0
PAVE				*i* S	Sn	10 49 01.5	-10
PATR	**El Naranjo**	**3.52**	**129**	*e*P	Pn	10 48 29.8	+0.1
PATR				*i* S	Sn	10 49 00.2	-11
CHUJ	**Union Juarez**	**3.63**	**128**	*e*P	Pn	10 48 32.4	+1.3
CHUJ				*i* S	Sn	10 49 02.0	-12
CRIG	**Cruz Grande**	**3.96**	**261**	*i* P	Pn	10 48 32.4	-2.8
YAIG	**Yautepec**	**4.09**	**292**	*i* S	Sn	10 49 20.6	-4.0
YAIG	**Yautepec**	**4.09**	**292**	*i* P	Pn	10 48 38.4	+1.3
YAIG				*i* S	Sn	10 49 20.0	-4.6
PLIG	**Platanillo**	**4.36**	**284**	*i* P	Pn	10 48 40.5	-0.1
PLIG				*i* S	Sn	10 49 26.0	-4.7
PLIG	**Platanillo**	**4.36**	**284**	*i* P	Pn	10 48 40.7	+0.1
PLIG				*i* S	Sn	10 49 21.7	-9.0
MEIG	**Mezcala**	**4.39**	**278**	*i* P	Pn	10 48 40.8	-0.2
MEIG				*i* S	Sn	10 49 20.9	-11
ARIG	**Puente Sto Nin**	**5.12**	**281**	*i* P	Pn	10 48 51.1	+0.3

BJI ***24*** *10:51:18.0±0.0, 41°.13N×142°.37E, h40km, mb5.9/86, mB6.2/77, Ms6.3/98, Ms7 6.2/95*

NEIC ***24*** *10:51:19.4, 41°.10N×142°.35E, h32km*

NEIC ***24*** *10:51:19.4, 41°.10N×142°.35E, h50km*

NEIC ***24*** *10:51:19.4, 41°.10N×142°.88E, h50km, Moment Tensor Solution. Duration: 7s6 Moment tensor: Scale 10^18Nm; Mrr2.03; Mθθ0.58; Mϕϕ -2.61; Mrθ1.50; Mθϕ -0.64; Mϕr2.06; Fault plane solution: M0 3.53000×10^18 NP1:ϕs30.88000°, δ69.90000°, λ108.39000°. NP2:ϕs166.82000°, δ26.98000°, λ49.23000°. Principal axes: T 3.3450, Plg61.0000°, Azm328.0000°; N 0.3607, Plg17.0000°, Azm204.0000°; P -3.7056, Plg23.0000°, Azm107.0000°;*

NEIC ***24*** *10:51:19.4, 41°.10N×142°.35E, h32km*

NEIC ***24*** *10:51:19.1±1.8, 41°.10N±0°.05×142°.43E±0°.08, h31km±1km, mb6.1/915, Ms_20 6.2/803, Mwb6.3/114, Mwr6.3/21, Mww6.3/27, Error ellipse: s-maj=11.5km s-min=7.9km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.62; Mθθ0.44; Mϕϕ -1.06; Mrθ1.50; Mθϕ -0.49; Mϕr2.61; Fault plane solution: M0 3.18000×10^18 NP1:ϕs30.62000°, δ82.09000°, λ97.55000°. NP2: ϕs166.70000°, δ10.92000°, λ46.60000°. Principal axes: T 2.9103, Plg52.0000°, Azm309.0000°; N 0.4909, Plg7.0000°, Azm210.0000°; P -3.4012, Plg37.0000°, Azm114.0000°; Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr1.90; Mθθ0.17; Mϕϕ -2.07; Mrθ1.35; Mθϕ -0.21; Mϕr2.17; Fault plane solution: M0 3.25000×10^18 NP1:ϕs166.73000°, δ22.81000°, λ53.39000°. NP2:ϕs25.59000°, δ71.87000°, λ104.08000°. Principal axes: T 3.2935, Plg61.0000°, Azm316.0000°; N -0.0887, Plg13.0000°, Azm201.0000°; P -3.2048, Plg26.0000°, Azm105.0000°;*

JMA ***24*** *10:51:19.5±0.2, 41°.0N±0°.4×142°.5E±0°.8, h34km±4km, MD6.3/40, MW6.4/40, E OFF AOMORI PREF*

JMA Felt IV J1 at E OFF AOMORI PREF .

MOS ***24*** *10:51:19.0±0.9, 41°.10N×142°.35E, h44km, mb6.4/85, MS6.3/68, Error ellipse: s-maj=5.2km s-min=3.4km az=112.2*

MOS Felt (III) at Yuzhno-Kuril'sk, Goryachiy Plyazh.

NIED ***24*** *10:51:19.5, 41°.01N×142°.45E, h34km, MW6.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^18Nm; Mrr1.59; Mθθ0.90; Mϕϕ -2.49; Mrθ1.40; Mθϕ -0.24; Mϕr2.46; Fault plane solution: M0 3.56000×10^18 NP1:ϕs27.00000°, δ74.00000°, λ110.00000°. NP2:ϕs154.00000°, δ25.00000°, λ39.00000°.*

IPGP ***24*** *10:51:20.0, 41°.12N×142°.29E, h43km, Mw6.4, Fault plane solution: NP1:ϕs22.00000°, δ72.00000°, λ97.00000°. NP2:ϕs180.00000°, δ20.00000°, λ69.00000°.*

IDC ***24*** *10:51:21.6±1.7, 41°.05N×142°.33E, h56km±15km, mb5.3/32, mbtmp5.6/40, MS6.1/86, Error ellipse: s-maj=11.7km s-min=9.9km az=87.0*

BGR ***24*** *10:51:23.4, 41°.59N×142°.35E, h61km±4km, mb5.6, mB_BB6.6*

GCMT ***24*** *10:51:24.1±0.1, 41°.07N×142°.55E, h44km, MW6.4/172, Moment Tensor Solution. s170,c417; s172,c617; Duration: 4s0 Moment tensor: Scale 10^18Nm; Mrr3.97±.03; Mθθ0.16±.03; Mϕϕ -4.13±.03; Mrθ1.79±.03; Mθϕ -1.12±.02; Mϕr3.32±.04; Best double couple: M0 5.64200×10^18 NP1:ϕs24.00000°, δ66.00000°, λ99.00000°. NP2:ϕs182.00000°, δ25.00000°, λ70.00000°. Principal axes: T 5.4940, Plg68.0000°, Azm311.0000°; N 0.2950, Plg8.0000°, Azm200.0000°; P -5.7910, Plg21.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 10:51:20.4±0.2, 41°.05N±0°.02×142°.39E±0°.02, h48km±1km, h48km:pP-P,n2778,σ1978/2614, mb6.1/724, MS6.2/548, 203C-74D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.78**	**267**	⇓*i*P	Pn	**10 51 34.6**	**-0.4**
JARK				⇓S	Sn	**10 51 45.8**	**+0.1**
JARK	**Aomorirokkasho**	**0.78**	**267**	A	A	10 51 34.6	

comp=E,475nm,2.6s,comp=N,917nm,2.5s

JAHD	**Aomorihigashid**	**0.82**	**285**	⇓*i*P	Pn	**10 51 35.3**	**-0.4**
JAHD				⇓*e*S	Sn	**10 51 46.7**	**-0.1**
JAHD	**Aomorihigashid**	**0.82**	**285**	A	A	10 51 35.3	

comp=E,1μm,1.7s,comp=N,1μm,1.0s

JANG	**Nango**	**0.95**	**225**	⇓*i*P	Pn	**10 51 36.6**	**-0.8**
JANG	**Nango**	**0.95**	**225**	A	A	10 51 36.6	

comp=E,794nm,2.7s,comp=N,681nm,3.1s

JKEN	**Kujiedanarisaw**	**0.99**	**212**	*i* P	Pn	**10 51 36.7**	**-1.2**
JKEN				*e*S	Sn	**10 51 48.9**	**-2.0**
JKEN	**Kujiedanarisaw**	**0.99**	**212**	A	A	10 51 36.7	

comp=E,622nm,4.8s,comp=N,654nm,0.6s

JTM	**Tenmabayashi**	**1.03**	**256**	Pn	Pn	**10 51 38.6**	**0.0**
JTM					Sn	**10 51 52.5**	**+0.6**
JTM	**Tenmabayashi**	**1.03**	**256**	P	Pn	**10 51 38.8**	**+0.3**
JTM	**Tenmabayashi**	**1.03**	**256**	⇓*i*P	Pn	**10 51 38.6**	**0.0**
JTM				⇓S	Sn	**10 51 52.7**	**+0.8**
JTM	**Tenmabayashi**	**1.03**	**256**	A	A	10 51 38.6	

comp=E,597nm,1.9s,comp=N,1μm,3.9s

JTM	**Tenmabayashi**	**1.03**	**256**	⇓P	Pn	**10 51 38.5**	**0.0**
JOT	**Ohata**	**1.06**	**289**	⇓*i*P	Pn	**10 51 38.8**	**-0.1**
JOT				⇓*e*S	Sn	**10 51 53.2**	**+0.5**
JOT	**Ohata**	**1.06**	**289**	A	A	10 51 38.8	

comp=E,673nm,3.1s,comp=N,351nm,2.6s

ERM	**Erimo**	**1.12**	**31**	Pn	Pn	**10 51 40.4**	**+0.7**
ERM				Sg	Sn	**10 51 54.9**	**+0.9**
ERM	**Erimo**	**1.12**	**31**	P	Pn	**10 51 41.2**	**+1.5**
ERM	**Erimo**	**1.12**	**31**	⇑P	Pn	**10 51 40.1**	**+0.4**
ERM	**Erimo**	**1.12**	**31**	*i* P	Pn	**10 51 40.1**	**+0.4**
JEM	**Erimo**	**1.12**	**31**	P	Pn	**10 51 41.0**	**+1.3**
JEM	**Erimo**	**1.12**	**31**	P	Pn	**10 51 40.2**	**+0.4**
JEM				*e*S	Sn	**10 51 55.0**	**+0.9**
JEM	**Erimo**	**1.12**	**31**	A	A	10 51 40.2	

comp=E,1μm,2.5s,comp=N,898nm,1.8s

JTH	**Tanohata**	**1.18**	**200**	A	A	10 51 39.8	

comp=E,278nm,6.0s,comp=N,214nm,1.9s

JNBK	**Urakawa-nobuka**	**1.26**	**12**	⇓*i*P	Pn	**10 51 42.5**	**+0.9**
JNBK				⇓*e*S	Sn	**10 51 59.7**	**+2.3**
JNBK	**Urakawa-nobuka**	**1.26**	**12**	A	A	10 51 42.5	

comp=E,2μm,3.4s,comp=N,3μm,2.5s

JKB	**Kayabe**	**1.32**	**310**	⇓*i*P	Pn	**10 51 42.3**	**-0.1**
JKB				⇓*e*S	Sn	**10 51 59.6**	**+0.8**
JKB	**Kayabe**	**1.32**	**310**	A	A	10 51 42.3	

comp=E,747nm,6.3s,comp=N,954nm,3.4s

JKZ	**Kuzumaki**	**1.34**	**218**	A	A	10 51 42.4	

comp=E,609nm,3.2s,comp=N,726nm,2.5s

JSHD	**Hidakashinhida**	**1.36**	**2**	A	A	10 51 43.4	

comp=E,2μm,3.6s,comp=N,2μm,3.0s

JTHR	**Tokachihiroo**	**1.42**	**28**	A	A	10 51 43.9	

comp=E,1μm,2.4s,comp=N,747nm,2.0s

JSI2	**Shiura 2**	**1.50**	**271**	A	A	10 51 45.6	

comp=E,579nm,2.2s,comp=N,412nm,2.2s

MIYJ	**Miyakonagasawa**	**1.54**	**197**	A	A	10 51 45.1	

comp=E,507nm,2.5s,comp=N,222nm,6.4s

JSR	**Shiriuchi**	**1.56**	**288**	*i* P	Pn	**10 51 46.3**	**+0.6**
JSR	**Shiriuchi**	**1.56**	**288**	A	A	10 51 46.3	

comp=E,1μm,3.2s,comp=N,521nm,4.0s

JAH	**Hinai**	**1.59**	**238**	⇓P	Pn	**10 51 46.4**	**+0.3**
JAH	**Hinai**	**1.59**	**238**	A	A	10 51 46.4	

comp=E,501nm,3.6s,comp=N,550nm,3.2s

JHHS	**Hirosakihyakuz**	**1.59**	**256**	A	A	10 51 46.7	

comp=E,996nm,3.0s,comp=N,1μm,3.5s

JIAM	**Iburiatsuma**	**1.61**	**348**	*i* P	Pn	**10 51 47.8**	**+1.5**
JIAM				*e*S	Sn	**10 52 08.5**	**+2.6**
JIAM	**Iburiatsuma**	**1.61**	**348**	A	A	10 51 47.8	

comp=E,2μm,1.1s,comp=N,2μm,1.0s

JSZI	**Iwateshizukuis**	**1.71**	**220**	A	A	10 51 47.9	

comp=E,1μm,2.4s,comp=N,1μm,2.9s

JCH	**Churui**	**1.72**	**25**	P	Pn	**10 51 48.5**	**+0.6**
JCH				S	Sn	**10 52 10.6**	**+1.9**
JCH	**Churui**	**1.72**	**25**	A	A	10 51 48.5	

comp=E,962nm,2.0s,comp=N,755nm,2.4s

JBT2	**Biratori 2**	**1.73**	**359**	P	Pn	**10 51 49.2**	**+1.2**
JBT2	**Biratori 2**	**1.73**	**359**	A	A	10 51 49.2	

comp=E,745nm,2.5s,comp=N,634nm,3.2s

JNB	**Noboribetsu**	**1.74**	**325**	⇓*i*P	Pn	**10 51 48.0**	**-0.2**
JNB				⇓S	Sn	**10 52 11.1**	**+1.9**
JNB	**Noboribetsu**	**1.74**	**325**	A	A	10 51 48.0	

comp=E,360nm,2.8s,comp=N,304nm,4.6s

JOM	**Ohasama**	**1.79**	**208**	*i* P	Pn	**10 51 49.0**	**+0.2**
JOM				*e*S	Sn	**10 52 11.9**	**+1.6**
JOM	**Ohasama**	**1.79**	**208**	A	A	10 51 49.0	

comp=E,849nm,2.3s,comp=N,462nm,2.0s

JYM2	**Yakumo 2**	**1.85**	**306**	A	A	10 51 50.9	

comp=E,333nm,4.0s,comp=N,445nm,4.4s

JYM2	**Yakumo 2**	**1.85**	**306**	⇓P	Pn	**10 51 50.2**	**+0.5**
JOMM	**Oshimamatsumae**	**1.86**	**286**	P	Pn	**10 51 50.1**	**+0.4**
JOMM				*e*S	Sn	**10 52 12.3**	**+0.3**
JOMM	**Oshimamatsumae**	**1.86**	**286**	A	A	10 51 50.1	

comp=E,402nm,4.6s,comp=N,158nm,5.1s

JIW	**Iwasaki**	**1.86**	**257**	A	A	10 51 50.7	

comp=E,436nm,3.9s,comp=N,215nm,7.8s

JIW	**Iwasaki**	**1.86**	**257**	P	Pn	**10 51 50.4**	**+0.5**
JNTW	**Noshirotokiwa**	**1.86**	**246**	A	A	10 51 50.6	

comp=E,1μm,3.9s,comp=N,1μm,3.0s

JEW	**Eniwo**	**1.92**	**339**	⇓*i*P	Pn	**10 51 51.6**	**+1.0**
JEW				⇓S	Sn	**10 52 17.4**	**+3.9**
JEW	**Eniwo**	**1.92**	**339**	A	A	10 51 51.6	

comp=E,2μm,3.3s,comp=N,2μm,2.3s

OFUJ	**Ofuto**	**2.04**	**196**	A	A	10 51 52.4	

comp=E,523nm,1.8s,comp=N,285nm,2.6s

JFR	**Furan**	**2.12**	**4**	A	A	10 51 54.4	

comp=E,480nm,2.8s,comp=N,396nm,2.3s

JFR	**Furan**	**2.12**	**4**	P	Pn	**10 51 54.0**	**+0.7**
JRG	**Rokugo**	**2.13**	**220**	A	A	10 51 54.0	

comp=E,368nm,3.3s,comp=N,385nm,4.3s

JRG	**Rokugo**	**2.13**	**220**	⇓P	Pn	**10 51 54.4**	**+0.9**
JOB	**Onbets**	**2.14**	**30**	A	A	10 51 54.4	

comp=E,730nm,4.1s,comp=N,950nm,4.0s

JOB	**Onbets**	**2.14**	**30**	⇓P	Pn	**10 51 54.1**	**+0.4**
JOB				⇓S	Sn	**10 52 20.6**	**+1.6**
JYW	**Yuwa**	**2.25**	**229**	A	A	10 51 55.8	

comp=E,560nm,3.0s,comp=N,749nm,3.1s

JMK	**Ichinoseki**	**2.28**	**204**	A	A	10 51 55.9	

comp=E,448nm,2.7s,comp=N,235nm,2.1s

JMK	**Ichinoseki**	**2.28**	**204**	P	Pn	**10 51 55.9**	**+0.3**
JHST	**Hiyamasetana**	**2.33**	**307**	A	A	10 51 57.7	

comp=E,305nm,2.5s,comp=N,315nm,4.3s

JISS	**Ishikarishitsu**	**2.34**	**342**	A	A	10 51 57.8	

comp=E,1μm,2.3s,comp=N,1μm,4.9s

JISS	**Ishikarishitsu**	**2.34**	**342**	P	Pn	**10 51 57.5**	**+1.2**
JKMT	**Kesennumamotoy**	**2.34**	**198**	A	A	10 51 56.8	

comp=E,399nm,2.0s,comp=N,234nm,2.5s

JSH	**Shimam**	**2.37**	**313**	A	A	10 51 58.3	

comp=E,212nm,4.1s,comp=N,163nm,2.5s

JSH	**Shimam**	**2.37**	**313**	⇓P	Pn	**10 51 56.7**	**0.0**
JOSM	**Okushiri--Mats**	**2.42**	**296**	A	A	10 51 59.0	

comp=E,213nm,3.6s,comp=N,205nm,3.6s

JOSM	**Okushiri--Mats**	**2.42**	**296**	P	Pn	**10 51 57.3**	**-0.2**
JAB	**Ashibetsu**	**2.46**	**357**	A	A	10 51 59.3	

comp=E,1μm,3.2s,comp=N,1μm,3.3s

JAB	**Ashibetsu**	**2.46**	**357**	P	Pn	**10 51 59.3**	**+1.3**
JAR	**Ashorobuto**	**2.47**	**24**	A	A	10 51 59.2	

comp=E,494nm,0.8s,comp=N,481nm,2.0s

JAR	**Ashorobuto**	**2.47**	**24**	P	Pn	**10 51 58.0**	**-0.1**
JAR				S	Sn	**10 52 29.1**	**+2.1**
JAK	**Akkeshi**	**2.59**	**41**	A	A	10 52 00.7	

comp=E,570nm,3.3s,comp=N,455nm,2.4s

JAK	**Akkeshi**	**2.59**	**41**	P	Pn	**10 51 59.0**	**-0.8**
JAK				S	Sn	**10 52 28.3**	**-1.8**
JYK	**Kaneyama**	**2.64**	**217**	A	A	10 52 01.2	

comp=E,192nm,3.3s,comp=N,242nm,2.3s

JOFO	**Osakifurukawao**	**2.70**	**205**	A	A	10 52 01.9	

comp=E,1μm,2.4s,comp=N,1μm,3.4s

JSK	**Shakotan**	**2.70**	**329**	A	A	10 52 03.1	

comp=E,290nm,5.2s,comp=N,347nm,4.5s

JIO	**Ouri**	**2.71**	**198**	A	A	10 52 02.0	

comp=E,244nm,2.8s,comp=N,166nm,5.5s

JHR	**Hokuryu**	**2.73**	**350**	A	A	10 52 03.4	

comp=E,934nm,2.9s,comp=N,629nm,3.5s

JHR	**Hokuryu**	**2.73**	**350**	P	Pn	**10 52 03.4**	**+1.6**
JOG3	**Oga3**	**2.77**	**247**	A	A	10 51 56.3	

comp=E,350nm,3.1s,comp=N,315nm,1.9s

JYYZ	**Yamagatayuza**	**2.77**	**224**	A	A	10 52 03.3	

comp=E,471nm,3.4s,comp=N,437nm,5.9s

JIKH	**Ishinomakikobu**	**2.83**	**195**	A	A	10 52 03.6	

comp=E,199nm,5.8s,comp=N,102nm,3.6s

JKK2	**Kamakawa 2**	**2.83**	**5**	A	A	10 52 04.6	

comp=E,244nm,2.4s,comp=N,326nm,2.5s

JKK2	**Kamakawa 2**	**2.83**	**5**	P	Pn	**10 52 04.1**	**+1.0**
JTB	**Tobi-shima**	**2.85**	**230**	A	A	10 52 04.5	

comp=E,362nm,2.7s,comp=N,416nm,3.2s

JKHN	**Kushirohamanak**	**2.90**	**45**	A	A	10 52 04.9	

comp=E,482nm,3.2s,comp=N,624nm,4.3s

JKHN	**Kushirohamanak**	**2.90**	**45**	P	Pn	**10 52 03.2**	**-0.8**
JOU	**Okura**	**2.99**	**207**	A	A	10 52 06.1	

comp=E,273nm,2.6s,comp=N,242nm,2.4s

JMP	**Maruseppu**	**3.04**	**13**	A	A	10 52 07.5	

comp=E,331nm,2.7s,comp=N,270nm,2.2s

JNK	**Nakash**	**3.07**	**34**	A	A	10 52 07.5	

comp=E,304nm,1.8s,comp=N,289nm,1.7s

JNK	**Nakash**	**3.07**	**34**	⇓P	Pn	**10 52 05.2**	**-1.1**
JNK				⇓S	Sn	**10 52 39.3**	**-2.4**
ASAJ	**Asahikawa**	**3.07**	**3**	A	A	10 52 08.0	

comp=E,313nm,4.4s,comp=N,368nm,2.9s

ASAJ	**Asahikawa**	**3.07**	**3**	P	Pn	**10 52 07.4**	**+1.1**
ASAJ	**Asahikawa**	**3.07**	**3**	P	Pn	**10 52 07.8**	**+1.5**

comp=N,2μm,0.5s,baz=218,slow=9.6,SNR=740

ASAJ				S	Sn	**10 52 38.8**	**-3.0**

comp=N,8μm,0.8s,baz=45,slow=31,SNR=7.6

JKA	**Kamikawa-asahi**	**3.07**	**3**	Pn	Pn	**10 52 07.9**	**+1.6**
JTKR	**Abashiri--Toko**	**3.13**	**21**	A	A	10 52 08.6	

comp=E,201nm,2.7s,comp=N,193nm,2.1s

JYA	**Atsumi**	**3.20**	**221**	A	A	10 52 09.3	

comp=E,209nm,4.7s,comp=N,218nm,1.6s

JNSB	**Nemuroshibetsu**	**3.34**	**35**	A	A	10 52 11.4	

comp=E,483nm,5.2s,comp=N,474nm,4.6s

JYS	**Shirataka**	**3.35**	**213**	A	A	10 52 11.2	

comp=E,602nm,2.6s,comp=N,606nm,3.0s

JSS	**Shosan**	**3.37**	**353**	A	A	10 52 12.4	

comp=E,575nm,5.0s,comp=N,506nm,5.2s

JSS	**Shosan**	**3.37**	**353**	P	Pn	**10 52 12.5**	**+2.0**
NMR	**Nemuro--Hokkai**	**3.39**	**46**	⇓*i*P	Pn	**10 52 09.0**	**-1.8**
NMR				*e*S	Sn	**10 52 45.1**	**-4.7**
NEM2	**Nemuro 2**	**3.40**	**46**	A	A	10 52 12.1	

comp=E,164nm,4.0s,comp=N,163nm,3.1s

NEM2	**Nemuro 2**	**3.40**	**46**	P	Pn	**10 52 09.1**	**-1

comp=E,9µm,0.6s
KUR smax smax
comp=N,4µm,0.3s
TEY Ternei 5.82 315⇑eP Pn 10 52 45.3 +1.3
TEY pmax pmax
comp=Z,370nm,1.1s
TEY pmax pmax
comp=E,410nm,0.9s
TEY pmax pmax
comp=N,330nm,1.0s
JCN Nagara 5.88 198 A A 10 52 46.6
comp=E,489nm,5.8s,comp=N,336nm,4.3s
YSS Yuzh-Sakhalins 5.91 2 Pn Pn 10 52 46.6 +1.3
YSS Yuzh-Sakhalins 5.91 2 P Pn 10 52 47.7 +2.4
YSS Yuzh-Sakhalins 5.91 2 ⇑P Pn 10 52 46.6 +1.3
YSS Yuzh-Sakhalins 5.91 2αeP Pn 10 52 46.5 +1.3
YSS eS Sn 10 53 48.8 -2.8
YSS pmax pmax
comp=N,4µm,1.1s
YSS pmax pmax
comp=Z,5µm,1.1s
YSS pmax pmax
comp=Z,11µm,3.9s
YSS pmax pmax
comp=N,13µm,3.4s
YSS smax smax
comp=N,2µm,1.2s
YSS MLR MLR
comp=Z,172µm,17.0s
JTT Ttatey 5.94 223 A A 10 52 47.8
comp=E,64nm,7.3s,comp=N,56nm,3.2s
JSGW Sagamiharawaka 5.99 206 A A 10 52 48.2
comp=E,65nm,5.3s,comp=N,54nm,5.2s
JKUC kamogawauchiur 6.13 197 A A 10 52 50.1
comp=E,149nm,7.3s,comp=N,146nm,4.7s
JNT Takato 6.15 214 A A 10 52 50.6
comp=E,75nm,6.4s,comp=N,65nm,7.7s
JYO Yokosk 6.20 201 A A 10 52 51.1
comp=E,239nm,3.4s,comp=N,161nm,8.0s
JSG Sagara 7.18 209 Pn 10 53 06.3 +3.5
JSG Sagara 7.18 209 P Pn 10 53 06.7 +3.9
JSG Sagara 7.18 209 ⇑P Pn 10 53 06.7 +3.9
JKY Yasaka 7.88 229 P Pn 10 53 15.8 +3.5
TSUJ Tsu 2 7.89 219 P Pn 10 53 15.9 +3.4
UGL Uglegorsk 8.03 358 eP Pn 10 53 14.9 +0.6
UGL pmax pmax
comp=Z,1µm,0.9s
UGL MLR MLR
comp=E,146µm,15.0s
UGL MLR MLR
comp=N,227µm,16.0s
UGL MLR MLR
comp=Z,181µm,18.0s
JHJ Hachijo jima 2 8.19 196 P Pn 10 53 16.9 +0.3
comp=Z,348nm,0.3s,baz=82,slow=19,SNR=7.9
JHJ S Sn 10 54 42.3 -5.4
comp=Z,1µm,0.4s,baz=90,slow=22,SNR=1.0
JHJ2 Mitsune 8.19 195 Pn Pn 10 53 16.8 +0.3
JHJ2 Mitsune 8.19 195 P Pn 10 53 17.0 +0.4
JHJ2 Mitsune 8.19 195 ⇑P Pn 10 53 17.2 +0.6
USA0B Ussuriysk Arra 8.29 296 Pn 10 53 18.3 +0.4
USA0B Ussuriysk Arra 8.29 296 iP Pn 10 53 19.0 +1.1
USRK Ussuriysk Ar. 8.29 296 P Pn 10 53 19.0 +1.1
comp=Z,315nm,0.8s,baz=97,slow=14,SNR=215
USRK LR LR 10 56 34.5
comp=Z,186µm,20.2s,baz=98,slow=38
JKS Kasai 8.49 227 P Pn 10 53 23.5 +2.8
MSHR Mys Shultsa 8.53 284 iP Pn 10 53 22.9 +1.7
TYV Tymovskoe 9.82 1 eP Pn 10 53 41.2 +2.4
TYV eS Sn 10 55 33.2 +5.7
TYV pmax pmax
comp=Z,500nm,1.1s
TYV pmax pmax
comp=Z,19µm,7.1s
TYV smax smax
comp=N,280nm,1.3s
TYV smax smax
comp=E,269nm,1.3s
TYV smax smax
comp=N,12µm,7.4s
TYV smax smax
comp=E,24µm,7.4s
JMN Monobe 9.96 225 Pn Pn 10 53 42.3 +1.4
JMN Monobe 9.96 225 P Pn 10 53 42.9 +2.0
JMN Monobe 9.96 225 ⇑P Pn 10 53 43.0 +2.2
MDJ Mudanjiang 10.05 295 P Pn 10 53 45.3 +3.2
MDJ S Sn 10 55 26.3 -7.1
MDJ ScS ScS 11 06 54.9 +2.9
MDJ pmax pmax
comp=E,280nm,1.1s
MDJ pmax pmax
comp=E,10µm,4.1s
MDJ LR LR
comp=E,64µm,20.5s
MDJ LR LR
comp=E,152µm,16.7s
MDJ LR LR
comp=E,271µm,20.1s
MDJ Mudanjiang 10.05 295 Pn 10 53 45.1 +3.1
MDJ Mudanjiang 10.05 295 P Pn 10 53 44.9 +2.8
GRNR Gornyy 10.57 339⇓iP Pn 10 53 51.5 +2.4
GRNR eS Sn 10 55 52.0 +6.1
GRNR pmax pmax
comp=N,190nm,0.9s
GRNR pmax pmax
comp=E,140nm,0.9s
GRNR pmax pmax
comp=Z,230nm,0.8s
JKU Kubokawa 10.72 227 P Pn 10 53 52.7 +1.4
UWA2 Uwa jima 2 11.04 228 P Pn 10 53 57.3 +1.7
KLR Kul'dur 11.10 321ceP Pn 10 53 57.3 +1.0
KLR pmax pmax
comp=Z,497nm,1.3s
KLR Kul'dur 11.10 321 P Pn 10 53 56.5 +0.2
comp=Z,64nm,1.0s,baz=120,slow=15,SNR=61
KLR LR LR 10 58 17.1
comp=Z,148µm,21.8s,baz=140,slow=38
KSRS Korea Array 11.78 257 P Pn 10 54 06.0 +0.4
comp=Z,14nm,0.6s,baz=67,slow=13,SNR=8.7
KSRS S Sn 10 56 12.8 -2.7
comp=Z,14nm,0.9s,baz=62,slow=21,SNR=0.9
KSRS LR LR 10 58 16.9
comp=Z,158µm,20.1s,baz=65,slow=35
KS19 Wonju Array Si 11.80 257 Pn 10 54 04.9 -1.1
KSAR Wonju Array Be 11.81 257 P Pn 10 54 07.4 +1.3
KSAR Wonju Array Be 11.81 257 P Pn 10 54 07.4 +1.3
BNX BinXian 11.86 298 ⇓P Pn 10 54 08.6 +1.8
BNX pP 10 54 18.6
BNX S Sn 10 56 20.1 +2.5
BNX pmax pmax
comp=Z,110nm,1.4s
BNX pmax pmax
comp=Z,19µm,11.3s
BNX LR LR
comp=Z,57µm,19.1s
BNX LR LR
comp=Z,83µm,20.1s
BNX LR LR
comp=Z,137µm,20.6s
JNU Nakatsue 12.12 233 Pn Pn 10 54 11.7 +1.3
JNU Nakatsue 12.12 233 P Pn 10 54 11.6 +1.3
JNU Nakatsue 12.12 233 ⇓P Pn 10 54 11.8 +1.3
JNU Nakatsue 12.12 233 P Pn 10 54 11.3 +0.9
comp=Z,70nm,0.6s,baz=87,slow=2.3,SNR=44
JNU LR LR 10 58 57.0
comp=Z,91µm,19.5s,baz=46,slow=38
NKL Nikolayevsk 12.16 355 eP Pn 10 54 08.1 -2.7
NKL eS Sn 10 56 21.2 -3.5
NKL pmax pmax
comp=N,3µm,1.3s
NKL pmax pmax
comp=E,1µm,1.2s
NKL pmax pmax
comp=Z,4µm,1.2s
NKL smax smax
comp=E,1µm,1.7s
NKL smax smax
comp=N,3µm,3.8s
NKL MLR MLR
comp=E,343µm,21.0s
NKL MLR MLR
comp=N,374µm,23.0s
NKL MLR MLR
comp=Z,441µm,22.0s
JTU Tsushima 12.16 242 P Pn 10 54 13.3 +2.4
OKH Okha 12.51 1c iP Pn 10 54 13.6 -1.9
OKH iS Sn 10 56 30.7 -2.6
OKH pmax pmax
comp=Z,4µm,12.9s
OKH smax smax
comp=E,8µm,13.5s
TJN Taejon 12.63 253 Pn 10 54 15.8 -1.4
TJN Taejon 12.63 253 iP Pn 10 54 20.0 +2.8
INCN Inchon 12.72 259 Pn Pn 10 54 19.8 +1.2
INCN Inchon 12.72 259 ⇑P Pn 10 54 21.5 +2.9
INCN Inchon 12.72 259 P Pn 10 54 19.8 +1.2
INCN Inchon 12.72 259 P Pn 10 54 22.4 +3.8
INCN P Pn 10 54 22.4 +3.8
INCN P Pn 10 54 22.4 +3.8
CN2 Changchun 12.82 288 eP Pn 10 54 22.3 +2.5
CN2 eS Sn 10 56 42.8 +1.9
CN2 pmax pmax
comp=E,40nm,1.0s
CN2 pmax pmax
comp=E,4µm,5.0s
CN2 LR LR
comp=E,18µm,17.0s
CN2 LR LR
comp=E,31µm,17.0s
CN2 LR LR
comp=E,43µm,18.0s
SKR Severo-Kuril's 13.55 40 eP Pn 10 54 33.0 +3.2
SKR pmax pmax
comp=Z,190nm,2.2s
SKR pmax pmax
comp=Z,6µm,4.5s
SKR MLR MLR
comp=E,31µm,16.0s
HEH HeiHe 13.92 316 eP Pn 10 54 33.5 -1.3
HEH sP P 10 54 49.0 +7.3
HEH S Sn 10 57 09.3 +1.6
HEH pmax pmax
comp=E,61nm,1.8s
HEH pmax pmax
comp=E,14µm,11.0s
HEH LR LR
comp=E,70µm,19.8s
HEH LR LR
comp=E,91µm,19.6s
HEH LR LR
comp=E,155µm,21.4s
JCJ Chichijima 13.92 181 Pn 10 54 33.2 -1.8
JCJ Chichijima 13.92 181 ⇑P Pn 10 54 31.8 -3.2
JCJ Chichijima 13.92 181 P Pn 10 54 27.1 -7.8
comp=E,140nm,0.4s,baz=278,slow=22,SNR=12
JCJ S Sn 10 56 50.5 -17
comp=E,275nm,0.7s,baz=89,slow=21,SNR=2.5
JCJ LR LR 10 59 42.4
comp=E,24µm,21.7s,baz=1.0,slow=36
SNY Shenyang 14.14 279 ⇓P Pn 10 54 40.8 +3.0
SNY pmax pmax
comp=E,170nm,1.1s
SNY pmax pmax
comp=E,19µm,11.6s
SNY LR LR
comp=E,33µm,17.6s
SNY LR LR
comp=E,68µm,19.2s
SNY LR LR
comp=E,98µm,18.6s
PEA0B Petropavlovsk- 15.90 36 Pn 10 54 59.0 -1.8
PEA0B Petropavlovsk- 15.90 36 P Pn 10 54 59.0 -1.8
PEA0B pmax pmax
comp=Z,180nm,1.4s
PETK Petropavlovsk- 15.90 36 Pn 10 54 57.8 -2.9
PETK Petropavlovsk- 15.90 36 P Pn 10 54 57.8 -2.9
PETK Petropavlovsk- 15.90 36 P Pn 10 54 55.9 -4.8
comp=Z,12nm,0.5s,baz=218,slow=4.8,SNR=35
PETK LR LR 11 01 30.3
comp=Z,53µm,20.9s,baz=226,slow=38
DL2 Dalian 16.06 269 P Pn 10 55 02.8 0.0
DL2 sP pP 10 55 15.9 -0.4
DL2 S Sn 10 58 02.5 +2.7
DL2 pmax pmax
comp=Z,580nm,0.8s
DL2 pmax pmax
comp=Z,19µm,10.8s
DL2 LR LR
comp=Z,25µm,21.9s
DL2 LR LR
comp=Z,29µm,25.7s
DL2 LR LR
comp=Z,63µm,27.9s
ZEA Zeya 16.27 326 eP Pn 10 55 03.5 -1.9
ZEA pmax pmax
comp=N,280nm,0.9s
ZEA pmax pmax
comp=E,180nm,0.9s
ZEA pmax pmax
comp=Z,370nm,0.9s
ZEA pmax pmax
comp=Z,4µm,9.3s
PET Petropavlovsk 16.27 37 Pn 10 55 03.8 -1.6
PET Petropavlovsk 16.27 37 ⇑P Pn 10 55 04.2 -1.2
PET Petropavlovsk 16.27 37 eP P 10 55 12.1 +4.4
PET eS Sn 10 58 04.0 -0.7
PET smax smax
comp=E,6µm,13.9s
JMZ Minamidaito 2 17.80 215 P P 10 55 24.8 0.0
JMZ IAmb IAmb 10 55 36.2
comp=Z,3µm,1.9s
JMZ Minamidaito 2 17.80 215 ⇑P P 10 55 30.6 +5.8
HIA Hailar 17.91 305 Pn Pn 10 55 24.0 -1.9
HIA Hailar 17.91 305 P Pn 10 55 25.4 -0.4
HIA Hailar 17.91 305 P Pn 10 55 24.0 -1.9
HIA pmax pmax
comp=Z,442nm,1.1s
JOW Kunigami 18.36 224 P P 10 55 29.9 -1.1
JOW Kunigami 18.36 224 P P 10 55 31.1 +0.1
JOW Kunigami 18.36 224 ⇑P P 10 55 27.8 -3.2
JOW Kunigami 18.36 224 P P 10 55 30.5 -0.5
comp=Z,81nm,0.7s,baz=90,slow=15,SNR=8.9
JOW LR LR 11 03 31.7
comp=Z,49µm,19.8s,baz=50,slow=40
MA2 Magadan 19.27 13 P P 10 55 38.2 -2.5
MA2 Magadan 19.27 13 P P 10 55 40.4 -0.4
MA2 Magadan 19.27 13 ⇑P P 10 55 38.3 -2.5
MA2 Magadan 19.27 13ceP P 10 55 38.3 -2.5
MA2 pmax pmax
comp=Z,987nm,2.5s
MA2 MLR MLR
comp=Z,32µm,19.0s
MA2 Magadan 19.27 13 P P 10 55 38.5 -2.2
comp=Z,198nm,0.8s,baz=194,slow=11,SNR=48
MA2 S S 10 59 06.2 -10
comp=Z,26nm,0.8s,baz=36,slow=2.9,SNR=1.2
MA2 LR LR 11 04 24.5
comp=Z,32µm,19.2s,baz=200,slow=41
XLT XiLinHaoTe 19.59 287⇑iP P 10 55 42.5 -1.9
XLT pP pP 10 55 57.8 +2.4
XLT PP PnPn 10 56 00.8 +0.2
XLT sS sS 10 59 35.9 -4.4
XLT SS SnSn 10 59 40.8 +1.2
XLT pmax pmax
comp=Z,4µm,7.3s
XLT LR LR
comp=Z,47µm,21.2s
XLT LR LR
comp=Z,60µm,21.9s
SSE Sheshan 19.77 247 P P 10 55 46.8 +0.5
SSE pP pP 10 55 59.6 +2.1
SSE sP sP 10 56 06.8 +3.3
SSE S S 10 59 26.8 +0.4
BJI Beijing 19.93 276 P P 10 55 46.3 -1.7
BJI pP pP 10 55 57.3 -1.7
BJI sP sP 10 56 04.3 -0.7
BJI S S 10 59 22.3 -7.3
BJI pmax pmax
comp=Z,170nm,0.9s
BJI LR LR
comp=Z,21µm,16.7s
BJI LR LR
comp=Z,19µm,22.4s
BJI LR LR
comp=Z,37µm,26.7s
BJT Baijiatuau 19.94 276 P P 10 55 46.6 -1.6
BJT Baijiatuau 19.94 276 P P 10 55 47.3 -0.9
BJT Baijiatuau 19.94 276 P P 10 55 46.6 -1.6
BJT pmax pmax
comp=Z,275nm,0.8s
TIA Tai'an 20.29 264 P P 10 55 50.3 -1.8
TIA S S 10 59 32.9 -4.0
TIA pmax pmax
comp=Z,39nm,0.7s
TIA pmax pmax
comp=Z,2µm,3.1s
TIA LR LR
comp=Z,19µm,19.1s
TIA LR LR
comp=Z,26µm,18.4s
TIA LR LR
comp=Z,41µm,20.0s
NJ2 Nanjing 20.88 252⇑iP P 10 55 56.8 -1.6
NJ2 pP pP 10 56 06.5 -3.1
NJ2 S S 10 59 42.9 -5.7
NJ2 sS Sn 10 59 56.6 +0.4
NJ2 SS SnSn 11 00 19.0 +7.5
NJ2 pmax pmax
comp=Z,140nm,0.9s
NJ2 pmax pmax
comp=Z,4µm,5.2s
NJ2 LR LR
comp=Z,78µm,18.1s
NJ2 LR LR
comp=Z,102µm,16.1s
NJ2 LR LR
comp=Z,116µm,18.2s
JMJ Miyako jima 2 21.57 227 P P 10 56 05.8 -0.1
HNS HongShan 21.71 269 ⇑P P 10 56 04.4 -2.9
HNS S S 10 59 55.6 -9.3
HNS SS Sn 11 00 32.8 +17
HNS pmax pmax
comp=Z,330nm,1.3s
HNS LR LR
comp=Z,34µm,16.7s
HNS LR LR
comp=Z,25µm,18.4s
HNS LR LR
comp=Z,44µm,17.5s
YAK Yakutsk 22.37 344 P P 10 56 10.2 -3.9
YAK IAmb IAmb 10 56 16.1
comp=Z,920nm,0.8s
YAK Yakutsk 22.37 344c iP P 10 56 10.0 -4.1
YAK e*PP pP 10 56 26.1 +1.0
YAK eS S 11 00 09.9 -6.6
YAK pmax pmax
comp=Z,1µm,1.0s
YAK pmax pmax
comp=N,491nm,1.1s
YAK pmax pmax
comp=E,190nm,1.1s
YAK smax smax
comp=N,5µm,2.4s
YAK smax smax
comp=E,3µm,2.0s
YAK MLR MLR
comp=Z,57µm,22.0s
YAK MLR MLR
comp=N,29µm,21.0s
YAK MLR MLR
comp=E,23µm,21.0s
YAK Yakutsk 22.37 344 LR LR 11 05 32.9
comp=E,22µm,18.9s,baz=147,slow=38
CIT Chita 22.52 309 eP P 10 56 13.4 -2.5
CIT e 10 56 26.6
CIT e 10 56 31.8
CIT e 10 56 43.0
CIT eS S 11 00 17.6 -2.0
CIT e 11 01 16.0
CIT pmax pmax
comp=Z,3µm,2.9s
SEY Seymchan 22.71 12c iP P 10 56 15.0 -2.7
SEY pmax pmax
comp=Z,159nm,0.8s
SEY Seymchan 22.71 12 P P 10 56 15.1 -2.7
comp=Z,121nm,0.6s,baz=183,slow=9.2,SNR=89
SEY S S 11 00 18.3 -4.2
comp=Z,57nm,1.1s,baz=23,slow=20,SNR=8.2
SEY LR LR 11 06 55.2
comp=Z,32µm,18.7s,baz=199,slow=41
HHC Hu-ho-hao-te 23.23 280⇑iP P 10 56 20.9 -2.5
HHC sP sP 10 56 38.0 -2.6
HHC S S 11 00 28.5 -3.3
HHC sS sS 11 00 46.4 -5.5
HHC SS SnSn 11 01 11.5 +2.6
HHC pmax pmax
comp=Z,140nm,1.0s
HHC pmax pmax
comp=Z,4µm,6.1s
HHC LR LR
comp=Z,26µm,17.1s
HHC LR LR
comp=Z,109µm,18.8s
HHC LR LR
comp=Z,169µm,19.6s
TIY Taiyuan 23.34 272 eP P 10 56 21.9 -2.5
TIY S S 11 00 24.3 -9.3
TIY pmax pmax
comp=Z,140nm,0.7s
TIY pmax pmax
comp=Z,3µm,5.2s
TIY LR LR
comp=Z,15µm,16.8s
TIY LR LR
comp=Z,20µm,20.2s
TIY LR LR
comp=Z,29µm,23.1s
TATO Taipei 23.66 234 P P 10 56 25.9 -1.6
TATO IAmb IAmb 10 56 32.1
comp=Z,572nm,0.7s
TATO Taipei 23.66 234 IAMs_20 IAMs_20 11 05 42.0
comp=Z,64µm,21.0s
TATO Taipei 23.66 234 P P 10 56 28.0 +0.6
TATO Taipei 23.66 234 P P 10 56 28.0 +0.6
TATO P P 10 56 28.0 +0.6
TATO P P 10 56 28.0 +0.6
YHNB Yeheng 23.95 233 P P 10 56 27.8 -2.5
YHNB IAmb IAmb 10 56 37.4
comp=Z,333nm,0.7s
YHNB IAMs_20 IAMs_20 11 07 14.5
comp=Z,62µm,18.0s
YHNB Yeheng 23.95 233 P P 10 56 30.9 +0.6
NACB Ninganchiao 24.19 232 P P 10 56 30.4 -2.0
NACB IAMs_20 IAMs_20 11 06 19.9
comp=Z,74µm,22.0s
SHEM Shemya Is, Ala 24.41 51 P P 10 56 31.2 -2.8
comp=Z,82nm,1.0s,baz=289,slow=23,SNR=2.8
SHEM S S 11 00 45.4 -4.9
comp=Z,46nm,0.9s,baz=69,slow=18,SNR=1.4
BTO Baotou 24.43 280 eP P 10 56 33.5 -1.0
BTO pP pP 10 56 47.8 +1.1
BTO PP PnPn 10 57 11.4 +4.6
BTO S S 11 00 49.6 -1.5
BTO sS sS 11 01 11.1 -0.2
BTO SS SnSn 11 01 46.1 +7.9
BTO pmax pmax
comp=Z,410nm,0.9s
BTO pmax pmax
comp=Z,11µm,10.3s
BTO LR LR
comp=Z,52µm,17.1s
BTO LR LR
comp=Z,135µm,19.7s
BTO LR LR
comp=Z,192µm,20.6s
LYN LuoYang 24.44 264 ⇓P P 10 56 33.3 -1.2
LYN sP sP 10 56 50.3 -2.1
LYN PP PnPn 10 57 09.8 +2.8
LYN S S 11 00 45.5 -5.7
LYN sS sS 11 01 06.9 -4.5
LYN SS SnSn 11 01 45.3 +6.8
LYN pmax pmax
comp=Z,160nm,0.6s
LYN pmax pmax
comp=Z,6µm,8.9s
LYN LR LR
comp=Z,35µm,17.2s
LYN LR LR
comp=Z,32µm,19.2s
LYN LR LR
comp=Z,51µm,20.6s
BOD Bodaibo 24.67 322 eP P 10 56 36.5 +0.1
BOD pmax pmax
comp=Z,794nm,1.1s
SSLB Suanglung 24.87 233 IAMs_20 IAMs_20 11 06 41.7
comp=Z,82µm,21.0s
SSLB Suanglung 24.87 233 P P 10 56 38.1 -0.4

WHN Wuhan 24.95 254 ⇓iP P 10 56 37.9 -1.2
WHN sP sP 10 56 55.9 -1.1
WHN S S 11 00 54.3 -5.0
WHN ScP ScP 11 03 50.9 +2.5
WHN pmax pmax
comp=Z,390nm,0.7s
WHN pmax pmax
comp=Z,9µm,4.9s
WHN LR LR
comp=Z,77µm,14.0s
WHN LR LR
comp=Z,214µm,17.5s
WHN LR LR
comp=Z,318µm,17.7s
YULB Yu-li 24.96 232 P P 10 56 37.9 -1.4
TPUB Ta-pu 25.43 233 P P 10 56 42.0 -1.6
TPUB IAMs_20 IAMs_20 11 07 10.6
comp=Z,69µm,21.0s
TPUB Ta-pu 25.43 233 P P 10 56 43.2 -0.4
QZH Quanzhou 25.50 238 ⇑iP P 10 56 44.1 -0.1
QZH S S 11 01 08.6 +0.4
QZH pmax pmax
comp=Z,390nm,1.9s
QZH LR LR
comp=Z,39µm,18.2s
QZH LR LR
comp=Z,21µm,23.0s
QZH LR LR
comp=Z,48µm,18.9s
TWGBT Beinan 25.53 231 P P 10 56 44.8 +0.3
TWG Pinlang 25.53 231 P P 10 56 44.4 -0.1
ULN Ulaanbaatar 25.96 297 P P 10 56 47.9 -0.5
ULN Ulaanbaatar 25.96 297 IAMs_20 IAMs_20 11 07 44.1
comp=Z,79µm,18.0s
ULN Ulaanbaatar 25.96 297 ⇑P P 10 56 47.8 -0.5
ULN Ulaanbaatar 25.96 297 P P 10 56 50.2 +1.8
ULN Ulaanbaatar 25.96 297 P P 10 56 48.1 -0.3
ULN P P 10 56 48.1 -0.3
ULN P P 10 56 48.1 -0.3
ULN Ulaanbaatar 25.96 297 P P 10 56 47.7 -0.7
comp=Z,789nm,2.1s,comp=Z,37µmcomp=Z,293µm
KNMB Chin-men Tao 25.97 238 P P 10 56 48.6 +0.2
SONM Songino Array 26.40 297 P P 10 56 51.8 -0.5
SONM IAmb IAmb 10 56 55.6
comp=Z,729nm,1.7s
SONM Songino Array 26.40 297 P P 10 56 53.0 +0.7
comp=Z,59nm,0.7s,baz=93,slow=9.0,SNR=130
SONM LR LR 11 08 19.4
comp=Z,80µm,18.2s,baz=88,slow=39
comp=Z,59nm,0.7s
AMKA Amchitka 27.28 55 P P 10 56 59.6 -0.4
CNSH ChangSha 27.29 251 ⇑P P 10 56 59.0 -1.4
CNSH S S 11 01 32.0 -4.5
CNSH pmax pmax
comp=Z,120nm,1.4s
CNSH LR LR
comp=Z,44µm,17.1s
CNSH LR LR
comp=Z,43µm,19.0s
CNSH LR LR
comp=Z,39µm,22.5s
XAN Xi'an 27.32 266 ⇑P P 10 56 59.4 -1.3
XAN pP pP 10 57 11.3 -1.6
XAN S S 11 01 34.3 -2.7
XAN pmax pmax
comp=Z,300nm,1.1s
XAN pmax pmax
comp=Z,9µm,10.4s
XAN LR LR
comp=Z,23µm,20.0s
XAN LR LR
comp=Z,42µm,21.4s
XAN LR LR
comp=Z,50µm,21.0s
GUMO Guam 27.44 175 IAMs_20 IAMs_20 11 07 09.5
comp=Z,59µm,22.0s
GUMO Guam 27.44 175 LR LR 11 06 58.4
comp=Z,52µm,22.0s,baz=24,slow=34
IRK Irkutsk 28.14 306 eP P 10 57 07.7 -0.1
IRK pmax pmax
comp=Z,1µm,2.7s
ZAK Zakamensk 28.57 302 eP P 10 57 11.1 -0.6
ZAK pmax pmax
comp=Z,225nm,1.4s
ENH Enshi 28.66 258 P P 10 57 11.4 -1.3
ENH IAmb IAmb 10 57 20.6
comp=Z,234nm,0.7s
ENH IAMs_20 IAMs_20 11 09 03.7
comp=Z,54µm,19.0s
ENH Enshi 28.66 258 P P 10 57 11.6 -1.0
H11N2 WAKE ISLAND Hy 29.79 128 T T 11 28 38.4
baz=318,slow=74,SNR=648
H11N1 WAKE ISLAND Hy 29.80 128 T T 11 28 40.3
baz=318,slow=74,SNR=1359
H11N3 WAKE ISLAND Hy 29.81 128 T T 11 28 36.0
baz=318,slow=74,SNR=881
ADK Adak 29.82 55 P P 10 57 23.0 +0.4
ADK IAmb IAmb 10 57 56.2
comp=Z,390nm,1.5s
ADK Adak 29.82 55 IAMs_20 IAMs_20 11 08 39.6
comp=Z,50µm,22.0s
ADK Adak 29.82 55 P P 10 57 22.9 +0.3
ADK Adak 29.82 55 ⇓P P 10 57 23.5 +0.9
ADK Adak 29.82 55 P P 10 57 23.0 +0.4
ADK pmax pmax
comp=Z,390nm,1.5s
ADK MLR MLR
comp=Z,50µm,22.0s
BILL Bilibino 29.97 18 iP P 10 57 21.8 -2.0
WAKE Wake Island 30.00 129 IAMs_20 IAMs_20 11 07 12.7
comp=Z,55µm,20.0s
MOY Mondy 30.10 305 eP P 10 57 25.5 +0.3
MOY pmax pmax
comp=Z,1µm,2.8s
HKC Hong Kong Obse 30.23 240 ⇑P P 10 57 28.0 +1.5
GZH Guangzhou 30.24 243 P P 10 57 23.8 -2.8
GZH pP pP 10 57 35.3 -3.6
GZH S S 11 02 17.6 -5.2
GZH pmax pmax
comp=Z,2µm,1.7s
GZH LR LR
comp=Z,7µm,13.4s
GZH LR LR
comp=Z,11µm,13.0s
HKPS Hong Kong Po S 30.27 240 P P 10 57 25.9 -1.0
HKPS IAmb IAmb 10 57 45.1
comp=Z,877nm,1.8s
LZH Lanzhou 30.37 273 ⇑P P 10 57 27.3 -0.6
LZH pP pP 10 57 38.0 -2.1
LZH PP PP 10 58 33.4 -3.5
LZH S S 11 02 20.8 -4.3
LZH SS SnSn 11 04 01.3 -2.1
LZH pmax pmax
comp=Z,83nm,1.3s
LZH pmax pmax
comp=Z,3µm,4.1s
LZH LR LR
comp=Z,17µm,14.8s
LZH LR LR
comp=Z,27µm,15.5s
LZH LR LR
comp=Z,43µm,15.8s
H11S1 WAKE ISLAND Hy 30.63 130 T T 11 29 59.5
baz=323,slow=76,SNR=702
H11S3 WAKE ISLAND Hy 30.64 130 T T 11 30 00.1
baz=323,slow=76,SNR=939
H11S2 WAKE ISLAND Hy 30.65 130 T T 11 30 01.8
baz=323,slow=76,SNR=432
GULI GuiLin 30.86 249 ⇑P P 10 57 27.4 -4.7
GULI sP sP 10 57 50.1 +0.1
GULI PP PP 10 58 38.8 -3.5
GULI PcP PcP 11 00 25.3 -2.7
GULI S S 11 02 24.1 -8.5
GULI SS ScP 11 04 10.4 +3.8
GULI pmax pmax
comp=Z,180nm,1.4s
GULI pmax pmax
comp=Z,3µm,4.9s
GULI LR LR
comp=N,18µm,27.1s
GULI LR LR
comp=E,9µm,24.9s
GULI LR LR
comp=Z,14µm,31.4s
ATKA Atka Island 31.38 54 P P 10 57 36.1 -0.3
ATKA IAMs_20 IAMs_20 11 09 47.7
comp=Z,54µm,21.0s
ATKA Atka Island 31.38 54 P P 10 57 36.5 +0.1
ATKA Atka Island 31.38 54 ⇑P P 10 57 36.5 +0.1
TIXI Tiksi 31.41 352 P P 10 57 34.5 -1.9
TIXI Tiksi 31.41 352 ⇑P P 10 57 34.1 -2.3
TIXI Tiksi 31.41 352 ceP P 10 57 34.5 -1.9
TIXI pmax pmax
comp=Z,72nm,1.3s
TIXI MLR MLR
comp=Z,26µm,17.0s
TIXI Tiksi 31.41 352 LR LR 11 12 45.0
comp=Z,25µm,19.3s,baz=164,slow=41
TIXI Tiksi 31.41 352 P P 10 57 34.3 -2.1
TIXI pP pP 10 57 45.0 -3.6
GTA Gaotai 32.31 281 P P 10 57 44.4 -0.5
GTA pP pP 10 57 58.0 +0.8
GTA PP PP 10 58 55.8 -2.6
GTA S S 11 02 49.1 -6.2
GTA sS sS 11 03 17.8 +1.9
GTA ScP ScP 11 04 13.8 +2.3
GTA PcS PcS 11 04 19.0 +2.0
GTA pmax pmax
comp=Z,34nm,0.9s
GTA pmax pmax
comp=Z,3µm,10.8s
GTA LR LR
comp=Z,30µm,19.1s
GTA LR LR
comp=Z,61µm,22.7s
GTA LR LR
comp=Z,84µm,20.3s
CD2 Chengdu 32.63 264 P P 10 57 46.9 -0.7
CD2 sP sP 10 58 03.1 -2.4
CD2 S S 11 02 57.8 -2.4
CD2 sS sS 11 03 20.5 -0.3
CD2 pmax pmax
comp=Z,170nm,0.5s
CD2 pmax pmax
comp=Z,3µm,4.5s
CD2 LR LR
comp=Z,32µm,16.0s
CD2 LR LR
comp=Z,25µm,21.4s
CD2 LR LR
comp=Z,20µm,17.2s
GYA Guiyang 32.83 255 ⇑P P 10 57 48.6 -0.9
GYA pP pP 10 57 59.8 -2.1
GYA sP sP 10 58 05.5 -2.0
GYA PP PP 10 59 02.5 -1.8
GYA S S 11 03 03.5 0.0
GYA sS sS 11 03 23.3 -0.8
GYA SS SnSn 11 05 03.8 +0.6
GYA pmax pmax
comp=Z,230nm,0.8s
GYA pmax pmax
comp=Z,4µm,12.3s
GYA LR LR
comp=Z,37µm,19.6s
GYA LR LR
comp=Z,61µm,17.9s
GYA LR LR
comp=Z,95µm,18.2s
SPIA Saint Paul Isl 34.14 46 P P 10 58 03.5 +3.1
SPIA Saint Paul Isl 34.14 46 P P 10 58 01.4 +1.0
baz=263
SPIA S S 11 03 25.1 +2.1
baz=263
P08K Saint George I 34.45 47 P P 10 58 03.4 +0.3
baz=264
P08K S S 11 03 29.4 +1.7
baz=264
NIKH Nikolski High 34.66 53 P P 10 58 05.2 +0.2
NIKH Nikolski High 34.66 53 P P 10 58 06.7 +1.7
baz=270
GAMB Gambell 34.92 34 P P 10 58 08.2 +1.2
baz=252,SNR=6.6
GAMB S S 11 03 36.0 +1.1
baz=252
GAMB Gambell 34.92 34 ⇑P P 10 58 08.3 +1.2
QIZ Qiongzhong 35.40 241 P P 10 58 12.9 +1.2
QIZ sP sP 10 58 29.3 -0.4
QIZ PP PP 10 59 33.8 +1.1
QIZ S S 11 03 46.3 +3.2
QIZ pmax pmax
comp=Z,55nm,1.4s
QIZ pmax pmax
comp=Z,3µm,5.3s
QIZ LR LR
comp=Z,10µm,21.8s
QIZ LR LR
comp=Z,19µm,19.8s
QIZ LR LR
comp=Z,24µm,20.1s
QIZ Qiongzhong 35.40 241 P P 10 58 11.6 -0.1
QIZ IAmb IAmb 10 58 17.2
comp=Z,483nm,2.0s
QIZ Qiongzhong 35.40 241 P P 10 58 13.4 +1.7
UNV Unalaska Valle 36.06 52 P P 10 58 18.9 +2.0
UNV Unalaska Valle 36.06 52 P P 10 58 19.0 +2.0
baz=271
UNV S S 11 03 49.6 -2.9
baz=271
PZH PanZhiHua 36.43 259 ⇑P P 10 58 20.1 -0.5
PZH pP pP 10 58 34.4 +1.4
PZH S S 11 03 54.3 -4.7
PZH sS sS 11 04 22.1 +2.4
PZH PcS PcS 11 04 36.3 +4.3
PZH pmax pmax
comp=Z,240nm,1.0s
PZH pmax pmax
comp=Z,3µm,4.2s
PZH LR LR
comp=Z,23µm,19.8s
PZH LR LR
comp=Z,17µm,17.3s
PZH LR LR
comp=Z,18µm,18.6s
KMI Kunming 36.48 257 ⇑P P 10 58 20.9 -0.2
KMI PP PP 10 59 49.3 +4.6
KMI S S 11 03 53.8 -6.1
KMI pmax pmax
comp=Z,230nm,1.7s
KMI pmax pmax
comp=Z,4µm,5.8s
KMI LR LR
comp=Z,28µm,18.7s
KMI LR LR
comp=Z,42µm,18.0s
KMI LR LR
comp=Z,60µm,18.7s
M11K Mekoryuk 36.67 41 P P 10 58 24.0 +1.9
baz=262,SNR=10
M11K S S 11 04 06.3 +4.7
baz=262
PATS Pohnpei 36.91 153 IAMs_20 IAMs_20 11 12 19.6
comp=Z,57µm,20.0s
DAV Davao City (W) 37.01 208 ⇑eP P 10 58 26.0 +0.6
DAV Davao City (W) 37.01 208 LR LR 11 14 15.1
comp=Z,10µm,20.1s,baz=29,slow=37
DAV Davao City (W) 37.01 208 P P 10 58 27.3 +1.9
comp=Z,336nm,0.6s,comp=Z,7µmcomp=Z,17µm
TNA Tin City 37.02 32 P P 10 58 26.1 +1.2
TNA IAmb IAmb 10 58 45.9
comp=Z,288nm,1.1s
TNA Tin City 37.02 32 P P 10 58 26.5 +1.5
baz=254,SNR=64
TNA S S 11 04 07.4 +0.6
baz=254
GOMU GeErMu 37.12 278 P P 10 58 26.8 +0.1
GOMU S S 11 04 11.8 +1.9
GOMU sS ScP 11 04 27.8 -1.3
GOMU SS SnSn 11 06 45.5 -1.7
GOMU pmax pmax
comp=Z,91nm,0.8s
GOMU LR LR
comp=Z,16µm,20.4s
GOMU LR LR
comp=Z,29µm,18.8s
GOMU LR LR
comp=Z,48µm,19.0s
F14K Arctic Creek 37.63 32 P P 10 58 32.0 +1.8
baz=255
F14K S S 11 04 18.3 +2.1
baz=255
K13K Kusilvak Mount 37.63 38 IAmb IAmb 10 58 52.2
comp=Z,407nm,1.1s
K13K Kusilvak Mount 37.63 38 P P 10 58 32.2 +2.0
baz=262
ANM Nome 37.81 34 P P 10 58 32.9 +1.2
ANM IAMs_20 IAMs_20 11 13 31.3
comp=Z,34µm,22.0s
ANM Nome 37.81 34 P P 10 58 33.5 +1.8
baz=257,SNR=90
ANM S S 11 04 22.5 +3.5
baz=257
ANM Nome 37.81 34 P P 10 58 32.9 +1.2
ANM pmax pmax
comp=Z,1µm,2.0s
ANM MLR MLR
comp=Z,34µm,22.0s
FALS False Pass 37.85 50 P P 10 58 34.2 +2.1
baz=272
M13K Dall Lake 38.08 41 IAmb IAmb 10 58 53.4
comp=Z,495nm,1.1s
M13K IAMs_20 IAMs_20 11 13 44.5
comp=Z,32µm,22.0s
M13K Dall Lake 38.08 41 P P 10 58 36.3 +2.3
baz=265
M13K S S 11 04 28.1 +5.2
baz=265
J14K Nanvaranak Lak 38.27 37 IAMs_20 IAMs_20 11 13 58.8
comp=Z,32µm,22.0s
J14K Nanvaranak Lak 38.27 37 P P 10 58 37.3 +1.8
baz=262,SNR=27
J14K S S 11 04 29.4 +3.5
baz=262
F15K North Star Dit 38.37 32 P P 10 58 37.8 +1.4
baz=257
G15K Niukluk 38.46 33 P P 10 58 38.8 +1.7
baz=258
L14K Kuka Creek 38.49 39 IAmb IAmb 10 58 56.8
comp=Z,474nm,1.2s
L14K IAMs_20 IAMs_20 11 13 57.5
comp=Z,31µm,22.0s
L14K Kuka Creek 38.49 39 P P 10 58 39.8 +2.3
baz=264
L14K S S 11 04 33.3 +4.0
baz=264
C16K Lisburne Hills 38.78 28 IAmb IAmb 10 59 13.6
comp=Z,409nm,1.3s
C16K Lisburne Hills 38.78 28 P P 10 58 40.1 +0.2
baz=253,SNR=195
C16K S S 11 04 33.2 -0.3
baz=253
M14K Bethel 38.79 40 IAmb IAmb 10 58 59.0
comp=Z,413nm,1.1s
M14K IAMs_20 IAMs_20 11 14 07.4
comp=Z,40µm,22.0s
M14K Bethel 38.79 40 P P 10 58 41.9 +2.0
baz=266,SNR=23
M14K S S 11 04 37.1 +3.4
baz=266
N14K Kuskokwak Cree 38.87 42 P P 10 58 42.5 +1.9
baz=267
N14K S S 11 04 38.1 +3.2
baz=267
O14K Tigyukauivet M 39.05 43 IAmb IAmb 10 59 02.9
comp=Z,284nm,1.1s
O14K Tigyukauivet M 39.05 43 P P 10 58 43.9 +1.7
baz=268,SNR=12
O14K S S 11 04 40.0 +2.2
baz=268
L15K Ungalak Mounta 39.10 39 P P 10 58 43.9 +1.4
baz=265,SNR=15
L15K S S 11 04 41.3 +2.9
baz=265
K15K Wolf Creek Mou 39.14 38 IAmb IAmb 10 59 05.3
comp=Z,406nm,1.1s
K15K Wolf Creek Mou 39.14 38 P P 10 58 44.2 +1.3
baz=264,SNR=52
K15K S S 11 04 41.6 +2.6
baz=264
H16K Elim 39.15 34 P P 10 58 44.5 +1.5
baz=260,SNR=209
H16K S S 11 04 42.7 +3.6
baz=260
G16K Koyuk River 39.23 33 IAMs_20 IAMs_20 11 14 48.0
comp=Z,34µm,22.0s
G16K Koyuk River 39.23 33 P P 10 58 44.7 +1.1
baz=259
M15K Kasigluk River 39.41 40 P P 10 58 46.9 +1.7
baz=267,SNR=62
M15K S S 11 04 44.9 +1.8
baz=267
SDPT Sand Point 39.52 49 P P 10 58 47.0 +0.9
SDPT Sand Point 39.52 49 P P 10 58 47.2 +1.1
baz=274
C17K DeLong Mountai 39.61 28 P P 10 58 47.2 +0.4
baz=255
C17K S S 11 04 46.8 +0.7
baz=255
TNCH TengChong 39.66 260 P P 10 58 48.8 +0.9
TNCH pP pP 10 58 59.8 -0.6
TNCH sP sP 10 59 04.8 -1.2
TNCH PP PnPn 11 00 24.5 +1.6
TNCH S S 11 04 48.3 +0.3
TNCH sS sS 11 05 06.8 -2.0
TNCH SS SS 11 07 36.9 -7.7
TNCH pmax pmax
comp=Z,680nm,1.6s
TNCH pmax pmax
comp=Z,6µm,4.2s
TNCH LR LR
comp=Z,12µm,18.8s
TNCH LR LR
comp=Z,8µm,18.3s
TNCH LR LR
comp=Z,22µm,21.3s
J16K Anvik River 39.67 36 IAmb IAmb 10 59 06.4
comp=Z,461nm,1.3s
J16K IAMs_20 IAMs_20 11 15 15.9
comp=Z,30µm,22.0s
J16K Anvik River 39.67 36 P P 10 58 49.4 +2.0
baz=264,SNR=28
J16K S S 11 04 51.0 +4.0
baz=264
N15K Kwethluk River 39.68 41 IAmb IAmb 10 59 08.9
comp=Z,501nm,1.1s
N15K Kwethluk River 39.68 41 P P 10 58 48.9 +1.4
baz=268,SNR=37
N15K S S 11 04 49.2 +2.0
baz=268
I17K Unalakleet 39.70 35 P P 10 58 48.2 +0.7
I17K IAmb IAmb 10 59 09.7
comp=Z,360nm,1.1s
I17K Unalakleet 39.70 35 P P 10 58 49.4 +1.9
baz=263,SNR=37
I17K S S 11 04 50.6 +3.2
baz=263
E17K Hotham Inlet 39.78 30 P P 10 58 49.1 +0.9
baz=258,SNR=264
E17K S S 11 04 48.9 +0.3
baz=258
O15K Ungalikthiuk R 39.79 43 P P 10 58 49.5 +1.1
baz=269
O15K S S 11 04 50.8 +1.9
baz=269
WMQ Urumqi 39.84 293 eP P 10 58 49.4 +0.3
WMQ pP sP 10 59 05.3 -1.9
WMQ PP PP 11 00 22.3 +1.1
WMQ S S 11 04 48.8 -1.4
WMQ pmax pmax
comp=Z,580nm,1.5s
WMQ pmax pmax
comp=Z,8µm,4.1s
WMQ LR LR
comp=Z,17µm,13.9s
WMQ LR LR
comp=Z,51µm,15.7s
WMQ LR LR
comp=Z,47µm,16.7s
F17K Baldwin Pennin 39.88 31 IAmb IAmb 10 59 24.2
comp=Z,363nm,1.3s
F17K Baldwin Pennin 39.88 31 P P 10 58 50.3 +1.3
baz=259
ZAA0 Zalesovo Array 39.88 309 P P 10 58 49.0 -0.1
ZAA0 IAmb IAmb 10 58 54.1
comp=Z,557nm,1.1s
ZALV Zalesovo Beam 39.88 309 P P 10 58 48.9 -0.2
ZALV Zalesovo Beam 39.88 309 P P 10 58 49.5 +0.4
comp=Z,268nm,0.7s,baz=89,slow=6.5,SNR=326
ZALV PcP PcP 11 00 54.1 +0.1
comp=Z,13nm,0.4s,baz=106,slow=4.8,SNR=1.1

ZALV S **S** **11 04 42.4 -7.9**
comp=Z,5.5nm,0.8s,baz=78,slow=9.0,SNR=2.1
ZALV LR LR 11 16 08.8
comp=Z,54µm,20.2s,baz=78,slow=37
ZALV PKPPKP 11 31 11.7
comp=Z,0.7nm,0.6s,baz=266,slow=2.3,SNR=1.6
comp=Z,268nm,0.7s
G17K Kiwalik Mounta 39.95 33 P **P** **10 58 51.4 +1.7**
baz=261
NRIK Noril'sk 39.98 333 P **P** **10 58 49.6 -0.2**
NRIK IAmb IAmb 10 58 52.3
comp=Z,730nm,1.3s
NRIK Noril'sk 39.98 333 P **P** **10 58 49.6 -0.2**
NRIK pmax pmax
comp=Z,730nm,1.3s
NRIK MLR MLR
comp=Z,76µm,22.0s
NRIK Noril'sk 39.98 333 P **P** **10 58 49.3 -0.5**
comp=Z,246nm,1.0s,baz=101,slow=8.4,SNR=121
NRIK S **S** **11 04 43.4 -8.1**
comp=Z,13nm,1.0s,baz=188,slow=19,SNR=1.4
NRIK LR LR 11 16 26.7
comp=Z,63µm,21.5s,baz=106,slow=38
comp=Z,246nm,1.0s
L16K Owhat River 40.06 39 IAmb IAmb 10 59 09.3
comp=Z,381nm,1.1s
L16K Owhat River 40.06 39 P **P** **10 58 52.0 +1.5**
baz=267,SNR=57
L16K S **S** **11 04 55.3 +2.5**
baz=267
CHNA Chernabura Isl 40.06 50 P **P** **10 58 51.9 +1.3**
baz=275,SNR=7.4
CHNA S **S** **11 04 50.1 -2.9**
baz=275
CNBA Chernabura Isl 40.06 50 P **P** **10 58 51.1 +0.5**
CNBA IAmb IAmb 10 59 11.3
comp=Z,264nm,0.9s
CNBA IAMs_20 IAMs_20 11 16 06.3
comp=Z,42µm,22.0s
SGSI Sangihe 40.17 207 P **P** **10 58 54.6 +2.6**
comp=Z,862nm,1.0s,comp=Z,10µmcomp=Z,14µm
H17K Granite Mounta 40.18 34 P **P** **10 58 53.6 +2.1**
baz=262
H17K S **S** **11 04 57.9 +3.3**
baz=262
M16K Timber Creek 40.27 40 IAmb IAmb 10 59 11.3
comp=Z,458nm,1.3s
M16K IAMs_20 IAMs_20 11 15 25.9
comp=Z,39µm,22.0s
M16K Timber Creek 40.27 40 P **P** **10 58 54.2 +1.9**
baz=268,SNR=25
M16K S **S** **11 04 58.7 +2.7**
baz=268
B18K Kokolik River 40.32 27 P **P** **10 58 53.3 +0.7**
baz=255
B18K S **S** **11 04 55.3 -1.3**
baz=255
N16K Nishlik Lake 40.35 41 P **P** **10 58 54.5 +1.5**
baz=269
N16K S **S** **11 04 59.0 +1.8**
baz=269
C18K Utukok River 40.36 28 P **P** **10 58 53.2 +0.1**
C18K IAmb IAmb 10 59 26.8
comp=Z,1µm,1.7s
C18K Utukok River 40.36 28 P **P** **10 58 53.2 +0.1**
baz=257
C18K S **S** **11 04 55.3 -2.0**
baz=257
L17K Donlin 40.64 38 P **P** **10 58 57.6 +2.3**
baz=267,SNR=61
L17K S **S** **11 05 05.7 +4.3**
baz=267
K17K Iditarod 40.67 37 P **P** **10 58 57.8 +2.2**
baz=266,SNR=99
K17K S **S** **11 05 06.6 +4.7**
baz=266
O16K Kokwok River B 40.68 42 IAmb IAmb 10 59 14.6
comp=Z,342nm,1.2s
O16K Kokwok River B 40.68 42 P **P** **10 58 57.3 +1.7**
baz=270
O16K S **S** **11 05 04.4 +2.4**
baz=270
P16K Nushagak River 40.73 43 P **P** **10 58 57.7 +1.6**
baz=271,SNR=29
P16K S **S** **11 05 06.9 +4.0**
baz=271
A19K Wainwright 40.79 26 P **P** **10 58 57.4 +0.9**
baz=255
G18K Tagagawik 40.83 33 IAmb IAmb 10 59 03.3
comp=Z,370nm,1.1s
G18K IAMs_20 IAMs_20 11 15 36.1
comp=Z,30µm,22.0s
G18K Tagagawik 40.83 33 P **P** **10 58 58.0 +1.1**
baz=262,SNR=269
G18K S **S** **11 05 05.9 +1.6**
baz=262
H18K Honhosa River 40.86 34 IAmb IAmb 10 59 18.9
comp=Z,333nm,0.9s
H18K IAMs_20 IAMs_20 11 15 14.1
comp=Z,38µm,22.0s
H18K Honhosa River 40.86 34 P **P** **10 58 58.7 +1.6**
baz=264
H18K S **S** **11 05 07.8 +3.1**
baz=264
ZSN Zaisan 40.88 299 *e*P **P** **10 58 57.9 +0.3**
comp=Z,171nm,0.9s,baz=299
ZSN *e*S **S** **11 05 06.9 +1.4**
baz=299
ZSN Zaisan 40.88 299 *e*P **P** **10 58 57.9 +0.3**
ZSN *e*S **S** **11 05 06.9 +1.4**
ZSN pmax pmax
comp=Z,171nm,0.9s
UBPT Khong Chiam 40.98 242 P **P** **10 58 58.9 +0.2**
UBPT Khong Chiam 40.98 242 ⇑P **P** **10 58 59.7 +1.0**
R16K Pilot Point 41.01 45 P **P** **10 58 58.8 +0.5**
baz=273
R16K S **S** **11 05 07.5 +0.5**
baz=273
M17K Holitna River 41.02 39 IAmb IAmb 10 59 17.9
comp=Z,608nm,1.2s
M17K IAMs_20 IAMs_20 11 15 48.7
comp=Z,32µm,22.0s
M17K Holitna River 41.02 39 P **P** **10 58 60.0 +1.5**
baz=269,SNR=30
M17K S **S** **11 05 10.2 +3.0**
baz=269
C19K Lookout Ridge 41.03 28 IAmb IAmb 10 59 33.0
comp=Z,939nm,1.6s
C19K IAMs_20 IAMs_20 11 17 14.6
comp=Z,27µm,20.0s
C19K Lookout Ridge 41.03 28 P **P** **10 58 59.4 +0.8**
baz=258,SNR=142
C19K S **S** **11 05 06.5 -0.8**
baz=258
DIBR DIBRUGARH 41.03 266 *e*P **P** **10 58 59.9 +0.9**
DIBR IAmb IAmb 10 59 04.6
comp=Z,2µm,1.5s
N17K Nushagak Hills 41.13 41 IAMs_20 IAMs_20 11 15 28.6
comp=Z,32µm,22.0s
N17K Nushagak Hills 41.13 41 P **P** **10 59 01.5 +2.1**
baz=270,SNR=21
N17K S **S** **11 05 11.8 +3.0**
baz=270
O17K Koliganek Bris 41.18 42 P **P** **10 59 01.7 +1.9**
baz=271,SNR=34
O17K S **S** **11 05 12.2 +2.7**
baz=271
CRAI Chiangrai 41.19 253 P **P** **10 59 01.3 +0.9**
F19K Shaleruckik Mo 41.31 31 P **P** **10 59 01.3 +0.6**
F19K IAmb IAmb 10 59 35.5
comp=Z,568nm,1.4s
F19K Shaleruckik Mo 41.31 31 P **P** **10 59 01.5 +0.8**
baz=262,SNR=170
F19K S **S** **11 05 11.1 -0.2**
baz=262
L18K Granite Mounta 41.39 38 IAmb IAmb 10 59 21.1
comp=Z,392nm,1.2s
L18K Granite Mounta 41.39 38 P **P** **10 59 03.5 +2.0**
baz=269,SNR=86
L18K S **S** **11 05 16.2 +3.5**
baz=269
J18K Innoko River 41.43 36 IAmb IAmb 10 59 37.9
comp=Z,518nm,1.4s
J18K IAMs_20 IAMs_20 11 15 59.5
comp=Z,34µm,22.0s
J18K Innoko River 41.43 36 P **P** **10 59 03.3 +1.5**
baz=267
J18K S **S** **11 05 15.2 +1.9**
baz=267
D19K Kuna River 41.44 29 IAmb IAmb 10 59 37.0
comp=Z,568nm,1.1s
D19K IAMs_20 IAMs_20 11 17 09.4
comp=Z,28µm,21.0s
D19K Kuna River 41.44 29 P **P** **10 59 02.8 +0.9**
baz=260
D19K S **S** **11 05 12.1 -1.2**
baz=260
Q16K King Salmon 41.44 44 P **P** **10 59 02.7 +0.8**
baz=273,SNR=9.6
Q16K S **S** **11 05 16.7 +3.3**
baz=273
GCSA Galena City Sc 41.45 34 P **P** **10 59 03.1 +1.2**
baz=266,SNR=24
GCSA S **S** **11 05 14.9 +1.6**
baz=266
G19K Purcell Mounta 41.49 32 P **P** **10 59 03.1 +0.8**
baz=264
DLV T Lat 41.51 235 ⇑P **P** **10 59 04.5 +1.3**
P17K Kvichak River 41.53 43 P **P** **10 59 04.1 +1.4**
baz=272
P17K S **S** **11 05 17.4 +2.7**
baz=272
E19K Redstone River 41.60 30 IAmb IAmb 10 59 28.8
comp=Z,310nm,0.9s
E19K Redstone River 41.60 30 P **P** **10 59 04.2 +1.0**
baz=262
E19K S **S** **11 05 15.5 -0.2**
baz=262
H19K Roundabout Mou 41.69 33 IAMs_20 IAMs_20 11 15 51.3
comp=Z,34µm,22.0s
H19K Roundabout Mou 41.69 33 P **P** **10 59 05.4 +1.5**
baz=265
H19K S **S** **11 05 17.9 +1.0**
baz=265
TTA Tatalina 41.73 37 P **P** **10 59 05.5 +1.2**
TTA Tatalina 41.73 37 P **P** **10 59 05.9 +1.5**
TTA Tatalina 41.73 37 P **P** **10 59 05.8 +1.4**
baz=268,SNR=74
TTA S **S** **11 05 19.9 +2.2**
baz=268
TTA Tatalina 41.73 37 ⇑P **P** **10 59 05.6 +1.2**
TTA Tatalina 41.73 37 P **P** **10 59 05.5 +1.2**
TTA pmax pmax
comp=Z,299nm,1.3s
N18K Kilae Creek 41.77 41 IAmb IAmb 10 59 24.2
comp=Z,501nm,1.2s
N18K IAMs_20 IAMs_20 11 15 49.1
comp=Z,31µm,22.0s
N18K Kilae Creek 41.77 41 P **P** **10 59 06.6 +1.9**
baz=271
N18K S **S** **11 05 21.7 +3.3**
baz=271
M18K Stony River 41.79 39 P **P** **10 59 06.9 +2.0**
baz=270,SNR=22
M18K S **S** **11 05 22.5 +3.9**
baz=270
ZIRO ZIRO 41.80 267 *e*P **P** **10 59 06.2 +0.7**
ZIRO IAmb IAmb 10 59 12.3
comp=Z,422nm,0.4s
Q17K Contact Creek 41.86 44 P **P** **10 59 05.9 +0.4**
baz=274,SNR=9.9
Q17K S **S** **11 05 19.8 -0.1**
baz=274
JORH JORHAT 41.91 266 *e*P **P** **10 59 07.3 +1.1**
SVW2 Sparrevohn 41.91 40 P **P** **10 59 07.5 +1.6**
MOKO MOKOCHONG 41.94 265 ⇑*i*P **P** **10 59 07.6 +0.9**
J19K Poorman 41.94 36 IAmb IAmb 10 59 24.7
comp=Z,748nm,1.2s
J19K Poorman 41.94 36 P **P** **10 59 07.4 +1.3**
baz=268,SNR=174
J19K S **S** **11 05 23.0 +2.2**
baz=268
KKM Kota Kinabalu 41.97 221 P **P** **10 59 07.4 +0.5**
KKM Kota Kinabalu 41.97 221 P **P** **10 59 07.5 +0.6**
KKM Kota Kinabalu 41.97 221 P **P** **10 59 08.1 +1.2**
comp=Z,116nm,1.4s,comp=Z,3µmcomp=Z,21µm
D20K Etivluk River 42.02 28 P **P** **10 59 07.2 +0.6**
baz=261,SNR=312
B20K Meade River 42.05 27 IAmb IAmb 10 59 29.5
comp=Z,353nm,0.8s
B20K Meade River 42.05 27 P **P** **10 59 07.4 +0.7**
baz=259
B20K S **S** **11 05 20.4 -1.7**
baz=259
ITAN ITANAGAR 42.10 266 ⇑*i*P **P** **10 59 07.8 +0.1**
ITAN IAmb IAmb 10 59 14.1
comp=Z,879nm,1.2s
E20K Nigu River 42.11 29 P **P** **10 59 08.2 +0.8**
baz=262
E20K S **S** **11 05 22.6 -0.6**
baz=262
O18K Koktuh Hills 42.13 42 IAmb IAmb 10 59 26.9
comp=Z,352nm,1.1s
O18K Koktuh Hills 42.13 42 P **P** **10 59 09.1 +1.5**
baz=272
O18K S **S** **11 05 26.6 +2.9**
baz=272
F20K Avaraart Lake 42.13 31 P **P** **10 59 08.4 +0.9**
baz=264
F20K S **S** **11 05 22.8 -0.6**
baz=264
P18K Big Mountain, 42.14 43 IAmb IAmb 10 59 26.7
comp=Z,428nm,1.2s
P18K Big Mountain, 42.14 43 P **P** **10 59 08.5 +0.8**
baz=273,SNR=17
P18K S **S** **11 05 26.7 +2.8**
baz=273
L19K White Mountain 42.25 38 P **P** **10 59 10.4 +1.8**
baz=270,SNR=51
L19K S **S** **11 05 27.6 +2.1**
baz=270
TNTI Ternate 42.34 203 IAmb IAmb 10 59 45.1
comp=Z,931nm,1.9s
TNTI Ternate 42.34 203 P **P** **10 59 10.8 +1.1**
comp=Z,187nm,1.4s,comp=Z,4µmcomp=Z,6µm
H20K Anotleneega Mo 42.34 33 P **P** **10 59 10.6 +1.3**
baz=267,SNR=227
H20K S **S** **11 05 28.5 +1.9**
baz=267
N19K Bonanza Creek 42.45 40 IAMs_20 IAMs_20 11 16 55.3
comp=Z,29µm,21.0s
N19K Bonanza Creek 42.45 40 P **P** **10 59 11.9 +1.6**
baz=272
N19K S **S** **11 05 32.2 +3.6**
baz=272
M19K Big River Lodg 42.47 39 IAmb IAmb 10 59 46.3
comp=Z,584nm,1.7s
M19K Big River Lodg 42.47 39 P **P** **10 59 12.1 +1.7**
baz=271
M19K S **S** **11 05 31.7 +3.0**
baz=271
A21K Barrow 42.48 25 P **P** **10 59 10.7 +0.4**
baz=258,SNR=140
A21K S **S** **11 05 26.6 -1.9**
baz=258
O19K Port Alsworth 42.56 41 P **P** **10 59 12.3 +1.3**
baz=273,SNR=6.6
O19K S **S** **11 05 32.8 +2.9**
baz=273
KOHI KOHIMA 42.58 264 *e*P **P** **10 59 11.7 -0.1**
KOHI IAMs_20 IAMs_20 11 17 03.5
comp=Z,32µm,24.2s
J20K Nowinta River 42.60 35 IAmb IAmb 10 59 30.4
comp=Z,685nm,1.2s
J20K Nowinta River 42.60 35 P **P** **10 59 13.3 +2.0**
baz=269,SNR=159
J20K S **S** **11 05 33.3 +2.9**
baz=269
K20K Telida 42.62 37 IAmb IAmb 10 59 30.8
comp=Z,845nm,1.6s
K20K IAMs_20 IAMs_20 11 16 44.8
comp=Z,35µm,22.0s
K20K Telida 42.62 37 P **P** **10 59 13.4 +1.9**
baz=270,SNR=97
K20K S **S** **11 05 33.5 +2.7**
baz=270
L20K Farewell, AK 42.71 38 P **P** **10 59 14.1 +1.8**
baz=271,SNR=54
L20K S **S** **11 05 34.2 +2.1**
baz=271
C21K Knifeblade Rid 42.74 28 P **P** **10 59 13.2 +0.8**
baz=263
C21K S **S** **11 05 31.3 -1.0**
baz=263
LSA Lhasa 42.74 271 P **P** **10 59 14.3 +0.8**
LSA IAMs_20 IAMs_20 11 17 38.7
comp=Z,32µm,20.0s
LSA Lhasa 42.74 271 P **P** **10 59 13.7 +0.2**
LSA Lhasa 42.74 271 P **P** **10 59 14.3 +0.8**
LSA pmax pmax
comp=Z,2µm,1.9s
LSA MLR MLR
comp=Z,32µm,20.0s
LSA Lhasa 42.74 271 P **P** **10 59 15.2 +1.7**
MK31 Makanchi Array 42.74 299 P **P** **10 59 12.7 -0.1**
MK31 Makanchi Array 42.74 299 *i*P **P** **10 59 12.7 -0.1**
MKAR Makanchi Array 42.74 299 P **P** **10 59 12.7 -0.1**
comp=Z,252nm,0.9s,baz=85,slow=9.9,SNR=625
MKAR S **S** **11 05 28.7 -4.4**
comp=Z,3.1nm,0.9s,baz=92,slow=19,SNR=1.3
MKAR LR LR 11 18 17.9
comp=Z,52µm,19.8s,baz=82,slow=38
MKAR PKPPKP **P'P'df** **11 31 14.2 -1.2**
comp=Z,1.1nm,1.0s,baz=214,slow=4.1,SNR=3.7
comp=Z,252nm,0.9s
B21K Ikpikpuk River 42.86 27 P **P** **10 59 14.1 +0.7**
baz=262
SWI Sorong 42.93 196 P **P** **10 59 15.2 +0.7**
comp=Z,140nm,1.0s,comp=Z,4µmcomp=Z,9µm
SIJI Sorong 42.93 196 P **P** **10 59 15.2 +0.7**
comp=Z,135nm,1.7s,comp=Z,3µmcomp=Z,8µm
SII Sitkinak Islan 42.94 47 P **P** **10 59 13.9 -0.3**
baz=277
A22K Sinclair Lake 42.95 25 P **P** **10 59 14.5 +0.4**
baz=260
A22K S **S** **11 05 33.3 -2.0**
baz=260
MAKZ Makanchi 42.95 299 P **P** **10 59 14.6 +0.2**
MAKZ IAmb IAmb 10 59 19.3
comp=Z,340nm,0.9s
MAKZ Makanchi 42.95 299 ⇑P **P** **10 59 14.4 -0.1**
MAKZ Makanchi 42.95 299 P **P** **10 59 16.0 +1.5**
MAKZ Makanchi 42.95 299 P **P** **10 59 14.7 +0.2**
MAKZ sP **pP** **10 59 29.3 +2.2**
G21K Allakaket 42.97 32 IAmb IAmb 10 59 36.7
comp=Z,408nm,1.0s
G21K Allakaket 42.97 32 P **P** **10 59 15.6 +1.3**
baz=267
Q19K Cape Douglas, 42.99 43 IAmb IAmb 10 59 35.3
comp=Z,277nm,0.7s
Q19K Cape Douglas, 42.99 43 P **P** **10 59 14.1 -0.5**
baz=275
Q19K S **S** **11 05 35.6 -0.7**
baz=275
F21K Alatna River 43.02 31 P **P** **10 59 15.6 +0.8**
baz=266
M20K Styx River 43.07 39 IAMs_20 IAMs_20 11 16 21.9
comp=Z,27µm,22.0s
M20K Styx River 43.07 39 P **P** **10 59 17.3 +2.0**
baz=272,SNR=27
M20K S **S** **11 05 40.5 +2.9**
baz=272
TEZP TEZPUR 43.08 266 ⇑*i*P **P** **10 59 14.8 -0.9**
CMMT Chiang Mai 43.12 252 P **P** **10 59 16.4 +0.2**
comp=Z,492nm,0.7s,comp=Z,12µmcomp=Z,103µm
CHTO Chiang Mai 43.13 252 P **P** **10 59 16.4 +0.2**
CHTO IAmb IAmb 10 59 37.4
comp=Z,549nm,1.5s
CHTO Chiang Mai 43.13 252 P **P** **10 59 16.8 +0.6**
CHTO Chiang Mai 43.13 252 ⇑P **P** **10 59 16.4 +0.2**
CHTO Chiang Mai 43.13 252 P **P** **10 59 16.4 +0.2**
CHTO pmax pmax
comp=Z,549nm,1.5s
CHTO MLR MLR
comp=Z,19µm,20.0s
CHTO Chiang Mai 43.13 252 P **P** **10 59 16.8 +0.6**
CHTO Chiang Mai 43.13 252 P **P** **10 59 16.6 +0.5**
CHTO pP **pP** **10 59 26.2 -2.7**
CHTO sP **sP** **10 59 31.0 -3.5**
CHTO Chiang Mai 43.13 252 P **P** **10 59 16.4 +0.2**
comp=Z,178nm,0.7s,comp=Z,5µmcomp=Z,34µm
P19K Oil Pt 43.14 42 P **P** **10 59 17.3 +1.4**
baz=274
P19K S **S** **11 05 39.8 +1.2**
baz=274
IMP Imphal 43.19 263 ⇑*i*P **P** **10 59 15.4 -1.3**
IMP IAmb IAmb 10 59 22.2
comp=Z,78nm,0.7s
MND Mandalay 43.20 258 P **P** **10 59 17.3 +0.6**
SEM Semipalatinsk 43.20 304 *e*P **P** **10 59 15.4 -1.4**
comp=Z,507nm,1.3s,baz=304
SEM *e*S **S** **11 05 38.2 -2.0**
baz=304
SEM LR LR 11 16 47.0
baz=304
SEM Semipalatinsk 43.20 304 *e*P **P** **10 59 15.3 -1.4**
SEM *e*S **S** **11 05 38.1 -2.0**
SEM pmax pmax
comp=Z,507nm,1.3s
H21K Melozitna Rive 43.21 33 IAMs_20 IAMs_20 11 16 48.2
comp=Z,31µm,22.0s
H21K Melozitna Rive 43.21 33 P **P** **10 59 17.7 +1.4**
baz=268
H21K S **S** **11 05 42.2 +2.8**
baz=268
OHAK Old Harbor 43.35 46 IAmb IAmb 10 59 37.0
comp=Z,807nm,1.4s
OHAK Old Harbor 43.35 46 P **P** **10 59 18.1 +0.6**
baz=277,SNR=9.0
OHAK S **S** **11 05 40.8 -0.6**
baz=277
CM31 Chiang Mai Arr 43.36 252 P **P** **10 59 18.5 +0.5**
CM31 Chiang Mai Arr 43.36 252 P **P** **10 59 18.7 +0.6**
SNR=54
CM31 P **P** **10 59 18.7 +0.6**
SNR=54
CMAR Chiang Mai Arr 43.36 252 P **P** **10 59 18.2 +0.2**
CMAR Chiang Mai Arr 43.36 252 P **P** **10 59 18.8 +0.7**
comp=Z,19nm,0.6s,baz=42,slow=7.8,SNR=81
CMAR LR LR 11 19 02.7
comp=Z,16µm,18.3s,baz=60,slow=38
CMAR PKPPKP **P'P'df** **11 31 12.3 +1.9**
comp=Z,0.4nm,0.5s,baz=240,slow=4.0,SNR=4.1
comp=Z,19nm,0.6s
B22K Teshekpuk Lake 43.36 26 IAmb IAmb 10 59 51.8
comp=Z,658nm,1.4s
B22K Teshekpuk Lake 43.36 26 P **P** **10 59 17.9 +0.5**
baz=263
CHUM Lake Minchumin 43.40 36 P **P** **10 59 19.7 +1.9**
baz=271
CHUM S **S** **11 05 46.5 +4.3**
baz=271
O20K Slope Mountain 43.42 41 P **P** **10 59 18.8 +0.7**
baz=274,SNR=6.2
O20K S **S** **11 05 44.0 +1.4**
baz=274
D22K Ayikyak River 43.46 29 IAMs_20 IAMs_20 11 18 46.7
comp=Z,44µm,21.0s
D22K Ayikyak River 43.46 29 P **P** **10 59 19.4 +1.2**
baz=265,SNR=149
D22K S **S** **11 05 42.1 -0.8**
baz=265
PPLA Purkeypile 43.48 37 P **P** **10 59 21.0 +2.4**
baz=272,SNR=50
PPLA S **S** **11 05 47.4 +3.8**
baz=272
GENI Genyem 43.48 183 P **P** **10 59 22.3 +3.3**
comp=Z,404nm,0.9s,comp=Z,5µmcomp=Z,8µm
CAST Castle Rocks 43.51 36 IAmb IAmb 10 59 42.1
comp=Z,343nm,1.0s
CAST IAMs_20 IAMs_20 11 17 13.2
comp=Z,34µm,21.0s
CAST Castle Rocks 43.51 36 P **P** **10 59 20.7 +1.9**
baz=271,SNR=157
CAST S **S** **11 05 46.7 +2.8**
baz=271
N20K Mount Spurr 43.54 40 P **P** **10 59 20.8 +1.7**
baz=274,SNR=55
N20K S **S** **11 05 47.3 +2.8**
baz=274
I21K Tanana 43.55 34 IAmb IAmb 10 59 38.2
comp=Z,700nm,1.4s
I21K IAMs_20 IAMs_20 11 16 58.0
comp=Z,32µm,22.0s
I21K Tanana 43.55 34 P **P** **10 59 20.7 +1.7**
baz=270,SNR=80
I21K S **S** **11 05 47.3 +3.0**
baz=270
KMSI Cibinong 43.61 207 P **P** **10 59 22.1 +2.1**
comp=Z,703nm,1.1s,comp=Z,11µmcomp=Z,14µm
LBMI Labuha 43.64 202 P **P** **10 59 22.1 +1.8**
comp=Z,356nm,0.8s,comp=Z,9µm
KDAK Kodiak Island 43.66 45 P **P** **10 59 20.2 +0.2**

KDAK IAmb IAmb 10 59 40.8
comp=Z,565nm,0.9s
KDAK Kodiak Island 43.66 45 P **P** **10 59 20.4 +0.5**
KDAK baz=277 S **S** **11 05 44.6 -1.4**
baz=277
KDAK Kodiak Island 43.66 45 ⇓P **P** **10 59 20.7 +0.7**
KDAK Kodiak Island 43.66 45 P **P** **10 59 20.2 +0.2**
KDAK pmax pmax
comp=Z,565nm,1.0s
KDAK Kodiak Island 43.66 45 LR LR 11 18 08.9
comp=Z,37µm,21.9s,baz=272,slow=37
KDAK Kodiak Island 43.66 45 P **P** **10 59 20.7 +0.7**
KDAK sP **sP** **10 59 36.3 -1.6**
Q20K Shuyak Island 43.66 43 P **P** **10 59 20.6 +0.6**
baz=276,SNR=7.8
Q20K S **S** **11 05 43.4 -2.8**
baz=276
SYI Shuyak Island 43.67 43 P **P** **10 59 20.4 +0.4**
SYI IAmb IAmb 10 59 40.8
comp=Z,508nm,0.9s
SYI IAMs_20 IAMs_20 11 17 28.4
comp=Z,28µm,22.0s
G22K Bettles 43.78 31 P **P** **10 59 21.9 +1.1**
baz=268
G22K S **S** **11 05 47.8 +0.2**
baz=268
H22K Ishtalitna Cre 43.81 33 P **P** **10 59 22.9 +1.7**
baz=269,SNR=128
H22K S **S** **11 05 51.0 +2.9**
baz=269
SKT Skwentna 43.82 39 IAmb IAmb 10 59 39.9
comp=Z,590nm,1.9s
SKT Skwentna 43.82 39 P **P** **10 59 22.3 +1.1**
baz=273,SNR=9.1
SKT S **S** **11 05 49.2 +0.8**
baz=273
HOM Homer 43.95 42 P **P** **10 59 23.0 +0.8**
baz=276
BPAW Bear Paw Mtn. 43.98 35 P **P** **10 59 23.6 +1.1**
BPAW IAmb IAmb 10 59 41.7
comp=Z,716nm,1.5s
BPAW IAMs_20 IAMs_20 11 21 10.6
comp=Z,22µm,19.0s
BPAW Bear Paw Mtn. 43.98 35 P **P** **10 59 24.3 +1.7**
baz=272,SNR=40
BPAW S **S** **11 05 53.1 +2.4**
baz=272
KTH Kantishna Hill 44.03 36 IAMs_20 IAMs_20 11 17 27.8
comp=Z,32µm,22.0s
SILR SILCHAR 44.08 264 *e*P **P** **10 59 25.1 +1.4**
CAPN Captain Cook N 44.09 40 IAMs_20 IAMs_20 11 17 23.5
comp=Z,36µm,22.0s
CAPN Captain Cook N 44.09 40 P **P** **10 59 23.7 +0.3**
baz=275
CAPN S **S** **11 05 55.0 +2.8**
baz=275
KURK Kurchatov 44.15 305 P **P** **10 59 23.9 -0.2**
KURK Kurchatov 44.15 305 ⇑P **P** **10 59 23.6 -0.4**
KURK Kurchatov 44.15 305 P **P** **10 59 24.4 +0.4**
KURK Kurchatov 44.15 305 P **P** **10 59 23.8 -0.2**
KURK P **P** **10 59 23.8 -0.2**
KURK Kurchatov 44.15 305 P **P** **10 59 24.1 +0.1**
CNPM China Poot 44.16 42 IAmb IAmb 10 59 56.2
comp=Z,276nm,1.0s
D23K Nanushuk River 44.19 28 P **P** **10 59 25.0 +0.9**
baz=267
D23K S **S** **11 05 53.3 -0.2**
baz=267
KURBB Kurchatov Arra 44.23 305 P **P** **10 59 24.3 -0.3**
KURBB Kurchatov Arra 44.23 305 P **P** **10 59 24.4 -0.2**
comp=Z,366nm,0.7s,baz=77,slow=8.3,SNR=693
KURBB S S 11 05 44.7 -10
comp=Z,4.2nm,1.1s,baz=76,slow=12,SNR=1.4
KURBB LR LR 11 18 34.0
comp=Z,21µm,20.4s,baz=79,slow=37
comp=Z,366nm,0.7s
SUA Susitna One 44.23 39 IAMs_20 IAMs_20 11 18 13.2
comp=Z,27µm,22.0s
SUA Susitna One 44.23 39 P **P** **10 59 25.4 +0.7**
baz=275,SNR=38
SUA S **S** **11 05 54.8 +0.2**
baz=275
COLD Coldfoot 44.30 31 P **P** **10 59 26.1 +1.1**
baz=269,SNR=70
COLD S **S** **11 05 54.9 -0.3**
baz=269
TOLI2 Tolitoli 44.30 212 P **P** **10 59 25.6 0.0**
TOLI2 IAmb IAmb 11 00 02.7
comp=Z,762nm,2.0s
TOLI2 Tolitoli 44.30 212 P **P** **10 59 26.6 +1.0**
BRLK Bradley Lake 44.32 42 IAmb IAmb 10 59 44.1
comp=Z,600nm,1.6s
BRLK IAMs_20 IAMs_20 11 20 44.3
comp=Z,24µm,21.0s
TRF Thorofare Moun 44.32 36 IAMs_20 IAMs_20 11 17 48.4
comp=Z,36µm,22.0s
TRF Thorofare Moun 44.32 36 P **P** **10 59 26.8 +1.4**
baz=273,SNR=18
TRF S **S** **11 05 57.5 +1.6**
baz=273
SHL Shillong 44.34 266 IAmb IAmb 11 00 06.2
comp=Z,222nm,0.8s
SHL Shillong 44.34 266 ⇑*i*P **P** **10 59 25.4 -0.7**
SHL Shillong 44.34 266 P **P** **10 59 25.9 -0.2**
SNR=89
G23K Bananza Creek 44.36 32 IAmb IAmb 10 59 47.7
comp=Z,209nm,0.9s
G23K Bananza Creek 44.36 32 P **P** **10 59 26.7 +1.1**
baz=270
CUT Chulitna 44.39 38 IAmb IAmb 11 00 04.2
comp=Z,608nm,1.2s
CUT Chulitna 44.39 38 P **P** **10 59 26.1 +0.3**
baz=274,SNR=20
CUT S **S** **11 05 56.4 -0.1**
baz=274
BRSE Bradley Lake S 44.39 42 P **P** **10 59 26.0 +0.2**
baz=276,SNR=10
BRSE S **S** **11 05 55.1 -1.6**
baz=276
MRSI Marisa 44.44 210 P **P** **10 59 27.6 +1.0**
comp=Z,365nm,1.1s,comp=Z,8µmcomp=Z,14µm
NAYO Nakonayok 44.48 245 P **P** **10 59 28.5 +1.5**
E23K Chandalar 44.54 30 P **P** **10 59 28.4 +1.4**
baz=269
I23K Minto, Yukon-K 44.65 34 IAMs_20 IAMs_20 11 18 06.3
comp=Z,25µm,21.0s
I23K Minto, Yukon-K 44.65 34 P **P** **10 59 29.4 +1.5**
baz=272,SNR=71
I23K S **S** **11 06 03.1 +2.8**
baz=272
FAKI Fak Fak 44.73 194 P **P** **10 59 29.2 +0.2**
FAKI IAMs_20 IAMs_20 11 16 25.7
comp=Z,23µm,21.0s
FAKI Fak Fak 44.73 194 P **P** **10 59 29.4 +0.4**
FAKI Fak Fak 44.73 194 ⇑P **P** **10 59 29.5 +0.6**
FAKI Fak Fak 44.73 194 P **P** **10 59 29.8 +0.8**
comp=Z,358nm,1.3s,comp=Z,6µmcomp=Z,9µm
RC01 Rabbit Creek A 44.75 40 P **P** **10 59 28.5 -0.2**
baz=276,SNR=32
RC01 S **S** **11 06 00.6 -1.3**
baz=276
AZL Aizawl 44.75 263 ⇑*i*P **P** **10 59 29.0 -0.3**
AZL IAMs_20 IAMs_20 11 19 05.3
comp=Z,28µm,24.7s
NEA2 Nenana 44.80 35 P **P** **10 59 30.4 +1.3**
baz=273,SNR=141
NEA2 S **S** **11 06 05.9 +3.4**
baz=273
O22K Cooper Landing 44.82 41 IAMs_20 IAMs_20 11 21 46.8
comp=Z,33µm,21.0s
O22K Cooper Landing 44.82 41 P **P** **10 59 29.2 0.0**
baz=276
O22K S **S** **11 06 01.2 -1.6**
baz=276
D24K Happy Valley 44.86 28 IAmb IAmb 10 59 53.7
comp=Z,258nm,0.8s
D24K IAMs_20 IAMs_20 11 19 52.8
comp=Z,41µm,20.0s
D24K Happy Valley 44.86 28 P **P** **10 59 30.3 +0.9**
baz=268
D24K S **S** **11 06 03.7 +0.4**
baz=268
MCK McKinley 44.91 36 P **P** **10 59 30.5 +0.5**
baz=274,SNR=148
MCK S **S** **11 06 05.5 +1.3**
baz=274

C24K Franklin Bluff 44.92 27 P **P** **10 59 30.5 +0.6**
baz=268
C24K S **S** **11 06 03.5 -0.7**
baz=268
RND Reindeer 44.97 36 IAmb IAmb 10 59 52.6
comp=Z,368nm,1.0s
RND IAMs_20 IAMs_20 11 18 19.5
comp=Z,35µm,22.0s
PMR Palmer 44.99 39 IAmb IAmb 10 59 48.6
comp=Z,249nm,1.2s
PMR Palmer 44.99 39 P **P** **10 59 31.5 +1.0**
PMR Palmer 44.99 39 P **P** **10 59 30.7 +0.2**
baz=276,SNR=27
PMR S **S** **11 06 05.2 -0.1**
baz=276
SEW Seward 44.99 41 P **P** **10 59 30.9 +0.3**
baz=277,SNR=12
SEW S **S** **11 06 04.2 -1.1**
baz=277
WAT1 Susitna Watana 45.15 37 P **P** **10 59 32.6 +0.8**
baz=275
WAT1 S **S** **11 06 07.4 -0.3**
baz=275
F24K Squaw Lake 45.20 31 P **P** **10 59 33.2 +1.1**
baz=271
F24K S **S** **11 06 09.0 +0.7**
baz=271
H24K Noodor Dome 45.25 33 IAMs_20 IAMs_20 11 18 12.2
comp=Z,29µm,21.0s
H24K Noodor Dome 45.25 33 P **P** **10 59 34.4 +1.8**
baz=273,SNR=144
H24K S **S** **11 06 12.4 +3.4**
baz=273
SAIH SAIHA 45.25 261 *e*P **P** **10 59 32.5 -0.8**
COLA College 45.31 34 P **P** **10 59 34.3 +1.3**
COLA College 45.31 34 P **P** **10 59 34.4 +1.4**
COLA College 45.31 34 P **P** **10 59 34.7 +1.7**
baz=274
COLA S **S** **11 06 11.9 +2.1**
baz=274
COLA College 45.31 34 ⇑P **P** **10 59 34.4 +1.4**
COLA College 45.31 34 P **P** **10 59 34.3 +1.3**
COLA pmax pmax
comp=Z,554nm,0.9s
COLA MLR MLR
comp=Z,21µm,22.0s
COLA College 45.31 34 P **P** **10 59 34.6 +1.6**
COLA sP **sP** **10 59 50.5 -0.6**
KNK Knik Glacier 45.33 39 IAMs_20 IAMs_20 11 18 49.2
comp=Z,32µm,22.0s
KNK Knik Glacier 45.33 39 P **P** **10 59 34.1 +0.8**
baz=276,SNR=54
KNK S **S** **11 06 09.9 -0.4**
baz=276
SML Sawmill 45.35 39 IAMs_20 IAMs_20 11 21 27.7
comp=Z,24µm,21.0s
SML Sawmill 45.35 39 P **P** **10 59 34.4 +1.0**
baz=276,SNR=42
SML S **S** **11 06 11.3 +0.7**
baz=276
MPSI Mapaga 45.36 213 P **P** **10 59 36.0 +2.0**
comp=Z,101nm,1.4s,comp=Z,3µmcomp=Z,15µm
G24K Hadweenzic Riv 45.38 32 IAmb IAmb 10 59 56.6
comp=Z,356nm,1.1s
G24K IAMs_20 IAMs_20 11 20 15.5
comp=Z,20µm,19.0s
G24K Hadweenzic Riv 45.38 32 P **P** **10 59 35.4 +1.8**
baz=272,SNR=163
G24K S **S** **11 06 14.1 +3.3**
baz=272
SANI Sanana 45.43 203 P **P** **10 59 34.7 +0.2**
SANI Sanana 45.43 203 P **P** **10 59 31.1 -3.4**
SANI Sanana 45.43 203 P **P** **10 59 34.5 0.0**
comp=Z,201nm,0.9s,comp=Z,5µmcomp=Z,11µm
POKR Poker Plat Res 45.47 34 IAMs_20 IAMs_20 11 17 55.8
comp=Z,29µm,22.0s
POKR Poker Plat Res 45.47 34 P **P** **10 59 36.4 +2.0**
baz=274,SNR=90
POKR S **S** **11 06 15.2 +3.0**
baz=274
LUWI Luwuk 45.53 208 IAmb IAmb 11 00 08.8
comp=Z,522nm,1.3s
LUWI Luwuk 45.53 208 P **P** **10 59 30.8 -4.5**
LUWI Luwuk 45.53 208 P **P** **10 59 36.7 +1.4**
comp=Z,276nm,1.4s,comp=Z,5µmcomp=Z,13µm
WAT6 Susitna Watana 45.54 38 P **P** **10 59 35.9 +0.8**
baz=276,SNR=36
WAT6 S **S** **11 06 14.5 +0.9**
baz=276
M23K Glacier View 45.63 39 P **P** **10 59 36.7 +1.0**
baz=277,SNR=22
M23K S **S** **11 06 15.9 +1.2**
baz=277
DHY Denali Highway 45.66 37 P **P** **10 59 36.7 +0.7**
baz=276,SNR=60
DHY S **S** **11 06 16.1 +0.8**
baz=276
PDGK Podgornoye 45.67 295 P **P** **10 59 36.4 0.0**
ILAR Eielson Array 45.73 34 P **P** **10 59 36.9 +0.5**
comp=Z,226nm,1.1s,baz=260,slow=5.6,SNR=251
ILAR S **S** **11 06 11.0 -4.9**
comp=Z,1.9nm,1.1s,baz=266,slow=8.9,SNR=1.2
ILAR LR LR 11 18 47.9
comp=Z,17µm,22.0s,baz=272,slow=36
comp=Z,226nm,1.1s
HDA Harding Lake 45.73 35 IAmb IAmb 11 00 00.5
comp=Z,440nm,1.2s
HDA Harding Lake 45.73 35 P **P** **10 59 37.2 +0.8**
baz=275,SNR=124
HDA S **S** **11 06 15.9 0.0**
baz=275
HDA S **S** **11 06 15.9 0.0**
baz=275
D25K Kavik River 45.74 28 IAmb IAmb 11 00 01.8
comp=Z,148nm,0.8s
D25K IAMs_20 IAMs_20 11 20 31.1
comp=Z,29µm,20.0s
D25K Kavik River 45.74 28 P **P** **10 59 37.1 +0.7**
baz=270
AGT Agartala 45.75 264 *e*P **P** **10 59 39.2 +2.2**
SHLS Shalkode 45.75 295 *e*P **P** **10 59 34.5 -2.5**
comp=Z,414nm,1.6s,baz=294
SHLS Shalkode 45.75 295 *e*P **P** **10 59 34.5 -2.5**
SHLS pmax pmax
comp=Z,415nm,1.6s
SCM Sheep Creek Mo 45.82 39 P **P** **10 59 38.0 +0.8**
baz=277,SNR=27
SCM S **S** **11 06 18.0 +0.6**
baz=277
TDK Taldyqorghan 45.86 297 *e*P **P** **10 59 38.2 +0.4**
comp=Z,138nm,0.7s,baz=297
TDK *e*S **S** **11 06 17.4 -0.9**
baz=297
TDK LR LR 11 18 38.1
comp=Z,21µm,19.1s,baz=297
TDK Taldyqorghan 45.86 297 *e*P **P** **10 59 38.1 +0.4**
TDK *e*S **S** **11 06 17.4 -0.9**
TDK pmax pmax
comp=Z,138nm,0.7s
TDK MLR MLR
comp=Z,21µm,19.0s
GTK Tadong 45.88 270 ⇑*i*P **P** **10 59 38.2 0.0**
GTK IAmb IAmb 10 59 47.3
comp=Z,167nm,0.9s
RABL Rabaul 45.90 166 ⇓P **P** **10 59 39.7 +1.4**
G25K Bearman Lake 45.92 32 P **P** **10 59 39.8 +1.9**
baz=273
KRAI Karang Ratu 45.97 200 P **P** **10 59 42.8 +4.0**
comp=Z,453nm,1.1s,comp=Z,8µm
SRDT SRDT 45.98 247 P **P** **10 59 39.6 +0.7**
SRDT SRDT 45.98 247 P **P** **10 59 41.0 +2.0**
comp=Z,324nm,1.4s,comp=Z,9µm
P23K Montague Islan 46.03 41 P **P** **10 59 40.0 +1.2**
baz=279,SNR=8.1
P23K S **S** **11 06 22.7 +2.4**
baz=279
F25K Christian River 46.05 30 P **P** **10 59 40.9 +1.9**
baz=273,SNR=99
F25K S **S** **11 06 22.4 +1.8**
baz=273
UZB Uzynbulak 46.06 295 *e*P **P** **10 59 39.5 0.0**
comp=Z,151nm,1.2s,baz=295
UZB *e*S **S** **11 06 21.0 -0.6**
baz=295
UZB Uzynbulak 46.06 295 *e*P **P** **10 59 39.5 0.0**
UZB *e*S **S** **11 06 20.9 -0.6**
UZB pmax pmax
comp=Z,151nm,1.2s
E25K Arctic Village 46.06 30 IAmb IAmb 11 00 01.8
comp=Z,265nm,1.2s
E25K IAMs_20 IAMs_20 11 20 18.8
comp=Z,31µm,21.0s
E25K Arctic Village 46.06 30 P **P** **10 59 40.7 +1.7**
baz=272,SNR=127
E25K S **S** **11 06 22.5 +1.8**
baz=272
KPKS Kokpek 46.18 295 *e*P **P** **10 59 40.7 +0.3**
comp=Z,336nm,1.7s,baz=295
KPKS *e*S **S** **11 06 22.7 -0.5**
baz=295
KPKS Kokpek 46.18 295 *e*P **P** **10 59 40.6 +0.3**
KPKS *e*S **S** **11 06 22.6 -0.5**
KPKS pmax pmax
comp=Z,336nm,1.7s
NLAI Namlea 46.24 201 P **P** **10 59 44.8 +3.9**
comp=Z,52nm,1.0s
PRP Porcupine Dome 46.24 33 IAMs_20 IAMs_20 11 18 31.2
comp=Z,31µm,22.0s
PRP Porcupine Dome 46.24 33 P **P** **10 59 41.8 +1.3**
baz=275,SNR=130
PRP S **S** **11 06 25.6 +2.1**
baz=275
K24K Donnelly Dome 46.30 36 P **P** **10 59 41.7 +0.8**
baz=276,SNR=82
K24K S **S** **11 06 23.1 -1.1**
baz=276
M24K Tolsona, Glenn 46.32 38 IAMs_20 IAMs_20 11 22 50.5
comp=Z,25µm,21.0s
M24K Tolsona, Glenn 46.32 38 P **P** **10 59 42.3 +1.2**
baz=278,SNR=27
M24K S **S** **11 06 28.0 +3.3**
baz=278
SLGI Shiliguri 46.34 270 *e*P **P** **10 59 42.7 +1.0**
J25K Salcha River, 46.39 35 P **P** **10 59 41.4 -0.2**
baz=276,SNR=48
J25K S **S** **11 06 25.1 -0.4**
baz=276
HIN Hinchinbrook I 46.41 40 IAmb IAmb 11 00 00.7
comp=Z,417nm,1.2s
HIN IAMs_20 IAMs_20 11 20 59.9
comp=Z,27µm,21.0s
ZHN Zhinishke 46.45 295 *e*P **P** **10 59 42.5 -0.1**
baz=295
ZHN Zhinishke 46.45 295 *e*P **P** **10 59 42.4 -0.1**
ARXS Arharly 46.51 296 *i*P **P** **10 59 42.9 0.0**
SATY Saty 46.51 295 *e*P **P** **10 59 43.0 0.0**
comp=Z,235nm,1.5s,baz=295
SATY Saty 46.51 295 *e*P **P** **10 59 43.0 0.0**
SATY pmax pmax
comp=Z,235nm,1.5s
KLU Klutina 46.53 39 IAmb IAmb 11 00 18.2
comp=Z,272nm,0.9s
KLU IAMs_20 IAMs_20 11 22 13.9
comp=Z,29µm,21.0s
KLU Klutina 46.53 39 P **P** **10 59 43.7 +0.9**
baz=278,SNR=41
KLU S **S** **11 06 29.9 +2.3**
baz=278
PAX Paxson 46.53 37 P **P** **10 59 43.5 +0.7**
baz=278,SNR=16
PAX S **S** **11 06 28.9 +1.2**
baz=278
WUS Wushi 46.62 292 P **P** **10 59 44.2 +0.3**
F26K Sheenjek River 46.62 30 P **P** **10 59 45.5 +2.1**
baz=274
Q23K Middleton Isla 46.65 42 P **P** **10 59 45.2 +1.6**
baz=280
Q23K S **S** **11 06 32.3 +3.2**
baz=280
RIDG Independent Ri 46.72 36 P **P** **10 59 44.5 +0.2**
baz=277,SNR=49
RIDG S **S** **11 06 30.0 -0.2**
baz=277
HARP HAARP 46.76 38 P **P** **10 59 45.1 +0.6**
baz=278,SNR=41
HARP S **S** **11 06 33.0 +2.3**
baz=278
EYAK Cordova Ski Ar 46.76 40 P **P** **10 59 45.3 +0.8**
baz=280,SNR=15
EYAK S **S** **11 06 33.4 +2.7**
baz=280
G26K Porcupine Rive 46.82 31 P **P** **10 59 46.7 +1.8**
baz=275,SNR=266
G26K S **S** **11 06 35.1 +3.7**
baz=275
EVN Everest 46.90 272 ⇑P **P** **10 59 47.2 +0.4**
SCRK Sand Creek 47.06 35 IAMs_20 IAMs_20 11 23 23.0
comp=Z,21µm,21.0s
SCRK Sand Creek 47.06 35 P **P** **10 59 47.6 +0.6**
baz=278,SNR=195
SCRK S **S** **11 06 36.0 +0.7**
baz=278
SBUM Sibu 47.07 223 P **P** **10 59 47.5 0.0**
SBUM Sibu 47.07 223 ⇑P **P** **10 59 47.8 +0.4**
SBUM Sibu 47.07 223 P **P** **10 59 48.2 +0.7**
comp=Z,26nm,0.8s,comp=Z,1µmcomp=Z,10µm
N25K Chitina, Valde 47.14 39 IAmb IAmb 11 00 26.9
comp=Z,239nm,1.2s
N25K IAMs_20 IAMs_20 11 22 10.0
comp=Z,23µm,22.0s
N25K Chitina, Valde 47.14 39 P **P** **10 59 48.8 +1.2**
baz=280,SNR=15
N25K S **S** **11 06 39.0 +2.7**
baz=280
J26L Joseph Creek 47.18 35 IAmb IAmb 11 00 22.0
comp=Z,393nm,1.8s
J26L Joseph Creek 47.18 35 P **P** **10 59 48.0 +0.2**
baz=278,SNR=23
J26L S **S** **11 06 37.3 +0.4**
baz=278
CHKK Chushkaly 47.20 296 *e*P **P** **10 59 48.5 +0.2**
baz=296
CHKK Chushkaly 47.20 296 *e*P **P** **10 59 48.4 +0.2**
BMRM Bremner River 47.24 39 P **P** **10 59 49.6 +1.3**
baz=280,SNR=22
BMRM S **S** **11 06 40.8 +3.1**
baz=280
I26K Coal Creek Min 47.25 33 IAmb IAmb 11 00 12.0
comp=Z,151nm,1.0s
I26K IAMs_20 IAMs_20 11 19 24.2
comp=Z,34µm,22.0s
I26K Coal Creek Min 47.25 33 P **P** **10 59 48.5 +0.2**
baz=277
I26K S **S** **11 06 39.5 +1.8**
baz=277
RAGM Ragged Mountai 47.31 40 IAMs_20 IAMs_20 11 20 00.6
comp=Z,33µm,21.0s
MENT Mentasta 47.33 37 P **P** **10 59 51.2 +2.2**
MDOK Medeo 47.41 295 *e*P **P** **10 59 50.2 +0.1**
baz=295
MDOK *e*S **S** **11 06 40.3 -0.5**
baz=295
MDOK LR LR 11 18 18.5
comp=Z,19µm,17.9s,baz=295
MDOK Medeo 47.41 295 *e*P **P** **10 59 50.1 +0.1**
MDOK *e*S **S** **11 06 40.3 -0.5**
MDOK MLR MLR
comp=Z,19µm,18.0s
TARG Taragay, Kyrgy 47.41 293 IAmb IAmb 11 00 09.6
comp=Z,252nm,0.9s
KNDC Almaty 47.44 296 P **P** **10 59 50.5 +0.3**
AAA Alma-Ata 47.48 296 *e*P **P** **10 59 50.0 -0.5**
comp=Z,204nm,0.9s,baz=295
AAA LR LR 11 21 24.6
baz=295
AAA Alma-Ata 47.48 296 *e*P **P** **10 59 50.0 -0.5**
AAA pmax pmax
comp=Z,204nm,0.9s
L26K Log Cabin Wild 47.49 37 IAMs_20 IAMs_20 11 19 38.2
comp=Z,28µm,22.0s
L26K Log Cabin Wild 47.49 37 P **P** **10 59 51.7 +1.5**
baz=279,SNR=125
L26K S **S** **11 06 45.3 +4.2**
baz=279
KAIM Kayak Island 47.52 41 P **P** **10 59 52.1 +1.6**
baz=281
KAIM S **S** **11 06 46.3 +4.7**
baz=281
E27K Coleen River 47.54 29 IAmb IAmb 11 00 09.8
comp=Z,535nm,1.6s
E27K IAMs_20 IAMs_20 11 21 26.6
comp=Z,21µm,20.0s
E27K Coleen River 47.54 29 P **P** **10 59 52.5 +1.9**
baz=276
E27K S **S** **11 06 43.0 +1.2**

baz=276
KUU Kurty 47.63 297 *e*P **P** **10 59 50.6 -1.0**
comp=Z,253nm,1.0s,baz=296
KUU *e*S **S** **11 06 42.6 -1.1**
baz=296
KUU LR LR 11 20 09.6
comp=Z,34µm,18.9s,baz=296
KUU Kurty 47.63 297 *e*P **P** **10 59 50.5 -1.0**
KUU *e*S **S** **11 06 42.5 -1.1**
KUU pmax pmax
comp=Z,253nm,1.0s
KUU MLR MLR
comp=Z,34µm,19.0s
D27M Malcolm River 47.66 28 IAmb IAmb 11 00 39.9
comp=Z,183nm,1.2s
D27M IAMs_20 IAMs_20 11 21 14.0
comp=Z,21µm,22.0s
D27M Malcolm River 47.66 28 P **P** **10 59 52.8 +1.3**
baz=276
VRDI Verde Repeater 47.74 39 IAmb IAmb 11 00 16.0
comp=Z,402nm,1.2s
M26K Nabesna, AK 47.75 37 IAMs_20 IAMs_20 11 19 47.2
comp=Z,30µm,22.0s
M26K Nabesna, AK 47.75 37 P **P** **10 59 54.1 +1.8**
baz=280
BERG Berg Lake 47.78 40 IAMs_20 IAMs_20 11 19 54.1
comp=Z,24µm,22.0s
H27K Steamboat Moun 47.80 32 P **P** **10 59 54.9 +2.4**
baz=278
I27K Kandik River 47.84 33 P **P** **10 59 54.0 +1.0**
baz=278
I27K S **S** **11 06 50.4 +4.2**
baz=278
K27K Chicken 47.89 35 P **P** **10 59 54.9 +1.7**
baz=279
MCARA McCarthy VSAT 47.92 39 P **P** **10 59 55.2 +1.7**
baz=281,SNR=63
MCARA S **S** **11 06 50.7 +3.5**
baz=281
BRZS Berezniki 48.02 305 *e*P **P** **10 59 54.2 -0.3**
comp=Z,96nm,0.6s,baz=305
BRZS *e*S **S** **11 06 48.2 -0.8**
baz=305
BRZS Berezniki 48.02 305 *e*P **P** **10 59 54.2 -0.3**
BRZS *e*S **S** **11 06 48.1 -0.8**
BRZS pmax pmax
comp=Z,96nm,0.6s
BKB Balikpapan 48.07 215 P **P** **10 59 58.2 +3.0**
comp=Z,322nm,1.0s,comp=Z,7µmcomp=Z,22µm
EGAK Eagle 48.16 34 IAMs_20 IAMs_20 11 20 56.0
comp=Z,21µm,22.0s
EGAK Eagle 48.16 34 P **P** **10 59 56.2 +0.8**
baz=279,SNR=80
EGAK S **S** **11 06 52.9 +2.3**
baz=279
EGAK Eagle 48.16 34 ⇑P **P** **10 59 55.9 +0.5**
L27K Beaver Creek, 48.16 36 IAMs_20 IAMs_20 11 23 44.4
comp=Z,19µm,20.0s
L27K Beaver Creek, 48.16 36 P **P** **10 59 57.2 +1.8**
baz=280,SNR=168
L27K S **S** **11 06 54.6 +3.8**
baz=280
TARA Tarawa 48.19 137 IAMs_20 IAMs_20 11 17 18.2
comp=Z,24µm,20.0s
F28M Old Crow 48.25 30 P **P** **10 59 58.0 +1.9**
baz=278,SNR=212
F28M S **S** **11 06 55.5 +3.6**
baz=278
M27K Edge Creek, AK 48.27 37 IAMs_20 IAMs_20 11 20 13.2
comp=Z,29µm,22.0s
M27K Edge Creek, AK 48.27 37 P **P** **10 59 58.1 +1.7**
baz=281
M27K S **S** **11 06 56.4 +3.9**
baz=281
ULHL Ulahol 48.30 295 P **P** **10 59 57.9 +1.0**
SNR=18
BOOM Boomskoye usch 48.41 295 P **P** **10 59 58.0 +0.2**
BOOM Boomskoye usch 48.41 295 P **P** **10 59 58.0 +0.2**
BOOM pmax pmax
comp=Z,837nm,1.4s
D28M Stokes Point 48.44 28 P **P** **10 59 59.1 +1.7**
baz=278
TTSI Tana Toraja 48.48 211 P **P** **11 00 01.0 +2.7**
comp=Z,39nm,1.0s,comp=Z,2µmcomp=Z,10µm
TKM2 Tokmak 2 48.48 296 P **P** **10 59 58.6 +0.1**
SNR=182
TKM2 Tokmak 2 48.48 296 P **P** **10 59 59.0 +0.6**
BVA0 Borovoye Array 48.51 310 *i*P **P** **10 59 58.2 0.0**
BVAR Borovoye Array 48.51 310 P **P** **10 59 58.4 +0.2**
comp=Z,312nm,0.7s,baz=76,slow=8.2,SNR=514
BVAR S **S** **11 06 51.8 -3.9**
comp=Z,2.4nm,0.9s,baz=80,slow=14,SNR=0.7
BVAR LR LR 11 21 35.9
comp=Z,44µm,20.1s,baz=75,slow=37
BVAR PKPPKP **P'P'df** **11 31 00.9 -7.6**
comp=Z,1.5nm,0.9s,baz=176,slow=4.5,SNR=4.6
BVAR P4KPbc 11 37 34.5
comp=Z,1.2nm,0.8s,baz=80,slow=3.5,SNR=4.0
comp=Z,312nm,0.7s
BRVK Borovoye 48.56 310 P **P** **10 59 58.8 +0.3**
BRVK Borovoye 48.56 310 ⇑P **P** **10 59 58.9 +0.3**
BRVK Borovoye 48.56 310 P **P** **10 59 58.8 +0.3**
BRVK pmax pmax
comp=Z,325nm,0.9s
BRVK Borovoye 48.56 310 P **P** **10 59 59.1 +0.5**
BRVK Borovoye 48.56 310 P **P** **10 59 59.1 +0.5**
BRVK PcP **PcP** **11 01 24.7 +1.0**
I28M Miner Creek 48.56 33 IAMs_20 IAMs_20 11 20 14.7
comp=Z,39µm,22.0s
I28M Miner Creek 48.56 33 P **P** **11 00 00.2 +1.7**
baz=280,SNR=113
I28M S **S** **11 07 00.2 +3.8**
baz=280
BARN Barnard Glacie 48.63 39 IAMs_20 IAMs_20 11 22 57.5
comp=Z,21µm,21.0s
MTKI Muara Teweh, K 48.69 218 P **P** **11 00 01.6 +1.6**
comp=Z,282nm,1.6s,comp=Z,14µmcomp=Z,17µm
BVCY Beaver Creek 48.72 37 P **P** **11 00 01.1 +1.4**
baz=282,SNR=65
BVCY S **S** **11 07 02.2 +3.6**
baz=282
BTLS Baital 48.76 299 *e*P **P** **10 59 59.7 -0.6**
comp=Z,132nm,1.3s,baz=299
BTLS *e*S **S** **11 06 58.8 -0.8**
baz=299
BTLS Baital 48.76 299 *e*P **P** **10 59 59.6 -0.6**
BTLS *e*S **S** **11 06 58.7 -0.8**
BTLS pmax pmax
comp=Z,132nm,1.3s
NRN Naryn 48.77 294 IAmb IAmb 11 00 52.0
comp=Z,326nm,1.3s
CTG Chitna Glacier 48.80 39 P **P** **11 00 01.7 +1.2**
baz=283,SNR=35
CTG S **S** **11 07 02.5 +2.5**
baz=283
CTGM Chitina Glacie 48.81 39 IAMs_20 IAMs_20 11 21 01.1
comp=Z,21µm,21.0s
E29M Blow River 48.88 29 IAMs_20 IAMs_20 11 22 10.9
comp=Z,28µm,20.0s
E29M Blow River 48.88 29 P **P** **11 00 03.1 +2.3**
baz=279
E29M S **S** **11 07 02.6 +2.0**
baz=279
KSM Kuching 48.90 225 IAmb IAmb 11 00 22.4
comp=Z,387nm,1.6s
KSM Kuching 48.90 225 ⇑P **P** **11 00 02.0 +0.4**
KSM Kuching 48.90 225 P **P** **11 00 03.0 +1.4**
comp=Z,148nm,1.4s,comp=Z,3µmcomp=Z,21µm
SGDS Sogindy 48.94 297 *e*P **P** **11 00 01.8 0.0**
comp=Z,126nm,1.1s,baz=296
SGDS *e*S **S** **11 07 02.2 -0.2**
baz=296
SGDS Sogindy 48.94 297 *e*P **P** **11 00 01.7 0.0**
SGDS *e*S **S** **11 07 02.1 -0.2**
SGDS pmax pmax
comp=Z,126nm,1.1s
LOGN Logan Glacier 48.99 39 IAMs_20 IAMs_20 11 21 27.5
comp=Z,22µm,22.0s
KBK Karagaybulak 49.03 296 P **P** **11 00 02.9 +0.4**
SNR=126
CHMS Chumysh 49.03 296 P **P** **11 00 02.3 -0.1**
SNR=32
YUK3 Moose Creek 49.04 38 P **P** **11 00 03.7 +1.3**
baz=283,SNR=45
YUK3 S **S** **11 07 06.3 +2.8**
baz=283
DAWY Dawson 49.05 35 P **P** **11 00 02.7 +0.4**
DAWY Dawson 49.05 35 P **P** **11 00 03.3 +1.1**
baz=282,SNR=17
DAWY S **S** **11 07 06.0 +2.8**
baz=282
H29M Whitestone 49.06 32 P **P** **11 00 04.3 +2.1**
baz=280
G29M Pine Creek 49.07 31 P **P** **11 00 04.4 +2.0**
baz=280
G29M S **S** **11 07 08.5 +5.0**
baz=280
USP Ospenovka 49.10 296 P **P** **11 00 03.0 +0.1**
SNR=104
I29M Ogilvie Camp, 49.25 33 IAMs_20 IAMs_20 11 20 46.7
comp=Z,32µm,22.0s
I29M Ogilvie Camp, 49.25 33 P **P** **11 00 05.2 +1.4**
baz=281,SNR=178
I29M S **S** **11 07 08.8 +2.9**
baz=281
PMSI Majene 49.25 212 P **P** **11 00 07.9 +3.6**
comp=Z,188nm,1.8s,comp=Z,4µmcomp=Z,13µm
AAK Ala-Archa 49.34 296 P **P** **11 00 05.2 +0.3**
SNR=11
AAK Ala-Archa 49.34 296 P **P** **11 00 04.8 -0.1**
AAK IAmb IAmb 11 00 24.6
comp=Z,339nm,1.2s
AAK Ala-Archa 49.34 296 *i*P **P** **11 00 04.6 -0.3**
SNR=126
AAK Ala-Archa 49.34 296 P **P** **11 00 04.8 -0.1**
AAK pmax pmax
comp=Z,339nm,1.2s
AAK Ala-Archa 49.34 296 LR LR 11 22 41.1
comp=Z,39µm,21.9s,baz=76,slow=38
AAK Ala-Archa 49.34 296 P **P** **11 00 05.2 +0.3**
AAK Ala-Archa 49.34 296 P **P** **11 00 05.0 +0.1**
AAK PcP **PcP** **11 01 27.6 +0.7**
VLK Valmikinagar 49.46 273 *e*P **P** **11 00 05.7 0.0**
VLK IAMs_20 IAMs_20 11 19 55.4
comp=Z,32µm,36.0s
J29N Klondike Camp 49.47 34 IAmb IAmb 11 00 26.0
comp=Z,410nm,1.6s
J29N IAMs_20 IAMs_20 11 20 42.5
comp=Z,21µm,22.0s
J29N Klondike Camp 49.47 34 P **P** **11 00 07.1 +1.6**
baz=282,SNR=18
J29N S **S** **11 07 11.5 +2.4**
baz=282
YUK8 Steele Glacier 49.48 38 P **P** **11 00 07.0 +1.2**
baz=284,SNR=17
YUK8 S **S** **11 07 12.0 +2.3**
baz=284
STKI Sintang 49.49 223 P **P** **11 00 08.7 +2.6**
comp=Z,141nm,1.1s,comp=Z,17µmcomp=Z,18µm
UCH Uchtor 49.49 295 P **P** **11 00 07.1 +0.7**
SNR=49
PINM Pinnacle 49.53 40 P **P** **11 00 07.2 +1.2**
baz=284
PINM S **S** **11 07 12.4 +2.4**
baz=284
KSH Kashi 49.56 291 P **P** **11 00 10.9 +4.3**
KSH sP sP 11 00 28.6 +3.7
KSH PP **PP** **11 02 07.8 +6.8**
KSH S **S** **11 07 17.5 +6.4**
KSH sS sS 11 07 40.8 +8.3
KSH SS **SS** **11 10 46.5 +3.2**
KSH pmax pmax
comp=Z,110nm,1.3s
KSH pmax pmax
comp=Z,5µm,5.3s
KSH LR LR
comp=Z,24µm,21.3s
KSH LR LR
comp=Z,52µm,21.6s
KSH LR LR
comp=Z,60µm,22.0s
EPYK Eagle Plains 49.69 31 P **P** **11 00 08.7 +1.6**
baz=282,SNR=268
EPYK S **S** **11 07 15.5 +3.4**
baz=282
G30M tAoh Zraii Nji 49.76 31 P **P** **11 00 09.1 +1.5**
baz=282
G30M S **S** **11 07 16.3 +3.3**
baz=282
SRIT Nakonsritamara 49.76 242 IAmb IAmb 11 00 33.1
comp=Z,121nm,0.7s
F30M Barrier River 49.80 30 P **P** **11 00 09.8 +1.9**
baz=282
L29M L29M 49.80 36 IAMs_20 IAMs_20 11 24 49.6
comp=Z,25µm,21.0s
L29M L29M 49.80 36 P **P** **11 00 10.3 +2.4**
baz=283
L29M S **S** **11 07 18.7 +5.0**
baz=283
M29M Somme Creek 49.81 37 IAmb IAmb 11 00 28.1
comp=Z,518nm,1.8s
M29M IAMs_20 IAMs_20 11 24 45.5
comp=Z,20µm,20.0s
M29M Somme Creek 49.81 37 P **P** **11 00 10.4 +2.3**
baz=284
EKS2 Erkin-Say 49.82 296 P **P** **11 00 08.8 +0.3**
SNR=6.8
BOK Bokaro 49.85 268 ⇑*i*P **P** **11 00 08.9 +0.1**
BOK IAmb IAmb 11 00 16.7
comp=Z,138nm,1.4s
BCPM Bancas Point 49.86 40 IAMs_20 IAMs_20 11 21 13.1
comp=Z,24µm,21.0s
K29M Barlow Dome 49.90 35 IAMs_20 IAMs_20 11 25 10.2
comp=Z,23µm,21.0s
K29M Barlow Dome 49.90 35 P **P** **11 00 10.9 +2.0**
baz=283
K29M S **S** **11 07 19.1 +3.9**
baz=283
YUK4 Talbot Arm 49.99 38 P **P** **11 00 11.4 +1.8**
baz=284,SNR=40
YUK4 S **S** **11 07 19.4 +2.7**
baz=284
PNL Peninsula 50.05 40 P **P** **11 00 11.2 +1.3**
baz=285
PNL S **S** **11 07 20.7 +3.4**
baz=285
I30M Mount Dempster 50.07 33 IAMs_20 IAMs_20 11 21 46.4
comp=Z,27µm,21.0s
I30M Mount Dempster 50.07 33 P **P** **11 00 11.9 +1.8**
baz=283
AML Almayashu 50.09 295 P **P** **11 00 11.3 +0.5**
SNR=106
YUK6 Outpost Mounta 50.22 39 P **P** **11 00 13.3 +1.9**
baz=285,SNR=22
YUK6 S **S** **11 07 24.3 +4.3**
baz=285
J30M Hart River 50.24 34 IAMs_20 IAMs_20 11 21 29.8
comp=Z,20µm,21.0s
J30M Hart River 50.24 34 P **P** **11 00 12.9 +1.6**
baz=284
J30M S **S** **11 07 23.7 +3.7**
baz=284
O29M Mount Kennedy 50.28 39 P **P** **11 00 13.7 +1.9**
baz=285,SNR=31
O29M S **S** **11 07 24.5 +3.7**
baz=285
KAPI Kappang 50.31 210 P **P** **11 00 12.7 +0.4**
KAPI Kappang 50.31 210 P **P** **11 00 12.7 +0.4**
KAPI pmax pmax
comp=Z,685nm,1.5s
KAPI Kappang 50.31 210 LR LR 11 22 26.5
comp=Z,3µm,20.6s,baz=10.0,slow=37
PMG Port Moresby 50.40 174 LR LR 11 20 18.8
comp=Z,7µm,21.1s,baz=340,slow=34
BKSI Bulukumba 50.46 209 P **P** **11 00 14.8 +1.4**
comp=Z,109nm,0.8s,comp=Z,3µmcomp=Z,13µm
INK Inuvik 50.48 29 IAmb IAmb 11 00 19.3
comp=Z,222nm,0.9s
INK IAMs_20 IAMs_20 11 23 31.7
comp=Z,26µm,21.0s
INK Inuvik 50.48 29 P **P** **11 00 14.1 +1.2**
baz=283,SNR=240
INK S **S** **11 07 24.4 +1.5**
baz=283
INK Inuvik 50.48 29 LR LR 11 23 43.4
comp=Z,23µm,20.4s,baz=274,slow=38
G31M Satah River 50.52 30 P **P** **11 00 14.7 +1.4**
baz=283
M30M Minto, Yukon 50.52 36 P **P** **11 00 15.7 +2.2**
baz=285,SNR=63
M30M S **S** **11 07 29.5 +5.7**
baz=285
F31M Tsiigehtchic 50.60 30 P **P** **11 00 14.9 +1.1**
baz=283,SNR=156
F31M S **S** **11 07 25.7 +1.1**
baz=283
MKS Makassar 50.61 210 P **P** **11 00 17.4 +2.9**
comp=Z,157nm,1.5s,comp=Z,3µm
HYT Haines Junctio 50.66 39 P **P** **11 00 16.5 +1.9**
baz=286,SNR=170
HYT S **S** **11 07 30.2 +4.4**
baz=286
MAYO Mayo, Yukon 50.66 35 P **P** **11 00 16.4 +1.9**
baz=285,SNR=44
MAYO S **S** **11 07 29.2 +3.6**
baz=285
N30M Aishikik Lake 50.68 38 IAmb IAmb 11 00 35.7
comp=Z,551nm,1.9s
N30M IAMs_20 IAMs_20 11 21 29.7
comp=Z,22µm,21.0s
N30M Aishikik Lake 50.68 38 P **P** **11 00 16.8 +2.1**
baz=286
N30M S **S** **11 07 30.1 +4.0**
baz=286
P29M Windy Craggy 50.87 40 IAMs_20 IAMs_20 11 21 53.8
comp=Z,38µm,22.0s
P29M Windy Craggy 50.87 40 P **P** **11 00 18.6 +2.5**
baz=286,SNR=57
P29M S **S** **11 07 33.2 +4.5**
baz=286
ARSB Arslanbob 50.90 295 IAmb IAmb 11 00 36.1
comp=Z,207nm,1.0s
BRCI Bahraich 51.05 275 *e*P **P** **11 00 18.7 +0.8**
PTH Pithoragarh 51.05 278 ⇑*i*P **P** **11 00 18.0 -0.1**
LGTI Lohaghat 51.08 278 *e*P **P** **11 00 19.2 +1.2**
P30M Million Dollar 51.11 39 P **P** **11 00 20.4 +2.5**
baz=287
P30M S **S** **11 07 36.7 +4.7**
baz=287
N31M Braeburn, Yuko 51.28 38 IAMs_20 IAMs_20 11 21 59.5
comp=Z,22µm,22.0s
N31M Braeburn, Yuko 51.28 38 P **P** **11 00 21.3 +2.2**
baz=286,SNR=63
N31M S **S** **11 07 39.2 +5.0**
baz=286
O30N Mendenhall 51.34 38 IAMs_20 IAMs_20 11 22 03.1
comp=Z,24µm,22.0s
O30N Mendenhall 51.34 38 P **P** **11 00 21.5 +1.9**
baz=287,SNR=43
O30N S **S** **11 07 40.0 +4.9**
baz=287
DZA Taraz 51.38 297 *e*P **P** **11 00 20.5 +0.2**
comp=Z,153nm,1.0s,baz=297
DZA Taraz 51.38 297 *e*P **P** **11 00 20.4 +0.2**
DZA pmax pmax
comp=Z,153nm,1.0s
KULM Kulim 51.55 238 IAmb IAmb 11 01 09.1
comp=Z,398nm,1.5s
KULM Kulim 51.55 238 P **P** **11 00 22.8 +1.2**
comp=Z,150nm,1.3s,comp=Z,4µmcomp=Z,25µm
PLBC Pleasant Camp 51.59 40 P **P** **11 00 23.0 +1.5**
baz=288
M31M Drury Creek, Y 51.70 36 IAmb IAmb 11 00 49.3
comp=Z,274nm,1.3s
M31M Drury Creek, Y 51.70 36 P **P** **11 00 24.0 +1.7**
baz=287,SNR=68
KK31 Karatay Array 51.85 298 P **P** **11 00 23.0 -0.7**
KK31 IAmb IAmb 11 00 42.2
comp=Z,222nm,1.0s
KK31 Karatay Array 51.85 298 *i*P **P** **11 00 23.2 -0.5**
KKAR Karatay Array 51.85 298 P **P** **11 00 23.0 -0.6**
KKAR IAmb IAmb 11 00 42.2
comp=Z,220nm,1.0s
KKAR Karatay Array 51.85 298 ⇑P **P** **11 00 23.2 -0.5**
KKAR Karatay Array 51.85 298 P **P** **11 00 23.0 -0.6**
KKAR pmax pmax
comp=Z,220nm,1.0s
WHY Whitehorse 51.94 38 IAmb IAmb 11 00 42.9
comp=Z,532nm,1.6s
WHY Whitehorse 51.94 38 P **P** **11 00 26.6 +2.4**
baz=288,SNR=39
ALBI Allahabad 52.09 272 ⇑*i*P **P** **11 00 23.1 -2.6**
ALBI IAmb IAmb 11 00 33.9
comp=Z,96nm,1.0s
ALBI *i* x **PP** **11 02 20.6 -3.5**
ALBI *e*x x 11 11 51.5
SKAG Skagway 52.09 40 IAmb IAmb 11 00 52.8
comp=Z,192nm,1.1s
SKAG Skagway 52.09 40 P **P** **11 00 27.3 +2.1**
SKAG Skagway 52.09 40 P **P** **11 00 27.4 +2.2**
baz=288,SNR=14
SKAG Skagway 52.09 40 ⇑P **P** **11 00 27.9 +2.7**
S31K Pelican 52.12 42 P **P** **11 00 27.5 +2.2**
baz=289
FARO Faro, Yukon 52.16 36 IAmb IAmb 11 00 44.2
comp=Z,445nm,1.6s
FARO Faro, Yukon 52.16 36 P **P** **11 00 27.5 +1.8**
baz=288,SNR=54
R31K City Hall, Gus 52.23 41 P **P** **11 00 28.2 +2.0**
baz=289
A36M Sachs Harbour 52.26 23 P **P** **11 00 27.7 +1.5**
baz=287,SNR=389
DDI Dehra Dun 52.27 280 ⇑*i*P **P** **11 00 26.7 -0.3**
DDI *i* x **S** **11 07 46.7 -2.1**
MYKOM Kota Tinggi 52.30 232 P **P** **11 00 29.9 +2.7**
comp=Z,62nm,0.9s,comp=Z,3µmcomp=Z,23µm
PBA Port Blair 52.33 251 *e*P **P** **11 00 27.2 -0.3**
PBA Port Blair 52.33 251 P **P** **11 00 28.3 +0.8**
SMLA Simla 52.53 281 *e*P **P** **11 00 28.8 0.0**
JHSG JHARSUGUGA 52.61 267 ⇑*i*P **P** **11 00 28.9 -0.6**
DHRM DHARAMSHALA 52.62 283 ⇑*i*P **P** **11 00 29.0 -0.7**
N32M Quiet Lake 52.62 37 P **P** **11 00 30.0 +0.9**
baz=289,SNR=19
SVE Sverdlovsk 52.69 317 *d*iP **P** **11 00 30.4 +0.8**
SVE *e* 11 02 27.2
SVE *e*PPP PPP 11 03 33.6
SVE *e*S **S** **11 07 54.9 +1.3**
SVE pmax pmax
comp=Z,887nm,1.6s
SVE MLR MLR
comp=E,40µm,20.0s
SVE MLR MLR
comp=N,19µm,17.0s
SVE MLR MLR
comp=Z,52µm,19.0s
HNR Honiara 52.77 158 IAMs_20 IAMs_20 11 20 47.4
comp=Z,32µm,22.0s
HNR Honiara 52.77 158 LR LR 11 19 38.0
comp=Z,160µm,21.3s,baz=331,slow=32
CHM Chimkent 52.78 297 *e*P **P** **11 00 30.8 +0.1**
comp=Z,93nm,1.0s,baz=297
CHM LR LR 11 23 20.9
baz=297
CHM Chimkent 52.78 297 *e*P **P** **11 00 30.7 +0.1**
CHM pmax pmax
comp=Z,93nm,1.0s
MMRI Maumere 52.81 205 IAmb IAmb 11 01 02.7
comp=Z,382nm,1.0s
MMRI Maumere 52.81 205 P **P** **11 00 34.2 +3.3**
comp=Z,388nm,1.4s,comp=Z,8µmcomp=Z,12µm
P32M Atlin 52.83 39 IAmb IAmb 11 00 51.7
comp=Z,642nm,1.9s
P32M IAMs_20 IAMs_20 11 22 44.6
comp=Z,20µm,22.0s
P32M Atlin 52.83 39 P **P** **11 00 32.5 +1.8**
baz=290,SNR=19
R32K Eaglecrest 52.88 41 IAmb IAmb 11 00 58.0
comp=Z,209nm,1.1s
R32K Eaglecrest 52.88 41 P **P** **11 00 32.4 +1.4**
baz=290
SIT Sitka 52.89 43 IAmb IAmb 11 00 58.3
comp=Z,244nm,1.1s
SIT Sitka 52.89 43 P **P** **11 00 33.1 +2.1**
SIT Sitka 52.89 43 P **P** **11 00 33.2 +2.1**
baz=290
BTK Batken 52.92 294 IAmb IAmb 11 01 05.1
comp=Z,318nm,1.1s
BHK Bhakra 52.94 282 ⇑*i*P **P** **11 00 32.1 +0.2**
BHK IAmb IAmb 11 00 39.6
comp=Z,245nm,0.6s
JIS Juneau Island 52.95 41 IAmb IAmb 11 00 56.0
comp=Z,200nm,1.1s
JIS Juneau Island 52.95 41 P **P** **11 00 32.8 +1.3**
THN Thein Dam 52.95 283 *e*P **P** **11 00 31.7 -0.2**
P33M Teslin, Yukon 53.05 38 IAMs_20 IAMs_20 11 22 56.4
comp=Z,31µm,22.0s
P33M Teslin, Yukon 53.05 38 P **P** **11 00 34.4 +2.0**
baz=290,SNR=67
EDFI Ende, Flores 53.09 206 P **P** **11 00 33.1 -0.1**
comp=Z,171nm,1.3s,comp=Z,4µmcomp=Z,12µm
S32K Killisnoo 53.13 42 P **P** **11 00 34.4 +1.6**
baz=290

MERT Meerut 53.21 279 *e*P P 11 00 33.2 -0.6
SOEI Soe 53.24 203 P P 11 00 31.5 -2.8
SOEI Soe 53.24 203 ⇑P P 11 00 34.0 -0.3
SOEI Soe 53.24 203 P P 11 00 34.0 -0.3
comp=Z,627nm,0.7s,comp=Z,8μmcomp=Z,13μm
JMU Jammu 53.42 284 ⇑*i*P P 11 00 36.2 +0.9
C36M Paulatuk 53.48 26 P P 11 00 36.1 +0.8
baz=290,SNR=162
KIP Kipapa 53.54 92 IAMs_20 IAMs_20 11 17 24.1
comp=Z,28μm,22.0s
KIP Kipapa 53.54 92 *i* P P 11 00 36.4 0.0
KIP pmax pmax
comp=Z,147nm,1.5s
DSRI Dabo 53.70 230 P P 11 00 40.5 +3.0
comp=Z,102nm,2.2s,comp=Z,4μmcomp=Z,22μm
NDI New Delhi 53.74 279 *e*P P 11 00 37.2 -0.6
Q32M Nakina River 53.75 40 P P 11 00 39.3 +1.7
baz=291
ARU Arti 53.90 317 P P 11 00 38.4 -0.2
ARU Arti 53.90 317 *c i*P P 11 00 38.8 +0.3
ARU *PP pP 11 01 54.0 +2.5
ARU 11 01 39.6
ARU 11 02 38.7
ARU PPP PPP 11 03 51.5
ARU S S 11 08 12.2 +2.1
ARU 11 10 19.8
ARU pmax pmax
comp=Z,859nm,1.3s
ARU pmax pmax
comp=Z,3μm,12.3s
ARU MLR MLR
comp=Z,55μm,19.0s
ARU Arti 53.90 317 LR LR 11 26 17.8
comp=Z,59μm,19.5s,baz=63,slow=39
ARU Arti 53.90 317 P P 11 00 38.7 +0.1
ARU sP sP 11 00 55.0 -1.9
LHMI Lhok Sumawe 54.01 241 P P 11 00 43.7 +3.9
comp=Z,347nm,0.7s,comp=Z,9μmcomp=Z,32μm
DBNI Kabupaten Domp 54.06 210 P P 11 00 40.7 +0.6
comp=Z,122nm,0.8s,comp=Z,3μm
NIL Nilore 54.16 286 P P 11 00 41.4 +0.6
NIL Nilore 54.16 286 P P 11 00 41.4 +0.6
NIL pmax pmax
comp=Z,464nm,0.9s
NIL Nilore 54.16 286 P P 11 00 42.0 +1.1
NIL PcP PcP 11 01 45.7 +0.7
T33K Petersburg 54.19 42 P P 11 00 42.7 +2.1
baz=292
PPBI Pangkal Pinang 54.20 227 P P 11 00 43.0 +1.8
comp=Z,142nm,1.2s,comp=Z,66μmcomp=Z,20μm
R33M Jennings River 54.22 39 IAMs_20 IAMs_20 11 23 51.5
comp=Z,30μm,22.0s
R33M Jennings River 54.22 39 P P 11 00 43.1 +2.2
baz=292,SNR=23
KDU Kakadu 54.25 192 P P 11 00 41.3 -0.1
KDU Kakadu 54.25 192 ⇑P P 11 00 41.5 0.0
U33K Whale Pass 54.36 43 IAmb IAmb 11 01 09.9
comp=Z,484nm,1.5s
U33K IAMs_20 IAMs_20 11 22 49.2
comp=Z,21μm,22.0s
U33K Whale Pass 54.36 43 P P 11 00 44.1 +2.3
baz=292,SNR=5.5
PSI Prapat 54.55 238 P P 11 00 44.5 +0.6
comp=Z,108nm,0.8s,comp=Z,1μmcomp=Z,6μm
PLAI Plampang 54.56 P P 11 00 42.8 -1.0
comp=Z,154nm,0.9s,comp=Z,3μmcomp=Z,12μm
CRAG Craig 54.61 44 P P 11 00 44.8 +1.1
CRAG Craig 54.61 44 P P 11 00 45.3 +1.7
baz=293
CRAG Craig 54.61 44 ⇓P P 11 00 47.6 +4.0
MTN Manton Dam 54.62 194 P P 11 00 44.1 -0.1
MTN IAmb IAmb 11 01 04.2
comp=Z,309nm,1.1s
MTN Manton Dam 54.62 194 P P 11 00 44.4 +0.2
WRAK Wrangell Islan 54.65 43 IAmb IAmb 11 01 22.4
comp=Z,293nm,1.4s
WRAK Wrangell Islan 54.65 43 P P 11 00 45.9 +2.0
baz=293
S34M Telegraph Cree 54.69 41 P P 11 00 45.6 +1.4
baz=292,SNR=14
COEN Coen 54.73 179 P P 11 00 46.4 +1.4
KCSI Kotacane, Aceh 54.74 239 P P 11 00 45.7 +0.5
comp=Z,66nm,0.8s,comp=Z,2μm
SIMJ Simiganj 54.81 293 P P 11 00 44.9 -0.7
SIMJ IAmb IAmb 11 00 51.6
comp=Z,281nm,0.8s
SIMJ Simiganj 54.81 293 P P 11 00 45.2 -0.4
SIMJ sP sP 11 01 01.3 -2.7
TWSI Taliwang, Sumb 54.83 211 P P 11 00 45.9 +0.2
comp=Z,174nm,1.1s,comp=Z,2μmcomp=Z,12μm
BASI Baing, Sumba 54.84 207 P P 11 00 47.1 +1.4
comp=Z,329nm,1.1s,comp=Z,4μm
SRBI Singaraja 54.91 214 P P 11 00 48.7 +2.4
comp=Z,175nm,2.1s,comp=Z,6μmcomp=Z,14μm
WTLY Watson Lake, Y 54.96 38 IAmb IAmb 11 01 05.0
comp=Z,188nm,1.2s
WTLY Watson Lake, Y 54.96 38 P P 11 00 48.1 +1.8
baz=293,SNR=23
DLBC Dease Lake 55.03 40 P P 11 00 49.1 +2.3
baz=293,SNR=23
DLBC Dease Lake 55.03 40 LR LR 11 24 26.7
comp=Z,10μm,21.8s,baz=298,slow=36
GRJI Gresik 55.07 217 P P 11 00 48.9 +1.5
comp=Z,436nm,2.5s,comp=Z,7μmcomp=Z,16μm
ABJI Asem Bagus 55.07 215 P P 11 00 51.2 +3.8
comp=Z,99nm,1.1s,comp=Z,6μmcomp=Z,12μm
MLSI Meulaboh, Aceh 55.08 241 P P 11 00 47.7 +0.1
comp=Z,261nm,0.7s
KHET Khetri 55.12 279 ⇑*i*P P 11 00 47.4 -0.4
BKNI Bangkinang 55.15 234 P P 11 00 46.4 -1.6
BKNI Bangkinang 55.15 234 P P 11 00 50.0 +1.9
comp=Z,622nm,1.3s,comp=Z,8μmcomp=Z,24μm
BLJI Banyuglugur 55.30 215 P P 11 00 52.9 +3.8
comp=Z,70nm,0.7s,comp=Z,3μmcomp=Z,14μm
BYJI Banyuwangi 55.39 214 P P 11 00 53.9 +4.2
comp=Z,303nm,1.1s,comp=Z,12μmcomp=Z,19μm
V35K Ketchikan 55.45 44 IAMs_20 IAMs_20 11 23 08.1
comp=Z,26μm,22.0s
V35K Ketchikan 55.45 44 P P 11 00 51.7 +1.9
baz=294
T35M Bob Quinn 55.49 42 IAmb IAmb 11 01 14.4
comp=Z,264nm,1.1s
T35M Bob Quinn 55.49 42 P P 11 00 53.0 +2.9
baz=294,SNR=30
DIB Dawson Inlet, 55.86 46 IAmb IAmb 11 01 22.3
comp=Z,172nm,1.2s
NGJI Ngawi 55.93 218 P P 11 00 55.1 +1.5
comp=Z,116nm,1.5s,comp=Z,5μmcomp=Z,17μm
AB31 Akbulak array 55.99 308 *i* P P 11 00 53.7 0.0
ABKAR Akbulak array 55.99 308 P P 11 00 53.6 -0.1
U35K Hyder 56.04 43 P P 11 00 55.7 +1.8
baz=294,SNR=5.4
WRGLY Wrigley 56.05 33 P P 11 00 55.5 +1.6
baz=295,SNR=47
ALE Alert 56.06 4 P P 11 00 54.3 +0.5
ALE pP pP 11 01 05.7 -1.0
SJI Sawahan 56.12 217 P P 11 00 55.3 +0.2
comp=Z,230nm,2.2s,comp=Z,4μm
SMRI Semarang 56.14 219 P P 11 00 55.8 +0.7
comp=Z,143nm,1.0s,comp=Z,3μm
KRKI Karangkates 56.18 216 P P 11 00 55.3 -0.1
comp=Z,332nm,0.6s
HOPEN Hopen 56.34 345 ⇑*i*P P 11 00 56.2 +0.4
HOPEN *es*P sP 11 01 13.4 -0.8
HOPEN *eS* S 11 08 44.2 +2.1
HOPEN *e*ScS ScS 11 41 45.1 +1.3
HOPEN IVMs_BB IVMs_BB 11 26 47.5
comp=Z,6μm,22.9s
POHA Pohakuloa 56.40 92 IAMs_20 IAMs_20 11 19 19.6
comp=Z,26μm,22.0s
PDSI Padang 56.48 233 P P 11 00 59.9 +2.3
comp=Z,82nm,1.1s,comp=Z,4μmcomp=Z,24μm
SNSI Sinabang, Aceh 56.52 240 P P 11 01 00.3 +2.4
comp=Z,367nm,1.3s,comp=Z,7μmcomp=Z,23μm
GSI Gunungsitoli 56.55 238 P P 11 00 57.9 -0.3
GSI Gunungsitoli 56.55 238 P P 11 00 58.4 +0.3
GSI Gunungsitoli 56.55 238 ⇑P P 11 00 58.5 +0.4
GSI Gunungsitoli 56.55 238 P P 11 00 59.7 +1.6
comp=Z,341nm,1.8s,comp=Z,9μmcomp=Z,24μm
AKTO Aktyubinsk 56.61 310 P P 11 00 57.9 -0.2
AKTO Aktyubinsk 56.61 310 LR LR 11 26 43.7
comp=Z,39μm,21.0s,baz=62,slow=38
KBU Kabul Universi 56.71 289 P P 11 00 55.1 -4.2
SPA0 Spitsbergen Ar 56.74 348 *e*P P 11 00 59.3 +0.6
SPA0 *es*P sP 11 01 16.1 -0.9
SPA0 *eS* S 11 08 47.8 +0.3
SPA0 *e* 11 09 15.8
SPA0 IVMs_BB IVMs_BB 11 23 23.8
comp=Z,7μm,27.7s
SPB2 Spitsbergen Ar 56.74 348 IAmb IAmb 11 01 38.8
comp=Z,261nm,1.1s
SPITS Spitsbergen Ar 56.74 348 P P 11 00 58.7 0.0
comp=Z,22nm,0.5s,baz=74,slow=8.9,SNR=34
SPITS S S 11 08 48.3 +0.8
comp=Z,3.0nm,0.8s,baz=42,slow=9.6,SNR=0.9
SPITS LR LR 11 27 57.0
comp=Z,15μm,20.2s,baz=360,slow=39
comp=Z,22nm,0.5s
KBL Kabul 56.76 289 P P 11 00 58.8 -0.9
KBL IAmb IAmb 11 01 03.9
comp=Z,321nm,1.0s
KBL Kabul 56.76 289 P P 11 00 58.8 -0.9
KBL pmax pmax
comp=Z,321nm,1.0s
KBL Kabul 56.76 289 P P 11 00 59.0 -0.7
SNR=158
KBL P P 11 00 59.0 -0.7
SNR=158
KBS Kingsbay 56.84 350 P P 11 00 59.8 +0.5
KBS IAmb IAmb 11 01 21.8
comp=Z,297nm,1.0s
KBS Kingsbay 56.84 350 *e*P P 11 01 00.7 +1.4
KBS *es*P sP 11 01 16.7 -1.0
KBS *eS* S 11 08 49.4 +0.7
KBS IVMs_BB IVMs_BB 11 23 21.8
comp=Z,4μm,28.5s
KBS Kingsbay 56.84 350 ⇑P P 11 01 00.1 +0.7
KBS Kingsbay 56.84 350 P P 11 00 59.8 +0.5
KBS pmax pmax
comp=Z,297nm,1.0s
KBS MLR MLR
comp=Z,10μm,20.0s
KBS Kingsbay 56.84 350 *i* P P 11 01 01.6 +2.2
AJM Ajmer 56.85 278 ⇑*i*P P 11 00 59.5 -0.8
AJM IAmb IAmb 11 01 02.8
comp=Z,182nm,1.2s
AJM *i* x S 11 08 46.0 -4.3
AJM *ex* x 11 13 12.3
UGM Wanagama 56.85 219 P P 11 00 58.8 -1.4
UGM Wanagama 56.85 219 P P 11 00 59.3 -0.9
comp=Z,492nm,2.2s,comp=Z,14μm
LHSI Lahat 57.03 228 P P 11 01 03.2 +1.7
comp=Z,267nm,0.9s
KPJI Karang Pucung 57.12 221 P P 11 01 01.9 -0.2
comp=Z,259nm,1.1s,comp=Z,4μm
KOTAN Kotaneelee Air 57.12 37 P P 11 01 03.1 +1.5
baz=296,SNR=14
KOTAN S S 11 08 56.7 +3.7
baz=296
PBSI Pulau Batu 57.15 236 P P 11 01 03.6 +1.2
comp=Z,254nm,1.8s,comp=Z,26μm
TNG Tangerang 57.28 224 P P 11 01 06.4 +3.1
comp=Z,1μm,0.5s,comp=Z,18μm
FLDN Fort Liard 57.33 36 P P 11 01 04.7 +1.7
baz=296
FLDN S S 11 09 00.1 +4.5
baz=296
LEM Lembang 57.34 222 LR LR 11 28 10.0
comp=Z,6μm,19.3s,baz=26,slow=38
LEM Lembang 57.34 222 P P 11 01 05.0 +1.2
comp=Z,257nm,1.6s,comp=Z,5μmcomp=Z,15μm
KIRV Kirov 57.54 322 *c i*P P 11 01 04.5 0.0
KIRV Kirov 57.54 322 LR LR 11 28 40.4
comp=Z,27μm,19.2s,baz=54,slow=39
DBJI Dramaga 57.55 223 P P 11 01 07.4 +2.2
comp=Z,257nm,2.0s,comp=Z,16μmcomp=Z,17μm
SISI Saibi 57.64 234 P P 11 01 06.4 +0.6
comp=Z,301nm,0.9s,comp=Z,4μmcomp=Z,16μm
HSPB Hornsund (broa 57.69 348 *e*P P 11 01 05.7 +0.3
HSPB *ep*P sP 11 01 22.8 -0.9
HSPB *eS* S 11 09 00.7 +0.8
HSPB *eL* L 11 29 57.9
comp=Z,17μm,21.5s
LWLI Liwa 57.71 227 P P 11 01 18.9 +12
KNRA Kununurra 57.84 196 P P 11 01 07.0 +0.1
KNRA IAmb IAmb 11 01 29.9
comp=Z,201nm,0.8s
KNRA Kununurra 57.84 196 P P 11 01 07.1 +0.1
BBJI Bungbulang 57.87 222 P P 11 01 07.3 -0.1
BBJI Bungbulang 57.87 222 P P 11 01 07.8 +0.4
comp=Z,71nm,0.7s,comp=Z,14μm
KASI Kota Agung 57.89 226 P P 11 01 11.3 +3.8
comp=Z,113nm,1.2s,comp=Z,13μm
VJD Vijayawada 58.11 264 ⇑*i*P P 11 01 10.2 +1.2
VJD *i* x S 11 09 04.9 -2.0
AKL Akola 58.33 271 ⇑*i*P P 11 01 11.1 +0.4
AKL IAmb IAmb 11 01 13.2
comp=Z,187nm,0.6s
RES Resolute Bay 58.53 15 P P 11 01 11.1 -0.1
RES IAMs_20 IAMs_20 11 29 50.5
comp=Z,17μm,20.0s
RES Resolute Bay 58.53 15 P P 11 01 11.1 -0.1
RES pmax pmax
comp=Z,352nm,1.1s
RES MLR MLR
comp=Z,17μm,20.0s
RES Resolute Bay 58.53 15 LR LR 11 30 01.0
comp=Z,13μm,19.3s,baz=309,slow=40
BBB Bella Bella 58.70 46 LR LR 11 24 51.9
comp=Z,12μm,21.5s,baz=302,slow=34
LVZ Lovozero 58.78 335 P P 11 01 13.5 +0.4
LVZ IAmb IAmb 11 01 40.6
comp=Z,112nm,0.9s
LVZ IAMs_20 IAMs_20 11 27 59.5
comp=Z,15μm,22.0s
LVZ Lovozero 58.78 335 P P 11 01 13.5 +0.4
LVZ pmax pmax
comp=Z,112nm,0.9s
LVZ MLR MLR
comp=Z,15μm,22.0s
BJO1 Bjornoya 58.79 345 *e*P P 11 01 13.3 +0.3
BJO1 *es*P sP 11 01 30.7 -0.8
BJO1 *eS* S 11 09 16.4 +2.2
BJO1 IVMs_BB IVMs_BB 11 28 23.1
comp=Z,6μm,17.1s
EGSI Enggano, Bengk 58.98 228 P P 11 01 15.4 +0.3
comp=Z,274nm,1.1s,comp=Z,14μm
VADS Vadso 59.10 338 ⇑*i*P P 11 01 15.2 0.0
VADS *es*P sP 11 01 32.1 -1.6
VADS *eS* S 11 09 19.1 +0.7
VADS IVMs_BB IVMs_BB 11 29 13.6
comp=Z,8μm,24.5s
HYB Hyderabad 59.14 267 ⇑*e*P P 11 01 16.3 0.0
HYB *eS* S 11 09 22.7 +2.4
APA Apatity 59.36 335 ⇓*i*P P 11 01 17.6 +0.5
APA *i* 11 02 07.1
APA *i* 11 03 27.0
APA *i* PPP PPP 11 04 58.0
APA *i* S S 11 09 21.0 -0.8
APA *i* PS PnS 11 09 36.0 -3.4
APA *i* 11 11 07.0
APA *i* SS SS 11 13 17.0 +0.7
APA pmax pmax
comp=Z,122nm,0.9s
JASL Jaisalmer 59.40 280 *e*P P 11 01 18.1 +0.1
KEV Kevo 59.97 339 P P 11 01 21.1 -0.2
KEV IAmb IAmb 11 01 39.1
comp=Z,316nm,1.4s
KEV IAMs_20 IAMs_20 11 30 58.9
comp=Z,18μm,21.0s
KEV Kevo 59.97 339 ⇓P P 11 01 21.5 +0.3
KEV Kevo 59.97 339 P P 11 01 21.1 -0.2
KEV pmax pmax
comp=Z,316nm,1.4s
KEV MLR MLR
comp=Z,18μm,21.0s
YKA Yellowknife Ar 59.97 32 P P 11 01 22.1 +0.7
YKA Yellowknife Ar 59.97 32 P P 11 01 22.1 +0.7
YKA Yellowknife Ar 59.97 32 P P 11 01 21.9 +0.5
comp=Z,44nm,1.1s,baz=299,slow=6.5,SNR=95
YKA LR LR 11 30 11.7
comp=Z,8μm,20.5s,baz=304,slow=39
YKA PKPPKP 11 30 46.4
comp=Z,0.6nm,0.8s,baz=134,slow=2.5,SNR=4.1
comp=Z,44nm,1.1s
HAMF Hammerfest 60.29 340 ⇑*i*P P 11 01 23.0 -0.4
HAMF IVmB_BB 11 01 24.3
comp=Z,4μm,3.0s
HAMF *es*P sP 11 01 40.4 -1.5
HAMF *eS* S 11 09 33.8 +0.1
HAMF IVMs_BB IVMs_BB 11 32 42.6
comp=Z,4μm,22.8s
ARA0 ARCESS Array S 60.52 339 ⇑*i*P P 11 01 24.8 -0.2
ARA0 IVmB_BB 11 01 26.6
comp=Z,4μm,2.9s
ARA0 *es*P sP 11 01 42.2 -1.3
ARA0 *eS* S 11 09 39.0 +2.2
ARA0 IVMs_BB IVMs_BB 11 28 32.5
comp=Z,6μm,22.5s
ARCES ARCESS Array B 60.52 339 P P 11 01 24.9 -0.1
ARCES IAmb IAmb 11 01 45.1
comp=Z,290nm,1.6s
ARCES ARCESS Array B 60.52 339 P P 11 01 25.1 +0.1
comp=Z,7.7nm,0.5s,baz=213,slow=14,SNR=45
ARCES LR LR 11 31 15.3
comp=Z,12μm,21.1s,baz=41,slow=40
comp=Z,7.7nm,0.5s
MDRS Chennai 60.57 262 ⇑*i*P P 11 01 27.3 +1.1
KLMR Klimovskoe 60.79 327 *c i*P P 11 01 26.8 -0.2
KLMR *e*PP sP 11 01 43.5 -2.0
KLMR *e* 11 03 40.5
KLMR S S 11 09 40.1 -0.3
KLMR SS SS 11 13 45.4 +6.4
KLMR pmax pmax
comp=Z,489nm,1.5s
KLMR pmax pmax
comp=Z,3μm,2.7s
KLMR MLR MLR
comp=Z,27μm,20.0s
FITZ Fitzroy Crossi 60.87 198 P P 11 01 28.4 +0.5
FITZ Fitzroy Crossi 60.87 198 P P 11 01 28.0 +0.1
CTA Charters Tower 60.93 176 LR LR 11 24 18.5
comp=Z,8μm,21.7s,baz=348,slow=32
CTAO Charters Tower 60.93 176 P P 11 01 28.1 -0.2
CTAO Charters Tower 60.93 176 P P 11 01 29.4 +1.1
CTAO Charters Tower 60.93 176 ⇓P P 11 01 29.7 +1.3
CTAO Charters Tower 60.93 176 P P 11 01 28.2 -0.2
CTAO pmax pmax
comp=Z,80nm,1.3s
WB0 Warramunga Arr 60.96 189 P P 11 01 27.9 -0.6
WB0 IAmb IAmb 11 01 58.2
comp=Z,184nm,0.8s
WB0 IAMs_20 IAMs_20 11 27 06.1
comp=Z,16μm,22.0s
WB9 Warramunga Arr 60.98 189 IAMs_20 IAMs_20 11 25 55.8
comp=Z,18μm,22.0s
WB8 Warramunga Arr 61.01 189 IAMs_20 IAMs_20 11 26 55.4
comp=Z,17μm,22.0s
TULEG Thule 61.02 8 P P 11 01 28.2 -0.1
TULEG IAMs_20 IAMs_20 11 31 43.1
comp=Z,14μm,20.0s
TULEG Thule 61.02 8 *i* P P 11 01 28.0 -0.4
TULEG IAmb IAmb 11 01 45.6
comp=Z,95nm,0.7s
WB7 Warramunga Arr 61.03 189 IAMs_20 IAMs_20 11 27 08.1
comp=Z,14μm,22.0s
WB5 Warramunga Arr 61.07 189 IAMs_20 IAMs_20 11 27 09.1
comp=Z,17μm,22.0s
WB3 Warramunga Arr 61.12 189 IAMs_20 IAMs_20 11 26 59.3
comp=Z,16μm,22.0s
WC1 Warramunga Arr 61.12 189 IAMs_20 IAMs_20 11 27 10.4
comp=Z,16μm,22.0s
WRAB Tennant Creek 61.13 189 P P 11 01 29.4 -0.3
WRAB IAmb IAmb 11 01 59.0
comp=Z,166nm,0.9s
WRAB Tennant Creek 61.13 189 P P 11 01 29.4 -0.3
WRAB pmax pmax
comp=Z,166nm,0.9s
WR0 Warramunga Arr 61.13 188 P P 11 01 29.3 -0.5
WR0 IAmb IAmb 11 01 59.0
comp=Z,130nm,0.8s
WR8 Warramunga Arr 61.13 188 IAMs_20 IAMs_20 11 26 58.7
comp=Z,14μm,22.0s
WR7 Warramunga Arr 61.14 189 IAMs_20 IAMs_20 11 26 58.8
comp=Z,14μm,22.0s
WB2 Warramunga Arr 61.14 189 IAmb IAmb 11 01 59.1
comp=Z,164nm,0.8s
WB2 IAMs_20 IAMs_20 11 26 59.8
comp=Z,17μm,22.0s
WR5 Warramunga Arr 61.14 189 IAMs_20 IAMs_20 11 27 10.8
comp=Z,14μm,22.0s
WR4 Warramunga Arr 61.14 189 IAMs_20 IAMs_20 11 26 59.8
comp=Z,16μm,22.0s
WRA Warramunga Arr 61.14 189 P P 11 01 28.9 -0.9
comp=Z,53nm,0.7s,baz=6.2,slow=6.8,SNR=135
WRA S S 11 09 39.1 -6.5
comp=Z,2.8nm,0.9s,baz=4.6,slow=12,SNR=5.1
WRA LR LR 11 27 33.5
comp=Z,13μm,22.0s,baz=11,slow=36
WRA PKPPKP P'P'df 11 30 41.0 +1.2
comp=Z,2.0nm,1.1s,baz=202,slow=2.2,SNR=4.5
comp=Z,53nm,0.7s
WR3 Warramunga Arr 61.14 189 IAMs_20 IAMs_20 11 26 59.9
comp=Z,17μm,22.0s
WR2 Warramunga Arr 61.14 189 IAMs_20 IAMs_20 11 26 59.9
comp=Z,17μm,22.0s
WC3 Warramunga Arr 61.15 189 IAMs_20 IAMs_20 11 27 12.2
comp=Z,16μm,22.0s
WB1 Warramunga Ar. 61.16 189 IAMs_20 IAMs_20 11 27 11.3
comp=Z,17μm,22.0s
WC4 Warramunga Arr 61.16 189 IAMs_20 IAMs_20 11 27 11.4
comp=Z,16μm,22.0s
QIS Mount Isa 61.35 183 P P 11 01 30.6 -0.6
BHV Bhavnagar 61.40 275 ⇑*i*P P 11 01 31.1 -0.6
BELG Belogornoye 61.41 316 *c i*P P 11 01 31.3 0.0
BELG pmax pmax
comp=Z,90nm,0.9s
BELG MLR MLR
comp=Z,9μm,20.0s
BELG Belogornoye 61.41 316 LR LR 11 30 31.2
comp=Z,60μm,20.8s,baz=60,slow=38
KTK1 Kautokeino 61.48 339 *e*P P 11 01 31.4 -0.1
KTK1 *es*P sP 11 01 48.5 -1.6
KTK1 *eS* S 11 09 49.7 +0.8
KTK1 IVMs_BB IVMs_BB 11 25 33.3
comp=Z,5μm,34.6s
NEEM North Greenlan 61.48 3 *i* P P 11 01 32.8 +1.0
NEEM IAmb IAmb 11 01 58.7
comp=Z,134nm,0.6s
JETT Jettan, Norway 61.85 340 ⇑*i*P P 11 01 34.5 +0.4
JETT *eS* S 11 09 54.0 +0.3
JETT IVMs_BB IVMs_BB 11 32 47.8
comp=Z,6μm,18.9s
POO Poona 62.02 271 ⇑*i*P P 11 01 35.8 -0.2
TRO Tromso 62.17 341 *e*P P 11 01 36.3 +0.1
TRO *es*P sP 11 01 53.4 -1.3
TRO *eS* S 11 10 00.1 +2.5
TRO IVMs_BB IVMs_BB 11 34 53.9
comp=Z,4μm,16.2s
BHUJ Bhuj 62.40 278 *e*P P 11 01 38.0 -0.4
KAD Karad 62.51 269 ⇑*i*P P 11 01 38.7 -0.6
BOM Bombay 62.58 272 ⇑*i*P P 11 01 39.3 -0.3
BOM *i* x x 11 10 08.6
GEYT Alibeck 62.60 298 P P 11 01 39.6 0.0
GEYT IAmb IAmb 11 01 44.1
comp=Z,274nm,1.1s
GEYT Alibeck 62.60 298 P P 11 01 39.6 0.0
GEYT pmax pmax
comp=Z,274nm,1.1s
GEYT Alibeck 62.60 298 P P 11 01 39.4 -0.2
comp=Z,158nm,0.9s,baz=50,slow=4.6,SNR=80
GEYT LR LR 11 31 19.6
comp=Z,37μm,18.8s,baz=62,slow=38
comp=Z,158nm,0.9s
GYA0B ALIBECK ARRAY 62.60 298 P P 11 01 39.7 0.0
GYA0B IAmb IAmb 11 01 44.1
comp=Z,252nm,1.1s
SALM Salem 63.01 262 ⇑*i*P P 11 01 43.1 +0.5
PGC Sidney 63.05 48 P P 11 01 42.9 +0.6
PGC IAmb IAmb 11 02 14.2
comp=Z,280nm,1.6s
BRLDA Berland Lookou 63.27 40 IAmb IAmb 11 02 22.4
comp=Z,357nm,1.4s
BRLDA IAMs_20 IAMs_20 11 28 32.2
comp=Z,21μm,21.0s
MALK Mahakanadarawa 63.39 257 P P 11 01 43.4 -1.6
NLWA Neilton Lookou 63.48 49 P P 11 01 46.0 +0.7
NLWA IAmb IAmb 11 02 07.3
comp=Z,217nm,1.1s
NLWA IAMs_20 IAMs_20 11 25 31.7
comp=Z,18μm,22.0s
NLWA Neilton Lookou 63.48 49 ⇓P P 11 01 48.9 +3.6
WISH Wishkah 63.69 49 P P 11 01 47.2 +0.6
GOA Goa 63.89 268 ⇑*i*P P 11 01 48.2 -0.1
GOA IAmb IAmb 11 01 53.5
comp=Z,126nm,0.7s
GNW Green Mountain 63.98 49 IAmb IAmb 11 02 08.4

comp=Z,422nm,1.9s
E03A Lebam 64.12 50 P **P** **11 01 50.1 +0.7**
B06A Marblemount 64.21 47 IAmb IAmb 11 02 11.8
comp=Z,277nm,1.3s
STEI Steigen 64.34 340 *eP* **P** **11 01 50.0 -0.5**
STEI *es*P **sP** **11 02 07.4 -1.7**
STEI *eS* **S** **11 10 24.8 +0.2**
STEI IVMs_BB IVMs_BB 11 31 03.6
comp=Z,6μm,23.7s
KOD Kodaikanal 64.47 261⇑ *i*P **P** **11 01 52.4 -0.2**
MOS Moscow 64.50 323 *eP* **P** **11 01 50.0 -1.8**
MOS *e**PP **pP** **11 02 07.3 +2.3**
MOS *e* 11 02 24.5
MOS *e* 11 04 10.7
MOS *eS* **S** **11 10 24.4 -2.6**
MOS *e**SS sS 11 10 57.4 +8.2
MOS *e* 11 11 38.0
MOS pmax pmax
comp=Z,651nm,1.7s
MOS pmax pmax
comp=N,255nm,1.6s
MOS pmax pmax
comp=E,220nm,1.6s
MOS pmax pmax
comp=Z,3μm,3.0s
MOS pmax pmax
comp=N,2μm,3.1s
MOS pmax pmax
comp=E,1μm,3.2s
MOS smax smax
comp=N,3μm,4.4s
MOS smax smax
comp=E,1μm,3.9s
MOS MLR MLR
comp=Z,31μm,19.0s
MOS MLR MLR
comp=E,17μm,18.0s
MOS MLR MLR
comp=N,19μm,17.0s
RK1H Rockhampton Ha 64.55 172 P **P** **11 01 53.1 +0.8**
LOF Lofoten 64.61 341 *eP* **P** **11 01 52.7 +0.5**
LOF *eS* **S** **11 10 30.5 +2.6**
LOF IVMs_BB IVMs_BB 11 29 30.8
comp=Z,6μm,25.4s
D05A Enumclaw 64.67 49 IAmb IAmb 11 02 26.8
comp=Z,307nm,1.1s
MNGI Mangalore 64.72 265⇑ *i*P **P** **11 01 53.7 -0.2**
FAUS Fauske 64.73 340 *eP* **P** **11 01 54.0 +0.9**
FAUS *es*P **sP** **11 02 10.1 -1.6**
FAUS *eS* **S** **11 10 28.3 -1.2**
FAUS IVMs_BB IVMs_BB 11 31 13.2
comp=Z,6μm,24.0s
AS01 Alice Springs 64.86 189 P **P** **11 01 54.2 -0.2**
AS31 Alice Springs 64.86 189 P **P** **11 01 54.3 -0.2**
ASAR Alice Springs 64.87 189 P **P** **11 01 54.3 -0.2**
ASAR Alice Springs 64.87 189 P **P** **11 01 54.3 -0.2**
ASAR Alice Springs 64.87 189 P **P** **11 01 54.1 -0.3**
comp=Z,52nm,0.8s,baz=10,slow=5.3,SNR=194
ASAR S **S** **11 10 29.8 -2.4**
comp=Z,0.6nm,1.0s,baz=8.9,slow=12,SNR=1.0
ASAR LR LR 11 29 47.6
comp=Z,19μm,21.8s,baz=357,slow=36
ASAR PKPPKP **P'P'df** **11 30 37.1 +3.4**
comp=Z,1.3nm,1.0s,baz=184,slow=3.6,SNR=4.3
comp=Z,52nm,0.8s
F04A Amboy 65.12 50 IAmb IAmb 11 02 17.6
comp=Z,236nm,1.1s
PUL Pulkovo 65.13 329 *i* P **P** **11 01 55.5 -0.3**
PUL pmax pmax
comp=Z,250nm,1.2s
PUL MLR MLR
comp=Z,21μm,19.0s
VRH Novokhopyorsk 65.14 317 *eP* **P** **11 01 54.9 -1.1**
VRH *e**SP **sP** **11 02 13.3 -1.3**
VRH *eS* **S** **11 10 36.2 +1.2**
VRH pmax pmax
comp=Z,1μm,1.3s
VRH pmax pmax
comp=Z,390nm,1.0s
VRH smax smax
comp=E,3μm,11.0s
VRH MLR MLR
comp=Z,38μm,19.0s
OBN Obninsk 65.36 323⇑ P **P** **11 01 58.1 +0.8**
OBN Obninsk 65.36 323 P **P** **11 01 57.0 -0.3**
OBN Obninsk 65.36 323*c i*P **P** **11 01 56.6 -0.7**
OBN *i* 11 02 16.2
OBN *e* 11 04 18.7
OBN *i* S **S** **11 10 42.1 +4.6**
OBN pmax pmax
comp=Z,612nm,1.7s
OBN MLR MLR
comp=Z,33μm,17.0s
OBN Obninsk 65.36 323 LR LR 11 33 41.6
comp=Z,36μm,18.2s,baz=46,slow=39
LTY Liberty 65.37 48 IAmb IAmb 11 02 17.8
comp=Z,263nm,1.4s
B08A Colville Reser 65.49 46 P **P** **11 01 59.1 +0.6**
B08A IAmb IAmb 11 02 18.6
comp=Z,228nm,1.8s
FIA1 FINESS Array S 65.63 332 P **P** **11 01 59.0 0.0**
FINES FINESS Array B 65.63 332 P **P** **11 01 58.4 -0.6**
FINES FINESS Array B 65.63 332 P **P** **11 01 58.8 -0.2**
comp=Z,161nm,1.0s,baz=38,slow=8.0,SNR=92
FINES LR LR 11 32 44.0
comp=Z,42μm,21.2s,baz=42,slow=38
comp=Z,161nm,1.0s
LIFNC LIFOU 65.70 154 IAMs_20 IAMs_20 11 28 54.0
comp=Z,11μm,20.0s
LPSR Galich'ya Gora 65.73 319 *eP* **P** **11 01 59.2 -0.6**
LPSR *e**SP **sP** **11 02 16.4 -2.0**
LPSR *eS* **S** **11 10 46.7 +4.5**
LPSR pmax pmax
comp=Z,470nm,1.0s
LPSR smax smax
comp=E,3μm,10.6s
PSA00 Pilbara Seismi 65.73 203 IAmb IAmb 11 02 21.4
comp=Z,223nm,1.2s
PSA00 Pilbara Seismi 65.73 203 IAmb IAmb 11 02 21.4
comp=Z,164nm,1.3s
PSA00 Pilbara Seismi 65.73 203 P **P** **11 02 00.2 +0.1**
UPNV Upernavik 65.73 6 *i* P **P** **11 02 00.1 +0.6**
UPNV IAmb IAmb 11 02 12.2
comp=Z,56nm,0.8s
EDM Edmonton 65.75 40 IAmb IAmb 11 02 38.4
comp=Z,296nm,1.2s
EDM IAMs_20 IAMs_20 11 30 32.6
comp=Z,21μm,22.0s
MOR8 Moi Rana 65.87 339 *eP* **P** **11 01 59.3 -1.2**
MOR8 *es*P **sP** **11 02 16.4 -2.7**
MOR8 *eS* **S** **11 10 42.9 -0.7**
MOR8 *eSS* **SS** **11 14 58.7 +0.7**
MOR8 IVMs_BB IVMs_BB 11 27 33.0
comp=Z,5μm,38.1s
HOOD Mount Hood Mea 65.91 50 IAmb IAmb 11 02 24.4
comp=Z,206nm,0.8s
H04A Detroit Lake 65.95 51 IAmb IAmb 11 02 26.8
comp=Z,196nm,1.1s
KONS Konsvik 65.96 340 *eP* **P** **11 02 02.0 +0.9**
MXC Moxie City 65.97 49 IAmb IAmb 11 02 23.2
comp=Z,189nm,1.2s
TRD Trivandrum 65.97 260 *eP* **P** **11 02 01.9 0.0**
VORR Voronezh 66.14 318 *eP* **P** **11 02 02.4 -0.1**
VORR *e**SP **sP** **11 02 19.0 -2.1**
VORR *eS* **S** **11 10 40.0 -7.2**
VORR pmax pmax
comp=Z,550nm,1.3s
VORR pmax pmax
comp=Z,270nm,0.6s
VORR smax smax
comp=N,190nm,4.2s
VORR MLR MLR
comp=Z,32μm,17.0s
G05A Wamic 66.14 50 IAmb IAmb 11 02 27.7
comp=Z,232nm,1.0s
K02D Willamette Mer 66.19 54 IAmb IAmb 11 02 24.9
comp=Z,152nm,1.1s
DBO Dodson Butte 66.21 53 IAmb IAmb 11 02 48.2
comp=Z,360nm,1.8s
E07A Sunnyside 66.23 48 IAmb IAmb 11 02 23.7
comp=Z,281nm,1.3s
I04A Tendick Farm, 66.33 52 IAmb IAmb 11 02 25.5
comp=Z,173nm,1.0s
JMIC Jan Mayen 66.33 350 *eP* **P** **11 02 03.8 +0.4**
JMIC *eS* **S** **11 10 53.4 +4.4**
JMIC IVMs_BB IVMs_BB 11 30 33.9
comp=Z,6μm,4.4s
JMIC Jan Mayen 66.33 350 LR LR 11 32 46.4
comp=Z,3μm,18.9s,baz=22,slow=38
C09A Chrisman Ranch 66.39 47 IAmb IAmb 11 02 25.6
comp=Z,132nm,1.1s
VSR Storozhevoye 66.43 318 *eP* **P** **11 02 03.8 -0.5**
VSR *e**SP **sP** **11 02 22.2 -0.8**
VSR *eS* **S** **11 10 47.6 -3.2**
VSR pmax pmax
comp=Z,1μm,1.2s
VSR pmax pmax
comp=Z,360nm,1.0s
VSR smax smax
comp=N,1μm,12.5s
VSR MLR MLR
comp=Z,28μm,18.0s
D08A Wollman Farm, 66.47 47 IAmb IAmb 11 02 24.9
comp=Z,458nm,1.7s
HAWA Hanford 66.51 48 IAmb IAmb 11 02 25.4
HAWA comp=Z,240nm,1.4s IAMs_20 IAMs_20 11 27 33.7
comp=Z,15μm,22.0s
VORD Divnogorie 66.52 318 *eP* **P** **11 02 04.0 -0.9**
VORD *e**SP **sP** **11 02 23.6 +0.1**
VORD *e* 11 04 27.6
VORD *eS* **S** **11 10 42.9 -8.9**
VORD pmax pmax
comp=Z,290nm,1.0s
VORD pmax pmax
comp=Z,250nm,0.8s
VORD smax smax
comp=N,140nm,3.9s
VORD MLR MLR
comp=Z,26μm,20.0s
F07A Phinny Hill Vi 66.57 49 IAmb IAmb 11 02 37.8
comp=Z,126nm,0.9s
EIDS Eidsvold 66.57 171 P **P** **11 02 06.3 +0.9**
MAK Makhachkala 66.61 307*d i*P **P** **11 02 06.4 +0.8**
MAK *e**PP **pP** **11 02 19.7 +0.8**
MAK *e**SP **sP** **11 02 26.5 +2.3**
MAK *eS* **S** **11 10 53.3 +0.1**
MAK *e**SS **sS** **11 11 17.9 +2.4**
MAK *eSS* **SS** **11 15 05.2 -5.2**
MAK pmax pmax
comp=Z,553nm,1.8s
MAK MLR MLR
comp=Z,11μm,18.0s
DZM Mont Dzumac 66.66 156 P **P** **11 02 06.9 +0.8**
DZM Mont Dzumac 66.66 156 *eP* **P** **11 02 09.5 +3.4**
comp=Z,721nm,1.4s
DZM *eS* S 11 10 44.5 -10
comp=Z,7μm,26.8s
DZM *eSS* **SS** **11 15 19.5 +6.6**
comp=Z,9μm,28.6s
DZM *eLR* LR 11 22 04.2
comp=Z,49μm,22.7s
DZM Mont Dzumac 66.66 156 LR LR 11 27 11.1
comp=Z,23μm,21.8s,baz=328,slow=32
SUMG Summit 66.67 0 P **P** **11 02 07.0 +1.0**
SUMG Summit 66.67 0 P **P** **11 02 01.8 -4.2**
SUMG Summit 66.67 0 P **P** **11 02 07.1 +1.0**
SUMG pmax pmax
comp=Z,1μm,1.5s
SUMG MLR MLR
comp=Z,26μm,22.0s
SUMG Summit 66.67 0 *i* P **P** **11 02 06.0 0.0**
SUMG IAmb IAmb 11 02 10.2
comp=Z,124nm,0.6s
NEW Newport 66.75 46 LR LR 11 29 20.5
comp=Z,18μm,22.0s,baz=312,slow=34
WRKA Warakurna 67.04 194 P **P** **11 02 08.4 0.0**
MEF Metsahovi 67.07 331 *eP* **P** **11 02 09.3 +1.1**
OUENC Ouen Island, N 67.11 155 IAMs_20 IAMs_20 11 28 58.3
comp=Z,21μm,20.0s
PINE Pine Mountain 67.20 51 P **P** **11 02 10.3 +0.7**
PINE IAmb IAmb 11 02 31.7
comp=Z,211nm,1.1s
KMPM Mount Pierce 67.21 56 IAmb IAmb 11 02 35.6
comp=Z,213nm,1.1s
E09A Wood Farm, Sta 67.22 48 IAmb IAmb 11 02 31.1
comp=Z,284nm,1.3s
J05D Fort Rock, OR 67.32 52 IAmb IAmb 11 02 32.4
comp=Z,149nm,1.0s
YBH Yreka Blue Hor 67.33 54 IAmb IAmb 11 02 36.1
comp=Z,140nm,1.1s
YBH Yreka Blue Hor 67.33 54 LR LR 11 26 38.0
comp=Z,8μm,21.5s,baz=314,slow=31
K04D Chiloquin, OR 67.39 53 IAmb IAmb 11 02 46.4
comp=Z,133nm,0.9s
VSU Vasula 67.39 329*c i*P **P** **11 02 10.7 +0.4**
VSU pmax pmax
comp=Z,197nm,1.0s
VSU MLR MLR
comp=Z,23μm,19.0s
VSU Vasula 67.39 329 *eP* **P** **11 02 11.8 +1.5**
RAF Rauma 67.43 333 *eP* **P** **11 02 11.5 +1.1**
GROC Groznyy 67.50 308 *eP* **P** **11 02 12.0 +0.8**
GROC *e**PP **sP** **11 02 28.2 -1.7**
GROC *e* 11 02 39.1
GROC *e* 11 04 42.5
GROC *eS* **S** **11 11 03.9 0.0**
GROC *e* 11 11 23.7
GROC pmax pmax
comp=Z,194nm,1.3s
NGCH Negor - Chabah 67.50 285 P **P** **11 02 13.0 +1.5**
SNR=8.5
KMRM Mail Ridge 67.58 56 IAmb IAmb 11 02 37.3
comp=Z,363nm,1.7s
COCO West Island 67.63 229 P **P** **11 02 12.4 +0.1**
COCO West Island 67.63 229 P **P** **11 02 12.4 +0.1**
COCO pmax pmax
comp=Z,498nm,1.1s
NSS Namsos 67.80 339 *eP* **P** **11 02 13.3 +0.5**
NSS IVmB_BB 11 02 30.4
comp=Z,4μm,2.9s
NSS *eS* **S** **11 11 06.8 -0.1**
NSS IVMs_BB IVMs_BB 11 31 10.9
comp=Z,5μm,33.2s
I07A Izee 67.87 50 IAmb IAmb 11 02 33.4
comp=Z,305nm,2.0s
GOF Gofitskoye 68.01 311*c i*P **P** **11 02 15.1 +0.6**
GOF *eS* **PnS** **11 11 38.7 +0.4**
F10A Beach Ranch, E 68.05 48 IAmb IAmb 11 02 35.2
comp=Z,201nm,1.4s
UMMG Uummannaq 68.09 5 *i* P **P** **11 02 14.1 -0.4**
UMMG IAmb IAmb 11 02 31.5
comp=Z,51nm,0.7s
SCO Scoresbysund 68.20 354 *i* P **P** **11 02 16.8 +1.6**
SCO IAmb IAmb 11 02 33.8
comp=Z,24nm,0.8s
MTSE Matsula 68.33 330 *eP* **P** **11 02 17.5 +1.3**
GIRL Giralia 68.56 208 P **P** **11 02 18.2 +0.3**
BMO Blue Mountains 68.68 49 IAmb IAmb 11 02 38.2
comp=Z,342nm,1.9s
BMO IAMs_20 IAMs_20 11 28 04.1
comp=Z,12μm,22.0s
HOPS Hopland Field 68.69 56 IAMs_20 IAMs_20 11 26 08.0
comp=Z,18μm,22.0s
OOD Oodnadatta 68.78 186 P **P** **11 02 20.3 +1.1**
ZEI Tsey 68.86 309 *eP* **P** **11 02 17.8 -2.3**
ZEI pmax pmax
comp=Z,97nm,0.8s
KVAR Kislovodsk Arr 68.87 310 P **P** **11 02 21.0 +1.0**
comp=Z,172nm,0.9s,baz=102,slow=20,SNR=30
KVAR LR LR 11 35 04.4
comp=Z,17μm,20.3s,baz=270,slow=38
comp=Z,172nm,0.9s
KIV Kislovodsk 68.87 310 P **P** **11 02 20.9 +0.9**
KIV Kislovodsk 68.87 310 *i* P **P** **11 02 20.3 +0.3**
SNR=62
KIV Kislovodsk 68.87 310 *eP* **P** **11 02 20.7 +0.7**
KIV *e* 11 04 53.4
KIV *ePPP* PPP 11 06 33.5
KIV *eS* **S** **11 11 20.6 +0.1**
KIV *eSS* **SS** **11 15 47.5 +1.9**
KIV pmax pmax
comp=Z,1μm,3.5s
KIV pmax pmax
comp=Z,500nm,1.1s
KIV MLR MLR
comp=Z,15μm,17.0s
KIV Kislovodsk 68.87 310 P **P** **11 02 20.9 +0.9**
KIV Kislovodsk 68.87 310 P **P** **11 02 21.3 +1.3**
KBZ Khabaz 68.89 310 P **P** **11 02 20.6 +0.7**
comp=Z,132nm,0.8s,baz=287,slow=2.3,SNR=88
KBZ S **S** **11 11 19.3 -1.0**
comp=Z,6.8nm,1.2s,baz=322,slow=8.1,SNR=2.2
KBZ LR LR 11 38 09.7
comp=Z,26μm,18.6s,baz=36,slow=41
comp=Z,132nm,0.8s
J08A Circle Bar Ran 68.90 51 IAmb IAmb 11 02 46.6
comp=Z,150nm,1.1s
ERBR Yeremizino-Bor 69.06 313*c i*P **P** **11 02 21.4 +0.4**
ERBR *i* *PP **pP** **11 02 35.6 +1.3**
ERBR *i* 11 04 49.7
ERBR *ePPP* PPP 11 06 31.0
ERBR *eS* **S** **11 11 23.2 +0.8**
ERBR pmax pmax
comp=E,49nm,1.1s
ERBR pmax pmax
comp=Z,763nm,0.9s
ERBR pmax pmax
comp=N,11nm,0.4s
ERBR MLR MLR
comp=Z,14μm,17.0s
ERBR MLR MLR
comp=N,11μm,18.0s
AFI Afiamalu 69.18 132 IAMs_20 IAMs_20 11 25 48.2
comp=Z,20μm,22.0s
ONI Oni 69.25 309 IAMs_20 IAMs_20 11 35 05.6
comp=Z,21μm,21.0s
PLID Pearl Lake 69.27 48 IAmb IAmb 11 02 42.5
comp=Z,201nm,1.4s
PLID IAMs_20 IAMs_20 11 29 21.8
comp=Z,17μm,22.0s
TBLU Trondheim 69.28 339 *eP* **P** **11 02 21.4 -0.6**
TBLU *eS* **S** **11 11 27.3 +2.9**
TBLU IVMs_BB IVMs_BB 11 32 17.5
comp=Z,6μm,21.7s
MCCM Marconi Confer 69.32 57 IAMs_20 IAMs_20 11 26 21.5
comp=Z,19μm,22.0s
MSO Missoula 69.33 45 IAmb IAmb 11 03 09.3
comp=Z,274nm,1.4s
MSO Missoula 69.33 45 P **P** **11 02 23.4 +0.5**
baz=308,SNR=32
MSO S **S** **11 11 27.5 +1.6**
baz=308
ORV Oroville 69.35 55 IAMs_20 IAMs_20 11 26 48.2
comp=Z,11μm,22.0s
WVOR Wild Horse Val 69.36 51 IAmb IAmb 11 02 43.5
comp=Z,294nm,1.4s
LABN Labinsk 69.58 312 *eP* **P** **11 02 24.9 +0.7**
LABN *i* *PP **sP** **11 02 41.8 -1.1**
LABN *eS* **S** **11 11 28.3 -0.3**
LABN *eSS* **SS** **11 15 54.4 -1.8**
LABN pmax pmax
comp=Z,627nm,1.0s
LABN pmax pmax
comp=E,71nm,1.0s
LABN pmax pmax
comp=N,11nm,0.4s
LABN MLR MLR
comp=N,20μm,19.0s
LABN MLR MLR
comp=Z,28μm,23.0s
LABN MLR MLR
comp=E,28μm,17.0s
JASK Jask - Hormozg 69.58 287 P **P** **11 02 26.0 +1.5**
SNR=15
ILULI Ilulissat 69.60 5 *i* P **P** **11 02 23.5 -0.4**
ILULI IAmb IAmb 11 02 51.7
comp=Z,54nm,0.8s
MNK Minsk 69.61 326 *i* P **P** **11 02 22.0 -2.2**
comp=E,66nm,1.0s
MNK *i* P **P** **11 02 22.0 -2.2**
comp=N,146nm,1.1s
MNK *i* P **P** **11 02 22.0 -2.2**
comp=Z,262nm,1.1s,baz=47
MNK *i* pP **pP** **11 02 38.4 +0.9**
MNK *i* PP **PP** **11 04 56.1 -1.8**
MNK *i* PPP PPP 11 06 37.7
MNK *i* S **S** **11 11 25.8 -2.8**
MNK *i* sS **sS** **11 11 54.0 +3.0**
MNK *i* SS **SS** **11 15 55.3 -0.9**
MNK *i* SSS SSS 11 19 13.1
MNK *i* LQ LQ 11 27 44.2
MNK *i* LR LR 11 30 57.5
MNK *i* LRM MLR 11 35 52.6
comp=N,14μm,19.5s
MNK *i* LRM MLR 11 35 57.7
comp=Z,27μm,18.6s
MNK *i* LRM MLR 11 36 06.2
comp=E,8μm,17.0s
MNK Minsk 69.61 326 *i* P **P** **11 02 22.0 -2.2**
MNK *i* *PP **pP** **11 02 38.4 +0.9**
MNK *i* 11 04 56.1
MNK *i* PPP PPP 11 06 37.6
MNK *i* S **S** **11 11 25.7 -2.8**
MNK *i* *SS **sS** **11 11 54.0 +3.0**
MNK *i* 11 12 17.9
MNK *i* SS **SS** **11 15 55.2 -0.9**
MNK pmax pmax
comp=Z,262nm,1.0s
MNK pmax pmax
comp=E,66nm,1.0s
MNK pmax pmax
comp=N,146nm,1.1s
MNK MLR MLR
comp=N,14μm,20.0s
MNK MLR MLR
comp=Z,27μm,19.0s
MNK MLR MLR
comp=E,8μm,17.0s
ISAL Salakas 69.61 327 *eP* **P** **11 02 26.9 +2.7**
SLIT Slitere, Latvi 69.67 330 *eP* **P** **11 02 25.7 +1.2**
NACGM Naroch 69.80 326 *eP* **P** **11 02 25.8 +0.4**
FFC Flin Flon 69.93 34 P **P** **11 02 26.6 +0.4**
FFC IAmb IAmb 11 02 50.6
comp=Z,154nm,1.1s
FFC Flin Flon 69.93 34 IAMs_20 IAMs_20 11 33 45.8
comp=Z,18μm,22.0s
FFC Flin Flon 69.93 34 P **P** **11 02 26.6 +0.4**
FFC pmax pmax
comp=Z,154nm,1.1s
FFC MLR MLR
comp=Z,18μm,22.0s
FFC Flin Flon 69.93 34 P **P** **11 02 26.6 +0.4**
FFC sP **pwP** **11 02 42.9 +1.4**
GNI Garni 69.94 306 P **P** **11 02 27.6 +0.8**
GNI Garni 69.94 306 IAMs_20 IAMs_20 11 35 42.2
comp=Z,11μm,20.0s
GNI Garni 69.94 306*c i*P **P** **11 02 28.2 +1.4**
GNI pmax pmax
comp=Z,494nm,1.6s
GNI MLR MLR
comp=Z,18μm,24.0s
GNI Garni 69.94 306 LR LR 11 35 34.0
comp=Z,11μm,20.4s,baz=66,slow=38
GNI Garni 69.94 306 P **P** **11 02 28.1 +1.4**
GNI P **P** **11 02 28.1 +1.4**
GNI Garni 69.94 306 P **P** **11 02 28.1 +1.3**
AFDM Forest Hills D 70.04 55 IAmb IAmb 11 02 59.2
comp=Z,199nm,1.5s
FCC Fort Churchill 70.08 28 IAmb IAmb 11 02 56.0
comp=Z,278nm,1.3s
ICESG Greenland Ices 70.17 1 *i* P **P** **11 02 28.6 +0.7**
ICESG IAmb IAmb 11 02 48.9
comp=Z,161nm,0.7s
VSVD Vaisvydziai 70.21 328 *eP* **P** **11 02 30.1 +2.3**
MFID Camas Ranch 70.40 49 IAmb IAmb 11 02 50.0
comp=Z,248nm,1.6s
MPK Martis Peak 70.41 55 IAmb IAmb 11 02 51.5
comp=Z,321nm,1.1s
PABE Paberze 70.53 328 *eP* **P** **11 02 30.6 +0.8**
MOL Molde 70.56 340 *eP* **P** **11 02 32.3 +2.5**
MOL IVmBBB 11 02 34.3
comp=Z,2μm,2.6s
MOL *ePP* **PP** **11 05 06.2 +0.4**
MOL *eS* **S** **11 11 41.0 +1.7**
MOL IVMs_BB IVMs_BB 11 30 59.9
comp=Z,6μm,33.6s
PAHR Pah Rah Range 70.56 54 IAmb IAmb 11 02 55.8
comp=Z,155nm,1.0s
EMB Emerald Bay 70.56 55 IAmb IAmb 11 02 57.6
comp=Z,179nm,1.1s
NC405 NORSAR Array S 70.58 337 P **P** **11 02 29.8 -0.2**
NC405 IAmb IAmb 11 02 52.0
comp=Z,272nm,0.9s
DOMB Dombas 70.58 339 *eP* **P** **11 02 30.0 -0.1**
DOMB IVmB_BB 11 02 31.5
comp=Z,4μm,3.4s
DOMB *eS* **S** **11 11 39.7 -0.2**

DOMB IVMs_BB IVMs_BB 11 36 42.1
comp=Z,6µm,23.6s
NC303 NORSAR Array S 70.59 337 IAmb IAmb 11 02 50.2
comp=Z,203nm,1.0s
WSAR Wadi Sarin 70.59 284 LR LR 11 37 04.5
comp=Z,8µm,21.1s,baz=100,slow=39
WSAR Wadi Sarin 70.59 284 P **P** **11 02 31.7 +0.9**
SNR=18
JLN Jalan Bani Buh 70.67 283 P **P** **11 02 32.0 +0.7**
SNR=40
BANOM Banah 70.68 288 P **P** **11 02 31.5 +0.2**
SHME Shamm 70.72 288 *i* P **P** **11 02 31.4 -0.1**
SNR=40
SHME Shamm 70.72 288 P **P** **11 02 31.6 +0.2**
SNR=17
WBK Wadi Bani Khal 70.72 283 P **P** **11 02 32.6 +1.0**
SNR=32
HFS Hagfors 70.75 336 P **P** **11 02 31.3 +0.2**
comp=Z,56nm,0.5s,baz=42,slow=6.8,SNR=102
HFS LR LR 11 35 50.6
comp=Z,24µm,21.8s,baz=40,slow=38
comp=Z,56nm,0.5s
EGMT Eagleton 70.78 43 IAmb IAmb 11 02 55.6
comp=Z,176nm,0.9s
EGMT IAMs_20 IAMs_20 11 33 14.4
comp=Z,18µm,22.0s
EGMT Eagleton 70.78 43 P **P** **11 02 32.5 +0.9**
baz=310,SNR=72
EGMT S **S** **11 11 43.3 +0.6**
baz=310
NB2 NORSAR Subarra 70.78 337 P **P** **11 02 31.2 -0.2**
comp=Z,113nm,0.7s,baz=36,slow=6.5
NB2 NORSAR Subarra 70.78 337 P **P** **11 02 31.2 -0.2**
baz=36,slow=6.5
NOA NORSAR Array B 70.78 337 P **P** **11 02 31.2 -0.2**
comp=Z,70nm,0.9s,baz=37,slow=6.1,SNR=72
NOA LR LR 11 37 45.8
comp=Z,15µm,19.9s,baz=35,slow=39
comp=Z,70nm,0.9s
BIDO Bidbid 70.79 285 P **P** **11 02 32.6 +0.7**
SNR=41
SOC Sochi 70.80 311 *e*P **P** **11 02 30.8 -0.9**
SOC *e**PP **pP** **11 02 46.1 +1.0**
SOC *e**SP **PcP** **11 02 53.4 +1.2**
SOC *e* 11 05 04.6
SOC *e*PPP PPP 11 06 50.5
SOC *e*S **S** **11 11 42.7 -0.2**
SOC *e**SS **SKiKP** **11 12 08.1 -1.8**
SOC *e*SS **SS** **11 16 09.8 -5.2**
SOC pmax pmax
comp=Z,130nm,0.9s
SOC MLR MLR
comp=Z,15µm,19.0s
PNTR Pine Nut 70.80 55 IAmb IAmb 11 02 59.2
comp=Z,211nm,1.1s
MEEK Meekatharra 70.87 202 P **P** **11 02 31.7 -0.5**
NC602 NORSAR Array S 70.93 337 *e*P **P** **11 02 33.2 +1.0**
NC602 IVmB_BB 11 02 50.1
comp=Z,3µm,2.0s
NC602 *e*PP **PP** **11 05 11.9 +2.7**
NC602 *e*S **S** **11 11 45.1 +1.3**
NC602 IVMs_BB IVMs_BB 11 33 07.3
comp=Z,9µm,25.5s
CMB Columbia Colle 70.95 56 IAMs_20 IAMs_20 11 27 41.9
comp=Z,18µm,22.0s
SOEG Soedalen 70.97 358 *i* P **P** **11 02 33.6 +1.3**
SOEG IAmb IAmb 11 02 52.3
comp=Z,53nm,0.9s
BCA Borcka 71.03 309 ⇑P **P** **11 02 34.3 +1.2**
AKN Aaknes 71.03 340 *e*P **P** **11 02 34.3 +1.5**
AKN *e*PP **PP** **11 05 10.9 +1.0**
AKN *e*S **S** **11 11 46.8 +1.8**
AKN IVMs_BB IVMs_BB 11 31 15.2
comp=Z,7µm,22.9s
NAO01 NORSAR Array S 71.03 337 IAmb IAmb 11 02 52.7
comp=Z,242nm,1.2s
MDH Madha 71.05 287 *i* P **P** **11 02 33.0 -0.6**
SNR=26
MDH Madha 71.05 287 P **P** **11 02 32.9 -0.6**
SNR=16
SAO San Andreas Ge 71.06 58 IAMs_20 IAMs_20 11 27 08.6
comp=Z,13µm,21.0s
YERR Yerington 71.09 55 IAmb IAmb 11 03 00.7
comp=Z,190nm,0.9s
MASF Masafi 71.11 287 P **P** **11 02 34.1 +0.2**
SNR=20
HLID Hailey 71.11 48 P **P** **11 02 35.0 +1.2**
baz=309,SNR=41
HLID S **S** **11 11 48.8 +1.9**
baz=309
MSFE Esma-Masafi 71.12 287 *i* P **P** **11 02 34.1 +0.2**
SNR=28
SMDO Samad 71.13 284 P **P** **11 02 34.7 +0.5**
SNR=40
LCRK Leigh Creek 71.24 184 P **P** **11 02 35.3 +1.0**
ANN Anapa 71.31 313 *c* P **P** **11 02 34.5 -0.2**
ANN *e**PP **pP** **11 02 48.0 -0.2**
ANN *e* 11 05 13.5
ANN *e*PPP PPP 11 06 57.4
ANN *e*S **S** **11 11 47.6 -1.1**
ANN *e*SS **SS** **11 16 21.8 -0.9**
ANN pmax pmax
comp=Z,571nm,1.9s
ANN pmax pmax
comp=E,111nm,2.1s
ANN pmax pmax
comp=N,13nm,0.5s
ANN MLR MLR
comp=Z,15µm,19.0s
ANN MLR MLR
comp=N,13µm,13.0s
UOSS Minazif 71.33 287 P **P** **11 02 34.8 -0.4**
UOSS IAmb IAmb 11 03 03.0
comp=Z,234nm,0.8s
UOSS Minazif 71.33 287 *i* P **P** **11 02 35.1 0.0**
SNR=43
UOSS Minazif 71.33 287 P **P** **11 02 35.2 0.0**
HOQ Hoqain 71.35 285 P **P** **11 02 35.5 +0.2**
SNR=48
UMQ Umm Al-Quwin 71.38 288 *i* P **P** **11 02 36.1 +0.6**
SNR=11
UMQ Umm Al-Quwin 71.38 288 P **P** **11 02 36.3 +0.8**
SNR=7.6
MULG Mulgathing 71.39 188 P **P** **11 02 35.9 +0.7**
BMN Battle Mountai 71.43 52 IAmb IAmb 11 03 02.1
comp=Z,301nm,1.4s
BBGB Big Mountain B 71.43 58 IAmb IAmb 11 02 58.4
comp=Z,256nm,1.1s
HATD Hatta, Dubai 71.46 287 *i* P **P** **11 02 36.3 +0.3**
SNR=78
HATD Hatta, Dubai 71.46 287 P **P** **11 02 36.5 +0.5**
SNR=72
JMDO Jabal Madar 71.50 284 P **P** **11 02 36.2 -0.1**
SNR=35
SOHO SOHO 71.58 286 *i* P **P** **11 02 36.1 -0.6**
SNR=39
SOHO SOHO 71.58 286 P **P** **11 02 36.7 0.0**
ASHO Ashiyiah 71.60 287 *i* P **P** **11 02 36.7 -0.2**
SNR=64
ASHO Ashiyiah 71.60 287 P **P** **11 02 37.2 +0.3**
SNR=55
AKASG Malin Array Be 71.60 322 P **P** **11 02 36.0 -0.4**
comp=Z,19nm,0.5s,baz=41,slow=6.3,SNR=105
AKASG S **S** **11 11 46.0 -5.8**
comp=Z,0.2nm,0.4s,baz=55,slow=12,SNR=1.0
AKASG LR LR 11 37 17.6
comp=Z,22µm,18.4s,baz=37,slow=38
comp=Z,19nm,0.5s
KIEV Kiev 71.61 322 P **P** **11 02 36.2 -0.1**
KIEV Kiev 71.61 322 *i* P **P** **11 02 36.3 -0.1**
SNR=24
KIEV Kiev 71.61 322 P **P** **11 02 36.3 -0.1**
KIEV pmax pmax
comp=Z,2µm,1.9s
KIEV MLR MLR
comp=Z,31µm,18.0s
KIEV Kiev 71.61 322 P **P** **11 02 36.5 0.0**
KIEV pP **pP** **11 02 48.7 -1.2**
KIEV sP **sP** **11 02 53.0 -2.2**
KIEV PcP **PcP** **11 02 55.4 -0.1**
KIEV PP **PP** **11 05 14.5 -0.7**
NAZ Nazwa, Dubai 71.70 287 *i* P **P** **11 02 37.4 0.0**
SNR=34
NAZ Nazwa, Dubai 71.70 287 P **P** **11 02 37.4 0.0**
SNR=25
KVN Kaiserville 71.75 54 IAmb IAmb 11 03 03.3
comp=Z,165nm,0.9s
PMPB Monarch Peak 71.80 58 IAmb IAmb 11 03 32.9
comp=Z,344nm,1.7s
OSL Oslo 71.81 337 *e*P **P** **11 02 38.4 +0.9**
OSL IVmB_BB 11 02 39.1
comp=Z,5µm,2.7s
OSL *e*sP **sP** **11 02 54.9 -1.3**
OSL *e*S **S** **11 11 55.3 +1.3**
OSL *e*SKSac **SKSac** **11 12 35.1 -1.8**
OSL IVMs_BB IVMs_BB 11 36 43.9
comp=Z,8µm,19.2s
SFJD Kangerlussuaq 71.82 5 P **P** **11 02 37.8 +0.3**
SFJD IAmb IAmb 11 02 58.3
comp=Z,298nm,1.2s
SFJD Kangerlussuaq 71.82 5 P **P** **11 02 37.8 +0.3**
SFJD pmax pmax
comp=Z,298nm,1.3s
SFJD MLR MLR
comp=Z,32µm,22.0s
SFJD Kangerlussuaq 71.82 5 LR LR 11 35 22.4
comp=Z,28µm,21.9s,baz=348,slow=37
SFJD Kangerlussuaq 71.82 5 *i* P **P** **11 02 37.4 -0.1**
SFJD IAmb IAmb 11 03 09.8
comp=Z,49nm,0.8s
FAQ Al Faqa, Dubai 71.90 287 *i* P **P** **11 02 38.4 -0.2**
SNR=33
FAQ Al Faqa, Dubai 71.90 287 P **P** **11 02 38.6 0.0**
SNR=26
SKAR Skarslia 71.91 338 *e*P **P** **11 02 38.4 +0.2**
SKAR IVmB_BB 11 02 40.2
comp=Z,4µm,3.0s
SKAR *e*sP **PcP** **11 02 55.7 -1.0**
SKAR *e*S **S** **11 11 58.1 +2.9**
SKAR IVMs_BB IVMs_BB 11 34 06.6
comp=Z,7µm,23.2s
BSY Bisya 71.94 285 P **P** **11 02 39.3 +0.4**
SNR=51
NVAR Mina Array Bea 72.01 55 P **P** **11 02 40.7 +1.3**
comp=Z,27nm,0.8s,baz=290,slow=5.6,SNR=78
NVAR PKPPKP P'P'df 11 30 19.8 -12
comp=Z,0.4nm,0.7s,baz=118,slow=4.5,SNR=3.7
NVAR LR LR 11 33 34.6
comp=Z,6µm,19.4s,baz=308,slow=35
comp=Z,27nm,0.8s
FOO Floro 72.02 340 *e*P **P** **11 02 39.4 +0.7**
FOO *e*sP **sP** **11 02 57.6 +0.2**
FOO *e*S **S** **11 11 58.4 +2.1**
FOO IVMs_BB IVMs_BB 11 31 26.0
comp=Z,6µm,29.9s
ARQ Araqi 72.07 286 P **P** **11 02 40.1 +0.4**
SNR=43
HYA Hoyanger 72.09 339 *e*P **P** **11 02 39.4 +0.3**
HYA *e*sP **PcP** **11 02 57.2 -0.1**
HYA *e*S **S** **11 12 00.2 +3.1**
HYA IVMs_BB IVMs_BB 11 35 34.5
comp=Z,6µm,19.8s
ASUD Al Ashush, Dub 72.16 287 *i* P **P** **11 02 40.5 +0.4**
SNR=50
ASUD Al Ashush, Dub 72.16 287 P **P** **11 02 40.4 +0.2**
SNR=20
MLAC Mammoth, Mammo 72.17 56 P **P** **11 02 42.0 +1.6**
baz=308,SNR=19
ALNE Al Ain 72.20 287 *i* P **P** **11 02 40.5 0.0**
SNR=25
ALNE Al Ain 72.20 287 P **P** **11 02 40.6 +0.2**
SNR=71
CMSA Cobar Meteorol 72.29 177 P **P** **11 02 41.4 +0.8**
KONO Kongsberg 72.38 337 P **P** **11 02 40.6 -0.3**
KONO Kongsberg 72.38 337 *e*P **P** **11 02 42.0 +1.1**
KONO IVmB_BB 11 02 42.7
comp=Z,5µm,3.2s
KONO *e*PP **PP** **11 05 22.9 +1.3**
KONO *e*S **S** **11 12 01.9 +1.4**
KONO IVMs_BB IVMs_BB 11 38 13.4
comp=Z,8µm,14.0s
KONO Kongsberg 72.38 337 P **P** **11 02 41.7 +0.8**
KTUT Trabzon 72.40 309 ⇑P **P** **11 02 42.0 +0.6**
ELK Elko 72.41 51 LR LR 11 32 54.4
comp=Z,5µm,20.2s,baz=320,slow=34
YNR Norris Junctio 72.44 46 IAmb IAmb 11 03 32.8
comp=Z,222nm,1.3s
AJN Ajban 72.44 287 *i* P **P** **11 02 41.5 -0.4**
SNR=32
AJN Ajban 72.44 287 P **P** **11 02 41.5 -0.4**
SNR=19
MHTO MHTO 72.44 283 P **P** **11 02 42.3 +0.3**
SNR=94
SUE Sulen 72.55 340 *e*P **P** **11 02 43.1 +1.2**
SUE *e*S **S** **11 12 03.5 +1.1**
SUE IVMs_BB IVMs_BB 11 38 33.7
comp=Z,8µm,18.4s
STKA Stephens Creek 72.57 181 P **P** **11 02 43.1 +0.9**
STKA Stephens Creek 72.57 181 P **P** **11 02 42.8 +0.5**
comp=Z,12nm,0.8s,baz=336,slow=7.2,SNR=19
STKA S S 11 11 53.6 -10
comp=Z,0.8nm,0.6s,baz=359,slow=10,SNR=1.3
STKA PKPPKP P'P'df 11 30 30.2 +10
comp=Z,0.4nm,0.3s,baz=159,slow=8.3,SNR=3.1
STKA LR LR 11 33 50.2
comp=Z,10µm,21.9s,baz=11,slow=35
comp=Z,12nm,0.8s
GURO Guroymak-BITLI 72.58 306 IAmb IAmb 11 03 03.1
comp=Z,204nm,1.0s
GURO IAMs_20 IAMs_20 11 37 07.0
comp=Z,12µm,22.0s
DY2G Dye2 72.60 4 *i* P **P** **11 02 43.2 +0.8**
DY2G IAmb IAmb 11 02 46.9
comp=Z,102nm,0.7s
VOG Valley Oaks Go 72.64 57 P **P** **11 02 43.5 +0.6**
baz=309
FORT Forrest 72.69 193 P **P** **11 02 43.3 +0.4**
FORT IAmb IAmb 11 03 07.9
comp=Z,211nm,0.8s
FORT Forrest 72.69 193 P **P** **11 02 43.2 +0.3**
FRB Frobisher Bay 72.70 14 LR LR 11 37 29.8
comp=Z,24µm,20.9s,baz=342,slow=38
H17A Grant Village 72.70 46 IAmb IAmb 11 02 51.3
comp=Z,216nm,1.1s
H17A Grant Village 72.70 46 P **P** **11 02 46.6 +3.1**
baz=311,SNR=137
IMW Indian Meadow 72.83 46 IAmb IAmb 11 03 18.3
comp=Z,290nm,1.6s
FLWY Flagg Ranch 72.84 46 IAmb IAmb 11 03 09.5
comp=Z,496nm,1.7s
SMMC Simmler 72.87 58 P **P** **11 02 45.7 +1.4**
baz=309,SNR=7.9
TIN Tinemaha, Big 72.91 56 P **P** **11 02 45.8 +1.2**
baz=309
ASK Askoy 72.93 339 *e*P **P** **11 02 45.8 +1.7**
RLMT Red Lodge 72.93 45 IAmb IAmb 11 03 31.8
comp=Z,370nm,1.7s
RLMT Red Lodge 72.93 45 P **P** **11 02 45.9 +1.1**
baz=312
BER Bergen 72.97 339 *e*P **P** **11 02 44.7 +0.3**
BER *e*sP **sP** **11 03 02.3 -0.9**
BER *e*S **S** **11 12 09.9 +2.7**
BER IVMs_BB IVMs_BB 11 32 54.1
comp=Z,5µm,14.6s
SIM Simferopol' **73.01 315** *e*P **P** **11 02 45.0 +0.1**
SIM *e**PP **sP** **11 03 05.0 +1.3**
SIM *e* 11 05 28.0
SIM *e*PPP PPP 11 07 14.0
SIM *e*S **S** **11 12 09.5 +1.3**
SIM pmax pmax
comp=Z,393nm,1.1s
ODD1 Odda 73.02 338 *e*P **P** **11 02 44.5 -0.2**
ODD1 IVmBBB 11 03 04.5
comp=Z,3µm,2.2s
ODD1 *e*PP **PP** **11 05 26.8 -0.3**
ODD1 *e*S **S** **11 12 10.0 +2.1**
ODD1 IVMs_BB IVMs_BB 11 35 59.7
comp=Z,8µm,21.7s
MOOW Moose Ponds 73.03 46 IAmb IAmb 11 03 32.2
comp=Z,251nm,1.4s
TPAW Teton Pass 73.09 47 IAmb IAmb 11 03 36.1
comp=Z,277nm,1.3s
VES Vestal, Richgr 73.13 57 P **P** **11 02 46.3 +0.5**
baz=309,SNR=19
LOHW Long Hollow 73.20 47 IAmb IAmb 11 03 34.1
comp=Z,341nm,1.8s
DGMT Dagmar 73.24 40 IAmb IAmb 11 02 51.2
comp=Z,257nm,1.2s
DGMT Dagmar 73.24 40 P **P** **11 02 46.8 +0.4**
baz=314,SNR=43
DGMT Dagmar 73.24 40 P **P** **11 02 47.0 +0.6**
baz=314,SNR=43
PKM Mcpherson Peak 73.25 58 P **P** **11 02 48.1 +1.3**
baz=309,SNR=16
CWC Cottonwood Cre 73.39 56 P **P** **11 02 48.7 +1.2**
baz=309
DQM DQM 73.41 282 P **P** **11 02 47.6 -0.1**
SNR=31
UMZA Um Al Zommool 73.44 286 P **P** **11 02 47.5 -0.4**
LAO LASA Array 73.46 42 IAmb IAmb 11 03 25.5
comp=Z,346nm,1.3s
LAO IAMs_20 IAMs_20 11 35 19.8
comp=Z,13µm,21.0s
LAO LASA Array 73.46 42 P **P** **11 02 48.8 +1.1**
baz=313,SNR=68
LAO LASA Array 73.46 42 P **P** **11 02 48.4 +0.8**
baz=313,SNR=68
BLS5 Blasjo 73.47 338 *e*P **P** **11 02 48.0 +0.6**
BLS5 IVmB_BB 11 02 49.3
comp=Z,5µm,2.9s
BLS5 *e*S **S** **11 12 13.1 0.0**
BLS5 IVMs_BB IVMs_BB 11 38 20.0
comp=Z,9µm,20.9s
BCW Bitter Crk WRg 73.48 58 IAmb IAmb 11 03 36.1
comp=Z,302nm,1.2s
AHID Auburn Hatcher 73.48 47 IAMs_20 IAMs_20 11 32 09.2
comp=Z,13µm,21.0s
GRAC Grapevine Rang 73.48 55 IAmb IAmb 11 03 15.2
comp=Z,457nm,1.4s
GRAC Grapevine Rang 73.48 55 P **P** **11 02 49.6 +1.7**
baz=309,SNR=28
SBC Santa Barbara 73.59 59 P **P** **11 02 49.8 +1.2**
baz=309
ISA Isabella, Lake 73.62 57 P **P** **11 02 49.1 +0.3**
baz=309,SNR=14
ANGG Ammassalik, Gr 73.67 0 *i* P **P** **11 02 49.7 +1.3**
ANGG IAmb IAmb 11 02 52.4
comp=Z,19nm,0.9s
R11B Troy Canyon, C 73.72 53 P **P** **11 02 50.2 +0.8**
baz=310,SNR=65
BBOO Buckleboo 73.73 186 IAmb IAmb 11 02 54.1
comp=Z,323nm,1.9s
BBOO Buckleboo 73.73 186 P **P** **11 02 49.8 +0.8**
ISOG Isortoq, Greem 73.73 1 *i* P **P** **11 02 50.4 +1.6**
ISOG IAmb IAmb 11 02 54.4
comp=Z,34nm,0.9s
MZWR Madinat Zayed 73.73 287 P **P** **11 02 48.8 -0.7**
ARVC Arvin 73.73 58 P **P** **11 02 50.2 +0.8**
baz=309,SNR=10.0
Q12A Willow Creek R 73.73 52 IAmb IAmb 11 03 14.6
comp=Z,252nm,1.2s
JRN Qarnain Island 73.75 289 P **P** **11 02 48.5 -1.1**
SNR=24
BORG Borgarnes 73.77 353 LR LR 11 34 40.2
comp=Z,3µm,21.6s,baz=0.6,slow=35
SORM Soroca 73.78 320 ⇑P **P** **11 02 50.3 +0.9**
SORM Soroca 73.78 320 P **P** **11 02 50.2 +0.9**
LHI Lord Howe Isla 73.84 165 IAMs_20 IAMs_20 11 30 20.4
comp=Z,12µm,21.0s
HOMB Homborsund 73.84 337 *e*P **P** **11 02 49.9 +0.4**
HOMB IVmBBB 11 02 51.2
comp=Z,4µm,2.5s
HOMB *e*S **S** **11 12 19.8 +2.7**
HOMB IVMs_BB IVMs_BB 11 37 08.6
comp=Z,8µm,30.6s
MORW Morawa 73.91 204 P **P** **11 02 50.1 -0.2**
MORW Morawa 73.91 204 P **P** **11 02 50.2 0.0**
SCZ2 Santa Cruz Isl 73.92 59 P **P** **11 02 51.1 +0.6**
baz=309
HWUT Hardware Ranch 73.98 49 IAmb IAmb 11 03 11.6
comp=Z,411nm,1.6s
KMY Karmoy 73.99 339 *e*P **P** **11 02 47.5 -2.9**
KMY IVmB_BB 11 02 51.5
comp=Z,3µm,4.3s
KMY *e*sP **sP** **11 03 08.6 -0.5**
KMY *e*S **S** **11 12 22.7 +4.0**
KMY IVMs_BB IVMs_BB 11 36 48.7
comp=Z,8µm,28.0s
MPMC Manual Prospec 74.00 56 P **P** **11 02 52.3 +1.1**
baz=310
SPR3 Spring Creek 3 74.06 52 IAmb IAmb 11 03 12.8
comp=Z,271nm,1.4s
S11A Rachel 74.07 54 IAmb IAmb 11 03 26.8
comp=Z,321nm,1.1s
OSI Osito Audit: C 74.12 58 P **P** **11 02 53.2 +1.5**
baz=309
FURC Furnace Creek, 74.13 55 P **P** **11 02 52.8 +1.2**
baz=310,SNR=42
PURM Purcari 74.14 318 ⇑P **P** **11 02 52.4 +1.0**
SNART Snartemo 74.17 337 *e*P **P** **11 02 52.9 +1.4**
SNART *e*S **S** **11 12 23.5 +2.8**
DUG Dugway, Tooele 74.18 50 P **P** **11 02 53.2 +1.2**
baz=311,SNR=50
HTT Hallett 74.18 183 P **P** **11 02 52.7 +0.9**
TPNV Topopah Spring 74.20 55 IAmb IAmb 11 03 18.4
comp=Z,590nm,1.8s
TPNV IAMs_20 IAMs_20 11 29 42.8
comp=Z,20µm,22.0s
TPNV Topopah Spring 74.20 55 P **P** **11 02 53.4 +1.1**
baz=310,SNR=77
KAAM Kaadhehdhoo 74.23 257 P **P** **11 02 52.8 +0.3**
KAAM Kaadhehdhoo 74.23 257 P **P** **11 02 54.3 +1.8**
KAAM Kaadhehdhoo 74.23 257 P **P** **11 02 56.2 +3.7**
comp=Z,379nm,1.4s,comp=Z,21µm
LRMC Laurel Mtn Rad 74.24 57 P **P** **11 02 53.5 +1.0**
baz=310,SNR=18
BSD Bornholm Skovb 74.27 332 *i* P **P** **11 02 54.8 +2.7**
BSD IAmb IAmb 11 02 58.9
comp=Z,70nm,1.0s
GHWR Ruwais 74.33 288 P **P** **11 02 52.4 -0.6**
BW06 Boulder Array 74.33 47 P **P** **11 02 53.5 +0.5**
BW06 Boulder Array 74.33 47 P **P** **11 02 53.6 +0.5**
baz=312,SNR=87
PD31 Pinedale Array 74.33 47 P **P** **11 02 53.5 +0.4**
PDAR Pinedale Array 74.33 47 P **P** **11 02 53.4 +0.3**
PDAR Pinedale Array 74.33 47 P **P** **11 02 53.7 +0.6**
comp=Z,34nm,0.9s,baz=260,slow=1.7,SNR=112
PDAR PKPPKP P'P'df 11 30 17.1 -11
comp=Z,0.5nm,0.8s,baz=108,slow=3.3,SNR=5.3
PDAR LR LR 11 35 21.7
comp=Z,6µm,21.6s,baz=340,slow=36
comp=Z,34nm,0.9s
KIS Kishinev 74.34 319 ⇓ *i* P **P** **11 02 52.5 -0.2**
comp=Z,2µm,3.6s
KIS *i* pP **PcP** **11 03 09.0 +1.8**
KIS Kishinev 74.34 319 *d* P **P** **11 02 52.5 -0.2**
KIS *i* *PP **PcP** **11 03 09.0 +1.8**
KIS *e* 11 05 34.0
KIS *e* 11 07 20.0
KIS *e*S **S** **11 12 22.0 -1.1**
KIS *e*PS **PnS** **11 13 01.0 -0.8**
KIS pmax pmax
comp=Z,2µm,3.6s
KIS MLR MLR
comp=E,5µm,16.0s
TCUT Toone Canyon 74.39 49 IAmb IAmb 11 03 16.0
comp=Z,192nm,1.1s
MILM Milestii Mici 74.40 319 ⇑P **P** **11 02 53.6 +0.6**
MILM Milestii Mici 74.40 319 ⇑ *i* P **P** **11 02 52.0 -1.0**
comp=Z,2µm,3.3s
MILM *i* pP **PcP** **11 03 09.0 +1.5**
MILM Milestii Mici 74.40 319 *c* *i* P **P** **11 02 52.0 -1.0**
MILM *i* *PP **PcP** **11 03 09.0 +1.5**
MILM *e*S **S** **11 12 21.0 -2.7**
MILM *e*PS **PnS** **11 13 07.0 +4.4**
MILM pmax pmax
comp=Z,2µm,3.3s
EDW2 Edwards Air Fo 74.42 57 P **P** **11 02 54.6 +1.2**
baz=310,SNR=26
QSM Queen of Sheba 74.44 56 IAmb IAmb 11 03 19.5
comp=Z,255nm,1.2s
ARPR Arapgir-MALATY 74.46 308 IAMs_20 IAMs_20 11 40 22.6
comp=Z,17µm,21.0s
SNCC San Nicolas Is 74.46 59 P **P** **11 02 54.5 +0.9**
baz=309
MZR Muzera 74.49 287 P **P** **11 02 54.8 +0.9**
BEL Belsk 74.51 327 *e*P **P** **11 02 54.5 +1.0**
BEL *e*PP **PP** **11 05 41.0 +1.2**
BEL *e*L L 11 37 43.1
comp=Z,32µm,23.3s
NUUK Nuuk 74.52 6 *i* P **P** **11 02 53.9 +0.6**
NUUK IAmb IAmb 11 03 11.5
comp=Z,80nm,0.8s
SHMA Al-Shehemyia 74.53 291 P **P** **11 02 53.5 -0.6**
SNR=17
DIKM Dikmen 74.56 312 ⇓P **P** **11 02 55.9 +1.8**
LVV L'vov 74.59 324 *e*P **P** **11 02 55.0 +0.9**
LVV *e* 11 03 14.1
LVV *e* 11 05 40.4

LVV eS S 11 12 27.4 +1.6
LVV MLR MLR
comp=Z,25µm,18.0s
DECC Green Verdugo 74.60 58 P P 11 02 55.5 +1.0
baz=310
SAKB Bahrain 74.75 291 P P 11 02 54.6 -0.8
IAS Iasi 74.82 320 ⇑P P 11 02 56.8 +1.4
IAS Iasi 74.82 320 P P 11 02 56.8 +1.4
GKP Gorka Klasztor 74.84 329 eP P 11 02 55.6 +0.1
GKP epP sP 11 03 12.8 -1.4
GKP eL L 11 39 06.5
comp=Z,21µm,19.3s
GKP Gorka Klasztor 74.84 329 eP P 11 02 57.4 +1.9
SHOC Shoshone, Teco 74.86 56 P P 11 02 56.9 +1.0
baz=310,SNR=12
GSC Goldstone, Bar 74.91 56 P P 11 02 56.9 +0.6
baz=310,SNR=13
FMP Fort Macarthur 74.97 58 P P 11 02 57.6 +1.0
baz=310
BFSC Mount Baldy Ra 75.04 58 P P 11 02 57.8 +0.7
baz=310,SNR=22
TRNA Turayna 75.04 290 P P 11 02 56.1 -1.0
SNR=16
RRX Edison Barstow 75.06 57 P P 11 02 58.2 +1.1
baz=310
CIS Catalina Islan 75.09 59 P P 11 02 58.4 +1.1
baz=310
VASR Vaslui 75.09 320 ⇑P P 11 02 58.7 +1.6
SLWR Sila 75.11 289 P P 11 02 57.2 -0.3
BLDU Ballidu 75.16 203 P P 11 02 57.3 -0.1
SMRA Abu-Samra 75.31 290 P P 11 02 58.0 -0.6
SNR=32
KWP Kalwaria Pacla 75.31 324 eP P 11 02 59.3 +1.0
KWP epP sP 11 03 16.3 -0.8
KWP eL L 11 40 01.3
comp=Z,30µm,18.8s
TUQ Turquoise Moun 75.37 56 P P 11 03 00.3 +1.2
baz=310,SNR=34
BBRC Big Bear Solar 75.50 57 P P 11 03 00.6 +0.7
baz=310,SNR=17
HEC Hector, Ludlow 75.50 56 P P 11 03 00.6 +0.8
baz=310,SNR=31
VLDR Vladesti 75.51 319 ⇑P P 11 03 00.9 +1.5
TLCR 75.60 318 ⇑P P 11 03 00.6 +0.6
TLCR 75.60 318 P P 11 03 00.5 +0.6
BUR08 Bucovina Ar. S 75.62 322 IAmb IAmb 11 03 20.9
comp=Z,283nm,0.9s
BURAR Bucovina Array 75.64 322 ⇑P P 11 03 01.3 +1.0
BURAR Bucovina Array 75.64 322 IAmb IAmb 11 03 21.3
comp=Z,242nm,1.0s
BURAR Bucovina Array 75.64 322 P P 11 03 01.0 +0.7
SCTR Scanteiesti 75.67 319 ⇑P P 11 03 01.5 +1.1
GHRR 75.69 319 ⇑P P 11 03 02.7 +2.2
TATR Tatarca 75.70 319 ⇑P P 11 03 02.1 +1.6
TESR Tescani 75.74 320 ⇑P P 11 03 01.4 +0.6
MURC Murrieta 75.75 58 P P 11 03 01.9 +0.8
baz=310,SNR=9.7
ULM Lac du Bonnet 75.75 34 P P 11 03 00.5 -0.2
comp=Z,74nm,1.1s,baz=317,slow=5.8,SNR=25
ULM PKPPKP P'P'df 11 30 22.7 -2.4
comp=Z,4.3nm,1.1s,baz=229,slow=3.3,SNR=3.0
ULM LR LR 11 39 23.8
comp=Z,7µm,20.1s,baz=326,slow=38
comp=Z,74nm,1.1s
RDMU Red Mountain 75.79 48 IAmb IAmb 11 03 23.2
comp=Z,443nm,1.3s
NEGRR Negrea 75.83 319 ⇑P P 11 03 02.3 +1.0
P17A Butcher Ranch, 75.86 50 IAmb IAmb 11 03 37.5
comp=Z,185nm,1.2s
MDND Maddock 75.86 38 IAmb IAmb 11 03 07.2
comp=Z,410nm,1.1s
MDND Maddock 75.86 38 P P 11 03 01.9 +0.5
baz=317,SNR=28
MDND Maddock 75.86 38 P P 11 03 02.0 +0.6
baz=317,SNR=28
SCHL Schela 75.88 319 ⇑P P 11 03 03.3 +1.8
IZVR Izvoarele 75.88 319 ⇑P P 11 03 03.3 +1.8
TUDR 75.89 319 ⇑P P 11 03 03.4 +1.8
SCHLR Schela 75.90 319 ⇑P P 11 03 02.7 +1.0
CFR Carcaliu 75.95 318 ⇑P P 11 03 03.1 +1.1
CFR Carcaliu 75.95 318 P P 11 03 02.5 +0.5
PANC Panciu 75.95 319 ⇑P P 11 03 03.7 +1.7
GMRC Granite Mounta 75.96 56 P P 11 03 03.7 +1.3
baz=310
SHAO Shalim 76.01 282 *i* P P 11 03 02.7 0.0
SNR=18
SHAO Shalim 76.01 282 P P 11 03 02.7 0.0
SNR=10
KOLS Kolonicke sedl 76.02 324 eP P 11 03 03.0 +0.7
KOLS pmax pmax
comp=Z,70nm,1.1s
KOLS Kolonicke sedl 76.02 324 eP P 11 03 03.0 +0.7
KOLS epP sP 11 03 22.8 +1.7
TPGR Topolog 76.03 318 ⇑P P 11 03 03.4 +0.9
K22A Casper 76.06 45 IAmb IAmb 11 03 50.4
comp=Z,343nm,1.4s
K22A Casper 76.06 45 P P 11 03 03.5 +0.6
baz=314,SNR=31
K22A Casper 76.06 45 P P 11 03 03.3 +0.4
baz=314,SNR=31
ODBI Odobesti 76.08 319 ⇑P P 11 03 04.8 +2.1
STHS Stebnicka Huta 76.12 325 eP P 11 03 03.8 +0.9
STHS pmax pmax
comp=Z,86nm,0.9s
STHS Stebnicka Huta 76.12 325 eP P 11 03 03.8 +0.9
STHS epP sP 11 03 21.8 +0.1
OJC Ojcow 76.13 326 eP P 11 03 03.5 +0.6
OJC epP sP 11 03 20.7 -1.0
OJC ePP PP 11 05 53.4 -0.3
OJC eS S 11 12 42.6 -0.3
OJC eL L 11 38 45.3
comp=Z,29µm,23.2s
VRI Vrincioaia 76.16 320 ⇑P P 11 03 05.5 +2.2
VRI Vrincioaia 76.16 320 P P 11 03 05.4 +2.2
PFO Pinyon Flats O 76.21 57 P P 11 03 03.9 +0.1
PFO Pinyon Flats O 76.21 57 P P 11 03 04.3 +0.5
baz=310,SNR=15
PFO Pinyon Flats O 76.21 57 P P 11 03 03.9 +0.1
PFO pmax pmax
comp=Z,96nm,1.3s
PFO Pinyon Flats O 76.21 57 LR LR 11 31 01.5
comp=Z,12µm,21.5s,baz=304,slow=31
PLOR Plostina 76.21 320 ⇑P P 11 03 05.2 +1.7
PLOR Plostina 76.21 320 P P 11 03 05.2 +1.7
TPFO Pinon Flats 76.22 57 P P 11 03 04.1 +0.2
baz=310,SNR=14
CAN Canberra 76.24 174 P P 11 03 05.4 +1.8
BELC Belle Mtn. Jos 76.25 57 P P 11 03 04.7 +0.6
baz=310,SNR=24
109C Camp Elliot, M 76.26 58 IAMs_20 IAMs_20 11 30 30.4
comp=Z,14µm,22.0s
109C Camp Elliot, M 76.26 58 P P 11 03 04.8 +0.9
baz=310
E28A Huff 76.27 39 IAmb IAmb 11 03 41.2
comp=Z,463nm,1.6s
E28A Huff 76.27 39 P P 11 03 04.2 +0.4
baz=316,SNR=28
PKCU Pink Cliffs 76.28 52 IAmb IAmb 11 03 59.9
comp=Z,350nm,1.6s
RSSD Black Hills 76.35 43 P P 11 03 04.8 +0.3
RSSD IAmb IAmb 11 03 09.4
comp=Z,211nm,1.4s
RSSD Black Hills 76.35 43 IAMs_20 IAMs_20 11 35 44.7
comp=Z,17µm,22.0s
RSSD Black Hills 76.35 43 P P 11 03 04.8 +0.3
baz=315
RSSD Black Hills 76.35 43 P P 11 03 04.6 0.0
baz=315,SNR=77
RSSD Black Hills 76.35 43 P P 11 03 04.8 +0.3
RSSD pmax pmax
comp=Z,211nm,1.4s
RWWY Rawlins 76.35 46 IAmb IAmb 11 03 25.9
comp=Z,246nm,1.2s
TURR Turia 76.38 320 ⇑P P 11 03 06.0 +1.5
GAZ Gaziantep 76.38 308 P P 11 03 06.0 +1.3
GAZ IAMs_20 IAMs_20 11 41 44.8
comp=Z,12µm,20.0s
GRER 76.39 319 ⇑P P 11 03 07.3 +2.8
BMR Baia Mare 76.39 322 ⇓P P 11 03 05.7 +1.2
BMR Baia Mare 76.39 322 P P 11 03 05.7 +1.2
BISRR Bisoca 76.40 319 ⇑P P 11 03 06.2 +1.6
HARR Harsova 76.40 318 ⇑P P 11 03 06.0 +1.4
HARR Harsova 76.40 318 P P 11 03 05.9 +1.4
CRVS Cervenica-Dubn 76.40 324 eP P 11 03 05.3 +0.8
CRVS pmax pmax
comp=Z,963nm,2.1s
CRVS Cervenica-Dubn 76.40 324 eP P 11 03 05.3 +0.8
CRVS epP sP 11 03 22.6 -0.7
CRVS ePP PP 11 05 56.4 +0.4
CRVS eS S 11 12 52.8 +6.8
ARCR ARCALIA 76.43 322 ⇓P P 11 03 06.7 +2.1
COVR Voineasa-Covas 76.44 320 ⇓P P 11 03 06.1 +1.3
OZUR 76.46 320 ⇓P P 11 03 06.9 +1.9
EFOR EFORIE 76.47 317 ⇑P P 11 03 07.6 +2.7
NIE Niedzica 76.52 325 eP P 11 03 06.7 +1.5
NIE ePcP PcP 11 03 16.4 -0.3
NIE eL L 11 40 22.4
comp=Z,16µm,18.9s
BOSR Bodos 76.53 320 ⇑P P 11 03 06.8 +1.4
MUN Mundaring 76.58 203 P P 11 03 07.0 +1.5
NEE2 Needles Airpor 76.62 56 P P 11 03 06.6 +0.6
baz=311
IRM Iron Mountain 76.69 56 P P 11 03 07.2 +0.8
baz=311,SNR=20
NEHR Nehoiu 76.69 319 ⇑P P 11 03 08.8 +2.6
MONP2 Monument Peak 76.69 58 P P 11 03 07.7 +0.9
baz=311
DMTO DMTO 76.70 282 P P 11 03 06.2 -0.5
SNR=14
PGOR Pogoanele 76.72 319 ⇑P P 11 03 08.5 +2.2
DOK Doka 76.74 283 P P 11 03 05.8 -1.0
SNR=35
DOPR Dopca 76.74 320 ⇑P P 11 03 08.6 +2.1
AMRR Amara 76.75 318 ⇑P P 11 03 08.8 +2.3
AMRR Amara 76.75 318 P P 11 03 08.8 +2.3
BR131 Keskin Array S 76.77 311 P P 11 03 07.3 +0.4
BR131 IAmb IAmb 11 03 28.2
comp=Z,498nm,1.6s
BR131 Keskin Array S 76.77 311 P P 11 03 07.3 +0.4
BR131 pmax pmax
comp=Z,498nm,1.6s
BR131 Keskin Array S 76.77 311 P P 11 03 07.1 +0.3
SNR=27
BRTR Keskin Array B 76.77 311 P P 11 03 07.3 +0.4
comp=Z,34nm,0.9s,baz=86,slow=3.7,SNR=44
BRTR PP PP 11 05 57.9 -1.6
comp=Z,8.7nm,0.9s,baz=46,slow=8.3,SNR=3.0
BRTR LR LR 11 41 45.8
comp=Z,14µm,20.5s,baz=40,slow=39
comp=Z,34nm,0.9s
RUE Ruedersdorf 76.77 331 eP P 11 03 07.8 +1.4
RUE Ruedersdorf 76.77 331 eP P 11 03 07.1 +0.7
baz=35,slow=5.5
ISR Istrita 76.79 319 ⇑P P 11 03 09.0 +2.1
ISR Istrita 76.79 319 P P 11 03 08.9 +2.1
MLR Muntele Rosu 76.82 320 ⇑P P 11 03 08.7 +1.6
MLR Muntele Rosu 76.82 320 P P 11 03 08.6 +1.6
MLR Muntele Rosu 76.82 320 LR LR 11 41 02.5
comp=Z,19µm,19.8s,baz=43,slow=39
BC3 Big Chuckawall 76.82 57 P P 11 03 08.3 +1.0
baz=311,SNR=13
BSEG Bad Segeberg 76.82 333 eP P 11 03 07.5 +0.8
comp=Z,84nm,1.0s,baz=35,slow=5.5
O20A White River Ci 76.84 48 IAmb IAmb 11 04 00.7
comp=Z,382nm,1.8s
O20A White River Ci 76.84 48 P P 11 03 07.9 +0.5
baz=313,SNR=24
ICOR Ion Corvin 76.87 318 ⇑P P 11 03 08.4 +1.3
RAC Raciborz 76.91 327 eP P 11 03 07.4 +0.1
RAC eS S 11 12 46.8 -4.5
RAC AMS AMS 11 39 25.2
comp=Z,38nm,21.4s
RAC Raciborz 76.91 327 eP P 11 03 07.4 +0.1
RAC eS S 11 12 46.8 -4.5
RAC MLR MLR
comp=Z,38µm,21.4s
CBX Cerro Bola 76.91 59 IAmb IAmb 11 03 59.2
comp=Z,299nm,1.7s
U15A North Rim 76.96 53 IAmb IAmb 11 03 35.7
comp=Z,250nm,1.4s
MESR Meseseni 77.03 322 ⇓P P 11 03 09.9 +1.8
PSN Preselentsi 77.04 317 P P 11 03 08.0 -0.2
CJR Cluj-Napoca 77.05 322 ⇓P P 11 03 10.0 +1.7
CJR Cluj-Napoca 77.05 322 P P 11 03 10.0 +1.7
IKP In-Ko-Pah, Jac 77.05 58 P P 11 03 09.1 +0.5
baz=311
SWSC Sam W. Stewart 77.06 58 P P 11 03 09.0 +0.5
baz=311
KSP Ksiaz 77.09 328 eP P 11 03 08.6 +0.3
KSP epP sP 11 03 26.3 -0.8
KSP ePP PP 11 06 00.5 -1.1
KSP eS S 11 12 53.7 +0.3
KSP eL L 11 39 36.4
comp=Z,19µm,21.9s
OKC Ostrava-Krasne 77.11 327 eP P 11 03 09.6 +1.1
OKC ex x 11 03 28.0
OKC AMS AMS 11 39 20.0
comp=Z,28µm,20.0s
OKC Ostrava-Krasne 77.11 327 eP P 11 03 09.6 +1.1
OKC e*PP sP 11 03 28.0 +0.7
OKC MLR MLR
comp=Z,28µm,20.0s
ANTO Ankara 77.14 312 ⇑P P 11 03 10.2 +1.3
ANTO Ankara 77.14 312 P P 11 03 09.9 +0.9
ANTO Ankara 77.14 312 P P 11 03 10.2 +1.3
ANTO Ankara 77.14 312 P P 11 03 09.5 +0.6
KECS Kecovo 77.15 325 eP P 11 03 11.0 +2.3
KECS pmax pmax
comp=Z,48nm,1.1s
KECS Kecovo 77.15 325 eP P 11 03 11.0 +2.3
KECS epP sP 11 03 28.8 +1.3
NWAO Narrogin (SRO) 77.18 202 P P 11 03 09.5 +0.6
NWAO Narrogin (SRO) 77.18 202 P P 11 03 09.1 +0.2
NWAO Narrogin (SRO) 77.18 202 P P 11 03 08.9 0.0
NWAO Narrogin (SRO) 77.18 202 P P 11 03 09.5 +0.6
NWAO pmax pmax
comp=Z,135nm,1.1s
NWAO Narrogin (SRO) 77.18 202 P P 11 03 09.6 +0.6
AGMN Agassiz Nation 77.22 36 IAMs_20 IAMs_20 11 37 55.3
comp=Z,15µm,21.0s
AGMN Agassiz Nation 77.22 36 P P 11 03 08.9 -0.2
baz=319,SNR=52
AGMN Agassiz Nation 77.22 36 P P 11 03 07.9 -1.2
baz=319,SNR=52
PDMCI Parker Dam,Lak 77.22 56 P P 11 03 10.6 +1.2
baz=311,SNR=23
SULR 77.25 319 ⇑P P 11 03 11.0 +1.7
VOIR 77.29 320 ⇑P P 11 03 11.4 +1.8
VOIR 77.29 320 P P 11 03 11.6 +1.9
MARR Marisel-Cluj 77.30 322 ⇑P P 11 03 10.6 +0.9
OSTC Ostas 77.34 328 eP P 11 03 10.9 +1.1
OSTC epP sP 11 03 29.4 +0.8
OSTC AMS AMS 11 39 30.0
comp=Z,19µm,20.3s
OSTC Ostas 77.34 328 eP P 11 03 10.9 +1.1
OSTC e*PP sP 11 03 29.4 +0.8
OSTC MLR MLR
comp=Z,19µm,20.3s
CHVC Chvalec 77.38 328 eP P 11 03 11.1 +1.1
CHVC AMS AMS 11 39 30.0
comp=Z,19µm,20.5s
CHVC Chvalec 77.38 328 eP P 11 03 11.1 +1.1
CHVC MLR MLR
comp=Z,19µm,20.5s
RBK Rabkut 77.38 282 P P 11 03 09.7 -0.8
SNR=23
DRGR 77.41 322 ⇑P P 11 03 11.1 +0.8
DRGR 77.41 322 P P 11 03 11.1 +0.8
MORC Moravsky Berou 77.41 327 ⇑P P 11 03 11.4 +1.1
MORC Moravsky Berou 77.41 327 eP P 11 03 10.9 +0.7
MORC e 11 03 27.6
MORC eS S 11 12 46.4 -11
MORC Moravsky Berou 77.41 327 P P 11 03 11.3 +1.1
WHFO Wadi Hawf 77.44 283 P P 11 03 09.8 -1.1
SNR=27
ARPS Mount Arapiles 77.45 180 P P 11 03 11.0 +0.8
DPC Dobruska-Polom 77.46 328 eP P 11 03 11.8 +1.3
DPC AMS AMS 11 39 30.0
comp=Z,14µm,20.3s
DPC Dobruska-Polom 77.46 328 eP P 11 03 11.8 +1.3
DPC MLR MLR
comp=Z,14µm,20.3s
UPC Upice 77.46 328 eP P 11 03 11.7 +1.3
UPC AMS AMS 11 39 40.0
comp=Z,21µm,19.7s
UPC Upice 77.46 328 eP P 11 03 11.7 +1.3
UPC MLR MLR
comp=Z,21µm,19.7s
KRLC Kraliky 77.49 328 eP P 11 03 11.8 +1.1
KRLC AMS AMS 11 39 50.0
comp=Z,16µm,18.7s
KRLC Kraliky 77.49 328 eP P 11 03 11.8 +1.1
KRLC MLR MLR
comp=Z,16µm,18.7s
ARR Arges 77.54 320 ⇓P P 11 03 13.1 +2.0
D32A Dogwood Acres, 77.57 37 IAmb IAmb 11 03 15.2
comp=Z,209nm,1.0s
D32B Dogwood Acres, 77.57 37 P P 11 03 10.9 -0.2
baz=318,SNR=27
N23A Red Feather La 77.59 46 IAmb IAmb 11 03 41.7
comp=Z,271nm,1.4s
N23A Red Feather La 77.59 46 P P 11 03 12.4 +0.7
baz=314,SNR=48
GLA Glamis 77.61 57 P P 11 03 12.8 +1.1
baz=311
BORR Bors 77.61 323 ⇓P P 11 03 11.2 -0.1
MAUC Maruska 77.61 327 eP P 11 03 12.4 +1.1
IVI Ivigtut 77.73 5 IAmb IAmb 11 03 57.8
comp=Z,314nm,1.4s
IVI Ivigtut 77.73 5 *i* P P 11 03 12.0 +0.3
IVI IAmb IAmb 11 03 31.8
comp=Z,40nm,0.8s
PRD Provadia 77.75 317 P P 11 03 12.0 -0.1
FLTG Flechtingen 77.81 332 eP P 11 03 12.5 +0.2
comp=Z,81nm,0.9s,baz=35,slow=5.5
PSZ Piszkesteto 77.83 325 ⇑P P 11 03 13.8 +1.2
PSZ Piszkesteto 77.83 325 P P 11 03 13.8 +1.2
VYHS Vyhne 77.85 325 eP P 11 03 13.7 +1.0
VYHS pmax pmax
comp=Z,632nm,2.1s
VYHS Vyhne 77.85 325 eP P 11 03 13.7 +1.0
VYHS epP sP 11 03 30.4 -1.1
VYHS ePP PP 11 06 08.8 +0.7
VYHS eS SKSac 11 13 22.6 +0.2
VYHS eL L 11 39 09.1
LOT Lotru 77.90 321 ⇑P P 11 03 14.5 +1.4
RAZG Razgrad 77.92 318 ⇑P P 11 03 14.6 +1.5
NRS Narsarsuaq 77.94 4 *i* P P 11 03 13.8 +1.0
NRS IAmb IAmb 11 03 25.7
comp=Z,14nm,0.7s
MILA Mila 77.98 174 P P 11 03 13.8 +0.5
BRG Berggiesshubel 77.98 330 *i* P P 11 03 13.8 +0.4
BRG Amp 11 03 18.5
comp=Z,174nm,1.5s
BRG pP sP 11 03 31.8 -0.4
BRG Amp 11 03 34.7
comp=Z,265nm,1.4s
BRG sP sP 11 03 43.8 +12
BRG Amp 11 03 49.6
comp=Z,74nm,1.1s
BRG Berggiesshubel 77.98 330 P P 11 04 01.6 +48
BRG Amp 11 04 07.4
comp=Z,111nm,1.3s
BRG PP PP 11 05 56.5 -13
BRG Amp 11 06 15.0
comp=Z,40nm,1.2s
BRG Berggiesshubel 77.98 330 SS SS 11 18 08.0 +4.4
BRG Amp 11 41 16.0
comp=E,8.8nm,16.3s
BRG Amp 11 41 21.0
comp=Z,18nm,17.5s
BRG Amp 11 41 27.0
comp=N,10.0nm,16.0s
BRG Berggiesshubel 77.98 330 *i* P P 11 03 13.7 +0.4
BRG 11 03 31.7
BRG S S 11 13 07.0 +4.0
BRG SS SS 11 18 08.0 +4.4
BRG pmax pmax
comp=Z,174nm,1.5s
BRG MLR MLR
comp=E,9µm,16.3s
BRG MLR MLR
comp=Z,18µm,17.5s
BRG MLR MLR
comp=N,10µm,16.0s
BRG Berggiesshubel 77.98 330 eP P 11 03 13.9 +0.6
baz=35,slow=5.5
BRG epP sP 11 03 30.4 -1.7
HUMR Humele 77.98 320 ⇑P P 11 03 14.0 +0.6
DEV Deva 77.99 322 ⇓P P 11 03 15.0 +1.5
DEV Deva 77.99 322 P P 11 03 14.9 +1.5
CLL Collm 77.99 330 IAmb IAmb 11 03 33.7
comp=Z,173nm,0.9s
CLL Collm 77.99 330 *i* P P 11 03 13.3 0.0
CLL *i* *PP sP 11 03 30.1 -2.1
CLL eS S 11 13 05.0 +1.9
CLL pmax pmax
comp=Z,320nm,1.6s
CLL MLR MLR
comp=Z,22µm,22.3s
CLL Collm 77.99 330 *i* P P 11 03 13.3 0.0
comp=Z,320nm,1.6s
CLL ePlp 11 03 15.0
comp=Z,3µm,29.0s
CLL ePmax 11 03 20.0
CLL *i* pP PcP 11 03 23.6 +0.7
CLL *i* x x 11 03 30.1
comp=Z,352nm,1.3s
CLL ePP PP 11 06 09.0 -0.1
CLL ePPP PPP 11 07 59.0
CLL ex x 11 12 32.0
CLL eS S 11 13 05.0 +1.9
CLL eSP SPn 11 13 43.0 +1.3
CLL ePS PnS 11 13 53.0 +4.6
CLL ePPS PPS 11 14 07.0
CLL eSS SS 11 18 12.0 +8.3
CLL ex x 11 18 54.0
CLL eSSS SSS 11 21 36.0
CLL AMS AMS 11 39 00.0
CLL AMS AMS 11 40 00.0
comp=N,14µm,21.3s
CLL AMS AMS 11 40 00.0
comp=E,14µm,18.6s
CLL Collm 77.99 330 eP P 11 03 13.6 +0.2
baz=35,slow=5.5
LOZB Loznitsa 78.02 318 ⇑P P 11 03 15.0 +1.3
PVCC Panska Ves 78.02 329 eP P 11 03 14.4 +0.9
PVCC eS S 11 13 01.0 -2.4
PVCC AMS AMS 11 40 50.0
comp=E,25µm,18.9s
PVCC Panska Ves 78.02 329 eP P 11 03 14.4 +0.9
PVCC eS S 11 13 01.0 -2.4
PVCC MLR MLR
comp=Z,25µm,18.9s
JAVC Velka Javorina 78.07 326 eP P 11 03 15.6 +1.7
NRDL Niedersach Rie 78.08 332 eP P 11 03 14.5 +0.8
comp=Z,39nm,1.0s,baz=35,slow=5.5
NRDL epP sP 11 03 31.5 -1.1
B35A Bob, Littlefor 78.10 34 IAmb IAmb 11 03 35.2
comp=Z,113nm,0.7s
B35A IAMs_20 IAMs_20 11 40 13.9
comp=Z,9µm,21.0s
B35A Bob, Littlefor 78.10 34 P P 11 03 13.7 -0.3
baz=320,SNR=52
WUAZ Wupatki 78.12 53 IAMs_20 IAMs_20 11 32 07.3
comp=Z,14µm,22.0s
WUAZ Wupatki 78.12 53 P P 11 03 15.9 +1.3
baz=312,SNR=34
BSZH Besenyszg 78.14 324 ⇓P P 11 03 16.0 +1.8
ABTO Aybut 78.15 283 P P 11 03 14.1 -0.7
SNR=34
COPA Copaceanca 78.15 319 ⇑P P 11 03 15.8 +1.5
VRAC Vranov 78.17 327 ⇑P P 11 03 15.7 +1.3
VRAC Vranov 78.17 327 eP P 11 03 15.2 +0.8
VRAC e 11 03 31.5
VRAC eS S 11 13 02.7 -2.4
VRAC Vranov 78.17 327 P P 11 03 15.7 +1.3
VRAC Vranov 78.17 327 LR LR 11 40 41.8
comp=Z,28µm,20.4s,baz=32,slow=38
ASSE Asse, Remlinge 78.18 332 eP P 11 03 14.9 +0.7
baz=35,slow=5.5
RICC Richard 78.19 329 eP P 11 03 15.1 +0.7
RICC epP sP 11 03 33.6 +0.3
RICC AMS AMS 11 41 00.0
comp=Z,22µm,18.5s
SMCO Snowmass 78.20 48 IAmb IAmb 11 03 35.6
comp=Z,257nm,1.6s
SIRR Siria 78.28 322 ⇑P P 11 03 16.6 +1.5
TOO Toolangi 78.30 177 P P 11 03 16.7 +1.7
TOO IAMs_20 IAMs_20 11 38 54.8
comp=Z,11µm,21.0s
TOO Toolangi 78.30 177 P P 11 03 15.8 +0.8
TOO Toolangi 78.30 177 P P 11 03 16.7 +1.7

TOO pmax pmax
comp=Z,104nm,1.3s
TOO MLR MLR
comp=Z,11µm,21.0s
KPL Plockton 78.36 343 *eP* **P 11 03 15.7 +0.5**
ISK Istanbul-Kandi 78.37 315 P **P 11 03 15.7 +0.1**
HSKC Hora Svate Kat 78.39 330 *eP* **P 11 03 16.5 +0.9**
HSKC AMS AMS 11 41 10.0
comp=Z,16µm,17.5s
SZH Strazhitsa 78.40 318 P **P 11 03 16.0 +0.2**
GOPC GO Pecny, Ondr 78.42 328 *eP* **P 11 03 16.6 +0.8**
GOPC AMS AMS 11 40 50.0
comp=Z,18µm,18.5s
GOPC GO Pecny, Ondr 78.42 328 *eP* **P 11 03 16.6 +0.8**
GOPC MLR MLR
comp=Z,18µm,18.5s
PRA Prague 78.43 329 *eP* **P 11 03 16.8 +1.0**
PRA *ex* x 11 03 34.8
PRA AMS AMS 11 41 00.0
comp=Z,22µm,18.4s
PRA Prague 78.43 329 *eP* **P 11 03 16.8 +1.0**
PRA *e*PP* **sP 11 03 34.8 +0.2**
PRA MLR MLR
comp=Z,22µm,18.4s
SMOL Smolenice 78.44 326 *eP* **P 11 03 17.4 +1.5**
SMOL pmax pmax
comp=Z,217nm,1.8s
KRUC Moravsky 78.44 327 *eP* **P 11 03 16.7 +0.8**
KRUC *e* 11 03 33.0
KRUC *eS* **S 11 13 05.3 -2.7**
SURR Surduc 78.45 322 ⇑P **P 11 03 16.8 +0.9**
PRU Pruhonice 78.45 329 *eP* **P 11 03 16.8 +0.9**
PRU AMS AMS 11 41 00.0
comp=Z,21µm,18.0s
PRU Pruhonice 78.45 329 *eP* **P 11 03 16.8 +0.9**
PRU MLR MLR
comp=Z,21µm,18.0s
CLZ Clausthal 78.52 332 *eP* **P 11 03 17.4 +1.1**
baz=35,slow=5.5
CLZ *epP* **sP 11 03 34.3 -0.8**
ISCO Idaho Springs 78.53 47 IAMs_20 IAMs_20 11 39 37.7
comp=Z,10µm,20.0s
ISCO Idaho Springs 78.53 47 P **P 11 03 18.1 +1.1**
baz=314,SNR=25
ISCO Idaho Springs 78.53 47 P **P 11 03 18.3 +1.3**
baz=314,SNR=25
NEUB Neuenburg 78.53 331 *eP* **P 11 03 17.5 +1.2**
comp=Z,74nm,0.9s,baz=35,slow=5.5
SRO Srobarova 78.60 325 *eP* **P 11 03 18.5 +1.7**
SRO *e* 11 03 37.5
SRO Srobarova 78.60 325 *eP* **P 11 03 18.5 +1.7**
SRO *epP* **sP 11 03 37.5 +1.9**
MODS Modra-Piesok 78.61 326 *eP* **P 11 03 18.1 +1.3**
MODS pmax pmax
comp=Z,916nm,1.9s
MODS Modra-Piesok 78.61 326 *eP* **P 11 03 18.1 +1.3**
MODS *epP* **sP 11 03 34.8 -0.9**
MODS *ePP* **PP 11 06 14.2 -0.2**
MODS *eS* **S 11 13 10.6 +0.7**
MODS *eL* L 11 40 35.2
TREC Trest 78.63 328 *eP* **P 11 03 17.2 +0.3**
TREC AMS AMS 11 40 20.0
comp=Z,20µm,20.5s
TREC Trest 78.63 328 *eP* **P 11 03 17.2 +0.3**
TREC MLR MLR
comp=Z,20µm,20.5s
SUSD Miller 78.65 40 P **P 11 03 17.0 -0.2**
baz=318,SNR=53
SUSD Miller 78.65 40 P **P 11 03 17.4 +0.2**
baz=318,SNR=53
VLAD Vladila 78.65 319 ⇑P **P 11 03 18.3 +1.2**
JMB Yambol 78.68 317 P **P 11 03 18.0 +0.7**
MVCO Mesa Verde 78.68 50 P **P 11 03 18.7 +0.9**
baz=313,SNR=34
BRIGG Briggsdale 78.69 46 IAmb IAmb 11 03 39.9
comp=Z,189nm,1.0s
ELND Elena 78.70 318 ⇓P **P 11 03 18.4 +1.0**
BZS Buzias 78.79 322 ⇑P **P 11 03 18.3 +0.4**
BZS Buzias 78.79 322 P **P 11 03 18.2 +0.4**
ZST Bratislava 78.82 326 *eP* **P 11 03 19.2 +1.2**
ZST pmax pmax
comp=Z,3µm,2.5s
ZST Bratislava 78.82 326 *eP* **P 11 03 19.2 +1.2**
ZST *epP* **sP 11 03 36.5 -0.3**
ZST *eS* **S 11 13 11.2 -0.8**
INVG Invergeldie, C 78.82 342 *eP* **P 11 03 17.2 -0.7**
F33A 5 Mile Ranch, 78.87 37 IAmb IAmb 11 03 23.5
comp=Z,227nm,1.2s
F33A 5 Mile Ranch, 78.87 37 P **P 11 03 18.0 -0.3**
baz=319,SNR=74
GTTG Gottingen 78.91 332 *eP* **P 11 03 19.2 +0.8**
comp=Z,55nm,0.9s,baz=35,slow=5.5
TANN Tannenbergstha 78.92 330 *eP* **P 11 03 19.3 +0.8**
comp=Z,508nm,2.0s,baz=35,slow=5.5
HERR Herculane 78.96 321 ⇓P **P 11 03 19.4 +0.6**
PLVB Pleven 78.99 319 ⇑P **P 11 03 19.9 +0.8**
RAO Raoul Island 79.02 145 LR LR 11 34 13.6
comp=Z,18µm,20.7s,baz=354,slow=32
ZVC Zvikov 79.03 328 *eP* **P 11 03 20.1 +1.0**
EDRB Edirne 79.03 317 P **P 11 03 19.1 -0.2**
IBBN Ibbenburen 79.04 334 *eP* **P 11 03 19.7 +0.6**
comp=Z,88nm,0.9s,baz=35,slow=5.5
IBBN *epP* **sP 11 03 37.7 -0.2**
MOX Moxa 79.05 331 *eP* **P 11 03 19.9 +0.7**
comp=Z,34nm,1.0s,baz=35,slow=5.5
MOX *epP* **sP 11 03 37.6 -0.5**
NKC Novy Kostel 79.07 330 *eP* **P 11 03 19.7 +0.4**
NKC AMS AMS 11 40 10.0
comp=Z,21µm,22.3s
NKC Novy Kostel 79.07 330 *eP* **P 11 03 19.7 +0.4**
NKC MLR MLR
comp=Z,21µm,22.3s
DJES Djerdap 79.07 321 ⇑P **P 11 03 20.1 +0.6**
BAIL Bailesti 79.16 320 ⇑P **P 11 03 22.0 +2.2**
S22A 4UR Ranch, Cre 79.28 49 P **P 11 03 22.0 +1.0**
baz=314,SNR=35
LAWE Loch Awe, Argy 79.29 342 *eP* **P 11 03 20.0 -0.4**
VALD Valchedram 79.36 320 P **P 11 03 22.1 +1.1**
EYMN Ely 79.36 34 IAmb IAmb 11 03 25.2
comp=Z,223nm,1.1s
EYMN Ely 79.36 34 IAMs_20 IAMs_20 11 41 12.3
comp=Z,10µm,20.0s
EYMN Ely 79.36 34 P **P 11 03 20.4 -0.6**
baz=322,SNR=29
EYMN Ely 79.36 34 P **P 11 03 20.8 -0.2**
baz=322,SNR=29
MDVR Moldovita 79.37 321 ⇑P **P 11 03 21.6 +0.5**
Q24A Divide 79.37 47 P **P 11 03 22.5 +0.9**
baz=315,SNR=22
W18A Petrified Fore 79.38 53 P **P 11 03 22.9 +1.4**
baz=313
MANZ Manzenberg 79.40 330 *eP* **P 11 03 21.8 +0.6**
comp=Z,5.9nm,0.8s,baz=35,slow=5.5
MANZ *epP* **sP 11 03 38.8 -1.2**
MPEP Malo Peshtene 79.45 319 P **P 11 03 22.0 +0.5**
CKRC Cesky Krumlov 79.48 328 *eP* **P 11 03 22.4 +0.8**
CKRC *epP* **sP 11 03 39.9 -0.5**
CKRC AMS AMS 11 42 50.0
comp=Z,15µm,17.2s
CKRC Cesky Krumlov 79.48 328 *eP* **P 11 03 22.4 +0.8**
CKRC *e*PP* **sP 11 03 39.9 -0.5**
CKRC MLR MLR
comp=Z,15µm,17.2s
UBBA Unterbreizbach 79.50 332 *eP* **P 11 03 23.2 +1.7**
baz=35,slow=5.5
KHC Kasperske Hory 79.52 329 IAmb IAmb 11 03 43.6
comp=Z,180nm,0.9s
KHC Kasperske Hory 79.52 329 *eP* **P 11 03 22.7 +0.9**
KHC *epP* **pP 11 03 33.0 -2.4**
KHC *ex* x 11 06 37.6
KHC *eS* **S 11 13 18.2 -1.3**
KHC AMS AMS 11 41 40.0
comp=Z,19µm,18.2s
KHC Kasperske Hory 79.52 329 *eP* **P 11 03 22.7 +0.9**
KHC *eS* **S 11 13 18.2 -1.3**
KHC MLR MLR
comp=Z,19µm,18.2s
ROTZ Rotzenmuhle 79.54 330 *eP* **P 11 03 22.9 +1.0**
comp=Z,9.7nm,1.0s,baz=35,slow=5.5
RONA Rosalia, Austr 79.55 326 *i* P **P 11 03 22.9 +0.8**
comp=Z,251nm,1.5s,SNR=56
CONA Conrad Observa 79.55 327 *i* P **P 11 03 22.8 +0.7**
comp=Z,92nm,1.1s,SNR=48
EKA Eskdalemuir Ar 79.60 341 P **P 11 03 22.1 0.0**
comp=Z,13nm,0.5s,baz=27,slow=4.8,SNR=30

EKA PP **PP 11 06 22.6 +0.2**
comp=Z,17nm,1.0s,baz=17,slow=2.6,SNR=3.1
comp=Z,13nm,0.5s
214A Organ Pipe Nat 79.61 57 P **P 11 03 23.6 +0.9**
baz=312,SNR=12
ESK Eskdalemuir 79.62 341 IAMs_20 IAMs_20 11 42 49.8
comp=Z,13µm,19.0s
ESK Eskdalemuir 79.62 341 *eP* **P 11 03 22.4 +0.2**
K30B Basset 79.63 41 IAmb IAmb 11 03 50.8
comp=Z,388nm,1.2s
K30B Basset 79.63 41 P **P 11 03 22.9 +0.3**
baz=317,SNR=51
OGNE Ogallala 79.64 44 IAmb IAmb 11 03 44.0
comp=Z,371nm,1.1s
OGNE Ogallala 79.64 44 P **P 11 03 22.9 +0.2**
baz=316,SNR=42
OGNE Ogallala 79.64 44 P **P 11 03 22.9 +0.2**
baz=316,SNR=42
MORH Mrgy, Hungar 79.69 324 ⇑P **P 11 03 23.1 +0.4**
GEC2 GERESS Array S 79.70 328 IAmb IAmb 11 03 43.5
comp=Z,425nm,1.7s
GEC2 GERESS Array S 79.70 328 *eP* **P 11 03 23.3 +0.4**
baz=35,slow=5.5
GERES GERESS Array B 79.70 328 P **P 11 03 22.8 -0.1**
GERES GERESS Array B 79.70 328 P **P 11 03 23.2 +0.4**
comp=Z,12nm,0.4s,baz=35,slow=5.4,SNR=37
GERES LR LR 11 41 37.0
comp=Z,17µm,21.1s,baz=36,slow=38
comp=Z,12nm,0.4s
KASTN Kahler Asten 79.74 333 *eP* **P 11 03 23.6 +0.6**
comp=Z,36nm,0.9s,baz=35,slow=5.5
BLKB Belogradchik 79.78 320 ⇓P **P 11 03 24.0 +0.6**
WET Wettzell 79.78 329 *eP* **P 11 03 24.1 +0.9**
comp=Z,60nm,1.0s,baz=35,slow=5.5
PLD Plovdiv 79.84 318 P **P 11 03 24.0 +0.4**
ISP Isparta 79.84 312 P **P 11 03 23.8 -0.1**
ISP Isparta 79.84 312 P **P 11 03 23.8 -0.1**
ISP pmax pmax
comp=Z,727nm,1.9s
ISP MLR MLR
comp=Z,3µm,22.0s
PGB Panagyurishte 79.86 319 P **P 11 03 23.0 -0.8**
ASF Jabal al Asfar 79.90 304 LR LR 11 43 34.9
comp=Z,7µm,19.2s,baz=101,slow=39
KDZ Kurdzhali 79.91 317 P **P 11 03 24.0 -0.1**
BUG Bochum-Univer 79.93 333 *eP* **P 11 03 24.3 +0.4**
comp=Z,82nm,1.1s,baz=35,slow=5.5
BUG *epP* **sP 11 03 41.0 -1.8**
FRGS Fruska Gora 79.97 323 ⇑P **P 11 03 25.5 +1.2**
FRGS Fruska Gora 79.97 323 ⇑*i* P **P 11 03 24.7 +0.4**
GRF Grafenberg Arr 79.97 330 *eP* **P 11 03 25.4 +1.2**
comp=Z,84nm,0.8s,baz=35,slow=5.5
GRF *epP* **sP 11 03 42.3 -0.7**
GRFO Grafenberg 79.97 330 P **P 11 03 24.4 +0.1**
GRFO Grafenberg 79.97 330 P **P 11 03 24.4 +0.1**
GRFO pmax pmax
comp=Z,438nm,1.1s
GRFO MLR MLR
comp=Z,20µm,22.0s
DGAR Diego Garcia 80.01 251 P **P 11 03 26.9 +2.0**
SDCO Great Sand Dun 80.03 48 P **P 11 03 26.2 +1.1**
baz=315,SNR=41
SDCO Great Sand Dun 80.03 48 P **P 11 03 25.8 +0.7**
baz=315,SNR=41
ALN Alexandroupoli 80.08 316 P **P 11 03 23.5 -1.5**
F36A Milaca 80.11 36 P **P 11 03 24.3 -0.7**
baz=321,SNR=16
ENEZ Enez 80.14 316 P **P 11 03 25.7 +0.4**
RDO Rodhopi 80.16 317 P **P 11 03 25.1 -0.3**
ARSA Arzberg 80.22 326 *i* P **P 11 03 26.3 +0.6**
comp=Z,124nm,1.6s,SNR=34
BOVS Bovan 80.23 321 ⇑P **P 11 03 26.0 +0.3**
VTS Vitosha 80.25 319 P **P 11 03 27.0 +1.0**
KESW Keswick, Cumbr 80.26 340 *eP* **P 11 03 26.4 +0.7**
KESW IAmb IAmb 11 03 30.8
comp=Z,520nm,1.5s
PLNA Plana 80.26 319 P **P 11 03 26.0 -0.1**
MMAI Mount Meron Ar 80.26 305 P **P 11 03 27.3 +1.1**
comp=Z,47nm,0.7s,baz=46,slow=6.0,SNR=31
MMAI LR LR 11 42 45.3
comp=Z,16µm,20.2s,baz=1.5,slow=38
comp=Z,47nm,0.7s
MOA Molln 80.27 327 *i* P **P 11 03 26.4 +0.5**
comp=Z,136nm,1.9s,SNR=17
ECSD EROS Data Cent 80.31 39 IAMs_20 IAMs_20 11 38 53.3
comp=Z,15µm,22.0s
E38A The Farm, Brul 80.39 34 IAmb IAmb 11 03 31.2
comp=Z,213nm,1.2s
E38A IAMs_20 IAMs_20 11 39 18.5
comp=Z,9µm,22.0s
E38A The Farm, Brul 80.39 34 P **P 11 03 26.0 -0.5**
baz=322,SNR=24
KULA Kula-Manisa 80.39 313 P **P 11 03 26.6 -0.2**
GAL1 Galloway 80.40 341 *eP* **P 11 03 26.0 -0.4**
HPK Haverah Park 80.44 339 *eP* **P 11 03 26.7 +0.1**
CLGH Cloghs, Cushen 80.53 342 *eP* **P 11 03 27.6 +0.5**
CLGH IAmb IAmb 11 03 29.9
comp=Z,142nm,1.0s
TNS Taunus Mts 80.55 332 *eP* **P 11 03 27.7 +0.3**
comp=Z,50nm,1.1s,baz=35,slow=5.5
KOGS Kog 80.55 326 *i* P **P 11 03 26.9 -0.5**
KOGS *i* pP **sP 11 03 44.6 -1.6**
KOGS *ePP* **PP 11 06 31.6 +1.1**
TEKS Tekeris 80.56 322 ⇑*i* P **P 11 03 27.5 0.0**
TUC Tucson 80.64 55 IAMs_20 IAMs_20 11 32 54.2
comp=Z,14µm,22.0s
TUC Tucson 80.64 55 P **P 11 03 29.1 +0.8**
baz=313
BIOA Bad Ischl, Aus 80.65 328 *i* P **P 11 03 28.3 +0.4**
comp=Z,158nm,1.3s,SNR=42
SMTH Samothraki Isl 80.66 316 P **P 11 03 29.5 +1.4**
KSCO Kaye Shedlock' 80.72 46 IAmb IAmb 11 03 50.4
comp=Z,229nm,1.2s
KSCO Kaye Shedlock' 80.72 46 P **P 11 03 29.0 +0.3**
baz=316,SNR=14
KSCO Kaye Shedlock' 80.72 46 P **P 11 03 29.0 +0.3**
baz=316,SNR=14
AHRW Bad Neuenahr-A 80.76 333 *eP* **P 11 03 29.2 +0.8**
baz=35,slow=5.5
MMB Musomishta 80.78 318 P **P 11 03 29.0 +0.2**
KAVA Kavala 80.80 317 P **P 11 03 28.1 -0.7**
NVR Nevrokopi 80.87 318 P **P 11 03 29.8 +0.5**
KKB Krupnik 80.88 319 P **P 11 03 30.0 +0.7**
SOKA Soboth 80.88 326 *i* P **P 11 03 29.6 +0.3**
comp=Z,251nm,1.4s,SNR=97
SPMN Marine on St. 80.92 36 P **P 11 03 29.1 -0.4**
baz=321,SNR=25
SPMN Marine on St. 80.92 36 P **P 11 03 29.0 -0.4**
baz=321,SNR=25
RJOB Jochberg 80.95 328 *eP* **P 11 03 30.5 +0.9**
comp=Z,59nm,0.9s,baz=35,slow=5.5
THAS Thassos island 80.98 317 P **P 11 03 31.5 +1.7**
BEBN Eben Emael 81.01 334 *dP* **P 11 03 29.7 0.0**
BTNL Ternell 81.04 334 *dP* **P 11 03 30.2 +0.2**
comp=Z,65nm,1.0s
MEM Membach 81.06 334 *dP* **P 11 03 30.1 0.0**
comp=Z,83nm,1.0s
T25A Trinidad 81.07 48 IAmb IAmb 11 03 52.7
comp=Z,174nm,1.1s
T25A Trinidad 81.07 48 P **P 11 03 31.0 +0.4**
baz=316,SNR=40
BBLS Lazići 81.14 322 ⇑*i* P **P 11 03 31.4 +0.7**
PRK Paraskevi 81.16 315 P **P 11 03 30.8 0.0**
HAPS Han Pijesak,Bl 81.19 323 ⇑*i* P **P 11 03 31.8 +0.8**
KOKK Kokkinochori, 81.20 317 P **P 11 03 31.1 +0.2**
OBKA Obir 81.22 327 *i* P **P 11 03 31.3 +0.2**
comp=Z,71nm,0.8s,SNR=34
OBKA Obir 81.22 327 ⇑*i* P **P 11 03 31.2 +0.1**
BSTI Sart Tilman 81.23 334 *dP* **P 11 03 31.8 +0.8**
LESA Schwarzleotal 81.25 328 *eP* **P 11 03 31.5 +0.3**
comp=Z,271nm,1.5s
KBA Koelnbreinsper 81.26 328 *i* P **P 11 03 31.7 +0.3**
comp=Z,146nm,1.1s,SNR=80
D41A Chassel 81.27 32 IAMs_20 IAMs_20 11 40 02.8
comp=Z,9µm,21.0s
D41A Chassel 81.27 32 P **P 11 03 30.9 -0.3**
baz=324,SNR=11
SCHQ Schefferville 81.27 17 P **P 11 03 31.1 -0.1**
comp=Z,52nm,0.9s,baz=336,slow=4.4,SNR=25
SCHQ S S 11 13 26.6 -11
comp=Z,5.2nm,1.1s,baz=206,slow=13,SNR=1.7
SCHQ LR LR 11 45 22.3
comp=Z,5µm,18.1s,baz=338,slow=40
comp=Z,52nm,0.9s
BHOU Houvegnez 81.28 333 *dP* **P 11 03 31.9 +0.7**
comp=Z,66nm,1.1s

BGNE Belgrade 81.30 41 IAmb IAmb 11 03 53.1
comp=Z,234nm,0.8s
BGNE Belgrade 81.30 41 P **P 11 03 31.2 -0.3**
baz=318,SNR=34
BGNE Belgrade 81.30 41 P **P 11 03 31.5 0.0**
baz=318,SNR=34
SJES Sjenica 81.34 321 ⇑*i* P **P 11 03 32.5 +0.7**
RUDO Rudo 81.35 322 ⇑*i* P **P 11 03 31.8 +0.1**
BLCB Balcova 81.37 314 P **P 11 03 30.5 -1.4**
CRES Cresnjev 81.38 326 ⇑*i* P **P 11 03 31.8 0.0**
A051A Mrakovica 81.39 324 ⇑*i* P **P 11 03 31.6 -0.4**
SIGR SIGRI 81.41 315 P **P 11 03 35.0 +2.9**
ANMO Albuquerque 81.44 51 P **P 11 03 33.8 +1.2**
ANMO Albuquerque 81.44 51 P **P 11 03 34.0 +1.4**
baz=315
ANMO Albuquerque 81.44 51 P **P 11 03 34.1 +1.4**
baz=315,SNR=67
ANMO Albuquerque 81.44 51 P **P 11 03 33.8 +1.2**
ANMO pmax pmax
comp=Z,133nm,1.2s
CWF Charnwood Fore 81.44 339 *eP* **P 11 03 33.0 +1.0**
STIP Stip 81.46 319 *i* P **P 11 03 31.9 -0.4**
BCLA Clavier 81.46 334 *dP* **P 11 03 32.1 0.0**
BLY Banja Luka 81.47 324 ⇑*i* P **P 11 03 32.4 +0.1**
STU Stuttgart 81.48 331 IAmb IAmb 11 03 54.2
comp=Z,222nm,1.1s
STU IAMs_20 IAMs_20 11 41 26.3
comp=Z,14µm,22.0s
STU Stuttgart 81.48 331 *eP* **P 11 03 33.3 +1.0**
comp=Z,146nm,0.9s,baz=35,slow=5.5
STU *epP* **sP 11 03 49.5 -1.7**
MYKA Terra Mystica 81.50 327 *i* P **P 11 03 32.4 -0.1**
comp=Z,99nm,1.1s,SNR=48
KNT Kendrikon 81.50 318 P **P 11 03 31.9 -0.7**
DUN6 Lazy B Ranch 81.52 54 IAmb IAmb 11 03 55.7
comp=Z,325nm,1.1s
VAY Valandovo 81.54 319 *i* P **P 11 03 33.3 +0.6**
KSL Kastellorizon 81.55 311 P **P 11 03 33.4 +0.5**
BGES Gesves 81.56 334 *dP* **P 11 03 32.9 +0.2**
OUR Ouranopolis 81.56 317 P **P 11 03 32.1 -0.8**
PLE Pljevlja 81.56 322 ⇑*i* P **P 11 03 33.5 +0.5**
YER Yerkesik 81.58 312 P **P 11 03 32.5 -0.6**
I37A Lemond, Waseca 81.59 37 IAmb IAmb 11 03 38.5
comp=Z,332nm,1.1s
I37B Waseca 81.59 37 P **P 11 03 33.4 +0.4**
baz=321,SNR=42
LJU Ljubljana 81.60 326 *i* P **P 11 03 33.1 +0.1**
LJU *i* pP **sP 11 03 50.2 -1.7**
LJU *eS* **S 11 13 39.7 -1.6**
SKO Skopje 81.61 320 *i* P **P 11 03 34.1 +1.0**
IVA Berane 81.67 321 ⇑*i* P **P 11 03 33.9 +0.3**
PRED Cave del Predi 81.68 327 P **P 11 03 32.9 -0.6**
RCHB Rochefort 81.71 334 *dP* **P 11 03 33.6 +0.2**
comp=Z,73nm,1.2s
BOJS Bojanci 81.72 325 ⇑*i* P **P 11 03 33.0 -0.6**
BMRD Maredsous 81.74 334 *dP* **P 11 03 33.6 0.0**
comp=Z,116nm,1.1s
L34A Svendsen Farm, 81.76 40 P **P 11 03 33.6 -0.3**
baz=319,SNR=20
WATA Walderalm 81.76 329 *i* P **P 11 03 34.0 0.0**
comp=Z,65nm,0.6s,SNR=29
MGRS Mrkonjic Grad 81.78 324 ⇑*i* P **P 11 03 35.0 +1.0**
Y22D IRIS PASSCAL I 81.78 52 IAmb IAmb 11 03 56.6
comp=Z,157nm,1.0s
Y22D IRIS PASSCAL I 81.78 52 P **P 11 03 35.7 +1.3**
baz=315
Y22D IRIS PASSCAL I 81.78 52 P **P 11 03 36.5 +2.2**
baz=315
Y22F Passcal Instru 81.78 52 P **P 11 03 35.9 +1.6**
baz=315
WTTA Wattenberg 81.79 329 *i* P **P 11 03 34.7 +0.5**
comp=Z,76nm,0.9s,SNR=36
FOEL Foel Wylfa 81.82 340 *eP* **P 11 03 35.5 +1.5**
FOEL IAmb IAmb 11 03 39.9
comp=Z,141nm,0.7s
WLF Walferdange 81.82 333 IAmb IAmb 11 03 55.1
comp=Z,592nm,1.9s
WLF Walferdange 81.82 333 *dP* **P 11 03 34.6 +0.5**
comp=Z,51nm,1.0s
WLF Walferdange 81.82 333 P **P 11 03 34.0 -0.1**
WLF Walferdange 81.82 333 *eP* **P 11 03 34.5 +0.5**
baz=35,slow=5.5
HORT Hortiatis 81.82 318 P **P 11 03 33.7 -0.6**
YLL Llanberis 81.84 340 *eP* **P 11 03 35.5 +1.4**
Y22A Socorro 81.84 52 P **P 11 03 36.1 +1.4**
baz=315,SNR=44
PVY Plav 81.86 321 ⇑*i* P **P 11 03 34.0 -0.6**
THE Thessaloniki 81.86 318 P **P 11 03 34.4 0.0**
ABTA Abfaltersbach 81.86 328 *i* P **P 11 03 34.0 -0.5**
comp=Z,82nm,1.3s,SNR=27
KOME Kolasin 81.87 321 ⇑*i* P **P 11 03 34.9 +0.3**
CEY Cerknica 81.89 326 ⇑*i* P **P 11 03 34.5 0.0**
CHOS Chios island 81.90 315 P **P 11 03 33.7 -1.1**
GRG Griva 81.90 319 P **P 11 03 33.4 -1.3**
RAR Rarotonga 81.93 127 IAMs_20 IAMs_20 11 34 07.0
comp=Z,14µm,20.0s
RAR Rarotonga 81.93 127 LR LR 11 34 18.4
comp=Z,12µm,20.6s,baz=319,slow=31
MOTA Moosalm 81.94 329 *i* P **P 11 03 35.4 +0.5**
comp=Z,135nm,0.9s,SNR=55
CLUD Cludinico 81.95 327 IAmb IAmb 11 03 55.5
comp=Z,281nm,1.1s
RETA Reutte 81.95 329 *i* P **P 11 03 35.4 +0.5**
comp=Z,164nm,1.0s,SNR=45
SMG Samos 81.97 314 P **P 11 03 35.3 +0.2**
A050A Klekovaca 81.97 324 ⇑*i* P **P 11 03 35.1 0.0**
DOU Dourbes 81.97 334 *dP* **P 11 03 34.7 -0.2**
comp=Z,49nm,1.3s
LLW Llanuwchllyn 81.97 340 *eP* **P 11 03 35.7 +0.9**
SQTA Sankt Quirin 82.00 329 *i* P **P 11 03 35.7 +0.5**
comp=Z,210nm,1.6s,SNR=34
PAIG Paliouri 82.02 317 P **P 11 03 32.7 -2.6**
G40A Rib Lake 82.02 34 IAMs_20 IAMs_20 11 42 35.8
comp=Z,9µm,21.0s
G40A Rib Lake 82.02 34 P **P 11 03 34.9 -0.4**
baz=323,SNR=21
SABO M.te Sabotino 82.04 327 IAmb IAmb 11 03 55.6
comp=Z,288nm,1.2s
SABO IAMs_20 IAMs_20 11 43 06.6
comp=Z,24µm,21.0s
UBR Ueberruh 82.04 330 *eP* **P 11 03 36.1 +0.7**
baz=35,slow=5.5
UBR *epP* **sP 11 03 52.6 -1.7**
HLM1 Long Mynd 82.07 339 *eP* **P 11 03 36.1 +0.7**
BFO Black Forest 82.17 331 P **P 11 03 36.1 +0.1**
BFO IAmb IAmb 11 03 58.5
comp=Z,216nm,1.2s
BFO IAMs_20 IAMs_20 11 42 49.4
comp=Z,12µm,20.0s
BFO Black Forest 82.17 331 P **P 11 03 36.1 +0.1**
BFO pmax pmax
comp=Z,216nm,1.2s
BFO MLR MLR
comp=Z,12µm,20.0s
BFO Black Forest 82.17 331 *eP* **P 11 03 36.5 +0.5**
comp=Z,131nm,1.2s,baz=35,slow=5.5
BODT Bodrum 82.17 313 P **P 11 03 34.7 -1.5**
STAL STALIGIAL 82.18 327 IAmb IAmb 11 03 56.0
comp=Z,431nm,1.4s
NKME Niksic 82.20 322 ⇑*i* P **P 11 03 36.1 -0.2**
319A Douglas 82.21 55 IAmb IAmb 11 03 58.4
comp=Z,163nm,1.0s
SKDS Skadanscina 82.21 326 *i* P **P 11 03 35.7 -0.6**
SKDS *ePP* **PP 11 06 47.1 +2.9**
SKDS Skadanscina 82.21 326 ⇑*i* P **P 11 03 35.7 -0.6**
DSB Dublin 82.28 342 IAmb IAmb 11 03 56.7
comp=Z,176nm,1.2s
BRY Bratogost 82.29 322 ⇑*i* P **P 11 03 36.5 -0.3**
BRY Bratogost 82.29 322 ⇑*i* P **P 11 03 36.5 -0.3**
ARG Arkhangelos 82.33 312 P **P 11 03 37.3 +0.3**
121A Cookes Peak, D 82.33 53 P **P 11 03 38.7 +1.4**
baz=314,SNR=27
121A Cookes Peak, D 82.33 53 P **P 11 03 38.9 +1.6**
baz=314,SNR=27
FETA Feichten 82.35 329 *i* P **P 11 03 37.1 0.0**
comp=Z,69nm,1.0s,SNR=24
CEME Cevo 82.39 322 ⇑*i* P **P 11 03 37.1 -0.2**
CBKS Cedar Bluff 82.41 44 IAmb IAmb 11 03 58.4
comp=Z,195nm,1.1s
CBKS Cedar Bluff 82.41 44 P **P 11 03 36.5 -0.9**
baz=318,SNR=28
CBKS Cedar Bluff 82.41 44 P **P 11 03 36.9 -0.6**
baz=318,SNR=28
DAVA Damuels 82.46 330 *i* P **P 11 03 37.8 +0.1**
comp=Z,121nm,0.9s,SNR=28

E43A	**Lone Tree Farm**	**82.46**	**32**	IAMs_20	IAMs_20	11 40 51.1			
	comp=Z,15µm,22.0s								
KTI	**Kastanea**	**82.47**	**318**	P	**P**	**11 03 37.8**	**0.0**		
F42A	**Maple Grove Fa**	**82.50**	**33**	IAMs_20	IAMs_20	11 43 39.3			
	comp=Z,8µm,20.0s								
RTBA	**Rita Blanca**	**82.51**	**48**	IAmb	IAmb	11 03 59.8			
	comp=Z,188nm,1.1s								
TREB	**Trebinje**	**82.52**	**322** ⇑	*i*P	**P**	**11 03 37.6**	**-0.3**		
DRME	**Dracevica, Mon**	**82.54**	**321** ⇑	*i*P	**P**	**11 03 38.1**	**+0.1**		
STRD	**Stroud**	**82.54**	**339**	*e*P	**P**	**11 03 38.8**	**+1.0**		
STRD				IAmb	IAmb	11 03 40.4			
	comp=Z,479nm,1.3s								
FNA	**Florina**	**82.54**	**319**	P	**P**	**11 03 36.3**	**-1.8**		
MCH1	**Michaelchurch**	**82.57**	**339**	*e*P	**P**	**11 03 38.6**	**+0.7**		
MCH1				IAmb	IAmb	11 03 41.1			
	comp=Z,196nm,1.4s								
OHR	**Ohrid**	**82.58**	**320**	*i* P	**P**	**11 03 39.0**	**+0.7**		
KOSK	**Kos Island**	**82.58**	**313**	P	P	11 04 08.2	+30		
MONM	**Monmouth**	**82.66**	**339**	*e*P	**P**	**11 03 38.5**	**+0.2**		
MONM				IAmb	IAmb	11 03 43.2			
	comp=Z,261nm,1.3s								
HCY	**Herceg Novi**	**82.66**	**322** ⇑	*i*P	**P**	**11 03 38.3**	**-0.3**		
HCY	**Herceg Novi**	**82.66**	**322** ⇑	*i*P	**P**	**11 03 38.0**	**-0.6**		
SWN1	**Swindon**	**82.68**	**338**	*e*P	**P**	**11 03 39.7**	**+1.2**		
SWN1				IAmb	IAmb	11 03 43.0			
	comp=Z,334nm,1.0s								
ULC	**Ulcinj**	**82.68**	**321** ⇑	*i*P	**P**	**11 03 38.7**	**-0.1**		
ECH	**Echery**	**82.69**	**332**	IAMs_20	IAMs_20	11 43 35.2			
	comp=Z,14µm,20.0s								
STON	**Ston**	**82.70**	**322** ⇑	*i*P	**P**	**11 03 37.8**	**-1.0**		
NEO	**Neokhori**	**82.72**	**317**	P	**P**	**11 03 39.8**	**+0.8**		
CTI	**Castel Tesino**	**82.78**	**328**	IAmb	IAmb	11 03 59.5			
	comp=Z,337nm,1.4s								
EIL	**Elat**	**82.82**	**303**	P	**P**	**11 03 40.0**	**+0.3**		
	comp=Z,71nm,1.1s,baz=36,slow=4.6,SNR=20								
EIL				S	**S**	**11 13 46.6**	**-7.8**		
	comp=Z,1.7nm,0.5s,baz=98,slow=11,SNR=1.6								
EIL				LR	LR	11 45 42.3			
	comp=Z,6µm,20.5s,baz=46,slow=39								
	comp=Z,71nm,1.1s								
TIR	**Tirane**	**82.86**	**320**	IAMs_20	IAMs_20	11 44 04.2			
	comp=Z,16µm,22.0s								
TIR	**Tirane**	**82.86**	**320**	P	**P**	**11 03 39.5**	**-0.1**		
FUORN	**Ofenpass-Fuorn**	**82.86**	**329**	IAmb	IAmb	11 04 00.9			
	comp=Z,231nm,0.9s								
DAVOX	**Davos/Dischmat**	**82.88**	**329**	LR	LR	11 44 36.3			
	comp=Z,22µm,18.2s,baz=38,slow=39								
I40A	**Norwalk**	**82.94**	**36**	P	**P**	**11 03 39.8**	**-0.2**		
	baz=323,SNR=12								
K38A	**Parkersburg**	**82.94**	**38**	IAmb	IAmb	11 03 44.5			
	comp=Z,275nm,1.6s								
K38A				IAMs_20	IAMs_20	11 39 02.3			
	comp=Z,15µm,22.0s								
K38A	**Parkersburg**	**82.94**	**38**	P	**P**	**11 03 39.8**	**-0.3**		
	baz=322,SNR=13								
N35A	**Tabor**	**82.95**	**40**	IAmb	IAmb	11 04 04.4			
	comp=Z,176nm,0.8s								
N35A	**Tabor**	**82.95**	**40**	P	**P**	**11 03 40.5**	**+0.3**		
	baz=320,SNR=37								
KBN	**Korca**	**82.96**	**319**	P	**P**	**11 03 38.2**	**-2.1**		
NEST	**Nestorio**	**82.98**	**319**	P	**P**	**11 03 40.8**	**+0.3**		
PEF	**Pentalofos**	**83.11**	**319**	P	**P**	**11 03 40.7**	**-0.4**		
APE	**Apeiranthos**	**83.15**	**314**	P	**P**	**11 03 39.5**	**-1.8**		
KPRO	**Kipourio**	**83.18**	**318**	P	**P**	**11 03 41.8**	**+0.4**		
IWEX	**Carrickbyrne,**	**83.18**	**342**	*e*P	**P**	**11 03 42.0**	**+0.9**		
R32A	**Long Quarter,**	**83.23**	**44**	P	**P**	**11 03 41.5**	**-0.2**		
	baz=318								
DION	**Dionisos Attik**	**83.26**	**316**	P	**P**	**11 03 42.9**	**+1.1**		
SCIA	**State Center**	**83.31**	**38**	IAMs_20	IAMs_20	11 41 19.2			
	comp=Z,16µm,22.0s								
SCIA	**State Center**	**83.31**	**38**	P	**P**	**11 03 41.9**	**-0.1**		
	baz=321,SNR=47								
SCIA	**State Center**	**83.31**	**38**	P	**P**	**11 03 42.4**	**+0.4**		
	baz=321,SNR=47								
TEOL	**Teolo**	**83.33**	**327**	IAMs_20	IAMs_20	11 44 19.3			
	comp=Z,16µm,21.0s								
KARP	**Karpathos**	**83.35**	**312**	IAMs_20	IAMs_20	11 45 45.7			
	comp=Z,8µm,21.0s								
KARP	**Karpathos**	**83.35**	**312**	P	**P**	**11 03 41.4**	**-1.0**		
AGG	**Agios Georgios**	**83.39**	**317**	IAmb	IAmb	11 04 02.5			
	comp=Z,369nm,1.6s								
AGG	**Agios Georgios**	**83.39**	**317**	P	**P**	**11 03 42.4**	**-0.1**		
LSK	**Leskovik**	**83.41**	**319**	P	**P**	**11 03 42.4**	**-0.2**		
AXAR	**Agios Charalam**	**83.41**	**317**	P	**P**	**11 03 41.7**	**-1.5**		
ATHU	**Athens Univers**	**83.42**	**316**	P	**P**	**11 03 41.4**	**-1.2**		
ATH	**Athens Observa**	**83.45**	**316**	P	P	11 03 25.0	-18		
MAKR	**Makrakomi, Fth**	**83.50**	**317**	P	**P**	**11 03 40.5**	**-2.5**		
VLY	**Voula,Athens**	**83.50**	**316**	P	**P**	**11 03 41.8**	**-1.2**		
E46A	**Sault Ste Mari**	**83.53**	**30**	IAmb	IAmb	11 03 47.8			
	comp=Z,250nm,1.2s								
E46A	**Sault Ste Mari**	**83.53**	**30**	P	**P**	**11 03 42.6**	**-0.4**		
	baz=327,SNR=22								
JAN	**Janina**	**83.66**	**319**	P	**P**	**11 03 44.3**	**+0.4**		
I42A	**Draeger Farm,**	**83.68**	**35**	IAmb	IAmb	11 03 48.3			
	comp=Z,154nm,1.1s								
I42A				IAMs_20	IAMs_20	11 43 36.5			
	comp=Z,9µm,22.0s								
I42A	**Draeger Farm,**	**83.68**	**35**	P	**P**	**11 03 43.7**	**-0.1**		
	baz=324,SNR=20								
H43A	**Windswept, Lux**	**83.69**	**34**	IAmb	IAmb	11 03 48.4			
	comp=Z,173nm,1.0s								
H43A				IAMs_20	IAMs_20	11 44 25.8			
	comp=Z,9µm,20.0s								
H43A	**Windswept, Lux**	**83.69**	**34**	P	**P**	**11 03 43.6**	**-0.3**		
	baz=324,SNR=6.6								
TAU	**Tasmania Unive**	**83.70**	**176**	P	**P**	**11 03 45.5**	**+2.1**		
TAU	**Tasmania Unive**	**83.70**	**176**	IAMs_20	IAMs_20	11 39 54.0			
	comp=Z,10µm,20.0s								
TAU	**Tasmania Unive**	**83.70**	**176**	P	**P**	**11 03 45.6**	**+2.1**		
TAU				pmax	pmax				
	comp=Z,91nm,1.1s								
TAU				MLR	MLR				
	comp=Z,10µm,20.0s								
VLO	**Vlora**	**83.71**	**320**	P	**P**	**11 03 44.7**	**+0.7**		
EVR	**Evrytania**	**83.73**	**317**	P	**P**	**11 03 44.7**	**+0.4**		
KSU1	**Kansas State U**	**83.81**	**42**	P	**P**	**11 03 43.9**	**-0.7**		
	baz=320,SNR=15								
KSU1	**Kansas State U**	**83.81**	**42**	P	**P**	**11 03 44.4**	**-0.2**		
	baz=320,SNR=15								
JFWS	**Jewell Farm**	**83.88**	**36**	P	**P**	**11 03 44.6**	**-0.3**		
	baz=323,SNR=7.1								
JFWS	**Jewell Farm**	**83.88**	**36**	P	**P**	**11 03 44.4**	**-0.5**		
	baz=323,SNR=7.1								
SRN	**Sarande**	**83.91**	**319**	P	**P**	**11 03 44.3**	**-0.8**		
ANX	**Ano Chora**	**83.92**	**317**	P	**P**	**11 03 43.7**	**-1.6**		
THAL	**Thalero**	**83.95**	**316**	P	**P**	**11 03 43.7**	**-1.6**		
IGT	**Igoumenitsa**	**84.01**	**319**	P	**P**	**11 03 45.6**	**0.0**		
TOZ	**Tahurova Road**	**84.05**	**154**	IAMs_20	IAMs_20	11 37 08.7			
	comp=Z,12µm,21.0s								
EFP	**Efpalio**	**84.06**	**317**	P	**P**	**11 03 46.6**	**+0.8**		
G45A	**Suttons Bay**	**84.09**	**32**	IAmb	IAmb	11 03 51.0			
	comp=Z,231nm,1.2s								
L40A	**Anamosa**	**84.11**	**37**	IAmb	IAmb	11 03 50.8			
	comp=Z,192nm,1.2s								
L40A	**Anamosa**	**84.11**	**37**	P	**P**	**11 03 45.6**	**-0.5**		
	baz=322,SNR=24								
KEK	**Kerkira**	**84.14**	**319**	P	**P**	**11 03 43.4**	**-2.9**		
N38A	**Joes South For**	**84.17**	**39**	IAmb	IAmb	11 03 50.9			
	comp=Z,151nm,0.9s								
N38A	**Joes South For**	**84.17**	**39**	P	**P**	**11 03 46.5**	**+0.1**		
	baz=321,SNR=36								
ZKR	**Zakros**	**84.19**	**312**	P	**P**	**11 03 48.7**	**+2.1**		
GUR	**Goura**	**84.20**	**317**	P	**P**	**11 03 45.6**	**-1.1**		
KLV	**Kalavryta, Ach**	**84.22**	**317**	P	**P**	**11 03 45.6**	**-1.2**		
AMTX	**Amarillo**	**84.23**	**48**	P	**P**	**11 03 47.7**	**+0.8**		
AMTX				IAmb	IAmb	11 04 09.0			
	comp=Z,155nm,1.1s								
AMTX	**Amarillo**	**84.23**	**48**	P	**P**	**11 03 47.6**	**+0.7**		
	baz=317								
AMTX	**Amarillo**	**84.23**	**48**	P	**P**	**11 03 48.0**	**+1.1**		
	baz=317,SNR=28								
MSTX	**Muleshoe**	**84.27**	**49**	P	**P**	**11 03 47.7**	**+0.6**		
MSTX				IAmb	IAmb	11 04 08.9			
	comp=Z,196nm,1.0s								
MSTX	**Muleshoe**	**84.27**	**49**	P	**P**	**11 03 47.5**	**+0.4**		
	baz=317,SNR=47								
MSTX	**Muleshoe**	**84.27**	**49**	P	**P**	**11 03 47.8**	**+0.6**		
	baz=317,SNR=47								
MNTX	**Cornudas Mount**	**84.36**	**52**	P	**P**	**11 03 48.4**	**+0.8**		
	baz=316,SNR=36								
MNTX	**Cornudas Mount**	**84.36**	**52**	P	**P**	**11 03 48.6**	**+1.1**		
	baz=316,SNR=36								
PRMA	**PARMA**	**84.37**	**328**	IAMs_20	IAMs_20	11 44 48.6			
	comp=Z,9µm,18.0s								
VAL	**Valentia**	**84.38**	**343**	P	**P**	**11 03 48.9**	**+1.7**		
TSLK	**Tsoukalades, L**	**84.39**	**318**	P	**P**	**11 03 46.6**	**-0.9**		
LKD2	**Lefkada island**	**84.42**	**318**	P	**P**	**11 03 48.2**	**+0.5**		
KAN12	**Harper NE Stat**	**84.45**	**44**	IAmb	IAmb	11 04 09.4			
	comp=Z,181nm,1.1s								
NYDR	**Nydri-Lefkada**	**84.45**	**318**	P	**P**	**11 03 47.9**	**+0.1**		
VLDQ	**Val d'Or**	**84.47**	**26**	IAmb	IAmb	11 03 51.2			
	comp=Z,242nm,1.0s								
VLDQ				IAMs_20	IAMs_20	11 42 42.2			
	comp=Z,9µm,22.0s								
GUMA	**Gualdo di Mace**	**84.50**	**325**	IAmb	IAmb	11 04 26.2			
	comp=Z,508nm,1.3s								
GUMA				IAMs_20	IAMs_20	11 44 29.2			
	comp=Z,30µm,22.0s								
DRO	**Drossia**	**84.51**	**317**	P	**P**	**11 03 46.6**	**-1.6**		
KAN08	**Anthony NE Sta**	**84.52**	**44**	IAmb	IAmb	11 04 09.7			
	comp=Z,144nm,1.0s								
KAN10	**Anthony SW Sta**	**84.53**	**44**	IAmb	IAmb	11 04 09.8			
	comp=Z,126nm,1.1s								
DRAG	**Dragano-Lefkad**	**84.54**	**318**	P	**P**	**11 03 46.6**	**-1.7**		
EVGI	**Lefkada island**	**84.55**	**318**	P	**P**	**11 03 48.2**	**-0.1**		
HIZ	**Hauiti**	**84.56**	**155**	P	**P**	**11 03 49.0**	**+1.0**		
KAN06	**Argonia West S**	**84.56**	**44**	IAmb	IAmb	11 04 09.9			
	comp=Z,142nm,1.2s								
RLS	**Riolos of Patr**	**84.56**	**317**	P	**P**	**11 03 49.2**	**+0.8**		
U32A	**Winter Ranch,**	**84.60**	**45**	IAmb	IAmb	11 04 10.6			
	comp=Z,133nm,0.9s								
U32A	**Winter Ranch,**	**84.60**	**45**	P	**P**	**11 03 49.6**	**+0.9**		
	baz=318,SNR=15								
KAN05	**Bluff City Nor**	**84.66**	**44**	IAmb	IAmb	11 04 10.6			
	comp=Z,198nm,1.1s								
OK038	**West end E0370**	**84.67**	**45**	IAmb	IAmb	11 04 10.9			
	comp=Z,206nm,1.0s								
KAN01	**Argonia South**	**84.68**	**44**	IAmb	IAmb	11 04 10.7			
	comp=Z,186nm,1.1s								
I45A	**Fountain**	**84.69**	**33**	IAmb	IAmb	11 03 53.7			
	comp=Z,229nm,1.0s								
I45A				IAMs_20	IAMs_20	11 44 55.0			
	comp=Z,9µm,21.0s								
GLMI	**Grayling**	**84.69**	**32**	IAMs_20	IAMs_20	11 43 05.9			
	comp=Z,14µm,22.0s								
GLMI	**Grayling**	**84.69**	**32**	P	**P**	**11 03 48.9**	**-0.1**		
	baz=326,SNR=7.0								
GLMI	**Grayling**	**84.69**	**32**	P	**P**	**11 03 49.4**	**+0.5**		
	baz=326,SNR=7.0								
OK032	**Salt Plains WL**	**84.71**	**45**	IAmb	IAmb	11 04 11.0			
	comp=Z,235nm,1.1s								
OK032				IAMs_20	IAMs_20	11 43 23.1			
	comp=Z,9µm,22.0s								
FSK	**Fiskardo**	**84.72**	**318**	P	**P**	**11 03 48.2**	**-1.0**		
KAN14	**Manchester OK**	**84.72**	**44**	IAmb	IAmb	11 04 10.8			
	comp=Z,145nm,1.1s								
KAN17	**Caldwell West**	**84.76**	**44**	IAmb	IAmb	11 04 11.2			
	comp=Z,202nm,1.1s								
IDI	**Anoyia**	**84.81**	**313**	P	**P**	**11 03 46.9**	**-2.9**		
IDI	**Anoyia**	**84.81**	**313**	P	**P**	**11 03 48.6**	**-1.2**		
IDI	**Anoyia**	**84.81**	**313**	LR	LR	11 45 47.3			
	comp=Z,7µm,21.9s,baz=28,slow=38								
VLC	**Villacollemand**	**84.84**	**328**	P	**P**	**11 03 48.9**	**-0.9**		
L42A	**Oliver, Polo**	**84.86**	**36**	P	**P**	**11 03 49.2**	**-0.6**		
	baz=323,SNR=12								
K43A	**Burlington**	**84.89**	**35**	IAmb	IAmb	11 03 55.3			
	comp=Z,188nm,1.1s								
K43A				IAMs_20	IAMs_20	11 48 56.5			
	comp=Z,9µm,20.0s								
K43A	**Burlington**	**84.89**	**35**	P	**P**	**11 03 49.9**	**-0.1**		
	baz=324,SNR=8.0								
VLS	**Valsamata**	**84.92**	**318**	P	**P**	**11 03 49.5**	**-0.7**		
P38A	**Dawn**	**84.94**	**40**	IAmb	IAmb	11 04 11.7			
	comp=Z,127nm,0.9s								
P38A	**Dawn**	**84.94**	**40**	P	**P**	**11 03 50.4**	**+0.1**		
	baz=321,SNR=42								
KAN13	**South Haven SW**	**84.94**	**44**	IAmb	IAmb	11 04 12.0			
	comp=Z,148nm,1.0s								
KEF4	**Livadi, Kephal**	**84.94**	**318**	P	**P**	**11 03 51.4**	**+1.1**		
PSDA	**Pessada-Kefalo**	**84.97**	**318**	P	**P**	**11 03 51.1**	**+0.7**		
OSSC	**Osservatorio P**	**85.01**	**327**	IAmb	IAmb	11 04 12.2			
	comp=Z,204nm,1.1s								
KEF3	**Kipouria, Keph**	**85.02**	**318**	P	**P**	**11 03 51.1**	**+0.4**		
MSSA	**Maissana**	**85.06**	**328**	IAmb	IAmb	11 04 12.2			
	comp=Z,194nm,1.1s								
MSSA				IAMs_20	IAMs_20	11 44 24.9			
	comp=Z,13µm,21.0s								
URZ	**Urewera**	**85.07**	**153**	P	**P**	**11 03 50.6**	**0.0**		
URZ	**Urewera**	**85.07**	**153**	LR	LR	11 38 57.8			
	comp=Z,15µm,20.2s,baz=31,slow=34								
INTR	**Introdacqua**	**85.10**	**324**	IAMs_20	IAMs_20	11 46 28.1			
	comp=Z,12µm,20.0s								
PMOR	**Pomariorio Ree**	**85.12**	**115**	*e*P	sP	11 04 08.8	-1.4		
	comp=Z,314nm,1.3s								
LTHK	**Lithakia**	**85.15**	**317**	P	**P**	**11 03 52.1**	**+0.8**		
IMMV	**Ieria Moni Meta**	**85.17**	**314**	P	**P**	**11 03 50.1**	**-1.5**		
ANKY	**Antikythira Is**	**85.24**	**315**	P	**P**	**11 03 52.1**	**+0.2**		
VHRN	**Van Horn**	**85.25**	**53**	IAmb	IAmb	11 04 14.5			
	comp=Z,223nm,1.4s								
BLOK	**Blackwell**	**85.27**	**44**	IAmb	IAmb	11 04 13.7			
	comp=Z,190nm,1.0s								
PYL	**PYLOS**	**85.30**	**316**	P	**P**	**11 03 49.8**	**-2.3**		
RTZ	**Ruatahuna**	**85.35**	**153**	IAMs_20	IAMs_20	11 39 26.0			
	comp=Z,15µm,21.0s								
N41A	**Harden Midland**	**85.36**	**38**	IAmb	IAmb	11 03 56.8			
	comp=Z,219nm,1.4s								
VAH	**Vahoa**	**85.47**	**115**	*e*P	sP	11 04 11.3	-0.6		
	comp=Z,90nm,1.2s								
L44A	**Lake County Fo**	**85.49**	**35**	IAmb	IAmb	11 03 57.4			
	comp=Z,131nm,1.1s								
L44A				IAMs_20	IAMs_20	11 42 00.6			
	comp=Z,13µm,21.0s								
L44A	**Lake County Fo**	**85.49**	**35**	P	**P**	**11 03 52.4**	**-0.6**		
	baz=324								
PECS	**Pecos**	**85.50**	**52**	IAmb	IAmb	11 04 15.5			
	comp=Z,256nm,1.2s								
T35A	**Sooner Cattle**	**85.52**	**44**	IAmb	IAmb	11 04 15.0			
	comp=Z,148nm,0.9s								
T35B	**Sooner Cattle**	**85.52**	**44**	P	**P**	**11 03 53.9**	**+0.6**		
	baz=320,SNR=40								
BNI	**Bardonecchia**	**85.54**	**330**	IAmb	IAmb	11 04 14.1			
	comp=Z,128nm,0.9s								
DKNS	**Dickens**	**85.54**	**48**	IAmb	IAmb	11 04 16.5			
	comp=Z,109nm,0.8s								
PAOL	**Paolisi**	**85.59**	**323**	IAmb	IAmb	11 04 14.1			
	comp=Z,196nm,1.2s								
OK051	**E0350 and S346**	**85.66**	**44**	IAmb	IAmb	11 04 15.6			
	comp=Z,108nm,1.0s								
OK051				IAMs_20	IAMs_20	11 45 18.2			
	comp=Z,10µm,20.0s								
OK048	**Pawnee Station**	**85.67**	**44**	IAmb	IAmb	11 04 15.7			
	comp=Z,184nm,1.0s								
OK048				IAMs_20	IAMs_20	11 44 35.5			
	comp=Z,11µm,22.0s								
BKZ	**Black Stump Fm**	**85.68**	**154**	IAmb	IAmb	11 04 13.0			
	comp=Z,209nm,1.6s								
P40A	**Paris**	**85.72**	**39**	IAmb	IAmb	11 03 59.0			
	comp=Z,224nm,1.3s								
P40A	**Paris**	**85.72**	**39**	P	**P**	**11 03 54.5**	**+0.3**		
	baz=322,SNR=35								
CASP	**Castiglione de**	**85.77**	**326**	IAmb	IAmb	11 04 32.5			
	comp=Z,247nm,1.6s								
CASP				IAMs_20	IAMs_20	11 45 52.8			
	comp=Z,13µm,21.0s								
PPT	**Papeete**	**85.78**	**117**	LR	LR	11 36 22.5			
	comp=Z,34µm,20.5s,baz=298,slow=32								
PPT2	**Papeete2**	**85.79**	**118**	*e*PKP2	P	11 03 47.4	-7.4		
	comp=Z,2µm,26.0s								
PPT2	**Papeete2**	**85.79**	**118**	*e*P	sP	11 04 13.6	0.0		
	comp=Z,134nm,1.4s								
PPT2	**Papeete2**	**85.79**	**118**	*e*S	**SKSac**	**11 14 18.6**	**+2.0**		
	comp=Z,6µm,26.2s								
PPT2				*e*SS	**SS**	**11 19 53.6**	**-8.9**		
	comp=Z,4µm,25.8s								
PPT2	**Papeete2**	**85.79**	**118**	*e*LR	LR	11 30 34.3			
	comp=Z,56µm,23.2s								
PPT2				*e*LR	LR	11 30 58.8			
	comp=Z,73µm,23.2s								
HQIL	**Hanson Quary C**	**85.83**	**35**	IAmb	IAmb	11 03 55.5			
	comp=Z,104nm,1.0s								
CUC	**Castrocucco**	**85.84**	**322**	IAmb	IAmb	11 04 31.8			
	comp=Z,94nm,1.0s								
CUC				IAMs_20	IAMs_20	11 46 49.8			
	comp=Z,12µm,21.0s								
PAE	**Paea**	**85.84**	**118**	*e*PKP2	sP	11 04 12.2	-1.6		
	comp=Z,57nm,1.3s								
OK029	**Liberty Lake**	**85.87**	**45**	IAMs_20	IAMs_20	11 47 00.8			
	comp=Z,8µm,21.0s								
J47A	**Sunmer**	**85.92**	**33**	IAMs_20	IAMs_20	11 43 56.7			
	comp=Z,9µm,21.0s								
J47A	**Sunmer**	**85.92**	**33**	P	**P**	**11 03 55.8**	**+0.7**		
	baz=326,SNR=16								
J47A				P	**P**	**11 03 55.8**	**+0.7**		
	baz=326,SNR=16								
TIAR	**Tiarei**	**85.93**	**117**	*e*PKP2	sP	11 04 12.2	-2.0		
	comp=Z,6.1nm,0.8s								
WMOK	**Wichita Mounta**	**85.94**	**46**	IAmb	IAmb	11 04 17.1			
	comp=Z,127nm,1.0s								
WMOK	**Wichita Mounta**	**85.94**	**46**	P	**P**	**11 03 55.6**	**+0.1**		
	baz=319,SNR=11								
WMOK	**Wichita Mounta**	**85.94**	**46**	P	**P**	**11 03 55.6**	**+0.1**		
	baz=319,SNR=11								
OK033	**Mehan**	**85.95**	**44**	IAmb	IAmb	11 04 17.1			
	comp=Z,162nm,1.0s								
OK033				IAMs_20	IAMs_20	11 44 21.1			
	comp=Z,9µm,22.0s								
QRZ	**Quartz Range**	**85.97**	**158**	P	**P**	**11 03 56.7**	**+1.7**		
QUOK	**Quay**	**85.98**	**44**	IAmb	IAmb	11 04 17.3			
	comp=Z,200nm,1.1s								
OK052	**Battle Ridge R**	**86.06**	**44**	IAmb	IAmb	11 04 17.8			
	comp=Z,193nm,1.0s								
OK052				IAMs_20	IAMs_20	11 44 12.0			
	comp=Z,10µm,22.0s								
M44A	**Midewin, Midew**	**86.08**	**36**	IAmb	IAmb	11 04 44.8			
	comp=Z,229nm,1.3s								
M44A	**Midewin, Midew**	**86.08**	**36**	P	**P**	**11 03 56.1**	**+0.2**		
	baz=324								
I49A	**Point Hope**	**86.13**	**31**	IAmb	IAmb	11 04 00.9			
	comp=Z,203nm,1.1s								
SSB	**Saint Sauveur**	**86.13**	**332**	IAMs_20	IAMs_20	11 45 27.1			
	comp=Z,15µm,21.0s								
TVO	**Taravao**	**86.15**	**117**	*e*PKP2	sP	11 04 13.6	-1.8		
	comp=Z,68nm,1.2s								
SN01	**Snyder 1**	**86.15**	**49**	IAmb	IAmb	11 04 18.2			
	comp=Z,145nm,1.1s								
MNHN	**Monahans**	**86.18**	**51**	IAmb	IAmb	11 04 18.7			
	comp=Z,114nm,1.2s								
HDIL	**Hopedale**	**86.19**	**37**	IAmb	IAmb	11 04 01.0			
	comp=Z,190nm,1.2s								
HDIL	**Hopedale**	**86.19**	**37**	P	**P**	**11 03 55.8**	**-0.7**		
	baz=324,SNR=20								
HDIL	**Hopedale**	**86.19**	**37**	P	**P**	**11 03 56.3**	**-0.2**		
	baz=324,SNR=20								
APMT	**Aspermont**	**86.25**	**48**	IAmb	IAmb	11 04 18.6			
	comp=Z,177nm,1.1s								
FNO	**Franklin**	**86.30**	**45**	IAmb	IAmb	11 04 19.1			
	comp=Z,198nm,1.1s								
L46A	**Eue Claire**	**86.32**	**34**	IAmb	IAmb	11 04 02.2			
	comp=Z,210nm,1.2s								
L46A				IAMs_20	IAMs_20	11 45 24.4			
	comp=Z,9µm,21.0s								
DEOK	**Depew**	**86.34**	**44**	IAmb	IAmb	11 04 19.1			
	comp=Z,200nm,1.1s								
TAOE	**Nuku Hiva Isla**	**86.43**	**105**	*e*PKP2	P	11 03 50.2	-7.9		
	comp=Z,2µm,26.6s								
TAOE	**Nuku Hiva Isla**	**86.43**	**105**	*e*S	**SKSac**	**11 14 20.3**	**-0.6**		
	comp=Z,5µm,25.3s								
TAOE	**Nuku Hiva Isla**	**86.43**	**105**	*e*LR	LR	11 31 23.4			
	comp=Z,49µm,21.7s								
LDAQ	**Lac Daran**	**86.49**	**22**	IAmb	IAmb	11 04 02.3			
	comp=Z,156nm,1.3s								
S39A	**Bolivar**	**86.54**	**41**	P	**P**	**11 03 57.6**	**-0.7**		
	baz=322,SNR=48								
LPIG	**La Paz**	**86.55**	**61**	LR	LR	11 36 40.9			
	comp=Z,4µm,21.0s,baz=320,slow=31								
X34A	**Smith Ranch, M**	**86.56**	**46**	IAmb

	comp=Z,174nm,1.1s						
CCM	**Cathedral Cave**	**87.27**	**40**	IAMs_20	IAMs_20	11 43 31.0	
	comp=Z,14µm,22.0s						
CCM	**Cathedral Cave**	**87.27**	**40**	P	**P**	**11 04 02.0**	**+0.2**
	baz=323						
CCM	**Cathedral Cave**	**87.27**	**40**	P	**P**	**11 04 02.0**	**+0.2**
	baz=323,SNR=72						
CCM	**Cathedral Cave**	**87.27**	**40**	P	**P**	**11 04 02.1**	**+0.2**
CCM				pmax	pmax		
	comp=Z,174nm,1.1s						
CCM				MLR	MLR		
	comp=Z,14µm,22.0s						
SLM	**Saint Louis**	**87.29**	**39**	IAmb	IAmb	11 04 06.3	
	comp=Z,200nm,1.2s						
SLM	**Saint Louis**	**87.29**	**39**	P	**P**	**11 04 02.2**	**+0.3**
	baz=323						
SFIN	**Lafayette**	**87.31**	**36**	IAmb	IAmb	11 04 06.5	
	comp=Z,159nm,1.4s						
SFIN	**Lafayette**	**87.31**	**36**	P	**P**	**11 04 02.0**	**0.0**
	baz=325						
SFIN	**Lafayette**	**87.31**	**36**	P	**P**	**11 04 02.3**	**+0.3**
	baz=325						
LOOK	**Love County**	**87.38**	**46**	IAmb	IAmb	11 04 40.0	
	comp=Z,110nm,1.1s						
INZ	**Inchbonnie**	**87.42**	**159**	IAmb	IAmb	11 04 23.8	
	comp=Z,187nm,1.4s						
INZ				IAMs_20	IAMs_20	11 40 02.9	
	comp=Z,11µm,22.0s						
N47A	**Urbana**	**87.51**	**34**	IAmb	IAmb	11 04 07.9	
	comp=Z,179nm,1.3s						
N47A				IAMs_20	IAMs_20	11 43 35.9	
	comp=Z,14µm,22.0s						
N47A	**Urbana**	**87.51**	**34**	P	**P**	**11 04 02.8**	**-0.2**
	baz=326,SNR=8.2						
N47A				P	**P**	**11 04 02.8**	**-0.2**
	baz=326,SNR=8.2						
DELO	**Deloro Mine**	**87.55**	**27**	IAmb	IAmb	11 04 08.0	
	comp=Z,118nm,1.2s						
DELO				IAMs_20	IAMs_20	11 50 20.4	
	comp=Z,8µm,20.0s						
HPIG		**87.57**	**56**	IAmb	IAmb	11 04 25.9	
	comp=Z,167nm,1.2s						
FW03	**Perrin-Whitt E**	**87.61**	**47**	IAmb	IAmb	11 04 25.2	
	comp=Z,98nm,1.1s						
PLPT	**Palo Pinto**	**87.64**	**47**	IAmb	IAmb	11 04 44.4	
	comp=Z,162nm,1.5s						
Q44A	**Meyer Farm, Va**	**87.65**	**38**	IAmb	IAmb	11 04 08.2	
	comp=Z,164nm,1.2s						
Q44A				IAMs_20	IAMs_20	11 42 40.8	
	comp=Z,14µm,22.0s						
Q44A	**Meyer Farm, Va**	**87.65**	**38**	P	**P**	**11 04 03.6**	**0.0**
	baz=324,SNR=16						
LTZ	**Lake Taylor**	**87.70**	**158**	IAmb	IAmb	11 04 22.0	
	comp=Z,196nm,1.5s						
LTZ				IAMs_20	IAMs_20	11 39 38.3	
	comp=Z,14µm,22.0s						
FVM	**French Village**	**87.72**	**39**	IAmb	IAmb	11 04 09.3	
	comp=Z,132nm,1.2s						
FVM	**French Village**	**87.72**	**39**	P	**P**	**11 04 04.1**	**+0.1**
	baz=323,SNR=28						
KHZ	**Kahutara**	**87.73**	**157**	IAmb	IAmb	11 04 24.1	
	comp=Z,184nm,1.4s						
FOZ	**Fox Glacier**	**87.75**	**160**	IAmb	IAmb	11 04 26.2	
	comp=Z,187nm,1.3s						
FOZ				IAMs_20	IAMs_20	11 41 26.6	
	comp=Z,10µm,22.0s						
U40A	**Yellville**	**87.82**	**42**	P	**P**	**11 04 04.5**	**0.0**
	baz=322,SNR=59						
U40A				P	**P**	**11 04 04.5**	**0.0**
	baz=322,SNR=59						
Z35A	**Perchaven, San**	**87.83**	**46**	P	**P**	**11 04 05.0**	**+0.4**
	baz=320,SNR=18						
P46A	**Rosedale**	**87.89**	**36**	IAmb	IAmb	11 04 09.3	
	comp=Z,121nm,0.9s						
P46A	**Rosedale**	**87.89**	**36**	P	**P**	**11 04 05.2**	**+0.4**
	baz=325,SNR=30						
D62A	**Allapoint, All**	**87.90**	**21**	IAmb	IAmb	11 04 09.3	
	comp=Z,186nm,1.6s						
D62A				IAMs_20	IAMs_20	11 45 45.2	
	comp=Z,9µm,20.0s						
D62A	**Allapoint, All**	**87.90**	**21**	P	**P**	**11 04 04.7**	**+0.1**
	baz=337,SNR=5.6						
D62A				P	**P**	**11 04 04.7**	**+0.1**
	baz=337,SNR=5.6						
WBO	**Williamsburg**	**87.92**	**26**	IAmb	IAmb	11 04 08.9	
	comp=Z,98nm,1.1s						
MNTQ	**Montreal, Queb**	**88.00**	**24**	IAmb	IAmb	11 04 09.6	
	comp=Z,102nm,1.0s						
MNTQ				IAMs_20	IAMs_20	11 44 57.2	
	comp=Z,8µm,22.0s						
FW07	**Weatherford**	**88.02**	**47**	IAmb	IAmb	11 04 29.4	
	comp=Z,107nm,1.3s						
N49A	**Columbus Grove**	**88.11**	**33**	IAmb	IAmb	11 04 10.5	
	comp=Z,154nm,1.1s						
N49A				IAMs_20	IAMs_20	11 46 38.8	
	comp=Z,7µm,20.0s						
N49A	**Columbus Grove**	**88.11**	**33**	P	**P**	**11 04 06.1**	**+0.3**
	baz=327,SNR=22						
N49A				P	**P**	**11 04 06.1**	**+0.3**
	baz=327,SNR=22						
OXZ	**Oxford**	**88.14**	**159**	IAMs_20	IAMs_20	11 40 04.0	
	comp=Z,13µm,22.0s						
M50A	**Fremont**	**88.18**	**32**	IAmb	IAmb	11 04 11.4	
	comp=Z,107nm,1.4s						
M50A	**Fremont**	**88.18**	**32**	P	**P**	**11 04 06.4**	**+0.3**
	baz=328						
M50A				P	**P**	**11 04 06.4**	**+0.3**
	baz=328						
E62A	**Clayton Lake**	**88.20**	**21**	IAMs_20	IAMs_20	11 48 17.0	
	comp=Z,12µm,21.0s						
OLIL	**Olney**	**88.20**	**37**	IAmb	IAmb	11 04 11.7	
	comp=Z,217nm,1.3s						
OLIL	**Olney**	**88.20**	**37**	P	**P**	**11 04 06.8**	**+0.5**
	baz=324,SNR=18						
RPZ	**Rata Peaks**	**88.24**	**160**	LR	LR	11 38 49.5	
	comp=Z,13µm,21.8s,baz=344,slow=32						
O48B	**Farmland**	**88.26**	**34**	IAmb	IAmb	11 04 10.9	
	comp=Z,151nm,1.1s						
O48B				IAMs_20	IAMs_20	11 43 56.6	
	comp=Z,15µm,22.0s						
O48B	**Farmland**	**88.26**	**34**	P	**P**	**11 04 06.5**	**0.0**
	baz=326,SNR=21						
O48B				S	**S**	**11 14 45.5**	**-2.0**
	baz=326						
O48B	**Farmland**	**88.26**	**34**	P	**P**	**11 04 06.6**	**0.0**
	baz=326,SNR=21						
J54A	**Appleton**	**88.27**	**29**	IAMs_20	IAMs_20	11 47 47.6	
	comp=Z,10µm,21.0s						
DRLN	**Deer Lake**	**88.38**	**13**	IAmb	IAmb	11 04 43.1	
	comp=Z,283nm,1.6s						
DRLN				IAMs_20	IAMs_20	11 47 26.4	
	comp=Z,11µm,20.0s						
BRDY	**Brady**	**88.39**	**49**	IAmb	IAmb	11 04 29.3	
	comp=Z,124nm,1.1s						
MEDO	**Medina**	**88.44**	**29**	IAmb	IAmb	11 04 12.6	
	comp=Z,178nm,1.3s						
MEDO				IAMs_20	IAMs_20	11 47 53.9	
	comp=Z,9µm,20.0s						
FW13	**Cleburne**	**88.48**	**47**	IAmb	IAmb	11 04 29.5	
	comp=Z,108nm,1.1s						
LONY	**Lake Ozonia**	**88.48**	**25**	P	**P**	**11 04 07.2**	**-0.3**
	baz=333						
LONY				S	**S**	**11 14 47.0**	**-2.5**
	baz=333						
BATG	**Bathurst New B**	**88.49**	**19**	IAmb	IAmb	11 04 30.4	
	comp=Z,101nm,1.0s						
BATG				IAMs_20	IAMs_20	11 47 55.7	
	comp=Z,11µm,20.0s						
VAE	**Valguarnera**	**88.50**	**321**	LR	LR	11 46 56.0	
	comp=Z,18µm,21.5s,baz=75,slow=38						
S44A	**Carbondale**	**88.51**	**38**	IAMs_20	IAMs_20	11 44 39.7	
	comp=Z,14µm,21.0s						
S44A	**Carbondale**	**88.51**	**38**	P	**P**	**11 04 07.9**	**+0.2**
	baz=324,SNR=79						
SIUC	**Southern Illin**	**88.51**	**38**	IAMs_20	IAMs_20	11 44 40.7	
	comp=Z,14µm,22.0s						
JCT	**Junction City**	**88.53**	**50**	IAMs_20	IAMs_20	11 39 31.8	
	comp=Z,12µm,22.0s						
JCT	**Junction City**	**88.53**	**50**	P	**P**	**11 04 08.5**	**+0.5**
	baz=318,SNR=20						
JCT				S	**S**	**11 14 49.6**	**-1.0**
	baz=318						
JCT	**Junction City**	**88.53**	**50**	P	**P**	**11 04 08.0**	**0.0**
	baz=318,SNR=20						
FCAR	**Ozark Folk Cen**	**88.55**	**41**	IAmb	IAmb	11 04 12.2	
	comp=Z,131nm,1.3s						
PQI	**Presque Isle**	**88.56**	**20**	IAmb	IAmb	11 04 43.0	
	comp=Z,322nm,1.8s						
PQI				IAMs_20	IAMs_20	11 50 24.4	
	comp=Z,11µm,19.0s						
BLO	**Bloomington**	**88.56**	**36**	IAmb	IAmb	11 04 12.7	
	comp=Z,100nm,1.2s						
FW14	**Alvarado**	**88.57**	**47**	IAmb	IAmb	11 04 29.9	
	comp=Z,114nm,1.3s						
J55A	**Hilton**	**88.58**	**28**	IAmb	IAmb	11 04 13.0	
	comp=Z,96nm,1.1s						
J55A				IAMs_20	IAMs_20	11 45 46.6	
	comp=Z,10µm,22.0s						
FRNY	**Flat Rock**	**88.61**	**25**	IAMs_20	IAMs_20	11 45 14.2	
	comp=Z,11µm,22.0s						
CGM3	**Cape Girardeau**	**88.64**	**39**	IAmb	IAmb	11 04 36.8	
	comp=Z,126nm,1.5s						
LBZ	**Lake Benmore**	**88.64**	**160**	IAMs_20	IAMs_20	11 38 15.2	
	comp=Z,12µm,22.0s						
O49A	**Covington**	**88.66**	**34**	IAmb	IAmb	11 04 13.1	
	comp=Z,131nm,1.2s						
O49A				IAMs_20	IAMs_20	11 44 33.3	
	comp=Z,12µm,22.0s						
O49A	**Covington**	**88.66**	**34**	P	**P**	**11 04 08.7**	**+0.3**
	baz=327,SNR=15						
O49A				P	**P**	**11 04 08.7**	**+0.3**
	baz=327,SNR=15						
MQZ	**McQueen's Vall**	**88.67**	**159**	IAMs_20	IAMs_20	11 40 40.8	
	comp=Z,8µm,22.0s						
PBMO	**Poplar Bluff**	**88.68**	**40**	IAmb	IAmb	11 04 13.3	
	comp=Z,153nm,1.1s						
PBMO	**Poplar Bluff**	**88.68**	**40**	P	**P**	**11 04 08.9**	**+0.3**
	baz=323,SNR=44						
WCNY	**West Carthage**	**88.70**	**26**	P	**P**	**11 04 09.0**	**+0.5**
	baz=332						
WHTX	**Lake Whitney,**	**88.73**	**47**	IAmb	IAmb	11 04 32.9	
	comp=Z,124nm,1.1s						
WHTX	**Lake Whitney,**	**88.73**	**47**	P	**P**	**11 04 09.6**	**+0.7**
	baz=319,SNR=24						
WHTX				S	**S**	**11 14 51.4**	**-0.9**
	baz=319						
WHTX	**Lake Whitney,**	**88.73**	**47**	P	**P**	**11 04 09.4**	**+0.6**
	baz=319,SNR=24						
M52A	**Chesterland**	**88.74**	**31**	P	**P**	**11 04 09.4**	**+0.7**
	baz=329,SNR=14						
M52A				P	**P**	**11 04 09.4**	**+0.7**
	baz=329,SNR=14						
ERPA	**Erie**	**88.77**	**30**	IAMs_20	IAMs_20	11 48 45.9	
	comp=Z,13µm,21.0s						
ERPA	**Erie**	**88.77**	**30**	P	**P**	**11 04 09.0**	**+0.1**
	baz=330,SNR=24						
ERPA				S	**S**	**11 14 49.8**	**-2.5**
	baz=330						
ERPA	**Erie**	**88.77**	**30**	P	**P**	**11 04 09.4**	**+0.5**
	baz=330,SNR=24						
P48A	**Milroy**	**88.80**	**35**	IAmb	IAmb	11 04 13.6	
	comp=Z,91nm,1.1s						
P48A	**Milroy**	**88.80**	**35**	P	**P**	**11 04 08.9**	**-0.2**
	baz=326,SNR=16						
P48A				P	**P**	**11 04 08.9**	**-0.2**
	baz=326,SNR=16						
DRIO	**Del Rio**	**88.84**	**51**	IAmb	IAmb	11 04 31.1	
	comp=Z,139nm,1.2s						
N51A	**Ashland**	**88.86**	**32**	IAmb	IAmb	11 04 13.9	
	comp=Z,181nm,1.1s						
N51A				IAMs_20	IAMs_20	11 49 29.4	
	comp=Z,9µm,20.0s						
N51A	**Ashland**	**88.86**	**32**	P	**P**	**11 04 09.1**	**-0.2**
	baz=328,SNR=8.1						
N51A				P	**P**	**11 04 09.1**	**-0.2**
	baz=328,SNR=8.1						
LCAR	**Lake Charles**	**88.89**	**41**	IAmb	IAmb	11 05 00.1	
	comp=Z,234nm,1.7s						
LCAR	**Lake Charles**	**88.89**	**41**	P	**P**	**11 04 09.6**	**+0.1**
	baz=323,SNR=21						
J56A	**Wolcott**	**88.91**	**28**	IAmb	IAmb	11 04 13.8	
	comp=Z,163nm,1.3s						
J56A				IAMs_20	IAMs_20	11 46 52.2	
	comp=Z,11µm,21.0s						
TREL	**Terrell**	**88.92**	**46**	IAmb	IAmb	11 04 33.4	
	comp=Z,89nm,1.0s						
DCZ	**Deep Cove**	**88.94**	**163**	IAMs_20	IAMs_20	11 41 01.9	
	comp=Z,8µm,20.0s						
USIN	**University of**	**89.03**	**37**	IAmb	IAmb	11 04 15.0	
	comp=Z,114nm,1.2s						
WVNY	**West Valley, N**	**89.04**	**29**	IAmb	IAmb	11 04 15.0	
	comp=Z,174nm,1.1s						
WVNY				IAMs_20	IAMs_20	11 45 50.9	
	comp=Z,12µm,22.0s						
WVNY	**West Valley, N**	**89.04**	**29**	P	**P**	**11 04 10.6**	**+0.5**
	baz=330,SNR=11						
P49A	**Miami Univ. Ec**	**89.05**	**35**	IAmb	IAmb	11 04 14.8	
	comp=Z,182nm,1.1s						
P49A	**Miami Univ. Ec**	**89.05**	**35**	P	**P**	**11 04 10.3**	**+0.1**
	baz=327,SNR=21						
P49A				S	**S**	**11 14 53.2**	**-1.8**
	baz=327						
P49A	**Miami Univ. Ec**	**89.05**	**35**	P	**P**	**11 04 10.4**	**+0.1**
	baz=327,SNR=21						
J57A	**Williamstown**	**89.08**	**27**	IAmb	IAmb	11 04 14.9	
	comp=Z,183nm,1.3s						
J57A				IAMs_20	IAMs_20	11 51 25.9	
	comp=Z,9µm,19.0s						
M53A	**WI Miller and**	**89.09**	**31**	IAMs_20	IAMs_20	11 44 33.4	
	comp=Z,11µm,22.0s						
M53A	**WI Miller and**	**89.09**	**31**	P	**P**	**11 04 10.9**	**+0.5**
	baz=329,SNR=35						
M53A				S	**S**	**11 14 53.6**	**-1.7**
	baz=329						
ALLY	**Alegheny Colle**	**89.11**	**30**	P	**P**	**11 04 10.9**	**+0.4**
	baz=329,SNR=24						
Z38A	**Mt. Pleasant**	**89.11**	**45**	P	**P**	**11 04 11.0**	**+0.4**
	baz=321,SNR=19						
VSL	**Villasalto**	**89.13**	**326**	IAmb	IAmb	11 04 31.8	
	comp=Z,89nm,1.2s						
NCB	**Newcomb**	**89.18**	**26**	IAmb	IAmb	11 04 42.9	
	comp=Z,132nm,1.4s						
NCB	**Newcomb**	**89.18**	**26**	P	**P**	**11 04 11.1**	**+0.3**
	baz=333,SNR=11						
EJON	**La Jonquera**	**89.18**	**331**	P	**P**	**11 04 09.4**	**-1.5**
ACSO	**Alum Creek Sta**	**89.19**	**33**	IAmb	IAmb	11 04 15.6	
	comp=Z,155nm,0.9s						
ACSO				IAMs_20	IAMs_20	11 46 32.2	
	comp=Z,8µm,22.0s						
ACSO	**Alum Creek Sta**	**89.19**	**33**	P	**P**	**11 04 11.2**	**+0.3**
	baz=328,SNR=28						
ACSO				S	**S**	**11 14 53.8**	**-2.5**
	baz=328						
ACSO	**Alum Creek Sta**	**89.19**	**33**	P	**P**	**11 04 11.0**	**+0.1**
	baz=328,SNR=28						
G62A	**Weston of Eustis**	**89.19**	**23**	IAmb	IAmb	11 04 16.1	
	comp=Z,144nm,1.2s						
G62A				IAMs_20	IAMs_20	11 47 42.5	
	comp=Z,7µm,20.0s						
G62A	**West of Eustis**	**89.19**	**23**	P	**P**	**11 04 11.5**	**+0.7**
	baz=336,SNR=5.2						
G62A				P	**P**	**11 04 11.5**	**+0.7**
	baz=336,SNR=5.2						
F64A	**Sherman**	**89.21**	**21**	IAMs_20	IAMs_20	11 45 22.9	
	comp=Z,11µm,22.0s						
X40A	**Basin Creek Fa**	**89.29**	**43**	IAmb	IAmb	11 04 33.3	
	comp=Z,89nm,1.0s						
UALR	**University of**	**89.31**	**42**	IAmb	IAmb	11 05 02.4	
	comp=Z,142nm,1.6s						
VT1	**Waterbury**	**89.33**	**24**	IAmb	IAmb	11 04 17.1	
	comp=Z,146nm,1.2s						
VT1				IAMs_20	IAMs_20	11 47 38.4	
	comp=Z,8µm,22.0s						
T45A	**Paducah**	**89.34**	**38**	IAmb	IAmb	11 04 16.6	
	comp=Z,255nm,1.6s						
T45A				IAMs_20	IAMs_20	11 45 05.7	
	comp=Z,14µm,21.0s						
T45B	**Paducah**	**89.34**	**38**	P	**P**	**11 04 12.2**	**+0.6**
	baz=324						
J58A	**Remsen**	**89.37**	**26**	IAmb	IAmb	11 04 16.2	
	comp=Z,144nm,1.2s						
J58A	**Remsen**	**89.37**	**26**	P	**P**	**11 04 12.1**	**+0.4**
	baz=333,SNR=8.0						
J58A				P	**P**	**11 04 12.1**	**+0.4**
	baz=333,SNR=8.0						
ODZ	**Otahua Downs**	**89.38**	**160**	IAMs_20	IAMs_20	11 38 27.5	
	comp=Z,10µm,22.0s						
WCI	**Wyandotte Cave**	**89.43**	**36**	P	**P**	**11 04 12.2**	**+0.2**
WCI	**Wyandotte Cave**	**89.43**	**36**	P	**P**	**11 04 12.3**	**+0.2**
	baz=326						
WCI				S	**S**	**11 14 56.4**	**-2.2**
	baz=326						
WCI	**Wyandotte Cave**	**89.43**	**36**	P	**P**	**11 04 12.5**	**+0.4**
	baz=326,SNR=16						
WCI	**Wyandotte Cave**	**89.43**	**36**	P	**P**	**11 04 12.2**	**+0.2**
WCI				pmax	pmax		
	comp=Z,62nm,0.9s						
WCI				MLR	MLR		
	comp=Z,21µm,22.0s						
PYZ	**Puysegur Point**	**89.50**	**163**	IAMs_20	IAMs_20	11 47 50.8	
	comp=Z,7µm,20.0s						
K57A	**Scipio Center**	**89.50**	**28**	IAmb	IAmb	11 04 17.7	
	comp=Z,208nm,1.4s						
K57A				IAMs_20	IAMs_20	11 46 47.1	
	comp=Z,11µm,21.0s						
PKME	**Peaks-Kenny Pk**	**89.50**	**22**	IAmb	IAmb	11 04 49.9	
	comp=Z,275nm,1.8s						
PKME				IAMs_20	IAMs_20	11 48 56.7	
	comp=Z,13µm,20.0s						
PKME	**Peaks-Kenny Pk**	**89.50**	**22**	P	**P**	**11 04 13.0**	**+0.8**
	baz=337						
PKME				S	**S**	**11 14 58.4**	**-0.6**
	baz=337						
WHZ	**Wether Hill Ro**	**89.52**	**162**	IAMs_20	IAMs_20	11 41 40.4	
	comp=Z,11µm,21.0s						
J59A	**Piesco**	**89.54**	**26**	IAmb	IAmb	11 04 17.0	
	comp=Z,102nm,1.1s						
J59A				IAMs_20	IAMs_20	11 50 21.9	
	comp=Z,11µm,20.0s						
J59A	**Piesco**	**89.54**	**26**	P	**P**	**11 04 12.7**	**+0.2**
	baz=333,SNR=12						
J59A				P	**P**	**11 04 12.7**	**+0.2**
	baz=333,SNR=12						
N53A	**Lisbon**	**89.57**	**31**	IAmb	IAmb	11 04 17.6	
	comp=Z,197nm,1.1s						
N53A	**Lisbon**	**89.57**	**31**	P	**P**	**11 04 13.0**	**+0.3**
	baz=329,SNR=22						
N53A				P	**P**	**11 04 13.0**	**+0.3**
	baz=329,SNR=22						
435B	**Jarrell**	**89.57**	**48**	IAMs_20	IAMs_20	11 47 18.2	
	comp=Z,8µm,21.0s						
435B	**Jarrell**	**89.57**	**48**	P	**P**	**11 04 13.2**	**+0.3**
	baz=319						
435B				S	**S**	**11 14 58.4**	**-1.8**
	baz=319						
MCVT	**Middlebury Col**	**89.59**	**25**	P	**P**	**11 04 12.4**	**-0.4**
	baz=334,SNR=5.1						
H62A	**Milan**	**89.59**	**23**	P	**P**	**11 04 13.4**	**+0.7**
	baz=336,SNR=10						
H62A				P	**P**	**11 04 13.4**	**+0.7**
	baz=336,SNR=10						
ATD	**Arta Tunnel**	**89.60**	**285**	P	**P**	**11 04 13.8**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=2.8,slow=3.6,SNR=11						
ATD				PP	**PP**	**11 07 44.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=79,slow=11,SNR=2.1						
ATD				LR	LR	11 50 16.5	
	comp=Z,189nm,18.3s,baz=42,slow=40						
ATD	**Arta Tunnel**	**89.60**	**285**	P	**P**	**11 04 16.3**	**+3.0**
	SNR=9.2						
ATD	**Arta Tunnel**	**89.60**	**285**	*e*P	P	11 04 03.6	-10
ATD	**Arta Tunnel**	**89.60**	**285**	*e*P	**P**	**11 04 13.5**	**+0.3**
237A	**Washetta, Mont**	**89.63**	**46**	IAmb	IAmb	11 04 34.9	
	comp=Z,108nm,1.2s						
L56A	**Greenwood**	**89.65**	**29**	IAmb	IAmb	11 04 17.8	
	comp=Z,119nm,1.1s						
L56A				IAMs_20	IAMs_20	11 50 02.1	
	comp=Z,8µm,20.0s						
L56A	**Greenwood**	**89.65**	**29**	P	**P**	**11 04 13.2**	**+0.1**
	baz=331,SNR=14						
L56A				P	**P**	**11 04 13.2**	**+0.1**
	baz=331,SNR=14						
LBNH	**Lisbon**	**89.66**	**24**	IAmb	IAmb	11 05 19.8	
	comp=Z,236nm,1.9s						
LBNH				IAMs_20	IAMs_20	11 50 56.0	
	comp=Z,9µm,20.0s						
LBNH	**Lisbon**	**89.66**	**24**	P	**P**	**11 04 13.8**	**+0.7**
	baz=335						
LBNH				S	**S**	**11 14 59.8**	**-0.7**
	baz=335						
LNXT	**Lenox**	**89.67**	**40**	IAmb	IAmb	11 04 49.1	
	comp=Z,144nm,1.1s						
O52A	**Adamsville**	**89.76**	**32**	IAmb	IAmb	11 04 18.3	
	comp=Z,185nm,1.2s						
O52A				IAMs_20	IAMs_20	11 50 05.1	
	comp=Z,10µm,20.0s						
O52A	**Adamsville**	**89.76**	**32**	P	**P**	**11 04 13.8**	**+0.2**
	baz=328,SNR=20						
O52A				P	**P**	**11 04 13.8**	**+0.2**
	baz=328,SNR=20						
WDD	**Wied Dalam**	**89.76**	**320**	IAMs_20	IAMs_20	11 49 01.8	
	comp=Z,13µm,21.0s						
P51A	**Williamsport**	**89.79**	**33**	IAmb	IAmb	11 04 18.0	
	comp=Z,124nm,1.1s						
P51A				IAMs_20	IAMs_20	11 47 40.1	
	comp=Z,8µm,21.0s						
P51A	**Williamsport**	**89.79**	**33**	P	**P**	**11 04 13.6**	**-0.1**
	baz=328,SNR=18						
P51A				P	**P**	**11 04 13.6**	**-0.1**
	baz=328,SNR=18						
M55A	**Ridgway**	**89.79**	**30**	IAMs_20	IAMs_20	11 51 02.9	
	comp=Z,8µm,19.0s						
M55A	**Ridgway**	**89.79**	**30**	P	**P**	**11 04 14.3**	**+0.6**
	baz=330,SNR=34						
M55A				P	**P**	**11 04 14.3**	**+0.6**
	baz=330,SNR=34						
ACCN	**Adirondack Com**	**89.89**	**25**	IAmb	IAmb	11 04 19.6	
	comp=Z,101nm,1.1s						
ACCN	**Adirondack Com**	**89.89**	**25**	P	**P**	**11 04 14.4**	**+0.3**
	baz=334,SNR=9.8						
O53A	**New Philadelph**	**89.89**	**32**	IAmb	IAmb	11 04 19.0	
	comp=Z,223nm,1.2s						
O53A	**New Philadelph**	**89.89**	**32**	P	**P**	**11 04 14.0**	**-0.2**
	baz=329,SNR=28						
O53A				S	**S**	**11 15 01.4**	**-1.4**
	baz=329						
HALT	**Halls**	**89.90**	**40**	IAMs_20	IAMs_20	11 44 40.6	
	comp=Z,14µm,21.0s						
TBI	**Tubuai**	**89.95**	**121**	*e*P	**P**	**11 04 11.3**	**-3.2**
	comp=Z,6µm,27.8s						
TBI	**Tubuai**	**89.95**	**121**	*e*PP	**PP**	**11 07 44.4**	**-3.8**
	comp=Z,4µm,29.2s						
TBI				*e*S	**S**	**11 14 59.0**	**-4.5**
	comp=Z,33µm,27.0s						
TBI				*e*SS	SS	11 20 48.5	-14
	comp=Z,12µm,29.8s						
TBI	**Tubuai**	**89.95**	**121**	*e*LR	LR	11 32 22.6	
	comp=Z,135µm,23.8s						
TBI				*e*LR	LR	11 32 25.9	
	comp=Z,35µm,24.0s						
HNH	**Hanover**	**90.04**	**24**	IAmb	IAmb	11 04 23.9	
	comp=Z,120nm,1.3s						
HNH				IAMs_20	IAMs_20	11 50 51.9	
	comp=Z,7µm,19.0s						
G65A	**Princeton**	**90.04**	**21**	IAmb	IAmb	11 04 19.8	
	comp=Z,168nm,1.4s						
G65A				IAMs_20	IAMs_20	11 46 58.7	
	comp=Z,13µm,21.0s						
WVL	**Waterville**	**90.04**	**22**	IAmb	IAmb	11 04 55.6	
	comp=Z,346nm,1.9s						
WVL				IAMs_20	IAMs_20	11 49 15.9	
	comp=Z,14µm,21.0s						
P52A	**Corning**	**90.04**	**33**	IAmb	IAmb	11 04 19.3

	baz=332							
BINY	**Binghamton**	**90.16**	**27**	P	**P**	**11 04 15.7**	**+0.3**	
	baz=332,SNR=14							
I62A	**Tamworth**	**90.18**	**24**	IAmb	IAmb	11 04 39.3		
	comp=Z,154nm,1.4s							
I62A				IAMs_20	IAMs_20	11 47 35.6		
	comp=Z,14µm,22.0s							
I63A	**Otisfield**	**90.24**	**23**	P	**P**	**11 04 16.6**	**+0.9**	
	baz=336,SNR=7.8							
I63A				P	**P**	**11 04 16.6**	**+0.9**	
	baz=336,SNR=7.8							
R50A	**Paris**	**90.25**	**35**	IAmb	IAmb	11 04 20.7		
	comp=Z,135nm,1.4s							
R50A	**Paris**	**90.25**	**35**	P	**P**	**11 04 16.0**	**+0.1**	
	baz=327,SNR=17							
R50A				P	**P**	**11 04 16.0**	**+0.1**	
	baz=327,SNR=17							
HCNY	**Howe Caverns**	**90.26**	**26**	P	**P**	**11 04 16.3**	**+0.4**	
	baz=333							
J61A	**Chester**	**90.28**	**25**	IAMs_20	IAMs_20	11 47 47.3		
	comp=Z,12µm,21.0s							
J61A	**Chester**	**90.28**	**25**	P	**P**	**11 04 16.1**	**+0.2**	
	baz=334							
J61A				P	**P**	**11 04 16.1**	**+0.2**	
	baz=334							
CCAR	**Cane Creek**	**90.28**	**42**	P	**P**	**11 04 17.0**	**+0.9**	
	baz=322,SNR=16							
O54A	**Avella**	**90.28**	**31**	P	**P**	**11 04 16.7**	**+0.7**	
	baz=329,SNR=23							
O54A				P	**P**	**11 04 16.7**	**+0.7**	
	baz=329,SNR=23							
GGN	**Saint George**	**90.30**	**20**	IAmb	IAmb	11 04 20.9		
	comp=Z,118nm,1.3s							
833A	**Chaparral WMA,**	**90.37**	**51**	P	**P**	**11 04 17.2**	**+0.6**	
	baz=318,SNR=8.2							
833A				S	**S**	**11 15 05.5**	**-2.1**	
	baz=318							
NATX	**Nacogdoches**	**90.44**	**46**	IAMs_20	IAMs_20	11 43 00.0		
	comp=Z,14µm,22.0s							
NATX	**Nacogdoches**	**90.44**	**46**	P	**P**	**11 04 17.5**	**+0.6**	
	baz=321							
NATX				S	**S**	**11 15 07.0**	**-1.1**	
	baz=321							
WVT	**Waverly**	**90.44**	**38**	P	**P**	**11 04 16.8**	**0.0**	
WVT	**Waverly**	**90.44**	**38**	P	**P**	**11 04 17.1**	**+0.3**	
	baz=325							
WVT				S	**S**	**11 15 06.8**	**-1.2**	
	baz=325							
WVT	**Waverly**	**90.44**	**38**	P	**P**	**11 04 17.2**	**+0.4**	
	baz=325,SNR=22							
WVT	**Waverly**	**90.44**	**38**	P	**P**	**11 04 16.8**	**0.0**	
WVT				pmax	pmax			
	comp=Z,53nm,1.1s							
WVT				MLR	MLR			
	comp=Z,17µm,22.0s							
TRY	**Troy**	**90.47**	**26**	IAmb	IAmb	11 04 22.4		
	comp=Z,120nm,1.2s							
TRY				IAMs_20	IAMs_20	11 50 06.5		
	comp=Z,11µm,20.0s							
TRY	**Troy**	**90.47**	**26**	P	**P**	**11 04 17.8**	**+1.0**	
	baz=334,SNR=6.2							
P53A	**Whipple**	**90.47**	**32**	IAmb	IAmb	11 04 21.8		
	comp=Z,107nm,1.1s							
P53A				IAMs_20	IAMs_20	11 49 22.1		
	comp=Z,12µm,21.0s							
P53A	**Whipple**	**90.47**	**32**	P	**P**	**11 04 16.9**	**0.0**	
	baz=329,SNR=15							
P53A				P	**P**	**11 04 16.9**	**0.0**	
	baz=329,SNR=15							
L59A	**Walton**	**90.49**	**27**	IAMs_20	IAMs_20	11 50 20.1		
	comp=Z,13µm,20.0s							
L59A	**Walton**	**90.49**	**27**	P	**P**	**11 04 17.3**	**+0.3**	
	baz=333,SNR=31							
L59A				P	**P**	**11 04 17.3**	**+0.3**	
	baz=333,SNR=31							
M57A	**Sunshine Farm,**	**90.51**	**29**	IAMs_20	IAMs_20	11 46 35.8		
	comp=Z,11µm,21.0s							
M57A	**Sunshine Farm,**	**90.51**	**29**	P	**P**	**11 04 17.9**	**+0.9**	
	baz=331,SNR=49							
M57A				P	**P**	**11 04 17.9**	**+0.9**	
	baz=331,SNR=49							
Q52A	**Bidwell**	**90.56**	**33**	IAmb	IAmb	11 04 52.5		
	comp=Z,99nm,1.2s							
Q52A				IAMs_20	IAMs_20	11 48 23.4		
	comp=Z,8µm,21.0s							
Q52A	**Bidwell**	**90.56**	**33**	P	**P**	**11 04 17.3**	**+0.1**	
	baz=328,SNR=9.1							
Q52A				P	**P**	**11 04 17.3**	**+0.1**	
	baz=328,SNR=9.1							
HARA	**HARA**	**90.76**	**283**	*e*P	P	11 04 06.8	-12	
HARA	**HARA**	**90.76**	**283**	*e*P	**P**	**11 04 22.9**	**+4.0**	
HNVL	**Huntsville, TX**	**90.77**	**47**	IAmb	IAmb	11 04 40.8		
	comp=Z,274nm,1.8s							
SSPA	**Standing Stone**	**90.84**	**29**	P	**P**	**11 04 18.9**	**+0.3**	
SSPA				IAmb	IAmb	11 04 23.7		
	comp=Z,168nm,1.1s							
SSPA	**Standing Stone**	**90.84**	**29**	IAMs_20	IAMs_20	11 51 42.7		
	comp=Z,7µm,20.0s							
SSPA	**Standing Stone**	**90.84**	**29**	P	**P**	**11 04 18.9**	**+0.3**	
	baz=331							
SSPA				S	**S**	**11 15 08.8**	**-2.8**	
	baz=331							
SSPA	**Standing Stone**	**90.84**	**29**	P	**P**	**11 04 18.6**	**+0.1**	
	baz=331,SNR=20							
MAHO	**Mahon**	**90.88**	**329**	IAMs_20	IAMs_20	11 48 35.7		
	comp=Z,9µm,20.0s							
MAHO	**Mahon**	**90.88**	**329**	P	**P**	**11 04 17.3**	**-1.4**	
735A	**Kenedy**	**90.90**	**50**	P	**P**	**11 04 20.6**	**+1.5**	
	baz=319,SNR=7.0							
MCWV	**Mont Chateau**	**90.94**	**31**	IAmb	IAmb	11 04 55.2		
	comp=Z,152nm,1.4s							
MCWV	**Mont Chateau**	**90.94**	**31**	P	**P**	**11 04 19.8**	**+0.7**	
	baz=330							
MCWV				S	**S**	**11 15 11.3**	**-1.2**	
	baz=330							
OXF	**Oxford**	**90.99**	**40**	IAMs_20	IAMs_20	11 44 16.1		
	comp=Z,15µm,22.0s							
OXF	**Oxford**	**90.99**	**40**	P	**P**	**11 04 19.8**	**+0.4**	
	baz=324,SNR=34							
OXF				S	**S**	**11 15 10.8**	**-2.3**	
	baz=324							
OXF	**Oxford**	**90.99**	**40**	P	**P**	**11 04 19.4**	**+0.1**	
	baz=324,SNR=34							
K62A	**Royalston**	**90.99**	**25**	IAmb	IAmb	11 04 24.6		
	comp=Z,122nm,1.1s							
K62A				IAMs_20	IAMs_20	11 48 17.2		
	comp=Z,13µm,21.0s							
K62A	**Royalston**	**90.99**	**25**	P	**P**	**11 04 20.3**	**+1.1**	
	baz=335							
K62A				P	**P**	**11 04 20.3**	**+1.1**	
	baz=335							
UNH	**University of**	**91.03**	**24**	P	**P**	**11 04 20.0**	**+0.7**	
	baz=336,SNR=6.3							
L61B	**Northampton**	**91.04**	**25**	IAmb	IAmb	11 04 25.5		
	comp=Z,102nm,1.2s							
L61B				IAMs_20	IAMs_20	11 46 26.6		
	comp=Z,11µm,21.0s							
L61B	**Northampton**	**91.04**	**25**	P	**P**	**11 04 19.4**	**-0.1**	
	baz=334							
L61B				S	**S**	**11 15 11.6**	**-1.7**	
	baz=334							
L61B	**Northampton**	**91.04**	**25**	P	**P**	**11 04 20.0**	**+0.5**	
	baz=334							
U49A	**Red Boiling Sp**	**91.08**	**37**	IAmb	IAmb	11 04 55.4		
	comp=Z,119nm,1.1s							
U49A	**Red Boiling Sp**	**91.08**	**37**	P	**P**	**11 04 20.1**	**+0.4**	
	baz=326,SNR=36							
T50A	**Nancy**	**91.08**	**36**	P	**P**	**11 04 20.1**	**+0.3**	
	baz=326							
T50A				P	**P**	**11 04 20.1**	**+0.3**	
	baz=326							
N58A	**Sunbury**	**91.09**	**29**	IAMs_20	IAMs_20	11 47 16.3		
	comp=Z,13µm,22.0s							
N58A	**Sunbury**	**91.09**	**29**	P	**P**	**11 04 20.1**	**+0.3**	
	baz=332,SNR=26							
N58A				P	**P**	**11 04 20.1**	**+0.3**	
	baz=332,SNR=26							
S51A	**Beattyville**	**91.11**	**35**	IAMs_20	IAMs_20	11 45 55.2		
	comp=Z,12µm,21.0s							
S51A	**Beattyville**	**91.11**	**35**	P	**P**	**11 04 20.1**	**+0.2**	
	baz=327							
S51A				P	**P**	**11 04 20.1**	**+0.2**	
	baz=327							
CLTN	**Cedars of Leba**	**91.17**	**38**	IAMs_20	IAMs_20	11 43 52.1		
	comp=Z,13µm,22.0s							
HKT	**Hockley**	**91.19**	**48**	P	**P**	**11 04 20.9**	**+0.6**	
HKT	**Hockley**	**91.19**	**48**	IAMs_20	IAMs_20	11 49 01.6		
	comp=Z,9µm,22.0s							
HKT	**Hockley**	**91.19**	**48**	P	**P**	**11 04 23.5**	**+3.2**	
	baz=320							
HKT	**Hockley**	**91.19**	**48**	P	**P**	**11 04 20.9**	**+0.6**	
HKT				pmax	pmax			
	comp=Z,71nm,1.6s							
HKT				MLR	MLR			
	comp=Z,9µm,22.0s							
R53A	**Hurricane**	**91.22**	**33**	IAmb	IAmb	11 05 04.2		
	comp=Z,279nm,2.0s							
R53A				IAMs_20	IAMs_20	11 48 55.0		
	comp=Z,9µm,22.0s							
R53A	**Hurricane**	**91.22**	**33**	P	**P**	**11 04 20.7**	**+0.2**	
	baz=328							
R53A				P	**P**	**11 04 20.7**	**+0.2**	
	baz=328							
V48A	**Smith Brothers**	**91.23**	**38**	IAMs_20	IAMs_20	11 46 13.7		
	comp=Z,11µm,21.0s							
V48A	**Smith Brothers**	**91.23**	**38**	P	**P**	**11 04 20.7**	**+0.2**	
	baz=325,SNR=24							
QUA2	**Belchertown**	**91.30**	**25**	IAmb	IAmb	11 05 01.4		
	comp=Z,182nm,1.6s							
QUA2				IAMs_20	IAMs_20	11 48 59.5		
	comp=Z,10µm,21.0s							
HRV	**Adam Dziewonsk**	**91.35**	**24**	P	**P**	**11 04 22.5**	**+1.6**	
HRV	**Adam Dziewonsk**	**91.35**	**24**	IAMs_20	IAMs_20	11 48 26.6		
	comp=Z,9µm,22.0s							
HRV	**Adam Dziewonsk**	**91.35**	**24**	P	**P**	**11 04 21.3**	**+0.4**	
	baz=335							
HRV				S	**S**	**11 15 15.0**	**-1.0**	
	baz=335							
HRV	**Adam Dziewonsk**	**91.35**	**24**	P	**P**	**11 04 22.0**	**+1.1**	
	baz=335,SNR=6.3							
HRV	**Adam Dziewonsk**	**91.35**	**24**	P	**P**	**11 04 22.5**	**+1.6**	
HRV				pmax	pmax			
	comp=Z,226nm,1.3s							
HRV				MLR	MLR			
	comp=Z,9µm,22.0s							
KSCT	**Kent School, K**	**91.43**	**26**	IAmb	IAmb	11 04 56.9		
	comp=Z,132nm,1.3s							
KSCT				IAMs_20	IAMs_20	11 50 19.9		
	comp=Z,11µm,20.0s							
Y45A	**Yeager Farm, C**	**91.44**	**41**	P	**P**	**11 04 22.2**	**+0.7**	
	baz=324,SNR=27							
WES	**Weston**	**91.53**	**24**	IAmb	IAmb	11 04 26.9		
	comp=Z,176nm,1.2s							
WES				IAMs_20	IAMs_20	11 48 42.5		
	comp=Z,10µm,21.0s							
BRNY	**Black Rk. Fore**	**91.53**	**27**	P	**P**	**11 04 21.7**	**-0.1**	
	baz=334,SNR=5.8							
ETOS	**Mallorca**	**91.54**	**330**	P	**P**	**11 04 21.3**	**-0.6**	
HAL	**Halifax**	**91.56**	**18**	IAMs_20	IAMs_20	11 53 28.9		
	comp=Z,12µm,20.0s							
BCX	**Boston College**	**91.62**	**24**	IAmb	IAmb	11 04 57.8		
	comp=Z,98nm,1.2s							
BCX				IAMs_20	IAMs_20	11 48 42.9		
	comp=Z,8µm,22.0s							
ODNJ	**Ogdensburg**	**91.62**	**27**	IAmb	IAmb	11 04 57.5		
	comp=Z,89nm,1.2s							
ODNJ	**Ogdensburg**	**91.62**	**27**	P	**P**	**11 04 22.5**	**+0.3**	
	baz=333							
TRNY	**Table Rock, Ra**	**91.70**	**27**	IAmb	IAmb	11 04 28.7		
	comp=Z,156nm,1.1s							
TRNY				IAMs_20	IAMs_20	11 51 33.1		
	comp=Z,13µm,20.0s							
LUPA	**Lehigh Univers**	**91.79**	**28**	IAmb	IAmb	11 04 59.4		
	comp=Z,95nm,1.3s							
LUPA				IAMs_20	IAMs_20	11 51 38.5		
	comp=Z,10µm,20.0s							
P57A	**Homestead Farm**	**91.80**	**30**	IAMs_20	IAMs_20	11 48 49.0		
	comp=Z,10µm,22.0s							
P57A	**Homestead Farm**	**91.80**	**30**	P	**P**	**11 04 24.0**	**+1.0**	
	baz=331,SNR=5.3							
P57A				P	**P**	**11 04 24.0**	**+1.0**	
	baz=331,SNR=5.3							
KVTX	**Kingsville**	**91.83**	**50**	IAMs_20	IAMs_20	11 43 50.2		
	comp=Z,8µm,21.0s							
PAL	**Palisades**	**91.93**	**27**	IAMs_20	IAMs_20	11 51 19.3		
	comp=Z,12µm,20.0s							
PAL	**Palisades**	**91.93**	**27**	P	**P**	**11 04 23.7**	**+0.1**	
	baz=334							
PAL				S	**S**	**11 15 17.4**	**-3.9**	
	baz=334							
S54A	**Dingess, Beckl**	**91.94**	**33**	IAmb	IAmb	11 05 13.4		
	comp=Z,216nm,1.8s							
S54A				IAMs_20	IAMs_20	11 47 53.0		
	comp=Z,11µm,22.0s							
MVL	**Millersville**	**91.97**	**29**	IAmb	IAmb	11 05 00.3		
	comp=Z,109nm,1.4s							
MVL				IAMs_20	IAMs_20	11 47 52.3		
	comp=Z,12µm,22.0s							
WSPT	**Westport, CT**	**91.98**	**26**	IAmb	IAmb	11 04 29.0		
	comp=Z,92nm,1.2s							
WSPT				IAMs_20	IAMs_20	11 50 46.5		
	comp=Z,8µm,20.0s							
YLE	**Yale**	**91.98**	**26**	IAMs_20	IAMs_20	11 46 07.4		
	comp=Z,8µm,22.0s							
R55A	**Marlinton**	**92.01**	**32**	IAMs_20	IAMs_20	11 47 22.9		
	comp=Z,11µm,22.0s							
R55A	**Marlinton**	**92.01**	**32**	P	**P**	**11 04 24.5**	**+0.3**	
	baz=329							
R55A				P	**P**	**11 04 24.5**	**+0.3**	
	baz=329							
TZTN	**Tazewell**	**92.05**	**35**	IAmb	IAmb	11 05 02.8		
	comp=Z,64nm,1.1s							
TZTN	**Tazewell**	**92.05**	**35**	P	**P**	**11 04 24.7**	**+0.4**	
	baz=327,SNR=8.2							
TZTN				S	**S**	**11 15 19.2**	**-3.4**	
	baz=327							
TZTN	**Tazewell**	**92.05**	**35**	P	**P**	**11 04 23.5**	**-0.7**	
	baz=327,SNR=8.2							
SWET	**Sewanee**	**92.08**	**38**	IAmb	IAmb	11 04 47.6		
	comp=Z,98nm,1.2s							
SWET				IAMs_20	IAMs_20	11 46 49.0		
	comp=Z,9µm,22.0s							
CPNY	**Central Park**	**92.11**	**27**	IAMs_20	IAMs_20	11 51 05.9		
	comp=Z,11µm,20.0s							
CTZ	**Chatham Island**	**92.11**	**152**	IAMs_20	IAMs_20	11 40 29.2		
	comp=Z,9µm,21.0s							
N62A	**Caumsett State**	**92.15**	**26**	IAMs_20	IAMs_20	11 51 32.9		
	comp=Z,11µm,20.0s							
X48A	**Hartselle**	**92.18**	**39**	P	**P**	**11 04 24.5**	**-0.4**	
	baz=325,SNR=11							
M63A	**Gales Ferry**	**92.19**	**25**	IAmb	IAmb	11 04 30.0		
	comp=Z,128nm,1.1s							
M63A				IAMs_20	IAMs_20	11 51 17.0		
	comp=Z,9µm,20.0s							
DESE	**Dese**	**92.21**	**287**	*e*P	P	11 04 18.8	-7.0	
DESE	**Dese**	**92.21**	**287**	*e*P	**P**	**11 04 26.5**	**+0.8**	
PANJ	**Princeton**	**92.22**	**27**	P	**P**	**11 04 25.4**	**+0.5**	
	baz=333,SNR=11							
VBMS	**Vicksburg**	**92.27**	**43**	IAmb	IAmb	11 04 47.5		
	comp=Z,126nm,1.1s							
VBMS				IAMs_20	IAMs_20	11 49 21.1		
	comp=Z,8µm,21.0s							
VBMS	**Vicksburg**	**92.27**	**43**	P	**P**	**11 04 26.2**	**+0.9**	
	baz=323							
VBMS				S	**S**	**11 15 23.4**	**-1.2**	
	baz=323							
KEST	**Kesra**	**92.27**	**323**	IAmb	IAmb	11 04 46.2		
	comp=Z,99nm,1.2s							
KEST	**Kesra**	**92.27**	**323**	P	**P**	**11 04 25.3**	**0.0**	
	comp=Z,14nm,1.0s,baz=330,slow=5.9,SNR=7.9							
KEST				PP	**PP**	**11 08 06.7**	**+1.3**	
	comp=Z,27nm,1.1s,baz=9.2,slow=9.6,SNR=4.0							
KEST				LR	LR	11 49 37.5		
	comp=Z,16µm,20.2s,baz=331,slow=38 comp=Z,14nm,1.0s							
KEST	**Kesra**	**92.27**	**323**	P	**P**	**11 04 25.4**	**0.0**	
WUPA	**West Chester U**	**92.29**	**28**	IAmb	IAmb	11 05 00.9		
	comp=Z,107nm,1.9s							
WUPA				IAMs_20	IAMs_20	11 48 57.0		
	comp=Z,8µm,21.0s							
V51A	**Loudon**	**92.31**	**36**	IAmb	IAmb	11 04 49.1		
	comp=Z,69nm,1.1s							
V51A	**Loudon**	**92.31**	**36**	P	**P**	**11 04 25.8**	**+0.3**	
	baz=327,SNR=7.2							
W50A	**Signal Mountai**	**92.37**	**37**	IAMs_20	IAMs_20	11 44 52.9		
	comp=Z,11µm,22.0s							
W50A	**Signal Mountai**	**92.37**	**37**	P	**P**	**11 04 25.3**	**-0.5**	
	baz=326,SNR=6.0							
GEDE	**Greenville**	**92.39**	**28**	P	**P**	**11 04 25.6**	**-0.1**	
	baz=332							
M65A	**Busby, Falmout**	**92.49**	**24**	IAMs_20	IAMs_20	11 48 31.8		
	comp=Z,10µm,22.0s							
M65A	**Busby, Falmout**	**92.49**	**24**	S	**S**	**11 15 24.6**	**-1.7**	
	baz=336							
V52A	**Sevierville**	**92.61**	**36**	IAmb	IAmb	11 05 02.5		
	comp=Z,105nm,1.3s							
V52A	**Sevierville**	**92.61**	**36**	P	**P**	**11 04 27.3**	**+0.4**	
	baz=327,SNR=14							
146A	**Union**	**92.67**	**41**	P	**P**	**11 04 28.0**	**+0.8**	
	baz=324,SNR=6.9							
TKL	**Tuckaleechee C**	**92.69**	**36**	IAmb	IAmb	11 05 01.9		
	comp=Z,231nm,1.9s							
TKL	**Tuckaleechee C**	**92.69**	**36**	P	**P**	**11 04 27.5**	**+0.3**	
	baz=327,SNR=12							
TKL	**Tuckaleechee C**	**92.69**	**36**	LR	LR	11 49 40.5		
	comp=Z,8µm,20.2s,baz=332,slow=38							
EIBI	**Ibiza**	**92.74**	**331**	P	**P**	**11 04 26.7**	**-0.7**	
FPAL	**Fort Paine**	**92.78**	**38**	IAMs_20	IAMs_20	11 47 12.7		
	comp=Z,10µm,22.0s							
ECAL	**Calabor**	**92.79**	**337**	P	**P**	**11 04 28.7**	**+1.1**	
BLA	**Blacksburg**	**92.81**	**33**	IAMs_20	IAMs_20	11 51 49.0		
	comp=Z,11µm,21.0s							
BLA	**Blacksburg**	**92.81**	**33**	P	**P**	**11 04 28.0**	**+0.2**	
	baz=329							
BLA				S	**S**	**11 15 25.3**	**-4.2**	
	baz=329							
PBRG	**Braganca**	**92.92**	**337**	*e*P	**P**	**11 04 29.9**	**+1.7**	
	comp=Z,169nm,1.6s							
PBRG	**Braganca**	**92.92**	**337**	*e*PP	**PP**	**11 08 13.5**	**+3.3**	
S57A	**Dark Hollow, R**	**92.93**	**32**	IAMs_20	IAMs_20	11 47 59.0		
	comp=Z,13µm,22.0s							
ECHE	**Chera**	**93.08**	**332**	P	**P**	**11 04 27.6**	**-1.4**	
X51A	**Calhoun**	**93.11**	**37**	IAMs_20	IAMs_20	11 45 02.3		
	comp=Z,10µm,22.0s							
CBN	**Corbin Frederi**	**93.16**	**30**	IAMs_20	IAMs_20	11 45 50.0		
	comp=Z,8µm,21.0s							
CBN	**Corbin Frederi**	**93.16**	**30**	P	**P**	**11 04 29.5**	**+0.2**	
	baz=331							
CBN				S	**S**	**11 15 28.9**	**-3.5**	
	baz=331							
PGAV	**Gavieira, Arco**	**93.20**	**339**	*e*P	**P**	**11 04 31.1**	**+1.5**	
	comp=Z,195nm,1.7s							
PGAV	**Gavieira, Arco**	**93.20**	**339**	*e*PP	**PP**	**11 08 15.6**	**+3.1**	
PGAV				*e*LQ	LQ	11 15 35.0		
PGAV				*e*SS	SS	11 21 53.0	+5.9	
PGAV	**Gavieira, Arco**	**93.20**	**339**	*e*LR	LR	11 35 49.0		
	comp=Z,7µm,20.0s							
UCM	**Universidad Co**	**93.20**	**334**	P	**P**	**11 04 29.6**	**0.0**	
LRAL	**Lakeview Retre**	**93.36**	**40**	IAMs_20	IAMs_20	11 46 21.7		
	comp=Z,11µm,22.0s							
LRAL	**Lakeview Retre**	**93.36**	**40**	P	**P**	**11 04 30.1**	**-0.2**	
	baz=325,SNR=8.0							
LRAL				S	**S**	**11 15 30.0**	**-4.3**	
	baz=325							
LRAL	**Lakeview Retre**	**93.36**	**40**	P	**P**	**11 04 30.0**	**-0.4**	
	baz=325,SNR=8.0							
346A	**Big Creek Wild**	**93.47**	**42**	IAmb	IAmb	11 04 52.6		
	comp=Z,85nm,1.3s							
U56A	**King**	**93.56**	**33**	IAMs_20	IAMs_20	11 51 53.0		
	comp=Z,11µm,21.0s							
U56A	**King**	**93.56**	**33**	P	**P**	**11 04 31.7**	**+0.5**	
	baz=329							
U56A				P	**P**	**11 04 31.7**	**+0.5**	
	baz=329							
MVO	**Moncorvo**	**93.59**	**337**	*e*P	**P**	**11 04 33.0**	**+1.6**	
	comp=Z,139nm,1.8s							
MVO	**Moncorvo**	**93.59**	**337**	*e*PP	**PP**	**11 08 19.0**	**+3.5**	
MVO				*e*LQ	LQ	11 15 40.1		
MVO				*e*SS	SS	11 22 05.2	+13	
MVO	**Moncorvo**	**93.59**	**337**	A	A	11 51 20.8		
	comp=Z,10µm,20.0s							
POLO	**Lamas de Olo**	**93.62**	**338**	*e*P	**P**	**11 04 33.3**	**+1.8**	
	comp=Z,88nm,1.7s							
POLO	**Lamas de Olo**	**93.62**	**338**	*e*PP	**PP**	**11 08 19.0**	**+3.3**	
CASEE	**Lake Jocassee**	**93.62**	**36**	P	**P**	**11 04 31.9**	**+0.4**	
	baz=328,SNR=5.3							
V55A	**Taylorsville**	**93.64**	**34**	IAMs_20	IAMs_20	11 47 02.0		
	comp=Z,12µm,20.0s							
PVRL	**Vila Real**	**93.69**	**338**	*e*P	**P**	**11 04 33.4**	**+1.6**	
	comp=Z,180nm,1.7s							
PVRL	**Vila Real**	**93.69**	**338**	*e*PP	**PP**	**11 08 19.3**	**+3.1**	
R61A	**Willards**	**93.81**	**29**	IAMs_20	IAMs_20	11 49 55.1		
	comp=Z,10µm,22.0s							
ES08	**SONSECA Array**	**93.98**	**335**	IAMs_20	IAMs_20	11 52 26.6		
	comp=Z,13µm,21.0s							
ES09	**SONSECA Array**	**93.98**	**335**	IAMs_20	IAMs_20	11 52 08.7		
	comp=Z,12µm,20.0s							
Z51A	**Franklin**	**94.00**	**38**	P	**P**	**11 04 33.2**	**-0.1**	
	baz=326							
ES02	**SONSECA Array**	**94.00**	**335**	IAMs_20	IAMs_20	11 52 10.1		
	comp=Z,12µm,20.0s							
ES10	**SONSECA Array**	**94.00**	**335**	IAMs_20	IAMs_20	11 52 26.2		
	comp=Z,12µm,20.0s							
ES03	**SONSECA Array**	**94.01**	**335**	IAMs_20	IAMs_20	11 52 25.3		
	comp=Z,13µm,21.0s							
ES01	**SONSECA Array**	**94.01**	**335**	IAMs_20	IAMs_20	11 52 23.3		
	comp=Z,13µm,21.0s							
ESBB	**Sonseca Array**	**94.01**	**335**	IAMs_20	IAMs_20	11 52 23.3		
	comp=Z,13µm,21.0s							
ESDC	**Sonseca Array**	**94.01**	**335**	IAMs_20	IAMs_20	11 52 10.4		
	comp=Z,12µm,20.0s							
ESDC	**Sonseca Array**	**94.01**	**335**	PKKPbc	PKKPbc	11 21 35.3	+0.9	
	comp=Z,0.6nm,0.8s,baz=228,slow=1.1,SNR=1.9							
ESDC				LR	LR	11 52 34.5		
	comp=Z,10µm,19.7s,baz=18,slow=39							
ES04	**SONSECA Array**	**94.02**	**335**	IAMs_20	IAMs_20	11 52 25.6		
	comp=Z,13µm,21.0s							
ES11	**SONSECA Array**	**94.02**	**335**	IAMs_20	IAMs_20	11 52 26.6		
	comp=Z,12µm,21.0s							
ES12	**SONSECA Array**	**94.03**	**335**	IAMs_20	IAMs_20	11 52 27.0		
	comp=Z,11µm,21.0s							
ES14	**SONSECA Array**	**94.04**	**335**	IAMs_20	IAMs_20	11 52 27.1		
	comp=Z,13µm,22.0s							
Y52A	**Lilburn**	**94.06**	**37**	IAMs_20	IAMs_20	11 50 22.4		
	comp=Z,9µm,22.0s							
Y52A	**Lilburn**	**94.06**	**37**	P	**P**	**11 04 33.7**	**+0.1**	
	baz=327							
Y52A				P	**P**	**11 04 33.7**	**+0.1**	

BRAL Brewton 94.85 41 IAMs_20 IAMs_20 11 46 59.5
comp=Z,11µm,22.0s
BRAL Brewton 94.85 41 P **P** 11 04 37.2 0.0
baz=325
BRAL S **S** 11 15 44.2 -3.2
baz=325
CART Cartagena 94.87 332 P **P** 11 04 34.7 -2.5
PCBR Castelo Branco 94.94 337 eP **P** 11 04 39.6 +2.1
comp=Z,59nm,1.9s
PCBR Castelo Branco 94.94 337 ePP **PP** 11 08 25.3 -0.6
JSC Jenkinsville 94.95 35 IAMs_20 IAMs_20 11 55 04.9
comp=Z,8µm,20.0s
BIRD Birdtown, Kers 94.99 34 IAmb IAmb 11 04 40.0
comp=Z,113nm,1.9s
PCAS Casmilo, Conde 95.04 338 eP **P** 11 04 37.3 -0.7
comp=Z,115nm,1.7s
PCAS Casmilo, Conde 95.04 338 ePP **PP** 11 08 28.9 +2.2
PMRV Marv??o 95.30 337 eP **P** 11 04 38.4 -0.8
comp=Z,78nm,1.7s
PMRV Marv??o 95.30 337 ePP **PP** 11 08 31.7 +3.0
PMRV eLQ LQ 11 15 49.4
PMRV eSS SS 11 22 42.1 +25
PMRV Marv??o 95.30 337 eLR LR 11 36 44.7
comp=Z,11µm,20.0s
W59A Clinton 95.38 33 IAMs_20 IAMs_20 11 48 39.0
comp=Z,13µm,22.0s
GRD1 Great Renaissa 95.49 290 eP **P** 11 04 36.2 -4.2
GRD1 Great Renaissa 95.49 290 eP **P** 11 04 41.5 +1.0
X58A Rowland 95.54 34 IAMs_20 IAMs_20 11 49 28.3
comp=Z,13µm,22.0s
154A Montrose 95.54 37 IAmb IAmb 11 04 46.2
comp=Z,86nm,1.2s
154A IAMs_20 IAMs_20 11 49 48.6
comp=Z,10µm,21.0s
CNNC Cliffs of the 95.54 32 P **P** 11 04 40.0 -0.3
baz=331
CNNC S **S** 11 15 49.5 -3.8
baz=331
V61A Roper 95.58 31 IAMs_20 IAMs_20 11 49 50.1
comp=Z,12µm,22.0s
PSBE So Bento 95.62 338 eP **P** 11 04 42.0 +1.3
comp=Z,121nm,1.6s
PSBE So Bento 95.62 338 ePP **PP** 11 08 33.6 +2.3
352A Blakely 95.63 39 IAmb IAmb 11 04 45.5
comp=Z,148nm,1.3s
PESTR Estremoz 95.88 337 A A 11 05 02.6
comp=Z,65nm,1.5s
PESTR Estremoz 95.88 337 ePP **PP** 11 08 35.5 +2.3
PMTG Montargil 95.88 337 eP **P** 11 04 41.4 -0.4
comp=Z,67nm,1.7s
PMTG Montargil 95.88 337 ePP **PP** 11 08 35.5 +2.3
PMAFR Mafra 96.28 338 eP **P** 11 04 43.5 -0.1
comp=Z,134nm,1.4s
PMAFR Mafra 96.28 338 ePP **PP** 11 08 38.9 +2.6
TIGA Tifton 96.30 38 IAmb IAmb 11 05 07.7
comp=Z,70nm,1.1s
TIGA Tifton 96.30 38 P **P** 11 04 43.8 0.0
baz=327
TIGA S **S** 11 15 55.4 -4.6
baz=327
EVO Evora 96.31 337 eP **P** 11 04 43.6 -0.1
comp=Z,55nm,1.7s
EVO Evora 96.31 337 ePP **PP** 11 08 38.7 +2.2
PACT Alcochete 96.33 338 eP **P** 11 04 45.0 +1.2
comp=Z,235nm,1.8s
PACT Alcochete 96.33 338 ePP **PP** 11 08 38.7 +2.0
DILA Dilla 96.33 284 eP P 11 04 30.9 -14
DILA Dilla 96.33 284 eP **P** 11 04 45.3 +0.8
PBAR Barrancos 96.35 336 eP **P** 11 04 44.3 +0.4
comp=Z,85nm,1.5s
PBAR Barrancos 96.35 336 ePP **PP** 11 08 38.6 +1.8
255A Hazlehurst 96.40 37 IAMs_20 IAMs_20 11 53 32.5
comp=Z,7µm,20.0s
NHSC New Hope 96.42 35 P **P** 11 04 43.8 -0.6
baz=329
LIS Lisbon 96.47 338 eP **P** 11 04 44.5 +0.1
LIS ePP **PP** 11 08 38.5 +0.7
LIS eSKSac **SKSac** 11 15 17.8 +0.7
LIS IAMs_20 IAMs_20 11 52 46.4
comp=N,17µm,18.1s
LIS Lisbon 96.47 338 eP **P** 11 04 44.5 +0.1
LIS e 11 08 38.4
LIS e 11 15 17.8
Y60A Bolivia 96.48 33 IAMs_20 IAMs_20 11 56 21.1
comp=Z,8µm,20.0s
PBEJ Beja 96.73 337 eP **P** 11 04 47.4 +1.7
comp=Z,59nm,1.6s
PBEJ Beja 96.73 337 ePP **PP** 11 08 42.0 +2.2
EMAL Malaga-Limoner 96.80 334 P **P** 11 04 45.8 -0.2
PNCL Nicolau / Gran 96.85 337 eP **P** 11 04 46.2 0.0
comp=Z,42nm,1.6s
PNCL Nicolau / Gran 96.85 337 ePP **PP** 11 08 42.6 +1.9
MESJ Messejana 97.01 337 eP **P** 11 04 46.9 0.0
comp=Z,59nm,1.4s
MESJ Messejana 97.01 337 ePP **PP** 11 08 44.1 +2.1
MESJ Messejana 97.01 337 IAMs_20 IAMs_20 11 52 57.7
comp=Z,12µm,20.0s
MESJ Messejana 97.01 337 eP **P** 11 04 46.9 0.0
MESJ ePP **PP** 11 08 42.9 +0.9
MESJ eSKSac **SKSac** 11 15 20.6 +0.5
MESJ IAMs_20 IAMs_20 11 53 01.2
comp=Z,11µm,19.9s
MESJ Messejana 97.01 337 eP **P** 11 04 46.9 0.0
MESJ e 11 08 42.8
MESJ e 11 15 20.6
PCVE Castro Verde 97.15 337 eP Pdif 11 04 47.9 +0.2
comp=Z,51nm,1.3s
PCVE Castro Verde 97.15 337 ePP **PP** 11 08 45.4 +2.4
UNM Universidad Na 97.17 57 IAMs_20 IAMs_20 11 44 40.2
comp=Z,10µm,20.0s
ARNO Arenosillo 97.24 336 P **P** 11 04 47.5 -0.5
PVAQ Vaqueiros 97.26 336 eLQ LQ 11 15 52.8
PVAQ eSS SS 11 22 59.9 +15
PTEO Sao Teotonio 97.43 337 eP Pdif 11 04 49.6 +0.7
comp=Z,96nm,1.7s
PTEO Sao Teotonio 97.43 337 ePP **PP** 11 08 47.4 +2.2
PBDV Barranco-do-Ve 97.48 337 eP Pdif 11 04 49.6 +0.4
comp=Z,41nm,1.9s
PBDV Barranco-do-Ve 97.48 337 ePP **PP** 11 08 48.1 +2.5
CHAS Isla Isabel II 97.53 332 P **P** 11 04 47.8 -1.5
456A Hilliard 97.62 37 IAMs_20 IAMs_20 11 50 21.9
comp=Z,12µm,21.0s
MORF Marmelete 97.64 337 A A 11 05 10.3
comp=Z,72nm,1.8s
MORF Marmelete 97.64 337 ePP **PP** 11 08 48.1 +1.3
MORF Marmelete 97.64 337 eP **P** 11 04 49.7 -0.1
MORF ePP **PP** 11 08 47.3 +0.5
MORF eSKSac **SKSac** 11 15 23.8 +0.4
MORF IAMs_20 IAMs_20 11 44 56.0
comp=N,25µm,35.5s
MORF Marmelete 97.64 337 eP **P** 11 04 49.7 -0.1
MORF e 11 08 47.3
MORF e 11 15 23.7
SFS San Fernando 97.66 335 P Pdif 11 04 50.3 +0.5
PFVI Vila Bisbo 97.85 337 eP Pdif 11 04 51.1 +0.3
comp=N,83nm,1.6s
PFVI Vila Bisbo 97.85 337 ePP **PP** 11 08 49.8 +1.4
CEU Ceuta 97.90 334 P **P** 11 04 48.6 -2.3
PVLZ Peæn de 98.20 333 P **P** 11 04 50.9 -1.4
IFR Ifrane 99.99 333 P **Pdif** 11 04 59.7 -0.8
DWPF Disney Wildern 100.10 38 P **Pdif** 11 05 00.8 -0.2
baz=328
RTC Rabat Centre 100.14 334 P **Pdif** 11 05 01.5 +0.5
LODK Lodwar 100.50 284 P **Pdif** 11 05 04.3 +1.3
SNR=6.4
LODK Lodwar 100.50 284 eP **Pdif** 11 05 03.0 0.0
CMLA Cha da Macela 100.79 350 IAMs_20 IAMs_20 11 44 45.3
comp=Z,8µm,22.0s
AVE Averroes 100.95 335 IAMs_20 IAMs_20 11 53 14.2
comp=Z,9µm,22.0s
AVE Averroes 100.95 335 P **Pdif** 11 05 05.4 +0.8
KMBO Kilima Mbogo 102.14 279 *i* P **Pdif** 11 05 10.6 +0.1
SNR=8.7
KMBO Kilima Mbogo 102.14 279 P **Pdif** 11 05 08.1 -2.4
comp=Z,2.7nm,0.4s,baz=25,slow=6.0,SNR=13
KMBO PP **PP** 11 09 23.1 +0.4
comp=Z,4.3nm,0.8s,baz=26,slow=7.0,SNR=7.3
KMBO Kilima Mbogo 102.14 279 P **Pdif** 11 05 10.0 -0.5
KMBO Kilima Mbogo 102.14 279 eP **Pdif** 11 05 09.4 -1.1
KIBK Kibwezi 102.34 278 P **Pdif** 11 05 10.9 -0.4
KIBK Kibwezi 102.34 278 P **Pdif** 11 05 12.4 +1.2
SNR=5.6
TEIG Tepich 103.02 48 IAMs_20 IAMs_20 11 53 00.5
comp=Z,6µm,22.0s
TIO Tiouine 103.08 334 P **Pdif** 11 05 13.4 -0.9

PMOZ Porto Moniz, M 104.12 342 eLQ LQ 11 16 36.8
PMOZ eSS SS 11 24 34.0 +14
PMOZ Porto Moniz, M 104.12 342 eLR LR 11 40 35.8
comp=Z,3µm,22.0s
TAM Tamanrasset 104.91 319 IAMs_20 IAMs_20 11 58 41.1
comp=Z,8µm,22.0s
MBAR Mbarara 106.61 284 eP **Pdif** 11 05 26.3 -4.0
SNET Serv Nac Est T 107.61 53 IAMs_20 IAMs_20 11 48 25.5
comp=Z,9µm,22.0s
MACI Morro de la Ar 108.33 340 IAMs_20 IAMs_20 11 59 08.2
comp=Z,6µm,21.0s
TGUH Tegucigalpa,Un 108.49 51 IAMs_20 IAMs_20 11 52 03.7
comp=Z,7µm,22.0s
GTBY Guantanamo Bay 110.05 38 IAMs_20 IAMs_20 11 57 05.1
comp=Z,7µm,22.0s
MTDJ Mount Denham 110.36 41 IAMs_20 IAMs_20 11 59 52.6
comp=Z,7µm,21.0s
TORD Torodi Ar. Bea 114.97 317 IAMs_20 IAMs_20 12 06 41.0
comp=Z,5µm,22.0s
TORD Torodi Ar. Bea 114.97 317 PKP **PKiKP** 11 09 55.5 -0.9
comp=Z,1.9nm,0.4s,baz=11,slow=2.3,SNR=16
TORD PP **PP** 11 10 53.3 -1.7
comp=Z,30nm,1.1s,baz=24,slow=9.3,SNR=13
TORD PKKPbc **PKKPbc** 11 20 30.6 -0.5
comp=Z,1.0nm,0.7s,baz=222,slow=1.3,SNR=3.2
GCPR Guaynabo City 115.30 30 IAMs_20 IAMs_20 12 00 11.3
comp=Z,5µm,22.0s
SJG San Juan 115.45 30 IAMs_20 IAMs_20 12 03 03.5
comp=Z,5µm,22.0s
HUMP Col San Antoni 115.54 30 IAMs_20 IAMs_20 12 00 39.6
comp=Z,7µm,22.0s
IGPR InterUniversit 115.60 30 IAMs_20 IAMs_20 12 03 14.4
comp=Z,5µm,21.0s
SMRT St. Maarten 116.63 27 IAMs_20 IAMs_20 12 01 59.3
comp=Z,9µm,21.0s
BCIP Isla Barro Col 116.71 48 IAMs_20 IAMs_20 12 00 43.1
comp=Z,5µm,21.0s
SABA Saba 116.97 28 IAMs_20 IAMs_20 12 01 50.3
comp=Z,9µm,22.0s
PAYG Puerto Ayora 117.79 64 IAMs_20 IAMs_20 11 52 21.2
comp=Z,6µm,22.0s
LSZ Lusaka 118.07 274 IAMs_20 IAMs_20 12 02 55.3
comp=Z,7µm,22.0s
ABD La Joyeuse, An 118.63 26 IAMs_20 IAMs_20 12 03 07.3
comp=Z,5µm,21.0s
VNDA Vanda 118.91 175 PKP **PKPdf** 11 10 01.7 -0.3
comp=Z,6.2nm,0.9s,baz=291,slow=3.5,SNR=6.4
GDSD La Dsirade Is 118.92 26 IAMs_20 IAMs_20 12 02 01.0
comp=Z,9µm,22.0s
MAGL Barre de l'ile 119.19 26 IAMs_20 IAMs_20 12 11 11.1
comp=Z,5µm,20.0s
HATO Hato, Curacao 119.63 36 IAMs_20 IAMs_20 12 06 59.7
comp=Z,5µm,20.0s
FDF Fort de France 120.37 27 IAMs_20 IAMs_20 12 11 08.3
comp=Z,4µm,20.0s
ILAM Ilet Lapin Mar 120.42 26 IAMs_20 IAMs_20 12 02 14.7
comp=Z,5µm,20.0s
BIM Bigot 120.59 27 IAMs_20 IAMs_20 12 11 44.4
comp=Z,5µm,20.0s
MPOM Morne Pois Mar 120.73 26 IAMs_20 IAMs_20 12 03 06.0
comp=Z,7µm,22.0s
MBO M'Bour 121.61 336 IAMs_20 IAMs_20 12 05 50.5
comp=Z,7µm,22.0s
SDV Santo Domingo 121.75 39 **PKPdf** 11 10 08.7 -1.0
SDV IAMs_20 IAMs_20 12 06 18.3
comp=Z,8µm,22.0s
SDV Santo Domingo 121.75 39 eP **PKPdf** 11 10 08.4 -1.3
SDV Santo Domingo 121.75 39 eP **PKiKP** 11 10 10.1 +0.2
PLMC San Jos del P 122.19 47 eP **PKPdf** 11 10 10.0 -0.4
BBGH Gun Hill 122.38 26 IAMs_20 IAMs_20 12 10 08.6
comp=Z,8µm,21.0s
GUY2C Guyana, Caldas 122.44 46 eP **PKPdf** 11 10 11.2 -0.2
BARC Barichara 122.45 43 eP **PKPdf** 11 10 11.1 0.0
GRGR Grenville 122.61 28 IAMs_20 IAMs_20 12 07 27.8
comp=Z,5µm,22.0s
SPBC San Pablo de B 122.78 45 eP **PKPdf** 11 10 05.2 -6.4
BAUV El Baul 122.91 37 **PKPdf** 11 10 11.6 -0.1
YOTC Yotoco, Valle 122.92 48 eP **PKPdf** 11 10 11.5 -0.3
ROSC El Rosal 123.32 45 PKP **PKiKP** 11 10 13.4 +0.2
comp=Z,11nm,0.6s,baz=21,slow=8.6,SNR=8.5
ROSC El Rosal 123.32 45 eP **PKPdf** 11 10 12.9 -0.1
JAMC Jamundi, Valle 123.36 49 eP **PKPdf** 11 10 12.8 -0.1
MAW Mawson 123.47 207 PKP **PKiKP** 11 10 11.6 +0.3
comp=Z,6.4nm,0.7s,baz=103,slow=3.7,SNR=10
DBIC Dimbokro 123.80 320 **PKPdf** 11 10 13.1 -0.3
DBIC Dimbokro 123.80 320 PKiKP **PKPdf** 11 10 13.1 -0.3
DBIC Dimbokro 123.80 320 PKP **PKPdf** 11 10 11.7 -1.7
comp=Z,7.2nm,0.6s,baz=312,slow=3.2,SNR=8.9
DBIC PP **PP** 11 11 54.0 -1.8
comp=Z,31nm,1.2s,baz=22,slow=7.5,SNR=5.3
TIC Toumodi 123.90 320⇑*i*PKiKP **PKPdf** 11 10 12.9 -0.7
comp=Z,6.8nm,0.2s
PRAC Prado 123.95 47 eP PKPdf 11 10 05.3 -8.5
BBAC Balboa, Cauca 124.00 50 eP **PKiKP** 11 10 14.6 +0.2
KIC Kosan Boka 124.01 319 ePKiKP **PKPdf** 11 10 13.1 -0.7
comp=Z,24nm,0.8s
VILC Villavicencio, 124.27 45 eP **PKiKP** 11 10 15.1 +0.3
LIC Lamto 124.27 320⇑ePKiKP **PKPdf** 11 10 13.5 -0.8
comp=Z,60nm,1.0s
OTAV Otavalo 124.71 53 eP **PKiKP** 11 10 16.7 +0.7
LBTB Lobatse 125.76 266 **PKiKP** 11 10 17.7 +0.4
LBTB Lobatse 125.76 266 PKiKP **PKiKP** 11 10 17.7 +0.4
PIAT Ana Tenorio 125.81 53 eP **PKiKP** 11 10 19.4 +1.2
COHC Cochancay 126.34 56 eP **PKiKP** 11 10 21.1 +2.4
PTLC Puerto Leguiza 126.91 49 eP **PKPdf** 11 10 19.0 -0.4
MCRA Macar, Loja 127.37 58 **PKPdf** 11 10 20.0 -0.2
MCRA Macar, Loja 127.37 58 eP **PKPdf** 11 10 18.2 -2.1
BOSA Boshof 127.95 263 **PKPdf** 11 10 20.7 -0.3
BOSA Boshof 127.95 263 PKiKP **PKPdf** 11 10 20.7 -0.3
BOSA Boshof 127.95 263 PKhKP PKPpre 11 10 16.0
comp=Z,4.2nm,0.8s,baz=295,slow=1.9,SNR=5.0
TSUM Tsumeb 128.45 278 **PKPdf** 11 10 22.2 0.0
TSUM Tsumeb 128.45 278 IAMs_20 IAMs_20 12 12 15.1
comp=Z,5µm,21.0s
QSPA South Pole Qui 130.79 180 **PKPdf** 11 10 25.0 -0.1
QSPA South Pole Qui 130.79 180 IAMs_20 IAMs_20 12 04 33.5
comp=Z,8µm,22.0s
QSPA South Pole Qui 130.79 180 PKP **PKPdf** 11 10 24.6 -0.5
comp=Z,10nm,0.6s,baz=237,slow=0.9,SNR=13
QSPA PP **PP** 11 12 42.7 +0.7
comp=Z,12nm,1.0s,baz=252,slow=1.9,SNR=3.7
WIN Windhoek 130.81 275 IAMs_20 IAMs_20 12 09 26.9
comp=Z,6µm,22.0s
BOAV Boa Vista 131.98 32 eP **PKPdf** 11 10 26.1 -2.9
BOAV Boa Vista 131.98 32 eP **PKPdf** 11 10 29.3 +0.3
CZSB Cruzeiro do Su 134.48 53 eP **PKPdf** 11 10 33.3 -0.4
CZSB Cruzeiro do Su 134.48 53 eP **PKPdf** 11 10 33.9 +0.2
NNA Nana 135.09 61 eP **PKPdf** 11 10 34.0 -0.8
TEFE Tefe 135.42 40 eP **PKPdf** 11 10 36.2 +0.7
MACA Manacapuru-AM 136.94 35 IAMs_20 IAMs_20 12 12 24.3
comp=Z,6µm,22.0s
ELIB Princess Elisa 137.40 204 *d*PKPdf **PKiKP** 11 10 38.6 -0.8
MCPB Macapa, AP 137.43 22 eP **PKPdf** 11 10 39.1 -0.1
MALB Monte Alegre 138.18 25 eP **PKPdf** 11 10 41.2 +0.7
SAML Samuel 140.82 42 **PKPdf** 11 10 41.0 -4.3
SAML Samuel 140.82 42 PKiKP **PKPdf** 11 10 41.0 -4.3
SAML Samuel 140.82 42 eP **PKPdf** 11 10 38.1 -7.2
ASCN Ascension 141.08 322 IAMs_20 IAMs_20 12 21 28.5
comp=Z,5µm,20.0s
NVL N'lazarevskaya 141.28 204 ePKHKP PKPpre 11 10 36.0
NVL MLR MLR
comp=Z,8µm,24.0s
TROLL Troll, Antarti 143.27 200 ⇑PKPdf PKPbc 11 10 45.7 +0.4
comp=Z,741nm,0.4s
SNAA Sanae 144.80 198 IAMs_20 IAMs_20 12 13 58.8
comp=Z,4µm,21.0s
SNAA Sanae 144.80 198 ⇑PKPdf PKPbc 11 10 50.1 +0.2
comp=Z,1µm,0.6s
RCBR Riachuelo 144.90 357 IAMs_20 IAMs_20 12 15 36.0
comp=Z,5µm,22.0s
RCBR Riachuelo 144.90 357 eP **PKPab** 11 10 49.6 -2.1
VILB Vilhena 145.74 42 eP **PKPab** 11 10 55.1 +0.4
CLDB Colider 145.94 33 eP **PKPbc** 11 10 55.2 +0.2
PB08 IPOC Station P 146.05 62 PKP **PKPbc** 11 10 55.9 +0.2
VNA2 Neumayer--Watz 146.38 197 ⇑PKPdf **PKPbc** 11 10 54.7 0.0
comp=Z,99nm,0.6s,baz=119,slow=3.0
H03N2 Juan Fernandez 146.49 90 T T 13 55 22.4
baz=300,slow=76,SNR=23
H03N3 Juan Fernandez 146.50 90 T T 13 55 11.6
baz=300,slow=76,SNR=30
H03N1 Juan Fernandez 146.50 90 T T 13 55 24.1
baz=300,slow=76,SNR=31
VNA3 Neumayer Olymp 146.63 196 ⇑PKPdf **PKPbc** 11 10 55.2 -0.3
comp=Z,15nm,0.5s
PB07 IPOC Station P 146.65 65 PKP **PKPdf** 11 10 55.9 +0.4
VNA1 Neumayer--Stat 146.78 197 ⇑PKPdf **PKPbc** 11 10 56.0 +0.2
comp=Z,114nm,1.3s
SIV San Ignacio 147.82 46 PKPbc **PKPdf** 11 10 58.6 +1.2
comp=Z,50nm,1.0s,baz=299,slow=0.8,SNR=48
LVC Limon Verde 147.91 65 **PKPbc** 11 11 00.3 -0.6
LVC Limon Verde 147.91 65 PKP **PKPdf** 11 10 58.4 +0.6
comp=Z,9.6nm,0.6s,baz=323,slow=1.7,SNR=9.8
LVC PKPbc **PKiKP** 11 11 02.1 -0.7
comp=Z,31nm,0.6s,baz=346,slow=1.7,SNR=16
PB14 IPOC Station P 148.18 69 PKP **PKPbc** 11 11 01.3 -0.2
PTLB Pontes e Lacer 148.39 42 **PKPdf** 11 10 59.6 +1.3
PTLB Pontes e Lacer 148.39 42 eP **PKPdf** 11 10 58.9 +0.6
SMAI San Martin Ant 148.56 159 **PKPbc** 11 11 00.5 -0.1
SMAI IAMs_20 IAMs_20 12 25 38.8
comp=Z,4µm,20.0s
SNDB Serra Nova Dou 148.64 26 eP **PKPdf** 11 10 59.7 +0.9
BBSD Serra de San D 149.05 47 eP **PKPdf** 11 10 59.8 +0.4
BBRB Robore, Bolivi 150.38 47 eP **PKPdf** 11 11 02.9 +1.4
SALV Santo Antonio 150.45 37 eP **PKPdf** 11 11 01.4 -0.2
SDBA SAO DESIDERIO 150.76 15 eP **PKPdf** 11 11 04.0 +1.8
PMSA Palmer Station 151.80 156 IAMs_20 IAMs_20 12 15 05.6
comp=Z,6µm,21.0s
PP1B Ponte de Pedra 152.31 38 eP **PKPdf** 11 11 06.8 +2.4
PANT Pantanal (Braz 152.65 42 eP **PKPdf** 11 11 04.7 -0.1
GDU01 Guandu, BA 152.72 4 eP **PKPdf** 11 11 04.7 -0.3
BDFB Brasilia 153.12 23 PKP **PKPdf** 11 11 06.2 +0.4
comp=Z,18nm,1.1s,baz=102,slow=3.0,SNR=7.7
BDFB PKPbc **PKiKP** 11 11 13.7 +0.4
comp=Z,26nm,0.9s,baz=348,slow=4.5,SNR=12
JANB Januaria 153.46 15 eP **PKPdf** 11 11 07.0 +0.8
CMC01 Camacan, BA 154.35 4 eP **PKPdf** 11 11 08.6 +1.2
AQDB Aquidauana 154.36 42 **PKPdf** 11 11 08.3 +1.0
AQDB Aquidauana 154.36 42 eP **PKPdf** 11 11 08.4 +1.0
COYC Coyhaique 154.64 112 **PKPdf** 11 11 10.4 +3.6
PLCA Paso Flores 155.17 100 **PKPdf** 11 11 09.0 +1.1
PLCA Paso Flores 155.17 100 PKP **PKPdf** 11 11 08.1 +0.1
comp=Z,11nm,1.2s,baz=305,slow=1.2,SNR=5.1
PLCA PKPab **PKPab** 11 11 34.2 +1.2
comp=Z,48nm,1.0s,baz=303,slow=4.4,SNR=8.0
PLCA Paso Flores 155.17 100 eP **PKPdf** 11 11 08.4 +0.5
IPMB Ipameri, GO 155.27 25 eP **PKPdf** 11 11 09.8 +1.1
RPRD Ribas do Rio P 155.35 39 eP **PKPdf** 11 11 09.7 +1.1
ANTJ Antonio Joao (155.46 45 eP **PKPdf** 11 11 10.1 +1.2
GUA01 Guaratinga, BA 155.54 5 eP **PKPdf** 11 11 10.3 +1.3
BB19B Bebedouro 158.03 28 eP **PKPdf** 11 11 15.7 +3.6
CPUP Villa Florida 158.06 54 PKP **PKPdf** 11 11 11.4 -0.5
comp=Z,17nm,1.2s,baz=287,slow=2.4,SNR=5.7
BSCB Bom Sucesso 159.10 19 eP **PKPdf** 11 11 14.7 +1.2
RCLB Rio Claro- Sao 159.62 27 eP **PKPdf** 11 11 17.2 +3.2
FRTB Fartura 159.69 33 eP **PKPdf** 11 11 14.2 +0.2
PTGB Pitanga 159.73 41 eP **PKPdf** 11 11 15.1 +1.0
ITQB Itaqui 160.82 60 eP **PKPdf** 11 11 17.5 +2.5
CRSM Crissiumal (Br 160.88 50 eP **PKPdf** 11 11 16.0 +0.8
UNIS Unistalda (Bra 161.41 55 eP **PKPdf** 11 11 18.2 +2.5
ITAB Concordia 161.75 45 eP **PKPdf** 11 11 17.3 +1.2
RODS Rosario do Sul 162.20 59 eP **PKPdf** 11 11 16.8 +0.3
ALGR Alto Alegre (B 162.45 51 eP **PKPdf** 11 11 18.8 +1.9

DJA 24 10:55:40.6±0.4,2°N±3°×12°7E±°, h125km±6km, M4.5/13, mb4.5/4, mB5.6/2, MLv4.4/13, Mw(mB)5.2/2, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC h m s	ISC
TNTI	**Ternate**	**0.84**	**171**	P	Pn 10 56 02.3	+0.7
TNTI				S	Sn 10 56 18.6	+1.0
LBMI	**Labuha**	**2.25**	**173**	P	Pn 10 56 17.7	+0.3
LBMI				S	Sn 10 56 46.4	+0.7
SGSI	**Sangihe**	**2.68**	**320**	P	Pn 10 56 23.0	+0.1
SGSI				S	Sn 10 56 55.6	+0.1
KMSI	**Cibinong**	**3.42**	**253**	P	Pn 10 56 32.5	0.0
KMSI				S	Sn 10 57 13.7	+1.0
SANI	**Sanana**	**3.84**	**199**	P	Pn 10 56 38.0	-0.2
SANI				S	Sn 10 57 17.1	-5.8
SWI	**Sorong**	**4.71**	**121**	P	Pn 10 56 49.6	-0.2
SIJI	**Sorong**	**4.72**	**121**	P	Pn 10 56 50.6	+0.7
NLAI	**Namlea**	**4.82**	**182**	P	Pn 10 56 50.3	-0.9
LUWI	**Luwuk**	**5.19**	**240**	P	Pn 10 56 56.9	+0.7
	22nm,0.5s,3µm0.7nm					
BNDI	**Bandanaira**	**6.65**	**156**	P	Pn 10 57 16.9	+1.0
TPRI	**Tanjung Pinang**	**22.72**	**269**	P	P 11 00 32.2	0.0
	128nm,0.9s,21µm					

*NEIC **24** 10:56:14.2±1.2, 55°.9N±0°.1×150°.1W±0°.1, h6km±8km, ML3.9/28, ML3.6(AEIC), Error ellipse: s-maj=18.6km s-min=9.4km az=181.0*
*AEIC **24** 10:56:18.9±1.5, 55°.82N±0°.09×150°.1W±0°.1, h12km±8km, Error ellipse: s-maj=13.3km s-min=9.6km az=203.0*
ISC 24 10:56:14.7±2.8, 55°.9N±0°.2×150°.07W±0°.06, h10km, n64, σ0s88/70, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC h m s	ISC
OHAK	**Old Harbor**	**2.20**	**307**		**Pn 10 56 52.0**	**+0.8**
OHAK					**Sn 10 57 17.0**	**-1.5**
OHAK	**Old Harbor**	**2.20**	**307**	P	**Pn 10 56 51.3**	**+0.1**
	baz=128					
OHAK				S	**Sn 10 57 16.7**	**-1.7**
	baz=128					
KDAK	**Kodiak Island**	**2.31**	**324**		**Pn 10 56 53.6**	**+0.8**
KDAK					**Sn 10 57 20.6**	**-0.6**
SYI	**Shuyak Island**	**2.96**	**336**		**Pn 10 57 02.8**	**+1.1**
SYI					**Sn 10 57 37.1**	**-0.2**
Q20K	**Shuyak Island**	**2.96**	**336**	P	**Pn 10 57 02.4**	**+0.6**
	baz=155					
Q20K				S	**Sn 10 57 37.1**	**-0.2**
	baz=155					
KAHG	**Katmai Hook Gl**	**3.54**	**318**		**Pn 10 57 10.8**	**+1.1**
Q19K	**Cape Douglas,**	**3.57**	**329**		**Pn 10 57 11.8**	**+1.7**
Q19K				IAML	10 59 22.2	
	comp=N,173nm,1.6s					
Q19K				IAML	10 59 25.9	
	comp=E,437nm,1.4s					
Q19K	**Cape Douglas,**	**3.57**	**329**	P	**Pn 10 57 11.9**	**+1.8**
	baz=147					
Q19K				S	**Sn 10 57 51.3**	**-1.0**
	baz=147					
KCG	**Knife Ch. Glac**	**3.63**	**313**		**Pn 10 57 12.6**	**+1.6**
CNPM	**China Poot**	**3.66**	**351**		**Pn 10 57 11.4**	**+0.1**
CNPM				IAML	10 59 29.0	
	comp=E,51nm,1.0s					
ACHA	**Angle Creek He**	**3.67**	**311**		**Pn 10 57 12.1**	**+0.7**
BRSE	**Bradley Lake S**	**3.84**	**355**		**Pn 10 57 13.3**	**-0.5**
BRSE	**Bradley Lake S**	**3.84**	**355**	P	**Pn 10 57 13.9**	**+0.1**
	baz=175					
BRLK	**Bradley Lake**	**3.87**	**354**		**Pn 10 57 14.0**	**-0.2**
BRLK				IAML	10 59 37.5	
	comp=E,61nm,1.4s					
BRLK				IAML	10 59 45.6	
	comp=N,69nm,1.8s					
CNTC	**Contact Creek**	**3.94**	**309**		**Pn 10 57 16.3**	**+1.0**
Q17K	**Contact Creek**	**3.94**	**309**	P	**Pn 10 57 16.3**	**+1.0**
	baz=126					
Q23K	**Middleton Isla**	**4.03**	**28**		**Pn 10 57 16.1**	**-0.3**
Q23K				IAML	10 59 35.7	
	comp=E,220nm,1.5s					
Q23K				IAML	10 59 45.8	
	comp=N,192nm,1.9s					
Q23K	**Middleton Isla**	**4.03**	**28**	P	**Pn 10 57 16.6**	**+0.2**
	baz=211					
MID	**Middleton Isla**	**4.04**	**28**	Pn	**Pn 10 57 16.8**	**+0.3**
MID				IAML	10 58 01.2	
	comp=E,233nm,2.0s					
MID				IAML	10 59 19.2	
	comp=N,171nm,2.0s					
P19K	**Oil Pt**	**4.09**	**337**		**Pn 10 57 18.1**	**+0.8**
P19K				IAML	10 59 37.3	
	comp=E,184nm,2.0s					
P19K				IAML	10 59 38.1	
	comp=N,201nm,1.4s					
P19K	**Oil Pt**	**4.09**	**337**	P	**Pn 10 57 18.4**	**+1.0**
	baz=155					
SEW	**Seward**	**4.20**	**4**		**Pn 10 57 17.9**	**-0.8**
SEW	**Seward**	**4.20**	**4**	P	**Pn 10 57 18.4**	**-0.3**
	baz=185					
P23K	**Montague Islan**	**4.32**	**18**		**Pn 10 57 20.4**	**+0.1**
P23K	**Montague Islan**	**4.32**	**18**	P	**Pn 10 57 20.4**	**+0.1**
	baz=200					
O20K	**Slope Mountain**	**4.38**	**343**		**Pn 10 57 22.4**	**+1.2**
O20K	**Slope Mountain**	**4.38**	**343**	P	**Pn 10 57 22.4**	**+1.2**
	baz=162					
P18K	**Big Mountain,**	**4.44**	**324**		**Pn 10 57 23.3**	**+1.3**
P18K				IAML	10 59 41.9	
	comp=N,81nm,1.9s					

P18K				IAML			10 59 59.0	
	comp=E,93nm,1.6s							
P18K	**Big Mountain,**	**4.44**	**324**	P		**Pn**	**10 57 23.1**	**+1.1**
	baz=140							
SLKM	**Skilak Lake**	**4.59**	**359**			**Pn**	**10 57 24.6**	**+0.5**
RSO	**Redoubt South**	**4.76**	**344**	Pn		**Pn**	**10 57 26.9**	**+0.3**
HIN	**Hinchinbrook I**	**4.86**	**21**			**Pn**	**10 57 28.1**	**+0.3**
KAIM	**Kayak Island**	**5.01**	**35**			**Pn**	**10 57 30.1**	**+0.2**
KAIM				IAML			11 00 31.4	
	comp=E,139nm,1.2s							
KAIM	**Kayak Island**	**5.01**	**35**	P		**Pn**	**10 57 30.3**	**+0.4**
	baz=219							
EYAK	**Cordova Ski Ar**	**5.16**	**24**			**Pn**	**10 57 32.3**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.16**	**24**	P		**Pn**	**10 57 32.4**	**+0.5**
	baz=208							
RC01	**Rabbit Creek A**	**5.17**	**2**	Pn		**Pn**	**10 57 32.0**	**-0.1**
FID	**Port Fidalgo**	**5.19**	**20**			**Pn**	**10 57 32.3**	**0.0**
P16K	**Nushagak River**	**5.28**	**309**			**Pn**	**10 57 32.6**	**-0.9**
P16K	**Nushagak River**	**5.28**	**309**	P		**Pn**	**10 57 32.6**	**-0.9**
	baz=124							
RAGM	**Ragged Mountai**	**5.30**	**30**			**Pn**	**10 57 34.3**	**+0.4**
N19K	**Bonanza Creek**	**5.42**	**336**	P		**Pn**	**10 57 36.0**	**+0.5**
	baz=153							
GOAT	**Goat Mountain**	**5.45**	**29**			**Pn**	**10 57 36.8**	**+0.8**
BERG	**Berg Lake**	**5.60**	**34**			**Pn**	**10 57 38.0**	**+0.1**
SNH	**Sunshine Point**	**5.73**	**39**			**Pn**	**10 57 39.9**	**+0.1**
BMRM	**Bremner River**	**5.80**	**27**			**Pn**	**10 57 41.3**	**+0.5**
BMRM	**Bremner River**	**5.80**	**27**	P		**Pn**	**10 57 41.6**	**+0.8**
	baz=212							
KLU	**Klutina**	**5.98**	**19**	Pn		**Pn**	**10 57 44.2**	**+1.0**
VRDI	**Verde Repeater**	**6.33**	**30**	Pn		**Pn**	**10 57 48.6**	**+0.4**
N25K	**Chitina, Valde**	**6.36**	**24**	Pn		**Pn**	**10 57 49.2**	**+0.8**
GLB	**Gilahina Butte**	**6.41**	**28**	Pn		**Pn**	**10 57 49.6**	**+0.5**
MCARA	**McCarthy VSAT**	**6.58**	**31**	Pn		**Pn**	**10 57 51.7**	**+0.2**
M17K	**Holitna River**	**6.69**	**328**	Pn		**Pn**	**10 57 54.0**	**+1.1**
N15K	**Kwethluk River**	**6.80**	**313**			**Pn**	**10 57 56.8**	**+2.3**
LOGN	**Logan Glacier**	**6.84**	**40**	Pn		**Pn**	**10 57 55.8**	**+0.8**
BCPM	**Bancas Point**	**6.86**	**50**	Pn		**Pn**	**10 57 55.3**	**+0.1**
O29M	**Mount Kennedy**	**7.50**	**50**	Pn		**Pn**	**10 58 04.7**	**+0.7**
P29M	**Windy Craggy**	**7.56**	**56**	Pn		**Pn**	**10 58 05.8**	**+1.0**
S31K	**Pelican**	**7.84**	**69**	Pn		**Pn**	**10 58 08.4**	**-0.1**
HYT	**Haines Junctio**	**8.22**	**48**	Pn		**Pn**	**10 58 15.2**	**+1.2**
SKAG	**Skagway**	**8.65**	**60**	Pn		**Pn**	**10 58 19.8**	**+0.2**
N30M	**Aishikik Lake**	**8.73**	**45**	Pn		**Pn**	**10 58 21.8**	**+0.9**
O30N	**Mendenhall**	**8.80**	**51**	Pn		**Pn**	**10 58 22.7**	**+0.9**
M29M	**Somme Creek**	**8.83**	**38**	Pn		**Pn**	**10 58 23.8**	**+1.5**

*NEIC **24** 11:00:18.4±1.2,55°8N±0°.1×149°.3W±0°.1, h8km±8km, ML3.7/30, ML3.8(AEIC), Error ellipse: s-maj=16.0km s-min=9.0km az=179.0*
*AEIC **24** 11:00:23.9±1.0,55°.9N±0°.1×149°.25W±0°.09, h5km±8km, Error ellipse: s-maj=15.8km s-min=6.8km az=177.0*

ISC 24 11:00:17.6±2.0, 55°.8N±0°.1×149°.31W±0°.07, h10km, n126, σ1§12/132, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.65**	**305**		**Pn**	**11 01 00.8**	**+0.5**
OHAK					**Sn**	**11 01 31.4**	**-1.0**
OHAK	**Old Harbor**	**2.65**	**305**	P	**Pn**	**11 01 00.9**	**+0.7**
	baz=120						
OHAK				S	**Sn**	**11 01 31.1**	**-1.3**
	baz=120						
KDAK	**Kodiak Island**	**2.71**	**320**		**Pn**	**11 01 01.9**	**+0.7**
KDAK					**Sn**	**11 01 33.5**	**-0.5**
SYI	**Shuyak Island**	**3.31**	**331**		**Pn**	**11 01 10.5**	**+1.1**
Q20K	**Shuyak Island**	**3.31**	**331**	P	**Pn**	**11 01 10.5**	**+1.1**
	baz=147						
Q20K				S	**Sn**	**11 01 47.1**	**-1.7**
	baz=147						
CNPM	**China Poot**	**3.92**	**345**		**Pn**	**11 01 18.2**	**+0.5**
CNPM				IAML		11 02 07.8	
	comp=N,49nm,1.0s						
CNPM				IAML		11 02 09.3	
	comp=E,80nm,1.9s						
Q19K	**Cape Douglas,**	**3.95**	**325**		**Pn**	**11 01 19.9**	**+1.7**
Q19K				IAML		11 03 59.2	
	comp=N,201nm,1.4s						
Q19K	**Cape Douglas,**	**3.95**	**325**	P	**Pn**	**11 01 19.5**	**+1.3**
	baz=141						
Q19K				S	**Sn**	**11 02 03.1**	**-1.5**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.96**	**316**		**Pn**	**11 01 19.9**	**+1.6**
KAHG					**Sn**	**11 02 03.8**	**-1.0**
Q23K	**Middleton Isla**	**4.01**	**22**		**Pn**	**11 01 19.2**	**+0.3**
Q23K				IAML		11 02 44.9	
	comp=N,186nm,1.6s						
Q23K	**Middleton Isla**	**4.01**	**22**	P	**Pn**	**11 01 19.2**	**+0.3**
	baz=205						
MID	**Middleton Isla**	**4.01**	**22**	Pn	**Pn**	**11 01 19.2**	**+0.3**
MID				IAML		11 03 26.6	
	comp=N,158nm,2.0s						
BRSE	**Bradley Lake S**	**4.07**	**350**		**Pn**	**11 01 20.0**	**+0.2**
BRSE	**Bradley Lake S**	**4.07**	**350**	P	**Pn**	**11 01 20.0**	**+0.2**
	baz=168						
KCG	**Knife Ck. Glac**	**4.07**	**311**		**Pn**	**11 01 21.6**	**+1.7**
BRLK	**Bradley Lake**	**4.10**	**349**		**Pn**	**11 01 20.4**	**+0.1**
BRLK				IAML		11 02 09.3	
	comp=N,51nm,0.3s						
BRLK				IAML		11 02 17.4	
	comp=E,61nm,2.0s						
ANCK	**Angle Creek**	**4.17**	**308**		**Pn**	**11 01 23.3**	**+2.0**
PLK3	**Peulik 3**	**4.29**	**300**		**Pn**	**11 01 24.5**	**+1.6**
SEW	**Seward**	**4.36**	**359**		**Pn**	**11 01 23.8**	**0.0**
SEW	**Seward**	**4.36**	**359**	P	**Pn**	**11 01 24.3**	**+0.6**
	baz=178						
P23K	**Montague Islan**	**4.37**	**13**		**Pn**	**11 01 24.1**	**+0.2**
P23K	**Montague Islan**	**4.37**	**13**	P	**Pn**	**11 01 24.1**	**+0.2**
	baz=194						
CNTC	**Contact Creek**	**4.38**	**308**		**Pn**	**11 01 25.9**	**+1.7**
Q17K	**Contact Creek**	**4.38**	**308**	P	**Pn**	**11 01 25.9**	**+1.7**
	baz=121						
P19K	**Oil Pt**	**4.43**	**333**		**Pn**	**11 01 26.1**	**+1.3**
P19K				IAML		11 02 10.8	
	comp=E,83nm,1.8s						
P19K				IAML		11 02 15.5	
	comp=N,74nm,1.7s						
P19K	**Oil Pt**	**4.43**	**333**	P	**Pn**	**11 01 26.0**	**+1.1**
	baz=149						
O20K	**Slope Mountain**	**4.68**	**339**		**Pn**	**11 01 29.5**	**+1.2**
O20K	**Slope Mountain**	**4.68**	**339**	P	**Pn**	**11 01 29.5**	**+1.2**
	baz=156						
IVE	**Iliamna Volcan**	**4.71**	**337**		**Pn**	**11 01 29.3**	**+0.7**
O22K	**Cooper Landing**	**4.74**	**358**	P	**Pn**	**11 01 30.4**	**+1.4**
	baz=177						
SLKM	**Skilak Lake**	**4.79**	**355**		**Pn**	**11 01 30.3**	**+0.7**
P18K	**Big Mountain,**	**4.84**	**321**		**Pn**	**11 01 31.3**	**+0.9**
P18K				IAML		11 02 27.1	
	comp=E,33nm,1.8s						
P18K	**Big Mountain,**	**4.84**	**321**	P	**Pn**	**11 01 31.3**	**+0.9**
	baz=135						
HIN	**Hinchinbrook I**	**4.88**	**17**	Pn	**Pn**	**11 01 31.3**	**+0.3**
HIN				IAML		11 02 21.9	
	comp=E,89nm,1.8s						
HIN				IAML		11 02 25.5	
	comp=N,105nm,1.9s						
KAIM	**Kayak Island**	**4.93**	**30**		**Pn**	**11 01 31.9**	**+0.3**
KAIM				IAML		11 02 25.6	
	comp=E,106nm,2.0s						
KAIM				IAML		11 02 59.6	
	comp=N,80nm,1.7s						
KAIM	**Kayak Island**	**4.93**	**30**	P	**Pn**	**11 01 31.9**	**+0.3**
	baz=214						
RDSO	**Redoubt South**	**5.05**	**340**		**Pn**	**11 01 33.4**	**0.0**
RSO	**Redoubt South**	**5.06**	**340**	Pn	**Pn**	**11 01 33.8**	**+0.3**
RDT	**Redoubt**	**5.10**	**343**		**Pn**	**11 01 34.5**	**+0.5**
CAPN	**Captain Cook N**	**5.12**	**350**		**Pn**	**11 01 35.8**	**+1.7**
CAPN	**Captain Cook N**	**5.12**	**350**	P	**Pn**	**11 01 36.3**	**+2.2**
	baz=168						
EYAK	**Cordova Ski Ar**	**5.16**	**20**		**Pn**	**11 01 35.2**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.16**	**20**	P	**Pn**	**11 01 35.2**	**+0.5**
	baz=203						
NCT	**North Crescent**	**5.18**	**340**		**Pn**	**11 01 36.0**	**+0.9**
RAGM	**Ragged Mountai**	**5.25**	**26**		**Pn**	**11 01 36.6**	**+0.5**
RC01	**Rabbit Creek A**	**5.35**	**358**	Pn	**Pn**	**11 01 37.4**	**0.0**
RC01				IAML		11 02 40.9	
	comp=N,39nm,0.8s						
RC01				IAML		11 02 41.9	
	comp=E,48nm,1.6s						
GOAT	**Goat Mountain**	**5.41**	**25**		**Pn**	**11 01 39.1**	**+0.8**
BERG	**Berg Lake**	**5.52**	**30**		**Pn**	**11 01 39.9**	**+0.2**
SNH	**Sunshine Point**	**5.61**	**35**	Pn	**Pn**	**11 01 41.4**	**+0.3**
DIV	**Divide**	**5.70**	**18**		**Pn**	**11 01 42.9**	**+0.7**
P16K	**Nushagak River**	**5.73**	**309**		**Pn**	**11 01 44.4**	**+1.9**
P16K	**Nushagak River**	**5.73**	**309**	P	**Pn**	**11 01 44.4**	**+1.9**
	baz=120						
N19K	**Bonanza Creek**	**5.75**	**334**		**Pn**	**11 01 43.2**	**+0.2**
N19K	**Bonanza Creek**	**5.75**	**334**	P	**Pn**	**11 01 43.9**	**+0.9**
	baz=149						
SUA	**Susitna One**	**5.77**	**353**	Pn	**Pn**	**11 01 43.0**	**-0.2**
BMRM	**Bremner River**	**5.78**	**23**		**Pn**	**11 01 43.4**	**+0.1**
BMRM	**Bremner River**	**5.78**	**23**	P	**Pn**	**11 01 43.8**	**+0.5**
	baz=207						
PMR	**Palmer**	**5.85**	**1**		**Pn**	**11 01 45.1**	**+0.9**
PMR	**Palmer**	**5.85**	**1**	P	**Pn**	**11 01 45.3**	**+1.1**
	baz=181						
BARK	**Barkley Ridge**	**5.89**	**35**		**Pn**	**11 01 45.2**	**+0.3**
STLK	**Strandline Lak**	**5.91**	**348**		**Pn**	**11 01 45.7**	**+0.7**
KLU	**Klutina**	**6.02**	**16**		**Pn**	**11 01 47.5**	**+1.0**
KLU	**Klutina**	**6.02**	**16**	P	**Pn**	**11 01 47.3**	**+0.7**
	baz=198						
GHO	**Glory Hole Cre**	**6.04**	**2**		**Pn**	**11 01 48.4**	**+1.6**
N18K	**Kilae Creek**	**6.04**	**328**		**Pn**	**11 01 47.5**	**+0.7**
N18K	**Kilae Creek**	**6.04**	**328**	P	**Pn**	**11 01 47.0**	**+0.2**
	baz=141						
O16K	**Kokwok River B**	**6.08**	**313**	Pn	**Pn**	**11 01 49.0**	**+1.7**
SML	**Sawmill**	**6.09**	**4**	Pn	**Pn**	**11 01 48.7**	**+1.2**
VRDI	**Verde Repeater**	**6.28**	**27**		**Pn**	**11 01 50.8**	**+0.4**
SAMH	**Samovar Hills**	**6.31**	**43**		**Pn**	**11 01 51.4**	**+0.8**
KIAG	**Kiagna River**	**6.34**	**32**		**Pn**	**11 01 51.4**	**+0.3**
SDPT	**Sand Point**	**6.35**	**271**	Pn	**Pn**	**11 01 52.2**	**+1.1**
N25K	**Chitina, Valde**	**6.36**	**21**		**Pn**	**11 01 52.0**	**+0.7**
N25K	**Chitina, Valde**	**6.36**	**21**	P	**Pn**	**11 01 52.0**	**+0.7**
	baz=205						
GLB	**Gilahina Butte**	**6.38**	**24**		**Pn**	**11 01 51.5**	**0.0**
PCA	**Pinnacle**	**6.49**	**44**		**Pn**	**11 01 53.7**	**+0.6**
PINM	**Pinnacle**	**6.49**	**44**	P	**Pn**	**11 01 53.6**	**+0.5**
	baz=232						
PTPK	**Patty Peak**	**6.52**	**31**		**Pn**	**11 01 54.5**	**+1.0**
MCARA	**McCarthy VSAT**	**6.53**	**28**		**Pn**	**11 01 54.3**	**+0.8**
MCARA	**McCarthy VSAT**	**6.53**	**28**	P	**Pn**	**11 01 54.8**	**+1.3**
	baz=213						
PNL	**Peninsula**	**6.60**	**49**		**Pn**	**11 01 54.9**	**+0.3**
PNL	**Peninsula**	**6.60**	**49**	P	**Pn**	**11 01 54.9**	**+0.3**
	baz=238						
O15K	**Ungalikthiuk R**	**6.62**	**305**		**Pn**	**11 01 56.5**	**+1.7**
O15K	**Ungalikthiuk R**	**6.62**	**305**	P	**Pn**	**11 01 56.5**	**+1.7**
	baz=116						
BCPM	**Bancas Point**	**6.66**	**47**		**Pn**	**11 01 55.8**	**+0.5**
BARN	**Barnard Glacie**	**6.66**	**34**		**Pn**	**11 01 56.1**	**+0.5**
M18K	**Stony River**	**6.68**	**332**		**Pn**	**11 01 56.0**	**+0.4**
M18K	**Stony River**	**6.68**	**332**	P	**Pn**	**11 01 56.0**	**+0.4**
	baz=146						
CTG	**Chitna Glacier**	**6.69**	**35**	P	**Pn**	**11 01 56.2**	**+0.3**
	baz=222						
CTGM	**Chitina Glacie**	**6.69**	**35**		**Pn**	**11 01 56.2**	**+0.2**
LOGN	**Logan Glacier**	**6.70**	**37**		**Pn**	**11 01 56.6**	**+0.5**
WACK	**Wrangell Chich**	**6.76**	**20**		**Pn**	**11 01 58.8**	**+1.9**
N16K	**Nishlik Lake**	**6.89**	**317**		**Pn**	**11 02 00.3**	**+1.8**
N16K	**Nishlik Lake**	**6.89**	**317**	P	**Pn**	**11 02 00.3**	**+1.8**
	baz=128						
M17K	**Holitna River**	**7.07**	**326**		**Pn**	**11 02 02.4**	**+1.4**
M17K	**Holitna River**	**7.07**	**326**	P	**Pn**	**11 02 02.6**	**+1.6**
	baz=139						
WAT7	**Susitna Watana**	**7.10**	**2**		**Pn**	**11 02 04.2**	**+2.7**
L20K	**Farewell, AK**	**7.14**	**343**		**Pn**	**11 02 04.8**	**+2.9**
L20K	**Farewell, AK**	**7.14**	**343**	P	**Pn**	**11 02 04.8**	**+2.9**
	baz=158						
N15K	**Kwethluk River**	**7.24**	**312**		**Pn**	**11 02 05.4**	**+2.2**
N15K	**Kwethluk River**	**7.24**	**312**	P	**Pn**	**11 02 05.3**	**+2.0**
	baz=122						
O29M	**Mount Kennedy**	**7.29**	**47**		**Pn**	**11 02 04.9**	**+0.8**
O29M	**Mount Kennedy**	**7.29**	**47**	P	**Pn**	**11 02 04.5**	**+0.4**
	baz=236						
P29M	**Windy Craggy**	**7.31**	**53**		**Pn**	**11 02 04.8**	**+0.5**
P29M	**Windy Craggy**	**7.31**	**53**	P	**Pn**	**11 02 04.6**	**+0.3**
	baz=243						
M16K	**Timber Creek**	**7.31**	**320**		**Pn**	**11 02 05.1**	**+0.8**
M16K	**Timber Creek**	**7.31**	**320**	P	**Pn**	**11 02 05.4**	**+1.1**
	baz=131						
O14K	**Tigyukauivet M**	**7.33**	**303**		**Pn**	**11 02 06.1**	**+1.6**
O14K	**Tigyukauivet M**	**7.33**	**303**	P	**Pn**	**11 02 06.3**	**+1.8**
	baz=113						
HYT	**Haines Junctio**	**8.02**	**46**	Pn	**Pn**	**11 02 14.6**	**+0.4**
S32K	**Killisnoo**	**8.31**	**72**	Pn	**Pn**	**11 02 16.1**	**-1.8**
SKAG	**Skagway**	**8.37**	**58**	Pn	**Pn**	**11 02 18.8**	**0.0**
R32K	**Eaglecrest**	**8.45**	**67**	Pn	**Pn**	**11 02 21.1**	**+1.1**
JIS	**Juneau Island**	**8.52**	**67**	Pn	**Pn**	**11 02 20.1**	**-0.7**
N30M	**Aishikik Lake**	**8.55**	**43**	Pn	**Pn**	**11 02 22.1**	**+0.7**
O30N	**Mendenhall**	**8.58**	**49**	Pn	**Pn**	**11 02 22.0**	**+0.2**
M29M	**Somme Creek**	**8.71**	**35**	Pn	**Pn**	**11 02 24.5**	**+1.0**
WHY	**Whitehorse**	**9.05**	**51**	Pn	**Pn**	**11 02 29.2**	**+1.0**
N31M	**Braeburn, Yuko**	**9.09**	**45**	Pn	**Pn**	**11 02 29.9**	**+1.3**
P32M	**Atlin**	**9.19**	**59**	Pn	**Pn**	**11 02 29.9**	**-0.1**
M30M	**Minto, Yukon**	**9.37**	**38**	Pn	**Pn**	**11 02 33.2**	**+0.8**
P33M	**Teslin, Yukon**	**9.82**	**56**	Pn	**Pn**	**11 02 39.1**	**+0.4**
M31M	**Drury Creek, Y**	**10.03**	**44**	Pn	**Pn**	**11 02 43.3**	**+1.8**
N32M	**Quiet Lake**	**10.06**	**51**	Pn	**Pn**	**11 02 42.5**	**+0.5**
R33M	**Jennings River**	**10.49**	**62**	Pn	**Pn**	**11 02 47.9**	**-0.1**
DLBC	**Dease Lake**	**10.82**	**68**	Pn	**Pn**	**11 02 52.1**	**-0.2**

*IDC **24** 11:01:40.1±0.7, 13°.89N×93°.04E, h0km, mb4.3/16, mbtmp4.3/17, ML4.3/1, Error ellipse: s-maj=31.4km s-min=14.8km az=54.0*
*NDI **24** 11:01:46.0±1.0, 14°.10N×92°.86E, h10km, ML3.8, MW4.0, mb4.3(NEIC)*
*NEIC **24** 11:01:46.4±1.8, 14°.67N±0°.02×92°.6E±0°.1, h10km±1km, mb4.3/6, Error ellipse: s-maj=20.1km s-min=3.4km az=270.0*

ISC 24 11:01:42.7±0.5, 14°.18N±0°.04×92°.91E±0°.07, h10km, n39, σ2§33/37, mb4.3/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.00**	**179**	*e*Pg	**Pn**	**11 02 03.0**	**+0.3**
DGPR				*i* Sg	**Sn**	**11 02 17.0**	**+0.1**
DGPR				IAML		11 02 24.5	
	comp=E,3μm,0.7s						
DGPR				IAML		11 02 27.2	
	comp=N,5μm,0.8s						
PBA	**Port Blair**	**2.52**	**184**		**Pg**	**11 02 33.7**	**+2.8**
PBA	**Port Blair**	**2.52**	**184**	*e*P	**Pb**	**11 02 26.8**	**-1.2**
PBA				*ex*	x	11 02 36.4	
PBA				IAML		11 03 16.5	
	comp=E,572nm,0.8s						
PBA				IAML		11 03 17.8	
	comp=N,624nm,1.0s						
CM31	**Chiang Mai Arr**	**7.18**	**53**	Pn	Pn	11 03 33.0	+5.1
CMAR	**Chiang Mai Arr**	**7.18**	**53**	Pn	**Pn**	**11 03 31.4**	**+3.5**
CMAR	**Chiang Mai Arr**	**7.18**	**53**	Pn	**Pn**	**11 03 28.7**	**+0.8**
	comp=N,1.4nm,0.3s,baz=241,slow=15,SNR=4.2						
CMAR				Sn	**Sn**	**11 04 44.6**	**-4.9**
	comp=N,1.4nm,0.3s,baz=237,slow=29,SNR=4.5 comp=N,5.7nm,0.6s						
CHTO	**Chiang Mai**	**7.39**	**51**	Pn	**Pn**	**11 03 32.4**	**+1.6**
SAIH	**SAIHA**	**8.26**	**0**	*ex*	**Sn**	**11 05 14.7**	**-1.7**
SAIH				*ex*	x	11 06 10.4	
SRIT	**Nakonsritamara**	**8.59**	**130**	Pn	Pn	11 03 58.3	+11
VIS	**Vishakhapatnam**	**9.87**	**292**	*e*P	**Pn**	**11 04 07.0**	**+2.3**
VIS				*e*S	**Sn**	**11 05 49.7**	**-5.8**
LSA	**Lhasa**	**15.53**	**354**	Pn	**Pn**	**11 05 18.6**	**-3.7**
LSA				IAmb	IAmb	11 05 38.0	
	comp=Z,11nm,0.9s						
QIZ	**Qiongzhong**	**16.92**	**71**		**P**	**11 05 46.0**	**+4.2**
QIZ				IAmb	IAmb	11 06 08.2	
	comp=Z,25nm,1.1s						
KSM	**Kuching**	**21.34**	**125**	P	P	11 06 37.8	+7.6
KSM				IAmb	IAmb	11 06 44.9	
	comp=Z,8.8nm,1.1s						
ENH	**Enshi**	**22.13**	**41**	P	**P**	**11 06 39.3**	**+0.7**
ENH				IAmb	IAmb	11 06 41.0	
	comp=Z,13nm,0.8s						
SBUM	**Sibu**	**22.35**	**120**	P	P	11 06 49.8	+8.8
H08S3	**Diego Garcia H**	**29.67**	**224**	T	T	11 38 58.6	
	baz=42,slow=76,SNR=6.6						
H08S2	**Diego Garcia H**	**29.68**	**224**	T	T	11 38 58.8	
	baz=42,slow=76,SNR=7.1						
H08S1	**Diego Carcia H**	**29.69**	**224**	T	T	11 39 01.0	
	baz=42,slow=76,SNR=3.9						
MKAR	**Makanchi Array**	**33.71**	**347**	P	**P**	**11 08 26.2**	**+2.1**
	comp=Z,3.2nm,0.8s,baz=178,slow=7.8,SNR=4.5 comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**35.38**	**16**	P	**P**	**11 08 39.4**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=206,slow=8.1,SNR=4.1 comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**38.17**	**345**	P	**P**	**11 09 04.0**	**+1.8**
	comp=Z,5.9nm,0.8s,baz=164,slow=8.0,SNR=5.7 comp=Z,5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**40.18**	**353**	P	**P**	**11 09 20.3**	**+1.3**
	comp=Z,3.6nm,0.7s,baz=180,slow=7.2,SNR=4.4 comp=Z,3.6nm,0.7s						
WRA	**Warramunga Ar**	**53.01**	**129**	P	**P**	**11 10 55.9**	**-4.3**
	comp=Z,3.0nm,0.8s,baz=296,slow=9.8,SNR=6.4						
WRA				PcP	**PcP**	**11 12 06.8**	**-2.0**
	comp=Z,2.6nm,0.6s,baz=318,slow=3.1,SNR=18 comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**54.97**	**133**	P	**P**	**11 11 11.5**	**-2.9**
	comp=Z,2.4nm,0.5s,baz=307,slow=6.7,SNR=27						
ASAR				PcP	**PcP**	**11 12 15.0**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=314,slow=4.0,SNR=5.0 comp=Z,2.4nm,0.5s						
BRTR	**Keskin Array B**	**57.51**	**308**	P	**P**	**11 11 33.0**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=117,slow=7.0,SNR=4.8 comp=Z,1.8nm,0.7s						
STKA	**Stephens Creek**	**65.36**	**135**	P	**P**	**11 12 22.9**	**-2.6**
	comp=Z,2.1nm,0.7s,baz=310,slow=5.6,SNR=4.2 comp=Z,2.1nm,0.7s						
FINES	**FINESS Array B**	**66.62**	**331**	P	**P**	**11 12 34.1**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=111,slow=4.9,SNR=6.0 comp=Z,3.3nm,0.8s						
ARCES	**ARCESS Array B**	**68.96**	**340**	P	**P**	**11 12 49.5**	**+1.6**
	comp=Z,3.9nm,0.9s,baz=81,slow=5.6,SNR=2.3 comp=Z,3.9nm,0.9s						
GERES	**GERESS Array B**	**72.38**	**317**	P	**P**	**11 13 10.2**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=57,slow=9.7,SNR=4.5 comp=Z,1.8nm,0.7s						
HFS	**Hagfors**	**72.45**	**329**	P	**P**	**11 13 10.2**	**+1.0**
	comp=Z,11nm,1.2s,baz=66,slow=12,SNR=1.7 comp=Z,11nm,1.2s						
NB2	**NORSAR Subarra**	**73.69**	**330**	P	**P**	**11 13 16.8**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=92,slow=5.9						
NOA	**NORSAR Array B**	**73.69**	**330**	P	**P**	**11 13 16.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=90,slow=5.8,SNR=4.2 comp=Z,1.2nm,0.7s						
ESDC	**Sonseca Array**	**86.26**	**310**	P	**P**	**11 14 25.1**	**0.0**
	comp=Z,1.6nm,0.9s,baz=62,slow=4.4,SNR=4.2 comp=Z,1.6nm,0.9s						
H21K	**Melozitna Rive**	**86.78**	**22**	P	**P**	**11 14 28.4**	**+1.5**
TORD	**Torodi Ar. Bea**	**88.00**	**283**	P	**P**	**11 14 34.3**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=73,slow=6.2,SNR=2.7 comp=Z,2.9nm,0.8s						
ILAR	**Eielson Array**	**89.38**	**22**	P	**P**	**11 14 38.5**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=291,slow=4.3,SNR=8.3 comp=Z,1.3nm,0.7s						
PDAR	**Pinedale Array**	**119.69**	**19**	PKP	**PKPdf**	**11 20 32.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=48,slow=2.2,SNR=3.9						
NVAR	**Mina Array Bea**	**120.05**	**28**	PKP	**PKPdf**	**11 20 33.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=319,slow=2.4,SNR=5.1						
TXAR	**Lajitas Array**	**133.87**	**20**	PKP	**PKPdf**	**11 21 02.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=187,slow=1.0,SNR=3.1						

*NEIC **24** 11:20:09.2±0.6, 46°.433N±0°.009×122°.26W±0°.02, h13km±4km, Error ellipse: s-maj=2.1km s-min=0.7km az=126.0*

SEA 24 11:20:09.7±1.0, 46°.423N±0°.009×122°.245W±0°.009, h9km±4km, ML2.2/27, ML2.3/28(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=182.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDL	**Tradedollar La**	**0.07**	**165**		**Pg**	**11 20 12.1**	**+0.1**
B201	**Coldwater, Mou**	**0.12**	**187**		**Pg**	**11 20 12.5**	**0.0**
B201					Sg	**11 20 14.6**	**+0.1**
ERK	**Elk Rock**	**0.14**	**210**		**Pg**	**11 20 12.7**	**0.0**
JRO	**Jston Ridge Ob**	**0.15**	**173**		**Pg**	**11 20 13.1**	**+0.1**
JRO					Sg	**11 20 15.9**	**+0.6**
STD	**Studebaker Rid**	**0.19**	**175**		**Pg**	**11 20 13.6**	**0.0**
STD					Sg	**11 20 16.7**	**+0.4**
B202	**Windy Ridge, M**	**0.19**	**157**		**Pg**	**11 20 13.6**	**-0.1**
B202	

comp=E,70nm,4.0s
G06A Carlson Farm, 1.64 136 Pn Pn 11 20 38.7 +0.1
E07A Sunnyside 1.66 84 Pn Pn 11 20 38.8 -0.1
H04A Detroit Lake 1.74 179 Pn 11 20 39.6 -0.4
BENWA Benson Ranch 1.75 86 Pn 11 20 40.7 +0.5
JCW Jim Creek 1.79 7 Pn 11 20 40.7 0.0
HAWA Hanford 1.88 90 Pn Pn 11 20 41.8 -0.1
HAWA IAML 11 21 08.8
comp=E,42nm,0.7s
HAWA IAML 11 21 42.6
comp=E,18nm,5.0s
COR Corvallis 1.98 202 Pn Pn 11 20 43.4 +0.1
I03D Drain, OR 2.84 196 Pn Pn 11 20 55.1 0.0

*IDC **24** 11:35:21.0±1.5,56˚31N×148˚30W,h0km,mb3.6/4, mbtmp3.5/9,ML3.1/5,Error ellipse: s-maj=28.2km s-min=21.1km az=21.0*
*NEIC **24** 11:35:23.7±1.2,56˚49N±0˚08×148˚7W±0˚1,h20km±10km, ML3.4/54,ML3.2(AEIC),Error ellipse: s-maj=14.6km s-min=4.1km az=143.0*
*AEIC **24** 11:35:27.4±1.1,56˚60N±0˚10×148˚7W±0˚1,h2km±7km, Error ellipse: s-maj=14.5km s-min=8.1km az=159.0*
ISC 24 11:35:21.8±1.0,56˚49N±0˚07×148˚57W±0˚05,h10km, n123,σ1°32/126,mb3.7/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.54**	**302**		**Pn**	**11 36 03.0**	**-0.1**
KDAK					**Sn**	**11 36 32.0**	**-2.1**
KDAK	**Kodiak Island**	**2.54**	**302**	Pn	**Pn**	**11 36 02.7**	**-0.4**
	3.2nm,0.3s,baz=148,slow=5.1,SNR=13						
KDAK				Sn	**Sn**	**11 36 31.5**	**-2.7**
	7.2nm,0.3s,baz=288,slow=21,SNR=14						
	9.9nm,0.3s						
OHAK	**Old Harbor**	**2.69**	**288**		**Pn**	**11 36 04.6**	**-0.6**
OHAK					**Sn**	**11 36 34.6**	**-3.2**
OHAK				IAML		11 36 36.4	
	comp=N,98nm,1.0s						
OHAK	**Old Harbor**	**2.69**	**288**	P	**Pn**	**11 36 04.6**	**-0.6**
	baz=102						
OHAK				S	**Sn**	**11 36 34.8**	**-3.0**
	baz=102						
SYI	**Shuyak Island**	**2.96**	**318**		**Pn**	**11 36 09.4**	**+0.5**
Q20K	**Shuyak Island**	**2.96**	**318**	P	**Pn**	**11 36 09.2**	**+0.3**
	baz=134						
Q20K				S	**Sn**	**11 36 41.9**	**-2.6**
	baz=134						
SII	**Sitkinak Islan**	**3.11**	**274**	Pn	**Pn**	**11 36 10.6**	**-0.4**
SII				IAML		11 36 45.7	
	comp=N,196nm,0.9s						
MID	**Middleton Isla**	**3.18**	**21**	Pn	**Pn**	**11 36 12.0**	**+0.1**
MID				IAML		11 36 42.5	
	comp=N,79nm,1.0s						
MID				IAML		11 37 42.6	
	comp=E,97nm,1.2s						
Q23K	**Middleton Isla**	**3.18**	**21**		**Pn**	**11 36 12.3**	**+0.4**
Q23K				IAML		11 36 45.3	
	comp=N,76nm,0.8s						
Q23K				IAML		11 38 07.1	
	comp=E,94nm,1.0s						
Q23K	**Middleton Isla**	**3.18**	**21**	P	**Pn**	**11 36 12.5**	**+0.6**
	baz=204						
Q23K				S	**Sn**	**11 36 47.8**	**-2.0**
	baz=204						
CNPM	**China Poot**	**3.36**	**336**		**Pn**	**11 36 14.7**	**+0.3**
CNPM				IAML		11 37 03.5	
	comp=E,48nm,0.9s						
BRSE	**Bradley Lake S**	**3.46**	**341**		**Pn**	**11 36 15.7**	**-0.1**
BRSE					**Sn**	**11 36 54.6**	**-2.3**
BRSE	**Bradley Lake S**	**3.46**	**341**	P	**Pn**	**11 36 15.7**	**-0.1**
	baz=160						
BRSE				S	**Sn**	**11 36 54.6**	**-2.3**
	baz=160						
BRLK	**Bradley Lake**	**3.51**	**341**		**Pn**	**11 36 16.5**	**+0.1**
HOM	**Homer**	**3.58**	**334**	Pn	**Pn**	**11 36 17.6**	**+0.3**
P23K	**Montague Islan**	**3.58**	**9**		**Pn**	**11 36 17.3**	**0.0**
P23K	**Montague Islan**	**3.58**	**9**	P	**Pn**	**11 36 17.3**	**0.0**
	baz=191						
SEW	**Seward**	**3.66**	**353**		**Pn**	**11 36 18.6**	**+0.2**
SEW	**Seward**	**3.66**	**353**	P	**Pn**	**11 36 18.6**	**+0.2**
	baz=173						
Q19K	**Cape Douglas,**	**3.66**	**314**		**Pn**	**11 36 18.6**	**+0.1**
Q19K	**Cape Douglas,**	**3.66**	**314**	P	**Pn**	**11 36 19.3**	**+0.8**
	baz=129						
KAHG	**Katmai Hook Gl**	**3.80**	**304**		**Pn**	**11 36 21.3**	**+0.8**
P19K	**Oil Pt**	**4.03**	**324**		**Pn**	**11 36 23.5**	**0.0**
P19K				IAML		11 37 12.6	
	comp=N,72nm,1.1s						
P19K				IAML		11 37 17.6	
	comp=E,81nm,0.4s						
P19K	**Oil Pt**	**4.03**	**324**	P	**Pn**	**11 36 24.5**	**+1.0**
	baz=140						
ACHA	**Angle Creek He**	**4.05**	**298**		**Pn**	**11 36 24.7**	**+0.8**
O22K	**Cooper Landing**	**4.05**	**352**		**Pn**	**11 36 23.9**	**+0.1**
O22K	**Cooper Landing**	**4.05**	**352**	P	**Pn**	**11 36 25.5**	**+1.6**
	baz=171						
HIN	**Hinchinbrook I**	**4.07**	**15**		**Pn**	**11 36 24.5**	**+0.3**
KAHC	**Katmai Hardscr**	**4.09**	**305**		**Pn**	**11 36 25.6**	**+1.2**
KAHC	**Katmai Hardscr**	**4.09**	**305**	P	**Pn**	**11 36 25.6**	**+1.2**
	baz=118						
KAIM	**Kayak Island**	**4.09**	**31**		**Pn**	**11 36 25.0**	**+0.6**
KAIM				IAML		11 37 19.0	
	comp=N,78nm,0.9s						
KAIM				IAML		11 37 21.2	
	comp=E,81nm,1.0s						
KAIM	**Kayak Island**	**4.09**	**31**	P	**Pn**	**11 36 24.9**	**+0.6**
	baz=216						
ANCK	**Angle Creek**	**4.12**	**297**		**Pn**	**11 36 26.2**	**+1.3**
SLKM	**Skilak Lake**	**4.13**	**349**		**Pn**	**11 36 25.3**	**+0.4**
O20K	**Slope Mountain**	**4.19**	**331**		**Pn**	**11 36 26.3**	**+0.4**
O20K	**Slope Mountain**	**4.19**	**331**	P	**Pn**	**11 36 26.3**	**+0.4**
	baz=147						
IVE	**Iliamna Volcan**	**4.25**	**328**		**Pn**	**11 36 26.6**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.34**	**19**		**Pn**	**11 36 28.6**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.34**	**19**	P	**Pn**	**11 36 28.7**	**+1.0**
	baz=202						
CNTC	**Contact Creek**	**4.34**	**297**		**Pn**	**11 36 28.2**	**+0.3**
Q17K	**Contact Creek**	**4.34**	**297**	P	**Pn**	**11 36 28.2**	**+0.3**
	baz=110						
RAGM	**Ragged Mountai**	**4.42**	**26**		**Pn**	**11 36 30.1**	**+1.3**
RED	**Redoubt Volcan**	**4.52**	**333**		**Pn**	**11 36 30.0**	**-0.4**
RDSO	**Redoubt South**	**4.54**	**333**		**Pn**	**11 36 30.1**	**-0.6**
RSO	**Redoubt South**	**4.55**	**333**	Pn	**Pn**	**11 36 31.4**	**+0.5**
RDT	**Redoubt**	**4.57**	**335**		**Pn**	**11 36 31.1**	**+0.2**
P18K	**Big Mountain,**	**4.59**	**312**		**Pn**	**11 36 31.8**	**+0.5**
P18K	**Big Mountain,**	**4.59**	**312**	P	**Pn**	**11 36 31.3**	**0.0**
	baz=126						
RDWB	**Redoubt West**	**4.60**	**333**		**Pn**	**11 36 31.5**	**0.0**
RC01	**Rabbit Creek A**	**4.66**	**353**		**Pn**	**11 36 32.9**	**+0.7**
RC01				IAML		11 37 27.5	
	comp=N,31nm,0.5s						
RC01				IAML		11 37 30.7	
	comp=E,42nm,1.1s						
RC01	**Rabbit Creek A**	**4.66**	**353**	P	**Pn**	**11 36 32.8**	**+0.7**
	baz=172						
BERG	**Berg Lake**	**4.68**	**31**	Pn	**Pn**	**11 36 33.1**	**+0.6**
BERG				IAML		11 37 35.7	
	comp=N,50nm,0.9s						
BERG				IAML		11 37 37.7	
	comp=E,58nm,0.8s						
NCT	**North Crescent**	**4.68**	**333**		**Pn**	**11 36 33.1**	**+0.5**
SNH	**Sunshine Point**	**4.78**	**37**		**Pn**	**11 36 34.0**	**+0.2**
SNH				IAML		11 37 38.4	
	comp=E,30nm,1.1s						
SNH				IAML		11 38 54.2	
	comp=N,19nm,1.2s						
O19K	**Port Alsworth**	**4.80**	**323**	Pn	Pn	11 36 32.5	-1.6
O19K				IAML		11 37 33.8	
	comp=N,54nm,0.5s						
KNK	**Knik Glacier**	**4.94**	**1**		**Pn**	**11 36 36.3**	**+0.2**
KNK				IAML		11 37 39.9	
	comp=N,19nm,0.7s						
KNK				IAML		11 37 56.4	
	comp=E,26nm,0.9s						
KNK	**Knik Glacier**	**4.94**	**1**	P	**Pn**	**11 36 36.8**	**+0.7**
	baz=181						
BMRM	**Bremner River**	**4.95**	**23**		**Pn**	**11 36 36.0**	**-0.2**
BMRM	**Bremner River**	**4.95**	**23**	P	**Pn**	**11 36 37.1**	**+0.9**
	baz=207						
BARK	**Barkley Ridge**	**5.06**	**37**		**Pn**	**11 36 38.5**	**+0.7**
SUA	**Susitna One**	**5.12**	**348**		**Pn**	**11 36 38.1**	**-0.5**
SUA	**Susitna One**	**5.12**	**348**	P	**Pn**	**11 36 38.8**	**+0.2**
	baz=167						
PMR	**Palmer**	**5.13**	**357**		**Pn**	**11 36 39.1**	**+0.5**
PMR				IAML		11 37 38.1	
	comp=E,20nm,1.1s						
PMR				IAML		11 37 44.3	
	comp=N,17nm,1.1s						
PMR	**Palmer**	**5.13**	**357**	P	**Pn**	**11 36 40.2**	**+1.5**
	baz=177						
KLU	**Klutina**	**5.21**	**14**		**Pn**	**11 36 40.6**	**+0.8**
KLU				IAML		11 37 48.3	
	comp=N,20nm,1.2s						
KLU				IAML		11 37 56.5	
	comp=E,16nm,1.0s						
KLU	**Klutina**	**5.21**	**14**	P	**Pn**	**11 36 40.9**	**+1.2**
	baz=197						
STLK	**Strandline Lak**	**5.30**	**343**		**Pn**	**11 36 41.9**	**+0.8**
GHO	**Glory Hole Cre**	**5.31**	**358**	Pn	**Pn**	**11 36 42.9**	**+1.7**
GHO				IAML		11 37 46.7	
	comp=N,37nm,0.8s						
N19K	**Bonanza Creek**	**5.33**	**327**	Pn	**Pn**	**11 36 41.3**	**-0.1**
N19K				IAML		11 37 55.9	
	comp=N,12nm,1.1s						
N19K	**Bonanza Creek**	**5.33**	**327**	P	**Pn**	**11 36 42.3**	**+0.9**
	baz=142						
SML	**Sawmill**	**5.34**	**1**		**Pn**	**11 36 42.7**	**+1.2**
SML				IAML		11 37 56.8	
	comp=E,25nm,0.9s						
SML				IAML		11 38 14.4	
	comp=N,30nm,1.1s						
SML	**Sawmill**	**5.34**	**1**	P	**Pn**	**11 36 42.7**	**+1.2**
	baz=182						
SCM	**Sheep Creek Mo**	**5.40**	**6**		**Pn**	**11 36 43.6**	**+1.1**
SCM	**Sheep Creek Mo**	**5.40**	**6**	P	**Pn**	**11 36 43.6**	**+1.1**
	baz=188						
VRDI	**Verde Repeater**	**5.45**	**27**		**Pn**	**11 36 44.1**	**+0.9**
CHGN	**Chignik**	**5.47**	**272**	Pn	**Pn**	**11 36 43.3**	**0.0**
KIAG	**Kiagna River**	**5.50**	**33**		**Pn**	**11 36 44.6**	**+0.7**
N25K	**Chitina, Valde**	**5.53**	**20**		**Pn**	**11 36 45.6**	**+1.4**
N25K	**Chitina, Valde**	**5.53**	**20**	P	**Pn**	**11 36 45.5**	**+1.4**
	baz=204						
GLB	**Gilahina Butte**	**5.55**	**24**		**Pn**	**11 36 45.4**	**+1.0**
N18K	**Kilae Creek**	**5.69**	**321**	Pn	**Pn**	**11 36 46.3**	**0.0**
N18K	**Kilae Creek**	**5.69**	**321**	P	**Pn**	**11 36 46.6**	**+0.3**
	baz=134						
PCA	**Pinnacle**	**5.69**	**47**		**Pn**	**11 36 47.3**	**+0.9**
PINM	**Pinnacle**	**5.69**	**47**	P	**Pn**	**11 36 47.2**	**+0.9**
	baz=235						
SKT	**Skwentna**	**5.72**	**346**	Pn	**Pn**	**11 36 46.5**	**-0.2**
M24K	**Tolsona, Glenn**	**5.77**	**11**		**Pn**	**11 36 49.3**	**+1.8**
M24K	**Tolsona, Glenn**	**5.77**	**11**	P	**Pn**	**11 36 48.9**	**+1.4**
	baz=194						
PNL	**Peninsula**	**5.82**	**53**		**Pn**	**11 36 49.3**	**+1.1**
PNL	**Peninsula**	**5.82**	**53**	P	**Pn**	**11 36 49.3**	**+1.1**
	baz=242						
BARN	**Barnard Glacie**	**5.83**	**35**		**Pn**	**11 36 49.1**	**+0.7**
CTG	**Chitna Glacier**	**5.86**	**37**	P	**Pn**	**11 36 49.8**	**+1.0**
	baz=224						
BCPM	**Bancas Point**	**5.86**	**50**		**Pn**	**11 36 50.0**	**+1.3**
CTGM	**Chitina Glacie**	**5.86**	**37**		**Pn**	**11 36 49.7**	**+0.9**
LOGN	**Logan Glacier**	**5.88**	**39**		**Pn**	**11 36 49.8**	**+0.8**
M20K	**Styx River**	**5.90**	**338**	Pn	**Pn**	**11 36 49.0**	**-0.2**
O16K	**Kokwok River B**	**5.94**	**306**		**Pn**	**11 36 50.0**	**+0.3**
O16K	**Kokwok River B**	**5.94**	**306**	P	**Pn**	**11 36 50.3**	**+0.5**
	baz=117						
M19K	**Big River Lodg**	**6.20**	**334**	Pn	**Pn**	**11 36 53.2**	**-0.1**
O29M	**Mount Kennedy**	**6.50**	**50**		**Pn**	**11 36 59.0**	**+1.5**
O29M	**Mount Kennedy**	**6.50**	**50**	P	**Pn**	**11 36 59.2**	**+1.6**
	baz=239						
P29M	**Windy Craggy**	**6.56**	**57**		**Pn**	**11 36 58.9**	**+0.6**
M17K	**Holitna River**	**6.73**	**321**	Pn	**Pn**	**11 37 00.9**	**+0.3**
SDPT	**Sand Point**	**6.79**	**265**	Pn	**Pn**	**11 37 01.5**	**+0.1**
YUK7	**Dusty Glacier**	**6.80**	**49**		**Pn**	**11 37 03.7**	**+1.9**
M27K	**Edge Creek, AK**	**6.81**	**27**	Pn	**Pn**	**11 37 03.3**	**+1.5**
YUK6	**Outpost Mounta**	**6.94**	**46**		**Pn**	**11 37 06.0**	**+2.2**
YUK6	**Outpost Mounta**	**6.94**	**46**	P	**Pn**	**11 37 06.0**	**+2.2**
	baz=235						
YUK4	**Talbot Arm**	**7.08**	**42**	P	**Pn**	**11 37 09.5**	**+3.9**
	baz=231						
YUK5	**Granite Creek**	**7.25**	**46**		**Pn**	**11 37 10.4**	**+2.5**
ILAR	**Eielson Array**	**8.36**	**5**	Pn	**Pn**	**11 37 23.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=191,slow=13,SNR=2.4						
ILAR				Sn	**Sn**	**11 38 54.1**	**-3.0**
	comp=N,0.1nm,0.3s,baz=188,slow=22,SNR=7.8						
	comp=N,0.2nm,0.3s						
DLBC	**Dease Lake**	**10.18**	**71**	Pn	**Pn**	**11 37 47.4**	**-0.5**
	comp=N,0.3nm,0.3s,baz=265,slow=4.6,SNR=13						
DLBC				Sn	**Sn**	**11 39 37.1**	**-4.9**
	comp=N,0.1nm,0.3s,baz=339,slow=27,SNR=2.1						
	comp=N,0.9nm,0.3s						
INK	**Inuvik**	**13.70**	**24**	Pn	**Pn**	**11 38 37.7**	**+1.9**
	baz=216,slow=15,SNR=3.1						
	comp=N,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**18.10**	**57**	P	**Pn**	**11 39 32.6**	**-0.4**
	baz=264,slow=9.2,SNR=5.5						
	comp=N,1.4nm,1.1s						
NVAR	**Mina Array Bea**	**26.96**	**119**	P	**P**	**11 41 01.7**	**-1.9**
	comp=N,0.5nm,0.9s,baz=344,slow=14,SNR=2.5						
	comp=N,0.5nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**49.33**	**241**	T	T	12 37 58.2	
	baz=29,slow=76,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**49.33**	**241**	T	T	12 37 34.1	
	baz=29,slow=76,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**49.34**	**241**	T	T	12 37 53.2	
	baz=29,slow=76,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**50.47**	**240**	T	T	12 39 24.5	
	baz=29,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**50.48**	**240**	T	T	12 39 28.3	
	baz=29,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**50.49**	**240**	T	T	12 39 28.6	
	baz=29,slow=76,SNR=5.9						
SONM	**Songino Array**	**58.81**	**310**	P	**P**	**11 45 22.6**	**+2.5**
	comp=N,0.8nm,0.7s,baz=53,slow=9.8,SNR=2.7						
	comp=N,0.8nm,0.7s						
ZALV	**Zelenovo Beam**	**61.60**	**327**	P	**P**	**11 45 42.0**	**+3.0**
	comp=N,0.4nm,0.5s,baz=45,slow=4.5,SNR=1.8						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**68.66**	**325**	P	**P**	**11 46 27.7**	**+2.8**
	comp=N,0.4nm,0.9s,baz=38,slow=7.3,SNR=2.8						
	comp=N,0.4nm,0.9s						

*AEIC **24** 11:43:13.0±2.9,56˚1N±0˚1×150˚1W±0˚2,h10km±9km, Error ellipse: s-maj=16.6km s-min=11.3km az=157.0*
NEIC 24 11:43:03.4±1.2,55˚9N±0˚1×149˚7W±0˚1,h8km±8km, ML3.3/6,mL3.3(AEIC)**,Error ellipse: s-maj=17.3km s-min=10.4km az=179.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.39**	**305**		Pn	11 43 43.5	+0.7
OHAK					Sn	11 44 06.9	-5.3
KDAK	**Kodiak Island**	**2.46**	**321**		Pn	11 43 44.3	+0.5
KDAK					Sn	11 44 08.6	-5.4
KDAK	**Kodiak Island**	**2.46**	**321**	IAML		11 45 11.8	
	78nm,0.8s						
KDAK				IAML		11 45 13.4	
	95nm,0.5s						
SYI	**Shuyak Island**	**3.08**	**333**		Pn	11 43 52.2	-0.1
SYI				IAML		11 45 37.7	
	comp=N,706nm,0.3s						
Q19K	**Cape Douglas,**	**3.70**	**326**	Pn	Pn	11 44 01.2	+0.2
CNPM	**China Poot**	**3.72**	**348**		Pn	11 44 01.5	+0.4
BRSE	**Bradley Lake S**	**3.88**	**352**		Pn	11 44 03.3	-0.1
BRLK	**Bradley Lake**	**3.92**	**351**		Pn	11 44 04.0	+0.2
CNTC	**Contact Creek**	**4.12**	**307**		Pn	11 44 08.7	+1.9
P18K	**Big Mountain,**	**4.58**	**322**	Pn	Pn	11 44 12.5	-0.6
HIN	**Hinchinbrook I**	**4.80**	**19**	Pn	Pn	11 44 15.1	-1.0
RSO	**Redoubt South**	**4.84**	**342**	Pn	Pn	11 44 16.9	+0.2
CHGN	**Chignik**	**4.90**	**278**	Pn	Pn	11 44 16.5	-0.8
KAIM	**Kayak Island**	**4.91**	**33**	Pn	Pn	11 44 17.1	-0.4
FID	**Port Fidalgo**	**5.14**	**18**	Pn	Pn	11 44 20.0	-0.6
RAGM	**Ragged Mountai**	**5.21**	**29**	Pn	Pn	11 44 21.7	0.0
BERG	**Berg Lake**	**5.50**	**33**	Pn	Pn	11 44 25.0	-0.5
KNK	**Knik Glacier**	**5.55**	**6**	Pn	Pn	11 44 25.6	-0.7
SUA	**Susitna One**	**5.59**	**355**	Pn	Pn	11 44 27.0	0.0
PMR	**Palmer**	**5.70**	**3**	Pn	Pn	11 44 28.3	-0.1
GHO	**Glory Hole Cre**	**5.89**	**4**	Pn	Pn	11 44 31.6	+0.6
KLU	**Klutina**	**5.93**	**18**	Pn	Pn	11 44 31.3	-0.2
SML	**Sawmill**	**5.95**	**6**	Pn	Pn	11 44 31.8	-0.1
SCM	**Sheep Creek Mo**	**6.06**	**11**	Pn	Pn	11 44 34.1	+0.8
VRDI	**Verde Repeater**	**6.25**	**29**	Pn	Pn	11 44 35.6	-0.4
N25K	**Chitina, Valde**	**6.29**	**23**	Pn	Pn	11 44 36.1	-0.5
GLB	**Gilahina Butte**	**6.33**	**26**	Pn	Pn	11 44 36.7	-0.3
BARN	**Barnard Glacie**	**6.66**	**36**	Pn	Pn	11 44 41.7	0.0
CTGM	**Chitina Glacie**	**6.70**	**37**	Pn	Pn	11 44 41.8	-0.4
LOGN	**Logan Glacier**	**6.71**	**39**	Pn	Pn	11 44 42.2	-0.1
DHY	**Denali Highway**	**7.28**	**8**	Pn	Pn	11 44 51.5	+1.4
O29M	**Mount Kennedy**	**7.35**	**49**	Pn	Pn	11 44 52.1	+1.1
P29M	**Windy Craggy**	**7.39**	**55**	Pn	Pn	11 44 52.1	+0.5
S31K	**Pelican**	**7.64**	**69**	Pn	Pn	11 44 55.4	+0.4
SIT	**Sitka**	**8.04**	**76**	Pn	Pn	11 44 59.8	-0.5

*IDC **24** 11:43:05.6±1.9,30˚68N×132˚10E,h0km,mb3.7/4, mbtmp3.7/8,ML3.3/4,Error ellipse: s-maj=37.1km s-min=27.2km az=122.0*
*JMA **24** 11:43:09.8±0.1,30˚7N±0˚4×132˚1E±0˚9,h57km±3km, MV3.1/30,E OFF TANEGASHIMA ISLAND*
ISC 24 11:43:09.1±2.1,30˚68N±0˚05×132˚07E±0˚09,h23km±14km, n19,σ0°64/30,mb3.5/4,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.94**	**269**	P	**Pn**	**11 43 27.2**	**+0.3**
JTN				*eS*	**Sn**	**11 43 40.3**	**+0.6**
JMTN	**Minamitane**	**1.05**	**255**	*eP*	**Pb**	**11 43 28.9**	**+0.3**
JMTN				*eS*	**Sn**	**11 43 42.8**	**+0.4**
JNAR	**Kushima--Naru**	**1.09**	**321**	*eP*	**Pb**	**11 43 29.2**	**-0.1**
JNAR				*eS*	**Sn**	**11 43 43.2**	**-0.1**
JTSR	**Tashiro 2**	**1.10**	**296**	*eP*	**Pb**	**11 43 29.3**	**-0.2**
JNKG	**Nichinankitago**	**1.15**	**329**	*eP*	**Pb**	**11 43 29.9**	**-0.4**
JNKG				*eS*	**Sn**	**11 43 45.0**	**+0.3**
JYAK	**Yakushimahirau**	**1.42**	**252**	*eP*	**Pn**	**11 43 33.8**	**+0.3**
JYAK				*eS*	**Sb**	**11 43 52.3**	**-0.3**
JTZ	**Takazaki**	**1.48**	**325**	*eP*	**Pn**	**11 43 34.5**	**+0.2**
JTZ				*eS*	**Sn**	**11 43 53.1**	**+0.1**
JSU	**Suzuyama**	**1.61**	**301**	P	**Pn**	**11 43 36.7**	**+0.5**
JTSN	**Tsuno**	**1.63**	**343**	*iP*	**Pn**	**11 43 36.6**	**+0.2**
JTSN				*eS*	**Sn**	**11 43 56.6**	**-0.2**
JKC	**Kuchinoerabu**	**1.64**	**263**	*eP*	**Pn**	**11 43 37.2**	**+0.8**
JKC				*eS*	**Sb**	**11 43 57.8**	**-0.9**
JNN	**Nakanoshima**	**2.08**	**247**	*eP*	**Pn**	**11 43 43.5**	**+0.9**
JNN				*eS*	**Sn**	**11 44 07.9**	**+0.2**
JNU	**Nakatsue**	**2.64**	**338**	Pn	**Pn**	**11 43 50.9**	**+0.6**
	13nm,0.3s,baz=157,slow=4.6,SNR=65						
JNU				Sn	**Sn**	**11 44 22.1**	**+0.5**
	8.9nm,0.3s,baz=149,slow=18,SNR=7.4						
	25nm,0.3s						
JOW	**Kunigami**	**5.08**	**222**	Pn	**Pn**	**11 44 25.0**	**+1.1**
	2.5nm,0.3s,baz=116,slow=25,SNR=7.5						
JOW				Sn	**Sn**	**11 45 21.1**	**-0.8**
	1.4nm,0.3s,baz=146,slow=23,SNR=2.1						
	23nm,0.7s						
MJAR	**Matsushiro Arr**	**7.77**	**40**	Pn	**Pn**	**11 45 02.0**	**+1.3**
	0.2nm,0.3s,baz=203,slow=14,SNR=8.6						
	1.4nm,0.5s						
KLR	**Kul'dur**	**18.53**	**359**	P	**Pn**	**11 47 25.1**	**+1.0**
	0.1nm,0.3s,baz=174,slow=9.1,SNR=5.2						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**41.31**	**307**	P	**P**	**11 50 52.7**	**-0.2**
	0.6nm,0.9s,baz=90,slow=8.6,SNR=3.4						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**44.15**	**313**	P	**P**	**11 51 15.1**	**-0.7**
	0.6nm,0.7s,baz=98,slow=8.7,SNR=4.3						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**70.66**	**331**	P	**P**	**11 54 22.8**	**+0.2**
	2.9nm,0.7s,baz=73,slow=4.8,SNR=7.3						
	2.9nm,0.7s						
YKA	**Yellowknife Ar**	**73.06**	**26**	P	**P**	**11 54 35.9**	**-1.1**
	0.3nm,0.8s,baz=301,slow=6.9,SNR=3.6						
	0.3nm,0.8s						

*IDC **24** 11:44:12.4±0.8,56˚10N×149˚32W,h0km,mb4.0/17, mbtmp4.1/22,ML4.2/5,Error ellipse: s-maj=21.8km s-min=11.8km az=36.0*
*NEIC **24** 11:44:15.4±1.3,56˚12N±0˚06×149˚29W±0˚09,h20km±6km, mb4.4/40,ML4.5/48,ML4.3(AEIC),Error ellipse: s-maj=9.8km s-min=6.1km az=205.0*
*AEIC **24** 11:44:19.2±1.6,56˚16N±0˚07×149˚22W±0˚09,h11km±4km, Error ellipse: s-maj=10.2km s-min=6.5km az=156.0*
ISC 24 11:44:13.9±0.5,56˚15N±0˚07×149˚21W±0˚05,h10km, n608,σ0°96/600,mb4.3/33,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**313**		**Pn**	**11 44 54.0**	**-0.2**
KDAK					**Sn**	**11 45 21.9**	**-2.4**
KDAK	**Kodiak Island**	**2.47**	**313**	P	**Pn**	**11 44 54.2**	**+0.1**
	baz=130						
KDAK	**Kodiak Island**	**2.47**	**313**	Pn	**Pn**	**11 44 53.1**	**-1.0**
	26nm,0.3s,baz=166,slow=4.9,SNR=62						
KDAK				Sn	**Sn**	**11 45 22.1**	**-2.2**
	109nm,0.3s,baz=46,slow=20,SNR=35						
	55nm,0.3s						
OHAK	**Old Harbor**	**2.49**	**297**		**Pn**	**11 44 53.8**	**-0.7**
OHAK					**Sn**	**11 45 21.6**	**-3.3**
OHAK	**Old Harbor**	**2.49**	**297**	P	**Pn**	**11 44 54.0**	**-0.5**
SII	**Sitkinak Islan**	**2.80**	**281**		**Pn**	**11 44 57.9**	**-0.8**
SII				IAML		11 45 30.2	
	comp=E,2μm

HIN IAML 11 46 15.0
comp=E,499nm,0.7s
HIN IAML 11 46 16.2
comp=N,361nm,0.5s
KAIM Kayak Island 4.56 32 Pn Pn 11 45 23.1 +0.1
KAIM IAML 11 46 17.0
comp=N,562nm,0.7s
KAIM IAML 11 46 22.6
comp=E,489nm,0.5s
KAIM Kayak Island 4.56 32 P Pn 11 45 23.5 +0.6
baz=216,SNR=18
P18K Big Mountain, 4.58 318 Pn 11 45 23.3 +0.2
P18K IAML 11 46 16.3
comp=E,246nm,0.5s
P18K Big Mountain, 4.58 318 P Pn 11 45 23.4 +0.2
baz=133,SNR=8.0
RED Redoubt Volcan 4.68 338 Pn 11 45 24.2 -0.4
RSO Redoubt South 4.71 338 Pn 11 45 24.8 -0.3
CAPN Captain Cook N 4.74 348 Pn 11 45 26.4 +1.1
CAPN Captain Cook N 4.74 348 P Pn 11 45 26.3 +1.0
baz=167
RDT Redoubt 4.75 341 Pn 11 45 25.1 -0.4
RDWB Redoubt West 4.75 338 Pn 11 45 25.0 -0.6
Q16K King Salmon 4.76 305 Pn 11 45 26.0 +0.5
Q16K King Salmon 4.76 305 P Pn 11 45 26.1 +0.5
baz=119,SNR=17
EYAK Cordova Ski Ar 4.77 21 Pn 11 45 26.4 +0.7
EYAK Cordova Ski Ar 4.77 21 P Pn 11 45 26.3 +0.5
EYAK Cordova Ski Ar 4.77 21 P Pn 11 45 26.2 +0.4
baz=204,SNR=62
R16K Pilot Point 4.81 291 Pn 11 45 26.1 -0.2
R16K IAML 11 46 11.4
comp=E,363nm,2.2s
R16K IAML 11 46 44.4
comp=N,391nm,2.1s
R16K Pilot Point 4.81 291 P Pn 11 45 25.9 -0.3
baz=104
DFR Drift River 4.82 339 Pn 11 45 26.1 -0.4
NCT North Crescent 4.84 338 Pn 11 45 26.3 -0.5
RDJH Redoubt Jeurge 4.84 338 Pn 11 45 26.4 -0.4
O19K Port Alsworth 4.88 328 Pn 11 45 27.0 -0.2
O19K Port Alsworth 4.88 328 P Pn 11 45 27.1 0.0
baz=144,SNR=7.5
RAGM Ragged Mountai 4.88 28 Pn Pn 11 45 27.9 +0.6
RAGM IAML 11 46 27.7
comp=E,579nm,0.7s
O18K Koktuh Hills 4.90 322 Pn Pn 11 45 27.4 -0.1
O18K IAML 11 46 28.0
comp=N,305nm,0.7s
O18K Koktuh Hills 4.90 322 P Pn 11 45 27.7 +0.2
baz=137
P17K Kvichak River 4.94 311 Pn 11 45 28.5 +0.5
P17K Kvichak River 4.94 311 P Pn 11 45 29.0 +0.9
baz=125,SNR=18
RC01 Rabbit Creek A 4.96 357 Pn 11 45 28.6 +0.2
RC01 IAML 11 46 29.2
comp=N,246nm,0.5s
RC01 IAML 11 46 29.4
comp=E,346nm,0.6s
RC01 Rabbit Creek A 4.96 357 P Pn 11 45 28.5 +0.1
baz=177,SNR=13
GOAT Goat Mountain 5.03 26 Pn 11 45 30.2 +0.8
CHGN Chignik 5.14 276 P Pn 11 45 30.1 -0.7
baz=88
BERG Berg Lake 5.15 32 Pn Pn 11 45 31.4 +0.4
BERG IAML 11 46 30.4
comp=N,419nm,0.4s
SNH Sunshine Point 5.26 37 Pn 11 45 33.5 +0.9
SNH IAML 11 46 33.9
comp=E,204nm,0.7s
SNH IAML 11 46 35.4
comp=N,215nm,0.7s
KNK Knik Glacier 5.29 4 Pn 11 45 33.2 +0.2
KNK IAML 11 46 36.6
comp=N,179nm,0.5s
KNK IAML 11 46 41.2
comp=E,186nm,0.8s
KNK Knik Glacier 5.29 4 P Pn 11 45 33.3 +0.3
baz=185,SNR=12
N20K Mount Spurr 5.30 344 P Pn 11 45 32.9 -0.2
baz=162
SPCR Spurr Chakacha 5.30 344 Pn 11 45 32.7 -0.5
DIV Divide 5.31 18 Pn 11 45 33.9 +0.7
CYK Cape Yakataga 5.32 39 Pn 11 45 33.5 +0.3
SPCN Chakachatna No 5.32 344 Pn 11 45 33.4 0.0
SPCP Crater Peak Br 5.36 345 Pn 11 45 34.2 +0.3
SPCG Spurr Capps Gl 5.36 345 Pn 11 45 34.2 +0.2
SUA Susitna One 5.39 352 Pn 11 45 34.7 +0.3
SUA Susitna One 5.39 352 P Pn 11 45 34.3 -0.1
baz=171
BMRM Bremner River 5.40 25 Pn 11 45 35.2 +0.8
BMRM Bremner River 5.40 25 P Pn 11 45 35.3 +0.8
baz=209,SNR=23
N19K Bonanza Creek 5.43 332 Pn 11 45 35.0 +0.1
N19K Bonanza Creek 5.43 332 P Pn 11 45 34.9 -0.1
baz=147
PMR Palmer 5.46 0 Pn Pn 11 45 35.8 +0.6
PMR Palmer 5.46 0 P Pn 11 45 35.7 +0.6
P16K Nushagak River 5.54 305 Pn 11 45 37.0 +0.7
P16K Nushagak River 5.54 305 P Pn 11 45 37.1 +0.9
baz=118,SNR=18
STLK Strandline Lak 5.54 347 Pn 11 45 36.4 +0.1
SPNN North Nagishla 5.54 342 Pn 11 45 36.7 +0.2
BARK Barkley Ridge 5.54 37 Pn 11 45 36.9 +0.5
O17K Koliganek Bris 5.55 314 Pn 11 45 36.8 +0.4
O17K Koliganek Bris 5.55 314 P Pn 11 45 36.8 +0.4
baz=127,SNR=8.8
KLU Klutina 5.62 16 Pn 11 45 38.8 +1.2
KLU Klutina 5.62 16 P Pn 11 45 38.5 +0.9
baz=199,SNR=25
GHO Glory Hole Cre 5.64 1 Pn 11 45 38.8 +1.0
SML Sawmill 5.69 4 Pn Pn 11 45 39.5 +1.0
SML Sawmill 5.69 4 P Pn 11 45 39.4 +1.0
baz=185,SNR=35
M23K Glacier View 5.71 7 Pn 11 45 39.4 +0.7
M23K Glacier View 5.71 7 P Pn 11 45 39.8 +1.1
baz=188,SNR=23
N18K Kilae Creek 5.74 325 Pn 11 45 39.0 -0.1
N18K Kilae Creek 5.74 325 P Pn 11 45 39.0 -0.1
baz=139
SCM Sheep Creek Mo 5.78 9 Pn 11 45 40.7 +1.0
SCM Sheep Creek Mo 5.78 9 P Pn 11 45 40.8 +1.0
baz=191,SNR=14
O16K Kokwok River B 5.86 310 Pn 11 45 41.5 +0.8
O16K Kokwok River B 5.86 310 P Pn 11 45 41.5 +0.8
baz=122
VRDI Verde Repeater 5.91 28 Pn 11 45 42.0 +0.4
SKT Skwentna 5.97 349 Pn Pn 11 45 42.6 +0.4
SKT Skwentna 5.97 349 P Pn 11 45 42.8 +0.5
baz=167
N25K Chitina, Valde 5.97 22 Pn 11 45 43.5 +1.1
N25K Chitina, Valde 5.97 22 P Pn 11 45 43.1 +0.8
baz=206,SNR=42
SVW2 Sparrevohn 5.97 329 Pn Pn 11 45 41.7 -0.6
KIAG Kiagna River 5.98 34 Pn 11 45 43.0 +0.4
SAMH Samovar Hills 5.99 45 Pn 11 45 43.2 +0.7
GLB Gilahina Butte 6.00 26 Pn 11 45 43.8 +1.0
CHNA Chernabura Isl 6.05 262 P Pn 11 45 41.7 -1.6
baz=73
CNBA Chernabura Isl 6.05 262 Pn Pn 11 45 41.9 -1.4
N17K Nushagak Hills 6.07 320 Pn 11 45 43.9 +0.2
N17K Nushagak Hills 6.07 320 P Pn 11 45 43.8 +0.2
baz=133
M20K Styx River 6.10 342 Pn 11 45 43.9 -0.2
M20K Styx River 6.10 342 P Pn 11 45 44.0 0.0
baz=159
YKU2 Yakutat 6.11 53 Pn 11 45 44.6 +0.6
YKU2 Yakutat 6.11 53 P Pn 11 45 44.9 +0.8
PTPK Patty Peak 6.15 32 Pn 11 45 45.4 +0.4
PCA Pinnacle 6.17 46 Pn 11 45 45.7 +0.6
M24K Tolsona, Glenn 6.18 13 Pn 11 45 46.5 +1.4
M24K Tolsona, Glenn 6.18 13 P Pn 11 45 46.4 +1.4
baz=196,SNR=26
PINM Pinnacle 6.18 46 P Pn 11 45 45.9 +0.8
baz=234,SNR=21
BARN Barnard Glacie 6.31 36 Pn 11 45 48.1 +1.1
PNL Peninsula 6.31 52 Pn 11 45 47.5 +0.6
PNL Peninsula 6.31 52 P Pn 11 45 47.6 +0.8
PNL Peninsula 6.31 52 P Pn 11 45 47.6 +0.8
baz=240,SNR=43
CTG Chitna Glacier 6.34 37 P Pn 11 45 48.2 +0.7
baz=224,SNR=27
CTGM Chitina Glacie 6.35 37 Pn 11 45 48.0 +0.5
BCPM Bancas Point 6.35 49 Pn 11 45 48.5 +1.1
LOGN Logan Glacier 6.36 39 Pn 11 45 48.1 +0.3

M19K Big River Lodg 6.36 337 Pn 11 45 47.4 -0.2
M19K Big River Lodg 6.36 337 P Pn 11 45 47.4 -0.2
baz=153
M18K Stony River 6.36 330 Pn 11 45 47.1 -0.5
M18K Stony River 6.36 330 P Pn 11 45 47.1 -0.5
baz=144,SNR=7.5
WACK Wrangell Chich 6.37 21 Pn 11 45 47.8 -0.1
SDPT Sand Point 6.41 268 Pn 11 45 47.5 -0.8
SDPT Sand Point 6.41 268 P Pn 11 45 47.6 -0.7
SDPT Sand Point 6.41 268 P Pn 11 45 47.5 -0.8
baz=78,SNR=5.0
O15K Ungalikthiuk R 6.45 302 Pn 11 45 49.4 +0.6
O15K Ungalikthiuk R 6.45 302 P Pn 11 45 49.5 +0.6
baz=113,SNR=43
WAT6 Susitna Watana 6.50 6 Pn 11 45 50.1 +0.5
WAT6 Susitna Watana 6.50 6 P Pn 11 45 50.3 +0.7
baz=187,SNR=30
HARP HAARP 6.60 17 Pn 11 45 51.9 +1.0
HARP HAARP 6.60 17 P Pn 11 45 52.4 +1.5
baz=200,SNR=25
N16K Nishlik Lake 6.64 315 Pn 11 45 52.5 +1.0
N16K Nishlik Lake 6.64 315 P Pn 11 45 52.8 +1.4
baz=126,SNR=26
L19K White Mountain 6.71 337 Pn 11 45 51.9 -0.4
L19K White Mountain 6.71 337 P Pn 11 45 52.0 -0.4
baz=152,SNR=6.3
WAT7 Susitna Watana 6.71 1 Pn 11 45 53.3 +0.9
WAT1 Susitna Watana 6.71 3 Pn 11 45 53.4 +1.0
WAT1 Susitna Watana 6.71 3 P Pn 11 45 53.3 +1.0
baz=183
M17K Holitna River 6.78 324 Pn 11 45 53.7 +0.4
M17K Holitna River 6.78 324 P Pn 11 45 53.7 +0.4
baz=137
L20K Farewell, AK 6.78 341 Pn 11 45 52.6 -0.8
L20K Farewell, AK 6.78 341 P Pn 11 45 52.8 -0.6
baz=157
PPLA Purkeypile 6.94 349 Pn 11 45 55.9 +0.3
PPLA Purkeypile 6.94 349 P Pn 11 45 56.5 +0.9
baz=166
O29M Mount Kennedy 6.99 49 Pn 11 45 57.3 +1.0
O29M Mount Kennedy 6.99 49 P Pn 11 45 57.5 +1.3
baz=238,SNR=64
DHY Denali Highway 7.01 7 Pn 11 45 57.8 +1.2
DHY Denali Highway 7.01 7 P Pn 11 45 57.7 +1.1
baz=188,SNR=29
N15K Kwethluk River 7.03 309 Pn 11 45 58.3 +1.6
N15K Kwethluk River 7.03 309 P Pn 11 45 57.9 +1.3
baz=120
M26K Nabesna, AK 7.03 24 Pn 11 45 58.4 +1.6
M26K Nabesna, AK 7.03 24 P Pn 11 45 58.0 +1.2
baz=210
P29M Windy Craggy 7.04 56 Pn 11 45 57.3 +0.4
P29M Windy Craggy 7.04 56 P Pn 11 45 57.3 +0.4
baz=245
M16K Timber Creek 7.06 318 Pn 11 45 57.9 +0.8
M16K Timber Creek 7.06 318 P Pn 11 45 58.0 +0.8
baz=130,SNR=8.3
PAX Paxson 7.10 14 Pn 11 45 58.9 +1.1
PAX Paxson 7.10 14 P Pn 11 45 59.0 +1.2
baz=197,SNR=26
PS1A Pavlof South-1 7.11 269 Pn 11 45 56.9 -0.9
YUK2 White River 7.11 34 Pn 11 45 59.5 +1.5
YUK8 Steele Glacier 7.12 40 Pn 11 46 00.2 +2.1
YUK8 Steele Glacier 7.12 40 P Pn 11 46 00.5 +2.4
baz=228,SNR=54
O14K Tigyukauivet M 7.17 301 Pn 11 45 59.5 +0.8
O14K Tigyukauivet M 7.17 301 P Pn 11 45 59.3 +0.7
baz=110,SNR=8.3
PS4A Pavlof South-4 7.19 269 Pn 11 45 57.6 -1.3
L18K Granite Mounta 7.20 331 Pn 11 45 58.9 -0.1
L18K Granite Mounta 7.20 331 P Pn 11 45 59.2 +0.2
baz=144
YUK3 Moose Creek 7.23 35 Pn 11 46 00.9 +1.2
YUK3 Moose Creek 7.23 35 P Pn 11 46 01.3 +1.6
baz=223,SNR=73
PN7A Pavlof North-7 7.25 270 Pn 11 45 59.3 -0.5
M27K Edge Creek, AK 7.27 28 Pn 11 46 01.2 +1.0
M27K Edge Creek, AK 7.27 28 P Pn 11 46 01.5 +1.4
baz=214,SNR=24
RND Reindeer 7.28 1 Pn 11 46 01.5 +1.2
YUK7 Dusty Glacier 7.29 48 Pn 11 46 01.7 +1.1
S31K Pelican 7.31 70 Pn 11 45 58.8 -1.7
S31K Pelican 7.31 70 P Pn 11 45 59.2 -1.3
baz=261,SNR=12
TRF Thorofare Moun 7.34 356 Pn 11 46 02.0 +0.8
TRF Thorofare Moun 7.34 356 P Pn 11 46 02.2 +1.0
baz=175,SNR=9.3
MENT Mentasta 7.36 20 Pn 11 46 02.7 +1.5
MENT Mentasta 7.36 20 P Pn 11 46 02.7 +1.5
YUK6 Outpost Mounta 7.43 45 Pn 11 46 03.7 +1.3
YUK6 Outpost Mounta 7.43 45 P Pn 11 46 03.8 +1.3
baz=235,SNR=40
CAST Castle Rocks 7.43 350 Pn 11 46 03.0 +0.7
CAST Castle Rocks 7.43 350 P Pn 11 46 03.1 +0.7
baz=168,SNR=20
DT1 Dutton Round H 7.47 267 Pn 11 46 02.5 -0.3
KTH Kantishna Hill 7.48 354 Pn Pn 11 46 03.8 +0.9
L26K Log Cabin Wild 7.51 21 Pn 11 46 05.8 +2.4
L26K Log Cabin Wild 7.51 21 P Pn 11 46 05.4 +2.1
baz=206,SNR=24
M15K Kasigluk River 7.55 312 Pn 11 46 05.0 +1.1
M15K Kasigluk River 7.55 312 P Pn 11 46 04.6 +0.7
baz=122,SNR=9.6
YUK4 Talbot Arm 7.56 42 P Pn 11 46 07.1 +2.8
baz=231,SNR=87
BVCY Beaver Creek 7.59 31 Pn 11 46 06.1 +1.6
BVCY Beaver Creek 7.59 31 P Pn 11 46 06.0 +1.5
baz=218,SNR=28
L17K Donlin 7.60 326 P Pn 11 46 04.8 +0.3
baz=138
P30M Million Dollar 7.61 53 P Pn 11 46 05.8 +1.1
baz=244
MCK McKinley 7.61 1 Pn 11 46 06.1 +1.4
MCK McKinley 7.61 1 P Pn 11 46 06.2 +1.4
baz=181,SNR=20
PLBC Pleasant Camp 7.62 59 P Pn 11 46 05.9 +1.1
baz=250,SNR=12
N14K Kuskokwak Cree 7.62 305 P Pn 11 46 05.9 +1.0
baz=114
TTA Tatalina 7.62 336 Pn 11 46 05.2 +0.2
TTA Tatalina 7.62 336 P Pn 11 46 04.5 -0.5
TTA Tatalina 7.62 336 P Pn 11 46 05.2 +0.2
baz=150
K20K Telida 7.63 343 Pn 11 46 04.8 -0.2
K20K Telida 7.63 343 P Pn 11 46 04.8 -0.2
baz=159,SNR=9.0
R31K City Hall, Gus 7.64 67 P Pn 11 46 05.3 +0.2
baz=259
L16K Owhat River 7.70 321 Pn 11 46 06.4 +0.6
L16K Owhat River 7.70 321 P Pn 11 46 06.3 +0.5
baz=132,SNR=9.5
HYT Haines Junctio 7.71 48 Pn 11 46 07.2 +1.0
HYT Haines Junctio 7.71 48 P Pn 11 46 07.3 +1.0
baz=238,SNR=7.8
SIT Sitka 7.72 77 Pn Pn 11 46 03.1 -3.1
YUK5 Granite Creek 7.74 45 Pn 11 46 08.0 +1.3
K24K Donnelly Dome 7.87 11 Pn 11 46 09.7 +1.4
K24K Donnelly Dome 7.87 11 P Pn 11 46 09.6 +1.3
baz=194,SNR=30
L27K Beaver Creek, 7.87 25 Pn 11 46 09.5 +1.1
L27K Beaver Creek, 7.87 25 P Pn 11 46 09.3 +0.9
baz=212,SNR=13
BCAR Beaver Creek A 7.89 25 Pn Pn 11 46 09.6 +1.1
CHUM Lake Minchumin 7.91 350 P Pn 11 46 09.4 +0.6
baz=167,SNR=6.2
RIDG Independent Ri 7.92 14 Pn 11 46 10.4 +1.4
RIDG Independent Ri 7.92 14 P Pn 11 46 10.1 +1.1
baz=198,SNR=39
BPAW Bear Paw Mtn. 8.03 354 Pn 11 46 10.3 -0.1
BPAW Bear Paw Mtn. 8.03 354 P Pn 11 46 10.5 +0.1
baz=173,SNR=24
K17K Iditarod 8.05 329 Pn 11 46 10.5 -0.1
K17K Iditarod 8.05 329 P Pn 11 46 10.4 -0.3
baz=141
BWN Browne 8.05 359 Pn 11 46 12.2 +1.4
M14K Bethel 8.12 310 Pn 11 46 12.2 +0.6
M14K Bethel 8.12 310 P Pn 11 46 12.8 +1.2
baz=119
SKAG Skagway 8.12 60 Pn Pn 11 46 12.7 +1.0
SKAG Skagway 8.12 60 P Pn 11 46 12.5 +0.8
SKAG Skagway 8.12 60 P Pn 11 46 12.2 +0.6
baz=252,SNR=6.2
BESE Bessie Mountai 8.13 67 Pn 11 46 11.7 -0.2
S32K Killisnoo 8.14 75 Pn 11 46 10.4 -1.5
S32K Killisnoo 8.14 75 P Pn 11 46 10.6 -1.3
baz=267
FALS False Pass 8.17 267 P Pn 11 46 12.0 -0.4
FALS False Pass 8.17 267 P Pn 11 46 11.3 -1.1
baz=75
N30M Aishikik Lake 8.23 45 Pn 11 46 14.2 +0.9
N30M Aishikik Lake 8.23 45 P Pn 11 46 14.2 +0.9
baz=235
J18K Innoko River 8.25 336 Pn 11 46 13.7 +0.2
J18K Innoko River 8.25 336 P Pn 11 46 13.6 +0.2
baz=149
R32K Eaglecrest 8.25 69 P Pn 11 46 13.5 0.0
baz=261
SCRK Sand Creek 8.27 16 Pn 11 46 14.9 +1.0
SCRK Sand Creek 8.27 16 P Pn 11 46 14.6 +0.8
baz=201,SNR=11
O30N Mendenhall 8.29 51 Pn 11 46 14.8 +0.8
O30N Mendenhall 8.29 51 P Pn 11 46 14.8 +0.8
baz=242,SNR=10
JIS Juneau Island 8.32 69 Pn 11 46 14.3 -0.1
JIS Juneau Island 8.32 69 P Pn 11 46 14.2 -0.3
M29M Somme Creek 8.36 37 Pn 11 46 16.6 +1.5
M29M Somme Creek 8.36 37 P Pn 11 46 16.3 +1.2
baz=226
HDA Harding Lake 8.36 7 Pn 11 46 16.2 +1.2
HDA Harding Lake 8.36 7 P Pn 11 46 16.1 +1.1
baz=189,SNR=27
BRPK Brown Peak 8.41 266 Pn 11 46 15.2 -0.5
J20K Nowinta River 8.42 345 Pn 11 46 15.9 +0.1
J20K Nowinta River 8.42 345 P Pn 11 46 15.7 -0.1
baz=161,SNR=5.4
L15K Ungalak Mounta 8.42 316 P Pn 11 46 15.9 +0.1
baz=126
NEA2 Nenana 8.47 0 Pn 11 46 17.1 +0.6
NEA2 Nenana 8.47 0 P Pn 11 46 16.9 +0.4
baz=181,SNR=14
J19K Poorman 8.49 341 Pn 11 46 16.3 -0.5
J19K Poorman 8.49 341 P Pn 11 46 16.1 -0.6
baz=155
CCB Clear Creek Bu 8.55 4 Pn 11 46 18.2 +0.6
M13K Dall Lake 8.58 306 P Pn 11 46 16.1 -1.9
baz=114
K27K Chicken 8.66 21 Pn 11 46 20.5 +1.4
K27K Chicken 8.66 21 P Pn 11 46 19.6 +0.5
baz=208
J25K Salcha River, 8.70 11 Pn 11 46 19.8 +0.1
J25K Salcha River, 8.70 11 P Pn 11 46 19.8 +0.1
baz=194,SNR=13
L14K Kuka Creek 8.72 312 Pn 11 46 21.1 +1.3
L14K Kuka Creek 8.72 312 P Pn 11 46 18.9 -1.0
baz=121
IL31 8.73 7 Pn 11 46 20.6 +0.7
ILAR Eielson Array 8.73 7 Pn Pn 11 46 21.0 +1.0
ILAR Eielson Array 8.73 7 Pn Pn 11 46 19.0 -1.0
comp=E,3.9nm,0.3s,baz=189,slow=13,SNR=96
ILAR Sn Sn 11 47 55.4 -2.9
comp=E,2.6nm,0.3s,baz=213,slow=14,SNR=7.0
comp=E,11nm,0.4s
WHY Whitehorse 8.77 53 Pn 11 46 22.0 +1.3
WHY Whitehorse 8.77 53 P Pn 11 46 21.3 +0.6
baz=245,SNR=29
N31M Braeburn, Yuko 8.78 47 Pn Pn 11 46 22.1 +1.4
N31M Braeburn, Yuko 8.78 47 P Pn 11 46 22.1 +1.4
baz=238,SNR=25
COLA College 8.78 4 P Pn 11 46 21.7 +1.0
COLA College 8.78 4 P Pn 11 46 21.9 +1.2
baz=185
K15K Wolf Creek Mou 8.81 319 Pn 11 46 22.6 +1.4
K15K Wolf Creek Mou 8.81 319 P Pn 11 46 21.3 +0.1
baz=129
J26L Joseph Creek 8.83 16 Pn 11 46 22.8 +1.3
J26L Joseph Creek 8.83 16 P Pn 11 46 22.4 +0.9
baz=201,SNR=33
WESE West Dahl East 8.93 266 Pn 11 46 22.4 -0.5
L29M L29M 8.94 34 Pn 11 46 24.6 +1.6
L29M L29M 8.94 34 P Pn 11 46 24.2 +1.2
baz=224
P32M Atlin 8.94 61 Pn 11 46 23.3 +0.3
P32M Atlin 8.94 61 P Pn 11 46 23.3 +0.3
baz=254,SNR=11
U33K Whale Pass 8.99 84 P Pn 11 46 21.4 -2.1
baz=277
M30M Minto, Yukon 9.03 39 Pn 11 46 25.2 +1.0
M30M Minto, Yukon 9.03 39 P Pn 11 46 24.9 +0.7
baz=230,SNR=10
I23K Minto, Yukon-K 9.03 360 Pn 11 46 24.8 +0.6
I23K Minto, Yukon-K 9.03 360 P Pn 11 46 25.3 +1.2
baz=180,SNR=13
POKR Poker Plat Res 9.04 5 Pn 11 46 24.9 +0.6
POKR Poker Plat Res 9.04 5 P Pn 11 46 24.7 +0.4
baz=186,SNR=5.6
CRAG Craig 9.09 88 P Pn 11 46 23.2 -1.7
CRAG Craig 9.09 88 P Pn 11 46 23.1 -1.8
baz=281
I21K Tanana 9.16 353 P Pn 11 46 26.6 +0.6
baz=170,SNR=7.9
J16K Anvik River 9.17 326 Pn 11 46 26.4 +0.4
J16K Anvik River 9.17 326 P Pn 11 46 26.0 -0.1
baz=136
DAWY Dawson 9.32 28 Pn 11 46 29.3 +1.1
DAWY Dawson 9.32 28 P Pn 11 46 28.6 +0.4
baz=216,SNR=10
WRAK Wrangell Islan 9.38 81 P Pn 11 46 28.1 -0.9
baz=276
GCSA Galena City Sc 9.41 340 P Pn 11 46 29.3 0.0
baz=153
EGAK Eagle 9.52 21 P Pn 11 46 32.3 +1.6
baz=208,SNR=9.6
Q32M Nakina River 9.53 66 P Pn 11 46 30.9 -0.2
baz=260
P33M Teslin, Yukon 9.56 58 Pn 11 46 32.3 +0.8
P33M Teslin, Yukon 9.56 58 P Pn 11 46 31.7 +0.2
baz=252,SNR=42
PRP Porcupine Dome 9.57 9 Pn 11 46 32.6 +0.9
PRP Porcupine Dome 9.57 9 P Pn 11 46 32.3 +0.6
baz=192,SNR=8.3
I17K Unalakleet 9.64 328 P Pn 11 46 32.2 -0.3
baz=138
I26K Coal Creek Min 9.65 15 P Pn 11 46 33.2 +0.6
baz=201,SNR=15
K29M Barlow Dome 9.67 32 Pn 11 46 34.4 +1.4
K29M Barlow Dome 9.67 32 P Pn 11 46 34.0 +1.0
baz=222
AKUT Akutan 9.70 265 P Pn 11 46 32.3 -1.0
H21K Melozitna Rive 9.70 351 P Pn 11 46 33.8 +0.5
baz=168
M31M Drury Creek, Y 9.71 45 Pn 11 46 35.2 +1.6
M31M Drury Creek, Y 9.71 45 P Pn 11 46 35.5 +1.9
baz=238,SNR=26
H24K Noodor Dome 9.74 3 P Pn 11 46 35.7 +1.7
baz=184,SNR=12
H20K Anotleneega Mo 9.77 346 P Pn 11 46 35.6 +1.4
baz=161
N32M Quiet Lake 9.77 53 P Pn 11 46 35.4 +1.0
baz=246
K13K Kusilvak Mount 9.83 312 P Pn 11 46 36.4 +1.3
baz=119
H22K Ishtalitna Cre 9.83 355 P Pn 11 46 35.1 0.0
baz=173
J14K Nanvaranak Lak 9.84 318 P Pn 11 46 36.5 +1.4
baz=126
M11K Mekoryuk 9.90 302 P Pn 11 46 36.6 +0.6
baz=108
J29N Klondike Camp 9.94 29 P Pn 11 46 37.5 +0.8
baz=218,SNR=9.6
V35K Ketchikan 9.96 87 P Pn 11 46 36.3 -0.6
baz=282
MAYO Mayo, Yukon 10.01 36 P Pn 11 46 38.9 +1.3
baz=228,SNR=12
S34M Telegraph Cree 10.01 72 P Pn 11 46 37.8 +0.3
baz=268
H19K Roundabout Mou 10.04 342 P Pn 11 46 39.0 +1.0
baz=156
H18K Honhosa River 10.07 337 P Pn 11 46 38.0 -0.5
baz=149
IMAR Indian Mountai 10.11 349 Pn 11 46 38.4 -0.5
FARO Faro, Yukon 10.15 47 Pn 11 46 40.4 +1.0
FARO Faro, Yukon 10.15 47 P Pn 11 46 40.8 +1.3
baz=240,SNR=12
I27K Kandik River 10.17 18 P Pn 11 46 41.6 +1.8
baz=205,SNR=11
UNV Unalaska Valle 10.20 264 P Pn 11 46 38.7 -1.5
UNV Unalaska Valle 10.20 264 P Pn 11 46 37.9 -2.3
baz=70
H17K Granite Mounta 10.25 334 Pn 11 46 41.1 +0.3
H17K Granite Mounta 10.25 334 P Pn 11 46 40.8 -0.1
baz=144

R33M **Jennings River** 10.26 64 Pn Pn 11 46 41.8 +0.6
R33M **Jennings River** 10.26 64 P Pn 11 46 41.4 +0.3
baz=260
I28M **Miner Creek** 10.36 22 Pn 11 46 44.1 +1.7
I28M **Miner Creek** 10.36 22 P Pn 11 46 44.4 +2.0
baz=210
T35M **Bob Quinn** 10.49 78 P Pn 11 46 42.6 -1.7
baz=274
J30M **Hart River** 10.56 32 Pn 11 46 47.1 +1.9
J30M **Hart River** 10.56 32 P Pn 11 46 46.6 +1.3
baz=223
G21K **Allakaket** 10.60 351 Pn 11 46 45.9 +0.2
G21K **Allakaket** 10.60 351 P Pn 11 46 46.7 +1.1
baz=167
G23K **Bananza Creek** 10.61 358 Pn 11 46 46.1 +0.3
G23K **Bananza Creek** 10.61 358 P Pn 11 46 46.2 +0.4
baz=178
G24K **Hadweenzic Riv** 10.62 4 Pn 11 46 47.0 +1.1
G24K **Hadweenzic Riv** 10.62 4 P Pn 11 46 46.6 +0.7
baz=185,SNR=16
FYU **Fort Yukon** 10.62 9 Pn Pn 11 46 46.7 +0.8
DLBC **Dease Lake** 10.62 70 P Pn 11 46 46.9 +0.8
baz=266
DLBC **Dease Lake** 10.62 70 Pn Pn 11 46 46.6 +0.6
comp=E,2.2nm,0.3s,baz=229,slow=6.7,SNR=33
DLBC Sn Sn 11 48 39.9 -5.1
comp=E,0.7nm,0.3s,baz=192,slow=20,SNR=1.6
comp=E,4.6nm,0.3s
I29M **Ogilvie Camp,** 10.65 25 Pn 11 46 47.5 +1.2
I29M **Ogilvie Camp,** 10.65 25 P Pn 11 46 47.5 +1.2
baz=215
H16K **Elim** 10.65 328 P Pn 11 46 46.2 -0.1
baz=137
G19K **Purcell Mounta** 10.71 343 Pn 11 46 47.8 +0.7
G25K **Bearman Lake** 10.76 7 P Pn 11 46 48.5 +0.8
baz=189
H27K **Steamboat Moun** 10.76 17 P Pn 11 46 48.6 +0.8
baz=204
G18K **Tagagawik** 10.78 339 P Pn 11 46 48.8 +0.7
baz=151
G22K **Bettles** 10.87 355 P Pn 11 46 49.7 +0.4
baz=173
I30M **Mount Dempster** 11.04 29 Pn 11 46 53.6 +1.9
I30M **Mount Dempster** 11.04 29 P Pn 11 46 52.8 +1.1
baz=220
COLD **Coldfoot** 11.13 358 P Pn 11 46 53.5 +0.7
baz=177,SNR=7.1
G26K **Porcupine Rive** 11.14 11 P Pn 11 46 54.0 +1.0
baz=196
G16K **Koyuk River** 11.25 331 Pn Pn 11 46 54.8 +0.3
F21K **Alatna River** 11.29 351 Pn 11 46 55.9 +0.8
F21K **Alatna River** 11.29 351 P Pn 11 46 55.6 +0.5
baz=168
H29M **Whitestone** 11.35 23 Pn 11 46 57.5 +1.6
H29M **Whitestone** 11.35 23 P Pn 11 46 58.3 +2.4
baz=212
F20K **Avaraart Lake** 11.36 347 Pn 11 46 55.9 0.0
F20K **Avaraart Lake** 11.36 347 P Pn 11 46 56.3 +0.3
baz=161
F24K **Squaw Lake** 11.43 3 Pn 11 46 58.0 +1.1
F24K **Squaw Lake** 11.43 3 P Pn 11 46 57.7 +0.7
baz=184,SNR=13
F19K **Shaleruckik Mo** 11.46 343 P Pn 11 46 58.0 +0.7
baz=155
WTLY **Watson Lake, Y** 11.48 61 Pn 11 46 58.7 +1.0
WTLY **Watson Lake, Y** 11.48 61 P Pn 11 46 58.0 +0.3
baz=259
BMAR **Burnt Mountain** 11.53 9 Pn 11 46 58.7 +0.4
ANM **Nome** 11.59 323 P Pn 11 46 59.4 +0.2
baz=129
F25K **Christian Rive** 11.61 7 P Pn 11 47 00.4 +0.9
baz=190
SPIA **Saint Paul Isl** 11.62 284 P Pn 11 46 59.9 +0.4
SPIA **Saint Paul Isl** 11.62 284 P Pn 11 46 58.9 -0.6
baz=86
F17K **Baldwin Pennin** 11.81 336 P Pn 11 47 03.0 +0.9
baz=145
F26K **Sheenjek River** 11.82 9 P Pn 11 47 03.1 +0.7
baz=194
NIKH **Nikolski High** 11.83 263 P Pn 11 47 01.9 -0.6
baz=66
EPYK **Eagle Plains** 11.85 25 Pn Pn 11 47 03.9 +1.2
EPYK **Eagle Plains** 11.85 25 P Pn 11 47 03.8 +1.0
baz=216,SNR=6.5
E19K **Redstone River** 11.95 345 Pn 11 47 05.0 +1.0
E19K **Redstone River** 11.95 345 P Pn 11 47 05.2 +1.1
baz=158
E23K **Chandalar** 11.96 359 P Pn 11 47 04.0 -0.2
baz=179
G29M **Pine Creek** 12.02 22 Pn 11 47 06.1 +1.1
G29M **Pine Creek** 12.02 22 P Pn 11 47 06.6 +1.6
baz=212
E25K **Arctic Village** 12.13 7 Pn 11 47 07.4 +0.9
E25K **Arctic Village** 12.13 7 P Pn 11 47 07.8 +1.2
baz=190,SNR=6.4
F28M **Old Crow** 12.30 17 P Pn 11 47 10.1 +1.2
baz=205,SNR=11
E17K **Hotham Inlet** 12.47 337 P Pn 11 47 11.6 +0.5
baz=146
G30M **tAoh Zraii Nji** 12.47 24 P Pn 11 47 13.3 +2.1
baz=216
E20K **Nigu River** 12.57 348 P Pn 11 47 13.0 +0.5
baz=162
E27K **Coleen River** 12.58 13 P Pn 11 47 13.3 +0.6
baz=200
D22K **Ayikyak River** 12.88 354 P Pn 11 47 17.3 +0.6
baz=171
D23K **Nanushuk River** 12.88 358 P Pn 11 47 18.3 +1.6
baz=176
G31M **Satah River** 12.89 27 P Pn 11 47 17.3 +0.4
baz=220
D19K **Kuna River** 13.04 345 Pn Pn 11 47 19.3 +0.3
D19K **Kuna River** 13.04 345 P Pn 11 47 20.3 +1.3
baz=157
D20K **Etivluk River** 13.05 348 P Pn 11 47 19.7 +0.6
baz=161
D24K **Happy Valley** 13.05 1 P Pn 11 47 21.4 +2.3
baz=181
TNA **Tin City** 13.06 324 P Pn 11 47 19.8 +0.6
baz=127
F30M **Barrier River** 13.08 23 P Pn 11 47 20.4 +0.9
baz=215
E28M **Babbage River** 13.25 16 P Pn 11 47 22.4 +0.5
baz=204
D25K **Kavik River** 13.28 4 P Pn 11 47 22.7 +0.4
baz=187
C21K **Knifeblade Rid** 13.29 351 P Pn 11 47 23.6 +1.2
baz=166
E29M **Blow River** 13.33 18 P Pn 11 47 25.2 +2.4
baz=208
F31M **Tsiigehtchic** 13.42 26 Pn 11 47 25.0 +0.9
F31M **Tsiigehtchic** 13.42 26 P Pn 11 47 25.1 +0.9
baz=220,SNR=7.0
C24K **Franklin Bluff** 13.63 1 P Pn 11 47 29.1 +2.3
baz=181
D27M **Malcolm River** 13.65 13 Pn Pn 11 47 28.8 +1.5
D27M **Malcolm River** 13.65 13 P Pn 11 47 28.0 +0.6
baz=200
C18K **Utukok River** 13.68 341 P Pn 11 47 29.1 +1.4
baz=151
C19K **Lookout Ridge** 13.82 344 Pn Pn 11 47 29.5 -0.1
C19K **Lookout Ridge** 13.82 344 P Pn 11 47 29.3 -0.2
baz=155
KOTAN **Kotaneelee Air** 13.83 63 P Pn 11 47 31.2 +1.5
baz=264
C17K **DeLong Mountai** 13.91 338 P Pn 11 47 31.7 +0.9
baz=146
D28M **Stokes Point** 14.04 15 P Pn 11 47 33.7 +1.3
baz=205
FLDN **Fort Liard** 14.13 63 P Pn 11 47 35.2 +1.4
baz=265
INK **Inuvik** 14.15 24 Pn 11 47 34.9 +0.8
INK **Inuvik** 14.15 24 P Pn 11 47 36.0 +2.0
baz=218,SNR=38
INK **Inuvik** 14.15 24 Pn Pn 11 47 34.1 +0.1
comp=E,0.5nm,0.3s,baz=209,slow=15,SNR=73
comp=E,29nm,1.0s
C16K **Lisburne Hills** 14.23 335 P Pn 11 47 35.8 +0.7
baz=141
B20K **Meade River** 14.35 349 P Pn 11 47 37.7 +0.9
baz=162
B22K **Teshekpuk Lake** 14.37 354 Pn 11 47 36.7 -0.3
B22K **Teshekpuk Lake** 14.37 354 P Pn 11 47 38.0 +1.1
baz=170
B18K **Kokolik River** 14.41 342 P Pn 11 47 37.3 -0.3
baz=151
WRGLY **Wrigley** 14.72 51 Pn 11 47 42.1 +0.2
WRGLY **Wrigley** 14.72 51 P Pn 11 47 42.7 +0.8
baz=253,SNR=9.0
A19K **Wainwright** 15.04 344 P Pn 11 47 47.2 +1.1
baz=154
A22K **Sinclair Lake** 15.12 353 P Pn 11 47 46.0 -1.2
baz=168
ATKA **Atka Island** 15.12 265 Pn Pn 11 47 44.7 -2.5
A21K **Barrow** 15.56 351 P Pn 11 47 51.4 -1.5
baz=164
ADK **Adak** 16.64 267 P Pn 11 48 06.0 -1.0
C36M **Paulatuk** 17.34 30 P Pn 11 48 15.0 -0.6
C36M **Paulatuk** 17.34 30 P Pn 11 48 14.9 -0.6
baz=233,SNR=23
BRLDA **Berland Lookou** 18.22 83 P Pn 11 48 27.2 +0.4
YKA **Yellowknife Ar** 18.58 56 P P 11 48 31.1 +0.3
YKA **Yellowknife Ar** 18.58 56 P P 11 48 31.4 +0.7
comp=E,0.4nm,0.3s,baz=266,slow=14,SNR=27
comp=E,2.2nm,0.7s
A36M **Sachs Harbour** 18.79 23 P P 11 48 34.1 +1.2
A36M IAmb IAmb 11 48 47.4
comp=Z,22nm,0.8s
A36M **Sachs Harbour** 18.79 23 P P 11 48 33.9 +1.0
baz=225,SNR=19
MXC **Moxie City** 20.30 106 P P 11 48 48.2 -1.5
MXC IAmb IAmb 11 48 54.3
comp=Z,19nm,1.1s
E07A **Sunnyside** 20.54 105 P P 11 48 52.8 +0.4
E07A IAmb IAmb 11 48 56.9
comp=Z,20nm,1.0s
G05A **Wamic** 20.62 110 P P 11 48 52.8 -0.3
G05A IAmb IAmb 11 48 56.6
comp=Z,28nm,1.1s
D08A **Wollman Farm,** 20.74 103 P P 11 48 54.7 +0.2
D08A IAmb IAmb 11 48 56.2
comp=Z,16nm,1.0s
EDM **Edmonton** 20.79 83 P P 11 48 55.3 +0.3
EDM IAmb IAmb 11 48 56.8
comp=Z,14nm,0.9s
HAWA **Hanford** 20.82 105 P P 11 48 55.9 +0.6
HAWA IAmb IAmb 11 49 00.4
comp=Z,9.9nm,0.8s
F07A **Phinny Hill Vi** 20.93 107 P P 11 48 57.0 +0.6
E08A **Dider Farm, El** 21.02 105 P P 11 48 58.0 +0.6
E08A IAmb IAmb 11 48 59.0
comp=Z,27nm,1.2s
NEW **Newport** 21.03 98 P P 11 48 57.8 +0.2
baz=304
NEW **Newport** 21.03 98 P P 11 48 58.6 +1.0
comp=Z,4.7nm,0.7s,baz=306,slow=6.7,SNR=8.6
comp=Z,4.7nm,0.7s
I04A **Phinny Hill Vi** 21.05 115 P P 11 48 58.4 +0.6
K02D **Willamette Mer** 21.22 119 P P 11 48 59.4 -0.3
E09A **Wood Farm, Sta** 21.50 103 P P 11 49 02.9 +0.4
E09A IAmb IAmb 11 49 07.1
comp=Z,15nm,0.9s
HUMO **Hull Mountain** 21.64 118 P P 11 49 04.4 +0.3
HUMO IAmb IAmb 11 49 06.7
comp=Z,12nm,0.8s
J05D **Fort Rock, OR** 22.01 114 P P 11 49 08.1 -0.2
L04D **Klamath Falls** 22.25 117 P P 11 49 10.0 -0.8
F10A **Beach Ranch, E** 22.33 104 P P 11 49 11.7 0.0
F10A IAmb IAmb 11 49 14.7
comp=Z,20nm,0.9s
I07A **Izee** 22.35 110 P P 11 49 11.3 -0.6
I07A IAmb IAmb 11 49 13.9
comp=Z,15nm,0.9s
YBH **Yreka Blue Hor** 22.41 119 P P 11 49 14.4 +1.8
comp=Z,4.5nm,0.8s,baz=352,slow=6.7,SNR=6.1
comp=Z,4.5nm,0.8s
BMO **Blue Mountains** 23.01 106 P P 11 49 19.4 +0.6
J08A **Circle Bar Ran** 23.39 110 P P 11 49 23.1 +0.4
J08A IAmb IAmb 11 49 26.1
comp=Z,7.0nm,0.9s
PLID **Pearl Lake** 23.56 104 P P 11 49 24.1 -0.5
MSO **Missoula** 23.62 98 P P 11 49 25.3 +0.4
MSO **Missoula** 23.62 98 P P 11 49 24.1 -0.8
baz=306
WVOR **Wild Horse Val** 23.96 112 P P 11 49 29.4 +1.2
OVMT **Ovando** 24.00 97 P P 11 49 28.9 +0.2
MFID **Camas Ranch** 24.76 107 P P 11 49 36.0 +0.4
MFID IAmb IAmb 11 49 37.6
comp=Z,10nm,1.1s
LRM **Limekiln Ridge** 25.05 99 P P 11 49 37.7 -0.6
EGMT **Eagleton** 25.27 92 P P 11 49 39.2 -0.8
EGMT IAmb IAmb 11 49 56.4
comp=Z,8.0nm,1.1s
EGMT **Eagleton** 25.27 92 P P 11 49 39.4 -0.7
baz=304
AFDM **Forest Hills D** 25.41 121 P P 11 49 40.4 -0.9
HLID **Hailey** 25.42 105 P P 11 49 41.7 +0.1
HLID **Hailey** 25.42 105 P P 11 49 41.4 -0.2
baz=312
PAHR **Pah Rah Range** 25.59 117 P P 11 49 43.3 +0.1
PAHR IAmb IAmb 11 49 45.0
comp=Z,9.8nm,1.1s
ELK **Elko** 26.94 110 P P 11 49 55.6 +0.1
ELK IAmb IAmb 11 49 57.6
comp=Z,6.7nm,0.9s
H17A **Grant Village** 26.98 99 P P 11 49 56.5 +0.7
baz=310
NVAR **Mina Array Bea** 27.11 118 P P 11 49 57.6 +0.6
comp=Z,3.9nm,0.8s,baz=308,slow=9.0,SNR=24
NVAR PcP PcP 11 53 17.9 +0.4
comp=Z,0.7nm,0.8s,baz=264,slow=2.8,SNR=3.6
comp=Z,3.9nm,0.8s
RES **Resolute Bay,** 27.66 28 P P 11 50 02.1 +0.8
comp=Z,0.8nm,0.5s,baz=254,slow=12,SNR=4.6
comp=Z,0.8nm,0.5s
LAO **LASA Array** 28.00 91 P P 11 50 04.9 +0.2
baz=306
R11B **Troy Canyon, C** 28.54 114 P P 11 50 10.4 +0.6
R11B IAmb IAmb 11 50 11.4
comp=Z,5.4nm,0.8s
R11B **Troy Canyon, C** 28.54 114 P P 11 50 10.2 +0.5
baz=320,SNR=11
BW06 **Boulder Array** 28.60 101 P P 11 50 09.7 -0.6
baz=312
PD31 **Pinedale Array** 28.60 101 P P 11 50 10.4 +0.2
PDAR **Pinedale Array** 28.60 101 P P 11 50 10.0 -0.3
PDAR **Pinedale Array** 28.60 101 P P 11 50 10.3 0.0
comp=Z,0.9nm,0.5s,baz=324,slow=4.3,SNR=19
comp=Z,0.9nm,0.5s
DUG **Dugway, Tooele** 28.62 108 P P 11 50 10.2 -0.2
baz=316
GRAC **Grapevine Rang** 28.70 118 P P 11 50 10.7 -0.3
baz=322
CWC **Cottonwood Cre** 28.79 120 P P 11 50 12.4 +0.5
baz=323
VES **Vestal, Richgr** 28.79 122 P P 11 50 11.7 0.0
baz=324
SMMC **Simmler** 28.79 124 P P 11 50 12.4 +0.6
baz=326
FCC **Fort Churchill** 29.06 62 P P 11 50 15.3 +1.4
FCC IAmb IAmb 11 50 16.0
comp=Z,4.2nm,0.8s
ISA **Isabella, Lake** 29.22 122 P P 11 50 15.7 0.0
baz=324
PKM **Mcpherson Peak** 29.23 124 P P 11 50 16.6 +0.8
baz=326
TPNV **Topopah Spring** 29.29 117 P P 11 50 16.4 +0.1
baz=322
FURC **Furnace Creek,** 29.36 118 P P 11 50 17.8 +1.1
baz=322
MPMC **Manual Prospec** 29.38 120 P P 11 50 16.2 -1.0
baz=323
LRMC **Laurel Mtn Rad** 29.75 121 P P 11 50 19.2 -1.3
baz=324
EDW2 **Edwards Air Fo** 30.09 122 P P 11 50 22.7 -0.6
baz=325
TUQ **Turquoise Moun** 30.64 118 P P 11 50 28.4 +0.1
baz=323
BFSC **Mount Baldy Ra** 30.77 122 P P 11 50 28.5 -1.0
baz=325
RSSD **Black Hills** 30.79 94 P P 11 50 28.2 -1.4
baz=309
O20A **White River Ci** 31.12 103 P P 11 50 32.1 -0.5
baz=315,SNR=6.8
GMRC **Granite Mounta** 31.29 119 P P 11 50 33.5 -0.5
baz=324
ULM **Lac du Bonnet** 31.79 78 P P 11 50 38.9 +0.7
comp=Z,2.2nm,0.7s,baz=283,slow=11,SNR=3.8
comp=Z,2.2nm,0.7s
IRM **Iron Mountain** 32.05 119 P P 11 50 39.9 -0.7
baz=324
BC3 **Big Chuckawall** 32.30 120 P P 11 50 42.6 -0.3
baz=325
PDMCI **Parker Dam,Lak** 32.42 118 P P 11 50 43.0 -0.9
baz=323
ISCO **Idaho Springs** 32.80 101 P P 11 50 45.9 -1.6
baz=315
IKP **In-Ko-Pah, Jac** 32.81 122 P P 11 50 46.3 -1.1
baz=326
AGMN **Agassiz Nation** 32.86 81 P P 11 50 46.4 -1.2
baz=304
WUAZ **Wupatki** 32.87 113 P P 11 50 48.4 +0.5
baz=321,SNR=5.7
MVCO **Mesa Verde** 33.10 108 P P 11 50 49.4 -0.6
baz=318
SUSD **Miller** 33.43 89 P P 11 50 52.5 0.0
baz=309
S22A **4UR Ranch, Cre** 33.60 105 P P 11 50 54.3 -0.2
baz=317
W18A **Petrified Fore** 34.03 111 P P 11 50 57.9 -0.2
baz=321
SDCO **Great Sand Dun** 34.32 104 P P 11 50 59.7 -1.0
baz=317
214A **Organ Pipe Nat** 34.97 118 P P 11 51 05.9 -0.1
baz=325
KSCO **Kaye Shedlock'** 34.99 99 P P 11 51 06.7 +0.4
baz=315
T25A **Trinidad** 35.36 103 P P 11 51 10.1 +0.5
baz=317
EYMN **Ely** 35.47 78 P P 11 51 10.4 +0.3
baz=306
TUC **Tucson** 35.70 116 P P 11 51 13.0 +0.6
baz=324
BGNE **Belgrade** 35.84 92 P P 11 51 12.9 -0.6
baz=312
ANMO **Albuquerque** 35.89 108 P P 11 51 13.6 -0.6
baz=320
CBKS **Cedar Bluff** 36.73 97 P P 11 51 20.7 -0.4
baz=315
121A **Cookes Peak, D** 37.06 112 P P 11 51 24.8 +0.7
baz=322
AMTX **Amarillo** 38.51 103 P P 11 51 36.6 +0.4
baz=319
MSTX **Muleshoe** 38.61 105 P P 11 51 36.3 -0.8
baz=320
MNTX **Cornudas Mount** 38.97 110 P P 11 51 40.4 +0.4
baz=322,SNR=6.2
JFWS **Jewell Farm** 39.26 84 P P 11 51 41.6 -0.8
baz=311
ABTX **Abilene, Hawle** 41.33 103 P P 11 51 58.6 -1.0
baz=320
HDIL **Hopedale** 41.37 86 P P 11 51 59.8 0.0
baz=313
TXAR **Lajitas Array** 41.74 111 P P 11 52 04.2 +1.1
TXAR **Lajitas Array** 41.74 111 P P 11 52 03.6 +0.5
comp=Z,2.1nm,0.9s,baz=318,slow=6.7,SNR=19
TXAR PcP PcP 11 53 59.1 -0.3
comp=Z,0.3nm,0.6s,baz=185,slow=0.2,SNR=4.2
comp=Z,2.1nm,0.9s
CCM **Cathedral Cave** 42.01 90 P P 11 52 04.1 -0.9
baz=315
BRDY **Brady** 42.70 104 P P 11 52 10.9 +0.1
SFIN **Lafayette** 42.71 85 P P 11 52 10.2 -0.5
baz=313
JCT **Junction City** 42.89 106 P P 11 52 12.8 +0.4
JCT **Junction City** 42.89 106 P P 11 52 12.5 0.0
baz=322,SNR=7.5
WHTX **Lake Witney,** 43.00 102 P P 11 52 11.8 -1.4
baz=320
DRIO **Del Rio** 43.28 107 P P 11 52 15.3 -0.2
ACSO **Alum Creek Sta** 45.10 82 P P 11 52 29.4 -0.5
baz=314
WVT **Waverly** 45.29 89 P P 11 52 30.6 -0.9
baz=316
P52A **Corning** 45.98 82 P P 11 52 35.7 -1.3
baz=314
TZTN **Tazewell** 47.38 86 P P 11 52 48.1 +0.1
baz=316
LBNH **Lisbon** 48.34 70 P P 11 52 55.2 -0.1
baz=313
BLA **Blacksburg** 48.65 83 P P 11 52 58.3 +0.5
baz=316
H11N2 **WAKE ISLAND Hy** 48.85 240 T T 12 46 06.1
baz=36,slow=74
H11N3 **WAKE ISLAND Hy** 48.86 240 T T 12 45 48.2
baz=36
H11N1 **WAKE ISLAND Hy** 48.87 240 T T 12 46 11.7
baz=36,slow=74
BRAL **Brewton** 49.39 93 P P 11 53 03.7 +0.2
baz=320
KMSC **Kings Mountain** 49.64 85 P P 11 53 04.5 -0.8
baz=317
GOGA **Godfrey** 49.72 88 P P 11 53 05.2 -0.8
baz=318
H11S1 **WAKE ISLAND Hy** 49.99 240 T T 12 47 45.7
baz=28,slow=76,SNR=8.4
H11S2 **WAKE ISLAND Hy** 50.00 240 T T 12 47 36.3
baz=28,slow=76,SNR=7.9
H11S3 **WAKE ISLAND Hy** 50.01 240 T T 12 47 36.3
baz=28,slow=76,SNR=9.4
ARCES **ARCESS Array B** 54.56 2 P P 11 53 40.5 -1.0
comp=Z,1.5nm,0.6s,baz=11,slow=7.7,SNR=4.8
comp=Z,1.5nm,0.6s
SONM **Songino Array** 58.76 310 P P 11 54 11.6 -0.2
comp=Z,0.6nm,0.7s,baz=44,slow=8.1,SNR=4.1
comp=Z,0.6nm,0.7s
ZALV **Zalesovo Beam** 61.70 327 P P 11 54 31.6 0.0
ZALV **Zalesovo Beam** 61.70 327 P P 11 54 32.4 +0.8
comp=Z,1.6nm,0.6s,baz=34,slow=7.1,SNR=8.2
comp=Z,1.6nm,0.6s
HHC **Hu-ho-hao-te** 61.84 302 eP P 11 54 39.0 +6.0
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,400nm,6.6s
NB2 **NORSAR Subarra** 62.14 11 P P 11 54 45.7 +11
comp=Z,0.7nm,0.6s,baz=350,slow=6.5
NOA **NORSAR Array B** 62.14 11 P P 11 54 34.1 -0.4
comp=Z,1.0nm,0.8s,baz=348,slow=6.8,SNR=2.2
comp=Z,1.0nm,0.8s
FINES **FINESS Array B** 62.69 3 P P 11 54 38.6 +0.4
comp=Z,3.5nm,1.0s,baz=1.1,slow=7.4,SNR=1.8
comp=Z,3.5nm,1.0s
BVAR **Borovoye Array** 66.42 335 P P 11 55 02.6 -0.1
comp=Z,0.7nm,0.6s,baz=9.1,slow=5.1,SNR=1.8
comp=Z,0.7nm,0.6s
KURBB **Kurchatov Arra** 66.47 329 P P 11 55 03.4 +0.3
comp=Z,0.6nm,0.6s,baz=28,slow=6.5,SNR=4.3
comp=Z,0.6nm,0.6s
MK31 **Makanchi Array** 68.73 325 P P 11 55 16.8 -0.6
MK31 IAmb IAmb 11 55 29.2
comp=Z,2.3nm,0.7s
MKAR **Makanchi Array** 68.73 325 P P 11 55 17.4 0.0
MKAR **Makanchi Array** 68.73 325 P P 11 55 17.7 +0.3
comp=Z,1.3nm,0.8s,baz=41,slow=6.6,SNR=9.6
comp=Z,1.3nm,0.8s
MAKZ **Makanchi** 68.81 325 P P 11 55 18.0 0.0
LZH **Lanzhou** 69.28 304 eP P 11 55 23.9 +2.7
LZH pP pwP 11 55 30.0 +1.1
LZH pmax pmax
comp=Z,4.0nm,1.2s
AKASG **Malin Array Be** 73.51 1 P P 11 55 46.3 +0.1
comp=Z,0.7nm,0.5s,baz=24,slow=9.6,SNR=2.5
comp=Z,0.7nm,0.5s
PZH **PanZhiHua** 78.22 300 P P 11 56 12.8 -0.9
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.3s
CMAR **Chiang Mai Arr** 86.38 298 P P 11 56 56.6 +0.3
comp=Z,0.7nm,0.7s,baz=15,slow=4.1,SNR=1.4
comp=Z,0.7nm,0.7s
QSPA **South Pole Qui** 145.94 180 PKPbc PKPdf 12 03 50.1 -1.3
comp=Z,2.4nm,0.6s,baz=78,slow=2.1,SNR=5.1
BOSA **Boshof** 152.20 10 PKPbc PKPdf 12 04 09.1 +6.3
comp=Z,1.9nm,0.8s,baz=318,slow=3.5,SNR=3.6

IDC ***24*** *11:54:42.6±1.6, 55°.97N×149°.11W, h0km, mb3.6/4, mbtmp3.6/9, ML3.3/5, Error ellipse: s-maj=33.1km s-min=19.6km az=24.0*
NEIC ***24*** *11:54:42.2±1.6, 55°.68N±0°.07×149°.2W±0°.1, h9km±6km, mb3.8/3, ML4.1/22, ML3.7(AEIC), Error ellipse: s-maj=11.1km s-min=6.3km az=144.0*
AEIC ***24*** *11:54:48.0±1.5, 55°.83N±0°.10×149°.2W±0°.1, h6km±7km, Error ellipse: s-maj=13.8km s-min=8.4km az=182.0*
ISC 24 11:54:42.6±0.8**, 55°.82N**±0°.08×**149°.19W**±0°.06**, h10**km**, n127,**σ1$**40**/131**, mb3.7**/4**, Gulf of Alaska**

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

OHAK	**Old Harbor**	**2.67**	**304**	Pn	**Pn**	**11 55 26.1**	**+0.6**
OHAK				Sn	**Sn**	**11 55 55.6**	**-2.3**
OHAK				IAML		11 56 04.7	
	comp=N,202nm,0.9s						
OHAK	**Old Harbor**	**2.67**	**304**	P	**Pn**	**11 55 25.9**	**+0.3**
	baz=123						
OHAK				S	**Sn**	**11 55 56.2**	**-1.7**
	baz=123						
KDAK	**Kodiak Island**	**2.71**	**318**	Pn	**Pn**	**11 55 27.0**	**+0.8**
KDAK				Sn	**Sn**	**11 55 57.8**	**-1.2**
KDAK	**Kodiak Island**	**2.71**	**318**	Pn	**Pn**	**11 55 26.4**	**+0.2**
	comp=N,7.6nm,0.3s,baz=140,slow=8.4,SNR=28						
KDAK				Sn	**Sn**	**11 55 57.0**	**-2.0**
	comp=N,12nm,0.3s,baz=52,slow=19,SNR=9.0						
	comp=N,26nm,0.4s						
SII	**Sitkinak Islan**	**2.89**	**287**	S	**Sn**	**11 56 01.9**	**-1.4**
	baz=106						
SYI	**Shuyak Island**	**3.30**	**330**		**Pn**	**11 55 35.3**	**+1.1**
Q20K	**Shuyak Island**	**3.30**	**329**	P	**Pn**	**11 55 35.0**	**+0.8**
	baz=148						
Q20K				S	**Sn**	**11 56 11.7**	**-1.8**
	baz=148						
Q23K	**Middleton Isla**	**3.93**	**22**	Pn	**Pn**	**11 55 43.5**	**+0.6**
Q23K				IAML		11 57 38.1	
	comp=E,194nm,2.0s						
Q23K				IAML		11 57 39.9	
	comp=N,206nm,1.6s						
Q23K	**Middleton Isla**	**3.93**	**22**	P	**Pn**	**11 55 43.3**	**+0.4**
	baz=203						
MID	**Middleton Isla**	**3.94**	**22**	Pn	**Pn**	**11 55 43.5**	**+0.5**
MID				IAML		11 56 28.4	
	comp=N,198nm,1.5s						
MID				IAML		11 57 38.0	
	comp=E,207nm,2.0s						
Q19K	**Cape Douglas,**	**3.94**	**324**		**Pn**	**11 55 43.7**	**+0.6**
Q19K				IAML		11 56 41.5	
	comp=N,402nm,0.7s						
Q19K	**Cape Douglas,**	**3.94**	**324**	P	**Pn**	**11 55 43.4**	**+0.2**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.96**	**315**		**Pn**	**11 55 45.3**	**+1.8**
BRSE	**Bradley Lake S**	**4.02**	**349**		**Pn**	**11 55 45.7**	**+1.4**
BRSE	**Bradley Lake S**	**4.02**	**349**	P	**Pn**	**11 55 45.7**	**+1.4**
	baz=168						
KCG	**Knife Ck. Glac**	**4.08**	**310**		**Pn**	**11 55 46.9**	**+1.8**
ACHA	**Angle Creek He**	**4.12**	**308**		**Pn**	**11 55 47.5**	**+1.8**
ANCK	**Angle Creek**	**4.19**	**307**		**Pn**	**11 55 47.5**	**+0.9**
KVTA	**Katmai Vly 10**	**4.21**	**310**		**Pn**	**11 55 48.7**	**+2.0**
KAHC	**Katmai Hardscr**	**4.25**	**314**		**Pn**	**11 55 49.2**	**+1.8**
KAHC	**Katmai Hardscr**	**4.25**	**314**	P	**Pn**	**11 55 49.2**	**+1.8**
	baz=131						
P23K	**Montague Islan**	**4.30**	**12**		**Pn**	**11 55 48.6**	**+0.6**
P23K	**Montague Islan**	**4.30**	**12**	P	**Pn**	**11 55 49.3**	**+1.3**
	baz=193						
CNTC	**Contact Creek**	**4.40**	**307**		**Pn**	**11 55 50.8**	**+1.3**
Q17K	**Contact Creek**	**4.40**	**307**	P	**Pn**	**11 55 50.8**	**+1.2**
	baz=123						
HIN	**Hinchinbrook I**	**4.81**	**16**		**Pn**	**11 55 56.1**	**+1.1**
HIN				IAML		11 56 50.2	
	comp=N,223nm,0.6s						
HIN				IAML		11 56 59.9	
	comp=E,170nm,0.8s						
P18K	**Big Mountain,**	**4.84**	**320**	P	**Pn**	**11 55 56.1**	**+0.7**
	baz=136						
KAIM	**Kayak Island**	**4.85**	**30**	Pn	**Pn**	**11 55 56.2**	**+0.6**
KAIM				IAML		11 56 55.1	
	comp=N,182nm,1.0s						
KAIM				IAML		11 57 00.5	
	comp=E,144nm,0.8s						
KAIM	**Kayak Island**	**4.85**	**30**	P	**Pn**	**11 55 56.1**	**+0.6**
	baz=213						
R16K	**Pilot Point**	**4.94**	**294**		**Pn**	**11 55 57.5**	**+0.8**
R16K	**Pilot Point**	**4.94**	**294**	P	**Pn**	**11 55 57.9**	**+1.1**
	baz=109						
Q16K	**King Salmon**	**4.96**	**308**		**Pn**	**11 55 57.9**	**+0.8**
Q16K	**King Salmon**	**4.96**	**308**	P	**Pn**	**11 55 57.9**	**+0.8**
	baz=124						
EYAK	**Cordova Ski Ar**	**5.08**	**20**		**Pn**	**11 56 00.0**	**+1.3**
EYAK	**Cordova Ski Ar**	**5.08**	**20**	P	**Pn**	**11 55 59.9**	**+1.2**
	baz=202						
P17K	**Kvichak River**	**5.17**	**314**		**Pn**	**11 56 01.6**	**+1.7**
P17K	**Kvichak River**	**5.17**	**314**	P	**Pn**	**11 56 01.6**	**+1.7**
	baz=129						
RAGM	**Ragged Mountai**	**5.17**	**26**	Pn	**Pn**	**11 56 01.1**	**+1.1**
RAGM				IAML		11 57 16.6	
	comp=E,162nm,1.0s						
CHGN	**Chignik**	**5.19**	**279**	Pn	**Pn**	**11 56 00.4**	**+0.2**
CHGN				IAML		11 58 52.7	
	comp=E,147nm,0.1s						
GOAT	**Goat Mountain**	**5.33**	**24**		**Pn**	**11 56 03.2**	**+1.0**
BERG	**Berg Lake**	**5.43**	**30**		**Pn**	**11 56 04.2**	**+0.7**
SNH	**Sunshine Point**	**5.53**	**35**		**Pn**	**11 56 06.2**	**+1.3**
P16K	**Nushagak River**	**5.74**	**308**		**Pn**	**11 56 08.7**	**+1.0**
P16K	**Nushagak River**	**5.74**	**308**	P	**Pn**	**11 56 08.7**	**+1.0**
	baz=122						
BARK	**Barkley Ridge**	**5.81**	**35**		**Pn**	**11 56 09.7**	**+0.9**
Q16K	**Kokwok River B**	**6.09**	**312**		**Pn**	**11 56 13.8**	**+1.3**
SAMH	**Samovar Hills**	**6.22**	**43**		**Pn**	**11 56 15.8**	**+1.3**
KIAG	**Kiagna River**	**6.26**	**32**		**Pn**	**11 56 16.5**	**+1.5**
PCA	**Pinnacle**	**6.41**	**44**		**Pn**	**11 56 18.1**	**+1.1**
PINM	**Pinnacle**	**6.41**	**44**	P	**Pn**	**11 56 18.5**	**+1.5**
	baz=231						
SDPT	**Sand Point**	**6.42**	**270**	Pn	**Pn**	**11 56 16.4**	**-0.7**
PTPK	**Patty Peak**	**6.44**	**30**		**Pn**	**11 56 18.6**	**+1.1**
PNL	**Península**	**6.51**	**50**		**Pn**	**11 56 19.5**	**+1.1**
PNL	**Peninsula**	**6.51**	**50**	P	**Pn**	**11 56 19.5**	**+1.1**
	baz=237						
BCPM	**Bancas Point**	**6.57**	**47**		**Pn**	**11 56 20.9**	**+1.8**
BARN	**Barnard Glacie**	**6.58**	**34**		**Pn**	**11 56 20.9**	**+1.4**
CTG	**Chitna Glacier**	**6.61**	**35**	P	**Pn**	**11 56 20.6**	**+0.8**
	baz=221						
CTGM	**Chitina Glacie**	**6.61**	**35**		**Pn**	**11 56 20.7**	**+0.9**
LOGN	**Logan Glacier**	**6.62**	**37**		**Pn**	**11 56 21.1**	**+1.2**
O15K	**Ungalikthiuk R**	**6.65**	**305**		**Pn**	**11 56 21.7**	**+1.5**
O15K	**Ungalikthiuk R**	**6.65**	**305**	P	**Pn**	**11 56 21.7**	**+1.5**
	baz=117						
N16K	**Nishlik Lake**	**6.89**	**317**		**Pn**	**11 56 25.3**	**+1.8**
N16K	**Nishlik Lake**	**6.89**	**317**	P	**Pn**	**11 56 25.3**	**+1.8**
	baz=129						
O29M	**Mount Kennedy**	**7.21**	**47**		**Pn**	**11 56 29.6**	**+1.6**
P29M	**Windy Craggy**	**7.23**	**53**		**Pn**	**11 56 28.9**	**+0.7**
P29M	**Windy Craggy**	**7.23**	**53**	P	**Pn**	**11 56 29.3**	**+1.1**
	baz=242						
N15K	**Kwethluk River**	**7.25**	**311**		**Pn**	**11 56 30.7**	**+2.2**
M16K	**Timber Creek**	**7.31**	**320**		**Pn**	**11 56 29.7**	**+0.3**
O14K	**Tigyukauivet M**	**7.35**	**303**	Pn	**Pn**	**11 56 30.1**	**+0.3**
YUK8	**Steele Glacier**	**7.37**	**38**		**Pn**	**11 56 32.1**	**+1.7**
YUK8	**Steele Glacier**	**7.37**	**38**	P	**Pn**	**11 56 32.1**	**+1.7**
	baz=225						
YUK2	**White River**	**7.39**	**32**		**Pn**	**11 56 31.5**	**+1.0**
S31K	**Pelican**	**7.42**	**68**	Pn	**Pn**	**11 56 29.2**	**-1.6**
YUK3	**Moose Creek**	**7.50**	**34**		**Pn**	**11 56 33.4**	**+1.3**
YUK3	**Moose Creek**	**7.50**	**34**	P	**Pn**	**11 56 33.4**	**+1.3**
	baz=220						
YUK7	**Dusty Glacier**	**7.51**	**46**		**Pn**	**11 56 34.1**	**+1.8**
YUK6	**Outpost Mounta**	**7.67**	**43**		**Pn**	**11 56 35.9**	**+1.5**
YUK6	**Outpost Mounta**	**7.67**	**43**	P	**Pn**	**11 56 35.9**	**+1.5**
	baz=232						
SIT	**Sitka**	**7.79**	**75**	Pn	Pn	11 56 33.2	-2.6
YUK4	**Talbot Arm**	**7.81**	**40**	P	**Pn**	**11 56 39.8**	**+3.4**
	baz=228						
BVCY	**Beaver Creek**	**7.88**	**29**		**Pn**	**11 56 38.4**	**+1.2**
BVCY	**Beaver Creek**	**7.88**	**29**	P	**Pn**	**11 56 38.4**	**+1.2**
	baz=216						
HYT	**Haines Junctio**	**7.94**	**46**	Pn	**Pn**	**11 56 39.6**	**+1.6**
L16K	**Owhat River**	**7.96**	**322**		**Pn**	**11 56 38.9**	**+0.7**
YUK5	**Granite Creek**	**7.97**	**43**		**Pn**	**11 56 40.5**	**+1.9**
S32K	**Killisnoo**	**8.23**	**72**	Pn	**Pn**	**11 56 41.4**	**-0.5**
BESE	**Bessie Mountai**	**8.26**	**65**	Pn	**Pn**	**11 56 42.4**	**-0.1**
SKAG	**Skagway**	**8.28**	**58**	Pn	**Pn**	**11 56 42.8**	**+0.1**
JIS	**Juneau Island**	**8.44**	**67**	Pn	**Pn**	**11 56 44.9**	**+0.1**
N30M	**Aishikik Lake**	**8.47**	**43**		**Pn**	**11 56 46.9**	**+1.6**
O30N	**Mendenhall**	**8.50**	**49**		**Pn**	**11 56 46.1**	**+0.5**
WHY	**Whitehorse**	**8.97**	**51**	Pn	**Pn**	**11 56 53.8**	**+1.6**
N31M	**Braeburn, Yuko**	**9.00**	**45**	Pn	**Pn**	**11 56 54.6**	**+2.1**
N31M	**Braeburn, Yuko**	**9.00**	**45**	P	**Pn**	**11 56 54.4**	**+1.9**
	baz=236						
ILAR	**Eielson Array**	**9.06**	**6**	Pn	Pn	11 56 48.5	-4.8
	comp=E,0.2nm,0.3s,baz=202,slow=15,SNR=4.4						
ILAR				Sn	**Sn**	**11 58 30.3**	**-4.9**
	comp=E,0.4nm,0.3s,baz=183,slow=23,SNR=5.9						
	comp=E,0.7nm,0.7s						
K15K	**Wolf Creek Mou**	**9.07**	**321**	Pn	**Pn**	**11 56 53.3**	**-0.2**
P32M	**Atlin**	**9.10**	**59**		**Pn**	**11 56 54.7**	**+0.8**
P32M	**Atlin**	**9.10**	**59**	P	**Pn**	**11 56 54.6**	**+0.8**
	baz=251						
L29M	**L29M**	**9.22**	**33**		**Pn**	**11 56 57.8**	**+2.3**
M30M	**Minto, Yukon**	**9.28**	**38**		**Pn**	**11 56 56.9**	**+0.5**
M30M	**Minto, Yukon**	**9.28**	**38**	P	**Pn**	**11 56 58.1**	**+1.8**
	baz=228						
Q32M	**Nakina River**	**9.66**	**64**	Pn	**Pn**	**11 57 02.7**	**+1.0**
P33M	**Teslin, Yukon**	**9.73**	**56**	P	**Pn**	**11 57 03.7**	**+1.2**
	baz=250						
M31M	**Drury Creek, Y**	**9.95**	**44**	Pn	**Pn**	**11 57 06.5**	**+1.1**
K29M	**Barlow Dome**	**9.95**	**31**		**Pn**	**11 57 07.4**	**+1.8**
H21K	**Melozitna Rive**	**10.03**	**351**		**Pn**	**11 57 07.8**	**+1.2**
S34M	**Telegraph Cree**	**10.11**	**71**	Pn	**Pn**	**11 57 08.6**	**+0.9**
FARO	**Faro, Yukon**	**10.37**	**45**	Pn	**Pn**	**11 57 13.1**	**+1.8**
R33M	**Jennings River**	**10.41**	**62**	Pn	**Pn**	**11 57 12.5**	**+0.7**
DLBC	**Dease Lake**	**10.74**	**68**	Pn	**Pn**	**11 57 17.4**	**+1.0**
DLBC	**Dease Lake**	**10.74**	**68**	Pn	**Pn**	**11 57 16.9**	**+0.5**
	comp=E,0.3nm,0.3s,baz=267,slow=7.6,SNR=7.2						
	comp=E,1.2nm,0.5s						
J30M	**Hart River**	**10.85**	**31**		**Pn**	**11 57 19.6**	**+1.8**
ANM	**Nome**	**11.87**	**324**	Pn	**Pn**	**11 57 33.4**	**+1.8**
HOLB	**Holberg**	**13.62**	**104**	Pn	**Pn**	**11 57 53.4**	**-2.2**
INK	**Inuvik**	**14.45**	**24**	Pn	**Pn**	**11 58 08.2**	**+1.3**
INK	**Inuvik**	**14.45**	**24**	Pn	**Pn**	**11 58 05.9**	**-1.0**
	baz=220,slow=10,SNR=7.6						
	comp=E,3.4nm,1.0s						
B22K	**Teshekpuk Lake**	**14.70**	**354**	Pn	**Pn**	**11 58 11.6**	**+1.4**
GSTR	**Great Sitkin T**	**16.20**	**268**	Pn	**Pn**	**11 58 28.3**	**-1.8**
C36M	**Paulatuk**	**17.62**	**30**	P	**Pn**	**11 58 49.5**	**+1.7**
C36M				IAmb	IAmb	11 58 57.1	
	comp=Z,8.5nm,1.1s						
YKA	**Yellowknife Ar**	**18.76**	**55**	P	**P**	**11 59 00.8**	**-0.7**
YKA	**Yellowknife Ar**	**18.76**	**55**	P	**P**	**11 59 01.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=14						
	comp=Z,1.6nm,0.9s						
A36M	**Sachs Harbour**	**19.09**	**23**	P	**P**	**11 59 05.8**	**+0.8**
A36M				IAmb	IAmb	11 59 19.7	
	comp=Z,9.7nm,0.8s						
LON	**Longmire**	**19.27**	**107**	P	**P**	**11 59 06.0**	**-1.1**
LON				IAmb	IAmb	11 59 23.6	
	comp=Z,4.6nm,1.1s						
NVAR	**Mina Array Bea**	**26.95**	**117**	P	**P**	**12 00 26.2**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=308,slow=10,SNR=5.0						
	comp=Z,1.1nm,1.0s						
SONM	**Songino Array**	**58.98**	**310**	P	**P**	**12 04 42.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=29,slow=3.3,SNR=2.9						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**61.98**	**327**	P	**P**	**12 05 03.9**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=69,slow=8.2,SNR=2.1						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**69.01**	**325**	P	**P**	**12 05 47.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=55,slow=5.5,SNR=2.6						
	comp=Z,0.4nm,0.7s						

*NEIC **24** 12:19:41.4±1.3,55.9N±0.1×149.2W±0.1, h8km±8km, ML3.5/28,ML3.2(AEIC), Error ellipse: s-maj=17.9km s-min=9.8km az=180.0*
*AEIC **24** 12:19:43.4±1.6,55.7N±0.1×149.2W±0.1, h2km±8km, Error ellipse: s-maj=17.9km s-min=10.1km az=183.0*
ISC 24 12:19:40.0±2.5, 55.8N±0.2×149.24W±0.07, h10km, n61, σ0.985/66, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.68**	**305**		**Pn**	**12 20 23.3**	**+0.2**
OHAK					**Sn**	**12 20 55.2**	**-0.3**
OHAK	**Old Harbor**	**2.68**	**305**	P	**Pn**	**12 20 23.0**	**-0.1**
	baz=122						
OHAK				S	**Sn**	**12 20 54.2**	**-1.4**
	baz=122						
KDAK	**Kodiak Island**	**2.73**	**319**		**Pn**	**12 20 24.5**	**+0.6**
SYI	**Shuyak Island**	**3.33**	**330**		**Pn**	**12 20 33.0**	**+1.0**
SYI				IAML		12 20 54.8	
	comp=N,43nm,1.9s						
SYI				IAML		12 22 24.3	
	comp=E,44nm,1.8s						
Q20K	**Shuyak Island**	**3.33**	**330**	P	**Pn**	**12 20 32.4**	**+0.4**
	baz=148						
Q20K				S	**Sn**	**12 21 12.7**	**+1.1**
	baz=148						
CNPM	**China Poot**	**3.92**	**345**		**Pn**	**12 20 40.7**	**+0.4**
CNPM				IAML		12 22 07.4	
	comp=N,26nm,1.9s						
CNPM				IAML		12 23 06.0	
	comp=E,50nm,1.9s						
Q19K	**Cape Douglas,**	**3.97**	**325**		**Pn**	**12 20 42.4**	**+1.5**
Q19K				IAML		12 23 05.3	
	comp=N,156nm,1.6s						
Q19K	**Cape Douglas,**	**3.97**	**325**	P	**Pn**	**12 20 41.7**	**+0.8**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.98**	**316**		**Pn**	**12 20 42.1**	**+1.0**
Q23K	**Middleton Isla**	**3.99**	**22**	Pn	**Pn**	**12 20 41.1**	**-0.1**
MID	**Middleton Isla**	**3.99**	**22**		**Pn**	**12 20 41.9**	**+0.7**
BRSE	**Bradley Lake S**	**4.07**	**349**		**Pn**	**12 20 42.3**	**0.0**
BRSE					**Sn**	**12 21 28.9**	**-1.0**
BRSE	**Bradley Lake S**	**4.07**	**349**	P	**Pn**	**12 20 42.3**	**0.0**
	baz=168						
BRSE				S	**Sn**	**12 21 28.9**	**-1.0**
	baz=168						
BRLK	**Bradley Lake**	**4.11**	**348**	Pn	**Pn**	**12 20 42.6**	**-0.2**
BRLK				IAML		12 21 32.9	
	comp=E,32nm,1.8s						
ANCK	**Angle Creek**	**4.20**	**308**		**Pn**	**12 20 45.1**	**+0.9**
P23K	**Montague Islan**	**4.36**	**12**		**Pn**	**12 20 46.2**	**0.0**
P23K	**Montague Islan**	**4.36**	**12**	P	**Pn**	**12 20 46.2**	**0.0**
	baz=193						
CNTC	**Contact Creek**	**4.41**	**307**		**Pn**	**12 20 48.3**	**+1.2**
Q17K	**Contact Creek**	**4.41**	**307**	P	**Pn**	**12 20 48.3**	**+1.2**
	baz=122						
P19K	**Oil Pt**	**4.45**	**333**		**Pn**	**12 20 48.5**	**+1.0**
P19K				IAML		12 22 11.9	
	comp=E,83nm,1.9s						
P19K				IAML		12 23 31.7	
	comp=N,67nm,2.0s						
P19K	**Oil Pt**	**4.45**	**333**	P	**Pn**	**12 20 48.5**	**+1.0**
	baz=150						
O20K	**Slope Mountain**	**4.69**	**339**		**Pn**	**12 20 52.4**	**+1.6**
O20K	**Slope Mountain**	**4.69**	**339**	P	**Pn**	**12 20 52.4**	**+1.6**
	baz=156						
SLKM	**Skilak Lake**	**4.78**	**354**		**Pn**	**12 20 52.5**	**+0.4**
P18K	**Big Mountain,**	**4.86**	**321**		**Pn**	**12 20 53.5**	**+0.4**
P18K	**Big Mountain,**	**4.86**	**321**	P	**Pn**	**12 20 54.2**	**+1.1**
	baz=136						
HIN	**Hinchinbrook I**	**4.87**	**16**		**Pn**	**12 20 53.6**	**+0.4**
HIN				IAML		12 21 49.9	
	comp=N,72nm,1.8s						
HIN				IAML		12 21 52.2	
	comp=E,92nm,1.9s						
KAIM	**Kayak Island**	**4.90**	**30**		**Pn**	**12 20 54.0**	**+0.2**
KAIM	**Kayak Island**	**4.90**	**30**	P	**Pn**	**12 20 54.4**	**+0.7**
	baz=213						
RDT	**Redoubt**	**5.10**	**342**		**Pn**	**12 20 57.0**	**+0.4**
EYAK	**Cordova Ski Ar**	**5.14**	**20**		**Pn**	**12 20 57.2**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.14**	**20**	P	**Pn**	**12 20 57.4**	**+0.5**
	baz=202						
P17K	**Kvichak River**	**5.19**	**314**		**Pn**	**12 20 58.5**	**+0.9**
P17K	**Kvichak River**	**5.19**	**314**	P	**Pn**	**12 20 58.5**	**+0.9**
	baz=129						
RAGM	**Ragged Mountai**	**5.23**	**26**	Pn	**Pn**	**12 20 59.0**	**+0.8**
RAGM				IAML		12 22 06.4	
	comp=N,63nm,1.4s						
RAGM				IAML		12 22 21.8	
	comp=E,40nm,1.9s						
RC01	**Rabbit Creek A**	**5.35**	**357**	Pn	**Pn**	**12 20 59.6**	**-0.2**
RC01				IAML		12 22 20.8	
	comp=E,10.0nm,1.8s						
RC01				IAML		12 22 46.9	
	comp=N,12nm,1.8s						
BERG	**Berg Lake**	**5.49**	**30**		**Pn**	**12 21 01.5**	**-0.3**
SNH	**Sunshine Point**	**5.58**	**35**	Pn	**Pn**	**12 21 04.0**	**+0.9**
KNK	**Knik Glacier**	**5.68**	**4**	Pn	**Pn**	**12 21 04.0**	**-0.4**
KLU	**Klutina**	**6.00**	**15**	Pn	**Pn**	**12 21 09.7**	**+0.9**
GHO	**Glory Hole Cre**	**6.03**	**1**	Pn	**Pn**	**12 21 10.7**	**+1.4**
N18K	**Kilae Creek**	**6.05**	**327**	Pn	**Pn**	**12 21 09.3**	**-0.1**
SML	**Sawmill**	**6.08**	**4**	Pn	**Pn**	**12 21 10.5**	**+0.6**
O16K	**Kokwok River B**	**6.10**	**313**	Pn	**Pn**	**12 21 10.0**	**-0.1**
SCM	**Sheep Creek Mo**	**6.17**	**8**	Pn	**Pn**	**12 21 12.0**	**+0.9**
N25K	**Chitina, Valde**	**6.34**	**21**	Pn	**Pn**	**12 21 11.6**	**-1.8**
GLB	**Gilahina Butte**	**6.36**	**24**	Pn	**Pn**	**12 21 13.4**	**-0.4**
M24K	**Tolsona, Glenn**	**6.55**	**13**	Pn	**Pn**	**12 21 16.6**	**+0.2**
BARN	**Barnard Glacie**	**6.63**	**34**	Pn	**Pn**	**12 21 16.1**	**-1.6**
L19K	**White Mountain**	**7.06**	**338**	Pn	**Pn**	**12 21 22.8**	**-0.5**
M17K	**Holitna River**	**7.09**	**326**	Pn	**Pn**	**12 21 24.2**	**+0.5**
O29M	**Mount Kennedy**	**7.26**	**47**	Pn	**Pn**	**12 21 27.1**	**+0.9**
N15K	**Kwethluk River**	**7.26**	**312**	Pn	**Pn**	**12 21 27.8**	**+1.7**
P29M	**Windy Craggy**	**7.28**	**53**	Pn	**Pn**	**12 21 27.1**	**+0.7**
M16K	**Timber Creek**	**7.33**	**320**	Pn	**Pn**	**12 21 27.4**	**+0.3**
S31K	**Pelican**	**7.46**	**68**	Pn	**Pn**	**12 21 28.1**	**-0.7**
KTH	**Kantishna Hill**	**7.86**	**354**	Pn	**Pn**	**12 21 35.5**	**+1.2**
P32M	**Atlin**	**9.15**	**59**	Pn	**Pn**	**12 21 52.2**	**+0.2**
J26L	**Joseph Creek**	**9.21**	**16**	Pn	**Pn**	**12 21 53.1**	**+0.3**
L29M	**L29M**	**9.27**	**33**	Pn	**Pn**	**12 21 54.5**	**+0.8**
R33M	**Jennings River**	**10.45**	**62**	Pn	**Pn**	**12 22 10.3**	**+0.3**

*IDC **24** 12:20:08.6±2.1,12.2N×47.30E, h0km, mb3.6/5, mbtmp3.6/7,ML3.0/2, Error ellipse: s-maj=76.8km s-min=22.9km az=161.0*
ISC 24 12:20:09.7±1.7,12.2N±0.4×47.3E±0.2, h10km, n7, σ1.912/7, mb3.8/5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**4.39**	**262**	Pn	**Pn**	**12 21 16.0**	**-0.5**
	0.1nm,0.3s,baz=63,slow=11,SNR=8.3						
	1.1nm,0.6s						
WSAR	**Wadi Sarin**	**15.40**	**43**	Pn	**Pn**	**12 23 48.0**	**+0.8**
	0.4nm,0.3s,baz=264,slow=15,SNR=4.0						
	1.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**44.43**	**276**	P	**P**	**12 28 22.3**	**+1.0**
	0.6nm,0.8s,baz=82,slow=9.4,SNR=4.7						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**45.35**	**34**	P	**P**	**12 28 27.7**	**-0.5**
	1.2nm,1.0s,baz=223,slow=7.3,SNR=5.1						
	1.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**50.08**	**76**	P	**P**	**12 29 05.2**	**-0.1**
	0.4nm,0.3s,baz=266,slow=8.0,SNR=4.3						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**51.12**	**28**	P	**P**	**12 29 11.0**	**-1.6**
	0.3nm,0.4s,baz=230,slow=6.8,SNR=2.0						
	0.3nm,0.4s						
SONM	**Songino Array**	**60.44**	**42**	P	**P**	**12 30 20.3**	**+0.5**
	0.7nm,0.8s,baz=248,slow=7.3,SNR=4.1						
	0.7nm,0.8s						

*IDC **24** 12:24:10.7±1.0,37.62N×145.55E, h0km, mb3.8/8, mbtmp3.7/10, ML3.2/2, MS4.4/2, Error ellipse: s-maj=29.0km s-min=22.2km az=110.0*
ISC 24 12:24:16.2±0.9, 37.73N±0.09×145.3E±0.1, h35km, n15, σ1.928/12, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.79**	**260**	Pn	**Pn**	**12 25 39.7**	**+0.1**
	0.2nm,0.3s,baz=88,slow=15,SNR=9.0						
MJAR				Sn	**Sn**	**12 26 43.6**	**-1.3**
	baz=287,slow=31						
	1.0nm,0.4s						
ASAJ	**Asahikawa**	**6.70**	**343**	Pn	**Pn**	**12 25 52.4**	**+0.4**
	0.7nm,0.3s,baz=193,slow=19,SNR=5.8						
ASAJ				Sn	**Sn**	**12 27 05.0**	**-2.1**
	0.2nm,0.3s,baz=43,slow=20,SNR=1.8						
	4.3nm,0.4s						
KLR	**Kul'dur**	**15.10**	**324**	LR	LR	12 33 46.5	
	comp=Z,892nm,20.7s,baz=339,slow=38						
H11N2	**WAKE ISLAND Hy**	**25.97**	**128**	T	T	12 56 28.8	
	baz=319,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**25.98**	**128**	T	T	12 56 21.6	
	baz=319,slow=74,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**25.99**	**128**	T	T	12 56 21.9	
	baz=319,slow=74,SNR=14						
ILAR	**Eielson Array**	**47.24**	**33**	P	**P**	**12 32 44.9**	**-0.6**
	0.3nm,0.6s,baz=258,slow=6.3,SNR=6.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**48.02**	**308**	P	**P**	**12 32 53.9**	**+2.3**
	1.3nm,0.2s,baz=82,slow=8.2,SNR=6.5						
	1.3nm,0.2s						
WRA	**Warramunga Arr**	**58.29**	**192**	P	**P**	**12 34 06.4**	**-1.0**
	0.5nm,0.6s,baz=14,slow=7.1,SNR=2.0						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**61.63**	**31**	P	**P**	**12 34 30.2**

NGZ	Ngauruhoe	1.66	350	P		Pn	12 34 07.5 +0.8
OTVZ	Oturere	1.67	352	P		Pn	12 34 07.4 +0.6
ETVZ	East Tongariro	1.69	353	P		Pn	12 34 07.7 +0.6
BKZ	Black Stump Fm	1.69	14	P		Pn	12 34 06.8 -0.3
BKZ	Black Stump Fm	1.69	14	P		Pn	12 34 06.8 -0.3
NNVZ	North Ngauruho	1.71	351	P		Pn	12 34 08.0 +0.6
TMVZ	Te Maari	1.71	353	P		Pn	12 34 08.2 +0.8
WTVZ	West Tongariro	1.73	350	P		Pn	12 34 08.2 +0.6
NTVZ	North Tongariro	1.73	352	P		Pn	12 34 08.4 +0.7
ARHZ	Aropaoanui	1.74	27	P		Pn	12 34 07.6 0.0
KRVZ	Karewarewa	1.74	351	P		Pn	12 34 08.6 +0.9
TWVZ	Taurewa	1.79	346	P		Pn	12 34 09.0 +0.5
LREZ	Lake Rotokare	1.81	318	P		Pn	12 34 10.7 +2.0
BSWZ	Blackbirch Sta	1.82	240	P		Pn	12 34 08.3 -0.5
NMHZ	Naumai	1.83	21	P		Pn	12 34 09.1 +0.1
RITZ	Rihia Road	1.84	357	P		Pn	12 34 09.6 +0.6
KATZ	Kakaramea	1.85	353	P		Pn	12 34 11.1 +1.8
VRZ	Vera Road	1.93	331	P		Pn	12 34 11.7 +1.4
RATZ	Rangitukua	1.95	355	P		Pn	12 34 13.5 +2.8
WHHZ	Waihua	1.99	29	P		Pn	12 34 11.1 +0.1
NNZ	Nelson	2.01	258	P		Pn	12 34 11.3 0.0
MRHZ	Matea Rd	2.01	10	P		Pn	12 34 11.1 -0.3
PREZ	Palmer Road	2.03	316	P		Pn	12 34 14.2 +2.6
MTHZ	Maungataniwha	2.07	19	P		Pn	12 34 11.8 -0.4
RAHZ	Arahi	2.08	25	P		Pn	12 34 12.0 -0.4
NEZ	North Egmont	2.11	316	P		Pn	12 34 15.4 +2.5
WATZ	Wairara	2.11	355	P		Pn	12 34 12.9 0.0
DREZ	Durham Road	2.12	319	P		Pn	12 34 15.6 +2.7
NMEZ	Namu Road	2.13	310	P		Pn	12 34 15.7 +2.6
KHEZ	Kahui Hut	2.14	315	P		Pn	12 34 15.5 +2.2
KHEZ	Kahui Hut	2.14	315	P		Pn	12 34 15.5 +2.2
MHEZ	Mangahewa	2.15	323	P		Pn	12 34 16.2 +2.9
KNZ	Kokohu	2.22	37	P		Pn	12 34 13.2 -1.0
MHGZ	Mahia Peninsul	2.23	42	P		Pn	12 34 13.6 -0.7
PKE	Pukeiti	2.23	316	P		Pn	12 34 17.5 +3.1
NBEZ	Newall Road No	2.24	313	P		Pn	12 34 17.3 +2.8
ALRZ	Allen Road	2.27	7	P		Pn	12 34 17.6 +2.7
SNGZ	Shannon Statio	2.29	28	P		Pn	12 34 14.6 -0.6
TKNZ	Takaka Hill	2.30	264	P		Pn	12 34 15.9 +0.6
KUTZ	Kaahu Road	2.33	357	P		Pn	12 34 17.9 +2.1
RTZ	Ruatahuna	2.33	20	P		Pn	12 34 15.3 -0.6
PRRZ	Plateau Road	2.34	8	P		Pn	12 34 17.8 +1.9
PRGZ	Paritu Road	2.39	38	P		Pn	12 34 15.7 -0.9
MUGZ	Murupara	2.42	15	P		Pn	12 34 16.2 -0.8
KHZ	Kahutara	2.43	228	P		Pn	12 34 16.0 -1.1
KHZ	Kahutara	2.43	228	P		Pn	12 34 16.0 -1.1
HRRZ	Handcock Road	2.43	6	P		Pn	12 34 24.0 +6.7
HIZ	Hauiti	2.46	339	P		Pn	12 34 18.6 +1.1
HIZ	Hauiti	2.46	339	P		Pn	12 34 18.6 +1.1
THZ	Tophouse	2.50	247	P		Pn	12 34 17.3 -0.9
MRNZ	Matariki Terra	2.50	255	P		Pn	12 34 18.2 +0.1
TLZ	Tolley Road	2.51	352	P		Pn	12 34 19.3 +1.1
RIGZ	Rimuhau	2.52	34	P		Pn	12 34 17.5 -0.9
RAGZ	Rawiri	2.57	26	P		Pn	12 34 18.2 -1.0
TARZ	Mount Tarawera	2.61	9	P		Pn	12 34 19.2 -0.5
QRZ	Quartz Range	2.62	269	P		Pn	12 34 22.2 +2.5
QRZ	Quartz Range	2.62	269	P		Pn	12 34 21.7 +2.0
URZ	Urewera	2.70	19	P		Pn	12 34 19.1 -1.7
URZ	Urewera	2.70	19	P		Pn	12 34 19.2 -1.6
MWZ	Matawai	2.75	26	P		Pn	12 34 20.1 -1.5
TKGZ	Te Karaka	2.78	32	P		Pn	12 34 20.7 -1.2
LIRZ	Lichensteins R	2.83	7	P		Pn	12 34 21.5 -1.1
TWGZ	Tauwhareparae	3.06	31	P		Pn	12 34 25.5 -0.3
GVZ	Greta Valley S	3.07	225	P		Pn	12 34 26.4 +0.4
TOZ	Tahuroa Road	3.10	353	P		Pn	12 34 26.8 +0.4
RUGZ	Raukumara Rang	3.14	25	P		Pn	12 34 25.4 -1.6
DSZ	Denniston Nort	3.28	252	P		Pn	12 34 29.4 +0.6
HAZ	Te Kaha	3.36	25	P		Pn	12 34 28.7 -1.2
LTZ	Lake Taylor	3.40	233	P		Pn	12 34 29.8 -0.6
WMGZ	Waiomatatini S	3.54	33	P		Pn	12 34 30.9 -1.5
OKCZ	Okains Bay	3.62	216	P		Pn	12 34 32.1 -1.4
MQZ	McQueen's Vall	3.80	219	P		Pn	12 34 35.6 -0.3
AKCZ	Akaroa Harbour	3.81	216	P		Pn	12 34 36.3 +0.3
OXZ	Oxford	3.86	228	P		Pn	12 34 35.4 -1.3
INZ	Inchbonnie	3.89	239	P		Pn	12 34 35.9 -1.3
KUZ	Kuaotunu	4.07	357	P		Pn	12 34 39.8 +0.1
TMZ	Timaru	5.12	224	P		Pn	12 34 52.7 -1.3
ODZ	Otahua Downs	5.76	221	P		Pn	12 35 00.8 -2.0
ODZ	Otahua Downs	5.76	221	P		Pn	12 35 01.4 -1.4
CTZ	Chatham Island	6.22	120	P		Pn	12 35 10.4 +1.2

*IDC **24** 12:34:09.6±3.3,56°.00N×149°.11W, h0km, mb3.2/1, mbtmp3.0/4, ML2.6/3, MS3.9/1, Error ellipse: s-maj=61.3km s-min=25.5km az=35.0*
*NEIC **24** 12:34:18.0±2.1,56°.55N±0°.09×148°.7W±0°.1, h20km±9km, ML3.1/22, ML2.8(AEIC), Error ellipse: s-maj=12.8km s-min=9.1km az=167.0*
*AEIC **24** 12:34:21.4±1.8,56°.5N±0°.1×148°.6W±0°.1, h8km±8km, Error ellipse: s-maj=17.5km s-min=9.3km az=177.0*

ISC 24 12:34:16.9±2.1,**56°.6N**±0°.2×**148°.71W**±0°.07,**h10**km,**n34,**
σ1ᵎ**16**/34,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.41**	**301**		**Pn**	**12 34 58.9**	**+2.5**
KDAK	**Kodiak Island**	**2.41**	**301**		**Sn**	**12 35 25.8**	**-0.2**
KDAK	**Kodiak Island**	**2.41**	**301**	Pn	**Pn**	**12 34 55.5**	**-0.9**
KDAK	**Kodiak Island**	**2.41**	**301**	Pn	Pn	12 34 50.7	-5.7
	0.9nm,0.3s,baz=133,slow=18,SNR=1.6						
KDAK				Sn	**Sn**	**12 35 24.3**	**-1.6**
	4.0nm,0.3s,baz=86,slow=23,SNR=14						
	6.2nm,0.7s						
OHAK	**Old Harbor**	**2.58**	**286**		**Pn**	**12 34 59.4**	**+0.6**
OHAK					**Sn**	**12 35 28.4**	**-1.7**
SYI	**Shuyak Island**	**2.82**	**317**		**Pn**	**12 35 02.2**	**+0.3**
CNPM	**China Poot**	**3.21**	**336**	Pn	**Pn**	**12 35 09.1**	**+1.7**
BRSE	**Bradley Lake S**	**3.32**	**342**		**Pn**	**12 35 10.5**	**+1.6**
BRLK	**Bradley Lake**	**3.36**	**341**		**Pn**	**12 35 10.8**	**+1.3**
P23K	**Montague Islan**	**3.46**	**11**		**Pn**	**12 35 12.1**	**+1.3**
P19K	**Oil Pt**	**3.88**	**324**	Pn	**Pn**	**12 35 17.5**	**+0.9**
O22K	**Cooper Landing**	**3.91**	**353**	Pn	**Pn**	**12 35 19.2**	**+2.2**
HIN	**Hinchinbrook I**	**3.96**	**16**	Pn	**Pn**	**12 35 18.9**	**+1.1**
HIN				IAML		12 35 59.1	
	comp=E,27nm,0.9s						
HIN				IAML		12 36 13.0	
	comp=N,24nm,0.6s						
KAIM	**Kayak Island**	**4.02**	**32**	Pn	**Pn**	**12 35 17.5**	**-1.0**
KAIM				IAML		12 37 41.7	
	comp=N,28nm,1.1s						
CNTC	**Contact Creek**	**4.22**	**296**		**Pn**	**12 35 21.4**	**+0.1**
RSO	**Redoubt South**	**4.40**	**333**	Pn	**Pn**	**12 35 25.6**	**+1.7**
RC01	**Rabbit Creek A**	**4.52**	**354**	Pn	**Pn**	**12 35 26.1**	**+0.7**
RC01				IAML		12 36 20.1	
	comp=E,16nm,0.9s						
RC01				IAML		12 37 49.4	
	comp=N,27nm,0.3s						
SCM	**Sheep Creek Mo**	**5.28**	**7**	Pn	**Pn**	**12 35 36.6**	**+0.7**
SCM				IAML		12 37 51.5	
	comp=E,14nm,0.8s						
SCM				IAML		12 37 51.9	
	comp=N,14nm,0.7s						
L19K	**White Mountain**	**6.40**	**333**	Pn	**Pn**	**12 35 51.4**	**+0.2**
O29M	**Mount Kennedy**	**6.47**	**51**	Pn	**Pn**	**12 35 52.0**	**-0.3**
M17K	**Holitna River**	**6.58**	**320**	Pn	**Pn**	**12 35 53.3**	**-0.4**
M27K	**Edge Creek, AK**	**6.72**	**28**	Pn	**Pn**	**12 35 56.0**	**+0.3**
N15K	**Kwethluk River**	**6.96**	**305**	Pn	**Pn**	**12 35 58.6**	**-0.3**
K17K	**Iditarod**	**7.81**	**326**	Pn	**Pn**	**12 36 11.6**	**+1.2**
M29M	**Somme Creek**	**7.82**	**37**	Pn	**Pn**	**12 36 09.7**	**-1.0**
R32K	**Eaglecrest**	**7.83**	**72**	Pn	**Pn**	**12 36 12.5**	**+1.7**
ILAR	**Eielson Array**	**8.23**	**5**	Pn	**Pn**	**12 36 15.7**	**-0.6**
	baz=200,slow=6.7,SNR=1.1						
ILAR				LR	LR	12 39 15.0	
	comp=N,875nm,21.6s,baz=56,slow=34						
	comp=N,0.3nm,1.0s						
L29M	**L29M**	**8.40**	**35**	Pn	**Pn**	**12 36 18.2**	**-0.4**
M30M	**Minto, Yukon**	**8.49**	**40**	Pn	**Pn**	**12 36 20.5**	**+0.7**
Q32M	**Nakina River**	**9.09**	**68**	Pn	**Pn**	**12 36 28.8**	**+0.6**
K29M	**Barlow Dome**	**9.12**	**33**	Pn	**Pn**	**12 36 28.3**	**-0.3**
M31M	**Drury Creek, Y**	**9.19**	**47**	Pn	**Pn**	**12 36 28.9**	**-0.5**
YKA	**Yellowknife Ar**	**18.09**	**57**	P	**Pn**	**12 38 28.2**	**+0.2**
	baz=266,slow=11,SNR=3.9						
	comp=N,0.4nm,0.8s						
PDAR	**Pinedale Array**	**28.42**	**102**	P	P	12 40 06.9	-4.8
	comp=N,0.1nm,0.3s,baz=292,slow=7.7,SNR=1.9						
	comp=N,0.1nm,0.3s						

*MDD **24** 12:49:40.3±1.0,32°.65N×6°.72W, h3km±6km, Mb3.9/2, M_mb3.3/2, Error ellipse: s-maj=6.3km s-min=4.2km az=81.0*
*SFS **24** 12:49:40.2,32°.66N×6°.71W, h2km, ML2.6/5, ML2.8/4, MLv2.5/5*

ISC 24 12:49:39.2±1.1,**32°.70N**±0°.05×**6°.73W**±0°.06,**h10**km,**n11,**
σ1ᵎ**36**/16,**2C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**0.83**	**316**	Sg	**Sn**	**12 50 08.3**	**-0.9**
AVE				Pg	**Pb**	**12 49 55.8**	**+0.1**
RTC	**Rabat Centre**	**1.29**	**355**	Sn	**Sg**	**12 50 22.3**	**+1.5**
IFR	**Ifrane**	**1.58**	**58**	Pn	**Pn**	**12 50 07.5**	**+0.2**
IFR				Sn	**Sb**	**12 50 28.6**	**0.0**
TIO	**Tiouine**	**1.82**	**194**	Pn	**Pn**	**12 50 10.7**	**0.0**
TIO				Sn	**Sn**	**12 50 33.7**	**-0.2**
PVLZ	**Peæn de**	**3.19**	**39**	Pn	**Pn**	**12 50 30.5**	**+1.1**
EGRO	**El Granado**	**4.87**	**353**	P	**Pn**	**12 50 52.7**	**+0.3**
EGRO				⇑*i*Vmb_V		12 50 54.2	
	83nm,SNR=1.4						
EADA				P	**Pn**	**12 51 04.9**	**+0.5**
EADA				S	**Sn**	**12 52 08.6**	**-1.7**

DJA 24 12:53:29.2±0.5,**11°S**±4°×**11°8E**±°,**h10**km,**M3.1/6,mb2.2/1,**
MLv3.6/6,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.44**	**5**	P	Pn	12 54 10.2	+1.1
PLAI				S	Sn	12 54 39.1	+0.1
TWSI	**Taliwang, Sumb**	**2.60**	**345**	P	Pn	12 54 11.2	-0.1
DBNI	**Kabupaten Domp**	**2.85**	**15**	P	Pn	12 54 15.5	+0.7
DBNI				S	Sn	12 54 49.7	+0.5
SRBI	**Singaraja**	**3.92**	**324**	P	Pn	12 54 30.8	+1.4
JAGI	**Jajag, Banyuwa**	**4.35**	**309**	P	Pn	12 54 34.2	-1.3
BKSI	**Bulukumba**	**6.43**	**24**	P	Pg	12 55 42.2	+10

*NEIC **24** 12:54:38.2±1.1,56°.21N±0°.10×149°.266W±0°.008, h24km±10km, ML3.5/46, ML3.2(AEIC), Error ellipse: s-maj=14.3km s-min=0.5km az=181.0*
*AEIC **24** 12:54:41.6±1.1,56°.22N±0°.09×149°.2W±0°.1, h11km±7km, Error ellipse: s-maj=13.3km s-min=8.6km az=173.0*

ISC 24 12:54:36.2±1.9,**56°.3N**±0°.1×**149°.28W**±0°.06,**h10**km,**n136,**
σ1ᵎ**19**/142,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.37**	**312**		**Pn**	**12 55 15.7**	**+0.6**
KDAK					**Sn**	**12 55 43.4**	**-0.8**
OHAK	**Old Harbor**	**2.41**	**295**		**Pn**	**12 55 15.7**	**0.0**
OHAK					**Sn**	**12 55 43.6**	**-1.7**
OHAK	**Old Harbor**	**2.41**	**295**	P	**Pn**	**12 55 15.6**	**-0.1**
	baz=112						
OHAK				S	**Sn**	**12 55 43.1**	**-2.1**
	baz=112						
SYI	**Shuyak Island**	**2.90**	**326**		**Pn**	**12 55 23.1**	**+0.7**
SYI				IAML		12 55 58.6	
	comp=N,73nm,1.8s						
Q20K	**Shuyak Island**	**2.90**	**326**	P	**Pn**	**12 55 23.1**	**+0.7**
	baz=143						
Q20K				S	**Sn**	**12 55 56.6**	**-0.7**
	baz=143						
CNPM	**China Poot**	**3.44**	**343**		**Pn**	**12 55 30.6**	**+0.7**
CNPM				IAML		12 56 13.1	
	comp=E,66nm,1.5s						
Q23K	**Middleton Isla**	**3.55**	**25**		**Pn**	**12 55 31.1**	**-0.1**
Q23K	**Middleton Isla**	**3.55**	**25**		**Sn**	**12 56 11.9**	**-1.3**
Q23K	**Middleton Isla**	**3.55**	**25**	P	**Pn**	**12 55 31.4**	**+0.1**
	baz=207						
Q23K				S	**Sn**	**12 56 11.9**	**-1.3**
	baz=207						
MID	**Middleton Isla**	**3.55**	**25**	Pn	**Pn**	**12 55 31.1**	**-0.2**
MID				IAML		12 56 18.0	
	comp=N,165nm,1.5s						
Q19K	**Cape Douglas,**	**3.56**	**321**		**Pn**	**12 55 32.9**	**+1.3**
Q19K				IAML		12 57 05.6	
	comp=N,170nm,1.5s						
Q19K	**Cape Douglas,**	**3.56**	**321**	P	**Pn**	**12 55 32.8**	**+1.3**
	baz=137						
BRSE	**Bradley Lake S**	**3.58**	**348**		**Pn**	**12 55 32.3**	**+0.5**
BRSE					**Sn**	**12 56 13.0**	**-1.1**
BRSE	**Bradley Lake S**	**3.58**	**348**	P	**Pn**	**12 55 32.3**	**+0.5**
	baz=167						
BRSE				S	**Sn**	**12 56 13.0**	**-1.1**
	baz=167						
BRLK	**Bradley Lake**	**3.62**	**347**		**Pn**	**12 55 32.7**	**+0.4**
BRLK				IAML		12 56 17.5	
	comp=E,54nm,1.6s						
KAHG	**Katmai Hook Gl**	**3.63**	**310**		**Pn**	**12 55 34.5**	**+2.1**
KCG	**Knife Ck. Glac**	**3.78**	**305**		**Pn**	**12 55 36.2**	**+1.8**
ACHA	**Angle Creek He**	**3.83**	**303**		**Pn**	**12 55 37.0**	**+1.8**
AUL	**Augustine Lava**	**3.84**	**326**		**Pn**	**12 55 37.0**	**+1.6**
SEW	**Seward**	**3.86**	**359**		**Pn**	**12 55 35.7**	**+0.1**
SEW	**Seward**	**3.86**	**359**	P	**Pn**	**12 55 35.7**	**+0.1**
	baz=178						
P23K	**Montague Islan**	**3.88**	**14**		**Pn**	**12 55 35.8**	**-0.1**
P23K	**Montague Islan**	**3.88**	**14**	P	**Pn**	**12 55 35.8**	**-0.1**
	baz=195						
ANCK	**Angle Creek**	**3.90**	**303**		**Pn**	**12 55 38.5**	**+2.3**
P19K	**Oil Pt**	**4.00**	**330**		**Pn**	**12 55 38.8**	**+1.2**
P19K				IAML		12 56 27.6	
	comp=N,80nm,0.7s						
P19K				IAML		12 56 53.2	
	comp=E,80nm,1.9s						
P19K	**Oil Pt**	**4.00**	**330**	P	**Pn**	**12 55 38.8**	**+1.2**
	baz=147						
CNTC	**Contact Creek**	**4.11**	**302**		**Pn**	**12 55 40.8**	**+1.6**
Q17K	**Contact Creek**	**4.12**	**302**	P	**Pn**	**12 55 40.8**	**+1.6**
	baz=117						
O22K	**Cooper Landing**	**4.25**	**357**	Pn	**Pn**	**12 55 41.7**	**+0.8**
SLKM	**Skilak Lake**	**4.29**	**354**		**Pn**	**12 55 42.1**	**+0.5**
HIN	**Hinchinbrook I**	**4.40**	**18**		**Pn**	**12 55 43.6**	**+0.6**
HIN				IAML		12 57 04.0	
	comp=E,73nm,1.8s						
HIN				IAML		12 58 34.5	
	comp=N,65nm,2.0s						
P18K	**Big Mountain,**	**4.47**	**317**		**Pn**	**12 55 44.7**	**+0.7**
P18K	**Big Mountain,**	**4.47**	**317**	P	**Pn**	**12 55 44.8**	**+0.7**
	baz=132						
KAIM	**Kayak Island**	**4.49**	**33**		**Pn**	**12 55 45.0**	**+0.7**
KAIM	**Kayak Island**	**4.49**	**33**	P	**Pn**	**12 55 44.8**	**+0.5**
	baz=217						
RED	**Redoubt Volcan**	**4.56**	**338**		**Pn**	**12 55 45.4**	**+0.1**
RSO	**Redoubt South**	**4.60**	**338**	Pn	**Pn**	**12 55 45.4**	**-0.5**
CAPN	**Captain Cook N**	**4.63**	**349**	Pn	**Pn**	**12 55 47.7**	**+1.6**
EYAK	**Cordova Ski Ar**	**4.69**	**22**		**Pn**	**12 55 47.6**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.69**	**22**	P	**Pn**	**12 55 47.4**	**+0.5**
	baz=204						
R16K	**Pilot Point**	**4.73**	**290**		**Pn**	**12 55 48.7**	**+1.1**
R16K	**Pilot Point**	**4.73**	**290**	P	**Pn**	**12 55 49.3**	**+1.8**
	baz=103						
O19K	**Port Alsworth**	**4.76**	**328**		**Pn**	**12 55 48.5**	**+0.5**
O19K				IAML		12 56 43.8	
	comp=E,62nm,0.5s						
O19K				IAML		12 56 45.0	
	comp=N,52nm,0.4s						
O19K	**Port Alsworth**	**4.76**	**328**	P	**Pn**	**12 55 48.4**	**+0.5**
	baz=144						
RAGM	**Ragged Mountai**	**4.80**	**28**	Pn	**Pn**	**12 55 48.8**	**+0.2**
RAGM				IAML		12 56 57.7	
	comp=N,56nm,1.2s						
RAGM				IAML		12 57 06.4	
	comp=E,56nm,1.7s						
P17K	**Kvichak River**	**4.84**	**310**		**Pn**	**12 55 50.7**	**+1.7**
P17K	**Kvichak River**	**4.84**	**310**	P	**Pn**	**12 55 50.7**	**+1.7**
	baz=125						
RC01	**Rabbit Creek A**	**4.85**	**357**		**Pn**	**12 55 49.5**	**+0.3**
RC01	**Rabbit Creek A**	**4.85**	**357**	P	**Pn**	**12 55 49.2**	**-0.1**
	baz=177						
GOAT	**Goat Mountain**	**4.95**	**27**		**Pn**	**12 55 51.5**	**+0.8**
ANNW	**Aniakchak Nort**	**4.99**	**282**		**Pn**	**12 55 53.1**	**+1.9**
BERG	**Berg Lake**	**5.08**	**33**		**Pn**	**12 55 53.0**	**+0.6**
BERG				IAML		12 56 52.2	
	comp=N,34nm,1.3s						
BERG				IAML		12 56 55.6	
	comp=E,30nm,1.7s						
KNK	**Knik Glacier**	**5.19**	**4**		**Pn**	**12 55 54.6**	**+0.7**
KNK	**Knik Glacier**	**5.19**	**4**	P	**Pn**	**12 55 54.9**	**+1.0**
	baz=185						
SNH	**Sunshine Point**	**5.20**	**38**		**Pn**	**12 55 54.7**	**+0.6**
SNH				IAML		12 58 37.9	
	comp=E,24nm,1.9s						
SNH				IAML		12 59 08.8	
	comp=N,41nm,2.0s						
DIV	**Divide**	**5.22**	**19**		**Pn**	**12 55 55.2**	**+0.9**
SUA	**Susitna One**	**5.28**	**352**	Pn	**Pn**	**12 55 55.7**	**+0.6**
SUA				IAML		12 56 56.5	
	comp=E,14nm,1.7s						
SUA				IAML		12 57 13.5	
	comp=N,12nm,1.3s						
BMRM	**Bremner River**	**5.32**	**25**		**Pn**	**12 55 56.2**	**+0.5**
BMRM	**Bremner River**	**5.32**	**25**	P	**Pn**	**12 55 56.6**	**+0.9**
	baz=209						
N19K	**Bonanza Creek**	**5.32**	**331**		**Pn**	**12 55 56.3**	**+0.6**
N19K				IAML		12 57 01.2	
	comp=N,12nm,1.7s						
N19K	**Bonanza Creek**	**5.32**	**331**	P	**Pn**	**12 55 56.1**	**+0.3**
	baz=147						
PMR	**Palmer**	**5.35**	**1**	Pn	**Pn**	**12 55 56.9**	**+0.8**
SPNN	**North Nagishla**	**5.42**	**342**		**Pn**	**12 55 58.2**	**+1.0**
P16K	**Nushagak River**	**5.44**	**304**		**Pn**	**12 55 58.9**	**+1.6**
P16K	**Nushagak River**	**5.44**	**304**	P	**Pn**	**12 55 58.9**	**+1.6**
	baz=117						
BARK	**Barkley Ridge**	**5.48**	**38**		**Pn**	**12 55 58.5**	**+0.6**
KLU	**Klutina**	**5.53**	**17**		**Pn**	**12 55 59.6**	**+1.0**
KLU	**Klutina**	**5.53**	**17**	P	**Pn**	**12 55 59.7**	**+1.1**
	baz=200						
GHO	**Glory Hole Cre**	**5.54**	**2**		**Pn**	**12 56 00.2**	**+1.5**
SML	**Sawmill**	**5.59**	**5**		**Pn**	**12 56 00.2**	**+0.9**
SML	**Sawmill**	**5.59**	**5**	P	**Pn**	**12 56 01.0**	**+1.6**
	baz=185						
N18K	**Kilae Creek**	**5.63**	**325**		**Pn**	**12 56 00.4**	**+0.5**
N18K	**Kilae Creek**	**5.63**	**325**	P	**Pn**	**12 56 00.4**	**+0.5**
	baz=139						
O16K	**Kokwok River B**	**5.77**	**309**		**Pn**	**12 56 02.9**	**+1.1**
O16K	**Kokwok River B**	**5.77**	**309**	P	**Pn**	**12 56 03.1**	**+1.3**
	baz=122						
VRDI	**Verde Repeater**	**5.83**	**29**		**Pn**	**12 56 03.4**	**+0.5**
N25K	**Chitina, Valde**	**5.89**	**22**		**Pn**	**12 56 04.5**	**+1.0**
N25K	**Chitina, Valde**	**5.89**	**22**	P	**Pn**	**12 56 04.7**	**+1.2**
	baz=206						
KIAG	**Kiagna River**	**5.91**	**35**		**Pn**	**12 56 04.7**	**+0.8**
GLB	**Gilahina Butte**	**5.92**	**26**		**Pn**	**12 56 04.6**	**+0.7**
SAMH	**Samovar Hills**	**5.94**	**46**		**Pn**	**12 56 05.3**	**+1.1**
N17K	**Nushagak Hills**	**5.97**	**319**		**Pn**	**12 56 04.9**	**+0.4**
N17K	**Nushagak Hills**	**5.97**	**319**	P	**Pn**	**12 56 05.4**	**+0.9**
	baz=132						
M24K	**Tolsona, Glenn**	**6.08**	**14**		**Pn**	**12 56 08.1**	**+2.0**
M24K	**Tolsona, Glenn**	**6.08**	**14**	P	**Pn**	**12 56 09.0**	**+2.9**
	baz=196						
PTPK	**Patty Peak**	**6.08**	**33**		**Pn**	**12 56 07.2**	**+0.9**
PCA	**Pinnacle**	**6.13**	**47**		**Pn**	**12 56 07.5**	**+0.7**
PINM	**Pinnacle**	**6.13**	**47**	P	**Pn**	**12 56 07.7**	**+0.9**
	baz=235						
BARN	**Barnard Glacie**	**6.24**	**36**		**Pn**	**12 56 09.3**	**+0.9**
PNL	**Peninsula**	**6.27**	**53**		**Pn**	**12 56 09.5**	**+0.8**
PNL	**Peninsula**	**6.27**	**53**	P	**Pn**	**12 56 09.5**	**+0.8**
	baz=241						
CTG	**Chitna Glacier**	**6.28**	**38**	P	**Pn**	**12 56 09.7**	**+0.8**
	baz=224						
CTGM	**Chitina Glacie**	**6.28**	**38**		**Pn**	**12 56 09.5**	**+0.5**
WACK	**Wrangell Chich**	**6.29**	**22**		**Pn**	**12 56 10.1**	**+1.0**
LOGN	**Logan Glacier**	**6.30**	**40**		**Pn**	**12 56 09.9**	**+0.7**
BCPM	**Bancas Point**	**6.31**	**50**		**Pn**	**12 56 10.1**	**+0.8**
O15K	**Ungalikthiuk R**	**6.36**	**302**		**Pn**	**12 56 11.5**	**+1.5**
O15K	**Ungalikthiuk R**	**6.36**	**302**	P	**Pn**	**12 56 11.5**	**+1.5**
	baz=113						
SDPT	**Sand Point**	**6.38**	**266**	Pn	**Pn**	**12 56 10.8**	**+0.6**
M17K	**Holitna River**	**6.67**	**324**	Pn	**Pn**	**12 56 15.1**	**+0.9**
DHY	**Denali Highway**	**6.91**	**7**	Pn	**Pn**	**12 56 19.3**	**+1.7**
N15K	**Kwethluk River**	**6.93**	**309**	Pn	**Pn**	**12 56 19.9**	**+2.2**
O29M	**Mount Kennedy**	**6.95**	**50**		**Pn**	**12 56 19.2**	**+1.1**
O29M	**Mount Kennedy**	**6.95**	**50**	P	**Pn**	**12 56 19.2**	**+1.1**
	baz=239						
M16K	**Timber Creek**	**6.95**	**317**	Pn	**Pn**	**12 56 19.3**	**+1.3**
P29M	**Windy Craggy**	**7.01**	**56**		**Pn**	**12 56 19.1**	**+0.2**
P29M	**Windy Craggy**	**7.01**	**56**	P	**Pn**	**12 56 18.9**	**0.0**
	baz=246						
YUK8	**Steele Glacier**	**7.06**	**41**		**Pn**	**12 56 22.0**	**+2.2**
YUK8	**Steele Glacier**	**7.06**	**41**	P	**Pn**	**12

AMTX	**Amarillo**	**2.79**	**222**	IAmb_Lg	13 07 02.2
	comp=Z,6.2nm,0.9s				
PLPT	**Palo Pinto**	**4.24**	**168**	IAmb_Lg	13 07 51.8
	comp=Z,4.7nm,0.9s				

*IDC **24** 13:21:28.4±2.5,55°.98N×148°.74W,h0km,mb3.5/5, mbtmp3.5/10,ML3.4/5,Error ellipse: s-maj=50.0km s-min=24.0km az=174.0*
*NEIC **24** 13:21:34.6±1.1,56°.4N±0°.1×148°.9W±0°.1,h23km±7km, mb3.9/4,ML3.8/46,ML3.6(AEIC),Error ellipse: s-maj=16.0km s-min=8.0km az=173.0*
*AEIC **24** 13:21:39.2±1.6,56°.5N±0°.1×148°.79W±0°.08,h12km±6km, Error ellipse: s-maj=15.4km s-min=6.2km az=174.0*
ISC 24 13:21:32.6±0.9,56°.46N±0°.09×148°.86W±0°.05,h10km, n184,σ1§27/185,mb3.6/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.43**	**305**	Pn	**Pn**	**13 22 12.8**	**+0.5**
KDAK				IAML		13 22 41.9	
	170nm,0.5s						
KDAK				IAML		13 22 45.6	
	99nm,0.6s						
KDAK	**Kodiak Island**	**2.43**	**305**	Pn	**Pn**	**13 22 12.4**	**+0.1**
	6.1nm,0.3s,baz=134,slow=5.1,SNR=15						
KDAK				Sn	**Sn**	**13 22 40.4**	**-1.6**
	22nm,0.3s,baz=32,slow=23,SNR=22 14nm,0.3s						
OHAK	**Old Harbor**	**2.55**	**289**	Pn	**Pn**	**13 22 13.9**	**-0.1**
OHAK	**Old Harbor**	**2.55**	**289**	P	**Pn**	**13 22 14.4**	**+0.4**
	baz=108						
OHAK				S	**Sn**	**13 22 42.6**	**-2.4**
	baz=108						
SYI	**Shuyak Island**	**2.88**	**320**		**Pn**	**13 22 19.5**	**+1.0**
SYI				IAML		13 22 54.8	
	comp=N,270nm,0.5s						
Q20K	**Shuyak Island**	**2.88**	**320**	P	**Pn**	**13 22 19.4**	**+0.9**
	baz=139						
Q20K				S	**Sn**	**13 22 52.9**	**-0.2**
	baz=139						
SII	**Sitkinak Islan**	**2.95**	**274**	S	**Sn**	**13 22 53.7**	**-1.3**
	baz=91						
Q23K	**Middleton Isla**	**3.26**	**23**	Pn	**Pn**	**13 22 23.8**	**0.0**
Q23K				IAML		13 23 08.8	
	comp=N,149nm,1.0s						
Q23K				IAML		13 23 10.3	
	comp=E,191nm,1.1s						
Q23K	**Middleton Isla**	**3.26**	**23**	P	**Pn**	**13 22 23.8**	**0.0**
	baz=205						
Q23K				S	**Sn**	**13 23 01.0**	**-1.6**
	baz=205						
MID	**Middleton Isla**	**3.27**	**23**	Pn	**Pn**	**13 22 23.6**	**-0.2**
MID				IAML		13 23 08.8	
	comp=N,178nm,1.1s						
MID				IAML		13 23 14.2	
	comp=E,183nm,1.1s						
MID	**Middleton Isla**	**3.27**	**23**	P	**Pn**	**13 22 24.1**	**+0.3**
CNPM	**China Poot**	**3.33**	**339**	Pn	**Pn**	**13 22 25.2**	**+0.5**
CNPM				IAML		13 23 10.0	
	comp=N,119nm,0.7s						
CNPM				IAML		13 23 11.6	
	comp=E,120nm,0.8s						
BRSE	**Bradley Lake S**	**3.44**	**344**		**Pn**	**13 22 27.1**	**+0.9**
BRSE	**Bradley Lake S**	**3.44**	**344**	P	**Pn**	**13 22 27.1**	**+0.9**
	baz=163						
BRSE				S	**Sn**	**13 23 04.6**	**-2.4**
	baz=163						
BRLK	**Bradley Lake**	**3.48**	**343**		**Pn**	**13 22 27.2**	**+0.3**
BRLK				IAML		13 23 10.8	
	comp=N,142nm,0.7s						
BRLK				IAML		13 23 12.4	
	comp=E,130nm,0.6s						
HOM	**Homer**	**3.53**	**336**	Pn	**Pn**	**13 22 28.6**	**+1.1**
HOM				IAML		13 23 31.6	
	comp=N,376nm,1.4s						
HOM	**Homer**	**3.53**	**336**	P	**Pn**	**13 22 28.5**	**+1.1**
	baz=155						
Q19K	**Cape Douglas,**	**3.57**	**316**		**Pn**	**13 22 28.5**	**+0.5**
Q19K	**Cape Douglas,**	**3.57**	**316**	P	**Pn**	**13 22 29.4**	**+1.4**
	baz=133						
P23K	**Montague Islan**	**3.63**	**12**		**Pn**	**13 22 28.9**	**+0.1**
P23K	**Montague Islan**	**3.63**	**12**	P	**Pn**	**13 22 28.9**	**+0.1**
	baz=193						
SEW	**Seward**	**3.67**	**355**		**Pn**	**13 22 29.7**	**+0.4**
SEW	**Seward**	**3.67**	**355**	P	**Pn**	**13 22 29.7**	**+0.4**
	baz=176						
AUCH	**Augustine Cone**	**3.80**	**322**		**Pn**	**13 22 33.2**	**+2.0**
AUL	**Augustine Lava**	**3.81**	**322**		**Pn**	**13 22 33.7**	**+2.3**
ACHA	**Angle Creek He**	**3.92**	**299**		**Pn**	**13 22 35.2**	**+2.4**
P19K	**Oil Pt**	**3.96**	**326**		**Pn**	**13 22 34.5**	**+1.2**
P19K	**Oil Pt**	**3.96**	**326**	IAML		13 23 25.8	
	comp=N,248nm,0.5s						
P19K	**Oil Pt**	**3.96**	**326**	P	**Pn**	**13 22 34.5**	**+1.2**
	baz=143						
O22K	**Cooper Landing**	**4.06**	**354**		**Pn**	**13 22 36.0**	**+1.3**
O22K	**Cooper Landing**	**4.06**	**354**	P	**Pn**	**13 22 36.0**	**+1.3**
	baz=174						
SLKM	**Skilak Lake**	**4.12**	**351**		**Pn**	**13 22 36.8**	**+1.1**
HIN	**Hinchinbrook I**	**4.14**	**16**	Pn	**Pn**	**13 22 36.2**	**+0.3**
HIN				IAML		13 23 27.2	
	comp=E,172nm,0.7s						
O20K	**Slope Mountain**	**4.14**	**333**		**Pn**	**13 22 36.7**	**+0.8**
O20K	**Slope Mountain**	**4.14**	**333**	P	**Pn**	**13 22 36.7**	**+0.8**
	baz=151						
IVE	**Iliamna Volcan**	**4.19**	**330**		**Pn**	**13 22 37.4**	**+0.8**
KAIM	**Kayak Island**	**4.20**	**32**	Pn	**Pn**	**13 22 37.3**	**+0.7**
KAIM				IAML		13 23 30.0	
	comp=N,175nm,1.2s						
KAIM				IAML		13 23 31.0	
	comp=E,192nm,0.6s						
KAIM	**Kayak Island**	**4.20**	**32**	P	**Pn**	**13 22 37.5**	**+0.9**
	baz=216						
CNTC	**Contact Creek**	**4.21**	**298**		**Pn**	**13 22 39.0**	**+2.1**
Q17K	**Contact Creek**	**4.21**	**298**	P	**Pn**	**13 22 39.0**	**+2.0**
	baz=114						
EYAK	**Cordova Ski Ar**	**4.41**	**20**		**Pn**	**13 22 40.4**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.41**	**20**	P	**Pn**	**13 22 40.4**	**+0.9**
	baz=203						
P18K	**Big Mountain,**	**4.49**	**314**		**Pn**	**13 22 41.9**	**+1.2**
P18K	**Big Mountain,**	**4.49**	**314**	P	**Pn**	**13 22 41.4**	**+0.7**
	baz=129						
RDSO	**Redoubt South**	**4.50**	**335**		**Pn**	**13 22 41.6**	**+0.7**
RSO	**Redoubt South**	**4.50**	**335**		**Pn**	**13 22 41.3**	**+0.3**
RAGM	**Ragged Mountai**	**4.51**	**27**		**Pn**	**13 22 41.4**	**+0.4**
RDT	**Redoubt**	**4.53**	**337**		**Pn**	**13 22 41.5**	**+0.3**
RDWB	**Redoubt West**	**4.55**	**334**		**Pn**	**13 22 42.3**	**+0.7**
GOAT	**Goat Mountain**	**4.67**	**26**		**Pn**	**13 22 43.9**	**+0.8**
RC01	**Rabbit Creek A**	**4.67**	**355**		**Pn**	**13 22 43.7**	**+0.7**
RC01				IAML		13 23 37.5	
	comp=E,119nm,0.5s						
RC01				IAML		13 23 38.3	
	comp=N,93nm,0.4s						
RC01	**Rabbit Creek A**	**4.67**	**355**	P	**Pn**	**13 22 43.9**	**+0.9**
	baz=174						
BERG	**Berg Lake**	**4.78**	**32**		**Pn**	**13 22 45.2**	**+0.5**
BERG	**Berg Lake**	**4.78**	**32**	IAML		13 23 42.9	
	comp=E,121nm,0.6s						
BERG				IAML		13 23 48.5	
	comp=N,121nm,0.6s						
SNH	**Sunshine Point**	**4.90**	**38**		**Pn**	**13 22 47.0**	**+0.7**
SNH				IAML		13 23 47.2	
	comp=E,56nm,1.4s						
SNH				IAML		13 23 47.9	
	comp=N,52nm,1.4s						
DIV	**Divide**	**4.95**	**18**		**Pn**	**13 22 48.0**	**+1.0**
KNK	**Knik Glacier**	**4.97**	**2**		**Pn**	**13 22 48.4**	**+1.1**
KNK	**Knik Glacier**	**4.97**	**2**	IAML		13 23 51.0	
	comp=E,71nm,1.0s						
KNK				IAML		13 23 52.1	
	comp=N,40nm,0.5s						
KNK	**Knik Glacier**	**4.97**	**2**	P	**Pn**	**13 22 48.4**	**+1.1**
	baz=183						
BMRM	**Bremner River**	**5.03**	**24**		**Pn**	**13 22 49.0**	**+0.8**
BMRM	**Bremner River**	**5.03**	**24**	P	**Pn**	**13 22 49.0**	**+0.8**
	baz=208						
SPBG	**Spurr Blockage**	**5.15**	**341**		**Pn**	**13 22 50.1**	**+0.3**
PMR	**Palmer**	**5.15**	**359**	Pn	**Pn**	**13 22 51.3**	**+1.6**
PMR				IAML		13 23 47.5	
	comp=E,52nm,0.9s						
PMR				IAML		13 23 50.7	
	comp=N,45nm,0.5s						
PMR	**Palmer**	**5.15**	**359**	P	**Pn**	**13 22 52.4**	**+2.7**
PMR	**Palmer**	**5.15**	**359**	P	**Pn**	**13 22 50.5**	**+0.9**
	baz=179						
BARK	**Barkley Ridge**	**5.18**	**38**		**Pn**	**13 22 50.8**	**+0.6**
N19K	**Bonanza Creek**	**5.26**	**328**		**Pn**	**13 22 51.7**	**+0.4**
N19K	**Bonanza Creek**	**5.26**	**328**	P	**Pn**	**13 22 52.0**	**+0.7**
	baz=144						
KLU	**Klutina**	**5.27**	**16**		**Pn**	**13 22 52.6**	**+1.1**
KLU				IAML		13 23 54.8	
	comp=N,54nm,0.5s						
KLU				IAML		13 23 56.2	
	comp=E,64nm,0.4s						
KLU	**Klutina**	**5.27**	**16**	P	**Pn**	**13 22 52.5**	**+1.1**
	baz=198						
STLK	**Strandline Lak**	**5.28**	**344**		**Pn**	**13 22 53.1**	**+1.5**
SPNN	**North Nagishla**	**5.31**	**340**		**Pn**	**13 22 53.0**	**+1.0**
GHO	**Glory Hole Cre**	**5.33**	**360**	Pn	**Pn**	**13 22 53.6**	**+1.4**
SML	**Sawmill**	**5.37**	**3**	Pn	**Pn**	**13 22 53.5**	**+0.8**
SML	**Sawmill**	**5.37**	**3**	P	**Pn**	**13 22 54.1**	**+1.3**
	baz=184						
M23K	**Glacier View**	**5.38**	**6**		**Pn**	**13 22 54.5**	**+1.6**
M23K	**Glacier View**	**5.38**	**6**	P	**Pn**	**13 22 54.5**	**+1.6**
	baz=187						
SCM	**Sheep Creek Mo**	**5.45**	**8**		**Pn**	**13 22 55.2**	**+1.4**
SCM	**Sheep Creek Mo**	**5.45**	**8**	P	**Pn**	**13 22 54.9**	**+1.0**
	baz=189						
VRDI	**Verde Repeater**	**5.54**	**28**		**Pn**	**13 22 55.7**	**+0.4**
N18K	**Kilae Creek**	**5.61**	**322**		**Pn**	**13 22 56.5**	**+0.5**
N18K	**Kilae Creek**	**5.61**	**322**	P	**Pn**	**13 22 56.5**	**+0.5**
	baz=137						
N25K	**Chitina, Valde**	**5.61**	**21**		**Pn**	**13 22 57.3**	**+1.2**
N25K	**Chitina, Valde**	**5.61**	**21**	P	**Pn**	**13 22 56.9**	**+0.8**
	baz=205						
SAMH	**Samovar Hills**	**5.63**	**46**		**Pn**	**13 22 57.1**	**+0.7**
GLB	**Gilahina Butte**	**5.64**	**25**	Pn	**Pn**	**13 22 57.2**	**+0.8**
SKT	**Skwentna**	**5.70**	**347**		**Pn**	**13 22 58.0**	**+0.7**
PCA	**Pinnacle**	**5.82**	**48**		**Pn**	**13 23 00.4**	**+1.4**
PINM	**Pinnacle**	**5.82**	**48**	P	**Pn**	**13 23 00.4**	**+1.4**
	baz=235						
O16K	**Kokwok River B**	**5.83**	**306**		**Pn**	**13 22 59.7**	**+0.8**
O16K	**Kokwok River B**	**5.83**	**306**	P	**Pn**	**13 23 00.1**	**+1.2**
	baz=120						
M24K	**Tolsona, Glenn**	**5.83**	**13**		**Pn**	**13 23 01.0**	**+1.9**
M24K	**Tolsona, Glenn**	**5.83**	**13**	P	**Pn**	**13 23 00.2**	**+1.2**
	baz=195						
BARN	**Barnard Glacie**	**5.94**	**36**		**Pn**	**13 23 01.3**	**+0.6**
PNL	**Peninsula**	**5.96**	**53**		**Pn**	**13 23 01.6**	**+0.8**
PNL	**Peninsula**	**5.96**	**53**	P	**Pn**	**13 23 01.7**	**+0.8**
	baz=241						
N17K	**Nushagak Hills**	**5.97**	**316**		**Pn**	**13 23 01.6**	**+0.6**
N17K	**Nushagak Hills**	**5.97**	**316**	P	**Pn**	**13 23 01.6**	**+0.6**
	baz=130						
CTG	**Chitna Glacier**	**5.98**	**38**	P	**Pn**	**13 23 01.8**	**+0.7**
	baz=224						
CTGM	**Chitina Glacie**	**5.98**	**38**		**Pn**	**13 23 01.7**	**+0.5**
LOGN	**Logan Glacier**	**6.00**	**40**		**Pn**	**13 23 02.5**	**+1.1**
BCPM	**Bancas Point**	**6.00**	**50**		**Pn**	**13 23 02.4**	**+1.0**
WACK	**Wrangell Chich**	**6.01**	**21**		**Pn**	**13 23 02.8**	**+1.0**
M19K	**Big River Lodg**	**6.15**	**335**		**Pn**	**13 23 04.0**	**+0.5**
M19K	**Big River Lodg**	**6.15**	**335**	P	**Pn**	**13 23 04.0**	**+0.5**
	baz=151						
WAT6	**Susitna Watana**	**6.17**	**5**		**Pn**	**13 23 04.7**	**+0.9**
WAT6	**Susitna Watana**	**6.17**	**5**	P	**Pn**	**13 23 04.7**	**+0.9**
	baz=186						
M18K	**Stony River**	**6.20**	**327**		**Pn**	**13 23 04.8**	**+0.7**
M18K	**Stony River**	**6.20**	**327**	P	**Pn**	**13 23 04.8**	**+0.7**
	baz=142						
HARP	**HAARP**	**6.25**	**16**		**Pn**	**13 23 06.3**	**+1.6**
HARP	**HAARP**	**6.25**	**16**	P	**Pn**	**13 23 06.4**	**+1.6**
	baz=199						
WAT7	**Susitna Watana**	**6.39**	**0**		**Pn**	**13 23 08.6**	**+1.7**
L19K	**White Mountain**	**6.50**	**334**		**Pn**	**13 23 08.9**	**+0.6**
O29M	**Mount Kennedy**	**6.64**	**50**		**Pn**	**13 23 11.3**	**+1.1**
M17K	**Holitna River**	**6.65**	**322**		**Pn**	**13 23 11.2**	**+0.9**
M17K	**Holitna River**	**6.65**	**322**	P	**Pn**	**13 23 11.2**	**+0.9**
	baz=135						
M26K	**Nabesna, AK**	**6.67**	**24**	Pn	**Pn**	**13 23 11.9**	**+1.4**
DHY	**Denali Highway**	**6.68**	**6**		**Pn**	**13 23 11.8**	**+1.0**
DHY	**Denali Highway**	**6.68**	**6**	P	**Pn**	**13 23 11.6**	**+0.8**
	baz=187						
P29M	**Windy Craggy**	**6.70**	**57**		**Pn**	**13 23 11.9**	**+0.9**
P29M	**Windy Craggy**	**6.70**	**57**	P	**Pn**	**13 23 11.9**	**+0.9**
	baz=246						
YUK2	**White River**	**6.75**	**34**		**Pn**	**13 23 13.5**	**+1.8**
YUK8	**Steele Glacier**	**6.75**	**40**		**Pn**	**13 23 14.4**	**+2.4**
YUK8	**Steele Glacier**	**6.75**	**40**	P	**Pn**	**13 23 14.4**	**+2.4**
	baz=228						
YUK3	**Moose Creek**	**6.86**	**36**		**Pn**	**13 23 15.3**	**+1.9**
YUK3	**Moose Creek**	**6.86**	**36**	P	**Pn**	**13 23 15.3**	**+1.9**
	baz=223						
YUK7	**Dusty Glacier**	**6.94**	**50**		**Pn**	**13 23 16.0**	**+1.6**
TRF	**Thorofare Moun**	**7.05**	**355**		**Pn**	**13 23 16.9**	**+1.0**
YUK6	**Outpost Mounta**	**7.07**	**46**		**Pn**	**13 23 18.3**	**+2.0**
YUK6	**Outpost Mounta**	**7.07**	**46**	P	**Pn**	**13 23 18.3**	**+2.0**
	baz=235						
L26K	**Log Cabin Wild**	**7.15**	**21**		**Pn**	**13 23 18.4**	**+1.3**
CAST	**Castle Rocks**	**7.17**	**348**		**Pn**	**13 23 20.2**	**+2.8**
O14K	**Tigyukauivet M**	**7.19**	**298**	Pn	**Pn**	**13 23 18.1**	**+0.5**
KTH	**Kantishna Hill**	**7.19**	**353**		**Pn**	**13 23 19.3**	**+1.6**
YUK4	**Talbot Arm**	**7.20**	**43**	P	**Pn**	**13 23 21.6**	**+3.5**
	baz=231						
YUK5	**Granite Creek**	**7.38**	**46**		**Pn**	**13 23 22.5**	**+2.0**
TTA	**Tatalina**	**7.43**	**334**	Pn	**Pn**	**13 23 21.6**	**+0.6**
L27K	**Beaver Creek,**	**7.51**	**25**	Pn	**Pn**	**13 23 23.3**	**+1.2**
RIDG	**Independent Ri**	**7.57**	**14**		**Pn**	**13 23 24.4**	**+1.4**
L16K	**Owhat River**	**7.58**	**318**		**Pn**	**13 23 23.3**	**+0.3**
BPAW	**Bear Paw Mtn.**	**7.74**	**353**		**Pn**	**13 23 26.6**	**+1.4**
N30M	**Aishikik Lake**	**7.88**	**46**		**Pn**	**13 23 28.2**	**+1.0**
K17K	**Iditarod**	**7.89**	**327**		**Pn**	**13 23 27.9**	**+0.6**
M29M	**Somme Creek**	**8.00**	**37**		**Pn**	**13 23 30.1**	**+1.3**
HDA	**Harding Lake**	**8.03**	**6**		**Pn**	**13 23 30.7**	**+1.5**
JIS	**Juneau Island**	**8.03**	**71**	P	**Pn**	**13 23 32.1**	**+2.9**
NEA2	**Nenana**	**8.16**	**359**		**Pn**	**13 23 31.7**	**+0.7**
J19K	**Poorman**	**8.27**	**339**	Pn	**Pn**	**13 23 33.2**	**+0.8**
K27K	**Chicken**	**8.30**	**21**	Pn	**Pn**	**13 23 34.4**	**+1.5**
IL31		**8.39**	**6**		**Pn**	**13 23 34.9**	**+0.7**
ILAR	**Eielson Array**	**8.39**	**6**	Pn	**Pn**	**13 23 34.9**	**+0.7**
	comp=E,0.3nm,0.3s,baz=187,slow=14,SNR=13 comp=E,1.1nm,0.4s						
N31M	**Braeburn, Yuko**	**8.42**	**48**		**Pn**	**13 23 36.2**	**+1.7**
WHY	**Whitehorse**	**8.43**	**54**		**Pn**	**13 23 36.4**	**+1.7**
COLA	**College**	**8.46**	**3**	P	**Pn**	**13 23 37.9**	**+2.9**
J26L	**Joseph Creek**	**8.48**	**16**		**Pn**	**13 23 37.2**	**+1.8**
L29M	**L29M**	**8.58**	**35**		**Pn**	**13 23 38.4**	**+1.7**
M30M	**Minto, Yukon**	**8.66**	**40**		**Pn**	**13 23 39.8**	**+1.9**
K15K	**Wolf Creek Mou**	**8.71**	**317**	Pn	**Pn**	**13 23 39.6**	**+1.1**
DAWY	**Dawson**	**8.95**	**28**		**Pn**	**13 23 43.1**	**+1.3**
EGAK	**Eagle**	**9.15**	**21**		**Pn**	**13 23 45.7**	**+1.1**
P33M	**Teslin, Yukon**	**9.23**	**59**		**Pn**	**13 23 46.3**	**+0.6**
M31M	**Drury Creek, Y**	**9.36**	**46**		**Pn**	**13 23 49.0**	**+1.7**
FARO	**Faro, Yukon**	**9.79**	**47**		**Pn**	**13 23 54.9**	**+1.5**
H17K	**Granite Mounta**	**10.06**	**332**	Pn	**Pn**	**13 23 57.1**	**0.0**
J30M	**Hart River**	**10.19**	**32**	Pn	**Pn**	**13 24 01.2**	**+2.3**
G24K	**Hadweenzic Riv**	**10.30**	**3**	Pn	**Pn**	**13 24 01.3**	**+1.1**
DLBC	**Dease Lake**	**10.34**	**71**	Pn	**Pn**	**13 23 59.9**	**-1.0**
	comp=E,0.3nm,0.3s,baz=240,slow=10,SNR=7.1 comp=E,0.9nm,0.3s						
G18K	**Tagagawik**	**10.56**	**338**	Pn	**Pn**	**13 24 04.5**	**+0.7**
ANM	**Nome**	**11.46**	**322**	Pn	**Pn**	**13 24 17.4**	**+1.2**
NIKH	**Nikolski High**	**12.07**	**262**	P	Pn	13 24 39.8	+15
INK	**Inuvik**	**13.79**	**24**	Pn	**Pn**	**13 24 50.5**	**+2.8**
	comp=E,0.1nm,0.3s,baz=207,slow=17,SNR=7.5 comp=E,2.4nm,0.9s						
ADK	**Adak**	**16.86**	**266**	P	**Pn**	**13 25 28.6**	**+0.1**
C36M	**Paulatuk**	**16.97**	**31**	Pn	**Pn**	**13 25 29.6**	**-0.1**
YKA	**Yellowknife Ar**	**18.25**	**57**	P	**Pn**	**13 25 44.9**	**-0.6**
YKA	**Yellowknife Ar**	**18.25**	**57**	P	**Pn**	**13 25 45.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=263,slow=10,SNR=10 comp=E,1.0nm,0.8s						
A36M	**Sachs Harbour**	**18.42**	**23**	P	**P**	**13 25 48.4**	**+0.8**
A36M				IAmb	IAmb	13 25 53.1	
	comp=Z,8.7nm,0.8s						
HUMO	**Hull Mountain**	**21.61**	**119**	P	**P**	**13 26 23.8**	**+1.2**
HUMO				IAmb	IAmb	13 26 39.1	
	comp=Z,3.6nm,0.9s						
BPMT	**Black Pine Rid**	**23.98**	**100**	P	**P**	**13 26 45.3**	**-2.1**
SONM	**Songino Array**	**58.70**	**310**	P	**P**	**13 31 29.4**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=50,slow=7.9,SNR=4.7 comp=Z,0.1nm,0.4s						
NOA	**NORSAR Array B**	**61.79**	**11**	P	**P**	**13 31 50.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=14,slow=11,SNR=1.4 comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**62.37**	**3**	P	**P**	**13 31 55.1**	**+0.4**
BVAR	**Borovoye Array**	**66.22**	**335**	P	**P**	**13 32 21.5**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=36,slow=11,SNR=2.3 comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**66.31**	**329**	P	**P**	**13 32 20.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=32,slow=6.8,SNR=1.8 comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**68.58**	**325**	P	**P**	**13 32 36.0**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=52,slow=7.5,SNR=2.1 comp=Z,0.3nm,0.9s						

*AEIC **24** 13:24:07.9±1.0,56°.35N±0°.10×148°.9W±0°.1,h10km±9km, Error ellipse: s-maj=14.1km s-min=10.9km az=162.0*
NEIC 24 13:24:03.6±1.7,56°.3N±0°.1×148°.79W±0°.08,h20km±11km, mb4.3/22,ML3.0(AEIC),**Error ellipse: s-maj=18.9km s-min=3.3km az=163.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.54**	**307**		Pn	13 24 43.5	-0.1
KDAK					Sn	13 25 11.1	-2.7
OHAK	**Old Harbor**	**2.64**	**292**		Pn	13 24 45.2	+0.3
OHAK					Sn	13 25 13.4	-2.8
SYI	**Shuyak Island**	**3.01**	**321**		Pn	13 24 49.7	-0.3
SYI					Sn	13 25 23.7	-1.7
SYI	**Shuyak Island**	**3.01**	**321**	IAML		13 25 27.4	
	comp=E,36nm,1.4s						
SYI				IAML		13 26 09.7	
	comp=N,42nm,1.4s						
MID	**Middleton Isla**	**3.37**	**22**		Pn	13 24 54.9	-0.2
MID					Sn	13 25 32.4	-2.1
MID	**Middleton Isla**	**3.37**	**22**	IAML		13 26 56.5	
	comp=N,136nm,1.4s						
CNPM	**China Poot**	**3.46**	**339**		Pn	13 24 56.9	+0.5
CNPM					Sn	13 25 35.1	-1.6
CNPM	**China Poot**	**3.46**	**339**	IAML		13 26 18.8	
	comp=N,24nm,1.4s						
BRSE	**Bradley Lake S**	**3.58**	**344**		Pn	13 24 58.4	+0.4
BRSE					Sn	13 25 36.9	-2.7
BRLK	**Bradley Lake**	**3.62**	**343**		Pn	13 24 59.0	+0.4
BRLK	**Bradley Lake**	**3.62**	**343**	IAML		13 25 44.0	
	comp=E,25nm,1.1s						
BRLK				IAML		13 25 49.5	
	comp=N,22nm,1.3s						
Q19K	**Cape Douglas,**	**3.69**	**317**		Pn	13 24 59.8	+0.3
P23K	**Montague Islan**	**3.75**	**11**		Pn	13 25 00.9	+0.6
KAHG	**Katmai Hook Gl**	**3.80**	**307**		Pn	13 25 00.0	-1.0
ACHA	**Angle Creek He**	**4.02**	**301**		Pn	13 25 05.7	+1.6
O22K	**Cooper Landing**	**4.20**	**354**		Pn	13 25 06.6	+0.3
O22K	**Cooper Landing**	**4.20**	**354**	IAML		13 27 10.5	
	comp=N,86nm,0.9s						
HIN	**Hinchinbrook I**	**4.26**	**15**		Pn	13 25 07.6	+0.4
HIN	**Hinchinbrook I**	**4.26**	**15**	IAML		13 25 43.5	
	comp=N,53nm,1.5s						
HIN				IAML		13 27 47.9	
	comp=E,40nm,1.5s						
KAIM	**Kayak Island**	**4.29**	**31**		Pn	13 25 07.3	-0.3
KAIM				IAML		13 27 08.4	
	comp=N,50nm,1.4s						
EYAK	**Cordova Ski Ar**	**4.53**	**19**		Pn	13 25 11.1	+0.2
BERG	**Berg Lake**	**4.88**	**31**	Pn	Pn	13 25 16.7	+0.9

*NAO **24** 13:28:35.7±777.0,72°.45N×3°.10E,h14km±700km,ML2.8*
*IDC **24** 13:28:36.3±2.0,72°.41N×4°.02E,h0km,mb3.3/2, mbtmp3.5/7,ML2.8/5,Error ellipse: s-maj=27.4km s-min=23.2km az=105.0*
*BER **24** 13:28:37.9±2.2,72°.61N×3°.46E,h10km,mb(Pn)4.1, ML2.8(NAO),Confirmed Earthquake*
ISC 24 13:28:36.3±1.2,72°.58N±0°.06×4°.0E±0°.1,h10km,n37, σ1§45/48,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**4.67**	**59**	*e*P	**Pn**	**13 29 47.5**	**+0.9**
HSPB	**Hornsund (broa**	**5.37**	**29**	*e*P	**Pn**	**13 29 55.0**	**-1.2**
LOF	**Lofoten**	**5.49**	**140**	*e*P	**Pn**	**13 29 59.4**	**+1.4**
TRO	**Tromso**	**5.66**	**114**	*e*P	**Pn**	**13 30 02.1**	**+1.8**
TRO				*e*		13 31 04.1	
TRO				IAML		13 31 17.3	
	comp=Z,3.1nm,0.2s						
STEI	**Steigen**	**6.01**	**135**	*e*P	**Pn**	**13 30 05.8**	**+0.7**
STEI				*e*		13 31 12.7	
STEI				IAML		13 31 15.1	
	comp=Z,4.5nm,0.5s						
BRBB	**Barentsburg B**	**6.10**	**20**	*e*P	**Pn**	**13 30 05.0**	**-1.4**
JETT	**Jettan, Norway**	**6.12**	**112**	Pn	**Pn**	**13 30 08.5**	**+1.8**
JETT				Sn	**Sn**	**13 31 17.0**	**+0.4**
JETT	**Jettan, Norway**	**6.12**	**112**	Pn	**Pn**	**13 30 08.5**	**+1.8**
JETT				Sn	**Sn**

s-min=9.6km az=168.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.29**	**311**		Pn	13 32 33.8	+0.5
KDAK					Sn	13 33 00.9	0.0
OHAK	**Old Harbor**	**2.35**	**294**		Pn	13 32 34.1	0.0
OHAK					Sn	13 33 01.3	-1.1
SYI	**Shuyak Island**	**2.82**	**325**		Pn	13 32 41.0	+0.5
SYI					Sn	13 33 14.7	+0.9
SYI	**Shuyak Island** comp=E,32nm,1.4s	**2.82**	**325**	IAML		13 33 49.0	
SYI	comp=N,21nm,1.4s			IAML		13 34 14.2	
CNPM	**China Poot**	**3.35**	**343**		Pn	13 32 48.0	+0.1
CNPM	comp=E,14nm,1.2s			IAML		13 33 47.5	
CNPM	**China Poot**	**3.35**	**343**		Sn	13 33 26.4	-0.8
Q19K	**Cape Douglas,**	**3.48**	**320**		Pn	13 32 49.6	-0.1
Q23K	**Middleton Isla**	**3.48**	**26**		Pn	13 32 50.6	+1.0
BRSE	**Bradley Lake S**	**3.50**	**348**		Pn	13 32 49.7	-0.2
BRSE					Sn	13 33 30.5	-0.1
BRLK	**Bradley Lake**	**3.54**	**347**		Pn	13 32 50.4	0.0
BRLK	**Bradley Lake** comp=E,16nm,1.1s	**3.54**	**347**	IAML		13 33 32.1	
BRLK	comp=N,12nm,1.4s			IAML		13 33 44.2	
KAHG	**Katmai Hook Gl**	**3.56**	**310**		Pn	13 32 50.7	0.0
P19K	**Oil Pt**	**3.92**	**330**	Pn	Pn	13 32 55.6	-0.1
P19K	comp=E,52nm,1.3s			IAML		13 34 22.9	
P19K	comp=N,42nm,1.4s			IAML		13 35 23.5	
P18K	**Big Mountain,**	**4.39**	**317**		Pn	13 33 02.6	+0.4
P18K	**Big Mountain,** comp=N,7.3nm,1.4s	**4.39**	**317**	IAML		13 35 34.6	
KAIM	**Kayak Island**	**4.44**	**34**		Pn	13 33 02.5	-0.3
KAIM	**Kayak Island** comp=E,20nm,1.0s	**4.44**	**34**	IAML		13 34 42.8	
RDWB	**Redoubt West**	**4.55**	**338**		Pn	13 33 04.5	-0.1
RAGM	**Ragged Mountai**	**4.74**	**29**	Pn	Pn	13 33 06.7	-0.3
RAGM	comp=E,30nm,1.1s			IAML		13 34 06.9	
BERG	**Berg Lake**	**5.03**	**34**	Pn	Pn	13 33 10.0	-0.9
BERG	comp=N,25nm,1.5s			IAML		13 36 00.5	
PMR	**Palmer**	**5.27**	**1**	Pn	Pn	13 33 13.7	-0.5
PMR	comp=N,5.5nm,1.5s			IAML		13 34 17.2	
PMR	comp=E,8.2nm,1.0s			IAML		13 34 17.4	
GHO	**Glory Hole Cre**	**5.46**	**2**	Pn	Pn	13 33 16.5	-0.3
SML	**Sawmill**	**5.51**	**5**	Pn	Pn	13 33 16.3	-1.2
O16K	**Kokwok River B**	**5.69**	**309**	Pn	Pn	13 33 20.6	+0.6
N25K	**Chitina, Valde**	**5.82**	**23**	Pn	Pn	13 33 21.8	0.0
GLB	**Gilahina Butte**	**5.86**	**27**	Pn	Pn	13 33 21.4	-1.0
M24K	**Tolsona, Glenn**	**6.01**	**14**	Pn	Pn	13 33 25.0	+0.6
BARN	**Barnard Glacie**	**6.19**	**37**	Pn	Pn	13 33 25.6	-1.4

*AEIC **24** 13:34:21.9±1.4,56°.3N±0°.1×149°.7W±0°.1,h10km±9km, Error ellipse: s-maj=18.9km s-min=11.4km az=168.0*

NEIC 24 13:34:18.9±1.1, 56°.3N±0°.1×149°.83W±0°.04, h21km±11km, ML2.9/18, **ML2.7**(AEIC), **Error ellipse: s-maj=17.7km s-min=1.5km az=171.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.10**	**315**		Pn	13 34 52.5	-0.3
KDAK					Sn	13 35 18.4	+0.1
OHAK	**Old Harbor**	**2.11**	**297**		Pn	13 34 52.2	-0.7
OHAK					Sn	13 35 17.9	-0.7
SYI	**Shuyak Island**	**2.69**	**330**		Pn	13 35 00.8	0.0
SYI	comp=E,28nm,1.1s			IAML		13 36 42.5	
SYI	**Shuyak Island**	**2.69**	**330**		Sn	13 35 32.7	0.0
SYI	**Shuyak Island** comp=N,25nm,1.3s	**2.69**	**330**	IAML		13 35 23.8	
CNPM	**China Poot**	**3.31**	**347**	Pn	Pn	13 35 09.8	+0.4
CNPM	comp=E,35nm,1.2s			IAML		13 35 55.9	
Q19K	**Cape Douglas,**	**3.33**	**324**		Pn	13 35 10.2	+0.4
KAHG	**Katmai Hook Gl**	**3.36**	**313**		Pn	13 35 10.8	+0.6
BRSE	**Bradley Lake S**	**3.47**	**352**		Pn	13 35 11.6	0.0
BRLK	**Bradley Lake**	**3.50**	**351**		Pn	13 35 11.8	-0.3
BRLK					Sn	13 35 49.3	-3.7
BRLK	**Bradley Lake** comp=E,20nm,1.3s	**3.50**	**351**	IAML		13 37 27.2	
CNTC	**Contact Creek**	**3.82**	**303**		Pn	13 35 16.8	+0.2
P18K	**Big Mountain,**	**4.22**	**319**		Pn	13 35 22.0	-0.1
P18K	**Big Mountain,** comp=E,8.5nm,1.3s	**4.22**	**319**	IAML		13 36 27.5	
P18K	comp=N,8.6nm,1.4s			IAML		13 38 06.3	
RSO	**Redoubt South**	**4.43**	**341**	Pn	Pn	13 35 24.9	-0.2
HIN	**Hinchinbrook I**	**4.45**	**22**	Pn	Pn	13 35 25.1	0.0
HIN	comp=N,34nm,1.4s			IAML		13 37 15.9	
BERG	**Berg Lake**	**5.21**	**36**	Pn	Pn	13 35 34.8	-0.7
O16K	**Kokwok River B**	**5.49**	**310**	Pn	Pn	13 35 37.7	-1.7
N25K	**Chitina, Valde**	**5.96**	**25**	Pn	Pn	13 35 45.1	-0.7
GLB	**Gilahina Butte**	**6.01**	**29**	Pn	Pn	13 35 47.1	+0.6

*AEIC **24** 13:34:48.7±0.6,56°.1N±0°.1×148°.6W±0°.1,h10km±9km, Error ellipse: s-maj=20.2km s-min=10.5km az=176.0*

NEIC 24 13:34:47.0±0.9, 56°.2N±0°.1×148°.6W±0°.1, h21km±11km, ML3.2/34, **ML3.2**(AEIC), **Error ellipse: s-maj=18.0km s-min=9.8km az=173.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.68**	**308**		Pn	13 35 28.8	0.0
KDAK					Sn	13 35 59.2	-1.3
OHAK	**Old Harbor**	**2.76**	**294**		Pn	13 35 29.2	-0.7
OHAK					Sn	13 36 00.7	-1.8
OHAK	**Old Harbor** baz=112	**2.76**	**294**	P	Pn	13 35 29.2	-0.7
OHAK	baz=112			S	Sn	13 36 00.7	-1.8
SYI	**Shuyak Island**	**3.15**	**321**		Pn	13 35 35.3	0.0
SYI					Sn	13 36 12.1	-0.2
Q20K	**Shuyak Island** baz=139	**3.15**	**321**	P	Pn	13 35 35.3	0.0
Q20K	baz=139			S	Sn	13 36 12.1	-0.2
Q23K	**Middleton Isla**	**3.46**	**20**		Pn	13 35 39.2	-0.3
Q23K	**Middleton Isla** baz=200	**3.46**	**20**	P	Pn	13 35 39.2	-0.3
CNPM	**China Poot**	**3.61**	**338**		Pn	13 35 41.8	+0.2
CNPM					Sn	13 36 22.5	-1.0
BRSE	**Bradley Lake S**	**3.72**	**343**		Pn	13 35 43.2	+0.1
BRSE	**Bradley Lake S** baz=162	**3.72**	**343**	P	Pn	13 35 43.2	+0.1
BRLK	**Bradley Lake**	**3.77**	**342**		Pn	13 35 44.0	+0.2
BRLK	**Bradley Lake**	**3.77**	**342**		Sn	13 36 26.4	-1.1
HOM	**Homer**	**3.82**	**336**		Pn	13 35 45.2	+0.7
HOM	**Homer** baz=154	**3.82**	**336**	P	Pn	13 35 45.2	+0.7
Q19K	**Cape Douglas,**	**3.84**	**317**		Pn	13 35 45.5	+0.7
Q19K	**Cape Douglas,** baz=134	**3.84**	**317**	P	Pn	13 35 45.5	+0.7
P23K	**Montague Islan**	**3.86**	**9**		Pn	13 35 44.8	-0.3
P23K	**Montague Islan** baz=189	**3.86**	**9**	P	Pn	13 35 44.8	-0.3
SEW	**Seward**	**3.94**	**354**		Pn	13 35 44.7	-1.4
SEW	**Seward** baz=173	**3.94**	**354**	P	Pn	13 35 46.0	0.0
KAHG	**Katmai Hook Gl**	**3.94**	**308**		Pn	13 35 45.7	-0.5
AUL	**Augustine Lava**	**4.09**	**323**		Pn	13 35 48.1	-0.1
P19K	**Oil Pt**	**4.24**	**327**		Pn	13 35 50.3	0.0
P19K	**Oil Pt** comp=E,54nm,1.4s	**4.24**	**327**	IAML		13 38 19.9	
P19K	**Oil Pt** baz=143	**4.24**	**327**	P	Pn	13 35 50.3	0.0
HIN	**Hinchinbrook I**	**4.35**	**14**		Pn	13 35 51.5	-0.3
KAIM	**Kayak Island**	**4.35**	**29**		Pn	13 35 51.4	-0.4
KAIM	**Kayak Island** baz=212	**4.35**	**29**	P	Pn	13 35 51.4	-0.4
O20K	**Slope Mountain**	**4.42**	**333**		Pn	13 35 52.8	0.0
O20K	**Slope Mountain** baz=150	**4.42**	**333**	P	Pn	13 35 52.8	0.0
IVE	**Iliamna Volcan**	**4.47**	**331**		Pn	13 35 53.3	-0.2
EYAK	**Cordova Ski Ar**	**4.62**	**18**		Pn	13 35 55.4	0.0
EYAK	**Cordova Ski Ar** baz=200	**4.62**	**18**	P	Pn	13 35 55.4	0.0
RAGM	**Ragged Mountai**	**4.69**	**25**		Pn	13 35 56.2	-0.2
RAGM	**Ragged Mountai** comp=E,35nm,0.9s	**4.69**	**25**	IAML		13 38 13.8	
P18K	**Big Mountain,**	**4.76**	**315**		Pn	13 35 57.4	0.0
P18K	**Big Mountain,** baz=130	**4.76**	**315**	P	Pn	13 35 57.4	0.0
NCT	**North Crescent**	**4.92**	**334**		Pn	13 35 59.6	-0.1
RC01	**Rabbit Creek A**	**4.93**	**354**	Pn	Pn	13 36 00.5	+0.7
RC01	comp=E,12nm,1.2s			IAML		13 37 02.0	
BERG	**Berg Lake**	**4.94**	**30**		Pn	13 35 59.6	-0.3
BERG	**Berg Lake** comp=E,34nm,1.5s	**4.94**	**30**	IAML		13 37 20.4	
SNH	**Sunshine Point**	**5.03**	**35**		Pn	13 36 00.8	-0.3
SNH	**Sunshine Point** comp=N,22nm,1.5s	**5.03**	**35**	IAML		13 37 34.1	
SNH	comp=E,17nm,1.4s			IAML		13 38 03.5	
BMRM	**Bremner River**	**5.22**	**22**		Pn	13 36 03.9	+0.1
BMRM	**Bremner River** baz=205	**5.22**	**22**	P	Pn	13 36 03.9	+0.1
KNK	**Knik Glacier**	**5.23**	**1**		Pn	13 36 04.3	+0.5
KNK	**Knik Glacier** comp=N,10nm,1.4s	**5.23**	**1**	IAML		13 36 52.9	
KNK	**Knik Glacier** baz=181	**5.23**	**1**	P	Pn	13 36 04.3	+0.5
BARK	**Barkley Ridge**	**5.31**	**35**		Pn	13 36 04.8	-0.3
KLU	**Klutina**	**5.49**	**14**	Pn	Pn	13 36 07.8	+0.3
GHO	**Glory Hole Cre**	**5.59**	**359**	Pn	Pn	13 36 08.8	-0.1
SML	**Sawmill**	**5.62**	**1**	Pn	Pn	13 36 09.7	+0.4
SCM	**Sheep Creek Mo**	**5.69**	**6**	Pn	Pn	13 36 10.9	+0.7
VRDI	**Verde Repeater**	**5.72**	**26**	Pn	Pn	13 36 10.1	-0.5
N25K	**Chitina, Valde**	**5.81**	**19**	Pn	Pn	13 36 11.8	-0.1
GLB	**Gilahina Butte**	**5.82**	**23**	Pn	Pn	13 36 11.6	-0.4
BCPM	**Bancas Point**	**6.08**	**48**	Pn	Pn	13 36 15.5	0.0
BARN	**Barnard Glacie**	**6.08**	**34**	Pn	Pn	13 36 14.8	-0.9
O16K	**Kokwok River B**	**6.08**	**308**	Pn	Pn	13 36 16.2	+0.7
CTGM	**Chitina Glacie**	**6.11**	**36**	Pn	Pn	13 36 15.5	-0.6
LOGN	**Logan Glacier**	**6.12**	**38**	Pn	Pn	13 36 15.5	-0.7
O29M	**Mount Kennedy**	**6.71**	**48**	Pn	Pn	13 36 24.6	+0.3
P29M	**Windy Craggy**	**6.74**	**55**	Pn	Pn	13 36 23.7	-0.9
M17K	**Holitna River**	**6.93**	**322**	Pn	Pn	13 36 27.2	+0.1
HYT	**Haines Junctio**	**7.44**	**47**	Pn	Pn	13 36 34.5	+0.2

*ISN **24** 13:36:23.8±0.6,33°.63N×45°.57E,h14km±3km, ML2.9*
*TEH **24** 13:36:27.5,33°.74N×45°.69E,h12km±50km, ML3.0*

ISC 24 13:36:26.8±0.9, 33°.62N±0°.04×45°.64E±0°.04, h13km, n15, σ1§51/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**90**	Pg	**Pg**	**13 36 36.2**	**-0.1**
IBDR	**Badra**	**0.57**	**154**	*e*Pg	**Pg**	**13 36 36.0**	**-2.0**
IBDR				*e*Sg	**Sg**	**13 36 45.0**	**-0.5**
IBDR	comp=N,237nm,0.6s			AML	AML	13 36 54.5	
KGS1	**Ghasr-e-Shirin**	**0.88**	**358**	Pg	**Pg**	**13 36 42.6**	**-1.3**
IGHG	**Ghaleghazi**	**1.05**	**48**	Pg	**Pb**	**13 36 46.5**	**-0.4**
BHD	**Baghdad**	**1.11**	**252**	*e*Pn	**Pg**	**13 36 48.0**	**-0.2**
BHD				*e*Sn	**Sn**	**13 37 05.0**	**+1.9**
BHD	comp=E,726nm,0.4s			AML	AML	13 37 11.8	
IDHR	**Dehrash**	**1.24**	**30**	Pg	**Pn**	**13 36 48.8**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.34**	**61**	Pg	**Pb**	**13 36 51.4**	**-0.4**
ILIN	**Lien**	**1.70**	**40**	Pg	**Pb**	**13 36 57.7**	**-0.4**
IKFM	**Kafar-mosalman**	**1.85**	**92**	Pn	**Pg**	**13 37 01.6**	**-0.7**
RAFI	**Al-Rafai**	**1.94**	**168**	*e*Pn	**Pn**	**13 37 00.0**	**+0.6**
RAFI				*e*Sn	**Sg**	**13 37 27.0**	**-2.1**
SDS1	**Sardasht. Az.**	**2.52**	**357**	Pn	**Pb**	**13 37 12.2**	**+0.1**
HSAM	**Samen**	**2.54**	**76**	Pn	**Pn**	**13 37 09.2**	**+1.2**
HAGD	**Aghdareh**	**3.14**	**67**	Pn	**Pn**	**13 37 17.5**	**+1.2**
QAMS	**Qamsar**	**4.80**	**87**	Pn	**Pn**	**13 37 41.4**	**+2.2**
IKLH	**Kolahrood**	**4.98**	**92**	Pn	**Pn**	**13 37 44.5**	**+3.0**

IDC 24 13:38:00.6±2.5, 4°.44S×136°.35E, h0km, mb3.7/2, **mbtmp3.7**/4, **ML3.5**/2, **Error ellipse: s-maj=104.2km s-min=29.9km az=82.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=8.8,slow=13,SNR=7.2 1.1nm,0.9s	**15.54**	**187**	Pn	Pn	13 41 40.5	-0.7
ASAR	**Alice Springs** 0.3nm,0.3s,baz=12,slow=9.4,SNR=28 2.1nm,0.8s	**19.26**	**187**	P	P	13 42 27.2	+0.3
MKAR	**Makanchi Array** 0.7nm,1.1s,baz=104,slow=7.1,SNR=2.3 0.7nm,1.1s	**69.75**	**324**	P	P	13 49 13.1	+0.4
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=124,slow=7.2,SNR=5.0 0.7nm,0.6s	**79.39**	**326**	P	P	13 50 08.2	-0.3

*IDC **24** 13:40:04.2±31.0, 40°.05N×143°.94E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=607.7km s-min=229.4km az=151.0*
*JMA **24** 13:40:20.9±0.2, 41°.0N±0°.4×142°.5E±0°.8, h30km±4km, MV3.1/37, E OFF AOMORI PREF*

ISC 24 13:40:20.7±1.3, 40°.99N±0°.04×142°.48E±0°.05, h28km±11km, n22, σ0§96/37, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.84**	**272**	P	**Pn**	**13 40 36.9**	**+0.2**
JARK				*e*S	**Sb**	**13 40 48.4**	**+0.6**
JAHD	**Aomorihigashid**	**0.91**	**288**	P	**Pn**	**13 40 37.6**	**+0.1**
JAHD				*e*S	**Sn**	**13 40 49.6**	**-0.1**
JANG	**Nango**	**0.96**	**230**	P	**Pn**	**13 40 38.5**	**+0.3**
JANG				*e*S	**Sn**	**13 40 50.9**	**0.0**
JKEN	**Kujiedanarisaw**	**0.98**	**217**	P	**Pn**	**13 40 38.4**	**-0.1**
JKEN				S	**Sn**	**13 40 51.1**	**-0.3**
JTM	**Tenmabayashi**	**1.09**	**260**	P	**Pn**	**13 40 40.9**	**+0.9**
JTM				S	**Sb**	**13 40 55.4**	**+0.6**
JEM	**Erimo**	**1.15**	**26**	P	**Pn**	**13 40 41.4**	**+0.6**
JEM				*e*S	**Sb**	**13 40 56.7**	**+0.3**
JOT	**Ohata**	**1.15**	**290**	*i* P	**Pn**	**13 40 41.2**	**+0.3**
JOT				*e*S	**Sn**	**13 40 56.1**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.31**	**9**	P	**Pb**	**13 40 44.1**	**-0.5**
JNBK				*e*S	**Sb**	**13 41 02.3**	**+1.4**
JKB	**Kayabe**	**1.41**	**310**	S	**Sn**	**13 41 01.8**	**-0.3**
JAH	**Hinai**	**1.62**	**241**	P	**Pn**	**13 40 49.0**	**+1.8**
JAH				S	**Sb**	**13 41 09.4**	**-0.4**
JSR	**Shiriuchi**	**1.65**	**290**	P	**Pn**	**13 40 49.1**	**+1.4**
JSR				*e*S	**Sn**	**13 41 09.8**	**+1.9**
JIAM	**Iburiatsuma**	**1.69**	**346**	P	**Pb**	**13 40 50.3**	**-0.7**
JIAM				*e*S	**Sb**	**13 41 11.7**	**-0.1**
JCH	**Churui**	**1.75**	**22**	P	**Pn**	**13 40 49.8**	**+0.6**
JCH				*e*S	**Sn**	**13 41 11.1**	**+0.5**
JOM	**Ohasama**	**1.77**	**211**	P	**Pn**	**13 40 50.7**	**+1.3**
JOM				S	**Sn**	**13 41 12.8**	**+1.9**
JBT2	**Biratori 2**	**1.79**	**357**	P	**Pb**	**13 40 51.5**	**-1.3**
JNB	**Noboribetsu**	**1.83**	**324**	P	**Pn**	**13 40 50.5**	**+0.3**
JNB				*e*S	**Sn**	**13 41 12.3**	**-0.1**
JEW	**Eniwo**	**2.00**	**338**	P	**Pn**	**13 40 54.2**	**+1.6**
JEW				*e*S	**Sn**	**13 41 18.6**	**+1.8**
SONM	**Songino Array** 0.1nm,0.3s,baz=90,slow=5.8,SNR=1.9 0.1nm,0.3s	**26.49**	**297**	P	**P**	**13 45 55.9**	**+0.4**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=90,slow=10,SNR=2.4 0.3nm,0.4s	**39.97**	**309**	P	**P**	**13 47 52.2**	**-0.2**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=84,slow=8.2,SNR=2.2 0.1nm,0.4s	**42.84**	**299**	P	**P**	**13 48 15.4**	**-0.7**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=79,slow=8.9,SNR=4.5 0.4nm,0.4s	**44.32**	**305**	P	**P**	**13 48 27.0**	**-0.9**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=61,slow=8.0,SNR=2.4 0.4nm,0.5s	**48.60**	**310**	P	**P**	**13 49 00.2**	**-1.3**

*NEIC **24** 13:41:10.6±0.6,20°.51N±0°.02×155°.51W±0°.03,h26km±8km, Error ellipse: s-maj=3.5km s-min=3.2km az=122.0*

HVO 24 13:41:13.2±1.2, 20°.39N±0°.06×155°.60W±0°.06, h48km±3km, ML3.6/46, **ML3.7**/58(NEIC), **Error ellipse: s-maj=10.9km**

s-min=4.5km az=46.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.35**	**235**		Pn	13 41 21.7	-0.9
MHA	**Mahukona**	**0.35**	**235**		Sn	13 41 28.8	-0.6
HPAH	**Hawaii Prepara**	**0.37**	**194**		Pn	13 41 21.9	-1.2
HPAH					Sn	13 41 28.2	-1.7
POHA	**Pohakuloa**	**0.63**	**174**		Sn	13 41 35.6	-0.1
POHA	**Pohakuloa**	**0.63**	**174**		Pn	13 41 25.1	-1.2
POHA	5µm,0.2s			IAML		13 41 42.4	
HUH	**Hualalai**	**0.74**	**198**		Pn	13 41 28.1	+0.4
HUH	comp=E,4µm,0.4s			IAML		13 41 58.8	
HMH	**Humu'ula Sheep**	**0.79**	**172**		Sn	13 41 39.7	+0.3
HMH	**Humu'ula Sheep**	**0.79**	**172**		Pn	13 41 28.2	-0.2
HMH	**Humu'ula Sheep** comp=N,2µm,0.2s	**0.79**	**172**	IAML		13 41 46.4	
HMH	comp=E,3µm,0.4s			IAML		13 41 48.4	
KKH	**Kailua Kona**	**0.83**	**208**		Pn	13 41 28.8	+0.1
KHLU	**Kahalu`u**	**0.84**	**199**		Pn	13 41 28.6	-0.3
KHLU	**Kahalu`u**	**0.84**	**199**		Sn	13 41 40.6	+0.3
ALEP	**Alea Permanent**	**0.85**	**183**		Pn	13 41 29.3	0.0
MLOA	**Mauna Loa Obse**	**0.85**	**178**		Sn	13 41 41.9	+0.9
MLOA	**Mauna Loa Obse**	**0.85**	**178**		Pn	13 41 29.1	-0.2
MLOA	**Mauna Loa Obse** comp=E,6µm,0.4s	**0.85**	**178**	IAML		13 41 49.0	
MLOA	comp=N,4µm,0.4s			IAML		13 41 49.0	
MWH	**Moku'aweowe**	**0.90**	**180**		Pn	13 41 29.7	-0.4
MLH	**Mauna Loa**	**0.92**	**167**		Sn	13 41 41.9	-0.4
MLH	**Mauna Loa**	**0.92**	**167**		Pn	13 41 29.5	-0.5
MLH	**Mauna Loa** comp=E,2µm,0.5s	**0.92**	**167**	IAML		13 41 44.7	
MLH	comp=N,2µm,0.1s			IAML		13 41 45.2	
KHLH	**Kahului Airpor**	**0.92**	**303**		Pn	13 41 28.1	-1.8
KHLH	**Kahului Airpor**	**0.92**	**303**		Sn	13 41 40.7	-1.4
KHLH	**Kahului Airpor** comp=N,4µm,0.6s	**0.92**	**303**	IAML		13 41 49.9	
KHLH	comp=E,2µm,0.3s			IAML		13 41 50.2	
CPH	**Captain Cook**	**0.95**	**198**		Pn	13 41 30.2	0.0
RSD	**Rainshed**	**0.97**	**162**		Pn	13 41 30.0	-0.7
RSD	**Rainshed**	**0.97**	**162**		Sn	13 41 43.2	-0.3
RSD	**Rainshed** comp=N,3µm,0.3s	**0.97**	**162**	IAML		13 41 46.8	
RSD	comp=E,3µm,0.6s			IAML		13 41 59.0	
UWB	**Uwekahuna B**	**1.01**	**162**		Pn	13 41 30.2	-0.9
UWE	**Uwekahuna**	**1.01**	**163**		Pn	13 41 30.4	-0.8
SBLHI	**Steaming Bluff**	**1.01**	**162**		Pn	13 41 30.2	-0.9
SBLHI	**Steaming Bluff** comp=E,2µm,0.6s	**1.01**	**162**	IAML		13 42 02.6	
SBLHI	comp=N,2µm,0.8s			IAML		13 42 07.2	
OBL	**Observatory Le**	**1.01**	**163**		Pn	13 41 30.4	-0.8
HATHI	**Halema'uma'u T**	**1.01**	**162**		Pn	13 41 30.4	-0.9
HATHI	**Halema'uma'u T** comp=N,3µm,0.7s	**1.01**	**162**	IAML		13 42 04.2	
NPH	**North Pit**	**1.02**	**163**		Pn	13 41 30.4	-0.9
WRMHI	**West Rim**	**1.02**	**164**		Pn	13 41 30.5	-0.8
BYL	**Byron's Ledge**	**1.02**	**162**		Pn	13 41 30.4	-1.0
BYL	comp=E,2µm,0.5s			IAML		13 42 00.5	
BYL	comp=N,2µm,0.7s			IAML		13 42 06.2	
KKO	**Keanakako`i**	**1.04**	**162**		Pn	13 41 30.6	-1.0
KKO	comp=E,2µm,0.6s			IAML		13 42 02.6	
KKO	comp=N,2µm,0.7s			IAML		13 42 15.3	
RIM	**Rim**	**1.04**	**163**		Pn	13 41 30.8	-0.8
RIM	comp=E,2µm,0.9s			IAML		13 42 08.9	
RIM	comp=N,2µm,0.7s			IAML		13 42 13.7	
SDHHI	**Sand Hill**	**1.04**	**164**		Pn	13 41 30.8	-0.8
SDHHI	**Sand Hill**	**1.04**	**164**	IAML		13 42 14.1	
SDHHI	comp=N,3µm,0.7s			IAML		13 42 14.7	
SDHHI	comp=E,3µm,0.6s			IAML		13 42 14.7	
PUH	**Pauahi**	**1.07**	**160**		Pn	13 41 31.2	-0.9
PUH	comp=N,2µm,0.3s			IAML		13 41 45.1	
PUH	comp=E,1µm,0.6s			IAML		13 42 04.4	
KNHH	**Kane Nui o Ham**	**1.08**	**158**		Pn	13 41 31.2	-1.0
NPOC	**North of Pu'u**	**1.09**	**155**		Pn	13 41 31.3	-1.0
NPOC	comp=N,2µm,0.5s			IAML		13 41 59.5	
NPOC	**North of Pu'u**	**1.09**	**155**		Sn	13 41 45.0	-1.4
STCH	**Steam Cracks**	**1.10**	**156**		Sn	13 41 44.9	-1.5
STCH	**Steam Cracks**	**1.10**	**156**		Pn	13 41 31.2	-1.1
STCH	**Steam Cracks** comp=E,2µm,1.0s	**1.10**	**156**	IAML		13 42 00.3	
STCH	comp=N,1µm,0.6s			IAML		13 42 04.7	
JOKA	**Jonika Flow**	**1.10**	**149**		Pn	13 41 31.2	-1.2
JOKA					Sn	13 41 45.2	-1.4
JCUZ	**Jacuzzi**	**1.11**	**155**		Sn	13 41 45.0	-1.7
JCUZ	**Jacuzzi**	**1.11**	**155**		Pn	13 41 31.3	-1.2
HLP	**Hilina Pali**	**1.12**	**166**		Pn	13 41 31.8	-0.9
HLP	comp=N,1µm,0.4s			IAML		13 42 03.5	
KHU	**Kahuku**	**1.14**	**181**		Pn	13 41 32.6	-0.4
HTC	**Hot Caves**	**1.16**	**171**		Pn	13 41 32.8	-0.4
WMR	**Waimanalo Ridg**	**2.16**	**296**		Pn	13 41 45.2	-1.5
WMR					Sn	13 42 10.9	-1.4
DHH	**Diamond Head**	**2.23**	**293**		Pn	13 41 46.8	-1.0
DHH					Sn	13 42 13.6	-0.6
HON	**Honolulu**	**2.43**	**293**		Pn	13 41 49.5	-0.9
HON					Sn	13 42 17.9	-1.1
HON	**Honolulu** comp=E,352nm,1.5s	**2.43**	**293**	IAML		13 42 19.1	
HON	comp=N,327nm,3.5s			IAML		13 43 22.5	
KIP	**Kipapa**	**2.48**	**295**		Pn	13 41 49.8	-1.3
KIP					Sn	13 42 18.4	-1.8
KIP	**Kipapa** comp=N,331nm,0.7s	**2.48**	**295**	IAML		13 42 25.5	
KIP	comp=N,317nm,0.7s			IAML		13 42 25.5	
OPA	**Opana**	**2.59**	**300**	Pn	Pn	13 41 51.0	-1.7
KEKH	**Kekaha**	**4.15**	**293**		Pn	13 42 13.3	-0.8
KEKH					Sn	13 42

MID				IAML			13 43 32.1
	comp=N,226nm,0.7s						
CNPM	**China Poot**	**3.47**	**344**	Pn	**Pn**	**13 42 59.5**	**+0.7**
BRSE	**Bradley Lake S**	**3.56**	**339**		**Pn**	**13 43 00.5**	**+0.5**
BRSE	**Bradley Lake S**	**3.56**	**339**	P	**Pn**	**13 43 00.4**	**+0.5**
	baz=159						
P23K	**Montague Islan**	**3.59**	**7**		**Pn**	**13 43 01.4**	**+1.0**
P23K	**Montague Islan**	**3.59**	**7**	P	**Pn**	**13 43 01.4**	**+1.0**
	baz=188						
P23K				S	**Sn**	**13 43 41.1**	**-1.6**
	baz=188						
BRLK	**Bradley Lake**	**3.61**	**338**	Pn	**Pn**	**13 43 01.6**	**+1.0**
BRLK				IAML		13 43 43.9	
	comp=N,51nm,0.4s						
HOM	**Homer**	**3.69**	**332**	Pn	**Pn**	**13 43 03.2**	**+1.6**
HOM				IAML		13 43 54.7	
	comp=N,256nm,1.2s						
HOM				IAML		13 44 09.9	
	comp=E,191nm,1.1s						
HOM	**Homer**	**3.69**	**332**	P	**Pn**	**13 43 02.5**	**+0.8**
	baz=151						
SEW	**Seward**	**3.72**	**351**		**Pn**	**13 43 02.8**	**+0.7**
SEW	**Seward**	**3.72**	**351**	P	**Pn**	**13 43 02.8**	**+0.7**
	baz=171						
Q19K	**Cape Douglas,**	**3.81**	**313**	Pn	**Pn**	**13 43 05.3**	**+1.9**
Q19K				IAML		13 43 54.7	
	comp=E,248nm,0.9s						
Q19K	**Cape Douglas,**	**3.81**	**313**	P	**Pn**	**13 43 03.9**	**+0.5**
	baz=131						
KAHG	**Katmai Hook Gl**	**3.96**	**304**		**Pn**	**13 43 06.7**	**+1.1**
KAIM	**Kayak Island**	**4.04**	**29**	Pn	**Pn**	**13 43 08.9**	**+2.3**
KAIM				IAML		13 43 57.7	
	comp=N,143nm,0.7s						
KAIM				IAML		13 43 59.4	
	comp=E,139nm,1.1s						
KAIM	**Kayak Island**	**4.04**	**29**	P	**Pn**	**13 43 07.7**	**+1.2**
	baz=211						
HIN	**Hinchinbrook I**	**4.07**	**12**	Pn	**Pn**	**13 43 08.0**	**+1.0**
HIN				IAML		13 43 54.1	
	comp=E,176nm,0.9s						
O22K	**Cooper Landing**	**4.12**	**350**		**Pn**	**13 43 09.3**	**+1.7**
O22K	**Cooper Landing**	**4.12**	**350**	P	**Pn**	**13 43 09.3**	**+1.7**
	baz=170						
P19K	**Oil Pt**	**4.16**	**323**	Pn	**Pn**	**13 43 09.8**	**+1.6**
P19K				IAML		13 44 00.1	
	comp=E,148nm,0.5s						
P19K				IAML		13 44 00.4	
	comp=N,166nm,0.6s						
P19K	**Oil Pt**	**4.16**	**323**	P	**Pn**	**13 43 09.3**	**+1.1**
	baz=140						
SLKM	**Skilak Lake**	**4.20**	**347**		**Pn**	**13 43 10.2**	**+1.4**
ANCK	**Angle Creek**	**4.29**	**297**		**Pn**	**13 43 11.9**	**+1.8**
O20K	**Slope Mountain**	**4.31**	**330**		**Pn**	**13 43 10.7**	**+0.4**
O20K	**Slope Mountain**	**4.31**	**330**	P	**Pn**	**13 43 10.7**	**+0.4**
	baz=147						
EYAK	**Cordova Ski Ar**	**4.32**	**17**		**Pn**	**13 43 11.7**	**+1.4**
EYAK	**Cordova Ski Ar**	**4.32**	**17**	P	**Pn**	**13 43 11.7**	**+1.4**
	baz=198						
IVE	**Iliamna Volcan**	**4.37**	**327**		**Pn**	**13 43 11.8**	**+0.6**
RAGM	**Ragged Mountai**	**4.38**	**24**		**Pn**	**13 43 12.7**	**+1.5**
FID	**Port Fidalgo**	**4.42**	**11**		**Pn**	**13 43 12.9**	**+1.2**
FID	**Port Fidalgo**	**4.42**	**11**	IAML		13 44 03.7	
	comp=E,81nm,0.5s						
FID				IAML		13 44 04.8	
	comp=N,90nm,0.4s						
CNTC	**Contact Creek**	**4.51**	**297**		**Pn**	**13 43 14.2**	**+1.1**
Q17K	**Contact Creek**	**4.51**	**297**	P	**Pn**	**13 43 14.2**	**+1.1**
	baz=113						
GOAT	**Goat Mountain**	**4.54**	**23**		**Pn**	**13 43 15.2**	**+1.7**
BERG	**Berg Lake**	**4.63**	**29**		**Pn**	**13 43 16.1**	**+1.5**
RED	**Redoubt Volcan**	**4.63**	**331**		**Pn**	**13 43 15.2**	**+0.4**
RDSO	**Redoubt South**	**4.66**	**332**		**Pn**	**13 43 15.6**	**+0.5**
RSO	**Redoubt South**	**4.67**	**332**		**Pn**	**13 43 16.5**	**+1.2**
RDT	**Redoubt**	**4.67**	**334**		**Pn**	**13 43 15.6**	**+0.3**
RDWB	**Redoubt West**	**4.71**	**331**		**Pn**	**13 43 16.4**	**+0.5**
SNH	**Sunshine Point**	**4.71**	**35**		**Pn**	**13 43 17.1**	**+1.3**
SNH	**Sunshine Point**	**4.71**	**35**	IAML		13 44 10.7	
	comp=E,42nm,0.4s						
SNH				IAML		13 44 16.9	
	comp=N,48nm,0.6s						
P18K	**Big Mountain,**	**4.74**	**311**	Pn	**Pn**	**13 43 16.8**	**+0.6**
P18K	**Big Mountain,**	**4.74**	**311**	P	**Pn**	**13 43 16.5**	**+0.2**
	baz=127						
NCT	**North Crescent**	**4.80**	**331**		**Pn**	**13 43 17.7**	**+0.7**
BMRM	**Bremner River**	**4.92**	**21**		**Pn**	**13 43 20.1**	**+1.4**
BMRM	**Bremner River**	**4.92**	**21**	P	**Pn**	**13 43 20.1**	**+1.4**
	baz=204						
O19K	**Port Alsworth**	**4.93**	**322**	Pn	**Pn**	**13 43 19.6**	**+0.8**
O19K	**Port Alsworth**	**4.93**	**322**	P	**Pn**	**13 43 19.2**	**+0.4**
	baz=139						
KNK	**Knik Glacier**	**4.98**	**359**	Pn	**Pn**	**13 43 21.4**	**+1.9**
KNK				IAML		13 44 17.3	
	comp=N,27nm,0.5s						
KNK				IAML		13 44 17.4	
	comp=E,38nm,0.5s						
KNK	**Knik Glacier**	**4.98**	**359**	P	**Pn**	**13 43 21.3**	**+1.9**
	baz=179						
BARK	**Barkley Ridge**	**4.99**	**35**		**Pn**	**13 43 21.3**	**+1.6**
Q16K	**King Salmon**	**5.04**	**300**		**Pn**	**13 43 21.3**	**+1.1**
Q16K	**King Salmon**	**5.04**	**300**	P	**Pn**	**13 43 21.3**	**+1.1**
	baz=115						
P17K	**Kvichak River**	**5.17**	**306**		**Pn**	**13 43 23.0**	**+1.0**
P17K	**Kvichak River**	**5.17**	**306**	P	**Pn**	**13 43 23.0**	**+1.0**
	baz=121						
PMR	**Palmer**	**5.18**	**355**	Pn	**Pn**	**13 43 23.4**	**+1.3**
PMR				IAML		13 44 26.0	
	comp=N,19nm,1.2s						
PMR				IAML		13 44 26.9	
	comp=E,18nm,0.6s						
PMR	**Palmer**	**5.18**	**355**	P	**Pn**	**13 43 23.6**	**+1.5**
	baz=175						
N20K	**Mount Spurr**	**5.19**	**338**	P	**Pn**	**13 43 23.7**	**+1.3**
	baz=156						
SPCR	**Spurr Chakacha**	**5.19**	**338**		**Pn**	**13 43 23.7**	**+1.3**
KLU	**Klutina**	**5.20**	**12**		**Pn**	**13 43 23.9**	**+1.3**
KLU				IAML		13 44 22.6	
	comp=N,72nm,0.5s						
KLU				IAML		13 44 23.2	
	comp=E,75nm,0.4s						
KLU	**Klutina**	**5.20**	**12**	P	**Pn**	**13 43 24.2**	**+1.6**
	baz=194						
CKL	**Chakachamna La**	**5.21**	**338**		**Pn**	**13 43 24.0**	**+1.3**
GHO	**Glory Hole Cre**	**5.35**	**357**	Pn	**Pn**	**13 43 26.7**	**+2.1**
SML	**Sawmill**	**5.38**	**360**		**Pn**	**13 43 26.4**	**+1.5**
SML	**Sawmill**	**5.38**	**360**	P	**Pn**	**13 43 26.7**	**+1.7**
	baz=180						
STLK	**Strandline Lak**	**5.39**	**341**		**Pn**	**13 43 26.6**	**+1.5**
SAMH	**Samovar Hills**	**5.41**	**44**		**Pn**	**13 43 27.2**	**+1.9**
VRDI	**Verde Repeater**	**5.41**	**26**		**Pn**	**13 43 26.6**	**+1.1**
KIAG	**Kiagna River**	**5.44**	**32**		**Pn**	**13 43 27.6**	**+1.6**
N19K	**Bonanza Creek**	**5.45**	**326**		**Pn**	**13 43 26.4**	**+0.4**
N19K	**Bonanza Creek**	**5.45**	**326**	P	**Pn**	**13 43 26.4**	**+0.4**
	baz=142						
N25K	**Chitina, Valde**	**5.51**	**19**		**Pn**	**13 43 28.5**	**+1.7**
N25K	**Chitina, Valde**	**5.51**	**19**	P	**Pn**	**13 43 28.3**	**+1.6**
	baz=201						
GLB	**Gilahina Butte**	**5.51**	**23**		**Pn**	**13 43 28.3**	**+1.5**
PCA	**Pinnacle**	**5.59**	**46**		**Pn**	**13 43 29.7**	**+1.8**
PINM	**Pinnacle**	**5.59**	**46**	P	**Pn**	**13 43 29.7**	**+1.8**
	baz=231						
PTPK	**Patty Peak**	**5.63**	**30**		**Pn**	**13 43 29.9**	**+1.4**
CHGN	**Chignik**	**5.64**	**273**	Pn	**Pn**	**13 43 29.4**	**+0.9**
PNL	**Peninsula**	**5.71**	**52**		**Pn**	**13 43 30.8**	**+1.3**
PNL	**Peninsula**	**5.71**	**52**	P	**Pn**	**13 43 30.8**	**+1.3**
	baz=238						
O17K	**Koliganek Bris**	**5.75**	**309**		**Pn**	**13 43 30.4**	**+0.5**
O17K	**Koliganek Bris**	**5.75**	**309**	P	**Pn**	**13 43 30.5**	**+0.5**
	baz=123						
BCPM	**Bancas Point**	**5.76**	**49**		**Pn**	**13 43 31.2**	**+1.0**
BARN	**Barnard Glacie**	**5.76**	**34**		**Pn**	**13 43 32.0**	**+1.7**
M24K	**Tolsona, Glenn**	**5.78**	**10**	Pn	**Pn**	**13 43 33.0**	**+2.6**
CTG	**Chitna Glacier**	**5.79**	**36**	P	**Pn**	**13 43 32.5**	**+1.8**
	baz=221						
CTGM	**Chitina Glacie**	**5.79**	**36**		**Pn**	**13 43 32.5**	**+1.8**
LOGN	**Logan Glacier**	**5.80**	**38**		**Pn**	**13 43 32.1**	**+1.3**
P16K	**Nushagak River**	**5.82**	**300**		**Pn**	**13 43 31.5**	**+0.6**
P16K	**Nushagak River**	**5.82**	**300**	P	**Pn**	**13 43 31.5**	**+0.6**
	baz=114						
WACK	**Wrangell Chich**	**5.91**	**18**		**Pn**	**13 43 33.7**	**+1.3**
O16K	**Kokwok River B**	**6.10**	**305**		**Pn**	**13 43 36.1**	**+1.3**
O16K	**Kokwok River B**	**6.10**	**305**	P	**Pn**	**13 43 36.1**	**+1.3**
	baz=118						
N17K	**Nushagak Hills**	**6.21**	**315**		**Pn**	**13 43 37.0**	**+0.7**
N17K	**Nushagak Hills**	**6.21**	**315**	P	**Pn**	**13 43 37.0**	**+0.7**
	baz=129						
M19K	**Big River Lodg**	**6.31**	**333**		**Pn**	**13 43 37.9**	**+0.1**
M19K	**Big River Lodg**	**6.31**	**333**	P	**Pn**	**13 43 37.9**	**+0.1**
	baz=148						
M18K	**Stony River**	**6.39**	**325**		**Pn**	**13 43 38.8**	**+0.1**
M18K	**Stony River**	**6.39**	**325**	P	**Pn**	**13 43 38.8**	**+0.1**
	baz=140						
O29M	**Mount Kennedy**	**6.39**	**49**		**Pn**	**13 43 40.9**	**+1.9**
O29M	**Mount Kennedy**	**6.39**	**49**	P	**Pn**	**13 43 40.3**	**+1.4**
	baz=236						
P29M	**Windy Craggy**	**6.43**	**56**		**Pn**	**13 43 40.3**	**+0.9**
P29M	**Windy Craggy**	**6.43**	**56**	P	**Pn**	**13 43 40.4**	**+0.9**
	baz=244						
YUK8	**Steele Glacier**	**6.55**	**39**		**Pn**	**13 43 43.9**	**+2.7**
YUK8	**Steele Glacier**	**6.55**	**39**	P	**Pn**	**13 43 43.9**	**+2.7**
	baz=225						
YUK2	**White River**	**6.58**	**32**		**Pn**	**13 43 44.2**	**+2.8**
CHNA	**Chernabura Isl**	**6.61**	**261**	P	**Pn**	**13 43 41.5**	**-0.3**
	baz=73						
CNBA	**Chernabura Isl**	**6.62**	**260**		**Pn**	**13 43 41.5**	**-0.4**
DHY	**Denali Highway**	**6.67**	**3**		**Pn**	**13 43 45.0**	**+2.4**
DHY	**Denali Highway**	**6.67**	**3**	P	**Pn**	**13 43 45.1**	**+2.4**
	baz=184						
YUK3	**Moose Creek**	**6.68**	**34**		**Pn**	**13 43 45.5**	**+2.5**
YUK3	**Moose Creek**	**6.68**	**34**	P	**Pn**	**13 43 45.5**	**+2.5**
	baz=220						
YUK7	**Dusty Glacier**	**6.70**	**48**		**Pn**	**13 43 45.5**	**+2.3**
S31K	**Pelican**	**6.71**	**72**		**Pn**	**13 43 42.2**	**-1.0**
O15K	**Ungalikthiuk R**	**6.75**	**299**		**Pn**	**13 43 45.6**	**+1.8**
O15K	**Ungalikthiuk R**	**6.75**	**299**	P	**Pn**	**13 43 45.6**	**+1.8**
	baz=110						
M27K	**Edge Creek, AK**	**6.76**	**26**	Pn	**Pn**	**13 43 46.2**	**+2.2**
N16K	**Nishlik Lake**	**6.83**	**311**		**Pn**	**13 43 46.1**	**+1.2**
N16K	**Nishlik Lake**	**6.83**	**311**	P	**Pn**	**13 43 46.1**	**+1.2**
	baz=123						
YUK6	**Outpost Mounta**	**6.85**	**45**		**Pn**	**13 43 47.7**	**+2.4**
YUK6	**Outpost Mounta**	**6.85**	**45**	P	**Pn**	**13 43 47.7**	**+2.4**
	baz=232						
M17K	**Holitna River**	**6.87**	**320**		**Pn**	**13 43 46.3**	**+1.0**
M17K	**Holitna River**	**6.87**	**320**	P	**Pn**	**13 43 46.3**	**+1.0**
	baz=133						
SDPT	**Sand Point**	**6.96**	**266**	Pn	**Pn**	**13 43 47.0**	**+0.4**
YUK4	**Talbot Arm**	**6.99**	**41**	P	**Pn**	**13 43 51.4**	**+4.2**
	baz=229						
P30M	**Million Dollar**	**7.00**	**54**		**Pn**	**13 43 49.3**	**+2.0**
P30M	**Million Dollar**	**7.00**	**54**	P	**Pn**	**13 43 49.3**	**+2.0**
	baz=242						
R31K	**City Hall, Gus**	**7.04**	**69**		**Pn**	**13 43 48.4**	**+0.7**
R31K	**City Hall, Gus**	**7.04**	**69**	P	**Pn**	**13 43 48.4**	**+0.7**
	baz=258						
BVCY	**Beaver Creek**	**7.07**	**29**		**Pn**	**13 43 50.9**	**+2.7**
BVCY	**Beaver Creek**	**7.07**	**29**	P	**Pn**	**13 43 50.9**	**+2.7**
	baz=215						
HYT	**Haines Junctio**	**7.12**	**48**	Pn	**Pn**	**13 43 51.2**	**+2.2**
HYT	**Haines Junctio**	**7.12**	**48**	P	**Pn**	**13 43 51.1**	**+2.2**
	baz=236						
YUK5	**Granite Creek**	**7.16**	**45**		**Pn**	**13 43 52.5**	**+3.0**
M16K	**Timber Creek**	**7.21**	**314**		**Pn**	**13 43 51.2**	**+1.2**
M16K	**Timber Creek**	**7.21**	**314**	P	**Pn**	**13 43 51.2**	**+1.2**
	baz=126						
N15K	**Kwethluk River**	**7.26**	**306**		**Pn**	**13 43 52.7**	**+2.0**
N15K	**Kwethluk River**	**7.26**	**306**	P	**Pn**	**13 43 52.7**	**+2.0**
	baz=117						
SKAG	**Skagway**	**7.51**	**61**	Pn	**Pn**	**13 43 55.4**	**+1.2**
BESE	**Bessie Mountai**	**7.53**	**68**		**Pn**	**13 43 55.0**	**+0.5**
S32K	**Killisnoo**	**7.55**	**77**		**Pn**	**13 43 53.6**	**-1.1**
S32K	**Killisnoo**	**7.55**	**77**	P	**Pn**	**13 43 53.6**	**-1.1**
	baz=267						
N30M	**Aishikik Lake**	**7.65**	**44**		**Pn**	**13 43 58.1**	**+2.0**
N30M	**Aishikik Lake**	**7.65**	**44**	P	**Pn**	**13 43 58.1**	**+2.0**
	baz=233						
O30N	**Mendenhall**	**7.69**	**51**		**Pn**	**13 43 58.4**	**+1.7**
O30N	**Mendenhall**	**7.69**	**51**	P	**Pn**	**13 43 58.3**	**+1.7**
	baz=240						
JIS	**Juneau Island**	**7.73**	**71**	Pn	**Pn**	**13 43 57.4**	**+0.3**
PN7A	**Pavlof North-7**	**7.78**	**268**		**Pn**	**13 43 58.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**7.80**	**351**		**Pn**	**13 43 59.5**	**+1.4**
BPAW	**Bear Paw Mtn.**	**7.80**	**351**	P	**Pn**	**13 43 59.5**	**+1.4**
	baz=169						
M29M	**Somme Creek**	**7.81**	**36**		**Pn**	**13 44 00.8**	**+2.4**
M29M	**Somme Creek**	**7.81**	**36**	P	**Pn**	**13 44 00.7**	**+2.4**
	baz=223						
L16K	**Owhat River**	**7.82**	**317**		**Pn**	**13 43 59.0**	**+0.7**
L16K	**Owhat River**	**7.82**	**317**	P	**Pn**	**13 43 59.0**	**+0.7**
	baz=129						
K17K	**Iditarod**	**8.08**	**325**		**Pn**	**13 44 02.2**	**+0.3**
K17K	**Iditarod**	**8.08**	**325**	P	**Pn**	**13 44 02.2**	**+0.3**
	baz=137						
WHY	**Whitehorse**	**8.17**	**53**	Pn	**Pn**	**13 44 05.2**	**+1.9**
N31M	**Braeburn, Yuko**	**8.19**	**47**	Pn	**Pn**	**13 44 05.7**	**+2.2**
P32M	**Atlin**	**8.34**	**62**	Pn	**Pn**	**13 44 06.6**	**+1.1**
P32M	**Atlin**	**8.34**	**62**	P	**Pn**	**13 44 06.8**	**+1.3**
	baz=253						
ILAR	**Eielson Array**	**8.38**	**4**	Pn	**Pn**	**13 44 05.7**	**-0.4**
	comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=2.1						
ILAR				Sn	**Sn**	**13 45 38.0**	**-2.6**
	comp=E,0.5nm,0.3s,baz=192,slow=22,SNR=9.2						
	comp=E,0.1nm,0.3s						
M30M	**Minto, Yukon**	**8.46**	**39**	Pn	**Pn**	**13 44 09.2**	**+1.9**
ISLZ	**Isanotski Laza**	**8.92**	**265**		**Pn**	**13 44 13.7**	**+0.2**
P33M	**Stein, Yukon**	**8.95**	**59**	Pn	**Pn**	**13 44 15.1**	**+1.1**
BRPK	**Brown Peak**	**8.96**	**265**		**Pn**	**13 44 14.6**	**+0.6**
SSLS	**Shishaldin Sou**	**9.08**	**266**		**Pn**	**13 44 15.6**	**-0.1**
M31M	**Drury Creek, Y**	**9.13**	**45**		**Pn**	**13 44 19.0**	**+2.6**
S34M	**Telegraph Cree**	**9.42**	**74**	Pn	**Pn**	**13 44 20.7**	**+0.4**
FARO	**Faro, Yukon**	**9.56**	**47**	Pn	**Pn**	**13 44 24.4**	**+2.1**
R33M	**Jennings River**	**9.66**	**65**	Pn	**Pn**	**13 44 24.5**	**+0.8**
DLBC	**Dease Lake**	**10.03**	**71**	Pn	**Pn**	**13 44 29.9**	**+1.2**
DLBC	**Dease Lake**	**10.03**	**71**	Pn	**Pn**	**13 44 29.5**	**+0.8**
	comp=E,1.1nm,0.3s,baz=264,slow=6.9,SNR=30						
DLBC				Sn	**Sn**	**13 46 17.1**	**-4.1**
	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=1.3						
	comp=E,2.3nm,0.3s						
G29M	**Pine Creek**	**11.55**	**21**	Pn	**Pn**	**13 44 53.0**	**+3.6**
ANM	**Nome**	**11.68**	**321**	Pn	**Pn**	**13 44 52.5**	**+1.4**
INK	**Inuvik**	**13.66**	**24**	Pn	**Pn**	**13 45 20.0**	**+1.9**
INK	**Inuvik**	**13.66**	**24**	Pn	**Pn**	**13 45 19.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=217,slow=6.3,SNR=4.9						
	comp=E,2.3nm,1.0s						
WRGLY	**Wrigley**	**14.13**	**51**	Pn	**Pn**	**13 45 24.6**	**0.0**
ATKA	**Atka Island**	**15.67**	**265**	Pn	**Pn**	**13 45 43.8**	**-1.5**
ADK	**Adak**	**17.19**	**267**	P	**Pn**	**13 46 03.6**	**-1.0**
ADK				IAmb	IAmb	13 46 28.1	
	comp=Z,18nm,1.1s						
KIWB	**Kanaga Island**	**17.46**	**267**	P	**Pn**	**13 46 07.2**	**-0.9**
NLWA	**Neilton Lookou**	**17.48**	**111**	P	**Pn**	**13 46 07.8**	**-0.6**
NLWA				IAmb	IAmb	13 46 12.6	
	comp=Z,24nm,1.1s						
BRLDA	**Berland Lookou**	**17.67**	**85**	P	**Pn**	**13 46 11.6**	**+0.9**
YKA	**Yellowknife Ar**	**17.98**	**56**	P	**Pn**	**13 46 15.8**	**+1.5**
YKA	**Yellowknife Ar**	**17.98**	**56**	P	**Pn**	**13 46 15.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=264,slow=13,SNR=8.9						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**58.96**	**311**	P	**P**	**13 52 06.0**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=44,slow=7.9,SNR=2.1						
	comp=Z,0.3nm,0.6s						

*IDC **24** 13:48:27.7±3.1, 55°.95N×149°.97W, h0km, mb3.5/1, mbtmp3.1/5, ML2.6/4, MS4.3/1, Error ellipse: s-maj=40.6km s-min=33.5km az=2.0*

*NEIC **24** 13:48:28.7±1.0, 56°.1N±0°.1×149°.4W±0°.1, h20km±11km, ML3.1/30, ML3.0(AEIC), Error ellipse: s-maj=17.6km s-min=9.9km az=173.0*

*AEIC **24** 13:48:29.6±1.9, 55°.9N±0°.1×149°.3W±0°.1, h8km±8km, Error ellipse: s-maj=17.6km s-min=8.5km az=163.0*

ISC 24 13:48:29.0±1.7, **56°.2N**±0°.1×**149°.48W**±0°.06, **h10**km, **n47,**
σ1§**22**/49, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.34**	**315**		**Pn**	**13 49 06.9**	**-0.6**
KDAK					**Sn**	**13 49 35.7**	**-0.5**
KDAK	**Kodiak Island**	**2.34**	**315**	Pn	**Pn**	**13 49 06.3**	**-1.2**
	1.3nm,0.3s,baz=102,slow=5.8,SNR=4.7						
KDAK				Sn	**Sn**	**13 49 35.5**	**-0.7**
	2.8nm,0.3s,baz=16,slow=19,SNR=9.3						
	9.1nm,0.8s						
OHAK	**Old Harbor**	**2.34**	**298**		**Pn**	**13 49 06.6**	**-0.9**
OHAK					**Sn**	**13 49 34.9**	**-1.5**
SYI	**Shuyak Island**	**2.90**	**328**		**Pn**	**13 49 14.5**	**-0.6**
SYI					**Sn**	**13 49 51.3**	**+1.3**
SYI	**Shuyak Island**	**2.90**	**328**	IAML		13 50 33.3	
	comp=E,34nm,1.4s						
CNPM	**China Poot**	**3.48**	**345**		**Pn**	**13 49 22.9**	**-0.2**
CNPM					**Sn**	**13 50 04.0**	**-0.4**
CNPM	**China Poot**	**3.48**	**345**	IAML		13 50 08.9	
	comp=E,27nm,1.2s						
CNPM				IAML		13 50 13.8	
	comp=N,26nm,1.2s						
Q19K	**Cape Douglas,**	**3.55**	**322**		**Pn**	**13 49 23.9**	**-0.3**
BRSE	**Bradley Lake S**	**3.63**	**350**		**Pn**	**13 49 24.3**	**-0.9**
Q23K	**Middleton Isla**	**3.66**	**26**		**Pn**	**13 49 24.6**	**-1.0**
BRLK	**Bradley Lake**	**3.67**	**349**		**Pn**	**13 49 24.8**	**-1.0**
BRLK	**Bradley Lake**	**3.67**	**349**	IAML		13 50 14.3	
	comp=E,20nm,1.0s						
BRLK				IAML		13 50 23.1	
	comp=N,25nm,1.4s						
P19K	**Oil Pt**	**4.01**	**332**	Pn	**Pn**	**13 49 29.7**	**-0.8**
P19K				IAML		13 50 20.0	
	comp=E,49nm,1.4s						
P18K	**Big Mountain,**	**4.45**	**319**	Pn	**Pn**	**13 49 35.5**	**-1.0**
P18K				IAML		13 50 33.4	
	comp=N,16nm,1.4s						
HIN	**Hinchinbrook I**	**4.50**	**19**	Pn	**Pn**	**13 49 35.8**	**-1.4**
HIN				IAML		13 51 28.2	
	comp=N,33nm,1.3s						
KAIM	**Kayak Island**	**4.61**	**34**	Pn	**Pn**	**13 49 37.5**	**-1.2**
KAIM				IAML		13 51 58.1	
	comp=E,22nm,1.0s						
KAIM				IAML		13 52 38.6	
	comp=N,33nm,1.2s						
RSO	**Redoubt South**	**4.62**	**339**	Pn	**Pn**	**13 49 37.6**	**-1.4**
FID	**Port Fidalgo**	**4.84**	**18**	Pn	**Pn**	**13 49 41.3**	**-0.6**
FID				IAML		13 50 53.0	
	comp=N,21nm,1.5s						
RC01	**Rabbit Creek A**	**4.92**	**359**	Pn	**Pn**	**13 49 42.5**	**-0.4**
RC01				IAML		13 52 41.0	
	comp=E,7.1nm,1.5s						
BERG	**Berg Lake**	**5.20**	**33**	Pn	**Pn**	**13 49 45.5**	**-1.3**
BERG				IAML		13 50 50.8	
	comp=N,21nm,1.0s						
BERG				IAML		13 51 03.9	
	comp=E,22nm,1.4s						
KNK	**Knik Glacier**	**5.27**	**5**	Pn	**Pn**	**13 49 49.6**	**+1.9**
KNK				IAML		13 52 32.2	
	comp=E,11nm,1.5s						
KNK				IAML		13 53 23.4	
	comp=N,7.1nm,1.3s						
GHO	**Glory Hole Cre**	**5.61**	**3**	Pn	**Pn**	**13 49 51.7**	**-0.8**
N18K	**Kilae Creek**	**5.62**	**326**	Pn	**Pn**	**13 49 52.3**	**-0.4**
KLU	**Klutina**	**5.63**	**18**	Pn	**Pn**	**13 49 52.5**	**-0.3**
SML	**Sawmill**	**5.67**	**6**	Pn	**Pn**	**13 49 52.8**	**-0.5**
O16K	**Kokwok River B**	**5.73**	**310**	Pn	**Pn**	**13 49 54.6**	**+0.6**
SCM	**Sheep Creek Mo**	**5.77**	**10**	Pn	**Pn**	**13 49 54.3**	**-0.4**
N25K	**Chitina, Valde**	**5.99**	**23**	Pn	**Pn**	**13 49 57.1**	**-0.7**
GLB	**Gilahina Butte**	**6.04**	**27**	Pn	**Pn**	**13 49 57.7**	**-0.6**
M24K	**Tolsona, Glenn**	**6.18**	**15**	Pn	**Pn**	**13 50 00.5**	**+0.3**
BARN	**Barnard Glacie**	**6.37**	**37**	Pn	**Pn**	**13 50 02.0**	**-1.0**
CTGM	**Chitina Glacie**	**6.41**	**38**	Pn	**Pn**	**13 50 02.2**	**-1.3**
LOGN	**Logan Glacier**	**6.43**	**40**	Pn	**Pn**	**13 50 02.4**	**-1.4**
M17K	**Holitna River**	**6.57**	**325**	Pn	**Pn**	**13 50 06.8**	**0.0**
N15K	**Kwethluk River**	**6.89**	**310**	Pn	**Pn**	**13 50 10.8**	**+0.9**
M16K	**Timber Creek**	**6.93**	**318**	Pn	**Pn**	**13 50 11.1**	**+0.6**
P29M	**Windy Craggy**	**7.14**	**56**	Pn	**Pn**	**13 50 10.5**	**-3.0**
M27K	**Edge Creek, AK**	**7.31**	**29**	Pn	**Pn**	**13 50 15.7**	**-0.1**
BPAW	**Bear Paw Mtn.**	**7.98**	**355**	Pn	**Pn**	**13 50 24.8**	**-0.1**
M29M	**Somme Creek**	**8.42**	**37**	Pn	**Pn**	**13 50 30.9**	**-0.2**
ILAR	**Eielson Array**	**8.71**	**7**	Pn	**Pn**	**13 50 33.9**	**-0.9**
	baz=189,slow=13,SNR=1.8						
ILAR				Sn	**Sn**	**13 52 11.0**	**-2.0**
	baz=318,slow=34,SNR=2.5						
	comp=N,

P18K	**Big Mountain,**	**4.43**	**318**			**Pn**	**13 54 10.7**	**-0.8**
P18K	**Big Mountain,** baz=134	**4.43**	**318**	P		**Pn**	**13 54 10.7**	**-0.8**
HIN	**Hinchinbrook I**	**4.44**	**19**			**Pn**	**13 54 11.4**	**-0.3**
HIN	**Hinchinbrook I** comp=N,98nm,1.4s	**4.44**	**19**	IAML			13 55 06.7	
HIN	comp=E,106nm,1.2s			IAML			13 55 08.0	
KAIM	**Kayak Island**	**4.55**	**34**			**Pn**	**13 54 12.7**	**-0.4**
KAIM	**Kayak Island** baz=217	**4.55**	**34**	P		**Pn**	**13 54 12.7**	**-0.4**
RSO	**Redoubt South**	**4.58**	**339**			**Pn**	**13 54 14.3**	**+0.5**
RDT	**Redoubt**	**4.62**	**341**			**Pn**	**13 54 13.9**	**-0.3**
CAPN	**Captain Cook N**	**4.63**	**349**	Pn		**Pn**	**13 54 14.3**	**+0.1**
CAPN	comp=N,126nm,1.1s			IAML			13 55 40.1	
O19K	**Port Alsworth**	**4.73**	**329**			**Pn**	**13 54 15.6**	**0.0**
O19K	**Port Alsworth** comp=E,86nm,0.5s	**4.73**	**329**	IAML			13 55 13.6	
O19K	comp=N,73nm,0.5s			IAML			13 55 31.3	
O19K	**Port Alsworth** baz=145	**4.73**	**329**	P		**Pn**	**13 54 15.6**	**0.0**
EYAK	**Cordova Ski Ar**	**4.73**	**23**			**Pn**	**13 54 15.8**	**+0.1**
EYAK	**Cordova Ski Ar** baz=205	**4.73**	**23**	P		**Pn**	**13 54 15.8**	**+0.1**
FID	**Port Fidalgo**	**4.78**	**18**			**Pn**	**13 54 16.1**	**-0.2**
RAGM	**Ragged Mountai**	**4.85**	**29**	Pn		**Pn**	**13 54 17.5**	**+0.1**
RC01	**Rabbit Creek A**	**4.87**	**358**			**Pn**	**13 54 17.6**	**+0.2**
RC01	**Rabbit Creek A** comp=N,43nm,0.4s	**4.87**	**358**	IAML			13 55 13.9	
RC01	comp=E,34nm,0.8s			IAML			13 55 21.6	
RC01	**Rabbit Creek A** baz=177	**4.87**	**358**	P		**Pn**	**13 54 17.6**	**+0.2**
GOAT	**Goat Mountain**	**5.00**	**28**			**Pn**	**13 54 19.2**	**-0.2**
CHGN	**Chignik**	**5.01**	**274**	Pn		**Pn**	**13 54 20.9**	**+1.5**
BERG	**Berg Lake**	**5.14**	**34**			**Pn**	**13 54 21.1**	**-0.2**
KNK	**Knik Glacier**	**5.21**	**5**			**Pn**	**13 54 22.9**	**+0.6**
KNK	**Knik Glacier** comp=N,21nm,1.0s	**5.21**	**5**	IAML			13 55 31.7	
KNK	comp=E,34nm,1.2s			IAML			13 55 32.3	
KNK	**Knik Glacier** baz=185	**5.21**	**5**	P		**Pn**	**13 54 22.9**	**+0.6**
SNH	**Sunshine Point**	**5.27**	**39**			**Pn**	**13 54 22.9**	**-0.1**
SNH	**Sunshine Point** comp=N,50nm,1.1s	**5.27**	**39**	IAML			13 55 22.7	
SNH	comp=E,50nm,1.3s			IAML			13 55 33.4	
SUA	**Susitna One**	**5.28**	**353**			**Pn**	**13 54 22.5**	**-0.8**
SUA	comp=E,21nm,1.5s			IAML			13 55 23.3	
SUA	comp=N,20nm,1.5s			IAML			13 55 32.1	
N19K	**Bonanza Creek**	**5.29**	**332**			**Pn**	**13 54 23.4**	**-0.1**
N19K	**Bonanza Creek** baz=148	**5.29**	**332**	P		**Pn**	**13 54 23.4**	**-0.1**
BMRM	**Bremner River**	**5.37**	**26**			**Pn**	**13 54 24.7**	**+0.3**
BMRM	**Bremner River** baz=209	**5.37**	**26**	P		**Pn**	**13 54 24.7**	**+0.3**
PMR	**Palmer**	**5.37**	**2**			**Pn**	**13 54 24.1**	**-0.2**
PMR	**Palmer** comp=E,20nm,1.0s	**5.37**	**2**	IAML			13 55 30.2	
PMR	comp=N,17nm,1.1s			IAML			13 55 47.1	
PMR	**Palmer** baz=181	**5.37**	**2**	P		**Pn**	**13 54 24.1**	**-0.2**
STLK	**Strandline Lak**	**5.42**	**348**			**Pn**	**13 54 25.2**	**+0.1**
BARK	**Barkley Ridge**	**5.55**	**38**			**Pn**	**13 54 26.6**	**-0.3**
GHO	**Glory Hole Cre**	**5.55**	**2**			**Pn**	**13 54 27.5**	**+0.5**
KLU	**Klutina**	**5.57**	**18**			**Pn**	**13 54 27.4**	**+0.1**
KLU	**Klutina** baz=200	**5.57**	**18**	P		**Pn**	**13 54 27.5**	**+0.3**
N18K	**Kilae Creek**	**5.59**	**325**			**Pn**	**13 54 27.8**	**+0.3**
N18K	**Kilae Creek** baz=140	**5.59**	**325**	P		**Pn**	**13 54 27.8**	**+0.3**
SML	**Sawmill**	**5.61**	**5**			**Pn**	**13 54 28.0**	**+0.3**
SML	**Sawmill** baz=186	**5.61**	**5**	P		**Pn**	**13 54 28.7**	**+0.9**
M23K	**Glacier View**	**5.64**	**8**			**Pn**	**13 54 29.2**	**+1.1**
M23K	**Glacier View** baz=189	**5.64**	**8**	P		**Pn**	**13 54 29.2**	**+1.1**
O16K	**Kokwok River B**	**5.71**	**310**			**Pn**	**13 54 30.0**	**+1.0**
O16K	**Kokwok River B** baz=123	**5.71**	**310**	P		**Pn**	**13 54 30.0**	**+1.0**
SCM	**Sheep Creek Mo**	**5.71**	**10**			**Pn**	**13 54 30.2**	**+1.0**
SCM	**Sheep Creek Mo** baz=191	**5.71**	**10**	P		**Pn**	**13 54 30.2**	**+1.0**
VRDI	**Verde Repeater**	**5.89**	**29**			**Pn**	**13 54 31.9**	**+0.2**
N17K	**Nushagak Hills**	**5.92**	**320**	Pn		**Pn**	**13 54 33.7**	**+1.7**
N25K	**Chitina, Valde**	**5.93**	**23**			**Pn**	**13 54 32.8**	**+0.6**
N25K	**Chitina, Valde** baz=206	**5.93**	**23**	P		**Pn**	**13 54 32.8**	**+0.6**
M20K	**Styx River**	**5.97**	**343**			**Pn**	**13 54 33.2**	**+0.5**
M20K	**Styx River** baz=160	**5.97**	**343**	P		**Pn**	**13 54 33.2**	**+0.5**
GLB	**Gilahina Butte**	**5.97**	**27**			**Pn**	**13 54 33.0**	**+0.3**
KIAG	**Kiagna River**	**5.97**	**35**			**Pn**	**13 54 33.1**	**+0.2**
SAMH	**Samovar Hills**	**6.01**	**46**			**Pn**	**13 54 33.8**	**+0.5**
M24K	**Tolsona, Glenn**	**6.12**	**15**			**Pn**	**13 54 35.8**	**+1.1**
M24K	**Tolsona, Glenn** baz=197	**6.12**	**15**	P		**Pn**	**13 54 35.8**	**+1.1**
PTPK	**Patty Peak**	**6.14**	**33**			**Pn**	**13 54 35.7**	**+0.5**
PCA	**Pinnacle**	**6.20**	**48**			**Pn**	**13 54 36.0**	**+0.1**
PINM	**Pinnacle** baz=234	**6.20**	**48**	P		**Pn**	**13 54 36.0**	**0.0**
M18K	**Stony River**	**6.22**	**330**			**Pn**	**13 54 36.3**	**+0.3**
M18K	**Stony River** baz=145	**6.22**	**330**	P		**Pn**	**13 54 36.3**	**+0.3**
O15K	**Ungalikthiuk R**	**6.30**	**302**			**Pn**	**13 54 37.3**	**+0.2**
O15K	**Ungalikthiuk R** baz=114	**6.30**	**302**	P		**Pn**	**13 54 37.3**	**+0.2**
BARN	**Barnard Glacie**	**6.31**	**37**			**Pn**	**13 54 37.4**	**0.0**
CTG	**Chitna Glacier** baz=224	**6.35**	**38**	P		**Pn**	**13 54 37.9**	**-0.1**
CTGM	**Chitina Glacie**	**6.35**	**38**			**Pn**	**13 54 37.9**	**-0.1**
PNL	**Peninsula**	**6.35**	**53**			**Pn**	**13 54 37.9**	**+0.1**
PNL	**Peninsula** baz=240	**6.35**	**53**	P		**Pn**	**13 54 37.9**	**+0.1**
LOGN	**Logan Glacier**	**6.37**	**40**			**Pn**	**13 54 38.0**	**-0.3**
BCPM	**Bancas Point**	**6.39**	**50**			**Pn**	**13 54 38.5**	**+0.2**
WAT6	**Susitna Watana**	**6.42**	**7**			**Pn**	**13 54 39.6**	**+0.7**
WAT6	**Susitna Watana** baz=188	**6.42**	**7**	P		**Pn**	**13 54 39.6**	**+0.7**
HARP	**HAARP**	**6.55**	**18**			**Pn**	**13 54 42.1**	**+1.5**
HARP	**HAARP** baz=201	**6.55**	**18**	P		**Pn**	**13 54 42.1**	**+1.5**
WAT7	**Susitna Watana**	**6.62**	**2**			**Pn**	**13 54 42.6**	**+1.0**
M17K	**Holitna River**	**6.63**	**325**			**Pn**	**13 54 43.0**	**+1.2**
M17K	**Holitna River** baz=138	**6.63**	**325**	P		**Pn**	**13 54 43.0**	**+1.2**
N15K	**Kwethluk River**	**6.87**	**309**			**Pn**	**13 54 47.0**	**+2.0**
M16K	**Timber Creek**	**6.91**	**318**	Pn		**Pn**	**13 54 47.5**	**+2.0**
DHY	**Denali Highway**	**6.94**	**8**			**Pn**	**13 54 46.8**	**+0.8**
DHY	**Denali Highway** baz=189	**6.94**	**8**	P		**Pn**	**13 54 46.8**	**+0.8**
O29M	**Mount Kennedy**	**7.02**	**50**			**Pn**	**13 54 47.7**	**+0.6**
O29M	**Mount Kennedy** baz=238	**7.02**	**50**	P		**Pn**	**13 54 47.7**	**+0.6**
P29M	**Windy Craggy**	**7.09**	**57**			**Pn**	**13 54 48.0**	**0.0**
P29M	**Windy Craggy** baz=246	**7.09**	**57**	P		**Pn**	**13 54 47.9**	**-0.2**
CAST	**Castle Rocks**	**7.32**	**351**			**Pn**	**13 54 52.9**	**+1.7**
CAST	**Castle Rocks** baz=168	**7.32**	**351**	P		**Pn**	**13 54 52.9**	**+1.7**
YUK6	**Outpost Mounta**	**7.46**	**46**			**Pn**	**13 54 54.2**	**+1.0**
YUK6	**Outpost Mounta** baz=235	**7.46**	**46**	P		**Pn**	**13 54 54.2**	**+1.0**
YUK4	**Talbot Arm** baz=231	**7.58**	**43**	P		**Pn**	**13 54 57.4**	**+2.4**
P30M	**Million Dollar**	**7.65**	**54**			**Pn**	**13 54 56.2**	**+0.5**
P30M	**Million Dollar** baz=244	**7.65**	**54**	P		**Pn**	**13 54 56.3**	**+0.5**
HYT	**Haines Junctio**	**7.75**	**49**	Pn		**Pn**	**13 54 57.1**	**0.0**
RIDG	**Independent Ri**	**7.86**	**15**			**Pn**	**13 54 58.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**7.92**	**355**	Pn		**Pn**	**13 54 59.8**	**+0.4**
ISLZ	**Isanotski Laza**	**8.25**	**265**			**Pn**	**13 55 04.7**	**+0.7**
HDA	**Harding Lake**	**8.29**	**7**			**Pn**	**13 55 05.1**	**+0.7**
M29M	**Somme Creek**	**8.36**	**37**			**Pn**	**13 55 06.3**	**+0.7**
NEA2	**Nenana**	**8.38**	**1**	Pn		**Pn**	**13 55 06.8**	**+1.1**
IL31		**8.65**	**7**			**Pn**	**13 55 09.9**	**+0.6**
J26L	**Joseph Creek**	**8.78**	**17**			**Pn**	**13 55 11.5**	**+0.3**
WHY	**Whitehorse**	**8.81**	**54**	Pn		**Pn**	**13 55 12.2**	**+0.4**
L29M	**L29M**	**8.94**	**35**			**Pn**	**13 55 14.4**	**+1.0**
P32M	**Atlin**	**9.01**	**62**	Pn		**Pn**	**13 55 13.8**	**-0.5**
P32M	**Atlin** baz=254	**9.01**	**62**	P		**Pn**	**13 55 14.0**	**-0.3**
I21K	**Tanana**	**9.06**	**353**			**Pn**	**13 55 15.9**	**+1.0**
I21K	**Tanana** baz=171	**9.06**	**353**	P		**Pn**	**13 55 15.9**	**+1.0**
H21K	**Melozitna Rive**	**9.59**	**352**			**Pn**	**13 55 22.6**	**+0.3**
P33M	**Teslin, Yukon**	**9.62**	**59**			**Pn**	**13 55 22.7**	**0.0**
IMAR	**Indian Mountai**	**9.99**	**350**	Pn		**Pn**	**13 55 28.3**	**+0.5**
R33M	**Jennings River**	**10.34**	**65**	Pn		**Pn**	**13 55 31.8**	**+0.8**
FYU	**Fort Yukon**	**10.55**	**9**	Pn		**Pn**	**13 55 36.5**	**+1.2**
F21K	**Alatna River**	**11.18**	**352**	Pn		**Pn**	**13 55 44.8**	**+0.8**
E19K	**Redstone River**	**11.83**	**345**	Pn		**Pn**	**13 55 55.0**	**+2.1**
E25K	**Arctic Village**	**12.05**	**7**	Pn		**Pn**	**13 55 57.4**	**+1.4**

*IDC **24** 13:53:44.6±0.8,9°.61N×69°.88W, h0^{km}, mb3.6/8, mbtmp3.8/11, ML2.2/1, MS2.7/1, Error ellipse: s-maj=20.2km s-min=9.9km az=130.0*
*FUNV **24** 13:53:48.3,9°.60N×69°.79W, h3^{km}, MW4.4*
*NEIC **24** 13:53:48.0±2.9, 9°.50N±0°.02×69°.83W±0°.04, h10^{km}±1^{km}, mb4.4/11, Mwr4.6(CAR), Error ellipse: s-maj=6.8km s-min=3.3km az=252.0*
*CAR **24** 13:53:49.1±3.4, 9°.67N±0°.05×69°.74W±0°.05, h5^{km}±5^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=195.0*

ISC 24 13:53:47.5±0.9, 9°.57N±0°.03×69°.79W±0°.02, h13^{km}±6^{km}, n85, σ1§84/106, mb4.0/13, 1D, Venezuelan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANV	**Sanarito**	**0.26**	**105**	*eP*		**Pg**		**13 53 53.7**	**+0.5**
SANV				*eS*		**Sg**		**13 53 57.0**	**0.0**
CURV	**Curarigua**	**0.47**	**340**	*eP*		**Pg**		**13 53 56.7**	**-0.2**
CURV				*eS*		**Sg**		**13 54 03.0**	**-0.2**
TEPV	**Terepaima**	**0.71**	**56**	*eP*		**Pg**		**13 54 01.3**	**-0.1**
TEPV				*eS*		**Sg**		**13 54 10.1**	**-0.7**
SDV	**Santo Domingo**	**1.07**	**231**			**Pg**		**13 54 06.1**	**-2.1**
SDV					Sg	**Sg**		**13 54 20.2**	**-2.1**
SDV	**Santo Domingo** 83nm,0.3s,baz=85,slow=6.3,SNR=263	**1.07**	**231**	Pg		**Pg**		**13 54 05.5**	**-2.7**
SDV	1µm,0.3s,baz=312,slow=20,SNR=48				Lg	Lg		13 54 18.2	
SIQV	**Siquisique**	**1.07**	**359**	*eP*		**Pg**		**13 54 08.3**	**0.0**
SIQV				*eS*		**Sb**		**13 54 22.2**	**+0.2**
SOCV	**Socops**	**1.65**	**220**	*eP*		**Pn**		**13 54 17.8**	**+1.5**
SOCV				*eS*		**Sn**		**13 54 38.5**	**+1.1**
BAUV	**El Baul**	**1.84**	**110**	Pn		**Pn**		**13 54 19.8**	**+1.0**
BAUV				Sn		**Sn**		**13 54 44.9**	**+2.9**
BAUV	**El Baul**	**1.84**	**110**	*eP*		**Pn**		**13 54 20.4**	**+1.6**
BAUV				*eS*		**Sn**		**13 54 44.1**	**+2.1**
TURV	**Turiamo**	**2.12**	**65**	*eP*		**Pn**		**13 54 24.1**	**+1.5**
TURV				*eS*		**Sn**		**13 54 49.3**	**+0.6**
BENV	**Beln**	**2.20**	**80**	*eP*		**Pn**		**13 54 26.8**	**+2.9**
BENV				*eS*		**Sn**		**13 54 52.1**	**+1.1**
HATO	**Hato, Curacao**	**2.72**	**17**	Pn		**Pn**		**13 54 32.9**	**+1.9**
MCQV	**Machiques**	**2.74**	**280**	*eP*		**Pn**		**13 54 33.1**	**+1.8**
MCQV				*eS*		**Sn**		**13 55 05.9**	**+1.5**
TACV	**Tcata**	**2.79**	**78**	*eP*		**Pn**		**13 54 33.3**	**+1.4**
TACV				*eS*		**Sn**		**13 55 05.8**	**+0.4**
AUA1	**Aruba**	**2.93**	**356**	Pn		**Pn**		**13 54 35.9**	**+2.1**
CAPV	**Capacho**	**3.01**	**236**	*eP*		**Pn**		**13 54 36.7**	**+1.5**
CAPV				*eS*		**Sn**		**13 55 12.0**	**+0.7**
URIC	**Uribia, Colomb**	**3.03**	**315**	*eP*		**Pn**		**13 54 32.4**	**-2.8**
URIC				*eS*		**Sn**		**13 55 10.3**	**-1.1**
FUNV	**FUNVISIS**	**3.07**	**73**	*eP*		**Pn**		**13 54 36.4**	**+0.5**
FUNV				*eS*		**Sn**		**13 55 11.9**	**-0.7**
CRJC	**Cerrejon, Guaj**	**3.36**	**296**	*ePg*		**Pn**		**13 54 41.2**	**+1.3**
CRJC				*eS*		**Sn**		**13 55 21.1**	**+1.3**
CRJC	comp=Z,930nm,0.5s			*i*				13 55 33.5	
MERV	**Las Mercedes**	**3.46**	**95**	*eP*		**Pn**		**13 54 42.6**	**+1.4**
MERV				*eS*		**Sn**		**13 55 21.4**	**-0.8**
PAMC	**Pamplona, Colo**	**3.63**	**233**	*eP*		**Pn**		**13 54 45.9**	**+2.0**
TAMC	**Tame, Arauca**	**3.69**	**213**	*eP*		**Pn**		**13 54 46.1**	**+1.8**
OCAC	**Ocana**	**3.73**	**250**	*eP*		**Pn**		**13 54 47.8**	**+2.9**
OCAC				*eS*		**Sb**		**13 55 42.8**	**+4.3**
OCAC	comp=Z,2µm,0.6s			*i*				13 55 46.7	
CACV	**CAICARA DEL OR**	**3.78**	**121**	*eP*		**Pb**		**13 54 52.9**	**-1.4**
CACV				*eS*		**Sb**		**13 55 41.0**	**+1.0**
ARGC	**Ariguani, Magd**	**4.40**	**274**	*eP*		**Pn**		**13 54 55.2**	**+1.2**
ARGC				*eS*		**Sn**		**13 55 50.9**	**+5.7**
ARGC	comp=Z,216nm,0.6s			*i*				13 56 19.9	
BARC	**Barichara**	**4.47**	**229**	*eP*		**Pn**		**13 54 58.1**	**+2.8**
SMRC	**Santa Marta, M**	**4.64**	**290**	*eP*		**Pn**		**13 54 58.1**	**+0.8**
SMRC				*eS*		**Sn**		**13 55 50.3**	**-0.8**
PCRV	**Puerto La Cruz**	**5.12**	**83**	*eP*		**Pn**		**13 55 04.5**	**+0.5**
PCRV				*eS*		**Sn**		**13 56 01.6**	**-1.4**
PCRV	**Puerto La Cruz** comp=Z,24nm,0.5s,baz=268,slow=4.4,SNR=60	**5.12**	**83**	Pn		**Pn**		**13 55 04.0**	**0.0**
PCRV	comp=Z,10nm,0.3s,baz=234,slow=18,SNR=12				Sn	**Sn**		**13 56 06.0**	**+3.0**
PCRV	comp=Z,73nm,20.2s,slow=36				LR	LR		13 56 54.3	
SJCC	**San Jacinto, C**	**5.32**	**274**	*eP*		**Pn**		**13 55 09.2**	**+2.4**
SJCC	comp=Z,123nm,0.5s			*i*				13 56 14.1	
PTBC	**PUERTO BERRIO,**	**5.51**	**237**	*eP*		**Pn**		**13 55 10.3**	**+0.9**
SPBC	**San Pablo de B**	**5.75**	**228**	*eP*		**Pn**		**13 55 16.0**	**+3.2**
PTGC	**Puerto Gaitan,**	**5.82**	**204**	*eP*		**Pn**		**13 55 16.4**	**+2.8**
UREC	**San Jos de Ur**	**5.95**	**253**	*eP*		**Pn**		**13 55 18.6**	**+3.1**
ROSC	**El Rosal**	**6.50**	**224**	Pn		**Pn**		**13 55 24.4**	**+1.1**
ROSC	**El Rosal** comp=Z,1.0nm,0.3s,baz=53,slow=20,SNR=1.0	**6.50**	**224**	Pn		**Pn**		**13 55 21.1**	**-2.2**
	comp=Z,4.9nm,0.4s								
ROSC	**El Rosal**	**6.50**	**224**	*eP*		**Pn**		**13 55 27.2**	**+4.0**
VILC	**Villavicencio,**	**6.66**	**216**	*eP*		**Pn**		**13 55 28.7**	**+3.4**
DBBC	**Dabeiba**	**6.84**	**249**	*eP*		Pn		13 55 32.9	+5.2
GUY2C	**Guyana, Caldas**	**7.01**	**232**	*eP*		**Pn**		**13 55 34.3**	**+3.9**
CBOC	**Ciudad Bolivar**	**7.18**	**240**	*eP*		**Pn**		**13 55 36.0**	**+3.6**
ORTC	**Ortega, Tolima**	**7.80**	**224**	*eP*		**Pn**		**13 55 42.3**	**+1.4**
PLMC	**San Jos del P**	**7.93**	**235**	*eP*		**Pn**		**13 55 45.0**	**+2.3**
PTAC	**Punta Ardita,**	**8.29**	**254**	*eP*		**Pn**		**13 55 49.4**	**+1.9**
MACC	**Macarena, Meta**	**8.40**	**209**	*eP*		**Pg**		**13 56 27.7**	**-0.8**
YOTC	**Yotoco, Valle**	**8.55**	**230**	*eP*		**Pn**		**13 55 52.6**	**+1.4**
CRPR	**Cabo Rojo, PR**	**8.78**	**17**	Pn		**Pn**		**13 55 55.9**	**+1.6**
OBIP	**Obispado Ponce**	**8.97**	**20**	Pn		**Pn**		**13 55 57.5**	**+0.6**
CELP	**Cerrillos**	**9.01**	**20**			**Pn**		**13 55 56.8**	**-0.6**
IGPR	**InterUniversit**	**9.08**	**23**	Pn		**Pn**		**13 55 59.0**	**+0.6**
SJG	**San Juan**	**9.20**	**22**			**Pn**		**13 56 00.5**	**+0.5**
SJG	**San Juan** comp=Z,30nm,0.6s,baz=212,slow=13,SNR=12	**9.20**	**22**	Pn		**Pn**		**13 55 59.2**	**-0.8**
SJG	comp=Z,2.4nm,0.3s,baz=331,slow=19,SNR=1.8				Sn	Sn		13 57 33.5	-10
AOPR	**Arecibo Observ**	**9.21**	**18**	Pn		**Pn**		**13 56 00.9**	**+0.7**
PAPH	**Port-au-Prince**	**9.23**	**345**	Pn		**Pn**		**13 56 01.9**	**+1.5**
GARC	**Garzon, Huila**	**9.27**	**218**	*eP*		**Pn**		**13 56 02.3**	**+1.1**
GCPR	**Guaynabo City**	**9.40**	**22**	Pn		**Pn**		**13 56 03.3**	**+0.5**
SDDR	**Presa de Saban**	**9.47**	**351**			**Pn**		**13 56 06.6**	**+2.8**
PTLC	**Puerto Leguiza**	**10.58**	**208**	*eP*		**Pn**		**13 56 21.9**	**+2.9**
MTDJ	**Mount Denham**	**11.42**	**320**	Pn		**Pn**		**13 56 31.2**	**+0.6**
GTBY	**Guantanamo Bay**	**11.51**	**334**	Pn		**Pn**		**13 56 33.8**	**+2.2**
BOAV	**Boa Vista**	**11.65**	**127**	Pn		**Pn**		**13 56 32.2**	**-1.4**
JACO	**JACO, Garabito**	**14.66**	**272**	Pn		**Pn**		**13 57 15.8**	**+1.0**
FSCY	**Frank Sound, G**	**14.67**	**313**	Pn		**Pn**		**13 57 15.2**	**+0.3**
SOR	**Soroa**	**18.25**	**318**	P		**Pn**		**13 58 01.8**	**+1.0**
SOR	comp=Z,27nm,1.4s				IAmb	IAmb		13 58 11.0	
SAML	**Samuel**	**19.54**	**160**			**P**		**13 58 15.6**	**+0.6**
ETMB	**Extrema**	**19.59**	**169**			**P**		**13 58 16.4**	**+0.9**
LPAZ	**La Paz**	**25.74**	**176**	P		**P**		**13 59 19.2**	**+0.5**
PTLB	**Pontes e Lacer**	**27.00**	**157**	P		**P**		**13 59 30.5**	**+1.1**
PTLB	comp=Z,7.2nm,1.5s				IAmb	IAmb		13 59 39.6	
PB16	**IPOC Station P**	**27.73**	**179**	P		**P**		**13 59 35.5**	**-1.1**
PB16	comp=Z,4.1nm,0.9s				IAmb	IAmb		14 00 09.8	
PB11	**IPOC Station P**	**29.14**	**180**	P		**P**		**13 59 49.4**	**+0.7**
PB11	comp=Z,11nm,0.9s				IAmb	IAmb		13 59 52.7	
PB07	**IPOC Station P**	**31.10**	**180**	P		**P**		**14 00 05.4**	**-0.6**
X34A	**Smith Ranch, M**	**35.76**	**318**	P		**P**		**14 00 46.3**	**-0.1**
N41A	**Harden Midland**	**36.20**	**332**	P		**P**		**14 00 51.8**	**+1.8**
N41A	comp=Z,18nm,1.4s				IAmb	IAmb		14 00 57.1	
P38A	**Dawn**	**36.66**	**329**	P		**P**		**14 00 54.5**	**+0.5**
P38A	comp=Z,11nm,1.3s				IAmb	IAmb		14 00 55.3	
TXAR	**Lajitas Array**	**37.30**	**307**	P		**P**		**14 00 57.0**	**-2.7**
	comp=Z,0.4nm,0.8s,baz=126,slow=7.4,SNR=4.3								
	comp=Z,0.4nm,0.8s								
ULM	**Lac du Bonnet**	**45.95**	**337**	P		**P**		**14 02 09.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=155,slow=9.2,SNR=3.5								
	comp=Z,0.6nm,0.3s								
PDAR	**Pinedale Array**	**47.93**	**321**	P		**P**		**14 02 25.5**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=122,slow=11,SNR=8.2								
	comp=Z,0.8nm,0.8s								
PLCA	**Paso Flores**	**50.05**	**181**	P		**P**		**14 02 42.5**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=14,slow=13,SNR=5.1								
	comp=Z,3.8nm,1.0s								
NVAR	**Mina Array Bea**	**52.02**	**312**	P		P		14 02 54.2	-3.0
	comp=Z,0.2nm,0.5s,baz=113,slow=6.9,SNR=1.6								
	comp=Z,0.2nm,0.5s								
YKA	**Yellowknife Ar**	**61.89**	**338**	P		**P**		**14 04 05.5**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=122,slow=7.0,SNR=12								
	comp=Z,0.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**69.98**	**79**	P		**P**		**14 04 58.0**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=297,slow=6.4,SNR=4.4								
	comp=Z,0.4nm,0.5s								
ILAR	**Eielson Array**	**75.90**	**334**	P		**P**		**14 05 31.3**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=95,slow=3.8,SNR=2.8								
	comp=Z,0.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**150.02**	**22**	PKPbc		**PKPbc**		**14 13 39.6**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=327,slow=2.4,SNR=6.5								
ASAR	**Alice Springs**	**153.38**	**235**	PKPbc		**PKPbc**		**14 13 45.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=103,slow=3.2,SNR=4.1								
WRA	**Warramunga Arr**	**154.52**	**243**	PKPbc		**PKPbc**		**14 13 47.4**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=107,slow=2.6,SNR=5.2								

*IDC **24** 13:55:36.5±2.0, 37°.33N×141°.19E, h64^{km}±18^{km}, mb3.9/20, mbtmp4.2/25, Error ellipse: s-maj=16.4km s-min=10.5km az=77.0*
*NEIC **24** 13:55:36.9±1.9, 37°.45N±0°.05×141°.23E±0°.10, h55^{km}±6^{km}, mb4.4/26, Error ellipse: s-maj=10.9km s-min=7.1km az=84.0*
*JMA **24** 13:55:36.4±0.1, 37°.4N±0°.2×141°.3E±0°.4, h60^{km}, MD4.2/40, MV4.4/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .

ISC 24 13:55:36.7±0.8, 37°.44N±0°.04×141°.17E±0°.06, h61^{km}±6^{km}, n119, σ1§14/103, mb4.3/38, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.25**	**254**	*i*	P	**Pn**		**13 55 46.6**	**0.0**
JFK					S	**Sn**		**13 55 53.8**	**0.0**
JFK	**Kawauchi** comp=E,41nm,1.5s,comp=N,24nm,0.9s	**0.25**	**254**		A	A		13 55 46.6	
JMST	**Minamisoumatoc**	**0.37**	**322**	*i*	P	**Pn**		**13 55 47.7**	**+0.2**
JMST					S	**Sn**		**13 55 55.8**	**+0.5**
JMST	**Minamisoumatoc** comp=E,48nm,0.3s,comp=N,31nm,0.2s	**0.37**	**322**		A	A		13 55 47.7	
ONAJ	**Iwakimizuishiy**	**0.45**	**222**	*i*	P	**Pn**		**13 55 48.3**	**0.0**
ONAJ					S	**Sn**		**13 55 56.8**	**0.0**
ONAJ	**Iwakimizuishiy** comp=E,71nm,0.3s,comp=N,71nm,0.4s	**0.45**	**222**		A	A		13 55 48.3	
JMM	**Marumori**	**0.53**	**325**			**Pn**		**13 55 49.3**	**+0.3**
JMM	**Marumori**	**0.53**	**325**	*i*	P	**Pn**		**13 55 49.4**	**+0.3**
JMM					S	**

baz=315,slow=75,SNR=269
H11N1 WAKE ISLAND Hy 28.53 121 T T 14 31 54.8
baz=315,slow=75,SNR=358
H11N3 WAKE ISLAND Hy 28.54 121 T T 14 31 52.9
baz=315,slow=75,SNR=295
H11S1 WAKE ISLAND Hy 29.24 123 T T 14 32 32.4
baz=317,slow=76,SNR=168
H11S3 WAKE ISLAND Hy 29.24 123 T T 14 32 40.5
baz=317,slow=76,SNR=158
H11S2 WAKE ISLAND Hy 29.25 123 T T 14 32 34.7
baz=317,slow=76,SNR=121
LZH Lanzhou 29.81 279 *e*P **P 14 01 40.3 +2.2**
LZH sP sP 14 02 01.3 +0.8
LZH pmax pmax
comp=Z,10.0nm,1.2s
GTA Gaotai 32.26 286 *e*P **P 14 01 59.0 -0.6**
GTA pP pP 14 02 02.9 -12
GTA pmax pmax
comp=Z,2.0nm,1.0s
PZH PanZhiHua 34.95 263 P **P 14 02 24.8 +1.7**
PZH pmax pmax
comp=Z,6.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.4s
ZAA0 Zalesovo Array 41.50 312 P **P 14 03 17.5 -0.1**
ZAA0 IAmb IAmb 14 03 19.6
comp=Z,6.2nm,0.8s
ZALV Zalesovo Beam 41.50 312 P **P 14 03 18.2 +0.6**
ZALV Zalesovo Beam 41.50 312 P **P 14 03 17.6 0.0**
comp=Z,5.0nm,0.7s,baz=96,slow=10,SNR=23
ZALV PcP **PcP 14 05 14.1 0.0**
comp=Z,1.5nm,0.7s,baz=76,slow=3.1,SNR=4.0
comp=Z,5.0nm,0.7s
L16K Owhat River 43.49 37 P **P 14 03 35.3 +1.7**
L16K IAmb IAmb 14 03 38.3
comp=Z,15nm,1.5s
MK31 Makanchi Array 43.74 302 P 14 03 36.6 +0.7
MKAR Makanchi Array 43.74 302 P **P 14 03 36.6 +0.6**
MKAR Makanchi Array 43.74 302 P **P 14 03 36.2 +0.3**
comp=Z,3.2nm,0.8s,baz=89,slow=10.0,SNR=35
comp=Z,3.2nm,0.8s
MAKZ Makanchi 43.95 302 P **P 14 03 37.7 +0.1**
MAKZ IAmb IAmb 14 03 39.4
comp=Z,3.6nm,0.8s
C18K Utukok River 44.00 26 P **P 14 03 38.2 +0.4**
E19K Redstone River 45.21 29 P **P 14 03 48.4 +1.1**
KURK Kurchatov 45.53 308 P **P 14 03 50.0 0.0**
KURK IAmb IAmb 14 03 55.4
comp=Z,9.4nm,0.8s
KURBB Kurchatov Arra 45.60 308 P **P 14 03 50.4 -0.3**
comp=Z,5.7nm,0.7s,baz=83,slow=8.0,SNR=27
comp=Z,5.7nm,0.7s
D22K Ayikyak River 47.09 27 P **P 14 04 03.0 +0.9**
D22K IAmb IAmb 14 04 04.7
comp=Z,4.1nm,0.9s
TRF Thorofare Moun 47.81 34 P **P 14 04 09.0 +1.1**
TRF IAmb IAmb 14 04 46.0
comp=Z,7.5nm,1.3s
CCB Clear Creek Bu 48.87 33 P **P 14 04 17.6 +1.7**
CCB IAmb IAmb 14 04 52.0
comp=Z,2.8nm,1.2s
ILAR Eielson Array 49.26 33 P **P 14 04 19.1 +0.3**
ILAR Eielson Array 49.26 33 P **P 14 04 19.0 +0.2**
comp=Z,1.5nm,0.8s,baz=270,slow=6.4,SNR=14
comp=Z,1.5nm,0.8s
BVAR Borovoye Array 50.16 312 P **P 14 04 25.6 -0.2**
comp=Z,1.5nm,0.5s,baz=79,slow=9.6,SNR=12
comp=Z,1.5nm,0.5s
MTN Manton Dam 50.89 193 P **P 14 04 31.5 -0.2**
COEN Coen 51.15 178 P **P 14 04 33.9 +0.3**
BCAR Beaver Creek A 51.67 34 P **P 14 04 37.7 +0.6**
EGAK Eagle 51.70 32 P **P 14 04 37.0 -0.2**
EGAK IAmb IAmb 14 05 11.7
comp=Z,3.7nm,1.4s
KK31 Karatay Array 52.76 300 P **P 14 04 46.2 +0.8**
KK31 IAmb IAmb 14 04 54.2
comp=Z,3.6nm,0.9s
KKAR Karatay Array 52.76 300 P **P 14 04 46.8 +1.4**
L29M L29M 53.30 34 P **P 14 04 50.8 +1.7**
L29M IAmb IAmb 14 05 08.5
comp=Z,3.7nm,0.8s
M30M Minto, Yukon 54.01 35 P **P 14 04 55.4 +1.0**
M30M IAmb IAmb 14 05 13.4
comp=Z,4.6nm,1.1s
KNRA Kununurra 54.10 195 P **P 14 04 55.3 0.0**
INK Inuvik 54.12 27 P **P 14 04 55.2 +0.3**
comp=Z,0.7nm,0.5s,baz=304,slow=6.2,SNR=8.7
comp=Z,0.7nm,0.5s
CTAO Charters Tower 57.41 174 P **P 14 05 20.0 +1.0**
WR0 Warramunga Arr 57.43 187 P **P 14 05 18.3 -0.8**
WRA Warramunga Arr 57.43 188 P **P 14 05 17.9 -1.3**
WRA Warramunga Arr 57.43 188 P **P 14 05 17.4 -1.8**
comp=Z,5.1nm,0.5s,baz=3.6,slow=7.3,SNR=99
comp=Z,5.1nm,0.5s
ABKAR Akbulak array 57.53 310 P **P 14 05 19.6 -0.1**
ABKAR IAmb IAmb 14 05 20.4
comp=Z,2.6nm,0.5s
AS31 Alice Springs 61.16 188 P **P 14 05 44.2 -0.6**
AS31 IAmb IAmb 14 05 46.3
comp=Z,1.4nm,0.8s
ASAR Alice Springs 61.16 188 P **P 14 05 44.6 -0.3**
ASAR Alice Springs 61.16 188 P **P 14 05 44.2 -0.7**
comp=Z,4.2nm,0.7s,baz=17,slow=6.7,SNR=43
comp=Z,4.2nm,0.7s
GEYT Alibeck 63.47 299 P **P 14 06 00.6 +0.2**
comp=Z,2.5nm,0.7s,baz=65,slow=3.9,SNR=5.0
comp=Z,2.5nm,0.7s
ARCES ARCESS Array B 63.55 339 P **P 14 06 00.4 0.0**
comp=Z,4.5nm,1.0s,baz=67,slow=9.3,SNR=6.7
comp=Z,4.5nm,1.0s
YKA Yellowknife Ar 63.56 30 P **P 14 06 00.4 -0.1**
comp=Z,0.3nm,0.7s,baz=301,slow=6.6,SNR=4.0
comp=Z,0.3nm,0.7s
FINES FINESS Array B 68.37 332 P **P 14 06 31.4 0.0**
comp=Z,1.9nm,0.7s,baz=42,slow=7.4,SNR=6.6
comp=Z,1.9nm,0.7s
STKA Stephens Creek 68.95 180 P **P 14 06 34.2 -1.1**
comp=Z,4.1nm,0.9s,baz=318,slow=9.4,SNR=5.9
comp=Z,4.1nm,0.9s
KBZ Khabaz 70.50 310 P **P 14 06 45.2 +0.5**
comp=Z,1.4nm,0.7s,baz=1.1,slow=1.2,SNR=2.7
comp=Z,1.4nm,0.7s
HFS Hagfors 73.64 336 P **P 14 07 02.6 -0.8**
comp=Z,4.2nm,1.0s,baz=61,slow=12,SNR=1.4
comp=Z,4.2nm,1.0s
AKASG Malin Array Be 73.86 322 P **P 14 07 04.1 -0.7**
comp=Z,1.2nm,0.4s,baz=46,slow=6.0,SNR=8.6
comp=Z,1.2nm,0.4s
NVAR Mina Array Bea 74.90 53 P **P 14 07 11.3 0.0**
comp=Z,1.0nm,0.7s,baz=283,slow=5.3,SNR=8.7
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 77.52 45 P **P 14 07 25.9 -0.2**
comp=Z,0.7nm,0.6s,baz=269,slow=2.1,SNR=8.7
comp=Z,0.7nm,0.6s
TXAR Lajitas Array 90.03 52 P **P 14 08 29.8 -0.3**
comp=Z,0.9nm,0.7s,baz=299,slow=3.7,SNR=9.4
comp=Z,0.9nm,0.7s
QSPA South Pole Qui 127.18 180 PKP **PKPdf 14 14 31.9 -1.2**
comp=Z,2.2nm,1.0s,baz=41,slow=0.4,SNR=5.7
H03N2 Juan Fernandez 147.25 95 T T 17 00 17.3
baz=291,slow=76,SNR=8.9
H03N3 Juan Fernandez 147.26 95 T T 17 00 18.5
baz=291,slow=76,SNR=9.5
H03N1 Juan Fernandez 147.27 95 T T 17 00 17.3
baz=291,slow=76,SNR=11

*STR **24** 14:10:34.0±1.3,43°N±9°×±°, h0km, MLv2.6/25, Error ellipse: s-maj=0.0km s-min=0.0km az=19.5, preliminary*
*ROM **24** 14:10:35.4±0.9, 42°.96N±0°.03×6°.55E±0°.09, h0km, ML2.1/8, Error ellipse: s-maj=7.7km s-min=2.5km az=250.0*
ISC 24 14:10:34.9±1.5, 42°.98N±0°.08×6°.44E±0°.04, h0km, n54,
σ0s0.50/54, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLAF	**Flassans-sur-I**	**0.42**	**342**	Pg	**Pg**	**14 10 43.0**	**0.0**
ARTF	**Artigues**	**0.76**	**323**	Pg	**Pg**	**14 10 49.0**	**-0.5**
LEPF	**PUYLOUBIER**	**0.76**	**316**	Pg	**Pg**	**14 10 49.2**	**-0.3**
CALF	**Calern**	**0.85**	**25**	Pg	**Pb**	**14 10 52.2**	**-0.4**
SALSA	**La sagne**	**0.92**	**11**	Pg	**Pb**	**14 10 53.4**	**-0.4**
BLAF	**les Blancs**	**1.01**	**344**	Pg	**Pg**	**14 10 54.0**	**-0.3**
MVIF	**Mont Vial**	**1.05**	**29**	Pg	**Pb**	**14 10 56.5**	**+0.4**
MVIF	**Mont Vial**	**1.05**	**29**	P	**Pn**	**14 10 57.1**	**0.0**
MVIF				S	**Sn**	**14 11 12.2**	**-0.4**
BSTF	**la Bastide-des**	**1.07**	**328**	Pg	**Pg**	**14 10 53.1**	**-2.3**
ESCA	**l'Escarene**	**1.09**	**38**	Pg	**Pn**	**14 10 57.4**	**-0.1**
ESCA	**l'Escarene**	**1.09**	**38**	P	**Pn**	**14 10 58.0**	**+0.5**
ESCA				S	**Sn**	**14 11 14.7**	**+1.3**
MLYF	**Mely**	**1.12**	**334**	Pg	**Pg**	**14 10 56.0**	**-0.3**
OGDI	**Digne**	**1.13**	**355**	Pg	**Pb**	**14 10 57.0**	**-0.4**
OGDI	**Digne**	**1.13**	**355**	P	**Pb**	**14 10 57.1**	**-0.3**
OGDI				S	**Sb**	**14 11 13.2**	**+0.4**
BURY	**Giardini Botan**	**1.15**	**45**	P	**Pb**	**14 10 57.6**	**+0.1**
BURY				AML	AML		
	comp=E,93μm,0.4s						
BURY				AML	AML		
	comp=N,165μm,0.4s						
BURY				AML	AML		
	comp=E,93μm,1.6s						
BURY	**Giardini Botan**	**1.15**	**45**	Pg	**Pb**	**14 10 57.6**	**+0.1**
BURY	**Giardini Botan**	**1.15**	**45**	P	**Pb**	**14 10 57.7**	**+0.1**
BURY				S	**Sn**	**14 11 14.8**	**+0.3**
SPIF	**crte de Spivo**	**1.22**	**28**	Pg	**Pn**	**14 10 59.2**	**-0.2**
ISO	**Isola**	**1.28**	**20**	Pg	**Pb**	**14 10 59.9**	**-0.1**
ISO	**Isola**	**1.28**	**20**	P	**Pn**	**14 11 00.5**	**+0.3**
SAOF	**Saorge**	**1.29**	**39**	P	**Pn**	**14 11 00.4**	**+0.1**
SAOF	**Saorge**	**1.29**	**39**	AML	AML		
	comp=N,47μm,0.7s						
SAOF				AML	AML		
	comp=E,56μm,1.3s						
SAOF				AML	AML		
	comp=N,47μm,1.3s						
SAOF				AML	AML		
	comp=E,56μm,0.7s						
SAOF	**Saorge**	**1.29**	**39**	Pg	**Pn**	**14 11 00.3**	**0.0**
SAOF	**Saorge**	**1.29**	**39**	P	**Pn**	**14 11 00.3**	**0.0**
SAUF	**chteau de Sau**	**1.36**	**315**	Pg	**Pb**	**14 11 02.2**	**+1.0**
IMI	**Imperia**	**1.41**	**48**	P	**Pg**	**14 11 01.4**	**-0.5**
IMI	**Imperia**	**1.41**	**48**	P	**Pg**	**14 11 01.4**	**-0.5**
STV	**Sant Anna di V**	**1.42**	**27**	P	**Pb**	**14 11 02.3**	**0.0**
STV	**Sant Anna di V**	**1.42**	**27**	Pn	**Pb**	**14 11 02.3**	**0.0**
STV	**Sant Anna di V**	**1.42**	**27**	P	**Pb**	**14 11 02.3**	**0.0**
ENR	**Entracque**	**1.44**	**30**	P	**Pb**	**14 11 02.6**	**0.0**
ENR				AML	AML		
	comp=E,55μm,0.6s						
ENR				AML	AML		
	comp=N,92μm,1.2s						
ENR				AML	AML		
	comp=N,92μm,0.8s						
ENR	**Entracque**	**1.44**	**30**	Pn	**Pb**	**14 11 03.1**	**+0.5**
ENR	**Entracque**	**1.44**	**30**	P	**Pn**	**14 11 02.2**	**-0.1**
JAUF	**Jausiers**	**1.47**	**9**	Pg	**Pn**	**14 11 02.6**	**-0.2**
OGAG	**Argentiere**	**1.48**	**3**	Pn	Pb	14 11 09.2	+5.9
SURF	**Saint Ours**	**1.52**	**10**	Pn	**Pb**	**14 11 04.3**	**+0.1**
SURF	**Saint Ours**	**1.52**	**10**	P	**Pb**	**14 11 04.3**	**+0.1**
PZZ	**Stroppo**	**1.60**	**18**	P	**Pb**	**14 11 05.4**	**0.0**
PZZ				AML	AML		
	comp=E,62μm,1.6s						
PZZ				AML	AML		
	comp=N,52μm,1.3s						
PZZ				AML	AML		
	comp=E,62μm,0.4s						
PZZ				AML	AML		
	comp=N,52μm,0.7s						
PZZ	**Stroppo**	**1.60**	**18**	Pn	**Pn**	**14 11 05.0**	**+0.4**
PZZ	**Stroppo**	**1.60**	**18**	P	**Pg**	**14 11 05.6**	**0.0**
GBOS	**Grotte di Boss**	**1.62**	**38**	P	**Pb**	**14 11 05.4**	**-0.3**
GBOS	**Grotte di Boss**	**1.62**	**38**	Pn	**Pb**	**14 11 05.4**	**-0.3**
GBOS	**Grotte di Boss**	**1.62**	**38**	P	**Pb**	**14 11 05.5**	**-0.3**
RORO	**Rocca Rossa**	**1.64**	**46**	P	**Pn**	**14 11 04.9**	**-0.1**
RORO	**Rocca Rossa**	**1.64**	**46**	Pn	**Pn**	**14 11 04.7**	**-0.2**
CANO	**Canova, Maglio**	**1.79**	**46**	P	**Pn**	**14 11 07.5**	**+0.4**
CANO	**Canova, Maglio**	**1.79**	**46**	Pn	**Pn**	**14 11 07.5**	**+0.4**
QLNO	**Quiliano**	**1.93**	**45**	P	**Pb**	**14 11 10.4**	**-0.5**
PGF	**Pioggiola**	**1.94**	**102**	P	**Pn**	**14 11 09.3**	**+0.2**
PGF	**Pioggiola**	**1.94**	**102**	Pn	**Pn**	**14 11 09.4**	**+0.2**
BHB	**Bricherasio**	**1.95**	**18**	Pn	**Pn**	**14 11 10.1**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.98**	**348**	Pn	**Pn**	**14 11 09.8**	**0.0**
SF01	**Poggio Pratacc**	**3.77**	**91**	AML	AML		
	comp=E,280μm,0.1s						
SF01				AML	AML		
	comp=N,298μm,0.4s						
DAVOX	**Davos/Dischmat**	**4.52**	**32**	AML	AML		
	comp=N,23μm,1.6s						
DAVOX				AML	AML		
	comp=E,18μm,1.4s						
DAVOX				AML	AML		
	comp=E,18μm,0.6s						
DAVOX				AML	AML		
	comp=N,23μm,0.4s						

*IDC **24** 14:17:25.1±0.9, 3°.49S×144°.22E, h0km, mb3.9/8, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=42.1km s-min=19.4km az=96.0*
ISC 24 14:17:29.9±0.8, 3°.5S±0°.1×144°.2E±0°.2, h31km, n16,
σ0s62/10, mb4.0/8, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.55**	**153**	Pn	**Pn**	**14 19 04.6**	**+0.4**
	5.0nm,0.5s,baz=24,slow=10.0,SNR=1.4						
WRA	**Warramunga Arr**	**18.93**	**210**	P	**Pn**	**14 21 49.0**	**-0.2**
	0.2nm,0.3s,baz=39,slow=9.9,SNR=13						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**22.34**	**205**	P	**P**	**14 22 25.1**	**-0.3**
	0.8nm,0.8s,baz=33,slow=11,SNR=8.5						
	0.8nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**31.16**	**45**	T	T	14 56 22.3	
	baz=227,slow=76,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**31.17**	**45**	T	T	14 56 26.0	
	baz=227,slow=76,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**31.18**	**45**	T	T	14 56 25.5	
	baz=227,slow=76,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**32.13**	**43**	T	T	14 57 33.2	
	baz=226,slow=76,SNR=21						
H11N2	**WAKE ISLAND Hy**	**32.14**	**43**	T	T	14 57 36.2	
	baz=226,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**32.14**	**43**	T	T	14 57 34.4	
	baz=226,slow=76,SNR=12						
PETK	**Petropavlovsk-**	**57.57**	**10**	P	**P**	**14 27 17.2**	**+0.6**
	4.1nm,0.8s,baz=170,slow=7.1,SNR=4.7						
	4.1nm,0.8s						
MKAR	**Makanchi Array**	**73.82**	**321**	P	**P**	**14 29 01.8**	**+0.2**
	0.4nm,0.7s,baz=93,slow=6.3,SNR=3.9						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**75.44**	**328**	P	**P**	**14 29 10.3**	**-0.5**
	0.3nm,0.4s,baz=103,slow=3.1,SNR=3.7						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**83.13**	**324**	P	**P**	**14 29 53.7**	**+0.9**
	0.9nm,0.8s,baz=103,slow=6.5,SNR=4.1						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**84.35**	**24**	P	**P**	**14 29 57.9**	**-0.9**
	0.7nm,0.7s,baz=267,slow=4.8,SNR=9.3						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**86.42**	**180**	P	**P**	**14 30 09.2**	**-0.1**
	1.1nm,0.6s,baz=304,slow=1.5,SNR=20						
	1.1nm,0.6s						
YKA	**Yellowknife Ar**	**98.30**	**27**	P	**P**	**14 31 03.9**	**-0.4**
	0.5nm,1.1s,baz=268,slow=11,SNR=5.9						
	0.5nm,1.1s						

*IDC **24** 14:17:36.4±2.8, 55°.71N×150°.06W, h0km, mb3.5/2, mbtmp3.4/4, ML3.4/2, MS3.6/2, Error ellipse: s-maj=52.2km s-min=33.0km az=139.0*
*NEIC **24** 14:17:36.9±1.4, 55°.95N±0°.10×150°.1W±0°.1, h5km±8km, mb3.9/2, ML3.8/34, ML3.5(AEIC), Error ellipse: s-maj=14.4km s-min=9.5km az=170.0*
*AEIC **24** 14:17:43.0±1.6, 56°.1N±0°.1×150°.0W±0°.1, h10km±7km, Error ellipse: s-maj=15.0km s-min=9.7km az=173.0*
ISC 24 14:17:38.5±1.2, 56°.1N±0°.1×150°.12W±0°.06, h10km, n154,
σ0s82/153, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.10**	**305**		**Pn**	**14 18 12.5**	**-1.2**
OHAK	**Old Harbor**	**2.10**	**305**	P	**Pn**	**14 18 13.2**	**-0.5**
	baz=125						
OHAK				S	**Sn**	**14 18 38.7**	**-1.2**
	baz=125						
KDAK	**Kodiak Island**	**2.19**	**323**	Pn	**Pn**	**14 18 14.2**	**-0.8**
KDAK	**Kodiak Island**	**2.19**	**323**		**Sn**	**14 18 41.3**	**-0.9**
KDAK	**Kodiak Island**	**2.19**	**323**	LR	LR	14 19 26.0	
	comp=Z,720nm,21.8s,baz=260,slow=44						
SYI	**Shuyak Island**	**2.84**	**335**		**Pn**	**14 18 23.0**	**-0.8**
Q20K	**Shuyak Island**	**2.84**	**335**	P	**Pn**	**14 18 23.9**	**0.0**
	baz=154						
Q20K				S	**Sn**	**14 18 56.1**	**-1.9**
	baz=154						
KAHG	**Katmai Hook Gl**	**3.43**	**317**		**Pn**	**14 18 32.7**	**+0.7**
Q19K	**Cape Douglas,**	**3.45**	**328**		**Pn**	**14 18 32.7**	**+0.4**
Q19K				IAML		14 19 24.5	
	comp=N,461nm,1.0s						
Q19K	**Cape Douglas,**	**3.45**	**328**	P	**Pn**	**14 18 33.3**	**+1.0**
	baz=146						
Q19K				S	**Sn**	**14 19 11.1**	**-2.1**
	baz=146						
KCE	**Katmai Mt Cerb**	**3.52**	**311**		**Pn**	**14 18 35.0**	**+1.8**
CNPM	**China Poot**	**3.53**	**351**	Pn	**Pn**	**14 18 33.0**	**-0.3**
CNPM				IAML		14 19 16.4	
	comp=E,94nm,0.4s						
CNPM				IAML		14 19 36.6	
	comp=N,87nm,3.0s						
ACHA	**Angle Creek He**	**3.56**	**309**		**Pn**	**14 18 33.8**	**-0.1**
ANCK	**Angle Creek**	**3.63**	**308**		**Pn**	**14 18 36.1**	**+1.3**
KVTA	**Katmai Vly 10**	**3.65**	**312**		**Pn**	**14 18 36.3**	**+1.2**
KAHC	**Katmai Hardscr**	**3.71**	**316**		**Pn**	**14 18 36.6**	**+0.7**
KAHC	**Katmai Hardscr**	**3.71**	**316**	P	**Pn**	**14 18 37.1**	**+1.2**
	baz=134						
BRSE	**Bradley Lake S**	**3.71**	**355**		**Pn**	**14 18 35.2**	**-0.7**
BRSE	**Bradley Lake S**	**3.71**	**355**	P	**Pn**	**14 18 35.2**	**-0.7**
	baz=175						
BRLK	**Bradley Lake**	**3.74**	**354**	Pn	**Pn**	**14 18 35.1**	**-1.1**
BRLK				IAML		14 19 10.0	
	comp=N,89nm,3.2s						
BRLK				IAML		14 20 35.3	
	comp=E,84nm,1.4s						
AUL	**Augustine Lava**	**3.78**	**333**		**Pn**	**14 18 37.9**	**+1.1**
CNTC	**Contact Creek**	**3.84**	**308**		**Pn**	**14 18 37.9**	**+0.2**
Q17K	**Contact Creek**	**3.84**	**308**	P	**Pn**	**14 18 37.9**	**+0.2**
	baz=124						
Q23K	**Middleton Isla**	**3.94**	**29**		**Pn**	**14 18 38.1**	**-0.8**
Q23K	**Middleton Isla**	**3.94**	**29**	IAML		14 21 07.9	
	comp=N,299nm,2.3s						
Q23K	**Middleton Isla**	**3.94**	**29**	P	**Pn**	**14 18 38.1**	**-0.8**
	baz=212						
P19K	**Oil Pt**	**3.97**	**337**	Pn	**Pn**	**14 18 40.5**	**+1.1**
P19K				IAML		14 19 32.6	
	comp=N,160nm,0.6s						
P19K				IAML		14 19 32.8	
	comp=E,155nm,0.4s						
P19K	**Oil Pt**	**3.97**	**337**	P	**Pn**	**14 18 40.4**	**+1.1**
	baz=155						
P23K	**Montague Islan**	**4.21**	**19**		**Pn**	**14 18 41.6**	**-1.0**
P23K	**Montague Islan**	**4.21**	**19**	P	**Pn**	**14 18 41.6**	**-1.0**
	baz=201						
O20K	**Slope Mountain**	**4.25**	**343**		**Pn**	**14 18 44.1**	**+0.9**
O20K	**Slope Mountain**	**4.25**	**343**	P	**Pn**	**14 18 44.1**	**+0.9**
	baz=161						
IVE	**Iliamna Volcan**	**4.26**	**340**		**Pn**	**14 18 43.8**	**+0.3**
P18K	**Big Mountain,**	**4.32**	**323**		**Pn**	**14 18 44.1**	**-0.2**
P18K	**Big Mountain,**	**4.32**	**323**	P	**Pn**	**14 18 44.5**	**+0.3**
	baz=140						
R16K	**Pilot Point**	**4.37**	**293**		**Pn**	**14 18 44.2**	**-0.6**
R16K	**Pilot Point**	**4.37**	**293**	P	**Pn**	**14 18 44.2**	**-0.6**
	baz=109						
P17K	**Kvichak River**	**4.63**	**315**		**Pn**	**14 18 48.9**	**+0.5**
P17K	**Kvichak River**	**4.63**	**315**	P	**Pn**	**14 18 48.9**	**+0.5**
	baz=131						
CHGN	**Chignik**	**4.64**	**276**	Pn	**Pn**	**14 18 46.9**	**-1.7**
CHGN				IAML		14 19 23.2	
	comp=N,110nm,0.1s						
CHGN				IAML		14 19 31.2	
	comp=E,96nm,0.7s						
O18K	**Koktuh Hills**	**4.67**	**327**		**Pn**	**14 18 49.5**	**+0.5**
O18K	**Koktuh Hills**	**4.67**	**327**	IAML		14 19 59.0	
	comp=N,43nm,1.3s						
O18K				IAML		14 20 24.6	
	comp=E,44nm,3.4s						
O18K	**Koktuh Hills**	**4.67**	**327**	P	**Pn**	**14 18 49.5**	**+0.5**
	baz=143						
O19K	**Port Alsworth**	**4.71**	**334**		**Pn**	**14 18 49.0**	**-0.4**
O19K				IAML		14 19 46.3	
	comp=N,161nm,0.4s						
HIN	**Hinchinbrook I**	**4.75**	**22**	Pn	**Pn**	**14 18 49.5**	**-0.7**
HIN				IAML		14 20 49.0	
	comp=E,110nm,3.2s						
HIN				IAML		14 20 51.5	
	comp=N,155nm,0.7s						
KAIM	**Kayak Island**	**4.92**	**36**	Pn	**Pn**	**14 18 52.1**	**-0.3**
KAIM	**Kayak Island**	**4.92**	**36**	P	**Pn**	**14 18 52.0**	**-0.5**
	baz=220						
RC01	**Rabbit Creek A**	**5.05**	**2**		**Pn**	**14 18 54.5**	**+0.3**
RC01	**Rabbit Creek A**	**5.05**	**2**	IAML		14 20 15.2	
	comp=N,38nm,4.3s						
RC01				IAML		14 21 15.2	
	comp=E,49nm,3.2s						
RC01	**Rabbit Creek A**	**5.05**	**2**	P	**Pn**	**14 18 54.5**	**+0.3**
	baz=182						
EYAK	**Cordova Ski Ar**	**5.06**	**25**		**Pn**	**14 18 54.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**5.06**	**25**	P	**Pn**	**14 18 54.5**	**+0.2**
	baz=208						
FID	**Port Fidalgo**	**5.08**	**21**		**Pn**	**14 18 53.9**	**-0.8**
P16K	**Nushagak River**	**5.18**	**308**		**Pn**	**14 18 56.5**	**+0.5**
P16K	**Nushagak River**	**5.18**	**308**	P	**Pn**	**14 18 56.5**	**+0.5**
	baz=123						
RAGM	**Ragged Mountai**	**5.21**	**31**		**Pn**	**14 18 55.9**	**-0.5**
RAGM				IAML		14 19 58.3	
	comp=E,110nm,2.9s						
N19K	**Bonanza Creek**	**5.29**	**336**		**Pn**	**14 18 57.4**	**-0.2**
N19K	**Bonanza Creek**	**5.29**	**336**	P	**Pn**	**14 18 57.4**	**-0.2**
	baz=153						
GOAT	**Goat Mountain**	**5.35**	**30**		**Pn**	**14 18 58.4**	**-0.1**
SUA	**Susitna One**	**5.43**	**357**		**Pn**	**14 18 59.3**	**-0.3**
BERG	**Berg Lake**	**5.51**	**35**		**Pn**	**14 18 59.8**	**-0.7**
N18K	**Kilae Creek**	**5.54**	**329**		**Pn**	**14 19 01.1**	**+0.1**
N18K	**Kilae Creek**	**5.54**	**329**	P	**Pn**	**14 19 01.1**	**+0.1**
	baz=145						
O16K	**Kokwok River B**	**5.54**	**313**		**Pn**	**14 19 00.9**	**0.0**
O16K	**Kokwok River B**	**5.54**	**313**	P	**Pn**	**14 19 01.2**	**+0.3**
	baz=127						
SNH	**Sunshine Point**	**5.65**	**40**		**Pn**	**14 19 01.7**	**-0.8**
BMRM	**Bremner River**	**5.71**	**28**		**Pn**	**14 19 03.2**	**-0.1**
BMRM	**Bremner River**	**5.71**	**28**	P	**Pn**	**14 19 03.2**	**-0.1**
	baz=212						
GHO	**Glory Hole Cre**	**5.76**	**6**		**Pn**	**14 19 04.8**	**+0.8**
N17K	**Nushagak Hills**	**5.83**	**323**		**Pn**	**14 19 05.0**	**+0.2**
N17K	**Nushagak Hills**	**5.83**	**323**	P	**Pn**	**14 19 05.0**	**+0.2**
	baz=138						
SML	**Sawmill**	**5.84**	**8**	Pn	**Pn**	**14 19 05.4**	**+0.3**
KLU	**Klutina**	**5.87**	**20**		**Pn**	**14 19 05.6**	**+0.1**
KLU	**Klutina**	**5.87**	**20**	P	**Pn**	**14 19 05.6**	**+0.1**
	baz=203						
BARK	**Barkley Ridge**	**5.93**	**40**		**Pn**	**14 19 06.2**	**-0.3**
O15K	**Ungalikthiuk R**	**6.08**	**305**		**Pn**	**14 19 08.7**	**+0.3**
O15K	**Ungalikthiuk R**	**6.08**	**305**	P	**Pn**	**14 19 08.7**	**+0.3**
	baz=118						
VRDI	**Verde Repeater**	**6.24**	**31**		**Pn**	**14 19 10.4**	**-0.4**
N25K	**Chitina, Valde**	**6.26**	**25**		**Pn**	**14 19 11.0**	**+0.1**
N25K	**Chitina, Valde**	**6.26**	**25**	P	**Pn**	**14 19 11.1**	**+0.2**
	baz=209						
GLB	**Gilahina Butte**	**6.32**	**29**	Pn	**Pn**	**14 19 11.5**	**-0.1**
**KIA

TRF	**Thorofare Moun**	**7.42**	**359**	Pn		**Pn**	**14 19 26.2**	**-0.6**
O29M	**Mount Kennedy**	**7.44**	**50**			**Pn**	**14 19 27.1**	**0.0**
O29M	**Mount Kennedy** baz=239	**7.44**	**50**	P		**Pn**	**14 19 27.1**	**0.0**
L16K	**Owhat River**	**7.45**	**323**	Pn		**Pn**	**14 19 27.5**	**+0.4**
L16K	**Owhat River** baz=136	**7.45**	**323**	P		**Pn**	**14 19 27.6**	**+0.5**
YUK2	**White River**	**7.48**	**36**			**Pn**	**14 19 28.4**	**+0.7**
P29M	**Windy Craggy**	**7.51**	**56**			**Pn**	**14 19 27.3**	**-0.8**
P29M	**Windy Craggy** baz=246	**7.51**	**56**	P		**Pn**	**14 19 27.3**	**-0.8**
TTA	**Tatalina**	**7.51**	**339**	Pn		**Pn**	**14 19 27.7**	**-0.3**
YUK8	**Steele Glacier**	**7.52**	**42**			**Pn**	**14 19 29.2**	**+0.9**
YUK8	**Steele Glacier** baz=230	**7.52**	**42**	P		**Pn**	**14 19 29.2**	**+0.9**
YUK3	**Moose Creek**	**7.60**	**37**			**Pn**	**14 19 30.1**	**+0.7**
YUK3	**Moose Creek** baz=225	**7.60**	**37**	P		**Pn**	**14 19 30.1**	**+0.7**
YUK7	**Dusty Glacier**	**7.74**	**50**			**Pn**	**14 19 31.5**	**+0.2**
L26K	**Log Cabin Wild**	**7.79**	**23**			**Pn**	**14 19 33.5**	**+1.7**
YUK6	**Outpost Mounta**	**7.86**	**47**			**Pn**	**14 19 33.8**	**+0.8**
YUK6	**Outpost Mounta** baz=236	**7.86**	**47**	P		**Pn**	**14 19 33.8**	**+0.8**
BVCY	**Beaver Creek**	**7.94**	**33**			**Pn**	**14 19 34.1**	**+0.2**
BVCY	**Beaver Creek** baz=220	**7.94**	**33**	P		**Pn**	**14 19 34.1**	**+0.2**
YUK4	**Talbot Arm** baz=233	**7.98**	**44**	P		**Pn**	**14 19 37.4**	**+2.9**
RIDG	**Independent Ri**	**8.15**	**17**	Pn		**Pn**	**14 19 37.4**	**+0.7**
YUK5	**Granite Creek**	**8.17**	**46**			**Pn**	**14 19 38.1**	**+0.9**
L27K	**Beaver Creek,**	**8.18**	**27**	Pn		**Pn**	**14 19 37.6**	**+0.4**
M13K	**Dall Lake**	**8.23**	**307**	Pn		**Pn**	**14 19 38.7**	**+1.0**
HDA	**Harding Lake**	**8.53**	**9**			**Pn**	**14 19 43.5**	**+1.6**
N30M	**Aishikik Lake**	**8.66**	**46**			**Pn**	**14 19 43.5**	**-0.3**
N30M	**Aishikik Lake** baz=236	**8.66**	**46**	P		**Pn**	**14 19 43.3**	**-0.5**
O30N	**Mendenhall**	**8.74**	**52**	Pn		**Pn**	**14 19 44.1**	**-0.7**
IL31		**8.89**	**9**			**Pn**	**14 19 48.0**	**+1.3**
ILAR	**Eielson Array** comp=E,0.2nm,0.3s,baz=185,slow=13,SNR=9.3	**8.89**	**9**	Pn		**Pn**	**14 19 48.6**	**+1.8**
ILAR	comp=E,0.3nm,0.3s,baz=34,slow=17,SNR=5.0 comp=E,1.3nm,0.9s			Sn		**Sn**	**14 21 24.2**	**-2.6**
N31M	**Braeburn, Yuko**	**9.21**	**48**	Pn		**Pn**	**14 19 51.3**	**0.0**
L29M	**L29M**	**9.31**	**36**			**Pn**	**14 19 52.9**	**+0.2**
L29M	**L29M** baz=226	**9.31**	**36**	P		**Pn**	**14 19 52.7**	**0.0**
P32M	**Atlin**	**9.44**	**61**	Pn		**Pn**	**14 19 53.4**	**-1.0**
EGAK	**Eagle**	**9.79**	**23**			**Pn**	**14 20 00.4**	**+1.2**
P33M	**Teslin, Yukon**	**10.04**	**58**			**Pn**	**14 20 02.0**	**-0.7**
J30M	**Hart River**	**10.91**	**33**			**Pn**	**14 20 15.4**	**+0.8**
ANM	**Nome**	**11.37**	**325**	Pn		**Pn**	**14 20 21.9**	**+1.2**
E25K	**Arctic Village**	**12.29**	**8**	Pn		**Pn**	**14 20 34.8**	**+1.5**
INK	**Inuvik**	**14.45**	**25**	Pn		**Pn**	**14 21 03.7**	**+1.0**
ATKA	**Atka Island**	**14.60**	**265**	Pn		**Pn**	**14 21 03.6**	**-1.3**
C36M	**Paulatuk**	**17.67**	**31**	P		**Pn**	**14 21 44.7**	**+0.3**
C36M	comp=Z,5.7nm,1.0s			IAmb		IAmb	14 21 48.3	
YKA	**Yellowknife Ar**	**19.05**	**56**	P		**P**	**14 22 00.2**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.3s,baz=264,slow=10,SNR=15 comp=Z,1.1nm,0.8s	**19.05**	**56**	P		**P**	**14 22 01.6**	**+1.0**
A36M	**Sachs Harbour**	**19.07**	**24**	P		**P**	**14 22 01.3**	**+0.7**
A36M	comp=Z,9.9nm,0.8s			IAmb		IAmb	14 22 11.6	
ELK	**Elko** comp=Z,278nm,21.8s,baz=324,slow=31	**27.39**	**109**	LR		LR	14 31 37.7	
SONM	**Songino Array** comp=Z,0.5nm,0.9s,baz=48,slow=8.6,SNR=3.6 comp=Z,0.5nm,0.9s	**58.42**	**310**	P		**P**	**14 27 35.4**	**+1.3**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.9s,baz=38,slow=7.3,SNR=4.3 comp=Z,0.5nm,0.9s	**68.50**	**324**	P		**P**	**14 28 41.5**	**+0.8**

*NEIC **24** 14:18:57.0±1.1,56°26N±0°.10×149°.2W±0°.1, h22km±10km, ML3.6/32, ML3.3(AEIC), Error ellipse: s-maj=14.8km s-min=7.8km az=158.0*
*AEIC **24** 14:19:00.5±1.1,56°.27N±0°.09×149°.2W±0°.1, h10km±8km, Error ellipse: s-maj=14.4km s-min=9.1km az=154.0*
ISC 24 14:18:55.2±1.4,**56°29N**±0°.08×**149°24W**±0°.06,**h10**km,**n80,**
σ1§**04**/80,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.36**	**311**		**Pn**	**14 19 35.1**	**+1.2**
KDAK					**Sn**	**14 20 02.2**	**-0.8**
OHAK	**Old Harbor**	**2.42**	**294**		**Pn**	**14 19 35.2**	**+0.6**
OHAK					**Sn**	**14 20 02.6**	**-1.6**
OHAK	**Old Harbor** comp=N,164nm,0.6s	**2.42**	**294**	IAML		14 20 03.8	
OHAK	**Old Harbor** baz=111	**2.42**	**294**	P	**Pn**	**14 19 35.2**	**+0.6**
OHAK	baz=111			S	**Sn**	**14 20 02.6**	**-1.6**
SII	**Sitkinak Islan**	**2.76**	**278**		**Sn**	**14 20 11.4**	**-1.4**
SYI	**Shuyak Island**	**2.88**	**325**		**Pn**	**14 19 41.9**	**+0.8**
SYI					**Sn**	**14 20 15.3**	**-0.4**
SYI	**Shuyak Island** comp=N,86nm,0.3s	**2.88**	**325**	IAML		14 20 17.4	
Q20K	**Shuyak Island** baz=142	**2.88**	**325**	P	**Pn**	**14 19 42.2**	**+1.1**
Q20K	baz=142			S	**Sn**	**14 20 15.3**	**-0.5**
CNPM	**China Poot**	**3.42**	**343**		**Pn**	**14 19 49.1**	**+0.6**
CNPM					**Sn**	**14 20 28.3**	**-0.7**
CNPM	**China Poot** comp=E,71nm,1.2s	**3.42**	**343**	IAML		14 20 31.7	
Q23K	**Middleton Isla**	**3.51**	**25**		**Pn**	**14 19 49.9**	**+0.3**
Q23K	**Middleton Isla** comp=N,158nm,1.1s	**3.51**	**25**	IAML		14 20 30.1	
Q23K	comp=E,152nm,1.2s			IAML		14 21 55.5	
Q23K	**Middleton Isla** baz=207	**3.51**	**25**	P	**Pn**	**14 19 49.9**	**+0.3**
Q19K	**Cape Douglas,**	**3.55**	**320**		**Pn**	**14 19 52.0**	**+1.7**
Q19K					**Sn**	**14 20 31.2**	**-1.1**
Q19K	**Cape Douglas,** baz=136	**3.55**	**320**	P	**Pn**	**14 19 52.0**	**+1.7**
Q19K	baz=136			S	**Sn**	**14 20 31.2**	**-1.1**
BRSE	**Bradley Lake S**	**3.55**	**348**		**Pn**	**14 19 51.0**	**+0.7**
BRSE					**Sn**	**14 20 31.6**	**-0.8**
BRSE	**Bradley Lake S** baz=166	**3.55**	**348**	P	**Pn**	**14 19 51.0**	**+0.7**
BRSE	baz=166			S	**Sn**	**14 20 31.5**	**-0.8**
BRLK	**Bradley Lake**	**3.59**	**347**		**Pn**	**14 19 51.5**	**+0.6**
KAHG	**Katmai Hook Gl**	**3.62**	**310**		**Pn**	**14 19 52.4**	**+1.1**
KAHG					**Sn**	**14 20 35.1**	**+0.9**
KCG	**Knife Ck. Glac**	**3.77**	**305**		**Pn**	**14 19 54.8**	**+1.4**
AU22	**Augustine Moun**	**3.79**	**326**		**Pn**	**14 19 55.4**	**+1.8**
ACHA	**Angle Creek He**	**3.83**	**303**		**Pn**	**14 19 55.9**	**+1.8**
SEW	**Seward**	**3.83**	**358**		**Pn**	**14 19 54.5**	**+0.4**
SEW	**Seward** baz=178	**3.83**	**358**	P	**Pn**	**14 19 54.5**	**+0.4**
P23K	**Montague Islan**	**3.84**	**14**		**Pn**	**14 19 55.0**	**+0.6**
P23K	**Montague Islan** baz=195	**3.84**	**14**	P	**Pn**	**14 19 55.0**	**+0.6**
ANCK	**Angle Creek**	**3.90**	**302**		**Pn**	**14 19 57.5**	**+2.4**
P19K	**Oil Pt**	**3.98**	**329**		**Pn**	**14 19 57.8**	**+1.5**
P19K	**Oil Pt** comp=N,132nm,0.4s	**3.98**	**329**	IAML		14 20 46.7	
P19K	comp=E,153nm,0.4s			IAML		14 20 46.8	
P19K	**Oil Pt** baz=146	**3.98**	**329**	P	**Pn**	**14 19 57.8**	**+1.5**
CNTC	**Contact Creek**	**4.11**	**302**		**Pn**	**14 20 00.0**	**+1.9**
Q17K	**Contact Creek** baz=116	**4.11**	**301**	P	**Pn**	**14 20 00.0**	**+1.9**
O20K	**Slope Mountain**	**4.20**	**336**		**Pn**	**14 20 00.7**	**+1.4**
O20K	**Slope Mountain** baz=153	**4.20**	**336**	P	**Pn**	**14 20 00.7**	**+1.4**
IVE	**Iliamna Volcan**	**4.24**	**333**		**Pn**	**14 20 00.9**	**+1.0**
SLKM	**Skilak Lake**	**4.26**	**353**		**Pn**	**14 20 01.0**	**+0.9**
HIN	**Hinchinbrook I**	**4.36**	**18**		**Pn**	**14 20 02.1**	**+0.6**
HIN	**Hinchinbrook I** comp=E,86nm,0.9s	**4.36**	**18**	IAML		14 20 50.8	
KAIM	**Kayak Island**	**4.45**	**33**		**Pn**	**14 20 02.6**	**-0.1**
KAIM	**Kayak Island** comp=N,105nm,1.5s	**4.45**	**33**	IAML		14 20 58.8	
KAIM	**Kayak Island** baz=216	**4.45**	**33**	P	**Pn**	**14 20 02.6**	**-0.1**
P18K	**Big Mountain,**	**4.46**	**317**		**Pn**	**14 20 03.5**	**+0.6**
P18K	**Big Mountain,** comp=N,26nm,1.1s	**4.46**	**317**	IAML		14 20 57.2	
P18K	**Big Mountain,** baz=131	**4.46**	**317**	P	**Pn**	**14 20 03.5**	**+0.6**
RED	**Redoubt Volcan**	**4.54**	**337**		**Pn**	**14 20 04.2**	**+0.2**
RDSO	**Redoubt South**	**4.56**	**338**		**Pn**	**14 20 04.5**	**+0.2**
O19K	**Port Alsworth**	**4.75**	**328**		**Pn**	**14 20 07.5**	**+0.8**
O19K	**Port Alsworth** baz=143	**4.75**	**328**	P	**Pn**	**14 20 07.5**	**+0.8**
RC01	**Rabbit Creek A**	**4.82**	**357**		**Pn**	**14 20 08.6**	**+0.9**
RC01	**Rabbit Creek A** comp=N,28nm,0.3s	**4.82**	**357**	IAML		14 21 04.2	
RC01	comp=E,38nm,0.5s			IAML		14 21 04.3	
RC01	**Rabbit Creek A** baz=176	**4.82**	**357**	P	**Pn**	**14 20 08.6**	**+0.9**
BERG	**Berg Lake**	**5.04**	**33**		**Pn**	**14 20 11.1**	**+0.3**
BERG	**Berg Lake** comp=E,72nm,0.4s	**5.04**	**33**	IAML		14 21 07.3	
BERG	comp=N,80nm,0.4s			IAML		14 21 09.8	
CHGN	**Chignik**	**5.11**	**274**	Pn	**Pn**	**14 20 12.9**	**+1.2**
N19K	**Bonanza Creek**	**5.30**	**331**		**Pn**	**14 20 15.1**	**+0.7**
O16K	**Kokwok River B**	**5.76**	**309**	Pn	**Pn**	**14 20 22.8**	**+2.2**
VRDI	**Verde Repeater**	**5.79**	**29**	Pn	**Pn**	**14 20 19.6**	**-1.7**
SAMH	**Samovar Hills**	**5.90**	**46**		**Pn**	**14 20 23.6**	**+1.0**
CHNA	**Chernabura Isl** baz=72	**6.05**	**260**	P	**Pn**	**14 20 25.3**	**+0.7**
CNBA	**Chernabura Isl**	**6.05**	**260**		**Pn**	**14 20 25.3**	**+0.7**
PCA	**Pinnacle**	**6.09**	**48**		**Pn**	**14 20 26.1**	**+0.8**
PINM	**Pinnacle** baz=235	**6.09**	**48**	P	**Pn**	**14 20 26.0**	**+0.8**
BARN	**Barnard Glacie**	**6.20**	**36**		**Pn**	**14 20 27.6**	**+0.8**
PNL	**Peninsula**	**6.24**	**53**		**Pn**	**14 20 27.5**	**+0.3**
PNL	**Peninsula**	**6.24**	**53**	P	**Pn**	**14 20 27.9**	**+0.7**
PNL	**Peninsula** baz=241	**6.24**	**53**	P	**Pn**	**14 20 27.5**	**+0.3**
CTG	**Chitna Glacier** baz=224	**6.24**	**38**	P	**Pn**	**14 20 27.9**	**+0.5**
CTGM	**Chitina Glacie**	**6.25**	**38**		**Pn**	**14 20 27.9**	**+0.5**
LOGN	**Logan Glacier**	**6.26**	**40**	Pn	**Pn**	**14 20 27.8**	**+0.1**
BCPM	**Bancas Point**	**6.27**	**50**	Pn	**Pn**	**14 20 28.0**	**+0.3**
SDPT	**Sand Point**	**6.40**	**266**	Pn	**Pn**	**14 20 29.6**	**+0.2**
SDPT	**Sand Point**	**6.40**	**266**	P	**Pn**	**14 20 30.9**	**+1.5**
O29M	**Mount Kennedy**	**6.91**	**50**	Pn	**Pn**	**14 20 37.0**	**+0.5**
P29M	**Windy Craggy**	**6.97**	**57**		**Pn**	**14 20 37.0**	**-0.3**
SIT	**Sitka**	**7.71**	**79**	P	**Pn**	14 20 44.5	-2.8
SKAG	**Skagway**	**8.06**	**61**	P	**Pn**	**14 20 52.8**	**+0.6**
FALS	**False Pass**	**8.16**	**266**	P	**Pn**	**14 20 54.5**	**+0.9**
JIS	**Juneau Island**	**8.29**	**70**	P	**Pn**	**14 20 54.2**	**-1.1**
AKUT	**Akutan**	**9.69**	**264**	P	**Pn**	**14 21 15.4**	**+0.9**
UNV	**Unalaska Valle**	**10.20**	**263**	P	**Pn**	**14 21 21.8**	**+0.4**

*IDC **24** 14:28:06.9±5.5,2°.94S×140°.21E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=232.7km s-min=26.8km az=89.0*
ISC 24 14:28:15.4±1.3,**2°.9S**±0°.1×**139°.3E**±0°.2,**h35**km,**n11,**
σ1§**19**/11,**mb3.7**/3,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**11.61**	**161**	P	**Pn**	**14 31 00.0**	**+1.2**
KDU	**Kakadu**	**11.85**	**215**	P	**Pn**	**14 31 02.8**	**+0.9**
MTN	**Manton Dam**	**12.77**	**219**	P	**Pn**	**14 31 15.1**	**+0.5**
MTSU	**Mount Surprise**	**15.90**	**162**	P	**Pn**	**14 31 57.6**	**+1.0**
QIS	**Mount Isa**	**17.54**	**179**	P	**P**	**14 32 17.3**	**-0.8**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=15,slow=13,SNR=18 0.9nm,0.5s	**17.61**	**196**	P	**Pn**	**14 32 16.6**	**-1.6**
ASAR	**Alice Springs** 0.8nm,0.5s,baz=27,slow=9.8,SNR=13 0.8nm,0.5s	**21.29**	**194**	P	**P**	**14 32 57.5**	**-1.5**
WRKA	**Warakurna**	**24.43**	**205**	P	**P**	**14 33 29.6**	**-1.4**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=107,slow=7.9,SNR=14 0.3nm,0.4s	**70.32**	**322**	P	**P**	**14 39 25.7**	**+0.2**
BVAR	**Borovoye Array** 0.8nm,0.5s,baz=118,slow=6.1,SNR=5.3 0.8nm,0.5s	**79.83**	**325**	P	**P**	**14 40 20.4**	**+0.2**
DBIC	3.1nm,0.6s,baz=82,slow=4.8,SNR=6.8	**144.12**	**277**	PKPbc	**PKPab**	**14 47 45.7**	**-0.5**

*AEIC **24** 14:32:43.9±1.3,56°.4N±0°.1×148°.7W±0°.1, h6km±9km, Error ellipse: s-maj=18.0km s-min=10.0km az=164.0*
NEIC 24 14:32:40.8±1.1,**56°.4N**±0°.1×**148°.8W**±0°.1,**h20**km,10km,
ML3.4/30,**ML3.0**(AEIC),**Error ellipse: s-maj=17.4km s-min=8.9km az=170.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**305**		Pn	14 33 20.8	+1.0
KDAK					Sn	14 33 48.4	-0.9
OHAK	**Old Harbor**	**2.59**	**290**		Pn	14 33 21.2	-0.3
OHAK					Sn	14 33 50.7	-1.6
SYI	**Shuyak Island**	**2.92**	**320**		Pn	14 33 26.4	+0.4
SYI					Sn	14 33 58.9	-1.5
Q23K	**Middleton Isla**	**3.28**	**22**		Pn	14 33 31.2	+0.3
CNPM	**China Poot**	**3.36**	**338**		Pn	14 33 32.4	+0.2
CNPM					Sn	14 34 10.3	-1.1
BRSE	**Bradley Lake S**	**3.48**	**344**		Pn	14 33 33.5	-0.2
BRLK	**Bradley Lake**	**3.52**	**343**		Pn	14 33 34.2	-0.1
BRLK					Sn	14 34 13.7	-1.6
Q19K	**Cape Douglas,**	**3.61**	**316**		Pn	14 33 35.9	+0.4
P23K	**Montague Islan**	**3.65**	**11**		Pn	14 33 35.9	-0.2
P19K	**Oil Pt**	**4.00**	**326**		Pn	14 33 41.0	+0.1
O22K	**Cooper Landing**	**4.09**	**354**		Pn	14 33 42.0	-0.1
HIN	**Hinchinbrook I**	**4.16**	**16**		Pn	14 33 42.7	-0.3
HIN	**Hinchinbrook I** comp=E,60nm,1.5s	**4.16**	**16**	IAML		14 34 47.5	
O20K	**Slope Mountain**	**4.18**	**333**		Pn	14 33 44.0	+0.6
KAIM	**Kayak Island**	**4.20**	**32**		Pn	14 33 43.8	+0.2
KAIM	**Kayak Island** comp=N,76nm,1.4s	**4.20**	**32**	IAML		14 34 56.5	
KAIM	comp=E,54nm,1.5s			IAML		14 34 57.0	
IVE	**Iliamna Volcan**	**4.23**	**330**		Pn	14 33 44.2	+0.1
CNTC	**Contact Creek**	**4.25**	**299**		Pn	14 33 43.8	-0.7
RAGM	**Ragged Mountai**	**4.52**	**27**	Pn	Pn	14 33 48.1	+0.1
P18K	**Big Mountain,**	**4.54**	**314**		Pn	14 33 48.2	-0.1
RSO	**Redoubt South**	**4.54**	**334**	Pn	Pn	14 33 47.5	-1.0
KLU	**Klutina**	**5.29**	**15**	Pn	Pn	14 33 59.1	+0.4
KLU	comp=N,13nm,1.4s			IAML		14 35 11.6	
GHO	**Glory Hole Cre**	**5.36**	**359**	Pn	Pn	14 34 00.7	+1.2
GHO	comp=N,23nm,0.7s			IAML		14 35 55.8	
GHO	comp=E,26nm,1.2s			IAML		14 36 05.0	
GLB	**Gilahina Butte**	**5.65**	**25**	Pn	Pn	14 34 02.5	-1.0
BARN	**Barnard Glacie**	**5.94**	**36**	Pn	Pn	14 34 07.5	-0.2
CTGM	**Chitina Glacie**	**5.98**	**37**	Pn	Pn	14 34 07.8	-0.4
BCPM	**Bancas Point**	**5.99**	**50**	Pn	Pn	14 34 08.5	+0.3

DNK 24 14:42:42.3±3.9,**75°.19N**×**70°.32W**,**h36**km±30km,**ML1.4,**
Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**1.41**	**14**	*i* P	Pn	14 43 05.5	+0.3
TULEG				*i* S	Sn	14 43 19.0	-3.5
TULEG	comp=Z,13nm,0.2s			IAML		14 43 24.9	
UPNV	**Upernavik**	**4.60**	**115**	*i* P	Pn	14 43 47.4	-1.8
UPNV				*i* S	Sn	14 44 34.3	-6.9
UPNV	comp=Z,2.1nm,0.2s			IAML		14 44 40.2	
NEEM	**North Greenlan**	**5.08**	**55**	*i* P	Pn	14 43 53.8	-2.2
NEEM				*i* S	Sn	14 44 48.0	-5.5
NEEM	comp=Z,1.8nm,0.2s			IAML		14 44 49.5	
EUNU	**Eureka**	**5.96**	**332**	*i* S	Sn	14 45 09.6	-5.0
RES	**Resolute Bay**	**6.40**	**277**	*i* P	Pn	14 44 11.4	-2.4
RES				*i* S	Sn	14 45 18.8	-6.6
SUMG	**Summit**	**9.15**	**91**	*i* P	Pn	14 44 50.3	-1.6
SUMG				*i* S	Sn	14 46 24.5	-9.1
SUMG	comp=Z,0.4nm,0.2s			IAML		14 46 26.6	

*AEIC **24** 14:47:43.1±2.0,56°.2N±0°.1×149°.59W±0°.09, h7km±9km, Error ellipse: s-maj=19.7km s-min=4.2km az=163.0*
NEIC 24 14:47:41.9±1.2,**56°.3N**±0°.1×**149°.8W**±0°.1,**h20**km,8km,
ML3.4/36,**ML3.0**(AEIC),**Error ellipse: s-maj=15.9km s-min=10.0km az=156.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.12**	**315**		Pn	14 48 15.7	-0.4
OHAK	**Old Harbor**	**2.13**	**297**		Pn	14 48 15.3	-1.0
OHAK	**Old Harbor** baz=115	**2.13**	**297**	P	Pn	14 48 15.3	-1.0
OHAK	baz=115			S	Sn	14 48 41.6	-0.4
Q20K	**Shuyak Island** baz=147	**2.69**	**330**	P	Pn	14 48 23.9	-0.1
Q20K	baz=147			S	Sn	14 48 54.9	-1.1
SYI	**Shuyak Island**	**2.69**	**330**		Pn	14 48 23.9	-0.1
SYI					Sn	14 48 54.9	-1.1
CNPM	**China Poot**	**3.31**	**347**		Pn	14 48 32.4	-0.1
CNPM					Sn	14 49 10.9	-0.3
Q19K	**Cape Douglas,**	**3.34**	**323**		Pn	14 48 33.9	+1.0
Q19K	**Cape Douglas,** comp=N,191nm,1.1s	**3.34**	**323**	IAML		14 50 43.5	
Q19K	**Cape Douglas,** baz=140	**3.34**	**323**	P	Pn	14 48 33.9	+1.0
KAHG	**Katmai Hook Gl**	**3.37**	**312**		Pn	14 48 34.5	+1.0
KAHG					Sn	14 49 13.4	+0.5
BRSE	**Bradley Lake S**	**3.47**	**352**		Pn	14 48 34.3	-0.4
BRSE	**Bradley Lake S** baz=170	**3.47**	**352**	P	Pn	14 48 34.3	-0.4
HOM	**Homer**	**3.49**	**344**		Pn	14 48 35.0	+0.1
HOM	**Homer** baz=162	**3.49**	**344**	P	Pn	14 48 35.1	+0.1
BRLK	**Bradley Lake**	**3.51**	**351**		Pn	14 48 34.8	-0.4
BRLK	**Bradley Lake** comp=N,35nm,0.7s	**3.51**	**351**	IAML		14 50 51.4	
Q23K	**Middleton Isla**	**3.62**	**29**		Pn	14 48 35.2	-1.6
Q23K	**Middleton Isla** baz=210	**3.62**	**29**	P	Pn	14 48 35.2	-1.6
P19K	**Oil Pt**	**3.81**	**333**		Pn	14 48 39.8	+0.3
P19K	**Oil Pt** baz=149	**3.81**	**333**	P	Pn	14 48 39.7	+0.3
CNTC	**Contact Creek**	**3.84**	**303**		Pn	14 48 40.1	+0.2
Q17K	**Contact Creek** baz=119	**3.84**	**303**	P	Pn	14 48 40.1	+0.2
P23K	**Montague Islan**	**3.90**	**18**		Pn	14 48 40.1	-0.6
P23K	**Montague Islan** baz=198	**3.90**	**18**	P	Pn	14 48 40.1	-0.6
O20K	**Slope Mountain**	**4.06**	**340**		Pn	14 48 42.9	0.0
O20K	**Slope Mountain** baz=156	**4.06**	**340**	P	Pn	14 48 42.9	0.0
IVE	**Iliamna Volcan**	**4.08**	**337**		Pn	14 48 43.2	0.0
O22K	**Cooper Landing**	**4.18**	**0**		Pn	14 48 43.9	-0.5
O22K	**Cooper Landing** comp=E,100nm,1.0s	**4.18**	**0**	IAML		14 51 33.9	
O22K	**Cooper Landing** baz=179	**4.18**	**0**	P	Pn	14 48 43.9	-0.5
P18K	**Big Mountain,**	**4.24**	**319**		Pn	14 48 45.4	+0.1
P18K	**Big Mountain,** baz=134	**4.24**	**319**	P	Pn	14 48 45.4	+0.1
RED	**Redoubt Volcan**	**4.40**	**340**		Pn	14 48 47.2	-0.4
RSO	**Redoubt South**	**4.44**	**341**	Pn	Pn	14 48 47.8	-0.4
R16K	**Pilot Point**	**4.44**	**290**		Pn	14 48 47.2	-0.8
R16K	**Pilot Point** baz=104	**4.44**	**290**	P	Pn	14 48 47.3	-0.8
HIN	**Hinchinbrook I**	**4.44**	**22**		Pn	14 48 47.4	-0.7
RDT	**Redoubt**	**4.49**	**343**		Pn	14 48 48.2	-0.5
KAIM	**Kayak Island**	**4.61**	**36**	Pn	Pn	14 48 51.4	+1.1
KAIM	comp=E,54nm,1.0s			IAML		14 51 48.4	
RAGM	**Ragged Mountai**	**4.89**	**31**	Pn	Pn	14 48 55.6	+1.4
RAGM	comp=E,46nm,1.4s			IAML		14 52 04.2	
KNK	**Knik Glacier**	**5.16**	**7**		Pn	14 48 57.8	-0.1
KNK	comp=N,10nm,0.9s			IAML		14 52 05.5	
KNK	comp=E,14nm,1.5s			IAML		14 52 27.9	
KNK	**Knik Glacier** baz=187	**5.16**	**7**	P	Pn	14 48 58.2	+0.3
SUA	**Susitna One**	**5.19**	**355**	Pn	Pn	14 48 57.4	-0.9
SUA	comp=E,10nm,1.4s			IAML		14 51 36.7	
BERG	**Berg Lake**	**5.20**	**36**	Pn	Pn	14 48 58.4	0.0
BERG	comp=E,48nm,1.4s			IAML		14 52 05.2	
GHO	**Glory Hole Cre**	**5.49**	**4**	Pn	Pn	14 49 02.8	+0.2
SML	**Sawmill**	**5.56**	**7**	Pn	Pn	14 49 04.1	+0.7
KLU	**Klutina**	**5.56**	**20**	Pn	Pn	14 49 04.6	+1.1
SCM	**Sheep Creek Mo**	**5.68**	**12**	Pn	Pn	14 49 05.1	0.0
N25K	**Chitina, Valde**	**5.95**	**25**		Pn	14 49 09.2	+0.5
GLB	**Gilahina Butte**	**6.00**	**29**	Pn	Pn	14 49 09.4	-0.1
M24K	**Tolsona, Glenn**	**6.10**	**16**	Pn	Pn	14 49 11.7	+0.9
BARN	**Barnard Glacie**	**6.37**	**38**	Pn	Pn	14 49 15.0	+0.3

*AEIC **24** 14:48:01.4±1.1,56°.4N±0°.2×149°.9W±0°.1, h10km±9km, Error ellipse: s-maj=23.3km s-min=10.9km az=171.0*
NEIC 24 14:48:03.8±1.0,**56°.61N**±0°.08×**150°.49W**±0°.09,
h27km±12km,**ML3.2**/22,**ML2.8**(AEIC),**Error ellipse: s-maj=13.7km s-min=1.2km az=213.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.64**	**317**		Pn	14 48 30.9	0.0
KDAK					Sb	14 48 53.9	+0.3
KDAK	**Kodiak Island** 67nm,1.2s	**1.64**	**317**	IAML		14 48 40.5	
KDAK	46nm,0.7s			IAML		14 48 41.0	
OHAK	**Old Harbor**	**1.66**	**293**		Pn	14 48 31.0	0.0
OHAK	comp=N,38nm,0.7s			IAML		14 48 55.4	
OHAK	**Old Harbor**	**1.66**	**293**		Sb	14 48 53.9	0.0
OHAK	**Old Harbor** comp=E,36nm,1.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.22**	**308**		**Pn**	**14 49 36.3**	**+0.3**
OHAK					**Sn**	**14 50 01.2**	**-2.2**
OHAK	**Old Harbor**	**2.22**	**308**	P	**Pn**	**14 49 36.3**	**+0.3**
	baz=125						
OHAK				S	**Sn**	**14 50 01.2**	**-2.2**
	baz=125						
KDAK	**Kodiak Island**	**2.33**	**325**		**Pn**	**14 49 38.2**	**+0.7**
KDAK					**Sn**	**14 50 05.0**	**-1.3**
SYI	**Shuyak Island**	**2.99**	**336**		**Pn**	**14 49 47.7**	**+1.2**
SYI					**Sn**	**14 50 21.8**	**-0.5**
SYI	**Shuyak Island**	**2.99**	**336**	IAML		14 50 25.2	
	comp=E,54nm,1.1s						
Q20K	**Shuyak Island**	**2.99**	**336**	P	**Pn**	**14 49 47.7**	**+1.2**
	baz=154						
Q20K				S	**Sn**	**14 50 21.8**	**-0.5**
	baz=154						
KAHG	**Katmai Hook Gl**	**3.56**	**319**		**Pn**	**14 49 55.9**	**+1.5**
Q19K	**Cape Douglas,**	**3.59**	**329**		**Pn**	**14 49 56.4**	**+1.5**
Q19K					**Sn**	**14 50 36.6**	**-0.8**
Q19K	**Cape Douglas,**	**3.59**	**329**	P	**Pn**	**14 49 56.4**	**+1.5**
	baz=146						
Q19K				S	**Sn**	**14 50 36.6**	**-0.8**
	baz=146						
KCG	**Knife Ck. Glac**	**3.66**	**313**		**Pn**	**14 49 57.3**	**+1.5**
CNPM	**China Poot**	**3.68**	**351**		**Pn**	**14 49 56.8**	**+0.8**
CNPM					**Sn**	**14 50 38.5**	**-0.9**
ACHA	**Angle Creek He**	**3.69**	**311**		**Pn**	**14 49 57.5**	**+1.3**
BRSE	**Bradley Lake S**	**3.86**	**355**		**Pn**	**14 49 58.9**	**+0.4**
BRSE					**Sn**	**14 50 41.6**	**-2.3**
BRSE	**Bradley Lake S**	**3.86**	**355**	P	**Pn**	**14 49 58.9**	**+0.4**
	baz=174						
BRSE				S	**Sn**	**14 50 41.6**	**-2.3**
	baz=174						
BRLK	**Bradley Lake**	**3.89**	**354**	Pn	**Pn**	**14 49 58.9**	**0.0**
CNTC	**Contact Creek**	**3.96**	**309**		**Pn**	**14 50 01.1**	**+1.1**
Q17K	**Contact Creek**	**3.96**	**309**	P	**Pn**	**14 50 01.1**	**+1.1**
	baz=124						
Q23K	**Middleton Isla**	**4.05**	**28**		**Pn**	**14 50 01.9**	**+0.8**
Q23K	**Middleton Isla**	**4.05**	**28**	IAML		14 50 59.5	
	comp=N,146nm,1.5s						
Q23K	**Middleton Isla**	**4.05**	**28**	P	**Pn**	**14 50 01.9**	**+0.8**
	baz=211						
P19K	**Oil Pt**	**4.12**	**337**		**Pn**	**14 50 03.1**	**+1.0**
P19K	**Oil Pt**	**4.12**	**337**	P	**Pn**	**14 50 03.1**	**+1.0**
	baz=154						
SEW	**Seward**	**4.22**	**4**		**Pn**	**14 50 04.1**	**+0.7**
SEW	**Seward**	**4.22**	**4**	P	**Pn**	**14 50 04.1**	**+0.7**
	baz=184						
P23K	**Montague Islan**	**4.33**	**18**		**Pn**	**14 50 05.7**	**+0.7**
P23K	**Montague Islan**	**4.33**	**18**	P	**Pn**	**14 50 05.7**	**+0.7**
	baz=200						
O20K	**Slope Mountain**	**4.40**	**343**		**Pn**	**14 50 07.5**	**+1.5**
O20K	**Slope Mountain**	**4.40**	**343**	P	**Pn**	**14 50 07.4**	**+1.5**
	baz=161						
P18K	**Big Mountain,**	**4.46**	**324**		**Pn**	**14 50 07.7**	**+0.9**
P18K	**Big Mountain,**	**4.46**	**324**	P	**Pn**	**14 50 07.7**	**+0.9**
	baz=139						
Q16K	**King Salmon**	**4.53**	**310**		**Pn**	**14 50 09.1**	**+1.4**
Q16K	**King Salmon**	**4.53**	**310**	P	**Pn**	**14 50 09.1**	**+1.4**
	baz=125						
CHGN	**Chignik**	**4.69**	**278**	Pn	**Pn**	**14 50 09.6**	**-0.3**
CHGN				IAML		14 51 33.2	
	comp=E,66nm,0.5s						
P17K	**Kvichak River**	**4.76**	**316**		**Pn**	**14 50 12.4**	**+1.6**
P17K	**Kvichak River**	**4.76**	**316**	P	**Pn**	**14 50 12.4**	**+1.6**
	baz=131						
O19K	**Port Alsworth**	**4.86**	**334**		**Pn**	**14 50 13.2**	**+1.1**
O19K	**Port Alsworth**	**4.86**	**334**	P	**Pn**	**14 50 13.2**	**+1.1**
	baz=150						
HIN	**Hinchinbrook I**	**4.88**	**21**		**Pn**	**14 50 13.4**	**+0.9**
HIN	**Hinchinbrook I**	**4.88**	**21**	IAML		14 51 43.6	
	comp=N,68nm,1.5s						
HIN				IAML		14 51 44.3	
	comp=E,60nm,1.1s						
KAIM	**Kayak Island**	**5.02**	**34**		**Pn**	**14 50 15.3**	**+0.8**
KAIM	**Kayak Island**	**5.02**	**34**	P	**Pn**	**14 50 15.3**	**+0.8**
	baz=219						
EYAK	**Cordova Ski Ar**	**5.18**	**24**		**Pn**	**14 50 17.6**	**+1.0**
EYAK	**Cordova Ski Ar**	**5.18**	**24**	P	**Pn**	**14 50 17.6**	**+1.0**
	baz=208						
P16K	**Nushagak River**	**5.30**	**309**		**Pn**	**14 50 19.9**	**+1.6**
P16K	**Nushagak River**	**5.30**	**309**	P	**Pn**	**14 50 19.9**	**+1.6**
	baz=123						
RAGM	**Ragged Mountai**	**5.32**	**30**	Pn	**Pn**	**14 50 19.1**	**+0.6**
S14K	**Fog Glacier**	**5.33**	**278**	P	**Pn**	**14 50 19.7**	**+1.0**
	baz=90						
VNFG	**Fog Glacier, M**	**5.33**	**278**		**Pn**	**14 50 19.8**	**+1.0**
BERG	**Berg Lake**	**5.61**	**34**	Pn	**Pn**	**14 50 22.3**	**-0.3**
O16K	**Kokwok River B**	**5.67**	**314**	Pn	**Pn**	**14 50 24.3**	**+1.0**
SNH	**Sunshine Point**	**5.74**	**39**	Pn	**Pn**	**14 50 25.0**	**+0.5**
VRDI	**Verde Repeater**	**6.35**	**30**	Pn	**Pn**	**14 50 32.8**	**-0.1**
N25K	**Chitina, Valde**	**6.38**	**24**	Pn	**Pn**	**14 50 34.4**	**+1.2**
M17K	**Holitna River**	**6.71**	**328**	Pn	**Pn**	**14 50 38.3**	**+0.6**
N15K	**Kwethluk River**	**6.82**	**313**	Pn	**Pn**	**14 50 41.4**	**+2.2**
LOGN	**Logan Glacier**	**6.85**	**40**	Pn	**Pn**	**14 50 40.6**	**+0.9**
O14K	**Tigyukauivet M**	**6.89**	**304**	Pn	**Pn**	**14 50 41.7**	**+1.6**
P29M	**Windy Craggy**	**7.57**	**55**		**Pn**	**14 50 51.1**	**+1.7**
M27K	**Edge Creek, AK**	**7.71**	**30**	Pn	**Pn**	**14 50 53.1**	**+1.6**
RIDG	**Independent Ri**	**8.28**	**16**	Pn	**Pn**	**14 51 01.5**	**+2.3**

*IDC **24** 15:05:16.8±3.1, 11°.13S×119°.85E, h0km, mb3.8/1, mbtmp3.5/3, ML3.4/2, MS3.3/1, Error ellipse: s-maj=216.2km s-min=27.1km az=46.0*

ISC 24 15:05:18.5±1.4, 12°.0S±0°.1×119°.1E±0°.1, h35km, n8, σ1§85/8, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.59**	**67**	P	**Pn**	**15 06 37.9**	**-1.4**
PSA00	**Pilbara Seismi**	**9.53**	**176**	P	**Pn**	**15 07 32.1**	**-1.3**
	51nm,2.4s						
MTN	**Manton Dam**	**11.82**	**95**	P	**Pn**	**15 08 05.5**	**+0.8**
WRKA	**Warakurna**	**15.62**	**147**	P	**P**	**15 08 59.1**	**-0.9**
WRA	**Warramunga Arr**	**16.66**	**120**	Pn	**Pn**	**15 09 09.3**	**-0.2**
	0.2nm,0.3s,baz=294,slow=13,SNR=2.6						
WRA				Sn	**Sn**	**15 12 13.2**	**-0.4**
	0.1nm,0.3s,baz=288,slow=25,SNR=2.9 0.3nm,0.4s						
ASAR	**Alice Springs**	**18.25**	**131**	P	**Pn**	**15 09 32.5**	**+3.3**
	0.1nm,0.3s,baz=317,slow=14,SNR=13 0.3nm,0.4s						
PMG	**Port Moresby**	**27.73**	**87**	LR	LR	15 23 23.5	
	comp=Z,57nm,18.9s,baz=190,slow=40						
MKAR	**Makanchi Array**	**67.16**	**333**	P	**P**	**15 16 09.7**	**+0.9**
	0.6nm,0.5s,baz=156,slow=6.9,SNR=9.8 0.6nm,0.5s						

*NEIC **24** 15:16:48.2±1.7, 55°.85N±0°.08×149°.3W±0°.1, h10km±2km, ML3.5/28, ML3.2(AEIC), Error ellipse: s-maj=14.1km s-min=10.3km az=168.0*
*AEIC **24** 15:16:52.1±2.0, 55°.7N±0°.1×149°.2W±0°.1, h12km±8km, Error ellipse: s-maj=15.5km s-min=9.8km az=165.0*

ISC 24 15:16:48.4±2.3, 55°.9N±0°.1×149°.31W±0°.06, h10km, n85, σ0§99/92, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.57**	**303**		**Pn**	**15 17 29.8**	**-0.3**
OHAK					**Sn**	**15 17 60.0**	**-1.3**
OHAK	**Old Harbor**	**2.57**	**303**	P	**Pn**	**15 17 30.3**	**+0.3**
	baz=120						
OHAK				S	**Sn**	**15 18 01.0**	**-0.4**
	baz=120						
KDAK	**Kodiak Island**	**2.61**	**318**	Pn	**Pn**	**15 17 31.0**	**+0.4**
KDAK				Sn	**Sn**	**15 18 00.3**	**-2.0**
KDAK	**Kodiak Island**	**2.61**	**318**		**Pn**	**15 17 31.4**	**+0.8**
KDAK				IAML		15 18 18.6	
	19nm,1.5s						
KDAK				IAML		15 18 25.7	
	22nm,1.4s						
SII	**Sitkinak Islan**	**2.80**	**286**		**Sn**	**15 18 06.2**	**-0.9**
SYI	**Shuyak Island**	**3.19**	**330**	Pn	**Pn**	**15 17 38.7**	**+0.1**
SYI				IAML		15 18 06.1	
	comp=E,35nm,1.2s						
SYI				Sn	**Sn**	**15 18 15.5**	**-1.2**
SYI				IAML		15 18 25.3	
	comp=N,36nm,1.3s						
Q20K	**Shuyak Island**	**3.20**	**330**	P	**Pn**	**15 17 39.7**	**+1.0**
	baz=148						
Q20K				S	**Sn**	**15 18 15.3**	**-1.5**
	baz=148						
CNPM	**China Poot**	**3.79**	**345**	Pn	**Pn**	**15 17 46.9**	**+0.2**
CNPM				IAML		15 19 48.0	
	comp=E,20nm,1.5s						
Q19K	**Cape Douglas,**	**3.84**	**324**	Pn	**Pn**	**15 17 48.7**	**+1.2**
Q19K				IAML		15 18 48.9	
	comp=N,162nm,1.5s						
Q19K	**Cape Douglas,**	**3.84**	**324**	P	**Pn**	**15 17 49.0**	**+1.5**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.86**	**315**		**Pn**	**15 17 48.5**	**+0.7**
MID	**Middleton Isla**	**3.89**	**23**	Pn	**Pn**	**15 17 47.0**	**-1.1**
Q23K	**Middleton Isla**	**3.89**	**23**	Pn	**Pn**	**15 17 47.0**	**-1.1**
Q23K				IAML		15 20 01.3	
	comp=N,160nm,1.3s						
Q23K	**Middleton Isla**	**3.89**	**23**	P	**Pn**	**15 17 48.3**	**+0.2**
	baz=205						
BRSE	**Bradley Lake S**	**3.93**	**349**		**Pn**	**15 17 49.1**	**+0.3**
BRSE					**Sn**	**15 18 35.0**	**+0.1**
BRSE	**Bradley Lake S**	**3.93**	**349**	P	**Pn**	**15 17 49.1**	**+0.3**
	baz=168						
BRSE				S	**Sn**	**15 18 35.0**	**+0.1**
	baz=168						
BRLK	**Bradley Lake**	**3.97**	**348**	Pn	**Pn**	**15 17 49.3**	**0.0**
BRLK				Sn	**Sn**	**15 18 34.9**	**-1.0**
BRLK				IAML		15 18 39.1	
	comp=E,25nm,1.0s						
BRLK				IAML		15 18 40.4	
	comp=N,29nm,1.3s						
ACHA	**Angle Creek He**	**4.02**	**308**		**Pn**	**15 17 50.7**	**+0.7**
SEW	**Seward**	**4.22**	**359**	Pn	**Pn**	**15 17 52.4**	**-0.3**
SEW	**Seward**	**4.22**	**359**	P	**Pn**	**15 17 53.1**	**+0.4**
	baz=179						
P23K	**Montague Islan**	**4.24**	**13**		**Pn**	**15 17 53.2**	**+0.3**
P23K	**Montague Islan**	**4.24**	**13**	P	**Pn**	**15 17 53.3**	**+0.3**
	baz=195						
CNTC	**Contact Creek**	**4.30**	**306**		**Pn**	**15 17 53.9**	**0.0**
Q17K	**Contact Creek**	**4.30**	**306**	P	**Pn**	**15 17 53.9**	**0.0**
	baz=121						
P19K	**Oil Pt**	**4.31**	**333**	Pn	**Pn**	**15 17 54.5**	**+0.5**
P19K	**Oil Pt**	**4.31**	**333**	P	**Pn**	**15 17 54.8**	**+0.8**
	baz=150						
O20K	**Slope Mountain**	**4.55**	**339**		**Pn**	**15 17 59.1**	**+1.8**
O20K	**Slope Mountain**	**4.55**	**339**	P	**Pn**	**15 17 59.1**	**+1.8**
	baz=156						
IVE	**Iliamna Volcan**	**4.58**	**336**		**Pn**	**15 17 58.9**	**+1.1**
SLKM	**Skilak Lake**	**4.65**	**354**		**Pn**	**15 17 59.3**	**+0.6**
P18K	**Big Mountain,**	**4.73**	**320**	Pn	**Pn**	**15 18 00.7**	**+0.9**
P18K	**Big Mountain,**	**4.73**	**320**	P	**Pn**	**15 18 00.5**	**+0.7**
	baz=136						
HIN	**Hinchinbrook I**	**4.75**	**17**	Pn	**Pn**	**15 18 00.8**	**+0.7**
HIN				IAML		15 18 55.5	
	comp=N,61nm,1.0s						
HIN				IAML		15 18 57.4	
	comp=E,59nm,1.3s						
KAIM	**Kayak Island**	**4.81**	**31**	Pn	**Pn**	**15 18 00.9**	**+0.1**
KAIM				IAML		15 20 00.8	
	comp=E,53nm,1.4s						
KAIM				IAML		15 20 00.0	
	comp=N,48nm,1.4s						
KAIM	**Kayak Island**	**4.81**	**31**	P	**Pn**	**15 18 01.2**	**+0.4**
	baz=215						
EYAK	**Cordova Ski Ar**	**5.03**	**20**	Pn	**Pn**	**15 18 04.2**	**+0.4**
EYAK	**Cordova Ski Ar**	**5.03**	**20**	P	**Pn**	**15 18 05.0**	**+1.2**
	baz=203						
FID	**Port Fidalgo**	**5.09**	**16**	Pn	**Pn**	**15 18 04.5**	**-0.2**
CHGN	**Chignik**	**5.11**	**278**	Pn	**Pn**	**15 18 04.3**	**-0.6**
RAGM	**Ragged Mountai**	**5.13**	**27**	Pn	**Pn**	**15 18 05.5**	**+0.2**
RAGM				IAML		15 19 11.6	
	comp=E,48nm,0.7s						
BERG	**Berg Lake**	**5.40**	**31**	Pn	**Pn**	**15 18 10.1**	**+1.2**
SNH	**Sunshine Point**	**5.50**	**36**	Pn	**Pn**	**15 18 10.6**	**+0.2**
SUA	**Susitna One**	**5.64**	**353**	Pn	**Pn**	**15 18 14.8**	**+2.6**
KLU	**Klutina**	**5.89**	**16**	Pn	**Pn**	**15 18 16.6**	**+1.0**
GHO	**Glory Hole Cre**	**5.90**	**2**	Pn	**Pn**	**15 18 17.1**	**+1.3**
N18K	**Kilae Creek**	**5.92**	**327**	Pn	**Pn**	**15 18 16.1**	**+0.1**
SML	**Sawmill**	**5.95**	**5**	Pn	**Pn**	**15 18 16.9**	**+0.4**
O16K	**Kokwok River B**	**5.99**	**312**	Pn	**Pn**	**15 18 18.4**	**+1.5**
SCM	**Sheep Creek Mo**	**6.05**	**9**	Pn	**Pn**	**15 18 19.3**	**+1.4**
VRDI	**Verde Repeater**	**6.17**	**27**	Pn	**Pn**	**15 18 20.2**	**+0.7**
N25K	**Chitina, Valde**	**6.23**	**21**	Pn	**Pn**	**15 18 21.9**	**+1.5**
GLB	**Gilahina Butte**	**6.26**	**25**	Pn	**Pn**	**15 18 20.7**	**0.0**
M20K	**Styx River**	**6.32**	**343**	Pn	**Pn**	**15 18 21.1**	**-0.5**
M24K	**Tolsona, Glenn**	**6.44**	**13**	Pn	**Pn**	**15 18 22.7**	**-0.5**
BARN	**Barnard Glacie**	**6.55**	**35**	Pn	**Pn**	**15 18 25.4**	**+0.5**
BCPM	**Bancas Point**	**6.57**	**48**	Pn	**Pn**	**15 18 25.0**	**+0.1**
CTGM	**Chitina Glacie**	**6.59**	**36**	Pn	**Pn**	**15 18 25.0**	**-0.3**
LOGN	**Logan Glacier**	**6.60**	**38**	Pn	**Pn**	**15 18 25.8**	**+0.3**
L19K	**White Mountain**	**6.92**	**338**	Pn	**Pn**	**15 18 30.8**	**+1.0**
M17K	**Holitna River**	**6.96**	**326**	Pn	**Pn**	**15 18 30.7**	**+0.4**
N15K	**Kwethluk River**	**7.15**	**311**	Pn	**Pn**	**15 18 34.7**	**+1.9**
O29M	**Mount Kennedy**	**7.20**	**48**	Pn	**Pn**	**15 18 34.5**	**+0.7**
P29M	**Windy Craggy**	**7.23**	**54**	Pn	**Pn**	**15 18 32.7**	**-1.4**
L18K	**Granite Mounta**	**7.39**	**332**	Pn	**Pn**	**15 18 35.4**	**-0.8**
KTH	**Kantishna Hill**	**7.73**	**355**	Pn	**Pn**	**15 18 42.0**	**+1.2**
L16K	**Owhat River**	**7.86**	**322**	Pn	**Pn**	**15 18 42.4**	**-0.2**
HYT	**Haines Junctio**	**7.93**	**47**	Pn	**Pn**	**15 18 44.2**	**+0.4**
L27K	**Beaver Creek,**	**8.13**	**25**	Pn	**Pn**	**15 18 47.9**	**+1.5**
BCAR	**Beaver Creek A**	**8.14**	**25**	Pn	**Pn**	**15 18 48.5**	**+1.9**
BPAW	**Bear Paw Mtn.**	**8.28**	**355**	Pn	**Pn**	**15 18 48.6**	**+0.3**
N30M	**Aishikik Lake**	**8.46**	**44**	Pn	**Pn**	**15 18 51.4**	**+0.5**
M29M	**Somme Creek**	**8.60**	**36**	Pn	**Pn**	**15 18 53.7**	**+0.8**
L14K	**Kuka Creek**	**8.85**	**314**	Pn	Pn	15 18 53.7	-2.4
WHY	**Whitehorse**	**8.97**	**52**	Pn	**Pn**	**15 18 58.0**	**0.0**
N31M	**Braeburn, Yuko**	**8.99**	**46**	Pn	**Pn**	**15 18 58.6**	**+0.4**
P32M	**Atlin**	**9.12**	**60**	Pn	**Pn**	**15 18 59.6**	**-0.4**
L29M	**L29M**	**9.19**	**34**	Pn	**Pn**	**15 19 01.0**	**+0.1**
M30M	**Minto, Yukon**	**9.26**	**39**	Pn	**Pn**	**15 19 01.9**	**0.0**
I17K	**Unalakleet**	**9.83**	**329**	Pn	**Pn**	**15 19 10.6**	**+1.0**
I26K	**Coal Creek Min**	**9.91**	**15**	Pn	**Pn**	**15 19 12.6**	**+1.9**
K29M	**Barlow Dome**	**9.92**	**32**	Pn	**Pn**	**15 19 13.0**	**+2.1**
H21K	**Melozitna Rive**	**9.94**	**352**	Pn	**Pn**	**15 19 12.5**	**+1.4**
IMAR	**Indian Mountai**	**10.35**	**350**	Pn	**Pn**	**15 19 17.4**	**+0.7**
Q23K	**Bananza Creek**	**10.86**	**359**	Pn	**Pn**	**15 19 23.8**	**0.0**
E22K	**Anaktuvuk Pass**	**12.34**	**356**	Pn	**Pn**	**15 19 46.4**	**+2.5**

IDC 24 15:21:24.1±999.0, 56°.89N×33°.59E, h0km, Error ellipse: s-maj=913.0km s-min=43.7km az=93.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.00**	**93**	I	I	15 31 10.0	
	0.3nm,0.6s,baz=278,slow=326,SNR=2.8						
I31KZ	**AKTYUBINSK INF**	**15.82**	**104**	I	I	16 55 50.0	
	baz=303,slow=352,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**28.66**	**74**	I	I	18 18 10.0	
	baz=293,slow=354,SNR=1.2						
I34MN	**SONGINO INFRAS**	**43.39**	**70**	I	I	19 52 30.0	
	baz=300,slow=342,SNR=0.7						

*NEIC **24** 15:23:11.4±1.3, 56°.17N±0°.09×148°.7W±0°.1, h23km±10km, ML3.6/38, ML3.3(AEIC), Error ellipse: s-maj=14.0km s-min=8.8km az=167.0*
*AEIC **24** 15:23:14.9±1.5, 56°.21N±0°.06×148°.6W±0°.1, h6km±5km, Error ellipse: s-maj=9.7km s-min=7.9km az=135.0*

ISC 24 15:23:09.6±2.0, 56°.2N±0°.1×148°.69W±0°.07, h10km, n196, σ1§15/207, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.66**	**308**		**Pn**	**15 23 53.4**	**+0.9**
KDAK					**Sn**	**15 24 23.3**	**-1.4**
OHAK	**Old Harbor**	**2.73**	**294**	Pn	**Pn**	**15 23 53.7**	**+0.2**
OHAK				Sn	**Sn**	**15 24 23.4**	**-3.2**
OHAK				IAML		15 24 28.9	
	comp=E,86nm,1.3s						
OHAK	**Old Harbor**	**2.73**	**294**	P	**Pn**	**15 23 54.1**	**+0.7**
	baz=109						
OHAK				S	**Sn**	**15 24 25.6**	**-1.0**
	baz=109						
SII	**Sitkinak Islan**	**3.08**	**279**	S	**Sn**	**15 24 33.7**	**-1.4**
	baz=94						
SYI	**Shuyak Island**	**3.14**	**322**	Pn	**Pn**	**15 23 59.8**	**+0.8**
SYI				Sn	**Sn**	**15 24 36.2**	**-0.4**
Q20K	**Shuyak Island**	**3.14**	**322**	P	**Pn**	**15 24 00.4**	**+1.3**
	baz=138						
Q20K				S	**Sn**	**15 24 36.8**	**+0.2**
	baz=138						
MID	**Middleton Isla**	**3.48**	**20**	Pn	**Pn**	**15 24 03.2**	**-0.5**
MID				IAML		15 25 08.2	
	comp=N,196nm,1.3s						
MID				IAML		15 26 00.1	
	comp=E,226nm,1.3s						
Q23K	**Middleton Isla**	**3.48**	**20**	Pn	**Pn**	**15 24 03.7**	**+0.1**
Q23K				IAML		15 24 54.6	
	comp=N,147nm,1.5s						
Q23K	**Middleton Isla**	**3.48**	**20**	P	**Pn**	**15 24 03.9**	**+0.2**
	baz=202						
CNPM	**China Poot**	**3.60**	**339**	Pn	**Pn**	**15 24 06.2**	**+0.7**
CNPM				Sn	**Sn**	**15 24 48.0**	**-0.1**
CNPM				IAML		15 24 52.0	
	comp=E,47nm,1.5s						
BRSE	**Bradley Lake S**	**3.72**	**344**		**Pn**	**15 24 07.9**	**+0.8**
BRSE					**Sn**	**15 24 50.6**	**-0.3**
BRSE	**Bradley Lake S**	**3.72**	**344**	P	**Pn**	**15 24 07.9**	**+0.8**
	baz=161						
BRSE				S	**Sn**	**15 24 50.6**	**-0.3**
	baz=161						
BRLK	**Bradley Lake**	**3.76**	**343**	Pn	**Pn**	**15 24 08.1**	**+0.4**
BRLK				IAML		15 24 56.2	
	comp=N,40nm,0.7s						
HOM	**Homer**	**3.81**	**337**	Pn	**Pn**	**15 24 09.2**	**+0.9**
HOM	**Homer**	**3.81**	**337**	P	**Pn**	**15 24 09.8**	**+1.5**
	baz=154						
Q19K	**Cape Douglas,**	**3.82**	**318**	Pn	**Pn**	**15 24 09.9**	**+1.4**
Q19K				IAML		15 24 38.1	
	comp=N,110nm,1.4s						
Q19K				Sn	**Sn**	**15 24 52.4**	**-1.0**
Q19K				IAML		15 25 41.8	
	comp=E,176nm,1.2s						
Q19K	**Cape Douglas,**	**3.82**	**318**	P	**Pn**	**15 24 10.3**	**+1.8**
	baz=133						
Q19K				S	**Sn**	**15 24 53.2**	**-0.3**
	baz=133						
P23K	**Montague Islan**	**3.87**	**10**		**Pn**	**15 24 09.6**	**+0.4**
P23K					**Sn**	**15 24 52.5**	**-2.1**
P23K	**Montague Islan**	**3.87**	**10**	P	**Pn**	**15 24 09.6**	**+0.4**
	baz=190						
P23K				S	**Sn**	**15 24 52.5**	**-2.1**
	baz=190						
KAHG	**Katmai Hook Gl**	**3.92**	**308**		**Pn**	**15 24 11.2**	**+1.3**
SEW	**Seward**	**3.94**	**354**	Pn	**Pn**	**15 24 10.1**	**+0.1**
SEW	**Seward**	**3.94**	**354**	P	**Pn**	**15 24 10.5**	**+0.5**
	baz=173						
ACHA	**Angle Creek He**	**4.13**	**302**		**Pn**	**15 24 14.6**	**+1.8**
KAHC	**Katmai Hardscr**	**4.21**	**308**		**Pn**	**15 24 15.9**	**+2.0**
KAHC	**Katmai Hardscr**	**4.21**	**308**	P	**Pn**	**15 24 15.9**	**+2.0**
	baz=122						
P19K	**Oil Pt**	**4.23**	**327**	P	**Pn**	**15 24 15.8**	**+1.7**
	baz=142						
O22K	**Cooper Landing**	**4.33**	**353**	Pn	**Pn**	**15 24 16.1**	**+0.6**
O22K	**Cooper Landing**	**4.33**	**353**	P	**Pn**	**15 24 16.2**	**+0.7**
	baz=172						
HIN	**Hinchinbrook I**	**4.37**	**14**	Pn	**Pn**	**15 24 16.3**	**+0.4**
HIN				IAML		15 25 06.3	
	comp=N,86nm,0.6s						
HIN				IAML		15 25 06.4	
	comp=E,80nm,0.4s						
KAIM	**Kayak Island**	**4.38**	**29**	Pn	**Pn**	**15 24 16.2**	**+0.2**
KAIM				IAML		15 25 09.3	
	comp=E,55nm,0.8s						
KAIM				IAML		15 25 12.6	
	comp=N,83nm,1.2s						
KAIM	**Kayak Island**	**4.38**	**29**	P	**Pn**	**15 24 16.6**	**+0.5**
	baz=213						
SLKM	**Skilak Lake**	**4.40**	**350**		**Pn**	**15 24 17.1**	**+0.7**
O20K	**Slope Mountain**	**4.42**	**334**		**Pn**	**15 24 17.8**	**+1.1**
O20K	**Slope Mountain**	**4.42**	**334**	P	**Pn**	**15 24 17.8**	**+1.1**
	baz=150						
CNTC	**Contact Creek**	**4.42**	**301**		**Pn**	**15 24 18.9**	**+2.1**
Q17K	**Contact Creek**	**4.42**	**301**	P	**Pn**	**15 24 18.9**	**+2.1**
	baz=114						
IVE	**Iliamna Volcan**	**4.46**	**331**		**Pn**	**15 24 18.3**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.63**	**18**	Pn	**Pn**	**15 24 19.9**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.63**	**18**	P	**Pn**	**15 24 20.3**	**+0.8**
	baz=200						
RAGM	**Ragged Mountai**	**4.71**	**25**	Pn	**Pn**	**15 24 21.3**	**+0.7**
RAGM				IAML		15 25 24.9	
	comp=E,83nm,1.3s						
P18K	**Big Mountain,**	**4.74**	**315**	Pn	**Pn**	**15 24 21.4**	**+0.3**
P18K	**Big Mountain,**	**4.74**	**315**	P	**Pn**	**15 24 22.1**	**+1.0**
	baz=129						
RED	**Redoubt Volcan**	**4.75**	**335**		**Pn**	**15 24 21.9**	**+0.6**
CAPN	**Captain Cook N**	**4.76**	**345**	Pn	**Pn**	**15 24 22.8**	**+1.5**
CAPN	**Captain Cook N**	**4.76**	**345**	P	**Pn**	**15 24 22.9**	**+1.6**
	baz=163						
RDSO	**Redoubt South**	**4.77**	**335**		**Pn**	**15 24 22.2**	**+0.6**
RSO	**Redoubt South**	**4.78**	**335**	Pn	**Pn**	**15 24 22.2**	**+0.4**
RDT	**Redoubt**	**4.81**	**338**		**Pn**	**15 24 22.4**	**+0.4**
RDWB	**Redoubt West**	**4.83**	**335**		**Pn**	**15 24 22.7**	**+0

BARN	Barnard Glacie	6.10	34	Pn		Pn	15 24 40.4	+0.5
BCPM	Bancas Point	6.10	48	Pn		Pn	15 24 40.0	+0.2
CTGM	Chitina Glacie	6.14	36	Pn		Pn	15 24 40.3	0.0
LOGN	Logan Glacier	6.14	38	Pn		Pn	15 24 40.5	0.0
M20K	Styx River	6.15	340	Pn		Pn	15 24 41.0	+0.5
WACK	Wrangell Chich	6.23	19			Pn	15 24 42.9	+1.3
N17K	Nushagak Hills	6.23	318	Pn		Pn	15 24 42.1	+0.7
WAT6	Susitna Watana	6.42	4			Pn	15 24 45.7	+1.4
WAT6	Susitna Watana baz=184	6.42	4	P		Pn	15 24 45.7	+1.4
M19K	Big River Lodg	6.43	335	Pn		Pn	15 24 43.7	-0.6
M18K	Stony River	6.47	328			Pn	15 24 45.6	+0.9
M18K	Stony River baz=142	6.47	328	P		Pn	15 24 45.6	+0.9
WAT1	Susitna Watana	6.66	1			Pn	15 24 48.9	+1.6
WAT1	Susitna Watana baz=180	6.66	1	P		Pn	15 24 48.9	+1.6
WAT7	Susitna Watana	6.66	359			Pn	15 24 49.1	+1.7
O15K	Ungalikthiuk R	6.67	301			Pn	15 24 49.6	+2.0
O15K	Ungalikthiuk R baz=112	6.67	301	P		Pn	15 24 49.6	+2.0
SDPT	Sand Point	6.70	268	Pn		Pn	15 24 48.0	0.0
O29M	Mount Kennedy baz=237	6.74	48	P		Pn	15 24 49.3	+0.7
P29M	Windy Craggy	6.78	55	Pn		Pn	15 24 48.2	-0.8
L19K	White Mountain	6.78	335	Pn		Pn	15 24 48.2	-0.9
N16K	Nishlik Lake	6.82	313			Pn	15 24 51.7	+2.1
N16K	Nishlik Lake baz=124	6.82	313	P		Pn	15 24 51.7	+2.1
M26K	Nabesna, AK	6.87	23	Pn		Pn	15 24 49.4	-0.9
M17K	Holitna River	6.92	323	Pn		Pn	15 24 52.0	+1.1
DHY	Denali Highway	6.93	5	Pn		Pn	15 24 52.8	+1.5
S31K	Pelican	7.02	70	Pn		Pn	15 24 49.3	-3.0
M27K	Edge Creek, AK	7.09	27	Pn		Pn	15 24 54.0	+0.5
YUK6	Outpost Mounta	7.20	44			Pn	15 24 56.4	+1.4
YUK6	Outpost Mounta baz=233	7.20	44	P		Pn	15 24 56.4	+1.4
M16K	Timber Creek	7.22	316	Pn		Pn	15 24 55.9	+0.8
N15K	Kwethluk River	7.22	308	Pn		Pn	15 24 56.2	+1.1
RND	Reindeer	7.24	359	Pn		Pn	15 24 55.5	+0.2
L18K	Granite Mounta	7.30	329	Pn		Pn	15 24 56.4	+0.2
TRF	Thorofare Moun	7.32	354	Pn		Pn	15 24 57.8	+1.2
YUK4	Talbot Arm baz=229	7.34	41	P		Pn	15 25 00.3	+3.4
O14K	Tigyukauivet M	7.39	300	Pn		Pn	15 24 58.1	+0.6
CAST	Castle Rocks	7.44	348	Pn		Pn	15 24 59.3	+1.2
KTH	Kantishna Hill	7.47	352	Pn		Pn	15 25 00.0	+1.5
HYT	Haines Junctio	7.47	47	Pn		Pn	15 24 57.0	-1.7
MCK	McKinley	7.56	359	Pn		Pn	15 25 01.4	+1.6
MCK	McKinley baz=179	7.56	359	P		Pn	15 25 01.8	+2.1
K20K	Telida	7.68	342	Pn		Pn	15 25 03.0	+1.7
TTA	Tatalina	7.71	334	Pn		Pn	15 25 01.7	-0.1
L27K	Beaver Creek,	7.71	24	Pn		Pn	15 25 02.0	+0.2
BCAR	Beaver Creek A	7.72	24	Pn		Pn	15 25 03.0	+1.0
RIDG	Independent Ri	7.81	13	Pn		Pn	15 25 04.4	+1.2
L16K	Owhat River	7.84	319	Pn		Pn	15 25 03.3	-0.3
N30M	Aishikik Lake	8.00	44	Pn		Pn	15 25 06.4	+0.6
N30M	Aishikik Lake baz=234	8.00	44	P		Pn	15 25 07.0	+1.2
BPAW	Bear Paw Mtn.	8.01	353	Pn		Pn	15 25 06.8	+0.9
BPAW	Bear Paw Mtn. baz=170	8.01	353	P		Pn	15 25 07.5	+1.5
O30N	Mendenhall	8.03	50	Pn		Pn	15 25 05.5	-0.7
SCRK	Sand Creek	8.15	15	Pn		Pn	15 25 08.1	+0.2
M29M	Somme Creek	8.15	36	Pn		Pn	15 25 09.5	+1.6
K17K	Iditarod	8.16	327	Pn		Pn	15 25 08.1	+0.1
HDA	Harding Lake	8.29	5	Pn		Pn	15 25 10.6	+1.0
J18K	Innoko River	8.33	334	Pn		Pn	15 25 10.8	+0.5
NEA2	Nenana	8.43	359	Pn		Pn	15 25 12.3	+0.7
J20K	Nowinta River	8.45	344	Pn		Pn	15 25 12.7	+0.8
CCB	Clear Creek Bu	8.49	3	Pn		Pn	15 25 14.2	+1.8
WHY	Whitehorse	8.51	53	Pn		Pn	15 25 13.4	+0.6
K27K	Chicken	8.52	20	Pn		Pn	15 25 13.8	+0.9
N31M	Braeburn, Yuko	8.53	46	Pn		Pn	15 25 12.9	-0.2
J19K	Poorman	8.55	339	Pn		Pn	15 25 12.3	-1.0
J25K	Salcha River,	8.60	10	Pn		Pn	15 25 14.3	+0.2
IL31		8.65	5	Pn		Pn	15 25 14.8	+0.2
ILAR	Eielson Array	8.65	5	Pn		Pn	15 25 15.5	+0.8
P32M	Atlin	8.67	61	Pn		Pn	15 25 15.0	0.0
J26L	Joseph Creek	8.71	15	Pn		Pn	15 25 17.0	+1.5
L29M	L29M	8.74	33	Pn		Pn	15 25 16.4	+0.4
M13K	Dall Lake	8.79	305	Pn		Pn	15 25 16.3	-0.3
M30M	Minto, Yukon	8.81	39	Pn		Pn	15 25 17.2	+0.3
K15K	Wolf Creek Mou	8.97	318	Pn		Pn	15 25 20.5	+1.5
DAWY	Dawson	9.15	27	Pn		Pn	15 25 22.0	+0.5
P33M	Teslin, Yukon	9.29	58	Pn		Pn	15 25 23.1	-0.4
J16K	Anvik River	9.29	325	Pn		Pn	15 25 24.0	+0.6
EGAK	Eagle	9.37	20	Pn		Pn	15 25 24.1	-0.4
M31M	Drury Creek, Y	9.48	45	Pn		Pn	15 25 27.5	+1.5
K29M	Barlow Dome	9.48	31	Pn		Pn	15 25 26.7	+0.6
PRP	Porcupine Dome	9.48	8	Pn		Pn	15 25 26.7	+0.6
I26K	Coal Creek Min	9.53	14	Pn		Pn	15 25 28.0	+1.3
H24K	Noodor Dome	9.68	2	Pn		Pn	15 25 31.3	+2.4
H21K	Melozitna River	9.70	350	Pn		Pn	15 25 29.1	+0.1
R33M	Jennings River	9.98	64	Pn		Pn	15 25 33.1	0.0
IMAR	Indian Mountai	10.12	348	Pn		Pn	15 25 34.9	+0.1
H18K	Honhosa River	10.14	336	Pn		Pn	15 25 34.8	-0.3
I28M	Miner Creek	10.21	21	Pn		Pn	15 25 38.4	+2.3
H17K	Granite Mounta	10.34	331	Pn		Pn	15 25 37.3	-0.5
J30M	Hart River	10.37	31	Pn		Pn	15 25 39.5	+1.1
FYU	Fort Yukon	10.54	8	Pn		Pn	15 25 42.0	+1.6
G24K	Hadweenzic Riv	10.56	3	Pn		Pn	15 25 41.8	+1.0
G23K	Bananza Creek	10.57	357	Pn		Pn	15 25 40.8	-0.2
G21K	Allakaket	10.61	349	Pn		Pn	15 25 41.8	+0.4
F21K	Alatna River	11.29	350	Pn		Pn	15 25 51.6	+0.8
G16K	Koyuk River	11.35	330	Pn		Pn	15 25 53.2	+1.5
F24K	Squaw Lake	11.37	2	Pn		Pn	15 25 53.0	+1.1
F20K	Avaraart Lake	11.38	346	Pn		Pn	15 25 51.9	-0.1
G29M	Pine Creek	11.87	21	Pn		Pn	15 26 02.5	+3.8
E19K	Redstone River	11.98	344	Pn		Pn	15 26 00.9	+0.7
F15K	North Star Dit	12.25	328	Pn		Pn	15 26 03.9	0.0
D22K	Ayikyak River	12.86	353	Pn		Pn	15 26 12.4	+0.2

*NEIC **24** 15:25:38.8±1.3,56˚48N±0˚08×148˚6W±0˚1,h21^{km}±9^{km}, ML3.7/44,ML3.4(AEIC), Error ellipse: s-maj=12.5km s-min=8.5km az=161.0*
*AEIC **24** 15:25:40.8±1.5,56˚4N±0˚1×148˚6W±0˚1,h12^{km}±8^{km}, Error ellipse: s-maj=15.9km s-min=8.8km az=178.0*
ISC 24 15:25:36.6±2.1,56˚5N±0˚1×148˚65W±0˚06,h10^{km},n147, σ1^{s}10/152,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.52	303		Pn	15 26 17.9	+0.4
KDAK					Sn	15 26 46.9	-1.3
OHAK	Old Harbor	2.66	288	Pn	Pn	15 26 19.2	-0.2
OHAK	Old Harbor baz=107	2.66	288	P	Pn	15 26 19.8	+0.3
OHAK				S	Sn	15 26 49.1	-2.6
SYI	Shuyak Island baz=107	2.95	318	Pn	Pn	15 26 24.5	+1.1
SYI					Sn	15 26 57.6	-1.2
Q20K	Shuyak Island baz=136	2.95	318	P	Pn	15 26 24.3	+0.9
Q20K				S	Sn	15 26 58.8	0.0
Q23K	Middleton Isla	3.21	21	Pn	Pn	15 26 27.1	+0.1
Q23K	Middleton Isla baz=202	3.21	21	P	Pn	15 26 27.3	+0.3
MID	Middleton Isla	3.21	22	Pn	Pn	15 26 26.7	-0.3
CNPM	China Poot	3.36	337	Sn	Sn	15 27 07.1	-1.9
BRSE	Bradley Lake S	3.46	342		Pn	15 26 31.2	+0.6
BRSE					Sn	15 27 09.9	-1.6
BRSE	Bradley Lake S baz=161	3.46	342	P	Pn	15 26 31.2	+0.6
BRSE				S	Sn	15 27 09.9	-1.6
BRLK	Bradley Lake	3.51	341	Pn	Pn	15 26 31.6	+0.4
HOM	Homer baz=153	3.57	335	P	Pn	15 26 33.1	+1.1
P23K	Montague Islan	3.60	10		Pn	15 26 32.7	+0.3
P23K	Montague Islan baz=190	3.60	10	P	Pn	15 26 32.7	+0.3
Q19K	Cape Douglas,	3.64	315	Pn	Pn	15 26 34.5	+1.5
Q19K	comp=N,140nm,1.4s			IAML		15 28 40.1	
Q19K	Cape Douglas, baz=132	3.64	315	P	Pn	15 26 33.2	+0.2
SEW	Seward	3.67	354	Pn	Pn	15 26 33.3	0.0
SEW	Seward	3.67	354	P	Pn	15 26 33.8	+0.5
	baz=173						
KAHG	Katmai Hook Gl	3.78	305		Pn	15 26 36.1	+1.3
P19K	Oil Pt	4.01	325	Pn	Pn	15 26 39.3	+1.2
P19K	comp=E,90nm,3.6s			IAML		15 28 38.0	
P19K	comp=N,109nm,3.7s			IAML		15 29 16.5	
P19K	Oil Pt baz=142	4.01	325	P	Pn	15 26 39.0	+0.9
HIN	Hinchinbrook I	4.10	15	Pn	Pn	15 26 39.4	+0.1
HIN	comp=N,100nm,4.5s			IAML		15 28 30.3	
HIN	comp=E,109nm,2.4s			IAML		15 28 31.1	
KAIM	Kayak Island	4.12	31	Pn	Pn	15 26 39.9	+0.4
KAIM	Kayak Island baz=214	4.12	31	P	Pn	15 26 40.0	+0.5
O20K	Slope Mountain	4.19	332		Pn	15 26 41.4	+0.9
O20K	Slope Mountain baz=149	4.19	332	P	Pn	15 26 41.4	+0.9
IVE	Iliamna Volcan	4.24	329		Pn	15 26 42.0	+0.8
CNTC	Contact Creek	4.31	298		Pn	15 26 42.7	+0.4
Q17K	Contact Creek baz=113	4.31	298	P	Pn	15 26 42.7	+0.4
EYAK	Cordova Ski Ar	4.36	19	Pn	Pn	15 26 43.2	+0.4
EYAK	Cordova Ski Ar baz=201	4.36	19	P	Pn	15 26 43.7	+0.9
RAGM	Ragged Mountai	4.45	26	Pn	Pn	15 26 44.2	+0.2
RAGM	comp=E,93nm,3.5s			IAML		15 28 02.8	
CAPN	Captain Cook N	4.51	344	Pn	Pn	15 26 46.2	+1.4
RED	Redoubt Volcan	4.51	333		Pn	15 26 45.6	+0.6
RDSO	Redoubt South	4.54	333		Pn	15 26 45.8	+0.5
RSO	Redoubt South	4.55	333	Pn	Pn	15 26 46.1	+0.5
RDT	Redoubt	4.56	336		Pn	15 26 46.1	+0.4
P18K	Big Mountain,	4.57	313	Pn	Pn	15 26 46.3	+0.5
P18K	Big Mountain, baz=128	4.57	313	P	Pn	15 26 46.7	+1.0
RDWB	Redoubt West	4.59	333		Pn	15 26 46.3	+0.2
GOAT	Goat Mountain	4.61	25		Pn	15 26 47.0	+0.7
RC01	Rabbit Creek A	4.67	353	Pn	Pn	15 26 48.1	+1.1
RC01	comp=N,57nm,4.0s			IAML		15 27 38.5	
RC01	comp=E,43nm,2.9s			IAML		15 27 39.7	
O19K	Port Alsworth	4.78	324	Pn	Pn	15 26 49.5	+0.9
O19K	comp=E,86nm,0.5s			IAML		15 27 47.7	
O19K	comp=N,76nm,0.4s			IAML		15 29 38.1	
O19K	Port Alsworth baz=140	4.78	324	P	Pn	15 26 49.9	+1.3
SNH	Sunshine Point	4.82	37	Pn	Pn	15 26 48.9	-0.2
SNH	comp=E,76nm,3.6s			IAML		15 30 04.0	
KNK	Knik Glacier	4.96	1	Pn	Pn	15 26 51.6	+0.6
KNK	comp=E,44nm,3.7s			IAML		15 28 25.9	
KNK	Knik Glacier baz=181	4.96	1	P	Pn	15 26 52.5	+1.5
BMRM	Bremner River	4.98	23	Pn	Pn	15 26 51.8	+0.4
BMRM	Bremner River baz=206	4.98	23	P	Pn	15 26 52.2	+0.9
BARK	Barkley Ridge	5.10	37		Pn	15 26 53.8	+0.7
SUA	Susitna One	5.13	349	Pn	Pn	15 26 54.2	+0.7
SUA	comp=N,63nm,4.3s			IAML		15 28 07.6	
SUA	comp=E,60nm,3.9s			IAML		15 28 42.8	
KLU	Klutina	5.23	14	Pn	Pn	15 26 55.6	+0.8
KLU	comp=E,29nm,3.8s			IAML		15 29 47.9	
KLU	comp=N,33nm,3.6s			IAML		15 30 19.8	
KLU	Klutina baz=196	5.23	14	P	Pn	15 26 56.0	+1.2
STLK	Strandline Lak	5.31	343		Pn	15 26 57.0	+1.2
N19K	Bonanza Creek	5.32	327	Pn	Pn	15 26 56.2	+0.2
N19K	comp=N,27nm,4.0s			IAML		15 28 36.8	
N19K	comp=E,28nm,4.3s			IAML		15 30 01.5	
N19K	Bonanza Creek baz=143	5.32	327	P	Pn	15 26 56.9	+0.8
GHO	Glory Hole Cre	5.32	359	Pn	Pn	15 26 57.0	+0.9
GHO	comp=N,38nm,3.4s			IAML		15 28 06.6	
GHO	comp=E,35nm,4.3s			IAML		15 28 59.6	
SPNN	North Nagishla	5.34	339		Pn	15 26 57.9	+1.4
SML	Sawmill	5.36	2	Pn	Pn	15 26 57.2	+0.7
SML	comp=E,42nm,4.5s			IAML		15 29 41.9	
SML	comp=N,45nm,4.1s			IAML		15 29 52.6	
SML	Sawmill baz=182	5.36	2	P	Pn	15 26 58.1	+1.6
SCM	Sheep Creek Mo	5.42	7	Pn	Pn	15 26 59.8	+2.3
VRDI	Verde Repeater	5.48	27	Pn	Pn	15 26 58.5	+0.2
SAMH	Samovar Hills	5.54	45		Pn	15 26 59.9	+0.8
KIAG	Kiagna River	5.54	34		Pn	15 26 59.8	+0.6
N25K	Chitina, Valde	5.56	20	Pn	Pn	15 27 00.4	+1.1
N25K	Chitina, Valde baz=203	5.56	20	P	Pn	15 27 01.0	+1.7
O17K	Koliganek Bris	5.57	310		Pn	15 27 00.7	+1.3
O17K	Koliganek Bris baz=124	5.57	310	P	Pn	15 27 00.7	+1.3
GLB	Gilahina Butte	5.58	25	Pn	Pn	15 26 59.8	+0.2
P16K	Nushagak River	5.62	301		Pn	15 27 01.7	+1.5
P16K	Nushagak River baz=114	5.62	301	P	Pn	15 27 01.7	+1.5
YKU2	Yakutat	5.66	54	Pn	Pn	15 27 00.7	+0.1
N18K	Kilae Creek	5.67	321	Pn	Pn	15 27 00.7	-0.1
N18K	Kilae Creek baz=136	5.67	321	P	Pn	15 27 01.7	+0.9
PTPK	Patty Peak	5.71	32		Pn	15 27 02.4	+0.8
SKT	Skwentna	5.72	346	Pn	Pn	15 27 03.0	+1.5
PCA	Pinnacle	5.73	47	Pn	Pn	15 27 02.0	+0.4
PINM	Pinnacle baz=232	5.73	47	P	Pn	15 27 02.3	+0.6
M24K	Tolsona, Glenn	5.79	12	Pn	Pn	15 27 04.5	+1.9
M24K	Tolsona, Glenn baz=193	5.79	12	P	Pn	15 27 04.9	+2.3
PNL	Peninsula	5.86	53		Pn	15 27 04.4	+1.0
PNL	Peninsula baz=240	5.86	53	P	Pn	15 27 04.4	+1.0
BARN	Barnard Glacie	5.86	35	Pn	Pn	15 27 04.1	+0.5
CTG	Chitna Glacier baz=223	5.90	37	P	Pn	15 27 04.8	+0.7
M20K	Styx River	5.90	339	Pn	Pn	15 27 04.3	+0.4
M20K	Styx River baz=155	5.90	339	P	Pn	15 27 04.9	+0.9
CTGM	Chitina Glacie	5.90	37	Pn	Pn	15 27 04.6	+0.5
BCPM	Bancas Point	5.90	50	Pn	Pn	15 27 04.6	+0.6
LOGN	Logan Glacier	5.91	39	Pn	Pn	15 27 04.2	0.0
O16K	Kokwok River B	5.92	306	Pn	Pn	15 27 05.3	+1.2
WACK	Wrangell Chich	5.96	20		Pn	15 27 06.4	+1.5
N17K	Nushagak Hills	6.05	316	Pn	Pn	15 27 06.7	+0.7
N17K	Nushagak Hills baz=129	6.05	316	P	Pn	15 27 07.0	+1.0
M19K	Big River Lodg	6.20	334	Pn	Pn	15 27 06.4	-1.6
M18K	Stony River	6.25	327		Pn	15 27 09.5	+0.8
M18K	Stony River baz=141	6.25	327	P	Pn	15 27 09.5	+0.8
O29M	Mount Kennedy	6.54	50	Pn	Pn	15 27 13.7	+0.9
O29M	Mount Kennedy baz=238	6.54	50	P	Pn	15 27 13.1	+0.3
L19K	White Mountain	6.55	334	Pn	Pn	15 27 12.6	-0.3
L19K	White Mountain baz=149	6.55	334	P	Pn	15 27 13.9	+1.0
P29M	Windy Craggy	6.60	57	Pn	Pn	15 27 13.4	-0.1
P29M	Windy Craggy baz=245	6.60	57	P	Pn	15 27 13.7	+0.2
YUK2	White River	6.67	34		Pn	15 27 16.5	+1.8
M17K	Holitna River	6.72	321	Pn	Pn	15 27 16.1	+1.0
YUK3	Moose Creek	6.78	35		Pn	15 27 18.6	+2.3
YUK3	Moose Creek baz=221	6.78	35	P	Pn	15 27 18.6	+2.3
M27K	Edge Creek, AK	6.84	27	Pn	Pn	15 27 18.3	+1.4
YUK7	Dusty Glacier	6.84	49		Pn	15 27 18.6	+1.5
S31K	Pelican	6.91	72	Pn	Pn	15 27 14.8	-2.9
YUK6	Outpost Mounta	6.98	46		Pn	15 27 20.7	+1.7
YUK6	Outpost Mounta baz=234	6.98	46	P	Pn	15 27 20.7	+1.7
M16K	Timber Creek	7.04	315	Pn	Pn	15 27 20.9	+1.3
N15K	Kwethluk River	7.08	306	Pn	Pn	15 27 22.4	+2.4
L18K	Granite Mounta	7.08	328	Pn	Pn	15 27 20.8	+0.7
YUK4	Talbot Arm baz=230	7.12	43	P	Pn	15 27 23.6	+2.8
P30M	Million Dollar	7.16	54	Pn	Pn	15 27 22.1	+0.8
P30M	Million Dollar baz=244	7.16	54	P	Pn	15 27 22.5	+1.2
CAST	Castle Rocks	7.18	348	Pn	Pn	15 27 22.4	+0.9
HYT	Haines Junctio	7.27	48	Pn	Pn	15 27 23.5	+0.7
O14K	Tigyukauivet M	7.29	298	Pn	Pn	15 27 24.4	+1.5
L27K	Beaver Creek,	7.45	25	Pn	Pn	15 27 25.9	+0.6
BCAR	Beaver Creek A	7.46	25	Pn	Pn	15 27 26.3	+0.9
RIDG	Independent Ri	7.54	13	Pn	Pn	15 27 27.8	+1.4
L16K	Owhat River	7.66	318	Pn	Pn	15 27 28.1	+0.1
SKAG	Skagway	7.69	62	Pn	Pn	15 27 28.3	-0.2
N30M	Aishikik Lake	7.79	45	Pn	Pn	15 27 30.6	+0.8
N30M	Aishikik Lake baz=234	7.79	45	P	Pn	15 27 31.0	+1.1
O30N	Mendenhall	7.84	51	Pn	Pn	15 27 31.0	+0.4
M29M	Somme Creek	7.92	37	Pn	Pn	15 27 32.9	+1.2
K17K	Iditarod	7.95	326	Pn	Pn	15 27 32.7	+0.8
K27K	Chicken	8.25	21	Pn	Pn	15 27 37.0	+0.8
WHY	Whitehorse	8.32	54	Pn	Pn	15 27 37.5	+0.2
N31M	Braeburn, Yuko	8.33	48	Pn	Pn	15 27 38.8	+1.5
J26L	Joseph Creek	8.44	15	Pn	Pn	15 27 40.5	+1.7
L29M	L29M	8.50	34	Pn	Pn	15 27 41.8	+2.2
P32M	Atlin	8.52	62	Pn	Pn	15 27 40.3	+0.5
M30M	Minto, Yukon	8.58	40	Pn	Pn	15 27 41.8	+1.1
P33M	Teslin, Yukon	9.12	59	Pn	Pn	15 27 48.6	+0.4
K29M	Barlow Dome	9.23	32	Pn	Pn	15 27 50.8	+1.2
M31M	Drury Creek, Y	9.26	46	Pn	Pn	15 27 51.9	+1.8
N32M	Quiet Lake	9.33	53	Pn	Pn	15 27 52.1	+1.1
H21K	Melozitna Rive	9.43	349	Pn	Pn	15 27 53.5	+1.2
FARO	Faro, Yukon	9.70	47	Pn	Pn	15 27 57.6	+1.5
R33M	Jennings River	9.84	65	Pn	Pn	15 27 58.1	0.0
H18K	Honhosa River	9.90	336	Pn	Pn	15 27 58.0	-0.9
J30M	Hart River	10.12	32	Pn	Pn	15 28 02.4	+0.5

*IDC **24** 15:28:08.1±3.2,55˚53N×148˚70W,h0^{km},mb3.5/2, mbtmp3.6/5,ML3.6/3,MS3.5/15, Error ellipse: s-maj=60.2km s-min=32.4km az=163.0*
*NEIC **24** 15:28:14.8±2.1,56˚02N±0˚07×149˚9W±0˚1,h22^{km}±8^{km}, mb4.1/1,ML3.9/40,ML3.6(AEIC),Error ellipse: s-maj=10.9km s-min=8.2km az=161.0*
*AEIC **24** 15:28:18.5±1.7,56˚11N±0˚08×149˚8W±0˚1,h5^{km}±7^{km}, Error ellipse: s-maj=12.4km s-min=8.5km az=169.0*
ISC 24 15:28:15.3±1.4,56˚2N±0˚1×149˚84W±0˚06,h10^{km},n239, σ0^{s}84/220,MS3.5/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.16	300	Pn	Pn	15 28 50.0	-1.3
OHAK					Sn	15 29 16.1	-2.1
OHAK	Old Harbor baz=119	2.16	300	P	Pn	15 28 50.6	-0.7
OHAK				S	Sn	15 29 16.4	-1.8
KDAK	Kodiak Island	2.19	318	Pn	Pn	15 28 51.1	-0.6
KDAK	Kodiak Island	2.19	318	Sn	Sn	15 29 17.8	-1.0
KDAK	Kodiak Island	2.19	318	Pn	Pn	15 28 51.3	-0.4
KDAK	14nm,0.3s,baz=177,slow=5.7,SNR=31			Sn	Sn	15 29 18.6	-0.2
KDAK	22nm,0.3s,baz=35,slow=23,SNR=12			LR	LR	15 30 03.4	
SII	comp=Z,942nm,19.1s,baz=201,slow=37 Sitkinak Islan	2.45	280	Pn	Pn	15 28 52.3	-3.0
SII	comp=E,523nm,0.7s			IAML		15 29 23.9	
SII	comp=N,364nm,0.8s			IAML		15 29 40.0	
Q20K	Shuyak Island baz=150	2.79	331	P	Pn	15 29 00.1	+0.1
Q20K				S	Sn	15 29 33.2	-0.3
SYI	Shuyak Island baz=150	2.79	331	Pn	Pn	15 29 00.1	+0.2
SYI				Sn	Sn	15 29 33.6	0.0
CNPM	China Poot	3.42	348	Pn	Pn	15 29 08.7	0.0
CNPM	comp=N,114nm,0.5s			IAML		15 29 51.8	
CNPM	comp=E,116nm,1.7s			IAML		15 29 58.1	
Q19K	Cape Douglas,	3.42	325	Pn	Pn	15 29 09.6	+0.9
Q19K	Cape Douglas, baz=142	3.42	325	P	Pn	15 29 09.0	+0.3
Q19K				S	Sn	15 29 46.7	-2.6
KAHG	Katmai Hook Gl	3.44	314		Pn	15 29 09.8	+0.9
KCE	Katmai Mt Cerb	3.56	307		Pn	15 29 10.9	+0.4
BRSE	Bradley Lake S	3.59	353		Pn	15 29 10.8	-0.2
BRSE					Sn	15 29 53.4	+0.1
BRSE	Bradley Lake S baz=172	3.59	353	P	Pn	15 29 10.7	-0.2
BRSE				S	Sn	15 29 53.4	+0.1
HOM	Homer	3.60	345	Pn	Pn	15 29 11.3	+0.2
HOM	comp=E,354nm,1.5s			IAML		15 29 48.9	
ACHA	Angle Creek He	3.60	306		Pn	15 29 11.6	+0.3
BRLK	Bradley Lake	3.62	352	Pn	Pn	15 29 10.8	-0.7
BRLK	comp=E,104nm,3.6s			IAML		15 31 07.4	
ANCK	Angle Creek	3.67	305		Pn	15 29 12.7	+0.5
KVTA	Katmai Vly 10	3.68	309		Pn	15 29 13.1	+0.8
KAHC	Katmai Hardscr	3.72	313		Pn	15 29 13.8	+0.9
KAHC	Katmai Hardscr baz=130	3.72	313	P	Pn	15 29 13.8	+0.9
Q23K	Middleton Isla	3.74	28	Pn	Pn	15 29 12.0	-1.0
Q23K	comp=N,332nm,2.7s			IAML		15 31 28.2	
Q23K	Middleton Isla baz=210	3.74	28	P	Pn	15 29 12.3	-0.7
MID	Middleton Isla	3.74	29	Pn	Pn	15 29 11.8	-1.2
MID	comp=N,304nm,3.0s			IAML		15 31 28.2	
CNTC	Contact Creek	3.88	305		Pn	15 29 15.3	+0.2
Q17K	Contact Creek baz=120	3.89	305	P	Pn	15 29 15.3	+0.

CHGN				IAML		15 30 24.5		
	comp=E,75nm,1.2s							
EYAK	Cordova Ski Ar	4.86	25	Pn	Pn	15 29 27.9	-0.5	
EYAK	Cordova Ski Ar	4.86	25	P	Pn	15 29 28.4	-0.1	
	baz=207							
RC01	Rabbit Creek A	4.91	1	Pn	Pn	15 29 28.8	-0.3	
RC01				IAML		15 30 27.3		
	comp=E,59nm,0.4s							
RC01				IAML		15 30 42.7		
	comp=N,49nm,3.3s							
RC01	Rabbit Creek A	4.91	1	P	Pn	15 29 28.8	-0.3	
	baz=180							
RAGM	Ragged Mountai	5.00	31	Pn	Pn	15 29 30.3	-0.2	
RAGM				IAML		15 31 01.3		
	comp=E,106nm,3.2s							
GOAT	Goat Mountain	5.15	29		Pn	15 29 32.5	+0.1	
N20K	Mount Spurr	5.17	347	P	Pn	15 29 32.3	-0.4	
	baz=165							
SPCR	Spurr Chakacha	5.17	347		Pn	15 29 32.2	-0.4	
P16K	Nushagak River	5.22	306		Pn	15 29 33.1	-0.2	
P16K	Nushagak River	5.22	306	P	Pn	15 29 33.2	-0.2	
	baz=120							
N19K	Bonanza Creek	5.23	334	Pn	Pn	15 29 32.4	-1.2	
N19K				IAML		15 30 59.1		
	comp=E,36nm,3.3s							
N19K	Bonanza Creek	5.23	334	P	Pn	15 29 33.3	-0.3	
	baz=150							
O17K	Koliganek Bris	5.27	316		Pn	15 29 34.4	+0.4	
O17K	Koliganek Bris	5.27	316	P	Pn	15 29 34.4	+0.4	
	baz=130							
KNK	Knik Glacier	5.28	7	Pn	Pn	15 29 33.9	-0.3	
KNK	Knik Glacier	5.28	7	P	Pn	15 29 33.9	-0.3	
	baz=188							
SUA	Susitna One	5.30	355	Pn	Pn	15 29 34.8	+0.2	
BERG	Berg Lake	5.30	35	Pn	Pn	15 29 33.6	-1.0	
DIV	Divide	5.38	22	Pn	Pn	15 29 35.5	-0.1	
PMR	Palmer	5.42	4	Pn	Pn	15 29 35.5	-0.6	
SNH	Sunshine Point	5.44	40	Pn	Pn	15 29 36.3	-0.1	
N18K	Kilae Creek	5.50	327	Pn	Pn	15 29 37.0	-0.3	
N18K	Kilae Creek	5.50	327	P	Pn	15 29 36.7	-0.6	
	baz=142							
BMRM	Bremner River	5.51	28	Pn	Pn	15 29 37.1	-0.2	
BMRM	Bremner River	5.51	28	P	Pn	15 29 37.3	0.0	
	baz=211							
O16K	Kokwok River B	5.56	311		Pn	15 29 38.4	+0.3	
O16K	Kokwok River B	5.56	311	P	Pn	15 29 38.3	+0.3	
	baz=125							
GHO	Glory Hole Cre	5.61	4	Pn	Pn	15 29 39.5	+0.8	
SML	Sawmill	5.68	7	Pn	Pn	15 29 40.4	+0.6	
SML	Sawmill	5.68	7	P	Pn	15 29 40.3	+0.6	
	baz=188							
KLU	Klutina	5.68	19	Pn	Pn	15 29 40.1	+0.3	
KLU	Klutina	5.68	19	P	Pn	15 29 40.4	+0.6	
	baz=202							
CNBA	Chernabura Isl	5.71	260	Pn	Pn	15 29 35.6	-4.5	
BARK	Barkley Ridge	5.72	40		Pn	15 29 40.2	-0.2	
SCM	Sheep Creek Mo	5.80	12	Pn	Pn	15 29 42.7	+1.3	
N17K	Nushagak Hills	5.81	321	Pn	Pn	15 29 41.3	-0.2	
N17K	Nushagak Hills	5.81	321	P	Pn	15 29 41.1	-0.3	
	baz=136							
SKT	Skwentna	5.87	352	Pn	Pn	15 29 42.3	+0.1	
SKT	Skwentna	5.87	352	P	Pn	15 29 42.2	0.0	
	baz=170							
M20K	Styx River	5.95	345	Pn	Pn	15 29 43.8	+0.4	
VRDI	Verde Repeater	6.04	31	Pn	Pn	15 29 44.0	-0.8	
N25K	Chitina, Valde	6.06	24	Pn	Pn	15 29 45.2	+0.2	
N25K	Chitina, Valde	6.06	24	P	Pn	15 29 45.4	+0.4	
	baz=208							
GLB	Gilahina Butte	6.12	28	Pn	Pn	15 29 45.5	-0.3	
KIAG	Kiagna River	6.14	36		Pn	15 29 46.2	0.0	
M18K	Stony River	6.15	332		Pn	15 29 45.7	-0.4	
M18K	Stony River	6.15	332	P	Pn	15 29 45.7	-0.4	
	baz=147							
M19K	Big River Lodg	6.18	340	Pn	Pn	15 29 48.1	+1.5	
SAMH	Samovar Hills	6.20	47		Pn	15 29 46.9	0.0	
M24K	Tolsona, Glenn	6.22	16	Pn	Pn	15 29 47.5	+0.4	
N16K	Nishlik Lake	6.36	316		Pn	15 29 49.7	+0.7	
N16K	Nishlik Lake	6.36	316	P	Pn	15 29 49.7	+0.7	
	baz=129							
PCA	Pinnacle	6.40	48	Pn	Pn	15 29 49.3	-0.3	
PINM	Pinnacle	6.40	48	P	Pn	15 29 49.5	-0.1	
	baz=236							
BARN	Barnard Glacie	6.48	38	Pn	Pn	15 29 50.3	-0.5	
WAT6	Susitna Watana	6.49	9		Pn	15 29 50.9	-0.1	
WAT6	Susitna Watana	6.49	9	P	Pn	15 29 50.9	-0.1	
	baz=190							
CTG	Chitna Glacier	6.52	39	P	Pn	15 29 51.0	-0.3	
	baz=226							
CTGM	Chitina Glacie	6.52	39	Pn	Pn	15 29 50.9	-0.5	
L19K	White Mountain	6.53	339	Pn	Pn	15 29 51.1	-0.3	
M17K	Holitna River	6.54	326	Pn	Pn	15 29 52.2	+0.7	
LOGN	Logan Glacier	6.55	41	Pn	Pn	15 29 50.7	-1.0	
PNL	Peninsula	6.56	54	P	Pn	15 29 51.5	-0.2	
	baz=242							
BCPM	Bancas Point	6.59	51	Pn	Pn	15 29 51.9	-0.2	
N15K	Kwethluk River	6.72	311	Pn	Pn	15 29 54.7	+0.7	
M16K	Timber Creek	6.79	319	Pn	Pn	15 29 55.2	+0.3	
M16K	Timber Creek	6.79	319	P	Pn	15 29 54.9	+0.1	
	baz=132							
O14K	Tigyukauivet M	6.84	301	Pn	Pn	15 29 56.1	+0.6	
L18K	Granite Mounta	6.99	333	Pn	Pn	15 29 56.6	-1.0	
DHY	Denali Highway	7.01	9	Pn	Pn	15 29 58.9	+0.9	
M26K	Nabesna, AK	7.13	27	Pn	Pn	15 30 00.0	+0.3	
O29M	Mount Kennedy	7.22	51	Pn	Pn	15 30 00.8	-0.2	
O29M	Mount Kennedy	7.22	51	P	Pn	15 30 01.0	+0.1	
	baz=240							
YUK2	White River	7.27	36		Pn	15 30 02.2	+0.5	
TRF	Thorofare Moun	7.28	358	Pn	Pn	15 30 02.5	+0.7	
P29M	Windy Craggy	7.30	57	Pn	Pn	15 30 01.0	-1.0	
P29M	Windy Craggy	7.30	57	P	Pn	15 30 01.4	-0.6	
	baz=246							
YUK8	Steele Glacier	7.31	42		Pn	15 30 03.3	+1.1	
YUK8	Steele Glacier	7.31	42	P	Pn	15 30 03.3	+1.1	
	baz=230							
CAST	Castle Rocks	7.33	352	Pn	Pn	15 30 04.9	+2.6	
L17K	Donlin	7.37	327		Pn	15 30 03.2	+0.4	
L17K	Donlin	7.37	327	P	Pn	15 30 03.2	+0.4	
	baz=140							
M27K	Edge Creek, AK	7.40	30	Pn	Pn	15 30 03.8	+0.5	
KTH	Kantishna Hill	7.40	356	Pn	Pn	15 30 03.9	+0.6	
L16K	Owhat River	7.44	322	Pn	Pn	15 30 03.6	-0.2	
TTA	Tatalina	7.44	338	Pn	Pn	15 30 02.9	-1.0	
K20K	Telida	7.49	345	Pn	Pn	15 30 03.1	-1.4	
YUK7	Dusty Glacier	7.53	50		Pn	15 30 05.3	+0.2	
L26K	Log Cabin Wild	7.59	23	Pn	Pn	15 30 05.8	-0.2	
S31K	Pelican	7.62	71	Pn	Pn	15 30 03.0	-3.2	
YUK6	Outpost Mounta	7.65	47		Pn	15 30 07.3	+0.4	
YUK6	Outpost Mounta	7.65	47	P	Pn	15 30 07.3	+0.4	
	baz=236							
YUK4	Talbot Arm	7.77	44	P	Pn	15 30 10.3	+1.8	
	baz=232							
M14K	Bethel	7.82	311	Pn	Pn	15 30 09.6	+0.6	
K17K	Iditarod	7.83	330	Pn	Pn	15 30 08.2	-0.9	
HYT	Haines Junctio	7.94	49	Pn	Pn	15 30 10.2	-0.7	
BPAW	Bear Paw Mtn.	7.95	356	Pn	Pn	15 30 09.8	-0.9	
YUK5	Granite Creek	7.96	47		Pn	15 30 11.9	+0.9	
RIDG	Independent Ri	7.97	16	Pn	Pn	15 30 11.6	+0.5	
L27K	Beaver Creek,	7.99	27	Pn	Pn	15 30 11.7	+0.3	
BCAR	Beaver Creek A	8.00	27	Pn	Pn	15 30 12.5	+1.0	
SIT	Sitka	8.05	78	Pn	Pn	15 30 08.1	-4.1	
J18K	Innoko River	8.07	337	Pn	Pn	15 30 11.7	-0.7	
J20K	Nowinta River	8.29	347	Pn	Pn	15 30 14.0	-1.4	
SCRK	Sand Creek	8.33	18	Pn	Pn	15 30 16.4	+0.3	
J19K	Poorman	8.33	342	Pn	Pn	15 30 16.9	+0.9	
HDA	Harding Lake	8.36	9	Pn	Pn	15 30 16.6	+0.2	
L14K	Kuka Creek	8.43	313	Pn	Pn	15 30 18.0	+0.7	
L14K	Kuka Creek	8.43	313	P	Pn	15 30 18.4	+1.1	
	baz=122							
NEA2	Nenana	8.43	2	Pn	Pn	15 30 18.8	+1.4	
N30M	Aishikik Lake	8.45	46	Pn	Pn	15 30 16.6	-1.1	
O30N	Mendenhall	8.53	52	Pn	Pn	15 30 18.8	0.0	
M29M	Somme Creek	8.54	38	Pn	Pn	15 30 19.4	+0.5	
CCB	Clear Creek Bu	8.54	6	Pn	Pn	15 30 19.7	+0.9	
K15K	Wolf Creek Mou	8.55	320	Pn	Pn	15 30 19.4	+0.4	
R32K	Eaglecrest	8.56	70	Pn	Pn	15 30 18.0	-1.2	
JIS	Juneau Island	8.63	70	Pn	Pn	15 30 19.3	-0.9	
IL31		8.72	8	Pn	Pn	15 30 22.8	+1.5	
ILAR	Eielson Array	8.72	8	Pn	Pn	15 30 21.7	+0.3	
ILAR	Eielson Array	8.72	8	Pn	Pn	15 30 22.5	+1.1	
	comp=E,0.5nm,0.3s,baz=186,slow=14,SNR=10							
ILAR				Sn	Sn	15 31 56.8	-2.9	
	comp=E,0.4nm,0.3s,baz=182,slow=21,SNR=2.8							
ILAR				LR	LR	15 33 59.1		
	comp=E,130nm,19.9s,baz=244,slow=38							
	comp=E,0.9nm,0.4s							
J25K	Salcha River,	8.72	13	Pn	Pn	15 30 22.1	+0.7	
K27K	Chicken	8.75	23	Pn	Pn	15 30 22.7	+1.0	
J26L	Joseph Creek	8.88	18	Pn	Pn	15 30 21.9	-1.8	
J16K	Anvik River	8.94	327	Pn	Pn	15 30 24.5	+0.2	
I23K	Minto, Yukon-K	8.98	1	Pn	Pn	15 30 25.1	+0.2	
N31M	Braeburn, Yuko	9.00	48	Pn	Pn	15 30 25.6	+0.4	
WHY	Whitehorse	9.02	54	Pn	Pn	15 30 25.0	-0.6	
I21K	Tanana	9.07	354	Pn	Pn	15 30 27.2	+1.0	
L29M	L29M	9.10	36	Pn	Pn	15 30 27.3	+0.7	
M30M	Minto, Yukon	9.21	41	Pn	Pn	15 30 28.1	-0.1	
P32M	Atlin	9.23	62	Pn	Pn	15 30 26.6	-1.8	
P32M	Atlin	9.23	62	P	Pn	15 30 27.3	-1.0	
	baz=255							
DAWY	Dawson	9.44	29	Pn	Pn	15 30 31.7	+0.5	
J14K	Nanvaranak Lak	9.57	319	Pn	Pn	15 30 33.4	+0.5	
PRP	Porcupine Dome	9.58	11	Pn	Pn	15 30 34.1	+0.9	
H21K	Melozitna Rive	9.60	353	Pn	Pn	15 30 34.0	+0.6	
EGAK	Eagle	9.60	23	Pn	Pn	15 30 33.3	-0.1	
I26K	Coal Creek Min	9.70	17	Pn	Pn	15 30 34.4	-0.3	
H24K	Noodor Dome	9.72	5	Pn	Pn	15 30 36.5	+1.4	
K29M	Barlow Dome	9.82	34	Pn	Pn	15 30 36.9	+0.4	
Q32M	Nakina River	9.83	66	Pn	Pn	15 30 35.5	-1.2	
P33M	Teslin, Yukon	9.83	59	Pn	Pn	15 30 35.6	-1.0	
P33M	Teslin, Yukon	9.83	59	P	Pn	15 30 35.7	-0.9	
	baz=253							
H18K	Honhosa River	9.90	339	Pn	Pn	15 30 36.4	-1.0	
M31M	Drury Creek, Y	9.93	46	Pn	Pn	15 30 38.5	+0.6	
IMAR	Indian Mountai	10.00	351	Pn	Pn	15 30 40.4	+1.6	
N32M	Quiet Lake	10.02	53	Pn	Pn	15 30 38.6	-0.6	
H17K	Granite Mounta	10.05	335	Pn	Pn	15 30 38.7	-0.9	
FARO	Faro, Yukon	10.37	48	Pn	Pn	15 30 44.5	+0.6	
I28M	Miner Creek	10.45	23	Pn	Pn	15 30 46.9	+1.9	
G21K	Allakaket	10.50	352	Pn	Pn	15 30 47.0	+1.3	
G23K	Bananza Creek	10.55	360	Pn	Pn	15 30 47.1	+0.7	
R33M	Jennings River	10.56	65	Pn	Pn	15 30 44.2	-2.4	
FYU	Fort Yukon	10.63	10	Pn	Pn	15 30 48.0	+0.5	
J30M	Hart River	10.71	33	Pn	Pn	15 30 50.5	+1.9	
DLBC	Dease Lake	10.94	70	Pn	Pn	15 30 41.5	-10	
	comp=E,0.5nm,0.3s,baz=229,slow=20,SNR=5.1							
	comp=E,1.0nm,0.3s							
I30M	Mount Dempster	11.17	30	Pn	Pn	15 30 57.2	+2.3	
F21K	Alatna River	11.20	353	Pn	Pn	15 30 55.5	+0.3	
ANM	Nome	11.34	324	Pn	Pn	15 30 58.9	+1.7	
H29M	Whitestone	11.45	24	Pn	Pn	15 31 00.6	+2.0	
F15K	North Star Dit	11.91	329	Pn	Pn	15 31 06.6	+1.6	
G29M	Pine Creek	12.10	23	Pn	Pn	15 31 08.9	+1.3	
E25K	Arctic Village	12.13	8	Pn	Pn	15 31 08.6	+0.6	
G31M	Satah River	13.01	28	Pn	Pn	15 31 20.8	+0.9	
BBB	Bella Bella	13.32	98	LR	LR	15 34 34.3		
	comp=E,62nm,19.2s,baz=294,slow=31							
D27M	Malcolm River	13.68	13	Pn	Pn	15 31 28.2	-1.0	
INK	Inuvik	14.25	25	Pn	Pn	15 31 33.9	-3.0	
INK	Inuvik	14.25	25	Pn	Pn	15 31 34.8	-2.1	
	comp=E,0.1nm,0.3s,baz=146,slow=3.6,SNR=2.8							
INK				LR	LR	15 37 18.0		
	comp=E,127nm,20.3s,baz=190,slow=38							
	comp=E,0.9nm,0.7s							
YKA	Yellowknife Ar	18.84	56	Pn	P	15 32 35.4	+0.4	
YKA	Yellowknife Ar	18.84	56	LR	LR	15 39 36.4		
	comp=E,138nm,18.3s,baz=280,slow=37							
A36M	Sachs Harbour	18.88	24	P	P	15 32 36.0	+0.7	
A36M				IAmb	IAmb	15 33 04.6		
	comp=Z,11nm,0.8s							
YBH	Yreka Blue Hor	22.75	118	LR	LR	15 39 39.7		
	comp=Z,136nm,21.8s,baz=326,slow=32							
RES	Resolute Bay	27.78	28	LR	LR	15 45 21.1		
	comp=Z,64nm,18.9s,baz=352,slow=37							
PDAR	Pinedale Array	28.95	100	LR	LR	15 44 37.5		
	comp=Z,49nm,18.5s,baz=62,slow=35							
MA2	Magadan	30.84	301	LR	LR	15 48 19.2		
	comp=Z,83nm,20.5s,baz=142,slow=38							
PFO	Pinyon Flats O	32.18	120	LR	LR	15 43 50.3		
	comp=Z,88nm,18.0s,baz=323,slow=30							
FRB	Frobisher Bay	38.71	45	LR	LR	15 51 44.3		
	comp=Z,112nm,18.3s,baz=39,slow=37							
YAK	Yakutsk	39.21	313	LR	LR	15 53 48.9		
	comp=Z,74nm,18.5s,baz=102,slow=38							
SFJD	Kangerlussuaq	43.34	34	LR	LR	15 54 15.5		
	comp=Z,85nm,19.2s,baz=51,slow=36							
H11N2	WAKE ISLAND Hy	48.57	239	T	T	16 29 35.4		
	baz=30,slow=76,SNR=7.5							
H11N3	WAKE ISLAND Hy	48.58	239	T	T	16 29 42.2		
	baz=30,slow=76,SNR=7.5							
H11N1	WAKE ISLAND Hy	48.59	239	T	T	16 29 38.9		
	baz=30,slow=76,SNR=6.4							
H11S1	WAKE ISLAND Hy	49.72	239	T	T	16 31 04.5		
	baz=28,slow=76,SNR=13							
H11S2	WAKE ISLAND Hy	49.73	239	T	T	16 31 05.8		
	baz=28,slow=76,SNR=10							
H11S3	WAKE ISLAND Hy	49.73	239	T	T	16 31 05.9		
	baz=28,slow=76,SNR=11							
SONM	Songino Array	58.46	310	P	P	15 38 12.7	+1.6	
	comp=Z,0.6nm,0.7s,baz=50,slow=7.4,SNR=3.8							
	comp=Z,0.6nm,0.7s							
BVAR	Borovoye Array	66.23	335	LR	LR	16 15 44.5		
	comp=Z,60nm,18.2s,baz=14,slow=43							
MKAR	Makanchi Array	68.48	324	P	P	15 39 16.5	-0.8	
	comp=Z,0.3nm,0.8s,baz=43,slow=7.3,SNR=3.6							
	comp=Z,0.3nm,0.8s							
MLR	Muntele Rosu	78.62	3	LR	LR	16 15 47.1		
	comp=Z,51nm,19.0s,baz=276,slow=36							

*IDC **24** 15:40:11.4±1.5,29.2°S×73.8°E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=48.4km s-min=30.6km az=79.0*

ISC 24 15:40:13.2±1.3,**29.2°S**±0.2°×**73.8°E**±0.3,**h10**km,**n18,** σ1**s57**/6,**mb3.6**/6,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	Diego Garcia H	21.49	356	T	T	16 07 19.1	
	baz=175,slow=76,SNR=39						
H08S1	Diego Carcia H	21.49	356	T	T	16 07 11.4	
	baz=175,slow=76,SNR=34						
H08S3	Diego Garcia H	21.51	356	T	T	16 07 20.0	
	baz=175,slow=76,SNR=40						
H04N2	CROZET ISLANDS	24.17	220	T	T	16 11 33.6	
	baz=55,slow=74,SNR=544						
H04N1	CROZET ISLANDS	24.18	220	T	T	16 11 38.5	
	baz=55,slow=74,SNR=650						
H04N3	CROZET ISLANDS	24.19	220	T	T	16 11 32.0	
	baz=55,slow=74,SNR=636						
H04S1	CROZET ISLANDS	24.52	218	T	T	16 11 57.5	
	baz=54,slow=76,SNR=21						
H04S3	CROZET ISLANDS	24.53	218	T	T	16 11 54.2	
	baz=54,slow=76,SNR=32						
H04S2	CROZET ISLANDS	24.54	218	T	T	16 11 52.4	
	baz=54,slow=76,SNR=27						
H01W2	Cape Leeuwin H	34.45	110	T	T	16 22 09.8	
	baz=269,slow=74,SNR=12						
H01W3	Cape Leeuwin H	34.46	110	T	T	16 22 09.8	
	baz=269,slow=74,SNR=11						
H01W1	Cape Leeuwin H	34.47	110	T	T	16 22 09.7	
	baz=269,slow=74,SNR=12						
CMAR	Chiang Mai Arr	53.23	30	P	P	15 49 33.8	+1.7
	0.5nm,0.8s,baz=223,slow=7.3,SNR=5.9						
	0.5nm,0.8s						
ASAR	Alice Springs	53.58	99	P	P	15 49 34.6	-0.1
	0.6nm,0.8s,baz=244,slow=6.3,SNR=4.1						
	0.6nm,0.8s						
WRA	Warramunga Arr	55.28	95	P	P	15 49 46.2	-1.0
	0.8nm,0.8s,baz=248,slow=7.3,SNR=3.2						
	0.8nm,0.8s						
QSPA	South Pole Qui	60.93	180	P	P	15 50 26.6	+0.4
	0.7nm,0.8s,baz=290,slow=8.6,SNR=1.7						
	0.7nm,0.8s						
MKAR	Makanchi Array	76.04	6	P	P	15 51 58.7	-1.8
	0.4nm,0.8s,baz=206,slow=5.4,SNR=5.2						
	0.4nm,0.8s						
BVAR	Borovoye Array	81.94	358	P	P	15 52 33.1	+0.4
	0.4nm,0.7s,baz=159,slow=4.5,SNR=2.7						
	0.4nm,0.7s						

*IDC **24** 15:46:16.2±4.4,30.7°S×179.9°E,h354km±42km,mb2.9/4, mbtmp3.7/5, Error ellipse: s-maj=40.9km s-min=26.0km az=24.0*

*WEL **24** 15:49:25.9,38°S±47'×17°8E±2°,h6km±30km,M2.3/8, ML2.7/8,MLv2.3/8,Error ellipse: s-maj=0.1km s-min=0.0km az=174.9*

ISC 24 15:46:20.1±1.1,**31.2°S**±0.0°×**179.9°W**±0.2,**h400**km,**n41,** σ2**s41**/43,**mb3.2**/4,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	7.02	192	P	S	15 49 27.9	-0.8
TWGZ	Tauwhareparae	7.17	194	P	S	15 49 32.1	+0.2
MWZ	Matawai	7.42	196	P	S	15 49 39.3	+2.2
TKGZ	Te Karaka	7.45	194	P	S	15 49 36.0	-1.6
URZ	Urewera	7.46	199	P	Pn	15 48 07.9	-0.8
	5.6nm,0.4s,baz=358,slow=5.0,SNR=24						
URZ				S	S	15 49 38.7	+1.0
	21nm,0.3s,baz=176,slow=23,SNR=17						
RAGZ	Rawiri	7.61	196	P	S	15 49 43.3	+2.4
RIGZ	Rimuhau	7.73	194	P	S	15 49 39.9	-3.5
RTZ	Ruatahuna	7.83	198	P	S	15 49 44.5	-1.1
SNGZ	Shannon Statio	7.89	196	P	S	15 49 48.4	+1.6
PRGZ	Paritu Road	7.91	193	P	S	15 49 47.4	+0.1
RAHZ	Arahi	8.08	197	P	S	15 49 51.2	+0.3
MTHZ	Maungataniwha	8.09	199	P	S	15 49 49.8	-1.1
MHGZ	Mahia Peninsul	8.13	192	P	S	15 49 47.0	-4.8
WHHZ	Waihua	8.20	196	P	S	15 49 56.5	+3.2
NMHZ	Naumai	8.33	198	P	S	15 49 58.0	+1.9
ARHZ	Aropaoanui	8.44	197	P	S	15 49 59.4	+1.2
BKZ	Black Stump Fm	8.48	200	P	S	15 50 00.8	+1.5
MCHZ	McNeill Hill	8.68	198	P	S	15 50 07.2	+3.8
OTVZ	Oturere	8.74	204	P	S	15 50 06.9	+2.0
KWHZ	Kaweka Forest	8.74	199	P	S	15 50 06.0	+1.2
CKHZ	Cape Kidnapper	8.79	196	P	S	15 50 05.4	-0.3
BHHZ	Black Hill Sta	8.90	201	P	S	15 50 07.9	-0.4
WNVZ	Wahianoa	8.91	203	P	S	15 50 11.3	+2.8
KRHZ	Kereru	8.96	199	P	S	15 50 09.1	-0.2
KAHZ	Kahuranaki	8.97	196	P	S	15 50 06.6	-3.0
PXZ	Pawanui	9.20	196	P	S	15 50 10.8	-3.4
PNHZ	Pukenui	9.26	199	P	S	15 50 13.7	-1.9
WPHZ	Waipukurau	9.33	198	P	S	15 50 19.2	+2.1
TSZ	Takapari Road	9.46	200	P	S	15 50 17.4	-2.4
PRHZ	Porangahau	9.47	197	P	S	15 50 15.4	-4.6
DVHZ	Dannevirke	9.62	198	P	S	15 50 22.1	-1.0
ANWZ	Angora Road	9.70	197	P	S	15 50 21.6	-3.0
PRWZ	Pori Road	9.92	199	P	S	15 50 26.8	-2.3
BFZ	Birch Farm	9.96	197	P	S	15 50 27.5	-2.6
MRZ	Mangatainoka R	10.13	200	P	S	15 50 28.6	-4.8
ASAR	Alice Springs	41.48	269	P	P	15 53 28.7	-1.5
	0.2nm,0.5s,baz=106,slow=7.3,SNR=8.5						
ASAR				PcP	PP	15 55 18.1	+1.8
	0.3nm,0.7s,baz=109,slow=4.1,SNR=6.0						
	0.2nm,0.5s						
WRA	Warramunga Arr	42.54	274	P	P	15 53 36.6	-2.1
	0.5nm,0.4s,baz=112,slow=7.4,SNR=8.9						
	0.5nm,0.4s						
QSPA	South Pole Qui	58.90	180	P	P	15 55 42.4	+3.9
	0.8nm,0.6s,baz=324,slow=1.2,SNR=2.9						
	0.8nm,0.6s						
NVAR	Mina Array Bea	89.92	44	P	P	15 58 35.2	0.0
	0.2nm,0.4s,baz=220,slow=6.7,SNR=1.9						
	0.2nm,0.4s						
FINES	FINESS Array B	145.33	338	PKP	PKPdf	16 05 07.9	-2.3
	3.1nm,0.5s,baz=52,slow=3.6,SNR=24						
HFS	Hagfors	149.69	347	PKPbc	PKPbc	16 05 23.6	+1.0
	1.2nm,0.7s,baz=46,slow=6.2,SNR=4.8						

*NEIC **24** 15:49:47.9±1.9,55.71N±0.08×149.9W±0.1,h10km±2km, mb4.4/2,ML4.1/34,ML3.8(AEIC),Error ellipse: s-maj=13.2km s-min=9.7km az=174.0*

*IDC **24** 15:49:50.4±1.0,55.87N×150.08W,h0km,mb3.8/11, mbtmp3.8/16,ML3.6/5,MS3.5/20,Error ellipse: s-maj=23.7km s-min=16.9km az=41.0*

*AEIC **24** 15:49:56.3±2.0,56.04N±0.09×149.9W±0.1,h11km±7km, Error ellipse: s-maj=12.7km s-min=8.4km az=167.0*

ISC 24 15:49:52.3±0.8,**56.05N**±0.08×**150.02W**±0.05,**h10**km, **n299,** σ1**s03**/281,**mb3.9**/11,**MS3.5**/15,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.15	304		Pn	15 50 26.8	-1.4
OHAK

O22K IAML 15 51 58.6
comp=E,255nm,1.2s
O22K Cooper Landing 4.45 2 P Pn 15 50 58.7 -0.9
baz=181
SLKM Skilak Lake 4.47 359 Pn 15 50 59.1 -0.9
RED Redoubt Volcan 4.62 343 Pn 15 51 01.2 -0.9
RSO Redoubt South 4.65 343 Pn Pn 15 51 02.5 -0.2
P17K Kvichak River 4.67 315 Pn 15 51 03.1 +0.3
P17K Kvichak River 4.67 315 P Pn 15 51 03.1 +0.3
baz=132
CHGN Chignik 4.70 277 Pn Pn 15 50 58.9 -4.3
O18K Koktuh Hills 4.71 326 Pn Pn 15 51 00.8 -2.5
O18K IAML 15 52 19.3
comp=N,72nm,1.0s
HIN Hinchinbrook I 4.74 22 Pn Pn 15 51 02.6 -1.1
HIN IAML 15 51 57.9
comp=N,120nm,0.9s
HIN IAML 15 52 04.5
comp=E,168nm,1.6s
DFR Drift River 4.76 344 Pn 15 51 03.4 -0.8
CAPN Captain Cook N 4.77 353 Pn 15 51 04.0 -0.1
CAPN Captain Cook N 4.77 353 P Pn 15 51 04.0 -0.1
baz=172
KAIM Kayak Island 4.89 35 Pn Pn 15 51 04.4 -1.3
KAIM IAML 15 52 42.0
comp=N,197nm,3.4s
KAIM IAML 15 53 17.0
comp=E,185nm,3.0s
KAIM Kayak Island 4.89 35 P Pn 15 51 04.5 -1.3
baz=217
EYAK Cordova Ski Ar 5.04 25 Pn 15 51 06.9 -0.9
EYAK Cordova Ski Ar 5.04 25 P Pn 15 51 06.9 -0.9
baz=206
RC01 Rabbit Creek A 5.05 2 Pn Pn 15 51 07.7 -0.4
RC01 IAML 15 52 08.2
comp=E,78nm,0.4s
RC01 IAML 15 52 12.2
comp=N,65nm,1.5s
RC01 Rabbit Creek A 5.05 2 P Pn 15 51 07.2 -0.9
baz=181
FID Port Fidalgo 5.06 20 Pn 15 51 06.8 -1.4
RAGM Ragged Mountai 5.18 31 Pn Pn 15 51 08.6 -1.2
P16K Nushagak River 5.23 308 Pn 15 51 10.4 0.0
P16K Nushagak River 5.23 308 P Pn 15 51 10.4 0.0
baz=124
O17K Koliganek Bris 5.30 318 P Pn 15 51 11.6 +0.1
baz=134
N19K Bonanza Creek 5.32 336 Pn Pn 15 51 10.8 -1.0
N19K Bonanza Creek 5.32 336 P Pn 15 51 11.1 -0.7
baz=153
GOAT Goat Mountain 5.33 29 Pn 15 51 10.7 -1.1
KNK Knik Glacier 5.44 8 Pn Pn 15 51 12.8 -0.5
KNK Knik Glacier 5.44 8 P Pn 15 51 12.6 -0.8
baz=188
SUA Susitna One 5.44 356 Pn Pn 15 51 12.3 -1.1
BERG Berg Lake 5.48 35 Pn Pn 15 51 12.5 -1.4
STLK Strandline Lak 5.54 351 Pn 15 51 14.2 -0.7
DIV Divide 5.55 22 Pn 15 51 14.1 -0.8
N18K Kilae Creek 5.58 329 Pn Pn 15 51 15.2 0.0
N18K Kilae Creek 5.58 329 P Pn 15 51 14.8 -0.4
baz=145
PMR Palmer 5.58 4 Pn Pn 15 51 14.9 -0.2
O16K Kokwok River B 5.59 313 Pn Pn 15 51 15.5 +0.2
O16K Kokwok River B 5.59 313 P Pn 15 51 15.5 +0.2
baz=128
CNBA Chernabura Isl 5.59 261 Pn Pn 15 51 10.7 -4.7
SNH Sunshine Point 5.62 40 Pn Pn 15 51 14.3 -1.5
BMRM Bremner River 5.69 28 Pn 15 51 15.7 -1.0
BMRM Bremner River 5.69 28 P Pn 15 51 15.7 -1.0
baz=210
GHO Glory Hole Cre 5.76 5 Pn Pn 15 51 18.0 +0.2
SML Sawmill 5.84 8 Pn Pn 15 51 18.6 -0.2
SML Sawmill 5.84 8 P Pn 15 51 18.2 -0.6
baz=188
KLU Klutina 5.86 20 Pn Pn 15 51 18.3 -0.8
KLU Klutina 5.86 20 P Pn 15 51 18.5 -0.6
baz=202
N17K Nushagak Hills 5.87 323 Pn Pn 15 51 18.1 -1.0
N17K Nushagak Hills 5.87 323 P Pn 15 51 19.1 -0.1
baz=136
M23K Glacier View 5.88 11 Pn 15 51 19.0 -0.4
M23K Glacier View 5.88 11 P Pn 15 51 19.0 -0.4
baz=192
BARK Barkley Ridge 5.90 39 Pn 15 51 18.4 -1.3
SCM Sheep Creek Mo 5.96 12 Pn Pn 15 51 20.7 +0.1
SCM Sheep Creek Mo 5.96 12 P Pn 15 51 20.3 -0.3
baz=193
SKT Skwentna 6.00 353 Pn Pn 15 51 20.2 -0.8
SKT Skwentna 6.00 353 P Pn 15 51 20.4 -0.6
baz=172
M20K Styx River 6.07 346 Pn Pn 15 51 20.8 -1.1
O15K Ungalikthiuk R 6.13 305 Pn 15 51 22.9 +0.1
O15K Ungalikthiuk R 6.13 305 P Pn 15 51 22.9 +0.1
baz=119
VRDI Verde Repeater 6.22 31 Pn Pn 15 51 22.7 -1.5
M18K Stony River 6.23 333 Pn 15 51 23.3 -0.8
M18K Stony River 6.23 333 P Pn 15 51 23.3 -0.8
baz=149
N25K Chitina, Valde 6.24 25 Pn Pn 15 51 24.0 -0.3
N25K Chitina, Valde 6.24 25 P Pn 15 51 23.4 -1.0
baz=207
M19K Big River Lodg 6.29 341 Pn Pn 15 51 24.9 -0.1
M19K Big River Lodg 6.29 341 P Pn 15 51 24.7 -0.3
baz=158
GLB Gilahina Butte 6.29 28 Pn Pn 15 51 24.0 -1.1
KIAG Kiagna River 6.32 36 Pn 15 51 24.3 -1.3
SAMH Samovar Hills 6.38 46 Pn 15 51 25.2 -1.0
M24K Tolsona, Glenn 6.39 16 Pn 15 51 26.3 -0.1
M24K Tolsona, Glenn 6.39 16 P Pn 15 51 25.9 -0.4
baz=198
N16K Nishlik Lake 6.40 317 Pn 15 51 27.1 +0.6
N16K Nishlik Lake 6.40 317 P Pn 15 51 27.1 +0.6
baz=132
PTPK Patty Peak 6.48 34 Pn 15 51 27.1 -0.7
PCA Pinnacle 6.57 48 Pn 15 51 27.7 -1.2
PINM Pinnacle 6.57 48 P Pn 15 51 27.7 -1.2
baz=234
M17K Holitna River 6.61 327 Pn Pn 15 51 29.1 -0.3
M17K Holitna River 6.61 327 P Pn 15 51 29.5 +0.2
baz=142
WASW Wrangell South 6.62 25 Pn 15 51 29.2 -0.5
L19K White Mountain 6.63 340 Pn Pn 15 51 28.1 -1.6
WACK Wrangell Chich 6.63 24 Pn 15 51 29.5 -0.4
WAT6 Susitna Watana 6.65 9 Pn 15 51 29.9 -0.2
WAT6 Susitna Watana 6.65 9 P Pn 15 51 29.9 -0.2
baz=190
BARN Barnard Glacie 6.65 38 Pn Pn 15 51 28.5 -1.6
CTG Chitna Glacier 6.70 39 P Pn 15 51 29.4 -1.4
baz=224
CTGM Chitina Glacie 6.70 39 Pn Pn 15 51 29.2 -1.6
PNL Peninsula 6.72 53 P Pn 15 51 29.6 -1.4
baz=239
LOGN Logan Glacier 6.72 41 Pn Pn 15 51 29.1 -2.0
N15K Kwethluk River 6.75 312 Pn Pn 15 51 32.0 +0.8
N15K Kwethluk River 6.75 312 P Pn 15 51 31.9 +0.6
baz=125
BCPM Bancas Point 6.76 50 Pn Pn 15 51 30.5 -0.9
PN7A Pavlof North-7 6.80 270 Pn 15 51 31.4 -0.6
WAT7 Susitna Watana 6.83 5 Pn 15 51 32.4 0.0
HARP HAARP 6.83 19 Pn 15 51 32.2 -0.2
HARP HAARP 6.83 19 P Pn 15 51 32.2 -0.2
baz=202
M16K Timber Creek 6.83 320 Pn Pn 15 51 32.8 +0.3
M16K Timber Creek 6.83 320 P Pn 15 51 32.8 +0.3
baz=134
O14K Tigyukauivet M 6.83 303 Pn Pn 15 51 32.5 +0.1
O14K Tigyukauivet M 6.83 303 P Pn 15 51 32.8 +0.4
baz=115
WAT1 Susitna Watana 6.84 6 Pn 15 51 32.4 -0.2
WAT1 Susitna Watana 6.84 6 P Pn 15 51 32.4 -0.2
baz=186
L18K Granite Mounta 7.07 334 Pn Pn 15 51 33.9 -1.8
DHY Denali Highway 7.17 10 Pn Pn 15 51 37.4 +0.2
M15K Kasigluk River 7.29 314 Pn 15 51 39.0 +0.4
M15K Kasigluk River 7.29 314 P Pn 15 51 39.0 +0.4
baz=127
M26K Nabesna, AK 7.31 27 Pn Pn 15 51 39.0 0.0
M26K Nabesna, AK 7.31 27 P Pn 15 51 38.6 -0.4
baz=211
PAX Paxson 7.31 17 Pn 15 51 39.1 0.0
PAX Paxson 7.31 17 P Pn 15 51 39.1 0.0
baz=199
O29M Mount Kennedy 7.39 50 Pn Pn 15 51 39.1 -1.1
O29M Mount Kennedy 7.39 50 P Pn 15 51 39.5 -0.8
baz=238
RND Reindeer 7.40 4 Pn Pn 15 51 41.0 +0.8
TRF Thorofare Moun 7.42 359 Pn Pn 15 51 41.2 +0.5
L17K Donlin 7.44 328 Pn 15 51 41.2 +0.5
L17K Donlin 7.44 328 P Pn 15 51 41.2 +0.5
baz=142
YUK2 White River 7.45 36 Pn 15 51 40.4 -0.6
CAST Castle Rocks 7.46 353 Pn Pn 15 51 42.0 +0.9
CAST Castle Rocks 7.46 353 P Pn 15 51 41.8 +0.7
baz=171
P29M Windy Craggy 7.47 56 Pn Pn 15 51 38.6 -2.5
P29M Windy Craggy 7.47 56 P Pn 15 51 38.9 -2.3
baz=244
YUK8 Steele Glacier 7.48 41 Pn 15 51 41.3 -0.3
YUK8 Steele Glacier 7.48 41 P Pn 15 51 41.3 -0.3
baz=228
L16K Owhat River 7.49 323 Pn Pn 15 51 41.4 0.0
KTH Kantishna Hill 7.54 357 Pn Pn 15 51 42.3 +0.2
TTA Tatalina 7.54 339 Pn Pn 15 51 40.2 -2.0
YUK3 Moose Creek 7.57 37 Pn 15 51 42.6 -0.1
YUK3 Moose Creek 7.57 37 P Pn 15 51 42.6 -0.1
baz=223
M27K Edge Creek, AK 7.57 30 Pn Pn 15 51 43.3 +0.6
M27K Edge Creek, AK 7.57 30 P Pn 15 51 42.4 -0.3
baz=215
K20K Telida 7.61 346 Pn Pn 15 51 42.3 -0.8
MENT Mentasta 7.61 22 Pn Pn 15 51 42.8 -0.3
YUK7 Dusty Glacier 7.70 49 Pn 15 51 43.5 -1.0
S31K Pelican 7.76 70 Pn Pn 15 51 41.1 -4.1
YUK6 Outpost Mounta 7.82 46 Pn 15 51 45.9 -0.3
YUK6 Outpost Mounta 7.82 46 P Pn 15 51 45.9 -0.3
baz=234
M14K Bethel 7.84 312 Pn Pn 15 51 46.9 +0.7
M14K Bethel 7.84 312 P Pn 15 51 46.8 +0.6
baz=123
K17K Iditarod 7.90 331 Pn Pn 15 51 45.8 -1.3
BVCY Beaver Creek 7.91 33 Pn 15 51 46.5 -0.8
BVCY Beaver Creek 7.91 33 P Pn 15 51 46.5 -0.8
baz=219
ISLZ Isanotski Laza 7.91 266 Pn 15 51 46.7 -0.6
YUK4 Talbot Arm 7.94 43 P Pn 15 51 49.0 +1.2
baz=231
BPAW Bear Paw Mtn. 8.09 357 Pn Pn 15 51 48.6 -1.0
BPAW Bear Paw Mtn. 8.09 357 P Pn 15 51 50.5 +0.8
baz=176
HYT Haines Junctio 8.12 49 Pn Pn 15 51 49.4 -0.7
YUK5 Granite Creek 8.13 46 Pn 15 51 49.5 -0.9
RIDG Independent Ri 8.13 16 Pn Pn 15 51 51.3 +1.0
L27K Beaver Creek, 8.16 27 Pn Pn 15 51 50.1 -0.5
J18K Innoko River 8.16 338 Pn Pn 15 51 51.1 +0.4
BCAR Beaver Creek A 8.18 27 Pn Pn 15 51 50.0 -0.8
M13K Dall Lake 8.28 307 Pn Pn 15 51 53.1 +0.9
J20K Nowinta River 8.40 348 Pn Pn 15 51 53.1 -0.9
J19K Poorman 8.44 343 Pn Pn 15 51 53.8 -0.7
L14K Kuka Creek 8.45 314 Pn Pn 15 51 54.5 -0.1
SCRK Sand Creek 8.50 18 Pn Pn 15 51 55.1 -0.2
HDA Harding Lake 8.52 9 Pn Pn 15 51 56.7 +1.2
K15K Wolf Creek Mou 8.60 321 Pn Pn 15 51 56.8 +0.1
S32K Killisnoo 8.60 74 Pn Pn 15 51 52.8 -3.8
N30M Aishikik Lake 8.62 46 Pn Pn 15 51 56.2 -0.9
CCB Clear Creek Bu 8.69 6 Pn Pn 15 51 58.6 +0.7
Q30N Mendenhall 8.70 51 Pn Pn 15 51 55.4 -2.7
R32K Eaglecrest 8.71 69 Pn Pn 15 51 53.5 -4.7
M29M Somme Creek 8.71 38 Pn Pn 15 51 57.8 -0.5
IL31 8.88 9 Pn Pn 15 52 00.7 +0.3
ILAR Eielson Array 8.88 9 Pn Pn 15 52 01.4 +0.9
ILAR Eielson Array 8.88 9 Pn Pn 15 52 01.0 +0.5
comp=N,0.7nm,0.3s,baz=188,slow=14,SNR=36
ILAR Sn **Sn 15 53 38.9 -1.6**
comp=N,0.8nm,0.3s,baz=126,slow=26,SNR=8.0
ILAR LR LR 15 55 38.3
comp=N,163nm,20.3s,baz=268,slow=38
comp=N,1.7nm,0.5s
J25K Salcha River, 8.89 13 Pn Pn 15 52 00.7 0.0
COLA College 8.91 6 Pn Pn 15 52 01.2 +0.3
K27K Chicken 8.93 23 Pn Pn 15 52 02.3 +1.2
J16K Anvik River 9.00 328 Pn Pn 15 52 02.1 -0.1
J26L Joseph Creek 9.05 18 Pn Pn 15 52 02.7 -0.3
I23K Minto, Yukon-K 9.13 2 Pn Pn 15 52 03.1 -0.8
N31M Braeburn, Yuko 9.17 48 Pn Pn 15 52 03.8 -0.7
WHY Whitehorse 9.19 54 Pn Pn 15 52 03.4 -1.4
I21K Tanana 9.21 355 Pn Pn 15 52 05.5 +0.6
L29M L29M 9.28 35 Pn Pn 15 52 05.9 -0.1
P32M Atlin 9.39 61 Pn Pn 15 52 05.1 -2.3
M30M Minto, Yukon 9.39 40 Pn Pn 15 52 06.5 -1.0
U33K Whale Pass 9.45 83 Pn Pn 15 52 03.1 -5.1
J14K Nanvaranak Lak 9.61 320 Pn Pn 15 52 10.7 +0.2
DAWY Dawson 9.62 29 Pn Pn 15 52 10.7 0.0
H21K Melozitna Rive 9.73 353 Pn Pn 15 52 12.0 -0.2
PRP Porcupine Dome 9.74 17 Pn Pn 15 52 12.6 +0.2
EGAK Eagle 9.78 23 Pn Pn 15 52 11.8 -0.9
I26K Coal Creek Min 9.87 17 Pn Pn 15 52 15.1 +1.1
H24K Noodor Dome 9.87 5 Pn Pn 15 52 15.1 +1.0
P33M Teslin, Yukon 9.99 58 Pn Pn 15 52 13.4 -2.4
K29M Barlow Dome 10.00 34 Pn Pn 15 52 15.3 -0.6
H18K Honhosa River 10.00 339 Pn Pn 15 52 15.6 -0.2
H19K Roundabout Mou 10.01 344 Pn Pn 15 52 15.9 +0.1
M31M Drury Creek, Y 10.10 46 Pn Pn 15 52 17.0 -0.3
IMAR Indian Mountai 10.13 351 Pn Pn 15 52 17.5 0.0
H17K Granite Mounta 10.15 335 Pn Pn 15 52 17.9 +0.1
N32M Quiet Lake 10.19 53 Pn Pn 15 52 16.9 -1.6
FARO Faro, Yukon 10.54 47 Pn Pn 15 52 22.1 -1.2
I28M Miner Creek 10.62 23 Pn Pn 15 52 24.4 0.0
G21K Allakaket 10.63 352 Pn Pn 15 52 24.8 +0.4
G19K Purcell Mounta 10.68 344 Pn Pn 15 52 25.5 +0.5
G23K Bananza Creek 10.70 360 Pn Pn 15 52 24.2 -1.1
R33M Jennings River 10.71 64 Pn Pn 15 52 22.9 -2.8
G18K Tagagawik 10.71 341 Pn Pn 15 52 23.6 -1.9
FYU Fort Yukon 10.79 10 Pn Pn 15 52 26.3 -0.3
J30M Hart River 10.88 33 Pn Pn 15 52 26.8 -1.2
DLBC Dease Lake 11.08 69 Pn Pn 15 52 25.5 -5.2
DLBC Dease Lake 11.08 69 Pn Pn 15 52 31.3 +0.6
comp=N,0.3nm,0.3s,baz=122,slow=9.5,SNR=1.9
comp=N,0.9nm,0.4s
G16K Koyuk River 11.12 332 Pn Pn 15 52 31.4 +0.3
F21K Alatna River 11.33 353 Pn Pn 15 52 33.4 -0.5
I30M Mount Dempster 11.34 30 Pn Pn 15 52 34.0 -0.2
ANM Nome 11.40 325 Pn Pn 15 52 35.5 +0.5
H29M Whitestone 11.62 24 Pn Pn 15 52 39.1 +1.2
E19K Redstone River 11.93 346 Pn Pn 15 52 42.7 +0.5
F15K North Star Dit 11.98 330 Pn Pn 15 52 44.5 +1.5
E22K Anaktuvuk Pass 12.15 357 Pn Pn 15 52 46.9 +1.6
G29M Pine Creek 12.28 23 Pn Pn 15 52 46.1 -0.8
E25K Arctic Village 12.29 8 Pn Pn 15 52 47.2 +0.1
F28M Old Crow 12.52 18 Pn Pn 15 52 51.5 +1.2
D22K Ayikyak River 12.93 356 Pn Pn 15 52 55.4 -0.5
G31M Satah River 13.19 28 Pn Pn 15 53 00.1 +0.8
BBB Bella Bella 13.40 98 LR LR 15 56 53.6
comp=N,102nm,19.4s,baz=296,slow=32
D25K Kavik River 13.42 6 Pn Pn 15 53 04.1 +1.6
B21K Ikpikpuk River 13.77 353 Pn Pn 15 53 09.4 +2.1
C19K Lookout Ridge 13.79 346 Pn Pn 15 53 09.5 +1.9
D27M Malcolm River 13.85 14 Pn Pn 15 53 09.4 +1.0
C16K Lisburne Hills 14.13 336 P 15 53 21.0 +1.1
B22K Teshekpuk Lake 14.42 355 Pn Pn 15 53 15.7 -0.4
INK Inuvik 14.43 25 Pn Pn 15 53 14.1 -2.1
INK Inuvik 14.43 25 Pn Pn 15 53 17.2 +1.0
comp=N,0.1nm,0.3s,baz=200,slow=18,SNR=7.0
INK LR LR 15 59 08.3
comp=N,180nm,18.4s,baz=188,slow=38
comp=N,2.4nm,0.9s
ADK Adak 16.19 266 Pn Pn 15 53 34.7 -4.9
ADK IAmb IAmb 15 53 49.8
comp=Z,32nm,1.4s
YKA Yellowknife Ar 19.01 56 P P 15 54 10.2 -3.6
YKA Yellowknife Ar 19.01 56 P P 15 54 13.9 +0.1
comp=Z,0.2nm,0.3s,baz=265,slow=9.6,SNR=15
YKA LR LR 16 01 15.6
comp=Z,132nm,19.4s,baz=39,slow=36
comp=Z,0.7nm,0.6s
A36M Sachs Harbour 19.05 24 P P 15 54 13.5 -0.8
A36M IAmb IAmb 15 54 26.6
comp=Z,22nm,0.7s
NEW Newport 21.46 97 LR LR 16 01 37.9
comp=Z,100nm,19.4s,baz=296,slow=33
YBH Yreka Blue Hor 22.77 117 LR LR 16 01 27.9
comp=Z,200nm,20.1s,baz=326,slow=31
NVAR Mina Array Bea 27.47 116 P P 15 55 38.2 -0.4
comp=Z,0.6nm,0.7s,baz=309,slow=8.7,SNR=3.6
NVAR LR LR 16 04 45.5
comp=Z,136nm,18.6s,baz=269,slow=33
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 29.03 100 P P 15 55 52.0 -0.4
comp=Z,0.2nm,0.6s,baz=9.8,slow=5.9,SNR=2.0
PDAR LR LR 16 05 43.9
comp=Z,57nm,18.4s,baz=334,slow=33
comp=Z,0.2nm,0.6s
MA2 Magadan 30.83 301 LR LR 16 10 06.8
comp=Z,118nm,19.0s,baz=96,slow=39
PFO Pinyon Flats O 32.19 120 LR LR 16 06 07.1
comp=Z,109nm,21.7s,baz=304,slow=30
ANMO Albuquerque 36.29 107 LR LR 16 09 33.5
comp=Z,83nm,18.3s,baz=56,slow=33
FRB Frobisher Bay 38.88 44 LR LR 16 13 13.1
comp=Z,194nm,18.2s,baz=28,slow=36
YAK Yakutsk 39.23 313 LR LR 16 14 43.1
comp=Z,71nm,19.0s,baz=132,slow=38
TXAR Lajitas Array 42.13 110 LR LR 16 14 24.6
comp=Z,46nm,18.3s,baz=320,slow=35
SFJD Kangerlussuaq 43.51 34 LR LR 16 15 34.6
comp=Z,113nm,19.1s,baz=2.5,slow=35
KLR Kul'dur 45.56 296 LR LR 16 19 25.9
comp=Z,46nm,18.5s,baz=7.5,slow=39
H11N2 WAKE ISLAND Hy 48.41 239 T T 16 50 39.6
baz=31,slow=76,SNR=5.1
H11N3 WAKE ISLAND Hy 48.42 239 T T 16 50 40.2
baz=31,slow=76,SNR=4.0
H11N1 WAKE ISLAND Hy 48.43 239 T T 16 50 41.6
baz=31,slow=76,SNR=4.1
H11S1 WAKE ISLAND Hy 49.55 239 T T 16 52 06.1
baz=29,slow=74,SNR=5.6
H11S2 WAKE ISLAND Hy 49.57 239 T T 16 52 08.9
baz=29
H11S3 WAKE ISLAND Hy 49.57 239 T T 16 52 07.2
baz=29,slow=74,SNR=8.4
SONM Songino Array 58.47 310 P P 15 59 49.0 +0.8
comp=Z,0.2nm,0.4s,baz=72,slow=9.3,SNR=2.2
SONM LR LR 16 27 05.1
comp=Z,91nm,18.1s,baz=336,slow=38
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 61.53 327 P P 16 00 08.3 -0.6
comp=Z,0.3nm,0.3s,baz=72,slow=4.7,SNR=2.4
comp=Z,0.3nm,0.3s
NOA NORSAR Array B 62.31 10 LR LR 16 30 49.9
comp=Z,17nm,18.1s,baz=240,slow=39
FINES FINESS Array B 62.80 2 P P 16 00 17.8 +0.5
comp=Z,3.9nm,1.0s,baz=342,slow=13,SNR=1.6
comp=Z,3.9nm,1.0s
ARU Arti 65.50 343 P P 16 00 35.4 +0.2
comp=Z,2.6nm,0.4s,baz=79,slow=5.2,SNR=5.7
comp=Z,2.6nm,0.4s
BVAR Borovoye Array 66.32 335 P P 16 00 41.5 +1.0
comp=Z,0.5nm,0.6s,baz=19,slow=14,SNR=3.8
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 68.54 324 P P 16 00 55.0 +0.4
comp=Z,0.3nm,0.5s,baz=42,slow=5.1,SNR=7.8
comp=Z,0.3nm,0.5s
AKTO Aktyubinsk 71.35 342 P P 16 01 12.7 +0.9
comp=Z,1.3nm,0.6s,baz=39,slow=6.6,SNR=4.3
comp=Z,1.3nm,0.6s
GERES GERESS Array B 74.59 11 P P 16 01 33.0 +1.9
comp=Z,0.6nm,0.5s,baz=351,slow=5.1,SNR=2.5
comp=Z,0.6nm,0.5s
ESDC Sonseca Array 80.37 26 P P 16 02 04.7 +1.2
comp=Z,0.5nm,0.7s,baz=1.3,slow=3.1,SNR=1.9
comp=Z,0.5nm,0.7s
MMAI Mount Meron Ar 91.17 355 LR LR 16 51 14.9
comp=Z,24nm,18.6s,baz=190,slow=40
QSPA South Pole Qui 145.84 180 PKPbc PKPdf 16 09 29.2 -0.3
comp=Z,0.5nm,0.6s,baz=353,slow=0.2,SNR=6.8

*IDC **24** 15:49:55.6±0.6,59°.16S×24°.86W,h0km,mb4.4/7, mbtmp4.4/7,MS3.9/13,Error ellipse: s-maj=25.0km s-min=24.3km az=92.0*
*NEIC **24** 15:49:56.9±1.3,59°.2S±0°.1×25°.0W±0°.2,h10km±1km, mb4.8/43,Error ellipse: s-maj=22.5km s-min=10.2km az=213.0*
ISC 24 15:49:56.5±0.5,59°.19S±0°.09×25°.0W±0°.1,h10km,n87, σ0°.84/69,mb4.8/24,MS3.9/12,9C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.00**	**303**	Pn	Pn	15 51 58.4	+5.8
VNA1	**Neumayer--Stat**	**13.44**	**156**	⇑P	**Pn**	**15 53 05.5**	**-1.3**
	comp=Z,14nm,0.4s						
VNA1				⇑S	Sn	15 55 24.3	-12
	comp=Z,1.3nm,0.4s						
VNA3	**Neumayer Olymp**	**13.63**	**159**	⇑P	**Pn**	**15 53 07.9**	**-1.6**
	comp=Z,20nm,0.4s						
VNA3				⇓S	Sn	15 55 25.9	-15
	comp=Z,1.8nm,0.3s						
VNA2	**Neumayer--Watz**	**13.83**	**155**	⇑P	**Pn**	**15 53 10.9**	**-1.4**
	comp=Z,22nm,0.4s,baz=309,slow=17						
VNA2				⇑S	Sn	15 55 31.8	-14
	comp=Z,0.8nm,0.2s,baz=318,slow=21						
SNAA	**Sanae**	**15.39**	**153**	Pn	**Pn**	**15 53 31.6**	**-1.9**
SNAA				IAmb	IAmb	15 53 36.2	
	comp=Z,21nm,0.5s						
SNAA	**Sanae**	**15.39**	**153**	⇑P	**Pn**	**15 53 31.9**	**-1.5**
	comp=Z,375nm,0.3s						
SNAA				⇑S	Sn	15 56 09.4	-14
	comp=Z,29nm,0.3s						
TROLL	**Troll, Antarti**	**16.91**	**150**	⇑P	**Pn**	**15 53 51.9**	**-1.1**
	comp=Z,643nm,0.5s						
TROLL				⇑S	Sn	15 56 46.9	-14
	comp=Z,118nm,0.3s						
PMSA	**Palmer Station**	**18.92**	**236**	LR	LR	16 01 08.1	
	comp=Z,642nm,18.4s,baz=321,slow=35						
BELA	**Belgrano 2**	**19.05**	**186**	P	**Pn**	**15 54 19.1**	**0.0**
EFI	**East Falkland**	**20.04**	**277**	P	Pn	15 54 31.4	+0.3
EFI				IAmb	IAmb	15 54 33.4	
	comp=Z,101nm,1.2s						
MG02	**Cerro Sombrero**	**25.16**	**265**	P	**P**	**15 55 20.7**	**-0.8**
GO09	**Cerro Castillo**	**27.60**	**266**	P	**P**	**15 55 42.8**	**-0.8**
QSPA	**South Pole Qui**	**31.05**	**180**	P	**P**	**15 56 15.7**	**+1.5**
QSPA				IAmb	IAmb	15 56 17.4	
	comp=Z,25nm,1.4s						
TRQA	**Tornquist**	**31.69**	**295**	P	**P**	**15 56 20.5**	**+0.5**
PLCA	**Paso Flores**	**33.78**	**283**	P	**P**	**15 56 38.7**	**+0.4**
PLCA				IAmb	IAmb	15 56 44.4	
	comp=Z,18nm,1.6s						
PLCA	**Paso Flores**	**33.78**	**283**	P	**P**	**15 56 39.2**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=162,slow=4.2,SNR=8.8						
PLCA				LR	LR	16 08 58.8	
	comp=Z,158nm,20.9s,baz=133,slow=34						
	comp=Z,3.1nm,0.8s						
LR05	**Currie**	**34.89**	**282**	P	**P**	**15 56 47.9**	**+0.2**
GO06	**Currarrehue**	**35.11**	**283**	P	**P**	**15 56 50.1**	**+0.3**
GO06				IAmb	IAmb	15 57 42.2	
	comp=Z,20nm,1.4s						
GO05	**Huala**	**38.90**	**287**	P	**P**	**15 57 21.2**	**-0.8**
GO05				IAmb	IAmb	15 57 24.3	
	comp=Z,20nm,0.9s						
BO01	**Tunca**	**38.99**	**289**	P	**P**	**15 57 22.9**	**+0.2**
BO01				IAmb	IAmb	15 57 25.2	
	comp=Z,21nm,1.0s						
BO04	**La Punta**	**39.08**	**290**	P	**P**	**15 57 23.4**	**-0.2**
MT09	**Talagante**	**39.44**	**289**	P	**P**	**15 57 26.4**	**-0.2**
MT01	**Popeta**	**39.49**	**289**	P	**P**	**15 57 27.0**	**+0.1**
MT01				IAmb	IAmb	15 57 37.9	
	comp=Z,22nm,1.1s						
PEL	**Peldehue**	**39.80**	**290**	P	**P**	**15 57 29.5**	**-0.1**
MT02	**Curacav**	**39.93**	**290**	P	**P**	**15 57 30.8**	**+0.2**
MT02				IAmb	IAmb	15 57 32.7	
	comp=Z,16nm,0.7s						
VA03	**San Esteban**	**40.05**	**291**	P	**P**	**15 57 31.2**	**-0.5**
VA03				IAmb	IAmb	15 57 42.1	
	comp=Z,23nm,1.0s						
ROC1	**El Roble**	**40.10**	**290**	P	**P**	**15 57 32.8**	**+0.5**
ROC1				IAmb	IAmb	15 57 37.1	
	comp=Z,17nm,0.6s						
SUR	**Sutherland**	**40.49**	**69**	LR	LR	16 11 42.3	
	comp=Z,170nm,18.9s,baz=190,slow=32						
VA06	**Catapilco**	**40.58**	**290**	P	**P**	**15 57 36.3**	**+0.4**
VA06				IAmb	IAmb	15 57 38.0	
	comp=Z,26nm,0.8s						
CO02	**Combarbal**	**41.55**	**292**	P	**P**	**15 57 44.2**	**+0.1**
CO02				IAmb	IAmb	15 58 14.8	
	comp=Z,16nm,0.9s						
CO03	**El Pedregal**	**41.70**	**292**	P	**P**	**15 57 45.1**	**-0.2**
CO03				IAmb	IAmb	15 58 12.9	
	comp=Z,49nm,1.8s						
CO01	**Juntas del Tor**	**42.14**	**294**	P	**P**	**15 57 49.0**	**0.0**
CO01				IAmb	IAmb	15 57 52.2	
	comp=Z,25nm,1.3s						
CO06	**Fray Jorge**	**42.29**	**291**	P	**P**	**15 57 50.5**	**+0.4**
CO06				IAmb	IAmb	15 58 52.7	
	comp=Z,44nm,1.4s						

AC05	**El Transito**	**43.18**	**294**	P	**P**	**15 57 57.9**	**+0.5**
AC05				IAmb	IAmb	15 57 59.0	
	comp=Z,13nm,0.8s						
VNDA	**Vanda**	**43.48**	**182**	P	**P**	**15 58 00.9**	**+1.8**
VNDA				IAmb	IAmb	15 58 48.7	
	comp=Z,42nm,1.9s						
VNDA	**Vanda**	**43.48**	**182**	P	**P**	**15 58 01.2**	**+2.1**
	comp=Z,3.5nm,0.9s,baz=196,slow=4.5,SNR=6.6						
	comp=Z,3.5nm,0.9s						
H04S2	**CROZET ISLANDS**	**45.28**	**110**	T	T	16 46 57.3	
	baz=225,slow=75,SNR=47						
H04S3	**CROZET ISLANDS**	**45.29**	**110**	T	T	16 46 58.6	
	baz=225,slow=75,SNR=35						
H04S1	**CROZET ISLANDS**	**45.30**	**110**	T	T	16 46 58.5	
	baz=225,slow=75,SNR=50						
BOSA	**Boshof**	**45.75**	**71**	P	**P**	**15 58 17.5**	**-0.5**
BOSA	**Boshof**	**45.75**	**71**	P	**P**	**15 58 17.7**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=205,slow=8.0,SNR=5.9						
BOSA				LR	LR	16 13 40.1	
	comp=Z,117nm,18.1s,baz=194,slow=31						
	comp=Z,2.8nm,0.7s						
GO02	**Mina Guanaco**	**46.00**	**298**	P	**P**	**15 58 19.5**	**-0.6**
GO02				IAmb	IAmb	15 58 22.1	
	comp=Z,8.4nm,0.7s						
BDFB	**Brasilia**	**46.67**	**329**	P	**P**	**15 58 26.1**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=158,slow=7.3,SNR=5.3						
BDFB				PcP	**PcP**	**16 00 00.3**	**+1.4**
	comp=Z,5.7nm,0.7s,baz=68,slow=2.0,SNR=6.9						
BDFB				LR	LR	16 16 31.3	
	comp=Z,85nm,19.2s,baz=136,slow=34						
	comp=Z,3.0nm,0.6s						
LVC	**Limon Verde**	**47.90**	**300**	LR	LR	16 21 35.0	
	comp=Z,99nm,18.6s,baz=189,slow=40						
PB05	**IPOC Station P**	**48.27**	**299**	P	**P**	**15 58 37.4**	**-0.3**
LBTB	**Lobatse**	**48.93**	**68**	LR	LR	16 15 58.0	
	comp=Z,105nm,18.4s,baz=191,slow=32						
PB07	**IPOC Station P**	**49.11**	**300**	P	**P**	**15 58 44.3**	**+0.1**
PB08	**IPOC Station P**	**50.17**	**302**	P	**P**	**15 58 52.8**	**+0.2**
TSUM	**Tsumeb**	**50.32**	**56**	LR	LR	16 17 01.9	
	comp=Z,97nm,18.5s,baz=155,slow=32						
PTLB	**Pontes e Lacer**	**50.37**	**315**	P	**P**	**15 58 53.8**	**+0.2**
GO01	**Chusmiza**	**50.61**	**302**	P	**P**	**15 58 55.8**	**-0.2**
H10S2	**ASCENSION HYDR**	**50.74**	**13**	T	T	16 53 37.1	
	baz=186,slow=74,SNR=4.2						
H10S3	**ASCENSION HYDR**	**50.74**	**13**	T	T	16 53 35.9	
	baz=34,slow=74,SNR=6.3						
H10N1	**ASCENSION HYDR**	**51.85**	**13**	T	T	16 55 16.8	
	baz=186,slow=75,SNR=5.7						
H10N3	**ASCENSION HYDR**	**51.86**	**13**	T	T	16 55 20.0	
	baz=186,slow=75,SNR=5.6						
H10N2	**ASCENSION HYDR**	**51.87**	**13**	T	T	16 55 22.7	
	baz=186,slow=75,SNR=6.1						
PB16	**IPOC Station P**	**51.92**	**302**	P	**P**	**15 59 04.8**	**-1.2**
PB12	**IPOC Station P**	**52.03**	**301**	P	**P**	**15 59 05.9**	**-0.3**
LPAZ	**La Paz**	**53.15**	**305**	P	**P**	**15 59 14.5**	**-0.5**
SAML	**Samuel**	**57.84**	**314**	P	**P**	**15 59 47.5**	**-0.6**
LSZ	**Lusaka**	**58.52**	**65**	LR	LR	16 20 41.2	
	comp=Z,98nm,21.5s,baz=208,slow=32						
NNA	**Nana**	**60.78**	**298**	LR	LR	16 25 37.1	
	comp=Z,65nm,20.2s,baz=179,slow=35						
BOAV	**Boa Vista**	**67.48**	**321**	P	**P**	**16 00 51.0**	**-1.5**
BOAV				IAmb	IAmb	16 00 52.9	
	comp=Z,5.5nm,0.6s						
DBIC	**Dimbokro**	**67.60**	**22**	P	**P**	**16 00 53.7**	**+0.6**
DBIC	**Dimbokro**	**67.60**	**22**	P	**P**	**16 00 53.8**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=180,slow=20,SNR=5.3						
DBIC				LR	LR	16 22 27.4	
	comp=Z,82nm,20.5s,baz=176,slow=29						
	comp=Z,4.1nm,0.8s						
MCRA	**Macar, Loja**	**68.92**	**299**	P	**P**	**16 01 01.0**	**-0.6**
COHC	**Cochancay**	**70.30**	**301**	P	**P**	**16 01 09.7**	**-0.3**
ROSC	**El Rosal**	**74.78**	**308**	LR	LR	16 35 07.0	
	comp=Z,96nm,21.1s,baz=206,slow=36						
KMBO	**Kilima Mbogo**	**75.15**	**66**	LR	LR	16 32 22.5	
	comp=Z,149nm,18.3s,baz=88,slow=34						
TOA0	**Torodi Ar. Sit**	**75.28**	**27**	P	**P**	**16 01 40.5**	**+1.1**
TOA0				IAmb	IAmb	16 01 41.4	
	comp=Z,9.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.28**	**27**	P	**P**	**16 01 40.2**	**+0.8**
TORD				IAmb	IAmb	16 01 41.4	
	comp=Z,7.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.28**	**27**	P	**P**	**16 01 40.5**	**+1.1**
	comp=Z,8.6nm,0.7s,baz=190,slow=5.1,SNR=55						
	comp=Z,8.6nm,0.7s						
ASAR	**Alice Springs**	**95.63**	**161**	P	**P**	**16 03 21.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=181,slow=4.0,SNR=6.4						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**122.86**	**110**	PKP	**PKiK**	**16 08 53.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=224,slow=3.6,SNR=6.0						
PDAR	**Pinedale Array**	**122.96**	**299**	PKP	**PKiK**	**16 08 52.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=170,slow=5.5,SNR=2.9						
ULM	**Lac du Bonnet**	**123.31**	**313**	PKP	**PKPdf**	**16 08 52.2**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=308,slow=3.0,SNR=4.3						
NVAR	**Mina Array Bea**	**123.64**	**290**	PKP	**PKiK**	**16 08 53.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=133,slow=2.3,SNR=6.2						
FINES	**FINESS Array B**	**126.62**	**28**	PKP	**PKiK**	**16 08 58.6**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=204,slow=3.2,SNR=5.9						
ARCES	**ARCESS Array B**	**133.43**	**22**	PKP	**PKiK**	**16 09 11.7**	**-0.6**
	comp=Z,5.4nm,1.0s,baz=352,slow=4.9,SNR=4.3						
BVAR	**Borovoye Array**	**135.44**	**59**	PKP	**PKPdf**	**16 09 14.1**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=161,slow=4.3,SNR=5.4						
MKAR	**Makanchi Array**	**136.72**	**73**	PKP	**PKPdf**	**16 09 17.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=261,slow=3.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**137.53**	**67**	PKP	**PKPdf**	**16 09 19.8**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=224,slow=3.3,SNR=2.1						
YKA	**Yellowknife Ar**	**139.26**	**315**	PKiKP	PKPpre	16 09 14.6	
	comp=Z,0.7nm,0.9s,baz=118,slow=2.7,SNR=8.3						
YKA				PKP	pPKPdf	16 09 23.2	-1.1
	comp=Z,2.0nm,0.7s,baz=124,slow=2.4,SNR=23						
YKA				PP	**PP**	**16 12 15.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=119,slow=6.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**142.63**	**66**	PKP	**PKPdf**	**16 09 26.8**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=207,slow=3.5,SNR=2.7						
SONM	**Songino Array**	**149.64**	**90**	PKPbc	**PKPbc**	**16 09 45.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=225,slow=3.2,SNR=9.5						
NRIK	**Noril'sk**	**150.65**	**42**	PKPbc	**PKPbc**	**16 09 46.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=74,slow=1.6,SNR=3.6						
ILAR	**Eielson Array**	**153.02**	**307**	PKPbc	**PKiK**	**16 09 53.1**	**+0.5**
	comp=Z,8.2nm,1.0s,baz=126,slow=0.9,SNR=43						

*IDC **24** 15:53:47.4±0.7, 7°.27N×126°.35E, h0km, mb4.0/12, mbtmp4.0/12, Error ellipse: s-maj=16.9km s-min=15.2km az=70.0*

ISC 24 15:53:48.9±0.7, 7°.2N±0°.1×126°.24E±0°.10, h10km, n14, σ0s59/18, mb4.1/12, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.67**	**256**	iP	**Pg**	**15 54 02.0**	**+0.1**
DAV	**Davao City (W)**	**0.67**	**256**	Pg	**Pb**	**15 54 02.6**	**-0.2**
	452nm,0.3s,baz=113,slow=2.9,SNR=18						
DAV				Lg	Lg	15 54 09.9	
	622nm,0.3s,baz=128,slow=19,SNR=10						
WRA	**Warramunga Arr**	**28.16**	**164**	P	**P**	**15 59 41.5**	**-0.1**
	0.5nm,0.6s,baz=344,slow=9.2,SNR=2.4						
WRA				PcP	**PcP**	**16 02 55.9**	**+0.2**
	0.4nm,0.8s,baz=338,slow=2.2,SNR=4.8						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**31.61**	**167**	P	**P**	**16 00 12.1**	**-0.1**
	0.6nm,0.3s,baz=340,slow=7.0,SNR=26						
ASAR				PcP	**PcP**	**16 03 04.8**	**+0.2**
	0.4nm,0.4s,baz=350,slow=2.4,SNR=11						
	0.6nm,0.3s						
STKA	**Stephens Creek**	**41.56**	**160**	P	**P**	**16 01 37.2**	**+0.3**
	2.4nm,0.8s,baz=339,slow=14,SNR=4.2						
	2.4nm,0.8s						
SONM	**Songino Array**	**43.85**	**341**	P	**P**	**16 01 56.0**	**+0.6**
	0.5nm,0.5s,baz=152,slow=6.4,SNR=2.1						
SONM				PcP	**PcP**	**16 03 41.8**	**0.0**
	0.5nm,0.6s,baz=153,slow=4.8,SNR=2.9						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**54.43**	**324**	P	**P**	**16 03 17.8**	**+1.4**
	1.4nm,0.5s,baz=115,slow=7.3,SNR=17						
MKAR				PcP	**PcP**	**16 04 19.6**	**-0.4**
	0.3nm,0.5s,baz=122,slow=3.7,SNR=2.0						
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**57.27**	**332**	P	**P**	**16 03 36.5**	**-0.1**
	0.4nm,0.3s,baz=123,slow=5.5,SNR=3.8						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**58.55**	**326**	P	**P**	**16 03 46.5**	**+0.9**
	1.6nm,0.5s,baz=126,slow=6.3,SNR=12						
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**64.14**	**326**	P	**P**	**16 04 23.8**	**+0.3**
	1.5nm,0.7s,baz=121,slow=9.2,SNR=9.0						
	1.5nm,0.7s						
NRIK	**Noril'sk**	**66.93**	**346**	P	**P**	**16 04 41.2**	**-0.1**
	1.2nm,0.4s,baz=141,slow=6.5,SNR=1.9						
	1.2nm,0.4s						
ARU	**Arti**	**71.74**	**327**	P	**P**	**16 05 10.1**	**-1.1**
	1.3nm,0.4s,baz=84,slow=6.6,SNR=3.7						
	1.3nm,0.4s						
ILAR	**Eielson Array**	**82.17**	**26**	P	**P**	**16 06 09.7**	**-0.2**
	0.4nm,0.6s,baz=219,slow=6.6,SNR=7.0						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**87.01**	**340**	P	**P**	**16 06 33.5**	**-0.7**
	2.0nm,0.8s,baz=94,slow=7.2,SNR=1.4						
	2.0nm,0.8s						

IDC 24 15:53:54.5±350.0, 53°.19N×33°.99E, h0km, Error ellipse: s-maj=147.9km s-min=76.5km az=24.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.00**	**26**	I	I	16 15 20.0	
	baz=212,slow=334,SNR=2.4						
I26DE	**FREYUNG INFRAS**	**13.47**	**259**	I	I	17 20 40.0	
	baz=71,slow=331,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**15.12**	**91**	I	I	17 23 10.0	
	0.1nm,0.5s,baz=288,slow=344,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**29.67**	**68**	I	I	18 57 00.0	
	baz=283,slow=353,SNR=1.8						
I34MN	**SONGINO INFRAS**	**44.57**	**66**	I	I	20 31 10.0	
	baz=289,slow=338,SNR=0.7						

*IDC **24** 15:59:19.6±1.2, 7°.00S×154°.65E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=54.9km s-min=24.3km az=119.0*

ISC 24 15:59:25.5±1.0, 7°.0S±0°.2×154°.6E±0°.3, h39km, n10, σ1s09/7, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.48**	**235**	P	**P**	**16 04 30.7**	**-1.3**
	1.3nm,0.7s,baz=61,slow=9.7,SNR=6.0						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**25.87**	**228**	P	**P**	**16 04 54.0**	**+0.1**
	0.6nm,0.7s,baz=62,slow=9.4,SNR=5.6						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**27.56**	**204**	P	**P**	**16 05 08.8**	**-0.1**
	0.9nm,0.5s,baz=26,slow=16,SNR=3.6						
	0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**60.42**	**296**	P	P	16 09 36.8	+5.2
	0.7nm,0.5s,baz=118,slow=4.7,SNR=8.4						
HHC	**Hu-ho-hao-te**	**61.85**	**324**	*eP*	P	16 09 32.8	-8.2
BTO	**Baotou**	**62.61**	**323**	*eP*	P	16 09 37.0	-9.1
BTO				pmax	pmax		
	comp=Z,23nm,0.9s						
BTO				pmax	pmax		
	comp=Z,600nm,6.7s						
QSPA	**South Pole Qui**	**82.98**	**180**	P	**P**	**16 11 47.1**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=55,slow=3.5,SNR=2.4						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**83.14**	**319**	P	**P**	**16 11 48.6**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=101,slow=6.3,SNR=7.9						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**16 11 47.9**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=235,slow=4.8,SNR=1.8						
	comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**16 12 50.9**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=269,slow=4.3,SNR=5.0						
	comp=Z,0.4nm,0.8s						

*JMA **24** 16:11:50.0±0.1, 24°.0N±0°.6×123°.6E±0°.4, h31km±1km, MV3.3/10, NEAR ISHIGAKIJIMA ISLAND*

ISC 24 16:11:49.5±1.3, 23°.93N±0°.08×123°.60E±0°.04, h32km±8km, n15, σ0s64/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.23**	**55**	P	**Pb**	**16 11 56.4**	**+0.1**
HATJ				S	**Sb**	**16 12 01.1**	**+0.2**
IRIF	**Iriomote-Funau**	**0.43**	**17**	P	**Pb**	**16 11 58.6**	**-0.3**
IRIF				S	**Sb**	**16 12 04.9**	**-0.5**
JKRS	**Kuro-shima**	**0.49**	**50**	P	**Pb**	**16 12 00.1**	**+0.2**
JKRS				S	**Sb**	**16 12 07.3**	**+0.4**
JJJ	**Ishigaki jima**	**0.66**	**49**	P	**Pb**	**16 12 02.2**	**-0.4**
JJJ				S	**Sb**	**16 12 10.7**	**-1.0**
YOJ	**Yonaguni jima**	**0.76**	**315**	P	**Pb**	**16 12 03.9**	**0.0**
YOJ	**Yonaguni jima**	**0.76**	**315**	P	**Pn**	**16 12 03.9**	**0.0**
YOJ				eS	**Sb**	**16 12 13.6**	**-0.7**
JYNG	**Yonagunijimaku**	**0.79**	**311**	P	**Pn**	**16 12 04.4**	**0.0**
JYNG				eS	**Sb**	**16 12 14.7**	**-0.6**
JISG	**Ishigakijimahi**	**0.93**	**45**	P	**Pn**	**16 12 06.3**	**+0.1**
JISG				S	**Sn**	**16 12 18.6**	**+0.1**
JTJ	**Tarama**	**1.23**	**55**	*eP*	**Pb**	**16 12 11.9**	**-0.4**
JTJ				*eS*	**Sb**	**16 12 28.1**	**+0.2**
NACB	**Ninganchiao**	**1.85**	**278**	P	**Pn**	**16 12 19.2**	**+0.3**
YHNB	**Yeheng**	**2.16**	**291**	P	**Pn**	**16 12 24.9**	**+1.6**
YULB	**Yu-li**	**2.17**	**256**	P	**Pn**	**16 12 23.4**	**-0.1**
TATO	**Taipei**	**2.19**	**299**	P	**Pn**	**16 12 25.2**	**+1.6**
SSLB	**Suanglung**	**2.42**	**267**	P	**Pn**	**16 12 26.8**	**-0.1**
TWGBT	**Beinan**	**2.56**	**245**	P	**Pn**	**16 12 28.7**	**-0.1**

AUST 24 16:18:18.3±6.2, 30°.50S×152°.79E, h0km, Error ellipse: s-maj=50.2km s-min=22.5km az=43.0, Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARMA	**Armidale**	**1.01**	**274**	P	Pg	16 18 35.9	-1.8
	baz=0.4						
ARMA				S	Sb	16 18 52.8	+0.2
	baz=0.4						
AUPHS	**Peel High Scho**	**1.74**	**249**	P	Pn	16 18 49.4	-0.5
	baz=1.2						
AUPHS				S	Sg	16 19 14.1	-0.2
	baz=1.2						
MGCD	**Mangrove Creek**	**3.06**	**207**	P	Pn	16 19 10.2	+2.3
	baz=3.0						
MGCD				S	Sn	16 19 45.1	-0.1
	baz=3.0						

*STR **24** 16:23:37.0±0.9, 48°N±5°×°±°, h18km±3km, MLv3.8/10, Error ellipse: s-maj=0.0km s-min=0.0km az=67.2, preliminary*
*LDG **24** 16:23:37.8±0.1, 48°.30N×4°.59W, h16km, Md3.3/2, Ml3.3/27, Error ellipse: s-maj=1.8km s-min=1.7km az=2.0*
*BGS **24** 16:23:39.8±3.6, 48°.13N×4°.40W, h5km, ML2.6*

ISC 24 16:23:35.2±1.2, 48°.22N±0°.04×4°.76W±0°.05, h28km±7km, n56, σ2s35/68, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMF	**Camaret-sur-Me**	**0.11**	**62**	Pg	**Pb**	**16 23 40.4**	**+0.1**
CAMF				Sg	**Sb**	**16 23 42.8**	**-1.0**
ROSF	**Rostrenen**	**1.00**	**83**	*eP*	**Pn**	**16 23 54.0**	**+0.6**
ROSF				*eSg*	**Sn**	**16 24 05.7**	**-0.9**
	227nm,0.3s						
ROSF	**Rostrenen**	**1.00**	**83**	*eP*	**Pn**	**16 23 54.1**	**+0.6**
ROSF	**Rostrenen**	**1.00**	**83**	Pg	**Pn**	**16 23 54.1**	**+0.6**
ROSF				Sg	**Sn**	**16 24 06.1**	**-0.5**
QUIF	**Quistinic**	**1.11**	**105**	*ePn*	**Pb**	**16 23 55.9**	**+0.1**
QUIF	**Quistinic**	**1.11**	**105**	*ePg*	**Pb**	**16 23 57.3**	**+1.5**
QUIF				*eSg*	**Sn**	**16 24 11.2**	**+1.9**
	181nm,0.2s						
SGMF	**Saint Gilles**	**1.48**	**88**	*ePn*	**Pb**	**16 24 00.3**	**-1.7**
SGMF	**Saint Gilles**	**1.48**	**88**	*ePg*	**Pb**	**16 24 03.2**	**+1.2**
SGMF				*eSn*	**Sn**	**16 24 16.4**	**-1.9**
SGMF				*eSg*	**Sb**	**16 24 20.0**	**-0.3**
	57nm,0.2s						
JSA	**Saint Aubin**	**1.97**	**59**	Sn	**Sb**	**16 24 35.3**	**+0.7**
JSA	**Saint Aubin**	**1.97**	**59**	Pg	**Pb**	**16 24 11.7**	**+1.2**
CCA1	**Carnmenellis**	**2.00**	**351**	*eP*	**Pb**	**16 24 11.6**	**+0.8**
CCA1				IAML		16 24 40.1	
	comp=N,22nm,0.5s						
CCA1				IAML		16 24 42.9	
	comp=E,35nm,0.5s						
CCA1	**Carnmenellis**	**2.00**	**351**	Pn	**Pn**	**16 24 06.9**	**-0.2**
JRS	**Jersey**	**2.02**	**60**	*eP*	**Pb**	**16 24 12.6**	**+1.3**
JDC	**Jersey Dam (Cr**	**2.04**	**61**	*eP*	**Pb**	**16 24 12.5**	**+0.9**
JDC				IAML		16 24 40.6	
	comp=N,406nm,0.2s						
JDC				IAML		16 24 43.6	
	comp=E,233nm,0.2s						
JDG	**Jersey Dam (Ga**	**2.05**	**60**	*eP*	**Pb**	**16 24 13.1**	**+1.4**
JDG				IAML		16 24 40.1	
	comp=N,50nm,0.3s						
JDG				IAML		16 24 43.6	
	comp=E,39nm,0.2s						
DYA	**Yadsworthy**	**2.29**	**13**	*eP*	**Pb**	**16 24 16.6**	**+0.8**
DYA				IAML		16 24 48.4	
	comp=N,16nm,0.7s						
DYA				IAML		16 24 50.7	
	comp=E,27nm,0.5s						
DYA	**Yadsworthy**	**2.29**	**13**	Pg	**Pb**	**16 24 19.6**	**+3.8**
DYA	**Yadsworthy**	**2.29**	**13**	Pn	**Pn**	**16 24 11.0**	**0.0**
SBD	**Saint Breward**	**2.35**	**1**	*eP*	**Pb**	**16 24 17.3**	**+0.4**
SBD				IAML		16 24 53.7	
	comp=N,16nm,0.2s						
SBD				IAML		16 24 58.1	
	comp=E,27nm,0.6s						
GRR	**Gorron**	**2.61**	**85**	*ePg*	**Pb**	**16 24 24.2**	**+2.9**
GRR				*eSg*	**Sb**	**16 24 56.8**	**+3.8**
	comp=E,43nm,0.2s						
FLN	**La Foliniere**	**2.90**	**78**	*ePn*	**Pn**	**16 24 19.3**	**-0.2**
	baz=261						
FLN	**La Foliniere**	**2.90**	**78**	*eP*	**Pb**	**16 24 22.0**	**-4.2**
FLN	**La Foliniere**	**2.90**	**78**	*ePg*	Pb	16 24 29.6	+3.4
	baz=262						
FLN				*eSn*	**Sn**	**16 24 50.6**	**-2.8**
FLN				*eSg*	**Sb**	**16 25 03.8**	**+2.6**
	comp=E,50nm,0.3s,baz=262						
LDF	**La Druitiere**	**3.12**	**81**	*ePn*	**Pn**	**16 24 23.7**	**+1.2**
LDF	**La Druitiere**	**3.12**	**81**	*ePg*	**Pn**	**16 24 33.1**	**+3.2**
LDF				*eSn*	**Sn**	**16 24 56.2**	**-2.5**
LDF				*eSg*	**Sb**	**16 25 11.8**	**+4.4**
	comp=E,62nm,0.3s						
MFF	**Saint Martin d**	**3.53**	**116**	*ePn*	**Pn**	**16 24 29.7**	**+1.6**
MFF	**Saint Martin d**	**3.53**	**116**	*ePg*	Pb	16 24 42.1	+5.2
MFF				*eSg*	Sb	16 25 26.9	+7.7
	comp=E,18nm,0.3s						
MFF	**Saint Martin d**	**3.53**	**116**	Pn	**Pn**	**16 24 29.9**	**+1.8**
CHIF	**Chize**	**3.63**	**123**	Pn	**Pn**	**16 24 31.4**	**+1.9**
LFF	**La Frestale**	**5.01**	**129**	*ePn*	**Pn**	**16 24 49.0**	**+0.5**
LFF				*eSg*	Sb	16 26 12.9	+11
	comp=E,16nm,0.4s						
HYF	**Humbligny**	**5.08**	**98**	*ePn*	**Pn**	**16 24 50.4**	**+0.9**
HYF				*eSn*	**Sn**	**16 25 44.4**	**-2.9**
TCF	**Toulx Ste Croi**	**5.12**	**110**	*ePn*	**Pn**	**16 24 51.3**	**+1.2**
TCF				*eSn*	**Sn**	**16 25 45.3**	**-3.0**
	comp=E,5.1nm,0.3s						
RJF	**Les Rejaudoux**	**5.21**	**122**	*ePn*	**Pn**	**16 24 51.5**	**+0.3**
RJF	**Les Rejaudoux**	**5.21**	**122**	*ePg*	Pb	16 25 13.2	+7.7
RJF				*eSg*	Sb	16 26 19.5	+12
	comp=E,11nm,0.3s						
BGF	**Bois d'Agland**	**5.43**	**105**	*ePn*	**Pn**	**16 24 55.3**	**+1.1**
BGF				*eSn*	**Sn**	**16 25 52.3**	**-3.4**
BGF				*eSg*	Sb	16 26 25.4	+12
	comp=E,20nm,0.4s						
EALK	**Alkurruntz**	**5.49**	**154**	Pn	**Pn**	**16 24 57.0**	**+1.8**
VERF	**Verneugheol**	**5.54**	**114**	Pn	**Pn**	**16 24 56.7**	**+0.9**
MONQ	**Montcuq**	**5.64**	**131**	Pn	**Pn**	**16 24 58.9**	**+1.7**
SJPF	**Ste Jean**	**5.67**	**153**	*ePn*	**Pn**	**16 24 59.2**	**+1.6**
SJPF				*eSn*	**Sn**	**16 25 58.9**	**-2.9**
	comp=E,3.4nm,0.3s						
AVF	**Avril sur Loir**	**5.68**	**102**	*ePn*	**Pn**	**16 24 58.5**	**+0.8**
AVF				*eSn*	**Sn**	**16 25 57.7**	**-4.3**
AVF				*eSg*	Sb	16 26 32.3	+11
	comp=E,2.5nm,0.3s						
SSF	**Saint Saulge**	**5.71**	**99**	*ePn*	**Pn**	**16 24 58.9**	**+0.8**
SSF				*eSn*	**Sn**	**16 25 58.2**	**-4.4**
SSF				*eSg*	Sb	16 26 33.2	+11
	comp=E,4.3nm,0.3s						
CAF	**Calviac**	**5.74**	**122**	*ePn*	**Pn**	**16 24 59.1**	**+0.5**
CAF	**Calviac**	**5.74**	**122**	*ePg*	Pb	16 25 22.1	+7.5
CAF				*eSn*	**Sn**	**16 26 00.1**	**-3.5**
CAF				*eSg*	Sb	16 26 35.8	+13
	comp=E,10nm,0.4s						
FRNF	**Fournols**	**5.77**	**117**	Pn	**Pn**	**16 24 59.7**	**+0.7**
LOR	**Lormes**	**5.89**	**96**	*ePn*	**Pn**	**16 25 00.8**	**+0.2**
	baz=283						
LOR	**Lormes**	**5.89**	**96**	*ePg*	Pb	16 25 23.9	+6.7
LOR				*eSn*	**Sn**	**16 26 02.0**	**-5.2**
LOR				*eSg*	Sb	16 26 38.3	+11
	comp=E,7.4nm,0.4s						
LOR	**Lormes**	**5.89**	**96**	Pn	**Pn**	**16 25 01.0**	**+0.4**
SMF	**Signal de Mont**	**6.05**	**102**	*ePn*	**Pn**	**16 25 02.6**	**-0.1**
SMF				*eSn*	**Sn**	**16 26 06.3**	**-4.7**
	comp=E,2.7nm,0.3s						
SMF			

SUA				IAML		16 31 18.3			
	comp=E,11nm,1.4s								
KLU	**Klutina**	**5.22**	**14**	Pn	Pn	16 29 37.2	-0.1		
KLU				IAML		16 32 16.7			
	comp=N,16nm,1.4s								
KLU				IAML		16 32 33.6			
	comp=E,8.6nm,1.5s								
GHO	**Glory Hole Cre**	**5.32**	**358**	Pn	Pn	16 29 39.8	+1.1		
GHO				IAML		16 32 13.9			
	comp=N,16nm,0.5s								
GHO				IAML		16 33 01.6			
	comp=E,14nm,1.5s								
SML	**Sawmill**	**5.36**	**1**	Pn	Pn	16 29 38.0	-1.1		
SML				IAML		16 32 07.1			
	comp=N,12nm,1.2s								
SML				IAML		16 32 33.0			
	comp=E,11nm,1.4s								
VRDI	**Verde Repeater**	**5.46**	**27**	Pn	Pn	16 29 39.6	-1.1		
N25K	**Chitina, Valde**	**5.54**	**20**	Pn	Pn	16 29 41.8	+0.1		
GLB	**Gilahina Butte**	**5.56**	**24**	Pn	Pn	16 29 42.2	+0.3		
N18K	**Kilae Creek**	**5.70**	**321**	Pn	Pn	16 29 43.2	-0.5		
SKT	**Skwentna**	**5.73**	**346**	Pn	Pn	16 29 44.7	+0.4		
M24K	**Tolsona, Glenn**	**5.79**	**11**	Pn	Pn	16 29 45.4	+0.4		
BARN	**Barnard Glacie**	**5.84**	**35**	Pn	Pn	16 29 45.0	-0.8		
CTGM	**Chitina Glacie**	**5.88**	**37**	Pn	Pn	16 29 46.8	+0.5		
M20K	**Styx River**	**5.91**	**339**	Pn	Pn	16 29 46.3	-0.5		
M19K	**Big River Lodg**	**6.21**	**334**	Pn	Pn	16 29 49.7	-1.2		
O29M	**Mount Kennedy**	**6.51**	**50**	Pn	Pn	16 29 56.7	+1.8		
P29M	**Windy Craggy**	**6.56**	**57**	Pn	Pn	16 29 56.8	+1.1		
L19K	**White Mountain**	**6.57**	**333**	Pn	Pn	16 29 55.1	-0.6		
M27K	**Edge Creek, AK**	**6.82**	**27**	Pn	Pn	16 30 00.1	+0.8		
S31K	**Pelican**	**6.87**	**72**	Pn	Pn	16 29 59.8	0.0		
BCAR	**Beaver Creek A**	**7.45**	**25**	Pn	Pn	16 30 08.9	+1.2		
M29M	**Somme Creek**	**7.89**	**36**	Pn	Pn	16 30 15.1	+1.2		
J26L	**Joseph Creek**	**8.43**	**15**	Pn	Pn	16 30 21.7	+0.5		
L29M	**L29M**	**8.48**	**34**	Pn	Pn	16 30 23.5	+1.6		
WRAK	**Wrangell Islan**	**8.99**	**84**	Pn	Pn	16 30 26.8	-2.0		
K29M	**Barlow Dome**	**9.21**	**32**	Pn	Pn	16 30 31.6	-0.3		
N32M	**Quiet Lake**	**9.30**	**53**	Pn	Pn	16 30 32.8	-0.3		

*BUL **24** 16:44:14.2±0.5,25°.33S×28°.54E,h10km±2.3km,MD3.1*
PRE 24 16:44:24.3±1.1,26°.20S×28°.65E,h5km,ML1.9,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**1.12**	**258**	*e*P	Pg	16 44 45.8	-0.1
WDLM				*e*S	Sg	16 45 00.7	+0.3
WDLM				IAML		16 45 05.2	
	comp=Z,44nm,0.3s						
PRYS	**Parys**	**1.36**	**238**	*e*P	Pn	16 44 49.9	-0.2
PRYS				*e*S	Sn	16 45 08.8	+0.2
PRYS				IAML		16 45 09.8	
	comp=Z,24nm,0.5s						
KSR	**Koster**	**1.61**	**282**	*e*P	Pn	16 44 53.9	+0.3
KSR				*e*S	Sg	16 45 16.3	+0.1
KSR				IAML		16 45 19.4	
	comp=Z,46nm,0.3s						
SNKL	**Senekal, Frees**	**2.21**	**200**	*e*P	Pn	16 45 02.1	+0.3
SNKL				*e*S	Sb	16 45 31.3	-1.4
SNKL				IAML		16 45 34.5	
	comp=Z,14nm,0.4s						
PILG	**Pilgrimsrest,**	**2.25**	**56**	*e*P	Pn	16 45 03.3	+0.9
PILG				*e*S	Sn	16 45 30.7	0.0
PILG				IAML		16 45 32.4	
	comp=Z,15nm,0.5s						
LEPH	**Lephalale, Lim**	**2.45**	**342**	*e*P	Pn	16 45 06.2	+1.1
LEPH				*e*S	Sn	16 45 36.1	+0.6
LEPH				IAML		16 45 47.7	
	comp=Z,3.7nm,0.5s						
LBTB	**Lobatse**	**3.00**	**293**	*i* P	Pn	16 44 55.4	-17
LBTB				*i* S	Sn	16 45 25.7	-23
LBTB	**Lobatse**	**3.00**	**293**	*e*P	Pn	16 45 13.5	+1.0
LBTB				*e*S	Sn	16 45 49.8	+0.8
LBTB				IAML		16 46 13.9	
	comp=Z,2.7nm,0.5s						
SWZ	**Schweizer**	**3.12**	**251**	*e*P	Pn	16 45 15.3	+1.0
SWZ				*e*S	Sn	16 45 52.5	+0.3
SWZ				IAML		16 46 05.4	
	comp=Z,8.3nm,0.3s						
MOPA	**Mopani**	**3.66**	**44**	*i* P	Pn	16 45 02.2	-19
MOPA				*i* S	Sn	16 45 36.8	-28
BOSA	**Boshof**	**3.86**	**231**	*i* P	Pn	16 45 17.8	-6.6
BOSA				*i* S	Sn	16 46 03.8	-6.4
BOSA	**Boshof**	**3.86**	**231**	*e*P	Pn	16 45 25.5	+1.1
BOSA				*e*S	Sn	16 46 10.3	+0.1
BOSA				IAML		16 46 22.0	
	comp=Z,4.8nm,0.5s						
MUSN	**Musina, Limpop**	**4.05**	**16**	*i* P	Pn	16 45 02.9	-24
MUSN				*i* S	Sn	16 45 37.9	-37

*BJI **24** 16:46:38.0±0.0,55°.08N×149°.38W,h10km,mb4.9/54, mB5.5/23,Ms5.0/7,Ms7 4.6/9*
*MOS **24** 16:46:40.8±0.9,55°.72N×148°.97W,h10km,mb5.1/47, MS4.0/5,Error ellipse: s-maj=12.2km s-min=4.4km az=97.9*
*NEIC **24** 16:46:40.4±2.1,55°.53N±0°.08×149°.03W±0°.10,h10km±1km, mb4.8/172,ML5.0/40,Mww4.9/25,ML4.9(AEIC),Error ellipse: s-maj=13.0km s-min=9.1km az=179.0*
*NEIC **24** 16:46:40.5,55°.24N×149°.19W,h18km,Moment Tensor Solution. Duration: 1ŝ3 Moment tensor: Scale 10^16^Nm; Mrr=0.59; Mθθ=1.29; Mϕϕ=1.88; Mrθ=0.74; Mθϕ=1.76; Mϕr=0.53; Fault plane solution: M0=2.58000×10^16^ NP1: ϕs=341.86000°,δ=74.95000°,λ=-159.22000°. NP2: ϕs=246.23000°,δ=69.96000°,λ=-16.04000°. Principal axes: T 2.6754, Plg3.0000°, Azm113.0000°; N -0.1822, Plg65.0000°, Azm16.0000°; P -2.4932, Plg25.0000°, Azm205.0000°;*
*IDC **24** 16:46:40.8±0.6,55°.59N×149°.05W,h0km,mb4.6/30, mbtmp4.7/36,ML4.5/6,MS3.9/76 Error ellipse: s-maj=15.7km s-min=10.1km az=16.0*
*NEIC **24** 16:46:40.5,55°.54N×149°.01W,h18km*
*GCMT **24** 16:46:43.4±0.3,55°.57N±0°.02×148°.96W±0°.03,h21km±1km, MW4.9/107,Moment Tensor Solution. s24,c32; s107,c145; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.36±.14; Mθθ=2.00±.13; Mϕϕ2.36±.14; Mrθ=0.03±.21; Mθϕ2.07±.09; Mϕr0.12±.21; Best double couple: M03.00900×10^16^ NP1:ϕs337.00000°,δ90.00000°, λ178.00000°. NP2:ϕs67.00000°,δ88.00000°,λ0.00000°. Principal axes: T 3.1890, Plg2.0000°, Azm292.0000°; N -0.3640, Plg88.0000°, Azm156.0000°; P -2.8280, Plg2.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **24** 16:46:47.6±2.4,55°.74N±0°.08×149°.00W±0°.09,h10km±4km Error ellipse: s-maj=11.9km s-min=7.6km az=174.0*
ISC 24 16:46:42.1±0.4,55°.60N±0°.06×149°.10W±0°.04,h10km, n844,σ1ŝ17/605,mb4.8/163,MS4.0/78,12C-2D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.83**	**307**	Pn	Pn	16 47 26.2	-1.1
OHAK					**Sn**	**16 47 57.2**	**-4.3**
OHAK				IAML		16 47 59.5	
	comp=N,3μm,0.8s						
OHAK	**Old Harbor**	**2.83**	**307**	P	Pn	16 47 26.2	-1.1
OHAK	**Old Harbor**	**2.83**	**307**	P	**Pn**	**16 47 26.4**	**-0.9**
	baz=120,SNR=188						
KDAK	**Kodiak Island**	**2.91**	**320**	Sn	**Sn**	**16 47 59.7**	**-3.6**
KDAK	**Kodiak Island**	**2.91**	**320**	Pn	**Pn**	**16 47 27.6**	**-0.8**
KDAK	**Kodiak Island**	**2.91**	**320**	P	**Pn**	**16 47 27.7**	**-0.6**
	baz=135						
KDAK	**Kodiak Island**	**2.91**	**320**	P	**Pn**	**16 47 27.6**	**-0.8**
KDAK						16 47 59.7	
KDAK	**Kodiak Island**	**2.91**	**320**	Pn	**Pn**	**16 47 27.7**	**-0.6**
	comp=N,138nm,0.3s,baz=168,slow=6.3,SNR=288						
KDAK				Sn	**Sn**	**16 48 00.4**	**-2.9**
	comp=N,368nm,0.3s,baz=25,slow=21,SNR=17						
KDAK				LR	LR	16 48 48.5	
	comp=N,3μm,21.1s,baz=173,slow=44						
	comp=N,654nm,0.5s						
SII	**Sitkinak Islan**	**3.00**	**291**	Pn	Pn	16 47 28.2	-1.5
SII				IAML		16 48 12.3	
	comp=E,3μm,0.5s						
SII				IAML		16 48 16.4	
	comp=N,3μm,0.6s						
SII	**Sitkinak Islan**	**3.00**	**291**	P	Pn	**16 47 28.6**	**-1.1**
	baz=104						
SYI	**Shuyak Island**	**3.51**	**331**	Pn	**Pn**	**16 47 35.8**	**-0.8**
SYI				Sn	**Sn**	**16 48 15.1**	**-3.0**
SYI				IAML		16 48 17.6	
	comp=N,2μm,0.7s						
Q20K	**Shuyak Island**	**3.51**	**331**	P	**Pn**	**16 47 36.1**	**-0.5**
	baz=146,SNR=21						
R18K	**Karluk**	**3.55**	**306**	Pn	**Pn**	**16 47 36.7**	**-0.5**
R18K				Sn	**Sn**	**16 48 15.6**	**-3.6**
R18K				IAML		16 48 24.6	
	comp=N,3μm,0.6s						
R18K				IAML		16 48 30.2	
	comp=E,3μm,0.5s						
R18K	**Karluk**	**3.55**	**306**	P	**Pn**	**16 47 36.9**	**-0.3**
	baz=119						
CNPM	**China Poot**	**4.10**	**345**	Pn	Pn	16 47 43.5	-1.2
CNPM				Sn	**Sn**	**16 48 29.4**	**-3.3**
CNPM				IAML		16 48 33.1	
	comp=E,2μm,0.7s						
CNPM				IAML		16 48 33.1	
	comp=N,2μm,0.6s						
Q23K	**Middleton Isla**	**4.11**	**20**		Pn	16 47 43.4	-1.5
Q23K				Sn	Sn	16 48 26.4	-6.6
Q23K	**Middleton Isla**	**4.11**	**20**	P	Pn	16 47 43.5	-1.4
	baz=202,SNR=16						
MID	**Middleton Isla**	**4.11**	**20**	Pn	Pn	16 47 43.3	-1.6
MID	**Middleton Isla**	**4.11**	**20**	P	Pn	16 47 43.6	-1.3
MID	**Middleton Isla**	**4.11**	**20**	P	Pn	16 47 43.3	-1.6
Q19K	**Cape Douglas,**	**4.15**	**325**		**Pn**	**16 47 44.8**	**-0.6**
Q19K				Sn	**Sn**	**16 48 33.6**	**-0.3**
Q19K	**Cape Douglas,**	**4.15**	**325**	P	**Pn**	**16 47 45.3**	**-0.1**
	baz=140,SNR=60						
KAHG	**Katmai Hook Gl**	**4.15**	**317**		**Pn**	**16 47 46.2**	**+0.7**
BRSE	**Bradley Lake S**	**4.24**	**349**		Pn	16 47 45.5	-1.2
BRSE	**Bradley Lake S**	**4.24**	**349**	P	Pn	16 47 45.5	-1.2
	baz=166,SNR=54						
KCE	**Katmai Mt Cerb**	**4.25**	**311**		**Pn**	**16 47 47.4**	**+0.5**
KCG	**Knife Ck. Glac**	**4.26**	**312**		**Pn**	**16 47 47.3**	**+0.3**
BRLK	**Bradley Lake**	**4.28**	**348**		Pn	16 47 45.8	-1.4
BRLK				IAML		16 48 35.6	
	comp=N,1μm,0.5s						
BRLK				IAML		16 48 40.1	
	comp=E,1μm,0.5s						
HOM	**Homer**	**4.29**	**342**	Pn	**Pn**	**16 47 46.6**	**-0.7**
HOM				IAML		16 48 44.8	
	comp=E,4μm,1.0s						
HOM	**Homer**	**4.29**	**342**	P	**Pn**	**16 47 46.6**	**-0.7**
	baz=159						
AUJK	**Augustine Jueg**	**4.42**	**330**		**Pn**	**16 47 49.0**	**-0.1**
AU22	**Augustine Moun**	**4.42**	**330**		**Pn**	**16 47 49.0**	**0.0**
AUL	**Augustine Lava**	**4.45**	**330**		**Pn**	**16 47 49.7**	**+0.1**
PLK3	**Peulik 3**	**4.47**	**301**		**Pn**	**16 47 49.9**	**+0.1**
P23K	**Montague Islan**	**4.50**	**11**		Pn	16 47 48.8	-1.4
P23K	**Montague Islan**	**4.50**	**11**	P	Pn	16 47 49.0	-1.2
	baz=192,SNR=22						
SEW	**Seward**	**4.52**	**358**	Pn	Pn	16 47 48.7	-1.8
SEW	**Seward**	**4.52**	**358**	P	Pn	16 47 49.2	-1.2
	baz=177,SNR=22						
Q17K	**Contact Creek**	**4.57**	**308**	P	**Pn**	**16 47 51.5**	**+0.1**
	baz=121,SNR=279						
P19K	**Oil Pt**	**4.63**	**333**		**Pn**	**16 47 51.5**	**-0.5**
P19K	**Oil Pt**	**4.63**	**333**	P	**Pn**	**16 47 51.6**	**-0.4**
	baz=148,SNR=17						
PLBL	**Peulik Blue Cr**	**4.75**	**299**		**Pn**	**16 47 54.0**	**+0.4**
O20K	**Slope Mountain**	**4.87**	**339**		Pn	16 47 54.3	-1.0
O20K	**Slope Mountain**	**4.87**	**339**	P	Pn	16 47 54.4	-1.0
	baz=155						
IVE	**Iliamna Volcan**	**4.89**	**336**		Pn	16 47 54.6	-1.1
O22K	**Cooper Landing**	**4.90**	**356**		Pn	16 47 53.6	-2.1
O22K	**Cooper Landing**	**4.90**	**356**	P	**Pn**	**16 47 55.1**	**-0.7**
	baz=175,SNR=18						
SLKM	**Skilak Lake**	**4.95**	**354**		Pn	16 47 53.3	-3.2
HIN	**Hinchinbrook I**	**5.00**	**15**	Pn	Pn	16 47 55.9	-1.3
HIN				IAML		16 48 50.9	
	comp=E,2μm,0.8s						
HIN				IAML		16 48 51.0	
	comp=N,2μm,0.7s						
KAIM	**Kayak Island**	**5.01**	**28**	Pn	Pn	16 47 55.9	-1.2
KAIM				IAML		16 48 54.2	
	comp=N,1μm,0.6s						
KAIM				IAML		16 48 54.2	
	comp=E,1μm,0.7s						
KAIM	**Kayak Island**	**5.01**	**28**	P	**Pn**	**16 47 56.2**	**-0.9**
	baz=212,SNR=86						
P18K	**Big Mountain,**	**5.03**	**322**		Pn	16 47 56.5	-1.1
P18K	**Big Mountain,**	**5.03**	**322**	P	**Pn**	**16 47 56.9**	**-0.7**
	baz=135,SNR=54						
R16K	**Pilot Point**	**5.08**	**296**	Pn	**Pn**	**16 47 57.1**	**-1.0**
R16K				IAML		16 49 12.4	
	comp=N,552nm,0.9s						
R16K				IAML		16 49 16.0	
	comp=E,721nm,0.9s						
R16K	**Pilot Point**	**5.08**	**296**	P	**Pn**	**16 47 57.4**	**-0.8**
	baz=108,SNR=12						
Q16K	**King Salmon**	**5.14**	**310**	P	**Pn**	**16 47 58.9**	**-0.1**
	baz=122,SNR=136						
RDSO	**Redoubt South**	**5.23**	**340**		Pn	16 47 58.6	-1.8
RSO	**Redoubt South**	**5.24**	**340**		Pn	16 47 58.9	-1.7
ANPB	**Aniakchak Plen**	**5.26**	**287**		**Pn**	**16 47 59.9**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.27**	**18**	Pn	**Pn**	**16 47 59.7**	**-1.0**
EYAK	**Cordova Ski Ar**	**5.27**	**18**	P	**Pn**	**16 48 00.2**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.27**	**18**	P	**Pn**	**16 48 00.1**	**-0.7**
	baz=201,SNR=231						
CHGN	**Chignik**	**5.28**	**281**	Pn	Pn	16 47 59.6	-1.3
CHGN				IAML		16 49 03.3	
	comp=E,754nm,0.5s						
CHGN				IAML		16 49 03.5	
	comp=N,544nm,0.5s						
CHGN	**Chignik**	**5.28**	**281**	P	**Pn**	**16 47 59.7**	**-1.2**
	baz=208,SNR=24						
CAPN	**Captain Cook N**	**5.29**	**349**	Pn	**Pn**	**16 48 01.7**	**+0.7**
CAPN	**Captain Cook N**	**5.29**	**349**	P	**Pn**	**16 48 01.1**	**0.0**
	baz=166						
RAGM	**Ragged Mountai**	**5.34**	**24**		**Pn**	**16 48 00.8**	**-1.0**
RAGM				IAML		16 49 13.9	
	comp=E,2μm,0.6s						
DFR	**Drift River**	**5.35**	**341**		Pn	16 47 59.7	-2.3
P17K	**Kvichak River**	**5.36**	**315**	P	**Pn**	**16 48 02.2**	**+0.3**
	baz=128,SNR=172						
O18K	**Koktuh Hills**	**5.37**	**325**	Pn	Pn	16 48 01.2	-1.0
O18K	**Koktuh Hills**	**5.37**	**325**	P	**Pn**	**16 48 01.5**	**-0.7**
	baz=139,SNR=28						
RDJH	**Redoubt Jeurge**	**5.37**	**340**		Pn	16 48 00.7	-1.6
O19K	**Port Alsworth**	**5.38**	**331**	Pn	Pn	16 48 00.3	-2.0
O19K	**Port Alsworth**	**5.38**	**331**	P	Pn	16 48 01.2	-1.0
	baz=145,SNR=50						
RC01	**Rabbit Creek A**	**5.51**	**357**		Pn	16 48 03.0	-1.1
RC01	**Rabbit Creek A**	**5.51**	**357**	P	**Pn**	**16 48 03.3**	**-0.8**
	baz=176,SNR=35						
SNH	**Sunshine Point**	**5.67**	**33**	Pn	**Pn**	**16 48 05.2**	**-1.2**
KNK	**Knik Glacier**	**5.84**	**3**	P	**Pn**	**16 48 07.7**	**-0.9**
	baz=183,SNR=19						
N20K	**Mount Spurr**	**5.84**	**345**	P	Pn	16 48 06.9	-1.8
	baz=162,SNR=26						
BMRM	**Bremner River**	**5.88**	**22**	P	**Pn**	**16 48 08.3**	**-0.9**
	baz=206,SNR=169						
SPCP	**Crater Peak Br**	**5.90**	**346**		**Pn**	**16 48 08.8**	**-0.8**
S14K	**Fog Glacier**	**5.91**	**281**	P	**Pn**	**16 48 09.5**	**-0.2**
	baz=91						
VNFG	**Fog Glacier, M**	**5.91**	**281**		**Pn**	**16 48 09.3**	**-0.4**
P16K	**Nushagak River**	**5.91**	**309**	P	**Pn**	**16 48 09.9**	**+0.3**
	baz=120,SNR=128						
SUA	**Susitna One**	**5.94**	**352**	P	Pn	16 48 08.9	-1.2
	baz=170,SNR=12						
N19K	**Bonanza Creek**	**5.95**	**334**		Pn	16 48 08.7	-1.5
N19K	**Bonanza Creek**	**5.95**	**334**	P	Pn	16 48 08.9	-1.3
	baz=148						
O17K	**Koliganek Bris**	**5.99**	**318**	P	**Pn**	**16 48 10.2**	**-0.4**
	baz=130,SNR=89						
PMR	**Palmer**	**6.01**	**360**	Pn	**Pn**	**16 48 10.0**	**-0.9**
PMR	**Palmer**	**6.01**	**360**	P	**Pn**	**16 48 10.5**	**-0.4**
PMR	**Palmer**	**6.01**	**360**	P	**Pn**	**16 48 10.3**	**-0.6**
	baz=179,SNR=35						
PMR	**Palmer**	**6.01**	**360**	P	**Pn**	**16 48 10.0**	**-0.9**
CHNA	**Chernabura Isl**	**6.05**	**267**	P	Pn	16 48 09.3	-2.2
	baz=77,SNR=26						
CNBA	**Chernabura Isl**	**6.05**	**267**	Pn	Pn	16 48 09.0	-2.5
SPNN	**North Nagishla**	**6.08**	**343**		Pn	16 48 10.9	-1.1
KLU	**Klutina**	**6.14**	**14**	P	**Pn**	**16 48 12.2**	**-0.6**
	baz=197,SNR=121						
N18K	**Kilae Creek**	**6.23**	**328**		Pn	16 48 12.8	-1.1
N18K	**Kilae Creek**	**6.23**	**328**	P	**Pn**	**16 48 13.1**	**-0.9**
	baz=141,SNR=36						
SML	**Sawmill**	**6.24**	**3**	P	**Pn**	**16 48 13.9**	**-0.2**
	baz=184,SNR=49						
M23K	**Glacier View**	**6.25**	**6**	P	**Pn**	**16 48 14.0**	**-0.3**
	baz=187,SNR=49						
O16K	**Kokwok River B**	**6.27**	**313**		**Pn**	**16 48 14.5**	**0.0**
O16K	**Kokwok River B**	**6.27**	**313**	P	**Pn**	**16 48 14.5**	**0.0**
	baz=125						
SCM	**Sheep Creek Mo**	**6.32**	**8**	P	**Pn**	**16 48 15.0**	**-0.2**
	baz=189,SNR=50						
YKU2	**Yakutat**	**6.41**	**48**		**Pn**	**16 48 15.8**	**-0.5**
N25K	**Chitina, Valde**	**6.46**	**19**	P	**Pn**	**16 48 16.8**	**-0.5**
	baz=203,SNR=344						
SDPT	**Sand Point**	**6.47**	**272**	Pn	Pn	16 48 15.8	-1.5
SDPT	**Sand Point**	**6.47**	**272**	P	Pn	16 48 15.9	-1.4
SDPT	**Sand Point**	**6.47**	**272**	P	Pn	16 48 15.8	-1.5
	baz=82,SNR=25						
SVW2	**Sparrevohn**	**6.48**	**331**	Pn	Pn	16 48 15.6	-1.8
SVW2	**Sparrevohn**	**6.48**	**331**	P	Pn	16 48 16.3	-1.1
SKT	**Skwentna**	**6.52**	**350**	P	**Pn**	**16 48 17.4**	**-0.6**
	baz=167,SNR=30						
PINM	**Pinnacle**	**6.52**	**43**	P	**Pn**	**16 48 17.5**	**-0.6**
	baz=231,SNR=172						
N17K	**Nushagak Hills**	**6.54**	**322**		Pn	16 48 17.1	-1.1
N17K	**Nushagak Hills**	**6.54**	**322**	P	**Pn**	**16 48 17.4**	**-0.7**
	baz=134						
PNL	**Peninsula**	**6.61**	**48**	P	**Pn**	**16 48 18.9**	**-0.3**
M20K	**Styx River**	**6.64**	**343**	Pn	Pn	16 48 17.1	-2.5
M20K	**Styx River**	**6.64**	**343**	P	Pn	16 48 18.3	-1.3
	baz=159						
M24K	**Tolsona, Glenn**	**6.70**	**12**	P	**Pn**	**16 48 20.6**	**+0.1**
	baz=194,SNR=63						
CTG	**Chitna Glacier**	**6.75**	**34**	P	**Pn**	**16 48 20.7**	**-0.6**
	baz=221						
CTGM	**Chitina Glacie**	**6.75**	**34**		**Pn**	**16 48 20.6**	**-0.7**
O15K	**Ungalikthiuk R**	**6.81**	**306**	P	**Pn**	**16 48 21.9**	**0.0**
	baz=116,SNR=156						
WACK	**Wrangell Chich**	**6.86**	**19**		**Pn**	**16 48 22.3**	**-0.6**
M18K	**Stony River**	**6.87**	**332**		Pn	16 48 21.2	-1.5
M18K	**Stony River**	**6.87**	**332**	P	Pn	16 48 21.4	-1.4
	baz=145						
M19K	**Big River Lodg**	**6.89**	**339**		Pn	16 48 21.5	-1.5
M19K	**Big River Lodg**	**6.89**	**339**	P	Pn	16 48 21.7	-1.3
	baz=153						
WAT6	**Susitna Watana**	**7.03**	**5**	P	**Pn**	**16 48 24.8**	**-0.3**
	baz=186,SNR=60						
N16K	**Nishlik Lake**	**7.08**	**318**	P	**Pn**	**16 48 25.7**	**0.0**
	baz=128						
HARP	**HAARP**	**7.11**	**15**	P	**Pn**	**16 48 26.1**	**0.0**
	baz=198,SNR=58						
PS1A	**Pavlof South-1**	**7.18**	**274**		Pn	16 48 25.4	-1.6
PVV	**Pavlof Volcano**	**7.21**	**273**		Pn	16 48 25.8	-1.7
L19K	**White Mountain**	**7.24**	**338**		Pn	16 48 25.9	-1.9
L19K	**White Mountain**	**7.24**	**338**	P	Pn	16 48 26.3	-1.5
	baz=152,SNR=33						
WAT1	**Susitna Watana**	**7.25**	**2**	P	**Pn**	**16 48 27.8**	**-0.3**
	baz=182						
M17K	**Holitna River**	**7.26**	**327**		**Pn**	**16 48 27.4**	**-0.8**
M17K	**Holitna River**	**7.26**	**327**	P	**Pn**	**16 48 27.6**	**-0.6**
	baz=138						
O29M	**Mount Kennedy**	**7.31**	**46**	Pn	**Pn**	**16 48 28.4**	**-0.6**
O29M	**Mount Kennedy**	**7.31**	**46**	P	**Pn**	**16 48 28.4**	**-0.6**
	baz=235						
P29M	**Windy Craggy**	**7.31**	**52**	P	**Pn**	**16 48 27.6**	**-1.3**
	baz=242,SNR=271						
L20K	**Farewell, AK**	**7.32**	**342**		Pn	16 48 27.0	-1.9
L20K	**Farewell, AK**	**7.32**	**342**	P	Pn	16 48 27.4	-1.6
	baz=158,SNR=11						
N15K	**Kwethluk River**	**7.43**	**313**		**Pn**	**16 48 30.8**	**+0.4**
N15K	**Kwethluk River**	**7.43**	**313**	P	**Pn**	**16 48 30.9**	**+0.4**
	baz=122						
S31K	**Pelican**	**7.46**	**66**		Pn	16 48 26.9	-3.8
S31K	**Pelican**	**7.46**	**66**	P	Pn	16 48 27.4	-3.3
	baz=258,SNR=30						
PPLA	**Purkeypile**	**7.48**	**349**		**Pn**	**16 48 30.9**	**-0.3**
PPLA	**Purkeypile**	**7.48**	**349**	P	**Pn**	**16 48 31.0**	**-0.3**
	baz=166						
M16K	**Timber Creek**	**7.51**	**320**		**Pn**	**16 48 31.2**	**-0.3**
M16K	**Timber Creek**	**7.51**	**320**	P	**Pn**	**16 48 31.1**	**-0.3**
	baz=131,SNR=69						
M26K	**Nabesna, AK**	**7.51**	**22**		**Pn**	**16 48 30.8**	**-0.8**
M26K	**Nabesna, AK**	**7.51**	**22**	P	**Pn**	**16 48 30.4**	**-1.1**
	baz=208						
YUK8	**Steele Glacier**	**7.51**	**37**	P	**Pn**	**16 48 32.2**	**+0.5**
	baz=225,SNR=188						
O14K	**Tigyukauivet M**	**7.51**	**304**		**Pn**	**16 48 31.4**	**-0.2**
O14K	**Tigyukauivet M**	**7.51**	**304**	P	**Pn**	**16 48 31.3**	**-0.2**
	baz=113						
DT1	**Dutton Round H**	**7.53**	**272**		Pn	16 48 29.9	-1.9
DHY	**Denali Highway**	**7.55**	**6**	P	**Pn**	**16 48 32.0**	**-0.1**
	baz=187,SNR=123						
PAX	**Paxson**	**7.62**	**13**		**Pn**	**16 48 32.7**	**-0.4**
PAX	**Paxson**	**7.62**	**13**	P	**Pn**	**16 48 33.2**	**+0.1**
	baz=196,SNR=90						
PAX	**Paxson**	**7.62**	**13**	P	**Pn**	**16 48 32.7**	**-0.4**
YUK7	**Dusty Glacier**	**7.62**	**45**		**Pn**	**16 48 33.2**	**-0.1**
YUK3	**Moose Creek**	**7.65**	**32**	P	**Pn**	**16 48 33.9**	**+

SKAG **Skagway** 8.35 57 P Pn **16 48 42.6 -0.5**
SKAG **Skagway** 8.35 57 P Pn **16 48 42.1 -0.9**
baz=249,SNR=21
K24K **Donnelly Dome** 8.39 10 Pn **16 48 44.0 +0.4**
K24K **Donnelly Dome** 8.39 10 P Pn **16 48 43.3 -0.4**
baz=193,SNR=38
R32K **Eaglecrest** 8.41 65 Pn **16 48 42.2 -1.6**
R32K **Eaglecrest** 8.41 65 P Pn 16 48 41.7 -2.2
baz=258
ISNN **Isanotski Nort** 8.43 271 Pn 16 48 42.4 -1.7
RIDG **Independent Ri** 8.44 13 P Pn **16 48 44.1 -0.2**
baz=196,SNR=90
CHUM **Lake Minchumin** 8.46 350 Pn **16 48 44.0 -0.5**
CHUM **Lake Minchumin** 8.46 350 P Pn **16 48 44.1 -0.5**
baz=167,SNR=7.7
JIS **Juneau Island** 8.48 66 Pn 16 48 42.6 -2.2
JIS **Juneau Island** 8.48 66 P Pn 16 48 42.9 -1.9
M14K **Bethel** 8.52 312 Pn **16 48 45.0 -0.4**
M14K **Bethel** 8.52 312 P Pn **16 48 45.6 +0.2**
baz=121,SNR=43
K17K **Iditarod** 8.55 330 Pn 16 48 44.4 -1.3
K17K **Iditarod** 8.55 330 P Pn 16 48 44.3 -1.4
baz=142,SNR=37
SSLN **Shishaldin Nor** 8.56 271 Pn **16 48 44.7 -1.2**
BPAW **Bear Paw Mtn.** 8.58 354 P Pn 16 48 44.9 -1.3
baz=172,SNR=20
N30M **Aishikik Lake** 8.59 42 Pn **16 48 46.1 -0.3**
N30M **Aishikik Lake** 8.59 42 P Pn **16 48 46.4 0.0**
baz=232
BWN **Browne** 8.60 359 Pn **16 48 46.3 -0.2**
O30N **Mendenhall** 8.60 48 P Pn **16 48 46.1 -0.4**
baz=239,SNR=45
SSLW **Shishaldin Wes** 8.64 271 Pn 16 48 45.3 -1.7
M29M **Somme Creek** 8.77 34 Pn **16 48 48.9 0.0**
M29M **Somme Creek** 8.77 34 P Pn **16 48 49.3 +0.4**
baz=224
J18K **Innoko River** 8.78 337 Pn 16 48 46.8 -2.0
J18K **Innoko River** 8.78 337 P Pn 16 48 47.6 -1.3
baz=150,SNR=20
SCRK **Sand Creek** 8.78 15 P Pn **16 48 49.0 -0.1**
baz=199,SNR=28
L15K **Ungalak Mounta** 8.87 318 Pn **16 48 50.0 -0.1**
L15K **Ungalak Mounta** 8.87 318 P Pn **16 48 49.8 -0.2**
baz=127,SNR=45
HDA **Harding Lake** 8.90 6 P Pn **16 48 50.2 -0.4**
baz=188,SNR=53
M13K **Dall Lake** 8.96 308 Pn **16 48 51.6 +0.3**
M13K **Dall Lake** 8.96 308 P Pn **16 48 51.5 +0.2**
baz=115
J20K **Nowinta River** 8.96 346 Pn 16 48 49.9 -1.5
J20K **Nowinta River** 8.96 346 P Pn **16 48 51.0 -0.4**
baz=161
U33K **Whale Pass** 9.01 80 Pn 16 48 46.3 -5.7
U33K **Whale Pass** 9.01 80 P Pn 16 48 46.5 -5.5
baz=274
NEA2 **Nenana** 9.02 0 P Pn **16 48 51.4 -0.8**
baz=180,SNR=25
J19K **Poorman** 9.03 341 Pn 16 48 50.2 -2.1
J19K **Poorman** 9.03 341 P Pn 16 48 50.6 -1.7
baz=155
WHY **Whitehorse** 9.06 50 Pn Pn **16 48 51.9 -1.0**
WHY **Whitehorse** 9.06 50 P Pn **16 48 52.5 -0.3**
baz=243,SNR=154
CRAG **Craig** 9.06 84 Pn 16 48 46.0 -6.8
CRAG **Craig** 9.06 84 P Pn 16 48 47.6 -5.2
baz=278
N31M **Braeburn, Yuko** 9.12 44 P Pn **16 48 53.6 +0.1**
baz=236,SNR=125
L14K **Kuka Creek** 9.14 315 Pn **16 48 53.6 -0.2**
L14K **Kuka Creek** 9.14 315 P Pn **16 48 53.5 -0.2**
baz=122,SNR=64
K27K **Chicken** 9.16 20 P Pn **16 48 53.3 -0.8**
baz=206,SNR=36
P32M **Atlin** 9.17 58 P Pn **16 48 53.2 -1.1**
baz=251,SNR=46
J25K **Salcha River,** 9.23 10 Pn 16 48 53.6 -1.4
J25K **Salcha River,** 9.23 10 P Pn **16 48 54.1 -1.0**
baz=193
ILAR **Eielson Array** 9.26 6 Pn Pn **16 48 54.8 -0.8**
comp=E,4.4nm,0.3s,baz=185,slow=13,SNR=110
ILAR Sn **Sn** **16 50 35.1 -4.6**
comp=E,10nm,0.3s,baz=178,slow=21,SNR=12
ILAR LR LR 16 52 36.3
comp=E,574nm,20.5s,baz=202,slow=38
comp=E,17nm,0.6s
K15K **Wolf Creek Mou** 9.27 321 P Pn **16 48 55.5 -0.1**
baz=130,SNR=40
COLA **College** 9.32 3 Pn 16 48 55.1 -1.2
COLA **College** 9.32 3 P Pn **16 48 56.3 0.0**
COLA **College** 9.32 3 P Pn **16 48 55.9 -0.4**
baz=184
COLA **College** 9.32 3 P Pn 16 48 55.1 -1.2
J26L **Joseph Creek** 9.34 15 Pn **16 48 56.1 -0.6**
J26L **Joseph Creek** 9.34 15 P Pn **16 48 56.3 -0.4**
baz=200
L29M **L29M** 9.37 32 P Pn **16 48 57.0 0.0**
baz=222
M30M **Minto, Yukon** 9.42 37 P Pn **16 48 57.4 -0.3**
baz=228,SNR=81
WRAK **Wrangell Islan** 9.42 78 P Pn 16 48 54.7 -3.0
baz=273
I23K **Minto, Yukon-K** 9.58 359 P Pn **16 48 59.5 -0.3**
baz=179,SNR=25
POKR **Poker Plat Res** 9.58 4 Pn **16 48 59.8 -0.1**
POKR **Poker Plat Res** 9.58 4 P Pn **16 48 59.5 -0.3**
baz=185,SNR=13
J16K **Anvik River** 9.66 328 Pn 16 48 59.7 -1.3
J16K **Anvik River** 9.66 328 P Pn 16 49 00.0 -0.9
baz=137,SNR=22
AKSA **Akutan Strait** 9.68 268 Pn **16 48 59.9 -1.3**
Q32M **Nakina River** 9.71 63 Pn **16 49 00.4 -1.5**
Q32M **Nakina River** 9.71 63 P Pn **16 49 00.6 -1.3**
baz=258
I21K **Tanana** 9.71 353 Pn **16 49 01.1 -0.5**
I21K **Tanana** 9.71 353 P Pn **16 49 01.9 +0.3**
baz=170,SNR=18
AHB **Akutan Harbor** 9.75 268 Pn **16 49 01.6 -0.6**
DAWY **Dawson** 9.78 26 Pn **16 49 02.1 -0.5**
DAWY **Dawson** 9.78 26 P Pn **16 49 01.6 -1.0**
baz=214,SNR=58
P33M **Teslin, Yukon** 9.81 55 P Pn **16 49 02.1 -1.0**
baz=250,SNR=66
AKBBA **Akutan Broad B** 9.82 268 Pn 16 49 01.6 -1.6
AKV **Akutan Volcano** 9.83 268 Pn **16 49 02.3 -1.1**
ZRO **Akutan Zero** 9.85 268 Pn **16 49 02.5 -1.2**
LVA **Lava Point** 9.86 269 Pn **16 49 02.9 -0.9**
V35K **Ketchikan** 9.94 84 P Pn 16 49 01.8 -3.0
baz=280
GCSA **Galena City Sc** 9.95 340 P Pn **16 49 04.0 -0.9**
baz=153
EGAK **Eagle** 10.01 20 P Pn **16 49 05.7 0.0**
baz=207,SNR=37
M31M **Drury Creek, Y** 10.06 43 Pn **16 49 07.1 +0.6**
M31M **Drury Creek, Y** 10.06 43 P Pn **16 49 07.2 +0.6**
baz=236,SNR=234
N32M **Quiet Lake** 10.07 50 Pn **16 49 06.3 -0.3**
N32M **Quiet Lake** 10.07 50 P Pn **16 49 06.3 -0.3**
baz=244
PRP **Porcupine Dome** 10.10 9 Pn **16 49 06.5 -0.6**
PRP **Porcupine Dome** 10.10 9 P Pn **16 49 06.8 -0.3**
baz=191,SNR=38
K29M **Barlow Dome** 10.11 30 P Pn **16 49 07.1 -0.1**
baz=221,SNR=145
S34M **Telegraph Cree** 10.13 69 Pn 16 49 05.7 -1.8
S34M **Telegraph Cree** 10.13 69 P Pn **16 49 06.0 -1.4**
baz=265
I17K **Unalakleet** 10.14 330 Pn **16 49 06.8 -0.7**
I17K **Unalakleet** 10.14 330 P Pn **16 49 06.8 -0.7**
baz=139,SNR=17
I26K **Coal Creek Min** 10.16 14 Pn Pn **16 49 07.2 -0.6**
I26K **Coal Creek Min** 10.16 14 P Pn **16 49 08.0 +0.1**
baz=199
UNV **Unalaska Valle** 10.22 267 P Pn 16 49 06.7 -1.9
UNV **Unalaska Valle** 10.22 267 P Pn 16 49 06.6 -2.0
baz=72,SNR=5.6
H21K **Melozitna Rive** 10.25 351 P Pn **16 49 08.8 -0.2**
baz=168
M11K **Mekoryuk** 10.25 305 P Pn **16 49 08.8 -0.2**
baz=110,SNR=22
H24K **Noodor Dome** 10.29 3 P Pn **16 49 09.7 +0.2**
baz=184
J14K **Nanvaranak Lak** 10.29 320 P Pn **16 49 09.6 +0.1**
baz=127,SNR=14
H20K **Anotleneega Mo** 10.31 346 P Pn **16 49 09.1 -0.8**
baz=161
H22K **Ishtalitna Cre** 10.38 355 P Pn **16 49 11.7 +0.8**
baz=172
J29N **Klondike Camp** 10.39 27 Pn **16 49 10.6 -0.5**
J29N **Klondike Camp** 10.39 27 P Pn **16 49 10.9 -0.1**
baz=216,SNR=60
MAYO **Mayo, Yukon** 10.42 34 P Pn **16 49 11.3 0.0**
baz=226,SNR=16
R33M **Jennings River** 10.46 61 P Pn **16 49 11.0 -1.1**
baz=257
FARO **Faro, Yukon** 10.49 44 Pn **16 49 12.8 +0.5**
FARO **Faro, Yukon** 10.49 44 P Pn **16 49 13.0 +0.6**
baz=238,SNR=68
T35M **Bob Quinn** 10.57 75 P Pn **16 49 11.8 -1.6**
baz=271
H19K **Roundabout Mou** 10.58 343 P Pn **16 49 13.5 0.0**
baz=156
H18K **Honhosa River** 10.60 338 P Pn 16 49 12.8 -1.0
baz=150,SNR=17
IMAR **Indian Mountai** 10.65 350 Pn 16 49 12.7 -1.8
I27K **Kandik River** 10.68 17 P Pn **16 49 14.8 -0.1**
baz=203,SNR=43
H17K **Granite Mounta** 10.77 335 P Pn **16 49 15.6 -0.5**
baz=145
DLBC **Dease Lake** 10.77 67 Pn **16 49 14.8 -1.5**
DLBC **Dease Lake** 10.77 67 P Pn 16 49 14.5 -1.7
baz=263,SNR=12
DLBC **Dease Lake** 10.77 67 Pn Pn **16 49 14.9 -1.3**
comp=E,7.1nm,0.3s,baz=281,slow=11,SNR=28
comp=E,14nm,0.3s
I28M **Miner Creek** 10.84 21 P Pn **16 49 17.2 0.0**
baz=209,SNR=16
J30M **Hart River** 11.00 30 P Pn **16 49 19.5 +0.1**
baz=221
I29M **Ogilvie Camp,** 11.12 24 P Pn **16 49 21.3 +0.4**
baz=213,SNR=36
G21K **Allakaket** 11.15 351 P Pn **16 49 21.2 -0.1**
baz=167
H16K **Elim** 11.15 330 P Pn **16 49 21.1 -0.2**
baz=138,SNR=16
G23K **Bananza Creek** 11.15 358 Pn Pn 16 49 20.2 -1.2
G23K **Bananza Creek** 11.15 358 P Pn **16 49 21.8 +0.3**
baz=177
G24K **Hadweenzic Riv** 11.16 3 P Pn **16 49 21.3 -0.2**
baz=184
G19K **Purcell Mounta** 11.25 343 P Pn **16 49 22.4 -0.3**
baz=156
H27K **Steamboat Moun** 11.27 16 P Pn **16 49 23.0 0.0**
baz=202
G25K **Bearman Lake** 11.29 6 P Pn **16 49 23.1 -0.2**
baz=188
G18K **Tagagawik** 11.31 340 P Pn **16 49 22.9 -0.7**
baz=151,SNR=6.0
G17K **Kiwalik Mounta** 11.41 335 P Pn **16 49 24.9 0.0**
baz=144
I30M **Mount Dempster** 11.49 28 P Pn **16 49 26.4 +0.4**
baz=219
G26K **Porcupine Rive** 11.66 10 P Pn **16 49 27.7 -0.6**
baz=195
COLD **Coldfoot** 11.68 358 P Pn **16 49 28.7 +0.1**
baz=177,SNR=13
WTLY **Watson Lake, Y** 11.70 59 P Pn **16 49 28.0 -0.9**
baz=257
G16K **Koyuk River** 11.76 332 Pn Pn 16 49 27.6 -2.0
G16K **Koyuk River** 11.76 332 P Pn **16 49 29.0 -0.7**
baz=140
SPIA **Saint Paul Isl** 11.81 286 P Pn **16 49 29.9 -0.6**
baz=88
NIKH **Nikolski High** 11.83 265 P Pn **16 49 29.3 -1.4**
baz=69
H29M **Whitestone** 11.84 22 P Pn **16 49 29.8 -0.9**
baz=211
F21K **Alatna River** 11.84 352 P Pn **16 49 30.7 -0.1**
baz=168
F20K **Avaraart Lake** 11.91 347 P Pn **16 49 31.6 0.0**
baz=161
G15K **Niukluk** 11.94 328 P Pn **16 49 31.6 -0.6**
baz=134
F24K **Squaw Lake** 11.97 2 P Pn **16 49 32.6 0.0**
baz=183
F19K **Shaleruckik Mo** 12.00 343 P Pn 16 49 31.8 -1.1
baz=155,SNR=8.3
F22K **John River** 12.03 354 P Pn **16 49 33.0 -0.4**
baz=171
ANM **Nome** 12.07 325 Pn **16 49 33.9 0.0**
ANM **Nome** 12.07 325 P Pn **16 49 33.5 -0.4**
baz=130,SNR=17
ANM **Nome** 12.07 325 P Pn **16 49 33.9 0.0**
F25K **Christian Rive** 12.14 6 P Pn **16 49 34.0 -0.9**
baz=189,SNR=25
EPYK **Eagle Plains** 12.33 24 P Pn **16 49 36.8 -0.7**
baz=215,SNR=25
F17K **Baldwin Pennin** 12.33 337 P Pn **16 49 36.5 -0.9**
baz=146
F26K **Sheenjek River** 12.35 9 P Pn **16 49 37.0 -0.8**
baz=193,SNR=18
E19K **Redstone River** 12.49 345 P Pn **16 49 40.4 +0.7**
baz=158,SNR=22
E23K **Chandalar** 12.50 359 P Pn **16 49 39.6 -0.3**
baz=178,SNR=9.1
G29M **Pine Creek** 12.51 20 P Pn **16 49 39.0 -0.9**
baz=210
F15K **North Star Dit** 12.63 330 P Pn **16 49 40.9 -0.7**
baz=135
E22K **Anaktuvuk Pass** 12.64 355 P Pn **16 49 41.5 -0.2**
baz=173
E25K **Arctic Village** 12.67 6 P Pn **16 49 41.7 -0.4**
baz=189,SNR=29
F28M **Old Crow** 12.80 16 P Pn **16 49 43.4 -0.5**
baz=204,SNR=32
BBB **Bella Bella** 12.83 97 Pn Pn 16 49 41.6 -2.7
comp=E,0.5nm,0.3s,baz=322,slow=17,SNR=1.4
BBB Sn Sn 16 51 55.2 -12
comp=E,1.0nm,0.3s,baz=145,slow=22,SNR=7.9
BBB LR LR 16 53 17.8
comp=E,1µm,21.6s,baz=304,slow=31
comp=E,12nm,0.8s
G30M **tAoh Zraii Nji** 12.94 23 P Pn **16 49 44.9 -0.9**
baz=214
F14K **Arctic Creek** 12.97 327 P Pn **16 49 46.1 -0.1**
baz=131
E17K **Hotham Inlet** 12.99 337 P Pn 16 49 45.3 -1.2
baz=146,SNR=8.6
E27K **Coleen River** 13.10 12 P Pn 16 49 46.7 -1.2
baz=199
E20K **Nigu River** 13.12 348 P Pn **16 49 47.6 -0.6**
baz=162
G31M **Satah River** 13.36 26 Pn Pn 16 49 49.6 -1.8
G31M **Satah River** 13.36 26 P Pn **16 49 50.6 -0.7**
baz=219
D22K **Ayikyak River** 13.43 354 P Pn **16 49 52.2 -0.2**
baz=171,SNR=8.5
TNA **Tin City** 13.54 325 P Pn **16 49 54.1 +0.3**
baz=128,SNR=9.0
F30M **Barrier River** 13.56 22 P Pn **16 49 53.9 -0.4**
baz=214,SNR=42
D19K **Kuna River** 13.58 346 P Pn **16 49 53.9 -0.7**
baz=157
D24K **Happy Valley** 13.60 0 P Pn **16 49 54.6 -0.1**
baz=180
E28M **Babbage River** 13.77 15 P Pn **16 49 57.6 +0.6**
baz=203
D25K **Kavik River** 13.82 4 P Pn **16 49 57.8 0.0**
baz=186
E29M **Blow River** 13.83 18 P Pn **16 49 58.9 +1.0**
baz=207
C21K **Kniefblade Rid** 13.85 351 P Pn **16 49 58.0 -0.1**
baz=166
F31M **Tsiigehtchic** 13.89 25 Pn Pn **16 49 58.4 -0.3**
F31M **Tsiigehtchic** 13.89 25 P Pn **16 49 58.0 -0.7**
baz=219,SNR=25
GAMB **Gambell** 13.97 315 P Pn **16 49 59.9 +0.1**
baz=115
KOTAN **Kotaneelee Air** 14.04 61 P Pn 16 49 58.8 -2.0
baz=262,SNR=21
C24K **Franklin Bluff** 14.17 1 P Pn **16 50 02.4 -0.1**
baz=181
D27M **Malcolm River** 14.18 12 P Pn **16 50 02.7 0.0**
baz=199
C18K **Utukok River** 14.21 342 P Pn **16 50 02.4 -0.8**
baz=151
B21K **Ikpikpuk River** 14.29 352 P Pn 16 50 02.7 -1.4
baz=167
C19K **Lookout Ridge** 14.36 345 P Pn 16 50 04.1 -1.1
baz=155
C17K **DeLong Mountai** 14.44 339 P Pn **16 50 05.7 -0.6**
baz=146
D28M **Stokes Point** 14.55 15 P Pn **16 50 07.4 -0.3**
baz=204
INK **Inuvik** 14.63 23 Pn 16 50 07.5 -1.2
baz=217,SNR=94
INK **Inuvik** 14.63 23 Pn Pn **16 50 08.8 +0.1**
comp=E,2.0nm,0.3s,baz=208,slow=14,SNR=198
INK LR LR 16 55 51.9
comp=E,425nm,20.4s,baz=186,slow=38
comp=E,95nm,0.9s
C16K **Lisburne Hills** 14.75 336 P Pn **16 50 10.3 -0.2**
baz=141
B22K **Teshekpuk Lake** 14.91 354 P Pn **16 50 12.2 -0.4**
baz=170
B18K **Kokolik River** 14.95 342 P Pn **16 50 13.2 +0.1**
baz=151
WRGLY **Wrigley** 15.03 49 IAmb IAmb 16 50 17.4
comp=E,38nm,0.7s
WRGLY **Wrigley** 15.03 49 P Pn **16 50 14.4 +0.1**
baz=252,SNR=25
ATKA **Atka Island** 15.14 267 Pn **16 50 12.9 -2.9**
ATKA IAmb IAmb 16 50 15.0
comp=Z,47nm,0.8s
ATKA **Atka Island** 15.14 267 P Pn **16 50 14.3 -1.5**
A19K **Wainwright** 15.58 345 P Pn **16 50 21.3 -0.1**
baz=154,SNR=12
A22K **Sinclair Lake** 15.67 353 P Pn **16 50 20.9 -1.6**
baz=167
A21K **Barrow** 16.11 351 P Pn **16 50 26.5 -1.7**
baz=164
ADK **Adak** 16.68 269 Pn Pn **16 50 33.7 -1.9**
ADK IAmb IAmb 16 50 42.1
comp=Z,49nm,0.9s
ADK **Adak** 16.68 269 P Pn **16 50 34.5 -1.2**
ADK **Adak** 16.68 269 P Pn **16 50 33.7 -1.9**
ADK pmax pmax
comp=Z,49nm,0.9s
KIWB **Kanaga Island** 16.96 269 P Pn **16 50 38.9 -0.3**
NLWA **Neilton Lookou** 17.65 107 P Pn **16 50 45.7 -2.2**
NLWA IAmb IAmb 16 50 51.9
comp=Z,66nm,1.1s
C36M **Paulatuk** 17.78 29 P Pn **16 50 47.5 -1.8**
baz=232,SNR=101
YKA **Yellowknife Ar** 18.84 55 P P **16 51 01.2 -0.6**
comp=Z,0.8nm,0.3s,baz=260,slow=10,SNR=109
YKA LR LR 16 57 13.0
comp=Z,173nm,21.0s,baz=305,slow=34
comp=Z,8.1nm,0.9s
A36M **Sachs Harbour** 19.27 22 P P **16 51 06.2 -0.1**
baz=224,SNR=226
F04A **Amboy** 19.34 109 P P **16 51 04.8 -2.5**
F04A IAmb IAmb 16 51 14.2
comp=Z,44nm,1.0s
B08A **Colville Reser** 19.60 99 P P **16 51 07.2 -3.1**
HOOD **Mount Hood Mea** 20.14 109 IAmb IAmb 16 51 20.3
comp=Z,42nm,0.9s
H04A **Detroit Lake** 20.28 111 IAmb IAmb 16 51 21.2
comp=Z,62nm,1.0s
E07A **Sunnyside** 20.35 104 P P **16 51 18.1 -0.3**
E07A IAmb IAmb 16 51 28.7
comp=Z,123nm,1.9s
G05A **Wamic** 20.38 109 IAmb IAmb 16 51 31.4
comp=Z,64nm,0.9s
C09A **Chrisman Ranch** 20.50 99 IAmb IAmb 16 51 31.8
comp=Z,43nm,1.1s
D08A **Wollman Farm,** 20.57 102 IAmb IAmb 16 51 27.1
comp=Z,41nm,1.1s
F07A **Phinny Hill Vi** 20.71 106 IAmb IAmb 16 51 35.2
comp=Z,37nm,0.8s
I04A **Tendick Farm,** 20.77 113 IAmb IAmb 16 51 32.6
comp=Z,94nm,1.4s
EDM **Edmonton** 20.80 82 P P **16 51 22.3 -1.0**
EDM IAmb IAmb 16 51 36.5
comp=Z,34nm,1.0s
EDM **Edmonton** 20.80 82 P P **16 51 22.3 -1.0**
EDM pmax pmax
comp=Z,34nm,1.0s
DBO **Dodson Butte** 20.82 116 IAmb IAmb 16 51 28.8
comp=Z,36nm,0.9s
NEW **Newport** 20.90 97 IAmb IAmb 16 51 32.0
comp=Z,53nm,1.1s
NEW **Newport** 20.90 97 P P **16 51 23.6 -0.7**
baz=303
NEW **Newport** 20.90 97 P P **16 51 25.4 +1.1**
comp=Z,19nm,0.9s,baz=304,slow=9.3,SNR=20
NEW LR LR 16 58 22.9
comp=Z,396nm,19.8s,baz=298,slow=34
comp=Z,19nm,0.9s
K02D **Willamette Mer** 20.91 117 IAmb IAmb 16 51 34.8
comp=Z,80nm,1.1s
I05D **Terrebonne, OR** 20.96 111 IAmb IAmb 16 51 37.7
comp=Z,38nm,0.8s
E09A **Wood Farm, Sta** 21.32 102 IAmb IAmb 16 51 32.9
comp=Z,31nm,1.0s
HUMO **Hull Mountain** 21.34 117 P P **16 51 27.7 -1.4**
HUMO IAmb IAmb 16 51 34.3
comp=Z,68nm,0.9s
PINE **Pine Mountain** 21.55 111 IAmb IAmb 16 51 36.7
comp=Z,68nm,1.1s
SHEM **Shemya Is, Ala** 21.57 278 P P **16 51 32.4 +1.0**
comp=Z,76nm,0.6s,baz=24,slow=4.6,SNR=10
SHEM LR LR 17 00 35.5
comp=Z,190nm,18.2s,baz=104,slow=39
comp=Z,76nm,0.6s
YBH **Yreka Blue Hor** 22.10 118 LR LR 16 58 01.0
comp=Z,703nm,20.3s,baz=306,slow=31
I07A **Izee** 22.11 109 IAmb IAmb 16 51 42.0
comp=Z,42nm,1.0s
F10A **Beach Ranch, E** 22.15 102 IAmb IAmb 16 51 51.0
comp=Z,43nm,1.0s
BMO **Blue Mountains** 22.81 105 IAmb IAmb 16 51 54.3
comp=Z,40nm,1.4s
PLID **Pearl Lake** 23.38 103 P P **16 51 48.2 -2.6**
MSO **Missoula** 23.49 97 IAmb IAmb 16 52 02.0
comp=Z,23nm,1.0s
MSO **Missoula** 23.49 97 P P **16 51 51.2 -0.6**
baz=305
WVOR **Wild Horse Val** 23.70 111 IAmb IAmb 16 52 02.6
comp=Z,25nm,1.0s
BILL **Bilibino** 23.82 319 *i* P P **16 51 55.0 +0.3**
ORV **Oroville** 24.35 120 P P **16 51 57.6 -2.3**
ORV IAmb IAmb 16 52 08.7
comp=Z,12nm,0.7s
ORV **Oroville** 24.35 120 P P **16 51 57.6 -2.3**
ORV pmax pmax
comp=Z,12nm,0.7s
EGMT **Eagleton** 25.19 91 IAmb IAmb 16 52 26.3
comp=Z,28nm,0.8s
EGMT **Eagleton** 25.19 91 P P **16 52 05.6 -2.0**
baz=303,SNR=6.9
HLID **Hailey** 25.23 104 P P **16 52 07.3 -0.7**
baz=311,SNR=6.3
PAHR **Pah Rah Range** 25.29 116 IAmb IAmb 16 52 18.3
comp=Z,37nm,1.3s
YERR **Yerington** 25.91 117 IAmb IAmb 16 52 26.1
comp=Z,19nm,1.0s
CMB **Columbia Colle** 26.08 120 P P **16 52 13.0 -2.7**
CMB **Columbia Colle** 26.08 120 P P **16 52 13.0 -2.7**
CMB pmax pmax
comp=Z,23nm,1.6s
YHL **Hebgen Lake** 26.21 98 IAmb IAmb 16 52 29.6
comp=Z,29nm,1.1s
FFC **Flin Flon** 26.53 72 P P **16 52 17.5 -2.1**
FFC **Flin Flon** 26.53 72 P P **16 52 17.5 -2.1**
FFC pmax pmax
comp=Z,10.0nm,0.9s
ELK **Elko** 26.70 110 LR LR 17 01 09.5
comp=Z,225nm,21.4s,baz=324,slow=33
NVAR **Mina Array Bea** 26.81 117 P P **16 52 22.9 +0.5**
comp=Z,7.7nm,0.8s,baz=304,slow=9.1,SNR=26
NVAR LR LR 17 01 10.2
comp=Z,630nm,18.9s,baz=277,slow=32
comp=Z,7.7nm,0.8s
H17A **Grant Village** 26.83 98 P P **16 52 21.3 -1.3**
baz=309
NV11 **Mina Array Sit** 26.88 117 P P **16 52 20.5 -2.5**
FLWY **Flagg Ranch** 26.96 99 IAmb IAmb 16 52 44.5
comp=Z,20nm,1.1s
TIN **Tinemaha, Big** 27.91 119 P P **16 52 32.1 -0.1**
baz=322
LAO **LASA Array** 27.93 90 IAmb IAmb 16 52 42.1
comp=Z,23nm,0.9s
LAO **LASA Array** 27.93 90 P P **16 52 30.4 -1.9**
baz=305
DGMT **Dagmar** 28.11 86 IAmb IAmb 16 52 43.1
comp=Z,26nm,0.9s
DGMT **Dagmar** 28.11 86 P P **16 52 32.0 -1.8**
baz=302
RES **Resolute Bay** 28.12 27 P P **16 52 33.2 -0.4**
RES **Resolute Bay** 28.12 27 P P **16 52 33.2 -0.4**

RES pmax pmax
comp=Z,8.0nm,0.7s
RES Resolute Bay 28.12 27 LR LR 17 04 22.8
comp=Z,262nm,18.2s,baz=207,slow=38
Q12A Willow Creek R 28.15 112 IAmb IAmb 16 52 44.4
comp=Z,19nm,0.9s
R11B Troy Canyon, C 28.27 114 IAmb IAmb 16 52 44.9
comp=Z,11nm,0.8s
R11B Troy Canyon, C 28.27 114 P **P** **16 52 35.4 -0.1**
baz=319,SNR=19
GRAC Grapevine Rang 28.39 118 IAmb IAmb 16 52 46.8
comp=Z,18nm,1.1s
GRAC Grapevine Rang 28.39 118 P **P** **16 52 36.4 0.0**
baz=322
DUG Dugway, Tooele 28.39 108 P **P** **16 52 36.1 -0.5**
baz=316
BW06 Boulder Array 28.44 100 P **P** **16 52 36.0 -1.0**
baz=311
PDAR Pinedale Array 28.44 100 P P 16 52 33.8 -3.3
PDAR Pinedale Array 28.44 100 P **P** **16 52 36.8 -0.3**
comp=Z,2.6nm,0.7s,baz=313,slow=4.9,SNR=22
PDAR LR LR 17 03 17.0
comp=Z,182nm,18.4s,baz=314,slow=35
comp=Z,2.6nm,0.7s
SPR3 Spring Creek 3 28.44 111 IAmb IAmb 16 52 47.9
comp=Z,17nm,1.0s
CWC Cottonwood Cre 28.47 119 P **P** **16 52 35.9 -1.3**
baz=323
PKM Mcpherson Peak 28.87 124 P **P** **16 52 39.3 -1.6**
baz=325
ISA Isabella, Lake 28.89 121 P **P** **16 52 40.3 -0.6**
baz=324
TPNV Topopah Spring 28.99 116 IAmb IAmb 16 52 58.7
comp=Z,11nm,0.8s
TPNV Topopah Spring 28.99 116 P **P** **16 52 40.7 -1.2**
baz=321
FURC Furnace Creek, 29.05 118 P **P** **16 52 42.0 -0.2**
baz=322
MPMC Manual Prospec 29.06 119 P **P** **16 52 42.1 -0.5**
baz=323
PRN Pahroc Range 29.25 114 IAmb IAmb 16 52 54.0
comp=Z,28nm,1.1s
GWY Greenwater Val 29.37 118 P **P** **16 52 43.6 -1.6**
GWY IAmb IAmb 16 52 55.0
comp=Z,11nm,0.8s
LRMC Laurel Mtn Rad 29.42 120 P **P** **16 52 45.0 -0.7**
baz=323,SNR=7.6
QSM Queen of Sheba 29.44 118 IAmb IAmb 16 52 55.7
comp=Z,13nm,1.1s
SHOC Shoshone, Teco 29.79 118 P **P** **16 52 48.9 0.0**
baz=322
SEY Seymchan 29.80 308 *i* P P 16 52 46.9 -1.7
SEY pmax pmax
comp=Z,13nm,0.9s
SEY Seymchan 29.80 308 LR LR 17 05 56.1
comp=Z,462nm,18.6s,baz=54,slow=39
PET Petropavlovsk 29.99 287 *i* P P 16 52 48.8 -1.6
PET pmax pmax
comp=Z,82nm,1.1s
GSC Goldstone, Bar 30.00 119 P **P** **16 52 50.9 +0.1**
baz=323
TUQ Turquoise Moun 30.33 118 P **P** **16 52 53.2 -0.5**
baz=322
SNCC San Nicolas Is 30.36 125 P **P** **16 52 53.1 -0.7**
baz=327
SRU San Rafael Swe 30.41 107 IAmb IAmb 16 53 04.5
comp=Z,15nm,0.9s
BFSC Mount Baldy Ra 30.43 121 P **P** **16 52 53.8 -0.8**
baz=325
PETK Petropavlovsk- 30.47 288 P **P** **16 52 54.0 -0.6**
comp=Z,19nm,0.8s,baz=68,slow=13,SNR=27
PETK LR LR 17 04 48.4
comp=Z,185nm,20.4s,baz=75,slow=36
comp=Z,19nm,0.8s
HEC Hector,Ludlow 30.61 119 P **P** **16 52 56.2 +0.1**
baz=323
V12A Nelson 30.65 116 IAmb IAmb 16 53 06.8
comp=Z,14nm,1.0s
PKCU Pink Cliffs 30.66 111 IAmb IAmb 16 53 06.8
comp=Z,17nm,1.0s
RSSD Black Hills 30.70 93 P P 16 52 54.3 -2.7
RSSD Black Hills 30.70 93 P **P** **16 52 56.8 -0.2**
baz=308
RSSD Black Hills 30.70 93 P P 16 52 54.3 -2.7
RSSD pmax pmax
comp=Z,22nm,0.9s
O20A White River Ci 30.94 103 P **P** **16 52 58.4 -0.8**
baz=314,SNR=7.6
GMRC Granite Mounta 30.98 118 P **P** **16 52 58.8 -0.7**
baz=323
MDND Maddock 31.04 83 P **P** **16 52 59.0 -0.8**
baz=304
EUNU Eureka 31.12 17 P **P** **16 52 59.8 -0.3**
MURC Murrieta 31.17 122 P **P** **16 53 00.7 -0.4**
baz=325
BELC Belle Mtn. Jos 31.43 120 P **P** **16 53 02.8 -0.7**
baz=324
MA2 Magadan 31.50 302 P **P** **16 53 02.6 -1.1**
MA2 Magadan 31.50 302 *ce* P **P** **16 53 04.7 +1.0**
MA2 pmax pmax
comp=Z,36nm,1.7s
MA2 Magadan 31.50 302 LR LR 17 07 23.2
comp=Z,355nm,19.0s,baz=80,slow=39
PFO Pinyon Flats O 31.52 121 LR LR 17 03 16.3
comp=Z,267nm,21.6s,baz=322,slow=32
TPFO Pinon Flats 31.53 121 P P 16 53 01.7 -2.6
baz=325
W13A Hualapai Mount 31.63 116 IAmb IAmb 16 53 15.4
comp=Z,14nm,1.1s
N23A Red Feather La 31.70 99 P P 16 53 03.9 -2.0
baz=313
IRM Iron Mountain 31.73 118 P **P** **16 53 05.9 -0.1**
baz=323
ULM Lac du Bonnet 31.85 77 P **P** **16 53 06.8 -0.1**
comp=Z,3.4nm,0.8s,baz=264,slow=13,SNR=4.9
ULM LR LR 17 05 19.9
comp=Z,364nm,20.5s,baz=294,slow=35
comp=Z,3.4nm,0.8s
BC3 Big Chuckawall 31.98 119 P **P** **16 53 08.1 -0.2**
baz=324
PDMCI Parker Dam,Lak 32.12 117 P **P** **16 53 09.1 -0.2**
baz=323
MONP2 Monument Peak 32.12 121 P **P** **16 53 10.4 +0.7**
baz=325
SWSC Sam W. Stewart 32.38 120 P **P** **16 53 11.8 +0.1**
baz=325
IKP In-Ko-Pah, Jac 32.47 121 P **P** **16 53 13.5 +0.9**
baz=325
WUAZ Wupatki 32.61 112 P **P** **16 53 14.3 +0.4**
baz=320,SNR=7.1
ISCO Idaho Springs 32.63 101 P **P** **16 53 14.6 +0.4**
baz=314
MVCO Mesa Verde 32.88 107 IAmb IAmb 16 53 51.5
comp=Z,36nm,1.9s
MVCO Mesa Verde 32.88 107 P **P** **16 53 16.6 +0.3**
baz=318
AGMN Agassiz Nation 32.89 80 P **P** **16 53 14.3 -1.7**
AGMN IAmb IAmb 16 53 25.2
comp=Z,20nm,0.9s
AGMN Agassiz Nation 32.89 80 P **P** **16 53 16.8 +0.7**
baz=303,SNR=8.0
Y14A Wickenburg 32.99 116 IAmb IAmb 16 53 26.9
comp=Z,13nm,1.0s
SUSD Miller 33.38 88 P **P** **16 53 21.8 +1.4**
baz=308
S22A 4UR Ranch, Cre 33.41 104 P **P** **16 53 21.3 +0.4**
baz=316
X16A Lo Mia Camp, P 33.42 113 IAmb IAmb 16 53 31.4
comp=Z,18nm,0.8s
Q24A Divide 33.47 101 P **P** **16 53 22.9 +1.4**
baz=315
OGNE Ogallala 33.87 96 P **P** **16 53 26.0 +1.3**
baz=312
F33A 5 Mile Ranch, 34.05 84 IAmb IAmb 16 53 35.0
comp=Z,16nm,1.1s
X18A Snowflake 34.12 112 IAmb IAmb 16 53 37.1
comp=Z,12nm,0.9s
SDCO Great Sand Dun 34.14 103 P **P** **16 53 28.0 +0.7**
baz=316
214A Organ Pipe Nat 34.66 118 P **P** **16 53 32.1 +0.5**
baz=324
KSCO Kaye Shedlock' 34.85 99 P **P** **16 53 33.2 0.0**
baz=314
ECSD EROS Data Cent 35.15 87 IAmb IAmb 16 53 44.3
comp=Z,12nm,0.9s
T25A Trinidad 35.18 103 P **P** **16 53 36.7 +0.5**
baz=316
TUC Tucson 35.41 115 P **P** **16 53 38.6 +0.5**
baz=323
EYMN Ely 35.52 78 P **P** **16 53 38.5 -0.3**
EYMN Ely 35.52 78 P **P** **16 53 39.2 +0.4**
baz=305
ANMO Albuquerque 35.67 107 P P 16 53 37.7 -2.7
ANMO Albuquerque 35.67 107 P **P** **16 53 40.5 0.0**
baz=319
ANMO Albuquerque 35.67 107 *e* P **P** **16 53 40.0 -0.4**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 35.67 107 LR LR 17 07 28.6
comp=Z,100nm,20.0s,baz=44,slow=35
E38A The Farm, Brul 36.26 80 P P 16 53 41.9 -3.2
TIXI Tiksi 36.30 328 P **P** **16 53 44.4 -0.8**
TIXI IAmb IAmb 16 53 47.2
comp=Z,18nm,1.1s
TIXI Tiksi 36.30 328 *ce* P **P** **16 53 45.5 +0.3**
TIXI pmax pmax
comp=Z,22nm,1.3s
SPMN Marine on St. 36.38 82 P **P** **16 53 46.4 +0.2**
baz=306
121A Cookes Peak, D 36.80 111 IAmb IAmb 16 54 00.5
comp=Z,21nm,1.1s
121A Cookes Peak, D 36.80 111 P **P** **16 53 49.9 -0.2**
baz=322
NEEM North Greenlan 38.18 21 *i* P **P** **16 54 01.6 +0.1**
NEEM IAmb IAmb 16 54 07.4
comp=Z,14nm,0.7s
AMTX Amarillo 38.33 103 P **P** **16 54 03.9 +1.0**
baz=318
MNTX Cornudas Mount 38.73 110 P **P** **16 54 06.5 +0.3**
baz=322,SNR=7.1
FRB Frobisher Bay 38.84 44 LR LR 17 10 04.4
comp=Z,235nm,18.8s,baz=340,slow=36
JFWS Jewell Farm 39.26 83 P **P** **16 54 10.4 -0.2**
baz=310
L40A Anamosa 39.26 85 IAmb IAmb 16 54 19.1
comp=Z,21nm,0.9s
P38A Dawn 39.57 90 IAmb IAmb 16 54 21.9
comp=Z,24nm,0.8s
TYV Tymovskoe 39.62 293 *e* P **P** **16 54 14.3 +0.9**
TYV pmax pmax
comp=Z,28nm,0.9s
TYV pmax pmax
comp=Z,2μm,1.6s
YAK Yakutsk 39.92 313 P **P** **16 54 15.5 -0.2**
YAK Yakutsk 39.92 313 *e* P **P** **16 54 16.2 +0.5**
YAK *e* 16 55 54.3
YAK *e* S **S** **17 00 22.7 +2.5**
YAK *e* SS **SS** **17 03 17.4 +1.2**
YAK *e* 17 04 24.3
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,177nm,4.1s
YAK pmax pmax
comp=N,113nm,4.3s
YAK pmax pmax
comp=E,308nm,4.6s
YAK smax smax
comp=N,571nm,4.8s
YAK smax smax
comp=E,242nm,4.3s
YAK MLR MLR
comp=Z,267nm,23.0s
YAK MLR MLR
comp=E,203nm,18.0s
YAK Yakutsk 39.92 313 LR LR 17 11 16.9
comp=E,215nm,18.6s,baz=88,slow=37
P40A Paris 40.48 89 IAmb IAmb 16 54 29.2
comp=Z,12nm,0.8s
R40A Maddies Statio 41.20 90 IAmb IAmb 16 54 34.5
comp=Z,14nm,0.7s
U38A Gravette 41.30 94 IAmb IAmb 16 54 37.0
comp=Z,18nm,1.2s
HDIL Hopedale 41.35 85 P **P** **16 54 27.9 +0.1**
baz=312
TX31 Lajitas Ar. Si 41.49 110 P P 16 54 24.6 -4.7
TXAR Lajitas Array 41.49 110 P P 16 54 25.2 -4.1
TXAR Lajitas Array 41.49 110 P **P** **16 54 30.0 +0.8**
comp=Z,2.5nm,0.8s,baz=317,slow=6.3,SNR=22
TXAR LR LR 17 10 48.3
comp=Z,192nm,18.4s,baz=320,slow=35
comp=Z,2.5nm,0.8s
YSS Yuzh-Sakhalins 41.88 288 *ce* P **P** **16 54 32.3 +0.2**
YSS pmax pmax
comp=Z,85nm,1.7s
CCM Cathedral Cave 41.95 90 P **P** **16 54 32.7 0.0**
baz=314
J47A Sunmer 42.10 79 P **P** **16 54 33.0 -0.9**
LPIG La Paz 42.39 122 LR LR 17 09 33.6
comp=Z,140nm,20.2s,baz=28,slow=32
JCT Junction City 42.69 105 P **P** **16 54 39.4 +0.4**
baz=321
SFIN Lafayette 42.71 84 P **P** **16 54 38.6 -0.3**
baz=313
FCAR Ozark Folk Cen 42.97 93 IAmb IAmb 16 54 48.6
comp=Z,10nm,0.8s
DRIO Del Rio 43.06 107 P P 16 54 38.5 -3.5
DRIO IAmb IAmb 16 54 45.5
comp=Z,13nm,0.8s
S44A Carbondale 43.33 89 IAmb IAmb 16 54 52.3
comp=Z,14nm,0.7s
SUMG Summit 43.55 24 P **P** **16 54 44.5 -1.2**
SUMG IAmb IAmb 16 55 02.5
comp=Z,22nm,1.0s
SUMG Summit 43.55 24 P **P** **16 54 44.6 -1.2**
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 43.55 24 *i* P **P** **16 54 46.0 +0.2**
SUMG IAmb IAmb 16 54 47.4
comp=Z,9.6nm,0.7s
SFJD Kangerlussuaq 43.60 34 P **P** **16 54 45.2 -0.5**
SFJD IAmb IAmb 16 54 51.2
comp=Z,23nm,1.1s
SFJD Kangerlussuaq 43.60 34 P **P** **16 54 45.2 -0.5**
SFJD pmax pmax
comp=Z,23nm,1.1s
SFJD Kangerlussuaq 43.60 34 LR LR 17 12 58.8
comp=Z,288nm,18.1s,baz=314,slow=36
SFJD Kangerlussuaq 43.60 34 *i* P **P** **16 54 45.6 -0.2**
SFJD IAmb IAmb 16 54 48.6
comp=Z,8.0nm,0.8s
435B Jarrell 43.68 103 P **P** **16 54 46.6 -0.3**
baz=320
ASAJ Asahikawa 43.75 285 LR LR 17 11 59.7
comp=Z,108nm,21.6s,baz=12,slow=35
O48B Farmland 43.88 83 IAmb IAmb 16 54 56.0
comp=Z,18nm,0.9s
O48B Farmland 43.88 83 P **P** **16 54 48.6 +0.1**
baz=313
SADO Sadowa 44.24 74 LR LR 17 12 25.1
comp=Z,178nm,19.4s,baz=266,slow=35
SCHQ Schefferville 44.30 55 P **P** **16 54 50.7 -0.9**
SCHQ IAmb IAmb 16 55 02.0
comp=Z,22nm,1.1s
SCHQ Schefferville 44.30 55 P **P** **16 54 51.3 -0.3**
comp=Z,9.7nm,0.7s,baz=326,slow=7.4,SNR=14
SCHQ LR LR 17 13 33.5
comp=Z,39nm,19.8s,baz=280,slow=36
comp=Z,9.7nm,0.7s
833A Chaparral WMA, 44.59 107 P **P** **16 54 53.0 -1.2**
baz=322
P49A Imami Univ. Ec 44.62 83 P **P** **16 54 54.8 +0.4**
baz=314
WCI Wyandotte Cave 44.63 86 P **P** **16 54 54.0 -0.5**
baz=314
ACSO Alum Creek Sta 45.12 81 P **P** **16 54 58.3 0.0**
baz=313
WVT Waverly 45.24 89 P **P** **16 55 00.0 +0.7**
baz=316
DY2G Dye2 45.29 33 *i* P **P** **16 54 59.1 -0.5**
DY2G IAmb IAmb 16 55 04.3
comp=Z,5.8nm,0.8s
OXF Oxford 45.50 92 P **P** **16 55 01.9 +0.4**
baz=317
ERPA Erie 45.52 77 P **P** **16 55 03.0 +1.5**
baz=312
ICESG Greenland Ices 45.52 28 *i* P **P** **16 55 00.4 -1.2**
ICESG IAmb IAmb 16 55 06.5
comp=Z,12nm,0.7s
M53A WI Miller and 45.59 78 P **P** **16 55 02.6 +0.6**
baz=313
ZEA Zeya 45.60 304 *e* P **P** **16 55 02.5 +0.6**
ZEA *e* 16 55 11.6
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
P52A Corning 46.01 81 P **P** **16 55 05.3 0.0**
baz=314
O53A New Philadelph 46.10 80 P **P** **16 55 05.6 -0.5**
baz=313
SPITS Spitsbergen Ar 46.18 4 P **P** **16 55 06.5 +0.2**
comp=Z,2.9nm,0.5s,baz=19,slow=5.5,SNR=12
SPITS LR LR 17 12 33.6
comp=Z,114nm,21.0s,baz=318,slow=34
comp=Z,2.9nm,0.5s
KLR Kul'dur 46.23 297 *ce* P **P** **16 55 07.4 +0.5**
KLR pmax pmax
comp=Z,45nm,1.7s
KLR Kul'dur 46.23 297 LR LR 17 15 46.9
comp=Z,77nm,18.7s,baz=62,slow=38
LONY Lake Ozonia 46.80 71 P **P** **16 55 11.7 +0.1**
baz=312
L56A Greenwood 46.84 75 P P 16 55 09.6 -2.3
MCWV Mont Chateau 47.27 79 P **P** **16 55 16.6 +1.3**
baz=314
TZTN Tazewell 47.37 85 P **P** **16 55 16.6 +0.6**
baz=316
BINY Binghamton 47.66 74 P **P** **16 55 20.1 +1.8**
baz=313
SSPA Standing Stone 47.68 77 P **P** **16 55 19.8 +1.4**
baz=314
HEH HeiHe 47.73 300 *e* P **P** **16 55 17.8 -0.8**
HEH pmax pmax
comp=Z,15nm,1.1s
TKL Tuckaleechee C 47.87 86 LR LR 17 15 06.6
comp=Z,501nm,18.8s,baz=322,slow=36
LRAL Lakeview Retre 47.95 91 P **P** **16 55 21.0 +0.5**
baz=318
V53A Saluda 48.41 85 IAmb IAmb 16 55 33.8
comp=Z,17nm,1.1s
LBNH Lisbon 48.47 69 P **P** **16 55 23.9 -0.6**
baz=313
ANGG Ammassalik, Gr 48.48 31 *i* P **P** **16 55 22.9 -1.3**
ANGG IAmb IAmb 16 55 33.6
comp=Z,10nm,0.6s
H11N2 WAKE ISLAND Hy 48.63 241 T T 17 46 50.5
baz=32,slow=74,SNR=39
H11N3 WAKE ISLAND Hy 48.64 241 T T 17 46 38.8
baz=32,slow=74,SNR=37
H11N1 WAKE ISLAND Hy 48.65 241 T T 17 46 44.5
baz=32,SNR=28
BLA Blacksburg 48.66 82 P **P** **16 55 25.9 -0.2**
baz=316
BOD Bodaibo 48.77 315 *e* P **P** **16 55 26.5 -0.1**
BOD pmax pmax
comp=Z,29nm,0.9s
NRIK Noril'sk 48.77 337 P P 16 55 25.1 -1.4
NRIK IAmb IAmb 16 55 28.1
comp=Z,18nm,1.1s
NRIK Noril'sk 48.77 337 P **P** **16 55 27.1 +0.6**
comp=Z,9.1nm,0.7s,baz=50,slow=5.0,SNR=11
NRIK LR LR 17 17 40.4
comp=Z,288nm,20.7s,baz=40,slow=38
comp=Z,9.1nm,0.7s
PKME Peaks-Kenny Pk 49.17 67 P **P** **16 55 29.2 -0.6**
baz=313
L61B Northampton 49.28 72 P **P** **16 55 30.6 -0.2**
baz=314
USRK Ussuriysk Ar. 49.42 292 P **P** **16 55 32.2 +0.5**
comp=Z,5.0nm,0.8s,baz=51,slow=7.1,SNR=11
USRK LR LR 17 15 50.0
comp=Z,228nm,21.9s,baz=47,slow=35
comp=Z,5.0nm,0.8s
PAL Palisades 49.62 74 P **P** **16 55 34.2 +1.0**
baz=314
KMSC Kings Mountain 49.63 85 P P 16 55 31.5 -1.9
baz=317
GOGA Godfrey 49.68 88 P **P** **16 55 32.4 -1.4**
baz=318
H11S1 WAKE ISLAND Hy 49.77 240 T T 17 50 02.9
baz=28,slow=76,SNR=28
H11S2 WAKE ISLAND Hy 49.78 240 T T 17 50 03.4
baz=28,slow=76,SNR=20
H11S3 WAKE ISLAND Hy 49.79 240 T T 17 50 07.1
baz=28,slow=76,SNR=29
HRV Adam Dziewonsk 49.85 71 P **P** **16 55 34.2 -0.8**
baz=314
MDJ Mudanjiang 50.39 294 P **P** **16 55 39.3 +0.2**
MDJ pP pP 16 55 41.8 +0.9
MDJ sP sP 16 55 43.4 +1.8
MDJ PcP **PcP** **16 57 00.9 +3.5**
MDJ PP **PP** **16 57 31.6 -2.7**
MDJ S S 17 02 46.6 -5.4
MDJ SS **SS** **17 06 19.3 -5.8**
MDJ pmax pmax
comp=Z,17nm,1.1s
MDJ pmax pmax
comp=Z,360nm,5.2s
MDJ LR LR
comp=Z,1μm,16.8s
MDJ LR LR
comp=Z,1μm,15.0s
MDJ LR LR
comp=Z,1μm,15.1s
MJAR Matsushiro Arr 51.38 280 P **P** **16 55 47.4 +0.7**
comp=Z,4.7nm,0.6s,baz=43,slow=6.3,SNR=15
MJAR LR LR 17 17 17.6
comp=Z,56nm,21.2s,baz=46,slow=36
comp=Z,4.7nm,0.6s
HIA Hailar 52.08 304 IAmb IAmb 16 55 53.0
comp=Z,10nm,0.8s
CIT Chita 52.95 310 *e* P **P** **16 55 59.8 +1.6**
BORG Borgarnes 53.51 25 LR LR 17 19 33.3
comp=Z,200nm,18.3s,baz=319,slow=37
ARCES ARCESS Array B 55.11 2 P **P** **16 56 13.8 +0.2**
comp=Z,1.5nm,0.4s,baz=3.5,slow=6.7,SNR=14
ARCES LR LR 17 22 52.1
comp=Z,52nm,18.0s,baz=314,slow=39
comp=Z,1.5nm,0.4s
CMIG Matias Romero 56.09 111 LR LR 17 20 20.4
comp=Z,88nm,18.9s,baz=7.0,slow=36
KSRS Korea Array 56.37 288 P **P** **16 56 24.3 +1.2**
comp=Z,6.9nm,0.8s,baz=43,slow=6.9,SNR=13
KSRS LR LR 17 20 41.1
comp=Z,32nm,18.2s,baz=65,slow=36
comp=Z,6.9nm,0.8s
KSAR Wonju Array Be 56.40 288 P **P** **16 56 22.7 -0.6**
KSAR Wonju Array Be 56.40 288 P **P** **16 56 22.7 -0.6**
TEIG Tepich 57.13 103 LR LR 17 21 21.0
comp=Z,525nm,20.4s,baz=60,slow=36
XLT XiLinHaoTe 57.69 302 *e* P **P** **16 56 33.1 +0.6**
XLT pmax pmax
comp=Z,6.0nm,1.0s
XLT pmax pmax
comp=Z,360nm,5.6s
JNU Nakatsue 57.97 283 LR LR 17 21 03.7
comp=Z,58nm,21.7s,baz=42,slow=36
ZAK Zakamensk 58.50 314 *e* P **P** **16 56 37.8 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 58.85 310 P **P** **16 56 40.6 -0.1**
ULN IAmb IAmb 16 56 42.4
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 58.85 310 P **P** **16 56 40.6 -0.1**
ULN pmax pmax
comp=Z,6.0nm,0.6s
SONM Songino Array 59.16 311 P **P** **16 56 42.9 +0.1**
SONM Songino Array 59.16 311 P **P** **16 56 44.1 +1.4**
comp=Z,12nm,0.9s,baz=41,slow=6.6,SNR=58
SONM LR LR 17 25 03.0
comp=Z,162nm,19.6s,baz=14,slow=39
comp=Z,12nm,0.9s
BJI Beijing 60.55 299 P **P** **16 56 53.0 +0.8**
BJI pmax pmax
comp=Z,3.0nm,0.5s
HHC Hu-ho-hao-te 62.18 302 *e* P P 16 57 01.8 -1.7
HHC pmax pmax
comp=Z,38nm,0.6s
HHC pmax pmax
comp=Z,400nm,6.9s
ZAA0 Zalesovo Array 62.19 327 P **P** **16 57 02.6 -0.5**
ZALV Zalesovo Beam 62.19 327 P **P** **16 57 03.1 0.0**
ZALV Zalesovo Beam 62.19 327 P **P** **16 57 03.6 +0.5**
comp=Z,11nm,0.7s,baz=28,slow=6.8,SNR=59
ZALV LR LR 17 27 41.3
comp=Z,208nm,20.4s,baz=16,slow=40
comp=Z,11nm,0.7s

NB2	**NORSAR Subarra**	**62.66**	**11**	P		**P**		**16 57 06.2**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=346,slow=6.9								
NOA	**NORSAR Array B**	**62.66**	**11**	P		**P**		**16 57 06.6**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=346,slow=6.9,SNR=6.5								
NOA				LR		LR		17 26 14.7	
	comp=Z,29nm,19.6s,baz=355,slow=38								
	comp=Z,3.1nm,0.8s								
FINES	**FINESS Array B**	**63.23**	**3**	P		**P**		**16 57 10.8**	**+0.8**
	comp=Z,5.2nm,0.5s,baz=9.0,slow=8.6,SNR=20								
FINES				LR		LR		17 24 44.2	
	comp=Z,64nm,19.3s,baz=49,slow=36								
	comp=Z,5.2nm,0.5s								
HNS	**HongShan**	**63.30**	**298**	⇓P		**P**		**16 57 12.3**	**+1.5**
HNS				pmax		pmax			
	comp=Z,22nm,0.7s								
KLMR	**Klimovskoe**	**63.69**	**355**	*e*P		P		16 57 10.8	-2.2
KLMR				pmax		pmax			
	comp=Z,24nm,1.7s								
HFS	**Hagfors**	**63.80**	**9**	P		**P**		**16 57 14.2**	**+0.4**
	comp=Z,4.2nm,1.0s,baz=318,slow=4.0,SNR=4.3								
HFS				LR		LR		17 25 00.9	
	comp=Z,67nm,20.0s,baz=318,slow=36								
	comp=Z,4.2nm,1.0s								
JOW	**Kunigami**	**64.23**	**280**	LR		LR		17 24 17.1	
	comp=Z,26nm,21.6s,baz=89,slow=35								
DGZ	**Jazzator, Alta**	**64.98**	**323**	*c i*P		**P**		**16 57 23.0**	**+1.2**
DGZ				pmax		pmax			
	comp=Z,44nm,1.6s								
KIRV	**Kirov**	**65.19**	**349**	*i* P		**P**		**16 57 22.1**	**-0.7**
KIRV	**Kirov**	**65.19**	**349**	LR		LR		17 29 43.1	
	comp=Z,76nm,18.4s,baz=8.9,slow=40								
NJ2	**Nanjing**	**65.31**	**291**	*e*P		P		16 57 22.5	-1.6
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
SVE	**Sverdlovsk**	**65.36**	**343**	⇓*e*P		**P**		**16 57 24.5**	**+0.5**
SVE				pmax		pmax			
	comp=Z,23nm,1.2s								
EKA	**Eskdalemuir Ar**	**65.98**	**21**	P		**P**		**16 57 28.1**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=318,slow=5.6,SNR=4.9								
	comp=Z,3.9nm,0.8s								
ARU	**Arti**	**66.08**	**344**	P		**P**		**16 57 28.5**	**-0.2**
ARU	**Arti**	**66.08**	**344**	*c i*P		**P**		**16 57 28.4**	**-0.2**
ARU								16 57 56.3	
ARU				S		**S**		**17 06 18.3**	**+1.9**
ARU				SS		**SS**		**17 10 30.8**	**+0.1**
ARU				pmax		pmax			
	comp=Z,28nm,1.5s								
ARU	**Arti**	**66.08**	**344**	LR		LR		17 30 02.2	
	comp=Z,97nm,18.3s,baz=84,slow=39								
SEM	**Semipalatinsk**	**66.66**	**328**	*e*P		**P**		**16 57 32.2**	**-0.6**
	baz=328								
SEM	**Semipalatinsk**	**66.66**	**328**	*e*P		**P**		**16 57 32.1**	**-0.6**
LYN	**LuoYang**	**66.66**	**297**	⇑P		**P**		**16 57 33.8**	**+1.1**
LYN				pmax		pmax			
	comp=Z,30nm,0.9s								
KURK	**Kurchatov**	**66.87**	**329**	P		**P**		**16 57 33.5**	**-0.3**
KURK				IAmb		IAmb		16 57 35.0	
	comp=Z,12nm,1.1s								
KURK	**Kurchatov**	**66.87**	**329**	P		**P**		**16 57 34.7**	**+1.0**
BRVK	**Borovoye**	**66.94**	**335**	P		**P**		**16 57 34.1**	**-0.1**
BRVK	**Borovoye**	**66.94**	**335**	*ce*P		**P**		**16 57 34.3**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,23nm,1.7s								
BVA0	**Borovoye Array**	**66.94**	**335**	*i* P		**P**		**16 57 34.2**	**0.0**
BVAR	**Borovoye Array**	**66.94**	**335**	P		**P**		**16 57 34.5**	**+0.2**
	comp=Z,11nm,0.7s,baz=32,slow=7.2,SNR=63								
BVAR				LR		LR		17 30 23.1	
	comp=Z,139nm,19.6s,baz=25,slow=39								
	comp=Z,11nm,0.7s								
KURBB	**Kurchatov Array**	**66.97**	**329**	P		**P**		**16 57 34.6**	**+0.2**
	comp=Z,8.0nm,0.7s,baz=28,slow=6.3,SNR=60								
KURBB				LR		LR		17 30 59.1	
	comp=Z,107nm,20.2s,baz=169,slow=40								
	comp=Z,8.0nm,0.7s								
JTS	**Las Juntas de**	**67.07**	**106**	LR		LR		17 29 27.7	
	comp=Z,43nm,18.1s,baz=317,slow=38								
ZSN	**Zaisan**	**67.78**	**324**	*e*P		**P**		**16 57 40.9**	**+1.2**
	comp=Z,9.7nm,0.8s,baz=324								
ZSN	**Zaisan**	**67.78**	**324**	*e*P		**P**		**16 57 40.8**	**+1.2**
ZSN				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GTA	**Gaotai**	**68.75**	**309**	P		**P**		**16 57 46.3**	**+0.3**
GTA				pP		sP		16 57 52.3	+3.8
GTA				pmax		pmax			
	comp=Z,6.0nm,1.4s								
GTA				LR		LR			
	comp=Z,260nm,17.5s								
GTA				LR		LR			
	comp=Z,230nm,17.5s								
GTA				LR		LR			
	comp=Z,290nm,20.3s								
XAN	**Xi'an**	**68.84**	**299**	P		**P**		**16 57 46.6**	**+0.1**
XAN				sP		sP		16 57 52.6	+3.6
XAN				pmax		pmax			
	comp=Z,22nm,1.4s								
BRZS	**Berezniki**	**69.17**	**333**	*e*P		**P**		**16 57 48.0**	**-0.3**
	comp=Z,9.9nm,1.5s,baz=333								
BRZS	**Berezniki**	**69.17**	**333**	*e*P		**P**		**16 57 48.0**	**-0.3**
BRZS				pmax		pmax			
	comp=Z,10.0nm,1.5s								
MK31	**Makanchi Array**	**69.21**	**325**	IAmb		IAmb		16 57 49.7	
	comp=Z,12nm,1.1s								
MK31	**Makanchi Array**	**69.21**	**325**	*i* P		**P**		**16 57 48.4**	**-0.2**
MKAR	**Makanchi Array**	**69.21**	**325**	P		**P**		**16 57 48.8**	**+0.2**
	comp=Z,10nm,0.7s,baz=41,slow=6.3,SNR=101								
MKAR				LR		LR		17 32 32.4	
	comp=Z,161nm,18.8s,baz=34,slow=40								
	comp=Z,10nm,0.7s								
MAKZ	**Makanchi**	**69.30**	**325**	P		**P**		**16 57 49.1**	**0.0**
MAKZ	**Makanchi**	**69.30**	**325**	P		**P**		**16 57 49.1**	**0.0**
MAKZ				pmax		pmax			
	comp=Z,17nm,0.8s								
OBN	**Obninsk**	**69.55**	**357**	⇑*e*P		**P**		**16 57 49.3**	**-1.1**
OBN				*e*				17 00 22.5	
OBN				pmax		pmax			
	comp=Z,17nm,1.0s								
OBN				MLR		MLR			
	comp=Z,100nm,15.0s								
LZH	**Lanzhou**	**69.63**	**304**	*e*P		**P**		**16 57 50.3**	**-1.3**
LZH				pP		sP		16 57 57.5	+3.4
LZH				pmax		pmax			
	comp=Z,6.0nm,1.2s								
LZH				LR		LR			
	comp=Z,360nm,15.5s								
LZH				LR		LR			
	comp=Z,350nm,19.2s								
WMQ	**Urumqi**	**69.93**	**320**	*e*P		**P**		**16 57 54.8**	**+1.7**
WMQ				pP		sP		16 57 59.5	+3.8
WMQ				pmax		pmax			
	comp=Z,22nm,1.3s								
MNK	**Minsk**	**70.23**	**2**	*i* P		**P**		**16 57 55.7**	**+1.0**
MNK				*i*				16 58 17.2	
MNK				*i*				17 00 31.0	
MNK				*i* PPP		PPP		17 02 13.1	
MNK				*i* S		**S**		**17 07 08.4**	**+2.5**
MNK				*i*				17 07 58.4	
MNK				*i* SS		**SS**		**17 11 39.6**	**+5.0**
MNK				pmax		pmax			
	comp=Z,18nm,0.9s								
MNK				pmax		pmax			
	comp=E,9.0nm,0.9s								
MNK				pmax		pmax			
	comp=N,23nm,0.9s								
MNK				MLR		MLR			
	comp=E,243nm,20.0s								
MNK				MLR		MLR			
	comp=N,432nm,20.0s								
MNK				MLR		MLR			
	comp=Z,84nm,16.0s								
SJG	**San Juan**	**71.30**	**85**	LR		LR		17 30 09.7	
	comp=Z,70nm,19.2s,baz=152,slow=37								
BELG	**Belogornoye**	**71.48**	**349**	*c i*P		**P**		**16 58 02.1**	**-0.2**
BELG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BELG	**Belogornoye**	**71.48**	**349**	LR		LR		17 32 57.5	
	comp=Z,83nm,18.9s,baz=349,slow=39								
AKTO	**Aktyubinsk**	**71.94**	**342**	P		**P**		**16 58 04.9**	**-0.3**
TDK	**Taldyqorghan**	**72.04**	**327**	*e*P		**P**		**16 58 06.6**	**+0.6**
	comp=Z,18nm,1.0s,baz=327								
TDK	**Taldyqorghan**	**72.04**	**327**	*e*P		**P**		**16 58 06.5**	**+0.6**
TDK				pmax		pmax			
	comp=Z,18nm,1.0s								
AB31	**Akbulak array**	**72.72**	**341**	*i* P		**P**		**16 58 09.8**	**0.0**
ABKAR	**Akbulak array**	**72.72**	**341**	P		**P**		**16 58 09.7**	**-0.1**
PPT	**Papeete**	**72.88**	**180**	LR		LR		17 23 44.1	
	comp=Z,62nm,19.3s,baz=39,slow=30								
PPT2	**Papeete2**	**72.90**	**180**	*e*LR		LR		17 20 15.2	
	comp=Z,208nm,27.8s								
PPT2				*e*LR		LR		17 20 15.7	
	comp=Z,112nm,27.5s								
BRG	**Berggiesshubel**	**72.96**	**11**	*e*P		**P**		**16 58 15.8**	**+4.5**
BRG				Amp				16 58 22.0	
	comp=Z,6.8nm,0.9s								
BRG	**Berggiesshubel**	**72.96**	**11**	*e*P		**P**		**16 58 15.7**	**+4.5**
BRG				pmax		pmax			
	comp=Z,7.0nm,1.0s								
HSKC	**Hora Svate Kat**	**73.16**	**12**	*e*P		**P**		**16 58 15.3**	**+2.8**
VRH	**Novokhopyorsk**	**73.18**	**353**	*e*P		P		16 58 05.2	-7.3
VRH				pmax		pmax			
	comp=Z,3.0nm,0.4s								
BTLS	**Baital**	**73.31**	**330**	*e*P		**P**		**16 58 13.9**	**+0.5**
	comp=Z,5.9nm,0.6s,baz=330								
BTLS	**Baital**	**73.31**	**330**	*e*P		**P**		**16 58 13.9**	**+0.5**
BTLS				pmax		pmax			
	comp=Z,6.0nm,0.6s								
VSR	**Storozhevoye**	**73.33**	**355**	*e*P		P		16 58 05.8	-7.6
VSR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
KPKS	**Kokpek**	**73.33**	**326**	*e*P		**P**		**16 58 14.5**	**+0.8**
	comp=Z,12nm,1.1s,baz=326								
KPKS	**Kokpek**	**73.33**	**326**	*e*P		**P**		**16 58 14.5**	**+0.8**
KPKS				pmax		pmax			
	comp=Z,13nm,1.1s								
SHLS	**Shalkode**	**73.36**	**325**	*e*P		**P**		**16 58 14.3**	**+0.4**
	comp=Z,12nm,0.7s,baz=325								
SHLS	**Shalkode**	**73.36**	**325**	*e*P		**P**		**16 58 14.2**	**+0.4**
SHLS				pmax		pmax			
	comp=Z,12nm,0.7s								
PVCC	**Panska Ves**	**73.36**	**11**	*e*P		**P**		**16 58 17.1**	**+3.5**
PVCC	**Panska Ves**	**73.36**	**11**	*e*P		**P**		**16 58 17.1**	**+3.5**
UZB	**Uzynbulak**	**73.51**	**325**	*e*P		**P**		**16 58 15.0**	**+0.2**
	comp=Z,15nm,1.1s,baz=325								
UZB	**Uzynbulak**	**73.51**	**325**	*e*P		**P**		**16 58 15.0**	**+0.2**
UZB				pmax		pmax			
	comp=Z,15nm,1.1s								
CHKK	**Chushkaly**	**73.52**	**327**	*e*P		**P**		**16 58 14.5**	**-0.2**
	baz=327								
CHKK	**Chushkaly**	**73.52**	**327**	*e*P		**P**		**16 58 14.4**	**-0.2**
KUU	**Kurty**	**73.68**	**328**	*e*P		**P**		**16 58 15.8**	**+0.1**
	comp=Z,16nm,1.0s,baz=328								
KUU	**Kurty**	**73.68**	**328**	*e*P		**P**		**16 58 15.7**	**+0.1**
KUU				pmax		pmax			
	comp=Z,16nm,1.0s								
ZHN	**Zhinishke**	**73.68**	**326**	*e*P		**P**		**16 58 16.4**	**+0.6**
	comp=Z,16nm,1.4s,baz=326								
ZHN	**Zhinishke**	**73.68**	**326**	*e*P		**P**		**16 58 16.3**	**+0.6**
ZHN				pmax		pmax			
	comp=Z,16nm,1.4s								
DPC	**Dobruska-Polom**	**73.72**	**10**	*e*P		**P**		**16 58 18.3**	**+2.5**
DPC				*ex*		x		16 58 25.4	
DPC	**Dobruska-Polom**	**73.72**	**10**	*e*P		**P**		**16 58 18.3**	**+2.5**
DPC				*e*				16 58 25.4	
KRLC	**Kraliky**	**74.03**	**9**	*ep*P		**P**		**16 58 20.9**	**+3.3**
KRLC				*ex*		x		16 58 27.6	
KRLC	**Kraliky**	**74.03**	**9**	*e*P		**P**		**16 58 20.9**	**+3.3**
KRLC				*e*				16 58 27.6	
AKASG	**Malin Array Be**	**74.05**	**1**	P		**P**		**16 58 17.8**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=356,slow=5.2,SNR=24								
AKASG				LR		LR		17 34 23.5	
	comp=Z,28nm,18.4s,baz=35,slow=39								
	comp=Z,5.0nm,0.6s								
AKBB	**Malin Array Si**	**74.05**	**1**	P		**P**		**16 58 17.2**	**-0.4**
AKBB	**Malin Array Si**	**74.05**	**1**	P		**P**		**16 58 17.2**	**-0.4**
AKBB				pmax		pmax			
	comp=Z,53nm,1.8s								
KIEV	**Kiev**	**74.06**	**1**	P		**P**		**16 58 17.1**	**-0.6**
KIEV	**Kiev**	**74.06**	**1**	P		**P**		**16 58 17.1**	**-0.6**
KIEV				pmax		pmax			
	comp=Z,48nm,1.8s								
MDOK	**Medeo**	**74.12**	**327**	*e*P		**P**		**16 58 18.9**	**+0.5**
	baz=327								
MDOK	**Medeo**	**74.12**	**327**	*e*P		**P**		**16 58 18.9**	**+0.5**
TNSS	**Tian-Shan**	**74.27**	**327**	*e*P		**P**		**16 58 20.3**	**+0.7**
	baz=327								
TNSS	**Tian-Shan**	**74.27**	**327**	*e*P		**P**		**16 58 20.3**	**+0.7**
MORC	**Moravsky Berou**	**74.40**	**9**	*e*P		**P**		**16 58 23.1**	**+3.3**
ZVC	**Zvikov**	**74.40**	**11**	*e*P		**P**		**16 58 21.8**	**+2.1**
SGDS	**Sogindy**	**74.59**	**329**	*e*P		**P**		**16 58 21.7**	**+0.6**
	baz=328								
SGDS	**Sogindy**	**74.59**	**329**	*e*P		**P**		**16 58 21.6**	**+0.6**
KHC	**Kasperske Hory**	**74.63**	**12**	*e*P		**P**		**16 58 24.2**	**+3.1**
KHC				*ex*		x		16 58 32.2	
KHC	**Kasperske Hory**	**74.63**	**12**	*e*P		**P**		**16 58 24.2**	**+3.1**
KHC				*e*				16 58 32.2	
VRAC	**Vranov**	**74.78**	**10**	*e*P		**P**		**16 58 24.6**	**+2.7**
VRAC	**Vranov**	**74.78**	**10**	LR		LR		17 33 37.3	
	comp=Z,74nm,18.3s,baz=360,slow=38								
TKM2	**Tokmak 2**	**74.79**	**328**	P		**P**		**16 58 23.3**	**+1.0**
	SNR=7.3								
TKM2	**Tokmak 2**	**74.79**	**328**	P		**P**		**16 58 22.3**	**-0.1**
USP	**Ospenovka**	**74.80**	**329**	P		**P**		**16 58 24.0**	**+1.8**
	SNR=7.0								
GERES	**GERESS Array B**	**74.93**	**12**	P		**P**		**16 58 24.0**	**+1.1**
GERES	**GERESS Array B**	**74.93**	**12**	P		**P**		**16 58 24.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=359,slow=6.0,SNR=5.5								
GERES				LR		LR		17 36 56.9	
	comp=Z,88nm,18.3s,baz=316,slow=40								
	comp=Z,1.2nm,0.6s								
CHMS	**Chumysh**	**74.97**	**328**	P		**P**		**16 58 24.3**	**+1.1**
	SNR=9.7								
CKRC	**Cesky Krumlov**	**75.02**	**11**	*e*P		**P**		**16 58 24.5**	**+1.1**
CKRC				*ex*		x		16 58 33.2	
CKRC	**Cesky Krumlov**	**75.02**	**11**	*e*P		**P**		**16 58 24.5**	**+1.1**
CKRC				*e*				16 58 33.2	
STHS	**Stebnicka Huta**	**75.04**	**7**	*e*P		**P**		**16 58 23.8**	**+0.4**
STHS	**Stebnicka Huta**	**75.04**	**7**	*e*P		**P**		**16 58 23.8**	**+0.4**
KBK	**Karagaybulak**	**75.23**	**328**	P		**P**		**16 58 26.0**	**+1.1**
	SNR=8.1								
AAK	**Ala-Archa**	**75.38**	**328**	P		**P**		**16 58 26.7**	**+1.0**
	SNR=6.4								
AAK	**Ala-Archa**	**75.38**	**328**	P		**P**		**16 58 26.2**	**+0.5**
AAK				IAmb		IAmb		16 58 27.1	
	comp=Z,8.4nm,0.7s								
AAK	**Ala-Archa**	**75.38**	**328**	*ce*P		**P**		**16 58 26.2**	**+0.5**
AAK				pmax		pmax			
	comp=Z,15nm,1.7s								
AAK	**Ala-Archa**	**75.38**	**328**	LR		LR		17 34 16.9	
	comp=Z,102nm,18.4s,baz=22,slow=38								
VYHS	**Vyhne**	**75.78**	**8**	*e*P		**P**		**16 58 29.3**	**+1.5**
VYHS	**Vyhne**	**75.78**	**8**	*e*P		**P**		**16 58 29.2**	**+1.5**
DAVA	**Damuels**	**75.97**	**15**	*e*P		**P**		**16 58 29.2**	**+0.2**
	comp=Z,9.1nm,1.2s								
DZA	**Taraz**	**76.06**	**331**	*e*P		**P**		**16 58 29.6**	**+0.2**
	baz=331								
DZA	**Taraz**	**76.06**	**331**	*e*P		**P**		**16 58 29.6**	**+0.2**
BIOA	**Bad Ischl, Aus**	**76.06**	**12**	*e*P		**P**		**16 58 29.5**	**+0.2**
	comp=Z,4.0nm,0.7s								
CONA	**Conrad Observa**	**76.07**	**10**	*ep*P		**P**		**16 58 30.8**	**+1.4**
	comp=Z,9.6nm,1.7s								
AML	**Almayashu**	**76.08**	**329**	P		**P**		**16 58 31.3**	**+1.3**
	SNR=7.0								
KK31	**Karatay Array**	**76.09**	**331**	IAmb		IAmb		16 58 30.9	
	comp=Z,12nm,0.8s								
KK31	**Karatay Array**	**76.09**	**331**	P		**P**		**16 58 29.3**	**-0.3**
KKAR	**Karatay Array**	**76.09**	**331**	IAmb		IAmb		16 58 30.9	
	comp=Z,11nm,0.8s								
GYA	**Guiyang**	**76.12**	**296**	⇑P		**P**		**16 58 29.8**	**-0.3**
GYA				pmax		pmax			
	comp=Z,16nm,1.2s								
WATA	**Walderalm**	**76.15**	**13**	*i* pP		**P**		**16 58 32.5**	**+2.5**
	comp=Z,4.0nm,0.7s								
SDV	**Santo Domingo**	**76.20**	**94**	LR		LR		17 34 01.4	
	comp=Z,69nm,18.2s,baz=271,slow=37								
LESA	**Schwarzleotal**	**76.21**	**13**	*ep*P		**P**		**16 58 32.3**	**+2.1**
	comp=Z,4.9nm,1.1s								
SQTA	**Sankt Quirin**	**76.22**	**14**	*i* pP		**P**		**16 58 32.3**	**+2.0**
	comp=Z,11nm,1.5s								
WTTA	**Wattenberg**	**76.23**	**13**	*i* pP		**P**		**16 58 32.9**	**+2.4**
	comp=Z,6.9nm,1.0s								
RONA	**Rosalia, Austr**	**76.34**	**10**	*ep*P		**P**		**16 58 33.3**	**+2.3**
	comp=Z,2.4nm,0.7s								
FETA	**Feichten**	**76.35**	**14**	*i* pP		**P**		**16 58 32.8**	**+1.7**
	comp=Z,5.3nm,1.0s								
KBA	**Koelnbreinsper**	**76.63**	**12**	*i* pP		**P**		**16 58 35.4**	**+2.7**
	comp=Z,3.1nm,0.5s								
ARSA	**Arzberg**	**76.70**	**11**	*ep*P		**P**		**16 58 35.1**	**+2.1**
	comp=Z,1.4nm,0.6s								
ABTA	**Abfaltersbach**	**76.85**	**13**	*i* pP		**P**		**16 58 35.1**	**+1.2**
	comp=Z,2.9nm,0.8s								
BUR08	**Bucovina Ar. S**	**77.01**	**4**	P		**P**		**16 58 34.7**	**-0.2**
BUR08				IAmb		IAmb		17 01 14.3	
	comp=Z,25nm,1.9s								
MYKA	**Terra Mystica**	**77.11**	**12**	*ep*P		**P**		**16 58 36.8**	**+1.5**
	comp=Z,2.7nm,0.6s								
SOKA	**Soboth**	**77.22**	**11**	*ep*P		**P**		**16 58 37.9**	**+1.9**
	comp=Z,3.4nm,1.1s								
OBKA	**Obir**	**77.33**	**11**	*i* pP		**P**		**16 58 37.6**	**+1.0**
	comp=Z,6.8nm,0.7s								
HNR	**Honiara**	**77.37**	**232**	LR		LR		17 26 10.2	
	comp=Z,456nm,19.0s,baz=332,slow=31								
ROSC	**El Rosal**	**77.44**	**100**	LR		LR		17 34 43.9	
	comp=Z,33nm,20.6s,baz=221,slow=37								
KSH	**Kashi**	**77.77**	**326**	P		**P**		**16 58 42.8**	**+3.6**
KSH				pmax		pmax			
	comp=Z,13nm,0.8s								
PZH	**PanZhiHua**	**78.55**	**300**	P		**P**		**16 58 42.8**	**-0.9**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,4.8s								
TBI	**Tubuai**	**78.63**	**180**	*e*LR		LR		17 22 27.9	
	comp=Z,697nm,27.2s								
TBI				*e*LR		LR		17 22 50.1	
	comp=Z,807nm,24.0s								
BTK	**Batken**	**78.83**	**330**	IAmb		IAmb		16 58 48.4	
	comp=Z,14nm,0.9s								
KIV	**Kislovodsk**	**80.31**	**351**	*e*P		**P**		**16 58 53.4**	**+0.4**
KIV				pmax		pmax			
	comp=Z,13nm,1.1s								
KIV				MLR		MLR			
	comp=Z,75nm,19.0s								
KBZ	**Khabaz**	**80.52**	**351**	P		**P**		**16 58 55.8**	**+1.8**
	comp=Z,5.8nm,0.9s,baz=343,slow=4.7,SNR=8.7								
	comp=Z,5.8nm,0.9s								
ESDC	**Sonseca Array**	**80.55**	**27**	P		**P**		**16 58 55.5**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=336,slow=5.2,SNR=11								
ESDC				LR		LR		17 35 32.8	
	comp=Z,64nm,18.8s,baz=326,slow=36								
	comp=Z,2.4nm,0.8s								
SIMJ	**Simiganj**	**80.64**	**331**	P		**P**		**16 58 54.5**	**-0.4**
LSA	**Lhasa**	**80.74**	**310**	IAmb		IAmb		16 58 58.5	
	comp=Z,11nm,1.0s								
GROC	**Groznyy**	**80.76**	**349**	*e*P		**P**		**16 58 54.7**	**-0.6**
GROC				*e*				17 02 01.7	
GROC				pmax		pmax			
	comp=Z,8.0nm,0.5s								
SOC	**Sochi**	**80.90**	**354**	*e*P		P		16 58 54.6	-1.5
SOC				*e*				17 02 01.1	
SOC				*e*PPP		PPP		17 03 48.6	
SOC				*e*S		**S**		**17 09 03.8**	**-0.5**
SOC				*e*SS		**SS**		**17 14 18.1**	**+1.5**
SOC				*e*SSS		SSS		17 17 45.4	
SOC				MLR		MLR			
	comp=Z,66nm,15.0s								
ZEI	**Tsey**	**81.36**	**350**	*e*P		P		16 58 44.8	-14
ZEI				pmax		pmax			
	comp=Z,8.0nm,1.4s								
DAV	**Davao City (W)**	**81.57**	**270**	LR		LR		17 30 57.3	
	comp=Z,50nm,20.5s,baz=30,slow=33								
GNI	**Garni**	**83.89**	**349**	*i* P		**P**		**16 59 12.9**	**+0.9**
GNI				pmax		pmax			
	comp=Z,18nm,1.6s								
GNI	**Garni**	**83.89**	**349**	LR		LR		17 42 40.9	
	comp=Z,65nm,18.2s,baz=22,slow=40								
GEYT	**Alibeck**	**83.98**	**339**	P		**P**		**16 59 13.3**	**+1.0**
	comp=Z,7.7nm,0.9s,baz=329,slow=5.2,SNR=20								
GEYT				LR		LR		17 42 56.0	
	comp=Z,64nm,18.2s,baz=10.0,slow=40								
	comp=Z,7.7nm,0.9s								
NIL	**Nilore**	**84.01**	**326**	P		**P**		**16 59 11.8**	**-0.7**
NIL	**Nilore**	**84.01**	**326**	P		**P**		**16 59 11.8**	**-0.7**
NIL				pmax		pmax			
	comp=Z,29nm,1.4s								
CRAI	**Chiangrai**	**84.48**	**298**	P		**P**		**16 59 14.9**	**-0.1**
BR131	**Keskin Array S**	**85.01**	**358**	*i* P		**P**		**16 59 16.4**	**-1.2**
BRTR	**Keskin Array B**	**85.01**	**358**	P		**P**		**16 59 18.0**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=354,slow=2.5,SNR=8.5								
BRTR				LR		LR		17 40 42.8	
	comp=Z,38nm,18.6s,baz=317,slow=38								
	comp=Z,2.2nm,0.7s								
ATAH	**Atahualpa**	**85.16**	**110**	LR		LR		17 36 37.7	
	comp=Z,54nm,18.1s,baz=329,slow=35								
DZM	**Mont Dzumac**	**86.09**	**221**	LR		LR		17 35 40.5	
	comp=Z,34nm,18.5s,baz=12,slow=34								
VAE	**Valguarnera**	**86.22**	**13**	LR		LR		17 40 48.8	
	comp=Z,30nm,18.0s,baz=290,slow=38								
BRDH	**Bariadhala**	**86.59**	**306**	LR		LR		17 40 11.3	
	comp=Z,118nm,19.6s,baz=

R18K	**Karluk**	**2.73**	**300**	Pn	**Pn**	**16 59 15.4**	**+0.2**
R18K				IAML		16 59 54.0	
	comp=E,67nm,1.3s						
R18K				IAML		17 01 02.9	
	comp=N,89nm,3.1s						
R18K	**Karluk**	**2.73**	**300**	P	**Pn**	**16 59 16.1**	**+0.9**
	baz=117						
Q19K	**Cape Douglas,**	**3.27**	**326**	Pn	**Pn**	**16 59 22.9**	**+0.1**
Q19K					**Sn**	**17 00 01.8**	**0.0**
Q19K	**Cape Douglas,**	**3.27**	**326**	P	**Pn**	**16 59 23.5**	**+0.7**
	baz=143						
KAHG	**Katmai Hook Gl**	**3.28**	**314**		**Pn**	**16 59 24.3**	**+1.3**
CNPM	**China Poot**	**3.31**	**350**	Pn	**Pn**	**16 59 23.2**	**-0.1**
CNPM				Sn	**Sn**	**17 00 01.8**	**-0.9**
CNPM				IAML		17 01 28.0	
	comp=E,23nm,1.5s						
ACHA	**Angle Creek He**	**3.45**	**306**		**Pn**	**16 59 26.8**	**+1.6**
BRSE	**Bradley Lake S**	**3.48**	**354**		**Pn**	**16 59 25.6**	**-0.1**
BRSE					**Sn**	**17 00 05.6**	**-1.4**
BRSE	**Bradley Lake S**	**3.48**	**354**	P	**Pn**	**16 59 25.6**	**-0.1**
	baz=174						
BRSE				S	**Sn**	**17 00 05.6**	**-1.4**
	baz=174						
BRLK	**Bradley Lake**	**3.52**	**353**	Pn	**Pn**	**16 59 25.9**	**-0.2**
BRLK				IAML		17 00 00.3	
	comp=E,81nm,2.9s						
BRLK				IAML		17 00 25.1	
	comp=N,26nm,1.4s						
ANCK	**Angle Creek**	**3.52**	**305**		**Pn**	**16 59 28.1**	**+1.9**
Q23K	**Middleton Isla**	**3.73**	**31**	Pn	**Pn**	**16 59 28.0**	**-0.9**
Q23K	**Middleton Isla**	**3.73**	**31**	P	**Pn**	**16 59 28.5**	**-0.5**
	baz=213						
MID	**Middleton Isla**	**3.73**	**31**	Pn	**Pn**	**16 59 28.4**	**-0.5**
CNTC	**Contact Creek**	**3.73**	**305**		**Pn**	**16 59 30.0**	**+0.9**
P19K	**Oil Pt**	**3.77**	**335**	Pn	**Pn**	**16 59 30.7**	**+1.1**
P19K				IAML		17 00 19.7	
	comp=N,98nm,0.6s						
P23K	**Montague Islan**	**3.98**	**20**		**Pn**	**16 59 32.5**	**0.0**
P23K	**Montague Islan**	**3.98**	**20**	P	**Pn**	**16 59 32.5**	**0.0**
	baz=201						
O20K	**Slope Mountain**	**4.04**	**341**		**Pn**	**16 59 33.9**	**+0.6**
P18K	**Big Mountain,**	**4.16**	**321**	Pn	**Pn**	**16 59 35.1**	**+0.1**
RSO	**Redoubt South**	**4.42**	**342**	Pn	**Pn**	**16 59 38.4**	**-0.3**
HIN	**Hinchinbrook I**	**4.53**	**23**	Pn	**Pn**	**16 59 40.1**	**+0.1**
HIN				IAML		17 01 31.2	
	comp=N,38nm,1.3s						
HIN				IAML		17 02 20.2	
	comp=E,40nm,1.4s						
KAIM	**Kayak Island**	**4.72**	**37**	Pn	**Pn**	**16 59 42.6**	**0.0**
KAIM				IAML		17 00 58.0	
	comp=E,36nm,1.5s						
KAIM	**Kayak Island**	**4.72**	**37**	P	**Pn**	**16 59 42.8**	**+0.2**
	baz=221						
RC01	**Rabbit Creek A**	**4.82**	**2**	Pn	**Pn**	**16 59 43.6**	**-0.4**
RC01				IAML		17 00 50.2	
	comp=N,10nm,1.3s						
RC01				IAML		17 02 34.6	
	comp=E,43nm,4.1s						
EYAK	**Cordova Ski Ar**	**4.84**	**26**		**Pn**	**16 59 44.6**	**+0.3**
RAGM	**Ragged Mountai**	**5.00**	**32**	Pn	**Pn**	**16 59 47.2**	**+0.8**
P16K	**Nushagak River**	**5.07**	**306**		**Pn**	**16 59 48.7**	**+1.4**
N19K	**Bonanza Creek**	**5.09**	**335**	Pn	**Pn**	**16 59 47.8**	**-0.1**
KNK	**Knik Glacier**	**5.21**	**9**	Pn	**Pn**	**16 59 49.1**	**-0.3**
KNK				IAML		17 01 26.7	
	comp=E,12nm,1.5s						
KNK				IAML		17 02 30.9	
	comp=N,11nm,1.4s						
BERG	**Berg Lake**	**5.31**	**37**	Pn	**Pn**	**16 59 50.6**	**-0.1**
BERG				IAML		17 00 54.6	
	comp=N,25nm,1.3s						
N18K	**Kilae Creek**	**5.36**	**328**	Pn	**Pn**	**16 59 51.9**	**+0.4**
N18K				IAML		17 01 06.7	
	comp=N,5.8nm,1.4s						
N18K				IAML		17 01 31.2	
	comp=E,5.5nm,1.5s						
O16K	**Kokwok River B**	**5.41**	**311**	Pn	**Pn**	**16 59 53.2**	**+1.2**
O16K				IAML		17 00 41.6	
	comp=N,4.8nm,1.3s						
O16K				IAML		17 03 20.4	
	comp=E,4.8nm,1.3s						
SNH	**Sunshine Point**	**5.46**	**41**	Pn	**Pn**	**16 59 52.9**	**+0.1**
BMRM	**Bremner River**	**5.49**	**29**		**Pn**	**16 59 53.7**	**+0.4**
GHO	**Glory Hole Cre**	**5.54**	**6**	Pn	**Pn**	**16 59 53.9**	**+0.1**
SML	**Sawmill**	**5.61**	**8**	Pn	**Pn**	**16 59 55.2**	**+0.4**
KLU	**Klutina**	**5.65**	**21**	Pn	**Pn**	**16 59 56.0**	**+0.6**
M23K	**Glacier View**	**5.66**	**11**		**Pn**	**16 59 56.4**	**+1.0**
BARK	**Barkley Ridge**	**5.74**	**41**		**Pn**	**16 59 57.0**	**+0.3**
SCM	**Sheep Creek Mo**	**5.74**	**13**	Pn	**Pn**	**16 59 57.3**	**+0.6**
SKT	**Skwentna**	**5.76**	**353**	Pn	**Pn**	**16 59 57.0**	**+0.1**
M20K	**Styx River**	**5.83**	**346**	Pn	**Pn**	**16 59 59.1**	**+1.2**
O15K	**Ungalikthiuk R**	**5.98**	**303**		**Pn**	**17 00 01.2**	**+1.4**
M18K	**Stony River**	**6.01**	**333**		**Pn**	**17 00 00.8**	**+0.5**
VRDI	**Verde Repeater**	**6.03**	**32**	Pn	**Pn**	**17 00 01.4**	**+0.6**
N25K	**Chitina, Valde**	**6.04**	**26**	Pn	**Pn**	**17 00 01.5**	**+0.8**
GLB	**Gilahina Butte**	**6.10**	**30**	Pn	**Pn**	**17 00 02.8**	**+1.2**
KIAG	**Kiagna River**	**6.15**	**38**		**Pn**	**17 00 02.7**	**+0.3**
M24K	**Tolsona, Glenn**	**6.17**	**17**	Pn	**Pn**	**17 00 03.4**	**+0.8**
N16K	**Nishlik Lake**	**6.21**	**316**		**Pn**	**17 00 04.8**	**+1.8**
SAMH	**Samovar Hills**	**6.24**	**48**		**Pn**	**17 00 04.2**	**+0.7**
PTPK	**Patty Peak**	**6.31**	**36**		**Pn**	**17 00 05.5**	**+0.9**
M17K	**Holitna River**	**6.40**	**326**	Pn	**Pn**	**17 00 06.5**	**+0.9**
WACK	**Wrangell Chich**	**6.43**	**25**		**Pn**	**17 00 07.4**	**+1.1**
PCA	**Pinnacle**	**6.44**	**50**		**Pn**	**17 00 06.3**	**+0.1**
BARN	**Barnard Glacie**	**6.49**	**39**	Pn	**Pn**	**17 00 07.2**	**+0.1**
CTGM	**Chitina Glacie**	**6.54**	**41**	Pn	**Pn**	**17 00 08.0**	**+0.3**
N15K	**Kwethluk River**	**6.57**	**310**	Pn	**Pn**	**17 00 09.6**	**+1.6**
LOGN	**Logan Glacier**	**6.57**	**42**	Pn	**Pn**	**17 00 07.7**	**-0.4**
PNL	**Peninsula**	**6.61**	**55**		**Pn**	**17 00 08.9**	**+0.4**
BCPM	**Bancas Point**	**6.64**	**52**	Pn	**Pn**	**17 00 08.9**	**0.0**
M16K	**Timber Creek**	**6.64**	**319**	Pn	**Pn**	**17 00 10.3**	**+1.4**
DHY	**Denali Highway**	**6.95**	**10**	Pn	**Pn**	**17 00 14.1**	**+0.8**
TRF	**Thorofare Moun**	**7.19**	**359**	Pn	**Pn**	**17 00 18.4**	**+1.8**
CAST	**Castle Rocks**	**7.23**	**353**	Pn	**Pn**	**17 00 18.6**	**+1.5**
O29M	**Mount Kennedy**	**7.27**	**52**	Pn	**Pn**	**17 00 17.8**	**+0.1**
YUK2	**White River**	**7.28**	**37**		**Pn**	**17 00 19.2**	**+1.4**
L16K	**Owhat River**	**7.29**	**322**	Pn	**Pn**	**17 00 18.2**	**+0.4**
KTH	**Kantishna Hill**	**7.30**	**357**	Pn	**Pn**	**17 00 20.3**	**+2.2**
P29M	**Windy Craggy**	**7.36**	**58**	Pn	**Pn**	**17 00 18.8**	**-0.1**
M27K	**Edge Creek, AK**	**7.39**	**31**	Pn	**Pn**	**17 00 20.6**	**+1.3**
BPAW	**Bear Paw Mtn.**	**7.85**	**357**	Pn	**Pn**	**17 00 25.8**	**+0.2**
L27K	**Beaver Creek,**	**7.97**	**28**	Pn	**Pn**	**17 00 27.9**	**+0.7**
BCAR	**Beaver Creek A**	**7.98**	**28**	Pn	**Pn**	**17 00 28.6**	**+1.2**
CCB	**Clear Creek Bu**	**8.46**	**7**	Pn	**Pn**	**17 00 35.0**	**+1.1**
M29M	**Somme Creek**	**8.55**	**39**	Pn	**Pn**	**17 00 36.4**	**+1.2**
IL31		**8.66**	**9**	Pn	**Pn**	**17 00 37.3**	**+0.8**
ILAR	**Eielson Array**	**8.66**	**9**	Pn	**Pn**	**17 00 37.3**	**+0.7**
J26L	**Joseph Creek**	**8.84**	**19**	Pn	**Pn**	**17 00 40.3**	**+1.1**
N31M	**Braeburn, Yuko**	**9.04**	**49**	Pn	**Pn**	**17 00 42.7**	**+0.9**
WHY	**Whitehorse**	**9.08**	**55**	Pn	**Pn**	**17 00 43.0**	**+0.5**
L29M	**L29M**	**9.11**	**36**	Pn	**Pn**	**17 00 44.0**	**+1.1**
M30M	**Minto, Yukon**	**9.23**	**41**	Pn	**Pn**	**17 00 45.7**	**+1.1**
P32M	**Atlin**	**9.30**	**62**	Pn	**Pn**	**17 00 45.0**	**-0.5**
H21K	**Melozitna Rive**	**9.50**	**353**	Pn	**Pn**	**17 00 48.1**	**+0.1**
K29M	**Barlow Dome**	**9.82**	**34**	Pn	**Pn**	**17 00 53.9**	**+1.3**
M31M	**Drury Creek, Y**	**9.96**	**47**	Pn	**Pn**	**17 00 55.4**	**+0.9**
G23K	**Bananza Creek**	**10.46**	**0**	Pn	**Pn**	**17 01 02.2**	**+0.9**
FYU	**Fort Yukon**	**10.57**	**11**	Pn	**Pn**	**17 01 04.2**	**+1.5**
J30M	**Hart River**	**10.71**	**33**	Pn	**Pn**	**17 01 05.2**	**+0.5**

*AEIC **24** 17:11:16.0±1.9,55°9N±0°1×150°0W±0°1,h12km±9km,*
Error ellipse: s-maj=18.8km s-min=10.6km az=182.0
NEIC 24 17:11:13.8±2.2,56°08N±0°02×150°2W±0°1,h10km±2km,
ML3.2/28,**ML3.2**(AEIC),**Error ellipse: s-maj=11.0km**
s-min=4.8km az=87.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.07**	**305**		Pn	17 11 48.1	-0.5
OHAK					Sn	17 12 13.6	-0.8
KDAK	**Kodiak Island**	**2.17**	**323**		Pn	17 11 49.7	-0.2
KDAK					Sn	17 12 16.6	-0.1
R18K	**Karluk**	**2.79**	**304**		Pn	17 11 59.0	+0.5
R18K	**Karluk**	**2.79**	**304**	IAML		17 12 49.0	
R18K	comp=E,68nm,1.1s			IAML		17 13 38.7	
	comp=N,59nm,1.2s						
SYI	**Shuyak Island**	**2.81**	**336**		Pn	17 11 59.4	+0.6
SYI	**Shuyak Island**	**2.81**	**336**		Sn	17 12 33.4	+0.7
KAHG	**Katmai Hook Gl**	**3.40**	**317**		Pn	17 12 07.8	+0.9
Q19K	**Cape Douglas,**	**3.42**	**328**		Pn	17 12 08.3	+1.1
Q19K				IAML		17 12 57.2	
	comp=N,123nm,1.5s						
Q19K	**Cape Douglas,**	**3.42**	**328**		Sn	17 12 48.9	+1.1
CNPM	**China Poot**	**3.51**	**351**		Pn	17 12 09.7	+1.3
CNPM					Sn	17 12 50.0	+0.1
CNPM	**China Poot**	**3.51**	**351**	IAML		17 13 10.1	
	comp=N,34nm,1.5s						
ACHA	**Angle Creek He**	**3.53**	**309**		Pn	17 12 09.7	+0.9
ANCK	**Angle Creek**	**3.60**	**308**		Pn	17 12 10.5	+0.8
BRSE	**Bradley Lake S**	**3.69**	**355**		Pn	17 12 09.8	-1.1
BRSE					Sn	17 12 53.1	-1.2
BRLK	**Bradley Lake**	**3.72**	**354**	Pn	Pn	17 12 09.6	-1.7
BRLK				IAML		17 13 59.6	
	comp=N,20nm,1.3s						
BRLK				IAML		17 14 07.3	
	comp=E,27nm,1.5s						
CNTC	**Contact Creek**	**3.81**	**308**		Pn	17 12 12.3	-0.3
Q23K	**Middleton Isla**	**3.94**	**30**		Pn	17 12 14.4	+0.2
P19K	**Oil Pt**	**3.94**	**337**		Pn	17 12 15.9	+1.6
P19K	**Oil Pt**	**3.94**	**337**	IAML		17 13 29.9	
P19K	comp=N,47nm,1.4s			IAML		17 13 31.2	
	comp=E,52nm,1.3s						
P23K	**Montague Islan**	**4.20**	**19**		Pn	17 12 16.9	-0.9
O20K	**Slope Mountain**	**4.22**	**343**		Pn	17 12 19.7	+1.4
P18K	**Big Mountain,**	**4.29**	**323**		Pn	17 12 19.7	+0.6
P18K	**Big Mountain,**	**4.29**	**323**	IAML		17 13 09.5	
	comp=N,12nm,1.4s						
R16K	**Pilot Point**	**4.34**	**293**		Pn	17 12 19.6	-0.1
HIN	**Hinchinbrook I**	**4.75**	**23**		Pn	17 12 25.1	-0.2
KAIM	**Kayak Island**	**4.92**	**36**		Pn	17 12 27.6	-0.2
EYAK	**Cordova Ski Ar**	**5.05**	**26**		Pn	17 12 29.4	-0.1
P16K	**Nushagak River**	**5.15**	**308**		Pn	17 12 30.9	0.0
RAGM	**Ragged Mountai**	**5.21**	**32**		Pn	17 12 31.1	-0.6
RAGM	**Ragged Mountai**	**5.21**	**32**	IAML		17 13 33.5	
	comp=E,35nm,1.4s						
SUA	**Susitna One**	**5.41**	**357**	Pn	Pn	17 12 32.2	-2.4
O16K	**Kokwok River B**	**5.51**	**313**	Pn	Pn	17 12 36.6	+0.8
N18K	**Kilae Creek**	**5.51**	**329**	Pn	Pn	17 12 35.9	0.0
BERG	**Berg Lake**	**5.51**	**36**		Pn	17 12 35.2	-0.6
SNH	**Sunshine Point**	**5.66**	**40**		Pn	17 12 37.7	-0.2
BMRM	**Bremner River**	**5.71**	**28**		Pn	17 12 38.5	-0.1
GHO	**Glory Hole Cre**	**5.75**	**6**		Pn	17 12 39.7	+0.5
SVW2	**Sparrevohn**	**5.78**	**333**		Pn	17 12 38.5	-1.0
KLU	**Klutina**	**5.86**	**20**		Pn	17 12 40.4	-0.4
BARK	**Barkley Ridge**	**5.94**	**40**		Pn	17 12 40.4	-1.3
SCM	**Sheep Creek Mo**	**5.96**	**13**	Pn	Pn	17 12 43.0	+1.0
O15K	**Ungalikthiuk R**	**6.05**	**305**		Pn	17 12 43.4	+0.2
VRDI	**Verde Repeater**	**6.24**	**31**	Pn	Pn	17 12 45.1	-0.9
N25K	**Chitina, Valde**	**6.25**	**25**		Pn	17 12 46.3	+0.2
GLB	**Gilahina Butte**	**6.32**	**29**	Pn	Pn	17 12 46.5	-0.4
CUT	**Chulitna**	**6.35**	**360**		Pn	17 12 46.4	-0.9
KIAG	**Kiagna River**	**6.35**	**37**		Pn	17 12 46.7	-0.9
M24K	**Tolsona, Glenn**	**6.39**	**17**	Pn	Pn	17 12 47.6	-0.3
M17K	**Holitna River**	**6.54**	**328**		Pn	17 12 51.6	+1.6
L19K	**White Mountain**	**6.58**	**340**	Pn	Pn	17 12 50.5	-0.1
PCA	**Pinnacle**	**6.62**	**48**		Pn	17 12 50.3	-0.8
WACK	**Wrangell Chich**	**6.65**	**25**		Pn	17 12 51.2	-0.4
N15K	**Kwethluk River**	**6.67**	**312**		Pn	17 12 53.4	+1.7
BARN	**Barnard Glacie**	**6.69**	**38**		Pn	17 12 51.7	-0.5
CTGM	**Chitina Glacie**	**6.74**	**40**	Pn	Pn	17 12 51.8	-1.0
M16K	**Timber Creek**	**6.76**	**321**	Pn	Pn	17 12 53.3	+0.3
LOGN	**Logan Glacier**	**6.76**	**41**	Pn	Pn	17 12 52.6	-0.5
O29M	**Mount Kennedy**	**7.45**	**51**	Pn	Pn	17 13 02.2	-0.3
B22K	**Teshekpuk Lake**	**14.39**	**356**	P	P	17 14 47.2	+3.0

*AEIC **24** 17:12:26.3±1.5,56°37N±0°07×148°9W±0°1,h10km±6km,*
Error ellipse: s-maj=11.5km s-min=7.3km az=136.0
NEIC 24 17:12:21.6±1.7,56°39N±0°08×148°89W±0°05,h10km±2km,
ML3.2/35,**ML3.1**(AEIC),**Error ellipse: s-maj=14.9km**
s-min=3.1km az=196.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**306**	Pn	Pn	17 13 01.8	+0.2
KDAK	**Kodiak Island**	**2.45**	**306**		Sn	17 13 29.8	-1.8
OHAK	**Old Harbor**	**2.56**	**291**		Pn	17 13 02.8	-0.2
OHAK					Sn	17 13 30.9	-3.3
OHAK	**Old Harbor**	**2.56**	**291**	P	Pn	17 13 02.6	-0.4
	baz=107						
OHAK				S	Sn	17 13 30.9	-3.3
	baz=107						
SYI	**Shuyak Island**	**2.92**	**321**		Pn	17 13 08.6	+0.5
SYI					Sn	17 13 40.8	-2.4
Q20K	**Shuyak Island**	**2.92**	**321**	P	Pn	17 13 08.5	+0.5
	baz=138						
Q20K				S	Sn	17 13 42.3	-0.9
	baz=138						
R18K	**Karluk**	**3.26**	**294**		Pn	17 13 12.8	0.0
R18K	**Karluk**	**3.26**	**294**	IAML		17 13 58.6	
	comp=E,61nm,1.1s						
R18K	**Karluk**	**3.26**	**294**	P	Pn	17 13 12.8	0.0
	baz=109						
Q23K	**Middleton Isla**	**3.34**	**23**		Pn	17 13 13.7	-0.1
Q23K	**Middleton Isla**	**3.34**	**23**	P	Pn	17 13 13.7	-0.1
	baz=205						
CNPM	**China Poot**	**3.38**	**339**		Pn	17 13 14.8	+0.3
CNPM					Sn	17 13 52.9	-1.7
CNPM	**China Poot**	**3.38**	**339**	IAML		17 13 57.2	
	comp=N,29nm,1.3s						
CNPM				IAML		17 13 57.4	
	comp=E,25nm,1.5s						
BRSE	**Bradley Lake S**	**3.50**	**344**		Pn	17 13 16.1	0.0
BRSE					Sn	17 13 54.9	-2.7
BRSE	**Bradley Lake S**	**3.50**	**344**	P	Pn	17 13 16.1	0.0
	baz=163						
BRSE				S	Sn	17 13 55.9	-1.7
	baz=163						
BRLK	**Bradley Lake**	**3.55**	**343**		Pn	17 13 16.6	-0.1
Q19K	**Cape Douglas,**	**3.60**	**317**		Pn	17 13 17.5	0.0
Q19K	**Cape Douglas,**	**3.60**	**317**	P	Pn	17 13 17.5	0.0
	baz=133						
P23K	**Montague Islan**	**3.71**	**12**		Pn	17 13 18.4	-0.4
P23K	**Montague Islan**	**3.71**	**12**	P	Pn	17 13 18.4	-0.4
	baz=193						
KAHG	**Katmai Hook Gl**	**3.71**	**307**		Pn	17 13 18.7	-0.3
P19K	**Oil Pt**	**4.00**	**327**		Pn	17 13 23.2	+0.2
P19K	**Oil Pt**	**4.00**	**327**	IAML		17 15 26.8	
	comp=E,42nm,1.5s						
P19K	**Oil Pt**	**4.00**	**327**	P	Pn	17 13 23.2	+0.2
	baz=143						
SLKM	**Skilak Lake**	**4.19**	**351**		Pn	17 13 25.2	-0.3
O20K	**Slope Mountain**	**4.20**	**334**		Pn	17 13 26.2	+0.5
O20K	**Slope Mountain**	**4.20**	**334**	P	Pn	17 13 26.2	+0.5
	baz=150						
HIN	**Hinchinbrook I**	**4.21**	**16**		Pn	17 13 25.6	-0.2
HIN	**Hinchinbrook I**	**4.21**	**16**	IAML		17 14 00.2	
	comp=N,45nm,1.5s						
HIN				IAML		17 14 16.3	
	comp=E,53nm,1.4s						
CNTC	**Contact Creek**	**4.23**	**299**		Pn	17 13 27.0	+0.8
Q17K	**Contact Creek**	**4.23**	**299**	P	Pn	17 13 27.0	+0.8
	baz=113						
IVE	**Iliamna Volcan**	**4.24**	**331**		Pn	17 13 26.4	+0.1
KAIM	**Kayak Island**	**4.27**	**32**		Pn	17 13 25.8	-0.7
KAIM	**Kayak Island**	**4.27**	**32**	IAML		17 14 28.8	
	comp=E,45nm,1.4s						
KAIM				IAML		17 14 43.7	
	comp=N,29nm,1.3s						
KAIM	**Kayak Island**	**4.27**	**32**	P	Pn	17 13 26.3	-0.3
	baz=216						
EYAK	**Cordova Ski Ar**	**4.49**	**20**		Pn	17 13 29.8	+0.3
EYAK	**Cordova Ski Ar**	**4.49**	**20**	P	Pn	17 13 29.8	+0.3
	baz=203						
P18K	**Big Mountain,**	**4.53**	**314**		Pn	17 13 30.2	0.0
P18K	**Big Mountain,**	**4.53**	**314**	P	Pn	17 13 30.2	0.0
	baz=129						
RED	**Redoubt Volcan**	**4.53**	**335**		Pn	17 13 30.0	-0.3
RAGM	**Ragged Mountai**	**4.58**	**27**		Pn	17 13 31.0	+0.1
NCT	**North Crescent**	**4.69**	**335**		Pn	17 13 32.5	0.0
GOAT	**Goat Mountain**	**4.74**	**26**		Pn	17 13 33.3	+0.2
BERG	**Berg Lake**	**4.86**	**32**		Pn	17 13 34.6	-0.1
BERG	**Berg Lake**	**4.86**	**32**	IAML		17 16 19.6	
	comp=N,24nm,1.3s						
SNH	**Sunshine Point**	**4.96**	**38**		Pn	17 13 35.7	-0.5
SNH	**Sunshine Point**	**4.96**	**38**	IAML		17 15 25.4	
SNH	comp=E,16nm,1.2s			IAML		17 16 54.8	
	comp=N,18nm,1.3s						
KNK	**Knik Glacier**	**5.04**	**2**		Pn	17 13 37.7	+0.5
KNK	**Knik Glacier**	**5.04**	**2**	IAML		17 14 35.0	
KNK	comp=E,12nm,1.0s			IAML		17 16 18.8	
	comp=N,13nm,1.5s						
KNK	**Knik Glacier**	**5.04**	**2**	P	Pn	17 13 37.7	+0.5
	baz=183						
BMRM	**Bremner River**	**5.11**	**24**		Pn	17 13 38.4	+0.2
BMRM	**Bremner River**	**5.11**	**24**	P	Pn	17 13 38.3	+0.2
	baz=208						
BARK	**Barkley Ridge**	**5.25**	**37**		Pn	17 13 39.9	-0.2
N19K	**Bonanza Creek**	**5.31**	**329**		Pn	17 13 41.2	+0.2
N19K	**Bonanza Creek**	**5.31**	**329**	IAML		17 15 05.3	
	comp=N,6.3nm,1.2s						
N19K				IAML		17 15 52.4	
	comp=E,6.7nm,1.5s						
N19K	**Bonanza Creek**	**5.31**	**329**	P	Pn	17 13 41.2	+0.2
	baz=144						
KLU	**Klutina**	**5.34**	**15**		Pn	17 13 41.4	0.0
KLU	**Klutina**	**5.34**	**15**	IAML		17 14 41.9	
	comp=E,5.9nm,0.3s						
KLU				IAML		17 14 44.7	
	comp=N,14nm,1.4s						
KLU	**Klutina**	**5.34**	**15**	P	Pn	17 13 41.4	0.0
	baz=198						
GHO	**Glory Hole Cre**	**5.40**	**360**		Pn	17 13 42.6	+0.5
SML	**Sawmill**	**5.44**	**3**		Pn	17 13 43.3	+0.5
SML	**Sawmill**	**5.44**	**3**	P	Pn	17 13 43.3	+0.5
	baz=183						
SCM	**Sheep Creek Mo**	**5.52**	**8**	Pn	Pn	17 13 44.6	+0.8
VRDI	**Verde Repeater**	**5.62**	**28**		Pn	17 13 45.1	-0.2
N18K	**Kilae Creek**	**5.65**	**322**		Pn	17 13 45.9	+0.3
N18K	**Kilae Creek**	**5.65**	**322**	P	Pn	17 13 45.9	+0.3
	baz=137						
KIAG	**Kiagna River**	**5.68**	**34**		Pn	17 13 45.9	-0.3
N25K	**Chitina, Valde**	**5.68**	**21**	Pn	Pn	17 13 46.6	+0.5
SAMH	**Samovar Hills**	**5.69**	**45**		Pn	17 13 45.9	-0.3
GLB	**Gilahina Butte**	**5.71**	**25**	Pn	Pn	17 13 46.2	-0.2
SKT	**Skwentna**	**5.77**	**348**	Pn	Pn	17 13 46.9	-0.3
O16K	**Kokwok River B**	**5.85**	**307**	Pn	Pn	17 13 49.4	+1.0
PCA	**Pinnacle**	**5.88**	**47**		Pn	17 13 48.6	-0.2
PINM	**Pinnacle**	**5.88**	**47**	P	Pn	17 13 48.6	-0.2
	baz=235						
M24K	**Tolsona, Glenn**	**5.90**	**13**	Pn	Pn	17 13 48.3	-0.8
M20K	**Styx River**	**5.92**	**340**	Pn	Pn	17 13 48.9	-0.5
BARN	**Barnard Glacie**	**6.01**	**36**		Pn	17 13 50.9	+0.2
N17K	**Nushagak Hills**	**6.01**	**317**		Pn	17 13 51.1	+0.6
N17K	**Nushagak Hills**	**6.01**	**317**	P	Pn	17 13 51.1	+0.6
	baz=130						
PNL	**Peninsula**	**6.02**	**53**		Pn	17 13 50.5	-0.2
PNL	**Peninsula**	**6.02**	**53**	P	Pn	17 13 50.5	-0.2
	baz=241						
CTG	**Chitna Glacier**	**6.05**	**38**	P	Pn	17 13 51.2	+0.1
	baz=224						
CTGM	**Chitina Glacie**	**6.05**	**38**		Pn	17 13 51.2	0.0
WASW	**Wrangell South**	**6.06**	**22**		Pn	17 13 52.9	+1.4
LOGN	**Logan Glacier**	**6.06**	**40**		Pn	17 13 51.2	-0.2
WAT6	**Susitna Watana**	**6.24**	**5**		Pn	17 13 55.4	+1.6
WAT6	**Susitna Watana**	**6.24**	**5**	P	Pn	17 13 55.4	+1.6
	baz=186						
HARP	**HAARP**	**6.32**	**16**		Pn	17 13 56.5	+1.7
HARP	**HAARP**	**6.32**	**16**	P	Pn	17 13 56.5	+1.7
	baz=199						
O15K	**Ungalikthiuk R**	**6.48**	**300**		Pn	17 13 58.4	+1.5
O15K	**Ungalikthiuk R**	**6.48**	**300**	P	Pn	17 13 58.4	+1.5
	baz=111						
L19K	**White Mountain**	**6.56**	**335**	Pn	Pn	17 13 58.0	-0.1
O29M	**Mount Kennedy**	**6.70**	**50**		Pn	17 14 00.3	+0.2
O29M	**Mount Kennedy**	**6.70**	**50**	P	Pn	17 14 00.3	+0.2
	baz=239						
P29M	**Windy Craggy**	**6.76**	**57**		Pn	17 14 00.7	-0.1
P29M	**Windy Craggy**	**6.76**	**57**	P	Pn	17 14 00.7	-0.1
	baz=246						
N15K	**Kw

MID	Middleton Isla	3.91	29	P		Pn	17 18 01.4	-0.4
P19K	Oil Pt	3.98	336			Pn	17 18 03.7	+0.8
P19K	Oil Pt baz=153	3.98	336	P		Pn	17 18 03.7	+0.8
SEW	Seward	4.06	4			Pn	17 18 03.4	-0.5
SEW	Seward baz=184	4.06	4	P		Pn	17 18 03.4	-0.5
P23K	Montague Islan	4.18	18			Pn	17 18 05.3	-0.4
P23K	Montague Islan baz=200	4.18	18	P		Pn	17 18 05.3	-0.4
O20K	Slope Mountain	4.25	342			Pn	17 18 07.3	+0.6
O20K	Slope Mountain baz=159	4.25	342	P		Pn	17 18 07.3	+0.6
P18K	Big Mountain,	4.34	322			Pn	17 18 08.2	+0.3
P18K	Big Mountain, baz=137	4.34	322	P		Pn	17 18 08.2	+0.3
R16K	Pilot Point	4.41	293			Pn	17 18 09.8	+1.1
R16K	Pilot Point comp=N,105nm,1.5s	4.41	293	IAML			17 18 53.5	
R16K	comp=E,99nm,1.4s			IAML			17 19 46.8	
R16K	Pilot Point baz=107	4.41	293	P		Pn	17 18 09.8	+1.1
O22K	Cooper Landing	4.43	2			Pn	17 18 09.7	+0.7
O22K	Cooper Landing comp=N,96nm,0.9s	4.43	2	IAML			17 19 09.9	
O22K	comp=E,97nm,1.2s			IAML			17 19 10.3	
O22K	Cooper Landing baz=182	4.43	2	P		Pn	17 18 09.7	+0.7
Q16K	King Salmon	4.44	309			Pn	17 18 10.0	+0.9
Q16K	King Salmon baz=123	4.44	309	P		Pn	17 18 10.0	+0.9
SLKM	Skilak Lake	4.46	359			Pn	17 18 09.7	+0.2
RED	Redoubt Volcan	4.60	343			Pn	17 18 11.3	-0.2
RSO	Redoubt South	4.63	343	Pn		Pn	17 18 10.8	-1.3
P17K	Kvichak River	4.66	315			Pn	17 18 12.2	+0.1
P17K	Kvichak River baz=129	4.66	315	P		Pn	17 18 12.2	+0.1
CHGN	Chignik	4.69	276			Pn	17 18 08.4	-4.2
O18K	Koktuh Hills	4.69	326	Pn		Pn	17 18 11.0	-1.6
O18K	comp=N,33nm,0.9s			IAML			17 19 09.2	
O18K	comp=E,31nm,0.8s			IAML			17 19 22.1	
HIN	Hinchinbrook I	4.73	22			Pn	17 18 13.1	0.0
HIN	Hinchinbrook I comp=E,57nm,1.1s	4.73	22	IAML			17 19 05.8	
HIN	comp=N,29nm,1.0s			IAML			17 19 30.5	
CAPN	Captain Cook N	4.75	353			Pn	17 18 14.2	+0.8
CAPN	Captain Cook N baz=172	4.75	353	P		Pn	17 18 14.2	+0.8
KAIM	Kayak Island	4.89	35			Pn	17 18 15.1	-0.2
KAIM	Kayak Island comp=N,64nm,1.5s	4.89	35	IAML			17 19 16.2	
KAIM	comp=E,46nm,1.5s			IAML			17 20 29.5	
KAIM	Kayak Island baz=219	4.89	35	P		Pn	17 18 15.1	-0.2
EYAK	Cordova Ski Ar	5.03	25			Pn	17 18 17.1	-0.1
EYAK	Cordova Ski Ar	5.03	25	P		Pn	17 18 17.4	+0.2
EYAK	Cordova Ski Ar baz=208	5.03	25	P		Pn	17 18 17.1	-0.1
RC01	Rabbit Creek A	5.04	2			Pn	17 18 15.6	-1.8
RC01	comp=N,23nm,0.4s			IAML			17 19 14.7	
RC01	comp=E,24nm,1.3s			IAML			17 19 21.7	
RAGM	Ragged Mountai	5.17	31			Pn	17 18 19.2	-0.2
RAGM	Ragged Mountai comp=E,48nm,1.5s	5.17	31	IAML			17 19 23.6	
P16K	Nushagak River	5.21	308			Pn	17 18 20.7	+0.9
P16K	Nushagak River baz=121	5.21	308	P		Pn	17 18 20.7	+0.9
O17K	Koliganek Bris	5.29	318			Pn	17 18 21.6	+0.9
O17K	Koliganek Bris baz=131	5.29	318	P		Pn	17 18 21.6	+0.9
N19K	Bonanza Creek	5.30	336			Pn	17 18 21.2	+0.1
N19K	Bonanza Creek baz=151	5.30	336	P		Pn	17 18 21.2	+0.1
S14K	Fog Glacier baz=88	5.32	276	P		Pn	17 18 22.2	+0.8
VNFG	Fog Glacier, M	5.32	276			Pn	17 18 22.2	+0.8
KNK	Knik Glacier	5.42	8			Pn	17 18 22.7	0.0
KNK	Knik Glacier baz=189	5.42	8	P		Pn	17 18 22.7	0.0
SUA	Susitna One	5.42	356	Pn		Pn	17 18 21.6	-1.2
BERG	Berg Lake	5.48	35			Pn	17 18 23.0	-0.4
DIV	Divide	5.54	22			Pn	17 18 24.9	+0.5
N18K	Kilae Creek	5.56	329			Pn	17 18 24.3	-0.2
N18K	Kilae Creek baz=143	5.56	329	P		Pn	17 18 24.3	-0.2
O16K	Kokwok River B	5.57	313			Pn	17 18 25.3	+0.6
O16K	Kokwok River B baz=126	5.57	313	P		Pn	17 18 25.3	+0.6
SNH	Sunshine Point	5.62	40			Pn	17 18 25.3	-0.1
BMRM	Bremner River	5.68	28			Pn	17 18 26.1	-0.1
BMRM	Bremner River baz=212	5.68	28	P		Pn	17 18 26.1	-0.1
GHO	Glory Hole Cre	5.75	5			Pn	17 18 27.4	+0.2
SVW2	Sparrevohn	5.82	332	Pn		Pn	17 18 28.2	+0.1
SML	Sawmill	5.82	8			Pn	17 18 28.7	+0.5
SML	Sawmill baz=189	5.82	8	P		Pn	17 18 28.7	+0.5
KLU	Klutina	5.84	20			Pn	17 18 28.9	+0.3
KLU	Klutina baz=203	5.84	20	P		Pn	17 18 28.9	+0.3
N17K	Nushagak Hills	5.85	323			Pn	17 18 29.3	+0.8
N17K	Nushagak Hills baz=136	5.85	323	P		Pn	17 18 29.3	+0.8
M23K	Glacier View	5.87	11			Pn	17 18 29.6	+0.8
M23K	Glacier View baz=192	5.87	11	P		Pn	17 18 29.6	+0.8
SCM	Sheep Creek Mo	5.95	12			Pn	17 18 30.8	+0.8
SCM	Sheep Creek Mo baz=194	5.95	12	P		Pn	17 18 30.8	+0.8
M20K	Styx River	6.05	346	Pn		Pn	17 18 31.4	+0.1
O15K	Ungalikthiuk R	6.11	305			Pn	17 18 33.0	+0.9
O15K	Ungalikthiuk R baz=116	6.11	305	P		Pn	17 18 33.0	+0.9
VRDI	Verde Repeater	6.21	31			Pn	17 18 33.6	-0.1
N25K	Chitina, Valde	6.23	25			Pn	17 18 34.2	+0.4
N25K	Chitina, Valde baz=209	6.23	25	P		Pn	17 18 34.2	+0.4
GLB	Gilahina Butte	6.29	28			Pn	17 18 35.0	+0.4
SAMH	Samovar Hills	6.37	46			Pn	17 18 36.3	+0.5
M24K	Tolsona, Glenn	6.38	17			Pn	17 18 36.9	+1.1
M24K	Tolsona, Glenn baz=199	6.38	17	P		Pn	17 18 36.8	+1.1
N16K	Nishlik Lake	6.38	317			Pn	17 18 37.1	+1.3
N16K	Nishlik Lake baz=130	6.38	317	P		Pn	17 18 37.1	+1.3
PTPK	Patty Peak	6.48	34			Pn	17 18 37.6	+0.3
PCA	Pinnacle	6.57	48			Pn	17 18 38.5	0.0
PINM	Pinnacle baz=236	6.57	48	P		Pn	17 18 38.5	0.0
M17K	Holitna River	6.59	327			Pn	17 18 39.6	+0.9
M17K	Holitna River baz=141	6.59	327	P		Pn	17 18 39.6	+0.9
L19K	White Mountain	6.61	340	Pn		Pn	17 18 39.1	+0.1
WACK	Wrangell Chich	6.62	24			Pn	17 18 39.8	+0.4
WAT6	Susitna Watana	6.64	9			Pn	17 18 40.0	+0.5
WAT6	Susitna Watana baz=191	6.64	9	P		Pn	17 18 40.0	+0.5
PS1A	Pavlof South-1	6.64	269			Pn	17 18 39.5	+0.1
BARN	Barnard Glacie	6.65	38			Pn	17 18 39.7	0.0
CTG	Chitna Glacier baz=226	6.69	39	P		Pn	17 18 40.2	0.0
CTGM	Chitina Glacie	6.70	39			Pn	17 18 40.2	-0.1
LOGN	Logan Glacier	6.72	41			Pn	17 18 40.4	-0.3
PNL	Peninsula	6.72	53	P		Pn	17 18 40.5	-0.1
N15K	Kwethluk River	6.73	312			Pn	17 18 42.2	+1.7
N15K	Kwethluk River baz=123	6.73	312	P		Pn	17 18 42.2	+1.7
BCPM	Bancas Point	6.76	51			Pn	17 18 41.3	+0.3
PN7A	Pavlof North-7	6.79	270			Pn	17 18 41.2	-0.3
M16K	Timber Creek	6.81	320			Pn	17 18 43.0	+1.3
M16K	Timber Creek baz=133	6.81	320	P		Pn	17 18 43.0	+1.3
O14K	Tigyukauivet M	6.82	303	Pn		Pn	17 18 41.0	-0.8
HARP	HAARP	6.82	19			Pn	17 18 42.9	+0.9
HARP	HAARP baz=203	6.82	19	P		Pn	17 18 42.8	+0.9
L18K	Granite Mounta	7.05	334			Pn	17 18 46.5	+1.5
L18K	Granite Mounta baz=148	7.05	334	P		Pn	17 18 46.5	+1.5
DHY	Denali Highway	7.16	10			Pn	17 18 46.9	+0.3
DHY	Denali Highway baz=192	7.16	10	P		Pn	17 18 46.9	+0.3
M15K	Kasigluk River	7.27	314			Pn	17 18 49.5	+1.5
M15K	Kasigluk River baz=125	7.27	314	P		Pn	17 18 49.5	+1.5
O29M	Mount Kennedy	7.39	50			Pn	17 18 50.2	+0.4
O29M	Mount Kennedy baz=240	7.39	50	P		Pn	17 18 50.2	+0.4
YUK2	White River	7.45	36			Pn	17 18 51.6	+1.1
P29M	Windy Craggy	7.47	56			Pn	17 18 50.2	-0.6
P29M	Windy Craggy baz=246	7.47	56	P		Pn	17 18 50.2	-0.6
L16K	Owhat River	7.47	323			Pn	17 18 51.8	+1.1
L16K	Owhat River baz=135	7.47	323	P		Pn	17 18 51.8	+1.1
YUK8	Steele Glacier baz=230	7.48	41	P		Pn	17 18 52.9	+1.8
YUK3	Moose Creek	7.56	37			Pn	17 18 53.1	+0.9
YUK3	Moose Creek baz=225	7.56	37	P		Pn	17 18 53.1	+0.9
M27K	Edge Creek, AK	7.57	30	Pn		Pn	17 18 52.3	+0.1
YUK7	Dusty Glacier	7.70	50			Pn	17 18 54.4	+0.3
YUK6	Outpost Mounta	7.82	47			Pn	17 18 56.8	+1.0
YUK6	Outpost Mounta baz=236	7.82	47	P		Pn	17 18 56.8	+1.0
ISLZ	Isanotski Laza	7.90	266			Pn	17 18 56.3	-0.5
BVCY	Beaver Creek	7.91	33			Pn	17 18 57.9	+1.1
BVCY	Beaver Creek baz=220	7.91	33	P		Pn	17 18 57.9	+1.1
ISNN	Isanotski Nort	7.91	267			Pn	17 18 56.8	-0.1
YUK4	Talbot Arm baz=233	7.94	44	P		Pn	17 18 59.6	+2.2
P30M	Million Dollar	8.03	54			Pn	17 18 58.8	+0.4
P30M	Million Dollar baz=245	8.03	54	P		Pn	17 18 58.8	+0.4
BPAW	Bear Paw Mtn.	8.07	357			Pn	17 18 59.2	+0.2
BPAW	Bear Paw Mtn. baz=176	8.07	357	P		Pn	17 18 59.2	+0.2
M29M	Somme Creek	8.71	38			Pn	17 19 08.3	+0.4
IL31		8.87	9			Pn	17 19 10.6	+0.7
ILAR	Eielson Array	8.87	9	Pn		Pn	17 19 11.4	+1.5
J25K	Salcha River,	8.88	13	Pn		Pn	17 19 11.6	+1.5
K27K	Chicken	8.92	23	Pn		Pn	17 19 11.9	+1.4
J16K	Anvik River	8.98	328	Pn		Pn	17 19 12.1	+0.6
J26L	Joseph Creek	9.04	18	Pn		Pn	17 19 12.3	-0.1
I23K	Minto, Yukon-K	9.12	2			Pn	17 19 13.4	+0.2
I23K	Minto, Yukon-K baz=182	9.12	2	P		Pn	17 19 13.4	+0.2
N31M	Braeburn, Yuko	9.17	48	Pn		Pn	17 19 14.9	+0.8
WHY	Whitehorse	9.19	54	Pn		Pn	17 19 14.8	+0.3
L29M	L29M	9.28	36	Pn		Pn	17 19 16.3	+0.8
M30M	Minto, Yukon	9.39	41	Pn		Pn	17 19 16.9	-0.1
P32M	Atlin	9.39	61	Pn		Pn	17 19 16.5	-0.6
K13K	Kusilvak Mount	9.55	314	Pn		Pn	17 19 19.7	+0.5
H21K	Melozitna Rive	9.72	353	Pn		Pn	17 19 20.2	-1.3
PRP	Porcupine Dome	9.73	11	Pn		Pn	17 19 23.3	+1.4
UNV	Unalaska Valle	9.73	264	P		Pn	17 19 24.3	+2.6
EGAK	Eagle	9.77	23	Pn		Pn	17 19 22.4	+0.3
I26K	Coal Creek Min	9.86	17	Pn		Pn	17 19 22.9	-0.5
H24K	Noodor Dome	9.86	5	Pn		Pn	17 19 23.4	-0.1
K29M	Barlow Dome	9.99	34	Pn		Pn	17 19 25.9	+0.5
P33M	Teslin, Yukon	10.00	58	Pn		Pn	17 19 24.7	-0.8
M31M	Drury Creek, Y	10.10	46	Pn		Pn	17 19 28.0	+1.2
I28M	Miner Creek	10.61	23	Pn		Pn	17 19 32.5	-1.4
G23K	Bananza Creek	10.68	0	Pn		Pn	17 19 34.3	-0.5
J30M	Hart River	10.88	33	Pn		Pn	17 19 39.5	+1.9
H29M	Whitestone	11.61	24	Pn		Pn	17 19 48.3	+0.9
F15K	North Star Dit	11.96	330	Pn		Pn	17 19 51.6	-0.7
G29M	Pine Creek	12.27	23	Pn		Pn	17 19 55.6	-0.8

*IDC **24** 17:27:53.7±3.4,55°.85N×149°.20W,h0km,mb3.4/2, mbtmp3.1/5,ML2.9/3,MS3.1/2,Error ellipse: s-maj=61.7km s-min=37.1km az=169.0*

*NEIC **24** 17:27:54.3±1.7,56°.11N±0°.06×149°.41W±0°.09,h10km±2km, ML3.3/32,ML3.1(AEIC),Error ellipse: s-maj=11.8km s-min=6.0km az=217.0*

*AEIC **24** 17:27:58.1±2.0,56°.08N±0°.09×149°.3W±0°.1,h1km±7km, Error ellipse: s-maj=12.9km s-min=9.2km az=168.0*

ISC 24 17:27:56.1±1.3,56°.22N±0°.10×149°.33W±0°.06,h10km, n121,σ1s02/111,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.37	313		Pn	17 28 35.1	+0.1
KDAK					Sn	17 29 03.3	-0.8
KDAK	Kodiak Island 44nm,1.4s	2.37	313	IAML		17 29 05.6	
KDAK	39nm,1.5s			IAML		17 29 16.5	
KDAK	Kodiak Island 1.7nm,0.3s,baz=248,slow=22,SNR=7.5	2.37	313	Pn	Pn	17 28 35.8	+0.8
KDAK	3.4nm,0.3s,baz=78,slow=23,SNR=6.0			Sn	Sn	17 29 02.4	-1.7
KDAK	comp=Z,201nm,20.5s,baz=175,slow=43 4.7nm,0.2s			LR	LR	17 29 48.4	
OHAK	Old Harbor	2.40	296		Pn	17 28 31.4	-4.0
OHAK					Sn	17 29 02.9	-1.9
OHAK	Old Harbor comp=N,87nm,0.3s	2.40	296	IAML		17 29 03.3	
OHAK	comp=E,73nm,0.4s			IAML		17 29 03.3	
OHAK	Old Harbor baz=116	2.40	296	P	Pn	17 28 33.9	-1.5
OHAK	baz=116			S	Sn	17 29 02.9	-1.9
SII	Sitkinak Islan	2.72	279		Sn	17 29 10.5	-2.2
SII	Sitkinak Islan baz=98	2.72	279	S	Sn	17 29 10.5	-2.2
Q20K	Shuyak Island baz=146	2.91	327	P	Pn	17 28 42.9	+0.5
Q20K	baz=146			S	Sn	17 29 17.8	+0.3
SYI	Shuyak Island	2.91	327		Pn	17 28 42.9	+0.5
SYI					Sn	17 29 17.8	+0.4
R18K	Karluk	3.12	298		Pn	17 28 43.9	-1.3
R18K					Sn	17 29 20.8	-1.6
R18K	Karluk comp=N,120nm,0.5s	3.12	298	IAML		17 29 21.9	
R18K	comp=E,123nm,0.5s			IAML		17 29 29.9	
R18K	Karluk baz=116	3.12	298	P	Pn	17 28 43.9	-1.3
R18K	baz=116			S	Sn	17 29 20.8	-1.6
CNPM	China Poot	3.47	344		Pn	17 28 49.7	-0.4
CNPM	China Poot comp=E,31nm,0.7s	3.47	344	IAML		17 29 32.8	
Q19K	Cape Douglas,	3.57	321		Pn	17 28 52.1	+0.6
Q19K	Cape Douglas, comp=N,239nm,1.5s	3.57	321	IAML		17 29 42.4	
Q19K	comp=E,184nm,1.4s			IAML		17 29 50.0	
Q19K	Cape Douglas, baz=139	3.57	321	P	Pn	17 28 52.1	+0.6
Q23K	Middleton Isla	3.59	25		Pn	17 28 52.0	+0.2
Q23K	Middleton Isla baz=208	3.59	25	P	Pn	17 28 52.0	+0.2
BRSE	Bradley Lake S	3.61	349		Pn	17 28 51.6	-0.4
BRSE	Bradley Lake S baz=168	3.61	349	P	Pn	17 28 51.6	-0.4
KAHG	Katmai Hook Gl	3.63	311		Pn	17 28 52.6	+0.2
BRLK	Bradley Lake	3.65	348		Pn	17 28 52.1	-0.4
ANCK	Angle Creek	3.89	303		Pn	17 28 56.2	+0.2
SEW	Seward	3.90	359	Pn	Pn	17 28 55.1	-0.8
P23K	Montague Islan	3.93	14		Pn	17 28 56.6	+0.2
P23K	Montague Islan baz=196	3.93	14	P	Pn	17 28 56.6	+0.2
P19K	Oil Pt	4.02	331		Pn	17 28 58.1	+0.4
P19K	Oil Pt baz=149	4.02	331	P	Pn	17 28 58.1	+0.4
CNTC	Contact Creek	4.11	303		Pn	17 28 58.7	-0.2
Q17K	Contact Creek baz=119	4.11	303	P	Pn	17 28 58.7	-0.2
O20K	Slope Mountain	4.25	337		Pn	17 29 01.6	+0.8
O20K	Slope Mountain baz=156	4.25	337	P	Pn	17 29 01.6	+0.8
IVE	Iliamna Volcan	4.28	334		Pn	17 29 02.2	+0.9
SLKM	Skilak Lake	4.33	354		Pn	17 29 02.7	+0.8
HIN	Hinchinbrook I	4.45	18		Pn	17 29 03.2	-0.3
HIN	Hinchinbrook I comp=N,65nm,1.3s	4.45	18	IAML		17 29 57.6	
HIN	comp=E,48nm,1.3s			IAML		17 30 44.6	
P18K	Big Mountain,	4.48	318		Pn	17 29 03.6	-0.4
P18K	Big Mountain, comp=E,10nm,1.5s	4.48	318	IAML		17 29 57.7	
P18K	comp=N,12nm,1.4s			IAML		17 30 06.3	
P18K	Big Mountain, baz=134	4.48	318	P	Pn	17 29 03.6	-0.4
KAIM	Kayak Island	4.54	33		Pn	17 29 04.2	-0.6
KAIM	Kayak Island comp=E,42nm,1.4s	4.54	33	IAML		17 29 58.4	
KAIM	Kayak Island baz=217	4.54	33	P	Pn	17 29 04.2	-0.6
RED	Redoubt Volcan	4.58	338		Pn	17 29 05.6	+0.2
RSO	Redoubt South	4.62	338	Pn	Pn	17 29 05.3	-0.7
EYAK	Cordova Ski Ar	4.73	22	Pn	Pn	17 29 06.4	-1.0
RC01	Rabbit Creek A	4.89	358		Pn	17 29 10.2	+0.6
RC01	Rabbit Creek A comp=N,18nm,1.3s	4.89	358	IAML		17 30 11.5	
RC01	comp=E,17nm,1.2s			IAML		17 30 16.4	
RC01	Rabbit Creek A baz=178	4.89	358	P	Pn	17 29 10.2	+0.6
BERG	Berg Lake	5.13	33		Pn	17 29 12.4	-0.5
KNK	Knik Glacier	5.23	5		Pn	17 29 15.0	+0.7
KNK	Knik Glacier comp=E,18nm,1.2s	5.23	5	IAML		17 30 18.5	
KNK	comp=N,9.2nm,1.0s			IAML		17 30 35.1	
KNK	Knik Glacier baz=186	5.23	5	P	Pn	17 29 15.0	+0.7
SNH	Sunshine Point	5.25	38		Pn	17 29 13.9	-0.6
SNH	Sunshine Point comp=N,20nm,1.5s	5.25	38	IAML		17 30 10.9	
SNH	comp=E,13nm,1.4s			IAML		17 32 43.3	
SUA	Susitna One	5.31	353	Pn	Pn	17 29 13.5	-2.0
N19K	Bonanza Creek	5.34	332	Pn	Pn	17 29 14.4	-1.4
BMRM	Bremner River	5.37	25	Pn	Pn	17 29 16.0	-0.1
GHO	Glory Hole Cre	5.58	2		Pn	17 29 19.7	+0.7
KLU	Klutina	5.58	17		Pn	17 29 19.3	+0.2
KLU	Klutina baz=200	5.58	17	P	Pn	17 29 19.3	+0.2
SML	Sawmill	5.63	5	Pn	Pn	17 29 18.7	-1.1
N18K	Kilae Creek	5.64	325	Pn	Pn	17 29 19.2	-0.8
SCM	Sheep Creek Mo	5.73	10	Pn	Pn	17 29 20.6	-0.6
O16K	Kokwok River B	5.77	310		Pn	17 29 22.3	+0.8
O16K	Kokwok River B baz=123	5.77	310	P	Pn	17 29 22.3	+0.8
VRDI	Verde Repeater	5.88	29	Pn	Pn	17 29 22.1	-1.3
SKT	Skwentna	5.89	350	Pn	Pn	17 29 22.1	-1.2
N25K	Chitina, Valde	5.93	22	Pn	Pn	17 29 23.5	-0.4
GLB	Gilahina Butte	5.97	26	Pn	Pn	17 29 24.8	+0.4
N17K	Nushagak Hills	5.97	320	Pn	Pn	17 29 21.9	-2.6
CHNA	Chernabura Isl baz=73	5.99	261	P	Pn	17 29 23.4	-1.2
CNBA	Chernabura Isl	5.99	261		Pn	17 29 23.4	-1.3
M20K	Styx River	6.01	343	Pn	Pn	17 29 23.7	-1.4
M24K	Tolsona, Glenn	6.12	14	Pn	Pn	17 29 25.6	-1.0
BARN	Barnard Glacie	6.29	36	Pn	Pn	17 29 28.7	-0.3
CTGM	Chitina Glacie	6.33	38	Pn	Pn	17 29 28.3	-1.2
LOGN	Logan Glacier	6.35	40	Pn	Pn	17 29 29.4	-0.4
L19K	White Mountain	6.62	337	Pn	Pn	17 29 32.4	-0.9
M17K	Holitna River	6.68	324	Pn	Pn	17 29 34.2	+0.1
PPLA	Purkeypile	6.85	349	Pn	Pn	17 29 37.0	+0.3
N15K	Kwethluk River	6.93	309	Pn	Pn	17 29 39.0	+1.4
M16K	Timber Creek	6.96	318	Pn	Pn	17 29 34.9	-3.0
O29M	Mount Kennedy	7.00	50	Pn	Pn	17 29 37.4	-1.2
P29M	Windy Craggy	7.06	56		Pn	17 29 38.3	-1.1
L18K	Granite Mounta	7.10	331	Pn	Pn	17 29 37.8	-2.1
M27K	Edge Creek, AK	7.24	29	Pn	Pn	17 29 41.6	-0.4
TRF	Thorofare Moun	7.27	357	Pn	Pn	17 29 41.6	-0.8
S31K	Pelican	7.35	71	Pn	Pn	17 29 40.6	-2.6
CAST	Castle Rocks	7.36	350	Pn	Pn	17 29 43.3	-0.1
KTH	Kantishna Hill	7.40	354	Pn	Pn	17 29 45.9	+1.8
TTA	Tatalina	7.53	336	Pn	Pn	17 29 44.4	-1.5
MCK	McKinley	7.54	1	Pn	Pn	17 29 45.7	-0.3
L16K	Owhat River	7.60	321	Pn	Pn	17 29 46.4	-0.3
HYT	Haines Junctio	7.72	48	Pn	Pn	17 29 47.7	-0.8
RIDG	Independent Ri	7.87	15	Pn	Pn	17 29 51.5	+1.0
BPAW	Bear Paw Mtn.	7.95	355	Pn	Pn	17 29 52.3	+0.7
S32K	Killisnoo	8.19	75	Pn	Pn	17 29 54.0	-0.8
N30M	Ashikik Lake	8.23	45	Pn	Pn	17 29 55.4	-0.1
I32K	Eaglecrest	8.29	69	Pn	Pn	17 29 55.2	-1.1
O30N	Mendenhall	8.30	51	Pn	Pn	17 29 55.8	-0.5
M29M	Somme Creek	8.35	37	Pn	Pn	17 29 56.8	-0.3
J19K	Poorman	8.40	341	Pn	Pn	17 29 57.4	-0.3
ILAR	Eielson Array	8.66	7	Pn	Pn	17 30 02.3	+0.9
ILAR	Eielson Array comp=E,0.1nm,0.3s,baz=196,slow=13,SNR=4.6	8.66	7	Pn	Pn	17 30 02.5	+1.2
ILAR	comp=E,0.1nm,0.3s,baz=187,slow=14,SNR=1.5 comp=E,0.2nm,0.5s			Sn	Sn	17 31 34.9	-4.1
J26L	Joseph Creek	8.78	17	Pn	Pn	17 30 02.9	-0.2
WHY	Whitehorse	8.78	54	Pn	Pn	17 30 03.2	+0.2
L29M	L29M	8.93	35	Pn	Pn	17 30 06.3	+1.3
P32M	Atlin	8.97	61	Pn	Pn	17 30 04.1	-1.5
P33M	Teslin, Yukon	9.58	59	Pn	Pn	17 30 13.3	-0.7
H21K	Melozitna Rive	9.62	351	Pn	Pn	17 30 15.1	+0.7
IMAR	Indian Mountai	10.03	350	Pn	Pn	17 30 22.2	+2.2
R33M	Jennings River	10.30	64	Pn	Pn	17 30 22.8	-1.0
G21K	Allakaket	10.52	351	Pn	Pn	17 30 26.6	-0.2
G23K	Bananza Creek	10.54	358	Pn	Pn	17 30 26.6	-0.4
J30M	Hart River	10.54	32	Pn	Pn	17 30 25.5	-1.6
YKA	Yellowknife Ar baz=264,slow=10,SNR=4.2 comp=E,0.2nm,0.6s	18.60	56	P	P	17 32 13.3	+0.2
SONM	Songino Array comp=E,0.5nm,0.7s,baz=44,slow=6.8,SNR=2.9 comp=E,0.5nm,0.7s	58.66	310	P	P	17 37 55.5	+2.2
ZALV	Zalesovo Beam comp=E,31nm,19.6s,baz=225,slow=41	61.60	327	LR	LR	18 10 36.7	
MKAR	Makanchi Array comp=E,0.1nm,0.4s,baz=25,slow=5.4,SNR=6.0 comp=E,0.1nm,0.4s	68.63	325	P	P	17 38

comp=N,25nm,0.8s
KAIM **Kayak Island** 4.70 37 Pn 17 39 27.2 -0.2
KAIM **Kayak Island** 4.70 37 IAML 17 40 20.6
comp=N,42nm,1.5s
KAIM IAML 17 42 07.7
comp=E,36nm,1.1s
EYAK **Cordova Ski Ar** 4.83 26 Pn 17 39 28.9 -0.2
RAGM **Ragged Mountai** 4.98 32 Pn 17 39 31.0 -0.3
VRDI **Verde Repeater** 6.01 32 Pn Pn 17 39 44.2 -1.4
N25K **Chitina, Valde** 6.03 25 Pn Pn 17 39 42.0 -3.8
GLB **Gilahina Butte** 6.09 29 Pn Pn 17 39 42.0 -4.5
BARN **Barnard Glacie** 6.47 39 Pn Pn 17 39 50.7 -1.1
CTGM **Chitina Glacie** 6.52 40 Pn Pn 17 39 52.7 +0.2
LOGN **Logan Glacier** 6.54 42 Pn Pn 17 39 53.3 +0.4
BCPM **Bancas Point** 6.60 52 Pn Pn 17 39 53.6 0.0
O29M **Mount Kennedy** 7.24 51 Pn Pn 17 40 01.3 -1.0
P29M **Windy Craggy** 7.33 58 Pn Pn 17 40 02.7 -0.8
M27K **Edge Creek, AK** 7.37 31 Pn Pn 17 40 05.9 +1.7

*NEIC **24** 17:39:52.4±1.9,56.20N±0.03×149.9W±0.1,h10km±2km, ML3.4/32,ML3.3(AEIC),Error ellipse: s-maj=10.5km s-min=5.1km az=91.0*
*AEIC **24** 17:39:55.4±1.4,56.0N±0.1×149.8W±0.1,h12km±8km, Error ellipse: s-maj=19.4km s-min=10.7km az=181.0*
ISC 24 17:39:51.5±2.2,56.2N±0.1×149.91W±0.06,h10km,n97, σ1s05/95,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.14**	**301**		**Pn**	**17 40 27.8**	**+0.6**
OHAK					**Sn**	**17 40 53.0**	**-0.7**
OHAK	**Old Harbor**	**2.14**	**301**	P	**Pn**	**17 40 27.8**	**+0.6**
	baz=117						
OHAK				S	**Sn**	**17 40 53.0**	**-0.7**
	baz=117						
KDAK	**Kodiak Island**	**2.18**	**319**		**Pn**	**17 40 28.4**	**+0.7**
KDAK					**Sn**	**17 40 54.1**	**-0.6**
KDAK	**Kodiak Island**	**2.18**	**319**	Pn	**Pn**	**17 40 28.2**	**+0.5**
KDAK				IAML		17 40 55.7	
	42nm,1.4s						
KDAK				IAML		17 41 37.2	
	30nm,1.1s						
SYI	**Shuyak Island**	**2.79**	**332**		**Pn**	**17 40 36.9**	**+0.8**
SYI					**Sn**	**17 41 09.6**	**-0.1**
SYI	**Shuyak Island**	**2.79**	**332**	IAML		17 41 14.2	
	comp=E,64nm,1.4s						
Q20K	**Shuyak Island**	**2.79**	**332**	P	**Pn**	**17 40 36.9**	**+0.8**
	baz=150						
Q20K				S	**Sn**	**17 41 09.6**	**-0.1**
	baz=150						
R18K	**Karluk**	**2.85**	**301**		**Pn**	**17 40 37.3**	**+0.2**
R18K					**Sn**	**17 41 10.5**	**-0.9**
R18K	**Karluk**	**2.85**	**301**	IAML		17 41 15.1	
	comp=E,91nm,0.5s						
R18K	**Karluk**	**2.85**	**301**	P	**Pn**	**17 40 37.3**	**+0.2**
	baz=117						
R18K				S	**Sn**	**17 41 10.5**	**-0.9**
	baz=117						
Q19K	**Cape Douglas,**	**3.42**	**325**		**Pn**	**17 40 46.2**	**+1.4**
Q19K	**Cape Douglas,**	**3.42**	**325**	P	**Pn**	**17 40 46.2**	**+1.4**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.42**	**315**		**Pn**	**17 40 46.2**	**+1.3**
CNPM	**China Poot**	**3.43**	**349**		**Pn**	**17 40 45.6**	**+0.6**
CNPM					**Sn**	**17 41 26.4**	**+0.6**
CNPM	**China Poot**	**3.43**	**349**	IAML		17 41 27.8	
	comp=E,33nm,1.4s						
ACHA	**Angle Creek He**	**3.58**	**307**		**Pn**	**17 40 48.5**	**+1.4**
BRSE	**Bradley Lake S**	**3.60**	**353**		**Pn**	**17 40 47.8**	**+0.5**
BRSE	**Bradley Lake S**	**3.60**	**353**	P	**Pn**	**17 40 47.8**	**+0.5**
	baz=172						
BRLK	**Bradley Lake**	**3.64**	**352**		**Pn**	**17 40 48.1**	**+0.3**
BRLK	**Bradley Lake**	**3.64**	**352**	IAML		17 41 34.5	
	comp=N,42nm,0.9s						
BRLK				IAML		17 41 35.7	
	comp=E,47nm,0.6s						
ANCK	**Angle Creek**	**3.65**	**306**		**Pn**	**17 40 49.6**	**+1.5**
KAHC	**Katmai Hardscr**	**3.71**	**314**		**Pn**	**17 40 50.2**	**+1.4**
KAHC	**Katmai Hardscr**	**3.71**	**314**	P	**Pn**	**17 40 50.2**	**+1.4**
	baz=129						
Q23K	**Middleton Isla**	**3.78**	**29**		**Pn**	**17 40 49.6**	**-0.1**
Q23K	**Middleton Isla**	**3.78**	**29**	IAML		17 42 31.8	
	comp=N,118nm,1.4s						
Q23K	**Middleton Isla**	**3.78**	**29**	P	**Pn**	**17 40 50.5**	**+0.8**
	baz=212						
CNTC	**Contact Creek**	**3.86**	**305**		**Pn**	**17 40 51.9**	**+0.9**
Q17K	**Contact Creek**	**3.86**	**305**	P	**Pn**	**17 40 51.9**	**+0.8**
	baz=120						
P19K	**Oil Pt**	**3.91**	**334**		**Pn**	**17 40 52.8**	**+1.2**
P19K	**Oil Pt**	**3.91**	**334**	IAML		17 41 44.3	
	comp=N,103nm,1.4s						
P19K				IAML		17 41 44.3	
	comp=E,86nm,1.2s						
P19K	**Oil Pt**	**3.91**	**334**	P	**Pn**	**17 40 52.8**	**+1.2**
	baz=151						
P23K	**Montague Islan**	**4.06**	**18**		**Pn**	**17 40 53.5**	**-0.1**
P23K	**Montague Islan**	**4.06**	**18**	P	**Pn**	**17 40 54.0**	**+0.4**
	baz=200						
O20K	**Slope Mountain**	**4.17**	**341**		**Pn**	**17 40 56.0**	**+0.8**
O20K	**Slope Mountain**	**4.17**	**341**	P	**Pn**	**17 40 56.0**	**+0.8**
	baz=158						
IVE	**Iliamna Volcan**	**4.19**	**338**		**Pn**	**17 40 56.2**	**+0.7**
P18K	**Big Mountain,**	**4.30**	**321**		**Pn**	**17 40 57.3**	**+0.4**
P18K	**Big Mountain,**	**4.30**	**321**	P	**Pn**	**17 40 57.3**	**+0.4**
	baz=136						
RDSO	**Redoubt South**	**4.54**	**342**		**Pn**	**17 41 01.3**	**+0.9**
RSO	**Redoubt South**	**4.55**	**342**	Pn	**Pn**	**17 41 00.4**	**-0.2**
HIN	**Hinchinbrook I**	**4.60**	**22**		**Pn**	**17 41 01.5**	**+0.5**
HIN	**Hinchinbrook I**	**4.60**	**22**	IAML		17 41 47.1	
	comp=N,34nm,1.4s						
HIN				IAML		17 42 01.5	
	comp=E,45nm,1.1s						
P17K	**Kvichak River**	**4.63**	**314**		**Pn**	**17 41 02.0**	**+0.6**
P17K	**Kvichak River**	**4.63**	**314**	P	**Pn**	**17 41 02.0**	**+0.6**
	baz=128						
CAPN	**Captain Cook N**	**4.65**	**352**	Pn	**Pn**	**17 40 58.2**	**-3.5**
KAIM	**Kayak Island**	**4.76**	**36**		**Pn**	**17 41 03.8**	**+0.5**
KAIM	**Kayak Island**	**4.76**	**36**	IAML		17 41 56.3	
	comp=N,40nm,1.5s						
KAIM	**Kayak Island**	**4.76**	**36**	P	**Pn**	**17 41 03.8**	**+0.5**
	baz=220						
EYAK	**Cordova Ski Ar**	**4.90**	**25**		**Pn**	**17 41 05.5**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.90**	**25**	P	**Pn**	**17 41 05.5**	**+0.4**
	baz=208						
RAGM	**Ragged Mountai**	**5.05**	**31**	Pn	**Pn**	**17 41 07.5**	**+0.3**
GOAT	**Goat Mountain**	**5.19**	**30**		**Pn**	**17 41 10.2**	**+1.0**
P16K	**Nushagak River**	**5.20**	**307**		**Pn**	**17 41 10.4**	**+1.1**
P16K	**Nushagak River**	**5.20**	**307**	P	**Pn**	**17 41 10.4**	**+1.1**
	baz=120						
N19K	**Bonanza Creek**	**5.23**	**335**		**Pn**	**17 41 10.6**	**+0.8**
N19K	**Bonanza Creek**	**5.23**	**335**	IAML		17 42 13.8	
	comp=N,11nm,1.1s						
N19K	**Bonanza Creek**	**5.23**	**335**	P	**Pn**	**17 41 10.6**	**+0.8**
	baz=150						
BERG	**Berg Lake**	**5.35**	**35**		**Pn**	**17 41 11.2**	**-0.1**
BERG	**Berg Lake**	**5.35**	**35**	IAML		17 41 51.2	
	comp=E,37nm,1.4s						
SNH	**Sunshine Point**	**5.49**	**40**		**Pn**	**17 41 13.5**	**+0.2**
N18K	**Kilae Creek**	**5.50**	**328**		**Pn**	**17 41 14.3**	**+0.9**
N18K	**Kilae Creek**	**5.50**	**328**	P	**Pn**	**17 41 14.3**	**+0.9**
	baz=142						
O16K	**Kokwok River B**	**5.55**	**312**	Pn	**Pn**	**17 41 15.7**	**+1.6**
BMRM	**Bremner River**	**5.55**	**28**	P	**Pn**	**17 41 14.8**	**+0.7**
	baz=212						
KLU	**Klutina**	**5.72**	**20**		**Pn**	**17 41 17.5**	**+1.0**
KLU	**Klutina**	**5.72**	**20**	P	**Pn**	**17 41 17.5**	**+1.0**
	baz=203						
BARK	**Barkley Ridge**	**5.77**	**40**		**Pn**	**17 41 17.7**	**+0.5**
M20K	**Styx River**	**5.96**	**345**	Pn	**Pn**	**17 41 19.7**	**-0.1**
VRDI	**Verde Repeater**	**6.08**	**31**	Pn	**Pn**	**17 41 21.0**	**-0.6**
N25K	**Chitina, Valde**	**6.10**	**25**		**Pn**	**17 41 23.0**	**+1.3**
N25K	**Chitina, Valde**	**6.10**	**25**	P	**Pn**	**17 41 23.0**	**+1.3**
	baz=209						
O15K	**Ungalikthiuk R**	**6.11**	**304**		**Pn**	**17 41 23.3**	**+1.6**
O15K	**Ungalikthiuk R**	**6.11**	**304**	P	**Pn**	**17 41 23.3**	**+1.6**
	baz=115						
GLB	**Gilahina Butte**	**6.16**	**28**	Pn	**Pn**	**17 41 23.2**	**+0.7**
KIAG	**Kiagna River**	**6.19**	**37**		**Pn**	**17 41 23.9**	**+0.9**
SAMH	**Samovar Hills**	**6.25**	**47**		**Pn**	**17 41 24.9**	**+1.2**
PCA	**Pinnacle**	**6.45**	**48**		**Pn**	**17 41 26.4**	**-0.1**
PINM	**Pinnacle**	**6.45**	**48**	P	**Pn**	**17 41 26.4**	**-0.1**
	baz=237						
BARN	**Barnard Glacie**	**6.52**	**38**		**Pn**	**17 41 28.0**	**+0.4**
M17K	**Holitna River**	**6.54**	**326**	Pn	**Pn**	**17 41 29.5**	**+1.9**
CTG	**Chitna Glacier**	**6.57**	**39**	P	**Pn**	**17 41 28.7**	**+0.6**
	baz=227						
CTGM	**Chitina Glacie**	**6.57**	**40**		**Pn**	**17 41 28.7**	**+0.5**
LOGN	**Logan Glacier**	**6.59**	**41**		**Pn**	**17 41 28.4**	**-0.1**
PNL	**Peninsula**	**6.61**	**54**		**Pn**	**17 41 28.5**	**-0.1**
PNL	**Peninsula**	**6.61**	**54**	P	**Pn**	**17 41 28.5**	**-0.1**
	baz=243						
N15K	**Kwethluk River**	**6.71**	**311**		**Pn**	**17 41 31.1**	**+1.2**
M16K	**Timber Creek**	**6.78**	**320**	Pn	**Pn**	**17 41 31.6**	**+0.7**
O29M	**Mount Kennedy**	**7.27**	**51**	Pn	**Pn**	**17 41 39.0**	**+1.2**
P29M	**Windy Craggy**	**7.35**	**57**		**Pn**	**17 41 37.8**	**-1.1**
M27K	**Edge Creek, AK**	**7.44**	**30**	Pn	**Pn**	**17 41 41.7**	**+1.6**
TTA	**Tatalina**	**7.45**	**338**	Pn	**Pn**	**17 41 41.0**	**+0.9**
S31K	**Pelican**	**7.67**	**71**	Pn	**Pn**	**17 41 41.8**	**-1.3**
J19K	**Poorman**	**8.34**	**342**	Pn	**Pn**	**17 41 53.7**	**+1.3**
M29M	**Somme Creek**	**8.58**	**38**	Pn	**Pn**	**17 41 56.4**	**+0.6**
WHY	**Whitehorse**	**9.07**	**54**	Pn	**Pn**	**17 42 00.2**	**-2.2**
H21K	**Melozitna Rive**	**9.62**	**353**	Pn	**Pn**	**17 42 06.1**	**-3.7**
K29M	**Barlow Dome**	**9.86**	**34**	Pn	**Pn**	**17 42 14.3**	**+1.1**

*NEIC **24** 17:50:45.2±1.2,56.35N±0.08×149.06W±0.08,h10km±1km, mb4.4/7,ML3.8/42,ML3.5(AEIC),Error ellipse: s-maj=13.0km s-min=6.9km az=169.0*
*AEIC **24** 17:50:48.1±2.2,56.13N±0.09×149.06W±0.08,h10km±5km, Error ellipse: s-maj=12.5km s-min=6.1km az=185.0*
*IDC **24** 17:50:52.9±1.1,56.58N±148.48W,h0km,mb3.9/8, mbtmp3.8/13,ML3.3/5,MS3.5/21,Error ellipse: s-maj=27.1km s-min=19.7km az=18.0*
ISC 24 17:50:47.6±0.7,56.43N±0.06×149.01W±0.03,h10km, n141,σ2s02/112,mb4.2/11,MS3.4/17,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.38**	**306**		**Pn**	**17 51 24.7**	**-1.8**
KDAK	**Kodiak Island**	**2.38**	**306**		**Sn**	**17 51 53.8**	**-1.9**
KDAK	**Kodiak Island**	**2.38**	**306**	Pn	**Pb**	**17 51 34.2**	**+3.8**
	16nm,0.3s,baz=148,slow=4.3,SNR=31						
KDAK				Sn	**Sb**	**17 52 01.9**	**+2.1**
	11nm,0.3s,baz=54,slow=23,SNR=14						
KDAK				LR	LR	17 52 48.1	
	comp=Z,805nm,19.5s,baz=190,slow=45 29nm,0.3s						
OHAK	**Old Harbor**	**2.48**	**290**		**Pn**	17 51 25.6	-2.4
OHAK	**Old Harbor**	**2.48**	**290**		**Sn**	**17 51 54.0**	**-4.4**
OHAK	**Old Harbor**	**2.48**	**290**	P	**Pb**	**17 51 35.5**	**+3.3**
	baz=109						
OHAK				S	**Sb**	**17 52 04.5**	**+1.6**
	baz=109						
SYI	**Shuyak Island**	**2.85**	**322**	Pn	**Pn**	**17 51 31.5**	**-1.5**
SYI	**Shuyak Island**	**2.85**	**322**		**Sn**	17 52 06.4	-0.9
Q20K	**Shuyak Island**	**2.85**	**321**	P	**Pg**	**17 51 42.8**	**+0.7**
	baz=140						
Q20K				S	**Sb**	**17 52 16.9**	**+3.6**
	baz=140						
R18K	**Karluk**	**3.19**	**293**		**Sn**	17 52 11.6	-4.2
R18K	**Karluk**	**3.19**	**293**	P	**Pb**	**17 51 45.6**	**+1.3**
	baz=110						
R18K				S	**Sn**	**17 52 20.3**	**+4.5**
	baz=110						
CNPM	**China Poot**	**3.32**	**340**	Pn	**Pn**	**17 51 38.2**	**-1.5**
CNPM				IAML		17 52 34.6	
	comp=E,89nm,1.2s						
Q23K	**Middleton Isla**	**3.32**	**24**	Pn	**Pn**	**17 51 38.0**	**-1.6**
Q23K				IAML		17 52 36.3	
	comp=N,188nm,0.9s						
Q23K				IAML		17 52 54.2	
	comp=E,195nm,1.2s						
Q23K	**Middleton Isla**	**3.32**	**24**	P	**Pb**	**17 51 49.4**	**+2.9**
	baz=206						
MID	**Middleton Isla**	**3.32**	**24**	Pn	**Pn**	**17 51 38.5**	**-1.1**
MID				IAML		17 52 44.7	
	comp=E,194nm,1.4s						
MID				IAML		17 52 45.7	
	comp=N,160nm,1.4s						
BRSE	**Bradley Lake S**	**3.44**	**345**		**Pn**	**17 51 39.6**	**-1.7**
BRSE					**Sn**	**17 52 22.9**	**+0.8**
BRSE	**Bradley Lake S**	**3.44**	**345**	P	**Pb**	**17 51 51.4**	**+2.7**
	baz=165						
BRSE				S	**Sb**	**17 52 31.6**	**+1.0**
	baz=165						
BRLK	**Bradley Lake**	**3.49**	**344**	Pn	**Pn**	**17 51 40.1**	**-1.8**
BRLK				IAML		17 52 29.3	
	comp=N,86nm,0.8s						
BRLK				IAML		17 52 33.0	
	comp=E,84nm,1.5s						
Q19K	**Cape Douglas,**	**3.53**	**317**		**Pn**	**17 51 41.3**	**-1.2**
Q19K				IAML		17 52 47.2	
	comp=N,358nm,0.8s						
Q19K	**Cape Douglas,**	**3.53**	**317**	P	**Pb**	**17 51 50.7**	**+0.5**
	baz=134						
KAHG	**Katmai Hook Gl**	**3.64**	**307**		**Pn**	**17 51 43.3**	**-0.7**
P23K	**Montague Islan**	**3.67**	**13**		**Pn**	**17 51 42.8**	**-1.7**
P23K	**Montague Islan**	**3.67**	**13**	P	**Pb**	**17 51 54.5**	**+1.9**
	baz=194						
SEW	**Seward**	**3.69**	**357**	Pn	**Pn**	**17 51 43.2**	**-1.4**
AUCH	**Augustine Cone**	**3.77**	**323**		**Pn**	**17 51 44.8**	**-1.1**
ACHA	**Angle Creek He**	**3.86**	**300**		**Pn**	**17 51 46.4**	**-0.7**
P19K	**Oil Pt**	**3.93**	**327**	Pn	**Pn**	**17 51 46.5**	**-1.5**
P19K				IAML		17 52 44.4	
	comp=E,152nm,0.6s						
P19K				IAML		17 52 50.4	
	comp=N,192nm,0.7s						
P19K	**Oil Pt**	**3.93**	**327**	P	**Pb**	**17 51 56.5**	**-0.5**
	baz=144						
O22K	**Cooper Landing**	**4.08**	**355**		**Pn**	**17 51 47.6**	**-2.3**
O20K	**Slope Mountain**	**4.13**	**334**		**Pn**	**17 51 49.7**	**-1.1**
O20K	**Slope Mountain**	**4.13**	**334**	P	**Pb**	**17 52 00.8**	**+0.4**
	baz=152						
CNTC	**Contact Creek**	**4.15**	**299**		**Pn**	**17 51 50.3**	**-0.8**
HIN	**Hinchinbrook I**	**4.19**	**17**		**Pn**	**17 51 49.6**	**-2.0**
HIN				IAML		17 52 48.2	
	comp=N,232nm,1.1s						
KAIM	**Kayak Island**	**4.26**	**33**		**Pn**	**17 51 50.5**	**-2.0**
KAIM				IAML		17 52 48.7	
	comp=E,211nm,1.3s						
KAIM	**Kayak Island**	**4.26**	**33**	P	**Pb**	**17 52 02.0**	**-0.6**
	baz=216						
P18K	**Big Mountain,**	**4.45**	**314**	Pn	**Pn**	**17 51 53.0**	**-2.2**
P18K	**Big Mountain,**	**4.45**	**314**	P	Pb	17 52 03.0	-2.9
	baz=130						
EYAK	**Cordova Ski Ar**	**4.47**	**21**	Pn	**Pn**	**17 51 53.4**	**-1.9**
EYAK	**Cordova Ski Ar**	**4.47**	**21**	P	**Pb**	**17 52 04.7**	**-1.3**
	baz=204						
CAPN	**Captain Cook N**	**4.49**	**346**	Pn	**Pn**	**17 51 53.9**	**-1.7**
RSO	**Redoubt South**	**4.50**	**336**		Pn	17 51 52.7	-3.2
RDWB	**Redoubt West**	**4.54**	**335**		**Pn**	**17 51 54.0**	**-2.4**
RAGM	**Ragged Mountai**	**4.57**	**28**		**Pn**	**17 51 55.8**	**-1.0**
RC01	**Rabbit Creek A**	**4.69**	**356**		**Pn**	**17 51 56.5**	**-1.8**
RC01				IAML		17 52 56.9	
	comp=E,73nm,0.9s						
RC01				IAML		17 53 00.6	
	comp=N,56nm,0.7s						
BERG	**Berg Lake**	**4.85**	**33**		**Pn**	**17 51 59.4**	**-1.3**
BERG				IAML		17 52 59.3	
	comp=N,125nm,1.1s						
SNH	**Sunshine Point**	**4.97**	**38**		**Pn**	**17 52 00.9**	**-1.4**
SNH				IAML		17 53 01.1	
	comp=N,52nm,1.5s						
SNH				IAML		17 53 26.9	
	comp=E,78nm,1.1s						
KNK	**Knik Glacier**	**5.00**	**3**		**Pn**	**17 52 00.2**	**-2.5**
KNK				IAML		17 53 21.1	
	comp=E,44nm,0.9s						
KNK				IAML		17 53 36.8	
	comp=N,38nm,1.1s						
SUA	**Susitna One**	**5.13**	**351**		**Pn**	**17 52 03.3**	**-1.2**
SUA				IAML		17 53 14.7	
	comp=E,26nm,1.5s						
PMR	**Palmer**	**5.18**	**359**		**Pn**	**17 52 03.3**	**-1.7**
PMR				IAML		17 53 18.1	
	comp=N,32nm,1.2s						
PMR				IAML		17 53 25.6	
	comp=E,33nm,0.9s						
KLU	**Klutina**	**5.32**	**16**		**Pn**	**17 52 06.3**	**-0.8**
GHO	**Glory Hole Cre**	**5.36**	**0**		**Pn**	**17 52 07.5**	**-0.1**
SML	**Sawmill**	**5.40**	**3**		**Pn**	**17 52 07.2**	**-1.0**
SCM	**Sheep Creek Mo**	**5.49**	**8**		**Pn**	**17 52 08.6**	**-0.8**
VRDI	**Verde Repeater**	**5.61**	**29**	Pn	**Pn**	**17 52 09.2**	**-2.0**
N25K	**Chitina, Valde**	**5.67**	**22**		**Pn**	**17 52 11.5**	**-0.4**
GLB	**Gilahina Butte**	**5.70**	**26**	Pn	**Pn**	**17 52 11.1**	**-1.2**
SKT	**Skwentna**	**5.71**	**348**		**Pn**	**17 52 09.9**	**-2.5**
SVW2	**Sparrevohn**	**5.79**	**327**	Pn	**Pn**	**17 52 11.7**	**-1.8**
M24K	**Tolsona, Glenn**	**5.87**	**13**		**Pn**	**17 52 14.2**	**-0.5**
BARN	**Barnard Glacie**	**6.01**	**36**		**Pn**	**17 52 14.9**	**-1.8**
BCPM	**Bancas Point**	**6.08**	**51**	Pn	**Pn**	**17 52 15.4**	**-2.1**
CNBA	**Chernabura Isl**	**6.21**	**259**	Pn	**Pn**	**17 52 17.2**	**-2.0**
DHY	**Denali Highway**	**6.71**	**6**		**Pn**	**17 52 23.8**	**-2.5**
P29M	**Windy Craggy**	**6.79**	**57**		**Pn**	**17 52 25.9**	**-1.3**
M27K	**Edge Creek, AK**	**6.96**	**29**		**Pn**	**17 52 28.8**	**-0.9**
L18K	**Granite Mounta**	**7.01**	**329**	Pn	**Pn**	**17 52 28.4**	**-1.7**
TRF	**Thorofare Moun**	**7.07**	**355**	Pn	**Pn**	**17 52 30.3**	**-0.9**
S31K	**Pelican**	**7.11**	**72**		**Pn**	**17 52 28.7**	**-2.8**
CAST	**Castle Rocks**	**7.18**	**349**	Pn	**Pn**	**17 52 31.2**	**-1.3**
KTH	**Kantishna Hill**	**7.21**	**353**		**Pn**	**17 52 33.9**	**+0.9**
TTA	**Tatalina**	**7.42**	**334**	Pn	Pn	17 52 33.1	-2.7
L16K	**Owhat River**	**7.55**	**319**	Pn	**Pn**	**17 52 36.1**	**-1.5**
SIT	**Sitka**	**7.55**	**80**	Pn	**Pn**	**17 52 35.5**	**-2.1**
L27K	**Beaver Creek,**	**7.57**	**26**	Pn	**Pn**	**17 52 36.3**	**-1.6**
BCAR	**Beaver Creek A**	**7.58**	**26**	Pn	**Pn**	**17 52 36.9**	**-1.2**
RIDG	**Independent Ri**	**7.62**	**14**	Pn	**Pn**	**17 52 38.9**	**+0.2**
BPAW	**Bear Paw Mtn.**	**7.76**	**354**	Pn	**Pn**	**17 52 39.3**	**-1.1**
S32K	**Killisnoo**	**7.96**	**77**	Pn	**Pn**	**17 52 42.1**	**-1.1**
O30N	**Mendenhall**	**8.02**	**52**	Pn	**Pn**	**17 52 41.7**	**-2.4**
R32K	**Eaglecrest**	**8.05**	**71**	Pn	**Pn**	**17 52 43.1**	**-1.4**
HDA	**Harding Lake**	**8.07**	**6**	Pn	**Pn**	**17 52 44.0**	**-0.8**
JIS	**Juneau Island**	**8.12**	**71**	Pn	**Pn**	**17 52 43.1**	**-2.3**
NEA2	**Nenana**	**8.19**	**360**	Pn	Pn	17 52 43.2	-3.2
IL31		**8.43**	**6**	Pn	**Pn**	**17 52 48.5**	**-1.2**
ILAR	**Eielson Array**	**8.43**	**6**	P	**Pn**	**17 52 50.5**	**+0.8**
	comp=E,0.1nm,0.3s,baz=184,slow=11,SNR=1.4						
ILAR				Sn	**Sn**	**17 54 24.7**	**-0.1**
	comp=E,0.2nm,0.3s,baz=189,slow=22,SNR=9.3 comp=E,0.1nm,0.3s						
N31M	**Braeburn, Yuko**	**8.50**	**48**	Pn	**Pn**	**17 52 49.3**	**-1.4**
WHY	**Whitehorse**	**8.51**	**54**		**Pn**	**17 52 49.3**	**-1.6**
P32M	**Atlin**	**8.71**	**62**	Pn	**Pn**	**17 52 51.5**	**-2.0**
DAWY	**Dawson**	**9.02**	**28**	Pn	**Pn**	**17 52 56.9**	**-0.8**
P33M	**Teslin, Yukon**	**9.31**	**59**		**Pn**	**17 53 00.2**	**-1.6**
M31M	**Drury Creek, Y**	**9.44**	**46**		**Pn**	**17 53 02.6**	**-0.9**
S34M	**Telegraph Cree**	**9.82**	**74**	Pn	**Pn**	**17 53 07.0**	**-1.7**
IMAR	**Indian Mountai**	**9.85**	**349**	Pn	**Pn**	**17 53 08.3**	**-0.8**
FARO	**Faro, Yukon**	**9.87**	**48**		**Pn**	**17 53 09.9**	**+0.5**
R33M	**Jennings River**	**10.04**	**65**	Pn	**Pn**	**17 53 10.4**	**-1.5**
DLBC	**Dease Lake**	**10.42**	**71**	Pn	**Pn**	**17 53 19.6**	**+2.5**
	comp=E,0.4nm,0.3s,baz=161,slow=16,SNR=2.2						
DLBC				LR	LR	17 56 25.4	
	comp=E,225nm,21.7s,baz=286,slow=33 comp=E,2.1nm,0.5s						
BBB	**Bella Bella**	**12.90**	**100**	LR	LR	17 57 40.0	
	comp=E,206nm,20.6s,baz=258,slow=32						
INK	**Inuvik**	**13.85**	**24**		**Pn**	**17 54 01.5**	**-2.1**
INK	**Inuvik**	**13.85**	**24**	Pn	**Pn**	**17 54 07.4**	**+3.8**
	comp=E,0.1nm,0.3s,baz=201,slow=11,SNR=4.5 comp=E,2.3nm,1.1s						
YKA	**Yellowknife Ar**	**18.33**	**57**	P	**P**	**17 55 05.2**	**+3.5**
	comp=E,0.1nm,0.3s,baz=265,slow=11,SNR=17						
YKA				LR	LR	18 01 15.5	
	comp=E,86nm,20.2s,baz=254,slow=34 comp=E,1.4nm,0.9s						
NEW	**Newport**	**20.96**	**99**	LR	LR	18 02 13.1	
	comp=E,124nm,20.2s,baz=290,slow=33						
SHEM	**Shemya Is, Ala**	**21.53**	**276**	LR	LR	18 05 09.2	
	comp=E,79nm,18.2s,baz=96,slow=39						
YBH	**Yreka Blue Hor**	**22.45**	**120**	LR	LR	18 02 20.7	
	comp=E,110nm,19.4s,baz=332,slow=31						
ELK	**Elko**	**26.94**	**111**	LR	LR	18 05 24.6	
	comp=E,74nm,18.4s,baz=291,slow=33						
NVAR	**Mina Array Bea**	**27.15**	**118**	LR	LR	18 05 29.5	
	comp=E,85nm,18.0s,baz=278,slow=32						
PDAR	**Pinedale Array**	**28.54**	**102**	LR	LR	18 08 19.5	
	comp=E,40nm,18.1s,baz=320,slow=37						
SEY	**Seymchan**	**29.34**	**307**	LR	LR	18 09 49.1	
	comp=E,110nm,19.5s,baz=162,slow=38						
MA2	**Magadan**	**31.11**	**301**	LR	LR	18 09 37.2	
	comp=E,99nm,18.7s,baz=116,slow=36						
ULM	**Lac du Bonnet**	**31.62**	**78**	LR	LR	18 09 50.2	
	comp=E,71nm,19.2s,baz=304,slow=36						
PFO	**Pinyon Flats O**	**31.91**	**122**	LR	LR	18 07 14.4	
	comp=E,80nm,18.7s,baz=242,slow=31						
ANMO	**Albuquerque**	**35.87**	**109**	LR	LR	18 11 38.2	
	comp=E,47nm,18.0s,baz=18,slow=35						
TXAR	**Lajitas Array**	**41.73**	**111**	P	**P**	**17 58 41.4**	**+4.6**
	comp=E,0.3nm,1.0s,baz=328,slow=3.2,SNR=1.9						

LPAZ	**La Paz**	**2.69**	**338**	Pg	Pn	17 57 28.3 -0.2
MOCB	**Mochara**	**2.79**	**151**	Pg	Pn	17 57 30.4 +1.2
HMBC	**Humberstone**	**3.03**	**240**	Pg	Pn	17 57 31.4 +0.1
HMBC				Sg	S	17 58 12.6 -1.2
HMBC				IAML		17 58 18.1
	68nm,0.2s					
PB01	**IPOC Station P**	**3.18**	**225**	Pg	Pn	17 57 33.2 +0.3
TA02	**Huaiquique**	**3.23**	**243**	Pg	Pn	17 57 33.9 +0.6
TA01	**Diego Aracena**	**3.41**	**238**	Pg	Pn	17 57 35.6 +0.3
PB09	**IPOC Station P**	**3.60**	**214**	Pg	Pn	17 57 39.3 +1.6
PB02	**IPOC Station P**	**3.64**	**226**	Pg	Pn	17 57 39.3 +1.2
PB02				Sg	S	17 58 24.7 -1.3
PB02				IAML		17 58 28.5
	113nm,0.3s					
PB07	**IPOC Station P**	**3.92**	**222**	Pg	Pn	17 57 42.2 +0.8
PB07				Sg	S	17 58 30.2 -1.8
PB07				IAML		17 58 33.8
	41nm,0.2s					
LVC	**Limon Verde**	**4.16**	**204**	Pg	Pn	17 57 45.1 +0.8
PB06	**IPOC Station P**	**4.53**	**211**	Pg	Pn	17 57 49.3 +0.9
PB06				Sg	S	17 58 43.0 -1.8
PB06				IAML		17 58 46.4
	37nm,0.2s					
PB15	**IPOC Station P**	**4.92**	**207**	Pg	Pn	17 57 54.4 +1.3
PB05	**IPOC Station P**	**4.98**	**215**	Pg	Pn	17 57 54.2 +0.5

*NEIC **24** 18:08:54.2±1.8,55˚.92N±0˚.08×150˚.8W±0˚.1, h10^{km}±2^{km}, ML3.4/40,ML3.3(AEIC), Error ellipse: s-maj=14.3km s-min=10.9km az=171.0*
*IDC **24** 18:08:56.0±4.0,55˚.77N×151˚.92W, h0^{km}, mb3.1/2, mbtmp3.1/4, ML2.7/2, Error ellipse: s-maj=70.0km s-min=25.2km az=71.0*
*AEIC **24** 18:08:59.4±1.9,55˚.93N±0˚.08×150˚.8W±0˚.1, h12^{km}±7^{km}, Error ellipse: s-maj=12.3km s-min=9.1km az=172.0*

ISC 24 18:08:55.5±1.2,56˚02N±0˚.08×150˚89W±0˚.05,h10^{km}, n165,σ0§88/163,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.79**	**313**		**Pn**	**18 09 25.8**	**-0.6**
OHAK					**Sn**	**18 09 47.7**	**-1.4**
OHAK	**Old Harbor**	**1.79**	**313**	P	**Pn**	**18 09 25.8**	**-0.6**
	baz=132						
OHAK				S	**Sn**	**18 09 47.7**	**-1.4**
	baz=132						
SII	**Sitkinak Islan**	**1.91**	**288**		**Sn**	**18 09 49.6**	**-2.7**
KDAK	**Kodiak Island**	**1.99**	**333**		**Pn**	**18 09 29.0**	**-0.2**
KDAK					**Sn**	**18 09 53.3**	**-0.9**
KDAK	**Kodiak Island**	**1.99**	**333**	Pn	**Pn**	**18 09 29.2**	**0.0**
	3.8nm,0.3s,baz=160,slow=3.5,SNR=47						
KDAK				Sn	Sn	18 09 45.3	-8.9
	2.5nm,0.3s,baz=333,slow=23,SNR=8.9						
	10nm,0.2s						
R18K	**Karluk**	**2.50**	**310**		**Pn**	**18 09 36.2**	**+0.1**
R18K					**Sn**	**18 10 05.6**	**-1.0**
R18K	**Karluk**	**2.50**	**310**	P	**Pn**	**18 09 36.2**	**+0.1**
	baz=128						
R18K				S	**Sn**	**18 10 06.3**	**-0.3**
	baz=128						
Q20K	**Shuyak Island**	**2.72**	**343**	P	**Pn**	**18 09 39.5**	**+0.3**
	baz=161						
Q20K				S	**Sn**	**18 10 11.9**	**-0.2**
	baz=161						
SYI	**Shuyak Island**	**2.72**	**343**		**Pn**	**18 09 39.5**	**+0.3**
SYI					**Sn**	**18 10 11.3**	**-0.8**
SYI	**Shuyak Island**	**2.72**	**343**	IAML		18 10 14.4	
	comp=N,45nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.17**	**323**		**Pn**	**18 09 46.5**	**+0.9**
KAHG					**Sn**	**18 10 23.6**	**+0.1**
KCG	**Knife Ck. Glac**	**3.25**	**317**		**Pn**	**18 09 47.3**	**+0.8**
ACHA	**Angle Creek He**	**3.27**	**314**		**Pn**	**18 09 47.5**	**+0.7**
Q19K	**Cape Douglas,**	**3.27**	**334**		**Pn**	**18 09 48.0**	**+1.2**
Q19K	**Cape Douglas,**	**3.27**	**334**	IAML		18 10 32.7	
	comp=N,146nm,1.2s						
Q19K	**Cape Douglas,**	**3.27**	**334**	P	**Pn**	**18 09 48.0**	**+1.2**
	baz=152						
ANCK	**Angle Creek**	**3.33**	**313**		**Pn**	**18 09 47.9**	**+0.2**
ANCK					**Sn**	**18 10 26.4**	**-0.7**
CNPM	**China Poot**	**3.52**	**357**		**Pn**	**18 09 49.7**	**-0.5**
CNPM					**Sn**	**18 10 30.8**	**-1.0**
CNPM	**China Poot**	**3.52**	**357**	IAML		18 10 31.8	
	comp=E,34nm,1.3s						
CNPM				IAML		18 12 03.3	
	comp=N,24nm,1.4s						
CNTC	**Contact Creek**	**3.53**	**312**		**Pn**	**18 09 50.6**	**+0.2**
Q17K	**Contact Creek**	**3.53**	**312**	P	**Pn**	**18 09 50.6**	**+0.2**
	baz=128						
KELA	**Mount Kelaz**	**3.58**	**315**		**Pn**	**18 09 51.4**	**+0.3**
AUCH	**Augustine Cone**	**3.62**	**339**		**Pn**	**18 09 51.1**	**-0.6**
HOM	**Homer**	**3.67**	**354**	Pn	**Pn**	**18 09 51.3**	**-0.9**
BRSE	**Bradley Lake S**	**3.73**	**1**		**Pn**	**18 09 52.1**	**-1.1**
BRSE	**Bradley Lake S**	**3.73**	**1**	P	**Pn**	**18 09 52.1**	**-1.1**
	baz=180						
BRLK	**Bradley Lake**	**3.75**	**0**	Pn	**Pn**	**18 09 52.5**	**-0.9**
BRLK				IAML		18 11 05.2	
	comp=N,38nm,1.4s						
BRLK				IAML		18 12 10.6	
	comp=E,38nm,1.5s						
P19K	**Oil Pt**	**3.85**	**342**		**Pn**	**18 09 55.1**	**+0.4**
P19K	**Oil Pt**	**3.85**	**342**	IAML		18 10 43.8	
	comp=E,97nm,0.6s						
P19K				IAML		18 10 45.3	
	comp=N,78nm,0.5s						
P19K	**Oil Pt**	**3.85**	**342**	P	**Pn**	**18 09 55.1**	**+0.4**
	baz=160						
R16K	**Pilot Point**	**3.99**	**296**		**Pn**	**18 09 56.4**	**-0.2**
R16K	**Pilot Point**	**3.99**	**296**	IAML		18 10 27.7	
	comp=E,100nm,1.4s						
R16K	**Pilot Point**	**3.99**	**296**	P	**Pn**	**18 09 56.4**	**-0.2**
	baz=111						
P18K	**Big Mountain,**	**4.10**	**327**	Pn	**Pn**	**18 09 57.8**	**-0.5**
IVE	**Iliamna Volcan**	**4.16**	**345**		**Pn**	**18 09 58.9**	**-0.3**
O20K	**Slope Mountain**	**4.17**	**348**		**Pn**	**18 09 59.7**	**+0.5**
O20K	**Slope Mountain**	**4.17**	**348**	P	**Pn**	**18 09 59.7**	**+0.5**
	baz=166						
Q23K	**Middleton Isla**	**4.19**	**34**		**Pn**	**18 09 58.1**	**-1.3**
Q23K	**Middleton Isla**	**4.19**	**34**	P	**Pn**	**18 09 58.1**	**-1.3**
	baz=216						
CHGN	**Chignik**	**4.22**	**277**	Pn	**Pn**	**18 09 59.6**	**-0.1**
CHGN				IAML		18 12 42.3	
	comp=E,87nm,0.6s						
P23K	**Montague Islan**	**4.40**	**23**		**Pn**	**18 10 01.5**	**-0.8**
P23K	**Montague Islan**	**4.40**	**23**	P	**Pn**	**18 10 01.5**	**-0.8**
	baz=205						
RSO	**Redoubt South**	**4.56**	**348**	Pn	**Pn**	**18 10 03.8**	**-0.9**
O19K	**Port Alsworth**	**4.56**	**338**		**Pn**	**18 10 04.7**	**+0.2**
O19K				IAML		18 10 59.6	
	comp=N,37nm,0.5s						
RDT	**Redoubt**	**4.63**	**351**		**Pn**	**18 10 05.2**	**-0.3**
S14K	**Fog Glacier**	**4.85**	**277**	P	**Pn**	**18 10 08.1**	**-0.5**
	baz=91						
VNFG	**Fog Glacier, M**	**4.85**	**277**		**Pn**	**18 10 08.1**	**-0.5**
P16K	**Nushagak River**	**4.87**	**311**		**Pn**	**18 10 08.7**	**0.0**
P16K	**Nushagak River**	**4.87**	**311**	P	**Pn**	**18 10 08.7**	**0.0**
	baz=126						
HIN	**Hinchinbrook I**	**4.96**	**26**		**Pn**	**18 10 09.2**	**-0.8**
HIN	**Hinchinbrook I**	**4.96**	**26**	IAML		18 10 56.2	
	comp=N,45nm,1.3s						
HIN				IAML		18 13 28.1	
	comp=E,33nm,1.4s						
O17K	**Koliganek Bris**	**5.01**	**321**		**Pn**	**18 10 11.0**	**+0.4**
O17K	**Koliganek Bris**	**5.01**	**321**	P	**Pn**	**18 10 11.0**	**+0.4**
	baz=136						
CNBA	**Chernabura Isl**	**5.10**	**260**	Pn	**Pn**	**18 10 10.4**	**-1.5**
CNBA				IAML		18 11 24.0	
	comp=E,30nm,1.2s						
CNBA				IAML		18 11 36.2	
	comp=N,27nm,1.4s						
RC01	**Rabbit Creek A**	**5.12**	**6**	Pn	Pn	18 10 08.6	-3.6
RC01				IAML		18 11 14.2	
	comp=E,19nm,0.4s						
N19K	**Bonanza Creek**	**5.16**	**340**		**Pn**	**18 10 12.6**	**-0.3**
N19K	**Bonanza Creek**	**5.16**	**340**	IAML		18 13 18.3	
	comp=N,6.9nm,1.2s						
N19K	**Bonanza Creek**	**5.16**	**340**	P	**Pn**	**18 10 12.6**	**-0.3**
	baz=157						
KAIM	**Kayak Island**	**5.21**	**39**		**Pn**	**18 10 12.5**	**-0.9**
KAIM	**Kayak Island**	**5.21**	**39**	IAML		18 11 23.9	
	comp=E,28nm,1.3s						
KAIM				IAML		18 11 43.7	
	comp=N,20nm,1.2s						
KAIM	**Kayak Island**	**5.21**	**39**	P	**Pn**	**18 10 12.5**	**-0.9**
	baz=223						
O16K	**Kokwok River B**	**5.26**	**316**		**Pn**	**18 10 14.5**	**+0.5**
O16K	**Kokwok River B**	**5.26**	**316**	IAML		18 11 37.3	
	comp=E,7.5nm,1.4s						
O16K	**Kokwok River B**	**5.26**	**316**	P	**Pn**	**18 10 14.5**	**+0.5**
	baz=130						
EYAK	**Cordova Ski Ar**	**5.29**	**29**		**Pn**	**18 10 13.6**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.29**	**29**	P	**Pn**	**18 10 13.6**	**-0.8**
	baz=212						
N18K	**Kilae Creek**	**5.36**	**333**		**Pn**	**18 10 15.5**	**0.0**
N18K	**Kilae Creek**	**5.36**	**333**	P	**Pn**	**18 10 15.5**	**0.0**
	baz=148						
SUA	**Susitna One**	**5.46**	**1**	Pn	**Pn**	**18 10 15.8**	**-1.1**
RAGM	**Ragged Mountai**	**5.47**	**34**	Pn	**Pn**	**18 10 16.2**	**-0.8**
KNK	**Knik Glacier**	**5.55**	**12**	Pn	**Pn**	**18 10 17.7**	**-0.4**
N17K	**Nushagak Hills**	**5.61**	**326**	Pn	**Pn**	**18 10 19.0**	**+0.2**
SVW2	**Sparrevohn**	**5.65**	**336**	Pn	**Pn**	**18 10 19.3**	**-0.1**
O15K	**Ungalikthiuk R**	**5.75**	**307**		**Pn**	**18 10 20.8**	**-0.1**
O15K	**Ungalikthiuk R**	**5.75**	**307**	P	**Pn**	**18 10 20.8**	**-0.1**
	baz=120						
DIV	**Divide**	**5.78**	**25**	Pn	**Pn**	**18 10 21.4**	**+0.2**
BERG	**Berg Lake**	**5.80**	**38**		**Pn**	**18 10 20.6**	**-0.9**
GHO	**Glory Hole Cre**	**5.86**	**9**		**Pn**	**18 10 21.9**	**-0.4**
SML	**Sawmill**	**5.95**	**12**	Pn	**Pn**	**18 10 22.2**	**-1.5**
BMRM	**Bremner River**	**5.95**	**31**		**Pn**	**18 10 23.0**	**-0.6**
BMRM	**Bremner River**	**5.95**	**31**	P	**Pn**	**18 10 23.0**	**-0.6**
	baz=215						
SNH	**Sunshine Point**	**5.96**	**42**		**Pn**	**18 10 22.7**	**-1.1**
SKT	**Skwentna**	**5.99**	**357**	Pn	**Pn**	**18 10 24.1**	**0.0**
M20K	**Styx River**	**5.99**	**350**	Pn	**Pn**	**18 10 24.1**	**-0.1**
M18K	**Stony River**	**6.05**	**337**		**Pn**	**18 10 24.8**	**-0.2**
M18K	**Stony River**	**6.05**	**337**	P	**Pn**	**18 10 24.8**	**-0.2**
	baz=153						
KLU	**Klutina**	**6.06**	**23**		**Pn**	**18 10 25.0**	**-0.2**
KLU	**Klutina**	**6.06**	**23**	P	**Pn**	**18 10 25.0**	**-0.2**
	baz=206						
N16K	**Nishlik Lake**	**6.10**	**320**		**Pn**	**18 10 26.5**	**+0.9**
N16K	**Nishlik Lake**	**6.10**	**320**	P	**Pn**	**18 10 26.5**	**+0.9**
	baz=134						
SCM	**Sheep Creek Mo**	**6.11**	**16**	Pn	**Pn**	**18 10 26.4**	**+0.6**
M19K	**Big River Lodg**	**6.17**	**344**	Pn	**Pn**	**18 10 26.6**	**+0.1**
M17K	**Holitna River**	**6.38**	**330**	P	**Pn**	**18 10 30.0**	**+0.6**
	baz=145						
N15K	**Kwethluk River**	**6.41**	**314**		**Pn**	**18 10 30.5**	**+0.6**
N15K	**Kwethluk River**	**6.41**	**314**	P	**Pn**	**18 10 30.5**	**+0.6**
	baz=127						
O14K	**Tigyukauivet M**	**6.44**	**304**		**Pn**	**18 10 30.9**	**+0.6**
O14K	**Tigyukauivet M**	**6.44**	**304**	P	**Pn**	**18 10 30.8**	**+0.6**
	baz=116						
N25K	**Chitina, Valde**	**6.48**	**28**		**Pn**	**18 10 30.8**	**-0.1**
N25K	**Chitina, Valde**	**6.48**	**28**	P	**Pn**	**18 10 30.8**	**-0.1**
	baz=212						
VRDI	**Verde Repeater**	**6.50**	**34**		**Pn**	**18 10 30.8**	**-0.6**
L19K	**White Mountain**	**6.50**	**343**	Pn	**Pn**	**18 10 30.2**	**-1.0**
M16K	**Timber Creek**	**6.55**	**323**		**Pn**	**18 10 32.7**	**+0.9**
M16K	**Timber Creek**	**6.55**	**323**	P	**Pn**	**18 10 32.7**	**+0.9**
	baz=136						
GLB	**Gilahina Butte**	**6.56**	**31**		**Pn**	**18 10 31.5**	**-0.5**
M24K	**Tolsona, Glenn**	**6.57**	**20**	Pn	**Pn**	**18 10 32.8**	**+0.7**
KIAG	**Kiagna River**	**6.64**	**39**		**Pn**	**18 10 32.6**	**-0.7**
SAMH	**Samovar Hills**	**6.76**	**48**		**Pn**	**18 10 34.4**	**-0.3**
WAT6	**Susitna Watana**	**6.77**	**12**		**Pn**	**18 10 35.6**	**+0.6**
WAT6	**Susitna Watana**	**6.77**	**12**	P	**Pn**	**18 10 35.6**	**+0.6**
	baz=194						
PTPK	**Patty Peak**	**6.79**	**37**		**Pn**	**18 10 35.0**	**-0.3**
WASW	**Wrangell South**	**6.86**	**28**		**Pn**	**18 10 36.6**	**+0.3**
WACK	**Wrangell Chich**	**6.87**	**27**		**Pn**	**18 10 36.6**	**+0.2**
L18K	**Granite Mounta**	**6.89**	**337**	Pn	**Pn**	**18 10 36.2**	**-0.2**
M15K	**Kasigluk River**	**6.96**	**316**		**Pn**	**18 10 38.1**	**+0.6**
M15K	**Kasigluk River**	**6.96**	**316**	P	**Pn**	**18 10 38.1**	**+0.6**
	baz=128						
PCA	**Pinnacle**	**6.96**	**50**		**Pn**	**18 10 36.4**	**-1.1**
PINM	**Pinnacle**	**6.96**	**50**	P	**Pn**	**18 10 36.4**	**-1.1**
	baz=238						
BARN	**Barnard Glacie**	**6.98**	**40**		**Pn**	**18 10 37.4**	**-0.6**
CTG	**Chitna Glacier**	**7.04**	**41**	P	**Pn**	**18 10 37.9**	**-0.7**
	baz=229						
CTGM	**Chitina Glacie**	**7.04**	**41**		**Pn**	**18 10 37.9**	**-0.7**
LOGN	**Logan Glacier**	**7.08**	**43**		**Pn**	**18 10 38.3**	**-0.9**
PNL	**Peninsula**	**7.14**	**54**		**Pn**	**18 10 38.6**	**-1.3**
PNL	**Peninsula**	**7.14**	**54**	P	**Pn**	**18 10 38.6**	**-1.3**
	baz=243						
BCPM	**Bancas Point**	**7.16**	**52**		**Pn**	**18 10 39.1**	**-1.0**
L16K	**Owhat River**	**7.23**	**326**	Pn	**Pn**	**18 10 41.1**	**0.0**
DHY	**Denali Highway**	**7.29**	**13**	Pn	Pn	18 10 39.8	-2.4
TTA	**Tatalina**	**7.40**	**342**	Pn	**Pn**	**18 10 42.5**	**-1.0**
CAST	**Castle Rocks**	**7.45**	**356**	Pn	**Pn**	**18 10 43.8**	**-0.3**
TRF	**Thorofare Moun**	**7.46**	**2**	Pn	**Pn**	**18 10 45.7**	**+1.3**
KTH	**Kantishna Hill**	**7.55**	**360**	Pn	**Pn**	**18 10 44.3**	**-1.4**
K17K	**Iditarod**	**7.70**	**334**	Pn	**Pn**	**18 10 47.3**	**-0.3**
O29M	**Mount Kennedy**	**7.79**	**52**		**Pn**	**18 10 48.3**	**-0.7**
O29M	**Mount Kennedy**	**7.79**	**52**	P	**Pn**	**18 10 48.3**	**-0.7**
	baz=241						
M27K	**Edge Creek, AK**	**7.85**	**32**	Pn	**Pn**	**18 10 50.8**	**+1.0**
P29M	**Windy Craggy**	**7.89**	**57**		**Pn**	**18 10 48.6**	**-1.7**
P29M	**Windy Craggy**	**7.89**	**57**	P	**Pn**	**18 10 48.6**	**-1.7**
	baz=248						
J18K	**Innoko River**	**8.02**	**341**		**Pn**	**18 10 52.8**	**+0.8**
YUK7	**Dusty Glacier**	**8.09**	**51**		**Pn**	**18 10 52.5**	**-0.6**
BPXW	**Bear Paw Mtn.**	**8.10**	**360**	Pn	**Pn**	**18 10 53.5**	**+0.4**
YUK6	**Outpost Mounta**	**8.20**	**48**		**Pn**	**18 10 54.6**	**-0.1**
YUK6	**Outpost Mounta**	**8.20**	**48**	P	**Pn**	**18 10 54.6**	**-0.1**
	baz=238						
K15K	**Wolf Creek Mou**	**8.32**	**323**	Pn	**Pn**	**18 10 57.0**	**+0.9**
J19K	**Poorman**	**8.34**	**345**	Pn	**Pn**	**18 10 57.7**	**+1.4**
J20K	**Nowinta River**	**8.34**	**350**	Pn	**Pn**	**18 10 57.1**	**+0.8**
L27K	**Beaver Creek,**	**8.42**	**29**	Pn	**Pn**	**18 10 56.4**	**-1.1**
BCAR	**Beaver Creek A**	**8.43**	**29**	Pn	**Pn**	**18 10 57.5**	**-0.2**
HYT	**Haines Junctio**	**8.51**	**50**	Pn	**Pn**	**18 10 57.9**	**-0.9**
HDA	**Harding Lake**	**8.64**	**11**	Pn	**Pn**	**18 10 59.0**	**-1.4**
J16K	**Anvik River**	**8.78**	**330**	Pn	**Pn**	**18 11 03.3**	**+1.0**
ILAR	**Eielson Array**	**9.00**	**11**	Pn	**Pn**	**18 11 07.0**	**+1.6**
	baz=193,slow=12,SNR=1.9						
ILAR				Sn	**Sn**	**18 12 45.6**	**-0.9**
	comp=E,0.2nm,0.3s,baz=208,slow=13,SNR=6.2						
	comp=E,0.3nm,0.8s						
N30M	**Aishikik Lake**	**9.00**	**47**	Pn	**Pn**	**18 11 04.6**	**-0.9**
M29M	**Somme Creek**	**9.04**	**40**	Pn	**Pn**	**18 11 06.2**	**+0.2**
O30N	**Mendenhall**	**9.10**	**52**	Pn	Pn	18 11 04.9	-1.9
N31M	**Braeburn, Yuko**	**9.56**	**49**	Pn	**Pn**	**18 11 13.1**	**0.0**
L29M	**L29M**	**9.60**	**37**	Pn	**Pn**	**18 11 13.6**	**+0.1**
WHY	**Whitehorse**	**9.60**	**54**	Pn	**Pn**	**18 11 12.9**	**-0.9**
M30M	**Minto, Yukon**	**9.74**	**42**	Pn	**Pn**	**18 11 14.8**	**-0.7**
P32M	**Atlin**	**9.83**	**62**	Pn	**Pn**	**18 11 15.6**	**-1.2**
H17K	**Granite Mounta**	**9.98**	**337**	Pn	**Pn**	**18 11 19.4**	**+0.7**
K29M	**Barlow Dome**	**10.30**	**35**	Pn	**Pn**	**18 11 23.2**	**-0.1**
P33M	**Teslin, Yukon**	**10.43**	**59**	Pn	**Pn**	**18 11 24.0**	**-1.0**
M31M	**Dry Creek, Y**	**10.48**	**47**	Pn	**Pn**	**18 11 25.9**	**+0.2**
C03A	**Quillayute Air**	**18.03**	**106**	P	**Pn**	**18 13 04.2**	**-1.6**
YKA	**Yellowknife Ar**	**19.43**	**56**	P	Pn	18 13 31.3	+8.5
	comp=E,0.2nm,0.6s,baz=264,slow=9.6,SNR=5.0						
	comp=E,0.2nm,0.6s						
NVAR	**Mina Array Bea**	**27.90**	**115**	P	**P**	**18 14 50.8**	**+5.1**
	comp=E,0.3nm,0.5s,baz=329,slow=8.5,SNR=2.1						
	comp=E,0.3nm,0.5s						

*IDC **24** 18:14:22.6±3.4,55˚.35N×149˚.18W, h0^{km}, mb3.7/2, mbtmp3.4/6, ML3.0/4, MS3.0/1, Error ellipse: s-maj=58.4km s-min=37.9km az=165.0*
*NEIC **24** 18:14:29.5±2.4,56˚.04N±0˚.09×149˚.6W±0˚.1, h10^{km}±2^{km}, mb3.7/1, ML4.0/22, ML3.7(AEIC), Error ellipse: s-maj=14.8km s-min=10.5km az=164.0*
*AEIC **24** 18:14:34.8±2.2,56˚.0N±0˚.1×149˚.6W±0˚.1, h10^{km}±8^{km}, Error ellipse: s-maj=18.0km s-min=10.1km az=170.0*

ISC 24 18:14:28.5±1.6,56˚.0N±0˚.1×149˚52W±0˚.06,h10^{km},n84, σ1§43/88,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.41**	**302**		**Pn**	**18 15 08.8**	**+0.9**
OHAK					**Sn**	**18 15 35.1**	**-2.4**
OHAK	**Old Harbor**	**2.41**	**302**	P	**Pn**	**18 15 08.8**	**+0.9**
	baz=119						
OHAK				S	**Sn**	**18 15 35.1**	**-2.4**
	baz=119						
KDAK	**Kodiak Island**	**2.45**	**318**		**Pn**	**18 15 10.3**	**+1.9**
KDAK					**Sn**	**18 15 36.1**	**-2.3**
KDAK	**Kodiak Island**	**2.45**	**318**	Pn	**Pn**	**18 15 10.3**	**+1.9**
	4.2nm,0.3s,baz=127,slow=6.0,SNR=32						
	16nm,0.4s						
SII	**Sitkinak Islan**	**2.66**	**284**	Pn	**Pn**	**18 15 10.8**	**-0.6**
SII				IAML		18 16 30.2	
	comp=N,1µm,0.6s						

SYI	**Shuyak Island**	**3.04**	**330**		**Pn**	**18 15 18.8**	**+2.3**
SYI					**Sn**	**18 15 51.0**	**-1.9**
Q20K	**Shuyak Island**	**3.04**	**330**	P	**Pn**	**18 15 18.8**	**+2.3**
	baz=149						
Q20K				S	**Sn**	**18 15 51.0**	**-1.9**
	baz=149						
R18K	**Karluk**	**3.13**	**302**		**Pn**	**18 15 19.3**	**+1.5**
R18K	**Karluk**	**3.13**	**302**	P	**Pn**	**18 15 19.3**	**+1.5**
	baz=118						
CNPM	**China Poot**	**3.64**	**346**		**Pn**	**18 15 26.6**	**+1.7**
CNPM					**Sn**	**18 16 07.6**	**-0.4**
Q19K	**Cape Douglas,**	**3.68**	**324**		**Pn**	**18 15 27.6**	**+2.2**
Q19K	**Cape Douglas,**	**3.68**	**324**	P	**Pn**	**18 15 27.6**	**+2.2**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.69**	**314**		**Pn**	**18 15 27.8**	**+2.1**
KAHG					**Sn**	**18 16 08.5**	**-0.8**
BRSE	**Bradley Lake S**	**3.80**	**351**		**Pn**	**18 15 28.3**	**+1.2**
BRSE	**Bradley Lake S**	**3.80**	**351**	P	**Pn**	**18 15 28.3**	**+1.2**
	baz=171						
Q23K	**Middleton Isla**	**3.83**	**25**		**Pn**	**18 15 30.2**	**+2.8**
Q23K	**Middleton Isla**	**3.83**	**25**	P	**Pn**	**18 15 30.2**	**+2.8**
	baz=209						
HOM	**Homer**	**3.83**	**344**	Pn	Pn	18 15 23.5	-4.0
BRLK	**Bradley Lake**	**3.83**	**350**		**Pn**	**18 15 28.2**	**+0.6**
ACHA	**Angle Creek He**	**3.86**	**307**		**Pn**	**18 15 28.8**	**+0.9**
ANCK	**Angle Creek**	**3.93**	**306**		**Pn**	**18 15 30.9**	**+2.0**
CNTC	**Contact Creek**	**4.14**	**306**		**Pn**	**18 15 33.6**	**+1.8**
Q17K	**Contact Creek**	**4.14**	**306**	P	**Pn**	**18 15 33.6**	**+1.8**
	baz=120						
P23K	**Montague Islan**	**4.16**	**15**		**Pn**	**18 15 32.7**	**+0.8**
P23K	**Montague Islan**	**4.16**	**15**	P	**Pn**	**18 15 32.7**	**+0.8**
	baz=198						
P19K	**Oil Pt**	**4.16**	**333**		**Pn**	**18 15 34.4**	**+2.4**
P19K	**Oil Pt**	**4.16**	**333**	P	**Pn**	**18 15 34.4**	**+2.4**
	baz=150						
O20K	**Slope Mountain**	**4.40**	**339**		**Pn**	**18 15 36.6**	**+1.2**
O20K	**Slope Mountain**	**4.40**	**339**	P	**Pn**	**18 15 36.6**	**+1.2**
	baz=157						
O22K	**Cooper Landing**	**4.49**	**359**	Pn	**Pn**	**18 15 35.4**	**-1.0**
O22K				IAML		18 17 26.3	
	comp=E,349nm,0.7s						
SLKM	**Skilak Lake**	**4.53**	**356**		**Pn**	**18 15 38.2**	**+1.1**
P18K	**Big Mountain,**	**4.57**	**320**		**Pn**	**18 15 39.0**	**+1.3**
P18K	**Big Mountain,**	**4.57**	**320**	P	**Pn**	**18 15 38.9**	**+1.3**
	baz=136						
HIN	**Hinchinbrook I**	**4.68**	**19**		**Pn**	**18 15 40.1**	**+1.0**
R16K	**Pilot Point**	**4.70**	**293**		**Pn**	**18 15 40.4**	**+1.1**
R16K	**Pilot Point**	**4.70**	**293**	P	**Pn**	**18 15 40.4**	**+1.1**
	baz=106						
RDSO	**Redoubt South**	**4.77**	**340**		**Pn**	**18 15 41.5**	**+1.0**
RAGM	**Ragged Mountai**	**5.08**	**28**	Pn	**Pn**	**18 15 44.3**	**-0.4**
RC01	**Rabbit Creek A**	**5.10**	**359**		**Pn**	**18 15 46.3**	**+1.4**
RC01	**Rabbit Creek A**	**5.10**	**359**	P	**Pn**	**18 15 46.3**	**+1.4**
	baz=179						
BERG	**Berg Lake**	**5.36**	**33**	Pn	**Pn**	**18 15 48.6**	**+0.1**
KNK	**Knik Glacier**	**5.45**	**5**		**Pn**	**18 15 51.4**	**+1.7**
KNK	**Knik Glacier**	**5.45**	**5**	P	**Pn**	**18 15 51.4**	**+1.7**
	baz=187						
P16K	**Nushagak River**	**5.48**	**307**		**Pn**	**18 15 52.0**	**+1.9**
P16K	**Nushagak River**	**5.48**	**307**	P	**Pn**	**18 15 52.0**	**+1.9**
	baz=120						
SNH	**Sunshine Point**	**5.48**	**38**		**Pn**	**18 15 50.8**	**+0.6**
PMR	**Palmer**	**5.60**	**2**		**Pn**	**18 15 51.3**	**-0.5**
GHO	**Glory Hole Cre**	**5.79**	**3**		**Pn**	**18 15 55.1**	**+0.7**
KLU	**Klutina**	**5.81**	**17**		**Pn**	**18 15 54.4**	**+0.7**

comp=E,208nm,0.7s
CNPM China Poot 3.50 350 Sn 18 16 56.4 -1.4
KCE Katmai Mt Cerb 3.51 310 Pn 18 16 18.3 +1.7
ACHA Angle Creek He 3.55 309 Pn 18 16 18.1 +0.9
ANCK Angle Creek 3.62 308 Pn 18 16 19.0 +0.9
KVTA Katmai Vly 10 3.64 311 Pn 18 16 19.7 +1.4
HOM Homer 3.67 348 Pn **Pn 18 16 20.1 +1.3**
HOM IAML 18 17 05.0
comp=N,575nm,0.7s
HOM IAML 18 17 16.8
comp=E,428nm,1.2s
BRSE Bradley Lake S 3.67 355 Pn 18 16 18.5 -0.4
BRSE Bradley Lake S 3.67 355 P **Pn 18 16 18.5 -0.4**
baz=174
KAHC Katmai Hardscr 3.69 316 Pn 18 16 20.5 +1.3
KAHC Katmai Hardscr 3.69 316 P **Pn 18 16 20.7 +1.5**
baz=133
BRLK Bradley Lake 3.71 354 Pn Pn 18 16 17.2 -2.1
BRLK IAML 18 17 03.5
comp=N,163nm,0.7s
BRLK IAML 18 17 03.9
comp=E,175nm,0.5s
AUCH Augustine Cone 3.74 333 Pn 18 16 20.9 +1.1
PLK3 Peulik 3 3.74 298 Pn 18 16 20.6 +0.8
CNTC Contact Creek 3.83 307 Pn 18 16 21.9 +0.8
Q17K Contact Creek 3.83 307 P **Pn 18 16 21.5 +0.5**
baz=123
Q23K Middleton Isla 3.90 29 Pn **Pn 18 16 21.0 -0.9**
Q23K IAML 18 17 06.0
comp=E,164nm,1.0s
Q23K IAML 18 17 51.8
comp=N,148nm,1.5s
Q23K Middleton Isla 3.90 29 P **Pn 18 16 21.6 -0.4**
baz=212
MID Middleton Isla 3.90 30 Pn **Pn 18 16 21.0 -1.0**
MID IAML 18 16 51.5
comp=N,127nm,1.5s
MID IAML 18 17 14.5
comp=E,188nm,1.5s
P19K Oil Pt 3.94 336 Pn 18 16 23.1 +0.5
P19K IAML 18 17 12.9
comp=N,428nm,0.5s
P19K Oil Pt 3.94 336 P **Pn 18 16 23.1 +0.5**
baz=154
P23K Montague Islan 4.17 19 Pn 18 16 25.6 -0.1
O20K Slope Mountain 4.22 343 Pn 18 16 26.1 -0.3
O20K Slope Mountain 4.22 343 P **Pn 18 16 26.1 -0.3**
baz=161
IVE Iliamna Volcan 4.23 340 Pn 18 16 26.6 0.0
P18K Big Mountain, 4.30 322 Pn 18 16 27.3 -0.2
P18K Big Mountain, 4.30 322 P **Pn 18 16 27.6 +0.1**
baz=139
Q16K King Salmon 4.39 309 Pn 18 16 28.4 -0.3
O22K Cooper Landing 4.41 2 Pn 18 16 29.2 +0.3
SLKM Skilak Lake 4.43 359 Pn 18 16 29.6 +0.3
RSO Redoubt South 4.60 343 Pn Pn 18 16 29.6 -2.2
P17K Kvichak River 4.61 315 P **Pn 18 16 33.1 +1.4**
baz=131
CHGN Chignik 4.65 276 Pn Pn 18 16 27.7 -4.5
CHGN IAML 18 17 30.9
comp=E,94nm,0.6s
CHGN IAML 18 18 34.3
comp=N,128nm,0.1s
O18K Koktuh Hills 4.65 326 Pn **Pn 18 16 31.4 -0.9**
O18K IAML 18 17 26.9
comp=N,114nm,0.7s
O18K IAML 18 17 41.2
comp=E,125nm,0.8s
O19K Port Alsworth 4.68 333 Pn 18 16 32.2 -0.4
HIN Hinchinbrook I 4.72 22 Pn **Pn 18 16 32.5 -0.7**
HIN IAML 18 17 25.3
comp=E,138nm,1.4s
HIN IAML 18 17 32.7
comp=N,150nm,1.5s
CAPN Captain Cook N 4.72 354 Pn **Pn 18 16 32.1 -1.1**
KAIM Kayak Island 4.89 36 Pn **Pn 18 16 35.0 -0.6**
KAIM IAML 18 17 36.5
comp=E,112nm,0.8s
KAIM IAML 18 17 47.5
comp=N,121nm,1.5s
RC01 Rabbit Creek A 5.01 2 Pn **Pn 18 16 37.9 +0.7**
RC01 IAML 18 17 34.7
comp=E,80nm,0.5s
RC01 IAML 18 17 42.8
comp=N,62nm,1.1s
EYAK Cordova Ski Ar 5.02 25 Pn 18 16 37.2 -0.2
EYAK Cordova Ski Ar 5.02 25 P **Pn 18 16 37.6 +0.2**
baz=208
P16K Nushagak River 5.17 308 Pn 18 16 40.0 +0.6
P16K Nushagak River 5.17 308 P **Pn 18 16 40.3 +1.0**
baz=122
RAGM Ragged Mountai 5.17 31 Pn 18 16 38.8 -0.7
RAGM IAML 18 17 51.3
comp=E,153nm,0.7s
O17K Koliganek Bris 5.24 318 Pn 18 16 40.9 +0.5
O17K Koliganek Bris 5.24 318 P **Pn 18 16 41.1 +0.7**
baz=132
N19K Bonanza Creek 5.26 336 Pn 18 16 40.7 -0.1
GOAT Goat Mountain 5.32 30 Pn 18 16 41.9 +0.5
SUA Susitna One 5.40 357 Pn 18 16 41.3 -1.4
KNK Knik Glacier 5.40 8 Pn **Pn 18 16 44.4 +1.8**
SPNN North Nagishla 5.46 347 Pn 18 16 43.5 0.0
BERG Berg Lake 5.48 35 Pn 18 16 42.3 -1.3
N18K Kilae Creek 5.51 329 Pn 18 16 44.2 +0.1
O16K Kokwok River B 5.53 313 Pn 18 16 44.9 +0.7
DIV Divide 5.53 22 Pn 18 16 44.6 +0.1
PMR Palmer 5.54 5 Pn **Pn 18 16 44.6 +0.1**
CNBA Chernabura Isl 5.55 261 Pn **Pn 18 16 43.5 -1.1**
SNH Sunshine Point 5.62 40 Pn 18 16 45.1 -0.6
BMRM Bremner River 5.67 28 Pn 18 16 46.6 +0.3
BMRM Bremner River 5.67 28 P **Pn 18 16 46.7 +0.4**
baz=212
GHO Glory Hole Cre 5.73 6 Pn 18 16 46.0 -1.2
SVW2 Sparrevohn 5.78 333 Pn **Pn 18 16 47.9 +0.2**
SML Sawmill 5.80 8 Pn 18 16 48.2 0.0
KLU Klutina 5.83 20 Pn 18 16 48.5 -0.1
KLU Klutina 5.83 20 P **Pn 18 16 49.5 +0.9**
baz=203
SCM Sheep Creek Mo 5.93 13 Pn 18 16 48.2 -1.8
SKT Skwentna 5.95 353 Pn **Pn 18 16 48.6 -1.5**
O15K Ungalikthiuk R 6.07 305 Pn 18 16 52.1 +0.4
M18K Stony River 6.17 334 Pn 18 16 53.0 -0.2
VRDI Verde Repeater 6.21 31 Pn **Pn 18 16 53.0 -0.8**
N25K Chitina, Valde 6.22 25 Pn 18 16 54.5 +0.6
N25K Chitina, Valde 6.22 25 P **Pn 18 16 54.6 +0.7**
baz=209
M19K Big River Lodg 6.23 341 Pn 18 16 54.5 +0.5
GLB Gilahina Butte 6.28 29 Pn **Pn 18 16 54.3 -0.4**
KIAG Kiagna River 6.32 37 Pn 18 16 55.4 +0.1
SAMH Samovar Hills 6.38 47 Pn 18 16 56.8 +0.7
PCA Pinnacle 6.58 48 Pn 18 16 58.9 +0.1
BARN Barnard Glacie 6.65 38 Pn 18 16 59.9 -0.1
CTGM Chitina Glacie 6.70 40 Pn 18 17 00.6 0.0
PNL Peninsula 6.74 53 Pn 18 17 01.0 0.0
BCPM Bancas Point 6.77 51 Pn 18 17 01.1 -0.2
M16K Timber Creek 6.77 321 Pn 18 17 02.1 +0.7
HARP HAARP 6.81 20 Pn 18 17 03.1 +1.1
L17K Donlin 7.38 329 Pn 18 17 10.5 +0.8
O29M Mount Kennedy 7.41 51 Pn 18 17 10.5 +0.3
YUK2 White River 7.45 36 Pn 18 17 11.3 +0.6
P29M Windy Craggy 7.48 57 Pn 18 17 11.0 -0.2
YUK8 Steele Glacier 7.48 42 Pn 18 17 12.7 +1.3
M14K Bethel 7.78 312 Pn 18 17 14.4 -0.7
S31K Pelican 7.80 70 Pn 18 17 12.7 -2.7
YUK6 Outpost Mounta 7.83 47 Pn 18 17 16.6 +0.5
J18K Innoko River 8.11 338 Pn 18 17 23.6 +3.9
YUK5 Granite Creek 8.14 47 Pn 18 17 20.9 +0.6
M13K Dall Lake 8.21 307 Pn 18 17 20.4 -0.7
S32K Killisnoo 8.64 74 Pn **Pn 18 17 24.3 -2.6**
ILAR Eielson Array 8.85 9 Pn **Pn 18 17 31.6 +1.8**
comp=E,0.3nm,0.3s,baz=190,slow=13,SNR=7.6
ILAR Sn **Sn 18 19 08.1 -1.4**
comp=E,0.7nm,0.3s,baz=204,slow=23,SNR=6.9
ILAR LR LR 18 20 48.6
comp=E,108nm,18.8s,baz=246,slow=37
N31M Braeburn, Yuko 9.18 48 Pn 18 17 33.6 -0.9
WHY Whitehorse 9.20 54 Pn **Pn 18 17 35.1 +0.3**
P33M Teslin, Yukon 10.01 59 Pn 18 17 44.3 -1.6
M31M Drury Creek, Y 10.11 46 Pn 18 17 47.2 +0.1
G23K Bananza Creek 10.66 0 Pn 18 17 54.5 -0.1
FYU Fort Yukon 10.76 10 Pn **Pn 18 17 56.9 +0.9**
DLBC Dease Lake 11.11 70 Pn **Pn 18 18 01.5 +0.6**
comp=E,0.9nm,0.3s,baz=204,slow=9.9,SNR=5.1
DLBC LR LR 18 21 18.3
comp=E,143nm,19.8s,baz=296,slow=32
comp=E,2.1nm,0.4s
G31M Satah River 13.17 28 Pn 18 18 30.7 +1.8
INK Inuvik 14.41 25 Pn 18 18 46.3 +0.5
INK Inuvik 14.41 25 Pn **Pn 18 18 47.2 +1.5**
comp=E,0.2nm,0.3s,baz=199,slow=15,SNR=11
comp=E,5.6nm,0.9s
C36M Paulatuk 17.64 31 Pn **Pn 18 19 26.3 -1.2**
YKA Yellowknife Ar 19.03 56 P P 18 19 42.1 -1.6
YKA Yellowknife Ar 19.03 56 P P 18 19 45.4 +1.7
comp=E,0.3nm,0.3s,baz=266,slow=9.7,SNR=28
YKA LR LR 18 26 11.7
comp=E,116nm,19.8s,baz=289,slow=34
comp=E,3.9nm,1.0s
A36M Sachs Harbour 19.04 24 P 18 19 44.8 +1.0
A36M IAmb IAmb 18 19 57.6
comp=Z,14nm,0.9s
YBH Yreka Blue Hor 22.83 117 LR LR 18 26 51.8
comp=Z,68nm,20.9s,baz=344,slow=30
SEY Seymchan 29.05 307 LR LR 18 34 33.5
comp=Z,104nm,18.9s,baz=322,slow=40
MA2 Magadan 30.77 301 LR LR 18 35 53.1
comp=Z,62nm,18.6s,baz=148,slow=40
H11N2 WAKE ISLAND Hy 48.39 239 T T 19 15 32.3
baz=33,SNR=5.5
H11N3 WAKE ISLAND Hy 48.40 239 T T 19 15 31.0
baz=33,SNR=5.8
H11N1 WAKE ISLAND Hy 48.41 239 T T 19 15 38.6
baz=33,SNR=6.1
H11S1 WAKE ISLAND Hy 49.53 239 T T 19 18 09.2
baz=28,slow=76,SNR=7.4
H11S2 WAKE ISLAND Hy 49.55 239 T T 19 18 10.1
baz=28,slow=76,SNR=4.0
H11S3 WAKE ISLAND Hy 49.55 239 T T 19 18 11.8
baz=28,slow=76,SNR=6.9
SONM Sogino Array 58.41 310 P **P 18 25 19.1 +1.6**
comp=Z,0.9nm,0.8s,baz=50,slow=8.0,SNR=6.5
comp=Z,0.9nm,0.8s
ZALV Zalesovo Beam 61.47 327 P **P 18 25 39.1 +0.9**
comp=Z,0.3nm,0.3s,baz=12,slow=7.8,SNR=2.0
comp=Z,0.3nm,0.3s
BVAR Borovoye Array 66.26 335 P **P 18 26 11.4 +1.5**
comp=Z,0.6nm,0.7s,baz=29,slow=6.6,SNR=2.5
comp=Z,0.6nm,0.7s
KURBB Kurchatov Arra 66.26 329 P **P 18 26 11.4 +1.5**
comp=Z,0.3nm,0.7s,baz=29,slow=6.9,SNR=1.2
comp=Z,0.3nm,0.7s
MK31 Makanchi Array 68.48 324 P **P 18 26 22.7 -1.3**
MK31 IAmb IAmb 18 26 50.6
comp=Z,1.2nm,1.2s
MKAR Makanchi Array 68.48 324 P **P 18 26 22.4 -1.7**
MKAR Makanchi Array 68.48 324 P **P 18 26 25.5 +1.4**
comp=Z,0.4nm,0.7s,baz=47,slow=6.7,SNR=4.6
comp=Z,0.4nm,0.7s
ABKAR Akbulak array 72.07 340 P P 18 26 43.4 -2.5
AKBB Malin Array Si 73.57 0 P P 18 26 52.9 -1.9
QSPA South Pole Qui 145.88 180 PKPbc **PKPdf 18 35 00.5 +1.1**
comp=Z,0.6nm,0.3s,baz=92,slow=5.3,SNR=2.0

*NEIC **24** 18:21:44.5±1.9,55.8N±0.1×149.1W±0.1, h8km±8km, ML3.5/32, ML3.4(AEIC), Error ellipse: s-maj=19.0km s-min=10.1km az=176.0*
*AEIC **24** 18:21:48.9±2.5,55.7N±0.1×149.0W±0.1, h10km±8km, Error ellipse: s-maj=20.2km s-min=10.7km az=178.0*
ISC 24 18:21:43.5±2.6,55.7N±0.2×149.14W±0.07, h10km, n120, σ0.96/121, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.78**	**306**		**Pn**	**18 22 28.5**	**+0.4**
OHAK					**Sn**	**18 22 59.9**	**-1.7**
OHAK	**Old Harbor**	**2.78**	**306**	P	**Pn**	**18 22 28.5**	**+0.4**
baz=120							
OHAK				S	**Sn**	**18 22 59.9**	**-1.7**
baz=120							
KDAK	**Kodiak Island**	**2.85**	**320**		**Pn**	**18 22 29.4**	**+0.5**
KDAK					**Sn**	**18 23 02.3**	**-0.9**
SYI	**Shuyak Island**	**3.44**	**330**		**Pn**	**18 22 37.9**	**+0.8**
SYI					**Sn**	**18 23 17.6**	**-0.4**
Q20K	**Shuyak Island**	**3.44**	**330**	P	**Pn**	**18 22 37.9**	**+0.8**
baz=146							
Q20K				S	**Sn**	**18 23 17.6**	**-0.4**
baz=146							
R18K	**Karluk**	**3.50**	**305**		**Pn**	**18 22 38.4**	**+0.5**
R18K					**Sn**	**18 23 19.1**	**-0.3**
R18K	**Karluk**	**3.50**	**305**	P	**Pn**	**18 22 38.4**	**+0.5**
baz=119							
R18K				S	**Sn**	**18 23 19.0**	**-0.3**
baz=119							
CNPM	**China Poot**	**4.03**	**345**		**Pn**	**18 22 45.5**	**+0.3**
CNPM	**China Poot**	**4.03**	**345**	IAML		18 23 43.1	
comp=N,28nm,1.4s							
CNPM				IAML		18 23 46.6	
comp=E,32nm,1.5s							
Q23K	**Middleton Isla**	**4.06**	**21**		**Pn**	**18 22 45.4**	**-0.2**
Q23K	**Middleton Isla**	**4.06**	**21**	IAML		18 23 24.4	
comp=N,123nm,1.4s							
Q23K	**Middleton Isla**	**4.06**	**21**	P	**Pn**	**18 22 45.4**	**-0.2**
baz=203							
MID	**Middleton Isla**	**4.06**	**21**	Pn	**Pn**	**18 22 45.3**	**-0.3**
MID				IAML		18 24 56.3	
comp=N,104nm,1.4s							
Q19K	**Cape Douglas,**	**4.08**	**325**		**Pn**	**18 22 47.5**	**+1.5**
Q19K					**Sn**	**18 23 33.7**	**-0.1**
Q19K	**Cape Douglas,**	**4.08**	**325**	P	**Pn**	**18 22 47.5**	**+1.5**
baz=140							
Q19K				S	**Sn**	**18 23 33.7**	**-0.1**
baz=140							
KAHG	**Katmai Hook Gl**	**4.09**	**316**		**Pn**	**18 22 47.9**	**+1.8**
BRSE	**Bradley Lake S**	**4.18**	**349**		**Pn**	**18 22 47.0**	**-0.2**
BRSE	**Bradley Lake S**	**4.18**	**349**	P	**Pn**	**18 22 47.0**	**-0.2**
baz=166							
BRLK	**Bradley Lake**	**4.22**	**348**		**Pn**	**18 22 48.0**	**+0.2**
BRLK	**Bradley Lake**	**4.22**	**348**	IAML		18 23 36.0	
comp=N,27nm,1.4s							
BRLK				IAML		18 23 37.6	
comp=E,29nm,1.4s							
ACHA	**Angle Creek He**	**4.24**	**310**		**Pn**	**18 22 48.8**	**+0.6**
ANCK	**Angle Creek**	**4.31**	**309**		**Pn**	**18 22 50.3**	**+1.2**
P23K	**Montague Islan**	**4.44**	**11**		**Pn**	**18 22 50.9**	**+0.1**
P23K	**Montague Islan**	**4.44**	**11**	P	**Pn**	**18 22 50.9**	**+0.1**
baz=192							
CNTC	**Contact Creek**	**4.52**	**308**		**Pn**	**18 22 53.5**	**+1.5**
Q17K	**Contact Creek**	**4.52**	**308**	P	**Pn**	**18 22 53.5**	**+1.4**
baz=121							
KELA	**Mount Kelaz**	**4.55**	**310**		**Pn**	**18 22 54.1**	**+1.7**
P19K	**Oil Pt**	**4.56**	**333**		**Pn**	**18 22 53.7**	**+1.2**
P19K	**Oil Pt**	**4.56**	**333**	IAML		18 23 50.8	
comp=E,58nm,0.7s							
P19K				IAML		18 23 57.7	
comp=N,71nm,1.5s							
P19K	**Oil Pt**	**4.56**	**333**	P	**Pn**	**18 22 53.7**	**+1.2**
baz=148							
O20K	**Slope Mountain**	**4.80**	**339**		**Pn**	**18 22 57.4**	**+1.5**
O20K	**Slope Mountain**	**4.80**	**339**	P	**Pn**	**18 22 57.4**	**+1.5**
baz=155							
O22K	**Cooper Landing**	**4.84**	**357**		**Pn**	**18 22 56.1**	**-0.2**
O22K	**Cooper Landing**	**4.84**	**357**	IAML		18 23 58.0	
comp=E,61nm,1.4s							
O22K	**Cooper Landing**	**4.84**	**357**	P	**Pn**	**18 22 56.1**	**-0.2**
baz=175							
HIN	**Hinchinbrook I**	**4.95**	**15**		**Pn**	**18 22 58.1**	**+0.3**
HIN	**Hinchinbrook I**	**4.95**	**15**	IAML		18 23 57.7	
comp=N,59nm,1.3s							
HIN				IAML		18 26 04.9	
comp=E,30nm,1.2s							
KAIM	**Kayak Island**	**4.96**	**29**		**Pn**	**18 22 58.3**	**+0.3**
KAIM	**Kayak Island**	**4.96**	**29**	IAML		18 23 52.2	
comp=N,60nm,1.5s							
KAIM				IAML		18 24 31.6	
comp=E,32nm,1.4s							
KAIM	**Kayak Island**	**4.96**	**29**	P	**Pn**	**18 22 58.3**	**+0.3**
baz=213							
P18K	**Big Mountain,**	**4.97**	**321**		**Pn**	**18 22 58.3**	**+0.1**
P18K	**Big Mountain,**	**4.97**	**321**	P	**Pn**	**18 22 58.3**	**+0.1**
baz=135							
R16K	**Pilot Point**	**5.04**	**296**		**Pn**	**18 22 59.7**	**+0.8**
R16K	**Pilot Point**	**5.04**	**296**	P	**Pn**	**18 22 59.7**	**+0.8**
baz=107							
RSO	**Redoubt South**	**5.18**	**340**	Pn	**Pn**	**18 22 59.9**	**-1.3**
EYAK	**Cordova Ski Ar**	**5.21**	**19**		**Pn**	**18 23 02.0**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.21**	**19**	P	**Pn**	**18 23 02.0**	**+0.6**
baz=202							
RAGM	**Ragged Mountai**	**5.29**	**25**		**Pn**	**18 23 03.2**	**+0.6**
RAGM	**Ragged Mountai**	**5.29**	**25**	IAML		18 24 04.4	
comp=E,47nm,1.4s							
RC01	**Rabbit Creek A**	**5.45**	**357**	Pn	**Pn**	**18 23 03.2**	**-1.5**
RC01				IAML		18 23 54.2	
comp=N,12nm,1.5s							
RC01				IAML		18 24 08.3	
comp=E,17nm,0.3s							
GOAT	**Goat Mountain**	**5.45**	**24**		**Pn**	**18 23 05.2**	**+0.4**
SNH	**Sunshine Point**	**5.63**	**34**		**Pn**	**18 23 07.6**	**+0.4**
BMRM	**Bremner River**	**5.83**	**22**		**Pn**	**18 23 10.4**	**+0.5**
BMRM	**Bremner River**	**5.83**	**22**	P	**Pn**	**18 23 10.4**	**+0.5**
baz=206							
P16K	**Nushagak River**	**5.86**	**309**		**Pn**	**18 23 11.8**	**+1.5**
P16K	**Nushagak River**	**5.86**	**309**	P	**Pn**	**18 23 11.7**	**+1.5**
baz=120							
SUA	**Susitna One**	**5.88**	**352**	Pn	**Pn**	**18 23 11.8**	**+1.1**
N19K	**Bonanza Creek**	**5.88**	**334**		**Pn**	**18 23 10.9**	**+0.2**
N19K	**Bonanza Creek**	**5.88**	**334**	P	**Pn**	**18 23 10.9**	**+0.2**
baz=148							
STLK	**Strandline Lak**	**6.02**	**348**		**Pn**	**18 23 12.9**	**+0.3**
KLU	**Klutina**	**6.08**	**15**		**Pn**	**18 23 14.3**	**+0.9**
KLU	**Klutina**	**6.08**	**15**	P	**Pn**	**18 23 14.3**	**+0.9**
baz=197							
GHO	**Glory Hole Cre**	**6.13**	**1**	Pn	**Pn**	**18 23 15.7**	**+1.6**
N18K	**Kilae Creek**	**6.17**	**327**		**Pn**	**18 23 14.8**	**+0.2**
N18K	**Kilae Creek**	**6.17**	**327**	P	**Pn**	**18 23 14.8**	**+0.2**
baz=141							
SML	**Sawmill**	**6.17**	**4**	Pn	**Pn**	**18 23 12.9**	**-1.8**
O16K	**Kokwok River B**	**6.21**	**313**	Pn	**Pn**	**18 23 15.9**	**+0.7**
SCM	**Sheep Creek Mo**	**6.26**	**8**	Pn	**Pn**	**18 23 15.4**	**-0.5**
SAMH	**Samovar Hills**	**6.31**	**41**		**Pn**	**18 23 17.2**	**+0.6**
VRDI	**Verde Repeater**	**6.32**	**26**		**Pn**	**18 23 17.2**	**+0.3**
N25K	**Chitina, Valde**	**6.41**	**20**		**Pn**	**18 23 18.6**	**+0.7**
N25K	**Chitina, Valde**	**6.41**	**20**	P	**Pn**	**18 23 18.6**	**+0.7**
baz=204							
GLB	**Gilahina Butte**	**6.43**	**23**		**Pn**	**18 23 18.8**	**+0.7**
N17K	**Nushagak Hills**	**6.48**	**322**	Pn	**Pn**	**18 23 18.5**	**-0.2**
PCA	**Pinnacle**	**6.49**	**43**		**Pn**	**18 23 19.8**	**+0.8**
PINM	**Pinnacle**	**6.49**	**43**	P	**Pn**	**18 23 19.8**	**+0.8**
baz=231							
PTPK	**Patty Peak**	**6.55**	**30**		**Pn**	**18 23 20.3**	**+0.4**
PNL	**Peninsula**	**6.58**	**48**		**Pn**	**18 23 20.3**	**0.0**
PNL	**Peninsula**	**6.58**	**48**	P	**Pn**	**18 23 20.3**	**0.0**
baz=237							
M24K	**Tolsona, Glenn**	**6.64**	**12**		**Pn**	**18 23 22.5**	**+1.4**
M24K	**Tolsona, Glenn**	**6.64**	**12**	P	**Pn**	**18 23 22.5**	**+1.4**
baz=194							
BCPM	**Bancas Point**	**6.65**	**46**	Pn	**Pn**	**18 23 20.5**	**-0.6**
CTG	**Chitna Glacier**	**6.71**	**34**	P	**Pn**	**18 23 22.5**	**+0.4**
baz=221							
CTGM	**Chitina Glacie**	**6.71**	**35**		**Pn**	**18 23 22.5**	**+0.3**
LOGN	**Logan Glacier**	**6.72**	**36**		**Pn**	**18 23 22.6**	**+0.3**
O15K	**Ungalikthiuk R**	**6.76**	**306**		**Pn**	**18 23 23.9**	**+1.3**
O15K	**Ungalikthiuk R**	**6.76**	**306**	P	**Pn**	**18 23 23.9**	**+1.3**
baz=116							
M18K	**Stony River**	**6.80**	**332**		**Pn**	**18 23 23.3**	**+0.1**
M18K	**Stony River**	**6.80**	**332**	P	**Pn**	**18 23 23.3**	**+0.1**
baz=145							
WACK	**Wrangell Chich**	**6.81**	**19**		**Pn**	**18 23 24.4**	**+0.8**
L19K	**White Mountain**	**7.17**	**338**	Pn	**Pn**	**18 23 27.7**	**-0.6**
O29M	**Mount Kennedy**	**7.28**	**46**		**Pn**	**18 23 30.0**	**+0.1**
O29M	**Mount Kennedy**	**7.28**	**46**	P	**Pn**	**18 23 30.0**	**+0.1**
baz=235							
P29M	**Windy Craggy**	**7.29**	**52**		**Pn**	**18 23 29.8**	**-0.2**
P29M	**Windy Craggy**	**7.29**	**52**	P	**Pn**	**18 23 29.8**	**-0.2**
baz=242							
N15K	**Kwethluk River**	**7.37**	**312**		**Pn**	**18 23 32.6**	**+1.6**
N15K	**Kwethluk River**	**7.37**	**312**	P	**Pn**	**18 23 32.6**	**+1.6**
baz=122							
M16K	**Timber Creek**	**7.45**	**320**	Pn	**Pn**	**18 23 34.0**	**+1.9**
YUK8	**Steele Glacier**	**7.47**	**37**	P	**Pn**	**18 23 34.8**	**+2.1**
baz=225							
YUK7	**Dusty Glacier**	**7.59**	**46**		**Pn**	**18 23 35.0**	**+0.7**
YUK3	**Moose Creek**	**7.61**	**33**		**Pn**	**18 23 35.8**	**+1.4**
YUK3	**Moose Creek**	**7.61**	**33**	P	**Pn**	**18 23 35.8**	**+1.4**
baz=220							
YUK6	**Outpost Mounta**	**7.75**	**43**	P	**Pn**	**18 23 38.2**	**+1.7**
baz=232							
P30M	**Million Dollar**	**7.87**	**50**		**Pn**	**18 23 38.4**	**+0.4**
P30M	**Million Dollar**	**7.87**	**50**	P	**Pn**	**18 23 38.4**	**+0.4**
baz=241							
YUK4	**Talbot Arm**	**7.91**	**40**	P	**Pn**	**18 23 41.3**	**+2.7**
baz=229							
BVCY	**Beaver Creek**	**7.99**	**29**	P	**Pn**	**18 23 41.3**	**+1.7**
baz=216							
HYT	**Haines Junctio**	**8.02**	**45**	Pn	**Pn**	**18 23 40.4**	**+0.3**
M14K	**Bethel**	**8.47**	**312**		**Pn**	**18 23 47.1**	**+1.1**
M14K	**Bethel**	**8.47**	**312**	P	**Pn**	**18 23 47.1**	**+1.1**
baz=121							
N30M	**Aishikik Lake**	**8.56**	**42**		**Pn**	**18 23 48.0**	**+0.6**
N30M	**Aishikik Lake**	**8.56**	**42**	P	**Pn**	**18 23 48.0**	**+0.6**
baz=233							
O30N	**Mendenhall**	**8.57**	**48**		**Pn**	**18 23 48.1**	**+0.5**
O30N	**Mendenhall**	**8.57**	**48**	P	**Pn**	**18 23 48.1**	**+0.5**
baz=239							
M29M	**Somme Creek**	**8.73**	**35**		**Pn**	**18 23 50.3**	**+0.5**
M29M	**Somme Creek**	**8.73**	**35**	P	**Pn**	**18 23 50.3**	**+0.5**
baz=224							
WHY	**Whitehorse**	**9.04**	**51**	Pn	**Pn**	**18 23 55.1**	**+1.2**
P32M	**Atlin**	**9.15**	**58**	Pn	**Pn**	**18 23 54.8**	**-0.7**
P33M	**Teslin, Yukon**	**9.79**	**56**	Pn	**Pn**	**18 24 02.7**	**-1.6**
J30M	**Hart River**	**10.96**	**30**	Pn	**Pn**	**18 24 20.1**	**-0.2**

*NEIC **24** 18:30:43.5±1.8,56.46N±0.05×148.50W±0.09, h10km±1km, mb4.2/25, ML4.3/56, ML4.1(AEIC), Error ellipse: s-maj=9.8km s-min=8.2km az=141.0*
*IDC **24** 18:30:43.0±0.9,56.41N×148.44W, h0km, mb3.8/9, mbtmp3.9/14, ML3.8/5, MS3.2/10, Error ellipse: s-maj=22.7km s-min=14.2km az=36.0*
*AEIC **24** 18:30:49.1±1.4,56.51N±0.07×148.50W±0.09, h12km±5km, Error ellipse: s-maj=11.0km s-min=7.4km az=165.0*
ISC 24 18:30:44.0±0.6,56.52N±0.07×148.48W±0.04, h10km, n245, σ1.920/236, mb4.1/20, MS3.2/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.57**	**301**		**Pn**	**18 31 25.2**	**-0.5**
KDAK	**Kodiak Island**	**2.57**	**301**		**Sn**	**18 31 54.7**	**-2.3**
KDAK	**Kodiak Island**	**2.57**	**301**	Pn	**Pn**	**18 31 25.6**	**-0.1**
12nm,0.3s,baz=147,slow=4.8,SNR=33							
KDAK					**Sn**	**18 31 54.3**	**-2.6**
41nm,0.3s,baz=89,slow=20,SNR=24							
KDAK				LR	LR	18 32 36.6	
comp=Z,388nm,20.5s,baz=63,slow=43							
39nm,0.5s							
OHAK	**Old Harbor**	**2.73**	**287**		**Pn**	**18 31 26.5**	**-1.5**
OHAK	**Old Harbor**	**2.73**	**287**		**Sn**	**18 31 56.6**	**-4.3**
OHAK	**Old Harbor**	**2.73**	**287**	P	**Pn**	**18 31 27.1**	**-0.8**
OHAK	**Old Harbor**	**2.73**	**287**	P	**Pn**	**18 31 26.9**	**-1.0**
baz=102							
OHAK				S	**Sn**	**18 31 56.9**	**-4.1**
baz=102							
SYI	**Shuyak Island**	**2.97**	**316**	Pn	**Pn**	**18 31 31.6**	**+0.4**
SYI				IAML		18 32 07.2	
comp=E,631nm,0.8s							
SYI	**Shuyak Island**	**2.97**	**316**		**Sn**	**18 32 05.5**	**-1.4**
Q20K	**Shuyak Island**	**2.98**	**316**	P	**Pn**	**18 31 31.7**	**+0.5**
baz=133							
Q20K				S	**Sn**	**18 32 05.5**	**-1.4**
baz=133							
MID	**Middleton Isla**	**3.13**	**20**	Pn	**Pn**	**18 31 33.2**	**-0.2**
MID				IAML		18 32 10.1	
comp=E,543nm,0.9s							
MID				IAML		18 32 10.5	
comp=N,665nm,0.8s							
MID	**Middleton Isla**	**3.13**	**20

BRSE	Bradley Lake S	3.45	341	P	Pn	18 31 37.7	-0.1
	baz=158							
BRLK	Bradley Lake	3.50	340		Pn	18 31 38.2	-0.2
P23K	Montague Islan	3.54	9		Pn	18 31 39.0	0.0
P23K	Montague Islan	3.54	9	P	Pn	18 31 39.0	0.0
	baz=190							
HOM	Homer	3.57	333		Pn	18 31 39.7	+0.3
HOM				IAML		18 32 23.5		
	comp=N,566nm,1.0s							
HOM				IAML		18 32 26.7		
	comp=E,730nm,0.7s							
SEW	Seward	3.63	352	P	Pn	18 31 39.9	-0.3
	baz=171							
Q19K	Cape Douglas,	3.68	313	Pn	Pn	18 31 41.7	+0.8
Q19K	Cape Douglas,	3.68	313	P	Pn	18 31 41.8	+0.8
	baz=128							
KAHG	Katmai Hook Gl	3.83	304		Pn	18 31 43.7	+0.7
AUCH	Augustine Cone	3.89	319		Pn	18 31 44.6	+0.7
KCE	Katmai Mt Cerb	4.02	298		Pn	18 31 47.1	+1.4
HIN	Hinchinbrook I	4.03	14		Pn	18 31 45.7	-0.1
HIN				IAML		18 32 32.5		
	comp=N,507nm,0.4s							
HIN				IAML		18 32 33.6		
	comp=E,648nm,0.6s							
O22K	Cooper Landing	4.03	351		Pn	18 31 45.6	-0.1
O22K	Cooper Landing	4.03	351	P	Pn	18 31 45.6	-0.1
	baz=170							
P19K	Oil Pt	4.03	323		Pn	18 31 46.2	+0.5
P19K	Oil Pt	4.03	323	P	Pn	18 31 46.5	+0.7
	baz=139							
KAIM	Kayak Island	4.04	30		Pn	18 31 46.1	+0.3
KAIM				IAML		18 32 34.5		
	comp=E,484nm,0.5s							
KAIM				IAML		18 32 35.9		
	comp=N,608nm,0.5s							
KAIM	Kayak Island	4.04	30	P	Pn	18 31 46.4	+0.6
	baz=214							
ACHA	Angle Creek He	4.08	297		Pn	18 31 47.4	+0.9
KAHC	Katmai Hardscr	4.11	304		Pn	18 31 47.7	+0.7
KAHC	Katmai Hardscr	4.11	304	P	Pn	18 31 47.9	+1.0
	baz=118							
KVTA	Katmai Vly 10	4.13	300		Pn	18 31 48.2	+1.1
O20K	Slope Mountain	4.19	330		Pn	18 31 47.5	-0.5
O20K	Slope Mountain	4.19	330	P	Pn	18 31 47.6	-0.4
	baz=146							
IVE	Iliamna Volcan	4.25	328		Pn	18 31 48.4	-0.5
EYAK	Cordova Ski Ar	4.29	18		Pn	18 31 49.5	+0.2
EYAK	Cordova Ski Ar	4.29	18	P	Pn	18 31 49.9	+0.7
EYAK	Cordova Ski Ar	4.29	18	P	Pn	18 31 49.7	+0.5
	baz=201							
RAGM	Ragged Mountai	4.36	26		Pn	18 31 50.9	+0.5
Q17K	Contact Creek	4.37	297	P	Pn	18 31 51.3	+0.7
	baz=110							
CAPN	Captain Cook N	4.49	343		Pn	18 31 52.6	+0.6
CAPN				IAML		18 33 10.6		
	comp=E,595nm,1.4s							
RDSO	Redoubt South	4.54	332		Pn	18 31 52.4	-0.5
RSO	Redoubt South	4.55	332		Pn	18 31 52.3	-0.7
RDT	Redoubt	4.56	335		Pn	18 31 52.6	-0.5
P18K	Big Mountain,	4.61	311	Pn	Pn	18 31 53.5	-0.2
P18K	Big Mountain,	4.61	311	P	Pn	18 31 53.8	+0.1
	baz=125							
BERG	Berg Lake	4.62	31		Pn	18 31 54.1	+0.2
RC01	Rabbit Creek A	4.63	352		Pn	18 31 54.2	+0.2
RC01				IAML		18 32 46.4		
	comp=E,336nm,0.4s							
RC01				IAML		18 32 46.6		
	comp=N,286nm,0.3s							
RC01	Rabbit Creek A	4.63	352	P	Pn	18 31 54.5	+0.5
	baz=171							
DFR	Drift River	4.64	333		Pn	18 31 53.7	-0.5
SNH	Sunshine Point	4.72	37		Pn	18 31 55.4	+0.1
SNH				IAML		18 32 50.4		
	comp=N,219nm,0.4s							
SNH				IAML		18 32 51.6		
	comp=E,254nm,0.8s							
CYK	Cape Yakataga	4.77	39		Pn	18 31 56.6	+0.7
O19K	Port Alsworth	4.80	323		Pn	18 31 56.0	-0.3
BMRM	Bremner River	4.90	23	P	Pn	18 31 58.5	+0.8
	baz=206							
KNK	Knik Glacier	4.91	0		Pn	18 31 57.9	0.0
KNK				IAML		18 33 00.8		
	comp=E,122nm,0.6s							
KNK	Knik Glacier	4.91	0	P	Pn	18 31 58.2	+0.4
	baz=180							
P17K	Kvichak River	5.03	306		Pn	18 32 00.2	+0.8
P17K	Kvichak River	5.03	306	P	Pn	18 32 00.6	+1.2
	baz=118							
N20K	Mount Spurr	5.08	339	P	Pn	18 32 01.0	+0.8
	baz=156							
R16K	Pilot Point	5.08	286		Pn	18 31 59.7	-0.4
R16K	Pilot Point	5.08	286	IAML		18 35 00.6		
	comp=N,344nm,2.4s							
SPCR	Spurr Chakacha	5.08	339		Pn	18 31 60.0	-0.3
SPCN	Chakachatna No	5.10	339		Pn	18 32 00.4	0.0
SUA	Susitna One	5.10	348		Pn	18 32 00.2	-0.3
SUA				IAML		18 33 17.6		
	comp=N,129nm,3.9s							
SUA	Susitna One	5.10	348	P	Pn	18 32 00.3	-0.2
	baz=166							
PMR	Palmer	5.10	356		Pn	18 32 00.7	+0.3
PMR				IAML		18 32 57.5		
	comp=N,107nm,0.3s							
PMR				IAML		18 32 58.2		
	comp=E,126nm,0.8s							
PMR	Palmer	5.10	356	P	Pn	18 32 00.9	+0.5
PMR	Palmer	5.10	356	P	Pn	18 32 00.7	+0.3
	baz=176							
SPCG	Spurr Capps Gl	5.13	340		Pn	18 32 01.2	+0.3
SPCP	Crater Peak Br	5.13	340		Pn	18 32 01.2	+0.2
KLU	Klutina	5.16	14		Pn	18 32 01.9	+0.5
KLU				IAML		18 33 02.3		
	comp=E,127nm,0.4s							
KLU				IAML		18 33 03.9		
	comp=N,206nm,0.4s							
KLU	Klutina	5.16	14	P	Pn	18 32 02.1	+0.7
	baz=196							
GHO	Glory Hole Cre	5.28	358		Pn	18 32 03.4	+0.5
GHO	Glory Hole Cre	5.28	358	IAML		18 33 04.7		
	comp=E,187nm,0.5s							
GHO				IAML		18 33 07.4		
	comp=N,244nm,0.6s							
STLK	Strandline Lak	5.29	342		Pn	18 32 03.0	-0.1
M23K	Glacier View	5.30	4		Pn	18 32 04.4	+1.2
M23K	Glacier View	5.30	4	P	Pn	18 32 04.7	+1.4
	baz=185							
SML	Sawmill	5.30	1		Pn	18 32 04.3	+1.0
SML				IAML		18 33 07.6		
	comp=E,139nm,0.7s							
SML				IAML		18 33 08.2		
	comp=N,132nm,1.4s							
SML	Sawmill	5.30	1	P	Pn	18 32 04.1	+0.8
	baz=181							
N19K	Bonanza Creek	5.33	326		Pn	18 32 03.3	-0.3
N19K				IAML		18 33 11.2		
	comp=E,105nm,0.6s							
N19K	Bonanza Creek	5.33	326	P	Pn	18 32 04.3	+0.7
	baz=141							
SPNN	North Nagishla	5.33	338		Pn	18 32 04.2	+0.4
SCM	Sheep Creek Mo	5.36	6		Pn	18 32 05.3	+1.2
SCM	Sheep Creek Mo	5.36	6	P	Pn	18 32 05.5	+1.4
	baz=187							
SAMH	Samovar Hills	5.43	45		Pn	18 32 06.2	+1.1
P16K	Nushagak River	5.68	300		Pn	18 32 09.3	+0.9
SKT	Skwentna	5.70	345		Pn	18 32 09.4	+0.8
PNL	Peninsula	5.76	53		Pn	18 32 10.3	+0.9
PNL	Peninsula	5.76	53	P	Pn	18 32 10.4	+0.9
BCPM	Bancas Point	5.80	50		Pn	18 32 11.2	+1.2
CTGM	Chitina Glacie	5.80	37		Pn	18 32 11.0	+0.7
LOGN	Logan Glacier	5.81	39		Pn	18 32 11.0	+0.6
WACK	Wrangell Chich	5.88	19		Pn	18 32 12.0	+0.6
SVW2	Sparrevohn	5.89	324	P	Pn	18 32 10.8	-0.5
N17K	Nushagak Hills	6.08	315		Pn	18 32 13.8	-0.1
VNFG	Fog Glacier, M	6.16	272		Pn	18 32 14.8	-0.2
M19K	Big River Lodg	6.19	333		Pn	18 32 15.0	-0.4
M18K	Stony River	6.26	326		Pn	18 32 15.8	-0.6
O29M	Mount Kennedy	6.44	50		Pn	18 32 20.0	+1.1
P29M	Windy Craggy	6.49	57		Pn	18 32 19.9	+0.4
CNBA	Chernabura Isl	6.51	259	Pn	Pn	18 32 19.3	-0.6
M26K	Nabesna, AK	6.53	23		Pn	18 32 21.0	+1.0
L19K	White Mountain	6.55	333		Pn	18 32 19.7	-0.6
L20K	Farewell, AK	6.58	338		Pn	18 32 20.5	-0.2
DHY	Denali Highway	6.60	4		Pn	18 32 22.6	+1.4
O15K	Ungalikthiuk R	6.62	298		Pn	18 32 22.1	+0.9
PAX	Paxson	6.65	12		Pn	18 32 22.8	+1.1
PPLA	Purkeypile	6.67	345		Pn	18 32 23.4	+1.3
N16K	Nishlik Lake	6.69	311		Pn	18 32 22.8	+0.4
M17K	Holitna River	6.74	320		Pn	18 32 23.0	+0.1
YUK7	Dusty Glacier	6.74	49		Pn	18 32 24.8	+1.7
M27K	Edge Creek, AK	6.75	27		Pn	18 32 24.2	+1.0
S31K	Pelican	6.80	73		Pn	18 32 21.6	-2.1
SDPT	Sand Point	6.84	265	P	Pn	18 32 24.4	+0.1
RND	Reindeer	6.91	359		Pn	18 32 26.1	+0.8
TRF	Thorofare Moun	7.01	353		Pn	18 32 27.6	+0.7
P30M	Million Dollar	7.06	54		Pn	18 32 28.4	+1.1
BVCY	Beaver Creek	7.07	30		Pn	18 32 29.0	+1.5
PLBC	Pleasant Camp	7.08	60		Pn	18 32 28.7	+1.1
L19K	Granite Mounta	7.09	327		Pn	18 32 26.9	-0.8
N15K	Kwethluk River	7.12	306		Pn	18 32 29.5	+1.3
YUK5	Granite Creek	7.19	46		Pn	18 32 31.1	+1.9
MCK	McKinley	7.24	358		Pn	18 32 31.1	+1.3
SIT	Sitka	7.25	80	P	Pn	18 32 27.4	-2.5
O14K	Tigyukauivet M	7.35	297		Pn	18 32 32.1	+0.9
L27K	Beaver Creek,	7.37	24		Pn	18 32 32.4	+0.8
K20K	Telida	7.41	340		Pn	18 32 32.1	0.0
K24K	Donnelly Dome	7.43	9		Pn	18 32 34.6	+2.2
TTA	Tatalina	7.47	333		Pn	18 32 32.6	-0.4
TTA	Tatalina	7.47	333	P	Pn	18 32 32.8	-0.2
PS1A	Pavlof South-1	7.53	267		Pn	18 32 33.5	-0.2
L17K	Donlin	7.54	322		Pn	18 32 33.5	-0.4
SKAG	Skagway	7.58	62	P	Pn	18 32 35.0	+0.5
BESE	Bessie Mountai	7.62	69		Pn	18 32 35.0	0.0
M15K	Kasigluk River	7.62	308		Pn	18 32 35.7	+0.6
CHUM	Lake Minchumin	7.63	347		Pn	18 32 35.4	+0.3
S32K	Killisnoo	7.65	77		Pn	18 32 34.0	-1.5
PN7A	Pavlof North-7	7.67	267		Pn	18 32 35.7	0.0
L16K	Owhat River	7.68	317		Pn	18 32 35.8	0.0
N30M	Aishikik Lake	7.68	45		Pn	18 32 37.1	+1.2
BPAW	Bear Paw Mtn.	7.71	352		Pn	18 32 36.3	+0.1
O30N	Mendenhall	7.74	51		Pn	18 32 37.7	+1.1
N14K	Kuskokwak Cree	7.76	302		Pn	18 32 37.9	+1.0
SCRK	Sand Creek	7.81	15		Pn	18 32 38.8	+1.1
JIS	Juneau Island	7.81	71		Pn	18 32 37.8	+0.1
M29M	Somme Creek	7.82	36		Pn	18 32 39.1	+1.2
J18K	Innoko River	8.09	333		Pn	18 32 41.3	-0.2
CCB	Clear Creek Bu	8.16	2		Pn	18 32 43.4	+1.0
K27K	Chicken	8.17	20		Pn	18 32 43.2	+0.6
J20K	Nowinta River	8.18	342		Pn	18 32 42.9	+0.3
J25K	Salcha River,	8.26	9		Pn	18 32 43.5	-0.3
J19K	Poorman	8.29	338		Pn	18 32 43.8	-0.4
ILAR	Eielson Array	8.32	5	Pn	Pn	18 32 44.8	+0.3
	comp=E,1.9nm,0.3s,baz=189,slow=13,SNR=60							
ILAR				Sn	Sn	18 34 15.1	-3.3	
	comp=E,2.0nm,0.3s,baz=195,slow=24,SNR=8.7							
	comp=E,5.7nm,0.4s							
J26L	Joseph Creek	8.36	15		Pn	18 32 45.8	+0.6
COLA	College	8.39	2		Pn	18 32 46.0	+0.5
COLA	College	8.39	2	P	Pn	18 32 47.0	+1.5
L29M	L29M	8.41	34		Pn	18 32 47.0	+1.2
P32M	Atlin	8.41	62		Pn	18 32 46.6	+0.8
L15K	Ungalak Mounta	8.45	313		Pn	18 32 47.1	+0.8
M30M	Minto, Yukon	8.48	39		Pn	18 32 47.6	+0.8
U33K	Whale Pass	8.55	86	Pn	Pn	18 32 45.4	-2.3
FALS	False Pass	8.61	265		Pn	18 32 48.3	-0.2
FALS	False Pass	8.61	265	P	Pn	18 32 48.9	+0.4
POKR	Poker Flat Res	8.64	3		Pn	18 32 50.0	+1.0
I23K	Minto, Yukon-K	8.67	358		Pn	18 32 49.8	+0.5
CRAG	Craig	8.67	91		Pn	18 32 46.6	-2.8
CRAG	Craig	8.67	91	P	Pn	18 32 46.8	-2.6
K15K	Wolf Creek Mou	8.81	316		Pn	18 32 51.7	+0.4
ISNN	Isanotski Nort	8.81	265		Pn	18 32 51.5	+0.1
I21K	Tanana	8.86	350		Pn	18 32 52.6	+0.7
Q32M	Nakina River	9.01	68		Pn	18 32 55.1	+1.0
J16K	Anvik River	9.10	323		Pn	18 32 54.2	-1.1
K29M	Barlow Dome	9.14	32		Pn	18 32 57.3	+1.4
I26K	Coal Creek Min	9.19	14		Pn	18 32 57.9	+1.5
N32M	Quiet Lake	9.22	53		Pn	18 32 58.2	+1.2
H24K	Noodor Dome	9.36	2		Pn	18 33 00.1	+1.3
H21K	Melozitna Rive	9.40	349		Pn	18 32 59.4	-0.1
H22K	Ishtalitna Cre	9.51	353		Pn	18 33 00.8	-0.1
H20K	Anotleneega Mo	9.52	344		Pn	18 33 01.4	+0.4
FARO	Faro, Yukon	9.60	47		Pn	18 33 03.8	+1.7
R33M	Jennings River	9.74	66		Pn	18 33 05.0	+0.9
J30M	Hart River	10.03	31		Pn	18 33 06.6	+1.4
DLBC	Dease Lake	10.12	71	Pn	Pn	18 33 10.2	+1.0
	comp=E,1.5nm,0.3s,baz=264,slow=12,SNR=8.2							
DLBC				Sn	Sn	18 34 57.0	-5.7	
	comp=E,1.9nm,0.3s,baz=19,slow=26,SNR=11							
DLBC				LR	LR	18 36 32.7		
	comp=E,166nm,19.2s,baz=285,slow=34							
	comp=E,3.4nm,0.3s							
G18K	Tagagawik	10.59	337		Pn	18 33 16.8	+1.2
UNV	Unalaska Valle	10.65	263	P	Pn	18 33 15.0	-1.4
E19K	Redstone River	11.70	343	Pn	Pn	18 33 31.3	+0.4
E25K	Arctic Village	11.72	5		Pn	18 33 30.4	-0.7
G31M	Satah River	12.38	27		Pn	18 33 39.7	-0.3
D22K	Ayikyak River	12.55	353	Pn	Pn	18 33 43.7	+1.2
BBB	Bella Bella	12.63	102	LR	LR	18 37 36.3		
	comp=E,71nm,20.4s,baz=256,slow=33							
INK	Inuvik	13.64	24	Pn	Pn	18 33 57.9	+0.6	
	comp=E,0.3nm,0.3s,baz=208,slow=15,SNR=9.8							
INK				LR	LR	18 39 28.8		
	comp=E,112nm,19.1s,baz=170,slow=38							
	comp=E,8.9nm,0.9s							
ATKA	Atka Island	15.56	265	Pn	Pn	18 34 21.4	-1.8	
ATKA	Atka Island	15.56	265	P	Pn	18 34 22.0	-1.2	
ADK	Adak	17.07	266	Pn	Pn	18 34 41.4	-1.2	
ADK				IAmb	IAmb	18 34 56.2		
	comp=Z,19nm,1.1s							
YKA	Yellowknife Ar	18.04	57		Pn	18 34 54.3	-0.2	
YKA	Yellowknife Ar	18.04	57	P	Pn	18 34 55.6	+1.2	
	comp=Z,0.1nm,0.3s,baz=266,slow=12,SNR=14							
YKA				LR	LR	18 41 33.9		
	comp=Z,73nm,18.7s,baz=306,slow=36							
	comp=Z,2.1nm,0.9s							
A36M	Sachs Harbour	18.29	23	P	Pn	18 34 56.6	-0.8	
A36M				IAmb	IAmb	18 34 59.6		
	comp=Z,15nm,0.9s							
EDM	Edmonton	20.34	84	P	P	18 35 19.8	-0.4	
EDM				IAmb	IAmb	18 35 23.9		
	comp=Z,7.4nm,0.8s							
HAWA	Hanford	20.54	107	P	P	18 35 22.2	-0.2	
NEW	Newport	20.69	100	LR	LR	18 42 08.0		
	comp=Z,96nm,19.0s,baz=274,slow=33							
PINE	Pine Mountain	21.58	114	P	P	18 35 32.1	-1.7	
F10A	Beach Ranch, E	22.03	105	P	P	18 35 38.4	-0.2	
YBH	Yreka Hor	22.25	121	LR	LR	18 41 50.5		
	comp=Z,44nm,19.8s,baz=346,slow=30							
WVOR	Wild Horse Val	23.73	114	P	P	18 35 56.5	+0.3	
WVOR				IAmb	IAmb	18 35 59.1		
	comp=Z,8.8nm,0.9s							
HLID	Hailey	25.13	107	P	P	18 36 08.5	-0.6	
ELK	Elko	26.70	112	LR	LR	18 45 23.2		
	comp=Z,44nm,18.8s,baz=9.5,slow=33							
NVAR	Mina Array Bea	26.93	119	P	P	18 36 26.9	+1.3	
	comp=Z,1.9nm,0.7s,baz=304,slow=9.1,SNR=9.7							
	comp=Z,1.9nm,0.7s							
Q12A	Willow Creek R	28.18	114	P	P	18 36 35.9	-0.8	
PDAR	Pinedale Array	28.27	102	P	P	18 36 37.6	0.0	
	comp=Z,0.7nm,0.6s,baz=306,slow=5.5,SNR=6.4							
	comp=Z,0.7nm,0.6s							
R11B	Troy Canyon, C	28.33	116	P	P	18 36 38.2	+0.2	
SPR3	Spring Creek 3	28.46	113	P	P	18 36 40.2	+0.9	
SPR3				IAmb	IAmb	18 36 41.5		
	comp=Z,2.8nm,0.8s							
WCT	Wildcat Mounta	29.04	119	P	P	18 36 44.9	+0.7	
WCT				IAmb	IAmb	18 36 46.1		
	comp=Z,4.1nm,1.1s							
PRN	Pahroc Range	29.33	116	P	P	18 36 45.4	-1.4	
PRN				IAmb	IAmb	18 36 49.5		
	comp=Z,3.7nm,1.0s							
QSM	Queen of Sheba	29.59	121	P	P	18 36 49.0	0.0	
QSM				IAmb	IAmb	18 36 51.0		
	comp=Z,4.6nm,1.1s							
ULM	Lac du Bonnet	31.32	79	P	P	18 37 03.1	-1.0	
	comp=Z,2.1nm,0.8s,baz=290,slow=12,SNR=3.8							
ULM				LR	LR	18 48 16.5		
	comp=Z,47nm,19.0s,baz=29,slow=34							
	comp=Z,2.1nm,0.8s							
X16A	Lo Mia Camp, P	33.48	115	P	P	18 37 23.2	-0.3	
X16A				IAmb	IAmb	18 37 25.9		
	comp=Z,3.4nm,0.8s							
KSCO	Kaye Shedlock'	34.66	101	P	P	18 37 32.0	-1.5	
TXAR	Lajitas Array	41.49	112	P	P	18 38 31.7	+0.5	
	comp=Z,1.1nm,0.8s,baz=326,slow=6.1,SNR=9.1							
	comp=Z,1.1nm,0.8s							
DRIO	Del Rio	43.01	108	P	P	18 38 43.0	-0.5	
TKL	Tuckaleechee C	47.47	88	LR	LR	18 59 18.5		
	comp=Z,79nm,18.3s,baz=314,slow=36							
SONM	Songino Array	58.83	311	P	P	18 40 44.9	+2.5	
	comp=Z,1.3nm,0.9s,baz=54,slow=3.7,SNR=4.4							
	comp=Z,1.3nm,0.9s							
ZALV	Zalesovo Beam	61.60	327	P	P	18 41 04.4	+3.2	
	comp=Z,1.3nm,0.7s,baz=26,slow=6.9,SNR=6.5							
	comp=Z,1.3nm,0.7s							
HHC	Hu-ho-hao-te	61.99	302	eP	P	18 41 07.6	+3.5	
HHC				pmax	pmax			
	comp=Z,31nm,0.8s							
HHC				pmax	pmax			
	comp=Z,530nm,5.6s							
BRVK	Borovoye	66.25	336	P	P	18 41 32.0	+0.3	
BRVK				IAmb	IAmb	18 41 44.6		
	comp=Z,2.2nm,0.8s							
BVAR	Borovoye Array	66.25	336	P	P	18 41 32.2	+0.4	
	comp=Z,0.8nm,0.7s,baz=81,slow=11,SNR=7.4							
	comp=Z,0.8nm,0.7s							
KURBB	Kurchatov Arra	66.36	329	P	P	18 41 32.9	+0.4	
	comp=Z,0.3nm,0.7s,baz=26,slow=6.8,SNR=3.2							
	comp=Z,0.3nm,0.7s							
MK31	Makanchi Array	68.66	325	P	P	18 41 45.4	-1.8	
MK31				IAmb	IAmb	18 42 21.3		
	comp=Z,1.6nm,1.2s							
MKAR	Makanchi Array	68.66	325	P	P	18 41 45.1	-2.0	
MKAR	Makanchi Array	68.66	325	P	P	18 41 47.1	-0.1	
	comp=Z,0.3nm,0.9s,baz=57,slow=5.3,SNR=2.1							
	comp=Z,0.3nm,0.9s							
PZH	PanZhiHua	78.38	301	P	P	18 42 44.3	-0.5	
PZH				pmax	pmax			
	comp=Z,6.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,4.5s							
CMAR	Chiang Mai Arr	86.56	299	P	P	18 43 33.1	+5.7	
	comp=Z,0.6nm,0.7s,baz=27,slow=5.2,SNR=5.3							
QSPA	South Pole Qui	146.31	180	PKPbc	PKPdf	18 50 22.5	+0.4	
	comp=Z,5.1nm,1.2s,baz=358,slow=1.4,SNR=5.3							
BOSA	Boshof	151.76	12	PKPbc	PKPdf	18 50 37.2	+5.0	
	comp=Z,1.4nm,0.8s,baz=2.4,slow=2.3,SNR=5.7							

*IDC **24** 18:36:49.4±1.3, 9.47S×107.18E, h0km, mb3.9/10, mbtmp3.9/11, ML4.4/1, Error ellipse: s-maj=47.9km s-min=17.6km az=57.0*
*DJA **24** 18:36:51.7±1.0, 9.3S×107.2E±1, h13km±8km, M4.6/18, mb5.0/6, mB5.2/1, MLv4.4/18, Mw(mB)4.6/1*
*NEIC **24** 18:36:51.3±1.2, 9.44S±0.10×107.24E±0.07, h10km±1km, mb4.4/19, Error ellipse: s-maj=17.3km s-min=9.6km az=157.0*

ISC 24 18:36:50.3±0.6, 9.46S±0.06×107.22E±0.05, h10km, n70, σt123/68, mb4.3/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XMI	Christmas Isla	1.80	237	P	Pb	18 37 23.4	0.0
XMIS	Christmas Isla	1.85	237		Pb	18 37 23.4	-0.9
XMIS	Christmas Isla	1.85	237	P	Pb	18 37 24.1	-0.1
BBJI	Bungbulang	2.03	12	P	Pn	18 37 24.1	-0.6
BBJI	Bungbulang	2.03	12	P	Pn	18 37 24.0	-0.6
CMJI	Cimerak	2.06	36	P	Pn	18 37 24.9	-0.1
CMJI				S	Sn	18 37 51.7	+0.9
CNJI	Cibinong	2.14	358	P	Pn	18 37 25.1	-1.0
CNJI				S	Sn	18 37 52.1	-0.6
SKJI	Sukabumi	2.52	345	P	Pn	18 37 30.9	-0.5
LEM	Lembang	2.65	9	Pn	Pn	18 37 34.1	+0.9
	62nm,0.3s,baz=32,slow=8.0,SNR=53						
LEM				Sn	Sn	18 38 08.2	+2.8
	37nm,0.3s,baz=355,slow=22,SNR=6.9						
	280nm,0.6s						
LEM	Lembang	2.65	9	P	Pn	18 37 33.9	+0.7
KPJI	Karang Pucung	2.71	39	P	Pn	18 37 34.6	+0.7
DBJI	Dramaga	2.92	351	P	Pn	18 37 37.0	+0.1
SBJI	Serang	3.49	342	P	Pn	18 37 44.2	-0.5
UGM	Wanagama	3.61	65	Pn	Pn	18 37 47.1	+0.7
UGM	Wanagama	3.61	65	P	Pn	18 37 47.4	+1.0
UGM	Wanagama	3.61	65	P	Pn	18 37 46.2	-0.2
SMRI	Semarang	3.99	53	Pn	Pn	18 37 49.1	-2.4
NGJI	Ngawi	4.68	64	P	Pn	18 38 01.7	+0.6
KASI	Kota Agung	4.75	325	P	Pn	18 38 01.6	-0.4
SJI	Sawahan	4.81	70	P	Pn	18 38 03.9	+0.9
LWLI	Liwa	5.41	324	P	Pn	18 38 11.7	+0.4
	82nm,0.8s,0.6nm						
EGSI	Enggano, Bengk	6.38	309	P	Pn	18 38 24.6	+0.2
	177nm,0.9s,0.8nm						
BLJI	Banyuglugur	6.53	75	P	Pn	18 38 27.4	+0.9
	74nm,0.5s,2µm0.4nm						
JAGI	Jajag, Banyuwa	6.92	82	Pn	Pn	18 38 33.1	+1.2
JAGI				Sn	Sn	18 39 47.0	-3.8
J

ZALV	Zalesovo Beam	65.95	346	P		P		18 47 35.2	-1.3
ZALV	Zalesovo Beam	65.95	346	P		P		18 47 38.2	+1.7
	comp=Z,0.4nm,0.3s,baz=145,slow=5.4,SNR=3.9								
	comp=Z,0.4nm,0.3s								
BVAR	Borovoye Array	69.70	337	P		P		18 48 01.4	+1.2
	comp=Z,2.0nm,0.6s,baz=140,slow=8.9,SNR=18								
	comp=Z,2.0nm,0.6s								
BRVK	Borovoye	69.77	337	P		P		18 48 01.6	+1.0
BRVK				IAmb		IAmb		18 48 37.0	
	comp=Z,3.8nm,1.2s								
ABKAR	Akbulak array	71.62	330	P		P		18 48 12.7	+0.7
ABKAR	Akbulak array	71.62	330	P		P		18 48 12.5	+0.5
ABKAR				IAmb		IAmb		18 48 17.7	
	comp=Z,2.8nm,0.7s								
SEY	Seymchan	80.03	19	P		P		18 49 00.3	+0.6
	comp=Z,1.5nm,0.7s,baz=163,slow=19,SNR=5.3								
TIXI	Tiksi	82.21	7	P		P		18 49 11.1	0.0
	comp=Z,1.2nm,0.3s,baz=134,slow=2.7,SNR=4.5								
	comp=Z,1.2nm,0.3s								

*AEIC **24** 18:38:25.4±1.9,56°.3N±0°.1×149°.2W±0°.1,h12km±8km, Error ellipse: s-maj=18.0km s-min=10.1km az=181.0*
NEIC 24 18:38:22.8±1.5,**56°.4N**±0°.1×**149°.3W**±0°.1,**h10**km±2km, **ML3.3**/30,**ML3.0**(AEIC),**Error ellipse: s-maj=17.3km s-min=9.6km az=175.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.27	309		Pn	18 39 00.2	0.0
KDAK					Sn	18 39 26.3	-2.0
OHAK	Old Harbor	2.35	292		Pn	18 39 00.1	-1.3
OHAK					Sn	18 39 26.9	-3.4
SYI	Shuyak Island	2.77	324		Pn	18 39 07.3	+0.2
SYI					Sn	18 39 41.2	+0.5
SYI	Shuyak Island	2.77	324	IAML		18 39 47.7	
	comp=E,39nm,1.3s						
SYI				IAML		18 40 05.0	
	comp=N,40nm,1.3s						
CNPM	China Poot	3.29	342		Pn	18 39 14.3	0.0
CNPM					Sn	18 39 53.6	+0.1
CNPM	China Poot	3.29	342	IAML		18 41 04.3	
	comp=N,30nm,1.5s						
Q23K	Middleton Isla	3.40	26		Pn	18 39 14.9	-0.8
Q23K	Middleton Isla	3.40	26	IAML		18 40 45.7	
	comp=E,104nm,1.1s						
BRSE	Bradley Lake S	3.43	347		Pn	18 39 16.3	+0.1
Q19K	Cape Douglas,	3.45	319		Pn	18 39 16.7	+0.3
BRLK	Bradley Lake	3.47	346		Pn	18 39 16.5	-0.3
BRLK					Sn	18 39 56.9	-1.0
KAHG	Katmai Hook Gl	3.53	308		Pn	18 39 17.0	-0.7
P23K	Montague Islan	3.73	15		Pn	18 39 20.1	-0.1
ACHA	Angle Creek He	3.75	301		Pn	18 39 21.3	+0.6
P19K	Oil Pt	3.87	329		Pn	18 39 22.7	+0.4
P19K	Oil Pt	3.87	329	IAML		18 39 52.9	
	comp=E,51nm,1.3s						
CNTC	Contact Creek	4.04	300		Pn	18 39 24.6	0.0
HIN	Hinchinbrook I	4.25	19		Pn	18 39 24.8	-2.7
HIN				IAML		18 40 36.2	
	comp=E,40nm,1.4s						
KAIM	Kayak Island	4.36	34		Pn	18 39 28.3	-0.7
KAIM	Kayak Island	4.36	34	IAML		18 41 32.8	
	comp=E,54nm,1.3s						
P18K	Big Mountain,	4.36	316		Pn	18 39 28.3	-0.7
P18K	Big Mountain,	4.36	316	IAML		18 42 11.5	
	comp=N,12nm,1.4s						
EYAK	Cordova Ski Ar	4.54	23		Pn	18 39 31.6	+0.2
RAGM	Ragged Mountai	4.66	29	Pn	Pn	18 39 32.4	-0.8
BERG	Berg Lake	4.95	34	Pn	Pn	18 39 36.4	-0.7
SNH	Sunshine Point	5.07	39	Pn	Pn	18 39 38.8	0.0
SNH				IAML		18 41 01.1	
	comp=E,16nm,1.5s						
KLU	Klutina	5.38	17	Pn	Pn	18 39 42.3	-0.7
KLU				IAML		18 42 36.2	
	comp=N,21nm,0.2s						
KLU				IAML		18 42 38.9	
	comp=E,21nm,0.3s						
SML	Sawmill	5.43	5	Pn	Pn	18 39 43.2	-0.5
N18K	Kilae Creek	5.50	324	Pn	Pn	18 39 44.4	-0.3
O16K	Kokwok River B	5.67	308	Pn	Pn	18 39 47.6	+0.6
VRDI	Verde Repeater	5.69	30	Pn	Pn	18 39 47.0	-0.4
SVW2	Sparrevohn	5.73	328	Pn	Pn	18 39 47.7	-0.1
N25K	Chitina, Valde	5.74	23	Pn	Pn	18 39 47.9	-0.1
GLB	Gilahina Butte	5.78	27	Pn	Pn	18 39 48.5	0.0
BARN	Barnard Glacie	6.11	37	Pn	Pn	18 39 53.8	+0.5
CTGM	Chitina Glacie	6.16	39	Pn	Pn	18 39 53.8	0.0
LOGN	Logan Glacier	6.18	41	Pn	Pn	18 39 53.8	-0.3
M17K	Holitna River	6.55	323	Pn	Pn	18 39 59.6	+0.6
N15K	Kwethluk River	6.83	308	Pn	Pn	18 40 03.9	+1.0
O29M	Mount Kennedy	6.84	51	Pn	Pn	18 40 04.0	+0.8
P29M	Windy Craggy	6.92	57	Pn	Pn	18 40 04.0	-0.1
S31K	Pelican	7.25	72	Pn	Pn	18 40 06.7	-1.9
M29M	Somme Creek	8.17	38	Pn	Pn	18 40 22.4	+1.1
WHY	Whitehorse	8.64	55	Pn	Pn	18 40 28.1	+0.3
L29M	L29M	8.74	35	Pn	Pn	18 40 29.7	+0.6
P33M	Teslin, Yukon	9.45	59	Pn	Pn	18 40 38.7	-0.2

*AEIC **24** 18:45:38.9±1.0,56°.1N±0°.1×149°.5W±0°.1,h12km±8km, Error ellipse: s-maj=18.0km s-min=9.4km az=185.0*
NEIC 24 18:45:36.0±1.7,**56°.25N**±0°.03×**149°.6W**±0°.1,**h10**km±2km, **ML3.2**/28,**ML3.0**(AEIC),**Error ellipse: s-maj=10.4km s-min=4.9km az=254.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.26	314		Pn	18 46 14.0	+0.6
KDAK					Sn	18 46 40.3	-1.0
OHAK	Old Harbor	2.28	297		Pn	18 46 12.5	-1.1
OHAK					Sn	18 46 39.9	-1.9
SYI	Shuyak Island	2.82	328		Pn	18 46 21.8	+0.7
SYI					Sn	18 46 53.8	-1.3
SYI	Shuyak Island	2.82	328	IAML		18 48 09.7	
	comp=E,44nm,1.2s						
R18K	Karluk	3.00	298		Pn	18 46 23.0	-0.5
CNPM	China Poot	3.40	345		Pn	18 46 30.0	+0.8
CNPM					Sn	18 47 07.8	-1.8
Q19K	Cape Douglas,	3.47	322		Pn	18 46 30.9	+0.7
KAHG	Katmai Hook Gl	3.52	312		Pn	18 46 31.6	+0.8
BRSE	Bradley Lake S	3.56	350		Pn	18 46 31.3	+0.1
BRSE					Sn	18 47 11.9	-1.4
BRLK	Bradley Lake	3.59	349	Pn	Pn	18 46 31.8	0.0
Q23K	Middleton Isla	3.62	27		Pn	18 46 31.5	-0.5
ACHA	Angle Creek He	3.70	304		Pn	18 46 33.3	-0.1
P23K	Montague Islan	3.92	16		Pn	18 46 36.3	0.0
P19K	Oil Pt	3.93	332		Pn	18 46 37.1	+0.7
CNTC	Contact Creek	3.99	303		Pn	18 46 37.2	0.0
SLKM	Skilak Lake	4.28	356		Pn	18 46 41.2	0.0
P18K	Big Mountain,	4.37	318		Pn	18 46 43.0	+0.5
HIN	Hinchinbrook I	4.46	20		Pn	18 46 43.2	-0.4
HIN	Hinchinbrook I	4.46	20	IAML		18 48 15.7	
	comp=N,44nm,1.5s						
KAIM	Kayak Island	4.58	34		Pn	18 46 45.2	-0.1
KAIM	Kayak Island	4.58	34	IAML		18 49 48.5	
	comp=E,33nm,1.3s						
RDT	Redoubt	4.59	342		Pn	18 46 46.1	+0.7
O18K	Koktuh Hills	4.70	323		Pn	18 46 46.4	-0.6
O18K	Koktuh Hills	4.70	323	IAML		18 48 10.0	
	comp=N,13nm,1.4s						
O18K				IAML		18 49 46.0	
	comp=E,14nm,1.3s						
P17K	Kvichak River	4.73	311		Pn	18 46 47.0	-0.2
EYAK	Cordova Ski Ar	4.75	23		Pn	18 46 47.6	0.0
RAGM	Ragged Mountai	4.88	30	Pn	Pn	18 46 49.0	-0.4
RAGM				IAML		18 48 31.0	
	comp=E,34nm,1.4s						
N18K	Kilae Creek	5.55	326	Pn	Pn	18 46 58.5	-0.1
O16K	Kokwok River B	5.65	310	Pn	Pn	18 46 59.1	-0.9
LOGN	Logan Glacier	6.40	41	Pn	Pn	18 47 09.8	-0.7
M17K	Holitna River	6.59	325	Pn	Pn	18 47 14.5	+1.7
N15K	Kwethluk River	6.81	310	Pn	Pn	18 47 16.4	+0.5
M16K	Timber Creek	6.85	318	Pn	Pn	18 47 16.4	0.0
O29M	Mount Kennedy	7.06	50	Pn	Pn	18 47 19.5	0.0
S31K	Pelican	7.45	71	Pn	Pn	18 47 22.6	-2.0
K20K	Telida	7.48	344	Pn	Pn	18 47 25.0	-0.1

*NEIC **24** 18:50:33.1±2.4,56°.39N±0°.05×148°.57W±0°.09,h10km±2km, mb4.0/5,ML3.6/40,ML3.3(AEIC), Error ellipse: s-maj=9.7km s-min=6.8km az=225.0*
*AEIC **24** 18:50:37.7±1.9,56°.40N±0°.08×148°.61W±0°.10,h7km±6km, Error ellipse: s-maj=11.3km s-min=7.9km az=174.0*

ISC 24 18:50:32.2±1.1,**56°.41N**±0°.08×**148°.62W**±0°.05,**h10**km, **n128,σ1°41/132,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.56	304		Pn	18 51 15.0	+1.2
OHAK	Old Harbor	2.69	290	Pn	Pn	18 51 16.6	+1.1
OHAK	Old Harbor	2.69	290	P	Pn	18 51 16.5	+0.9
	baz=106						
OHAK				S	Sn	18 51 46.2	-1.9
	baz=106						
SYI	Shuyak Island	3.00	319	Pn	Pn	18 51 20.0	+0.2
SYI	Shuyak Island	3.00	319		Sn	18 51 55.8	+0.1
Q20K	Shuyak Island	3.00	319	P	Pn	18 51 21.0	+1.2
	baz=136						
Q20K				S	Sn	18 51 55.8	0.0
	baz=136						
SII	Sitkinak Islan	3.09	275		Sn	18 51 58.3	+0.3
MID	Middleton Isla	3.26	21	Pn	Pn	18 51 22.2	-1.2
MID				IAML		18 51 58.8	
	comp=E,159nm,1.3s						
MID				IAML		18 52 16.5	
	comp=N,120nm,1.0s						
Q23K	Middleton Isla	3.26	21	Pn	Pn	18 51 23.9	+0.6
Q23K				IAML		18 52 16.5	
	comp=N,151nm,1.1s						
Q23K				IAML		18 53 14.2	
	comp=E,181nm,1.4s						
Q23K	Middleton Isla	3.26	21		Sn	18 52 01.0	-1.1
Q23K	Middleton Isla	3.26	21	P	Pn	18 51 24.0	+0.6
	baz=202						
Q23K				S	Sn	18 52 01.0	-1.1
	baz=202						
R18K	Karluk	3.40	292		Pn	18 51 25.6	+0.4
R18K	Karluk	3.40	292	IAML		18 52 12.8	
	comp=E,135nm,0.5s						
R18K				IAML		18 52 15.8	
	comp=N,141nm,0.8s						
R18K	Karluk	3.40	292	P	Pn	18 51 25.6	+0.4
	baz=108						
CNPM	China Poot	3.42	337	Pn	Pn	18 51 26.6	+1.0
CNPM				IAML		18 52 12.4	
	comp=E,73nm,1.0s						
CNPM	China Poot	3.42	337		Sn	18 52 05.9	-0.3
BRSE	Bradley Lake S	3.53	342		Pn	18 51 28.1	+1.0
BRSE					Sn	18 52 07.6	-1.2
BRSE	Bradley Lake S	3.53	342	P	Pn	18 51 28.1	+1.0
	baz=160						
BRSE				S	Sn	18 52 07.6	-1.2
	baz=160						
BRLK	Bradley Lake	3.57	341	Pn	Pn	18 51 28.4	+0.7
BRLK				IAML		18 52 18.3	
	comp=E,52nm,1.5s						
HOM	Homer	3.63	335	Pn	Pn	18 51 29.4	+0.9
P23K	Montague Islan	3.66	10		Pn	18 51 29.8	+0.9
P23K	Montague Islan	3.66	10	P	Pn	18 51 29.7	+0.9
	baz=190						
Q19K	Cape Douglas,	3.70	315	Pn	Pn	18 51 32.3	+2.9
Q19K	Cape Douglas,	3.70	315	P	Pn	18 51 30.4	+1.0
	baz=131						
SEW	Seward	3.73	354		Pn	18 51 31.0	+1.2
SEW	Seward	3.73	354	P	Pn	18 51 31.0	+1.2
	baz=173						
P19K	Oil Pt	4.07	325	Pn	Pn	18 51 37.3	+2.8
P19K				IAML		18 52 27.9	
	comp=E,89nm,0.9s						
P19K				IAML		18 52 31.5	
	comp=N,67nm,1.1s						
P19K	Oil Pt	4.07	325	P	Pn	18 51 36.2	+1.7
	baz=141						
HIN	Hinchinbrook I	4.15	15		Pn	18 51 36.9	+1.3
HIN				IAML		18 52 33.4	
	comp=E,105nm,1.2s						
KAIM	Kayak Island	4.17	30	Pn	Pn	18 51 37.5	+1.6
KAIM				IAML		18 52 28.6	
	comp=N,101nm,1.5s						
KAIM	Kayak Island	4.17	30	P	Pn	18 51 37.2	+1.3
	baz=214						
SLKM	Skilak Lake	4.20	349		Pn	18 51 37.3	+1.1
O20K	Slope Mountain	4.25	332		Pn	18 51 38.4	+1.4
O20K	Slope Mountain	4.25	332	P	Pn	18 51 38.4	+1.4
	baz=148						
IVE	Iliamna Volcan	4.30	329		Pn	18 51 38.9	+1.1
CNTC	Contact Creek	4.35	298		Pn	18 51 39.4	+1.0
Q17K	Contact Creek	4.36	298	P	Pn	18 51 39.4	+0.9
	baz=112						
RAGM	Ragged Mountai	4.50	26		Pn	18 51 41.8	+1.4
RED	Redoubt Volcan	4.58	333		Pn	18 51 42.3	+0.8
RDSO	Redoubt South	4.60	334		Pn	18 51 42.9	+1.0
RSO	Redoubt South	4.61	334	Pn	Pn	18 51 42.4	+0.4
P18K	Big Mountain,	4.62	313	Pn	Pn	18 51 43.5	+1.4
P18K	Big Mountain,	4.62	313	P	Pn	18 51 43.2	+1.1
	baz=128						
GOAT	Goat Mountain	4.66	24		Pn	18 51 44.1	+1.5
RC01	Rabbit Creek A	4.73	353	Pn	Pn	18 51 42.8	-0.8
RC01				IAML		18 52 39.3	
	comp=E,37nm,1.2s						
RC01				IAML		18 52 42.7	
	comp=N,32nm,0.8s						
BERG	Berg Lake	4.76	31		Pn	18 51 44.6	+0.7
SNH	Sunshine Point	4.86	36		Pn	18 51 46.9	+1.6
SNH				IAML		18 53 04.7	
	comp=E,29nm,0.6s						
SNH				IAML		18 53 15.0	
	comp=N,42nm,1.4s						
KNK	Knik Glacier	5.02	1	Pn	Pn	18 51 47.3	-0.3
KNK				IAML		18 52 50.5	
	comp=N,30nm,1.5s						
KNK				IAML		18 52 58.1	
	comp=E,31nm,1.4s						
KNK	Knik Glacier	5.02	1	P	Pn	18 51 48.8	+1.2
	baz=181						
BMRM	Bremner River	5.03	23		Pn	18 51 49.2	+1.5
BMRM	Bremner River	5.03	23	P	Pn	18 51 49.2	+1.5
	baz=206						
BARK	Barkley Ridge	5.14	36		Pn	18 51 50.8	+1.6
KLU	Klutina	5.29	14		Pn	18 51 52.7	+1.4
KLU				IAML		18 52 55.7	
	comp=N,27nm,1.4s						
KLU				IAML		18 52 57.7	
	comp=E,31nm,1.1s						
KLU	Klutina	5.29	14	P	Pn	18 51 52.8	+1.4
	baz=196						
STLK	Strandline Lak	5.37	343		Pn	18 51 53.8	+1.4
N19K	Bonanza Creek	5.38	328		Pn	18 51 53.7	+1.2
N19K	Bonanza Creek	5.38	328	P	Pn	18 51 53.7	+1.2
	baz=143						
GHO	Glory Hole Cre	5.38	358		Pn	18 51 55.3	+2.7
SML	Sawmill	5.42	1		Pn	18 51 55.0	+2.0
SML	Sawmill	5.42	1	P	Pn	18 51 55.0	+2.0
	baz=181						
SCM	Sheep Creek Mo	5.48	6	Pn	Pn	18 51 55.1	+1.1
VRDI	Verde Repeater	5.53	27		Pn	18 51 56.3	+1.7
SAMH	Samovar Hills	5.57	45		Pn	18 51 57.1	+1.9
KIAG	Kiagna River	5.58	33		Pn	18 51 56.9	+1.5
N25K	Chitina, Valde	5.61	20		Pn	18 51 56.9	+1.2
N25K	Chitina, Valde	5.61	20	P	Pn	18 51 57.5	+1.8
	baz=203						
GLB	Gilahina Butte	5.63	24		Pn	18 51 57.2	+1.3
PCA	Pinnacle	5.76	47		Pn	18 51 59.3	+1.6
PINM	Pinnacle	5.76	47	P	Pn	18 51 59.3	+1.6
	baz=233						
PTPK	Patty Peak	5.76	31		Pn	18 51 59.7	+1.8
SKT	Skwentna	5.79	346	Pn	Pn	18 52 00.1	+2.0
M24K	Tolsona, Glenn	5.85	11		Pn	18 52 00.6	+1.6
BARN	Barnard Glacie	5.91	35		Pn	18 52 01.5	+1.7
BCPM	Bancas Point	5.93	49	Pn	Pn	18 52 02.9	+2.8
CTG	Chitna Glacier	5.94	37	P	Pn	18 52 01.7	+1.5
	baz=229						
CTGM	Chitina Glacie	5.94	37		Pn	18 52 01.7	+1.4
LOGN	Logan Glacier	5.95	39		Pn	18 52 01.9	+1.4
M20K	Styx River	5.96	339		Pn	18 52 01.9	+1.3
M20K	Styx River	5.96	339	P	Pn	18 52 01.8	+1.3
	baz=155						
O16K	Kokwok River B	5.96	306		Pn	18 52 01.2	+0.8
O16K	Kokwok River B	5.96	306	P	Pn	18 52 01.2	+0.8
	baz=118						
HARP	HAARP	6.26	15		Pn	18 52 06.2	+1.6
HARP	HAARP	6.26	15	P	Pn	18 52 06.2	+1.6
	baz=198						
WAT7	Susitna Watana	6.45	359		Pn	18 52 09.0	+1.8
O29M	Mount Kennedy	6.57	49		Pn	18 52 10.7	+1.8
O29M	Mount Kennedy	6.57	49	P	Pn	18 52 10.7	+1.8
	baz=238						
O15K	Ungalikthiuk R	6.60	299		Pn	18 52 10.5	+1.3
O15K	Ungalikthiuk R	6.60	299	P	Pn	18 52 10.5	+1.3
	baz=110						
P29M	Windy Craggy	6.62	56		Pn	18 52 10.6	+1.1
DHY	Denali Highway	6.72	5		Pn	18 52 14.3	+3.3
YUK7	Dusty Glacier	6.87	49		Pn	18 52 15.7	+2.6
M27K	Edge Creek, AK	6.89	27		Pn	18 52 15.2	+1.9
S31K	Pelican	6.91	72	Pn	Pn	18 52 13.7	+0.2
TRF	Thorofare Moun	7.11	354	Pn	Pn	18 52 18.0	+1.6
L18K	Granite Mounta	7.14	328	Pn	Pn	18 52 17.2	+0.6
CAST	Castle Rocks	7.24	348	Pn	Pn	18 52 19.6	+1.6
KTH	Kantishna Hill	7.26	352	Pn	Pn	18 52 20.6	+2.3
HYT	Haines Junctio	7.30	48	Pn	Pn	18 52 19.8	+0.9
SIT	Sitka	7.34	79	Pn	Pn	18 52 18.6	-0.8
L27K	Beaver Creek,	7.50	24		Pn	18 52 22.1	+0.5
BCAR	Beaver Creek A	7.51	24	Pn	Pn	18 52 23.8	+2.0
TTA	Tatalina	7.53	333	Pn	Pn	18 52 22.9	+0.8
RIDG	Independent Ri	7.59	13		Pn	18 52 24.2	+1.3
L16K	Owhat River	7.71	318	Pn	Pn	18 52 25.0	+0.6
S32K	Killisnoo	7.76	76	Pn	Pn	18 52 24.9	-0.2
BPAW	Bear Paw Mtn.	7.81	352	Pn	Pn	18 52 26.8	+1.0
O30N	Mendenhall	7.87	51	Pn	Pn	18 52 28.8	+2.1
JIS	Juneau Island	7.93	70	Pn	Pn	18 52 27.9	+0.5
SCRK	Sand Creek	7.93	15	Pn	Pn	18 52 26.9	-0.7
HDA	Harding Lake	8.07	5	Pn	Pn	18 52 28.5	-0.8
WHY	Whitehorse	8.35	54		Pn	18 52 32.8	-0.5
N31M	Braeburn, Yuko	8.36	47		Pn	18 52 35.4	+2.1
IL31		8.44	5	Pn	Pn	18 52 34.8	+0.5
ILAR	Eielson Array	8.44	5	Pn	Pn	18 52 35.2	+0.8
J26L	Joseph Creek	8.49	15		Pn	18 52 37.2	+2.0
P32M	Atlin	8.53	62	Pn	Pn	18 52 37.2	+1.4
M30M	Minto, Yukon	8.62	39	Pn	Pn	18 52 37.9	+1.0
DAWY	Dawson	8.94	27	Pn	Pn	18 52 40.4	-0.9
P33M	Teslin, Yukon	9.14	59	Pn	Pn	18 52 45.5	+1.4
EGAK	Eagle	9.15	20	Pn	Pn	18 52 46.7	+2.5
PRP	Porcupine Dome	9.26	8	Pn	Pn	18 52 46.5	+0.7
IMAR	Indian Mountai	9.92	348	Pn	Pn	18 52 55.7	+1.1
C36M	Paulatuk	16.95	30	Pn	Pn	18 54 27.6	-1.5
YKA	Yellowknife Ar	18.16	56		Pn	18 54 44.0	-0.2
A36M	Sachs Harbour	18.42	23	P	P	18 54 47.2	0.0
A36M				IAmb	IAmb	18 55 00.8	
	comp=Z,7.3nm,1.0s						
LCMT	Little Creek M	30.57	114	P	P	18 56 44.9	-1.1
LCMT				IAmb	IAmb	18 57 28.5	
	comp=Z,4.3nm,1.4s						
BRVK	Borovoye	66.32	336	P	P	19 01 22.2	+1.9
ABKAR	Akbulak array	72.05	341	P	P	19 01 55.1	-0.8
ABKAR				IAmb	IAmb	19 02 09.7	
	comp=Z,2.6nm,1.2s						

*AEIC **24** 19:01:20.5±2.4,55°.7N±0°.1×149°.2W±0°.1,h6km±6km, Error ellipse: s-maj=17.6km s-min=8.8km az=169.0*
*NEIC **24** 19:01:23.0±2.0,56°.37N±0°.05×149°.3W±0°.1,h10km±2km, ML3.2/44,ML3.3(AEIC), Error ellipse: s-maj=12.5km s-min=5.9km az=228.0*
ISC 24 19:01:20.5±2.2,**56°.3N**±0°.1×**149°.23W**±0°.05,**h10**km,**n147, σ2°07/148,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.37	311		Pn	19 02 00.3	+0.9
KDAK					Sb	19 02 31.6	-1.0
OHAK	Old Harbor	2.43	295		Pn	19 01 59.0	-1.1
OHAK					Sn	19 02 30.0	+0.1
OHAK	Old Harbor	2.43	295	P	Pn	19 01 59.0	-1.1
	baz=110						
OHAK				S	Sn	19 02 30.0	+0.1
	baz=110						
Q20K	Shuyak Island	2.90	325	P	Pn	19 02 09.0	+2.3
	baz=142						
Q20K				S	Sb	19 02 46.8	-0.9
	baz=142						
SYI	Shuyak Island	2.90	325		Pn	19 02 09.0	+2.4
SYI					Sb	19 02 46.8	-0.8
R18K	Karluk	3.14	296		Pn	19 02 09.6	-0.4
R18K	Karluk	3.14	296	IAML		19 02 40.5	
	comp=N,51nm,1.4s						
R18K				IAML		19 03 04.5	
	comp=E,59nm,1.4s						
R18K	Karluk	3.14	296	P	Pn	19 02 09.6	-0.4
	baz=111						
CNPM	China Poot	3.43	343		Pn	19 02 16.8	+2.8
CNPM				IAML		19 03 48.3	
	comp=E,30nm,1.3s						
CNPM	China Poot	3.43	343		Sb	19 03 02.0	-1.0
CNPM	China Poot	3.43	343	IAML		19 02 38.3	
	comp=N,29nm,1.5s						
Q23K	Middleton Isla	3.52	25		Pn	19 02 17.4	+2.3
Q23K					Sb	19 03 02.4	-3.1
Q23K	Middleton Isla	3.52	25	IAML		19 03 04.8	
	comp=N,114nm,1.0s						
Q23K	Middleton Isla	3.52	25	P	Pn	19 02 17.5	+2.3
	baz=209						
Q23K				S	Sb	19 03 02.4	-3.1
	baz=209						
MID	Middleton Isla	3.52	25	Pn	Pn	19 02 15.8	+0.7
MID				IAML		19 03 39.7	
	comp=N,130nm,1.4s						
Q19K	Cape Douglas,	3.56	320		Pn	19 02 17.8	+1.9
Q19K					Sb	19 03 02.1	-4.8
Q19K	Cape Douglas,	3.56	320	P	Pn	19 02 17.8	+1.9
	baz=136						
Q19K				S	Sb	19 03 02.1	-4.8
	baz=136						
BRSE	Bradley Lake S	3.57	348		Pn	19 02 18.4	+2.6
BRSE	Bradley Lake S	3.57	348	P	Pn	19 02 18.4	+2.6
	baz=167						
BRLK	Bradley Lake	3.61	347		Pn	19 02 18.9	+2.5
BRLK	Bradley Lake	3.61	347	IAML		19 03 12.4	
	comp=E,37nm,1.3s						
KAHG	Katmai Hook Gl	3.63	310		Pn	19 02 18.1	+1.2
ACHA	Angle Creek He	3.84	303		Pn	19 02 20.7	+1.1
P23K	Montague Islan	3.86	14		P

SNH	**Sunshine Point**	**5.17**	**38**		**Pn**	**19 02 39.5**	**+1.6**
SNH	**Sunshine Point**	**5.17**	**38**	IAML		19 03 49.4	
	comp=N,16nm,1.5s						
SNH				IAML		19 04 49.3	
	comp=E,13nm,1.3s						
SPCG	**Spurr Capps Gl**	**5.24**	**345**		**Pn**	**19 02 42.1**	**+3.2**
SUA	**Susitna One**	**5.26**	**352**	Pn	**Pn**	**19 02 39.5**	**+0.3**
SUA				IAML		19 05 12.6	
	comp=E,8.6nm,1.4s						
BMRM	**Bremner River**	**5.29**	**25**		**Pn**	**19 02 42.1**	**+2.6**
BMRM	**Bremner River**	**5.29**	**25**	P	**Pn**	**19 02 42.1**	**+2.6**
	baz=210						
N19K	**Bonanza Creek**	**5.32**	**331**		**Pn**	**19 02 41.9**	**+2.0**
N19K	**Bonanza Creek**	**5.32**	**331**	P	**Pn**	**19 02 41.9**	**+2.0**
	baz=147						
PMR	**Palmer**	**5.33**	**1**	Pn	**Pn**	**19 02 40.8**	**+0.7**
PMR				IAML		19 03 56.7	
	comp=E,8.3nm,1.4s						
PMR				IAML		19 05 35.2	
	comp=N,7.9nm,1.5s						
BARK	**Barkley Ridge**	**5.45**	**38**		**Pn**	**19 02 43.2**	**+1.4**
P16K	**Nushagak River**	**5.45**	**304**		**Pn**	**19 02 42.4**	**+0.7**
P16K	**Nushagak River**	**5.45**	**304**	P	**Pn**	**19 02 42.4**	**+0.7**
	baz=116						
KLU	**Klutina**	**5.51**	**17**		**Pn**	**19 02 45.8**	**+3.3**
KLU	**Klutina**	**5.51**	**17**	P	**Pn**	**19 02 45.8**	**+3.3**
	baz=200						
GHO	**Glory Hole Cre**	**5.52**	**2**		**Pn**	**19 02 46.4**	**+3.7**
SML	**Sawmill**	**5.57**	**4**	Pn	**Pn**	**19 02 46.9**	**+3.6**
N18K	**Kilae Creek**	**5.63**	**324**		**Pn**	**19 02 46.4**	**+2.2**
N18K	**Kilae Creek**	**5.63**	**324**	P	**Pn**	**19 02 46.4**	**+2.2**
	baz=139						
SCM	**Sheep Creek Mo**	**5.66**	**9**	Pn	**Pn**	**19 02 47.1**	**+2.5**
O16K	**Kokwok River B**	**5.77**	**309**		**Pn**	**19 02 47.3**	**+1.2**
O16K	**Kokwok River B**	**5.77**	**309**	P	**Pn**	**19 02 47.3**	**+1.2**
	baz=121						
VRDI	**Verde Repeater**	**5.80**	**29**		**Pn**	**19 02 48.6**	**+1.9**
SKT	**Skwentna**	**5.84**	**349**		**Pn**	**19 02 50.2**	**+3.1**
SKT	**Skwentna**	**5.84**	**349**	P	**Pn**	**19 02 50.2**	**+3.1**
	baz=168						
N25K	**Chitina, Valde**	**5.86**	**22**		**Pn**	**19 02 50.6**	**+3.2**
N25K	**Chitina, Valde**	**5.86**	**22**	P	**Pn**	**19 02 50.6**	**+3.2**
	baz=207						
SVW2	**Sparrevohn**	**5.86**	**328**	Pn	**Pn**	**19 02 48.1**	**+0.9**
KIAG	**Kiagna River**	**5.88**	**35**		**Pn**	**19 02 49.4**	**+1.6**
GLB	**Gilahina Butte**	**5.89**	**26**		**Pn**	**19 02 49.8**	**+2.0**
SAMH	**Samovar Hills**	**5.91**	**46**		**Pn**	**19 02 49.4**	**+1.3**
N17K	**Nushagak Hills**	**5.97**	**319**	Pn	**Pn**	**19 02 49.6**	**+0.8**
M20K	**Styx River**	**5.97**	**342**	Pn	**Pn**	**19 02 49.6**	**+0.7**
M24K	**Tolsona, Glenn**	**6.05**	**14**	Pn	**Pn**	**19 02 54.2**	**+4.2**
PCA	**Pinnacle**	**6.10**	**47**		**Pn**	**19 02 51.4**	**+0.7**
PINM	**Pinnacle**	**6.10**	**47**	P	**Pn**	**19 02 51.4**	**+0.7**
	baz=236						
BARN	**Barnard Glacie**	**6.21**	**36**		**Pn**	**19 02 53.8**	**+1.5**
PNL	**Peninsula**	**6.24**	**53**	P	**Pn**	**19 02 52.5**	**-0.1**
	baz=242						
CTG	**Chitna Glacier**	**6.25**	**38**	P	**Pn**	**19 02 54.2**	**+1.4**
	baz=226						
CTGM	**Chitina Glacie**	**6.25**	**38**		**Pn**	**19 02 54.2**	**+1.4**
LOGN	**Logan Glacier**	**6.27**	**40**		**Pn**	**19 02 54.3**	**+1.2**
BCPM	**Bancas Point**	**6.28**	**50**		**Pn**	**19 02 53.6**	**+0.5**
O15K	**Ungalikthiuk R**	**6.37**	**302**		**Pn**	**19 02 54.6**	**+0.3**
O15K	**Ungalikthiuk R**	**6.37**	**302**	P	**Pn**	**19 02 54.6**	**+0.3**
	baz=112						
L19K	**White Mountain**	**6.59**	**336**	Pn	**Pn**	**19 02 57.5**	**+0.2**
M17K	**Holitna River**	**6.67**	**324**	Pn	**Pn**	**19 02 59.3**	**+0.9**
DHY	**Denali Highway**	**6.88**	**7**	Pn	**Pn**	**19 03 02.1**	**+0.6**
O29M	**Mount Kennedy**	**6.92**	**50**		**Pn**	**19 03 02.7**	**+0.8**
O29M	**Mount Kennedy**	**6.92**	**50**	P	**Pn**	**19 03 02.7**	**+0.8**
	baz=240						
M26K	**Nabesna, AK**	**6.92**	**25**	Pn	**Pn**	**19 03 03.6**	**+1.7**
N15K	**Kwethluk River**	**6.93**	**309**	Pn	**Pn**	**19 03 04.1**	**+2.0**
M16K	**Timber Creek**	**6.95**	**317**	Pn	**Pn**	**19 03 04.0**	**+1.7**
P29M	**Windy Craggy**	**6.98**	**56**		**Pn**	**19 03 01.9**	**-0.8**
P29M	**Windy Craggy**	**6.98**	**56**	P	**Pn**	**19 03 01.9**	**-0.8**
	baz=247						
YUK2	**White River**	**7.02**	**35**		**Pn**	**19 03 05.8**	**+2.6**
YUK8	**Steele Glacier**	**7.03**	**40**	P	**Pn**	**19 03 06.3**	**+2.7**
	baz=229						
L18K	**Granite Mounta**	**7.08**	**330**	Pn	**Pn**	**19 03 04.4**	**+0.4**
O14K	**Tigyukauivet M**	**7.09**	**300**	Pn	**Pn**	**19 03 04.2**	**+0.1**
YUK3	**Moose Creek**	**7.13**	**36**		**Pn**	**19 03 07.5**	**+2.6**
YUK3	**Moose Creek**	**7.13**	**36**	P	**Pn**	**19 03 07.5**	**+2.6**
	baz=224						
M27K	**Edge Creek, AK**	**7.16**	**29**	Pn	**Pn**	**19 03 05.4**	**+0.1**
TRF	**Thorofare Moun**	**7.22**	**356**	Pn	**Pn**	**19 03 07.2**	**+1.2**
YUK7	**Dusty Glacier**	**7.22**	**49**		**Pn**	**19 03 07.0**	**+0.8**
KTH	**Kantishna Hill**	**7.35**	**354**	Pn	**Pn**	**19 03 09.7**	**+1.9**
YUK6	**Outpost Mounta**	**7.35**	**46**		**Pn**	**19 03 09.8**	**+1.8**
YUK6	**Outpost Mounta**	**7.35**	**46**	P	**Pn**	**19 03 09.8**	**+1.8**
	baz=236						
YUK4	**Talbot Arm**	**7.48**	**43**	P	**Pn**	**19 03 13.6**	**+3.9**
	baz=232						
L16K	**Owhat River**	**7.59**	**320**	Pn	**Pn**	**19 03 11.8**	**+0.8**
HYT	**Haines Junctio**	**7.64**	**49**	Pn	**Pn**	**19 03 12.2**	**+0.3**
L27K	**Beaver Creek,**	**7.76**	**26**	Pn	**Pn**	**19 03 14.5**	**+1.1**
BCAR	**Beaver Creek A**	**7.78**	**26**	Pn	**Pn**	**19 03 15.8**	**+2.1**
BPAW	**Bear Paw Mtn.**	**7.90**	**354**	Pn	**Pn**	**19 03 16.9**	**+1.7**
K17K	**Iditarod**	**7.93**	**328**	Pn	**Pn**	**19 03 17.3**	**+1.6**
N30M	**Aishikik Lake**	**8.15**	**45**	Pn	**Pn**	**19 03 20.5**	**+1.7**
O30N	**Mendenhall**	**8.22**	**51**		**Pn**	**19 03 20.5**	**+0.9**
O30N	**Mendenhall**	**8.22**	**51**	P	**Pn**	**19 03 20.5**	**+0.9**
	baz=243						
M29M	**Somme Creek**	**8.27**	**37**		**Pn**	**19 03 22.8**	**+2.4**
J20K	**Nowinta River**	**8.29**	**345**	Pn	**Pn**	**19 03 21.1**	**+0.5**
J19K	**Poorman**	**8.37**	**340**	Pn	**Pn**	**19 03 23.4**	**+1.7**
L14K	**Kuka Creek**	**8.62**	**312**	Pn	**Pn**	**19 03 26.5**	**+1.4**
N31M	**Braeburn, Yuko**	**8.70**	**48**	Pn	**Pn**	**19 03 27.5**	**+1.2**
WHY	**Whitehorse**	**8.70**	**54**	Pn	**Pn**	**19 03 27.1**	**+0.7**
J26L	**Joseph Creek**	**8.71**	**16**	Pn	**Pn**	**19 03 29.2**	**+2.7**
L29M	**L29M**	**8.85**	**35**	Pn	**Pn**	**19 03 30.8**	**+2.5**
P32M	**Atlin**	**8.89**	**62**	Pn	**Pn**	**19 03 27.6**	**-1.4**
M30M	**Minto, Yukon**	**8.94**	**40**	Pn	**Pn**	**19 03 31.1**	**+1.6**
Q32M	**Nakina River**	**9.49**	**67**	Pn	**Pn**	**19 03 37.2**	**0.0**
P33M	**Teslin, Yukon**	**9.50**	**59**	Pn	**Pn**	**19 03 36.6**	**-0.7**
K29M	**Barlow Dome**	**9.57**	**33**	Pn	**Pn**	**19 03 40.8**	**+2.6**
H21K	**Melozitna Rive**	**9.57**	**351**	Pn	**Pn**	**19 03 40.3**	**+2.1**
H24K	**Noodor Dome**	**9.62**	**3**	Pn	**Pn**	**19 03 39.9**	**+1.1**
M31M	**Drury Creek, Y**	**9.63**	**46**	Pn	**Pn**	**19 03 41.1**	**+2.1**
FARO	**Faro, Yukon**	**10.07**	**47**	Pn	**Pn**	**19 03 43.8**	**-1.2**
J30M	**Hart River**	**10.46**	**32**	Pn	**Pn**	**19 03 53.1**	**+2.6**
I30M	**Mount Dempster**	**10.93**	**30**	Pn	**Pn**	**19 03 59.1**	**+2.3**

*AEIC **24** 19:02:04.2±0.8,56°.1N±0°.1×150°.1W±0°.1,h8^{km}±9km,Error ellipse: s-maj=17.4km s-min=6.6km az=162.0*

NEIC 24 19:02:00.3±0.9,56°.20N±0°.06×150°.1W±0°.1,h10^{km}±2^{km}, ML3.3/32,ML3.1(AEIC),Error ellipse: s-maj=12.7km s-min=8.7km az=130.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.03**	**302**		Pn	19 02 34.6	+0.1
OHAK					Sn	19 02 58.0	-1.8
OHAK	**Old Harbor**	**2.03**	**302**	IAML		19 02 58.4	
	comp=N,38nm,1.4s						
OHAK				IAML		19 02 58.6	
	comp=E,26nm,0.3s						
KDAK	**Kodiak Island**	**2.09**	**321**		Pn	19 02 35.4	+0.1
KDAK					Sn	19 02 59.9	-1.4
SYI	**Shuyak Island**	**2.72**	**334**		Pn	19 02 43.8	-0.1
SYI					Sn	19 03 14.9	-1.8
SYI	**Shuyak Island**	**2.72**	**334**	IAML		19 03 19.4	
	comp=E,32nm,1.5s						
R18K	**Karluk**	**2.75**	**302**		Pn	19 02 43.9	-0.4
R18K	**Karluk**	**2.75**	**302**	IAML		19 03 32.6	
	comp=N,48nm,0.8s						
R18K				IAML		19 04 32.3	
	comp=E,63nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.33**	**316**		Pn	19 02 52.6	+0.2
Q19K	**Cape Douglas,**	**3.33**	**327**		Pn	19 02 52.7	+0.3
Q19K	**Cape Douglas,**	**3.33**	**327**	IAML		19 03 55.5	
	comp=N,131nm,1.4s						
CNPM	**China Poot**	**3.39**	**350**		Pn	19 02 53.6	+0.4
CNPM					Sn	19 03 31.7	-1.8
CNPM	**China Poot**	**3.39**	**350**	IAML		19 04 40.7	
	comp=E,30nm,1.5s						
BRSE	**Bradley Lake S**	**3.57**	**355**		Pn	19 02 55.7	0.0
Q23K	**Middleton Isla**	**3.82**	**30**		Pn	19 02 59.1	+0.1
P19K	**Oil Pt**	**3.84**	**336**		Pn	19 02 58.9	-0.5
P19K	**Oil Pt**	**3.84**	**336**	IAML		19 03 30.7	
	comp=N,56nm,1.2s						
P19K				IAML		19 03 46.5	
	comp=E,57nm,1.4s						
P23K	**Montague Islan**	**4.08**	**20**		Pn	19 03 02.4	-0.2
O20K	**Slope Mountain**	**4.12**	**342**		Pn	19 03 03.0	-0.2
P18K	**Big Mountain,**	**4.21**	**322**		Pn	19 03 03.9	-0.6
P18K	**Big Mountain,**	**4.21**	**322**	IAML		19 03 35.9	
	comp=E,5.2nm,1.4s						
P18K				IAML		19 03 55.6	
	comp=N,3.8nm,0.8s						
CAPN	**Captain Cook N**	**4.62**	**354**		Pn	19 03 09.7	-0.3
HIN	**Hinchinbrook I**	**4.62**	**23**		Pn	19 03 10.2	+0.1
HIN	**Hinchinbrook I**	**4.62**	**23**	IAML		19 04 41.5	
	comp=E,42nm,1.3s						
HIN				IAML		19 04 51.2	
	comp=N,39nm,1.4s						
CHGN	**Chignik**	**4.63**	**275**		Pn	19 03 10.2	+0.1
KAIM	**Kayak Island**	**4.81**	**37**		Pn	19 03 13.0	+0.4
KAIM	**Kayak Island**	**4.81**	**37**	IAML		19 04 14.7	
	comp=N,39nm,1.5s						
KAIM				IAML		19 05 21.9	
	comp=E,32nm,1.0s						
EYAK	**Cordova Ski Ar**	**4.93**	**26**		Pn	19 03 14.7	+0.3
FID	**Port Fidalgo**	**4.95**	**21**		Pn	19 03 14.2	-0.4
FID	**Port Fidalgo**	**4.95**	**21**	IAML		19 04 37.1	
	comp=N,25nm,1.4s						
FID				IAML		19 06 12.8	
	comp=E,46nm,1.5s						
RAGM	**Ragged Mountai**	**5.09**	**32**	Pn	Pn	19 03 16.2	-0.3
RAGM				IAML		19 05 13.2	
	comp=E,38nm,1.4s						
N19K	**Bonanza Creek**	**5.17**	**335**		Pn	19 03 17.6	0.0
N19K	**Bonanza Creek**	**5.17**	**335**	IAML		19 05 22.7	
	comp=N,6.8nm,1.5s						
N19K				IAML		19 06 22.3	
	comp=E,7.9nm,1.5s						
BMRM	**Bremner River**	**5.58**	**29**	Pn	Pn	19 03 23.8	+0.4
KLU	**Klutina**	**5.74**	**21**	Pn	Pn	19 03 25.6	+0.1
SKT	**Skwentna**	**5.85**	**353**	Pn	Pn	19 03 27.2	+0.3
M24K	**Tolsona, Glenn**	**6.26**	**17**		Pn	19 03 32.6	-0.1
LOGN	**Logan Glacier**	**6.65**	**42**	Pn	Pn	19 03 38.4	+0.3
J26L	**Joseph Creek**	**8.94**	**19**	Pn	Pn	19 04 08.1	-1.2

*NDI **24** 19:21:37.7±2.3,22°.95N×94°.51E,h100^{km},ML4.2, mb4.6(NEIC)*
*IDC **24** 19:21:38.3±1.1,22°.75N×94°.43E,h108^{km}±10^{km},mb3.9/26, mbtmp4.2/28,MS3.5/5,Error ellipse: s-maj=12.7km s-min=9.3km az=39.0*
*NEIC **24** 19:21:38.4±1.4,22°.80N±0°.03×94°.47E±0°.05,h105^{km}±5^{km}, mb4.6/55,Error ellipse: s-maj=7.6km s-min=3.0km az=54.0*
*MOS **24** 19:21:38.1±0.7,22°.55N×94°.76E,h148^{km},mb4.4/16,Error ellipse: s-maj=25.3km s-min=6.5km az=115.1*

ISC 24 19:21:37.8±0.3,22°.79N±0°.04×94°.39E±0°.04,h105^{km},n178, σ1s39/192,mb4.5/70,6C,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MND	**Mandalay**	**1.77**	**115**	Pn	**Pn**	**19 22 07.4**	**-0.3**
MND				Sn	**Sn**	**19 22 28.9**	**-1.6**
MND	**Mandalay**	**1.77**	**115**	P	**Pn**	**19 22 07.5**	**-0.2**
BRDH	**Bariadhala**	**2.54**	**268**	P	**Pn**	**19 22 18.3**	**+0.7**
	246nm,0.3s,baz=90,slow=8.9,SNR=9.1						
BRDH				S	**Sn**	**19 22 50.1**	**+2.0**
	1μm,0.6s,baz=270,slow=23,SNR=56						
SHL	**Shillong**	**3.59**	**321**	*e*P	**Pn**	**19 22 32.2**	**+0.4**
SHL				*e*S	**Sn**	**19 23 09.5**	**-3.9**
TNCH	**TengChong**	**4.39**	**59**	P	**Pn**	**19 22 44.0**	**+1.5**
TNCH				sP		19 23 09.0	
TNCH				S	**Sn**	**19 23 34.3**	**+1.7**
TNCH				LR	LR		
	comp=N,560nm,2.6s						
TNCH				LR	LR		
	comp=E,340nm,2.8s						
TNCH				LR	LR		
	comp=Z,200nm,8.7s						
CHTO	**Chiang Mai**	**5.81**	**132**		**Pn**	**19 23 01.3**	**-0.3**
CHTO	**Chiang Mai**	**5.81**	**132**	P	**Pn**	**19 23 02.7**	**+1.1**
CHTO	**Chiang Mai**	**5.81**	**132**	P	**Pn**	**19 23 01.6**	**0.0**
	comp=Z,41nm,0.8s,comp=Z,0.2nm						
CMMT	**Chiang Mai**	**5.82**	**132**	P	**Pn**	**19 23 01.5**	**-0.2**
	comp=Z,113nm,0.8s,comp=Z,0.5nm						
CM31	**Chiang Mai Arr**	**6.06**	**134**		**Pn**	**19 23 05.0**	**0.0**
CMAR	**Chiang Mai Arr**	**6.06**	**134**	Pn	**Pn**	**19 23 05.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**6.06**	**134**	P	**Pn**	**19 23 04.5**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=304,slow=13,SNR=35						
CRAI	**Chiangrai**	**6.12**	**113**	Pn	**Pn**	**19 23 05.8**	**-0.1**
LSA	**Lhasa**	**7.47**	**338**	Pn	**Pn**	**19 23 25.0**	**+0.5**
PZH	**PanZhiHua**	**7.64**	**60**	P	**Pn**	**19 23 27.6**	**+1.1**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
BOK	**Bokaro**	**7.88**	**279**	*e*P	**Pn**	**19 23 30.1**	**+0.4**
BOK				*e*S	**Sn**	**19 24 51.6**	**-5.7**
BOK				IAML		19 24 57.9	
	comp=Z,163nm,0.3s						
BOK				IAML		19 24 58.1	
	comp=N,159nm,0.3s						
SRDT	**SRDT**	**9.52**	**151**	P	**Pn**	**19 23 53.4**	**+1.4**
SRDT	**SRDT**	**9.52**	**151**	P	**Pn**	**19 23 52.0**	**0.0**
	comp=N,74nm,1.1s						
DGPR	**DIGLIPUR**	**9.66**	**189**	*e*P	**Pn**	**19 23 53.1**	**-0.8**
DGPR				*e*S	**Sn**	**19 25 36.5**	**-4.1**
GYA	**Guiyang**	**11.74**	**69**	*e*P	**Pn**	**19 24 24.0**	**+1.9**
GYA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GOMU	**GeErMu**	**13.37**	**1**	P	**Pn**	**19 24 40.9**	**-2.7**
GOMU				pP	P	19 24 44.4	-5.0
GOMU				sP		19 24 46.8	
GOMU				pmax	pmax		
	comp=Z,22nm,0.8s						
ENH	**Enshi**	**15.42**	**58**	Pn	**Pn**	**19 25 08.9**	**-0.8**
LZH	**Lanzhou**	**15.59**	**30**	*e*P	**Pn**	**19 25 11.4**	**-0.4**
LZH				pP	pP	19 25 35.3	+2.1
LZH				sP	sP	19 25 48.8	+2.2
LZH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN	**Xi'an**	**16.98**	**46**	P	**Pn**	**19 25 27.6**	**-1.3**
XAN				sP	sP	19 26 02.4	+0.5
XAN				S	**Sn**	**19 28 35.3**	**-2.4**
XAN				sS	S	19 28 54.5	+14
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**17.20**	**14**	*e*P	**Pn**	**19 25 31.8**	**+0.2**
GTA				pP	pP	19 25 46.8	-4.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.6s						
KULM	**Kulim**	**18.42**	**160**	P	**Pn**	**19 25 45.9**	**-0.5**
MLSI	**Meulaboh, Aceh**	**18.52**	**174**	P	**Pn**	**19 25 49.4**	**+1.9**
IPM	**Ipoh**	**19.30**	**160**	P	**Pn**	**19 25 59.3**	**+2.5**
	comp=Z,3μm,0.9s						
PSI	**Prapat**	**20.35**	**167**	P	Pn	19 26 11.2	+2.1
	comp=Z,12nm,0.9s						
NIL	**Nilore**	**21.50**	**305**	P	**P**	**19 26 18.5**	**+0.2**
GSI	**Gunungsitoli**	**21.58**	**171**	P	**P**	**19 26 18.3**	**-0.9**
WMQ	**Urumqi**	**21.69**	**347**	*e*P	**P**	**19 26 20.9**	**+0.7**
WMQ				pP	pP	19 26 43.0	+2.6
WMQ				pmax	pmax		
	comp=Z,25nm,0.9s						
MYKOM	**Kota Tinggi**	**22.81**	**155**	P	**P**	**19 26 36.7**	**+4.8**
	comp=Z,15nm,1.3s						
KSH	**Kashi**	**22.87**	**321**	P	**P**	**19 26 33.6**	**+1.1**
KSH				pmax	pmax		
	comp=Z,18nm,0.8s						
PBSI	**Pulau Batu**	**23.02**	**170**	P	**P**	**19 26 38.0**	**+4.0**
	comp=Z,142nm,1.7s						
HHC	**Hu-ho-hao-te**	**23.10**	**35**	*e*P	**P**	**19 26 33.1**	**-1.6**
HHC				pmax	pmax		
	comp=Z,35nm,0.5s						
HHC				pmax	pmax		
	comp=Z,270nm,4.3s						
NJ2	**Nanjing**	**23.55**	**62**	*e*P	**P**	**19 26 39.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PRZ	**Przheval'sk**	**23.73**	**330**	P	**P**	**19 26 43.2**	**+2.6**
SHLS	**Shalkode**	**23.79**	**332**	*e*P	**P**	**19 26 40.9**	**-0.1**
	baz=332						
SHLS	**Shalkode**	**23.79**	**332**	*e*P	**P**	**19 26 40.8**	**-0.1**
NRN	**Naryn**	**24.16**	**325**	P	**P**	**19 26 46.0**	**+1.5**
SATY	**Saty**	**24.18**	**330**	*e*P	**P**	**19 26 46.2**	**+1.7**
	comp=Z,15nm,0.9s,baz=330						
SATY	**Saty**	**24.18**	**330**	*e*P	**P**	**19 26 46.1**	**+1.7**
SATY				pmax	pmax		
	comp=Z,15nm,0.9s						
ZHN	**Zhinishke**	**24.25**	**331**	*e*P	**P**	**19 26 46.8**	**+1.6**
	baz=330						
ZHN	**Zhinishke**	**24.25**	**331**	*e*P	**P**	**19 26 46.7**	**+1.6**
KPKS	**Kokpek**	**24.38**	**331**	*e*P	**P**	**19 26 47.7**	**+1.4**
	comp=Z,8.6nm,0.6s,baz=331						
KPKS	**Kokpek**	**24.38**	**331**	*e*P	**P**	**19 26 47.6**	**+1.4**
KPKS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MDOK	**Medeo**	**24.89**	**329**	*e*P	**P**	**19 26 52.4**	**+1.3**
	baz=328						
MDOK	**Medeo**	**24.89**	**329**	*e*P	**P**	**19 26 52.3**	**+1.3**
KBL	**Kabul**	**25.06**	**303**	P	**P**	**19 26 53.4**	**+0.7**
KBL				IAmb	IAmb	19 26 56.5	
	comp=Z,15nm,1.0s						
TKM2	**Tokmak 2**	**25.43**	**327**	P	**P**	**19 26 58.3**	**+2.3**
	SNR=8.3						
CHKK	**Chushkaly**	**25.45**	**330**	*e*P	**P**	**19 26 57.2**	**+1.3**
	baz=329						
CHKK	**Chushkaly**	**25.45**	**330**	*e*P	**P**	**19 26 57.1**	**+1.3**
KBK	**Karagaybulak**	**25.58**	**325**	P	**P**	**19 26 59.8**	**+2.6**
	SNR=7.8						
TDK	**Taldyqorghan**	**25.73**	**333**	*e*P	**P**	**19 26 59.9**	**+1.4**
	baz=333						
TDK	**Taldyqorghan**	**25.73**	**333**	*e*P	**P**	**19 26 59.8**	**+1.4**
ZSN	**Zaisan**	**25.77**	**345**	*e*P	**P**	**19 27 00.3**	**+1.6**
	baz=344						
ZSN	**Zaisan**	**25.77**	**345**	*e*P	**P**	**19 27 00.3**	**+1.6**
ARSB	**Arslanbob**	**25.78**	**321**	P	**P**	**19 27 00.1**	**+1.0**
KUU	**Kurty**	**25.78**	**329**	*e*P	**P**	**19 26 59.6**	**+0.7**
	baz=329						
KUU	**Kurty**	**25.78**	**329**	*e*P	**P**	**19 26 59.6**	**+0.7**
AAK	**Ala-Archa**	**25.81**	**325**	P	**P**	**19 27 02.1**	**+2.8**
	SNR=6.8						
AAK	**Ala-Archa**	**25.81**	**325**	P	**P**	**19 27 00.7**	**+1.5**
AAK	**Ala-Archa**	**25.81**	**325**	*ce*P	**P**	**19 27 00.8**	**+1.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**25.86**	**341**	P	**P**	**19 27 00.3**	**+0.7**
MK31				IAmb	IAmb	19 27 01.9	
	comp=Z,19nm,0.9s						
MK31	**Makanchi Array**	**25.86**	**341**	*ce*P	**P**	**19 27 00.6**	**+1.0**
MKAR	**Makanchi Array**	**25.86**	**341**	P	**P**	**19 27 01.1**	**+1.4**
MKAR	**Makanchi Array**	**25.86**	**341**	*ce*P	**P**	**19 27 01.0**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,18nm,0.7s						
MKAR	**Makanchi Array**	**25.86**	**341**	P	**P**	**19 27 01.3**	**+1.7**
	comp=Z,18nm,0.7s,baz=146,slow=11,SNR=213						
MKAR				PcP	**PcP**	**19 30 26.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=142,slow=1.6,SNR=4.1						
MKAR				ScP	**ScP**	**19 33 56.4**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=123,slow=4.5,SNR=9.3						
MKAR				LR	LR	19 38 43.8	
	comp=Z,48nm,18.4s,baz=216,slow=40						
	comp=Z,18nm,0.7s						
AML	**Almayashu**	**25.90**	**323**	P	**P**	**19 27 02.9**	**+2.5**
	SNR=8.4						
MAKZ	**Makanchi**	**25.98**	**340**	P	**P**	**19 27 01.0**	**+0.4**
EKS2	**Erkin-Say**	**26.21**	**324**	P	**P**	**19 27 06.0**	**+3.2**
	SNR=5.2						
SGDS	**Sogindy**	**26.31**	**326**	*e*P	**P**	**19 27 05.0**	**+1.3**
	baz=326						
SGDS	**Sogindy**	**26.31**	**326**	*e*P	**P**	**19 27 04.9**	**+1.3**
BTK	**Batken**	**26.35**	**316**	P	**P**	**19 27 05.9**	**+1.7**
SONM	**Songino Array**	**26.77**	**18**	P	**P**	**19 27 09.2**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=188,slow=9.8,SNR=3.8						
SONM				ScP	**ScP**	**19 33 58.0**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=206,slow=3.6,SNR=9.6						
	comp=Z,0.5nm,0.5s						
SIMJ	**Simiganj**	**26.83**	**312**	P	**P**	**19 27 09.4**	**+0.9**
DGZ	**Jazzator, Alta**	**27.41**	**350**	*i* P	**P**	**19 27 14.1**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DZA	**Taraz**	**27.72**	**322**	*e*P	**P**	**19 27 17.9**	**+1.6**
	baz=321						
DZA	**Taraz**	**27.72**	**322**	*e*P	**P**	**19 27 17.9**	**+1.6**
BTLS	**Baital**	**27.74**	**328**	*e*P	**P**	**19 27 18.2**	**+1.8**
	baz=328						
BTLS	**Baital**	**27.74**	**328**	*e*P	**P**	**19 27 18.1**	**+1.8**
KKAR	**

BELG Belogornoye 46.23 322 LR LR 19 49 28.9
comp=Z,59nm,21.9s,baz=127,slow=36
NRIK Noril'sk 46.74 357 *i* P **P** **19 29 56.2 +0.2**
NRIK pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 46.74 357 P **P** **19 29 56.6 +0.6**
comp=Z,1.7nm,0.4s,baz=169,slow=5.2,SNR=1.4
comp=Z,1.7nm,0.4s
KBZ Khabaz 47.01 309 *e*P **P** **19 29 59.5 +1.0**
KBZ pmax pmax
comp=Z,8.0nm,2.1s
KBZ Khabaz 47.01 309 P **P** **19 30 00.8 +2.3**
comp=Z,1.2nm,0.6s,baz=104,slow=4.2,SNR=4.7
comp=Z,1.2nm,0.6s
KIV Kislovodsk 47.20 309 P **P** **19 30 02.4 +2.3**
KIV IAmb IAmb 19 30 03.3
comp=Z,9.5nm,0.8s
KIV Kislovodsk 47.20 309 *e*P **P** **19 30 01.2 +1.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
PSA00 Pilbara Seismi 50.59 149 P **P** **19 30 25.9 -0.2**
PSA00 Pilbara Seismi 50.59 149 P **P** **19 30 24.2 -1.8**
PSA00 IAmb IAmb 19 30 58.2
comp=Z,7.6nm,1.3s
FITZ Fitzroy Crossi 50.84 140 P **P** **19 30 26.9 -1.0**
FITZ IAmb IAmb 19 30 39.9
comp=Z,9.2nm,1.5s
KNRA Kununurra 50.93 136 P **P** **19 30 28.7 0.0**
TIXI Tiksi 52.68 13 P **P** **19 30 39.7 -1.2**
TIXI IAmb IAmb 19 30 47.1
comp=Z,4.0nm,0.6s
TIXI Tiksi 52.68 13 *i* P **P** **19 30 39.7 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,1.6s
TIXI Tiksi 52.68 13 P **P** **19 30 40.4 -0.5**
comp=Z,1.2nm,0.2s,baz=196,slow=3.4,SNR=3.5
comp=Z,1.2nm,0.2s
OBN Obninsk 53.30 323 *e*P **P** **19 30 48.8 +3.0**
OBN pmax pmax
comp=Z,5.0nm,1.1s
MA2 Magadan 53.73 32 P **P** **19 30 47.3 -1.5**
SEY Seymchan 55.51 28 P **P** **19 31 00.6 -1.0**
comp=Z,0.9nm,0.7s,baz=278,slow=15,SNR=1.4
comp=Z,0.9nm,0.7s
MORW Morawa 55.62 157 P **P** **19 31 03.0 +0.2**
AKASG Malin Array Be 57.06 317 P **P** **19 31 12.6 -0.3**
comp=Z,0.6nm,0.3s,baz=80,slow=6.9,SNR=10
comp=Z,0.6nm,0.3s
AKBB Malin Array Si 57.06 317 P **P** **19 31 12.6 -0.3**
AKBB IAmb IAmb 19 31 45.9
comp=Z,5.9nm,1.1s
AK05 Malin Array Si 57.07 316 P **P** **19 31 12.8 -0.1**
AK05 IAmb IAmb 19 31 44.5
comp=Z,10nm,1.2s
KIEV Kiev 57.07 317 P **P** **19 31 12.2 -0.7**
KIEV IAmb IAmb 19 31 45.9
comp=Z,5.3nm,1.1s
WB0 Warramunga Arr 57.57 134 P **P** **19 31 16.6 -0.2**
WRA Warramunga Arr 57.66 134 P **P** **19 31 16.6 -0.9**
WRA Warramunga Arr 57.66 134 P **P** **19 31 17.4 0.0**
comp=Z,2.4nm,0.4s,baz=322,slow=7.4,SNR=55
comp=Z,2.4nm,0.4s
WRAB Tennant Creek 57.66 134 P **P** **19 31 17.2 -0.3**
WRAB IAmb IAmb 19 31 17.8
comp=Z,4.7nm,0.7s
WB2 Warramunga Arr 57.66 134 P **P** **19 31 17.5 0.0**
MLR Muntele Rosu 59.19 310 P **P** **19 31 28.5 +0.5**
MLR IAmb IAmb 19 32 00.2
comp=Z,4.3nm,0.8s
NWAO Narrogin (SRO) 59.54 158 P **P** **19 31 29.4 -0.9**
BURAR Bucovina Array 59.63 313 P **P** **19 31 31.3 +0.3**
BUR08 Bucovina Ar. S 59.64 313 P **P** **19 31 31.1 +0.1**
BUR08 IAmb IAmb 19 31 48.0
comp=Z,4.8nm,1.4s
FIA1 FINESS Array S 59.89 329 P **P** **19 31 31.9 -0.4**
FINES FINESS Array B 59.89 329 P **P** **19 31 32.4 +0.1**
FINES FINESS Array B 59.89 329 *i* P **P** **19 31 33.0 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 59.89 329 P **P** **19 31 32.7 +0.4**
comp=Z,2.2nm,0.7s,baz=90,slow=6.7,SNR=10.0
comp=Z,2.2nm,0.7s
AS31 Alice Springs 60.06 138 P **P** **19 31 34.3 +0.2**
AS31 IAmb IAmb 19 31 34.9
comp=Z,1.7nm,0.6s
ASAR Alice Springs 60.06 138 P **P** **19 31 33.5 -0.6**
ASAR Alice Springs 60.06 138 P **P** **19 31 34.3 +0.2**
comp=Z,4.6nm,0.6s,baz=320,slow=6.8,SNR=81
comp=Z,4.6nm,0.6s
COEN Coen 60.13 123 P **P** **19 31 34.3 -0.4**
COEN IAmb IAmb 19 32 12.0
comp=Z,13nm,1.2s
ARCES ARCESS Array B 61.48 338 P **P** **19 31 43.5 +0.5**
comp=Z,1.8nm,0.7s,baz=98,slow=7.4,SNR=10
comp=Z,1.8nm,0.7s
AIS Amsterdam Isla 62.31 195 P **P** **19 31 49.4 +0.5**
AGG Agios Georgios 62.42 303 P **P** **19 31 50.1 +0.2**
AGG IAmb IAmb 19 32 20.8
comp=Z,12nm,1.5s
VOI Vohitsoka 64.21 230 P **P** **19 32 02.1 +0.1**
VOI IAmb IAmb 19 32 20.7
comp=Z,17nm,1.2s
SPITS Spitsbergen Ar 65.39 347 P **P** **19 32 09.0 +0.3**
comp=Z,4.4nm,0.8s,baz=106,slow=11,SNR=6.8
comp=Z,4.4nm,0.8s
HFS Hagfors 65.91 327 P **P** **19 32 12.5 +0.2**
comp=Z,2.5nm,0.5s,baz=97,slow=7.6,SNR=8.2
comp=Z,2.5nm,0.5s
SHEM Shemya Is, Ala 66.05 41 P **P** **19 32 15.1 +1.9**
comp=Z,73nm,0.8s,baz=265,slow=5.2,SNR=7.6
SHEM LR LR 20 02 13.5
comp=Z,98nm,21.6s,baz=323,slow=37
MBAR Mbarara 66.08 259 *i* P **P** **19 32 12.9 -1.4**
MBAR pmax pmax
comp=Z,6.0nm,1.5s
CTAO Charters Tower 66.16 126 P **P** **19 32 14.3 -0.2**
NOA NORSAR Array B 67.06 328 P **P** **19 32 18.7 -0.8**
comp=Z,0.8nm,0.7s,baz=225,slow=24,SNR=1.4
comp=Z,0.8nm,0.7s
GERES GERESS Array B 67.18 315 P **P** **19 32 20.7 0.0**
comp=Z,0.4nm,0.3s,baz=90,slow=8.8,SNR=1.9
comp=Z,0.4nm,0.3s
BBOO Buckleboo 68.11 143 P **P** **19 32 26.5 0.0**
BBOO IAmb IAmb 19 32 27.0
comp=Z,10nm,0.8s
FDMO Fiordimonte 68.64 309 P **P** **19 32 30.5 +0.7**
FDMO IAmb IAmb 19 32 52.5
comp=Z,9.8nm,1.3s
NRCA Norcia 68.66 309 P **P** **19 32 30.1 0.0**
NRCA IAmb IAmb 19 32 48.2
comp=Z,10nm,1.4s
STKA Stephens Creek 70.67 139 P **P** **19 32 41.3 -1.0**
STKA Stephens Creek 70.67 139 P **P** **19 32 42.3 0.0**
comp=Z,2.3nm,0.8s,baz=4.4,slow=3.6,SNR=4.6
comp=Z,2.3nm,0.8s
LSZ Lusaka 75.02 246 P **P** **19 33 08.5 0.0**
LSZ IAmb IAmb 19 33 10.2
comp=Z,6.8nm,0.6s
J16K Anvik River 76.38 27 P **P** **19 33 14.7 -0.6**
J16K IAmb IAmb 19 33 48.9
comp=Z,12nm,1.4s
CAST Castle Rocks 79.73 25 P **P** **19 33 33.5 -0.4**
CAST IAmb IAmb 19 33 51.2
comp=Z,9.2nm,1.5s
ILAR Eielson Array 80.91 22 P **P** **19 33 38.5 -1.7**
comp=Z,0.5nm,0.7s,baz=310,slow=5.6,SNR=5.8
comp=Z,0.5nm,0.7s
A36M Sachs Harbour 81.67 12 P **P** **19 33 43.6 -0.4**
A36M IAmb IAmb 19 34 16.0
comp=Z,5.4nm,0.8s
INK Inuvik 82.67 16 P **P** **19 33 48.5 -0.7**
comp=Z,0.9nm,0.5s,baz=336,slow=3.0,SNR=4.4
comp=Z,0.9nm,0.5s
BOSA Boshof 83.94 236 P **P** **19 33 55.6 -1.0**
comp=Z,3.6nm,0.7s,baz=50,slow=2.8,SNR=15
comp=Z,3.6nm,0.7s
TORD Torodi Ar. Bea 87.44 283 P **P** **19 34 14.5 +0.4**
comp=Z,1.1nm,0.7s,baz=55,slow=5.2,SNR=9.4
comp=Z,1.1nm,0.7s
YKA Yellowknife Ar 91.93 13 P **P** **19 34 34.0 -0.2**
comp=Z,0.1nm,0.3s,baz=329,slow=4.7,SNR=2.2
comp=Z,0.1nm,0.3s
TXAR Lajitas Array 125.34 19 PKP **PKPdf** **19 40 26.8 -0.2**
comp=Z,0.4nm,0.7s,baz=65,slow=0.1,SNR=4.2
ROSC El Rosal 150.41 337 PKPbc **PKiKP** **19 41 19.2 0.0**
comp=Z,21nm,0.7s,baz=300,slow=16,SNR=5.6
CPUP Villa Florida 154.06 256 PKPbc **PKPbc** **19 41 24.9 -0.8**
comp=Z,2.0nm,0.5s,baz=132,slow=4.9,SNR=4.3

*AEIC **24** 19:27:18.6±1.8,55.7°N±0.1°×149.1°W±0.0°3,h12km±8km,*
Error ellipse: s-maj=19.0km s-min=1.0km az=186.0
NEIC 24 19:27:15.1±1.2,55.9°N±0.1°×149.1°W±0.1°,h10km±2km,
ML3.4/24,ML3.2(AEIC),Error ellipse: s-maj=17.7km
s-min=12.0km az=195.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.70**	**302**		Pn	19 27 58.4	-0.2
OHAK					Sn	19 28 27.5	-3.8
KDAK	**Kodiak Island**	**2.73**	**317**		Pn	19 27 58.9	0.0
KDAK					Sn	19 28 27.9	-4.0
SYI	**Shuyak Island**	**3.30**	**328**		Pn	19 28 06.5	-0.1
SYI					Sn	19 28 44.7	-1.2
SYI	**Shuyak Island** comp=N,44nm,1.5s	**3.30**	**328**	IAML		19 28 44.9	
SYI	comp=E,48nm,1.1s			IAML		19 28 46.0	
CNPM	**China Poot**	**3.86**	**343**		Pn	19 28 14.3	-0.1
CNPM					Sn	19 28 57.4	-2.4
CNPM	**China Poot** comp=N,22nm,1.0s	**3.86**	**343**	IAML		19 28 60.0	
Q23K	**Middleton Isla**	**3.87**	**21**		Pn	19 28 13.6	-1.0
Q19K	**Cape Douglas,**	**3.95**	**323**		Pn	19 28 16.2	+0.5
BRSE	**Bradley Lake S**	**4.00**	**348**		Pn	19 28 16.3	-0.1
BRSE					Sn	19 29 00.9	-2.3
BRLK	**Bradley Lake**	**4.04**	**347**		Pn	19 28 16.4	-0.5
BRLK					Sn	19 29 02.6	-1.6
BRLK	**Bradley Lake** comp=E,24nm,1.4s	**4.04**	**347**	IAML		19 30 06.8	
P23K	**Montague Islan**	**4.25**	**11**		Pn	19 28 19.6	-0.1
P19K	**Oil Pt**	**4.41**	**331**		Pn	19 28 22.2	+0.2
P19K	**Oil Pt** comp=E,75nm,1.5s	**4.41**	**331**	IAML		19 29 57.2	
P19K	comp=N,55nm,1.4s			IAML		19 30 29.2	
CNTC	**Contact Creek**	**4.43**	**306**		Pn	19 28 22.6	+0.3
O20K	**Slope Mountain**	**4.64**	**337**		Pn	19 28 26.2	+1.0
HIN	**Hinchinbrook I**	**4.75**	**16**		Pn	19 28 27.3	+0.6
HIN	**Hinchinbrook I** comp=N,45nm,1.4s	**4.75**	**16**	IAML		19 29 27.6	
KAIM	**Kayak Island**	**4.78**	**29**		Pn	19 28 26.9	-0.1
P18K	**Big Mountain,**	**4.85**	**320**		Pn	19 28 28.7	+0.7
P18K	**Big Mountain,** comp=N,10nm,1.4s	**4.85**	**320**	IAML		19 29 13.8	
RAGM	**Ragged Mountai**	**5.11**	**25**	Pn	Pn	19 28 31.2	-0.4
SNH	**Sunshine Point**	**5.46**	**35**	Pn	Pn	19 28 37.5	+1.1
KLU	**Klutina**	**5.89**	**15**	Pn	Pn	19 28 40.7	-1.6
KIAG	**Kiagna River**	**6.19**	**32**		Pn	19 28 45.5	-1.0
N25K	**Chitina, Valde**	**6.22**	**20**		Pn	19 28 47.3	+0.4
PCA	**Pinnacle**	**6.33**	**44**		Pn	19 28 48.9	+0.5
PTPK	**Patty Peak**	**6.37**	**30**		Pn	19 28 49.3	+0.3
PNL	**Península**	**6.43**	**50**		Pn	19 28 50.5	+0.7
BARN	**Barnard Glacie**	**6.51**	**34**		Pn	19 28 51.7	+0.8
CTGM	**Chitina Glacie**	**6.54**	**35**		Pn	19 28 52.1	+0.8
LOGN	**Logan Glacier**	**6.55**	**37**		Pn	19 28 52.2	+0.7
M17K	**Holitna River**	**7.06**	**325**	Pn	Pn	19 28 57.1	-1.3
O29M	**Mount Kennedy**	**7.13**	**47**	Pn	Pn	19 28 59.2	-0.2
P29M	**Windy Craggy**	**7.15**	**53**	Pn	Pn	19 29 00.3	+0.7
N15K	**Kwethluk River**	**7.27**	**311**	Pn	Pn	19 29 02.9	+1.6
S31K	**Pelican**	**7.34**	**68**	Pn	Pn	19 29 02.5	+0.3
SIT	**Sitka**	**7.72**	**75**	Pn	Pn	19 29 06.9	-0.4
CAST	**Castle Rocks**	**7.74**	**350**	Pn	Pn	19 29 07.5	-0.2
KTH	**Kantishna Hill**	**7.78**	**354**	Pn	Pn	19 29 07.6	-0.6
K17K	**Iditarod**	**8.34**	**329**	Pn	Pn	19 29 16.1	+0.3
O30N	**Mendenhall**	**8.42**	**49**	Pn	Pn	19 29 16.7	-0.3
M29M	**Somme Creek**	**8.56**	**35**	Pn	Pn	19 29 21.3	+2.4
U33K	**Whale Pass**	**8.95**	**82**	Pn	Pn	19 29 23.1	-1.1
J26L	**Joseph Creek**	**9.09**	**15**	Pn	Pn	19 29 25.9	-0.4
L29M	**L29M**	**9.15**	**33**	Pn	Pn	19 29 27.4	+0.4

*NEIC **24** 19:41:48.8±1.7,56.39°N±0.08°×149.1°W±0.1°,h10km±2km,*
ML3.6/48,ML3.4(AEIC),Error ellipse: s-maj=14.0km
s-min=9.4km az=176.0
*AEIC **24** 19:41:53.3±1.4,56.42°N±0.09°×149.08°W±0.1°,h4km±7km,*
Error ellipse: s-maj=13.4km s-min=9.4km az=174.0
ISC 24 19:41:48.3±1.6,56.42°N±0.09°×149.08°W±0.05,h10km,
n158,σ1°49/157,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.35**	**307**		**Pn**	**19 42 27.3**	**+0.4**
KDAK					**Sn**	**19 42 54.4**	**-1.4**
OHAK	**Old Harbor**	**2.45**	**291**		**Pn**	**19 42 28.4**	**+0.2**
OHAK					**Sn**	**19 42 56.0**	**-2.2**
OHAK	**Old Harbor** baz=108	**2.45**	**291**	P	**Pn**	**19 42 28.4**	**+0.2**
OHAK	baz=108			S	**Sn**	**19 42 56.0**	**-2.2**
SYI	**Shuyak Island**	**2.83**	**322**		**Pn**	**19 42 34.2**	**+0.7**
SYI					**Sn**	**19 43 06.6**	**-1.1**
SYI	**Shuyak Island** comp=E,77nm,1.3s	**2.83**	**322**	IAML		19 43 08.6	
Q20K	**Shuyak Island** baz=140	**2.83**	**322**	P	**Pn**	**19 42 34.2**	**+0.6**
Q20K	baz=140			S	**Sn**	**19 43 06.6**	**-1.1**
R18K	**Karluk**	**3.16**	**294**		**Pn**	**19 42 39.0**	**+1.0**
R18K					**Sn**	**19 43 12.9**	**-2.7**
R18K	**Karluk** comp=E,118nm,0.4s	**3.16**	**294**	IAML		19 43 22.0	
R18K	comp=N,97nm,0.6s			IAML		19 43 50.9	
R18K	**Karluk** baz=110	**3.16**	**294**	P	**Pn**	**19 42 39.0**	**+1.0**
R18K	baz=110			S	**Sn**	**19 43 12.9**	**-2.7**
CNPM	**China Poot**	**3.32**	**341**		**Pn**	**19 42 41.3**	**+1.0**
CNPM					**Sn**	**19 43 19.3**	**-0.5**
Q23K	**Middleton Isla**	**3.35**	**25**		**Pn**	**19 42 41.0**	**+0.4**
Q23K					**Sn**	**19 43 18.5**	**-2.0**
Q23K	**Middleton Isla** comp=N,153nm,1.0s	**3.35**	**25**	IAML		19 43 35.9	
Q23K	comp=E,148nm,1.3s			IAML		19 44 01.7	
Q23K	**Middleton Isla** baz=207	**3.35**	**25**	P	**Pn**	**19 42 41.0**	**+0.4**
Q23K	baz=207			S	**Sn**	**19 43 18.5**	**-2.0**
MID	**Middleton Isla**	**3.35**	**25**	Pn	**Pn**	**19 42 41.3**	**+0.7**
MID	comp=N,181nm,1.5s			IAML		19 43 16.6	
MID	comp=E,146nm,1.2s			IAML		19 44 14.3	
BRSE	**Bradley Lake S**	**3.45**	**346**		**Pn**	**19 42 42.6**	**+0.5**
BRSE					**Sn**	**19 43 21.6**	**-1.3**
BRSE	**Bradley Lake S** baz=165	**3.45**	**346**	P	**Pn**	**19 42 42.6**	**+0.5**
BRSE	baz=165			S	**Sn**	**19 43 21.6**	**-1.3**
BRLK	**Bradley Lake**	**3.49**	**345**		**Pn**	**19 42 43.4**	**+0.8**
BRLK	**Bradley Lake** comp=E,49nm,0.9s	**3.49**	**345**	IAML		19 43 27.0	
Q19K	**Cape Douglas,**	**3.51**	**318**		**Pn**	**19 42 44.6**	**+1.6**
Q19K					**Sn**	**19 43 25.1**	**+0.5**
Q19K	**Cape Douglas,** comp=N,134nm,1.4s	**3.51**	**318**	IAML		19 44 05.4	
Q19K	comp=E,172nm,1.4s			IAML		19 44 43.1	
Q19K	**Cape Douglas,** baz=134	**3.51**	**318**	P	**Pn**	**19 42 44.6**	**+1.6**
Q19K	baz=134			S	**Sn**	**19 43 25.1**	**+0.5**
KAHG	**Katmai Hook Gl**	**3.61**	**307**		**Pn**	**19 42 46.3**	**+1.9**
P23K	**Montague Islan**	**3.70**	**13**		**Pn**	**19 42 46.1**	**+0.7**
P23K	**Montague Islan** baz=195	**3.70**	**13**	P	**Pn**	**19 42 46.1**	**+0.7**
SEW	**Seward**	**3.70**	**357**		**Pn**	**19 42 46.2**	**+0.7**
SEW	**Seward** baz=177	**3.70**	**357**	P	**Pn**	**19 42 46.2**	**+0.7**
KCG	**Knife Ck. Glac**	**3.78**	**303**		**Pn**	**19 42 48.8**	**+2.2**
ACHA	**Angle Creek He**	**3.83**	**301**		**Pn**	**19 42 49.5**	**+2.1**
ANCK	**Angle Creek**	**3.91**	**300**		**Pn**	**19 42 50.3**	**+1.9**
P19K	**Oil Pt**	**3.92**	**328**		**Pn**	**19 42 50.1**	**+1.6**
P19K	**Oil Pt** comp=N,83nm,0.9s	**3.92**	**328**	IAML		19 43 40.9	
P19K	comp=E,69nm,1.3s			IAML		19 43 46.0	
P19K	**Oil Pt**	**3.92**	**328**	P	**Pn**	**19 42 50.1**	**+1.6**
	baz=144						
O22K	**Cooper Landing**	**4.09**	**356**		**Pn**	**19 42 51.8**	**+1.0**
O22K	**Cooper Landing** baz=175	**4.09**	**356**	P	**Pn**	**19 42 51.8**	**+1.0**
O20K	**Slope Mountain**	**4.12**	**334**		**Pn**	**19 42 52.4**	**+1.0**
O20K	**Slope Mountain** baz=152	**4.12**	**334**	P	**Pn**	**19 42 52.4**	**+1.0**
CNTC	**Contact Creek**	**4.12**	**299**		**Pn**	**19 42 53.2**	**+1.8**
Q17K	**Contact Creek** baz=114	**4.13**	**299**	P	**Pn**	**19 42 53.2**	**+1.8**
SLKM	**Skilak Lake**	**4.15**	**352**		**Pn**	**19 42 52.3**	**+0.7**
IVE	**Iliamna Volcan**	**4.17**	**332**		**Pn**	**19 42 54.2**	**+2.2**
HIN	**Hinchinbrook I**	**4.21**	**18**		**Pn**	**19 42 53.4**	**+0.8**
HIN	**Hinchinbrook I** comp=N,85nm,1.0s	**4.21**	**18**	IAML		19 43 59.6	
HIN	comp=E,69nm,1.4s			IAML		19 44 08.6	
KAIM	**Kayak Island**	**4.30**	**33**		**Pn**	**19 42 54.6**	**+1.0**
KAIM	**Kayak Island** comp=E,94nm,1.4s	**4.30**	**33**	IAML		19 44 01.9	
KAIM	comp=N,65nm,1.4s			IAML		19 44 07.4	
KAIM	**Kayak Island** baz=217	**4.30**	**33**	P	**Pn**	**19 42 54.6**	**+1.0**
P18K	**Big Mountain,**	**4.43**	**315**		**Pn**	**19 42 56.6**	**+1.1**
P18K	**Big Mountain,** baz=130	**4.43**	**315**	P	**Pn**	**19 42 56.6**	**+1.1**
RED	**Redoubt Volcan**	**4.46**	**336**		**Pn**	**19 42 56.7**	**+0.8**
RDSO	**Redoubt South**	**4.48**	**336**		**Pn**	**19 42 56.9**	**+0.6**
RSO	**Redoubt South**	**4.49**	**336**	Pn	**Pn**	**19 42 57.3**	**+0.8**
CAPN	**Captain Cook N**	**4.50**	**347**		**Pn**	**19 42 57.8**	**+1.5**
CAPN	**Captain Cook N** baz=165	**4.50**	**347**	P	**Pn**	**19 42 57.8**	**+1.5**
EYAK	**Cordova Ski Ar**	**4.50**	**21**		**Pn**	**19 42 57.5**	**+1.1**
EYAK	**Cordova Ski Ar** baz=204	**4.50**	**21**	P	**Pn**	**19 42 57.5**	**+1.1**
RDT	**Redoubt**	**4.52**	**339**		**Pn**	**19 42 57.5**	**+0.8**
RDWB	**Redoubt West**	**4.53**	**336**		**Pn**	**19 42 57.7**	**+0.7**
DFR	**Drift River**	**4.59**	**337**		**Pn**	**19 42 58.6**	**+0.8**
RAGM	**Ragged Mountai** comp=E,71nm,1.3s	**4.61**	**28**	Pn	**Pn**	**19 42 59.3**	**+1.4**
RAGM				IAML		19 44 10.8	
NCT	**North Crescent**	**4.62**	**336**		**Pn**	**19 42 58.8**	**+0.6**
RC01	**Rabbit Creek A**	**4.70**	**356**		**Pn**	**19 42 59.8**	**+0.6**
RC01	**Rabbit Creek A** comp=N,83nm,0.3s	**4.70**	**356**	IAML		19 45 05.0	
RC01	**Rabbit Creek A** baz=176	**4.70**	**356**	P	**Pn**	**19 42 59.8**	**+0.6**
GOAT	**Goat Mountain**	**4.76**	**27**		**Pn**	**19 43 01.8**	**+1.8**
R16K	**Pilot Point**	**4.79**	**287**		**Pn**	**19 43 03.4**	**+3.1**
R16K	**Pilot Point** comp=E,65nm,1.4s	**4.79**	**287**	IAML		19 44 10.5	
R16K	**Pilot Point** baz=101	**4.79**	**287**	P	**Pn**	**19 43 03.4**	**+3.1**
P17K	**Kvichak River**	**4.82**	**308**		**Pn**	**19 43 03.7**	**+2.9**
P17K	**Kvichak River** baz=122	**4.82**	**308**	P	**Pn**	**19 43 03.7**	**+2.9**
BERG	**Berg Lake**	**4.89**	**33**		**Pn**	**19 43 02.9**	**+1.1**
BERG	**Berg Lake** comp=N,71nm,0.2s	**4.89**	**33**	IAML		19 44 00.2	
BERG	comp=E,63nm,0.4s			IAML		19 44 00.9	
SNH	**Sunshine Point**	**5.01**	**39**		**Pn**	**19 43 04.6**	**+1.2**
SNH	**Sunshine Point** comp=E,27nm,1.5s	**5.01**	**39**	IAML		19 44 00.8	
SNH	comp=N,33nm,1.5s			IAML		19 44 22.2	
KNK	**Knik Glacier**	**5.02**	**3**		**Pn**	**19 43 05.1**	**+1.5**
KNK	**Knik Glacier** baz=184	**5.02**	**3**	P	**Pn**	**19 43 05.1**	**+1.5**
DIV	**Divide**	**5.03**	**19**		**Pn**	**19 43 05.0**	**+1.3**
SPCP	**Crater Peak Br**	**5.12**	**343**		**Pn**	**19 43 06.7**	**+1.6**
BMRM	**Bremner River**	**5.12**	**25**		**Pn**	**19 43 06.4**	**+1.4**
BMRM	**Bremner River** baz=209	**5.12**	**25**	P	**Pn**	**19 43 06.4**	**+1.4**
SUA	**Susitna One**	**5.13**	**351**		**Pn**	**19 43 06.9**	**+1.6**
SUA	**Susitna One** baz=170	**5.13**	**351**	P	**Pn**	**19 43 06.9**	**+1.6**
N19K	**Bonanza Creek**	**5.23**	**330**	Pn	**Pn**	**19 43 05.3**	**-1.3**
BARK	**Barkley Ridge**	**5.29**	**38**		**Pn**	**19 43 08.5**	**+1.2**
STLK	**Strandline Lak**	**5.29**	**346**		**Pn**	**19 43 08.7**	**+1.3**
KLU	**Klutina**	**5.35**	**16**		**Pn**	**19 43 09.4**	**+1.3**
KLU	**Klutina** comp=N,53nm,0.3s	**5.35**	**16**	IAML		19 45 17.7	
KLU	**Klutina** baz=199	**5.35**	**16**	P	**Pn**	**19 43 09.5**	**+1.3**
GHO	**Glory Hole Cre**	**5.37**	**1**		**Pn**	**19 43 10.1**	**+1.6**
SML	**Sawmill**	**5.42**	**4**		**Pn**	**19 43 10.7**	**+1.5**
SML	**Sawmill** baz=184	**5.42**	**4**	P	**Pn**	**19 43 10.6**	**+1.5**
M23K	**Glacier View**	**5.44**	**7**		**Pn**	**19 43 10.9**	**+1.6**
M23K	**Glacier View** baz=188	**5.44**	**7**	P	**Pn**	**19 43 10.9**	**+1.6**
P16K	**Nushagak River**	**5.45**	**302**		**Pn**	**19 43 11.7**	**+2.3**
P16K	**Nushagak River** baz=115	**5.45**	**302**	P	**Pn**	**19 43 11.7**	**+2.3**
SCM	**Sheep Creek Mo**	**5.51**	**9**		**Pn**	**19 43 11.8**	**+1.4**
SCM	**Sheep Creek Mo** baz=190	**5.51**	**9**	P	**Pn**	**19 43 11.8**	**+1.4**
N18K	**Kilae Creek**	**5.56**	**323**	Pn	**Pn**	**19 43 10.9**	**-0.2**
VRDI	**Verde Repeater**	**5.64**	**29**		**Pn**	**19 43 13.5**	**+1.2**
N25K	**Chitina, Valde**	**5.70**	**22**		**Pn**	**19 43 14.5**	**+1.5**
N25K	**Chitina, Valde** baz=206	**5.70**	**22**	P	**Pn**	**19 43 14.5**	**+1.5**
GLB	**Gilahina Butte**	**5.73**	**26**		**Pn**	**19 43 14.8**	**+1.4**
SAMH	**Samovar Hills**	**5.75**	**46**		**Pn**	**19 43 15.1**	**+1.4**
O16K	**Kokwok River B**	**5.75**	**307**		**Pn**	**19 43 15.3**	**+1.7**
O16K	**Kokwok River B** baz=120	**5.75**	**307**	P	**Pn**	**19 43 15.3**	**+1.7**
M24K	**Tolsona, Glenn**	**5.90**	**13**		**Pn**	**19 43 17.8**	**+2.1**
M24K	**Tolsona, Glenn** baz=196	**5.90**	**13**	P	**Pn**	**19 43 17.8**	**+2.1**
N17K	**Nushagak Hills**	**5.92**	**317**	Pn	**Pn**	**19 43 16.4**	**+0.5**
PCA	**Pinnacle**	**5.94**	**48**		**Pn**	**19 43 17.6**	**+1.3**
PINM	**Pinnacle** baz=235	**5.94**	**48**	P	**Pn**	**19 43 17.6**	**+1.3**
BARN	**Barnard Glacie**	**6.05**	**37**		**Pn**	**19 43 19.4**	**+1.6**
WASW	**Wrangell South**	**6.07**	**22**		**Pn**	**19 43 20.3**	**+2.0**
CTG	**Chitna Glacier** baz=225	**6.09**	**38**	P	**Pn**	**19 43 19.5**	**+1.1**
PNL	**Peninsula**	**6.09**	**54**		**Pn**	**19 43 19.6**	**+1.3**
PNL	**Peninsula** baz=242	**6.09**	**54**	P	**Pn**	**19 43 19.6**	**+1.3**
CTGM	**Nitina Glacier**	**6.09**	**38**		**Pn**	**19 43 19.4**	**+1.1**
LOGN	**Logan Glacier**	**6.11**	**40**	Pn	**Pn**	**19 43 19.7**	**+1.1**
BCPM	**Bancas Point**	**6.12**	**51**	Pn	**Pn**	**19 43 19.6**	**+0.9**
CNBA	**Chernabura Isl**	**6.17**	**259**	Pn	**Pn**	**19 43 19.8**	**+0.6**
WAT6	**Susitna Watana**	**6.22**	**6**		**Pn**	**19 43 22.1**	**+1.9**
WAT6	**Susitna Watana** baz=187	**6.22**	**6**	P	**Pn**	**19 43 22.1**	**+1.9**
HARP	**HAARP**	**6.32**	**17**		**Pn**	**19 43 24.0**	**+2.5**
HARP	**HAARP** baz=200	**6.32**	**17**	P	**Pn**	**19 43 24.0**	**+2.5**
WAT7	**Susitna Watana**	**6.44**	**1**		**Pn**	**19 43 24.8**	**+1.7**
L19K	**White Mountain**	**6.49**	**335**	Pn	**Pn**	**19 43 24.6**	**+0.8**
M17K	**Holitna River**	**6.61**	**323**	Pn	**Pn**	**19 43 24.4**	**-0.7**
DHY	**Denali Highway**	**6.73**	**7**		**Pn**	**19 43 29.3**	**+2.1**
DHY	**Denali Highway** baz=188	**6.73**	**7**	P	**Pn**	**19 43 29.3**	**+2.1**
O29M	**Mount Kennedy**	**6.76**	**50**		**Pn**	**19 43 28.9**	**+1.3**
O29M	**Mount Kennedy** baz=239	**6.76**	**50**	P	**Pn**	**19 43 28.9**	**+1.3**
P29M	**Windy Craggy**	**6.83**	**57**		**Pn**	**19 43 29.4**	**+0.9**
P29M	**Windy Craggy** baz=247	**6.83**	**57**	P	**Pn**	**19 43 29.3**	**+0.9**
M16K	**Timber Creek**	**6.91**

P32M	Atlin	8.75	62			Pn	19 43 56.1	+1.3
P32M	Atlin	8.75	62	P		Pn	19 43 56.1	+1.3
	baz=255							
U33K	Whale Pass	8.89	85	Pn		Pn	19 43 55.7	-0.9
CRAG	Craig	9.01	89	Pn		Pn	19 43 56.6	-1.6
Q32M	Nakina River	9.35	67	Pn		Pn	19 44 04.2	+1.0
P33M	Teslin, Yukon	9.36	59	Pn		Pn	19 44 04.1	+1.0
K29M	Barlow Dome	9.40	33	Pn		Pn	19 44 05.5	+1.8
N32M	Quiet Lake	9.55	54	Pn		Pn	19 44 06.1	+0.3
R33M	Jennings River	10.08	65	Pn		Pn	19 44 14.4	+1.3
G18K	Tagagawik	10.56	338			Pn	19 44 21.4	+2.0
E22K	Anaktuvuk Pass	11.83	355			Pn	19 44 32.2	-4.6

NEIC ***24*** *19:46:25.6±1.4,56˚05N±0˚.08×149˚.1W±0˚.1,h10km±2km, mb4.1/10,ML4.0/46,ML3.7(AEIC),Error ellipse: s-maj=13.3km s-min=9.5km az=167.0*

IDC ***24*** *19:46:26.3±1.0,55˚.99N×149˚.19W,h0km,mb3.7/8, mbtmp3.7/13,ML3.5/5,MS3.6/41,Error ellipse: s-maj=24.3km s-min=16.1km az=32.0*

AEIC ***24*** *19:46:29.7±2.0,56˚.05N±0˚.08×149˚.1W±0˚.1,h7km±6km, Error ellipse: s-maj=12.1km s-min=9.3km az=177.0*

ISC 24 19:46:27.3±0.7,56˚.17N±0˚.07×149˚.16W±0˚.05,h10km, n273,σ1$06/230,mb4.0/11,MS3.6/35,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KDAK	Kodiak Island	2.48	312			Pn	19 47 06.8		-0.9
KDAK	Kodiak Island	2.48	312			Sn	19 47 34.3		-3.5
KDAK	Kodiak Island	2.48	312	Pn		Pn	19 47 06.7		-0.9
	4.9nm,0.3s,baz=122,slow=5.8,SNR=11								
KDAK				Sn		Sn	19 47 35.0		-2.9
	11nm,0.3s,baz=358,slow=20,SNR=13								
KDAK				LR		LR	19 48 21.5		
	comp=Z,1µm,19.6s,baz=161,slow=44								
	12nm,0.4s								
OHAK	Old Harbor	2.51	297	Pn		Pn	19 47 06.2		-1.9
OHAK	Old Harbor	2.51	297			Sn	19 47 35.5		-3.2
OHAK	Old Harbor	2.51	297	P		Pn	19 47 06.8		-1.3
OHAK	Old Harbor	2.51	297	P		Pn	19 47 06.8		-1.3
	baz=116								
OHAK				S		Sn	19 47 35.9		-2.8
	baz=116								
SYI	Shuyak Island	3.01	326	Pn		Pn	19 47 12.6		-2.3
SYI	Shuyak Island	3.01	326			Sn	19 47 49.9		-1.1
Q20K	Shuyak Island	3.01	326	P		Pn	19 47 14.8		-0.1
	baz=144								
Q20K				S		Sn	19 47 49.9		-1.1
	baz=144								
R18K	Karluk	3.23	298			Pn	19 47 17.1		-0.8
R18K						Sn	19 47 53.4		-2.9
R18K	Karluk	3.23	298		IAML		19 47 54.9		
	comp=N,228nm,0.5s								
R18K					IAML		19 48 02.9		
	comp=E,237nm,0.5s								
R18K	Karluk	3.23	298	P		Pn	19 47 17.1		-0.8
	baz=115								
CNPM	China Poot	3.54	343	Pn		Pn	19 47 21.5		-0.9
CNPM					IAML		19 48 13.6		
	comp=E,125nm,1.3s								
CNPM	China Poot	3.54	343			Sn	19 48 02.1		-2.2
MID	Middleton Isla	3.60	24			Pn	19 47 22.3		-0.7
MID					IAML		19 48 22.8		
	comp=N,179nm,1.5s								
MID					IAML		19 48 33.2		
	comp=E,194nm,1.5s								
MID	Middleton Isla	3.60	24	P		Pn	19 47 22.6		-0.4
Q23K	Middleton Isla	3.60	24	Pn		Pn	19 47 22.4		-0.6
Q23K					IAML		19 48 05.2		
	comp=E,175nm,1.4s								
Q23K					IAML		19 48 22.8		
	comp=N,200nm,1.5s								
Q23K	Middleton Isla	3.60	24			Sn	19 48 02.0		-3.5
Q23K	Middleton Isla	3.60	24	P		Pn	19 47 22.5		-0.5
	baz=205								
Q23K				S		Sn	19 48 03.2		-2.3
	baz=205								
Q19K	Cape Douglas,	3.67	321			Pn	19 47 25.7		+1.5
Q19K					IAML		19 48 30.9		
	comp=N,348nm,1.2s								
Q19K	Cape Douglas,	3.67	321	P		Pn	19 47 24.3		+0.2
	baz=138								
BRSE	Bradley Lake S	3.68	347			Pn	19 47 23.5		-0.7
BRSE						Sn	19 48 05.5		-2.1
BRSE	Bradley Lake S	3.68	347	P		Pn	19 47 23.5		-0.7
	baz=166								
BRSE				S		Sn	19 48 05.5		-2.1
	baz=166								
BRLK	Bradley Lake	3.72	346			Pn	19 47 23.6		-1.2
KAHG	Katmai Hook Gl	3.74	311			Pn	19 47 24.8		-0.2
HOM	Homer	3.74	340	Pn		Pn	19 47 25.3		+0.3
HOM					IAML		19 49 50.4		
	comp=E,358nm,1.5s								
HOM	Homer	3.74	340	P		Pn	19 47 24.2		-0.8
	baz=159								
ACHA	Angle Creek He	3.93	304			Pn	19 47 27.2		-0.5
SEW	Seward	3.95	358			Pn	19 47 26.7		-1.1
SEW	Seward	3.95	358	P		Pn	19 47 26.7		-1.1
	baz=178								
P23K	Montague Islan	3.95	13			Pn	19 47 26.9		-1.0
P23K	Montague Islan	3.95	13	P		Pn	19 47 26.9		-1.0
	baz=194								
KAHC	Katmai Hardscr	4.02	311			Pn	19 47 29.1		+0.1
KAHC	Katmai Hardscr	4.02	311	P		Pn	19 47 29.1		+0.1
	baz=127								
P19K	Oil Pt	4.11	330	Pn		Pn	19 47 30.5		+0.4
P19K					IAML		19 48 23.4		
	comp=E,213nm,0.4s								
P19K					IAML		19 48 23.4		
	comp=N,247nm,0.5s								
P19K	Oil Pt	4.11	330	P		Pn	19 47 30.0		-0.1
	baz=147								
CNTC	Contact Creek	4.22	303			Pn	19 47 31.3		-0.4
Q17K	Contact Creek	4.22	303	P		Pn	19 47 31.3		-0.4
	baz=118								
O20K	Slope Mountain	4.33	336			Pn	19 47 33.0		-0.2
O20K	Slope Mountain	4.33	336	P		Pn	19 47 33.0		-0.2
	baz=154								
O22K	Cooper Landing	4.33	356			Pn	19 47 31.3		-1.8
SLKM	Skilak Lake	4.39	353			Pn	19 47 33.0		-0.9
HIN	Hinchinbrook I	4.46	17			Pn	19 47 34.5		-0.4
HIN					IAML		19 48 25.5		
	comp=E,128nm,0.6s								
HIN					IAML		19 48 27.0		
	comp=N,191nm,0.6s								
KAIM	Kayak Island	4.53	32			Pn	19 47 35.4		-0.4
KAIM					IAML		19 48 32.0		
	comp=E,161nm,1.3s								
KAIM					IAML		19 48 35.3		
	comp=N,160nm,1.1s								
KAIM	Kayak Island	4.53	32	P		Pn	19 47 35.4		-0.4
	baz=215								
P18K	Big Mountain,	4.58	317			Pn	19 47 36.0		-0.6
P18K	Big Mountain,	4.58	317	P		Pn	19 47 36.0		-0.6
	baz=133								
RDSO	Redoubt South	4.69	338			Pn	19 47 37.4		-0.8
RSO	Redoubt South	4.70	338			Pn	19 47 38.5		+0.1
CAPN	Captain Cook N	4.73	348	Pn		Pn	19 47 38.4		-0.1
EYAK	Cordova Ski Ar	4.74	21			Pn	19 47 38.3		-0.4
EYAK	Cordova Ski Ar	4.74	21	P		Pn	19 47 38.7		0.0
EYAK	Cordova Ski Ar	4.74	21	P		Pn	19 47 38.3		-0.4
	baz=203								
FID	Port Fidalgo	4.80	16			Pn	19 47 38.7		-0.9
DFR	Drift River	4.81	339			Pn	19 47 39.5		-0.2
R16K	Pilot Point	4.83	290			Pn	19 47 39.2		-0.6
R16K	Pilot Point	4.83	290		IAML		19 48 33.9		
	comp=E,122nm,1.4s								
R16K					IAML		19 48 36.6		
	comp=N,131nm,1.4s								
R16K	Pilot Point	4.83	290	P		Pn	19 47 39.2		-0.6
	baz=105								
RAGM	Ragged Mountai	4.84	27			Pn	19 47 40.3		+0.1
O19K	Port Alsworth	4.87	328			Pn	19 47 40.0		-0.5
O19K					IAML		19 48 39.6		
	comp=N,157nm,0.4s								
RC01	Rabbit Creek A	4.94	357			Pn	19 47 40.4		-1.1
RC01					IAML		19 48 38.1		
	comp=E,51nm,0.5s								
RC01					IAML		19 48 39.8		
	comp=N,52nm,0.8s								
RC01	Rabbit Creek A	4.94	357	P		Pn	19 47 40.9		-0.6
	baz=176								
P17K	Kvichak River	4.95	311			Pn	19 47 41.3		-0.2
P17K	Kvichak River	4.95	311	P		Pn	19 47 41.3		-0.2
	baz=126								
GOAT	Goat Mountain	5.00	26			Pn	19 47 42.4		+0.1
BERG	Berg Lake	5.12	32			Pn	19 47 43.2		-0.8
SNH	Sunshine Point	5.23	37			Pn	19 47 44.7		-0.8
SNH					IAML		19 48 51.5		
	comp=N,62nm,1.2s								
SNH					IAML		19 49 06.7		
	comp=E,81nm,1.1s								
KNK	Knik Glacier	5.27	4			Pn	19 47 45.5		-0.5
KNK					IAML		19 48 52.4		
	comp=N,37nm,0.5s								
KNK					IAML		19 48 55.1		
	comp=E,42nm,0.6s								
KNK	Knik Glacier	5.27	4	P		Pn	19 47 45.8		-0.2
	baz=184								
DIV	Divide	5.28	18			Pn	19 47 46.0		-0.2
N20K	Mount Spurr	5.29	344	P		Pn	19 47 45.7		-0.6
	baz=162								
SPCR	Spurr Chakacha	5.29	344			Pn	19 47 45.7		-0.6
SPCP	Crater Peak Br	5.34	344			Pn	19 47 47.0		-0.2
SPCG	Spurr Capps Gl	5.35	345			Pn	19 47 46.5		-0.7
BMRM	Bremner River	5.37	24			Pn	19 47 47.2		-0.2
BMRM	Bremner River	5.37	24	P		Pn	19 47 47.2		-0.2
	baz=208								
SUA	Susitna One	5.37	352			Pn	19 47 47.8		+0.2
SUA	Susitna One	5.37	352	P		Pn	19 47 46.9		-0.6
	baz=171								
N19K	Bonanza Creek	5.43	331			Pn	19 47 47.5		-0.8
N19K	Bonanza Creek	5.43	331	P		Pn	19 47 47.5		-0.8
	baz=147								
PMR	Palmer	5.44	0			Pn	19 47 47.8		-0.5
PMR	Palmer	5.44	0	P		Pn	19 47 49.3		+1.0
BARK	Barkley Ridge	5.51	37			Pn	19 47 48.6		-0.8
STLK	Strandline Lak	5.52	347			Pn	19 47 49.1		-0.4
SPNN	North Nagishla	5.53	342			Pn	19 47 49.5		-0.1
P16K	Nushagak River	5.55	305			Pn	19 47 49.4		-0.4
P16K	Nushagak River	5.55	305	P		Pn	19 47 49.4		-0.4
	baz=118								
KLU	Klutina	5.59	16			Pn	19 47 50.1		-0.5
KLU	Klutina	5.59	16	P		Pn	19 47 50.4		-0.1
	baz=198								
GHO	Glory Hole Cre	5.62	1			Pn	19 47 51.0		+0.1
SML	Sawmill	5.67	4			Pn	19 47 51.4		-0.1
SML	Sawmill	5.67	4	P		Pn	19 47 51.7		+0.2
	baz=184								
M23K	Glacier View	5.69	7			Pn	19 47 52.0		+0.3
M23K	Glacier View	5.69	7	P		Pn	19 47 52.0		+0.3
	baz=188								
N18K	Kilae Creek	5.74	325			Pn	19 47 52.0		-0.5
N18K	Kilae Creek	5.74	325	P		Pn	19 47 52.0		-0.5
	baz=140								
SCM	Sheep Creek Mo	5.76	9			Pn	19 47 52.7		-0.1
SCM	Sheep Creek Mo	5.76	9	P		Pn	19 47 53.2		+0.4
	baz=190								
S14K	Fog Glacier	5.80	275	P		Pn	19 47 53.0		-0.4
	baz=88								
VNFG	Fog Glacier, M	5.80	275			Pn	19 47 53.0		-0.4
O16K	Kokwok River B	5.87	309			Pn	19 47 54.1		-0.2
O16K	Kokwok River B	5.87	309	P		Pn	19 47 54.1		-0.2
	baz=123								
VRDI	Verde Repeater	5.88	28			Pn	19 47 54.2		-0.3
N25K	Chitina, Valde	5.94	22			Pn	19 47 55.3		0.0
N25K	Chitina, Valde	5.94	22	P		Pn	19 47 55.2		0.0
	baz=205								
KIAG	Kiagna River	5.95	34			Pn	19 47 55.1		-0.3
SAMH	Samovar Hills	5.95	45			Pn	19 47 54.9		-0.5
SKT	Skwentna	5.95	349			Pn	19 47 56.2		+0.8
SKT	Skwentna	5.95	349	P		Pn	19 47 55.8		+0.4
	baz=167								
SVW2	Sparrevohn	5.97	328	Pn		Pn	19 47 55.0		-0.6
GLB	Gilahina Butte	5.97	25			Pn	19 47 55.3		-0.4
CNBA	Chernabura Isl	6.08	261	Pn		Pn	19 47 54.9		-2.3
PTPK	Patty Peak	6.12	32			Pn	19 47 57.2		-0.7
PCA	Pinnacle	6.14	46			Pn	19 47 57.4		-0.6
PINM	Pinnacle	6.14	46	P		Pn	19 47 57.4		-0.6
	baz=233								
M24K	Tolsona, Glenn	6.15	13			Pn	19 47 59.3		+1.2
M24K	Tolsona, Glenn	6.15	13	P		Pn	19 47 58.1		0.0
	baz=195								
PNL	Peninsula	6.27	52			Pn	19 47 58.7		-1.0
PNL	Peninsula	6.27	52	P		Pn	19 47 59.8		0.0
PNL	Peninsula	6.27	52	P		Pn	19 47 58.7		-1.0
	baz=239								
BARN	Barnard Glacie	6.27	36			Pn	19 47 59.2		-0.7
BCPM	Bancas Point	6.32	49			Pn	19 48 00.1		-0.2
WASW	Wrangell South	6.32	22			Pn	19 48 00.9		+0.3
LOGN	Logan Glacier	6.33	39			Pn	19 47 60.0		-0.7
WACK	Wrangell Chich	6.34	21			Pn	19 48 01.2		+0.3
M18K	Stony River	6.36	330			Pn	19 48 00.1		-0.8
M18K	Stony River	6.36	330	P		Pn	19 48 00.1		-0.8
	baz=145								
SDPT	Sand Point	6.44	267	Pn		Pn	19 48 00.4		-1.7
SDPT	Sand Point	6.44	267	P		Pn	19 48 00.7		-1.4
O15K	Unga/Ikthiuk R	6.47	302	P		Pn	19 48 02.5		+0.1
	baz=114								
WAT6	Susitna Watana	6.47	6	P		Pn	19 48 02.5		-0.1
	baz=187								
HARP	HAARP	6.57	16			Pn	19 48 04.4		+0.5
HARP	HAARP	6.57	16	P		Pn	19 48 04.4		+0.5
	baz=200								
N16K	Nishlik Lake	6.65	314			Pn	19 48 05.2		+0.2
N16K	Nishlik Lake	6.65	314	P		Pn	19 48 05.2		+0.2
	baz=127								
WAT1	Susitna Watana	6.69	2	P		Pn	19 48 06.0		+0.5
	baz=183								
L20K	Farewell, AK	6.77	341			Pn	19 48 06.7		0.0
L20K	Farewell, AK	6.77	341	P		Pn	19 48 06.7		0.0
	baz=157								
M17K	Holitna River	6.78	324			Pn	19 48 07.2		+0.5
M17K	Holitna River	6.78	324	P		Pn	19 48 07.2		+0.5
	baz=138								
O29M	Mount Kennedy	6.95	49			Pn	19 48 08.8		-0.4
O29M	Mount Kennedy	6.95	49	P		Pn	19 48 08.8		-0.4
	baz=237								
DHY	Denali Highway	6.99	7			Pn	19 48 09.2		-0.5
DHY	Denali Highway	6.99	7	P		Pn	19 48 10.4		+0.7
	baz=188								
P29M	Windy Craggy	7.00	56	Pn		Pn	19 48 08.7		-1.1
P29M	Windy Craggy	7.00	56	P		Pn	19 48 09.3		-0.5
	baz=244								
N15K	Kwethluk River	7.03	309			Pn	19 48 10.9		+0.7
N15K	Kwethluk River	7.03	309	P		Pn	19 48 10.9		+0.7
	baz=121								
PAX	Paxson	7.07	14			Pn	19 48 11.2		+0.4
PAX	Paxson	7.07	14	P		Pn	19 48 11.2		+0.4
	baz=197								
YUK2	White River	7.08	34			Pn	19 48 11.6		+0.6
PS1A	Pavlof South-1	7.14	269			Pn	19 48 10.7		-0.9
O14K	Tigyukauivet M	7.18	300	Pn		Pn	19 48 13.2		+1.0
YUK3	Moose Creek	7.19	35	P		Pn	19 48 13.7		+1.1
	baz=222								
M27K	Edge Creek, AK	7.24	28			Pn	19 48 14.0		+0.9
M27K	Edge Creek, AK	7.24	28	P		Pn	19 48 13.5		+0.3
	baz=214								
RND	Reindeer	7.26	1	Pn		Pn	19 48 13.3		0.0
S31K	Pelican	7.27	70	Pn		Pn	19 48 11.5		-1.9
TRF	Thorofare Moun	7.33	356			Pn	19 48 15.4		+1.0
TRF	Thorofare Moun	7.33	356	P		Pn	19 48 14.7		+0.4
	baz=175								
YUK6	Outpost Mounta	7.40	45			Pn	19 48 15.5		+0.1
YUK6	Outpost Mounta	7.40	45	P		Pn	19 48 15.5		+0.1
	baz=234								
CAST	Castle Rocks	7.42	350			Pn	19 48 16.7		+1.2
CAST	Castle Rocks	7.42	350	P		Pn	19 48 16.7		+1.2
	baz=167								
KTH	Kantishna Hill	7.46	354			Pn	19 48 16.7		+0.6
L17K	Donlin	7.60	326			Pn	19 48 18.5		+0.6
L17K	Donlin	7.60	326	P		Pn	19 48 18.5		+0.6
	baz=138								
TTA	Tatalina	7.62	336	Pn		Pn	19 48 18.5		+0.3
TTA	Tatalina	7.62	336	P		Pn	19 48 20.2		+1.9
K20K	Telida	7.62	343	Pn		Pn	19 48 19.0		+0.7
N14K	Kuskokwak Cree	7.63	305			Pn	19 48 18.3		-0.1
N14K	Kuskokwak Cree	7.63	305	P		Pn	19 48 18.3		-0.1
	baz=115								
HYT	Haines Junctio	7.68	48			Pn	19 48 18.2		-0.9
SIT	Sitka	7.69	78	Pn		Pn	19 48 15.9		-3.2
SIT	Sitka	7.69	78	P		Pn	19 48 16.2		-2.9
L16K	Owhat River	7.70	320			Pn	19 48 18.6		-0.6
L27K	Beaver Creek,	7.84	25			Pn	19 48 21.3		-0.1
BCAR	Beaver Creek A	7.86	25	Pn		Pn	19 48 21.4		-0.1
RIDG	Independent Ri	7.89	14			Pn	19 48 22.7		+0.7
BPAW	Bear Paw Mtn.	8.01	354			Pn	19 48 22.7		-0.8
BPAW	Bear Paw Mtn.	8.01	354	P		Pn	19 48 24.0		+0.5
	baz=173								
SKAG	Skagway	8.08	60	Pn		Pn	19 48 24.8		+0.2
S32K	Killisnoo	8.11	75	Pn		Pn	19 48 23.0		-1.8
N30M	Aishikik Lake	8.20	45			Pn	19 48 26.3		+0.1
N30M	Aishikik Lake	8.20	45	P		Pn	19 48 26.3		+0.1
	baz=234								
FALS	False Pass	8.20	267			Pn	19 48 25.1		-1.1
FALS	False Pass	8.20	267	P		Pn	19 48 25.1		-1.1
	baz=76								
J18K	Innoko River	8.24	336	Pn		Pn	19 48 23.8		-3.0
SCRK	Sand Creek	8.24	16	Pn		Pn	19 48 25.2		-1.7
O30N	Mendenhall	8.25	51	Pn		Pn	19 48 27.3		+0.4
M29M	Somme Creek	8.33	37			Pn	19 48 28.4		+0.3
M29M	Somme Creek	8.33	37	P		Pn	19 48 28.4		+0.3
	baz=225								
HDA	Harding Lake	8.34	7			Pn	19 48 28.2		+0.2
ISLZ	Isanotski Laza	8.40	266			Pn	19 48 27.1		-1.9
NEA2	Nenana	8.45	0			Pn	19 48 30.0		+0.3
NEA2	Nenana	8.45	0	P		Pn	19 48 31.2		+1.6
	baz=180								
CCB	Clear Creek Bu	8.53	4			Pn	19 48 30.5		-0.2
IL31		8.70	6			Pn	19 48 33.4		+0.4
ILAR	Eielson Array	8.70	6	Pn		Pn	19 48 33.4		+0.4
ILAR	Eielson Array	8.70	6	Pn		Pn	19 48 33.0		0.0
	comp=E,0.9nm,0.3s,baz=190,slow=14,SNR=13								
ILAR						Sn			Sn	19 50 09.1	-2.0
	comp=E,0.4nm,0.3s,baz=182,slow=19,SNR=2.1								
ILAR						LR			LR	19 52 14.8	
	comp=E,396nm,18.7s,baz=176,slow=39								
	comp=E,2.1nm,0.4s								
WHY	Whitehorse	8.73	53			Pn	19 48 34.1		+0.5
N31M	Braeburn, Yuko	8.74	47	Pn		Pn	19 48 33.8		+0.2
COLA	College	8.76	4	P		Pn	19 48 35.8		+2.0
CRAG	Craig	9.06	88	P		Pn	19 48 35.3		-2.6
P33M	Teslin, Yukon	9.52	58	P		Pn	19 48 44.2		-0.1
	baz=251								
G21K	Allakaket	10.59	350			Pn	19 48 59.6		+0.8
DLBC	Dease Lake	10.59	70	Pn		Pn	19 48 59.0		0.0
	comp=E,0.7nm,0.3s,baz=239,slow=9.5,SNR=7.7								
DLBC						LR			LR	19 52 21.4	
	comp=E,228nm,18.7s,baz=287,slow=33								
	comp=E,1.3nm,0.3s								
E19K	Redstone River	11.94	345			Pn	19 49 18.0		+0.8
G30M	tAoh Zraii Nji	12.43	24			Pn	19 49 24.3		+0.2
D22K	Ayikyak River	12.86	354	Pn		Pn	19 49 27.9		-2.0
BBB	Bella Bella	12.94	99	LR		LR	19 53 19.5		
	comp=E,442nm,18.8s,baz=266,slow=32								
F31M	Tsiigehtchic	13.39	26	Pn		Pn	19 49 36.9		-0.2
INK	Inuvik	14.12	24	Pn		Pn	19 49 46.4		-0.6
INK	Inuvik	14.12	24	Pn		Pn	19 49 49.1		+2.2
	comp=E,0.1nm,0.3s,baz=210,slow=13,SNR=11								
INK						LR			LR	19 55 25.4	
	comp=E,224nm,20.7s,baz=183,slow=38								
	comp=E,6.2nm,1.0s								
WRGLY	Wrigley	14.69	51	Pn		Pn	19 49 54.2		-0.6
ATKA	Atka Island	15.15	265			Pn	19 49 59.3		-1.8
GSTR	Great Sitkin T	16.24	267	Pn		Pn	19 50 12.1		-3.2
C36M	Paulatuk	17.30	30	Pn		Pn	19 50 27.2		-1.4
C36M						IAmb	IAmb			19 50 40.3	
	comp=Z,19nm,1.2s								
YKA	Yellowknife Ar	18.55	56	P		P	19 50 41.1		-2.6
YKA	Yellowknife Ar	18.55	56	Pn		P	19 50 45.0		+1.2
	comp=Z,0.1nm,0.3s,baz=266,slow=12,SNR=11								
YKA						LR			LR	19 56 49.9	
	comp=Z,73nm,20.0s,baz=290,slow=33								
	comp=Z,1.4nm,1.0s								
A36M	Sachs Harbour	18.76	23			P	19 50 45.1		-0.8
A36M						IAmb	IAmb			19 50 58.5	
	comp=Z,16nm,0.8s								
NEW	Newport	21.00	99	LR		LR	19 58 03.3		
	comp=Z,180nm,20.1s,baz=282,slow=33								
F10A	Beach Ranch, E	22.31	104	P		P	19 51 23.9		-0.9
F10A						IAmb	IAmb			19 51 42.9	
	comp=Z,6.6nm,1.1s								
I07A	Izee	22.33	110	P		P	19 51 20.8		-4.3
YBH	Yreka Blue Hor	22.40	119	LR		LR	19 57 55.1		
	comp=Z,282nm,18.7s,baz=283,slow=31								
BMO	Blue Mountains	22.99	106	P		P	19 51 29.3		-2.7
ELK	Elko	26.92	111	LR		LR	20 01 01.6		
	comp=Z,72nm,19.1s,baz=283,slow=33								
NVAR	Mina Array Bea	27.10	118	P		P	19 52 09.8		-0.5
	comp=Z,1.1nm,0.8s,baz=299,slow=9.6,SNR=4.0								
NVAR						LR			LR	20 00 56.1	
	comp=Z,177nm,20.1s,baz=269,slow=32								
	comp=Z,1.1nm,0.8s								
RES	Resolute Bay	27.63	28	P		P	19 52 16.0		+1.6
RES						IAmb	IAmb			19 52 50.6	
	comp=Z,4.5nm,1.1s								
RES	Resolute Bay	27.63	28	LR		LR	20 03 55.2		
	comp=Z,127nm,18.2s,baz=319,sl

comp=Z,41nm,18.5s,baz=318,slow=40
MKAR Makanchi Array 68.73 325 P 19 57 32.2 +1.4
MKAR Makanchi Array 68.73 325 P P 19 57 30.6 -0.2
comp=Z,0.2nm,0.4s,baz=29,slow=6.3,SNR=9.2
comp=Z,0.2nm,0.4s
SJG San Juan 71.28 85 LR LR 20 29 56.6
comp=Z,29nm,19.0s,baz=169,slow=37
AKTO Aktyubinsk 71.39 342 LR LR 20 33 08.4
comp=Z,33nm,18.2s,baz=356,slow=39
PPT Papeete 73.45 180 LR LR 20 23 33.1
comp=Z,40nm,18.2s,baz=52,slow=30
AKASG Malin Array Be 73.49 1 LR LR 20 30 47.5
comp=Z,29nm,20.8s,baz=42,slow=36
VRAC Vranov 74.22 10 LR LR 20 32 25.1
comp=Z,34nm,18.3s,baz=323,slow=37
SDV Santo Domingo 76.28 95 LR LR 20 34 06.3
comp=Z,28nm,18.0s,baz=320,slow=38
GEYT Alibeck 83.44 339 LR LR 20 44 38.7
comp=Z,24nm,18.5s,baz=262,slow=42
CMAR Chiang Mai Arr 86.40 298 P P 19 59 10.2 +0.4
comp=Z,0.6nm,0.6s,baz=16,slow=5.3,SNR=5.2
CMAR LR LR 20 41 33.1
comp=Z,18nm,19.4s,baz=35,slow=38
comp=Z,0.6nm,0.6s

NEIC ***24*** *19:53:20.5±1.6, 15°.1S±0°.2×178°.7W±0°.1, h384km±11km, mb4.2/30, Error ellipse: s-maj=23.8km s-min=15.7km az=147.0*
IDC ***24*** *19:53:27.1±5.4, 15°.10S×178°.91W, h451km±61km, mb3.3/7, mbtmp4.1/7, Error ellipse: s-maj=32.6km s-min=22.7km az=156.0*
ISC 24 19:53:21.9±0.6, 15°.1S±0°.1×178°.8W±0°.1, h401km, n47, σ1§04/45, mb4.1/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FUNA	**Funafuti**	**6.81**	**343**			**P**	**19 55 01.3**	**-2.9**
AFI	**Afiamalu**	**6.92**	**81**	Pn		P	19 54 57.6	-7.9
NIUE	**Niue**	**9.38**	**116**	P		P	19 55 32.5	-0.2
RAO	**Raoul Island**	**14.11**	**177**	P		P	19 56 29.8	+5.2
	467nm,0.4s,baz=78,slow=22,SNR=4.6							
BFZ	**Birch Farm**	**25.85**	**189**	P		**P**	**19 58 16.8**	**-2.1**
BFZ				IAmb		IAmb	19 58 36.5	
	comp=Z,10nm,1.1s							
FOZ	**Fox Glacier**	**29.96**	**197**	P		**P**	**19 58 53.8**	**-1.3**
LBZ	**Lake Benmore**	**30.65**	**196**	P		**P**	**19 58 58.4**	**-2.8**
LBZ				IAmb		IAmb	19 59 07.5	
	comp=Z,22nm,1.4s							
MLZ	**Mavora Lakes**	**32.12**	**197**	P		**P**	**19 59 12.3**	**-1.6**
MLZ				IAmb		IAmb	19 59 13.3	
	comp=Z,17nm,1.0s							
WHZ	**Wether Hill Ro**	**32.65**	**197**	P		**P**	**19 59 16.9**	**-1.4**
WHZ				IAmb		IAmb	19 59 19.9	
	comp=Z,18nm,1.1s							
CTAO	**Charters Tower**	**33.62**	**256**	P		**P**	**19 59 27.5**	**+0.5**
CTAO				IAmb		IAmb	19 59 56.6	
	comp=Z,24nm,1.4s							
STKA	**Stephens Creek**	**39.70**	**238**	P		**P**	**20 00 19.1**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=157,slow=4.5,SNR=3.2							
	comp=Z,1.6nm,0.8s							
WB0	**Warramunga Arr**	**44.77**	**257**	P		**P**	**20 00 58.2**	**+0.1**
WB0				IAmb		IAmb	20 00 58.6	
	comp=Z,14nm,1.4s							
WB2	**Warramunga Arr**	**44.80**	**257**	P		**P**	**20 00 59.0**	**+0.7**
WB2				IAmb		IAmb	20 01 31.5	
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**44.82**	**257**	P		**P**	**20 00 58.3**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=90,slow=7.4,SNR=5.0							
	comp=Z,1.1nm,0.8s							
AS31	**Alice Springs**	**45.23**	**252**	P		**P**	**20 01 02.0**	**+0.4**
ASAR	**Alice Springs**	**45.23**	**252**	P		**P**	**20 01 01.6**	**-0.1**
ASAR	**Alice Springs**	**45.23**	**252**	P		**P**	**20 01 02.3**	**+0.6**
	comp=Z,4.1nm,0.4s,baz=84,slow=8.7,SNR=107							
	comp=Z,4.1nm,0.4s							
MTN	**Manton Dam**	**48.53**	**266**	P		**P**	**20 01 28.0**	**+1.1**
QSPA	**South Pole Qui**	**74.94**	**180**	P		**P**	**20 04 19.9**	**-0.3**
QSPA				IAmb		IAmb	20 04 20.6	
	comp=Z,5.7nm,0.7s							
QSPA	**South Pole Qui**	**74.94**	**180**	P		**P**	**20 04 19.8**	**-0.3**
	comp=Z,4.3nm,0.5s,baz=112,slow=0.7,SNR=5.7							
	comp=Z,4.3nm,0.5s							
O16K	**Kokwok River B**	**76.31**	**11**	P		**P**	**20 04 26.9**	**-0.7**
P18K	**Big Mountain,**	**76.67**	**12**	P		**P**	**20 04 29.0**	**-0.7**
NVAR	**Mina Array Bea**	**77.69**	**44**	P		**P**	**20 04 37.0**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=235,slow=10,SNR=4.0							
	comp=Z,0.8nm,0.7s							
L18K	**Granite Mounta**	**79.02**	**10**	P		**P**	**20 04 43.7**	**+1.4**
J16K	**Anvik River**	**79.41**	**8**	P		**P**	**20 04 45.8**	**+1.4**
J18K	**Innoko River**	**80.17**	**10**	P		**P**	**20 04 49.7**	**+1.2**
J18K				IAmb		IAmb	20 05 24.8	
	comp=Z,9.2nm,1.4s							
K20K	**Telida**	**80.54**	**11**	P		**P**	**20 04 51.1**	**+0.7**
G16K	**Koyuk River**	**81.21**	**7**	P		**P**	**20 04 55.0**	**+1.1**
G16K				IAmb		IAmb	20 05 27.6	
	comp=Z,10nm,1.4s							
M27K	**Edge Creek, AK**	**82.47**	**16**	P		**P**	**20 05 00.7**	**+0.1**
M27K				IAmb		IAmb	20 05 26.9	
	comp=Z,11nm,1.5s							
H21K	**Melozitna Rive**	**82.86**	**11**	P		**P**	**20 05 03.0**	**+0.7**
HDA	**Harding Lake**	**82.93**	**13**	P		**P**	**20 05 02.8**	**0.0**
HDA				IAmb		IAmb	20 05 24.4	
	comp=Z,6.8nm,1.5s							
Q32M	**Nakina River**	**82.94**	**22**	P		**P**	**20 05 02.6**	**-0.5**
CCB	**Clear Creek Bu**	**82.95**	**13**	P		**P**	**20 05 02.6**	**-0.1**
IMAR	**Indian Mountai**	**83.00**	**10**	P		**P**	**20 05 03.6**	**+0.6**
L27K	**Beaver Creek,**	**83.05**	**16**	P		**P**	**20 05 03.4**	**-0.1**
BCAR	**Beaver Creek A**	**83.07**	**16**	P		**P**	**20 05 03.7**	**+0.2**
IL31		**83.25**	**13**	P		**P**	**20 05 04.0**	**-0.2**
IL31				IAmb		IAmb	20 05 10.2	
	comp=Z,4.5nm,1.2s							
ILAR	**Eielson Array**	**83.25**	**13**	P		**P**	**20 05 04.5**	**+0.2**
ILAR	**Eielson Array**	**83.25**	**13**	P		**P**	**20 05 03.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=232,slow=5.5,SNR=17							
	comp=Z,0.7nm,0.5s							
SCRK	**Sand Creek**	**83.26**	**15**	P		**P**	**20 05 04.5**	**0.0**
POKR	**Poker Flat Res**	**83.44**	**13**	P		**P**	**20 05 05.4**	**+0.2**
POKR				IAmb		IAmb	20 05 05.4	
	comp=Z,2.8nm,0.7s							
J25K	**Salcha River,**	**83.46**	**14**	P		**P**	**20 05 05.2**	**-0.3**
M30M	**Minto, Yukon**	**84.10**	**18**	P		**P**	**20 05 09.2**	**+0.5**
M30M				IAmb		IAmb	20 05 37.8	
	comp=Z,5.5nm,1.4s							
L29M	**L29M**	**84.12**	**17**	P		**P**	**20 05 09.5**	**+0.7**
L29M				IAmb		IAmb	20 05 09.6	
	comp=Z,4.4nm,1.2s							
TXAR	**Lajitas Array**	**84.84**	**58**	P		**P**	**20 05 14.5**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=226,slow=3.3,SNR=3.6							
	comp=Z,0.3nm,0.6s							
MMAI	**Mount Meron Ar**	**144.23**	**306**	PKP		**PKPdf**	**20 12 12.2**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=74,slow=6.2,SNR=8.5							
GERES	**GERESS Array B**	**144.81**	**346**	PKP		**PKPab**	**20 12 12.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=46,slow=2.8,SNR=3.3							

SJA ***24*** *20:04:21.5±0.6, 21°.99S×68°.65W, h126km±5km, ML4.2, MW4.0*
IDC ***24*** *20:04:22.1±0.8, 21°.96S×68°.42W, h98km±9km, mb3.7/6, mbtmp4.0/8, Error ellipse: s-maj=26.9km s-min=19.9km az=114.0*
VAO ***24*** *20:04:22.4±0.6, 21°.81S×68°.26W, h10km, mb4.4*
GUC ***24*** *20:04:24.4±0.8, 22°.00S×68°.69W, h111km±4km, ML4.0*
ISC 24 20:04:23.1±0.6, 22°.02S±0°.03×68°.60W±0°.05, h115km±6km, n74, σ1§36/105, mb3.9/6, 11C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.63**	**290**	*eP*		**Pn**	**20 04 41.6**	**0.0**
PB09				*eS*		**Sn**	**20 04 55.5**	**0.0**
PB09				IAML			20 04 56.1	
	comp=Z,8μm,0.7s							
PB09	**IPOC Station P**	**0.63**	**290**	⇑*iP*		**Pn**	**20 04 41.7**	**0.0**
PB09				*eS*		**Sn**	**20 04 55.3**	**-0.2**
PB09				IAML			20 04 56.6	
	comp=E,6μm,0.4s							
LVC	**Limon Verde**	**0.65**	**206**	*eP*		**Pn**	**20 04 41.8**	**-0.2**
LVC				*eS*		**Sn**	**20 04 55.0**	**-1.2**
LVC	**Limon Verde**	**0.65**	**206**	P		**Pn**	**20 04 41.8**	**-0.2**
	comp=E,453nm,0.2s,baz=23,slow=8.0,SNR=1599							
LVC				S		**Sn**	**20 04 55.3**	**-0.9**
	comp=E,1μm,0.2s,baz=241,slow=22,SNR=26							
LVC				LR		LR	20 05 12.5	
	comp=E,111nm,20.4s,baz=2.0,slow=63							
LVC	**Limon Verde**	**0.65**	**206**	*eP*		**Pn**	**20 04 41.4**	**-0.7**
AF01	**San Pedro de A**	**1.01**	**157**	⇓*iP*		**Pn**	**20 04 46.0**	**+0.9**
PB06	**IPOC Station P**	**1.13**	**232**	*eP*		**Pn**	**20 04 46.3**	**+0.1**
PB06				*eS*		**Sn**	**20 04 05.4**	**+0.7**
PB06				IAML			20 05 05.5	
	comp=Z,7μm,1.0s							
PB06	**IPOC Station P**	**1.13**	**232**	⇑*iP*		**Pn**	**20 04 46.3**	**+0.1**
PB06				*eS*		**Sn**	**20 05 03.7**	**+0.1**
PB06				IAML			20 05 05.0	
	comp=N,6μm,0.4s							
PB07	**IPOC Station P**	**1.23**	**283**	*eP*		**Pn**	**20 04 47.0**	**-0.3**
PB07				*eS*		**Sn**	**20 05 05.4**	**-0.1**
PB07				IAML			20 05 06.5	
	comp=Z,5μm,0.5s							
PB07	**IPOC Station P**	**1.23**	**283**	⇑*iP*		**Pn**	**20 04 47.0**	**-0.3**
PB07				*eS*		**Sn**	**20 04 04.7**	**-0.8**
PB07				IAML			20 05 06.2	
	comp=E,6μm,0.4s							
PB01	**IPOC Station P**	**1.27**	**320**	*eP*		**Pn**	**20 04 47.1**	**-0.6**
PB01				*eS*		**Sn**	**20 05 06.5**	**+0.2**
PB01				IAML			20 05 09.1	
	comp=Z,1μm,0.2s							
PB01	**IPOC Station P**	**1.27**	**320**	*eP*		**Pn**	**20 04 47.8**	**0.0**
PB01				*eS*		**Sn**	**20 05 04.9**	**-1.5**
PB01				IAML			20 05 06.5	
	comp=N,3μm,0.4s							
PB02	**IPOC Station P**	**1.39**	**300**	*eP*		**Pn**	**20 04 48.5**	**-0.5**
PB02				*eS*		**Sn**	**20 05 08.2**	**-0.5**
PB02				IAML			20 05 11.2	
	comp=Z,3μm,0.2s							
PB02	**IPOC Station P**	**1.39**	**300**	⇑*iP*		**Pn**	**20 04 48.6**	**-0.5**
PB02				*eS*		**Sn**	**20 05 06.9**	**-1.8**
PB02				IAML			20 05 11.2	
	comp=E,3μm,0.4s							
PB15	**IPOC Station P**	**1.43**	**214**	*eP*		**Pn**	**20 04 50.1**	**+0.4**
PB15				*eS*		**Sn**	**20 05 11.3**	**+1.5**
PB15				IAML			20 05 13.9	
	comp=Z,6μm,0.2s							
PB15	**IPOC Station P**	**1.43**	**214**	⇑*iP*		**Pn**	**20 04 50.0**	**+0.4**
PB15				*eS*		**Sn**	**20 05 10.5**	**+0.8**
PB04	**IPOC Station P**	**1.47**	**257**	*eP*		**Pn**	**20 04 49.7**	**-0.3**
PB04				*eS*		**Sn**	**20 05 10.5**	**+0.1**
PB04				IAML			20 05 11.8	
	comp=Z,3μm,0.7s							
PB04	**IPOC Station P**	**1.47**	**257**	⇑*iP*		**Pn**	**20 04 49.6**	**-0.3**
PB04				*eS*		**Sn**	**20 05 10.1**	**-0.3**
PB04				IAML			20 05 11.9	
	comp=E,3μm,0.6s							
PB05	**IPOC Station P**	**1.70**	**240**	*eP*		**Pn**	**20 04 52.3**	**-0.4**
PB05				*eS*		**Sn**	**20 05 14.6**	**-0.6**
PB05				IAML			20 05 21.8	
	comp=Z,1μm,0.5s							
PB05	**IPOC Station P**	**1.70**	**240**	*iP*		**Pn**	**20 04 52.3**	**-0.4**
PB05				*eS*		**Sn**	**20 05 14.7**	**-0.6**
PB05				IAML			20 05 21.1	
	comp=E,3μm,0.6s							
PATCX	**Punta Patache**	**1.87**	**309**	*eP*		**Pn**	**20 04 54.2**	**-0.7**
PATCX				*eS*		**Sn**	**20 05 19.5**	**+0.5**
PB08	**IPOC Station P**	**1.94**	**345**	*eP*		**Pn**	**20 04 56.6**	**+0.6**
PB08				*eS*		**Sn**	**20 05 22.4**	**+1.5**
PB08	**IPOC Station P**	**1.94**	**345**	⇑*iP*		**Pn**	**20 04 56.7**	**+0.8**
PB08				*eS*		**Sn**	**20 05 21.4**	**+0.4**
PB08				IAML			20 05 24.2	
	comp=N,569nm,0.2s							
TA01	**Diego Aracena**	**2.06**	**314**	*eP*		**Pn**	**20 04 56.2**	**-0.9**
TA01				*eS*		**Sn**	**20 05 23.3**	**+0.2**
TA01				IAML			20 05 24.7	
	comp=Z,988nm,1.6s							
TA01	**Diego Aracena**	**2.06**	**314**	⇑*iP*		**Pn**	**20 04 56.0**	**-1.1**
TA01				*eS*		**Sn**	**20 05 21.9**	**-1.2**
HMBC	**Humberstone**	**2.11**	**325**	*eP*		**Pn**	**20 04 56.9**	**-0.9**
HMBC				*eS*		**Sn**	**20 05 23.4**	**-0.9**
HMBC	**Humberstone**	**2.11**	**325**	⇑*iP*		**Pn**	**20 04 56.9**	**-0.9**
HMBC				*eS*		**Sn**	**20 05 22.8**	**-1.5**
HMBC				IAML			20 05 25.1	
	comp=E,2μm,0.3s							
TA02	**Huaiquique**	**2.25**	**320**	*eP*		**Pn**	**20 04 58.4**	**-1.1**
TA02				*eS*		**Sn**	**20 05 26.0**	**-1.3**
TA02				IAML			20 05 35.4	
	comp=Z,763nm,0.7s							
GO01	**Chusmiza**	**2.40**	**347**	*eP*		**Pn**	**20 05 02.6**	**+0.7**
GO01				*eS*		**Sn**	**20 05 33.7**	**+2.1**
GO01	**Chusmiza**	**2.40**	**347**	*eP*		**Pn**	**20 05 02.7**	**+0.7**
GO01				*eS*		**Sn**	**20 05 32.7**	**+1.0**
GO01				IAML			20 05 37.7	
	comp=N,558nm,0.2s							
PB11	**IPOC Station P**	**2.45**	**336**	*eP*		**Pn**	**20 05 01.5**	**-0.8**
PB11				*eS*		**Sn**	**20 05 31.4**	**-0.8**
PB11	**IPOC Station P**	**2.45**	**336**	⇑*iP*		**Pn**	**20 05 01.5**	**-0.8**
PB11				*eS*		**Sn**	**20 05 30.6**	**-1.7**
PB11				IAML			20 05 35.3	
	comp=N,846nm,0.5s							
YJA	**Yavi**	**2.87**	**94**	*eP*		**Pn**	**20 05 10.2**	**+2.3**
PB14	**IPOC Station P**	**3.08**	**212**	*eP*		**Pn**	**20 05 09.6**	**-1.0**
PB14				IAML			20 05 56.3	
	comp=Z,356nm,0.4s							
GO02	**Mina Guanaco**	**3.26**	**196**	*eP*		**Pn**	**20 05 13.0**	**0.0**
GO02				*eS*		**Sn**	**20 05 45.0**	**-6.3**
GO02	**Mina Guanaco**	**3.26**	**196**	⇑*iP*		**Pn**	**20 05 12.6**	**-0.4**
PB12	**IPOC Station P**	**3.75**	**334**	*eP*		**Pn**	**20 05 16.7**	**-2.7**
PB12				IAML			20 06 26.2	
	comp=Z,210nm,0.8s							
PB12	**IPOC Station P**	**3.75**	**334**	*eP*		**Pn**	**20 05 17.1**	**-2.3**
PB16	**IPOC Station P**	**3.76**	**347**	*eP*		**Pn**	**20 05 20.3**	**+0.3**
AC01	**Pan de Azucar**	**4.50**	**204**	*eP*		**Pn**	**20 05 27.3**	**-2.0**
AC01				IAML			20 06 35.1	
	comp=Z,202nm,0.9s							
TICA	**Tres Isletas**	**8.67**	**122**	*eP*		**Pn**	**20 06 25.8**	**+0.1**
BBSD	**Serra de San D**	**8.93**	**59**	*eP*		**Pn**	**20 06 26.3**	**-3.0**
BBRB	**Robore, Bolivi**	**9.06**	**67**	*eP*		**Pn**	**20 06 26.8**	**-4.2**
SIV	**San Ignacio**	**9.31**	**51**	P		**Pn**	**20 06 31.2**	**-3.2**
	comp=Z,15nm,0.7s,baz=231,slow=12,SNR=64							
MURT	**Porto Murtinho**	**10.22**	**90**	*eP*		**Pn**	**20 06 44.0**	**-2.6**
PTLB	**Pontes e Lacer**	**11.09**	**56**	*eP*		**Pn**	**20 06 56.6**	**-1.8**
BDQN	**Bouena, MS**	**11.16**	**84**	*eP*		**Pn**	**20 06 56.1**	**-3.3**
ANTJ	**Antonio Joao (**	**11.69**	**92**	*eP*		**Pn**	**20 07 05.0**	**-1.4**
VILB	**Vilhena**	**12.06**	**43**	*eP*		**Pn**	**20 07 09.2**	**-2.1**
AQDB	**Aquidauana**	**12.13**	**85**	*eP*		**Pn**	**20 07 11.8**	**-0.4**
PP1B	**Ponte de Pedra**	**13.64**	**74**	*eP*		**Pn**	**20 07 31.7**	**-0.3**
RPRD	**Ribas do Rio P**	**13.98**	**86**	*eP*		**Pn**	**20 07 36.1**	**-0.1**
UNIS	**Unistalda (Bra**	**14.08**	**123**	*eP*		**P**	**20 07 41.8**	**+0.2**
CRSM	**Crissiumal (Br**	**14.30**	**115**	*eP*		**P**	**20 07 42.8**	**-1.3**
RODS	**Rosario do Sul**	**14.61**	**127**	*eP*		**P**	**20 07 48.4**	**+1.0**
FRBT	**Francisco Belt**	**14.74**	**109**	*eP*		**P**	**20 07 49.5**	**+0.5**
PDRB	**Porto dos Gac**	**15.36**	**50**	*eP*		**P**	**20 07 55.7**	**-0.2**
PTGB	**Pitanga**	**15.42**	**103**	*eP*		**P**	**20 07 57.7**	**+1.1**
ALGR	**Alto Alegre (B**	**15.60**	**119**	*eP*		**P**	**20 08 00.1**	**+1.5**
ITAB	**Concordia**	**15.85**	**112**	*eP*		**P**	**20 08 01.3**	**+0.1**
CPSB	**Cacapava Do Su**	**15.95**	**125**	*eP*		**P**	**20 08 03.3**	**+0.9**
LDASE	**Londrina, Braz**	**16.19**	**98**	*eP*		**P**	**20 08 05.7**	**+0.5**
CLDB	**Colider**	**16.53**	**50**	*eP*		**P**	**20 08 09.5**	**+0.6**
FRTB	**Fartura**	**17.62**	**98**	*eP*		**Pn**	**20 08 23.4**	**+1.8**
PLCA	**Paso Flores**	**18.73**	**185**	P		**P**	**20 08 33.4**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=5.5,slow=10.0,SNR=5.3							
TXAR	**Lajitas Array**	**61.22**	**325**	P		**P**	**20 14 27.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=150,slow=6.2,SNR=2.1							
	comp=Z,0.3nm,0.7s							
QSPA	**South Pole Qui**	**68.18**	**180**	P		**P**	**20 15 12.5**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=147,slow=1.2,SNR=7.5							
	comp=Z,2.3nm,0.5s							
DBIC	**Dimbokro**	**68.61**	**73**	P		**P**	**20 15 14.1**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=267,slow=18,SNR=2.6							
	comp=Z,1.1nm,0.4s							
PDAR	**Pinedale Array**	**74.70**	**330**	P		**P**	**20 15 51.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=128,slow=7.0,SNR=2.1							
	comp=Z,0.6nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.26**	**70**	P		**P**	**20 16 04.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=258,slow=5.4,SNR=11							
	comp=Z,0.8nm,0.4s							
YKA	**Yellowknife Ar**	**91.77**	**340**	P		**P**	**20 17 17.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=134,slow=4.6,SNR=16							
	comp=Z,0.6nm,0.7s							
ASAR	**Alice Springs**	**129.59**	**207**	PKP		**PKiKP**	**20 23 20.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=130,slow=1.9,SNR=2.4							
ZALV	**Zalesovo Beam**	**142.30**	**26**	PKP		**PKPdf**	**20 23 42.0**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=242,slow=2.8,SNR=3.6							
MKAR	**Makanchi Array**	**145.88**	**37**	PKPbc		**PKPab**	**20 23 49.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=326,slow=2.4,SNR=14							

KRNET ***24*** *20:15:35.9±0.1, 39°.70N×72°.56E, h9km, mb3.4*
ISU ***24*** *20:15:38.9, 39°.77N×72°.52E, h8km*
SOME ***24*** *20:15:41.4, 39°.97N×72°.58E, h0km*
NNC ***24*** *20:15:43.4±1.9, 39°.92N×72°.73E, h0km, mb3.7, mpv3.4,*

Error ellipse: s-maj=14.4km s-min=10.0km az=164.0
ISC 24 20:15:35.7±1.0, 39°.69N±0°.04×72°.67E±0°.02, h10km, n62, σ2§08/106, 30C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.70**	**253**	⇑*eP*		**Pg**	**20 15 47.6**	**-1.7**
	baz=50							
DRK				⇑*eS*		**Sg**	**20 15 56.5**	**-2.0**
	baz=50							
OHH	**Osh**	**0.84**	**6**	⇑*iP*		**Pg**	**20 15 51.7**	**-0.3**
	baz=12							
OHH				⇑*iS*		**Sb**	**20 16 03.4**	**-0.5**
	baz=12							
TSTA	**Tashata**	**0.90**	**351**	P		**Pn**	**20 15 55.1**	**+0.6**
TSTA				S		**Sn**	**20 16 07.2**	**-0.4**
FRG	**Fergana**	**0.96**	**316**	P		**Pn**	**20 15 55.4**	**0.0**
FRG				S		**Sb**	**20 16 07.8**	**+0.4**
BTK	**Batken**	**1.47**	**285**	⇑*iP*		**Pn**	**20 16 02.2**	**-0.1**
	baz=85							
BTK				⇑*iS*		**Sn**	**20 16 21.3**	**-0.4**
	baz=85							
MINT	**Mingtut**	**1.51**	**301**	P		**Pg**	**20 16 05.1**	**+0.4**
MINT				S		**Sg**	**20 16 24.4**	**0.0**
NAM	**Namangan**	**1.51**	**330**	P		**Pg**	**20 16 05.5**	**+0.8**
NAM				S		**Sg**	**20 16 24.9**	**+0.5**
ARSB	**Arslanbob**	**1.65**	**8**	⇑*eP*		**Pg**	**20 16 07.0**	**-0.4**
	baz=11							
ARSB				⇑*eS*		**Sg**	**20 16 29.5**	**+0.6**
	baz=11							
KSNS	**Kasansay**	**1.71**	**330**	P		**Pg**	**20 16 08.4**	**-0.1**
KSNS				S		**Sg**	**20 16 30.5**	**-0.2**
ARK	**Arkit**	**2.17**	**346**	⇓*iP*		**Pb**	**20 16 14.8**	**-0.4**
	baz=48							
ARK				⇓*iS*		**Sg**	**20 16 43.1**	**-2.5**
	baz=48							
ARLS	**Aral**	**2.51**	**30**	⇓*iP*		**Pb**	**20 16 20.2**	**-0.8**
	baz=31							
ARLS				⇓*iS*		**Sb**	**20 16 52.4**	**+0.4**
	baz=31							
AML	**Almayashu**	**2.56**	**17**	Pg		**Pg**	**20 16 26.6**	**+1.8**
	1.7nm,0.5s							
AML				Lg		Lg	20 16 58.8	
	31nm,0.6s							
AML	**Almayashu**	**2.56**	**17**	⇓*iP*		**Pb**	**20 16 21.1**	**-0.9**
	baz=19							
AML				⇓*iS*		**Sb**	**20 16 54.0**	**+0.2**
	baz=19							
CHMG	**Chimgan**	**2.75**	**313**	P		**Pb**	**20 16 24.4**	**-0.6**
CHMG				S		**Sb**	**20 17 00.6**	**+1.8**
MNAS	**Manas**	**2.80**	**358**	⇑*eP*		**Pb**	**20 16 23.3**	**-2.6**
	baz=59							
MNAS				⇑*eS*		**Sb**	**20 16 58.6**	**-1.7**
	baz=59							
YBZ	**Yangibazar**	**2.85**	**305**	P		**Pb**	**20 16 25.8**	**-0.9**
YBZ				S		**Sb**	**20 17 03.3**	**+1.7**
UCH	**Uchtor**	**2.90**	**28**	⇑*iP*		**Pb**	**20 16 25.9**	**-1.9**
	baz=30							
UCH				⇑*iS*		**Sb**	**20 17 02.1**	**-1.4**
	baz=30							
TGS	**TashGRES**	**2.96**	**307**	P		**Pb**	**20 16 28.6**	**+0.1**
TGS				S		**Sg**	**20 17 08.7**	**-2.0**
KUMR	**Kumaryk**	**3.02**	**302**	P		**Pb**	**20 16 28.3**	**-1.3**
KUMR				S		**Sb**	**20 17 08.0**	**+1.4**
NRN	**Naryn**	**3.08**	**54**	⇑*iP*		**Pb**	**20 16 28.4**	**-2.4**
	baz=55							
NRN				⇑*iS*		**Sb**	**20 17 06.4**	**-2.2**
	baz=55							
MRKS	**Merke**	**3.08**	**8**	Pg		**Pg**	**20 16 34.3**	**-0.5**
	26nm,0.4s							
MRKS				Lg		Lg	20 17 13.6	
	100nm,0.4s							
MRKS	**Merke**	**3.08**	**8**	*eP*		**Pg**	**20 16 34.9**	**+0.1**
	26nm,0.4s							
MRKS				*eS*		**Sg**	**20 17 13.6**	**-1.1**
	100nm,0.4s							
EKS2	**Erkin-Say**	**3.09**	**15**	⇑*eP*		**Pb**	**20 16 27.9**	**-2.9**
	baz=17							
EKS2				⇑*iS*		**Sb**	**20 17 05.9**	**-2.7**
	baz=17							
YNGY	**Yangiyul**	**3.11**	**298**	P		**Pb**	**20 16 29.6**	**-1.6**
YNGY

MTBS					*e*S	**Sg**	**20 18 01.4**	**+2.7**
	9.5nm,0.5s							
KRBS	**Karabastau**	**4.60**	**28**	Pg	**Pg**	**Pg**	**20 17 03.1**	**-0.6**
	5.8nm,0.7s							
KRBS					Lg	Lg	20 18 02.4	
	10.0nm,0.5s							
KRBS	**Karabastau**	**4.60**	**28**	*e*P	**Pg**	**Pg**	**20 17 03.4**	**-0.3**
	5.8nm,0.7s							
KRBS					*e*S	**Sg**	**20 18 02.4**	**-0.8**
	10.0nm,0.5s							
TNSS	**Tian-Shan**	**4.64**	**43**	Pg	**Pg**	**Pg**	**20 17 05.6**	**+0.9**
	2.2nm,0.4s							
TNSS					Lg	Lg	20 18 06.0	
	6.3nm,0.8s							
TNSS	**Tian-Shan**	**4.64**	**43**	*e*P	**Pg**	**Pg**	**20 17 05.6**	**+0.9**
	2.2nm,0.4s							
TNSS					*e*S	**Sg**	**20 18 06.0**	**+1.1**
	8.5nm,0.4s							
KNDC	**Almaty**	**4.78**	**41**	⇓Pg	**Pg**	**Pg**	**20 17 05.0**	**-2.3**
	4.8nm,0.5s							
KNDC				⇑	Lg	Lg	20 18 08.9	
	37nm,0.9s							
MDOK	**Medeo**	**4.79**	**42**	Pg	**Pg**	**Pg**	**20 17 07.1**	**-0.3**
	0.4nm,0.4s							
MDOK					Lg	Lg	20 18 08.2	
	22nm,1.2s							
MDOK	**Medeo**	**4.79**	**42**	*e*P	**Pg**	**Pg**	**20 17 05.5**	**-1.9**
	5.3nm,0.5s							
MDOK					*e*S	**Sg**	**20 18 06.0**	**-3.4**
	8.5nm,0.7s							
KOTS	**Kotyrbulak**	**4.87**	**42**	Pg	**Pg**	**Pg**	**20 17 09.6**	**+0.6**
	7.0nm,0.8s							
KOTS					Lg	Lg	20 18 13.1	
	23nm,0.9s							
KOTS	**Kotyrbulak**	**4.87**	**42**	*e*P	**Pg**	**Pg**	**20 17 09.6**	**+0.6**
	7.0nm,0.8s							
KOTS					*e*S	**Sg**	**20 18 13.1**	**+1.0**
	23nm,0.9s							
KUU	**Kurty**	**5.02**	**32**	Pg	**Pg**	**Pg**	**20 17 09.9**	**-1.9**
	3.6nm,0.9s							
KUU					Lg	Lg	20 18 13.6	
	16nm,0.7s							
KUU	**Kurty**	**5.02**	**32**	*e*P	**Pg**	**Pg**	**20 17 09.9**	**-1.9**
	3.6nm,0.9s							
KUU					*e*S	**Sg**	**20 18 13.6**	**-3.2**
	16nm,0.7s							
KTBS	**Karatobe**	**5.02**	**35**	Pg	**Pg**	**Pg**	**20 17 10.8**	**-1.0**
	3.4nm,0.8s							
KTBS					Lg	Lg	20 18 15.2	
	17nm,0.8s							
KTBS	**Karatobe**	**5.02**	**35**	*e*P	**Pg**	**Pg**	**20 17 10.8**	**-1.0**
	3.4nm,0.8s							
KTBS					*e*S	**Sg**	**20 18 15.2**	**-1.7**
	17nm,0.8s							
CHKK	**Chushkaly**	**5.27**	**36**	Pg	**Pg**	**Pg**	**20 17 16.0**	**-0.7**
	2.7nm,0.5s							
CHKK					Lg	Lg	20 18 24.2	
	10nm,0.5s							
CHKK	**Chushkaly**	**5.27**	**36**	*e*P	**Pg**	**Pg**	**20 17 16.0**	**-0.7**
	2.7nm,0.5s							
CHKK					*e*S	**Sg**	**20 18 24.2**	**-0.6**
	10nm,0.5s							
BTLS	**Baital**	**5.45**	**10**	Pg	**Pg**	**Pg**	**20 17 17.3**	**-2.7**
	1.6nm,0.4s							
BTLS					Lg	Lg	20 18 27.1	
	7.6nm,0.6s							
BTLS	**Baital**	**5.45**	**10**	*e*P	**Pg**	**Pg**	**20 17 17.7**	**-2.3**
	1.5nm,0.2s							
BTLS					*e*S	**Sg**	**20 18 27.1**	**-3.5**
	7.6nm,0.6s							

*AEIC **24** 20:16:41.3±2.0,56°.0N±0°.1×149°.8W±0°.1,h5km±9km, Error ellipse: s-maj=19.4km s-min=10.4km az=181.0*

NEIC 24 20:16:38.4±2.6,56°.2N±0°.1×149°.8W±0°.1,h10km±2km, ML3.2/34,ML3.3(AEIC),Error ellipse: s-maj=17.5km s-min=10.6km az=183.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.20**	**301**		Pn	20 17 14.1	-0.9
OHAK					Sn	20 17 40.6	-1.5
OHAK	**Old Harbor**	**2.20**	**301**	P	Pn	20 17 14.0	-0.9
	baz=118						
OHAK				S	Sn	20 17 40.6	-1.5
	baz=118						
KDAK	**Kodiak Island**	**2.23**	**318**		Pn	20 17 15.4	0.0
KDAK					Sn	20 17 41.9	-1.1
SYI	**Shuyak Island**	**2.83**	**332**		Pn	20 17 23.9	+0.3
SYI					Sn	20 17 58.4	+0.6
SYI	**Shuyak Island**	**2.83**	**332**	IAML		20 18 04.8	
	comp=N,47nm,1.4s						
Q20K	**Shuyak Island**	**2.84**	**332**	P	Pn	20 17 23.9	+0.3
	baz=149						
Q20K				S	Sn	20 17 58.4	+0.5
	baz=149						
R18K	**Karluk**	**2.92**	**301**		Pn	20 17 24.5	-0.2
R18K	**Karluk**	**2.92**	**301**	IAML		20 18 42.4	
	comp=N,75nm,1.5s						
R18K	**Karluk**	**2.92**	**301**	P	Pn	20 17 24.5	-0.2
	baz=117						
Q19K	**Cape Douglas,**	**3.47**	**325**		Pn	20 17 33.8	+1.4
Q19K	**Cape Douglas,**	**3.47**	**325**	P	Pn	20 17 33.8	+1.4
	baz=142						
CNPM	**China Poot**	**3.47**	**348**		Pn	20 17 32.9	+0.5
CNPM	**China Poot**	**3.47**	**348**		Sn	20 18 15.1	+1.5
CNPM	**China Poot**	**3.47**	**348**	IAML		20 18 11.6	
	comp=E,33nm,1.5s						
KAHG	**Katmai Hook Gl**	**3.48**	**314**		Pn	20 17 33.8	+1.2
KCG	**Knife Ck. Glac**	**3.60**	**309**		Pn	20 17 35.3	+1.1
BRSE	**Bradley Lake S**	**3.64**	**353**		Pn	20 17 35.1	+0.4
BRSE	**Bradley Lake S**	**3.64**	**353**	P	Pn	20 17 35.1	+0.4
	baz=172						
ACHA	**Angle Creek He**	**3.64**	**307**		Pn	20 17 35.7	+0.9
BRLK	**Bradley Lake**	**3.67**	**351**		Pn	20 17 35.3	+0.1
BRLK	**Bradley Lake**	**3.67**	**351**	IAML		20 19 45.0	
	comp=N,18nm,1.2s						
ANCK	**Angle Creek**	**3.71**	**306**		Pn	20 17 36.6	+0.8
Q23K	**Middleton Isla**	**3.77**	**28**		Pn	20 17 36.2	-0.3
Q23K	**Middleton Isla**	**3.77**	**28**	P	Pn	20 17 36.2	-0.3
	baz=211						
CNTC	**Contact Creek**	**3.92**	**305**		Pn	20 17 38.4	-0.3
Q17K	**Contact Creek**	**3.92**	**305**	P	Pn	20 17 38.4	-0.4
	baz=120						
P19K	**Oil Pt**	**3.96**	**334**		Pn	20 17 39.3	+0.2
P19K	**Oil Pt**	**3.96**	**334**	IAML		20 18 31.8	
	comp=E,64nm,1.4s						
P19K	**Oil Pt**	**3.96**	**334**	P	Pn	20 17 39.3	+0.1
	baz=151						
P23K	**Montague Islan**	**4.07**	**17**		Pn	20 17 40.8	+0.2
P23K	**Montague Islan**	**4.07**	**17**	P	Pn	20 17 40.8	+0.2
	baz=199						
O20K	**Slope Mountain**	**4.22**	**340**		Pn	20 17 43.5	+0.8
O20K	**Slope Mountain**	**4.22**	**340**	P	Pn	20 17 43.4	+0.8
	baz=158						
P18K	**Big Mountain,**	**4.36**	**321**		Pn	20 17 44.8	+0.2
P18K	**Big Mountain,**	**4.36**	**321**	P	Pn	20 17 44.8	+0.2
	baz=136						
SLKM	**Skilak Lake**	**4.38**	**357**		Pn	20 17 46.3	+1.4
RSO	**Redoubt South**	**4.59**	**341**	Pn	Pn	20 17 47.7	-0.3
HIN	**Hinchinbrook I**	**4.60**	**21**		Pn	20 17 48.5	+0.5
HIN	**Hinchinbrook I**	**4.60**	**21**	IAML		20 18 28.8	
	comp=E,46nm,1.3s						
P17K	**Kvichak River**	**4.69**	**313**		Pn	20 17 49.9	+0.8
P17K	**Kvichak River**	**4.69**	**313**	P	Pn	20 17 49.9	+0.8
	baz=128						
KAIM	**Kayak Island**	**4.75**	**35**		Pn	20 17 50.6	+0.7
KAIM	**Kayak Island**	**4.75**	**35**	P	Pn	20 17 50.6	+0.7
	baz=219						
EYAK	**Cordova Ski Ar**	**4.90**	**24**		Pn	20 17 52.8	+0.8
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	Pn	20 17 52.8	+0.8
	baz=208						
FID	**Port Fidalgo**	**4.94**	**19**		Pn	20 17 52.8	+0.3
RAGM	**Ragged Mountai**	**5.04**	**30**	Pn	Pn	20 17 54.8	+0.8
GOAT	**Goat Mountain**	**5.19**	**29**		Pn	20 17 56.9	+0.9
P16K	**Nushagak River**	**5.26**	**307**		Pn	20 17 57.4	+0.4
P16K	**Nushagak River**	**5.26**	**307**	P	Pn	20 17 57.4	+0.4
	baz=120						
N19K	**Bonanza Creek**	**5.28**	**334**		Pn	20 17 58.2	+0.9
N19K	**Bonanza Creek**	**5.28**	**334**	IAML		20 20 31.9	
	comp=E,7.6nm,1.3s						
N19K	**Bonanza Creek**	**5.28**	**334**	P	Pn	20 17 58.2	+0.9
	baz=150						
O17K	**Koliganek Bris**	**5.31**	**316**		Pn	20 17 58.3	+0.6
O17K	**Koliganek Bris**	**5.31**	**316**	P	Pn	20 17 58.3	+0.6
	baz=130						
KNK	**Knik Glacier**	**5.33**	**7**		Pn	20 17 58.8	+0.9
KNK	**Knik Glacier**	**5.33**	**7**	IAML		20 18 55.1	
	comp=N,8.4nm,1.5s						
KNK				IAML		20 19 06.3	
	comp=E,8.4nm,1.5s						
KNK	**Knik Glacier**	**5.33**	**7**	P	Pn	20 17 58.8	+0.9
	baz=188						
BERG	**Berg Lake**	**5.34**	**35**		Pn	20 17 58.5	+0.5
SUA	**Susitna One**	**5.35**	**355**	Pn	Pn	20 17 57.3	-1.0
SUA				IAML		20 19 02.8	
	comp=N,7.5nm,1.3s						
SUA				IAML		20 20 05.6	
	comp=E,8.4nm,1.5s						
SNH	**Sunshine Point**	**5.47**	**40**	Pn	Pn	20 18 00.5	+0.6
BMRM	**Bremner River**	**5.55**	**27**		Pn	20 18 01.4	+0.4
BMRM	**Bremner River**	**5.55**	**27**	P	Pn	20 18 01.4	+0.4
	baz=212						
N18K	**Kilae Creek**	**5.55**	**327**		Pn	20 18 01.6	+0.7
N18K	**Kilae Creek**	**5.55**	**327**	P	Pn	20 18 01.6	+0.7
	baz=142						
O16K	**Kokwok River B**	**5.61**	**311**		Pn	20 18 02.1	+0.4
O16K	**Kokwok River B**	**5.61**	**311**	P	Pn	20 18 02.1	+0.4
	baz=124						
GHO	**Glory Hole Cre**	**5.66**	**4**	Pn	Pn	20 18 01.5	-1.0
KLU	**Klutina**	**5.73**	**19**		Pn	20 18 04.6	+1.2
KLU	**Klutina**	**5.73**	**19**	P	Pn	20 18 04.6	+1.2
	baz=202						
SML	**Sawmill**	**5.73**	**7**	Pn	Pn	20 18 00.4	-3.0
BARK	**Barkley Ridge**	**5.75**	**39**		Pn	20 18 04.2	+0.4
SVW2	**Sparrevohn**	**5.80**	**331**	Pn	Pn	20 18 04.9	+0.4
SCM	**Sheep Creek Mo**	**5.84**	**12**	Pn	Pn	20 18 05.8	+0.8
N17K	**Nushagak Hills**	**5.86**	**322**	Pn	Pn	20 18 04.9	-0.3
VRDI	**Verde Repeater**	**6.08**	**30**	Pn	Pn	20 18 08.1	-0.3
N25K	**Chitina, Valde**	**6.10**	**24**		Pn	20 18 09.8	+1.2
N25K	**Chitina, Valde**	**6.10**	**24**	P	Pn	20 18 09.8	+1.2
	baz=208						
GLB	**Gilahina Butte**	**6.16**	**28**		Pn	20 18 10.3	+1.0
O15K	**Ungalikthiuk R**	**6.17**	**304**		Pn	20 18 09.8	+0.4
O15K	**Ungalikthiuk R**	**6.17**	**304**	P	Pn	20 18 09.8	+0.4
	baz=115						
SAMH	**Samovar Hills**	**6.23**	**46**		Pn	20 18 10.5	+0.2
M24K	**Tolsona, Glenn**	**6.26**	**16**	Pn	Pn	20 18 11.7	+0.9
N16K	**Nishlik Lake**	**6.41**	**316**		Pn	20 18 13.6	+0.8
N16K	**Nishlik Lake**	**6.41**	**316**	P	Pn	20 18 13.5	+0.8
	baz=129						
WASW	**Wrangell South**	**6.48**	**24**		Pn	20 18 14.9	+0.9
BARN	**Barnard Glacie**	**6.51**	**37**		Pn	20 18 14.7	+0.4
CTG	**Chitna Glacier**	**6.55**	**39**	P	Pn	20 18 15.4	+0.5
	baz=226						
CTGM	**Chitina Glacie**	**6.55**	**39**		Pn	20 18 15.3	+0.5
PNL	**Peninsula**	**6.58**	**53**		Pn	20 18 14.7	-0.3
PNL	**Peninsula**	**6.58**	**53**	P	Pn	20 18 14.7	-0.3
	baz=242						
LOGN	**Logan Glacier**	**6.58**	**41**		Pn	20 18 15.3	+0.1
L19K	**White Mountain**	**6.58**	**339**	Pn	Pn	20 18 16.4	+1.3
M17K	**Holitna River**	**6.59**	**326**		Pn	20 18 16.0	+0.8
M17K	**Holitna River**	**6.59**	**326**	P	Pn	20 18 16.0	+0.8
	baz=140						
N15K	**Kwethluk River**	**6.77**	**311**		Pn	20 18 19.0	+1.4
N15K	**Kwethluk River**	**6.77**	**311**	P	Pn	20 18 19.0	+1.4
	baz=122						
M16K	**Timber Creek**	**6.83**	**319**		Pn	20 18 19.7	+1.2
M16K	**Timber Creek**	**6.83**	**319**	P	Pn	20 18 19.7	+1.2
	baz=132						
O14K	**Tigyukauivet M**	**6.88**	**302**		Pn	20 18 19.9	+0.7
O14K	**Tigyukauivet M**	**6.88**	**302**	P	Pn	20 18 19.9	+0.7
	baz=112						
L18K	**Granite Mounta**	**7.04**	**333**	Pn	Pn	20 18 20.5	-0.8
DHY	**Denali Highway**	**7.06**	**9**	Pn	Pn	20 18 20.2	-1.6
O29M	**Mount Kennedy**	**7.25**	**50**		Pn	20 18 21.6	-2.7
O29M	**Mount Kennedy**	**7.25**	**50**	P	Pn	20 18 21.6	-2.7
	baz=240						
M15K	**Kasigluk River**	**7.30**	**313**		Pn	20 18 26.4	+1.4
M15K	**Kasigluk River**	**7.30**	**313**	P	Pn	20 18 26.4	+1.4
	baz=124						
P29M	**Windy Craggy**	**7.32**	**57**		Pn	20 18 25.0	-0.2
P29M	**Windy Craggy**	**7.32**	**57**	P	Pn	20 18 25.0	-0.2
	baz=247						
TRF	**Thorofare Moun**	**7.33**	**358**	Pn	Pn	20 18 24.4	-1.1
N14K	**Kuskokwak Cree**	**7.35**	**306**		Pn	20 18 26.4	+0.9
N14K	**Kuskokwak Cree**	**7.35**	**306**	P	Pn	20 18 26.4	+0.9
	baz=116						
CAST	**Castle Rocks**	**7.38**	**352**	Pn	Pn	20 18 25.1	-1.0
M27K	**Edge Creek, AK**	**7.43**	**30**	Pn	Pn	20 18 24.9	-2.0
L16K	**Owhat River**	**7.48**	**322**	Pn	Pn	20 18 26.3	-1.1
K17K	**Iditarod**	**7.87**	**330**	Pn	Pn	20 18 33.0	+0.2
N32M	**Quiet Lake**	**10.04**	**53**	Pn	Pn	20 18 59.6	-3.0

*AEIC **24** 20:25:24.5±2.3,55°.9N±0°.1×150°.0W±0°.1,h12km±9km, Error ellipse: s-maj=18.9km s-min=9.8km az=188.0*

NEIC 24 20:25:21.2±2.6,56°.0N±0°.1×150°.0W±0°.1,h10km±2km, ML3.0/20,ML3.0(AEIC),Error ellipse: s-maj=18.1km s-min=10.9km az=185.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**306**		Pn	20 25 57.1	-0.4
OHAK					Sn	20 26 22.1	-2.5
KDAK	**Kodiak Island**	**2.28**	**323**		Pn	20 25 59.3	+0.4
KDAK					Sn	20 26 25.9	-1.0
R18K	**Karluk**	**2.90**	**305**		Pn	20 26 08.0	+0.7
R18K	**Karluk**	**2.90**	**305**	IAML		20 27 14.2	
	comp=E,57nm,1.2s						
R18K				IAML		20 27 35.9	
	comp=N,59nm,1.4s						
SYI	**Shuyak Island**	**2.92**	**335**		Pn	20 26 08.5	+0.8
SYI				IAML		20 27 31.8	
	comp=E,38nm,1.4s						
SYI	**Shuyak Island**	**2.92**	**335**		Sn	20 26 41.9	-0.9
SYI	**Shuyak Island**	**2.92**	**335**	IAML		20 26 35.6	
	comp=N,43nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.51**	**318**		Pn	20 26 17.1	+1.2
Q19K	**Cape Douglas,**	**3.53**	**328**		Pn	20 26 17.4	+1.2
Q19K					Sn	20 26 56.7	-1.3
CNPM	**China Poot**	**3.60**	**350**		Pn	20 26 17.1	0.0
CNPM					Sn	20 26 57.7	-1.9
CNPM	**China Poot**	**3.60**	**350**	IAML		20 27 41.1	
	comp=E,30nm,1.4s						
ANCK	**Angle Creek**	**3.71**	**309**		Pn	20 26 17.8	-0.8
BRSE	**Bradley Lake S**	**3.78**	**355**		Pn	20 26 19.3	-0.3
BRLK	**Bradley Lake**	**3.81**	**354**		Pn	20 26 19.5	-0.5
BRLK	**Bradley Lake**	**3.81**	**354**	IAML		20 27 03.3	
	comp=N,14nm,1.5s						
Q23K	**Middleton Isla**	**3.97**	**28**		Pn	20 26 21.0	-1.2
P19K	**Oil Pt**	**4.05**	**336**		Pn	20 26 24.0	+0.8
P19K	**Oil Pt**	**4.05**	**336**	IAML		20 28 16.0	
	comp=E,41nm,1.1s						
P23K	**Montague Islan**	**4.25**	**18**		Pn	20 26 25.9	-0.1
O20K	**Slope Mountain**	**4.33**	**343**		Pn	20 26 28.1	+1.0
IVE	**Iliamna Volcan**	**4.34**	**340**		Pn	20 26 28.2	+0.9
P18K	**Big Mountain,**	**4.40**	**323**		Pn	20 26 28.8	+0.7
P18K	**Big Mountain,**	**4.40**	**323**	IAML		20 27 22.7	
	comp=E,7.8nm,1.4s						
P18K				IAML		20 27 45.7	
	comp=N,7.9nm,1.5s						
P16K	**Nushagak River**	**5.26**	**309**		Pn	20 26 40.2	+0.4
O17K	**Koliganek Bris**	**5.34**	**318**		Pn	20 26 41.7	+0.8
N18K	**Kilae Creek**	**5.62**	**329**	Pn	Pn	20 26 45.3	+0.5
O16K	**Kokwok River B**	**5.62**	**313**	Pn	Pn	20 26 45.8	+1.0
SNH	**Sunshine Point**	**5.67**	**39**	Pn	Pn	20 26 46.0	+0.5
M17K	**Holitna River**	**6.65**	**328**	Pn	Pn	20 26 59.8	+0.9
M16K	**Timber Creek**	**6.87**	**321**	Pn	Pn	20 27 03.9	+2.0
O29M	**Mount Kennedy**	**7.44**	**50**	Pn	Pn	20 27 08.7	-1.2
P29M	**Windy Craggy**	**7.51**	**56**	Pn	Pn	20 27 12.0	+1.3
L16K	**Owhat River**	**7.54**	**323**	Pn	Pn	20 27 09.6	-1.4
M13K	**Dall Lake**	**8.31**	**308**	Pn	Pn	20 27 21.5	0.0

*AEIC **24** 20:26:26.7±3.0,55°.45N±0°.07×149°.8W±0°.1,h10km±7km, Error ellipse: s-maj=13.1km s-min=7.5km az=127.0*

NEIC 24 20:26:31.7±2.0,56°.12N±0°.02×150°.2W±0°.1,h10km±2km, ML2.8/16,ML3.0(AEIC),Error ellipse: s-maj=13.6km s-min=4.7km az=262.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.05**	**304**		Pn	20 27 04.5	-1.7
OHAK					Sb	20 27 34.0	-0.5
KDAK	**Kodiak Island**	**2.13**	**322**		Pn	20 27 06.2	-1.1
KDAK	**Kodiak Island**	**2.13**	**322**		Sb	20 27 38.1	+1.2
KDAK	**Kodiak Island**	**2.13**	**322**	Sn	Sn	20 27 33.4	-0.4
SYI	**Shuyak Island**	**2.77**	**335**		Pn	20 27 18.0	+1.9
SYI				IAML		20 28 28.0	
	comp=N,40nm,1.5s						
SYI				IAML		20 28 45.0	
	comp=E,51nm,1.4s						
SYI	**Shuyak Island**	**2.77**	**335**		Sb	20 27 52.9	-2.4
KAHG	**Katmai Hook Gl**	**3.37**	**317**		Pn	20 27 24.1	-0.3
Q19K	**Cape Douglas,**	**3.39**	**328**		Pn	20 27 24.9	+0.4
Q19K	**Cape Douglas,**	**3.39**	**328**	IAML		20 28 26.1	
	comp=E,212nm,1.4s						
Q19K				IAML		20 28 32.8	
	comp=N,136nm,1.5s						
CNPM	**China Poot**	**3.46**	**351**		Pn	20 27 25.5	-0.1
CNPM	**China Poot**	**3.46**	**351**	IAML		20 28 11.4	
	comp=N,31nm,1.5s						
CNPM				IAML		20 29 40.3	
	comp=E,22nm,1.3s						
BRLK	**Bradley Lake**	**3.67**	**354**	Pn	Pn	20 27 27.6	-0.9
BRLK				IAML		20 28 05.3	
	comp=N,9.9nm,1.4s						
BRLK				IAML		20 29 25.0	
	comp=E,11nm,1.2s						
Q23K	**Middleton Isla**	**3.89**	**30**		Pn	20 27 27.7	-3.7
Q23K	**Middleton Isla**	**3.89**	**30**	IAML		20 28 42.2	
	comp=E,177nm,1.4s						
Q23K				IAML		20 28 54.7	
	comp=N,129nm,1.4s						
IVE	**Iliamna Volcan**	**4.19**	**340**		Pn	20 27 35.7	0.0
P18K	**Big Mountain,**	**4.26**	**322**		Pn	20 27 36.9	+0.3
P18K				IAML		20 29 13.8	
	comp=E,4.9nm,1.5s						
P18K				IAML		20 29 50.4	
	comp=N,11nm,1.4s						
GHO	**Glory Hole Cre**	**5.70**	**6**	Pn	Pn	20 27 55.3	-1.1
SVW2	**Sparrevohn**	**5.74**	**333**	Pn	Pn	20 27 58.1	+1.3
N17K	**Nushagak Hills**	**5.76**	**323**	Pn	Pn	20 27 56.8	-0.3
SML	**Sawmill**	**5.78**	**9**	Pn	Pn	20 27 57.2	-0.3
KLU	**Klutina**	**5.81**	**20**	Pn	Pn	20 27 55.4	-2.5
SCM	**Sheep Creek Mo**	**5.91**	**13**	Pn	Pn	20 27 58.5	-0.7
N25K	**Chitina, Valde**	**6.20**	**25**	Pn	Pn	20 28 04.0	+0.8
GLB	**Gilahina Butte**	**6.27**	**29**	Pn	Pn	20 28 04.9	+0.8
M24K	**Tolsona, Glenn**	**6.34**	**17**	Pn	Pn	20 28 04.9	-0.3
M17K	**Holitna River**	**6.51**	**327**	Pn	Pn	20 28 08.1	+0.7
L19K	**White Mountain**	**6.54**	**340**	Pn	Pn	20 28 08.4	+0.6
PCA	**Pinnacle**	**6.58**	**49**	Pn	Pn	20 28 09.3	+0.9
N15K	**Kwethluk River**	**6.64**	**312**	Pn	Pn	20 28 09.7	+0.5
BARN	**Barnard Glacie**	**6.64**	**38**	Pn	Pn	20 28 09.3	-0.1
M16K	**Timber Creek**	**6.73**	**320**	Pn	Pn	20 28 10.2	-0.2
L16K	**Owhat River**	**7.39**	**323**	Pn	Pn	20 28 20.5	+1.1
P29M	**Windy Craggy**	**7.49**	**57**	Pn	Pn	20 28 19.2	-1.7
M27K	**Edge Creek, AK**	**7.55**	**31**	Pn	Pn	20 28 23.1	+1.3

*DNK **24** 20:27:04.3±1.4,51°.54N×16°.36E,h10km,ML2.2*
*IPEC **24** 20:27:06.6±0.2,51°.57N×16°.21E,h1km,ML2.9/4, Error ellipse: s-maj=1.6km s-min=1.0km az=32.0*
*BGR **24** 20:27:07.0±0.5,51°.58N×16°.15E,h1km,ML3.2/16, Error ellipse: s-maj=5.6km s-min=2.2km az=17.0*
*IDC **24** 20:27:07.4±0.8,51°.53N×16°.06E,h0km, mbtmp3.4/6, ML3.1/5, Error ellipse: s-maj=14.0km s-min=7.6km az=119.0*
*LDG **24** 20:27:08.5±0.7,51°.55N×16°.07E,h1km,Ml3.5/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0, Suspected Mining induced.*
*PRU **24** 20:27:09.7,51°.47N×16°.10E,h0km*

ISC 24 20:27:04.6±0.7,51°.65N±0°.03×16°.10E±0°.02,h0km,n89, σ1§56/164,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.82**	**172**	*e*Pg	**Pg**	**20 27 21.0**	**+0.8**
KSP				*e*Sg	**Sg**	**20 27 30.6**	**-0.3**
KSP	**Ksiaz**	**0.82**	**172**	*e*Pg	**Pg**	**20 27 21.1**	**+0.8**
KSP				*e*Sg	**Sg**	**20 27 31.2**	**+0.3**
CHVC	**Chvalec**	**1.06**	**182**	*e*PG	**Pb**	**20 27 25.7**	**-0.2**
CHVC				*e*SG	**Sg**	**20 27 38.9**	**+0.1**
	comp=Z,160nm,0.4s						
OSTC	**Ostas**	**1.10**	**176**	*e*PG	**Pb**	**20 27 26.5**	**0.0**
OSTC				*e*SG	**Sg**	**20 27 39.9**	**+0.1**
	comp=Z,179nm,0.9s						
UPC	**Upice**	**1.15**	**183**	*e*PG	**Pb**	**20 27 27.1**	**-0.2**
UPC				*e*SG	**Sg**	**20 27 41.2**	**-0.2**
DPC	**Dobruska-Polom**	**1.31**	**174**	*e*PG	**Pg**	**20 27 29.9**	**+0.2**
DPC				*e*SG	**Sg**	**20 27 45.4**	**-1.2**
	comp=Z,117nm,0.5s						
DPC	**Dobruska-Polom**	**1.31**	**174**	*e*Pg	**Pg**	**20 27 29.8**	**+0.1**
DPC				*e*Sg	**Sg**	**20 27 45.7**	**-1.0**
PVCC	**Panska Ves**	**1.48**	**221**	*e*PG	**Pb**	**20 27 34.0**	**+1.0**
PVCC				*e*SG	**Sn**	**20 27 53.5**	**+0.9**
	comp=Z,482nm,0.3s						
BRG	**Berggiesshubel**	**1.56**	**241**	Pn	**Pn**	**20 27 34.1**	**+0.5**
BRG				Pg	**Pg**	**20 27 36.1**	**+1.5**
BRG				Sg	**Sg**	**20 27 56.5**	**+1.7**
BRG				Amp		20 27 59.8	
	comp=Z,173nm,0.4s

KHC	**Kasperske Hory**	**3.00 214**	*e*PN	**Pn**	**20 27 54.1**	**+0.7**
KHC			*e*PG	**Pb**	**20 27 59.8**	**+1.0**
KHC			*e*SN	**Sn**	**20 28 28.2**	**-1.8**
KHC			*e*SG	**Sg**	**20 28 40.0**	**-0.8**
	comp=Z,42nm,0.4s					
MOX	**Moxa**	**3.00 252**	*e*Pg	**Pg**	**20 28 03.1**	**+1.0**
MOX			*e*Sg	**Sg**	**20 28 42.5**	**+1.6**
MANZ	**Manzenberg**	**3.03 238**	*e*Pg	**Pg**	**20 28 03.9**	**+1.2**
MANZ			*e*Sg	**Sg**	**20 28 43.3**	**+1.3**
CKRC	**Cesky Krumlov**	**3.06 203**	*e*PN	**Pn**	**20 27 55.5**	**+1.3**
CKRC			*e*PG	**Pb**	**20 28 01.6**	**+1.7**
CKRC			*e*SG	**Sb**	**20 28 39.6**	**+1.8**
	comp=Z,44nm,0.5s					
ROTZ	**Rotzenmuhle**	**3.11 234**	*e*Pn	**Pn**	**20 27 56.1**	**+1.1**
GEC2	**GERESS Array S**	**3.20 210**	*e*Pn	**Pn**	**20 27 57.6**	**+1.4**
GERES	**GERESS Array B**	**3.20 210**	Pn	**Pn**	**20 27 57.7**	**+1.4**
	comp=Z,3.7nm,0.3s,baz=32,slow=13,SNR=46					
GERES			Pg	**Pb**	**20 28 03.9**	**+1.4**
	comp=Z,9.6nm,0.3s,baz=32,slow=17,SNR=19					
GERES			Sn	**Sn**	**20 28 33.3**	**-1.9**
	comp=Z,4.9nm,0.3s,baz=32,slow=20,SNR=4.9					
GERES			Lg	Lg	20 28 45.3	
	comp=Z,10nm,0.3s,baz=27,slow=27,SNR=9.9					
	comp=Z,7.2nm,0.3s					
WET	**Wettzell**	**3.25 221**	*e*Pn	**Pn**	**20 27 57.8**	**+1.0**
MODS	**Modra-Piesok**	**3.37 167**	*e*PN	**Pn**	**20 27 59.8**	**+1.3**
MODS			*e*PG	**Pg**	**20 28 09.4**	**+0.3**
MODS			*e*SG	**Sg**	**20 28 51.7**	**-1.0**
BSD	**Bornholm Skovb**	**3.54 349**	*i* P	**Pn**	**20 28 02.2**	**+1.4**
BSD			*i* S	**Sn**	**20 28 44.5**	**+1.1**
BSD			IAML		20 29 03.9	
	comp=Z,2.5nm,0.3s					
CLZ	**Clausthal**	**3.57 275**	*e*Pg	**Pg**	**20 28 13.8**	**+0.9**
VYHS	**Vyhne**	**3.62 150**	*e*PN	**Pn**	**20 28 02.2**	**+0.3**
VYHS			*e*PG	**Pg**	**20 28 14.8**	**+0.9**
VYHS			*e*SG	**Sg**	**20 29 00.5**	**-0.3**
GRF	**Grafenberg Arr**	**3.67 240**	*e*Sg	**Sg**	**20 29 03.2**	**+0.6**
CONA	**Conrad Observa**	**3.73 182**	*e*Pn	**Pn**	**20 28 04.3**	**+0.8**
	comp=Z,2.7nm,0.3s,SNR=14					
CONA			*i* Sn	**Sn**	**20 28 50.0**	**+1.9**
	comp=Z,14nm,0.5s					
RONA	**Rosalia, Austr**	**3.96 178**	*i* Pn	**Pn**	**20 28 07.3**	**+0.7**
	comp=Z,0.6nm,0.2s					
RONA			*e*Sn	**Sn**	**20 28 54.4**	**+0.7**
	comp=Z,5.2nm,0.3s					
STHS	**Stebnicka Huta**	**3.97 122**	*e*PN	**Pn**	**20 28 07.0**	**+0.3**
STHS			*e*PG	**Pg**	**20 28 21.3**	**+0.6**
MOA	**Molln**	**3.99 198**	*i* Pn	**Pn**	**20 28 08.1**	**+1.1**
	comp=Z,13nm,0.3s,SNR=42					
MOA			*i* Sn	**Sn**	**20 28 55.4**	**+1.0**
	comp=Z,3.3nm,0.3s					
KECS	**Kecovo**	**4.25 137**	*e*PG	**Pg**	**20 28 27.6**	**+1.7**
KECS			*e*SG	**Sg**	**20 29 21.9**	**+1.0**
BIOA	**Bad Ischl, Aus**	**4.27 203**	*i* Pn	**Pn**	**20 28 12.0**	**+1.1**
	comp=Z,9.1nm,0.4s,SNR=7.2					
BIOA			*e*Sn	**Sn**	**20 29 02.7**	**+1.2**
	comp=Z,10nm,0.5s					
LUNU	**Lund**	**4.29 339**	*i* P	**Pn**	**20 28 12.0**	**+0.9**
LUNU			*i* S	**Sn**	**20 29 02.6**	**+0.8**
CRVS	**Cervenica-Dubn**	**4.40 127**	*e*PN	**Pn**	**20 28 15.8**	**+3.1**
CRVS			*e*PG	**Pg**	**20 28 30.5**	**+1.6**
CRVS			*e*SG	**Sg**	**20 29 26.3**	**+0.3**
ARSA	**Arzberg**	**4.42 185**	*i* Pn	**Pn**	**20 28 15.4**	**+2.5**
	comp=Z,1.5nm,0.3s					
ARSA			*i* Sn	**Sn**	**20 29 05.1**	**0.0**
	comp=Z,4.6nm,0.6s					
BLEU	**Blekinge**	**4.67 358**	*i* P	**Pn**	**20 28 17.0**	**+0.8**
BLEU			*i* S	**Sn**	**20 29 09.4**	**-1.6**
LESA	**Schwarzleotal**	**4.78 209**	*i* Pn	**Pn**	**20 28 18.8**	**+0.8**
	comp=Z,0.7nm,0.2s					
LESA			*e*Sn	**Sn**	**20 29 15.9**	**+1.8**
	comp=Z,1.2nm,0.3s					
BJUU	**Bjuv**	**4.79 339**	*i* P	**Pn**	**20 28 19.7**	**+1.8**
BJUU			*i* S	**Sn**	**20 29 12.8**	**-1.4**
KOLS	**Kolonicke sedl**	**4.80 122**	*e*PN	**Pn**	**20 28 19.1**	**+1.0**
KOLS			*e*PG	**Pg**	**20 28 39.6**	**+3.0**
KOLS			*e*SG	**Sg**	**20 29 40.5**	**+1.8**
KBA	**Koelnbreinsper**	**4.92 203**	*e*Pn	**Pn**	**20 28 21.3**	**+1.4**
	comp=Z,8.8nm,0.4s,SNR=15					
KBA			*i* Sn	**Sn**	**20 29 18.0**	**+0.4**
	comp=Z,3.5nm,0.5s					
DEL	**Delary**	**5.00 346**	*i* P	**Pn**	**20 28 21.4**	**+0.5**
DEL			*i* S	**Sn**	**20 29 18.9**	**-0.5**
SOKA	**Soboth**	**5.03 188**	*i* Pn	**Pn**	**20 28 23.2**	**+1.9**
	comp=Z,1.3nm,0.4s,SNR=5.9					
SOKA			*i* Sn	**Sn**	**20 29 20.2**	**+0.1**
	comp=Z,0.6nm,0.3s					
WATA	**Walderalm**	**5.23 216**	*i* Pn	**Pn**	**20 28 26.1**	**+2.0**
	comp=Z,3.5nm,0.5s					
WATA			*i* Sn	**Sn**	**20 29 26.4**	**+1.2**
	comp=Z,2.3nm,0.3s					
OBKA	**Obir**	**5.25 192**	*i* Pn	**Pn**	**20 28 25.3**	**+1.0**
	comp=Z,0.5nm,0.4s					
OBKA			*i* Sn	**Sn**	**20 29 27.6**	**+2.0**
	comp=Z,1.3nm,0.3s					
WTTA	**Wattenberg**	**5.27 215**	*i* Pn	**Pn**	**20 28 27.0**	**+2.2**
	comp=Z,1.7nm,0.3s,SNR=4.7					
WTTA			*i* Sn	**Sn**	**20 29 28.9**	**+2.6**
	comp=Z,3.5nm,0.6s					
MYKA	**Terra Mystica**	**5.28 199**	*i* Pn	**Pn**	**20 28 25.4**	**+0.6**
	comp=Z,0.9nm,0.4s					
MYKA			*i* Sn	**Sn**	**20 29 26.5**	**+0.2**
	comp=Z,0.9nm,0.3s					
MOTA	**Moosalm**	**5.40 219**	*i* Pn	**Pn**	**20 28 27.4**	**+0.9**
	comp=Z,0.5nm,0.2s					
MOTA			*e*Sn	**Sn**	**20 29 27.7**	**-1.8**
	comp=Z,3.5nm,0.5s					
RETA	**Reutte**	**5.42 222**	*e*Pg	**Pg**	**20 28 48.8**	**+0.2**
	comp=Z,2.5nm,0.3s					
RETA			*e*Sn	**Sn**	**20 29 32.2**	**+2.3**
	comp=Z,21nm,0.7s					
ABTA	**Abfaltersbach**	**5.44 207**	*e*Pn	**Pn**	**20 28 28.6**	**+1.6**
	comp=Z,1.0nm,0.3s,SNR=5.2					
ABTA			*i* Sn	**Sn**	**20 29 33.5**	**+3.1**
	comp=Z,2.8nm,0.4s					
SQTA	**Sankt Quirin**	**5.46 218**	*i* Pn	**Pn**	**20 28 29.8**	**+2.4**
	comp=Z,1.5nm,0.2s,SNR=8.1					
SQTA			*i* Sn	**Sn**	**20 29 31.6**	**+0.7**
	comp=Z,2.2nm,0.3s					
FETA	**Feichten**	**5.81 219**	*i* Pn	**Pn**	**20 28 33.8**	**+1.6**
	comp=Z,0.5nm,0.5s					
FETA			*i* Sn	**Sn**	**20 29 40.4**	**+0.8**
	comp=Z,1.8nm,0.6s					
DAVOX	**Davos/Dischmat**	**6.35 222**	Pn	**Pn**	**20 28 41.3**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=38,slow=18					
DAVOX			Lg	Lg	20 30 25.2	
	comp=Z,1.1nm,0.3s,baz=273,slow=10.0,SNR=4.7					
CDF	**Champ du Feu**	**6.54 244**	*e*Pn	**Pn**	**20 28 41.9**	**-0.3**
CDF			*e*Sg	**Sg**	**20 30 29.3**	**-5.4**
	comp=Z,46nm,1.0s					
HINF	**Hinteralfeld**	**7.12 241**	*e*Pg	**Pg**	**20 29 18.1**	**-2.8**
HINF			*e*Sg	**Sg**	**20 30 47.1**	**-5.9**
	comp=Z,7.7nm,0.6s					
NACGM	**Naroch**	**7.18 59**	*e*P	Pn	20 28 57.8	+7.0
	comp=Z,8.0nm,0.9s,baz=245					
HAU	**Haudompre**	**7.29 244**	*e*Pg	**Pg**	**20 29 21.6**	**-2.5**
HAU			*e*Sg	**Sg**	**20 30 52.3**	**-6.2**
	comp=Z,30nm,1.0s					
GIVF	**Givet**	**7.30 262**	*e*Sg	**Sg**	**20 30 55.2**	**-3.8**
	comp=Z,6.5nm,0.5s					
BAIF	**Baives**	**7.70 263**	*e*Pn	**Pn**	**20 28 58.3**	**+0.4**
BAIF			*e*Sn	**Sn**	**20 30 19.3**	**-6.4**
	comp=Z,3.9nm,0.4s					
AKASG	**Malin Array Be**	**8.30 91**	Pn	**Pn**	**20 29 05.6**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=279,slow=12,SNR=9.2					
	comp=Z,0.4nm,0.4s					
HFS	**Hagfors**	**8.61 352**	Pn	**Pn**	**20 29 11.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=174,slow=16,SNR=1.3					
	comp=Z,2.1nm,0.7s					
MBDF	**Montbardon**	**9.31 226**	*e*Pn	**Pn**	**20 29 20.5**	**+0.3**
SBF	**Sospel**	**9.73 220**	*e*Pn	**Pn**	**20 29 26.8**	**+1.0**
LMR	**La Mourre**	**10.54 222**	*e*Pn	**Pn**	**20 29 37.6**	**+0.7**
FINES	**FINESS Array B**	**11.24 25**	Pn	**Pn**	**20 29 46.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=11,SNR=8.3					
	comp=Z,1.1nm,0.4s					
EKA	**Eskdalemuir Ar**	**12.04 295**	Pn	**Pn**	**20 29 55.5**	**-1.8**
	baz=93,slow=13					
ARCES	**ARCESS Array B**	**18.48 10**	P	**P**	**20 31 20.0**	**-1.8**
	comp=Z,3.7nm,1.0s,baz=194,slow=14,SNR=2.0					

*IDC **24** 20:54:53.7±1.3,41°.28N×83°.76E,h0km,mb3.8/3, mbtmp3.6/9,ML3.1/6,MS3.1/3,Error ellipse: s-maj=25.0km s-min=15.0km az=67.0*
*NNC **24** 20:55:00.6±1.9,41°.44N×83°.58E,h9km±6km,mb4.4, mpv4.0,Error ellipse: s-maj=13.0km s-min=8.9km az=154.0*
*SOME **24** 20:55:01.7,41°.10N×83°.13E,h10km*
ISC 24 20:54:55.1±0.8,**41°.25N**±0°.05×**83°.78E**±0°.04,**h10**km,**n68,**
s355/93,mb3.9/3,13C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.36**	**312**	Pg	**Pg**	**20 56 00.9**	**+1.4**
	61nm,0.6s						
KTMS				Lg	Lg	20 56 43.4	
	109nm,0.6s						
KTMS	**Ketmen**	**3.36**	**312**	*e*P	**Pg**	**20 55 58.8**	**-0.7**
	28nm,0.2s						
KTMS				*e*S	**Sg**	**20 56 40.0**	**-3.0**
	110nm,0.3s						
SHLS	**Shalkode**	**3.73**	**302**	Pg	**Pb**	**20 55 59.5**	**-1.7**
	69nm,0.3s						
SHLS				Lg	Lg	20 56 41.2	
	1μm,0.3s						
SHLS	**Shalkode**	**3.73**	**302**	*e*P	**Pb**	**20 55 59.5**	**-1.7**
	69nm,0.1s						
SHLS				*e*S	**Sn**	**20 56 41.1**	**+4.1**
	1μm,0.3s						
PDGK	**Podgornoye**	**3.80**	**305**	Pg	**Pg**	**20 56 05.9**	**-2.1**
	23nm,0.4s						
PDGK				Lg	Lg	20 56 52.1	
	105nm,0.6s						
UZB	**Uzynbulak**	**4.01**	**300**	Pg	**Pb**	**20 56 08.8**	**+2.8**
	31nm,0.4s						
UZB				Lg	Lg	20 56 57.2	
	181nm,0.7s						
UZB	**Uzynbulak**	**4.01**	**300**	*e*P	**Pb**	**20 56 08.8**	**+2.8**
	32nm,0.2s						
UZB				*e*S	**Sb**	**20 56 57.2**	**+2.6**
	202nm,0.2s						
DJR	**Jarkent**	**4.26**	**318**	Pg	**Pg**	**20 56 16.2**	**-0.4**
	58nm,0.8s						
DJR				Lg	Lg	20 57 09.8	
	108nm,0.8s						
DJR	**Jarkent**	**4.26**	**318**	*e*P	**Pg**	**20 56 16.2**	**-0.4**
	58nm,0.3s						
DJR				*e*S	**Sg**	**20 57 09.8**	**-2.0**
	108nm,0.4s						
KPKS	**Kokpek**	**4.38**	**302**	Pg	**Pb**	**20 56 15.4**	**+3.2**
	67nm,0.8s						
KPKS				Lg	Lg	20 57 08.0	
	161nm,0.6s						
KPKS	**Kokpek**	**4.38**	**302**	*e*P	**Pb**	**20 56 15.4**	**+3.2**
	67nm,0.3s						
KPKS				*e*S	**Sb**	**20 57 08.0**	**+2.9**
	181nm,0.2s						
SATY	**Saty**	**4.39**	**296**	Pg	**Pg**	**20 56 16.4**	**-2.8**
	43nm,0.6s						
SATY				Lg	Lg	20 57 10.0	
	92nm,0.6s						
SATY	**Saty**	**4.39**	**296**	*e*P	**Pg**	**20 56 16.4**	**-2.8**
	38nm,0.2s						
SATY				*e*S	**Sb**	**20 57 10.0**	**+4.6**
	124nm,0.3s						
ZHN	**Zhinishke**	**4.41**	**298**	Pg	**Pb**	**20 56 15.8**	**+3.0**
	23nm,0.7s						
ZHN				Lg	Lg	20 57 09.0	
	142nm,0.5s						
ZHN	**Zhinishke**	**4.41**	**298**	*e*P	**Pb**	**20 56 15.8**	**+3.0**
	22nm,0.2s						
ZHN				*e*S	**Sb**	**20 57 08.9**	**+2.9**
	156nm,0.2s						
KNOS	**Konyrlen**	**4.60**	**314**	Pg	**Pg**	**20 56 21.9**	**-1.2**
	76nm,1.3s						
KNOS				Lg	Lg	20 57 19.1	
	50nm,0.8s						
KURS	**Kuram**	**4.72**	**300**	Pg	**Pg**	**20 56 22.7**	**-2.9**
	38nm,0.7s						
KURS				Lg	Lg	20 57 20.7	
	70nm,0.7s						
KURS	**Kuram**	**4.72**	**300**	*e*P	**Pg**	**20 56 22.6**	**-2.9**
	25nm,0.3s						
KURS				*e*S	**Sb**	**20 57 20.7**	**+5.8**
	70nm,0.7s						
BLB	**Baldybastay**	**4.84**	**308**	Pg	**Pg**	**20 56 24.6**	**-3.1**
	62nm,0.5s						
BLB				Lg	Lg	20 57 24.2	
	38nm,0.9s						
KAPS	**Kapalarasan**	**5.17**	**323**	Pg	**Pg**	**20 56 33.4**	**-0.7**
	37nm,0.4s						
KAPS				Lg	Lg	20 57 39.3	
	84nm,0.6s						
KAPS	**Kapalarasan**	**5.17**	**323**	*e*P	**Pg**	**20 56 33.4**	**-0.7**
	36nm,0.2s						
KAPS				*e*S	**Sg**	**20 57 39.3**	**-1.7**
	84nm,0.6s						
ARXS	**Arharly**	**5.29**	**306**	Pg	**Pg**	**20 56 33.5**	**-2.9**
	26nm,0.7s						
ARXS				Lg	Lg	20 57 39.7	
	37nm,0.7s						
ARXS	**Arharly**	**5.29**	**306**	*e*P	**Pg**	**20 56 33.6**	**-2.9**
	10nm,0.3s						
ARXS				*e*S	**Sg**	**20 57 39.7**	**-5.4**
	76nm,0.3s						
KOTS	**Kotyrbulak**	**5.33**	**294**	Pg	**Pg**	**20 56 35.4**	**-1.9**
	41nm,0.9s						
KOTS				Lg	Lg	20 57 42.5	
	171nm,0.8s						
KOTS	**Kotyrbulak**	**5.33**	**294**	*e*P	**Pg**	**20 56 33.8**	**-3.4**
	23nm,0.1s						
KOTS				*e*S	**Sg**	**20 57 40.0**	**-6.3**
	192nm,0.2s						
MDOK	**Medeo**	**5.36**	**293**	Pn	**Pn**	**20 56 17.2**	**+2.0**
	9.4nm,0.4s						
MDOK				Pg	**Pg**	**20 56 33.9**	**-3.7**
	24nm,0.9s						
MDOK				Sn	**Sn**	**20 57 19.4**	**+2.4**
	28nm,0.5s						
MDOK				Lg	Lg	20 57 40.8	
	46nm,0.8s						
MDOK				Lg	Lg	20 57 45.6	
	82nm,0.9s						
MDOK	**Medeo**	**5.36**	**293**	*e*P	**Pg**	**20 56 34.3**	**-3.4**
	24nm,0.3s						
MDOK				*e*S	**Sg**	**20 57 40.8**	**-6.2**
	87nm,0.3s						
TNSS	**Tian-Shan**	**5.39**	**292**	Pg	**Pg**	**20 56 35.5**	**-2.8**
	17nm,0.5s						
TNSS				Lg	Lg	20 57 43.2	
	45nm,0.7s						
TNSS	**Tian-Shan**	**5.39**	**292**	*e*P	**Pb**	**20 56 34.3**	**+4.7**
	18nm,0.2s						
TNSS				*e*S	**Sb**	**20 57 41.0**	**+6.6**
	69nm,0.3s						
KNDC	**Almaty**	**5.43**	**294**	⇓Pn	**Pn**	**20 56 18.7**	**+2.5**
	29nm,0.4s						
KNDC				⇑Sn	**Sn**	**20 57 22.6**	**+3.9**
	42nm,0.7s						
KNDC				⇑Lg	Lg	20 57 46.2	
	262nm,1.1s						
MK31	**Makanchi Array**	**5.65**	**350**	⇑Pn	**Pn**	**20 56 21.1**	**+1.9**
	0.3nm,0.2s,baz=168,slow=12,SNR=105						
MK31				⇓Pg	**Pg**	**20 56 41.3**	**-1.9**
	2.3nm,0.4s,baz=171,slow=15,SNR=8.7						
MK31				⇑Sn	**Sn**	**20 57 27.1**	**+3.1**
	17nm,0.8s,baz=198,slow=17,SNR=4.3						
MK31				⇑Lg	Lg	20 57 55.3	
	152nm,0.9s,baz=163,slow=26,SNR=3.7						
MKAR	**Makanchi Array**	**5.65**	**350**	Pn	**Pn**	**20 56 21.0**	**+1.9**
	0.7nm,0.3s,baz=168,slow=13,SNR=51						
MKAR				Sn	**Sn**	**20 57 24.0**	**0.0**
	6.2nm,0.3s,baz=180,slow=26,SNR=9.0						
MKAR				Lg	Lg	20 57 54.9	
	11nm,0.3s,baz=164,slow=27,SNR=7.0						
	1.0nm,0.3s						
CHKK	**Chushkaly**	**5.65**	**300**	Pg	**Pg**	**20 56 39.1**	**-4.3**
	7.9nm,0.4s						
CHKK				Lg	Lg	20 57 49.3	
	28nm,0.3s						
CHKK	**Chushkaly**	**5.65**	**300**	*e*P	**Pg**	**20 56 39.1**	**-4.3**
	7.9nm,0.1s						
CHKK				*e*S	**Sb**	**20 57 49.3**	**+7.7**
	28nm,0.3s						
KASK	**Kaskelen**	**5.66**	**293**	⇑Pg	**Pb**	**20 56 38.3**	**+4.4**
KASK				⇑Lg	Lg	20 58 00.7	
MAKZ	**Makanchi**	**5.71**	**347**	⇑Pn	**Pn**	**20 56 20.6**	**+0.6**
	0.9nm,0.3s						
MAKZ				⇑Sn	**Sn**	**20 57 24.9**	**-0.6**
	14nm,0.5s						
MAKZ				⇓Lg	Lg	20 57 58.3	
	64nm,1.0s						
ULHL	**Ulahol**	**5.73**	**283**	P	**Pn**	**20 56 22.5**	**+2.1**
	SNR=25						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTBS	**Maitube**	**5.78**	**291**	Pg	**Pg**	**20 56 42.1**	**-3.7**
	7.1nm,0.4s						
MTBS				Lg	Lg	20 57 54.4	
	45nm,0.5s						
MTBS	**Maitube**	**5.78**	**291**	*e*P	**Pg**	**20 56 42.1**	**-3.7**
	7.1nm,0.1s						
MTBS				*e*S	**Sg**	**20 57 54.4**	**-6.2**
	45nm,0.2s						
KTBS	**Karatobe**	**5.80**	**297**	Pg	**Pg**	**20 56 41.9**	**-4.2**
	10nm,0.5s						
KTBS				Lg	Lg	20 57 54.0	
	88nm,0.6s						
KTBS	**Karatobe**	**5.80**	**297**	*e*P	**Pg**	**20 56 41.9**	**-4.2**
	9.2nm,0.2s						
KTBS				*e*S	**Sg**	**20 57 54.0**	**-7.3**
	88nm,0.3s						
KST	**Kastek**	**6.08**	**290**	*e*P	**Pb**	**20 56 45.4**	**+4.2**
	9.3nm,0.3s						
KST				*e*S	**Sb**	**20 58 00.1**	**+5.9**
	63nm,0.6s						
KUU	**Kurty**	**6.10**	**298**	Pg	**Pg**	**20 56 47.5**	**-4.4**
	10nm,0.8s						
KUU				Lg	Lg	20 58 03.5	
	54nm,0.9s						
KUU	**Kurty**	**6.10**	**298**	*e*P	**Pg**	**20 56 47.5**	**-4.4**
	10.0nm,0.2s						
KUU				*e*S	**Sg**	**20 58 03.5**	**-7.3**
	55nm,0.4s						
TKM2	**Tokmak 2**	**6.32**	**288**	P	**Pn**	**20 56 29.8**	**+1.3**
	SNR=34						
TKM2	**Tokmak 2**	**6.32**	**288**	⇑Pn	**Pn**	**20 56 30.2**	**+1.7**
	9.3nm,0.3s						
TKM2				⇓Sn	**Sn**	**20 57 41.4**	**+0.7**
	18nm,0.5s						
TKM2				⇑Lg	Lg	20 58 19.1	
	66nm,0.6s						
KRBS	**Karabastau**	**6.47**	**295**	Pg	Pb	20 56 52.9	+5.0
	8.8nm,0.5s						
KRBS				Lg	Lg	20 58 12.9	
	26nm,0.6s						
KRBS	**Karabastau**	**6.47**	**295**	*e*P	**Pg**	**20 56 54.9**	**-4.1**
	4.3nm,0.2s						
KRBS				*e*S	**Sg**	**20 58 16.3**	**-6.6**
	26nm,0.2s						
KBK	**Karagaybulak**	**6.74**	**285**	P	**Pn**	**20 56 35.6**	**+1.4**
	SNR=17						
CHMS	**Chumysh**	**6.94**	**288**	⇓Pg	**Pg**	**20 57 05.7**	**-2.3**
	1.3nm,0.3s						
CHMS				⇑Lg	Lg	20 58 34.6	
	19nm,0.6s						
AAK	**Ala-Archa**	**7.06**	**284**	P	**Pn**	**20 56 40.1**	**+1.4**
	SNR=6.0						
AAK	**Ala-Archa**	**7.06**	**284**	Pn	**Pn**	**20 56 39.8**	**+1.2**
	2.0nm,0.3s,baz=127,slow=7.1,SNR=32						
AAK				Sn	**Sn**	**20 57 57.4**	**-1.7**
	1.6nm,0.3s,baz=170,slow=17,SNR=1.6						
AAK				Lg	Lg	20 58 40.0	
	2.9nm,0.3s,baz=35,slow=23,SNR=2.3						
AAK				LR	LR	20 59 27.7	
	comp=Z,52nm,20.0s,baz=127,slow=39						
	3.5nm,0.3s						
USP	**Ospenovka**	**7.18**	**289**	P	**Pn**	**20 56 41.4**	**+1.3**
	SNR=36						
AML	**Almayashu**	**7.60**	**280**	⇓Pg	**Pg**	**20 57 18.3**	**-2.4**
	0.2nm,0.5s						
AML				Lg	Lg	20 59 00.4	
	5.7nm,0.7s						
GOMU	**GeErMu**	**9.98**	**117**	Pn	**Pn**	**20 57 20.1**	**+1.2**
GOMU				Sn	**Sn**	**20 59 07.3**	**-3.8**
GOMU				smax	smax		
	comp=N,26nm,1.0s						
GOMU				smax	smax		
	comp=E,19nm,1.1s						
GOMU				LR	LR		
	comp=N,190nm,5.8s						
GOMU				LR	LR		
	comp=E,180nm,5.1s						
GOMU				LR	LR		
	comp=Z,180nm,6.4s						
KK31	**Karatay Array**	**10.03**	**285**	Pg	Pn	20 57 59.9	+41
	comp=Z,3.1nm,0.6s,baz=83,slow=15,SNR=10.0						
KK31				⇓Lg	Lg	21 00 16.3	
	comp=Z,9.8nm,0.8s,baz=92,slow=25,SNR=4.2						
KURBB	**Kurchatov Arra**	**10.06**	**340**	⇑Lg	Lg	21 00 13.6	
	comp=Z,40nm,0.8s						
KURBB	**Kurchatov Arra**	**10.06**	**340**	Pn	**Pn**	**20 57 19.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=157,slow=13,SNR=4.8						
KURBB				Sn	**Sn**	**20 59 05.2**	**-7.2**
	comp=Z,0.1nm,0.3s,baz=224,slow=34,SNR=1.9						
KURBB				Lg	Lg	21 00 13.0	
	comp=Z,0.2nm,0.3s,baz=4.4,slow=30,SNR=4.4						
	comp=Z,0.6nm,0.4s						
KURK	**Kurchatov**	**10.12**	**341**	⇓Lg	Lg	21 00 14.6	
	comp=Z,38nm,0.9s						
GTA	**Gaotai**	**12.37**	**93**	*e*P	**Pn**	**20 57 52.3**	**+0.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZALV	**Zalesovo Beam**	**12.73**	**3**	Pn	**Pn**	**20 57 55.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=9.3						
ZALV				Sn	**Sn**	**21 00 10.8**	**-6.9**
	comp=Z,0.7nm,0.3s,baz=182,slow=24,SNR=5.7						
ZALV				Lg	Lg	21 01 34.6	
	baz=199,slow=27						
	comp=Z,1.3nm,0.4s						
BVAR	**Borovoye Array**	**14.86**	**327**	Pn	**Pn**	**20 58 24.4**	**-0.8**
	baz=136,slow=12,SNR=3.7						
BVAR				Lg	Lg	21 02 46.0	
	baz=130,slow=18,SNR=3.7						
BVAR				LR	LR	21 05 04.5	
	comp=Z,49nm,18.7s,baz=143,slow=41						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**17.38**	**60**	P	**P**	**20 58 58.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=255,slow=14,SNR=6.9						
SONM				Lg	Lg	21 04 03.3	
	baz=267,slow=27						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.16**	**146**	P	**P**	**21 00 30.1**	**+0.4**
	comp=Z,0.8nm,0.

	comp=N,24nm,1.4s							
EYAK	Cordova Ski Ar	4.49	21			Pn	20 56 40.5	-0.1
RAGM	Ragged Mountai	4.59	28			Pn	20 56 42.3	+0.2
RAGM	Ragged Mountai	4.59	28	IAML			20 57 36.3	
	comp=E,24nm,0.9s							
RC01	Rabbit Creek A	4.70	356	Pn		Pn	20 56 44.1	+0.6
RC01				IAML			20 57 39.8	
	comp=N,6.5nm,1.2s							
RC01				IAML			20 59 25.4	
	comp=E,6.9nm,0.9s							
GOAT	Goat Mountain	4.75	27			Pn	20 56 44.6	+0.4
BERG	Berg Lake	4.87	33			Pn	20 56 45.8	-0.1
BERG	Berg Lake	4.87	33	IAML			20 57 40.4	
	comp=E,21nm,1.4s							
SNH	Sunshine Point	4.99	38	Pn		Pn	20 56 47.8	+0.2
SNH				IAML			20 58 47.6	
	comp=N,20nm,1.0s							
SNH				IAML			20 59 33.4	
	comp=E,14nm,1.2s							
KNK	Knik Glacier	5.02	3	Pn		Pn	20 56 47.2	-0.7
KNK				IAML			20 57 28.2	
	comp=N,8.6nm,1.4s							
KNK				IAML			20 58 12.7	
	comp=E,5.1nm,1.3s							
KLU	Klutina	5.34	16	Pn		Pn	20 56 52.3	-0.1
KLU				IAML			20 58 48.9	
	comp=N,7.6nm,1.4s							
KLU				IAML			20 59 38.5	
	comp=E,8.1nm,1.3s							
GHO	Glory Hole Cre	5.37	1	Pn		Pn	20 56 51.5	-1.3
GHO				IAML			20 59 04.2	
	comp=E,8.0nm,1.3s							
GHO				IAML			20 59 47.0	
	comp=N,8.4nm,1.3s							
SML	Sawmill	5.42	4	Pn		Pn	20 56 54.1	+0.7
VRDI	Verde Repeater	5.63	29	Pn		Pn	20 56 56.9	+0.5
N25K	Chitina, Valde	5.69	22	Pn		Pn	20 56 57.5	+0.3
GLB	Gilahina Butte	5.72	26	Pn		Pn	20 56 57.6	+0.1
GLB						Sn	20 57 58.6	-4.5
SKT	Skwentna	5.72	348	Pn		Pn	20 56 56.0	-1.7
M24K	Tolsona, Glenn	5.89	13	Pn		Pn	20 56 59.9	0.0
BARN	Barnard Glacie	6.03	36	Pn		Pn	20 57 01.7	-0.3
BARN						Sn	20 58 06.1	-5.0
CTGM	Chitina Glacie	6.07	38	Pn		Pn	20 57 01.7	-0.8
CTGM						Sn	20 58 06.2	-5.9
LOGN	Logan Glacier	6.09	40	Pn		Pn	20 57 01.8	-1.0
BCPM	Bancas Point	6.10	51	Pn		Pn	20 57 02.2	-0.6
P29M	Windy Craggy	6.81	57	Pn		Pn	20 57 12.3	-0.2
M27K	Edge Creek, AK	6.99	29	Pn		Pn	20 57 15.4	+0.4
HYT	Haines Junctio	7.46	49	Pn		Pn	20 57 19.6	-2.0
BCAR	Beaver Creek A	7.60	26	Pn		Pn	20 57 23.6	+0.2
M29M	Somme Creek	8.09	37	Pn		Pn	20 57 31.0	+0.8
N31M	Braeburn, Yuko	8.52	48	Pn		Pn	20 57 34.4	-1.6
WHY	Whitehorse	8.53	54	Pn		Pn	20 57 37.1	+0.9
J26L	Joseph Creek	8.54	16	Pn		Pn	20 57 35.5	-0.9
L29M	L29M	8.67	35	Pn		Pn	20 57 38.2	+0.2
P32M	Atlin	8.73	62	Pn		Pn	20 57 38.7	-0.1
P33M	Teslin, Yukon	9.34	59	Pn		Pn	20 57 45.7	-1.5
K29M	Barlow Dome	9.39	33	Pn		Pn	20 57 47.4	-0.5
MMPY	Sheldon Lake,	10.93	48	Pn		Pn	20 58 10.2	+1.2

*NEIC **24** 21:02:45.9±1.4,55.7°N±0.1°×149.0°W±0.10,h12km±8km, ML3.5/30,ML3.3(AEIC),Error ellipse: s-maj=17.1km s-min=7.5km az=172.0*
*AEIC **24** 21:02:50.2±1.2,55.6°N±0.1°×149.10°W±0.07,h9km±8km, Error ellipse: s-maj=17.5km s-min=4.8km az=168.0*
ISC 24 21:02:43.3±2.2,55.6N±0.1°×149.08W±0.07,h10km,n92,
σ1§59/100,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
OHAK	Old Harbor	2.87	307		Pn	21 03 30.0	+1.0	
OHAK					Sn	21 04 01.5	-2.0	
OHAK	Old Harbor	2.87	307	P	Pn	21 03 30.0	+1.0	
	baz=122							
OHAK				S	Sn	21 04 01.3	-2.2	
	baz=122							
KDAK	Kodiak Island	2.94	320		Pn	21 03 31.1	+1.1	
KDAK					Sn	21 04 03.8	-1.6	
SYI	Shuyak Island	3.54	331		Pn	21 03 39.1	+0.8	
SYI					Sn	21 04 19.4	-0.8	
SYI				IAML		21 04 52.5		
	comp=E,38nm,1.4s							
Q20K	Shuyak Island	3.54	331	P	Pn	21 03 39.6	+1.3	
	baz=147							
Q20K				S	Sn	21 04 18.8	-1.4	
	baz=147							
R18K	Karluk	3.58	306		Pn	21 03 40.4	+1.6	
R18K				IAML		21 04 24.6		
	comp=N,68nm,0.9s							
R18K				IAML		21 04 46.3		
	comp=E,56nm,1.4s							
R18K	Karluk	3.58	306	P	Pn	21 03 40.4	+1.6	
	baz=120							
CNPM	China Poot	4.13	345		Pn	21 03 47.1	+0.7	
CNPM					Sn	21 04 33.3	-1.5	
MID	Middleton Isla	4.14	20	Pn	Pn	21 03 45.5	-1.0	
MID				IAML		21 06 04.7		
	comp=N,116nm,1.1s							
Q23K	Middleton Isla	4.14	20		Pn	21 03 45.5	-0.9	
Q23K	Middleton Isla	4.14	20	P	Pn	21 03 47.2	+0.8	
	baz=202							
KAHG	Katmai Hook Gl	4.18	317		Pn	21 03 49.0	+1.8	
BRSE	Bradley Lake S	4.28	349		Pn	21 03 49.1	+0.7	
BRSE					Sn	21 04 35.7	-2.6	
BRSE	Bradley Lake S	4.28	349	P	Pn	21 03 49.1	+0.7	
	baz=167							
BRSE				S	Sn	21 04 35.7	-2.6	
	baz=167							
BRLK	Bradley Lake	4.32	348		Pn	21 03 49.5	+0.6	
ACHA	Angle Creek He	4.33	310		Pn	21 03 50.9	+1.7	
ANCK	Angle Creek	4.39	309		Pn	21 03 52.5	+2.4	
P23K	Montague Islan	4.53	11		Pn	21 03 52.9	+1.0	
P23K	Montague Islan	4.53	11	P	Pn	21 03 52.9	+1.0	
	baz=192							
CNTC	Contact Creek	4.60	309		Pn	21 03 54.7	+1.8	
Q17K	Contact Creek	4.60	309	P	Pn	21 03 54.7	+1.7	
	baz=122							
P19K	Oil Pt	4.66	333		Pn	21 03 55.0	+1.3	
P19K	Oil Pt	4.66	333	P	Pn	21 03 55.1	+1.4	
	baz=149							
O20K	Slope Mountain	4.90	339		Pn	21 03 58.5	+1.4	
O20K	Slope Mountain	4.90	339	P	Pn	21 03 58.5	+1.4	
	baz=155							
IVE	Iliamna Volcan	4.93	336		Pn	21 03 58.6	+1.2	
SLKM	Skilak Lake	4.99	353		Pn	21 03 58.8	+0.6	
HIN	Hinchinbrook I	5.03	15		Pn	21 03 59.7	+1.0	
KAIM	Kayak Island	5.03	28		Pn	21 03 60.0	+1.3	
KAIM				IAML		21 05 49.4		
	comp=E,50nm,1.4s							
KAIM	Kayak Island	5.03	28	P	Pn	21 04 00.1	+1.3	
	baz=212							
P18K	Big Mountain,	5.07	322		Pn	21 04 00.3	+1.1	
P18K	Big Mountain,	5.07	322	P	Pn	21 04 00.4	+1.1	
	baz=136							
CAPN	Captain Cook N	5.33	349	Pn	Pn	21 04 05.0	+2.3	
RAGM	Ragged Mountai	5.37	24		Pn	21 04 04.8	+1.5	
FID	Port Fidalgo	5.37	14		Pn	21 04 04.3	+0.8	
FID				IAML		21 05 05.2		
	comp=N,40nm,1.3s							
FID				IAML		21 07 01.0		
	comp=E,37nm,1.5s							
NCT	North Crescent	5.41	339		Pn	21 04 05.2	+1.2	
GOAT	Goat Mountain	5.53	23		Pn	21 04 07.0	+1.3	
RC01	Rabbit Creek A	5.55	357		Pn	21 04 06.5	+0.7	
RC01	Rabbit Creek A	5.55	357	P	Pn	21 04 06.9	+1.1	
	baz=176							
BERG	Berg Lake	5.62	28		Pn	21 04 08.1	+1.3	
SNH	Sunshine Point	5.70	33		Pn	21 04 09.3	+1.5	
KNK	Knik Glacier	5.87	3	Pn	Pn	21 04 11.5	+1.2	
BMRM	Bremner River	5.90	22		Pn	21 04 12.0	+1.3	
BMRM	Bremner River	5.90	22	P	Pn	21 04 12.0	+1.3	
	baz=206							
P16K	Nushagak River	5.95	309		Pn	21 04 13.2	+1.9	
P16K	Nushagak River	5.95	309	P	Pn	21 04 13.2	+1.9	
	baz=121							
SUA	Susitna One	5.97	352	Pn	Pn	21 04 12.2	+0.4	
BARK	Barkley Ridge	5.98	33		Pn	21 04 13.4	+1.6	
KLU	Klutina	6.17	14	Pn	Pn	21 04 15.4	+1.0	
GHO	Glory Hole Cre	6.22	1		Pn	21 04 16.8	+1.7	
SML	Sawmill	6.27	3	P	Pn	21 04 17.8	+2.0	
	baz=184							
O16K	Kokwok River B	6.30	313		Pn	21 04 17.8	+1.6	
O16K	Kokwok River B	6.30	313	P	Pn	21 04 17.8	+1.6	
	baz=125							
SCM	Sheep Creek Mo	6.35	8	Pn	Pn	21 04 19.2	+2.3	
SAMH	Samovar Hills	6.36	41		Pn	21 04 19.2	+2.1	
VRDI	Verde Repeater	6.40	25		Pn	21 04 18.6	+0.9	
KIAG	Kiagna River	6.43	31		Pn	21 04 19.5	+1.4	
N25K	Chitina, Valde	6.49	19	Pn	Pn	21 04 20.8	+2.0	
GLB	Gilahina Butte	6.50	23	Pn	Pn	21 04 20.2	+1.3	
PCA	Pinnacle	6.54	42		Pn	21 04 21.1	+1.6	
PINM	Pinnacle	6.54	42	P	Pn	21 04 21.1	+1.6	
	baz=230							
PTPK	Patty Peak	6.62	29		Pn	21 04 22.5	+1.9	
PNL	Peninsula	6.62	48		Pn	21 04 22.7	+2.1	
PNL	Peninsula	6.62	48	P	Pn	21 04 22.7	+2.1	
	baz=236							
BCPM	Bancas Point	6.69	45		Pn	21 04 23.4	+1.9	
BARN	Barnard Glacie	6.75	32		Pn	21 04 24.0	+1.5	
CTG	Chitna Glacier	6.77	34	P	Pn	21 04 24.3	+1.6	
	baz=221							
CTGM	Chitina Glacie	6.78	34		Pn	21 04 24.3	+1.5	
LOGN	Logan Glacier	6.78	36		Pn	21 04 24.3	+1.4	
O15K	Ungalikthiuk R	6.84	306		Pn	21 04 25.5	+2.0	
O15K	Ungalikthiuk R	6.84	306	P	Pn	21 04 25.5	+2.0	
	baz=117							
N16K	Nishlik Lake	7.11	318		Pn	21 04 29.5	+2.2	
N16K	Nishlik Lake	7.11	318	P	Pn	21 04 29.5	+2.2	
	baz=129							
P29M	Windy Craggy	7.32	52		Pn	21 04 31.8	+1.6	
P29M	Windy Craggy	7.32	52	P	Pn	21 04 31.9	+1.7	
	baz=242							
O29M	Mount Kennedy	7.33	45		Pn	21 04 32.5	+2.2	
O29M	Mount Kennedy	7.33	45	P	Pn	21 04 32.5	+2.2	
	baz=235							
S31K	Pelican	7.46	66	Pn	Pn	21 04 30.8	-1.1	
N15K	Kwethluk River	7.46	313	Pn	Pn	21 04 34.3	+2.2	
HYT	Haines Junctio	8.06	44	Pn	Pn	21 04 42.2	+1.7	
S32K	Killisnoo	8.24	71	Pn	Pn	21 04 42.1	-0.6	
BCAR	Beaver Creek A	8.39	23	Pn	Pn	21 04 45.9	+1.1	
O30N	Mendenhall	8.61	47	Pn	Pn	21 04 49.8	+1.9	
U33K	Whale Pass	9.00	80	Pn	Pn	21 04 51.9	-1.2	
WHY	Whitehorse	9.07	50	Pn	Pn	21 04 56.4	+2.1	
L14K	Kuka Creek	9.17	315	Pn	Pn	21 04 57.6	+2.1	
P32M	Atlin	9.18	58	Pn	Pn	21 04 57.1	+1.5	
ILAR	Eielson Array	9.30	6	Pn	Pn	21 04 56.5	-0.7	
L29M	L29M	9.39	32	Pn	Pn	21 05 01.0	+2.5	
M30M	Minto, Yukon	9.44	37	Pn	Pn	21 05 00.9	+1.8	
Q32M	Nakina River	9.71	63	Pn	Pn	21 05 04.6	+1.5	
R33M	Jennings River	10.47	61	Pn	Pn	21 05 14.5	+1.1	

*IDC **24** 21:26:36.0±3.7,4.77S×145.11E,h75km±37km,mb3.8/12, mbtmp4.2/15,ML4.2/2,MS3.1/6,Error ellipse: s-maj=29.5km s-min=20.2km az=92.0*
*NEIC **24** 21:26:37.2±1.0,4.73S±0.07×145.0E±0.1,h72km±5km, mb4.5/27,Error ellipse: s-maj=15.4km s-min=10.2km az=96.0*
*DJA **24** 21:26:37.4±0.4,5°S±4°×14°5E±°,h52km±6km,M4.9/18, mB5.5/8,mb4.9/18,MLv4.8/3,Mw(mB)5.0/8*
ISC 24 21:26:34.6±0.5,4.71S±0.06×144.97E±0.07,h50km,n66,
σ1§44/63,mb4.5/28,MS3.0/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MANU	Manus Island	3.57	42	Pn	Pn	21 27 29.5	+2.0	
PMG	Port Moresby	5.14	155	Pn	Pn	21 27 50.2	+1.1	
PMG	Port Moresby	5.14	155	P	Pn	21 27 50.3	+1.2	
	192nm,0.6s,baz=358,slow=5.5,SNR=97							
PMG				S	Sn	21 28 45.7	-1.5	
	178nm,0.6s,baz=160,slow=19,SNR=9.2							
GENI	Genyem	5.24	294	P	Pn	21 27 52.9	+2.5	
	264nm,0.7s,2μm1.9nm							
RABL	Rabaul	7.19	86	Pn	Pn	21 28 20.4	+3.2	
COEN	Coen	9.35	191	Pn	Pn	21 28 49.0	+2.1	
KMPI	Kaimana, Papua	11.29	275	P	Pn	21 29 13.7	+0.4	
	212nm,0.6s,4μm							
SIJI	Sorong	14.21	285	P	Pn	21 29 53.3	+0.1	
	30nm,0.6s,1μm							
SWI	Sorong	14.22	285	P	Pn	21 29 55.1	+1.8	
	28nm,1.1s,844nm							
BNDI	Bandanaira	15.02	270	P	Pn	21 30 04.3	+0.4	
	261nm,0.8s,1μm							
CTA	Charters Tower	15.33	175	P	Pn	21 30 09.1	+1.2	
	0.3nm,0.3s,baz=349,slow=12,SNR=5.3							
CTA				LR	LR	21 36 23.0		
	comp=Z,80nm,18.7s,baz=334,slow=38							
	7.9nm,0.7s							
CTAO	Charters Tower	15.33	175		Pn	21 30 11.9	+4.0	
LBMI	Labuha	17.91	283	P	Pn	21 30 42.3	+2.0	
	51nm,0.9s							
WB0	Warramunga Arr	18.17	214	P	P	21 30 44.3	+1.1	
WB0				IAmb	IAmb	21 30 45.8		
	comp=Z,27nm,1.4s							
GUMO	Guam	18.18	360	LR	LR	21 36 49.0		
	comp=Z,83nm,21.2s,baz=168,slow=34							
WRA	Warramunga Arr	18.34	213	P	P	21 30 45.5	+0.4	
WRA	Warramunga Arr	18.34	213	P	P	21 30 45.1	0.0	
	comp=Z,1.6nm,0.3s,baz=36,slow=12,SNR=30							
	comp=Z,8.0nm,0.6s							
SANI	Sanana	19.14	277	P	P	21 30 55.0	+1.2	
	comp=Z,35nm,0.8s							
SOEI	Soe	21.14	255	P	P	21 31 16.0	+0.3	
SOEI	Soe	21.14	255	P	P	21 31 17.9	+2.2	
	comp=Z,186nm,0.8s							
EIDS	Eidsvold	21.36	165	P	P	21 31 18.2	+0.3	
EIDS				IAmb	IAmb	21 31 22.8		
	comp=Z,15nm,1.2s							
KMSI	Cibinong	21.62	284	P	P	21 31 24.1	+3.4	
	comp=Z,125nm,0.8s							
AS31	Alice Springs	21.66	208	P	P	21 31 20.9	-0.2	
ASAR	Alice Springs	21.66	208	P	P	21 31 20.9	-0.2	
ASAR	Alice Springs	21.66	208	P	P	21 31 20.8	-0.3	
	comp=Z,2.2nm,0.6s,baz=34,slow=11,SNR=45							
	comp=Z,6.2nm,0.6s							
MMRI	Maumere	22.91	259	P	P	21 31 32.2	-2.4	
FITZ	Fitzroy Crossi	23.12	233	P	P	21 31 36.1	-0.4	
FITZ				IAmb	IAmb	21 31 37.8		
	comp=Z,15nm,0.7s							
EDFI	Ende, Flores	23.46	259	P	P	21 31 38.7	-1.4	
BKSI	Bulukumba	24.76	268	P	P	21 31 53.2	+1.3	
	comp=Z,30nm,0.9s							
TOLI2	Tolitoli	24.85	283	P	P	21 31 52.5	-0.2	
TOLI2				IAmb	IAmb	21 32 08.1		
	comp=Z,11nm,0.8s							
KAPI	Kappang	25.13	268	P	P	21 31 54.8	-0.5	
KAPI				IAmb	IAmb	21 32 03.6		
	comp=Z,19nm,0.8s							
KAPI	Kappang	25.13	268	LR	LR	21 43 04.0		
	comp=Z,38nm,21.1s,baz=86,slow=39							
TTSI	Tana Toraja	25.15	273	P	P	21 31 57.4	+2.0	
ARMA	Armidale	26.33	167	P	P	21 32 06.0	-0.1	
ARMA				IAmb	IAmb	21 32 08.8		
	comp=Z,5.7nm,0.7s							
DZM	Mont Dzumac	27.02	132	P	P	21 32 11.8	-0.5	
DZM				IAmb	IAmb	21 32 13.9		
	comp=Z,9.6nm,0.9s							
STKA	Stephens Creek	27.21	186	P	P	21 32 12.5	-1.3	
STKA	Stephens Creek	27.21	186	P	P	21 32 12.3	-1.5	
	comp=Z,2.1nm,0.5s,baz=346,slow=8.3,SNR=10.0							
	comp=Z,2.1nm,0.5s							
BBOO	Buckleboo	29.17	196	P	P	21 32 30.8	-0.5	
BBOO				IAmb	IAmb	21 32 47.0		
	comp=Z,24nm,1.4s							
PSA00	Pilbara Seismi	29.57	233	P	P	21 32 34.0	-1.0	
PSA00				IAmb	IAmb	21 32 36.6		
	comp=Z,8.9nm,0.8s							
FORT	Forrest	30.43	210	P	P	21 32 40.9	-1.5	
FORT				IAmb	IAmb	21 33 06.7		
	comp=Z,18nm,0.8s							
GIRL	Giralia	34.65	236	P	P	21 33 19.8	+0.3	
MORW	Morawa	36.58	225	P	P	21 33 35.1	-0.8	
NWAO	Narrogin (SRO)	38.18	219	P	P	21 33 48.5	-1.0	
NWAO	Narrogin (SRO)	38.18	219	P	P	21 33 48.4	-1.2	
	comp=Z,4.9nm,0.8s,baz=39,slow=6.4,SNR=1.7							
	comp=Z,4.9nm,0.8s							
QRZ	Quartz Range	43.64	149	P	P	21 34 34.9	+0.5	
MRNZ	Matariki Terra	44.18	150	P	P	21 34 38.8	+0.1	
URZ	Urewera	44.38	143	LR	LR	21 51 09.4		
	comp=Z,66nm,19.3s,baz=300,slow=33							
RTZ	Ruatahuna	44.53	144	P	P	21 34 41.5	-0.1	
RTZ				IAmb	IAmb	21 34 43.1		
	comp=Z,15nm,0.6s							
TUWZ	Tuamarina	44.81	149	P	P	21 34 43.3	-0.3	
KSRS	Korea Array	44.86	341	LR	LR	21 52 37.2		
	comp=Z,18nm,18.8s,baz=55,slow=35							
BFZ	Birch Farm	45.51	146	P	P	21 34 48.9	-0.3	
BFZ				IAmb	IAmb	21 34 49.7		
	comp=Z,12nm,0.5s							
CM31	Chiang Mai Arr	50.87	298	P	P	21 35 30.3	-0.6	
CM31				IAmb	IAmb	21 35 52.7		
	comp=Z,5.0nm,1.1s							
CMAR	Chiang Mai Arr	50.87	298	P	P	21 35 30.8	-0.2	
	comp=Z,0.8nm,0.5s,baz=123,slow=6.5,SNR=8.1							
CMAR				LR	LR	21 58 57.6		
	comp=Z,9.6nm,18.4s,baz=105,slow=38							
	comp=Z,0.8nm,0.5s							
SONM	Songino Array	62.31	332	P	P	21 36 51.8	-0.1	
SONM	Songino Array	62.31	332	P	P	21 36 50.6	-1.4	
	comp=Z,0.4nm,0.6s,baz=148,slow=5.1,SNR=3.6							
	comp=Z,0.4nm,0.6s							
VNDA	Vanda	73.31	176	P	P	21 37 60.0	-0.5	
VNDA				IAmb	IAmb	21 38 22.9		
	comp=Z,12nm,1.2s							
MKAR	Makanchi Array	75.23	321	P	P	21 38 11.9	-0.3	
	comp=Z,0.3nm,0.4s,baz=93,slow=8.9,SNR=6.8							
	comp=Z,0.3nm,0.4s							
MAKZ	Makanchi	75.43	321	P	P	21 38 12.6	-0.7	
ZALV	Zalesovo Beam	76.86	328	P	P	21 38 20.1	-1.2	
ZALV	Zalesovo Beam	76.86	328	P	P	21 38 19.5	-1.7	
	comp=Z,1.9nm,0.8s,baz=124,slow=5.1,SNR=7.9							
	comp=Z,1.9nm,0.8s							
KURBB	Kurchatov Arra	79.00	324	P	P	21 38 32.6	-0.6	
	comp=Z,0.5nm,0.8s,baz=107,slow=5.4,SNR=4.1							
	comp=Z,0.5nm,0.8s							
NRIK	Noril'sk	83.44	342	P	P	21 38 56.3	-0.1	
	comp=Z,2.4nm,0.5s,baz=80,slow=5.7,SNR=3.6							
	comp=Z,2.4nm,0.5s							
BVAR	Borovoye Array	84.55	324	P	P	21 39 01.8	-0.6	
	comp=Z,1.7nm,0.5s,baz=108,slow=6.3,SNR=16							
	comp=Z,1.7nm,0.5s							
ILAR	Eielson Array	85.11	24	P	P	21 39 03.4	-1.6	
	comp=Z,1.4nm,0.8s,baz=255,slow=5.5,SNR=11							
	comp=Z,1.4nm,0.8s							
QSPA	South Pole Qui	85.25	180	P	P	21 39 04.4	-1.4	
	comp=Z,1.5nm,0.5s,baz=220,slow=4.8,SNR=3.4							
	comp=Z,1.5nm,0.5s							
DBIC	Dimbokro	149.92	275	PKPbc	PKPdf	21 46 19.2	+3.6	
	comp=Z,1.5nm,0.8s,baz=134,slow=4.9,SNR=2.0							

*IDC **24** 21:27:06.3±2.6,6.17S×130.79E,h0km,mb3.5/1, mbtmp3.7/3,ML3.8/2,MS3.4/1,Error ellipse: s-maj=159.3km s-min=31.5km az=71.0*
ISC 24 21:27:32.3±3.1,7.7S±0.2×130.2E±0.2,h150km,n11,
σ1§61/10,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SAUI	Saumlaki	1.13	105	P	Pn	21 27 56.2	-2.0	
MTN	Manton Dam	5.21	170	P	Pn	21 28 50.1	+1.6	
KDU	Kakadu	5.45	156	P	Pn	21 28 52.9	+1.2	
KNRA	Kununurra	8.07	190	P	Pn	21 29 26.3	-0.3	
FITZ	Fitzroy Crossi	11.26	203	P	Pn	21 30 08.0	-1.0	
PLAI	Plampang	12.35	264	P	Pn	21 30 12.5	-11	
WRA	Warramunga Arr	12.83	162	Pn	Pn	21 30 27.6	-1.7	
	0.4nm,0.3s,baz=350,slow=13,SNR=28							
WRA				Sn	Sn	21 32 51.0	-0.4	
	0.6nm,0.3s,baz=335,slow=23,SNR=3.4							
	1.0nm,0.5s							
WB1	Warramunga Ar.	12.85	162	P	Pn	21 30 27.6	-2.0	
	21nm,0.6s							
ASAR	Alice Springs	16.28	168	P	P	21 31 13.9	+1.2	
	0.5nm,0.3s,baz=346,slow=10.0,SNR=23							
ASAR				S	Sn	21 34 15.1	+0.8	
	0.6nm,0.6s,baz=355,slow=26,SNR=2.1							
	0.9nm,0.4s							
STKA	Stephens Creek	26.31	158	LR	LR	21 46 20.3		
	comp=Z,76nm,18.2s,baz=33,slow=42							
MKAR	Makanchi Array	68.90	327	P	P	21 38 07.3	-14	
	0.3nm,0.5s,baz=125,slow=8.2,SNR=5.9							
	0.3nm,0.5s							

*TRN **24** 21:30:45.8,10.61N×62.51W,h74km,MD3.5*
*FUNV **24** 21:30:48.5,10.14N×62.72W,h3km,MW3.6*
ISC 24 21:30:44.6±1.3,10.53N±0.05×62.49W±0.04,h80km±15km,
n17,σ1§81/30,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CRUV	Carupano	0.74	281	eP	Pn	21 31 01.5	+0.7	
CRUV				eS	Sn	21 31 10.7	-2.0	
TRN	Trinidad (W)	1.08	84	eP	Pn	21 31 06.4	+1.8	
TRN				eS	Sn	21 31 20.0	+0.4	
GRFF	Grenada Fort F	1.68	26	eP	Pn	21 31 13.1	+0.7	
GRFF				eS	Sn	21 31 31.6	-1.8	
GRGR	Grenville	1.79	27	eP	Pn	21 31 14.0	+0.2	
GRGR				eS	Sn	21 31 35.5	-0.5	
GRW	Mount Saint Ca	1.81	27	eP	Pn	21 31 15.4	+1.3	
GRW				eS	Sn	21 31 36.2	-0.4	
GRHS	Sauteurs	1.88	26	eP	Pn	21 31 15.3	+0.3	
GRHS				eS	Sn	21 31 36.8	-1.2	
PCRV	Puerto La Cruz	2.14	261	eP	Pn	21 31 20.4	+2.0	
PCRV				eS	Sn	21 31 44.0	-0.2	
GCMP	Grenada, Carri	2.21	28	eP

baz=120,SNR=41
KDAK **Kodiak Island** 2.24 321 Pn 21 59 32.0 -0.7
KDAK **Kodiak Island** 2.24 321 Sn 21 59 57.4 -3.0
KDAK **Kodiak Island** 2.24 321 P Pn 21 59 32.2 -0.5
baz=138
KDAK **Kodiak Island** 2.24 321 Pn Pn 21 59 32.0 -0.7
44nm,0.3s,baz=118,slow=4.8,SNR=311
KDAK Sn Sn 21 59 57.7 -2.7
121nm,0.3s,baz=21,slow=21,SNR=18
KDAK LR LR 22 00 43.3
comp=Z,14µm,19.2s,baz=231,slow=48
145nm,0.3s
SII **Sitkinak Islan** 2.42 283 Pn 21 59 33.3 -1.9
SII Sn 22 00 01.4 -3.4
SII IAML 22 00 02.8
comp=E,6µm,0.7s
SII IAML 22 00 05.4
comp=N,5µm,0.7s
Q20K **Shuyak Island** 2.87 333 P Pn 21 59 40.7 -0.5
baz=151,SNR=17
SYI **Shuyak Island** 2.87 333 Pn 21 59 40.8 -0.4
SYI Sn 22 00 14.1 -1.6
R18K **Karluk** 2.90 303 Pn 21 59 41.4 -0.3
R18K Sn 22 00 15.7 -0.8
R18K IAML 22 00 27.6
comp=E,1µm,0.7s
R18K **Karluk** 2.90 303 P Pn 21 59 41.1 -0.6
baz=118,SNR=29
KAHG **Katmai Hook Gl** 3.48 316 Pn 21 59 50.6 +0.8
KAHG Sn 22 00 27.4 -3.6
Q19K **Cape Douglas,** 3.49 326 Pn 21 59 49.8 0.0
Q19K **Cape Douglas,** 3.49 326 P Pn 21 59 49.4 -0.5
baz=143,SNR=31
CNPM **China Poot** 3.52 349 Pn Pn 21 59 49.4 -1.0
CNPM IAML 22 00 32.2
comp=E,737nm,0.4s
CNPM IAML 22 00 32.2
comp=N,986nm,0.4s
KCE **Katmai Mt Cerb** 3.59 309 Pn 21 59 51.6 +0.3
KCG **Knife Ck. Glac** 3.60 310 Pn 21 59 51.7 +0.3
ACHA **Angle Creek He** 3.63 308 Pn 21 59 52.1 +0.2
BRSE **Bradley Lake S** 3.70 354 Pn 21 59 51.5 -1.2
BRSE **Bradley Lake S** 3.70 354 P Pn 21 59 51.5 -1.2
baz=173,SNR=14
HOM **Homer** 3.70 346 Pn 21 59 51.5 -1.2
HOM IAML 22 00 37.0
comp=N,2µm,0.3s
HOM IAML 22 00 40.6
comp=E,1µm,0.7s
HOM **Homer** 3.70 346 P Pn 21 59 52.0 -0.7
baz=165
ANCK **Angle Creek** 3.70 307 Pn 21 59 53.1 +0.3
KVTA **Katmai Vly 10** 3.72 311 Pn 21 59 53.4 +0.4
BRLK **Bradley Lake** 3.73 352 Pn 21 59 51.8 -1.4
BRLK IAML 22 00 38.2
comp=N,585nm,0.8s
BRLK IAML 22 00 41.1
comp=E,566nm,1.3s
AU22 **Augustine Moun** 3.78 332 Pn 21 59 53.7 0.0
AUL **Augustine Lava** 3.81 332 Pn 21 59 54.7 +0.6
PLK3 **Peulik 3** 3.83 297 Pn 21 59 54.6 0.0
Q23K **Middleton Isla** 3.86 28 Pn 21 59 53.6 -1.3
Q23K IAML 22 00 47.7
comp=E,628nm,1.2s
Q23K IAML 22 01 05.6
comp=N,568nm,2.3s
Q23K **Middleton Isla** 3.86 28 P Pn 21 59 53.8 -1.1
baz=212
MID **Middleton Isla** 3.87 28 Pn 21 59 53.6 -1.3
MID IAML 22 00 48.4
comp=N,559nm,1.8s
MID **Middleton Isla** 3.87 28 P Pn 21 59 54.0 -1.0
MID **Middleton Isla** 3.87 28 P Pn 21 59 53.6 -1.3
CNTC **Contact Creek** 3.91 306 Pn 21 59 55.7 0.0
CNTC Sn 22 00 39.0 -2.6
Q17K **Contact Creek** 3.91 306 P Pn 21 59 55.9 +0.1
baz=121,SNR=66
P19K **Oil Pt** 3.99 335 Pn 21 59 56.7 0.0
P19K IAML 22 00 47.3
comp=N,1µm,0.4s
P19K IAML 22 00 48.2
comp=E,1µm,0.4s
P19K **Oil Pt** 3.99 335 P Pn 21 59 56.8 0.0
baz=152,SNR=9.9
SEW **Seward** 4.04 3 Pn 21 59 55.9 -1.5
SEW **Seward** 4.04 3 P Pn 21 59 56.2 -1.2
baz=184,SNR=10.0
PLK1 **Peulik 1** 4.05 298 Pn 21 59 57.5 0.0
P23K **Montague Islan** 4.15 18 Pn 21 59 57.9 -1.0
P23K **Montague Islan** 4.15 18 P Pn 21 59 58.1 -0.8
baz=200,SNR=8.4
O20K **Slope Mountain** 4.26 341 Pn 21 59 59.4 -1.0
O20K **Slope Mountain** 4.26 341 P Pn 21 59 59.8 -0.7
baz=159
IVE **Iliamna Volcan** 4.27 339 Pn 21 59 59.8 -0.9
P18K **Big Mountain,** 4.37 322 Pn 22 00 01.5 -0.5
P18K **Big Mountain,** 4.37 322 P Pn 22 00 01.5 -0.5
baz=137,SNR=22
O22K **Cooper Landing** 4.41 1 Pn 22 00 01.1 -1.4
O22K **Cooper Landing** 4.41 1 P Pn 22 00 01.7 -0.8
baz=181
R16K **Pilot Point** 4.46 293 Pn 22 00 02.4 -0.8
R16K IAML 22 01 35.7
comp=E,664nm,1.2s
R16K IAML 22 02 18.5
comp=N,706nm,3.6s
R16K **Pilot Point** 4.46 293 P Pn 22 00 03.8 +0.7
baz=106
Q16K **King Salmon** 4.48 308 Pn 22 00 03.0 -0.3
Q16K **King Salmon** 4.48 308 P Pn 22 00 03.6 +0.2
baz=122,SNR=28
RED **Redoubt Volcan** 4.60 342 Pn 22 00 03.6 -1.6
RDSO **Redoubt South** 4.63 342 Pn 22 00 03.9 -1.7
RSO **Redoubt South** 4.64 342 Pn 22 00 04.1 -1.7
RDWB **Redoubt West** 4.68 342 Pn 22 00 04.5 -1.8
HIN **Hinchinbrook I** 4.69 21 Pn Pn 22 00 05.6 -0.7
HIN IAML 22 00 59.6
comp=E,919nm,0.6s
HIN IAML 22 01 01.4
comp=N,684nm,0.5s
P17K **Kvichak River** 4.69 314 Pn 22 00 06.5 +0.2
P17K **Kvichak River** 4.69 314 P Pn 22 00 06.5 +0.2
baz=129,SNR=130
RDT **Redoubt** 4.69 345 Pn 22 00 04.5 -1.9
O18K **Koktuh Hills** 4.71 326 Pn 22 00 05.8 -0.9
O18K IAML 22 01 01.9
comp=N,659nm,0.8s
O18K IAML 22 01 02.5
comp=E,356nm,0.9s
O18K **Koktuh Hills** 4.71 326 P Pn 22 00 06.3 -0.4
baz=141,SNR=7.3
O19K **Port Alsworth** 4.74 332 Pn 22 00 05.8 -1.1
O19K **Port Alsworth** 4.74 332 P Pn 22 00 06.1 -0.8
baz=148,SNR=18
CAPN **Captain Cook N** 4.75 353 P Pn 22 00 06.8 -0.2
baz=172
CHGN **Chignik** 4.75 276 Pn Pn 22 00 06.0 -1.1
CHGN IAML 22 01 01.0
comp=N,505nm,1.0s
CHGN IAML 22 01 04.1
comp=E,550nm,0.8s
CHGN **Chignik** 4.75 276 P Pn 22 00 08.5 +1.4
baz=89
DFR **Drift River** 4.75 343 Pn 22 00 05.7 -1.5
NCT **North Crescent** 4.76 342 Pn 22 00 05.8 -1.6
KAIM **Kayak Island** 4.84 35 Pn Pn 22 00 07.6 -0.7
KAIM IAML 22 01 08.7
comp=E,760nm,0.6s
KAIM IAML 22 01 09.6
comp=N,781nm,0.9s
KAIM **Kayak Island** 4.84 35 P Pn 22 00 08.8 +0.4
baz=220,SNR=11
EYAK **Cordova Ski Ar** 4.99 24 Pn 22 00 09.8 -0.5
EYAK **Cordova Ski Ar** 4.99 24 P Pn 22 00 09.9 -0.5
RC01 **Rabbit Creek A** 5.02 1 Pn 22 00 09.8 -1.1
RC01 IAML 22 01 10.2
comp=E,472nm,0.8s
RC01 IAML 22 01 10.4
comp=N,532nm,0.4s
RC01 **Rabbit Creek A** 5.02 1 P Pn 22 00 10.1 -0.8
baz=181,SNR=13
FIS **Fire Island** 5.08 358 Pn 22 00 10.7 -1.0
RAGM **Ragged Mountai** 5.13 31 Pn 22 00 11.9 -0.5
P16K **Nushagak River** 5.25 308 Pn 22 00 14.0 0.0
P16K **Nushagak River** 5.25 308 P Pn 22 00 14.3 +0.3
baz=120,SNR=37
N20K **Mount Spurr** 5.27 348 P Pn 22 00 13.4 -1.0
baz=166,SNR=12
SPCR **Spurr Chakacha** 5.27 348 Pn 22 00 12.7 -1.7
SPCN **Chakachatna No** 5.29 348 Pn 22 00 13.2 -1.4
N19K **Bonanza Creek** 5.31 335 Pn 22 00 14.0 -1.0
N19K **Bonanza Creek** 5.31 335 P Pn 22 00 14.3 -0.7
baz=151
O17K **Koliganek Bris** 5.32 317 Pn 22 00 14.8 -0.1
O17K **Koliganek Bris** 5.32 317 P Pn 22 00 14.8 -0.1
baz=131
SPCP **Crater Peak Br** 5.33 348 Pn 22 00 14.5 -0.7
SPCG **Spurr Capps Gl** 5.34 349 Pn 22 00 14.2 -1.1
CGLM **Capps Glacier** 5.35 349 Pn 22 00 14.7 -0.7
S14K **Fog Glacier** 5.38 276 P Pn 22 00 17.6 +1.7
baz=88
VNFG **Fog Glacier, M** 5.38 276 Pn 22 00 15.6 -0.4
KNK **Knik Glacier** 5.40 8 Pn 22 00 15.2 -0.9
KNK **Knik Glacier** 5.40 8 P Pn 22 00 15.8 -0.3
baz=189
SUA **Susitna One** 5.42 356 Pn 22 00 14.9 -1.5
SUA **Susitna One** 5.42 356 P Pn 22 00 14.9 -1.5
baz=175
BERG **Berg Lake** 5.43 35 Pn 22 00 15.7 -0.8
SPNN **North Nagishla** 5.49 346 Pn 22 00 16.6 -0.9
DIV **Divide** 5.51 21 Pn 22 00 17.3 -0.3
STLK **Strandline Lak** 5.52 350 Pn 22 00 16.6 -1.2
PMR **Palmer** 5.54 4 Pn Pn 22 00 17.2 -0.8
PMR **Palmer** 5.54 4 P Pn 22 00 18.5 +0.5
PMR **Palmer** 5.54 4 P Pn 22 00 17.4 -0.6
baz=185
PMR **Palmer** 5.54 4 P Pn 22 00 17.2 -0.8
SNH **Sunshine Point** 5.56 39 Pn 22 00 17.8 -0.5
N18K **Kilae Creek** 5.58 328 Pn 22 00 17.6 -0.9
N18K **Kilae Creek** 5.58 328 P Pn 22 00 18.0 -0.5
baz=143
O16K **Kokwok River B** 5.61 312 Pn 22 00 18.8 -0.1
O16K **Kokwok River B** 5.61 312 P Pn 22 00 19.1 +0.2
baz=125
CYK **Cape Yakataga** 5.63 41 Pn 22 00 18.6 -0.5
BMRM **Bremner River** 5.64 27 Pn 22 00 18.9 -0.5
BMRM **Bremner River** 5.64 27 P Pn 22 00 18.8 -0.5
baz=212,SNR=48
CHNA **Chernabura Isl** 5.64 261 P Pn 22 00 18.0 -1.4
baz=73,SNR=7.7
CNBA **Chernabura Isl** 5.64 261 Pn 22 00 17.4 -2.0
GHO **Glory Hole Cre** 5.73 5 Pn 22 00 20.1 -0.5
SML **Sawmill** 5.80 8 Pn 22 00 21.1 -0.6
SML **Sawmill** 5.80 8 P Pn 22 00 21.7 +0.1
baz=189,SNR=22
KLU **Klutina** 5.81 19 Pn 22 00 21.3 -0.4
KLU **Klutina** 5.81 19 P Pn 22 00 21.6 -0.1
baz=203,SNR=47
SVW2 **Sparrevohn** 5.83 332 Pn 22 00 20.8 -1.2
SVW2 **Sparrevohn** 5.83 332 P Pn 22 00 21.3 -0.7
M23K **Glacier View** 5.84 10 Pn 22 00 21.9 -0.2
M23K **Glacier View** 5.84 10 P Pn 22 00 22.0 -0.2
baz=192,SNR=19
BARK **Barkley Ridge** 5.84 39 Pn 22 00 21.6 -0.6
N17K **Nushagak Hills** 5.87 322 Pn 22 00 21.9 -0.6
N17K **Nushagak Hills** 5.87 322 P Pn 22 00 22.2 -0.4
baz=136
SCM **Sheep Creek Mo** 5.92 12 Pn 22 00 23.0 -0.3
SCM **Sheep Creek Mo** 5.92 12 P Pn 22 00 24.3 +1.0
baz=194,SNR=8.4
SCM **Sheep Creek Mo** 5.92 12 P Pn 22 00 23.0 -0.3
SKT **Skwentna** 5.97 353 Pn 22 00 22.7 -1.2
SKT **Skwentna** 5.97 353 P Pn 22 00 23.6 -0.3
baz=171,SNR=8.8
SDPT **Sand Point** 6.01 267 Pn 22 00 23.5 -0.9
SDPT **Sand Point** 6.01 267 P Pn 22 00 23.9 -0.5
SDPT **Sand Point** 6.01 267 P Pn 22 00 23.7 -0.7
baz=78
M20K **Styx River** 6.05 345 Pn 22 00 23.5 -1.5
M20K **Styx River** 6.05 345 P Pn 22 00 23.8 -1.3
baz=163
O15K **Ungalikthiuk R** 6.16 304 Pn 22 00 26.6 +0.3
O15K **Ungalikthiuk R** 6.16 304 P Pn 22 00 26.7 +0.3
baz=116
VRDI **Verde Repeater** 6.17 31 Pn Pn 22 00 26.1 -0.6
N25K **Chitina, Valde** 6.19 24 Pn Pn 22 00 26.6 -0.3
N25K **Chitina, Valde** 6.19 24 P Pn 22 00 26.9 -0.1
baz=209,SNR=58
M18K **Stony River** 6.23 333 Pn 22 00 25.9 -1.5
M18K **Stony River** 6.23 333 P Pn 22 00 26.3 -1.2
baz=148
GLB **Gilahina Butte** 6.24 28 Pn 22 00 27.2 -0.5
M19K **Big River Lodg** 6.28 340 Pn 22 00 26.8 -1.3
M19K **Big River Lodg** 6.28 340 P Pn 22 00 28.9 +0.8
baz=156
SAMH **Samovar Hills** 6.32 46 Pn 22 00 28.6 -0.1
M24K **Tolsona, Glenn** 6.34 16 Pn 22 00 29.2 +0.1
M24K **Tolsona, Glenn** 6.34 16 P Pn 22 00 29.2 +0.1
baz=199,SNR=26
CUT **Chulitna** 6.34 359 Pn 22 00 28.8 -0.2
CUT **Chulitna** 6.34 359 P Pn 22 00 28.9 -0.2
baz=178
N16K **Nishlik Lake** 6.41 317 Pn 22 00 30.2 +0.3
N16K **Nishlik Lake** 6.41 317 P Pn 22 00 30.3 +0.4
baz=129
YKU2 **Yakutat** 6.47 54 P Pn 22 00 31.1 +0.4
PCA **Pinnacle** 6.51 48 Pn 22 00 30.9 -0.5
PINM **Pinnacle** 6.52 48 P Pn 22 00 31.5 +0.1
baz=236,SNR=59
WASW **Wrangell South** 6.57 24 Pn 22 00 32.1 -0.2
WACK **Wrangell Chich** 6.59 24 Pn 22 00 32.5 -0.1
BARN **Barnard Glacie** 6.60 37 Pn 22 00 32.2 -0.5
M17K **Holitna River** 6.61 327 Pn 22 00 32.3 -0.3
M17K **Holitna River** 6.61 327 P Pn 22 00 32.3 -0.3
baz=140,SNR=40
WAT6 **Susitna Watana** 6.61 9 Pn 22 00 32.4 -0.5
WAT6 **Susitna Watana** 6.61 9 P Pn 22 00 32.7 -0.1
baz=191,SNR=19
L19K **White Mountain** 6.62 340 P Pn 22 00 31.1 -1.8
baz=155,SNR=31
CTG **Chitna Glacier** 6.64 39 P Pn 22 00 32.6 -0.6
baz=226
CTGM **Chitina Glacie** 6.65 39 Pn 22 00 32.9 -0.4
PNL **Peninsula** 6.67 53 P Pn 22 00 33.4 0.0
PNL **Peninsula** 6.67 53 P Pn 22 00 33.5 0.0
baz=242,SNR=59
LOGN **Logan Glacier** 6.67 41 Pn 22 00 33.1 -0.5
BCPM **Bancas Point** 6.70 50 Pn 22 00 33.9 0.0
L20K **Farewell, AK** 6.73 344 Pn 22 00 32.7 -1.6
L20K **Farewell, AK** 6.73 344 P Pn 22 00 32.4 -1.9
baz=161,SNR=5.9
N15K **Kwethluk River** 6.76 311 P Pn 22 00 35.6 +0.8
baz=123
HARP **HAARP** 6.79 19 P Pn 22 00 35.5 +0.4
baz=203,SNR=44
WAT7 **Susitna Watana** 6.79 4 Pn 22 00 35.4 +0.1
WAT1 **Susitna Watana** 6.80 5 Pn 22 00 35.3 -0.1
WAT1 **Susitna Watana** 6.80 5 P Pn 22 00 35.5 +0.1
baz=186
M16K **Timber Creek** 6.84 320 P Pn 22 00 36.0 +0.1
baz=132
PN7A **Pavlof North-7** 6.85 270 Pn 22 00 35.2 -0.7
O14K **Tigyukauivet M** 6.86 302 Pn Pn 22 00 36.0 -0.1
O14K **Tigyukauivet M** 6.86 302 P Pn 22 00 36.0 -0.1
baz=112,SNR=20
PPLA **Purkeypile** 6.93 351 P Pn 22 00 37.3 +0.1
baz=169
L18K **Granite Mounta** 7.07 333 P Pn 22 00 37.7 -1.2
baz=147,SNR=6.7
DHY **Denali Highway** 7.13 9 Pn 22 00 39.7 -0.3
DHY **Denali Highway** 7.13 9 P Pn 22 00 41.6 +1.6
baz=192,SNR=28
M26K **Nabesna, AK** 7.26 26 P Pn 22 00 42.0 +0.4
baz=212
PAX **Paxson** 7.27 16 Pn 22 00 41.6 -0.2
PAX **Paxson** 7.27 16 P Pn 22 00 41.8 0.0
baz=200,SNR=26
PAX **Paxson** 7.27 16 P Pn 22 00 41.6 -0.2
M15K **Kasigluk River** 7.30 314 P Pn 22 00 42.4 +0.2
baz=124,SNR=29
O29M **Mount Kennedy** 7.34 50 P Pn 22 00 42.6 -0.1
baz=240,SNR=72
N14K **Kuskokwak Cree** 7.34 306 Pn 22 00 42.9 +0.2
N14K **Kuskokwak Cree** 7.34 306 P Pn 22 00 42.8 +0.2
baz=116
RND **Reindeer** 7.37 4 Pn 22 00 43.1 0.0
RND **Reindeer** 7.37 4 P Pn 22 00 43.1 0.0
TRF **Thorofare Moun** 7.39 359 Pn 22 00 42.9 -0.7
TRF **Thorofare Moun** 7.39 359 P Pn 22 00 43.7 +0.1
baz=178
P29M **Windy Craggy** 7.41 56 P Pn 22 00 43.6 -0.1
baz=247,SNR=58
YUK8 **Steele Glacier** 7.43 41 Pn 22 00 44.7 +0.6
YUK8 **Steele Glacier** 7.43 41 P Pn 22 00 45.0 +0.9
baz=230,SNR=60
L17K **Donlin** 7.44 328 Pn 22 00 43.1 -0.9
L17K **Donlin** 7.44 328 P Pn 22 00 43.0 -1.0
baz=141,SNR=17
CAST **Castle Rocks** 7.44 352 Pn 22 00 43.3 -0.7
CAST **Castle Rocks** 7.44 352 P Pn 22 00 45.3 +1.3
baz=171,SNR=7.9
L16K **Owhat River** 7.50 323 P Pn 22 00 44.1 -0.8
baz=134,SNR=27
KTH **Kantishna Hill** 7.51 357 Pn 22 00 44.4 -0.7
YUK3 **Moose Creek** 7.52 37 Pn 22 00 45.5 +0.3
YUK3 **Moose Creek** 7.52 37 P Pn 22 00 45.9 +0.6
baz=225,SNR=48
M27K **Edge Creek, AK** 7.52 30 P Pn 22 00 45.8 +0.5
baz=217,SNR=25
TTA **Tatalina** 7.53 338 Pn 22 00 43.2 -2.1
TTA **Tatalina** 7.53 338 P Pn 22 00 43.7 -1.7
TTA **Tatalina** 7.53 338 P Pn 22 00 45.5 +0.1
baz=153,SNR=8.0
TTA **Tatalina** 7.53 338 P Pn 22 00 43.3 -2.1
MENT **Mentasta** 7.56 22 Pn 22 00 45.4 -0.4
K20K **Telida** 7.59 346 Pn 22 00 44.4 -1.7
K20K **Telida** 7.59 346 P Pn 22 00 44.5 -1.6
baz=162
MCK **McKinley** 7.69 3 Pn 22 00 47.7 +0.2
MCK **McKinley** 7.69 3 P Pn 22 00 48.6 +1.1
baz=184,SNR=8.8
MCK **McKinley** 7.69 3 P Pn 22 00 47.7 +0.2
S31K **Pelican** 7.71 70 Pn 22 00 44.6 -3.0
S31K **Pelican** 7.71 70 P Pn 22 00 45.4 -2.3
baz=262,SNR=13
L26K **Log Cabin Wild** 7.72 23 P Pn 22 00 48.4 +0.5
baz=209,SNR=24
YUK6 **Outpost Mounta** 7.77 46 P Pn 22 00 49.3 +0.6
baz=236,SNR=66
FALS **False Pass** 7.77 267 Pn 22 00 47.0 -1.6
FALS **False Pass** 7.77 267 P Pn 22 00 47.9 -0.6
FALS **False Pass** 7.77 267 P Pn 22 00 48.3 -0.2
baz=75
M14K **Bethel** 7.86 311 Pn 22 00 49.8 +0.1
M14K **Bethel** 7.86 311 P Pn 22 00 49.9 +0.1
baz=121,SNR=43
BVCY **Beaver Creek** 7.86 32 Pn 22 00 50.2 +0.4
BVCY **Beaver Creek** 7.86 32 P Pn 22 00 50.2 +0.4
baz=220,SNR=29
YUK4 **Talbot Arm** 7.89 43 P Pn 22 00 52.5 +2.1
baz=233,SNR=55
K17K **Iditarod** 7.90 331 P Pn 22 00 49.3 -1.1
baz=144
CHUM **Lake Minchumin** 7.92 352 Pn 22 00 49.8 -0.7
CHUM **Lake Minchumin** 7.92 352 P Pn 22 00 50.8 +0.3
baz=170
P30M **Million Dollar** 7.97 54 P Pn 22 00 52.2 +0.8
baz=245
ISNN **Isanotski Nort** 7.98 267 Pn 22 00 50.8 -0.6
PLBC **Pleasant Camp** 8.00 59 Pn 22 00 51.5 -0.2
PLBC **Pleasant Camp** 8.00 59 P Pn 22 00 51.7 +0.1
baz=236,SNR=10
K24K **Donnelly Dome** 8.02 13 Pn 22 00 52.9 +0.9
K24K **Donnelly Dome** 8.02 13 P Pn 22 00 53.4 +1.4
baz=197,SNR=12
R31K **City Hall, Gus** 8.04 67 P Pn 22 00 52.4 +0.2
baz=259
HYT **Haines Junctio** 8.06 49 Pn 22 00 52.3 -0.3
HYT **Haines Junctio** 8.06 49 P Pn 22 00 52.6 0.0
baz=239,SNR=12
BPAW **Bear Paw Mtn.** 8.06 357 Pn 22 00 51.0 -1.6
BPAW **Bear Paw Mtn.** 8.06 357 P Pn 22 00 52.5 -0.1
baz=176,SNR=9.9
YUK5 **Granite Creek** 8.07 46 Pn 22 00 53.7 +0.9
RIDG **Independent Ri** 8.09 16 Pn 22 00 53.1 +0.1
RIDG **Independent Ri** 8.09 16 P Pn 22 00 53.7 +0.7
baz=201,SNR=31
SSLN **Shishaldin Nor** 8.10 267 Pn 22 00 52.4 -0.8
L27K **Beaver Creek,** 8.11 27 P Pn 22 00 53.7 +0.4
baz=214
BWN **Browne** 8.12 1 Pn 22 00 52.5 -0.8
SIT **Sitka** 8.12 77 Pn Pn 22 00 49.8 -3.6
SIT **Sitka** 8.12 77 P Pn 22 00 50.6 -2.8
SIT **Sitka** 8.12 77 P Pn 22 00 49.8 -3.6
BCAR **Beaver Creek A** 8.12 27 Pn 22 00 52.9 -0.5
J18K **Iliamna River** 8.15 338 P Pn 22 00 52.9 -1.0
baz=152
L15K **Ungalak Mounta** 8.20 318 Pn 22 00 54.2 -0.2
L15K **Ungalak Mounta** 8.20 318 P Pn 22 00 54.6 +0.2
baz=128,SNR=25
M13K **Dall Lake** 8.30 307 Pn Pn 22 00 56.4 +0.6
M13K **Dall Lake** 8.30 307 P Pn 22 00 56.4 +0.6
baz=116
J20K **Nowinta River** 8.39 347 P Pn 22 00 56.1 -0.9
baz=164
J19K **Poorman** 8.43 343 P Pn 22 00 57.9 +0.3
baz=158
SCRK **Sand Creek** 8.46 18 Pn 22 00 57.6 -0.5
SCRK **Sand Creek** 8.46 18 P Pn 22 00 58.1 0.0
baz=203,SNR=11
L14K **Kuka Creek** 8.47 314 Pn 22 00 58.2 +0.1
L14K **Kuka Creek** 8.47 314 P Pn 22 00 58.6 +0.5
baz=123
HDA **Harding Lake** 8.48 9 Pn 22 00 58.7 +0.3
HDA **Harding Lake** 8.48 9 P Pn 22 00 59.5 +1.2
baz=191,SNR=17
SKAG **Skagway** 8.50 61 Pn Pn 22 00 58.1 -0.5
SKAG **Skagway** 8.50 61 P Pn 22 00 58.4 -0.1
SKAG **Skagway** 8.50 61 P Pn 22 00 58.8 +0.3
baz=253,SNR=13
BESE **Bessie Mountai** 8.53 67 Pn 22 00 57.7 -1.3
S32K **Killisnoo** 8.54 74 Pn 22 00 56.5 -2.6
S32K **Killisnoo** 8.54 74 P Pn 22 00 59.3 +0.1
baz=267
NEA2 **Nenana** 8.55 2 Pn 22 00 58.5 -0.7
NEA2 **Nenana** 8.55 2 P Pn 22 01 00.2 +0.9
baz=183,SNR=18
N30M **Aishikik Lake** 8.57 46 P Pn 22 00 59.8 +0.3
baz=237
WEBT **Westdahl Beart** 8.59 266 Pn 22 00 59.2 -0.6
K15K **Wolf Creek Mou** 8.61 321 P Pn 22 01 00.0 0.0
baz=131
O30N **Mendenhall** 8.64 51 P Pn 22 01 00.9 +0.4
baz=243,SNR=15
R32K **Eaglecrest** 8.65 69 Pn 22 00 59.6 -1.0
R32K **Eaglecrest** 8.65 69 P Pn 22 01 01.9 +1.2
baz=262
CCB **Clear Creek Bu** 8.66 6 Pn 22 01 00.1 -0.6
M29M **Somme Creek** 8.66 38 P Pn 22 01 00.8 -0.1
baz=228,SNR=78
JIS **Juneau Island** 8.72 69 Pn Pn 22 01 00.3 -1.2
JIS **Juneau Island** 8.72 69 P Pn 22 01 00.4 -1.2
IL31 8.85 8 Pn 22 01 02.9 -0.4
ILAR **Eielson Array** 8.85 8 Pn Pn 22 01 02.5 -0.8
ILAR **Eielson Array** 8.85 8 P Pn 22 01 02.5 -0.8
ILAR **Eielson Array** 8.85 8 Pn Pn 22 01 02.4 -0.9
comp=N,1.5nm,0.3s,baz=192,slow=12,SNR=38
ILAR Sn Sn 22 02 38.0 -4.9
comp=N,5.1nm,0.3s,baz=15,slow=6.1,SNR=7.8
ILAR LR LR 22 04 42.1
comp=N,1µm,20.3s,baz=195,slow=39
comp=N,4.4nm,0.5s
J25K **Salcha River,** 8.85 13 Pn 22 01 02.0 -1.4
J25K **Salcha River,** 8.85 13 P Pn 22 01 03.1 -0.2
baz=197
K27K **Chicken** 8.88 23 P Pn 22 01 04.1 +0.3
baz=210
COLA **College** 8.88 6 Pn 22 01 03.2 -0.5
COLA **College** 8.88 6 P Pn 22 01 04.4 +0.7
COLA **College** 8.88 6 P Pn 22 01 04.2 +0.5
baz=188
COLA **College** 8.88 6 *i* P Pn 22 01 07.2 +3.5
COLA pmax pmax
comp=Z,6.0nm,0.9s
MLY **Manley** 8.99 358 Pn 22 01 03.3 -2.0
MLY **Manley** 8.99 358 P Pn 22 01 05.4 +0.1
baz=177
J16K **Anvik River** 9.01 328 P Pn 22 01 04.7 -0.8
baz=138,SNR=9.1
J26L **Joseph Creek** 9.01 18 P Pn 22 01 05.6 0.0
baz=203
I23K **Minto, Yukon-K** 9.10 2 P Pn 22 01 07.6 +0.8
baz=182,SNR=7.9
N31M **Braeburn, Yuko** 9.12 48 P Pn 22 01 07.4 +0.3

baz=240,SNR=18
WHY Whitehorse 9.13 54 Pn 22 01 07.1 -0.2
WHY Whitehorse 9.13 54 P Pn 22 01 07.4 +0.1
baz=247,SNR=24
POKR Poker Plat Res 9.15 7 Pn 22 01 07.5 +0.1
POKR Poker Plat Res 9.15 7 P Pn 22 01 07.8 +0.4
baz=189
I21K Tanana 9.19 355 Pn 22 01 07.3 -0.6
I21K Tanana 9.19 355 P Pn 22 01 09.3 +1.4
baz=173,SNR=16
AKUT Akutan 9.29 264 Pn Pn 22 01 07.8 -1.6
P32M Atlin 9.33 61 Pn Pn 22 01 09.3 -0.6
P32M Atlin 9.33 61 P Pn 22 01 09.1 -0.8
baz=255,SNR=22
M30M Minto, Yukon 9.34 40 P Pn 22 01 09.9 -0.1
baz=232,SNR=11
GCSA Galena City Sc 9.34 341 P Pn 22 01 09.9 -0.1
baz=155
U33K Whale Pass 9.39 83 Pn Pn 22 01 07.4 -3.4
U33K Whale Pass 9.39 83 P Pn 22 01 12.7 +1.9
baz=277
CRAG Craig 9.49 87 Pn Pn 22 01 08.9 -3.1
I17K Unalakleet 9.49 330 Pn Pn 22 01 11.9 -0.2
I17K Unalakleet 9.49 330 P Pn 22 01 11.9 -0.2
baz=140
DAWY Dawson 9.57 29 Pn Pn 22 01 12.9 -0.3
DAWY Dawson 9.57 29 P Pn 22 01 13.0 -0.2
baz=218
M11K Mekoryuk 9.60 303 P Pn 22 01 14.1 +0.5
baz=105,SNR=6.0
J14K Nanvaranak Lak 9.62 320 P Pn 22 01 14.6 +0.7
baz=128
PRP Porcupine Dome 9.71 11 Pn 22 01 14.9 -0.3
PRP Porcupine Dome 9.71 11 P Pn 22 01 15.6 +0.4
baz=195,SNR=8.4
H21K Melozitna Rive 9.71 353 P Pn 22 01 14.7 -0.4
baz=170,SNR=10
EGAK Eagle 9.73 23 Pn 22 01 15.4 0.0
EGAK Eagle 9.73 23 P Pn 22 01 15.9 +0.6
baz=210,SNR=15
H20K Anoteneega Mo 9.74 348 P Pn 22 01 15.7 +0.1
baz=163
WRAK Wrangell Islan 9.79 81 Pn Pn 22 01 13.9 -2.3
WRAK Wrangell Islan 9.79 81 P Pn 22 01 17.8 +1.6
baz=276
UNV Unalaska Valle 9.79 264 P Pn 22 01 14.5 -1.8
I26K Coal Creek Min 9.82 17 P Pn 22 01 17.0 +0.4
baz=203
H24K Noodor Dome 9.84 5 P Pn 22 01 17.6 +0.7
baz=187,SNR=14
H22K Ishtalitna Cre 9.87 357 P Pn 22 01 17.6 +0.2
baz=175
Q32M Nakina River 9.92 66 P Pn 22 01 18.5 +0.3
baz=261
P33M Teslin, Yukon 9.94 58 Pn Pn 22 01 17.4 -0.9
P33M Teslin, Yukon 9.94 58 P Pn 22 01 17.7 -0.6
baz=253,SNR=26
K29M Barlow Dome 9.94 33 P Pn 22 01 18.2 -0.2
baz=224,SNR=19
H18K Honhosa River 9.99 339 P Pn 22 01 19.5 +0.5
baz=152
H19K Roundabout Mou 9.99 344 P Pn 22 01 19.2 +0.2
baz=158
M31M Drury Creek, Y 10.05 46 P Pn 22 01 19.7 -0.1
baz=240,SNR=17
IMAR Indian Mountai 10.11 351 Pn 22 01 19.8 -0.7
N32M Quiet Lake 10.13 53 Pn 22 01 20.3 -0.6
N32M Quiet Lake 10.13 53 P Pn 22 01 21.3 +0.3
baz=248
H17K Granite Mounta 10.14 335 P Pn 22 01 20.7 -0.3
baz=146,SNR=6.1
V35K Ketchikan 10.36 87 P Pn 22 01 26.5 +2.5
baz=282
I27K Kandik River 10.37 19 P Pn 22 01 24.4 +0.3
baz=207
S34M Telegraph Cree 10.41 72 Pn 22 01 23.2 -1.5
S34M Telegraph Cree 10.41 72 P Pn 22 01 26.9 +2.2
baz=268
FARO Faro, Yukon 10.49 47 P Pn 22 01 26.5 +0.7
baz=242,SNR=14
H16K Elim 10.51 330 P Pn 22 01 26.5 +0.5
baz=139,SNR=7.8
I28M Miner Creek 10.57 23 P Pn 22 01 27.4 +0.4
baz=212,SNR=6.5
G21K Allakaket 10.61 352 P Pn 22 01 27.0 -0.4
baz=169
R33M Jennings River 10.65 64 P Pn 22 01 28.2 +0.1
baz=260
G19K Purcell Mounta 10.66 344 P Pn 22 01 28.1 0.0
baz=158
G23K Bananza Creek 10.67 360 P Pn 22 01 28.3 +0.1
baz=180
G18K Tagagawik 10.70 340 P Pn 22 01 29.3 +0.6
baz=153
G24K Hadweenzic Riv 10.72 5 P Pn 22 01 28.9 0.0
baz=187
FYU Fort Yukon 10.76 10 Pn 22 01 29.0 -0.3
G17K Kiwalik Mounta 10.78 335 P Pn 22 01 29.8 0.0
baz=146
J30M Hart River 10.83 33 P Pn 22 01 30.9 +0.3
baz=225
G25K Bearman Lake 10.87 8 P Pn 22 01 31.3 +0.3
baz=191
I29M Ogilvie Camp, 10.88 27 Pn 22 01 31.6 +0.4
I29M Ogilvie Camp, 10.88 27 P Pn 22 01 30.5 -0.7
baz=217,SNR=9.5
T35M Bob Quinn 10.90 77 Pn 22 01 29.9 -1.5
T35M Bob Quinn 10.90 77 P Pn 22 01 33.2 +1.7
baz=274,SNR=11
H27K Steamboat Moun 10.95 18 P Pn 22 01 31.3 -0.8
baz=206
DLBC Dease Lake 11.02 69 Pn 22 01 33.3 +0.1
DLBC Dease Lake 11.02 69 P Pn 22 01 33.7 +0.5
baz=266
DLBC Dease Lake 11.02 69 Pn Pn 22 01 33.2 0.0
comp=Z,1.5nm,0.3s,baz=265,slow=12,SNR=7.1
DLBC Sn Sn 22 03 37.3 +1.0
comp=Z,0.4nm,0.3s,baz=174,slow=4.9,SNR=1.8
DLBC LR LR 22 05 03.6
comp=Z,3µm,20.0s,baz=266,slow=33
comp=Z,4.8nm,0.4s
G16K Koyuk River 11.12 332 P Pn 22 01 34.2 -0.1
baz=141
COLD Coldfoot 11.19 359 P Pn 22 01 35.1 -0.2
baz=179,SNR=5.6
SPIA Saint Paul Isl 11.24 284 Pn Pn 22 01 35.3 -0.7
G26K Porcupine Rive 11.28 12 P Pn 22 01 37.1 +0.5
baz=198
G15K Niukluk 11.29 328 P Pn 22 01 37.0 +0.3
baz=136
I30M Mount Dempster 11.29 30 P Pn 22 01 37.5 +0.7
baz=222
F21K Alatna River 11.30 353 P Pn 22 01 37.0 +0.1
baz=170
F20K Avaraart Lake 11.34 348 Pn 22 01 36.5 -0.8
F20K Avaraart Lake 11.34 348 P Pn 22 01 37.9 +0.6
baz=163
ANM Nome 11.41 324 Pn 22 01 38.3 -0.1
ANM Nome 11.41 324 P Pn 22 01 39.3 +1.0
baz=131,SNR=12
ANM Nome 11.41 324 P Pn 22 01 38.3 -0.1
F19K Shaleruckik Mo 11.41 344 Pn 22 01 37.8 -0.5
F19K Shaleruckik Mo 11.41 344 P Pn 22 01 39.0 +0.7
baz=157
NIKH Nikolski High 11.43 262 Pn Pn 22 01 37.4 -1.2
NIKH Nikolski High 11.43 262 P Pn 22 01 39.6 +1.0
baz=66
F22K John River 11.52 356 P Pn 22 01 40.3 +0.5
baz=174
F24K Squaw Lake 11.52 4 Pn 22 01 39.4 -0.5
F24K Squaw Lake 11.52 4 P Pn 22 01 40.4 +0.5
baz=186
MMPY Sheldon Lake, 11.53 48 P Pn 22 01 40.1 +0.1
baz=244,SNR=17
H29M Whitestone 11.57 24 P Pn 22 01 41.3 +0.7
baz=214
F17K Baldwin Pennin 11.71 337 Pn Pn 22 01 41.8 -0.6
F17K Baldwin Pennin 11.71 337 P Pn 22 01 42.9 +0.6
baz=147
F25K Christian Rive 11.72 8 P Pn 22 01 43.6 +0.9
baz=192,SNR=9.0
WTLY Watson Lake, Y 11.86 61 Pn 22 01 43.6 -1.0
WTLY Watson Lake, Y 11.86 61 P Pn 22 01 45.4 +0.8
baz=260
E19K Redstone River 11.91 346 P Pn 22 01 45.9 +0.6
baz=160
F26K Sheenjek River 11.96 11 P Pn 22 01 46.7 +0.8
baz=196
F15K North Star Dit 11.98 330 P Pn 22 01 47.4 +1.2
baz=137
E23K Chandalar 12.02 1 P Pn 22 01 47.6 +0.9
baz=181
EPYK Eagle Plains 12.09 26 P Pn 22 01 49.4 +1.7
baz=218,SNR=14
G29M Pine Creek 12.23 23 P Pn 22 01 51.0 +1.5
baz=213
E25K Arctic Village 12.25 8 P Pn 22 01 50.7 +0.9
baz=192,SNR=11
F14K Arctic Creek 12.32 326 P Pn 22 01 52.5 +1.7
baz=132
E17K Hotham Inlet 12.37 338 P Pn 22 01 51.2 -0.3
baz=147
E18K Tukpahlearik C 12.42 341 P Pn 22 01 53.2 +1.0
baz=151
F28M Old Crow 12.48 18 Pn 22 01 53.0 0.0
F28M Old Crow 12.48 18 P Pn 22 01 54.6 +1.6
baz=207,SNR=20
E20K Nigu River 12.55 349 P Pn 22 01 55.4 +1.4
baz=164
G30M tAoh Zraii Nji 12.69 25 P Pn 22 01 57.5 +1.6
baz=217,SNR=12
E27K Coleen River 12.74 14 P Pn 22 01 57.7 +1.2
baz=202
TNA Tin City 12.88 325 P Pn 22 01 58.9 +0.5
baz=129
D22K Ayikyak River 12.91 356 P Pn 22 01 59.5 +0.7
baz=173
D23K Nanushuk River 12.94 359 P Pn 22 01 59.8 +0.6
baz=178
D19K Kuna River 13.01 347 P Pn 22 02 01.1 +0.9
baz=159
D20K Etivluk River 13.04 349 P Pn 22 02 01.8 +1.2
baz=163
D24K Happy Valley 13.13 2 P Pn 22 02 02.5 +0.7
baz=183
G31M Satah River 13.14 28 Pn 22 02 02.4 +0.5
G31M Satah River 13.14 28 P Pn 22 02 03.1 +1.3
baz=222
F30M Barrier River 13.30 24 P Pn 22 02 05.9 +1.7
baz=216
C21K Knifeblade Rid 13.30 352 P Pn 22 02 05.1 +0.9
baz=168
GAMB Gambell 13.30 314 P Pn 22 02 04.8 +0.7
baz=115
BBB Bella Bella 13.35 98 LR LR 22 05 36.6
comp=Z,903nm,19.7s,baz=302,slow=30
D25K Kavik River 13.39 5 P Pn 22 02 06.4 +1.1
baz=189
E28M Babbage River 13.43 17 P Pn 22 02 07.4 +1.5
baz=206
E29M Blow River 13.52 19 Pn 22 02 06.8 -0.3
E29M Blow River 13.52 19 P Pn 22 02 07.9 +0.8
baz=210
C18K Utukok River 13.61 342 P Pn 22 02 08.6 +0.1
baz=152
F31M Tsiigehtchic 13.66 27 P Pn 22 02 09.7 +0.6
baz=221,SNR=11
B21K Ikpikpuk River 13.75 353 P Pn 22 02 10.6 +0.4
baz=169
C19K Lookout Ridge 13.78 345 P Pn 22 02 12.0 +1.3
baz=157
D27M Malcolm River 13.81 13 Pn 22 02 11.6 +0.5
D27M Malcolm River 13.81 13 P Pn 22 02 12.5 +1.4
baz=202
C17K DeLong Mountai 13.83 339 P Pn 22 02 10.9 -0.5
baz=147
C16K Lisburne Hills 14.13 336 Pn Pn 22 02 16.4 +1.0
C16K Lisburne Hills 14.13 336 P Pn 22 02 16.2 +0.8
baz=142
D28M Stokes Point 14.21 16 P Pn 22 02 16.5 0.0
baz=206
KOTAN Kotaneelee Air 14.22 63 P Pn 22 02 18.0 +1.3
baz=265,SNR=22
B20K Meade River 14.34 350 P Pn 22 02 17.4 -0.9
baz=163
B18K Kokolik River 14.35 343 P Pn 22 02 18.0 -0.5
baz=152
INK Inuvik 14.38 25 Pn Pn 22 02 19.2 +0.4
INK Inuvik 14.38 25 P Pn 22 02 19.0 +0.2
baz=220,SNR=52
INK Inuvik 14.38 25 P Pn 22 02 19.2 +0.4
INK Inuvik 14.38 25 Pn Pn 22 02 19.5 +0.7
comp=Z,0.5nm,0.3s,baz=206,slow=15,SNR=69
INK LR LR 22 08 19.6
comp=Z,2µm,18.4s,baz=190,slow=39
comp=Z,38nm,1.0s
B22K Teshekpuk Lake 14.40 355 P Pn 22 02 18.6 -0.4
baz=172
FLDN Fort Liard 14.52 62 Pn 22 02 19.1 -1.6
ATKA Atka Island 14.71 265 Pn 22 02 19.5 -4.0
ATKA Atka Island 14.71 265 P Pn 22 02 21.8 -1.7
WRGLY Wrigley 15.08 51 Pn 22 02 27.4 -0.9
WRGLY Wrigley 15.08 51 P Pn 22 02 28.9 +0.5
baz=254,SNR=5.5
A22K Sinclair Lake 15.14 354 P Pn 22 02 29.0 -0.1
baz=169
A21K Barrow 15.57 352 P Pn 22 02 34.3 -0.4
baz=166
GSTR Great Sitkin T 15.80 266 Pn Pn 22 02 38.4 +0.5
ADK Adak 16.24 266 Pn 22 02 41.6 -1.8
ADK Adak 16.24 266 P Pn 22 02 43.2 -0.3
ADK Adak 16.24 266 P Pn 22 02 41.7 -1.8
ADK pmax pmax
comp=Z,19nm,1.0s
KIWB Kanaga Island 16.52 267 Pn Pn 22 02 45.5 -1.5
C36M Paulatuk 17.60 31 Pn 22 02 58.8 -1.7
C36M IAmb IAmb 22 03 04.0
comp=Z,42nm,0.8s
C36M Paulatuk 17.60 31 P Pn 22 02 59.1 -1.3
baz=234,SNR=42
HILA High Level 17.84 68 P Pn 22 03 02.8 -0.7
BRLDA Berland Lookou 18.63 83 P P 22 03 11.8 -1.2
GNW Green Mountain 18.69 106 P P 22 03 12.1 -1.6
YKA Yellowknife Ar 18.95 56 P P 22 03 16.6 +0.2
YKA Yellowknife Ar 18.95 56 P P 22 03 16.6 +0.2
YKA Yellowknife Ar 18.95 56 P Pn 22 03 17.4 +0.3
comp=Z,0.4nm,0.3s,baz=265,slow=9.8,SNR=124
YKA LR LR 22 10 19.4
comp=Z,2µm,19.7s,baz=278,slow=36
comp=Z,16nm,0.9s
A36M Sachs Harbour 19.01 24 P Pn 22 03 17.7 0.0
A36M Sachs Harbour 19.01 24 P Pn 22 03 18.0 +0.3
baz=226,SNR=75
LON Longmire 19.74 106 P P 22 03 24.1 -1.1
LON Longmire 19.74 106 P P 22 03 24.1 -1.1
LON pmax pmax
comp=Z,49nm,1.7s
LTY Liberty 20.04 104 P P 22 03 27.0 -1.6
LTY IAmb IAmb 22 03 41.7
comp=Z,70nm,1.4s
G05A Wamic 20.97 109 P P 22 03 37.5 -1.1
G05A IAmb IAmb 22 03 49.1
comp=Z,85nm,1.4s
SHEM Shemya Is, Ala 21.05 276 LR LR 22 11 35.2
comp=Z,812nm,21.6s,baz=116,slow=36
EDM Edmonton 21.19 82 P P 22 03 39.3 -1.6
EDM Edmonton 21.19 82 P P 22 03 39.3 -1.6
EDM pmax pmax
comp=Z,15nm,1.0s
HAWA Hanford 21.19 104 P P 22 03 38.0 -2.9
NEW Newport 21.42 98 P P 22 03 44.1 +0.7
baz=304,SNR=5.5
NEW Newport 21.42 98 P P 22 03 43.2 -0.2
comp=Z,3.1nm,0.7s,baz=302,slow=12,SNR=4.0
NEW LR LR 22 10 42.9
comp=Z,496nm,21.0s,baz=296,slow=33
comp=Z,3.1nm,0.7s
HUMO Hull Mountain 21.96 116 P P 22 03 47.9 -1.4
HUMO IAmb IAmb 22 04 07.8
comp=Z,49nm,1.4s
PINE Pine Mountain 22.15 111 P P 22 03 50.1 -1.4
PINE IAmb IAmb 22 03 58.9
comp=Z,56nm,1.1s
YBH Yreka Blue Hor 22.73 118 LR LR 22 10 34.5
comp=Z,1µm,21.3s,baz=312,slow=31
BILL Billibino 23.15 319 eP P 22 04 01.8 +0.2
BMO Blue Mountains 23.38 105 P P 22 04 03.4 -0.8
BMO Blue Mountains 23.38 105 P P 22 04 03.4 -0.8
BMO pmax pmax
comp=Z,17nm,1.2s
PLID Pearl Lake 23.94 103 P P 22 04 07.9 -1.9
MSO Missoula 24.01 97 P P 22 04 08.2 -2.1
MSO Missoula 24.01 97 P P 22 04 11.3 +1.0
baz=306
WVOR Wild Horse Val 24.31 111 P P 22 04 11.1 -2.0
WVOR IAmb IAmb 22 04 23.9
comp=Z,40nm,1.2s
WVOR Wild Horse Val 24.31 111 P P 22 04 11.1 -2.0
WVOR pmax pmax
comp=Z,40nm,1.2s
OVMT Ovando 24.39 96 P P 22 04 11.9 -2.0
LYMT Lyon Mountain 24.84 96 P P 22 04 16.7 -1.4
ORV Oroville 24.99 119 P P 22 04 17.7 -1.5
ORV IAmb IAmb 22 04 28.7
comp=Z,29nm,1.4s
ORV Oroville 24.99 119 P P 22 04 17.7 -1.5
ORV pmax pmax
comp=Z,29nm,1.5s
EGMT Eagleton 25.67 91 P P 22 04 24.1 -1.3
EGMT IAmb IAmb 22 04 42.7
comp=Z,36nm,1.6s
EGMT Eagleton 25.67 91 P P 22 04 26.5 +1.2
baz=304
HLID Hailey 25.79 104 P P 22 04 24.2 -2.4
HLID Hailey 25.79 104 P P 22 04 27.8 +1.1
baz=312
FFC Flin Flon 26.83 73 P P 22 04 34.4 -1.3
FFC Flin Flon 26.83 73 P P 22 04 34.4 -1.3
FFC pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 27.30 109 P P 22 04 39.7 -0.6
ELK Elko 27.30 109 P P 22 04 39.7 -0.6
ELK pmax pmax
comp=Z,11nm,1.1s
ELK Elko 27.30 109 LR LR 22 13 30.1
comp=Z,630nm,20.7s,baz=311,slow=32
H17A Grant Village 27.36 99 P P 22 04 39.9 -0.9
H17A Grant Village 27.36 99 P P 22 04 41.9 +1.0
baz=310
NVAR Mina Array Bea 27.44 117 P P 22 04 40.8 -0.8
NVAR Mina Array Bea 27.44 117 P P 22 04 42.4 +0.8
comp=Z,3.8nm,0.8s,baz=304,slow=9.2,SNR=15
comp=Z,3.8nm,0.8s
RES Resolute Bay 27.91 28 P P 22 04 45.0 -0.1
RES IAmb IAmb 22 05 19.6
comp=Z,12nm,1.1s
RES Resolute Bay 27.91 28 P P 22 04 45.0 -0.1
RES pmax pmax
comp=Z,12nm,1.1s
RES Resolute Bay 27.91 28 P P 22 04 45.4 +0.3
comp=Z,2.1nm,0.7s,baz=251,slow=12,SNR=10
RES LR LR 22 16 41.3
comp=Z,919nm,18.3s,baz=225,slow=38
comp=Z,2.1nm,0.7s
LAO LASA Array 28.40 91 P P 22 04 50.9 +1.0
baz=306
R11B Troy Canyon, C 28.88 113 P P 22 04 53.3 -1.1
R11B IAmb IAmb 22 05 04.8
comp=Z,15nm,1.2s
R11B Troy Canyon, C 28.88 113 P P 22 04 55.2 +0.9
baz=319,SNR=9.5
BW06 Boulder Array 28.98 100 P P 22 04 56.1 +0.7
baz=312
DUG Dugway, Tooele 28.98 107 P P 22 04 55.8 +0.6
baz=316
PDAR Pinedale Array 28.98 100 P 22 04 55.0 -0.4
PDAR Pinedale Array 28.98 100 P P 22 04 55.2 -0.1
comp=Z,0.8nm,0.7s,baz=322,slow=5.1,SNR=7.8
PDAR LR LR 22 15 02.9
comp=Z,181nm,20.1s,baz=315,slow=33
comp=Z,0.8nm,0.7s
SMMC Simmler 29.09 123 P P 22 04 57.6 +1.5
baz=325
CWC Cottonwood Cre 29.10 119 P P 22 04 58.0 +1.6
baz=323
SEY Seymchan 29.14 307 *i* P P 22 04 55.5 -0.7
SEY pmax pmax
comp=Z,16nm,1.1s
SEY Seymchan 29.14 307 LR LR 22 18 00.5
comp=Z,2µm,18.1s,baz=86,slow=39
FCC Fort Churchill 29.45 61 P P 22 04 54.4 -4.5
FCC IAmb IAmb 22 05 01.2
comp=Z,18nm,1.1s
FCC Fort Churchill 29.45 61 P P 22 04 54.4 -4.5
FCC pmax pmax
comp=Z,18nm,1.1s
PKM Mcpherson Peak 29.52 123 P P 22 05 01.8 +1.7
baz=325
ISA Isabella, Lake 29.53 120 P P 22 05 01.0 +0.9
baz=324
TPNV Topopah Spring 29.61 116 P P 22 05 02.5 +1.7
baz=321
FURC Furnace Creek, 29.68 117 P P 22 05 03.2 +1.9
baz=322
MPMC Manual Prospec 29.70 119 P P 22 05 03.5 +1.8
baz=323
BSUT Blindstream Ca 29.84 105 P P 22 05 01.1 -2.0
PETK Petropavlovsk- 29.89 287 LR LR 22 17 55.5
comp=Z,355nm,18.7s,baz=81,slow=38
GWY Greenwater Val 30.00 117 P P 22 05 03.1 -1.2
GWY IAmb IAmb 22 05 15.5
comp=Z,11nm,1.1s
LRMC Laurel Mtn Rad 30.06 120 P P 22 05 06.4 +1.6
baz=324
EDW2 Edwards Air Fo 30.39 121 P P 22 05 09.2 +1.5
baz=324
GSC Goldstone, Bar 30.63 119 P P 22 05 11.1 +1.3
baz=323
MA2 Magadan 30.86 301 LR LR 22 18 59.7
comp=Z,953nm,18.0s,baz=81,slow=39
BFSC Mount Baldy Ra 31.07 121 P P 22 05 15.3 +1.5
baz=325
RSSD Black Hills 31.18 93 P P 22 05 15.3 +0.6
baz=309
HEC Hector,Ludlow 31.24 119 P P 22 05 16.6 +1.4
baz=324
O20A White River Ci 31.50 103 P P 22 05 17.9 +0.4
baz=315
GMRC Granite Mounta 31.61 118 P P 22 05 19.6 +1.1
baz=323
SKR Severo-Kuril's 31.92 283 P P 22 05 22.5 +1.6
BELC Belle Mtn. Jos 32.07 119 P P 22 05 23.7 +1.1
baz=324
TPFO Pinon Flats 32.17 120 P P 22 05 24.6 +1.2
baz=325
ULM Lac du Bonnet 32.20 77 P P 22 05 23.9 +0.6
comp=Z,4.0nm,1.0s,baz=277,slow=11,SNR=4.9
ULM LR LR 22 17 49.5
comp=Z,567nm,19.4s,baz=305,slow=35
comp=Z,4.0nm,1.0s
IRM Iron Mountain 32.37 118 P P 22 05 26.5 +1.5
baz=324,SNR=7.3
BC3 Big Chuckawall 32.62 119 P P 22 05 28.6 +1.3
baz=324
PDMCI Parker Dam,Lak 32.75 117 P P 22 05 29.5 +1.2
baz=323
MONP2 Monument Peak 32.77 121 P P 22 05 30.6 +1.9
baz=325
IKP In-Ko-Pah, Jac 33.12 121 P P 22 05 32.9 +1.2
baz=325
ISCO Idaho Springs 33.18 100 P P 22 05 33.7 +1.3
baz=314
WUAZ Wupatki 33.22 112 P P 22 05 31.4 -1.2
WUAZ IAmb IAmb 22 05 44.2
comp=Z,16nm,1.1s
WUAZ Wupatki 33.22 112 P P 22 05 34.6 +2.0
baz=321
S22A 4UR Ranch, Cre 33.97 104 P P 22 05 40.0 +0.6
baz=317
OGNE Ogallala 34.38 96 P P 22 05 43.8 +1.2
baz=313
W18A Petrified Fore 34.38 110 P P 22 05 44.2 +1.5
baz=320
SDCO Great Sand Dun 34.70 103 P P 22 05 47.3 +1.7
baz=317
214A Organ Pipe Nat 35.30 117 P P 22 05 52.9 +2.4
baz=324
KSCO Kaye Shedlock' 35.38 99 P P 22 05 53.1 +1.8
baz=315
TIXI Tiksi 35.65 328 P P 22 05 52.0 -1.0
TIXI IAmb IAmb 22 06 03.7
comp=Z,11nm,1.1s
TIXI Tiksi 35.65 328 *ce* P P 22 05 53.3 +0.3
TIXI pmax pmax
comp=Z,10.0nm,1.1s
TIXI Tiksi 35.65 328 LR LR 22 22 42.3
comp=Z,434nm,18.2s,baz=66,slow=40
EYMN Ely 35.87 78 P P 22 05 56.0 +0.8
baz=306
TUC Tucson 36.03 115 P P 22 05 55.5 -1.3
TUC IAmb IAmb 22 06 08.7

comp=Z,14nm,1.4s
TUC Tucson 36.03 115 P **P** **22 05 59.0 +2.1**
baz=323
TUC Tucson 36.03 115 P **P** **22 05 55.5 -1.3**
TUC pmax pmax
comp=Z,14nm,1.4s
ANMO Albuquerque 36.25 107 P **P** **22 06 00.1 +1.3**
baz=320
ANMO Albuquerque 36.25 107 LR LR 22 20 04.8
comp=Z,271nm,18.5s,baz=47,slow=35
121A Cookes Peak, D 37.41 111 P **P** **22 06 07.9 -0.8**
121A IAmb IAmb 22 06 19.9
comp=Z,13nm,1.2s
121A Cookes Peak, D 37.41 111 P **P** **22 06 10.8 +2.2**
baz=322
NEEM North Greenlan 37.89 21 *i* P **P** **22 06 13.4 +1.0**
NEEM IAmb IAmb 22 06 23.2
comp=Z,25nm,0.9s
G40A Rib Lake 38.20 80 P **P** **22 06 14.3 -0.7**
G40A IAmb IAmb 22 06 48.0
comp=Z,33nm,1.8s
HSIG 38.62 118 P **P** **22 06 16.6 -2.1**
HSIG IAmb IAmb 22 06 30.5
comp=Z,18nm,1.2s
UPNV Upernavik 38.79 28 *i* P **P** **22 06 19.6 0.0**
UPNV IAmb IAmb 22 06 21.2
comp=Z,16nm,1.2s
FRB Frobisher Bay 38.82 45 LR LR 22 22 28.0
comp=Z,2µm,19.1s,baz=314,slow=36
AMTX Amarillo 38.89 102 P **P** **22 06 22.7 +1.7**
baz=318
MSTX Muleshoe 38.98 104 P **P** **22 06 23.6 +1.7**
baz=319
YAK Yakutsk 39.25 313 P **P** **22 06 22.8 -0.8**
YAK Yakutsk 39.25 313 *e*P **P** **22 06 24.3 +0.7**
YAK *e**PP **pwP** **22 06 32.8 +0.8**
YAK *e* 22 07 59.0
YAK *e*S **S** **22 12 25.6 +2.0**
YAK *e* 22 16 31.7
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,270nm,3.7s
YAK pmax pmax
comp=N,237nm,3.7s
YAK pmax pmax
comp=E,238nm,3.8s
YAK smax smax
comp=E,224nm,3.8s
YAK smax smax
comp=N,166nm,3.5s
YAK MLR MLR
comp=Z,529nm,19.0s
YAK MLR MLR
comp=N,552nm,21.0s
YAK MLR MLR
comp=E,350nm,19.0s
YAK Yakutsk 39.25 313 LR LR 22 23 02.4
comp=E,537nm,21.2s,baz=76,slow=37
MNTX Cornudas Mount 39.32 109 P **P** **22 06 26.5 +1.9**
baz=322,SNR=6.2
JFWS Jewell Farm 39.67 83 P **P** **22 06 27.3 -0.1**
baz=311
WMOK Wichita Mounta 40.59 100 P **P** **22 06 34.5 -0.6**
WMOK Wichita Mounta 40.59 100 P **P** **22 06 36.7 +1.5**
baz=318
WMOK Wichita Mounta 40.59 100 P **P** **22 06 34.5 -0.6**
WMOK pmax pmax
comp=Z,15nm,1.2s
N41A Harden Midland 40.80 86 P **P** **22 06 36.3 -0.4**
N41A IAmb IAmb 22 06 40.3
comp=Z,23nm,0.8s
UMMG Uummannaq 40.93 30 *i* P **P** **22 06 37.4 0.0**
UMMG IAmb IAmb 22 06 47.9
comp=Z,9.1nm,0.9s
TUL3 Leonard 41.39 96 P **P** **22 06 42.6 +0.9**
baz=317
L44A Lake County Fo 41.45 83 P **P** **22 06 43.2 +1.1**
baz=312
ABTX Abilene, Hawle 41.70 103 P **P** **22 06 45.3 +1.0**
baz=320
HDIL Hopedale 41.77 85 P **P** **22 06 43.5 -1.2**
HDIL Hopedale 41.77 85 P **P** **22 06 45.8 +1.1**
baz=313
TXAR Lajitas Array 42.09 110 P **P** **22 06 46.6 -0.9**
TXAR Lajitas Array 42.09 110 P **P** **22 06 46.7 -0.9**
TXAR Lajitas Array 42.09 110 P **P** **22 06 48.8 +1.1**
comp=Z,2.3nm,0.8s,baz=318,slow=7.2,SNR=19
TXAR LR LR 22 23 39.9
comp=Z,334nm,18.1s,baz=308,slow=35
comp=Z,2.3nm,0.8s
CCM Cathedral Cave 42.41 90 P **P** **22 06 51.1 +1.2**
baz=315
LPIG La Paz 43.04 121 LR LR 22 22 16.9
comp=Z,384nm,19.4s,baz=340,slow=33
SFIN Lafayette 43.12 84 P **P** **22 06 57.1 +1.4**
baz=313
ASAJ Asahikawa 43.19 284 LR LR 22 24 42.3
comp=Z,165nm,18.2s,baz=67,slow=36
JCT Junction City 43.26 105 P **P** **22 06 56.3 -0.7**
JCT IAmb IAmb 22 07 07.8
comp=Z,30nm,1.1s
JCT Junction City 43.26 105 P **P** **22 06 57.8 +0.8**
baz=321
JCT Junction City 43.26 105 P **P** **22 06 56.3 -0.7**
JCT pmax pmax
comp=Z,30nm,1.1s
SUMG Summit 43.30 24 P **P** **22 06 56.6 -0.6**
SUMG IAmb IAmb 22 07 09.3
comp=Z,25nm,1.0s
SUMG Summit 43.30 24 P **P** **22 06 56.6 -0.6**
SUMG pmax pmax
comp=Z,25nm,1.0s
SUMG Summit 43.30 24 *i* P **P** **22 06 58.0 +0.8**
SUMG IAmb IAmb 22 06 59.4
comp=Z,212nm,2.5s
SFJD Kangerlussuaq 43.46 34 LR LR 22 24 49.0
comp=Z,550nm,20.6s,baz=322,slow=36
O48B Farmland 44.28 83 P **P** **22 07 06.0 +0.9**
baz=314
SCHQ Schefferville 44.40 55 P **P** **22 07 07.2 +1.3**
comp=Z,2.9nm,0.8s,baz=345,slow=15,SNR=2.0
SCHQ LR LR 22 25 40.2
comp=Z,710nm,18.6s,baz=280,slow=36
comp=Z,2.9nm,0.8s
SADO Sadowa 44.55 73 LR LR 22 25 38.4
comp=Z,379nm,18.7s,baz=282,slow=36
ZEA Zeya 44.95 303 *e*P **P** **22 07 12.3 +2.1**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=Z,500nm,19.0s
ICESG Greenland Ices 45.32 28 *i* P **P** **22 07 12.5 -0.9**
ICESG IAmb IAmb 22 07 24.5
comp=Z,15nm,0.8s
ACSO Alum Creek Sta 45.51 81 P **P** **22 07 15.4 +0.6**
baz=314
KLR Kul'dur 45.60 296 *ce*P **P** **22 07 15.4 0.0**
KLR pmax pmax
comp=Z,16nm,1.3s
KLR Kul'dur 45.60 296 LR LR 22 28 39.1
comp=Z,336nm,19.5s,baz=52,slow=39
SPITS Spitsbergen Ar 45.73 4 LR LR 22 26 19.8
comp=Z,283nm,18.5s,baz=324,slow=36
HKT Hockley 45.84 102 *i* P **P** **22 07 19.0 +1.6**
HKT pmax pmax
comp=Z,21nm,1.3s
M53A WI Miller and 45.95 78 P **P** **22 07 19.6 +1.3**
baz=313
OXF Oxford 45.98 92 P **P** **22 07 19.9 +1.3**
baz=317
P52A Corning 46.39 81 P **P** **22 07 22.9 +1.1**
baz=314
M55A Ridgway 46.97 77 P **P** **22 07 25.5 -0.8**
LONY Lake Ozonia 47.08 71 P **P** **22 07 28.2 +1.0**
baz=312
HEH HeiHe 47.09 300 *e*P **P** **22 07 26.8 -0.3**
HEH pmax pmax
comp=Z,8.0nm,1.4s
ISOG Isortoq, Green 47.97 32 *i* P **P** **22 07 33.2 -0.5**
ISOG IAmb IAmb 22 07 34.6
comp=Z,9.7nm,0.8s
ZAIG Zacatecas 48.00 114 P **P** **22 07 32.0 -2.8**
comp=Z,8.0nm,1.1s
BVAR Borovoye Array 66.31 335 P **P** **22 09 44.5 +0.8**
comp=Z,3.6nm,0.8s,baz=38,slow=7.5,SNR=21
BVAR LR LR 22 42 52.8
comp=Z,358nm,18.4s,baz=26,slow=40
comp=Z,3.6nm,0.8s
KURBB Kurchatov Arra 66.33 329 P **P** **22 09 44.4 +0.6**
comp=Z,2.1nm,0.8s,baz=28,slow=6.3,SNR=16
KURBB LR LR 22 43 37.6
comp=Z,433nm,18.4s,baz=137,slow=40
comp=Z,2.1nm,0.8s
JTS Las Juntas de 67.64 105 LR LR 22 42 39.4
comp=Z,107nm,18.1s,baz=322,slow=39
GTA Gaotai 68.08 308 *e*P **P** **22 09 55.6 +0.3**
GTA pP pwP 22 10 04.3 +0.5
GTA pmax pmax
comp=Z,3.0nm,1.8s
XAN Xi'an 68.20 299 *e*P **P** **22 09 55.4 -0.6**
MK31 Makanchi Array 68.55 324 P **P** **22 09 57.4 -0.6**
MK31 IAmb IAmb 22 10 08.3
comp=Z,7.1nm,1.0s
MK31 Makanchi Array 68.55 324 *ce*P **P** **22 09 58.1 +0.2**
MKAR Makanchi Array 68.55 324 P **P** **22 09 57.3 -0.6**
MKAR Makanchi Array 68.55 324 P **P** **22 09 58.3 +0.3**
comp=Z,2.0nm,0.7s,baz=44,slow=6.6,SNR=18
MKAR LR LR 22 44 21.4
comp=Z,452nm,18.4s,baz=34,slow=40
comp=Z,2.0nm,0.7s
OBN Obninsk 69.04 356 *e*P **P** **22 10 04.5 +3.8**
OBN pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 69.26 319 *e*P **P** **22 10 03.9 +1.4**
WMQ pP pwP 22 10 12.8 +1.8
WMQ sP PcP 22 10 21.8 -4.3
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ LR LR
comp=Z,180nm,16.1s
MNK Minsk 69.76 1 *i* P **P** **22 10 05.0 -0.2**
MNK *i* 22 10 27.4
MNK *i* 22 12 39.1
MNK *i* PPP PPP 22 14 20.5
MNK *i* S **S** **22 19 15.0 +1.3**
MNK *i* 22 20 06.8
MNK *i* SS **SS** **22 23 44.5 +3.7**
MNK pmax pmax
comp=Z,15nm,0.7s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK MLR MLR
comp=E,73nm,19.0s
MNK MLR MLR
comp=N,244nm,17.0s
MNK MLR MLR
comp=Z,174nm,17.0s
BELG Belogornoye 70.92 349 *i* P **P** **22 10 13.2 +0.8**
BELG pmax pmax
comp=Z,4.0nm,1.2s
BELG Belogornoye 70.92 349 LR LR 22 45 25.3
comp=Z,220nm,18.6s,baz=145,slow=39
AKTO Aktyubinsk 71.34 342 LR LR 22 46 34.9
comp=Z,195nm,18.6s,baz=360,slow=40
CLL Collm 72.05 11 *i* P **P** **22 10 16.8 -2.4**
CLL *i* 22 10 28.5
CLL Collm 72.05 11 *e*P **P** **22 10 18.0 -1.2**
CLL *i* x x 22 10 28.5
comp=Z,9.0nm,1.0s
ABKAR Akbulak array 72.12 340 P **P** **22 10 18.3 -1.4**
ABKAR Akbulak array 72.12 340 P **P** **22 10 18.5 -1.1**
ABKAR IAmb IAmb 22 10 30.3
comp=Z,10.0nm,0.8s
HSKC Hora Svate Kat 72.78 11 *e*P **P** **22 10 25.4 +1.8**
HSKC *ex* x 22 10 33.8
CHVC Chvalec 73.06 9 *e*P **P** **22 10 25.1 -0.2**
CHVC Chvalec 73.06 9 *e*P **P** **22 10 25.1 -0.2**
OSTC Ostas 73.11 9 *e*P **P** **22 10 27.5 +1.9**
OSTC Ostas 73.11 9 *e*P **P** **22 10 27.5 +1.9**
UPC Upice 73.14 9 *e*P **P** **22 10 27.3 +1.6**
UPC Upice 73.14 9 *e*P **P** **22 10 27.3 +1.6**
DPC Dobruska-Polom 73.32 9 *e*P **P** **22 10 28.3 +1.4**
DPC *ex* x 22 10 37.2
DPC Dobruska-Polom 73.32 9 *e*P **P** **22 10 28.3 +1.4**
DPC *e* 22 10 37.2
PPT Papeete 73.36 180 LR LR 22 34 47.6
comp=Z,114nm,20.5s,baz=28,slow=29
AKASG Malin Array Be 73.58 1 *i* P **P** **22 10 29.7 +1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 73.58 1 P **P** **22 10 28.7 +0.4**
comp=Z,1.5nm,0.7s,baz=0.6,slow=5.8,SNR=5.6
AKASG LR LR 22 42 54.4
comp=Z,119nm,21.5s,baz=32,slow=36
comp=Z,1.5nm,0.7s
KRLC Kraliky 73.63 9 *e*P **P** **22 10 31.5 +2.8**
KRLC *ex* x 22 10 38.7
KRLC Kraliky 73.63 9 *e*P **P** **22 10 31.5 +2.8**
KRLC *e* 22 10 38.7
MORC Moravsky Berou 73.99 8 *e*P **P** **22 10 33.4 +2.6**
ZVC Zvikov 74.02 11 *e*P **P** **22 10 32.5 +1.6**
KHC Kasperske Hory 74.26 11 *e*P **P** **22 10 34.2 +1.8**
KHC *ex* x 22 10 42.6
KHC Kasperske Hory 74.26 11 *e*P **P** **22 10 34.2 +1.8**
KHC *e* 22 10 42.6
VRAC Vranov 74.38 9 *e*P **P** **22 10 35.2 +2.2**
VRAC Vranov 74.38 9 LR LR 22 46 24.3
comp=Z,72nm,18.4s,baz=343,slow=38
GEC2 GERESS Array S 74.55 11 P **P** **22 10 33.9 -0.2**
GERES GERESS Array B 74.55 11 P **P** **22 10 35.2 +1.1**
comp=Z,1.9nm,0.8s,baz=0.0,slow=5.3,SNR=5.7
GERES LR LR 22 44 51.8
comp=Z,76nm,20.7s,baz=326,slow=37
comp=Z,1.9nm,0.8s
KRUC Moravsky 74.60 9 *e*P **P** **22 10 35.1 +0.8**
CKRC Cesky Krumlov 74.64 11 *e*P **P** **22 10 34.9 +0.3**
CKRC *ex* x 22 10 44.2
CKRC Cesky Krumlov 74.64 11 *e*P **P** **22 10 34.9 +0.3**
CKRC *e* 22 10 44.2
AAK Ala-Archa 74.73 328 *ce*P **P** **22 10 36.0 +0.6**
AAK pmax pmax
comp=Z,7.0nm,1.1s
AAK Ala-Archa 74.73 328 LR LR 22 45 53.9
comp=Z,380nm,21.4s,baz=26,slow=38
KK31 Karatay Array 75.44 331 P **P** **22 10 39.2 -0.1**
KK31 IAmb IAmb 22 10 50.0
comp=Z,5.9nm,0.9s
KK31 Karatay Array 75.44 331 P **P** **22 10 39.2 -0.1**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 75.44 331 P **P** **22 10 38.9 -0.4**
KKAR Karatay Array 75.44 331 P **P** **22 10 38.9 -0.4**
CONA Conrad Observa 75.68 10 *e*P **P** **22 10 41.5 +0.8**
comp=Z,6.5nm,1.3s
BIOA Bad Ischl, Aus 75.68 11 *ep*P pP 22 10 43.0 +0.4
comp=Z,4.5nm,0.9s
MOTA Moosalm 75.72 13 *e*P **P** **22 10 42.3 +1.3**
comp=Z,7.2nm,1.1s
LESA Schwarzleotal 75.84 12 *ep*P pP 22 10 43.9 +0.3
comp=Z,4.0nm,1.1s
SQTA Sankt Quirin 75.86 13 *e*P **P** **22 10 41.8 0.0**
comp=Z,6.7nm,1.0s
FETA Feichten 75.99 14 *e*P **P** **22 10 44.2 +1.7**
comp=Z,2.2nm,0.8s
KBA Koelnbreinsper 76.25 12 *i* P **P** **22 10 45.5 +1.5**
comp=Z,6.2nm,0.9s
FUORN Ofenpass-Fuorn 76.32 14 P **P** **22 10 43.8 -0.8**
FUORN IAmb IAmb 22 10 56.5
comp=Z,8.5nm,1.1s
ABTA Abfaltersbach 76.48 12 *ep*P pP 22 10 47.2 0.0
comp=Z,1.3nm,0.7s
BUR08 Bucovina Ar. S 76.56 3 P **P** **22 10 44.7 -1.0**
BUR08 IAmb IAmb 22 11 31.2
comp=Z,9.5nm,1.4s
BURAR Bucovina Array 76.59 3 P **P** **22 10 45.2 -0.7**
SDV Santo Domingo 76.70 94 LR LR 22 46 15.8
comp=Z,78nm,19.8s,baz=342,slow=37
SOKA Soboth 76.83 11 *ep*P pP 22 10 49.2 -0.1
comp=Z,5.8nm,1.0s
OBKA Obir 76.95 11 *e*P **P** **22 10 48.7 +0.8**
comp=Z,10nm,0.8s
KSH Kashi 77.11 325 P **P** **22 10 53.6 +4.6**
KSH pmax pmax
comp=Z,6.0nm,1.0s
HNR Honiara 77.31 231 LR LR 22 38 40.3

	comp=Z,3µm,19.8s,baz=6.0,slow=31						
RAR	**Rarotonga**	**77.44**	**189**	LR	LR	22 38 25.3	
	comp=Z,73nm,21.5s,baz=3.5,slow=31						
TEOL	**Teolo**	**77.75**	**13**	P	**P**	**22 10 52.1**	**-0.1**
BTK	**Batken**	**78.18**	**329**	P	**P**	**22 10 54.5**	**-0.4**
BTK				IAmb	IAmb	22 11 12.7	
	comp=Z,8.5nm,1.1s						
BTK	**Batken**	**78.18**	**329**	P	**P**	**22 10 54.5**	**-0.4**
BTK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MLR	**Muntele Rosu**	**78.74**	**3**	P	**P**	**22 10 57.3**	**-0.6**
MLR	**Muntele Rosu**	**78.74**	**3**	P	**P**	**22 10 57.3**	**-0.6**
MLR				pmax	pmax		
	comp=Z,22nm,1.5s						
MLR	**Muntele Rosu**	**78.74**	**3**	LR	LR	22 47 03.2	
	comp=Z,157nm,18.9s,baz=2.0,slow=37						
KIV	**Kislovodsk**	**79.77**	**351**	*eP*	**P**	**22 11 02.7**	**-0.8**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**79.97**	**351**	P	**P**	**22 11 05.6**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=10,slow=4.3,SNR=4.5						
KBZ				LR	LR	22 51 54.4	
	comp=Z,99nm,18.0s,baz=4.5,slow=40						
	comp=Z,1.8nm,0.8s						
SIMJ	**Simiganj**	**79.99**	**330**	P	**P**	**22 11 03.3**	**-1.6**
SIMJ				IAmb	IAmb	22 11 15.6	
	comp=Z,12nm,0.9s						
ESDC	**Sonseca Array**	**80.33**	**26**	P	**P**	**22 11 05.6**	**-1.0**
ESDC	**Sonseca Array**	**80.33**	**26**	P	**P**	**22 11 07.2**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=335,slow=5.6,SNR=13						
	comp=Z,2.4nm,0.8s						
NRCA	**Norcia**	**80.41**	**13**	P	**P**	**22 11 05.9**	**-1.1**
DAV	**Davao City (W)**	**81.11**	**269**	LR	LR	22 42 57.9	
	comp=Z,53nm,20.6s,baz=6.0,slow=33						
PMG	**Port Moresby**	**83.26**	**242**	LR	LR	22 43 08.1	
	comp=Z,139nm,19.9s,baz=52,slow=32						
GNI	**Garni**	**83.33**	**349**	LR	LR	22 54 32.9	
	comp=Z,196nm,18.2s,baz=20,slow=40						
NIL	**Nilore**	**83.36**	**325**	P	**P**	**22 11 21.4**	**-1.2**
NIL				IAmb	IAmb	22 11 33.4	
	comp=Z,7.9nm,0.8s						
NIL	**Nilore**	**83.36**	**325**	P	**P**	**22 11 21.4**	**-1.2**
NIL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GEYT	**Alibeck**	**83.36**	**338**	P	**P**	**22 11 21.5**	**-1.1**
GEYT	**Alibeck**	**83.36**	**338**	P	**P**	**22 11 21.5**	**-1.1**
GEYT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GEYT	**Alibeck**	**83.36**	**338**	P	**P**	**22 11 24.5**	**+2.0**
	comp=Z,4.4nm,0.8s,baz=41,slow=4.7,SNR=13						
GEYT				LR	LR	22 56 29.6	
	comp=Z,192nm,18.4s,baz=22,slow=41						
	comp=Z,4.4nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**83.36**	**338**	P	**P**	**22 11 20.6**	**-2.0**
BRTR	**Keskin Array B**	**84.51**	**357**	P	**P**	**22 11 30.1**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=4.4,slow=4.3,SNR=2.3						
BRTR				LR	LR	22 50 37.7	
	comp=Z,127nm,21.8s,baz=22,slow=37						
	comp=Z,1.3nm,0.9s						
ATAH	**Atahualpa**	**85.75**	**109**	LR	LR	22 49 32.2	
	comp=Z,74nm,18.4s,baz=339,slow=35						
VAE	**Valguarnera**	**85.85**	**12**	LR	LR	22 52 40.1	
	comp=Z,158nm,19.5s,baz=338,slow=38						
CMAR	**Chiang Mai Arr**	**86.06**	**297**	P	**P**	**22 11 34.9**	**-1.5**
CMAR	**Chiang Mai Arr**	**86.06**	**297**	P	**P**	**22 11 36.8**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=12,slow=5.4,SNR=7.0						
CMAR				LR	LR	22 54 54.9	
	comp=Z,161nm,18.2s,baz=65,slow=39						
	comp=Z,2.2nm,0.4s						
DZM	**Mont Dzumac**	**86.16**	**220**	LR	LR	22 42 45.6	
	comp=Z,197nm,20.4s,baz=41,slow=31						
MDT	**Midelt**	**86.65**	**29**	LR	LR	22 50 44.1	
	comp=Z,218nm,18.7s,baz=352,slow=36						
KEST	**Kesra**	**86.85**	**17**	LR	LR	22 52 37.7	
	comp=Z,154nm,19.9s,baz=270,slow=37						
RPN	**Rapa Nui**	**89.78**	**145**	LR	LR	22 43 31.3	
	comp=Z,171nm,19.6s,baz=270,slow=30						
MDP	**Montagnes des**	**89.86**	**81**	LR	LR	22 50 01.2	
	comp=Z,154nm,21.4s,baz=344,slow=34						
NNA	**Nana**	**90.65**	**111**	LR	LR	22 49 54.2	
	comp=Z,38nm,21.1s,baz=344,slow=34						
MMAI	**Mount Meron Ar**	**91.14**	**356**	LR	LR	22 59 55.5	
	comp=Z,41nm,19.1s,baz=353,slow=40						
CTA	**Charters Tower**	**92.88**	**238**	LR	LR	22 48 10.8	
	comp=Z,103nm,20.3s,baz=82,slow=32						
EIL	**Elat**	**94.49**	**356**	LR	LR	23 00 07.0	
	comp=Z,32nm,21.0s,baz=34,slow=39						
WSAR	**Wadi Sarin**	**97.36**	**334**	LR	LR	23 02 34.0	
	comp=Z,78nm,18.3s,baz=44,slow=39						
URZ	**Urewera**	**98.07**	**206**	LR	LR	22 50 12.3	
	comp=Z,115nm,19.7s,baz=121,slow=31						
QSPA	**South Pole Qui**	**145.87**	**180**	PKPbc	**PKPdf**	**22 18 33.0**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=68,slow=0.4,SNR=13						
BOSA	**Boshof**	**152.33**	**9**	PKPbc	**PKPbc**	**22 18 50.0**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=346,slow=6.5,SNR=5.1						

*SKHL **24** 22:03:10.7±0.1,44°.00N×149°.10E,h37$^{km}_{\pm 3}$,mb4.6/3*
*JMA **24** 22:03:10.5±0.9,45°.N±4°.×14°.9E±°,h30^{km}, MV4.1/13, SE OFF ETOROFU*
ISC 24 22:03:12.7±2.3,44°.12N±0°.09×149°.0E±0°.2,h35^{km},n17, σ0^{s}80/27,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.36**	**325**	*eP*	**Pn**	**22 03 34.4**	**-0.7**
KUR				AMB	AMB	22 03 36.2	
	330nm,0.3s						
KUR				*eS*	**Sn**	**22 03 52.2**	**+0.3**
KUR				A	A	22 03 54.1	
	640nm,0.4s						
KUR				A	A	22 03 54.1	
	630nm,0.4s						
SHO	**Shikotan**	**1.56**	**262**	*eP*	**Pn**	**22 03 36.8**	**-1.0**
SHO				AMB	AMB	22 03 40.7	
	60nm,0.3s						
SHO				*eS*	**Sn**	**22 03 56.3**	**-0.4**
SHO				A	A	22 04 00.9	
	540nm,0.3s						
SHO				A	A	22 04 00.9	
	840nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.23**	**269**	*eP*	**Pn**	**22 03 46.4**	**-0.7**
YUK				AMB	AMB	22 03 47.7	
	210nm,0.5s						
YUK				*eS*	**Sn**	**22 04 12.9**	**-0.6**
YUK				A	A	22 04 16.2	
	220nm,0.4s						
YUK				A	A	22 04 16.2	
	590nm,0.4s						
NEM2	**Nemuro 2**	**2.45**	**253**	*eP*	**Pn**	**22 03 49.2**	**-0.9**
NEM2				*eS*	**Sn**	**22 04 18.2**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.46**	**253**	*eP*	**Pn**	**22 03 49.4**	**-0.8**
NMR				*eS*	**Sn**	**22 04 18.4**	**-0.6**
JRA	**Rausu**	**2.77**	**268**	*eP*	**Pn**	**22 03 54.3**	**-0.2**
JRA				*eS*	**Sn**	**22 04 27.4**	**+0.7**
JNK	**Nakash**	**3.11**	**262**	*eP*	**Pn**	**22 03 59.2**	**0.0**
JNK				*eS*	**Sn**	**22 04 33.7**	**-1.5**
AKK	**Akkeshi**	**3.19**	**251**	*eP*	**Pn**	**22 03 59.8**	**-0.4**
JAK	**Akkeshi**	**3.29**	**252**	*eP*	**Pn**	**22 04 01.6**	**-0.1**
JAK				*eS*	**Sn**	**22 04 38.9**	**-0.8**
JTKR	**Abashiri--Toko**	**3.64**	**269**	*eP*	**Pn**	**22 04 07.3**	**+0.8**
JAR	**Ashorobuto**	**3.85**	**259**	*eP*	**Pn**	**22 04 10.4**	**+1.0**
JAR				*eS*	**Sn**	**22 04 55.2**	**+1.8**
JOB	**Onbets**	**3.92**	**254**	*eP*	**Pn**	**22 04 10.7**	**+0.4**
JOB				*eS*	**Sn**	**22 04 56.1**	**+1.1**
JCH	**Churui**	**4.35**	**252**	*eP*	**Pn**	**22 04 17.0**	**+0.8**
JCH				*eS*	**Sn**	**22 05 05.2**	**-0.5**
JNBK	**Urakawa-nobuka**	**4.89**	**250**	*eP*	**Pn**	**22 04 23.7**	**0.0**
JANG	**Nango**	**6.67**	**238**	*eS*	Sn	22 05 54.9	-8.0
LZH	**Lanzhou**	**35.06**	**273**	*eP*	**P**	**22 10 02.8**	**+0.4**
LZH				pP	pP	22 10 09.8	-1.6
LZH				pmax	pmax		
	comp=Z,11nm,1.3s						
PZH	**PanZhiHua**	**41.73**	**261**	P	**P**	**22 10 58.4**	**0.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						

*TEH **24** 22:07:31.9,33°.77N×45°.69E,h13$^{km}_{\pm 58}$,ML2.8*
*ISN **24** 22:07:32.1±0.6,33°.71N×45°.62E,h9$^{km}_{\pm 3}$,ML2.8*
ISC 24 22:07:32.3±1.0,33°.77N±0°.04×45°.77E±0°.05,h10^{km},n10, σ0^{s}55/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.40**	**112**	Pg	**Pb**	**22 07 41.1**	**-0.4**
ILBA				Sg	**Sb**	**22 07 47.9**	**+0.2**
IBDR	**Badra**	**0.67**	**168**	*e*Pg	**Pg**	**22 07 45.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**22 07 54.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.75**	**349**	Pg	**Pg**	**22 07 46.2**	**-0.6**
IGHG	**Ghaleghazi**	**0.87**	**50**	Pg	**Pb**	**22 07 49.8**	**+0.1**
IDHR	**Dehrash**	**1.06**	**29**	Pg	**Pg**	**22 07 52.0**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.17**	**64**	Pg	**Pn**	**22 07 55.4**	**+0.4**
BHD	**Baghdad**	**1.26**	**247**	*e*Pn	**Pn**	**22 07 56.0**	**0.0**
BHD				*e*Sn	**Sb**	**22 08 13.0**	**+0.5**
BHD				AML	AML	22 08 16.3	
	comp=E,532nm,0.7s						
ILIN	**Lien**	**1.51**	**41**	Pg	**Pb**	**22 08 01.2**	**+0.6**
IKFM	**Kafar-mosalman**	**1.75**	**98**	Pn	**Pb**	**22 08 04.8**	**+0.2**
RAFI	**Al-Rafai**	**2.06**	**172**	*e*Pn	**Pn**	**22 08 08.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**22 08 35.0**	**-0.6**
RAFI				AML	AML	22 08 40.9	
	comp=N,40nm,0.3s						

*SJA **24** 22:17:17.4±0.7,20°.81S×69°.11W,h106$^{km}_{\pm 4}$,ML3.7, MW3.6*
*GUC **24** 22:17:18.6±0.7,20°.81S×69°.03W,h103$^{km}_{\pm 3}$,ML3.6*
ISC 24 22:17:18.4±1.4,20°.79S±0°.03×69°.16W±0°.05,h109$^{km}_{\pm 9}$km, n36,σ0^{s}86/64,12C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.40**	**230**	*eP*	**Pn**	**22 17 33.8**	**-0.9**
PB01				*eS*	**Sn**	**22 17 46.5**	**-0.4**
PB01				IAML		22 17 47.2	
	comp=Z,5µm,0.1s						
PB01	**IPOC Station P**	**0.40**	**230**	⇑*iP*	**Pn**	**22 17 34.1**	**-0.6**
PB01				*i* S	**Sn**	**22 17 46.2**	**-0.6**
PB01				IAML		22 17 46.8	
	comp=E,8µm,0.2s						
PX03	**IPOC Station P**	**0.59**	**311**	*i* P	**Pn**	**22 17 34.9**	**-1.0**
PX03				*i* S	**Sn**	**22 17 48.8**	**-0.2**
PB08	**IPOC Station P**	**0.64**	**0**	*eP*	**Pn**	**22 17 36.2**	**-0.5**
PB08				*eS*	**Sn**	**22 17 50.0**	**-0.3**
PB08				IAML		22 17 51.0	
	comp=Z,2µm,0.1s						
PB08	**IPOC Station P**	**0.64**	**0**	⇓*iP*	**Pn**	**22 17 36.4**	**-0.3**
PB08				*i* S	**Sn**	**22 17 49.9**	**-0.5**
PB08				IAML		22 17 51.7	
	comp=E,4µm,0.2s						
HMBC	**Humberstone**	**0.85**	**306**	*eP*	**Pn**	**22 17 38.0**	**-0.2**
HMBC				*eS*	**Sn**	**22 17 54.4**	**+1.3**
HMBC	**Humberstone**	**0.85**	**306**	⇑*iP*	**Pn**	**22 17 38.2**	**0.0**
HMBC				*i* S	**Sn**	**22 17 53.7**	**+0.6**
HMBC				IAML		22 17 55.3	
	comp=N,4µm,0.2s						
PB02	**IPOC Station P**	**0.87**	**232**	⇑*iP*	**Pn**	**22 17 38.5**	**+0.1**
PB02				*i* S	**Sn**	**22 17 53.8**	**+0.4**
PB02				IAML		22 17 54.7	
	comp=N,4µm,0.3s						
PATCX	**Punta Patache**	**0.93**	**268**	*eP*	**Pn**	**22 17 38.5**	**-0.4**
PATCX				*eS*	Sn	22 17 39.2	-15
PATCX	**Punta Patache**	**0.93**	**268**	⇑*iP*	**Pn**	**22 17 39.2**	**+0.3**
PATCX				*i* S	**Sn**	**22 17 56.0**	**+1.6**
PATCX				IAML		22 17 59.4	
	comp=N,1µm,0.2s						
TA01	**Diego Aracena**	**0.98**	**283**	*eP*	**Pn**	**22 17 39.5**	**+0.2**
TA01				*eS*	**Sn**	**22 17 56.7**	**+1.6**
TA01	**Diego Aracena**	**0.98**	**283**	⇑*iP*	**Pn**	**22 17 39.5**	**+0.2**
TA01				*i* S	**Sn**	**22 17 56.2**	**+1.1**
TA01				IAML		22 17 57.4	
	comp=E,825nm,0.4s						
PB09	**IPOC Station P**	**1.01**	**184**	*eP*	**Pn**	**22 17 39.6**	**-0.2**
PB09				*eS*	**Sn**	**22 17 56.5**	**+0.6**
PB09				IAML		22 17 57.8	
	comp=Z,788nm,0.8s						
PB09	**IPOC Station P**	**1.01**	**184**	⇑*iP*	**Pn**	**22 17 39.6**	**-0.2**
PB09				*i* S	**Sn**	**22 17 55.9**	**-0.1**
PB09				IAML		22 17 57.0	
	comp=N,956nm,0.2s						
TA02	**Huaiquique**	**1.05**	**299**	*eP*	**Pn**	**22 17 40.4**	**+0.4**
TA02				IAML		22 18 02.0	
	comp=Z,2µm,0.1s						
TA02	**Huaiquique**	**1.05**	**299**	⇓*iP*	**Pn**	**22 17 40.4**	**+0.4**
TA02				*i* S	**Sn**	**22 17 57.3**	**+1.0**
TA02				IAML		22 17 59.1	
	comp=N,3µm,0.1s						
GO01	**Chusmiza**	**1.11**	**358**	*eP*	**Pn**	**22 17 41.4**	**+0.1**
GO01				*eS*	**Sn**	**22 17 59.0**	**+0.6**
GO01	**Chusmiza**	**1.11**	**358**	⇑*iP*	**Pn**	**22 17 41.4**	**+0.1**
GO01				*i* S	**Sn**	**22 17 58.8**	**+0.4**
PB11	**IPOC Station P**	**1.12**	**335**	*eP*	**Pn**	**22 17 40.8**	**-0.2**
PB11				*eS*	**Sn**	**22 17 58.8**	**+0.7**
PB11				IAML		22 18 00.2	
	comp=Z,832nm,0.4s						
PB11	**IPOC Station P**	**1.12**	**335**	⇑*iP*	**Pn**	**22 17 40.9**	**-0.2**
PB11				*i* S	**Sn**	**22 17 58.4**	**+0.3**
PB11				IAML		22 17 59.7	
	comp=E,3µm,0.2s						
PB07	**IPOC Station P**	**1.16**	**216**	*eP*	**Pn**	**22 17 41.3**	**-0.1**
PB07				*eS*	**Sn**	**22 17 58.9**	**+0.1**
PB07				IAML		22 18 00.5	
	comp=Z,1µm,0.1s						
PB07	**IPOC Station P**	**1.16**	**216**	⇑*iP*	**Pn**	**22 17 41.4**	**-0.1**
PB07				*i* S	**Sn**	**22 17 58.7**	**0.0**
PB07				IAML		22 18 00.3	
	comp=N,2µm,0.2s						
PB04	**IPOC Station P**	**1.79**	**211**	*eP*	**Pn**	**22 17 49.7**	**+0.7**
PB04				*eS*	**Sn**	**22 18 11.6**	**-0.6**
PB04				IAML		22 18 18.6	
	comp=Z,358nm,0.1s						
PB04	**IPOC Station P**	**1.79**	**211**	*eP*	**Pn**	**22 17 48.2**	**-0.7**
PB04				*i* S	**Sn**	**22 18 11.0**	**-1.2**
PB04				IAML		22 18 18.5	
	comp=N,437nm,0.1s						
LVC	**Limon Verde**	**1.83**	**173**	*eP*	**Pn**	**22 17 49.8**	**+0.2**
LVC				*eS*	**Sn**	**22 18 14.8**	**+1.6**
LVC	**Limon Verde**	**1.83**	**173**	⇑*iP*	**Pn**	**22 17 49.7**	**+0.2**
LVC				*i* S	**Sn**	**22 18 13.7**	**+0.4**
LVC				IAML		22 18 17.0	
	comp=N,848nm,0.2s						
PB06	**IPOC Station P**	**1.95**	**191**	*eP*	**Pn**	**22 17 50.7**	**-0.1**
PB06				*eS*	**Sn**	**22 18 15.0**	**-0.6**
PB06				IAML		22 18 21.4	
	comp=Z,302nm,0.4s						
PB06	**IPOC Station P**	**1.95**	**191**	*i* P	**Pn**	**22 17 50.7**	**-0.1**
PB06				*i* S	**Sn**	**22 18 14.8**	**-0.8**
PB06				IAML		22 18 18.6	
	comp=N,417nm,0.1s						
PB05	**IPOC Station P**	**2.27**	**205**	⇑*iP*	**Pn**	**22 17 54.4**	**-0.5**
PB05				IAML		22 18 22.6	
	comp=E,209nm,0.4s						
PB12	**IPOC Station P**	**2.43**	**333**	*eP*	**Pn**	**22 17 56.2**	**-0.7**
PB12				*eS*	**Sn**	**22 18 22.4**	**-4.1**
PB12	**IPOC Station P**	**2.43**	**333**	⇑*iP*	**Pn**	**22 17 56.3**	**-0.7**
PB12				IAML		22 18 31.8	
	comp=E,196nm,0.7s						
PB15	**IPOC Station P**	**2.43**	**187**	*eP*	**Pn**	**22 17 58.1**	**+1.0**
PB15				*eS*	**Sn**	**22 18 25.6**	**-1.0**
PB15				IAML		22 18 36.4	
	comp=Z,695nm,0.2s						
PB16	**IPOC Station P**	**2.46**	**352**	*eP*	**Pn**	**22 17 59.2**	**+1.3**
PB16	**IPOC Station P**	**2.46**	**352**	*eP*	**Pn**	**22 17 58.8**	**+0.9**
PB16				IAML		22 18 35.1	
	comp=E,92nm,0.5s						
YJA	**Yavi**	**3.66**	**113**	*eP*	**Pn**	**22 18 14.0**	**+0.4**
PB14	**IPOC Station P**	**3.99**	**197**	*eP*	**Pn**	**22 18 17.8**	**-0.1**

*AEIC **24** 22:19:31.0±2.3,56°.2N±0°.1×149°.5W±0°.1,h12$^{km}_{\pm 8}$km, Error ellipse: s-maj=18.0km s-min=9.4km az=181.0*
NEIC 24 22:19:29.9±2.1,56°.29N±0°.10×149°.7W±0°.1,h20$^{km}_{\pm 10}$km, ML3.0/22,ML2.9(AEIC),Error ellipse: s-maj=14.3km s-min=9.5km az=190.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.19**	**314**		Pn	22 20 04.9	-0.1
KDAK					Sn	22 20 31.0	-0.5
OHAK	**Old Harbor**	**2.21**	**296**		Pn	22 20 04.3	-0.9
SYI	**Shuyak Island**	**2.75**	**329**		Pn	22 20 12.2	-0.5
SYI				IAML		22 21 23.5	
	comp=E,36nm,1.5s						
R18K	**Karluk**	**2.92**	**298**		Pn	22 20 15.0	-0.1
R18K				IAML		22 20 57.6	
	comp=N,59nm,1.3s						
R18K				IAML		22 21 52.1	
	comp=E,62nm,1.4s						
CNPM	**China Poot**	**3.35**	**346**		Pn	22 20 21.1	+0.1
CNPM				IAML		22 21 29.1	
	comp=N,21nm,1.4s						
CNPM				IAML		22 22 31.7	
	comp=E,27nm,1.3s						
Q19K	**Cape Douglas,**	**3.41**	**323**		Pn	22 20 21.7	-0.1
Q19K				IAML		22 22 24.6	
	comp=N,116nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.45**	**312**		Pn	22 20 23.2	+0.8
BRSE	**Bradley Lake S**	**3.51**	**351**		Pn	22 20 22.3	-0.8
BRLK	**Bradley Lake**	**3.54**	**350**		Pn	22 20 24.1	+0.4
BRLK				IAML		22 21 08.8	
	comp=N,27nm,1.3s						
BRLK				IAML		22 22 30.6	
	comp=E,20nm,1.3s						
Q23K	**Middleton Isla**	**3.60**	**28**		Pn	22 20 24.4	0.0
ANCK	**Angle Creek**	**3.71**	**303**		Pn	22 20 26.6	+0.7
SEW	**Seward**	**3.82**	**1**		Pn	22 20 25.2	-2.2
P23K	**Montague Islan**	**3.90**	**17**		Pn	22 20 25.6	-3.0
CNTC	**Contact Creek**	**3.92**	**303**		Pn	22 20 29.3	+0.4
P18K	**Big Mountain,**	**4.30**	**318**		Pn	22 20 33.9	-0.2
P18K				IAML		22 21 25.8	
	comp=E,9.8nm,1.2s						
P18K				IAML		22 22 57.2	
	comp=N,17nm,1.5s						
RAGM	**Ragged Mountai**	**4.87**	**30**		Pn	22 20 42.6	+0.7
N19K	**Bonanza Creek**	**5.19**	**333**		Pn	22 20 45.3	-1.0
KLU	**Klutina**	**5.56**	**19**		Pn	22 20 52.5	+1.1
O16K	**Kokwok River B**	**5.58**	**310**		Pn	22 20 52.1	+0.5
M17K	**Holitna River**	**6.52**	**325**		Pn	22 21 05.3	+0.8
N15K	**Kwethluk River**	**6.74**	**309**		Pn	22 21 08.6	+1.1
M16K	**Timber Creek**	**6.78**	**318**		Pn	22 21 09.1	+1.0
O14K	**Tigyukauivet M**	**6.88**	**300**		Pn	22 21 08.8	-0.6
P29M	**Windy Craggy**	**7.16**	**57**		Pn	22 21 13.2	-0.1
M27K	**Edge Creek, AK**	**7.26**	**30**		Pn	22 21 16.2	+1.5
L16K	**Owhat River**	**7.43**	**321**		Pn	22 21 17.1	+0.2
S31K	**Pelican**	**7.49**	**72**		Pn	22 21 16.5	-1.3

*ISU **24** 22:21:41.8,37°.47N×68°.29E,h15^{km}*
*IDC **24** 22:21:42.0±1.2,37°.78N×68°.07E,h0^{km},mb3.8/14, mbtmp3.9/23,ML3.6/9,MS3.8/1,Error ellipse: s-maj=21.9km s-min=8.9km az=161.0*
*MOS **24** 22:21:43.0±1.3,37°.97N×68°.05E,h16^{km},mb4.2/7,Error ellipse: s-maj=8.0km s-min=5.2km az=70.7*
*NNC **24** 22:21:46.5±3.4,38°.24N×68°.08E,h0^{km},mb3.9,mpv3.5, Error ellipse: s-maj=30.6km s-min=15.1km az=179.0*
*NEIC **24** 22:21:46.4±2.0,37°.98N±0°.03×68°.13E±0°.04,h24$^{km}_{\pm 6}$km, mb4.2/14,Error ellipse: s-maj=4.1km s-min=3.8km az=54.0*
*SOME **24** 22:21:47.9,38°.63N×70°.63E,h0^{km}*
ISC 24 22:21:43.6±0.5,37°.95N±0°.04×68°.16E±0°.03,h10^{km},n123, σ1^{s}90/151,mb4.0/21,MS3.8/3,10C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMJ	**Simiganj**	**0.98**	**43**		**Pg**	**22 22 02.9**	**+0.5**
SIMJ					**Sb**	**22 22 16.9**	**+1.2**
KTAB	**Kitab**	**1.55**	**320**	P	Pg	22 22 18.0	+4.7
KTAB				S	Sg	22 22 44.8	+11
AGL	**Agalyk**	**1.86**	**328**	P	**Pg**	**22 22 23.3**	**+4.0**
AGL				S	Sg	22 22 54.6	+11
DZI	**Dzhizak**	**2.18**	**353**	P	**Pg**	**22 22 28.1**	**+2.7**
DZI				S	Sg	22 23 03.8	+10
BTK	**Batken**	**2.96**	**44**	Pn	**Pb**	**22 22 34.7**	**-1.7**
BTK	**Batken**	**2.96**	**44**	PN	**Pb**	**22 22 34.7**	**-1.7**
KUMR	**Kumaryk**	**3.40**	**14**	P	**Pb**	**22 22 44.7**	**+0.9**
KUMR				S	**Sg**	**22 23 36.7**	**+4.0**
KBL	**Kabul**	**3.47**	**168**		**Pn**	**22 22 39.3**	**+1.4**
KBL	**Kabul**	**3.47**	**168**	PN	**Pn**	**22 22 39.3**	**+1.4**
BUXR	**Bukhara**	**3.47**	**302**	P	**Pb**	**22 22 44.7**	**-0.4**
BUXR				S	**Sg**	**22 23 36.7**	**+1.6**
FRG	**Fergana**	**3.72**	**48**	P	**Pb**	**22 22 46.8**	**-2.5**
FRG				S	**Sg**	**22 23 40.5**	**-2.5**
CHMG	**Chimgan**	**3.87**	**21**	P	**Pb**	**22 22 51.2**	**-0.8**
CHMG				S	**Sg**	**22 23 49.4**	**+1.5**
KSNS	**Kasansay**	**4.13**	**38**	P	**Pb**	**22 22 53.8**	**-2.6**
KSNS				S	**Sg**	**22 23 53.8**	**-2.3**
DZN	**Dzhankel'dy**	**4.73**	**309**	P	**Pb**	**22 23 03.0**	**-3.5**
DZN				S	**Sg**	**22 24 11.6**	**-3.7**
ARSB	**Arslanbob**	**5.03**	**46**		**Pn**	**22 22 59.9**	**+0.8**
ARSB	**Arslanbob**	**5.03**	**46**	PN	**Pn**	**22 22 59.9**	**+0.8**
KK31	**Karatay Array**	**5.46**	**18**	⇓Pn	**Pn**	**22 23 07.8**	**+2.9**
	0.9nm,0.3s,baz=206,slow=13,SNR=31						
KK31				⇓Pg	**Pg**	**22 23 24.0**	**-4.0**
	6.4nm,0.5s,baz=212,slow=18,SNR=14						
KK31				⇑Lg	Lg	22 24 33.6	
	80nm,1.1s,baz=199,slow=25,SNR=5.2						
KK31	**Karatay Array**	**5.46**	**18**	Pn	**Pn**	**22 23 06.3**	**+1.4**
KK31	**Karatay Array**	**5.46**	**18**	Pn	**Pn**	**22 23 06.3**	**+1.4**
KKAR	**Karatay Array**	**5.46**	**18**	Pn	**Pn**	**22 23

	comp=E,13nm,0.7s								
TKM2	**Tokmak 2**	**7.54**	**46**	*i* P		**Pn**	**22 23 35.7**	**+2.0**
TKM2				pmax		pmax			
	comp=E,19nm,0.4s								
KST	**Kastek**	**7.83**	**47**	*e*P		**Pn**	**22 23 39.8**	**+2.2**
KST	comp=E,4.0nm,0.4s			*e*S		**Sn**	**22 25 09.2**	**+2.9**
	comp=E,6.9nm,0.2s								
DGS	**Degeres**	**7.84**	**45**	*e*P		**Pn**	**22 23 39.7**	**+1.9**
DGS	comp=E,6.7nm,0.2s			*e*S		**Sn**	**22 25 09.1**	**+2.4**
	comp=E,6.9nm,0.2s								
GEYT	**Alibeck**	**7.94**	**273**			**Pn**	**22 23 37.8**	**-1.2**
GEYT	**Alibeck**	**7.94**	**273**	Pn		**Pn**	**22 23 38.0**	**-1.0**
GEYT	comp=E,2.6nm,0.3s,baz=101,slow=9.2,SNR=38			Sn		**Sn**	**22 25 08.2**	**-0.6**
	comp=E,1.7nm,0.3s,baz=64,slow=13,SNR=1.2								
	comp=E,4.3nm,0.3s								
GYA0B	**ALIBECK ARRAY**	**7.94**	**273**	Pn		**Pn**	**22 23 38.0**	**-1.0**
TARG	**Taragay, Kyrgy**	**8.33**	**60**	Pn		**Pn**	**22 23 45.3**	**+0.6**
TARG	**Taragay, Kyrgy**	**8.33**	**60**	P		**Pn**	**22 23 45.3**	**+0.6**
PRZ	**Przheval'sk**	**9.05**	**57**	Pn		**Pn**	**22 23 56.5**	**+2.1**
PRZ	**Przheval'sk**	**9.05**	**57**	P		**Pn**	**22 23 56.5**	**+2.1**
SMLA	**Simla**	**10.07**	**130**	*e*P		**Pn**	**22 24 10.4**	**+2.2**
SMLA				*e*S		**Sn**	**22 25 58.3**	**-2.9**
AB31	**Akbulak array**	**12.77**	**335**	⇓Pn		**Pn**	**22 24 43.2**	**-1.9**
AB31	comp=Z,3.1nm,0.5s,baz=154,slow=12,SNR=189			⇓Sn		**Sn**	**22 27 05.5**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=159,slow=22,SNR=5.9								
ABKAR	**Akbulak array**	**12.77**	**335**			**Pn**	**22 24 44.0**	**-1.0**
ABKAR	**Akbulak array**	**12.77**	**335**			**Pn**	**22 24 44.0**	**-1.0**
MK31	**Makanchi Array**	**13.67**	**45**	Pn		**Pn**	**22 24 57.2**	**-0.1**
MK31	**Makanchi Array**	**13.67**	**45**	*i* P		**Pn**	**22 24 57.3**	**-0.1**
MK31	comp=Z,1.0nm,0.6s			pmax		pmax			
MKAR	**Makanchi Array**	**13.67**	**45**	Pn		**Pn**	**22 24 57.5**	**+0.1**
MKAR	**Makanchi Array**	**13.67**	**45**	Pn		**Pn**	**22 24 57.8**	**+0.4**
MKAR	comp=Z,0.1nm,0.3s,baz=232,slow=14,SNR=14			Lg		Lg	22 29 02.6		
	baz=240,slow=16,SNR=2.3								
	comp=Z,1.5nm,0.8s								
AKTO	**Aktyubinsk**	**14.43**	**333**	⇑Pn		**Pn**	**22 25 07.0**	**-0.8**
AKTO	comp=Z,0.5nm,0.3s			⇓Sn		**Sn**	**22 27 42.8**	**-5.0**
	comp=Z,1.3nm,0.6s								
AKTO	**Aktyubinsk**	**14.43**	**333**	Pn		**Pn**	**22 25 07.6**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=127,slow=9.3,SNR=14								
	comp=Z,2.1nm,0.3s								
KURBB	**Kurchatov Arra**	**14.67**	**27**	Pn		**Pn**	**22 25 09.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=6.2								
KURBB				Lg		Lg	22 29 32.1		
	comp=Z,0.2nm,0.3s,baz=220,slow=29,SNR=5.2								
	comp=Z,0.7nm,0.7s								
KURK	**Kurchatov**	**14.78**	**27**	Pn		**Pn**	**22 25 11.4**	**-1.1**
KURK	**Kurchatov**	**14.78**	**27**	*i* P		**Pn**	**22 25 14.4**	**+1.9**
KURK	comp=Z,2.0nm,0.8s			pmax		pmax			
BVAR	**Borovoye Array**	**15.16**	**5**	Pn		**Pn**	**22 25 15.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=170,slow=14,SNR=18								
	comp=Z,1.9nm,0.5s								
BRVK	**Borovoye**	**15.19**	**5**	Pn		**Pn**	**22 25 16.3**	**-1.7**
BRVK				IAmb		IAmb	22 25 25.3		
	comp=Z,6.6nm,0.9s								
BRVK	**Borovoye**	**15.19**	**5**	*e*P		**Pn**	**22 25 17.6**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
WMQ	**Urumqi**	**15.89**	**62**	*e*P		**Pn**	**22 25 29.5**	**+2.3**
GROC	**Groznyy**	**17.76**	**294**	*e*P		**Pn**	**22 25 48.8**	**-2.0**
GROC	comp=Z,15nm,1.0s			pmax		pmax			
DGZ	**Jazzator, Alta**	**18.14**	**43**	*i* P		**Pn**	**22 25 54.6**	**-1.1**
DGZ	comp=Z,4.0nm,0.6s			pmax		pmax			
ARU	**Arti**	**19.57**	**344**	P		**P**	**22 26 10.6**	**-0.8**
ARU	**Arti**	**19.57**	**344**	*c i* P		**P**	**22 26 11.2**	**-0.2**
ARU				S		**Sn**	**22 29 51.5**	**-0.8**
ARU	comp=Z,23nm,2.4s			pmax		pmax			
ARU	**Arti**	**19.57**	**344**	P		**P**	**22 26 12.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=169,slow=6.2,SNR=10								
	comp=Z,2.6nm,0.4s								
ZAA0	**Zalesovo Array**	**19.68**	**30**	P		**P**	**22 26 12.1**	**-0.5**
ZAA0	comp=Z,6.3nm,0.6s			IAmb		IAmb	22 26 13.6		
ZALV	**Zalesovo Beam**	**19.68**	**30**	P		**P**	**22 26 12.2**	**-0.4**
ZALV	**Zalesovo Beam**	**19.68**	**30**	P		**P**	**22 26 12.6**	**0.0**
	comp=Z,1.0nm,0.3s,baz=223,slow=10,SNR=43								
	comp=Z,7.7nm,0.6s								
KBZ	**Khabaz**	**19.93**	**295**	P		**P**	**22 26 16.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=158,slow=9.8,SNR=8.0								
KBZ				S		**S**	**22 29 58.3**	**-1.3**
	comp=Z,2.2nm,1.1s,baz=236,slow=12,SNR=2.2								
	comp=Z,1.5nm,0.7s								
KVAR	**Kislovodsk Arr**	**20.11**	**295**	P		**P**	**22 26 18.8**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=90,slow=20,SNR=1.7								
	comp=Z,1.4nm,0.5s								
KIV	**Kislovodsk**	**20.11**	**295**	P		**P**	**22 26 17.8**	**+0.3**
KIV				IAmb		IAmb	22 26 20.1		
	comp=Z,5.5nm,0.7s								
KIV	**Kislovodsk**	**20.11**	**295**	*e*P		**P**	**22 26 16.1**	**-1.4**
KIV	comp=Z,5.0nm,1.0s			pmax		pmax			
BELG	**Belogornoye**	**20.35**	**322**	*i* P		**P**	**22 26 20.7**	**+0.8**
BELG	comp=Z,4.0nm,0.8s			pmax		pmax			
KIRV	**Kirov**	**23.97**	**336**	*i* P		**P**	**22 26 58.7**	**+0.9**
GTA	**Gaotai**	**24.70**	**77**	*e*P		P	22 27 15.8	+11
GTA				pP		sP	22 27 30.9	+21
GTA	comp=Z,3.0nm,1.3s			pmax		pmax			
BRTR	**Keskin Array B**	**26.85**	**285**	P		**P**	**22 27 25.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=100,slow=8.8,SNR=2.9								
	comp=Z,0.7nm,0.6s								
SONM	**Songino Array**	**29.44**	**58**	P		**P**	**22 27 47.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=265,slow=10,SNR=2.5								
	comp=Z,0.3nm,0.6s								
ULN	**Ulaanbaatar**	**29.88**	**58**	*i* P		**P**	**22 27 53.2**	**+1.8**
AKASG	**Malin Array Be**	**30.27**	**308**	*ce*P		**P**	**22 27 56.0**	**+1.5**
AKASG	**Malin Array Be**	**30.27**	**308**	P		**P**	**22 27 55.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=82,slow=7.1,SNR=5.2								
	comp=Z,0.2nm,0.3s								
PZH	**PanZhiHua**	**30.46**	**102**	P		**P**	**22 27 59.4**	**+2.8**
PZH	comp=Z,6.0nm,0.7s			pmax		pmax			
PZH				pmax		pmax			
	comp=Z,100nm,5.1s								
MNK	**Minsk**	**31.87**	**314**	*i* P		**P**	**22 28 06.2**	**-2.4**
	comp=E,3.0nm,0.7s								
MNK				*i* P		**P**	**22 28 06.2**	**-2.4**
	comp=N,18nm,1.2s								
MNK				*i* P		**P**	**22 28 06.2**	**-2.4**
	comp=Z,4.0nm,0.8s,baz=104								
MNK				*i* PP		**PnPn**	**22 29 10.0**	**-3.1**
MNK				*i* PPP		PPP	22 29 19.2		
MNK				*i* S		**S**	**22 33 16.6**	**-2.6**
MNK				*i* SS		**SnSn**	**22 35 04.1**	**-2.8**
MNK				*i* SSS		SSS	22 35 19.3		
MNK				*i* LQ		LQ	22 38 29.1		
MNK				*i* LR		LR	22 40 26.5		
MNK				*i* LRM		MLR	22 42 15.1		
	comp=E,92nm,16.8s								
MNK				*i* LRM		MLR	22 42 15.1		
	comp=N,213nm,16.1s								
MNK				*i* LRM		MLR	22 42 15.1		
	comp=Z,136nm,17.4s								
MNK	**Minsk**	**31.87**	**314**	*i* P		**P**	**22 28 06.2**	**-2.4**
MNK				*i*			22 29 10.0		
MNK				*i*			22 30 57.6		
MNK				*i* S		**S**	**22 33 16.5**	**-2.6**
MNK				*i* SS		**SnSn**	**22 35 04.1**	**-2.8**
MNK				pmax		pmax			
	comp=E,3.0nm,0.7s								
MNK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MNK				pmax		pmax			
	comp=N,18nm,1.2s								
MNK				MLR		MLR			
	comp=N,213nm,16.0s								
MNK				MLR		MLR			
	comp=E,92nm,17.0s								
MNK				MLR		MLR			
	comp=Z,136nm,17.0s								
HHC	**Hu-ho-hao-te**	**33.42**	**71**	*e*P		**P**	**22 28 22.8**	**+0.3**
HHC				sP		sP	22 28 28.8	+1.5
HHC				S		**S**	**22 33 42.5**	**-1.2**
HHC				sS		sS	22 33 51.8	+2.7
HHC				pmax		pmax			
	comp=E,12nm,0.7s								
HHC				pmax		pmax			
	comp=Z,340nm,5.1s								
HHC				LR		LR			
	comp=N,490nm,15.7s								
HHC				LR		LR			
	comp=E,710nm,14.9s								
HHC				LR		LR			
	comp=Z,1μm,15.7s								
FINES	**FINESS Array B**	**35.02**	**326**	P		**P**	**22 28 36.4**	**+0.5**
FINES	**FINESS Array B**	**35.02**	**326**	*i* P		**P**	**22 28 37.4**	**+1.5**
FINES	comp=Z,3.0nm,0.7s			pmax		pmax			
FINES	**FINESS Array B**	**35.02**	**326**	P		**P**	**22 28 37.1**	**+1.2**
	comp=Z,4.3nm,0.9s,baz=128,slow=8.3,SNR=8.2								
	comp=Z,4.3nm,0.9s								
ARCES	**ARCESS Array B**	**38.95**	**338**	P		**P**	**22 29 10.2**	**+0.9**
ARCES	**ARCESS Array B**	**38.95**	**338**	P		**P**	**22 29 10.6**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=116,slow=8.1,SNR=6.1								
	comp=Z,4.3nm,0.9s								
GERES	**GERESS Array B**	**40.24**	**304**	P		**P**	**22 29 19.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=74,slow=10,SNR=2.2								
	comp=Z,0.8nm,0.7s								
HFS	**Hagfors**	**40.53**	**321**	P		**P**	**22 29 23.1**	**+0.6**
	comp=Z,4.3nm,0.5s,baz=98,slow=11,SNR=19								
	comp=Z,4.3nm,0.5s								
PRED	**Cave del Predi**	**40.62**	**300**	P		**P**	**22 29 23.5**	**0.0**
PRED				IAmb		IAmb	22 29 46.5		
	comp=Z,3.4nm,1.3s								
FDMO	**Fiordimonte**	**41.56**	**295**	P		**P**	**22 29 31.7**	**+0.4**
FDMO				IAmb		IAmb	22 29 34.1		
	comp=Z,3.8nm,0.9s								
NC303	**NORSAR Array S**	**41.80**	**323**	P		**P**	**22 29 33.6**	**+0.6**
NB2	**NORSAR Subarra**	**41.86**	**322**	P		**P**	**22 29 34.3**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=98,slow=8.6								
NOA	**NORSAR Array B**	**41.86**	**322**	P		**P**	**22 29 34.0**	**+0.5**
NOA	**NORSAR Array B**	**41.86**	**322**	P		**P**	**22 29 34.0**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=101,slow=7.8,SNR=5.7								
	comp=Z,0.8nm,0.4s								
YAK	**Yakutsk**	**44.13**	**37**	P		**P**	**22 29 52.2**	**+0.3**
TIXI	**Tiksi**	**45.30**	**23**	P		**P**	**22 30 01.4**	**+0.4**
TIXI				IAmb		IAmb	22 30 02.9		
	comp=Z,3.0nm,0.8s								
TIXI	**Tiksi**	**45.30**	**23**	P		**P**	**22 30 01.4**	**+0.4**
TIXI	comp=Z,3.0nm,0.8s			pmax		pmax			
KLR	**Kul'dur**	**46.14**	**55**	P		**P**	**22 30 09.2**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=284,slow=13,SNR=3.0								
	comp=Z,1.2nm,0.6s								
JMIC	**Jan Mayen**	**50.34**	**336**	LR		LR	22 52 48.6		
	comp=Z,91nm,19.6s,baz=298,slow=37								
ESDC	**Sonseca Array**	**54.78**	**296**	P		**P**	**22 31 14.2**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=51,slow=7.7,SNR=5.0								
	comp=Z,1.0nm,0.9s								
TOA0	**Torodi Ar. Sit**	**63.52**	**266**	P		**P**	**22 32 13.3**	**-1.0**
TOA0	comp=Z,5.2nm,1.5s			IAmb		IAmb	22 32 28.0		
TORD	**Torodi Ar. Bea**	**63.52**	**266**	P		**P**	**22 32 14.3**	**0.0**
TORD	**Torodi Ar. Bea**	**63.52**	**266**	P		**P**	**22 32 13.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=52,slow=6.3,SNR=12								
	comp=Z,0.6nm,0.5s								
IMAR	**Indian Mountai**	**71.47**	**17**	P		**P**	**22 33 04.2**	**+0.4**
ILAR	**Eielson Array**	**73.99**	**15**	*e*P		**P**	**22 33 19.6**	**+0.8**
ILAR	**Eielson Array**	**73.99**	**15**	P		**P**	**22 33 18.9**	**0.0**
	comp=Z,4.0nm,0.8s,baz=322,slow=4.3,SNR=5.8								
	comp=Z,4.0nm,0.8s								
BCAR	**Beaver Creek A**	**76.52**	**14**	P		**P**	**22 33 32.6**	**-0.9**
YKA	**Yellowknife Ar**	**79.88**	**1**	*e*P		**P**	**22 33 53.6**	**+1.6**
YKA	comp=Z,1.0nm,0.8s			pmax		pmax			
YKA	**Yellowknife Ar**	**79.88**	**1**	P		**P**	**22 33 52.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=349,slow=5.8,SNR=11								
	comp=Z,0.6nm,0.8s								

IDC ***24*** *22:44:38.0±2.7,55°.83N×149°.58W,h0km, mb3.5/4, mbtmp3.3/6, ML2.7/2, Error ellipse: s-maj=52.9km s-min=35.1km az=106.0*

NEIC ***24*** *22:44:40.0±1.1,56°.00N±0°.07×149°.3W±0°.1,h22km±8km, ML3.2/20, ML3.0(AEIC), Error ellipse: s-maj=10.0km s-min=9.3km az=163.0*

AEIC ***24*** *22:44:43.3±1.3,56°.0N±0°.1×149°.4W±0°.1,h12km±8km, Error ellipse: s-maj=16.1km s-min=9.2km az=180.0*

ISC 24 22:44:40.2±1.6,56°.1N±0°.1×149°.39W±0°.06,h10km,n62,
σ0s79/65,mb3.6/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.43**	**299**		**Pn**	**22 45 19.5**	**-0.3**
OHAK					**Sn**	**22 45 47.0**	**-2.5**
OHAK	**Old Harbor**	**2.43**	**299**	P	**Pn**	**22 45 19.5**	**-0.3**
	baz=117						
OHAK				S	**Sn**	**22 45 47.6**	**-1.9**
	baz=117						
KDAK	**Kodiak Island**	**2.43**	**315**		**Pn**	**22 45 19.8**	**0.0**
KDAK	**Kodiak Island**	**2.43**	**315**		**Sn**	**22 45 47.8**	**-1.8**
KDAK	**Kodiak Island**	**2.43**	**315**	Pn	**Pn**	**22 45 19.3**	**-0.5**
	1.1nm,0.3s,baz=163,slow=14,SNR=5.2						
KDAK				Sn	**Sn**	**22 45 48.4**	**-1.1**
	3.5nm,0.3s,baz=208,slow=23,SNR=14						
	4.1nm,0.4s						
Q20K	**Shuyak Island**	**2.99**	**328**	P	**Pn**	**22 45 28.0**	**+0.4**
	baz=146						
Q20K				S	**Sn**	**22 46 03.4**	**0.0**
	baz=146						
R18K	**Karluk**	**3.14**	**300**		**Pn**	**22 45 30.0**	**+0.4**
R18K				IAML		22 46 11.0	
	comp=N,82nm,1.4s						
R18K				IAML		22 46 14.0	
	comp=E,79nm,0.5s						
R18K	**Karluk**	**3.14**	**300**	P	**Pn**	**22 45 29.2**	**-0.4**
	baz=117						
CNPM	**China Poot**	**3.57**	**345**		**Pn**	**22 45 35.1**	**-0.4**
CNPM					**Sn**	**22 46 16.7**	**-1.0**
CNPM				IAML		22 46 46.7	
	comp=N,27nm,1.4s						
CNPM				IAML		22 47 42.0	
	comp=E,34nm,1.3s						
Q19K	**Cape Douglas,**	**3.64**	**323**	P	**Pn**	**22 45 36.6**	**0.0**
	baz=139						
KAHG	**Katmai Hook Gl**	**3.68**	**313**		**Pn**	**22 45 37.1**	**-0.1**
Q23K	**Middleton Isla**	**3.71**	**25**	P	**Pn**	**22 45 36.7**	**-0.6**
	baz=206						
BRSE	**Bradley Lake S**	**3.72**	**349**		**Pn**	**22 45 37.1**	**-0.5**
BRSE					**Sn**	**22 46 22.1**	**+0.7**
BRSE	**Bradley Lake S**	**3.72**	**349**	P	**Pn**	**22 45 37.1**	**-0.5**
	baz=168						
BRSE				S	**Sn**	**22 46 22.1**	**+0.7**
	baz=168						
BRLK	**Bradley Lake**	**3.75**	**348**		**Pn**	**22 45 37.5**	**-0.6**
BRLK				IAML		22 46 26.9	
	comp=E,24nm,1.5s						
BRLK				IAML		22 46 30.0	
	comp=N,28nm,1.5s						
P23K	**Montague Islan**	**4.04**	**14**		**Pn**	**22 45 41.4**	**-0.6**
P23K	**Montague Islan**	**4.04**	**14**	P	**Pn**	**22 45 41.4**	**-0.6**
	baz=195						
P19K	**Oil Pt**	**4.10**	**332**	P	**Pn**	**22 45 43.4**	**+0.5**
	baz=148						
O20K	**Slope Mountain**	**4.34**	**338**		**Pn**	**22 45 46.0**	**-0.1**
O20K	**Slope Mountain**	**4.34**	**338**	P	**Pn**	**22 45 46.1**	**-0.1**
	baz=155						
SLKM	**Skilak Lake**	**4.43**	**355**		**Pn**	**22 45 47.0**	**-0.4**
P18K	**Big Mountain,**	**4.54**	**319**		**Pn**	**22 45 49.3**	**+0.4**
P18K				IAML		22 46 43.3	
	comp=E,11nm,1.4s						
P18K	**Big Mountain,**	**4.54**	**319**	P	**Pn**	**22 45 48.3**	**-0.6**
	baz=134						
HIN	**Hinchinbrook I**	**4.56**	**18**		**Pn**	**22 45 48.4**	**-0.8**
HIN				IAML		22 47 25.9	
	comp=N,39nm,1.3s						
KAIM	**Kayak Island**	**4.65**	**33**		**Pn**	**22 45 49.8**	**-0.6**
KAIM	**Kayak Island**	**4.65**	**33**	P	**Pn**	**22 45 49.7**	**-0.6**
	baz=215						
RAGM	**Ragged Mountai**	**4.96**	**28**	Pn	**Pn**	**22 45 54.2**	**-0.5**
RAGM				IAML		22 47 02.0	
	comp=E,36nm,0.8s						
BERG	**Berg Lake**	**5.24**	**33**	Pn	**Pn**	**22 45 57.9**	**-0.6**
BERG				IAML		22 48 50.6	
	comp=N,29nm,1.3s						
KNK	**Knik Glacier**	**5.34**	**5**		**Pn**	**22 45 59.6**	**-0.3**
KNK	**Knik Glacier**	**5.34**	**5**	P	**Pn**	**22 46 00.1**	**+0.2**
	baz=185						
SNH	**Sunshine Point**	**5.36**	**38**		**Pn**	**22 45 59.6**	**-0.5**
SUA	**Susitna One**	**5.42**	**353**	Pn	**Pn**	**22 46 00.1**	**-0.9**
BMRM	**Bremner River**	**5.48**	**25**		**Pn**	**22 46 01.3**	**-0.5**
BMRM	**Bremner River**	**5.48**	**25**	P	**Pn**	**22 46 01.8**	**0.0**
	baz=208						
GHO	**Glory Hole Cre**	**5.69**	**2**	Pn	**Pn**	**22 46 04.2**	**-0.4**
KLU	**Klutina**	**5.69**	**17**		**Pn**	**22 46 04.7**	**-0.1**
KLU	**Klutina**	**5.69**	**17**	P	**Pn**	**22 46 04.7**	**-0.1**
	baz=199						
SML	**Sawmill**	**5.74**	**5**	Pn	**Pn**	**22 46 05.6**	**+0.2**
SCM	**Sheep Creek Mo**	**5.84**	**10**	Pn	**Pn**	**22 46 07.0**	**+0.2**
VRDI	**Verde Repeater**	**5.99**	**29**	Pn	**Pn**	**22 46 08.3**	**-0.7**
N25K	**Chitina, Valde**	**6.05**	**22**	Pn	**Pn**	**22 46 09.4**	**-0.2**
N15K	**Kwethluk River**	**6.97**	**310**	Pn	**Pn**	**22 46 23.3**	**+1.0**
O14K	**Tigyukauivet M**	**7.10**	**301**	Pn	**Pn**	**22 46 24.8**	**+0.8**
P29M	**Windy Craggy**	**7.14**	**56**	Pn	**Pn**	**22 46 23.2**	**-1.4**
M27K	**Edge Creek, AK**	**7.35**	**28**	Pn	**Pn**	**22 46 26.5**	**-1.0**
CAST	**Castle Rocks**	**7.46**	**351**	Pn	**Pn**	**22 46 29.8**	**+0.8**
KTH	**Kantishna Hill**	**7.51**	**355**	Pn	**Pn**	**22 46 30.9**	**+1.2**
L16K	**Owhat River**	**7.66**	**321**	Pn	**Pn**	**22 46 32.5**	**+0.8**
BCAR	**Beaver Creek A**	**7.97**	**26**	Pn	**Pn**	**22 46 36.2**	**+0.3**
S32K	**Killisnoo**	**8.25**	**74**	Pn	Pn	22 46 36.5	-3.2
ILAR	**Eielson Array**	**8.78**	**7**	Pn	**Pn**	**22 46 48.0**	**+1.1**
	comp=N,0.1nm,0.3s,baz=190,slow=13,SNR=5.7						
ILAR				Sn	**Sn**	**22 48 24.1**	**-1.8**
	baz=322,slow=38,SNR=1.9						
	comp=N,0.3nm,0.5s						
U33K	**Whale Pass**	**9.09**	**83**	Pn	Pn	22 46 46.8	-4.4
IMAR	**Indian Mountai**	**10.13**	**350**	Pn	**Pn**	**22 47 06.4**	**+1.0**
G23K	**Bananza Creek**	**10.65**	**359**	Pn	**Pn**	**22 47 12.8**	**+0.3**
ANM	**Nome**	**11.57**	**324**	Pn	**Pn**	**22 47 25.0**	**-0.1**
H11S1	**WAKE ISLAND Hy**	**49.88**	**239**	T	T	23 48 06.9	
	baz=29						
H11S2	**WAKE ISLAND Hy**	**49.90**	**239**	T	T	23 48 05.9	
	baz=29						
H11S3	**WAKE ISLAND Hy**	**49.90**	**239**	T	T	23 48 03.9	
	baz=29						
SONM	**Songino Array**	**58.71**	**310**	P	**P**	**22 54 38.8**	**+1.0**
	comp=N,0.2nm,0.4s,baz=54,slow=7.3,SNR=1.1						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**61.68**	**327**	P	**P**	**22 54 58.1**	**+0.3**
	comp=N,0.7nm,0.6s,baz=15,slow=6.3,SNR=3.8						
	comp=N,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**66.46**	**329**	P	**P**	**22 55 29.3**	**+0.1**
	comp=N,0.3nm,0.8s,baz=39,slow=6.1,SNR=2.3						
	comp=N,0.3nm,0.8s						
MKAR	**Makanchi Array**	**68.70**	**325**	P	**P**	**22 55 43.6**	**+0.1**
	comp=N,0.2nm,0.5s,baz=29,slow=5.5,SNR=6.0						
	comp=N,0.2nm,0.5s						

NEIC ***24*** *22:52:47.8±1.3,56°.4N±0°.1×148°.9W±0°.1, h23km±10km, ML3.4/40, ML3.2(AEIC), Error ellipse: s-maj=15.0km s-min=8.7km az=174.0*

IDC ***24*** *22:52:48.8±3.2,56°.48N×148°.86W, h0km, mb3.5/1, mbtmp3.3/5, ML2.9/4, MS2.7/1, Error ellipse: s-maj=46.4km s-min=28.8km az=153.0*

AEIC ***24*** *22:52:51.3±1.1,56°.40N±0°.06×148°.88W±0°.10, h9km±7km, Error ellipse: s-maj=11.8km s-min=3.4km az=139.0*

ISC 24 22:52:48.2±1.5,56°.52N±0°.10×148°.90W±0°.06,h10km,
n124,σ0s94/131,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.38**	**304**	Pn	**Pn**	**22 53 26.7**	**-0.4**
	2.5nm,0.3s,baz=122,slow=7.8,SNR=15						
KDAK				Sn	**Sn**	**22 53 54.4**	**-1.8**
	6.9nm,0.3s,baz=46,slow=23,SNR=15						
KDAK				LR	LR	22 54 31.0	
	comp=Z,182nm,21.5s,baz=173,slow=42						
	8.7nm,0.4s						
OHAK	**Old Harbor**	**2.51**	**288**		**Pn**	**22 53 28.1**	**-0.9**
OHAK					**Sn**	**22 53 56.6**	**-3.0**
OHAK	**Old Harbor**	**2.51**	**288**	P	**Pn**	**22 53 27.7**	**-1.3**
	baz=108						
OHAK				S	**Sn**	**22 53 56.5**	**-3.0**
	baz=108						
SYI	**Shuyak Island**	**2.82**	**320**		**Pn**	**22 53 32.8**	**-0.5**
SYI					**Sn**	**22 54 06.9**	**-0.3**
SYI				IAML		22 54 09.0	
	comp=N,62nm,0.5s						
SYI				IAML		22 54 17.1	
	comp=E,62nm,1.5s						
Q20K	**Shuyak Island**	**2.82**	**320**	P	**Pn**	**22 53 32.6**	**-0.6**
	baz=138						
Q20K				S	**Sn**	**22 54 06.5**	**-0.7**
	baz=138						
R18K	**Karluk**	**3.21**	**291**		**Pn**	**22 53 37.1**	**-1.4**
R18K					**Sn**	**22 54 14.5**	**-2.4**
R18K				IAML		22 54 21.5	
	comp=E,127nm,1.3s						
R18K				IAML		22 54 24.9	
	comp=N,107nm,1.0s						
R18K	**Karluk**	**3.21**	**291**	P	**Pn**	**22 53 37.2**	**-1.4**
	baz=109						
R18K				S	**Sn**	**22 54 14.2**	**-2.6**
	baz=109						
Q23K	**Middleton Isla**	**3.22**	**24**		**Pn**	**22 53 38.0**	**-0.8**

	comp=E,25nm,1.1s								
SNH					IAML			22 55 17.2	
	comp=N,32nm,1.5s								
KNK	**Knik Glacier**	**4.92**	**2**	Pn		**Pn**		**22 54 02.1**	**0.0**
KNK				IAML				22 55 06.0	
	comp=N,18nm,1.4s								
KNK				IAML				22 55 09.6	
	comp=E,27nm,1.5s								
BMRM	**Bremner River**	**4.99**	**25**			**Pn**		**22 54 03.1**	**-0.1**
BMRM	**Bremner River**	**4.99**	**25**	P		**Pn**		**22 54 03.0**	**-0.2**
	baz=207								
SUA	**Susitna One**	**5.05**	**350**	Pn		**Pn**		**22 54 03.3**	**-0.8**
SUA				IAML				22 55 06.3	
	comp=N,14nm,0.6s								
BARK	**Barkley Ridge**	**5.15**	**38**			**Pn**		**22 54 05.0**	**-0.4**
N19K	**Bonanza Creek**	**5.20**	**328**			**Pn**		**22 54 05.8**	**-0.3**
N19K	**Bonanza Creek**	**5.20**	**328**	P		**Pn**		**22 54 05.8**	**-0.3**
	baz=144								
KLU	**Klutina**	**5.22**	**16**			**Pn**		**22 54 06.4**	**+0.1**
KLU				IAML				22 55 08.6	
	comp=N,19nm,0.5s								
KLU				IAML				22 55 09.0	
	comp=E,23nm,0.5s								
KLU	**Klutina**	**5.22**	**16**	P		**Pn**		**22 54 06.4**	**+0.1**
	baz=198								
SPNN	**North Nagishla**	**5.25**	**340**			**Pn**		**22 54 07.4**	**+0.6**
GHO	**Glory Hole Cre**	**5.27**	**360**	Pn		**Pn**		**22 54 08.0**	**+1.0**
SML	**Sawmill**	**5.32**	**3**	Pn		**Pn**		**22 54 07.8**	**+0.2**
SCM	**Sheep Creek Mo**	**5.39**	**8**	Pn		**Pn**		**22 54 09.8**	**+1.1**
O17K	**Koliganek Bris**	**5.43**	**310**			**Pn**		**22 54 09.6**	**+0.5**
O17K	**Koliganek Bris**	**5.43**	**310**	P		**Pn**		**22 54 09.6**	**+0.5**
	baz=124								
VRDI	**Verde Repeater**	**5.51**	**29**			**Pn**		**22 54 09.9**	**-0.4**
N18K	**Kilae Creek**	**5.55**	**322**			**Pn**		**22 54 10.6**	**-0.2**
N18K	**Kilae Creek**	**5.55**	**322**	P		**Pn**		**22 54 10.6**	**-0.2**
	baz=136								
N25K	**Chitina, Valde**	**5.57**	**22**			**Pn**		**22 54 11.5**	**+0.4**
N25K	**Chitina, Valde**	**5.57**	**22**	P		**Pn**		**22 54 11.8**	**+0.7**
	baz=204								
KIAG	**Kiagna River**	**5.58**	**35**			**Pn**		**22 54 10.8**	**-0.5**
GLB	**Gilahina Butte**	**5.60**	**26**			**Pn**		**22 54 11.3**	**-0.1**
SAMH	**Samovar Hills**	**5.61**	**46**			**Pn**		**22 54 11.4**	**-0.2**
PTPK	**Patty Peak**	**5.75**	**33**			**Pn**		**22 54 13.5**	**-0.2**
O16K	**Kokwok River B**	**5.77**	**306**			**Pn**		**22 54 14.1**	**+0.3**
O16K	**Kokwok River B**	**5.77**	**306**	P		**Pn**		**22 54 14.1**	**+0.3**
	baz=119								
M24K	**Tolsona, Glenn**	**5.78**	**13**	Pn		**Pn**		**22 54 15.1**	**+1.1**
PCA	**Pinnacle**	**5.80**	**48**			**Pn**		**22 54 13.5**	**-0.7**
PINM	**Pinnacle**	**5.80**	**48**	P		**Pn**		**22 54 13.6**	**-0.7**
	baz=234								
BARN	**Barnard Glacie**	**5.91**	**37**			**Pn**		**22 54 15.4**	**-0.4**
N17K	**Nushagak Hills**	**5.92**	**316**			**Pn**		**22 54 15.6**	**-0.2**
N17K	**Nushagak Hills**	**5.92**	**316**	P		**Pn**		**22 54 15.9**	**+0.1**
	baz=130								
WASW	**Wrangell South**	**5.95**	**22**			**Pn**		**22 54 17.0**	**+0.6**
CTG	**Chitna Glacier**	**5.95**	**38**	P		**Pn**		**22 54 15.7**	**-0.7**
	baz=224								
PNL	**Peninsula**	**5.95**	**54**	P		**Pn**		**22 54 15.5**	**-0.8**
	baz=241								
CTGM	**Chitina Glacie**	**5.95**	**38**			**Pn**		**22 54 15.8**	**-0.6**
WACK	**Wrangell Chich**	**5.97**	**21**			**Pn**		**22 54 17.4**	**+0.7**
LOGN	**Logan Glacier**	**5.97**	**40**			**Pn**		**22 54 16.0**	**-0.6**
BCPM	**Bancas Point**	**5.99**	**51**			**Pn**		**22 54 16.1**	**-0.6**
M19K	**Big River Lodg**	**6.09**	**335**	Pn		**Pn**		**22 54 17.7**	**-0.5**
M17K	**Holitna River**	**6.59**	**322**			**Pn**		**22 54 25.1**	**+0.1**
O29M	**Mount Kennedy**	**6.62**	**51**			**Pn**		**22 54 25.3**	**-0.3**
DHY	**Denali Highway**	**6.63**	**6**	Pn		**Pn**		**22 54 26.8**	**+1.2**
P29M	**Windy Craggy**	**6.69**	**58**			**Pn**		**22 54 25.3**	**-1.1**
P29M	**Windy Craggy**	**6.69**	**58**	P		**Pn**		**22 54 25.6**	**-0.9**
	baz=246								
YUK2	**White River**	**6.71**	**35**			**Pn**		**22 54 27.6**	**+0.8**
YUK3	**Moose Creek**	**6.83**	**36**			**Pn**		**22 54 28.9**	**+0.4**
YUK3	**Moose Creek**	**6.83**	**36**	P		**Pn**		**22 54 28.9**	**+0.4**
	baz=222								
M27K	**Edge Creek, AK**	**6.86**	**29**	Pn		**Pn**		**22 54 29.1**	**+0.2**
YUK7	**Dusty Glacier**	**6.92**	**50**			**Pn**		**22 54 29.8**	**0.0**
N15K	**Kwethluk River**	**6.93**	**307**	Pn		**Pn**		**22 54 30.4**	**+0.7**
S31K	**Pelican**	**7.03**	**73**	Pn		Pn		22 54 27.7	-3.3
YUK6	**Outpost Mounta**	**7.05**	**47**	P		**Pn**		**22 54 32.3**	**+0.7**
	baz=235								
KTH	**Kantishna Hill**	**7.13**	**353**	Pn		**Pn**		**22 54 33.7**	**+1.2**
O14K	**Tigyukauivet M**	**7.14**	**298**	Pn		**Pn**		**22 54 33.1**	**+0.6**
YUK4	**Talbot Arm**	**7.18**	**43**	P		**Pn**		**22 54 35.6**	**+2.3**
	baz=231								
HYT	**Haines Junctio**	**7.34**	**49**	Pn		**Pn**		**22 54 35.5**	**+0.1**
BCAR	**Beaver Creek A**	**7.48**	**26**	Pn		**Pn**		**22 54 37.5**	**+0.2**
BPAW	**Bear Paw Mtn.**	**7.68**	**353**	Pn		**Pn**		**22 54 40.5**	**+0.6**
SKAG	**Skagway**	**7.79**	**62**	Pn		**Pn**		**22 54 41.3**	**-0.1**
N30M	**Aishikik Lake**	**7.86**	**46**	Pn		**Pn**		**22 54 42.1**	**-0.3**
S32K	**Killisnoo**	**7.88**	**77**	Pn		Pn		22 54 39.6	-3.2
M29M	**Somme Creek**	**7.97**	**37**			**Pn**		**22 54 44.2**	**+0.2**
R32K	**Eaglecrest**	**7.97**	**71**	Pn		**Pn**		**22 54 42.3**	**-1.7**
J20K	**Nowinta River**	**8.11**	**344**	Pn		**Pn**		**22 54 46.4**	**+0.6**
ILAR	**Eielson Array**	**8.34**	**6**	Pn		**Pn**		**22 54 49.5**	**+0.4**
ILAR	**Eielson Array**	**8.34**	**6**	Pn		**Pn**		**22 54 48.6**	**-0.4**
	comp=E,0.1nm,0.3s,baz=190,slow=13,SNR=3.5								
ILAR				Sn		**Sn**		**22 56 19.8**	**-3.4**
	comp=E,0.3nm,0.3s,baz=194,slow=25,SNR=7.4								
	comp=E,0.4nm,0.6s								
WHY	**Whitehorse**	**8.41**	**55**	Pn		Pn		22 54 47.5	-2.6
L29M	**L29M**	**8.54**	**35**	Pn		**Pn**		**22 54 51.7**	**-0.2**
U33K	**Whale Pass**	**8.78**	**86**	Pn		Pn		22 54 50.5	-4.6
P33M	**Teslin, Yukon**	**9.22**	**60**	Pn		**Pn**		**22 55 00.2**	**-0.9**
K29M	**Barlow Dome**	**9.27**	**33**	Pn		**Pn**		**22 55 01.7**	**-0.1**
IMAR	**Indian Mountai**	**9.78**	**348**	Pn		**Pn**		**22 55 09.0**	**+0.3**
R33M	**Jennings River**	**9.95**	**66**	Pn		**Pn**		**22 55 10.6**	**-0.7**
G23K	**Bananza Creek**	**10.25**	**357**	Pn		**Pn**		**22 55 16.0**	**+0.9**
MMPY	**Sheldon Lake,**	**10.81**	**48**	Pn		**Pn**		**22 55 22.8**	**-0.1**
G29M	**Pine Creek**	**11.61**	**22**	Pn		**Pn**		**22 55 33.4**	**-0.4**
INK	**Inuvik**	**13.74**	**25**	Pn		**Pn**		**22 56 04.5**	**+1.7**
	comp=E,0.1nm,0.3s,baz=219,slow=11,SNR=3.5								
	comp=E,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**18.23**	**57**	P		**Pn**		**22 57 01.1**	**+0.1**
	baz=263,slow=11,SNR=5.9								
	comp=E,1.0nm,1.1s								
SONM	**Songino Array**	**58.65**	**310**	P		**P**		**23 02 48.6**	**+3.3**
	comp=E,0.4nm,0.7s,baz=56,slow=5.4,SNR=4.4								
	comp=E,0.4nm,0.7s								

*SVSA **24** 23:02:16.5±1.1, 37.°00N×24.°28W, h10km, ML3.7(INMG), Error ellipse: s-maj=5.6km s-min=4.0km az=69.0*

ISC 24 23:02:14.2±1.9, 37.°09N±0.°07×24.°34W±0.°09, h30km±12km, n21, σ0=89/38, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico de Norte,**	**0.58**	**262**	**eP**	**Pn**	**23 02 26.6**	**0.0**
PSMN				**eS**	**Sb**	**23 02 34.4**	**+0.3**
PSMN				A	A	23 02 36.8	
	589nm,0.2s						
PSMA	**Santa Maria**	**0.64**	**262**	**eP**	**Pb**	**23 02 27.0**	**+0.1**
PSMA				**eS**	**Sb**	**23 02 35.6**	**+0.1**
PSMA				A	A	23 02 36.5	
	517nm,0.1s						
BART	**Pico Bartolome**	**0.95**	**317**	**eP**	**Pn**	**23 02 32.4**	**+0.7**
BART				**eS**	**Sn**	**23 02 44.9**	**+0.5**
BART				A	A	23 02 45.8	
	574nm,0.3s						
PPOV	**Povoa§£o**	**0.98**	**313**	**eP**	**Pn**	**23 02 33.0**	**+1.0**
PPOV				**eS**	**Sb**	**23 02 44.9**	**-0.3**
PPOV				A	A	23 02 47.8	
	606nm,0.2s						
PNOR2	**Nordeste**	**0.98**	**320**	**eP**	**Pn**	**23 02 32.7**	**+0.6**
PNOR2				**eS**	**Sn**	**23 02 45.2**	**+0.2**
PNOR2				A	A	23 02 49.0	
	580nm,0.4s						
PGRON	**Lagoa das Cont**	**1.07**	**310**	**eP**	**Pn**	**23 02 34.1**	**+0.8**
PGRON				**eS**	**Sb**	**23 02 47.4**	**-0.4**
PGRON				A	A	23 02 49.9	
	437nm,0.1s						
PCALD	**Caldeiras da R**	**1.16**	**308**	**eP**	**Pb**	**23 02 35.9**	**+0.3**
PCALD				**eS**	**Sb**	**23 02 49.6**	**-0.7**
PCALD				A	A	23 02 51.4	
	98nm,0.1s						
CMLA	**Cha da Macela**	**1.16**	**306**	**eP**	**Pb**	**23 02 35.2**	**-0.5**
CMLA				**eS**	**Sb**	**23 02 49.7**	**-0.7**
CMLA				A	A	23 02 51.6	
	604nm,0.3s						
POVGA	**Lagoa**	**1.19**	**304**	**eS**	**Sb**	**23 02 50.2**	**-1.0**
POVGA				A	A	23 02 54.5	
	376nm,0.3s						
PDA	**Ponta Delgada**	**1.24**	**303**	**eP**	**Pn**	**23 02 35.4**	**-0.2**
PDA				**eS**	**Sn**	**23 02 50.6**	**-0.7**
PDA				A	A	23 02 53.7	
	207nm,0.2s						
PSCM	**Serra do Cume**	**2.73**	**307**	**eP**	**Pn**	**23 02 56.7**	**+0.7**
PSCM				**eS**	**Sn**	**23 03 27.8**	**-0.2**
PSCM				A	A	23 03 32.0	
	301nm,0.1s						
ADH	**Angra Heroismo**	**2.77**	**305**	**eP**	**Pn**	**23 02 57.6**	**+0.9**
ADH				**eS**	**Sn**	**23 03 28.4**	**-0.7**
ADH				A	A	23 03 33.1	
	94nm,0.3s						
PAGU	**Agualva, Azore**	**2.81**	**308**	**eP**	**Pn**	**23 02 58.5**	**+1.4**
PAGU				**eS**	**Sn**	**23 03 29.7**	**-0.2**
PAGU				A	A	23 03 32.6	
	173nm,0.2s						
PMAN	**Manadas**	**3.34**	**299**	**eS**	**Sn**	**23 03 42.5**	**-0.7**
PMAN				A	A	23 03 44.4	
	43nm,0.3s						
ROSA	**Rosais**	**3.49**	**299**	**eP**	**Pn**	**23 03 07.6**	**+1.1**
ROSA				**eS**	**Sn**	**23 03 46.5**	**-0.3**
ROSA				A	A	23 03 46.7	
	37nm,0.3s						
PICO	**Pico**	**3.53**	**295**	**eP**	**Pn**	**23 03 08.5**	**+1.4**
PICO				**eS**	**Sn**	**23 03 47.0**	**-0.9**
PICO				A	A	23 03 47.6	
	96nm,0.3s						
PCAN	**Candelaria**	**3.56**	**294**	**eP**	**Pn**	**23 03 09.2**	**+1.7**
PCAN				**eS**	**Sn**	**23 03 47.7**	**-0.9**
PCAN				A	A	23 03 50.4	
	35nm,0.2s						
PFCBR	**Castelo Branco**	**3.75**	**294**	**eP**	**Pn**	**23 03 11.8**	**+1.7**
PFCBR				**eS**	**Sn**	**23 03 52.0**	**-1.2**
PFCBR				A	A	23 03 52.5	
	13nm,0.2s						
CALA	**Caldeira**	**3.76**	**295**	**eP**	**Pn**	**23 03 12.1**	**+1.8**
CALA				**eS**	**Sn**	**23 03 52.9**	**-0.7**
CALA				A	A	23 03 56.1	
	124nm,0.2s						
PMAR	**Madeira**	**7.49**	**123**	**eP**	**Pn**	**23 04 01.9**	**+0.2**
PMPS	**Porto Santo**	**7.70**	**119**	**eP**	**Pn**	**23 04 03.7**	**-0.6**

*IDC **24** 23:15:23.2±4.8, 36.°25N×69.°70E, h102km±34km, mb3.6/3, mbtmp4.0/8, Error ellipse: s-maj=54.7km s-min=18.7km az=161.0*
*NNC **24** 23:15:26.2±4.3, 36.°52N×69.°39E, h93km±105km, mb3.4, mpv3.8, Error ellipse: s-maj=34.1km s-min=29.7km az=153.0*

ISC 24 23:15:24.9±1.6, 36.°4N±0.°1×69.°58E±0.°07, h100km, n22, σ0=86/30, 7C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.53**	**28**	P	**Pn**	**23 17 00.2**	**+1.5**
	SNR=98						
AML	**Almayashu**	**6.53**	**28**	P	**Pn**	**23 16 59.3**	**+0.7**
	0.7nm,0.4s						
AML				S	**Sn**	**23 18 13.4**	**+1.6**
	4.3nm,0.7s						
KK31	**Karatay Array**	**6.70**	**6**	⇑P	**Pn**	**23 17 02.7**	**+2.0**
	3.6nm,0.3s,baz=192,slow=13,SNR=55						
KK31				⇓S	**Sn**	**23 18 17.3**	**+1.8**
	3.3nm,0.6s,baz=192,slow=25						
UCH	**Uchtor**	**6.94**	**32**	P	**Pn**	**23 17 05.9**	**+1.6**
	SNR=24						
EKS2	**Erkin-Say**	**7.02**	**26**	P	**Pn**	**23 17 06.9**	**+1.9**
	SNR=21						
AAK	**Ala-Archa**	**7.27**	**30**	P	**Pn**	**23 17 10.3**	**+1.8**
	SNR=16						
AAK	**Ala-Archa**	**7.27**	**30**	P	**Pn**	**23 17 09.4**	**+0.9**
	13nm,0.3s,baz=179,slow=5.8,SNR=73						
AAK				S	**Sn**	**23 18 31.1**	**+1.6**
	13nm,0.7s,baz=147,slow=22,SNR=9.5						
KBK	**Karagaybulak**	**7.47**	**32**	P	**Pn**	**23 17 13.2**	**+1.9**
	SNR=11						
CHMS	**Chumysh**	**7.67**	**30**	P	**Pn**	**23 17 15.4**	**+1.5**
	SNR=9.4						
CHMS	**Chumysh**	**7.67**	**30**	⇑P	**Pn**	**23 17 14.6**	**+0.6**
	4.8nm,0.3s						
CHMS				⇑S	**Sn**	**23 18 41.2**	**+2.0**
	19nm,0.7s						
USP	**Ospenovka**	**7.81**	**27**	P	**Pn**	**23 17 16.8**	**+1.1**
	SNR=15						
TKM2	**Tokmak 2**	**7.97**	**34**	P	**Pn**	**23 17 19.4**	**+1.2**
	SNR=9.7						
TKM2	**Tokmak 2**	**7.97**	**34**	⇑P	**Pn**	**23 17 18.0**	**-0.1**
	3.1nm,0.5s						
TKM2				⇓S	**Sn**	**23 18 46.6**	**-0.1**
	4.6nm,0.7s						
GEYT	**Alibeck**	**9.27**	**283**	P	**Pn**	**23 17 36.7**	**+1.0**
	1.0nm,0.3s,baz=99,slow=12,SNR=8.6						
GEYT				S	**Sn**	**23 19 18.1**	**0.0**
	1.9nm,0.4s,baz=109,slow=17,SNR=2.9						
MKAR	**Makanchi Array**	**14.04**	**39**	P	**Pn**	**23 18 38.3**	**-0.9**
	0.4nm,0.6s,baz=228,slow=12,SNR=5.2						
AB31	**Akbulak array**	**14.62**	**334**	⇓P	**Pn**	**23 18 48.2**	**+1.6**
	0.6nm,0.3s,baz=154,slow=12,SNR=69						
AB31				⇑S	**Sn**	**23 21 24.8**	**-2.9**
	0.7nm,0.5s,baz=153,slow=24,SNR=7.4						
KURBB	**Kurchatov Arra**	**15.58**	**22**	P	**Pn**	**23 18 56.7**	**-2.0**
	2.5nm,0.2s,baz=210,slow=11,SNR=1.7						
AKTO	**Aktyubinsk**	**16.30**	**333**	⇑P	**Pn**	**23 19 08.7**	**+1.1**
	0.6nm,0.4s						
AKTO				⇑S	**Sn**	**23 22 02.5**	**-5.5**
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**16.60**	**2**	P	**Pn**	**23 19 10.6**	**-0.8**
	1.9nm,0.4s,baz=171,slow=7.4,SNR=30						
ZALV	**Zalesovo Beam**	**20.47**	**26**	P	**P**	**23 19 54.1**	**-0.3**
	2.9nm,0.3s,baz=218,slow=11,SNR=25						
	2.9nm,0.3s						
SONM	**Songino Array**	**29.32**	**56**	P	**P**	**23 21 15.5**	**-2.5**
	0.1nm,0.4s,baz=246,slow=7.2,SNR=1.9						
	0.1nm,0.4s						
ARCES	**ARCESS Array B**	**40.78**	**338**	P	**P**	**23 22 56.2**	**+0.4**
	7.4nm,1.2s,baz=113,slow=6.9,SNR=4.9						
	7.4nm,1.2s						

*NEIC **24** 23:23:31.8±1.4, 55.°61N±0.°09×149.°09W±0.°09, h7km±6km, mb4.0/2, ML3.6/25, ML3.4(AEIC), Error ellipse: s-maj=13.7km s-min=5.0km az=152.0*
*IDC **24** 23:23:34.2±3.0, 55.°58N×150.°62W, h0km, mb3.5/1, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=55.6km s-min=37.5km az=133.0*
*AEIC **24** 23:23:37.2±1.6, 55.°7N±0.°1×149.°0W±0.°1, h7km±6km, Error ellipse: s-maj=15.2km s-min=9.4km az=180.0*

ISC 24 23:23:34.0±1.4, 55.°8N±0.°1×149.°12W±0.°06, h10km, n142, σ0=76/149, mb4.0/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.71**	**303**		**Pn**	**23 24 17.0**	**-0.6**
OHAK					**Sn**	**23 24 48.3**	**-2.0**
OHAK	**Old Harbor**	**2.71**	**303**	P	**Pn**	**23 24 16.9**	**-0.6**
	baz=123						
OHAK				S	**Sn**	**23 24 48.5**	**-1.8**
	baz=123						
KDAK	**Kodiak Island**	**2.75**	**318**		**Pn**	**23 24 18.1**	**+0.1**
KDAK					**Sn**	**23 24 50.0**	**-1.3**
SYI	**Shuyak Island**	**3.33**	**329**		**Pn**	**23 24 26.2**	**+0.2**
SYI					**Sn**	**23 25 05.7**	**+0.2**
Q20K	**Shuyak Island**	**3.33**	**329**	P	**Pn**	**23 24 25.8**	**-0.2**
	baz=148						
Q20K				S	**Sn**	**23 25 05.8**	**+0.3**
	baz=148						
R18K	**Karluk**	**3.43**	**303**		**Pn**	**23 24 27.2**	**-0.2**
R18K					**Sn**	**23 25 07.2**	**-0.8**
R18K				IAML		23 25 14.3	
	comp=N,78nm,1.3s						
R18K				IAML		23 25 16.0	
	comp=E,81nm,1.1s						
R18K	**Karluk**	**3.43**	**303**	P	**Pn**	**23 24 27.6**	**+0.2**
	baz=121						
R18K				S	**Sn**	**23 25 07.5**	**-0.6**
	baz=121						
CNPM	**China Poot**	**3.90**	**344**		**Pn**	**23 24 34.0**	**+0.1**
CNPM					**Sn**	**23 25 19.2**	**-0.5**
CNPM				IAML		23 25 23.3	
	comp=N,46nm,1.5s						
CNPM				IAML		23 25 24.4	
	comp=E,46nm,1.5s						
Q23K	**Middleton Isla**	**3.92**	**21**		**Pn**	**23 24 34.2**	**+0.1**
Q23K				IAML		23 25 19.4	
	comp=N,146nm,1.4s						
Q23K	**Middleton Isla**	**3.92**	**21**	P	**Pn**	**23 24 34.3**	**+0.1**
	baz=202						
Q23K				S	**Sn**	**23 25 17.9**	**-2.3**
	baz=202						
MID	**Middleton Isla**	**3.93**	**21**	Pn	**Pn**	**23 24 34.3**	**+0.1**
MID				IAML		23 27 13.5	
	comp=N,111nm,1.2s						
Q19K	**Cape Douglas,**	**3.97**	**324**		**Pn**	**23 24 35.4**	**+0.5**
Q19K	**Cape Douglas,**	**3.97**	**324**	P	**Pn**	**23 24 35.8**	**+0.9**
	baz=141						
KAHG	**Katmai Hook Gl**	**4.00**	**315**		**Pn**	**23 24 36.4**	**+1.1**
BRSE	**Bradley Lake S**	**4.04**	**348**		**Pn**	**23 24 35.5**	**-0.3**
BRSE	**Bradley Lake S**	**4.04**	**348**	P	**Pn**	**23 24 35.6**	**-0.3**
	baz=167						
BRSE				S	**Sn**	**23 25 21.8**	**-1.4**
	baz=167						
BRLK	**Bradley Lake**	**4.08**	**347**		**Pn**	**23 24 36.3**	**-0.1**
BRLK				IAML		23 25 25.6	
	comp=E,49nm,1.4s						
BRLK				IAML		23 25 28.3	
	comp=N,48nm,1.4s						
HOM	**Homer**	**4.09**	**342**	P	**Pn**	**23 24 37.3**	**+0.8**
	baz=160						
KCG	**Knife Ck. Glac**	**4.12**	**310**		**Pn**	**23 24 38.0**	**+1.0**
ACHA	**Angle Creek He**	**4.16**	**308**		**Pn**	**23 24 38.0**	**+0.4**
P23K	**Montague Islan**	**4.30**	**12**		**Pn**	**23 24 39.3**	**-0.1**
P23K	**Montague Islan**	**4.30**	**12**	P	**Pn**	**23 24 39.3**	**-0.1**
	baz=192						
P23K				S	**Sn**	**23 25 27.4**	**-2.1**
	baz=192						
SEW	**Seward**	**4.31**	**358**		**Pn**	**23 24 38.7**	**-0.9**
SEW	**Seward**	**4.31**	**358**	P	**Pn**	**23 24 39.1**	**-0.5**
	baz=177						
PLK3	**Peulik 3**	**4.36**	**299**		**Pn**	**23 24 40.8**	**+0.5**
P19K	**Oil Pt**	**4.44**	**332**		**Pn**	**23 24 41.6**	**+0.3**
P19K				IAML		23 25 39.6	
	comp=E,73nm,1.2s						
P19K	**Oil Pt**	**4.44**	**332**	P	**Pn**	**23 24 42.0**	**+0.6**
	baz=149						
Q17K	**Contact Creek**	**4.44**	**306**	P	**Pn**	**23 24 42.1**	**+0.7**
	baz=123						
O20K	**Slope Mountain**	**4.67**	**338**		**Pn**	**23 24 45.1**	**+0.5**
O20K	**Slope Mountain**	**4.67**	**338**	P	**Pn**	**23 24 45.1**	**+0.5**
	baz=156						
O22K	**Cooper Landing**	**4.70**	**356**	P	**Pn**	**23 24 45.4**	**+0.6**
	baz=176						
IVE	**Iliamna Volcan**	**4.70**	**335**		**Pn**	**23 24 45.3**	**+0.3**
SLKM	**Skilak Lake**	**4.75**	**353**		**Pn**	**23 24 45.8**	**+0.3**
HIN	**Hinchinbrook I**	**4.81**	**16**		**Pn**	**23 24 46.5**	**+0.2**
HIN				IAML		23 25 41.6	
	comp=E,66nm,1.0s						
HIN				IAML		23 25 44.7	
	comp=N,79nm,1.3s						
KAIM	**Kayak Island**	**4.83**	**29**		**Pn**	**23 24 46.9**	**+0.2**
KAIM				IAML		23 25 45.0	
	comp=N,66nm,1.1s						
KAIM				IAML		23 25 45.3	
	comp=E,60nm,1.1s						
KAIM	**Kayak Island**	**4.83**	**29**	P	**Pn**	**23 24 47.0**	**+0.4**
	baz=212						
P18K	**Big Mountain,**	**4.87**	**320**		**Pn**	**23 24 47.1**	**-0.1**
P18K	**Big Mountain,**	**4.87**	**320**	P	**Pn**	**23 24 47.3**	**0.0**
	baz=136						
RED	**Redoubt Volcan**	**5.01**	**339**		**Pn**	**23 24 48.9**	**-0.4**
RSO	**Redoubt South**	**5.05**	**339**	Pn	**Pn**	**23 24 49.4**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.08**	**19**		**Pn**	**23 24 50.7**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.08**	**19**	P	**Pn**	**23 24 50.5**	**+0.4**
	baz=201						
RAGM	**Ragged Mountai**	**5.16**	**25**		**Pn**	**23 24 51.9**	**+0.6**
NCT	**North Crescent**	**5.18**	**339**		**Pn**	**23 24 52.0**	**+0.5**
P17K	**Kvichak River**	**5.21**	**314**		**Pn**	**23 24 52.5**	**+0.7**
P17K	**Kvichak River**	**5.21**	**314**	P	**Pn**	**23 24 52.5**	**+0.7**
	baz=129						
GOAT	**Goat Mountain**	**5.32**	**24**		**Pn**	**23 24 53.4**	**-0.1**
BERG	**Berg Lake**	**5.42**	**30**		**Pn**	**23 24 55.0**	**+0.2**
SNH	**Sunshine Point**	**5.51**	**35**		**Pn**	**23 24 56.4**	**+0.3**
KNK	**Knik Glacier**	**5.63**	**3**		**Pn**	**23 24 58.5**	**+0.8**
KNK	**Knik Glacier**	**5.63**	**3**	P	**Pn**	**23 24 58.6**	**+0.9**
	baz=184						
N20K	**Mount Spurr**	**5.64**	**345**	P	**Pn**	**23 24 58.6**	**+0.7**
	baz=162						
SPCR	**Spurr Chakacha**	**5.64**	**345**		**Pn**	**23 24 58.6**	**+0.7**
CKL	**Chakachamna La**	**5.66**	**344**		**Pn**	**23 24 59.1**	**+0.9**
BMRM	**Bremner River**	**5.69**	**23**		**Pn**	**23 24 59.0**	**+0.4**
BMRM	**Bremner River**	**5.69**	**23**	P	**Pn**	**23 24 59.2**	**+0.7**
	baz=206						
SPCP	**Crater Peak Br**	**5.70**	**345**		**Pn**	**23 24 59.5**	**+0.8**
SUA	**Susitna One**	**5.74**	**352**	Pn	**Pn**	**23 24 59.5**	**+0.3**
N19K	**Bonanza Creek**	**5.76**	**333**		**Pn**	**23 24 59.3**	**-0.2**
N19K	**Bonanza Creek**	**5.76**	**333**	P	**Pn**	**23 24 59.3**	**-0.2

TRF	**Thorofare Moun**	**7.69**	**356**	Pn		**Pn**	23 25 26.9	**+0.9**	
SIT	**Sitka**	**7.75**	**75**	Pn		Pn	23 25 23.4	-3.3	
P30M	**Million Dollar**	**7.78**	**51**			**Pn**	**23 25 27.5**	**+0.4**	
P30M	**Million Dollar** baz=240	**7.78**	**51**	P		**Pn**	**23 25 27.5**	**+0.4**	
M15K	**Kasigluk River**	**7.82**	**314**			**Pn**	**23 25 28.5**	**+0.8**	
M15K	**Kasigluk River** baz=125	**7.82**	**314**	P		**Pn**	**23 25 28.5**	**+0.8**	
HYT	**Haines Junctio**	**7.91**	**46**	Pn		**Pn**	**23 25 29.0**	**-0.1**	
L16K	**Owhat River**	**7.99**	**322**	Pn		**Pn**	**23 25 30.5**	**+0.5**	
S32K	**Killisnoo**	**8.19**	**72**	Pn		Pn	23 25 30.1	-2.6	
BESE	**Bessie Mountai**	**8.23**	**64**	Pn		Pn	23 25 32.0	-1.4	
N30M	**Aishikik Lake**	**8.45**	**43**			**Pn**	**23 25 36.7**	**+0.4**	
N30M	**Aishikik Lake** baz=232	**8.45**	**43**	P		**Pn**	**23 25 36.7**	**+0.4**	
M29M	**Somme Creek**	**8.61**	**35**			**Pn**	**23 25 39.9**	**+1.3**	
M13K	**Dall Lake**	**8.83**	**307**	Pn		**Pn**	**23 25 41.7**	**+0.2**	
WHY	**Whitehorse**	**8.94**	**51**			**Pn**	**23 25 43.6**	**+0.5**	
U33K	**Whale Pass**	**8.98**	**81**	Pn		Pn	23 25 39.9	-3.6	
ILAR	**Eielson Array** comp=E,0.1nm,0.3s,baz=194,slow=13,SNR=6.9	**9.06**	**6**	Pn		**Pn**	**23 25 47.9**	**+3.2**	
ILAR				Sn		**Sn**	**23 27 26.7**	**+0.1**	
	comp=E,0.2nm,0.3s,baz=192,slow=19,SNR=6.2 comp=E,0.4nm,0.6s								
P32M	**Atlin**	**9.07**	**59**	Pn		**Pn**	**23 25 44.3**	**-0.6**	
L29M	**L29M**	**9.20**	**33**			**Pn**	**23 25 47.4**	**+0.7**	
H21K	**Melozitna Rive**	**10.04**	**351**			**Pn**	**23 25 59.2**	**+1.1**	
YKA	**Yellowknife Ar** baz=264,slow=12,SNR=4.1 comp=E,0.5nm,0.9s	**18.73**	**55**	P		Pn	23 28 03.1	+10	
FINES	**FINESS Array B**	**63.03**	**3**	P		**P**	**23 34 01.1**	**+0.5**	
MK31	**Makanchi Array**	**69.04**	**325**	P		**P**	**23 34 38.4**	**-1.0**	
MK31	comp=Z,1.6nm,1.3s			IAmb		IAmb	23 34 40.4		
MKAR	**Makanchi Array**	**69.04**	**325**	P		**P**	**23 34 39.4**	**0.0**	
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=26,slow=6.9,SNR=7.7 comp=Z,0.3nm,0.5s	**69.04**	**325**	P		**P**	**23 34 39.2**	**-0.2**	
MAKZ	**Makanchi**	**69.12**	**325**	P		**P**	**23 34 40.2**	**+0.2**	
MAKZ	comp=Z,1.4nm,1.1s			IAmb		IAmb	23 34 41.6		
ABKAR	**Akbulak array**	**72.53**	**341**	P		**P**	**23 35 01.0**	**+0.4**	

NEIC ***24*** *23:33:43.8±0.4, 36.°030N±0.°009×97.°91W±0.°01, h5km±5km, Error ellipse: s-maj=1.8km s-min=0.9km az=53.0*
ANF ***24*** *23:33:43.9±0.3, 36.°04N×97.°93W, h7km, ML3.0/5, Error ellipse: s-maj=3.7km s-min=2.5km az=173.0*
TUL ***24*** *23:33:44.1±0.5, 36.°03N±0.°01×97.°90W±0.°01, h7km±5km, ML2.7, mb_Lg2.6/35(NEIC), ML2.7/38(NEIC), Error ellipse: s-maj=1.8km s-min=1.1km az=216.0*

ISC 24 23:33:44.2±1.2, 36°04N±0°03×97°91W±0°02, h8km±11km, n53, σ0°59/43, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.44**	**123**		**Pg**	**23 33 52.6**	**-0.1**
OK029				Sg	**Sg**	**23 33 58.9**	**+0.3**
OK029	825nm,0.4s			IAML		23 33 59.1	
CROK	**Carrier**	**0.47**	**353**		**Pg**	**23 33 53.4**	**+0.1**
CROK				Sg	**Sg**	**23 34 00.1**	**+0.7**
CROK	comp=E,383nm,0.2s			IAML		23 34 05.0	
CROK	comp=N,436nm,0.3s			IAML		23 34 09.3	
OKCSW	**OKLAHOMA CITY**	**0.74**	**149**	Pg	**Pg**	**23 33 57.8**	**-0.7**
OKCSW	comp=E,254nm,0.2s			IAML		23 34 15.6	
CSTR	**Hydro, Custer**	**0.75**	**238**	Pg	**Pg**	**23 33 58.4**	**-0.1**
OK033	**Mehan**	**0.79**	**89**		**Pg**	**23 33 58.8**	**-0.6**
OK033	comp=E,298nm,0.1s			IAML		23 34 12.2	
OK033	comp=E,316nm,0.1s			IAML		23 34 13.6	
OK032	**Salt Plains WL**	**0.80**	**342**		**Pg**	**23 33 59.3**	**-0.3**
OK032	comp=E,469nm,0.2s			IAML		23 34 12.9	
OK032	comp=E,476nm,0.2s			IAML		23 34 16.7	
OK038	**West end E0370**	**0.80**	**303**	Pg	**Pg**	**23 33 59.5**	**-0.2**
GC02	**Grant County #**	**0.81**	**3**		**Pg**	**23 33 59.5**	**-0.3**
OK048	**Pawnee Station**	**0.87**	**64**		**Pg**	**23 34 00.5**	**-0.4**
OK048	comp=E,192nm,0.2s			IAML		23 34 18.0	
FNO	**Franklin**	**0.88**	**152**		**Pg**	**23 34 00.5**	**-0.7**
FNO	comp=E,185nm,0.5s			IAML		23 34 20.2	
OK052	**Battle Ridge R**	**0.90**	**93**		**Pg**	**23 34 01.0**	**-0.5**
OK052	comp=E,194nm,0.2s			IAML		23 34 16.0	
OK052	comp=E,230nm,0.2s			IAML		23 34 27.1	
OK035	**E0210 Rd and N**	**0.93**	**316**		**Pg**	**23 34 01.5**	**-0.5**
OK035	comp=E,396nm,0.2s			IAML		23 34 17.9	
U32A	**Winter Ranch,**	**0.95**	**291**		**Pg**	**23 34 01.7**	**-0.6**
U32A	comp=E,272nm,0.3s			IAML		23 34 20.4	
U32A	**Winter Ranch,** baz=111	**0.95**	**291**	P	**Pg**	**23 34 02.0**	**-0.4**
U32A	baz=111			S	**Sb**	**23 34 15.1**	**-0.5**
QUOK	**Quay**	**0.98**	**82**		**Pg**	**23 34 02.5**	**-0.5**
QUOK	comp=E,282nm,0.2s			IAML		23 34 23.0	
QUOK	comp=N,228nm,0.2s			IAML		23 34 26.2	
KAN17	**Caldwell West**	**1.01**	**7**		**Pg**	**23 34 02.8**	**-0.7**
KAN13	**South Haven SW**	**1.03**	**20**		**Pg**	**23 34 03.4**	**-0.6**
KAN01	**Argonia South**	**1.12**	**6**		**Pg**	**23 34 05.0**	**-0.6**
DEOK	**Depew**	**1.16**	**99**		**Pg**	**23 34 05.3**	**-1.2**
DEOK	comp=N,213nm,0.4s			IAML		23 34 26.0	
ELIS	**Ellis County**	**1.22**	**272**		**Pg**	**23 34 06.6**	**-1.0**
ELIS	comp=E,246nm,0.3s			IAML		23 34 28.7	
T35A	**Sooner Cattle**	**1.43**	**52**	Pg	**Pn**	**23 34 10.4**	**+0.1**
T35B	**Sooner Cattle** baz=232	**1.43**	**52**	P	**Pn**	**23 34 10.6**	**+0.2**
T35B	baz=232			S	**Sb**	**23 34 29.3**	**-0.1**
X34A	**Smith Ranch, M**	**1.44**	**177**		**Pn**	**23 34 10.6**	**0.0**
WMOK	**Wichita Mounta**	**1.48**	**209**		**Pn**	**23 34 10.7**	**-0.5**
WMOK	**Wichita Mounta** baz=29	**1.48**	**209**	P	**Pn**	**23 34 10.7**	**-0.5**
WMOK	baz=29			S	**Sn**	**23 34 30.6**	**-0.1**
TUL3	**Leonard** baz=275	**1.72**	**94**	P	**Pn**	**23 34 14.8**	**+0.3**
TUL3	baz=275			S	**Sb**	**23 34 38.0**	**+0.2**
SMWD	**Samnorwood**	**2.12**	**245**		**Pn**	**23 34 20.8**	**+0.9**
LOOK	**Love County**	**2.13**	**163**		**Pn**	**23 34 20.5**	**+0.5**
WTFS	**Witchita Falls**	**2.31**	**192**		**Pn**	**23 34 23.1**	**+0.5**
RLO	**Rose Lookout**	**2.34**	**86**		**Pn**	**23 34 22.6**	**-0.3**
R32A	**Long Quarter,** comp=Z,15nm,0.7s	**2.46**	**345**	IAmb_Lg		23 35 03.7	
Z35A	**Perchaven, San** baz=349	**2.76**	**169**	P	**Pn**	**23 34 29.3**	**+0.7**
U38A	**Gravette** comp=Z,15nm,1.2s	**2.88**	**81**	IAmb_Lg		23 35 13.7	
FW03	**Perrin-Whitt E**	**3.00**	**183**	Pn	**Pn**	**23 34 33.0**	**+1.1**
CBKS	**Cedar Bluff**	**3.13**	**333**		**Pn**	**23 34 33.7**	**-0.1**
PLPT	**Palo Pinto** comp=Z,13nm,1.1s	**3.24**	**186**	IAmb_Lg		23 35 33.8	
AMTX	**Amarillo** comp=Z,16nm,0.7s	**3.29**	**251**	IAmb_Lg		23 35 30.0	
DKNS	**Dickens** comp=Z,14nm,0.7s	**3.43**	**227**	IAmb_Lg		23 35 34.2	
ABTX	**Abilene, Hawle** comp=Z,13nm,1.1s	**3.70**	**203**	IAmb_Lg		23 35 43.7	
RTBA	**Rita Blanca**	**3.92**	**277**		**Pn**	**23 34 45.4**	**+0.6**
RTBA	comp=Z,15nm,1.2s			IAmb_Lg		23 35 59.7	
S39A	**Bolivar**	**4.03**	**65**		**Pn**	**23 34 46.2**	**+0.1**
WHTX	**Lake Whitney,**	**4.06**	**175**	Pn	**Pn**	**23 34 46.8**	**+0.2**
POST	**Post** comp=Z,17nm,0.8s	**4.19**	**226**	IAmb_Lg		23 36 03.7	
X40A	**Basin Creek Fa**	**4.43**	**109**		**Pn**	**23 34 53.2**	**+1.5**
X40A	comp=Z,12nm,0.8s			IAmb_Lg		23 36 08.1	
MGMO	**Mountain Grove** comp=Z,14nm,1.0s	**4.67**	**75**	IAmb_Lg		23 36 18.1	
UALR	**University of** comp=Z,9.9nm,0.9s	**4.72**	**104**	IAmb_Lg		23 36 24.5	
KSCO	**Kaye Shedlock'** comp=Z,14nm,0.9s	**4.78**	**310**	IAmb_Lg		23 36 26.0	
SGCY	**Sterling City** comp=Z,13nm,0.9s	**4.91**	**214**	IAmb_Lg		23 36 24.3	
CCM	**Cathedral Cave** comp=Z,8.4nm,0.7s	**5.70**	**67**	IAmb_Lg		23 36 51.2	
OZNA	**Ozona** comp=Z,7.5nm,0.8s	**5.77**	**209**	IAmb_Lg		23 36 52.9	
PBMO	**Poplar Bluff** comp=Z,11nm,0.8s	**6.08**	**81**	IAmb_Lg		23 36 59.0	
MNHN	**Monahans** comp=Z,8.3nm,1.0s	**6.19**	**222**	IAmb_Lg		23 37 04.4	
DRIO	**Del Rio** comp=Z,4.9nm,0.8s	**6.98**	**200**	IAmb_Lg		23 37 30.1	

DJA 24 23:45:17.5±1.2, 4°N±4°×9°5E±°, h14km±9km, M3.5/7, mb3.5/1, MLv3.5/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.32**	**70**	P	Pb	23 45 42.3	+0.2
MLSI				S	Sb	23 45 58.1	-0.8
SNSI	**Sinabang, Aceh**	**1.81**	**140**	P	Pb	23 45 49.5	-1.0
SNSI				S	Sn	23 46 10.5	-0.7
LHMI	**Lhok Sumawe**	**2.27**	**52**	P	Pn	23 45 52.6	-2.0
LHMI				S	Sb	23 46 24.4	-1.9
KCSI	**Kotacane, Aceh**	**2.62**	**96**	P	Pn	23 45 59.8	+0.3
KCSI				S	Sn	23 46 32.4	+1.3
GSI	**Gunungsitoli**	**3.47**	**136**	P	Pn	23 46 11.0	-0.1
PSI	**Prapat**	**3.89**	**105**	P	Pn	23 46 17.8	+0.8
KULM	**Kulim**	**5.67**	**75**	P	Pn	23 46 40.3	-1.1

IDC 24 23:50:59.7±55.0, 19°55S×178°12W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1011.0km s-min=159.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.9nm,0.4s,baz=80,slow=6.1,SNR=3.5 0.9nm,0.4s	**38.11**	**243**	P	P	23 58 20.6	0.0
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=97,slow=7.5,SNR=20 1.0nm,0.5s	**44.63**	**261**	P	P	23 59 14.2	-0.2
ASAR	**Alice Springs** 1.7nm,0.5s,baz=96,slow=7.7,SNR=22 1.7nm,0.5s	**44.63**	**256**	P	P	23 59 14.2	-0.2

NEIC ***24*** *23:53:34.0±1.1, 56.°5N±0.°1×148.°6W±0.°1, h21km±10km, ML3.2/42, ML3.0(AEIC), Error ellipse: s-maj=15.8km s-min=8.4km az=176.0*
IDC ***24*** *23:53:33.6±2.2, 56.°42N×148.°93W, h0km, mb3.7/5, mbtmp3.4/8, ML2.6/3, Error ellipse: s-maj=38.4km s-min=29.7km az=163.0*
AEIC ***24*** *23:53:37.0±1.6, 56.°55N±0.°09×148.°7W±0.°1, h2km±7km, Error ellipse: s-maj=13.9km s-min=5.9km az=151.0*

ISC 24 23:53:34.8±1.2, 56°62N±0°09×148°70W±0°05, h10km, n78, σ1°17/85, mb4.0/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.41**	**300**		**Pn**	**23 54 14.1**	**-0.2**
KDAK					**Sn**	**23 54 42.2**	**-1.6**
KDAK	**Kodiak Island** 1.6nm,0.3s,baz=118,slow=6.2,SNR=10	**2.41**	**300**	Pn	**Pn**	**23 54 13.5**	**-0.7**
KDAK	3.1nm,0.3s,baz=326,slow=23,SNR=8.0 3.7nm,0.3s			Sn	**Sn**	**23 54 41.7**	**-2.1**
OHAK	**Old Harbor**	**2.59**	**285**		**Pn**	**23 54 15.9**	**-0.8**
OHAK					**Sn**	**23 54 45.1**	**-3.0**
OHAK	**Old Harbor** baz=104	**2.59**	**285**	P	**Pn**	**23 54 15.9**	**-0.8**
OHAK	baz=104			S	**Sn**	**23 54 45.3**	**-2.8**
SYI	**Shuyak Island**	**2.81**	**317**		**Pn**	**23 54 18.5**	**-1.3**
SYI	comp=E,39nm,1.5s			IAML		23 54 48.4	
SYI	**Shuyak Island**	**2.81**	**317**		**Sn**	**23 54 52.8**	**-0.9**
Q20K	**Shuyak Island** baz=134	**2.82**	**317**	P	**Pn**	**23 54 19.6**	**-0.2**
Q20K	baz=134			S	**Sn**	**23 54 52.8**	**-1.0**
MID	**Middleton Isla**	**3.08**	**23**	Pn	**Pn**	**23 54 22.1**	**-1.3**
MID	comp=N,142nm,1.4s			IAML		23 56 17.3	
Q23K	**Middleton Isla**	**3.08**	**23**		**Pn**	**23 54 22.1**	**-1.4**
Q23K	**Middleton Isla** baz=203	**3.08**	**23**	P	**Pn**	**23 54 22.2**	**-1.2**
CNPM	**China Poot**	**3.21**	**336**		**Pn**	**23 54 24.8**	**-0.4**
CNPM					**Sn**	**23 55 02.0**	**-1.6**
CNPM	comp=E,33nm,1.5s			IAML		23 55 06.2	
R18K	**Karluk** baz=106	**3.28**	**289**	P	**Pn**	**23 54 25.1**	**-1.1**
R18K	baz=106			S	**Sn**	**23 55 01.8**	**-3.4**
BRSE	**Bradley Lake S**	**3.31**	**342**		**Pn**	**23 54 25.9**	**-0.7**
BRSE	**Bradley Lake S** baz=160	**3.31**	**342**	P	**Pn**	**23 54 25.9**	**-0.7**
BRLK	**Bradley Lake**	**3.36**	**341**		**Pn**	**23 54 26.4**	**-1.0**
BRLK					**Sn**	**23 55 05.4**	**-1.8**
P23K	**Montague Islan**	**3.46**	**11**		**Pn**	**23 54 27.6**	**-0.9**
P23K	**Montague Islan** baz=190	**3.46**	**11**	P	**Pn**	**23 54 27.6**	**-0.9**
Q19K	**Cape Douglas,**	**3.52**	**313**		**Pn**	**23 54 30.3**	**+0.8**
Q19K	**Cape Douglas,** baz=130	**3.52**	**313**	P	**Pn**	**23 54 28.4**	**-1.1**
KAHG	**Katmai Hook Gl**	**3.67**	**303**		**Pn**	**23 54 31.2**	**-0.3**
HIN	**Hinchinbrook I**	**3.96**	**16**		**Pn**	**23 54 34.7**	**-0.8**
HIN	comp=E,61nm,1.0s			IAML		23 55 21.1	
SLKM	**Skilak Lake**	**3.98**	**349**		**Pn**	**23 54 35.2**	**-0.6**
KAIM	**Kayak Island**	**4.01**	**32**		**Pn**	**23 54 35.1**	**-1.2**
KAIM	comp=E,71nm,1.3s			IAML		23 55 30.1	
KAIM	**Kayak Island** baz=214	**4.01**	**32**	P	**Pn**	**23 54 35.3**	**-0.9**
O20K	**Slope Mountain**	**4.04**	**331**		**Pn**	**23 54 36.7**	**0.0**
O20K	**Slope Mountain** baz=148	**4.04**	**331**	P	**Pn**	**23 54 36.7**	**0.0**
IVE	**Iliamna Volcan**	**4.10**	**328**		**Pn**	**23 54 37.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.23**	**20**		**Pn**	**23 54 38.5**	**-0.8**
EYAK	**Cordova Ski Ar** baz=201	**4.23**	**20**	P	**Pn**	**23 54 38.4**	**-0.8**
RAGM	**Ragged Mountai**	**4.33**	**28**		**Pn**	**23 54 39.9**	**-0.7**
RAGM	comp=E,49nm,1.3s			IAML		23 55 34.6	
CAPN	**Captain Cook N**	**4.35**	**344**	Pn	**Pn**	**23 54 41.2**	**+0.4**
RED	**Redoubt Volcan**	**4.37**	**332**		**Pn**	**23 54 40.9**	**-0.3**
P18K	**Big Mountain,**	**4.45**	**311**		**Pn**	**23 54 42.1**	**-0.2**
P18K	**Big Mountain,** baz=127	**4.45**	**311**	P	**Pn**	**23 54 41.6**	**-0.6**
GOAT	**Goat Mountain**	**4.48**	**26**		**Pn**	**23 54 41.8**	**-1.0**
RC01	**Rabbit Creek A**	**4.51**	**354**	Pn	**Pn**	**23 54 42.9**	**-0.3**
RC01	comp=N,12nm,1.1s			IAML		23 55 42.5	
RC01	comp=E,13nm,1.2s			IAML		23 55 47.7	
BERG	**Berg Lake**	**4.60**	**33**	Pn	**Pn**	**23 54 43.1**	**-1.2**
BERG	comp=N,37nm,1.1s			IAML		23 55 37.5	
BERG	comp=E,48nm,1.1s			IAML		23 55 40.0	
SNH	**Sunshine Point**	**4.72**	**38**	Pn	**Pn**	**23 54 45.0**	**-1.0**
SNH	comp=N,22nm,1.4s			IAML		23 56 58.8	
SNH	comp=E,17nm,1.2s			IAML		23 57 00.1	
KNK	**Knik Glacier**	**4.81**	**1**		**Pn**	**23 54 46.6**	**-0.6**
KNK	comp=N,14nm,1.3s			IAML		23 55 49.3	
KNK	comp=E,10nm,1.3s			IAML		23 56 02.4	
KNK	**Knik Glacier** baz=181	**4.81**	**1**	P	**Pn**	**23 54 46.6**	**-0.6**
BMRM	**Bremner River**	**4.85**	**24**		**Pn**	**23 54 46.8**	**-1.0**
BMRM	**Bremner River** baz=206	**4.85**	**24**	P	**Pn**	**23 54 46.9**	**-1.0**
SUA	**Susitna One**	**4.97**	**349**		**Pn**	**23 54 49.0**	**-0.5**
SUA				IAML		23 57 01.5	
	comp=E,11nm,1.4s						
SUA	comp=N,9.1nm,1.2s			IAML		23 58 15.8	
BARK	**Barkley Ridge**	**5.00**	**38**		**Pn**	**23 54 48.8**	**-1.1**
KLU	**Klutina**	**5.09**	**15**		**Pn**	**23 54 50.8**	**-0.4**
KLU	comp=N,15nm,1.0s			IAML		23 55 49.9	
KLU	comp=E,16nm,1.1s			IAML		23 55 53.0	
KLU	**Klutina** baz=196	**5.09**	**15**	P	**Pn**	**23 54 50.8**	**-0.4**
GHO	**Glory Hole Cre**	**5.17**	**359**	Pn	**Pn**	**23 54 53.1**	**+0.9**
GHO	comp=E,18nm,1.2s			IAML		23 55 54.0	
GHO	comp=N,11nm,1.5s			IAML		23 56 52.7	
N19K	**Bonanza Creek**	**5.17**	**327**	Pn	**Pn**	**23 54 52.1**	**-0.2**
SML	**Sawmill**	**5.21**	**2**		**Pn**	**23 54 52.7**	**0.0**
SML	comp=N,19nm,1.5s			IAML		23 55 54.0	
SML	comp=E,12nm,1.2s			IAML		23 55 57.3	
SML	**Sawmill** baz=182	**5.21**	**2**	P	**Pn**	**23 54 52.2**	**-0.5**
SCM	**Sheep Creek Mo**	**5.28**	**7**	Pn	**Pn**	**23 54 53.5**	**-0.2**
VRDI	**Verde Repeater**	**5.36**	**28**		**Pn**	**23 54 53.9**	**-1.0**
KIAG	**Kiagna River**	**5.43**	**35**		**Pn**	**23 54 54.7**	**-1.1**
GLB	**Gilahina Butte**	**5.45**	**26**	Pn	**Pn**	**23 54 55.3**	**-0.8**
M24K	**Tolsona, Glenn**	**5.65**	**12**	Pn	**Pn**	**23 54 59.1**	**+0.3**
BARN	**Barnard Glacie**	**5.76**	**36**		**Pn**	**23 54 59.7**	**-0.7**
CTG	**Chitna Glacier** baz=223	**5.80**	**38**	P	**Pn**	**23 54 59.5**	**-1.3**
PNL	**Peninsula**	**5.80**	**54**		**Pn**	**23 54 59.7**	**-1.1**
PNL	**Peninsula** baz=241	**5.80**	**54**	P	**Pn**	**23 54 59.7**	**-1.1**
CTGM	**Chitina Glacie**	**5.80**	**38**		**Pn**	**23 54 59.8**	**-1.1**
O16K	**Kokwok River B**	**5.80**	**305**	Pn	**Pn**	**23 55 01.4**	**+0.6**
LOGN	**Logan Glacier**	**5.82**	**40**	Pn	**Pn**	**23 54 59.5**	**-1.6**
O29M	**Mount Kennedy**	**6.47**	**51**		**Pn**	**23 55 09.3**	**-0.7**
O29M	**Mount Kennedy** baz=238	**6.47**	**51**	P	**Pn**	**23 55 09.5**	**-0.5**
P29M	**Windy Craggy**	**6.54**	**58**	Pn	Pn	23 55 09.2	-1.8
M27K	**Edge Creek, AK**	**6.72**	**28**	Pn	**Pn**	**23 55 13.0**	**-0.5**
S31K	**Pelican**	**6.89**	**74**	Pn	Pn	23 55 12.5	-3.2
TRF	**Thorofare Moun**	**6.90**	**354**	Pn	**Pn**	**23 55 15.9**	**-0.1**
M16K	**Timber Creek**	**6.91**	**314**	Pn	**Pn**	**23 55 16.8**	**+0.7**
CAST	**Castle Rocks**	**7.03**	**347**	Pn	**Pn**	**23 55 17.5**	**-0.2**
RIDG	**Independent Ri**	**7.39**	**13**	Pn	**Pn**	**23 55 23.1**	**+0.4**
ILAR	**Eielson Array** baz=188,slow=13,SNR=1.7	**8.23**	**5**	Pn	**Pn**	**23 55 35.3**	**+1.3**
ILAR	comp=E,0.1nm,0.3s,baz=193,slow=21,SNR=6.4 comp=E,0.3nm,0.7s			Sn	**Sn**	**23 57 03.6**	**-3.3**
YKA	**Yellowknife Ar** baz=265,slow=11,SNR=2.5 comp=E,0.4nm,0.9s	**18.08**	**57**	P	**Pn**	**23 57 48.1**	**+2.4**
SONM	**Songino Array** comp=E,1.6nm,1.1s,baz=48,slow=6.4,SNR=3.4 comp=E,1.6nm,1.1s	**58.67**	**310**	P	**P**	**00 03 34.1**	**+2.1**
ZALV	**Zalesovo Beam** comp=E,0.9nm,0.7s,baz=44,slow=8.6,SNR=2.7 comp=E,0.9nm,0.7s	**61.45**	**327**	P	**P**	**00 03 52.3**	**+1.4**
BVAR	**Borovoe Array** comp=E,0.9nm,0.8s,baz=25,slow=7.9,SNR=4.7 comp=E,0.9nm,0.8s	**66.11**	**335**	P	**P**	**00 04 22.2**	**+0.6**
KURBB	**Kurchatov Arra** comp=E,0.8nm,1.0s,baz=27,slow=6.2,SNR=4.9 comp=E,0.8nm,1.0s	**66.21**	**329**	P	**P**	**00 04 23.0**	**+0.7**
MKAR	**Makanchi Array** comp=E,0.3nm,0.8s,baz=46,slow=11,SNR=2.2 comp=E,0.3nm,0.8s	**68.50**	**325**	P	**P**	**00 04 36.6**	**-0.3**

IDC ***24*** *23:54:57.6±1.0, 32.°21S×178.°43W, h0km, mb4.5/5, mbtmp4.6/7, ML5.0/2, MS3.4/7, Error ellipse: s-maj=41.8km s-min=20.7km az=139.0*
WEL ***24*** *23:54:57.9±0.7, 32.°5S±5.°×17.°8W±1.°5, h0km, M5.6/22, mB6.0/19, ML5.7/22, MLv5.6/22, Mw(mB)5.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=106.3, confirmed*
NEIC ***24*** *23:55:00.4±1.2, 32.°15S±0.°07×178.°5W±0.°2, h13km±5km, mb4.7/17, Error ellipse: s-maj=21.7km s-min=9.4km az=101.0*
NOU ***24*** *23:55:25.9, 33.°87S×179.°17W, h193km, mb4.5/9, South of Kermadec Islands*

ISC 24 23:54:58.5±0.6, 32.°15S±0.°05×178.°08W±0.°10, h10km, n188, σ2°35/182, mb4.9/19, MS3.6/5, 7C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.88**	**3**	P	**Pb**	**23 55 46.6**	**-3.4**
GLKZ				S	**Sn**	**23 56 18.6**	**-0.6**
RAO	**Raoul Island**	**2.89**	**3**		**Pn**	**23 55 46.2**	**+1.5**
RAO				Sn	**Sn**	**23 56 19.4**	**0.0**
RAO	**Raoul Island** 236nm,0.3s,baz=266,slow=23,SNR=4.6	**2.89**	**3**	Pn	**Pb**	**23 55 47.0**	**-3.2**
RAO	425nm,0.3s,baz=291,slow=23,SNR=4.9 537nm,0.3s			Sn	**Sn**	**23 56 19.5**	**0.0**
RIZ	**Raoul Island**	**2.90**	**3**	P	**Pb**	**23 55 48.1**	**-2.2**
RIZ				S	**Sn**	**23 56 18.0**	**-1.6**
MXZ	**Matakaoa Point**	**6.16**	**208**	Pn	**Pn**	**23 56 29.0**	**-0.6**
MXZ	**Matakaoa Point**	**6.16**	**208**	P	**Pn**	**23 56 29.6**	**0.0**
MXZ	**Matakaoa Point**	**6.16**	**208**	P	**Pn**	**23 56 29.9**	**+0.3**
MXZ				S	**Sn**	**23 57 39.4**	**-0.7**
WMGZ	**Waiomatatini S**	**6.34**	**206**	P	**Pn**	**23 56 32.6**	**+0.5**
WMGZ				S	**Sn**	**23 57 44.7**	**+0.1**
PKGZ	**Pakihiroa**	**6.53**	**208**	P	**Pn**	**23 56 34.6**	**-0.2**
HAZ	**Te Kaha**	**6.54**	**210**	P	**Pn**	**23 56 35.4**	**+0.6**
HAZ				S	**Sn**	**23 57 49.0**	**-0.5**
WSRZ	**White Island S**	**6.62**	**215**	P	**Pn**	**23 56 39.8**	**+3.9**
WIZ	**White Island**	**6.62**	**215**	P	**Pn**	**23 56 39.2**	**+3.3**
PUZ	**Puketiti**	**6.62**	**206**	P	**Pn**	**23 56 35.6**	**-0.4**
PUZ				S	**Sn**	**23 57 49.9**	**-1.6**
RUGZ	**Raukumara Rang**	**6.76**	**210**	P	**Pn**	**23 56 38.0**	**+0.1**
RUGZ				S	**Sn**	**23 57 49.2**	**-5.9**
TWGZ	**Tauwhareparae**	**6.82**	**207**	P	**Pn**	**23 56 38.7**	**0.0**
TWGZ				S	**Sn**	**23 57 54.4**	**-2.1**
KUZ	**Kuaotunu**	**6.87**	**226**	P	**Pn**	**23 56 42.4**	**+3.1**
WHRZ	**Whale Island**	**6.99**	**214**	P	**Pn**	**23 56 43.3**	**+2.4**
WHRZ				S	**Sn**	**23 57 59.6**	**-0.9**
CNGZ	**Carnagh Statio**	**7.01**	**205**	P	**Pn**	**23 56 41.1**	**-0.1**
TKGZ	**Te Karaka**	**7.10**	**207**	P	**Pn**	**23 56 41.8**	**-0.7**
TKGZ				S	**Sn**	**23 57 59.9**	**-3.3**
MWZ	**Matawai**	**7.14**	**209**	P	**Pn**	**23 56 42.4**	**-0.6**
MWZ				S	**Sn**	**23 57 58.9**	**-5.3**
OPRZ	**Ohinepanea**	**7.19**	**216**	P	**Pn**	**23 56 45.4**	**+1.7**
MARZ	**Manawahe**	**7.24**	**215**	P	**Pn**	**23 56 45.9**	**+1.5**
TGRZ	**Tauranga**	**7.25**	**218**	P	**Pn**	**23 56 48.4**	**+3.9**
URZ	**Urewera**	**7.25**	**212**	P	**Pn**	**23 56 44.0**	**-0.6**
URZ	**Urewera** 27nm,0.3s,baz=126,slow=4.9,SNR

HRRZ	Handcock Road	7.74	215	P		Pn	23 56 54.1	+2.7
PRRZ	Plateau Road	7.78	214	P		Pn	23 56 53.5	+1.7
GRRZ	Galatos Road	7.80	216	P		Pn	23 56 54.9	+2.8
RAHZ	Arahi	7.81	209	P		Pn	23 56 52.6	+0.3
ALRZ	Allen Road	7.85	214	P		Pn	23 56 53.9	+1.1
MTHZ	Maungataniwha	7.86	210	P		Pn	23 56 52.8	-0.2
WHHZ	Waihua	7.89	208	P		Pn	23 56 55.0	+1.6
WPRZ	Whakapapatarin	7.91	215	P		Pn	23 56 55.4	+1.9
KUTZ	Kaahu Road	8.05	217	P		Pn	23 56 58.2	+2.7
TLZ	Tolley Road	8.08	218	P		Pn	23 56 58.8	+2.9
NMHZ	Naumai	8.08	210	P		Pn	23 56 55.9	-0.1
WHTZ	Whakaora	8.12	215	P		Pn	23 56 59.3	+2.8
ARHZ	Arapoaonui	8.15	208	P		Pn	23 56 55.8	-1.0
HATZ	Hinemaiaia	8.23	214	P		Pn	23 56 59.0	+0.9
WATZ	Wairara	8.26	216	P		Pn	23 57 00.1	+1.7
BKZ	Black Stump Fm	8.28	211	P		Pn	23 56 57.5	-1.1
RATZ	Rangitukua	8.37	215	P		Pn	23 57 01.9	+2.0
RITZ	Rihia Road	8.41	214	P		Pn	23 57 01.1	+0.6
MCHZ	McNeill Hill	8.42	209	P		Pn	23 57 00.4	-0.2
CKHZ	Cape Kidnapper	8.46	206	P		Pn	23 56 58.3	-2.8
KATZ	Kakaramea	8.49	215	P		Pn	23 57 03.1	+1.4
KWHZ	Kaweka Forest	8.52	210	P		Pn	23 56 60.0	-2.0
HIZ	Hauiti	8.58	220	P		Pn	23 57 06.4	+3.6
NTVZ	North Tongariro	8.59	215	P		Pn	23 57 02.0	-1.0
TMVZ	Te Maari	8.59	214	P		Pn	23 57 03.1	0.0
ETVZ	East Tongariro	8.61	214	P		Pn	23 57 02.8	-0.4
KRVZ	Karewarewa	8.61	215	P		Pn	23 57 02.5	-0.8
NNVZ	North Ngauruho	8.65	215	P		Pn	23 57 04.7	+0.8
WTVZ	West Tongariro	8.65	215	P		Pn	23 57 04.0	+0.2
OTVZ	Oturere	8.65	214	P		Pn	23 57 02.9	-1.0
KAHZ	Kahuranaki	8.65	207	P		Pn	23 57 01.0	-2.7
SNVZ	South Ngauruho	8.68	214	P		Pn	23 57 03.4	-0.9
TWVZ	Taurewa	8.69	216	P		Pn	23 57 04.3	-0.1
NGZ	Ngauruhoe	8.69	214	P		Pn	23 57 04.6	+0.2
KRHZ	Kereru	8.72	210	P		Pn	23 57 02.2	-2.6
BHHZ	Black Hill Sta	8.73	211	P		Pn	23 57 03.6	-1.3
COVZ	Chateau Observ	8.74	215	P		Pn	23 57 06.1	+1.1
TUVZ	Tukino	8.74	214	P		Pn	23 57 05.5	+0.4
FWVZ	Far West T-bar	8.78	214	P		Pn	23 57 06.2	+0.6
WHVZ	Whangaehu Hut	8.78	214	P		Pn	23 57 06.2	+0.4
MAVZ	Matarangi	8.78	214	P		Pn	23 57 05.7	-0.1
MOVZ	Moawhango	8.80	213	P		Pn	23 57 04.1	-1.8
WNVZ	Wahianoa	8.81	214	P		Pn	23 57 05.9	-0.2
TRVZ	Turoa	8.81	214	P		Pn	23 57 06.0	-0.2
PXZ	Pawanui	8.86	206	P		Pn	23 57 05.2	-1.5
PKVZ	Pokaka	8.90	215	P		Pn	23 57 07.4	+0.1
PNHZ	Pukenui	9.02	209	P		Pn	23 57 06.0	-2.9
WPHZ	Waipukurau	9.05	208	P		Pn	23 57 07.1	-2.2
VRZ	Vera Road	9.07	218	P		Pn	23 57 11.5	+2.0
PRHZ	Porangahau	9.15	206	P		Pn	23 57 07.7	-2.9
TSZ	Takapari Road	9.24	210	P		Pn	23 57 08.9	-3.0
DVHZ	Dannevirke	9.36	208	P		Pn	23 57 11.3	-2.2
ANWZ	Angora Road	9.38	206	P		Pn	23 57 11.8	-2.0
WAZ	Wanganui	9.44	215	P		Pn	23 57 14.5	-0.1
LREZ	Lake Rotokare	9.51	218	P		Pn	23 57 17.1	+1.6
NEZ	North Egmont	9.53	220	P		Pn	23 57 18.4	+2.4
PKE	Pukeiti	9.54	220	P		Pn	23 57 18.5	+2.6
KHEZ	Kahui Hut	9.59	220	P		Pn	23 57 18.9	+2.2
POWZ	Post Office Ro	9.60	209	P		Pn	23 57 14.9	-1.9
PRWZ	Pori Road	9.66	208	P		Pn	23 57 14.9	-2.6
BFZ	Birch Farm	9.66	207	P		Pn	23 57 16.0	-1.6
BFZ	Birch Farm	9.66	207	P		Pn	23 57 13.5	-4.1
CPWZ	Castlepoint	9.88	206	P		Pn	23 57 19.5	-1.0
TIWZ	Tintock	9.88	208	P		Pn	23 57 18.2	-2.4
MRZ	Mangatainoka R	9.91	209	P		Pn	23 57 17.2	-3.8
HOWZ	Holdsworth Sta	10.13	209	P		Pn	23 57 19.9	-4.2
TMWZ	Te Maipa	10.16	207	P		Pn	23 57 21.0	-3.2
OGWZ	Otaki Gorge	10.21	210	P		Pn	23 57 21.2	-3.9
TRWZ	Traveller	10.49	207	P		Pn	23 57 24.8	-4.2
CAW	Cannon Point	10.49	210	P		Pn	23 57 24.7	-4.3
PAWZ	Paruwai Farm	10.58	208	P		Pn	23 57 26.5	-3.7
BHW	Baring Head	10.83	209	P		Pn	23 57 29.3	-4.2
CMWZ	Cape Campbell	11.39	211	P		Pn	23 57 38.3	-2.9
QRZ	Quartz Range	11.48	218	P		Pn	23 57 38.5	-4.1
CTZ	Chatham Island	11.62	175			Pn	23 57 45.6	+1.2
KHZ	Kahutara	12.22	211	P		Pn	23 57 47.6	-5.0
RPZ	Rata Peaks	14.36	213	P		Pn	23 58 16.3	-5.6
RPZ	Rata Peaks	14.36	213	Pn		Pn	23 58 14.8	-7.1
	2.1nm,0.3s,baz=31,slow=0.8,SNR=15							
RPZ				Sn		Sn	00 00 46.5	-15
	1.8nm,0.3s,baz=307,slow=21,SNR=7.1							
ODZ	Otahua Downs	15.58	211	P		Pn	23 58 32.5	-5.7
DZM	Mont Dzumac	17.03	302	LR		LR	00 04 13.4	
	comp=Z,60nm,20.3s,baz=105,slow=33							
DCZ	Deep Cove	17.55	217	P		P	23 59 08.9	+4.7
RAR	Rarotonga	19.62	61	LR		LR	00 07 40.1	
	comp=Z,28nm,18.9s,baz=222,slow=38							
ARMA	Armidale	25.91	266	P		P	00 00 29.6	-1.4
ARMA				IAmb		IAmb	00 00 37.4	
	comp=Z,17nm,1.5s							
EIDS	Eidsvold	27.80	276	P		P	00 00 46.4	-1.6
CTA	Charters Tower	34.05	282	LR		LR	00 12 42.5	
	comp=Z,82nm,21.3s,baz=108,slow=32							
CTAO	Charters Tower	34.05	282	P		P	00 01 41.3	-1.8
CTAO				IAmb		IAmb	00 02 01.9	
	comp=Z,6.9nm,0.8s							
STKA	Stephens Creek	34.06	259	P		P	00 01 41.2	-1.8
STKA	Stephens Creek	34.06	259	P		P	00 01 41.0	-2.0
	comp=Z,2.2nm,0.7s,baz=99,slow=9.1,SNR=5.3							
STKA				LR		LR	00 14 15.1	
	comp=Z,96nm,18.1s,baz=200,slow=34							
	comp=Z,2.2nm,0.7s							
BBOO	Buckleboo	38.46	256	P		P	00 02 18.7	-2.0
BBOO				IAmb		IAmb	00 02 20.1	
	comp=Z,5.8nm,0.8s							
COEN	Coen	39.72	288	P		P	00 02 30.9	-0.4
COEN				IAmb		IAmb	00 02 52.2	
	comp=Z,16nm,1.3s							
AS31	Alice Springs	42.98	269	P		P	00 02 56.5	-1.7
ASAR	Alice Springs	42.98	269	P		P	00 02 56.0	-2.1
ASAR	Alice Springs	42.98	269	P		P	00 02 56.8	-1.3
	comp=Z,12nm,0.6s,baz=105,slow=7.7,SNR=146							
	comp=Z,12nm,0.6s							
WR0	Warramunga Arr	43.95	274	P		P	00 03 04.5	-1.4
WR0				IAmb		IAmb	00 03 05.3	
	comp=Z,15nm,0.8s							
WRA	Warramunga Arr	44.12	274	P		P	00 03 04.8	-2.6
WRA	Warramunga Arr	44.12	274	P		P	00 03 06.0	-1.4
	comp=Z,32nm,0.8s,baz=113,slow=7.9,SNR=144							
	comp=Z,32nm,0.8s							
FORT	Forrest	45.56	257	P		P	00 03 16.5	-2.2
VNDA	Vanda	46.35	186	P		P	00 03 25.8	+1.5
VNDA				IAmb		IAmb	00 03 26.8	
	comp=Z,30nm,1.5s							
MTN	Manton Dam	50.21	280	P		P	00 03 52.7	-2.2
KNRA	Kununurra	50.79	276	P		P	00 03 57.0	-2.2
FITZ	Fitzroy Crossi	52.31	271	P		P	00 04 08.3	-2.3
FITZ				IAmb		IAmb	00 04 31.0	
	comp=Z,8.3nm,1.4s							
CASY	Casey	53.57	208	P		P	00 04 19.1	-0.2
RPN	Rapa Nui	59.05	104	LR		LR	00 25 44.6	
	comp=Z,26nm,21.9s,baz=182,slow=31							
BELA	Belgrano 2	68.06	172	P		P	00 06 00.3	+2.5
BELA				IAmb		IAmb	00 06 08.2	
	comp=Z,6.4nm,0.9s							
TROLL	Troll, Antarti	76.13	180	⇑P		P	00 06 53.6	+7.3
	comp=Z,227nm,0.3s							
SNAA	Sanae	76.41	178	P		P	00 06 49.4	+1.6
SNAA				IAmb		IAmb	00 06 56.1	
	comp=Z,11nm,0.8s							
SNAA	Sanae	76.41	178	⇑P		P	00 06 55.6	+7.8
	comp=Z,166nm,0.4s							
VNA3	Neumayer Olymp	76.57	176	⇑P		P	00 06 57.1	+8.5
	comp=Z,43nm,0.7s							
VNA2	Neumayer--Watz	77.00	177	⇑P		P	00 06 59.6	+8.5
	comp=Z,32nm,0.6s,baz=171,slow=5.0							
VNA1	Neumayer--Stat	77.23	177	⇑P		P	00 07 00.7	+8.4
	comp=Z,28nm,0.9s							
H03S2	Juan Fernandez	79.56	123	T		T	01 35 43.5	
	baz=236,slow=74,SNR=51							
H03S1	Juan Fernandez	79.57	123	T		T	01 35 47.2	
	baz=236,slow=74,SNR=35							
H03S3	Juan Fernandez	79.58	123	T		T	01 35 46.1	
	baz=236,slow=74,SNR=44							
H03N3	Juan Fernandez	79.76	123	T		T	01 35 55.7	
	baz=240,slow=72,SNR=93							
H03N2	Juan Fernandez	79.76	123	T		T	01 35 55.9	
	baz=240,slow=72,SNR=84							
H03N1	Juan Fernandez	79.78	123	T		T	01 35 54.8	
	baz=240,slow=72,SNR=175							
YBH	Yreka Blue Hor	89.45	38	LR		LR	00 43 52.5	
	comp=Z,30nm,18.3s,baz=179,slow=33							
NVAR	Mina Array Bea	89.57	43	P		P	00 08 00.1	+3.7
	comp=Z,0.8nm,0.7s,baz=212,slow=7.0,SNR=3.9							
	comp=Z,0.8nm,0.7s							
GYA	Guiyang	92.36	300	*eP*		P	00 08 11.1	+1.5
GYA				pmax		pmax		
	comp=Z,14nm,0.5s							
PZH	PanZhiHua	96.05	297	P		P	00 08 26.8	+0.3
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,4.3s							
NEW	Newport	96.83	36	LR		LR	00 45 60.0	
	comp=Z,28nm,18.9s,baz=242,slow=32							
HHC	Hu-ho-hao-te	97.40	314	*eP*		P	00 08 31.5	-0.8
HHC	Hu-ho-hao-te	97.40	314	*eP*		Pdif	00 08 32.0	-0.3
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,410nm,6.9s							
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,410nm,5.1s							
PDAR	Pinedale Array	97.44	44	P		Pdif	00 08 36.2	+3.5
	comp=Z,0.1nm,0.4s,baz=202,slow=4.7,SNR=1.8							
	comp=Z,0.1nm,0.4s							
WMQ	Urumqi	114.25	308	*eP*		PKiKP	00 13 39.0	+0.8
MKAR	Makanchi Array	118.84	309	PKP		PKPdf	00 13 45.6	-1.2
	comp=Z,0.2nm,0.6s,baz=170,slow=0.9,SNR=5.3							
KURBB	Kurchatov Arra	122.24	313	PKP		PKPdf	00 13 52.5	-0.8
	comp=Z,0.4nm,0.5s,baz=114,slow=1.9,SNR=10							
BVAR	Borovoye Array	127.60	315	PKP		PKPdf	00 14 02.9	-0.5
	comp=Z,0.6nm,0.4s,baz=137,slow=1.9,SNR=8.4							
ARCES	ARCESS Array B	140.28	347	PKhKP		PKPpre	00 14 20.5	
	comp=Z,4.2nm,0.9s,baz=68,slow=5.0,SNR=6.5							
FINES	FINESS Array B	146.76	339	PKPbc		PKPbc	00 14 39.8	-0.2
	comp=Z,3.7nm,0.4s,baz=46,slow=3.7,SNR=45							
NB2	NORSAR Subarra	150.47	351	PKP		PKiKP	00 14 49.8	-0.6
	comp=Z,2.3nm,0.9s,baz=14,slow=4.1							
NOA	NORSAR Array B	150.47	351	PKPbc		PKPbc	00 14 48.9	-0.8
	comp=Z,1.7nm,0.9s,baz=16,slow=4.2,SNR=2.9							
NC602	NORSAR Array S	150.71	350			PKPbc	00 14 50.0	-0.2
HFS	Hagfors	150.94	348	PKPbc		PKPbc	00 14 50.4	-0.4
	comp=Z,2.8nm,0.5s,baz=132,slow=2.1,SNR=13							
MMAI	Mount Meron Ar	151.84	281	PKPbc		PKiKP	00 14 54.3	+0.1
	comp=Z,0.5nm,0.4s,baz=123,slow=5.3,SNR=1.6							
AKASG	Malin Array Be	152.63	321	PKPbc		PKPbc	00 14 53.9	-1.1
	comp=Z,0.5nm,0.4s,baz=42,slow=3.2,SNR=4.9							
BRTR	Keskin Array B	153.33	295	PKPbc		PKiKP	00 14 59.4	+2.3
	comp=Z,0.6nm,0.6s,baz=161,slow=2.0,SNR=2.5							
LIC	Lamto	153.40	164⇑	*e*PKiKP		PKPab	00 15 16.7	+7.0
	comp=Z,8.6nm,0.7s							
KIC	Kosan Boka	153.60	165⇑	*e*PKiKP		PKPab	00 15 17.1	+6.6
	comp=Z,5.9nm,0.8s							
TIC	Toumodi	153.81	164⇓	*e*PKiKP		PKPab	00 15 17.3	+5.9
	comp=Z,5.9nm,0.4s							

*IDC **24** 23:58:10.5± 1.9,56˙.37N× 148˙.70W, h0km, mb4.1/7, mbtmp3.9/11, ML3.1/4, MS3.4/4, Error ellipse: s-maj=37.0km s-min=24.3km az=153.0*
*NEIC **24** 23:58:11.7± 1.7,56˙.49N± 0˙.08× 148˙.50W± 0˙.10, h19km± 6km, mb4.2/5, ML3.6/50, ML3.2(AEIC), Error ellipse: s-maj=12.5km s-min=7.5km az=169.0*
*AEIC **24** 23:58:16± 1.5, 56˙.60N± 0˙.08× 148˙.6W± 0˙.1, h6km± 6km, Error ellipse: s-maj=12.1km s-min=8.0km az=165.0*

ISC 24 23:58:12.5± 0.9, 56˙.66N± 0˙.08× 148˙.61W± 0˙.05, h10km, n198, σ1§04/197, mb4.2/11, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.44	299	Pn	Pn	23 58 51.6	-0.7
KDAK	Kodiak Island	2.44	299	Pn	Pn	23 58 52.0	-0.3
	3.4nm,0.3s,baz=96,slow=3.9,SNR=13						
KDAK				Sn	Sn	23 59 20.5	-1.6
	16nm,0.3s,baz=58,slow=16,SNR=12						
KDAK				LR	LR	00 00 05.0	
	comp=Z,311nm,18.1s,baz=171,slow=45						
	7.7nm,0.3s						
OHAK	Old Harbor	2.62	284	Pn	Pn	23 58 53.4	-1.5
OHAK					Sn	23 59 22.6	-4.2
OHAK	Old Harbor	2.62	284	P	Pn	23 58 53.1	-1.8
	baz=104						
OHAK				S	Sn	23 59 22.7	-4.1
	baz=104						
SYI	Shuyak Island	2.82	315	Pn	Pn	23 58 57.6	+0.1
SYI					Sn	23 59 30.7	-0.8
Q20K	Shuyak Island	2.82	315	P	Pn	23 58 57.1	-0.5
	baz=134						
Q20K				S	Sn	23 59 30.5	-1.1
	baz=134						
MID	Middleton Isla	3.02	23	Pn	Pn	23 58 59.4	-0.9
MID				IAML		23 59 36.2	
	comp=N,200nm,1.3s						
MID				IAML		00 01 06.5	
	comp=E,202nm,1.5s						
Q23K	Middleton Isla	3.02	22	Pn	Pn	23 58 59.5	-0.9
Q23K					Sn	23 59 34.1	-2.5
Q23K				IAML		23 59 37.8	
	comp=E,192nm,1.4s						
Q23K				IAML		23 59 42.0	
	comp=N,182nm,1.2s						
Q23K	Middleton Isla	3.02	22	P	Pn	23 58 59.4	-0.9
	baz=202						
Q23K				S	Sn	23 59 33.9	-2.7
	baz=202						
CNPM	China Poot	3.19	335		Pn	23 59 02.5	-0.2
CNPM				IAML		23 59 46.1	
	comp=N,89nm,1.5s						
CNPM				IAML		23 59 50.3	
	comp=E,70nm,1.5s						
BRSE	Bradley Lake S	3.29	341		Pn	23 59 03.6	-0.5
BRSE					Sn	23 59 41.6	-1.5
BRSE	Bradley Lake S	3.29	341	P	Pn	23 59 03.6	-0.5
	baz=159						
BRSE				S	Sn	23 59 42.2	-0.9
	baz=159						
R18K	Karluk	3.31	288		Pn	23 59 03.1	-1.2
R18K					Sn	23 59 41.0	-2.7
R18K				IAML		23 59 47.8	
	comp=E,214nm,0.4s						
R18K				IAML		23 59 49.3	
	comp=N,199nm,0.5s						
R18K	Karluk	3.31	288	P	Pn	23 59 02.7	-1.7
	baz=106						
R18K				S	Sn	23 59 40.8	-2.9
	baz=106						
BRLK	Bradley Lake	3.33	340		Pn	23 59 04.1	-0.6
BRLK				IAML		23 59 47.3	
	comp=E,64nm,1.1s						
P23K	Montague Islan	3.40	10		Pn	23 59 05.2	-0.4
P23K					Sn	23 59 43.6	-2.4
P23K	Montague Islan	3.40	10	P	Pn	23 59 05.2	-0.4
	baz=190						
P23K				S	Sn	23 59 43.6	-2.4
	baz=190						
Q19K	Cape Douglas,	3.52	312	Pn	Pn	23 59 08.1	+0.8
Q19K	Cape Douglas,	3.52	312	P	Pn	23 59 07.3	0.0
	baz=129						
KAHG	Katmai Hook Gl	3.69	302		Pn	23 59 11.2	+1.6
P19K	Oil Pt	3.87	323	Pn	Pn	23 59 13.2	+1.2
P19K				IAML		23 59 59.8	
	comp=E,155nm,0.4s						
P19K	Oil Pt	3.87	323	P	Pn	23 59 12.8	+0.7
	baz=140						
KCE	Katmai Mt Cerb	3.89	297		Pn	23 59 13.1	+0.7
HIN	Hinchinbrook I	3.90	16	Pn	Pn	23 59 12.0	-0.5
HIN				IAML		00 00 02.3	
	comp=E,104nm,1.0s						
HIN				IAML		00 00 04.8	
	comp=N,127nm,0.9s						
KAIM	Kayak Island	3.95	32	Pn	Pn	23 59 12.8	-0.3
KAIM	Kayak Island	3.95	32	P	Pn	23 59 12.5	-0.6
	baz=214						
ACHA	Angle Creek He	3.95	296		Pn	23 59 13.8	+0.6
ANCK	Angle Creek	4.03	295		Pn	23 59 14.1	-0.2
IVE	Iliamna Volcan	4.09	327		Pn	23 59 14.2	-0.9
EYAK	Cordova Ski Ar	4.17	20	Pn	Pn	23 59 16.0	-0.2
EYAK	Cordova Ski Ar	4.17	20	P	Pn	23 59 16.1	0.0
	baz=201						
CNTC	Contact Creek	4.25	295		Pn	23 59 17.4	+0.1
Q17K	Contact Creek	4.25	295	P	Pn	23 59 17.4	+0.1
	baz=111						
RAGM	Ragged Mountai	4.26	27		Pn	23 59 17.5	0.0
RED	Redoubt Volcan	4.35	332		Pn	23 59 17.9	-0.8
RDSO	Redoubt South	4.38	332		Pn	23 59 17.9	-1.2
RSO	Redoubt South	4.38	332		Pn	23 59 18.4	-0.9
RDT	Redoubt	4.39	335		Pn	23 59 18.4	-0.9
GOAT	Goat Mountain	4.42	26		Pn	23 59 19.6	-0.1
RDWB	Redoubt West	4.43	332		Pn	23 59 19.2	-0.7
P18K	Big Mountain,	4.46	311	Pn	Pn	23 59 20.1	0.0
P18K	Big Mountain,	4.46	311	P	Pn	23 59 19.4	-0.7
	baz=126						
RC01	Rabbit Creek A	4.48	353		Pn	23 59 20.2	-0.2
RC01				IAML		00 00 12.8	
	comp=N,51nm,0.4s						
RC01				IAML		00 00 13.4	
	comp=E,62nm,0.5s						
RC01	Rabbit Creek A	4.48	353	P	Pn	23 59 20.4	+0.1
	baz=172						
DFR	Drift River	4.48	333		Pn	23 59 19.3	-1.2
NCT	North Crescent	4.51	332		Pn	23 59 20.1	-0.8
BERG	Berg Lake	4.54	32		Pn	23 59 20.9	-0.3
O19K	Port Alsworth	4.64	322	Pn	Pn	23 59 22.7	+0.1
SNH	Sunshine Point	4.65	38		Pn	23 59 22.2	-0.5
SNH				IAML		00 00 25.0	
	comp=E,45nm,0.7s						
SNH				IAML		00 00 27.1	
	comp=N,52nm,1.2s						
KNK	Knik Glacier	4.76	1	Pn	Pn	23 59 24.2	-0.1
KNK				IAML		00 00 26.8	
	comp=E,34nm,1.1s						
KNK				IAML		00 00 34.2	
	comp=N,26nm,0.7s						
KNK	Knik Glacier	4.76	1	P	Pn	23 59 23.6	-0.7
	baz=180						
BMRM	Bremner River	4.79	24		Pn	23 59 24.6	-0.1
BMRM	Bremner River	4.79	24	P	Pn	23 59 24.6	-0.1
	baz=206						
N20K	Mount Spurr	4.92	339	P	Pn	23 59 25.6	-0.9
	baz=156						
SPCR	Spurr Chakacha	4.92	339		Pn	23 59 25.6	-0.9
SUA	Susitna One	4.94	348	Pn	Pn	23 59 26.9	0.0
SUA				IAML		00 00 47.9	
	comp=E,21nm,1.5s						
SUA	Susitna One	4.94	348	P	Pn	23 59 26.5	-0.3
	baz=166						
KLU	Klutina	5.04	15		Pn	23 59 28.2	+0.1
KLU				IAML		00 00 29.8	
	comp=E,39nm,1.0s						
KLU				IAML		00 00 35.8	
	comp=N,45nm,0.9s						
KLU	Klutina	5.04	15	P	Pn	23 59 28.5	+0.4
	baz=196						
GHO	Glory Hole Cre	5.13	358		Pn	23 59 29.7	+0.3
GHO				IAML		00 00 29.7	
	comp=E,44nm,0.5s						
GHO				IAML		00 00 30.7	
	comp=N,46nm,0.5s						
STLK	Strandline Lak	5.13	342		Pn	23 59 28.9	-0.4
SML	Sawmill	5.16	1	Pn	Pn	23 59 30.2	+0.4
SML				IAML		00 00 30.4	
	comp=N,36nm,1.4s						
SML				IAML		00 00 34.5	
	comp=E,40nm,0.9s						
SML	Sawmill	5.16	1	P	Pn	23 59 29.9	+0.1
	baz=181						
N19K	Bonanza Creek	5.17	326		Pn	23 59 29.5	-0.4
N19K	Bonanza Creek	5.17	326	P	Pn	23 59 29.3	-0.6
	baz=142						
SCM	Sheep Creek Mo	5.23	7	Pn	Pn	23 59 31.9	+1.2
SCM				IAML		00 00 36.5	
	comp=E,52nm,1.4s						
SCM	Sheep Creek Mo	5.23	7	P	Pn	23 59 30.7	0.0
	baz=187						
VRDI	Verde Repeater	5.30	28	Pn	Pn	23 59 31.6	-0.2
N25K	Chitina, Valde	5.37	21		Pn	23 59 33.0	+0.3
N25K	Chitina, Valde	5.37	21	P	Pn	23 59 33.3	+0.6
	baz=203						
SAMH	Samovar Hills	5.38	47		Pn	23 59 32.9	0.0
GLB	Gilahina Butte	5.39	25	Pn	Pn	23 59 32.9	-0.1
CHGN	Chignik	5.45	270	Pn	Pn	23 59 33.1	-0.6
O17K	Koliganek Bris	5.46	308		Pn	23 59 33.4	-0.5
O17K	Koliganek Bris	5.46	308	P	Pn	23 59 33.4	-0.5
	baz=122						
PTPK	Patty Peak	5.54	32		Pn	23 59 35.0	-0.1
SKT	Skwentna	5.54	346	Pn	Pn	23 59 35.8	+0.9
SKT	Skwentna	5.54	346	P	Pn	23 59 35.5	+0.6
	baz=163						
P16K	Nushagak River	5.54	299		Pn	23 59 33.9	-1.1
P16K	Nushagak River	5.54	299	P	Pn	23 59 33.9	-1.1
	baz=113						
PCA	Pinnacle	5.58	48		Pn	23 59 35.2	-0.3
PINM	Pinnacle	5.58	48	P	Pn	23 59 35.5	0.0
	baz=234						
M24K	Tolsona, Glenn	5.60	12		Pn	23 59 36.4	+0.5
M24K	Tolsona, Glenn	5.60	12	P	Pn	23 59 36.0	+0.2
	baz=193						
BARN	Barnard Glacie	5.69	36		Pn	23 59 37.0	-0.3
M20K	Styx River	5.72	338		Pn	23 59 37.4	-0.2
M20K	Styx River

SIT	**Sitka**	**7.29**	**81**	Pn	Pn	23 59 54.5	-4.5
RIDG	**Independent Ri**	**7.34**	**13**		**Pn**	**00 00 00.1**	**+0.4**
L16K	**Owhat River**	**7.53**	**317**	Pn	**Pn**	**00 00 02.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**7.55**	**352**	Pn	**Pn**	**00 00 02.0**	**-0.5**
SKAG	**Skagway**	**7.58**	**63**	Pn	**Pn**	**00 00 02.7**	**-0.2**
S32K	**Killisnoo**	**7.69**	**78**	Pn	**Pn**	**00 00 02.0**	**-2.4**
M29M	**Somme Creek**	**7.75**	**37**		**Pn**	**00 00 06.1**	**+0.8**
R32K	**Eaglecrest**	**7.77**	**72**		**Pn**	**00 00 03.8**	**-1.7**
JIS	**Juneau Island**	**7.84**	**72**		**Pn**	**00 00 04.5**	**-1.9**
J18K	**Innoko River**	**7.93**	**333**	Pn	**Pn**	**00 00 07.4**	**-0.4**
CCB	**Clear Creek Bu**	**8.02**	**2**	Pn	**Pn**	**00 00 08.8**	**-0.1**
IL31		**8.18**	**5**		**Pn**	**00 00 11.4**	**+0.3**
ILAR	**Eielson Array**	**8.18**	**5**	Pn	**Pn**	**00 00 13.2**	**+2.1**
	comp=E,0.2nm,0.3s,baz=188,slow=14,SNR=7.5						
ILAR				Sn	**Sn**	**00 01 41.3**	**-2.2**
	comp=E,0.4nm,0.3s,baz=190,slow=22,SNR=12 comp=E,0.3nm,0.3s						
N31M	**Braeburn, Yuko**	**8.18**	**48**	Pn	**Pn**	**00 00 11.6**	**+0.4**
WHY	**Whitehorse**	**8.20**	**55**	Pn	**Pn**	**00 00 11.1**	**-0.4**
J26L	**Joseph Creek**	**8.24**	**15**		**Pn**	**00 00 12.3**	**+0.3**
P32M	**Atlin**	**8.41**	**63**	Pn	**Pn**	**00 00 13.2**	**-1.1**
I23K	**Minto, Yukon-K**	**8.52**	**358**	P	**Pn**	**00 00 14.7**	**-1.1**
	baz=177						
U33K	**Whale Pass**	**8.61**	**87**	Pn	Pn	00 00 12.3	-4.7
L14K	**Kuka Creek**	**8.64**	**309**	Pn	**Pn**	**00 00 19.2**	**+1.9**
CRAG	**Craig**	**8.75**	**91**	Pn	Pn	00 00 14.9	-4.0
EGAK	**Eagle**	**8.91**	**21**	Pn	**Pn**	**00 00 20.2**	**-1.0**
P33M	**Teslin, Yukon**	**9.01**	**60**	Pn	**Pn**	**00 00 21.4**	**-1.2**
PRP	**Porcupine Dome**	**9.01**	**8**	Pn	**Pn**	**00 00 22.1**	**-0.5**
Q32M	**Nakina River**	**9.02**	**68**	Pn	**Pn**	**00 00 21.4**	**-1.4**
K29M	**Barlow Dome**	**9.05**	**33**		**Pn**	**00 00 23.0**	**-0.2**
N32M	**Quiet Lake**	**9.20**	**54**	Pn	**Pn**	**00 00 24.4**	**-0.7**
H21K	**Melozitna Rive**	**9.25**	**349**		**Pn**	**00 00 25.3**	**-0.5**
S34M	**Telegraph Cree**	**9.54**	**75**	Pn	**Pn**	**00 00 28.0**	**-1.8**
V35K	**Ketchikan**	**9.61**	**91**	Pn	Pn	00 00 27.4	-3.4
IMAR	**Indian Mountai**	**9.67**	**347**	Pn	**Pn**	**00 00 31.1**	**-0.4**
R33M	**Jennings River**	**9.74**	**66**	Pn	**Pn**	**00 00 30.8**	**-1.8**
T35M	**Bob Quinn**	**10.07**	**81**	Pn	**Pn**	**00 00 35.3**	**-1.8**
DLBC	**Dease Lake**	**10.14**	**72**	LR	LR	00 03 44.6	
	comp=E,114nm,20.8s,baz=292,slow=32						
G21K	**Allakaket**	**10.15**	**349**		**Pn**	**00 00 39.1**	**+1.0**
ANM	**Nome**	**11.39**	**321**	Pn	**Pn**	**00 00 55.0**	**0.0**
BBB	**Bella Bella**	**12.73**	**102**	LR	LR	00 04 60.0	
	comp=E,96nm,19.0s,baz=338,slow=32						
INK	**Inuvik**	**13.54**	**24**	Pn	**Pn**	**00 01 24.5**	**+0.2**
INK	**Inuvik**	**13.54**	**24**	Pn	Pn	00 01 29.6	+5.2
	comp=E,0.1nm,0.3s,baz=182,slow=15,SNR=3.3 comp=E,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**18.02**	**57**	P	**Pn**	**00 02 20.5**	**-2.2**
YKA	**Yellowknife Ar**	**18.02**	**57**	P	**Pn**	**00 02 24.7**	**+2.1**
	comp=E,0.1nm,0.3s,baz=265,slow=11,SNR=6.9 comp=E,0.5nm,0.8s						
A36M	**Sachs Harbour**	**18.18**	**23**	P	**Pn**	**00 02 23.9**	**-0.7**
KLR	**Kul'dur**	**46.00**	**296**	P	**P**	**00 06 36.9**	**+1.3**
	comp=E,2.4nm,0.8s,baz=60,slow=8.5,SNR=4.4 comp=E,2.4nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**50.54**	**240**	T	T	01 02 29.3	
	baz=28						
H11S2	**WAKE ISLAND Hy**	**50.55**	**240**	T	T	01 02 36.9	
	baz=28						
H11S3	**WAKE ISLAND Hy**	**50.56**	**240**	T	T	01 02 32.6	
	baz=28						
JHJ	**Hachijo jima 2**	**53.16**	**276**	LR	LR	00 28 30.2	
	comp=E,237nm,21.5s,baz=110,slow=34						
XLT	**XiLinHaoTe**	**57.37**	**301**	*e*P	**P**	**00 08 02.4**	**+1.7**
XLT				pmax	pmax		
	comp=Z,8.0nm,2.0s						
XLT				pmax	pmax		
	comp=Z,450nm,6.2s						
SONM	**Songino Array**	**58.68**	**310**	P	**P**	**00 08 11.5**	**+1.7**
	comp=Z,2.2nm,1.0s,baz=43,slow=6.7,SNR=9.8 comp=Z,2.2nm,1.0s						
ZALV	**Zalesovo Beam**	**61.44**	**327**	P	**P**	**00 08 29.5**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=36,slow=6.8,SNR=9.9 comp=Z,1.7nm,0.5s						
FINES	**FINESS Array B**	**62.16**	**3**	P	**P**	**00 08 34.0**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=356,slow=9.8,SNR=2.6 comp=Z,4.3nm,0.9s						
BVAR	**Borovoye Array**	**66.09**	**335**	P	**P**	**00 08 59.7**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=29,slow=6.9,SNR=14 comp=Z,1.6nm,0.6s						
KURK	**Kurchatov**	**66.09**	**329**	P	**P**	**00 08 59.3**	**0.0**
KURBB	**Kurchatov Arra**	**66.20**	**329**	P	**P**	**00 09 00.4**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=29,slow=6.5,SNR=7.0 comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**68.50**	**325**	P	**P**	**00 09 14.5**	**-0.1**
MK31				IAmb	IAmb	00 09 15.2	
	comp=Z,2.3nm,1.4s						
MKAR	**Makanchi Array**	**68.50**	**325**	P	**P**	**00 09 14.6**	**0.0**
MKAR	**Makanchi Array**	**68.50**	**325**	P	**P**	**00 09 15.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=33,slow=6.1,SNR=15 comp=Z,0.6nm,0.5s						
MAKZ	**Makanchi**	**68.58**	**325**	P	**P**	**00 09 15.7**	**+0.5**
MAKZ				IAmb	IAmb	00 09 16.8	
	comp=Z,1.6nm,0.9s						
ABKAR	**Akbulak array**	**71.81**	**341**	P	**P**	**00 09 35.4**	**+0.6**
ABKAR	**Akbulak array**	**71.81**	**341**	P	**P**	**00 09 34.9**	**+0.1**
ABKAR				IAmb	IAmb	00 09 36.8	
	comp=Z,2.6nm,1.2s						

*NEIC **24** 23:59:32.8±1.1,55.8N±0.1×149.3W±0.1,h7km±7km, ML3.5/28,ML3.2(AEIC), Error ellipse: s-maj=17.5km s-min=9.1km az=184.0*
*AEIC **24** 23:59:37.1±1.4,55.72N±0.09×149.22W±0.09,h10km±7km, Error ellipse: s-maj=14.0km s-min=3.7km az=153.0*

ISC 24 23:59:32.2±2.3,55.8N±0.1×149.30W±0.07,h10km,n58, σ1§07/67,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.65**	**305**	Pn	**Pn**	**00 00 15.3**	**+0.4**
OHAK					**Sn**	**00 00 45.8**	**-1.2**
OHAK	**Old Harbor**	**2.65**	**305**	P	**Pn**	**00 00 15.4**	**+0.5**
	baz=121						
OHAK				S	**Sn**	**00 00 45.9**	**-1.2**
	baz=121						
KDAK	**Kodiak Island**	**2.71**	**320**		**Pn**	**00 00 16.6**	**+0.9**
KDAK					**Sn**	**00 00 46.6**	**-1.9**
KDAK	**Kodiak Island**	**2.71**	**320**	P	**Pn**	**00 00 16.6**	**+0.9**
	baz=136						
KDAK				S	**Sn**	**00 00 48.4**	**-0.1**
	baz=136						
SYI	**Shuyak Island**	**3.31**	**331**	Pn	**Pn**	**00 00 24.8**	**+0.9**
SYI					**Sn**	**00 01 02.7**	**-0.6**
SYI				IAML		00 01 04.9	
	comp=E,59nm,1.5s						
Q20K	**Shuyak Island**	**3.31**	**331**	P	**Pn**	**00 00 25.2**	**+1.2**
	baz=148						
Q20K				S	**Sn**	**00 01 03.1**	**-0.1**
	baz=148						
R18K	**Karluk**	**3.37**	**304**		**Pn**	**00 00 25.6**	**+0.8**
R18K				IAML		00 00 57.2	
	comp=N,94nm,1.3s						
R18K					**Sn**	**00 01 04.3**	**-0.4**
R18K				IAML		00 01 29.7	
	comp=E,70nm,1.2s						
R18K	**Karluk**	**3.37**	**304**	P	**Pn**	**00 00 26.0**	**+1.3**
	baz=120						
R18K				S	**Sn**	**00 01 04.2**	**-0.4**
	baz=120						
CNPM	**China Poot**	**3.91**	**345**	Pn	**Pn**	**00 00 32.8**	**+0.5**
CNPM					**Sn**	**00 01 16.6**	**-1.5**
CNPM				IAML		00 01 19.6	
	comp=N,50nm,1.0s						
CNPM				IAML		00 01 20.9	
	comp=E,45nm,1.2s						
Q19K	**Cape Douglas,**	**3.94**	**325**	Pn	**Pn**	**00 00 34.6**	**+1.8**
Q19K	**Cape Douglas,**	**3.94**	**325**	P	**Pn**	**00 00 34.7**	**+1.8**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.95**	**316**		**Pn**	**00 00 35.0**	**+2.1**
Q23K	**Middleton Isla**	**4.00**	**22**	Pn	**Pn**	**00 00 33.4**	**0.0**
MID	**Middleton Isla**	**4.00**	**22**	Pn	**Pn**	**00 00 33.6**	**+0.1**
BRSE	**Bradley Lake S**	**4.06**	**350**		**Pn**	**00 00 34.7**	**+0.4**
BRSE	**Bradley Lake S**	**4.06**	**350**	P	**Pn**	**00 00 34.7**	**+0.4**
	baz=168						
BRLK	**Bradley Lake**	**4.09**	**349**	Pn	**Pn**	**00 00 34.9**	**0.0**
BRLK				IAML		00 01 24.7	
	comp=E,54nm,1.3s						
BRLK				IAML		00 01 28.2	
	comp=N,34nm,1.2s						
ACHA	**Angle Creek He**	**4.10**	**309**		**Pn**	**00 00 36.6**	**+1.6**
ANCK	**Angle Creek**	**4.17**	**308**		**Pn**	**00 00 37.6**	**+1.7**
P23K	**Montague Islan**	**4.36**	**13**		**Pn**	**00 00 38.8**	**+0.4**
P23K	**Montague Islan**	**4.36**	**13**	P	**Pn**	**00 00 38.8**	**+0.4**
	baz=194						
CNTC	**Contact Creek**	**4.38**	**308**		**Pn**	**00 00 40.5**	**+1.6**
Q17K	**Contact Creek**	**4.38**	**308**	P	**Pn**	**00 00 40.5**	**+1.6**
	baz=122						
P19K	**Oil Pt**	**4.43**	**333**	Pn	**Pn**	**00 00 40.1**	**+0.7**
P19K				IAML		00 01 36.0	
	comp=N,72nm,1.0s						
P19K				IAML		00 01 36.3	
	comp=E,79nm,0.5s						
IVE	**Iliamna Volcan**	**4.70**	**337**		**Pn**	**00 00 43.9**	**+0.7**
P18K	**Big Mountain,**	**4.83**	**321**		**Pn**	**00 00 44.8**	**-0.2**
P18K	**Big Mountain,**	**4.83**	**321**	P	**Pn**	**00 00 45.4**	**+0.4**
	baz=136						
HIN	**Hinchinbrook I**	**4.87**	**17**	Pn	**Pn**	**00 00 45.5**	**0.0**
HIN				IAML		00 01 42.6	
	comp=N,72nm,0.9s						
HIN				IAML		00 02 07.6	
	comp=E,61nm,1.5s						
KAIM	**Kayak Island**	**4.92**	**30**	Pn	**Pn**	**00 00 46.2**	**+0.1**
KAIM				IAML		00 01 43.8	
	comp=N,52nm,1.5s						
KAIM				IAML		00 02 56.5	
	comp=E,58nm,1.2s						
KAIM	**Kayak Island**	**4.92**	**30**	P	**Pn**	**00 00 46.6**	**+0.5**
	baz=214						
EYAK	**Cordova Ski Ar**	**5.15**	**20**		**Pn**	**00 00 49.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.15**	**20**	P	**Pn**	**00 00 50.0**	**+0.7**
	baz=203						
RAGM	**Ragged Mountai**	**5.24**	**26**	Pn	**Pn**	**00 00 50.7**	**+0.1**
RAGM				IAML		00 01 56.3	
	comp=E,54nm,1.3s						
BERG	**Berg Lake**	**5.50**	**30**	Pn	**Pn**	**00 00 54.2**	**+0.1**
SNH	**Sunshine Point**	**5.60**	**35**	Pn	**Pn**	**00 00 55.6**	**+0.1**
P16K	**Nushagak River**	**5.72**	**308**		**Pn**	**00 00 58.8**	**+1.7**
P16K	**Nushagak River**	**5.72**	**308**	P	**Pn**	**00 00 58.8**	**+1.7**
	baz=121						
N19K	**Bonanza Creek**	**5.75**	**334**	Pn	**Pn**	**00 00 57.4**	**-0.1**
KLU	**Klutina**	**6.00**	**16**	Pn	**Pn**	**00 01 01.8**	**+0.8**
GHO	**Glory Hole Cre**	**6.03**	**2**	Pn	**Pn**	**00 01 01.3**	**0.0**
SML	**Sawmill**	**6.08**	**4**	Pn	**Pn**	**00 01 03.3**	**+1.3**
SCM	**Sheep Creek Mo**	**6.17**	**9**	Pn	**Pn**	**00 01 06.2**	**+2.8**
VRDI	**Verde Repeater**	**6.27**	**27**	Pn	**Pn**	**00 01 04.8**	**0.0**
N25K	**Chitina, Valde**	**6.34**	**21**	Pn	**Pn**	**00 01 06.8**	**+1.1**
GLB	**Glubina Butte**	**6.37**	**24**	Pn	**Pn**	**00 01 06.5**	**+0.4**
BCPM	**Bancas Point**	**6.65**	**47**	Pn	**Pn**	**00 01 10.5**	**+0.7**
BARN	**Barnard Glacie**	**6.65**	**34**	Pn	**Pn**	**00 01 10.4**	**+0.4**
CTGM	**Chitina Glacie**	**6.68**	**36**	Pn	**Pn**	**00 01 10.8**	**+0.4**
M17K	**Holitna River**	**7.07**	**326**	Pn	**Pn**	**00 01 16.6**	**+1.0**
N15K	**Kwethluk River**	**7.23**	**312**	Pn	**Pn**	**00 01 19.0**	**+1.1**
P29M	**Windy Craggy**	**7.30**	**53**	Pn	**Pn**	**00 01 19.1**	**+0.3**
S31K	**Pelican**	**7.49**	**68**	Pn	**Pn**	**00 01 19.3**	**-2.0**
M27K	**Edge Creek, AK**	**7.63**	**27**	Pn	**Pn**	**00 01 24.9**	**+1.4**
L16K	**Owhat River**	**7.96**	**323**	Pn	**Pn**	**00 01 28.4**	**+0.6**
U33K	**Whale Pass**	**9.09**	**81**	Pn	**Pn**	**00 01 44.6**	**+1.3**
P32M	**Atlin**	**9.18**	**59**	Pn	**Pn**	**00 01 44.8**	**+0.2**
K29M	**Barlow Dome**	**10.02**	**31**	Pn	**Pn**	**00 01 57.4**	**+1.3**
M31M	**Drury Creek, Y**	**10.02**	**44**	Pn	**Pn**	**00 01 57.6**	**+1.5**

*IDC **25** 00:04:48.9±0.9,47.53S×36.87E,h0km,mb4.0/7, mbtmp4.0/8,ML3.9/1,MS3.0/2,Error ellipse: s-maj=44.1km s-min=18.7km az=61.0*
*NEIC **25** 00:04:48.5±1.5,47.33S±0.04×36.8E±0.2,h10km±1km, mb4.4/11,Error ellipse: s-maj=21.3km s-min=7.0km az=89.0*

ISC 25 00:04:49.3±0.7,47.38S±0.10×36.8E±0.1,h10km,n24, σ1§62/18,mb4.1/7,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S3	**CROZET ISLANDS**	**10.33**	**93**	T	T	00 18 05.9	
	baz=262,slow=75,SNR=6.2						
H04S2	**CROZET ISLANDS**	**10.33**	**93**	T	T	00 18 08.5	
	baz=262,slow=75,SNR=6.4						
H04S1	**CROZET ISLANDS**	**10.35**	**93**	T	T	00 18 04.0	
	baz=262,slow=75,SNR=7.7						
CRZF	**Crozet Islands**	**10.38**	**90**	Pn	**Pn**	**00 07 16.8**	**-1.3**
GRHM	**Grahamstown, E**	**16.14**	**327**	Pn	**Pn**	**00 08 33.4**	**-2.7**
GRHM				IAmb	IAmb	00 08 54.7	
	comp=Z,47nm,1.5s						
SOE	**Somerset East**	**16.95**	**326**	Pn	**Pn**	**00 08 44.9**	**-1.6**
SOE				IAmb	IAmb	00 09 01.6	
	comp=Z,27nm,1.3s						
SUR	**Sutherland**	**19.29**	**315**		**P**	**00 09 12.4**	**-2.0**
SUR				IAmb	IAmb	00 09 31.1	
	comp=Z,40nm,1.5s						
SUR	**Sutherland**	**19.29**	**315**	P	**Pn**	**00 09 17.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=142,slow=20,SNR=6.0						
SUR				LR	LR	00 14 55.2	
	comp=Z,39nm,21.3s,baz=182,slow=31 comp=Z,6.3nm,0.9s						
BOSA	**Boshof**	**20.77**	**330**	P	Pn	00 09 32.3	-0.5
BOSA				IAmb	IAmb	00 09 36.4	
	comp=Z,12nm,1.2s						
BOSA	**Boshof**	**20.77**	**330**	P	Pn	00 09 34.2	+1.3
	comp=Z,5.9nm,1.1s,baz=140,slow=9.8,SNR=3.7 comp=Z,5.9nm,1.1s						
LBTB	**Lobatse**	**24.02**	**334**	P	**P**	**00 10 02.6**	**-1.8**
LBTB	**Lobatse**	**24.02**	**334**	LR	LR	00 17 19.7	
	comp=Z,55nm,20.3s,baz=185,slow=31						
SNAA	**Sanae**	**30.50**	**203**		**P**	**00 11 02.1**	**+0.1**
SNAA				IAmb	IAmb	00 11 03.2	
	comp=Z,3.8nm,1.2s						
BELA	**Belgrano 2**	**40.28**	**198**	P	**P**	**00 12 25.2**	**-0.7**
QSPA	**South Pole Qui**	**42.83**	**180**	P	**P**	**00 12 46.4**	**-0.7**
QSPA	**South Pole Qui**	**42.83**	**180**	P	**P**	**00 12 46.9**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=306,slow=0.9,SNR=3.6 comp=Z,2.0nm,0.5s						
KMBO	**Kilima Mbogo**	**46.08**	**1**	P	**P**	**00 13 17.0**	**+3.3**
	comp=Z,0.5nm,0.4s,baz=155,slow=17,SNR=2.0 comp=Z,0.5nm,0.4s						
VNDA	**Vanda**	**50.87**	**167**	P	**P**	**00 13 50.6**	**+1.0**
VNDA				IAmb	IAmb	00 14 00.1	
	comp=Z,10nm,1.2s						
VNDA	**Vanda**	**50.87**	**167**	P	**P**	**00 13 50.3**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=245,slow=7.5,SNR=9.4 comp=Z,1.7nm,0.6s						
TOA0	**Torodi Ar. Sit**	**67.92**	**323**	P	**P**	**00 15 48.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**67.92**	**323**	P	**P**	**00 15 48.1**	**0.0**
TORD				IAmb	IAmb	00 16 02.0	
	comp=Z,4.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**67.92**	**323**	P	**P**	**00 15 49.3**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=165,slow=5.4,SNR=13 comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**77.56**	**111**	P	**P**	**00 16 45.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=217,slow=5.7,SNR=6.3 comp=Z,0.7nm,0.8s						
WRA	**Warramunga Arr**	**80.53**	**109**	P	**P**	**00 17 02.3**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=225,slow=4.4,SNR=4.0 comp=Z,1.0nm,0.9s						

IDC 25 00:08:32.2±2.0,32.22S×178.70W,h0km,mb3.7/2, mbtmp3.7/2,Error ellipse: s-maj=75.7km s-min=48.3km az=11.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.45**	**269**	P	P	00 16 29.2	+0.1
	0.2nm,0.3s,baz=108,slow=8.0,SNR=2.8 0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.60**	**274**	P	P	00 16 38.1	-0.3
	0.7nm,0.4s,baz=112,slow=8.1,SNR=17 0.7nm,0.4s						
H03S2	**Juan Fernandez**	**79.96**	**124**	T	T	01 49 15.1	
	baz=235						
H03S1	**Juan Fernandez**	**79.97**	**124**	T	T	01 49 24.0	
	baz=235						
H03S3	**Juan Fernandez**	**79.98**	**124**	T	T	01 49 23.4	
	baz=235						
H03N3	**Juan Fernandez**	**80.16**	**123**	T	T	01 49 33.5	
	baz=241,slow=72,SNR=7.4						
H03N2	**Juan Fernandez**	**80.17**	**123**	T	T	01 49 34.8	
	baz=241,slow=72,SNR=7.1						
H03N1	**Juan Fernandez**	**80.18**	**123**	T	T	01 49 33.6	
	baz=241,slow=72,SNR=14						
FINES	**FINESS Array B**	**146.63**	**339**	PKPbc	PKPbc	00 28 14.4	-0.6
	2.5nm,0.8s,baz=27,slow=2.1,SNR=8.3						
TORD	**Torodi Ar. Bea**	**161.01**	**181**	PKPab	PKPab	00 29 17.1	-0.6
	0.3nm,0.8s,baz=163,slow=4.7,SNR=2.3						

IDC 25 00:16:05.0±1.5,0.86N×123.93E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=156.1km s-min=26.7km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.06**	**154**	P	P	00 21 12.2	-0.2
	0.6nm,0.4s,baz=334,slow=10,SNR=8.0 0.6nm,0.4s						
SONM	**Songino Array**	**49.20**	**344**	P	P	00 24 55.8	+0.6
	0.4nm,0.8s,baz=157,slow=7.8,SNR=2.9 0.4nm,0.8s						
MKAR	**Makanchi Array**	**58.38**	**328**	P	P	00 26 01.9	-0.4
	0.4nm,0.4s,baz=125,slow=7.9,SNR=11 0.4nm,0.4s						

*CRAAG **25** 00:16:21.9,36.43N×3.03E,Ml3.3,Algerie 06km SW Hammam-Melouane*
*LDG **25** 00:16:24.7±0.2,36.44N×3.02E,h10km,Ml3.2/4,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*MDD **25** 00:16:25.1±0.5,36.48N×2.99E,h16km,6km,Mb4.2/25, M_mb3.5/25,Error ellipse: s-maj=7.2km s-min=2.4km az=142.0*

ISC 25 00:16:22.4±1.2,36.49N±0.05×3.03E±0.03,h18km±6km, n61,σ2§18/93,16C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACHR	**Chrea**	**0.14**	**242**	P	**Pg**	**00 16 25.7**	**-1.0**
ADOR	**Douera**	**0.20**	**332**	P	**Pb**	**00 16 28.4**	**+1.0**
AKED	**El Kharrouba**	**0.35**	**62**	P	**Pg**	**00 16 30.2**	**+0.4**
ADJB	**Djebel Djouab**	**0.47**	**135**	P	**Pg**	**00 16 31.6**	**-0.3**
ABKD	**Sidi Amar**	**0.58**	**275**	P	**Pg**	**00 16 34.2**	**+0.1**
AKET	**Djebel Ketaf**	**0.82**	**122**	P	**Pb**	**00 16 38.5**	**+0.3**
ATKB	**Taksebt**	**0.90**	**78**	P	**Pb**	**00 16 39.8**	**+0.3**
EIBI	**Ibiza**	**2.87**	**333**	P	**Pn**	**00 17 08.9**	**+1.7**
EIBI				S	**Sn**	**00 17 40.4**	**-0.9**
EIBI	**Ibiza**	**2.87**	**333**	P	**Pn**	**00 17 08.8**	**+1.6**
EIBI				⇑*i*Vmb_V		00 17 13.6	
	516nm,SNR=5.9						
EIBI				S	**Sn**	**00 17 39.8**	**-1.4**
ETOS	**Mallorca**	**3.28**	**357**	P	**Pn**	**00 17 14.3**	**+1.3**
ETOS				S	**Sn**	**00 17 51.7**	**+0.2**
ETOS	**Mallorca**	**3.28**	**357**	P	**Pn**	**00 17 14.1**	**+1.1**
ETOS				⇑*i*Vmb_V		00 17 16.9	
	288nm,SNR=3.3						
ETOS				S	**Sn**	**00 17 49.7**	**-1.8**
EBEN2	**Beniarda presa**	**3.36**	**311**	P	**Pn**	**00 17 15.0**	**+0.9**
EBEN2				⇑*i*Vmb_V		00 17 23.6	
	254nm,SNR=1.8						
EBEN2				S	**Sn**	**00 17 50.0**	**-3.5**
ETRV	**Los Montesinos**	**3.39**	**298**	P	**Pn**	**00 17 15.2**	**+0.8**
ETRV				⇑*i*Vmb_V		00 17 17.7	
	567nm,SNR=2.6						
ETRV				S	**Sn**	**00 17 52.1**	**-2.0**
CART	**Cartagena**	**3.41**	**290**	P	**Pn**	**00 17 15.0**	**+0.3**
CART				S	**Sn**	**00 17 51.5**	**-3.1**
AFON	**Font Roja**	**3.57**	**309**	P	**Pn**	**00 17 19.3**	**+2.2**
EMUR	**La Murta**	**3.67**	**293**	P	**Pn**	**00 17 19.5**	**+1.2**
EMUR				S	**Sn**	**00 17 59.0**	**-2.2**
EMUR	**La Murta**	**3.67**	**293**	P	**Pn**	**00 17 18.7**	**+0.4**
EMUR				S	**Sn**	**00 17 58.8**	**-2.4**
ECOL	**Islas Columbre**	**3.87**	**332**	P	**Pn**	**00 17 22.1**	**+1.0**
ECOL				S	**Sn**	**00 18 03.2**	**-2.9**
E1002	**Yechar (Murcia**	**3.90**	**295**	P	**Pn**	**00 17 23.3**	**+1.9**
E1002				S	**Sn**	**00 18 06.1**	**-0.7**
EZAR	**Zarzadilla de**	**4.02**	**292**	P	**Pn**	**00 17 23.7**	**+0.5**
EZAR				⇑*i*Vmb_V		00 17 28.1	
	182nm,SNR=2.0						
EZAR				S	**Sn**	**00 18 07.1**	**-2.7**
ETOB	**Tobarra**	**4.23**	**302**	P	**Pn**	**00 17 28.0**	**+2.0**
ETOB				S	**Sn**	**00 18 14.3**	**-0.6**
ETOB	**Tobarra**	**4.23**	**302**	P	**Pn**	**00 17 27.8**	**+1.8**
ETOB				⇑*i*Vmb_V		00 17 29.0	
	395nm,SNR=4.5						
ETOB				S	**Sn**	**00 18 14.3**	**-0.6**
ENIJ	**Nijar**	**4.24**	**278**	S	**Sn**	**00 18 13.8**	**-1.2**
ENIJ	**Nijar**	**4.24**	**278**	P	**Pn**	**00 17 25.8**	**-0.3**
ENIJ				S	**Sn**	**00 18 12.5**	**-2.6**
EVIV	**Cofrentes, Val**	**4.30**	**311**	P	**Pn**	**00 17 28.0**	**+1.1**
EVIV				⇑*i*Vmb_V		00 17 34.6	
	246nm,SNR=2.4						
EVIV				S	**Sn**	**00 18 14.5**	**-2.2**
ECHE	**Chera**	**4.42**	**316**	P	**Pn**	**00 17 30.4**	**+1.8**
ECHE				S	**Sn**	**00 18 19.1**	**-0.8**
ECHE	**Chera**	**4.42**	**316**	P	**Pn**	**00 17 30.5**	**+1.8**
ECHE				⇑*i*Vmb_V		00 17 36.9	
	200nm,SNR=1.9						
ECHE				S	**Sn**	**00 18 18.8**	**-0.9**
CHAS	**Isla Isabel II**	**4.62**	**255**	P	**Pn**	**00 17 32.3**	**+1.0**
CHAS				S	**Sn**	**00 18 22.8**	**-1.8**
EMOS	**Mosqueruela**	**4.75**	**326**	P	**Pn**	**00

*AEIC **25** 00:26:19.9±1.6,50.99N×0.08×179.87W±0.05,h14km±6km, Error ellipse: s-maj=11.8km s-min=3.9km az=188.0*
*NEIC **25** 00:26:22.2±1.4,51.07N±0.08×179.87W±0.06, h40km±11km,mb3.8/21,ML3.5(AEIC),Error ellipse: s-maj=11.6km s-min=5.1km az=194.0*
ISC 25 00:26:16.2±2.1,50.81N±0.09×179.92E±0.05,h15km±12km, n54,σ1§28/58,mb3.6/9,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.69**	**326**		**Pn**	**00 26 32.0**	**+0.6**
AMKA					**Sb**	**00 26 41.0**	**+1.8**
CESW	**Semis' Southwe**	**1.11**	**348**		**Pg**	**00 26 38.3**	**+0.7**
CERB	**Semis' Cerberu**	**1.14**	**351**		**Pg**	**00 26 38.9**	**+0.8**
CERB					**Sb**	**00 26 52.0**	**0.0**
CEAP	**Semis' Anvil P**	**1.21**	**350**		**Pg**	**00 26 39.9**	**+0.4**
GAEA	**Gareloi East**	**1.28**	**40**		**Pn**	**00 26 39.1**	**-0.5**
GAEA					**Sn**	**00 26 54.9**	**-1.5**
GANO	**Gareloi North**	**1.29**	**38**		**Pn**	**00 26 38.9**	**-0.7**
LSSE	**Little Sitkin**	**1.41**	**323**		**Pg**	**00 26 44.1**	**+0.8**
LSPA	**Little Sitkin**	**1.42**	**324**		**Pg**	**00 26 44.2**	**+0.7**
LSNW	**Little Sitkin**	**1.46**	**323**		**Pg**	**00 26 44.4**	**+0.2**
TASE	**Tanaga Southea**	**1.64**	**51**		**Pn**	**00 26 44.6**	**+0.1**
TASE					**Sn**	**00 27 04.5**	**-0.8**
TANO	**Tanaga North**	**1.65**	**47**		**Pn**	**00 26 45.0**	**+0.4**
TAFP	**Tanaga Falls P**	**1.71**	**50**		**Sn**	**00 27 05.5**	**-1.4**
KIWB	**Kanaga Island**	**2.11**	**59**		**Pn**	**00 26 51.6**	**+0.7**
KIRH	**Kanaga Island**	**2.16**	**59**		**Pn**	**00 26 52.7**	**+1.0**
KIRH					**Sn**	**00 27 18.1**	**0.0**
ADK	**Adak**	**2.38**	**62**		**Pn**	**00 26 55.2**	**+0.6**
ADK					**Sn**	**00 27 21.5**	**-2.1**
GSCK	**Great Sitkin C**	**2.73**	**62**		**Pn**	**00 27 00.8**	**+1.4**
GSMY	**Great Sitkin M**	**2.80**	**62**		**Pn**	**00 27 01.4**	**+1.0**
GSTR	**Great Sitkin T**	**2.82**	**61**		**Pn**	**00 27 01.2**	**+0.4**
ATKA	**Atka Island**	**3.93**	**67**		**Pn**	**00 27 16.8**	**+0.9**
SHEM	**Shemya Is, Ala** comp=N,5nm,0.3s,baz=70,slow=12,SNR=2.1	**4.09**	**300**	Pn	**Pb**	**00 27 24.4**	**-3.4**
SHEM	comp=E,6nm,0.3s,baz=78,slow=20,SNR=1.4			Sn	**Sb**	**00 28 15.6**	**-1.5**
N15K	**Kwethluk River**	**14.64**	**43**	Pn	**Pn**	**00 29 43.3**	**+0.7**
K15K	**Wolf Creek Mou**	**15.31**	**34**		**P**	**00 29 55.8**	**-0.5**
L16K	**Owhat River**	**15.73**	**38**	Pn	**Pn**	**00 29 57.7**	**+0.8**
L16K				IAmb	IAmb	00 30 08.0	
N17K	**Nushagak Hills** comp=Z,10nm,1.5s	**16.08**	**44**		**P**	**00 30 04.4**	**-0.3**
N17K				IAmb	IAmb	00 30 06.8	
L18K	**Granite Mounta** comp=Z,13nm,1.4s	**17.11**	**39**		**P**	**00 30 15.3**	**-0.9**
L18K				IAmb	IAmb	00 30 21.1	
TTA	**Tatalina** comp=Z,8.4nm,1.4s	**17.75**	**38**		**P**	**00 30 24.0**	**+0.6**
H18K	**Honhosa River**	**18.26**	**30**		**P**	**00 30 28.9**	**0.0**
H18K				IAmb	IAmb	00 30 47.4	
C16K	**Lisburne Hills** comp=Z,14nm,1.4s	**18.94**	**17**	P	**Pn**	**00 30 37.3**	**+0.4**
C16K				IAmb	IAmb	00 30 38.0	
J20K	**Nowinta River** comp=Z,5.3nm,1.4s	**19.13**	**36**	P	**Pn**	**00 30 38.5**	**-0.7**
SKT	**Skwentna**	**19.17**	**43**	P	**Pn**	**00 30 39.9**	**+0.1**
SKT	comp=Z,6.3nm,1.2s			IAmb	IAmb	00 30 55.3	
CAST	**Castle Rocks** comp=Z,10nm,1.4s	**19.55**	**39**	P	**Pn**	**00 30 43.6**	**-0.7**
CAST				IAmb	IAmb	00 30 46.3	
F19K	**Shaleruckik Mo**	**19.59**	**27**	P	**P**	**00 30 43.0**	**-0.3**
KTH	**Kantishna Hill**	**20.07**	**39**	P	**P**	**00 30 48.8**	**0.0**
KTH	comp=Z,8.2nm,1.3s			IAmb	IAmb	00 31 13.1	
TRF	**Thorofare Moun** comp=Z,9.1nm,1.4s	**20.29**	**40**	P	**P**	**00 30 50.4**	**-0.8**
TRF				IAmb	IAmb	00 30 50.6	
BPAW	**Bear Paw Mtn.**	**20.29**	**38**	P	**P**	**00 30 50.9**	**-0.2**
D19K	**Kuna River**	**20.69**	**23**	P	**P**	**00 30 55.7**	**+0.3**
ILAR	**Eielson Array** comp=Z,0.3nm,0.9s,baz=232,slow=8.3,SNR=2.2 comp=Z,0.3nm,0.9s	**22.19**	**38**	P	**P**	**00 31 08.4**	**-3.1**
D22K	**Ayikyak River**	**22.39**	**26**	P	**P**	**00 31 13.9**	**+0.3**
D22K	comp=Z,3.6nm,1.1s			IAmb	IAmb	00 31 40.1	
BCAR	**Beaver Creek A**	**23.80**	**44**	P	**P**	**00 31 26.4**	**-1.7**
EGAK	**Eagle**	**24.50**	**40**	P	**P**	**00 31 33.5**	**-0.9**
K29M	**Barlow Dome**	**25.84**	**43**	P	**P**	**00 31 45.3**	**-1.4**
H11S1	**WAKE ISLAND Hy** baz=25	**33.91**	**203**	T	T	01 07 38.7	
H11S2	**WAKE ISLAND Hy** baz=25	**33.92**	**203**	T	T	01 07 42.1	
H11S3	**WAKE ISLAND Hy** baz=25	**33.92**	**203**	T	T	01 07 37.4	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,baz=281,slow=8.1,SNR=2.7 comp=Z,0.2nm,0.5s	**36.20**	**46**	P	**P**	**00 33 16.8**	**-1.1**
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=54,slow=7.3,SNR=2.4 comp=Z,0.3nm,0.5s	**46.18**	**296**	P	**P**	**00 34 43.4**	**+3.3**
PDAR	**Pinedale Array**	**47.25**	**71**	P	**P**	**00 34 49.8**	**+1.1**
KURK	**Kurchatov**	**58.83**	**313**	P	**P**	**00 36 15.7**	**+2.0**
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.4s,baz=43,slow=6.8,SNR=6.3 comp=Z,0.9nm,0.4s	**58.93**	**313**	P	**P**	**00 36 15.7**	**+1.3**
MK31	**Makanchi Array**	**59.75**	**308**	P	**P**	**00 36 21.3**	**+1.2**
MK31	comp=Z,1.1nm,1.1s			IAmb	IAmb	00 36 49.3	
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=44,slow=6.5,SNR=6.5 comp=Z,0.3nm,0.5s	**59.75**	**308**	P	**P**	**00 36 21.3**	**+1.2**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=56,slow=7.0,SNR=6.7 comp=Z,0.6nm,0.4s	**60.80**	**319**	P	**P**	**00 36 28.7**	**+1.6**
BRVK	**Borovoye**	**60.82**	**319**	P	**P**	**00 36 29.1**	**+1.9**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.6s,baz=31,slow=4.6,SNR=1.6 comp=Z,0.3nm,0.6s	**81.05**	**223**	P	**P**	**00 38 28.1**	**-2.3**

*IDC **25** 00:37:29.9±2.9,35.68N×140.74E,h0km,mb3.4/3, mbtmp3.3/4,ML2.1/1,Error ellipse: s-maj=86.2km s-min=28.7km az=49.0*
*JMA **25** 00:37:32.1±0.2,35.9N±0.4×140.9E±1.0,h18km±1km, MV3.5/37,NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
ISC 25 00:37:31.6±2.0,35.87N±0.07×140.90E±0.09,h16km±13km, n19,σ0§85/15,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.32**	**287**	P	**Pb**	**00 37 39.5**	**+0.6**
JSMT	**Sammumatsuo**	**0.43**	**238**	P	**Pn**	**00 37 41.6**	**-1.6**
JSMT				S	**Sb**	**00 37 48.7**	**+1.5**
JHYU	**Hitachinakayam**	**0.53**	**331**	P	**Pb**	**00 37 43.0**	**+0.5**
JHYU				S	**Sg**	**00 37 50.0**	**+0.8**
JYT	**Yasato**	**0.67**	**302**	P	**Pb**	**00 37 44.6**	**-0.4**
JYT				S	**Sg**	**00 37 53.5**	**-0.2**
JHO	**Hitachi**	**0.78**	**340**	P	**Pg**	**00 37 46.5**	**-0.4**
JHO				S	**Sg**	**00 37 57.2**	**+0.1**
BSO3	**Boso 3**	**1.12**	**197**	P	**Pn**	**00 37 52.5**	**+0.1**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=93,slow=8.5,SNR=16	**2.28**	**288**	Pn	**Pn**	**00 38 08.1**	**-0.5**
MJAR	0.5nm,0.3s,baz=53,slow=9.9,SNR=7.2 2.4nm,0.3s			Sn	**Sn**	**00 38 36.4**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=311,slow=75,SNR=23	**27.94**	**118**	T	T	01 12 24.6	
H11N1	**WAKE ISLAND Hy** baz=311,slow=75,SNR=24	**27.94**	**118**	T	T	01 12 29.4	
H11N3	**WAKE ISLAND Hy** baz=311,slow=75,SNR=33	**27.95**	**118**	T	T	01 12 30.2	
H11S1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=17	**28.60**	**120**	T	T	01 13 10.9	
H11S3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=27	**28.60**	**120**	T	T	01 13 09.7	
H11S2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=18	**28.62**	**120**	T	T	01 13 13.0	
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=86,slow=8.8,SNR=2.3 0.2nm,0.7s	**44.39**	**303**	P	**P**	**00 45 42.1**	**+0.7**
KURBB	**Kurchatov Arra** 0.3nm,0.5s,baz=83,slow=7.6,SNR=3.4 0.3nm,0.5s	**46.40**	**309**	P	**P**	**00 45 57.5**	**+0.4**
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=1.6,slow=7.6,SNR=2.9 0.6nm,0.8s	**55.86**	**187**	P	**P**	**00 47 07.7**	**-0.7**
H03N2	**Juan Fernandez**	**147.30**	**98**	T	T	03 41 46.1	
H03N3	**Juan Fernandez** baz=289,slow=76,SNR=5.8	**147.31**	**98**	T	T	03 41 45.8	
H03N1	**Juan Fernandez** baz=289,slow=76,SNR=9.4	**147.31**	**98**	T	T	03 41 47.2	
	baz=289,slow=76,SNR=11						

*IDC **25** 00:51:47.2±2.6,56.11N×148.65W,h0km,mb3.6/5, mbtmp3.4/10,ML3.1/5,Error ellipse: s-maj=54.2km s-min=25.2km az=172.0*
*NEIC **25** 00:51:51.0±1.2,56.52N±0.09×148.5W±0.1,h21km±10km, ML3.1/36,ML3.0(AEIC),Error ellipse: s-maj=13.2km s-min=9.0km az=168.0*
*AEIC **25** 00:51:53.6±1.3,56.5N±0.1×148.5W±0.1,h9km±8km,Error ellipse: s-maj=14.6km s-min=8.8km az=175.0*
ISC 25 00:51:51.0±1.3,56.7N±0.1×148.67W±0.06,h10km,n57, σ1§34/60,mb3.7/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.41**	**300**	Pn	**Pn**	**00 52 30.8**	**+0.3**
KDAK				Sn	**Sn**	**00 52 58.1**	**-2.0**
KDAK	**Kodiak Island** 1.4nm,0.3s,baz=121,slow=5.9,SNR=2.4	**2.41**	**300**	Pn	**Pn**	**00 52 30.8**	**+0.3**
KDAK	3.3nm,0.3s,baz=225,slow=19,SNR=7.2 5.2nm,0.3s			Sn	**Sn**	**00 52 58.2**	**-1.8**
OHAK	**Old Harbor**	**2.59**	**285**	Pn	**Pn**	**00 52 32.7**	**-0.2**
OHAK				Sn	**Sn**	**00 53 00.8**	**-3.8**
Q23K	**Middleton Isla**	**3.05**	**23**	Pn	**Pn**	**00 52 38.2**	**-1.0**
Q23K	comp=E,89nm,1.0s			IAML		00 53 56.6	
Q23K	comp=N,106nm,1.1s			IAML		00 54 43.6	
MID	**Middleton Isla**	**3.05**	**23**	Pn	**Pn**	**00 52 38.3**	**-1.0**
CNPM	**China Poot**	**3.19**	**336**	Pn	**Pn**	**00 52 40.8**	**-0.5**
CNPM	comp=E,21nm,1.1s			IAML		00 53 33.3	
BRLK	**Bradley Lake**	**3.34**	**340**	Pn	**Pn**	**00 52 42.5**	**-0.7**
Q19K	**Cape Douglas,**	**3.51**	**313**	Pn	**Pn**	**00 52 47.8**	**+2.2**
HIN	**Hinchinbrook I**	**3.93**	**16**	Pn	**Pn**	**00 52 50.9**	**-0.4**
KAIM	**Kayak Island**	**3.98**	**33**	Pn	**Pn**	**00 52 51.4**	**-0.7**
KAIM	comp=N,35nm,1.1s			IAML		00 53 45.7	
KAIM	comp=E,50nm,0.9s			IAML		00 53 50.8	
RAGM	**Ragged Mountai**	**4.29**	**28**	Pn	**Pn**	**00 52 56.2**	**-0.2**
BERG	**Berg Lake**	**4.57**	**33**	Pn	**Pn**	**00 52 59.3**	**-0.8**
BERG	comp=N,32nm,0.7s			IAML		00 53 59.4	
SNH	**Sunshine Point**	**4.68**	**38**	Pn	**Pn**	**00 53 00.8**	**-0.9**
SNH	comp=E,10nm,1.1s			IAML		00 54 36.4	
SNH	comp=N,9.2nm,1.1s			IAML		00 56 02.8	
KNK	**Knik Glacier**	**4.78**	**1**	Pn	**Pn**	**00 53 02.9**	**-0.1**
KNK	comp=N,8.2nm,0.9s			IAML		00 54 00.4	
KNK	comp=E,11nm,1.1s			IAML		00 54 06.4	
KLU	**Klutina**	**5.06**	**15**	Pn	**Pn**	**00 53 07.0**	**+0.1**
KLU	comp=N,13nm,0.7s			IAML		00 54 06.7	
KLU	comp=E,5.2nm,1.1s			IAML		00 54 40.3	
GHO	**Glory Hole Cre**	**5.14**	**359**	Pn	**Pn**	**00 53 08.7**	**+0.7**
GHO	comp=N,11nm,0.5s			IAML		00 54 10.2	
GHO	comp=E,13nm,0.8s			IAML		00 54 11.4	
N19K	**Bonanza Creek**	**5.16**	**326**	Pn	**Pn**	**00 53 08.5**	**+0.2**
SML	**Sawmill**	**5.18**	**2**	Pn	**Pn**	**00 53 08.9**	**+0.3**
SML	comp=E,7.6nm,1.1s			IAML		00 54 09.5	
SML	comp=N,10nm,1.0s			IAML		00 54 14.7	
SCM	**Sheep Creek Mo**	**5.25**	**7**	Pn	**Pn**	**00 53 10.8**	**+1.3**
SCM	comp=N,8.8nm,1.1s			IAML		00 54 36.6	
SCM	comp=E,15nm,1.2s			IAML		00 55 15.8	
N25K	**Chitina, Valde**	**5.39**	**21**	Pn	**Pn**	**00 53 11.9**	**+0.4**
CHGN	**Chignik**	**5.41**	**270**	Pn	**Pn**	**00 53 10.4**	**-1.3**
GLB	**Gilahina Butte**	**5.42**	**26**	Pn	**Pn**	**00 53 11.4**	**-0.5**
N18K	**Kilae Creek**	**5.52**	**320**	Pn	**Pn**	**00 53 13.1**	**-0.2**
BARN	**Barnard Glacie**	**5.72**	**37**	Pn	**Pn**	**00 53 15.6**	**-0.6**
O29M	**Mount Kennedy**	**6.44**	**51**	Pn	**Pn**	**00 53 25.2**	**-0.6**
P29M	**Windy Craggy**	**6.51**	**58**	Pn	**Pn**	**00 53 25.7**	**-1.1**
M17K	**Holitna River**	**6.57**	**320**	Pn	**Pn**	**00 53 28.5**	**+0.9**
M27K	**Edge Creek, AK**	**6.69**	**28**	Pn	**Pn**	**00 53 29.2**	**-0.1**
S31K	**Pelican**	**6.87**	**74**	Pn	**Pn**	**00 53 28.3**	**-3.3**
TRF	**Thorofare Moun**	**6.87**	**354**	Pn	**Pn**	**00 53 31.7**	**-0.2**
N15K	**Kwethluk River**	**6.96**	**305**	Pn	**Pn**	**00 53 34.0**	**+1.1**
KTH	**Kantishna Hill**	**7.02**	**352**	Pn	**Pn**	**00 53 34.6**	**+0.8**
TTA	**Tatalina**	**7.30**	**333**	Pn	**Pn**	**00 53 37.5**	**-0.2**
BCAR	**Beaver Creek A**	**7.31**	**25**	Pn	**Pn**	**00 53 38.0**	**+0.3**
L16K	**Owhat River**	**7.51**	**317**	Pn	**Pn**	**00 53 41.8**	**+1.3**
BPAW	**Bear Paw Mtn.**	**7.56**	**352**	Pn	**Pn**	**00 53 41.4**	**+0.2**
S32K	**Killisnoo**	**7.73**	**78**	Pn	**Pn**	**00 53 40.8**	**-2.7**
O30N	**Mendenhall**	**7.74**	**53**	Pn	**Pn**	**00 53 42.9**	**-0.8**
M29M	**Somme Creek**	**7.78**	**37**	Pn	**Pn**	**00 53 43.9**	**-0.4**
JIS	**Juneau Island**	**7.88**	**72**	Pn	**Pn**	**00 53 43.1**	**-2.3**
J20K	**Nowinta River**	**8.02**	**343**	Pn	**Pn**	**00 53 48.1**	**+0.6**
ILAR	**Eielson Array**	**8.20**	**5**	Pn	**Pn**	**00 53 50.9**	**+1.0**
ILAR	**Eielson Array** comp=E,0.1nm,0.3s,baz=193,slow=13,SNR=4.3	**8.20**	**5**	Pn	**Pn**	**00 53 51.1**	**+1.2**
ILAR	comp=E,0.1nm,0.3s,baz=190,slow=19,SNR=1.8 comp=E,0.1nm,0.3s			Sn	**Sn**	**00 55 19.4**	**-3.0**
P32M	**Atlin**	**8.45**	**63**	Pn	**Pn**	**00 53 51.5**	**-1.8**
L14K	**Kuka Creek**	**8.62**	**309**	Pn	**Pn**	**00 53 58.0**	**+2.3**
P33M	**Teslin, Yukon**	**9.04**	**60**	Pn	**Pn**	**00 54 00.3**	**-1.2**
Q32M	**Nakina River**	**9.05**	**68**	Pn	**Pn**	**00 54 00.5**	**-1.3**
IMAR	**Indian Mountai**	**9.68**	**348**	Pn	**Pn**	**00 54 10.9**	**+0.8**
DLBC	**Dease Lake**	**10.18**	**72**	Pn	**Pn**	**00 54 15.1**	**-1.9**
DLBC	**Dease Lake** comp=E,0.2nm,0.3s,baz=193,slow=23,SNR=1.6 comp=E,0.5nm,0.3s	**10.18**	**72**	Pn	**Pn**	**00 54 15.8**	**-1.3**
INK	**Inuvik** comp=E,0.1nm,0.3s,baz=216,slow=11,SNR=1.6 comp=E,0.2nm,0.4s	**13.57**	**24**	Pn	Pn	00 55 08.8	+5.5
YKA	**Yellowknife A** comp=E,0.1nm,0.3s,baz=267,slow=11,SNR=2.9 comp=E,0.4nm,0.8s	**18.05**	**57**	P	**P**	**00 56 04.0**	**+2.0**
SONM	**Songino Array** comp=E,1.1nm,1.1s,baz=54,slow=7.3,SNR=5.1 comp=E,1.1nm,1.1s	**58.66**	**310**	P	**P**	**01 01 49.2**	**+0.9**
ZALV	**Zalesovo Beam** comp=E,0.6nm,0.6s,baz=28,slow=6.7,SNR=4.1 comp=E,0.6nm,0.6s	**61.44**	**327**	P	**P**	**01 02 07.5**	**+0.5**
BVAR	**Borovoye Array** comp=E,0.4nm,0.7s,baz=26,slow=6.9,SNR=2.4 comp=E,0.4nm,0.7s	**66.09**	**335**	P	**P**	**01 02 38.6**	**+0.9**
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.4s,baz=24,slow=6.0,SNR=2.6 comp=E,0.2nm,0.4s	**66.20**	**329**	P	**P**	**01 02 38.4**	**0.0**
MKAR	**Makanchi Array** comp=E,0.2nm,0.5s,baz=29,slow=7.3,SNR=6.2 comp=E,0.2nm,0.5s	**68.49**	**325**	P	**P**	**01 02 53.9**	**+0.8**

*IDC **25** 01:03:09.6±1.6,53.17N×167.00W,h0km,mb3.6/7, mbtmp3.6/8,ML2.6/1,MS3.5/2,Error ellipse: s-maj=46.1km s-min=22.6km az=163.0*
*AEIC **25** 01:03:14.6±1.1,53.10N±0.05×166.93W±0.04,h26km±7km, Error ellipse: s-maj=8.0km s-min=1.9km az=158.0*
*NEIC **25** 01:03:15.5±1.4,53.15N±0.02×166.97W±0.06,h34km±8km, mb3.6/8,ML3.9/8,ML3.6(AEIC),Error ellipse: s-maj=5.4km s-min=1.9km az=116.0*
ISC 25 01:03:15.6±1.6,53.2N±0.1×167.00W±0.06,h43km±14km, n44,σ0§88/47,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.60**	**294**		**Pn**	**01 03 27.2**	**-0.6**
OKFG					**Sn**	**01 03 37.3**	**+0.8**
MGOD	**Makushin Gods**	**0.63**	**7**		**Pn**	**01 03 28.0**	**-0.3**
MGOD					**Sn**	**01 03 38.0**	**+0.7**
MAPS	**Pakushin South**	**0.64**	**3**		**Pn**	**01 03 28.3**	**-0.1**
MAPS					**Sn**	**01 03 38.4**	**+0.9**
MREP	**Makushin Rep't**	**0.66**	**13**		**Pn**	**01 03 28.4**	**-0.3**
OKER	**Okmok East Rim**	**0.69**	**295**		**Pn**	**01 03 29.1**	**-0.1**
UNV	**Unalaska Valle**	**0.74**	**23**		**Pn**	**01 03 28.7**	**-0.9**
UNV					**Sn**	**01 03 39.5**	**-0.3**
MNAT	**Makushin Natee**	**0.74**	**14**		**Pn**	**01 03 29.5**	**-0.2**
MNAT					**Sn**	**01 03 40.9**	**+1.0**
MSW	**Makushin Switc**	**0.76**	**10**		**Pn**	**01 03 30.0**	**+0.1**
MSW					**Sn**	**01 03 41.8**	**+1.5**
OKWR	**Okmok West Rim**	**0.77**	**291**		**Pn**	**01 03 30.4**	**+0.2**
AKRB	**Akutan Reef Bi**	**1.11**	**29**		**Pn**	**01 03 35.2**	**+0.5**
AKRB					**Sn**	**01 03 50.4**	**+1.6**
NIKH	**Nikolski High**	**1.14**	**261**		**Pn**	**01 03 35.0**	**-0.1**
AKUT	**Akutan**	**1.21**	**36**		**Pn**	**01 03 35.8**	**-0.3**
AKSA	**Akutan Strait**	**1.24**	**38**		**Pn**	**01 03 36.0**	**-0.5**
AKSA					**Sn**	**01 03 52.5**	**+0.5**
CLCO	**Concord Point,**	**1.69**	**258**		**Pn**	**01 03 42.5**	**-0.2**
CLES	**Cleveland East**	**1.79**	**260**		**Pn**	**01 03 44.0**	**+0.1**
CLES	**Cleveland East** comp=N,2µm,0.4s	**1.79**	**260**	IAML		01 04 16.9	
WEBT	**Westdahl Beart**	**1.95**	**42**		**Pn**	**01 03 46.5**	**+0.3**
ISLZ	**Isanotski Laza**	**2.49**	**50**		**Pn**	**01 03 54.9**	**+1.3**
SDPT	**Sand Point**	**4.40**	**58**	Pn	**Pn**	**01 04 19.9**	**+0.1**
SDPT	comp=N,128nm,1.3s			IAML		01 05 40.7	
ATKA	**Atka Island**	**4.49**	**260**		**Pn**	**01 04 20.2**	**-0.7**
ATKA	comp=E,91nm,0.8s			IAML		01 05 31.1	
ATKA	comp=N,115nm,1.0s			IAML		01 05 35.2	
GSTR	**Great Sitkin T**	**5.62**	**263**	Pn	**Pn**	**01 04 37.4**	**+0.8**
ADK	**Adak**	**6.05**	**262**	Pn	**Pn**	**01 04 44.2**	**+1.7**
C16K	**Lisburne Hills**	**15.18**	**2**		**P**	**01 06 50.4**	**-0.7**
ILAR	**Eielson Array** baz=233,slow=13,SNR=1.6 comp=N,0.1nm,0.5s	**15.48**	**33**	Pn	**Pn**	**01 06 48.2**	**-2.5**
F21K	**Alatna River**	**15.55**	**20**	Pn	**P**	**01 06 53.9**	**-1.4**
F21K	comp=Z,4.8nm,1.2s			IAmb	IAmb	01 07 15.2	
G23K	**Bananza Creek**	**15.93**	**25**	Pn	**Pn**	**01 06 57.1**	**+0.6**
G23K	comp=Z,4.8nm,1.2s			IAmb	IAmb	01 07 19.1	
SCRK	**Sand Creek**	**16.05**	**39**		**P**	**01 07 00.1**	**-0.8**
L27K	**Beaver Creek,**	**16.46**	**43**		**P**	**01 07 04.8**	**-0.6**
BCAR	**Beaver Creek A**	**16.48**	**43**		**P**	**01 07 05.2**	**-0.4**
J26L	**Joseph Creek**	**16.49**	**37**	Pn	**Pn**	**01 07 03.5**	**-0.1**
G24K	**Hadweenzic Riv**	**16.61**	**28**		**P**	**01 07 07.7**	**+0.7**
K27K	**Chicken**	**16.80**	**40**	Pn	**Pn**	**01 07 06.0**	**-1.4**
K27K	comp=Z,4.1nm,1.3s			IAmb	IAmb	01 07 23.1	
I26K	**Coal Creek Min**	**17.08**	**35**	P	**P**	**01 07 12.6**	**+0.6**
I26K	comp=Z,11nm,1.5s			IAmb	IAmb	01 07 25.2	
PETK	**Petropavlovsk-** comp=Z,1.7nm,0.5s,baz=82,slow=14,SNR=1.7 comp=Z,1.7nm,0.5s	**21.05**	**284**	P	**P**	**01 07 55.3**	**-0.4**
INK	**Inuvik** comp=Z,0.9nm,0.5s,baz=278,slow=8.8,SNR=8.2	**21.88**	**33**	P	**P**	**01 08 02.5**	**-1.8**
INK	comp=Z,129nm,19.3s,baz=189,slow=39 comp=Z,0.9nm,0.5s			LR	LR	01 17 30.4	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.6s,baz=276,slow=7.8,SNR=4.1 comp=Z,0.2nm,0.6s	**28.63**	**50**	P	**P**	**01 09 07.8**	**+0.3**
YBH	**Yreka Blue Hor** comp=Z,75nm,18.5s,baz=306,slow=30	**31.56**	**93**	LR	LR	01 18 52.8	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=309,slow=5.7,SNR=4.6 comp=Z,0.2nm,0.5s	**51.31**	**91**	P	**P**	**01 12 15.4**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.3s,baz=44,slow=6.8,SNR=6.5 comp=Z,1.2nm,0.3s	**77.83**	**284**	P	**P**	**01 15 08.9**	**+0.3**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.9s,baz=339,slow=3.6,SNR=3.6 comp=Z,1.1nm,0.9s	**85.77**	**344**	P	**P**	**01 15 50.7**	**+0.5**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.5s,baz=321,slow=4.8,SNR=4.3 comp=Z,0.2nm,0.5s	**86.37**	**13**	P	**P**	**01 15 53.0**	**-0.1**
H03N2	**Juan Fernandez** baz=322,slow=77,SNR=34	**114.89**	**113**	T	T	03 27 09.8	
H03N1	**Juan Fernandez** baz=322,slow=77,SNR=43	**114.91**	**113**	T	T	03 27 09.9	
H03N3	**Juan Fernandez** baz=322,slow=77,SNR=45	**114.91**	**113**	T	T	03 27 09.1	

*NEIC **25** 01:03:22.3±1.2,56.1N±0.1×149.9W±0.1,h24km±11km, ML3.6/26,ML3.4(AEIC),Error ellipse: s-maj=15.9km s-min=9.6km az=165.0*
*AEIC **25** 01:03:24.2±1.3,56.0N±0.1×149.9W±0.1,h12km±8km, Error ellipse: s-maj=17.3km s-min=9.6km az=165.0*
ISC 25 01:03:19.8±2.1,56.1N±0.1×149.94W±0.05,h10km,n84, σ1§08/88,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**304**		**Pn**	**01 03 56.2**	**0.0**
OHAK					**Sn**	**01 04 21.6**	**-1.6**
OHAK	**Old Harbor** baz=122	**2.18**	**304**	P	**Pn**	**01 03 56.2**	**0.0**
OHAK	baz=122			S	**Sn**	**01 04 21.8**	**-1.4**
KDAK	**Kodiak Island**	**2.25**	**321**		**Pn**	**01 03 57.8**	**+0.7**
KDAK					**Sn**	**01 04 23.6**	**-1.3**
KDAK	**Kodiak Island** baz=139	**2.25**	**321**	P	**Pn**	**01 03 57.8**	**+0.7**
KDAK	baz=139			S	**Sn**	**01 04 23.6**	**-1.3**
SII	**Sitkinak Islan**	**2.42**	**284**		**Sn**	**01 04 26.9**	**-2.1**
SYI	**Shuyak Island**	**2.88**	**334**		**Pn**	**01 04 06.7**	**+1.0**
SYI					**Sn**	**01 04 40.4**	**+0.1**
SYI	**Shuyak Island** comp=E,138nm,3.8s	**2.88**	**334**	IAML		01 05 05.3	
Q20K	**Shuyak Island** baz=151	**2.88**	**333**	P	**Pn**	**01 04 06.7**	**+0.9**
Q20K	baz=151			S	**Sn**	**01 04 41.0**	**+0.7**
R18K	**Karluk**	**2.90**	**303**		**Pn**	**01 04 06.3**	**+0.3**
R18K	**Karluk**	**2.90**	**303**		**Sn**	**01 04 40.0**	**-0.9**
R18K	**Karluk** comp=N,103nm,2.4s	**2.90**	**303**	IAML		01 04 38.9	

	baz=198						
O20K	**Slope Mountain**	**4.27**	**342**		**Pn**	**01 04 25.7**	**+0.8**
O20K	**Slope Mountain**	**4.27**	**342**	P	**Pn**	**01 04 25.7**	**+0.8**
	baz=159						
IVE	**Iliamna Volcan**	**4.29**	**339**		**Pn**	**01 04 24.9**	**-0.3**
P18K	**Big Mountain,**	**4.38**	**322**		**Pn**	**01 04 27.0**	**+0.6**
P18K	**Big Mountain,**	**4.38**	**322**	IAML		01 05 14.9	
	comp=N,39nm,3.4s						
P18K				IAML		01 06 27.5	
	comp=E,40nm,3.5s						
P18K	**Big Mountain,**	**4.38**	**322**	P	**Pn**	**01 04 27.0**	**+0.6**
	baz=137						
RED	**Redoubt Volcan**	**4.62**	**342**		**Pn**	**01 04 29.2**	**-0.5**
RDSO	**Redoubt South**	**4.64**	**343**		**Pn**	**01 04 29.7**	**-0.4**
RSO	**Redoubt South**	**4.65**	**343**		**Pn**	**01 04 31.9**	**+1.6**
P17K	**Kvichak River**	**4.70**	**315**		**Pn**	**01 04 31.5**	**+0.9**
P17K	**Kvichak River**	**4.70**	**315**	P	**Pn**	**01 04 31.5**	**+0.9**
	baz=129						
HIN	**Hinchinbrook I**	**4.71**	**21**		**Pn**	**01 04 31.6**	**+0.7**
KAIM	**Kayak Island**	**4.86**	**35**		**Pn**	**01 04 33.5**	**+0.6**
KAIM	**Kayak Island**	**4.86**	**35**	P	**Pn**	**01 04 33.5**	**+0.6**
	baz=218						
EYAK	**Cordova Ski Ar**	**5.01**	**24**		**Pn**	**01 04 35.9**	**+1.0**
EYAK	**Cordova Ski Ar**	**5.01**	**24**	P	**Pn**	**01 04 35.9**	**+1.0**
	baz=207						
RC01	**Rabbit Creek A**	**5.04**	**1**	Pn	**Pn**	**01 04 36.5**	**+1.1**
RC01				IAML		01 06 03.3	
	comp=N,56nm,3.9s						
RC01				IAML		01 06 40.9	
	comp=E,50nm,3.5s						
P16K	**Nushagak River**	**5.26**	**308**		**Pn**	**01 04 39.7**	**+1.3**
P16K	**Nushagak River**	**5.26**	**308**	P	**Pn**	**01 04 39.7**	**+1.3**
	baz=121						
GOAT	**Goat Mountain**	**5.30**	**29**		**Pn**	**01 04 40.1**	**+1.1**
O17K	**Koliganek Bris**	**5.33**	**317**		**Pn**	**01 04 40.3**	**+1.0**
O17K	**Koliganek Bris**	**5.33**	**317**	P	**Pn**	**01 04 40.3**	**+1.0**
	baz=131						
KNK	**Knik Glacier**	**5.42**	**8**		**Pn**	**01 04 41.5**	**+0.8**
KNK	**Knik Glacier**	**5.42**	**8**	P	**Pn**	**01 04 41.5**	**+0.8**
	baz=188						
BERG	**Berg Lake**	**5.45**	**35**		**Pn**	**01 04 41.6**	**+0.6**
SNH	**Sunshine Point**	**5.58**	**39**		**Pn**	**01 04 43.6**	**+0.7**
N18K	**Kilae Creek**	**5.59**	**328**		**Pn**	**01 04 43.4**	**+0.5**
N18K	**Kilae Creek**	**5.59**	**328**	P	**Pn**	**01 04 43.4**	**+0.5**
	baz=143						
BMRM	**Bremner River**	**5.66**	**27**		**Pn**	**01 04 44.8**	**+0.9**
BMRM	**Bremner River**	**5.66**	**27**	P	**Pn**	**01 04 44.8**	**+0.9**
	baz=211						
GHO	**Glory Hole Cre**	**5.75**	**5**	Pn	**Pn**	**01 04 46.1**	**+0.9**
KLU	**Klutina**	**5.83**	**19**		**Pn**	**01 04 47.4**	**+1.1**
KLU	**Klutina**	**5.83**	**19**	P	**Pn**	**01 04 47.4**	**+1.1**
	baz=202						
BARK	**Barkley Ridge**	**5.86**	**39**		**Pn**	**01 04 47.5**	**+0.7**
SCM	**Sheep Creek Mo**	**5.94**	**12**	Pn	**Pn**	**01 04 49.5**	**+1.6**
VRDI	**Verde Repeater**	**6.18**	**30**		**Pn**	**01 04 51.9**	**+0.7**
N25K	**Chitina, Valde**	**6.21**	**24**		**Pn**	**01 04 52.7**	**+1.2**
N25K	**Chitina, Valde**	**6.21**	**24**	P	**Pn**	**01 04 52.7**	**+1.2**
	baz=208						
GLB	**Gilahina Butte**	**6.26**	**28**		**Pn**	**01 04 53.4**	**+1.2**
KIAG	**Kiagna River**	**6.29**	**36**		**Pn**	**01 04 53.3**	**+0.7**
SAMH	**Samovar Hills**	**6.34**	**46**		**Pn**	**01 04 53.9**	**+0.6**
PTPK	**Patty Peak**	**6.45**	**34**		**Pn**	**01 04 55.9**	**+1.0**
PCA	**Pinnacle**	**6.53**	**48**		**Pn**	**01 04 56.7**	**+0.8**
PINM	**Pinnacle**	**6.53**	**48**	P	**Pn**	**01 04 56.7**	**+0.7**
	baz=235						
BARN	**Barnard Glacie**	**6.62**	**37**		**Pn**	**01 04 58.2**	**+1.0**
M17K	**Holitna River**	**6.62**	**327**		**Pn**	**01 04 58.0**	**+0.9**
PNL	**Peninsula**	**6.68**	**53**		**Pn**	**01 04 58.4**	**+0.4**
PNL	**Peninsula**	**6.68**	**53**	P	**Pn**	**01 04 58.4**	**+0.4**
	baz=241						
N15K	**Kwethluk River**	**6.77**	**312**		**Pn**	**01 05 01.0**	**+1.9**

IDC ***25*** *01:06:20.7±1.4, 55°.43N×149°.14W, h0km, mb3.9/9, mbtmp3.8/14, ML3.5/5, Error ellipse: s-maj=32.6km s-min=21.3km az=16.0*

NEIC ***25*** *01:06:24.5±1.4, 55°.83N±0°.06×149°.3W±0°.1, h8km±5km, mb4.0/4, ML4.1/40, ML3.8(AEIC), Error ellipse: s-maj=9.5km s-min=7.5km az=142.0*

AEIC ***25*** *01:06:28.7±1.4, 55°.78N±0°.05×149°.2W±0°.1, h12km±6km, Error ellipse: s-maj=9.6km s-min=6.3km az=121.0*

ISC 25 01:06:24.2±0.8, 55°.83N±0°.07×149°.21W±0°.05, h10km, n190, σ1§18/190, mb4.0/11, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.66**	**303**		**Pn**	**01 07 06.0**	**-1.0**
OHAK					**Sn**	**01 07 36.4**	**-2.8**
OHAK	**Old Harbor**	**2.66**	**303**	P	**Pn**	**01 07 06.2**	**-0.8**
OHAK	**Old Harbor**	**2.66**	**303**	P	**Pn**	**01 07 06.0**	**-1.0**
	baz=121						
OHAK				S	**Sn**	**01 07 36.4**	**-2.8**
	baz=121						
KDAK	**Kodiak Island**	**2.70**	**318**		**Pn**	**01 07 07.5**	**-0.1**
KDAK					**Sn**	**01 07 38.7**	**-1.6**
KDAK	**Kodiak Island**	**2.70**	**318**	Pn	**Pn**	**01 07 07.4**	**-0.1**
	14nm,0.3s,baz=145,slow=5.7,SNR=38						
KDAK				Sn	**Sn**	**01 07 35.5**	**-4.7**
	29nm,0.3s,baz=23,slow=21,SNR=18 32nm,0.3s						
SII	**Sitkinak Islan**	**2.87**	**287**		**Pn**	**01 07 08.8**	**-1.3**
SII					**Sn**	**01 07 41.6**	**-3.1**
SII	**Sitkinak Islan**	**2.87**	**287**	IAML		01 07 42.4	
	comp=N,349nm,0.2s						
SII				IAML		01 07 45.5	
	comp=E,418nm,0.9s						
SYI	**Shuyak Island**	**3.28**	**330**		**Pn**	**01 07 15.8**	**+0.2**
SYI					**Sn**	**01 07 54.1**	**-0.5**
Q20K	**Shuyak Island**	**3.28**	**329**	P	**Pn**	**01 07 15.8**	**+0.2**
	baz=148						
Q20K				S	**Sn**	**01 07 53.9**	**-0.8**
	baz=148						
R18K	**Karluk**	**3.37**	**303**		**Pn**	**01 07 16.8**	**-0.1**
CNPM	**China Poot**	**3.86**	**345**	Pn	**Pn**	**01 07 23.5**	**-0.1**
CNPM				IAML		01 08 40.0	
	comp=N,163nm,4.0s						
CNPM				IAML		01 09 32.2	
	comp=E,132nm,3.9s						
CNPM	**China Poot**	**3.86**	**345**		**Sn**	**01 08 06.8**	**-2.2**
Q23K	**Middleton Isla**	**3.92**	**22**		**Pn**	**01 07 24.4**	**0.0**
Q23K					**Sn**	**01 08 08.2**	**-2.3**
Q23K	**Middleton Isla**	**3.92**	**22**	IAML		01 08 11.0	
	comp=N,402nm,4.2s						
Q23K	**Middleton Isla**	**3.92**	**22**	P	**Pn**	**01 07 24.4**	**0.0**
	baz=204						
Q23K				S	**Sn**	**01 08 07.6**	**-2.8**
	baz=204						
MID	**Middleton Isla**	**3.92**	**22**		**Pn**	**01 07 24.5**	**+0.1**
MID					**Sn**	**01 08 08.0**	**-2.5**
MID	**Middleton Isla**	**3.92**	**22**	IAML		01 08 58.6	
	comp=N,348nm,3.1s						
MID				IAML		01 09 55.4	
	comp=E,449nm,2.8s						
MID	**Middleton Isla**	**3.92**	**22**	P	**Pn**	**01 07 24.2**	**-0.2**
Q19K	**Cape Douglas,**	**3.93**	**324**		**Pn**	**01 07 25.1**	**+0.6**
Q19K	**Cape Douglas,**	**3.93**	**324**	IAML		01 08 16.9	
	comp=E,291nm,1.0s						
Q19K				IAML		01 08 18.7	
	comp=N,226nm,0.9s						
Q19K	**Cape Douglas,**	**3.93**	**324**	P	**Pn**	**01 07 24.8**	**+0.3**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.95**	**315**		**Pn**	**01 07 25.8**	**+1.0**
BRSE	**Bradley Lake S**	**4.01**	**349**		**Pn**	**01 07 25.5**	**-0.1**
BRSE	**Bradley Lake S**	**4.01**	**349**	P	**Pn**	**01 07 25.5**	**-0.1**
	baz=168						
BRLK	**Bradley Lake**	**4.05**	**348**		**Pn**	**01 07 25.8**	**-0.4**
BRLK				IAML		01 08 14.3	
	comp=N,105nm,1.1s						
BRLK				IAML		01 08 15.7	
	comp=E,161nm,0.4s						
KCE	**Katmai Mt Cerb**	**4.06**	**309**		**Pn**	**01 07 27.3**	**+0.9**
ACHA	**Angle Creek He**	**4.11**	**308**		**Pn**	**01 07 27.5**	**+0.5**
ANCK	**Angle Creek**	**4.17**	**307**		**Pn**	**01 07 28.6**	**+0.7**
KVTA	**Katmai Vly 10**	**4.19**	**310**		**Pn**	**01 07 29.2**	**+1.1**
AUCH	**Augustine Cone**	**4.21**	**329**		**Pn**	**01 07 29.6**	**+1.1**
KAHC	**Katmai Hardscr**	**4.23**	**314**		**Pn**	**01 07 29.5**	**+0.8**
KAHC	**Katmai Hardscr**	**4.23**	**314**	P	**Pn**	**01 07 29.4**	**+0.7**
	baz=130						
P23K	**Montague Islan**	**4.29**	**12**		**Pn**	**01 07 29.5**	**+0.1**
P23K	**Montague Islan**	**4.29**	**12**	P	**Pn**	**01 07 29.5**	**+0.1**
	baz=194						
CNTC	**Contact Creek**	**4.38**	**307**		**Pn**	**01 07 31.2**	**+0.3**
Q17K	**Contact Creek**	**4.39**	**307**	P	**Pn**	**01 07 31.2**	**+0.3**
	baz=122						
P19K	**Oil Pt**	**4.40**	**332**		**Pn**	**01 07 31.4**	**+0.5**
P19K	**Oil Pt**	**4.40**	**332**	IAML		01 08 26.3	
	comp=E,238nm,0.3s						
P19K				IAML		01 08 27.3	
	comp=N,213nm,0.4s						
O20K	**Slope Mountain**	**4.63**	**338**		**Pn**	**01 07 34.4**	**+0.1**
IVE	**Iliamna Volcan**	**4.66**	**336**		**Pn**	**01 07 34.2**	**-0.5**
O22K	**Cooper Landing**	**4.67**	**357**	Pn	**Pn**	**01 07 35.2**	**+0.5**
O22K					**Sn**	**01 08 27.4**	**-1.6**
SLKM	**Skilak Lake**	**4.72**	**354**		**Pn**	**01 07 35.3**	**-0.2**
HIN	**Hinchinbrook I**	**4.80**	**16**		**Pn**	**01 07 36.6**	**+0.1**
HIN				IAML		01 08 33.6	
	comp=E,158nm,0.7s						
HIN				IAML		01 08 34.0	
	comp=N,213nm,0.7s						
P18K	**Big Mountain,**	**4.82**	**320**		**Pn**	**01 07 36.6**	**-0.2**
P18K	**Big Mountain,**	**4.82**	**320**	P	**Pn**	**01 07 36.5**	**-0.3**
	baz=136						
KAIM	**Kayak Island**	**4.84**	**30**		**Pn**	**01 07 37.2**	**+0.2**
KAIM	**Kayak Island**	**4.84**	**30**	IAML		01 10 26.7	
	comp=E,182nm,4.3s						
R16K	**Pilot Point**	**4.93**	**294**		**Pn**	**01 07 37.8**	**-0.4**
Q16K	**King Salmon**	**4.95**	**308**		**Pn**	**01 07 38.8**	**+0.4**
RED	**Redoubt Volcan**	**4.97**	**339**		**Pn**	**01 07 38.2**	**-0.7**
RSO	**Redoubt South**	**5.01**	**339**	Pn	**Pn**	**01 07 39.0**	**-0.6**
RDT	**Redoubt**	**5.05**	**342**		**Pn**	**01 07 39.3**	**-0.6**
CAPN	**Captain Cook N**	**5.06**	**349**	Pn	**Pn**	**01 07 39.1**	**-0.8**
CAPN					**Sn**	**01 08 42.8**	**+4.4**
EYAK	**Cordova Ski Ar**	**5.08**	**20**		**Pn**	**01 07 40.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.08**	**20**	P	**Pn**	**01 07 40.5**	**+0.3**
DFR	**Drift River**	**5.12**	**340**		**Pn**	**01 07 40.7**	**-0.2**
O19K	**Port Alsworth**	**5.15**	**330**		**Pn**	**01 07 40.8**	**-0.5**
O19K				IAML		01 08 49.9	
	comp=E,180nm,0.4s						
P17K	**Kvichak River**	**5.15**	**314**		**Pn**	**01 07 41.9**	**+0.6**
RAGM	**Ragged Mountai**	**5.16**	**26**		**Pn**	**01 07 41.8**	**+0.3**
RAGM	**Ragged Mountai**	**5.16**	**26**	IAML		01 08 46.8	
	comp=E,113nm,0.6s						
RC01	**Rabbit Creek A**	**5.28**	**357**		**Pn**	**01 07 43.0**	**-0.1**
RC01				IAML		01 08 44.4	
	comp=N,85nm,0.3s						
RC01				IAML		01 08 49.2	
	comp=E,136nm,0.4s						
GOAT	**Goat Mountain**	**5.32**	**25**		**Pn**	**01 07 44.2**	**+0.5**
BERG	**Berg Lake**	**5.43**	**30**		**Pn**	**01 07 45.3**	**+0.2**
SNH	**Sunshine Point**	**5.52**	**35**		**Pn**	**01 07 46.7**	**+0.2**
KNK	**Knik Glacier**	**5.62**	**4**		**Pn**	**01 07 48.4**	**+0.7**
SPCP	**Crater Peak Br**	**5.67**	**345**		**Pn**	**01 07 48.9**	**+0.4**
BMRM	**Bremner River**	**5.69**	**23**		**Pn**	**01 07 49.1**	**+0.3**
SUA	**Susitna One**	**5.71**	**353**	Pn	**Pn**	**01 07 49.0**	**0.0**
N19K	**Bonanza Creek**	**5.72**	**333**		**Pn**	**01 07 48.6**	**-0.5**
P16K	**Nushagak River**	**5.72**	**308**		**Pn**	**01 07 49.6**	**+0.5**
O17K	**Koliganek Bris**	**5.78**	**316**		**Pn**	**01 07 50.0**	**+0.1**
PMR	**Palmer**	**5.78**	**0**	Pn	**Pn**	**01 07 50.5**	**+0.6**
PMR	**Palmer**	**5.78**	**0**	P	**Pn**	**01 07 51.3**	**+1.4**
BARK	**Barkley Ridge**	**5.80**	**35**		**Pn**	**01 07 50.6**	**+0.3**
VNFG	**Fog Glacier, M**	**5.81**	**279**		**Pn**	**01 07 49.7**	**-0.8**
STLK	**Strandline Lak**	**5.85**	**348**		**Pn**	**01 07 50.9**	**0.0**
KLU	**Klutina**	**5.93**	**15**		**Pn**	**01 07 52.7**	**+0.6**
GHO	**Glory Hole Cre**	**5.96**	**1**	Pn	**Pn**	**01 07 53.9**	**+1.3**
TGL	**Tana Glacier**	**5.98**	**32**		**Pn**	**01 07 53.1**	**+0.3**
N18K	**Kilae Creek**	**6.00**	**327**		**Pn**	**01 07 53.0**	**0.0**
SML	**Sawmill**	**6.01**	**4**	Pn	**Pn**	**01 07 54.1**	**+0.9**
M23K	**Glacier View**	**6.03**	**7**		**Pn**	**01 07 54.5**	**+1.2**
O16K	**Kokwok River B**	**6.07**	**312**		**Pn**	**01 07 54.3**	**+0.4**
SCM	**Sheep Creek Mo**	**6.10**	**8**		**Pn**	**01 07 55.7**	**+1.3**
SCM	**Sheep Creek Mo**	**6.10**	**8**		**Sn**	**01 09 03.4**	**-0.8**
VRDI	**Verde Repeater**	**6.20**	**27**	Pn	**Pn**	**01 07 56.1**	**+0.3**
SAMH	**Samovar Hills**	**6.22**	**43**		**Pn**	**01 07 56.8**	**+0.8**
KIAG	**Kiagna River**	**6.25**	**32**		**Pn**	**01 07 56.6**	**0.0**
N25K	**Chitina, Valde**	**6.27**	**21**		**Pn**	**01 07 57.5**	**+0.7**
SKT	**Skwentna**	**6.29**	**350**	Pn	**Pn**	**01 07 57.2**	**+0.4**
GLB	**Gilahina Butte**	**6.29**	**24**	Pn	**Pn**	**01 07 57.5**	**+0.5**
N17K	**Nushagak Hills**	**6.32**	**321**		**Pn**	**01 07 57.4**	**0.0**
PCA	**Pinnacle**	**6.40**	**44**		**Pn**	**01 07 58.9**	**+0.3**
SDPT	**Sand Point**	**6.41**	**270**	P	**Pn**	**01 07 57.2**	**-1.3**
M24K	**Tolsona, Glenn**	**6.49**	**13**		**Pn**	**01 08 00.9**	**+1.2**
PNL	**Peninsula**	**6.51**	**50**		**Pn**	**01 07 60.0**	**0.0**
PNL	**Peninsula**	**6.51**	**50**	P	**Pn**	**01 08 00.5**	**+0.5**
BCPM	**Bancas Point**	**6.57**	**47**		**Pn**	**01 08 01.2**	**+0.5**
BARN	**Barnard Glacie**	**6.57**	**34**		**Pn**	**01 08 01.5**	**+0.6**
CTGM	**Chitina Glacie**	**6.61**	**36**		**Pn**	**01 08 01.6**	**+0.2**
LOGN	**Logan Glacier**	**6.61**	**37**		**Pn**	**01 08 01.8**	**+0.2**
O19K	**Ungalikthiuk R**	**6.63**	**305**		**Pn**	**01 08 01.8**	**+0.2**
M18K	**Stony River**	**6.64**	**331**		**Pn**	**01 08 01.1**	**+0.6**
WAT6	**Susitna Watana**	**6.81**	**6**		**Pn**	**01 08 04.9**	**+0.7**
HARP	**HAARP**	**6.91**	**16**		**Pn**	**01 08 06.0**	**+0.6**
WAT7	**Susitna Watana**	**7.03**	**1**		**Pn**	**01 08 08.2**	**+1.0**
M17K	**Holitna River**	**7.04**	**326**		**Pn**	**01 08 07.3**	**+0.1**
O29M	**Mount Kennedy**	**7.20**	**47**		**Pn**	**01 08 10.3**	**+0.8**
P29M	**Windy Craggy**	**7.23**	**53**		**Pn**	**01 08 09.4**	**-0.4**
N15K	**Kwethluk River**	**7.23**	**311**		**Pn**	**01 08 10.5**	**+0.7**
PN7A	**Pavlof North-7**	**7.25**	**272**		**Pn**	**01 08 09.1**	**-1.1**
M16K	**Timber Creek**	**7.30**	**320**		**Pn**	**01 08 10.9**	**+0.2**
DHY	**Denali Highway**	**7.33**	**7**		**Pn**	**01 08 12.6**	**+1.3**
YUK8	**Steele Glacier**	**7.37**	**38**		**Pn**	**01 08 13.2**	**+1.3**
YUK2	**White River**	**7.38**	**33**		**Pn**	**01 08 13.3**	**+1.3**
PAX	**Paxson**	**7.41**	**13**		**Pn**	**01 08 13.6**	**+1.2**
YUK3	**Moose Creek**	**7.49**	**34**		**Pn**	**01 08 15.1**	**+1.4**
YUK7	**Dusty Glacier**	**7.51**	**47**		**Pn**	**01 08 14.8**	**+1.0**
M27K	**Edge Creek, AK**	**7.55**	**27**		**Pn**	**01 08 15.6**	**+1.2**
YUK6	**Outpost Mounta**	**7.66**	**44**		**Pn**	**01 08 17.2**	**+1.3**
CAST	**Castle Rocks**	**7.75**	**350**		**Pn**	**01 08 17.8**	**+0.9**
SIT	**Sitka**	**7.80**	**75**	P	**Pn**	**01 08 14.3**	**-3.2**
KTH	**Kantishna Hill**	**7.80**	**354**		**Sn**	**01 09 43.9**	**-2.0**
TTA	**Tatalina**	**7.92**	**337**	P	**Pn**	**01 08 19.4**	**+0.1**
MCK	**McKinley**	**7.93**	**1**		**Pn**	**01 08 20.7**	**+1.3**
HYT	**Haines Junctio**	**7.94**	**46**	Pn	**Pn**	**01 08 20.3**	**+0.7**
L16K	**Owhat River**	**7.94**	**322**		**Pn**	**01 08 19.9**	**+0.3**
YUK5	**Granite Creek**	**7.97**	**44**		**Pn**	**01 08 21.6**	**+1.5**
RIDG	**Independent Ri**	**8.23**	**14**		**Pn**	**01 08 24.1**	**+0.5**
SKAG	**Skagway**	**8.29**	**58**	Pn	**Pn**	**01 08 24.9**	**+0.7**
SKAG	**Skagway**	**8.29**	**58**	P	**Pn**	**01 08 24.5**	**+0.3**
BPAW	**Bear Paw Mtn.**	**8.35**	**355**		**Pn**	**01 08 24.8**	**-0.3**
N30M	**Aishikik Lake**	**8.47**	**43**		**Pn**	**01 08 27.8**	**+1.0**
O30N	**Mendenhall**	**8.49**	**49**		**Pn**	**01 08 27.4**	**+0.2**
M29M	**Somme Creek**	**8.62**	**35**		**Pn**	**01 08 29.9**	**+0.9**
HDA	**Harding Lake**	**8.68**	**7**		**Pn**	**01 08 30.9**	**+1.2**
J20K	**Nowinta River**	**8.73**	**346**	Pn	**Pn**	**01 08 32.1**	**+1.8**
NEA2	**Nenana**	**8.79**	**0**	Pn	**Pn**	**01 08 31.5**	**+0.3**
L14K	**Kuka Creek**	**8.94**	**314**		**Pn**	**01 08 33.7**	**+0.6**
WHY	**Whitehorse**	**8.97**	**51**	Pn	**Pn**	**01 08 34.1**	**+0.4**
N31M	**Braeburn, Yuko**	**9.00**	**45**		**Pn**	**01 08 34.9**	**+0.8**
IL31		**9.04**	**6**		**Pn**	**01 08 35.7**	**+1.1**
ILAR	**Eielson Array**	**9.04**	**6**	Pn	**Pn**	**01 08 36.4**	**+1.7**
	comp=E,0.4nm,0.3s,baz=188,slow=13,SNR=12						
ILAR				Sn	**Sn**	**01 10 10.3**	**-6.1**
	comp=E,0.5nm,0.3s,baz=180,slow=15,SNR=2.6 comp=E,0.9nm,0.4s						
P32M	**Atlin**	**9.11**	**59**		**Pn**	**01 08 35.5**	**-0.1**
J25L	**Joseph Creek**	**9.14**	**16**		**Pn**	**01 08 36.9**	**+0.8**
L29M	**L29M**	**9.21**	**33**		**Pn**	**01 08 38.2**	**+1.2**
M30M	**Minto, Yukon**	**9.28**	**38**		**Pn**	**01 08 38.8**	**+0.8**
P33M	**Teslin, Yukon**	**9.73**	**56**		**Pn**	**01 08 43.9**	**-0.3**
PRP	**Porcupine Dome**	**9.89**	**9**	Pn	**Pn**	**01 08 46.3**	**0.0**
K29M	**Barlow Dome**	**9.94**	**31**		**Pn**	**01 08 47.7**	**+0.6**
M31M	**Drury Creek, Y**	**9.94**	**44**		**Pn**	**01 08 47.7**	**+0.7**
H21K	**Melozitna Rive**	**10.02**	**351**		**Pn**	**01 08 47.9**	**-0.1**
FARO	**Faro, Yukon**	**10.37**	**45**	Pn	**Pn**	**01 08 53.7**	**+0.8**
R33M	**Jennings River**	**10.41**	**62**	Pn	**Pn**	**01 08 53.0**	**-0.5**
IMAR	**Indian Mountai**	**10.42**	**350**	Pn	**Pn**	**01 08 54.1**	**+0.6**
DLBC	**Dease Lake**	**10.74**	**68**	Pn	**Pn**	**01 08 57.8**	**-0.2**
	comp=E,0.6nm,0.3s,baz=263,slow=7.3,SNR=7.3 comp=E,1.1nm,0.3s						
J30M	**Hall River**	**10.84**	**31**		**Pn**	**01 09 00.6**	**+1.2**
G24K	**Hadweenzic Riv**	**10.94**	**4**	Pn	**Pn**	**01 09 01.9**	**+1.2**
G18K	**Tagagawik**	**11.08**	**339**		**Pn**	**01 09 00.9**	**-1.6**
I30M	**Mount Dempster**	**11.32**	**28**		**Pn**	**01 09 08.0**	**+2.1**
F21K	**Alatna River**	**11.61**	**352**	Pn	**Pn**	**01 09 10.2**	**+0.4**
F20K	**Avaraart Lake**	**11.67**	**347**	Pn	**Pn**	**01 09 10.6**	**0.0**
ANM	**Nome**	**11.85**	**324**	Pn	**Pn**	**01 09 14.1**	**+1.1**
E19K	**Redstone River**	**12.26**	**345**	Pn	**Pn**	**01 09 19.1**	**+0.5**
G31M	**Satah River**	**13.18**	**26**	Pn	**Pn**	**01 09 32.1**	**+1.0**
INK	**Inuvik**	**14.44**	**24**	Pn	**Pn**	**01 09 49.6**	**+1.3**
INK	**Inuvik**	**14.44**	**24**	Pn	**Pn**	**01 09 50.4**	**+2.0**
	comp=E,0.1nm,0.3s,baz=213,slow=10,SNR=9.1 comp=E,4.2nm,0.9s						
YKA	**Yellowknife Ar**	**18.77**	**55**	P	**P**	**01 10 43.1**	**0.0**
YKA	**Yellowknife Ar**	**18.77**	**55**	P	**P**	**01 10 43.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=264,slow=11,SNR=7.4 comp=E,0.5nm,0.7s						
A36M	**Sachs Harbour**	**19.08**	**23**	P	**P**	**01 10 46.7**	**+0.2**
NVAR	**Mina Array Bea**	**26.97**	**117**	P	**P**	**01 12 02.1**	**-4.0**
	comp=E,0.1nm,0.3s,baz=307,slow=7.8,SNR=1.8 comp=E,0.1nm,0.3s						
BCW	**Bitter Crk WRg**	**29.20**	**123**	P	**P**	**01 12 26.4**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**48.69**	**240**	T	T	02 08 23.3	
	baz=33						
H11N3	**WAKE ISLAND Hy**	**48.70**	**240**	T	T	02 08 23.3	
	baz=33						
H11N1	**WAKE ISLAND Hy**	**48.71**	**240**	T	T	02 08 23.3	
	baz=33						
H11S1	**WAKE ISLAND Hy**	**49.83**	**240**	T	T	02 09 44.6	
	baz=28						
H11S2	**WAKE ISLAND Hy**	**49.84**	**240**	T	T	02 09 59.3	
	baz=28						
H11S3	**WAKE ISLAND Hy**	**49.85**	**240**	T	T	02 09 54.6	
	baz=28						
ARCES	**ARCESS Array B**	**54.88**	**2**	P	**P**	**01 15 54.4**	**+0.2**
	comp=E,4.8nm,0.9s,baz=359,slow=7.5,SNR=3.7 comp=E,4.8nm,0.9s						
SONM	**Songino Array**	**58.96**	**310**	P	**P**	**01 16 24.7**	**+1.1**
	comp=E,0.6nm,0.5s,baz=76,slow=6.1,SNR=2.4 comp=E,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**61.96**	**327**	P	**P**	**01 16 43.9**	**+0.2**
	comp=E,0.9nm,0.6s,baz=27,slow=8.3,SNR=5.2 comp=E,0.9nm,0.6s						
FINES	**FINESS Array B**	**63.01**	**3**	P	**P**	**01 16 50.9**	**+0.3**
	comp=E,5.4nm,1.1s,baz=9.7,slow=9.9,SNR=5.3 comp=E,5.4nm,1.1s						
BVAR	**Borovoye Array**	**66.71**	**335**	P	**P**	**01 17 15.4**	**+0.5**
	comp=E,1.0nm,0.7s,baz=46,slow=8.4,SNR=6.4 comp=E,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**66.75**	**329**	P	**P**	**01 17 15.4**	**+0.2**
	comp=E,0.4nm,0.5s,baz=30,slow=6.4,SNR=4.8 comp=E,0.4nm,0.5s						
MK31	**Makanchi Array**	**68.99**	**325**	P	**P**	**01 17 29.9**	**+0.5**
MK31				IAmb	IAmb	01 18 09.4	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**68.99**	**325**	P	**P**	**01 17 29.9**	**+0.5**
MKAR	**Makanchi Array**	**68.99**	**325**	P	**P**	**01 17 29.7**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=34,slow=6.2,SNR=15 comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**72.49**	**340**	P	**P**	**01 17 51.5**	**+0.9**
ABKAR	**Akbulak array**	**72.49**	**340**	P	**P**	**01 17 51.2**	**+0.6**
ABKAR				IAmb	IAmb	01 18 11.3	
	comp=Z,1.9nm,1.4s						
AKASG	**Malin Array Be**	**73.83**	**1**	P	**P**	**01 17 58.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=355,slow=5.0,SNR=2.6 comp=Z,0.2nm,0.3s						

BJI ***25*** *01:15:54.0±0.0, 8°.08N×91°.83E, h5km, mb5.7/99, mB5.9/81, Ms5.9/99, Ms

9.4nm,0.3s,baz=225,slow=14,SNR=306
CMAR Sn Sn 01 21 12.3 +1.2
baz=11,slow=38
CMAR LR LR 01 24 16.5
comp=Z,10μm,18.2s,baz=215,slow=41
265nm,1.1s
PDSI Padang 12.60 136 P Pn **01 18 53.1 -4.3**
314nm,1.0s,22μm
CHTO Chiang Mai 12.63 33 Pn Pn **01 18 57.0 -0.9**
CHTO Chiang Mai 12.63 33 P Pn **01 18 58.4 +0.5**
CHTO Chiang Mai 12.63 33 ⇓P Pn **01 18 57.9 0.0**
CHTO Chiang Mai 12.63 33 P Pn **01 18 57.0 -0.9**
CHTO Chiang Mai 12.63 33 P Pn **01 18 58.0 +0.1**
471nm,1.1s,6μm6μm
CMMT Chiang Mai 12.63 33 P Pn **01 18 58.0 +0.1**
1μm,1.1s,17μm
MYKOM **Kota Tinggi 13.67 117** Pn Pn **01 19 09.7 -2.4**
MYKOM **Kota Tinggi 13.67 117** ⇑P Pn **01 19 10.0 -2.1**
MYKOM **Kota Tinggi 13.67 117** P Pn **01 19 09.0 -3.1**
412nm,1.1s,3μm21μm
PPSI Pulau Pagai 13.71 143 P Pn **01 19 10.4 -2.2**
786nm,1.2s,9μm
KRJI Kerinci 14.13 136 P Pn **01 19 16.2 -2.3**
3μm,1.1s,32μm17μm
MND Mandalay 14.33 17 Pn Pn **01 19 17.0 -4.1**
BRDH Bariadhala 14.35 360 Pn Pn **01 19 19.4 -1.9**
50nm,0.3s,baz=91,slow=5.6,SNR=15
BRDH Sn Sn **01 21 58.6 -1.6**
41nm,0.3s,baz=270,slow=22,SNR=1.4
144nm,0.3s
CRAI Chiangrai 14.56 34 Pn Pn **01 19 24.1 -0.1**
TRD Trivandrum 14.61 272 *e*P Pn **01 19 23.1 -1.9**
TRD *ex* x 01 21 51.6
TPRI Tanjung Pinang 14.69 119 P Pn **01 19 22.3 -3.7**
648nm,1.0s,7μm19μm
NONG Nongkai 14.79 48 P Pn **01 19 28.4 +1.0**
DSRI Dabo 15.47 123 P Pn **01 19 32.0 -4.5**
1μm,1.0s,16μm18μm
HYB Hyderabad 15.74 307 *e*P Pn **01 19 40.5 +0.6**
HYB *e*S Sn **01 22 34.5 +0.3**
HYB IVMs_BB IVMs_BB 01 29 55.5
comp=Z,5μm,8.5s
UBSI University, Be 15.91 138 P Pn **01 19 36.7 -5.4**
comp=Z,1μm,1.0s,comp=Z,13μmcomp=Z,13μm
BOK Bokaro 16.44 341 *e*P Pn **01 19 44.6 -4.3**
BOK IVmB_BB 01 19 54.2
comp=Z,6μm,1.0s
BOK *e*S Sn 01 22 39.4 -12
LHSI Lahat 16.80 135 P Pn **01 19 50.4 -3.1**
comp=Z,2μm,1.1s,comp=Z,17μm
DLV T Lat 16.91 76 Pn Pn **01 19 54.2 -0.9**
DLV T Lat 16.91 76 P Pn **01 19 55.8 +0.8**
DLV T Lat 16.91 76 ⇑P P **01 19 56.8 -0.2**
PMBI Palembang 17.11 130 Pn **01 19 56.9 -0.5**
PMBI Palembang 17.11 130 P P **01 19 59.0 0.0**
PMBI Palembang 17.11 130 P Pn **01 19 55.6 -1.7**
comp=Z,2μm,1.0s,comp=Z,25μm
EGSI Enggano, Bengk 17.13 142 P Pn **01 19 55.0 -2.6**
comp=Z,2μm,1.1s,comp=Z,21μmcomp=Z,12μm
SHL Shillong 17.23 0 *e*P Pn **01 19 56.3 -2.6**
PPBI Pangkal Pinang 17.71 125 P Pn **01 20 03.7 -1.1**
comp=Z,987nm,1.3s,comp=Z,15μmcomp=Z,13μm
TNCH TengChong 17.91 20 P P **01 20 08.0 0.0**
TNCH pP pP 01 20 10.5 -1.0
TNCH sP sP 01 20 13.4 +0.2
TNCH S Sn **01 23 25.8 -1.1**
TNCH SS SnSn **01 23 49.3 +8.3**
TNCH pmax pmax
comp=Z,690nm,1.1s
TNCH pmax pmax
comp=Z,5μm,4.8s
TNCH LR LR
comp=Z,8μm,12.5s
TNCH LR LR
comp=Z,5μm,11.3s
TNCH LR LR
comp=Z,14μm,18.8s
LWLI Liwa 18.03 137 P Pn **01 20 08.0 -0.9**
comp=Z,2μm,1.1s,comp=Z,27μmcomp=Z,11μm
KASI Kota Agung 18.69 137 P P **01 20 14.5 -2.0**
comp=Z,907nm,0.9s,comp=Z,14μmcomp=Z,13μm
GOA Goa 18.93 294 *e*P P **01 20 18.9 -0.2**
GOA IVmB_BB 01 20 35.5
comp=Z,9μm,3.9s
GOA *e*S Sn 01 23 40.5 -11
KSM Kuching 19.69 109 P P **01 20 27.1 -0.4**
KSM Kuching 19.69 109 P P **01 20 28.1 +0.5**
KSM Kuching 19.69 109 ⇓P P **01 20 28.0 +0.5**
KMI Kunming 19.80 31 ⇑P Pn **01 20 30.0 -0.4**
KMI S S **01 24 11.8 +0.1**
KMI pmax pmax
comp=Z,680nm,1.2s
KMI pmax pmax
comp=Z,6μm,4.5s
KMI LR LR
comp=Z,11μm,15.6s
KMI LR LR
comp=Z,10μm,14.1s
KMI LR LR
comp=Z,10μm,19.0s
EVN Everest 20.15 347 ⇓P Pn 01 20 34.4 -0.5
POO Poona 20.15 302 *e*P P **01 20 31.8 -0.7**
POO *e*S S **01 24 15.4 -3.0**
KAAM Kaadhehdhoo 20.19 248 P Pn 01 20 33.9 -0.9
KAAM IAmb IAmb 01 20 47.2
comp=Z,954nm,1.7s
KAAM Kaadhehdhoo 20.19 248 P Pn 01 20 34.8 0.0
KAAM Kaadhehdhoo 20.19 248 P P **01 20 28.5 -4.4**
comp=Z,310nm,1.4s,comp=Z,11μmcomp=Z,17μm
SBJI Serang 20.25 134 P P **01 20 30.3 -3.3**
comp=Z,559nm,1.0s,comp=Z,7μm
PZH PanZhiHua 20.50 26 P P **01 20 37.0 +0.7**
PZH pP sP **01 20 41.9 +0.4**
PZH S S **01 24 21.9 -3.5**
PZH SS SnSn **01 24 54.1 +10**
PZH pmax pmax
comp=Z,450nm,1.3s
PZH pmax pmax
comp=Z,4μm,4.9s
PZH LR LR
comp=Z,10μm,16.5s
PZH LR LR
comp=Z,7μm,17.1s
PZH LR LR
comp=Z,16μm,18.0s
QIZ Qiongzhong 20.59 57 P P **01 20 37.8 +0.5**
QIZ S S **01 24 26.5 -0.6**
QIZ pmax pmax
comp=Z,310nm,1.2s
QIZ pmax pmax
comp=Z,4μm,6.3s
QIZ LR LR
comp=Z,24μm,17.0s
QIZ LR LR
comp=Z,8μm,16.7s
QIZ LR LR
comp=Z,15μm,12.8s
QIZ Qiongzhong 20.59 57 P P **01 20 37.7 +0.4**
QIZ IAmb IAmb 01 20 43.3
comp=Z,1μm,1.5s
QIZ Qiongzhong 20.59 57 P P **01 20 38.2 +0.9**
COCO West Island 20.93 166 P Pn 01 20 42.6 -0.9
COCO IAmb IAmb 01 20 53.8
comp=Z,1μm,1.4s
COCO West Island 20.93 166 P Pn 01 20 42.6 -0.8
COCO pmax pmax
comp=Z,1μm,1.5s
DBJI Dramaga 20.99 134 P P **01 20 40.7 -0.9**
comp=Z,931nm,1.1s,comp=Z,14μmcomp=Z,11μm
SKJI Sukabumi 21.17 135 P P **01 20 42.0 -1.6**
comp=Z,788nm,0.8s,comp=Z,11μmcomp=Z,8μm
SBUM Sibu 21.20 105 P P **01 20 44.0 +0.1**
SBUM IAmb IAmb 01 20 49.6
comp=Z,753nm,1.0s
SBUM Sibu 21.20 105 ⇑P P **01 20 43.9 +0.1**
STKI Sintang 21.30 111 P P **01 20 44.8 -0.1**
comp=Z,841nm,1.2s,comp=Z,24μm
LSA Lhasa 21.35 359 P P **01 20 46.4 +0.6**
LSA IAmb IAmb 01 20 53.5
comp=Z,889nm,1.0s
LSA Lhasa 21.35 359 *i* P P **01 20 46.9 +1.0**
SNR=232
LSA Lhasa 21.35 359 P P **01 20 46.4 +0.6**
LSA pmax pmax
comp=Z,889nm,1.0s
LSA MLR MLR
comp=Z,3μm,20.0s
LSA Lhasa 21.35 359 P P **01 20 47.1 +1.2**
LSA P P **01 20 47.1 +1.2**
CNJI Cibinong 21.79 135 P P **01 20 46.7 -3.5**
comp=Z,162nm,1.0s,comp=Z,3μm
LEM Lembang 21.80 133 P P **01 20 50.7 +0.2**
comp=Z,39nm,0.5s,baz=329,slow=22,SNR=2.4
LEM S S **01 24 51.1 -0.3**
comp=Z,16nm,0.4s,baz=144,slow=23,SNR=1.4
LEM LR LR 01 30 50.6
comp=Z,22μm,18.0s,baz=306,slow=41
LEM ScS ScS **01 32 14.0 +1.6**
comp=Z,14nm,0.4s,baz=336,slow=22,SNR=1.6
comp=Z,39nm,0.5s
LEM Lembang 21.80 133 P P **01 20 48.2 -2.3**
comp=Z,317nm,1.2s,comp=Z,5μmcomp=Z,10μm
JCJI Jatiwangi 22.06 131 P P **01 20 51.1 -2.0**
comp=Z,394nm,1.5s,comp=Z,7μmcomp=Z,10μm
BBJI Bungbulang 22.26 134 P P **01 20 55.0 -0.3**
BBJI Bungbulang 22.26 134 P P **01 20 53.4 -1.9**
comp=Z,288nm,0.9s,comp=Z,4μmcomp=Z,7μm
GYA Guiyang 23.01 36 ⇓*i*P P **01 21 03.0 -0.2**
GYA S S **01 25 10.1 -3.3**
GYA pmax pmax
comp=Z,200nm,1.1s
GYA pmax pmax
comp=Z,6μm,5.0s
GYA LR LR
comp=Z,11μm,15.1s
GYA LR LR
comp=Z,12μm,16.2s
GYA LR LR
comp=Z,10μm,17.1s
CMJI Cimerak 23.05 133 P P **01 20 59.3 -4.3**
comp=Z,226nm,0.9s,comp=Z,4μmcomp=Z,7μm
KPJI Karang Pucung 23.11 132 P P **01 21 01.3 -2.8**
comp=Z,211nm,1.2s,comp=Z,3μm
XMI Christmas Isla 23.20 143 P P **01 21 07.5 +2.4**
XMIS Christmas Isla 23.20 143 P P **01 21 06.5 +1.3**
XMIS Christmas Isla 23.20 143 P P **01 21 07.7 +2.5**
SMRI Semarang 24.07 129 P P **01 21 13.6 0.0**
SMRI IAMs_20 IAMs_20 01 32 06.7
comp=Z,25μm,19.0s
SMRI Semarang 24.07 129 P P **01 21 16.1 +2.5**
SMRI Semarang 24.07 129 ⇑P P **01 21 14.2 +0.6**
SMRI Semarang 24.07 129 P P **01 21 12.3 -1.3**
comp=Z,2μm,1.1s,comp=Z,23μmcomp=Z,11μm
KKM Kota Kinabalu 24.40 94 P P **01 21 17.3 +0.6**
KKM IAmb IAmb 01 21 25.5
comp=Z,689nm,1.2s
KKM Kota Kinabalu 24.40 94 P P **01 21 19.4 +2.6**
KKM Kota Kinabalu 24.40 94 ⇑P P **01 21 17.4 +0.6**
GULI GuiLin 24.56 44 ⇓P P **01 21 13.5 -4.5**
GULI S S **01 25 42.1 +3.8**
GULI pmax pmax
comp=Z,860nm,1.0s
GULI pmax pmax
comp=Z,5μm,7.1s
GULI LR LR
comp=Z,6μm,12.5s
GULI LR LR
comp=Z,9μm,13.0s
GULI LR LR
comp=Z,11μm,13.0s
UGM Wanagama 24.67 130 P P **01 21 17.6 -1.6**
UGM IAMs_20 IAMs_20 01 32 01.0
comp=Z,26μm,20.0s
UGM Wanagama 24.67 130 P P **01 21 21.7 +2.5**
UGM Wanagama 24.67 130 P P **01 21 16.3 -2.9**
comp=Z,463nm,1.0s,comp=Z,8μm
DGAR Diego Garcia 24.72 232 P P **01 21 21.7 +2.2**
H08S3 Diego Garcia H 24.83 231 P P **01 21 22.6 +2.4**
H08S3 T T 01 47 46.0
baz=51,slow=75,SNR=5114
H08S2 Diego Garcia H 24.83 231 P P **01 21 22.6 +2.4**
H08S2 T T 01 47 58.7
baz=51,slow=75,SNR=1801
MTKI Muara Teweh, K 24.84 111 P P **01 21 18.9 -1.8**
comp=Z,727nm,1.1s,comp=Z,12μmcomp=Z,10μm
H08S1 Diego Carcia H 24.85 231 P P **01 21 22.8 +2.4**
H08S1 T T 01 47 42.1
baz=51,slow=75,SNR=633
NGJI Ngawi 25.06 128 P P **01 21 21.8 -0.8**
comp=Z,2μm,1.0s,comp=Z,34μm
CD2 Chengdu 25.20 25 P P **01 21 23.5 -0.3**
CD2 pP pP 01 21 26.8 -0.8
CD2 S S **01 25 46.8 -1.8**
CD2 sS sS 01 25 55.4 +0.6
CD2 pmax pmax
comp=Z,2μm,0.8s
CD2 pmax pmax
comp=Z,5μm,3.2s
CD2 LR LR
comp=Z,12μm,15.3s
CD2 LR LR
comp=Z,11μm,14.9s
CD2 LR LR
comp=Z,8μm,15.7s
DDI Dehra Dun 25.42 332 *e*P P **01 21 25.7 -0.1**
DDI *e*S S **01 25 58.8 +6.7**
GZH Guangzhou 25.46 52 P P **01 21 31.4 +5.2**
GZH sP **pwP** **01 21 34.9 +0.1**
GZH S S **01 26 01.6 +8.8**
GZH pmax pmax
comp=Z,320nm,1.1s
GZH LR LR
comp=Z,7μm,12.2s
GZH LR LR
comp=Z,6μm,12.3s
SJI Sawahan 25.52 128 P P **01 21 26.0 -0.9**
comp=Z,341nm,1.3s,comp=Z,9μm
GRJI Gresik 25.60 125 P P **01 21 27.5 0.0**
comp=Z,1μm,1.0s,comp=Z,26μmcomp=Z,15μm
HKPS Hong Kong Po S 25.68 55 P P **01 21 27.1 -1.1**
HKPS IAmb IAmb 01 21 30.9
comp=Z,604nm,1.2s
HKPS Hong Kong Po S 25.68 55 P P **01 21 30.0 +1.8**
SMLA Simla 26.51 331 *e*P P **01 21 36.6 +1.1**
SMLA IVmB_BB 01 21 49.5
comp=Z,4μm,1.4s
BKB Balikpapan 26.82 109 IAMs_20 IAMs_20 01 33 40.9
comp=Z,27μm,19.0s
BKB Balikpapan 26.82 109 P P **01 21 39.8 +1.2**
BKB Balikpapan 26.82 109 P P **01 21 37.9 -0.7**
comp=Z,495nm,1.0s,comp=Z,9μmcomp=Z,11μm
BLJI Banyuglugur 26.98 126 P P **01 21 38.3 -1.7**
comp=Z,614nm,0.8s,comp=Z,7μm
ENH Enshi 27.51 35 P P **01 21 43.8 -0.8**
ENH Enshi 27.51 35 P P **01 21 44.3 -0.4**
ABJI Asem Bagus 27.52 125 P P **01 21 44.0 -0.9**
comp=Z,502nm,0.7s,comp=Z,10μmcomp=Z,7μm
JAGI Jajag, Banyuwa 27.84 126 P P **01 21 45.9 -1.9**
JAGI IAmb IAmb 01 22 08.5
comp=Z,259nm,1.0s
JAGI Jajag, Banyuwa 27.84 126 P P **01 21 49.1 +1.3**
JAGI Jajag, Banyuwa 27.84 126 ⇑P P **01 21 47.2 -0.6**
JAGI Jajag, Banyuwa 27.84 126 P P **01 21 45.0 -2.8**
comp=Z,222nm,0.8s,comp=Z,3μmcomp=Z,5μm
BYJI Banyuwangi 27.86 125 P P **01 21 46.4 -1.5**
comp=Z,480nm,1.1s,comp=Z,13μm
GOMU GeErMu 27.97 5 P P **01 21 49.6 +0.5**
GOMU pP pP 01 21 53.1 +0.2
GOMU sP sP 01 21 55.8 +1.3
GOMU pmax pmax
comp=Z,53nm,1.0s
GOMU LR LR
comp=Z,5μm,15.3s
GOMU LR LR
comp=Z,5μm,15.3s
GOMU LR LR
comp=Z,6μm,15.9s
CNSH ChangSha 28.17 43 ⇓P P **01 21 50.4 -0.2**
CNSH S S **01 26 36.3 +0.8**
CNSH pmax pmax
comp=Z,120nm,1.2s
CNSH LR LR
comp=Z,7μm,15.0s
CNSH LR LR
comp=Z,5μm,13.9s
CNSH LR LR
comp=Z,6μm,14.6s
SRBI Singaraja 28.48 124 P P **01 21 51.4 -2.1**
comp=Z,756nm,0.8s,comp=Z,9μmcomp=Z,6μm
MPSI Mapaga 29.15 104 P P **01 21 58.4 -1.1**
comp=Z,189nm,0.7s,comp=Z,4μmcomp=Z,6μm
TGY Tagaytay City 29.23 76 P P **01 22 01.2 +1.0**
comp=Z,1μm,0.8s,baz=257,slow=4.5,SNR=26
TGY S S **01 26 48.9 -3.6**
comp=Z,143nm,0.3s,baz=165,slow=16,SNR=1.0
TGY LR LR 01 32 46.0
comp=Z,13μm,21.7s,baz=270,slow=35
PMSI Majene 29.53 112 P P **01 21 59.8 -3.0**
comp=Z,201nm,1.0s,comp=Z,3μmcomp=Z,6μm
TOLI2 Tolitoli 29.80 102 P P **01 22 04.5 -0.7**
TOLI2 Tolitoli 29.80 102 P P **01 22 06.3 +1.1**
LZH Lanzhou 29.84 20 ⇓P P **01 22 05.8 +0.3**
LZH sP pwP 01 22 14.5 +0.3
LZH PP **PnPn** **01 22 58.4 -3.1**
LZH S S **01 26 58.0 -3.9**
LZH sS sS 01 27 12.8 +4.6
LZH SS **SnSn** **01 28 36.5 +3.8**
LZH pmax pmax
comp=Z,560nm,1.3s
LZH pmax pmax
comp=Z,2μm,4.1s
LZH LR LR
comp=Z,11μm,15.1s
LZH LR LR
comp=Z,11μm,15.8s
LZH LR LR
comp=Z,12μm,15.8s
KNMB Chin-men Tao 30.15 55 P P **01 22 08.1 -0.1**
KNMB IAmb IAmb 01 22 10.5
comp=Z,286nm,1.0s
XAN Xi'an 30.17 29 ⇓P P **01 22 07.3 -1.0**
XAN pP pP 01 22 11.6 -0.5
XAN S S **01 27 04.3 -2.6**
XAN SS **SnSn** **01 28 42.5 +1.9**
XAN pmax pmax
comp=Z,260nm,1.0s
XAN pmax pmax
comp=Z,2μm,6.4s
XAN LR LR
comp=Z,17μm,13.9s
XAN LR LR
comp=Z,10μm,14.8s
XAN LR LR
comp=Z,19μm,17.1s
TTSI Tana Toraja 30.18 111 P P **01 22 08.3 -0.3**
comp=Z,115nm,0.9s,comp=Z,3μm
NIL Nilore 30.49 329 P P **01 22 11.6 +0.5**
NIL Nilore 30.49 329 P P **01 22 11.6 +0.5**
NIL pmax pmax
comp=Z,693nm,1.0s
NIL Nilore 30.49 329 P P **01 22 12.5 +1.4**
NIL P P **01 22 12.5 +1.4**
QZH Quanzhou 30.54 54 ⇑*i*P P **01 22 12.3 +0.7**
QZH S S **01 27 12.9 +0.1**
QZH pmax pmax
comp=Z,390nm,0.9s
QZH LR LR
comp=Z,13μm,18.6s
QZH LR LR
comp=Z,9μm,18.2s
QZH LR LR
comp=Z,10μm,14.1s
WHN Wuhan 30.66 41 ⇓*i*P P **01 22 12.8 +0.2**
WHN sP **sP** **01 22 17.3 -0.7**
WHN S S **01 27 16.6 +2.1**
WHN pmax pmax
comp=Z,780nm,1.3s
WHN pmax pmax
comp=Z,4μm,3.1s
WHN LR LR
comp=Z,22μm,13.9s
WHN LR LR
comp=Z,10μm,12.9s
WHN LR LR
comp=Z,20μm,14.2s
KAPI Kappang 30.90 114 P P **01 22 13.2 -1.8**
KAPI Kappang 30.90 114 P P **01 22 13.2 -1.8**
KAPI pmax pmax
comp=Z,62nm,1.0s
KAPI MLR MLR
comp=Z,10μm,20.0s
KAPI Kappang 30.90 114 ScS ScS 01 32 48.7 -2.4
comp=Z,3.8nm,0.5s,baz=268,slow=10,SNR=1.6
KAPI LR LR 01 35 53.4
comp=Z,11μm,18.8s,baz=280,slow=39
PLAI Plampang 31.01 123 P P **01 22 17.9 +2.0**
PLAI Plampang 31.01 123 P P 01 22 09.1 -6.8
comp=Z,68nm,0.7s,comp=Z,1μmcomp=Z,3μm
MRSI Marisa 31.08 103 P P **01 22 15.2 -1.3**
comp=Z,553nm,1.0s,comp=Z,5μmcomp=Z,5μm
DBNI Kabupaten Domp 31.29 122 P P **01 22 15.7 -2.6**
comp=Z,67nm,0.7s
BKSI Bulukumba 31.37 115 P P **01 22 17.1 -1.9**
comp=Z,178nm,0.7s,comp=Z,2μmcomp=Z,4μm
TPUB Ta-pu 31.50 58 IAmb IAmb 01 22 34.3
comp=Z,329nm,1.3s
TPUB Ta-pu 31.50 58 P P **01 22 22.8 +2.7**
TWG Pinlang 31.68 59 P P **01 22 20.9 -0.8**
TWGBT **Beinan 31.69 59** P P **01 22 24.9 +3.1**
GTA Gaotai 31.87 12 ⇓P P **01 22 24.3 +1.0**
GTA pP sP 01 22 29.8 +1.0
GTA PcP **PcP** **01 25 15.4 +1.5**
GTA S S **01 27 30.3 -3.3**
GTA sS sS 01 27 41.3 +1.4
GTA PcS **PcS** **01 28 59.4 +0.8**
GTA ScS **ScS** **01 32 58.8 +3.5**
GTA pmax pmax
comp=Z,390nm,1.3s
GTA pmax pmax
comp=Z,2μm,12.0s
GTA LR LR
comp=Z,3μm,15.1s
GTA LR LR
comp=Z,3μm,23.5s
GTA LR LR
comp=Z,4μm,18.3s
SSLB Suanglung 31.96 58 P P **01 22 24.1 -0.2**
SSLB Suanglung 31.96 58 P P **01 22 26.8 +2.5**
YULB Yu-li 32.10 59 P P **01 22 25.6 +0.2**
YULB Yu-li 32.10 59 P P **01 22 28.3 +2.9**
LUWI Luwuk 32.30 105 P P **01 22 26.9 -0.3**
LUWI Luwuk 32.30 105 P P **01 22 28.5 +1.2**
LUWI Luwuk 32.30 105 ⇓P P **01 22 27.4 +0.2**
LUWI Luwuk 32.30 105 P P **01 22 26.3 -1.0**
comp=Z,2μm,0.9s,comp=Z,15μmcomp=Z,7μm
LYN LuoYang 32.39 33 ⇓*i*P P **01 22 28.1 +0.3**
LYN S S **01 27 38.1 -3.4**
LYN pmax pmax
comp=Z,470nm,1.1s
LYN pmax pmax
comp=Z,3μm,7.9s
LYN LR LR
comp=Z,11μm,17.5s
LYN LR LR
comp=Z,16μm,17.5s
LYN LR LR
comp=Z,10μm,16.6s
NACB Ninganchiao 32.66 57 P P **01 22 30.9 +0.6**
NACB IAmb IAmb 01 22 39.2
comp=Z,180nm,0.8s
NACB Ninganchiao 32.66 57 P P **01 22 33.2 +2.9**
YHNB Yeheng 32.68 56 P P **01 22 31.4 +0.8**
YHNB Yeheng 32.68 56 P P **01 22 31.6 +1.0**
TATO Taipei 32.90 56 P P **01 22 33.8 +1.4**
TATO Taipei 32.90 56 P P **01 22 33.7 +1.3**
KMSI Cibinong 33.03 102 P P **01 22 31.9 -1.8**
comp=Z,2μm,0.9s,comp=Z,20μmcomp=Z,6μm
KBL Kabul 33.45 325 P P **01 22 37.4 0.0**
KBL Kabul 33.45 325 P P **01 22 37.4 0.0**
KBL pmax pmax
comp=Z,129nm,1.1s
KBL MLR MLR
comp=Z,6μm,20.0s
KBL Kabul 33.45 325 P P **01 22 38.2 +0.8**
SNR=61
KBL P P **01 22 38.2 +0.8**
SNR=61
KBL P P **01 22 38.2 +0.8**
SNR=61
DAV Davao City (W) 33.57 90 ⇑*i*P P 01 22 44.0 +5.6
DAV Davao City (W) 33.57 90 LR LR 01 37 19.5
comp=Z,5μm,20.8s,baz=270,slow=38
NGCH Negor - Chabah 33.73 304 P P **01 22 42.8 +3.1**
SGSI Sangihe 33.92 96 P P **01 22 39.8 -1.6**
comp=Z,621nm,0.8s,comp=Z,18μmcomp=Z,8μm
YOJ Yonaguni jima 33.95 58 P P **01 22 40.9 -0.7**
YOJ Yonaguni jima 33.95 58 P P **01 22 42.8 +1.2**

YOJ Yonaguni jima 33.95 58 P **P** **01 22 40.9 -0.7**
YOJ pmax pmax
comp=Z,306nm,0.9s
YOJ MLR MLR
comp=Z,7μm,18.0s
JLN Jalan Bani Buh 34.01 298 P **P** **01 22 43.7 +1.6**
SNR=30
JLN P **P** **01 22 43.7 +1.6**
SNR=30
JLN P **P** **01 22 43.7 +1.6**
SNR=30
BASI Baing, Sumba 34.08 122 P **P** **01 22 39.4 -3.4**
comp=Z,320nm,0.8s,comp=Z,3μm
KSH Kashi 34.19 338 P **P** **01 22 43.3 -0.3**
KSH pP sP 01 22 49.6 +0.5
KSH sP pwP 01 22 54.4 +2.1
KSH S **S** **01 28 07.0 -2.6**
KSH pmax pmax
comp=Z,120nm,1.1s
KSH pmax pmax
comp=Z,1μm,8.3s
KSH LR LR
comp=Z,6μm,21.6s
KSH LR LR
comp=Z,8μm,20.4s
KSH LR LR
comp=Z,6μm,22.3s
EDFI Ende, Flores 34.30 119 P **P** **01 22 41.0 -3.8**
WBK Wadi Bani Khal 34.54 298 P **P** **01 22 49.2 +2.4**
SNR=11
WBK P **P** **01 22 49.2 +2.4**
SNR=11
NJ2 Nanjing 34.59 43 ⇓*i*P **P** **01 22 47.5 +0.5**
NJ2 pP **pP** **01 22 51.3 +0.5**
NJ2 S **S** **01 28 14.4 -1.3**
NJ2 pmax pmax
comp=Z,200nm,1.0s
NJ2 pmax pmax
comp=Z,2μm,4.6s
NJ2 LR LR
comp=Z,5μm,13.3s
NJ2 LR LR
comp=Z,7μm,10.7s
NJ2 LR LR
comp=Z,8μm,12.8s
TIY Taiyuan 34.81 29 *e*P **P** **01 22 48.3 -0.7**
TIY S **S** **01 28 18.0 -1.2**
TIY pmax pmax
comp=Z,40nm,0.8s
TIY pmax pmax
comp=Z,1μm,6.2s
TIY LR LR
comp=Z,11μm,14.9s
TIY LR LR
comp=Z,6μm,17.1s
TIY LR LR
comp=Z,12μm,15.4s
MHTO MHTO 34.94 295 P **P** **01 22 50.8 +0.6**
SNR=14
MHTO P **P** **01 22 50.8 +0.6**
SNR=14
WSAR Wadi Sarin 35.05 299 LR LR 01 37 24.1
comp=Z,5μm,20.0s,baz=122,slow=37
WSAR Wadi Sarin 35.05 299 P **P** **01 22 53.3 +2.2**
SNR=13
DQM DQM 35.05 293 P **P** **01 22 52.4 +1.3**
SNR=10
DQM P **P** **01 22 52.4 +1.3**
SNR=10
JMDO Jabal Madar 35.23 297 P **P** **01 22 54.4 +1.7**
SNR=12
JMDO P **P** **01 22 54.4 +1.7**
SNR=12
SMDO Samad 35.49 298 P **P** **01 22 57.2 +2.2**
SNR=14
SMDO P **P** **01 22 57.2 +2.2**
SNR=14
TARG Taragay, Kyrgy 35.55 342 P **P** **01 22 55.7 0.0**
TARG lAmb lAmb 01 22 59.0
comp=Z,276nm,1.5s
TARG Taragay, Kyrgy 35.55 342 P **P** **01 22 55.7 0.0**
TARG pmax pmax
comp=Z,276nm,1.5s
BIDO Bidbid 35.58 299 P **P** **01 22 58.0 +2.3**
SNR=28
BIDO P **P** **01 22 58.0 +2.3**
SNR=28
WMQ Urumqi 35.61 355 ⇓P **P** **01 22 57.3 +1.6**
WMQ S **S** **01 28 34.0 +2.7**
WMQ pmax pmax
comp=Z,340nm,1.1s
WMQ pmax pmax
comp=Z,2μm,7.3s
WMQ LR LR
comp=Z,4μm,16.5s
WMQ LR LR
comp=Z,6μm,17.5s
WMQ LR LR
comp=Z,4μm,19.5s
SSE Sheshan 35.66 46 P **P** **01 22 57.3 +1.1**
SSE S **S** **01 28 31.8 -0.4**
SSE pmax pmax
comp=Z,91nm,1.1s
SSE LR LR
comp=Z,2μm,12.5s
SSE LR LR
comp=Z,2μm,12.5s
SSE LR LR
comp=Z,4μm,13.3s
SANI Sanana 35.67 105 P **P** **01 22 56.4 -0.1**
SANI Sanana 35.67 105 ⇓P **P** **01 22 55.2 -1.4**
HNS HongShan 35.72 32 ⇑P **P** **01 22 56.8 +0.1**
HNS PP **PP** **01 24 19.8 +1.8**
HNS PcP **PcP** **01 25 25.6 +0.9**
HNS S **S** **01 28 32.4 -0.6**
HNS ScP **ScP** **01 29 10.6 +0.3**
HNS pmax pmax
comp=Z,270nm,1.0s
HNS pmax pmax
comp=Z,2μm,7.0s
HNS LR LR
comp=Z,7μm,13.5s
HNS LR LR
comp=Z,2μm,15.1s
HNS LR LR
comp=Z,7μm,16.3s
NRN Naryn 35.87 340 P **P** **01 22 58.6 +0.3**
NRN lAmb lAmb 01 23 01.2
comp=Z,199nm,1.2s
NRN Naryn 35.87 340 P **P** **01 22 58.6 +0.3**
NRN pmax pmax
comp=Z,199nm,1.2s
NRN MLR MLR
comp=Z,7μm,18.0s
JMJ Miyako jima 2 36.01 59 P **P** **01 23 01.4 +2.1**
PRZ Przheval'sk 36.06 343 P **P** **01 22 59.5 -0.3**
PRZ Przheval'sk 36.06 343 P **P** **01 22 59.5 -0.3**
PRZ pmax pmax
comp=Z,648nm,1.2s
PRZ MLR MLR
comp=Z,2μm,22.0s
BTO Baotou 36.11 24 *e*P **P** **01 23 00.0 -0.1**
BTO pP **pP** **01 23 04.4 +0.4**
BTO sP **pwP** **01 23 07.0 -1.9**
BTO PP **PP** **01 24 22.8 +0.4**
BTO S **S** **01 28 41.5 +2.4**
BTO sS **sS** **01 28 46.3 +0.8**
BTO SS **SnSn** **01 31 04.0 -0.8**
BTO pmax pmax
comp=Z,750nm,0.9s
BTO pmax pmax
comp=Z,3μm,6.5s
BTO LR LR
comp=Z,12μm,14.3s
BTO LR LR
comp=Z,11μm,14.5s
BTO LR LR
comp=Z,10μm,14.3s
BSY Bisya 36.14 297 P **P** **01 23 02.7 +2.2**
SNR=24
BSY P **P** **01 23 02.7 +2.2**
SNR=24
TIA Tai'an 36.21 36 P **P** **01 23 00.9 0.0**
TIA S **S** **01 28 39.9 -0.6**
TIA pmax pmax
comp=Z,52nm,1.1s
TIA pmax pmax
comp=Z,880nm,6.9s
TIA LR LR
comp=Z,2μm,15.0s
TIA LR LR
comp=Z,4μm,15.2s
TIA LR LR
comp=Z,5μm,16.1s
TNTI Ternate 36.27 100 P **P** **01 22 59.0 -2.8**
TNTI lAmb lAmb 01 23 07.2
comp=Z,203nm,1.2s
TNTI Ternate 36.27 100 P **P** **01 23 01.0 -0.7**
SHLS Shalkode 36.40 345 *e*P **P** **01 23 01.2 -1.4**
comp=Z,402nm,1.2s,baz=345
SHLS Shalkode 36.40 345 *e*P **P** **01 23 01.2 -1.4**
SHLS pmax pmax
comp=Z,402nm,1.2s
SHAO Shalim 36.41 289 *i*P **P** **01 23 04.4 +1.6**
SNR=16
SHAO Shalim 36.41 289 P **P** **01 23 04.7 +1.9**
SNR=11
SHAO P **P** **01 23 04.7 +1.9**
SNR=11
SHAO P **P** **01 23 04.7 +1.9**
SNR=11
UZB Uzynbulak 36.51 344 *e*P **P** **01 23 03.1 -0.4**
comp=Z,245nm,1.3s,baz=344
UZB *e*S **S** **01 28 46.4 +1.2**
baz=344
UZB Uzynbulak 36.51 344 *e*P **P** **01 23 03.1 -0.4**
UZB *e*S **S** **01 28 46.4 +1.2**
UZB pmax pmax
comp=Z,245nm,1.3s
ULHL Ulahol 36.51 341 P **P** **01 23 05.2 +1.5**
SNR=9.9
SIMJ Simiganj 36.54 329 P **P** **01 23 03.0 -0.9**
SIMJ lAmb lAmb 01 23 05.3
comp=Z,254nm,1.1s
PDGK Podgornoye 36.55 345 P **P** **01 23 05.1 +1.2**
SATY Saty 36.59 344 *e*P **P** **01 23 04.1 -0.1**
comp=Z,181nm,1.0s,baz=344
SATY *e*S **S** **01 28 48.2 +1.6**
baz=344
SATY Saty 36.59 344 *e*P **P** **01 23 04.1 -0.1**
SATY *e*S **S** **01 28 48.1 +1.6**
SATY pmax pmax
comp=Z,181nm,1.0s
ZHN Zhinishke 36.69 344 *e*P **P** **01 23 05.0 -0.1**
comp=Z,76nm,0.9s,baz=344
ZHN Zhinishke 36.69 344 *e*P **P** **01 23 04.9 -0.1**
ZHN pmax pmax
comp=Z,76nm,0.9s
BTK Batken 36.77 333 P **P** **01 23 06.2 +0.4**
BTK Batken 36.77 333 P **P** **01 23 06.2 +0.4**
BTK pmax pmax
comp=Z,779nm,1.1s
BTK MLR MLR
comp=Z,6μm,20.0s
KPKS Kokpek 36.89 344 *e*P **P** **01 23 06.6 -0.2**
comp=Z,136nm,1.0s,baz=344
KPKS *e*S **S** **01 28 51.7 +0.6**
baz=344
KPKS Kokpek 36.89 344 *e*P **P** **01 23 06.6 -0.2**
KPKS *e*S **S** **01 28 51.6 +0.6**
KPKS pmax pmax
comp=Z,136nm,1.0s
ARSB Arslanbob 36.90 336 P **P** **01 23 07.2 +0.3**
ARSB Arslanbob 36.90 336 P **P** **01 23 07.2 +0.3**
ARSB pmax pmax
comp=Z,221nm,1.3s
ARSB MLR MLR
comp=Z,2μm,19.0s
ARQ Araqi 36.91 298 P **P** **01 23 09.2 +2.1**
SNR=15
ARQ P **P** **01 23 09.2 +2.1**
SNR=15
HHC Hu-ho-hao-te 36.95 25 *e*P **P** **01 23 07.5 +0.2**
HHC PP **PP** **01 24 29.8 -1.8**
HHC S **S** **01 28 50.4 -1.6**
HHC SS **SnSn** **01 31 23.0 -2.2**
HHC pmax pmax
comp=Z,350nm,0.9s
HHC pmax pmax
comp=Z,3μm,6.0s
HHC LR LR
comp=Z,11μm,14.5s
HHC LR LR
comp=Z,8μm,13.7s
HHC LR LR
comp=Z,11μm,15.3s
DMTO DMTO 36.98 288 P **P** **01 23 09.2 +1.4**
SNR=7.0
DMTO P **P** **01 23 09.2 +1.4**
SNR=7.0
TNSS Tian-Shan 37.00 342 *e*P **P** **01 23 07.8 -0.2**
comp=Z,981nm,0.8s,baz=342
TNSS Tian-Shan 37.00 342 *e*P **P** **01 23 07.8 -0.2**
TNSS pmax pmax
comp=Z,981nm,0.8s
SOEI Soe 37.02 118 P **P** **01 23 06.8 -1.3**
SOEI lAmb lAmb 01 23 17.2
comp=Z,230nm,0.8s
SOEI lAMs_20 lAMs_20 01 40 39.7
comp=Z,23μm,22.0s
SOEI Soe 37.02 118 P **P** **01 23 09.1 +0.9**
MDOK Medeo 37.09 342 *e*P **P** **01 23 08.3 -0.2**
comp=Z,7μm,1.3s,baz=342
MDOK *e*S **S** **01 28 55.5 +1.5**
baz=342
MDOK Medeo 37.09 342 *e*P **P** **01 23 08.2 -0.2**
MDOK *e*S **S** **01 28 55.5 +1.5**
MDOK pmax pmax
comp=Z,7μm,1.3s
UCH Uchtor 37.09 339 P **P** **01 23 09.7 +0.8**
SNR=99
SOHO SOHO 37.16 299 *i*P **P** **01 23 10.9 +1.8**
SNR=24
SOHO SOHO 37.16 299 P **P** **01 23 10.7 +1.6**
SOHO P **P** **01 23 10.7 +1.6**
AML Almayashu 37.31 338 P **P** **01 23 11.8 +1.1**
SNR=325
KBK Karagaybulak 37.32 339 P **P** **01 23 12.1 +1.7**
SNR=180
TKM2 Tokmak 2 37.33 340 P **P** **01 23 11.8 +1.2**
SNR=78
TKM2 Tokmak 2 37.33 340 P **P** **01 23 11.4 +0.8**
AAK Ala-Archa 37.46 339 P **P** **01 23 12.8 +1.1**
SNR=178
AAK Ala-Archa 37.46 339 P **P** **01 23 12.2 +0.6**
AAK lAmb lAmb 01 23 15.2
comp=Z,360nm,1.1s
AAK Ala-Archa 37.46 339 *i*P **P** **01 23 13.1 +1.5**
SNR=214
AAK Ala-Archa 37.46 339 ⇑P **P** **01 23 13.0 +1.3**
AAK Ala-Archa 37.46 339 *ce*P **P** **01 23 12.9 +1.3**
AAK pmax pmax
comp=Z,539nm,1.7s
AAK MLR MLR
comp=Z,5μm,18.0s
AAK Ala-Archa 37.46 339 LR LR 01 41 06.8
comp=Z,6μm,18.2s,baz=156,slow=40
AAK Ala-Archa 37.46 339 P **P** **01 23 13.5 +1.9**
HRA Herat 37.56 318 P **P** **01 23 13.4 +0.7**
FRU1 Bishkek 37.56 339 P **P** **01 23 13.3 +0.9**
FRU1 lAmb lAmb 01 23 16.0
comp=Z,494nm,1.5s
FRU1 Bishkek 37.56 339 P **P** **01 23 13.3 +0.9**
FRU1 pmax pmax
comp=Z,494nm,1.5s
FRU1 MLR MLR
comp=Z,6μm,18.0s
RBK Rabkut 37.65 288 P **P** **01 23 15.4 +2.0**
SNR=9.6
RBK P **P** **01 23 15.4 +2.0**
SNR=9.6
CHMS Chumysh 37.69 339 P **P** **01 23 14.7 +1.2**
SNR=95
UOSS Minazif 37.71 300 P **P** **01 23 13.7 -0.2**
UOSS Minazif 37.71 300 *i*P **P** **01 23 14.7 +0.9**
SNR=21
UOSS Minazif 37.71 300 P **P** **01 23 15.4 +1.6**
UOSS P **P** **01 23 15.4 +1.6**
HATD Hatta, Dubai 37.73 300 *i*P **P** **01 23 15.7 +1.6**
SNR=23
HATD Hatta, Dubai 37.73 300 P **P** **01 23 16.4 +2.4**
SNR=21
HATD P **P** **01 23 16.4 +2.4**
SNR=21
CHKK Chushkaly 37.73 343 *e*P **P** **01 23 13.0 -0.8**
baz=343
CHKK *e*S **S** **01 29 04.5 +0.9**
baz=343
CHKK Chushkaly 37.73 343 *e*P **P** **01 23 13.0 -0.8**
CHKK *e*S **S** **01 29 04.5 +0.9**
EKS2 Erkin-Say 37.74 338 P **P** **01 23 15.7 +1.7**
SNR=103
ASHO Ashiyiah 37.75 300 *i*P **P** **01 23 16.3 +2.1**
SNR=30
ASHO Ashiyiah 37.75 300 P **P** **01 23 15.4 +1.2**
SNR=14
MDH Madha 37.75 301 *i*P **P** **01 23 15.3 +1.1**
SNR=6.7
MDH Madha 37.75 301 P **P** **01 23 15.5 +1.3**
MDH P **P** **01 23 15.5 +1.3**
GIRL Giralia 37.80 145 P **P** **01 23 16.4 +1.9**
baz=38,SNR=4.7
ALNE Al Ain 37.81 299 *i*P **P** **01 23 16.5 +1.7**
SNR=29
ALNE Al Ain 37.81 299 P **P** **01 23 17.0 +2.3**
SNR=43
ALNE P **P** **01 23 17.0 +2.3**
SNR=43
ARXS Arharly 37.82 344 *i*P **P** **01 23 15.2 +0.6**
MSFE Esma-Masafi 37.89 301 *i*P **P** **01 23 17.8 +2.4**
SNR=12
MASF Masafi 37.90 301 P **P** **01 23 17.5 +2.1**
SNR=12
DOK Doka 37.91 290 P **P** **01 23 16.9 +1.2**
SNR=23
DOK P **P** **01 23 16.9 +1.2**
SNR=23
UMZA Um Al Zommool 37.93 297 P **P** **01 23 16.8 +1.1**
UMZA P **P** **01 23 16.8 +1.1**
UMZA P **P** **01 23 16.8 +1.1**
KUU Kurty 37.97 342 *e*P **P** **01 23 14.1 -1.6**
comp=Z,407nm,1.1s,baz=342
KUU *e*S **S** **01 29 08.7 +1.5**
baz=342
KUU Kurty 37.97 342 *e*P **P** **01 23 14.9 -0.8**
KUU *e*S **S** **01 29 08.6 +1.5**
KUU pmax pmax
comp=Z,407nm,1.1s
USP Ospenovka 38.01 339 P **P** **01 23 17.3 +1.2**
SNR=30
WHFO Wadi Hawf 38.12 288 P **P** **01 23 18.5 +1.0**
SNR=24
WHFO P **P** **01 23 18.5 +1.0**
SNR=24
SGDS Sogindy 38.13 340 *e*P **P** **01 23 16.9 -0.3**
comp=Z,52nm,1.1s,baz=340
SGDS Sogindy 38.13 340 *e*P **P** **01 23 16.9 -0.3**
SGDS pmax pmax
comp=Z,52nm,1.1s
SHME Shamm 38.15 302 P **P** **01 23 19.3 +1.8**
SHME P **P** **01 23 19.3 +1.8**
FAQ Al Faqa, Dubai 38.17 300 *i*P **P** **01 23 19.3 +1.7**
SNR=7.9
FAQ Al Faqa, Dubai 38.17 300 P **P** **01 23 19.4 +1.7**
SNR=14
FAQ P **P** **01 23 19.4 +1.7**
SNR=14
NAZ Nazwa, Dubai 38.19 300 *i*P **P** **01 23 19.5 +1.6**
SNR=9.7
NAZ Nazwa, Dubai 38.19 300 P **P** **01 23 19.6 +1.8**
SNR=12
NAZ P **P** **01 23 19.6 +1.8**
SNR=12
NAZ P **P** **01 23 19.6 +1.8**
SNR=12
ASUD Al Ashush, Dub 38.36 300 *i*P **P** **01 23 21.8 +2.5**
SNR=37
ASUD Al Ashush, Dub 38.36 300 P **P** **01 23 21.3 +2.0**
SNR=22
ASUD P **P** **01 23 21.3 +2.0**
SNR=22
UMQ Umm Al-Quwin 38.37 301 P **P** **01 23 22.9 +3.6**
UMQ P **P** **01 23 22.9 +3.6**
UMQ P **P** **01 23 22.9 +3.6**
TDK Taldyqorghan 38.39 345 *e*P **P** **01 23 19.0 -0.3**
comp=Z,276nm,1.3s,baz=345
TDK Taldyqorghan 38.39 345 *e*P **P** **01 23 19.0 -0.3**
TDK pmax pmax
comp=Z,276nm,1.3s
BJT Baijiatuau 38.44 31 P **P** **01 23 19.7 -0.1**
BJT Baijiatuau 38.44 31 P **P** **01 23 21.0 +1.2**
BJT Baijiatuau 38.44 31 P **P** **01 23 19.7 -0.1**
BJT pmax pmax
comp=Z,119nm,1.0s
BJT MLR MLR
comp=Z,6μm,18.0s
BJI Beijing 38.46 31 P **P** **01 23 20.5 +0.6**
BJI sP **sP** **01 23 24.6 -0.8**
BJI PP **PnPn** **01 24 52.1 +2.2**
BJI S **S** **01 29 17.5 +2.9**
BJI pmax pmax
comp=Z,59nm,1.0s
BJI pmax pmax
comp=Z,920nm,5.1s
BJI LR LR
comp=Z,3μm,14.6s
BJI LR LR
comp=Z,2μm,15.9s
BJI LR LR
comp=Z,3μm,15.4s
ABTO Aybut 38.48 287 P **P** **01 23 21.7 +1.2**
SNR=18
AJN Ajban 38.63 299 *i*P **P** **01 23 23.5 +1.9**
SNR=6.0
AJN Ajban 38.63 299 P **P** **01 23 22.8 +1.2**
SNR=19
AJN P **P** **01 23 22.8 +1.2**
SNR=19
DZA Taraz 38.88 336 *e*P **P** **01 23 23.0 -0.5**
comp=Z,40nm,0.7s,baz=336
DZA Taraz 38.88 336 *e*P **P** **01 23 23.0 -0.5**
DZA pmax pmax
comp=Z,39nm,0.7s
CHM Chimkent 39.14 334 *e*P **P** **01 23 25.3 -0.4**
comp=Z,66nm,1.2s,baz=334
CHM Chimkent 39.14 334 *e*P **P** **01 23 25.2 -0.4**
CHM pmax pmax
comp=Z,65nm,1.2s
JOW Kunigami 39.24 57 P **P** **01 23 27.0 +0.3**
JOW lAmb lAmb 01 23 34.0
comp=Z,463nm,1.4s
JOW Kunigami 39.24 57 P **P** **01 23 27.9 +1.2**
JOW Kunigami 39.24 57 ⇑P **P** **01 23 27.9 +1.2**
JOW Kunigami 39.24 57 P **P** **01 23 27.4 +0.7**
comp=Z,156nm,1.0s,baz=273,slow=8.6,SNR=13
comp=Z,156nm,1.0s
MK31 Makanchi Array 39.25 350 P **P** **01 23 26.5 0.0**
MK31 lAmb lAmb 01 23 28.7
comp=Z,272nm,1.1s
MK31 Makanchi Array 39.25 350 *i*P **P** **01 23 26.5 0.0**
MKAR Makanchi Array 39.25 350 P **P** **01 23 26.8 +0.3**
MKAR Makanchi Array 39.25 350 P **P** **01 23 26.8 +0.3**
MKAR Makanchi Array 39.25 350 P **P** **01 23 26.7 +0.2**
comp=Z,234nm,0.9s,baz=168,slow=8.0,SNR=882
MKAR ScS ScS 01 33 30.5 -4.4
comp=Z,0.9nm,0.9s,baz=175,slow=3.3,SNR=1.6
MKAR LR LR 01 43 31.9
comp=Z,6μm,18.1s,baz=183,slow=42
MKAR P3KPbc 01 53 30.6
comp=Z,0.3nm,0.6s,baz=359,slow=4.4,SNR=3.9
comp=Z,234nm,0.9s
MAKZ Makanchi 39.32 349 P **P** **01 23 27.5 +0.5**
MAKZ Makanchi 39.32 349 ⇓P **P** **01 23 27.1 0.0**
MAKZ Makanchi 39.32 349 P **P** **01 23 28.2 +1.1**
MZWR Madinat Zayed 39.35 298 P **P** **01 23 28.6 +1.0**
MZWR P **P** **01 23 28.6 +1.0**
MZWR P **P** **01 23 28.6 +1.0**
KK31 Karatay Array 39.39 335 P **P** **01 23 28.2 +0.5**
KK31 lAmb lAmb 01 23 30.3
comp=Z,222nm,0.9s
KK31 Karatay Array 39.39 335 *i*P **P** **01 23 28.2 +0.5**
KKAR Karatay Array 39.39 335 P **P** **01 23 28.2 +0.5**
KKAR lAmb lAmb 01 23 30.3
comp=Z,220nm,0.9s
KKAR Karatay Array 39.39 335 ⇓P **P** **01 23 28.0 +0.3**
KKAR Karatay Array 39.39 335 P **P** **01 23 28.2 +0.5**
ZSN Zaisan 39.50 353 *e*P **P** **01 23 28.6 0.0**
comp=Z,279nm,1.5s,baz=352

ZSN					*e*S	**S**	**01 29 32.7**	**+2.4**
	baz=352								
ZSN	**Zaisan**	**39.50**	**353**		*e*P	**P**	**01 23 28.6**	**0.0**
ZSN					*e*S	**S**	**01 29 32.6**	**+2.4**
ZSN					pmax	pmax			
	comp=Z,279nm,1.5s								
BTLS	**Baital**	**39.73**	**340**		*e*P	**P**	**01 23 30.2**	**-0.3**
	comp=Z,58nm,1.0s,baz=340								
BTLS	**Baital**	**39.73**	**340**		*e*P	**P**	**01 23 30.1**	**-0.3**
BTLS					pmax	pmax			
	comp=Z,58nm,1.0s								
GHWR	**Ruwais**	**40.29**	**297**		P	**P**	**01 23 36.6**	**+1.1**
GHWR					P	**P**	**01 23 36.6**	**+1.1**
PSAD1	**Pilbara Seismi**	**40.41**	**137**		IAMs_20	IAMs_20	01 41 36.0		
	comp=Z,10μm,19.0s								
PSAB1	**Pilbara Seismi**	**40.48**	**138**		IAMs_20	IAMs_20	01 41 28.9		
	comp=Z,9μm,19.0s								
PSAA1	**Pilbara Seismi**	**40.49**	**138**		IAMs_20	IAMs_20	01 41 29.3		
	comp=Z,10μm,20.0s								
PSAB2	**Pilbara Seismi**	**40.50**	**137**		IAMs_20	IAMs_20	01 41 29.4		
	comp=Z,10μm,20.0s								
PSA00	**Pilbara Seismi**	**40.50**	**137**		P	**P**	**01 23 36.5**	**-0.7**
PSA00	**Pilbara Seismi**	**40.50**	**137**		P	**P**	**01 23 37.3**	**+0.1**
PSA00					IAmb	IAmb	01 23 51.0		
	comp=Z,167nm,1.1s								
PSA00					IAMs_20	IAMs_20	01 41 38.4		
	comp=Z,9μm,19.0s								
PSA00	**Pilbara Seismi**	**40.50**	**137**		P	**P**	**01 23 37.7**	**+0.5**
PSAA3	**Pilbara Seismi**	**40.51**	**137**		IAMs_20	IAMs_20	01 41 30.7		
	comp=Z,10μm,20.0s								
PSAB3	**Pilbara Seismi**	**40.52**	**138**		IAMs_20	IAMs_20	01 41 29.0		
	comp=Z,10μm,20.0s								
JRN	**Qarnain Island**	**40.60**	**299**		P	**P**	**01 23 39.1**	**+1.1**
	SNR=20								
JRN					P	**P**	**01 23 39.1**	**+1.1**
	SNR=20								
DL2	**Dalian**	**40.66**	**37**		P	**P**	**01 23 39.3**	**+1.0**
DL2					S	**S**	**01 29 49.0**	**+1.3**
DL2					pmax	pmax			
	comp=Z,120nm,1.0s								
DL2					pmax	pmax			
	comp=Z,2μm,5.2s								
DL2					LR	LR			
	comp=Z,5μm,17.6s								
DL2					LR	LR			
	comp=Z,4μm,14.0s								
DL2					LR	LR			
	comp=Z,3μm,13.9s								
SLWR	**Sila**	**41.36**	**297**		P	**P**	**01 23 45.8**	**+1.5**
SLWR					P	**P**	**01 23 45.8**	**+1.5**
SLWR					P	**P**	**01 23 45.8**	**+1.5**
SONM	**Songino Array**	**41.37**	**15**		P	**P**	**01 23 44.2**	**0.0**
SONM					IAmb	IAmb	01 23 46.4		
	comp=Z,348nm,1.1s								
SONM	**Songino Array**	**41.37**	**15**		P	**P**	**01 23 44.7**	**+0.5**
	comp=Z,202nm,1.0s,baz=195,slow=8.6,SNR=646								
SONM					PcP	**PcP**	**01 25 42.8**	**+0.5**
	comp=Z,24nm,0.8s,baz=211,slow=3.0,SNR=3.4								
SONM					ScP	**ScP**	**01 29 31.5**	**-0.4**
	comp=Z,4.7nm,1.2s,baz=185,slow=2.3,SNR=2.1								
SONM					S	**S**	**01 29 58.3**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=152,slow=5.8,SNR=1.9								
SONM					ScS	**ScS**	**01 33 44.8**	**-3.1**
	comp=Z,0.2nm,0.4s,baz=30,slow=42,SNR=1.9								
SONM					LR	LR	01 43 42.0		
	comp=Z,2μm,18.1s,baz=208,slow=40								
	comp=Z,202nm,1.0s								
XLT	**XiLinHaoTe**	**41.39**	**27**	⇓	*i*P	**P**	**01 23 44.8**	**+0.5**
XLT					PcP	**PcP**	**01 25 43.6**	**+1.2**
XLT					S	**S**	**01 29 55.1**	**-3.5**
XLT					sS	sS	01 30 08.6	+3.6
XLT					SS	**SS**	**01 32 58.3**	**-4.5**
XLT					pmax	pmax			
	comp=Z,240nm,1.1s								
XLT					pmax	pmax			
	comp=Z,2μm,6.9s								
XLT					LR	LR			
	comp=Z,570nm,15.0s								
XLT					LR	LR			
	comp=Z,3μm,13.4s								
XLT					LR	LR			
	comp=Z,6μm,16.0s								
DGZ	**Jazzator, Alta**	**41.48**	**356**	*d*	*i*P	**P**	**01 23 45.5**	**+0.5**
DGZ					pmax	pmax			
	comp=Z,165nm,1.3s								
DGZ					MLR	MLR			
	comp=Z,3μm,18.0s								
ULN	**Ulaanbaatar**	**41.57**	**16**		P	**P**	**01 23 45.3**	**-0.5**
ULN					IAmb	IAmb	01 23 47.7		
	comp=Z,266nm,1.3s								
ULN	**Ulaanbaatar**	**41.57**	**16**	⇑	P	**P**	**01 23 46.1**	**+0.2**
ULN	**Ulaanbaatar**	**41.57**	**16**		P	**P**	**01 23 46.4**	**+0.5**
FAKI	**Fak Fak**	**41.91**	**104**		P	**P**	**01 23 47.5**	**-1.4**
FAKI	**Fak Fak**	**41.91**	**104**		P	**P**	**01 23 49.7**	**+0.7**
FAKI	**Fak Fak**	**41.91**	**104**	⇑	P	**P**	**01 23 48.6**	**-0.4**
TRNA	**Turayna**	**41.96**	**298**		P	**P**	**01 23 50.3**	**+1.1**
	SNR=35								
SMRA	**Abu-Samra**	**42.30**	**298**		P	**P**	**01 23 54.0**	**+2.0**
	SNR=43								
GEYT	**Alibeck**	**42.34**	**319**		P	**P**	**01 23 52.5**	**+0.3**
GEYT	**Alibeck**	**42.34**	**319**		P	**P**	**01 23 53.3**	**+1.1**
	comp=Z,374nm,1.1s,baz=145,slow=8.3,SNR=266								
GEYT					S	**S**	**01 30 12.8**	**0.0**
	comp=Z,0.9nm,0.4s,baz=226,slow=41,SNR=2.3								
GEYT					ScS	**ScS**	**01 33 47.1**	**-6.8**
	comp=Z,1.2nm,0.7s,baz=213,slow=35,SNR=1.6								
GEYT					LR	LR	01 43 34.0		
	comp=Z,6μm,19.2s,baz=144,slow=39								
	comp=Z,374nm,1.1s								
GYA0B	**ALIBECK ARRAY**	**42.34**	**319**		P	**P**	**01 23 52.2**	**0.0**
GYA0B					IAmb	IAmb	01 23 56.5		
	comp=Z,461nm,1.1s								
SHMA	**Al-Shehemyia**	**42.49**	**299**		P	**P**	**01 23 56.0**	**+2.4**
	SNR=12								
FITZ	**Fitzroy Crossi**	**42.50**	**128**		P	**P**	**01 23 52.6**	**-1.0**
	baz=43,SNR=27								
HJU	**Haeju**	**42.67**	**41**		P	**P**	**01 23 54.4**	**-0.3**
HJU					S	**S**	**01 30 14.5**	**-2.9**
HJU					AmB				
	comp=Z,2μm,2.9s								
TJN	**Taejon**	**42.84**	**44**		P	**P**	**01 23 55.4**	**-0.7**
TJN	**Taejon**	**42.84**	**44**		P	**P**	**01 23 56.6**	**+0.5**
TJN	**Taejon**	**42.84**	**44**	*d*	*i*P	**P**	**01 23 56.0**	**-0.1**
SAKB	**Bahrain**	**42.90**	**299**		P	**P**	**01 23 57.6**	**+0.8**
INCN	**Inchon**	**42.94**	**42**		P	**P**	**01 23 55.8**	**-1.2**
INCN					IAmb	IAmb	01 23 58.1		
	comp=Z,603nm,2.0s								
INCN	**Inchon**	**42.94**	**42**		P	**P**	**01 23 57.3**	**+0.2**
INCN	**Inchon**	**42.94**	**42**		P	**P**	**01 23 55.8**	**-1.2**
INCN					pmax	pmax			
	comp=Z,603nm,2.0s								
INCN					MLR	MLR			
	comp=Z,3μm,20.0s								
INCN	**Inchon**	**42.94**	**42**		P	**P**	**01 23 53.7**	**-3.4**
ZAK	**Zakamensk**	**43.09**	**11**	*e*	P	**P**	**01 23 58.4**	**+0.3**
ZAK				*e*			01 25 39.3		
ZAK					pmax	pmax			
	comp=Z,82nm,1.3s								
ZAK					pmax	pmax			
	comp=Z,43nm,1.3s								
SEM	**Semipalatinsk**	**43.10**	**349**	*e*	P	**P**	**01 23 58.2**	**-0.2**
	comp=Z,188nm,1.3s,baz=349								
SEM	**Semipalatinsk**	**43.10**	**349**	*e*	P	**P**	**01 23 58.1**	**-0.2**
SEM					pmax	pmax			
	comp=Z,188nm,1.3s								
SUJ	**Sinuiju**	**43.13**	**37**		P	**P**	**01 23 57.9**	**-0.6**
SUJ					S	**S**	**01 30 21.2**	**-3.1**
SUJ					AmB				
	comp=Z,2μm,3.9s								
PYAG	**Pyongyang**	**43.27**	**39**		P	**P**	**01 23 59.3**	**-0.4**
PYAG					S	**S**	**01 30 23.0**	**-3.4**
PYAG					AmB				
	comp=Z,764nm,3.3s								
JTU	**Tsushima**	**43.35**	**47**		P	**P**	**01 23 59.3**	**-1.0**
JTU					IAmb	IAmb	01 24 02.7		
	comp=Z,247nm,1.1s								
JTU	**Tsushima**	**43.35**	**47**		P	**P**	**01 24 01.7**	**+1.4**
JTU	**Tsushima**	**43.35**	**47**	⇑	P	**P**	**01 24 01.6**	**+1.2**
MEEK	**Meekatharra**	**43.40**	**144**		P	**P**	**01 24 01.5**	**+0.7**
	baz=44,SNR=18								
MEEK	**Meekatharra**	**43.40**	**144**		P	**P**	**01 24 02.3**	**+1.4**
KURBB	**Kurchatov Arra**	**43.64**	**348**		P	**P**	**01 24 02.5**	**+0.1**
KURBB	**Kurchatov Arra**	**43.64**	**348**		P	**P**	**01 24 02.9**	**+0.4**
	comp=Z,256nm,1.0s,baz=170,slow=7.1,SNR=956								
KURBB					PcP	**PcP**	**01 25 50.1**	**+0.5**
	comp=Z,29nm,0.8s,baz=158,slow=2.8,SNR=4.4								
KURBB					ScP	**ScP**	**01 29 39.6**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=155,slow=4.6,SNR=1.6								
KURBB					S	**S**	**01 30 30.5**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=232,slow=22,SNR=1.4								
KURBB					PKiKP	**PKiKP**	**01 32 50.7**	**-1.0**
	comp=Z,0.3nm,0.2s,baz=150,slow=1.4,SNR=4.0								
KURBB					LR	LR	01 44 09.5		
	comp=Z,3μm,21.5s,baz=163,slow=39								
	comp=Z,256nm,1.0s								
SNY	**Shenyang**	**43.70**	**35**	⇓	P	**P**	**01 24 02.5**	**-0.5**
SNY					S	**S**	**01 30 31.9**	**-0.6**
SNY					pmax	pmax			
	comp=Z,120nm,1.1s								
SNY					pmax	pmax			
	comp=Z,1μm,6.2s								
SNY					LR	LR			
	comp=Z,4μm,16.7s								
SNY					LR	LR			
	comp=Z,3μm,16.7s								
SNY					LR	LR			
	comp=Z,5μm,14.5s								
KURK	**Kurchatov**	**43.71**	**348**		P	**P**	**01 24 04.1**	**+1.1**
KURK	**Kurchatov**	**43.71**	**348**	⇓	P	**P**	**01 24 03.4**	**+0.4**
KURK	**Kurchatov**	**43.71**	**348**		P	**P**	**01 24 02.9**	**-0.1**
KURK							01 25 50.1		
KURK	**Kurchatov**	**43.71**	**348**		P	**P**	**01 24 04.3**	**+1.3**
KURK					P	**P**	**01 24 04.3**	**+1.3**
KNRA	**Kununurra**	**43.72**	**123**		P	**P**	**01 24 03.3**	**-0.2**
	baz=44,SNR=11								
KNRA	**Kununurra**	**43.72**	**123**		P	**P**	**01 24 02.8**	**-0.7**
KNRA	**Kununurra**	**43.72**	**123**		P	**P**	**01 24 04.6**	**+1.1**
KSAR	**Wonju Array Be**	**43.76**	**43**		P	**P**	**01 24 03.3**	**-0.3**
KSAR	**Wonju Array Be**	**43.76**	**43**		P	**P**	**01 24 03.3**	**-0.3**
KS19	**Wonju Array Si**	**43.78**	**43**		P	**P**	**01 24 03.6**	**-0.2**
KSRS	**Korea Array**	**43.79**	**43**		P	**P**	**01 24 03.1**	**-0.7**
	comp=Z,15nm,0.8s,baz=239,slow=9.7,SNR=38								
KSRS					PcP	**PcP**	**01 25 49.9**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=252,slow=3.3,SNR=3.0								
KSRS					S	**S**	**01 30 33.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=149,slow=25,SNR=1.9								
KSRS					LR	LR	01 45 39.4		
	comp=Z,2μm,18.4s,baz=240,slow=41								
	comp=Z,15nm,0.8s								
JNU	**Nakatsue**	**43.81**	**50**		P	**P**	**01 24 04.5**	**+0.3**
JNU	**Nakatsue**	**43.81**	**50**		P	**P**	**01 24 05.4**	**+1.2**
JNU	**Nakatsue**	**43.81**	**50**	⇓	P	**P**	**01 24 04.8**	**+0.7**
JNU	**Nakatsue**	**43.81**	**50**		P	**P**	**01 24 04.7**	**+0.5**
	comp=Z,128nm,1.0s,baz=270,slow=11,SNR=34								
JNU					LR	LR	01 44 41.0		
	comp=Z,3μm,18.0s,baz=234,slow=39								
	comp=Z,128nm,1.0s								
MORW	**Morawa**	**43.88**	**149**		P	**P**	**01 24 05.2**	**+0.5**
	baz=44,SNR=7.3								
MORW	**Morawa**	**43.88**	**149**		P	**P**	**01 24 05.5**	**+0.8**
MORW					IAmb	IAmb	01 24 18.4		
	comp=Z,367nm,2.0s								
MORW	**Morawa**	**43.88**	**149**		P	**P**	**01 24 06.3**	**+1.6**
MORW	**Morawa**	**43.88**	**149**	⇑	P	**P**	**01 24 06.3**	**+1.6**
MOY	**Mondy**	**43.96**	**8**	*e*	P	**P**	**01 24 06.0**	**+0.9**
MOY					pmax	pmax			
	comp=Z,107nm,1.9s								
MTN	**Manton Dam**	**44.41**	**118**		P	**P**	**01 24 08.5**	**-0.6**
	baz=44,SNR=3.8								
MTN	**Manton Dam**	**44.41**	**118**		P	**P**	**01 24 07.9**	**-1.2**
BRZS	**Berezniki**	**44.53**	**343**	*e*	P	**P**	**01 24 08.6**	**-1.0**
	comp=Z,122nm,1.2s,baz=343								
BRZS	**Berezniki**	**44.53**	**343**	*e*	P	**P**	**01 24 08.6**	**-1.0**
BRZS					pmax	pmax			
	comp=Z,122nm,1.2s								
IRK	**Irkutsk**	**45.05**	**11**	*e*	P	**P**	**01 24 14.6**	**+0.9**
IRK				*e*	S	**S**	**01 30 55.4**	**+3.4**
IRK					pmax	pmax			
	comp=Z,242nm,2.1s								
BLDU	**Ballidu**	**45.47**	**149**		P	**P**	**01 24 16.7**	**-0.6**
	baz=46,SNR=15								
BLDU	**Ballidu**	**45.47**	**149**		P	**P**	**01 24 19.0**	**+1.7**
KDU	**Kakadu**	**45.52**	**117**		P	**P**	**01 24 17.8**	**-0.1**
	baz=46,SNR=9.3								
KDU	**Kakadu**	**45.52**	**117**		P	**P**	**01 24 20.1**	**+2.2**
KDU	**Kakadu**	**45.52**	**117**	⇑	P	**P**	**01 24 18.2**	**+0.3**
RER	**Riviere de l'E**	**45.85**	**230**	⇓	P	**P**	**01 24 24.1**	**+3.5**
ZAA0	**Zalesovo Array**	**45.91**	**354**		P	**P**	**01 24 20.9**	**+0.4**
ZALV	**Zalesovo Beam**	**45.91**	**354**		P	**P**	**01 24 20.8**	**+0.3**
ZALV	**Zalesovo Beam**	**45.91**	**354**		P	**P**	**01 24 20.6**	**+0.1**
	comp=Z,328nm,1.0s,baz=180,slow=5.8,SNR=589								
ZALV					PcP	**PcP**	**01 25 56.2**	**-1.1**
	comp=Z,28nm,0.9s,baz=163,slow=5.3,SNR=1.7								
ZALV					LR	LR	01 47 55.1		
	comp=Z,6μm,18.2s,baz=179,slow=42								
ZALV					PKPPKP	**P'P'df**	**01 55 46.0**	**-5.6**
	comp=Z,1.1nm,0.7s,baz=329,slow=5.2,SNR=4.1								
	comp=Z,328nm,1.0s								
CN2	**Changchun**	**46.03**	**34**		P	**P**	**01 24 21.3**	**-0.3**
CN2					PcP	**PcP**	**01 25 57.9**	**-0.1**
CN2					PP	**PP**	**01 26 09.6**	**0.0**
CN2					S	**S**	**01 31 00.3**	**-5.9**
CN2					pmax	pmax			
	comp=Z,150nm,0.9s								
CN2					pmax	pmax			
	comp=Z,2μm,5.0s								
CN2					LR	LR			
	comp=Z,3μm,14.0s								
CN2					LR	LR			
	comp=Z,5μm,14.0s								
CN2					LR	LR			
	comp=Z,4μm,14.0s								
MUN	**Mundaring**	**46.34**	**151**		P	**P**	**01 24 25.4**	**+1.2**
	baz=46,SNR=12								
MUN	**Mundaring**	**46.34**	**151**		P	**P**	**01 24 25.3**	**+1.2**
JMN	**Monobe**	**46.35**	**51**		P	**P**	**01 24 24.0**	**-0.3**
JMN	**Monobe**	**46.35**	**51**		P	**P**	**01 24 25.6**	**+1.2**
JMN	**Monobe**	**46.35**	**51**	⇑	P	**P**	**01 24 25.2**	**+0.9**
KLBR	**Kellerberrin**	**46.79**	**149**		P	**P**	**01 24 28.8**	**+1.1**
	baz=47,SNR=11								
KLBR	**Kellerberrin**	**46.79**	**149**		P	**P**	**01 24 29.2**	**+1.5**
HIA	**Hailar**	**47.15**	**25**		P	**P**	**01 24 29.9**	**-0.4**
HIA					IAmb	IAmb	01 24 32.8		
	comp=Z,215nm,1.0s								
HIA	**Hailar**	**47.15**	**25**		P	**P**	**01 24 31.3**	**+0.9**
HIA	**Hailar**	**47.15**	**25**	*d*	*i*P	**P**	**01 24 30.0**	**-0.4**
HIA					pmax	pmax			
	comp=Z,291nm,1.1s								
CIT	**Chita**	**47.17**	**18**	*e*	P	**P**	**01 24 30.6**	**+0.1**
CIT				*e*			01 26 03.5		
CIT				*e*			01 26 22.3		
CIT				*e*			01 31 35.4		
CIT					pmax	pmax			
	comp=Z,561nm,1.5s								
NWAO	**Narrogin (SRO)**	**47.61**	**151**		P	**P**	**01 24 34.4**	**+0.4**
	baz=48,SNR=17								
NWAO					P	**P**	**01 24 34.4**	**+0.4**
	baz=48,SNR=17								
NWAO	**Narrogin (SRO)**	**47.61**	**151**		P	**P**	**01 24 34.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**47.61**	**151**		P	**P**	**01 24 34.1**	**+0.1**
NWAO					IAmb	IAmb	01 24 40.4		
	comp=Z,138nm,0.9s								
NWAO	**Narrogin (SRO)**	**47.61**	**151**		P	**P**	**01 24 35.3**	**+1.2**
NWAO	**Narrogin (SRO)**	**47.61**	**151**		P	**P**	**01 24 35.6**	**+1.5**
NWAO	**Narrogin (SRO)**	**47.61**	**151**		P	**P**	**01 24 34.1**	**+0.1**
NWAO					pmax	pmax			
	comp=Z,138nm,0.9s								
NWAO					MLR	MLR			
	comp=Z,5μm,18.0s								
NWAO	**Narrogin (SRO)**	**47.61**	**151**		LR	LR	01 44 39.5		
	comp=Z,3μm,19.0s,baz=348,slow=36								
AIS	**Amsterdam Isla**	**47.67**	**195**		IAMs_20	IAMs_20	01 40 37.2		
	comp=Z,10μm,20.0s								
H01W3	**Cape Leeuwin H**	**47.85**	**155**		P	P	01 24 41.7	+6.2	
	baz=299,slow=6.6,SNR=4.1								
H01W3					T	T	02 15 58.0		
	baz=331,slow=76,SNR=11								
H01W2	**Cape Leeuwin H**	**47.86**	**155**		P	**P**	**01 24 40.2**	**+4.6**
	baz=299,slow=6.6,SNR=6.2								
H01W2					T	T	02 15 59.5		
	baz=331,slow=76,SNR=12								
HARA	**HARA**	**47.86**	**275**	*e*	P	**P**	**01 24 35.8**	**-0.9**
HARA				*e*	S	S	01 31 13.9	-20	
H01W1	**Cape Leeuwin H**	**47.86**	**155**		P	**P**	**01 24 38.0**	**+2.3**
	baz=299,slow=6.6,SNR=6.3								
H01W1					T	T	02 15 41.1		
	baz=331,slow=76,SNR=11								
BVA0	**Borovoye Array**	**47.90**	**343**		*i*P	**P**	**01 24 36.1**	**+0.1**
BVAR	**Borovoye Array**	**47.90**	**343**		P	**P**	**01 24 35.8**	**-0.3**
	comp=Z,150nm,0.9s,baz=147,slow=6.4,SNR=394								
BVAR					PcP	**PcP**	**01 26 05.0**	**+0.6**
	comp=Z,26nm,0.8s,baz=134,slow=4.2,SNR=2.5								
BVAR					S	**S**	**01 31 28.0**	**-4.7**
	comp=Z,0.7nm,0.6s,baz=245,slow=34,SNR=1.2								
BVAR					LR	LR	01 47 11.3		
	comp=Z,6μm,18.4s,baz=157,slow=39								
	comp=Z,150nm,0.9s								
BRVK	**Borovoye**	**47.96**	**343**		P	**P**	**01 24 36.5**	**+0.1**
BRVK					IAmb	IAmb	01 24 38.3		
	comp=Z,196nm,1.1s								
BRVK	**Borovoye**	**47.96**	**343**		IAMs_20	IAMs_20	01 46 59.7		
	comp=Z,7μm,18.0s								
BRVK	**Borovoye**	**47.96**	**343**	⇑	P	**P**	**01 24 36.2**	**-0.3**
BRVK	**Borovoye**	**47.96**	**343**	*ce*	P	**P**	**01 24 36.6**	**+0.1**
BRVK					pmax	pmax			
	comp=Z,246nm,1.3s								
BRVK					MLR	MLR			
	comp=Z,6μm,17.0s								
BRVK	**Borovoye**	**47.96**	**343**		P	**P**	**01 24 37.3**	**+0.8**
BRVK					P	**P**	**01 24 37.3**	**+0.8**
BRVK					P	**P**	**01 24 37.3**	**+0.8**
ATD	**Arta Tunnel**	**48.22**	**278**		P	**P**	**01 24 39.3**	**+0.1**
ATD	**Arta Tunnel**	**48.22**	**278**		LR	LR	01 43 08.7		
	comp=Z,90nm,19.6s,baz=82,slow=34								
ATD	**Arta Tunnel**	**48.22**	**278**		P	**P**	**01 24 41.2**	**+2.0**
	SNR=8.8								
ATD	**Arta Tunnel**	**48.22**	**278**	*e*	P	P	01 24 44.2	+5.0	
ATD				*e*	S	S	01 31 28.9	-9.5	
BNX	**BinXian**	**48.34**	**33**	⇑	P	**P**	**01 24 39.8**	**+0.2**
BNX					pP	**sP**	**01 24 44.3**	**-0.8**
BNX					sP	**pwP**	**01 24 49.3**	**+0.9**
BNX					PP	**PP**	**01 26 32.8**	**+0.6**
BNX					S	**S**	**01 31 43.0**	**+3.9**
BNX					sS	**sS**	**01 31 50.5**	**+4.9**
BNX					pmax	pmax			
	comp=Z,120nm,1.0s								
BNX					pmax	pmax			
	comp=Z,1μm,7.8s								
BNX					LR	LR			
	comp=Z,4μm,19.4s								
BNX					LR	LR			
	comp=Z,5μm,19.6s								
BNX					LR	LR			
	comp=Z,3μm,17.8s								
WRKA	**Warakurna**	**48.62**	**134**		P	**P**	**01 24 41.7**	**-0.3**
	baz=49,SNR=48								
WRKA	**Warakurna**	**48.62**	**134**		P	**P**	**01 24 43.4**	**+1.3**
WRKA	**Warakurna**	**48.62**	**134**	⇓	P	**P**	**01 24 41.9**	**-0.2**
AB31	**Akbulak array**	**48.78**	**333**	*e*	P	**P**	**01 24 43.4**	**+0.5**
ABKAR	**Akbulak array**	**48.78**	**333**		P	**P**	**01 24 43.1**	**+0.2**
ABKAR					IAmb	IAmb	01 24 45.5		
	comp=Z,235nm,1.2s								
ABKAR	**Akbulak array**	**48.78**	**333**		P	**P**	**01 24 43.3**	**+0.4**
ABKAR	**Akbulak array**	**48.78**	**333**	⇓	P	**P**	**01 24 43.4**	**+0.4**
KMBL	**Kambalda**	**48.83**	**145**		P	**P**	**01 24 44.7**	**+1.1**
	baz=49,SNR=8.5								
KMBL	**Kambalda**	**48.83**	**145**		P	**P**	**01 24 45.3**	**+1.7**
RKGY	**Rocky Gully**	**48.87**	**152**		P	**P**	**01 24 44.8**	**+1.1**
	baz=49,SNR=6.6								
RKGY	**Rocky Gully**	**48.87**	**152**		P	**P**	**01 24 45.4**	**+1.6**
MDJ	**Mudanjiang**	**48.87**	**36**		P	**P**	**01 24 43.9**	**+0.2**
MDJ					sP	sP	01 24 48.8	-0.4	
MDJ					PcS	**PcS**	**01 30 04.3**	**+0.1**
MDJ					S	**S**	**01 31 48.8**	**+2.1**
MDJ					pmax	pmax			
	comp=Z,100nm,1.4s								
MDJ					pmax	pmax			
	comp=Z,2μm,6.3s								
MDJ					LR	LR			
	comp=Z,3μm,12.1s								
MDJ					LR	LR			
	comp=Z,7μm,13.7s								
MDJ					LR	LR			
	comp=Z,6μm,15.7s								
MDJ	**Mudanjiang**	**48.87**	**36**		P	**P**	**01 24 43.2**	**-0.5**
MDJ	**Mudanjiang**	**48.87**	**36**		P	**P**	**01 24 45.0**	**+1.3**
GENI	**Genyem**	**49.50**	**101**		P	**P**	**01 24 49.5**	**+0.5**
AUALB	**St Joseph's Co**	**49.62**	**152**		P	**P**	**01 24 51.1**	**+1.6**
USA0B	**Ussuriysk Arra**	**50.04**	**37**		P	**P**	**01 24 51.7**	**-0.9**
USA0B	**Ussuriysk Arra**	**50.04**	**37**	*i*	P	**P**	**01 24 51.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**50.04**	**37**		P	**P**	**01 24 52.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**50.04**	**37**		P	**P**	**01 24 52.3**	**-0.3**
	comp=Z,37nm,0.9s,baz=243,slow=6.3,SNR=27								
USRK					PP	**PP**	**01 26 48.3**	**+0.5**
	comp=Z,13nm,0.9s,baz=227,slow=7.3,SNR=4.7								
USRK					LR	LR	01 48 35.6		
	comp=Z,2μm,18.9s,baz=231,slow=39								
	comp=Z,37nm,0.9s								
WB0	**Warramunga Arr**	**50.40**	**124**		P	**P**	**01 24 54.2**	**-1.5**
WB0					IAmb	IAmb	01 25 06.6		
	comp=Z,116nm,0.6s								
WB0					IAMs_20	IAMs_20	01 49 42.3		
	comp=Z,7μm,18.0s								
WB9	**Warramunga Arr**	**50.40**

HEH LR LR
comp=Z,6µm,16.0s
DESE Dese 51.37 278 *e*P **P 01 25 04.0 +0.5**
DESE *e*S S 01 32 05.8 -17
ABPO Ambohimpanom 51.55 238 P **P 01 25 05.2 +0.6**
ABPO Ambohimpanom 51.55 238 *e*P **P 01 25 04.9 +0.3**
ABPO IAmb IAmb 01 25 16.2
comp=Z,204nm,1.6s
ABPO Ambohimpanom 51.55 238 ⇓P **P 01 25 05.8 +1.2**
ABPO Ambohimpanom 51.55 238 P **P 01 25 05.2 +0.6**
MAK Makhachkala 51.87 319 *e*P **P 01 25 04.1 -2.3**
MAK *e*S **S 01 32 26.8 -1.6**
MAK *e*SS **SS 01 35 59.1 -6.1**
MAK pmax pmax
comp=Z,210nm,1.2s
MAK MLR MLR
comp=Z,2µm,14.0s
ASAR Alice Springs 52.00 129 P **P 01 25 06.8 -1.0**
ASAR Alice Springs 52.00 129 P **P 01 25 06.9 -0.9**
comp=Z,44nm,0.9s,baz=306,slow=7.1,SNR=128
ASAR PcP **PcP 01 26 20.6 +0.6**
comp=Z,14nm,0.7s,baz=305,slow=3.5,SNR=4.1
ASAR S **S 01 32 34.8 +3.9**
comp=Z,4.1nm,1.1s,baz=302,slow=12,SNR=4.2
ASAR LR LR 01 48 00.6
comp=Z,6µm,20.8s,baz=295,slow=37
ASAR PKP2bc **P'P'bc 01 55 58.7 +0.4**
comp=Z,1.3nm,0.8s,baz=151,slow=3.0,SNR=4.6
comp=Z,44nm,0.9s
AS31 Alice Springs 52.00 129 P **P 01 25 07.2 -0.6**
AS01 Alice Springs 52.04 129 P **P 01 25 08.7 +0.7**
FORT Forrest 52.15 140 P **P 01 25 09.6 +1.0**
baz=52,SNR=60
FORT Forrest 52.15 140 P **P 01 25 09.3 +0.7**
FORT Forrest 52.15 140 P **P 01 25 11.1 +2.5**
FORT Forrest 52.15 140 ⇓P **P 01 25 09.4 +0.8**
BOD Bodaibo 52.37 15 *e*P **P 01 25 10.2 +0.3**
BOD pmax pmax
comp=Z,378nm,1.5s
GUMO Guam 52.37 79 P **P 01 25 09.1 -1.5**
GUMO Guam 52.37 79 LR LR 01 46 54.1
comp=Z,3µm,20.1s,baz=260,slow=36
WLRA Wolmera 52.38 275 *e*P P 01 25 06.1 -5.1
WLRA *e*S S 01 32 09.8 -27
FURI Furi 52.42 275 IAMs_20 IAMs_20 01 44 14.9
comp=Z,7µm,21.0s
FURI Furi 52.42 275 *e*P P 01 25 04.6 -6.7
FURI *e*S S 01 32 08.7 -29
FURI IAMs_20 IAMs_20 01 41 14.2
comp=Z,3µm,18.4s
GNI Garni 52.47 315 P **P 01 25 10.9 -0.3**
GNI IAmb IAmb 01 25 13.9
comp=Z,210nm,1.1s
GNI Garni 52.47 315 P **P 01 25 12.2 +1.0**
GNI Garni 52.47 315 ⇓P **P 01 25 11.6 +0.4**
GNI Garni 52.47 315 P **P 01 25 10.9 -0.3**
GNI pmax pmax
comp=Z,210nm,1.1s
GNI Garni 52.47 315 LR LR 01 51 12.2
comp=Z,2µm,19.2s,baz=119,slow=40
GNI Garni 52.47 315 P **P 01 25 12.0 +0.8**
KLR Kul'dur 52.81 32*ce*P **P 01 25 13.9 +0.6**
KLR pmax pmax
comp=Z,91nm,1.7s
KLR Kul'dur 52.81 32 P **P 01 25 12.8 -0.5**
comp=Z,22nm,0.9s,baz=250,slow=8.0,SNR=42
KLR LR LR 01 52 23.0
comp=Z,3µm,18.2s,baz=228,slow=42
comp=Z,22nm,0.9s
DILA Dilla 53.00 272 *e*P P 01 25 03.1 -12
DILA *e*S S 01 32 04.4 -41
GROC Groznyy 53.08 319 *e*P **P 01 25 15.4 0.0**
GROC *e* 01 26 24.2
GROC *e*S **S 01 32 46.4 +1.3**
GROC pmax pmax
comp=Z,384nm,1.1s
JMM Marumori 53.11 48 P **P 01 25 14.4 -1.3**
JMM Marumori 53.11 48 P **P 01 25 16.4 +0.7**
JMM Marumori 53.11 48 ⇓P **P 01 25 15.9 +0.3**
VOI Vohitsoka 53.28 235 P **P 01 25 17.8 +0.4**
VOI Vohitsoka 53.28 235 P **P 01 25 20.1 +2.8**
VOI Vohitsoka 53.28 235 *e*P **P 01 25 18.5 +1.2**
VOI Vohitsoka 53.28 235 ⇓P **P 01 25 18.8 +1.5**
ZEA Zeya 53.62 25 *e*P **P 01 25 19.4 +0.2**
ZEA pmax pmax
comp=N,80nm,1.1s
ZEA pmax pmax
comp=E,60nm,1.0s
ZEA pmax pmax
comp=Z,170nm,1.0s
ZEA pmax pmax
comp=E,500nm,7.4s
ZEA pmax pmax
comp=Z,1µm,5.2s
ZEA MLR MLR
comp=E,2µm,19.0s
ZEA MLR MLR
comp=N,2µm,14.0s
ZEA MLR MLR
comp=Z,3µm,18.0s
GURO Guroymak-BITLI 53.81 312 P **P 01 25 20.9 -0.1**
KARS Kars 53.83 315 P **P 01 25 21.2 0.0**
KARS Kars 53.83 315 P **P 01 25 21.2 0.0**
KARS pmax pmax
comp=Z,303nm,1.1s
KARS MLR MLR
comp=Z,4µm,19.0s
AKH Akhalkalaki 53.85 316 P **P 01 25 21.2 -0.2**
AKH Akhalkalaki 53.85 316 P **P 01 25 21.2 -0.2**
AKH pmax pmax
comp=Z,316nm,1.1s
ZEI Tsey 54.15 318 *e*P **P 01 25 22.6 -0.9**
ZEI pmax pmax
comp=Z,72nm,1.0s
SVE Sverdlovsk 54.20 340*ce*P **P 01 25 23.8 +0.5**
SVE *e*S **S 01 32 58.4 -1.3**
SVE pmax pmax
comp=Z,1µm,1.0s
SVE MLR MLR
comp=Z,4µm,19.0s
ONI Oni 54.37 317 P **P 01 25 25.2 +0.2**
ONI Oni 54.37 317 P **P 01 25 25.2 +0.2**
ONI pmax pmax
comp=Z,78nm,1.1s
JTM Tenmabayashi 54.38 45 P **P 01 25 24.4 -0.6**
JTM Tenmabayashi 54.38 45 P **P 01 25 26.6 +1.6**
JTM Tenmabayashi 54.38 45 ⇓P **P 01 25 25.8 +0.8**
KIBK Kibwezi 54.55 261 P **P 01 25 26.4 -0.3**
KIBK Kibwezi 54.55 261 P **P 01 25 28.2 +1.4**
SNR=22
ARU Arti 54.63 338 P **P 01 25 26.8 +0.2**
ARU Arti 54.63 338 ⇓P **P 01 25 26.3 -0.2**
ARU Arti 54.63 338*d* i P **P 01 25 26.3 -0.2**
ARU 01 26 26.9
ARU 01 27 24.6
ARU S **S 01 33 09.1 +3.5**
ARU 01 35 07.7
ARU SS **SS 01 36 49.5 +1.0**
ARU SSS SSS 01 38 52.0
ARU pmax pmax
comp=Z,482nm,1.1s
ARU MLR MLR
comp=Z,4µm,20.0s
ARU Arti 54.63 338 LR LR 01 50 21.3
comp=Z,4µm,20.2s,baz=147,slow=38
NCK Nalchik 54.65 318 *i* P **P 01 25 26.9 -0.1**
NCK pmax pmax
comp=Z,143nm,1.6s
KMBO Kilima Mbogo 55.09 263 P **P 01 25 30.7 -0.1**
KMBO Kilima Mbogo 55.09 263 *i* P **P 01 25 31.8 +1.0**
SNR=25
KMBO Kilima Mbogo 55.09 263 ⇓*i* P **P 01 25 32.2 +1.3**
KMBO IAmb IAmb 01 25 45.2
comp=Z,146nm,1.1s
KMBO Kilima Mbogo 55.09 263 ⇓P **P 01 25 32.0 +1.2**
KMBO Kilima Mbogo 55.09 263 P **P 01 25 29.2 -1.6**
comp=Z,30nm,1.1s,baz=60,slow=10,SNR=40
KMBO S **S 01 33 13.5 0.0**
comp=Z,0.5nm,0.3s,baz=187,slow=23,SNR=1.6
KMBO LR LR 01 46 32.8
comp=Z,5µm,19.4s,baz=78,slow=33
comp=Z,30nm,1.1s
KMBO Kilima Mbogo 55.09 263 P **P 01 25 32.1 +1.2**
KMBO P **P 01 25 32.1 +1.2**

QIS Mount Isa 55.09 122 P **P 01 25 29.5 -1.0**
baz=55,SNR=28
QIS Mount Isa 55.09 122 P **P 01 25 30.0 -0.4**
BCA Borcka 55.16 315 ⇑P **P 01 25 31.4 +0.8**
KBZ Khabaz 55.21 318*ce*P **P 01 25 31.1 +0.2**
KBZ pmax pmax
comp=Z,148nm,1.1s
KBZ Khabaz 55.21 318 P **P 01 25 30.6 -0.3**
comp=Z,88nm,1.0s,baz=117,slow=5.9,SNR=79
KBZ S **S 01 33 12.3 -1.4**
comp=Z,2.7nm,0.9s,baz=4.9,slow=6.7,SNR=1.4
KBZ LR LR 01 52 10.9
comp=Z,1µm,20.2s,baz=132,slow=39
KBZ PKP2ab P'P'ab 01 56 05.7 -8.1
comp=Z,1.6nm,0.9s,baz=310,slow=3.1,SNR=3.8
comp=Z,88nm,1.0s
SHA1 Shidzhatmaz 55.37 318 *i* P **P 01 25 31.3 -1.1**
KVAR Kislovodsk Arr 55.44 319 LR LR 01 49 41.4
comp=Z,2µm,21.9s,baz=113,slow=37
KIV Kislovodsk 55.45 319 ⇑P **P 01 25 33.1 +0.4**
KIV Kislovodsk 55.45 319 P **P 01 25 33.0 +0.2**
KIV Kislovodsk 55.45 319 *i* P **P 01 25 32.9 +0.2**
SNR=73
KIV Kislovodsk 55.45 319 ⇑P **P 01 25 32.6 -0.1**
KIV Kislovodsk 55.45 319 *e*P **P 01 25 31.8 -1.0**
KIV *e* 01 27 36.3
KIV *e*S **S 01 33 17.4 +0.2**
KIV *e*SS **SS 01 37 04.5 +2.5**
KIV pmax pmax
comp=Z,221nm,1.1s
KIV pmax pmax
comp=Z,226nm,4.2s
KIV MLR MLR
comp=Z,1µm,17.0s
KIV Kislovodsk 55.45 319 P **P 01 25 33.2 +0.4**
KIV P **P 01 25 33.2 +0.4**
OOD Oodnadatta 55.59 132 P **P 01 25 33.8 -0.1**
COEN Coen 55.62 113 P **P 01 25 33.7 -0.7**
COEN Coen 55.62 113 P **P 01 25 35.7 +1.4**
COEN Coen 55.62 113 ⇓P **P 01 25 33.2 -1.1**
GOF Gofitskoye 55.69 320*ce*P **P 01 25 35.0 +0.7**
MULG Mulgathing 55.85 135 P **P 01 25 36.3 +0.6**
GRD1 Great Renaissa 55.87 278 *e*P **P 01 25 32.8 -3.4**
GRD1 *e*S S 01 32 59.8 -24
ASF Jabal al Asfar 56.01 303 LR LR 01 53 31.4
comp=Z,1µm,18.1s,baz=151,slow=40
GRNR Gornyy 56.16 33 ⇓*i* P **P 01 25 38.2 +0.5**
GRNR *e*S **S 01 33 32.0 +5.7**
GRNR pmax pmax
comp=N,40nm,1.2s
GRNR pmax pmax
comp=E,40nm,1.2s
GRNR pmax pmax
comp=Z,110nm,1.2s
GRNR smax smax
comp=N,9.0nm,0.9s
LODK Lodwar 56.23 269 P **P 01 25 39.0 +0.2**
LODK Lodwar 56.23 269 P **P 01 25 40.5 +1.6**
SNR=13
ERM Erimo 56.30 44 ⇑P **P 01 25 40.3 +1.5**
ARPR Arapgir-MALATY 56.71 312 P **P 01 25 41.1 -0.9**
ARPR IAmb IAmb 01 25 44.1
comp=Z,139nm,1.3s
ASAJ Asahikawa 56.72 42 P **P 01 25 40.4 -1.4**
ASAJ pmax pmax
comp=Z,158nm,1.0s
ASAJ Asahikawa 56.72 42 LR LR 01 52 22.0
comp=Z,3µm,18.8s,baz=248,slow=39
JKA Kamikawa-asahi 56.72 42 P **P 01 25 40.4 -1.4**
JKA IAmb IAmb 01 26 00.4
comp=Z,158nm,1.0s
BELG Belogornoye 56.76 329*d* i P **P 01 25 40.8 -1.0**
BELG pmax pmax
comp=Z,80nm,1.0s
BELG Belogornoye 56.76 329 LR LR 01 54 52.1
comp=Z,3µm,18.3s,baz=134,slow=41
GHAJ Ghor Haditha 56.94 302 P **P 01 25 43.8 +0.3**
GHAJ IAmb IAmb 01 26 09.6
comp=Z,137nm,1.2s
GAZ Gaziantep 56.99 309 P **P 01 25 43.3 -0.6**
GAZ IAmb IAmb 01 25 46.5
comp=Z,197nm,1.0s
GAZ Gaziantep 56.99 309 ⇑P **P 01 25 44.8 +0.9**
LABN Labinsk 57.01 319 *e*P **P 01 25 44.7 +0.9**
LABN pmax pmax
comp=Z,138nm,1.7s
MSBI Mazada 57.12 302 ⇓P **P 01 25 46.4 +1.7**
EIL Elat 57.16 300 ⇓P **P 01 25 46.1 +1.0**
EIL Elat 57.16 300 LR LR 01 52 00.2
comp=Z,2µm,20.3s,baz=94,slow=38
SOC Sochi 57.27 317 *e*P **P 01 25 43.3 -2.4**
SOC *e* 01 27 51.1
SOC *e*PPP PPP 01 29 07.6
SOC *e*S **S 01 33 40.6 -0.6**
SOC *e*SS **SS 01 37 32.5 +2.0**
SOC pmax pmax
comp=Z,82nm,1.0s
SOC MLR MLR
comp=Z,1µm,18.0s
MMAI Mount Meron Ar 57.42 304 P **P 01 25 48.1 +1.1**
comp=Z,70nm,1.0s,baz=104,slow=6.1,SNR=37
MMAI PcP **PcP 01 26 41.2 +0.4**
comp=Z,16nm,0.8s,baz=105,slow=9.1,SNR=4.1
MMAI S **S 01 33 46.1 +2.4**
comp=Z,5.7nm,1.0s,baz=301,slow=29,SNR=1.6
MMAI LR LR 01 53 38.7
comp=Z,2µm,19.7s,baz=60,slow=39
comp=Z,70nm,1.0s
AMAZ Amatzia 57.53 302 ⇑P **P 01 25 49.8 +2.1**
ERBR Yeremizino-Bor 57.60 320 *e*P **P 01 25 47.7 -0.2**
ERBR *i* S **S 01 33 46.2 +0.8**
ERBR pmax pmax
comp=Z,175nm,1.2s
KZIT Kziot 57.85 301 ⇓P **P 01 25 51.1 +1.1**
PMG Port Moresby 57.93 106 LR LR 01 55 15.9
comp=Z,2µm,19.7s,baz=280,slow=41
YSS Yuzh-Sakhalins 57.98 39 P **P 01 25 50.0 -0.5**
YSS IAmb IAmb 01 25 52.3
comp=Z,241nm,1.2s
YSS Yuzh-Sakhalins 57.98 39 P **P 01 25 51.6 +1.0**
YSS Yuzh-Sakhalins 57.98 39 ⇓*e*P **P 01 25 50.8 +0.2**
YSS *e* 01 26 40.0
YSS *e* 01 27 55.4
YSS *e*S **S 01 33 46.0 -4.3**
YSS pmax pmax
comp=Z,170nm,1.2s
YSS pmax pmax
comp=Z,2µm,6.4s
YSS pmax pmax
comp=N,2µm,5.3s
YSS pmax pmax
comp=E,1µm,5.9s
YSS smax smax
comp=N,1µm,5.9s
YSS smax smax
comp=E,500nm,5.1s
MTSU Mount Surprise 58.15 117 P **P 01 25 53.8 +1.5**
BNN Bunyan 58.49 311 P **P 01 25 54.1 -0.4**
BNN IAmb IAmb 01 25 56.1
comp=Z,205nm,1.0s
BNN Bunyan 58.49 311 ⇓P **P 01 25 54.6 +0.1**
BBOO Buckleboo 58.71 136 P **P 01 25 56.0 +0.1**
baz=59,SNR=32
BBOO Buckleboo 58.71 136 P **P 01 25 54.9 -1.0**
BBOO IAmb IAmb 01 26 06.3
comp=Z,95nm,0.8s
BBOO IAMs_20 IAMs_20 01 52 15.0
comp=Z,7µm,20.0s
BBOO Buckleboo 58.71 136 P **P 01 25 56.4 +0.5**
YUK Yuzh-Kuril'sk 58.88 43 *i* P **P 01 25 56.6 -0.3**
LCRK Leigh Creek 58.90 133 P **P 01 25 58.2 +1.0**
ANN Anapa 59.24 318 *e*P **P 01 25 59.7 +0.3**
ANN *e* 01 28 18.6
ANN *i* S **S 01 34 08.1 +1.2**
ANN pmax pmax
comp=Z,125nm,1.4s
ANN MLR MLR
comp=E,4µm,20.0s
ANN MLR MLR
comp=Z,2µm,16.0s
ANN MLR MLR
comp=N,710nm,14.0s
VRH Novokhopyorsk 59.27 326 *e*P **P 01 25 59.1 -0.4**
VRH pmax pmax
comp=Z,182nm,1.0s

INKA Innaminka 59.38 129 P **P 01 26 02.9 +2.3**
CSS Mathiatis 59.51 306 P **P 01 26 01.5 0.0**
CSS IAmb IAmb 01 26 03.8
comp=Z,161nm,1.4s
CSS Mathiatis 59.51 306 ⇓P **P 01 26 02.3 +0.8**
TYV Tymovskoe 59.63 35 *e*P **P 01 26 03.3 +1.3**
TYV pmax pmax
comp=Z,102nm,1.3s
TYV pmax pmax
comp=Z,3µm,4.1s
KIRV Kirov 59.68 336*d* i P **P 01 26 01.5 -0.7**
KIRV Kirov 59.68 336 LR LR 01 54 14.3
comp=Z,3µm,19.9s,baz=137,slow=39
WHYH Whyalla 59.88 136 P **P 01 26 05.1 +1.1**
KAVG Kavieng 59.89 98 P **P 01 26 05.1 +0.7**
PTPS Port Pirie 60.25 136 P **P 01 26 08.1 +1.6**
PAF Port-aux-Franc 60.37 196 IAMs_20 IAMs_20 01 49 02.9
comp=Z,8µm,18.0s
BR131 Keskin Array S 60.38 311 P **P 01 26 06.7 -0.8**
BR131 IAmb IAmb 01 26 08.3
comp=Z,88nm,0.8s
BR131 Keskin Array S 60.38 311 P **P 01 26 06.7 -0.8**
BR131 pmax pmax
comp=Z,88nm,0.9s
BR131 Keskin Array S 60.38 311 P **P 01 26 07.0 -0.6**
SNR=20
BR131 P **P 01 26 07.0 -0.6**
SNR=20
BRTR Keskin Array B 60.38 311 P **P 01 26 06.5 -1.0**
BRTR Keskin Array B 60.38 311 P **P 01 26 06.5 -1.0**
BRTR Keskin Array B 60.38 311 P **P 01 26 06.3 -1.2**
comp=Z,58nm,0.8s,baz=125,slow=5.5,SNR=180
BRTR LR LR 01 54 40.6
comp=Z,4µm,21.9s,baz=117,slow=38
comp=Z,58nm,0.8s
YAK Yakutsk 60.42 19 P **P 01 26 06.8 -0.5**
YAK Yakutsk 60.42 19 ⇓P **P 01 26 07.1 -0.1**
YAK Yakutsk 60.42 19*d* i P **P 01 26 06.7 -0.5**
YAK *e* 01 26 50.5
YAK *e* 01 28 19.7
YAK *e*S **S 01 34 22.1 +0.6**
YAK *e**SS sS 01 34 40.0 +12
YAK *e* 01 35 49.9
YAK *e*SSS SSS 01 40 45.9
YAK pmax pmax
comp=Z,748nm,1.4s
YAK pmax pmax
comp=N,361nm,1.5s
YAK pmax pmax
comp=E,307nm,1.2s
YAK pmax pmax
comp=Z,857nm,6.9s
YAK pmax pmax
comp=N,539nm,5.5s
YAK pmax pmax
comp=E,478nm,4.8s
YAK smax smax
comp=E,1µm,3.8s
YAK smax smax
comp=N,803nm,4.9s
YAK MLR MLR
comp=Z,4µm,24.0s
YAK MLR MLR
comp=N,3µm,18.0s
YAK MLR MLR
comp=E,1µm,27.0s
YAK Yakutsk 60.42 19 P **P 01 26 07.1 -0.1**
comp=E,412nm,1.0s,baz=234,slow=2.4,SNR=126
YAK S **S 01 34 20.0 -1.5**
comp=E,11nm,0.4s,baz=307,slow=1.4,SNR=1.8
YAK LR LR 01 54 45.3
comp=E,3µm,18.2s,baz=214,slow=39
comp=E,412nm,1.0s
VORD Divnogorie 60.53 325 *e*P **P 01 26 06.8 -1.3**
VORD pmax pmax
comp=Z,160nm,1.4s
CTA Charters Tower 60.58 119 LR LR 01 54 37.0
comp=Z,4µm,18.8s,baz=285,slow=38
CTAO Charters Tower 60.58 119 P **P 01 26 07.3 -1.8**
CTAO Charters Tower 60.58 119 P **P 01 26 10.3 +1.2**
CTAO Charters Tower 60.58 119 ⇓P **P 01 26 09.2 +0.2**
CTAO Charters Tower 60.58 119 P **P 01 26 07.3 -1.8**
CTAO pmax pmax
comp=Z,76nm,1.0s
CTAO MLR MLR
comp=Z,4µm,20.0s
VSR Storozhevoye 60.71 325 *e*P **P 01 26 06.9 -2.5**
VSR pmax pmax
comp=Z,130nm,1.5s
VSR MLR MLR
comp=Z,3µm,15.0s
TV1H Townsville Har 60.75 117 P **P 01 26 11.3 +1.1**
VORR Voronezh 60.88 326 *e*P **P 01 26 10.0 -0.5**
VORR pmax pmax
comp=Z,221nm,1.3s
HTT Hallett 61.04 135 P **P 01 26 12.3 +0.4**
baz=61,SNR=33
HTT Hallett 61.04 135 P **P 01 26 13.3 +1.3**
HTT Hallett 61.04 135 ⇓P **P 01 26 12.3 +0.4**
ANTO Ankara 61.04 311 ⇑P **P 01 26 11.5 -0.5**
ANTO Ankara 61.04 311 P **P 01 26 10.8 -1.2**
ANTO IAmb IAmb 01 26 13.1
comp=Z,135nm,1.2s
ANTO Ankara 61.04 311 ⇑P **P 01 26 11.4 -0.6**
ANTO Ankara 61.04 311 P **P 01 26 11.5 -0.5**
ANTO Ankara 61.04 311 P **P 01 26 11.7 -0.3**
ANTO P **P 01 26 11.7 -0.3**
BR231 Keskin MP Arra 61.05 311 P **P 01 26 11.0 -1.1**
BR231 IAmb IAmb 01 26 13.2
comp=Z,82nm,1.0s
NRIK Noril'sk 61.08 358 P **P 01 26 10.9 -0.7**
NRIK IAmb IAmb 01 26 13.2
comp=Z,151nm,1.4s
NRIK Noril'sk 61.08 358*ce*P **P 01 26 11.7 +0.1**
NRIK pmax pmax
comp=Z,143nm,1.5s
NRIK Noril'sk 61.08 358 P **P 01 26 11.2 -0.4**
comp=Z,50nm,1.0s,baz=184,slow=7.4,SNR=73
NRIK S **S 01 34 28.1 -1.6**
comp=Z,1.8nm,0.7s,baz=356,slow=21,SNR=1.5
NRIK PKP2bc **P'P'bc 01 55 37.7 -1.0**
comp=Z,1.0nm,0.3s,baz=336,slow=6.3,SNR=3.5
NRIK LR LR 01 57 38.0
comp=Z,3µm,18.2s,baz=188,slow=41
comp=Z,50nm,1.0s
AUAYR Ayr State High 61.41 118 P **P 01 26 15.6 +1.0**
MBAR Mbarara 61.41 265 P **P 01 26 15.0 0.0**
MBAR Mbarara 61.41 265 *e*P **P 01 26 15.1 +0.1**
MBAR IAmb IAmb 01 26 30.0
comp=Z,31nm,0.8s
MBAR Mbarara 61.41 265*d* i P **P 01 26 15.9 +0.9**
MBAR pmax pmax
comp=Z,56nm,1.3s
MBAR Mbarara 61.41 265 P **P 01 26 16.1 +1.1**
MBAR P **P 01 26 16.1 +1.1**
LPSR Galich'ya Gora 61.45 326 *e*P **P 01 26 12.9 -1.4**
LPSR pmax pmax
comp=Z,230nm,1.0s
SIM Simferopol' 61.52 317 *e*P **P 01 26 15.0 0.0**
SIM *e*PPP PPP 01 30 04.3
SIM *e*S **S 01 34 41.3 +5.2**
SIM pmax pmax
comp=Z,374nm,1.2s
QLP Quilpie 61.58 126 P **P 01 26 16.5 +0.9**
baz=62,SNR=5.1
QLP Quilpie 61.58 126 P **P 01 26 17.3 +1.6**
QLP Quilpie 61.58 126 ⇓P **P 01 26 16.6 +0.9**
STKA Stephens Creek 62.11 133 P **P 01 26 19.4 +0.2**
baz=62,SNR=133
STKA Stephens Creek 62.11 133 P **P 01 26 18.9 -0.2**
STKA Stephens Creek 62.11 133 P **P 01 26 20.3 +1.1**
STKA Stephens Creek 62.11 133 P **P 01 26 19.7 +0.5**
comp=Z,106nm,0.7s,baz=308,slow=6.8,SNR=180
STKA LR LR 01 54 10.6
comp=Z,4µm,21.8s,baz=298,slow=37
comp=Z,106nm,0.7s
ISP Isparta 62.31 308 P **P 01 26 19.9 -0.7**
ISP Isparta 62.31 308 *i* P **P 01 26 20.4 -0.2**
MDUB Mudurnu 62.38 311 P **P 01 26 20.2 -0.8**
MDUB Mudurnu 62.38 311 ⇑P **P 01 26 20.8 -0.2**
ELL Elmali 62.59 307 P **P 01 26 21.5 -1.0**
ELL Elmali 62.59 307 ⇑P **P 01 26 22.4 -0.1**
ELL Elmali 62.59 307 P **P 01 26 21.5 -1.0**
ELL pmax pmax
comp=Z,1µm,0.9s

MOS	**Moscow**	**63.53**	**329**	*e*P	**P**	**01 26 25.4**	**-2.8**
MOS				*e*S	**S**	**01 35 05.2**	**+4.3**
MOS				pmax	pmax		
	comp=Z,381nm,1.3s						
MOS				pmax	pmax		
	comp=N,40nm,1.0s						
MOS				pmax	pmax		
	comp=E,117nm,1.2s						
MOS				pmax	pmax		
	comp=Z,600nm,1.5s						
MOS				MLR	MLR		
	comp=Z,4μm,18.0s						
OBN	**Obninsk**	**63.80**	**328**	⇑P	**P**	**01 26 28.7**	**-1.2**
OBN	**Obninsk**	**63.80**	**328**	P	**P**	**01 26 29.2**	**-0.7**
OBN	**Obninsk**	**63.80**	**328**	*d* iP	**P**	**01 26 29.6**	**-0.4**
OBN				*i* *PP	**pP**	**01 26 34.1**	**0.0**
OBN						01 27 06.0	
OBN				*e*S	**S**	**01 35 04.2**	**-0.1**
OBN				*i*		01 36 25.0	
OBN				*i* SSS	SSS	01 42 03.8	
OBN				pmax	pmax		
	comp=Z,393nm,1.7s						
OBN				pmax	pmax		
	comp=Z,2μm,5.1s						
OBN				MLR	MLR		
	comp=Z,4μm,18.0s						
OBN	**Obninsk**	**63.80**	**328**	LR	LR	01 58 15.0	
	comp=Z,3μm,18.0s,baz=124,slow=40						
KARP	**Karpathos**	**64.58**	**305**	P	**P**	**01 26 34.6**	**-1.0**
KARP	**Karpathos**	**64.58**	**305**	P	**P**	**01 26 36.7**	**+1.1**
KARP	**Karpathos**	**64.58**	**305**	⇑P	**P**	**01 26 36.1**	**+0.5**
BALB	**Balikesir**	**64.69**	**310**	P	**P**	**01 26 35.7**	**-0.5**
BALB				IAmb	IAmb	01 26 37.6	
	comp=Z,185nm,1.5s						
PURM	**Purcari**	**64.82**	**318**	⇑P	**P**	**01 26 36.5**	**-0.4**
H04N2	**CROZET ISLANDS**	**64.84**	**210**	T	T	02 37 46.8	
	baz=45,slow=75,SNR=3758						
H04N1	**CROZET ISLANDS**	**64.85**	**210**	T	T	02 37 39.5	
	baz=45,slow=75,SNR=4068						
H04N3	**CROZET ISLANDS**	**64.86**	**210**	T	T	02 37 46.2	
	baz=45,slow=75,SNR=3766						
ARPS	**Mount Arapiles**	**64.87**	**137**	P	**P**	**01 26 38.6**	**+1.3**
	baz=65,SNR=24						
ARPS	**Mount Arapiles**	**64.87**	**137**	P	**P**	**01 26 38.9**	**+1.6**
CMSA	**Cobar Meteorol**	**64.98**	**130**	P	**P**	**01 26 38.9**	**+0.8**
	baz=65,SNR=265						
CMSA	**Cobar Meteorol**	**64.98**	**130**	P	**P**	**01 26 39.5**	**+1.4**
KLMR	**Klimovskoe**	**65.09**	**335**	*e*P	**P**	**01 26 34.2**	**-4.1**
KLMR				pmax	pmax		
	comp=Z,299nm,1.2s						
KLMR				MLR	MLR		
	comp=Z,3μm,19.0s						
TLCR		**65.19**	**316**	⇑P	**P**	**01 26 39.1**	**-0.3**
TLCR		**65.19**	**316**	P	**P**	**01 26 40.3**	**+1.0**
RMQ	**Roma**	**65.20**	**124**	P	**P**	**01 26 41.5**	**+1.8**
	baz=65,SNR=11						
MFTR	**Murfatlar**	**65.23**	**315**	⇑P	**P**	**01 26 38.8**	**-0.8**
H04S1	**CROZET ISLANDS**	**65.27**	**209**	T	T	02 38 34.2	
	baz=45,SNR=11						
H04S3	**CROZET ISLANDS**	**65.28**	**209**	T	T	02 38 02.7	
	baz=45,slow=74,SNR=21						
H04S2	**CROZET ISLANDS**	**65.29**	**209**	T	T	02 37 59.9	
	baz=45,slow=74,SNR=11						
TIRR	**Tirgusor**	**65.30**	**315**	⇑P	**P**	**01 26 39.4**	**-0.6**
TIRR	**Tirgusor**	**65.30**	**315**	P	**P**	**01 26 39.0**	**-1.0**
TIRR	**Tirgusor**	**65.30**	**315**	⇓P	**P**	**01 26 39.6**	**-0.4**
TIRR	**Tirgusor**	**65.30**	**315**	P	**P**	**01 26 40.0**	**0.0**
DKL	**Dikili**	**65.34**	**309**	⇑P	**P**	**01 26 41.1**	**+0.8**
TPGR	**Topolog**	**65.39**	**316**	⇑P	**P**	**01 26 39.9**	**-0.7**
RK1H	**Rockhampton Ha**	**65.47**	**120**	P	**P**	**01 26 42.8**	**+1.4**
TLBR	**Topalu**	**65.58**	**315**	⇑P	**P**	**01 26 40.9**	**-1.0**
MILM	**Milestii Mici**	**65.62**	**318**	⇑P	**P**	**01 26 41.1**	**-0.9**
MILM	**Milestii Mici**	**65.62**	**318**	*e*P	**P**	**01 26 41.0**	**-1.1**
	comp=Z,1μm,1.9s						
MILM				*e*S	**S**	**01 35 26.0**	**-1.1**
MILM				*e*L	L	01 50 45.0	
MILM				LQM		01 54 36.0	
	comp=Z,1μm,18.0s						
MILM				LRM	MLR	01 59 44.0	
	comp=Z,2μm,18.0s						
MILM	**Milestii Mici**	**65.62**	**318**	*e*P	**P**	**01 26 41.0**	**-1.1**
MILM				*e*		01 26 46.0	
MILM				*e*S	**S**	**01 35 26.0**	**-1.1**
MILM				pmax	pmax		
	comp=Z,1μm,1.9s						
MILM				MLR	MLR		
	comp=Z,2μm,18.0s						
KIS	**Kishinev**	**65.64**	**318**	⇑P	**P**	**01 26 41.3**	**-0.9**
KIS	**Kishinev**	**65.64**	**318**	*e*P	**P**	**01 26 41.0**	**-1.2**
	comp=Z,220nm,1.5s						
KIS				*e*L	L	01 54 02.0	
KIS				LRM	MLR	02 01 01.0	
	comp=Z,800nm,20.5s						
KIS	**Kishinev**	**65.64**	**318**	*e*P	**P**	**01 26 41.0**	**-1.2**
KIS				*e*		01 26 46.0	
KIS				pmax	pmax		
	comp=Z,220nm,1.5s						
ICOR	**Ion Corvin**	**65.65**	**315**	⇑P	**P**	**01 26 42.2**	**-0.1**
CFR	**Carcaliu**	**65.66**	**316**	⇑P	**P**	**01 26 42.0**	**-0.3**
CFR	**Carcaliu**	**65.66**	**316**	P	**P**	**01 26 42.0**	**-0.3**
HARR	**Harsova**	**65.69**	**315**	⇑P	**P**	**01 26 41.9**	**-0.6**
HARR	**Harsova**	**65.69**	**315**	P	**P**	**01 26 42.9**	**+0.4**
PRD	**Provadia**	**65.73**	**314**	*e*P	**P**	**01 26 42.7**	**-0.1**
AULRC	**Lightning Ridg**	**65.80**	**127**	P	**P**	**01 26 45.0**	**+1.5**
TATR	**Tataca**	**65.82**	**316**	⇑P	**P**	**01 26 43.0**	**-0.3**
VLDR	**Vladesti**	**65.85**	**317**	⇑P	**P**	**01 26 43.5**	**-0.1**
LEOM	**Leova**	**65.89**	**317**	⇑P	**P**	**01 26 43.6**	**-0.2**
LEOM	**Leova**	**65.89**	**317**	P	**P**	**01 26 45.0**	**+1.2**
AUHPC	**Hawkesdale P12**	**65.92**	**138**	P	**P**	**01 26 45.9**	**+1.8**
PATS	**Pohnpei**	**65.96**	**86**	P	**P**	**01 26 44.9**	**0.0**
	baz=66,SNR=6.0						
PATS	**Pohnpei**	**65.96**	**86**	P	**P**	**01 26 44.7**	**-0.1**
PATS	**Pohnpei**	**65.96**	**86**	P	**P**	**01 26 47.1**	**+2.2**
AMRR	**Amara**	**66.09**	**315**	⇑P	**P**	**01 26 45.3**	**+0.1**
AMRR	**Amara**	**66.09**	**315**	P	**P**	**01 26 45.2**	**+0.1**
GD1S	**Gladstone Soft**	**66.21**	**120**	P	**P**	**01 26 47.7**	**+1.5**
JMB	**Yambol**	**66.23**	**313**	*e*P	**P**	**01 26 46.1**	**0.0**
SORM	**Soroca**	**66.24**	**319**	⇑P	**P**	**01 26 44.9**	**-1.1**
SORM	**Soroca**	**66.24**	**319**	P	**P**	**01 26 44.9**	**-1.1**
VASR	**Vaslui**	**66.24**	**317**	⇑P	**P**	**01 26 45.8**	**-0.3**
KRI	**Karoi**	**66.27**	**248**	*e*P	**P**	**01 26 44.8**	**-2.1**
ALN	**Alexandroupoli**	**66.30**	**311**	P	**P**	**01 26 45.6**	**-0.9**
ALN				IAmb	IAmb	01 26 48.0	
	comp=Z,110nm,1.1s						
ALN	**Alexandroupoli**	**66.30**	**311**	P	**P**	**01 26 46.7**	**+0.2**
ALN	**Alexandroupoli**	**66.30**	**311**	P	**P**	**01 26 45.6**	**-0.9**
ALN				pmax	pmax		
	comp=Z,110nm,1.1s						
ALN				MLR	MLR		
	comp=Z,2μm,21.0s						
LOZB	**Loznitsa**	**66.36**	**314**	⇑P	**P**	**01 26 46.8**	**-0.1**
GHRR		**66.36**	**317**	⇓P	**P**	**01 26 47.1**	**+0.3**
AKASG	**Malin Array Be**	**66.38**	**322**	P	**P**	**01 26 45.2**	**-1.7**
	comp=Z,17nm,0.9s,baz=91,slow=4.8,SNR=90						
AKASG				PP	**PP**	**01 29 13.3**	**+0.2**
	comp=Z,22nm,1.0s,baz=102,slow=7.5,SNR=7.9						
AKASG				LR	LR	01 59 58.2	
	comp=Z,2μm,19.9s,baz=116,slow=40						
	comp=Z,17nm,0.9s						
AKBB	**Malin Array Si**	**66.38**	**322**	P	**P**	**01 26 45.9**	**-1.0**
AKBB				IAmb	IAmb	01 26 47.1	
	comp=Z,77nm,1.1s						
AKBB	**Malin Array Si**	**66.38**	**322**	P	**P**	**01 26 45.9**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,77nm,1.1s						
AKBB				MLR	MLR		
	comp=Z,4μm,20.0s						
IDI	**Anoyia**	**66.39**	**305**	LR	LR	02 00 59.1	
	comp=Z,508nm,20.4s,baz=88,slow=41						
KIEV	**Kiev**	**66.39**	**322**	⇑P	**P**	**01 26 45.5**	**-1.4**
KIEV	**Kiev**	**66.39**	**322**	P	**P**	**01 26 45.5**	**-1.4**
KIEV	**Kiev**	**66.39**	**322**	*i* P	**P**	**01 26 45.5**	**-1.4**
	SNR=20						
KIEV	**Kiev**	**66.39**	**322**	⇑P	**P**	**01 26 45.4**	**-1.6**
KIEV	**Kiev**	**66.39**	**322**	P	**P**	**01 26 45.5**	**-1.4**
RAZG	**Razgrad**	**66.45**	**314**	⇑P	**P**	**01 26 47.4**	**-0.2**
PANC	**Panciu**	**66.49**	**317**	⇑P	**P**	**01 26 48.3**	**+0.6**
ODBI	**Odobesti**	**66.53**	**316**	⇑P	**P**	**01 26 48.6**	**+0.7**
EIDS	**Eidsvold**	**66.69**	**122**	P	**P**	**01 26 50.1**	**+0.7**
	baz=67,SNR=9.4						
EIDS	**Eidsvold**	**66.69**	**122**	P	**P**	**01 26 49.2**	**-0.1**
EIDS				IAmb	IAmb	01 26 51.5	
	comp=Z,166nm,1.3s						
EIDS	**Eidsvold**	**66.69**	**122**	P	**P**	**01 26 50.5**	**+1.2**

BRAT	**Ballarat**	**66.70**	**137**	P	**P**	**01 26 50.8**	**+1.7**
RDO	**Rodhopi**	**66.72**	**311**	P	**P**	**01 26 48.9**	**-0.3**
RDO				IAmb	IAmb	01 26 50.6	
	comp=Z,96nm,1.1s						
RDO	**Rodhopi**	**66.72**	**311**	P	**P**	**01 26 48.8**	**-0.4**
RDO	**Rodhopi**	**66.72**	**311**	⇑P	**P**	**01 26 48.9**	**-0.4**
ISR	**Istrita**	**66.75**	**316**	⇑P	**P**	**01 26 50.2**	**+0.8**
ISR	**Istrita**	**66.75**	**316**	P	**P**	**01 26 50.2**	**+0.8**
SZH	**Strazhitsa**	**66.78**	**314**	*e*P	**P**	**01 26 49.5**	**-0.1**
VRI	**Vrincioaia**	**66.78**	**316**	⇑P	**P**	**01 26 50.1**	**+0.5**
VRI	**Vrincioaia**	**66.78**	**316**	P	**P**	**01 26 50.1**	**+0.5**
ELND	**Elena**	**66.79**	**315**	⇑P	**P**	**01 26 49.5**	**-0.2**
PLOR	**Plostina**	**66.83**	**316**	⇑P	**P**	**01 26 50.4**	**+0.5**
PLOR	**Plostina**	**66.83**	**316**	P	**P**	**01 26 50.4**	**+0.5**
MOPA	**Mopani**	**66.84**	**240**	*e*P	**P**	**01 26 50.5**	**+0.2**
MOPA				IAmb	IAmb	01 27 02.0	
	comp=Z,130nm,1.1s						
KDZ	**Kurdzhali**	**66.95**	**312**	*e*P	**P**	**01 26 51.1**	**+0.4**
SGRR	**Singureni**	**66.96**	**315**	⇑P	**P**	**01 26 51.3**	**+0.6**
TESR	**Tescani**	**66.97**	**317**	⇑P	**P**	**01 26 50.7**	**-0.1**
NEHR	**Nehoiu**	**66.98**	**316**	⇑P	**P**	**01 26 51.3**	**+0.4**
COVR	**Voineasa-Covas**	**67.13**	**316**	⇑P	**P**	**01 26 51.6**	**-0.2**
LSZ	**Lusaka**	**67.14**	**250**	P	**P**	**01 26 52.2**	**-0.3**
LSZ				IAmb_20	IAmb_20	01 52 12.1	
	comp=Z,4μm,19.0s						
LSZ	**Lusaka**	**67.14**	**250**	⇑P	**P**	**01 26 53.1**	**+0.6**
LSZ	**Lusaka**	**67.14**	**250**	P	**P**	**01 26 52.2**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,76nm,1.3s						
LSZ	**Lusaka**	**67.14**	**250**	LR	LR	01 50 56.8	
	comp=Z,5μm,21.6s,baz=82,slow=31						
LSZ	**Lusaka**	**67.14**	**250**	P	**P**	**01 26 52.9**	**+0.4**
LSZ				P	**P**	**01 26 52.9**	**+0.4**
LSZ				P	**P**	**01 26 52.9**	**+0.4**
MLR	**Muntele Rosu**	**67.24**	**316**	⇑P	**P**	**01 26 53.0**	**+0.3**
MLR	**Muntele Rosu**	**67.24**	**316**	P	**P**	**01 26 52.9**	**+0.3**
MLR	**Muntele Rosu**	**67.24**	**316**	P	**P**	**01 26 53.0**	**+0.3**
MLR	**Muntele Rosu**	**67.24**	**316**	LR	LR	01 59 56.1	
	comp=Z,2μm,20.9s,baz=76,slow=39						
GEXS	**Deakin Univers**	**67.28**	**137**	P	**P**	**01 26 55.7**	**+2.9**
ZIMR		**67.29**	**314**	⇑P	**P**	**01 26 53.2**	**+0.4**
ZIMR		**67.29**	**314**	P	**P**	**01 26 53.2**	**+0.4**
TURR	**Turia**	**67.30**	**317**	⇑P	**P**	**01 26 52.8**	**-0.1**
PVL	**Pavlikeni**	**67.33**	**313**	*e*P	**P**	**01 26 53.4**	**+0.3**
TIXI	**Tiksi**	**67.35**	**12**	P	**P**	**01 26 52.5**	**-0.2**
TIXI	**Tiksi**	**67.35**	**12**	⇑P	**P**	**01 26 52.1**	**-0.6**
TIXI	**Tiksi**	**67.35**	**12**	P	**P**	**01 26 52.6**	**-0.1**
TIXI	**Tiksi**	**67.35**	**12**	P	**P**	**01 26 51.9**	**-0.7**
	comp=Z,298nm,1.0s,baz=230,slow=3.9,SNR=638						
	comp=Z,298nm,1.0s						
PRAR	**RASCA**	**67.44**	**318**	⇑P	**P**	**01 26 53.6**	**-0.1**
KAVA	**Kavala**	**67.46**	**311**	P	**P**	**01 26 54.1**	**+0.2**
OZUR		**67.47**	**317**	⇑P	**P**	**01 26 53.4**	**-0.6**
MLBS	**Spotswood, Mel**	**67.50**	**137**	P	**P**	**01 26 56.7**	**+2.6**
AUDCS	**Dubbo College**	**67.52**	**130**	P	**P**	**01 26 56.0**	**+1.6**
SKR	**Severo-Kuril's**	**67.54**	**38**	*e*P	**P**	**01 26 55.2**	**+1.0**
SKR				*e*		01 29 29.0	
SKR				*e*S	S	01 36 18.5	+28
SKR				pmax	pmax		
	comp=Z,2μm,7.6s						
SKR				MLR	MLR		
	comp=Z,2μm,17.0s						
BOSR	**Bodos**	**67.55**	**316**	⇑P	**P**	**01 26 54.0**	**-0.5**
HOED	**Hoedspruit, Li**	**67.56**	**239**	*e*P	**P**	**01 26 56.0**	**+1.1**
HOED				IAmb	IAmb	01 27 07.5	
	comp=Z,24nm,0.8s						
MA2	**Magadan**	**67.56**	**28**	P	**P**	**01 26 54.2**	**0.0**
MA2	**Magadan**	**67.56**	**28**	P	**P**	**01 26 55.1**	**+0.9**
MA2	**Magadan**	**67.56**	**28**	⇓P	**P**	**01 26 54.2**	**0.0**
MA2	**Magadan**	**67.56**	**28**	*ce*P	**P**	**01 26 54.8**	**+0.6**
MA2				pmax	pmax		
	comp=Z,502nm,1.3s						
MA2	**Magadan**	**67.56**	**28**	P	**P**	**01 26 53.9**	**-0.3**
	comp=Z,246nm,0.9s,baz=249,slow=6.4,SNR=93						
	comp=Z,246nm,0.9s						
MPHEP	**Siloam, Limpop**	**67.68**	**241**	*e*P	**P**	**01 26 55.6**	**-0.2**
MPHEP				IAmb	IAmb	01 27 24.4	
	comp=Z,107nm,1.4s						
DOPR	**Dopca**	**67.71**	**316**	⇑P	**P**	**01 26 55.1**	**-0.4**
HUMR	**Humele**	**67.72**	**315**	⇑P	**P**	**01 26 55.4**	**-0.1**
MUSN	**Musina, Limpop**	**67.75**	**242**	*e*P	**P**	**01 26 55.7**	**-0.5**
MUSN				IAmb	IAmb	01 26 58.5	
	comp=Z,56nm,1.2s						
PLVB	**Pleven**	**67.77**	**313**	⇑P	**P**	**01 26 56.0**	**+0.1**
TOO	**Toolangi**	**67.77**	**136**	P	**P**	**01 26 57.2**	**+1.2**
	baz=68,SNR=18						
TOO	**Toolangi**	**67.77**	**136**	P	**P**	**01 26 56.5**	**+0.5**
TOO	**Toolangi**	**67.77**	**136**	P	**P**	**01 26 57.8**	**+1.8**
TOO	**Toolangi**	**67.77**	**136**	P	**P**	**01 26 56.5**	**+0.5**
TOO				pmax	pmax		
	comp=Z,217nm,0.8s						
MTUR	**Matau**	**67.79**	**316**	⇑P	**P**	**01 26 55.5**	**-0.6**
MTUR	**Matau**	**67.79**	**316**	P	**P**	**01 26 55.5**	**-0.6**
STFAR	**Stefanesti-Arg**	**67.80**	**315**	⇑P	**P**	**01 26 56.4**	**+0.4**
KOKK	**Kokkinochori,**	**67.82**	**311**	P	**P**	**01 26 54.7**	**-1.5**
VOIR		**67.84**	**316**	⇑P	**P**	**01 26 55.6**	**-0.9**
VOIR		**67.84**	**316**	P	**P**	**01 26 55.5**	**-0.9**
PILG	**Pilgrimsrest,**	**67.93**	**239**	*e*P	**P**	**01 26 57.9**	**+0.5**
PILG				IAmb	IAmb	01 27 08.9	
	comp=Z,82nm,1.2s						
PAIG	**Paliouri**	**67.93**	**310**	P	**P**	**01 26 56.2**	**-0.8**
PGB	**Panagyurishte**	**67.95**	**313**	*e*P	**P**	**01 26 56.6**	**-0.5**
NVR	**Nevrokopi**	**68.00**	**311**	P	**P**	**01 26 57.5**	**+0.1**
VLAD	**Vladila**	**68.03**	**314**	⇑P	**P**	**01 26 57.4**	**-0.1**
ARR	**Arges**	**68.12**	**316**	⇑P	**P**	**01 26 57.7**	**-0.4**
BURAR	**Bucovina Array**	**68.17**	**318**	⇑P	**P**	**01 26 58.7**	**+0.2**
BURAR	**Bucovina Array**	**68.17**	**318**	P	**P**	**01 26 58.2**	**-0.2**
BURAR	**Bucovina Array**	**68.17**	**318**	P	**P**	**01 26 58.6**	**+0.2**
BUR08	**Bucovina Ar. S**	**68.18**	**318**	P	**P**	**01 26 58.1**	**-0.5**
BUR08				IAmb	IAmb	01 27 18.5	
	comp=Z,121nm,1.6s						
MNK	**Minsk**	**68.27**	**326**	*i* P	**P**	**01 26 57.2**	**-1.6**
MNK				*i*		01 27 21.7	
MNK				*i*		01 29 27.0	
MNK				*i* PPP	PPP	01 31 05.6	
MNK				*i* S	**S**	**01 35 59.1**	**+0.3**
MNK				*i* SS	**SS**	**01 40 23.4**	**+1.6**
MNK				pmax	pmax		
	comp=N,24nm,0.9s						
MNK				pmax	pmax		
	comp=E,35nm,0.9s						
MNK				pmax	pmax		
	comp=Z,154nm,0.9s						
MNK				MLR	MLR		
	comp=E,803nm,17.0s						
MNK				MLR	MLR		
	comp=Z,2μm,17.0s						
MNK				MLR	MLR		
	comp=N,2μm,18.0s						
YNG	**Young**	**68.27**	**132**	P	**P**	**01 26 59.9**	**+0.8**
MPEP	**Malo Peshtene**	**68.40**	**313**	*e*P	**P**	**01 26 59.9**	**+0.1**
TGMR	**Targu Mures**	**68.41**	**317**	⇑P	**P**	**01 27 00.5**	**+0.7**
HORT	**Hortiatis**	**68.46**	**310**	P	**P**	**01 26 59.7**	**-0.7**
DULL	**Dullstroom, Mp**	**68.53**	**239**	*e*P	**P**	**01 27 01.7**	**+0.5**
DULL				IAmb	IAmb	01 27 12.8	
	comp=Z,69nm,1.1s						
KKB	**Krupnik**	**68.61**	**312**	*e*P	**P**	**01 27 00.8**	**-0.4**
ARCR	**ARCALIA**	**68.64**	**317**	⇑P	**P**	**01 27 01.5**	**+0.3**
VTS	**Vitosha**	**68.65**	**312**	*e*P	**P**	**01 27 00.9**	**-0.7**
VALD	**Valchedram**	**68.67**	**314**	*e*P	**P**	**01 27 01.6**	**+0.1**
KNT	**Kendrikon**	**68.69**	**311**	P	**P**	**01 27 01.4**	**-0.3**
GUR	**Goura**	**68.72**	**307**	P	**P**	**01 27 01.4**	**-0.7**
LOT	**Lotru**	**68.73**	**316**	⇑P	**P**	**01 27 01.2**	**-0.8**
PUL	**Pulkovo**	**68.74**	**332**	*ce*P	**P**	**01 27 02.1**	**+0.5**
PUL				pmax	pmax		
	comp=Z,407nm,1.0s						
AUPHS	**Peel High Scho**	**68.78**	**128**	P	**P**	**01 27 04.2**	**+1.8**
BAIL	**Bailesti**	**68.79**	**314**	⇑P	**P**	**01 27 02.5**	**+0.3**
AGG	**Agios Georgios**	**68.86**	**309**	P	**P**	**01 27 01.2**	**-1.6**
AGG	**Agios Georgios**	**68.86**	**309**	⇑P	**P**	**01 27 00.9**	**-1.9**
AGG	**Agios Georgios**	**68.86**	**309**	P	**P**	**01 27 01.2**	**-1.6**
AGG				pmax	pmax		
	comp=Z,43nm,1.1s						
KLMT	**Kalamata**	**68.86**	**306**	P	**P**	**01 27 02.7**	**-0.1**
LRSO	**Larissa Observ**	**68.88**	**309**	P	**P**	**01 27 02.0**	**-0.9**
CRLN	**Carolina, Mapu**	**68.89**	**238**	*e*P	**P**	**01 27 03.5**	**+0.1**
CRLN				IAmb	IAmb	01 27 15.1	
	comp=Z,68nm,1.3s						
KLV	**Kalavryta, Ach**	**68.89**	**308**	P	**P**	**01 27 01.3**	**-1.8**
VAY	**Valandovo**	**68.96**	**311**	*i* P	**P**	**01 27 02.5**	**-0.8**
GRG	**Griva**	**69.04**	**311**	P	**P**	**01 27 03.5**	**-0.4**
CJR	**Cluj-Napoca**	**69.07**	**317**	⇑P	**P**	**01 27 04.5**	**+0.5**

CJR	**Cluj-Napoca**	**69.07**	**317**	P	**P**	**01 27 04.5**	**+0.5**
ARMA	**Armidale**	**69.09**	**127**	P	**P**	**01 27 06.4**	**+2.0**
	baz=69,SNR=74						
ARMA	**Armidale**	**69.09**	**127**	P	**P**	**01 27 04.9**	**+0.4**
ARMA				IAMs_20	IAMs_20	01 59 51.6	
	comp=Z,4μm,19.0s						
ARMA	**Armidale**	**69.09**	**127**	P	**P**	**01 27 06.6**	**+2.1**
PEA0B	**Petropavlovsk-**	**69.11**	**36**	P	**P**	**01 27 03.7**	**-0.4**
PEA0B				IAmb	IAmb	01 27 04.5	
	comp=Z,107nm,1.1s						
PEA0B	**Petropavlovsk-**	**69.11**	**36**	*ce*P	**P**	**01 27 04.3**	**+0.2**
PETK	**Petropavlovsk-**	**69.11**	**36**	P	**P**	**01 27 02.8**	**-1.3**
	comp=Z,47nm,1.0s,baz=285,slow=1.8,SNR=18						
	comp=Z,47nm,1.0s						
EFP	**Efpalio**	**69.12**	**308**	P	**P**	**01 27 03.8**	**-0.6**
PUNG	**Punghina**	**69.12**	**314**	⇓P	**P**	**01 27 05.1**	**+0.8**
ANX	**Ano Chora**	**69.12**	**308**	P	**P**	**01 27 03.9**	**-0.7**
CAN	**Canberra**	**69.17**	**133**	P	**P**	**01 27 05.5**	**+0.7**
CAN				IAMs_20	IAMs_20	01 59 21.9	
	comp=Z,6μm,20.0s						
CAN	**Canberra**	**69.17**	**133**	P	**P**	**01 27 06.0**	**+1.2**
CAN	**Canberra**	**69.17**	**133**	P	**P**	**01 27 05.5**	**+0.7**
CAN				pmax	pmax		
	comp=Z,258nm,0.6s						
CAN				MLR	MLR		
	comp=Z,6μm,20.0s						
KTI	**Kastanea**	**69.18**	**310**	P	**P**	**01 27 03.0**	**-1.9**
BLKB	**Belogradchik**	**69.21**	**313**	⇑P	**P**	**01 27 04.7**	**-0.2**
DRO	**Drossia**	**69.22**	**307**	P	**P**	**01 27 04.5**	**-0.6**
WTBG	**Waterberg Wild**	**69.24**	**240**	*e*P	**P**	**01 27 05.6**	**0.0**
WTBG				IAmb	IAmb	01 27 34.1	
	comp=Z,39nm,1.3s						
EVR	**Evrytania**	**69.25**	**308**	P	**P**	**01 27 05.0**	**-0.3**
STIP	**Stip**	**69.29**	**311**	*i* P	**P**	**01 27 03.2**	**-2.2**
BMR	**Baia Mare**	**69.32**	**318**	⇑P	**P**	**01 27 05.8**	**+0.3**
BMR	**Baia Mare**	**69.32**	**318**	P	**P**	**01 27 05.8**	**+0.3**
CRAIL	**Swartwater, Li**	**69.33**	**242**	*e*P	**P**	**01 27 07.3**	**+1.2**
MARR	**Marisel-Cluj**	**69.39**	**317**	⇓P	**P**	**01 27 06.1**	**0.0**
LVV	**L'vov**	**69.39**	**320**	*e*P	**P**	**01 27 05.6**	**-0.3**
LVV				*e*S	**S**	**01 36 09.1**	**-3.3**
AUSMG	**Snowy Mountain**	**69.40**	**134**	P	**P**	**01 27 07.9**	**+1.7**
DEV	**Deva**	**69.40**	**316**	⇑P	**P**	**01 27 06.4**	**+0.4**
DEV	**Deva**	**69.40**	**316**	P	**P**	**01 27 06.4**	**+0.4**
GZR	**Gura Zlata**	**69.41**	**315**	⇑P	**P**	**01 27 06.5**	**+0.3**
GZR	**Gura Zlata**	**69.41**	**315**	P	**P**	**01 27 06.5**	**+0.3**
RLS	**Riolos of Patr**	**69.42**	**307**	P	**P**	**01 27 06.3**	**0.0**
CNB	**Canberra Magne**	**69.44**	**132**	P	**P**	**01 27 07.0**	**+0.6**
	baz=70,SNR=36						
CNB	**Canberra Magne**	**69.44**	**132**	P	**P**	**01 27 07.7**	**+1.2**
DJES	**Djerdap**	**69.47**	**315**	⇑P	**P**	**01 27 06.7**	**+0.2**
DJES	**Djerdap**	**69.47**	**315**	P	**P**	**01 27 06.2**	**-0.4**
ISAL	**Salakas**	**69.54**	**326**	*e*P	**P**	**01 27 07.7**	**+1.0**
HERR	**Herculane**	**69.58**	**315**	⇑P	**P**	**01 27 07.0**	**-0.2**
MESR	**Meseseni**	**69.59**	**317**	⇑P	**P**	**01 27 08.5**	**+1.4**
SEY	**Seymchan**	**69.60**	**25**	*i* P	**P**	**01 27 06.5**	**-0.4**
SEY				pmax	pmax		
	comp=Z,192nm,1.1s						
SEY	**Seymchan**	**69.60**	**25**	P	**P**	**01 27 06.3**	**-0.5**
	comp=Z,124nm,1.1s,baz=258,slow=5.3,SNR=74						
	comp=Z,124nm,1.1s						
NWCL	**Newcastle**	**69.62**	**236**	*e*P	**P**	**01 27 07.1**	**-0.7**
NWCL				IAmb	IAmb	01 27 20.1	
	comp=Z,97nm,0.9s						
PET	**Petropavlovsk**	**69.64**	**36**	P	**P**	**01 27 06.7**	**-0.7**
PET				IAmb	IAmb	01 27 08.7	
	comp=Z,157nm,1.0s						
PET	**Petropavlovsk

APA *i* SS **SS** **01 41 03.0 +4.7**
APA *i* SSS SSS 01 44 06.0
APA pmax pmax
comp=Z,83nm,0.9s
APA MLR MLR
comp=Z,4µm,18.0s
PABE Paberze 70.71 326 P **P** **01 27 12.7 -1.1**
PABE Paberze 70.71 326 *eP* **P** **01 27 13.4 -0.4**
NYAT Nyati, Northwe 70.75 240 *eP* **P** **01 27 14.2 -0.6**
NYAT IAmb IAmb 01 27 27.7
comp=Z,134nm,1.4s
AULHS Lilydale High 70.78 139 P **P** **01 27 16.5 +2.0**
SUW Suwalki 70.81 324 *eP* **P** **01 27 13.9 -0.5**
SUW Suwalki 70.81 324 P **P** **01 27 13.5 -1.0**
SUW Suwalki 70.81 324 P **P** **01 27 13.5 -1.0**
SUW pmax pmax
comp=Z,500nm,1.0s
SUW MLR MLR
comp=Z,3µm,20.0s
SUW Suwalki 70.81 324 *eP* **P** **01 27 14.1 -0.4**
NHAM Northam, North 70.82 240 *eP* **P** **01 27 15.9 +0.7**
NHAM IAmb IAmb 01 27 27.1
comp=Z,62nm,1.1s
HRAO HartRAO 70.82 239 *eP* **P** **01 27 15.8 +0.6**
CORO Coronation Par 70.84 139 P **P** **01 27 17.4 +2.6**
VSVD Vaisvydziai 70.84 327 *eP* **P** **01 27 15.2 +0.6**
CRVS Cervenica-Dubn 70.87 319 *eP* **P** **01 27 16.3 +1.2**
CRVS pmax pmax
comp=Z,290nm,1.4s
CRVS Cervenica-Dubn 70.87 319 *eP* **P** **01 27 16.2 +1.2**
TIR Tirane 70.98 311 P **P** **01 27 14.6 -1.2**
TIR Tirane 70.98 311 ⇑P **P** **01 27 15.3 -0.5**
TIR Tirane 70.98 311 P **P** **01 27 14.6 -1.2**
TIR pmax pmax
comp=Z,72nm,1.0s
TIR MLR MLR
comp=Z,3µm,21.0s
PUK Puka 71.03 312 P **P** **01 27 15.2 -1.0**
PVY Plav 71.05 312 ⇓*i*P **P** **01 27 15.4 -0.9**
STHS Stebnicka Huta 71.10 319 *eP* **P** **01 27 16.1 -0.3**
STHS pmax pmax
comp=Z,37nm,1.0s
STHS Stebnicka Huta 71.10 319 *eP* **P** **01 27 16.1 -0.3**
SJES Sjenica 71.11 313 ⇓*i*P **P** **01 27 15.5 -1.2**
IVA Berane 71.12 312 ⇓*i*P **P** **01 27 15.7 -1.1**
KSTD Kokstad 71.16 234 *eP* **P** **01 27 18.3 +1.1**
KSTD IAmb IAmb 01 27 29.5
comp=Z,32nm,0.9s
GLAD Gladstone 71.17 138 P **P** **01 27 18.5 +1.7**
FIA1 FINESS Array S 71.27 332 P **P** **01 27 17.0 -0.1**
FIA1 IAMs_20 IAMs_20 02 03 44.6
comp=Z,4µm,19.0s
FINES FINESS Array B 71.27 332 P **P** **01 27 16.8 -0.3**
FINES FINESS Array B 71.27 332 P **P** **01 27 16.8 -0.3**
FINES FINESS Array B 71.27 332 P **P** **01 27 16.4 -0.8**
comp=Z,105nm,0.8s,baz=104,slow=8.0,SNR=100
FINES LR LR 02 01 40.6
comp=Z,3µm,21.9s,baz=118,slow=39
comp=Z,105nm,0.8s
MOO Moorlands 71.37 140 P **P** **01 27 19.5 +1.5**
baz=72,SNR=7.6
MOO Moorlands 71.37 140 P **P** **01 27 20.0 +2.0**
KOME Kolasin 71.40 312 ⇓*i*P **P** **01 27 17.5 -0.9**
KECS Kecovo 71.45 318 *eP* **P** **01 27 18.7 +0.2**
KECS pmax pmax
comp=Z,51nm,1.2s
KECS Kecovo 71.45 318 *eP* **P** **01 27 18.7 +0.2**
PRYS Parys 71.45 238 ⇓*i*P **P** **01 27 18.9 -0.2**
PRYS IAmb IAmb 01 27 32.3
comp=Z,74nm,1.1s
FRGS Fruska Gora 71.45 315 ⇑P **P** **01 27 18.0 -0.6**
FRGS Fruska Gora 71.45 315 ⇑*i*P **P** **01 27 17.7 -0.9**
KSR Koster 71.48 239 *eP* P 01 27 24.8 +5.5
KSR IAmb IAmb 01 28 01.9
comp=Z,55nm,1.1s
ULC Ulcinj 71.51 311 ⇓*i*P **P** **01 27 18.1 -0.9**
PLE Pljevlja 71.54 313 ⇓*i*P **P** **01 27 18.4 -0.9**
SNKL Senekal, Frees 71.56 237 *eP* **P** **01 27 19.4 -0.3**
SNKL IAmb IAmb 01 27 31.2
comp=Z,93nm,1.1s
DRME Dracevica, Mon 71.57 312 ⇓*i*P **P** **01 27 18.3 -1.1**
DRME Dracevica, Mon 71.57 312 *eP* **P** **01 27 18.6 -0.8**
TEKS Tekeris 71.58 314 *eP* **P** **01 27 16.7 -2.7**
RUDO Rudo 71.59 313 ⇓*i*P **P** **01 27 18.0 -1.4**
BBLS Lazići 71.59 313 ⇓*i*P **P** **01 27 18.4 -1.1**
MTSE Matsula 71.59 329 *eP* **P** **01 27 19.0 0.0**
TAU Tasmania Unive 71.69 140 P **P** **01 27 20.4 +0.5**
TAU IAmb IAmb 01 27 27.0
comp=Z,174nm,1.1s
TAU Tasmania Unive 71.69 140 P **P** **01 27 22.0 +2.1**
TAU Tasmania Unive 71.69 140 P **P** **01 27 20.4 +0.5**
TAU pmax pmax
comp=Z,174nm,1.1s
TAU MLR MLR
comp=Z,4µm,21.0s
MEF Metsahovi 71.70 331 *eP* **P** **01 27 19.9 +0.2**
PSZ Piszkesteto 71.75 318 ⇑P **P** **01 27 20.0 -0.4**
PSZ Piszkesteto 71.75 318 P **P** **01 27 20.2 -0.3**
PSZ IAmb IAmb 01 27 21.9
comp=Z,124nm,1.4s
PSZ Piszkesteto 71.75 318 P **P** **01 27 20.2 -0.3**
PSZ pmax pmax
comp=Z,124nm,1.4s
MRCO Marico , North 71.78 240 *eP* **P** **01 27 21.1 +0.1**
MRCO IAmb IAmb 01 27 33.4
comp=Z,104nm,1.1s
BEL Belsk 71.80 322 *eP* **P** **01 27 20.8 +0.3**
BUM Brajici-Budva 71.80 312 ⇓*i*P **P** **01 27 20.3 -0.5**
NKME Niksic 71.80 312 ⇓*i*P **P** **01 27 19.7 -1.1**
CEME Cevo 71.81 312 ⇓*i*P **P** **01 27 19.7 -1.1**
UPM Unac-Piva 71.88 313 *eP* P 01 27 14.5 -6.9
SCTE Santa Cesarea 71.93 309 P **P** **01 27 20.6 -0.9**
HAPS Han Pijesak,BI 71.94 314 ⇓*i*P **P** **01 27 21.2 -0.5**
PBUR Paburge 71.95 326 *eP* **P** **01 27 21.4 +0.1**
HCY Herceg Novi 72.11 312 ⇓*i*P **P** **01 27 22.0 -0.6**
HCY Herceg Novi 72.11 312 ⇓*i*P **P** **01 27 21.7 -0.9**
BRY Bratogost 72.12 312 ⇓*i*P **P** **01 27 21.6 -1.2**
BRY Bratogost 72.12 312 ⇓*i*P **P** **01 27 22.3 -0.5**
OJC Ojcow 72.15 320 *eP* **P** **01 27 23.0 +0.3**
OJC Ojcow 72.15 320 P **P** **01 27 22.4 -0.3**
OJC IAmb IAmb 01 27 24.1
comp=Z,113nm,1.0s
OJC Ojcow 72.15 320 P **P** **01 27 22.4 -0.3**
OJC pmax pmax
comp=Z,113nm,1.0s
LANS Liptovska Anna 72.21 319 *eP* **P** **01 27 23.4 +0.3**
LANS pmax pmax
comp=Z,22nm,1.4s
LANS Liptovska Anna 72.21 319 *eP* **P** **01 27 23.3 +0.2**
TREB Trebinje 72.24 312 *eP* **P** **01 27 21.8 -1.6**
LBTB Lobatse 72.33 241 P **P** **01 27 24.2 -0.1**
LBTB IAmb IAmb 01 27 36.4
comp=Z,145nm,1.5s
LBTB Lobatse 72.33 241 ⇓*i*P **P** **01 27 24.7 +0.4**
LBTB IAmb IAmb 01 27 35.9
comp=Z,139nm,1.4s
LBTB Lobatse 72.33 241 P **P** **01 27 24.2 -0.1**
LBTB pmax pmax
comp=Z,145nm,1.5s
LBTB Lobatse 72.33 241 LR LR 01 54 29.7
comp=Z,1µm,21.4s,baz=75,slow=32
MORH Mrgy, Hungar 72.39 316 ⇑P **P** **01 27 23.5 -0.6**
NEVS Nevesinje 72.47 313 *eP* **P** **01 27 23.3 -1.5**
VYHS Vyhne 72.53 318 *eP* **P** **01 27 25.1 +0.1**
VYHS pmax pmax
comp=Z,93nm,1.4s
VYHS Vyhne 72.53 318 *eP* **P** **01 27 25.1 +0.1**
KLNR Kaliningrad 72.63 325 *i* P **P** **01 27 24.4 -1.0**
KLNR pmax pmax
comp=Z,315nm,0.9s
STON Ston 72.73 312 ⇓*i*P **P** **01 27 24.1 -2.1**
SRO Srobarova 72.80 317 *eP* **P** **01 27 27.0 +0.5**
SRO pmax pmax
comp=Z,111nm,1.2s
SRO Srobarova 72.80 317 *eP* **P** **01 27 27.0 +0.5**
VADS Vadso 73.08 342 ⇓*i*P **P** **01 27 27.9 +0.1**
VADS IAmb IAmb 01 27 29.1
comp=Z,199nm,1.0s
VADS eS **S** **01 36 55.2 +0.9**
VADS IAMs_20 IAMs_20 02 04 35.9
comp=Z,3µm,16.0s
WAKE Wake Island 73.15 72 P **P** **01 27 28.8 -0.4**
WAKE Wake Island 73.15 72 P **P** **01 27 30.2 +1.0**

WAKE Wake Island 73.15 72 ⇓P **P** **01 27 30.8 +1.6**
OKC Ostrava-Krasne 73.15 320 *eP* **P** **01 27 28.7 +0.1**
OKC AMS AMS 01 58 30.0
comp=Z,1µm,25.1s
OKC Ostrava-Krasne 73.15 320 *eP* **P** **01 27 28.7 +0.1**
OKC MLR MLR
comp=Z,1µm,25.1s
RAF Rauma 73.16 331 *eP* **P** **01 27 28.0 -0.4**
TIP Timpagrande 73.19 308 ⇑P **P** **01 27 29.6 +0.4**
TIP Timpagrande 73.19 308 P **P** **01 27 29.5 +0.3**
TIP IAmb IAmb 01 27 31.1
comp=Z,175nm,1.3s
H11S3 WAKE ISLAND Hy 73.23 73 P **P** **01 27 30.8 +1.3**
baz=200,slow=77,SNR=3.0
H11S1 WAKE ISLAND Hy 73.24 73 P **P** **01 27 30.8 +1.3**
baz=200,slow=77,SNR=3.1
SWZ Schweizer 73.24 238 *eP* **P** **01 27 30.1 +0.4**
SWZ IAmb IAmb 01 27 42.0
comp=Z,135nm,1.0s
H11S2 WAKE ISLAND Hy 73.24 73 P **P** **01 27 30.9 +1.3**
baz=200,slow=77,SNR=2.6
BLY Banja Luka 73.26 314 ⇓*i*P **P** **01 27 28.6 -0.8**
MAUC Maruska 73.30 319 *eP* **P** **01 27 29.6 0.0**
MGRS Mrkonjic Grad 73.30 314 *eP* **P** **01 27 28.9 -0.8**
MATE Matera 73.31 310 ⇑P **P** **01 27 29.5 -0.2**
JAVC Velka Javorina 73.34 318 *eP* **P** **01 27 31.0 +1.1**
H11N1 WAKE ISLAND Hy 73.35 72 P **P** **01 27 29.9 -0.3**
baz=337,slow=74,SNR=3.4
H11N2 WAKE ISLAND Hy 73.36 72 P **P** **01 27 29.9 -0.3**
H11N3 WAKE ISLAND Hy 73.37 72 P **P** **01 27 31.5 +1.3**
baz=176,slow=74,SNR=5.9
SMOL Smolenice 73.47 318 *eP* **P** **01 27 31.4 +0.9**
SMOL pmax pmax
comp=Z,27nm,1.2s
A051A Mrakovica 73.48 314 ⇓*i*P **P** **01 27 30.3 -0.5**
MORC Moravsky Berou 73.53 319 ⇑P **P** **01 27 30.9 -0.1**
MORC Moravsky Berou 73.53 319 P **P** **01 27 30.8 -0.2**
MORC IAmb IAmb 01 27 32.8
comp=Z,125nm,1.2s
MORC Moravsky Berou 73.53 319 *eP* **P** **01 27 30.8 -0.2**
MORC Moravsky Berou 73.53 319 P **P** **01 27 30.9 -0.1**
MODS Modra-Piesok 73.55 318 *eP* **P** **01 27 31.2 +0.2**
MODS pmax pmax
comp=Z,306nm,1.5s
MODS Modra-Piesok 73.55 318 *eP* **P** **01 27 31.2 +0.2**
ZST Bratislava 73.65 318 *eP* **P** **01 27 32.0 +0.4**
ZST pmax pmax
comp=Z,496nm,1.2s
ZST Bratislava 73.65 318 *eP* **P** **01 27 32.0 +0.4**
KEV Kevo 73.70 341 P **P** **01 27 30.8 -0.6**
KEV IAmb IAmb 01 27 33.0
comp=Z,180nm,1.4s
KEV IAMs_20 IAMs_20 02 05 00.2
comp=Z,4µm,18.0s
KEV Kevo 73.70 341 P **P** **01 27 30.8 -0.6**
KEV pmax pmax
comp=Z,180nm,1.4s
KEV MLR MLR
comp=Z,4µm,18.0s
A050A Klekovaca 73.70 314 ⇓*i*P **P** **01 27 31.3 -0.8**
BOSA Boshof 73.76 237 P **P** **01 27 33.4 +0.6**
BOSA Boshof 73.76 237 *eP* **P** **01 27 32.1 -0.6**
BOSA IAmb IAmb 01 27 44.3
comp=Z,82nm,1.1s
BOSA Boshof 73.76 237 P **P** **01 27 33.4 +0.6**
BOSA pmax pmax
comp=Z,81nm,1.1s
BOSA Boshof 73.76 237 P **P** **01 27 32.4 -0.4**
comp=Z,49nm,1.0s,baz=79,slow=6.7,SNR=32
BOSA LR LR 01 55 25.2
comp=Z,4µm,19.5s,baz=71,slow=32
comp=Z,49nm,1.0s
CEL Celeste 73.82 307 P **P** **01 27 32.9 0.0**
CUC Castrocucco 73.96 309 P **P** **01 27 32.6 -1.0**
KRLC Kraliky 74.06 320 *eP* **P** **01 27 33.7 -0.3**
KRLC Kraliky 74.06 320 *eP* **P** **01 27 33.7 -0.3**
KOGS Kog 74.06 316 *i* P **P** **01 27 33.3 -0.7**
VRAC Vranov 74.10 319 ⇑P **P** **01 27 34.8 +0.6**
VRAC Vranov 74.10 319 *eP* **P** **01 27 33.7 -0.5**
VRAC Vranov 74.10 319 P **P** **01 27 34.8 +0.6**
VRAC Vranov 74.10 319 LR LR 02 03 40.1
comp=Z,1µm,21.2s,baz=92,slow=39
ARA0 ARCESS Array S 74.11 340 *eP* **P** **01 27 34.2 +0.3**
ARA0 IAmb IAmb 01 27 34.7
comp=Z,112nm,1.0s
ARA0 eS **S** **01 37 06.5 +0.5**
ARCES ARCESS Array B 74.11 340 P **P** **01 27 34.5 +0.6**
ARCES IAmb IAmb 01 27 35.7
comp=Z,165nm,1.2s
ARCES ARCESS Array B 74.11 340 P **P** **01 27 34.5 +0.6**
ARCES pmax pmax
comp=Z,165nm,1.3s
ARCES ARCESS Array B 74.11 340 P **P** **01 27 33.5 -0.4**
comp=Z,77nm,1.0s,baz=89,slow=5.0,SNR=66
ARCES LR LR 02 02 10.3
comp=Z,3µm,21.9s,baz=114,slow=38
comp=Z,77nm,1.0s
RONA Rosalia, Austr 74.14 317 *i* P **P** **01 27 34.5 0.0**
comp=Z,18nm,0.9s,SNR=16
GKP Gorka Klasztor 74.16 323 *eP* **P** **01 27 34.4 -0.1**
KRUC Moravsky 74.20 319 *eP* **P** **01 27 34.4 -0.4**
DPC Dobruska-Polom 74.38 320 *eP* **P** **01 27 36.2 +0.3**
DPC AMS AMS 01 59 20.0
comp=Z,2µm,22.9s
DPC Dobruska-Polom 74.38 320 *eP* **P** **01 27 36.2 +0.3**
DPC MLR MLR
comp=Z,2µm,22.9s
GRHM Grahamstown, E 74.45 232 P **P** **01 27 37.4 +0.8**
GRHM Grahamstown, E 74.45 232 *eP* **P** **01 27 37.7 +1.1**
GRHM IAML 01 27 49.6
comp=Z,10nm,1.0s
CONA Conrad Observa 74.45 317 *i* P **P** **01 27 36.3 -0.1**
comp=Z,20nm,1.1s,SNR=18
KSP Ksiaz 74.45 320 *eP* **P** **01 27 37.2 +0.9**
OSTC Ostas 74.47 320 *eP* **P** **01 27 36.3 -0.1**
OSTC AMS AMS 01 59 30.0
comp=Z,2µm,24.7s
OSTC Ostas 74.47 320 *eP* **P** **01 27 36.3 -0.1**
OSTC MLR MLR
comp=Z,2µm,24.7s
CRES Cresnjev 74.56 315 ⇓*i*P **P** **01 27 36.0 -1.0**
CHVC Chvalec 74.58 320 *eP* **P** **01 27 36.7 -0.3**
CHVC AMS AMS 01 59 20.0
comp=Z,2µm,21.3s
CHVC Chvalec 74.58 320 *eP* **P** **01 27 36.7 -0.3**
CHVC MLR MLR
comp=Z,2µm,21.3s
UPC Upice 74.59 320 *eP* **P** **01 27 36.8 -0.3**
UPC AMS AMS 01 59 30.0
comp=Z,2µm,19.0s
UPC Upice 74.59 320 *eP* **P** **01 27 36.8 -0.3**
UPC MLR MLR
comp=Z,2µm,19.0s
ARSA Arzberg 74.62 317 *i* P **P** **01 27 37.7 +0.3**
comp=Z,25nm,1.0s,SNR=47
BOJS Bojanci 74.68 315 ⇓*i*P **P** **01 27 36.7 -1.0**
KTK1 Kautokeino 74.71 340 *eP* **P** **01 27 37.4 0.0**
KTK1 IAmb IAmb 01 27 38.4
comp=Z,122nm,1.2s
KTK1 eS **S** **01 37 13.3 +0.5**
TREC Trest 74.82 319 *eP* **P** **01 27 38.2 -0.2**
TREC AMS AMS 01 56 30.0
comp=Z,2µm,34.6s
TREC Trest 74.82 319 *eP* **P** **01 27 38.2 -0.2**
TREC MLR MLR
comp=Z,2µm,34.6s
SOE Somerset East 74.89 233 P **P** **01 27 40.3 +1.1**
SOE Somerset East 74.89 233 *eP* **P** **01 27 40.1 +0.9**
SOE IAmb IAmb 01 27 41.6
comp=Z,102nm,1.2s
SOKA Soboth 74.92 316 *i* P **P** **01 27 38.9 -0.3**
comp=Z,48nm,1.2s,SNR=94
PAOL Paolisi 74.95 310 P **P** **01 27 39.0 -0.4**
VAE Valguarnera 74.97 307 LR LR 02 03 59.0
comp=Z,654nm,21.2s,baz=94,slow=38
HAMF Hammerfest 75.06 341 *eP* **P** **01 27 39.3 0.0**
HAMF IAmb IAmb 01 27 40.1
comp=Z,103nm,0.8s
HAMF eS **S** **01 37 20.9 +4.4**
LJU Ljubljana 75.22 315 *eP* **P** **01 27 41.4 +0.5**
OBKA Obir 75.24 316 *i* P **P** **01 27 40.7 -0.3**
comp=Z,40nm,1.1s,SNR=45
OBKA Obir 75.24 316 ⇓*i*P **P** **01 27 40.1 -0.9**
NMMU Nelson Mandela 75.26 232 *eP* **P** **01 27 41.0 -0.2**
CEY Cerknica 75.28 315 ⇓*i*P **P** **01 27 38.9 -2.3**

GOPC GO Pecny, Ondr 75.32 319 *eP* **P** **01 27 42.1 +0.8**
GOPC AMS AMS 01 56 00.0
comp=Z,2µm,34.6s
GOPC GO Pecny, Ondr 75.32 319 *eP* **P** **01 27 42.1 +0.8**
GOPC MLR MLR
comp=Z,2µm,34.6s
LHI Lord Howe Isla 75.43 125 P **P** **01 27 43.5 +1.2**
baz=76,SNR=5.7
LHI Lord Howe Isla 75.43 125 P **P** **01 27 41.9 -0.3**
LHI IAmb IAmb 01 27 54.2
comp=Z,127nm,0.7s
LHI IAMs_20 IAMs_20 02 03 25.6
comp=Z,4µm,19.0s
LHI Lord Howe Isla 75.43 125 P **P** **01 27 43.9 +1.7**
INTR Introdacqua 75.48 311 P **P** **01 27 42.3 -0.1**
PRU Pruhonice 75.49 319 *eP* **P** **01 27 42.1 -0.1**
PRU AMS AMS 01 56 10.0
comp=Z,2µm,36.9s
PRU Pruhonice 75.49 319 *eP* **P** **01 27 42.1 -0.1**
PRU MLR MLR
comp=Z,2µm,36.9s
PVCC Panska Ves 75.51 320 *eP* **P** **01 27 42.4 0.0**
PVCC Panska Ves 75.51 320 *eP* **P** **01 27 42.4 0.0**
MOA Molln 75.52 317 *i* P **P** **01 27 42.0 -0.4**
comp=Z,24nm,1.0s,SNR=22
CKRC Cesky Krumlov 75.55 318 *eP* **P** **01 27 42.3 -0.4**
CKRC Cesky Krumlov 75.55 318 *eP* **P** **01 27 42.3 -0.4**
SKDS Skadanscina 75.56 315 *eP* **P** **01 27 40.3 -2.5**
PRA Prague 75.56 320 *eP* **P** **01 27 42.7 0.0**
PRA Prague 75.56 320 *eP* **P** **01 27 42.7 0.0**
GRAF Camdeboo Natio 75.60 234 *eP* **P** **01 27 43.4 +0.1**
GRAF IAmb IAmb 01 27 55.8
comp=Z,88nm,0.9s
CASY Casey 75.60 172 P **P** **01 27 42.6 +0.2**
CASY Casey 75.60 172 IAMs_20 IAMs_20 01 58 08.3
comp=Z,4µm,18.0s
ZVC Zvikov 75.67 319 *eP* **P** **01 27 42.9 -0.4**
ZVC AMS AMS 01 56 30.0
comp=Z,2µm,40.7s
BSD Bornholm Skovb 75.73 325 *i* P **P** **01 27 40.0 -3.5**
BSD IAmb IAmb 01 27 43.8
comp=Z,143nm,1.0s
CADS Cadrg 75.78 316 *i* P **P** **01 27 43.0 -1.0**
RICC Richard 75.81 320 *eP* **P** **01 27 45.0 +0.9**
JETT Jettan, Norway 75.83 340 ⇓*i*P **P** **01 27 44.1 +0.2**
JETT IAmb IAmb 01 27 44.9
comp=Z,154nm,1.0s
JETT eS **S** **01 37 26.3 +1.1**
SABO M.te Sabotino 75.87 315 P **P** **01 27 43.1 -1.4**
SABO IAmb IAmb 01 27 45.5
comp=Z,105nm,1.3s
SABO IAMs_20 IAMs_20 02 04 50.1
comp=Z,1µm,21.0s
CAMP Campotosto 75.87 312 P **P** **01 27 44.4 -0.4**
MYKA Terra Mystica 75.87 316 *i* P **P** **01 27 45.1 +0.5**
comp=Z,22nm,0.9s,SNR=21
PRED Cave del Predi 75.91 316 P **P** **01 27 44.4 -0.5**
PRED IAmb IAmb 01 27 46.3
comp=Z,100nm,1.0s
CLTB Caltabellotta 75.92 307 P **P** **01 27 45.3 +0.2**
BIOA Bad Ischl, Aus 75.93 317 *i* P **P** **01 27 45.0 +0.2**
SNR=26
BRG Berggiesshubel 75.94 320 *eP* **P** **01 27 44.7 -0.1**
BRG Amp 01 27 47.2
comp=Z,143nm,1.2s
BRG ⇑PP **pwP** **01 27 54.1 +0.3**
BRG Amp 01 27 57.2
comp=Z,72nm,1.2s
BRG PP **PP** **01 30 28.2 -6.9**
BRG Amp 01 30 38.9
comp=Z,13nm,1.1s
BRG Berggiesshubel 75.94 320 *eP* **P** **01 27 44.7 -0.1**
BRG 01 27 54.1
BRG S **S** **01 37 29.0 +2.0**
BRG 01 38 01.0
BRG pmax pmax
comp=Z,143nm,1.2s
BRG pmax pmax
comp=Z,72nm,1.2s
BRG pmax pmax
comp=Z,13nm,1.1s
BRG pmax pmax
comp=Z,15nm,1.3s
BRG pmax pmax
comp=N,1µm,15.3s
BRG Berggiesshubel 75.94 320 *eP* **P** **01 27 45.1 +0.4**
comp=N,70nm,1.0s,baz=92,slow=5.6
GUMA Gualdo di Mace 75.94 312 P **P** **01 27 45.1 +0.1**
GUMA IAmb IAmb 01 27 46.3
comp=Z,124nm,1.2s
GUMA IAMs_20 IAMs_20 02 04 49.9
comp=Z,2µm,21.0s
GEC2 GERESS Array S 75.95 318 P **P** **01 27 45.2 +0.2**
GEC2 IAmb IAmb 01 27 46.9
comp=Z,136nm,1.1s
GEC2 GERESS Array S 75.95 318 *eP* **P** **01 27 45.2 +0.2**
comp=Z,82nm,0.9s,baz=92,slow=5.6
GERES GERESS Array B 75.95 318 P **P** **01 27 44.8 -0.2**
GERES GERESS Array B 75.95 318 P **P** **01 27 45.0 0.0**
comp=Z,62nm,0.9s,baz=77,slow=5.8,SNR=163
GERES LR LR 02 04 50.1
comp=Z,2µm,21.8s,baz=84,slow=39
comp=Z,62nm,0.9s
BUFB Buffelsbos 76.03 232 *eP* **P** **01 27 46.0 +0.4**
BUFB IAmb IAmb 01 27 57.4
comp=Z,3.5nm,0.8s
KHC Kasperske Hory 76.05 319 P **P** **01 27 45.2 -0.3**
KHC Kasperske Hory 76.05 319 *eP* **P** **01 27 44.9 -0.7**
KHC epP **pP** **01 27 50.1 +0.4**
KHC AMS AMS 01 55 20.0
comp=Z,1µm,20.8s
KHC Kasperske Hory 76.05 319 *eP* **P** **01 27 44.9 -0.7**
KHC *e* 01 27 50.1
KHC MLR MLR
comp=Z,1µm,20.8s
BFON Badsfontein, M 76.08 234 *eP* **P** **01 27 46.6 +0.5**
BFON IAmb IAmb 01 27 58.3
comp=Z,87nm,0.9s
NRCA Norcia 76.09 312 P **P** **01 27 45.7 -0.2**
KBA Koelnbreinsper 76.10 316 *i* P **P** **01 27 45.6 -0.4**
comp=Z,18nm,0.8s,SNR=35
FDMO Fiordimonte 76.12 312 P **P** **01 27 45.6 -0.4**
RUE Ruedersdorf 76.16 322 *eP* **P** **01 27 46.3 +0.3**
RUE Ruedersdorf 76.16 322 *eP* **P** **01 27 46.0 +0.1**
comp=Z,206nm,0.9s,baz=92,slow=5.6
HSKC Hora Svate Kat 76.24 320 *eP* **P** **01 27 46.6 0.0**
HSKC AMS AMS 01 58 20.0
comp=Z,2µm,33.1s
TRO Tromso 76.35 340 ⇓*i*P **P** **01 27 46.6 -0.2**
TRO IAmb IAmb 01 27 47.3
comp=Z,125nm,1.0s
TRO eS **S** **01 37 30.8 0.0**
CLUD Cludinico 76.39 316 P **P** **01 27 47.2 -0.3**
ROOI Rooidraai Farm 76.42 234 ⇓*i*P **P** **01 27 48.6 +0.7**
ROOI IAmb IAmb 01 28 00.1
comp=Z,116nm,0.9s
DEL Delary 76.46 326 *i* P **P** **01 27 46.0 -1.6**
CESX Cesi 76.48 312 P **P** **01 27 47.3 -0.8**
STAL STALIGIAL 76.50 316 P **P** **01 27 47.7 -0.4**
STAL IAmb IAmb 01 27 49.4
comp=Z,207nm,1.3s
RJOB Jochberg 76.50 317 *eP* **P** **01 27 48.0 -0.2**
comp=Z,49nm,1.0s,baz=92,slow=5.6
WET Wettzell 76.51 319 *eP* **P** **01 27 48.4 +0.2**
comp=Z,58nm,1.0s,baz=92,slow=5.6
MURB Monte Urbino 76.54 312 P **P** **01 27 48.4 -0.1**
CLL Collm 76.56 321 P **P** **01 27 48.3 0.0**
CLL IAmb IAmb 01 27 49.8
comp=Z,113nm,1.1s
CLL Collm 76.56 321 ⇓*i*P **P** **01 27 48.4 +0.1**
CLL *i* 01 27 58.6
CLL pmax pmax
comp=Z,134nm,1.2s
CLL MLR MLR
comp=Z,2µm,19.2s
CLL Collm 76.56 321 *eP* **P** **01 27 48.1 -0.2**
comp=Z,69nm,1.0s,baz=92,slow=5.6
LESA Schwarzleotal 76.57 317 *i* P **P** **01 27 47.6 -1.0**
comp=Z,19nm,0.7s
BILL Bilibino 76.63 22 *i* P **P** **01 27 48.0 -0.4**
ABTA Abfaltersbach 76.65 316 *i* P **P** **01 27 48.0 -1.1**
comp=Z,24nm,1.0s,SNR=25
HOPEN Hopen 76.68 347 *eP* **P** **01 27 47.9 -0.6**
HOPEN IAmb IAmb 01 27 49.9
comp=Z,136nm,1.1s

HOPEN eS S 01 37 36.4 +2.1
HOPEN IAMs_20 IAMs_20 02 06 22.3
comp=Z,4µm,20.0s
BRAK Brakfontein 76.72 235 eP P 01 27 50.2 +0.6
BRAK IAmb IAmb 01 28 01.7
comp=Z,71nm,0.9s
KOUNC Koumac, New Ca 76.81 113 P P 01 27 49.9 -0.4
KOUNC IAmb IAmb 01 27 57.5
comp=Z,200nm,1.0s
KOUNC Koumac, New Ca 76.81 113 P P 01 27 52.0 +1.7
NKC Novy Kostel 76.85 320 eP P 01 27 49.9 -0.1
NKC AMS AMS 01 57 00.0
comp=Z,1µm,30.3s
NKC Novy Kostel 76.85 320 eP P 01 27 49.9 -0.1
NKC MLR MLR
comp=Z,1µm,30.3s
TANN Tannenbergstha 76.85 320 eP P 01 27 50.2 +0.2
comp=Z,58nm,1.1s,baz=92,slow=5.6
HFS Hagfors 76.93 330 P P 01 27 49.5 -0.7
comp=Z,36nm,0.6s,baz=104,slow=6.3,SNR=74
HFS LR LR 02 04 47.4
comp=Z,3µm,20.9s,baz=96,slow=38
comp=Z,36nm,0.6s
ROTZ Rotzenmuhle 76.98 319 eP P 01 27 51.5 +0.7
comp=Z,22nm,1.0s,baz=92,slow=5.6
UPI Upington 77.04 238 eP P 01 27 52.1 +0.6
UPI IAmb IAmb 01 28 04.0
comp=Z,67nm,0.8s
MANZ Manzenberg 77.06 319 eP P 01 27 51.9 +0.7
comp=Z,35nm,1.0s,baz=92,slow=5.6
TEOL Teolo 77.20 315 P P 01 27 51.4 -0.6
FAUS Fauske 77.22 337 eP P 01 27 51.9 +0.2
FAUS IAmb IAmb 01 27 52.0
comp=Z,101nm,0.8s
FAUS eS S 01 37 42.2 +1.8
FAUS IAMs_20 IAMs_20 02 08 42.0
comp=Z,5µm,16.3s
CTI Castel Tesino 77.23 315 P P 01 27 52.0 -0.3
CTI IAmb IAmb 01 27 54.0
comp=Z,130nm,1.1s
CTI Castel Tesino 77.23 315 P P 01 27 52.0 -0.3
CTI pmax pmax
comp=Z,130nm,1.1s
WTTA Wattenberg 77.27 317 *i* P P 01 27 51.7 -1.0
comp=Z,62nm,1.0s,SNR=36
WATA Walderalm 77.31 317 *i* P P 01 27 52.3 -0.5
comp=Z,36nm,0.9s,SNR=28
NEUB Neuenburg 77.32 321 eP P 01 27 52.5 -0.1
comp=Z,100nm,1.0s,baz=92,slow=5.6
STEI Steigen 77.33 338 ǁ *i* P P 01 27 51.5 -0.8
STEI IAmb IAmb 01 27 53.2
comp=Z,192nm,1.1s
STEI eS S 01 37 40.0 -1.5
MOR8 Moi Rana 77.36 336 ǁ *i* P P 01 27 51.9 -0.7
MOR8 IAmb IAmb 01 27 52.3
comp=Z,104nm,1.0s
MOR8 eS S 01 37 42.1 0.0
KEIM Keimoes 77.38 238 eP P 01 27 54.0 +0.6
KEIM IAmb IAmb 01 28 05.9
comp=Z,95nm,0.9s
MOX Moxa 77.40 320 eP P 01 27 53.3 +0.3
comp=Z,130nm,1.2s,baz=92,slow=5.6
MOX eL L 02 07 41.0
comp=Z,1µm,19.3s
GRAN Grantham 77.46 234 eP P 01 27 53.8 0.0
GRAN IAmb IAmb 01 28 06.4
comp=Z,51nm,0.8s
OSSC Osservatorio P 77.47 313 P P 01 27 53.3 -0.3
BJO1 Bjornoya 77.51 345 eP P 01 27 54.4 +1.2
FUR Furstenfeldbru 77.54 317 eP P 01 27 53.7 -0.2
comp=Z,132nm,1.2s,baz=92,slow=5.6
SQTA Sankt Quirin 77.56 316 *i* P P 01 27 53.2 -1.0
comp=Z,49nm,0.8s,SNR=33
GRA1 Grafenberg Arr 77.62 319 P P 01 27 54.6 +0.2
GRA1 IAmb IAmb 01 27 56.7
comp=Z,236nm,1.1s
GRF Grafenberg Arr 77.62 319 P P 01 27 54.6 +0.2
GRF pmax pmax
comp=Z,236nm,1.1s
GRF Grafenberg Arr 77.62 319 eP P 01 27 54.7 +0.4
comp=Z,136nm,1.0s,baz=92,slow=5.6
GRF eL L 02 09 13.9
comp=Z,2µm,19.5s
GRFO Grafenberg 77.62 319 P P 01 27 54.5 +0.2
GRFO IAmb IAmb 01 27 56.6
comp=Z,205nm,1.0s
GRFO Grafenberg 77.62 319 P P 01 27 54.5 +0.2
GRFO pmax pmax
comp=Z,205nm,1.0s
MOTA Moosalm 77.63 317 *i* P P 01 27 53.5 -1.1
comp=Z,65nm,0.9s,SNR=38
ZCCA Zocca 77.66 314 P P 01 27 55.6 +0.8
FLTG Flechtingen 77.71 322 eP P 01 27 54.3 -0.4
comp=Z,38nm,1.0s,baz=92,slow=5.6
CASP Castiglione de 77.75 312 P P 01 27 54.5 -0.7
RETA Reutte 77.87 317 *i* P P 01 27 55.1 -0.8
comp=Z,64nm,0.9s,SNR=54
FETA Feichten 77.88 316 *i* P P 01 27 55.4 -0.6
comp=Z,40nm,0.9s,SNR=42
TSUM Tsumeb 77.93 248 P P 01 27 56.5 -0.3
TSUM Tsumeb 77.93 248 eP P 01 27 56.7 -0.1
TSUM IAmb IAmb 01 28 10.1
comp=Z,50nm,0.9s
TSUM Tsumeb 77.93 248 LR LR 01 59 43.9
comp=Z,3µm,19.0s,baz=74,slow=34
KONS Konsvik 77.94 336 eP P 01 27 56.6 +0.9
STOK Stokkvaagen 77.96 336 eP P 01 27 55.4 -0.4
FRAZ Fraserburg 77.96 235 eP P 01 27 56.8 +0.1
FRAZ IAmb IAmb 01 28 09.0
comp=Z,88nm,1.0s
LOF Lofoten 77.99 338 eP P 01 27 55.4 -0.6
LOF eS S 01 37 48.7 -0.1
NC405 NORSAR Array S 78.00 331 P P 01 27 56.0 -0.2
NC405 IAmb IAmb 01 27 57.2
comp=Z,149nm,1.1s
SALO Salr 78.01 315 P P 01 27 56.7 +0.1
SALO IAmb IAmb 01 27 59.0
comp=Z,188nm,1.1s
ASSE Asse, Remlinge 78.05 322 eP P 01 27 56.4 -0.1
comp=Z,47nm,1.0s,baz=92,slow=5.6
NC602 NORSAR Array S 78.05 330 P P 01 27 56.5 +0.1
NC602 IAmb IAmb 01 27 57.2
comp=Z,132nm,1.1s
NC602 NORSAR Array S 78.05 330 eP P 01 27 55.5 -1.0
NC602 IAmb IAmb 01 27 56.8
comp=Z,132nm,1.1s
MERW Merweville 78.10 234 eP P 01 27 58.5 +1.1
MERW IAmb IAmb 01 28 10.0
comp=Z,158nm,1.0s
PRMA PARMA 78.15 314 P P 01 27 58.4 +1.0
PRMA IAmb IAmb 01 28 00.8
comp=Z,229nm,1.2s
NC303 NORSAR Array S 78.17 331 P P 01 27 56.7 -0.5
NC303 IAmb IAmb 01 27 58.1
comp=Z,109nm,1.1s
NSS Namsos 78.19 334 eP P 01 27 56.6 -0.6
NSS IAmb IAmb 01 27 57.8
comp=Z,191nm,1.0s
NSS eS S 01 37 51.5 +0.4
NSS IAMs_20 IAMs_20 02 10 22.6
comp=Z,3µm,18.5s
FUORN Ofenpass-Fuorn 78.20 316 P P 01 27 57.7 -0.3
FUORN IAmb IAmb 01 27 59.8
comp=Z,145nm,1.6s
CLZ Clausthal 78.22 321 eP P 01 27 57.7 +0.1
comp=Z,105nm,1.0s,baz=92,slow=5.6
NB2 NORSAR Subarra 78.23 331 P P 01 27 56.2 -1.4
comp=Z,170nm,1.2s,baz=93,slow=5.9
NB2 NORSAR Subarra 78.23 331 P P 01 27 56.2 -1.4
baz=93,slow=5.9
NOA NORSAR Array B 78.23 331 P P 01 27 56.5 -1.1
comp=Z,49nm,0.9s,baz=95,slow=5.6,SNR=55
NOA PP PP 01 30 47.1 -7.1
comp=Z,2.0nm,0.8s,baz=67,slow=11,SNR=3.3
comp=Z,49nm,0.9s
UBR Ueberruh 78.31 317 eP P 01 27 57.9 -0.4
comp=Z,90nm,0.9s,baz=92,slow=5.6
BSEG Bad Segeberg 78.32 323 eP P 01 27 58.0 -0.1
comp=Z,144nm,1.0s,baz=92,slow=5.6
NAO01 NORSAR Array S 78.38 330 P P 01 27 57.7 -0.6
NAO01 IAmb IAmb 01 27 59.1
comp=Z,126nm,1.1s
OSL Oslo 78.40 329 eP P 01 27 58.4 0.0
NRDL Niedersach Rie 78.40 322 eP P 01 27 58.8 +0.3
comp=Z,122nm,1.2s,baz=92,slow=5.6
MAW Mawson 78.43 191 P P 01 27 59.6 +1.3
comp=Z,28nm,0.8s,baz=349,slow=5.4,SNR=10
MAW LR LR 01 57 54.2
comp=Z,2µm,18.1s,baz=17,slow=32
comp=Z,28nm,0.8s
UBBA Unterbreizbach 78.43 320 eP P 01 27 59.1 +0.5
comp=Z,7.0nm,0.8s,baz=92,slow=5.6
NBO00 NORSAR Array S 78.44 331 P P 01 27 58.3 -0.4
NBO00 IAmb IAmb 01 27 59.6
comp=Z,107nm,1.1s
DAVOX Davos/Dischmat 78.46 316 LR LR 02 10 35.3
comp=Z,997nm,18.5s,baz=83,slow=42
DAVA Damuels 78.46 317 *i* P P 01 27 58.8 -0.5
comp=Z,106nm,0.9s,SNR=50
GTTG Gottingen 78.47 321 eP P 01 27 59.1 +0.1
comp=Z,111nm,1.0s,baz=92,slow=5.6
NC204 NORSAR Array S 78.47 331 P P 01 27 58.2 -0.6
NC204 IAmb IAmb 01 27 59.8
comp=Z,97nm,1.1s
SUR Sutherland 78.58 235 P P 01 28 01.5 +1.3
SUR IAmb IAmb 01 28 13.5
comp=Z,172nm,1.0s
SUR Sutherland 78.58 235 eP P 01 28 01.4 +1.3
SUR IAmb IAmb 01 28 13.3
comp=Z,172nm,1.0s
SUR Sutherland 78.58 235 LR LR 01 58 25.0
comp=Z,2µm,18.9s,baz=76,slow=32
MSSA Maissana 78.72 314 P P 01 28 00.3 -0.3
MSSA IAmb IAmb 01 28 02.1
comp=Z,213nm,1.3s
TUE Stuetta 78.83 316 P P 01 28 00.8 -0.6
TUE IAmb IAmb 01 28 17.2
comp=Z,307nm,1.6s
TBLU Trondheim 78.84 333 eP P 01 28 00.4 -0.3
VSL Villasalto 78.91 309 P P 01 28 01.3 -0.4
HSPB Hornsund (broa 78.91 347 eP P 01 28 00.2 -0.7
STU Stuttgart 78.93 318 P P 01 28 01.4 -0.2
STU IAmb IAmb 01 28 04.9
comp=Z,247nm,1.8s
STU Stuttgart 78.93 318 P P 01 28 01.4 -0.2
STU pmax pmax
comp=Z,247nm,1.8s
STU Stuttgart 78.93 318 eP P 01 28 01.7 +0.1
comp=Z,89nm,0.8s,baz=92,slow=5.6
KONO Kongsberg 78.95 329 P P 01 28 01.7 +0.2
KONO IAmb IAmb 01 28 14.3
comp=Z,277nm,1.6s
KONO Kongsberg 78.95 329 eP P 01 28 00.7 -0.8
KONO eS S 01 38 01.1 +1.8
KONO Kongsberg 78.95 329 P P 01 28 01.7 +0.2
KONO pmax pmax
comp=Z,277nm,1.6s
SPB2 Spitsbergen Ar 78.98 348 P P 01 28 01.6 +0.2
SPB2 IAmb IAmb 01 28 02.8
comp=Z,204nm,1.1s
SPA0 Spitsbergen Ar 78.99 348 eP P 01 28 01.7 +0.2
SPA0 IAmb IAmb 01 28 03.1
comp=Z,338nm,1.3s
SPA0 eS S 01 38 00.1 +0.9
SPITS Spitsbergen Ar 78.99 348 P P 01 28 01.6 +0.2
SPITS pmax pmax
comp=Z,320nm,1.3s
SPITS Spitsbergen Ar 78.99 348 P P 01 28 01.3 -0.1
comp=Z,84nm,0.8s,baz=98,slow=10,SNR=76
SPITS SKKPbc SKKPbc 01 50 37.2 +4.1
comp=Z,1.0nm,0.3s,baz=24,slow=13,SNR=32
comp=Z,84nm,0.8s
NOUC Port Laguerre 79.00 114 P P 01 28 03.7 +1.2
MATJ Matjiesfontein 79.03 234 eP P 01 28 04.5 +1.9
MATJ IAmb IAmb 01 28 15.3
comp=Z,164nm,1.1s
MUD Monsted U'grnd 79.06 326 *i* P P 01 28 01.6 -0.4
MUD IAmb IAmb 01 28 03.9
comp=Z,216nm,1.1s
KEST Kesra 79.06 305 P P 01 28 02.7 0.0
KEST IAmb IAmb 01 28 05.2
comp=Z,146nm,1.2s
KEST Kesra 79.06 305 P P 01 28 03.0 +0.3
comp=Z,70nm,1.1s,baz=91,slow=0.8,SNR=49
KEST LR LR 02 09 10.6
comp=Z,727nm,18.5s,baz=32,slow=40
comp=Z,70nm,1.1s
KEST Kesra 79.06 305 P P 01 28 03.7 +0.9
SNR=18
DZM Mont Dzumac 79.12 114 P P 01 28 02.5 -0.8
DZM IAmb IAmb 01 28 10.5
comp=Z,175nm,1.1s
DZM Mont Dzumac 79.12 114 P P 01 28 04.7 +1.4
DZM Mont Dzumac 79.12 114 eP P 01 28 03.3 0.0
comp=Z,277nm,26.9s
DZM Mont Dzumac 79.12 114 ePP PP 01 30 59.9 -2.9
comp=Z,201nm,24.1s
DZM Mont Dumac 79.12 114 LR LR 02 04 34.2
comp=Z,2µm,21.2s,baz=280,slow=37
WIN Windhoek 79.15 245 P P 01 28 04.3 +0.8
WIN IAmb IAmb 01 28 17.0
comp=Z,139nm,0.9s
WIN IAMs_20 IAMs_20 02 00 06.3
comp=Z,3µm,18.0s
WIN Windhoek 79.15 245 P P 01 28 04.3 +0.8
WIN pmax pmax
comp=Z,139nm,0.9s
CVNA Calvinia 79.17 236 eP P 01 28 05.1 +1.7
CVNA IAmb IAmb 01 28 15.8
comp=Z,86nm,0.9s
ONTNC Ouen Toro 79.19 115 P P 01 28 04.1 +0.6
ONTNC Ouen Toro 79.19 115 P P 01 28 05.2 +1.7
DOMB Dombas 79.32 332 eP P 01 28 02.7 -0.8
DOMB IAmb IAmb 01 28 04.2
comp=Z,81nm,1.0s
DOMB eS S 01 37 58.9 -4.4
TNS Taunus Mts 79.42 320 eP P 01 28 04.5 +0.2
comp=Z,86nm,1.0s,baz=92,slow=5.6
KASTN Kahler Asten 79.44 321 eP P 01 28 04.4 +0.1
comp=Z,60nm,1.0s,baz=92,slow=5.6
BFO Black Forest 79.51 318 P P 01 28 04.6 -0.2
BFO Black Forest 79.51 318 P P 01 28 04.6 -0.2
BFO pmax pmax
comp=Z,116nm,1.1s
BFO Black Forest 79.51 318 eP P 01 28 04.5 -0.2
comp=Z,72nm,1.0s,baz=92,slow=5.6
YATNC Mamie plateau, 79.52 114 P P 01 28 07.0 +1.7
LIFNC LIFOU 79.55 113 P P 01 28 04.7 -0.8
LIFNC LIFOU 79.55 113 P P 01 28 07.0 +1.5
OUENC Ouen Island, N 79.56 115 P P 01 28 04.3 -1.2
OUENC IAmb IAmb 01 28 19.5
comp=Z,314nm,1.8s
OUENC Ouen Island, N 79.56 115 P P 01 28 07.1 +1.6
SKAR Skarslia 79.64 330 eP P 01 28 06.1 +0.8
SKAR IAmb IAmb 01 28 07.3
comp=Z,2µm,2.8s
SKAR eS S 01 38 11.0 +4.2
SKAR IAMs_20 IAMs_20 02 02 40.2
comp=Z,8µm,5.1s
IBBN Ibbenburen 79.84 322 eP P 01 28 06.7 +0.2
comp=Z,103nm,1.0s,baz=92,slow=5.6
KBS Kingsbay 79.99 349 P P 01 28 06.0 -0.8
KBS Kingsbay 79.99 349 IAMs_20 IAMs_20 02 07 50.0
comp=Z,3µm,21.0s
KBS Kingsbay 79.99 349 eP P 01 28 05.0 -1.8
KBS IAmb IAmb 01 28 07.5
comp=Z,94nm,1.1s
KBS eS S 01 38 12.7 +2.9
KBS IAMs_20 IAMs_20 02 07 21.4
comp=Z,4µm,23.4s
KBS Kingsbay 79.99 349 P P 01 28 06.0 -0.8
KBS pmax pmax
comp=Z,94nm,1.1s
KBS MLR MLR
comp=Z,3µm,21.0s
KBS Kingsbay 79.99 349 *i* P P 01 28 05.5 -1.3
MOL Molde 80.05 332 eP P 01 28 08.0 +0.6
MOL IAmb IAmb 01 28 08.6
comp=Z,121nm,1.2s
MOL eS S 01 38 09.5 -1.3
MOL IAMs_20 IAMs_20 02 04 20.6
comp=Z,5µm,17.5s
CER Ceres 80.09 234 eP P 01 28 07.6 -0.6
CER IAmb IAmb 01 28 23.0
comp=Z,59nm,0.7s
PINNC Pines Island, 80.15 115 P P 01 28 09.6 +0.9
BUG Bochum--Univer 80.15 321 eP P 01 28 08.3 +0.1
comp=Z,98nm,1.0s,baz=92,slow=5.6
PRTV Porterville,We 80.17 234 eP P 01 28 09.9 +1.2
PRTV IAmb IAmb 01 28 21.4
comp=Z,110nm,0.8s
AHRW Bad Neuenahr-A 80.29 320 eP P 01 28 09.4 +0.5
comp=Z,86nm,1.0s,baz=92,slow=5.6
KOMG Komaggas 80.60 238 eP P 01 28 11.1 +0.1
KOMG IAmb IAmb 01 28 23.9
comp=Z,118nm,0.9s
BNI Bardonecchia 80.73 314 IAmb IAmb 01 28 15.9
comp=Z,157nm,1.1s
BTNL Ternell 80.89 320 dP P 01 28 12.0 -0.2
comp=Z,49nm,1.1s
BTNL dx x 01 28 22.8
WLF Walferdange 80.91 319 IAmb IAmb 01 28 14.6
comp=Z,167nm,1.1s
WLF Walferdange 80.91 319 dP P 01 28 13.0 +0.7
comp=Z,74nm,1.1s
WLF dx x 01 28 23.4
WLF Walferdange 80.91 319 eP P 01 28 12.9 +0.6
comp=Z,92nm,1.0s,baz=92,slow=5.6
MEM Membach 80.97 320 dP P 01 28 12.8 +0.2
comp=Z,53nm,1.1s
MEM dx x 01 28 23.4
BHOU Houvegnez 80.98 320 dP P 01 28 13.4 +0.7
comp=Z,36nm,1.1s
BEBN Eben Emael 81.17 320 dP P 01 28 14.0 +0.3
comp=Z,48nm,1.1s
BSTI Sart Tilman 81.25 320 dP P 01 28 14.5 +0.4
comp=Z,12nm,1.1s
BCLA Clavier 81.43 320 dP P 01 28 15.2 +0.2
comp=Z,42nm,1.1s
RCHB Rochefort 81.49 320 dP P 01 28 15.6 +0.2
comp=Z,29nm,1.2s
BGES Gesves 81.57 320 dP P 01 28 15.8 +0.1
comp=Z,44nm,1.1s
BMRD Maredsous 81.78 320 dP P 01 28 17.0 +0.2
comp=Z,36nm,1.1s
DOU Dourbes 81.90 319 dP P 01 28 17.3 -0.2
comp=Z,46nm,1.1s
SSB Saint Sauveur 82.22 315 IAmb IAmb 01 28 21.3
comp=Z,189nm,1.1s
TAM Tamanrasset 83.37 292 IAmb IAmb 01 28 29.5
comp=Z,96nm,1.1s
ELSH Elham, Standar 84.01 321 eP P 01 28 29.1 +0.7
WACR West Acre 84.17 322 eP P 01 28 29.8 +0.6
WACR IAmb IAmb 01 28 30.4
comp=Z,434nm,1.0s
ADK Adak 84.56 38 P P 01 28 30.7 -0.5
ADK IAmb IAmb 01 28 43.8
comp=Z,76nm,0.9s
ADK Adak 84.56 38 P P 01 28 32.5 +1.3
ADK Adak 84.56 38 P P 01 28 30.7 -0.5
ADK pmax pmax
comp=Z,76nm,1.0s
ADK MLR MLR
comp=Z,1µm,18.0s
LMK Market Rasen 84.66 323 eP P 01 28 32.5 +0.9
LMK IAmb IAmb 01 28 33.4
comp=Z,497nm,1.0s
EDMD Edmundbyers 85.45 325 eP P 01 28 35.3 -0.4
EDMD IAmb IAmb 01 28 37.0
comp=Z,274nm,1.2s
LBWR Ladybower, Pea 85.50 323 eP P 01 28 35.6 -0.4
LBWR IAmb IAmb 01 28 37.2
comp=Z,322nm,1.0s
GAMB Gambell 85.57 26 P P 01 28 36.8 +0.8
baz=280,SNR=11
DCZ Deep Cove 85.76 137 P P 01 28 37.6 +0.3
SWN1 Swindon 85.80 321 eP P 01 28 38.2 +0.8
SWN1 IAmb IAmb 01 28 38.9
comp=Z,521nm,1.3s
BIGH Upper Bighouse 85.97 328 eP P 01 28 39.1 +1.0
BIGH IAmb IAmb 01 28 40.0
comp=Z,195nm,1.1s
EDI Edinburgh 85.98 326 eP P 01 28 38.9 +0.7
EDI IAmb IAmb 01 28 39.5
comp=Z,135nm,1.2s
STRD Stroud 85.99 322 eP P 01 28 38.7 +0.3
STRD IAmb IAmb 01 28 39.5
comp=Z,336nm,1.3s
ATKA Atka Island 86.05 38 P P 01 28 39.2 +0.6
EKA Eskdalemuir Ar 86.05 325 P P 01 28 38.4 -0.2
comp=Z,69nm,0.8s,baz=98,slow=5.3,SNR=59
EKA PKKPbc **PKKPbc 01 46 46.0 +5.8**
comp=Z,1.2nm,0.7s,baz=270,slow=2.2,SNR=6.1
comp=Z,69nm,0.8s
MSZ Milford Sound 86.07 136 P P 01 28 40.1 +1.3
ESK Eskdalemuir 86.08 325 P P 01 28 38.8 0.0
ESK IAmb IAmb 01 28 40.4
comp=Z,146nm,1.1s
ESK Eskdalemuir 86.08 325 eP P 01 28 38.4 -0.4
ESK Eskdalemuir 86.08 325 P P 01 28 38.8 0.0
ESK pmax pmax
comp=Z,146nm,1.1s
KESW Keswick, Cumbr 86.14 324 eP P 01 28 39.8 +0.7
KESW IAmb IAmb 01 28 41.0
comp=Z,146nm,1.2s
OLDB Oldbury-Upon-S 86.24 322 eP P 01 28 40.1 +0.5
HLM1 Long Mynd 86.32 322 eP P 01 28 40.1 +0.1
HLM1 IAmb IAmb 01 28 41.5
comp=Z,152nm,1.1s
MONM Monmouth 86.37 322 eP P 01 28 39.0 -1.2
MLZ Mavora Lakes 86.39 137 IAMs_20 IAMs_20 02 08 33.4
comp=Z,4µm,22.0s
MLZ Mavora Lakes 86.39 137 P P 01 28 43.4 +2.9
WHZ Wether Hill Ro 86.41 137 IAmb IAmb 01 28 51.1
comp=Z,2nm,0.6s
WHZ Wether Hill Ro 86.41 137 P P 01 28 40.0 -0.6
JCZ Jackson Bay 86.51 135 P P 01 28 41.9 +0.8
JCZ Jackson Bay 86.51 135 P P 01 28 41.5 +0.4
NEWG New Galloway 86.69 325 eP P 01 28 42.5 +0.8
NEWG IAmb IAmb 01 28 42.8
comp=Z,73nm,0.9s
PGBU Glenifferbraes 86.72 326 eP P 01 28 42.1 +0.2
TNA Tin City 86.81 24 P P 01 28 42.7 +0.6
baz=283,SNR=37
WKZ Wanaka 86.86 136 IAmb IAmb 01 28 54.1
comp=Z,59nm,0.7s
WKZ Wanaka 86.86 136 P P 01 28 44.2 +1.4
IOMK Kirk Michael 87.03 324 eP P 01 28 44.5 +1.1
IOMK IAmb IAmb 01 28 45.1
comp=Z,332nm,1.2s
KPL Plockton 87.09 327 eP P 01 28 44.3 +0.7
FOZ Fox Glacier 87.09 135 IAMs_20 IAMs_20 02 09 16.2
comp=Z,3µm,20.0s
FOZ Fox Glacier 87.09 135 P P 01 28 48.5 +4.6
WLF1 Llynfaes 87.10 323 eP P 01 28 44.6 +0.9
WLF1 IAmb IAmb 01 28 45.5
comp=Z,241nm,1.1s
C16K Lisburne Hills 87.15 21 IAMs_20 IAMs_20 02 12 24.3
comp=Z,5µm,19.0s
C16K Lisburne Hills 87.15 21 P P 01 28 44.5 +0.9
baz=285
EAZ Earnscleugh 87.16 136 P P 01 28 46.7 +2.5
CART Cartagena 87.18 307 IAmb IAmb 01 28 46.6
comp=Z,70nm,1.2s
SYZ Scrubby Hill 87.38 138 P P 01 28 46.9 +1.7
GCSZ Gaunt Creek Bo 87.40 134 P P 01 28 49.6 +4.2
SPIA Saint Paul Isl 87.47 33 P P 01 28 46.1 +0.6
baz=281
F14K Arctic Creek 87.48 24 P P 01 28 46.4 +1.1
baz=284
RSBS Rosebush, Pemb 87.54 322 eP P 01 28 46.8 +0.8
LBZ Lake Benmore 87.56 135 IAmb IAmb 01 28 56.5
comp=Z,64nm,1.0s
LBZ Lake Benmore 87.56 135 P P 01 28 46.8 +0.7
TUZ Tuapeka 87.56 137 P P 01 28 46.8 +0.7
WVZ Waitaha Valley 87.64 134 P P 01 28 51.0 +4.5
C17K DeLong Mountai 87.86 21 P P 01 28 48.3 +1.1
baz=287
P08K Saint George I 87.96 33 P P 01 28 48.3 +0.5
baz=282
RPZ Rata Peaks 88.01 135 IAmb IAmb 01 29 11.5
comp=Z,131nm,1.1s
RPZ IAMs_20 IAMs_20 02 10 08.5
comp=Z,3µm,20.0s
RPZ Rata Peaks 88.01 135 P P 01 28 48.6 +0.3
ODZ Otahua Downs 88.03 136 IAMs_20 IAMs_20 02 09 44.1
comp=Z,3µm,20.0s
A19K Wainwright 88.04 19 P P 01 28 49.5 +1.6
baz=289
INZ Inchbonnie 88.06 133 IAMs_20 IAMs_20 02 10 18.9
comp=Z,3µm,19.0s
B18K Kokolik River 88.07 20 P P 01 28 49.7 +1.6
baz=288
F15K North Star Dit 88.10 24 IAmb IAmb 01 28 50.6
comp=Z,129nm,1.1s
F15K North Star Dit 88.10 24 P P 01 28 49.3 +1.0
baz=286
ANM Nome 88.11 25 P P 01 28 49.5 +1.1

baz=285,SNR=76
DSZ Denniston Nort 88.11 132 IAMs_20 IAMs_20 02 08 17.1
comp=Z,5µm,22.0s
OUZ Omahuta 88.12 126 IAMs_20 IAMs_20 02 10 42.7
comp=Z,4µm,19.0s
D17K Noatak River 88.13 22 P **P** **01 28 49.7 +1.3**
baz=287
TOA0 Torodi Ar. Sit 88.18 283 P **P** **01 28 49.9 +0.1**
SNR=16
TOA0 P **P** **01 28 49.9 +0.1**
SNR=16
TORD Torodi Ar. Bea 88.18 283 P **P** **01 28 50.0 +0.2**
comp=Z,24nm,1.1s,baz=63,slow=4.9,SNR=86
TORD PP PP 01 32 28.9 +12
comp=Z,6.3nm,1.0s,baz=64,slow=9.7,SNR=4.2
TORD PKKP **PKKPbc** **01 46 34.9 +1.1**
comp=Z,0.9nm,0.6s,baz=317,slow=2.7,SNR=6.0
TORD PKPPKP P'P'df 01 54 35.6 -8.4
comp=Z,0.6nm,1.0s,baz=308,slow=7.3,SNR=3.9
TORD LR LR 02 07 37.1
comp=Z,2µm,20.2s,baz=86,slow=35
comp=Z,24nm,1.1s
YSA Yasawairara 88.40 107 P **P** **01 28 52.0 +1.3**
QRZ Quartz Range 88.44 131 IAmb IAmb 01 29 06.1
comp=Z,88nm,0.8s
QRZ IAMs_20 IAMs_20 02 09 00.9
comp=Z,5µm,21.0s
C18K Utukok River 88.50 20 IAMs_20 IAMs_20 02 13 42.1
comp=Z,3µm,19.0s
C18K Utukok River 88.50 20 P **P** **01 28 51.3 +1.0**
baz=289
CLES Cleveland East 88.53 37 IAMs_20 IAMs_20 02 14 53.4
comp=Z,12µm,19.0s
G15K Niukluk 88.54 24 P **P** **01 28 51.0 +0.6**
baz=286
OXZ Oxford 88.62 134 IAmb IAmb 01 29 03.5
comp=Z,65nm,0.7s
LTZ Lake Taylor 88.67 133 IAmb IAmb 01 29 14.2
comp=Z,54nm,1.0s
LTZ IAMs_20 IAMs_20 02 10 56.9
comp=Z,3µm,19.0s
E17K Hotham Inlet 88.78 22 P **P** **01 28 52.8 +1.3**
baz=288
M11K Mekoryuk 88.81 29 P **P** **01 28 53.1 +1.3**
baz=284
C19K Lookout Ridge 88.90 20 IAmb IAmb 01 29 14.5
comp=Z,138nm,1.1s
C19K IAMs_20 IAMs_20 02 14 26.5
comp=Z,3µm,20.0s
C19K Lookout Ridge 88.90 20 P **P** **01 28 53.7 +1.5**
baz=290
THZ Tophouse 88.91 132 IAmb IAmb 01 29 08.9
comp=Z,96nm,0.9s
THZ IAMs_20 IAMs_20 02 08 53.5
comp=Z,4µm,21.0s
A21K Barrow 89.02 17 P **P** **01 28 53.3 +0.8**
baz=293,SNR=29
G16K Koyuk River 89.10 24 P **P** **01 28 54.3 +1.2**
baz=288
NIKH Nikolski High 89.11 37 P **P** **01 28 55.1 +1.7**
NIKH Nikolski High 89.11 37 P **P** **01 28 52.5 -0.9**
baz=282
K13K Kusilvak Mount 89.12 27 IAmb IAmb 01 28 55.4
comp=Z,114nm,1.1s
K13K IAMs_20 IAMs_20 02 16 30.5
comp=Z,5µm,18.0s
K13K Kusilvak Mount 89.12 27 P **P** **01 28 54.0 +0.8**
baz=286
ESBB Sonseca Array 89.14 310 IAmb IAmb 01 28 56.1
comp=Z,63nm,1.1s
ESDC Sonseca Array 89.14 310 IAmb IAmb 01 28 56.0
comp=Z,70nm,1.1s
ESDC Sonseca Array 89.14 310 P **P** **01 28 54.0 0.0**
comp=Z,52nm,1.1s,baz=58,slow=4.0,SNR=115
comp=Z,52nm,1.1s
NNZ Nelson 89.15 132 IAMs_20 IAMs_20 02 11 00.7
comp=Z,5µm,21.0s
F17K Baldwin Pennin 89.20 23 P **P** **01 28 55.1 +1.6**
baz=289
GVZ Greta Valley S 89.26 133 IAmb IAmb 01 29 08.0
comp=Z,81nm,1.0s
GVZ IAMs_20 IAMs_20 02 16 22.5
comp=Z,3µm,18.0s
B20K Meade River 89.36 19 P **P** **01 28 55.2 +1.1**
baz=292
H16K Elim 89.38 24 P **P** **01 28 55.5 +1.1**
baz=288,SNR=105
J14K Nanvaranak Lak 89.39 26 IAmb IAmb 01 28 56.7
comp=Z,154nm,1.1s
J14K IAMs_20 IAMs_20 02 14 28.6
comp=Z,8µm,19.0s
J14K Nanvaranak Lak 89.39 26 P **P** **01 28 55.5 +1.1**
baz=287
PAB San Pablo 89.46 310 P **P** **01 28 55.2 -0.2**
PAB IAmb IAmb 01 28 57.6
comp=Z,78nm,1.1s
PAB San Pablo 89.46 310 P **P** **01 28 55.2 -0.2**
PAB pmax pmax
comp=Z,78nm,1.1s
KHZ Kahutara 89.51 133 IAmb IAmb 01 29 20.5
comp=Z,81nm,1.1s
KHZ IAMs_20 IAMs_20 02 10 20.2
comp=Z,3µm,21.0s
D19K Kuna River 89.62 20 IAmb IAmb 01 28 57.8
comp=Z,156nm,1.1s
D19K IAMs_20 IAMs_20 02 14 30.4
comp=Z,3µm,19.0s
D19K Kuna River 89.62 20 P **P** **01 28 56.6 +1.1**
baz=292
A22K Sinclair Lake 89.63 18 P **P** **01 28 56.4 +1.0**
baz=295
G17K Kiwalik Mounta 89.74 23 P **P** **01 28 57.2 +1.2**
baz=289,SNR=53
HIZ Hauiti 89.74 129 IAMs_20 IAMs_20 02 08 54.5
comp=Z,5µm,21.0s
SCO Scoresbysund 89.96 342 *i* P **P** **01 28 55.3 -1.6**
SCO IAmb IAmb 01 28 59.4
comp=Z,56nm,1.2s
D20K Etivluk River 90.05 20 P **P** **01 28 58.5 +1.0**
baz=293
TOZ Tahuroa Road 90.10 128 IAMs_20 IAMs_20 02 10 31.0
comp=Z,4µm,20.0s
SNZO South Karori 90.15 132 IAMs_20 IAMs_20 02 09 54.1
comp=Z,4µm,21.0s
M13K Dall Lake 90.16 29 P **P** **01 28 59.6 +1.5**
baz=287
L14K Kuka Creek 90.20 28 IAmb IAmb 01 29 00.6
comp=Z,118nm,1.0s
L14K IAMs_20 IAMs_20 02 15 33.0
comp=Z,9µm,19.0s
L14K Kuka Creek 90.20 28 P **P** **01 28 59.5 +1.2**
baz=288
H17K Granite Mounta 90.22 24 P **P** **01 28 60.0 +1.6**
baz=290,SNR=82
I17K Unalakleet 90.26 25 IAmb IAmb 01 29 01.4
comp=Z,176nm,1.2s
I17K Unalakleet 90.26 25 P **P** **01 29 00.2 +1.7**
baz=289,SNR=48
UNV Unalaska Valle 90.28 35 P **P** **01 28 58.8 +0.1**
baz=284
BHW Baring Head 90.29 132 IAMs_20 IAMs_20 02 09 48.9
comp=Z,3µm,20.0s
E19K Redstone River 90.32 21 IAmb IAmb 01 29 00.9
comp=Z,103nm,0.9s
E19K IAMs_20 IAMs_20 02 14 46.9
comp=Z,4µm,18.0s
E19K Redstone River 90.32 21 P **P** **01 28 59.8 +1.1**
baz=292
B21K Ikpikpuk River 90.33 19 IAmb IAmb 01 29 01.1
comp=Z,115nm,1.0s
B21K Ikpikpuk River 90.33 19 P **P** **01 28 59.9 +1.2**
baz=295
F19K Shaleruckik Mo 90.36 22 P **P** **01 28 59.8 +0.9**
baz=292
E20K Nigu River 90.37 20 P **P** **01 28 59.9 +0.9**
baz=294
G18K Tagagawik 90.38 23 IAmb IAmb 01 29 01.1
comp=Z,76nm,1.0s
G18K IAMs_20 IAMs_20 02 15 02.7
comp=Z,9µm,18.0s
G18K Tagagawik 90.38 23 P **P** **01 28 59.8 +0.7**
baz=291,SNR=63
B22K Teshekpuk Lake 90.39 18 P **P** **01 28 59.6 +0.7**
baz=296
DGTI Dogotuki 90.39 106 P **P** **01 29 01.6 +1.5**
K15K Wolf Creek Mou 90.42 27 IAmb IAmb 01 29 02.1
comp=Z,103nm,1.1s
K15K Wolf Creek Mou 90.42 27 P **P** **01 29 00.9 +1.6**
baz=289,SNR=24
C21K Knifeblade Rid 90.47 19 P **P** **01 29 00.7 +1.3**
baz=295
J16K Anvik River 90.50 26 P **P** **01 29 01.4 +1.7**
baz=289,SNR=117
AKUT Akutan 90.63 35 P **P** **01 29 00.1 -0.3**
L15K Ungalak Mounta 90.64 27 P **P** **01 29 01.3 +1.0**
baz=289,SNR=31
MRZ Mangatainoka R 90.68 131 IAmb IAmb 01 29 06.5
comp=Z,147nm,1.5s
MRZ IAMs_20 IAMs_20 02 10 46.3
comp=Z,6µm,21.0s
M14K Bethel 90.71 28 P **P** **01 29 01.7 +1.0**
baz=288
H18K Honhosa River 90.76 23 P **P** **01 29 02.2 +1.3**
baz=291
PBRG Braganca 90.82 312 *eP* **P** **01 29 02.2 +0.5**
comp=Z,102nm,1.6s
MDT Midelt 90.86 303 LR LR 02 15 22.0
comp=Z,1µm,20.3s,baz=109,slow=39
G19K Purcell Mounta 90.88 22 P **P** **01 29 02.9 +1.5**
baz=293,SNR=152
F20K Avaraart Lake 91.02 21 IAmb IAmb 01 29 04.2
comp=Z,98nm,0.9s
F20K IAMs_20 IAMs_20 02 15 08.4
comp=Z,4µm,18.0s
F20K Avaraart Lake 91.02 21 P **P** **01 29 02.9 +0.9**
baz=294,SNR=88
N14K Kuskokwak Cree 91.10 29 P **P** **01 29 03.8 +1.3**
baz=288
BKZ Black Stump Fm 91.12 129 IAmb IAmb 01 29 15.3
comp=Z,138nm,1.6s
BKZ IAMs_20 IAMs_20 02 11 11.8
comp=Z,3µm,20.0s
BKZ Black Stump Fm 91.12 129 P **P** **01 29 04.3 +1.2**
MVO Moncorvo 91.16 312 *eP* **P** **01 29 04.8 +1.5**
comp=Z,118nm,1.2s
BFZ Birch Farm 91.19 131 IAMs_20 IAMs_20 02 11 00.6
comp=Z,5µm,21.0s
BFZ Birch Farm 91.19 131 P **P** **01 29 05.4 +2.1**
ELIB Princess Elisa 91.24 197 *dP* **P** **01 29 04.1 +1.1**
comp=Z,123nm,0.9s
D22K Ayikyak River 91.27 19 IAmb IAmb 01 29 05.5
comp=Z,117nm,1.2s
D22K Ayikyak River 91.27 19 P **P** **01 29 04.3 +1.2**
baz=297
M15K Kasigluk River 91.32 28 P **P** **01 29 04.5 +1.0**
baz=289
H19K Roundabout Mou 91.36 23 P **P** **01 29 05.3 +1.7**
baz=293
RTZ Ruatahuna 91.40 129 IAmb IAmb 01 29 26.3
comp=Z,105nm,1.1s
RTZ IAMs_20 IAMs_20 02 10 20.4
comp=Z,5µm,21.0s
URZ Urewera 91.44 128 LR LR 02 11 03.7
comp=Z,4µm,20.2s,baz=1.5,slow=36
GCSA Galena City Sc 91.50 24 P **P** **01 29 06.1 +1.8**
baz=293,SNR=30
O14K Tigyukauivet M 91.52 29 IAmb IAmb 01 29 06.7
comp=Z,118nm,1.1s
O14K Tigyukauivet M 91.52 29 P **P** **01 29 05.3 +0.8**
baz=289,SNR=11
L16K Owhat River 91.53 27 IAmb IAmb 01 29 07.1
comp=Z,130nm,1.1s
L16K IAMs_20 IAMs_20 02 18 19.3
comp=Z,7µm,20.0s
L16K Owhat River 91.53 27 P **P** **01 29 06.0 +1.5**
baz=290,SNR=35
PVRL Vila Real 91.64 312 *eP* **P** **01 29 06.7 +1.2**
comp=Z,87nm,1.2s
POLO Lamas de Olo 91.68 312 *eP* **P** **01 29 07.2 +1.4**
comp=Z,59nm,1.5s
K17K Iltanen 91.68 26 P **P** **01 29 07.0 +1.8**
baz=291,SNR=98
MTE Manteigas 91.70 311 *eP* **P** **01 29 06.6 +0.8**
comp=Z,141nm,1.2s
F21K Alatna River 91.74 21 IAmb IAmb 01 29 07.3
comp=Z,64nm,1.0s
F21K IAMs_20 IAMs_20 02 15 26.5
comp=Z,3µm,18.0s
F21K Alatna River 91.74 21 P **P** **01 29 06.0 +0.7**
baz=296
PCBR Castelo Branco 91.77 310 *eP* **P** **01 29 07.0 +0.9**
comp=Z,136nm,1.4s
N15K Kwethluk River 91.78 28 IAMs_20 IAMs_20 02 18 29.9
comp=Z,7µm,21.0s
N15K Kwethluk River 91.78 28 P **P** **01 29 07.1 +1.4**
baz=290
PBAR Barrancos 91.78 309 *eP* **P** **01 29 06.9 +0.7**
comp=Z,255nm,1.5s
PMRV Marv??o 91.79 310 *eP* **P** **01 29 07.0 +0.8**
comp=Z,84nm,1.2s
PVIS Viseu 91.90 311 *eP* **P** **01 29 08.2 +1.5**
L17K Donlin 91.90 26 P **P** **01 29 08.0 +1.9**
baz=291
PGAV Gavieira, Arco 91.90 313 *eP* **P** **01 29 07.9 +1.1**
comp=Z,169nm,1.8s
NEEM North Greenlan 91.92 352 *i* P **P** **01 29 04.7 -1.6**
NEEM IAmb IAmb 01 29 07.6
comp=Z,156nm,1.2s
H20K Anotleneega Mo 91.97 23 P **P** **01 29 07.9 +1.5**
baz=295,SNR=94
M16K Timber Creek 92.01 27 P **P** **01 29 08.0 +1.4**
baz=291,SNR=25
G21K Allakaket 92.04 21 IAmb IAmb 01 29 08.7
comp=Z,112nm,1.1s
G21K Allakaket 92.04 21 P **P** **01 29 07.5 +0.7**
baz=296
PESTR Estremoz 92.06 310 *eP* **P** **01 29 08.3 +0.8**
comp=Z,66nm,1.5s
PESTR Estremoz 92.06 310 IAmb IAmb 01 29 09.7
comp=Z,46nm,1.0s
F22K John River 92.06 20 P **P** **01 29 08.1 +1.2**
baz=297
J18K Innoko River 92.07 25 P **P** **01 29 08.2 +1.2**
baz=293,SNR=65
C24K Franklin Bluff 92.11 18 P **P** **01 29 07.6 +0.7**
baz=300
O15K Ungalikthiuk R 92.25 29 P **P** **01 29 08.9 +1.0**
baz=290
MXZ Matakaoa Point 92.27 127 IAMs_20 IAMs_20 02 11 12.4
comp=Z,3µm,21.0s
N16K Nishlik Lake 92.29 28 P **P** **01 29 09.6 +1.5**
baz=291,SNR=60
J19K Poorman 92.30 24 P **P** **01 29 09.7 +1.6**
baz=294
PTO Porto 92.33 312 *eP* **P** **01 29 09.0 +0.4**
comp=Z,261nm,1.5s
D24K Happy Valley 92.36 18 IAmb IAmb 01 29 10.3
comp=Z,53nm,0.9s
D24K Happy Valley 92.36 18 P **P** **01 29 09.0 +0.9**
baz=300
COI Coimbra 92.39 311 *eP* **P** **01 29 10.2 +1.3**
I20K Naaghedeneel 92.42 23 P **P** **01 29 10.6 +2.1**
baz=295,SNR=31
PBEJ Beja 92.45 309 *eP* **P** **01 29 10.4 +1.1**
comp=Z,77nm,1.4s
EVO Evora 92.46 309 *eP* **P** **01 29 09.8 +0.5**
comp=Z,67nm,1.2s
PVAQ Vaqueiros 92.47 308 *eP* **P** **01 29 09.9 +0.5**
PCAS Casmilo, Conde 92.49 311 *eP* **P** **01 29 10.3 +0.9**
comp=Z,73nm,1.7s
PMTG Montargil 92.50 310 *eP* **P** **01 29 10.1 +0.6**
comp=Z,65nm,1.3s
M17K Holitna River 92.55 27 IAMs_20 IAMs_20 02 17 22.2
comp=Z,5µm,19.0s
M17K Holitna River 92.55 27 P **P** **01 29 11.1 +1.9**
baz=292
L18K Granite Mounta 92.57 26 P **P** **01 29 10.9 +1.7**
baz=293
G22K Bettles 92.57 21 P **P** **01 29 10.0 +0.8**
baz=298
TTA Tatalina 92.57 25 P **P** **01 29 11.3 +1.9**
TTA Tatalina 92.57 25 P **P** **01 29 10.8 +1.4**
baz=294
E23K Chandalar 92.66 19 P **P** **01 29 10.8 +1.1**
baz=300
PBDV Barranco-do-Ve 92.67 308 *eP* **P** **01 29 11.5 +1.2**
comp=Z,144nm,1.3s
PCVE Castro Verde 92.67 308 *eP* **P** **01 29 11.3 +1.0**
comp=Z,75nm,1.6s
H21K Melozitna Rive 92.68 22 IAmb IAmb 01 29 12.3
comp=Z,98nm,1.1s
H21K IAMs_20 IAMs_20 02 15 51.5
comp=Z,10µm,22.0s
H21K Melozitna Rive 92.68 22 P **P** **01 29 11.1 +1.3**
baz=296,SNR=51
MESJ Messejana 92.77 309 *eP* **P** **01 29 12.1 +1.3**
comp=Z,86nm,1.2s
MESJ Messejana 92.77 309 IAmb IAmb 01 29 13.4
comp=Z,66nm,1.0s
MESJ Messejana 92.77 309 *eP* **P** **01 29 12.0 +1.3**
MESJ IAmb IAmb 01 29 13.1
comp=Z,68nm,1.0s
MESJ Messejana 92.77 309 *eP* **P** **01 29 12.0 +1.3**
MESJ pmax pmax
comp=Z,68nm,1.0s
J20K Nowinta River 92.82 24 P **P** **01 29 12.0 +1.6**
baz=295,SNR=56
COLD Coldfoot 92.87 20 P **P** **01 29 11.5 +0.9**
baz=299,SNR=24
O16K Kokwok River B 92.93 29 IAMs_20 IAMs_20 02 18 25.2
comp=Z,5µm,19.0s
O16K Kokwok River B 92.93 29 P **P** **01 29 12.3 +1.3**
baz=292,SNR=20
PNCL Nicolau / Gran 92.94 309 *eP* **P** **01 29 13.0 +1.5**
comp=Z,64nm,1.3s
N17K Nushagak Hills 93.00 28 P **P** **01 29 12.9 +1.7**
baz=292
D25K Kavik River 93.02 18 IAMs_20 IAMs_20 02 19 20.1
comp=Z,4µm,18.0s
D25K Kavik River 93.02 18 P **P** **01 29 12.1 +0.9**
baz=303
PACT Alcochete 93.03 310 *eP* **P** **01 29 12.1 +0.2**
comp=Z,347nm,1.8s
AVE Averroes 93.08 304 IAmb IAmb 01 29 15.3
comp=Z,94nm,1.4s
AVE IAMs_20 IAMs_20 02 11 22.5
comp=Z,3µm,21.0s
H22K Ishtalitna Cre 93.10 22 P **P** **01 29 13.1 +1.4**
baz=298
P16K Nushagak River 93.18 29 P **P** **01 29 13.1 +0.9**
baz=292,SNR=7.5
G23K Bananza Creek 93.19 21 IAmb IAmb 01 29 14.4
comp=Z,60nm,1.0s
G23K Bananza Creek 93.19 21 P **P** **01 29 13.2 +1.1**
baz=299
K20K Telida 93.20 24 IAMs_20 IAMs_20 02 19 20.3
comp=Z,7µm,21.0s
K20K Telida 93.20 24 P **P** **01 29 13.9 +1.8**
baz=295
SDPT Sand Point 93.20 33 P **P** **01 29 12.0 -0.3**
SDPT Sand Point 93.20 33 P **P** **01 29 11.7 -0.5**
baz=289
I21K Tanana 93.20 22 IAmb IAmb 01 29 14.7
comp=Z,77nm,0.9s
I21K Tanana 93.20 22 P **P** **01 29 13.5 +1.4**
baz=297,SNR=36
MORF Marmelete 93.22 308 *eP* **P** **01 29 14.6 +1.7**
comp=Z,72nm,1.3s
MORF Marmelete 93.22 308 IAmb IAmb 01 29 16.3
comp=Z,71nm,1.3s
MORF Marmelete 93.22 308 *eP* **P** **01 29 14.2 +1.3**
MORF IAmb IAmb 01 29 15.9
comp=Z,60nm,1.2s
MORF Marmelete 93.22 308 *eP* **P** **01 29 14.2 +1.3**
MORF pmax pmax
comp=Z,60nm,1.2s
PTEO Sao Teotonio 93.22 308 *eP* **P** **01 29 14.5 +1.7**
comp=Z,122nm,1.2s
M18K Stony River 93.23 26 P **P** **01 29 13.9 +1.6**
baz=294
SUMG Summit 93.24 347 IAmb IAmb 01 29 14.6
comp=Z,98nm,1.2s
SUMG Summit 93.24 347 *i* P **P** **01 29 13.3 +0.6**
SUMG IAmb IAmb 01 29 14.3
comp=Z,81nm,1.1s
LIS Lisbon 93.28 310 *eP* **P** **01 29 14.5 +1.4**
LIS IAmb IAmb 01 29 15.5
comp=Z,78nm,1.0s
LIS Lisbon 93.28 310 *eP* **P** **01 29 14.4 +1.4**
LIS pmax pmax
comp=Z,78nm,1.0s
O17K Koliganek Bris 93.33 28 P **P** **01 29 14.0 +1.2**
baz=292,SNR=25
PMAFR Mafra 93.33 310 *eP* **P** **01 29 13.7 +0.4**
comp=Z,148nm,1.6s
L19K White Mountain 93.37 26 P **P** **01 29 14.6 +1.6**
baz=294
S14K Fog Glacier 93.38 32 P **P** **01 29 14.6 +1.3**
baz=290
PFVI Vila Bisbo 93.39 308 *eP* **P** **01 29 14.8 +1.2**
comp=Z,97nm,1.6s
PFVI Vila Bisbo 93.39 308 IAmb IAmb 01 29 16.4
comp=Z,85nm,1.1s
SVW2 Sparrevohn 93.50 27 P **P** **01 29 15.1 +1.5**
F24K Squaw Lake 93.50 19 P **P** **01 29 14.6 +1.1**
baz=301
N18K Kilae Creek 93.53 27 IAmb IAmb 01 29 16.3
comp=Z,130nm,1.3s
N18K Kilae Creek 93.53 27 P **P** **01 29 15.2 +1.4**
baz=294
L20K Farewell, AK 93.66 25 P **P** **01 29 15.8 +1.5**
baz=295
CHUM Lake Minchumin 93.67 24 P **P** **01 29 16.0 +1.7**
baz=297,SNR=20
M19K Big River Lodg 93.68 26 IAmb IAmb 01 29 17.5
comp=Z,104nm,1.3s
M19K Big River Lodg 93.68 26 P **P** **01 29 16.2 +1.8**
baz=295,SNR=17
MLY Manley 93.74 22 P **P** **01 29 15.5 +0.8**
baz=298,SNR=31
VNDA Vanda 93.78 168 IAMs_20 IAMs_20 02 08 46.7
comp=Z,3µm,18.0s
VNDA Vanda 93.78 168 P **P** **01 29 15.0 +0.6**
comp=Z,2.8nm,0.8s,baz=311,slow=6.2,SNR=2.1
VNDA LR LR 02 08 12.8
comp=Z,2µm,18.0s,baz=292,slow=33
comp=Z,2.8nm,0.8s
CHNA Chernabura Isl 93.86 33 P **P** **01 29 15.3 0.0**
baz=290
P17K Kvichak River 93.86 29 P **P** **01 29 16.7 +1.4**
baz=293,SNR=17
E25K Arctic Village 93.92 18 P **P** **01 29 16.3 +0.8**
baz=303,SNR=29
R16K Pilot Point 93.93 30 P **P** **01 29 16.4 +0.8**
baz=292
Q16K King Salmon 93.96 29 P **P** **01 29 16.0 +0.3**
baz=293,SNR=7.1
CHGN Chignik 93.97 32 P **P** **01 29 16.8 +1.0**
baz=291
CAST Castle Rocks 93.97 24 IAmb IAmb 01 29 18.8
comp=Z,52nm,0.9s
CAST Castle Rocks 93.97 24 P **P** **01 29 16.9 +1.1**
baz=297,SNR=30
G24K Hadweenzic Riv 94.06 20 IAmb IAmb 01 29 18.4
comp=Z,64nm,1.0s
G24K Hadweenzic Riv 94.06 20 P **P** **01 29 17.3 +1.2**
baz=302
BPAW Bear Paw Mtn. 94.09 23 IAmb IAmb 01 29 18.3
comp=Z,64nm,0.9s
BPAW Bear Paw Mtn. 94.09 23 P **P** **01 29 17.1 +0.9**
baz=298,SNR=40
N19K Bonanza Creek 94.10 27 P **P** **01 29 18.1 +1.6**
baz=295,SNR=52
PPLA Purkeypile 94.17 24 P **P** **01 29 17.6 +0.8**
baz=297
O18K Koktuh Hills 94.17 28 P **P** **01 29 18.1 +1.3**
baz=294,SNR=11
F25K Christian Rive 94.19 19 P **P** **01 29 18.2 +1.5**
baz=303
I23K Minto, Yukon-K 94.19 22 P **P** **01 29 17.5 +0.8**
baz=300,SNR=20
M20K Styx River 94.23 25 IAmb IAmb 01 29 26.4
comp=Z,109nm,1.3s
M20K Styx River 94.23 25 P **P** **01 29 18.4 +1.3**
baz=296,SNR=28
RAO Raoul Island 94.28 119 LR LR 02 15 00.8
comp=Z,2µm,18.9s,baz=288,slow=38
P18K Big Mountain, 94.35 28 IAmb IAmb 01 29 19.2
comp=Z,49nm,1.1s
P18K Big Mountain, 94.35 28 P **P** **01 29 17.9 +0.4**
baz=294,SNR=8.6
H24K Noodor Dome 94.38 21 P **P** **01 29 18.5 +0.9**
baz=301
NVL N'lazarevskaya 94.41 199 *eP* **P** **01 29 17.9 +0.5**
NVL *eS* **SKSac** **01 39 50.3 -1.3**
NVL pmax pmax
comp=Z,25nm,1.5s
NVL smax smax
comp=N,565nm,10.4s
O19K Port Alsworth 94.44 27 P **P** **01 29 18.9 +1.0**
baz=295,SNR=20
G25K Bearman Lake 94.49 20 P **P** **01 29 19.5 +1.5**

baz=303
Q17K Contact Creek 94.49 29 P P 01 29 17.9 -0.4
baz=293,SNR=11
NEA2 Nenana 94.58 22 IAmb IAmb 01 29 20.6
comp=Z,36nm,0.8s
NEA2 Nenana 94.58 22 P P 01 29 18.7 +0.2
baz=300,SNR=34
TULEG Thule 94.60 356 IAmb IAmb 01 29 19.3
comp=Z,58nm,1.1s
TULEG IAMs_20 IAMs_20 02 18 44.4
comp=Z,5µm,20.0s
F26K Sheenjek River 94.61 18 P P 01 29 19.7 +1.1
baz=305
D27M Malcolm River 94.63 17 IAmb IAmb 01 29 20.9
comp=Z,61nm,0.9s
D27M IAMs_20 IAMs_20 02 16 22.8
comp=Z,9µm,19.0s
D27M Malcolm River 94.63 17 P P 01 29 19.9 +1.2
baz=308
BWN Browne 94.64 23 IAmb IAmb 01 29 39.5
comp=Z,94nm,1.1s
TRF Thorofare Moun 94.67 23 IAMs_20 IAMs_20 02 19 53.2
comp=Z,5µm,19.0s
TRF Thorofare Moun 94.67 23 P P 01 29 19.8 +0.6
baz=299,SNR=13
SKT Skwentna 94.86 25 IAmb IAmb 01 29 26.3
comp=Z,52nm,1.0s
SKT IAMs_20 IAMs_20 02 19 54.3
comp=Z,6µm,19.0s
SKT Skwentna 94.86 25 P P 01 29 19.9 0.0
baz=298,SNR=16
COLA College 94.89 22 P P 01 29 22.3 +2.5
FYU Fort Yukon 94.89 20 IAmb IAmb 01 29 22.4
comp=Z,65nm,1.0s
POKR Poker Plat Res 94.91 21 IAmb IAmb 01 29 21.6
comp=Z,62nm,1.5s
POKR Poker Plat Res 94.91 21 P P 01 29 20.3 +0.3
baz=301,SNR=8.1
N20K Mount Spurr 94.93 26 P P 01 29 20.9 +0.7
baz=297,SNR=11
CCB Clear Creek Bu 95.02 22 IAMs_20 IAMs_20 02 20 28.4
comp=Z,11µm,22.0s
MCK McKinley 95.06 23 P P 01 29 21.0 +0.3
baz=300,SNR=19
E27K Coleen River 95.10 18 IAmb IAmb 01 29 22.7
comp=Z,40nm,0.9s
E27K IAMs_20 IAMs_20 02 17 10.3
comp=Z,6µm,18.0s
E27K Coleen River 95.10 18 P P 01 29 21.5 +0.7
baz=307
G26K Porcupine Rive 95.15 19 P P 01 29 22.3 +1.3
baz=305
P19K Oil Pt 95.17 28 P P 01 29 21.3 0.0
baz=296
CUT Chulitna 95.18 24 P P 01 29 20.5 -0.8
baz=299
D28M Stokes Point 95.19 16 P P 01 29 22.5 +1.3
baz=310
RND Reindeer 95.26 23 IAMs_20 IAMs_20 02 19 20.6
comp=Z,5µm,18.0s
Q19K Cape Douglas, 95.29 28 P P 01 29 22.7 +0.8
baz=295
ILAR Eielson Array 95.29 22 P P 01 29 21.0 -0.7
comp=Z,18nm,0.7s,baz=300,slow=4.3,SNR=152
ILAR PP PP 01 33 13.7 +2.2
comp=Z,9.6nm,1.0s,baz=291,slow=7.7,SNR=7.0
ILAR PKKP PKKPdf 01 46 14.8 -1.9
comp=Z,1.3nm,0.8s,baz=154,slow=2.0,SNR=8.1
ILAR PKPPKP P'P'df 01 54 26.8 -2.4
comp=Z,0.6nm,0.8s,baz=162,slow=3.4,SNR=4.4
comp=Z,18nm,0.7s
PRP Porcupine Dome 95.37 21 IAmb IAmb 01 29 24.2
comp=Z,69nm,0.9s
PRP Porcupine Dome 95.37 21 P P 01 29 23.0 +0.8
baz=303,SNR=67
SUA Susitna One 95.44 25 IAmb IAmb 01 29 41.1
comp=Z,46nm,0.9s
SUA Susitna One 95.44 25 P P 01 29 22.9 +0.3
baz=298,SNR=9.6
E28M Babbage River 95.44 17 IAmb IAmb 01 29 24.4
comp=Z,55nm,0.9s
E28M IAMs_20 IAMs_20 02 16 43.1
comp=Z,6µm,22.0s
E28M Babbage River 95.44 17 P P 01 29 23.3 +0.9
baz=309
KIC Kosan Boka 95.45 277⇑ eP P 01 29 24.4 +0.9
comp=Z,64nm,1.0s
HDA Harding Lake 95.46 22 IAMs_20 IAMs_20 02 20 21.0
comp=Z,7µm,18.0s
HDA Harding Lake 95.46 22 P P 01 29 21.7 -0.9
baz=302,SNR=17
R18K Karluk 95.48 30 P P 01 29 22.5 -0.2
baz=295
DBIC Dimbokro 95.52 278 IAmb IAmb 01 29 26.5
comp=Z,54nm,1.2s
DBIC Dimbokro 95.52 278 eP P 01 29 25.0 +1.2
DBIC Dimbokro 95.52 278 P P 01 29 24.0 +0.2
DBIC Dimbokro 95.52 278 P P 01 29 23.9 +0.2
comp=Z,30nm,1.1s,baz=83,slow=5.4,SNR=26
DBIC LR LR 02 10 27.9
comp=Z,2µm,19.8s,baz=73,slow=34
comp=Z,30nm,1.1s
CAPN Captain Cook N 95.59 26 P P 01 29 23.6 +0.5
baz=298
WAT1 Susitna Watana 95.67 24 P P 01 29 23.0 -0.5
baz=300
TIC Toumodi 95.68 278⇓ eP P 01 29 26.0 +1.4
comp=Z,48nm,1.1s
LIC Lamto 95.76 277⇓ iP P 01 29 26.2 +1.3
comp=Z,46nm,1.1s
ICESG Greenland Ices 95.85 344 i P P 01 29 23.4 -1.2
ICESG IAmb IAmb 01 29 25.9
comp=Z,48nm,1.1s
J25K Salcha River, 95.93 21 IAMs_20 IAMs_20 02 21 29.3
comp=Z,7µm,21.0s
J25K Salcha River, 95.93 21 P P 01 29 24.4 -0.3
baz=303
F28M Old Crow 95.96 18 IAmb IAmb 01 29 46.8
comp=Z,41nm,0.9s
F28M Old Crow 95.96 18 P P 01 29 25.4 +0.6
baz=309,SNR=52
DHY Denali Highway 96.00 23 IAMs_20 IAMs_20 02 21 30.3
comp=Z,6µm,19.0s
DHY Denali Highway 96.00 23 P P 01 29 25.2 0.0
baz=301
Q20K Shuyak Island 96.01 28 P P 01 29 25.5 +0.4
baz=296
E29M Blow River 96.04 16 IAmb IAmb 01 29 27.0
comp=Z,79nm,1.1s
E29M IAMs_20 IAMs_20 02 16 33.2
comp=Z,9µm,18.0s
E29M Blow River 96.04 16 P P 01 29 26.0 +0.9
baz=311
RC01 Rabbit Creek A 96.04 25 IAmb IAmb 01 29 30.5
comp=Z,45nm,1.0s
RC01 Rabbit Creek A 96.04 25 P P 01 29 25.4 +0.2
baz=299,SNR=11
GHO Glory Hole Cre 96.05 25 IAmb IAmb 01 29 39.3
comp=Z,75nm,1.4s
PMR Palmer 96.05 25 P P 01 29 26.1 +0.9
PMR Palmer 96.05 25 P P 01 29 25.6 +0.4
baz=300,SNR=6.9
WAT6 Susitna Watana 96.11 24 P P 01 29 25.8 +0.1
baz=301,SNR=11
CNPM China Poot 96.13 27 IAMs_20 IAMs_20 02 20 49.9
comp=Z,7µm,19.0s
OHAK Old Harbor 96.19 30 P P 01 29 27.0 +1.1
OHAK Old Harbor 96.19 30 P P 01 29 26.5 +0.6
baz=296
K24K Donnelly Dome 96.22 22 P P 01 29 26.1 0.0
baz=303,SNR=13
BRSE Bradley Lake S 96.25 27 P P 01 29 26.5 +0.3
baz=298,SNR=7.1
SML Sawmill 96.27 24 IAmb IAmb 01 29 52.2
comp=Z,40nm,0.8s
SML Sawmill 96.27 24 P P 01 29 26.9 +0.6
baz=300,SNR=9.0
KDAK Kodiak Island 96.29 29 P P 01 29 26.7 +0.3
baz=296
KDAK Kodiak Island 96.29 29 i P P 01 29 26.0 -0.4
KDAK pmax pmax
comp=Z,178nm,1.4s
H27K Steamboat Moun 96.30 19 P P 01 29 26.9 +0.5
baz=307
I26K Coal Creek Min 96.31 20 P P 01 29 27.0 +0.6
I26K IAmb IAmb 01 29 28.3
comp=Z,38nm,1.1s
I26K IAMs_20 IAMs_20 02 21 34.2
comp=Z,5µm,20.0s
I26K Coal Creek Min 96.31 20 P P 01 29 26.9 +0.6
baz=305
O22K Cooper Landing 96.34 26 IAMs_20 IAMs_20 02 18 49.5
comp=Z,3µm,19.0s
O22K Cooper Landing 96.34 26 P P 01 29 26.2 -0.4
baz=299
A36M Sachs Harbour 96.35 11 P P 01 29 26.4 +0.1
A36M Sachs Harbour 96.35 11 P P 01 29 26.8 +0.4
baz=323,SNR=150
KNK Knik Glacier 96.42 25 IAmb IAmb 01 29 28.7
comp=Z,34nm,1.0s
KNK Knik Glacier 96.42 25 P P 01 29 27.3 +0.3
baz=300
UPNV Upernavik 96.52 351 i P P 01 29 25.0 -2.2
UPNV IAmb IAmb 01 29 28.1
comp=Z,42nm,1.3s
M23K Glacier View 96.53 24 P P 01 29 28.1 +0.6
baz=301
RIDG Independent Ri 96.60 22 IAmb IAmb 01 29 28.9
comp=Z,33nm,1.0s
RIDG Independent Ri 96.60 22 P P 01 29 27.5 -0.3
baz=304,SNR=15
J26L Joseph Creek 96.64 21 IAmb IAmb 01 29 29.6
comp=Z,40nm,1.0s
J26L Joseph Creek 96.64 21 P P 01 29 28.1 +0.2
baz=305
SEW Seward 96.65 26 P P 01 29 28.9 +1.0
baz=299
I27K Kandik River 96.65 20 P P 01 29 29.1 +1.1
baz=307
SCM Sheep Creek Mo 96.67 24 IAmb IAmb 01 30 28.9
comp=Z,49nm,1.2s
SCM Sheep Creek Mo 96.67 24 P P 01 29 29.0 +0.8
baz=301
SCRK Sand Creek 96.78 22 IAmb IAmb 01 29 30.2
comp=Z,36nm,1.0s
SCRK IAMs_20 IAMs_20 02 21 24.9
comp=Z,5µm,19.0s
SCRK Sand Creek 96.78 22 P P 01 29 29.0 +0.3
baz=304,SNR=32
PAX Paxson 96.79 23 P P 01 29 28.9 +0.2
baz=303,SNR=5.5
CTZ Chatham Island 96.83 133 P P 01 29 29.6 +0.5
G29M Pine Creek 96.97 18 IAmb IAmb 01 29 31.0
comp=Z,69nm,1.1s
G29M Pine Creek 96.97 18 P P 01 29 29.7 +0.4
baz=310
M24K Tolsona, Glenn 96.99 24 IAmb IAmb 01 29 36.5
comp=Z,52nm,1.0s
M24K Tolsona, Glenn 96.99 24 P P 01 29 29.4 -0.1
baz=302
RES Resolute Bay 97.12 2 IAmb IAmb 01 29 31.7
comp=Z,50nm,1.1s
F30M Barrier River 97.15 17 P Pdif 01 29 30.5 +0.3
baz=313
HARP HAARP 97.23 23 P Pdif 01 29 30.8 +0.1
baz=303
INK Inuvik 97.29 15 IAmb IAmb 01 29 32.1
comp=Z,65nm,1.1s
INK Inuvik 97.29 15 P P 01 29 30.6 -0.1
baz=315,SNR=49
INK Inuvik 97.29 15 PKKPbc PKKPbc 01 46 09.1 -2.8
comp=Z,2.1nm,1.0s,baz=112,slow=5.6,SNR=5.7
I28M Miner Creek 97.30 19 IAmb IAmb 01 29 32.5
comp=Z,29nm,1.0s
I28M IAMs_20 IAMs_20 02 21 40.6
comp=Z,10µm,22.0s
I28M Miner Creek 97.30 19 P Pdif 01 29 31.2 +0.1
baz=308
EGAK Eagle 97.31 20 P Pdif 01 29 31.0 0.0
baz=307,SNR=13
H29M Whitestone 97.31 18 IAmb IAmb 01 29 32.3
comp=Z,38nm,1.1s
H29M Whitestone 97.31 18 P Pdif 01 29 31.4 +0.4
baz=310
KLU Klutina 97.42 24 P Pdif 01 29 32.2 +0.5
baz=302
K27K Chicken 97.44 21 IAmb IAmb 01 29 38.3
comp=Z,34nm,1.1s
K27K IAMs_20 IAMs_20 02 22 20.1
comp=Z,7µm,19.0s
K27K Chicken 97.44 21 P Pdif 01 29 32.2 +0.7
baz=306
G30M tAoh Zraii Nji 97.45 17 IAmb IAmb 01 29 32.7
comp=Z,61nm,1.1s
G30M IAMs_20 IAMs_20 02 16 38.5
comp=Z,7µm,19.0s
G30M tAoh Zraii Nji 97.45 17 P P 01 29 31.5 0.0
baz=312
MENT Mentasta 97.47 22 IAmb IAmb 01 29 54.2
comp=Z,40nm,0.8s
MENT IAMs_20 IAMs_20 02 22 18.3
comp=Z,6µm,19.0s
MENT Mentasta 97.47 22 P Pdif 01 29 33.2 +1.4
TROLL Troll, Antarti 97.53 198 ⇑P Pdif 01 29 33.1 +1.2
comp=Z,401nm,0.7s
L26K Log Cabin Wild 97.56 22 IAmb IAmb 01 29 34.6
comp=Z,38nm,1.1s
L26K IAMs_20 IAMs_20 02 21 37.6
comp=Z,10µm,19.0s
L26K Log Cabin Wild 97.56 22 P Pdif 01 29 33.5 +1.3
baz=305,SNR=11
P23K Montague Islan 97.59 26 P Pdif 01 29 32.3 0.0
baz=301
EPYK Eagle Plains 97.72 18 IAmb IAmb 01 29 33.9
comp=Z,42nm,1.0s
EPYK IAMs_20 IAMs_20 02 21 54.5
comp=Z,10µm,19.0s
EPYK Eagle Plains 97.72 18 P P 01 29 32.6 -0.2
baz=312,SNR=21
F31M Tsiigehtchic 97.84 16 IAmb IAmb 01 29 34.6
comp=Z,75nm,1.2s
F31M Tsiigehtchic 97.84 16 P P 01 29 33.1 -0.1
baz=315,SNR=29
I29M Ogilvie Camp, 97.89 19 P Pdif 01 29 33.6 +0.1
baz=310,SNR=6.0
N25K Chitina, Valde 97.89 24 P Pdif 01 29 34.3 +0.6
baz=304,SNR=7.8
G31M Satah River 98.06 17 IAmb IAmb 01 29 35.3
comp=Z,49nm,1.0s
G31M Satah River 98.06 17 P P 01 29 33.9 -0.2
baz=314
M26K Nabesna, AK 98.06 23 IAmb IAmb 01 29 36.7
comp=Z,28nm,1.0s
M26K Nabesna, AK 98.06 23 P Pdif 01 29 35.5 +1.1
baz=305
L27K Beaver Creek, 98.11 22 P Pdif 01 29 35.9 +1.3
baz=306
QSPA South Pole Qui 98.15 180 P Pdif 01 29 35.5 +0.8
QSPA South Pole Qui 98.15 180 P Pdif 01 29 35.4 +0.7
comp=Z,1.0nm,0.2s,baz=304,slow=2.9,SNR=4.4
QSPA PP PP 01 33 37.7 +3.8
comp=Z,8.6nm,1.0s,baz=359,slow=5.3,SNR=3.1
QSPA PKKPbc PKKPbc 01 46 08.6 -1.9
comp=Z,2.5nm,0.6s,baz=129,slow=3.0,SNR=5.7
QSPA LR LR 02 07 46.2
comp=Z,2µm,21.7s,baz=294,slow=32
comp=Z,1.0nm,0.2s
BMRM Bremner River 98.24 24 P Pdif 01 29 35.9 +0.6
baz=304
GLB Gilahina Butte 98.29 24 IAMs_20 IAMs_20 02 23 07.9
comp=Z,10µm,22.0s
DAWY Dawson 98.35 20 IAmb IAmb 01 29 37.3
comp=Z,28nm,1.0s
DAWY IAMs_20 IAMs_20 02 22 57.4
comp=Z,7nm,20.0s
DAWY Dawson 98.35 20 P Pdif 01 29 36.2 +0.5
baz=309,SNR=22
J29N Klondike Camp 98.50 20 IAMs_20 IAMs_20 02 22 54.3
comp=Z,8µm,21.0s
J29N Klondike Camp 98.50 20 P Pdif 01 29 36.9 +0.5
baz=310
M27K Edge Creek, AK 98.50 22 IAMs_20 IAMs_20 02 21 20.5
comp=Z,6µm,19.0s
M27K Edge Creek, AK 98.50 22 P Pdif 01 29 37.6 +1.1
baz=306
RAGM Ragged Mountai 98.53 25 IAMs_20 IAMs_20 02 22 59.3
comp=Z,10µm,20.0s
VRDI Verde Repeater 98.56 24 IAMs_20 IAMs_20 02 21 00.9
comp=Z,8µm,18.0s
I30M Mount Dempster 98.59 18 IAmb IAmb 01 29 38.2
comp=Z,27nm,0.9s
I30M IAMs_20 IAMs_20 02 23 25.4
comp=Z,10µm,22.0s
I30M Mount Dempster 98.59 18 Pdiff Pdif 01 29 37.0 +0.2
baz=312
C36M Paulatuk 98.72 12 IAMs_20 IAMs_20 02 23 14.0
comp=Z,5µm,18.0s
C36M Paulatuk 98.72 12 Pdiff Pdif 01 29 37.1 0.0
baz=324
BVCY Beaver Creek 98.85 22 Pdiff Pdif 01 29 38.1 +0.1
baz=307
KAIM Kayak Island 98.90 25 Pdiff P 01 29 38.1 0.0
baz=304
J30M Hart River 99.04 19 IAMs_20 IAMs_20 02 23 24.5
comp=Z,6µm,20.0s
J30M Hart River 99.04 19 Pdiff Pdif 01 29 39.3 +0.5
baz=312
K29M Barlow Dome 99.13 20 IAMs_20 IAMs_20 02 23 27.9
comp=Z,9µm,19.0s
K29M Barlow Dome 99.13 20 Pdiff Pdif 01 29 39.7 +0.5
baz=311
SNAA Sanae 99.21 199 P Pdif 01 29 41.0 +1.7
SNAA Sanae 99.21 199 eP Pdif 01 29 41.9 +2.6
SNAA Sanae 99.21 199 ⇑Pdiff Pdif 01 29 41.9 +2.6
comp=Z,84nm,0.7s
SNAA Sanae 99.21 199 P Pdif 01 29 41.0 +1.7
SNAA pmax pmax
comp=Z,6.0nm,0.9s
BARN Barnard Glacie 99.36 23 IAMs_20 IAMs_20 02 23 00.1
comp=Z,9µm,22.0s
YUK3 Moose Creek 99.39 22 Pdiff Pdif 01 29 41.2 +0.6
baz=308
L29M L29M 99.40 21 IAmb IAmb 01 29 42.8
comp=Z,33nm,1.1s
L29M IAMs_20 IAMs_20 02 21 46.0
comp=Z,7µm,22.0s
L29M L29M 99.40 21 Pdiff Pdif 01 29 41.3 +0.9
baz=310
DY2G Dye2 99.48 344 i P Pdif 01 29 40.9 0.0
DY2G IAmb IAmb 01 29 43.5
comp=Z,90nm,1.6s
CTG Chitna Glacier 99.54 23 Pdiff Pdif 01 29 42.2 +1.0
baz=307
CTGM Chitina Glacie 99.55 23 IAMs_20 IAMs_20 02 23 17.8
comp=Z,9µm,20.0s
M29M Somme Creek 99.71 21 IAMs_20 IAMs_20 02 22 00.0
comp=Z,7µm,21.0s
M29M Somme Creek 99.71 21 Pdiff Pdif 01 29 42.7 +0.9
baz=310
MAYO Mayo, Yukon 99.84 20 IAMs_20 IAMs_20 02 22 11.7
comp=Z,7µm,22.0s
MAYO Mayo, Yukon 99.84 20 Pdiff Pdif 01 29 43.6 +1.3
baz=312
YUK8 Steele Glacier 99.96 23 Pdiff Pdif 01 29 43.9 +0.8
baz=308
M30M Minto, Yukon 100.21 21 Pdiff Pdif 01 29 44.9 +0.9
baz=311
YUK4 Talbot Arm 100.34 22 Pdiff Pdif 01 29 45.5 +0.7
baz=309
PINM Pinnacle 100.50 24 Pdiff Pdif 01 29 46.5 +1.1
baz=308
YUK6 Outpost Mounta 100.70 22 Pdiff Pdif 01 29 47.6 +1.1
baz=309
VNA2 Neumayer--Watz 100.73 199 ⇓Pdiff Pdif 01 29 50.6 +4.6
comp=Z,9.6nm,0.7s,baz=44,slow=4.0
N30M Aishikik Lake 100.84 22 IAMs_20 IAMs_20 02 24 51.2
comp=Z,3µm,20.0s
N30M Aishikik Lake 100.84 22 Pdiff Pdif 01 29 48.1 +1.2
baz=311
O29M Mount Kennedy 101.03 23 IAMs_20 IAMs_20 02 24 30.2
comp=Z,8µm,20.0s
O29M Mount Kennedy 101.03 23 Pdiff Pdif 01 29 48.7 +0.9
baz=309
HYT Haines Junctio 101.10 22 IAMs_20 IAMs_20 02 24 07.1
comp=Z,5µm,19.0s
HYT Haines Junctio 101.10 22 Pdiff Pdif 01 29 48.4 +0.4
baz=310
PNL Peninsula 101.10 24 Pdiff Pdif 01 29 48.2 +0.2
baz=308
M31M Drury Creek, Y 101.29 20 IAMs_20 IAMs_20 02 23 21.1
comp=Z,5µm,21.0s
M31M Drury Creek, Y 101.29 20 Pdiff Pdif 01 29 49.1 +0.3
baz=313
N31M Braeburn, Yuko 101.30 21 IAMs_20 IAMs_20 02 24 52.2
comp=Z,5µm,22.0s
N31M Braeburn, Yuko 101.30 21 Pdiff Pdif 01 29 49.4 +0.6
baz=312
FARO Faro, Yukon 101.63 20 Pdiff Pdif 01 29 50.9 +0.6
baz=314
O30N Mendenhall 101.66 22 IAMs_20 IAMs_20 02 23 57.9
comp=Z,7µm,19.0s
O30N Mendenhall 101.66 22 Pdiff Pdif 01 29 51.6 +1.1
baz=312
P30M Million Dollar 101.76 23 Pdiff Pdif 01 29 51.7 +0.8
baz=311
P29M Windy Craggy 101.78 23 IAMs_20 IAMs_20 02 24 46.1
comp=Z,8µm,21.0s
P29M Windy Craggy 101.78 23 Pdiff Pdif 01 29 51.6 +0.6
baz=310
WHY Whitehorse 102.18 21 IAMs_20 IAMs_20 02 23 49.5
comp=Z,6µm,20.0s
WHY Whitehorse 102.18 21 Pdiff Pdif 01 29 53.4 +0.5
baz=313
PLBC Pleasant Camp 102.43 23 Pdiff Pdif 01 29 54.0 +0.2
baz=311
N32M Quiet Lake 102.47 20 IAMs_20 IAMs_20 02 25 24.1
comp=Z,7µm,19.0s
N32M Quiet Lake 102.47 20 Pdiff Pdif 01 29 55.0 +0.9
baz=314
P33M Teslin, Yukon 103.23 21 IAMs_20 IAMs_20 02 24 05.3
comp=Z,4µm,19.0s
P33M Teslin, Yukon 103.23 21 Pdiff Pdif 01 29 57.8 +0.3
baz=314
P32M Atlin 103.33 22 IAMs_20 IAMs_20 02 25 25.2
comp=Z,6µm,18.0s
P32M Atlin 103.33 22 Pdiff Pdif 01 29 57.9 -0.1
baz=314
S31K Pelican 103.46 24 IAMs_20 IAMs_20 02 22 18.6
comp=Z,9µm,20.0s
WRGLY Wrigley 103.85 16 IAMs_20 IAMs_20 02 24 21.5
comp=Z,7µm,20.0s
R32K Eaglecrest 103.93 23 IAMs_20 IAMs_20 02 26 35.0
comp=Z,8µm,20.0s
JIS Juneau Island 103.98 23 IAMs_20 IAMs_20 02 25 59.3
comp=Z,8µm,22.0s
Q32M Nakina River 104.31 22 Pdiff Pdif 01 30 01.2 -1.3
baz=315
SIT Sitka 104.43 24 Pdiff Pdif 01 30 01.9 -0.9
baz=312
S32K Killisnoo 104.45 24 IAMs_20 IAMs_20 02 22 34.8
comp=Z,7µm,19.0s
S32K Killisnoo 104.45 24 Pdiff Pdif 01 30 02.2 -0.6
baz=312
R33M Jennings River 104.47 21 IAMs_20 IAMs_20 02 26 56.0
comp=Z,8µm,18.0s
R33M Jennings River 104.47 21 Pdiff Pdif 01 30 03.7 +0.6
baz=316
WTLY Watson Lake, Y 104.69 20 Pdiff Pdif 01 30 04.7 +0.8
baz=318
S34M Telegraph Cree 105.47 22 IAMs_20 IAMs_20 02 23 03.8
comp=Z,6µm,19.0s
S34M Telegraph Cree 105.47 22 Pdiff PKiKP 01 34 21.9 +1.0
baz=316
DLBC Dease Lake 105.50 21 PKKPbc PKKPbc 01 45 48.7 +0.7
comp=Z,1.6nm,0.4s,baz=206,slow=2.3,SNR=7.9
MBO M'Bour 105.78 287 IAMs_20 IAMs_20 02 19 17.6
comp=Z,3µm,20.0s
H09N1 TRISTAN DA CUN 106.11 234 Pdiff Pdif 01 30 10.3 -0.4
SNR=13
T35M Bob Quinn 106.48 22 IAMs_20 IAMs_20 02 23 24.3
comp=Z,6µm,20.0s
YKAW3 Yellowknife Wh 106.54 12 IAMs_20 IAMs_20 02 27 52.6
comp=Z,6µm,18.0s
YKA Yellowknife Ar 106.60 12 Pdiff Pdif 01 30 11.8 -0.6
comp=Z,0.4nm,0.6s,baz=330,slow=4.6,SNR=7.9
YKA PP PP 01 34 34.4 -2.3
comp=Z,3.7nm,0.8s,baz=336,slow=7.9,SNR=7.2
YKA PKKPbc PKKPbc 01 45 42.0 -2.6
comp=Z,0.7nm,0.6s,baz=152,slow=2.6,SNR=12
YKAW1 Yellowknife Wh 106.64 12 IAMs_20 IAMs_20 02 27 53.2
comp=Z,6µm,19.0s
V35K Ketchikan 107.13 24 IAMs_20 IAMs_20 02 27 10.5
comp=Z,8µm,20.0s
POHA Pohakuloa 108.21 66 IAMs_20 IAMs_20 02 26 18.7
comp=Z,6µm,20.0s
MWH Moku'aweowe 108.23 66 IAMs_20 IAMs_20 02 26 12.1
comp=Z,8µm,22.0s
KHU Kahuku 108.28 67 IAMs_20 IAMs_20 02 26 15.4
comp=Z,8µm,20.0s
NPH North Pit 108.54 66 IAMs_20 IAMs_20 02 30 01.2
comp=Z,5µm,20.0s
NPOC North of Pu'u 108.70 66 IAMs_20 IAMs_20 02 04 55.5
comp=Z,2µm,20.0s
JCUZ Jacuzzi 108.71 66 IAMs_20 IAMs_20 02 19 15.8

comp=Z,5µm,21.0s
BRLDA Berland Lookou 113.22 18 IAMs_20 IAMs_20 02 29 12.3
comp=Z,6µm,21.0s
SCHQ Schefferville 114.63 347 PKP **PKiKP** **01 34 38.2 -0.1**
comp=Z,5.6nm,0.9s,baz=61,slow=8.6,SNR=2.8
SCHQ PP **PP** **01 35 38.0 +3.4**
comp=Z,32nm,1.2s,baz=2.6,slow=4.4,SNR=5.8
SCHQ PKKPbc **PKKPbc** **01 45 20.8 +2.4**
comp=Z,9.3nm,0.5s,baz=241,slow=4.4,SNR=4.4
EDM Edmonton 115.17 16 IAMs_20 IAMs_20 02 31 46.8
comp=Z,5µm,20.0s
FFC Flin Flon 116.22 9 **PKPdf** **01 34 41.4 +0.1**
FFC Flin Flon 116.22 9 IAMs_20 IAMs_20 02 19 24.4
comp=Z,7µm,21.0s
FFC Flin Flon 116.22 9 PKiKP **PKPdf** **01 34 41.4 +0.1**
B08A Colville Reser 117.35 23 IAMs_20 IAMs_20 02 34 18.7
comp=Z,6µm,20.0s
F04D Rainier, OR 117.64 27 IAMs_20 IAMs_20 02 34 49.6
comp=Z,8µm,21.0s
F04A Amboy 118.01 26 IAMs_20 IAMs_20 02 35 16.6
comp=Z,7µm,20.0s
NEW Newport 118.25 21 PKiKP **PKiKP** **01 34 45.7 +0.1**
baz=327
TBI Tubuai 119.65 112 *e*SS SS 01 52 33.2 -2.5
comp=Z,5µm,33.5s
TBI Tubuai 119.65 112 *e*LR LR 02 11 21.2
comp=Z,12µm,34.5s
TBI *e*LR LR 02 11 29.7
comp=Z,2µm,35.5s
PPT2 Papeete2 119.75 106 *e*SS SS 01 52 33.9 -3.6
comp=Z,2µm,31.8s
PPT2 Papeete2 119.75 106 *e*LR LR 02 11 23.7
comp=Z,2µm,36.5s
PPT2 *e*LR LR 02 11 39.9
comp=Z,4µm,34.5s
MSO Missoula 120.60 20 PKiKP **PKPdf** **01 34 49.9 -0.2**
baz=330
EGMT Eagleton 120.84 17 IAMs_20 IAMs_20 02 35 52.0
comp=Z,4µm,20.0s
EGMT Eagleton 120.84 17 PKiKP **PKiKP** **01 34 50.7 +0.1**
baz=335
PMSA Palmer Station 121.03 192 IAMs_20 IAMs_20 02 22 36.0
comp=Z,3µm,19.0s
ULM Lac du Bonnet 121.37 6 IAMs_20 IAMs_20 02 27 55.9
comp=Z,4µm,19.0s
ULM Lac du Bonnet 121.37 6 PKP **PKPdf** **01 34 50.2 -1.2**
comp=Z,15nm,0.9s,baz=0.7,slow=2.8,SNR=20
ULM PKKPab **PKKPbc** **01 44 54.2 +0.2**
comp=Z,5.1nm,0.6s,baz=166,slow=3.2,SNR=7.0
ULM SKKPbc SKKPbc 01 48 50.3 +8.7
comp=Z,2.7nm,0.9s,baz=180,slow=4.6,SNR=3.2
DGMT Dagmar 121.81 12 IAMs_20 IAMs_20 02 35 22.4
comp=Z,3µm,18.0s
DGMT Dagmar 121.81 12 PKiKP **PKiKP** **01 34 52.8 +0.3**
baz=341
DGMT Dagmar 121.81 12 P **PKPdf** **01 34 52.3 0.0**
baz=341
LDAQ Lac Daran 122.04 347 IAMs_20 IAMs_20 02 38 15.5
comp=Z,3µm,21.0s
LMQ La Malbaie 122.21 346 IAMs_20 IAMs_20 02 39 02.1
comp=Z,2µm,21.0s
D62A Allapoint, All 122.32 345 IAMs_20 IAMs_20 02 39 10.2
comp=Z,3µm,21.0s
LAO LASA Array 123.02 15 IAMs_20 IAMs_20 02 40 05.4
comp=Z,3µm,20.0s
LAO LASA Array 123.02 15 PKiKP **PKiKP** **01 34 55.7 +0.8**
baz=339
LAO LASA Array 123.02 15 P **PKiKP** **01 34 55.3 +0.4**
baz=339
VLDQ Val d'Or 123.08 351 IAMs_20 IAMs_20 02 37 08.7
comp=Z,5µm,21.0s
HLID Hailey 123.24 23 PKiKP **PKiKP** **01 34 56.5 +0.8**
baz=329
F64A Sherman 123.25 343 P **PKPdf** **01 34 54.9 -0.2**
baz=24
F64A P **PKPdf** **01 34 54.9 -0.2**
baz=24
MDND Maddock 123.26 9 IAMs_20 IAMs_20 02 34 12.7
comp=Z,4µm,20.0s
MDND Maddock 123.26 9 PKiKP **PKPdf** **01 34 55.0 -0.1**
baz=346
MDND Maddock 123.26 9 P **PKPdf** **01 34 55.0 -0.1**
baz=346
AGMN Agassiz Nation 123.30 6 IAMs_20 IAMs_20 02 40 06.0
comp=Z,5µm,19.0s
AGMN Agassiz Nation 123.30 6 PKiKP **PKiKP** **01 34 55.5 +0.1**
baz=351
AGMN Agassiz Nation 123.30 6 P **PKPdf** **01 34 54.6 -0.5**
baz=351
B35A Bob, Littlefor 123.43 4 IAMs_20 IAMs_20 02 35 41.4
comp=Z,4µm,22.0s
B35A Bob, Littlefor 123.43 4 P **PKPdf** **01 34 54.8 -0.7**
baz=354
F63A Nahmakanta, Br 123.61 344 P **PKPdf** **01 34 55.8 0.0**
baz=23
F63A P **PKPdf** **01 34 55.8 0.0**
baz=23
RLMT Red Lodge 123.62 18 PKiKP **PKPdf** **01 34 55.9 -0.2**
baz=335
H17A Grant Village 123.86 19 PKiKP **PKiKP** **01 34 57.5 +0.5**
baz=333
EYMN Ely 123.98 3 IAMs_20 IAMs_20 02 33 48.9
comp=Z,3µm,20.0s
EYMN Ely 123.98 3 PKiKP **PKPdf** **01 34 56.5 0.0**
baz=356
EYMN Ely 123.98 3 P **PKPdf** **01 34 55.2 -1.3**
baz=356
PKME Peaks-Kenny Pk 124.06 344 IAMs_20 IAMs_20 02 40 34.3
comp=Z,3µm,18.0s
PKME Peaks-Kenny Pk 124.06 344 PKiKP **PKiKP** **01 34 56.8 -0.1**
baz=23
PKME Peaks-Kenny Pk 124.06 344 P **PKPdf** **01 34 56.7 0.0**
baz=23
E28A Huff 124.31 10 IAMs_20 IAMs_20 02 32 38.6
comp=Z,4µm,18.0s
E28A Huff 124.31 10 P **PKiKP** **01 34 57.6 +0.1**
baz=345
D32A Dogwood Acres, 124.32 7 IAMs_20 IAMs_20 02 34 50.8
comp=Z,4µm,20.0s
TRQ Mont Tremblant 124.41 348 IAMs_20 IAMs_20 02 38 11.0
comp=Z,3µm,20.0s
G62A West of Eustis 124.44 345 IAMs_20 IAMs_20 02 33 04.1
comp=Z,2µm,18.0s
G62A West of Eustis 124.44 345 P **PKPdf** **01 34 57.6 +0.1**
baz=21
G62A P **PKPdf** **01 34 57.6 +0.1**
baz=21
WVL Waterville 124.81 344 IAMs_20 IAMs_20 02 32 38.1
comp=Z,2µm,19.0s
MNTQ Montreal, Queb 124.90 347 IAMs_20 IAMs_20 02 31 15.2
comp=Z,3µm,20.0s
D41A Chassel 124.94 0 IAMs_20 IAMs_20 02 38 08.4
comp=Z,3µm,20.0s
D41A Chassel 124.94 0 P **PKPdf** **01 34 58.2 -0.1**
baz=360
E38A The Farm, Brul 125.32 3 IAMs_20 IAMs_20 02 39 14.3
comp=Z,5µm,20.0s
E38A The Farm, Brul 125.32 3 P **PKPdf** **01 34 58.8 -0.3**
baz=356
E46A Sault Ste Mari 125.52 357 IAMs_20 IAMs_20 02 34 07.8
comp=Z,4µm,21.0s
E46A Sault Ste Mari 125.52 357 P **PKPdf** **01 34 58.8 -0.7**
baz=4.7
FRNY Flat Rock 125.53 347 IAMs_20 IAMs_20 02 38 25.8
comp=Z,3µm,21.0s
I63A Otisfield 125.53 344 IAMs_20 IAMs_20 02 31 42.2
comp=Z,4µm,20.0s
E43A Lone Tree Farm 125.61 359 IAMs_20 IAMs_20 02 36 02.2
comp=Z,4µm,20.0s
E43A Lone Tree Farm 125.61 359 P **PKPdf** **01 34 59.6 -0.1**
baz=1.5
BW06 Boulder Array 125.65 19 PKiKP **PKPdf** **01 34 59.9 -0.2**
baz=334
PDAR Pinedale Array 125.65 19 PKP **PKPdf** **01 34 59.9 -0.3**
comp=Z,22nm,1.0s,baz=104,slow=0.6,SNR=3.9
PDAR PKKPab **PKKPbc** **01 44 38.5 +1.0**
comp=Z,0.5nm,0.6s,baz=142,slow=6.9,SNR=4.6
PDAR SKKPbc SKKPbc 01 48 25.9 -1.6
comp=Z,1.0nm,0.9s,baz=158,slow=4.3,SNR=3.9
F33A 5 Mile Ranch, 125.68 7 IAMs_20 IAMs_20 02 35 16.9
comp=Z,5µm,20.0s
F33A 5 Mile Ranch, 125.68 7 P **PKPdf** **01 34 59.8 0.0**
baz=350
LBNH Liebon 125.70 346 IAMs_20 IAMs_20 02 39 12.5
comp=Z,2µm,19.0s
LBNH Lisbon 125.70 346 PKiKP **PKiKP** **01 35 00.4 +0.1**
baz=20
WBO Williamsburg 125.72 349 IAMs_20 IAMs_20 02 39 23.7
comp=Z,2µm,22.0s
NVAR Mina Array Bea 125.79 29 PKP **PKiKP** **01 35 02.0 +1.1**
comp=Z,30nm,0.8s,baz=284,slow=1.6,SNR=106
NVAR SKKPbc SKKPbc 01 48 37.0 +10
comp=Z,1.3nm,0.8s,baz=131,slow=6.5,SNR=5.0
VT1 Waterbury 125.82 346 IAMs_20 IAMs_20 02 36 40.7
comp=Z,3µm,18.0s
I62A Tamworth 125.90 345 IAMs_20 IAMs_20 02 36 50.7
comp=Z,2µm,19.0s
F36A Milaca 125.93 5 IAMs_20 IAMs_20 02 36 41.6
comp=Z,3µm,20.0s
F36A Milaca 125.93 5 P **PKPdf** **01 34 59.7 -0.6**
baz=354
LONY Lake Ozonia 125.94 348 IAMs_20 IAMs_20 02 21 36.7
comp=Z,4µm,19.0s
LONY Lake Ozonia 125.94 348 PKiKP **PKPdf** **01 35 00.1 -0.3**
baz=17
RSSD Black Hills 125.96 14 **PKPdf** **01 35 00.7 0.0**
RSSD Black Hills 125.96 14 IAMs_20 IAMs_20 02 40 37.3
comp=Z,7µm,22.0s
RSSD Black Hills 125.96 14 PKiKP **PKPdf** **01 35 00.7 0.0**
baz=341
RSSD Black Hills 125.96 14 P **PKPdf** **01 35 00.8 +0.1**
baz=341
RSSD Black Hills 125.96 14 PKiKP **PKPdf** **01 35 00.7 0.0**
MCVT Middlebury Col 126.23 346 P **PKPdf** **01 35 00.9 -0.1**
baz=19
F42A Maple Grove Fa 126.24 360 IAMs_20 IAMs_20 02 36 53.8
comp=Z,3µm,19.0s
F42A Maple Grove Fa 126.24 360 P **PKPdf** **01 35 01.0 +0.1**
baz=0.1
HNH Hanover 126.29 346 IAMs_20 IAMs_20 02 41 27.2
comp=Z,3µm,21.0s
NCB Newcomb 126.49 347 IAMs_20 IAMs_20 02 39 50.1
comp=Z,3µm,18.0s
SADO Sadowa 126.59 352 IAMs_20 IAMs_20 02 37 40.5
comp=Z,3µm,22.0s
DELO Deloro Mine 126.61 351 IAMs_20 IAMs_20 02 38 07.0
comp=Z,4µm,19.0s
SPMN Marine on St. 126.62 4 IAMs_20 IAMs_20 02 36 08.7
comp=Z,5µm,19.0s
SPMN Marine on St. 126.62 4 PKiKP **PKPdf** **01 35 01.3 -0.3**
baz=354
SPMN Marine on St. 126.62 4 P **PKPdf** **01 35 01.5 -0.1**
baz=354
SUSD Miller 126.68 10 IAMs_20 IAMs_20 02 36 32.2
comp=Z,3µm,19.0s
SUSD Miller 126.68 10 PKiKP **PKPdf** **01 35 01.8 0.0**
baz=347
SUSD Miller 126.68 10 P **PKPdf** **01 35 02.0 +0.2**
baz=347
K22A Casper 126.68 17 PKiKP **PKPdf** **01 35 01.8 -0.2**
baz=337
K22A Casper 126.68 17 P **PKPdf** **01 35 01.9 -0.1**
baz=337
J61A Chester 126.70 346 IAMs_20 IAMs_20 02 41 03.9
comp=Z,3µm,19.0s
J61A Chester 126.70 346 P **PKPdf** **01 35 02.0 +0.2**
baz=19
J61A P **PKPdf** **01 35 02.0 +0.2**
baz=19
G40A Rib Lake 126.70 2 IAMs_20 IAMs_20 02 29 27.0
comp=Z,4µm,18.0s
G40A Rib Lake 126.70 2 P **PKPdf** **01 35 01.8 0.0**
baz=358
DUG Dugway, Tooele 126.73 23 PKiKP **PKiKP** **01 35 02.9 +0.2**
baz=329
WCNY West Carthage 126.77 349 P **PKPdf** **01 35 01.5 -0.4**
baz=16
G45A Suttons Bay 126.91 358 IAMs_20 IAMs_20 02 42 03.5
comp=Z,4µm,22.0s
G45A Suttons Bay 126.91 358 P **PKPdf** **01 35 02.0 -0.1**
baz=3.2
G45A P **PKPdf** **01 35 02.0 -0.1**
baz=3.2
ACCN Adirondack Com 126.92 347 IAMs_20 IAMs_20 02 21 45.8
comp=Z,3µm,19.0s
ACCN Adirondack Com 126.92 347 P **PKiKP** **01 35 02.5 -0.2**
baz=18
J59A Piesco 127.03 347 IAMs_20 IAMs_20 02 21 47.6
comp=Z,3µm,20.0s
J59A Piesco 127.03 347 P **PKPdf** **01 35 02.5 0.0**
baz=17
J59A P **PKPdf** **01 35 02.5 0.0**
baz=17
GLMI Grayling 127.07 357 IAMs_20 IAMs_20 02 36 53.0
comp=Z,4µm,18.0s
GLMI Grayling 127.07 357 PKiKP **PKPdf** **01 35 02.7 +0.3**
baz=4.5
GLMI Grayling 127.07 357 P **PKiKP** **01 35 02.9 -0.1**
baz=4.5
R11B Troy Canyon, C 127.12 27 PKiKP **PKiKP** **01 35 03.9 +0.4**
baz=325
HRV Adam Dziewonsk 127.23 345 IAMs_20 IAMs_20 02 40 55.1
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 127.23 345 PKiKP **PKiKP** **01 35 03.8 +0.4**
baz=21
K62A Royalston 127.26 345 IAMs_20 IAMs_20 02 41 30.8
comp=Z,3µm,19.0s
K62A Royalston 127.26 345 P **PKiKP** **01 35 03.4 0.0**
baz=20
K62A P **PKiKP** **01 35 03.4 0.0**
baz=20
WES Weston 127.28 344 IAMs_20 IAMs_20 02 40 11.5
comp=Z,3µm,20.0s
J58A Remsen 127.30 348 IAMs_20 IAMs_20 02 40 25.5
comp=Z,3µm,21.0s
J58A Remsen 127.30 348 P **PKPdf** **01 35 02.7 -0.3**
baz=16
J58A P **PKPdf** **01 35 02.7 -0.3**
baz=16
SMMC Simmler 127.34 33 PKiKP **PKiKP** **01 35 04.4 +0.5**
baz=319
GRAC Grapevine Rang 127.38 29 PKiKP **PKiKP** **01 35 04.3 +0.4**
baz=323
J57A Williamstown 127.39 349 IAMs_20 IAMs_20 02 38 43.9
comp=Z,3µm,20.0s
VES Vestal, Richgr 127.42 32 PKiKP **PKiKP** **01 35 04.2 +0.2**
baz=320
CWC Cottonwood Cre 127.47 30 PKiKP **PKiKP** **01 35 04.1 -0.1**
baz=322
H43A Windswept, Lux 127.53 360 IAMs_20 IAMs_20 02 29 48.9
comp=Z,4µm,19.0s
TRY Troy 127.54 346 IAMs_20 IAMs_20 02 39 42.2
comp=Z,4µm,19.0s
TRY Troy 127.54 346 P **PKiKP** **01 35 04.4 +0.4**
baz=18
L64A Middleborough 127.57 344 IAMs_20 IAMs_20 02 40 22.1
comp=Z,3µm,22.0s
L61B Northampton 127.57 345 IAMs_20 IAMs_20 02 37 38.0
comp=Z,2µm,20.0s
L61B Northampton 127.57 345 PKiKP **PKiKP** **01 35 04.0 -0.1**
baz=20
QUA2 Belchertown 127.65 345 IAMs_20 IAMs_20 02 43 04.1
comp=Z,3µm,20.0s
J56A Wolcott 127.68 349 IAMs_20 IAMs_20 02 43 17.5
comp=Z,3µm,20.0s
ECSD EROS Data Cent 127.72 8 IAMs_20 IAMs_20 02 38 58.7
comp=Z,4µm,21.0s
HCNY Howe Caverns 127.74 347 P **PKPdf** **01 35 03.9 +0.1**
baz=17
PKM Mcpherson Peak 127.76 33 PKiKP **PKiKP** **01 35 05.2 +0.3**
baz=319
I37A Lemond, Waseca 127.78 5 IAMs_20 IAMs_20 02 36 11.4
comp=Z,6µm,19.0s
I37B Waseca 127.78 5 P **PKPdf** **01 35 03.6 -0.2**
baz=354
I49A Point Hope 127.83 355 IAMs_20 IAMs_20 02 43 02.0
comp=Z,4µm,19.0s
I49A Point Hope 127.83 355 P **PKPdf** **01 35 03.7 -0.2**
baz=6.7
I49A P **PKPdf** **01 35 03.7 -0.2**
baz=6.7
J55A Hilton 127.86 350 IAMs_20 IAMs_20 02 31 42.1
comp=Z,3µm,18.0s
M65A Busby, Falmout 127.86 343 IAMs_20 IAMs_20 02 43 14.8
comp=Z,3µm,21.0s
ISA Isabella, Lake 127.87 31 PKiKP **PKiKP** **01 35 05.3 +0.3**
baz=321
I45A Fountain 127.93 358 IAMs_20 IAMs_20 02 42 32.6
comp=Z,5µm,21.0s
TPNV Topopah Spring 127.95 28 PKiKP **PKiKP** **01 35 05.5 +0.3**
baz=324
J54A Appleton 127.98 351 IAMs_20 IAMs_20 02 38 20.4
comp=Z,4µm,20.0s
RCBR Riachuelo 127.99 269 IAMs_20 IAMs_20 02 31 44.8
comp=Z,2µm,19.0s
FURC Furnace Creek, 128.05 29 PKiKP **PKiKP** **01 35 05.8 +0.6**
baz=323
MEDO Medina 128.06 351 IAMs_20 IAMs_20 02 34 49.4
comp=Z,2µm,20.0s
MPMC Manual Prospec 128.06 30 PKiKP **PKiKP** **01 35 06.1 +0.6**
baz=322
I40A Norwalk 128.06 2 IAMs_20 IAMs_20 02 36 35.0
comp=Z,4µm,19.0s
I40A Norwalk 128.06 2 P **PKPdf** **01 35 03.7 -0.7**
baz=357
ARVC Arvin 128.10 32 PKiKP **PKiKP** **01 35 05.9 +0.6**
baz=320
I42A Draeger Farm, 128.11 1 IAMs_20 IAMs_20 02 43 29.1
comp=Z,7µm,20.0s
I42A Draeger Farm, 128.11 1 P **PKPdf** **01 35 04.1 -0.4**
baz=359
TMUT Trail Mountain 128.13 23 IAMs_20 IAMs_20 02 39 34.1
comp=Z,6µm,22.0s
K57A Scipio Center 128.14 349 IAMs_20 IAMs_20 02 40 28.8
comp=Z,4µm,18.0s
K57A Scipio Center 128.14 349 P **PKPdf** **01 35 04.5 -0.1**
baz=15
SBC Santa Barbara 128.15 33 PKiKP **PKiKP** **01 35 06.3 +0.9**
baz=319
K30B Basset 128.28 11 IAMs_20 IAMs_20 02 42 32.6
comp=Z,7µm,22.0s
K30B Basset 128.28 11 P **PKiKP** **01 35 05.3 -0.2**
baz=346
L59A Walton 128.37 347 IAMs_20 IAMs_20 02 39 24.9
comp=Z,4µm,19.0s
L59A Walton 128.37 347 P **PKiKP** **01 35 05.5 -0.3**
baz=17
L59A P **PKiKP** **01 35 05.5 -0.3**
baz=17
M63A Gales Ferry 128.39 344 IAMs_20 IAMs_20 02 43 17.8
comp=Z,3µm,19.0s
LRMC Laurel Mtn Rad 128.42 31 PKiKP **PKiKP** **01 35 06.4 +0.3**
baz=322
O20A White River Ci 128.44 20 PKiKP **PKiKP** **01 35 06.3 +0.2**
baz=334
KSCT Kent School, K 128.45 346 IAMs_20 IAMs_20 02 41 02.3
comp=Z,3µm,21.0s
N23A Red Feather La 128.47 17 PKiKP **PKiKP** **01 35 06.3 0.0**
baz=337
Q16A Castle Valley 128.47 23 IAMs_20 IAMs_20 02 28 06.2
comp=Z,4µm,20.0s
SCZ2 Santa Cruz Isl 128.53 34 PKiKP **PKiKP** **01 35 07.0 +0.8**
baz=319
BINY Binghamton 128.55 348 IAMs_20 IAMs_20 02 39 10.7
comp=Z,4µm,19.0s
BINY Binghamton 128.55 348 PKiKP **PKiKP** **01 35 06.0 -0.1**
baz=16
BINY Binghamton 128.55 348 P **PKPdf** **01 35 05.4 0.0**
baz=16
NBAN Anadia - AL 128.65 264 *e*P **PKPdf** **01 35 06.6 +0.3**
J47A Sunmer 128.66 357 IAMs_20 IAMs_20 02 41 55.1
comp=Z,4µm,20.0s
YLE Yale 128.71 345 IAMs_20 IAMs_20 02 41 23.8
comp=Z,3µm,18.0s
EDW2 Edwards Air Fo 128.73 31 PKiKP **PKiKP** **01 35 06.8 +0.2**
baz=321
SHOC Shoshone, Teco 128.78 29 PKiKP **PKiKP** **01 35 07.3 +0.6**
baz=324
WVNY West Valley, N 128.82 351 IAMs_20 IAMs_20 02 38 39.6
comp=Z,4µm,21.0s
WVNY West Valley, N 128.82 351 P **PKPdf** **01 35 05.8 -0.1**
baz=12
BRNY Black Rk. Fore 128.88 346 P **PKPdf** **01 35 05.4 -0.6**
baz=18
L56A Greenwood 128.91 350 IAMs_20 IAMs_20 02 39 16.1
comp=Z,3µm,20.0s
L56A Greenwood 128.91 350 P **PKPdf** **01 35 06.0 -0.1**
baz=14
L56A P **PKPdf** **01 35 06.0 -0.1**
baz=14
WSPT Westport, CT 128.94 346 IAMs_20 IAMs_20 02 41 31.2
comp=Z,3µm,20.0s
K50A Casco 128.96 355 IAMs_20 IAMs_20 02 44 01.1
comp=Z,5µm,22.0s
GSC Goldstone, Bar 129.00 30 PKiKP **PKiKP** **01 35 08.0 +0.7**
baz=323
JFWS Jewell Farm 129.05 2 IAMs_20 IAMs_20 02 36 15.2
comp=Z,3µm,20.0s
JFWS Jewell Farm 129.05 2 PKiKP **PKiKP** **01 35 06.8 -0.2**
baz=357
JFWS Jewell Farm 129.05 2 P **PKPdf** **01 35 05.1 -1.2**
baz=357
SNCC San Nicolas Is 129.15 34 PKiKP **PKiKP** **01 35 08.1 +0.7**
baz=319
TRNY Table Rock, Ra 129.18 346 IAMs_20 IAMs_20 02 41 58.5
comp=Z,3µm,20.0s
K38A Parkersburg 129.19 4 IAMs_20 IAMs_20 02 37 20.6
comp=Z,5µm,19.0s
K38A Parkersburg 129.19 4 P **PKPdf** **01 35 06.0 -0.5**
baz=354
N62A Caumsett State 129.20 346 IAMs_20 IAMs_20 02 36 55.1
comp=Z,3µm,20.0s
BRIGG Briggsdale 129.21 16 IAMs_20 IAMs_20 02 44 21.4
comp=Z,7µm,21.0s
PAL Palisades 129.24 346 IAMs_20 IAMs_20 02 39 53.0
comp=Z,3µm,20.0s
PAL Palisades 129.24 346 PKiKP **PKiKP** **01 35 07.8 +0.4**
baz=18
RRX Edison Barstow 129.24 31 PKiKP **PKiKP** **01 35 07.8 +0.2**
baz=322
K43A Burlington 129.30 0 IAMs_20 IAMs_20 02 44 26.6
comp=Z,4µm,18.0s
ERPA Erie 129.31 352 IAMs_20 IAMs_20 02 38 34.4
comp=Z,4µm,19.0s
ERPA Erie 129.31 352 PKiKP **PKPdf** **01 35 07.2 +0.4**
baz=10
ERPA Erie 129.31 352 P **PKPdf** **01 35 06.7 -0.2**
baz=10
ODNJ Ogdensburg 129.33 347 IAMs_20 IAMs_20 02 40 55.3
comp=Z,3µm,21.0s
ODNJ Ogdensburg 129.33 347 P **PKPdf** **01 35 06.1 -0.8**
baz=18
TUQ Turquoise Moun 129.33 29 PKiKP **PKiKP** **01 35 07.8 -0.1**
baz=324
BFSC Mount Baldy Ra 129.40 32 PKiKP **PKiKP** **01 35 08.0 -0.1**
baz=321
OGNE Ogallala 129.44 13 PKiKP **PKiKP** **01 35 08.3 +0.3**
baz=342
L34A Svendsen Farm, 129.48 8 IAMs_20 IAMs_20 02 37 33.5
comp=Z,3µm,19.0s
L34A Svendsen Farm, 129.48 8 P **PKiKP** **01 35 07.6 -0.3**
baz=350
AAM Ann Arbor 129.52 356 IAMs_20 IAMs_20 02 43 59.8
comp=Z,4µm,20.0s
ISCO Idaho Springs 129.57 17 PKiKP **PKPdf** **01 35 08.0 +0.1**
baz=338
M57A Sunshine Farm, 129.61 349 IAMs_20 IAMs_20 02 39 48.5
comp=Z,2µm,18.0s
M57A Sunshine Farm, 129.61 349 P **PKPdf** **01 35 07.7 +0.2**
baz=14
M57A P **PKPdf** **01 35 07.7 +0.2**
baz=14
HEC Hector,Ludlow 129.61 30 PKiKP **PKiKP** **01 35 08.9 +0.4**
baz=323
CIS Catalina Islan 129.64 33 PKiKP **PKiKP** **01 35 08.6 +0.1**
baz=320
BRNJ Basking Ridge 129.70 346 IAMs_20 IAMs_20 02 40 10.2
comp=Z,4µm,19.0s
BBRC Big Bear Solar 129.76 31 PKiKP **PKiKP** **01 35 08.7 -0.3**
baz=322
BGNE Belgrade 129.76 10 PKiKP **PKPdf** **01 35 08.0 +0.2**
baz=347
BGNE Belgrade 129.76 10 P **PKPdf** **01 35 07.7 -0.1**
baz=347
M55A Ridgway 129.76 351 IAMs_20 IAMs_20 02 39 21.6
comp=Z,4µm,22.0s
M55A Ridgway 129.76 351 P **PKPdf** **01 35 07.7 -0.1**
baz=12
M55A P **PKPdf** **01 35 07.7 -0.1**
baz=12
L44A Lake County Fo 129.82 360 IAMs_20 IAMs_20 02 37 54.5
comp=Z,4µm,20.0s
L44A Lake County Fo 129.82 360 PKiKP **PKPdf** **01 35 08.1 +0.3**
baz=0.4
L40A Anamosa 129.86 3 IAMs_20 IAMs_20 02 36 42.6
comp=Z,4µm,19.0s
L40A Anamosa 129.86 3 P **PKPdf** **01 35 07.4 -0.5**
baz=356
SCIA State Center 129.89 5 IAMs_20 IAMs_20 02 36 58.2
comp=Z,5µm,18.0s
SCIA State Center 129.89 5 PKiKP **PKiKP** **01 35 08.5 -0.2**
baz=354
L48A N Adams 129.93 356 IAMs_20 IAMs_20 02 44 53.6
comp=Z,3µm,18.0s

L48A	N Adams baz=4.9	129.93	356	P	PKPdf	01 35 07.6	-0.4		
L48A	baz=4.9			P	PKPdf	01 35 07.6	-0.4		
L46A	Eue Claire comp=Z,3µm,22.0s	129.95	358	IAMs_20	IAMs_20	02 39 09.1			
LUPA	Lehigh Univers comp=Z,3µm,20.0s	129.96	347	IAMs_20	IAMs_20	02 40 06.1			
GMRC	Granite Mounta baz=324	129.98	30	PKiKP	PKiKP	01 35 09.2	-0.1		
L42A	Oliver, Polo baz=358	129.98	1	P	PKPdf	01 35 07.8	-0.3		
N58A	Sunbury comp=Z,3µm,18.0s	130.01	349	IAMs_20	IAMs_20	02 39 44.2			
N58A	Sunbury baz=15	130.01	349	P	PKPdf	01 35 08.1	-0.1		
N58A	baz=15			P	PKPdf	01 35 08.1	-0.1		
M52A	Chesterland comp=Z,4µm,22.0s	130.05	353	IAMs_20	IAMs_20	02 44 31.0			
M53A	WI Miller and comp=Z,2µm,20.0s	130.07	353	IAMs_20	IAMs_20	02 41 56.5			
M53A	WI Miller and baz=9.7	130.07	353	PKiKP	PKPdf	01 35 08.5	+0.2		
MURC	Murrieta baz=321	130.14	32	PKiKP	PKiKP	01 35 09.6	+0.1		
NBCL	Cascavel-CE	130.18	271	eP	PKiKP	01 35 09.7	-0.3		
NBLA	Lagarto - SE	130.19	263	eP	PKPdf	01 35 09.3	+0.1		
HQIL	Hanson Quary C comp=Z,4µm,21.0s	130.20	360	IAMs_20	IAMs_20	02 41 17.5			
M50A	Fremont comp=Z,4µm,22.0s	130.36	355	IAMs_20	IAMs_20	02 43 03.1			
NBTA	Tacaratu-PE	130.38	265	eP	PKiKP	01 35 10.8	+0.3		
SSPA	Standing Stone	130.43	350		PKPdf	01 35 08.5	-0.5		
SSPA	Standing Stone comp=Z,4µm,18.0s	130.43	350	IAMs_20	IAMs_20	02 39 46.2			
SSPA	Standing Stone baz=13	130.43	350	PKiKP	PKiKP	01 35 10.1	+0.3		
SSPA	Standing Stone baz=13	130.43	350	P	PKiKP	01 35 09.5	-0.3		
BELC	Belle Mtn. Jos baz=323	130.44	31	PKiKP	PKiKP	01 35 10.5	+0.2		
Q24A	Divide baz=338	130.48	17	PKiKP	PKiKP	01 35 10.0	-0.4		
PFO	Pinyon Flats O	130.51	31		PKPdf	01 35 08.8	-0.7		
PFO	Pinyon Flats O baz=322	130.51	31	PKiKP	PKiKP	01 35 10.3	0.0		
PFO	Pinyon Flats O	130.51	31	PKiKP	PKPdf	01 35 08.8	-0.7		
TPFO	Pinon Flats baz=322	130.52	31	PKiKP	PKiKP	01 35 10.4	0.0		
N33A	J Bar K, Exete comp=Z,3µm,20.0s	130.53	9	IAMs_20	IAMs_20	02 36 49.2			
M44A	Midewin, Midew comp=Z,3µm,19.0s	130.61	360	IAMs_20	IAMs_20	02 42 23.4			
M44A	Midewin, Midew baz=0.2	130.61	360	P	PKPdf	01 35 09.6	+0.3		
WUPA	West Chester U comp=Z,3µm,19.0s	130.65	347	IAMs_20	IAMs_20	02 40 18.3			
N35A	Tabor comp=Z,4µm,19.0s	130.67	7	IAMs_20	IAMs_20	02 40 43.8			
N53A	Lisbon comp=Z,3µm,18.0s	130.71	353	IAMs_20	IAMs_20	02 42 29.5			
P61A	Hammonton comp=Z,3µm,20.0s	130.71	346	IAMs_20	IAMs_20	02 40 27.0			
IRM	Iron Mountain baz=324	130.73	30	PKiKP	PKiKP	01 35 10.8	+0.1		
109C	Camp Elliot, M comp=Z,6µm,19.0s	130.74	32	IAMs_20	IAMs_20	02 44 33.7			
109C	Camp Elliot, M baz=321	130.74	32	PKiKP	PKiKP	01 35 11.0	+0.3		
MVL	Millersville comp=Z,3µm,19.0s	130.75	348	IAMs_20	IAMs_20	02 39 29.7			
N51A	Ashland comp=Z,3µm,20.0s	130.78	354	IAMs_20	IAMs_20	02 36 06.2			
N49A	Columbus Grove comp=Z,4µm,20.0s	130.93	356	IAMs_20	IAMs_20	02 45 23.1			
N49A	Columbus Grove baz=5.3	130.93	356	P	PKPdf	01 35 09.6	-0.3		
N49A	baz=5.3			P	PKPdf	01 35 09.6	-0.3		
NBMA	Muriti-CE	130.96	267	eP	PKPdf	01 35 11.0	+0.2		
MVCO	Mesa Verde baz=333	130.97	21	PKiKP	PKiKP	01 35 11.6	+0.2		
BC3	Big Chuckawall baz=323	130.99	30	PKiKP	PKiKP	01 35 11.4	+0.1		
N38A	Joes South For comp=Z,5µm,20.0s	130.99	5	IAMs_20	IAMs_20	02 36 53.4			
N47A	Urbana comp=Z,4µm,20.0s	131.06	357	IAMs_20	IAMs_20	02 44 14.4			
N47A	Urbana baz=3.3	131.06	357	P	PKPdf	01 35 10.0	-0.2		
N47A	baz=3.3			P	PKPdf	01 35 10.0	-0.2		
S22A	4UR Ranch, Cre baz=335	131.07	20	PKiKP	PKiKP	01 35 11.5	-0.1		
MONP2	Monument Peak baz=322	131.09	32	PKiKP	PKiKP	01 35 11.6	-0.1		
PDMCI	Parker Dam,Lak baz=325	131.10	29	PKiKP	PKiKP	01 35 11.7	+0.3		
KSCO	Kaye Shedlock' baz=341	131.13	15	PKiKP	PKiKP	01 35 11.2	-0.2		
N41A	Harden Midland comp=Z,4µm,19.0s	131.23	3	IAMs_20	IAMs_20	02 38 40.8			
N41A	Harden Midland baz=356	131.23	3	P	PKiKP	01 35 11.0	-0.4		
O54A	Avella comp=Z,5µm,18.0s	131.26	352	IAMs_20	IAMs_20	02 21 50.2			
O54A	Avella baz=10	131.26	352	P	PKPdf	01 35 10.7	+0.1		
O54A	baz=10			P	PKPdf	01 35 10.7	+0.1		
O53A	New Philadelph comp=Z,2µm,20.0s	131.31	353	IAMs_20	IAMs_20	02 44 22.3			
O53A	New Philadelph baz=9.2	131.31	353	PKiKP	PKPdf	01 35 11.1	+0.4		
WUAZ	Wupatki baz=329	131.32	25	PKiKP	PKiKP	01 35 11.8	-0.2		
SWSC	Sam W. Stewart baz=322	131.37	31	PKiKP	PKiKP	01 35 11.6	-0.3		
SDMD	Soldier's Deli comp=Z,1µm,18.0s	131.41	348	IAMs_20	IAMs_20	02 40 08.4			
HDIL	Hopedale comp=Z,3µm,19.0s	131.43	1	IAMs_20	IAMs_20	02 30 15.2			
HDIL	Hopedale baz=359	131.43	1	PKiKP	PKiKP	01 35 11.5	-0.4		
IKP	In-Ko-Pah, Jac baz=322	131.45	32	PKiKP	PKiKP	01 35 12.0	-0.2		
SDCO	Great Sand Dun baz=337	131.50	18	PKiKP	PKPdf	01 35 11.6	+0.1		
SDCO	Great Sand Dun baz=337	131.50	18	P	PKPdf	01 35 10.7	-0.9		
O52A	Adamsville comp=Z,3µm,22.0s	131.51	353	IAMs_20	IAMs_20	02 40 53.7			
ACSO	Alum Creek Sta comp=Z,4µm,20.0s	131.52	355	IAMs_20	IAMs_20	02 45 32.7			
ACSO	Alum Creek Sta baz=6.9	131.52	355	PKiKP	PKPdf	01 35 11.4	+0.3		
ACSO	Alum Creek Sta baz=6.9	131.52	355	P	PKPdf	01 35 10.9	-0.2		
P57A	Homestead Farm comp=Z,3µm,18.0s	131.57	349	IAMs_20	IAMs_20	02 40 06.4			
P57A	Homestead Farm baz=14	131.57	349	P	PKPdf	01 35 11.4	+0.2		
P57A	baz=14			P	PKPdf	01 35 11.4	+0.2		
SFIN	Lafayette comp=Z,4µm,19.0s	131.61	359	IAMs_20	IAMs_20	02 39 00.8			
SFIN	Lafayette baz=1.5	131.61	359	PKiKP	PKPdf	01 35 11.7	+0.5		
O48B	Farmland comp=Z,3µm,18.0s	131.65	357	IAMs_20	IAMs_20	02 44 05.2			
O48B	Farmland baz=4.0	131.65	357	PKiKP	PKPdf	01 35 11.7	+0.3		
O49A	Covington comp=Z,3µm,20.0s	131.67	356	IAMs_20	IAMs_20	02 45 37.7			
O49A	Covington baz=5.1	131.67	356	P	PKPdf	01 35 11.0	-0.3		
O49A	baz=5.1			P	PKPdf	01 35 11.0	-0.3		
MCWV	Mont Chateau comp=Z,4µm,18.0s	131.70	351	IAMs_20	IAMs_20	02 39 47.8			
CMC01	Camacan, BA	131.84	257	eP	PKiKP	01 35 12.9	-0.4		
O44A	Mansfield comp=Z,3µm,20.0s	131.84	0	IAMs_20	IAMs_20	02 43 31.1			
GDU01	Guandu, BA	131.94	259	eP	PKiKP	01 35 13.5	0.0		
CBKS	Cedar Bluff baz=345	131.98	12	PKiKP	PKPdf	01 35 12.4	+0.4		
P52A	Corning	132.02	354	IAMs_20	IAMs_20	02 44 38.2			
	comp=Z,3µm,20.0s								
P52A	Corning baz=8.1	132.02	354	PKiKP	PKPdf	01 35 12.3	+0.3		
GUA01	Guaratinga, BA	132.04	255	eP	PKPdf	01 35 12.2	-0.4		
CPBX	Cerro Prieto comp=Z,5µm,19.0s	132.04	31	IAMs_20	IAMs_20	02 45 56.3			
P53A	Whipple comp=Z,4µm,21.0s	132.08	353	IAMs_20	IAMs_20	02 43 07.7			
P53A	Whipple baz=9.1	132.08	353	P	PKPdf	01 35 12.4	+0.3		
P53A	baz=9.1			P	PKPdf	01 35 12.4	+0.3		
R61A	Willards comp=Z,3µm,19.0s	132.12	346	IAMs_20	IAMs_20	02 40 20.3			
P38A	Dawn comp=Z,3µm,22.0s	132.12	5	IAMs_20	IAMs_20	02 41 51.4			
P38A	Dawn baz=353	132.12	5	P	PKPdf	01 35 11.8	-0.4		
NAN01	Guarapari, ES	132.25	253	eP	PKPdf	01 35 13.3	+0.3		
KSU1	Kansas State U baz=349	132.26	9	PKiKP	PKiKP	01 35 13.1	-0.5		
P51A	Williamsport comp=Z,4µm,18.0s	132.27	355	IAMs_20	IAMs_20	02 44 50.6			
P40A	Paris comp=Z,4µm,20.0s	132.34	4	IAMs_20	IAMs_20	02 37 25.1			
P43A	Skaggs, Pawnee comp=Z,4µm,21.0s	132.34	1	IAMs_20	IAMs_20	02 38 18.2			
W18A	Petrified Fore baz=331	132.34	24	PKiKP	PKPdf	01 35 13.4	+0.4		
P49A	Miami Univ. Ec comp=Z,5µm,20.0s	132.35	356	IAMs_20	IAMs_20	02 39 38.6			
RIB01	Linhares ES	132.36	251	eP	PKiKP	01 35 13.9	-0.3		
P46A	Rosedale comp=Z,4µm,20.0s	132.37	359	IAMs_20	IAMs_20	02 38 49.0			
P46A	Rosedale baz=1.4	132.37	359	P	PKPdf	01 35 12.4	-0.3		
P48A	Milroy comp=Z,4µm,21.0s	132.46	357	IAMs_20	IAMs_20	02 39 33.6			
P48A	Milroy baz=3.7	132.46	357	P	PKPdf	01 35 11.2	-1.7		
P48A	baz=3.7			P	PKPdf	01 35 11.2	-1.7		
NBPN	Ponto Novo - B	132.55	263	eP	PKPdf	01 35 13.7	0.0		
R32A	Long Quarter, baz=346	132.56	11	P	PKPdf	01 35 13.3	+0.1		
CBN	Corbin Frederi comp=Z,3µm,19.0s	132.68	348	IAMs_20	IAMs_20	02 40 25.0			
Q52A	Bidwell comp=Z,4µm,22.0s	132.70	354	IAMs_20	IAMs_20	02 46 46.1			
Q51A	Peebles comp=Z,3µm,21.0s	132.75	355	IAMs_20	IAMs_20	02 40 00.2			
Q51A	Peebles baz=6.5	132.75	355	P	PKPdf	01 35 13.1	-0.3		
Q51A	baz=6.5			P	PKPdf	01 35 13.1	-0.3		
S61A	Accomac comp=Z,3µm,20.0s	132.82	346	IAMs_20	IAMs_20	02 45 00.7			
R58B	Mineral comp=Z,3µm,22.0s	133.02	349	IAMs_20	IAMs_20	02 46 45.8			
Q44A	Meyer Farm, Va comp=Z,5µm,19.0s	133.09	1	IAMs_20	IAMs_20	02 46 57.0			
SJMB	Sao Joao De Ma	133.17	252	eP	PKiKP	01 35 16.0	+0.1		
OLIL	Olney comp=Z,3µm,19.0s	133.26	360	IAMs_20	IAMs_20	02 35 31.6			
R53A	Hurricane comp=Z,4µm,21.0s	133.29	353	IAMs_20	IAMs_20	02 46 15.7			
SLM	Saint Louis comp=Z,4µm,22.0s	133.32	2	IAMs_20	IAMs_20	02 38 31.2			
S57A	Dark Hollow, R comp=Z,3µm,18.0s	133.41	350	IAMs_20	IAMs_20	02 43 46.1			
S57A	Dark Hollow, R baz=13	133.41	350	P	PKiKP	01 35 15.4	-0.6		
S57A	baz=13			P	PKiKP	01 35 15.4	-0.6		
R40A	Maddies Statio comp=Z,3µm,21.0s	133.56	4	IAMs_20	IAMs_20	02 40 11.2			
R40A	Maddies Statio baz=354	133.56	4	P	PKPdf	01 35 13.8	-1.2		
R50A	Paris comp=Z,3µm,21.0s	133.57	356	IAMs_20	IAMs_20	02 43 35.9			
T60A	Surry comp=Z,2µm,19.0s	133.57	347	IAMs_20	IAMs_20	02 41 17.7			
R49A	Shelbyville comp=Z,3µm,21.0s	133.61	357	IAMs_20	IAMs_20	02 43 02.0			
R49A	Shelbyville baz=4.2	133.61	357	P	PKPdf	01 35 14.2	-0.8		
R49A	baz=4.2			P	PKPdf	01 35 14.2	-0.8		
214A	Organ Pipe Nat baz=326	133.66	29	PKiKP	PKPdf	01 35 16.0	+0.6		
WCI	Wyandotte Cave	133.73	358		PKPdf	01 35 13.2	-2.1		
WCI	Wyandotte Cave comp=Z,6	133.73	358	PKiKP	PKiKP	01 35 16.2	-0.4		
WCI	Wyandotte Cave	133.73	358	PKIKP	PKPdf	01 35 13.2	-2.1		
ANMO	Albuquerque	133.73	21	PKPdf	PKPdf	01 35 14.5	-1.1		
ANMO	Albuquerque baz=335	133.73	21	PKiKP	PKiKP	01 35 16.5	-0.5		
ANMO	Albuquerque baz=335	133.73	21	P	PKPdf	01 35 14.6	-1.1		
ANMO	Albuquerque	133.73	21	PKIKP	PKPdf	01 35 14.5	-1.1		
S54A	Dingess, Beckl comp=Z,4µm,18.0s	133.73	352	IAMs_20	IAMs_20	02 39 59.5			
BBSR	BB Station comp=Z,3µm,19.0s	133.77	332	IAMs_20	IAMs_20	02 38 46.6			
CCM	Cathedral Cave	133.86	3		PKPdf	01 35 14.9	-0.6		
CCM	Cathedral Cave comp=Z,3µm,20.0s	133.86	3	IAMs_20	IAMs_20	02 30 29.2			
CCM	Cathedral Cave baz=356	133.86	3	PKiKP	PKPdf	01 35 15.9	+0.4		
CCM	Cathedral Cave	133.86	3	PKIKP	PKPdf	01 35 14.9	-0.6		
CCM	comp=Z,3µm,20.0s			MLR	MLR				
T59A	Double "B" Far comp=Z,3µm,19.0s	133.91	348	IAMs_20	IAMs_20	02 32 16.5			
FVM	French Village comp=Z,3µm,19.0s	133.97	2	IAMs_20	IAMs_20	02 42 18.3			
USIN	University of comp=Z,5µm,22.0s	134.03	359	IAMs_20	IAMs_20	02 47 04.9			
S39A	Bolivar comp=Z,3µm,20.0s	134.06	6	IAMs_20	IAMs_20	02 39 58.6			
S51A	Beattyville comp=Z,4µm,22.0s	134.15	355	IAMs_20	IAMs_20	02 38 22.2			
BLA	Blacksburg comp=Z,2µm,19.0s	134.19	351	IAMs_20	IAMs_20	02 44 00.6			
BLA	Blacksburg baz=11	134.19	351	PKiKP	PKPdf	01 35 16.4	+0.1		
T57A	Hurt comp=Z,3µm,20.0s	134.21	350	IAMs_20	IAMs_20	02 44 08.2			
T57A	Hurt baz=12	134.21	350	P	PKPdf	01 35 15.6	-0.6		
T57A	baz=12			P	PKPdf	01 35 15.6	-0.6		
SIUC	Southern Illin comp=Z,3µm,20.0s	134.27	1	IAMs_20	IAMs_20	02 42 40.3			
S44A	Carbondale comp=Z,3µm,21.0s	134.29	1	IAMs_20	IAMs_20	02 30 46.8			
S44A	Carbondale baz=359	134.29	1	P	PKPdf	01 35 15.8	-0.6		
TUC	Tucson	134.31	27		PKPdf	01 35 15.3	-1.4		
TUC	Tucson baz=328	134.31	27	PKiKP	PKPdf	01 35 17.1	+0.4		
TUC	Tucson	134.31	27	PKIKP	PKPdf	01 35 15.3	-1.4		
Y22A	Socorro baz=334	134.45	22	P	PKiKP	01 35 18.2	-0.3		
U59A	Littleton comp=Z,3µm,20.0s	134.56	348	IAMs_20	IAMs_20	02 41 22.6			
CGM3	Cape Girardeau comp=Z,4µm,21.0s	134.68	2	IAMs_20	IAMs_20	02 44 02.0			
MGMO	Mountain Grove comp=Z,3µm,18.0s	134.69	4	IAMs_20	IAMs_20	02 43 02.1			
V61A	Roper comp=Z,2µm,21.0s	134.83	347	IAMs_20	IAMs_20	02 36 50.1			
T50A	Nancy comp=Z,5µm,22.0s	134.86	356	IAMs_20	IAMs_20	02 43 37.0			
T50A	Nancy baz=4.7	134.86	356	P	PKPdf	01 35 16.8	-0.7		
T50A	baz=4.7			P	PKPdf	01 35 16.8	-0.7		
T45A	Paducah comp=Z,4µm,19.0s	134.97	0	IAMs_20	IAMs_20	02 40 22.0			
T47A	Sharon Grove comp=Z,4µm,22.0s	134.99	359	IAMs_20	IAMs_20	02 39 04.4			
T47A	Sharon Grove baz=1.6	134.99	359	P	PKPdf	01 35 17.4	-0.3		
U56A	King comp=Z,4µm,21.0s	135.03	351	IAMs_20	IAMs_20	02 48 09.8			
U54A	Nelsons Funny comp=Z,3µm,20.0s	135.06	353	IAMs_20	IAMs_20	02 39 57.6			
PBMO	Poplar Bluff comp=Z,3µm,19.0s	135.17	2	IAMs_20	IAMs_20	02 35 12.0			
U38A	Gravette baz=351	135.18	7	P	PKPdf	01 35 17.3	-0.8		
TZTN	Tazewell comp=Z,3µm,21.0s	135.23	355	IAMs_20	IAMs_20	02 38 18.9			
TZTN	Tazewell baz=6.5	135.23	355	PKiKP	PKPdf	01 35 18.5	+0.3		
AMTX	Amarillo baz=341	135.27	16	PKiKP	PKPdf	01 35 18.7	+0.3		
PARMO	Parma comp=Z,3µm,19.0s	135.31	2	IAMs_20	IAMs_20	02 38 46.7			
V58A	Windy Hill, Pi comp=Z,3µm,19.0s	135.35	349	IAMs_20	IAMs_20	02 47 52.6			
121A	Cookes Peak, D baz=332	135.38	24	PKiKP	PKPdf	01 35 19.3	+0.4		
U49A	Red Boiling Sp comp=Z,6µm,22.0s	135.42	357	IAMs_20	IAMs_20	02 48 31.7			
U49A	Red Boiling Sp baz=3.4	135.42	357	P	PKPdf	01 35 18.2	-0.3		
U40A	Yellville baz=354	135.43	5	P	PKPdf	01 35 17.9	-0.6		
U40A	baz=354			P	PKPdf	01 35 17.9	-0.6		
HICK	Hickman comp=Z,3µm,18.0s	135.44	1	IAMs_20	IAMs_20	02 39 04.3			
DEOK	Depew comp=Z,4µm,19.0s	135.47	10	IAMs_20	IAMs_20	02 43 40.9			
TUL3	Leonard baz=349	135.51	9	PKiKP	PKPdf	01 35 19.1	+0.4		
PVMO	Portageville comp=Z,4µm,20.0s	135.56	2	IAMs_20	IAMs_20	02 38 52.3			
V55A	Taylorsville comp=Z,3µm,20.0s	135.64	352	IAMs_20	IAMs_20	02 32 08.9			
V55A	Taylorsville baz=9.9	135.64	352	P	PKPdf	01 35 19.1	+0.1		
V55A	baz=9.9			P	PKPdf	01 35 19.1	+0.1		
UTMT	University of comp=Z,4µm,19.0s	135.65	1	IAMs_20	IAMs_20	02 39 08.5			
CNNC	Cliffs of the comp=Z,4µm,20.0s	135.65	348	IAMs_20	IAMs_20	02 48 36.6			
CNNC	Cliffs of the baz=15	135.65	348	PKiKP	PKPdf	01 35 19.6	+0.6		
GLAT	Glass comp=Z,3µm,18.0s	135.71	1	IAMs_20	IAMs_20	02 39 06.4			
MSTX	Muleshoe baz=339	135.82	17	PKiKP	PKPdf	01 35 19.9	+0.4		
W59A	Clinton comp=Z,4µm,18.0s	135.83	348	IAMs_20	IAMs_20	02 48 08.4			
LCAR	Lake Charles comp=Z,3µm,21.0s	135.84	3	IAMs_20	IAMs_20	02 40 36.7			
LCAR	Lake Charles baz=356	135.84	3	P	PKPdf	01 35 19.1	-0.2		
PEBM	Pemiscott Bayo comp=Z,4µm,22.0s	135.85	2	IAMs_20	IAMs_20	02 44 46.1			
WVT	Waverly	135.86	359		PKPdf	01 35 18.6	-0.8		
WVT	Waverly comp=Z,4µm,21.0s	135.86	359	IAMs_20	IAMs_20	02 39 24.4			
WVT	Waverly baz=0.6	135.86	359	PKiKP	PKPdf	01 35 19.2	-0.2		
WVT	Waverly baz=0.6	135.86	359	P	PKPdf	01 35 18.9	-0.4		
WVT	Waverly	135.86	359	PKIKP	PKPdf	01 35 18.6	-0.8		
CLTN	Cedars of Leba comp=Z,4µm,22.0s	135.86	358	IAMs_20	IAMs_20	02 48 29.5			
LNXT	Lenox comp=Z,3µm,19.0s	135.88	1	IAMs_20	IAMs_20	02 40 44.7			
V52A	Sevierville comp=Z,4µm,20.0s	135.93	355	IAMs_20	IAMs_20	02 45 59.4			
V52A	Sevierville baz=6.5	135.93	355	P	PKPdf	01 35 19.7	+0.2		
V53A	Saluda comp=Z,4µm,19.0s	136.02	354	IAMs_20	IAMs_20	02 32 17.9			
V53A	Saluda baz=7.7	136.02	354	P	PKPdf	01 35 18.5	-1.2		
V53A	baz=7.7			P	PKPdf	01 35 18.5	-1.2		
V51A	Loudon comp=Z,4µm,19.0s	136.03	355	IAMs_20	IAMs_20	02 46 52.1			
V51A	Loudon baz=5.5	136.03	355	P	PKPdf	01 35 19.5	-0.2		
HALT	Halls comp=Z,3µm,19.0s	136.07	1	IAMs_20	IAMs_20	02 39 37.9			
WMOK	Wichita Mounta baz=345	136.11	13	PKiKP	PKPdf	01 35 20.1	+0.2		
TKL	Tuckaleechee C comp=Z,4µm,19.0s	136.13	355	IAMs_20	IAMs_20	02 48 52.7			
TKL	Tuckaleechee C baz=6.3	136.13	355	P	PKPdf	01 35 19.3	-0.6		
W57A	Gilead comp=Z,5µm,22.0s	136.13	350	IAMs_20	IAMs_20	02 48 00.2			
V48A	Smith Brothers comp=Z,6µm,21.0s	136.23	358	IAMs_20	IAMs_20	02 49 10.2			
V48A	Smith Brothers baz=2.0	136.23	358	P	PKPdf	01 35 19.3	-0.7		
KMSC	Kings Mountain comp=Z,3µm,21.0s	136.35	352	IAMs_20	IAMs_20	02 46 01.8			
KMSC	Kings Mountain baz=9.8	136.35	352	PKiKP	PKPdf	01 35 20.3	0.0		
KMSC	Kings Mountain baz=9.8	136.35	352	P	PKPdf	01 35 20.0	-0.3		
HBAR	Harrisburg comp=Z,4µm,18.0s	136.38	3	IAMs_20	IAMs_20	02 39 53.0			
CPCT	Cooper Cave comp=Z,3µm,19.0s	136.40	356	IAMs_20	IAMs_20	02 46 10.8			
WHAR	Wooly Hollow comp=Z,6µm,21.0s	136.53	5	IAMs_20	IAMs_20	02 49 22.1			
X58A	Rowland comp=Z,3µm,20.0s	136.60	349	IAMs_20	IAMs_20	02 49 09.6			
W50A	Signal Mountai comp=Z,3µm,20.0s	136.70	356	IAMs_20	IAMs_20	02 38 23.7			
BG3	Lake Jocassee comp=Z,3µm,20.0s	136.70	354	IAMs_20	IAMs_20	02 40 49.9			
CASEE	Lake Jocassee baz=7.6	136.70	354	P	PKPdf	01 35 20.5	-0.5		
W52A	Murphy comp=Z,6µm,22.0s	136.70	355	IAMs_20	IAMs_20	02 49 17.9			
W52A	Murphy baz=6.2	136.70	355	P	PKPdf	01 35 20.6	-0.4		
BIRD	Birdtown, Kers comp=Z,3µm,21.0s	136.71	351	IAMs_20	IAMs_20	02 41 21.3			
SWET	Sewanee comp=Z,4µm,20.0s	136.72	357	IAMs_20	IAMs_20	02 45 32.2			
PAULI	Pauline comp=Z,2µm,20.0s	136.73	352	IAMs_20	IAMs_20	02 48 20.9			
HDBT	Hernando Brdge comp=Z,2µm,20.0s	136.80	2	IAMs_20	IAMs_20	02 27 53.3			
MET	Memphis--Engin comp=Z,5µm,19.0s	136.84	2	IAMs_20	IAMs_20	02 46 39.2			
Y60A	Bolivia comp=Z,3µm,19.0s	136.91	348	IAMs_20	IAMs_20	02 43 53.0			
PLAL	Pickwick Lake comp=Z,3µm,21.0s	137.01	360	IAMs_20	IAMs_20	02 39 21.7			
UALR	University of comp=Z,7µm,22.0s	137.04	5	IAMs_20	IAMs_20	02 49 09.5			
MNTX	Cornudas Mount baz=335	137.04	22	PKiKP	PKPdf	01 35 21.8	0.0		
WTFS	Witchita Falls	137.11	13		PKPdf	01 35 20.1	-1.7		
JSC	Jenkinsville comp=Z,4µm,18.0s	137.19	351	IAMs_20	IAMs_20	02 48 50.9			
JSC	Jenkinsville baz=10	137.19	351	P	PKPdf	01 35 21.9	0.0		
X40A	Basin Creek Fa comp=Z,4µm,20.0s	137.28	6	IAMs_20	IAMs_20	02 48 11.9			
Y58A	Scranton comp=Z,3µm,22.0s	137.29	349	IAMs_20	IAMs_20	02 47 08.9			
Y58A	Scranton baz=12	137.29	349	P	PKPdf	01 35 22.3	+0.2		
Y58A	baz=12			P	PKPdf	01 35 22.3	+0.2		
X51A	Calhoun comp=Z,4µm,21.0s	137.30	356	IAMs_20	IAMs_20	02 39 56.7			
X51A	Calhoun baz=4.9	137.30	356	P	PKPdf	01 35 22.4	+0.4		
X51A	baz=4.9			P	PKPdf	01 35 22.4	+0.4		
Y57A	Sumter comp=Z,2µm,20.0s	137.31	350	IAMs_20	IAMs_20	02 45 44.3			
FPAL	Fort Paine comp=Z,4µm,22.0s	137.37	357	IAMs_20	IAMs_20	02 45 16.6			
HODGE	Hodges comp=Z,3µm,20.0s	137.37	353	IAMs_20	IAMs_20	02 46 57.8			
HODGE	Hodges baz=8.7	137.37	353	P	PKPdf	01 35 21.5	-0.7		
OXF	Oxford comp=Z,2µm,19.0s	137.46	1	IAMs_20	IAMs_20	02 39 14.8			
OXF	Oxford	137.46	1	PKiKP	PKPdf	01 35 22.4	+0.1		

baz=358
X48A **Hartselle** 137.52 358 IAMs_20 IAMs_20 02 31 17.4
comp=Z,3µm,22.0s
X48A **Hartselle** 137.52 358 P **PKPdf** **01 35 21.8 -0.7**
baz=1.7
Y52A **Lilburn** 137.93 355 IAMs_20 IAMs_20 02 41 00.5
comp=Z,4µm,22.0s
Y52A **Lilburn** 137.93 355 P **PKPdf** **01 35 23.8 +0.5**
baz=6.1
Y52A P **PKPdf** **01 35 23.8 +0.5**
baz=6.1
ABTX **Abilene, Hawle** 137.94 14 PKiKP **PKPdf** **01 35 23.8 +0.5**
baz=343
SPB **Sao Paulo** 138.04 244 IAMs_20 IAMs_20 02 27 07.8
comp=Z,2µm,20.0s
Y49A **Blount Mountai** 138.09 358 IAMs_20 IAMs_20 02 39 53.5
comp=Z,4µm,22.0s
Y49A **Blount Mountai** 138.09 358 P **PKPdf** **01 35 23.4 -0.1**
baz=2.7
Y45A **Yeager Farm, C** 138.10 2 IAMs_20 IAMs_20 02 46 21.7
comp=Z,4µm,19.0s
PMNB **Patos De Minas** 138.13 251 *e*P **PKPdf** **01 35 23.9 -0.2**
NHSC **New Hope** 138.16 350 IAMs_20 IAMs_20 02 47 00.9
comp=Z,3µm,21.0s
GOGA **Godfrey** 138.32 354 IAMs_20 IAMs_20 02 50 36.9
comp=Z,4µm,19.0s
GOGA **Godfrey** 138.32 354 PKiKP **PKPdf** **01 35 24.0 0.0**
baz=7.0
AY03 **Cochrane** 138.89 196 **PKPdf** **01 35 23.5 -1.1**
LRAL **Lakeview Retre** 138.93 358 IAMs_20 IAMs_20 02 40 58.6
comp=Z,4µm,21.0s
LRAL **Lakeview Retre** 138.93 358 PKiKP **PKPdf** **01 35 25.4 +0.3**
baz=1.8
WHTX **Lake Whitney,** 139.04 12 **PKPdf** **01 35 24.9 -0.4**
WHTX **Lake Whitney,** 139.04 12 PKiKP **PKPdf** **01 35 25.5 +0.1**
baz=346
154A **Montrose** 139.07 353 IAMs_20 IAMs_20 02 51 00.8
comp=Z,6µm,22.0s
152A **Waverly Hall** 139.17 355 IAMs_20 IAMs_20 02 41 17.3
comp=Z,3µm,20.0s
152A **Waverly Hall** 139.17 355 P **PKPdf** **01 35 25.9 +0.3**
baz=5.3
146A **Union** 139.34 1 IAMs_20 IAMs_20 02 46 22.5
comp=Z,4µm,22.0s
257A **Skidaway Islan** 139.41 351 IAMs_20 IAMs_20 02 42 23.9
comp=Z,3µm,18.0s
TMAB **Tom-Au,PA,Br** 139.59 276 *e*P **PKPdf** **01 35 26.0 -0.8**
BB19B **Bebedouro** 139.61 247 *e*P **PKiKP** **01 35 28.3 -0.7**
255A **Hazlehurst** 139.67 352 IAMs_20 IAMs_20 02 41 47.7
comp=Z,3µm,21.0s
VBMS **Vicksburg** 139.71 3 PKiKP **PKPdf** **01 35 26.5 0.0**
baz=356
NATX **Nacogdoches** 139.75 8 PKiKP **PKPdf** **01 35 26.8 +0.1**
baz=350
SMTB **Santa Maria do** 139.77 266 *e*P **PKPdf** **01 35 25.5 -1.6**
TXAR **Lajitas Array** 139.80 21 PKhKP PKPpre 01 35 19.1
comp=Z,2.5nm,0.8s,baz=297,slow=1.1,SNR=19
TXAR PP **PP** **01 38 22.8 +1.6**
comp=Z,4.1nm,0.9s,baz=334,slow=4.6,SNR=4.1
TXAR SKKPbc SKKPbc 01 47 22.6 -13
comp=Z,0.9nm,1.0s,baz=169,slow=10,SNR=4.3
JCT **Junction City** 139.94 16 PKiKP **PKPdf** **01 35 27.3 +0.2**
baz=342
250A **Grady** 139.96 357 IAMs_20 IAMs_20 02 46 60.0
comp=Z,4µm,20.0s
BDFB **Brasilia** 139.98 256 PKhKP PKPpre 01 35 22.8
comp=Z,3.5nm,0.9s,baz=95,slow=21,SNR=2.5
FRTB **Fartura** 139.99 243 *e*P **PKPdf** **01 35 27.5 +0.2**
PLTB **Pedras Altas** 140.18 229 *e*P **PKPdf** **01 35 27.5 +0.1**
435B **Jarrell** 140.18 13 PKiKP **PKPdf** **01 35 27.2 -0.3**
baz=346
COYC **Coyhaique** 140.27 198 **PKPdf** **01 35 26.5 -0.6**
COYC **Coyhaique** 140.27 198 IAMs_20 IAMs_20 02 34 24.1
comp=Z,3µm,20.0s
TIGA **Tifton** 140.29 354 IAMs_20 IAMs_20 02 41 16.9
comp=Z,3µm,21.0s
TIGA **Tifton** 140.29 354 PKiKP **PKPdf** **01 35 27.5 -0.1**
baz=7.1
352A **Blakely** 140.37 356 IAMs_20 IAMs_20 02 46 49.0
comp=Z,4µm,20.0s
456A **Hilliard** 140.79 351 IAMs_20 IAMs_20 02 37 44.4
comp=Z,2µm,18.0s
BRAL **Brewton** 140.79 358 IAMs_20 IAMs_20 02 46 58.0
comp=Z,5µm,21.0s
ITAB **Concordia** 140.94 236 *e*P **PKPdf** **01 35 29.4 +0.5**
451A **Vernon** 141.28 357 IAMs_20 IAMs_20 02 50 18.2
comp=Z,5µm,21.0s
ITRB **Iturama** 141.57 249 *e*P **PKiKP** **01 35 31.9 -1.2**
553A **Crawfordville** 141.61 355 IAMs_20 IAMs_20 02 48 33.8
comp=Z,5µm,21.0s
PTGB **Pitanga** 141.77 240 *e*P **PKPdf** **01 35 31.1 +0.5**
TRQA **Tornquist** 141.99 215 **PKPdf** **01 35 30.3 -0.2**
TRQA IAMs_20 IAMs_20 02 34 40.9
comp=Z,3µm,19.0s
TRQA **Tornquist** 141.99 215 PKIKP **PKPdf** **01 35 30.3 -0.2**
833A **Chaparral WMA,** 142.09 16 **PKPdf** **01 35 28.7 -2.3**
833A **Chaparral WMA,** 142.09 16 PKiKP **PKPdf** **01 35 31.5 +0.6**
baz=342
656A **Willston** 142.20 352 IAMs_20 IAMs_20 02 48 57.6
comp=Z,3µm,18.0s
UNIS **Unistalda (Bra** 142.55 232 *e*P **PKPdf** **01 35 32.1 +0.4**
TRCB **Terra Rica** 142.86 243 *e*P **PKPdf** **01 35 32.0 -0.5**
DWPF **Disney Wildern** 143.26 350 PKiKP **PKPdf** **01 35 34.0 +1.0**
baz=11
SNDB **Serra Nova Dou** 143.42 261 *e*P **PKPdf** **01 35 32.8 -0.8**
ITQB **Itaqui** 143.46 230 *e*P **PKPdf** **01 35 33.4 +0.2**
ARAG **Araguaiana, MT** 143.61 255 *e*P PKPbc 01 35 32.6 +1.3
GDSD **La Dsirade Is** 143.66 312 IAMs_20 IAMs_20 02 43 44.8
comp=Z,2µm,20.0s
ANBD **Bethesda, Anti** 143.68 314 *e*P PKPab 01 35 29.3 -1.3
AZCA **Azaras, Argent** 143.71 233 *e*P **PKPdf** **01 35 33.5 -0.3**
DVLD **Doverlandia** 143.81 253 *e*P **PKPdf** **01 35 33.9 -0.4**
ABD **La Joyeuse, An** 143.86 313 *e*P PKPbc 01 35 32.7 +0.7
SMRT **St. Maarten** 143.92 317 IAMs_20 IAMs_20 02 42 37.0
comp=Z,2µm,18.0s
PLCA **Paso Flores** 144.00 203 PKP PKPbc 01 35 31.7 -0.1
comp=Z,13nm,1.1s,baz=180,slow=4.0,SNR=9.8
PLCA **Paso Flores** 144.00 203 *e*P **PKPdf** **01 35 33.6 -0.4**
MAGL **Barre de l'ile** 144.05 312 IAMs_20 IAMs_20 02 37 13.2
comp=Z,2µm,19.0s
060A **Indiantown** 144.10 348 IAMs_20 IAMs_20 02 50 39.3
comp=Z,4µm,19.0s
GDHS **Morne Mazeau,** 144.19 313 IAMs_20 IAMs_20 02 51 55.6
comp=Z,3µm,20.0s
MLYT **Lee's Yard** 144.20 314 *e*P **PKiKP** **01 35 37.4 -1.1**
CBE **Ff, Capester** 144.21 312 *e*P **PKPab** **01 35 30.6 -2.1**
SABA **Saba** 144.33 316 IAMs_20 IAMs_20 02 37 55.9
comp=Z,2µm,21.0s
BBGH **Gun Hill** 144.43 306 IAMs_20 IAMs_20 02 44 04.2
comp=Z,5µm,21.0s
RPRD **Ribas do Rio P** 144.45 246 *e*P **PKPdf** **01 35 34.7 -0.6**
ILAM **Ilet Lapin Mar** 144.48 310 *e*P PKPbc 01 35 34.4 +0.5
SVN **Savane Anatole** 144.66 310 IAMs_20 IAMs_20 02 50 47.7
comp=Z,2µm,21.0s
SVN **Savane Anatole** 144.66 310 *e*P PKPbc 01 35 34.8 +0.2
H05S1 **Guadeloupe/Mar** 144.67 309 PKP **PKPab** **01 35 34.4 0.0**
SNR=6.9
MPOM **Morne Pois Mar** 144.67 310 **PKPab** **01 35 33.2 -1.2**
MPOM **Morne Pois Mar** 144.67 310 *e*P **PKPab** **01 35 32.9 -1.5**
FDF **Fort de France** 144.72 310 IAMs_20 IAMs_20 02 50 50.1
comp=Z,3µm,20.0s
FDF **Fort de France** 144.72 310 *e*P PKPbc 01 35 34.8 +0.1
BIM **Bigot** 144.79 310 IAMs_20 IAMs_20 02 50 53.1
comp=Z,2µm,19.0s
BIM **Bigot** 144.79 310 *e*P PKPbc 01 35 35.0 +0.1
MECA **Mercedes** 144.82 230 *e*P PKPbc 01 35 34.7 0.0
AMBA **Amambai (Brazi** 144.88 242 *e*P PKPbc 01 35 35.5 +0.4
H06N1 **SOCORRO T-PHAS** 144.97 40 PKP **PKPdf** **01 35 36.3 +0.1**
SLBI **Saint Lucia, B** 145.02 309 *e*P **PKPbc** **01 35 35.0 -0.6**
H06S1 **SOCORRO T** 145.08 40 PKPbc **PKPdf** **01 35 36.5 +0.1**
SNR=13
MALB **Monte Alegre** 145.55 279 *e*P **PKPab** **01 35 38.5 +0.7**
CPUP **Villa Florida** 145.55 235 PKPbc **PKPdf** **01 35 35.4 -1.7**
comp=Z,89nm,1.0s,baz=120,slow=4.2,SNR=70
CPUP **Villa Florida** 145.55 235 *e*P **PKPab** **01 35 37.6 +0.2**
HUMP **Col San Antoni** 145.68 320 IAMs_20 IAMs_20 02 42 03.1
comp=Z,2µm,22.0s
SVB **Belmont** 145.69 308 *e*P **PKPdf** **01 35 33.3 -4.3**
GCPR **Guaynabo City** 145.71 320 IAMs_20 IAMs_20 02 41 57.7
comp=Z,2µm,19.0s
SJG **San Juan** 145.89 320 **PKPdf** **01 35 37.2 -0.6**
SJG **San Juan** 145.89 320 IAMs_20 IAMs_20 02 44 12.8
comp=Z,2µm,20.0s
SJG **San Juan** 145.89 320 PKP2 **PKPdf** **01 35 37.2 -0.6**
SJG **San Juan** 145.89 320 PKPbc **PKPdf** **01 35 37.6 -0.2**
comp=Z,58nm,0.8s,baz=66,slow=5.8,SNR=12

SJG **San Juan** 145.89 320 *e*P **PKPbc** **01 35 38.2 -0.2**
RVDE **Rio Verde (Bra** 145.94 248 *e*P **PKPdf** **01 35 38.0 +0.1**
IGPR **InterUniversit** 145.97 320 IAMs_20 IAMs_20 02 37 07.9
comp=Z,2µm,19.0s
SCCA **San Cayetano,** 146.02 232 *e*P **PKPab** **01 35 39.7 +0.6**
ANTJ **Antonio Joao (** 146.07 243 *e*P **PKPdf** **01 35 38.0 0.0**
CELP **Cerrillos** 146.19 321 IAMs_20 IAMs_20 02 38 36.5
comp=Z,1µm,18.0s
PP1B **Ponte de Pedra** 146.20 251 *e*P **PKPbc** **01 35 39.7 +0.3**
AGPR **Aguadilla, PR** 146.22 322 IAMs_20 IAMs_20 02 42 06.2
comp=Z,2µm,19.0s
AQDB **Aquidauana** 146.26 245 *e*P **PKPbc** **01 35 39.3 -0.2**
GCMP **Grenada, Carri** 146.29 307 *e*P **PKPdf** **01 35 37.7 -0.8**
MLPR **Magueyes Islan** 146.56 321 **PKPdf** **01 35 39.0 +0.1**
MLPR IAMs_20 IAMs_20 02 42 29.2
comp=Z,2µm,18.0s
CRPR **Cabo Rojo, PR** 146.57 321 IAMs_20 IAMs_20 02 48 51.5
comp=Z,2µm,21.0s
GRHS **Sauteurs** 146.61 307 *e*P **PKPdf** **01 35 38.7 -0.4**
GRGR **Grenville** 146.68 307 IAMs_20 IAMs_20 02 37 50.7
comp=Z,2µm,21.0s
GRGR **Grenville** 146.68 307 *e*P **PKPdf** **01 35 38.0 -1.3**
GRGR **Grenville** 146.68 307 *e*P **PKPdf** **01 35 40.0 +0.7**
ESFA **Espinillo Form** 147.09 236 *e*P **PKPbc** **01 35 41.0 -0.8**
BDQN **Bodoquena, MS** 147.21 245 *e*P **PKPdf** **01 35 40.1 +0.2**
SALV **Santo Antonio** 147.28 253 *e*P **PKPdf** **01 35 41.0 +0.8**
TRN **Trinidad (W)** 147.32 305 *e*P **PKPbc** **01 35 43.5 +0.9**
NPGB **Novo Progresso** 147.36 270 *e*P **PKPdf** **01 35 41.0 +0.5**
ITTB **Itaituba** 147.43 275 *e*P **PKPdf** **01 35 40.5 0.0**
PANT **Pantanal (Braz** 147.49 248 *e*P **PKPdf** **01 35 41.0 +0.5**
TPP **Pointe-a-Pierr** 147.55 304 *e*P **PKPab** **01 35 44.7 -0.7**
VACA **Villa Angela C** 147.58 230 *e*P **PKPdf** **01 35 41.6 +1.2**
NBRS **Nobres** 147.59 256 *e*P **PKPdf** **01 35 41.6 +0.8**
MURT **Porto Murtinho** 147.59 242 *e*P **PKPdf** **01 35 41.2 +0.6**
TICA **Tres Isletas** 147.96 232 *e*P **PKPdf** **01 35 42.4 +1.4**
POCN **Pocone** 148.13 252 *e*P **PKPbc** **01 35 43.3 -1.5**
CAMR **Camarioca** 148.16 348 IAMs_20 IAMs_20 02 45 11.9
comp=Z,5µm,19.0s
SDDR **Presa de Saban** 148.18 328 PKPbc **PKPbc** **01 35 45.0 +0.1**
SDDR IAMs_20 IAMs_20 02 41 02.9
comp=Z,2µm,20.0s
SDDR **Presa de Saban** 148.18 328 *e*P **PKPbc** **01 35 43.8 -1.1**
SOR **Soroa** 148.72 351 IAMs_20 IAMs_20 02 45 27.6
comp=Z,3µm,19.0s
PDRB **Porto dos Gac** 148.75 261 *e*P **PKPdf** **01 35 43.3 +0.6**
PTET **Porto Estrela** 148.76 254 *e*P **PKPdf** **01 35 42.9 +0.2**
CCRS **Cacerres, MT,** 149.08 250 *e*P **PKPdf** **01 35 43.3 +0.2**
GTBY **Guantanamo Bay** 149.15 335 IAMs_20 IAMs_20 02 41 11.6
comp=Z,2µm,20.0s
BBLB **La Banda, Boli** 149.57 247 *e*P **PKPdf** **01 35 45.2 +1.4**
PCRV **Puerto La Cruz** 150.19 307 PKPbc **PKPbc** **01 35 48.9 -1.2**
comp=Z,78nm,0.6s,baz=2.5,slow=2.6,SNR=35
PEL **Peldehue** 150.36 211 IAMs_20 IAMs_20 02 43 44.7
comp=Z,2µm,19.0s
BBRB **Robore, Bolivi** 150.59 247 *e*P **PKPdf** **01 35 46.9 +1.4**
VBST **Vila Bela da S** 151.62 255 *e*P **PKPdf** **01 35 48.4 +1.2**
MTDJ **Mount Denham** 151.64 338 IAMs_20 IAMs_20 02 44 56.1
comp=Z,2µm,20.0s
MTDJ **Mount Denham** 151.64 338 *e*P **PKPab** **01 35 58.0 -3.9**
TEIG **Tepich** 151.71 360 IAMs_20 IAMs_20 02 59 43.1
comp=Z,4µm,19.0s
TEIG **Tepich** 151.71 360 *e*P **PKPbc** **01 35 51.2 -2.3**
FSCY **Frank Sound, G** 151.74 346 IAMs_20 IAMs_20 02 27 45.9
comp=Z,4µm,22.0s
HATO **Hato, Curacao** 152.06 316 IAMs_20 IAMs_20 02 43 14.7
comp=Z,2µm,21.0s
MACA **Manacapuru-AM** 152.09 279 IAMs_20 IAMs_20 02 40 15.7
comp=Z,3µm,19.0s
MACA **Manacapuru-AM** 152.09 279 *e*P **PKPdf** **01 35 48.6 +0.6**
LCO **Las Campanas** 153.54 216 IAMs_20 IAMs_20 02 33 19.8
comp=Z,2µm,18.0s
BAUV **El Baul** 153.58 310 *e*P **PKPdf** **01 35 49.7 -0.4**
SAML **Samuel** 155.18 267 **PKPdf** **01 35 50.0 -2.3**
SAML **Samuel** 155.18 267 IAMs_20 IAMs_20 02 51 48.3
comp=Z,2µm,19.0s
SAML **Samuel** 155.18 267 PKIKP **PKPdf** **01 35 50.0 -2.3**
SAML **Samuel** 155.18 267 *e*P **PKPdf** **01 35 53.1 +0.8**
SAML **Samuel** 155.18 267 *e*P **PKPdf** **01 35 53.4 +1.1**
CRJC **Cerrejon, Guaj** 155.48 321 *e*P **PKPdf** **01 35 52.1 -0.8**
SDV **Santo Domingo** 155.53 314 **PKPdf** **01 35 51.0 -2.1**
SDV IAMs_20 IAMs_20 02 38 36.2
comp=Z,2µm,20.0s
SDV **Santo Domingo** 155.53 314 PKP **PKPdf** **01 35 52.0 -1.0**
comp=Z,12nm,0.8s,baz=14,slow=1.7,SNR=11
SDV PKPab **PKPab** **01 36 18.6 -0.1**
comp=Z,53nm,1.1s,baz=63,slow=4.2,SNR=5.8
SDV PP **PP** **01 39 59.1 +4.5**
comp=Z,5.2nm,0.7s,baz=39,slow=10,SNR=3.1
SDV **Santo Domingo** 155.53 314 *e*P **PKPdf** **01 35 51.7 -1.4**
SDV **Santo Domingo** 155.53 314 *e*P **PKPdf** **01 35 51.7 -1.4**
TEFE **Tefe** 156.02 280 *e*P **PKPdf** **01 35 53.0 -0.5**
LVC **Limon Verde** 156.54 230 IAMs_20 IAMs_20 02 50 37.3
comp=Z,1µm,20.0s
LVC **Limon Verde** 156.54 230 PKP **PKPdf** **01 35 55.8 +1.4**
comp=Z,12nm,0.9s,baz=280,slow=3.0,SNR=5.9
LVC PKPab **PKPab** **01 36 23.9 +0.8**
comp=Z,18nm,0.8s,baz=109,slow=5.4,SNR=5.6
LVC PP PP 01 40 14.7 +14
comp=Z,12nm,1.1s,baz=153,slow=7.0,SNR=4.2
LVC **Limon Verde** 156.54 230 *e*P **PKPdf** **01 35 53.4 -1.0**
LL6C **La Loma 6 Bece** 156.71 320 *e*P **PKPdf** **01 35 53.7 -0.7**
SJCC **San Jacinto, C** 157.75 324 *e*P **PKPdf** **01 35 56.5 +0.7**
TGUH **Tegucigalpa,Un** 157.82 357 *e*P **PKPdf** **01 35 51.6 -4.3**
OCAC **Ocana** 157.85 317 *e*P **PKPdf** **01 35 53.2 -2.8**
TAMC **Tame, Arauca** 158.02 311 *e*P **PKPdf** **01 35 55.5 -0.5**
ETMB **Extrema** 158.15 264 *e*P **PKPdf** **01 35 55.5 -0.7**
BARC **Barichara** 158.33 314 *e*P **PKPdf** **01 36 02.1 +4.7**
LCBC **Los crdobas,** 159.28 325 *e*P **PKPdf** **01 36 01.2 +3.7**
BOAB **BOACO BROADBA** 159.28 353 PKPdf **PKPdf** **01 35 55.8 -1.7**
UREC **San Jos de Ur** 159.65 321 *e*P **PKPdf** **01 35 57.6 -0.3**
ACON **Acoyapa** 159.68 351 IAMs_20 IAMs_20 02 51 05.9
comp=Z,2µm,20.0s
ACON **Acoyapa** 159.68 351 *e*P **PKPdf** **01 35 56.0 -1.9**
PTGC **Puerto Gaitan,** 159.70 307 *e*P **PKPdf** **01 35 56.5 -1.6**
PTBC **PUERTO BERRIO** 159.86 316 *e*P **PKPdf** **01 35 57.5 -0.7**
CAPC **Capurgana** 160.01 327 *e*P **PKPdf** **01 35 55.0 -3.4**
APAC **Apartado, Choc** 160.17 324 *e*P **PKPdf** **01 35 60.0 +1.4**
SPBC **San Pablo de B** 160.22 314 *e*P **PKPdf** **01 35 58.1 -0.6**
DBBC **Dabeiba** 160.64 321 *e*P **PKPdf** **01 35 58.8 -0.4**
BCIP **Isla Barro Col** 160.77 334 *e*P **PKPdf** **01 35 57.7 -1.5**
ROSC **El Rosal** 160.95 313 PKP **PKPdf** **01 36 00.0 +0.1**
comp=Z,30nm,0.9s,baz=53,slow=4.0,SNR=18
ROSC PKPab **PKPab** **01 36 42.1 -0.3**
comp=Z,38nm,1.0s,baz=316,slow=4.8,SNR=2.8
ROSC **El Rosal** 160.95 313 *e*P **PKPdf** **01 36 01.5 +1.6**
CVER **Cruz Verde, Cu** 160.99 311 *e*P **PKPdf** **01 35 57.9 -2.2**
JTS **Las Juntas de** 161.29 350 *e*P **PKPdf** **01 35 59.8 0.0**
TBTG **Tabatinga, AM** 161.30 281 *e*P **PKPdf** **01 36 00.1 +0.3**
CBOC **Ciudad Bolivar** 161.40 319 *e*P **PKPdf** **01 35 54.3 -5.8**
HDC **Heredia** 161.40 347 *e*P **PKPdf** **01 35 59.2 -0.8**
GUY2C **Guyana, Caldas** 161.43 316 *e*P **PKPdf** **01 35 59.4 -1.1**
PRAC **Prado** 162.12 311 *e*P **PKPdf** **01 36 00.4 -0.3**
AZU **Azuero** 162.18 333 *e*P **PKPdf** **01 36 00.7 +0.1**
PLMC **San Jos del P** 162.28 317 *e*P **PKPdf** **01 36 01.1 +0.3**
GMAL **Guarumal, Vera** 162.62 336 *e*P **PKPdf** **01 36 00.5 -0.7**
CACAO **El Cacao, Vera** 162.84 334 *e*P **PKPdf** **01 36 04.1 +2.8**
PIZC **Pizarro, Choco** 162.95 320 *e*P **PKPdf** **01 36 01.4 0.0**
YOTC **Yotoco, Valle** 162.99 315 *e*P **PKPdf** **01 36 00.1 -1.5**
GARC **Garzon, Huila** 163.57 309 *e*P **PKPdf** **01 36 01.9 -0.5**
JAMC **Jamundi, Valle** 163.76 314 *e*P **PKPdf** **01 36 01.9 -0.7**
PTLC **Puerto Leguiza** 164.18 301 *e*P **PKPdf** **01 36 00.1 -2.5**
POPC **Popayan, Colom** 164.23 312 *e*P **PKPdf** **01 36 01.9 -1.1**
BBAC **Balboa, Cauca** 165.00 312 *e*P **PKPdf** **01 36 02.1 -1.5**
GCUF **Volcan Galeras** 165.60 310 *e*P **PKPdf** **01 36 03.5 -0.9**
BONI **La Bonita** 166.24 308 *e*P **PKPdf** **01 36 04.1 -0.6**
TULM **Tulcn-Chalpat** 166.26 310 *e*P **PKPdf** **01 36 03.4 -1.6**
OTAV **Otavalo** 167.08 310 *e*P **PKPdf** **01 36 04.6 -0.9**
OTAV **Otavalo** 167.08 310 *e*P **PKPdf** **01 36 06.5 +0.9**
PAC1 **Pacto, Paraso** 167.31 311 *e*P **PKPdf** **01 36 03.3 -2.1**
PIAT **Ana Tenorio** 167.69 305 *e*P **PKPdf** **01 36 05.2 -0.8**
NNA **Nana** 168.14 251 PKP **PKPdf** **01 36 06.3 +0.5**
comp=Z,14nm,0.8s,baz=143,slow=5.1,SNR=7.1
NNA PKPab **PKPab** **01 37 14.6 +0.8**
comp=Z,15nm,1.0s,baz=92,slow=15,SNR=2.2
NNA **Nana** 168.14 251 *e*P **PKPdf** **01 36 02.9 -2.9**
COHC **Cochancay** 169.34 302 *e*P **PKPdf** **01 36 02.1 -4.4**
ATAH **Atahualpa** 170.14 276 PKP **PKPdf** **01 36 08.3 +0.8**
comp=Z,24nm,1.0s,baz=83,slow=1.6,SNR=15
ATAH PKPab **PKPab** **01 37 24.8 +1.6**
comp=Z,9.8nm,1.0s,baz=318,slow=18,SNR=1.4
MCRA **Macar, Loja** 170.88 294 *e*P **PKPdf** **01 36 02.9 -4.6**

SKO 25 01:18:29.4, 41°.13N×20°.84E, h15km, ML1.9, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.04**	**239**	*i*	Pg	Pg	01 18 31.9	-0.3
OHR				*i*	Sg	Sg	01 18 32.7	-1.3
OHR				*e*	Lg	Lg	01 18 32.8	
	comp=N,952nm,0.3s							
OHR				*e*	Lg	Lg	01 18 33.0	
	comp=E,2µm,0.4s							
FNA	**Florina**	**0.53**	**130**	*i*	Pg	Pb	01 18 40.3	-0.1
FNA				*i*	Sg	Sb	01 18 48.2	+0.2
SKO	**Skopje**	**0.95**	**28**	*e*	Pg	Pn	01 18 48.1	-0.1
SKO				*e*	Sg	Sn	01 19 02.6	+1.1
STIP	**Stip**	**1.16**	**60**	*e*	Pg	Pg	01 18 55.3	+3.6
STIP				*e*	Sg	Sg	01 19 14.5	+7.7
GRG	**Griva**	**1.19**	**98**	*i*	Pg	Pg	01 18 52.2	-0.2
GRG				*i*	Sg	Sg	01 19 09.3	+1.3
VAY	**Valandovo**	**1.32**	**81**	*e*	Pg	Pg	01 18 54.7	-0.1
VAY				*e*	Sg	Sg	01 19 14.4	+2.5
VAY				*e*	Lg	Lg	01 19 14.8	
	comp=N,2.4nm,0.5s							
VAY				*e*	Lg	Lg	01 19 14.8	
	comp=E,3.2nm,0.6s							
KNT	**Kendrikon**	**1.56**	**88**	*e*	Pg	Pg	01 18 59.7	+0.5
KNT				*e*	Sg	Sg	01 19 21.0	+1.6

ROM 25 01:24:27.0±0.1, 43°.024N±0°.003×13°.015E±0°.004, h8km, ML0.9/4, 1C, Error ellipse: s-maj=0.3km s-min=0.1km az=4.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.06**	**77**	P		Pg	01 24 28.8	0.0
FDMO				S		Sg	01 24 30.3	+0.2
FEMA	**Monte Fema**	**0.07**	**158**	P		Pg	01 24 29.0	0.0
FEMA				S		Sg	01 24 30.4	0.0
CESI	**CESI - Serrava**	**0.08**	**257**	↑P		Pg	01 24 29.7	+0.5
CESI				S		Sg	01 24 31.4	+0.7
CESI				AML		AML		
	comp=E,91µm,0.8s							
CESI				AML		AML		
	comp=N,114µm,0.3s							
CSP1	**Cessapalombo**	**0.15**	**64**	P		Pg	01 24 30.9	+0.5
CSP1				S		Sg	01 24 33.8	+1.2
MC2	**Monte Cornacci**	**0.17**	**131**	P		Pg	01 24 31.2	+0.6
MC2				S		Sg	01 24 34.5	+1.4
NRCA	**Norcia**	**0.20**	**159**	P		Pg	01 24 31.5	+0.4
NRCA				S		Sg	01 24 35.2	+1.2
NRCA				AML		AML		
	comp=E,54µm,1.4s							
NRCA				AML		AML		
	comp=E,54µm,0.6s							
NRCA				AML		AML		
	comp=N,61µm,1.0s							
T1221	**Campello sul C**	**0.20**	**217**	P		Pg	01 24 32.0	+0.9
T1221				S		Sg	01 24 35.6	+1.6
SNTG	**Esanatoglia**	**0.24**	**347**	P		Pg	01 24 32.6	+0.8
SNTG				S		Sg	01 24 36.4	+1.4
GUMA	**Gualdo di Mace**	**0.24**	**81**	P		Pg	01 24 32.4	+0.7
GUMA				S		Sg	01 24 36.9	+1.9
MMO1	**Montemonaco**	**0.26**	**119**	P		Pg	01 24 32.8	+0.5
MMO1				S		Sg	01 24 37.1	+1.4
ASSB	**Assisi San Ben**	**0.26**	**274**	P		Pg	01 24 32.8	+0.6
ASSB				S		Sg	01 24 37.2	+1.5
EL6	**Elcito**	**0.31**	**12**	P		Pg	01 24 34.0	+0.8
EL6				S		Sb	01 24 39.3	-0.9

ROM 25 01:25:36.3±0.1, 42°.806N±0°.003×12°.758E±0°.004, h10km, ML0.8/6, 3D, Error ellipse: s-maj=0.3km s-min=0.2km az=277.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1221	**Campello sul C**	**0.09**	**50**	P		Pg	01 25 39.1	+0.3
T1221				S		Sg	01 25 41.0	+0.5
MOMA	**Monte Martano**	**0.14**	**269**	||P	Pg	01 25 39.7	+0.2
MOMA				S		Sg	01 25 42.6	+0.8
MOMA				AML		AML		
	comp=E,35µm,1.4s							
MOMA				AML		AML		
	comp=N,39µm,1.6s							
MOMA				AML		AML		
	comp=E,35µm,0.6s							
MOMA				AML		AML		
	comp=N,39µm,0.4s							
GAVE	**Gavelli**	**0.15**	**138**	P		Pg	01 25 40.1	+0.4
GAVE				S		Sg	01 25 43.0	+0.9
GAVE				AML		AML		
	comp=E,86µm,1.3s							
GAVE				AML		AML		
	comp=N,94µm,1.3s							
CESI	**CESI - Serrava**	**0.23**	**28**	P		Pg	01 25 41.8	+0.8
CESI				S		Sg	01 25 45.7	+1.5
ARRO	**Arrone**	**0.23**	**179**	P		Pg	01 25 41.9	+1.0
ARRO				S		Sg	01 25 45.8	+1.8
CESX	**Cesi**	**0.24**	**214**	P		Pg	01 25 41.8	+0.7
CESX				S		Sg	01 25 46.1	+1.8
ASSB	**Assisi San Ben**	**0.25**	**343**	P		Pg	01 25 42.0	+0.7
ASSB				S		Sg	01 25 46.7	+1.9
NRCA	**Norcia**	**0.26**	**84**	||P	Pg	01 25 42.2	+0.5
NRCA				S		Sb	01 25 46.7	-1.2
NRCA				AML		AML		
	comp=E,42µm,1.1s							
NRCA				AML		AML		
	comp=N,32µm,1.5s							
NRCA				AML		AML		
	comp=N,32µm,0.5s							
LNSS	**Leonessa**	**0.29**	**134**	P		Pg	01 25 42.5	+0.3
LNSS				S		Sb	01 25 47.8	-0.9
FDMO	**Fiordimonte**	**0.33**	**46**	P		Pg	01 25 43.5	+0.5
FDMO				S		Sb	01 25 49.0	-0.9
MMO1	**Montemonaco**	**0.43**	**77**	||P	Pg	01 25 45.2	+0.4
MMO1				S		Sb	01 25 52.0	-0.6
MGAB	**Montegabbione**	**0.49**	**283**	P		Pb	01 25 46.4	-0.6

*IDC **25** 01:36:12.8±1.8, 8°.10N×91°.82E, h0km, mb3.8/6, mbtmp3.9/7, ML4.7/1, Error ellipse: s-maj=52.9km s-min=26.1km az=56.0*

ISC 25 01:36:16.7±1.6, 8°.1N±0°.2×91°.9E±0°.2, h25km, n13, σ0°.32/7, mb3.8/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.34**	**33**	Pn		**Pn**	**01 39 10.8**	**-0.2**
	1.5nm,0.3s,baz=223,slow=16,SNR=8.3 2.7nm,0.4s							
H08S3	**Diego Garcia H**	**24.88**	**231**	T		T	02 08 12.6	
	baz=51,slow=74,SNR=18							
H08S2	**Diego Garcia H**	**24.89**	**231**	T		T	02 08 07.9	
	baz=51,slow=74,SNR=6.9							
H08S1	**Diego Garcia H**	**24.90**	**231**	T		T	02 08 01.8	
	baz

*AEIC **25** 01:36:25.3±1.4,56°.0N±0°.1×149°.7W±0°.1,h10km±4km, Error ellipse: s-maj=16.1km s-min=9.2km az=165.0*

ISC 25 01:36:21.1±1.3,56°.05N±0°.09×149°.80W±0°.06,h10km, n101,σ0§98/102,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.25**	**303**		**Pn**	**01 36 57.9**	**-0.4**
OHAK					**Sn**	**01 37 24.2**	**-2.0**
OHAK	**Old Harbor**	**2.25**	**303**	P	**Pn**	**01 36 57.9**	**-0.4**
	baz=121						
OHAK				S	**Sn**	**01 37 24.2**	**-2.0**
	baz=121						
KDAK	**Kodiak Island**	**2.31**	**320**		**Pn**	**01 36 59.5**	**+0.4**
KDAK	**Kodiak Island**	**2.31**	**320**		**Sn**	**01 37 26.8**	**-0.8**
KDAK	**Kodiak Island**	**2.31**	**320**	S	**Sn**	**01 37 26.8**	**-0.8**
	baz=138						
SII	**Sitkinak Islan**	**2.49**	**284**		**Sn**	**01 37 30.5**	**-1.6**
SII	**Sitkinak Islan**	**2.49**	**284**	S	**Sn**	**01 37 30.5**	**-1.6**
	baz=101						
Q20K	**Shuyak Island**	**2.93**	**332**	P	**Pn**	**01 37 08.2**	**+0.6**
	baz=150						
Q20K				S	**Sn**	**01 37 42.9**	**+0.1**
	baz=150						
SYI	**Shuyak Island**	**2.93**	**332**		**Pn**	**01 37 08.0**	**+0.4**
SYI					**Sn**	**01 37 42.9**	**+0.2**
SYI	**Shuyak Island**	**2.93**	**332**	IAML		01 37 44.0	
	comp=E,59nm,1.1s						
SYI				IAML		01 37 46.1	
	comp=N,48nm,0.8s						
R18K	**Karluk**	**2.97**	**303**		**Pn**	**01 37 08.2**	**-0.1**
R18K	**Karluk**	**2.97**	**303**	IAML		01 37 52.5	
	comp=N,90nm,0.8s						
R18K				IAML		01 38 04.0	
	comp=E,108nm,1.1s						
R18K	**Karluk**	**2.97**	**303**	P	**Pn**	**01 37 09.0**	**+0.8**
	baz=120						
Q19K	**Cape Douglas,**	**3.55**	**326**		**Pn**	**01 37 17.7**	**+1.4**
Q19K					**Sn**	**01 37 56.3**	**-2.0**
Q19K	**Cape Douglas,**	**3.55**	**326**	P	**Pn**	**01 37 17.7**	**+1.4**
	baz=143						
Q19K				S	**Sn**	**01 37 56.3**	**-2.0**
	baz=143						
KAHG	**Katmai Hook Gl**	**3.56**	**316**		**Pn**	**01 37 17.6**	**+1.3**
CNPM	**China Poot**	**3.57**	**348**		**Pn**	**01 37 16.7**	**+0.2**
CNPM					**Sn**	**01 37 58.3**	**-0.4**
CNPM	**China Poot**	**3.57**	**348**	IAML		01 38 15.9	
	comp=E,27nm,1.0s						
ACHA	**Angle Creek He**	**3.71**	**308**		**Pn**	**01 37 19.3**	**+0.9**
BRSE	**Bradley Lake S**	**3.74**	**353**		**Pn**	**01 37 18.6**	**-0.1**
BRSE					**Sn**	**01 38 02.3**	**-0.5**
BRSE	**Bradley Lake S**	**3.74**	**353**	P	**Pn**	**01 37 18.6**	**-0.1**
	baz=172						
BRSE				S	**Sn**	**01 38 02.3**	**-0.5**
	baz=172						
BRLK	**Bradley Lake**	**3.77**	**352**		**Pn**	**01 37 18.9**	**-0.3**
BRLK	**Bradley Lake**	**3.77**	**352**	IAML		01 38 06.4	
	comp=E,44nm,0.9s						
BRLK				IAML		01 38 06.9	
	comp=N,42nm,0.8s						
ANCK	**Angle Creek**	**3.78**	**307**		**Pn**	**01 37 20.7**	**+1.4**
KVTA	**Katmai Vly 10**	**3.79**	**310**		**Pn**	**01 37 21.0**	**+1.5**
KAHC	**Katmai Hardscr**	**3.84**	**315**		**Pn**	**01 37 21.9**	**+1.6**
KAHC	**Katmai Hardscr**	**3.84**	**315**	P	**Pn**	**01 37 21.8**	**+1.6**
	baz=131						
Q23K	**Middleton Isla**	**3.86**	**27**		**Pn**	**01 37 19.3**	**-1.1**
MID	**Middleton Isla**	**3.86**	**27**		**Pn**	**01 37 19.4**	**-1.0**
MID	**Middleton Isla**	**3.86**	**27**	IAML		01 38 27.2	
	comp=E,123nm,1.2s						
MID				IAML		01 39 38.6	
	comp=N,129nm,1.0s						
CNTC	**Contact Creek**	**3.99**	**306**		**Pn**	**01 37 23.1**	**+0.9**
Q17K	**Contact Creek**	**3.99**	**306**	P	**Pn**	**01 37 23.1**	**+0.9**
	baz=122						
P19K	**Oil Pt**	**4.05**	**335**		**Pn**	**01 37 24.3**	**+1.2**
P19K	**Oil Pt**	**4.05**	**335**	IAML		01 38 15.8	
	comp=E,115nm,0.6s						
P19K	**Oil Pt**	**4.05**	**335**	P	**Pn**	**01 37 24.3**	**+1.2**
	baz=152						
P23K	**Montague Islan**	**4.16**	**17**		**Pn**	**01 37 25.0**	**+0.5**
P23K	**Montague Islan**	**4.16**	**17**	P	**Pn**	**01 37 25.0**	**+0.5**
	baz=198						
O20K	**Slope Mountain**	**4.31**	**341**		**Pn**	**01 37 26.9**	**+0.2**
O20K	**Slope Mountain**	**4.31**	**341**	P	**Pn**	**01 37 26.9**	**+0.2**
	baz=158						
IVE	**Iliamna Volcan**	**4.33**	**338**		**Pn**	**01 37 26.8**	**-0.1**
P18K	**Big Mountain,**	**4.44**	**321**		**Pn**	**01 37 28.6**	**+0.3**
P18K	**Big Mountain,**	**4.44**	**321**	P	**Pn**	**01 37 28.7**	**+0.3**
	baz=137						
R16K	**Pilot Point**	**4.53**	**293**		**Pn**	**01 37 30.1**	**+0.5**
R16K	**Pilot Point**	**4.53**	**293**	IAML		01 39 37.1	
	comp=N,74nm,1.1s						
R16K				IAML		01 40 04.2	
	comp=E,78nm,1.1s						
HIN	**Hinchinbrook I**	**4.70**	**20**		**Pn**	**01 37 32.4**	**+0.5**
HIN	**Hinchinbrook I**	**4.70**	**20**	IAML		01 38 27.6	
	comp=N,38nm,0.8s						
HIN				IAML		01 38 30.4	
	comp=E,52nm,0.8s						
P17K	**Kvichak River**	**4.76**	**314**		**Pn**	**01 37 34.2**	**+1.4**
P17K	**Kvichak River**	**4.76**	**314**	P	**Pn**	**01 37 34.2**	**+1.4**
	baz=129						
EYAK	**Cordova Ski Ar**	**4.99**	**24**		**Pn**	**01 37 36.6**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.99**	**24**	P	**Pn**	**01 37 36.6**	**+0.7**
	baz=206						
RAGM	**Ragged Mountai**	**5.12**	**30**		**Pn**	**01 37 38.4**	**+0.6**
P16K	**Nushagak River**	**5.33**	**308**		**Pn**	**01 37 41.5**	**+1.0**
P16K	**Nushagak River**	**5.33**	**308**	P	**Pn**	**01 37 41.5**	**+1.0**
	baz=121						
O17K	**Koliganek Bris**	**5.39**	**317**		**Pn**	**01 37 42.3**	**+0.9**
O17K	**Koliganek Bris**	**5.39**	**317**	P	**Pn**	**01 37 42.3**	**+0.9**
	baz=131						
BERG	**Berg Lake**	**5.42**	**34**		**Pn**	**01 37 42.3**	**+0.5**
KNK	**Knik Glacier**	**5.43**	**7**		**Pn**	**01 37 43.8**	**+1.8**
KNK	**Knik Glacier**	**5.43**	**7**	P	**Pn**	**01 37 43.7**	**+1.8**
	baz=188						
SNH	**Sunshine Point**	**5.55**	**39**		**Pn**	**01 37 44.0**	**+0.3**
STLK	**Strandline Lak**	**5.57**	**350**		**Pn**	**01 37 44.5**	**+0.5**
BMRM	**Bremner River**	**5.63**	**27**		**Pn**	**01 37 45.5**	**+0.7**
BMRM	**Bremner River**	**5.63**	**27**	P	**Pn**	**01 37 45.5**	**+0.7**
	baz=210						
N18K	**Kilae Creek**	**5.64**	**328**		**Pn**	**01 37 45.1**	**+0.2**
N18K	**Kilae Creek**	**5.64**	**328**	P	**Pn**	**01 37 45.1**	**+0.2**
	baz=143						
O16K	**Kokwok River B**	**5.68**	**312**		**Pn**	**01 37 46.4**	**+1.1**
GHO	**Glory Hole Cre**	**5.76**	**4**		**Pn**	**01 37 47.4**	**+0.8**
KLU	**Klutina**	**5.82**	**19**		**Pn**	**01 37 48.2**	**+0.9**
KLU	**Klutina**	**5.82**	**19**	P	**Pn**	**01 37 48.2**	**+0.9**
	baz=201						
BARK	**Barkley Ridge**	**5.83**	**38**			**01 37 48.1**	**+0.6**
SCM	**Sheep Creek Mo**	**5.94**	**11**		**Pn**	**01 37 50.4**	**+1.3**
SCM	**Sheep Creek Mo**	**5.94**	**11**	P	**Pn**	**01 37 50.4**	**+1.3**
	baz=193						
SKT	**Skwentna**	**6.02**	**352**	Pn	**Pn**	**01 37 50.0**	**0.0**
N25K	**Chitina, Valde**	**6.19**	**24**		**Pn**	**01 37 53.6**	**+1.0**
N25K	**Chitina, Valde**	**6.19**	**24**	P	**Pn**	**01 37 53.6**	**+1.0**
	baz=208						
GLB	**Gilahina Butte**	**6.24**	**27**		**Pn**	**01 37 53.7**	**+0.5**
KIAG	**Kiagna River**	**6.25**	**36**		**Pn**	**01 37 53.9**	**+0.4**
SAMH	**Samovar Hills**	**6.29**	**46**		**Pn**	**01 37 54.9**	**+1.0**
PTPK	**Patty Peak**	**6.42**	**34**		**Pn**	**01 37 56.6**	**+0.9**
PCA	**Pinnacle**	**6.49**	**47**		**Pn**	**01 37 57.3**	**+0.8**
PINM	**Pinnacle**	**6.49**	**47**	P	**Pn**	**01 37 57.3**	**+0.7**
	baz=235						
BARN	**Barnard Glacie**	**6.58**	**37**		**Pn**	**01 37 58.7**	**+0.7**
CTGM	**Chitina Glacie**	**6.63**	**38**		**Pn**	**01 37 59.0**	**+0.4**
PNL	**Peninsula**	**6.63**	**53**		**Pn**	**01 37 58.9**	**+0.4**
PNL	**Peninsula**	**6.63**	**53**	P	**Pn**	**01 37 58.9**	**+0.4**
	baz=241						
LOGN	**Logan Glacier**	**6.65**	**40**		**Pn**	**01 37 59.3**	**+0.4**
M17K	**Holitna River**	**6.67**	**327**		**Pn**	**01 37 59.6**	**+0.5**
N15K	**Kwethluk River**	**6.84**	**311**		**Pn**	**01 38 02.2**	**+0.9**
M16K	**Timber Creek**	**6.91**	**320**		**Pn**	**01 38 03.2**	**+0.9**
M16K	**Timber Creek**	**6.91**	**320**	P	**Pn**	**01 38 03.2**	**+0.9**
	baz=132						
O29M	**Mount Kennedy**	**7.31**	**50**		**Pn**	**01 38 08.6**	**+0.8**
P29M	**Windy Craggy**	**7.37**	**56**		**Pn**	**01 38 08.8**	**+0.2**
YUK7	**Dusty Glacier**	**7.61**	**49**		**Pn**	**01 38 12.4**	**+0.4**
L14K	**Kuka Creek**	**8.54**	**314**		**Pn**	**01 38 25.4**	**+0.9**
M29M	**Somme Creek**	**8.64**	**37**		**Pn**	**01 38 26.5**	**+0.4**
H18K	**Honhosa River**	**10.04**	**339**	Pn	**Pn**	**01 38 45.3**	**+0.1**
H17K	**Granite Mounta**	**10.20**	**335**	Pn	**Pn**	**01 38 46.7**	**-0.6**
R33M	**Jennings River**	**10.61**	**64**	Pn	**Pn**	**01 38 52.8**	**-0.3**
USA0B	**Ussuriysk Arra**	**48.88**	**291**	P	**P**	**01 45 07.8**	**+1.2**
USA0B				IAmb	IAmb	01 45 11.4	
	comp=Z,1.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**48.88**	**291**	P	**P**	**01 45 07.2**	**+0.6**
KURK	**Kurchatov**	**66.28**	**329**	P	**P**	**01 47 06.5**	**-2.5**
KURK				IAmb	IAmb	01 47 11.9	
	comp=Z,1.2nm,1.0s						
ABKAR	**Akbulak array**	**72.17**	**340**	P	**P**	**01 47 47.2**	**+1.7**

*IDC **25** 01:49:30.9±0.7,1°.79N×126°.65E,h0km,mb4.1/10, mbtmp4.1/10,Error ellipse: s-maj=64.7km s-min=11.1km az=71.0*

*DJA **25** 01:49:34.5±1.2,2°.N±3°×12°.7E±°,h12km±10km,M4.2/12, mb4.2/3,mB5.1/1,MLv4.2/12,Mw(mB)4.5/1*

*NEIC **25** 01:49:38.1±1.1,1°.6N±0°.1×126°.49E±0°.08,h52km±7km, mb4.5/27,Error ellipse: s-maj=18.2km s-min=9.2km az=210.0*

ISC 25 01:49:37.4±0.5,1°.77N±0°.05×126°.59E±0°.06,h47km,n54, σ1§73/60,mb4.4/25,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.26**	**142**	Pn	**Pn**	**01 49 58.2**	**-0.5**
TNTI				Sn	**Sn**	**01 50 13.6**	**-0.9**
TNTI	**Ternate**	**1.26**	**142**	P	**Pn**	**01 49 58.1**	**-0.5**
SGSI	**Sangihe**	**2.18**	**331**	P	**Pn**	**01 50 09.5**	**-1.7**
SGSI				S	**Sn**	**01 50 37.3**	**+0.3**
LBMI	**Labuha**	**2.56**	**159**	P	**Pn**	**01 50 14.7**	**-1.8**
KMSI	**Cibinong**	**2.86**	**246**	P	**Pn**	**01 50 20.1**	**-0.5**
KMSI				S	**Sn**	**01 50 54.5**	**+0.7**
SANI	**Sanana**	**3.84**	**189**	P	**Pn**	**01 50 31.8**	**-2.3**
LUWI	**Luwuk**	**4.73**	**234**	P	**Pn**	**01 50 46.4**	**+0.2**
MRSI	**Marisa**	**4.82**	**255**	P	**Pn**	**01 50 45.9**	**-1.6**
NLAI	**Namlea**	**5.00**	**174**	P	**Pn**	**01 50 49.6**	**-0.4**
	14nm,0.6s,2µm0.1nm						
TOLI2	**Tolitoli**	**5.84**	**264**		**Pn**	**01 51 00.0**	**-1.5**
MPSI	**Mapaga**	**6.84**	**258**	P	**Pn**	**01 51 14.3**	**-0.9**
	12nm,0.8s,0.1nm						
WB0	**Warramunga Arr**	**22.73**	**161**	P	**P**	**01 54 34.1**	**-1.5**
WB0				IAmb	IAmb	01 54 37.2	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**22.88**	**161**	P	**P**	**01 54 35.5**	**-1.7**
	comp=Z,6.1nm,0.5s,baz=340,slow=11,SNR=25						
WRA				S	**S**	**01 58 43.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=147,slow=41,SNR=1.5 comp=Z,6.1nm,0.5s						
WB2	**Warramunga Arr**	**22.88**	**161**	P	**P**	**01 54 35.5**	**-1.7**
WB2				IAmb	IAmb	01 54 41.0	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**22.96**	**161**	P	**P**	**01 54 36.6**	**-1.4**
WR0				IAmb	IAmb	01 54 40.1	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**26.27**	**165**	P	**P**	**01 55 07.6**	**-1.0**
ASAR	**Alice Springs**	**26.27**	**165**	P	**P**	**01 55 06.6**	**-2.0**
ASAR	**Alice Springs**	**26.27**	**165**	P	**P**	**01 55 09.0**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=348,slow=13,SNR=47						
ASAR				S	**S**	**01 59 47.3**	**+9.3**
	comp=Z,0.3nm,0.4s,baz=350,slow=20,SNR=4.1 comp=Z,2.0nm,0.3s						
STKA	**Stephens Creek**	**36.37**	**158**	P	**P**	**01 56 38.1**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=343,slow=12,SNR=3.0 comp=Z,1.4nm,0.4s						
SONM	**Songino Array**	**49.10**	**342**	P	**P**	**01 58 20.9**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=159,slow=8.1,SNR=4.2						
SONM				PcP	**PcP**	**01 59 44.6**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=163,slow=5.4,SNR=1.3 comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**57.29**	**22**	P	**P**	**01 59 20.5**	**+0.2**
PETK	**Petropavlovsk-**	**57.29**	**22**	P	**P**	**01 59 20.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=203,slow=6.5,SNR=1.3 comp=Z,2.5nm,0.8s						
MK31	**Makanchi Array**	**59.08**	**326**	P	**P**	**01 59 32.7**	**-0.3**
MKAR	**Makanchi Array**	**59.08**	**326**	P	**P**	**01 59 32.7**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=120,slow=8.1,SNR=28 comp=Z,1.1nm,0.4s						
MAKZ	**Makanchi**	**59.27**	**326**	P	**P**	**01 59 34.1**	**-0.1**
MAKZ				IAmb	IAmb	01 59 38.3	
	comp=Z,5.7nm,1.4s						
ZALV	**Zalesovo Beam**	**62.26**	**334**	P	**P**	**01 59 55.1**	**+0.7**
ZALV	**Zalesovo Beam**	**62.26**	**334**	P	**P**	**01 59 55.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=132,slow=5.3,SNR=3.1 comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**63.31**	**328**	P	**P**	**02 00 00.9**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=130,slow=6.5,SNR=14 comp=Z,1.2nm,0.4s						
KURK	**Kurchatov**	**63.31**	**328**	P	**P**	**02 00 01.6**	**+0.1**
KURK				IAmb	IAmb	02 00 07.6	
	comp=Z,4.1nm,0.8s						
KKAR	**Karatay Array**	**64.57**	**318**	P	**P**	**02 00 10.2**	**+0.3**
HRA	**Herat**	**67.97**	**306**	P	**P**	**02 00 31.9**	**-0.3**
CASY	**Casey**	**68.87**	**187**	P	**P**	**02 00 35.2**	**-1.6**
BVAR	**Borovoye Array**	**68.88**	**327**	P	**P**	**02 00 37.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=134,slow=6.9,SNR=3.2 comp=Z,0.4nm,0.5s						
BRVK	**Borovoye**	**68.95**	**327**	P	**P**	**02 00 38.5**	**+0.9**
ABKAR	**Akbulak array**	**73.57**	**321**	P	**P**	**02 01 05.3**	**-0.4**
ABKAR	**Akbulak array**	**73.57**	**321**	P	**P**	**02 01 05.3**	**-0.4**
MLOA	**Mauna Loa Obse**	**77.95**	**71**	P	**P**	**02 01 30.4**	**-1.4**
SDPT	**Sand Point**	**78.89**	**34**	P	**P**	**02 01 36.5**	**+0.8**
G16K	**Koyuk River**	**80.58**	**24**	P	**P**	**02 01 46.9**	**+2.2**
G16K				IAmb	IAmb	02 02 00.0	
	comp=Z,7.3nm,1.4s						
H17K	**Granite Mounta**	**81.45**	**24**	P	**P**	**02 01 49.2**	**-0.2**
VNDA	**Vanda**	**81.51**	**173**	P	**P**	**02 01 47.7**	**-1.7**
VNDA	**Vanda**	**81.51**	**173**	P	**P**	**02 01 49.1**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=329,slow=6.8,SNR=6.8 comp=Z,3.7nm,0.8s						
C18K	**Utukok River**	**81.93**	**21**	P	**P**	**02 01 52.9**	**+1.0**
C18K				IAmb	IAmb	02 01 58.7	
	comp=Z,7.0nm,1.5s						
J18K	**Innoko River**	**82.49**	**26**	P	**P**	**02 01 57.7**	**+2.9**
J18K				IAmb	IAmb	02 02 14.3	
	comp=Z,7.3nm,1.4s						
C19K	**Lookout Ridge**	**82.62**	**20**	P	**P**	**02 01 58.5**	**+3.1**
C19K				IAmb	IAmb	02 01 59.5	
	comp=Z,7.1nm,1.4s						
TTA	**Tatalina**	**82.70**	**27**	P	**P**	**02 01 57.1**	**+1.1**
TTA				IAmb	IAmb	02 02 23.7	
	comp=Z,7.7nm,1.3s						
G19K	**Purcell Mounta**	**82.87**	**23**	P	**P**	**02 01 57.4**	**+0.7**
G19K				IAmb	IAmb	02 02 32.3	
	comp=Z,9.2nm,1.4s						
D19K	**Kuna River**	**82.99**	**21**	P	**P**	**02 01 59.1**	**+1.8**
D19K				IAmb	IAmb	02 02 04.6	
	comp=Z,4.0nm,1.1s						
H19K	**Roundabout Mou**	**83.00**	**24**	P	**P**	**02 01 59.8**	**+2.4**
H19K				IAmb	IAmb	02 02 08.7	
	comp=Z,2.7nm,0.8s						
E19K	**Redstone River**	**83.09**	**22**	P	**P**	**02 01 59.1**	**+1.3**
E19K				IAmb	IAmb	02 02 03.0	
	comp=Z,4.1nm,1.0s						
IMAR	**Indian Mountai**	**84.18**	**24**	P	**P**	**02 02 03.7**	**+0.2**
B21K	**Ikpikpuk River**	**84.45**	**20**	P	**P**	**02 02 05.6**	**+0.9**
B21K				IAmb	IAmb	02 02 45.3	
	comp=Z,5.8nm,1.4s						
B22K	**Teshekpuk Lake**	**84.97**	**20**	P	**P**	**02 02 07.8**	**+0.4**
KTH	**Kantishna Hill**	**85.07**	**26**	P	**P**	**02 02 07.7**	**-0.4**

*IDC **25** 01:50:40.2±6.2,36°.98N×71°.79E,h168km±42km,mb3.5/4, mbtmp3.7/7,Error ellipse: s-maj=68.3km s-min=23.4km az=149.0*

*NNC **25** 01:50:47.8±2.3,37°.61N×71°.90E,h160km±55km,mb2.2, mpv2.9,Error ellipse: s-maj=31.1km s-min=16.2km az=36.0*

ISC 25 01:50:40.4±1.7,37°.2N±0°.1×71°.7E±0°.1,h150km,n15, σ1§88/18,mb3.8/4,1C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.20**	**16**	P	**Pn**	**01 51 58.4**	**+1.6**
	SNR=108						
AML	**Almayashu**	**5.20**	**16**	⇑P	**Pn**	**01 51 58.0**	**+1.3**
	0.1nm,0.2s						
AML				⇓S	**Sn**	**01 52 53.7**	**-2.7**
	5.2nm,0.5s						
UCH	**Uchtor**	**5.51**	**22**	P	**Pn**	**01 52 02.4**	**+1.5**
	SNR=9.0						
EKS2	**Erkin-Say**	**5.73**	**15**	P	**Pn**	**01 52 05.9**	**+2.4**
	SNR=14						
AAK	**Ala-Archa**	**5.88**	**20**	P	**Pn**	**01 52 07.7**	**+2.2**
	SNR=5.5						
KK31	**Karatay Array**	**6.02**	**351**	P	**Pn**	**01 52 09.2**	**+1.9**
	2.1nm,0.3s,baz=161,slow=11,SNR=87						
KK31				S	**Sn**	**01 53 13.3**	**-2.0**
	7.7nm,0.3s,baz=166,slow=18,SNR=19						
USP	**Ospenovka**	**6.47**	**18**	P	**Pn**	**01 52 14.9**	**+1.6**
	SNR=5.6						
GEYT	**Alibeck**	**10.84**	**278**	P	**Pn**	**01 53 13.0**	**+1.5**
	0.8nm,0.5s,baz=134,slow=10,SNR=2.1						
GEYT				S	**Sn**	**01 55 10.8**	**-0.6**
	1.4nm,0.4s,baz=81,slow=36,SNR=2.8						
KURBB	**Kurchatov Arra**	**14.32**	**18**	P	**Pn**	**01 53 58.6**	**+2.5**
	0.2nm,0.3s,baz=168,slow=10,SNR=1.8						
AB31	**Akbulak array**	**14.82**	**328**	⇓P	**P**	**01 54 05.5**	**+1.1**
	0.5nm,0.5s,baz=140,slow=12,SNR=26						
ZALV	**Zalesovo Beam**	**19.08**	**24**	P	**P**	**01 54 50.1**	**-1.0**
	0.8nm,0.3s,baz=215,slow=11,SNR=8.3						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**01 58 06.0**	**-0.3**
	6.5nm,1.1s,baz=121,slow=8.8,SNR=5.1 6.5nm,1.1s						
HFS	**Hagfors**	**42.92**	**321**	P	**P**	**01 58 24.0**	**+0.1**
	5.3nm,0.8s,baz=103,slow=12,SNR=5.1 5.3nm,0.8s						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**01 58 33.3**	**-0.9**
	1.1nm,1.0s,baz=94,slow=7.3,SNR=1.4 1.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**66.32**	**269**	P	**P**	**02 01 10.6**	**-2.5**
	0.2nm,0.5s,baz=39,slow=5.5,SNR=1.5 0.2nm,0.5s						

*IDC **25** 01:55:59.6±3.2,7°.87N×91°.94E,h0km,mb4.0/7, mbtmp4.0/8,ML4.6/1,Error ellipse: s-maj=66.4km s-min=43.3km az=155.0*

ISC 25 01:56:03.4±3.1,7°.9N±0°.4×92°.0E±0°.3,h25km,n11, σ1§37/10,mb3.9/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.47**	**32**	Pn	**Pn**	**01 58 59.1**	**-0.4**
	1.1nm,0.3s,baz=225,slow=15,SNR=1.2 1.3nm,0.3s						
MKAR	**Makanchi Array**	**39.65**	**350**	P	**P**	**02 03 33.1**	**-0.1**
	1.2nm,0.5s,baz=170,slow=8.8,SNR=21						
MKAR				PcP	**PcP**	**02 05 38.5**	**-1.4**
	0.6nm,1.0s,baz=180,slow=8.6,SNR=2.8 1.2nm,0.5s						
SONM	**Songino Array**	**41.64**	**15**	P	**P**	**02 03 50.5**	**+0.7**
	1.1nm,0.8s,baz=195,slow=9.6,SNR=6.0						
SONM				PcP	**PcP**	**02 05 48.4**	**+2.0**
	0.2nm,0.3s,baz=191,slow=4.4,SNR=1.8 1.1nm,0.8s						
GEYT	**Alibeck**	**42.81**	**320**	P	**P**	**02 04 00.8**	**+1.4**
	2.5nm,0.9s,baz=122,slow=14,SNR=5.2 2.5nm,0.9s						
KURBB	**Kurchatov Arra**	**44.05**	**348**	P	**P**	**02 04 09.3**	**+0.2**
	2.0nm,0.2s,baz=172,slow=7.5,SNR=10.0 2.0nm,0.2s						
ZALV	**Zalesovo Beam**	**46.30**	**354**	P	**P**	**02 04 25.4**	**-1.5**
	0.7nm,0.5s,baz=184,slow=9.8,SNR=6.0 0.7nm,0.5s						
BVAR	**Borovoye Array**	**48.33**	**343**	P	**P**	**02 04 42.4**	**-0.3**
	0.5nm,0.5s,baz=133,slow=8.1,SNR=3.2 0.5nm,0.5s						
BRTR	**Keskin Array B**	**60.84**	**311**	P	**P**	**02 06 12.5**	**-1.5**
	0.6nm,0.6s,baz=108,slow=4.7,SNR=2.5 0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**64.68**	**210**	T	T	03 17 46.1	
	baz=45,slow=75,SNR=18						
H04N1	**CROZET ISLANDS**	**64.69**	**210**	T	T	03 18 06.2	
	baz=45,slow=75,SNR=19						
H04N3	**CROZET ISLANDS**	**64.70**	**210**	T	T	03 17 45.7	
	baz=45,slow=75,SNR=19						

IDC 25 02:06:58.2±2.5,9°.47N×91°.58E,h0km,mb3.7/4, mbtmp3.8/5,ML4.3/1,Error ellipse: s-maj=72.4km s-min=30.5km az=63.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.44**	**38**	Pn	Pn	**02 09 43.7**	**+0.8**
	0.6nm,0.3s,baz=226,slow=14,SNR=1.1 2.3nm,0.3s						
H08S3	**Diego Garcia H**	**25.50**	**229**	T	T	02 38 45.5	
	baz=54,slow=74						
H08S2	**Diego Garcia H**	**25.51**	**229**	T	T	02 38 36.7	
	baz=54,slow=74						
H08S1	**Diego Carcia H**	**25.52**	**229**	T	T	02 38 45.1	
	baz=54						
MKAR	**Makanchi Array**	**38.03**	**350**	P	P	02 14 18.5	+0.2
	0.9nm,0.6s,baz=160,slow=8.3,SNR=10.0 0.9nm,0.6s						
SONM	**Songino Array**	**40.24**	**15**	P	P	02 14 36.0	-0.8
	1.0nm,0.8s,baz=197,slow=9.7,SNR=6.5 1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**44.69**	**354**	P	P	02 15 12.8	0.0
	0.4nm,0.4s,baz=168,slow=8.7,SNR=3.8 0.4nm,0.4s						
WRA	**Warramunga Arr**	**51.24**	**125**	P	P	02 16 04.1	0.0

h12km:**pP-P,n2912,**σ1s**95**/3058,**mb6.2**/674,**MS6.2**/691,
174C-119D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
BKI	**Bering**	**0.31**	**218**	PN		**Pg**	**02 10 41.1**	**-0.6**
BKI	**Bering**	**0.31**	**218**	*e*P		**Pg**	**02 10 41.2**	**-0.6**
KBG	**Krutoberegovo**	**2.19**	**293**	PN		**Pn**	**02 11 08.7**	**-2.9**
KBG				S		**Sn**	**02 11 37.9**	**-0.6**
KBG	**Krutoberegovo**	**2.19**	**293**	*e*P		**Pn**	**02 11 09.0**	**-2.6**
KBG				*e*S		**Sn**	**02 11 37.9**	**-0.6**
SMKR	**Semkarok**	**2.95**	**295**	PN		**Pn**	**02 11 20.8**	**-1.3**
SMKR	**Semkarok**	**2.95**	**295**	*e*P		**Pn**	**02 11 20.9**	**-1.2**
BDR	**Baidarnaya**	**3.08**	**293**	PN		**Pn**	**02 11 23.3**	**-0.6**
BDR	**Baidarnaya**	**3.08**	**293**	*e*P		**Pn**	**02 11 23.2**	**-0.7**
SRKR	**Sorokina**	**3.13**	**295**	PN		**Pn**	**02 11 24.1**	**-0.5**
SRKR	**Sorokina**	**3.13**	**295**	*e*P		**Pn**	**02 11 23.8**	**-0.7**
ZLN	**Zelenaya**	**3.17**	**283**	PN		**Pn**	**02 11 25.0**	**-0.2**
ZLN	**Zelenaya**	**3.17**	**283**	*e*P		**Pn**	**02 11 24.9**	**-0.2**
CIRR	**Tsirk**	**3.21**	**284**	PN		**Pn**	**02 11 25.6**	**-0.2**
CIRR	**Tsirk**	**3.21**	**284**	*e*P		**Pn**	**02 11 25.4**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**3.22**	**281**	PN		**Pn**	**02 11 25.9**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**3.22**	**281**	*e*P		**Pn**	**02 11 25.5**	**-0.3**
LGNR	**Loginova**	**3.24**	**284**	*e*P		**Pn**	**02 11 27.1**	**+0.8**
BZP	**Bezymyannyi-Pe**	**3.30**	**280**	*e*P		**Pn**	**02 11 26.5**	**-0.5**
KLY	**Klyuchi**	**3.30**	**288**	PN		**Pn**	**02 11 25.0**	**-1.9**
KLY				S		**Sn**	**02 12 04.8**	**-1.2**
KLY	**Klyuchi**	**3.30**	**288**	*e*P		**Pn**	**02 11 24.6**	**-2.2**
KLY				*e*S		**Sn**	**02 12 04.8**	**-1.2**
BZMR	**Bezymyannaya**	**3.33**	**281**	PN		**Pn**	**02 11 27.3**	**-0.2**
BZMR	**Bezymyannaya**	**3.33**	**281**	*e*P		**Pn**	**02 11 27.2**	**-0.2**
BZWR	**Bezymyannyi-We**	**3.33**	**281**	PN		**Pn**	**02 11 27.4**	**-0.1**
BZWR	**Bezymyannyi-We**	**3.33**	**281**	*e*P		**Pn**	**02 11 27.4**	**-0.1**
TUMD	**Tumrok D**	**3.39**	**268**	*e*P		**Pn**	**02 11 27.8**	**-0.2**
TUMD				*e*S		**Sn**	**02 12 10.8**	**+2.7**
KIRR	**Kirishev**	**3.42**	**281**	PN		**Pn**	**02 11 28.6**	**0.0**
KIRR	**Kirishev**	**3.42**	**281**	*e*P		**Pn**	**02 11 28.6**	**0.0**
KMNR	**Kamenistaya**	**3.46**	**278**	PN		**Pn**	**02 11 29.4**	**+0.2**
KMNR	**Kamenistaya**	**3.46**	**278**	*e*P		**Pn**	**02 11 29.4**	**+0.2**
KPT	**Kopyto**	**3.48**	**281**	PN		**Pn**	**02 11 29.3**	**-0.2**
KPT	**Kopyto**	**3.48**	**281**	*e*P		**Pn**	**02 11 29.6**	**+0.1**
TUMR	**Tumrok**	**3.52**	**270**	PN		**Pn**	**02 11 28.0**	**-2.0**
TUMR				S		**Sn**	**02 12 09.5**	**-2.1**
TUMR	**Tumrok**	**3.52**	**270**	*e*P		**Pn**	**02 11 30.4**	**+0.4**
KOZ	**Kozyrevsk**	**3.69**	**282**	PN		**Pn**	**02 11 33.2**	**+1.0**
KOZ	**Kozyrevsk**	**3.69**	**282**	*e*P		**Pn**	**02 11 33.0**	**+0.8**
SRDR	**Sredinnyy**	**3.81**	**286**	PN		**Pn**	**02 11 34.4**	**+0.4**
SRDR	**Sredinnyy**	**3.81**	**286**	*e*P		**Pn**	**02 11 34.4**	**+0.4**
OSSR	**Ossora**	**4.20**	**337**	PN		**Pn**	**02 11 36.3**	**-2.9**
OSSR	**Ossora**	**4.20**	**337**	*e*P		**Pn**	**02 11 36.5**	**-2.7**
KII	**Karymskiy**	**4.22**	**253**	PN		**Pn**	**02 11 39.2**	**-0.4**
KII	**Karymskiy**	**4.22**	**253**	*e*P		**Pn**	**02 11 39.2**	**-0.4**
ESO	**Esso**	**4.33**	**279**	PN		**Pn**	**02 11 42.4**	**+1.3**
ESO	**Esso**	**4.33**	**279**	*e*P		**Pn**	**02 11 41.7**	**+0.6**
SPN	**Mys Shipunski**	**4.37**	**240**	PN		**Pn**	**02 11 39.3**	**-2.3**
SPN	**Mys Shipunski**	**4.37**	**240**	*e*P		**Pn**	**02 11 39.4**	**-2.3**
TIGL	**Tigil**	**4.82**	**302**	*e*P		**Pn**	**02 11 47.7**	**+0.1**
SMAR	**Somma**	**4.91**	**247**	PN		**Pn**	**02 11 48.6**	**-0.6**
SMAR	**Somma**	**4.91**	**247**	*e*P		**Pn**	**02 11 48.2**	**-0.9**
SMAR				*e*S		**Sn**	**02 12 45.1**	**-0.8**
UGLR	**Uglovaya**	**4.92**	**246**	PN		**Pn**	**02 11 48.6**	**-0.7**
UGLR	**Uglovaya**	**4.92**	**246**	*e*P		**Pn**	**02 11 48.5**	**-0.7**
AVH	**Avacha**	**4.94**	**247**	PN		**Pn**	**02 11 49.3**	**-0.2**
AVH	**Avacha**	**4.94**	**247**	*e*P		**Pn**	**02 11 49.4**	**-0.1**
AVH				*e*S		**Sn**	**02 12 48.0**	**+1.5**
KRX	**Arik**	**4.94**	**248**	PN		**Pn**	**02 11 49.0**	**-0.5**
KRX	**Arik**	**4.94**	**248**	*e*P		**Pn**	**02 11 49.0**	**-0.5**
KOK	**Koryaka**	**4.98**	**247**	PN		**Pn**	**02 11 49.9**	**-0.1**
KOK	**Koryaka**	**4.98**	**247**	*e*P		**Pn**	**02 11 49.7**	**-0.3**
KOK				*e*S		**Sn**	**02 12 49.1**	**+1.6**
TILK	**Tilichiki**	**5.01**	**359**	PN		**Pn**	**02 11 48.7**	**-1.6**
TILK	**Tilichiki**	**5.01**	**359**	*e*P		**Pn**	**02 11 48.6**	**-1.8**
PALN	**Palana**	**5.02**	**319**	PN		**Pn**	**02 11 48.6**	**-1.8**
PALN	**Palana**	**5.02**	**319**	*e*P		**Pn**	**02 11 48.7**	**-1.8**
DALK	**Dalny**	**5.05**	**244**	PN		**Pn**	**02 11 49.8**	**-1.1**
DALK	**Dalny**	**5.05**	**244**	*e*P		**Pn**	**02 11 49.6**	**-1.3**
DALK				*e*S		**Sn**	**02 12 49.0**	**-0.1**
PET	**Petropavlovsk**	**5.11**	**245**	Pn		**Pn**	**02 11 50.9**	**-0.8**
PET	**Petropavlovsk**	**5.11**	**245**	P		**Pn**	**02 11 53.3**	**+1.6**
PET	**Petropavlovsk**	**5.11**	**245**	⇑P		**Pn**	**02 11 50.5**	**-1.1**
PET	**Petropavlovsk**	**5.11**	**245**	*e*PN		**Pn**	**02 11 50.6**	**-1.1**
PET				pmax	pmax			
	comp=Z,17μm,8.4s							
PET				pmax	pmax			
	comp=Z,29μm,6.3s							
PET				pmax	pmax			
	comp=Z,7μm,1.0s							
PET				MLR	MLR			
	comp=Z,176μm,10.0s							
PET				MLR	MLR			
	comp=Z,213μm,10.0s							
PET	**Petropavlovsk**	**5.11**	**245**	*e*P		**Pn**	**02 11 50.7**	**-1.0**
PET				*e*S		**Sn**	**02 12 49.1**	**-1.4**
INSR	**Institute**	**5.11**	**245**	*e*P		**Pn**	**02 11 51.1**	**-0.6**
INSR				*e*S		**Sn**	**02 12 50.6**	**0.0**
GNL	**Ganaly**	**5.18**	**254**	PN		**Pn**	**02 11 52.7**	**-0.1**
SHEM	**Shemya Is, Ala**	**5.33**	**118**	Pn		**Pn**	**02 11 51.1**	**-3.6**
	comp=Z,76nm,0.3s,baz=316,slow=16,SNR=36							
SHEM				Sn		**Sn**	**02 12 51.6**	**-4.4**
	comp=Z,126nm,0.3s,baz=277,slow=19,SNR=6.0							
KRMR	**Karymshinskiy**	**5.48**	**245**	PN		**Pn**	**02 11 56.1**	**-0.7**
KRMR	**Karymshinskiy**	**5.48**	**245**	*e*P		**Pn**	**02 11 56.1**	**-0.7**
KRMR				*e*S		**Sn**	**02 12 58.5**	**-1.1**
RUS	**Russkaya**	**5.51**	**240**	PN		**Pn**	**02 11 55.8**	**-1.4**
RUS	**Russkaya**	**5.51**	**240**	*e*P		**Pn**	**02 11 55.8**	**-1.4**
RUS				*e*S		**Sn**	**02 12 58.9**	**-1.5**
PEA0B	**Petropavlovsk-**	**5.56**	**249**			**Pn**	**02 11 57.8**	**-0.2**
PEA0B	**Petropavlovsk-**	**5.56**	**249**	PN		**Pn**	**02 11 57.8**	**-0.2**
PETK	**Petropavlovsk-**	**5.56**	**249**	Pn		**Pn**	**02 11 57.1**	**-0.9**
	comp=Z,157nm,0.3s,baz=72,slow=16,SNR=457							
PETK				Sn		**Sn**	**02 13 04.5**	**+2.8**
	comp=Z,277nm,0.3s,baz=76,slow=40,SNR=7.0							
PETK				LR		LR	02 14 27.5	
	comp=Z,203μm,19.4s,baz=67,slow=42							
	comp=Z,517nm,0.5s							
MTVR	**Mutnovka**	**5.64**	**242**	PN		**Pn**	**02 11 58.1**	**-1.1**
MTVR	**Mutnovka**	**5.64**	**242**	*e*P		**Pn**	**02 11 58.1**	**-1.1**
MTVR				*e*S		**Sn**	**02 13 01.6**	**-2.3**
GRL	**Gorelyy**	**5.66**	**243**	PN		**Pn**	**02 11 58.9**	**-0.4**
GRL	**Gorelyy**	**5.66**	**243**	*e*P		**Pn**	**02 11 59.0**	**-0.4**
GRL				*e*S		**Sn**	**02 13 04.1**	**-0.2**
ASAK	**Asacha**	**5.84**	**242**	PN		**Pn**	**02 12 01.5**	**-0.4**
ASAK	**Asacha**	**5.84**	**242**	*e*P		**Pn**	**02 12 01.4**	**-0.4**
ASAK				*e*S		**Sn**	**02 13 06.8**	**-1.9**
APC	**Apacha**	**5.94**	**249**	PN		**Pn**	**02 12 03.6**	**+0.5**
APC	**Apacha**	**5.94**	**249**	*e*P		**Pn**	**02 12 03.5**	**+0.5**
KDTR	**Khodutka, Kamc**	**6.11**	**237**	PN		**Pn**	**02 12 03.8**	**-1.6**
KDTR	**Khodutka, Kamc**	**6.11**	**237**	*e*P		**Pn**	**02 12 03.5**	**-1.9**
KDTR				*e*S		**Sn**	**02 13 11.8**	**-3.2**
PAU	**Pauzhetka**	**6.93**	**239**	PN		**Pn**	**02 12 18.0**	**+1.3**
PAU	**Pauzhetka**	**6.93**	**239**	*e*P		**Pn**	**02 12 17.3**	**+0.5**
KMSK	**Kamenskaya**	**7.04**	**360**	PN		**Pn**	**02 12 16.2**	**-2.0**
KMSK	**Kamenskaya**	**7.04**	**360**	*e*P		**Pn**	**02 12 16.4**	**-1.7**
SKR	**Severo-Kuril's**	**7.78**	**236**	*e*PN		**Pn**	**02 12 27.3**	**-1.0**
SKR				pmax	pmax			
	comp=Z,345nm,1.6s							
SKR				pmax	pmax			
	comp=Z,22μm,5.1s							
SKR				MLR	MLR			
	comp=N,208μm,18.0s							
SKR				MLR	MLR			
	comp=E,73μm,14.0s							
SKR	**Severo-Kuril's**	**7.78**	**236**	*e*P		**Pn**	**02 12 27.1**	**-1.2**
AMKA	**Amchitka**	**8.76**	**112**			**Pn**	**02 12 41.3**	**-0.5**
MA2	**Magadan**	**9.32**	**303**	Pn		**Pn**	**02 12 49.8**	**+0.3**
MA2	**Magadan**	**9.32**	**303**	P		**Pn**	**02 12 51.9**	**+2.4**
MA2	**Magadan**	**9.32**	**303**	⇓P		**Pn**	**02 12 50.2**	**+0.7**
MA2	**Magadan**	**9.32**	**303**	PN		**Pn**	**02 12 49.8**	**+0.3**
MA2	**Magadan**	**9.32**	**303**	Pn		**Pn**	**02 12 48.6**	**-0.8**
	comp=E,8.4nm,0.3s,baz=109,slow=12,SNR=12							
MA2				LR		LR	02 16 36.2	
	comp=E,140μm,18.1s,baz=110,slow=39							
	comp=E,23nm,0.4s							
SEY	**Seymchan**	**10.34**	**322**	*i* PN		**Pn**	**02 13 03.6**	**+0.2**
SEY	**Seymchan**	**10.34**	**322**	Pn		**Pn**	**02 13 01.9**	**-1.5**
	comp=E,2.0nm,0.3s,baz=132,slow=14,SNR=11							
SEY				LR		LR	02 17 06.7	
	comp=E,177μm,21.0s,baz=128,slow=38							
KIWB	**Kanaga Island**	**10.45**	**103**			**Pn**	**02 13 01.2**	**-3.7**
ADK	**Adak**	**10.70**	**102**			**Pn**	**02 13 03.7**	**-4.6**
ADK	**Adak**	**10.70**	**102**	P		**Pn**	**02 13 10.8**	**+2.5**
ADK	**Adak**	**10.70**	**102**	⇓P		**Pn**	**02 13 03.7**	**-4.6**
ADK	**Adak**	**10.70**	**102**	PN		**Pn**	**02 13 03.7**	**-4.6**
GSTR	**Great Sitkin T**	**10.96**	**101**	Pn		**Pn**	**02 13 07.3**	**-4.6**
ATKA	**Atka Island**	**11.96**	**98**	Pn		Pn	02 13 20.7	-4.9
ATKA	**Atka Island**	**11.96**	**98**	P		**Pn**	**02 13 25.9**	**+0.3**
ATKA	**Atka Island**	**11.96**	**98**	⇓P		Pn	02 13 20.5	-5.0
BILL	**Bilibino**	**12.64**	**360**	PN		**Pn**	**02 13 38.1**	**+3.4**
SPIA	**Saint Paul Isl**	**13.11**	**73**	P		**Pn**	**02 13 43.7**	**+2.5**
SPIA	**Saint Paul Isl**	**13.11**	**73**	P		**Pn**	**02 13 41.4**	**+0.2**
	baz=273							
P08K	**Saint George I**	**13.53**	**75**	P		**Pn**	**02 13 46.6**	**-0.4**
	baz=276							
OKH	**Okha**	**13.70**	**272**	*c* P		**Pn**	**02 13 53.3**	**+4.0**
OKH				*i* S		**Sn**	**02 16 24.8**	**+3.6**
OKH				pmax	pmax			
	comp=Z,3μm,8.6s							
OKH				smax	smax			
	comp=E,10μm,12.8s							
OKH				smax	smax			
	comp=N,16μm,17.7s							
OKH				MLR	MLR			
	comp=N,130μm,13.0s							
OKH				MLR	MLR			
	comp=Z,32μm,16.0s							
OKH				MLR	MLR			
	comp=E,75μm,12.0s							
GAMB	**Gambell**	**13.84**	**44**	P		**Pn**	**02 13 50.1**	**-1.0**
	baz=243,SNR=16							
GAMB	**Gambell**	**13.84**	**44**	⇓P		**Pn**	**02 13 47.9**	**-3.2**
CLES	**Cleveland East**	**14.17**	**91**	Pn		**Pn**	**02 13 54.5**	**-1.3**
NIKH	**Nikolski High**	**14.71**	**89**	P		**Pn**	**02 14 03.7**	**+0.5**
NIKH	**Nikolski High**	**14.71**	**89**	P		**Pn**	**02 14 01.7**	**-1.4**
	baz=290,SNR=7.2							
TYV	**Tymovskoe**	**14.88**	**262**	*e*P		**P**	**02 14 08.7**	**-2.5**
TYV				pmax	pmax			
	comp=Z,8μm,4.1s							
TYV				pmax	pmax			
	comp=Z,288nm,1.7s							
TYV				MLR	MLR			
	comp=Z,44μm,16.0s							
TYV				MLR	MLR			
	comp=N,73μm,14.0s							
NKL	**Nikolayevsk**	**15.11**	**272**	*e*P		**Pn**	**02 14 08.2**	**-0.3**
NKL				*e*S		**Sn**	**02 16 58.5**	**+3.0**
NKL				pmax	pmax			
	comp=N,393nm,1.1s							
NKL				pmax	pmax			
	comp=E,884nm,1.2s							
NKL				pmax	pmax			
	comp=Z,654nm,1.2s							
NKL				smax	smax			
	comp=E,2μm,4.6s							
NKL				smax	smax			
	comp=N,4μm,9.1s							
NKL				MLR	MLR			
	comp=N,62μm,12.0s							
NKL				MLR	MLR			
	comp=E,133μm,13.0s							
NKL				MLR	MLR			
	comp=Z,134μm,13.0s							
M11K	**Mekoryuk**	**15.35**	**60**	P		**Pn**	**02 14 10.3**	**-1.2**
	baz=264,SNR=28							
KUR	**Kuril'sk**	**15.54**	**237**	*e*P		**Pn**	**02 14 11.8**	**-2.4**
KUR				S		**Sn**	**02 17 03.5**	**-2.6**
KUR				pmax	pmax			
	comp=Z,425nm,1.5s							
KUR				pmax	pmax			
	comp=E,283nm,1.2s							
KUR				pmax	pmax			
	comp=Z,30μm,7.0s							
KUR				MLR	MLR			
	comp=Z,51μm,13.0s							
KUR				MLR	MLR			
	comp=N,29μm,10.0s							
KUR				MLR	MLR			
	comp=E,60μm,14.0s							
UNV	**Unalaska Valle**	**15.78**	**85**	P		**Pn**	**02 14 18.9**	**+1.7**
UNV	**Unalaska Valle**	**15.78**	**85**	P		**Pn**	**02 14 16.2**	**-1.0**
	baz=287,SNR=33							
TNA	**Tin City**	**16.10**	**41**	P		**Pn**	**02 14 22.1**	**+0.9**
	baz=243,SNR=87							
TNA	**Tin City**	**16.10**	**41**	⇓P		**Pn**	**02 14 20.0**	**-1.2**
UGL	**Uglegorsk**	**16.10**	**257**	*e*P		**P**	**02 14 24.0**	**-0.7**
UGL				*e*S		**Sn**	**02 17 17.9**	**-1.8**
UGL				pmax	pmax			
	comp=Z,12μm,6.8s							
UGL				pmax	pmax			
	comp=Z,849nm,1.0s							
UGL				smax	smax			
	comp=N,22μm,15.0s							
UGL				smax	smax			
	comp=E,11μm,8.6s							
UGL				MLR	MLR			
	comp=Z,37μm,15.0s							
UGL				MLR	MLR			
	comp=E,65μm,14.0s							
UGL				MLR	MLR			
	comp=N,80μm,13.0s							
AKUT	**Akutan**	**16.11**	**83**	Pn		**Pn**	**02 14 18.4**	**-3.0**
AKUT	**Akutan**	**16.11**	**83**	P		**Pn**	**02 14 22.4**	**+0.9**
AKUT	**Akutan**	**16.11**	**83**	⇓P		**Pn**	**02 14 18.2**	**-3.2**
K13K	**Kusilvak Mount**	**16.32**	**55**	P		**Pn**	**02 14 22.6**	**-1.6**
K13K	**Kusilvak Mount**	**16.32**	**55**	P		**Pn**	**02 14 23.9**	**-0.2**
	baz=260							
F14K	**Arctic Creek**	**16.66**	**42**	P		**P**	**02 14 30.2**	**-0.6**
	baz=246,SNR=132							
ANM	**Nome**	**16.70**	**45**	Pn		**Pn**	**02 14 26.9**	**-2.0**
ANM	**Nome**	**16.70**	**45**	P		**P**	**02 14 30.8**	**-0.4**
	baz=250,SNR=147							
ANM	**Nome**	**16.70**	**45**	P		**Pn**	**02 14 26.9**	**-2.0**
ANM				pmax	pmax			
	comp=Z,2μm,1.6s							
M13K	**Dall Lake**	**16.76**	**60**	P		**Pn**	**02 14 30.2**	**+0.5**
M13K	**Dall Lake**	**16.76**	**60**	P		**Pn**	**02 14 29.8**	**+0.1**
	baz=266,SNR=46							
YSS	**Yuzh-Sakhalins**	**16.97**	**250**	Pn		**Pn**	**02 14 30.9**	**-1.5**
YSS	**Yuzh-Sakhalins**	**16.97**	**250**	P		**P**	**02 14 34.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**16.97**	**250**	⇑P		**Pn**	**02 14 32.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**16.97**	**250**	*d* P		**Pn**	**02 14 30.7**	**-1.7**
YSS				*e*S		**Sn**	**02 17 39.5**	**-1.2**
YSS				pmax	pmax			
	comp=Z,220nm,1.1s							
YSS				pmax	pmax			
	comp=Z,10μm,5.0s							
YSS				pmax	pmax			
	comp=N,7μm,5.3s							
YSS				pmax	pmax			
	comp=E,5μm,5.4s							
YSS				MLR	MLR			
	comp=Z,68μm,17.0s							
YSS				MLR	MLR			
	comp=N,120μm,16.0s							
YSS				MLR	MLR			
	comp=E,25μm,16.0s							
J14K	**Nanvaranak Lak**	**16.98**	**52**	P		**Pn**	**02 14 31.7**	**-0.8**
J14K	**Nanvaranak Lak**	**16.98**	**52**	P		**P**	**02 14 33.8**	**-0.6**
	baz=258,SNR=95							
L14K	**Kuka Creek**	**17.17**	**57**	P		**Pn**	**02 14 34.0**	**-0.8**
L14K	**Kuka Creek**	**17.17**	**57**	P		**P**	**02 14 35.7**	**-0.7**
	baz=264							
FALS	**False Pass**	**17.25**	**79**	P		**Pn**	**02 14 36.0**	**+0.1**
FALS	**False Pass**	**17.25**	**79**	P		**Pn**	**02 14 35.9**	**+0.1**
	baz=285							
G15K	**Niukluk**	**17.38**	**45**	P		**P**	**02 14 39.4**	**+0.7**
	baz=251,SNR=116							
YUK	**Yuzh-Kuril'sk**	**17.39**	**237**	*c* P		**P**	**02 14 39.0**	**0.0**
YUK				pmax	pmax			
	comp=Z,11μm,1.4s							
YUK				pmax	pmax			
	comp=Z,8μm,1.2s							
YUK				pmax	pmax			
	comp=E,2μm,0.9s							
YUK				pmax	pmax			
	comp=N,2μm,1.0s							
YUK				MLR	MLR			
	comp=Z,51μm,15.0s							
YUK				MLR	MLR			
	comp=N,45μm,13.0s							
F15K	**North Star Dit**	**17.39**	**42**	P		**P**	**02 14 39.9**	**+1.0**
	baz=248							
M14K	**Bethel**	**17.47**	**59**			**Pn**	**02 14 36.9**	**-1.6**
M14K	**Bethel**	**17.47**	**59**	P		**P**	**02 14 40.4**	**+0.7**
	baz=267,SNR=123							
N14K	**Kuskokwak Cree**	**17.57**	**62**	P		**P**	**02 14 41.0**	**+0.1**
	baz=270,SNR=55							
L15K	**Ungalak Mounta**	**17.77**	**56**	P		**P**	**02 14 44.3**	**+1.2**
	baz=264,SNR=53							
O14K	**Tigyukauivet M**	**17.80**	**64**	IAmb		IAmb	02 14 48.9	
	comp=Z,4μm,1.5s							
O14K	**Tigyukauivet M**	**17.80**	**64**	P		**P**	**02 14 44.1**	**+0.8**
	baz=272,SNR=195							
K15K	**Wolf Creek Mou**	**17.83**	**54**	IAmb		IAmb	02 14 49.6	
	comp=Z,2μm,1.4s							
K15K	**Wolf Creek Mou**	**17.83**	**54**	P		**P**	**02 14 44.3**	**+0.5**
	baz=262,SNR=209							
H16K	**Elim**	**18.00**	**47**	P		**P**	**02 14 46.1**	**+0.5**
	baz=254,SNR=351							
M15K	**Kasigluk River**	**18.09**	**60**	P		**P**	**02 14 47.4**	**+0.7**
	baz=268							
G16K	**Koyuk River**	**18.18**	**44**	P		**P**	**02 14 48.8**	**+1.2**
	baz=252							
C16K	**Lisburne Hills**	**18.30**	**34**	P		**Pn**	**02 14 47.3**	**-1.4**
C16K				IAmb		IAmb	02 14 55.7	
	comp=Z,4μm,1.9s							
C16K	**Lisburne Hills**	**18.30**	**34**	P		**P**	**02 14 50.5**	**+1.7**
	baz=239,SNR=210							
N15K	**Kwethluk River**	**18.38**	**61**	P		**P**	**02 14 51.6**	**+1.8**
	baz=270,SNR=94							
J16K	**Anvik River**	**18.41**	**51**	P		**Pn**	**02 14 51.4**	**+1.3**
	baz=260,SNR=48							
GRNR	**Gornyy**	**18.46**	**268**	⇑*i* P		**Pn**	**02 14 52.1**	**+1.2**
GRNR				pmax	pmax			
	comp=E,50nm,0.8s							
GRNR				pmax	pmax			
	comp=N,30nm,0.9s							
GRNR				pmax	pmax			
	comp=Z,70nm,0.9s							
GRNR				MLR	MLR			
	comp=E,28μm,12.0s							
GRNR				MLR	MLR			
	comp=N,24μm,13.0s							
GRNR				MLR	MLR			
	comp=Z,34μm,11.0s							
I17K	**Unalakleet**	**18.48**	**49**	P		**P**	**02 14 48.3**	**-2.5**
I17K				IAmb		IAmb	02 14 56.5	
	comp=Z,3μm,1.9s							
I17K	**Unalakleet**	**18.48**	**49**	P		**Pn**	**02 14 52.8**	**+1.8**
	baz=258,SNR=188							
O15K	**Ungalikthiuk R**	**18.54**	**64**	P		**Pn**	**02 14 52.8**	**+1.0**
	baz=273							
L16K	**Owhat River**	**18.73**	**57**	P		**Pn**	**02 14 55.3**	**+1.2**
	baz=266,SNR=59							
SDPT	**Sand Point**	**18.77**	**77**			**P**	**02 14 51.5**	**-2.6**
SDPT	**Sand Point**	**18.77**	**77**	P		**Pn**	**02 14 55.1**	**+0.6**
SDPT	**Sand Point**	**18.77**	**77**	P		**P**	**02 14 53.4**	**-0.7**
	baz=284,SNR=11							
D17K	**Noatak River**	**18.78**	**37**	P		**Pn**	**02 14 56.6**	**+2.1**
	baz=244							
G17K	**Kiwalik Mounta**	**18.89**	**45**	P		**Pn**	**02 14 57.2**	**+1.2**
	baz=254,SNR=78							
JKA	**Kamikawa-asahi**	**18.95**	**243**			**P**	**02 14 56.0**	**-0.1**
JKA				IAmb		IAmb	02 15 06.9	
	comp=Z,2μm,1.3s							
M16K	**Timber Creek**	**18.95**	**59**	IAmb		IAmb	02 15 03.8	
	comp=Z,3μm,1.9s							
M16K	**Timber Creek**	**18.95**	**59**	P		**Pn**	**02 14 57.8**	**+1.1**
	baz=269,SNR=61							
ASAJ	**Asahikawa**	**18.95**	**243**	P		**Pn**	**02 14 56.8**	**0.0**
ASAJ	**Asahikawa**	**18.95**	**243**	P		**P**	**02 14 56.5**	**+0.3**
	comp=Z,6.6nm,0.3s,baz=60,slow=6.6,SNR=37							
ASAJ				S		**S**	**02 18 30.5**	**-0.5**
	comp=Z,6.7nm,0.5s,baz=141,slow=34,SNR=0.8							
ASAJ				LR		LR	02 21 52.0	
	comp=Z,69μm,19.6s,baz=58,slow=36							
	comp=Z,226nm,0.8s							
F17K	**Baldwin Pennin**	**18.95**	**42**	P		**Pn**	**02 14 57.5**	**+0.8**
	baz=250							
E17K	**Hotham Inlet**	**18.97**	**39**	P		**Pn**	**02 14 57.7**	**+0.8**
	baz=248,SNR=648							
N16K	**Nishlik Lake**	**19.03**	**60**	P		**Pn**	**02 14 58.5**	**+0.7**
	baz=270							
H17K	**Granite Mounta**	**19.04**	**47**	IAmb		IAmb	02 15 06.2	
	comp=Z,3μm,1.6s							
H17K	**Granite Mounta**	**19.04**	**47**	P		**Pn**	**02 14 59.1**	**+1.3**
	baz=256,SNR=217							
S14K	**Fog Glacier**	**19.06**	**73**	P		**Pn**	**02 14 59.1**	**+0.9**
	baz=282							
C17K	**DeLong Mountai**	**19.10**	**35**	P		**Pn**	**02 14 59.7**	**+1.2**
	baz=242,SNR=403							
L17K	**Donlin**	**19.32**	**55**	P		**P**	**02 14 59.9**	**-

comp=Z,2µm,1.6s
ERM Erimo 20.22 238 P Pn 02 15 11.3 -0.6
ERM Erimo 20.22 238 ⇑P **P** 02 15 09.2 -0.8
ERM Erimo 20.22 238 *ce*P **P** 02 15 10.5 +0.5
ERM pmax pmax
comp=Z,505nm,1.3s
JEM Erimo 20.22 238 P Pn 02 15 11.2 -0.7
Q16K King Salmon 20.22 66 P **P** 02 15 10.3 +0.4
baz=277,SNR=57
GCSA Galena City Sc 20.27 48 P Pn 02 15 11.5 -1.0
baz=260,SNR=47
P17K Kvichak River 20.27 64 P **P** 02 15 11.0 +0.4
baz=276,SNR=33
F19K Shaleruckik Mo 20.39 42 P Pn 02 15 13.4 -0.4
baz=254
TTA Tatalina 20.43 53 P **P** 02 15 11.2 -1.1
TTA IAmb IAmb 02 15 21.4
comp=Z,3µm,1.7s
TTA Tatalina 20.43 53 P **P** 02 15 12.1 -0.2
TTA Tatalina 20.43 53 P Pn 02 15 13.6 -0.9
baz=266,SNR=143
TTA Tatalina 20.43 53 ⇑P **P** 02 15 11.3 -1.1
TTA Tatalina 20.43 53 P **P** 02 15 11.2 -1.1
TTA pmax pmax
comp=Z,3µm,1.7s
TTA MLR MLR
comp=Z,54µm,18.0s
JEW Eniwo 20.45 242 P **P** 02 15 12.3 -0.2
N18K Kilae Creek 20.45 60 IAMs_20 IAMs_20 02 23 06.8
comp=Z,80µm,18.0s
N18K Kilae Creek 20.45 60 P **P** 02 15 13.2 +0.7
baz=272
M18K Stony River 20.47 57 P **P** 02 15 13.6 +1.0
baz=270,SNR=57
G19K Purcell Mounta 20.48 44 P Pn 02 15 13.7 -1.1
baz=256
C19K Lookout Ridge 20.55 35 IAmb IAmb 02 15 25.9
comp=Z,953nm,0.9s
C19K Lookout Ridge 20.55 35 P **P** 02 15 14.5 +1.0
baz=246
A19K Wainwright 20.58 31 P Pn 02 15 15.4 -0.6
baz=241
SVW2 Sparrevohn 20.59 58 P **P** 02 15 12.8 -1.2
SVW2 Sparrevohn 20.59 58 P Pn 02 15 15.9 -0.3
H19K Roundabout Mou 20.60 46 IAmb IAmb 02 15 23.0
comp=Z,2µm,1.3s
H19K Roundabout Mou 20.60 46 P Pn 02 15 15.5 -0.7
baz=259
Q17K Contact Creek 20.68 67 P **P** 02 15 14.3 -0.7
baz=279,SNR=31
J19K Poorman 20.71 50 IAmb IAmb 02 15 24.3
comp=Z,2µm,1.6s
J19K IAMs_20 IAMs_20 02 23 14.2
comp=Z,77µm,20.0s
J19K Poorman 20.71 50 P **P** 02 15 16.1 +0.9
baz=264,SNR=165
E19K Redstone River 20.78 40 P Pn 02 15 17.8 -0.5
baz=253
D19K Kuna River 20.80 37 IAmb IAmb 02 15 22.1
comp=Z,3µm,1.9s
D19K IAMs_20 IAMs_20 02 24 24.5
comp=Z,65µm,18.0s
D19K Kuna River 20.80 37 P **P** 02 15 16.9 +0.7
baz=249
O18K Koktuh Hills 20.84 62 IAmb IAmb 02 15 22.1
comp=Z,1µm,1.3s
O18K IAMs_20 IAMs_20 02 23 09.9
comp=Z,82µm,19.0s
O18K Koktuh Hills 20.84 62 P **P** 02 15 17.6 +0.9
baz=275,SNR=9.1
P18K Big Mountain, 20.87 63 P **P** 02 15 18.2 +1.1
baz=276,SNR=68
L19K White Mountain 20.93 55 IAmb IAmb 02 15 23.6
comp=Z,1µm,1.4s
L19K White Mountain 20.93 55 P **P** 02 15 18.5 +0.8
baz=269,SNR=210
N19K Bonanza Creek 21.14 59 P **P** 02 15 21.0 +1.1
baz=273,SNR=46
M19K Big River Lodg 21.15 56 P **P** 02 15 20.8 +0.8
baz=270
F20K Avaraart Lake 21.23 42 P **P** 02 15 22.1 +1.4
baz=256
H20K Anotleneega Mo 21.23 46 P **P** 02 15 22.3 +1.5
baz=260,SNR=283
O19K Port Alsworth 21.26 61 IAMs_20 IAMs_20 02 23 13.8
comp=Z,77µm,19.0s
O19K Port Alsworth 21.26 61 P **P** 02 15 21.8 +0.7
baz=275,SNR=30
I20K Naaghedeneel 21.30 48 IAmb IAmb 02 15 29.5
comp=Z,1µm,1.2s
I20K Naaghedeneel 21.30 48 P **P** 02 15 22.5 +1.0
baz=263,SNR=47
JSH Shimam 21.30 244 P **P** 02 15 21.2 -0.5
K20K Telida 21.34 52 P **P** 02 15 22.6 +0.6
baz=267
J20K Nowinta River 21.37 50 IAmb IAmb 02 15 30.1
comp=Z,1µm,1.2s
J20K IAMs_20 IAMs_20 02 23 53.7
comp=Z,65µm,19.0s
J20K Nowinta River 21.37 50 P **P** 02 15 23.2 +0.9
baz=264,SNR=201
L20K Farewell, AK 21.39 55 P **P** 02 15 23.2 +0.5
baz=269,SNR=67
D20K Etivluk River 21.40 37 P **P** 02 15 23.8 +1.2
baz=250
E20K Nigu River 21.40 38 P **P** 02 15 24.3 +1.6
baz=252
TEY Ternei 21.50 253 ⇑ *e*P **P** 02 15 25.0 +1.1
TEY 02 19 16.8
TEY pmax pmax
comp=E,110nm,0.8s
TEY pmax pmax
comp=N,150nm,0.9s
TEY pmax pmax
comp=Z,150nm,0.9s
TEY pmax pmax
comp=Z,1µm,3.9s
TEY pmax pmax
comp=E,800nm,3.5s
TEY pmax pmax
comp=N,500nm,4.2s
R18K Karluk 21.55 68 P **P** 02 15 23.2 -1.1
baz=281,SNR=5.7
B20K Meade River 21.70 34 IAmb IAmb 02 15 37.5
comp=Z,2µm,1.1s
B20K Meade River 21.70 34 P **P** 02 15 26.6 +0.8
baz=246
JOT Ohata 21.73 240 P **P** 02 15 26.5 +0.2
Q19K Cape Douglas, 21.74 64 IAmb IAmb 02 15 44.1
comp=Z,2µm,1.4s
Q19K Cape Douglas, 21.74 64 P **P** 02 15 26.2 -0.1
baz=278,SNR=23
M20K Styx River 21.75 56 IAMs_20 IAMs_20 02 23 32.0
comp=Z,62µm,20.0s
M20K Styx River 21.75 56 P **P** 02 15 27.4 +0.9
baz=271,SNR=90
KLR Kul'dur 21.85 268 P **P** 02 15 28.1 +0.5
comp=Z,46nm,0.8s,baz=58,slow=9.3,SNR=58
KLR S **S** 02 19 29.2 +0.6
comp=Z,11nm,0.7s,baz=13,slow=18,SNR=5.0
KLR LR LR 02 24 28.4
comp=Z,36µm,18.9s,baz=64,slow=38
comp=Z,46nm,0.8s
P19K Oil Pt 21.86 62 IAmb IAmb 02 15 34.3
comp=Z,1µm,1.4s
P19K IAMs_20 IAMs_20 02 23 58.7
comp=Z,67µm,18.0s
P19K Oil Pt 21.86 62 P **P** 02 15 28.0 +0.4
baz=277
SII Sitkinak Islan 21.91 71 IAmb IAmb 02 15 31.4
comp=Z,2µm,1.4s
SII Sitkinak Islan 21.91 71 P **P** 02 15 25.3 -2.9
SII Sitkinak Islan 21.91 71 P **P** 02 15 26.8 -1.5
baz=284
G21K Allakaket 21.97 44 IAmb IAmb 02 15 35.2
comp=Z,1µm,1.2s
G21K Allakaket 21.97 44 P **P** 02 15 29.8 +1.0
baz=259
H21K Melozitna Rive 22.11 46 IAmb IAmb 02 15 37.0
comp=Z,2µm,1.4s
H21K Melozitna Rive 22.11 46 P **P** 02 15 30.3 0.0
baz=262
O20K Slope Mountain 22.11 61 P **P** 02 15 30.7 +0.3
baz=276
F21K Alatna River 22.12 42 P **P** 02 15 30.9 +0.5
baz=258
CHUM Lake Minchumin 22.15 51 P **P** 02 15 31.8 +1.1
baz=267,SNR=131

JTM Tenmabayashi 22.17 239 P **P** 02 15 30.8 -0.2
JTM Tenmabayashi 22.17 239 P **P** 02 15 31.3 +0.3
JTM Tenmabayashi 22.17 239 P **P** 02 15 30.9 -0.1
JTM Tenmabayashi 22.17 239 ⇑P **P** 02 15 30.9 -0.2
C21K Knifeblade Rid 22.17 37 P **P** 02 15 31.8 +0.9
baz=251
PPLA Purkeypile 22.18 54 P **P** 02 15 31.8 +0.6
baz=270,SNR=267
N20K Mount Spurr 22.22 58 P **P** 02 15 31.5 -0.1
baz=274,SNR=98
CAST Castle Rocks 22.24 52 IAmb IAmb 02 15 38.4
comp=Z,1µm,1.5s
CAST Castle Rocks 22.24 52 P **P** 02 15 31.7 0.0
baz=268,SNR=261
OHAK Old Harbor 22.24 69 P **P** 02 15 30.4 -1.3
OHAK Old Harbor 22.24 69 P **P** 02 15 29.5 -2.1
baz=283,SNR=32
B21K Ikpikpuk River 22.38 35 IAmb IAmb 02 15 45.0
comp=Z,1µm,1.1s
B21K Ikpikpuk River 22.38 35 P **P** 02 15 33.8 +0.7
baz=251
I21K Tanana 22.40 47 IAmb IAmb 02 15 47.3
comp=Z,1µm,1.5s
I21K Tanana 22.40 47 P **P** 02 15 33.7 +0.4
baz=264,SNR=123
A21K Barrow 22.41 31 P **P** 02 15 33.5 +0.1
baz=244,SNR=100
Q20K Shuyak Island 22.43 65 P **P** 02 15 33.1 -0.6
baz=280,SNR=31
KDAK Kodiak Island 22.49 67 P **P** 02 15 31.5 -2.9
KDAK Kodiak Island 22.49 67 P **P** 02 15 33.2 -1.2
baz=282
KDAK Kodiak Island 22.49 67 ⇑P **P** 02 15 30.9 -3.5
KDAK Kodiak Island 22.49 67 P **P** 02 15 31.5 -2.9
KDAK pmax pmax
comp=Z,509nm,1.2s
KDAK MLR MLR
comp=Z,36µm,19.0s
ZEA Zeya 22.50 282 *e*P **P** 02 15 34.3 -0.2
ZEA *e*S **S** 02 19 33.0 -7.8
ZEA pmax pmax
comp=E,80nm,0.7s
ZEA pmax pmax
comp=Z,190nm,1.1s
ZEA pmax pmax
comp=E,3µm,8.0s
ZEA pmax pmax
comp=Z,3µm,8.0s
ZEA smax smax
comp=E,14µm,7.9s
ZEA smax smax
comp=N,27µm,11.8s
SKT Skwentna 22.50 56 P **P** 02 15 35.2 +0.7
baz=272,SNR=43
HOM Homer 22.66 62 IAmb IAmb 02 15 48.2
comp=Z,2µm,1.2s
HOM IAMs_20 IAMs_20 02 24 16.7
comp=Z,57µm,19.0s
HOM Homer 22.66 62 P **P** 02 15 35.2 -0.9
baz=278
TIXI Tiksi 22.66 330 P **P** 02 15 34.6 -1.5
TIXI Tiksi 22.66 330 IAMs_20 IAMs_20 02 25 02.5
comp=Z,72µm,18.0s
TIXI Tiksi 22.66 330 ⇑P **P** 02 15 34.6 -1.5
TIXI Tiksi 22.66 330 P **P** 02 15 35.1 -1.0
TIXI Tiksi 22.66 330 LR LR 02 25 13.4
comp=Z,72nm,18.1s,baz=110,slow=39
F22K John River 22.67 41 P **P** 02 15 37.0 +0.8
baz=258
H22K Ishtalitna Cre 22.73 46 P **P** 02 15 37.8 +0.9
baz=263,SNR=258
BPAW Bear Paw Mtn. 22.75 50 IAMs_20 IAMs_20 02 24 37.9
comp=Z,63µm,20.0s
BPAW Bear Paw Mtn. 22.75 50 P **P** 02 15 37.9 +0.8
baz=268,SNR=200
A22K Sinclair Lake 22.77 32 P **P** 02 15 37.5 +0.3
baz=247
CAPN Captain Cook N 22.77 59 IAmb IAmb 02 15 52.1
comp=Z,1µm,1.4s
CAPN IAMs_20 IAMs_20 02 23 41.7
comp=Z,60µm,21.0s
CAPN Captain Cook N 22.77 59 P **P** 02 15 38.4 +1.2
baz=276
D22K Ayikyak River 22.81 38 IAMs_20 IAMs_20 02 25 58.5
comp=Z,84µm,18.0s
D22K Ayikyak River 22.81 38 P **P** 02 15 38.8 +1.1
baz=255
G22K Bettles 22.82 43 P **P** 02 15 38.6 +0.8
baz=260
CNPM China Poot 22.88 62 IAmb IAmb 02 15 44.5
comp=Z,2µm,1.6s
CNPM IAMs_20 IAMs_20 02 24 23.8
comp=Z,59µm,18.0s
SUA Susitna One 22.91 57 IAmb IAmb 02 15 50.1
comp=Z,2µm,1.9s
SUA Susitna One 22.91 57 P **P** 02 15 39.2 +0.3
baz=274,SNR=57
MLY Manley 22.91 48 IAMs_20 IAMs_20 02 25 11.0
comp=Z,60µm,19.0s
MLY Manley 22.91 48 P **P** 02 15 39.6 +0.8
baz=266,SNR=180
B22K Teshekpuk Lake 23.01 34 P **P** 02 15 40.0 +0.3
baz=250
BRLK Bradley Lake 23.02 62 IAmb IAmb 02 15 43.9
comp=Z,1µm,1.6s
BRLK IAMs_20 IAMs_20 02 24 29.3
comp=Z,62µm,19.0s
TRF Thorofare Moun 23.05 52 P **P** 02 15 41.2 +0.9
baz=270,SNR=179
CUT Chulitna 23.07 55 P **P** 02 15 40.6 +0.1
baz=272,SNR=53
JOM Ohasama 23.08 237 P **P** 02 15 41.6 +0.9
BRSE Bradley Lake S 23.10 62 P **P** 02 15 40.2 -0.6
baz=278,SNR=18
G23K Bananza Creek 23.37 44 P **P** 02 15 44.1 +0.6
baz=263
COLD Coldfoot 23.38 42 P **P** 02 15 44.2 +0.7
baz=261,SNR=343
RC01 Rabbit Creek A 23.42 58 IAmb IAmb 02 15 48.4
comp=Z,1µm,1.8s
RC01 IAMs_20 IAMs_20 02 24 39.0
comp=Z,60µm,19.0s
RC01 Rabbit Creek A 23.42 58 P **P** 02 15 42.5 -1.5
baz=276,SNR=25
I23K Minto, Yukon-K 23.50 48 IAMs_20 IAMs_20 02 25 48.6
comp=Z,65µm,19.0s
I23K Minto, Yukon-K 23.50 48 P **P** 02 15 45.1 +0.4
baz=267,SNR=367
O22K Cooper Landing 23.50 60 IAMs_20 IAMs_20 02 24 46.1
comp=Z,72µm,19.0s
O22K Cooper Landing 23.50 60 P **P** 02 15 43.4 -1.3
baz=277
NEA2 Nenana 23.60 49 IAmb IAmb 02 15 52.5
comp=Z,785nm,1.2s
NEA2 IAMs_20 IAMs_20 02 25 13.3
comp=Z,55µm,20.0s
NEA2 Nenana 23.60 49 P **P** 02 15 46.1 +0.4
baz=268,SNR=313
MCK McKinley 23.65 51 P **P** 02 15 46.6 +0.3
baz=270,SNR=215
PMR Palmer 23.67 57 IAMs_20 IAMs_20 02 24 34.4
comp=Z,56µm,21.0s
PMR Palmer 23.67 57 P **P** 02 15 44.1 -2.2
PMR Palmer 23.67 57 P **P** 02 15 45.2 -1.1
baz=275,SNR=15
SEW Seward 23.69 60 P **P** 02 15 45.9 -0.7
baz=278,SNR=35
E23K Chandalar 23.73 41 P **P** 02 15 47.9 +0.8
baz=260
HEH HeiHe 23.82 274 *e*P **P** 02 15 44.8 -3.2
HEH pP **pP** 02 15 47.3 -4.1
HEH S **S** 02 20 00.3 -3.0
HEH pmax pmax
comp=Z,130nm,1.1s
HEH pmax pmax
comp=Z,5µm,4.8s
HEH LR LR
comp=Z,147µm,15.8s
HEH LR LR
comp=Z,80µm,16.1s
HEH LR LR
comp=Z,73µm,13.5s
WAT1 Susitna Watana 23.85 54 P **P** 02 15 47.5 -0.7
baz=273
KNK Knik Glacier 24.00 57 IAmb IAmb 02 15 52.8
comp=Z,936nm,1.4s
KNK IAMs_20 IAMs_20 02 24 45.3
comp=Z,58µm,21.0s
KNK Knik Glacier 24.00 57 P **P** 02 15 49.3 -0.3
baz=276,SNR=43
WRH Wood River Hil 24.02 50 IAmb IAmb 02 15 54.9
comp=Z,1µm,1.8s
WRH IAMs_20 IAMs_20 02 24 15.5
comp=Z,53µm,19.0s
SML Sawmill 24.02 56 IAmb IAmb 02 15 54.1
comp=Z,1µm,1.4s
SML IAMs_20 IAMs_20 02 24 55.8
comp=Z,55µm,21.0s
SML Sawmill 24.02 56 P **P** 02 15 49.8 -0.1
baz=275,SNR=83
COLA College 24.13 49 P **P** 02 15 48.8 -1.9
COLA IAmb IAmb 02 15 54.8
comp=Z,1µm,1.4s
COLA College 24.13 49 IAMs_20 IAMs_20 02 25 57.2
comp=Z,60µm,19.0s
COLA College 24.13 49 P **P** 02 15 48.7 -2.0
COLA College 24.13 49 P **P** 02 15 51.8 +1.1
baz=269
COLA College 24.13 49 ⇑P **P** 02 15 48.5 -2.2
COLA College 24.13 49 P **P** 02 15 48.8 -1.9
COLA pmax pmax
comp=Z,1µm,1.4s
COLA MLR MLR
comp=Z,60µm,19.0s
H24K Nood Dome 24.15 46 P **P** 02 15 51.6 +0.5
baz=267,SNR=143
D24K Happy Valley 24.23 38 IAmb IAmb 02 16 02.9
comp=Z,1µm,1.3s
D24K IAMs_20 IAMs_20 02 26 53.9
comp=Z,64µm,19.0s
D24K Happy Valley 24.23 38 P **P** 02 15 52.2 +0.5
baz=258
WAT6 Susitna Watana 24.24 54 P **P** 02 15 51.2 -0.7
baz=274,SNR=39
F24K Squaw Lake 24.30 42 IAmb IAmb 02 15 58.2
comp=Z,2µm,1.8s
F24K Squaw Lake 24.30 42 P **P** 02 15 53.3 +0.9
baz=263,SNR=244
POKR Poker Plat Res 24.31 48 IAmb IAmb 02 15 58.0
comp=Z,1µm,1.4s
POKR IAMs_20 IAMs_20 02 26 04.2
comp=Z,65µm,18.0s
POKR Poker Plat Res 24.31 48 P **P** 02 15 53.2 +0.8
baz=269,SNR=164
M23K Glacier View 24.31 56 P **P** 02 15 52.6 +0.1
baz=276,SNR=84
DHY Denali Highway 24.37 53 P **P** 02 15 53.2 0.0
baz=273,SNR=132
G24K Hadweenzic Riv 24.38 44 P **P** 02 15 54.2 +1.1
baz=265
C24K Franklin Bluff 24.39 37 P **P** 02 15 53.4 +0.3
baz=257
SCM Sheep Creek Mo 24.50 56 P **P** 02 15 54.3 +0.1
baz=276,SNR=77
HDA Harding Lake 24.52 50 IAmb IAmb 02 16 00.2
comp=Z,1µm,1.3s
HDA Harding Lake 24.52 50 P **P** 02 15 54.1 -0.2
baz=271,SNR=169
JYA Atsumi 24.53 238 P **P** 02 15 56.8 +2.1
ILAR Eielson Array 24.54 49 P **P** 02 15 52.0 -2.5
comp=Z,411nm,1.0s,baz=258,slow=7.3,SNR=206
ILAR PcP **PcP** 02 19 31.2 -0.9
comp=Z,4.1nm,0.6s,baz=281,slow=3.3,SNR=2.3
ILAR LR LR 02 26 12.2
comp=Z,50µm,18.9s,baz=262,slow=38
comp=Z,411nm,1.0s
USA0B Ussuriysk Arra 24.58 257 P **P** 02 15 55.2 +0.2
USA0B Ussuriysk Arra 24.58 257 P **P** 02 15 55.2 +0.2
USA0B pmax pmax
comp=Z,788nm,2.0s
USRK Ussuriysk Ar. 24.58 257 P **P** 02 15 55.0 0.0
USRK Ussuriysk Ar. 24.58 257 P **P** 02 15 54.5 -0.5
comp=Z,33nm,0.9s,baz=60,slow=11,SNR=24
USRK PcP **PcP** 02 19 31.8 -0.7
comp=Z,5.1nm,0.7s,baz=50,slow=1.3,SNR=5.9
USRK ScP **ScP** 02 23 12.9 +2.2
comp=Z,5.7nm,1.0s,baz=17,slow=6.0,SNR=2.8
USRK LR LR 02 25 21.7
comp=Z,43µm,21.9s,baz=62,slow=36
comp=Z,33nm,0.9s
JMM Marumori 24.60 235 P **P** 02 15 57.1 +1.9
JMM Marumori 24.60 235 P **P** 02 15 56.1 +0.9
JMM Marumori 24.60 235 ⇑P **P** 02 15 56.4 +1.1
P23K Montague Islan 24.72 60 P **P** 02 15 56.3 +0.1
baz=280,SNR=19
G25K Bearman Lake 24.93 44 P **P** 02 15 58.4 +0.4
baz=266
M24K Tolsona, Glenn 25.01 55 P **P** 02 15 59.9 +1.1
baz=276,SNR=85
FID Port Fidalgo 25.05 58 IAmb IAmb 02 16 03.8
comp=Z,1µm,1.6s
K24K Donnelly Dome 25.05 51 P **P** 02 15 58.4 -0.8
baz=273,SNR=109
HIN Hinchinbrook I 25.09 59 IAmb IAmb 02 16 04.7
comp=Z,801nm,1.3s
HIN IAMs_20 IAMs_20 02 25 49.2
comp=Z,53µm,18.0s
D25K Kavik River 25.12 38 IAmb IAmb 02 16 19.4
comp=Z,406nm,0.9s
D25K Kavik River 25.12 38 P **P** 02 15 59.5 -0.3
baz=261
PRP Porcupine Dome 25.12 47 IAMs_20 IAMs_20 02 26 38.6
comp=Z,44µm,18.0s
PRP Porcupine Dome 25.12 47 P **P** 02 15 59.6 -0.3
baz=270,SNR=771
F25K Christian Rive 25.17 42 P **P** 02 16 00.9 +0.6
baz=265
J25K Salcha River, 25.19 49 IAmb IAmb 02 16 05.2
comp=Z,1µm,1.4s
J25K Salcha River, 25.19 49 P **P** 02 15 59.0 -1.5
baz=272,SNR=306
KLU Klutina 25.20 57 IAmb IAmb 02 16 06.2
comp=Z,759nm,1.2s
KLU Klutina 25.20 57 P **P** 02 15 59.7 -0.9
baz=278,SNR=48
E25K Arctic Village 25.25 41 IAmb IAmb 02 16 07.5
comp=Z,1µm,1.6s
E25K Arctic Village 25.25 41 P **P** 02 16 01.3 +0.4
baz=264,SNR=508
PAX Paxson 25.25 53 P **P** 02 16 00.2 -0.9
baz=275,SNR=137
Q23K Middleton Isla 25.35 61 IAmb IAmb 02 16 26.4
comp=Z,671nm,1.1s
Q23K Middleton Isla 25.35 61 P **P** 02 16 02.5 +0.7
baz=282
MID Middleton Isla 25.36 61 IAmb IAmb 02 16 26.4
comp=Z,663nm,1.1s
MID Middleton Isla 25.36 61 P **P** 02 16 03.4 +1.5
EYAK Cordova Ski Ar 25.43 59 P **P** 02 16 00.1 -2.5
EYAK Cordova Ski Ar 25.43 59 P **P** 02 16 02.5 -0.1
baz=280
HARP HAARP 25.45 54 P **P** 02 16 03.0 +0.2
baz=277,SNR=49
RIDG Independent Ri 25.47 51 P **P** 02 16 01.4 -1.5
baz=274,SNR=139
MDJ Mudanjiang 25.66 260 P **P** 02 16 05.0 +0.2
MDJ sP sP 02 16 09.6 +0.3
MDJ PP **PnPn** 02 16 39.8 -1.0
MDJ S **S** 02 20 32.3 -0.4
MDJ sS sS 02 20 41.3 +3.1
MDJ ScS **ScS** 02 27 04.4 +1.5
MDJ pmax pmax
comp=Z,140nm,2.3s
MDJ pmax pmax
comp=Z,5µm,3.5s
MDJ LR LR
comp=Z,31µm,14.8s
MDJ LR LR
comp=Z,41µm,16.8s
MDJ LR LR
comp=Z,53µm,16.5s
MDJ Mudanjiang 25.66 260 IAmb IAmb 02 16 14.5
comp=Z,608nm,1.3s
MDJ Mudanjiang 25.66 260 P **P** 02 16 04.1 -0.7
F26K Sheenjek River 25.75 42 P **P** 02 16 06.3 +0.9
baz=266
N25K Chitina, Valde 25.82 56 IAmb IAmb 02 16 10.1
comp=Z,946nm,1.5s
N25K Chitina, Valde 25.82 56 P **P** 02 16 05.5 -0.7
baz=279,SNR=60
SCRK Sand Creek 25.83 51 P **P** 02 16 05.2 -1.1
baz=274,SNR=247
G26K Porcupine Rive 25.85 44 P **P** 02 16 06.8 +0.4
baz=268

BMRM	**Bremner River**	**25.91**	**58**	P	**P**		**02 16 06.4**	**-0.7**
	baz=280,SNR=77								
J26L	**Joseph Creek**	**25.98**	**49**	IAMs_20	IAMs_20		02 26 56.5		
	comp=Z,52µm,20.0s								
J26L	**Joseph Creek**	**25.98**	**49**	P	**P**		**02 16 05.6**	**-2.1**
	baz=274,SNR=158								
RAGM	**Ragged Mountai**	**25.99**	**59**	IAmb	IAmb		02 16 12.4		
	comp=Z,812nm,1.2s								
RAGM				IAMs_20	IAMs_20		02 26 20.8		
	comp=Z,64µm,20.0s								
MENT	**Mentasta**	**26.05**	**53**	IAMs_20	IAMs_20		02 26 45.2		
	comp=Z,57µm,20.0s								
MENT	**Mentasta**	**26.05**	**53**	P	**P**		**02 16 08.7**	**+0.5**	
MSHR	**Mys Shultsa**	**26.09**	**255**	*i* P	**P**		**02 16 09.6**	**+0.9**	
I26K	**Coal Creek Min**	**26.11**	**47**	IAMs_20	IAMs_20		02 27 08.3		
	comp=Z,46µm,19.0s								
I26K	**Coal Creek Min**	**26.11**	**47**	P	**P**		**02 16 07.3**	**-1.4**	
	baz=272								
KAIM	**Kayak Island**	**26.20**	**60**	IAmb	IAmb		02 16 14.6		
	comp=Z,890nm,1.1s								
KAIM				IAMs_20	IAMs_20		02 27 23.6		
	comp=Z,72µm,18.0s								
KAIM	**Kayak Island**	**26.20**	**60**	P	**P**		**02 16 09.5**	**-0.1**	
	baz=282,SNR=28								
L26K	**Log Cabin Wild**	**26.20**	**53**	IAMs_20	IAMs_20		02 26 49.4		
	comp=Z,69µm,21.0s								
L26K	**Log Cabin Wild**	**26.20**	**53**	P	**P**		**02 16 09.5**	**-0.1**	
	baz=277,SNR=42								
GLB	**Gilahina Butte**	**26.21**	**56**	IAmb	IAmb		02 16 13.7		
	comp=Z,871nm,1.4s								
BNX	**BinXian**	**26.22**	**265**	⇑P	**P**		**02 16 09.8**	**0.0**	
BNX				pP	**sP**		**02 16 14.1**	**-0.3**	
BNX				sP	**pP**		**02 16 16.6**	**+3.4**	
BNX				PP	**PnPn**		**02 16 51.8**	**+3.4**	
BNX				S	**S**		**02 20 43.5**	**+2.0**	
BNX				sS	**sS**		**02 20 48.0**	**+0.9**	
BNX				pmax	pmax				
	comp=Z,44nm,1.3s								
BNX				pmax	pmax				
	comp=Z,3µm,3.7s								
BNX				LR	LR				
	comp=Z,40µm,13.9s								
BNX				LR	LR				
	comp=Z,38µm,13.7s								
BNX				LR	LR				
	comp=Z,30µm,15.9s								
VRDI	**Verde Repeater**	**26.42**	**57**	IAmb	IAmb		02 16 15.7		
	comp=Z,1µm,1.7s								
M26K	**Nabesna, AK**	**26.45**	**54**	IAmb	IAmb		02 16 16.6		
	comp=Z,1µm,1.5s								
M26K	**Nabesna, AK**	**26.45**	**54**	P	**P**		**02 16 12.5**	**+0.6**	
	baz=278								
BERG	**Berg Lake**	**26.46**	**59**	IAmb	IAmb		02 16 15.9		
	comp=Z,1µm,1.6s								
BERG				IAMs_20	IAMs_20		02 26 36.3		
	comp=Z,62µm,21.0s								
K27K	**Chicken**	**26.66**	**50**	IAMs_20	IAMs_20		02 28 15.0		
	comp=Z,42µm,18.0s								
K27K	**Chicken**	**26.66**	**50**	P	**P**		**02 16 14.0**	**+0.2**	
	baz=276								
E27K	**Coleen River**	**26.73**	**41**	P	**P**		**02 16 15.0**	**+0.6**	
	baz=268,SNR=118								
I27K	**Kandik River**	**26.74**	**47**	P	**P**		**02 16 13.0**	**-1.5**	
	baz=273,SNR=63								
H27K	**Steamboat Moun**	**26.75**	**45**	P	**P**		**02 16 15.3**	**+0.8**	
	baz=272								
MAJO	**Matsushiro**	**26.88**	**237**	P	**P**		**02 16 17.0**	**+1.1**	
MAJO	**Matsushiro**	**26.88**	**237**	P	**P**		**02 16 16.2**	**+0.3**	
MAJO	**Matsushiro**	**26.88**	**237**	⇑P	**P**		**02 16 16.2**	**+0.3**	
MAJO	**Matsushiro**	**26.88**	**237**	*i* P	**P**		**02 16 14.1**	**-1.9**	
MJAR	**Matsushiro Arr**	**26.88**	**237**	P	**P**		**02 16 16.0**	**0.0**	
	comp=Z,145nm,0.8s,baz=29,slow=7.9,SNR=84								
MJAR				PcP	**PcP**		**02 19 39.1**	**+1.2**	
	comp=Z,2.3nm,0.5s,baz=63,slow=2.7,SNR=4.3								
MJAR				LR	LR		02 27 49.3		
	comp=Z,31µm,19.5s,baz=23,slow=38 comp=Z,145nm,0.8s								
L27K	**Beaver Creek,**	**26.89**	**52**	IAMs_20	IAMs_20		02 27 30.7		
	comp=Z,67µm,19.0s								
L27K	**Beaver Creek,**	**26.89**	**52**	P	**P**		**02 16 16.2**	**+0.4**	
	baz=278								
SNH	**Sunshine Point**	**26.93**	**59**	IAmb	IAmb		02 16 24.2		
	comp=Z,871nm,1.5s								
SNH				IAMs_20	IAMs_20		02 27 36.6		
	comp=Z,71µm,18.0s								
M27K	**Edge Creek, AK**	**26.97**	**54**	IAmb	IAmb		02 16 31.1		
	comp=Z,614nm,1.2s								
M27K				IAMs_20	IAMs_20		02 27 16.9		
	comp=Z,43µm,20.0s								
M27K	**Edge Creek, AK**	**26.97**	**54**	P	**P**		**02 16 17.6**	**+1.0**	
	baz=279								
JRY	**Ryogami san**	**26.98**	**235**	P	**P**		**02 16 18.2**	**+1.3**	
EGAK	**Eagle**	**26.99**	**49**	IAmb	IAmb		02 16 22.8		
	comp=Z,923nm,1.3s								
EGAK				IAMs_20	IAMs_20		02 27 27.2		
	comp=Z,46µm,19.0s								
EGAK	**Eagle**	**26.99**	**49**	P	**P**		**02 16 15.9**	**-0.7**	
	baz=275,SNR=293								
EGAK	**Eagle**	**26.99**	**49**	⇑P	**P**		**02 16 13.4**	**-3.3**	
D27M	**Malcolm River**	**27.02**	**39**	IAMs_20	IAMs_20		02 28 48.0		
	comp=Z,40µm,18.0s								
D27M	**Malcolm River**	**27.02**	**39**	P	**P**		**02 16 17.8**	**+0.9**	
	baz=266								
BARN	**Barnard Glacie**	**27.31**	**57**	IAmb	IAmb		02 16 24.9		
	comp=Z,790nm,1.4s								
F28M	**Old Crow**	**27.38**	**42**	IAmb	IAmb		02 16 25.5		
	comp=Z,711nm,1.4s								
F28M	**Old Crow**	**27.38**	**42**	P	**P**		**02 16 20.5**	**+0.3**	
	baz=270,SNR=388								
BVCY	**Beaver Creek**	**27.43**	**54**	P	**P**		**02 16 20.5**	**-0.1**	
	baz=280,SNR=55								
I28M	**Miner Creek**	**27.45**	**47**	IAmb	IAmb		02 16 25.5		
	comp=Z,642nm,1.4s								
I28M	**Miner Creek**	**27.45**	**47**	P	**P**		**02 16 20.1**	**-0.8**	
	baz=275,SNR=182								
CTG	**Chitna Glacier**	**27.48**	**57**	P	**P**		**02 16 21.9**	**+0.7**	
	baz=282								
CTGM	**Chitina Glacie**	**27.48**	**57**	IAmb	IAmb		02 16 25.6		
	comp=Z,589nm,1.5s								
CTGM				IAMs_20	IAMs_20		02 27 09.8		
	comp=Z,47µm,21.0s								
E28M	**Babbage River**	**27.51**	**40**	IAmb	IAmb		02 16 25.6		
	comp=Z,579nm,1.6s								
E28M				IAMs_20	IAMs_20		02 27 19.6		
	comp=Z,44µm,21.0s								
E28M	**Babbage River**	**27.51**	**40**	P	**P**		**02 16 21.9**	**+0.6**	
	baz=269								
LOGN	**Logan Glacier**	**27.67**	**57**	IAMs_20	IAMs_20		02 27 15.5		
	comp=Z,48µm,21.0s								
YUK3	**Moose Creek**	**27.73**	**55**	P	**P**		**02 16 23.7**	**+0.1**	
	baz=281,SNR=80								
D28M	**Stokes Point**	**27.82**	**39**	P	**P**		**02 16 24.7**	**+0.7**	
	baz=268								
DAWY	**Dawson**	**27.83**	**50**	IAmb	IAmb		02 16 32.6		
	comp=Z,597nm,1.3s								
DAWY				IAMs_20	IAMs_20		02 28 22.3		
	comp=Z,40µm,20.0s								
DAWY	**Dawson**	**27.83**	**50**	P	**P**		**02 16 24.7**	**+0.4**	
	baz=278,SNR=114								
H29M	**Whitestone**	**28.03**	**45**	IAmb	IAmb		02 17 07.5		
	comp=Z,811nm,1.4s								
H29M	**Whitestone**	**28.03**	**45**	P	**P**		**02 16 26.3**	**+0.3**	
	baz=274								
E29M	**Blow River**	**28.11**	**41**	IAmb	IAmb		02 16 41.2		
	comp=Z,472nm,1.3s								
E29M	**Blow River**	**28.11**	**41**	P	**P**		**02 16 27.3**	**+0.6**	
	baz=271,SNR=222								
G29M	**Pine Creek**	**28.12**	**44**	P	**P**		**02 16 27.6**	**+0.8**	
	baz=274								
I29M	**Ogilvie Camp,**	**28.14**	**47**	IAMs_20	IAMs_20		02 28 23.4		
	comp=Z,42µm,18.0s								
I29M	**Ogilvie Camp,**	**28.14**	**47**	P	**P**		**02 16 27.2**	**+0.2**	
	baz=276,SNR=9.3								
YUK8	**Steele Glacier**	**28.16**	**56**	P	**P**		**02 16 28.0**	**+0.5**	
	baz=283,SNR=47								
PINM	**Pinnacle**	**28.20**	**58**	P	**P**		**02 16 25.9**	**-1.7**	
	baz=285,SNR=22								
BOD	**Bodaibo**	**28.28**	**297**	*e*P	**P**		**02 16 23.6**	**-4.6**	
BOD				pmax	pmax				
	comp=Z,232nm,1.6s								
J29N	**Klondike Camp**	**28.29**	**49**	IAmb	IAmb		02 16 39.4		
	comp=Z,257nm,1.4s								
J29N				IAMs_20	IAMs_20		02 28 17.9		
	comp=Z,55µm,20.0s								
J29N	**Klondike Camp**	**28.29**	**49**	P	**P**		**02 16 28.2**	**-0.1**	
	baz=278								
JSG	**Sagara**	**28.41**	**235**	P	**P**		**02 16 33.3**	**+3.7**	
CN2	**Changchun**	**28.50**	**263**	P	**P**		**02 16 30.1**	**-0.2**	
CN2				S	S		02 21 07.1	-10	
CN2				pmax	pmax				
	comp=Z,80nm,0.7s								
CN2				pmax	pmax				
	comp=Z,4µm,5.0s								
CN2				LR	LR				
	comp=Z,56µm,15.0s								
CN2				LR	LR				
	comp=Z,44µm,15.0s								
CN2				LR	LR				
	comp=Z,51µm,14.0s								
M29M	**Somme Creek**	**28.52**	**53**	IAMs_20	IAMs_20		02 28 21.3		
	comp=Z,44µm,20.0s								
M29M	**Somme Creek**	**28.52**	**53**	P	**P**		**02 16 32.2**	**+1.7**	
	baz=282								
BCPM	**Bancas Point**	**28.54**	**59**	IAmb	IAmb		02 16 35.2		
	comp=Z,841nm,1.3s								
BCPM				IAMs_20	IAMs_20		02 28 21.2		
	comp=Z,69µm,19.0s								
L29M	**L29M**	**28.54**	**52**	IAMs_20	IAMs_20		02 28 30.4		
	comp=Z,42µm,20.0s								
L29M	**L29M**	**28.54**	**52**	P	**P**		**02 16 31.2**	**+0.6**	
	baz=280,SNR=176								
HIA	**Hailar**	**28.65**	**277**	P	**P**		**02 16 32.3**	**+0.6**	
HIA	**Hailar**	**28.65**	**277**	*i* P	**P**		**02 16 31.6**	**-0.1**	
HIA				pmax	pmax				
	comp=Z,222nm,2.7s								
HIA				MLR	MLR				
	comp=Z,36µm,16.0s								
YUK4	**Talbot Arm**	**28.67**	**55**	P	**P**		**02 16 32.5**	**+0.6**	
	baz=283,SNR=43								
EPYK	**Eagle Plains**	**28.68**	**45**	P	**P**		**02 16 32.3**	**+0.5**	
	baz=276,SNR=307								
K29M	**Barlow Dome**	**28.68**	**50**	IAmb	IAmb		02 16 36.0		
	comp=Z,548nm,1.6s								
K29M				IAMs_20	IAMs_20		02 29 19.0		
	comp=Z,35µm,18.0s								
K29M	**Barlow Dome**	**28.68**	**50**	P	**P**		**02 16 32.2**	**+0.3**	
	baz=280								
PNL	**Peninsula**	**28.73**	**59**	P	**P**		**02 16 29.9**	**-2.4**	
PNL	**Peninsula**	**28.73**	**59**	P	**P**		**02 16 32.0**	**-0.3**	
	baz=286,SNR=9.7								
G30M	**tAoh Zraii Nji**	**28.82**	**43**	IAmb	IAmb		02 16 37.3		
	comp=Z,685nm,1.4s								
G30M	**tAoh Zraii Nji**	**28.82**	**43**	P	**P**		**02 16 33.8**	**+0.7**	
	baz=275								
YUK6	**Outpost Mounta**	**28.90**	**56**	P	**P**		**02 16 33.8**	**-0.2**	
	baz=284,SNR=38								
F30M	**Barrier River**	**28.94**	**42**	P	**P**		**02 16 35.1**	**+1.1**	
	baz=274								
O29M	**Mount Kennedy**	**28.96**	**58**	IAMs_20	IAMs_20		02 28 08.7		
	comp=Z,58µm,21.0s								
O29M	**Mount Kennedy**	**28.96**	**58**	P	**P**		**02 16 35.1**	**+0.6**	
	baz=285,SNR=42								
I30M	**Mount Dempster**	**28.96**	**47**	IAMs_20	IAMs_20		02 28 58.6		
	comp=Z,38µm,18.0s								
I30M	**Mount Dempster**	**28.96**	**47**	P	**P**		**02 16 35.0**	**+0.6**	
	baz=278								
JHJ	**Hachijo jima 2**	**28.99**	**231**	LR	LR		02 29 37.2		
	comp=Z,7µm,20.1s,baz=85,slow=39								
J30M	**Hart River**	**29.08**	**48**	IAMs_20	IAMs_20		02 28 43.4		
	comp=Z,43µm,20.0s								
J30M	**Hart River**	**29.08**	**48**	P	**P**		**02 16 35.2**	**-0.2**	
	baz=279								
M30M	**Minto, Yukon**	**29.25**	**53**	IAMs_20	IAMs_20		02 29 03.3		
	comp=Z,46µm,19.0s								
M30M	**Minto, Yukon**	**29.25**	**53**	P	**P**		**02 16 37.9**	**+1.0**	
	baz=282,SNR=61								
HYT	**Haines Junctio**	**29.33**	**56**	IAmb	IAmb		02 16 43.1		
	comp=Z,721nm,1.4s								
HYT				IAMs_20	IAMs_20		02 28 20.2		
	comp=Z,45µm,20.0s								
HYT	**Haines Junctio**	**29.33**	**56**	P	**P**		**02 16 38.9**	**+1.1**	
	baz=285,SNR=99								
N30M	**Aishikik Lake**	**29.37**	**55**	IAMs_20	IAMs_20		02 28 52.4		
	comp=Z,45µm,20.0s								
N30M	**Aishikik Lake**	**29.37**	**55**	P	**P**		**02 16 38.0**	**0.0**	
	baz=284,SNR=17								
MAYO	**Mayo, Yukon**	**29.44**	**50**	IAMs_20	IAMs_20		02 29 42.4		
	comp=Z,35µm,18.0s								
MAYO	**Mayo, Yukon**	**29.44**	**50**	P	**P**		**02 16 39.6**	**+1.1**	
	baz=281,SNR=17								
P29M	**Windy Craggy**	**29.55**	**59**	IAmb	IAmb		02 16 44.9		
	comp=Z,557nm,1.6s								
P29M				IAMs_20	IAMs_20		02 29 00.3		
	comp=Z,56µm,20.0s								
P29M	**Windy Craggy**	**29.55**	**59**	P	**P**		**02 16 38.3**	**-1.3**	
	baz=287								
P29M				S	**S**		**02 21 36.7**	**+2.9**	
	baz=287								
G31M	**Satah River**	**29.59**	**43**	IAmb	IAmb		02 16 43.9		
	comp=Z,641nm,1.4s								
G31M	**Satah River**	**29.59**	**43**	P	**P**		**02 16 40.4**	**+0.6**	
	baz=277								
G31M				S	**S**		**02 21 36.0**	**+1.7**	
	baz=277								
MIDW	**Midway**	**29.65**	**150**	IAMs_20	IAMs_20		02 25 03.3		
	comp=Z,51µm,22.0s								
INK	**Inuvik**	**29.74**	**41**	IAmb	IAmb		02 16 45.7		
	comp=Z,695nm,1.4s								
INK	**Inuvik**	**29.74**	**41**	P	**P**		**02 16 42.2**	**+1.1**	
	baz=275,SNR=247								
INK				S	**S**		**02 21 39.1**	**+2.6**	
	baz=275								
INK	**Inuvik**	**29.74**	**41**	⇑P	**P**		**02 16 39.5**	**-1.6**	
F31M	**Tsiigehtchic**	**29.74**	**42**	IAmb	IAmb		02 16 45.1		
	comp=Z,537nm,1.4s								
F31M	**Tsiigehtchic**	**29.74**	**42**	P	**P**		**02 16 41.7**	**+0.6**	
	baz=276,SNR=200								
F31M				S	**S**		**02 21 37.7**	**+1.2**	
	baz=276								
P30M	**Million Dollar**	**29.79**	**57**	P	**P**		**02 16 42.1**	**+0.4**	
	baz=287								
HHU	**Hamhung**	**29.90**	**255**	P	**P**		**02 16 43.7**	**+1.0**	
HHU				S	**S**		**02 21 39.5**	**0.0**	
HHU				AmB					
	comp=Z,4µm,3.3s								
HHU				AMS	AMS				
	comp=Z,33µm,12.5s								
N31M	**Braeburn, Yuko**	**29.97**	**54**	IAMs_20	IAMs_20		02 29 20.3		
	comp=Z,49µm,20.0s								
N31M	**Braeburn, Yuko**	**29.97**	**54**	P	**P**		**02 16 44.3**	**+1.0**	
	baz=285,SNR=10								
N31M				S	**S**		**02 21 44.5**	**+4.0**	
	baz=285								
O30N	**Mendenhall**	**30.02**	**56**	IAMs_20	IAMs_20		02 30 25.6		
	comp=Z,39µm,18.0s								
O30N	**Mendenhall**	**30.02**	**56**	P	**P**		**02 16 44.4**	**+0.7**	
	baz=286,SNR=43								
O30N				S	**S**		**02 21 44.4**	**+3.2**	
	baz=286								
PLBC	**Pleasant Camp**	**30.27**	**59**	P	**P**		**02 16 46.4**	**+0.5**	
	baz=288								
M31M	**Drury Creek, Y**	**30.43**	**53**	IAmb	IAmb		02 16 52.3		
	comp=Z,573nm,1.4s								
M31M				IAMs_20	IAMs_20		02 29 48.2		
	comp=Z,44µm,20.0s								
M31M	**Drury Creek, Y**	**30.43**	**53**	P	**P**		**02 16 48.3**	**+1.0**	
	baz=285,SNR=115								
M31M				S	**S**		**02 21 51.6**	**+4.1**	
	baz=285								
WHY	**Whitehorse**	**30.62**	**56**	IAmb	IAmb		02 16 55.0		
	comp=Z,672nm,1.6s								
WHY	**Whitehorse**	**30.62**	**56**	P	**P**		**02 16 50.0**	**+0.9**	
	baz=287,SNR=74								
WHY				S	**S**		**02 21 55.5**	**+4.7**	
	baz=287								
SKAG	**Skagway**	**30.77**	**58**	IAmb	IAmb		02 17 03.0		
	comp=Z,393nm,1.4s								
SKAG				IAMs_20	IAMs_20		02 30 32.6		
	comp=Z,48µm,18.0s								
SKAG	**Skagway**	**30.77**	**58**	P	**P**		**02 16 51.5**	**+1.2**	
SKAG	**Skagway**	**30.77**	**58**	P	**P**		**02 16 51.8**	**+1.5**	
	baz=289,SNR=12								
SKAG				S	**S**		**02 21 57.7**	**+4.8**	
	baz=289								
CIT	**Chita**	**30.77**	**286**	*e*P	**P**		**02 16 52.6**	**+2.1**	
CIT				*e*			02 17 47.8		
CIT				*e*			02 18 08.6		
CIT				*e*			02 19 47.8		
CIT				*e*S	**S**		**02 21 54.8**	**+1.6**	
CIT				pmax	pmax				
	comp=Z,1µm,2.5s								
SNY	**Shenyang**	**30.82**	**262**	⇑P	**P**		**02 16 50.3**	**-0.6**	
SNY				S	**S**		**02 21 53.9**	**0.0**	
SNY				pmax	pmax				
	comp=Z,44nm,1.3s								
SNY				pmax	pmax				
	comp=Z,4µm,8.2s								
SNY				LR	LR				
	comp=Z,34µm,18.5s								
SNY				LR	LR				
	comp=Z,25µm,21.3s								
SNY				LR	LR				
	comp=Z,49µm,17.5s								
S31K	**Pelican**	**30.83**	**61**	P	**P**		**02 16 51.7**	**+0.9**	
	baz=290								
S31K				S	**S**		**02 21 57.3**	**+3.5**	
	baz=290								
FARO	**Faro, Yukon**	**30.89**	**52**	IAMs_20	IAMs_20		02 30 02.4		
	comp=Z,45µm,19.0s								
FARO	**Faro, Yukon**	**30.89**	**52**	P	**P**		**02 16 51.9**	**+0.5**	
	baz=285,SNR=58								
FARO				S	**S**		**02 21 57.9**	**+3.1**	
	baz=285								
R31K	**City Hall, Gus**	**30.92**	**60**	P	**P**		**02 16 52.8**	**+1.2**	
	baz=290								
R31K				S	**S**		**02 21 58.1**	**+3.0**	
	baz=290								
JMN	**Monobe**	**31.25**	**240**	IAMs_20	IAMs_20		02 28 43.8		
	comp=Z,31µm,19.0s								
JMN	**Monobe**	**31.25**	**240**	P	**P**		**02 16 57.5**	**+2.7**	
N32M	**Quiet Lake**	**31.32**	**54**	IAmb	IAmb		02 17 00.6		
	comp=Z,855nm,1.5s								
N32M				IAMs_20	IAMs_20		02 31 14.7		
	comp=Z,50µm,18.0s								
N32M	**Quiet Lake**	**31.32**	**54**	P	**P**		**02 16 56.6**	**+1.4**	
	baz=287								
KS19	**Wonju Array Si**	**31.45**	**251**	IAmb	IAmb		02 17 08.7		
	comp=Z,703nm,1.7s								
KSRS	**Korea Array**	**31.46**	**251**	P	**P**		**02 16 57.4**	**+0.9**	
	comp=Z,54nm,1.0s,baz=41,slow=9.3,SNR=34								
KSRS				PcP	**PcP**		**02 19 50.8**	**+1.4**	
	comp=Z,17nm,1.1s,baz=34,slow=2.2,SNR=5.8								
KSRS				ScP	**ScP**		**02 23 32.9**	**+0.9**	
	comp=Z,3.7nm,1.0s,baz=67,slow=4.0,SNR=3.2								
KSRS				LR	LR		02 28 41.9		
	comp=Z,26µm,21.6s,baz=45,slow=34 comp=Z,54nm,1.0s								
SUJ	**Sinuiju**	**31.46**	**258**	P	**P**		**02 16 57.8**	**+1.2**	
SUJ				S	**S**		**02 22 04.1**	**+0.1**	
SUJ				AmB					
	comp=Z,5µm,2.9s								
SUJ				AMS	AMS				
	comp=Z,41µm,14.4s								
KSAR	**Wonju Array Be**	**31.49**	**251**	P	**P**		**02 16 57.5**	**+0.8**	
KSAR	**Wonju Array Be**	**31.49**	**251**	P	**P**		**02 16 57.6**	**+0.8**	
PYAG	**Pyongyang**	**31.49**	**256**	P	**P**		**02 16 57.5**	**+0.7**	
PYAG				S	**S**		**02 22 04.4**	**-0.1**	
PYAG				AmB					
	comp=Z,10µm,5.1s								
PYAG				AMS	AMS				
	comp=Z,35µm,13.8s								
P32M	**Atlin**	**31.51**	**57**	IAmb	IAmb		02 17 01.9		
	comp=Z,421nm,1.5s								
P32M				IAMs_20	IAMs_20		02 29 47.0		
	comp=Z,62µm,21.0s								
P32M	**Atlin**	**31.51**	**57**	P	**P**		**02 16 58.0**	**+1.1**	
	baz=289,SNR=40								
P32M				S	**S**		**02 22 09.5**	**+5.0**	
	baz=289								
R32K	**Eaglecrest**	**31.57**	**60**	IAmb	IAmb		02 17 02.3		
	comp=Z,436nm,1.4s								
R32K	**Eaglecrest**	**31.57**	**60**	P	**P**		**02 16 58.3**	**+0.9**	
	baz=291,SNR=32								
R32K				S	**S**		**02 22 07.4**	**+1.9**	
	baz=291								
SIT	**Sitka**	**31.61**	**63**	IAmb	IAmb		02 17 03.8		
	comp=Z,655nm,1.4s								
SIT	**Sitka**	**31.61**	**63**	P	**P**		**02 16 57.2**	**-0.5**	
SIT	**Sitka**	**31.61**	**63**	P	**P**		**02 16 58.6**	**+0.9**	
	baz=292,SNR=14								
SIT				S	**S**		**02 22 10.0**	**+3.9**	
	baz=292								
JIS	**Juneau Island**	**31.64**	**60**	IAmb	IAmb		02 17 03.7		
	comp=Z,495nm,1.2s								
JIS	**Juneau Island**	**31.64**	**60**	P	**P**		**02 16 56.9**	**-1.0**	
P33M	**Teslin, Yukon**	**31.73**	**56**	IAmb	IAmb		02 17 04.7		
	comp=Z,440nm,1.2s								
P33M				IAMs_20	IAMs_20		02 29 10.9		
	comp=Z,36µm,22.0s								
P33M	**Teslin, Yukon**	**31.73**	**56**	P	**P**		**02 17 00.2**	**+1.3**	
	baz=289,SNR=87								
P33M				S	**S**		**02 22 11.5**	**+3.4**	
	baz=289								
S32K	**Killisnoo**	**31.84**	**62**	IAmb	IAmb		02 17 09.7		
	comp=Z,415nm,1.4s								
S32K	**Killisnoo**	**31.84**	**62**	P	**P**		**02 17 01.3**	**+1.7**	
	baz=292,SNR=21								
INCN	**Inchon**	**32.13**	**253**	P	**P**		**02 17 03.5**	**+1.0**	
INCN	**Inchon**	**32.13**	**253**	P	**P**		**02 17 03.5**	**+1.0**	
INCN				pmax	pmax				
	comp=Z,281nm,1.5s								
INCN				MLR	MLR				
	comp=Z,21µm,22.0s								
INCN	**Inchon**	**32.13**	**253**	P	**P**		**02 17 03.1**	**+0.6**	
INCN				P	**P**		**02 17 03.1**	**+0.6**	
INCN				S	**S**		**02 22 14.3**	**-0.4**	
INCN				S	**S**		**02 22 14.3**	**-0.4**	
A36M	**Sachs Harbour**	**32.20**	**33**	P	**P**		**02 17 01.5**	**-1.3**	
A36M				IAmb	IAmb		02 17 07.4		
	comp=Z,286nm,1.2s								
A36M	**Sachs Harbour**	**32.20**	**33**	P	**P**		**02 17 04.1**	**+1.4**	
	baz=276,SNR=147								
A36M				S	**S**		**02 22 16.3**	**+1.4**	
	baz=276								
HJU	**Haeju**	**32.23**	**254**	P	**P**		**02 17 04.5**	**+1.3**	
HJU				S	**S**		**02 22 15.8**	**-0.2**	
HJU				AmB					
	comp=

S34M **Telegraph Cree** 33.37 59 P **P** 02 17 14.5 +1.3
baz=293,SNR=44
S34M S **S** 02 22 36.9 +3.4
baz=293
WRAK Wrangell Islan 33.37 62 IAmb IAmb 02 17 24.3
comp=Z,361nm,1.2s
WRAK Wrangell Islan 33.37 62 P **P** 02 17 15.0 +1.8
baz=295,SNR=16
WRAK S **S** 02 22 39.5 +6.0
baz=295
WRAK Wrangell Islan 33.37 62 ⇓P **P** 02 17 15.4 +2.3
CRAG Craig 33.38 64 IAmb IAmb 02 17 21.0
comp=Z,388nm,1.3s
CRAG Craig 33.38 64 P **P** 02 17 14.2 +1.0
CRAG Craig 33.38 64 P **P** 02 17 14.8 +1.6
baz=296
CRAG S **S** 02 22 40.5 +6.9
baz=296
CRAG Craig 33.38 64 ⇑P **P** 02 17 16.4 +3.2
WTLY Watson Lake, Y 33.65 55 IAmb IAmb 02 17 20.6
comp=Z,503nm,1.5s
WTLY IAMs_20 IAMs_20 02 31 42.6
comp=Z,47µm,21.0s
WTLY Watson Lake, Y 33.65 55 P **P** 02 17 16.2 +0.6
baz=292,SNR=62
WTLY S **S** 02 22 41.5 +3.7
baz=292
DLBC Dease Lake 33.70 58 IAmb IAmb 02 17 22.0
comp=Z,764nm,1.5s
DLBC IAMs_20 IAMs_20 02 31 17.1
comp=Z,40µm,20.0s
DLBC Dease Lake 33.70 58 P **P** 02 17 17.8 +1.7
baz=293,SNR=104
DLBC S **S** 02 22 45.5 +6.8
baz=293
DLBC Dease Lake 33.70 58 LR LR 02 31 27.9
comp=Z,38µm,20.9s,baz=308,slow=37
XLT XiLinHaoTe 33.77 271 ⇓*i*P **P** 02 17 18.4 +1.6
XLT pP sP 02 17 23.3 +1.9
XLT sP pP 02 17 25.0 +4.7
XLT PcP **PcP** 02 19 58.6 +2.7
XLT S **S** 02 22 39.1 -0.9
XLT pmax pmax
comp=Z,110nm,1.3s
XLT pmax pmax
comp=Z,3µm,7.7s
XLT LR LR
comp=Z,6µm,16.4s
XLT LR LR
comp=Z,48µm,16.8s
XLT LR LR
comp=Z,12µm,17.0s
DL2 Dalian 33.89 260 ⇑*i*P **P** 02 17 18.6 +0.8
DL2 PP **PP** 02 18 35.9 +1.5
DL2 S **S** 02 22 41.4 -0.4
DL2 pmax pmax
comp=Z,100nm,1.1s
DL2 pmax pmax
comp=Z,2µm,8.2s
DL2 LR LR
comp=Z,43µm,19.4s
DL2 LR LR
comp=Z,34µm,20.4s
DL2 LR LR
comp=Z,43µm,20.6s
T35M Bob Quinn 34.19 61 IAmb IAmb 02 17 29.4
comp=Z,568nm,1.3s
T35M IAMs_20 IAMs_20 02 30 46.1
comp=Z,36µm,22.0s
T35M Bob Quinn 34.19 61 P **P** 02 17 22.0 +1.7
baz=295,SNR=89
T35M S **S** 02 22 53.7 +7.5
baz=295
V35K Ketchikan 34.22 64 IAmb IAmb 02 17 25.9
comp=Z,482nm,1.7s
V35K Ketchikan 34.22 64 P **P** 02 17 22.0 +1.5
baz=297,SNR=8.2
V35K S **S** 02 22 51.7 +5.2
baz=297
DIB Dawson Inlet, 34.76 68 IAmb IAmb 02 17 33.4
comp=Z,354nm,1.3s
U35K Hyder 34.76 62 P **P** 02 17 26.2 +1.1
baz=297
U35K S **S** 02 23 00.4 +5.5
baz=297
WRGLY Wrigley 34.91 48 IAmb IAmb 02 17 31.8
comp=Z,580nm,1.4s
WRGLY IAMs_20 IAMs_20 02 33 16.7
comp=Z,44µm,19.0s
WRGLY Wrigley 34.91 48 P **P** 02 17 27.6 +1.2
baz=291,SNR=74
WRGLY S **S** 02 22 59.6 +2.5
baz=291
RUBB Prince Rupert 35.38 65 IAMs_20 IAMs_20 02 30 49.9
comp=Z,29µm,21.0s
IRK Irkutsk 35.67 291 *e*P **P** 02 17 35.0 +1.9
IRK *e*S S 02 22 55.8 -13
IRK pmax pmax
comp=Z,700nm,2.9s
GRNB Grenville Isla 35.76 65 IAmb IAmb 02 17 39.5
comp=Z,881nm,1.7s
GRNB IAMs_20 IAMs_20 02 33 48.0
comp=Z,37µm,18.0s
KOTAN Kotaneelee Air 35.84 53 P **P** 02 17 35.7 +1.3
baz=294,SNR=114
KOTAN S **S** 02 23 15.0 +3.6
baz=294
FLDN Fort Liard 36.05 53 IAmb IAmb 02 17 51.3
comp=Z,380nm,1.4s
FLDN IAMs_20 IAMs_20 02 34 24.0
comp=Z,30µm,18.0s
FLDN Fort Liard 36.05 53 P **P** 02 17 36.3 +0.1
baz=294
FLDN S **S** 02 23 16.9 +2.2
baz=294
NRIK Noril'sk 36.12 324 P **P** 02 17 35.1 -1.6
NRIK Noril'sk 36.12 324 *ce*P **P** 02 17 35.3 -1.4
NRIK pmax pmax
comp=Z,211nm,1.5s
NRIK MLR MLR
comp=Z,55µm,18.0s
NRIK Noril'sk 36.12 324 P **P** 02 17 35.3 -1.4
comp=Z,24nm,0.8s,baz=82,slow=8.2,SNR=38
NRIK LR LR 02 33 29.0
comp=Z,54µm,18.5s,baz=78,slow=38
comp=Z,24nm,0.8s
BJI Beijing 36.20 266 P **P** 02 17 38.3 +0.6
BJI S **S** 02 23 17.5 +0.2
BJI ScS **ScS** 02 27 55.0 +0.5
BJI pmax pmax
comp=Z,56nm,2.3s
BJI pmax pmax
comp=Z,2µm,4.7s
BJI LR LR
comp=Z,28µm,18.7s
BJI LR LR
comp=Z,21µm,19.3s
BJI LR LR
comp=Z,21µm,18.8s
BJT Baijiatuau 36.22 266 IAMs_20 IAMs_20 02 33 19.8
comp=Z,38µm,19.0s
BJT Baijiatuau 36.22 266 P **P** 02 17 38.5 +0.6
ULN Ulaanbaatar 36.52 283 P **P** 02 17 40.3 -0.3
ULN Ulaanbaatar 36.52 283 ⇑P **P** 02 17 40.2 -0.3
ULN Ulaanbaatar 36.52 283 P **P** 02 17 40.3 -0.3
ULN pmax pmax
comp=Z,238nm,1.4s
ULN MLR MLR
comp=Z,19µm,19.0s
ULN Ulaanbaatar 36.52 283 P **P** 02 17 41.7 +1.1
ULN S **S** 02 23 22.4 0.0
ULN Ulaanbaatar 36.52 283 P **P** 02 17 39.7 -0.8
comp=Z,525nm,0.8s,comp=Z,17µm
SONM Songino Array 36.90 284 P **P** 02 17 43.5 -0.3
SONM Songino Array 36.90 284 P **P** 02 17 43.2 -0.6
comp=Z,37nm,0.7s,baz=61,slow=7.8,SNR=58
SONM PcP **PcP** 02 20 04.3 -0.7
comp=Z,11nm,0.7s,baz=84,slow=2.1,SNR=5.0
SONM ScP **ScP** 02 23 52.1 +0.8
comp=Z,4.1nm,1.1s,baz=27,slow=1.6,SNR=3.7
SONM LR LR 02 34 26.0
comp=Z,15µm,20.4s,baz=58,slow=39
comp=Z,37nm,0.7s
ZAK Zakamensk 37.18 289 *e*P **P** 02 17 44.7 -1.4
ZAK *e* 02 20 03.8
ZAK pmax pmax
comp=Z,91nm,1.1s

BBB Bella Bella 37.57 67 IAMs_20 IAMs_20 02 32 15.8
comp=Z,29µm,19.0s
BBB Bella Bella 37.57 67 ⇑P **P** 02 17 51.7 +2.5
BBB Bella Bella 37.57 67 LR LR 02 32 36.3
comp=Z,28µm,18.5s,baz=301,slow=35
MOY Mondy 37.71 292 *e*P **P** 02 17 52.6 +2.0
MOY pmax pmax
comp=Z,507nm,1.9s
HHC Hu-ho-hao-te 38.29 271 *e*P **P** 02 17 56.8 +1.2
HHC PcP **PcP** 02 20 12.4 +3.0
HHC S **S** 02 23 49.5 +0.2
HHC SS **SnSn** 02 26 29.0 -4.7
HHC pmax pmax
comp=Z,170nm,2.0s
HHC pmax pmax
comp=Z,6µm,5.4s
HHC LR LR
comp=Z,95µm,16.0s
HHC LR LR
comp=Z,74µm,16.0s
HHC LR LR
comp=Z,58µm,16.8s
TIA Tai'an 38.32 261 P **P** 02 17 56.8 +1.0
TIA PP **PnPn** 02 19 29.3 +4.3
TIA S **S** 02 23 50.9 +1.2
TIA pmax pmax
comp=Z,41nm,1.5s
TIA pmax pmax
comp=Z,2µm,7.8s
TIA LR LR
comp=Z,15µm,13.9s
TIA LR LR
comp=Z,20µm,14.2s
TIA LR LR
comp=Z,26µm,15.8s
HOLB Holberg 38.39 69 IAMs_20 IAMs_20 02 32 29.7
comp=Z,25µm,19.0s
HNS HongShan 38.85 264 ⇑P **P** 02 18 01.6 +1.5
HNS S **S** 02 23 57.8 +0.3
HNS ScS **ScS** 02 28 10.3 +0.7
HNS pmax pmax
comp=Z,130nm,1.5s
HNS pmax pmax
comp=Z,4µm,4.2s
HNS LR LR
comp=Z,14µm,15.1s
HNS LR LR
comp=Z,69µm,15.9s
HNS LR LR
comp=Z,66µm,16.7s
YKAW3 Yellowknife Wh 38.89 46 IAMs_20 IAMs_20 02 35 09.7
comp=Z,19µm,20.0s
YKA Yellowknife Ar 38.92 47 P **P** 02 17 58.8 -1.7
comp=Z,46nm,0.9s,baz=297,slow=7.6,SNR=96
YKA PcP **PcP** 02 20 10.4 -0.4
comp=Z,11nm,0.8s,baz=298,slow=3.8,SNR=5.2
comp=Z,46nm,0.9s
YKAW1 Yellowknife Wh 38.98 46 IAMs_20 IAMs_20 02 35 12.0
comp=Z,20µm,20.0s
BTO Baotou 39.33 272 *e*P **P** 02 18 03.8 -0.5
BTO pP **sP** 02 18 08.3 -0.6
BTO sP **pP** 02 18 10.8 +3.0
BTO PP **PnPn** 02 19 38.1 +1.1
BTO S **S** 02 24 04.0 -1.0
BTO sS **sS** 02 24 11.3 +0.6
BTO SS **SS** 02 26 45.9 -12
BTO pmax pmax
comp=Z,81nm,1.7s
BTO pmax pmax
comp=Z,5µm,3.9s
BTO LR LR
comp=Z,131µm,16.3s
BTO LR LR
comp=Z,105µm,15.1s
BTO LR LR
comp=Z,66µm,16.9s
JOW Kunigami 39.65 240 P **P** 02 18 08.9 +1.9
JOW Kunigami 39.65 240 ⇑P **P** 02 18 08.7 +1.7
JOW Kunigami 39.65 240 LR LR 02 35 11.2
comp=Z,14µm,21.7s,baz=52,slow=37
RES Resolute Bay 39.72 24 P **P** 02 18 05.5 -1.5
RES Resolute Bay 39.72 24 ⇓P **P** 02 18 05.5 -1.5
RES Resolute Bay 39.72 24 P **P** 02 18 05.6 -1.5
RES pmax pmax
comp=Z,257nm,1.4s
RES Resolute Bay 39.72 24 LR LR 02 38 12.8
comp=Z,8µm,18.1s,baz=286,slow=42
SSE Sheshan 39.90 251 P **P** 02 18 09.6 +0.6
SSE S **S** 02 24 08.4 -5.0
SSE pmax pmax
comp=Z,59nm,1.2s
SSE pmax pmax
comp=Z,3µm,8.4s
SSE LR LR
comp=Z,5µm,14.1s
SSE LR LR
comp=Z,7µm,14.1s
TIY Taiyuan 39.92 267 *e*P **P** 02 18 10.6 +1.4
TIY S **S** 02 24 16.1 +2.3
TIY SS **SS** 02 26 59.3 -11
TIY pmax pmax
comp=Z,100nm,1.8s
TIY pmax pmax
comp=Z,3µm,5.5s
TIY LR LR
comp=Z,45µm,16.3s
TIY LR LR
comp=Z,16µm,13.3s
TIY LR LR
comp=Z,32µm,13.3s
NJ2 Nanjing 40.44 255 ⇓P **P** 02 18 14.8 +1.4
NJ2 pP **sP** 02 18 19.8 +1.8
NJ2 sP **pP** 02 18 22.3 +5.5
NJ2 S **S** 02 24 24.8 +3.3
NJ2 ScS **ScS** 02 28 19.6 +0.5
NJ2 pmax pmax
comp=Z,65nm,1.1s
NJ2 pmax pmax
comp=Z,4µm,4.3s
NJ2 LR LR
comp=Z,25µm,13.3s
NJ2 LR LR
comp=Z,23µm,14.2s
NJ2 LR LR
comp=Z,38µm,13.3s
CLRS Cowichan Lake 41.56 69 IAMs_20 IAMs_20 02 33 28.6
comp=Z,25µm,21.0s
C03A Quillayute Air 41.85 70 IAMs_20 IAMs_20 02 37 46.4
comp=Z,25µm,19.0s
KEKH Kekaha 41.90 129 IAMs_20 IAMs_20 02 38 25.3
comp=Z,29µm,18.0s
BRLDA Berland Lookou 41.95 59 IAmb IAmb 02 18 31.4
comp=Z,852nm,1.2s
BRLDA IAMs_20 IAMs_20 02 35 55.3
comp=Z,31µm,20.0s
PGC Sidney 42.02 69 IAMs_20 IAMs_20 02 34 39.8
comp=Z,23µm,19.0s
LYN LuoYang 42.15 263 ⇓P **P** 02 18 28.6 +1.1
LYN S **S** 02 24 49.6 +2.7
LYN pmax pmax
comp=Z,280nm,1.6s
LYN pmax pmax
comp=Z,7µm,5.2s
LYN LR LR
comp=Z,51µm,19.8s
LYN LR LR
comp=Z,47µm,20.6s
LYN LR LR
comp=Z,45µm,14.9s
NLWA Neilton Lookou 42.56 71 IAMs_20 IAMs_20 02 34 12.6
comp=Z,22µm,19.0s
NLWA Neilton Lookou 42.56 71 ⇓P **P** 02 18 30.1 -0.7
WISH Wishkah 42.78 71 IAMs_20 IAMs_20 02 33 48.1
comp=Z,22µm,21.0s
JMJ Miyako jima 2 42.81 241 P **P** 02 18 35.8 +2.9
OPA Opana 42.91 127 IAmb IAmb 02 18 39.1
comp=Z,444nm,1.1s
OPA IAMs_20 IAMs_20 02 31 55.2
comp=Z,23µm,21.0s
GNW Green Mountain 43.02 70 IAMs_20 IAMs_20 02 38 24.2
comp=Z,25µm,19.0s
B06A Marblemount 43.14 68 IAMs_20 IAMs_20 02 35 54.4
comp=Z,26µm,18.0s
KIP Kipapa 43.14 127 P **P** 02 18 35.9 +0.3
KIP IAmb IAmb 02 18 41.5
comp=Z,547nm,1.2s

KIP Kipapa 43.14 127 P **P** 02 18 38.2 +2.6
KIP Kipapa 43.14 127 *i*P **P** 02 18 36.9 +1.3
KIP pmax pmax
comp=Z,527nm,1.2s
HON Honolulu 43.23 127 P **P** 02 18 35.4 -1.0
HON Honolulu 43.23 127 P **P** 02 18 35.4 -1.0
HON pmax pmax
comp=Z,335nm,1.0s
E03A Lebam 43.25 71 P **P** 02 18 34.8 -1.4
D05A Enumclaw 43.70 70 P **P** 02 18 38.8 -1.1
D05A IAmb IAmb 02 18 59.6
comp=Z,1µm,1.8s
TULEG Thule 43.73 16 P **P** 02 18 38.4 -1.4
TULEG Thule 43.73 16 *i*P **P** 02 18 39.2 -0.6
TULEG IAmb IAmb 02 18 43.0
comp=Z,255nm,1.4s
F04D Rainier, OR 43.84 71 IAmb IAmb 02 18 45.6
comp=Z,545nm,1.5s
WHN Wuhan 44.07 258 ⇑P **P** 02 18 43.8 +0.7
WHN pP **pP** 02 18 46.6 +0.1
WHN sP **sP** 02 18 49.0 +1.3
WHN S **S** 02 25 14.8 -0.4
WHN pmax pmax
comp=Z,380nm,0.8s
WHN pmax pmax
comp=Z,10µm,3.9s
WHN LR LR
comp=Z,62µm,14.3s
WHN LR LR
comp=Z,116µm,13.2s
WHN LR LR
comp=Z,75µm,13.1s
F04A Amboy 44.25 71 IAmb IAmb 02 18 48.7
comp=Z,466nm,1.6s
LTY Liberty 44.35 69 IAmb IAmb 02 18 50.5
comp=Z,459nm,1.5s
EDM Edmonton 44.43 58 P **P** 02 18 44.0 -1.7
EDM IAMs_20 IAMs_20 02 38 18.6
comp=Z,29µm,19.0s
EDM Edmonton 44.43 58 P **P** 02 18 44.0 -1.7
EDM pmax pmax
comp=Z,1µm,1.3s
EDM MLR MLR
comp=Z,29µm,19.0s
XAN Xi'an 44.53 266 ⇑P **P** 02 18 47.8 +1.0
XAN pP sP 02 18 52.5 +1.1
XAN S **S** 02 25 22.6 +0.7
XAN ScS **SS** 02 28 41.1 -0.1
XAN pmax pmax
comp=Z,100nm,1.5s
XAN pmax pmax
comp=Z,5µm,8.5s
XAN LR LR
comp=Z,59µm,16.8s
XAN LR LR
comp=Z,62µm,15.1s
XAN LR LR
comp=Z,76µm,17.8s
ZAA0 Zalesovo Array 44.54 304 P **P** 02 18 46.3 -0.3
ZALV Zalesovo Beam 44.54 304 P **P** 02 18 44.0 -2.6
comp=Z,4.7nm,0.6s,baz=46,slow=6.9,SNR=19
ZALV PcP **PcP** 02 20 28.0 -1.4
comp=Z,25nm,0.7s,baz=49,slow=2.8,SNR=10
ZALV ScP **ScP** 02 24 20.8 -0.3
comp=Z,1.4nm,0.7s,baz=64,slow=3.4,SNR=1.8
ZALV LR LR 02 39 34.4
comp=Z,34µm,18.4s,baz=48,slow=39
comp=Z,4.7nm,0.6s
COR Corvallis 44.63 73 P **P** 02 18 46.2 -1.2
COR IAmb IAmb 02 18 52.7
comp=Z,498nm,1.6s
COR Corvallis 44.63 73 IAMs_20 IAMs_20 02 36 44.2
comp=Z,20µm,20.0s
COR Corvallis 44.63 73 P **P** 02 18 46.2 -1.2
COR pmax pmax
comp=Z,498nm,1.6s
COR MLR MLR
comp=Z,20µm,20.0s
YHNB Yeheng 44.92 246 P **P** 02 18 52.5 +2.5
GUMO Guam 44.97 210 LR LR 02 35 27.1
comp=Z,8µm,20.0s,baz=26,slow=33
H04D Lebanon 44.98 73 IAMs_20 IAMs_20 02 36 46.5
comp=Z,19µm,20.0s
MXC Moxie City 44.98 69 IAmb IAmb 02 18 54.8
comp=Z,467nm,1.7s
KBS Kingsbay 45.01 353 P **P** 02 18 49.9 -0.1
KBS IAmb IAmb 02 18 57.1
comp=Z,402nm,1.3s
KBS Kingsbay 45.01 353 IAMs_20 IAMs_20 02 37 34.1
comp=Z,18µm,20.0s
KBS Kingsbay 45.01 353 *e* **P** 02 18 51.3 +1.3
KBS IVmB_BB 02 18 54.5
comp=Z,7µm,3.5s
KBS *e*PP **PP** 02 20 33.5 -1.2
KBS *e*S **S** 02 25 29.6 +1.9
KBS *e*SS **SS** 02 28 51.5 +2.7
KBS IVMs_BB IVMs_BB 02 34 03.7
comp=Z,7µm,22.5s
KBS Kingsbay 45.01 353 ⇓P **P** 02 18 50.8 +0.8
KBS Kingsbay 45.01 353 P **P** 02 18 49.9 -0.1
KBS pmax pmax
comp=Z,402nm,1.3s
KBS MLR MLR
comp=Z,18µm,20.0s
KBS Kingsbay 45.01 353 *i*P **P** 02 18 49.8 -0.2
BUCK Buck Mountain 45.06 74 IAmb IAmb 02 18 56.1
comp=Z,388nm,1.6s
H04A Detroit Lake 45.18 73 IAmb IAmb 02 18 58.9
comp=Z,323nm,1.4s
KEBM Edson Butte 45.19 76 IAMs_20 IAMs_20 02 35 33.1
comp=Z,23µm,20.0s
I03D Drain, OR 45.19 74 IAmb IAmb 02 18 56.9
comp=Z,426nm,1.7s
NACB Ninganchiao 45.22 245 IAMs_20 IAMs_20 02 36 52.6
comp=Z,20µm,21.0s
E07A Sunnyside 45.23 69 IAmb IAmb 02 18 56.7
comp=Z,622nm,1.7s
E07A IAMs_20 IAMs_20 02 35 32.7
comp=Z,19µm,20.0s
C09A Chrisman Ranch 45.27 67 IAmb IAmb 02 18 56.8
comp=Z,776nm,1.7s
C09A IAMs_20 IAMs_20 02 37 39.7
comp=Z,19µm,19.0s
G05A Wamic 45.29 71 IAmb IAmb 02 19 16.9
comp=Z,405nm,1.3s
NEEM North Greenlan 45.34 11 ⇑P **P** 02 18 51.5 -1.5
NEEM North Greenlan 45.34 11 *i*P **P** 02 18 51.9 -1.1
NEEM IAmb IAmb 02 18 56.6
comp=Z,536nm,1.1s
SPA0 Spitsbergen Ar 45.37 352 *e*P **P** 02 18 53.0 0.0
SPA0 IVmB_BB 02 18 56.8
comp=Z,10µm,1.6s
SPA0 *e*PP **PP** 02 20 38.8 +0.1
SPA0 *e*S **S** 02 25 33.5 +0.4
SPA0 *e*ScS **ScS** 02 28 49.0 +0.6
SPA0 *e*ScS **SS** 02 28 49.3 -6.2
SPITS Spitsbergen Ar 45.37 352 P **P** 02 18 51.1 -1.8
comp=Z,251nm,1.1s,baz=39,slow=12,SNR=67
SPITS PcP **PcP** 02 20 33.1 +1.2
comp=Z,49nm,1.0s,baz=35,slow=5.3,SNR=0.7
SPITS LR LR 02 37 45.8
comp=Z,18µm,19.5s,baz=352,slow=36
comp=Z,251nm,1.1s
SPB2 Spitsbergen Ar 45.37 352 P **P** 02 18 51.6 -1.3
D08A Wollman Farm, 45.41 68 IAmb IAmb 02 18 57.8
comp=Z,335nm,1.5s
HPAH Hawaii Prepara 45.41 126 IAmb IAmb 02 18 58.5
comp=Z,534nm,1.3s
HAWA Hanford 45.51 69 P **P** 02 18 52.6 -1.8
HAWA IAmb IAmb 02 18 59.6
comp=Z,317nm,1.4s
HAWA Hanford 45.51 69 ⇓P **P** 02 18 52.7 -1.7
NEW Newport 45.58 65 P **P** 02 18 53.1 -1.9
NEW IAmb IAmb 02 18 59.2
comp=Z,466nm,1.6s
NEW Newport 45.58 65 IAMs_20 IAMs_20 02 37 40.8
comp=Z,25µm,20.0s
NEW Newport 45.58 65 P **P** 02 18 55.5 +0.5
baz=309,SNR=61
NEW S **S** 02 25 36.6 -0.2
baz=309
NEW Newport 45.58 65 ⇑P **P** 02 18 52.9 -2.1
NEW Newport 45.58 65 P **P** 02 18 53.1 -1.9
NEW pmax pmax
comp=Z,466nm,1.6s
NEW MLR MLR

	comp=Z,25µm,20.0s								
NEW	**Newport**	**45.58**	**65**	LR	LR	02 38 02.5			
	comp=Z,26µm,19.8s,baz=298,slow=36								
F07A	**Phinny Hill Vi**	**45.62**	**70**	P	**P**	**02 18 53.8**	**-1.4**		
F07A				IAMs_20	IAMs_20	02 39 56.9			
	comp=Z,20µm,19.0s								
I04A	**Tendick Farm,**	**45.64**	**74**	P	**P**	**02 18 54.1**	**-1.4**		
I04A				IAmb	IAmb	02 18 59.9			
	comp=Z,511nm,1.7s								
HUH	**Hualalai**	**45.65**	**126**	IAmb	IAmb	02 19 18.0			
	comp=Z,342nm,1.2s								
K02D	**Willamette Mer**	**45.67**	**76**	IAMs_20	IAMs_20	02 35 58.9			
	comp=Z,26µm,20.0s								
KBO	**Bosley Butte**	**45.68**	**76**	IAMs_20	IAMs_20	02 35 53.3			
	comp=Z,27µm,19.0s								
E08A	**Dider Farm, El**	**45.69**	**69**	P	**P**	**02 18 53.8**	**-2.0**		
E08A				IAMs_20	IAMs_20	02 40 04.9			
	comp=Z,18µm,20.0s								
KHLU	**Kahalu`u**	**45.70**	**126**	IAmb	IAmb	02 19 01.5			
	comp=Z,292nm,1.2s								
KHLU				IAMs_20	IAMs_20	02 33 01.9			
	comp=Z,20µm,22.0s								
POHA	**Pohakuloa**	**45.73**	**126**	P	**P**	**02 18 55.7**	**-0.9**		
POHA				IAmb	IAmb	02 19 01.9			
	comp=Z,283nm,1.1s								
POHA	**Pohakuloa**	**45.73**	**126**	P	**P**	**02 18 58.9**	**+2.3**		
DGZ	**Jazzator, Alta**	**45.86**	**297**	*i* P	**P**	**02 18 55.4**	**-1.9**		
DGZ				pmax	pmax				
	comp=Z,67nm,0.6s								
DGZ				MLR	MLR				
	comp=Z,39µm,15.0s								
I05D	**Terrebonne, OR**	**45.86**	**72**	P	**P**	**02 18 55.9**	**-1.4**		
I05D				IAmb	IAmb	02 19 04.5			
	comp=Z,547nm,1.8s								
SSLB	**Suanglung**	**45.87**	**245**	IAMs_20	IAMs_20	02 38 16.7			
	comp=Z,19µm,20.0s								
SSLB	**Suanglung**	**45.87**	**245**	P	**P**	**02 19 00.2**	**+2.7**		
HMH	**Humu'ula Sheep**	**45.88**	**126**	P	**P**	**02 18 57.4**	**-0.5**		
HMH				IAmb	IAmb	02 19 13.1			
	comp=Z,560nm,1.4s								
HMH				IAMs_20	IAMs_20	02 33 31.6			
	comp=Z,19µm,20.0s								
MLOA	**Mauna Loa Obse**	**45.90**	**126**	IAMs_20	IAMs_20	02 33 22.0			
	comp=Z,26µm,22.0s								
GTA	**Gaotai**	**45.92**	**279**	P	**P**	**02 18 57.1**	**-0.8**		
GTA				pP	sP	02 19 01.8	-0.7		
GTA				S	**S**	**02 25 40.9**	**-1.1**		
GTA				sS	sS	02 25 48.6	+0.7		
GTA				ScS	**ScS**	**02 28 52.5**	**-0.9**		
GTA				pmax	pmax				
	comp=Z,12nm,1.0s								
GTA				pmax	pmax				
	comp=Z,3µm,12.0s								
GTA				LR	LR				
	comp=Z,54µm,19.1s								
GTA				LR	LR				
	comp=Z,55µm,19.5s								
GTA				LR	LR				
	comp=Z,57µm,17.1s								
MWH	**Moku'aweowe**	**45.93**	**126**	IAmb	IAmb	02 19 14.6			
	comp=Z,388nm,1.2s								
MWH				IAMs_20	IAMs_20	02 33 22.0			
	comp=Z,23µm,22.0s								
LZH	**Lanzhou**	**45.95**	**272**	*e*P	**P**	**02 19 00.3**	**+2.1**		
LZH				sP	sP	02 19 05.3	+2.5		
LZH				S	**S**	**02 25 44.1**	**+1.5**		
LZH				SS	**ScS**	**02 28 55.3**	**+1.5**		
LZH				pmax	pmax				
	comp=Z,110nm,1.3s								
LZH				pmax	pmax				
	comp=Z,4µm,7.7s								
LZH				LR	LR				
	comp=Z,70µm,17.5s								
LZH				LR	LR				
	comp=Z,58µm,17.5s								
LZH				LR	LR				
	comp=Z,36µm,17.9s								
YULB	**Yu-li**	**46.01**	**245**	P	**P**	**02 18 59.3**	**+0.7**		
YULB				IAmb	IAmb	02 19 26.7			
	comp=Z,793nm,2.0s								
YULB	**Yu-li**	**46.01**	**245**	P	**P**	**02 19 01.1**	**+2.5**		
HOPEN	**Hopen**	**46.01**	**348**	⇓*i* P	**P**	**02 18 58.1**	**+0.1**		
HOPEN				IVmB_BB		02 19 01.8			
	comp=Z,6µm,4.0s								
HOPEN				*e*PP	**PP**	**02 20 45.3**	**-0.2**		
HOPEN				*e*S	**S**	**02 25 43.4**	**+1.2**		
HOPEN				*e*ScS	**ScS**	**02 28 53.7**	**+1.1**		
HOPEN				IVMs_BB	IVMs_BB	02 39 26.5			
	comp=Z,10µm,17.4s								
MLH	**Mauna Loa**	**46.02**	**126**	P	**P**	**02 18 58.7**	**-0.3**		
MLH				IAmb	IAmb	02 19 03.8			
	comp=Z,430nm,1.1s								
HUMO	**Hull Mountain**	**46.12**	**75**	P	**P**	**02 18 57.7**	**-1.6**		
HUMO				IAMs_20	IAMs_20	02 36 14.8			
	comp=Z,20µm,20.0s								
HUMO	**Hull Mountain**	**46.12**	**75**	⇑P	**P**	**02 18 57.6**	**-1.7**		
KHU	**Kahuku**	**46.13**	**126**	IAMs_20	IAMs_20	02 33 25.3			
	comp=Z,22µm,22.0s								
UWB	**Uwekahuna B**	**46.13**	**126**	IAMs_20	IAMs_20	02 37 02.2			
	comp=Z,17µm,19.0s								
KSXB	**Camp Six Broad**	**46.13**	**77**	IAmb	IAmb	02 19 04.6			
	comp=Z,372nm,1.5s								
KSXB				IAMs_20	IAMs_20	02 36 09.1			
	comp=Z,25µm,19.0s								
HATHI	**Halema'uma'u T**	**46.14**	**126**	IAMs_20	IAMs_20	02 37 02.5			
	comp=Z,16µm,19.0s								
KKO	**Keanakako`i**	**46.16**	**126**	IAMs_20	IAMs_20	02 37 02.0			
	comp=Z,17µm,18.0s								
QZH	**Quanzhou**	**46.16**	**249**	⇑*i* P	**P**	**02 19 01.4**	**+1.7**		
QZH				S	**S**	**02 25 48.1**	**+2.7**		
QZH				SS	**ScS**	**02 28 57.5**	**+2.5**		
QZH				pmax	pmax				
	comp=Z,4µm,6.5s								
QZH				LR	LR				
	comp=Z,5µm,11.7s								
QZH				LR	LR				
	comp=Z,22µm,14.1s								
QZH				LR	LR				
	comp=Z,14µm,12.4s								
E09A	**Wood Farm, Sta**	**46.16**	**68**	P	**P**	**02 18 57.9**	**-1.6**		
E09A				IAmb	IAmb	02 19 04.5			
	comp=Z,337nm,1.2s								
PUH	**Pauahi**	**46.20**	**126**	IAmb	IAmb	02 19 05.3			
	comp=Z,424nm,1.1s								
HLP	**Hilina Pali**	**46.23**	**126**	IAMs_20	IAMs_20	02 33 18.8			
	comp=Z,19µm,21.0s								
STCH	**Steam Cracks**	**46.24**	**125**	IAmb	IAmb	02 19 10.6			
	comp=Z,302nm,1.0s								
KRMB	**Red Mountain**	**46.32**	**77**	IAMs_20	IAMs_20	02 36 22.2			
	comp=Z,27µm,19.0s								
TPUB	**Ta-pu**	**46.43**	**245**	IAMs_20	IAMs_20	02 37 05.8			
	comp=Z,30µm,22.0s								
TPUB	**Ta-pu**	**46.43**	**245**	P	**P**	**02 19 04.2**	**+2.3**		
PINE	**Pine Mountain**	**46.44**	**73**	P	**P**	**02 19 00.5**	**-1.5**		
PINE				IAmb	IAmb	02 19 09.5			
	comp=Z,285nm,1.4s								
PINE				IAMs_20	IAMs_20	02 37 45.0			
	comp=Z,19µm,20.0s								
KRPM	**Rodgers**	**46.50**	**77**	IAMs_20	IAMs_20	02 36 35.0			
	comp=Z,25µm,19.0s								
G08A	**Pilot Rock**	**46.52**	**70**	P	**P**	**02 19 00.7**	**-1.9**		
HSPB	**Hornsund (broa**	**46.53**	**351**	*e*P	**P**	**02 19 02.8**	**+0.7**		
HSPB				*e*PP	**PP**	**02 20 52.8**	**+1.8**		
HSPB				*e*S	**S**	**02 25 52.4**	**+2.7**		
HSPB				*e*L	L	02 40 17.6			
	comp=Z,32µm,17.9s								
TWGBT	**Beinan**	**46.60**	**244**	P	**P**	**02 19 06.1**	**+2.9**		
TWG	**Pinlang**	**46.60**	**244**	P	**P**	**02 19 04.3**	**+1.1**		
TWG				IAmb	IAmb	02 19 13.2			
	comp=Z,172nm,1.0s								
J05D	**Fort Rock, OR**	**46.62**	**73**	P	**P**	**02 19 02.0**	**-1.3**		
J05D				IAmb	IAmb	02 19 09.1			
	comp=Z,273nm,1.1s								
J05D				IAMs_20	IAMs_20	02 38 07.7			
	comp=Z,19µm,20.0s								
CNSH	**ChangSha**	**46.68**	**257**	⇑P	**P**	**02 19 03.5**	**-0.3**		
CNSH				S	**S**	**02 25 54.5**	**+1.7**		
CNSH				ScS	**ScS**	**02 28 56.8**	**-1.5**		
CNSH				pmax	pmax				
	comp=Z,69nm,1.3s								
CNSH				LR	LR				
	comp=Z,14µm,14.1s								
CNSH				LR	LR				
	comp=Z,26µm,14.3s								
CNSH				LR	LR				
	comp=Z,18µm,15.0s								
JCC	**Jacoby Creek,**	**46.73**	**78**	IAMs_20	IAMs_20	02 36 41.1			
	comp=Z,19µm,18.0s								
L04D	**Klamath Falls**	**46.74**	**75**	P	**P**	**02 19 03.0**	**-1.3**		
L04D				IAMs_20	IAMs_20	02 36 36.1			
	comp=Z,18µm,20.0s								
K04D	**Chiloquin, OR**	**46.77**	**74**	IAmb	IAmb	02 19 09.2			
	comp=Z,595nm,1.7s								
K04D				IAMs_20	IAMs_20	02 38 49.9			
	comp=Z,17µm,19.0s								
YBH	**Yreka Blue Hor**	**46.84**	**76**	IAmb	IAmb	02 19 10.3			
	comp=Z,302nm,1.6s								
YBH				IAMs_20	IAMs_20	02 36 45.9			
	comp=Z,26µm,20.0s								
YBH	**Yreka Blue Hor**	**46.84**	**76**	LR	LR	02 36 57.0			
	comp=Z,26µm,20.1s,baz=306,slow=34								
KHMM	**Horse Mountain**	**46.86**	**78**	IAMs_20	IAMs_20	02 36 44.4			
	comp=Z,26µm,19.0s								
KMPM	**Mount Pierce**	**46.95**	**78**	IAmb	IAmb	02 19 18.2			
	comp=Z,615nm,1.8s								
F10A	**Beach Ranch, E**	**47.00**	**68**	IAmb	IAmb	02 19 10.4			
	comp=Z,366nm,1.6s								
F10A	**Beach Ranch, E**	**47.00**	**68**	⇑P	**P**	**02 19 04.0**	**-2.2**		
ENH	**Enshi**	**47.01**	**262**	IAmb	IAmb	02 19 14.0			
	comp=Z,152nm,0.8s								
ENH				IAMs_20	IAMs_20	02 40 12.5			
	comp=Z,30µm,18.0s								
ENH	**Enshi**	**47.01**	**262**	P	**P**	**02 19 06.5**	**+0.1**		
I07A	**Izee**	**47.03**	**71**	IAMs_20	IAMs_20	02 38 00.4			
	comp=Z,17µm,19.0s								
K05A	**Summer Lake**	**47.17**	**74**	IAmb	IAmb	02 19 15.5			
	comp=Z,352nm,1.4s								
KMRM	**Mail Ridge**	**47.31**	**78**	IAmb	IAmb	02 19 14.2			
	comp=Z,460nm,1.7s								
KMRM				IAMs_20	IAMs_20	02 37 08.9			
	comp=Z,19µm,19.0s								
BMO	**Blue Mountains**	**47.70**	**69**	IAmb	IAmb	02 19 16.0			
	comp=Z,305nm,1.6s								
BMO				IAMs_20	IAMs_20	02 36 37.3			
	comp=Z,18µm,21.0s								
BMO	**Blue Mountains**	**47.70**	**69**	⇑P	**P**	**02 19 09.7**	**-2.0**		
J08A	**Circle Bar Ran**	**48.07**	**71**	IAmb	IAmb	02 19 19.1			
	comp=Z,255nm,1.6s								
MSO	**Missoula**	**48.16**	**65**	IAmb	IAmb	02 19 20.2			
	comp=Z,402nm,1.4s								
MSO				IAMs_20	IAMs_20	02 39 00.8			
	comp=Z,18µm,20.0s								
MSO	**Missoula**	**48.16**	**65**	P	**P**	**02 19 15.1**	**-0.1**		
	baz=311,SNR=71								
MSO				S	**S**	**02 26 12.7**	**-1.0**		
	baz=311								
MSO	**Missoula**	**48.16**	**65**	⇑P	**P**	**02 19 13.1**	**-2.2**		
PLID	**Pearl Lake**	**48.23**	**68**	IAmb	IAmb	02 19 42.4			
	comp=Z,258nm,1.6s								
PLID				IAMs_20	IAMs_20	02 39 11.0			
	comp=Z,16µm,20.0s								
BJO1	**Bjornoya**	**48.50**	**349**	⇓*i* P	**P**	**02 19 16.9**	**-0.4**		
BJO1				*e*pP	**pP**	**02 19 20.2**	**-0.8**		
BJO1				IVmB_BB		02 19 21.2			
	comp=Z,8µm,3.6s								
BJO1				*e*PP	**PP**	**02 21 10.3**	**+0.7**		
BJO1				*e*S	**S**	**02 26 19.4**	**+1.8**		
BJO1				*e*SS	**SS**	**02 29 51.2**	**+4.6**		
BJO1				IVMs_BB	IVMs_BB	02 39 18.4			
	comp=Z,6µm,13.7s								
HOPS	**Hopland Field**	**48.52**	**79**	IAMs_20	IAMs_20	02 37 25.5			
	comp=Z,21µm,19.0s								
WVOR	**Wild Horse Val**	**48.60**	**72**	IAmb	IAmb	02 19 23.3			
	comp=Z,273nm,1.5s								
WVOR	**Wild Horse Val**	**48.60**	**72**	⇓P	**P**	**02 19 22.8**	**+4.1**		
ZSN	**Zaisan**	**48.62**	**297**	*e*P	**P**	**02 19 17.2**	**-1.5**		
	comp=Z,285nm,2.7s,baz=297								
ZSN	**Zaisan**	**48.62**	**297**	*e*P	**P**	**02 19 17.1**	**-1.5**		
ZSN				pmax	pmax				
	comp=Z,285nm,2.7s								
FFC	**Flin Flon**	**48.73**	**50**	P	**P**	**02 19 17.7**	**-1.7**		
FFC				IAmb	IAmb	02 19 23.6			
	comp=Z,609nm,1.9s								
FFC	**Flin Flon**	**48.73**	**50**	IAMs_20	IAMs_20	02 41 38.1			
	comp=Z,20µm,20.0s								
FFC	**Flin Flon**	**48.73**	**50**	⇓P	**P**	**02 19 17.6**	**-1.8**		
FFC	**Flin Flon**	**48.73**	**50**	P	**P**	**02 19 17.7**	**-1.7**		
FFC				pmax	pmax				
	comp=Z,609nm,1.9s								
FFC				MLR	MLR				
	comp=Z,20µm,20.0s								
UPNV	**Upernavik**	**48.75**	**16**	*i* P	**P**	**02 19 17.8**	**-1.5**		
UPNV				IAmb	IAmb	02 19 22.7			
	comp=Z,423nm,1.3s								
PATS	**Pohnpei**	**48.90**	**191**	IAMs_20	IAMs_20	02 37 03.7			
	comp=Z,28µm,20.0s								
SEM	**Semipalatinsk**	**48.96**	**302**	LR	LR	02 41 56.1			
	comp=Z,15µm,16.4s,baz=302								
ORV	**Oroville**	**49.01**	**77**	IAMs_20	IAMs_20	02 37 56.2			
	comp=Z,15µm,19.0s								
FCC	**Fort Churchill**	**49.32**	**43**	IAmb	IAmb	02 19 28.2			
	comp=Z,904nm,1.4s								
FCC				IAMs_20	IAMs_20	02 43 09.1			
	comp=Z,33µm,20.0s								
PLTX	**Planet X, Gerl**	**49.33**	**75**	IAMs_20	IAMs_20	02 38 31.6			
	comp=Z,17µm,20.0s								
MFID	**Camas Ranch**	**49.45**	**70**	IAmb	IAmb	02 19 29.5			
	comp=Z,404nm,1.8s								
EGMT	**Eagleton**	**49.49**	**61**	P	**P**	**02 19 25.6**	**+0.2**		
	baz=312,SNR=55								
EGMT				S	**S**	**02 26 31.4**	**-1.1**		
	baz=312								
EGMT	**Eagleton**	**49.49**	**61**	⇑P	**P**	**02 19 23.1**	**-2.3**		
KURK	**Kurchatov**	**49.53**	**303**	P	**P**	**02 19 23.8**	**-1.8**		
KURK				IAmb	IAmb	02 19 39.9			
	comp=Z,307nm,1.1s								
KURK	**Kurchatov**	**49.53**	**303**	⇓P	**P**	**02 19 23.5**	**-2.1**		
KURK	**Kurchatov**	**49.53**	**303**	P	**P**	**02 19 24.4**	**-1.2**		
KURK						02 20 46.1			
KURK	**Kurchatov**	**49.53**	**303**	P	**P**	**02 19 23.8**	**-1.8**		
KURK				S	**S**	**02 26 28.6**	**-4.2**		
WMQ	**Urumqi**	**49.58**	**291**	*e*P	**P**	**02 19 25.3**	**-0.8**		
WMQ				PcP	**PcP**	**02 20 44.3**	**-3.3**		
WMQ				S	**S**	**02 26 35.3**	**+1.6**		
WMQ				ScS	**ScS**	**02 29 17.4**	**0.0**		
WMQ				pmax	pmax				
	comp=Z,150nm,1.7s								
WMQ				pmax	pmax				
	comp=Z,3µm,5.3s								
WMQ				LR	LR				
	comp=Z,78µm,16.7s								
WMQ				LR	LR				
	comp=Z,99µm,19.9s								
WMQ				LR	LR				
	comp=Z,29µm,21.1s								
KURBB	**Kurchatov Arra**	**49.64**	**303**	P	**P**	**02 19 23.9**	**-2.5**		
KURBB	**Kurchatov Arra**	**49.64**	**303**	P	**P**	**02 19 24.4**	**-2.0**		
	comp=Z,58nm,0.7s,baz=55,slow=7.9,SNR=185								
KURBB				PcP	**PcP**	**02 20 46.1**	**-1.5**		
	comp=Z,9.6nm,0.7s,baz=48,slow=2.7,SNR=1.1								
KURBB				ScP	**ScP**	**02 24 42.6**	**0.0**		
	comp=Z,0.8nm,0.4s,baz=50,slow=5.0,SNR=2.2								
KURBB				LR	LR	02 42 52.8			
	comp=Z,33µm,18.0s,baz=50,slow=39								
	comp=Z,58nm,0.7s								
AFDM	**Forest Hills D**	**49.72**	**77**	IAmb	IAmb	02 19 38.5			
	comp=Z,407nm,1.9s								
CD2	**Chengdu**	**49.77**	**267**	P	**P**	**02 19 27.0**	**-0.7**		
CD2				S	**S**	**02 26 37.1**	**+0.4**		
CD2				ScS	**ScS**	**02 29 20.0**	**+1.0**		
CD2				SS	**SS**	**02 30 10.1**	**+1.2**		
CD2				pmax	pmax				
	comp=Z,140nm,0.8s								
CD2				pmax	pmax				
	comp=Z,5µm,5.6s								
CD2				LR	LR				
	comp=Z,14µm,14.7s								
CD2				LR	LR				
	comp=Z,34µm,18.8s								
CD2				LR	LR				
	comp=Z,33µm,15.7s								
MPK	**Martis Peak**	**50.00**	**76**	IAmb	IAmb	02 19 41.3			
	comp=Z,480nm,1.4s								
PAHR	**Pah Rah Range**	**50.07**	**76**	IAmb	IAmb	02 19 34.5			
	comp=Z,470nm,1.7s								
PAHR				IAMs_20	IAMs_20	02 38 51.2			
	comp=Z,22µm,20.0s								
HLID	**Hailey**	**50.10**	**69**	IAMs_20	IAMs_20	02 38 04.0			
	comp=Z,18µm,21.0s								
HLID	**Hailey**	**50.10**	**69**	P	**P**	**02 19 29.6**	**-0.7**		
	baz=313,SNR=64								
HLID				S	**S**	**02 26 43.2**	**+2.0**		
	baz=313								
HLID	**Hailey**	**50.10**	**69**	⇑P	**P**	**02 19 27.8**	**-2.5**		
GULI	**GuiLin**	**50.36**	**257**	⇓P	**P**	**02 19 28.9**	**-3.2**		
GULI				sP	**pP**	**02 19 34.8**	**-0.9**		
GULI				PP	**PP**	**02 21 26.8**	**-0.7**		
GULI				S	**S**	**02 26 39.8**	**-5.0**		
GULI				pmax	pmax				
	comp=Z,160nm,0.9s								
GULI				pmax	pmax				
	comp=Z,4µm,8.1s								
GULI				LR	LR				
	comp=Z,20µm,15.2s								
GULI				LR	LR				
	comp=Z,22µm,15.7s								
GULI				LR	LR				
	comp=Z,18µm,17.3s								
MK31	**Makanchi Array**	**50.36**	**297**	*ce*P	**P**	**02 19 29.5**	**-2.5**		
MKAR	**Makanchi Array**	**50.36**	**297**	P	**P**	**02 19 29.5**	**-2.5**		
	comp=Z,36nm,0.7s,baz=51,slow=6.1,SNR=120								
MKAR				PcP	**PcP**	**02 20 48.5**	**-1.8**		
	comp=Z,6.6nm,0.7s,baz=57,slow=10,SNR=0.8								
MKAR				LR	LR	02 41 39.3			
	comp=Z,31µm,20.2s,baz=46,slow=37								
	comp=Z,36nm,0.7s								
GZH	**Guangzhou**	**50.48**	**252**	*e*P	**P**	**02 19 28.3**	**-4.7**		
GZH				S	**S**	**02 26 39.0**	**-7.4**		
GZH				LR	LR				
	comp=Z,8µm,13.2s								
GZH				LR	LR				
	comp=Z,11µm,13.0s								
MAKZ	**Makanchi**	**50.51**	**298**	P	**P**	**02 19 30.8**	**-2.3**		
MAKZ				IAMs_20	IAMs_20	02 41 22.3			
	comp=Z,29µm,20.0s								
MAKZ	**Makanchi**	**50.51**	**298**	P	**P**	**02 19 30.8**	**-2.3**		
MAKZ				pmax	pmax				
	comp=Z,129nm,1.2s								
MAKZ				MLR	MLR				
	comp=Z,29µm,20.0s								
YERR	**Yerington**	**50.66**	**76**	IAmb	IAmb	02 19 39.3			
	comp=Z,374nm,1.7s								
HKC	**Hong Kong Obse**	**50.66**	**251**	⇓P	**P**	**02 19 38.0**	**+3.6**		
HKPS	**Hong Kong Po S**	**50.70**	**251**	IAMs_20	IAMs_20	02 44 15.3			
	comp=Z,13µm,18.0s								
HKPS	**Hong Kong Po S**	**50.70**	**251**	P	**P**	**02 19 38.1**	**+3.4**		
BMN	**Battle Mountai**	**50.75**	**73**	IAmb	IAmb	02 19 39.9			
	comp=Z,373nm,1.7s								
BMN				IAMs_20	IAMs_20	02 40 41.2			
	comp=Z,21µm,19.0s								
WAKR	**Walker**	**50.89**	**77**	IAmb	IAmb	02 19 41.3			
	comp=Z,412nm,1.7s								
WAKR				IAMs_20	IAMs_20	02 39 07.0			
	comp=Z,16µm,20.0s								
YHL	**Hebgen Lake**	**50.91**	**65**	IAmb	IAmb	02 19 41.1			
	comp=Z,598nm,1.7s								
VADS	**Vadso**	**50.96**	**343**	⇓*i* P	**P**	**02 19 35.5**	**-0.7**		
VADS				IVmB_BB		02 19 36.8			
	comp=Z,4µm,5.1s								
VADS				*e*S	**S**	**02 26 51.2**	**-0.9**		
VADS				IVMs_BB	IVMs_BB	02 47 05.2			
	comp=Z,10µm,13.5s								
GOMU	**GeErMu**	**50.99**	**279**	P	**P**	**02 19 36.0**	**-1.2**		
GOMU				pP	sP	02 19 42.3	+0.4		
GOMU				sP	pP	02 19 44.4	+3.6		
GOMU				S	**S**	**02 26 52.4**	**-1.7**		
GOMU				pmax	pmax				
	comp=Z,29nm,1.1s								
GOMU				LR	LR				
	comp=Z,53µm,19.3s								
GOMU				LR	LR				
	comp=Z,57µm,19.6s								
GOMU				LR	LR				
	comp=Z,20µm,18.6s								
SAO	**San Andreas Ge**	**51.00**	**80**	IAMs_20	IAMs_20	02 38 50.3			
	comp=Z,14µm,19.0s								
SAO	**San Andreas Ge**	**51.00**	**80**	⇑P	**P**	**02 19 38.5**	**+1.7**		
SUMG	**Summit**	**51.11**	**9**	P	**P**	**02 19 36.1**	**-1.7**		
SUMG				IAmb	IAmb	02 19 43.5			
	comp=Z,489nm,1.2s								
SUMG	**Summit**	**51.11**	**9**	P	**P**	**02 19 36.6**	**-1.1**		
SUMG	**Summit**	**51.11**	**9**	⇑P	**P**	**02 19 36.5**	**-1.3**		
SUMG	**Summit**	**51.11**	**9**	P	**P**	**02 19 36.1**	**-1.7**		
SUMG				pmax	pmax				
	comp=Z,489nm,1.2s								
SUMG				MLR	MLR				
	comp=Z,15µm,21.0s								
SUMG	**Summit**	**51.11**	**9**	*i* P	**P**	**02 19 36.0**	**-1.7**		
SUMG				IAmb	IAmb	02 19 43.2			
	comp=Z,660nm,1.3s								
UMMG	**Uummannaq**	**51.21**	**15**	*i* P	**P**	**02 19 36.5**	**-1.5**		
UMMG				IAmb	IAmb	02 19 43.0			
	comp=Z,521nm,1.7s								
KVN	**Kaiserville**	**51.24**	**75**	IAmb	IAmb	02 19 43.7			
	comp=Z,428nm,1.7s								
KVN				IAMs_20	IAMs_20	02 39 38.2			
	comp=Z,20µm,20.0s								
YNM	**Yellowstone No**	**51.25**	**65**	IAMs_20	IAMs_20	02 44 33.6			
	comp=Z,22µm,20.0s								
YNR	**Norris Junctio**	**51.27**	**65**	IAmb	IAmb	02 19 44.2			
	comp=Z,400nm,1.6s								
YNR				IAMs_20	IAMs_20	02 44 34.1			
	comp=Z,22µm,20.0s								
RYN	**Ryan**	**51.30**	**76**	IAmb	IAmb	02 19 44.1			
	comp=Z,470nm,1.8s								
RYN				IAMs_20	IAMs_20	02 39 29.0			
	comp=Z,20µm,19.0s								
BBGB	**Big Mountain B**	**51.36**	**80**	IAmb	IAmb	02 19 50.8			
	comp=Z,460nm,1.3s								
BBGB				IAMs_20	IAMs_20	02 39 28.8			
	comp=Z,16µm,19.0s								
HAMF	**Hammerfest**	**51.40**	**345**	*e*P	**P**	**02 19 39.0**	**-0.4**		
HAMF				IVmB_BB		02 19 39.9			
	comp=Z,

RLMT	**Red Lodge**	**51.71**	**64**	⇑P		**P**		**02 19 41.0**	**-1.3**	
	comp=Z,2,50nm,0.5s,baz=50,slow=7.2,SNR=87									
BVA0	**Borovoye Array**	**51.72**	**310**	*i* P		**P**		**02 19 39.8**	**-2.3**	
BVAR	**Borovoye Array**	**51.72**	**310**	P		**P**		**02 19 40.2**	**-1.9**	
BVAR				PcP		**PcP**		**02 20 54.2**	**-1.0**	
	comp=Z,22nm,0.5s,baz=44,slow=2.7,SNR=7.3									
BVAR				ScP		**ScP**		**02 24 52.2**	**+0.7**	
	comp=Z,3.0nm,0.7s,baz=54,slow=3.7,SNR=2.3									
BVAR				LR		LR		02 44 22.2		
	comp=Z,59μm,18.7s,baz=47,slow=39									
	comp=Z,50nm,0.5s									
BRVK	**Borovoye**	**51.75**	**310**	P		**P**		**02 19 40.6**	**-1.7**	
BRVK	**Borovoye**	**51.75**	**310**	⇓P		**P**		**02 19 40.3**	**-1.9**	
BRVK	**Borovoye**	**51.75**	**310**	P		**P**		**02 19 40.6**	**-1.7**	
BRVK				pmax		pmax				
	comp=Z,135nm,0.8s									
BRVK	**Borovoye**	**51.75**	**310**	P		**P**		**02 19 41.2**	**-1.1**	
BRVK				P		**P**		**02 19 41.2**	**-1.1**	
BRVK				P		**P**		**02 19 41.2**	**-1.1**	
BRVK				S		**S**		**02 27 03.1**	**-0.3**	
BRVK				S		**S**		**02 27 03.1**	**-0.3**	
BRVK				S		**S**		**02 27 03.1**	**-0.3**	
PMPB	**Monarch Peak**	**51.76**	**80**	P		**P**		**02 19 42.7**	**+0.1**	
OMMB	**Old Mammoth Mi**	**51.76**	**77**	IAMs_20		IAMs_20		02 41 39.2		
	comp=Z,14μm,19.0s									
MLAC	**Mammoth, Mammo**	**51.84**	**77**	P		**P**		**02 19 45.0**	**+1.6**	
	baz=316									
LVZ	**Lovozero**	**51.87**	**339**	P		**P**		**02 19 40.9**	**-2.1**	
LVZ	**Lovozero**	**51.87**	**339**	⇓P		**P**		**02 19 42.5**	**-0.6**	
LVZ	**Lovozero**	**51.87**	**339**	⇑P		**P**		**02 19 42.2**	**-0.8**	
Q09A	**Carvers**	**51.90**	**75**	IAmb		IAmb		02 19 51.6		
	comp=Z,826nm,1.8s									
Q09A				IAMs_20		IAMs_20		02 39 53.6		
	comp=Z,23μm,19.0s									
DGMT	**Dagmar**	**51.92**	**58**	IAmb		IAmb		02 19 50.6		
	comp=Z,492nm,1.4s									
DGMT	**Dagmar**	**51.92**	**58**	IAMs_20		IAMs_20		02 43 29.9		
	comp=Z,29μm,20.0s									
DGMT	**Dagmar**	**51.92**	**58**	P		**P**		**02 19 43.9**	**+0.3**	
	baz=314,SNR=35									
DGMT	**Dagmar**	**51.92**	**58**	P		**P**		**02 19 42.4**	**-1.3**	
	baz=314,SNR=35									
DGMT				S		**S**		**02 27 05.0**	**-1.0**	
	baz=314									
DGMT	**Dagmar**	**51.92**	**58**	⇑P		**P**		**02 19 41.8**	**-1.9**	
LOHW	**Long Hollow**	**52.07**	**66**	IAmb		IAmb		02 19 50.0		
	comp=Z,480nm,1.7s									
ARA0	**ARCESS Array S**	**52.12**	**344**	⇓*i* P		**P**		**02 19 44.0**	**-0.9**	
ARA0				*e*pP		**pP**		**02 19 47.2**	**-1.3**	
ARA0				IVmB_BB				02 19 48.2		
	comp=Z,5μm,3.5s									
ARA0				*e*S		**S**		**02 27 08.8**	**+0.7**	
ARA0				*e*ScS		**ScS**		**02 29 33.1**	**-0.8**	
ARA0				IVMs_BB		IVMs_BB		02 45 37.5		
	comp=Z,10μm,16.4s									
ARCES	**ARCESS Array B**	**52.12**	**344**	P		**P**		**02 19 43.4**	**-1.5**	
	comp=Z,40nm,1.1s,baz=22,slow=1.0,SNR=17									
ARCES				PcP		**PcP**		**02 20 55.2**	**-1.2**	
	comp=Z,43nm,1.0s,baz=28,slow=4.0,SNR=7.5									
ARCES				LR		LR		02 44 02.3		
	comp=Z,25μm,18.5s,baz=16,slow=39									
	comp=Z,40nm,1.1s									
LAO	**LASA Array**	**52.16**	**61**	P		**P**		**02 19 45.7**	**+0.2**	
	baz=314,SNR=100									
LAO	**LASA Array**	**52.16**	**61**	P		**P**		**02 19 44.3**	**-1.2**	
	baz=314,SNR=100									
LAO				S		**S**		**02 27 08.1**	**-1.3**	
	baz=314									
LAO	**LASA Array**	**52.16**	**61**	⇑P		**P**		**02 19 44.0**	**-1.5**	
HVU	**Hansel Valley**	**52.21**	**69**	IAMs_20		IAMs_20		02 42 16.3		
	comp=Z,22μm,20.0s									
AHID	**Auburn Hatcher**	**52.40**	**67**	IAMs_20		IAMs_20		02 42 14.3		
	comp=Z,18μm,20.0s									
AHID	**Auburn Hatcher**	**52.40**	**67**	⇓P		**P**		**02 19 48.2**	**+0.6**	
APA	**Apatity**	**52.41**	**339**	⇓*i* P		**P**		**02 19 46.0**	**-0.9**	
APA				*i*				02 21 45.0		
APA				*i* PPP		PPP		02 22 57.0		
APA				*i* S		**S**		**02 27 10.0**	**-2.1**	
APA				*i*				02 29 34.0		
APA				pmax		pmax				
	comp=Z,27nm,1.2s									
VOG	**Valley Oaks Go**	**52.48**	**79**	P		**P**		**02 19 48.3**	**+0.4**	
	baz=316									
TIN	**Tinemaha, Big**	**52.59**	**77**	P		**P**		**02 19 50.1**	**+1.2**	
	baz=316,SNR=19									
ILULI	**Ilulissat**	**52.69**	**16**	IAmb		IAmb		02 19 50.6		
	comp=Z,374nm,1.6s									
ILULI				IAMs_20		IAMs_20		02 43 12.1		
	comp=Z,21μm,20.0s									
ILULI	**Ilulissat**	**52.69**	**16**	⇑P		**P**		**02 19 49.5**	**+0.5**	
ILULI	**Ilulissat**	**52.69**	**16**	*i* P		**P**		**02 19 46.4**	**-2.6**	
ILULI				IAmb		IAmb		02 19 50.1		
	comp=Z,348nm,1.6s									
SPUT	**South Promonto**	**52.71**	**69**	IAMs_20		IAMs_20		02 42 42.7		
	comp=Z,18μm,20.0s									
BRZS	**Berezniki**	**52.82**	**306**	*e*P		**P**		**02 19 48.2**	**-2.1**	
	baz=306									
BRZS				*e*S		**S**		**02 27 17.6**	**-0.7**	
	baz=306									
BRZS	**Berezniki**	**52.82**	**306**	*e*P		**P**		**02 19 48.2**	**-2.1**	
BRZS				*e*S		**S**		**02 27 17.5**	**-0.7**	
SMMC	**Simmler**	**52.86**	**80**	P		**P**		**02 19 52.4**	**+1.6**	
	baz=317,SNR=18									
JETT	**Jettan, Norway**	**52.87**	**346**	*e*P		**P**		**02 19 50.5**	**+0.1**	
JETT				IVmB_BB				02 19 53.7		
	comp=Z,8μm,3.9s									
JETT				*e*S		**S**		**02 27 19.1**	**+0.6**	
JETT				IVMs_BB		IVMs_BB		02 41 59.4		
	comp=Z,6μm,19.9s									
KTK1	**Kautokeino**	**52.95**	**344**	*e*P		**P**		**02 19 50.8**	**-0.1**	
KTK1				*e*pP		**pP**		**02 19 53.4**	**-1.2**	
KTK1				IVmB_BB				02 19 54.3		
	comp=Z,5μm,3.8s									
KTK1				*e*S		**S**		**02 27 19.6**	**+0.2**	
KTK1				IVMs_BB		IVMs_BB		02 43 59.7		
	comp=Z,11μm,18.9s									
HWUT	**Hardware Ranch**	**52.97**	**69**	IAMs_20		IAMs_20		02 43 37.5		
	comp=Z,14μm,19.0s									
HWUT	**Hardware Ranch**	**52.97**	**69**	⇑P		**P**		**02 19 50.2**	**-1.5**	
VES	**Vestal, Richgr**	**52.99**	**79**	P		**P**		**02 19 51.9**	**+0.2**	
	baz=317,SNR=38									
SVE	**Sverdlovsk**	**52.99**	**318**	*c i* P		**P**		**02 19 52.3**	**+0.9**	
SVE				*e*				02 21 47.7		
SVE				*e*S		**S**		**02 27 22.8**	**+2.4**	
SVE				*e*				02 29 37.1		
SVE				*e*SS		**SS**		**02 30 59.0**	**+0.3**	
SVE				pmax		pmax				
	comp=Z,229nm,1.8s									
SVE				MLR		MLR				
	comp=E,28μm,16.0s									
SVE				MLR		MLR				
	comp=Z,39μm,18.0s									
SVE				MLR		MLR				
	comp=N,22μm,16.0s									
TRO	**Tromso**	**53.00**	**346**	*e*P		**P**		**02 19 51.3**	**0.0**	
TRO				IVmB_BB				02 19 55.3		
	comp=Z,5μm,7.7s									
TRO				*e*S		**S**		**02 27 22.1**	**+2.0**	
TRO				*e*ScS		**ScS**		**02 29 41.7**	**+1.7**	
TRO				IVMs_BB		IVMs_BB		02 42 22.2		
	comp=Z,5μm,22.2s									
Q12A	**Willow Creek R**	**53.04**	**73**	IAmb		IAmb		02 20 00.1		
	comp=Z,508nm,1.9s									
Q12A				IAMs_20		IAMs_20		02 40 48.6		
	comp=Z,19μm,20.0s									
GRAC	**Grapevine Rang**	**53.11**	**77**	IAmb		IAmb		02 20 04.9		
	comp=Z,413nm,1.5s									
GRAC	**Grapevine Rang**	**53.11**	**77**	P		**P**		**02 19 53.2**	**+0.6**	
	baz=316,SNR=64									
CWC	**Cottonwood Cre**	**53.12**	**78**	P		**P**		**02 19 53.0**	**+0.2**	
	baz=317									
R11B	**Troy Canyon, C**	**53.12**	**74**	IAMs_20		IAMs_20		02 40 54.9		
	comp=Z,24μm,19.0s									
R11B	**Troy Canyon, C**	**53.12**	**74**	P		**P**		**02 19 53.3**	**+0.4**	
	baz=316,SNR=89									
BW06	**Boulder Array**	**53.21**	**66**	IAmb		IAmb		02 19 58.1		
	comp=Z,496nm,1.6s									
BW06				IAMs_20		IAMs_20		02 44 54.6		
	comp=Z,19μm,19.0s									
BW06	**Boulder Array**	**53.21**	**66**	P		**P**		**02 19 53.6**	**0.0**	
	baz=315,SNR=184									
BW06	**Boulder Array**	**53.21**	**66**	⇑P		**P**		**02 19 51.7**	**-1.8**	
PD31	**Pinedale Array**	**53.21**	**66**	IAmb		IAmb		02 19 58.1		
	comp=Z,447nm,1.6s									
PDAR	**Pinedale Array**	**53.21**	**66**	P		**P**		**02 19 51.5**	**-2.0**	
	comp=Z,26nm,1.0s,baz=314,slow=2.2,SNR=46									
PDAR				PKPPKP		**P'P'df**		**02 50 19.1**	**-3.2**	
	comp=Z,1.3nm,1.1s,baz=164,slow=2.8,SNR=3.9									
	comp=Z,26nm,1.0s									
PKM	**Mcpherson Peak**	**53.27**	**80**	P		**P**		**02 19 53.6**	**-0.4**	
	baz=317,SNR=37									
DUG	**Dugway, Tooele**	**53.31**	**71**	P		**P**		**02 19 53.6**	**-0.6**	
	baz=316,SNR=50									
DUG	**Dugway, Tooele**	**53.31**	**71**	⇓P		**P**		**02 19 52.9**	**-1.2**	
SPR3	**Spring Creek 3**	**53.34**	**73**	IAmb		IAmb		02 20 00.3		
	comp=Z,640nm,1.7s									
SPR3				IAMs_20		IAMs_20		02 41 00.6		
	comp=Z,18μm,19.0s									
TCUT	**Toone Canyon**	**53.40**	**69**	IAmb		IAmb		02 19 60.0		
	comp=Z,528nm,1.8s									
TCUT				IAMs_20		IAMs_20		02 43 04.9		
	comp=Z,20μm,21.0s									
ISA	**Isabella, Lake**	**53.46**	**79**	IAMs_20		IAMs_20		02 40 41.2		
	comp=Z,17μm,19.0s									
ISA	**Isabella, Lake**	**53.46**	**79**	P		**P**		**02 19 54.6**	**-0.7**	
	baz=317,SNR=38									
CTU	**Camp Tracy**	**53.52**	**69**	IAMs_20		IAMs_20		02 43 08.1		
	comp=Z,15μm,20.0s									
S11A	**Rachel**	**53.54**	**75**	IAmb		IAmb		02 20 01.1		
	comp=Z,579nm,1.4s									
S11A				IAMs_20		IAMs_20		02 41 06.0		
	comp=Z,25μm,19.0s									
TDK	**Taldyqorghan**	**53.56**	**298**	*e*P		**P**		**02 19 53.8**	**-2.0**	
	comp=Z,206nm,1.4s,baz=298									
TDK				*e*S		**S**		**02 27 27.8**	**-0.7**	
	baz=298									
TDK				LR		LR		02 43 46.6		
	comp=Z,20μm,15.7s,baz=298									
TDK	**Taldyqorghan**	**53.56**	**298**	*e*P		**P**		**02 19 53.8**	**-2.0**	
TDK				*e*S		**S**		**02 27 27.7**	**-0.7**	
TDK				pmax		pmax				
	comp=Z,206nm,1.4s									
TDK				MLR		MLR				
	comp=Z,20μm,16.0s									
ARVC	**Arvin**	**53.65**	**79**	P		**P**		**02 19 56.5**	**-0.1**	
	baz=317									
SBC	**Santa Barbara**	**53.65**	**80**	P		**P**		**02 19 57.6**	**+1.0**	
	baz=317									
MPMC	**Manual Prospec**	**53.72**	**77**	P		**P**		**02 19 57.5**	**+0.2**	
	baz=317									
TPNV	**Topopah Spring**	**53.76**	**76**	IAmb		IAmb		02 20 02.6		
	comp=Z,586nm,1.5s									
TPNV				IAMs_20		IAMs_20		02 43 13.3		
	comp=Z,21μm,20.0s									
TPNV	**Topopah Spring**	**53.76**	**76**	P		**P**		**02 19 57.5**	**-0.1**	
	baz=317,SNR=150									
TPNV	**Topopah Spring**	**53.76**	**76**	⇑P		**P**		**02 19 56.1**	**-1.5**	
FURC	**Furnace Creek,**	**53.77**	**77**	P		**P**		**02 19 57.4**	**0.0**	
	baz=317,SNR=146									
JMIC	**Jan Mayen**	**53.81**	**358**	*e*P		**P**		**02 19 57.4**	**+0.2**	
JMIC				*e*S		**S**		**02 27 32.5**	**+1.4**	
JMIC				IVMs_BB		IVMs_BB		02 41 29.4		
	comp=Z,8μm,19.5s									
JMIC	**Jan Mayen**	**53.81**	**358**	LR		LR		02 42 02.2		
	comp=Z,12μm,19.6s,baz=358,slow=35									
FRB	**Frobisher Bay**	**53.83**	**27**	⇑P		**P**		**02 19 54.8**	**-2.7**	
FRB	**Frobisher Bay**	**53.83**	**27**	LR		LR		02 46 34.0		
	comp=Z,15μm,20.3s,baz=308,slow=40									
NLU	**North Lily Min**	**53.88**	**70**	IAMs_20		IAMs_20		02 47 01.6		
	comp=Z,13μm,18.0s									
SCZ2	**Santa Cruz Isl**	**54.02**	**81**	P		**P**		**02 19 59.1**	**-0.3**	
	baz=318									
LRMC	**Laurel Mtn Rad**	**54.03**	**78**	P		**P**		**02 19 59.8**	**+0.3**	
	baz=317									
TGY	**Tagaytay City**	**54.03**	**239**	LR		LR		02 43 19.0		
	comp=Z,7μm,21.5s,baz=352,slow=36									
ARU	**Arti**	**54.07**	**319**	P		**P**		**02 19 57.8**	**-1.5**	
ARU	**Arti**	**54.07**	**319**	⇑P		**P**		**02 19 57.6**	**-1.7**	
ARU	**Arti**	**54.07**	**319**	*d i* P		**P**		**02 19 57.4**	**-1.9**	
ARU								02 21 00.9		
ARU				S		**S**		**02 27 34.6**	**-0.3**	
ARU				SS		**SS**		**02 31 13.3**	**-2.3**	
ARU				pmax		pmax				
	comp=Z,251nm,1.8s									
ARU				pmax		pmax				
	comp=Z,957nm,5.0s									
ARU				MLR		MLR				
	comp=Z,44μm,16.0s									
ARU	**Arti**	**54.07**	**319**	LR		LR		02 45 26.0		
	comp=Z,44μm,18.9s,baz=42,slow=39									
MPU	**Maple Canyon**	**54.07**	**70**	IAmb		IAmb		02 20 04.9		
	comp=Z,443nm,1.7s									
GWY	**Greenwater Val**	**54.08**	**77**	IAmb		IAmb		02 20 05.5		
	comp=Z,332nm,1.3s									
OSI	**Osito Audit: C**	**54.08**	**80**	P		**P**		**02 20 00.9**	**+1.1**	
	baz=317									
CCAC	**Calif City Air**	**54.09**	**79**	IAMs_20		IAMs_20		02 41 18.8		
	comp=Z,19μm,19.0s									
PRN	**Pahroc Range**	**54.09**	**75**	IAmb		IAmb		02 20 07.6		
	comp=Z,342nm,1.2s									
PRN	**Pahroc Range**	**54.09**	**75**	⇑P		**P**		**02 19 58.7**	**-1.3**	
QSM	**Queen of Sheba**	**54.13**	**77**	IAmb		IAmb		02 20 05.9		
	comp=Z,330nm,1.4s									
BSUT	**Blindstream Ca**	**54.16**	**69**	IAmb		IAmb		02 20 10.7		
	comp=Z,578nm,1.7s									
BSUT				IAMs_20		IAMs_20		02 43 41.0		
	comp=Z,16μm,21.0s									
TARA	**Tarawa**	**54.19**	**172**	IAMs_20		IAMs_20		02 38 38.6		
	comp=Z,28μm,20.0s									
PDGK	**Podgornoye**	**54.20**	**296**	P		**P**		**02 19 59.8**	**-0.8**	
SCO	**Scoresbysund**	**54.23**	**3**	*i* P		**P**		**02 19 59.6**	**-0.6**	
SCO				IAmb		IAmb		02 20 05.2		
	comp=Z,5μm,3.6s									
PZH	**PanZhiHua**	**54.27**	**266**	P		**P**		**02 20 02.5**	**+1.2**	
PZH				pP		**pP**		**02 20 03.9**	**-1.0**	
PZH				sP		**sP**		**02 20 07.9**	**+1.9**	
PZH				PP		**PP**		**02 22 07.9**	**+4.9**	
PZH				PcS		**PcS**		**02 25 06.3**	**+1.1**	
PZH				S		**S**		**02 27 37.8**	**-0.8**	
PZH				ScS		**ScS**		**02 29 48.1**	**-2.4**	
PZH				SS		**SKiKP**		**02 31 15.5**	**+3.6**	
PZH				pmax		pmax				
	comp=Z,100nm,1.7s									
PZH				pmax		pmax				
	comp=Z,2μm,6.8s									
PZH				LR		LR				
	comp=Z,12μm,16.3s									
PZH				LR		LR				
	comp=Z,24μm,16.3s									
PZH				LR		LR				
	comp=Z,18μm,14.5s									
EDW2	**Edwards Air Fo**	**54.30**	**79**	P		**P**		**02 20 01.7**	**+0.4**	
	baz=317,SNR=53									
ICESG	**Greenland Ices**	**54.33**	**11**	⇑P		**P**		**02 20 00.5**	**-1.0**	
ICESG	**Greenland Ices**	**54.33**	**11**	*i* P		**P**		**02 19 58.9**	**-2.6**	
ICESG				IAmb		IAmb		02 20 05.3		
	comp=Z,5μm,3.0s									
SHLS	**Shalkode**	**54.34**	**296**	*e*P		**P**		**02 19 58.5**	**-3.1**	
	baz=296									
SHLS				*e*S		**S**		**02 27 35.7**	**-3.5**	
	baz=296									
SHLS	**Shalkode**	**54.34**	**296**	*e*P		**P**		**02 19 58.5**	**-3.1**	
SHLS				*e*S		**S**		**02 27 35.7**	**-3.5**	
ARXS	**Arharly**	**54.41**	**298**	*i* P		**P**		**02 19 59.8**	**-2.3**	
SHOC	**Shoshone, Teco**	**54.51**	**77**	P		**P**		**02 20 03.0**	**+0.2**	
	baz=317,SNR=35									
KPKS	**Kokpek**	**54.51**	**297**	*e*P		**P**		**02 20 01.2**	**-1.7**	
	comp=Z,238nm,2.6s,baz=297									
KPKS				*e*S		**S**		**02 27 41.4**	**-0.2**	
	baz=297									
KPKS	**Kokpek**	**54.51**	**297**	*e*P		**P**		**02 20 01.2**	**-1.7**	
KPKS				*e*S		**S**		**02 27 41.3**	**-0.2**	
KPKS				pmax		pmax				
	comp=Z,238nm,2.6s									
ULM	**Lac du Bonnet**	**54.52**	**51**	IAmb		IAmb		02 20 07.1		
	comp=Z,418nm,1.4s									
ULM	**Lac du Bonnet**	**54.52**	**51**	⇓P		**P**		**02 20 01.1**	**-1.7**	
ULM	**Lac du Bonnet**	**54.52**	**51**	P		**P**		**02 20 00.7**	**-2.0**	
	comp=Z,42nm,1.0s,baz=314,slow=8.0,SNR=38									
ULM				LR		LR		02 45 36.1		
	comp=Z,23μm,18.0s,baz=321,slow=39									
ULM				PKPPKP		P'P'df		02 50 12.9	-8.5	
	comp=Z,2.4nm,0.9s,baz=141,slow=3.8,SNR=3.3									
	comp=Z,42nm,1.0s									
MDND	**Maddock**	**54.54**	**56**	IAMs_20		IAMs_20		02 42 58.1		
	comp=Z,19μm,22.0s									
MDND	**Maddock**	**54.54**	**56**	P		**P**		**02 20 03.0**	**+0.1**	
	baz=316,SNR=62									
MDND	**Maddock**	**54.54**	**56**	P		**P**		**02 20 01.2**	**-1.7**	
	baz=316,SNR=62									
DECC	**Green Verdugo**	**54.57**	**80**	P		**P**		**02 20 03.7**	**+0.4**	
	baz=318,SNR=10									
UZB	**Uzynbulak**	**54.57**	**296**	*e*P		**P**		**02 20 01.5**	**-1.9**	
	comp=Z,282nm,3.2s,baz=296									
UZB				*e*S		**S**		**02 27 42.5**	**0.0**	
	baz=296									
UZB	**Uzynbulak**	**54.57**	**296**	*e*P		**P**		**02 20 01.4**	**-1.9**	
UZB				*e*S		**S**		**02 27 42.4**	**0.0**	
UZB				pmax		pmax				
	comp=Z,282nm,3.2s									
SNCC	**San Nicolas Is**	**54.64**	**81**	P		**P**		**02 20 04.8**	**+1.0**	
	baz=318									
TCRU	**Three Creeks R**	**54.64**	**72**	IAmb		IAmb		02 20 16.5		
	comp=Z,557nm,1.7s									
GSC	**Goldstone, Bar**	**54.65**	**78**	IAmb		IAmb		02 20 09.6		
	comp=Z,415nm,1.4s									
GSC	**Goldstone, Bar**	**54.65**	**78**	P		**P**		**02 20 05.0**	**+1.1**	
	baz=317,SNR=101									
PASC	**Pasadena Art C**	**54.71**	**80**	IAmb		IAmb		02 20 08.8		
	comp=Z,462nm,1.6s									
PASC	**Pasadena Art C**	**54.71**	**80**	IAMs_20		IAMs_20		02 41 19.4		
	comp=Z,12μm,19.0s									
RDMU	**Red Mountain**	**54.77**	**68**	IAMs_20		IAMs_20		02 41 50.0		
	comp=Z,14μm,20.0s									
KMI	**Kunming**	**54.77**	**264**	⇑P		**P**		**02 20 06.0**	**+0.9**	
KMI				PP		**PP**		**02 22 10.8**	**+3.2**	
KMI				S		**S**		**02 27 45.3**	**-0.3**	
KMI				SS		**SS**		**02 31 31.8**	**+3.4**	
KMI				pmax		pmax				
	comp=Z,110nm,1.4s									
KMI				pmax		pmax				
	comp=Z,2μm,7.2s									
KMI				LR		LR				
	comp=Z,18μm,17.8s									
KMI				LR		LR				
	comp=Z,24μm,18.5s									
KMI				LR		LR				
	comp=Z,20μm,19.3s									
SFJD	**Kangerlussuaq**	**54.78**	**17**	P		**P**		**02 20 03.0**	**-1.3**	
SFJD				IAmb		IAmb		02 20 07.6		
	comp=Z,299nm,1.5s									
SFJD	**Kangerlussuaq**	**54.78**	**17**	IAMs_20		IAMs_20		02 44 57.4		
	comp=Z,14μm,21.0s									
SFJD	**Kangerlussuaq**	**54.78**	**17**	⇓P		**P**		**02 20 03.9**	**-0.4**	
SFJD	**Kangerlussuaq**	**54.78**	**17**	P		**P**		**02 20 03.0**	**-1.3**	
SFJD				pmax		pmax				
	comp=Z,299nm,1.5s									
SFJD				MLR		MLR				
	comp=Z,14μm,21.0s									
SFJD	**Kangerlussuaq**	**54.78**	**17**	LR		LR		02 45 39.1		
	comp=Z,13μm,19.9s,baz=329,slow=38									
SFJD	**Kangerlussuaq**	**54.78**	**17**	*i* P		**P**		**02 20 03.3**	**-1.0**	
SFJD				IAmb		IAmb		02 20 08.1		
	comp=Z,3μm,3.0s									
TMUT	**Trail Mountain**	**54.81**	**70**	IAmb		IAmb		02 20 10.5		
	comp=Z,637nm,1.7s									
ZHN	**Zhinishke**	**54.85**	**297**	*e*P		**P**		**02 20 03.6**	**-1.8**	
	baz=297									
ZHN				*e*S		**S**		**02 27 45.6**	**-0.5**	
	baz=297									
ZHN	**Zhinishke**	**54.85**	**297**	*e*P		**P**		**02 20 03.6**	**-1.8**	
ZHN				*e*S		**S**		**02 27 45.6**	**-0.5**	
RRX	**Edison Barstow**	**54.86**	**78**	P		**P**		**02 20 06.1**	**+0.7**	
	baz=318									
K22A	**Casper**	**54.86**	**64**	IAmb		IAmb		02 20 09.9		
	comp=Z,456nm,1.4s									
K22A				IAMs_20		IAMs_20		02 44 56.1		
	comp=Z,14μm,20.0s									
K22A	**Casper**	**54.86**	**64**	P		**P**		**02 20 05.9**	**+0.4**	
	baz=316,SNR=68									
K22A	**Casper**	**54.86**	**64**	P		**P**		**02 20 02.8**	**-2.7**	
	baz=316,SNR=68									
K22A				S		**S**		**02 27 43.2**	**-3.2**	
	baz=316									
P17A	**Butcher Ranch,**	**54.94**	**70**	IAmb		IAmb		02 20 11.3		
	comp=Z,605nm,1.7s									
P17A				IAMs_20		IAMs_20		02 44 03.6		
	comp=Z,13μm,19.0s									
E28A	**Huff**	**54.94**	**57**	IAMs_20		IAMs_20		02 44 55.7		
	comp=Z,29μm,20.0s									
E28A	**Huff**	**54.94**	**57**	P		**P**		**02 20 04.0**	**-1.9**	
	baz=316,SNR=48									
SATY	**Saty**	**54.95**	**297**	*e*P		**P**		**02 20 04.6**	**-1.5**	
	comp=Z,367nm,2.9s,baz=296									
SATY				*e*S		**S**		**02 27

ELS Elsinore Mount 55.52 79 IAmb IAmb 02 20 21.6
comp=Z,315nm,1.6s
MDOK Medeo 55.56 297 *e*P **P** **02 20 08.7 -1.8**
baz=298
MDOK *e*S **S** **02 27 55.0 -0.7**
baz=298
MDOK LR LR 02 45 08.0
comp=Z,13µm,13.8s,baz=298
MDOK Medeo 55.56 297 *e*P **P** **02 20 08.7 -1.8**
MDOK *e*S **S** **02 27 54.9 -0.7**
MDOK MLR MLR
comp=Z,13µm,14.0s
PKCU Pink Cliffs 55.56 73 IAmb IAmb 02 20 19.1
comp=Z,500nm,1.4s
PKCU IAMs_20 IAMs_20 02 42 21.4
comp=Z,15µm,20.0s
FAUS Fauske 55.59 347 *e*P **P** **02 20 09.3 -0.9**
FAUS IVmB_BB 02 20 13.6
comp=Z,7µm,3.7s
FAUS *e*S **S** **02 27 55.9 +0.8**
FAUS IVMs_BB IVMs_BB 02 40 21.5
comp=Z,7µm,24.4s
KIRV Kirov 55.59 326 *i* P **P** **02 20 08.2 -2.1**
KIRV Kirov 55.59 326 LR LR 02 46 59.5
comp=Z,39µm,18.5s,baz=38,slow=39
KNB Kanab 55.59 73 IAmb IAmb 02 20 16.4
comp=Z,604nm,1.6s
KNB IAMs_20 IAMs_20 02 42 29.3
comp=Z,18µm,19.0s
QIZ Qiongzhong 55.66 253 P **P** **02 20 12.4 +1.1**
QIZ ScP **ScP** **02 25 11.8 +2.6**
QIZ S **S** **02 28 00.5 +3.3**
QIZ ScS **ScS** **02 30 00.8 +0.5**
QIZ SS **SS** **02 31 44.9 +2.7**
QIZ pmax pmax
comp=Z,3µm,8.4s
QIZ LR LR
comp=Z,6µm,14.9s
QIZ LR LR
comp=Z,16µm,15.7s
QIZ LR LR
comp=Z,16µm,13.4s
QIZ Qiongzhong 55.66 253 P **P** **02 20 13.8 +2.5**
GMRC Granite Mounta 55.67 77 P **P** **02 20 11.9 +0.5**
baz=318,SNR=123
GMRC S **S** **02 28 00.1 +2.8**
baz=318
MURC Murrieta 55.69 79 P **P** **02 20 11.6 +0.2**
baz=318,SNR=22
MURC S **S** **02 27 58.5 +1.2**
baz=318
BTLS Baital 55.69 301 *e*P **P** **02 20 09.3 -2.0**
comp=Z,223nm,3.0s,baz=301
BTLS *e*S **S** **02 27 56.2 -0.9**
baz=301
BTLS Baital 55.69 301 *e*P **P** **02 20 09.2 -2.0**
BTLS *e*S **S** **02 27 56.2 -0.9**
BTLS pmax pmax
comp=Z,223nm,3.0s
TNSS Tian-Shan 55.70 297 *e*P **P** **02 20 10.2 -1.6**
baz=298
TNSS Tian-Shan 55.70 297 *e*P **P** **02 20 10.2 -1.6**
O20A White River Ci 55.78 68 IAMs_20 IAMs_20 02 42 43.8
comp=Z,16µm,21.0s
O20A White River Ci 55.78 68 P **P** **02 20 12.6 +0.4**
baz=317,SNR=194
O20A S **S** **02 27 59.0 +0.2**
baz=317
DY2G Dye2 55.95 15 ⇑P **P** **02 20 11.7 -1.4**
DY2G Dye2 55.95 15 *i* P **P** **02 20 11.6 -1.4**
DY2G IAmb IAmb 02 20 15.7
comp=Z,804nm,1.6s
AGMN Agassiz Nation 55.95 53 IAmb IAmb 02 20 17.4
comp=Z,503nm,1.4s
AGMN IAMs_20 IAMs_20 02 44 48.1
comp=Z,28µm,20.0s
AGMN Agassiz Nation 55.95 53 P **P** **02 20 13.6 +0.6**
baz=317,SNR=126
AGMN S **S** **02 28 00.5 +0.1**
baz=317
AGMN Agassiz Nation 55.95 53 P **P** **02 20 11.1 -1.9**
baz=317,SNR=126
AGMN S **S** **02 27 56.1 -4.2**
baz=317
AGMN Agassiz Nation 55.95 53 ⇑P **P** **02 20 11.0 -2.1**
SOEG Soedalen 55.97 8 *i* P **P** **02 20 11.5 -1.3**
SOEG IAmb IAmb 02 20 17.0
comp=Z,5µm,3.7s
BELC Belle Mtn. Jos 56.06 78 P **P** **02 20 14.0 -0.2**
baz=318,SNR=68
BELC S **S** **02 28 02.1 -0.5**
baz=318
PFO Pinyon Flats O 56.09 79 P **P** **02 20 12.6 -1.8**
PFO Pinyon Flats O 56.09 79 P **P** **02 20 15.7 +1.3**
baz=318,SNR=37
PFO S **S** **02 28 04.1 +1.2**
baz=318
PFO Pinyon Flats O 56.09 79 P **P** **02 20 12.6 -1.8**
PFO pmax pmax
comp=Z,203nm,1.5s
PFO Pinyon Flats O 56.09 79 LR LR 02 42 30.4
comp=Z,12µm,19.8s,baz=301,slow=34
TPFO Pinon Flats 56.09 79 P **P** **02 20 15.3 +0.8**
baz=318,SNR=40
TPFO S **S** **02 28 04.1 +1.1**
baz=318
NEE2 Needles Airpor 56.26 76 P **P** **02 20 15.6 +0.2**
baz=318
NEE2 S **S** **02 28 08.4 +3.5**
baz=318
109C Camp Elliot, M 56.26 80 IAmb IAmb 02 20 20.2
comp=Z,508nm,1.7s
109C Camp Elliot, M 56.26 80 P **P** **02 20 16.2 +0.8**
baz=318,SNR=11
109C S **S** **02 28 07.6 +2.6**
baz=318
D32A Dogwood Acres, 56.27 55 IAmb IAmb 02 20 19.4
comp=Z,609nm,1.6s
D32A IAMs_20 IAMs_20 02 45 31.7
comp=Z,17µm,19.0s
D32B Dogwood Acres, 56.27 55 P **P** **02 20 15.4 +0.1**
baz=317,SNR=9.1
D32B S **S** **02 28 00.4 -4.3**
baz=317
U15A North Rim 56.31 73 IAmb IAmb 02 20 21.5
comp=Z,460nm,1.6s
U15A IAMs_20 IAMs_20 02 42 51.4
comp=Z,21µm,20.0s
PHWY Pilot Hill 56.38 65 IAMs_20 IAMs_20 02 45 36.5
comp=Z,14µm,20.0s
IRM Iron Mountain 56.42 77 P **P** **02 20 17.3 +0.7**
baz=318,SNR=194
IRM S **S** **02 28 09.5 +2.5**
baz=318
W13A Hualapai Mount 56.42 76 IAmb IAmb 02 20 21.8
comp=Z,310nm,1.6s
N23A Red Feather La 56.43 65 IAmb IAmb 02 20 21.9
comp=Z,516nm,1.4s
N23A IAMs_20 IAMs_20 02 46 42.8
comp=Z,15µm,19.0s
N23A Red Feather La 56.43 65 P **P** **02 20 17.2 +0.3**
baz=317,SNR=74
N23A S **S** **02 28 10.7 +3.2**
baz=317
TKM2 Tokmak 2 56.47 298 P **P** **02 20 15.2 -1.9**
SNR=22
SGDS Sogindy 56.56 299 *e*P **P** **02 20 15.2 -2.4**
comp=Z,247nm,2.8s,baz=299
SGDS *e*S **S** **02 28 08.3 -0.5**
baz=299
SGDS Sogindy 56.56 299 *e*P **P** **02 20 15.1 -2.4**
SGDS *e*S **S** **02 28 08.3 -0.5**
SGDS pmax pmax
comp=Z,247nm,2.8s
BC3 Big Chuckawall 56.62 78 P **P** **02 20 18.0 -0.1**
baz=318,SNR=41
BC3 S **S** **02 28 11.4 +1.5**
baz=318
ULHL Ulahol 56.63 297 P **P** **02 20 19.7 +1.4**
SNR=6.3
MONP2 Monument Peak 56.64 79 P **P** **02 20 17.6 -0.9**
baz=318,SNR=41
MONP2 S **S** **02 28 12.5 +2.1**
baz=318
BAR Barrett 56.66 80 IAmb IAmb 02 20 22.9
comp=Z,368nm,1.7s
KLMR Klimovskoe 56.66 332 *d i*P **P** **02 20 18.3 +0.4**
KLMR S **S** **02 28 10.8 +1.3**
KLMR SS **SS** **02 32 00.9 +4.7**
KLMR pmax pmax
comp=Z,394nm,1.7s
KLMR pmax pmax
comp=Z,2µm,3.3s
KLMR MLR MLR
comp=Z,55µm,17.0s
KONS Konsvik 56.70 348 *e*P **P** **02 20 18.1 0.0**
KONS *e*S **S** **02 28 11.4 +1.5**
USP Ospenovka 56.76 299 P **P** **02 20 17.3 -1.7**
SNR=49
CHMS Chumysh 56.83 299 P **P** **02 20 18.1 -1.4**
SNR=32
MOR8 Moi Rana 56.85 347 *e*P **P** **02 20 17.9 -1.3**
MOR8 IVmB_BB 02 20 21.4
comp=Z,5µm,3.9s
MOR8 *e*S **S** **02 28 10.8 -1.1**
MOR8 IVMs_BB IVMs_BB 02 43 32.0
comp=Z,7µm,20.4s
B35A Bob, Littlefor 56.86 52 IAmb IAmb 02 20 23.7
comp=Z,593nm,1.5s
B35A Bob, Littlefor 56.86 52 P **P** **02 20 16.4 -3.1**
baz=318,SNR=63
B35A S **S** **02 28 09.8 -2.7**
baz=318
PDMCI Parker Dam,Lak 56.87 76 P **P** **02 20 19.5 -0.2**
baz=318,SNR=62
PDMCI S **S** **02 28 16.3 +3.4**
baz=318
STOK Stokkvaagen 56.88 347 *e*P **P** **02 20 18.9 -0.4**
STOK *epP* **pP** **02 20 22.0 -1.0**
STOK *eS* **S** **02 28 16.5 +4.3**
SWSC Sam W. Stewart 56.95 79 P **P** **02 20 20.7 +0.3**
baz=319,SNR=21
SWSC S **S** **02 28 16.5 +2.4**
baz=319
KBK Karagaybulak 56.99 298 P **P** **02 20 19.4 -1.3**
SNR=38
IKP In-Ko-Pah, Jac 57.00 79 P **P** **02 20 21.2 +0.4**
baz=319,SNR=20
IKP S **S** **02 28 16.4 +1.5**
baz=319
RMX La Rumorosa 57.05 79 IAmb IAmb 02 20 26.4
comp=Z,308nm,1.7s
BLYC Blythe 57.06 77 IAmb IAmb 02 20 26.2
comp=Z,544nm,1.6s
SMCO Snowmass 57.15 67 IAmb IAmb 02 20 27.9
comp=Z,235nm,1.2s
SMCO IAMs_20 IAMs_20 02 43 40.0
comp=Z,14µm,22.0s
SMCO Snowmass 57.15 67 ⇑P **P** **02 20 20.8 -1.4**
NUUK Nuuk 57.16 19 *i* P **P** **02 20 20.6 -0.8**
NUUK IAmb IAmb 02 20 25.5
comp=Z,4µm,3.7s
AAK Ala-Archa 57.23 299 P **P** **02 20 21.1 -1.3**
SNR=31
AAK Ala-Archa 57.23 299 P **P** **02 20 21.1 -1.3**
AAK Ala-Archa 57.23 299 *i* P **P** **02 20 20.9 -1.5**
SNR=38
AAK Ala-Archa 57.23 299 ⇑P **P** **02 20 20.7 -1.7**
AAK Ala-Archa 57.23 299 P **P** **02 20 21.1 -1.3**
AAK Ala-Archa 57.23 299 LR LR 02 47 46.7
comp=Z,31µm,18.3s,baz=46,slow=39
AAK Ala-Archa 57.23 299 P **P** **02 20 22.0 -0.5**
AAK P **P** **02 20 22.0 -0.5**
TNCH TengChong 57.24 267 P **P** **02 20 24.3 +1.6**
TNCH pP sP 02 20 27.0 -0.4
TNCH PcP **PcP** **02 21 18.8 +1.7**
TNCH S **S** **02 28 18.4 0.0**
TNCH sS pS 02 28 22.8 0.0
TNCH ScS **ScS** **02 30 10.8 -1.3**
TNCH SS **SS** **02 32 07.8 +0.6**
TNCH pmax pmax
comp=Z,100nm,1.3s
TNCH pmax pmax
comp=Z,2µm,7.7s
TNCH LR LR
comp=Z,13µm,17.6s
TNCH LR LR
comp=Z,15µm,15.9s
TNCH LR LR
comp=Z,28µm,16.5s
SUSD Miller 57.33 58 IAmb IAmb 02 20 27.7
comp=Z,598nm,1.6s
SUSD IAMs_20 IAMs_20 02 45 21.0
comp=Z,21µm,20.0s
SUSD Miller 57.33 58 P **P** **02 20 23.0 +0.1**
baz=318,SNR=14
SUSD S **S** **02 28 18.8 0.0**
baz=318
SUSD Miller 57.33 58 P **P** **02 20 20.8 -2.1**
baz=318,SNR=14
SUSD S **S** **02 28 15.1 -3.7**
baz=318
ISCO Idaho Springs 57.40 66 IAMs_20 IAMs_20 02 46 52.6
comp=Z,19µm,20.0s
ISCO Idaho Springs 57.40 66 P **P** **02 20 24.6 +0.7**
baz=318,SNR=155
ISCO S **S** **02 28 22.1 +1.6**
baz=318
ISCO Idaho Springs 57.40 66 P **P** **02 20 22.8 -1.1**
baz=318,SNR=155
ISCO S **S** **02 28 20.5 0.0**
baz=318
ISCO Idaho Springs 57.40 66 ⇑P **P** **02 20 22.9 -1.0**
GLA Glamis 57.42 78 P **P** **02 20 24.9 +1.2**
baz=319
GLA S **S** **02 28 22.0 +1.7**
baz=319
WUAZ Wupatki 57.49 73 IAmb IAmb 02 20 29.7
comp=Z,497nm,1.6s
WUAZ IAMs_20 IAMs_20 02 43 36.8
comp=Z,19µm,19.0s
WUAZ Wupatki 57.49 73 P **P** **02 20 25.1 +0.7**
baz=318,SNR=70
WUAZ S **S** **02 28 26.4 +5.0**
baz=318
WUAZ Wupatki 57.49 73 ⇓P **P** **02 20 23.6 -0.8**
BRIGG Briggsdale 57.50 65 IAmb IAmb 02 20 29.6
comp=Z,465nm,1.4s
UCH Uchtor 57.52 298 P **P** **02 20 26.2 +1.4**
SNR=14
F33A 5 Mile Ranch, 57.56 55 IAmb IAmb 02 20 28.8
comp=Z,476nm,1.5s
F33A IAMs_20 IAMs_20 02 47 17.0
comp=Z,20µm,20.0s
F33A 5 Mile Ranch, 57.56 55 P **P** **02 20 22.8 -1.7**
baz=318,SNR=56
F33A S **S** **02 28 18.3 -3.5**
baz=318
EKS2 Erkin-Say 57.57 299 P **P** **02 20 26.6 +1.8**
SNR=6.8
ESJX Sierra Juarez 57.57 80 IAmb IAmb 02 20 29.8
comp=Z,402nm,1.7s
Y14A Wickenburg 57.77 76 IAmb IAmb 02 20 31.2
comp=Z,290nm,1.6s
MVCO Mesa Verde 57.79 70 IAmb IAmb 02 20 31.5
comp=Z,462nm,1.7s
MVCO IAMs_20 IAMs_20 02 48 20.5
comp=Z,13µm,18.0s
MVCO Mesa Verde 57.79 70 P **P** **02 20 27.7 +1.2**
baz=318,SNR=49
MVCO S **S** **02 28 30.8 +5.3**
baz=318
MVCO Mesa Verde 57.79 70 ⇓P **P** **02 20 25.2 -1.3**
LSA Lhasa 57.85 277 IAMs_20 IAMs_20 02 45 42.9
comp=Z,16µm,19.0s
LSA Lhasa 57.85 277 P **P** **02 20 28.3 +0.9**
LSA Lhasa 57.85 277 P **P** **02 20 28.4 +1.1**
LSA P **P** **02 20 28.4 +1.1**
LSA P **P** **02 20 28.4 +1.1**
ANGG Ammassalik, Gr 57.89 11 *i* P **P** **02 20 25.0 -1.5**
ANGG IAmb IAmb 02 20 26.0
comp=Z,367nm,1.8s
AML Almayashu 58.00 299 P **P** **02 20 30.0 +1.8**
SNR=34
DAV Davao City (W) 58.06 230 LR LR 02 47 35.8
comp=Z,3µm,19.5s,baz=63,slow=38
VTX Valle De La Tr 58.12 80 P **P** **02 20 27.4 -1.3**
EYMN Ely 58.16 51 IAMs_20 IAMs_20 02 48 06.6
comp=Z,23µm,20.0s
EYMN Ely 58.16 51 P **P** **02 20 29.6 +0.8**
baz=319,SNR=50
EYMN S **S** **02 28 30.5 +0.8**
baz=319
EYMN Ely 58.16 51 P **P** **02 20 26.7 -2.0**
EYMN S **S** **02 28 27.0 -2.6**
baz=319
EYMN Ely 58.16 51 ⇑P **P** **02 20 26.8 -2.0**
113A Mohawk Valley, 58.22 77 IAmb IAmb 02 20 34.0
comp=Z,375nm,1.7s
113A IAMs_20 IAMs_20 02 43 40.1
comp=Z,16µm,20.0s
Q24A Divide 58.26 66 IAmb IAmb 02 20 35.1
comp=Z,311nm,1.4s
Q24A IAMs_20 IAMs_20 02 47 21.4
comp=Z,21µm,20.0s
Q24A Divide 58.26 66 P **P** **02 20 30.2 +0.3**
baz=318,SNR=69
Q24A S **S** **02 28 35.7 +3.9**
baz=318
S22A 4UR Ranch, Cre 58.28 69 IAmb IAmb 02 20 36.5
comp=Z,533nm,1.4s
S22A IAMs_20 IAMs_20 02 46 14.1
comp=Z,14µm,20.0s
S22A 4UR Ranch, Cre 58.28 69 P **P** **02 20 30.4 +0.3**
baz=318,SNR=220
S22A S **S** **02 28 35.5 +3.4**
baz=318
K30B Basset 58.32 60 P **P** **02 20 28.4 -1.6**
baz=318,SNR=42
K30B S **S** **02 28 32.1 +0.2**
baz=318
OGNE Ogallala 58.40 63 IAMs_20 IAMs_20 02 47 02.6
comp=Z,14µm,20.0s
OGNE Ogallala 58.40 63 P **P** **02 20 31.8 +1.3**
baz=318,SNR=25
OGNE S **S** **02 28 33.5 +0.5**
baz=318
OGNE Ogallala 58.40 63 P **P** **02 20 29.3 -1.3**
baz=318,SNR=25
OGNE S **S** **02 28 34.4 +1.4**
baz=318
OGNE Ogallala 58.40 63 ⇑P **P** **02 20 28.6 -2.0**
DZA Taraz 58.60 301 *e*P **P** **02 20 30.0 -1.9**
baz=301
DZA Taraz 58.60 301 *e*P **P** **02 20 30.0 -1.9**
W18A Petrified Fore 58.68 73 IAMs_20 IAMs_20 02 44 19.9
comp=Z,23µm,20.0s
W18A Petrified Fore 58.68 73 P **P** **02 20 34.2 +1.5**
baz=319
W18A S **S** **02 28 41.9 +4.8**
baz=319
NSS Namsos 58.74 347 *e*P **P** **02 20 31.8 -0.6**
NSS IVmB_BB 02 20 36.0
comp=Z,5µm,5.0s
NSS *eS* **S** **02 28 36.7 +0.2**
NSS IVMs_BB IVMs_BB 02 42 51.8
comp=Z,6µm,21.8s
KSH Kashi 58.79 295 P **P** **02 20 35.6 +2.2**
KSH pP sP 02 20 38.4 +0.3
KSH sP pP 02 20 43.3 +6.2
KSH S **S** **02 28 45.1 +6.9**
KSH ScS **ScS** **02 30 24.1 +1.2**
KSH pmax pmax
comp=Z,130nm,1.8s
KSH pmax pmax
comp=Z,2µm,3.3s
KSH LR LR
comp=Z,41µm,20.3s
KSH LR LR
comp=Z,44µm,18.2s
KSH LR LR
comp=Z,17µm,21.1s
F36A Milaca 58.83 54 IAmb IAmb 02 20 37.5
comp=Z,387nm,1.6s
F36A Milaca 58.83 54 P **P** **02 20 31.7 -1.7**
baz=319,SNR=52
F36A S **S** **02 28 38.0 -0.4**
baz=319
AKTO Aktyubinsk 58.84 315 P **P** **02 20 30.8 -2.6**
AKTO Aktyubinsk 58.84 315 LR LR 02 48 58.1
comp=Z,21µm,18.6s,baz=34,slow=39
KK31 Karatay Array 58.84 302 *i* P **P** **02 20 31.2 -2.4**
KKAR Karatay Array 58.84 302 ⇑P **P** **02 20 31.7 -1.9**
SFX San Felipe 58.91 80 P **P** **02 20 32.8 -1.4**
SFX IAmb IAmb 02 20 38.7
comp=Z,245nm,1.5s
AB31 Akbulak array 58.96 313 *i* P **P** **02 20 32.0 -2.2**
ABKAR Akbulak array 58.96 313 IAmb IAmb 02 20 37.9
comp=Z,379nm,1.8s
ABKAR Akbulak array 58.96 313 ⇓P **P** **02 20 31.9 -2.3**
ECSD EROS Data Cent 58.98 57 IAmb IAmb 02 20 39.1
comp=Z,342nm,1.4s
SDCO Great Sand Dun 58.98 68 IAmb IAmb 02 20 40.2
comp=Z,463nm,1.6s
SDCO IAMs_20 IAMs_20 02 44 41.1
comp=Z,13µm,21.0s
SDCO Great Sand Dun 58.98 68 P **P** **02 20 36.0 +1.0**
baz=319,SNR=201
SDCO S **S** **02 28 46.6 +5.4**
baz=319
SDCO Great Sand Dun 58.98 68 P **P** **02 20 34.0 -0.9**
baz=319,SNR=201
SDCO S **S** **02 28 43.3 +2.2**
baz=319
SDCO Great Sand Dun 58.98 68 ⇑P **P** **02 20 33.7 -1.3**
X18A Snowflake 59.00 73 IAmb IAmb 02 20 40.4
comp=Z,426nm,1.6s
X18A IAMs_20 IAMs_20 02 44 53.5
comp=Z,17µm,19.0s
E38A The Farm, Brul 59.16 52 P **P** **02 20 33.2 -2.4**
baz=320,SNR=48
E38A S **S** **02 28 43.0 +0.5**
baz=320
KAVG Kavieng 59.23 198 P **P** **02 20 38.1 +1.7**
PIX Pinacate 59.30 78 IAmb IAmb 02 20 42.5
comp=Z,296nm,1.6s
FINES FINESS Array B 59.31 339 P **P** **02 20 34.4 -2.1**
comp=Z,21nm,0.6s,baz=38,slow=5.9,SNR=32
FINES LR LR 02 49 58.6
comp=Z,12µm,18.9s,baz=24,slow=40
FINES PKPPKP P'P'df 02 50 04.0 -12
comp=Z,9.0nm,1.1s,baz=202,slow=4.1,SNR=3.4
comp=Z,21nm,0.6s
214A Organ Pipe Nat 59.36 77 IAmb IAmb 02 20 42.2
comp=Z,396nm,1.6s
214A IAMs_20 IAMs_20 02 44 43.4
comp=Z,13µm,20.0s
214A Organ Pipe Nat 59.36 77 P **P** **02 20 38.8 +1.5**
baz=319,SNR=48
214A S **S** **02 28 48.5 +2.9**
baz=319
MANU Manus Island 59.38 202 P **P** **02 20 37.7 +0.3**
MANU IAmb IAmb 02 20 40.9
comp=Z,230nm,1.3s
MANU Manus Island 59.38 202 P **P** **02 20 39.2 +1.8**
KSCO Kaye Shedlock' 59.54 65 P **P** **02 20 40.0 +1.5**
baz=319,SNR=40
KSCO S **S** **02 28 50.8 +2.9**
baz=319
KSCO Kaye Shedlock' 59.54 65 P **P** **02 20 36.8 -1.8**
baz=319,SNR=40
KSCO S **S** **02 28 51.9 +3.9**
baz=319
SPMN Marine on St. 59.64 54 P **P** **02 20 39.9 +0.9**
baz=320,SNR=50
SPMN S **S** **02 28 51.9 +3.0**
baz=320
SPMN Marine on St. 59.64 54 P **P** **02 20 37.2 -1.8**
baz=320,SNR=50
SPMN S **S** **02 28 49.9 +1.0**
baz=320
CHM Chimkent 59.87 302 *e*P **P** **02 20 39.1 -1.6**
baz=302
CHM LR LR 02 47 17.4
baz=302
CHM Chimkent 59.87 302 *e*P **P** **02 20 39.1 -1.6**
PUL Pulkovo 59.90 336 *i* P **P** **02 20 40.0 -0.5**
PUL pmax pmax
comp=Z,236nm,0.8s
PUL MLR MLR
comp=Z,27µm,19.0s
CRAI Chiangrai 59.96 262 P **P** **02 20 41.6 +0.1**
CRAI IAMs_20 IAMs_20 02 48 47.8
comp=Z,19µm,21.0s
BGNE Belgrade 59.99 60 P **P** **02 20 42.1 +0.6**
baz=319,SNR=66
BGNE S **S** **02 28 54.3 +0.8**
baz=319
BGNE Belgrade 59.99 60 P **P** **02 20 39.8 -1.7**
baz=319,SNR=66

BGNE S S 02 28 54.3 +0.8
baz=319
BORG Borgarnes 59.99 4 LR LR 02 46 43.7
comp=Z,10μm,19.7s,baz=348,slow=36
T25A Trinidad 60.01 67 IAMs_20 IAMs_20 02 44 45.8
comp=Z,16μm,21.0s
T25A Trinidad 60.01 67 S S 02 28 59.5 +5.2
baz=319
D41A Chassel 60.12 50 IAMs_20 IAMs_20 02 48 18.3
comp=Z,20μm,20.0s
D41A Chassel 60.12 50 P P 02 20 38.7 -3.6
baz=321,SNR=23
D41A S S 02 28 55.8 +0.8
baz=321
NONG Nongkai 60.14 258 P P 02 20 42.3 -0.4
TBLU Trondheim 60.18 348 *e*P P 02 20 41.2 -1.2
TBLU *e*pP **pP** 02 20 44.0 -2.1
TBLU IVmB_BB 02 20 45.3
comp=Z,5μm,3.3s
TBLU *e*S S 02 28 54.1 -1.1
TBLU IVMs_BB IVMs_BB 02 42 19.6
comp=Z,6μm,35.2s
TUC Tucson 60.21 76 P P 02 20 41.9 -1.3
TUC IAmb IAmb 02 20 48.2
comp=Z,241nm,1.6s
TUC Tucson 60.21 76 IAMs_20 IAMs_20 02 49 34.8
comp=Z,11μm,19.0s
TUC Tucson 60.21 76 P P 02 20 44.2 +0.9
baz=320
TUC S S 02 29 02.4 +5.6
baz=320
TUC Tucson 60.21 76 ⇓P P 02 20 42.1 -1.2
TUC Tucson 60.21 76 P P 02 20 41.9 -1.3
TUC pmax pmax
comp=Z,241nm,1.6s
TUC MLR MLR
comp=Z,11μm,19.0s
I37B Waseca 60.29 55 P P 02 20 41.7 -1.8
baz=320,SNR=76
I37B S S 02 28 58.9 +1.7
baz=320
L34A Svendsen Farm, 60.43 58 IAMs_20 IAMs_20 02 47 04.2
comp=Z,21μm,20.0s
L34A Svendsen Farm, 60.43 58 P P 02 20 42.1 -2.4
baz=320,SNR=25
L34A S S 02 28 59.1 -0.1
baz=320
RAF Rauma 60.54 341 *e*P P 02 20 45.5 +0.6
IVI Ivigtut 60.55 18 IAmb IAmb 02 20 48.4
comp=Z,138nm,1.2s
IVI Ivigtut 60.55 18 *i* P P 02 20 42.8 -2.1
IVI IAmb IAmb 02 20 48.1
comp=Z,174nm,1.3s
RABL Rabaul 60.57 196 P P 02 20 47.7 +2.0
ANMO Albuquerque 60.58 70 P P 02 20 44.4 -1.5
ANMO IAmb IAmb 02 20 50.8
comp=Z,290nm,1.7s
ANMO Albuquerque 60.58 70 P P 02 20 46.8 +1.0
baz=319
ANMO S S 02 29 05.2 +3.6
baz=319
ANMO Albuquerque 60.58 70 P P 02 20 44.6 -1.3
baz=319,SNR=59
ANMO S S 02 29 06.1 +4.5
baz=319
ANMO Albuquerque 60.58 70 ⇑P P 02 20 43.1 -2.7
ANMO Albuquerque 60.58 70 P P 02 20 44.4 -1.5
ANMO pmax pmax
comp=Z,290nm,1.7s
ANMO Albuquerque 60.58 70 LR LR 02 46 36.1
comp=Z,9μm,20.1s,baz=68,slow=36
SHL Shillong 60.60 273 *e*P P 02 20 46.0 0.0
SHL IAmb IAmb 02 20 49.4
comp=Z,102nm,1.0s
SHL *i* x x 02 42 53.5
SHL IAMs_20 IAMs_20 02 49 01.1
comp=Z,12μm,16.5s
XMAS Kiritimati 60.77 137 P P 02 20 46.1 -1.0
XMAS IAmb IAmb 02 20 51.6
comp=Z,158nm,0.8s
XMAS Kiritimati 60.77 137 IAMs_20 IAMs_20 02 40 42.0
comp=Z,17μm,22.0s
XMAS Kiritimati 60.77 137 P P 02 20 49.3 +2.3
MEF Metsahovi 60.78 339 *e*P P 02 20 47.6 +1.1
G40A Rib Lake 60.79 52 IAmb IAmb 02 20 50.9
comp=Z,343nm,1.4s
G40A Rib Lake 60.79 52 P P 02 20 44.8 -2.1
baz=321,SNR=53
G40A S S 02 29 00.8 -2.8
baz=321
N33B J Bar K, Exete 60.84 60 P P 02 20 45.4 -1.9
baz=320,SNR=13
N33B S S 02 29 05.4 +0.9
baz=320
MND Mandalay 60.96 267 P P 02 20 49.3 +1.0
Y22D IRIS PASSCAL I 60.99 71 IAMs_20 IAMs_20 02 46 02.0
comp=Z,21μm,20.0s
Y22D IRIS PASSCAL I 60.99 71 P P 02 20 49.6 +1.1
baz=320
Y22D S S 02 29 15.6 +8.9
baz=320
Y22D IRIS PASSCAL I 60.99 71 P P 02 20 50.4 +1.8
baz=320
Y22D S S 02 29 13.5 +6.7
baz=320
Y22F Passcal Instru 60.99 71 P P 02 20 50.4 +1.8
baz=320
Y22F S S 02 29 14.7 +8.0
baz=320
NRS Narsarsuaq 61.06 17 *i* P P 02 20 45.9 -2.6
NRS IAmb IAmb 02 20 53.4
comp=Z,276nm,1.7s
Y22A Socorro 61.07 72 P P 02 20 47.6 -1.6
baz=320,SNR=106
Y22A S S 02 29 12.5 +4.7
baz=320
MOL Molde 61.15 349 *e*P P 02 20 49.4 +0.4
MOL IVmB_BB 02 20 50.4
comp=Z,4μm,4.9s
MOL *e*S S 02 29 09.3 +1.7
MOL IVMs_BB IVMs_BB 02 46 07.3
comp=Z,6μm,4.5s
CBKS Cedar Bluff 61.16 63 IAMs_20 IAMs_20 02 47 52.8
comp=Z,18μm,22.0s
CBKS Cedar Bluff 61.16 63 P P 02 20 50.2 +0.6
baz=320,SNR=33
CBKS S S 02 29 11.3 +2.7
baz=320
CBKS Cedar Bluff 61.16 63 P P 02 20 47.3 -2.3
baz=320,SNR=33
CBKS S S 02 29 08.7 +0.1
baz=320
CBKS Cedar Bluff 61.16 63 ⇓P P 02 20 47.7 -1.9
BELG Belogornoye 61.19 322 *i* P P 02 20 47.4 -2.1
BELG pmax pmax
comp=Z,74nm,1.5s
BELG MLR MLR
comp=Z,5μm,18.0s
BELG Belogornoye 61.19 322 LR LR 02 50 45.6
comp=Z,34μm,18.6s,baz=43,slow=40
F42A Maple Grove Fa 61.32 50 P P 02 20 48.4 -2.1
baz=321,SNR=14
F42A S S 02 29 07.9 -2.5
baz=321
E43A Lone Tree Farm 61.33 49 IAmb IAmb 02 20 57.0
comp=Z,353nm,1.5s
E43A Lone Tree Farm 61.33 49 P P 02 20 49.3 -1.3
baz=322,SNR=26
E43A S S 02 29 07.7 -2.7
baz=322
DOMB Dombas 61.49 348 *e*P P 02 20 50.4 -1.0
DOMB IVmB_BB 02 20 52.3
comp=Z,5μm,5.1s
DOMB *e*pP **pP** 02 20 53.7 -1.5
DOMB *e*S S 02 29 13.4 +1.3
DOMB IVMs_BB IVMs_BB 02 45 11.6
comp=Z,6μm,4.6s
MOS Moscow 61.55 330 *e*P P 02 20 49.5 -2.3
MOS *e* 02 23 06.5
MOS *e*PPP PPP 02 24 35.0
MOS *e*S S 02 29 11.8 -1.1
MOS *e* 02 30 36.9
MOS *e*SS SS 02 33 05.7 -7.3
MOS pmax pmax
comp=N,124nm,1.5s
MOS pmax pmax
comp=Z,312nm,1.5s
MOS pmax pmax
comp=Z,3μm,4.2s
MOS pmax pmax
comp=N,2μm,4.2s
MOS smax smax
comp=N,6μm,7.0s
MOS smax smax
comp=E,8μm,7.0s
MOS MLR MLR
comp=Z,24μm,16.0s
MOS MLR MLR
comp=N,22μm,15.0s
AKN Aaknes 61.59 349 *e*P P 02 20 50.9 -1.2
AKN *e*S S 02 29 15.3 +1.9
AKN IVMs_BB IVMs_BB 02 47 24.6
comp=Z,7μm,7.6s
EVN Everest 61.63 279 ⇑P P 02 20 51.8 -1.8
K38A Parkersburg 61.63 55 IAmb IAmb 02 20 56.5
comp=Z,456nm,1.4s
K38A Parkersburg 61.63 55 P P 02 20 50.7 -2.0
baz=321,SNR=14
K38A S S 02 29 14.8 +0.4
baz=321
N35A Tabor 61.63 59 P P 02 20 50.3 -2.3
baz=320,SNR=34
N35A S S 02 29 13.5 -0.9
baz=320
I40A Norwalk 61.66 53 IAmb IAmb 02 20 56.7
comp=Z,414nm,1.4s
I40A Norwalk 61.66 53 P P 02 20 50.4 -2.5
baz=321,SNR=31
I40A S S 02 29 13.9 -0.9
baz=321
121A Cookes Peak, D 61.69 73 IAmb IAmb 02 20 58.8
comp=Z,457nm,1.6s
121A IAMs_20 IAMs_20 02 46 12.7
comp=Z,19μm,19.0s
121A Cookes Peak, D 61.69 73 P P 02 20 53.5 +0.1
baz=320,SNR=63
121A S S 02 29 20.8 +5.1
baz=320
121A Cookes Peak, D 61.69 73 P P 02 20 51.5 -1.9
baz=320,SNR=63
121A S S 02 29 16.5 +0.8
baz=320
GENI Genyem 61.71 210 P P 02 20 55.2 +1.9
319A Douglas 61.75 75 IAmb IAmb 02 20 59.6
comp=Z,394nm,1.4s
319A IAMs_20 IAMs_20 02 46 13.5
comp=Z,11μm,20.0s
SCHQ Schefferville 61.80 32 P P 02 20 51.1 -2.5
comp=Z,55nm,0.5s,baz=344,slow=6.6,SNR=41
SCHQ LR LR 02 49 28.9
comp=Z,10μm,20.3s,baz=330,slow=38
SCHQ PKP2bc **P'P'df** 02 50 10.9 -0.4
comp=Z,7.2nm,0.9s,baz=167,slow=4.7,SNR=4.3
comp=Z,55nm,0.5s
VSU Vasula 61.89 337 ⇑P P 02 20 54.4 +0.3
VSU Vasula 61.89 337 *i* P P 02 20 53.4 -0.7
VSU pmax pmax
comp=Z,120nm,0.9s
VSU MLR MLR
comp=Z,14μm,16.0s
VSU Vasula 61.89 337 *e*P P 02 20 54.2 +0.2
CHTO Chiang Mai 61.89 262 IAMs_20 IAMs_20 02 50 11.0
comp=Z,13μm,19.0s
CHTO Chiang Mai 61.89 262 P P 02 20 54.7 0.0
CHTO Chiang Mai 61.89 262 ⇑P P 02 20 54.7 0.0
CHTO Chiang Mai 61.89 262 P P 02 20 55.4 +0.7
CHTO P P 02 20 55.4 +0.7
CHTO S S 02 29 17.8 -0.5
CHTO S S 02 29 17.8 -0.5
CHTO Chiang Mai 61.89 262 P P 02 20 52.7 -2.0
comp=Z,89nm,1.2s,comp=Z,2μmcomp=Z,6μm
R32A Long Quarter, 61.98 62 IAmb IAmb 02 20 58.5
comp=Z,332nm,1.6s
R32A IAMs_20 IAMs_20 02 48 26.4
comp=Z,17μm,21.0s
R32A Long Quarter, 61.98 62 P P 02 20 53.7 -1.4
baz=320,SNR=15
R32A S S 02 29 15.5 -3.5
baz=320
SCIA State Center 61.99 56 IAMs_20 IAMs_20 02 50 51.3
comp=Z,18μm,19.0s
SCIA State Center 61.99 56 P P 02 20 55.5 +0.4
baz=321,SNR=16
SCIA S S 02 29 19.5 +0.5
baz=321
SCIA State Center 61.99 56 P P 02 20 52.8 -2.2
baz=321,SNR=16
SCIA S S 02 29 18.3 -0.6
baz=321
SCIA State Center 61.99 56 ⇓P P 02 20 55.5 +0.4
NC303 NORSAR Array S 62.00 347 IAmb IAmb 02 20 58.5
comp=Z,397nm,1.8s
NC204 NORSAR Array S 62.03 347 IAmb IAmb 02 20 58.6
comp=Z,327nm,1.5s
NC405 NORSAR Array S 62.06 346 IAmb IAmb 02 20 59.0
comp=Z,183nm,1.4s
CM31 Chiang Mai Arr 62.18 262 P P 02 20 58.1 +1.5
SNR=32
CM31 P P 02 20 58.1 +1.5
SNR=32
CMAR Chiang Mai Arr 62.18 262 P P 02 20 56.5 -0.1
CMAR Chiang Mai Arr 62.18 262 *ce*P P 02 20 57.0 +0.4
CMAR pmax pmax
comp=Z,24nm,0.7s
CMAR Chiang Mai Arr 62.18 262 P P 02 20 56.2 -0.4
comp=Z,23nm,0.7s,baz=23,slow=6.9,SNR=44
CMAR PKP2bc **P'P'bc** 02 50 11.1 -1.0
comp=Z,1.7nm,0.3s,baz=233,slow=5.0,SNR=5.5
CMAR LR LR 02 50 48.8
comp=Z,15μm,18.3s,baz=40,slow=39
comp=Z,23nm,0.7s
NB2 NORSAR Subarra 62.20 347 P P 02 20 54.2 -2.0
comp=Z,178nm,1.0s,baz=16,slow=6.9
NB2 NORSAR Subarra 62.20 347 P P 02 20 54.2 -2.0
baz=16,slow=6.9
NOA NORSAR Array B 62.20 347 P P 02 20 53.5 -2.6
comp=Z,14nm,0.4s,baz=95,slow=6.4,SNR=43
NOA LR LR 02 48 11.6
comp=Z,10μm,20.6s,baz=355,slow=36
NOA PKP2bc **P'P'df** 02 50 09.7 -1.5
comp=Z,4.2nm,1.0s,baz=187,slow=2.5,SNR=3.4
comp=Z,14nm,0.4s
DLV T Lat 62.23 249 P P 02 20 59.6 +2.4
NBO00 NORSAR Array S 62.26 347 IAmb IAmb 02 21 00.2
comp=Z,200nm,1.5s
MTSE Matsula 62.28 339 *e*P P 02 20 58.1 +1.4
OBN Obninsk 62.39 330 P P 02 20 56.6 -0.9
OBN IAmb IAmb 02 21 01.1
comp=Z,492nm,1.9s
OBN Obninsk 62.39 330 *d* *i* P P 02 20 57.5 0.0
OBN *i* 02 21 06.4
OBN *i* 02 21 31.4
OBN *i* 02 23 12.8
OBN *i* PPP PPP 02 24 39.7
OBN *i* S **S** 02 29 23.3 -0.2
OBN *i* PS **PnS** 02 29 41.1 +2.8
OBN *e*PPS PPS 02 29 53.9
OBN *i* 02 30 43.4
OBN *i* SS **SS** 02 33 28.7 +2.6
OBN pmax pmax
comp=Z,239nm,1.7s
OBN pmax pmax
comp=Z,2μm,3.3s
OBN MLR MLR
comp=Z,23μm,16.0s
OBN Obninsk 62.39 330 LR LR 02 51 10.6
comp=Z,21μm,18.1s,baz=16,slow=39
NAO01 NORSAR Array S 62.43 347 IAmb IAmb 02 21 01.2
comp=Z,489nm,1.9s
I42A Draeger Farm, 62.44 52 IAmb IAmb 02 21 01.8
comp=Z,346nm,1.4s
I42A Draeger Farm, 62.44 52 P P 02 20 55.9 -2.1
baz=322,SNR=18
I42A S S 02 29 21.5 -3.0
baz=322
NC602 NORSAR Array S 62.45 346 *e*P P 02 20 57.3 -0.5
NC602 *e*S S 02 29 22.4 -1.7
NC602 IVMs_BB IVMs_BB 02 47 56.1
comp=Z,8μm,24.4s
E46A Sault Ste Mari 62.48 47 IAmb IAmb 02 21 01.4
comp=Z,400nm,1.4s
E46A Sault Ste Mari 62.48 47 P P 02 20 56.2 -2.1
baz=323,SNR=22
H43A Windswept, Lux 62.49 51 P P 02 20 55.8 -2.6
baz=322,SNR=15
H43A S S 02 29 22.7 -2.5
baz=322
KSU1 Kansas State U 62.51 61 IAmb IAmb 02 21 02.3
comp=Z,348nm,1.4s
KSU1 Kansas State U 62.51 61 P P 02 20 58.1 -0.6
baz=321,SNR=17
KSU1 S S 02 29 24.4 -1.2
baz=321
KSU1 Kansas State U 62.51 61 P P 02 20 58.0 -0.6
baz=321,SNR=17
KSU1 S S 02 29 24.2 -1.3
baz=321
KSU1 Kansas State U 62.51 61 ⇓P P 02 20 58.6 0.0
JFWS Jewell Farm 62.59 54 IAmb IAmb 02 21 02.3
comp=Z,416nm,1.6s
JFWS Jewell Farm 62.59 54 P P 02 20 58.5 -0.6
baz=322,SNR=14
JFWS S S 02 29 26.6 +0.1
baz=322
JFWS Jewell Farm 62.59 54 P P 02 20 55.4 -3.7
baz=322,SNR=14
JFWS S S 02 29 25.4 -1.1
baz=322
JFWS Jewell Farm 62.59 54 ⇓P P 02 20 56.5 -2.6
HSIG 62.63 78 IAmb IAmb 02 21 04.2
comp=Z,438nm,1.6s
HSIG IAMs_20 IAMs_20 02 48 31.1
comp=Z,11μm,19.0s
HYA Hoyanger 62.67 349 *e*P P 02 21 00.7 +1.4
HYA *e*S S 02 29 26.6 -0.3
HYA IVMs_BB IVMs_BB 02 46 09.4
comp=Z,9μm,4.7s
HFS Hagfors 62.72 345 P P 02 20 57.2 -2.5
comp=Z,24nm,0.5s,baz=35,slow=5.4,SNR=44
HFS LR LR 02 47 48.0
comp=Z,20μm,21.8s,baz=14,slow=36
comp=Z,24nm,0.5s
L40A Anamosa 62.81 55 IAmb IAmb 02 21 03.8
comp=Z,331nm,1.4s
L40A Anamosa 62.81 55 P P 02 20 58.4 -2.1
baz=321,SNR=32
L40A S S 02 29 27.0 -2.2
baz=321
N38A Joes South For 62.85 57 P P 02 20 58.5 -2.3
baz=321,SNR=16
N38A S S 02 29 29.3 -0.5
baz=321
SKAR Skarslia 62.91 348 *e*P P 02 21 00.6 -0.4
SKAR *e*pP **pP** 02 21 03.5 -1.2
SKAR *e*S S 02 29 30.4 +0.3
SKAR IVMs_BB IVMs_BB 02 46 10.8
comp=Z,8μm,4.6s
SIMJ Simiganj 62.96 299 P P 02 20 59.8 -2.0
G45A Suttons Bay 62.96 49 IAMs_20 IAMs_20 02 50 05.5
comp=Z,21μm,21.0s
G45A Suttons Bay 62.96 49 P P 02 21 00.5 -1.0
baz=323,SNR=18
G45A P P 02 21 00.5 -1.0
baz=323,SNR=18
G45A S S 02 29 31.9 +0.8
baz=323
G45A S S 02 29 31.9 +0.8
baz=323
KIDD KIDD Seismic O 62.97 73 P P 02 20 58.8 -3.1
baz=320,SNR=13
KIDD S S 02 29 35.5 +3.8
baz=320
EPT El Paso 62.97 73 IAMs_20 IAMs_20 02 47 14.8
comp=Z,14μm,19.0s
BRDH Bariadhala 62.99 271 LR LR 02 49 56.7
comp=Z,16μm,18.6s,baz=1.0,slow=38
AMTX Amarillo 63.16 67 IAmb IAmb 02 21 07.3
comp=Z,402nm,1.5s
AMTX IAMs_20 IAMs_20 02 47 37.6
comp=Z,14μm,20.0s
AMTX Amarillo 63.16 67 P P 02 21 03.5 +0.4
baz=320
AMTX S S 02 29 35.1 +1.0
baz=320
AMTX Amarillo 63.16 67 P P 02 21 01.4 -1.7
baz=320,SNR=20
AMTX S S 02 29 36.7 +2.7
baz=320
AMTX Amarillo 63.16 67 ⇓P P 02 21 03.8 +0.7
MSTX Muleshoe 63.29 68 IAMs_20 IAMs_20 02 49 16.6
comp=Z,15μm,21.0s
MSTX Muleshoe 63.29 68 P P 02 21 04.6 +0.6
baz=321,SNR=64
MSTX S S 02 29 38.2 +2.5
baz=321
MSTX Muleshoe 63.29 68 P P 02 21 01.7 -2.3
baz=321,SNR=64
MSTX S S 02 29 37.1 +1.5
baz=321
KKM Kota Kinabalu 63.29 239 P P 02 21 04.9 +0.8
KKM Kota Kinabalu 63.29 239 P P 02 21 02.0 -2.1
comp=Z,86nm,1.8s,comp=Z,4μm
OK035 E0210 Rd and N 63.30 64 IAMs_20 IAMs_20 02 49 23.4
comp=Z,15μm,20.0s
U32A Winter Ranch, 63.40 64 IAMs_20 IAMs_20 02 50 15.2
comp=Z,16μm,18.0s
U32A Winter Ranch, 63.40 64 P P 02 21 02.0 -2.6
baz=321,SNR=15
U32A S S 02 29 37.2 +0.3
baz=321
ELIS Ellis County 63.43 65 IAmb IAmb 02 21 09.5
comp=Z,357nm,1.4s
ELIS IAMs_20 IAMs_20 02 48 47.0
comp=Z,10μm,20.0s
OK038 West end E0370 63.46 64 IAMs_20 IAMs_20 02 49 29.6
comp=Z,12μm,20.0s
OK032 Salt Plains WL 63.48 63 IAmb IAmb 02 21 09.1
comp=Z,291nm,1.4s
OK032 IAMs_20 IAMs_20 02 49 38.1
comp=Z,15μm,20.0s
I45A Fountain 63.51 50 P P 02 21 04.0 -1.2
baz=323,SNR=10
I45A P P 02 21 04.0 -1.2
baz=323,SNR=10
I45A S S 02 29 37.1 -0.8
baz=323
I45A S S 02 29 37.1 -0.8
baz=323
BER Bergen 63.53 350 *e*P P 02 21 05.2 +0.2
BER *e*pP **pP** 02 21 08.0 -0.6
BER IVMs_BB IVMs_BB 02 46 18.6
comp=Z,13μm,4.9s
L42A Oliver, Polo 63.58 54 IAmb IAmb 02 21 08.7
comp=Z,345nm,1.3s
L42A IAMs_20 IAMs_20 02 52 44.0
comp=Z,18μm,18.0s
L42A Oliver, Polo 63.58 54 P P 02 21 04.7 -0.9
baz=322,SNR=16
L42A S S 02 29 38.0 -0.8
baz=322
GLMI Grayling 63.58 49 P P 02 21 06.1 +0.4
baz=323,SNR=21
GLMI S S 02 29 38.5 -0.3
baz=323
GLMI Grayling 63.58 49 P P 02 21 03.8 -1.9
baz=323,SNR=21
GLMI S S 02 29 38.4 -0.4
baz=323
GLMI Grayling 63.58 49 ⇓P P 02 21 05.5 -0.1
P38A Dawn 63.61 58 P P 02 21 04.2 -1.7
baz=321,SNR=39
P38A S S 02 29 36.3 -3.0
baz=321
KLP Kalpa 63.63 288 *e*P P 02 21 06.9 +0.4
K43A Burlington 63.63 52 IAmb IAmb 02 21 09.2
comp=Z,386nm,1.4s
K43A Burlington 63.63 52 P P 02 21 02.9 -3.1
baz=322,SNR=10
K43A S S 02 29 39.6 +0.2
baz=322
MNTX Cornudas Mount 63.63 72 IAMs_20 IAMs_20 02 47 40.5
comp=Z,13μm,19.0s
MNTX Cornudas Mount 63.63 72 P P 02 21 08.0 +1.8
baz=321,SNR=218
MNTX S S 02 29 45.4 +5.6
baz=321
MNTX Cornudas Mount 63.63 72 P P 02 21 04.7 -1.4
baz=321,SNR=218
MNTX S S 02 29 43.2 +3.3
baz=321
MNTX Cornudas Mount 63.63 72 ⇑P P 02 21 04.7 -1.4
KAN13 South Haven SW 63.69 63 IAmb IAmb 02 21 09.4

KONO **Kongsberg** 63.75 347 IAMs_20 IAMs_20 02 53 59.5
comp=Z,15µm,19.0s
KONO **Kongsberg** 63.75 347 *e*P **P** **02 21 06.5 0.0**
KONO *e*S **S** **02 29 42.2 +1.7**
CROK **Carrier** 63.82 63 IAMs_20 IAMs_20 02 49 48.3
comp=Z,16µm,19.0s
ODD1 **Odda** 63.85 349 *e*P **P** **02 21 08.1 +0.9**
LPSR **Galich'ya Gora** 63.88 327 *e*P **P** **02 21 06.9 -0.5**
LPSR pmax pmax
comp=Z,300nm,1.7s
LPSR MLR MLR
comp=Z,33µm,17.0s
BLOK **Blackwell** 64.02 63 IAMs_20 IAMs_20 02 49 27.3
comp=Z,16µm,20.0s
N41A **Harden Midland** 64.04 56 P **P** **02 21 06.2 -2.5**
baz=322,SNR=80
N41A S **S** **02 29 42.2 -2.4**
baz=322
PTH **Pithoragarh** 64.08 285 *e*P **P** **02 21 09.6 +0.2**
NAYO **Nakonayok** 64.19 257 P **P** **02 21 11.4 +1.5**
VRH **Novokhopyorsk** 64.19 325 *e*P **P** **02 21 09.8 +0.3**
VRH pmax pmax
comp=Z,71nm,0.9s
LBMI **Labuha** 64.23 224 P **P** **02 21 09.5 -0.6**
comp=Z,150nm,1.9s,comp=Z,5µm
L44A **Lake County Fo** 64.24 53 P **P** **02 21 09.4 -0.5**
baz=323,SNR=7.3
L44A S **S** **02 29 46.0 -1.0**
baz=323
L44A **Lake County Fo** 64.24 53 P **P** **02 21 08.5 -1.4**
baz=323,SNR=7.3
L44A S **S** **02 29 45.4 -1.6**
baz=323
T35A **Sooner Cattle** 64.25 62 IAmb IAmb 02 21 13.2
comp=Z,258nm,1.5s
T35A IAMs_20 IAMs_20 02 50 14.5
comp=Z,18µm,20.0s
T35B **Sooner Cattle** 64.25 62 P **P** **02 21 08.1 -2.0**
baz=321,SNR=19
T35B S **S** **02 29 46.0 -1.3**
baz=321
THN **Thein Dam** 64.30 290 *e*P **P** **02 21 09.6 -0.9**
BLS5 **Blasjo** 64.35 349 *e*P **P** **02 21 10.2 -0.3**
BLS5 *e*S **S** **02 29 50.3 +2.3**
BLS5 IVMs_BB IVMs_BB 02 49 35.8
comp=Z,11µm,4.5s
P40A **Paris** 64.40 57 P **P** **02 21 08.2 -2.9**
baz=322,SNR=82
P40A S **S** **02 29 48.2 -0.8**
baz=322
OK051 **E0350 and S346** 64.41 62 IAMs_20 IAMs_20 02 49 49.6
comp=Z,19µm,22.0s
OK048 **Pawnee Station** 64.42 63 IAMs_20 IAMs_20 02 49 41.0
comp=Z,17µm,21.0s
JMU **Jammu** 64.52 291 *e*P **P** **02 21 12.9 +1.0**
SMLA **Simla** 64.53 288 *e*P **P** **02 21 10.2 -1.8**
SMLA IAmb IAmb 02 21 18.1
comp=Z,104nm,0.7s
SMLA IAMs_20 IAMs_20 02 46 54.4
comp=Z,13µm,25.3s
SMLA IAMs_20 IAMs_20 02 53 37.0
comp=Z,10µm,15.8s
FAKI **Fak Fak** 64.55 218 P **P** **02 21 12.3 +0.1**
FAKI IAmb IAmb 02 21 19.2
comp=Z,240nm,1.2s
FAKI **Fak Fak** 64.55 218 P **P** **02 21 13.4 +1.2**
FAKI **Fak Fak** 64.55 218 ⇑P **P** **02 21 11.4 -0.8**
VHRN **Van Horn** 64.55 72 IAmb IAmb 02 21 17.3
comp=Z,387nm,1.5s
VORR **Voronezh** 64.59 327 *e*P **P** **02 21 12.6 +0.5**
VORR pmax pmax
comp=Z,77nm,0.4s
OK029 **Liberty Lake** 64.64 63 IAMs_20 IAMs_20 02 50 14.0
comp=Z,14µm,20.0s
NIL **Nilore** 64.67 293 P **P** **02 21 11.6 -1.3**
NIL IAmb IAmb 02 21 16.6
comp=Z,364nm,1.3s
NIL **Nilore** 64.67 293 P **P** **02 21 11.6 -1.3**
NIL pmax pmax
comp=Z,364nm,1.3s
NIL **Nilore** 64.67 293 P **P** **02 21 12.4 -0.5**
NIL P **P** **02 21 12.4 -0.5**
ISAL **Salakas** 64.67 336 *e*P **P** **02 21 14.5 +1.9**
DDI **Dehra Dun** 64.67 287 *e*P **P** **02 21 13.2 +0.1**
DDI IAmb IAmb 02 21 16.3
comp=Z,217nm,0.3s
DDI IAMs_20 IAMs_20 02 54 33.2
comp=Z,13µm,15.8s
PECS **Pecos** 64.71 71 IAmb IAmb 02 21 17.9
comp=Z,412nm,1.6s
BHK **Bhakra** 64.71 289 *e*P **P** **02 21 14.3 +1.1**
BHK IAmb IAmb 02 21 18.3
comp=Z,102nm,0.9s
OK033 **Mehan** 64.71 63 IAMs_20 IAMs_20 02 50 23.8
comp=Z,15µm,21.0s
QUOK **Quay** 64.73 63 IAMs_20 IAMs_20 02 49 50.2
comp=Z,16µm,21.0s
J47A **Sunmer** 64.77 50 IAMs_20 IAMs_20 02 49 15.2
comp=Z,20µm,22.0s
J47A **Sunmer** 64.77 50 P **P** **02 21 09.6 -3.8**
baz=324,SNR=20
J47A P **P** **02 21 09.6 -3.8**
baz=324,SNR=20
J47A S **S** **02 29 49.5 -4.0**
baz=324
J47A S **S** **02 29 49.5 -4.0**
baz=324
VSVD **Vaisvydziai** 64.78 338 *e*P **P** **02 21 14.7 +1.5**
WMOK **Wichita Mounta** 64.78 65 IAMs_20 IAMs_20 02 50 20.9
comp=Z,12µm,21.0s
WMOK **Wichita Mounta** 64.78 65 P **P** **02 21 13.9 +0.3**
baz=321,SNR=40
WMOK S **S** **02 29 56.0 +2.0**
baz=321
WMOK **Wichita Mounta** 64.78 65 P **P** **02 21 11.1 -2.5**
baz=321,SNR=40
WMOK S **S** **02 29 50.7 -3.4**
baz=321
WMOK **Wichita Mounta** 64.78 65 ⇓P **P** **02 21 12.0 -1.7**
M44A **Midewin, Midew** 64.81 53 P **P** **02 21 11.2 -2.5**
baz=323,SNR=14
OK052 **Battle Ridge R** 64.82 63 IAMs_20 IAMs_20 02 50 27.6
comp=Z,16µm,22.0s
HNR **Honiara** 64.86 187 LR LR 02 45 55.9
comp=Z,277µm,20.1s,baz=26,slow=33
BRCI **Bahraich** 64.86 282 *e*P **P** **02 21 16.0 +1.8**
HDIL **Hopedale** 64.89 55 P **P** **02 21 14.0 -0.2**
baz=323,SNR=56
HDIL S **S** **02 29 53.9 -1.2**
baz=323
HDIL **Hopedale** 64.89 55 P **P** **02 21 11.4 -2.9**
baz=323,SNR=56
HDIL S **S** **02 29 52.3 -2.8**
baz=323
HDIL **Hopedale** 64.89 55 ⇑P **P** **02 21 11.8 -2.4**
OKCSW **OKLAHOMA CITY** 64.95 64 IAMs_20 IAMs_20 02 52 50.3
comp=Z,18µm,21.0s
VSR **Storozhevoye** 65.00 326 *e*P **P** **02 21 13.3 -1.5**
VSR pmax pmax
comp=Z,210nm,1.4s
VSR MLR MLR
comp=Z,45µm,24.0s
I49A **Point Hope** 65.06 48 P **P** **02 21 14.4 -0.8**
baz=324,SNR=18
I49A P **P** **02 21 14.4 -0.8**
baz=324,SNR=18
I49A S **S** **02 29 55.3 -1.8**
baz=324
I49A S **S** **02 29 55.3 -1.8**
baz=324
FNO **Franklin** 65.09 64 IAMs_20 IAMs_20 02 50 28.9
comp=Z,12µm,21.0s
DEOK **Depew** 65.09 63 IAMs_20 IAMs_20 02 50 25.8
comp=Z,16µm,22.0s
L46A **Eue Claire** 65.10 52 IAmb IAmb 02 21 19.0
comp=Z,314nm,1.3s
L46A **Eue Claire** 65.10 52 P **P** **02 21 13.7 -1.9**
baz=323
L46A P **P** **02 21 13.7 -1.9**
baz=323
L46A S **S** **02 29 56.6 -1.0**
baz=323
L46A S **S** **02 29 56.6 -1.0**
baz=323
SN01 **Snyder 1** 65.14 68 IAmb IAmb 02 21 20.0
comp=Z,483nm,1.7s

PBUR **Paburge** 65.16 339 *e*P **P** **02 21 16.3 +0.5**
VORD **Divnogorie** 65.18 326 *e*P **P** **02 21 14.8 -1.1**
VORD pmax pmax
comp=Z,70nm,1.1s
VORD MLR MLR
comp=Z,18µm,15.0s
PABE **Paberze** 65.21 337 *e*P **P** **02 21 16.3 +0.2**
S39A **Bolivar** 65.23 59 IAmb IAmb 02 21 18.9
comp=Z,301nm,1.6s
S39A **Bolivar** 65.23 59 P **P** **02 21 13.5 -3.0**
baz=322,SNR=42
S39A S **S** **02 29 54.5 -4.8**
baz=322
MNK **Minsk** 65.23 335 *i* P **P** **02 21 16.6 +0.4**
MNK *i* 02 21 48.8
MNK *i* 02 23 40.0
MNK *i* PPP PPP 02 25 12.5
MNK *i* S **S** **02 30 00.7 +1.9**
MNK *i* SS **SS** **02 34 14.5 +4.1**
MNK pmax pmax
comp=N,66nm,0.9s
MNK pmax pmax
comp=E,21nm,0.9s
MNK pmax pmax
comp=Z,109nm,0.9s
MNK MLR MLR
comp=N,20µm,18.0s
MNK MLR MLR
comp=Z,26µm,18.0s
MNK MLR MLR
comp=E,6µm,17.0s
HOMB **Homborsund** 65.23 347 *e*P **P** **02 21 15.5 -0.7**
HOMB *e*pP **pP** **02 21 18.7 -1.1**
HOMB *e*S **S** **02 30 00.7 +2.0**
HOMB IVMs_BB IVMs_BB 02 42 43.4
comp=Z,8µm,4.5s
R40A **Maddies Statio** 65.27 58 P **P** **02 21 14.4 -2.4**
baz=322,SNR=81
R40A S **S** **02 29 56.3 -3.5**
baz=322
SNART **Snartemo** 65.32 348 *e*P **P** **02 21 16.7 0.0**
BOK **Bokaro** 65.39 277 *e*P **P** **02 21 17.9 +0.2**
BOK IAmb IAmb 02 21 20.1
comp=Z,168nm,1.4s
BOK *i* x x 02 47 34.6
TUL3 **Leonard** 65.39 62 IAmb IAmb 02 21 21.9
comp=Z,429nm,1.5s
TUL3 IAMs_20 IAMs_20 02 50 39.8
comp=Z,19µm,21.0s
TUL3 **Leonard** 65.39 62 P **P** **02 21 17.4 -0.2**
baz=322,SNR=19
TUL3 S **S** **02 30 01.3 -0.2**
baz=322
TUL3 **Leonard** 65.39 62 P **P** **02 21 15.6 -2.0**
baz=322,SNR=19
TUL3 S **S** **02 30 00.0 -1.4**
baz=322
TOLI2 **Tolitoli** 65.49 232 P **P** **02 21 19.0 +0.6**
P43A **Skaggs, Pawnee** 65.51 55 IAMs_20 IAMs_20 02 51 17.3
comp=Z,21µm,20.0s
P43A **Skaggs, Pawnee** 65.51 55 P **P** **02 21 14.4 -3.9**
baz=323,SNR=42
P43A S **S** **02 30 01.1 -1.6**
baz=323
RLO **Rose Lookout** 65.58 61 IAmb IAmb 02 21 22.1
comp=Z,358nm,1.7s
RLO IAMs_20 IAMs_20 02 51 40.6
comp=Z,23µm,19.0s
O44A **Mansfield** 65.59 54 IAmb IAmb 02 21 22.2
comp=Z,458nm,1.6s
O44A **Mansfield** 65.59 54 P **P** **02 21 17.2 -1.6**
baz=323,SNR=12
O44A S **S** **02 30 02.5 -1.2**
baz=323
KKR **Kurukshetra** 65.62 288 *e*P **P** **02 21 21.2 +2.1**
U38A **Gravette** 65.69 61 P **P** **02 21 15.2 -4.3**
baz=322,SNR=28
U38A S **S** **02 30 03.6 -1.4**
baz=322
SADO **Sadowa** 65.91 45 IAmb IAmb 02 21 23.2
comp=Z,192nm,1.4s
SADO IAMs_20 IAMs_20 02 55 30.1
comp=Z,13µm,19.0s
SADO **Sadowa** 65.91 45 ⇑P **P** **02 21 19.9 -0.9**
SADO **Sadowa** 65.91 45 LR LR 02 51 12.5
comp=Z,12µm,20.7s,baz=334,slow=37
CCM **Cathedral Cave** 65.95 58 P **P** **02 21 18.9 -2.2**
CCM **Cathedral Cave** 65.95 58 P **P** **02 21 20.9 -0.2**
baz=323
CCM S **S** **02 30 07.9 -0.2**
baz=323
CCM **Cathedral Cave** 65.95 58 P **P** **02 21 18.9 -2.2**
baz=323,SNR=62
CCM S **S** **02 30 06.1 -2.0**
baz=323
CCM **Cathedral Cave** 65.95 58 ⇓P **P** **02 21 18.5 -2.6**
CCM **Cathedral Cave** 65.95 58 P **P** **02 21 18.9 -2.2**
CCM pmax pmax
comp=Z,479nm,1.5s
CCM MLR MLR
comp=Z,24µm,21.0s
SLM **Saint Louis** 65.97 57 IAMs_20 IAMs_20 02 50 13.6
comp=Z,21µm,21.0s
SLM **Saint Louis** 65.97 57 P **P** **02 21 19.8 -1.5**
baz=323,SNR=11
SLM S **S** **02 30 07.3 -1.0**
baz=323
L48A **N Adams** 65.98 50 P **P** **02 21 19.9 -1.3**
baz=324,SNR=24
L48A P **P** **02 21 19.9 -1.3**
baz=324,SNR=24
L48A S **S** **02 30 06.7 -1.7**
baz=324
L48A S **S** **02 30 06.7 -1.7**
baz=324
ABTX **Abilene, Hawle** 65.98 67 IAMs_20 IAMs_20 02 50 22.8
comp=Z,13µm,20.0s
ABTX **Abilene, Hawle** 65.98 67 P **P** **02 21 22.0 +0.5**
baz=322,SNR=123
ABTX S **S** **02 30 09.1 +0.4**
baz=322
ABTX **Abilene, Hawle** 65.98 67 P **P** **02 21 19.1 -2.4**
baz=322,SNR=123
ABTX S **S** **02 30 08.4 -0.3**
baz=322
AAM **Ann Arbor** 66.03 50 IAMs_20 IAMs_20 02 52 41.6
comp=Z,19µm,19.0s
AAM **Ann Arbor** 66.03 50 P **P** **02 21 21.8 +0.3**
baz=324,SNR=14
AAM S **S** **02 30 08.3 -0.6**
baz=324
AAM **Ann Arbor** 66.03 50 P **P** **02 21 21.5 -0.1**
baz=324,SNR=14
AAM S **S** **02 30 06.1 -2.8**
baz=324
HHAR **Hobbs** 66.03 61 P **P** **02 21 20.0 -1.7**
baz=322
HHAR S **S** **02 30 07.4 -1.9**
baz=322
SFIN **Lafayette** 66.04 53 IAmb IAmb 02 21 25.0
comp=Z,264nm,1.4s
SFIN **Lafayette** 66.04 53 P **P** **02 21 21.7 0.0**
baz=323,SNR=14
SFIN S **S** **02 30 08.4 -0.7**
baz=323
SFIN **Lafayette** 66.04 53 P **P** **02 21 19.4 -2.3**
baz=323,SNR=14
SFIN S **S** **02 30 08.0 -1.2**
baz=323
K50A **Casco** 66.09 49 IAMs_20 IAMs_20 02 52 10.1
comp=Z,20µm,19.0s
K50A **Casco** 66.09 49 P **P** **02 21 20.5 -1.5**
baz=325,SNR=9.6
K50A P **P** **02 21 20.5 -1.5**
baz=325,SNR=9.6
K50A S **S** **02 30 08.7 -1.0**
baz=325
K50A S **S** **02 30 08.7 -1.0**
baz=325
SANI **Sanana** 66.12 225 P **P** **02 21 22.8 +0.4**
SANI **Sanana** 66.12 225 P **P** **02 21 20.3 -2.1**
SANI **Sanana** 66.12 225 ⇑P **P** **02 21 21.7 -0.7**
SANI **Sanana** 66.12 225 P **P** **02 21 20.0 -2.4**
comp=Z,144nm,1.3s,comp=Z,3µmcomp=Z,6µm
KBU **Kabul Universi** 66.12 296 P **P** **02 21 19.2 -3.4**
KBL **Kabul** 66.15 296 P **P** **02 21 19.6 -3.1**
KBL **Kabul** 66.15 296 P **P** **02 21 19.6 -3.1**

KBL pmax pmax
comp=Z,95nm,1.0s
MGMO **Mountain Grove** 66.17 59 IAmb IAmb 02 21 25.4
comp=Z,433nm,1.6s
LOOK **Love County** 66.19 64 IAMs_20 IAMs_20 02 52 25.1
comp=Z,13µm,20.0s
LDAQ **Lac Daran** 66.23 38 P **P** **02 21 21.2 -1.7**
LDAQ IAmb IAmb 02 21 26.3
comp=Z,433nm,1.5s
LDAQ IAMs_20 IAMs_20 02 53 12.1
comp=Z,16µm,19.0s
N47A **Urbana** 66.28 52 IAmb IAmb 02 21 26.1
comp=Z,224nm,1.3s
N47A **Urbana** 66.28 52 P **P** **02 21 21.7 -1.5**
baz=324,SNR=14
N47A P **P** **02 21 21.7 -1.5**
baz=324,SNR=14
N47A S **S** **02 30 09.7 -2.3**
baz=324
N47A S **S** **02 30 09.7 -2.3**
baz=324
UGON **Onchagaon** 66.31 286 *e*P **P** **02 21 22.4 -1.2**
Q44A **Meyer Farm, Va** 66.33 56 IAmb IAmb 02 21 44.7
comp=Z,446nm,1.6s
Q44A **Meyer Farm, Va** 66.33 56 P **P** **02 21 22.6 -1.0**
baz=323,SNR=21
Q44A S **S** **02 30 12.5 -0.3**
baz=323
FVM **French Village** 66.40 57 IAMs_20 IAMs_20 02 50 04.0
comp=Z,22µm,21.0s
FVM **French Village** 66.40 57 P **P** **02 21 21.8 -2.2**
baz=323,SNR=60
FVM S **S** **02 30 10.1 -3.5**
baz=323
TX31 **Lajitas Ar. Si** 66.40 72 P **P** **02 21 22.0 -2.2**
baz=322,SNR=205
TX31 S **S** **02 30 14.9 +0.9**
baz=322
TXAR **Lajitas Array** 66.40 72 P **P** **02 21 22.5 -1.8**
comp=Z,22nm,0.4s,baz=300,slow=5.1,SNR=256
TXAR LR LR 02 49 37.4
comp=Z,10µm,18.9s,baz=333,slow=35
TXAR PKP2bc **P'P'df** **02 49 58.8 -1.6**
comp=Z,1.8nm,1.1s,baz=116,slow=2.9,SNR=5.0
comp=Z,22nm,0.4s
NDI **New Delhi** 66.40 287 *e*P **P** **02 21 24.2 0.0**
TRQ **Mont Tremblant** 66.49 41 IAMs_20 IAMs_20 02 53 04.4
comp=Z,21µm,20.0s
ALBI **Allahabad** 66.50 281 *e*P **P** **02 21 23.6 -1.2**
U40A **Yellville** 66.51 60 P **P** **02 21 22.3 -2.4**
baz=323,SNR=61
U40A P **P** **02 21 22.3 -2.4**
baz=323,SNR=61
U40A S **S** **02 30 10.6 -4.4**
baz=323
U40A S **S** **02 30 10.6 -4.4**
baz=323
LUWI **Luwuk** 66.54 229 IAmb IAmb 02 22 05.0
comp=Z,306nm,1.6s
LUWI **Luwuk** 66.54 229 P **P** **02 21 26.6 +1.5**
LUWI **Luwuk** 66.54 229 P **P** **02 21 22.0 -3.1**
LUWI **Luwuk** 66.54 229 P **P** **02 21 20.9 -4.2**
comp=Z,65nm,1.1s,comp=Z,4µm
PMG **Port Moresby** 66.57 201 P **P** **02 21 24.6 -0.6**
PMG **Port Moresby** 66.57 201 P **P** **02 21 24.6 -0.6**
PMG pmax pmax
comp=Z,79nm,1.0s
PMG **Port Moresby** 66.57 201 LR LR 02 45 30.1
comp=Z,8µm,21.1s,baz=13,slow=31
MPSI **Mapaga** 66.57 232 P **P** **02 21 25.1 -0.2**
comp=Z,61nm,2.9s,comp=Z,3µm
GAC **Glen Almond** 66.58 42 ⇓P **P** **02 21 21.8 -3.2**
P46A **Rosedale** 66.60 54 IAmb IAmb 02 21 28.7
comp=Z,306nm,1.2s
P46A IAMs_20 IAMs_20 02 51 42.1
comp=Z,16µm,20.0s
P46A **Rosedale** 66.60 54 P **P** **02 21 23.6 -1.7**
baz=324,SNR=14
P46A S **S** **02 30 14.2 -1.8**
baz=324
Z35A **Perchaven, San** 66.67 65 P **P** **02 21 25.0 -0.8**
baz=322
Z35A S **S** **02 30 13.9 -3.1**
baz=322
DELO **Deloro Mine** 66.73 44 IAmb IAmb 02 21 28.9
comp=Z,424nm,1.6s
NLAI **Namlea** 66.76 223 P **P** **02 21 26.8 +0.3**
comp=Z,25nm,1.3s,comp=Z,6µm
SUW **Suwalki** 66.77 337 *e*P **P** **02 21 26.1 0.0**
SUW *e*S **S** **02 30 16.1 -1.5**
SUW *e*L L 02 53 28.9
comp=Z,30µm,19.8s
SUW **Suwalki** 66.77 337 IAmb IAmb 02 21 29.6
comp=Z,277nm,1.3s
SUW **Suwalki** 66.77 337 ⇑P **P** **02 21 26.0 -0.1**
SUW **Suwalki** 66.77 337 *e*P **P** **02 21 27.0 +0.9**
T42A **Van Buren** 66.83 58 P **P** **02 21 25.9 -0.9**
baz=323
KLNR **Kaliningrad** 66.84 339 *i* P **P** **02 21 24.8 -1.7**
KLNR pmax pmax
comp=Z,180nm,1.2s
OLIL **Olney** 66.90 55 IAmb IAmb 02 21 30.8
comp=Z,318nm,1.3s
OLIL **Olney** 66.90 55 P **P** **02 21 25.4 -1.8**
baz=324,SNR=17
LMQ **La Malbaie** 66.90 38 P **P** **02 21 25.9 -1.2**
LMQ IAMs_20 IAMs_20 02 53 44.0
comp=Z,20µm,20.0s
N49A **Columbus Grove** 66.91 51 P **P** **02 21 26.4 -0.9**
baz=324,SNR=25
N49A P **P** **02 21 26.4 -0.9**
baz=324,SNR=25
N49A S **S** **02 30 14.9 -4.9**
baz=324
N49A S **S** **02 30 14.9 -4.9**
baz=324
O48B **Farmland** 67.02 52 IAmb IAmb 02 21 30.8
comp=Z,297nm,1.4s
O48B **Farmland** 67.02 52 P **P** **02 21 27.5 -0.5**
baz=324,SNR=16
O48B S **S** **02 30 16.9 -4.1**
baz=324
O48B **Farmland** 67.02 52 P **P** **02 21 25.8 -2.2**
baz=324,SNR=16
O48B S **S** **02 30 18.4 -2.7**
baz=324
M50A **Fremont** 67.02 50 IAmb IAmb 02 21 34.1
comp=Z,277nm,1.6s
M50A **Fremont** 67.02 50 P **P** **02 21 24.3 -3.7**
baz=325,SNR=5.8
M50A P **P** **02 21 24.3 -3.7**
baz=325,SNR=5.8
M50A S **S** **02 30 20.1 -1.0**
baz=325
M50A S **S** **02 30 20.1 -1.0**
baz=325
HPIG **67.18 75** IAmb IAmb 02 21 33.9
comp=Z,339nm,1.7s
S44A **Carbondale** 67.19 56 IAMs_20 IAMs_20 02 51 00.8
comp=Z,19µm,19.0s
S44A **Carbondale** 67.19 56 P **P** **02 21 27.0 -2.0**
baz=323,SNR=17
S44A S **S** **02 30 21.2 -1.9**
baz=323
SIUC **Southern Illin** 67.19 56 IAMs_20 IAMs_20 02 51 00.8
comp=Z,19µm,19.0s
KUDL **Kundal** 67.22 287 *e*P **P** **02 21 27.7 -1.7**
FCAR **Ozark Folk Cen** 67.24 60 IAmb IAmb 02 21 32.3
comp=Z,309nm,1.3s
WBO **Williamsburg** 67.24 43 IAmb IAmb 02 21 31.9
comp=Z,401nm,1.7s
WBO IAMs_20 IAMs_20 02 52 23.2
comp=Z,19µm,22.0s
BLO **Bloomington** 67.28 54 IAmb IAmb 02 21 32.8
comp=Z,276nm,1.5s
BLO IAMs_20 IAMs_20 02 53 58.9
comp=Z,18µm,20.0s
CGM3 **Cape Girardeau** 67.31 57 IAmb IAmb 02 21 33.2
comp=Z,408nm,1.8s
SLBS **Sierra La Lagu** 67.34 81 P **P** **02 21 29.1 -1.2**
SLBS IAmb IAmb 02 21 35.3
comp=Z,377nm,1.8s
SLBS IAMs_20 IAMs_20 02 54 08.2
comp=Z,9µm,18.0s
J54A **Appleton** 67.35 46 P **P** **02 21 27.5 -2.4**
baz=326,SNR=14
J54A P **P** **02 21 27.5 -2.4**
baz=326,SNR=14

J54A S **S** **02 30 21.3 -3.6**
baz=326
J54A S **S** **02 30 21.3 -3.6**
baz=326
PBMO Poplar Bluff **67.36 58** P **P** **02 21 27.0 -3.2**
baz=323,SNR=69
PBMO S **S** **02 30 21.7 -3.5**
baz=323
FW14 Alvarado **67.44 66** IAmb IAmb 02 21 34.3
comp=Z,409nm,1.7s
O49A Covington **67.44 52** P **P** **02 21 29.1 -1.6**
baz=324,SNR=26
O49A P **P** **02 21 29.1 -1.6**
baz=324,SNR=26
O49A S **S** **02 30 22.8 -3.4**
baz=324
O49A S **S** **02 30 22.8 -3.4**
baz=324
MNTQ Montreal, Queb **67.45 41** IAmb IAmb 02 21 33.3
comp=Z,298nm,1.4s
MNTQ IAMs_20 IAMs_20 02 53 42.7
comp=Z,15µm,21.0s
P48A Milroy **67.54 53** IAmb IAmb 02 21 34.2
comp=Z,366nm,1.4s
P48A Milroy **67.54 53** P **P** **02 21 28.7 -2.5**
baz=324,SNR=39
P48A P **P** **02 21 28.7 -2.5**
baz=324,SNR=39
P48A S **S** **02 30 24.5 -2.9**
baz=324
P48A S **S** **02 30 24.5 -2.9**
baz=324
LCAR Lake Charles **67.57 59** IAmb IAmb 02 21 34.5
comp=Z,278nm,1.8s
LCAR Lake Charles **67.57 59** P **P** **02 21 27.9 -3.6**
baz=323,SNR=23
LCAR S **S** **02 30 23.5 -4.3**
baz=323
JCT Junction City **67.58 69** IAMs_20 IAMs_20 02 51 39.6
comp=Z,18µm,20.0s
JCT Junction City **67.58 69** P **P** **02 21 32.0 +0.3**
baz=322,SNR=48
JCT S **S** **02 30 28.3 +0.2**
baz=322
JCT Junction City **67.58 69** P **P** **02 21 29.3 -2.4**
baz=322,SNR=48
JCT S **S** **02 30 25.0 -3.1**
baz=322
JCT Junction City **67.58 69** ⇓P **P** **02 21 29.8 -1.9**
WHTX Lake Whitney, **67.62 66** P **P** **02 21 31.8 -0.1**
baz=322,SNR=18
WHTX S **S** **02 30 27.2 -1.3**
baz=322
WHTX Lake Whitney, **67.62 66** P **P** **02 21 30.3 -1.6**
baz=322,SNR=18
WHTX S **S** **02 30 27.6 -0.9**
baz=322
WHAR Wooly Hollow **67.63 60** IAMs_20 IAMs_20 02 50 41.9
comp=Z,22µm,21.0s
M52A Chesterland **67.64 49** IAMs_20 IAMs_20 02 52 59.2
comp=Z,17µm,19.0s
M52A Chesterland **67.64 49** P **P** **02 21 30.9 -1.0**
baz=325,SNR=13
M52A P **P** **02 21 30.9 -1.0**
baz=325,SNR=13
M52A S **S** **02 30 26.2 -2.3**
baz=325
M52A S **S** **02 30 26.2 -2.3**
baz=325
J55A Hilton **67.69 45** IAMs_20 IAMs_20 02 53 42.2
comp=Z,19µm,20.0s
J55A Hilton **67.69 45** P **P** **02 21 30.0 -2.1**
baz=326,SNR=12
J55A P **P** **02 21 30.0 -2.1**
baz=326,SNR=12
J55A S **S** **02 30 25.8 -3.2**
baz=326
J55A S **S** **02 30 25.8 -3.2**
baz=326
N51A Ashland **67.71 50** P **P** **02 21 31.3 -1.0**
baz=325,SNR=20
N51A P **P** **02 21 31.3 -1.0**
baz=325,SNR=20
N51A S **S** **02 30 27.3 -2.1**
baz=325
N51A S **S** **02 30 27.3 -2.1**
baz=325
ERPA Erie **67.74 47** P **P** **02 21 32.3 -0.2**
baz=326,SNR=27
ERPA S **S** **02 30 26.8 -2.9**
baz=326
ERPA Erie **67.74 47** P **P** **02 21 30.4 -2.2**
baz=326,SNR=27
ERPA Erie **67.74 47** ⇓P **P** **02 21 30.1 -2.4**
D62A Allapoint, All **67.75 37** IAmb IAmb 02 21 36.1
comp=Z,397nm,1.4s
D62A Allapoint, All **67.75 37** P **P** **02 21 31.5 -1.0**
baz=330,SNR=17
D62A P **P** **02 21 31.5 -1.0**
baz=330,SNR=17
P49A Miami Univ. Ec **67.80 52** IAmb IAmb 02 21 36.0
comp=Z,294nm,1.2s
P49A Miami Univ. Ec **67.80 52** P **P** **02 21 32.0 -1.0**
baz=325,SNR=13
P49A S **S** **02 30 28.1 -2.4**
baz=325
P49A Miami Univ. Ec **67.80 52** P **P** **02 21 32.3 -0.6**
baz=325,SNR=13
P49A S **S** **02 30 26.2 -4.3**
baz=325
LONY Lake Ozonia **67.83 42** IAmb IAmb 02 21 38.2
comp=Z,252nm,1.6s
LONY IAMs_20 IAMs_20 02 52 40.7
comp=Z,17µm,22.0s
LONY Lake Ozonia **67.83 42** P **P** **02 21 31.8 -1.2**
baz=328,SNR=13
LONY S **S** **02 30 27.3 -3.4**
baz=328
LONY Lake Ozonia **67.83 42** ⇓P **P** **02 21 29.5 -3.5**
Z38A Mt. Pleasant **67.89 63** P **P** **02 21 33.2 -0.3**
baz=323,SNR=12
Z38A S **S** **02 30 28.6 -3.1**
baz=323
WCNY West Carthage **67.95 43** P **P** **02 21 32.0 -1.8**
baz=327,SNR=15
WCNY S **S** **02 30 27.7 -4.5**
baz=327
E62A Clayton Lake **67.98 38** P **P** **02 21 30.4 -3.6**
baz=330,SNR=18
E62A P **P** **02 21 30.4 -3.6**
baz=330,SNR=18
E62A S **S** **02 30 32.4 -0.1**
baz=330
E62A S **S** **02 30 32.4 -0.1**
baz=330
PVMO Portageville **68.00 58** IAMs_20 IAMs_20 02 50 51.4
comp=Z,21µm,21.0s
X40A Basin Creek Fa **68.00 61** IAmb IAmb 02 21 37.8
comp=Z,271nm,1.4s
X40A Basin Creek Fa **68.00 61** P **P** **02 21 32.6 -1.6**
baz=323,SNR=27
X40A P **P** **02 21 32.6 -1.6**
baz=323,SNR=27
X40A S **S** **02 30 32.1 -0.9**
baz=323
X40A S **S** **02 30 32.1 -0.9**
baz=323
ACSO Alum Creek Sta **68.01 51** P **P** **02 21 34.2 0.0**
baz=325,SNR=28
ACSO S **S** **02 30 31.6 -1.3**
baz=325
ACSO Alum Creek Sta **68.01 51** P **P** **02 21 32.3 -1.9**
baz=325,SNR=28
ACSO S **S** **02 30 32.0 -0.9**
baz=325
ACSO Alum Creek Sta **68.01 51** ⇑P **P** **02 21 33.6 -0.5**
M53A WI Miller and **68.01 48** P **P** **02 21 34.0 -0.2**
baz=326,SNR=24
M53A S **S** **02 30 30.8 -2.2**
baz=326
UALR University of **68.02 61** IAmb IAmb 02 21 37.8
comp=Z,509nm,1.9s
T45B Paducah **68.02 56** S **S** **02 30 30.6 -2.5**
baz=324
FRNY Flat Rock **68.03 42** P **P** **02 21 32.4 -1.9**
baz=328,SNR=10
FRNY S **S** **02 30 29.9 -3.1**
baz=328
ALLY Alegheny Colle **68.06 48** P **P** **02 21 33.6 -0.9**
baz=326,SNR=18
J56A Wolcott **68.06 45** IAmb IAmb 02 21 37.1
comp=Z,451nm,1.6s
J56A IAMs_20 IAMs_20 02 52 27.2
comp=Z,18µm,22.0s
J56A Wolcott **68.06 45** S **S** **02 30 29.9 -3.6**
baz=327
J56A S **S** **02 30 29.9 -3.6**
baz=327
WVNY West Valley, N **68.08 46** IAMs_20 IAMs_20 02 55 09.7
comp=Z,15µm,18.0s
WVNY West Valley, N **68.08 46** P **P** **02 21 33.3 -1.3**
baz=326,SNR=34
WVNY S **S** **02 30 28.9 -4.8**
baz=326
WCI Wyandotte Cave **68.14 54** P **P** **02 21 34.0 -1.1**
WCI IAmb IAmb 02 21 38.6
comp=Z,204nm,1.2s
WCI Wyandotte Cave **68.14 54** P **P** **02 21 35.6 +0.5**
baz=324
WCI S **S** **02 30 33.4 -1.2**
baz=324
WCI Wyandotte Cave **68.14 54** P **P** **02 21 34.2 -0.9**
baz=324,SNR=16
WCI S **S** **02 30 32.9 -1.7**
baz=324
WCI Wyandotte Cave **68.14 54** ⇑P **P** **02 21 35.3 +0.2**
WCI Wyandotte Cave **68.14 54** P **P** **02 21 34.0 -1.1**
WCI pmax pmax
comp=Z,204nm,1.3s
WCI MLR MLR
comp=Z,30µm,20.0s
RGN Rugen **68.15 343** IAMs_20 IAMs_20 02 54 14.9
comp=Z,16µm,20.0s
RGN Rugen **68.15 343** *e*S **S** **02 30 36.8 +2.7**
baz=15,slow=12
JHSG JHARSUGUGA **68.18 277** *e*P **P** **02 21 33.1 -2.4**
BWNR Bhubaneshwar **68.19 274** *e*P **P** **02 21 35.7 +0.2**
GNAR Gosnell **68.20 58** IAMs_20 IAMs_20 02 51 50.9
comp=Z,16µm,19.0s
HBAR Harrisburg **68.22 59** S **S** **02 30 35.2 -0.4**
baz=324
J57A Williamstown **68.30 44** IAmb IAmb 02 21 38.7
comp=Z,410nm,1.6s
J57A IAMs_20 IAMs_20 02 54 52.2
comp=Z,18µm,18.0s
J57A Williamstown **68.30 44** P **P** **02 21 34.6 -1.4**
baz=327,SNR=15
J57A P **P** **02 21 34.6 -1.4**
baz=327,SNR=15
LNXT Lenox **68.35 58** IAMs_20 IAMs_20 02 55 04.7
comp=Z,18µm,18.0s
LNXT Lenox **68.35 58** P **P** **02 21 36.8 +0.4**
baz=324,SNR=15
LNXT S **S** **02 30 38.3 +1.3**
baz=324
AKASG Malin Array Be **68.35 332** IAmb IAmb 02 21 39.5
comp=Z,312nm,1.7s
AKASG Malin Array Be **68.35 332** P **P** **02 21 34.0 -2.1**
AKASG PP **PP** **02 24 10.0 +3.7**
comp=Z,2.4nm,0.7s,baz=14,slow=8.1,SNR=4.6
AKASG PKP2bc P'P'df 02 49 52.2 -8.0
comp=Z,8.1nm,1.1s,baz=210,slow=3.3,SNR=11
AKASG LR LR 02 55 24.3
comp=Z,28µm,18.4s,baz=26,slow=39
comp=Z,21nm,0.5s
AKBB Malin Array Si **68.35 332** IAmb IAmb 02 21 39.5
comp=Z,308nm,1.7s
AKBB Malin Array Si **68.35 332** *i* P **P** **02 21 32.3 -3.9**
AKBB pmax pmax
comp=Z,177nm,1.6s
AKBB MLR MLR
comp=Z,30µm,18.0s
KIEV Kiev **68.36 332** ⇑P **P** **02 21 34.1 -2.0**
KIEV Kiev **68.36 332** P **P** **02 21 34.2 -2.0**
KIEV IAmb IAmb 02 21 39.5
comp=Z,254nm,1.6s
KIEV Kiev **68.36 332** *i* P **P** **02 21 35.2 -1.0**
SNR=6.4
KIEV Kiev **68.36 332** ⇑P **P** **02 21 34.0 -2.2**
KIEV Kiev **68.36 332** P **P** **02 21 34.2 -2.0**
KIEV pmax pmax
comp=Z,254nm,1.7s
KIEV MLR MLR
comp=Z,28µm,18.0s
SBUM Sibu **68.36 241** P **P** **02 21 36.5 -0.2**
comp=Z,67nm,1.1s,comp=Z,2µm
PQI Presque Isle **68.46 37** IAMs_20 IAMs_20 02 53 45.1
comp=Z,17µm,19.0s
N53A Lisbon **68.47 49** IAMs_20 IAMs_20 02 50 15.0
comp=Z,16µm,19.0s
N53A Lisbon **68.47 49** P **P** **02 21 35.3 -1.8**
baz=326,SNR=28
N53A P **P** **02 21 35.3 -1.8**
baz=326,SNR=28
N53A S **S** **02 30 34.6 -3.8**
baz=326
N53A S **S** **02 30 34.6 -3.8**
baz=326
237A Washetta, Mont **68.47 65** IAmb IAmb 02 21 40.8
comp=Z,303nm,1.7s
237A IAMs_20 IAMs_20 02 53 34.4
comp=Z,16µm,20.0s
237A Washetta, Mont **68.47 65** P **P** **02 21 36.4 -0.8**
baz=323,SNR=6.2
435B Jarrell **68.51 67** IAMs_20 IAMs_20 02 50 35.6
comp=Z,13µm,20.0s
435B Jarrell **68.51 67** P **P** **02 21 37.4 -0.1**
baz=323
435B S **S** **02 30 39.9 +0.8**
baz=323
435B Jarrell **68.51 67** P **P** **02 21 37.0 -0.5**
baz=323,SNR=16
NCB Newcomb **68.52 42** IAmb IAmb 02 21 40.2
comp=Z,226nm,1.4s
NCB IAMs_20 IAMs_20 02 53 01.9
comp=Z,20µm,22.0s
NCB Newcomb **68.52 42** P **P** **02 21 35.5 -1.8**
baz=328,SNR=15
E63A Oxbow **68.54 37** P **P** **02 21 36.1 -1.4**
baz=330,SNR=12
E63A P **P** **02 21 36.1 -1.4**
baz=330,SNR=12
HALT Halls **68.58 58** IAMs_20 IAMs_20 02 50 47.6
comp=Z,15µm,21.0s
P51A Williamsport **68.58 51** IAmb IAmb 02 21 43.6
comp=Z,342nm,1.8s
P51A Williamsport **68.58 51** P **P** **02 21 34.6 -3.2**
baz=325,SNR=11
P51A P **P** **02 21 34.6 -3.2**
baz=325,SNR=11
P51A S **S** **02 30 37.4 -2.5**
baz=325
P51A S **S** **02 30 37.4 -2.5**
baz=325
BATG Bathurst New B **68.59 35** IAmb IAmb 02 21 41.4
comp=Z,361nm,1.4s
HNDO Hondo **68.60 69** IAmb IAmb 02 21 41.9
comp=Z,263nm,1.6s
O52A Adamsville **68.60 50** P **P** **02 21 35.0 -2.9**
baz=326,SNR=46
O52A P **P** **02 21 35.0 -2.9**
baz=326,SNR=46
O52A S **S** **02 30 34.9 -5.2**
baz=326
O52A S **S** **02 30 34.9 -5.2**
baz=326
R49A Shelbyville **68.61 53** IAmb IAmb 02 21 41.8
comp=Z,430nm,1.6s
R49A Shelbyville **68.61 53** P **P** **02 21 36.5 -1.5**
baz=325,SNR=18
R49A P **P** **02 21 36.5 -1.5**
baz=325,SNR=18
R49A S **S** **02 30 37.9 -2.2**
baz=325
R49A S **S** **02 30 37.9 -2.2**
baz=325
J58A Remsen **68.62 44** IAMs_20 IAMs_20 02 53 54.7
comp=Z,20µm,21.0s
J58A Remsen **68.62 44** P **P** **02 21 35.7 -2.3**
baz=328,SNR=20
J58A P **P** **02 21 35.7 -2.3**
baz=328,SNR=20
J58A S **S** **02 30 36.6 -3.5**
baz=328
J58A S **S** **02 30 36.6 -3.5**
baz=328
K57A Scipio Center **68.66 45** IAMs_20 IAMs_20 02 53 18.9
comp=Z,16µm,20.0s
K57A Scipio Center **68.66 45** P **P** **02 21 34.7 -3.5**
baz=327,SNR=15
K57A S **S** **02 30 37.7 -2.9**
baz=327
L56A Greenwood **68.73 46** P **P** **02 21 36.4 -2.4**
baz=327,SNR=50
L56A P **P** **02 21 36.4 -2.4**
baz=327,SNR=50
L56A S **S** **02 30 39.1 -2.5**
baz=327
L56A S **S** **02 30 39.1 -2.5**
baz=327
GEYT Alibeck **68.75 306** P **P** **02 21 36.8 -2.1**
comp=Z,10nm,0.6s,baz=46,slow=4.3,SNR=33
GEYT LR LR 02 55 13.3
comp=Z,40µm,18.3s,baz=50,slow=39
comp=Z,10nm,0.6s
GYA0B ALIBECK ARRAY **68.75 306** IAmb IAmb 02 21 53.2
comp=Z,305nm,1.9s
O53A New Philadelph **68.76 49** P **P** **02 21 38.2 -0.7**
baz=326,SNR=20
O53A S **S** **02 30 39.9 -2.0**
baz=326
T47A Sharon Grove **68.77 55** P **P** **02 21 36.7 -2.3**
baz=324,SNR=43
T47A S **S** **02 30 39.4 -2.6**
baz=324
VT1 Waterbury **68.77 41** IAmb IAmb 02 21 42.2
comp=Z,404nm,1.7s
M55A Ridgway **68.79 47** P **P** **02 21 36.4 -2.8**
baz=326,SNR=28
M55A P **P** **02 21 36.4 -2.8**
baz=326,SNR=28
M55A S **S** **02 30 36.9 -5.4**
baz=326
M55A S **S** **02 30 36.9 -5.4**
baz=326
BLSP Bilaspur **68.81 278** *e*P **P** **02 21 38.4 -1.1**
G62A West of Eustis **68.83 39** P **P** **02 21 37.5 -1.8**
baz=329,SNR=16
G62A P **P** **02 21 37.5 -1.8**
baz=329,SNR=16
Q51A Peebles **68.83 52** IAmb IAmb 02 21 42.9
comp=Z,416nm,1.6s
Q51A Peebles **68.83 52** P **P** **02 21 36.7 -2.7**
baz=325,SNR=17
Q51A P **P** **02 21 36.7 -2.7**
baz=325,SNR=17
Q51A S **S** **02 30 41.9 -0.9**
baz=325
Q51A S **S** **02 30 41.9 -0.9**
baz=325
J59A Piesco **68.83 43** IAmb IAmb 02 21 42.0
comp=Z,310nm,1.6s
J59A IAMs_20 IAMs_20 02 54 57.4
comp=Z,16µm,19.0s
J59A Piesco **68.83 43** P **P** **02 21 35.9 -3.4**
baz=328,SNR=13
J59A P **P** **02 21 35.9 -3.4**
baz=328,SNR=13
HDBT Hernando Brdge **68.84 59** IAMs_20 IAMs_20 02 54 57.6
comp=Z,16µm,20.0s
P52A Corning **68.87 50** P **P** **02 21 38.7 -0.9**
baz=326,SNR=20
P52A S **S** **02 30 40.2 -3.1**
baz=326
F63A Nahmakanta, Br **68.92 38** IAMs_20 IAMs_20 02 54 53.4
comp=Z,13µm,19.0s
F63A Nahmakanta, Br **68.92 38** P **P** **02 21 39.0 -0.8**
baz=330,SNR=16
F63A P **P** **02 21 39.0 -0.8**
baz=330,SNR=16
CCAR Cane Creek **68.98 61** P **P** **02 21 38.6 -1.8**
baz=324,SNR=23
Z41A Richland Creek **69.00 62** P **P** **02 21 38.8 -1.7**
baz=323,SNR=16
Z41A P **P** **02 21 38.8 -1.7**
baz=323,SNR=16
Z41A S **S** **02 30 44.8 0.0**
baz=323
Z41A S **S** **02 30 44.8 0.0**
baz=323
R50A Paris **69.00 53** IAmb IAmb 02 21 44.1
comp=Z,286nm,1.4s
R50A Paris **69.00 53** P **P** **02 21 38.3 -2.1**
baz=325,SNR=22
R50A P **P** **02 21 38.3 -2.1**
baz=325,SNR=22
R50A S **S** **02 30 43.4 -1.3**
baz=325
R50A S **S** **02 30 43.4 -1.3**
baz=325
GOF Gofitskoye **69.01 321** *d i* P **P** **02 21 40.5 +0.1**
GOF *e*S **S** **02 30 44.0 -0.7**
F64A Sherman **69.05 38** IAmb IAmb 02 21 43.9
comp=Z,328nm,1.4s
F64A Sherman **69.05 38** P **P** **02 21 39.6 -1.0**
baz=330,SNR=12
F64A P **P** **02 21 39.6 -1.0**
baz=330,SNR=12
MAK Makhachkala **69.11 316** *e*P **P** **02 21 39.5 -1.5**
MAK *e* 02 24 14.1
MAK *e*S **S** **02 30 44.9 -1.0**
MAK *e*SS **SS** **02 35 15.3 +4.4**
MAK pmax pmax
comp=Z,332nm,1.8s
MAK MLR MLR
comp=Z,22µm,17.0s
WVT Waverly **69.12 56** P **P** **02 21 39.3 -1.9**
WVT Waverly **69.12 56** P **P** **02 21 41.0 -0.2**
baz=324
WVT S **S** **02 30 47.6 +1.3**
baz=324
WVT Waverly **69.12 56** P **P** **02 21 38.3 -2.9**
baz=324,SNR=52
WVT S **S** **02 30 46.0 -0.3**
baz=324
WVT Waverly **69.12 56** ⇑P **P** **02 21 38.9 -2.3**
WVT Waverly **69.12 56** P **P** **02 21 39.3 -1.9**
WVT pmax pmax
comp=Z,786nm,1.9s
WVT MLR MLR
comp=Z,23µm,19.0s
H62A Milan **69.16 40** IAMs_20 IAMs_20 02 53 36.7
comp=Z,18µm,20.0s
H62A Milan **69.16 40** P **P** **02 21 40.8 -0.5**
baz=329,SNR=18
H62A P **P** **02 21 40.8 -0.5**
baz=329,SNR=18
H62A S **S** **02 30 44.9 -1.5**
baz=329
H62A S **S** **02 30 44.9 -1.5**
baz=329
LBNH Lisbon **69.16 41** IAmb IAmb 02 21 44.9
comp=Z,249nm,1.3s
LBNH IAMs_20 IAMs_20 02 53 40.8
comp=Z,11µm,21.0s
LBNH Lisbon **69.16 41** P **P** **02 21 40.6 -0.7**
baz=329,SNR=12
LBNH Lisbon **69.16 41** P **P** **02 21 40.2 -1.1**
baz=329,SNR=12
LBNH Lisbon **69.16 41** ⇑P **P** **02 21 42.0 +0.7**
O54A Avella **69.18 49** IAmb IAmb 02 21 46.1
comp=Z,1µm,1.9s
O54A IAMs_20 IAMs_20 02 53 57.9
comp=Z,24µm,18.0s
O54A Avella **69.18 49** P **P** **02 21 40.4 -1.1**
baz=326,SNR=28
O54A P **P** **02 21 40.4 -1.1**
baz=326,SNR=28
O54A S **S** **02 30 44.9 -1.9**
baz=326
O54A S **S** **02 30 44.9 -1.9**
baz=326
BSEG Bad Segeberg **69.20 345** *e*P **P** **02 21 42.4 +1.0**
comp=Z,50nm,1.1s
BSEG *e*S **S** **02 30 47.7 +1.1**
baz=15,slow=12
ACCN Adirondack Com **69.23 42** IAmb IAmb 02 21 44.7
comp=Z,293nm,1.4s
ACCN IAMs_20 IAMs_20 02 53 32.7
comp=Z,18µm,21.0s
ACCN Adirondack Com **69.23 42** P **P** **02 21 39.3 -2.4**
baz=328,SNR=18
PKME Peaks-Kenny Pk **69.23 39** IAmb IAmb 02 21 45.5

comp=Z,350nm,1.6s
PKME Peaks-Kenny Pk 69.23 39 P P 02 21 41.8 +0.1
baz=330,SNR=5.2
PKME Peaks-Kenny Pk 69.23 39 P P 02 21 40.8 -1.0
baz=330,SNR=5.2
PKME Peaks-Kenny Pk 69.23 39 ⇓P P 02 21 43.1 +1.3
EKA Eskdalemuir Ar 69.24 354 P P 02 21 40.2 -1.4
comp=Z,200nm,0.7s,baz=11,slow=5.1,SNR=17
EKA PKP2bc P'P'bc 02 49 45.8 -13
comp=Z,8.4nm,1.0s,baz=165,slow=3.5,SNR=5.2
comp=Z,20nm,0.7s
NATX Nacogdoches 69.25 64 IAMs_20 IAMs_20 02 55 35.0
comp=Z,20µm,20.0s
NATX Nacogdoches 69.25 64 P P 02 21 42.2 +0.2
baz=323,SNR=12
NATX S S **02 30 47.2 -0.7**
baz=323
NATX Nacogdoches 69.25 64 P P 02 21 40.5 -1.5
baz=323,SNR=12
ESK Eskdalemuir 69.26 354 P P 02 21 41.4 -0.3
ESK IAmb IAmb 02 21 45.8
comp=Z,296nm,1.6s
ESK Eskdalemuir 69.26 354 ⇓P P 02 21 43.6 +1.8
ESK Eskdalemuir 69.26 354 P P 02 21 41.4 -0.3
ESK pmax pmax
comp=Z,296nm,1.7s
HLG Helgoland 69.30 347 *e*S **S 02 30 49.2 +1.4**
baz=15,slow=12
P53A Whipple 69.32 50 P P 02 21 39.8 -2.6
baz=326,SNR=24
P53A P P **02 21 39.8 -2.6**
baz=326,SNR=24
P53A S S **02 30 44.9 -3.5**
baz=326
P53A S S **02 30 44.9 -3.5**
baz=326
BINY Binghamton 69.32 45 IAMs_20 IAMs_20 02 53 39.2
comp=Z,16µm,21.0s
BINY Binghamton 69.32 45 P P 02 21 42.1 -0.3
baz=328,SNR=16
BINY S S **02 30 45.1 -3.4**
baz=328
BINY Binghamton 69.32 45 P P 02 21 39.0 -3.4
baz=328,SNR=16
BINY Binghamton 69.32 45 ⇓P P 02 21 41.9 -0.5
BEL Belsk 69.32 338 *e*P **P 02 21 43.4 +1.2**
BEL *e*S **S 02 30 51.3 +3.1**
BEL *e*L L 02 53 35.3
comp=Z,22µm,21.3s
ERBR Yeremizino-Bor 69.34 323 *e*P **P 02 21 41.7 -0.7**
ERBR *e* 02 22 04.0
ERBR *e*S **S 02 30 50.5 +1.9**
ERBR *e*SS **SS 02 35 17.4 +3.0**
ERBR pmax pmax
comp=E,49nm,1.6s
ERBR pmax pmax
comp=Z,342nm,1.6s
ERBR pmax pmax
comp=N,43nm,0.9s
ERBR MLR MLR
comp=Z,33µm,17.0s
ERBR MLR MLR
comp=N,41µm,14.0s
ERBR MLR MLR
comp=E,6µm,13.0s
SURA Surathani 69.34 256 P P 02 21 45.1 +2.3
BKB Balikpapan 69.35 234 P P 02 21 45.2 +2.4
Q52A Bidwell 69.36 51 P P 02 21 40.4 -2.3
baz=326,SNR=19
Q52A P P **02 21 40.4 -2.3**
baz=326,SNR=19
Q52A S S **02 30 46.1 -2.9**
baz=326
Q52A S S **02 30 46.1 -2.9**
baz=326
DRLN Deer Lake 69.42 29 IAmb IAmb 02 21 46.3
comp=Z,379nm,1.6s
DRLN IAMs_20 IAMs_20 02 53 46.2
comp=Z,21µm,21.0s
HNH Hanover 69.48 41 IAmb IAmb 02 21 46.8
comp=Z,227nm,1.3s
HNH Hanover 69.48 41 P P 02 21 42.9 -0.4
baz=329,SNR=7.1
833A Chaparral WMA, 69.50 70 IAmb IAmb 02 21 48.2
comp=Z,529nm,1.8s
833A IAMs_20 IAMs_20 02 56 05.1
comp=Z,12µm,18.0s
833A Chaparral WMA, 69.50 70 P P 02 21 44.1 +0.5
baz=323,SNR=35
833A S S **02 30 52.4 +1.5**
baz=323
833A Chaparral WMA, 69.50 70 P P 02 21 43.1 -0.5
baz=323,SNR=35
833A S S **02 30 52.4 +1.5**
baz=323
HCNY Howe Caverns 69.53 43 P P 02 21 39.4 -4.2
baz=328,SNR=8.8
AJM Ajmer 69.54 287 *e*P **P 02 21 41.9 -2.0**
GROC Groznyy 69.57 318 *e*P **P 02 21 44.3 +0.4**
GROC *e* 02 22 07.4
GROC *e* 02 24 18.3
GROC *e*S **S 02 30 52.8 +1.5**
GROC pmax pmax
comp=Z,70nm,1.3s
GROC MLR MLR
comp=Z,9µm,14.0s
M57A Sunshine Farm, 69.58 46 IAMs_20 IAMs_20 02 54 50.3
comp=Z,17µm,20.0s
M57A Sunshine Farm, 69.58 46 P P 02 21 42.9 -1.1
baz=327,SNR=20
M57A P P **02 21 42.9 -1.1**
baz=327,SNR=20
TTSI Tana Toraja 69.62 231 P P 02 21 44.2 -0.2
comp=Z,38nm,1.0s,comp=Z,2µm
HRA Herat 69.67 301 IAmb IAmb 02 21 48.7
comp=Z,244nm,1.6s
OXF Oxford 69.67 59 IAMs_20 IAMs_20 02 54 20.6
comp=Z,18µm,19.0s
OXF Oxford 69.67 59 P P 02 21 44.7 +0.1
baz=324,SNR=44
OXF S S **02 30 51.5 -1.3**
baz=324
OXF Oxford 69.67 59 P P 02 21 42.4 -2.2
baz=324,SNR=44
OXF S S **02 30 48.8 -4.0**
baz=324
OXF Oxford 69.67 59 ⇑P P 02 21 43.5 -1.1
J61A Chester 69.68 42 IAmb IAmb 02 21 47.9
comp=Z,302nm,1.5s
J61A IAMs_20 IAMs_20 02 54 50.8
comp=Z,19µm,20.0s
J61A Chester 69.68 42 P P 02 21 42.8 -1.7
baz=329,SNR=9.0
J61A P P **02 21 42.8 -1.7**
baz=329,SNR=9.0
I62A Tamworth 69.69 41 IAmb IAmb 02 21 48.1
comp=Z,517nm,1.7s
I62A IAMs_20 IAMs_20 02 55 53.9
comp=Z,15µm,18.0s
I62A Tamworth 69.69 41 P P 02 21 44.2 -0.4
baz=329,SNR=8.0
I62A P P **02 21 44.2 -0.4**
baz=329,SNR=8.0
L59A Walton 69.70 44 IAMs_20 IAMs_20 02 52 36.4
comp=Z,15µm,20.0s
L59A Walton 69.70 44 P P 02 21 43.0 -1.8
baz=328,SNR=14
L59A P P **02 21 43.0 -1.8**
baz=328,SNR=14
WVL Waterville 69.71 39 IAmb IAmb 02 21 46.5
comp=Z,283nm,1.5s
WVL IAMs_20 IAMs_20 02 56 38.3
comp=Z,16µm,19.0s
WVL Waterville 69.71 39 P P 02 21 43.6 -1.0
baz=330,SNR=5.8
U49A Red Boiling Sp 69.77 55 IAmb IAmb 02 21 49.0
comp=Z,307nm,1.4s
U49A Red Boiling Sp 69.77 55 P P 02 21 42.9 -2.4
baz=325
U49A S S **02 30 52.0 -2.0**
baz=325
TRY Troy 69.78 43 IAmb IAmb 02 21 48.0
comp=Z,218nm,1.5s
TRY IAMs_20 IAMs_20 02 53 50.5
comp=Z,14µm,22.0s
T50A Nancy 69.80 54 IAmb IAmb 02 21 49.1
comp=Z,409nm,1.6s

T50A Nancy 69.80 54 S S 02 30 53.2 -1.0
baz=325
T50A S S **02 30 53.2 -1.0**
baz=325
I63A Otisfield 69.82 40 IAmb IAmb 02 21 49.4
comp=Z,418nm,1.4s
I63A Otisfield 69.82 40 P P 02 21 44.9 -0.5
baz=330,SNR=8.7
I63A P P **02 21 44.9 -0.5**
baz=330,SNR=8.7
I63A S S **02 30 51.4 -2.8**
baz=330
I63A S S **02 30 51.4 -2.8**
baz=330
DGPR DIGLIPUR 69.83 264 *e*P **P 02 21 45.0 -0.8**
DGPR IAMs_20 IAMs_20 02 49 57.9
comp=Z,12µm,26.9s
SRIT Nakonsritamara 69.83 255 P P 02 21 45.8 0.0
SRIT IAmb IAmb 02 21 59.5
comp=Z,262nm,1.7s
SRIT Nakonsritamara 69.83 255 P P 02 21 48.7 +2.9
MCWV Mont Chateau 69.84 49 P P 02 21 44.4 -1.2
baz=326,SNR=20
MCWV S S **02 30 51.5 -3.2**
baz=326
MCWV Mont Chateau 69.84 49 P P 02 21 43.7 -1.9
baz=326,SNR=20
MCWV S S **02 30 51.4 -3.2**
baz=326
MCWV Mont Chateau 69.84 49 ⇑P P 02 21 46.0 +0.3
SSPA Standing Stone 69.85 47 P P 02 21 44.0 -1.7
SSPA Standing Stone 69.85 47 P P 02 21 45.0 -0.7
baz=327
SSPA S S **02 30 52.9 -1.9**
baz=327
SSPA Standing Stone 69.85 47 P P 02 21 42.0 -3.7
baz=327,SNR=20
SSPA S S **02 30 50.6 -4.1**
baz=327
SSPA Standing Stone 69.85 47 ⇓P P 02 21 42.9 -2.7
S51A Beattyville 69.86 53 IAmb IAmb 02 21 49.2
comp=Z,262nm,1.6s
S51A Beattyville 69.86 53 P P 02 21 44.9 -0.9
baz=325,SNR=11
S51A P P **02 21 44.9 -0.9**
baz=325,SNR=11
S51A S S **02 30 52.4 -2.5**
baz=325
S51A S S **02 30 52.4 -2.5**
baz=325
CLTN Cedars of Leba 69.86 55 IAmb IAmb 02 21 49.8
comp=Z,323nm,1.3s
G65A Princeton 69.90 37 P P 02 21 44.8 -1.0
G65A IAmb IAmb 02 21 49.4
comp=Z,450nm,1.4s
G65A Princeton 69.90 37 P P 02 21 45.5 -0.4
baz=331,SNR=9.7
G65A P P **02 21 45.5 -0.4**
baz=331,SNR=9.7
G65A S S **02 30 53.0 -2.1**
baz=331
G65A S S **02 30 53.0 -2.1**
baz=331
V48A Smith Brothers 69.91 56 P P 02 21 44.0 -2.1
V48A IAmb IAmb 02 21 49.9
comp=Z,457nm,1.5s
V48A Smith Brothers 69.91 56 P P 02 21 43.2 -3.0
baz=325,SNR=48
V48A S S **02 30 55.2 -0.4**
baz=325
735A Kenedy 69.92 68 IAMs_20 IAMs_20 02 53 26.1
comp=Z,9µm,20.0s
735A Kenedy 69.92 68 P P 02 21 46.2 0.0
baz=323
735A S S **02 30 58.5 +2.7**
baz=323
PLAL Pickwick Lake 69.93 57 P P 02 21 44.0 -2.2
PLAL IAmb IAmb 02 21 49.8
comp=Z,312nm,1.4s
PLAL IAMs_20 IAMs_20 02 56 09.5
comp=Z,17µm,18.0s
R53A Hurricane 70.02 51 P P 02 21 44.7 -2.1
R53A Hurricane 70.02 51 P P 02 21 43.9 -2.9
baz=326,SNR=20
R53A P P **02 21 43.9 -2.9**
baz=326,SNR=20
R53A S S **02 30 55.0 -1.9**
baz=326
R53A S S **02 30 55.0 -1.9**
baz=326
RUE Ruedersdorf 70.06 343 *e*P **P 02 21 48.5 +1.8**
RUE Ruedersdorf 70.06 343 *e*S **S 02 30 57.3 +0.5**
baz=15,slow=12
KVAR Kislovodsk Arr 70.08 320 LR LR 02 55 11.4
comp=Z,13µm,21.1s,baz=274,slow=38
HKT Hockley 70.08 66 IAMs_20 IAMs_20 02 54 49.0
comp=Z,19µm,20.0s
HKT Hockley 70.08 66 ⇑P P 02 21 47.1 0.0
HKT Hockley 70.08 66 *i*P **P 02 21 44.3 -2.8**
HKT pmax pmax
comp=Z,323nm,1.8s
HKT MLR MLR
comp=Z,17µm,19.0s
KIV Kislovodsk 70.09 320 ⇑P P 02 21 49.3 +2.1
KIV Kislovodsk 70.09 320 P P 02 21 46.1 -1.0
KIV IAmb IAmb 02 22 03.3
comp=Z,389nm,1.9s
KIV Kislovodsk 70.09 320 *i*P **P 02 21 47.8 +0.6**
SNR=22
KIV Kislovodsk 70.09 320 *e*P **P 02 21 47.3 +0.2**
KIV *e* 02 24 18.2
KIV *e*PPP PPP 02 26 01.6
KIV *e*S **S 02 30 58.6 +1.0**
KIV *e*SS **SS 02 35 27.0 +0.9**
KIV pmax pmax
comp=Z,669nm,4.4s
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,10µm,18.0s
KIV Kislovodsk 70.09 320 P P 02 21 47.4 +0.2
KIV P P **02 21 47.4 +0.2**
KIV S S **02 30 54.3 -3.3**
KIV S S **02 30 54.3 -3.3**
Y45A Yeager Farm, C 70.12 59 P P 02 21 45.8 -1.6
Y45A IAMs_20 IAMs_20 02 52 28.8
comp=Z,18µm,21.0s
Y45A Yeager Farm, C 70.12 59 P P 02 21 46.2 -1.2
baz=324,SNR=72
Y45A S S **02 30 56.1 -2.0**
baz=324
NCK Nalchik 70.15 319 *i*P **P 02 21 45.8 -1.7**
NCK pmax pmax
comp=Z,277nm,3.5s
NCK MLR MLR
comp=Z,31µm,17.0s
KSM Kuching 70.16 242 P P 02 21 48.2 +0.4
KSM Kuching 70.16 242 P P 02 21 51.0 +3.2
KSM Kuching 70.16 242 P P 02 21 49.2 +1.4
comp=Z,82nm,1.4s,comp=Z,3µm
N58A Sunbury 70.17 46 P P 02 21 46.2 -1.4
N58A IAmb IAmb 02 21 50.6
comp=Z,334nm,1.4s
N58A IAMs_20 IAMs_20 02 55 07.8
comp=Z,17µm,20.0s
N58A Sunbury 70.17 46 P P 02 21 44.7 -2.9
baz=327,SNR=20
N58A P P **02 21 44.7 -2.9**
baz=327,SNR=20
N58A S S **02 30 55.1 -3.3**
baz=327
N58A S S **02 30 55.1 -3.3**
baz=327
LABN Labinsk 70.19 322 *e*P **P 02 21 47.8 +0.1**
LABN *e*S **S 02 31 02.7 +4.1**
LABN pmax pmax
comp=N,15nm,0.8s
LABN pmax pmax
comp=E,60nm,2.1s
LABN pmax pmax
comp=Z,190nm,2.1s
LABN MLR MLR
comp=N,36µm,16.0s
LABN MLR MLR
comp=Z,23µm,16.0s
LABN MLR MLR
comp=E,25µm,17.0s

KBZ Khabaz 70.20 320 P P 02 21 46.1 -1.6
comp=E,14nm,0.8s,baz=51,slow=6.9,SNR=27
KBZ PKP2bc P'P'ab 02 49 46.7 -7.8
comp=E,1.6nm,0.8s,baz=154,slow=2.7,SNR=3.9
KBZ LR LR 02 55 56.6
comp=E,23µm,21.3s,baz=17,slow=39
comp=E,14nm,0.8s
GGN Saint George 70.22 37 P P 02 21 47.5 -0.3
LMN Caledonia Moun 70.26 35 P P 02 21 47.2 -0.8
LMN IAmb IAmb 02 21 54.2
comp=Z,359nm,1.6s
K62A Royalston 70.39 42 P P 02 21 48.5 -0.5
K62A IAmb IAmb 02 21 52.3
comp=Z,447nm,1.8s
K62A IAMs_20 IAMs_20 02 55 41.4
comp=Z,16µm,19.0s
K62A Royalston 70.39 42 P P 02 21 47.5 -1.5
baz=329,SNR=7.7
K62A P P **02 21 47.5 -1.5**
baz=329,SNR=7.7
L61B Northampton 70.40 42 P P 02 21 47.6 -1.4
L61B IAMs_20 IAMs_20 02 58 18.8
comp=Z,17µm,18.0s
L61B Northampton 70.40 42 P P 02 21 48.1 -0.9
baz=329
L61B S S **02 30 55.8 -5.3**
baz=329
PMSI Majene 70.42 231 P P 02 21 48.6 -0.8
comp=Z,83nm,1.0s,comp=Z,3µmcomp=Z,7µm
NPNY Mohonk Preserv 70.42 44 P P 02 21 48.1 -1.1
baz=328,SNR=7.8
LVV L'vov 70.47 335 *e*P **P 02 21 48.5 -0.8**
LVV *e* 02 24 27.3
LVV *e*S **S 02 31 02.2 +0.4**
LVV MLR MLR
comp=Z,30µm,17.0s
FLTG Flechtingen 70.62 344 *e*P **P 02 21 51.0 +0.9**
FLTG *e*S **S 02 31 01.6 -1.7**
baz=15,slow=12
NRDL Niedersach Rie 70.63 345 *e*P **P 02 21 50.6 +0.5**
NRDL *e*S **S 02 31 04.6 +1.2**
baz=15,slow=12
ZEI Tsey 70.64 319 *e*P **P 02 21 47.2 -3.5**
ZEI pmax pmax
comp=Z,79nm,1.5s
QUA2 Belchertown 70.67 42 P P 02 21 49.1 -1.5
QUA2 IAMs_20 IAMs_20 02 54 17.0
comp=Z,13µm,21.0s
KSCT Kent School, K 70.71 43 P P 02 21 50.4 -0.4
KSCT IAmb IAmb 02 21 53.7
comp=Z,392nm,1.8s
KSCT IAMs_20 IAMs_20 02 55 07.0
comp=Z,19µm,20.0s
S54A Dingess, Beckl 70.75 51 P P 02 21 48.9 -2.3
S54A Dingess, Beckl 70.75 51 P P 02 21 48.6 -2.6
baz=326,SNR=10.0
S54A P P **02 21 48.6 -2.6**
baz=326,SNR=10.0
S54A S S **02 31 04.6 -0.8**
baz=326
S54A S S **02 31 04.6 -0.8**
baz=326
SWET Sewanee 70.76 56 P P 02 21 48.6 -2.7
SWET IAmb IAmb 02 21 54.7
comp=Z,429nm,1.4s
P57A Homestead Farm 70.77 48 P P 02 21 50.1 -1.1
P57A IAmb IAmb 02 21 54.6
comp=Z,259nm,1.7s
P57A Homestead Farm 70.77 48 P P 02 21 50.9 -0.4
baz=327,SNR=12
P57A P P **02 21 50.9 -0.4**
baz=327,SNR=12
BRNY Black Rk. Fore 70.77 44 P P 02 21 49.4 -1.8
baz=328,SNR=8.8
TZTN Tazewell 70.78 53 P P 02 21 50.7 -0.7
TZTN IAmb IAmb 02 21 55.4
comp=Z,375nm,1.6s
TZTN Tazewell 70.78 53 P P 02 21 52.0 +0.6
baz=326,SNR=28
TZTN S S **02 31 04.4 -1.3**
baz=326
TZTN Tazewell 70.78 53 P P 02 21 51.3 -0.1
baz=326,SNR=28
TZTN S S **02 31 04.6 -1.1**
baz=326
TZTN Tazewell 70.78 53 ⇓P P 02 21 49.3 -2.1
HRV Adam Dziewonsk 70.78 42 P P 02 21 50.4 -0.9
HRV IAmb IAmb 02 21 54.6
comp=Z,292nm,1.4s
HRV Adam Dziewonsk 70.78 42 IAMs_20 IAMs_20 02 58 23.8
comp=Z,15µm,19.0s
HRV Adam Dziewonsk 70.78 42 P P 02 21 50.6 -0.7
baz=329
HRV S S **02 31 01.2 -4.3**
baz=329
HRV Adam Dziewonsk 70.78 42 ⇑P P 02 21 49.2 -2.1
STKI Sintang 70.79 240 P P 02 21 51.9 +0.2
441A DeRidder 70.81 64 P P 02 21 50.0 -1.6
441A IAmb IAmb 02 21 56.2
comp=Z,549nm,1.6s
ODNJ Ogdensburg 70.81 44 P P 02 21 50.9 -0.6
ODNJ IAmb IAmb 02 21 54.1
comp=Z,284nm,1.6s
ODNJ IAMs_20 IAMs_20 02 54 43.9
comp=Z,12µm,19.0s
ODNJ Ogdensburg 70.81 44 P P 02 21 49.8 -1.7
baz=328
X48A Hartselle 70.86 57 P P 02 21 50.6 -1.3
X48A IAmb IAmb 02 21 55.2
comp=Z,310nm,1.4s
X48A IAMs_20 IAMs_20 02 53 10.0
comp=Z,16µm,19.0s
X48A Hartselle 70.86 57 P P 02 21 49.3 -2.6
baz=325,SNR=40
X48A S S **02 31 05.1 -1.5**
baz=325
HBVL Hebbronville 70.88 70 P P 02 21 51.1 -1.1
ASSE Asse, Remlinge 70.90 344 *e*P **P 02 21 52.4 +0.6**
comp=Z,45nm,1.2s
ASSE *e*S **S 02 31 07.0 +0.5**
baz=15,slow=12
TRNY Table Rock, Ra 70.91 44 P P 02 21 50.7 -1.4
TRNY IAmb IAmb 02 21 54.9
comp=Z,320nm,1.6s
TRNY IAMs_20 IAMs_20 02 56 13.5
comp=Z,17µm,19.0s
KVTX Kingsville 70.92 69 P P 02 21 52.8 +0.5
baz=323
KVTX S S **02 31 07.7 +0.2**
baz=323
LUPA Lehigh Univers 70.92 45 P P 02 21 50.4 -1.8
LUPA IAmb IAmb 02 21 55.0
comp=Z,333nm,1.4s
LUPA IAMs_20 IAMs_20 02 55 50.6
comp=Z,17µm,19.0s
SORM Soroca 70.93 332 ⇑P P 02 21 50.1 -2.0
SORM Soroca 70.93 332 ⇑P P 02 21 50.1 -2.0
KWP Kalwaria Pacla 70.96 336 *e*P **P 02 21 53.6 +1.3**
KWP *e*S **S 02 31 09.8 +2.3**
KWP *e*L L 02 57 21.3
comp=Z,24µm,18.4s
KWP Kalwaria Pacla 70.96 336 P P 02 21 51.7 -0.6
KWP Kalwaria Pacla 70.96 336 P P 02 21 51.7 -0.6
KWP pmax pmax
comp=Z,468nm,1.2s
KWP MLR MLR
comp=Z,24µm,18.0s
VBMS Vicksburg 70.97 61 P P 02 21 51.0 -1.6
VBMS Vicksburg 70.97 61 P P 02 21 53.0 +0.4
baz=324,SNR=6.0
VBMS S S **02 31 02.2 -5.8**
baz=324
VBMS Vicksburg 70.97 61 P P 02 21 53.0 +0.4
baz=324,SNR=6.0
WES Weston 70.97 41 P P 02 21 50.9 -1.5
WES IAmb IAmb 02 21 55.8
comp=Z,274nm,1.4s
WES Weston 70.97 41 P P 02 21 51.9 -0.5
baz=330,SNR=7.5
WES Weston 70.97 41 P P 02 21 50.9 -1.5
WES pmax pmax
comp=Z,274nm,1.4s
ONI Oni 70.98 319 P P 02 21 51.8 -0.8
ONI Oni 70.98 319 P P 02 21 51.8 -0.8
ONI pmax pmax
comp=Z,226nm,1.7s

V51A Loudon 71.02 54 P P 02 21 50.7 -2.1
V51A IAmb IAmb 02 21 56.5
comp=Z,231nm,1.3s
V51A Loudon 71.02 54 P P 02 21 52.3 -0.5
baz=326,SNR=17
V51A S S 02 31 05.4 -3.1
baz=326
MVL Millersville 71.02 46 P P 02 21 50.6 -2.2
MVL IAmb IAmb 02 21 55.8
comp=Z,258nm,1.5s
OJC Ojcow 71.06 338 eP P 02 21 54.1 +1.2
OJC eS S 02 31 10.3 +1.7
OJC eL L 02 54 38.9
comp=Z,19µm,21.6s
OJC Ojcow 71.06 338 P P 02 21 52.1 -0.8
OJC IAmb IAmb 02 21 59.3
comp=Z,180nm,1.0s
OJC Ojcow 71.06 338 ⇑P P 02 21 52.0 -0.8
OJC Ojcow 71.06 338 P P 02 21 52.1 -0.8
OJC pmax pmax
comp=Z,180nm,1.0s
W50A Signal Mountai 71.06 55 IAmb IAmb 02 21 56.8
comp=Z,410nm,1.6s
W50A Signal Mountai 71.06 55 P P 02 21 52.2 -1.0
baz=325,SNR=44
W50A S S 02 31 05.5 -3.6
baz=325
BCX Boston College 71.07 41 P P 02 21 52.1 -1.0
BCX IAMs_20 IAMs_20 02 58 42.6
comp=Z,17µm,18.0s
IBBN Ibbenburen 71.15 346 ⇓P P 02 21 54.1 +0.7
IBBN Ibbenburen 71.15 346 eP P 02 21 53.5 +0.1
IBBN eS S 02 31 09.8 +0.4
baz=15,slow=12
PAL Palisades 71.16 44 P P 02 21 52.8 -0.8
PAL IAmb IAmb 02 21 56.4
comp=Z,382nm,1.4s
PAL IAMs_20 IAMs_20 02 56 20.9
comp=Z,17µm,20.0s
PAL Palisades 71.16 44 P P 02 21 52.5 -1.1
baz=329,SNR=11
PAL S S 02 31 06.2 -3.7
baz=329
PAL Palisades 71.16 44 P P 02 21 51.2 -2.4
baz=329,SNR=11
PAL Palisades 71.16 44 P P 02 21 52.8 -0.8
PAL pmax pmax
comp=Z,382nm,1.5s
PAL MLR MLR
comp=Z,17µm,20.0s
PBA Port Blair 71.17 263 eP P 02 21 52.9 -1.0
PBA IAmb IAmb 02 22 06.0
comp=Z,55nm,0.9s
PBA *i* x x 02 46 45.0
BRNJ Basking Ridge 71.17 45 P P 02 21 53.5 -0.2
BRNJ Basking Ridge 71.17 45 P P 02 21 52.5 -1.2
baz=328
KSP Ksiaz 71.17 340 eP P 02 21 54.3 +0.8
KSP eS S 02 31 10.4 +0.5
KSP eL L 02 54 01.9
comp=Z,17µm,22.5s
KSP Ksiaz 71.17 340 ⇑P P 02 21 54.5 +0.9
ANN Anapa 71.18 324 eP P 02 21 51.9 -1.8
ANN *e* 02 22 14.9
ANN ePPP PPP 02 26 15.4
ANN eS S 02 31 09.5 -0.6
ANN pmax pmax
comp=Z,105nm,1.2s
ANN pmax pmax
comp=E,40nm,1.3s
ANN pmax pmax
comp=N,36nm,0.8s
JASL Jaisalmer 71.20 290 eP P 02 21 53.9 -0.2
CLZ Clausthal 71.23 345 eP P 02 21 54.2 +0.3
CLZ eS S 02 31 11.4 +0.8
baz=15,slow=12
CPCT Cooper Cave 71.23 55 IAmb IAmb 02 21 57.7
comp=Z,280nm,1.4s
WSPT Westport, CT 71.24 43 IAMs_20 IAMs_20 02 55 23.2
comp=Z,14µm,19.0s
YLE Yale 71.27 43 IAMs_20 IAMs_20 02 55 23.0
comp=Z,16µm,20.0s
FOR Fordham 71.28 44 P P 02 21 53.8 -0.5
baz=329
CPNY Central Park 71.32 44 P P 02 21 53.8 -0.8
CPNY IAmb IAmb 02 21 57.5
comp=Z,371nm,1.4s
SDMD Soldier's Deli 71.32 47 P P 02 21 53.3 -1.3
SDMD IAMs_20 IAMs_20 02 54 44.4
comp=Z,13µm,19.0s
SDMD Soldier's Deli 71.32 47 P P 02 21 52.7 -1.9
baz=328,SNR=15
CLL Collm 71.32 343 P P 02 21 53.2 -1.2
CLL IAmb IAmb 02 21 58.2
comp=Z,301nm,1.7s
CLL IAMs_20 IAMs_20 02 53 24.9
comp=Z,15µm,22.0s
CLL Collm 71.32 343 ⇓*i*P P 02 21 54.2 -0.2
CLL eS S 02 31 12.0 +0.5
CLL pmax pmax
comp=Z,301nm,1.7s
CLL MLR MLR
comp=Z,15µm,22.3s
CLL Collm 71.32 343 eP P 02 21 54.6 +0.2
comp=Z,108nm,1.4s
CLL eS S 02 31 11.1 -0.5
baz=15,slow=12
V52A Sevierville 71.33 54 P P 02 21 52.2 -2.6
V52A IAmb IAmb 02 21 58.5
comp=Z,439nm,1.9s
V52A Sevierville 71.33 54 P P 02 21 54.5 -0.3
baz=326,SNR=15
V52A S S 02 31 11.2 -0.9
baz=326
146A Union 71.36 59 P P 02 21 53.3 -1.6
146A Union 71.36 59 P P 02 21 55.0 +0.1
baz=325,SNR=20
146A S S 02 31 13.6 +1.2
baz=325
TUPA Temple Univers 71.36 45 P P 02 21 53.1 -1.7
baz=328,SNR=12
PANJ Princeton 71.37 45 P P 02 21 53.8 -1.1
baz=328,SNR=13
WUPA West Chester U 71.38 46 P P 02 21 53.7 -1.3
WUPA IAMs_20 IAMs_20 02 56 25.1
comp=Z,15µm,19.0s
N62A Caumsett State 71.39 44 IAMs_20 IAMs_20 02 56 46.2
comp=Z,17µm,18.0s
N62A Caumsett State 71.39 44 P P 02 21 53.9 -1.1
baz=329
N62A P P 02 21 53.9 -1.1
baz=329
TKL Tuckaleechee C 71.40 54 P P 02 21 53.6 -1.6
TKL IAmb IAmb 02 21 58.8
comp=Z,287nm,1.5s
TKL Tuckaleechee C 71.40 54 P P 02 21 53.8 -1.4
baz=326,SNR=24
TKL S S 02 31 10.4 -2.6
baz=326
TKL Tuckaleechee C 71.40 54 P P 02 21 53.6 -1.6
TKL pmax pmax
comp=Z,287nm,1.5s
TKL MLR MLR
comp=Z,23µm,20.0s
TKL Tuckaleechee C 71.40 54 LR LR 02 54 31.3
comp=Z,21µm,20.0s,baz=334,slow=37
KAPI Kappang 71.40 230 P P 02 21 55.8 +0.5
KAPI Kappang 71.40 230 P P 02 21 55.8 +0.5
KAPI pmax pmax
comp=Z,229nm,1.7s
CHVC Chvalec 71.46 341 eP P 02 21 56.2 +0.8
CHVC AMS AMS 02 55 20.0
comp=Z,15µm,19.4s
CHVC Chvalec 71.46 341 eP P 02 21 56.2 +0.8
CHVC MLR MLR
comp=Z,15µm,19.4s
OSTC Ostas 71.46 340 eP P 02 21 54.9 -0.5
OSTC eS S 02 31 01.6 -12
OSTC AMS AMS 02 53 50.0
comp=Z,16µm,22.6s
OSTC Ostas 71.46 340 eP P 02 21 54.9 -0.5
OSTC eS S 02 31 01.6 -12
OSTC MLR MLR
comp=Z,16µm,22.6s
FPAL Fort Paine 71.46 56 P P 02 21 53.3 -2.3
FPAL IAMs_20 IAMs_20 02 53 02.0
comp=Z,16µm,22.0s
SOC Sochi 71.47 322 eP P 02 21 54.4 -1.1
SOC ePPP PPP 02 26 14.7
SOC eS S 02 31 13.5 0.0
SOC eSS SS 02 35 49.2 +2.1
SOC pmax pmax
comp=Z,63nm,1.1s
SOC MLR MLR
comp=Z,27µm,20.0s
GEDE Greenville 71.47 46 P P 02 21 54.6 -0.9
baz=328,SNR=9.9
STHS Stebnicka Huta 71.50 337 eP P 02 21 55.9 +0.3
STHS pmax pmax
comp=Z,99nm,1.1s
STHS Stebnicka Huta 71.50 337 eP P 02 21 55.9 +0.3
DSB Dublin 71.50 355 P P 02 21 54.6 -0.9
DSB IAMs_20 IAMs_20 02 49 12.0
comp=Z,10µm,22.0s
DSB Dublin 71.50 355 P P 02 21 54.9 -0.6
DSB Dublin 71.50 355 ⇓P P 02 21 56.8 +1.3
AFI Afiamalu 71.52 158 IAMs_20 IAMs_20 02 51 18.3
comp=Z,12µm,18.0s
RAC Raciborz 71.52 339 eP P 02 21 54.3 -1.4
RAC AMS AMS 02 55 39.3
comp=Z,28nm,19.8s
RAC Raciborz 71.52 339 eP P 02 21 54.3 -1.4
RAC MLR MLR
comp=Z,28µm,19.8s
M63A Gales Ferry 71.54 42 P P 02 21 55.0 -0.9
M63A IAmb IAmb 02 21 58.8
comp=Z,310nm,1.4s
M63A IAMs_20 IAMs_20 02 55 04.0
comp=Z,14µm,21.0s
M63A Gales Ferry 71.54 42 P P 02 21 53.5 -2.4
baz=329
M63A P P 02 21 53.5 -2.4
baz=329
L64A Middleborough 71.54 41 P P 02 21 54.6 -1.3
L64A IAmb IAmb 02 21 59.2
comp=Z,310nm,1.4s
L64A IAMs_20 IAMs_20 02 56 06.0
comp=Z,15µm,19.0s
L64A Middleborough 71.54 41 P P 02 21 55.6 -0.3
baz=330,SNR=6.8
L64A P P 02 21 55.6 -0.3
baz=330,SNR=6.8
UPC Upice 71.55 341 eP P 02 21 55.6 -0.2
UPC eS S 02 31 08.8 -5.4
UPC AMS AMS 02 55 10.0
comp=Z,17µm,19.5s
UPC Upice 71.55 341 eP P 02 21 55.6 -0.2
UPC eS S 02 31 08.8 -5.4
UPC MLR MLR
comp=Z,17µm,19.5s
BRG Berggiesshubel 71.58 342 *i* P P 02 21 57.1 +1.0
BRG Amp 02 21 59.2
comp=Z,81nm,1.5s
BRG Berggiesshubel 71.58 342 SS SS 02 35 55.0 +6.6
BRG Amp 02 52 50.0
comp=N,15nm,23.5s
BRG Amp 02 52 56.0
comp=Z,21nm,23.0s
BRG Amp 02 52 58.0
comp=E,8.1nm,19.6s
BRG Berggiesshubel 71.58 342 *i* P P 02 21 57.0 +1.0
BRG *e* 02 22 09.0
BRG 02 24 35.3
BRG S S 02 31 18.0 +3.5
BRG SS SS 02 35 55.0 +6.6
BRG pmax pmax
comp=Z,81nm,1.5s
BRG pmax pmax
comp=Z,125nm,1.9s
BRG MLR MLR
comp=Z,21µm,23.0s
BRG MLR MLR
comp=E,8µm,19.6s
BRG Berggiesshubel 71.58 342 eP P 02 21 57.0 +1.0
comp=E,92nm,1.5s
BRG eS S 02 31 15.0 +0.5
baz=15,slow=12
U54A Nelsons Funny 71.58 52 P P 02 21 54.0 -2.3
U54A IAmb IAmb 02 22 00.1
comp=Z,365nm,1.5s
U54A Nelsons Funny 71.58 52 P P 02 21 56.0 -0.4
baz=326,SNR=15
U54A P P 02 21 56.0 -0.4
baz=326,SNR=15
GTTG Gottingen 71.58 345 eP P 02 21 55.9 -0.1
GTTG eS S 02 31 14.1 -0.3
baz=15,slow=12
NEUB Neuenburg 71.62 343 eP P 02 21 56.1 -0.2
NEUB eS S 02 31 13.6 -1.3
baz=15,slow=12
BLA Blacksburg 71.63 51 P P 02 21 54.5 -2.0
BLA IAmb IAmb 02 22 00.1
comp=Z,388nm,1.5s
BLA Blacksburg 71.63 51 P P 02 21 56.1 -0.5
baz=327,SNR=22
BLA S S 02 31 14.0 -1.6
baz=327
BLA Blacksburg 71.63 51 P P 02 21 56.1 -0.5
baz=327,SNR=22
BLA S S 02 31 09.5 -6.1
baz=327
BLA Blacksburg 71.63 51 ⇑P P 02 21 55.9 -0.7
BLA Blacksburg 71.63 51 P P 02 21 54.6 -2.0
BLA pmax pmax
comp=Z,388nm,1.5s
BLA MLR MLR
comp=Z,20µm,21.0s
DPC Dobruska-Polom 71.64 340 eP P 02 21 57.2 +0.8
DPC eS S 02 31 12.3 -3.1
DPC AMS AMS 02 54 00.0
comp=Z,16µm,21.3s
DPC Dobruska-Polom 71.64 340 eP P 02 21 57.2 +0.8
DPC eS S 02 31 12.3 -3.1
DPC MLR MLR
comp=Z,16µm,21.3s
Y49A Blount Mountai 71.64 57 P P 02 21 53.8 -2.9
Y49A IAmb IAmb 02 22 00.1
comp=Z,502nm,1.8s
Y49A Blount Mountai 71.64 57 P P 02 21 55.0 -1.7
baz=325,SNR=15
Y49A S S 02 31 11.4 -4.4
baz=325
GBN Guysborough 71.71 33 P P 02 21 55.7 -1.1
GBN IAmb IAmb 02 22 00.9
comp=Z,496nm,1.6s
KOLS Kolonicke sedl 71.72 336 eP P 02 21 56.6 -0.3
KOLS pmax pmax
comp=Z,89nm,1.5s
KOLS Kolonicke sedl 71.72 336 eP P 02 21 56.6 -0.3
OKC Ostrava-Krasne 71.77 339 eP P 02 21 56.9 -0.2
OKC eS S 02 31 04.0 -13
OKC AMS AMS 02 55 40.0
comp=Z,20µm,20.3s
OKC Ostrava-Krasne 71.77 339 eP P 02 21 56.9 -0.2
OKC eS S 02 31 04.0 -13
OKC MLR MLR
comp=Z,20µm,20.3s
W52A Murphy 71.80 54 P P 02 21 55.6 -2.0
W52A IAmb IAmb 02 22 01.4
comp=Z,348nm,1.5s
W52A Murphy 71.80 54 P P 02 21 57.0 -0.6
baz=326,SNR=17
PVCC Panska Ves 71.80 341 eP P 02 21 59.3 +2.0
PVCC eS S 02 31 14.7 -2.4
PVCC AMS AMS 02 52 50.0
comp=Z,19µm,22.1s
PVCC Panska Ves 71.80 341 eP P 02 21 59.3 +2.0
PVCC eS S 02 31 14.7 -2.4
PVCC MLR MLR
comp=Z,19µm,22.1s
X51A Calhoun 71.80 55 P P 02 21 55.5 -2.1
X51A Calhoun 71.80 55 P P 02 21 56.7 -0.9
baz=326,SNR=28
X51A P P 02 21 56.7 -0.9
baz=326,SNR=28
X51A S S 02 31 14.3 -3.2
baz=326
X51A S S 02 31 14.3 -3.2
baz=326
S57A Dark Hollow, R 71.81 49 P P 02 21 56.5 -1.1
S57A IAmb IAmb 02 22 01.5
comp=Z,517nm,1.6s
S57A Dark Hollow, R 71.81 49 P P 02 21 55.6 -2.0
baz=327,SNR=28
S57A P P 02 21 55.6 -2.0
baz=327,SNR=28
KRLC Kraliky 71.81 340 eP P 02 21 58.1 +0.6
KRLC eS S 02 31 07.6 -10
KRLC AMS AMS 02 54 30.0
comp=Z,16µm,20.1s
KRLC Kraliky 71.81 340 eP P 02 21 58.1 +0.6
KRLC eS S 02 31 07.6 -10
KRLC MLR MLR
comp=Z,16µm,20.1s
V53A Saluda 71.83 53 P P 02 21 55.8 -2.0
V53A IAmb IAmb 02 22 01.7
comp=Z,391nm,1.8s
V53A Saluda 71.83 53 P P 02 21 54.3 -3.6
baz=326,SNR=21
V53A P P 02 21 54.3 -3.6
baz=326,SNR=21
KIS Kishinev 71.84 331 eP P 02 21 55.0 -2.6
comp=Z,1µm,6.5s
KIS Kishinev 71.84 331 ePcP PcP 02 22 10.0 -6.4
KIS Kishinev 71.84 331 ePP PP 02 24 34.0 -2.4
KIS eS S 02 31 18.0 +0.4
comp=Z,3µm,8.1s
KIS Kishinev 71.84 331 eP P 02 21 55.0 -2.6
KIS *e* 02 22 10.0
KIS *e* 02 24 34.0
KIS eS S 02 31 18.0 +0.4
KIS ePS PnS 02 31 55.0 +8.5
KIS pmax pmax
comp=Z,540nm,2.6s
KIS smax smax
comp=E,3µm,8.1s
KIS MLR MLR
comp=Z,10µm,18.0s
KIS MLR MLR
comp=N,9µm,17.0s
COEN Coen 71.84 204 P P 02 21 57.8 -0.1
COEN IAMs_20 IAMs_20 02 51 14.7
comp=Z,11µm,20.0s
COEN Coen 71.84 204 P P 02 21 58.5 +0.6
RICC Richard 71.87 342 eP P 02 21 58.7 +1.0
RICC eS S 02 31 13.5 -4.3
RICC AMS AMS 02 52 50.0
comp=Z,18µm,22.7s
MILM Milestii Mici 71.91 331 ⇑P P 02 21 57.0 -1.0
MILM Milestii Mici 71.91 331 eP P 02 21 54.0 -4.1
comp=Z,2µm,4.2s
MILM Milestii Mici 71.91 331 ePcP PcP 02 22 10.0 -6.8
MILM Milestii Mici 71.91 331 ePP PP 02 24 35.0 -2.0
MILM Milestii Mici 71.91 331 eP P 02 21 54.0 -4.1
MILM *e* 02 22 10.0
MILM *e* 02 24 35.0
MILM ePPP PPP 02 26 13.0
MILM eS S 02 31 18.0 -0.5
MILM ePS PnS 02 31 53.0 +5.5
MILM pmax pmax
comp=Z,2µm,4.2s
MILM smax smax
comp=N,4µm,2.2s
MILM smax smax
comp=E,6µm,9.4s
MILM MLR MLR
comp=Z,25µm,17.0s
HSKC Hora Svate Kat 71.92 342 eP P 02 21 58.4 +0.3
HSKC ex x 02 22 12.9
HSKC eS S 02 31 14.7 -3.9
HSKC AMS AMS 02 52 30.0
comp=Z,18µm,23.5s
CRVS Cervenica-Dubn 71.93 336 eP P 02 21 59.3 +1.1
CRVS pmax pmax
comp=Z,847nm,2.3s
CRVS Cervenica-Dubn 71.93 336 eP P 02 21 59.3 +1.1
P61A Hammonton 71.94 45 IAMs_20 IAMs_20 02 56 31.6
comp=Z,17µm,19.0s
P61A Hammonton 71.94 45 P P 02 21 57.3 -1.0
baz=328
P61A P P 02 21 57.3 -1.0
baz=328
M65A Busby, Falmout 71.94 41 IAMs_20 IAMs_20 02 56 18.4
comp=Z,16µm,19.0s
M65A Busby, Falmout 71.94 41 P P 02 21 57.4 -0.9
baz=330
MORC Moravsky Berou 71.95 339 ⇑P P 02 21 59.9 +1.6
MORC Moravsky Berou 71.95 339 P P 02 21 57.6 -0.7
MORC IAmb IAmb 02 22 02.9
comp=Z,329nm,1.6s
MORC Moravsky Berou 71.95 339 eP P 02 21 59.3 +1.0
MORC eS S 02 31 21.0 +2.1
MORC Moravsky Berou 71.95 339 ⇑P P 02 21 58.5 +0.2
MORC Moravsky Berou 71.95 339 P P 02 21 57.6 -0.7
MORC pmax pmax
comp=Z,329nm,1.6s
PURM Purcari 71.97 330 ⇑P P 02 21 56.7 -1.7
AKH Akhalkalaki 71.98 318 P P 02 21 56.9 -1.9
AKH IAmb IAmb 02 22 40.3
comp=Z,540nm,1.6s
AKH Akhalkalaki 71.98 318 P P 02 21 56.9 -1.9
AKH pmax pmax
comp=Z,540nm,1.6s
KULM Kulim 72.00 253 P P 02 21 59.1 +0.1
KULM Kulim 72.00 253 P P 02 21 57.9 -1.1
comp=Z,78nm,2.1s,comp=Z,2µm
LRAL Lakeview Retre 72.03 58 P P 02 21 56.2 -2.8
LRAL IAMs_20 IAMs_20 02 53 04.1
comp=Z,14µm,20.0s
LRAL Lakeview Retre 72.03 58 P P 02 21 58.7 -0.4
baz=325,SNR=31
LRAL S S 02 31 17.9 -2.4
baz=325
LRAL Lakeview Retre 72.03 58 P P 02 21 57.5 -1.5
baz=325,SNR=31
LRAL S S 02 31 16.4 -3.9
baz=325
LRAL Lakeview Retre 72.03 58 ⇓P P 02 21 56.1 -2.8
BUG Bochum--Univer 72.06 346 eP P 02 21 58.7 -0.2
BUG eS S 02 31 20.1 +0.1
baz=15,slow=12
R58B Mineral 72.10 48 P P 02 21 57.3 -2.0
R58B IAmb IAmb 02 22 04.2
comp=Z,506nm,1.8s
R58B Mineral 72.10 48 P P 02 21 59.0 -0.3
baz=328,SNR=24
R58B P P 02 21 59.0 -0.3
baz=328,SNR=24
R58B S S 02 31 17.3 -3.5
baz=328
R58B S S 02 31 17.3 -3.5
baz=328
CBN Corbin Frederi 72.11 48 P P 02 21 58.6 -0.8
CBN Corbin Frederi 72.11 48 P P 02 21 59.3 -0.1
baz=328,SNR=9.6
CBN S S 02 31 18.2 -2.8
baz=328
CBN Corbin Frederi 72.11 48 P P 02 21 58.8 -0.6
baz=328,SNR=9.6
SIM Simferopol' 72.13 326 eP P 02 21 59.0 -0.4
SIM eS S 02 31 20.2 -0.8
SIM pmax pmax
comp=Z,138nm,1.3s
KASTN Kahler Asten 72.14 346 eP P 02 21 58.6 -0.8
KASTN eS S 02 31 21.0 -0.1
baz=15,slow=12
LANS Liptovska Anna 72.14 338 eP P 02 21 59.4 -0.1
LANS pmax pmax
comp=Z,189nm,1.6s
LANS Liptovska Anna 72.14 338 eP P 02 21 59.4 -0.1
LANS ePP PP 02 24 43.8 +4.8
346A Big Creek Wild 72.17 61 P P 02 21 59.0 -0.9
346A IAmb IAmb 02 22 04.2
comp=Z,493nm,1.5s
346A IAMs_20 IAMs_20 02 56 11.0
comp=Z,16µm,18.0s
ZAIG Zacatecas 72.18 76 P P 02 21 58.8 -1.6
ZAIG IAmb IAmb 02 22 05.2
comp=Z,262nm,1.6s
ZAIG IAMs_20 IAMs_20 02 57 36.9
comp=Z,15µm,19.0s
MOX Moxa 72.19 343 eP P 02 22 00.4 +0.6
comp=Z,57nm,1.2s
MOX eS S 02 31 21.8 +0.1
baz=15,slow=12
MOX eL L 02 54 25.0
comp=Z,16µm,22.0s

PRAR RASCA 72.20 333 ⇑P **P** 02 21 59.6 -0.3
BUR08 Bucovina Ar. S 72.21 334 P **P** 02 21 58.4 -1.6
BURAR Bucovina Array 72.23 333 ⇑P **P** 02 22 00.2 +0.1
BURAR Bucovina Array 72.23 333 P **P** 02 21 57.9 -2.2
BURAR Bucovina Array 72.23 333 ⇑P **P** 02 22 00.2 +0.1
PLN Plauen 72.26 343 *e*S **S** 02 31 23.3 +1.0
baz=15,slow=12
PRA Prague 72.26 341 *e*P **P** 02 22 00.8 +0.7
PRA *e*S **S** 02 31 14.7 -7.7
PRA AMS AMS 02 53 20.0
comp=Z,21µm,22.0s
PRA Prague 72.26 341 *e*P **P** 02 22 00.8 +0.7
PRA *e*S **S** 02 31 14.7 -7.7
PRA MLR MLR
comp=Z,21µm,22.0s
TANN Tannenbergstha 72.27 343 *e*P **P** 02 22 01.1 +0.9
comp=Z,110nm,1.5s
TANN *e*S **S** 02 31 23.7 +1.1
baz=15,slow=12
UBBA Unterbreizbach 72.28 344 *e*P **P** 02 21 59.6 -0.4
UBBA *e*S **S** 02 31 21.1 -1.2
baz=15,slow=12
MAUC Maruska 72.28 339 *e*P **P** 02 22 00.9 +0.6
T57A Hurt 72.31 50 P **P** 02 21 58.9 -1.8
T57A Hurt 72.31 50 P **P** 02 21 58.1 -2.5
baz=327,SNR=18
T57A P **P** 02 21 58.1 -2.5
baz=327,SNR=18
T57A S **S** 02 31 22.1 -1.3
baz=327
T57A S **S** 02 31 22.1 -1.3
baz=327
PRU Pruhonice 72.32 341 *e*P **P** 02 22 00.7 +0.2
PRU *e*S **S** 02 31 19.4 -3.7
PRU AMS AMS 02 53 10.0
comp=Z,20µm,22.5s
PRU Pruhonice 72.32 341 *e*P **P** 02 22 00.7 +0.2
PRU *e*S **S** 02 31 19.4 -3.7
PRU MLR MLR
comp=Z,20µm,22.5s
BG3 Lake Jocassee 72.34 54 P **P** 02 21 59.0 -1.8
BG3 IAmb IAmb 02 22 04.8
comp=Z,335nm,1.5s
CASEE Lake Jocassee 72.34 54 P **P** 02 21 59.2 -1.6
baz=326,SNR=23
GOPC GO Pecny, Ondr 72.35 341 *e*P **P** 02 21 59.4 -1.3
GOPC *e*S **S** 02 31 20.6 -2.8
GOPC AMS AMS 02 53 20.0
comp=Z,17µm,21.1s
GOPC GO Pecny, Ondr 72.35 341 *e*P **P** 02 21 59.4 -1.3
GOPC *e*S **S** 02 31 20.6 -2.8
GOPC MLR MLR
comp=Z,17µm,21.1s
U56A King 72.36 51 P **P** 02 21 58.9 -2.1
U56A IAmb IAmb 02 22 04.7
comp=Z,245nm,1.4s
U56A King 72.36 51 P **P** 02 22 00.4 -0.6
baz=327,SNR=13
U56A P **P** 02 22 00.4 -0.6
baz=327,SNR=13
U56A S **S** 02 31 22.0 -2.0
baz=327
U56A S **S** 02 31 22.0 -2.0
baz=327
DGTI Dogotuki 72.37 166 P **P** 02 22 02.9 +1.9
V55A Taylorsville 72.41 52 P **P** 02 21 58.4 -2.8
V55A Taylorsville 72.41 52 P **P** 02 22 00.6 -0.6
baz=327,SNR=14
V55A P **P** 02 22 00.6 -0.6
baz=327,SNR=14
VASR Vaslui 72.45 331 ⇑P **P** 02 22 01.7 +0.4
NKC Novy Kostel 72.45 343 *e*P **P** 02 22 01.6 +0.3
NKC *e*S **S** 02 31 21.8 -2.9
NKC AMS AMS 02 56 00.0
comp=Z,16µm,18.3s
NKC Novy Kostel 72.45 343 *e*P **P** 02 22 01.6 +0.3
NKC *e*S **S** 02 31 21.8 -2.9
NKC MLR MLR
comp=Z,16µm,18.3s
LEOM Leova 72.48 331 ⇑P **P** 02 22 03.3 +1.9
LEOM Leova 72.48 331 ⇑P **P** 02 22 03.3 +1.9
KECS Kecovo 72.55 337 *e*P **P** 02 22 03.5 +1.7
KECS pmax pmax
comp=Z,93nm,1.4s
KECS Kecovo 72.55 337 *e*P **P** 02 22 03.5 +1.7
VRAC Vranov 72.58 340 ⇑P **P** 02 22 02.7 +0.6
VRAC Vranov 72.58 340 *e*P **P** 02 22 02.4 +0.3
VRAC *e*S **S** 02 31 23.6 -2.5
VRAC *e*SS **SS** 02 36 03.1 -0.7
VRAC Vranov 72.58 340 P **P** 02 22 03.5 +1.4
VRAC Vranov 72.58 340 LR LR 02 58 33.4
comp=Z,14µm,18.6s,baz=21,slow=40
GNI Garni 72.59 317 P **P** 02 22 02.1 -0.3
GNI IAmb IAmb 02 22 07.2
comp=Z,342nm,1.6s
GNI Garni 72.59 317 P **P** 02 22 03.4 +0.9
GNI Garni 72.59 317 ⇓P **P** 02 22 03.1 +0.6
GNI Garni 72.59 317 *i* P **P** 02 22 03.2 +0.7
GNI pmax pmax
comp=Z,255nm,1.5s
GNI MLR MLR
comp=Z,33µm,19.0s
GNI Garni 72.59 317 LR LR 02 58 38.1
comp=Z,36µm,18.9s,baz=34,slow=40
GNI Garni 72.59 317 P **P** 02 22 03.0 +0.6
GNI P **P** 02 22 03.0 +0.6
GNI S **S** 02 31 26.1 -0.7
GNI S **S** 02 31 26.1 -0.7
BMR Baia Mare 72.60 335 ⇑P **P** 02 22 03.8 +1.6
BMR Baia Mare 72.60 335 ⇑P **P** 02 22 03.8 +1.6
BCA Borcka 72.65 320 ⇓P **P** 02 22 04.1 +1.5
Z51A Franklin 72.67 56 P **P** 02 22 00.4 -2.5
Z51A IAmb IAmb 02 22 06.1
comp=Z,512nm,1.6s
Z51A Franklin 72.67 56 P **P** 02 22 02.4 -0.5
baz=326,SNR=15
Z51A S **S** 02 31 23.5 -4.1
baz=326
Y52A Lilburn 72.75 55 P **P** 02 22 01.1 -2.2
Y52A IAmb IAmb 02 22 07.1
comp=Z,240nm,1.4s
Y52A Lilburn 72.75 55 P **P** 02 22 03.3 +0.1
baz=326,SNR=15
Y52A P **P** 02 22 03.3 +0.1
baz=326,SNR=15
Y52A S **S** 02 31 25.0 -3.5
baz=326
Y52A S **S** 02 31 25.0 -3.5
baz=326
MANZ Manzenberg 72.75 343 *e*P **P** 02 22 03.7 +0.7
comp=Z,9.7nm,1.2s
MANZ *e*S **S** 02 31 28.2 +0.1
baz=15,slow=12
JAVC Velka Javorina 72.79 339 *e*P **P** 02 22 05.5 +2.1
TREC Trest 72.81 340 *e*P **P** 02 22 03.3 -0.1
TREC *e*S **S** 02 31 24.2 -4.5
TREC AMS AMS 02 54 20.0
comp=Z,15µm,22.9s
TREC Trest 72.81 340 *e*P **P** 02 22 03.3 -0.1
TREC *e*S **S** 02 31 24.2 -4.5
TREC MLR MLR
comp=Z,15µm,22.9s
KARS Kars 72.82 318 P **P** 02 22 02.8 -1.0
KARS Kars 72.82 318 P **P** 02 22 02.8 -1.0
KARS pmax pmax
comp=Z,866nm,1.8s
AKL Akola 72.82 282 *e*P **P** 02 22 04.0 +0.1
AKL IAmb IAmb 02 22 10.1
comp=Z,64nm,1.1s
BIR Birlad 72.84 331 ⇑P **P** 02 22 06.7 +3.1
BIR Birlad 72.84 331 ⇑P **P** 02 22 06.7 +3.1
R61A Willards 72.85 46 P **P** 02 22 02.7 -1.1
baz=328
R61A P **P** 02 22 02.7 -1.1
baz=328
KRUC Moravsky 72.86 340 *e*P **P** 02 22 04.9 +1.2
KRUC *e*S **S** 02 31 30.7 +1.5
TESR Tescani 72.88 332 ⇑P **P** 02 22 05.1 +1.2
VYHS Vyhne 72.90 338 *e*P **P** 02 22 04.3 +0.4
VYHS pmax pmax
comp=Z,274nm,1.6s
VYHS Vyhne 72.90 338 *e*P **P** 02 22 04.3 +0.4
VYHS *e*PP **PP** 02 24 48.5 +3.1
BEBN Eben Emael 72.90 347 *d*P **P** 02 22 04.0 +0.1

ZVC Zvikov 72.91 341 *e*P **P** 02 22 04.1 +0.1
ZVC *e*S **S** 02 31 25.3 -4.6
ZVC AMS AMS 02 53 40.0
comp=Z,22µm,21.3s
VAL Valentia 72.94 358 P **P** 02 22 04.3 +0.3
KMSC Kings Mountain 72.94 52 P **P** 02 22 03.1 -1.3
KMSC IAmb IAmb 02 22 07.9
comp=Z,350nm,1.5s
KMSC Kings Mountain 72.94 52 P **P** 02 22 04.5 +0.1
baz=327,SNR=20
KMSC S **S** 02 31 26.8 -3.8
baz=327
KMSC Kings Mountain 72.94 52 P **P** 02 22 03.9 -0.5
baz=327,SNR=20
KMSC S **S** 02 31 28.9 -1.7
baz=327
ROTZ Rotzenmuhle 72.94 343 *e*P **P** 02 22 05.0 +0.8
comp=Z,11nm,1.1s
ROTZ *e*S **S** 02 31 30.0 -0.2
baz=15,slow=12
AHRW Bad Neuenahr-A 72.97 346 *e*P **P** 02 22 03.9 -0.4
PAULI Pauline 72.99 53 P **P** 02 22 03.4 -1.3
PAULI IAmb IAmb 02 22 08.2
comp=Z,338nm,1.7s
PAULI Pauline 72.99 53 P **P** 02 22 04.3 -0.4
baz=327,SNR=16
PAULI S **S** 02 31 27.7 -3.5
baz=327
MEM Membach 73.04 347 *d*P **P** 02 22 05.6 +0.8
BTNL Ternell 73.05 347 *d*P **P** 02 22 04.7 -0.1
comp=Z,51nm,1.5s
T59A Double "B" Far 73.07 49 P **P** 02 22 03.2 -1.9
T59A IAmb IAmb 02 22 08.9
comp=Z,591nm,1.8s
T59A IAMs_20 IAMs_20 02 58 06.0
comp=Z,15µm,18.0s
T59A Double "B" Far 73.07 49 P **P** 02 22 04.6 -0.5
baz=328,SNR=23
T59A P **P** 02 22 04.6 -0.5
baz=328,SNR=23
T59A S **S** 02 31 29.9 -2.1
baz=328
T59A S **S** 02 31 29.9 -2.1
baz=328
GHRR 73.09 331 ⇑P **P** 02 22 04.9 -0.2
TNS Taunus Mts 73.09 345 *e*P **P** 02 22 04.9 -0.2
TNS *e*S **S** 02 31 32.3 +0.3
baz=15,slow=12
VLDR Vladesti 73.10 331 ⇑P **P** 02 22 07.5 +2.3
BSTI Sart Tilman 73.12 347 *d*P **P** 02 22 06.4 +1.2
comp=Z,10nm,1.6s
SMOL Smolenice 73.17 339 *e*P **P** 02 22 07.5 +1.9
SMOL pmax pmax
comp=Z,169nm,1.7s
GRA1 Grafenberg Arr 73.18 343 P **P** 02 22 04.8 -0.8
GRA1 IAmb IAmb 02 22 10.2
comp=Z,468nm,1.7s
GRA1 IAMs_20 IAMs_20 02 54 43.0
comp=Z,15µm,22.0s
GRF Grafenberg Arr 73.18 343 P **P** 02 22 04.8 -0.8
GRF pmax pmax
comp=Z,468nm,1.7s
GRF MLR MLR
comp=Z,15µm,22.0s
GRF Grafenberg Arr 73.18 343 *e*P **P** 02 22 06.1 +0.5
GRF *e*S **S** 02 31 33.6 +0.7
baz=15,slow=12
GRF *e*L L 02 54 54.1
comp=Z,15µm,21.7s
GRFO Grafenberg 73.18 343 P **P** 02 22 05.2 -0.4
GRFO IAmb IAmb 02 22 10.2
comp=Z,504nm,1.8s
GRFO IAMs_20 IAMs_20 02 54 54.1
comp=Z,14µm,21.0s
GRFO Grafenberg 73.18 343 P **P** 02 22 05.2 -0.4
GRFO pmax pmax
comp=Z,504nm,1.8s
GRFO MLR MLR
comp=Z,14µm,21.0s
PSZ Piszkesteto 73.21 337 ⇑P **P** 02 22 07.3 +1.4
PSZ Piszkesteto 73.21 337 P **P** 02 22 05.6 -0.3
PSZ IAmb IAmb 02 22 11.0
comp=Z,332nm,1.6s
PSZ Piszkesteto 73.21 337 ⇓P **P** 02 22 06.9 +1.0
PSZ Piszkesteto 73.21 337 ⇑P **P** 02 22 07.3 +1.4
MYKOM Kota Tinggi 73.22 248 P **P** 02 22 05.8 -0.4
MYKOM IAmb IAmb 02 24 37.6
comp=Z,62nm,0.3s
MYKOM Kota Tinggi 73.22 248 P **P** 02 22 06.1 -0.1
MESR Meseseni 73.22 335 ⇑P **P** 02 22 09.0 +3.1
250A Grady 73.25 58 P **P** 02 22 05.2 -1.1
250A IAmb IAmb 02 22 10.9
comp=Z,624nm,1.7s
250A IAMs_20 IAMs_20 02 53 51.5
comp=Z,13µm,20.0s
250A Grady 73.25 58 P **P** 02 22 06.1 -0.2
baz=326,SNR=14
250A S **S** 02 31 30.4 -3.8
baz=326
S61A Accomac 73.27 47 P **P** 02 22 05.8 -0.5
baz=328
S61A P **P** 02 22 05.8 -0.5
baz=328
HODGE Hodges 73.28 54 P **P** 02 22 04.4 -2.0
HODGE IAmb IAmb 02 22 10.2
comp=Z,314nm,1.5s
HODGE IAMs_20 IAMs_20 02 53 50.8
comp=Z,19µm,21.0s
HODGE Hodges 73.28 54 P **P** 02 22 06.3 -0.1
baz=326,SNR=36
HODGE S **S** 02 31 32.5 -2.0
baz=326
T60A Surry 73.28 48 P **P** 02 22 05.0 -1.4
T60A IAmb IAmb 02 22 10.1
comp=Z,530nm,1.5s
T60A Surry 73.28 48 P **P** 02 22 05.6 -0.8
baz=328
T60A P **P** 02 22 05.6 -0.8
baz=328
BHOU Houvegnez 73.29 347 *d*P **P** 02 22 06.2 -0.1
BCLA Clavier 73.32 347 *d*P **P** 02 22 06.0 -0.3
KHC Kasperske Hory 73.32 342 P **P** 02 22 05.7 -0.8
KHC IAmb IAmb 02 22 11.2
comp=Z,294nm,1.7s
KHC Kasperske Hory 73.32 342 *e*P **P** 02 22 07.4 +0.9
KHC *ex* x 02 22 21.5
KHC *e*S S 02 31 24.0 -11
KHC AMS AMS 02 53 20.0
comp=Z,18µm,22.4s
KHC Kasperske Hory 73.32 342 *e*P **P** 02 22 07.4 +0.9
KHC *e* 02 22 21.5
KHC *e*S S 02 31 24.0 -11
KHC MLR MLR
comp=Z,18µm,22.4s
PANC Panciu 73.33 332 ⇑P **P** 02 22 07.4 +0.9
MODS Modra-Piesok 73.34 339 *e*P **P** 02 22 08.2 +1.6
MODS pmax pmax
comp=Z,691nm,1.7s
MODS Modra-Piesok 73.34 339 *e*P **P** 02 22 08.2 +1.6
MODS *e*PP **PP** 02 24 51.0 +1.8
BGES Gesves 73.38 348 *d*P **P** 02 22 06.9 +0.2
V58A Windy Hill, Pi 73.39 50 P **P** 02 22 04.7 -2.3
V58A IAmb IAmb 02 22 10.8
comp=Z,437nm,1.4s
V58A IAMs_20 IAMs_20 02 54 55.4
comp=Z,20µm,22.0s
V58A Windy Hill, Pi 73.39 50 P **P** 02 22 06.6 -0.4
baz=327,SNR=22
V58A P **P** 02 22 06.6 -0.4
baz=327,SNR=22
V58A S **S** 02 31 34.1 -1.5
baz=327
V58A S **S** 02 31 34.1 -1.5
baz=327
GOGA Godfrey 73.40 55 P **P** 02 22 04.4 -2.7
GOGA Godfrey 73.40 55 P **P** 02 22 06.8 -0.4
baz=326,SNR=12
GOGA S **S** 02 31 35.4 -0.5
baz=326
GOGA Godfrey 73.40 55 P **P** 02 22 06.4 -0.8
baz=326,SNR=12
GOGA S **S** 02 31 33.0 -2.9
baz=326
GOGA Godfrey 73.40 55 ⇑P **P** 02 22 06.7 -0.4
GOGA Godfrey 73.40 55 P **P** 02 22 04.4 -2.7
GOGA pmax pmax
comp=Z,198nm,1.7s
GOGA MLR MLR
comp=Z,25µm,20.0s
152A Waverly Hall 73.42 56 P **P** 02 22 04.9 -2.4
152A IAmb IAmb 02 22 10.5
comp=Z,474nm,1.6s
152A Waverly Hall 73.42 56 P **P** 02 22 06.4 -0.9
baz=326,SNR=23
152A S **S** 02 31 33.6 -2.6
baz=326
WET Wettzell 73.43 342 *e*P **P** 02 22 07.8 +0.6
comp=Z,256nm,1.6s
WET *e*S **SKiKP** 02 31 37.7 +0.4
baz=15,slow=12
CBBR Cluj-Babes-Bol 73.44 334 ⇑P **P** 02 22 09.1 +2.0
VRI Vrincioaia 73.45 332 ⇑P **P** 02 22 08.2 +0.9
VRI Vrincioaia 73.45 332 ⇑P **P** 02 22 08.2 +0.9
ODBI Odobesti 73.46 332 ⇑P **P** 02 22 08.1 +0.8
TURR Turia 73.47 332 ⇑P **P** 02 22 08.5 +1.1
CJR Cluj-Napoca 73.47 334 ⇑P **P** 02 22 09.2 +1.7
CJR Cluj-Napoca 73.47 334 P **P** 02 22 09.3 +1.9
CKRC Cesky Krumlov 73.48 341 *e*P **P** 02 22 07.7 +0.3
CKRC *ex* x 02 22 11.5
CKRC *e*S S 02 31 24.2 -12
CKRC Cesky Krumlov 73.48 341 *e*P **P** 02 22 07.7 +0.3
CKRC *e*S S 02 31 24.2 -12
PLOR Plostina 73.49 332 ⇑P **P** 02 22 09.9 +2.4
PLOR Plostina 73.49 332 ⇑P **P** 02 22 09.9 +2.4
OZUR 73.49 333 ⇑P **P** 02 22 07.8 +0.3
U59A Littleton 73.49 49 P **P** 02 22 06.4 -1.3
U59A IAmb IAmb 02 22 11.5
comp=Z,291nm,1.6s
U59A Littleton 73.49 49 P **P** 02 22 07.5 -0.1
baz=328,SNR=17
U59A P **P** 02 22 07.5 -0.1
baz=328,SNR=17
U59A S **S** 02 31 36.1 -0.7
baz=328
U59A S **S** 02 31 36.1 -0.7
baz=328
BMRD Maredsous 73.50 348 *d*P **P** 02 22 08.1 +0.7
TLCR 73.50 330 ⇑P **P** 02 22 07.5 0.0
TLCR 73.50 330 ⇑P **P** 02 22 07.5 0.0
BRAL Brewton 73.53 59 P **P** 02 22 06.5 -1.4
BRAL IAmb IAmb 02 22 12.4
comp=Z,631nm,1.7s
BRAL Brewton 73.53 59 P **P** 02 22 07.7 -0.3
baz=326,SNR=8.8
BRAL Brewton 73.53 59 P **P** 02 22 07.8 -0.1
baz=326,SNR=8.8
BRAL S **SKiKP** 02 31 39.1 +1.3
baz=326
W57A Gilead 73.53 51 P **P** 02 22 06.9 -0.9
W57A IAmb IAmb 02 22 11.4
comp=Z,309nm,1.5s
W57A Gilead 73.53 51 P **P** 02 22 06.8 -1.1
baz=327,SNR=14
W57A P **P** 02 22 06.8 -1.1
baz=327,SNR=14
W57A S **S** 02 31 34.4 -2.9
baz=327
W57A S **S** 02 31 34.4 -2.9
baz=327
ZST Bratislava 73.54 339 *e*P **P** 02 22 09.8 +2.1
ZST Bratislava 73.54 339 *e*P **P** 02 22 09.8 +2.1
BOSR Bodos 73.54 333 ⇑P **P** 02 22 08.8 +1.0
BORR Bors 73.56 336 ⇑P P 02 22 13.0 +5.1
GEC2 GERESS Array S 73.57 342 P **P** 02 22 07.3 -0.7
GEC2 GERESS Array S 73.57 342 *e*P **P** 02 22 09.0 +1.0
comp=Z,198nm,1.6s
GEC2 *e*S **S** 02 31 37.7 +0.2
baz=15,slow=12
GERES GERESS Array B 73.57 342 P **P** 02 22 06.8 -1.2
comp=Z,10nm,0.5s,baz=33,slow=6.7,SNR=33
GERES LR LR 02 57 01.5
comp=Z,14µm,21.4s,baz=22,slow=38
comp=Z,10nm,0.5s
RCHB Rochefort 73.59 347 *d*P **P** 02 22 07.3 -0.7
KDU Kakadu 73.59 215 P **P** 02 22 08.4 +0.1
COVR Voineasa-Covas 73.61 332 ⇑P **P** 02 22 08.2 0.0
DRGR 73.62 335 ⇑P **P** 02 22 07.7 -0.6
DRGR 73.62 335 ⇑P **P** 02 22 07.7 -0.6
MARR Marisel-Cluj 73.63 335 ⇑P **P** 02 22 09.6 +1.2
SRO Srobarova 73.65 338 *e*P **P** 02 22 10.3 +1.9
SRO pmax pmax
comp=Z,241nm,1.7s
SRO Srobarova 73.65 338 *e*P **P** 02 22 10.3 +1.9
JSC Jenkinsville 73.69 53 P **P** 02 22 07.9 -0.9
JSC Jenkinsville 73.69 53 P **P** 02 22 08.4 -0.5
baz=327,SNR=6.3
JSC Jenkinsville 73.69 53 P **P** 02 22 07.9 -0.9
JSC pmax pmax
comp=Z,241nm,1.6s
JSC MLR MLR
comp=Z,26µm,19.0s
CFR Carcaliu 73.70 331 ⇑P **P** 02 22 09.0 +0.3
CFR Carcaliu 73.70 331 ⇑P **P** 02 22 09.0 +0.3
DOPR Dopca 73.71 333 ⇑P **P** 02 22 09.9 +1.1
DOU Dourbes 73.72 348 *d*P **P** 02 22 09.5 +0.7
BIRD Birdtown, Kers 73.75 52 P **P** 02 22 08.3 -0.9
baz=327,SNR=13
BISRR Bisoca 73.75 332 ⇑P **P** 02 22 08.4 -0.7
SOEI Soe 73.82 223 P **P** 02 22 12.4 +2.6
SOEI Soe 73.82 223 P **P** 02 22 08.0 -1.8
GRER 73.83 331 ⇑P **P** 02 22 10.9 +1.4
TPGR Topolog 73.91 330 ⇑P **P** 02 22 10.3 +0.3
WLF Walferdange 73.95 347 P **P** 02 22 10.1 0.0
WLF IAMs_20 IAMs_20 02 58 14.2
comp=Z,11µm,20.0s
WLF Walferdange 73.95 347 *d*P **P** 02 22 10.4 +0.3
comp=Z,25nm,1.5s
WLF Walferdange 73.95 347 P **P** 02 22 08.3 -1.8
WLF Walferdange 73.95 347 P **P** 02 22 10.1 0.0
WLF pmax pmax
comp=Z,116nm,1.4s
WLF MLR MLR
comp=Z,11µm,20.0s
WLF Walferdange 73.95 347 *e*P **P** 02 22 10.2 +0.1
comp=Z,40nm,1.1s
WLF *e*S **S** 02 31 42.1 +0.6
baz=15,slow=12
NEHR Nehoiu 73.97 332 ⇑P **P** 02 22 13.3 +2.9
MLR Muntele Rosu 74.01 332 ⇑P **P** 02 22 11.9 +1.2
MLR Muntele Rosu 74.01 332 P **P** 02 22 09.8 -0.9
MLR Muntele Rosu 74.01 332 ⇑P **P** 02 22 11.9 +1.2
MLR Muntele Rosu 74.01 332 LR LR 02 58 36.7
comp=Z,22µm,19.7s,baz=26,slow=39
CONA Conrad Observa 74.05 340 *i* pP **P** 02 22 10.3 -0.5
comp=Z,162nm,1.4s,SNR=80
LHMI Lhok Sumawe 74.08 256 IAMs_20 IAMs_20 02 54 04.5
comp=Z,8µm,20.0s
LHMI Lhok Sumawe 74.08 256 P **P** 02 22 14.1 +2.8
VJD Vijayawada 74.12 276 *e*P **P** 02 22 13.8 +2.3
RONA Rosalia, Austr 74.18 339 *i* pP pP 02 22 13.9 -1.4
comp=Z,142nm,1.4s,SNR=40
MTN Manton Dam 74.18 216 P **P** 02 22 11.8 +0.1
MTN IAmb IAmb 02 22 18.0
comp=Z,234nm,1.1s
MTN Manton Dam 74.18 216 P **P** 02 22 11.8 +0.1
ISR Istrita 74.19 332 ⇑P **P** 02 22 08.7 -3.0
ISR Istrita 74.19 332 P **P** 02 22 13.3 +1.6
HARR Harsova 74.20 331 ⇑P **P** 02 22 11.9 +0.2
HARR Harsova 74.20 331 ⇑P **P** 02 22 11.9 +0.2
W59A Clinton 74.21 50 P **P** 02 22 09.7 -2.2
W59A IAmb IAmb 02 22 15.9
comp=Z,527nm,1.4s
W59A Clinton 74.21 50 P **P** 02 22 12.3 +0.5
baz=328,SNR=8.7
W59A S **S** 02 31 42.5 -2.4
baz=328
154A Montrose 74.23 55 P **P** 02 22 09.6 -2.4
154A Montrose 74.23 55 P **P** 02 22 11.9 -0.1
baz=326,SNR=13
154A S **S** 02 31 43.3 -1.9
baz=326
TIRR Tirgusor 74.28 330 ⇑P **P** 02 22 12.4 +0.3
TIRR Tirgusor 74.28 330 P **P** 02 22 11.2 -0.9
TIRR IAmb IAmb 02 22 16.1
comp=Z,421nm,1.6s
TIRR Tirgusor 74.28 330 ⇑P **P** 02 22 12.4 +0.3
VOIR 74.29 333 ⇑P **P** 02 22 12.2 -0.1
VOIR 74.29 333 ⇑P **P** 02 22 12.2 -0.1
HAW Hawthorne Fire 74.30 54 P **P** 02 22 10.2 -2.2
baz=327,SNR=12
HAW S **S** 02 31 43.7 -2.3

baz=327
352A Blakely 74.31 57 P **P** 02 22 10.3 -2.1
352A IAmb IAmb 02 22 18.7
comp=Z,593nm,1.7s
352A IAMs_20 IAMs_20 02 58 46.3
comp=Z,15µm,18.0s
352A Blakely 74.31 57 P **P** 02 22 10.8 -1.7
baz=326
352A S **SKiKP** 02 31 42.0 +3.1
baz=326
Y57A Sumter 74.31 52 P **P** 02 22 10.1 -2.3
Y57A Sumter 74.31 52 P **P** 02 22 11.7 -0.7
baz=327
Y57A P **P** 02 22 11.7 -0.7
baz=327
X58A Rowland 74.33 51 P **P** 02 22 10.4 -2.1
X58A IAmb IAmb 02 22 16.3
comp=Z,522nm,1.6s
X58A Rowland 74.33 51 P **P** 02 22 11.4 -1.1
baz=328,SNR=9.7
X58A P **P** 02 22 11.4 -1.1
baz=328,SNR=9.7
X58A S **S** 02 31 44.5 -1.8
baz=328
X58A S **S** 02 31 44.5 -1.8
baz=328
SIRR Siria 74.36 335 ⇑P **P** 02 22 14.3 +1.7
CNNC Cliffs of the 74.39 50 P **P** 02 22 11.1 -1.8
CNNC Cliffs of the 74.39 50 P **P** 02 22 13.3 +0.4
baz=328,SNR=12
CNNC Cliffs of the 74.39 50 P **P** 02 22 12.4 -0.5
baz=328,SNR=12
CNNC S **S** 02 31 44.8 -2.1
baz=328
STU Stuttgart 74.39 345 P **P** 02 22 12.1 -0.6
STU IAMs_20 IAMs_20 02 56 27.0
comp=Z,16µm,21.0s
STU Stuttgart 74.39 345 P **P** 02 22 12.1 -0.6
STU Stuttgart 74.39 345 *e*S **S** 02 31 47.3 +0.7
baz=15,slow=12
MOA Molln 74.43 341 *i* pP **P** 02 22 14.3 +1.3
comp=Z,101nm,1.6s,SNR=29
AMRR Amara 74.44 331 ⇓P **P** 02 22 13.7 +0.7
AMRR Amara 74.44 331 ⇓P **P** 02 22 13.7 +0.7
ARR Arges 74.47 333 ⇑P **P** 02 22 12.6 -0.7
V61A Roper 74.49 49 P **P** 02 22 11.9 -1.5
V61A IAMs_20 IAMs_20 02 58 57.5
comp=Z,13µm,20.0s
V61A Roper 74.49 49 P **P** 02 22 13.2 -0.3
baz=328,SNR=12
V61A P **P** 02 22 13.2 -0.3
baz=328,SNR=12
V61A S **S** 02 31 46.0 -2.0
baz=328
V61A S **S** 02 31 46.0 -2.0
baz=328
HYB Hyderabad 74.59 278 *e*P **P** 02 22 14.5 +0.2
HYB IVmB_BB 02 22 25.4
comp=Z,2µm,2.7s
HYB *e*S **S** 02 31 49.4 -0.2
HYB IVMs_BB IVMs_BB 02 58 39.4
comp=Z,4µm,13.4s
LOT Lotru 74.61 334 ⇑P **P** 02 22 18.0 +3.8
451A Vernon 74.62 58 IAMs_20 IAMs_20 02 54 12.8
comp=Z,16µm,22.0s
451A Vernon 74.62 58 P **P** 02 22 14.6 +0.3
baz=326
451A S **S** 02 31 49.8 +0.1
baz=326
FUR Furstenfeldbru 74.65 343 *e*P **P** 02 22 14.7 +0.5
comp=Z,75nm,1.2s
FUR *e*S **S** 02 31 53.8 +4.3
baz=15,slow=12
BIOA Bad Ischl, Aus 74.69 341 *i* pP **P** 02 22 15.2 +0.7
comp=Z,156nm,1.9s,SNR=36
Y58A Scranton 74.73 52 P **P** 02 22 13.8 -1.0
Y58A IAmb IAmb 02 22 18.6
comp=Z,203nm,1.1s
Y58A Scranton 74.73 52 P **P** 02 22 13.3 -1.6
baz=328
Y58A P **P** 02 22 13.3 -1.6
baz=328
Y58A S **S** 02 31 49.2 -1.5
baz=328
Y58A S **S** 02 31 49.2 -1.5
baz=328
SURR Surduc 74.73 335 ⇑P **P** 02 22 16.1 +1.4
ARSA Arzberg 74.76 340 *i* pP **P** 02 22 14.5 -0.4
comp=Z,89nm,1.3s,SNR=41
ICOR Ion Corvin 74.77 330 ⇑P **P** 02 22 13.6 -1.4
RJOB Jochberg 74.80 342 *e*P **P** 02 22 15.6 +0.4
RJOB *e*S **S** 02 31 49.5 -1.8
baz=15,slow=12
GZR Gura Zlata 74.91 334 ⇑P **P** 02 22 14.5 -1.4
GZR Gura Zlata 74.91 334 ⇑P **P** 02 22 14.5 -1.4
BFO Black Forest 74.95 345 P **P** 02 22 14.9 -1.1
BFO Black Forest 74.95 345 P **P** 02 22 14.9 -1.1
BFO pmax pmax
comp=Z,189nm,1.8s
BFO Black Forest 74.95 345 *e*P **P** 02 22 15.9 -0.1
BFO *e*S **S** 02 31 53.5 +0.5
baz=15,slow=12
TIGA Tifton 74.98 56 P **P** 02 22 14.6 -1.8
TIGA Tifton 74.98 56 P **P** 02 22 16.8 +0.5
baz=326,SNR=9.1
TIGA Tifton 74.98 56 P **P** 02 22 14.5 -1.8
baz=326,SNR=9.1
TIGA S **S** 02 31 53.1 -0.5
baz=326
BZS Buzias 74.98 335 ⇑P **P** 02 22 14.7 -1.5
BZS Buzias 74.98 335 ⇑P **P** 02 22 14.6 -1.5
BZS Buzias 74.98 335 ⇑P **P** 02 22 14.7 -1.5
PSI Prapat 75.01 253 P **P** 02 22 16.7 -0.2
PSI Prapat 75.01 253 P **P** 02 22 16.4 -0.5
PSI pmax pmax
comp=Z,49nm,0.9s
PSI MLR MLR
comp=Z,2µm,18.0s
GURO Guroymak-BITLI 75.02 318 P **P** 02 22 15.5 -1.2
255A Hazlehurst 75.09 55 P **P** 02 22 15.4 -1.6
255A Hazlehurst 75.09 55 P **P** 02 22 14.8 -2.2
baz=327,SNR=38
255A S **S** 02 31 52.0 -2.9
baz=327
RPSI Rantau Prapat 75.10 253 P **P** 02 22 16.4 -0.8
MORH Mrgy, Hungar 75.10 337 ⇑P **P** 02 22 18.0 +1.2
LESA Schwarzleotal 75.12 342 *e*pP **P** 02 22 17.4 +0.3
comp=Z,70nm,1.2s
NHSC New Hope 75.17 53 P **P** 02 22 16.3 -1.1
NHSC IAmb IAmb 02 22 21.5
comp=Z,521nm,1.4s
NHSC New Hope 75.17 53 P **P** 02 22 17.9 +0.5
baz=327,SNR=12
NHSC New Hope 75.17 53 P **P** 02 22 16.5 -0.9
baz=327,SNR=12
NHSC New Hope 75.17 53 ⇓P **P** 02 22 18.2 +0.8
ECH Echery 75.23 346 P **P** 02 22 16.5 -1.1
ECH IAMs_20 IAMs_20 02 57 20.2
comp=Z,10µm,21.0s
ECH Echery 75.23 346 ⇑P **P** 02 22 18.6 +0.9
ECH Echery 75.23 346 P **P** 02 22 16.5 -1.1
ECH pmax pmax
comp=Z,216nm,1.8s
ECH MLR MLR
comp=Z,10µm,21.0s
Y60A Bolivia 75.29 51 P **P** 02 22 15.9 -2.2
Y60A IAmb IAmb 02 22 21.7
comp=Z,361nm,1.2s
Y60A Bolivia 75.29 51 P **P** 02 22 17.8 -0.3
baz=328,SNR=5.3
Y60A P **P** 02 22 17.8 -0.3
baz=328,SNR=5.3
Y60A S **S** 02 31 55.5 -1.5
baz=328
Y60A S **S** 02 31 55.5 -1.5
baz=328
UBR Ueberruh 75.31 344 *e*P **P** 02 22 18.0 -0.1
comp=Z,40nm,1.1s
UBR *e*S **S** 02 31 58.2 +1.1
baz=15,slow=12
KBA Koelnbreinsper 75.34 341 *e*pP **P** 02 22 18.2 -0.3
comp=Z,388nm,1.5s,SNR=111
KOGS Kog 75.38 339 *i* P **P** 02 22 19.2 +0.7
RETA Reutte 75.39 343 *e*pP **P** 02 22 19.1 +0.5
comp=Z,35nm,1.3s,SNR=24
WATA Walderalm 75.40 343 *i* pP **P** 02 22 20.3 +1.5
comp=Z,160nm,1.5s,SNR=40
SOKA Soboth 75.41 340 *i* pP **P** 02 22 19.4 +0.7
comp=Z,191nm,1.6s,SNR=65
MOIG Morelia 75.42 77 P **P** 02 22 18.2 -1.1
MOIG IAmb IAmb 02 22 24.4
comp=Z,626nm,1.8s
MOIG IAMs_20 IAMs_20 02 52 43.9
comp=Z,8µm,21.0s
WTTA Wattenberg 75.46 342 *i* pP **P** 02 22 19.7 +0.6
comp=Z,231nm,1.6s,SNR=70
MOTA Moosalm 75.47 343 *e*pP **P** 02 22 19.3 +0.1
comp=Z,84nm,1.5s,SNR=30
HERR Herculane 75.48 334 ⇑P **P** 02 22 17.2 -1.9
SQTA Sankt Quirin 75.58 343 *i* pP **P** 02 22 20.2 +0.5
comp=Z,129nm,1.6s,SNR=40
553A Crawfordville 75.61 58 P **P** 02 22 19.8 -0.2
baz=326
553A S **S** 02 31 54.6 -6.0
baz=326
MTSU Mount Surprise 75.64 202 P **P** 02 22 21.1 +1.0
DJES Djerdap 75.66 334 ⇓P **P** 02 22 21.0 +0.9
DJES Djerdap 75.66 334 P **P** 02 22 18.3 -1.8
OBKA Obir 75.66 340 *i* pP **P** 02 22 19.8 -0.4
comp=Z,275nm,1.4s,SNR=94
OBKA Obir 75.66 340 ⇓*i*P **P** 02 22 20.2 0.0
PLAI Plampang 75.67 230 P **P** 02 22 20.5 +0.1
KOUNC Koumac, New Ca 75.71 182 P **P** 02 22 20.9 +0.4
KOUNC IAMs_20 IAMs_20 02 51 19.2
comp=Z,15µm,19.0s
KOUNC Koumac, New Ca 75.71 182 P **P** 02 22 21.3 +0.9
MYKA Terra Mystica 75.72 341 *e*pP **P** 02 22 21.4 +1.0
comp=Z,182nm,1.7s,SNR=46
257A Skidaway Islan 75.73 54 P **P** 02 22 19.0 -1.6
257A IAmb IAmb 02 22 24.9
comp=Z,400nm,1.2s
257A Skidaway Islan 75.73 54 P **P** 02 22 20.4 -0.2
baz=327
257A S **S** 02 32 01.1 -0.8
baz=327
DAVA Damuels 75.73 344 *i* pP **P** 02 22 22.1 +1.4
comp=Z,62nm,1.6s,SNR=12
MDVR Moldovita 75.75 335 ⇓P **P** 02 22 17.9 -2.7
LOZB Loznitsa 75.79 331 ⇑P **P** 02 22 21.1 +0.2
ABTA Abfaltersbach 75.81 342 *i* pP **P** 02 22 20.0 -1.1
comp=Z,98nm,1.2s,SNR=49
FRGS Fruska Gora 75.84 336 ⇑P **P** 02 22 20.1 -1.0
FRGS Fruska Gora 75.84 336 ⇓*i*P **P** 02 22 21.6 +0.5
FETA Feichten 75.85 343 *i* pP **P** 02 22 20.1 -1.2
comp=Z,117nm,1.4s,SNR=31
PRED Cave del Predi 75.91 341 P **P** 02 22 20.1 -1.5
ARPR Arpgir-MALATY 75.92 321 P **P** 02 22 21.1 -0.7
ARPR IAMs_20 IAMs_20 02 59 37.4
comp=Z,11µm,22.0s
LIFNC LIFOU 75.92 179 IAMs_20 IAMs_20 02 48 58.7
comp=Z,14µm,22.0s
BKNI Bangkinang 75.94 249 P **P** 02 22 23.4 +1.4
BKNI Bangkinang 75.94 249 P **P** 02 22 21.6 -0.5
PTCC Patocco-Chiusa 75.99 341 ⇓P **P** 02 22 21.8 -0.2
CLUD Cludinico 76.02 341 P **P** 02 22 21.7 -0.5
CLF Chambon-Foret 76.03 349 P **P** 02 22 21.4 -0.7
CLF IAmb IAmb 02 22 29.1
comp=Z,317nm,1.4s
CLF IAMs_20 IAMs_20 03 01 35.1
comp=Z,11µm,19.0s
SBSI Sibolga 76.07 252 P **P** 02 22 24.9 +2.1
LJU Ljubljana 76.11 340 *i* P **P** 02 22 23.6 +0.9
LJU *e*S **S** 02 32 05.9 +0.1
CRES Cresnjev 76.14 339 ⇓*i*P **P** 02 22 23.4 +0.6
DAVOX Davos/Dischmat 76.22 344 LR LR 02 58 28.2
comp=Z,12µm,21.2s,baz=10.0,slow=38
TV1H Townsville Har 76.24 199 P **P** 02 22 25.2 +1.7
STAL STALIGIAL 76.24 341 P **P** 02 22 22.8 -0.7
VOJS Vojsko 76.25 341 *i* P **P** 02 22 23.3 -0.2
VOJS *i* S **S** 02 32 07.1 -0.4
456A Hilliard 76.31 55 P **P** 02 22 22.4 -1.6
456A Hilliard 76.31 55 P **P** 02 22 25.7 +1.7
baz=327,SNR=5.2
456A S **S** 02 32 07.0 -1.3
baz=327
PLVB Pleven 76.31 332 ⇑P **P** 02 22 24.1 +0.3
FUORN Ofenpass-Fuorn 76.32 343 P **P** 02 22 23.4 -0.7
FUORN IAMs_20 IAMs_20 02 56 43.0
comp=Z,9µm,22.0s
POO Poona 76.33 283 *e*P **P** 02 22 22.0 -2.3
POO IAmb IAmb 02 22 27.3
comp=Z,62nm,0.9s
POO *i* x x 02 53 02.0
POO IAMs_20 IAMs_20 02 56 20.5
comp=Z,13µm,17.8s
SABO M.te Sabotino 76.35 341 P **P** 02 22 23.2 -0.9
SABO IAmb IAmb 02 22 27.9
comp=Z,280nm,1.8s
CEY Cerknica 76.42 340 ⇓*i*P **P** 02 22 23.9 -0.6
TEKS Tekeris 76.48 336 ⇓*i*P **P** 02 22 25.0 +0.2
BOJS Bojanci 76.49 340 ⇓*i*P **P** 02 22 24.4 -0.4
BLKB Belogradchik 76.60 334 ⇑P **P** 02 22 25.1 -0.4
TUE Stuetta 76.61 344 P **P** 02 22 25.8 0.0
TUE Stuetta 76.61 344 ⇓P **P** 02 22 26.9 +1.1
A051A Mrakovica 76.62 338 ⇓*i*P **P** 02 22 25.9 +0.3
CTI Castel Tesino 76.64 342 P **P** 02 22 25.7 -0.1
CTI Castel Tesino 76.64 342 P **P** 02 22 25.7 -0.1
CTI pmax pmax
comp=Z,138nm,1.3s
SKDS Skadanscina 76.69 340 ⇓*i*P **P** 02 22 24.6 -1.4
BLY Banja Luka 76.81 338 ⇓*i*P **P** 02 22 26.5 -0.1
UNM Universidad Na 76.82 75 IAMs_20 IAMs_20 02 56 43.5
comp=Z,9µm,20.0s
BOVS Bovan 76.83 334 ⇑P **P** 02 22 25.3 -1.4
BR131 Keskin Array S 76.98 324 P **P** 02 22 26.7 -1.2
BR131 Keskin Array S 76.98 324 P **P** 02 22 26.7 -1.2
BR131 pmax pmax
comp=Z,261nm,1.9s
BR131 Keskin Array S 76.98 324 P **P** 02 22 28.1 +0.3
SNR=17
BRTR Keskin Array B 76.98 324 P **P** 02 22 26.6 -1.2
comp=Z,6.0nm,0.7s,baz=70,slow=3.4,SNR=23
BRTR LR LR 03 02 27.5
comp=Z,12µm,18.5s,baz=38,slow=40
comp=Z,6.0nm,0.7s
GSI Gunungsitoli 76.99 253 P **P** 02 22 27.7 -0.3
GSI IAMs_20 IAMs_20 03 00 04.9
comp=Z,9µm,19.0s
GSI Gunungsitoli 76.99 253 P **P** 02 22 28.2 +0.2
GSI Gunungsitoli 76.99 253 ⇑P **P** 02 22 28.6 +0.6
BNN Bunyan 77.01 322 P **P** 02 22 26.6 -1.5
BNN IAmb IAmb 02 22 32.0
comp=Z,500nm,1.7s
HAPS Han Pijesak,BI 77.05 336 ⇓*i*P **P** 02 22 27.7 -0.4
MDUB Mudurnu 77.09 326 P **P** 02 22 27.5 -0.9
ANTO Ankara 77.13 325 ⇑P **P** 02 22 27.7 -0.9
ANTO Ankara 77.13 325 P **P** 02 22 27.4 -1.2
ANTO Ankara 77.13 325 IAMs_20 IAMs_20 03 01 20.0
comp=Z,9µm,20.0s
ANTO Ankara 77.13 325 ⇑P **P** 02 22 27.7 -0.9
ANTO Ankara 77.13 325 P **P** 02 22 29.2 +0.7
MDRS Chennai 77.13 274 *e*P **P** 02 22 27.9 -0.8
MDRS IAmb IAmb 02 22 32.9
comp=Z,75nm,1.2s
MGRS Mrkonjic Grad 77.15 338 ⇓*i*P **P** 02 22 29.8 +1.2
CTA Charters Tower 77.15 199 P **P** 02 22 29.3 +0.6
CTA Charters Tower 77.15 199 LR LR 02 53 19.0
comp=Z,5µm,20.0s,baz=18,slow=33
CTAO Charters Tower 77.15 199 P **P** 02 22 28.8 +0.2
CTAO Charters Tower 77.15 199 P **P** 02 22 29.2 +0.6
CTAO Charters Tower 77.15 199 P **P** 02 22 28.8 +0.2
CTAO pmax pmax
comp=Z,151nm,1.4s
BBLS Lazići 77.16 336 ⇓*i*P **P** 02 22 29.3 +0.6
YATNC Mamie plateau, 77.20 179 P **P** 02 22 32.6 +3.8
656A Willston 77.20 57 P **P** 02 22 28.8 -0.3
baz=327
656A S **S** 02 32 18.4 +0.3
baz=327
A050A Klekovaca 77.20 338 ⇓*i*P **P** 02 22 29.1 +0.1
DZM Mont Dzumac 77.21 180 P **P** 02 22 29.4 +0.3
DZM IAMs_20 IAMs_20 02 50 02.7
comp=Z,12µm,22.0s
DZM Mont Dzumac 77.21 180 P **P** 02 22 31.6 +2.6
DZM Mont Dzumac 77.21 180 *e*P **P** 02 22 29.3 +0.3
comp=Z,168nm,1.1s
DZM *e*S S 02 32 05.1 -13
comp=Z,4µm,23.8s
DZM *e*SS **SS** 02 37 15.8 -0.8
comp=Z,2µm,24.0s
DZM *e*LQ LQ 02 42 57.7
comp=Z,12µm,24.6s
DZM *e*LR LR 02 46 20.2
comp=Z,20µm,22.9s
DZM Mont Dzumac 77.21 180 LR LR 02 51 09.8
comp=Z,6µm,21.6s,baz=23,slow=32
NOUC Port Laguerre 77.24 180 P **P** 02 22 30.9 +1.9
SALO Salr 77.25 343 P **P** 02 22 28.0 -1.1
PDSI Padang 77.29 249 P **P** 02 22 28.1 -1.6
comp=Z,27nm,0.7s,comp=Z,8µm
TEOL Teolo 77.30 342 P **P** 02 22 28.1 -1.3
TEOL IAmb IAmb 02 22 36.2
comp=Z,199nm,0.9s
RUDO Rudo 77.40 336 *e*P **P** 02 22 28.2 -1.8
ONTNC Ouen Toro 77.44 180 P **P** 02 22 32.4 +2.2
OUENC Ouen Island, N 77.55 179 P **P** 02 22 33.8 +3.0
NGCH Negor - Chabah 77.58 297 P **P** 02 22 32.5 +1.3
SNR=6.4
SJES Sjenica 77.60 336 ⇓*i*P **P** 02 22 31.9 +0.7
KNRA Kununurra 77.62 217 P **P** 02 22 31.6 +0.3
KNRA IAmb IAmb 02 22 38.1
comp=Z,240nm,1.3s
KNRA Kununurra 77.62 217 P **P** 02 22 32.0 +0.7
PLE Pljevlja 77.67 336 ⇓*i*P **P** 02 22 31.8 +0.2
KRJI Kerinci 77.75 248 P **P** 02 22 32.9 +0.5
comp=Z,266nm,0.8s,comp=Z,37µm
UPM Unac-Piva 77.90 336 ⇓*i*P **P** 02 22 33.5 +0.5
UPM Unac-Piva 77.90 336 *e*P **P** 02 22 32.5 -0.5
TAOE Nuku Hiva Isla 77.94 126 IAMs_20 IAMs_20 02 49 32.3
comp=Z,14µm,20.0s
TAOE Nuku Hiva Isla 77.94 126 *e*S S 02 32 15.3 -11
comp=Z,2µm,26.8s
TAOE Nuku Hiva Isla 77.94 126 *e*LQ LQ 02 42 42.1
comp=Z,19µm,35.6s
TAOE *e*LR LR 02 46 23.8
comp=Z,32µm,29.7s
IVA Berane 77.98 335 ⇓*i*P **P** 02 22 34.4 +1.1
NEVS Nevesinje 77.99 337 *e*P **P** 02 22 34.5 +1.1
GAZ Gaziantep 78.03 321 P **P** 02 22 32.9 -0.7
KOME Kolasin 78.09 336 ⇓*i*P **P** 02 22 34.7 +0.7
PRMA PARMA 78.11 343 P **P** 02 22 33.3 -0.6
RDO Rodhopi 78.15 331 P **P** 02 22 33.3 -0.8
RDO IAmb IAmb 02 22 38.5
comp=Z,342nm,1.7s
RDO Rodhopi 78.15 331 P **P** 02 22 32.4 -1.7
PVY Plav 78.23 335 ⇓*i*P **P** 02 22 35.2 +0.4
ALN Alexandroupoli 78.24 330 P **P** 02 22 33.6 -1.0
ALN Alexandroupoli 78.24 330 P **P** 02 22 33.7 -1.0
ALN Alexandroupoli 78.24 330 P **P** 02 22 33.6 -1.0
ALN pmax pmax
comp=Z,241nm,1.6s
BRY Bratogost 78.27 336 ⇓*i*P **P** 02 22 35.1 +0.1
BRY Bratogost 78.27 336 *e*P **P** 02 22 34.4 -0.6
NKME Niksic 78.30 336 ⇓*i*P **P** 02 22 35.5 +0.4
SISI Saibi 78.37 250 P **P** 02 22 35.0 -0.7
comp=Z,170nm,1.6s
BNI Bardonecchia 78.40 345 P **P** 02 22 34.8 -0.9
BNI IAMs_20 IAMs_20 02 59 32.0
comp=Z,14µm,21.0s
BNI Bardonecchia 78.40 345 P **P** 02 22 34.8 -0.9
BNI pmax pmax
comp=Z,204nm,1.6s
BNI MLR MLR
comp=Z,14µm,21.0s
ZCCA Zocca 78.40 342 P **P** 02 22 34.6 -0.9
NVR Nevrokopi 78.42 332 P **P** 02 22 37.3 +1.6
SKO Skopje 78.46 334 *i* P **P** 02 22 36.6 +0.7
SSB Saint Sauveur 78.47 347 P **P** 02 22 35.1 -0.8
SSB Saint Sauveur 78.47 347 IAMs_20 IAMs_20 02 58 59.7
comp=Z,10µm,22.0s
SSB Saint Sauveur 78.47 347 P **P** 02 22 35.1 -0.8
SSB pmax pmax
comp=Z,214nm,1.8s
SSB MLR MLR
comp=Z,10µm,22.0s
STON Ston 78.49 337 ⇓*i*P **P** 02 22 35.0 -1.0
TREB Trebinje 78.49 336 *e*P **P** 02 22 35.0 -1.0
CEME Cevo 78.52 336 ⇓*i*P **P** 02 22 36.6 +0.3
STIP Stip 78.53 333 *i* P **P** 02 22 34.2 -2.1
TLIG Tlapa 78.58 76 IAMs_20 IAMs_20 03 00 56.4
comp=Z,8µm,19.0s
LEM Lembang 78.64 240 LR LR 03 02 53.3
comp=Z,1µm,18.2s,baz=346,slow=40
MSSA Maissana 78.68 343 P **P** 02 22 36.3 -0.9
MSSA IAmb IAmb 02 22 42.7
comp=Z,338nm,1.6s
VLC Villacollemand 78.69 343 P **P** 02 22 37.5 +0.4
HCY Herceg Novi 78.71 336 ⇓*i*P **P** 02 22 37.2 -0.1
HCY Herceg Novi 78.71 336 *e*P **P** 02 22 36.3 -1.0
BUM Brajici-Budva 78.76 336 ⇓*i*P **P** 02 22 37.9 +0.3
PUK Puka 78.77 335 P **P** 02 22 36.8 -0.9
DWPF Disney Wildern 78.78 56 P **P** 02 22 37.3 -0.6
DWPF Disney Wildern 78.78 56 P **P** 02 22 37.2 -0.7
baz=328
DWPF Disney Wildern 78.78 56 P **P** 02 22 36.8 -1.0
baz=328
DWPF S **S** 02 32 37.6 +2.4
baz=328
VAY Valandovo 78.78 333 *i* P **P** 02 22 38.6 +1.0
DRME Dracevica, Mon 78.80 336 ⇓*i*P **P** 02 22 38.7 +1.0
DRME Dracevica, Mon 78.80 336 ⇓*i*P **P** 02 22 37.5 -0.2
KNT Kendrikon 78.84 333 P **P** 02 22 38.6 +0.6
BALB Balikesir 78.87 329 P **P** 02 22 38.0 -0.1
KOKK Kokkinochori, 78.88 332 P **P** 02 22 37.1 -1.1
PHP Peshkopia 78.97 335 P **P** 02 22 38.9 +0.1
ULC Ulcinj 79.00 336 ⇓*i*P **P** 02 22 39.5 +0.6
QIS Mount Isa 79.05 205 P **P** 02 22 39.3 +0.1
OSSC Osservatorio P 79.15 342 P **P** 02 22 38.6 -1.1
OSSC IAmb IAmb 02 22 43.9
comp=Z,392nm,1.6s
GRG Griva 79.17 333 P **P** 02 22 39.9 +0.1
MURB Monte Urbino 79.17 341 P **P** 02 22 39.0 -0.9
MURB IAmb IAmb 02 22 48.3
comp=Z,497nm,1.2s
FDMO Fiordimonte 79.28 340 P **P** 02 22 39.6 -0.8
FDMO IAmb IAmb 02 22 47.4
comp=Z,255nm,1.1s
HORT Hortiatis 79.32 332 P **P** 02 22 39.2 -1.5
OHR Ohrid 79.43 334 *i* P **P** 02 22 41.9 +0.6
TIR Tirane 79.43 335 P **P** 02 22 39.6 -1.6
TIR Tirane 79.43 335 P P 02 22 34.3 -6.9
TIR Tirane 79.43 335 P **P** 02 22 39.6 -1.6
TIR pmax pmax
comp=Z,128nm,1.1s
TIR MLR MLR
comp=Z,21µm,20.0s
SALM Salem 79.44 275 *e*P **P** 02 22 42.2 +0.6
NRCA Norcia 79.48 340 P **P** 02 22 41.0 -0.6
NRCA IAmb IAmb 02 22 49.3
comp=Z,297nm,1.0s
SHME Shamm 79.50 301 *i* P **P** 02 22 41.8 0.0
SNR=11
SHME Shamm 79.50 301 P **P** 02 22 40.7 -1.1
SNR=6.5
SHME P **P** 02 22 40.7 -1.1
SNR=6.5
SHME S **S** 02 32 38.7 -4.2
SHME S **S** 02 32 38.7 -4.2
FNA Florina 79.59 334 P **P** 02 22 41.6 -0.5
FNA Florina 79.59 334 P **P** 02 22 41.3 -0.9
FNA Florina 79.59 334 P **P** 02 22 41.7 -0.5
FNA pmax pmax
comp=Z,35nm,1.3s
RK1H Rockhampton Ha 79.67 195 P **P** 02 22 44.5 +2.0
WB0 Warramunga Arr 79.68 210 P **P** 02 22 42.4 -0.3
ISP Isparta 79.72 326 IAMs_20 IAMs_20 03 03 26.1
comp=Z,11µm,20.0s
CESX Cesi 79.79 341 P **P** 02 22 42.6 -0.6
CESX IAmb IAmb 02 22 47.5
comp=Z,385nm,1.7s
WR0 Warramunga Arr 79.82 210 P **P** 02 22 43.1 -0.3
WRAB Tennant Creek 79.85 210 P **P** 02 22 43.5 -0.1
WRAB Tennant Creek 79.85 210 P **P** 02 22 43.5 -0.1
WRAB pmax pmax
comp=Z,115nm,1.0s
WB2 Warramunga Arr 79.86 210 P **P** 02 22 43.8 +0.2
WRA Warramunga Arr 79.86 210 P **P** 02 22 43.1 -0.5
WRA Warramunga Arr 79.86 210 P **P** 02 22 43.1 -0.5
WRA Warramunga Arr 79.86 210 P **P** 02 22 41.6 -2.0
comp=Z,66nm,1.0s,baz=22,slow=5.3,SNR=74
WRA LR LR 02 55 41.7
comp=Z,3µm,21.8s,baz=10.0,slow=34
comp=Z,66nm,1.0s
KBN Korca 79.89 334 P **P** 02 22 43.0 -0.8

KBN	**Korca**	**79.89 334**		P	**P**	**02 22 43.0**	**-0.8**
KBN	comp=Z,53nm,1.1s			pmax	pmax		
CASP	**Castiglione de**	**79.93 342**		P	**P**	**02 22 43.0**	**-0.9**
SGRT	**San Giovanni R**	**79.98 338**		P	**P**	**02 22 42.2**	**-2.1**
NEST	**Nestorio**	**80.02 334**		P	**P**	**02 22 43.1**	**-1.5**
MDH	**Madha**	**80.05 300**	*i*	P	**P**	**02 22 44.1**	**-0.8**
	SNR=21						
MDH	**Madha**	**80.05 300**		P	**P**	**02 22 43.9**	**-0.9**
	SNR=8.9						
MDH				P	**P**	**02 22 43.9**	**-0.9**
	SNR=8.9						
MDH				S	**S**	**02 32 42.8**	**-5.9**
MDH				S	**S**	**02 32 42.8**	**-5.9**
MASF	**Masafi**	**80.06 300**		P	**P**	**02 22 43.9**	**-1.0**
	SNR=10						
MASF				P	**P**	**02 22 43.9**	**-1.0**
	SNR=10						
MASF				S	**S**	**02 32 43.1**	**-5.8**
MASF				S	**S**	**02 32 43.1**	**-5.8**
MSFE	**Esma-Masafi**	**80.07 300**	*i*	P	**P**	**02 22 44.7**	**-0.3**
	SNR=7.6						
PMOR	**Pomariorio Ree**	**80.07 135**	*e*	P	**P**	**02 22 47.4**	**+2.6**
	comp=Z,223nm,1.2s						
INTR	**Introdacqua**	**80.11 339**		P	**P**	**02 22 44.5**	**-0.5**
UMQ	**Umm Al-Quwin**	**80.17 301**	*i*	P	**P**	**02 22 47.4**	**+2.0**
	SNR=6.7						
UMQ	**Umm Al-Quwin**	**80.17 301**		P	**P**	**02 22 45.5**	**+0.1**
UMQ				P	**P**	**02 22 45.5**	**+0.1**
UMQ				S	**S**	**02 32 47.6**	**-2.4**
UMQ				S	**S**	**02 32 47.6**	**-2.4**
060A	**Indiantown**	**80.19 56**		P	**P**	**02 22 49.4**	**+3.9**
	baz=328						
060A				S	**S**	**02 32 51.4**	**+1.2**
	baz=328						
VLO	**Vlora**	**80.35 335**		P	**P**	**02 22 47.0**	**+0.8**
KPRO	**Kipourio**	**80.38 333**		P	**P**	**02 22 46.4**	**-0.1**
LSK	**Leskovik**	**80.39 334**		P	**P**	**02 22 47.0**	**+0.5**
VAH	**Vaihoa**	**80.39 135**	*e*	P	**P**	**02 22 49.0**	**+2.5**
	comp=Z,188nm,1.1s						
UOSS	**Minazif**	**80.39 300**		P	**P**	**02 22 45.6**	**-1.0**
UOSS	**Minazif**	**80.39 300**	*i*	P	**P**	**02 22 45.7**	**-1.0**
	SNR=14						
UOSS	**Minazif**	**80.39 300**		P	**P**	**02 22 45.3**	**-1.4**
UOSS				P	**P**	**02 22 45.3**	**-1.4**
UOSS				S	**S**	**02 32 47.2**	**-5.2**
UOSS				S	**S**	**02 32 47.2**	**-5.2**
HATD	**Hatta, Dubai**	**80.53 300**	*i*	P	**P**	**02 22 47.3**	**-0.1**
	SNR=18						
HATD	**Hatta, Dubai**	**80.53 300**		P	**P**	**02 22 46.2**	**-1.2**
	SNR=14						
HATD				P	**P**	**02 22 46.2**	**-1.2**
	SNR=14						
HATD				S	**S**	**02 32 49.4**	**-4.4**
HATD				S	**S**	**02 32 49.4**	**-4.4**
WSAR	**Wadi Sarin**	**80.60 297**		LR	LR	03 00 18.6	
	comp=Z,10µm,18.3s,baz=78,slow=37						
WSAR	**Wadi Sarin**	**80.60 297**		P	**P**	**02 22 47.3**	**-0.6**
	SNR=13						
WSAR				S	**S**	**02 32 52.1**	**-2.5**
BIDO	**Bidbid**	**80.62 298**		P	**P**	**02 22 48.0**	**+0.1**
	SNR=14						
BIDO				P	**P**	**02 22 48.0**	**+0.1**
	SNR=14						
NAZ	**Nazwa, Dubai**	**80.62 301**	*i*	P	**P**	**02 22 48.0**	**+0.1**
	SNR=14						
NAZ	**Nazwa, Dubai**	**80.62 301**		P	**P**	**02 22 47.1**	**-0.8**
	SNR=18						
NAZ				P	**P**	**02 22 47.1**	**-0.8**
	SNR=18						
NAZ				S	**S**	**02 32 49.5**	**-5.3**
NAZ				S	**S**	**02 32 49.5**	**-5.3**
ASHO	**Ashiyiah**	**80.68 300**	*i*	P	**P**	**02 22 49.0**	**+0.7**
	SNR=19						
ASHO	**Ashiyiah**	**80.68 300**		P	**P**	**02 22 47.5**	**-0.8**
	SNR=19						
ASHO				P	**P**	**02 22 47.5**	**-0.8**
	SNR=19						
ASHO				P	**P**	**02 22 47.9**	**-0.4**
ASHO				P	**P**	**02 22 47.9**	**-0.4**
MALK	**Mahakanadarawa**	**80.75 271**		P	**P**	**02 22 48.9**	**+0.2**
JAN	**Janina**	**80.79 334**		P	**P**	**02 22 50.1**	**+1.5**
FAQ	**Al Faqa, Dubai**	**80.86 301**	*i*	P	**P**	**02 22 50.1**	**+0.9**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**80.86 301**		P	**P**	**02 22 48.2**	**-0.9**
	SNR=12						
FAQ				P	**P**	**02 22 48.2**	**-0.9**
	SNR=12						
SOHO	**SOHO**	**80.91 299**	*i*	P	**P**	**02 22 50.0**	**+0.5**
	SNR=15						
SOHO	**SOHO**	**80.91 299**		P	**P**	**02 22 47.9**	**-1.5**
SOHO				S	**S**	**02 32 51.9**	**-5.8**
061Z	**Ochoppi**	**80.92 57**		IAMs_20	IAMs_20	02 58 18.5	
	comp=Z,16µm,22.0s						
061Z	**Ochoppi**	**80.92 57**		P	**P**	**02 22 50.6**	**+1.2**
	baz=328						
PAOL	**Paolisi**	**80.92 339**		P	**P**	**02 22 47.9**	**-1.4**
WBK	**Wadi Bani Khal**	**80.95 297**		P	**P**	**02 22 49.6**	**-0.2**
	SNR=21						
WBK				P	**P**	**02 22 49.6**	**-0.2**
	SNR=21						
CMIG	**Matias Romero**	**80.99 73**		LR	LR	02 56 07.5	
	comp=Z,4µm,21.6s,baz=324,slow=34						
KEK	**Kerkira**	**81.00 334**		P	**P**	**02 22 47.0**	**-2.7**
IGT	**Igoumenitsa**	**81.03 334**		P	**P**	**02 22 49.6**	**-0.3**
SMDO	**Samad**	**81.05 298**		P	**P**	**02 22 50.0**	**-0.3**
	SNR=15						
SMDO				P	**P**	**02 22 50.0**	**-0.3**
	SNR=15						
ASUD	**Al Ashush, Dub**	**81.09 301**	*i*	P	**P**	**02 22 52.0**	**+1.6**
	SNR=15						
ASUD	**Al Ashush, Dub**	**81.09 301**		P	**P**	**02 22 49.6**	**-0.8**
	SNR=15						
ASUD				P	**P**	**02 22 49.6**	**-0.8**
	SNR=15						
ASUD				S	**S**	**02 32 53.6**	**-6.1**
ASUD				S	**S**	**02 32 53.6**	**-6.1**
JLN	**Jalan Bani Buh**	**81.11 296**		P	**P**	**02 22 50.4**	**-0.1**
	SNR=22						
JLN				P	**P**	**02 22 50.4**	**-0.1**
	SNR=22						
JLN				S	**S**	**02 32 57.5**	**-2.5**
JLN				S	**S**	**02 32 57.5**	**-2.5**
AJN	**Ajban**	**81.31 301**	*i*	P	**P**	**02 22 51.6**	**+0.1**
	SNR=18						
AJN	**Ajban**	**81.31 301**		P	**P**	**02 22 50.3**	**-1.3**
	SNR=15						
AJN				P	**P**	**02 22 50.3**	**-1.3**
	SNR=15						
AJN				S	**S**	**02 32 54.2**	**-7.8**
AJN				S	**S**	**02 32 54.2**	**-7.8**
ALNE	**Al Ain**	**81.36 300**	*i*	P	**P**	**02 22 51.7**	**-0.2**
	SNR=30						
ALNE	**Al Ain**	**81.36 300**		P	**P**	**02 22 50.5**	**-1.4**
	SNR=41						
ALNE				P	**P**	**02 22 50.5**	**-1.4**
	SNR=41						
ALNE				S	**S**	**02 32 55.0**	**-7.5**
ALNE				S	**S**	**02 32 55.0**	**-7.5**
CSS	**Mathiatis**	**81.39 323**		P	**P**	**02 22 51.2**	**-0.7**
CSS				IAMs_20	IAMs_20	03 04 38.9	
	comp=Z,11µm,19.0s						
EJON	**La Jonquera**	**81.46 348**		P	**P**	**02 22 52.5**	**+0.3**
EIDS	**Eidsvold**	**81.54 194**		P	**P**	**02 22 53.5**	**+1.0**
EIDS				IAMs_20	IAMs_20	02 53 26.7	
	comp=Z,14µm,22.0s						
EIDS	**Eidsvold**	**81.54 194**		P	**P**	**02 22 52.7**	**+0.2**
ARQ	**Araqi**	**81.58 299**		P	**P**	**02 22 52.6**	**-0.5**
	SNR=30						
ARQ				P	**P**	**02 22 52.6**	**-0.5**
	SNR=30						
ARQ				S	**S**	**02 32 59.3**	**-5.5**
ARQ				S	**S**	**02 32 59.3**	**-5.5**
JMDO	**Jabal Madar**	**81.59 297**		P	**P**	**02 22 52.4**	**-0.7**
	SNR=27						
JMDO				P	**P**	**02 22 52.4**	**-0.7**
	SNR=27						
JMDO				S	**S**	**02 33 01.6**	**-3.4**
JMDO				S	**S**	**02 33 01.6**	**-3.4**
RAR	**Rarotonga**	**81.63 148**		IAMs_20	IAMs_20	02 54 16.7	
	comp=Z,11µm,19.0s						
RAR	**Rarotonga**	**81.63 148**		LR	LR	02 54 46.8	
	comp=Z,8µm,18.8s,baz=337,slow=32						
CUC	**Castrocucco**	**81.65 338**		P	**P**	**02 22 52.2**	**-1.0**
BSY	**Bisya**	**81.74 298**		P	**P**	**02 22 54.0**	**+0.1**
	SNR=47						
BSY				P	**P**	**02 22 54.0**	**+0.1**
	SNR=47						
BSY				S	**S**	**02 33 02.4**	**-4.0**
BSY				S	**S**	**02 33 02.4**	**-4.0**
PPT	**Papeete**	**81.74 138**		P	**P**	**02 22 53.8**	**+0.1**
	comp=Z,53nm,1.0s,baz=250,slow=2.8,SNR=2.4						
PPT				LR	LR	02 50 57.5	
	comp=Z,20µm,22.0s,baz=318,slow=30						
	comp=Z,53nm,1.0s						
PPT2	**Papeete2**	**81.76 138**	*e*	P	**P**	**02 22 58.2**	**+4.3**
	comp=Z,167nm,1.2s						
PPT2	**Papeete2**	**81.76 138**	*e*	S	**S**	**02 33 01.3**	**-5.2**
	comp=Z,2µm,26.5s						
PPT2				*e*SS	SS	02 38 13.0	-12
	comp=Z,2µm,25.0s						
PPT2				*e*LQ	LQ	02 44 41.6	
	comp=Z,16µm,26.0s						
PPT2				*e*LR	LR	02 48 00.3	
	comp=Z,58µm,24.0s						
PPT2				*e*LR	LR	02 48 11.2	
	comp=Z,45µm,31.2s						
PPTF	**Pamatai, Papee**	**81.76 138**		P	**P**	**02 22 56.5**	**+2.6**
EVGI	**Lefkada island**	**81.81 333**		P	**P**	**02 22 54.0**	**0.0**
TIAR	**Tiarei**	**81.82 138**	*e*	P	**P**	**02 22 55.6**	**+1.5**
	comp=Z,0.2nm,0.8s						
PAE	**Paea**	**81.83 138**	*e*	P	**P**	**02 22 56.6**	**+2.5**
	comp=Z,77nm,1.4s						
TEIG	**Tepich**	**81.94 66**		P	**P**	**02 22 53.9**	**-1.0**
TEIG				IAmb	IAmb	02 22 58.9	
	comp=Z,594nm,1.8s						
TEIG	**Tepich**	**81.94 66**		LR	LR	03 04 39.4	
	comp=Z,40µm,18.2s,baz=134,slow=40						
TEIG	**Tepich**	**81.94 66**	*e*	P	**P**	**02 22 53.3**	**-1.6**
FSK	**Fiskardo**	**81.99 333**		P	**P**	**02 22 54.5**	**-0.4**
JRN	**Qarnain Island**	**82.03 303**		P	**P**	**02 22 53.4**	**-2.0**
	SNR=21						
JRN				P	**P**	**02 22 53.4**	**-2.0**
	SNR=21						
JRN				S	**S**	**02 33 02.8**	**-6.5**
JRN				S	**S**	**02 33 02.8**	**-6.5**
RLS	**Riolos of Patr**	**82.14 333**		P	**P**	**02 22 55.4**	**-0.3**
SHMA	**Al-Shehemyia**	**82.14 305**		P	**P**	**02 22 54.7**	**-1.2**
	SNR=14						
TIP	**Timpagrande**	**82.22 337**	⇑	P	**P**	**02 22 55.5**	**-0.8**
TIP	**Timpagrande**	**82.22 337**		P	**P**	**02 22 55.1**	**-1.2**
SAKB	**Bahrain**	**82.24 305**		P	**P**	**02 22 55.3**	**-1.1**
VLS	**Valsamata**	**82.25 333**		P	**P**	**02 22 56.1**	**-0.3**
BBSR	**BB Station**	**82.27 42**		P	**P**	**02 22 55.8**	**-0.7**
BBSR				IAmb	IAmb	02 23 00.5	
	comp=Z,348nm,1.4s						
BBSR	**BB Station**	**82.27 42**		IAMs_20	IAMs_20	03 05 46.9	
	comp=Z,10µm,18.0s						
BBSR	**BB Station**	**82.27 42**		P	**P**	**02 22 56.2**	**-0.3**
	baz=334						
MMAI	**Mount Meron Ar**	**82.40 320**		P	**P**	**02 22 57.0**	**-0.3**
	comp=Z,27nm,0.9s,baz=33,slow=6.3,SNR=12						
MMAI				LR	LR	03 05 17.2	
	comp=Z,8µm,18.7s,baz=4.0,slow=40						
	comp=Z,27nm,0.9s						
SOR	**Soroa**	**82.48 61**		P	**P**	**02 22 57.2**	**-0.6**
SOR				IAMs_20	IAMs_20	03 02 33.1	
	comp=Z,8µm,20.0s						
SOR	**Soroa**	**82.48 61**		P	**P**	**02 22 57.2**	**-0.6**
SOR				pmax	pmax		
	comp=Z,147nm,1.3s						
SOR				MLR	MLR		
	comp=Z,8µm,20.0s						
MZWR	**Madinat Zayed**	**82.53 301**		P	**P**	**02 22 56.5**	**-1.5**
MZWR				P	**P**	**02 22 56.5**	**-1.5**
ASF	**Jabal al Asfar**	**82.60 319**		LR	LR	03 05 55.9	
	comp=Z,15µm,18.2s,baz=60,slow=40						
MEH	**Mehetia**	**82.60 137**	*e*	P	**P**	**02 23 02.0**	**+3.8**
	comp=Z,74nm,1.3s						
TRD	**Trivandrum**	**82.69 274**	*e*	P	**P**	**02 23 00.6**	**+1.7**
TRD				IAmb	IAmb	02 23 07.9	
	comp=Z,32nm,0.4s						
UMZA	**Um Al Zommool**	**82.78 300**		P	**P**	**02 22 57.5**	**-1.8**
UMZA				P	**P**	**02 22 57.5**	**-1.8**
ECAL	**Calabor**	**82.80 355**		P	**P**	**02 22 57.6**	**-1.7**
MHTO	**MHTO**	**82.81 297**		P	**P**	**02 22 58.6**	**-1.0**
	SNR=37						
MHTO				P	**P**	**02 22 58.6**	**-1.0**
	SNR=37						
MHTO				S	**S**	**02 33 13.5**	**-4.0**
MHTO				S	**S**	**02 33 13.5**	**-4.0**
GHWR	**Ruwais**	**82.84 302**		P	**P**	**02 22 58.3**	**-1.3**
GHWR				P	**P**	**02 22 58.3**	**-1.3**
PGAV	**Gavieira, Arco**	**82.85 356**	*e*	P	**P**	**02 22 59.2**	**-0.3**
	comp=Z,130nm,1.9s						
PGAV	**Gavieira, Arco**	**82.85 356**	*e*	S	**S**	**02 33 23.8**	**+6.3**
PGAV				*e*SS	**SS**	**02 38 44.2**	**+5.6**
PGAV	**Gavieira, Arco**	**82.85 356**	*e*	LR	LR	02 50 32.1	
	comp=Z,7µm,18.0s						
KARP	**Karpathos**	**82.86 327**		IAMs_20	IAMs_20	03 03 55.6	
	comp=Z,13µm,20.0s						
PBRG	**Braganca**	**82.94 355**	*e*	P	**P**	**02 23 00.1**	**+0.2**
	comp=Z,110nm,1.8s						
TRNA	**Turayna**	**82.98 304**		P	**P**	**02 22 59.1**	**-1.2**
	SNR=25						
CAMR	**Camarioca**	**83.06 59**		IAMs_20	IAMs_20	03 04 40.4	
	comp=Z,18µm,18.0s						
CCIG	**Comitan**	**83.14 71**		IAMs_20	IAMs_20	03 02 10.8	
	comp=Z,7µm,20.0s						
SMRA	**Abu-Samra**	**83.15 304**		P	**P**	**02 23 00.0**	**-1.2**
	SNR=46						
CEL	**Celeste**	**83.30 337**		P	**P**	**02 23 01.0**	**-0.8**
CEL				IAMs_20	IAMs_20	03 07 15.2	
	comp=Z,13µm,19.0s						
SLWR	**Sila**	**83.32 303**		P	**P**	**02 23 00.9**	**-1.2**
SLWR				P	**P**	**02 23 00.9**	**-1.2**
VSL	**Villasalto**	**83.39 342**		P	**P**	**02 23 01.5**	**-0.8**
VSL				IAmb	IAmb	02 23 06.8	
	comp=Z,296nm,1.6s						
VSL				IAMs_20	IAMs_20	03 02 47.4	
	comp=Z,9µm,21.0s						
POLO	**Lamas de Olo**	**83.42 356**	*e*	P	**P**	**02 23 02.0**	**-0.5**
	comp=Z,72nm,1.8s						
AS01	**Alice Springs**	**83.50 210**		P	**P**	**02 23 03.6**	**+0.8**
AS31	**Alice Springs**	**83.51 210**		P	**P**	**02 23 02.9**	**0.0**
PVRL	**Vila Real**	**83.51 355**	*e*	P	**P**	**02 23 06.1**	**+3.2**
	comp=Z,219nm,1.7s						
ASAR	**Alice Springs**	**83.51 210**		P	**P**	**02 23 03.1**	**+0.2**
ASAR	**Alice Springs**	**83.51 210**		P	**P**	**02 23 01.8**	**-1.1**
	comp=Z,64nm,0.9s,baz=18,slow=4.6,SNR=120						
ASAR				PKPPKP	**P'P'df**	**02 49 25.4**	**+4.2**
	comp=Z,0.9nm,1.0s,baz=193,slow=3.2,SNR=5.1						
ASAR				LR	LR	02 56 58.3	
	comp=Z,5µm,21.7s,baz=22,slow=33						
	comp=Z,64nm,0.9s						
MVO	**Moncorvo**	**83.59 355**	*e*	P	**P**	**02 23 03.2**	**-0.1**
	comp=Z,185nm,1.7s						
MVO	**Moncorvo**	**83.59 355**	*e*	S	**S**	**02 33 31.9**	**+6.9**
MVO				*e*SS	**SS**	**02 38 58.7**	**+9.1**
MVO	**Moncorvo**	**83.59 355**	*e*	LR	LR	02 51 16.2	
	comp=Z,7µm,20.0s						
IDI	**Anoyia**	**83.78 329**		LR	LR	03 05 07.4	
	comp=Z,7µm,19.0s,baz=25,slow=39						
PETF	**Flores**	**83.84 69**		IAMs_20	IAMs_20	03 06 02.9	
	comp=Z,7µm,21.0s						
QLP	**Quilpie**	**83.86 200**		P	**P**	**02 23 05.1**	**+0.6**
GHAJ	**Ghor Haditha**	**83.88 319**		P	**P**	**02 23 04.5**	**-0.4**
DQM	**DQM**	**83.92 296**		P	**P**	**02 23 04.2**	**-1.0**
	SNR=6.7						
DQM				P	**P**	**02 23 04.2**	**-1.0**
	SNR=6.7						
PVIS	**Viseu**	**84.08 356**	*e*	P	**P**	**02 23 06.9**	**+1.1**
ETOS	**Mallorca**	**84.11 347**		P	**P**	**02 23 06.9**	**+0.9**
UCM	**Universidad Co**	**84.20 352**		P	**P**	**02 23 07.0**	**+0.6**
VAE	**Valguarnera**	**84.37 338**		LR	LR	03 05 27.7	
	comp=Z,15µm,19.4s,baz=26,slow=39						
MTE	**Manteigas**	**84.38 355**	*e*	P	**P**	**02 23 09.3**	**+1.9**
	comp=Z,253nm,1.5s						
MTE	**Manteigas**	**84.38 355**	*e*	S	**S**	**02 33 36.6**	**+3.7**
MTE				*e*SS	**SS**	**02 39 07.6**	**+6.4**
MTE	**Manteigas**	**84.38 355**	*e*	LR	LR	02 51 09.9	
	comp=Z,6µm,20.0s						
MTE	**Manteigas**	**84.38 355**		P	**P**	**02 23 06.7**	**-0.7**
MTE				IAmb	IAmb	02 23 11.8	
	comp=Z,221nm,1.4s						
MTE				IAMs_20	IAMs_20	03 01 27.7	
	comp=Z,8µm,20.0s						
CLTB	**Caltabellotta**	**84.52 339**		P	**P**	**02 23 07.3**	**-0.9**
CLTB				IAmb	IAmb	02 23 47.5	
	comp=Z,252nm,1.4s						
COI	**Coimbra**	**84.61 356**	*e*	P	**P**	**02 23 11.1**	**+2.7**
COI	**Coimbra**	**84.61 356**		P	**P**	**02 23 07.6**	**-0.8**
COI				IAmb	IAmb	02 23 14.5	
	comp=Z,279nm,1.3s						
COI				IAMs_20	IAMs_20	03 01 10.7	
	comp=Z,10µm,18.0s						
COI	**Coimbra**	**84.61 356**		P	**P**	**02 23 07.6**	**-0.8**
COI				pmax	pmax		
	comp=Z,279nm,1.3s						
COI				MLR	MLR		
	comp=Z,10µm,18.0s						
ECHE	**Chera**	**84.71 350**		P	**P**	**02 23 08.6**	**-0.4**
PCAS	**Casmilo, Conde**	**84.77 356**	*e*	P	**P**	**02 23 10.7**	**+1.5**
	comp=Z,379nm,1.4s						
ESBB	**Sonseca Array**	**84.88 352**		P	**P**	**02 23 09.0**	**-0.9**
ESBB				IAmb	IAmb	02 23 16.9	
	comp=Z,175nm,1.3s						
ESDC	**Sonseca Array**	**84.88 352**		P	**P**	**02 23 09.5**	**-0.4**
ESDC				IAmb	IAmb	02 23 16.9	
	comp=Z,175nm,1.3s						
ESDC	**Sonseca Array**	**84.88 352**		P	**P**	**02 23 08.9**	**-1.0**
	comp=Z,35nm,1.2s,baz=360,slow=4.3,SNR=75						
ESDC				PKPPKP	**P'P'df**	**02 49 25.6**	**-5.0**
	comp=Z,3.5nm,1.2s,baz=218,slow=0.9,SNR=6.6						
	comp=Z,35nm,1.2s						
PCBR	**Castelo Branco**	**84.93 355**	*e*	P	**P**	**02 23 10.3**	**+0.2**
	comp=Z,215nm,1.5s						
EIBI	**Ibiza**	**85.02 348**		P	**P**	**02 23 10.1**	**-0.4**
PAB	**San Pablo**	**85.04 353**		P	**P**	**02 23 09.3**	**-1.4**
PAB				IAmb	IAmb	02 23 15.1	
	comp=Z,179nm,1.6s						
PAB	**San Pablo**	**85.04 353**		IAMs_20	IAMs_20	03 08 28.3	
	comp=Z,11µm,20.0s						
PAB	**San Pablo**	**85.04 353**		P	**P**	**02 23 09.3**	**-1.4**
PAB				pmax	pmax		
	comp=Z,179nm,1.6s						
PGRA	**Graciosa**	**85.10 11**	*e*	P	P	02 23 17.8	+6.9
	comp=Z,683nm,1.7s						
PSBE	**So Bento**	**85.31 356**	*e*	P	**P**	**02 23 13.9**	**+1.9**
	comp=Z,283nm,1.6s						
PMRV	**Marv??o**	**85.34 355**	*e*	P	**P**	**02 23 12.0**	**-0.1**
	comp=Z,155nm,1.8s						
PMRV	**Marv??o**	**85.34 355**	*e*	S	**S**	**02 33 39.3**	**-3.1**
PMRV				*e*SS	SS	02 39 29.1	+14
PMRV	**Marv??o**	**85.34 355**	*e*	LR	LR	02 51 33.0	
	comp=Z,6µm,20.0s						
ROSA	**Rosais**	**85.38 11**	*e*	P	**P**	**02 23 16.5**	**+4.2**
	comp=Z,624nm,1.8s						
RAO	**Raoul Island**	**85.44 166**		IAMs_20	IAMs_20	02 55 52.0	
	comp=Z,13µm,21.0s						
RAO	**Raoul Island**	**85.44 166**		LR	LR	02 56 23.6	
	comp=Z,11µm,20.1s,baz=24,slow=32						
PAGU	**Agualva, Azore**	**85.44 11**	*e*	P	**P**	**02 23 14.3**	**+1.6**
	comp=Z,356nm,1.4s						
CALA	**Caldeira**	**85.46 12**	*e*	P	**P**	**02 23 15.8**	**+3.0**
	comp=Z,281nm,1.0s						
PICO	**Pico**	**85.57 12**	*e*	P	**P**	**02 23 18.0**	**+4.6**
	comp=Z,373nm,1.6s						
EIL	**Elat**	**85.58 319**		LR	LR	03 07 42.9	
	comp=Z,11µm,18.7s,baz=39,slow=40						
INKA	**Innaminka**	**85.70 203**		P	**P**	**02 23 15.1**	**+1.4**
ETOB	**Tobarra**	**85.70 350**		P	**P**	**02 23 15.4**	**+1.4**
PMTG	**Montargil**	**85.73 356**	*e*	P	**P**	**02 23 14.4**	**+0.3**
	comp=Z,173nm,1.5s						
PMAFR	**Mafra**	**85.89 357**	*e*	P	**P**	**02 23 15.5**	**+0.6**
	comp=Z,284nm,1.6s						
PMAFR	**Mafra**	**85.89 357**		P	**P**	**02 23 13.4**	**-1.5**
PESTR	**Estremoz**	**85.91 355**	*e*	P	**P**	**02 23 15.0**	**0.0**
	comp=Z,155nm,1.6s						
PESTR	**Estremoz**	**85.91 355**		P	**P**	**02 23 13.8**	**-1.2**
PESTR	**Estremoz**	**85.91 355**		P	**P**	**02 23 14.0**	**-1.0**
WDD	**Wied Dalam**	**85.92 337**		IAMs_20	IAMs_20	03 08 48.7	
	comp=Z,6µm,18.0s						
AULRC	**Lightning Ridg**	**85.98 196**		P	**P**	**02 23 16.5**	**+1.4**
EBAD	**Badajoz**	**85.99 355**		P	**P**	**02 23 14.0**	**-1.4**
PACT	**Alcochete**	**86.06 356**	*e*	P	**P**	**02 23 18.7**	**+3.0**
	comp=Z,460nm,1.6s						
ESQI	**Esquipulas**	**86.07 70**		IAMs_20	IAMs_20	03 08 37.1	
	comp=Z,8µm,20.0s						
LIS	**Lisbon**	**86.12 356**	*e*	P	**P**	**02 23 15.4**	**-0.6**
LIS			*e*	SKSac	**SKSac**	**02 33 41.8**	**+0.1**
LIS			*e*	SS	**SS**	**02 39 31.5**	**+4.8**
LIS				IAMs_20	IAMs_20	02 59 23.8	
	comp=Z,13µm,19.5s						
LIS	**Lisbon**	**86.12 356**	*e*	P	**P**	**02 23 15.3**	**-0.6**
LIS			*e*			02 33 41.7	
LIS			*e*	SS	SS	02 39 31.4	+4.7
MTO3	**Montecristo**	**86.19 70**		IAMs_20	IAMs_20	03 07 19.4	
	comp=Z,9µm,20.0s						
EVO	**Evora**	**86.26 356**	*e*	P	**P**	**02 23 17.6**	**+0.9**
	comp=Z,157nm,1.6s						
EVO	**Evora**	**86.26 356**		P	**P**	**02 23 15.5**	**-1.2**
PSA00	**Pilbara Seismi**	**86.28 223**		P	**P**	**02 23 16.5**	**-0.3**
PSA00	**Pilbara Seismi**	**86.28 223**		P	**P**	**02 23 17.1**	**+0.3**
PSA00				IAmb	IAmb	02 23 18.8	
	comp=Z,80nm,1.0s						
PSA00	**Pilbara Seismi**	**86.28 223**		P	**P**	**02 23 16.9**	**+0.1**
EADA	**Adamuz**	**86.42 353**		P	**P**	**02 23 16.7**	**-0.9**
ARMA	**Armidale**	**86.44 193**		P	**P**	**02 23 17.8**	**+0.3**
ARMA				IAMs_20	IAMs_20	02 58 41.6	
	comp=Z,14µm,20.0s						
ARMA	**Armidale**	**86.44 193**		P	**P**	**02 23 19.3**	**+1.8**
EMUR	**La Murta**	**86.47 350**		P	**P**	**02 23 17.0**	**-0.8**
WRKA	**Warakurna**	**86.49 214**		P	**P**	**02 23 18.8**	**+1.0**
SHAO	**Shalim**	**86.49 297**	*i*	P	**P**	**02 23 20.0**	**+1.9**
	SNR=14						
SHAO	**Shalim**	**86.49 297**		P	**P**	**02 23 17.4**	**-0.7**
	SNR=7.1						
SHAO				P	**P**	**02 23 17.4**	**-0.7**
	SNR=7.1						
PBAR	**Barrancos**	**86.57 355**	*e*	P	**P**	**02 23 16.9**	**-1.3**
	comp=

SNR=6.3
DMTO DMTO 87.09 297 P P 02 23 19.6 -1.5
SNR=8.4
DMTO P P 02 23 19.6 -1.5
SNR=8.4
PCVE Castro Verde 87.16 356 eP P 02 23 21.0 -0.1
comp=Z,96nm,1.7s
AUPHS Peel High Scho 87.21 193 P P 02 23 22.7 +1.6
PTEO Sao Teotonio 87.27 356 eP P 02 23 24.6 +3.0
comp=Z,84nm,1.8s
PVAQ Vaqueiros 87.37 355 eS SKSac 02 33 53.9 +4.5
PVAQ eSS SS 02 39 56.0 +11
MORF Marmelete 87.51 356 eP P 02 23 22.6 -0.3
comp=Z,72nm,1.6s
MORF Marmelete 87.51 356 eP P 02 23 22.3 -0.6
MORF eSKSac SKSac 02 33 50.4 +0.1
MORF eSS SS 02 39 51.7 +4.5
MORF IAMs_20 IAMs_20 03 00 38.9
comp=Z,14µm,23.0s
MORF Marmelete 87.51 356 eP P 02 23 22.2 -0.6
MORF e 02 33 50.4
MORF eSS SS 02 39 51.7 +4.5
WHFO Wadi Hawf 87.51 298 P P 02 23 21.3 -1.8
SNR=20
WHFO P P 02 23 21.3 -1.8
SNR=20
PBDV Barranco-do-Ve 87.54 355 eP P 02 23 24.3 +1.3
comp=Z,80nm,2.9s
TGUH Tegucigalpa,Un 87.59 69 IAMs_20 IAMs_20 03 03 55.3
comp=Z,7µm,22.0s
TGUH Tegucigalpa,Un 87.59 69 eP P 02 23 21.5 -2.1
ARNO Arenosillo 87.62 354 P P 02 23 22.0 -1.3
RBK Rabkut 87.65 298 P P 02 23 23.9 +0.2
SNR=14
RBK P P 02 23 23.9 +0.2
SNR=14
PFVI Vila Bisbo 87.69 356 eP P 02 23 24.4 +0.7
EMAL Malaga-Limoner 87.81 353 P P 02 23 25.1 +0.9
SFS San Fernando 88.22 354 P P 02 23 25.7 -0.5
ABTO Aybut 88.23 298 P P 02 23 25.1 -1.5
SNR=14
ABTO P P 02 23 25.1 -1.5
SNR=14
ABTO S SKSac 02 33 52.8 -2.5
ABTO S SKSac 02 33 52.8 -2.5
CMSA Cobar Meteorol 88.42 198 P P 02 23 28.1 +1.2
AUDCS Dubbo College 88.63 195 P P 02 23 29.5 +1.6
CEU Ceuta 88.74 353 P P 02 23 26.6 -2.1
GTBY Guantanamo Bay 88.74 56 eP P 02 23 26.4 -2.5
CRIN San Cristobal 88.83 69 eP P 02 23 26.4 -3.1
LCRK Leigh Creek 88.87 204 P P 02 23 30.0 +1.0
MTDJ Mount Denham 89.04 59 P P 02 23 29.5 -0.9
MTDJ Mount Denham 89.04 59 eP P 02 23 29.3 -1.1
CHAS Isla Isabel II 89.21 351 P P 02 23 29.7 -1.2
MATN Matagalpa 89.24 68 P P 02 23 30.3 -1.1
MATN IAmb IAmb 02 23 35.9
comp=Z,200nm,1.8s
PVLZ Peæn de 89.38 352 P P 02 23 30.3 -1.4
STKA Stephens Creek 89.52 201 P P 02 23 31.8 -0.2
STKA Stephens Creek 89.52 201 P P 02 23 32.0 0.0
STKA Stephens Creek 89.52 201 P P 02 23 30.1 -1.9
comp=Z,51nm,0.9s,baz=353,slow=6.9,SNR=34
STKA LR LR 03 03 11.7
comp=Z,6µm,18.9s,baz=13,slow=35
comp=Z,51nm,0.9s
MULG Mulgathing 89.75 207 P P 02 23 34.0 +0.9
BOAB BOACO BROADBAN 89.78 68 P P 02 23 33.3 -0.5
BOAB BOACO BROADBAN 89.78 68 P P 02 23 33.7 -0.1
ACON Acoyapa 90.44 68 P P 02 23 36.5 -0.4
ACON IAmb IAmb 02 23 40.4
comp=Z,393nm,1.8s
ACON Acoyapa 90.44 68 eP P 02 23 36.4 -0.6
YNG Young 90.70 195 P P 02 23 38.8 +1.3
ESPN Las Esperanzas 90.71 67 P P 02 23 37.4 -0.8
ESPN IAmb IAmb 02 23 42.1
comp=Z,204nm,1.7s
RTC Rabat Centre 90.73 354 P P 02 23 36.0 -2.0
IFR Ifrane 91.09 353 P P 02 23 39.4 -0.5
PRVC Isla de Provid 91.24 64 eP P 02 23 39.1 -1.6
SDDR Presa de Saban 91.33 53 P P 02 23 39.6 -1.4
SDDR IAmb IAmb 02 23 45.6
comp=Z,217nm,1.4s
SDDR Presa de Saban 91.33 53 eP P 02 23 40.0 -1.0
MEEK Meekatharra 91.33 221 P P 02 23 40.8 +0.1
AVE Averroes 91.44 355 P P 02 23 41.0 -0.4
AVE IAmb IAmb 02 23 45.3
comp=Z,133nm,1.2s
AVE IAMs_20 IAMs_20 03 12 32.8
comp=Z,6µm,20.0s
AVE Averroes 91.44 355 P P 02 23 40.2 -1.1
AUHHS Ulladulla High 91.46 193 P P 02 23 42.6 +1.7
WHYH Whyalla 91.50 204 P P 02 23 42.7 +1.5
HTT Hallett 91.58 203 P P 02 23 43.5 +1.8
CAN Canberra 91.62 194 IAMs_20 IAMs_20 03 02 07.6
comp=Z,12µm,20.0s
ORTG Ortega, Santa 91.63 69 P P 02 23 41.1 -1.4
BBOO Buckleboo 91.65 205 P P 02 23 42.5 +0.6
BBOO Buckleboo 91.65 205 P P 02 23 42.4 +0.5
MDT Midelt 91.75 352 LR LR 03 03 01.2
comp=Z,4µm,21.8s,baz=17,slow=34
PMPST Porto Santo, M 91.80 2 eP P 02 23 45.6 +2.6
PMPS Porto Santo 91.82 2 eP P 02 23 43.1 0.0
comp=Z,191nm,1.8s
FORT Forrest 91.92 212 P P 02 23 43.6 +0.4
FORT IAmb IAmb 02 23 45.6
comp=Z,88nm,0.9s
FORT Forrest 91.92 212 P P 02 23 44.0 +0.8
JTS Las Juntas de 91.96 69 IAMs_20 IAMs_20 03 11 33.2
comp=Z,6µm,19.0s
JTS Las Juntas de 91.96 69 LR LR 03 09 58.2
comp=Z,3µm,18.1s,baz=322,slow=39
JTS Las Juntas de 91.96 69 eP P 02 23 37.1 -6.9
PMOZ Porto Moniz, M 92.03 3 eP P 02 23 47.2 +3.0
comp=Z,112nm,1.4s
PMOZ Porto Moniz, M 92.03 3 eS SKSac 02 34 21.4 +4.3
PMOZ Porto Moniz, M 92.03 3 eLR LR 02 54 09.9
comp=Z,4µm,20.0s
PMAR Madeira 92.14 3 eP P 02 23 47.5 +2.7
comp=Z,192nm,1.8s
FUL Funchal 92.22 3 eP P 02 23 46.2 +1.3
comp=Z,110nm,1.5s
JACO JACO, Garabito 92.64 69 IAMs_20 IAMs_20 03 12 03.3
comp=Z,7µm,21.0s
RIMA Rio Macho 92.98 68 IAMs_20 IAMs_20 03 09 13.0
comp=Z,6µm,20.0s
TOZ Tahuroa Road 93.15 173 P P 02 23 49.6 +0.9
TOZ IAMs_20 IAMs_20 03 09 17.7
comp=Z,7µm,19.0s
PEZE Perez Zeledon, 93.40 68 IAMs_20 IAMs_20 03 09 24.2
comp=Z,6µm,20.0s
AGPR Aguadilla, PR 93.64 50 IAMs_20 IAMs_20 03 10 02.8
comp=Z,7µm,19.0s
TIO Tiouine 93.80 354 P P 02 23 51.4 -1.1
URZ Urewera 93.80 171 LR LR 03 00 54.8
comp=Z,5µm,20.5s,baz=104,slow=32
HIZ Hauiti 93.88 173 IAMs_20 IAMs_20 03 02 40.1
comp=Z,6µm,19.0s
CRPR Cabo Rojo, PR 94.05 50 IAMs_20 IAMs_20 03 05 58.6
comp=Z,7µm,20.0s
MLPR Magueyes Islan 94.11 50 IAMs_20 IAMs_20 03 06 12.2
comp=Z,8µm,21.0s
RTZ Ruatahuna 94.14 172 IAMs_20 IAMs_20 03 05 16.9
comp=Z,8µm,20.0s
CELP Cerrillos 94.22 50 P P 02 23 53.9 -0.5
CELP IAMs_20 IAMs_20 03 11 47.1
comp=Z,7µm,20.0s
GCPR Guaynabo City 94.22 49 P P 02 23 53.4 -1.0
GCPR IAmb IAmb 02 23 58.9
comp=Z,101nm,1.1s
GCPR IAMs_20 IAMs_20 03 09 16.2
comp=Z,8µm,20.0s
OBIP Obispado Ponce 94.23 50 P P 02 23 53.3 -1.1
OBIP IAmb IAmb 02 23 57.4
comp=Z,188nm,1.5s
OBIP IAMs_20 IAMs_20 03 11 47.5
comp=Z,7µm,19.0s
TOO Toolangi 94.35 196 IAMs_20 IAMs_20 02 59 43.0
comp=Z,10µm,22.0s
SJG San Juan 94.37 49 P P 02 23 54.4 -0.6
SJG San Juan 94.37 49 IAMs_20 IAMs_20 03 09 13.2
comp=Z,12µm,21.0s
SJG San Juan 94.37 49 P P 02 23 54.4 -0.6
SJG pmax pmax
comp=Z,65nm,1.2s
SJG MLR MLR
comp=Z,12µm,21.0s
SJG San Juan 94.37 49 LR LR 03 09 24.4
comp=Z,7µm,19.7s,baz=326,slow=38
SJG San Juan 94.37 49 eP P 02 23 50.8 -4.2
BRU2 Volcan 94.41 68 IAMs_20 IAMs_20 03 11 53.1
comp=Z,7µm,20.0s
HUMP Col San Antoni 94.47 49 IAMs_20 IAMs_20 03 12 00.8
comp=Z,10µm,19.0s
MORW Morawa 94.50 222 P P 02 23 54.8 -0.4
CDITO Canoas 94.50 68 IAMs_20 IAMs_20 03 11 40.5
comp=Z,5µm,20.0s
IGPR InterUniversit 94.52 49 IAmb IAmb 02 23 59.5
comp=Z,122nm,1.2s
IGPR IAMs_20 IAMs_20 03 09 24.0
comp=Z,7µm,20.0s
BKZ Black Stump Fm 94.65 172 IAMs_20 IAMs_20 03 05 39.4
comp=Z,6µm,20.0s
BKZ Black Stump Fm 94.65 172 P P 02 23 56.8 +1.1
BCIP Isla Barro Col 95.59 65 eP P 02 23 58.6 -2.1
SMRT St. Maarten 95.72 47 IAMs_20 IAMs_20 03 13 39.7
comp=Z,9µm,19.0s
UPA Univ. de Panam 95.90 65 eP P 02 24 03.4 +1.4
SABA Saba 96.04 47 IAMs_20 IAMs_20 03 08 22.1
comp=Z,11µm,20.0s
GMAL Guarumal, Vera 96.05 67 eP P 02 24 02.5 -0.3
QRZ Quartz Range 96.05 175 IAMs_20 IAMs_20 03 02 25.6
comp=Z,10µm,20.0s
QRZ Quartz Range 96.05 175 P P 02 24 04.5 +2.5
MRZ Mangatainoka R 96.06 173 IAMs_20 IAMs_20 03 05 41.9
comp=Z,8µm,20.0s
KLBR Kellerberrin 96.12 220 P P 02 24 03.2 +0.7
BFZ Birch Farm 96.14 172 IAMs_20 IAMs_20 03 06 05.7
comp=Z,7µm,20.0s
AZU Azuero 96.53 66 eP P 02 24 03.4 -1.5
CACAO El Cacao, Vera 96.60 67 eP P 02 24 05.4 +0.2
SNZO South Karori 96.65 174 IAMs_20 IAMs_20 03 05 17.5
comp=Z,10µm,19.0s
SMRC Santa Marta, M 96.71 59 eP P 02 24 04.4 -1.4
BHW Baring Head 96.76 174 IAMs_20 IAMs_20 03 05 30.4
comp=Z,5µm,20.0s
DSZ Denniston Nort 96.94 176 IAMs_20 IAMs_20 03 05 12.0
comp=Z,10µm,20.0s
UPD2 Meteti 97.05 64 eP Pdif 02 24 08.3 +0.9
CAPC Capurgana 97.32 63 eP P 02 24 08.3 -0.2
SJCC San Jacinto, C 97.33 61 eP P 02 24 02.5 -6.2
CRJC Cerrejon, Guaj 97.49 58 eP Pdif 02 24 11.2 +1.8
NWAO Narrogin (SRO) 97.51 220 LR LR 03 06 53.3
comp=Z,2µm,20.1s,baz=25,slow=35
ARGC Ariguani, Magd 97.83 60 eP Pdif 02 24 13.2 +2.3
CBE Ff, Capester 98.11 46 IAMs_20 IAMs_20 03 14 19.8
comp=Z,9µm,19.0s
GDSD La Dsirade Is 98.11 46 IAMs_20 IAMs_20 03 09 49.8
comp=Z,10µm,22.0s
DGAR Diego Garcia 98.24 269 IAMs_20 IAMs_20 03 10 08.7
comp=Z,6µm,20.0s
ATD Arta Tunnel 98.32 304 IAMs_20 IAMs_20 03 13 34.6
comp=Z,9µm,20.0s
ATD Arta Tunnel 98.32 304 LR LR 03 14 07.1
comp=Z,444nm,20.6s,baz=30,slow=39
APAC Apartado, Choc 98.33 63 eP P 02 24 09.3 -3.8
HATO Hato, Curacao 98.34 54 IAMs_20 IAMs_20 03 09 25.8
comp=Z,10µm,20.0s
MAGL Barre d'ile 98.35 46 IAMs_20 IAMs_20 03 09 58.2
comp=Z,8µm,21.0s
PTAC Punta Ardita, 98.35 64 eP P 02 24 12.2 -0.9
LL6C La Loma 6 Bece 98.41 59 eP Pdif 02 24 15.1 +1.7
OXZ Oxford 98.52 176 IAMs_20 IAMs_20 03 00 05.0
comp=Z,8µm,22.0s
RPZ Rata Peaks 98.87 177 LR LR 03 04 01.6
comp=Z,9µm,21.0s,baz=344,slow=32
MQZ McQueen's Vall 98.93 175 IAMs_20 IAMs_20 03 06 10.8
comp=Z,8µm,19.0s
UREC San Jos de Ur 98.99 62 eP P 02 24 14.2 -1.9
DBBC Dabeiba 99.28 63 eP Pdif 02 24 16.1 -1.3
TAU Tasmania Unive 99.31 194 IAMs_20 IAMs_20 03 06 57.1
comp=Z,7µm,19.0s
MPOM Morne Pois Mar 99.88 46 IAMs_20 IAMs_20 03 12 59.7
comp=Z,10µm,20.0s
ODZ Otahua Downs 100.19 177 IAMs_20 IAMs_20 03 04 20.1
comp=Z,9µm,20.0s
CBOC Ciudad Bolivar 100.36 64 eP Pdif 02 24 22.9 +0.5
TAM Tamanrasset 100.37 342 IAMs_20 IAMs_20 03 17 36.8
comp=Z,8µm,18.0s
SDV Santo Domingo 100.42 57 IAMs_20 IAMs_20 03 07 36.4
comp=Z,9µm,22.0s
SDV Santo Domingo 100.42 57 eP Pdif 02 24 21.9 -0.7
SDV Santo Domingo 100.42 57 eP Pdif 02 24 22.6 0.0
DCZ Deep Cove 100.54 179 IAMs_20 IAMs_20 03 08 01.6
comp=Z,8µm,20.0s
PTBC PUERTO BERRIO 100.57 62 eP Pdif 02 24 21.9 -1.1
PLMC San Jos del P 101.04 64 eP Pdif 02 24 24.9 -0.4
GUY2C Guyana, Caldas 101.24 63 eP Pdif 02 24 23.9 -2.7
PYZ Puysegur Point 101.24 180 IAMs_20 IAMs_20 03 07 51.1
comp=Z,9µm,21.0s
SPBC San Pablo de B 101.53 62 eP Pdif 02 24 20.0 -7.4
GRGR Grenville 101.62 48 IAMs_20 IAMs_20 03 17 12.1
comp=Z,7µm,20.0s
YOTC Yotoco, Valle 101.79 65 eP Pdif 02 24 29.8 +1.1
TAMC Tame, Arauca 101.99 60 eP Pdif 02 24 29.8 +0.3
ROSC El Rosal 102.10 63 IAMs_20 IAMs_20 03 15 06.0
comp=Z,8µm,21.0s
ROSC El Rosal 102.10 63 eP Pdif 02 24 32.7 +2.4
JAMC Jamundi, Valle 102.28 66 eP Pdif 02 24 32.7 +1.8
ORTC Ortega, Tolima 102.42 64 eP Pdif 02 24 24.9 -6.5
FURI Furi 102.56 307 eP PP 02 28 47.4 +2.6
POPC Popayan, Colom 102.85 66 eP Pdif 02 24 35.6 +2.1
BBAC Balboa, Cauca 102.99 67 eP Pdif 02 24 35.6 +1.5
VILC Villavicencio, 103.04 62 eP Pdif 02 24 29.8 -4.4
PAC1 Pacto, Paraso 103.65 69 eP Pdif 02 24 38.5 +1.6
PTGC Puerto Gaitan, 103.74 61 eP Pdif 02 24 33.6 -3.6
GARC Garzon, Huila 103.76 65 eP Pdif 02 24 28.8 -8.8
TULM Tulcn-Chalpat 103.81 68 eP Pdif 02 24 36.6 -1.5
OTAV Otavalo 103.86 69 eP Pdif 02 24 39.5 +1.3
BONI La Bonita 104.17 68 eP Pdif 02 24 42.4 +3.1
SALI Salinas 104.53 72 IAMs_20 IAMs_20 03 17 09.6
comp=Z,5µm,18.0s
PIAT Ana Tenorio 105.00 69 eP Pdif 02 24 44.4 +1.2
LODK Lodwar 108.91 307 IAMs_20 IAMs_20 03 21 39.8
comp=Z,6µm,20.0s
MCQ Macquarie Isla 109.75 185 IAMs_20 IAMs_20 03 07 48.3
comp=Z,8µm,20.0s
TORD Torodi Ar. Bea 110.45 344 Pdiff Pdif 02 25 05.7 -1.3
comp=Z,0.4nm,0.9s,baz=6.3,slow=2.4,SNR=2.1
TORD PKiKP **PKiKP** 02 29 06.1 -1.6
comp=Z,1.5nm,0.6s,baz=10,slow=2.9,SNR=9.9
TORD PKKPbc **PKKPbc** 02 40 03.3 -1.8
comp=Z,3.9nm,0.9s,baz=231,slow=0.6,SNR=14
KMBO Kilima Mbogo 112.02 303 IAMs_20 IAMs_20 03 24 12.9
comp=Z,7µm,19.0s
KMBO Kilima Mbogo 112.02 303 PKiKP **PKiKP** 02 29 09.8 -1.2
comp=Z,1.5nm,0.7s,baz=5.0,slow=2.6,SNR=4.8
KIBK Kibwezi 112.70 302 IAMs_20 IAMs_20 03 24 29.5
comp=Z,8µm,20.0s
KIBK Kibwezi 112.70 302 PP PP 02 29 57.2 -1.7
DBIC Dimbokro 117.67 350 PKiKP **PKPdf** 02 29 21.0 -0.5
DBIC Dimbokro 117.67 350 PKiKP **PKPdf** 02 29 21.0 -0.5
DBIC Dimbokro 117.67 350 PKP **PKPdf** 02 29 19.4 -2.0
comp=Z,9.1nm,0.6s,baz=3.5,slow=2.3,SNR=27
DBIC PKKPbc **PKKPbc** 02 39 40.0 -0.7
comp=Z,2.8nm,0.9s,baz=153,slow=5.7,SNR=3.9
TIC Toumodi 117.71 350 ↑ePKP1 **PKiKP** 02 29 22.5 +0.9
comp=Z,23nm,1.0s
KIC Kosan Boka 117.97 350 ↓iPKP1 **PKiKP** 02 29 23.2 +1.1
comp=Z,22nm,0.7s
LIC Lamto 118.13 350 ↓iPKP1 **PKiKP** 02 29 23.5 +1.1
comp=Z,24nm,0.8s
SAML Samuel 119.51 60 **PKiKP** 02 29 25.3 +0.3
SAML Samuel 119.51 60 IAMs_20 IAMs_20 03 24 32.4
comp=Z,8µm,21.0s
SAML Samuel 119.51 60 PKIKP **PKiKP** 02 29 25.3 +0.3
PB18 Visviri 123.53 71 IAMs_20 IAMs_20 03 28 42.1
comp=Z,7µm,21.0s
AP01 Chacalluta 123.70 72 IAMs_20 IAMs_20 03 20 05.8
comp=Z,5µm,22.0s
PB12 IPOC Station P 123.91 73 IAMs_20 IAMs_20 03 32 03.3
comp=Z,4µm,21.0s
PB16 IPOC Station P 124.12 72 IAMs_20 IAMs_20 03 29 06.9
comp=Z,5µm,22.0s
VOI Vohitsoka 124.44 282 IAMs_20 IAMs_20 03 35 18.5
comp=Z,5µm,21.0s
PB11 IPOC Station P 125.21 73 IAMs_20 IAMs_20 03 31 14.7
comp=Z,4µm,20.0s
GO01 Chusmiza 125.38 72 IAMs_20 IAMs_20 03 32 37.3
comp=Z,5µm,21.0s
TA01 Diego Aracena 125.57 74 IAMs_20 IAMs_20 03 29 53.5
comp=Z,4µm,21.0s
PB08 IPOC Station P 125.79 73 IAMs_20 IAMs_20 03 30 22.1
comp=Z,4µm,21.0s
PB08 IPOC Station P 125.79 73 PP PP 02 31 32.3 +2.5
PB02 IPOC Station P 126.33 74 IAMs_20 IAMs_20 03 31 38.7
comp=Z,4µm,21.0s
PB01 IPOC Station P 126.34 74 IAMs_20 IAMs_20 03 33 30.7
comp=Z,4µm,21.0s
PB07 IPOC Station P 126.67 74 IAMs_20 IAMs_20 03 36 50.6
comp=Z,4µm,20.0s
PB07 IPOC Station P 126.67 74 PP PP 02 31 36.0 +0.6
FOMA Nahampoana Res 126.75 279 IAMs_20 IAMs_20 03 36 58.1
comp=Z,4µm,19.0s
PB04 IPOC Station P 127.01 75 IAMs_20 IAMs_20 03 26 27.7
comp=Z,4µm,21.0s
PB09 IPOC Station P 127.08 74 IAMs_20 IAMs_20 03 31 21.4
comp=Z,4µm,22.0s
PB05 IPOC Station P 127.39 76 IAMs_20 IAMs_20 03 34 35.0
comp=Z,3µm,20.0s
RCBR Riachuelo 127.42 28 IAMs_20 IAMs_20 03 30 24.4
comp=Z,5µm,18.0s
LVC Limon Verde 127.91 74 IAMs_20 IAMs_20 03 21 14.5
comp=Z,4µm,21.0s
PB15 IPOC Station P 128.08 75 IAMs_20 IAMs_20 03 18 31.1
comp=Z,5µm,22.0s
CASY Casey 128.46 205 **PKiKP** 02 29 41.0 0.0
CASY Casey 128.46 205 IAMs_20 IAMs_20 03 23 21.2
comp=Z,4µm,20.0s
AF01 San Pedro de A 128.59 74 IAMs_20 IAMs_20 03 31 47.3
comp=Z,5µm,21.0s
LSZ Lusaka 128.65 304 IAMs_20 IAMs_20 03 32 21.5
comp=Z,7µm,20.0s
PB14 IPOC Station P 128.69 77 IAMs_20 IAMs_20 03 18 44.4
comp=Z,5µm,20.0s
PB14 IPOC Station P 128.69 77 PP PP 02 31 49.7 +0.8
GO02 Mina Guanaco 129.56 77 IAMs_20 IAMs_20 03 19 48.5
comp=Z,5µm,19.0s
AC01 Pan de Azucar 129.78 78 IAMs_20 IAMs_20 03 20 01.3
comp=Z,7µm,19.0s
BBLB La Banda, Boli 129.99 61 eP **PKiKP** 02 29 46.7 +1.1
NBBL Bica de Lurdes 130.35 28 eP **PKiKP** 02 29 47.4 +0.9
ARAG Araguaiana, MT 130.75 52 eP **PKiKP** 02 29 47.1 -0.2
VA04 Juan Fernndez 130.77 92 IAMs_20 IAMs_20 03 14 48.8
comp=Z,6µm,20.0s
AC06 Mina Casimiro 130.85 79 IAMs_20 IAMs_20 03 18 34.9
comp=Z,6µm,20.0s
NBPN Ponto Novo - B 130.88 35 eP **PKiKP** 02 29 48.6 +1.0
NBAN Anadia - AL 130.98 30 eP **PKPdf** 02 29 47.3 +0.4
PP1B Ponte de Pedra 130.99 56 eP **PKiKP** 02 29 48.8 +1.1
AC04 Llanos de Chal 131.10 81 IAMs_20 IAMs_20 03 20 34.6
comp=Z,5µm,19.0s
GO03 Copiap 131.10 79 IAMs_20 IAMs_20 03 19 21.5
comp=Z,5µm,20.0s
PANT Pantanal (Braz 131.34 59 eP **PKiKP** 02 29 48.4 0.0
DVLD Doverlandia 131.41 53 eP **PKiKP** 02 29 49.1 +0.5
NBLA Lagarto - SE 131.78 33 eP **PKiKP** 02 29 49.3 -0.1
LCO Las Campanas 131.93 81 IAMs_20 IAMs_20 03 23 00.6
comp=Z,5µm,20.0s
AC05 El Transito 132.04 80 IAMs_20 IAMs_20 03 21 13.4
comp=Z,6µm,19.0s
RVDE Rio Verde (Bra 132.19 57 eP **PKiKP** 02 29 49.9 -0.2
CO05 La Serena 132.32 82 IAMs_20 IAMs_20 03 19 38.0
comp=Z,6µm,20.0s
BDFB Brasilia 132.34 47 IAMs_20 IAMs_20 03 33 59.2
comp=Z,5µm,19.0s
BDFB Brasilia 132.34 47 PKP **PKPdf** 02 29 48.5 -1.0
comp=Z,9.7nm,0.7s,baz=204,slow=3.1,SNR=15
BDFB PP **PP** 02 32 14.8 +2.9
comp=Z,16nm,1.1s,baz=69,slow=0.5,SNR=3.4
BDFB Brasilia 132.34 47 eP **PKiKP** 02 29 50.1 -0.5
BDQN Bodoquena, MS 132.51 60 eP **PKiKP** 02 29 51.0 +0.3
CO06 Fray Jorge 132.66 83 IAMs_20 IAMs_20 03 22 01.2
comp=Z,6µm,19.0s
VNDA Vanda 132.73 181 **PKiKP** 02 29 49.5 +0.2
VNDA IAMs_20 IAMs_20 03 19 48.7
comp=Z,5µm,22.0s
VNDA Vanda 132.73 181 PKIKP **PKiKP** 02 29 49.6 +0.2
VNDA Vanda 132.73 181 PKhKP PKPpre 02 29 38.1
comp=Z,4.6nm,1.1s,baz=110,slow=6.4,SNR=2.4
VNDA PKP **PKPdf** 02 29 47.0 -1.2
comp=Z,8.2nm,0.8s,baz=330,slow=4.5,SNR=7.1
CO01 Juntas del Tor 133.01 81 IAMs_20 IAMs_20 03 19 10.1
comp=Z,6µm,20.0s
SBA Scott Base 133.04 180 IAMs_20 IAMs_20 03 21 30.7
comp=Z,4µm,20.0s
AQDB Aquidauana 133.05 59 eP **PKiKP** 02 29 51.8 0.0
MURT Porto Murtinho 133.10 62 eP **PKPdf** 02 29 50.8 +0.1
CO03 El Pedregal 133.32 83 IAMs_20 IAMs_20 03 22 13.6
comp=Z,6µm,20.0s
CO02 Combarbal 133.42 83 IAMs_20 IAMs_20 03 19 47.2
comp=Z,6µm,20.0s
GDU01 Guandu, BA 133.77 36 eP **PKiKP** 02 29 53.3 -0.1
RPRD Ribas do Rio P 134.03 57 eP **PKiKP** 02 29 53.2 -0.5
ANTJ Antonio Joao (134.19 61 eP **PKiKP** 02 29 54.5 +0.4
VA06 Catapilco 134.26 85 IAMs_20 IAMs_20 03 22 10.7
comp=Z,5µm,20.0s
IPMB Ipameri, GO 134.34 49 eP **PKiKP** 02 29 54.3 -0.2
VA01 Torpederas 134.40 85 IAMs_20 IAMs_20 03 23 58.6
comp=Z,5µm,19.0s
VA03 San Esteban 134.83 84 IAMs_20 IAMs_20 03 20 23.8
comp=Z,4µm,20.0s
MT02 Curacav 134.87 85 **PKPdf** 02 29 53.5 -0.2
MT02 IAMs_20 IAMs_20 03 22 50.7
comp=Z,5µm,20.0s
VA05 Santo Domingo 134.89 86 IAMs_20 IAMs_20 03 22 15.3
comp=Z,5µm,19.0s
NBIT Itapeh - BA 134.95 36 eP **PKPdf** 02 29 54.2 0.0
PEL Peldehue 135.04 85 IAMs_20 IAMs_20 03 23 09.4
comp=Z,5µm,19.0s
MT05 Renca 135.19 85 IAMs_20 IAMs_20 03 42 58.3
comp=Z,4µm,19.0s
MT01 Popeta 135.24 86 IAMs_20 IAMs_20 03 21 39.8
comp=Z,5µm,19.0s
CMC01 Camacan, BA 135.32 37 eP **PKiKP** 02 29 57.1 +0.6
MT09 Talagante 135.33 86 IAMs_20 IAMs_20 03 22 28.0
comp=Z,5µm,19.0s
MT16 CCHEN 135.34 85 IAMs_20 IAMs_20 03 24 39.2
comp=Z,5µm,18.0s
MT03 Universidad Ad 135.39 85 IAMs_20 IAMs_20 03 28 00.7
comp=Z,5µm,18.0s
AMBA Amambai (Brazi 135.47 60 eP **PKiKP** 02 29 56.6 -0.1
TICA Tres Isletas 135.55 69 eP **PKiKP** 02 29 57.1 +0.5
GO05 Huala 135.69 88 IAMs_20 IAMs_20 03 22 41.7
comp=Z,5µm,20.0s
BO04 La Punta 135.70 85 IAMs_20 IAMs_20 03 26 21.8
comp=Z,5µm,19.0s
MT13 San Alfonso 135.70 85 IAMs_20 IAMs_20 03 24 58.9
comp=Z,5µm,19.0s
BO01 Tunca 135.72 86 IAMs_20 IAMs_20 03 21 52.5
comp=Z,5µm,19.0s
LMEL Las Melosas 135.83 85 IAMs_20 IAMs_20 03 24 17.1
comp=Z,5µm,20.0s
PCMB Pacaembu 136.14 55 eP **PKiKP** 02 29 58.2 +0.1
BO02 Sierra Bellavi 136.18 86 IAMs_20 IAMs_20 03 25 59.7
comp=Z,5µm,19.0s
GUA01 Guaratinga, BA 136.36 38 eP **PKPdf** 02 29 57.2 +0.4
VACA Villa Angela C 136.37 70 eP **PKiKP** 02 29 58.9 +0.6
DIAM Diamantina, MG 136.49 44 eP **PKiKP** 02 29 58.3 -0.7
TRCB Terra Rica 136.51 57 eP **PKiKP** 02 29 58.7 -0.1
ML02 Panimavida 136.52 88 IAMs_20 IAMs_20 03 23 39.7
comp=Z,6µm,20.0s
TSUM Tsumeb 136.79 314 **PKPdf** 02 29 55.1 -2.7
BB19B Bebedouro 136.92 51 eP **PKPdf** 02 29 58.4 +0.5
CPUP Villa Florida 137.10 65 IAMs_20 IAMs_20 03 35 30.1
comp=Z,5µm,22.0s
CPUP Villa Florida 137.10 65 PKhKP PKPpre 02 29 50.1
comp=Z,3.2nm,0.9s,baz=19,slow=11,SNR=2.7
SPB Sao Paulo 139.61 52 IAMs_20 IAMs_20 03 32 07.4
comp=Z,6µm,22.0s
PLCA Paso Flores 140.43 93 PKhKP PKPpre 02 29 57.1
comp=Z,18nm,1.0s,baz=301,slow=4.0,SNR=8.0
BOSA Boshof 141.36 298 PKhKP PKPpre 02 30 00.5
comp=Z,3.5nm,0.7s,baz=34,slow=2.5,SNR=11
COYC Coyhaique 142.63 100 **PKPdf** 02 30 05.8 -1.6
COYC Coyhaique 142.63 100 IAMs_20 IAMs_20 03 25 30.3
comp=Z,5µm,20.0s
AY03 Cochrane 143.33 102 IAMs_20 IAMs_20 03 34 11.1
comp=Z,4µm,18.0s
PLTB Pedras Altas 143.39 66 **PKPdf** 02 30 07.9 -1.3
TRQA Tornquist 143.49 82 **PKPdf** 02 30 08.8 -0.4
TRQA Tornquist 143.49 82 PKIKP **PKPdf** 02 30 08.8 -0.4
MAW Mawson 144.08 219 PKP **PKPab** 02 30 07.1 +0.2
comp=Z,64nm,1.0s,baz=39,slow=4.0,SNR=17
GRHM Grahamstown, E 144.50 292 PKPbc 02 30 10.1 +0.3
QSPA South Pole Qui 145.20 180 IAMs_20 IAMs_20 03 34 39.0
comp=Z,5µm,19.0s
QSPA South Pole Qui 145.20 180 PKPbc **PKPbc** 02 30 09.3 -1.8

comp=Z,419nm,1.0s,baz=346,slow=1.3,SNR=67
GO09 Cerro Castillo 145.65 108 IAMs_20 IAMs_20 03 33 59.9
comp=Z,5µm,18.0s
MG02 Cerro Sombrero 148.07 109 PKPdf **PKPdf 02 30 17.0 +0.5**
MG02 IAMs_20 IAMs_20 03 24 13.8
comp=Z,6µm,22.0s
EFI East Falkland 153.72 100 PKPdf **PKPdf 02 30 27.7 +2.5**
EFI East Falkland 153.72 100 PKIKP **PKPdf 02 30 27.7 +2.5**
ELIB Princess Elisa 157.32 209 *d*PKPdf **PKPdf 02 30 29.3 -0.4**
ELIB *d*PKP **PKPab 02 31 02.3 +1.1**
NVL N'lazarevskaya 161.04 206 *e*PKIKP **PKPdf 02 30 33.2 -0.6**
NVL eSS SS 02 55 15.4 +1.0
TROLL Troll, Antarti 162.02 196 ||PKPab **PKPab 02 31 20.8 -0.8**
comp=Z,878nm,0.8s
SNAA Sanae 163.07 192 **PKPdf 02 30 35.5 -0.5**
SNAA Sanae 163.07 192 ||PKPab **PKPab 02 31 25.1 -0.9**
comp=Z,608nm,1.0s
SNAA Sanae 163.07 192 PKIKP **PKPdf 02 30 35.5 -0.5**
VNA3 Neumayer Olymp 164.05 185 ||PKPab **PKPab 02 31 29.2 -1.1**
comp=Z,18nm,0.9s
VNA2 Neumayer--Watz 164.22 188 ||PKPab **PKPab 02 31 31.8 +0.7**
comp=Z,24nm,0.8s,baz=160,slow=3.0
VNA1 Neumayer--Stat 164.56 187 ||PKPab **PKPab 02 31 33.0 +0.5**
comp=Z,23nm,0.9s

KRSC 25 02:12:55.0±0.0, 55.08N×166.38E, h33km, Ml4.6, Felt [III] at Nikolskoe., Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.26**	**298**	*e*P	Pn	02 13 02.6	+0.2
BKI				*e*S	Sb	02 13 08.0	+0.8
TUMR	**Tumrok**	**3.58**	**276**	*e*P	Pn	02 13 52.3	+4.0
RUS	**Russkaya**	**5.37**	**244**	*e*S	Sn	02 15 18.6	+5.4

*IDC **25** 02:18:11.7±0.6, 55.44N×166.42E, h0km, mb4.1/22, mbtmp4.2/26, ML4.4/3, Error ellipse: s-maj=19.0km s-min=12.0km az=165.0*
*MOS **25** 02:18:11.7±1.6, 55.34N×166.55E, h15km, mb4.9/4, Error ellipse: s-maj=27.2km s-min=12.7km az=147.7*
*KRSC **25** 02:18:13.9±1.3, 55.28N×166.48E, h36km±5km, Ml4.7, Felt [III] at Nikolskoe.*
*NEIC **25** 02:18:13.5±1.5, 55.46N±0.08×166.5E±0.1, h10km±1km, mb4.5/30, Error ellipse: s-maj=14.2km s-min=9.1km az=209.0*

ISC 25 02:18:14.9±0.4, 55.44N±0.06×166.50E±0.04, h20km, n106, σ1§10/120, mb4.4/37, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.38**	**232**	PN	**Pb**	**02 18 22.0**	**-0.9**
BKI				S	**Sb**	**02 18 28.1**	**-0.2**
BKI	**Bering**	**0.38**	**232**	*e*P	**Pb**	**02 18 22.3**	**-0.6**
BKI				*e*S	**Sb**	**02 18 28.2**	**-0.1**
ZLN	**Zelenaya**	**3.27**	**283**	*e*P	**Pn**	**02 19 07.5**	**+2.4**
KLY	**Klyuchi**	**3.41**	**287**	*e*P	**Pn**	**02 19 05.9**	**-0.9**
KLY				*e*S	**Sn**	**02 19 47.0**	**+0.5**
TUMD	**Tumrok D**	**3.49**	**269**	*e*P	**Pn**	**02 19 09.2**	**+1.2**
KMNR	**Kamenistaya**	**3.56**	**278**	*e*P	**Pn**	**02 19 12.0**	**+2.9**
TUMR	**Tumrok**	**3.63**	**270**	PN	**Pn**	**02 19 12.3**	**+2.3**
TUMR	**Tumrok**	**3.63**	**270**	*e*P	**Pn**	**02 19 12.0**	**+2.0**
KII	**Karymskiy**	**4.32**	**254**	*e*P	**Pn**	**02 19 20.7**	**+1.3**
SMAR	**Somma**	**5.00**	**247**	*e*P	**Pn**	**02 19 30.3**	**+1.4**
UGLR	**Uglovaya**	**5.01**	**247**	*e*P	**Pn**	**02 19 30.6**	**+1.6**
AVH	**Avacha**	**5.03**	**248**	*e*P	**Pn**	**02 19 31.0**	**+1.8**
KRX	**Arik**	**5.04**	**249**	*e*P	**Pn**	**02 19 30.9**	**+1.6**
KOK	**Koryaka**	**5.07**	**248**	*e*P	**Pn**	**02 19 31.3**	**+1.5**
DALK	**Dalny**	**5.14**	**245**	*e*P	**Pn**	**02 19 31.5**	**+0.9**
PET	**Petropavlovsk**	**5.20**	**246**	Pn	**Pn**	**02 19 31.0**	**-0.4**
PET	**Petropavlovsk**	**5.20**	**246**	*e*PN	**Pn**	**02 19 31.8**	**+0.4**
PET	**Petropavlovsk**	**5.20**	**246**	*e*P	**Pn**	**02 19 32.6**	**+1.3**
SHEM	**Shemya Is, Ala**	**5.23**	**118**	Pn	**Pn**	**02 19 31.5**	**-0.4**
	7.6nm,0.3s,baz=266,slow=22,SNR=1.3						
SHEM				Sn	**Sn**	**02 20 31.4**	**-0.1**
	11nm,0.3s,baz=310,slow=19,SNR=1.8						
	38nm,0.5s						
PEA0B	**Petropavlovsk-**	**5.66**	**249**	Pn	**Pn**	**02 19 38.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**5.66**	**249**	PN	**Pn**	**02 19 38.3**	**+0.6**
PETK	**Petropavlovsk-**	**5.66**	**249**	Pn	**Pn**	**02 19 38.5**	**+0.7**
PETK	**Petropavlovsk-**	**5.66**	**249**	Pn	**Pn**	**02 19 34.6**	**-3.1**
	54nm,0.6s,baz=73,slow=17,SNR=1.5						
PETK				Sn	**Sn**	**02 20 44.1**	**+2.1**
	4.5nm,0.3s,baz=84,slow=39,SNR=1.9						
MTVR	**Mutnovka**	**5.73**	**242**	*e*P	**Pn**	**02 19 40.1**	**+1.3**
MTVR				*e*S	**Sn**	**02 20 43.4**	**-0.6**
ADK	**Adak**	**10.59**	**103**	Pn	**Pn**	**02 20 45.3**	**0.0**
ADK	**Adak**	**10.59**	**103**	PN	**Pn**	**02 20 45.3**	**0.0**
K13K	**Kusilvak Mount**	**16.24**	**55**	Pn	**Pn**	**02 22 01.2**	**-0.3**
K15K	**Wolf Creek Mou**	**17.75**	**54**		**Pn**	**02 22 20.4**	**-0.1**
ASAJ	**Asahikawa**	**19.04**	**243**	P	**P**	**02 22 35.5**	**+0.1**
	0.8nm,0.3s,baz=114,slow=7.4,SNR=2.6						
	9.7nm,0.5s						
H18K	**Honhosa River**	**19.67**	**46**	P	**P**	**02 22 41.2**	**-1.0**
YAK	**Yakutsk**	**19.99**	**304**	P	**P**	**02 22 44.8**	**-0.8**
	3.5nm,0.3s,baz=151,slow=19,SNR=2.0						
	20nm,0.6s						
J18K	**Innoko River**	**20.09**	**52**	P	**P**	**02 22 45.3**	**-1.5**
ERM	**Erimo**	**20.30**	**238**	P	**P**	**02 22 47.5**	**-1.7**
ERM				IAmb	IAmb	02 22 55.3	
	comp=Z,58nm,1.4s						
ERM	**Erimo**	**20.30**	**238**	P	**P**	**02 22 47.5**	**-1.7**
ERM				pmax	pmax		
	comp=Z,58nm,1.4s						
TTA	**Tatalina**	**20.36**	**53**	P	**P**	**02 22 50.1**	**+0.3**
TTA	**Tatalina**	**20.36**	**53**	P	**P**	**02 22 50.1**	**+0.3**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
C19K	**Lookout Ridge**	**20.50**	**35**	P	**P**	**02 22 50.0**	**-1.2**
H19K	**Roundabout Mou**	**20.53**	**46**	P	**P**	**02 22 52.4**	**+0.9**
M20K	**Styx River**	**21.67**	**56**	P	**P**	**02 23 04.8**	**+0.9**
KLR	**Kul'dur**	**21.95**	**268**	P	**P**	**02 23 06.7**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=107,slow=22,SNR=1.9						
	comp=Z,2.0nm,0.7s						
I23K	**Minto, Yukon-K**	**23.43**	**48**	P	**P**	**02 23 22.8**	**+0.6**
SML	**Sawmill**	**23.94**	**56**	P	**P**	**02 23 26.5**	**-0.9**
SML				IAmb	IAmb	02 23 27.5	
	comp=Z,35nm,1.4s						
CCB	**Clear Creek Bu**	**24.07**	**49**	P	**P**	**02 23 27.5**	**-0.9**
F24K	**Squaw Lake**	**24.24**	**42**	P	**P**	**02 23 28.9**	**-1.2**
G24K	**Hadweenzic Riv**	**24.31**	**44**	P	**P**	**02 23 31.7**	**+1.0**
G24K				IAmb	IAmb	02 23 36.0	
	comp=Z,25nm,1.4s						
SCM	**Sheep Creek Mo**	**24.42**	**56**	P	**P**	**02 23 31.7**	**0.0**
SCM	**Sheep Creek Mo**	**24.42**	**56**	P	**P**	**02 23 31.7**	**0.0**
ILAR	**Eielson Array**	**24.47**	**49**	P	**P**	**02 23 31.7**	**-0.4**
	comp=Z,6.5nm,1.0s,baz=257,slow=7.9,SNR=4.7						
	comp=Z,6.5nm,1.0s						
USRK	**Ussuriysk Ar.**	**24.68**	**257**	P	**P**	**02 23 32.9**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=60,slow=8.7,SNR=1.4						
	comp=Z,1.4nm,0.7s						
PRP	**Porcupine Dome**	**25.05**	**47**	P	**P**	**02 23 37.0**	**-0.5**
PRP				IAmb	IAmb	02 23 38.9	
	comp=Z,6.1nm,0.8s						
D25K	**Kavik River**	**25.06**	**38**	P	**P**	**02 23 37.9**	**+0.4**
D25K				IAmb	IAmb	02 23 41.5	
	comp=Z,19nm,1.4s						
E25K	**Arctic Village**	**25.19**	**41**	P	**P**	**02 23 38.9**	**+0.3**
E25K				IAmb	IAmb	02 23 44.2	
	comp=Z,9.1nm,1.2s						
FYU	**Fort Yukon**	**25.20**	**45**	P	**P**	**02 23 38.1**	**-0.5**
FYU				IAmb	IAmb	02 23 44.5	
	comp=Z,30nm,1.4s						
N25K	**Chitina, Valde**	**25.73**	**56**	P	**P**	**02 23 43.7**	**0.0**
N25K				IAmb	IAmb	02 23 49.7	
	comp=Z,6.5nm,1.0s						
KAIM	**Kayak Island**	**26.12**	**60**	P	**P**	**02 23 46.0**	**-1.0**
VRDI	**Verde Repeater**	**26.34**	**57**	P	**P**	**02 23 48.7**	**-0.6**
VRDI				IAmb	IAmb	02 23 55.9	
	comp=Z,18nm,1.4s						
L27K	**Beaver Creek,**	**26.81**	**52**	P	**P**	**02 23 53.9**	**+0.6**
L27K				IAmb	IAmb	02 23 59.2	
	comp=Z,11nm,1.1s						
D27M	**Malcolm River**	**26.96**	**39**	P	**P**	**02 23 55.4**	**+0.7**
D27M				IAmb	IAmb	02 23 58.9	
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**26.96**	**237**	P	**P**	**02 23 54.7**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=35,slow=7.5,SNR=5.3						
	comp=Z,4.6nm,0.8s						
F28M	**Old Crow**	**27.32**	**42**	P	**P**	**02 23 57.0**	**-0.8**
M29M	**Somme Creek**	**28.44**	**53**	P	**P**	**02 24 07.7**	**-0.3**
L29M	**L29M**	**28.47**	**52**	P	**P**	**02 24 08.0**	**-0.2**
JIS	**Juneau Island**	**31.55**	**60**	P	**P**	**02 24 34.8**	**-0.5**
KSRS	**Korea Array**	**31.55**	**251**	P	**P**	**02 24 35.7**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=50,slow=9.4,SNR=2.3						
	comp=Z,1.1nm,0.4s						
C36M	**Paulatuk**	**32.94**	**38**	P	**P**	**02 24 47.3**	**-0.1**
C36M				IAmb	IAmb	02 24 51.2	
	comp=Z,15nm,1.2s						
SONM	**Songino Array**	**37.00**	**284**	P	**P**	**02 25 22.8**	**0.0**
SONM				IAmb	IAmb	02 25 27.4	
	comp=Z,8.0nm,1.5s						
SONM	**Songino Array**	**37.00**	**284**	P	**P**	**02 25 22.8**	**0.0**
SONM				pmax	pmax		
	comp=Z,8.0nm,1.5s						
SONM	**Songino Array**	**37.00**	**284**	P	**P**	**02 25 23.2**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=59,slow=8.4,SNR=3.0						
	comp=Z,1.7nm,0.6s						
YKA	**Yellowknife Ar**	**38.86**	**47**	P	**P**	**02 25 38.5**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=298,slow=7.4,SNR=3.2						
	comp=Z,1.2nm,0.9s						
EDM	**Edmonton**	**44.34**	**58**	P	**P**	**02 26 23.3**	**0.0**
EDM	**Edmonton**	**44.34**	**58**	P	**P**	**02 26 23.3**	**0.0**
EDM				pmax	pmax		
	comp=Z,26nm,1.4s						
ZALV	**Zalesovo Beam**	**44.64**	**304**	P	**P**	**02 26 24.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=64,slow=6.6,SNR=2.1						
ZALV				PcP	**PcP**	**02 28 08.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=43,slow=2.6,SNR=2.0						
	comp=Z,0.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**45.40**	**352**	P	**P**	**02 26 31.2**	**-0.1**
SPITS	**Spitsbergen Ar**	**45.40**	**352**	P	**P**	**02 26 31.7**	**+0.4**
	comp=Z,9.6nm,0.8s,baz=76,slow=7.0,SNR=3.4						
	comp=Z,9.6nm,0.8s						
SPB2	**Spitsbergen Ar**	**45.40**	**352**	P	**P**	**02 26 31.7**	**+0.4**
L04D	**Klamath Falls**	**46.64**	**75**	P	**P**	**02 26 42.4**	**+0.6**
FCC	**Fort Churchill**	**49.25**	**43**	P	**P**	**02 27 01.6**	**+0.1**
FCC	**Fort Churchill**	**49.25**	**43**	P	**P**	**02 27 01.6**	**+0.1**
KURK	**Kurchatov**	**49.63**	**304**	P	**P**	**02 27 04.1**	**-0.4**
KURK	**Kurchatov**	**49.63**	**304**	P	**P**	**02 27 04.9**	**+0.4**
KURK						02 28 26.1	
KURBB	**Kurchatov Arra**	**49.73**	**303**	P	**P**	**02 27 04.9**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=55,slow=8.1,SNR=12						
KURBB				PcP	**PcP**	**02 28 26.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=40,slow=2.9,SNR=1.7						
KURBB				PKKP	**PKKPdf**	**02 49 32.2**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=209,slow=2.8,SNR=3.5						
	comp=Z,4.6nm,0.8s						
MK31	**Makanchi Array**	**50.46**	**298**	P	**P**	**02 27 10.2**	**-0.7**
MK31	**Makanchi Array**	**50.46**	**298**	P	**P**	**02 27 10.2**	**-0.7**
MKAR	**Makanchi Array**	**50.46**	**298**	P	**P**	**02 27 10.3**	**-0.6**
MKAR	**Makanchi Array**	**50.46**	**298**	P	**P**	**02 27 10.2**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=54,slow=6.2,SNR=13						
MKAR				PKKP	**PKKPdf**	**02 49 31.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=243,slow=0.3,SNR=3.0						
	comp=Z,2.6nm,0.6s						
MAKZ	**Makanchi**	**50.61**	**298**	P	**P**	**02 27 10.1**	**-1.9**
MAKZ	**Makanchi**	**50.61**	**298**	P	**P**	**02 27 10.1**	**-1.9**
NVAR	**Mina Array Bea**	**51.47**	**76**	P	**P**	**02 27 18.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=302,slow=7.3,SNR=2.9						
NVAR				PcP	**PcP**	**02 28 32.3**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=306,slow=3.0,SNR=1.7						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**51.81**	**310**	P	**P**	**02 27 20.4**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=64,slow=7.6,SNR=4.7						
BVAR				PcP	**PcP**	**02 28 33.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=77,slow=4.1,SNR=4.6						
BVAR				PKKP	**PKKPdf**	**02 49 36.2**	**+5.9**
	comp=Z,0.3nm,0.8s,baz=186,slow=2.8,SNR=2.1						
	comp=Z,3.7nm,0.7s						
ARCES	**ARCESS Array B**	**52.16**	**344**	PcP	**PcP**	**02 28 35.2**	**+0.5**
	comp=Z,5.7nm,1.0s,baz=34,slow=6.6,SNR=2.2						
PDAR	**Pinedale Array**	**53.12**	**66**	P	**P**	**02 27 31.8**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=316,slow=3.8,SNR=2.6						
PDAR				PcP	**PcP**	**02 28 38.2**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=141,slow=0.9,SNR=1.9						
	comp=Z,0.9nm,0.8s						
SRU	**San Rafael Swe**	**55.22**	**70**	P	**P**	**02 27 47.1**	**+0.8**
SRU				IAmb	IAmb	02 27 54.1	
	comp=Z,12nm,1.3s						
SRU	**San Rafael Swe**	**55.22**	**70**	P	**P**	**02 27 47.1**	**+0.8**
SRU				pmax	pmax		
	comp=Z,12nm,1.3s						
ABKAR	**Akbulak array**	**59.04**	**313**	P	**P**	**02 28 12.6**	**-0.4**
ABKAR	**Akbulak array**	**59.04**	**313**	P	**P**	**02 28 12.8**	**-0.2**
ABKAR				IAmb	IAmb	02 28 12.8	
	comp=Z,2.4nm,0.8s						
NOA	**NORSAR Array B**	**62.23**	**347**	P	**P**	**02 28 33.5**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=14,slow=6.0,SNR=2.0						
	comp=Z,0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**62.28**	**262**	P	**P**	**02 28 35.3**	**-0.1**
	comp=Z,3.2nm,0.3s,baz=25,slow=7.0,SNR=5.1						
	comp=Z,3.2nm,0.3s						
HFS	**Hagfors**	**62.76**	**345**	P	**P**	**02 28 37.6**	**-0.4**
	comp=Z,10nm,1.1s,baz=19,slow=9.4,SNR=2.0						
	comp=Z,10nm,1.1s						
TX31	**Lajitas Ar. Si**	**66.30**	**72**	P	**P**	**02 29 02.0**	**+0.2**
TX31				IAmb	IAmb	02 29 03.3	
	comp=Z,2.6nm,0.7s						
TXAR	**Lajitas Array**	**66.30**	**72**	P	**P**	**02 29 02.1**	**+0.3**
TXAR	**Lajitas Array**	**66.30**	**72**	P	**P**	**02 29 02.7**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=302,slow=4.3,SNR=9.3						
	comp=Z,1.7nm,0.6s						
AKASG	**Malin Array Be**	**68.41**	**332**	P	**P**	**02 29 14.5**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=26,slow=6.3,SNR=3.5						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**79.91**	**211**	P	**P**	**02 30 21.9**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=23,slow=5.5,SNR=3.2						
	comp=Z,1.5nm,0.9s						
ASAR	**Alice Springs**	**83.56**	**210**	P	**P**	**02 30 41.3**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=19,slow=4.8,SNR=4.0						
	comp=Z,1.4nm,0.9s						
ESDC	**Sonseca Array**	**84.91**	**353**	P	**P**	**02 30 49.0**	**+0.9**
	comp=Z,1.6nm,1.1s,baz=36,slow=4.5,SNR=3.3						
	comp=Z,1.6nm,1.1s						
QSPA	**South Pole Qui**	**145.19**	**180**	PKPbc	**PKPbc**	**02 37 47.9**	**-1.2**
	comp=Z,4.6nm,0.7s,baz=303,slow=2.3,SNR=4.1						

*KRSC **25** 02:19:41.3±1.4, 55.34N×166.54E, h34km±9km, Ml4.7, Felt [III] at Nikolskoe.*
*IDC **25** 02:19:42.4±0.7, 55.56N×166.30E, h0km, mb4.2/19, mbtmp4.3/22, ML4.6/3, Error ellipse: s-maj=21.6km s-min=12.3km az=159.0*
*NEIC **25** 02:19:44.1±1.6, 55.6N±0.1×166.2E±0.1, h10km±1km, mb4.6/55, Error ellipse: s-maj=26.0km s-min=4.6km az=154.0*
*MOS **25** 02:19:44.3±1.1, 55.33N×166.48E, h35km, mb4.5/11, Error ellipse: s-maj=10.6km s-min=6.5km az=148.4*

ISC 25 02:19:44.9±0.5, 55.41N±0.05×166.39E±0.05, h20km, n161, σ1§05/184, mb4.5/52, 6C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.31**	**230**	PN	**Pb**	**02 19 50.5**	**-1.3**
BKI	**Bering**	**0.31**	**230**	*e*P	**Pb**	**02 19 50.5**	**-1.3**
BKI				*e*S	**Sb**	**02 19 55.8**	**-0.6**
KBG	**Krutoberegovo**	**2.25**	**294**	*e*P	**Pn**	**02 20 19.1**	**-1.8**
SMKR	**Semkarok**	**3.01**	**295**	*e*P	**Pn**	**02 20 30.7**	**-0.8**
BDR	**Baidarnaya**	**3.14**	**294**	*e*P	**Pn**	**02 20 33.1**	**-0.2**
BDR				*e*S	**Sn**	**02 21 11.3**	**+1.2**
ZLN	**Zelenaya**	**3.22**	**283**	PN	**Pn**	**02 20 35.8**	**+1.4**
ZLN				S	**Sn**	**02 21 13.6**	**+1.4**
ZLN	**Zelenaya**	**3.22**	**283**	*e*P	**Pn**	**02 20 35.9**	**+1.4**
ZLN				*e*S	**Sn**	**02 21 13.9**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**3.27**	**282**	*e*P	**Pn**	**02 20 35.9**	**+0.8**
BZGR				*e*S	**Sn**	**02 21 16.1**	**+2.7**
BZP	**Bezymyannyi-Pe**	**3.35**	**281**	*e*P	**Pn**	**02 20 36.8**	**+0.5**
BZP				*e*S	**Sn**	**02 21 18.6**	**+3.1**
KLY	**Klyuchi**	**3.36**	**288**	PN	**Pn**	**02 20 33.9**	**-2.3**
KLY				S	**Sn**	**02 21 12.6**	**-2.9**
KLY	**Klyuchi**	**3.36**	**288**	*e*P	**Pn**	**02 20 34.3**	**-1.9**
KLY				*e*S	**Sn**	**02 21 13.7**	**-1.8**
BZMR	**Bezymyannaya**	**3.38**	**281**	PN	**Pn**	**02 20 37.3**	**+0.6**
BZMR				S	**Sn**	**02 21 18.1**	**+1.8**
BZMR	**Bezymyannaya**	**3.38**	**281**	*e*P	**Pn**	**02 20 37.3**	**+0.6**
BZMR				*e*S	**Sn**	**02 21 18.6**	**+2.3**
BZWR	**Bezymyannyi-We**	**3.38**	**282**	PN	**Pn**	**02 20 36.9**	**+0.2**
BZWR	**Bezymyannyi-We**	**3.38**	**282**	*e*P	**Pn**	**02 20 37.0**	**+0.3**
BZWR				*e*S	**Sn**	**02 21 18.8**	**+2.4**
TUMD	**Tumrok D**	**3.43**	**269**	*e*P	**Pn**	**02 20 37.4**	**+0.1**
TUMD				*e*S	**Sn**	**02 21 18.5**	**+1.3**
KIRR	**Kirishev**	**3.47**	**282**	PN	**Pn**	**02 20 38.0**	**+0.2**
KIRR				S	**Sn**	**02 21 20.3**	**+1.9**
KIRR	**Kirishev**	**3.47**	**282**	*e*P	**Pn**	**02 20 38.1**	**+0.2**
KMNR	**Kamenistaya**	**3.51**	**278**	PN	**Pn**	**02 20 39.3**	**+0.9**
KMNR				S	**Sn**	**02 21 19.6**	**+0.2**
KMNR	**Kamenistaya**	**3.51**	**278**	*e*P	**Pn**	**02 20 39.5**	**+1.1**
KPT	**Kopyto**	**3.54**	**282**	PN	**Pn**	**02 20 39.2**	**+0.5**
KPT	**Kopyto**	**3.54**	**282**	*e*P	**Pn**	**02 20 39.2**	**+0.5**
TUMR	**Tumrok**	**3.57**	**271**	PN	**Pn**	**02 20 39.5**	**+0.3**
TUMR				S	**Sn**	**02 21 21.2**	**+0.4**
TUMR	**Tumrok**	**3.57**	**271**	*e*P	**Pn**	**02 20 39.7**	**+0.5**
TUMR				*e*S	**Sn**	**02 21 22.8**	**+2.0**
KOZ	**Kozyrevsk**	**3.74**	**283**	*e*P	**Pn**	**02 20 42.6**	**+1.1**
KII	**Karymskiy**	**4.25**	**254**	PN	**Pn**	**02 20 48.7**	**+0.1**
ESO	**Esso**	**4.39**	**280**	PN	**Pn**	**02 20 52.9**	**+2.5**
ESO	**Esso**	**4.39**	**280**	*e*P	**Pn**	**02 20 52.9**	**+2.5**
SPN	**Mys Shipunski**	**4.39**	**241**	PN	**Pn**	**02 20 49.2**	**-1.2**
SMAR	**Somma**	**4.93**	**247**	PN	**Pn**	**02 20 58.5**	**+0.5**
SMAR	**Somma**	**4.93**	**247**	*e*P	**Pn**	**02 20 58.5**	**+0.5**
SMAR				*e*S	**Sn**	**02 21 54.4**	**-0.2**
UGLR	**Uglovaya**	**4.95**	**247**	PN	**Pn**	**02 20 58.5**	**+0.4**
AVH	**Avacha**	**4.97**	**248**	PN	**Pn**	**02 20 59.0**	**+0.7**
AVH	**Avacha**	**4.97**	**248**	*e*P	**Pn**	**02 20 59.2**	**+0.8**
AVH				*e*S	**Sn**	**02 21 54.9**	**-0.3**
KRX	**Arik**	**4.97**	**249**	PN	**Pn**	**02 20 59.1**	**+0.7**
KRX	**Arik**	**4.97**	**249**	*e*P	**Pn**	**02 20 59.1**	**+0.7**
KOK	**Koryaka**	**5.01**	**248**	PN	**Pn**	**02 20 59.7**	**+0.8**
KOK	**Koryaka**	**5.01**	**248**	*e*P	**Pn**	**02 20 59.7**	**+0.8**
DALK	**Dalny**	**5.08**	**245**	PN	**Pn**	**02 20 59.8**	**+0.1**
DALK	**Dalny**	**5.08**	**245**	*e*P	**Pn**	**02 20 59.9**	**+0.2**
PET	**Petropavlovsk**	**5.13**	**245**	Pn	**Pn**	**02 21 00.5**	**0.0**
PET	**Petropavlovsk**	**5.13**	**245**	*e*PN	**Pn**	**02 21 01.2**	**+0.7**
PET	**Petropavlovsk**	**5.13**	**245**	*e*P	**Pn**	**02 21 00.9**	**+0.4**
KRMR	**Karymshinskiy**	**5.50**	**245**	PN	**Pn**	**02 21 07.0**	**+1.3**
KRMR	**Karymshinskiy**	**5.50**	**245**	*e*P	**Pn**	**02 21 06.8**	**+1.3**
KRMR				*e*S	**Sn**	**02 22 08.3**	**+0.1**
RUS	**Russkaya**	**5.53**	**241**	PN	**Pn**	**02 21 05.5**	**-0.4**
PEA0B	**Petropavlovsk-**	**5.59**	**249**	Pn	**Pn**	**02 21 06.0**	**-0.9**
PEA0B	**Petropavlovsk-**	**5.59**	**249**	*e*PN	**Pn**	**02 21 07.3**	**+0.4**
PETK	**Petropavlovsk-**	**5.59**	**249**	Pn	**Pn**	**02 21 07.3**	**+0.5**
PETK	**Petropavlovsk-**	**5.59**	**249**	Pn	**Pn**	**02 21 07.2**	**+0.4**
	23nm,0.3s,baz=82,slow=20,SNR=13						
PETK				Sn	**Sn**	**02 22 12.5**	**+2.0**
	5.4nm,0.3s,baz=93,slow=20,SNR=1.3						
	40nm,0.4s						
MTVR	**Mutnovka**	**5.66**	**242**	PN	**Pn**	**02 21 08.0**	**0.0**
MTVR	**Mutnovka**	**5.66**	**242**	*e*P	**Pn**	**02 21 08.6**	**+0.7**
MTVR				*e*S	**Sn**	**02 22 11.8**	**-0.6**
GRL	**Gorelyy**	**5.68**	**243**	PN	**Pn**	**02 21 09.0**	**+0.8**
ASAK	**Asacha**	**5.86**	**242**	PN	**Pn**	**02 21 11.4**	**+0.7**
ASAK	**Asacha**	**5.86**	**242**	*e*P	**Pn**	**02 21 12.9**	**+2.2**
ASAK				*e*S	**Sn**	**02 22 17.0**	**-0.2**
APC	**Apacha**	**5.97**	**249**	*e*P	**Pn**	**02 21 13.3**	**+1.3**
SKR	**Severo-Kuril's**	**7.79**	**237**	*e*PN	**Pn**	**02 21 35.2**	**-1.8**
BILL	**Bilibino**	**12.68**	**360**	*e*PN	**Pn**	**02 22 44.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**17.00**	**250**	*e*P	**Pn**	**02 23 41.7**	**+0.5**
ASAJ	**Asahikawa**	**18.97**	**243**	P	**Pn**	**02 24 06.9**	**+1.4**
	1.0nm,0.3s,baz=19,slow=18,SNR=2.7						
	23nm,1.0s						
YAK	**Yakutsk**	**19.96**	**304**	*e*P	**P**	**02 24 14.3**	**-1.1**
YAK				pmax	pmax		
	comp=

INK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
F31M	**Tsiigehtchic**	**29.74**	**42**	P	**P**	02 25 49.4	+0.1
F31M				IAmb	IAmb	02 26 15.4	
	comp=Z,26nm,1.5s						
M31M	**Drury Creek, Y**	**30.41**	**53**	P	**P**	02 25 56.1	+0.7
JIS	**Juneau Island**	**31.62**	**60**	P	**P**	02 26 07.2	+1.2
JIS				IAmb	IAmb	02 26 33.8	
	comp=Z,46nm,1.4s						
C36M	**Paulatuk**	**32.99**	**38**	P	**P**	02 26 18.1	+0.1
H11N2	**WAKE ISLAND Hy**	**35.62**	**179**	T	T	03 03 40.3	
	baz=358,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**35.63**	**179**	T	T	03 03 42.9	
	baz=358,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	03 03 44.7	
	baz=358,slow=76,SNR=6.1						
NRIK	**Noril'sk**	**36.18**	**324**	*eP*	**P**	02 26 45.6	+0.1
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	**Songino Array**	**36.95**	**284**	P	**P**	02 26 52.7	+0.2
SONM	**Songino Array**	**36.95**	**284**	P	**P**	02 26 53.0	+0.5
	comp=Z,2.5nm,0.6s,baz=56,slow=6.8,SNR=6.8						
SONM				PcP	**PcP**	02 29 14.4	+1.0
	comp=Z,0.2nm,0.3s,baz=64,slow=3.4,SNR=2.2						
	comp=Z,2.5nm,0.6s						
YKA	**Yellowknife Ar**	**38.92**	**47**	*eP*	**P**	02 27 09.3	+0.6
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**38.92**	**47**	P	**P**	02 27 09.0	+0.3
	comp=Z,3.5nm,0.8s,baz=298,slow=7.9,SNR=8.4						
	comp=Z,3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**44.61**	**304**	PcP	**PcP**	02 29 37.2	-0.6
	comp=Z,0.8nm,0.6s,baz=72,slow=3.8,SNR=2.2						
SPITS	**Spitsbergen Ar**	**45.42**	**352**	P	**P**	02 28 01.5	0.0
SPITS				pmax	pmax		
	comp=Z,60nm,1.5s						
SPITS	**Spitsbergen Ar**	**45.42**	**352**	P	**P**	02 28 01.0	-0.5
	comp=Z,9.9nm,0.9s,baz=58,slow=7.9,SNR=6.2						
	comp=Z,9.9nm,0.9s						
FCC	**Fort Churchill**	**49.32**	**43**	P	**P**	02 28 32.2	+0.2
FCC	**Fort Churchill**	**49.32**	**43**	P	**P**	02 28 32.2	+0.2
FCC				pmax	pmax		
	comp=Z,18nm,1.1s						
KURK	**Kurchatov**	**49.60**	**303**	P	**P**	02 28 33.2	-1.1
KURK	**Kurchatov**	**49.60**	**303**	P	**P**	02 28 33.9	-0.4
KURK						02 29 56.6	
KURBB	**Kurchatov Arra**	**49.70**	**303**	P	**P**	02 28 33.9	-1.2
	comp=Z,4.2nm,0.9s,baz=51,slow=7.5,SNR=6.2						
KURBB				PcP	**PcP**	02 29 56.6	+0.6
	comp=Z,0.3nm,0.6s,baz=41,slow=3.0,SNR=1.3						
	comp=Z,4.2nm,0.9s						
MK31	**Makanchi Array**	**50.42**	**298**	P	**P**	02 28 39.3	-1.4
MK31	**Makanchi Array**	**50.42**	**298**	P	**P**	02 28 39.3	-1.4
MK31				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**50.42**	**298**	*eP*	**P**	02 28 43.9	+3.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**50.42**	**298**	P	**P**	02 28 39.3	-1.3
	comp=Z,1.8nm,0.7s,baz=46,slow=5.8,SNR=8.5						
	comp=Z,1.8nm,0.7s						
MAKZ	**Makanchi**	**50.57**	**298**	P	**P**	02 28 40.4	-1.4
MAKZ	**Makanchi**	**50.57**	**298**	P	**P**	02 28 40.4	-1.4
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NVAR	**Mina Array Bea**	**51.53**	**76**	P	**P**	02 28 49.8	+0.4
	comp=Z,0.9nm,0.7s,baz=316,slow=6.2,SNR=3.1						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**51.79**	**310**	P	**P**	02 28 50.1	-0.6
	comp=Z,2.7nm,0.7s,baz=46,slow=6.8,SNR=4.3						
BVAR				PcP	**PcP**	02 30 03.2	-0.4
	comp=Z,0.8nm,0.6s,baz=64,slow=3.4,SNR=1.6						
	comp=Z,2.7nm,0.7s						
BRVK	**Borovoye**	**51.81**	**310**	P	**P**	02 28 50.3	-0.6
BRVK				IAmb	IAmb	02 28 52.4	
	comp=Z,5.8nm,0.8s						
BRVK	**Borovoye**	**51.81**	**310**	P	**P**	02 28 50.3	-0.6
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PDAR	**Pinedale Array**	**53.18**	**66**	P	**P**	02 29 02.9	+1.3
PDAR	**Pinedale Array**	**53.18**	**66**	P	**P**	02 29 02.5	+0.9
	comp=Z,1.5nm,0.9s,baz=343,slow=4.6,SNR=4.6						
	comp=Z,1.5nm,0.9s						
ARU	**Arti**	**54.13**	**319**	P	**P**	02 29 07.1	-0.8
ARU	**Arti**	**54.13**	**319**	P	**P**	02 29 06.6	-1.4
B35A	**Bob, Littlefor**	**56.85**	**52**	P	**P**	02 29 28.1	+0.4
B35A				IAmb	IAmb	02 29 30.4	
	comp=Z,14nm,1.3s						
EYMN	**Ely**	**58.16**	**51**	P	**P**	02 29 36.5	-0.4
S22A	**4UR Ranch, Cre**	**58.26**	**69**	P	**P**	02 29 39.8	+1.7
KKAR	**Karatay Array**	**58.90**	**302**	P	**P**	02 29 41.2	-1.0
KKAR	**Karatay Array**	**58.90**	**302**	P	**P**	02 29 41.2	-1.0
ABKAR	**Akbulak array**	**59.02**	**313**	P	**P**	02 29 41.5	-1.4
ABKAR	**Akbulak array**	**59.02**	**313**	P	**P**	02 29 41.8	-1.0
ABKAR				IAmb	IAmb	02 30 02.1	
	comp=Z,5.8nm,1.4s						
FINES	**FINESS Array B**	**59.37**	**339**	P	**P**	02 29 44.4	-0.6
	comp=Z,7.1nm,1.0s,baz=330,slow=11,SNR=2.6						
	comp=Z,7.1nm,1.0s						
D41A	**Chassel**	**60.12**	**50**	P	**P**	02 29 49.1	-1.3
CMAR	**Chiang Mai Arr**	**62.22**	**262**	P	**P**	02 30 06.2	+1.2
	comp=Z,1.4nm,0.3s,baz=26,slow=6.4,SNR=2.1						
	comp=Z,1.4nm,0.3s						
NB201	**NORSAR Array S**	**62.23**	**347**	P	**P**	02 30 03.5	-1.1
NIL	**Nilore**	**64.72**	**293**	P	**P**	02 30 21.1	-0.4
NIL	**Nilore**	**64.72**	**293**	P	**P**	02 30 21.1	-0.4
NIL				pmax	pmax		
	comp=Z,12nm,1.0s						
TX31	**Lajitas Ar. Si**	**66.37**	**72**	P	**P**	02 30 32.8	+0.5
TX31				IAmb	IAmb	02 30 35.9	
	comp=Z,5.7nm,0.8s						
TXAR	**Lajitas Array**	**66.37**	**72**	P	**P**	02 30 32.9	+0.6
TXAR	**Lajitas Array**	**66.37**	**72**	P	**P**	02 30 33.5	+1.2
	comp=Z,3.6nm,0.6s,baz=300,slow=5.1,SNR=19						
	comp=Z,3.6nm,0.6s						
AKASG	**Malin Array Be**	**68.41**	**332**	P	**P**	02 30 43.8	-0.9
	comp=Z,1.2nm,0.5s,baz=27,slow=6.8,SNR=4.9						
	comp=Z,1.2nm,0.5s						
BURAR	**Bucovina Array**	**72.29**	**334**	P	**P**	02 31 08.2	-0.4
FUORN	**Ofenpass-Fuorn**	**76.37**	**343**	P	**P**	02 31 32.6	0.0
FUORN				IAmb	IAmb	02 31 44.6	
	comp=Z,12nm,1.5s						
WR0	**Warramunga Arr**	**79.81**	**210**	P	**P**	02 31 52.8	+1.3
WR0				IAmb	IAmb	02 32 16.5	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**79.85**	**210**	P	**P**	02 31 51.9	+0.2
	comp=Z,1.2nm,0.8s,baz=21,slow=6.0,SNR=3.7						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**83.50**	**210**	P	**P**	02 32 11.7	+0.8
	comp=Z,1.3nm,0.7s,baz=14,slow=6.7,SNR=7.1						
	comp=Z,1.3nm,0.7s						
ESDC	**Sonseca Array**	**84.93**	**353**	P	**P**	02 32 18.4	+0.1
	comp=Z,0.8nm,0.8s,baz=342,slow=4.1,SNR=3.1						
	comp=Z,0.8nm,0.8s						

KRSC 25 02:22:51.0±1.5, 55°43N×166°41E, h28km±7km, Ml4.3, Felt [III] at Nikolskoe., Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**229**	*eP*	Pn	02 22 59.5	-0.4
BKI				*eS*	Sb	02 23 04.9	+0.9
BZGR	**Bezymyannyi-Gr**	**3.27**	**281**	*eP*	Pb	02 23 44.6	-3.9
KLY	**Klyuchi**	**3.36**	**288**	*eP*	Pn	02 23 43.0	+1.4
BZMR	**Bezymyannaya**	**3.39**	**281**	*eP*	Pn	02 23 46.0	+3.8
TUMD	**Tumrok D**	**3.44**	**269**	*eP*	Pn	02 23 46.2	+3.5
TUMD				*eS*	Sn	02 24 27.1	+4.6
KMNR	**Kamenistaya**	**3.52**	**278**	*eP*	Pb	02 23 48.2	-4.3
TUMR	**Tumrok**	**3.58**	**270**	*eP*	Pn	02 23 48.4	+3.7
SMAR	**Somma**	**4.95**	**247**	*eP*	Pn	02 24 07.3	+3.7
UGLR	**Uglovaya**	**4.96**	**247**	*eP*	Pn	02 24 08.0	+4.3
KRX	**Arik**	**4.98**	**249**	*eP*	Pn	02 24 07.6	+3.6
KOK	**Koryaka**	**5.02**	**248**	*eP*	Pn	02 24 08.5	+4.0
GRL	**Gorelyy**	**5.70**	**243**	*eP*	Pn	02 24 19.6	+5.8
ASAK	**Asacha**	**5.88**	**242**	*eP*	Pn	02 24 21.1	+4.8

KRSC 25 02:25:11.3±1.4, 55°29N×166°47E, h38km±7km, Ml3.9
IDC 25 02:25:12.7±2.9, 55°96N×165°95E, h0km, mb3.5/4, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=77.3km s-min=26.0km az=154.0
ISC 25 02:25:13.9±1.2, 55°57N±0°06×166°12E±0°08, h20km, n21, σ2s18/27, mb3.5/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**193**	*eP*	**Pb**	02 25 19.6	-2.3
BKI				*eS*	**Sb**	02 25 25.5	-1.7
SMKR	**Semkarok**	**2.80**	**293**	*eP*	**Pb**	02 26 00.3	-2.8
BDR	**Baidarnaya**	**2.93**	**292**	*eP*	**Pb**	02 26 02.4	-3.0
TUMD	**Tumrok D**	**3.28**	**266**	*eP*	**Pn**	02 26 06.8	+2.7
TUMD				*eS*	**Sb**	02 26 48.0	-2.9
KMNR	**Kamenistaya**	**3.34**	**276**	*eS*	**Sb**	02 26 51.6	-0.9
TUMR	**Tumrok**	**3.42**	**268**	*eP*	**Pn**	02 26 09.6	+3.5
SMAR	**Somma**	**4.86**	**245**	*eP*	**Pn**	02 26 27.4	+1.4
UGLR	**Uglovaya**	**4.88**	**244**	*eP*	**Pn**	02 26 27.7	+1.6
KRX	**Arik**	**4.89**	**246**	*eP*	**Pn**	02 26 28.1	+1.8
AVH	**Avacha**	**4.89**	**245**	*eP*	**Pn**	02 26 28.3	+2.0
AVH				*eS*	**Sn**	02 27 24.5	+2.3
KOK	**Koryaka**	**4.93**	**245**	*eP*	**Pn**	02 26 28.7	+1.9
DALK	**Dalny**	**5.01**	**242**	*eP*	**Pn**	02 26 28.7	+0.9
DALK				*eS*	**Sn**	02 27 24.3	-0.8
KRMR	**Karymshinskiy**	**5.43**	**243**	*eS*	**Sn**	02 27 36.9	+1.4
PETK	**Petropavlovsk-**	**5.51**	**247**	Pn	**Pn**	02 26 36.8	+2.0
	2.5nm,0.3s,baz=89,slow=20,SNR=5.5						
PETK				Sn	**Sn**	02 27 41.1	+3.6
	1.4nm,0.3s,baz=289,slow=19,SNR=2.4						
	5.3nm,0.5s						
MTVR	**Mutnovka**	**5.61**	**240**	*eP*	**Pn**	02 26 37.4	+1.2
MTVR				*eS*	**Sn**	02 27 39.8	-0.2
ASAK	**Asacha**	**5.81**	**240**	*eP*	**Pn**	02 26 40.7	+1.9
APC	**Apacha**	**5.88**	**247**	*eP*	**Pn**	02 26 42.5	+2.7
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	02 30 31.9	+0.2
	1.0nm,0.9s,baz=274,slow=8.0,SNR=4.2						
	1.0nm,0.9s						
SONM	**Songino Array**	**36.76**	**284**	P	**P**	02 32 21.4	+1.6
	0.2nm,0.4s,baz=52,slow=7.5,SNR=1.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**49.48**	**303**	P	**P**	02 34 02.6	+0.3
	0.5nm,0.8s,baz=54,slow=8.3,SNR=2.1						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	02 34 16.1	-1.9
	0.3nm,0.3s,baz=44,slow=8.6,SNR=2.0						
	0.3nm,0.3s						

IDC 25 02:26:50.7±1.9, 55°63N×166°36E, h0km, mb3.7/7, mbtmp3.7/8, ML3.3/1, Error ellipse: s-maj=52.4km s-min=26.8km az=171.0
KRSC 25 02:26:52.0±2.1, 55°31N×166°41E, h35km±6km, Ml4.1, Felt [III] at Nikolskoe.
ISC 25 02:26:53.1±1.2, 55°4N±0°1×166°5E±0°1, h20km, n24, σ1s31/25, mb3.7/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**230**	*eP*	**Pb**	02 26 59.8	-1.0
BKI				*eS*	**Sb**	02 27 05.5	-0.5
BZMR	**Bezymyannaya**	**3.42**	**281**	*eP*	**Pn**	02 27 46.7	+1.4
TUMD	**Tumrok D**	**3.47**	**269**	*eP*	**Pn**	02 27 46.6	+0.7
TUMR	**Tumrok**	**3.61**	**270**	*eP*	**Pn**	02 27 50.0	+2.1
KII	**Karymskiy**	**4.30**	**254**	*eP*	**Pn**	02 27 59.4	+2.1
SMAR	**Somma**	**4.98**	**247**	*eP*	**Pn**	02 28 07.9	+1.0
UGLR	**Uglovaya**	**5.00**	**247**	*eP*	**Pn**	02 28 08.3	+1.4
AVH	**Avacha**	**5.01**	**247**	*eP*	**Pn**	02 28 08.4	+1.2
KRX	**Arik**	**5.02**	**249**	*eP*	**Pn**	02 28 08.2	+1.0
KOK	**Koryaka**	**5.05**	**248**	*eP*	**Pn**	02 28 08.9	+1.2
DALK	**Dalny**	**5.12**	**245**	*eP*	**Pn**	02 28 09.3	+0.8
KRMR	**Karymshinskiy**	**5.55**	**245**	*eP*	**Pn**	02 28 15.8	+1.4
PETK	**Petropavlovsk-**	**5.64**	**249**	Pn	**Pn**	02 28 16.2	+0.6
	4.5nm,0.3s,baz=68,slow=18,SNR=8.4						
	14nm,0.5s						
MTVR	**Mutnovka**	**5.71**	**242**	*eP*	**Pn**	02 28 17.8	+1.0
GRL	**Gorelyy**	**5.73**	**243**	*eP*	**Pn**	02 28 18.8	+1.8
ASAK	**Asacha**	**5.91**	**242**	*eP*	**Pn**	02 28 21.5	+2.0
APC	**Apacha**	**6.01**	**249**	*eP*	**Pn**	02 28 22.7	+1.9
SONM	**Songino Array**	**36.98**	**284**	P	**P**	02 34 01.4	+0.6
	0.5nm,0.6s,baz=130,slow=48,SNR=1.6						
	0.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**45.39**	**352**	P	**P**	02 35 09.4	-0.1
	2.9nm,0.9s,baz=10,slow=10,SNR=1.0						
	2.9nm,0.9s						
KURBB	**Kurchatov Arra**	**49.71**	**303**	P	**P**	02 35 42.6	-0.6
	0.6nm,0.6s,baz=52,slow=8.0,SNR=5.3						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**50.44**	**298**	P	**P**	02 35 48.1	-0.9
	0.3nm,0.4s,baz=55,slow=6.9,SNR=7.3						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**51.79**	**310**	P	**P**	02 35 58.4	-0.6
	0.6nm,0.7s,baz=80,slow=3.5,SNR=2.5						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**66.32**	**72**	P	**P**	02 37 40.9	+0.8
	0.6nm,0.7s,baz=302,slow=4.7,SNR=4.1						
	0.6nm,0.7s						
AKASG	**Malin Array Be**	**68.40**	**332**	P	**P**	02 37 52.0	-0.8
	0.2nm,0.4s,baz=29,slow=7.1,SNR=1.8						
	0.2nm,0.4s						

AEIC 25 02:26:57.8±1.4, 56°0N±0°1×149°3W±0°1, h12km±9km, Error ellipse: s-maj=19.7km s-min=9.8km az=157.0
NEIC 25 02:27:00.6±1.6, 56°53N±0°07×149°5W±0°1, h19km±10km, ML3.4/20, ML3.2(AEIC), Error ellipse: s-maj=11.1km s-min=9.4km az=50.0
ISC 25 02:26:56.7±2.9, 56°3N±0°1×149°49W±0°08, h10km, n32, σ1s16/33, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.23**	**312**		**Pn**	02 27 34.3	+0.6
KDAK	**Kodiak Island**	**2.23**	**312**		**Sb**	02 28 03.3	-1.4
KDAK	**Kodiak Island**	**2.23**	**312**	P	**Pn**	02 27 34.3	+0.6
	baz=133						
KDAK				S	**Sb**	02 28 03.3	-1.4
	baz=133						
OHAK	**Old Harbor**	**2.28**	**295**		**Pn**	02 27 34.1	-0.2
OHAK	**Old Harbor**	**2.28**	**295**		**Sn**	02 28 02.3	0.0
OHAK	**Old Harbor**	**2.28**	**295**	IAML		02 27 55.0	
	comp=N,48nm,2.3s						
OHAK	**Old Harbor**	**2.28**	**295**	P	**Pn**	02 27 34.1	-0.2
	baz=117						
OHAK				S	**Sn**	02 28 02.3	0.0
	baz=117						
SYI	**Shuyak Island**	**2.77**	**327**		**Pn**	02 27 42.7	+1.6
SYI					**Sb**	02 28 17.9	-2.4
SYI	**Shuyak Island**	**2.77**	**327**	IAML		02 28 25.1	
	comp=N,116nm,3.3s						
SYI				IAML		02 29 20.6	
	comp=E,107nm,3.8s						
Q20K	**Shuyak Island**	**2.77**	**327**	P	**Pn**	02 27 42.7	+1.6
	baz=146						
Q20K				S	**Sb**	02 28 18.7	-1.6
	baz=146						
R18K	**Karluk**	**2.99**	**297**		**Pn**	02 27 44.3	+0.2
R18K					**Sn**	02 28 20.3	+0.4
R18K	**Karluk**	**2.99**	**297**	IAML		02 28 42.9	
	comp=E,144nm,4.1s						
R18K				IAML		02 29 32.1	
	comp=N,130nm,4.7s						
R18K	**Karluk**	**2.99**	**297**	P	**Pn**	02 27 44.7	+0.7
	baz=116						
R18K				S	**Sn**	02 28 22.1	+2.1
	baz=116						
CNPM	**China Poot**	**3.34**	**345**		**Pn**	02 27 49.8	+0.8
CNPM					**Sn**	02 28 30.9	+2.3
CNPM	**China Poot**	**3.34**	**345**	IAML		02 28 39.6	
	comp=E,120nm,4.8s						
CNPM				IAML		02 28 51.6	
	comp=N,99nm,4.7s						
BRSE	**Bradley Lake S**	**3.49**	**350**		**Pn**	02 27 51.5	+0.5
BRSE	**Bradley Lake S**	**3.49**	**350**	P	**Pn**	02 27 51.5	+0.5
	baz=167						
KAHG	**Katmai Hook Gl**	**3.49**	**311**		**Pn**	02 27 52.4	+1.3
BRLK	**Bradley Lake**	**3.52**	**348**		**Pn**	02 27 51.9	+0.4
BRLK	**Bradley Lake**	**3.52**	**348**	IAML		02 29 18.8	
	comp=E,69nm,3.6s						
BRLK				IAML		02 30 01.8	
	comp=N,65nm,4.2s						
ACHA	**Angle Creek He**	**3.69**	**303**		**Pn**	02 27 54.9	+1.1
KVTA	**Katmai Vly 10**	**3.76**	**306**		**Pn**	02 27 56.6	+1.9
ANCK	**Angle Creek**	**3.76**	**302**		**Pn**	02 27 55.4	+0.6
P23K	**Montague Islan**	**3.84**	**16**		**Pn**	02 27 55.6	-0.2
P19K	**Oil Pt**	**3.88**	**331**	Pn	**Pn**	02 27 55.4	-1.0
P19K				IAML		02 29 54.0	
	comp=N,153nm,4.4s						
CNTC	**Contact Creek**	**3.98**	**302**		**Pn**	02 27 57.4	-0.4
Q17K	**Contact Creek**	**3.98**	**302**	P	**Pn**	02 27 57.0	-0.7
	baz=119						
P18K	**Big Mountain,**	**4.34**	**317**		**Pn**	02 28 03.6	+0.9
P18K	**Big Mountain,**	**4.34**	**317**	IAML		02 29 03.3	
	comp=E,33nm,4.7s						
P18K	**Big Mountain,**	**4.34**	**317**	P	**Pn**	02 28 03.6	+0.9
	baz=134						
HIN	**Hinchinbrook I**	**4.37**	**20**		**Pn**	02 28 02.8	-0.4
SUA	**Susitna One**	**5.19**	**353**	Pn	**Pn**	02 28 14.8	+0.3

BJI 25 02:27:52.7±0.0, 55°73N×166°26E, h10km, mb4.7/48
IDC 25 02:27:52.9±0.5, 55°48N×166°25E, h0km, mb4.3/33, mbtmp4.3/39, ML4.6/5, Error ellipse: s-maj=12.9km s-min=10.3km az=166.0
KRSC 25 02:27:53.0±1.8, 55°39N×166°37E, h40km±12km, Ml5.0, Felt [III] at Nikolskoe.
NEIC 25 02:27:54.3±1.7, 55°46N±0°09×166°4E±0°1, h10km±1km, mb4.7/110, Error ellipse: s-maj=15.9km s-min=11.6km az=177.0
MOS 25 02:27:55.7±1.0, 55°46N×166°33E, h33km, mb4.8/20, Error ellipse: s-maj=5.6km s-min=5.5km az=45.6
ISC 25 02:27:55.2±0.7, 55°44N±0°04×166°35E±0°04, h17km±4km, n271, σ1s134/308, mb4.6/109, 10C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**223**	PN	**Pg**	02 28 01.2	-0.8
BKI	**Bering**	**0.32**	**223**	*eP*	**Pg**	02 28 01.2	-0.8
BKI				*eS*	**Sg**	02 28 06.8	+0.2
KBG	**Krutoberegovo**	**2.21**	**293**	PN	**Pn**	02 28 28.2	-2.9
KBG				S	**Sn**	02 28 54.5	-3.5
KBG	**Krutoberegovo**	**2.21**	**293**	*eP*	**Pn**	02 28 28.2	-2.9
KBG				*eS*	**Sn**	02 28 54.5	-3.5
SMKR	**Semkarok**	**2.97**	**295**	PN	**Pn**	02 28 41.2	-0.4
SMKR				S	**Sn**	02 29 15.5	-1.4
SMKR	**Semkarok**	**2.97**	**295**	*eP*	**Pn**	02 28 41.1	-0.4
SMKR				*eS*	**Sn**	02 29 15.5	-1.4
BDR	**Baidarnaya**	**3.10**	**294**	PN	**Pn**	02 28 43.5	+0.1
BDR				S	**Sn**	02 29 21.6	+1.5
BDR	**Baidarnaya**	**3.10**	**294**	*eP*	**Pn**	02 28 43.5	+0.1
BDR				*eS*	**Sn**	02 29 21.6	+1.5
SRKR	**Sorokina**	**3.15**	**295**	PN	**Pn**	02 28 43.3	-0.8
SRKR				S	**Sn**	02 29 21.2	-0.1
SRKR	**Sorokina**	**3.15**	**295**	*eP*	**Pn**	02 28 43.3	-0.8
SRKR				*eS*	**Sn**	02 29 21.2	-0.1
ZLN	**Zelenaya**	**3.19**	**283**	PN	**Pn**	02 28 45.5	+0.9
ZLN				S	**Sn**	02 29 24.5	+2.2
ZLN	**Zelenaya**	**3.19**	**283**	*eP*	**Pn**	02 28 45.5	+0.9
ZLN				*eS*	**Sn**	02 29 24.5	+2.2
CIRR	**Tsirk**	**3.24**	**284**	PN	**Pn**	02 28 46.1	+0.8
CIRR				S	**Sn**	02 29 25.1	+1.6
CIRR	**Tsirk**	**3.24**	**284**	*eP*	**Pn**	02 28 46.1	+0.8
CIRR				*eS*	**Sn**	02 29 25.1	+1.6
BZGR	**Bezymyannyi-Gr**	**3.24**	**281**	PN	**Pn**	02 28 45.5	+0.2
BZGR				S	**Sn**	02 29 24.3	+0.8
BZGR	**Bezymyannyi-Gr**	**3.24**	**281**	*eP*	**Pn**	02 28 45.5	+0.2
BZGR				*eS*	**Sn**	02 29 24.3	+0.8
LGNR	**Loginova**	**3.27**	**284**	PN	**Pn**	02 28 46.0	+0.2
LGNR				S	**Sn**	02 29 25.4	+1.1
LGNR	**Loginova**	**3.27**	**284**	*eP*	**Pn**	02 28 46.0	+0.2
LGNR				*eS*	**Sn**	02 29 25.4	+1.1
BZP	**Bezymyannyi-Pe**	**3.33**	**281**	*eP*	**Pn**	02 28 46.7	+0.2
BZP				*eS*	**Sn**	02 29 26.4	+0.7
KLY	**Klyuchi**	**3.33**	**288**	PN	**Pn**	02 28 44.9	-1.5
KLY				S	**Sn**	02 29 23.3	-2.2
KLY	**Klyuchi**	**3.33**	**288**	*eP*	**Pn**	02 28 44.9	-1.5
KLY				*eS*	**Sn**	02 29 23.3	-2.2
BZMR	**Bezymyannaya**	**3.36**	**281**	PN	**Pn**	02 28 47.6	+0.7
BZMR				S	**Sn**	02 29 27.2	+0.8
BZMR	**Bezymyannaya**	**3.36**	**281**	*eP*	**Pn**	02 28 47.6	+0.7
BZMR				*eS*	**Sn**	02 29 27.2	+0.8
BZWR	**Bezymyannyi-We**	**3.36**	**281**	PN	**Pn**	02 28 47.5	+0.6
BZWR				S	**Sn**	02 29 27.6	+1.2
BZWR	**Bezymyannyi-We**	**3.36**	**281**	*eP*	**Pn**	02 28 47.5	+0.6
BZWR				*eS*	**Sn**	02 29 27.6	+1.2
TUMD	**Tumrok D**	**3.41**	**269**	*eP*	**Pn**	02 28 48.2	+0.6
TUMD				*eS*	**Sn**	02 29 27.9	+0.4
KIRR	**Kirishev**	**3.44**	**281**	PN	**Pn**	02 28 48.7	+0.6
KIRR				S	**Sn**	02 29 29.1	+0.6
KIRR	**Kirishev**	**3.44**	**281**	*eP*	**Pn**	02 28 48.7	+0.6
KIRR				*eS*	**Sn**	02 29 29.1	+0.6
KMNR	**Kamenistaya**	**3.49**	**278**	PN	**Pn**	02 28 49.4	+0.7

ASAK Asacha 5.86 242 PN **Pn** 02 29 22.7 +1.5
ASAK Asacha 5.86 242 *e*P **Pn** 02 29 22.7 +1.5
ASAK *e*S **Sn** 02 30 26.9 -1.0
APC Apacha 5.96 249 *e*P **Pn** 02 29 24.3 +1.8
APC *e*S **Sn** 02 30 31.1 +0.9
PAU Pauzhetka 6.95 239 PN **Pn** 02 29 37.0 +1.0
PAU Pauzhetka 6.95 239 *e*P **Pn** 02 29 37.0 +1.0
KMSK Kamenskaya 7.05 359 PN **Pn** 02 29 36.8 -0.7
KMSK Kamenskaya 7.05 359 *e*P **Pn** 02 29 36.8 -0.7
SKR Severo-Kuril's 7.79 237 *i* PN **Pn** 02 29 50.3 +2.7
MA2 Magadan 9.35 303 Pn **Pn** 02 30 08.9 -0.1
comp=Z,1.3nm,0.3s,baz=130,slow=19,SNR=2.2
comp=Z,4.4nm,0.5s
SEY Seymchan 10.36 322 Pn **Pn** 02 30 22.5 -0.3
comp=Z,1.1nm,0.5s,baz=107,slow=19,SNR=1.8
BILL Bilibino 12.65 360 *i* PN **Pn** 02 30 51.2 -2.8
YSS Yuzh-Sakhalins 16.98 250 *e*P **P** 02 31 52.9 -0.6
YSS pmax pmax
comp=Z,30nm,1.0s
F15K North Star Dit 17.39 42 P **Pn** 02 31 55.8 -0.8
K15K Wolf Creek Mou 17.82 54 **P** 02 32 02.5 -0.1
C16K Lisburne Hills 18.30 34 **P** 02 32 09.4 +1.6
I17K Unalakleet 18.47 49 P **P** 02 32 09.7 -0.1
GRNR Gornyy 18.49 268 ⇑ *i*P **Pn** 02 32 11.8 +1.6
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,6µm,12.0s
GRNR MLR MLR
comp=N,5µm,13.0s
GRNR MLR MLR
comp=Z,11µm,11.0s
JKA Kamikawa-asahi 18.96 243 **P** 02 32 15.6 +0.2
ASAJ Asahikawa 18.96 243 P **Pn** 02 32 16.2 +0.2
comp=Z,1.0nm,0.3s,baz=16,slow=10,SNR=8.7
comp=Z,46nm,0.8s
H18K Honhosa River 19.73 46 P **Pn** 02 32 25.1 0.0
H18K IAmb IAmb 02 32 47.9
comp=Z,51nm,1.4s
G18K Tagagawik 19.79 44 P **Pn** 02 32 25.8 0.0
C18K Utukok River 19.82 35 P **Pn** 02 32 25.9 -0.3
YAK Yakutsk 19.92 304 P **P** 02 32 24.6 -1.0
YAK Yakutsk 19.92 304 *e*P **P** 02 32 25.8 +0.1
YAK *e*S **S** 02 36 04.7 -4.2
YAK pmax pmax
comp=Z,196nm,1.2s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,121nm,1.5s
YAK smax smax
comp=E,10µm,13.4s
YAK smax smax
comp=N,5µm,9.1s
YAK Yakutsk 19.92 304 P **P** 02 32 25.1 -0.6
comp=N,4.9nm,0.3s,baz=87,slow=1.6,SNR=24
comp=N,137nm,0.9s
J18K Innoko River 20.15 52 **P** 02 32 28.6 +0.4
J18K IAmb IAmb 02 32 39.4
comp=Z,32nm,0.9s
F19K Shaleruckik Mo 20.39 42 P **P** 02 32 30.5 -0.2
G19K Purcell Mounta 20.47 44 **P** 02 32 31.4 -0.2
C19K Lookout Ridge 20.55 35 P **P** 02 32 32.1 -0.3
C19K IAmb IAmb 02 32 58.9
comp=Z,35nm,1.1s
H19K Roundabout Mou 20.59 46 P **P** 02 32 32.6 -0.3
H19K IAmb IAmb 02 32 42.5
comp=Z,55nm,1.4s
J19K Poorman 20.70 50 P **P** 02 32 33.5 -0.6
J19K IAmb IAmb 02 32 49.6
comp=Z,43nm,1.3s
E19K Redstone River 20.77 40 P **P** 02 32 35.0 +0.2
D19K Kuna River 20.80 37 P **P** 02 32 36.0 +0.8
L19K White Mountain 20.92 55 P **P** 02 32 37.3 +0.7
L19K IAmb IAmb 02 32 56.0
comp=Z,38nm,1.1s
J20K Nowinta River 21.36 50 **P** 02 32 41.2 0.0
B20K Meade River 21.69 34 IAmb IAmb 02 33 09.4
comp=Z,27nm,0.9s
IMAR Indian Mountai 21.77 45 P **P** 02 32 46.5 +0.9
KLR Kul'dur 21.87 268 P **P** 02 32 48.0 +1.2
KLR Kul'dur 21.87 268 P **P** 02 32 48.0 +1.2
comp=Z,9.7nm,0.9s,baz=55,slow=10,SNR=15
comp=Z,9.7nm,0.9s
G21K Allakaket 21.96 44 IAmb IAmb 02 33 05.7
comp=Z,34nm,1.4s
H21K Melozitna Rive 22.10 46 IAmb IAmb 02 32 58.5
comp=Z,26nm,1.1s
B21K Ikpikpuk River 22.37 35 IAmb IAmb 02 33 27.2
comp=Z,31nm,1.1s
ZEA Zeya 22.52 282 *e*P **P** 02 32 55.4 +1.6
ZEA pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 22.69 330 P **P** 02 32 54.5 -0.7
TIXI IAmb IAmb 02 33 04.4
comp=Z,24nm,1.4s
TIXI Tiksi 22.69 330 P **P** 02 32 54.6 -0.7
TIXI pmax pmax
comp=Z,25nm,1.4s
TIXI Tiksi 22.69 330 P **P** 02 32 55.4 +0.1
comp=Z,3.3nm,0.5s,baz=115,slow=11,SNR=11
comp=Z,3.3nm,0.5s
BPAW Bear Paw Mtn. 22.74 50 P **P** 02 32 57.4 +1.4
BPAW IAmb IAmb 02 33 20.5
comp=Z,36nm,1.3s
D22K Ayikyak River 22.81 38 P **P** 02 32 56.4 -0.3
D22K IAmb IAmb 02 33 24.4
comp=Z,25nm,1.2s
B22K Teshekpuk Lake 23.00 34 IAmb IAmb 02 33 25.2
comp=Z,24nm,1.0s
I23K Minto, Yukon-K 23.49 48 P **P** 02 33 03.9 +0.3
I23K IAmb IAmb 02 33 09.3
comp=Z,24nm,1.1s
HEH HeiHe 23.85 274 *e*P **P** 02 33 06.0 -1.2
HEH pmax pmax
comp=Z,24nm,0.9s
CCB Clear Creek Bu 24.14 49 P **P** 02 33 11.3 +1.6
CCB IAmb IAmb 02 33 16.1
comp=Z,31nm,1.2s
H24K Noodor Dome 24.15 46 IAmb IAmb 02 33 16.0
comp=Z,31nm,1.4s
D24K Happy Valley 24.22 38 IAmb IAmb 02 33 42.2
comp=Z,15nm,1.0s
G24K Hadweenzic Riv 24.37 44 IAmb IAmb 02 33 19.1
comp=Z,16nm,0.9s
HDA Harding Lake 24.50 50 P **P** 02 33 13.4 +0.2
HDA IAmb IAmb 02 33 19.5
comp=Z,19nm,0.9s
IL31 24.53 49 P **P** 02 33 13.6 +0.2
ILAR Eielson Array 24.53 49 P **P** 02 33 13.2 -0.2
ILAR Eielson Array 24.53 49 P **P** 02 33 13.9 +0.6
comp=Z,25nm,1.1s,baz=257,slow=8.0,SNR=16
ILAR PcP **PcP** 02 36 50.9 -0.1
comp=Z,0.8nm,1.0s,baz=263,slow=3.3,SNR=2.5
comp=Z,25nm,1.1s
USA0B Ussuriysk Arra 24.60 257 *i* P **P** 02 33 13.5 -0.7
USRK Ussuriysk Ar. 24.60 257 P **P** 02 33 13.9 -0.3
comp=Z,8.8nm,0.9s,baz=41,slow=9.7,SNR=7.5
comp=Z,8.8nm,0.9s
PRP Porcupine Dome 25.11 47 P **P** 02 33 17.7 -1.1
PRP IAmb IAmb 02 33 20.5
comp=Z,12nm,0.6s
D25K Kavik River 25.11 38 IAmb IAmb 02 33 49.5
comp=Z,14nm,1.1s
E25K Arctic Village 25.24 41 P **P** 02 33 19.4 -0.4
E25K IAmb IAmb 02 33 28.0
comp=Z,15nm,1.1s
FYU Fort Yukon 25.25 45 P **P** 02 33 19.4 -0.5
MDJ Mudanjiang 25.68 261 P **P** 02 33 24.3 +0.4
MDJ pP pP 02 33 26.1 -2.7
MDJ S **S** 02 37 41.3 -10
MDJ ScS **ScS** 02 44 24.3 +3.1
MDJ pmax pmax
comp=Z,34nm,1.2s
SCRK Sand Creek 25.82 51 P **P** 02 33 25.4 +0.2
SCRK IAmb IAmb 02 33 32.9
comp=Z,14nm,1.1s
BNX BinXian 26.24 265 ⇑ P **P** 02 33 29.0 0.0
BNX pmax pmax
comp=Z,18nm,1.3s
K27K Chicken 26.65 50 IAmb IAmb 02 33 40.3
comp=Z,25nm,1.1s
L27K Beaver Creek, 26.88 52 IAmb IAmb 02 33 42.7
comp=Z,22nm,1.2s
MJAR Matsushiro Arr 26.90 237 P **P** 02 33 34.9 -0.1
comp=Z,12nm,0.9s,baz=27,slow=8.6,SNR=13
MJAR PcP **PcP** 02 36 56.8 -0.1
comp=Z,0.6nm,0.3s,baz=351,slow=4.6,SNR=1.8
comp=Z,12nm,0.9s
MJB9 Matsu-Tunnel 26.90 237 P **P** 02 33 36.7 +1.6
MAJO Matsushiro 26.90 237 P **P** 02 33 37.1 +2.0
MAJO Matsushiro 26.90 237 P **P** 02 33 37.1 +2.0
MAJO pmax pmax
comp=Z,31nm,0.9s
EGAK Eagle 26.98 49 P **P** 02 33 35.8 +0.3
F28M Old Crow 27.37 42 P **P** 02 33 38.2 -0.8
DAWY Dawson 27.82 50 IAmb IAmb 02 34 17.9
comp=Z,19nm,1.3s
E29M Blow River 28.11 41 IAmb IAmb 02 34 16.2
comp=Z,19nm,1.5s
G29M Pine Creek 28.11 44 IAmb IAmb 02 33 53.6
comp=Z,13nm,0.9s
CN2 Changchun 28.52 263 P **P** 02 33 49.3 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
INK Inuvik 29.73 41 P **P** 02 34 00.1 +0.1
comp=Z,3.5nm,0.8s,baz=269,slow=8.0,SNR=9.6
INK PcP **PcP** 02 37 03.8 +0.6
comp=Z,0.8nm,0.6s,baz=288,slow=3.2,SNR=1.4
comp=Z,3.5nm,0.8s
KSRS Korea Array 31.48 251 P **P** 02 34 16.1 +0.4
comp=Z,4.3nm,0.9s,baz=44,slow=9.6,SNR=6.6
comp=Z,4.3nm,0.9s
C36M Paulatuk 32.98 38 P **P** 02 34 28.0 -0.6
C36M IAmb IAmb 02 34 35.7
comp=Z,10nm,0.9s
H11N2 WAKE ISLAND Hy 35.65 179 T T 03 12 23.4
baz=360,slow=76,SNR=4.3
H11N3 WAKE ISLAND Hy 35.66 179 T T 03 12 26.5
baz=360,slow=76,SNR=4.1
H11N1 WAKE ISLAND Hy 35.67 179 T T 03 12 14.6
baz=360,slow=76,SNR=4.7
NRIK Noril'sk 36.15 324 P **P** 02 34 55.5 -0.4
NRIK IAmb IAmb 02 34 57.0
comp=Z,15nm,1.4s
NRIK Noril'sk 36.15 324 P **P** 02 34 56.8 +0.8
comp=Z,2.7nm,0.8s,baz=77,slow=9.5,SNR=4.1
comp=Z,2.7nm,0.8s
ULN Ulaanbaatar 36.54 283 P **P** 02 34 59.7 0.0
ULN IAmb IAmb 02 35 03.6
comp=Z,17nm,1.2s
ULN Ulaanbaatar 36.54 283 *e*P **P** 02 35 00.6 +0.9
SONM Songino Array 36.92 284 P **P** 02 35 04.2 +1.3
comp=Z,2.2nm,0.8s,baz=60,slow=7.1,SNR=35
comp=Z,9.2nm,0.8s
ZAK Zakamensk 37.21 289 *e*P **P** 02 35 05.1 -0.2
ZAK pmax pmax
comp=Z,8.0nm,1.1s
MOY Mondy 37.73 292 *e*P **P** 02 35 09.0 -0.7
HHC Hu-ho-hao-te 38.31 271 *e*P **P** 02 35 15.8 +1.1
HNS HongShan 38.87 264 ⇑ P **P** 02 35 20.4 +1.1
HNS pmax pmax
comp=Z,15nm,1.2s
BTO Baotou 39.35 272 *e*P **P** 02 35 23.5 +0.1
BTO pP **pP** 02 35 28.0 -0.5
BTO sP **sP** 02 35 30.5 +0.3
BTO PP **PnPn** 02 36 57.1 +0.7
BTO pmax pmax
comp=Z,43nm,1.2s
NJ2 Nanjing 40.45 255 *e*P **P** 02 35 34.0 +1.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
LYN LuoYang 42.17 263 ⇑ P **P** 02 35 47.9 +1.3
LYN pP pP 02 35 52.5 +0.9
LYN sP sP 02 35 55.3 +2.0
LYN PP **PP** 02 37 27.3 +3.1
LYN pmax pmax
comp=Z,21nm,1.4s
XAN Xi'an 44.55 266 P **P** 02 36 06.8 +0.9
XAN pmax pmax
comp=Z,7.0nm,1.3s
ZALV Zalesovo Beam 44.57 304 P **P** 02 36 03.7 -2.0
comp=Z,0.9nm,0.8s,baz=15,slow=6.0,SNR=1.8
ZALV PcP **PcP** 02 37 48.5 +0.1
comp=Z,1.0nm,0.6s,baz=42,slow=2.4,SNR=5.2
comp=Z,0.9nm,0.8s
SPITS Spitsbergen Ar 45.39 352 P **P** 02 36 12.2 +0.2
comp=Z,10nm,0.7s,baz=50,slow=5.5,SNR=13
comp=Z,10nm,0.7s
DGZ Jazzator, Alta 45.89 297 *i* P **P** 02 36 15.9 -0.6
DGZ pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 45.94 279 P **P** 02 36 17.6 +0.6
GTA sP sP 02 36 24.4 +0.5
GTA pmax pmax
comp=Z,15nm,0.9s
LZH Lanzhou 45.98 272 ⇑ P **P** 02 36 18.9 +1.6
LZH pP sP 02 36 25.8 +1.6
LZH sP pP 02 36 31.4 +8.9
LZH pmax pmax
comp=Z,37nm,1.2s
ENH Enshi 47.03 262 P **P** 02 36 24.6 -0.9
FCC Fort Churchill 49.31 43 IAmb IAmb 02 36 43.9
comp=Z,9.2nm,0.8s
KURK Kurchatov 49.56 303 P **P** 02 36 44.2 -0.6
KURK Kurchatov 49.56 303 P **P** 02 36 45.0 +0.3
KURK 02 38 06.2
WMQ Urumqi 49.60 291 *e*P **P** 02 36 45.8 +0.6
WMQ pmax pmax
comp=Z,22nm,1.1s
KURBB Kurchatov Arra 49.67 303 P **P** 02 36 45.0 -0.5
comp=Z,9.9nm,0.9s,baz=51,slow=7.5,SNR=37
KURBB PcP **PcP** 02 38 06.2 -0.4
comp=Z,0.5nm,0.7s,baz=44,slow=3.5,SNR=1.8
comp=Z,9.9nm,0.9s
GULI GuiLin 50.38 257 ⇓ P **P** 02 36 51.3 +0.1
GULI pmax pmax
comp=Z,20nm,0.9s
MK31 Makanchi Array 50.39 297 *ce*P **P** 02 36 49.6 -1.5
MKAR Makanchi Array 50.39 297 P **P** 02 36 50.1 -1.0
comp=Z,2.3nm,0.8s,baz=56,slow=7.4,SNR=14
comp=Z,2.3nm,0.8s
MAKZ Makanchi 50.54 298 P **P** 02 36 51.4 -0.8
MAKZ IAmb IAmb 02 36 52.3
comp=Z,14nm,1.4s
MAKZ Makanchi 50.54 298 P **P** 02 36 51.4 -0.8
MAKZ pmax pmax
comp=Z,14nm,1.4s
GOMU GeErMu 51.01 279 P **P** 02 36 56.5 +0.1
GOMU pP pP 02 36 59.9 -1.7
GOMU sP sP 02 37 02.1 -1.2
GOMU pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 51.12 9 P **P** 02 36 56.6 -0.1
SUMG Summit 51.12 9 P **P** 02 36 56.6 -0.1
SUMG pmax pmax
comp=Z,17nm,1.2s
SUMG Summit 51.12 9 *i* P **P** 02 36 56.0 -0.7
NVAR Mina Array Bea 51.55 76 P **P** 02 37 00.6 +0.4
comp=Z,0.4nm,0.7s,baz=278,slow=10,SNR=4.2
comp=Z,0.4nm,0.7s
BVAR Borovoye Array 51.75 310 P **P** 02 37 00.8 -0.4
comp=Z,7.1nm,0.8s,baz=48,slow=7.9,SNR=23
BVAR PcP **PcP** 02 38 14.5 +0.3
comp=Z,3.4nm,0.9s,baz=66,slow=3.5,SNR=1.4
comp=Z,7.1nm,0.8s
BRVK Borovoye 51.77 310 P **P** 02 36 59.5 -1.9
BRVK IAmb IAmb 02 37 02.0
comp=Z,10.0nm,0.8s
BRVK Borovoye 51.77 310 *ce*P **P** 02 37 01.3 -0.1
BRVK pmax pmax
comp=Z,24nm,1.7s
ARCES ARCESS Array B 52.14 344 P **P** 02 37 04.9 +1.0
comp=Z,2.7nm,0.8s,baz=41,slow=11,SNR=1.6
comp=Z,2.7nm,0.8s
PDAR Pinedale Array 53.19 66 P **P** 02 37 13.6 +1.2
comp=Z,1.5nm,1.0s,baz=336,slow=3.3,SNR=5.3
comp=Z,1.5nm,1.0s
TPNV Topopah Spring 53.74 76 P **P** 02 37 16.9 +0.6
TPNV IAmb IAmb 02 37 36.6
comp=Z,11nm,1.2s
TPNV Topopah Spring 53.74 76 P **P** 02 37 16.9 +0.6
TPNV pmax pmax
comp=Z,11nm,1.3s
GWY Greenwater Val 54.06 77 IAmb IAmb 02 37 32.4
comp=Z,5.4nm,0.8s
PRN Pahroc Range 54.07 75 IAmb IAmb 02 37 33.2
comp=Z,6.4nm,1.0s
ARU Arti 54.09 319 *c i*P **P** 02 37 17.4 -1.0
ARU 02 39 19.9
ARU S **S** 02 44 54.3 +0.6
ARU SS **SKiKP** 02 48 31.5 +2.6
ARU pmax pmax
comp=Z,6.0nm,0.8s
QSM Queen of Sheba 54.11 77 IAmb IAmb 02 37 22.0
comp=Z,13nm,1.5s
PZH PanZhiHua 54.29 266 P **P** 02 37 20.9 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
ULM Lac du Bonnet 54.51 51 P **P** 02 37 23.2 +1.6
comp=Z,2.3nm,0.8s,baz=319,slow=6.2,SNR=3.7
comp=Z,2.3nm,0.8s
GSC Goldstone, Bar 54.63 78 IAmb IAmb 02 37 37.0
comp=Z,7.5nm,0.9s
KMI Kunming 54.79 264 ⇓ P P 02 37 29.0 +4.8
KMI pmax pmax
comp=Z,16nm,1.1s
TMUT Trail Mountain 54.79 70 IAmb IAmb 02 37 49.7
comp=Z,8.0nm,1.1s
LCMT Little Creek M 55.35 74 IAmb IAmb 02 37 48.8
comp=Z,7.8nm,1.3s
V12A Nelson 55.40 76 P **P** 02 37 30.2 +1.9
KNB Kanab 55.58 73 P **P** 02 37 31.2 +1.5
KNB IAmb IAmb 02 37 39.6
comp=Z,8.8nm,1.3s
KNB Kanab 55.58 73 P **P** 02 37 31.2 +1.5
KNB pmax pmax
comp=Z,9.0nm,1.3s
KIRV Kirov 55.62 326 *i* P **P** 02 37 28.3 -1.1
O20A White River Ci 55.77 68 IAmb IAmb 02 38 14.6
comp=Z,9.5nm,1.1s
PFO Pinyon Flats O 56.07 79 *i* P **P** 02 37 31.6 -1.6
AAK Ala-Archa 57.25 299 P **P** 02 37 40.4 -1.1
AAK IAmb IAmb 02 37 42.4
comp=Z,9.9nm,1.1s
AAK Ala-Archa 57.25 299 *ce*P **P** 02 37 41.2 -0.3
AAK pmax pmax
comp=Z,12nm,1.7s
ISCO Idaho Springs 57.39 66 IAmb IAmb 02 37 47.1
comp=Z,15nm,1.4s
S22A 4UR Ranch, Cre 58.27 69 IAmb IAmb 02 38 15.6
comp=Z,10nm,1.3s
KSH Kashi 58.81 295 P **P** 02 37 56.0 +3.5
KSH pmax pmax
comp=Z,10.0nm,1.1s
ECSD EROS Data Cent 58.97 57 IAmb IAmb 02 38 06.0
comp=Z,9.5nm,1.2s
ABKAR Akbulak array 58.98 313 IAmb IAmb 02 37 53.8
comp=Z,12nm,1.4s
FINES FINESS Array B 59.34 339 P **P** 02 37 55.2 -0.4
comp=Z,8.0nm,1.0s,baz=16,slow=7.2,SNR=5.2
comp=Z,8.0nm,1.0s
ANMO Albuquerque 60.56 70 P **P** 02 38 04.3 -0.3
ANMO IAmb IAmb 02 38 19.5
comp=Z,6.2nm,1.4s
ANMO Albuquerque 60.56 70 *i* P **P** 02 38 06.9 +2.3
ANMO pmax pmax
comp=Z,19nm,3.2s
BELG Belogornoye 61.22 322 *i* P **P** 02 38 06.8 -1.7
BELG pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 62.20 262 *ce*P **P** 02 38 16.6 +0.9
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 62.20 262 P **P** 02 38 16.1 +0.4
comp=Z,1.4nm,0.4s,baz=18,slow=7.3,SNR=11
comp=Z,1.4nm,0.4s
NB2 NORSAR Subarra 62.22 347 P **P** 02 38 14.9 -0.3
comp=Z,0.9nm,0.5s,baz=16,slow=6.9
NOA NORSAR Array B 62.22 347 P **P** 02 38 15.0 -0.2
comp=Z,1.1nm,0.6s,baz=13,slow=5.9,SNR=5.0
comp=Z,1.1nm,0.6s
HFS Hagfors 62.74 345 P **P** 02 38 18.3 -0.4
comp=Z,1.5nm,0.5s,baz=349,slow=4.5,SNR=4.8
comp=Z,1.5nm,0.5s
SIMJ Simiganj 62.99 299 P **P** 02 38 20.3 -0.6
VHRN Van Horn 64.53 72 P **P** 02 38 31.7 +0.5
VHRN IAmb IAmb 02 38 39.8
comp=Z,5.4nm,1.2s
WMOK Wichita Mounta 64.77 65 P **P** 02 38 32.1 -0.4
WMOK Wichita Mounta 64.77 65 P **P** 02 38 32.1 -0.4
WMOK pmax pmax
comp=Z,10.0nm,1.3s
KBL Kabul 66.18 296 P **P** 02 38 39.9 -1.9
KBL Kabul 66.18 296 P **P** 02 38 39.9 -1.9
KBL pmax pmax
comp=Z,10.0nm,1.0s
TX31 Lajitas Ar. Si 66.38 72 IAmb IAmb 02 38 47.0
comp=Z,4.6nm,0.7s
TXAR Lajitas Array 66.38 72 P **P** 02 38 44.5 +1.4
comp=Z,3.9nm,0.6s,baz=301,slow=4.6,SNR=35
comp=Z,3.9nm,0.6s
AKASG Malin Array Be 68.37 332 P **P** 02 38 54.5 -0.7
comp=Z,1.7nm,0.5s,baz=27,slow=6.6,SNR=8.8
comp=Z,1.7nm,0.5s
GEYT Alibeck 68.78 306 P **P** 02 38 57.7 -0.3
comp=Z,2.7nm,0.9s,baz=304,slow=11,SNR=6.7
comp=Z,2.7nm,0.9s
EKA Eskdalemuir Ar 69.26 354 P **P** 02 39 01.3 +0.7
comp=Z,1.6nm,0.7s,baz=81,slow=16,SNR=2.1
comp=Z,1.6nm,0.7s
KBZ Khabaz 70.23 320 P **P** 02 39 06.4 -0.4
comp=Z,3.3nm,1.0s,baz=89,slow=4.5,SNR=4.2
comp=Z,3.3nm,1.0s
OJC Ojcow 71.08 338 P **P** 02 39 11.4 -0.5
OJC Ojcow 71.08 338 P **P** 02 39 11.4 -0.5
OJC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 71.97 339 *e*P **P** 02 39 17.7 +0.4
LANS Liptovska Anna 72.16 338 *e*P **P** 02 39 20.2 +1.7
LANS Liptovska Anna 72.16 338 *e*P **P** 02 39 20.2 +1.7
VRAC Vranov 72.60 340 *e*P **P** 02 39 21.7 +0.6
JAVC Velka Javorina 72.81 339 *e*P **P** 02 39 23.9 +1.5
KRUC Moravsky 72.88 340 *e*P **P** 02 39 23.1 +0.4
VYHS Vyhne 72.92 338 *e*P **P** 02 39 24.1 +1.1
VYHS Vyhne 72.92 338 *e*P **P** 02 39 24.1 +1.1
GERES GERESS Array B 73.59 342 P **P** 02 39 27.5 +0.5
comp=Z,0.6nm,0.5s,baz=38,slow=5.1,SNR=3.7
comp=Z,0.6nm,0.5s
KBA Koelnbreinsper 75.36 341 *e*pP **P** 02 39 38.9 +1.4
comp=Z,2.0nm,0.6s
MOTA Moosalm 75.49 343 *e*pP **P** 02 39 38.7 +0.5
comp=Z,1.2nm,0.6s
SQTA Sankt Quirin 75.60 343 *e*pP **P** 02 39 39.6 +0.9
comp=Z,2.2nm,0.7s
OBKA Obir 75.68 340 *e*pP **P** 02 39 40.2 +1.0
comp=Z,4.3nm,0.7s
ABTA Abfaltersbach 75.83 342 *e*pP **P** 02 39 40.8 +0.8
comp=Z,0.7nm,0.5s
BRTR Keskin Array B 77.00 324 P **P** 02 39 46.6 -0.3
comp=Z,1.0nm,0.8s,baz=5.7,slow=4.3,SNR=3.0
comp=Z,1.0nm,0.8s
FDMO Fiordimonte 79.31 340 P **P** 02 39 59.4 0.0
FDMO IAmb IAmb 02 40 19.4
comp=Z,6.0nm,0.9s
NRCA Norcia 79.50 340 P **P** 02 39 58.8 -1.8
WRA Warramunga Arr 79.86 210 P **P** 02 40 02.6 +0.1
comp=Z,3.9nm,0.9s,baz=20,slow=5.4,SNR=9.5
comp=Z,3.9nm,0.9s
AS31 Alice Springs 83.51 210 P **P** 02 40 21.5 -0.3
ASAR Alice Springs 83.51 210 P **P** 02 40 22.0 +0.3
ASAR Alice Springs 83.51 210 P **P** 02 40 22.6 +0.9
comp=Z,2.8nm,0.8s,baz=16,slow=5.0,SNR=16
comp=Z,2.8nm,0.8s
ESDC Sonseca Array 84.90 353 P **P** 02 40 29.2 +0.3
comp=Z,1.8nm,1.1s,baz=359,slow=5.0,SNR=5.6
comp=Z,1.8nm,1.1s
STKA Stephens Creek 89.52 201 P **P** 02 40 50.8 -0.1
comp=Z,2.2nm,0.9s,baz=335,slow=8.1,SNR=4.1
comp=Z,2.2nm,0.9s
QSPA South Pole Qui 145.19 180 PKPbc **PKPbc** 02 47 29.3 -0.6
comp=Z,12nm,1.0s,baz=347,slow=2.6,SNR=16

NEIC ***25*** *02:28:54.8±1.9, 56.38N±0.08×148.5W±0.1, h17km±4km, mb3.6/3, ML3.9/50, ML3.6(AEIC), Error ellipse: s-maj=12.5km s-min=7.6km az=159.0*
AEIC ***25*** *02:28:59.0±1.5, 56.44N±0.08×148.6W±0.1, h10km±6km, Error ellipse: s-maj=12.5km s-min=7.8km az=159.0*
ISC 25 02:28:54.5±1.0, 56.48N±0.08×148.58W±0.05, h10km, n215, σ1$09/211, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.54**	**303**				**Pn**	**02 29 36.0**	**+0.3**
KDAK	**Kodiak Island**	**2.54**	**303**				**Sn**	**02 30 04.4**	**-2.3**
KDAK	**Kodiak Island** baz=120	**2.54**	**303**	S			**Sn**	**02 30 04.4**	**-2.3**
OHAK	**Old Harbor**	**2.69**	**288**				**Pn**	**02 29 37.3**	**-0.4**

OHAK					Sn	02 30 07.2	-3.1	
OHAK	**Old Harbor**	**2.69**	**288**	P	Pn	02 29 37.4	-0.4	
OHAK	**Old Harbor**	**2.69**	**288**	P	Pn	02 29 37.3	-0.4	
	baz=105							
OHAK				S	Sn	02 30 07.2	-3.1	
	baz=105							
SYI	**Shuyak Island**	**2.96**	**318**		Pn	02 29 42.3	+0.8	
SYI					Sn	02 30 16.6	-0.4	
Q20K	**Shuyak Island**	**2.96**	**318**	P	Pn	02 29 42.3	+0.8	
	baz=135							
Q20K				S	Sn	02 30 16.6	-0.4	
	baz=135							
SII	**Sitkinak Islan**	**3.11**	**274**		Sn	02 30 17.4	-3.3	
MID	**Middleton Isla**	**3.19**	**21**		Pn	02 29 44.6	0.0	
MID					Sn	02 30 19.7	-2.8	
MID	**Middleton Isla**	**3.19**	**21**	IAML		02 31 54.4		
	comp=N,397nm,3.3s							
MID	**Middleton Isla**	**3.19**	**21**	P	Pn	02 29 44.7	+0.2	
Q23K	**Middleton Isla**	**3.19**	**21**		Pn	02 29 44.5	0.0	
Q23K					Sn	02 30 19.9	-2.6	
Q23K	**Middleton Isla**	**3.19**	**21**	IAML		02 30 27.1		
	comp=E,534nm,3.1s							
Q23K				IAML		02 30 27.6		
	comp=N,414nm,3.2s							
Q23K	**Middleton Isla**	**3.19**	**21**	P	Pn	02 29 44.5	0.0	
	baz=202							
CNPM	**China Poot**	**3.37**	**336**	Pn	Pn	02 29 47.5	+0.4	
R18K	**Karluk**	**3.39**	**291**		Pn	02 29 48.1	+0.7	
R18K					Sn	02 30 25.2	-2.3	
R18K	**Karluk**	**3.39**	**291**	IAML		02 30 27.0		
	comp=E,327nm,0.3s							
R18K				IAML		02 30 33.9		
	comp=N,267nm,0.4s							
R18K	**Karluk**	**3.39**	**291**	P	Pn	02 29 48.2	+0.9	
	baz=107							
BRSE	**Bradley Lake S**	**3.46**	**342**		Pn	02 29 48.7	+0.3	
BRSE					Sn	02 30 28.1	-1.4	
BRSE	**Bradley Lake S**	**3.46**	**342**	P	Pn	02 29 48.7	+0.3	
	baz=160							
BRLK	**Bradley Lake**	**3.51**	**341**		Pn	02 29 49.1	0.0	
BRLK	**Bradley Lake**	**3.51**	**341**	IAML		02 30 35.8		
	comp=E,117nm,3.0s							
HOM	**Homer**	**3.58**	**334**		Pn	02 29 51.0	+1.0	
HOM	**Homer**	**3.58**	**334**	IAML		02 30 50.6		
	comp=N,338nm,1.2s							
HOM	**Homer**	**3.58**	**334**	P	Pn	02 29 50.9	+1.0	
	baz=152							
P23K	**Montague Islan**	**3.58**	**10**		Pn	02 29 50.1	+0.1	
P23K					Sn	02 30 29.7	-2.6	
P23K	**Montague Islan**	**3.58**	**10**	P	Pn	02 29 50.1	+0.1	
	baz=190							
Q19K	**Cape Douglas,**	**3.66**	**314**		Pn	02 29 52.3	+1.2	
Q19K	**Cape Douglas,**	**3.66**	**314**	IAML		02 30 41.2		
	comp=E,303nm,1.5s							
Q19K				IAML		02 30 44.1		
	comp=N,166nm,1.1s							
Q19K	**Cape Douglas,**	**3.66**	**314**	P	Pn	02 29 51.9	+0.8	
	baz=130							
SEW	**Seward**	**3.66**	**353**		Pn	02 29 51.1	0.0	
SEW	**Seward**	**3.66**	**353**	P	Pn	02 29 51.1	0.0	
	baz=172							
KAHG	**Katmai Hook Gl**	**3.80**	**305**		Pn	02 29 54.5	+1.4	
AUCH	**Augustine Cone**	**3.88**	**320**		Pn	02 29 55.6	+1.4	
KCG	**Knife Ck. Glac**	**3.98**	**300**		Pn	02 29 57.3	+1.8	
P19K	**Oil Pt**	**4.03**	**324**		Pn	02 29 57.4	+1.2	
P19K	**Oil Pt**	**4.03**	**324**	IAML		02 30 46.7		
	comp=E,233nm,3.4s							
P19K				IAML		02 30 54.5		
	comp=N,266nm,4.8s							
P19K	**Oil Pt**	**4.03**	**324**	P	Pn	02 29 57.4	+1.2	
	baz=140							
ACHA	**Angle Creek He**	**4.04**	**298**		Pn	02 29 57.9	+1.4	
O22K	**Cooper Landing**	**4.06**	**352**	Pn	Pn	02 29 57.1	+0.6	
HIN	**Hinchinbrook I**	**4.08**	**15**		Pn	02 29 57.3	+0.5	
KAHC	**Katmai Hardscr**	**4.09**	**305**		Pn	02 29 58.3	+1.2	
KAHC	**Katmai Hardscr**	**4.09**	**305**	P	Pn	02 29 58.3	+1.2	
	baz=120							
KAIM	**Kayak Island**	**4.10**	**31**		Pn	02 29 57.5	+0.4	
KAIM	**Kayak Island**	**4.10**	**31**	IAML		02 30 48.5		
	comp=E,217nm,0.5s							
KVTA	**Katmai Vly 10**	**4.10**	**300**		Pn	02 29 59.0	+1.9	
ANCK	**Angle Creek**	**4.12**	**298**		Pn	02 29 59.3	+1.8	
SLKM	**Skilak Lake**	**4.13**	**349**		Pn	02 29 57.8	+0.3	
O20K	**Slope Mountain**	**4.19**	**331**		Pn	02 29 59.1	+0.6	
O20K	**Slope Mountain**	**4.19**	**331**	P	Pn	02 29 59.1	+0.6	
	baz=148							
IVE	**Iliamna Volcan**	**4.25**	**328**		Pn	02 29 59.5	+0.3	
CNTC	**Contact Creek**	**4.34**	**297**		Pn	02 30 02.0	+1.5	
EYAK	**Cordova Ski Ar**	**4.34**	**19**		Pn	02 30 01.0	+0.6	
EYAK	**Cordova Ski Ar**	**4.34**	**19**	P	Pn	02 30 01.1	+0.7	
EYAK	**Cordova Ski Ar**	**4.34**	**19**	P	Pn	02 30 01.0	+0.6	
	baz=201							
FID	**Port Fidalgo**	**4.42**	**14**		Pn	02 30 01.4	-0.1	
RAGM	**Ragged Mountai**	**4.42**	**26**		Pn	02 30 02.1	+0.5	
RED	**Redoubt Volcan**	**4.52**	**333**		Pn	02 30 03.0	0.0	
RDSO	**Redoubt South**	**4.54**	**333**		Pn	02 30 03.5	+0.1	
RSO	**Redoubt South**	**4.55**	**333**		Pn	02 30 00.6	-3.0	
RDT	**Redoubt**	**4.57**	**336**		Pn	02 30 03.4	-0.2	
GOAT	**Goat Mountain**	**4.58**	**25**		Pn	02 30 04.5	+0.8	
P18K	**Big Mountain,**	**4.59**	**312**	Pn	Pn	02 30 04.2	+0.3	
P18K				IAML		02 30 45.1		
	comp=E,50nm,4.4s							
P18K	**Big Mountain,**	**4.59**	**312**	P	Pn	02 30 04.2	+0.3	
	baz=127							
RDWB	**Redoubt West**	**4.60**	**333**		Pn	02 30 03.9	-0.2	
DFR	**Drift River**	**4.65**	**334**		Pn	02 30 04.7	-0.1	
RC01	**Rabbit Creek A**	**4.66**	**353**		Pn	02 30 05.7	+0.9	
RC01	**Rabbit Creek A**	**4.66**	**353**	IAML		02 31 10.7		
	comp=N,62nm,4.5s							
RC01				IAML		02 31 16.6		
	comp=E,87nm,4.9s							
RC01	**Rabbit Creek A**	**4.66**	**353**	P	Pn	02 30 05.7	+0.9	
	baz=172							
NCT	**North Crescent**	**4.68**	**333**		Pn	02 30 05.3	+0.1	
BERG	**Berg Lake**	**4.69**	**31**		Pn	02 30 05.5	+0.4	
SNH	**Sunshine Point**	**4.79**	**37**		Pn	02 30 06.9	+0.3	
SNH	**Sunshine Point**	**4.79**	**37**	IAML		02 30 51.3		
	comp=N,61nm,3.1s							
SNH				IAML		02 30 58.6		
	comp=E,118nm,4.9s							
O19K	**Port Alsworth**	**4.80**	**323**		Pn	02 30 07.0	+0.3	
O19K				IAML		02 31 07.3		
	comp=E,164nm,0.4s							
O19K	**Port Alsworth**	**4.80**	**323**	P	Pn	02 30 07.1	+0.5	
	baz=139							
Q16K	**King Salmon**	**4.87**	**300**		Pn	02 30 08.9	+1.3	
KNK	**Knik Glacier**	**4.95**	**1**		Pn	02 30 09.5	+0.7	
KNK	**Knik Glacier**	**4.95**	**1**	IAML		02 31 15.7		
	comp=E,53nm,2.7s							
KNK	**Knik Glacier**	**4.95**	**1**	P	Pn	02 30 09.8	+1.0	
	baz=181							
BMRM	**Bremner River**	**4.95**	**23**		Pn	02 30 09.4	+0.6	
BMRM	**Bremner River**	**4.95**	**23**	P	Pn	02 30 09.5	+0.6	
	baz=206							
P17K	**Kvichak River**	**5.00**	**306**		Pn	02 30 10.3	+0.8	
P17K	**Kvichak River**	**5.00**	**306**	P	Pn	02 30 10.8	+1.4	
	baz=120							
R16K	**Pilot Point**	**5.03**	**286**		Pn	02 30 10.5	+0.6	
BARK	**Barkley Ridge**	**5.07**	**37**		Pn	02 30 10.9	+0.4	
N20K	**Mount Spurr**	**5.09**	**340**	P	Pn	02 30 11.5	+0.7	
	baz=157							
SPCR	**Spurr Chakacha**	**5.09**	**340**		Pn	02 30 11.0	+0.2	
SPCN	**Chakachatna No**	**5.11**	**340**		Pn	02 30 11.8	+0.7	
SUA	**Susitna One**	**5.12**	**348**		Pn	02 30 11.6	+0.3	
SUA	**Susitna One**	**5.12**	**348**	IAML		02 32 11.3		
	comp=N,83nm,4.7s							
SUA				IAML		02 33 23.3		
	comp=E,50nm,4.8s							
SUA	**Susitna One**	**5.12**	**348**	P	Pn	02 30 11.6	+0.3	
	baz=166							
PMR	**Palmer**	**5.13**	**357**	Pn	Pn	02 30 11.7	+0.4	
PMR				IAML		02 31 12.2		
	comp=N,72nm,3.2s							
PMR	**Palmer**	**5.13**	**357**	P	Pn	02 30 12.4	+1.1	
SPCG	**Spurr Capps Gl**	**5.14**	**341**		Pn	02 30 12.1	+0.6	
SPCP	**Crater Peak Br**	**5.14**	**340**		Pn	02 30 11.9	+0.3	
KLU	**Klutina**	**5.21**	**14**		Pn	02 30 13.2	+0.7	
KLU	**Klutina**	**5.21**	**14**	IAML		02 31 13.3		
	comp=E,73nm,0.6s							
KLU				IAML		02 31 36.9		
	comp=N,46nm,4.9s							
KLU	**Klutina**	**5.21**	**14**	P	Pn	02 30 13.5	+1.0	
	baz=196							
STLK	**Strandline Lak**	**5.31**	**343**		Pn	02 30 14.4	+0.6	
GHO	**Glory Hole Cre**	**5.31**	**358**		Pn	02 30 14.8	+1.0	
N19K	**Bonanza Creek**	**5.33**	**327**		Pn	02 30 14.1	+0.1	
N19K	**Bonanza Creek**	**5.33**	**327**	P	Pn	02 30 14.1	+0.1	
	baz=142							
SML	**Sawmill**	**5.34**	**1**		Pn	02 30 15.3	+1.1	
SML	**Sawmill**	**5.34**	**1**	P	Pn	02 30 15.6	+1.3	
	baz=181							
SPNN	**North Nagishla**	**5.34**	**338**		Pn	02 30 15.3	+0.9	
M23K	**Glacier View**	**5.35**	**4**		Pn	02 30 15.9	+1.6	
M23K	**Glacier View**	**5.35**	**4**	P	Pn	02 30 15.9	+1.6	
	baz=185							
SCM	**Sheep Creek Mo**	**5.41**	**6**		Pn	02 30 16.8	+1.7	
SCM	**Sheep Creek Mo**	**5.41**	**6**	P	Pn	02 30 16.4	+1.3	
	baz=187							
VRDI	**Verde Repeater**	**5.45**	**27**		Pn	02 30 16.3	+0.4	
SAMH	**Samovar Hills**	**5.50**	**45**		Pn	02 30 17.3	+0.8	
KIAG	**Kiagna River**	**5.51**	**33**		Pn	02 30 17.1	+0.4	
N25K	**Chitina, Valde**	**5.54**	**20**		Pn	02 30 17.7	+0.8	
N25K	**Chitina, Valde**	**5.54**	**20**	P	Pn	02 30 18.3	+1.4	
	baz=203							
GLB	**Gilahina Butte**	**5.55**	**24**		Pn	02 30 17.5	+0.4	
O17K	**Koliganek Bris**	**5.59**	**310**		Pn	02 30 18.0	+0.5	
O17K	**Koliganek Bris**	**5.59**	**310**	P	Pn	02 30 18.4	+0.9	
	baz=123							
P16K	**Nushagak River**	**5.65**	**301**		Pn	02 30 19.2	+0.9	
P16K	**Nushagak River**	**5.65**	**301**	P	Pn	02 30 19.7	+1.3	
	baz=113							
N18K	**Kilae Creek**	**5.69**	**321**		Pn	02 30 19.1	+0.2	
PTPK	**Patty Peak**	**5.69**	**31**		Pn	02 30 19.6	+0.5	
PCA	**Pinnacle**	**5.69**	**47**		Pn	02 30 19.3	+0.3	
PINM	**Pinnacle**	**5.69**	**47**	P	Pn	02 30 19.5	+0.5	
	baz=234							
SKT	**Skwentna**	**5.72**	**346**		Pn	02 30 20.0	+0.6	
M24K	**Tolsona, Glenn**	**5.78**	**11**		Pn	02 30 21.5	+1.4	
M24K	**Tolsona, Glenn**	**5.78**	**11**	P	Pn	02 30 21.5	+1.4	
	baz=193							
PNL	**Peninsula**	**5.83**	**53**		Pn	02 30 21.5	+0.7	
PNL	**Peninsula**	**5.83**	**53**	P	Pn	02 30 21.6	+0.8	
PNL	**Peninsula**	**5.83**	**53**	P	Pn	02 30 21.5	+0.7	
	baz=240							
BARN	**Barnard Glacie**	**5.83**	**35**		Pn	02 30 21.9	+0.8	
BCPM	**Bancas Point**	**5.87**	**50**		Pn	02 30 21.9	+0.5	
CTGM	**Chitina Glacie**	**5.87**	**37**		Pn	02 30 21.8	+0.2	
LOGN	**Logan Glacier**	**5.88**	**39**		Pn	02 30 22.1	+0.4	
M20K	**Styx River**	**5.90**	**339**		Pn	02 30 22.2	+0.3	
M20K	**Styx River**	**5.90**	**339**	P	Pn	02 30 22.6	+0.7	
	baz=155							
O16K	**Kokwok River B**	**5.94**	**306**		Pn	02 30 23.0	+0.7	
O16K	**Kokwok River B**	**5.94**	**306**	P	Pn	02 30 23.5	+1.2	
	baz=118							
N17K	**Nushagak Hills**	**6.07**	**316**		Pn	02 30 24.1	0.0	
VNFG	**Fog Glacier, M**	**6.10**	**273**		Pn	02 30 25.1	+0.4	
WAT6	**Susitna Watana**	**6.13**	**4**		Pn	02 30 26.0	+0.8	
M19K	**Big River Lodg**	**6.20**	**334**		Pn	02 30 25.8	-0.2	
M18K	**Stony River**	**6.26**	**326**		Pn	02 30 26.5	-0.3	
WAT1	**Susitna Watana**	**6.37**	**0**		Pn	02 30 29.6	+1.3	
WAT7	**Susitna Watana**	**6.37**	**359**		Pn	02 30 29.8	+1.4	
CNBA	**Chernabura Isl**	**6.45**	**260**		Pn	02 30 28.9	-0.5	
O29M	**Mount Kennedy**	**6.50**	**50**		Pn	02 30 31.3	+1.0	
L19K	**White Mountain**	**6.55**	**333**		Pn	02 30 30.6	-0.3	
P29M	**Windy Craggy**	**6.56**	**57**		Pn	02 30 30.9	-0.1	
O15K	**Ungalikthiuk R**	**6.58**	**299**		Pn	02 30 32.5	+1.3	
L20K	**Farewell, AK**	**6.59**	**338**		Pn	02 30 31.1	-0.2	
YUK8	**Steele Glacier**	**6.64**	**40**		Pn	02 30 33.4	+1.2	
YUK2	**White River**	**6.64**	**34**		Pn	02 30 33.6	+1.5	
DHY	**Denali Highway**	**6.64**	**5**		Pn	02 30 33.4	+1.2	
N16K	**Nishlik Lake**	**6.67**	**311**		Pn	02 30 33.3	+0.8	
PAX	**Paxson**	**6.70**	**12**		Pn	02 30 33.6	+0.8	
M17K	**Holitna River**	**6.73**	**321**		Pn	02 30 33.7	+0.5	
YUK3	**Moose Creek**	**6.75**	**35**		Pn	02 30 35.1	+1.3	
SDPT	**Sand Point**	**6.78**	**265**		Pn	02 30 33.8	-0.1	
SDPT	**Sand Point**	**6.78**	**265**	P	Pn	02 30 36.1	+2.2	
	comp=N,102nm,1.9s							
YUK7	**Dusty Glacier**	**6.81**	**49**		Pn	02 30 35.6	+1.1	
M27K	**Edge Creek, AK**	**6.81**	**27**		Pn	02 30 35.4	+0.9	
S31K	**Pelican**	**6.87**	**72**		Pn	02 30 32.9	-2.2	
YUK6	**Outpost Mounta**	**6.95**	**46**		Pn	02 30 37.9	+1.5	
TRF	**Thorofare Moun**	**7.04**	**354**		Pn	02 30 38.5	+0.9	
M16K	**Timber Creek**	**7.06**	**314**		Pn	02 30 38.5	+0.7	
L18K	**Granite Mounta**	**7.09**	**328**		Pn	02 30 37.8	-0.3	
N15K	**Kwethluk River**	**7.10**	**306**		Pn	02 30 39.9	+1.7	
P30M	**Million Dollar**	**7.13**	**54**		Pn	02 30 39.4	+0.7	
KTH	**Kantishna Hill**	**7.19**	**352**	Pn	Pn	02 30 41.4	+1.8	
HYT	**Haines Junctio**	**7.23**	**48**		Pn	02 30 41.1	+0.9	
YUK5	**Granite Creek**	**7.26**	**46**		Pn	02 30 42.4	+1.8	
SIT	**Sitka**	**7.31**	**80**	P	Pn	02 30 37.7	-3.4	
O14K	**Tigyukauivet M**	**7.31**	**298**		Pn	02 30 42.6	+1.4	
PS1A	**Pavlof South-1**	**7.47**	**267**		Pn	02 30 43.7	+0.4	
TTA	**Tatalina**	**7.48**	**333**		Pn	02 30 43.2	-0.3	
TTA	**Tatalina**	**7.48**	**333**	P	Pn	02 30 43.5	0.0	
L17K	**Donlin**	**7.54**	**323**		Pn	02 30 44.4	+0.2	
M15K	**Kasigluk River**	**7.60**	**309**		Pn	02 30 45.8	+0.7	
PN7A	**Pavlof North-7**	**7.61**	**268**		Pn	02 30 45.9	+0.5	
SKAG	**Skagway**	**7.65**	**62**	P	Pn	02 30 46.5	+0.7	
BESE	**Bessie Mountai**	**7.68**	**68**		Pn	02 30 45.5	-0.8	
S32K	**Killisnoo**	**7.72**	**77**		Pn	02 30 44.6	-2.1	
BWN	**Brown**	**7.73**	**357**	Pn	Pn	02 30 46.9	0.0	
BPAW	**Bear Paw Mtn.**	**7.74**	**352**		Pn	02 30 47.6	+0.5	
N30M	**Aishikik Lake**	**7.75**	**45**		Pn	02 30 48.1	+0.9	
O30N	**Mendenhall**	**7.80**	**51**		Pn	02 30 48.7	+0.7	
JIS	**Juneau Island**	**7.88**	**71**		Pn	02 30 48.5	-0.4	
JIS	**Juneau Island**	**7.88**	**71**	P	Pn	02 30 48.7	-0.3	
M29M	**Somme Creek**	**7.89**	**37**		Pn	02 30 49.8	+0.6	
K17K	**Iditarod**	**7.96**	**326**		Pn	02 30 50.0	0.0	
J18K	**Innoko River**	**8.10**	**333**		Pn	02 30 51.7	-0.3	
K27K	**Chicken**	**8.23**	**20**		Pn	02 30 54.9	+1.2	
WHY	**Whitehorse**	**8.29**	**54**		Pn	02 30 55.5	+0.8	
N31M	**Braeburn, Yuko**	**8.29**	**47**		Pn	02 30 55.9	+1.3	
IL31		**8.36**	**5**		Pn	02 30 56.5	+1.0	
L15K	**Ungalak Mounta**	**8.44**	**313**		Pn	02 30 57.2	+0.6	
L29M	**L29M**	**8.47**	**34**		Pn	02 30 57.6	+0.5	
M30M	**Minto, Yukon**	**8.55**	**40**		Pn	02 30 59.1	+0.9	
POKR	**Poker Plat Res**	**8.68**	**3**	Pn	Pn	02 31 00.9	+0.9	
CRAG	**Craig**	**8.73**	**90**	P	Pn	02 30 59.7	-0.9	
K15K	**Wolf Creek Mou**	**8.80**	**317**		Pn	02 31 02.7	+1.2	
P33M	**Teslin, Yukon**	**9.09**	**59**	Pn	Pn	02 31 05.8	+0.2	
K29M	**Barlow Dome**	**9.20**	**32**		Pn	02 31 07.4	+0.2	
M31M	**Drury Creek, Y**	**9.23**	**46**		Pn	02 31 08.9	+1.4	
MAYO	**Mayo, Yukon**	**9.53**	**36**		Pn	02 31 10.0	-1.6	
R33M	**Jennings River**	**9.80**	**65**		Pn	02 31 15.8	+0.3	
J30M	**Hart River**	**10.10**	**32**		Pn	02 31 21.2	+1.8	
G31M	**Satah River**	**12.44**	**27**	Pn	Pn	02 31 52.5	+1.2	
INK	**Inuvik**	**13.70**	**24**	Pn	Pn	02 32 08.7	+0.2	
C36M	**Paulatuk**	**16.87**	**30**	Pn	Pn	02 32 50.3	0.0	
C36M				IAmb	IAmb	02 32 54.5		
	comp=Z,3.5nm,1.1s							
A36M	**Sachs Harbour**	**18.34**	**23**		P	02 33 08.8	+0.3	
A36M				IAmb	IAmb	02 33 13.0		
	comp=Z,3.8nm,0.8s							
MKAR	**Makanchi Array**	**68.66**	**325**	P	P	02 39 58.1	+0.6	
ABKAR	**Akbulak array**	**71.99**	**341**	P	P	02 40 19.2	+1.3	
ABKAR	**Akbulak array**	**71.99**	**341**	P	P	02 40 19.0	+1.2	
ABKAR				IAmb	IAmb	02 40 48.6		
	comp=Z,0.8nm,1.0s							

IDC ***25*** *02:31:50.3±0.9,56˚.70N×121˚.62W,h0km,mb3.7/3, mbtmp3.5/7,ML3.4/4,Error ellipse: s-maj=12.9km s-min=8.8km az=138.0*
PGC ***25*** *02:31:53.5,56˚.75N×121˚.80W,h5km,ML3.7/19,80km Wnw of Fort St. John, Bc British Columbia, Canada*

ISC 25 02:31:51.4±1.3,56˚.76N±0˚.03×121˚.68W±0˚.03,h0km±10km, n39,σ1ᵖ78/57,mb3.8/3,British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMTB	**Bullhead Mount**	**0.76**	**200**	P	**Pg**	02 32 06.3	+0.3
BMTB				S	**Sg**	02 32 16.1	+0.2
NBC5	**NorthernBC 5**	**0.94**	**325**	P	**Pg**	02 32 09.8	+0.4
NBC5				S	**Sg**	02 32 22.1	+0.5
NBC4	**NorthernBC 4**	**1.22**	**152**	P	**Pg**	02 32 15.4	+0.7
NBC4				S	**Sb**	02 32 32.5	+0.9
WTMTA	**White Mountain**	**1.73**	**127**	Pn	**Pn**	02 32 24.0	+1.2
WTMTA				Sg	**Sb**	02 32 47.5	+1.1
NBC6	**NorthernBC 6**	**1.84**	**6**	Pn	**Pn**	02 32 25.0	+0.8
NBC6				Sn	**Sn**	02 32 49.5	+1.3
FNSB	**Fort Nelson**	**2.13**	**345**	Pn	**Pn**	02 32 28.6	+0.5
FNSB				Sn	**Sn**	02 32 55.1	-0.1
BDMTA	**Bald Mountain**	**2.50**	**140**	Pn	**Pn**	02 32 34.1	+0.7
BDMTA				Sn	**Sn**	02 33 06.1	+1.6
FSJB	**Fort St James**	**2.74**	**214**	Pn	**Pn**	02 32 36.9	+0.2
FSJB				Pg	**Pb**	02 32 41.9	+0.6
FSJB				Sg	**Sb**	02 33 17.2	+1.7
NBC3	**NorthernBC 3**	**2.93**	**10**	Sn	**Sn**	02 33 16.0	+0.9
SWHSA	**Sweathouse Loo**	**3.35**	**122**	Pn	**Pn**	02 32 46.1	+1.1
SWHSA				Sn	**Sn**	02 33 25.9	+0.5
SWHSA				Sg	**Sg**	02 33 38.5	-0.4
STPRA	**Salt Prairie L**	**3.45**	**106**	Pn	**Pn**	02 32 47.4	+1.0
STPRA				Sn	**Sn**	02 33 28.0	+0.2
FLDN	**Fort Liard**	**3.61**	**346**	Sg	**Sg**	02 33 46.0	-1.4
BRLDA	**Berland Lookou**	**3.62**	**136**	Pn	**Pn**	02 32 50.4	+1.7
BRLDA				Sn	**Sn**	02 33 32.0	-0.2
BRLDA				Sg	**Sg**	02 33 47.3	-0.2
KITB	**Kitimat**	**4.79**	**239**	Pn	**Pn**	02 33 03.7	-1.0
DLBC	**Dease Lake**	**4.79**	**294**	Pn	**Pn**	02 33 04.3	-0.6
	0.6nm,0.3s,baz=126,slow=8.7,SNR=2.6						
DLBC				Pg	**Pb**	02 33 18.2	+1.9
	3.2nm,0.3s,baz=116,slow=16,SNR=35						
DLBC				Sn	**Sn**	02 34 01.4	+0.3
	0.6nm,0.3s,baz=250,slow=13,SNR=1.5						
DLBC				Lg	Lg	02 34 19.4	
	0.5nm,0.3s,baz=170,slow=18,SNR=2.0 1.2nm,0.3s						
DLBC	**Dease Lake**	**4.79**	**294**	Pn	**Pn**	02 33 03.7	-1.2
DLBC				Pg	**Pb**	02 33 18.9	+2.7
BLBC	**Blue River**	**4.94**	**162**	Pn	**Pn**	02 33 07.5	+0.5
MNB	**Mounoet Dainar**	**4.96**	**156**	Pn	**Pn**	02 33 09.0	+1.7
HWKB	**Hawksbury Isla**	**5.33**	**237**	Pg	**Pb**	02 33 28.2	+2.8
BUTB	**Butedale**	**5.39**	**229**	Pn	**Pn**	02 33 12.5	-0.5
GRIB	**Gribbell Islan**	**5.49**	**234**	Pg	**Pb**	02 33 30.2	+2.2
GRNB	**Grenville Isla**	**5.56**	**242**	Pg	**Pb**	02 33 31.5	+2.3
BNKB	**Banks Island**	**5.84**	**237**	Pg	**Pb**	02 33 36.6	+2.5
BBB	**Bella Bella**	**5.92**	**222**	Pn	**Pn**	02 33 18.6	-1.7
	0.6nm,0.3s,baz=9.1,slow=6.6,SNR=6.3						
BBB				Lg	Lg	02 34 53.4	
	0.5nm,0.3s,baz=43,slow=23,SNR=1.3 40nm,1.2s						
BBB	**Bella Bella**	**5.92**	**222**	Pn	**Pn**	02 33 20.4	+0.1
EDM	**Edmonton**	**5.96**	**123**	Pn	**Pn**	02 33 22.1	+1.2
SLEB	**Sale Mountain**	**5.98**	**158**	Pn	**Pn**	02 33 22.0	+0.6
LLLB	**Lillooet**	**6.17**	**181**	Pn	**Pn**	02 33 24.1	+0.4
YKA	**Yellowknife Ar**	**6.77**	**29**	Pn	**Pn**	02 33 30.2	-1.7
	0.7nm,0.3s,baz=216,slow=13,SNR=22						
YKA				Sn	**Sn**	02 34 45.0	-4.6
	1.4nm,0.3s,baz=216,slow=22,SNR=6.0						
YKA				Lg	Lg	02 35 21.9	
	1.2nm,0.3s,baz=213,slow=25,SNR=8.2 2.1nm,0.6s						
HOLB	**Holberg**	**7.23**	**215**	Pn	**Pn**	02 33 38.5	+0.2
WOSB	**Woss**	**7.23**	**206**	Pn	**Pn**	02 33 38.7	+0.4
SHB	**Sechelt**	**7.30**	**191**	Sg	**Sg**	02 35 37.9	-7.7
HOPB	**Hope**	**7.39**	**179**	Pn	**Pn**	02 33 41.0	+0.6
HNBB	**Haney**	**7.51**	**184**	Pn	**Pn**	02 33 42.5	+0.5
PNT	**Penticton**	**7.56**	**170**	Pn	**Pn**	02 33 42.8	0.0
PDAR	**Pinedale Array**	**16.01**	**146**	Pn	**Pn**	02 35 34.4	-3.6
	baz=340,slow=7.8,SNR=1.8 0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**67.55**	**343**	P	**P**

APC	**Apacha**	**5.99**	**250**	PN	**Pn**	**02 34 51.5**	**+2.4**
APC	**Apacha**	**5.99**	**250**	*e*P	**Pn**	**02 34 51.3**	**+2.2**
L14K	**Kuka Creek**	**17.14**	**57**	Pn	**P**	**02 37 23.2**	**+2.0**
L14K				IAmb	IAmb	02 37 33.8	
	comp=Z,21nm,1.2s						
F15K	**North Star Dit**	**17.39**	**42**	Pn	**Pn**	**02 37 22.4**	**-0.5**
K15K	**Wolf Creek Mou**	**17.80**	**54**		**P**	**02 37 31.0**	**+2.3**
K15K				IAmb	IAmb	02 37 57.9	
	comp=Z,15nm,1.2s						
C16K	**Lisburne Hills**	**18.31**	**34**		**P**	**02 37 33.8**	**-0.4**
C16K				IAmb	IAmb	02 38 16.5	
	comp=Z,14nm,1.5s						
N15K	**Kwethluk River**	**18.34**	**61**		**Pn**	**02 37 39.4**	**+4.8**
N15K				IAmb	IAmb	02 38 05.7	
	comp=Z,16nm,1.1s						
J16K	**Anvik River**	**18.39**	**51**	P	**Pn**	**02 37 37.5**	**+2.4**
J16K				IAmb	IAmb	02 37 59.5	
	comp=Z,10nm,1.3s						
L16K	**Owhat River**	**18.70**	**56**		**Pn**	**02 37 43.2**	**+4.2**
H17K	**Granite Mounta**	**19.04**	**46**	P	**Pn**	**02 37 44.2**	**+1.3**
G18K	**Tagagawik**	**19.79**	**44**	P	**Pn**	**02 37 52.2**	**+0.2**
C19K	**Lookout Ridge**	**20.56**	**35**	P	**P**	**02 37 59.1**	**+0.3**
H19K	**Roundabout Mou**	**20.59**	**46**	P	Pn	02 38 00.5	-0.8
H19K				IAmb	IAmb	02 38 09.5	
	comp=Z,13nm,1.0s						
E19K	**Redstone River**	**20.78**	**40**	P	Pn	02 38 02.1	-1.5
E19K				IAmb	IAmb	02 38 20.6	
	comp=Z,9.2nm,1.0s						
D19K	**Kuna River**	**20.81**	**37**	P	Pn	02 38 03.0	-1.0
D19K				IAmb	IAmb	02 38 11.9	
	comp=Z,11nm,1.1s						
J20K	**Nowinta River**	**21.35**	**50**	P	**P**	**02 38 10.3**	**+3.0**
J20K				IAmb	IAmb	02 38 17.7	
	comp=Z,14nm,1.4s						
G24K	**Hadweenzic Riv**	**24.37**	**44**	P	**P**	**02 38 38.5**	**+0.4**
G24K				IAmb	IAmb	02 38 49.7	
	comp=Z,4.7nm,0.9s						
IL31		**24.53**	**49**	P	**P**	**02 38 41.6**	**+2.1**
ILAR	**Eielson Array**	**24.53**	**49**	P	**P**	**02 38 39.2**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=257,slow=7.8,SNR=7.6						
	comp=Z,1.4nm,0.9s						
PRP	**Porcupine Dome**	**25.11**	**47**	P	**P**	**02 38 45.2**	**+0.4**
MJAR	**Matsushiro Arr**	**26.91**	**237**	P	**P**	**02 39 00.8**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=40,slow=9.7,SNR=3.1						
	comp=Z,2.2nm,0.8s						
INK	**Inuvik**	**29.74**	**40**	P	**P**	**02 39 26.2**	**0.0**
	comp=Z,1.4nm,0.8s,baz=260,slow=6.0,SNR=2.2						
	comp=Z,1.4nm,0.8s						
DLBC	**Dease Lake**	**33.67**	**58**	P	**P**	**02 40 01.3**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=278,slow=15,SNR=1.8						
	comp=Z,1.7nm,0.8s						
YKA	**Yellowknife Ar**	**38.91**	**47**	P	**P**	**02 40 45.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=297,slow=8.2,SNR=2.8						
	comp=Z,0.3nm,0.4s						
SPITS	**Spitsbergen Ar**	**45.46**	**352**	P	**P**	**02 41 37.8**	**-0.9**
	comp=Z,9.9nm,0.9s,baz=50,slow=5.5,SNR=5.2						
	comp=Z,9.9nm,0.9s						
KURK	**Kurchatov**	**49.65**	**304**	P	**P**	**02 42 10.5**	**-1.0**
KURK				IAmb	IAmb	02 42 44.8	
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**49.65**	**304**	P	**P**	**02 42 10.9**	**-0.6**
KURK						02 43 32.5	
KURBB	**Kurchatov Arra**	**49.75**	**303**	P	**P**	**02 42 10.9**	**-1.4**
	comp=Z,2.5nm,0.7s,baz=55,slow=8.0,SNR=14						
KURBB				PcP	**PcP**	**02 43 32.5**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=41,slow=2.7,SNR=2.2						
	comp=Z,2.5nm,0.7s						
MK31	**Makanchi Array**	**50.47**	**298**	P	**P**	**02 42 16.7**	**-1.2**
MK31	**Makanchi Array**	**50.47**	**298**	P	**P**	**02 42 16.7**	**-1.2**
MKAR	**Makanchi Array**	**50.47**	**298**	P	**P**	**02 42 16.5**	**-1.4**
MKAR	**Makanchi Array**	**50.47**	**298**	P	**P**	**02 42 16.7**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=51,slow=6.1,SNR=18						
	comp=Z,0.9nm,0.4s						
MAKZ	**Makanchi**	**50.62**	**298**	P	**P**	**02 42 17.7**	**-1.3**
MAKZ	**Makanchi**	**50.62**	**298**	P	**P**	**02 42 17.7**	**-1.3**
BVAR	**Borovoye Array**	**51.84**	**310**	P	**P**	**02 42 27.0**	**-1.0**
BVAR	**Borovoye Array**	**51.84**	**310**	P	**P**	**02 42 27.0**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=41,slow=9.9,SNR=7.5						
	comp=Z,2.2nm,0.7s						
BRVK	**Borovoye**	**51.86**	**310**	P	**P**	**02 42 27.7**	**-0.4**
BRVK				IAmb	IAmb	02 42 55.1	
	comp=Z,2.2nm,0.8s						
BRVK	**Borovoye**	**51.86**	**310**	P	**P**	**02 42 27.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**53.16**	**66**	P	**P**	**02 42 37.4**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=0.0,slow=5.4,SNR=2.9						
	comp=Z,0.6nm,0.9s						
BLYC	**Blythe**	**57.00**	**77**	P	P	02 43 11.9	+6.1
ABKAR	**Akbulak array**	**59.07**	**313**	P	**P**	**02 43 19.0**	**-1.0**
ABKAR	**Akbulak array**	**59.07**	**313**	P	**P**	**02 43 19.4**	**-0.6**
ABKAR				IAmb	IAmb	02 43 33.6	
	comp=Z,1.3nm,1.4s						
FINES	**FINESS Array B**	**59.42**	**339**	P	**P**	**02 43 21.2**	**-1.0**
	comp=Z,5.2nm,1.0s,baz=114,slow=9.3,SNR=1.8						
	comp=Z,5.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**62.25**	**262**	P	**P**	**02 43 40.5**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=21,slow=7.7,SNR=4.2						
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**62.29**	**347**	P	**P**	**02 43 41.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=2.5,slow=6.4,SNR=1.5						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**62.82**	**345**	P	**P**	**02 43 45.9**	**+0.6**
	comp=Z,4.7nm,1.0s,baz=26,slow=8.2,SNR=1.5						
	comp=Z,4.7nm,1.0s						
TXAR	**Lajitas Array**	**66.34**	**72**	P	**P**	**02 44 09.4**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=300,slow=4.4,SNR=16						
	comp=Z,1.7nm,0.6s						
AKASG	**Malin Array Be**	**68.46**	**332**	P	**P**	**02 44 20.6**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=28,slow=6.6,SNR=3.2						
	comp=Z,0.6nm,0.5s						
WRA	**Warramunga Arr**	**79.84**	**211**	P	**P**	**02 45 28.1**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=46,slow=6.3,SNR=3.1						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**83.49**	**210**	P	**P**	**02 45 47.1**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=358,slow=4.8,SNR=5.5						
	comp=Z,0.8nm,0.9s						
ESDC	**Sonseca Array**	**84.97**	**353**	P	**P**	**02 45 55.9**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=288,slow=9.7,SNR=2.3						
	comp=Z,0.5nm,1.0s						
QSPA	**South Pole Qui**	**145.13**	**180**	PKPbc	**PKPbc**	**02 52 54.0**	**-1.8**
	comp=Z,3.6nm,0.7s,baz=300,slow=0.9,SNR=5.3						

*IDC **25** 02:37:09.0±0.9,55°.73N×166°.90E,h0km,mb3.7/11, mbtmp3.9/14,ML3.9/3, Error ellipse: s-maj=26.1km s-min=16.4km az=171.0*
*MOS **25** 02:37:09.3±1.0,55°.42N×166°.98E,h22km,mb4.5/2, Error ellipse: s-maj=13.9km s-min=9.7km az=11.6*
*KRSC **25** 02:37:09.2±1.6,55°.32N×166°.77E,h25km±9km,Ml4.3*
*NEIC **25** 02:37:12.9±1.0,55°.38N±0°.10×166°.6E±0°.1,h10km±1km, mb4.1/9, Error ellipse: s-maj=19.2km s-min=8.0km az=328.0*

ISC 25 02:37:12.0±0.7,**55°.42N**±0°.08×**166°.63E**±0°.07,**h10**km,**n78,** σ1§**49**/76,**mb3.9**/16,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.43**	**240**	PN	**Pg**	**02 37 18.7**	**-1.7**
BKI				S	**Sg**	**02 37 26.5**	**+0.4**
SMKR	**Semkarok**	**3.12**	**294**	PN	**Pn**	**02 38 01.3**	**0.0**
SMKR	**Semkarok**	**3.12**	**294**	*e*P	**Pn**	**02 38 01.3**	**0.0**
BDR	**Baidarnaya**	**3.25**	**293**	PN	**Pn**	**02 38 03.7**	**+0.6**
BDR	**Baidarnaya**	**3.25**	**293**	*e*P	**Pn**	**02 38 03.7**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**3.40**	**281**	PN	**Pn**	**02 38 06.8**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**3.40**	**281**	*e*P	**Pn**	**02 38 06.8**	**+1.7**
BZP	**Bezymyannyi-Pe**	**3.48**	**281**	*e*P	**Pn**	**02 38 07.2**	**+0.8**
KLY	**Klyuchi**	**3.48**	**287**	PN	**Pn**	**02 38 04.9**	**-1.2**
KLY	**Klyuchi**	**3.48**	**287**	*e*P	**Pn**	**02 38 04.9**	**-1.2**
TUMD	**Tumrok D**	**3.57**	**269**	*e*P	**Pn**	**02 38 07.8**	**+0.5**
TUMD				*e*S	**Sn**	**02 38 50.8**	**+1.3**
KMNR	**Kamenistaya**	**3.64**	**278**	PN	**Pn**	**02 38 09.8**	**+1.4**
KMNR	**Kamenistaya**	**3.64**	**278**	*e*P	**Pn**	**02 38 09.8**	**+1.4**
KPT	**Kopyto**	**3.67**	**281**	PN	**Pn**	**02 38 09.9**	**+1.1**
KPT	**Kopyto**	**3.67**	**281**	*e*P	**Pn**	**02 38 09.9**	**+1.1**
TUMR	**Tumrok**	**3.70**	**271**	PN	**Pn**	**02 38 07.8**	**-1.5**
TUMR	**Tumrok**	**3.70**	**271**	*e*P	**Pn**	**02 38 10.7**	**+1.5**
KOZ	**Kozyrevsk**	**3.87**	**282**	PN	**Pn**	**02 38 12.8**	**+1.3**
KOZ	**Kozyrevsk**	**3.87**	**282**	*e*P	**Pn**	**02 38 12.8**	**+1.3**
SRDR	**Sredinnyy**	**4.00**	**286**	PN	**Pn**	**02 38 14.0**	**+0.8**
SRDR	**Sredinnyy**	**4.00**	**286**	*e*P	**Pn**	**02 38 14.0**	**+0.8**
SMAR	**Somma**	**5.06**	**248**	*e*P	**Pn**	**02 38 28.4**	**+0.3**
UGLR	**Uglovaya**	**5.08**	**247**	*e*P	**Pn**	**02 38 29.1**	**+1.0**
AVH	**Avacha**	**5.10**	**248**	*e*P	**Pn**	**02 38 29.1**	**+0.8**
KRX	**Arik**	**5.10**	**249**	*e*P	**Pn**	**02 38 28.9**	**+0.5**
KOK	**Koryaka**	**5.14**	**249**	*e*P	**Pn**	**02 38 29.7**	**+0.8**
SHEM	**Shemya Is, Ala**	**5.16**	**118**	Pn	**Pn**	**02 38 29.6**	**+0.5**
	4.5nm,0.3s,baz=25,slow=7.2,SNR=2.3						
	92nm,0.9s						
DALK	**Dalny**	**5.20**	**246**	*e*P	**Pn**	**02 38 30.1**	**+0.3**
PET	**Petropavlovsk**	**5.26**	**246**		**Pn**	**02 38 31.2**	**+0.6**
PET	**Petropavlovsk**	**5.26**	**246**	*e*PN	**Pn**	**02 38 30.8**	**+0.3**
KRMR	**Karymshinskiy**	**5.63**	**246**	*e*P	**Pn**	**02 38 36.4**	**+0.8**
RUS	**Russkaya**	**5.65**	**241**	*e*P	**Pn**	**02 38 36.3**	**+0.4**
PEA0B	**Petropavlovsk-**	**5.72**	**250**		**Pn**	**02 38 37.3**	**+0.4**
PEA0B	**Petropavlovsk-**	**5.72**	**250**	PN	**Pn**	**02 38 37.3**	**+0.4**
PETK	**Petropavlovsk-**	**5.72**	**250**	Pn	**Pn**	**02 38 37.5**	**+0.6**
	14nm,0.3s,baz=70,slow=17,SNR=32						
	37nm,0.5s						
MTVR	**Mutnovka**	**5.79**	**243**	*e*P	**Pn**	**02 38 38.5**	**+0.6**
GRL	**Gorelyy**	**5.81**	**244**	*e*P	**Pn**	**02 38 39.9**	**+1.7**
APC	**Apacha**	**6.10**	**250**	*e*P	**Pn**	**02 38 43.1**	**+1.1**
ASAJ	**Asahikawa**	**19.10**	**244**	P	**Pn**	**02 41 36.1**	**+0.7**
	0.7nm,0.3s,baz=54,slow=8.7,SNR=3.2						
	24nm,1.0s						
YAK	**Yakutsk**	**20.06**	**304**	P	**P**	**02 41 44.7**	**-0.3**
	11nm,0.3s,baz=80,slow=17,SNR=1.9						
	11nm,0.3s						
KLR	**Kul'dur**	**22.02**	**268**	P	**P**	**02 42 06.1**	**-0.2**
	3.1nm,0.8s,baz=41,slow=20,SNR=6.5						
	3.1nm,0.8s						
TIXI	**Tiksi**	**22.78**	**330**	P	**P**	**02 42 10.2**	**-3.9**
	1.0nm,0.3s,baz=23,slow=3.3,SNR=1.5						
	1.0nm,0.3s						
ILAR	**Eielson Array**	**24.42**	**49**	P	**P**	**02 42 24.9**	**-5.4**
	0.8nm,0.9s,baz=249,slow=7.6,SNR=4.8						
	0.8nm,0.9s						
D25K	**Kavik River**	**25.03**	**38**	P	**P**	**02 42 36.9**	**+1.1**
D25K				IAmb	IAmb	02 42 41.6	
	comp=Z,7.0nm,1.4s						
E25K	**Arctic Village**	**25.15**	**41**	P	**P**	**02 42 38.0**	**+1.1**
E25K				IAmb	IAmb	02 42 40.7	
	comp=Z,3.9nm,1.2s						
SCRK	**Sand Creek**	**25.71**	**51**	P	**P**	**02 42 42.9**	**+0.8**
L27K	**Beaver Creek,**	**26.76**	**52**	P	**P**	**02 42 52.6**	**+1.1**
MJAR	**Matsushiro Arr**	**27.02**	**238**	P	**P**	**02 42 55.5**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=16,slow=9.5,SNR=1.9						
	comp=Z,1.4nm,0.6s						
F28M	**Old Crow**	**27.28**	**42**	P	**P**	**02 42 57.3**	**+1.3**
F28M				IAmb	IAmb	02 43 03.5	
	comp=Z,6.6nm,1.4s						
G29M	**Pine Creek**	**28.02**	**44**	P	**P**	**02 43 04.3**	**+1.6**
INK	**Inuvik**	**29.64**	**41**	P	**P**	**02 43 18.4**	**+1.4**
INK	**Inuvik**	**29.64**	**41**	P	**P**	**02 43 18.4**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**35.63**	**180**	T	T	03 22 17.4	
	baz=0.2,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**35.65**	**180**	T	T	03 22 18.5	
	baz=0.2,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**35.65**	**180**	T	T	03 22 11.7	
	baz=0.2,slow=76,SNR=1.8						
SONM	**Songino Array**	**37.08**	**284**	P	**P**	**02 44 20.8**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=63,slow=9.0,SNR=1.6						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**38.81**	**47**	P	P	02 44 32.2	-4.2
	comp=Z,0.1nm,0.3s,baz=296,slow=8.2,SNR=2.2						
	comp=Z,0.1nm,0.3s						
KURK	**Kurchatov**	**49.70**	**304**	P	**P**	**02 46 02.7**	**-1.0**
KURBB	**Kurchatov Arra**	**49.80**	**304**	P	**P**	**02 46 02.7**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=53,slow=7.7,SNR=9.5						
	comp=Z,1.3nm,0.8s						
MK31	**Makanchi Array**	**50.53**	**298**	P	**P**	**02 46 09.2**	**-0.9**
MK31	**Makanchi Array**	**50.53**	**298**	P	**P**	**02 46 09.2**	**-0.9**
MKAR	**Makanchi Array**	**50.53**	**298**	P	**P**	**02 46 09.2**	**-1.0**
MKAR	**Makanchi Array**	**50.53**	**298**	P	**P**	**02 46 09.2**	**-1.0**
MKAR	**Makanchi Array**	**50.53**	**298**	P	**P**	**02 46 08.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=60,slow=5.9,SNR=4.3						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**02 46 18.6**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=32,slow=8.5,SNR=5.0						
	comp=Z,1.3nm,0.8s						
BOOM	**Boomskoye usch**	**56.78**	**298**	P	**P**	**02 46 57.4**	**+1.2**
BOOM	**Boomskoye usch**	**56.78**	**298**	P	**P**	**02 46 57.4**	**+1.2**
BOOM				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ABKAR	**Akbulak array**	**59.11**	**313**	P	**P**	**02 47 12.3**	**+0.2**
ABKAR	**Akbulak array**	**59.11**	**313**	P	**P**	**02 47 13.1**	**+0.9**
ABKAR				IAmb	IAmb	02 47 17.3	
	comp=Z,2.3nm,1.5s						
FINES	**FINESS Array B**	**59.40**	**339**	P	**P**	**02 47 17.2**	**+3.2**
FINES	**FINESS Array B**	**59.40**	**339**	P	**P**	**02 47 17.2**	**+3.2**
BTK	**Batken**	**61.16**	**299**	P	**P**	**02 47 28.4**	**+1.9**
BTK				IAmb	IAmb	02 47 32.2	
	comp=Z,1.0nm,0.8s						
BTK	**Batken**	**61.16**	**299**	P	**P**	**02 47 28.4**	**+1.9**
BTK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NC204	**NORSAR Array S**	**62.09**	**347**	P	**P**	**02 47 33.0**	**+0.6**
TX31	**Lajitas Ar. Si**	**66.23**	**73**	P	**P**	**02 48 01.0**	**+0.9**
TXAR	**Lajitas Array**	**66.23**	**73**	P	**P**	**02 48 01.8**	**+1.8**
TXAR	**Lajitas Array**	**66.23**	**73**	P	**P**	**02 47 57.1**	**-2.9**
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=1.4						
	comp=Z,0.3nm,0.6s						
QSPA	**South Pole Qui**	**145.17**	**180**	PKPbc	**PKPbc**	**02 56 46.0**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=1.0,slow=0.8,SNR=2.0						

FUNV 25 02:37:22.0,10°.05N×64°.51W,h15km,MW3.7,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**1.40**	**63**	*e*P	Pn	02 37 47.1	+0.1
CRUV				*e*S	Sb	02 38 05.6	0.0
FUNV	**FUNVISIS**	**2.30**	**281**	*e*P	Pn	02 37 58.8	-0.7
FUNV				*e*S	Sn	02 38 26.0	-1.7
TACV	**Tcata**	**2.48**	**272**	*e*P	Pn	02 38 00.8	-1.1
TACV				*e*S	Sn	02 38 30.3	-1.7
BENV	**Beln**	**3.04**	**269**	*e*P	Pn	02 38 09.1	-0.6
BENV				*e*S	Sn	02 38 43.3	-2.6
CACV	**CAICARA DEL OR**	**3.18**	**219**	*e*P	Pn	02 38 07.1	-4.4
CACV				*e*S	Sn	02 38 40.5	-8.7
TURV	**Turiamo**	**3.30**	**277**	*e*P	Pn	02 38 12.2	-1.0
TURV				*e*S	Sn	02 38 49.3	-2.9
BAUV	**El Baul**	**3.65**	**253**	*e*P	Pn	02 38 16.8	-1.2
BAUV				*e*S	Sn	02 38 57.3	-3.5
TEPV	**Terepaima**	**4.61**	**269**	*e*P	Pn	02 38 29.8	-1.5
TEPV				*e*S	Sn	02 39 19.9	-4.8
SANV	**Sanarito**	**4.98**	**264**	*e*P	Pn	02 38 34.9	-1.5
SANV				*e*S	Sn	02 39 29.1	-4.9
CURV	**Curarigua**	**5.37**	**270**	*e*P	Pn	02 38 40.0	-1.7
CURV				*e*S	Sn	02 39 37.8	-5.6
SOCV	**Socops**	**6.50**	**255**	*e*P	Pn	02 38 55.1	-2.2
SOCV				*e*S	Sn	02 40 04.1	-7.3

*IDC **25** 02:38:05.2±0.9,55°.41N×166°.34E,h0km,mb3.7/11, mbtmp3.8/13,ML3.9/2, Error ellipse: s-maj=27.8km s-min=16.3km az=174.0*
*KRSC **25** 02:38:06.3±0.8,55°.33N×166°.37E,h33km±2km,Ml4.5, Felt [II-III] at Nikolskoe.*

ISC 25 02:38:08.2±0.6,**55°.37N**±0°.08×**166°.42E**±0°.05,**h20**km,**n19,** σ1§**07**/24,**mb3.8**/11,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.31**	**237**	*e*P	**Pb**	**02 38 13.5**	**-1.5**
BKI				*e*S	**Sb**	**02 38 19.6**	**+0.1**
KLY	**Klyuchi**	**3.39**	**289**	*e*S	**Sn**	**02 39 36.9**	**-2.4**
TUMD	**Tumrok D**	**3.45**	**270**	*e*S	**Sn**	**02 39 41.8**	**+0.8**
KRX	**Arik**	**4.97**	**249**	*e*P	**Pn**	**02 39 22.8**	**+1.1**
KRX				*e*S	**Sn**	**02 40 18.6**	**-0.1**
KOK	**Koryaka**	**5.01**	**249**	*e*P	**Pn**	**02 39 23.8**	**+1.6**
KOK				*e*S	**Sn**	**02 40 20.0**	**+0.5**
SHEM	**Shemya Is, Ala**	**5.24**	**117**	Pn	**Pn**	**02 39 24.9**	**-0.3**
	5.6nm,0.3s,baz=282,slow=22,SNR=2.1						
SHEM				Sn	**Sn**	**02 40 23.5**	**-1.5**
	3.8nm,0.3s,baz=280,slow=19,SNR=2.2						
	41nm,0.5s						
PETK	**Petropavlovsk-**	**5.60**	**250**	Pn	**Pn**	**02 39 30.9**	**+0.7**
	13nm,0.3s,baz=69,slow=18,SNR=8.1						
PETK				Sn	**Sn**	**02 40 33.8**	**0.0**
	5.1nm,0.3s,baz=84,slow=39,SNR=2.5						
	39nm,0.6s						
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	**02 43 26.4**	**+0.4**
	1.4nm,0.9s,baz=245,slow=8.5,SNR=2.3						
	1.4nm,0.9s						
SONM	**Songino Array**	**36.98**	**284**	P	**P**	**02 45 16.7**	**+0.8**
	0.7nm,0.7s,baz=65,slow=7.9,SNR=3.9						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**38.93**	**46**	P	**P**	**02 45 32.3**	**+0.2**
	0.3nm,0.6s,baz=290,slow=7.2,SNR=1.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**49.74**	**303**	P	**P**	**02 46 57.6**	**-1.0**
	1.0nm,0.8s,baz=55,slow=8.5,SNR=5.2						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**50.46**	**298**	P	**P**	**02 47 03.0**	**-1.2**
	0.5nm,0.4s,baz=46,slow=6.3,SNR=6.2						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**51.82**	**310**	P	**P**	**02 47 13.4**	**-0.8**
	0.8nm,0.5s,baz=56,slow=9.1,SNR=3.0						
	0.8nm,0.5s						
PDAR	**Pinedale Array**	**53.18**	**66**	P	**P**	**02 47 25.7**	**+0.9**
	0.2nm,0.6s,baz=293,slow=4.8,SNR=3.5						
	0.2nm,0.6s						
NOA	**NORSAR Array B**	**62.29**	**347**	P	**P**	**02 48 27.3**	**-1.0**
	0.3nm,0.3s,baz=8.7,slow=5.9,SNR=2.1						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**66.36**	**72**	P	**P**	**02 48 55.8**	**+0.3**
	1.1nm,0.5s,baz=302,slow=5.7,SNR=12						
	1.1nm,0.5s						
EKA	**Eskdalemuir Ar**	**69.33**	**354**	P	**P**	**02 49 14.9**	**+1.4**
	1.4nm,0.8s,baz=20,slow=6.3,SNR=1.7						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**83.48**	**210**	P	**P**	**02 50 34.5**	**+0.5**
	0.7nm,1.0s,baz=16,slow=4.9,SNR=2.5						
	0.7nm,1.0s						
QSPA	**South Pole Qui**	**145.12**	**180**	PKPbc	**PKPbc**	**02 57 41.4**	**-0.8**
	1.1nm,0.3s,baz=296,slow=1.4,SNR=2.8						

*IDC **25** 02:42:53.0±0.8,55°.71N×166°.06E,h0km,mb3.7/11, mbtmp3.7/12,ML3.5/1, Error ellipse: s-maj=29.9km s-min=15.8km az=156.0*
*KRSC **25** 02:42:54.4±1.0,55°.37N×166°.31E,h36km±5km,Ml4.4, Felt [II-III] at Nikolskoe.*

ISC 25 02:42:55.6±0.8,**55°.48N**±0°.07×**166°.35E**±0°.07,**h20**km,**n31,** σ1§**32**/40,**mb3.7**/11,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.35**	**218**	*e*P	**Pb**	**02 43 02.3**	**-0.8**
BKI				*e*S	**Sb**	**02 43 07.5**	**-0.6**
SMKR	**Semkarok**	**2.95**	**294**	*e*P	**Pn**	**02 43 42.1**	**+0.7**
SMKR				*e*S	**Sn**	**02 44 17.4**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**3.23**	**281**	*e*P	**Pn**	**02 43 46.2**	**+0.9**
BZWR	**Bezymyannyi-We**	**3.34**	**281**	*e*P	**Pn**	**02 43 48.1**	**+1.3**
TUMD	**Tumrok D**	**3.41**	**268**	*e*P	**Pn**	**02 43 48.7**	**+1.1**
TUMD				*e*S	**Sn**	**02 44 29.4**	**+2.0**
KIRR	**Kirishev**	**3.43**	**280**	*e*P	**Pn**	**02 43 49.2**	**+1.1**
KMNR	**Kamenistaya**	**3.48**	**277**	*e*P	**Pn**	**02 43 50.3**	**+1.7**
KPT	**Kopyto**	**3.50**	**281**	*e*P	**Pn**	**02 43 50.3**	**+1.4**
TUMR	**Tumrok**	**3.54**	**269**	*e*P	**Pn**	**02 43 50.9**	**+1.4**
SMAR	**Somma**	**4.94**	**246**	*e*P	**Pn**	**02 44 10.0**	**+1.2**
AVH	**Avacha**	**4.97**	**247**	*e*P	**Pn**	**02 44 10.6**	**+1.5**
AVH				*e*S	**Sn**	**02 45 07.1**	**+1.1**
KRX	**Arik**	**4.97**	**248**	*e*P	**Pn**	**02 44 10.6**	**+1.4**
KRX				*e*S	**Sn**	**02 45 06.3**	**+0.2**
KOK	**Koryaka**	**5.01**	**247**	*e*P	**Pn**	**02 44 10.9**	**+1.3**
KRMR	**Karymshinskiy**	**5.51**	**245**	*e*P	**Pn**	**02 44 17.8**	**+1.4**
KRMR				*e*S	**

MNAS	**Manas**	**1.19**	**73**	⇑	*e*P	**Pg**	**02 47 29.1**	**-0.1**
	baz=76							
MNAS				⇑	*e*S	**Sg**	**02 47 44.1**	**-0.6**
	baz=76							
ARSB	**Arslanbob**	**1.73**	**118**	⇓	*i*P	**Pb**	**02 47 38.8**	**-0.2**
	baz=21							
ARSB				⇓	*i*S	**Sn**	**02 48 00.4**	**-0.2**
	baz=21							
MRKS	**Merke**	**1.78**	**70**		Pg	**Pg**	**02 47 44.6**	**+4.1**
	3.5nm,0.2s							
MRKS					Lg	Lg	02 48 19.9	
	56nm,0.2s							
MRKS	**Merke**	**1.78**	**70**		*e*P	Pg	02 47 50.4	+10
	3.1nm,0.6s							
MRKS					*e*S	Sg	02 48 19.9	+16
	53nm,0.2s							
AML	**Almayashu**	**2.03**	**90**	⇑	P	**Pg**	**02 47 45.3**	**-0.1**
	0.1nm,0.2s							
AML				⇓	S	**Sg**	**02 48 11.8**	**+0.1**
	1.7nm,0.5s							
AML	**Almayashu**	**2.03**	**90**	⇑	*e*P	**Pn**	**02 47 42.6**	**+0.3**
	baz=92							
AML				⇑	*i*S	**Sn**	**02 48 07.3**	**-1.3**
	baz=92							
BTK	**Batken**	**2.10**	**183**	⇑	*i*P	**Pb**	**02 47 45.0**	**-0.3**
	baz=84							
BTK				⇑	*i*S	**Sb**	**02 48 11.6**	**-0.3**
	baz=84							
OHH	**Osh**	**2.13**	**139**	⇑	*i*P	**Pb**	**02 47 44.5**	**-1.4**
	baz=42							
OHH				⇑	*i*S	**Sn**	**02 48 10.8**	**+0.3**
	baz=42							
EKS2	**Erkin-Say**	**2.15**	**75**	⇓	*i*P	**Pn**	**02 47 43.5**	**-0.1**
	baz=77							
EKS2				⇓	*i*S	**Sn**	**02 48 09.3**	**-1.7**
	baz=77							
UCH	**Uchtor**	**2.64**	**87**	⇓	*i*P	**Pn**	**02 47 50.7**	**0.0**
	baz=89							
UCH				⇓	*i*S	**Sn**	**02 48 21.6**	**-2.1**
	baz=89							
AAK	**Ala-Archa**	**2.66**	**78**	⇑	*i*P	**Pn**	**02 47 50.7**	**0.0**
	baz=80							
AAK				⇑	*i*S	**Sn**	**02 48 21.8**	**-2.0**
	baz=80							
CHMS	**Chumysh**	**2.92**	**72**	⇓	*i*P	**Pn**	**02 47 54.2**	**0.0**
	baz=73							
CHMS				⇓	*i*S	**Sn**	**02 48 27.6**	**-2.4**
	baz=73							
SGDS	**Sogindy**	**3.00**	**63**		Pg	**Pg**	**02 48 05.4**	**+1.6**
SGDS					Lg	Lg	02 48 55.3	
TKM2	**Tokmak 2**	**3.51**	**76**	⇑	Pn	**Pn**	**02 48 05.3**	**+2.9**
	5.0nm,1.4s							
TKM2				⇑	Sn	**Sn**	**02 48 48.2**	**+3.4**
	3.1nm,0.3s							
BTLS	**Baital**	**3.66**	**37**		Pg	**Pg**	**02 48 18.1**	**+1.7**
	1.4nm,0.7s							
BTLS					Lg	Lg	02 49 17.2	
	6.4nm,0.7s							
BTLS	**Baital**	**3.66**	**37**		*e*P	Pg	02 48 23.7	+7.3
	1.0nm,0.4s							
BTLS					*e*S	Sg	02 49 17.2	+13
	9.5nm,0.5s							
DGS	**Degeres**	**3.71**	**71**		Pg	**Pg**	**02 48 18.6**	**+1.1**
DGS					Lg	Lg	02 49 18.8	
DGS	**Degeres**	**3.71**	**71**		*e*P	Pg	02 48 23.9	+6.4
	1.3nm,0.4s							
DGS					*e*S	Sg	02 49 18.5	+13
	32nm,0.4s							
KST	**Kastek**	**3.80**	**75**		Pg	**Pg**	**02 48 20.2**	**+1.0**
	4.1nm,0.3s							
KST					Lg	Lg	02 49 21.4	
	12nm,0.6s							
KST	**Kastek**	**3.80**	**75**		*e*P	Pg	02 48 25.6	+6.4
	2.4nm,0.4s							
KST					*e*S	Sg	02 49 21.4	+13
	17nm,0.5s							
CHKK	**Chushkaly**	**4.74**	**67**		Pg	**Pg**	**02 48 38.0**	**+0.8**
	1.2nm,0.1s							
CHKK					Lg	Lg	02 49 50.9	
	8.7nm,0.2s							
ARXS	**Arharly**	**5.43**	**65**		Pg	**Pg**	**02 48 50.6**	**+0.2**
	1.0nm,0.6s							
ARXS					Lg	Lg	02 50 12.5	
	4.9nm,0.5s							
OTUK	**Ortayu**	**6.17**	**9**		Pg	**Pg**	**02 49 02.0**	**-2.5**
	0.3nm,0.6s							
OTUK					Lg	Lg	02 50 32.2	
	1.4nm,0.4s							
PDGK	**Podgornoye**	**6.39**	**77**		Pg	**Pg**	**02 49 07.5**	**-1.3**
	0.3nm,0.3s							
PDGK					Lg	Lg	02 50 42.5	
	1.2nm,0.6s							
KNOS	**Konyrlen**	**6.39**	**67**		Pg	**Pg**	**02 49 08.6**	**-0.2**
	1.0nm,0.4s							
KNOS					Lg	Lg	02 50 43.5	
	1.5nm,0.5s							

*KRNET **25** 02:47:25.7±0.1,42°.23N×71°.02E,h18km,mb2.9*
*NNC **25** 02:47:27.4±0.9,42°.32N×71°.01E,h0km,mb3.7,mpv3.2,*
Error ellipse: s-maj=6.5km s-min=3.8km az=24.0,
Suspected Mining explosion.

ISC 25 02:47:26.7±0.9, 42°.24N±0°.03×71°.01E±0°.04, h0km, n17, σ0§74/32, 18C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TRKS	**Terek-Say**	**0.72**	**172**	⇑	*i*P		**Pg**	**02 47 40.6**	**+0.1**
	baz=71								
TRKS				⇑	*i*S		**Sb**	**02 47 51.4**	**-1.3**
	baz=71								
ARK	**Arkit**	**0.83**	**122**	⇑	*i*P		**Pg**	**02 47 41.7**	**-1.0**
	baz=21								
ARK				⇑	*i*S		**Sg**	**02 47 53.0**	**-0.5**
	baz=21								
KK31	**Karatay Array**	**0.94**	**337**	⇑	P		**Pg**	**02 47 44.2**	**-0.5**
	12nm,0.4s,baz=157,slow=16,SNR=11								
KK31				⇑	S		**Sg**	**02 47 56.4**	**-0.5**
	8.9nm,0.2s,baz=154,slow=30,SNR=8.0								
KKAR	**Karatay Array**	**0.94**	**337**	⇓	*i*P		**Pg**	**02 47 43.7**	**-1.0**
	baz=37								
KKAR				⇓	*i*S		**Sg**	**02 47 56.6**	**-0.3**
	baz=37								
MNAS	**Manas**	**1.13**	**77**	⇓	*e*P		**Pg**	**02 47 46.9**	**-1.5**
	baz=76								
MNAS				⇓	*e*S		**Sg**	**02 48 02.8**	**-0.3**
	baz=76								
ARSB	**Arslanbob**	**1.73**	**121**	⇑	*i*P		**Pn**	**02 47 57.6**	**-0.7**
	baz=21								
ARSB				⇑	*i*S		**Sn**	**02 48 20.5**	**-0.7**
	baz=21								
AML	**Almayashu**	**2.00**	**92**	⇓	S		**Sb**	**02 48 30.3**	**+0.6**
	6.8nm,0.6s								
AML	**Almayashu**	**2.00**	**92**	⇑	*e*P		**Pn**	**02 48 02.0**	**-0.1**
	baz=92								
AML				⇑	*i*S		**Sn**	**02 48 28.6**	**+0.6**
	baz=92								
EKS2	**Erkin-Say**	**2.09**	**77**	⇑	*i*P		**Pn**	**02 48 03.5**	**+0.4**
	baz=77								
EKS2				⇑	*i*S		**Sn**	**02 48 31.0**	**+1.1**
	baz=77								
OHH	**Osh**	**2.17**	**142**	⇓	*i*P		**Pn**	**02 48 04.6**	**+0.4**
	baz=41								
OHH				⇓	*i*S		**Sn**	**02 48 32.6**	**+0.7**
	baz=41								
BTK	**Batken**	**2.19**	**184**	⇑	*i*P		**Pn**	**02 48 04.6**	**+0.2**
	baz=84								
BTK				⇑	*i*S		**Sn**	**02 48 33.1**	**+0.8**
	baz=84								
ARLS	**Aral**	**2.49**	**98**	⇓	*i*P		**Pn**	**02 48 09.2**	**+0.5**
	baz=98								
ARLS				⇓	*i*S		**Sn**	**02 48 40.8**	**+0.9**
	baz=98								
UCH	**Uchtor**	**2.60**	**89**	⇑	*i*P		**Pn**	**02 48 10.9**	**+0.5**
	baz=89								
UCH				⇑	*i*S		**Sn**	**02 48 43.8**	**+0.9**
	baz=89								
AAK	**Ala-Archa**	**2.61**	**80**	⇑	*i*P		**Pn**	**02 48 10.9**	**+0.6**
	baz=80								
AAK				⇑	*i*S		**Sn**	**02 48 43.7**	**+1.0**
	baz=80								
KBK	**Karagaybulak**	**2.94**	**81**	⇓	*i*P		**Pn**	**02 48 15.4**	**+0.5**
	baz=80								
KBK				⇓	*i*S		**Sn**	**02 48 51.5**	**+0.5**
	baz=80								
TKM2	**Tokmak 2**	**3.45**	**77**	⇓	Pg		**Pb**	**02 48 29.5**	**+0.6**
	12nm,1.1s								
TKM2				⇓	Lg		Lg	02 49 15.2	
	14nm,0.6s								
TKM2	**Tokmak 2**	**3.45**	**77**	⇓	*i*P		**Pn**	**02 48 22.4**	**+0.5**
	baz=77								
TKM2				⇓	*i*S		**Sn**	**02 49 03.7**	**+0.1**
	baz=77								

*IDC **25** 02:48:26.8±1.9,55°.46N×166°.50E,h0km,mb3.4/5,*
mbtmp3.4/6,ML2.9/1,Error ellipse: s-maj=70.0km
s-min=20.3km az=164.0
*KRSC **25** 02:48:27.1±1.2,55°.34N×166°.36E,h36km±6km,Ml3.8,Felt*
[II-III] at Nikolskoe.

ISC 25 02:48:29.5±0.9, 55°.39N±0°.07×166°.40E±0°.07, h20km, n28, σ0§90/44, mb3.4/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BKI	**Bering**	**0.31**	**233**		*e*P		**Pb**	**02 48 35.2**	**-1.1**
BKI					*e*S		**Sb**	**02 48 40.4**	**-0.5**
SMKR	**Semkarok**	**3.02**	**295**		*e*P		**Pn**	**02 49 15.3**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**3.28**	**282**		*e*P		**Pn**	**02 49 19.5**	**-0.2**
BZGR					*e*S		**Sn**	**02 49 57.0**	**-1.1**
BZP	**Bezymyannyi-Pe**	**3.36**	**281**		*e*P		**Pn**	**02 49 20.4**	**-0.5**
BZP					*e*S		**Sn**	**02 49 59.2**	**-1.1**
BZMR	**Bezymyannaya**	**3.39**	**282**		*e*P		**Pn**	**02 49 21.3**	**-0.1**
BZMR					*e*S		**Sn**	**02 50 01.4**	**+0.3**
BZWR	**Bezymyannyi-We**	**3.39**	**282**		*e*P		**Pn**	**02 49 21.4**	**0.0**
BZWR					*e*S		**Sn**	**02 50 02.1**	**+1.0**
TUMD	**Tumrok D**	**3.44**	**269**		*e*P		**Pn**	**02 49 21.7**	**-0.2**
TUMD					*e*S		**Sn**	**02 50 01.8**	**-0.1**
KIRR	**Kirishev**	**3.48**	**282**		*e*P		**Pn**	**02 49 22.0**	**-0.5**
KIRR					*e*S		**Sn**	**02 50 03.6**	**+0.5**
KMNR	**Kamenistaya**	**3.52**	**278**		*e*P		**Pn**	**02 49 23.4**	**+0.4**
KMNR					*e*S		**Sn**	**02 50 05.3**	**+1.2**
KPT	**Kopyto**	**3.55**	**282**		*e*P		**Pn**	**02 49 23.5**	**+0.1**
TUMR	**Tumrok**	**3.58**	**271**		*e*P		**Pn**	**02 49 23.8**	**0.0**
KII	**Karymskiy**	**4.25**	**254**		*e*P		**Pn**	**02 49 33.6**	**+0.5**
KII					*e*S		**Sn**	**02 50 22.7**	**+0.5**
SMAR	**Somma**	**4.93**	**248**		*e*P		**Pn**	**02 49 42.9**	**+0.3**
UGLR	**Uglovaya**	**4.95**	**247**		*e*P		**Pn**	**02 49 43.5**	**+0.9**
AVH	**Avacha**	**4.97**	**248**		*e*P		**Pn**	**02 49 43.4**	**+0.5**
AVH					*e*S		**Sn**	**02 50 40.0**	**+0.2**
KRX	**Arik**	**4.97**	**249**		*e*P		**Pn**	**02 49 43.5**	**+0.5**
KRX					*e*S		**Sn**	**02 50 39.4**	**-0.4**
KOK	**Koryaka**	**5.01**	**248**		*e*P		**Pn**	**02 49 43.5**	**0.0**
DALK	**Dalny**	**5.07**	**245**		*e*P		**Pn**	**02 49 44.1**	**-0.2**
DALK					*e*S		**Sn**	**02 50 40.0**	**-2.2**
KRMR	**Karymshinskiy**	**5.50**	**246**		*e*P		**Pn**	**02 49 51.4**	**+1.3**
KRMR					*e*S		**Sn**	**02 50 53.1**	**+0.4**
PETK	**Petropavlovsk-**	**5.59**	**249**		Pn		**Pn**	**02 49 51.6**	**+0.2**
	1.6nm,0.3s,baz=75,slow=17,SNR=12								
PETK					Sn		**Sn**	**02 50 57.0**	**+2.0**
	0.6nm,0.3s,baz=56,slow=3.9,SNR=2.1								
	3.3nm,0.5s								
MTVR	**Mutnovka**	**5.66**	**242**		*e*P		**Pn**	**02 49 53.1**	**+0.6**
MTVR					*e*S		**Sn**	**02 50 54.9**	**-2.0**
GRL	**Gorelyy**	**5.68**	**243**		*e*P		**Pn**	**02 49 53.7**	**+0.9**
ASAK	**Asacha**	**5.86**	**243**		*e*P		**Pn**	**02 49 55.6**	**+0.4**
ASAK					*e*S		**Sn**	**02 51 01.0**	**-0.8**
ILAR	**Eielson Array**	**24.54**	**49**		P		**P**	**02 53 45.4**	**-2.0**
	0.9nm,0.9s,baz=257,slow=8.3,SNR=4.9								
	0.9nm,0.9s								
SONM	**Songino Array**	**36.96**	**284**		P		**P**	**02 55 38.0**	**+0.9**
	0.7nm,1.1s,baz=38,slow=7.3,SNR=1.4								
	0.7nm,1.1s								
YKA	**Yellowknife Ar**	**38.93**	**46**		P		**P**	**02 55 53.2**	**-0.1**
	0.2nm,0.8s,baz=301,slow=7.2,SNR=1.5								
	0.2nm,0.8s								
ZALV	**Zalesovo Beam**	**44.62**	**304**		P		**P**	**02 56 40.9**	**+0.9**
	0.2nm,0.3s,baz=64,slow=6.6,SNR=2.2								
	0.2nm,0.3s								
TXAR	**Lajitas Array**	**66.37**	**72**		P		**P**	**02 59 17.7**	**+0.9**
	0.2nm,0.6s,baz=297,slow=2.7,SNR=3.8								
	0.2nm,0.6s								

*KRSC **25** 02:50:32.6±1.7,55°.37N×166°.39E,h33km±10km,Ml3.7,*
Felt [II-III] at Nikolskoe.
*IDC **25** 02:50:32.1±1.8,55°.81N×166°.30E,h0km,mb3.3/4,*
mbtmp3.3/5,ML2.8/1,Error ellipse: s-maj=68.0km
s-min=21.7km az=163.0

ISC 25 02:50:34.2±1.1, 55°.5N±0°.1×166°.45E±0°.10, h20km, n10, σ1§61/14, mb3.4/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BKI	**Bering**	**0.38**	**227**		*e*P		**Pb**	**02 50 40.6**	**-1.5**
BKI					*e*S		**Sb**	**02 50 45.9**	**-1.5**
SMKR	**Semkarok**	**3.02**	**294**		*e*P		**Pn**	**02 51 20.1**	**-0.7**
BZWR	**Bezymyannyi-We**	**3.41**	**281**		*e*P		**Pn**	**02 51 28.0**	**+1.7**
TUMD	**Tumrok D**	**3.47**	**268**		*e*P		**Pn**	**02 51 28.0**	**+1.0**
TUMD					*e*S		**Sn**	**02 52 09.1**	**+1.7**
KRMR	**Karymshinskiy**	**5.55**	**245**		*e*P		**Pn**	**02 51 57.8**	**+2.2**
KRMR					*e*S		**Sn**	**02 52 57.7**	**-1.1**
PETK	**Petropavlovsk-**	**5.64**	**249**		Pn		**Pn**	**02 51 57.9**	**+1.1**
	1.3nm,0.3s,baz=73,slow=18,SNR=7.9								
PETK					Sn		**Sn**	**02 53 03.2**	**+2.2**
	0.6nm,0.3s,baz=76,slow=37,SNR=1.9								
	2.9nm,0.5s								
ILAR	**Eielson Array**	**24.47**	**49**		P		**P**	**02 55 50.2**	**-1.2**
	1.0nm,0.9s,baz=252,slow=9.1,SNR=8.3								
	1.0nm,0.9s								
SONM	**Songino Array**	**36.97**	**284**		P		**P**	**02 57 41.2**	**-0.7**
	0.2nm,0.6s,baz=51,slow=9.4,SNR=1.5								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**49.70**	**303**		P		**P**	**02 59 23.9**	**-0.4**
	0.3nm,0.8s,baz=46,slow=6.6,SNR=1.7								
	0.3nm,0.8s								
TXAR	**Lajitas Array**	**66.32**	**72**		P		**P**	**03 01 22.8**	**+1.6**
	0.2nm,0.6s,baz=289,slow=3.8,SNR=3.5								
	0.2nm,0.6s								

KRSC 25 02:51:01.2±1.8, 55°.36N×166°.42E, h36km±6km, Ml3.7, Felt [II-III] at Nikolskoe., Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BKI	**Bering**	**0.30**	**239**		*e*P		Pn	02 51 09.9	+0.7
BKI					*e*S		Sn	02 51 15.1	-0.3
SMKR	**Semkarok**	**3.04**	**296**		*e*S		Sn	02 52 25.4	+3.4
TUMD	**Tumrok D**	**3.45**	**270**		*e*S		Sn	02 52 36.5	+4.6
TUMR	**Tumrok**	**3.58**	**271**		*e*S		Sn	02 52 42.1	+6.7
KRX	**Arik**	**4.97**	**249**		*e*P		Pn	02 52 18.1	+4.8
KRMR	**Karymshinskiy**	**5.50**	**246**		*e*S		Sn	02 53 27.1	+4.7

*IDC **25** 02:51:42.1±1.4,8°.30N×91°.90E,h0km,mb3.7/9,*
mbtmp3.8/10,ML4.4/1,Error ellipse: s-maj=46.3km
s-min=18.7km az=60.0

ISC 25 02:51:45.7±1.2, 8°.3N±0°.1×91°.9E±0°.2, h24km, n16, σ0§97/10, mb3.7/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CMAR	**Chiang Mai Arr**	**12.16**	**34**		Pn		**Pn**	**02 54 37.5**	**-0.2**
	0.8nm,0.3s,baz=222,slow=15,SNR=1.4								
	2.2nm,0.3s								
H08S3	**Diego Garcia H**	**25.03**	**231**		T	T		03 23 25.3	
	baz=51,slow=75,SNR=32								
H08S2	**Diego Garcia H**	**25.03**	**231**		T	T		03 23 25.8	
	baz=51,slow=75,SNR=22								
H08S1	**Diego Garcia H**	**25.04**	**231**		T	T		03 23 38.4	
	baz=51,slow=75,SNR=2.6								
MKAR	**Makanchi Array**	**39.19**	**350**		P		**P**	**02 59 11.3**	**-0.5**
	0.2nm,0.4s,baz=172,slow=7.2,SNR=3.0								
	0.2nm,0.4s								
SONM	**Songino Array**	**41.24**	**15**		P		**P**	**02 59 30.0**	**+1.1**
	0.7nm,0.7s,baz=187,slow=8.0,SNR=5.5								
	0.7nm,0.7s								
GEYT	**Alibeck**	**42.39**	**319**		P		**P**	**02 59 37.6**	**-0.8**
	1.2nm,0.3s,baz=145,slow=5.3,SNR=1.7								
	1.2nm,0.3s								
KURBB	**Kurchatov Arra**	**43.59**	**348**		P		**P**	**02 59 49.1**	**+1.2**
	0.6nm,0.7s,baz=174,slow=7.5,SNR=8.6								
	0.6nm,0.7s								
ZALV	**Zalesovo Beam**	**45.84**	**354**		P		**P**	**03 00 06.0**	**+0.3**
	0.2nm,0.3s,baz=185,slow=11,SNR=2.0								
	0.2nm,0.4s								
WRA	**Warramunga Arr**	**50.34**	**124**		P		**P**	**03 00 40.6**	**-0.5**
	1.3nm,0.8s,baz=303,slow=8.7,SNR=7.0								
	1.3nm,0.8s								
MJAR	**Matsushiro Arr**	**50.51**	**49**		P		**P**	**03 00 41.5**	**-0.7**
	0.6nm,0.5s,baz=238,slow=9.0,SNR=1.2								
	0.6nm,0.5s								
ASAR	**Alice Springs**	**51.92**	**129**		P		**P**	**03 00 52.1**	**-0.9**
	0.3nm,0.3s,baz=299,slow=7.6,SNR=2.6								
	0.3nm,0.3s								
STKA	**Stephens Creek**	**62.04**	**133**		P		**P**	**03 02 05.7**	**+1.1**
	1.9nm,0.6s,baz=294,slow=6.3,SNR=4.6								
	1.9nm,0.6s								
H04N2	**CROZET ISLANDS**	**65.01**	**210**		T	T		04 13 33.4	
	baz=38,slow=74,SNR=1852								
H04N1	**CROZET ISLANDS**	**65.02**	**210**		T	T		04 13 30.9	
	baz=38,slow=74,SNR=1411								
H04N3	**CROZET ISLANDS**	**65.03**	**210**		T	T		04 13 28.1	
	baz=38,slow=74,SNR=1968								

*TEH **25** 02:51:52.6,33°.71N×45°.69E,h9km±43km,ML2.5*
*ISN **25** 02:51:53.5±0.8,33°.60N×45°.66E,h24km±14km,ML2.5*

ISC 25 02:51:53.0±1.0, 33°.68N±0°.05×45°.68E±0°.05, h13km, n9, σ1§02/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ILBA	**Ilam Banvizeh**	**0.44**	**97**		Pg		**Pg**	**02 52 01.5**	**-0.3**
IBDR	**Badra**	**0.60**	**160**		*e*Pg		**Pg**	**02 52 04.0**	**-0.8**
	baz=335								
IBDR					*e*Sg		**Sg**	**02 52 12.0**	**-0.8**
IBDR					AML		AML	02 52 20.1	
	comp=N,82nm,0.6s								
KGS1	**Ghasr-e-Shirin**	**0.83**	**355**		Pg		**Pg**	**02 52 08.3**	**-0.7**
IGHG	**Ghaleghazi**	**0.98**	**48**		Pg		**Pb**	**02 52 11.8**	**-0.2**
BHD	**Baghdad**	**1.16**	**250**		*e*Pn		**Pg**	**02 52 15.0**	**-0.4**
BHD					*e*Sn		**Sn**	**02 52 32.0**	**+1.3**
BHD					AML		AML	02 52 38.1	
	comp=E,385nm,0.4s								
IDHR	**Dehrash**	**1.17**	**30**		Pg		**Pn**	**02 52 14.4**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.27**	**62**		Pg		**Pb**	**02 52 16.9**	**-0.1**
ILIN	**Lien**	**1.63**	**40**		Pg		**Pb**	**02 52 23.2**	**+0.2**
IALM	**Almabolaq**	**2.37**	**60**		Pn		**Pn**	**02 52 33.7**	**+1.9**

*KRSC **25** 02:56:35.5±1.9,55°.34N×166°.51E,h48km±13km,Ml4.6,*
Felt [II-III] at Nikolskoe.
*IDC **25** 02:56:35.2±0.6,55°.47N×166°.38E,h0km,mb4.0/26,*
mbtmp4.0/30,ML4.0/4,Error ellipse: s-maj=17.0km
s-min=10.6km az=162.0
*NEIC **25** 02:56:37.5±1.4,55°.5N±0°.1×166°.3E±0°.1,h10km±1km,*
mb4.2/77,Error ellipse: s-maj=19.1km s-min=13.0km
az=168.0
*MOS **25** 02:56:38.8±0.8,55°.43N×166°.37E,h42km,mb4.5/10,Error*
ellipse: s-maj=7.0km s-min=5.7km az=142.8

ISC 25 02:56:38.0±0.4, 55°.37N±0°.05×166°.48E±0°.04, h20km, n208, σ1§02/249, mb4.2/60, 7C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BKI	**Bering**	**0.34**	**240**		PN		**Pb**	**02 56 44.6**	**-0.6**
BKI	**Bering**	**0.34**	**240**		*e*P		**Pb**	**02 56 44.6**	**-0.6**
BKI					*e*S		**Sb**	**02 56 50.2**	**+0.1**
KBG	**Krutoberegovo**	**2.31**	**294**		*e*S		**Sn**	**02 57 41.3**	**-1.2**
BDR	**Baidarnaya**	**3.20**	**294**		PN		**Pn**	**02 57 27.5**	**+0.4**
BDR					S		**Sn**	**02 58 05.1**	**+0.5**
BDR	**Baidarnaya**	**3.20**	**294**		*e*P		**Pn**	**02 57 27.5**	**+0.4**
BDR					*e*S		**Sn**	**02 58 05.1**	**+0.5**
ZLN	**Zelenaya**	**3.28**	**284**		PN		**Pn**	**02 57 28.7**	**+0.4**
ZLN					S		**Sn**	**02 58 07.5**	**+0.8**
ZLN	**Zelenaya**	**3.28**	**284**		*e*P		**Pn**	**02 57 28.7**	**+0.4**
ZLN					*e*S		**Sn**	**02 58 07.5**	**+0.8**
CIRR	**Tsirk**	**3.33**	**285**		PN		**Pn**	**02 57 29.6**	**+0.7**
CIRR					S		**Sn**	**02 58 08.7**	**+0.8**
CIRR	**Tsirk**	**3.33**	**285**		*e*P		**Pn**	**02 57 29.6**	**+0.7**
CIRR					*e*S		**Sn**	**02 58 08.7**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.33**	**282**		PN		**Pn**	**02 57 29.7**	**+0.8**
BZGR					S		**Sn**	**02 58 08.8**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.33**	**282**		*e*P		**Pn**	**02 57 29.7**	**+0.8**
BZGR					*e*S		**Sn**	**02 58 08.8**	**+0.9**
LGNR	**Loginova**	**3.35**	**285**		PN		**Pn**	**02 57 29.9**	**+0.5**
LGNR					S		**Sn**	**02 58 09.4**	**+0.7**
LGNR	**Loginova**	**3.35**	**285**		*e*P		**Pn**	**02 57 29.9**	**+0.5**
LGNR					*e*S		**Sn**	**02 58 09.4**	**+0.7**
BZP	**Bezymyannyi-Pe**	**3.41**	**282**		*e*P		**Pn**	**02 57 30.5**	**+0.4**
BZP					*e*S		**Sn**	**02 58 10.8**	**+0.8**
KLY	**Klyuchi**	**3.42**	**288**		PN		**Pn**	**02 57 28.8**	**-1.3**
KLY					S		**Sn**	**02 58 07.5**	**-2.5**
KLY	**Klyuchi**	**3.42**	**288**		*e*P		**Pn**	**02 57 28.8**	**-1.3**
KLY					*e*S		**Sn**	**02 58 07.5**	**-2.5**
BZMR	**Bezymyannaya**	**3.44**	**282**		PN		**Pn**	**02 57 31.1**	**+0.6**
BZMR					S		**Sn**	**02 58 12.2**	**+1.4**
BZMR	**Bezymyannaya**	**3.44**	**282**		*e*P		**Pn**	**02 57 31.1**	**+0.6**
BZMR					*e*S		**Sn**	**02 58 12.2**	**+1.4**
BZWR	**Bezymyannyi-We**	**3.44**	**282**		PN		**Pn**	**02 57 30.9**	**+0.4**
BZWR					S		**Sn**

RUS	**Russkaya**	**5.55**	**241**	*eP*		**Pn**	**02 57 59.8**	**+0.4**
PEA0B	**Petropavlovsk-**	**5.63**	**250**			**Pn**	**02 58 01.3**	**+0.9**
PEA0B	**Petropavlovsk-**	**5.63**	**250**		PN	**Pn**	**02 58 01.3**	**+0.9**
PETK	**Petropavlovsk-**	**5.63**	**250**			**Pn**	**02 57 59.9**	**-0.5**
PETK	**Petropavlovsk-**	**5.63**	**250**		Pn	**Pn**	**02 58 00.7**	**+0.3**
	comp=Z,22nm,0.3s,baz=71,slow=16,SNR=135							
PETK					Sn	**Sn**	**02 59 05.2**	**+0.8**
	comp=Z,8.5nm,0.3s,baz=89,slow=24,SNR=2.3							
	comp=Z,74nm,0.5s							
MTVR	**Mutnovka**	**5.69**	**243**		PN	**Pn**	**02 58 02.0**	**+0.6**
MTVR	**Mutnovka**	**5.69**	**243**	*eP*		**Pn**	**02 58 02.0**	**+0.6**
GRL	**Gorelyy**	**5.71**	**244**		PN	**Pn**	**02 58 03.0**	**+1.3**
GRL	**Gorelyy**	**5.71**	**244**	*eP*		**Pn**	**02 58 03.0**	**+1.3**
GRL				*eS*		**Sn**	**02 59 05.6**	**-1.0**
ASAK	**Asacha**	**5.89**	**243**		PN	**Pn**	**02 58 05.0**	**+0.9**
ASAK	**Asacha**	**5.89**	**243**	*eP*		**Pn**	**02 58 05.0**	**+0.9**
ASAK				*eS*		**Sn**	**02 59 10.3**	**-0.7**
APC	**Apacha**	**6.00**	**250**		PN	**Pn**	**02 58 07.2**	**+1.7**
APC	**Apacha**	**6.00**	**250**	*eP*		**Pn**	**02 58 07.2**	**+1.7**
PAU	**Pauzhetka**	**6.98**	**240**		PN	**Pn**	**02 58 21.2**	**+2.3**
PAU	**Pauzhetka**	**6.98**	**240**	*eP*		**Pn**	**02 58 21.2**	**+2.3**
KMSK	**Kamenskaya**	**7.12**	**359**		PN	**Pn**	**02 58 19.4**	**-1.4**
KMSK	**Kamenskaya**	**7.12**	**359**	*eP*		**Pn**	**02 58 19.4**	**-1.4**
SKR	**Severo-Kuril's**	**7.81**	**237**	*e*PN		Pn	02 58 25.8	-4.6
SKR				pmax		pmax		
	comp=Z,85nm,1.8s							
SKR				MLR		MLR		
	comp=Z,8µm,18.0s							
SEY	**Seymchan**	**10.46**	**322**		Pn	**Pn**	**02 59 04.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=187,slow=24,SNR=1.6							
	comp=Z,1.1nm,0.7s							
ATKA	**Atka Island**	**11.85**	**98**		Pn	**Pn**	**02 59 24.4**	**-1.3**
J14K	**Nanvaranak Lak**	**16.95**	**52**		Pn	**Pn**	**03 00 34.2**	**+0.6**
J14K					IAmb	IAmb	03 00 46.9	
	comp=Z,21nm,1.2s							
L14K	**Kuka Creek**	**17.13**	**57**			**P**	**03 00 37.9**	**+0.5**
L14K					IAmb	IAmb	03 00 43.7	
	comp=Z,24nm,1.4s							
F15K	**North Star Dit**	**17.39**	**42**			**P**	**03 00 40.6**	**+0.4**
G16K	**Koyuk River**	**18.17**	**44**			**P**	**03 00 50.0**	**+1.2**
C16K	**Lisburne Hills**	**18.31**	**34**	P		**P**	**03 00 51.7**	**+1.4**
J16K	**Anvik River**	**18.38**	**51**	P		Pn	**03 00 54.5**	**+3.2**
J16K					IAmb	IAmb	03 01 04.1	
	comp=Z,22nm,1.5s							
I17K	**Unalakleet**	**18.46**	**49**	P		**Pn**	**03 00 54.4**	**+2.3**
H17K	**Granite Mounta**	**19.03**	**46**	P		**Pn**	**03 01 00.2**	**+1.1**
H18K	**Honhosa River**	**19.72**	**46**	P		**P**	**03 01 06.2**	**+0.4**
H18K					IAmb	IAmb	03 01 18.1	
	comp=Z,22nm,1.5s							
G18K	**Tagagawik**	**19.78**	**44**	P		**Pn**	**03 01 08.0**	**-0.2**
C18K	**Utukok River**	**19.84**	**35**	P		**P**	**03 01 08.1**	**+0.9**
YAK	**Yakutsk**	**20.02**	**304⇑**	*e*P		**P**	**03 01 08.9**	**-0.2**
YAK				pmax		pmax		
	comp=Z,19nm,0.8s							
YAK	**Yakutsk**	**20.02**	**304**	P		**P**	**03 01 10.0**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=101,slow=16,SNR=5.5							
	comp=Z,13nm,0.5s							
J18K	**Innoko River**	**20.14**	**51**	P		Pn	03 01 12.0	-0.3
J18K					IAmb	IAmb	03 01 22.1	
	comp=Z,14nm,0.9s							
ERM	**Erimo**	**20.26**	**238⇑**	*e*P		**P**	**03 01 13.4**	**+1.6**
ERM				pmax		pmax		
	comp=Z,26nm,0.9s							
F19K	**Shaleruckik Mo**	**20.39**	**42**	P		**P**	**03 01 12.2**	**-0.9**
G19K	**Purcell Mounta**	**20.47**	**44**			**P**	**03 01 14.9**	**+0.9**
C19K	**Lookout Ridge**	**20.56**	**35**	P		**P**	**03 01 15.8**	**+0.8**
H19K	**Roundabout Mou**	**20.58**	**46**	P		**P**	**03 01 16.5**	**+1.3**
H19K					IAmb	IAmb	03 01 20.7	
	comp=Z,12nm,1.0s							
J19K	**Poorman**	**20.68**	**50**	P		**P**	**03 01 16.9**	**+0.6**
J19K					IAmb	IAmb	03 01 27.1	
	comp=Z,14nm,0.9s							
E19K	**Redstone River**	**20.77**	**40**	P		**P**	**03 01 18.8**	**+1.5**
E19K					IAmb	IAmb	03 01 31.3	
	comp=Z,13nm,1.0s							
D19K	**Kuna River**	**20.81**	**37**	P		**P**	**03 01 18.3**	**+0.6**
D19K					IAmb	IAmb	03 01 28.0	
	comp=Z,7.6nm,0.8s							
F20K	**Avaraart Lake**	**21.22**	**42**	P		**P**	**03 01 21.8**	**-0.3**
J20K	**Nowinta River**	**21.35**	**50**	P		**P**	**03 01 24.7**	**+1.2**
J20K					IAmb	IAmb	03 01 36.1	
	comp=Z,6.3nm,0.7s							
IMAR	**Indian Mountai**	**21.77**	**45**	P		**P**	**03 01 28.8**	**+0.8**
KLR	**Kul'dur**	**21.94**	**268**	P		**P**	**03 01 31.0**	**+1.0**
KLR	**Kul'dur**	**21.94**	**268**	P		**P**	**03 01 30.9**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=51,slow=10,SNR=5.9							
	comp=Z,1.5nm,0.6s							
G21K	**Allakaket**	**21.96**	**44**	P		**P**	**03 01 31.4**	**+1.3**
G21K					IAmb	IAmb	03 01 41.9	
	comp=Z,14nm,1.4s							
H21K	**Melozitna Rive**	**22.10**	**46**	P		**P**	**03 01 32.0**	**+0.5**
F21K	**Alatna River**	**22.11**	**42**	P		**P**	**03 01 31.4**	**-0.3**
CAST	**Castle Rocks**	**22.21**	**52**	P		**P**	**03 01 32.6**	**-0.2**
B21K	**Ikpikpuk River**	**22.39**	**35**	P		**P**	**03 01 33.5**	**-1.1**
KDAK	**Kodiak Island**	**22.43**	**67⇑**	*e*P		**P**	**03 01 37.2**	**+2.0**
KDAK				pmax		pmax		
	comp=Z,31nm,1.2s							
TIXI	**Tiksi**	**22.78**	**330⇑**	*e*P		**P**	**03 01 38.2**	**-0.5**
D22K	**Ayikyak River**	**22.82**	**38**	P		**P**	**03 01 39.7**	**+0.6**
I23K	**Minto, Yukon-K**	**23.48**	**48**	P		**P**	**03 01 46.2**	**+0.3**
I23K					IAmb	IAmb	03 01 57.0	
	comp=Z,6.2nm,0.9s							
NEA2	**Nenana**	**23.58**	**49**	P		**P**	**03 01 46.9**	**+0.1**
NEA2					IAmb	IAmb	03 01 57.5	
	comp=Z,4.9nm,0.8s							
SML	**Sawmill**	**23.99**	**56**	P		**P**	**03 01 51.8**	**+0.9**
CCB	**Clear Creek Bu**	**24.12**	**49**	P		**P**	**03 01 52.9**	**+0.9**
CCB					IAmb	IAmb	03 02 00.4	
	comp=Z,7.3nm,1.0s							
H24K	**Noodor Dome**	**24.14**	**46**	P		**P**	**03 01 52.8**	**+0.6**
H24K					IAmb	IAmb	03 01 57.5	
	comp=Z,8.0nm,1.5s							
D24K	**Happy Valley**	**24.23**	**38**	P		**P**	**03 01 53.0**	**0.0**
D24K					IAmb	IAmb	03 02 01.6	
	comp=Z,4.8nm,0.8s							
F24K	**Squaw Lake**	**24.30**	**42**	P		**P**	**03 01 53.8**	**+0.2**
F24K					IAmb	IAmb	03 01 56.6	
	comp=Z,3.4nm,0.7s							
G24K	**Hadweenzic Riv**	**24.37**	**44**	P		**P**	**03 01 55.0**	**+0.7**
G24K					IAmb	IAmb	03 02 05.4	
	comp=Z,8.4nm,1.0s							
HDA	**Harding Lake**	**24.49**	**50**	P		**P**	**03 01 55.6**	**+0.2**
HDA					IAmb	IAmb	03 02 05.5	
	comp=Z,8.3nm,1.0s							
IL31		**24.52**	**49**	P		**P**	**03 01 55.8**	**+0.2**
ILAR	**Eielson Array**	**24.52**	**49**	P		**P**	**03 01 56.0**	**+0.3**
ILAR	**Eielson Array**	**24.52**	**49**	P		**P**	**03 01 56.0**	**+0.3**
ILAR	**Eielson Array**	**24.52**	**49**	P		**P**	**03 01 55.6**	**-0.1**
	comp=Z,6.6nm,0.9s,baz=252,slow=8.8,SNR=26							
	comp=Z,3.6nm,0.9s							
USRK	**Ussuriysk Ar.**	**24.66**	**258**	P		**P**	**03 01 57.3**	**+0.3**
	comp=Z,3.7nm,1.1s,baz=79,slow=7.5,SNR=2.5							
	comp=Z,3.7nm,1.1s							
PRP	**Porcupine Dome**	**25.10**	**47**	P		**P**	**03 02 01.4**	**+0.3**
D25K	**Kavik River**	**25.12**	**38**	P		**P**	**03 02 00.7**	**-0.4**
D25K					IAmb	IAmb	03 02 12.0	
	comp=Z,5.3nm,0.8s							
J25K	**Salcha River,**	**25.17**	**49**	P		**P**	**03 02 01.0**	**-0.7**
E25K	**Arctic Village**	**25.24**	**41**	P		**P**	**03 02 03.0**	**+0.8**
E25K					IAmb	IAmb	03 02 04.4	
	comp=Z,4.9nm,0.8s							
FYU	**Fort Yukon**	**25.25**	**44**	P		**P**	**03 02 03.1**	**+0.9**
N25K	**Chitina, Valde**	**25.78**	**56**	P		**P**	**03 02 06.7**	**-0.5**
SCRK	**Sand Creek**	**25.80**	**50**	P		**P**	**03 02 06.7**	**-0.7**
SCRK					IAmb	IAmb	03 02 18.5	
	comp=Z,6.9nm,1.2s							
K27K	**Chicken**	**26.64**	**50**	P		**P**	**03 02 15.1**	**+0.2**
E27K	**Coleen River**	**26.73**	**41**	P		**P**	**03 02 16.1**	**+0.5**
L27K	**Beaver Creek,**	**26.86**	**52**	P		**P**	**03 02 17.5**	**+0.6**
L27K					IAmb	IAmb	03 02 27.4	
	comp=Z,5.2nm,0.8s							
BCAR	**Beaver Creek A**	**26.88**	**52**	P		**P**	**03 02 17.4**	**+0.3**
MJA0	**Matsu Arr-Jizo**	**26.90**	**237**	*e*P		**P**	**03 02 18.0**	**+0.5**
MJA0				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MJB9	**Matsu-Tunnel**	**26.92**	**237**	P		**P**	**03 02 18.8**	**+1.2**
MAJO	**Matsushiro**	**26.92**	**237**	P		**P**	**03 02 18.0**	**+0.4**
MAJO	**Matsushiro**	**26.92**	**237⇓**	*e*P		**P**	**03 02 18.9**	**+1.3**
MJAR	**Matsushiro Arr**	**26.92**	**237**	P		**P**	**03 02 18.0**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=31,slow=8.2,SNR=8.4							
	comp=Z,5.1nm,0.8s							
EGAK	**Eagle**	**26.97**	**48**	P		**P**	**03 02 16.9**	**-0.8**
EGAK					IAmb	IAmb	03 02 27.0	
	comp=Z,4.8nm,0.8s							

D27M	**Malcolm River**	**27.02**	**39**	P		**P**	**03 02 18.6**	**+0.3**
D27M					IAmb	IAmb	03 02 20.4	
	comp=Z,3.2nm,0.8s							
F28M	**Old Crow**	**27.37**	**42**	P		**P**	**03 02 22.1**	**+0.7**
F28M					IAmb	IAmb	03 02 32.3	
	comp=Z,4.0nm,1.0s							
E28M	**Babbage River**	**27.51**	**40**	P		**P**	**03 02 22.9**	**+0.3**
E28M					IAmb	IAmb	03 02 37.5	
	comp=Z,7.9nm,1.4s							
DAWY	**Dawson**	**27.81**	**50**	P		**P**	**03 02 25.7**	**+0.3**
DAWY					IAmb	IAmb	03 02 39.3	
	comp=Z,3.9nm,0.8s							
H29M	**Whitestone**	**28.02**	**45**	P		**P**	**03 02 27.5**	**+0.3**
H29M					IAmb	IAmb	03 02 48.0	
	comp=Z,5.4nm,1.3s							
E29M	**Blow River**	**28.11**	**40**	P		**P**	**03 02 27.9**	**0.0**
G29M	**Pine Creek**	**28.11**	**44**	P		**P**	**03 02 29.1**	**+1.0**
L29M	**L29M**	**28.52**	**52**	P		**P**	**03 02 33.0**	**+1.3**
L29M					IAmb	IAmb	03 02 57.1	
	comp=Z,8.5nm,1.4s							
HIA	**Hailar**	**28.76**	**277⇑**	*e*P		**P**	**03 02 33.4**	**-0.6**
HIA				pmax		pmax		
	comp=Z,17nm,2.4s							
O29M	**Mount Kennedy**	**28.92**	**57**	P		**P**	**03 02 36.6**	**+1.2**
O29M					IAmb	IAmb	03 03 05.0	
	comp=Z,5.5nm,1.2s							
G31M	**Satah River**	**29.59**	**43**	P		**P**	**03 02 41.6**	**+0.6**
G31M					IAmb	IAmb	03 02 42.1	
	comp=Z,3.6nm,1.1s							
INK	**Inuvik**	**29.73**	**40**	P		**P**	**03 02 42.7**	**+0.3**
INK					IAmb	IAmb	03 03 01.4	
	comp=Z,6.3nm,1.4s							
INK	**Inuvik**	**29.73**	**40**	P		**P**	**03 02 42.9**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=277,slow=7.1,SNR=12							
	comp=Z,1.3nm,0.6s							
SKAG	**Skagway**	**30.73**	**58**	P		**P**	**03 02 53.8**	**+2.5**
KSRS	**Korea Array**	**31.52**	**252**	P		**P**	**03 02 59.2**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=63,slow=16,SNR=2.7							
	comp=Z,1.9nm,0.8s							
C36M	**Paulatuk**	**32.99**	**38**	P		**P**	**03 03 11.4**	**+0.5**
C36M					IAmb	IAmb	03 03 21.0	
	comp=Z,3.4nm,0.8s							
DLBC	**Dease Lake**	**33.66**	**58**	P		**P**	**03 03 17.9**	**+0.8**
	comp=Z,4.0nm,1.1s,baz=333,slow=6.8,SNR=2.5							
	comp=Z,4.0nm,1.1s							
U35K	**Hyder**	**34.72**	**62**	P		**P**	**03 03 26.6**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**35.58**	**179**	T		T	03 41 04.6	
	baz=359,slow=76,SNR=81							
H11N3	**WAKE ISLAND Hy**	**35.60**	**179**	T		T	03 41 08.1	
	baz=359,slow=76,SNR=81							
H11N1	**WAKE ISLAND Hy**	**35.60**	**179**	T		T	03 41 04.7	
	baz=359,slow=76,SNR=67							
NRIK	**Noril'sk**	**36.24**	**324⇑**	*e*P		**P**	**03 03 37.2**	**-1.9**
ULN	**Ulaanbaatar**	**36.63**	**284⇑**	*e*P		**P**	**03 03 41.5**	**-1.3**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
SONM	**Songino Array**	**37.01**	**284**	P		**P**	**03 03 46.2**	**+0.2**
SONM	**Songino Array**	**37.01**	**284**	P		**P**	**03 03 46.2**	**+0.2**
SONM				pmax		pmax		
	comp=Z,3.0nm,1.3s							
SONM	**Songino Array**	**37.01**	**284**	P		**P**	**03 03 46.5**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=62,slow=7.6,SNR=10.0							
	comp=Z,0.9nm,0.5s							
HHC	**Hu-ho-hao-te**	**38.38**	**271**	*e*P		**P**	**03 03 57.0**	**-0.7**
HHC				pmax		pmax		
	comp=Z,22nm,0.6s							
HHC				pmax		pmax		
	comp=Z,4µm,5.1s							
YKA	**Yellowknife Ar**	**38.91**	**47**	P		**P**	**03 04 01.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=298,slow=8.3,SNR=7.5							
	comp=Z,0.8nm,0.8s							
RES	**Resolute Bay**	**39.75**	**24**	P		**P**	**03 04 08.8**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=321,slow=6.5,SNR=1.6							
	comp=Z,0.4nm,0.8s							
RADR	**Rader Ridge**	**43.13**	**72**	P		**P**	**03 04 38.2**	**+1.5**
ZALV	**Zalesovo Beam**	**44.67**	**304**	P		**P**	**03 04 48.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=74,slow=12,SNR=1.8							
	comp=Z,0.4nm,0.5s							
SPITS	**Spitsbergen Ar**	**45.46**	**352**	P		**P**	**03 04 54.7**	**-0.3**
SPITS				pmax		pmax		
	comp=Z,46nm,1.4s							
SPITS	**Spitsbergen Ar**	**45.46**	**352**	P		**P**	**03 04 54.7**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=54,slow=6.3,SNR=8.0							
	comp=Z,1.7nm,0.5s							
SPB2	**Spitsbergen Ar**	**45.47**	**352**	P		**P**	**03 04 55.0**	**+0.1**
KURK	**Kurchatov**	**49.66**	**304**	P		**P**	**03 05 27.1**	**-0.7**
KURK					IAmb	IAmb	03 05 28.7	
	comp=Z,3.2nm,0.8s							
KURK	**Kurchatov**	**49.66**	**304**	P		**P**	**03 05 27.9**	**+0.1**
KURBB	**Kurchatov Arra**	**49.76**	**304**	P		**P**	**03 05 27.9**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=54,slow=7.7,SNR=26							
	comp=Z,2.5nm,0.8s							
MK31	**Makanchi Array**	**50.48**	**298**	P		**P**	**03 05 33.1**	**-1.1**
MK31	**Makanchi Array**	**50.48**	**298**	P		**P**	**03 05 33.1**	**-1.1**
MK31				pmax		pmax		
	comp=Z,2.0nm,1.3s							
MKAR	**Makanchi Array**	**50.48**	**298**	P		**P**	**03 05 33.1**	**-1.1**
MKAR	**Makanchi Array**	**50.48**	**298**	P		**P**	**03 05 32.9**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=51,slow=6.5,SNR=28							
	comp=Z,0.7nm,0.4s							
MAKZ	**Makanchi**	**50.63**	**298**	P		**P**	**03 05 34.2**	**-1.1**
MAKZ	**Makanchi**	**50.63**	**298**	P		**P**	**03 05 34.2**	**-1.1**
MAKZ				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**51.49**	**76**	P		**P**	**03 05 42.9**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=312,slow=11,SNR=2.7							
	comp=Z,0.5nm,0.7s							
BVAR	**Borovoye Array**	**51.85**	**310**	P		**P**	**03 05 43.7**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=48,slow=8.8,SNR=7.0							
BVAR				PcP		**PcP**	**03 06 56.5**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=82,slow=2.5,SNR=4.6							
	comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**51.87**	**310**	P		**P**	**03 05 43.8**	**-0.6**
BRVK					IAmb	IAmb	03 05 48.8	
	comp=Z,2.6nm,0.7s							
BRVK	**Borovoye**	**51.87**	**310**	P		**P**	**03 05 43.8**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
LAO	**LASA Array**	**52.12**	**61**	P		**P**	**03 05 46.6**	**+0.2**
PDAR	**Pinedale Array**	**53.15**	**66**	P		**P**	**03 05 55.3**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=302,slow=8.4,SNR=2.7							
	comp=Z,0.3nm,0.8s							
FRB	**Frobisher Bay**	**53.85**	**27**	P		**P**	**03 05 58.5**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=325,slow=5.9,SNR=5.0							
	comp=Z,3.5nm,0.8s							
N23A	**Red Feather La**	**56.38**	**65**	P		**P**	**03 06 18.6**	**+0.8**
KK31	**Karatay Array**	**58.97**	**302**	P		**P**	**03 06 35.9**	**+0.2**
KK31					IAmb	IAmb	03 06 58.9	
	comp=Z,3.7nm,1.4s							
KK31	**Karatay Array**	**58.97**	**302**	P		**P**	**03 06 35.9**	**+0.2**
KK31				pmax		pmax		
	comp=Z,4.0nm,1.4s							
KKAR	**Karatay Array**	**58.97**	**302**	P		**P**	**03 06 36.0**	**+0.3**
KKAR					IAmb	IAmb	03 06 58.9	
	comp=Z,3.7nm,1.4s							
KKAR	**Karatay Array**	**58.97**	**302**	P		**P**	**03 06 36.0**	**+0.3**
KKAR				pmax		pmax		
	comp=Z,4.0nm,1.4s							
ABKAR	**Akbulak array**	**59.08**	**313**	P		**P**	**03 06 35.6**	**-0.7**
ABKAR					IAmb	IAmb	03 07 08.0	
	comp=Z,2.4nm,1.4s							
FINES	**FINESS Array B**	**59.42**	**339**	P		**P**	**03 06 37.6**	**-0.9**
	comp=Z,5.6nm,1.0s,baz=354,slow=9.8,SNR=2.5							
	comp=Z,5.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**62.26**	**262**	P		**P**	**03 06 58.8**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=29,slow=7.5,SNR=4.8							
	comp=Z,1.2nm,0.4s							
NOA	**NORSAR Array B**	**62.30**	**347**	P		**P**	**03 06 57.4**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=13,slow=6.8,SNR=1.9							
	comp=Z,1.2nm,0.8s							
HFS	**Hagfors**	**62.82**	**345**	P		**P**	**03 06 59.9**	**-1.7**
	comp=Z,6.7nm,1.0s,baz=1.9,slow=4.3,SNR=2.6							
	comp=Z,6.7nm,1.0s							
TXAR	**Lajitas Array**	**66.33**	**72**	P		**P**	**03 07 26.2**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=303,slow=4.9,SNR=19							
	comp=Z,1.2nm,0.5s							
AKASG	**Malin Array Be**	**68.47**	**332**	P		**P**	**03 07 36.9**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=24,slow=6.3,SNR=4.4							
	comp=Z,0.6nm,0.4s							
WRA	**Warramunga Arr**	**79.84**	**211**	P		**P**	**03 08 44.8**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=22,slow=6.0,SNR=4.4							
	comp=Z,0.7nm,0.5s							
ASAR	**Alice Springs**	**83.49**	**210**	P		**P**	**03 09 04.6**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=28,slow=5.8,SNR=8.5							
	comp=Z,1.5nm,0.9s							

IDC ***25*** *02:59:10.9±2.3, 4.78S×152.21E, h0km, mb3.5/3,*
mbtmp3.5/3, Error ellipse: s-maj=150.7km
s-min=30.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**228**	P		P	03 04 17.6	-0.2
	0.3nm,0.4s,baz=54,slow=10.0,SNR=1.6							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**25.77**	**221**	P		P	03 04 44.0	+0.2
	0.6nm,0.6s,baz=60,slow=9.0,SNR=8.5							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**82.36**	**22**	P		P	03 11 34.6	+0.2
	0.5nm,0.7s,baz=244,slow=4.7,SNR=3.0							
	0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.74**	**288**	PKPbc		PKPbc	03 19 03.2	-0.7
	0.6nm,0.7s,baz=77,slow=2.9,SNR=3.2							

KRSC ***25*** *02:59:30.9±0.6, 55.29N×166.32E, h35km±1km, Ml3.7*
IDC ***25*** *02:59:35.2±2.2, 55.22N×168.03E, h0km, mb3.5/6,*
mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=77.1km
s-min=20.6km az=170.0
ISC 25 02:59:31.7±1.0, 55.5N±0.1×166.4E±0.1, h10km, n10,
σ0§47/12, mb3.7/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.34**	**223**	*e*P		**Pg**	**02 59 38.2**	**-0.2**
BKI				*e*S		**Sg**	**02 59 43.5**	**+0.6**
TUMD	**Tumrok D**	**3.42**	**268**	*e*P		**Pn**	**03 00 25.0**	**0.0**
TUMR	**Tumrok**	**3.56**	**270**	*e*P		**Pn**	**03 00 27.6**	**+0.6**
SMAR	**Somma**	**4.94**	**247**	*e*P		**Pn**	**03 00 45.8**	**-0.3**
KRX	**Arik**	**4.98**	**248**	*e*P		**Pn**	**03 00 46.8**	**+0.3**
KOK	**Koryaka**	**5.01**	**248**	*e*P		**Pn**	**03 00 47.0**	**0.0**
PETK	**Petropavlovsk-**	**5.60**	**249**	Pn		**Pb**	**03 01 09.6**	**+0.2**
	2.6nm,0.3s,baz=66,slow=18,SNR=4.2							
PETK				Sn		**Sb**	**03 02 15.8**	**-0.7**
	0.9nm,0.3s,baz=76,slow=17,SNR=1.6							
	8.2nm,0.6s							
ILAR	**Eielson Array**	**24.51**	**49**	P		**P**	**03 04 50.1**	**-0.6**
	3.3nm,1.1s,baz=263,slow=8.3,SNR=7.8							
	3.3nm,1.1s							
YKA	**Yellowknife Ar**	**38.90**	**47**	P		**P**	**03 06 56.9**	**+0.1**
	0.4nm,0.8s,baz=303,slow=8.2,SNR=3.9							
	0.4nm,0.8s							
TXAR	**Lajitas Array**	**66.36**	**72**	P		**P**	**03 10 20.9**	**+0.3**
	0.3nm,0.5s,baz=301,slow=5.3,SNR=4.1							
	0.3nm,0.5s							

KRSC ***25*** *02:59:46.0±1.4, 55.39N×166.25E, h33km±8km, Ml4.2*
ISC 25 02:59:45.2±2.3, 55.56N±0.09×166.4E±0.2, h10km, n20,
σ1§48/20, mb3.5/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.42**	**213**	*e*P		**Pg**	**02 59 53.7**	**+0.3**
BKI				*e*S		**Sg**	**02 59 58.7**	**-0.3**
KLY	**Klyuchi**	**3.31**	**286**	*e*P		**Pn**	**03 00 35.8**	**-1.2**
TUMD	**Tumrok D**	**3.43**	**267**	*e*P		**Pn**	**03 00 39.7**	**+1.0**
KMNR	**Kamenistaya**	**3.48**	**276**	*e*P		**Pn**	**03 00 41.6**	**+2.1**
TUMR	**Tumrok**	**3.56**	**268**	*e*P		**Pn**	**03 00 42.2**	**+1.6**
KOZ	**Kozyrevsk**	**3.70**	**280**	*e*P		**Pn**	**03 00 45.8**	**+3.3**
SMAR	**Somma**	**4.98**	**246**	*e*P		**Pn**	**03 01 00.7**	**+0.5

SMAR Somma 4.94 247 PN Pn 03 03 36.0 +0.5
SMAR Somma 4.94 247 eP Pn 03 03 36.0 +0.5
UGLR Uglovaya 4.95 246 PN Pn 03 03 36.3 +0.7
UGLR Uglovaya 4.95 246 eP Pn 03 03 36.3 +0.7
AVH Avacha 4.97 247 PN Pn 03 03 36.5 +0.7
AVH Avacha 4.97 247 eP Pn 03 03 36.5 +0.7
KRX Arik 4.97 248 PN Pn 03 03 36.2 +0.3
KRX Arik 4.97 248 eP Pn 03 03 36.2 +0.3
KOK Koryaka 5.01 248 PN Pn 03 03 36.7 +0.4
KOK Koryaka 5.01 248 eP Pn 03 03 36.7 +0.4
PALN Palana 5.04 319 PN Pn 03 03 37.0 +0.4
PALN Palana 5.04 319 eP Pn 03 03 37.0 +0.4
DALK Dalny 5.08 245 PN Pn 03 03 36.9 -0.3
DALK Dalny 5.08 245 eP Pn 03 03 36.9 -0.3
DALK eS Sn 03 04 32.5 -3.0
PET Petropavlovsk 5.13 245 Pn Pn 03 03 38.0 +0.1
PET Petropavlovsk 5.13 245 ePN Pn 03 03 38.2 +0.3
PET pmax pmax
comp=Z,223nm,0.8s
PET Petropavlovsk 5.13 245 eP Pn 03 03 38.0 +0.1
PET eS Sn 03 04 34.8 -2.1
INSR Institute 5.14 246 eS Sn 03 04 36.8 -0.1
SHEM Shemya Is, Ala 5.30 118 Pn Pn 03 03 39.6 -0.6
comp=Z,5.2nm,0.3s,baz=302,slow=19,SNR=1.4
SHEM Sn Sn 03 04 37.5 -3.4
comp=Z,11nm,0.3s,baz=236,slow=19,SNR=6.2
comp=Z,28nm,0.4s
KRMR Karymshinskiy 5.51 245 PN Pn 03 03 42.5 -0.5
KRMR Karymshinskiy 5.51 245 eP Pn 03 03 42.5 -0.5
KRMR eS Sn 03 04 44.9 -1.1
RUS Russkaya 5.53 240 PN Pn 03 03 43.4 0.0
RUS Russkaya 5.53 240 eP Pn 03 03 43.4 0.0
RUS eS Sn 03 04 43.6 -3.1
PEA0B Petropavlovsk- 5.59 249 Pn 03 03 44.8 +0.5
PEA0B Petropavlovsk- 5.59 249 PN Pn 03 03 44.8 +0.5
PETK Petropavlovsk- 5.59 249 PN Pn 03 03 44.5 +0.3
PETK Petropavlovsk- 5.59 249 Pn Pn 03 03 44.2 0.0
comp=Z,10nm,0.3s,baz=67,slow=17,SNR=44
PETK Sn Sn 03 04 48.8 +0.5
comp=Z,6.0nm,0.3s,baz=308,slow=13,SNR=5.0
comp=Z,79nm,0.5s
MTVR Mutnovka 5.67 242 PN Pn 03 03 45.4 0.0
MTVR Mutnovka 5.67 242 eP Pn 03 03 45.4 0.0
MTVR eS Sn 03 04 47.2 -3.1
GRL Gorelyy 5.69 243 PN Pn 03 03 46.4 +0.8
GRL Gorelyy 5.69 243 eP Pn 03 03 46.4 +0.8
ASAK Asacha 5.87 242 PN Pn 03 03 48.3 +0.2
ASAK Asacha 5.87 242 eP Pn 03 03 48.3 +0.2
ASAK eS Sn 03 04 52.9 -2.3
APC Apacha 5.97 249 PN Pn 03 03 49.9 +0.5
APC Apacha 5.97 249 eP Pn 03 03 49.9 +0.5
SKR Severo-Kuril's 7.80 237 ePN Pn 03 04 11.8 -2.7
SKR pmax pmax
comp=Z,205nm,2.0s
SKR MLR MLR
comp=Z,10μm,14.0s
ADK Adak 10.66 103 Pn Pn 03 04 54.9 +1.2
ADK Adak 10.66 103 PN Pn 03 04 54.9 +1.2
ATKA Atka Island 11.93 98 Pn Pn 03 05 09.8 -1.2
BILL Bilibino 12.64 360 iPN Pn 03 05 19.5 -1.2
TNA Tin City 16.08 41 P P 03 06 10.0 -0.1
baz=243,SNR=6.8
F14K Arctic Creek 16.64 42 P Pn 03 06 15.1 +1.0
baz=246
ANM Nome 16.68 45 Pn Pn 03 06 15.4 +1.0
ANM Nome 16.68 45 P P 03 06 16.4 -0.4
baz=250
ANM Nome 16.68 45 P Pn 03 06 15.5 +1.0
ANM pmax pmax
comp=Z,32nm,1.2s
M13K Dall Lake 16.74 60 P P 03 06 16.8 -0.6
baz=266
J14K Nanvaranak Lak 16.96 52 P Pn 03 06 17.8 -0.3
J14K Nanvaranak Lak 16.96 52 P P 03 06 19.6 -0.3
baz=258
YSS Yuzh-Sakhalins 17.00 250 ceP Pn 03 06 20.3 +1.7
YSS pmax pmax
comp=Z,110nm,2.5s
L14K Kuka Creek 17.14 57 P P 03 06 21.8 -0.2
baz=264
G15K Niukluk 17.36 45 P P 03 06 23.7 -0.6
baz=251
F15K North Star Dit 17.38 42 P 03 06 24.3 -0.3
F15K North Star Dit 17.38 42 P P 03 06 24.6 +0.1
baz=248
M14K Bethel 17.44 59 Pn Pn 03 06 24.1 0.0
M14K IAmb IAmb 03 06 30.9
comp=Z,74nm,1.4s
M14K Bethel 17.44 59 P P 03 06 26.4 +1.1
baz=267
N14K Kuskokwak Cree 17.55 62 P P 03 06 27.2 +0.8
baz=270
L15K Ungalak Mounta 17.75 56 P P 03 06 29.3 +0.6
baz=264
O14K Tigyukauivet M 17.77 64 P P 03 06 29.3 +0.4
baz=272
K15K Wolf Creek Mou 17.80 54 P 03 06 30.3 +1.0
K15K Wolf Creek Mou 17.80 54 P P 03 06 30.2 +0.9
baz=262
H16K Elim 17.98 47 P P 03 06 32.2 +0.9
baz=254,SNR=16
M15K Kasigluk River 18.06 60 P P 03 06 33.2 +1.0
baz=268
G16K Koyuk River 18.16 44 P Pn 03 06 34.8 +1.6
baz=252
C16K Lisburne Hills 18.28 34 P 03 06 34.9 +0.4
C16K Lisburne Hills 18.28 34 P P 03 06 36.1 +1.6
baz=240,SNR=11
N15K Kwethluk River 18.35 61 P Pn 03 06 35.3 0.0
N15K Kwethluk River 18.35 61 P P 03 06 37.5 +2.2
baz=270
J16K Anvik River 18.38 51 P P 03 06 36.7 +1.1
J16K Anvik River 18.38 51 P P 03 06 37.4 +1.7
baz=260
I17K Unalakleet 18.46 49 P P 03 06 35.0 -1.4
I17K Unalakleet 18.46 49 P Pn 03 06 38.3 +1.8
baz=258,SNR=7.2
O15K Ungalikthiuk R 18.51 64 P Pn 03 06 39.3 +2.0
baz=273
L16K Owhat River 18.71 57 P Pn 03 06 40.9 +1.2
baz=266
G17K Kiwalik Mounta 18.87 45 P Pn 03 06 42.3 +0.7
baz=254
M16K Timber Creek 18.92 59 P Pn 03 06 43.2 +1.0
baz=269
F17K Baldwin Pennin 18.93 42 P P 03 06 39.5 -2.2
F17K Baldwin Pennin 18.93 42 P Pn 03 06 43.4 +1.1
baz=250
E17K Hotham Inlet 18.95 39 P Pn 03 06 43.5 +1.0
baz=248,SNR=16
JKA Kamikawa-asahi 18.97 243 P 03 06 42.2 -0.1
JKA IAmb IAmb 03 06 46.9
comp=Z,55nm,1.0s
ASAJ Asahikawa 18.98 243 P P 03 06 42.2 -0.1
ASAJ pmax pmax
comp=Z,55nm,1.0s
ASAJ Asahikawa 18.98 243 P P 03 06 42.1 -0.2
comp=Z,0.6nm,0.3s,baz=62,slow=6.0,SNR=6.7
comp=Z,47nm,1.0s
N16K Nishlik Lake 19.01 60 P Pn 03 06 44.4 +1.1
baz=270
H17K Granite Mounta 19.02 47 P Pn 03 06 44.0 +0.5
H17K Granite Mounta 19.02 47 P Pn 03 06 44.5 +1.0
baz=256
S14K Fog Glacier 19.03 73 P Pn 03 06 44.4 +0.7
baz=282
C17K DeLong Mountai 19.08 35 P Pn 03 06 44.7 +0.6
baz=242
L17K Donlin 19.29 55 P Pn 03 06 47.6 +0.9
baz=266,SNR=9.2
K17K Iditarod 19.34 54 P Pn 03 06 47.5 +0.2
K17K Iditarod 19.34 54 P Pn 03 06 48.2 +0.9
baz=264
O16K Kokwok River B 19.37 63 P Pn 03 06 48.4 +0.7
baz=273
P16K Nushagak River 19.47 65 P Pn 03 06 49.2 +0.5
baz=275
M17K Holitna River 19.67 58 P Pn 03 06 51.8 +0.6
M17K Holitna River 19.67 58 P Pn 03 06 51.6 +0.4
baz=269
H18K Honhosa River 19.71 46 P Pn 03 06 51.7 0.0
H18K IAmb IAmb 03 07 01.9
comp=Z,53nm,1.5s
H18K Honhosa River 19.71 46 P Pn 03 06 52.1 +0.4
baz=257

G18K Tagagawik 19.77 44 P P 03 06 50.5 -0.5
G18K Tagagawik 19.77 44 P Pn 03 06 52.5 +0.1
baz=255
N17K Nushagak Hills 19.79 60 P Pn 03 06 53.1 +0.5
baz=272
C18K Utukok River 19.81 35 P 03 06 50.2 -1.1
C18K Utukok River 19.81 35 P Pn 03 06 52.2 -0.7
baz=245
O17K Koliganek Bris 19.87 62 P Pn 03 06 53.9 +0.3
baz=274
YAK Yakutsk 19.93 304 P P 03 06 50.7 -1.8
YAK Yakutsk 19.93 304 eP P 03 06 52.0 -0.5
YAK eS S 03 10 34.6 -1.4
YAK pmax pmax
comp=Z,89nm,1.3s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK pmax pmax
comp=Z,3μm,9.3s
YAK pmax pmax
comp=N,1μm,11.2s
YAK pmax pmax
comp=E,506nm,10.6s
YAK smax smax
comp=N,1μm,11.1s
YAK smax smax
comp=E,1μm,10.6s
YAK Yakutsk 19.93 304 P P 03 06 51.7 -0.8
comp=E,3.1nm,0.3s,baz=91,slow=1.7,SNR=15
comp=E,63nm,0.8s
B18K Kokolik River 19.94 33 P Pn 03 06 54.5 +0.1
baz=242
L18K Granite Mounta 20.05 55 P Pn 03 06 55.3 -0.5
L18K Granite Mounta 20.05 55 P Pn 03 06 56.4 +0.6
baz=267
J18K Innoko River 20.14 52 P Pn 03 06 56.3 -0.5
J18K IAmb IAmb 03 06 57.8
comp=Z,49nm,0.9s
J18K Innoko River 20.14 52 P Pn 03 06 56.6 -0.2
baz=264
Q16K King Salmon 20.19 66 P Pn 03 06 57.1 -0.2
baz=277
P17K Kvichak River 20.25 64 P Pn 03 06 58.2 +0.1
baz=276
GCSA Galena City Sc 20.25 48 P Pn 03 06 57.4 -0.7
baz=260
F19K Shaleruckik Mo 20.37 42 P Pn 03 06 58.6 -0.8
F19K Shaleruckik Mo 20.37 42 P Pn 03 06 59.7 +0.3
baz=254,SNR=20
TTA Tatalina 20.41 53 P Pn 03 06 59.5 -0.5
TTA IAmb IAmb 03 07 00.8
comp=Z,31nm,1.3s
TTA Tatalina 20.41 53 P Pn 03 07 00.0 0.0
baz=266,SNR=11
TTA Tatalina 20.41 53 P Pn 03 06 59.5 -0.5
TTA pmax pmax
comp=Z,31nm,1.3s
N18K Kilae Creek 20.43 60 P Pn 03 06 59.8 -0.3
baz=272
M18K Stony River 20.44 57 P Pn 03 06 59.5 -0.8
baz=270
G19K Purcell Mounta 20.46 44 P Pn 03 06 59.4 -1.1
G19K Purcell Mounta 20.46 44 P Pn 03 07 00.2 -0.3
baz=256
C19K Lookout Ridge 20.53 35 P Pn 03 07 00.2 -1.1
C19K IAmb IAmb 03 07 01.7
comp=Z,31nm,1.0s
C19K Lookout Ridge 20.53 35 P Pn 03 07 01.1 -0.3
baz=246
A19K Wainwright 20.57 31 P Pn 03 07 01.5 -0.2
baz=241
H19K Roundabout Mou 20.58 46 P Pn 03 07 01.0 -0.9
H19K IAmb IAmb 03 07 05.2
comp=Z,35nm,1.1s
H19K Roundabout Mou 20.58 46 P P 03 07 00.6 +1.1
baz=259
J19K Poorman 20.68 50 P P 03 07 01.9 +1.1
baz=264,SNR=15
E19K Redstone River 20.76 40 P Pn 03 07 02.7 -1.3
E19K Redstone River 20.76 40 P Pn 03 07 03.4 -0.6
baz=253
D19K Kuna River 20.79 37 P P 03 07 02.7 +0.8
D19K Kuna River 20.79 37 P Pn 03 07 03.2 -1.2
baz=249
P18K Big Mountain, 20.85 63 P P 03 07 03.9 +1.3
P18K IAmb IAmb 03 07 04.8
comp=Z,24nm,0.9s
P18K Big Mountain, 20.85 63 P P 03 07 04.0 +1.4
baz=276
L19K White Mountain 20.91 55 P P 03 07 04.3 +1.0
L19K IAmb IAmb 03 07 26.1
comp=Z,33nm,1.2s
L19K White Mountain 20.91 55 P P 03 07 04.6 +1.3
baz=269
N19K Bonanza Creek 21.11 59 P P 03 07 06.7 +1.2
baz=273
M19K Big River Lodg 21.13 56 P P 03 07 07.2 +1.6
M19K Big River Lodg 21.13 56 P P 03 07 07.5 +2.0
baz=270
F20K Avaraart Lake 21.21 42 P P 03 07 07.3 +0.9
F20K Avaraart Lake 21.21 42 P P 03 07 07.4 +1.0
baz=256
H20K Anotleneega Mo 21.21 46 P P 03 07 07.9 +1.4
baz=260
I20K Naaghedeneel 21.28 48 P P 03 07 08.2 +1.1
I20K IAmb IAmb 03 07 11.7
comp=Z,46nm,1.1s
I20K Naaghedeneel 21.28 48 P P 03 07 08.2 +1.1
baz=263
K20K Telida 21.32 52 P P 03 07 08.5 +0.9
K20K Telida 21.32 52 P P 03 07 08.6 +0.9
baz=267
J20K Nowinta River 21.35 50 P P 03 07 08.6 +0.7
J20K IAmb IAmb 03 07 12.4
comp=Z,25nm,1.0s
J20K Nowinta River 21.35 50 P P 03 07 08.8 +0.8
baz=265
L20K Farewell, AK 21.37 55 P P 03 07 09.5 +1.3
baz=269
D20K Etivluk River 21.38 37 P P 03 07 09.4 +1.1
baz=250
E20K Nigu River 21.38 38 P P 03 07 10.0 +1.7
baz=252
B20K Meade River 21.68 34 P P 03 07 12.2 +0.8
B20K IAmb IAmb 03 07 13.3
comp=Z,29nm,1.1s
B20K Meade River 21.68 34 P P 03 07 12.8 +1.4
baz=247
M20K Styx River 21.72 56 P P 03 07 13.1 +1.1
M20K IAmb IAmb 03 07 20.0
comp=Z,30nm,1.3s
M20K Styx River 21.72 56 P P 03 07 14.1 +2.1
baz=271
IMAR Indian Mountai 21.76 45 P P 03 07 12.9 +0.6
G21K Allakaket 21.95 44 IAmb IAmb 03 07 18.0
comp=Z,25nm,1.0s
G21K Allakaket 21.95 44 P P 03 07 16.4 +2.0
baz=259
H21K Melozitna River 22.09 46 IAmb IAmb 03 07 19.9
comp=Z,47nm,1.2s
H21K Melozitna River 22.09 46 P P 03 07 17.9 +2.0
baz=262
F21K Alatna River 22.10 42 P P 03 07 17.6 +1.6
baz=258
CHUM Lake Minchumin 22.13 51 P P 03 07 18.0 +1.7
baz=267
C21K Knifeblade Rid 22.15 37 P P 03 07 18.1 +1.6
baz=252
PPLA Purkeypile 22.16 53 P P 03 07 18.2 +1.5
baz=270,SNR=7.7
N20K Mount Spurr 22.19 58 P P 03 07 18.7 +1.6
baz=274
CAST Castle Rocks 22.21 52 P P 03 07 18.6 +1.3
CAST IAmb IAmb 03 07 20.8
comp=Z,23nm,1.0s
CAST Castle Rocks 22.21 52 P P 03 07 19.1 +1.8
baz=268,SNR=11
B21K Ikpikpuk River 22.36 35 P P 03 07 19.1 +0.4
B21K Ikpikpuk River 22.36 35 P P 03 07 19.6 +0.9
baz=251
I21K Tanana 22.38 47 P P 03 07 19.7 +0.7
I21K Tanana 22.38 47 P P 03 07 19.5 +0.6
baz=264,SNR=8.4
A21K Barrow 22.40 31 P P 03 07 20.0 +0.9
baz=244,SNR=11

SKT Skwentna 22.48 56 P P 03 07 21.7 +1.6
baz=272
ZEA Zeya 22.53 282 eP P 03 07 24.4 +3.7
F22K John River 22.66 41 P P 03 07 23.9 +1.9
baz=258
TIXI Tiksi 22.68 330 P P 03 07 21.7 -0.4
TIXI Tiksi 22.68 330 ceP P 03 07 21.9 -0.2
TIXI pmax pmax
comp=Z,31nm,2.5s
H22K Ishtalitna Cre 22.71 46 P P 03 07 23.5 +1.0
baz=263
BPAW Bear Paw Mtn. 22.73 50 P P 03 07 22.2 -0.5
BPAW IAmb IAmb 03 07 26.0
comp=Z,34nm,1.2s
BPAW Bear Paw Mtn. 22.73 50 P P 03 07 23.5 +0.8
baz=268,SNR=16
KTH Kantishna Hill 22.74 52 P P 03 07 23.3 +0.4
KTH IAmb IAmb 03 07 25.8
comp=Z,30nm,1.2s
A22K Sinclair Lake 22.75 32 P P 03 07 23.3 +0.4
baz=247
D22K Ayikyak River 22.80 38 P P 03 07 23.9 +0.5
D22K IAmb IAmb 03 07 46.8
comp=Z,28nm,1.4s
D22K Ayikyak River 22.80 38 P P 03 07 23.9 +0.5
baz=255
G22K Bettles 22.80 43 P P 03 07 24.0 +0.6
baz=261,SNR=26
SUA Susitna One 22.88 57 P P 03 07 24.3 -0.2
baz=274
MLY Manley 22.89 48 P P 03 07 25.1 +0.7
MLY IAmb IAmb 03 07 27.8
comp=Z,25nm,1.3s
MLY Manley 22.89 48 P P 03 07 25.0 +0.6
baz=266,SNR=9.9
B22K Teshekpuk Lake 22.99 34 P P 03 07 25.6 +0.2
B22K IAmb IAmb 03 07 27.0
comp=Z,38nm,1.1s
B22K Teshekpuk Lake 22.99 34 P P 03 07 25.2 -0.2
baz=250
TRF Thorofare Moun 23.02 52 P P 03 07 26.5 +0.6
TRF IAmb IAmb 03 07 28.3
comp=Z,23nm,1.0s
TRF Thorofare Moun 23.02 52 P P 03 07 26.3 +0.4
baz=270,SNR=8.4
G23K Bananza Creek 23.35 44 P P 03 07 29.8 +0.6
G23K Bananza Creek 23.35 44 P P 03 07 29.6 +0.5
baz=263
COLD Coldfoot 23.36 42 P P 03 07 29.9 +0.7
baz=261,SNR=9.1
BWN Browne 23.39 50 P P 03 07 31.2 +1.6
RC01 Rabbit Creek A 23.40 58 P P 03 07 30.4 +0.8
baz=276
I23K Minto, Yukon-K 23.48 48 P P 03 07 31.1 +0.8
I23K Minto, Yukon-K 23.48 48 P P 03 07 31.0 +0.8
baz=267,SNR=24
NEA2 Nenana 23.58 49 P P 03 07 31.6 +0.3
NEA2 IAmb IAmb 03 07 35.5
comp=Z,21nm,1.1s
NEA2 Nenana 23.58 49 P P 03 07 31.6 +0.3
baz=268,SNR=12
MCK McKinley 23.63 51 P P 03 07 31.9 0.0
baz=271
PMR Palmer 23.64 57 P P 03 07 32.0 +0.1
baz=275
RND Reindeer 23.67 52 P P 03 07 32.2 -0.1
RND IAmb IAmb 03 07 34.0
comp=Z,27nm,1.0s
RND Reindeer 23.67 52 P P 03 07 32.2 -0.1
RND pmax pmax
comp=Z,27nm,1.0s
E23K Chandalar 23.72 40 P P 03 07 32.8 +0.1
baz=260
WAT1 Susitna Watana 23.82 54 P P 03 07 33.6 -0.2
baz=273
HEH HeiHe 23.86 274 eP P 03 07 33.4 -0.7
HEH pmax pmax
comp=Z,13nm,1.0s
KNK Knik Glacier 23.98 57 P P 03 07 35.0 -0.2
baz=276
SML Sawmill 24.00 56 P P 03 07 36.1 +0.7
baz=276
COLA College 24.11 49 P P 03 07 36.9 +0.6
COLA IAmb IAmb 03 07 37.7
comp=Z,18nm,0.8s
COLA College 24.11 49 P P 03 07 36.5 +0.2
baz=269
COLA College 24.11 49 P P 03 07 36.9 +0.6
COLA pmax pmax
comp=Z,18nm,0.8s
H24K Noodor Dome 24.13 46 P P 03 07 37.2 +0.6
baz=267
D24K Happy Valley 24.21 38 IAmb IAmb 03 07 39.0
comp=Z,19nm,1.1s
D24K Happy Valley 24.21 38 P P 03 07 38.1 +0.8
baz=258
F24K Squaw Lake 24.29 42 P P 03 07 38.3 +0.3
baz=263
M23K Glacier View 24.29 56 P P 03 07 38.1 0.0
baz=276
POKR Poker Plat Res 24.29 48 IAmb IAmb 03 07 40.8
comp=Z,18nm,1.1s
POKR Poker Plat Res 24.29 48 P P 03 07 38.7 +0.6
baz=269,SNR=6.1
DHY Denali Highway 24.35 53 IAmb IAmb 03 07 41.2
comp=Z,12nm,0.9s
DHY Denali Highway 24.35 53 P P 03 07 39.4 +0.6
baz=273
G24K Hadweenzic Riv 24.36 44 P P 03 07 39.7 +1.0
baz=265
C24K Franklin Bluff 24.37 37 P P 03 07 39.8 +1.0
baz=257
SCM Sheep Creek Mo 24.47 56 P P 03 07 40.5 +0.7
baz=276,SNR=5.8
HDA Harding Lake 24.49 50 IAmb IAmb 03 07 41.2
comp=Z,29nm,1.2s
HDA Harding Lake 24.49 50 P P 03 07 40.2 +0.3
baz=271,SNR=11
ILAR Eielson Array 24.52 49 P P 03 07 39.6 -0.5
comp=Z,30nm,1.0s,baz=260,slow=8.2,SNR=61
comp=Z,30nm,1.0s
USRK Ussuriysk Ar. 24.61 257 P P 03 07 42.8 +1.7
comp=Z,2.6nm,0.9s,baz=52,slow=9.3,SNR=3.0
comp=Z,2.6nm,0.9s
P23K Montague Islan 24.69 60 P P 03 07 41.4 -0.3
baz=280
G25K Bearman Lake 24.91 44 P P 03 07 44.0 +0.4
baz=266
M24K Tolsona, Glenn 24.98 55 P P 03 07 44.5 0.0
baz=276,SNR=6.7
K24K Donnelly Dome 25.03 51 P P 03 07 44.6 -0.2
baz=273,SNR=7.1
PRP Porcupine Dome 25.10 47 P P 03 07 46.0 +0.5
baz=270,SNR=34
D25K Kavik River 25.10 38 IAmb IAmb 03 07 46.8
comp=Z,10nm,0.9s
D25K Kavik River 25.10 38 P P 03 07 45.5 +0.1
baz=261
F25K Christian Rive 25.15 42 P P 03 07 46.5 +0.6
baz=265
J25K Salcha River, 25.17 49 IAmb IAmb 03 07 48.3
comp=Z,28nm,1.4s
J25K Salcha River, 25.17 49 P P 03 07 45.8 -0.3
baz=272
KLU Klutina 25.18 57 IAmb IAmb 03 08 23.7
comp=Z,28nm,1.3s
KLU Klutina 25.18 57 P P 03 07 46.2 0.0
baz=278
PAX Paxson 25.22 53 P P 03 07 47.2 +0.6
baz=275
E25K Arctic Village 25.23 41 IAmb IAmb 03 07 49.6
comp=Z,11nm,0.9s
E25K Arctic Village 25.23 41 P P 03 07 47.0 +0.5
baz=264,SNR=13
HARP HAARP 25.43 54 P P 03 07 48.3 0.0
baz=277
RIDG Independent Ri 25.44 51 P P 03 07 48.1 -0.4
baz=274,SNR=7.3
MDJ Mudanjiang 25.69 261 P P 03 07 51.5 +0.6
MDJ sP sP 03 07 55.5 -0.8
MDJ PcP PcP 03 11 24.6 +3.8
MDJ S S 03 12 18.9 +0.1
MDJ sS pS 03 12 22.5 -1.3
MDJ ScP ScP 03 15 02.1 +2.7
MDJ pmax pmax
comp=Z,13nm,1.0s
MDJ pmax pmax

	comp=Z,4µm,8.8s										
MDJ					LR	LR					
	comp=N,3µm,12.0s										
MDJ					LR	LR					
	comp=E,2µm,11.3s										
MDJ					LR	LR					
	comp=Z,5µm,11.7s										
F26K	**Sheenjek River**	**25.73**	**42**		P	**P**	**03 07 51.5**	**+0.4**			
	baz=266										
N25K	**Chitina, Valde**	**25.79**	**56**		P	**P**	**03 07 51.9**	**+0.1**			
	baz=279										
SCRK	**Sand Creek**	**25.81**	**51**		IAmb	IAmb	03 07 52.2				
	comp=Z,19nm,1.1s										
SCRK	**Sand Creek**	**25.81**	**51**		P	**P**	**03 07 51.5**	**-0.4**			
	baz=274,SNR=12										
G26K	**Porcupine Rive**	**25.83**	**44**		P	**P**	**03 07 52.7**	**+0.7**			
	baz=268										
BMRM	**Bremner River**	**25.89**	**58**		P	**P**	**03 07 52.9**	**+0.3**			
	baz=280										
J26L	**Joseph Creek**	**25.96**	**49**		P	**P**	**03 07 53.3**	**0.0**			
	baz=274										
L26K	**Log Cabin Wild**	**26.18**	**53**		IAmb	IAmb	03 08 08.9				
	comp=Z,15nm,1.2s										
L26K	**Log Cabin Wild**	**26.18**	**53**		P	**P**	**03 07 55.5**	**+0.3**			
	baz=277										
BNX	**BinXian**	**26.25**	**265**	⇓	P	**P**	**03 07 56.8**	**+0.9**			
BNX					pmax	pmax					
	comp=Z,9.0nm,1.0s										
BNX					pmax	pmax					
	comp=Z,3µm,11.5s										
M26K	**Nabesna, AK**	**26.42**	**54**		IAmb	IAmb	03 08 00.3				
	comp=Z,25nm,1.4s										
M26K	**Nabesna, AK**	**26.42**	**54**		P	**P**	**03 07 57.6**	**+0.1**			
	baz=278										
K27K	**Chicken**	**26.64**	**50**		P	**P**	**03 08 00.2**	**+0.8**			
	baz=276										
E27K	**Coleen River**	**26.72**	**41**		P	**P**	**03 08 00.7**	**+0.7**			
	baz=268										
I27K	**Kandik River**	**26.72**	**47**		P	**P**	**03 08 00.6**	**+0.5**			
	baz=273										
H27K	**Steamboat Moun**	**26.73**	**45**		P	**P**	**03 08 01.1**	**+0.9**			
	baz=272										
L27K	**Beaver Creek,**	**26.86**	**52**		P	**P**	**03 08 02.4**	**+1.0**			
	baz=278										
MJAR	**Matsushiro Arr**	**26.91**	**237**		P	**P**	**03 08 03.3**	**+1.3**			
	comp=Z,9.1nm,0.8s,baz=29,slow=8.6,SNR=13										
	comp=Z,9.1nm,0.8s										
M27K	**Edge Creek, AK**	**26.94**	**54**		IAmb	IAmb	03 08 17.5				
	comp=Z,12nm,1.1s										
M27K	**Edge Creek, AK**	**26.94**	**54**		P	**P**	**03 08 03.8**	**+1.5**			
	baz=279,SNR=6.0										
EGAK	**Eagle**	**26.97**	**49**		P	**P**	**03 08 02.0**	**-0.3**			
	baz=275,SNR=18										
D27M	**Malcolm River**	**27.00**	**39**		IAmb	IAmb	03 08 04.1				
	comp=Z,11nm,0.9s										
D27M	**Malcolm River**	**27.00**	**39**		P	**P**	**03 08 03.3**	**+0.6**			
	baz=266										
F28M	**Old Crow**	**27.36**	**42**		IAmb	IAmb	03 08 07.7				
	comp=Z,13nm,1.0s										
F28M	**Old Crow**	**27.36**	**42**		P	**P**	**03 08 06.8**	**+1.0**			
	baz=271,SNR=13										
BVCY	**Beaver Creek**	**27.40**	**54**		P	**P**	**03 08 07.4**	**+1.1**			
	baz=280,SNR=6.6										
I28M	**Miner Creek**	**27.43**	**47**		IAmb	IAmb	03 08 08.4				
	comp=Z,16nm,1.3s										
I28M	**Miner Creek**	**27.43**	**47**		P	**P**	**03 08 07.2**	**+0.6**			
	baz=275										
CTG	**Chitna Glacier**	**27.45**	**57**		P	**P**	**03 08 07.5**	**+0.7**			
	baz=282										
E28M	**Babbage River**	**27.49**	**40**		P	**P**	**03 08 07.4**	**+0.5**			
	baz=269										
YUK3	**Moose Creek**	**27.70**	**55**		P	**P**	**03 08 09.3**	**+0.1**			
	baz=281										
D28M	**Stokes Point**	**27.80**	**39**		P	**P**	**03 08 09.5**	**-0.1**			
	baz=268										
DAWY	**Dawson**	**27.81**	**50**		IAmb	IAmb	03 08 15.5				
	comp=Z,9.0nm,0.9s										
DAWY	**Dawson**	**27.81**	**50**		P	**P**	**03 08 10.5**	**+0.6**			
	baz=278,SNR=9.2										
H29M	**Whitestone**	**28.01**	**45**		IAmb	IAmb	03 08 37.3				
	comp=Z,14nm,1.2s										
H29M	**Whitestone**	**28.01**	**45**		P	**P**	**03 08 11.8**	**+0.2**			
	baz=275										
E29M	**Blow River**	**28.09**	**41**		IAmb	IAmb	03 08 14.3				
	comp=Z,14nm,1.3s										
E29M	**Blow River**	**28.09**	**41**		P	**P**	**03 08 12.8**	**+0.5**			
	baz=271										
G29M	**Pine Creek**	**28.10**	**44**		P	**P**	**03 08 13.2**	**+0.8**			
	baz=274										
I29M	**Ogilvie Camp,**	**28.12**	**47**		IAmb	IAmb	03 08 14.4				
	comp=Z,16nm,1.2s										
I29M	**Ogilvie Camp,**	**28.12**	**47**		P	**P**	**03 08 13.0**	**+0.4**			
	baz=276										
YUK8	**Steele Glacier**	**28.13**	**56**		P	**P**	**03 08 13.3**	**+0.3**			
	baz=283										
M29M	**Somme Creek**	**28.49**	**53**		P	**P**	**03 08 16.5**	**+0.4**			
	baz=282										
L29M	**L29M**	**28.52**	**52**		P	**P**	**03 08 17.3**	**+1.1**			
	baz=281										
YUK4	**Talbot Arm**	**28.64**	**55**		P	**P**	**03 08 17.9**	**+0.3**			
	baz=283										
K29M	**Barlow Dome**	**28.66**	**50**		IAmb	IAmb	03 08 29.8				
	comp=Z,14nm,1.5s										
K29M	**Barlow Dome**	**28.66**	**50**		P	**P**	**03 08 18.1**	**+0.6**			
	baz=280										
EPYK	**Eagle Plains**	**28.66**	**45**		P	**P**	**03 08 18.2**	**+0.8**			
	baz=276,SNR=8.7										
G30M	**tAoh Zraii Nji**	**28.80**	**43**		IAmb	IAmb	03 08 21.1				
	comp=Z,8.8nm,0.8s										
G30M	**tAoh Zraii Nji**	**28.80**	**43**		P	**P**	**03 08 19.1**	**+0.4**			
	baz=275,SNR=7.5										
YUK6	**Outpost Mounta**	**28.87**	**56**		P	**P**	**03 08 20.1**	**+0.5**			
	baz=284										
F30M	**Barrier River**	**28.92**	**42**		P	**P**	**03 08 20.4**	**+0.7**			
	baz=274										
I30M	**Mount Dempster**	**28.94**	**47**		P	**P**	**03 08 20.6**	**+0.6**			
	baz=278										
M30M	**Minto, Yukon**	**29.23**	**53**		P	**P**	**03 08 23.2**	**+0.7**			
	baz=282										
HYT	**Haines Junctio**	**29.31**	**56**		P	**P**	**03 08 24.0**	**+0.6**			
	baz=285										
P29M	**Windy Craggy**	**29.52**	**59**		P	**P**	**03 08 25.7**	**+0.5**			
	baz=287										
G31M	**Satah River**	**29.57**	**43**		P	**P**	**03 08 25.5**	**+0.1**			
	baz=277										
INK	**Inuvik**	**29.72**	**41**		P	**P**	**03 08 26.9**	**+0.2**			
	baz=275,SNR=5.5										
F31M	**Tsiigehtchic**	**29.72**	**42**		IAmb	IAmb	03 08 27.5				
	comp=Z,10nm,0.9s										
F31M	**Tsiigehtchic**	**29.72**	**42**		P	**P**	**03 08 27.2**	**+0.5**			
	baz=276,SNR=5.9										
O30N	**Mendenhall**	**29.99**	**56**		P	**P**	**03 08 30.2**	**+0.9**			
	baz=286										
M31M	**Drury Creek, Y**	**30.40**	**53**		IAmb	IAmb	03 08 35.4				
	comp=Z,22nm,1.5s										
M31M	**Drury Creek, Y**	**30.40**	**53**		P	**P**	**03 08 34.1**	**+1.3**			
	baz=285,SNR=5.8										
WHY	**Whitehorse**	**30.59**	**56**		P	**P**	**03 08 35.8**	**+1.2**			
	baz=287										
FARO	**Faro, Yukon**	**30.87**	**52**		P	**P**	**03 08 37.8**	**+0.9**			
	baz=285										
P32M	**Atlin**	**31.48**	**57**		P	**P**	**03 08 43.4**	**+1.0**			
	baz=289										
KSRS	**Korea Array**	**31.49**	**251**		P	**P**	**03 08 44.6**	**+2.1**			
	comp=Z,2.3nm,0.8s,baz=36,slow=9.2,SNR=4.3										
	comp=Z,2.3nm,0.8s										
R32K	**Eaglecrest**	**31.54**	**60**		P	**P**	**03 08 44.0**	**+1.1**			
	baz=291										
P33M	**Teslin, Yukon**	**31.71**	**56**		IAmb	IAmb	03 08 47.6				
	comp=Z,10nm,1.1s										
P33M	**Teslin, Yukon**	**31.71**	**56**		P	**P**	**03 08 45.1**	**+0.7**			
	baz=289										
A36M	**Sachs Harbour**	**32.19**	**33**		P	**P**	**03 08 49.0**	**+0.6**			
A36M					IAmb	IAmb	03 08 50.1				
	comp=Z,7.1nm,0.9s										
A36M	**Sachs Harbour**	**32.19**	**33**		P	**P**	**03 08 49.5**	**+1.1**			
	baz=276,SNR=5.4										
Q32M	**Nakina River**	**32.40**	**58**		P	**P**	**03 08 51.3**	**+0.6**			
	baz=291										
R33M	**Jennings River**	**32.87**	**57**		P	**P**	**03 08 55.5**	**+0.8**			
	baz=291										
C36M	**Paulatuk**	**32.97**	**38**		P	**P**	**03 08 55.6**	**+0.3**			
C36M	**Paulatuk**	**32.97**	**38**		P	**P**	**03 08 55.8**	**+0.5**			
	baz=281,SNR=16										
S34M	**Telegraph Cree**	**33.35**	**59**		P	**P**	**03 08 58.7**	**0.0**			
	baz=293										
CRAG	**Craig**	**33.36**	**64**		P	**P**	**03 08 58.8**	**0.0**			
	baz=296										

WTLY	**Watson Lake, Y**	**33.63**	**55**		P	**P**	**03 09 02.2**	**+1.0**			
	baz=292										
DLBC	**Dease Lake**	**33.68**	**58**		P	**P**	**03 09 03.1**	**+1.4**			
	baz=293										
T35M	**Bob Quinn**	**34.16**	**61**		P	**P**	**03 09 07.6**	**+1.7**			
	baz=295										
WRGLY	**Wrigley**	**34.89**	**48**		IAmb	IAmb	03 09 14.8				
	comp=Z,13nm,1.0s										
WRGLY	**Wrigley**	**34.89**	**48**		P	**P**	**03 09 13.4**	**+1.4**			
	baz=291										
KOTAN	**Kotaneelee Air**	**35.81**	**53**		P	**P**	**03 09 21.5**	**+1.5**			
	baz=294										
ULN	**Ulaanbaatar**	**36.55**	**283**		P	**P**	**03 09 26.5**	**-0.1**			
ULN	**Ulaanbaatar**	**36.55**	**283**		P	**P**	**03 09 26.5**	**-0.1**			
ULN					pmax	pmax					
	comp=Z,8.0nm,1.2s										
SONM	**Songino Array**	**36.93**	**284**		P	**P**	**03 09 30.5**	**+0.6**			
	comp=Z,4.6nm,0.9s,baz=56,slow=7.3,SNR=22										
SONM					PcP	**PcP**	**03 11 50.9**	**0.0**			
	comp=Z,0.7nm,0.8s,baz=39,slow=3.0,SNR=2.8										
	comp=Z,4.6nm,0.9s										
ZAK	**Zakamensk**	**37.21**	**289**		*e*P	**P**	**03 09 30.7**	**-1.5**			
ZAK					pmax	pmax					
	comp=Z,4.0nm,1.3s										
HHC	**Hu-ho-hao-te**	**38.32**	**271**		*e*P	**P**	**03 09 41.5**	**-0.1**			
HHC					pmax	pmax					
	comp=Z,18nm,0.7s										
HHC					pmax	pmax					
	comp=Z,6µm,6.6s										
HNS	**HongShan**	**38.88**	**264**		*e*P	**P**	**03 09 47.3**	**+1.1**			
YKA	**Yellowknife Ar**	**38.90**	**47**		P	**P**	**03 09 46.8**	**+0.6**			
	comp=Z,4.6nm,0.8s,baz=298,slow=8.0,SNR=48										
YKA					PcP	**PcP**	**03 11 56.8**	**+0.3**			
	comp=Z,0.5nm,0.8s,baz=295,slow=3.8,SNR=4.5										
	comp=Z,4.6nm,0.8s										
BTO	**Baotou**	**39.36**	**272**		*e*P	**P**	**03 09 50.9**	**+0.5**			
BTO					pP	**sP**	**03 09 55.4**	**-0.6**			
BTO					sP	**pwP**	**03 09 57.9**	**+1.4**			
BTO					PP	**PnPn**	**03 11 25.0**	**+1.7**			
BTO					S	**S**	**03 15 54.3**	**+3.3**			
BTO					sS	sS	03 16 05.8	+7.6			
BTO					SS	**SS**	**03 18 35.4**	**-9.1**			
BTO					pmax	pmax					
	comp=Z,33nm,0.9s										
BTO					pmax	pmax					
	comp=Z,10µm,12.6s										
NJ2	**Nanjing**	**40.47**	**255**		*e*P	**P**	**03 09 58.5**	**-1.0**			
NJ2					pmax	pmax					
	comp=Z,7.0nm,0.6s										
LYN	**LuoYang**	**42.18**	**263**	⇑	P	**P**	**03 10 13.8**	**+0.3**			
LYN					sP	pwP	03 10 21.6	+1.7			
LYN					PP	**PP**	**03 11 54.4**	**+3.3**			
LYN					pmax	pmax					
	comp=Z,9.0nm,0.7s										
XAN	**Xi'an**	**44.56**	**266**		*e*P	**P**	**03 10 31.6**	**-1.3**			
ZALV	**Zalesovo Beam**	**44.58**	**304**		P	**P**	**03 10 30.3**	**-2.4**			
	comp=Z,0.2nm,0.3s,baz=79,slow=7.5,SNR=2.3										
ZALV					PcP	**PcP**	**03 12 15.3**	**0.0**			
	comp=Z,1.5nm,0.6s,baz=17,slow=4.5,SNR=6.5										
	comp=Z,0.2nm,0.3s										
NEEM	**North Greenlan**	**45.34**	**11**	*i*	P	**P**	**03 10 36.7**	**-2.1**			
SPITS	**Spitsbergen Ar**	**45.38**	**352**		P	**P**	**03 10 37.8**	**-1.0**			
	comp=Z,11nm,0.8s,baz=46,slow=8.3,SNR=3.5										
	comp=Z,11nm,0.8s										
NEW	**Newport**	**45.55**	**66**		P	**P**	**03 10 41.2**	**+0.6**			
	baz=309										
DGZ	**Jazzator, Alta**	**45.90**	**297**	*i*	P	**P**	**03 10 41.6**	**-1.8**			
DGZ					pmax	pmax					
	comp=Z,5.0nm,1.1s										
GTA	**Gaotai**	**45.95**	**279**		*e*P	**P**	**03 10 44.0**	**+0.1**			
GTA					pP	pwP	03 10 52.8	+4.8			
GTA					pmax	pmax					
	comp=Z,5.0nm,0.9s										
LZH	**Lanzhou**	**45.98**	**272**		*e*P	**P**	**03 10 46.5**	**+2.2**			
LZH					pP	pwP	03 10 50.8	+0.4			
LZH					pmax	pmax					
	comp=Z,13nm,1.3s										
MSO	**Missoula**	**48.13**	**65**		P	**P**	**03 11 01.9**	**+1.1**			
	baz=311										
EGMT	**Eagleton**	**49.47**	**61**		P	**P**	**03 11 10.5**	**-0.5**			
	baz=312										
KURK	**Kurchatov**	**49.57**	**303**		P	**P**	**03 11 11.0**	**-0.6**			
KURK	**Kurchatov**	**49.57**	**303**		P	**P**	**03 11 11.3**	**-0.3**			
KURK							03 12 32.6				
WMQ	**Urumqi**	**49.61**	**291**		*e*P	**P**	**03 11 14.1**	**+2.0**			
KURBB	**Kurchatov Arra**	**49.67**	**303**		P	**P**	**03 11 11.3**	**-1.1**			
	comp=Z,6.4nm,0.9s,baz=51,slow=7.4,SNR=34										
KURBB					PcP	**PcP**	**03 12 32.6**	**-0.9**			
	comp=Z,0.8nm,0.9s,baz=56,slow=3.8,SNR=4.2										
	comp=Z,6.4nm,0.9s										
HLID	**Hailey**	**50.07**	**69**		P	**P**	**03 11 16.5**	**+0.6**			
	baz=313										
MK31	**Makanchi Array**	**50.40**	**298**	*ce*	P	**P**	**03 11 17.2**	**-0.8**			
MKAR	**Makanchi Array**	**50.40**	**298**		P	**P**	**03 11 16.7**	**-1.4**			
	comp=Z,1.2nm,0.6s,baz=47,slow=6.2,SNR=14										
	comp=Z,1.2nm,0.6s										
SUMG	**Summit**	**51.11**	**9**		P	**P**	**03 11 22.0**	**-1.5**			
SUMG	**Summit**	**51.11**	**9**		P	**P**	**03 11 22.0**	**-1.5**			
SUMG					pmax	pmax					
	comp=Z,7.0nm,1.3s										
SUMG	**Summit**	**51.11**	**9**	*i*	P	**P**	**03 11 23.0**	**-0.5**			
H17A	**Grant Village**	**51.51**	**65**		IAmb	IAmb	03 11 30.1				
	comp=Z,11nm,1.3s										
H17A	**Grant Village**	**51.51**	**65**		P	**P**	**03 11 27.7**	**+0.9**			
	baz=314										
NVAR	**Mina Array Bea**	**51.53**	**76**		P	**P**	**03 11 26.8**	**-0.2**			
	comp=Z,1.4nm,0.8s,baz=298,slow=8.7,SNR=6.6										
	comp=Z,1.4nm,0.8s										
ELK	**Elko**	**51.58**	**72**		P	**P**	**03 11 28.6**	**+1.3**			
	comp=Z,0.4nm,0.3s,baz=319,slow=6.0,SNR=3.8										
	comp=Z,0.4nm,0.3s										
RLMT	**Red Lodge**	**51.68**	**64**		IAmb	IAmb	03 11 30.3				
	comp=Z,9.3nm,1.1s										
RLMT	**Red Lodge**	**51.68**	**64**		P	**P**	**03 11 28.8**	**+0.9**			
	baz=314,SNR=5.7										
BVAR	**Borovoye Array**	**51.75**	**310**		P	**P**	**03 11 27.5**	**-0.6**			
	comp=Z,5.8nm,0.8s,baz=45,slow=6.9,SNR=23										
BVAR					PcP	**PcP**	**03 12 41.1**	**0.0**			
	comp=Z,1.3nm,0.7s,baz=66,slow=3.5,SNR=1.5										
	comp=Z,5.8nm,0.8s										
BRVK	**Borovoye**	**51.78**	**310**		P	**P**	**03 11 27.7**	**-0.5**			
BRVK					IAmb	IAmb	03 11 30.1				
	comp=Z,8.6nm,0.9s										
BRVK	**Borovoye**	**51.78**	**310**	*ce*	P	**P**	**03 11 28.1**	**-0.2**			
BRVK					pmax	pmax					
	comp=Z,8.0nm,0.8s										
LAO	**LASA Array**	**52.13**	**61**		IAmb	IAmb	03 11 33.4				
	comp=Z,11nm,1.2s										
LAO	**LASA Array**	**52.13**	**61**		P	**P**	**03 11 32.4**	**+1.3**			
	baz=314										
GRAC	**Grapevine Rang**	**53.08**	**77**		P	**P**	**03 11 39.4**	**+1.2**			
	baz=316										
R11B	**Troy Canyon, C**	**53.09**	**74**		P	**P**	**03 11 39.2**	**+0.8**			
	baz=316										
BW06	**Boulder Array**	**53.18**	**66**		P	**P**	**03 11 39.4**	**+0.3**			
	baz=315,SNR=5.5										
PDAR	**Pinedale Array**	**53.18**	**66**		P	**P**	**03 11 39.0**	**-0.1**			
	comp=Z,2.7nm,1.0s,baz=321,slow=3.8,SNR=14										
	comp=Z,2.7nm,1.0s										
DUG	**Dugway, Tooele**	**53.28**	**71**		P	**P**	**03 11 40.3**	**+0.5**			
	baz=316										
SPR3	**Spring Creek 3**	**53.31**	**73**		P	**P**	**03 11 41.0**	**+0.8**			
ISA	**Isabella, Lake**	**53.43**	**79**		P	**P**	**03 11 41.8**	**+1.0**			
	baz=317										
MPMC	**Manual Prospec**	**53.69**	**78**		P	**P**	**03 11 43.3**	**+0.4**			
	baz=317										
TPNV	**Topopah Spring**	**53.73**	**76**		IAmb	IAmb	03 11 56.0				
	comp=Z,11nm,1.2s										
TPNV	**Topopah Spring**	**53.73**	**76**		P	**P**	**03 11 43.8**	**+0.7**			
	baz=317										
FURC	**Furnace Creek,**	**53.74**	**77**		P	**P**	**03 11 44.0**	**+1.0**			
	baz=317										
FRB	**Frobisher Bay**	**53.81**	**27**		P	**P**	**03 11 42.1**	**-1.0**			
	comp=Z,4.1nm,0.8s,baz=309,slow=7.6,SNR=5.9										
	comp=Z,4.1nm,0.8s										
GWY	**Greenwater Val**	**54.05**	**77**		IAmb	IAmb	03 11 51.2				
	comp=Z,5.6nm,0.9s										
ARU	**Arti**	**54.09**	**319**	*c*	*i*P	**P**	**03 11 43.1**	**-2.2**			
ARU							03 12 45.4				
ARU					S	**S**	**03 19 22.2**	**+1.4**			
ARU					SS	**SKiKP**	**03 22 56.8**	**+0.6**			
ARU					pmax	pmax					
	comp=Z,5.0nm,0.8s										
EDW2	**Edwards Air Fo**	**54.26**	**79**		P	**P**	**03 11 48.0**	**+1.1**			
	baz=317										
PZH	**PanZhiHua**	**54.30**	**266**		P	**P**	**03 11 49.8**	**+2.4**			
PZH					pmax	pmax					

	comp=Z,10.0nm,0.5s										
ULM	**Lac du Bonnet**	**54.50**	**51**		P	**P**	**03 11 47.7**	**-0.7**			
	comp=Z,1.8nm,0.7s,baz=331,slow=9.1,SNR=4.5										
	comp=Z,1.8nm,0.7s										
MDND	**Maddock**	**54.52**	**56**		P	**P**	**03 11 48.5**	**-0.1**			
	baz=316										
GSC	**Goldstone, Bar**	**54.62**	**78**		IAmb	IAmb	03 11 51.8				
	comp=Z,7.5nm,1.1s										
RDMU	**Red Mountain**	**54.74**	**68**		IAmb	IAmb	03 11 55.6				
	comp=Z,12nm,1.4s										
TMUT	**Trail Mountain**	**54.78**	**70**		IAmb	IAmb	03 12 07.1				
	comp=Z,6.7nm,1.1s										
K22A	**Casper**	**54.83**	**64**		P	**P**	**03 11 51.8**	**+0.7**			
	baz=316										
BFSC	**Mount Baldy Ra**	**54.92**	**79**		P	**P**	**03 11 52.8**	**+1.0**			
	baz=318										
TUQ	**Turquoise Moun**	**55.01**	**77**		P	**P**	**03 11 53.8**	**+1.4**			
	baz=317										
RSSD	**Black Hills**	**55.04**	**61**		P	**P**	**03 11 53.0**	**+0.4**			
RSSD					IAmb	IAmb	03 11 54.2				
	comp=Z,9.2nm,1.2s										
RSSD	**Black Hills**	**55.04**	**61**		P	**P**	**03 11 53.0**	**+0.4**			
	baz=316										
RSSD	**Black Hills**	**55.04**	**61**		P	**P**	**03 11 53.0**	**+0.4**			
RSSD					pmax	pmax					
	comp=Z,9.0nm,1.2s										
HEC	**Hector,Ludlow**	**55.23**	**78**		P	**P**	**03 11 55.4**	**+1.4**			
	baz=318										
LCMT	**Little Creek M**	**55.34**	**74**		IAmb	IAmb	03 11 57.6				
	comp=Z,9.8nm,1.3s										
V12A	**Nelson**	**55.39**	**76**		P	**P**	**03 11 56.7**	**+1.5**			
V12A					IAmb	IAmb	03 11 57.9				
	comp=Z,6.3nm,1.2s										
GMRC	**Granite Mounta**	**55.64**	**77**		P	**P**	**03 11 58.1**	**+1.2**			
	baz=318										
MURC	**Murrieta**	**55.65**	**79**		P	**P**	**03 11 58.5**	**+1.6**			
	baz=318										
O20A	**White River Ci**	**55.75**	**68**		P	**P**	**03 11 58.6**	**+0.8**			
	baz=317,SNR=6.3										
AGMN	**Agassiz Nation**	**55.92**	**53**		IAmb	IAmb	03 12 00.2				
	comp=Z,12nm,1.2s										
AGMN	**Agassiz Nation**	**55.92**	**53**		P	**P**	**03 11 59.2**	**+0.5**			
	baz=317,SNR=5.1										
BELC	**Belle Mtn. Jos**	**56.03**	**78**		P	**P**	**03 12 00.7**	**+1.0**			
	baz=318										
IRM	**Iron Mountain**	**56.38**	**77**		P	**P**	**03 12 03.6**	**+1.4**			
	baz=318,SNR=6.0										
N23A	**Red Feather La**	**56.40**	**65**		IAmb	IAmb	03 12 04.9				
	comp=Z,8.2nm,0.9s										
N23A	**Red Feather La**	**56.40**	**65**		P	**P**	**03 12 03.4**	**+0.9**			
	baz=317										
BC3	**Big Chuckawall**	**56.59**	**78**		P	**P**	**03 12 04.9**	**+1.2**			
	baz=318										
SMCO	**Snowmass**	**57.12**	**68**		IAmb	IAmb	03 12 10.1				
	comp=Z,6.6nm,0.8s										
AAK	**Ala-Archa**	**57.26**	**299**		P	**P**	**03 12 08.2**	**-0.3**			
AAK					IAmb	IAmb	03 12 16.3				
	comp=Z,6.1nm,1.1s										
AAK	**Ala-Archa**	**57.26**	**299**	*ce*	P	**P**	**03 12 08.9**	**+0.5**			
AAK					pmax	pmax					
	comp=Z,9.0nm,1.7s										
ISCO	**Idaho Springs**	**57.38**	**66**		IAmb	IAmb	03 12 12.4				
	comp=Z,9.3nm,1.1s										
ISCO	**Idaho Springs**	**57.38**	**66**		P	**P**	**03 12 10.9**	**+1.4**			
	baz=318,SNR=7.9										
WUAZ	**Wupatki**	**57.46**	**74**		P	**P**	**03 12 11.0**	**+1.0**			
	baz=318										
ESJX	**Sierra Juarez**	**57.54**	**80**		IAmb	IAmb	03 12 12.8				
	comp=Z,8.2nm,1.4s

baz=326
AKASG Malin Array Be 68.37 332 P **P** 03 13 21.1 -0.9
comp=Z,1.0nm,0.5s,baz=26,slow=6.2,SNR=5.1
comp=Z,1.0nm,0.5s
PKME Peaks-Kenny Pk 69.22 39 P **P** 03 13 27.2 -0.2
baz=330
MCWV Mont Chateau 69.82 49 P **P** 03 13 30.6 -0.7
baz=326
SSPA Standing Stone 69.83 47 P **P** 03 13 30.4 -1.0
baz=327
PLAL Pickwick Lake 69.91 57 IAmb IAmb 03 13 32.7
comp=Z,7.2nm,1.0s
KBZ Khabaz 70.23 320 P **P** 03 13 32.9 -0.8
comp=Z,1.9nm,0.8s,baz=229,slow=7.1,SNR=4.9
comp=Z,1.9nm,0.8s
L61B Northampton 70.38 42 P **P** 03 13 33.7 -0.9
baz=329
ZEI Tsey 70.67 319 *e*P **P** 03 13 32.1 -4.6
ZEI pmax pmax
comp=Z,3.0nm,1.2s
HRV Adam Dziewonsk 70.76 42 P **P** 03 13 36.6 -0.3
baz=329
CLL Collm 71.34 343 *e*P **P** 03 13 42.0 +1.7
LRAL Lakeview Retre 72.01 58 P **P** 03 13 43.8 -0.9
baz=325
LANS Liptovska Anna 72.16 338 *e*P **P** 03 13 46.6 +1.3
LANS Liptovska Anna 72.16 338 *e*P **P** 03 13 46.6 +1.3
KMSC Kings Mountain 72.92 52 P **P** 03 13 49.1 -1.0
baz=327
GERES GERESS Array B 73.59 342 P **P** 03 13 53.7 -0.2
comp=Z,0.4nm,0.5s,baz=18,slow=6.6,SNR=2.6
comp=Z,0.4nm,0.5s
KBA Koelnbreinsper 75.35 341 *e*pP **P** 03 14 05.2 +0.9
comp=Z,1.0nm,0.5s
WTTA Wattenberg 75.48 343 *e*pP **P** 03 14 05.6 +0.5
comp=Z,1.7nm,0.6s
MOTA Moosalm 75.49 343 *e*P **P** 03 14 05.2 +0.1
comp=Z,0.6nm,0.3s
SQTA Sankt Quirin 75.59 343 *e*pP **P** 03 14 06.2 +0.6
comp=Z,0.9nm,0.3s
OBKA Obir 75.68 340 *e*pP **P** 03 14 06.8 +0.7
comp=Z,4.0nm,0.8s
ABTA Abfaltersbach 75.82 342 *e*P **P** 03 14 07.2 +0.4
comp=Z,2.1nm,0.7s
FETA Feichten 75.86 343 *e*P **P** 03 14 07.6 +0.4
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 77.00 324 P **P** 03 14 13.8 0.0
comp=Z,1.2nm,0.8s,baz=96,slow=3.7,SNR=4.7
comp=Z,1.2nm,0.8s
MURB Monte Urbino 79.19 341 P **P** 03 14 26.8 +1.1
NRCA Norcia 79.49 340 P **P** 03 14 27.5 +0.1
NRCA IAmb IAmb 03 14 30.8
comp=Z,10nm,1.0s
WRA Warramunga Arr 79.87 210 P **P** 03 14 30.1 +0.6
comp=Z,1.7nm,0.8s,baz=23,slow=6.0,SNR=5.5
comp=Z,1.7nm,0.8s
ASAR Alice Springs 83.53 210 P **P** 03 14 49.1 +0.4
comp=Z,1.8nm,0.8s,baz=16,slow=4.1,SNR=9.6
comp=Z,1.8nm,0.8s
ESDC Sonseca Array 84.89 353 P **P** 03 14 55.2 -0.5
comp=Z,0.9nm,0.9s,baz=15,slow=4.9,SNR=4.6
comp=Z,0.9nm,0.9s
KEST Kesra 87.08 341 P **P** 03 15 06.2 -0.4
comp=Z,2.1nm,0.8s,baz=124,slow=12,SNR=2.2
comp=Z,2.1nm,0.8s
PLCA Paso Flores 140.40 93 PKP **PKPdf** 03 21 47.4 -2.0
comp=Z,1.3nm,0.8s,baz=319,slow=9.3,SNR=1.6
QSPA South Pole Qui 145.20 180 PKPbc **PKPbc** 03 21 55.7 -1.1
comp=Z,6.1nm,0.8s,baz=354,slow=1.8,SNR=6.8

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*IDC **25** 03:05:47.3±1.5, 8°.02N×91°.67E, h0km, mb3.7/8, mbtmp3.7/9, ML4.6/1, Error ellipse: s-maj=39.2km s-min=29.7km az=60.0*

ISC 25 03:05:52.7±1.2, 8°.1N±0°.2×91°.8E±0°.2, h35km, n15, σ0s52/9, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.45**	**33**	Pn	**Pn**	**03 08 47.1**	**-0.3**
	1.1nm,0.3s,baz=222,slow=14,SNR=5.0						
	1.6nm,0.3s						
H08S3	**Diego Garcia H**	**24.76**	**231**	T	T	03 37 35.4	
	baz=51,slow=75						
H08S2	**Diego Garcia H**	**24.76**	**231**	T	T	03 37 40.1	
	baz=51,slow=75						
H08S1	**Diego Carcia H**	**24.78**	**231**	T	T	03 37 37.5	
	baz=51,slow=75						
MKAR	**Makanchi Array**	**39.41**	**350**	P	**P**	**03 13 19.2**	**0.0**
	0.9nm,0.6s,baz=171,slow=8.9,SNR=10						
	0.9nm,0.6s						
SONM	**Songino Array**	**41.52**	**15**	P	**P**	**03 13 37.5**	**+0.8**
	0.5nm,0.6s,baz=194,slow=9.6,SNR=3.6						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**43.80**	**348**	P	**P**	**03 13 55.3**	**+0.3**
	0.8nm,0.7s,baz=175,slow=7.4,SNR=7.2						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**46.07**	**354**	P	**P**	**03 14 12.9**	**-0.1**
	0.7nm,0.6s,baz=186,slow=10,SNR=2.5						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**48.06**	**343**	P	**P**	**03 14 28.2**	**-0.3**
	0.7nm,0.6s,baz=145,slow=9.2,SNR=4.5						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**50.32**	**124**	P	**P**	**03 14 46.2**	**-0.1**
	0.6nm,0.8s,baz=304,slow=8.9,SNR=2.5						
	0.6nm,0.8s						
BRTR	**Keskin Array B**	**60.51**	**311**	P	**P**	**03 15 59.0**	**-0.7**
	1.1nm,0.8s,baz=93,slow=6.6,SNR=4.3						
	1.1nm,0.8s						
H04N2	**CROZET ISLANDS**	**64.72**	**210**	T	T	04 27 56.2	
	baz=45,slow=75,SNR=38						
H04N1	**CROZET ISLANDS**	**64.73**	**210**	T	T	04 28 00.0	
	baz=45,slow=75,SNR=43						
H04N3	**CROZET ISLANDS**	**64.74**	**210**	T	T	04 27 39.5	
	baz=45,slow=75,SNR=41						
TORD	**Torodi Ar. Bea**	**88.25**	**283**	P	**P**	**03 18 41.6**	**+0.4**
	0.1nm,0.5s,baz=74,slow=5.3,SNR=0.9						
	0.1nm,0.5s						

IDC 25 03:12:52.1±2.4, 11°.68S×123°.01E, h0km, mb3.7/2, mbtmp3.8/4, ML3.9/2, MS4.5/1, Error ellipse: s-maj=192.9km s-min=32.0km az=50.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.65**	**128**	Pn	Pn	03 16 07.1	0.0
	0.7nm,0.3s,baz=307,slow=15,SNR=18						
WRA				Sn	Sn	03 18 32.7	-6.8
	0.3nm,0.3s,baz=301,slow=22,SNR=3.8						
	3.5nm,0.6s						
ASAR	**Alice Springs**	**15.80**	**140**	Pn	Pn	03 16 36.0	-0.1
	0.3nm,0.3s,baz=316,slow=12,SNR=15						
ASAR				Sn	Sn	03 19 23.5	-8.5
	0.2nm,0.3s,baz=313,slow=24,SNR=4.5						
	1.0nm,0.5s						
CTA	**Charters Tower**	**23.85**	**113**	LR	LR	03 27 04.2	
	comp=Z,1μm,20.9s,baz=270,slow=36						
H08S2	**Diego Garcia H**	**49.91**	**270**	T	T	04 14 38.1	
	baz=98,slow=74						
H08S3	**Diego Garcia H**	**49.92**	**270**	T	T	04 14 40.5	
	baz=98,slow=74						
H08S1	**Diego Carcia H**	**49.93**	**270**	T	T	04 14 40.7	
	baz=98						
MKAR	**Makanchi Array**	**68.66**	**331**	P	P	03 23 57.3	0.0
	0.8nm,0.5s,baz=149,slow=6.7,SNR=4.3						
	0.8nm,0.5s						
H04N2	**CROZET ISLANDS**	**68.66**	**225**	T	T	04 38 30.3	
	baz=83,slow=75,SNR=30						
H04N3	**CROZET ISLANDS**	**68.67**	**225**	T	T	04 38 31.3	
	baz=83,slow=75,SNR=21						
H04N1	**CROZET ISLANDS**	**68.67**	**225**	T	T	04 38 31.6	
	baz=83,slow=75,SNR=25						
KURBB	**Kurchatov Arra**	**73.13**	**332**	P	P	03 24 24.5	+0.1
	0.1nm,0.3s,baz=149,slow=5.7,SNR=2.7						
	0.1nm,0.3s						

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*JMA **25** 03:17:54.6±0.2, 35°.7N±0°.6×140°.7E±0°.8, h49km±1km, MV3.3/38, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
*IDC **25** 03:17:55.5±3.1, 35°.52N×140°.74E, h57km±27km, mb3.2/6, mbtmp3.5/8, ML3.0/2, Error ellipse: s-maj=32.8km s-min=10.3km az=68.0*

ISC 25 03:17:54.9±1.0, 35°.68N±0°.04×140°.76E±0°.09, h50km±7km, n20, σ1s28/22, mb3.4/6, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.25**	**262**	⇓P	**Pn**	**03 18 03.3**	**-0.3**
JSMT				⇓*e*S	**Sn**	03 18 10.3	+0.5
JIHU	**Itakohorinouch**	**0.34**	**327**	⇓*i*P	**Pn**	03 18 04.1	-0.3
JIHU				⇓*e*S	**Sn**	03 18 11.5	+0.3
JCN	**Nagara**	**0.52**	**240**	⇓P	**Pn**	03 18 06.6	+0.2
JYT	**Yasato**	**0.71**	**320**	⇓P	**Pn**	03 18 07.6	-1.2
JYT				⇓*e*S	**Sn**	03 18 16.5	-2.4
BSO4	**Boso 4**	**0.77**	**207**	P	**Pn**	03 18 09.8	+0.4
BSO3	**Boso 3**	**0.90**	**193**	P	**Pn**	03 18 11.3	+0.3
JHO	**Hitachi**	**0.94**	**351**	⇓P	**Pn**	03 18 11.3	-0.6
BSO1	**Boso 1**	**1.04**	**170**	P	**Pn**	03 18 13.5	+0.8
JAG	**Ashikaga**	**1.29**	**306**	P	**Pn**	03 18 15.5	-1.1
MJAR	**Matsushiro Arr**	**2.23**	**293**	P	**Pn**	03 18 29.7	+0.2
	1.5nm,0.3s,baz=98,slow=14,SNR=42						
MJAR				S	**Sn**	03 18 58.2	+2.3
	13nm,0.5s,baz=136,slow=22,SNR=4.2						
	7.0nm,0.3s						
JHJ	**Hachijo jima 2**	**2.68**	**198**	P	**Pn**	03 18 34.0	-1.5
	24nm,0.3s,baz=46,slow=19,SNR=1.4						
JHJ				S	**Sn**	03 19 03.9	-2.8
	78nm,0.3s,baz=269,slow=23,SNR=2.0						
	71nm,0.4s						
SONM	**Songino Array**	**28.13**	**306**	P	**P**	**03 23 43.6**	**+1.3**
	0.2nm,0.5s,baz=92,slow=7.7,SNR=1.5						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	03 53 32.3	
	baz=312,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	03 53 44.4	
	baz=312,slow=75,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	03 53 36.3	
	baz=312,slow=75,SNR=7.2						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**03 25 44.7**	**0.0**
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.40**	**303**	P	**P**	**03 26 00.7**	**+0.1**
	0.5nm,0.6s,baz=90,slow=7.6,SNR=4.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.43**	**309**	P	**P**	**03 26 16.2**	**-0.3**
	0.6nm,0.5s,baz=83,slow=7.9,SNR=7.5						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**03 26 51.9**	**+1.0**
	0.3nm,0.8s,baz=269,slow=5.1,SNR=4.8						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**03 27 25.0**	**-1.0**
	0.2nm,0.3s,baz=0.8,slow=7.6,SNR=7.7						
	0.2nm,0.3s						

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*ISN **25** 03:19:12.7±1.1, 34°.64N×46°.18E, h16km±6km, ML3.9*
*TEH **25** 03:19:13.3, 34°.60N×46°.20E, h8km±21km, ML3.9*
*NEIC **25** 03:19:13.9±1.9, 34°.66N±0°.06×46°.29E±0°.06, h10km±1km, mb4.0/14, Error ellipse: s-maj=11.5km s-min=5.2km az=219.0*
*IDC **25** 03:19:14.5±0.8, 34°.86N×46°.02E, h0km, mb4.0/17, mbtmp4.0/23, ML3.7/6, Error ellipse: s-maj=17.3km s-min=12.9km az=157.0*
*AFAD **25** 03:19:21.5±0.0, 34°.63N×45°.21E, h7km±2km, ML3.8*
*ISK **25** 03:19:45.3, 36°.18N×44°.13E, h12km, ML3.4/12*

ISC 25 03:19:13.9±1.1, 34°.60N±0°.03×46°.19E±0°.03, h8km±7km, n133, σ1s71/142, mb4.0/27, 6C-6D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.19**	**60**	Pg	**Pg**	**03 19 17.5**	**-0.4**
IDHR				Sg	**Sg**	03 19 20.8	+0.1
IGHG	**Ghaleghazi**	**0.42**	**131**	Pg	**Pg**	03 19 21.6	-0.5
KGS1	**Ghasr-e-Shirin**	**0.50**	**259**	Pg	**Pg**	03 19 23.6	0.0
ILIN	**Lien**	**0.71**	**64**	Pg	**Pg**	03 19 27.0	-0.7
ILIN				Sg	**Sg**	03 19 37.8	+0.8
KCHF	**Cheshme Sefid,**	**0.78**	**115**	Pg	**Pg**	03 19 27.8	-1.2
ILBA	**Ilam Banvizeh**	**0.98**	**179**	Pg	**Pg**	03 19 31.9	-0.8
IBZA	**Bozab**	**1.39**	**95**	Pg	**Pg**	03 19 39.8	-0.1
IBDR	**Badra**	**1.50**	**188**	*e*Pg	**Pg**	03 19 41.0	-0.2
IBDR				*e*Sg	**Sn**	03 20 01.0	0.0
IBDR				AML	AML	03 20 12.1	
	comp=E,2μm,0.9s						
IBDR				AML	AML	03 20 19.7	
	comp=N,2μm,0.5s						
SDS1	**Sardasht. Az.**	**1.64**	**340**	Pg	**Pn**	03 19 43.8	+0.5
IALM	**Almabolaq**	**1.65**	**81**	Pg	**Pn**	03 19 44.2	+0.6
IKFM	**Kafar-mosalman**	**1.75**	**128**	Pg	**Pb**	03 19 46.0	-0.3
BHD	**Baghdad**	**2.01**	**229**	*e*Pn	**Pn**	03 19 48.0	-0.1
BHD				*e*Sn	**Sn**	03 20 14.0	+0.6
BHD				AML	AML	03 20 27.0	
	comp=E,1μm,0.7s						
HSAM	**Samen**	**2.04**	**100**	Pn	**Pb**	03 19 50.4	-0.9
MAHB	**Mahabad**	**2.19**	**350**	Pn	**Pb**	03 19 53.0	-1.0
HAGD	**Aghdareh**	**2.44**	**84**	Pn	**Pn**	03 19 56.2	+1.9
IHSH	**Hashtrud**	**2.83**	**18**	Pn	**Pn**	03 20 01.5	+1.7
RAFI	**Al-Rafai**	**2.87**	**181**	*e*Pn	**Pn**	03 20 00.0	0.0
RAFI				*e*Sn	**Sn**	03 20 36.0	+1.2
IAZR	**Azarshahr**	**3.07**	**357**	Pn	**Pn**	03 20 04.6	+1.5
QSDN	**Sirdan**	**3.09**	**51**	Pn	**Pn**	03 20 05.6	+2.4
IRAZ	**Razeghan**	**3.17**	**74**	Pn	**Pn**	03 20 06.1	+1.7
YOVA	**Hakkari_Yksek**	**3.35**	**333**	P	**Pn**	03 20 09.5	+2.7
YOVA				S	**Sn**	03 20 46.1	-0.8
CUKT	**Cukurca**	**3.37**	**322**	Pn	**Pn**	03 20 07.7	+0.7
CUKT	**Cukurca**	**3.37**	**322**	P	**Pn**	03 20 08.3	+1.3
CUKT				S	**Sn**	03 20 49.5	+2.3
CUKT				*i* AML	AML	03 21 08.0	
	comp=E,771nm,0.8s						
CUKT				*i* AML	AML	03 21 14.0	
	comp=E,928nm,1.0s						
ISRB	**Sarab**	**3.43**	**20**	Pn	**Pn**	03 20 09.9	+2.0
JIR1	**Jirandeh**	**3.62**	**53**	Pn	**Pn**	03 20 12.0	+1.5
ITBZ	**Tabriz**	**3.62**	**360**	Pn	**Pn**	03 20 12.7	+2.1
ISHB	**Shabestar**	**3.70**	**353**	Pn	**Pn**	03 20 13.0	+1.3
IHRS	**Heris**	**3.77**	**10**	Pn	**Pn**	03 20 14.7	+2.1
IQOM	**Qom**	**4.03**	**85**	Pn	**Pn**	03 20 17.8	+1.6
IMRD	**Marand**	**4.12**	**355**	Pn	**Pn**	03 20 19.5	+2.1
SIRN	**Sirnak**	**4.20**	**314**	P	**Pn**	03 20 18.4	-0.1
SIRN				S	**Sn**	03 21 05.0	-2.7
SIRN				*i* AML	AML	03 21 41.0	
	comp=E,178nm,0.6s						
SIRN				*i* AML	AML	03 21 49.0	
	comp=E,220nm,0.8s						
IPIR	**Pirpir**	**4.37**	**115**	Pn	**Pn**	03 20 21.7	+0.8
QAMS	**Qamsar**	**4.41**	**100**	Pn	**Pn**	03 20 23.4	+2.0
GRMI	**Germi**	**4.42**	**18**	Pn	**Pn**	03 20 23.2	+1.9
OZAP	**Van, Ozalp-Mer**	**4.42**	**337**	P	**Pn**	03 20 24.6	+3.1
OZAP				S	**Sn**	03 21 16.3	+3.1
JHBN	**Jahan bin**	**4.43**	**121**	Pn	**Pn**	03 20 22.3	+0.5
PERV	**Siirt/Pervari-**	**4.45**	**320**	P	**Pn**	03 20 23.3	+1.4
PERV				S	**Sn**	03 21 08.9	-4.9
PERV				*i* AML	AML	03 21 43.0	
	comp=E,178nm,0.6s						
PERV				*i* AML	AML	03 21 59.0	
	comp=E,143nm,0.9s						
GEVA	**Gevas**	**4.48**	**327**	P	**Pn**	03 20 24.6	+2.4
AKDM	**Akdamar-Van**	**4.53**	**326**	Pn	**Pn**	03 20 24.7	+1.8
VANB	**Van**	**4.57**	**331**	Pn	**Pn**	03 20 25.5	+1.9
IVRN	**Varamin**	**4.58**	**84**	Pn	**Pn**	03 20 25.8	+2.2
ZNGN	**Zangian**	**4.63**	**121**	Pn	**Pn**	03 20 25.3	+0.8
IKLH	**Kolahrood**	**4.66**	**104**	Pn	**Pn**	03 20 26.8	+1.9
MIDY	**Mardin/Midyat-**	**4.78**	**307**	P	**Pn**	03 20 28.0	+1.6
MIDY				S	**Sn**	03 21 16.8	-5.3
VMUR	**Van-Muradiye**	**4.85**	**335**	P	**Pn**	03 20 30.9	+3.4
KRSH	**Karshahi**	**4.97**	**96**	Pn	**Pn**	03 20 30.8	+1.8
ISFB	**Sefidab**	**5.01**	**91**	Pn	**Pn**	03 20 30.9	+1.4
BLIS	**Bitlis-Merkez**	**5.02**	**320**	P	**Pn**	03 20 30.7	+0.9
IBRJ	**Brojen**	**5.03**	**121**	Pn	**Pn**	03 20 30.9	+0.9
GURO	**Guroymak-BITLI**	**5.17**	**321**	Pn	**Pn**	03 20 32.7	+1.0
GURO	**Guroymak-BITLI**	**5.17**	**321**	P	**Pn**	03 20 32.0	+0.4
SVAN	**Silvan-Diyarba**	**5.36**	**313**	Pn	**Pn**	03 20 35.0	+0.7
SVAN	**Silvan-Diyarba**	**5.36**	**313**	P	**Pn**	03 20 34.3	+0.1
SVAN				S	**Sn**	03 21 30.9	-5.3
IGAR	**Gharneh**	**5.36**	**113**	Pn	**Pn**	03 20 35.3	+0.8
IZEF	**Zefreh**	**5.39**	**107**	Pn	**Pn**	03 20 36.8	+1.8
MAZI	**Mazidag**	**5.45**	**303**	Pn	**Pn**	03 20 37.3	+1.7
DORK	**Agr/Tutak/Do**	**5.50**	**331**	P	**Pn**	03 20 37.4	+1.1
MUSM	**Mu-Merkez**	**5.57**	**319**	P	**Pn**	03 20 36.6	-0.6
AGRB	**Hanur-Agry**	**5.58**	**334**	Pn	**Pn**	03 20 41.3	+3.9
TASB	**TASBURUN-IGDIR**	**5.59**	**344**	Pn	Pb	03 20 45.6	-6.2
GNI	**Garni**	**5.65**	**349**	Pn	**Pn**	03 20 36.9	-1.6
GNI	**Garni**	**5.65**	**349**	Pn	**Pn**	03 20 37.6	-0.8
	comp=E,2.4nm,0.6s,baz=37,slow=22,SNR=1.1						
GNI				Pg	**Pb**	03 20 55.6	+2.6
	comp=E,0.8nm,0.3s,baz=210,slow=3.3,SNR=3.3						
GNI				Sn	**Sn**	03 21 39.1	-4.5
	comp=E,0.2nm,0.3s,baz=178,slow=16,SNR=1.8						
GNI				Lg	Lg	03 22 07.4	
	comp=E,0.7nm,0.3s,baz=194,slow=15,SNR=1.2						
KLNJ	**Kolanjah**	**5.79**	**127**	Pn	**Pn**	**03 20 40.5**	**0.0**
IRAM	**Ramesheh**	**5.89**	**117**	Pn	**Pn**	03 20 42.8	+1.0
DYBB	**Diyarbakir**	**5.92**	**306**	Pn	**Pn**	03 20 43.3	+1.3
PTK	**Pertek**	**6.93**	**310**	Pn	**Pn**	03 20 57.5	+1.5
DSBU	**Dashti - Bushe**	**7.58**	**144**	Pn	**Pn**	03 21 05.1	+0.3
GAZ	**Gaziantep**	**7.72**	**292**	Pn	Pn	03 21 11.9	+5.2
ARPR	**Arapgir-MALATY**	**7.72**	**308**	Pn	**Pn**	03 21 06.7	-0.2
KMRS	**Kahramanmaras**	**8.06**	**294**	Pn	Pn	03 21 16.2	+4.9
ASF	**Jabal al Asfar**	**8.14**	**255**	Pn	**Pn**	**03 21 12.3**	**-0.2**
	comp=E,1.1nm,0.3s,baz=62,slow=23,SNR=16						
ASF				Lg	Lg	03 23 26.4	
	comp=E,0.9nm,0.3s,baz=32,slow=20,SNR=2.2						
	comp=E,2.7nm,0.3s						
MMAI	**Mount Meron Ar**	**9.11**	**263**	Pn	**Pn**	**03 21 25.9**	**+0.1**
	comp=E,1.7nm,0.3s,baz=67,slow=16,SNR=9.1						
	comp=E,1.7nm,0.5s						
BALJ	**Balqa**	**9.17**	**257**	Pn	**Pn**	03 21 26.3	-0.3
GHAJ	**Ghor Haditha**	**9.51**	**253**	Pn	**Pn**	03 21 32.3	+1.1
EIL	**Elat**	**10.72**	**246**	Pn	**Pn**	03 21 49.6	+1.8
	comp=E,0.5nm,0.3s,baz=111,slow=8.4,SNR=4.3						
	comp=E,2.2nm,0.6s						
BRTR	**Keskin Array B**	**11.24**	**301**	Pn	**Pn**	**03 21 54.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=72,slow=14,SNR=1.6						
UOSS	**Minazif**	**12.97**	**135**	Pn	**Pn**	03 22 15.8	-2.7
WSAR	**Wadi Sarin**	**15.70**	**133**	Pn	**Pn**	03 22 52.9	-2.6
	comp=E,2.0nm,0.3s,baz=310,slow=9.7,SNR=10						
ABKAR	**Akbulak array**	**17.82**	**31**	P	**Pn**	**03 23 21.6**	**-0.5**
ABKAR	**Akbulak array**	**17.82**	**31**	P	**Pn**	**03 23 22.5**	**+0.4**
AKTO	**Aktyubinsk**	**18.03**	**25**	P	**Pn**	**03 23 24.3**	**-0.4**
	comp=E,2.2nm,0.3s,baz=202,slow=10,SNR=4.1						
	comp=E,2.1nm,0.5s						
SORM	**Soroca**	**18.96**	**321**	⇓P	**Pn**	**03 23 36.4**	**+0.3**
TURR	**Turia**	**19.11**	**313**	⇑P	**Pn**	**03 23 39.7**	**+1.7**
VOIR		**19.41**	**310**	⇑P	**Pn**	**03 23 42.7**	**+1.0**
DOPR	**Dopca**	**19.45**	**312**	⇓P	**Pn**	**03 23 42.9**	**+0.9**
ARR	**Arges**	**19.64**	**310**	⇓P	**Pn**	**03 23 45.5**	**+1.0**
AKASG	**Malin Array Be**	**20.28**	**328**	P	**P**	**03 23 48.4**	**-1.5**
	comp=E,1.5nm,0.3s,baz=139,slow=9.0,SNR=13						
	comp=E,1.4nm,0.5s						
AKBB	**Malin Array Si**	**20.28**	**328**	P	**P**	**03 23 49.3**	**-0.5**
AKBB				IAmb	IAmb	03 23 55.6	
	comp=E,5.5nm,0.8s						
KIEV	**Kiev**	**20.28**	**328**	P	**P**	**03 23 49.9**	**0.0**
KIEV				IAmb	IAmb	03 23 55.6	
	comp=Z,4.8nm,0.7s						
BLKB	**Belogradchik**	**20.29**	**303**	⇑P	Pn	03 23 52.5	+0.4
BURAR	**Bucovina Array**	**20.38**	**316**	⇓P	Pn	03 23 52.5	-0.6
BURAR	**Bucovina Array**	**20.38**	**316**	P	**P**	**03 23 51.5**	**+0.4**
BUR08	**Bucovina Ar. S**	**20.40**	**316**	P	**P**	**03 23 51.1**	**-0.3**
BUR08				IAmb	IAmb	03 24 00.7	
	comp=Z,3.9nm,0.8s						
FNA	**Florina**	**20.54**	**295**	P	**P**	**03 23 51.6**	**-1.3**
ARCR	**ARCALIA**	**20.61**	**314**	⇑P	**P**	**03 23 53.9**	**+0.4**
KK31	**Karatay Array**	**20.70**	**59**	P	**P**	**03 23 52.1**	**-2.5**
KKAR	**Karatay Array**	**20.70**	**59**	P	**P**	**03 23 52.6**	**-2.0**
GZR	**Gura Zlata**	**20.85**	**308**	⇓P	**P**	**03 23 56.9**	**+0.8**
BOVS	**Bovan**	**20.96**	**303**	⇓P	**P**	**03 23 58.5**	**+1.1**
MARR	**Marisel-Cluj**	**21.17**	**312**	⇑P	**P**	**03 23 59.3**	**-0.4**
DRGR		**21.47**	**312**	⇑P	**P**	**03 24 02.4**	**-0.5**
PUK	**Puka**	**21.87**	**298**	P	**P**	**03 24 07.0**	**-0.2**
PUK				IAmb	IAmb	03 24 12.1	
	comp=Z,9.4nm,1.1s						
AAK	**Ala-Archa**	**23.45**	**62**	P	**P**	**03 24 22.2**	**-1.7**
AAK				IAmb	IAmb	03 24 27.9	
	comp=Z,2.1nm,0.6s						
KSH	**Kashi**	**24.21**	**70**	P	**P**	**03 24 27.3**	**-3.9**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BVAR	**Borovoye Array**	**25.18**	**36**	P	**P**	**03 24 41.2**	**+1.5**
	comp=Z,2.1nm,0.6s,baz=234,slow=8.3,SNR=9.5						
	comp=Z,2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**28.39**	**46**	P	**P**	**03 25 09.7**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=253,slow=9.0,SNR=8.8						
	comp=Z,0.9nm,0.6s						
WTTA	**Wattenberg**	**28.76**	**307**	*e*P	**P**	**03 25 10.0**	**-2.2**
	comp=Z,2.0nm,0.5s						
SQTA	**Sankt Quirin**	**29.03**	**306**	*e*P	**P**	**03 25 14.2**	**-0.4**
	comp=Z,0.8nm,0.3s						
MOTA	**Moosalm**	**29.13**	**307**	*e*P	**P**	**03 25 15.1**	**-0.3**
	comp=Z,0.6nm,0.4s						
FETA	**Feichten**	**29.31**	**306**	P	**P**	**03 25 17.0**	**-0.1**
	comp=Z,0.9nm,0.5s						
MK31	**Makanchi Array**	**29.70**	**55**	P	**P**	**03 25 16.5**	**-3.9**
MK31				IAmb	IAmb	03 25 22.6	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**29.70**	**55**	P	**P**	**03 25 18.4**	**-

PETK	**Petropavlovsk-**	**2.25**	**92**	P		**P**		**03 25 44.8**	**-0.3**
	393nm,0.4s,baz=288,slow=1.7,SNR=564								
GNL	**Ganaly**	**2.41**	**78**	PN		**P**		**03 25 47.1**	**+1.0**
GNL	**Ganaly**	**2.41**	**78**	*e*P		**P**		**03 25 47.1**	**+1.0**
PAU	**Pauzhetka**	**2.49**	**135**	PN		**P**		**03 25 47.9**	**+1.4**
PAU	**Pauzhetka**	**2.49**	**135**	*e*P		**P**		**03 25 47.9**	**+1.4**
ASAK	**Asacha**	**2.53**	**108**	PN		**P**		**03 25 47.0**	**+0.2**
ASAK				S		**S**		**03 26 40.1**	**-0.9**
ASAK	**Asacha**	**2.53**	**108**	*e*P		**P**		**03 25 47.0**	**+0.2**
ASAK				*e*S		**S**		**03 26 40.1**	**-0.9**
KRMR	**Karymshinskiy**	**2.54**	**98**	PN		**P**		**03 25 47.0**	**+0.3**
KRMR	**Karymshinskiy**	**2.54**	**98**	*e*P		**P**		**03 25 47.0**	**+0.3**
GRL	**Gorelyy**	**2.58**	**104**	PN		**P**		**03 25 47.6**	**+0.4**
GRL	**Gorelyy**	**2.58**	**104**	*e*P		**P**		**03 25 47.5**	**+0.4**
MTVR	**Mutnovka**	**2.66**	**105**	PN		**P**		**03 25 47.7**	**0.0**
MTVR				S		**S**		**03 26 41.4**	**-1.2**
MTVR	**Mutnovka**	**2.66**	**105**	*e*P		**P**		**03 25 47.7**	**0.0**
MTVR				*e*S		**S**		**03 26 41.4**	**-1.2**
KOK	**Koryaka**	**2.80**	**87**	PN		**P**		**03 25 49.0**	**+0.5**
KOK	**Koryaka**	**2.80**	**87**	*e*P		**P**		**03 25 49.0**	**+0.5**
KRX	**Arik**	**2.81**	**86**	PN		**P**		**03 25 49.1**	**+0.5**
KRX	**Arik**	**2.81**	**86**	*e*P		**P**		**03 25 49.1**	**+0.5**
PET	**Petropavlovsk**	**2.83**	**93**			**P**		**03 25 48.6**	**+0.1**
PET	**Petropavlovsk**	**2.83**	**93**	*i*PN		**P**		**03 25 48.6**	**+0.1**
PET				*e*S		**S**		**03 26 41.7**	**-2.5**
PET				pmax	pmax				
	comp=Z,1μm,0.6s								
PET				smax	smax				
	comp=N,152nm,0.8s								
PET	**Petropavlovsk**	**2.83**	**93**	*e*P		**P**		**03 25 48.6**	**+0.1**
PET				*e*S		**S**		**03 26 42.3**	**-1.9**
AVH	**Avacha**	**2.86**	**88**	PN		**P**		**03 25 49.3**	**+0.4**
AVH	**Avacha**	**2.86**	**88**	*e*P		**P**		**03 25 49.3**	**+0.4**
RUS	**Russkaya**	**2.87**	**105**	PN		**P**		**03 25 47.9**	**-0.9**
RUS				S		**S**		**03 26 41.1**	**-3.7**
RUS	**Russkaya**	**2.87**	**105**	*e*P		**P**		**03 25 47.9**	**-0.9**
RUS				*e*S		**S**		**03 26 41.1**	**-3.7**
DALK	**Dalny**	**2.89**	**92**	PN		**P**		**03 25 48.7**	**-0.2**
DALK				S		**S**		**03 26 42.6**	**-2.3**
DALK	**Dalny**	**2.89**	**92**	*e*P		**P**		**03 25 48.7**	**-0.2**
DALK				*e*S		**S**		**03 26 42.6**	**-2.3**
SKR	**Severo-Kuril's**	**2.89**	**152**	*e*PN		**P**		**03 25 49.2**	**+0.1**
SKR				*e*S		**S**		**03 26 42.0**	**-3.0**
SKR				pmax	pmax				
	comp=Z,75nm,0.3s								
SKR				smax	smax				
	comp=E,368nm,0.7s								
SKR				smax	smax				
	comp=N,356nm,0.8s								
SKR				MLR	MLR				
	comp=Z,4μm,14.0s								
KDTR	**Khodutka, Kamc**	**2.89**	**118**	PN		**P**		**03 25 47.5**	**-1.5**
KDTR				S		**S**		**03 26 40.3**	**-4.7**
KDTR	**Khodutka, Kamc**	**2.89**	**118**	*e*P		**P**		**03 25 47.5**	**-1.5**
KDTR				*e*S		**S**		**03 26 40.3**	**-4.7**
SMAR	**Somma**	**2.90**	**88**	PN		**P**		**03 25 49.6**	**+0.3**
SMAR	**Somma**	**2.90**	**88**	*e*P		**P**		**03 25 49.6**	**+0.3**
UGLR	**Uglovaya**	**2.92**	**89**	PN		**P**		**03 25 49.9**	**+0.6**
UGLR	**Uglovaya**	**2.92**	**89**	*e*P		**P**		**03 25 49.9**	**+0.6**
KII	**Karymskiy**	**3.35**	**74**	PN		**P**		**03 25 52.3**	**0.0**
KII	**Karymskiy**	**3.35**	**74**	*e*P		**P**		**03 25 52.3**	**0.0**
SPN	**Mys Shipunski**	**3.64**	**90**	PN		**P**		**03 25 53.2**	**-1.3**
SPN	**Mys Shipunski**	**3.64**	**90**	*e*P		**P**		**03 25 53.2**	**-1.3**
ESO	**Esso**	**3.84**	**44**	PN		**P**		**03 25 58.6**	**+2.6**
ESO	**Esso**	**3.84**	**44**	*e*P		**P**		**03 25 58.6**	**+2.6**
TUMR	**Tumrok**	**4.15**	**58**	PN		**P**		**03 25 59.3**	**+0.6**
TUMR				S		**S**		**03 27 00.8**	**-2.1**
TUMR	**Tumrok**	**4.15**	**58**	*e*P		**P**		**03 25 59.3**	**+0.6**
TUMR				*e*S		**S**		**03 27 00.8**	**-2.1**
TUMD	**Tumrok D**	**4.25**	**60**	*e*P		**P**		**03 25 59.3**	**-0.2**
KMNR	**Kamenistaya**	**4.43**	**53**	PN		**P**		**03 26 01.3**	**+0.2**
KMNR	**Kamenistaya**	**4.43**	**53**	*e*P		**P**		**03 26 01.3**	**+0.2**
KOZ	**Kozyrevsk**	**4.43**	**48**	PN		**P**		**03 26 01.9**	**+0.9**
KOZ	**Kozyrevsk**	**4.43**	**48**	*e*P		**P**		**03 26 01.9**	**+0.9**
SRDR	**Sredinnyy**	**4.53**	**45**	PN		**P**		**03 26 02.8**	**+0.9**
SRDR	**Sredinnyy**	**4.53**	**45**	*e*P		**P**		**03 26 02.8**	**+0.9**
KPT	**Kopyto**	**4.54**	**51**	PN		**P**		**03 26 02.4**	**+0.3**
KPT	**Kopyto**	**4.54**	**51**	*e*P		**P**		**03 26 02.4**	**+0.3**
KIRR	**Kirishev**	**4.59**	**51**	PN		**P**		**03 26 02.5**	**0.0**
KIRR	**Kirishev**	**4.59**	**51**	*e*P		**P**		**03 26 02.5**	**0.0**
BZMR	**Bezymyannaya**	**4.65**	**52**	PN		**P**		**03 26 02.9**	**-0.2**
BZMR	**Bezymyannaya**	**4.65**	**52**	*e*P		**P**		**03 26 02.9**	**-0.2**
BZP	**Bezymyannyi-Pe**	**4.66**	**52**	*e*P		**P**		**03 26 03.0**	**-0.2**
BZWR	**Bezymyannyi-We**	**4.67**	**52**	PN		**P**		**03 26 03.2**	**-0.1**
BZWR	**Bezymyannyi-We**	**4.67**	**52**	*e*P		**P**		**03 26 03.2**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**4.75**	**53**	PN		**P**		**03 26 03.8**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**4.75**	**53**	*e*P		**P**		**03 26 03.8**	**-0.1**
LGNR	**Loginova**	**4.82**	**51**	PN		**P**		**03 26 04.8**	**0.0**
LGNR	**Loginova**	**4.82**	**51**	*e*P		**P**		**03 26 04.8**	**0.0**
ZLN	**Zelenaya**	**4.84**	**52**	PN		**P**		**03 26 05.3**	**+0.5**
ZLN	**Zelenaya**	**4.84**	**52**	*e*P		**P**		**03 26 05.3**	**+0.5**
CIRR	**Tsirk**	**4.87**	**51**	PN		**P**		**03 26 06.1**	**+1.0**
CIRR	**Tsirk**	**4.87**	**51**	*e*P		**P**		**03 26 06.1**	**+1.0**
KLY	**Klyuchi**	**4.94**	**49**	PN		**P**		**03 26 05.9**	**+0.4**
KLY				S		**S**		**03 27 12.7**	**-2.5**
KLY	**Klyuchi**	**4.94**	**49**	*e*P		**P**		**03 26 05.9**	**+0.4**
KLY				*e*S		**S**		**03 27 12.7**	**-2.5**
BDR	**Baidarnaya**	**5.34**	**49**	PN		**P**		**03 26 09.5**	**+0.2**
BDR	**Baidarnaya**	**5.34**	**49**	*e*P		**P**		**03 26 09.5**	**+0.2**
SRKR	**Sorokina**	**5.37**	**48**	*e*S		**S**		**03 27 19.7**	**-3.0**
SMKR	**Semkarok**	**5.46**	**49**	PN		**P**		**03 26 10.6**	**+0.1**
SMKR	**Semkarok**	**5.46**	**49**	*e*P		**P**		**03 26 10.6**	**+0.1**
KBG	**Krutoberegovo**	**5.88**	**56**	*e*S		**S**		**03 27 25.1**	**-6.6**
MA2	**Magadan**	**6.59**	**346**	PN		**P**		**03 26 22.3**	**+0.9**
MA2	**Magadan**	**6.59**	**346**	P		**P**		**03 26 22.2**	**+0.8**
	comp=Z,126nm,0.6s,baz=148,slow=9.1,SNR=66								
PALN	**Palana**	**6.74**	**27**	PN		**P**		**03 26 23.4**	**+0.5**
PALN	**Palana**	**6.74**	**27**	*e*P		**P**		**03 26 23.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**9.57**	**233**	*i*PN		**P**		**03 26 51.9**	**-0.9**
YSS				pmax	pmax				
	comp=Z,63nm,1.6s								
SEY	**Seymchan**	**9.75**	**356**	P		**P**		**03 26 55.8**	**+1.3**
	comp=Z,117nm,0.6s,baz=166,slow=9.2,SNR=192								
SHO	**Shikotan**	**10.50**	**210**	*e*PN		**P**		**03 27 01.0**	**-1.8**
SHO				pmax	pmax				
	comp=Z,248nm,0.3s								
SHO				pmax	pmax				
	comp=E,78nm,0.2s								
SHO				pmax	pmax				
	comp=N,109nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**10.66**	**213**	*e*PN		**P**		**03 27 04.9**	**+0.4**
YUK				*e*S		**S**		**03 29 01.5**	**-1.8**
YUK				pmax	pmax				
	comp=E,86nm,0.4s								
YUK				pmax	pmax				
	comp=Z,135nm,0.4s								
YUK				pmax	pmax				
	comp=N,28nm,0.2s								
GRNR	**Gornyy**	**11.10**	**264**	*i*PN		**P**		**03 27 11.2**	**+2.1**
GRNR				pmax	pmax				
	comp=E,30nm,0.7s								
GRNR				pmax	pmax				
	comp=N,20nm,1.0s								
GRNR				pmax	pmax				
	comp=Z,50nm,0.6s								
GRNR				MLR	MLR				
	comp=N,920nm,14.0s								
GRNR				MLR	MLR				
	comp=E,2μm,14.0s								
GRNR				MLR	MLR				
	comp=Z,2μm,16.0s								
NMR	**Nemuro--Hokkai**	**11.30**	**212**	*e*PN		**P**		**03 27 07.8**	**-3.5**
ERM	**Erimo**	**13.38**	**217**	P		**P**		**03 27 33.3**	**-0.2**
ERM	**Erimo**	**13.38**	**217**	PN		**P**		**03 27 33.3**	**-0.2**
KLR	**Kul'dur**	**14.47**	**263**	P		**P**		**03 27 46.1**	**+1.0**
	comp=Z,14nm,0.6s,baz=71,slow=8.5,SNR=50								
JTM	**Tenmabayashi**	**15.23**	**220**	P		**P**		**03 27 51.8**	**-1.2**
YAK	**Yakutsk**	**15.61**	**314**	*e*P		**P**		**03 27 54.9**	**-1.9**
YAK				*e*S		**S**		**03 30 37.5**	**-1.5**
YAK				pmax	pmax				
	comp=Z,17nm,0.9s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.5s								
YAK				pmax	pmax				
	comp=E,1.0nm,0.6s								
YAK				smax	smax				
	comp=E,1μm,7.3s								
YAK				smax	smax				
	comp=N,672nm,6.9s								
YAK	**Yakutsk**	**15.61**	**314**	P		**P**		**03 27 56.0**	**-0.8**
	comp=N,20nm,0.4s,baz=108,slow=9.6,SNR=6.1								
ZEA	**Zeya**	**15.88**	**283**	*e*P		**P**		**03 27 59.6**	**-0.2**
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.5s								
BILL	**Bilibino**	**15.96**	**17**	*i*P		**P**		**03 27 59.8**	**-0.6**
HEH	**HeiHe**	**16.68**	**270**	*e*P		**P**		**03 28 05.9**	**-2.4**
HEH				pmax	pmax				
	comp=Z,19nm,0.7s								
USA0B	**Ussuriysk Arra**	**17.04**	**247**	P		**P**		**03 28 10.7**	**-1.3**
USA0B	**Ussuriysk Arra**	**17.04**	**247**	P		**P**		**03 28 10.7**	**-1.3**
USA0B				pmax	pmax				
	comp=Z,39nm,1.4s								
USRK	**Ussuriysk Ar.**	**17.04**	**247**	P		**P**		**03 28 11.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**17.04**	**247**	P		**P**		**03 28 11.9**	**-0.1**
	comp=Z,2.9nm,0.4s,baz=62,slow=9.1,SNR=14								
JMM	**Marumori**	**17.89**	**216**	P		**P**		**03 28 19.9**	**-0.5**
ATKA	**Atka Island**	**19.23**	**80**	P		**P**		**03 28 34.2**	**+1.7**
ATKA				IAmb	IAmb			03 28 52.4	
	comp=Z,13nm,1.1s								
MJB9	**Matsu-Tunnel**	**20.02**	**220**	P		**P**		**03 28 42.4**	**+2.5**
MAJO	**Matsushiro**	**20.02**	**220**	P		**P**		**03 28 41.6**	**+1.7**
MAJO	**Matsushiro**	**20.02**	**220**	P		**P**		**03 28 41.6**	**+1.7**
MAJO				pmax	pmax				
	comp=Z,33nm,0.6s								
MJAR	**Matsushiro Arr**	**20.02**	**220**	P		**P**		**03 28 41.7**	**+1.8**
	comp=Z,16nm,0.6s,baz=17,slow=10,SNR=36								
	comp=Z,16nm,0.6s								
GAMB	**Gambell**	**20.52**	**46**	P		**P**		**03 28 45.2**	**+1.1**
	baz=255								
CN2	**Changchun**	**21.00**	**255**	P		**P**		**03 28 48.1**	**-0.6**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
TIXI	**Tiksi**	**21.49**	**338**	P		**P**		**03 28 53.3**	**+0.5**
TIXI	**Tiksi**	**21.49**	**338**	P		**P**		**03 28 53.3**	**+0.5**
TIXI				pmax	pmax				
	comp=Z,48nm,0.7s								
HIA	**Hailar**	**21.66**	**273**	P		**P**		**03 28 54.3**	**-0.4**
HIA	**Hailar**	**21.66**	**273**	P		**P**		**03 28 54.3**	**-0.4**
HIA				pmax	pmax				
	comp=Z,35nm,0.7s								
TNA	**Tin City**	**22.55**	**42**	P		**P**		**03 29 03.4**	**+1.0**
	baz=256,SNR=6.3								
F14K	**Arctic Creek**	**23.17**	**43**	P		**P**		**03 29 09.3**	**+1.3**
	baz=258								
ANM	**Nome**	**23.39**	**45**	P		**P**		**03 29 10.6**	**+0.6**
ANM	**Nome**	**23.39**	**45**	P		**P**		**03 29 11.1**	**+1.1**
	baz=261								
ANM	**Nome**	**23.39**	**45**	P		**P**		**03 29 10.6**	**+0.6**
ANM				pmax	pmax				
	comp=Z,4.0nm,0.6s								
F15K	**North Star Dit**	**23.90**	**42**	P		**P**		**03 29 16.1**	**+1.5**
	baz=259								
KSRS	**Korea Array**	**23.98**	**239**	P		**P**		**03 29 16.3**	**+0.8**
	comp=Z,5.7nm,0.8s,baz=41,slow=7.9,SNR=14								
	comp=Z,5.7nm,0.8s								
J14K	**Nanvaranak Lak**	**23.99**	**50**	P		**P**		**03 29 16.2**	**+0.9**
	baz=267								
G15K	**Niukluk**	**24.03**	**44**	P		**P**		**03 29 16.8**	**+1.2**
	baz=261								
M13K	**Dall Lake**	**24.05**	**56**	P		**P**		**03 29 17.7**	**+1.8**
	baz=272								
C16K	**Lisburne Hills**	**24.29**	**36**	IAmb	IAmb			03 29 19.1	
	comp=Z,20nm,1.2s								
C16K	**Lisburne Hills**	**24.29**	**36**	P		**P**		**03 29 18.2**	**+0.4**
	baz=252								
L14K	**Kuka Creek**	**24.36**	**53**	P		**P**		**03 29 20.0**	**+1.4**
	baz=270								
M14K	**Bethel**	**24.73**	**55**	P		**P**		**03 29 23.1**	**+1.2**
M14K				IAmb	IAmb			03 29 23.8	
	comp=Z,17nm,0.8s								
M14K	**Bethel**	**24.73**	**55**	P		**P**		**03 29 23.1**	**+1.2**
	baz=272								
H16K	**Elim**	**24.74**	**45**	P		**P**		**03 29 22.8**	**+0.9**
	baz=264,SNR=6.9								
G16K	**Koyuk River**	**24.79**	**44**	P		**P**		**03 29 23.5**	**+1.1**
	baz=262								
N14K	**Kuskokwak Cree**	**24.91**	**57**	P		**P**		**03 29 24.7**	**+1.2**
	baz=274								
K15K	**Wolf Creek Mou**	**24.91**	**51**	P		**P**		**03 29 24.8**	**+1.2**
	baz=270								
L15K	**Ungalak Mounta**	**24.93**	**53**	P		**P**		**03 29 24.9**	**+1.2**
	baz=271								
C17K	**DeLong Mountai**	**25.11**	**36**	P		**P**		**03 29 26.1**	**+0.9**
	baz=254,SNR=16								
O14K	**Tigyukauivet M**	**25.18**	**58**	P		**P**		**03 29 27.1**	**+1.2**
	baz=276								
E17K	**Hotham Inlet**	**25.29**	**40**	P		**P**		**03 29 27.1**	**+0.3**
	baz=259,SNR=28								
I17K	**Unalakleet**	**25.35**	**47**	P		**P**		**03 29 28.4**	**+1.0**
I17K				IAmb	IAmb			03 29 29.2	
	comp=Z,8.3nm,0.6s								
I17K	**Unalakleet**	**25.35**	**47**	P		**P**		**03 29 28.3**	**+1.0**
	baz=267								
M15K	**Kasigluk River**	**25.35**	**55**	P		**P**		**03 29 28.4**	**+1.0**
	baz=274								
F17K	**Baldwin Pennin**	**25.40**	**41**	P		**P**		**03 29 28.7**	**+0.9**
	baz=261								
G17K	**Kiwalik Mounta**	**25.51**	**44**	P		**P**		**03 29 29.9**	**+1.1**
	baz=264								
N15K	**Kwethluk River**	**25.69**	**56**	P		**P**		**03 29 31.6**	**+1.2**
	baz=275								
H17K	**Granite Mounta**	**25.76**	**45**	P		**P**		**03 29 32.2**	**+1.1**
	baz=265,SNR=5.0								
B18K	**Kokolik River**	**25.84**	**35**	P		**P**		**03 29 32.9**	**+1.3**
	baz=254								
C18K	**Utukok River**	**25.86**	**36**	IAmb	IAmb			03 29 33.2	
	comp=Z,13nm,1.1s								
C18K	**Utukok River**	**25.86**	**36**	P		**P**		**03 29 32.4**	**+0.5**
	baz=256,SNR=15								
L16K	**Owhat River**	**25.89**	**52**	P		**P**		**03 29 32.4**	**+0.2**
L16K	**Owhat River**	**25.89**	**52**	P		**P**		**03 29 32.9**	**+0.7**
	baz=272								
O15K	**Ungalikthiuk R**	**25.93**	**58**	P		**P**		**03 29 33.4**	**+0.9**
	baz=277								
M16K	**Timber Creek**	**26.18**	**54**	P		**P**		**03 29 35.8**	**+1.1**
	baz=274								
N16K	**Nishlik Lake**	**26.31**	**55**	P		**P**		**03 29 37.1**	**+1.1**
	baz=276								
A19K	**Wainwright**	**26.32**	**33**	P		**P**		**03 29 36.5**	**+0.7**
	baz=254								
G18K	**Tagagawik**	**26.37**	**43**	P		**P**		**03 29 37.3**	**+0.8**
	baz=265,SNR=19								
K17K	**Iditarod**	**26.41**	**50**	P		**P**		**03 29 38.0**	**+1.2**
	baz=271								
L17K	**Donlin**	**26.43**	**51**	P		**P**		**03 29 38.1**	**+1.1**
	baz=273								
H18K	**Honhosa River**	**26.43**	**45**	IAmb	IAmb			03 29 38.7	
	comp=Z,17nm,0.8s								
H18K	**Honhosa River**	**26.43**	**45**	P		**P**		**03 29 37.9**	**+0.9**
	baz=266								
XLT	**XiLinHaoTe**	**26.48**	**265**	*e*P		**P**		**03 29 37.8**	**+0.1**
XLT				pmax	pmax				
	comp=Z,13nm,0.6s								
XLT				pmax	pmax				
	comp=Z,630nm,7.1s								
C19K	**Lookout Ridge**	**26.54**	**36**	P		**P**		**03 29 38.7**	**+0.8**
	baz=257,SNR=9.0								
O16K	**Kokwok River B**	**26.75**	**57**	P		**P**		**03 29 40.3**	**+0.5**
O16K				IAmb	IAmb			03 29 52.2	
	comp=Z,15nm,1.4s								
O16K	**Kokwok River B**	**26.75**	**57**	P		**P**		**03 29 40.4**	**+0.6**
	baz=278								
F19K	**Shaleruckik Mo**	**26.83**	**41**	IAmb	IAmb			03 29 41.6	
	comp=Z,14nm,0.7s								
F19K	**Shaleruckik Mo**	**26.83**	**41**	P		**P**		**03 29 41.0**	**+0.6**
	baz=264								
M17K	**Holitna River**	**26.88**	**53**	P		**P**		**03 29 42.2**	**+1.2**
	baz=275								
P16K	**Nushagak River**	**26.88**	**58**	P		**P**		**03 29 42.2**	**+1.2**
	baz=279								
D19K	**Kuna River**	**26.94**	**37**	IAmb	IAmb			03 29 42.7	
	comp=Z,20nm,0.8s								
D19K	**Kuna River**	**26.94**	**37**	P		**P**		**03 29 42.0**	**+0.6**
	baz=260								
G19K	**Purcell Mounta**	**27.03**	**42**	IAmb	IAmb			03 29 43.3	
	comp=Z,10nm,0.7s								
G19K	**Purcell Mounta**	**27.03**	**42**	P		**P**		**03 29 42.7**	**+0.5**
	baz=266								
E19K	**Redstone River**	**27.11**	**40**	P		**P**		**03 29 43.9**	**+1.0**
	baz=263								
J18K	**Innoko River**	**27.11**	**48**	P		**P**		**03 29 43.8**	**+0.8**
	baz=271								
L18K	**Granite Mounta**	**27.18**	**51**	P		**P**		**03 29 44.7**	**+1.2**
	baz=274								
O17K	**Koliganek Bris**	**27.23**	**56**	P		**P**		**03 29 44.8**	**+0.8**
	baz=278								
H19K	**Roundabout Mou**	**27.26**	**44**	P		**P**		**03 29 45.1**	**+0.9**
	baz=268,SNR=19								
TTA	**Tatalina**	**27.45**	**50**	P		**P**		**03 29 46.5**	**+0.5**
TTA				IAmb	IAmb			03 29 47.5	
	comp=Z,11nm,0.6s								
TTA	**Tatalina**	**27.45**	**50**	P		**P**		**03 29 46.8**	**+0.8**
	baz=273,SNR=7.1								
TTA	**Tatalina**	**27.45**	**50**	P		**P**		**03 29 46.5**	**+0.5**
TTA				pmax	pmax				
	comp=Z,11nm,0.6s								
D20K	**Etivluk River**	**27.52**	**37**	P		**P**		**03 29 47.3**	**+0.8**
	baz=261								
B20K	**Meade River**	**27.57**	**34**	P		**P**		**03 29 47.5**	**+0.7**
	baz=258								
J19K	**Poorman**	**27.59**	**47**	IAmb	IAmb			03 29 48.5	
	comp=Z,19nm,1.4s								
J19K	**Poorman**	**27.59**	**47**	P		**P**		**03 29 47.6**	**+0.5**
	baz=271								
E20K	**Nigu River**	**27.61**	**38**	P		**P**		**03 29 48.1**	**+0.8**
	baz=262								
M18K	**Stony River**	**27.64**	**53**	P		**P**		**03 29 49.0**	**+1.4**
	baz=276								
F20K	**Avaraart Lake**	**27.65**	**41**	P		**P**		**03 29 48.2**	**+0.6**
	baz=265								
N18K	**Kilae Creek**	**27.70**	**54**	P		**P**		**03 29 49.5**	**+1.2**
	baz=277								
H20K	**Anotleneega Mo**	**27.91**	**44**	P		**P**		**03 29 50.5**	**+0.6**
	baz=269								
A21K	**Barrow**	**28.04**	**31**	P		**P**		**03 29 51.3**	**+0.4**
	baz=256,SNR=18								
L19K	**White Mountain**	**28.04**	**51**	P		**P**		**03 29 51.8**	**+0.7**
	baz=275								
I20K	**Naaghedeneel**	**28.08**	**45**	P		**P**		**03 29 52.6**	**+1.2**
	baz=271								
O18K	**Koktuh Hills**	**28.16**	**56**	P		**P**		**03 29 52.9**	**+0.7**
	baz=279								
P18K	**Big Mountain,**	**28.23**	**57**	P		**P**		**03 29 53.6**	**+0.8**
J20K	**Nowinta River**	**28.23**	**47**	IAmb	IAmb			03 29 54.4	
	comp=Z,12nm,0.9s								
J20K	**Nowinta River**	**28.23**	**47**	P		**P**		**03 29 53.7**	**+0.9**
	baz=272								
C21K	**Knifeblade Rid**	**28.24**	**36**	P		**P**		**03 29 54.0**	**+1.2**
	baz=262,SNR=18								
M19K	**Big River Lodg**	**28.28**	**52**	P		**P**		**03 29 54.3**	**+1.0**
	baz=276								
K20K	**Telida**	**28.31**	**48**	IAmb	IAmb			03 29 55.2	
	comp=Z,16nm,1.4s								
K20K	**Telida**	**28.31**	**48**	P		**P**		**03 29 54.5**	**+1.0**
	baz=274								
B21K	**Ikpikpuk River**	**28.36**	**35**	P		**P**		**03 29 54.8**	**+1.0**
	baz=262								
N19K	**Bonanza Creek**	**28.37**	**54**	P		**P**		**03 29 55.3**	**+1.2**
	baz=278								
IMAR	**Indian Mountai**	**28.39**	**43**	P		**P**		**03 29 54.7**	**+0.6**
L20K	**Farewell, AK**	**28.46**	**50**	P		**P**		**03 29 55.7**	**+0.8**
	baz=276								
A22K	**Sinclair Lake**	**28.49**	**32**	P		**P**		**03 29 55.6**	**+0.7**
	baz=259								
G21K	**Allakaket**	**28.50**	**42**	IAmb	IAmb			03 29 56.8	
	comp=Z,13nm,1.0s								
G21K	**Allakaket**	**28.50**	**42**	P		**P**		**03 29 56.0**	**+0.9**
	baz=268								
F21K	**Alatna River**	**28.54**	**40**	P		**P**		**03 29 56.1**	**+0.7**
	baz=267								
H21K	**Melozitna Rive**	**28.77**	**44**	P		**P**		**03 29 58.2**	**+0.7**
	baz=271								
M20K	**Styx River**	**28.88**	**51**	P		**P**		**03 29 60.0**	**+1.4**
M20K				IAmb	IAmb			03 30 00.8	
	comp=Z,9.1nm,0.6s								
M20K	**Styx River**	**28.88**	**51**	P		**P**		**03 29 59.9**	**+1.4**
	baz=277								
B22K	**Teshekpuk Lake**	**28.88**	**34**	P		**P**		**03 29 59.0**	**+0.7**
	baz=262								
D22K	**Ayikyak River**	**28.96**	**37**	P		**P**		**03 30 00.1**	**+1.0**
	baz=265,SNR=31								
CHUM	**Lake Minchumin**	**29.05**	**47**	P		**P**		**03 30 01.3**	**+1.4**
	baz=274								
F22K	**John River**	**29.05**	**40**	P		**P**		**03 30 01.0**	**+1.1**
	baz=268								
Q19K	**Cape Douglas,**	**29.12**	**58**	P		**P**		**03 30 01.5**	**+0.9**
	baz=282								
CAST	**Castle Rocks**	**29.19**	**48**	P		**P**		**03 30 02.3**	**+1

comp=Z,9.0nm,1.0s
CCB Clear Creek Bu 30.94 45 IAmb IAmb 03 30 17.8
comp=Z,19nm,1.2s
HHC Hu-ho-hao-te 30.98 264 *e*P P 03 30 16.4 -0.7
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,2µm,5.3s
POKR Poker Plat Res 31.05 44 IAmb IAmb 03 30 19.6
comp=Z,12nm,0.6s
POKR Poker Plat Res 31.05 44 P P 03 30 18.8 +1.6
baz=276,SNR=9.4
SML Sawmill 31.14 51 P P 03 30 18.9 +0.8
baz=281,SNR=8.9
KNK Knik Glacier 31.15 52 P P 03 30 19.0 +0.8
baz=282,SNR=5.2
D25K Kavik River 31.24 36 P P 03 30 19.6 +0.7
baz=270
WAT6 Susitna Watana 31.27 49 P P 03 30 19.5 +0.1
baz=280
IL31 31.32 45 IAmb IAmb 03 30 21.2
comp=Z,11nm,0.9s
ILAR Eielson Array 31.32 45 P P 03 30 19.9 +0.4
comp=Z,8.6nm,0.8s,baz=262,slow=6.6,SNR=108
ILAR ScP ScP 03 35 53.9 -1.7
comp=Z,0.6nm,0.8s,baz=291,slow=4.4,SNR=4.6
comp=Z,8.6nm,0.8s
HDA Harding Lake 31.34 46 IAmb IAmb 03 30 20.5
comp=Z,8.5nm,0.8s
HDA Harding Lake 31.34 46 P P 03 30 19.9 +0.2
baz=278,SNR=5.9
DHY Denali Highway 31.35 48 IAmb IAmb 03 30 21.9
comp=Z,7.6nm,0.5s
DHY Denali Highway 31.35 48 P P 03 30 20.3 +0.3
baz=280,SNR=6.4
HNS HongShan 31.36 256 ⇑P P 03 30 21.4 +1.2
HNS pmax pmax
comp=Z,26nm,1.0s
M23K Glacier View 31.42 51 P P 03 30 21.0 +0.5
baz=281,SNR=5.7
G25K Bearman Lake 31.44 41 P P 03 30 21.7 +1.2
baz=275
E25K Arctic Village 31.56 39 P P 03 30 22.5 +0.9
E25K IAmb IAmb 03 30 23.7
comp=Z,12nm,0.8s
E25K Arctic Village 31.56 39 P P 03 30 22.9 +1.3
baz=273,SNR=11
F25K Christian Rive 31.56 40 P P 03 30 22.8 +1.1
baz=274
SCM Sheep Creek Mo 31.60 51 IAmb IAmb 03 30 24.1
comp=Z,26nm,0.9s
SCM Sheep Creek Mo 31.60 51 P P 03 30 23.2 +1.1
baz=282
MOY Mondy 31.71 289 *e*P P 03 30 24.5 +1.3
PRP Porcupine Dome 31.80 43 P P 03 30 25.1 +1.3
baz=277,SNR=23
FYU Fort Yukon 31.80 41 IAmb IAmb 03 30 25.5
comp=Z,15nm,0.6s
K24K Donnelly Dome 31.94 47 P P 03 30 25.1 +0.2
baz=280
J25K Salcha River, 31.99 45 P P 03 30 25.2 -0.2
baz=279
F26K Sheenjek River 32.13 39 P P 03 30 27.9 +1.4
baz=275
KLU Klutina 32.33 51 P P 03 30 28.2 -0.1
baz=283
G26K Porcupine Rive 32.34 41 P P 03 30 29.4 +1.3
baz=276
RIDG Independent Ri 32.36 47 IAmb IAmb 03 30 29.2
comp=Z,15nm,0.9s
RIDG Independent Ri 32.36 47 P P 03 30 28.5 0.0
baz=280,SNR=5.6
HARP HAARP 32.48 49 P P 03 30 30.5 +0.9
baz=282
SCRK Sand Creek 32.69 46 IAmb IAmb 03 30 31.9
comp=Z,15nm,0.7s
SCRK Sand Creek 32.69 46 P P 03 30 31.2 -0.2
baz=281,SNR=15
J26L Joseph Creek 32.78 45 P P 03 30 31.8 -0.3
baz=280
I26K Coal Creek Min 32.81 44 P P 03 30 32.2 -0.1
baz=279
N25K Chitina, Valde 32.92 51 IAmb IAmb 03 30 34.8
comp=Z,10nm,0.8s
N25K Chitina, Valde 32.92 51 P P 03 30 34.2 +0.8
baz=284
E27K Coleen River 33.04 38 P P 03 30 35.0 +0.8
baz=276
BMRM Bremner River 33.07 52 P P 03 30 35.7 +1.1
baz=285
L26K Log Cabin Wild 33.16 48 P P 03 30 36.6 +1.3
baz=283
D27M Malcolm River 33.16 36 IAmb IAmb 03 30 36.6
comp=Z,12nm,0.5s
D27M Malcolm River 33.16 36 P P 03 30 36.3 +1.0
baz=275
H27K Steamboat Moun 33.33 42 P P 03 30 38.2 +1.5
baz=279
I27K Kandik River 33.40 43 P P 03 30 38.9 +1.6
baz=280
M26K Nabesna, AK 33.46 49 P P 03 30 39.5 +1.6
baz=284
K27K Chicken 33.51 46 IAmb IAmb 03 30 39.8
comp=Z,11nm,0.8s
K27K Chicken 33.51 46 P P 03 30 39.1 +1.0
baz=282
EGAK Eagle 33.74 44 IAmb IAmb 03 30 41.2
comp=Z,21nm,1.0s
EGAK Eagle 33.74 44 P P 03 30 40.6 +0.5
baz=282,SNR=18
E28M Babbage River 33.75 37 IAmb IAmb 03 30 41.9
comp=Z,11nm,0.9s
E28M Babbage River 33.75 37 P P 03 30 41.1 +0.9
baz=277
F28M Old Crow 33.76 39 IAmb IAmb 03 30 42.4
comp=Z,10nm,0.6s
F28M Old Crow 33.76 39 P P 03 30 41.6 +1.4
baz=279,SNR=13
L27K Beaver Creek, 33.83 47 IAmb IAmb 03 30 43.4
comp=Z,24nm,0.9s
L27K Beaver Creek, 33.83 47 P P 03 30 42.5 +1.5
baz=284
BCAR Beaver Creek A 33.85 47 P P 03 30 42.5 +1.4
D28M Stokes Point 33.94 36 P P 03 30 42.7 +0.9
baz=277
M27K Edge Creek, AK 33.98 49 P P 03 30 43.9 +1.5
baz=285
I28M Miner Creek 34.11 43 IAmb IAmb 03 30 46.2
comp=Z,9.4nm,0.7s
I28M Miner Creek 34.11 43 P P 03 30 44.7 +1.3
baz=282,SNR=19
E29M Blow River 34.38 38 IAmb IAmb 03 30 47.6
comp=Z,12nm,0.5s
E29M Blow River 34.38 38 P P 03 30 46.8 +1.4
baz=279
BVCY Beaver Creek 34.42 48 P P 03 30 47.6 +1.6
baz=285,SNR=6.5
BARN Barnard Glacie 34.43 51 IAmb IAmb 03 30 48.6
comp=Z,15nm,0.6s
G29M Pine Creek 34.59 40 IAmb IAmb 03 30 49.7
comp=Z,20nm,1.2s
G29M Pine Creek 34.59 40 P P 03 30 48.8 +1.6
baz=281
H29M Whitestone 34.59 41 IAmb IAmb 03 30 49.4
comp=Z,9.6nm,0.8s
H29M Whitestone 34.59 41 P P 03 30 48.5 +1.3
baz=282
CTG Chitna Glacier 34.61 51 P P 03 30 49.0 +1.4
baz=287
LYN LuoYang 34.64 254 ⇓P P 03 30 48.6 +0.5
LYN sP sP 03 33 06.8 -1.0
LYN pmax pmax
comp=Z,54nm,0.7s
DAWY Dawson 34.65 45 P P 03 30 48.7 +0.9
baz=284
YUK3 Moose Creek 34.78 49 P P 03 30 50.2 +1.0
baz=287
I29M Ogilvie Camp, 34.80 43 P P 03 30 50.0 +1.0
baz=283
LOGN Logan Glacier 34.80 51 IAmb IAmb 03 30 52.6
comp=Z,12nm,0.9s
EPYK Eagle Plains 35.21 41 P P 03 30 53.4 +0.9
EPYK IAmb IAmb 03 30 54.0
comp=Z,7.5nm,0.7s
EPYK Eagle Plains 35.21 41 P P 03 30 53.5 +1.1
baz=283,SNR=8.0
YUK8 Steele Glacier 35.24 50 P P 03 30 54.1 +0.9
baz=288

G30M tAoh Zraii Nji 35.27 40 P P 03 30 54.0 +1.0
baz=282
F30M Barrier River 35.30 39 P P 03 30 55.0 +1.8
baz=282
PINM Pinnacle 35.39 52 P P 03 30 55.3 +1.2
baz=289
L29M L29M 35.44 47 P P 03 30 56.3 +1.8
baz=286
M29M Somme Creek 35.49 48 IAmb IAmb 03 30 57.5
comp=Z,8.2nm,0.7s
M29M Somme Creek 35.49 48 P P 03 30 56.6 +1.6
baz=287
K29M Barlow Dome 35.50 45 P P 03 30 56.3 +1.2
baz=286
I30M Mount Dempster 35.62 43 IAmb IAmb 03 30 57.8
comp=Z,11nm,0.8s
I30M Mount Dempster 35.62 43 P P 03 30 57.0 +1.0
baz=285
YUK4 Talbot Arm 35.74 50 P P 03 30 58.2 +1.1
baz=288
J30M Hart River 35.81 44 IAmb IAmb 03 30 59.5
comp=Z,7.0nm,0.7s
J30M Hart River 35.81 44 P P 03 30 58.7 +1.1
baz=286,SNR=7.5
PNL Peninsula 35.94 53 P P 03 30 59.3 +0.7
baz=290
INK Inuvik 35.98 37 P P 03 30 59.9 +1.0
INK Inuvik 35.98 37 P P 03 30 59.8 +1.0
baz=283,SNR=27
INK Inuvik 35.98 37 P P 03 30 59.9 +1.0
INK pmax pmax
comp=Z,17nm,0.5s
YUK6 Outpost Mounta 35.99 50 P P 03 31 00.5 +1.1
baz=289
G31M Satah River 36.03 40 IAmb IAmb 03 31 00.7
comp=Z,10nm,0.9s
G31M Satah River 36.03 40 P P 03 31 00.2 +1.0
baz=284
F31M Tsiigehtchic 36.10 39 P P 03 31 00.7 +0.9
F31M IAmb IAmb 03 31 01.4
comp=Z,18nm,0.7s
F31M Tsiigehtchic 36.10 39 P P 03 31 00.7 +0.9
baz=284,SNR=17
M30M Minto, Yukon 36.19 47 P P 03 31 02.5 +1.8
baz=288,SNR=6.2
MAYO Mayo, Yukon 36.27 45 P P 03 31 03.1 +1.8
baz=287,SNR=7.4
N30M Aishikik Lake 36.41 49 P P 03 31 03.4 +0.8
baz=289
HYT Haines Junctio 36.43 50 IAmb IAmb 03 31 05.8
comp=Z,10nm,0.9s
HYT Haines Junctio 36.43 50 P P 03 31 04.7 +1.9
baz=290,SNR=5.1
WHN Wuhan 36.53 248 ⇑P P 03 31 03.9 0.0
WHN pmax pmax
comp=Z,48nm,0.6s
P29M Windy Craggy 36.74 52 P P 03 31 07.2 +1.9
baz=291
P30M Million Dollar 36.93 51 P P 03 31 08.7 +1.9
baz=291
O30N Mendenhall 37.10 50 P P 03 31 10.1 +1.8
baz=291,SNR=5.2
M31M Drury Creek, Y 37.37 47 P P 03 31 11.8 +1.4
M31M Drury Creek, Y 37.37 47 P P 03 31 12.3 +1.9
baz=290
WHY Whitehorse 37.70 50 P P 03 31 14.6 +1.3
WHY IAmb IAmb 03 31 15.9
comp=Z,9.7nm,0.7s
WHY Whitehorse 37.70 50 P P 03 31 14.9 +1.6
baz=292
FARO Faro, Yukon 37.81 47 P P 03 31 15.3 +1.2
FARO Faro, Yukon 37.81 47 P P 03 31 15.5 +1.4
baz=291
A36M Sachs Harbour 37.85 30 P P 03 31 15.1 +0.8
A36M Sachs Harbour 37.85 30 P P 03 31 15.3 +1.1
baz=285,SNR=19
LZH Lanzhou 38.67 264 ⇓P P 03 31 22.5 +0.9
LZH pmax pmax
comp=Z,39nm,1.5s
P33M Teslin, Yukon 38.81 50 P P 03 31 23.9 +1.6
baz=294
GTA Gaotai 38.92 272 P P 03 31 24.6 +1.0
GTA pmax pmax
comp=Z,23nm,0.8s
C36M Paulatuk 39.00 34 P P 03 31 24.2 +0.7
C36M Paulatuk 39.00 34 P P 03 31 24.2 +0.7
baz=289,SNR=13
ENH Enshi 39.48 252 P P 03 31 28.1 0.0
ZALV Zalesovo Beam 39.55 300 P P 03 31 27.8 -0.5
ZALV Zalesovo Beam 39.55 300 P P 03 31 27.8 -0.5
ZALV Zalesovo Beam 39.55 300 P P 03 31 27.6 -0.6
comp=Z,4.5nm,0.7s,baz=55,slow=7.5,SNR=17
ZALV PcP PcP 03 33 22.8 -0.9
comp=Z,1.9nm,0.6s,baz=46,slow=4.3,SNR=8.4
comp=Z,4.5nm,0.7s
Q32M Nakina River 39.58 51 P P 03 31 30.6 +1.9
baz=295
R33M Jennings River 40.00 50 P P 03 31 34.1 +2.1
baz=296
DGZ Jazzator, Alta 40.25 293 *i* P P 03 31 34.3 +0.1
DGZ pmax pmax
comp=Z,11nm,0.7s
S34M Telegraph Cree 40.58 52 P P 03 31 38.1 +1.6
baz=297
WTLY Watson Lake, Y 40.68 49 P P 03 31 38.9 +1.6
baz=296
DLBC Dease Lake 40.86 51 P P 03 31 40.7 +1.9
baz=297
T35M Bob Quinn 41.44 53 P P 03 31 45.3 +1.9
baz=298
WRGLY Wrigley 41.60 43 P P 03 31 46.1 +1.6
baz=296
EUNU Eureka 42.65 13 P P 03 31 53.2 +0.5
EUNU IAmb IAmb 03 31 54.0
comp=Z,11nm,0.7s
KOTAN Kotaneelee Air 42.78 47 P P 03 31 54.7 +0.8
baz=299
WMQ Urumqi 43.41 285 *e*P P 03 32 00.5 +1.3
WMQ pmax pmax
comp=Z,52nm,0.7s
GOMU GeErMu 44.01 272 P P 03 32 04.8 +0.4
GOMU pmax pmax
comp=Z,20nm,0.7s
KURK Kurchatov 44.47 299 P P 03 32 07.2 0.0
KURK Kurchatov 44.47 299 P P 03 32 08.0 +0.8
KURBB Kurchatov Arra 44.57 299 P P 03 32 08.0 0.0
comp=Z,19nm,0.6s,baz=62,slow=7.5,SNR=145
comp=Z,19nm,0.6s
MK31 Makanchi Array 44.72 292 P P 03 32 09.4 +0.1
MK31 IAmb IAmb 03 32 09.6
comp=Z,6.4nm,0.6s
MK31 Makanchi Array 44.72 292 P P 03 32 09.4 +0.1
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 44.72 292 P P 03 32 09.4 +0.1
MKAR Makanchi Array 44.72 292 P P 03 32 09.4 +0.1
MKAR Makanchi Array 44.72 292 P P 03 32 09.2 -0.1
comp=Z,7.8nm,0.6s,baz=56,slow=6.9,SNR=151
comp=Z,7.8nm,0.6s
MAKZ Makanchi 44.89 292 P P 03 32 10.5 -0.1
MAKZ IAmb IAmb 03 32 11.2
comp=Z,11nm,1.1s
MAKZ Makanchi 44.89 292 P P 03 32 10.5 -0.1
MAKZ pmax pmax
comp=Z,11nm,1.1s
YKA Yellowknife Ar 45.49 41 P P 03 32 15.8 +0.9
YKA Yellowknife Ar 45.49 41 P P 03 32 15.8 +0.9
YKA Yellowknife Ar 45.49 41 P P 03 32 15.5 +0.6
comp=Z,5.8nm,0.6s,baz=301,slow=7.6,SNR=87
YKA ScP ScP 03 36 49.7 -0.2
comp=Z,0.5nm,0.8s,baz=298,slow=4.9,SNR=7.1
comp=Z,5.8nm,0.6s
SPITS Spitsbergen Ar 46.32 349 P P 03 32 20.6 -0.5
comp=Z,3.6nm,0.4s,baz=59,slow=8.8,SNR=36
comp=Z,3.6nm,0.4s
KMI Kunming 47.27 254 ⇑P P 03 32 29.8 +0.6
KMI pmax pmax
comp=Z,13nm,1.0s
BVAR Borovoye Array 47.35 305 P P 03 32 28.9 -0.3
comp=Z,14nm,0.4s,baz=52,slow=7.4,SNR=125
BVAR PcP PcP 03 33 49.5 -1.0
comp=Z,1.9nm,0.5s,baz=70,slow=2.9,SNR=4.6
comp=Z,14nm,0.4s
BRVK Borovoye 47.38 305 P P 03 32 29.4 0.0
BRVK IAmb IAmb 03 32 30.0
comp=Z,13nm,0.7s
BRVK Borovoye 47.38 305 P P 03 32 29.4 0.0

BRVK pmax pmax
comp=Z,13nm,0.7s
BRZS Berezniki 48.00 301 *e*P P 03 32 33.7 -0.4
baz=301
BRZS Berezniki 48.00 301 *e*P P 03 32 33.7 -0.4
SHLS Shalkode 48.53 290 *e*P P 03 32 36.8 -1.7
baz=290
SHLS Shalkode 48.53 290 *e*P P 03 32 36.7 -1.7
NEEM North Greenlan 48.64 7 *i* P P 03 32 36.0 -2.8
KPKS Kokpek 48.78 291 *e*P P 03 32 40.3 +0.2
baz=290
KPKS Kokpek 48.78 291 *e*P P 03 32 40.3 +0.2
UZB Uzynbulak 48.79 290 *e*P P 03 32 40.4 +0.1
baz=290
UZB Uzynbulak 48.79 290 *e*P P 03 32 40.4 +0.1
CHKK Chushkaly 49.48 292 *e*P P 03 32 44.8 -0.4
baz=292
CHKK Chushkaly 49.48 292 *e*P P 03 32 44.8 -0.4
MDOK Medeo 49.89 291 *e*P P 03 32 48.5 +0.1
baz=291
MDOK Medeo 49.89 291 *e*P P 03 32 48.5 +0.1
TNSS Tian-Shan 50.03 291 *e*P P 03 32 49.9 +0.1
baz=291
TNSS Tian-Shan 50.03 291 *e*P P 03 32 49.8 +0.1
BTLS Baital 50.34 295 *e*P P 03 32 51.3 -0.3
baz=295
BTLS Baital 50.34 295 *e*P P 03 32 51.2 -0.3
ARU Arti 50.72 314 P P 03 32 53.9 -0.2
ARU IAmb IAmb 03 32 54.7
comp=Z,27nm,1.1s
ARU Arti 50.72 314 *d i*P P 03 32 53.8 -0.3
ARU 03 34 55.2
ARU S S 03 39 33.3 +0.9
ARU pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 50.74 268 IAmb IAmb 03 32 57.5
comp=Z,14nm,0.7s
SGDS Sogindy 51.05 293 *e*P P 03 32 57.1 +0.3
baz=293
SGDS Sogindy 51.05 293 *e*P P 03 32 57.1 +0.3
EDM Edmonton 51.55 50 P P 03 33 01.3 +1.0
EDM Edmonton 51.55 50 P P 03 33 01.3 +1.0
EDM pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 51.66 292 P P 03 33 01.7 +0.3
AAK IAmb IAmb 03 33 02.2
comp=Z,11nm,0.5s
AAK Ala-Archa 51.66 292 P P 03 33 01.7 +0.3
AAK pmax pmax
comp=Z,11nm,0.5s
ARCES ARCESS Array B 51.92 340 P P 03 33 01.8 -0.9
comp=Z,3.4nm,0.9s,baz=37,slow=8.0,SNR=11
comp=Z,3.4nm,0.9s
KSH Kashi 52.90 288 P P 03 33 14.6 +4.2
KSH pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 52.96 57 P P 03 33 11.2 +0.6
baz=311
KIRV Kirov 53.01 321 P P 03 33 09.2 -1.3
comp=Z,7.5nm,0.5s,baz=58,slow=4.1,SNR=4.6
comp=Z,7.5nm,0.5s
SUMG Summit 54.17 5 *i* P P 03 33 18.0 -1.2
CMMT Chiang Mai 54.37 253 P P 03 33 20.8 -0.1
comp=Z,67nm,0.8s
CHTO Chiang Mai 54.38 253 P P 03 33 20.6 -0.3
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 54.66 252 P P 03 33 23.1 +0.1
CMAR Chiang Mai Arr 54.66 252 *i* P P 03 33 24.0 +1.0
CMAR pmax pmax
comp=Z,9.0nm,0.6s
CMAR Chiang Mai Arr 54.66 252 P P 03 33 23.9 +1.0
comp=Z,8.4nm,0.7s,baz=25,slow=6.8,SNR=34
CMAR PcP PcP 03 34 18.9 +0.4
comp=Z,1.1nm,0.3s,baz=8.7,slow=3.8,SNR=5.2
comp=Z,8.4nm,0.7s
ABKAR Akbulak array 54.82 307 IAmb IAmb 03 33 24.1
comp=Z,11nm,0.8s
AKTO Aktyubinsk 54.93 309 P P 03 33 23.9 -0.5
comp=Z,5.0nm,0.5s,baz=62,slow=7.5,SNR=27
comp=Z,5.0nm,0.5s
BTK Batken 55.44 292 IAmb IAmb 03 33 29.2
comp=Z,18nm,0.6s
FFC Flin Flon 55.50 43 P P 03 33 28.2 -0.1
FFC Flin Flon 55.50 43 P P 03 33 28.2 -0.1
FFC pmax pmax
comp=Z,8.0nm,0.7s
MSO Missoula 55.52 56 P P 03 33 29.5 +0.8
baz=313
EGMT Eagleton 56.75 53 P P 03 33 38.1 +0.9
baz=315
SIMJ Simiganj 57.42 292 P P 03 33 41.8 -0.2
SIMJ IAmb IAmb 03 33 42.5
comp=Z,11nm,0.8s
HLID Hailey 57.55 59 P P 03 33 43.4 +0.5
baz=315
BELG Belogornoye 58.13 316 P P 03 33 46.2 -0.2
comp=Z,20nm,0.7s,baz=291,slow=1.6,SNR=7.5
comp=Z,20nm,0.7s
FINES FINESS Array B 58.43 334 P P 03 33 47.3 -1.0
comp=Z,4.8nm,0.9s,baz=5.7,slow=5.7,SNR=7.5
comp=Z,4.8nm,0.9s
NIL Nilore 58.56 285 P P 03 33 49.6 -0.1
NIL Nilore 58.56 285 P P 03 33 49.6 -0.1
NIL pmax pmax
comp=Z,44nm,1.0s
H17A Grant Village 58.91 56 P P 03 33 54.8 +2.6
baz=316
DGMT Dagmar 59.03 49 P P 03 33 53.2 +0.5
baz=317
RLMT Red Lodge 59.04 55 P P 03 33 54.1 +1.1
baz=316
NVAR Mina Array Bea 59.10 66 P P 03 33 55.4 +1.9
comp=Z,1.4nm,0.6s,baz=308,slow=6.5,SNR=5.2
comp=Z,1.4nm,0.6s
LAO LASA Array 59.38 52 P P 03 33 56.2 +1.1
baz=317
KBL Kabul 60.33 289 P P 03 34 00.5 -1.3
KBL IAmb IAmb 03 34 01.3
comp=Z,9.1nm,0.7s
KBL Kabul 60.33 289 P P 03 34 00.5 -1.3
KBL pmax pmax
comp=Z,9.0nm,0.7s
BW06 Boulder Array 60.60 57 P P 03 34 04.7 +1.2
BW06 Boulder Array 60.60 57 P P 03 34 04.5 +1.0
baz=317
PDAR Pinedale Array 60.60 57 P P 03 34 04.5 +1.0
comp=Z,2.2nm,0.8s,baz=329,slow=2.3,SNR=24
PDAR pP pP 03 35 43.8 +2.4
comp=Z,1.2nm,0.9s,baz=24,slow=1.8,SNR=4.6
comp=Z,2.2nm,0.8s
R11B Troy Canyon, C 60.64 64 P P 03 34 04.4 +0.6
baz=317
GRAC Grapevine Rang 60.65 67 P P 03 34 04.6 +0.9
baz=317
DUG Dugway, Tooele 60.79 61 P P 03 34 05.8 +1.1
baz=317
PKM Mcpherson Peak 60.81 70 P P 03 34 06.3 +1.4
baz=317
SBUM Sibu 61.19 229 P P 03 34 07.8 +0.4
SBUM IAmb IAmb 03 34 10.0
comp=Z,16nm,1.3s
SBUM Sibu 61.19 229 P P 03 34 08.3 +0.9
MPMC Manual Prospec 61.26 67 P P 03 34 09.2 +1.3
baz=317
TPNV Topopah Spring 61.30 66 P P 03 34 09.3 +1.2
baz=317
FURC Furnace Creek, 61.31 67 P P 03 34 09.5 +1.6
baz=317
ULM Lac du Bonnet 61.32 43 P P 03 34 07.0 -0.8
ULM Lac du Bonnet 61.32 43 P P 03 34 07.0 -0.8
comp=Z,1.1nm,0.3s,baz=317,slow=8.5,SNR=5.3
comp=Z,1.1nm,0.3s
GWY Greenwater Val 61.62 67 P P 03 34 11.1 +0.9
EDW2 Edwards Air Fo 61.84 69 P P 03 34 12.4 +0.9
baz=317
GSC Goldstone, Bar 62.19 68 P P 03 34 14.6 +0.8
baz=317
K22A Casper 62.20 55 P P 03 34 14.1 +0.2
baz=318
NOA NORSAR Array B 62.27 341 P P 03 34 12.6 -1.2
comp=Z,0.9nm,0.6s,baz=24,slow=6.4,SNR=3.4
comp=Z,0.9nm,0.6s
RSSD Black Hills 62.31 53 P P 03 34 15.1 +0.4
RSSD Black Hills 62.31 53 P P 03 34 14.8 +0.2
baz=319
RSSD Black Hills 62.31 53 P P 03 34 15.1 +0.4
RSSD pmax pmax

	comp=Z,5.0nm,0.9s							
BFSC	**Mount Baldy Ra**	**62.49**	**69**	P	**P**	**03 34 16.6**	**+0.8**	
	baz=318							
P18A	**Preston Nutter**	**62.55**	**60**	IAmb	IAmb	03 34 17.7		
	comp=Z,13nm,1.2s							
HFS	**Hagfors**	**62.57**	**339**	P	**P**	**03 34 14.1**	**-1.7**	
	comp=Z,4.1nm,1.0s,baz=99,slow=4.8,SNR=6.4							
	comp=Z,4.1nm,1.0s							
AGMN	**Agassiz Nation**	**62.83**	**45**	P	**P**	**03 34 16.9**	**-0.7**	
	baz=321							
O20A	**White River Ci**	**63.21**	**58**	P	**P**	**03 34 21.4**	**+0.9**	
	baz=318							
GMRC	**Granite Mounta**	**63.21**	**67**	P	**P**	**03 34 21.2**	**+0.7**	
	baz=318							
GEYT	**Alibeck**	**63.85**	**299**	P	**P**	**03 34 24.8**	**+0.3**	
	comp=Z,15nm,0.7s,baz=46,slow=4.3,SNR=32							
	comp=Z,15nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**63.85**	**299**	IAmb	IAmb	03 34 25.6		
	comp=Z,16nm,0.8s							
IRM	**Iron Mountain**	**63.96**	**67**	P	**P**	**03 34 25.9**	**+0.7**	
	baz=318							
BC3	**Big Chuckawall**	**64.16**	**68**	P	**P**	**03 34 27.2**	**+0.7**	
	baz=318							
SWSC	**Sam W. Stewart**	**64.49**	**69**	P	**P**	**03 34 29.3**	**+0.7**	
	baz=318							
IKP	**In-Ko-Pah, Jac**	**64.54**	**69**	P	**P**	**03 34 30.0**	**+1.1**	
	baz=318							
ISCO	**Idaho Springs**	**64.79**	**57**	P	**P**	**03 34 31.2**	**+0.5**	
	baz=319							
EYMN	**Ely**	**64.92**	**42**	P	**P**	**03 34 30.6**	**-0.4**	
	baz=323							
MVCO	**Mesa Verde**	**65.26**	**61**	P	**P**	**03 34 33.7**	**+0.1**	
	baz=319							
SGKR	**Sergokala**	**65.63**	**309**	*e*P	P	03 34 47.5	+12	
SGKR				pmax	pmax			
	comp=Z,11nm,0.7s							
OGNE	**Ogallala**	**65.69**	**54**	P	**P**	**03 34 36.7**	**+0.6**	
	baz=320							
URKR	**Urkarakh**	**65.87**	**309**	*e*P	P	03 34 42.6	+5.3	
URKR				pmax	pmax			
	comp=Z,13nm,0.6s							
GNBR	**Gunib**	**66.01**	**309**	*e*P	P	03 34 45.4	+7.4	
GNBR				pmax	pmax			
	comp=Z,3.0nm,0.4s							
ECSD	**EROS Data Cent**	**66.06**	**48**	IAmb	IAmb	03 34 39.0		
	comp=Z,8.6nm,0.5s							
KSMR	**Kasumkent**	**66.07**	**308**	*e*P	P	03 34 45.1	+6.6	
KSMR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KMKR	**Kumukh**	**66.14**	**309**	*e*P	**P**	**03 34 39.3**	**+0.2**	
KMKR				pmax	pmax			
	comp=Z,12nm,0.5s							
AKT	**Akhty**	**66.35**	**308**	*e*P	**P**	**03 34 39.9**	**-0.4**	
AKT				pmax	pmax			
	comp=Z,9.0nm,0.6s							
AKASG	**Malin Array Be**	**66.48**	**325**	P	**P**	**03 34 39.5**	**-1.3**	
	comp=Z,1.8nm,0.5s,baz=31,slow=6.6,SNR=7.6							
AKASG				pP	**pP**	**03 36 21.9**	**+1.2**	
	comp=Z,0.6nm,0.6s,baz=32,slow=6.7,SNR=2.0							
	comp=Z,1.8nm,0.5s							
SPMN	**Marine on St.**	**66.54**	**45**	P	**P**	**03 34 40.5**	**-0.7**	
	baz=323							
NCK	**Nalchik**	**66.68**	**312**	*i* P	**P**	**03 34 42.1**	**0.0**	
NCK				pmax	pmax			
	comp=Z,17nm,1.1s							
KIV	**Kislovodsk**	**66.72**	**313**	*e*P	**P**	**03 34 42.7**	**+0.2**	
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KBZ	**Khabaz**	**66.80**	**313**	P	**P**	**03 34 43.0**	**+0.2**	
KBZ	**Khabaz**	**66.80**	**313**	P	**P**	**03 34 43.0**	**+0.2**	
	comp=Z,6.9nm,0.8s,baz=96,slow=5.5,SNR=11							
	comp=Z,6.9nm,0.8s							
ZEI	**Tsey**	**67.10**	**311**	*e*P	**P**	**03 34 42.9**	**-2.1**	
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SCHQ	**Schefferville**	**67.12**	**24**	P	**P**	**03 34 44.0**	**-0.7**	
	comp=Z,2.0nm,0.3s,baz=351,slow=6.6,SNR=11							
	comp=Z,2.0nm,0.3s							
ONI	**Oni**	**67.46**	**312**	P	**P**	**03 34 47.6**	**+0.6**	
ONI				IAmb	IAmb	03 34 48.5		
	comp=Z,6.3nm,0.9s							
ONI	**Oni**	**67.46**	**312**	P	**P**	**03 34 47.6**	**+0.6**	
ONI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
JFWS	**Jewell Farm**	**69.50**	**45**	P	**P**	**03 34 58.3**	**-1.0**	
	baz=325							
EKA	**Eskdalemuir Ar**	**70.15**	**346**	P	**P**	**03 35 02.1**	**-0.8**	
	comp=Z,0.6nm,0.3s,baz=20,slow=5.3,SNR=9.9							
	comp=Z,0.6nm,0.3s							
BUR08	**Bucovina Ar. S**	**70.47**	**326**	P	**P**	**03 35 04.6**	**-0.5**	
CLL	**Collm**	**70.78**	**335**	*e*P	**P**	**03 35 09.0**	**+2.2**	
MNTX	**Cornudas Mount**	**71.14**	**62**	P	**P**	**03 35 10.0**	**+0.7**	
	baz=322							
MLR	**Muntele Rosu**	**72.08**	**324**	P	**P**	**03 35 14.9**	**+0.2**	
	comp=Z,2.3nm,0.6s,baz=354,slow=4.7,SNR=5.5							
	comp=Z,2.3nm,0.6s							
TXAR	**Lajitas Array**	**73.90**	**63**	P	**P**	**03 35 26.8**	**+1.3**	
	comp=Z,1.2nm,0.7s,baz=300,slow=5.1,SNR=15							
TXAR				pP	**pP**	**03 37 10.3**	**+1.6**	
	comp=Z,0.7nm,0.7s,baz=289,slow=3.8,SNR=7.5							
	comp=Z,1.2nm,0.7s							
BRTR	**Keskin Array B**	**74.06**	**316**	P	**P**	**03 35 26.0**	**-0.2**	
	comp=Z,0.7nm,0.5s,baz=42,slow=2.0,SNR=4.2							
	comp=Z,0.7nm,0.5s							
ERPA	**Erie**	**74.28**	**39**	P	**P**	**03 35 26.7**	**-0.5**	
	baz=330							
M53A	**WI Miller and**	**74.60**	**40**	P	**P**	**03 35 28.3**	**-0.7**	
	baz=330							
P49A	**Miami Univ. Ec**	**74.62**	**43**	P	**P**	**03 35 27.8**	**-1.3**	
	baz=328							
WB2	**Warramunga Arr**	**74.84**	**199**	P	**P**	**03 35 31.0**	**+0.5**	
WB2				IAmb	IAmb	03 35 31.7		
	comp=Z,8.7nm,0.7s							
UOSS	**Minazif**	**74.84**	**291**	P	**P**	**03 35 30.2**	**-0.5**	
WRA	**Warramunga Arr**	**74.84**	**199**	P	**P**	**03 35 30.9**	**+0.3**	
	comp=Z,7.9nm,0.6s,baz=15,slow=5.9,SNR=37							
	comp=Z,7.9nm,0.6s							
WVT	**Waverly**	**76.15**	**47**	P	**P**	**03 35 37.6**	**-0.2**	
	baz=327							
AS31	**Alice Springs**	**78.55**	**199**	P	**P**	**03 35 52.0**	**+1.1**	
AS31				IAmb	IAmb	03 35 52.3		
	comp=Z,5.1nm,0.5s							
ASAR	**Alice Springs**	**78.55**	**199**	P	**P**	**03 35 51.8**	**+0.9**	
	comp=Z,11nm,0.6s,baz=12,slow=5.3,SNR=119							
	comp=Z,11nm,0.6s							
MMAI	**Mount Meron Ar**	**78.93**	**311**	P	**P**	**03 35 53.3**	**+0.3**	
	comp=Z,2.4nm,0.5s,baz=25,slow=6.8,SNR=7.4							
	comp=Z,2.4nm,0.5s							
ASF	**Jabal al Asfar**	**78.96**	**310**	P	**P**	**03 35 53.5**	**+0.3**	
	comp=Z,5.7nm,0.9s,baz=281,slow=10,SNR=3.5							
	comp=Z,5.7nm,0.9s							
EIL	**Elat**	**81.96**	**310**	P	**P**	**03 36 08.4**	**-0.4**	
	comp=Z,3.2nm,0.6s,baz=3.6,slow=16,SNR=3.7							
	comp=Z,3.2nm,0.6s							
STKA	**Stephens Creek**	**85.45**	**191**	P	**P**	**03 36 26.5**	**+0.6**	
	comp=Z,1.1nm,0.4s,baz=358,slow=4.6,SNR=4.9							
	comp=Z,1.1nm,0.4s							
ESDC	**Sonseca Array**	**85.50**	**343**	P	**P**	**03 36 25.4**	**-0.9**	
	comp=Z,0.5nm,0.6s,baz=338,slow=3.1,SNR=4.9							
	comp=Z,0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**109.73**	**331**	PKiKP	**PKiKP**	**03 42 14.7**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=35,slow=2.9,SNR=2.8							
DBIC	**Dimbokro**	**117.67**	**336**	PKIKP	**PKiKP**	**03 42 33.0**	**+1.8**	
DBIC	**Dimbokro**	**117.67**	**336**	PKP	**PKiKP**	**03 42 33.0**	**+1.8**	
	comp=Z,3.9nm,1.1s,baz=153,slow=4.5,SNR=3.4							
QSPA	**South Pole Qui**	**142.99**	**180**	PKhKP	PKPpre	03 43 13.9		
	comp=Z,7.3nm,0.6s,baz=327,slow=0.9,SNR=22							
CPUP	**Villa Florida**	**144.43**	**53**	PKP	PKPbc	03 43 20.1	-0.4	
	comp=Z,1.7nm,0.5s,baz=242,slow=2.1,SNR=5.2							
PLCA	**Paso Flores**	**147.69**	**85**	PKPbc	**PKPbc**	**03 43 29.7**	**+0.3**	
	comp=Z,2.5nm,0.9s,baz=292,slow=2.9,SNR=10							

*IDC **25** 03:24:35.7±6.5,35°.52N×71°.86E,h0km,mb4.0/5, mbtmp3.7/9,ML3.0/4,MS4.0/1,Error ellipse: s-maj=110.0km s-min=35.5km az=153.0*
*NNC **25** 03:25:00.5±4.1,37°.04N×71°.49E,h185km±89km,mb2.3, mpv3.2,Error ellipse: s-maj=58.8km s-min=29.3km az=38.0*

ISC 25 03:24:55.8±2.2,36°.7N±0°.2×71°.6E±0°.2,h100km,n12, σ1§61/14,mb4.1/4,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.64**	**16**	⇑P	**Pn**	**03 26 19.9**	**+2.4**
	0.1nm,0.2s						
AML				⇓S	**Sn**	**03 27 22.1**	**+1.0**
	3.3nm,0.9s						
KK31	**Karatay Array**	**6.43**	**353**	P	**Pn**	**03 26 28.4**	**+0.6**
	5.2nm,0.3s,baz=296,slow=5.8,SNR=69						
KK31				⇑S	**Sn**	**03 27 39.3**	**-0.4**
	1.0nm,0.3s,baz=189,slow=25,SNR=5.4						
MKAR	**Makanchi Array**	**12.84**	**35**	Pn	**Pn**	**03 27 51.6**	**-2.8**
	baz=216,slow=14,SNR=2.5						
MKAR				LR	LR	03 32 16.8	
	comp=Z,717nm,20.3s,baz=332,slow=34						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**14.77**	**18**	Pn	**Pn**	**03 28 18.1**	**-1.2**
	baz=205,slow=10.0,SNR=1.8						
	0.2nm,0.6s						
AB31	**Akbulak array**	**15.12**	**330**	P	**Pn**	**03 28 20.9**	**-3.0**
	0.3nm,0.3s,baz=142,slow=13,SNR=24						
BVAR	**Borovoye Array**	**16.32**	**357**	Pn	**Pn**	**03 28 38.4**	**-0.4**
	baz=178,slow=8.1,SNR=4.9						
	0.7nm,0.5s						
AKTO	**Aktyubinsk**	**16.83**	**329**	P	**Pn**	**03 28 45.0**	**0.0**
	0.4nm,0.3s,baz=139,slow=7.7,SNR=4.9						
	1.3nm,0.3s						
ZALV	**Zalesovo Beam**	**19.52**	**24**	P	**P**	**03 29 15.0**	**+0.1**
	0.6nm,0.3s,baz=223,slow=11,SNR=5.2						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**37.56**	**326**	P	**P**	**03 32 00.8**	**+0.8**
	6.6nm,1.1s,baz=130,slow=6.0,SNR=4.9						
	6.6nm,1.1s						
ARCES	**ARCESS Array B**	**41.12**	**337**	P	**P**	**03 32 31.0**	**+1.5**
	2.0nm,0.8s,baz=110,slow=7.8,SNR=3.7						
	2.0nm,0.8s						
HFS	**Hagfors**	**43.18**	**322**	P	**P**	**03 32 46.8**	**+0.5**
	3.9nm,0.9s,baz=106,slow=11,SNR=7.2						
	3.9nm,0.9s						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**03 32 56.9**	**+0.1**
	0.7nm,0.5s,baz=112,slow=8.2,SNR=1.6						
	0.7nm,0.5s						

KRSC 25 03:27:17.2±1.2,55°.23N×166°.38E,h34km±8km,MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.24**	**265**	*e*P	Pb	03 27 24.6	+0.4
BKI				*e*S	Sb	03 27 29.9	+0.9
TUMD	**Tumrok D**	**3.43**	**272**	*e*P	Pn	03 28 11.3	+3.1
KMNR	**Kamenistaya**	**3.54**	**281**	*e*P	Pn	03 28 14.0	+4.2
TUMR	**Tumrok**	**3.57**	**273**	*e*P	Pn	03 28 14.3	+4.0
TUMR				*e*S	Sn	03 28 56.0	+4.8
SMAR	**Somma**	**4.86**	**249**	*e*P	Pn	03 28 32.6	+4.5
UGLR	**Uglovaya**	**4.88**	**249**	*e*P	Pn	03 28 33.1	+5.0
AVH	**Avacha**	**4.90**	**249**	*e*P	Pn	03 28 33.6	+5.2
AVH				*e*S	Sn	03 29 29.8	+6.0
KRX	**Arik**	**4.90**	**251**	*e*P	Pn	03 28 33.2	+4.6
KRX				*e*S	Sn	03 29 29.0	+4.8
KOK	**Koryaka**	**4.94**	**250**	*e*P	Pn	03 28 34.0	+5.0
DALK	**Dalny**	**5.00**	**247**	*e*P	Pn	03 28 34.0	+4.3
DALK				*e*S	Sn	03 29 30.3	+4.1
MTVR	**Mutnovka**	**5.58**	**244**	*e*S	Sn	03 29 45.0	+4.3
ASAK	**Asacha**	**5.78**	**244**	*e*S	Sn	03 29 50.4	+4.8

*IDC **25** 03:30:34.7±1.2,67°.52N×64°.24E,h0km,mb3.2/2, mbtmp3.6/8,ML3.5/3,Error ellipse: s-maj=24.1km s-min=12.5km az=44.0*

ISC 25 03:30:36.0±0.8,67°.42N±0°.08×63°.64E±0°.07,h35km,n8, σ2§99/12,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRIK	**Noril'sk**	**9.01**	**67**	Pn	**Pn**	**03 32 42.9**	**-0.4**
	0.6nm,0.3s,baz=277,slow=9.9,SNR=2.9						
NRIK				Sn	**Sn**	**03 34 23.7**	**+0.4**
	0.5nm,0.3s,baz=36,slow=22,SNR=8.4						
	1.1nm,0.5s						
ARCES	**ARCESS Array B**	**14.00**	**296**	Pn	**Pn**	**03 33 53.1**	**+1.7**
	0.6nm,0.3s,baz=76,slow=13,SNR=25						
ARCES				Sn	**Sn**	**03 36 21.4**	**-3.8**
	0.1nm,0.3s,baz=81,slow=25,SNR=1.6						
	1.8nm,0.4s						
BVAR	**Borovoye Array**	**14.80**	**164**	Pn	**Pn**	**03 34 01.9**	**-0.6**
	0.5nm,0.4s,baz=350,slow=16,SNR=1.7						
BVAR				Sn	**Sn**	**03 36 41.7**	**-3.3**
	baz=348,slow=26,SNR=2.7						
ZALV	**Zalesovo Beam**	**16.88**	**133**	Pn	**Pn**	**03 34 29.0**	**-0.2**
	0.2nm,0.3s,baz=88,slow=10,SNR=1.4						
ZALV				Sn	**Sn**	**03 37 32.7**	**-2.7**
	0.1nm,0.3s,baz=346,slow=24,SNR=2.3						
SPITS	**Spitsbergen Ar**	**16.94**	**329**	Pn	**Pn**	**03 34 26.7**	**-3.1**
	5.3nm,0.7s,baz=55,slow=13,SNR=16						
FINES	**FINESS Array B**	**17.05**	**268**	Pn	**Pn**	**03 34 31.7**	**+0.5**
	0.3nm,0.3s,baz=51,slow=12,SNR=6.9						
	3.0nm,0.8s						
HFS	**Hagfors**	**22.64**	**276**	P	**P**	**03 35 37.4**	**+3.9**
	1.9nm,0.8s,baz=62,slow=10,SNR=0.9						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**22.83**	**146**	P	**P**	**03 35 40.0**	**+4.3**
	0.2nm,0.6s,baz=352,slow=9.3,SNR=1.4						
	0.2nm,0.6s						

KRSC 25 03:30:49.0±1.1,55°.28N×166°.36E,h36km±5km,MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.23**	**252**	*e*P	Pn	03 30 56.6	-0.2
BKI				*e*S	Sn	03 31 02.0	-1.3
TUMD	**Tumrok D**	**3.41**	**271**	*e*P	Pn	03 31 42.6	+3.0
TUMD				*e*S	Sn	03 32 22.9	+4.1
KMNR	**Kamenistaya**	**3.51**	**280**	*e*S	Sn	03 32 26.4	+5.0
TUMR	**Tumrok**	**3.55**	**273**	*e*P	Pn	03 31 46.0	+4.4
TUMR				*e*S	Sn	03 32 28.1	+5.7
SMAR	**Somma**	**4.87**	**249**	*e*P	Pn	03 32 04.5	+4.8
UGLR	**Uglovaya**	**4.88**	**248**	*e*P	Pn	03 32 05.2	+5.3
AVH	**Avacha**	**4.90**	**249**	*e*P	Pn	03 32 04.9	+4.8
AVH				*e*S	Sn	03 33 00.4	+4.9
KRX	**Arik**	**4.90**	**250**	*e*P	Pn	03 32 05.3	+5.1
KOK	**Koryaka**	**4.94**	**249**	*e*P	Pn	03 32 05.8	+5.1
KRMR	**Karymshinskiy**	**5.43**	**247**	*e*S	Sn	03 33 14.3	+5.8
MTVR	**Mutnovka**	**5.58**	**243**	*e*P	Pn	03 32 13.3	+3.7
MTVR				*e*S	Sn	03 33 16.5	+4.0
ASAK	**Asacha**	**5.78**	**243**	*e*S	Sn	03 33 22.9	+5.6

KRSC 25 03:37:05.2±1.1,55°.24N×166°.23E,h35km±9km,MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.15**	**257**	*e*P	Pn	03 37 11.7	-1.4
BKI				*e*S	Sn	03 37 17.0	-2.4
TUMD	**Tumrok D**	**3.34**	**272**	*e*P	Pn	03 37 57.6	+2.7
TUMD				*e*S	Sn	03 38 38.2	+4.9
KMNR	**Kamenistaya**	**3.45**	**281**	*e*P	Pn	03 38 01.0	+4.5
TUMR	**Tumrok**	**3.48**	**273**	*e*P	Pn	03 38 00.7	+3.7
TUMR				*e*S	Sn	03 38 43.0	+6.0
SMAR	**Somma**	**4.78**	**249**	*e*P	Pn	03 38 19.5	+4.6
UGLR	**Uglovaya**	**4.80**	**248**	*e*P	Pn	03 38 20.1	+5.1
AVH	**Avacha**	**4.82**	**249**	*e*P	Pn	03 38 20.4	+5.1
AVH				*e*S	Sn	03 39 15.3	+5.5
KRX	**Arik**	**4.82**	**250**	*e*P	Pn	03 38 20.1	+4.7
KOK	**Koryaka**	**4.86**	**249**	*e*P	Pn	03 38 20.6	+4.7
KRMR	**Karymshinskiy**	**5.35**	**247**	*e*P	Pn	03 38 27.0	+4.6
KRMR				*e*S	Sn	03 39 27.3	+4.6
MTVR	**Mutnovka**	**5.50**	**243**	*e*P	Pn	03 38 29.6	+4.8
MTVR				*e*S	Sn	03 39 30.7	+3.9
ASAK	**Asacha**	**5.70**	**243**	*e*P	Pn	03 38 33.0	+5.6
ASAK				*e*S	Sn	03 39 36.8	+5.2

KRSC 25 03:39:02.0±1.1,55°.30N×166°.37E,h36km±6km,MI3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.25**	**248**	*e*P	Pn	03 39 09.4	-0.9
BKI				*e*S	Sn	03 39 15.1	-3.0
SMKR	**Semkarok**	**3.04**	**297**	*e*P	Pn	03 39 49.6	+2.0
TUMD	**Tumrok D**	**3.42**	**271**	*e*P	Pn	03 39 57.1	+4.4
TUMD				*e*S	Sn	03 40 37.4	+5.5
KMNR	**Kamenistaya**	**3.52**	**280**	*e*S	Sn	03 40 39.4	+5.0
TUMR	**Tumrok**	**3.56**	**272**	*e*P	Pn	03 39 59.5	+4.8
TUMR				*e*S	Sn	03 40 41.8	+6.3
SMAR	**Somma**	**4.88**	**248**	*e*P	Pn	03 40 17.8	+4.9
SMAR				*e*S	Sn	03 41 12.8	+4.6
UGLR	**Uglovaya**	**4.89**	**248**	*e*P	Pn	03 40 18.2	+5.2
UGLR				*e*S	Sn	03 41 13.6	+5.3
AVH	**Avacha**	**4.91**	**249**	*e*P	Pn	03 40 17.7	+4.5
AVH				*e*S	Sn	03 41 14.0	+5.2
KRX	**Arik**	**4.92**	**250**	*e*P	Pn	03 40 18.0	+4.6
KRX				*e*S	Sn	03 41 13.6	+4.6
KOK	**Koryaka**	**4.96**	**249**	*e*P	Pn	03 40 18.8	+5.0
DALK	**Dalny**	**5.02**	**246**	*e*P	Pn	03 40 19.8	+5.2
DALK				*e*S	Sn	03 41 15.2	+4.0
KRMR	**Karymshinskiy**	**5.45**	**246**	*e*P	Pn	03 40 25.5	+5.1
KRMR				*e*S	Sn	03 41 27.3	+5.5
MTVR	**Mutnovka**	**5.60**	**243**	*e*P	Pn	03 40 27.1	+4.4
MTVR				*e*S	Sn	03 41 29.4	+3.5
ASAK	**Asacha**	**5.80**	**243**	*e*P	Pn	03 40 31.0	+5.5

KRSC 25 03:40:53.6±1.3,55°.24N×166°.48E,h35km±5km,MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.29**	**263**	*e*P	Pb	03 41 01.7	+0.3
BKI				*e*S	Sb	03 41 07.5	+0.8
BZGR	**Bezymyannyi-Gr**	**3.36**	**284**	*e*S	Sn	03 42 27.5	+5.2
BZWR	**Bezymyannyi-We**	**3.47**	**285**	*e*S	Sn	03 42 29.8	+4.6
TUMD	**Tumrok D**	**3.48**	**272**	*e*P	Pn	03 41 48.2	+3.0
TUMD				*e*S	Sn	03 42 28.8	+3.5
KMNR	**Kamenistaya**	**3.59**	**281**	*e*P	Pn	03 41 50.8	+4.0
KMNR				*e*S	Sn	03 42 33.2	+5.2
TUMR	**Tumrok**	**3.63**	**273**	*e*P	Pn	03 41 51.6	+4.3
TUMR				*e*S	Sb	03 42 34.9	-5.6
SMAR	**Somma**	**4.92**	**249**	*e*P	Pn	03 42 09.6	+4.4
AVH	**Avacha**	**4.95**	**250**	*e*P	Pn	03 42 10.3	+4.8
AVH				*e*S	Sn	03 43 06.4	+4.9
KRX	**Arik**	**4.96**	**251**	*e*P	Pn	03 42 10.1	+4.5
KOK	**Koryaka**	**5.00**	**250**	*e*P	Pn	03 42 11.2	+5.1
MTVR	**Mutnovka**	**5.63**	**244**	*e*P	Pn	03 42 19.6	+4.8

*NEIC **25** 03:41:12.9±1.8,55°.87N±0°.08×150°.08W±0°.02,h10km±1km, mb4.4/61,ML4.7/46,ML4.5(AEIC),Error ellipse: s-maj=13.2km s-min=3.0km az=174.0*
*IDC **25** 03:41:13.2±0.8,55°.97N×150°.10W,h0km,mb4.2/21, mbtmp4.3/26,ML4.3/5,Error ellipse: s-maj=19.8km s-min=12.2km az=32.0*
*AEIC **25** 03:41:17.7±1.9,55°.91N±0°.08×150°.1W±0°.1,h11km±5km, Error ellipse: s-maj=11.6km s-min=8.5km az=191.0*

ISC 25 03:41:13.8±0.5,55°.99N±0°.06×150°.07W±0°.05,h10km, n571,σ1§11/553,mb4.4/59,1D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.17**	**306**	Pn	**Pn**	**03 41 49.1**	**-0.8**
OHAK					**Sn**	**03 42 13.9**	**-2.9**
OHAK	**Old Harbor**	**2.17**	**306**	P	**Pn**	**03 41 48.9**	**-1.0**
OHAK	**Old Harbor**	**2.17**	**306**	P	**Pn**	**03 41 49.1**	**-0.8**
	baz=125,SNR=49						
KDAK	**Kodiak Island**	**2.27**	**324**	Pn	**Pn**	**03 41 51.1**	**-0.2**
KDAK	**Kodiak Island**	**2.27**	**324**		**Sn**	**03 42 17.0**	**-2.3**
KDAK	**Kodiak Island**	**2.27**	**324**	P	**Pn**	**03 41 51.0**	**-0.3**
	baz=143						
KDAK	**Kodiak Island**	**2.27**	**324**	Pn	**Pn**	**03 41 51.1**	**-0.2**
KDAK	102nm,0.3s,baz=171,slow=5.8,SNR=346						
	90nm,0.3s,baz=288,slow=20,SNR=39			Sn	**Sn**	**03 42 16.7**	**-2.6**
	370nm,0.4s						
SII	**Sitkinak Islan**	**2.37**	**286**	Pn	**Pn**	**03 41 51.6**	**-1.1**
SII				IAML		03 42 19.6	
	comp=E,2μm,0.7s						
SII				IAML		03 42 29.8	
	comp=N,2μm,0.6s						
SII	**Sitkinak Islan**	**2.37**	**286**		**Sn**	**03 42 18.9**	**-2.9**
SII	**Sitkinak Islan**	**2.37**	**286**	P	**Pn**	**03 41 51.6**	**-1.1**
	baz=104,SNR=19						
Q20K	**Shuyak Island**	**2.92**	**335**	P	**Pn**	**03 42 00.3**	**+0.1**
	baz=154,SNR=8.8						
SYI	**Shuyak Island**	**2.92**	**335**	Pn	**Pn**	**03 42 00.3**	**+0.2**
SYI				IAML		03 42 38.5	
	comp=E,1μm,0.7s						
SYI	**Shuyak Island**	**2.92**	**335**		**Sn**	**03 42 33.5**	**-1.8**
KAHG	**Katmai Hook Gl**	**3.50**	**318**		**Pn**	**03 42 09.3**	**+1.0**
KAHG					**Sn**	**03 42 49.3**	**-0.5**
Q19K	**Cape Douglas,**	**3.53**	**328**		**Pn**	**03 42 09.4**	**+0.8**
Q19K					**Sn**	**03 42 49.1**	**-1.3**
Q19K	**Cape Douglas,**	**3.53**	**328**	P	**Pn**	**03 42 09.5**	**+0.8**
	baz=146,SNR=46						
KCE	**Katmai Mt Cerb**	**3.59**	**311**		**Pn**	**03 42 10.4**	**+0.9**
KCG	**Knife Ck. Glac**	**3.60**	**312**		**Pn**	**03 42 10.4**	**+0.7**
CNPM	**China Poot**	**3.60**	**350**	Pn	**Pn**	**03 42 09.4**	**-0.3**
CNPM				IAML		03 42 52.4

RDWB Redoubt West 4.75 343 Pn 03 42 24.6 -0.9
O18K Koktuh Hills 4.75 327 Pn 03 42 25.1 -0.3
O18K Koktuh Hills 4.75 327 IAML 03 43 22.2
comp=E,524nm,0.6s
O18K IAML 03 43 22.5
comp=N,410nm,0.9s
O18K Koktuh Hills 4.75 327 P Pn 03 42 25.3 -0.1
baz=143,SNR=13
RDT Redoubt 4.76 346 Pn 03 42 24.6 -1.0
O19K Port Alsworth 4.79 334 Pn 03 42 26.1 +0.3
O19K Port Alsworth 4.79 334 P Pn 03 42 26.2 +0.4
baz=150,SNR=19
HIN Hinchinbrook I 4.81 22 Pn 03 42 26.4 +0.1
HIN Hinchinbrook I 4.81 22 IAML 03 43 23.3
comp=E,552nm,0.9s
HIN IAML 03 43 24.5
comp=N,535nm,0.7s
CAPN Captain Cook N 4.83 354 Pn Pn 03 42 27.3 +0.8
NCT North Crescent 4.83 343 Pn 03 42 25.7 -0.9
KAIM Kayak Island 4.97 35 Pn 03 42 28.8 +0.4
KAIM Kayak Island 4.97 35 IAML 03 43 29.9
comp=E,324nm,0.8s
KAIM IAML 03 43 32.8
comp=N,417nm,0.6s
KAIM Kayak Island 4.97 35 P Pn 03 42 28.9 +0.6
baz=219,SNR=54
EYAK Cordova Ski Ar 5.11 25 P Pn 03 42 30.5 +0.2
EYAK Cordova Ski Ar 5.11 25 P Pn 03 42 30.8 +0.5
baz=208,SNR=74
RC01 Rabbit Creek A 5.12 2 Pn 03 42 30.1 -0.3
RC01 IAML 03 43 32.8
comp=N,231nm,0.6s
RC01 IAML 03 43 33.5
comp=E,495nm,0.6s
RC01 Rabbit Creek A 5.12 2 P Pn 03 42 30.0 -0.5
baz=182,SNR=10
P16K Nushagak River 5.25 309 P Pn 03 42 32.6 +0.4
baz=123,SNR=61
RAGM Ragged Mountai 5.25 31 Pn 03 42 33.0 +0.6
RAGM Ragged Mountai 5.25 31 IAML 03 43 41.4
comp=E,443nm,0.8s
RAGM IAML 03 43 46.0
comp=N,771nm,0.7s
S14K Fog Glacier 5.31 277 P Pn 03 42 33.4 +0.2
baz=90
VNFG Fog Glacier, M 5.31 277 Pn 03 42 32.7 -0.5
O17K Koliganek Bris 5.33 318 Pn 03 42 33.4 +0.1
O17K Koliganek Bris 5.33 318 P Pn 03 42 33.5 +0.1
baz=133
N20K Mount Spurr 5.35 349 P Pn 03 42 33.2 -0.5
baz=167
SPCR Spurr Chakacha 5.35 349 Pn 03 42 32.7 -0.9
N19K Bonanza Creek 5.37 336 Pn 03 42 33.0 -0.9
N19K Bonanza Creek 5.37 336 P Pn 03 42 34.2 +0.3
baz=153
SPCP Crater Peak Br 5.41 349 Pn 03 42 34.0 -0.5
SPCG Spurr Capps Gl 5.42 350 Pn 03 42 34.1 -0.6
SUA Susitna One 5.51 357 P Pn 03 42 34.7 -1.1
baz=176
KNK Knik Glacier 5.51 8 P Pn 03 42 35.4 -0.4
baz=189,SNR=7.0
CHNA Chernabura Isl 5.55 262 P Pn 03 42 35.2 -1.1
baz=75,SNR=9.5
CNBA Chernabura Isl 5.55 262 Pn 03 42 34.5 -1.8
SPNN North Nagishla 5.57 347 Pn 03 42 36.1 -0.7
STLK Strandline Lak 5.61 351 Pn 03 42 36.6 -0.6
O16K Kokwok River B 5.61 313 Pn 03 42 37.5 +0.4
O16K Kokwok River B 5.61 313 P Pn 03 42 37.4 +0.2
baz=127
N18K Kilae Creek 5.62 329 Pn 03 42 37.1 -0.2
N18K Kilae Creek 5.62 329 P Pn 03 42 37.1 -0.2
baz=145
PMR Palmer 5.64 5 Pn Pn 03 42 37.6 0.0
PMR Palmer 5.64 5 P Pn 03 42 37.5 -0.1
PMR Palmer 5.64 5 P Pn 03 42 37.1 -0.5
baz=185,SNR=14
SNH Sunshine Point 5.69 39 Pn 03 42 38.9 +0.6
CYK Cape Yakataga 5.75 41 Pn 03 42 39.5 +0.4
BMRM Bremner River 5.76 28 P Pn 03 42 39.8 +0.5
baz=212,SNR=124
GHO Glory Hole Cre 5.83 5 Pn Pn 03 42 40.8 +0.4
SVW2 Sparrevohn 5.88 333 Pn 03 42 40.3 -0.6
SVW2 Sparrevohn 5.88 333 P Pn 03 42 41.8 +0.9
N17K Nushagak Hills 5.90 323 Pn 03 42 41.2 0.0
N17K Nushagak Hills 5.90 323 P Pn 03 42 41.1 0.0
baz=138
SML Sawmill 5.91 8 Pn 03 42 41.5 +0.2
SML Sawmill 5.91 8 P Pn 03 42 41.7 +0.4
baz=189,SNR=30
SDPT Sand Point 5.92 268 Pn 03 42 40.3 -1.1
SDPT Sand Point 5.92 268 P Pn 03 42 40.4 -1.1
SDPT Sand Point 5.92 268 P Pn 03 42 40.6 -0.9
baz=80,SNR=18
KLU Klutina 5.93 20 P Pn 03 42 42.2 +0.5
baz=203,SNR=83
M23K Glacier View 5.95 11 P Pn 03 42 42.4 +0.5
baz=193,SNR=30
SCM Sheep Creek Mo 6.04 12 P Pn 03 42 44.1 +1.0
baz=195,SNR=26
SKT Skwentna 6.06 353 Pn 03 42 42.7 -0.7
SKT Skwentna 6.06 353 P Pn 03 42 42.7 -0.7
baz=172
M20K Styx River 6.12 346 Pn 03 42 43.5 -0.8
M20K Styx River 6.12 346 P Pn 03 42 43.9 -0.4
baz=164
O15K Ungalikthiuk R 6.14 305 Pn 03 42 44.5 0.0
O15K Ungalikthiuk R 6.14 305 P Pn 03 42 44.6 0.0
baz=118
M18K Stony River 6.28 334 Pn 03 42 45.6 -0.8
M18K Stony River 6.28 334 P Pn 03 42 45.8 -0.5
baz=149
N25K Chitina, Valde 6.31 24 P Pn 03 42 47.7 +0.8
baz=209,SNR=100
M19K Big River Lodg 6.34 341 Pn 03 42 46.8 -0.4
M19K Big River Lodg 6.34 341 P Pn 03 42 46.6 -0.6
baz=158
N16K Nishlik Lake 6.43 318 P Pn 03 42 48.7 +0.3
baz=131,SNR=136
CUT Chulitna 6.44 359 P Pn 03 42 49.9 +1.4
baz=179
SAMH Samovar Hills 6.44 46 Pn 03 42 49.5 +0.8
M24K Tolsona, Glenn 6.46 16 P Pn 03 42 50.0 +1.1
baz=200,SNR=22
PTPK Patty Peak 6.55 34 Pn 03 42 51.1 +0.8
YKU2 Yakutat 6.59 53 P Pn 03 42 52.3 +1.7
PS1A Pavlof South-1 6.62 270 Pn 03 42 49.9 -1.2
PINM Pinnacle 6.64 48 P Pn 03 42 52.3 +0.9
baz=235,SNR=58
M17K Holitna River 6.65 328 Pn 03 42 51.4 0.0
M17K Holitna River 6.65 328 P Pn 03 42 51.4 0.0
baz=142
PVV Pavlof Volcano 6.66 270 Pn 03 42 50.2 -1.4
L19K White Mountain 6.68 340 Pn 03 42 51.4 -0.5
L19K White Mountain 6.68 340 P Pn 03 42 51.4 -0.5
baz=156,SNR=10.0
WACK Wrangell Chich 6.71 24 Pn 03 42 53.0 +0.5
WAT6 Susitna Watana 6.72 9 Pn 03 42 52.8 +0.2
WAT6 Susitna Watana 6.72 9 P Pn 03 42 52.8 +0.2
baz=191,SNR=21
N15K Kwethluk River 6.77 312 Pn 03 42 54.1 +1.0
N15K Kwethluk River 6.77 312 P Pn 03 42 54.0 +1.0
baz=124
CTG Chitna Glacier 6.77 39 P Pn 03 42 53.7 +0.5
baz=226
CTGM Chitina Glacie 6.77 39 Pn 03 42 53.6 +0.4
PNL Peninsula 6.79 53 Pn 03 42 53.9 +0.5
PNL Peninsula 6.79 53 P Pn 03 42 54.6 +1.2
PNL Peninsula 6.79 53 P Pn 03 42 54.3 +0.9
baz=241,SNR=66
LOGN Logan Glacier 6.80 41 Pn 03 42 53.9 +0.3
BCPM Bancas Point 6.83 50 Pn 03 42 54.8 +0.9
O14K Tigyukauivet M 6.85 303 Pn Pn 03 42 54.1 0.0
O14K Tigyukauivet M 6.85 303 P Pn 03 42 54.5 +0.3
baz=114,SNR=33
M16K Timber Creek 6.87 321 Pn 03 42 54.6 +0.2
M16K Timber Creek 6.87 321 P Pn 03 42 55.0 +0.6
baz=134
HARP HAARP 6.91 19 Pn 03 42 56.0 +1.0
HARP HAARP 6.91 19 P Pn 03 42 56.2 +1.2
baz=203,SNR=111
WAT1 Susitna Watana 6.91 6 Pn 03 42 55.4 +0.4
WAT1 Susitna Watana 6.91 6 P Pn 03 42 55.7 +0.6
baz=187
PPLA Purkeypile 7.02 352 Pn 03 42 57.2 +0.6
PPLA Purkeypile 7.02 352 P Pn 03 42 58.0 +1.4
baz=170
L18K Granite Mounta 7.12 334 Pn 03 42 57.0 -0.9
L18K Granite Mounta 7.12 334 P Pn 03 42 57.6 -0.3
baz=149
DHY Denali Highway 7.24 10 P Pn 03 43 00.5 +0.8
baz=192,SNR=30
M15K Kasigluk River 7.31 315 Pn 03 43 00.7 +0.1
M15K Kasigluk River 7.31 315 P Pn 03 43 00.6 +0.1
baz=126
N14K Kuskokwak Cree 7.33 307 Pn 03 43 01.2 +0.5
N14K Kuskokwak Cree 7.33 307 P Pn 03 43 01.5 +0.8
baz=118
M26K Nabesna, AK 7.38 26 Pn 03 43 02.0 +0.4
M26K Nabesna, AK 7.38 26 P Pn 03 43 02.9 +1.3
baz=212
PAX Paxson 7.38 17 P Pn 03 43 02.5 +0.9
baz=200,SNR=28
O29M Mount Kennedy 7.46 50 Pn 03 43 03.6 +0.9
O29M Mount Kennedy 7.46 50 P Pn 03 43 04.2 +1.5
baz=239,SNR=58
RND Reindeer 7.47 4 Pn 03 43 03.4 +0.7
L17K Donlin 7.48 329 Pn 03 43 02.6 -0.2
L17K Donlin 7.48 329 P Pn 03 43 02.9 +0.1
baz=142
TRF Thorofare Moun 7.49 359 Pn 03 43 03.5 +0.3
TRF Thorofare Moun 7.49 359 P Pn 03 43 03.8 +0.7
baz=179,SNR=6.2
CAST Castle Rocks 7.53 353 Pn 03 43 03.2 -0.3
CAST Castle Rocks 7.53 353 P Pn 03 43 04.6 +1.1
baz=171,SNR=11
L16K Owhat River 7.53 324 Pn 03 43 03.5 +0.1
L16K Owhat River 7.53 324 P Pn 03 43 03.7 +0.2
baz=136,SNR=32
P29M Windy Craggy 7.53 56 Pn 03 43 03.8 +0.2
P29M Windy Craggy 7.53 56 P Pn 03 43 04.4 +0.8
baz=246
YUK8 Steele Glacier 7.55 41 P Pn 03 43 06.0 +1.9
baz=229,SNR=84
TTA Tatalina 7.59 339 Pn 03 43 03.2 -1.2
TTA Tatalina 7.59 339 P Pn 03 43 03.8 -0.6
baz=142
KTH Kantishna Hill 7.61 357 Pn 03 43 04.9 +0.3
YUK3 Moose Creek 7.64 37 P Pn 03 43 06.6 +1.3
baz=224,SNR=70
M27K Edge Creek, AK 7.65 30 Pn 03 43 06.2 +0.9
M27K Edge Creek, AK 7.65 30 P Pn 03 43 06.4 +1.1
baz=217
K20K Telida 7.67 346 Pn 03 43 04.1 -1.3
K20K Telida 7.67 346 P Pn 03 43 05.1 -0.3
baz=163
FALS False Pass 7.68 267 Pn 03 43 04.2 -1.4
FALS False Pass 7.68 267 P Pn 03 43 04.6 -1.0
FALS False Pass 7.68 267 P Pn 03 43 04.2 -1.4
baz=77,SNR=9.6
YUK7 Dusty Glacier 7.76 49 Pn 03 43 08.1 +1.2
MCK McKinley 7.79 4 Pn 03 43 07.7 +0.6
MCK McKinley 7.79 4 P Pn 03 43 07.9 +0.7
baz=185,SNR=12
S31K Pelican 7.82 70 P Pn 03 43 06.5 -0.9
baz=261,SNR=11
L26K Log Cabin Wild 7.84 23 Pn 03 43 09.4 +1.6
L26K Log Cabin Wild 7.84 23 P Pn 03 43 09.8 +2.0
baz=158,SNR=42
M14K Bethel 7.86 312 Pn 03 43 08.3 +0.3
M14K Bethel 7.86 312 P Pn 03 43 08.3 +0.3
baz=123,SNR=29
ISNN Isanotski Nort 7.89 267 Pn 03 43 07.7 -0.8
YUK6 Outpost Mounta 7.89 46 P Pn 03 43 10.3 +1.6
baz=236,SNR=94
BRPK Brown Peak 7.92 266 Pn 03 43 07.7 -1.1
K17K Iditarod 7.95 331 P Pn 03 43 09.5 +0.3
baz=145,SNR=9.8
BVCY Beaver Creek 7.99 32 P Pn 03 43 11.0 +1.2
baz=226,SNR=22
CHUM Lake Minchumin 8.00 353 P Pn 03 43 11.2 +1.2
baz=171
YUK4 Talbot Arm 8.01 43 P Pn 03 43 13.5 +3.2
baz=232,SNR=87
P30M Million Dollar 8.09 54 Pn 03 43 12.3 +1.1
P30M Million Dollar 8.09 54 P Pn 03 43 12.9 +1.6
baz=244
PLBC Pleasant Camp 8.12 59 P Pn 03 43 12.9 +1.4
baz=250,SNR=14
K24K Donnelly Dome 8.13 14 Pn 03 43 13.5 +1.7
K24K Donnelly Dome 8.13 14 P Pn 03 43 13.6 +1.7
baz=197,SNR=14
BPAW Bear Paw Mtn. 8.15 357 Pn 03 43 11.1 -1.0
BPAW Bear Paw Mtn. 8.15 357 P Pn 03 43 11.4 -0.7
baz=176,SNR=8.3
HYT Haines Junctio 8.18 48 Pn Pn 03 43 13.6 +1.1
HYT Haines Junctio 8.18 48 P Pn 03 43 13.8 +1.2
baz=239,SNR=18
YUK5 Granite Creek 8.20 46 Pn 03 43 14.2 +1.4
RIDG Independent Ri 8.21 16 Pn 03 43 13.7 +0.9
RIDG Independent Ri 8.21 16 P Pn 03 43 13.6 +0.7
baz=201,SNR=32
J18K Innoko River 8.21 339 Pn 03 43 12.1 -0.8
J18K Innoko River 8.21 339 P Pn 03 43 13.0 +0.1
baz=153
L15K Ungalak Mounta 8.22 319 Pn 03 43 13.2 +0.3
L15K Ungalak Mounta 8.22 319 P Pn 03 43 13.2 +0.3
baz=129,SNR=32
SIT Sitka 8.23 76 Pn 03 43 10.5 -2.5
SIT Sitka 8.23 76 P Pn 03 43 11.3 -1.7
L27K Beaver Creek, 8.23 27 Pn 03 43 13.8 +0.5
L27K Beaver Creek, 8.23 27 P Pn 03 43 14.5 +1.3
baz=214
M13K Dall Lake 8.29 308 Pn 03 43 14.6 +0.7
M13K Dall Lake 8.29 308 P Pn 03 43 14.7 +0.7
baz=117
WESE West Dahl East 8.44 266 Pn 03 43 15.8 -0.2
J20K Nowinta River 8.46 348 P Pn 03 43 16.3 0.0
baz=164
L14K Kuka Creek 8.48 314 Pn 03 43 16.9 +0.4
L14K Kuka Creek 8.48 314 P Pn 03 43 17.1 +0.6
baz=124
J19K Poorman 8.50 343 Pn 03 43 15.8 -1.0
J19K Poorman 8.50 343 P Pn 03 43 16.5 -0.3
baz=159
WEBT Westdahl Beart 8.50 267 Pn 03 43 15.6 -1.3
SCRK Sand Creek 8.57 18 Pn 03 43 17.9 0.0
SCRK Sand Creek 8.57 18 P Pn 03 43 18.5 +0.6
baz=203,SNR=13
HDA Harding Lake 8.59 9 Pn 03 43 19.4 +1.4
HDA Harding Lake 8.59 9 P Pn 03 43 19.0 +1.0
baz=192,SNR=25
SKAG Skagway 8.62 60 Pn 03 43 18.3 -0.1
SKAG Skagway 8.62 60 P Pn 03 43 19.6 +1.2
SKAG Skagway 8.62 60 P Pn 03 43 19.1 +0.7
baz=202,SNR=10
K15K Wolf Creek Mou 8.63 322 Pn 03 43 19.4 +0.7
K15K Wolf Creek Mou 8.63 322 P Pn 03 43 19.1 +0.5
baz=132,SNR=20
BESE Bessie Mountai 8.64 66 Pn 03 43 18.8 0.0
S32K Killisnoo 8.65 74 Pn 03 43 17.7 -1.1
S32K Killisnoo 8.65 74 P Pn 03 43 18.5 -0.3
baz=266,SNR=5.9
NEA2 Nenana 8.65 3 Pn 03 43 18.6 -0.3
NEA2 Nenana 8.65 3 P Pn 03 43 18.6 -0.3
baz=224,SNR=12
N30M Aishikik Lake 8.69 46 Pn 03 43 20.3 +0.8
N30M Aishikik Lake 8.69 46 P Pn 03 43 20.6 +1.1
baz=236
CCB Clear Creek Bu 8.76 6 Pn 03 43 20.8 +0.4
R32K Eaglecrest 8.76 68 P Pn 03 43 21.1 +0.7
baz=261
O30N Mendenhall 8.76 51 Pn 03 43 21.3 +0.9
O30N Mendenhall 8.76 51 P Pn 03 43 21.6 +1.1
baz=242,SNR=13
M29M Somme Creek 8.79 38 Pn 03 43 22.0 +1.2
M29M Somme Creek 8.79 38 P Pn 03 43 22.5 +1.7
baz=227
JIS Juneau Island 8.83 68 Pn 03 43 21.3 0.0
JIS Juneau Island 8.83 68 P Pn 03 43 21.9 +0.6
IL31 8.95 9 Pn 03 43 23.5 +0.6
ILAR Eielson Array 8.95 9 Pn Pn 03 43 22.2 -0.8
comp=N,1.9nm,0.3s,baz=193,slow=13,SNR=85
ILAR Sn Sn 03 44 59.5 -4.3
comp=N,2.7nm,0.3s,baz=203,slow=22,SNR=8.4
comp=N,12nm,0.6s
J25K Salcha River, 8.96 13 Pn 03 43 23.3 +0.2
J25K Salcha River, 8.96 13 P Pn 03 43 23.4 +0.2
baz=197,SNR=9.3
COLA College 8.98 6 Pn 03 43 23.1 -0.3
COLA College 8.98 6 P Pn 03 43 23.3 -0.1
baz=188
K27K Chicken 9.00 23 Pn 03 43 24.0 +0.4
K27K Chicken 9.00 23 P Pn 03 43 24.2 +0.6
baz=210
J16K Anvik River 9.04 328 P Pn 03 43 24.0 -0.3
baz=140,SNR=12
MLY Manley 9.08 358 Pn 03 43 23.6 -1.2
MLY Manley 9.08 358 P Pn 03 43 25.2 +0.4
baz=178,SNR=6.2
I20K Naaghedeneel 9.10 348 P Pn 03 43 24.9 -0.1
baz=164
J26L Joseph Creek 9.13 18 Pn 03 43 25.6 +0.1
J26L Joseph Creek 9.13 18 P Pn 03 43 26.1 +0.6
baz=203
I23K Minto, Yukon-K 9.20 2 Pn 03 43 25.3 -1.1
I23K Minto, Yukon-K 9.20 2 P Pn 03 43 26.8 +0.5
baz=182,SNR=6.8
POKR Poker Plat Res 9.25 7 Pn 03 43 27.1 0.0
POKR Poker Plat Res 9.25 7 P Pn 03 43 27.2 +0.1
baz=189,SNR=7.8
WHY Whitehorse 9.25 53 Pn 03 43 28.0 +0.7
WHY Whitehorse 9.25 53 P Pn 03 43 28.6 +1.4
baz=246,SNR=32
I21K Tanana 9.27 355 Pn 03 43 26.9 -0.5
I21K Tanana 9.27 355 P Pn 03 43 27.0 -0.3
baz=173,SNR=7.9
LVA Lava Point 9.34 265 Pn 03 43 26.5 -1.8
L29M L29M 9.35 35 Pn 03 43 29.4 +0.8
L29M L29M 9.35 35 P Pn 03 43 29.8 +1.2
baz=225
GCSA Galena City Sc 9.41 342 P Pn 03 43 29.1 -0.1
baz=156
P32M Atlin 9.45 61 Pn 03 43 30.1 +0.3
P32M Atlin 9.45 61 P Pn 03 43 30.5 +0.7
baz=254,SNR=14
M30M Minto, Yukon 9.46 40 P Pn 03 43 31.0 +1.0
baz=231,SNR=22
U33K Whale Pass 9.49 82 Pn 03 43 26.8 -3.5
U33K Whale Pass 9.49 82 P Pn 03 43 29.3 -1.0
baz=276
I17K Unalakleet 9.54 330 Pn 03 43 31.0 +0.1
I17K Unalakleet 9.54 330 P Pn 03 43 30.8 -0.1
baz=142,SNR=9.3
CRAG Craig 9.58 86 Pn 03 43 28.7 -2.9
CRAG Craig 9.58 86 P Pn 03 43 29.5 -2.0
CRAG Craig 9.58 86 P Pn 03 43 32.0 +0.4
baz=280
M11K Mekoryuk 9.58 304 Pn 03 43 31.1 -0.4
M11K Mekoryuk 9.58 304 P Pn 03 43 31.7 +0.1
baz=111,SNR=5.8
J14K Nanvaranak Lak 9.64 320 Pn 03 43 33.7 +1.2
J14K Nanvaranak Lak 9.64 320 P Pn 03 43 33.0 +0.5
baz=129
DAWY Dawson 9.69 29 Pn 03 43 34.0 +0.8
DAWY Dawson 9.69 29 P Pn 03 43 34.1 +0.9
baz=218,SNR=22
UNV Unalaska Valle 9.70 264 Pn 03 43 31.2 -2.0
UNV Unalaska Valle 9.70 264 P Pn 03 43 31.3 -2.0
MNAT Makushin Natee 9.79 264 Pn 03 43 32.4 -2.1
H21K Melozitna Rive 9.79 353 P Pn 03 43 33.5 -1.0
baz=171,SNR=13
PRP Porcupine Dome 9.82 11 Pn 03 43 35.2 +0.3
PRP Porcupine Dome 9.82 11 P Pn 03 43 36.0 +1.1
baz=195,SNR=11
H20K Anotleneega Mo 9.82 348 P Pn 03 43 35.7 +0.8
baz=164
MSW Makushin Switc 9.84 265 Pn 03 43 33.3 -1.8
EGAK Eagle 9.85 23 P Pn 03 43 36.0 +0.8
baz=210,SNR=32
I26K Coal Creek Min 9.94 17 P Pn 03 43 37.5 +1.0
baz=203
H24K Noodor Dome 9.94 5 Pn 03 43 37.1 +0.5
H24K Noodor Dome 9.94 5 P Pn 03 43 37.1 +0.5
baz=187,SNR=12
MAPS Pakushin South 9.96 264 Pn 03 43 35.1 -1.7
H22K Ishtalitna Cre 9.96 357 P Pn 03 43 37.0 +0.2
baz=176
Q32M Nakina River 10.03 65 P Pn 03 43 38.7 +0.7
baz=260
H18K Honhosa River 10.05 340 P Pn 03 43 38.2 +0.2
baz=152
P33M Teslin, Yukon 10.05 58 Pn Pn 03 43 38.5 +0.3
P33M Teslin, Yukon 10.05 58 P Pn 03 43 38.8 +0.6
baz=252,SNR=28
H19K Roundabout Mou 10.06 345 P Pn 03 43 37.8 -0.4
baz=159
K29M Barlow Dome 10.07 33 P Pn 03 43 39.4 +1.1
baz=224
M31M Drury Creek, Y 10.17 46 P Pn 03 43 41.4 +1.7
baz=239,SNR=36
IMAR Indian Mountai 10.19 351 Pn 03 43 40.4 +0.5
H17K Granite Mounta 10.19 336 Pn Pn 03 43 40.4 +0.4
H17K Granite Mounta 10.19 336 P Pn 03 43 40.0 0.0
baz=147
N32M Quiet Lake 10.26 53 P Pn 03 43 42.1 +1.2
baz=247
J29N Klondike Camp 10.32 30 P Pn 03 43 43.1 +1.4
baz=220
MAYO Mayo, Yukon 10.43 37 P Pn 03 43 44.9 +1.7
baz=229,SNR=5.3
V35K Ketchikan 10.45 86 P Pn 03 43 44.7 +1.3
baz=281
I27K Kandik River 10.48 20 P Pn 03 43 45.0 +1.0
baz=207,SNR=44
S34M Telegraph Cree 10.52 72 P Pn 03 43 46.3 +1.8
baz=267
H16K Elim 10.55 330 P Pn 03 43 44.7 -0.1
baz=140,SNR=9.3
FARO Faro, Yukon 10.61 47 P Pn 03 43 47.7 +2.0
baz=241,SNR=14
I28M Miner Creek 10.69 23 P Pn 03 43 48.5 +1.5
baz=212
G21K Allakaket 10.69 353 P Pn 03 43 48.0 +1.2
baz=170
G19K Purcell Mounta 10.73 345 P Pn 03 43 48.0 +0.6
baz=158
G23K Bananza Creek 10.76 0 P Pn 03 43 48.3 +0.5
baz=180
G18K Tagagawik 10.77 341 P Pn 03 43 48.2 +0.4
baz=153
R33M Jennings River 10.77 64 P Pn 03 43 49.0 +1.0
baz=259
G24K Hadweenzic Riv 10.82 6 P Pn 03 43 49.1 +0.5
baz=188
G17K Kiwalik Mounta 10.84 336 P Pn 03 43 49.3 +0.5
baz=147
J30M Hart River 10.96 33 P Pn 03 43 52.1 +1.6
baz=224
G25K Bearman Lake 10.98 8 P Pn 03 43 51.6 +0.9
baz=192
G22K Bettles 11.00 357 P Pn 03 43 51.5 +0.6
baz=176
T35M Bob Quinn 11.00 77 P Pn 03 43 52.9 +1.8
baz=273
I29M Ogilvie Camp, 11.01 27 P Pn 03 43 52.6 +1.5
baz=217,SNR=5.2
H27K Steamboat Moun 11.06 18 P Pn 03 43 52.9 +1.0
baz=206
DLBC Dease Lake 11.13 69 Pn Pn 03 43 52.7 -0.3
DLBC Dease Lake 11.13 69 P Pn 03 43 53.9 +1.0
baz=265
DLBC Dease Lake 11.13 69 Pn Pn 03 43 53.8 +0.9
comp=N,1.4nm,0.3s,baz=268,slow=8.0,SNR=18
DLBC Sn Sn 03 45 53.5 -3.9
comp=N,0.9nm,0.3s,baz=174,slow=18,SNR=3.7
comp=N,4.6nm,0.4s
G16K Koyuk River 11.17 333 P Pn 03 43 53.3 +0.1
baz=142
SPIA Saint Paul Isl 11.19 284 P Pn 03 43 53.0 -0.6
U35K Hyder 11.23 82 Pn 03 43 53.9 -0.3
COLD Coldfoot 11.28 360 P Pn 03 43 55.1 +0.2
baz=180,SNR=7.1
G15K Niukluk 11.33 329 P Pn 03 43 56.0 +0.5
baz=136
NIKH Nikolski High 11.33 262 P Pn 03 43 55.7 +0.1
F21K Alatna River 11.39 353 P Pn 03 43 56.5 +0.1
baz=170
G26K Porcupine Rive 11.40 13 P Pn 03 43 57.1 +0.7
baz=198
I30M Mount Dempster 11.42 30 P Pn 03 43 58.8 +2.0
baz=222
F20K Avaraart Lake 11.42 349 P Pn 03 43 57.2 +0.5
baz=164
ANM Nome 11.44 325 Pn Pn 03 43 57.1 0.0
ANM Nome 11.44 325 P Pn 03 43 57.0 0.0
baz=132,SNR=7.2

F19K	**Shaleruckik Mo**	**11.48**	**345**	P		**Pn**	**03 43 57.8**	**+0.3**
	baz=158								
F22K	**John River**	**11.61**	**356**	P		**Pn**	**03 43 59.1**	**-0.2**
	baz=174								
F24K	**Squaw Lake**	**11.62**	**4**	P		**Pn**	**03 43 59.9**	**+0.4**
	baz=186								
H29M	**Whitestone**	**11.69**	**24**	P		**Pn**	**03 44 00.8**	**+0.3**
	baz=214								
F25K	**Christian Rive**	**11.83**	**8**	P		**Pn**	**03 44 03.2**	**+0.8**
	baz=192								
WTLY	**Watson Lake, Y**	**11.98**	**61**	P		**Pn**	**03 44 05.6**	**+1.1**
	baz=259,SNR=5.9								
E19K	**Redstone River**	**11.99**	**347**	P		**Pn**	**03 44 05.1**	**+0.6**
	baz=160								
F15K	**North Star Dit**	**12.03**	**330**	P		**Pn**	**03 44 05.5**	**+0.5**
	baz=137								
F26K	**Sheenjek River**	**12.07**	**11**	P		**Pn**	**03 44 06.2**	**+0.6**
	baz=196								
E23K	**Chandalar**	**12.12**	**1**	P		**Pn**	**03 44 06.6**	**+0.2**
	baz=181								
EPYK	**Eagle Plains**	**12.21**	**26**	P		**Pn**	**03 44 09.2**	**+1.7**
	baz=218,SNR=11								
G29M	**Pine Creek**	**12.35**	**23**	P		**Pn**	**03 44 09.6**	**+0.2**
	baz=213,SNR=26								
F14K	**Arctic Creek**	**12.36**	**327**	P		**Pn**	**03 44 09.7**	**+0.2**
	baz=133								
E25K	**Arctic Village**	**12.36**	**8**	Pn		**Pn**	**03 44 09.7**	**+0.2**
E25K	**Arctic Village**	**12.36**	**8**	P		**Pn**	**03 44 09.2**	**-0.3**
	baz=192								
E17K	**Hotham Inlet**	**12.43**	**338**	P		**Pn**	**03 44 10.9**	**+0.3**
	baz=148								
F28M	**Old Crow**	**12.60**	**18**	Pn		**Pn**	**03 44 13.3**	**+0.5**
F28M	**Old Crow**	**12.60**	**18**	P		**Pn**	**03 44 14.9**	**+2.1**
	baz=207,SNR=13								
E20K	**Nigu River**	**12.63**	**350**	P		**Pn**	**03 44 13.7**	**+0.4**
	baz=164								
G30M	**tAoh Zraii Nji**	**12.82**	**25**	P		**Pn**	**03 44 15.7**	**-0.2**
	baz=217								
E27K	**Coleen River**	**12.85**	**14**	P		**Pn**	**03 44 17.4**	**+1.1**
	baz=202								
TNA	**Tin City**	**12.91**	**325**	P		**Pn**	**03 44 17.0**	**-0.1**
	baz=130								
D22K	**Ayikyak River**	**13.00**	**356**	P		**Pn**	**03 44 19.3**	**+1.0**
	baz=174								
D19K	**Kuna River**	**13.08**	**347**	P		**Pn**	**03 44 20.1**	**+0.7**
	baz=160								
D24K	**Happy Valley**	**13.23**	**2**	P		**Pn**	**03 44 22.1**	**+0.7**
	baz=183								
G31M	**Satah River**	**13.26**	**28**	P		**Pn**	**03 44 23.6**	**+1.7**
	baz=222								
C21K	**Knifeblade Rid**	**13.39**	**353**	P		**Pn**	**03 44 24.8**	**+1.2**
	baz=168								
BBB	**Bella Bella**	**13.42**	**97**	Sn		Sn	03 46 42.5	-11
	comp=N,0.2nm,0.3s,baz=203,slow=11,SNR=1.5								
F30M	**Barrier River**	**13.42**	**24**	P		**Pn**	**03 44 26.0**	**+1.9**
	baz=216								
D25K	**Kavik River**	**13.49**	**6**	P		**Pn**	**03 44 26.4**	**+1.4**
	baz=189								
E28M	**Babbage River**	**13.54**	**17**	Pn		**Pn**	**03 44 27.7**	**+2.0**
E28M	**Babbage River**	**13.54**	**17**	P		**Pn**	**03 44 27.7**	**+2.0**
	baz=206								
E29M	**Blow River**	**13.64**	**19**			**Pn**	**03 44 27.0**	**0.0**
E29M	**Blow River**	**13.64**	**19**	P		**Pn**	**03 44 28.6**	**+1.7**
	baz=210								
F31M	**Tsiigehtchic**	**13.79**	**27**	Pn		**Pn**	**03 44 29.3**	**+0.3**
F31M	**Tsiigehtchic**	**13.79**	**27**	P		**Pn**	**03 44 30.6**	**+1.6**
	baz=221,SNR=45								
C24K	**Franklin Bluff**	**13.80**	**2**	P		**Pn**	**03 44 30.4**	**+1.2**
	baz=183								
B21K	**Ikpikpuk River**	**13.84**	**353**			**Pn**	**03 44 29.6**	**-0.1**
B21K	**Ikpikpuk River**	**13.84**	**353**	P		**Pn**	**03 44 30.3**	**+0.6**
	baz=169								
C19K	**Lookout Ridge**	**13.85**	**346**	P		**Pn**	**03 44 30.3**	**+0.4**
	baz=157								
D27M	**Malcolm River**	**13.92**	**14**			**Pn**	**03 44 31.1**	**+0.2**
D27M	**Malcolm River**	**13.92**	**14**	P		**Pn**	**03 44 32.1**	**+1.2**
	baz=202								
C16K	**Lisburne Hills**	**14.18**	**336**	Pn		**Pn**	**03 44 34.1**	**-0.3**
D28M	**Stokes Point**	**14.32**	**16**	P		**Pn**	**03 44 38.1**	**+1.8**
	baz=206								
KOTAN	**Kotaneelee Air**	**14.34**	**62**	P		**Pn**	**03 44 38.3**	**+1.7**
	baz=264,SNR=15								
B18K	**Kokolik River**	**14.42**	**343**	P		**Pn**	**03 44 38.5**	**+0.9**
	baz=153								
B22K	**Teshekpuk Lake**	**14.49**	**355**			**Pn**	**03 44 37.9**	**-0.7**
B22K	**Teshekpuk Lake**	**14.49**	**355**	P		**Pn**	**03 44 38.3**	**-0.3**
	baz=172								
INK	**Inuvik**	**14.50**	**25**	Pn		**Pn**	**03 44 39.0**	**+0.2**
INK	**Inuvik**	**14.50**	**25**	P		**Pn**	**03 44 40.4**	**+1.6**
	baz=220,SNR=54								
INK	**Inuvik**	**14.50**	**25**	Pn		**Pn**	**03 44 39.9**	**+1.2**
	comp=N,0.7nm,0.3s,baz=208,slow=14,SNR=101								
	comp=N,34nm,0.9s								
ATKA	**Atka Island**	**14.62**	**265**	Pn		**Pn**	**03 44 37.9**	**-2.7**
A19K	**Wainwright**	**15.07**	**346**	P		**Pn**	**03 44 44.6**	**-1.8**
	baz=156								
WRGLY	**Wrigley**	**15.20**	**51**	P		**Pn**	**03 44 48.9**	**+0.7**
	baz=254,SNR=7.6								
A22K	**Sinclair Lake**	**15.23**	**354**	P		**Pn**	**03 44 47.1**	**-1.3**
	baz=170								
A21K	**Barrow**	**15.65**	**352**	P		**Pn**	**03 44 53.4**	**-0.6**
	baz=166								
ADK	**Adak**	**16.15**	**266**			**Pn**	**03 44 58.0**	**-2.6**
ADK					IAmb	IAmb	03 45 05.4		
	comp=Z,36nm,1.0s								
C36M	**Paulatuk**	**17.72**	**31**			**Pn**	**03 45 19.4**	**-0.9**
C36M					IAmb	IAmb	03 45 24.3		
	comp=Z,34nm,0.8s								
C36M	**Paulatuk**	**17.72**	**31**	P		**Pn**	**03 45 20.2**	**0.0**
	baz=234,SNR=33								
YKA	**Yellowknife Ar**	**19.07**	**56**	P		**Pn**	**03 45 36.3**	**-0.5**
YKA	**Yellowknife Ar**	**19.07**	**56**	P		**Pn**	**03 45 37.9**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=265,slow=9.7,SNR=132								
	comp=Z,6.0nm,0.7s								
A36M	**Sachs Harbour**	**19.13**	**23**			**P**	**03 45 36.3**	**-0.2**
A36M	**Sachs Harbour**	**19.13**	**23**	P		**Pn**	**03 45 37.8**	**+0.4**
	baz=226,SNR=120								
LTY	**Liberty**	**20.10**	**103**		IAmb	IAmb	03 46 01.4		
	comp=Z,33nm,1.2s								
B08A	**Colville Reser**	**20.20**	**99**			**P**	**03 45 44.7**	**-3.8**
B08A					IAmb	IAmb	03 45 53.8		
	comp=Z,20nm,1.2s								
MXC	**Moxie City**	**20.72**	**104**		IAmb	IAmb	03 46 09.6		
	comp=Z,32nm,1.4s								
H04A	**Detroit Lake**	**20.93**	**111**	P		**P**	**03 45 54.6**	**-1.8**
H04A					IAmb	IAmb	03 46 02.1		
	comp=Z,24nm,1.1s								
E07A	**Sunnyside**	**20.97**	**104**	P		**P**	**03 45 54.9**	**-1.9**
SHEM	**Shemya Is, Ala**	**20.98**	**276**	P		Pn	03 45 57.6	-1.9
	comp=Z,80nm,0.9s,baz=98,slow=7.1,SNR=4.2								
	comp=Z,80nm,0.9s								
C09A	**Chrisman Ranch**	**21.10**	**99**	P		**P**	**03 45 57.1**	**-1.1**
D08A	**Wollman Farm,**	**21.18**	**102**	P		**P**	**03 45 57.1**	**-2.0**
D08A					IAmb	IAmb	03 46 10.5		
	comp=Z,14nm,0.9s								
EDM	**Edmonton**	**21.29**	**82**		IAmb	IAmb	03 46 40.0		
	comp=Z,26nm,1.3s								
F07A	**Phinny Hill Vi**	**21.34**	**106**		IAmb	IAmb	03 46 07.2		
	comp=Z,25nm,1.1s								
I04A	**Tendick Farm,**	**21.43**	**113**		IAmb	IAmb	03 46 08.2		
	comp=Z,26nm,1.1s								
NEW	**Newport**	**21.48**	**97**	P		**P**	**03 46 01.1**	**-1.2**
NEW					IAmb	IAmb	03 46 15.0		
	comp=Z,17nm,1.2s								
NEW	**Newport**	**21.48**	**97**	P		**P**	**03 46 03.8**	**+1.4**
	baz=303,SNR=7.7								
NEW	**Newport**	**21.48**	**97**	P		**P**	**03 46 03.9**	**+1.5**
	comp=Z,6.6nm,0.9s,baz=306,slow=10,SNR=9.2								
	comp=Z,6.6nm,0.9s								
HUMO	**Hull Mountain**	**22.00**	**116**	P		**P**	**03 46 05.3**	**-2.5**
HUMO					IAmb	IAmb	03 46 20.3		
	comp=Z,11nm,0.8s								
J05D	**Fort Rock, OR**	**22.39**	**112**	P		**P**	**03 46 10.2**	**-2.1**
I07A	**Izee**	**22.75**	**109**	P		**P**	**03 46 15.7**	**-0.4**
I07A					IAmb	IAmb	03 46 19.1		
	comp=Z,23nm,1.4s								
F10A	**Beach Ranch, E**	**22.77**	**102**	P		**P**	**03 46 15.4**	**-0.8**
F10A					IAmb	IAmb	03 46 32.0		
	comp=Z,11nm,0.9s								
K05A	**Summer Lake**	**22.96**	**113**	P		**P**	**03 46 17.1**	**-1.2**
BMO	**Blue Mountains**	**23.43**	**105**	P		**P**	**03 46 22.7**	**-0.3**
J08A	**Circle Bar Ran**	**23.79**	**109**		IAmb	IAmb	03 46 46.9		
	comp=Z,13nm,1.2s								
MSO	**Missoula**	**24.07**	**97**	P		**P**	**03 46 29.6**	**+0.4**
	baz=306								
WVOR	**Wild Horse Val**	**24.35**	**111**	P		**P**	**03 46 29.2**	**-2.5**
WVOR					IAmb	IAmb	03 46 45.0		
	comp=Z,12nm,0.9s								
OVMT	**Ovando**	**24.46**	**96**	P		**P**	**03 46 31.9**	**-0.9**
ORV	**Oroville**	**25.01**	**119**	P		**P**	**03 46 37.2**	**-0.5**
ORV					IAmb	IAmb	03 46 39.3		
	comp=Z,7.5nm,1.1s								
EGMT	**Eagleton**	**25.75**	**91**	P		**P**	**03 46 44.5**	**+0.2**
	baz=303								
HLID	**Hailey**	**25.85**	**104**	P		**P**	**03 46 43.5**	**-1.9**
HLID	**Hailey**	**25.85**	**104**	P		**P**	**03 46 45.8**	**+0.4**
	baz=311								
PAHR	**Pah Rah Range**	**25.95**	**116**		IAmb	IAmb	03 46 58.3		
	comp=Z,8.6nm,0.9s								
KVN	**Kaiserville**	**27.10**	**115**	P		**P**	**03 46 54.2**	**-2.6**
ELK	**Elko**	**27.34**	**109**	P		**P**	**03 46 57.1**	**-1.9**
H17A	**Grant Village**	**27.43**	**98**	P		**P**	**03 47 01.0**	**+1.3**
	baz=309								
NVAR	**Mina Array Bea**	**27.47**	**116**	P		**P**	**03 46 57.7**	**-2.4**
NVAR	**Mina Array Bea**	**27.47**	**116**	P		**P**	**03 47 01.0**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=307,slow=9.0,SNR=8.4								
	comp=Z,2.5nm,0.8s								
RLMT	**Red Lodge**	**27.71**	**96**	P		**P**	**03 47 02.9**	**+0.7**
	baz=308								
RES	**Resolute Bay**	**28.03**	**28**	P		**P**	**03 47 05.8**	**+1.3**
Q12A	**Willow Creek R**	**28.80**	**111**		IAmb	IAmb	03 47 19.9		
	comp=Z,10nm,1.1s								
R11B	**Troy Canyon, C**	**28.92**	**113**	P		**P**	**03 47 11.1**	**-1.9**
R11B	**Troy Canyon, C**	**28.92**	**113**	P		**P**	**03 47 13.9**	**+0.9**
	baz=319,SNR=7.5								
DUG	**Dugway, Tooele**	**29.03**	**107**	P		**P**	**03 47 14.8**	**+0.9**
	baz=315								
BW06	**Boulder Array**	**29.04**	**100**	P		**P**	**03 47 14.9**	**+0.8**
	baz=311								
PDAR	**Pinedale Array**	**29.04**	**100**	P		**P**	**03 47 15.0**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=313,slow=5.3,SNR=11								
	comp=Z,1.0nm,0.7s								
GRAC	**Grapevine Rang**	**29.05**	**117**	P		**P**	**03 47 15.5**	**+1.5**
	baz=321								
SPR3	**Spring Creek 3**	**29.09**	**111**	P		**P**	**03 47 13.1**	**-1.6**
SPR3					IAmb	IAmb	03 47 18.1		
	comp=Z,8.6nm,1.1s								
FCC	**Fort Churchill**	**29.57**	**61**	P		**P**	**03 47 16.9**	**-1.4**
FCC					IAmb	IAmb	03 47 20.9		
	comp=Z,10nm,1.2s								
WCT	**Wildcat Mounta**	**29.58**	**116**		IAmb	IAmb	03 47 22.2		
	comp=Z,7.0nm,1.1s								
TPNV	**Topopah Spring**	**29.65**	**116**	P		**P**	**03 47 20.4**	**+0.9**
	baz=321								
FURC	**Furnace Creek,**	**29.71**	**117**	P		**P**	**03 47 21.5**	**+1.8**
	baz=322								
MPMC	**Manual Prospec**	**29.72**	**118**	P		**P**	**03 47 21.1**	**+0.9**
	baz=322								
PRN	**Pahroc Range**	**29.91**	**114**	P		**P**	**03 47 20.3**	**-1.4**
SHOC	**Shoshone, Teco**	**30.45**	**117**	P		**P**	**03 47 27.9**	**+1.6**
	baz=322								
GSC	**Goldstone, Bar**	**30.66**	**118**	P		**P**	**03 47 29.7**	**+1.4**
	baz=323								
SRU	**San Rafael Swe**	**31.04**	**106**	P		**P**	**03 47 31.5**	**-0.3**
SRU					IAmb	IAmb	03 47 51.4		
	comp=Z,5.1nm,0.9s								
RSSD	**Black Hills**	**31.26**	**93**	P		**P**	**03 47 34.3**	**+0.6**
	baz=309								
V12A	**Nelson**	**31.30**	**115**	P		**P**	**03 47 31.5**	**-2.5**
V12A					IAmb	IAmb	03 47 37.1		
	comp=Z,6.8nm,1.2s								
O20A	**White River Ci**	**31.56**	**102**	P		**P**	**03 47 35.4**	**-0.9**
O20A	**White River Ci**	**31.56**	**102**	P		**P**	**03 47 37.1**	**+0.8**
	baz=314,SNR=5.8								
PFO	**Pinyon Flats O**	**32.19**	**120**	P		**P**	**03 47 43.1**	**+1.3**
	baz=324								
TPFO	**Pinon Flats**	**32.19**	**120**	P		**P**	**03 47 43.2**	**+1.4**
	baz=324								
IRM	**Iron Mountain**	**32.40**	**118**	P		**P**	**03 47 45.3**	**+1.8**
	baz=323,SNR=5.4								
MONP2	**Monument Peak**	**32.79**	**121**	P		**P**	**03 47 49.6**	**+2.4**
	baz=325								
SWSC	**Sam W. Stewart**	**33.05**	**120**	P		**P**	**03 47 51.0**	**+1.9**
	baz=324								
ISCO	**Idaho Springs**	**33.24**	**100**	P		**P**	**03 47 52.0**	**+0.8**
	baz=314								
WUAZ	**Wupatki**	**33.26**	**112**	P		**P**	**03 47 50.6**	**-0.6**
WUAZ	**Wupatki**	**33.26**	**112**	P		**P**	**03 47 53.4**	**+2.2**
	baz=320								
Y14A	**Wickenburg**	**33.65**	**115**	P		**P**	**03 47 54.4**	**-0.1**
X16A	**Lo Mia Camp, P**	**34.07**	**113**	P		**P**	**03 47 57.8**	**-0.5**
OGNE	**Ogallala**	**34.45**	**95**	P		**P**	**03 48 02.7**	**+1.3**
	baz=312								
SDCO	**Great Sand Dun**	**34.76**	**103**	P		**P**	**03 48 05.5**	**+1.2**
	baz=316								
214A	**Organ Pipe Nat**	**35.33**	**117**	P		**P**	**03 48 07.6**	**-1.4**
214A					IAmb	IAmb	03 48 12.0		
	comp=Z,8.2nm,1.1s								
214A	**Organ Pipe Nat**	**35.33**	**117**	P		**P**	**03 48 10.7**	**+1.7**
	baz=324								
KSCO	**Kaye Shedlock'**	**35.45**	**98**	P		**P**	**03 48 11.8**	**+1.7**
	baz=314								
ANMO	**Albuquerque**	**36.30**	**107**	P		**P**	**03 48 18.9**	**+1.3**
	baz=319								
CBKS	**Cedar Bluff**	**37.19**	**96**	P		**P**	**03 48 25.8**	**+0.9**
	baz=314								
121A	**Cookes Peak, D**	**37.45**	**111**	P		**P**	**03 48 28.7**	**+1.4**
	baz=322								
NEEM	**North Greenlan**	**38.01**	**21**	*i* P		**P**	**03 48 31.6**	**-0.2**
NEEM					IAmb	IAmb	03 48 33.5		
	comp=Z,8.0nm,0.7s								
UPNV	**Upernavik**	**38.91**	**28**	*i* P		**P**	**03 48 39.3**	**+0.4**
UPNV					IAmb	IAmb	03 48 41.0		
	comp=Z,11nm,0.8s								
MNTX	**Cornudas Mount**	**39.37**	**109**	P		**P**	**03 48 44.3**	**+1.0**
	baz=322								
WMOK	**Wichita Mounta**	**40.66**	**99**	P		**P**	**03 48 53.7**	**-0.3**
WMOK					IAmb	IAmb	03 49 06.0		
	comp=Z,6.4nm,0.9s								
N41A	**Harden Midland**	**40.88**	**86**	P		**P**	**03 48 55.4**	**-0.3**
HDIL	**Hopedale**	**41.86**	**85**	P		**P**	**03 49 04.2**	**+0.4**
HDIL	**Hopedale**	**41.86**	**85**	P		**P**	**03 49 04.5**	**+0.8**
	baz=313								
TX31	**Lajitas Ar. Si**	**42.14**	**110**	P		**P**	**03 49 06.2**	**0.0**
TXAR	**Lajitas Array**	**42.14**	**110**	P		**P**	**03 49 08.2**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=318,slow=5.6,SNR=21								
	comp=Z,2.2nm,0.8s								
OZNA	**Ozona**	**42.26**	**105**	P		**P**	**03 49 07.2**	**0.0**
OZNA					IAmb	IAmb	03 49 09.1		
	comp=Z,5.6nm,0.8s								
CCM	**Cathedral Cave**	**42.49**	**89**	P		**P**	**03 49 09.2**	**+0.3**
	baz=315								
JCT	**Junction City**	**43.32**	**105**	P		**P**	**03 49 16.2**	**+0.4**
JCT	**Junction City**	**43.32**	**105**	P		**P**	**03 49 17.4**	**+1.6**
	baz=321,SNR=5.8								
SUMG	**Summit**	**43.42**	**24**	P		**P**	**03 49 17.1**	**+0.6**
SUMG	**Summit**	**43.42**	**24**	*i* P		**P**	**03 49 17.0**	**+0.5**
SUMG					IAmb	IAmb	03 49 18.6		
	comp=Z,9.1nm,1.0s								
SUMG					IAML		03 49 18.6		
	comp=Z,9.1nm,1.0s								
DRIO	**Del Rio**	**43.70**	**106**	P		**P**	**03 49 18.8**	**0.0**
SCHQ	**Schefferville**	**44.52**	**55**	P		**P**	**03 49 26.1**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=318,slow=14,SNR=2.9								
	comp=Z,4.5nm,0.8s								
NUUK	**Nuuk**	**44.93**	**38**	*i* P		**P**	**03 49 24.3**	**-3.9**
NUUK					IAmb	IAmb	03 49 33.5		
	comp=Z,16nm,1.2s								
DY2G	**Dye2**	**45.27**	**33**	*i* P		**P**	**03 49 30.2**	**-0.9**
DY2G					IAmb	IAmb	03 49 32.4		
	comp=Z,4.4nm,1.0s								
ICESG	**Greenland Ices**	**45.44**	**28**	*i* P		**P**	**03 49 32.4**	**-0.3**
ICESG					IAmb	IAmb	03 49 35.0		
	comp=Z,7.0nm,0.7s								
ISOG	**Isortoq, Green**	**48.09**	**31**	*i* P		**P**	**03 49 52.3**	**-0.7**
ISOG					IAmb	IAmb	03 49 54.1		
	comp=Z,11nm,0.8s								
NRIK	**Noril'sk**	**48.20**	**336**	P		**P**	**03 49 55.1**	**+1.3**
NRIK	**Noril'sk**	**48.20**	**336**	P		**P**	**03 49 55.2**	**+1.4**
	comp=Z,2.9nm,0.6s,baz=55,slow=7.2,SNR=4.5								
	comp=Z,2.9nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**48.35**	**239**		T	T	04 41 57.5		
	baz=31,slow=76,SNR=6.3								
H11N3	**WAKE ISLAND Hy**	**48.36**	**239**		T	T	04 41 55.7		
	baz=31,slow=76,SNR=6.7								
H11N1	**WAKE ISLAND Hy**	**48.37**	**239**		T	T	04 42 06.5		
	baz=31,slow=76,SNR=5.9								
H11S1	**WAKE ISLAND Hy**	**49.49**	**239**		T	T	04 44 07.0		
	baz=28,slow=76,SNR=9.1								
H11S2	**WAKE ISLAND Hy**	**49.51**	**239**		T	T	04 43 56.1		
	baz=28,slow=76,SNR=6.1								
H11S3	**WAKE ISLAND Hy**	**49.51**	**239**		T	T	04 44 03.8		
	baz=28,slow=76,SNR=11								
BNX	**BinXian**	**50.09**	**295**	⇓P		**P**	**03 50 06.8**	**-1.7**
BNX					pmax	pmax			
	comp=Z,11nm,0.7s								
BNX					pmax	pmax			
	comp=Z,450nm,5.3s								
ARCES	**ARCESS Array B**	**54.74**	**2**	P		**P**	**03 50 43.1**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=330,slow=7.0,SNR=5.2								
	comp=Z,3.9nm,0.9s								
SONM	**Songino Array**	**58.49**	**310**	P		**P**	**03 51 11.2**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=47,slow=6.4,SNR=16								
	comp=Z,2.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**61.52**	**301**	*e*P		**P**	**03 51 34.8**	**+4.1**
HHC					pmax	pmax			
	comp=Z,17nm,0.7s								
HHC					pmax	pmax			
	comp=Z,340nm,5.4s								
ZALV	**Zalesovo Beam**	**61.57**	**327**	P		**P**	**03 51 31.8**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=28,slow=6.7,SNR=6.4								
	comp=Z,1.5nm,0.7s								
NB2	**NORSAR Subarra**	**62.39**	**10**	P		**P**	**03 51 36.9**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=348,slow=6.9								
NOA	**NORSAR Array B**	**62.39**	**10**	P		**P**	**03 51 36.9**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=348,slow=6.8,SNR=6.1								
	comp=Z,1.8nm,0.6s								
FINES	**FINESS Array B**	**62.87**	**2**	P		**P**	**03 51 40.0**	**+0.8**
	comp=Z,5.1nm,0.8s,baz=3.0,slow=8.6,SNR=14								
	comp=Z,5.1nm,0.8s								
HFS	**Hagfors**	**63.51**	**9**	P		**P**	**03 51 44.1**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=72,slow=4.8,SNR=10								
	comp=Z,2.0nm,0.5s								
NJ2	**Nanjing**	**64.67**	**290**	*e*P		**P**	**03 51 50.1**	**-1.5**
NJ2					pmax	pmax			
	comp=Z,20nm,0.5s								
EKA	**Eskdalemuir Ar**	**65.81**	**20**	P		**P**	**03 51 59.4**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=316,slow=5.2,SNR=6.5								
	comp=Z,2.4nm,0.6s								
KURBB	**Kurchatov Arra**	**66.36**	**329**	P		**P**	**03 52 03.9**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=25,slow=5.8,SNR=7.5								
	comp=Z,0.8nm,0.8s								
BVAR	**Borovoye Array**	**66.37**	**335**	P		**P**	**03 52 03.8**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=46,slow=8.5,SNR=5.3								
	comp=Z,1.7nm,0.9s								
MK31	**Makanchi Array**	**68.58**	**324**	P		**P**	**03 52 16.8**	**+0.4**
MKAR	**Makanchi Array**	**68.58**	**324**	P		**P**	**03 52 17.0**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=40,slow=6.0,SNR=10								
	comp=Z,2.6nm,1.0s								
MAKZ	**Makanchi**	**68.67**	**324**	P		**P**	**03 52 17.5**	**+0.5**
CLL	**Collm**	**72.16**	**11**	*e*P		**P**	**03 52 38.0**	**-0.1**
ABKAR	**Akbulak array**	**72.18**	**340**	P		**P**	**03 52 39.0**	**+0.7**
ABKAR					IAmb	IAmb	03 52 40.8		
	comp=Z,6.0nm,1.4s								
ABKAR	**Akbulak array**	**72.18**	**340**	P		**P**	**03 52 38.7**	**+0.4**
AKASG	**Malin Array Be**	**73.68**	**0**	P		**P**	**03 52 47.3**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=360,slow=5.5,SNR=7.6								
	comp=Z,1.8nm,0.6s								
GERES	**GERESS Array B**	**74.66**	**11**	P		**P**	**03 52 54.1**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=5.7,slow=5.4,SNR=5.0								
	comp=Z,1.2nm,0.7s								
MOTA	**Moosalm**	**75.83**	**13**	*e*P		**P**	**03 53 02.2**	**+2.3**
	comp=Z,0.2nm,0.2s								
WATA	**Walderalm**	**75.90**	**13**	*e*P		**P**	**03 53 02.5**	**+2.2**
	comp=Z,1.0nm,0.4s								
SQTA	**Sankt Quirin**	**75.97**	**13**	*e*P		**P**	**03 53 02.5**	**+1.9**
	comp=Z,2.9nm,0.6s								
WTTA	**Wattenberg**	**75.98**	**13**	*e*P		**P**	**03 53 00.4**	**-0.4**
	comp=Z,2.2nm,0.7s								
FETA	**Feichten**	**76.11**	**13**	*e*P		**P**	**03 53 02.1**	**+0.6**
	comp=Z,2.2nm,0.8s								
KBA	**Koelnbreinsper**	**76.37**	**12**	*e*P		**P**	**03 53 04.8**	**+1.8**
	comp=Z,2.3nm,0.7s								
SOKA	**Soboth**	**76.94**	**10**	*e*P		**P**	**03 53 07.6**	**+1.4**
	comp=Z,0.2nm,0.2s								
OBKA	**Obir**	**77.06**	**11**	*e*P		**P**	**03

SNAA Sanae 58.85 200 P P 03 54 11.0 +0.5
ASAR Alice Springs 59.56 103 P P 03 54 16.4 +0.2
comp=Z,18nm,0.7s,baz=252,slow=6.5,SNR=155
comp=Z,18nm,0.7s
AS31 Alice Springs 59.56 103 P P 03 54 15.3 -0.9
AS31 IAmb IAmb 03 54 17.2
comp=Z,6.4nm,0.6s
WRA Warramunga Arr 61.14 99 P P 03 54 25.4 -1.7
WRA Warramunga Arr 61.14 99 P P 03 54 27.4 +0.3
comp=Z,18nm,0.7s,baz=250,slow=6.8,SNR=55
comp=Z,18nm,0.7s
WB2 Warramunga Arr 61.15 99 P P 03 54 26.4 -0.7
WRAB Tennant Creek 61.15 99 P P 03 54 26.6 -0.6
WR0 Warramunga Arr 61.31 99 P P 03 54 26.9 -1.3
PZH PanZhiHua 62.22 35 P P
PZH pmax pmax 03 54 41.0 +6.9
comp=Z,10.0nm,0.6s
QSPA South Pole Qui 63.56 180 P P 03 54 43.1 +0.5
QSPA IAmb IAmb 03 54 44.3
comp=Z,15nm,1.1s
QSPA South Pole Qui 63.56 180 P P 03 54 43.3 +0.6
comp=Z,9.5nm,0.9s,baz=274,slow=3.3,SNR=16
comp=Z,9.5nm,0.9s
STKA Stephens Creek 63.70 114 P P 03 54 42.6 -1.4
STKA Stephens Creek 63.70 114 P P 03 54 43.5 -0.5
comp=Z,6.5nm,0.9s,baz=239,slow=3.7,SNR=9.4
comp=Z,6.5nm,0.9s
CD2 Chengdu 66.83 34 P P 03 55 07.0 +2.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GURO Guroymak-BITLI 69.05 339 P P 03 55 17.1 -1.0
GURO IAmb IAmb 03 55 23.9
comp=Z,7.7nm,1.1s
KK31 Karatay Array 69.39 2 P P 03 55 19.4 -0.5
KK31 IAmb IAmb 03 55 21.9
comp=Z,10nm,1.1s
KKAR Karatay Array 69.39 2 P P 03 55 19.7 -0.2
KKAR Karatay Array 69.39 2 P P 03 55 19.8 -0.2
KKAR IAmb IAmb 03 55 21.9
comp=Z,10nm,1.1s
XAN Xi'an 71.94 35 *eP* **P 03 55 36.4 +0.7**
XAN pP pwP 03 55 41.0 -1.9
XAN pmax pmax
comp=Z,29nm,1.2s
ARMA Armidale 72.32 116 P P 03 55 38.4 0.0
ARMA IAmb IAmb 03 55 40.8
comp=Z,36nm,1.3s
WMQ Urumqi 72.46 15 *eP* **P 03 55 42.6 +4.0**
BRTR Keskin Array B 73.14 333 P P 03 55 43.5 +0.7
comp=Z,3.0nm,0.8s,baz=152,slow=8.0,SNR=9.4
comp=Z,3.0nm,0.8s
KBZ Khabaz 73.52 342 P P 03 55 45.0 +0.2
comp=Z,2.6nm,0.8s,baz=165,slow=5.0,SNR=4.0
comp=Z,2.6nm,0.8s
EIDS Eidsvold 73.70 111 P P 03 55 44.8 -1.7
EIDS IAmb IAmb 03 55 48.2
comp=Z,22nm,1.1s
MAKZ Makanchi 74.20 10 P P 03 55 48.3 -0.5
MAKZ IAmb IAmb 03 55 57.4
comp=Z,22nm,0.8s
MK31 Makanchi Array 74.24 10 P P 03 55 48.5 -0.5
MKAR Makanchi Array 74.24 10 P P 03 55 48.7 -0.3
MKAR Makanchi Array 74.24 10 P P 03 55 49.1 +0.2
comp=Z,1.4nm,0.7s,baz=190,slow=6.2,SNR=12
comp=Z,1.4nm,0.7s
TORD Torodi Ar. Bea 75.14 293 P P 03 55 54.0 -0.8
TORD Torodi Ar. Bea 75.14 293 P P 03 55 54.9 0.0
comp=Z,1.9nm,0.8s,baz=96,slow=5.9,SNR=12
comp=Z,1.9nm,0.8s
ABKAR Akbulak array 75.79 355 P P 03 55 58.3 +0.4
ABKAR IAmb IAmb 03 56 02.4
comp=Z,22nm,1.3s
ABKAR Akbulak array 75.79 355 P P 03 55 58.3 +0.4
NJ2 Nanjing 76.10 43 *eP* **P 03 56 04.3 +4.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,480nm,3.5s
DBIC Dimbokro 77.42 284 P P 03 56 08.6 +0.6
comp=Z,4.4nm,0.9s,baz=96,slow=6.6,SNR=5.8
comp=Z,4.4nm,0.9s
KURBB Kurchatov Arra 77.47 7 P P 03 56 08.0 +0.7
comp=Z,1.7nm,0.9s,baz=203,slow=6.3,SNR=11
comp=Z,1.7nm,0.9s
HNS HongShan 77.55 37 ⇑P **P 03 56 09.3 +1.3**
HNS pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 77.57 7 P P 03 56 08.0 +0.1
KURK IAmb IAmb 03 56 09.6
comp=Z,9.0nm,1.2s
HHC Hu-ho-hao-te 78.55 33 *eP* **P 03 56 17.1 +3.4**
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,850nm,4.6s
BVAR Borovoye Array 79.30 2 P P 03 56 17.6 +0.1
comp=Z,2.0nm,0.8s,baz=167,slow=7.0,SNR=7.0
comp=Z,2.0nm,0.8s
ZAA0 Zalesovo Array 81.58 10 P P 03 56 29.2 -0.4
ZAA0 IAmb IAmb 03 56 31.0
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 81.58 10 P P 03 56 29.5 -0.1
ZALV Zalesovo Beam 81.58 10 P P 03 56 29.9 +0.3
comp=Z,8.9nm,0.9s,baz=198,slow=4.2,SNR=40
comp=Z,8.9nm,0.9s
ARU Arti 83.03 355 P P 03 56 37.4 +0.2
ARU IAmb IAmb 03 56 39.0
comp=Z,17nm,1.3s
KHZ Kahutara 83.33 134 P P 03 56 38.1 -1.2
AKASG Malin Array Be 84.06 337 P P 03 56 42.1 -0.4
comp=Z,1.1nm,0.6s,baz=150,slow=4.1,SNR=8.3
comp=Z,1.1nm,0.6s
JNU Nakatsue 84.54 49 P P 03 56 44.9 -0.6
comp=Z,5.6nm,0.7s,baz=315,slow=2.9,SNR=2.2
comp=Z,5.6nm,0.7s
MRZ Mangatainoka R 85.54 133 P P 03 56 50.1 -0.5
LANS Liptovska Anna 86.71 331 *eP* **P 03 56 52.4 -3.5**
SOKA Soboth 86.98 327 *epP* pP 03 57 05.2 +5.8
comp=Z,4.7nm,1.4s
RONA Rosalia, Austr 87.10 328 *eP* **P 03 56 58.5 +0.7**
comp=Z,10nm,1.4s
ARSA Arzberg 87.15 327 *ePcP* **PcP 03 57 02.5 +2.3**
comp=Z,6.9nm,1.6s
CONA Conrad Observa 87.47 328 *eP* **P 03 57 00.2 +0.5**
comp=Z,10nm,1.5s
DZM Mont Dzumac 87.85 114 *eLR* LR 04 24 51.6
comp=Z,1µm,22.2s
MORC Moravsky Berou 88.03 330 *eP* **P 03 57 02.5 +0.2**
KRUC Moravsky 88.03 329 *eP* **P 03 57 02.2 0.0**
MOA Molln 88.17 327 *eP* **P 03 57 03.5 +0.5**
comp=Z,6.0nm,0.9s
ABTA Abfaltersbach 88.28 326 *eP* **P 03 57 04.6 +1.0**
comp=Z,7.7nm,1.2s
LESA Schwarzleotal 88.66 326 *eP* **P 03 57 05.5 +0.1**
comp=Z,7.1nm,1.2s
WTTA Wattenberg 89.07 326 *eP* **P 03 57 07.9 +0.4**
comp=Z,10nm,1.3s
WATA Walderalm 89.15 326 *eP* **P 03 57 08.7 +0.9**
comp=Z,10nm,1.4s
SQTA Sankt Quirin 89.26 325 *eP* **P 03 57 08.7 +0.4**
comp=Z,8.6nm,1.2s
FUORN Ofenpass-Fuorn 89.35 325 P **P 03 57 08.1 -0.8**
FUORN IAmb IAmb 03 57 13.4
comp=Z,11nm,1.3s
FETA Feichten 89.37 325 *eP* **P 03 57 09.1 +0.3**
comp=Z,12nm,1.1s
MOTA Moosalm 89.40 325 *eP* **P 03 57 09.6 +0.7**
comp=Z,9.5nm,1.2s
RETA Reute 89.67 325 *eP* **P 03 57 11.1 +1.0**
comp=Z,8.8nm,1.2s
DAVA Damuels 89.98 325 P **P 03 57 11.0 -0.7**
comp=Z,19nm,2.2s
ESDC Sonseca Array 93.64 313 P **P 03 57 27.6 -1.1**
ESDC IAmb IAmb 03 57 33.8
comp=Z,5.3nm,1.4s
ESDC Sonseca Array 93.64 313 P **P 03 57 29.1 +0.4**
comp=Z,2.1nm,1.1s,baz=86,slow=3.1,SNR=6.0
comp=Z,2.1nm,1.1s
TBI Tubuai 118.82 141 *eLR* LR 04 39 03.3
comp=Z,3µm,24.0s
PPT2 Papeete2 123.20 137 *eLR* LR 04 41 10.8
comp=Z,810nm,22.2s
PPT2 *eLR* LR 04 41 13.3
comp=Z,709nm,23.0s
ILAR Eielson Array 135.94 20 PKP PKPdf 04 03 31.1 -1.4
comp=Z,1.2nm,1.1s,baz=299,slow=2.6,SNR=2.5
YKA Yellowknife Ar 144.06 2 PKPdf PKPbc 04 03 45.4 +0.1
YKA Yellowknife Ar 144.06 2 PKP PKPbc 04 03 45.2 0.0
comp=Z,2.4nm,0.9s,baz=346,slow=3.4,SNR=20
WTLY Watson Lake, Y 144.64 14 PKPdf 04 03 48.0 -0.5
WTLY Watson Lake, Y 144.64 14 P PKPbc 04 03 47.8 +0.6
baz=334
NCB Newcomb 144.66 309 PKPab 04 03 47.1 -0.5
R33M Jennings River 144.77 16 P PKPdf 04 03 49.0 +0.2
baz=331
WBO Williamsburg 145.06 312 PKPbc 04 03 48.5 -0.4
PAL Palisades 145.17 304 P **PKPab 04 03 49.6 +0.1**
baz=78
VLDQ Val d'Or 145.26 318 PKPbc 04 03 48.9 -0.6
FCC Fort Churchill 145.35 343 PKPbc 04 03 48.7 -0.7
FLDN Fort Liard 145.51 10 P **PKPab 04 03 51.7 +1.5**
baz=342
KOTAN Kotaneelee Air 145.52 10 P **PKPab 04 03 51.7 +1.5**
baz=342
DLBC Dease Lake 145.85 16 PKPdf 04 03 50.3 -0.3
DLBC Dease Lake 145.85 16 P **PKPab 04 03 52.4 +0.8**
baz=331
S34M Telegraph Cree 146.01 18 PKPdf 04 03 51.2 +0.4
S34M Telegraph Cree 146.01 18 P **PKPab 04 03 53.3 +1.1**
baz=329
BINY Binghamton 146.39 307 P **PKPbc 04 03 53.6 +0.3**
baz=74
T35M Bob Quinn 147.06 18 P **PKPab 04 03 56.4 +0.2**
baz=330
HILA High Level 147.88 4 PKPdf **PKPdf 04 03 53.7 -0.2**
WVNY West Valley, N 148.18 308 PKPdf **PKPdf 04 03 53.8 -1.1**
SSPA Standing Stone 148.19 305 P **PKPbc 04 03 58.0 -0.3**
baz=75
CNNC Cliffs of the 149.22 295 PKPdf 04 03 55.1 -1.8
O53A New Philadelph 150.73 306 P **PKPbc 04 04 04.6 -0.1**
baz=72
BLA Blacksburg 150.92 299 P **PKiKP 04 04 05.8 0.0**
baz=78
GLMI Grayling 151.18 316 P **PKiKP 04 04 06.1 +0.1**
baz=60
O52A Adamsville 151.22 306 PKPbc 04 04 05.7 -0.1
P52A Corning 151.59 305 PKPbc 04 04 06.0 -0.7
P52A Corning 151.59 305 P **PKiKP 04 04 06.9 -0.1**
baz=72
ACSO Alum Creek Sta 152.01 307 P **PKPbc 04 04 07.5 -0.1**
baz=70
EYMN Ely 153.07 328 P **PKiKP 04 04 09.9 0.0**
baz=45
ULM Lac du Bonnet 153.15 336 PKPbc **PKPbc 04 04 09.1 -0.7**
comp=Z,2.9nm,0.6s,baz=336,slow=1.9,SNR=5.8
ULM PKPab **PKPab 04 04 19.0 -2.3**
comp=Z,2.3nm,0.7s,baz=118,slow=2.0,SNR=3.9
EDM Edmonton 153.38 1 PKPbc 04 04 09.6 -0.7
LCAR Lake Charles 159.51 303 PKPab **PKPab 04 04 49.2 +0.1**
PD31 Pinedale Array 163.67 352 PKPdf 04 04 12.9 -2.6
DUG Dugway, Tooele 166.41 1 P **PKPdf 04 04 18.8 +0.9**
baz=359
SPR3 Spring Creek 3 167.51 7 PKPab 04 05 21.2 -3.2
TCRU Three Creeks R 168.00 360 PKPab 04 05 25.1 -1.4
JCT Junction City 168.20 292 P **PKPdf 04 04 21.1 +1.7**
baz=74
833A Chaparral WMA, 168.26 281 P **PKPdf 04 04 21.4 +2.0**
baz=85
MVCO Mesa Verde 168.88 343 P **PKPdf 04 04 21.4 +1.6**
baz=19
ANMO Albuquerque 170.19 330 P **PKPdf 04 04 22.2 +1.6**
baz=33
MNTX Cornudas Mount 171.97 311 P **PKPdf 04 04 22.7 +1.3**
baz=52
MONP2 Monument Peak 172.83 28 P **PKPdf 04 04 23.8 +1.7**
baz=331

BJI ***25*** *03:48:24.7±0.0, 8.09N×91.85E, h13km, mb5.1/68, mB5.6/29, Ms4.8/22, Ms7 4.6/20*
IDC ***25*** *03:48:25.5±0.4, 8.26N×91.74E, h0km, mb4.9/41, mbtmp4.9/43, ML5.2/2, MS4.6/15, Error ellipse: s-maj=12.4km s-min=9.3km az=41.0*
MOS ***25*** *03:48:25.5±0.9, 8.34N×91.77E, h10km, mb5.4/49, MS4.7/5, Error ellipse: s-maj=7.9km s-min=3.8km az=113.1*
NDI ***25*** *03:48:27.6±2.9, 8.25N×91.78E, h10km, mb5.2, MW5.0, mb5.3(NEIC)*
NEIC ***25*** *03:48:28.7±1.6, 8.34N±0.07×91.86E±0.08, h10km±1km, mb5.3/162, Error ellipse: s-maj=14.2km s-min=11.5km az=247.0*
GCMT ***25*** *03:48:29.7±0.3, 8.28N±0.03×91.75E±0.02, h21km±1km, MW5.3/88, Moment Tensor Solution. s21,c28; s88,c127; Duration: 1!1 Moment tensor: Scale 10^17 Nm; Mrr=1.13±.09; Mθθ=0.01±.05; Mφφ=1.12±.05; Mrθ=-0.30±.09; Mθφ=0.21±.02; Mφr=0.11±.06; Best double couple: M=1.18800×10^17 NP1:φs=23.00000°, δ=50.00000°, λ=-73.00000°. NP2:φs=178.00000°, δ=42.00000°, λ=-109.00000°. Principal axes: T 1.1720, Plg4.0000°, Azm102.0000°; N 0.0370, Plg13.0000°, Azm192.0000°; P =-1.2040, Plg76.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***25*** *03:48:29.3±0.4, 8.7N±2.2×9.2E±.7, h39km±5km, M5.3/31, mB5.7/14, mb5.1/31, MLv5.6/7, Mw(mB)5.2/14*
BGR ***25*** *03:48:34.7, 8.54N×91.03E, h33km, mb4.9*
ISC 25 03:48:27.7±0.5, 8.25N±0.04×91.75E±0.04, h14km±2km, h14km:pP-P, n802, σ1s05/764, mb5.2/232, MS4.6/27, 39C-19D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.53**	**16**	*eP*			**Pn**	**03 49 21.6**	**-0.5**
DGPR	**DIGLIPUR**	**5.04**	**13**	*eP*			**Pn**	**03 49 41.6**	**-1.2**
LHMI	**Lhok Sumawe**	**5.97**	**120**	Pn			**Pn**	**03 49 56.4**	**+0.7**
LHMI	**Lhok Sumawe**	**5.97**	**120**	P			**Pn**	**03 49 56.8**	**+1.1**
LHMI	**Lhok Sumawe**	**5.97**	**120**	P			**Pn**	**03 49 56.4**	**+0.7**
	330nm,1.3s,2.4nm								
MLSI	**Meulaboh, Aceh**	**6.09**	**130**	P			**Pn**	**03 49 55.8**	**-1.5**
	192nm,0.9s,5µm2.0nm								
LASI	**Langsa, Aceh**	**7.24**	**121**	P			**Pn**	**03 50 12.6**	**-0.6**
	935nm,0.4s,5.9nm								
SNSI	**Sinabang, Aceh**	**7.38**	**142**	P			**Pn**	**03 50 11.3**	**-3.7**
	171nm,1.0s,2.0nm								
KCSI	**Kotacane, Aceh**	**7.61**	**128**	P			**Pn**	**03 50 17.2**	**-1.1**
	128nm,0.9s,3µm1.2nm								
SRIT	**Nakonsritamara**	**7.78**	**87**	Pn			**Pn**	**03 50 21.9**	**+1.3**
SRIT	**Nakonsritamara**	**7.78**	**87**	P			**Pn**	**03 50 22.1**	**+1.6**
SURA	**Surathani**	**7.84**	**83**	P			**Pn**	**03 50 23.0**	**+1.5**
PSI	**Prapat**	**8.96**	**127**	P			**Pn**	**03 50 36.2**	**-0.7**
GSI	**Gunungsitoli**	**9.01**	**140**	Pn			**Pn**	**03 50 36.0**	**-1.5**
GSI	**Gunungsitoli**	**9.01**	**140**	P			**Pn**	**03 50 36.6**	**-0.9**
GSI	**Gunungsitoli**	**9.01**	**140**	P			**Pn**	**03 50 35.2**	**-2.3**
	55nm,0.7s								
RPSI	**Rantau Prapat**	**9.02**	**127**				**Pn**	**03 50 36.1**	**-1.5**
KULM	**Kulim**	**9.31**	**108**	Pn			**Pn**	**03 50 41.3**	**-0.4**
KULM	**Kulim**	**9.31**	**108**	P			**Pn**	**03 50 41.0**	**-0.7**
	51nm,1.0s								
SRDT	**SRDT**	**9.44**	**49**	P			**Pn**	**03 50 47.9**	**+4.6**
SRDT	**SRDT**	**9.44**	**49**	P			**Pn**	**03 50 47.6**	**+4.3**
	149nm,0.8s,6µm								
PBSI	**Pulau Batu**	**10.51**	**141**	P			Pn	03 50 48.7	-9.3
NAYO	**Nakonayok**	**11.15**	**56**	P			**Pn**	**03 51 11.2**	**+4.3**
SISI	**Saibi**	**12.00**	**142**	P			**Pn**	**03 51 17.1**	**-1.4**
	51nm,1.3s								
BKNI	**Bangkinang**	**12.15**	**130**	P			**Pn**	**03 51 17.1**	**-3.4**
	73nm,0.6s,3µm								
MDRS	**Chennai**	**12.28**	**294**	*eP*			**Pn**	**03 51 22.3**	**+0.1**
CM31	**Chiang Mai Arr**	**12.32**	**34**				**Pn**	**03 51 22.9**	**0.0**
CMAR	**Chiang Mai Arr**	**12.32**	**34**	Pn			**Pn**	**03 51 23.4**	**+0.5**
	3.0nm,0.3s,baz=227,slow=14,SNR=25								
	18nm,0.9s								
PDSI	**Padang**	**12.58**	**136**	P			**Pn**	**03 51 25.0**	**-1.4**
	37nm,1.0s,6µm								
CHTO	**Chiang Mai**	**12.62**	**33**				**Pn**	**03 51 26.6**	**-0.2**
CHTO	**Chiang Mai**	**12.62**	**33**	P			**Pn**	**03 51 27.5**	**+0.6**
CHTO	**Chiang Mai**	**12.62**	**33**	P			**Pn**	**03 51 26.7**	**-0.2**
CHTO	**Chiang Mai**	**12.62**	**33**	P			**Pn**	**03 51 26.3**	**-0.6**
	49nm,0.9s								
CMMT	**Chiang Mai**	**12.62**	**33**	P			**Pn**	**03 51 26.3**	**-0.6**
	134nm,0.8s								
MYKOM	**Kota Tinggi**	**13.65**	**117**	P			**Pn**	**03 51 38.7**	**-2.3**
	30nm,1.2s								
KRJI	**Kerinci**	**14.12**	**136**	P			**Pn**	**03 51 44.9**	**-2.6**
KOD	**Kodaikanal**	**14.23**	**279**	*eP*			**Pn**	**03 51 47.8**	**-1.5**
BRDH	**Bariadhala**	**14.35**	**360**	Pn			**Pn**	**03 51 49.7**	**-0.8**
	18nm,0.3s,baz=268,slow=0.4,SNR=1.1								
BRDH					Sn		**Sn**	**03 54 27.9**	**-1.7**
	66nm,0.3s,baz=270,slow=22,SNR=2.3								
	92nm,0.3s								
CRAI	**Chiangrai**	**14.54**	**34**	Pn			**Pn**	**03 51 52.1**	**-1.2**
TRD	**Trivandrum**	**14.64**	**272**	*eP*			**Pn**	**03 51 54.7**	**+0.1**
DSRI	**Dabo**	**15.45**	**124**	P			**Pn**	**03 52 02.9**	**-2.5**
	85nm,0.9s,3µm								
JHSG	**JHARSUGUGA**	**15.48**	**331**	*eP*			**Pn**	**03 52 06.1**	**+0.3**
HYB	**Hyderabad**	**15.76**	**307**	*eP*			**P**	**03 52 11.4**	**-2.0**
HYB				*eS*			**Sn**	**03 55 06.6**	**+2.6**
BOK	**Bokaro**	**16.45**	**341**	*eP*			**Pn**	**03 52 17.9**	**-0.3**
BOK				IVmB_BB				03 52 23.4	
	comp=Z,1µm,0.5s								
SHL	**Shillong**	**17.23**	**0**	*eP*			**P**	**03 52 29.8**	**+0.1**
MNGI	**Mangalore**	**17.28**	**287**	*eP*			**P**	**03 52 30.2**	**+0.1**
TNCH	**TengChong**	**17.90**	**20**	P			**P**	**03 52 37.3**	**+0.2**
TNCH				pP			pP	03 52 39.8	-0.2
TNCH				sP			sP	03 52 42.6	+1.2
TNCH				S			**Sn**	**03 55 55.5**	**-0.6**
TNCH				pmax			pmax		
	comp=Z,190nm,0.6s								
TNCH				pmax			pmax		
	comp=Z,730nm,3.8s								
TNCH				LR			LR		
	comp=Z,1µm,11.3s								
TNCH				LR			LR		
	comp=Z,820nm,13.3s								
TNCH				LR			LR		
	comp=Z,1µm,17.3s								
LWLI	**Liwa**	**18.01**	**137**	P			**Pn**	**03 52 35.8**	**-2.1**
	comp=Z,191nm,1.1s								
KASI	**Kota Agung**	**18.68**	**137**	P			**P**	**03 52 45.1**	**-0.5**
	comp=Z,58nm,1.4s								
AKL	**Akola**	**18.87**	**313**	*eP*			**Pn**	**03 52 48.0**	**-0.3**
KAD	**Karad**	**19.34**	**299**	*eP*			**Pn**	**03 52 54.9**	**+0.9**
KSM	**Kuching**	**19.67**	**109**	P			**P**	**03 52 57.0**	**+0.5**
KSM	**Kuching**	**19.67**	**109**	P			**P**	**03 52 55.9**	**-0.6**
	comp=Z,47nm,1.2s,comp=Z,1µm								
KMI	**Kunming**	**19.79**	**31**	⇓P			**Pn**	**03 52 59.6**	**+0.1**
KMI				pmax			pmax		
	comp=Z,63nm,1.1s								
KMI				pmax			pmax		
	comp=Z,600nm,3.7s								
KMI				LR			LR		
	comp=Z,570nm,14.3s								
KMI				LR			LR		
	comp=Z,1µm,18.5s								
KMI				LR			LR		
	comp=Z,1µm,16.5s								
PZH	**PanZhiHua**	**20.49**	**26**	P			**P**	**03 53 06.1**	**+0.6**
PZH				S			**S**	**03 56 55.1**	**+0.5**
PZH				pmax			pmax		
	comp=Z,30nm,0.8s								
PZH				pmax			pmax		
	comp=Z,380nm,4.7s								
PZH				LR			LR		
	comp=Z,950nm,14.5s								
PZH				LR			LR		
	comp=Z,640nm,15.1s								
PZH				LR			LR		
	comp=Z,1µm,15.7s								
QIZ	**Qiongzhong**	**20.57**	**57**	P			Pn	03 53 07.6	-0.9
QIZ				S			**S**	**03 56 57.3**	**+1.2**
QIZ				pmax			pmax		
	comp=Z,41nm,1.7s								
QIZ				LR			LR		
	comp=Z,2µm,19.5s								
QIZ				LR			LR		
	comp=Z,870nm,16.6s								
QIZ				LR			LR		
	comp=Z,2µm,11.8s								
QIZ	**Qiongzhong**	**20.57**	**57**	P			**P**	**03 53 05.9**	**-0.3**
SBUM	**Sibu**	**21.17**	**105**	P			**P**	**03 53 13.4**	**+0.6**
SBUM				IAmb			IAmb	03 53 25.9	
	comp=Z,93nm,1.1s								
STKI	**Sintang**	**21.27**	**112**	P			P	03 53 25.5	+12
LSA	**Lhasa**	**21.35**	**359**	P			**P**	**03 53 14.9**	**-0.2**
LSA				IAmb			IAmb	03 53 20.3	
	comp=Z,96nm,0.7s								
LSA	**Lhasa**	**21.35**	**359**	P			**P**	**03 53 14.9**	**-0.2**
LSA				pmax			pmax		
	comp=Z,96nm,0.7s								
LEM	**Lembang**	**21.78**	**133**	P			**P**	**03 53 18.6**	**-0.9**
	comp=Z,15nm,0.4s,baz=319,slow=19,SNR=1.5								
LEM				S			**S**	**03 57 23.2**	**+2.8**
	comp=Z,11nm,0.4s,baz=318,slow=16,SNR=3.8								
LEM				LR			LR	04 02 27.6	
	comp=Z,2µm,18.6s,baz=248,slow=39								
	comp=Z,15nm,0.4s								
LEM	**Lembang**	**21.78**	**133**	P			**P**	**03 53 17.7**	**-1.9**
	comp=Z,45nm,1.3s								
BBJI	**Bungbulang**	**22.24**	**134**	P			**P**	**03 53 22.7**	**-1.7**
	comp=Z,56nm,1.6s								
GYA	**Guiyang**	**22.99**	**36**	⇑P			**P**	**03 53 32.5**	**+0.2**
GYA				S			**S**	**03 57 40.6**	**-2.1**
GYA				pmax			pmax		
	comp=Z,72nm,0.9s								
GYA				LR			LR		
	comp=Z,1µm,16.9s								
PTH	**Pithoragarh**	**23.80**	**334**	*eP*			**P**	**03 53 42.0**	**+1.6**
AJM	**Ajmer**	**24.34**	**320**	*eP*			**P**	**03 53 45.0**	**-0.3**
KKM	**Kota Kinabalu**	**24.37**	**94**	P			**P**	**03 53 46.2**	**+0.4**
KUDL	**Kundal**	**24.48**	**326**	*eP*			**P**	**03 53 47.2**	**+0.7**
NDI	**New Delhi**	**24.51**	**328**	*eP*			**P**	**03 53 47.9**	**+1.1**
GULI	**GuiLin**	**24.54**	**44**	⇑P			**P**	**03 53 42.9**	**-4.2**
GULI				pP			**pP**	**03 53 46.8**	**-3.5**
GULI				S			**S**	**03 58 08.4**	**+0.9**
GULI				pmax			pmax		
	comp=Z,30nm,0.4s								
GULI				LR			LR		
	comp=Z,610nm,11.0s								
GULI				LR			LR		
	comp=Z,660nm,13.1s								
GULI				LR			LR		
	comp=Z,780nm,11.3s								
H08S3	**Diego Garcia H**	**24.85**	**231**	T			T	04 20 10.7	
	baz=51,slow=75,SNR=498								
H08S2	**Diego Garcia H**	**24.85**	**231**	T			T	04 20 09.6	
	baz=51,slow=75,SNR=490								
H08S1	**Diego Garcia H**	**24.87**	**231**	T			T	04 20 10.7	
	baz=51,slow=75,SNR=124								
DDI	**Dehra Dun**	**25.43**	**332**	*eP*			**P**	**03 53 57.9**	**+2.7**
ENH	**Enshi**	**27.50**	**35**	P			**P**	**03 54 12.9**	**-0.9**
ENH				IAmb			IAmb	03 54 14.1	
	comp=Z,50nm,0.9s								
GOMU	**GeErMu**	**27.96**	**5**	P			**P**	**03 54 18.8**	**+0.5**
GOMU				pP			sP	03 54 22.3	-0.5
GOMU				sP			pwP	03 54 24.3	-2.1
GOMU				pmax			pmax		
	comp=Z,8.0nm,0.8s								
MPSI	**Mapaga**	**29.13**	**104**	P			**P**	**03 54 28.0**	**-0.5**
	comp=Z,62nm,1.5s								
TGY	**Tagaytay City**	**29.20**	**76**	LR			LR	04 05 15.0	
	comp=Z,1µm,21.1s,baz=300,slow=35								
TOLI2	**Tolitoli**	**29.77**	**102**				**P**	**03 54 34.7**	**+0.5**
LZH	**Lanzhou**	**29.83**	**20**	⇓P			**P**	**03 54 34.8**	**+0.1**
LZH				sP			pwP	03 54 44.3	+1.6
LZH				pmax			pmax		
	comp=Z,54nm,1.2s								
LZH				LR			LR		
	comp=Z,1µm,15.1s								
LZH				LR			LR		
	comp=Z,2µm,15.8s								
LZH				LR			LR		
	comp=Z,1µm,14.8s								
XAN	**Xi'an**	**30.16**	**29**	P			**P**	**03 54 36.0**	**-1.5**
XAN				pP			sP	03 54 41.3	-0.6
XAN				pmax			pmax		
	comp=Z,33nm,0.8s								
XAN				LR			LR		
	comp=Z,2µm,14.9s								
XAN				LR			LR		
	comp=Z,2µm,15.1s								
NIL	**Nilore**	**30.51**	**329**	P			**P**	**03 54 40.6**	**+0.1**
NIL	**Nilore**	**30.51**	**329**	P			**P**	**03 54 40.6**	**+0.1**
NIL				pmax			pmax		
	comp=Z,95nm,0.8s								
WHN	**Wuhan**	**30.64**	**41**	P			**P**	**03 54 42.3**	**+0.6**
KAPI	**Kappang**	**30.88**	**114**	LR			LR	04 07 30.3	
	comp=Z,868nm,20.3s,baz=286,slow=37								
BKSI	**Bulukumba**	**31.34**	**115**	P			P	03 54 43.4	-4.7
	comp=Z,17nm,0.8s								
GTA	**Gaotai**	**31.86**	**12**	⇓P			**P**	**03 54 53.3**	**+0.7**
GTA				sP			pwP	03 55 03.0	+2.4
GTA				PcP			**PcP**	**03 57 43.0**	**-0.3**
GTA				pmax			pmax		
	comp=Z,45nm,0.9s								

SSLB Suanglung 31.94 58 P **P** **03 54 55.4 +2.0**
SSLB IAmb IAmb 03 55 07.5
comp=Z,58nm,1.1s
YULB Yu-li 32.07 59 P **P** **03 54 54.2 -0.3**
YULB IAmb IAmb 03 54 58.6
comp=Z,41nm,0.8s
LUWI Luwuk 32.27 105 P **P** **03 54 56.2 -0.1**
LUWI Luwuk 32.27 105 P **P** **03 54 56.3 0.0**
comp=Z,140nm,0.7s,comp=Z,6µm
LYN LuoYang 32.37 33 ⇓P **P** **03 54 56.8 -0.1**
LYN pmax pmax
comp=Z,39nm,1.1s
LYN LR LR
comp=Z,1µm,15.5s
LYN LR LR
comp=Z,2µm,15.5s
LYN LR LR
comp=Z,1µm,16.1s
KBL Kabul 33.47 325 P **P** **03 55 07.0 +0.2**
KBL Kabul 33.47 325 P **P** **03 55 07.0 +0.2**
KBL pmax pmax
comp=Z,16nm,0.9s
KSH Kashi 34.20 338 P **P** **03 55 12.1 -0.9**
KSH pmax pmax
comp=Z,15nm,0.9s
NJ2 Nanjing 34.57 43 ⇓P **P** **03 55 16.8 +0.7**
NJ2 sP **pwP** **03 55 25.8 +1.7**
NJ2 pmax pmax
comp=Z,26nm,0.7s
WSAR Wadi Sarin 35.07 299 LR LR 04 09 51.4
comp=Z,474nm,20.1s,baz=162,slow=37
TARG Taragay, Kyrgy 35.56 342 P **P** **03 55 24.9 -0.1**
TARG IAmb IAmb 03 55 37.9
comp=Z,63nm,1.7s
TARG Taragay, Kyrgy 35.56 342 P **P** **03 55 24.9 -0.1**
TARG pmax pmax
comp=Z,63nm,1.7s
WMQ Urumqi 35.61 355 ⇓P **P** **03 55 26.3 +1.2**
WMQ sP pwP 03 55 35.5 +2.4
WMQ pmax pmax
comp=Z,59nm,1.1s
WMQ pmax pmax
comp=Z,590nm,4.3s
HNS HongShan 35.71 32 ⇑P **P** **03 55 25.9 +0.1**
HNS PcP **PcP** **03 57 54.6 +0.6**
HNS pmax pmax
comp=Z,32nm,0.9s
BTO Baotou 36.10 24 *e*P **P** **03 55 29.1 -0.2**
BTO pP **sP** **03 55 33.6 -0.2**
BTO sP **pwP** **03 55 36.1 -1.3**
BTO PP **PP** **03 56 51.8 +0.3**
BTO S **S** **04 01 07.4 -1.1**
BTO sS **sS** **04 01 16.8 +3.1**
BTO SS **SnSn** **04 03 30.6 -3.3**
BTO pmax pmax
comp=Z,96nm,0.8s
BTO pmax pmax
comp=Z,780nm,5.0s
TIA Tai'an 36.19 36 P **P** **03 55 29.9 -0.1**
TIA pmax pmax
comp=Z,8.0nm,0.9s
SHLS Shalkode 36.41 345 *e*P **P** **03 55 30.7 -1.3**
comp=Z,50nm,1.0s,baz=345
SHLS Shalkode 36.41 345 *e*P **P** **03 55 30.6 -1.3**
SHLS pmax pmax
comp=Z,50nm,1.0s
UZB Uzynbulak 36.51 344 *e*P **P** **03 55 32.1 -0.8**
comp=Z,31nm,1.1s,baz=344
UZB Uzynbulak 36.51 344 *e*P **P** **03 55 32.1 -0.8**
UZB pmax pmax
comp=Z,31nm,1.1s
ZHN Zhinishke 36.69 344 *e*P **P** **03 55 33.0 -1.4**
baz=344
ZHN Zhinishke 36.69 344 *e*P **P** **03 55 33.0 -1.4**
BTK Batken 36.78 333 P **P** **03 55 36.2 +1.0**
BTK Batken 36.78 333 P **P** **03 55 36.2 +1.0**
BTK pmax pmax
comp=Z,146nm,1.2s
KPKS Kokpek 36.90 344 *e*P **P** **03 55 35.3 -0.8**
comp=Z,27nm,1.0s,baz=344
KPKS Kokpek 36.90 344 *e*P **P** **03 55 35.3 -0.8**
KPKS pmax pmax
comp=Z,27nm,1.0s
ARSB Arslanbob 36.91 336 P **P** **03 55 36.8 +0.5**
ARSB Arslanbob 36.91 336 P **P** **03 55 36.8 +0.5**
ARSB pmax pmax
comp=Z,13nm,0.8s
HHC Hu-ho-hao-te 36.94 25 *e*P **P** **03 55 36.6 +0.1**
HHC pmax pmax
comp=Z,48nm,0.8s
HHC pmax pmax
comp=Z,1µm,6.4s
TNSS Tian-Shan 37.01 342 *e*P **P** **03 55 37.0 -0.5**
baz=342
TNSS Tian-Shan 37.01 342 *e*P **P** **03 55 36.9 -0.5**
MDOK Medeo 37.09 342 *e*P **P** **03 55 36.5 -1.3**
baz=342
MDOK Medeo 37.09 342 *e*P **P** **03 55 36.5 -1.3**
UCH Uchtor 37.10 339 P **P** **03 55 39.7 +1.4**
SNR=11
AAA Alma-Ata 37.18 342 *e*P **P** **03 55 38.0 -0.5**
baz=342
AAA Alma-Ata 37.18 342 *e*P **P** **03 55 37.9 -0.5**
AML Almayashu 37.32 338 P **P** **03 55 41.9 +1.9**
SNR=7.0
KBK Karagaybulak 37.33 339 P **P** **03 55 41.8 +1.9**
SNR=21
AAK Ala-Archa 37.47 339 P **P** **03 55 42.8 +1.8**
SNR=10
AAK Ala-Archa 37.47 339 P **P** **03 55 41.8 +0.8**
AAK Ala-Archa 37.47 339*ce*P **P** **03 55 42.2 +1.2**
AAK pmax pmax
comp=Z,27nm,0.8s
AAK Ala-Archa 37.47 339 LR LR 04 12 34.7
comp=Z,1µm,18.6s,baz=4.0,slow=39
FRU1 Bishkek 37.57 339 P **P** **03 55 42.5 +0.7**
FRU1 IAmb IAmb 03 55 50.5
comp=Z,38nm,0.5s
FRU1 Bishkek 37.57 339 P **P** **03 55 42.5 +0.7**
FRU1 pmax pmax
comp=Z,38nm,0.5s
CHMS Chumysh 37.70 339 P **P** **03 55 44.3 +1.5**
SNR=7.9
CHKK Chushkaly 37.74 342 *e*P **P** **03 55 42.3 -0.8**
baz=343
CHKK Chushkaly 37.74 342 *e*P **P** **03 55 42.3 -0.8**
EKS2 Erkin-Say 37.75 338 P **P** **03 55 45.3 +1.9**
SNR=9.4
ARXS Arharly 37.83 344 *e*P **P** **03 55 44.2 +0.3**
KUU Kurty 37.97 342 *e*P **P** **03 55 43.5 -1.6**
comp=Z,54nm,1.1s,baz=342
KUU Kurty 37.97 342 *e*P **P** **03 55 43.5 -1.6**
KUU pmax pmax
comp=Z,54nm,1.1s
USP Ospenovka 38.02 339 P **P** **03 55 47.0 +1.5**
SNR=9.1
SGDS Sogindy 38.14 340 *e*P **P** **03 55 45.4 -1.2**
baz=340
SGDS Sogindy 38.14 340 *e*P **P** **03 55 45.3 -1.2**
TDK Taldyqorghan 38.40 345 *e*P **P** **03 55 47.6 -1.1**
baz=345
TDK Taldyqorghan 38.40 345 *e*P **P** **03 55 47.6 -1.1**
BJT Baijiatuau 38.43 31 P **P** **03 55 49.2 +0.3**
BJT Baijiatuau 38.43 31 P **P** **03 55 49.2 +0.3**
BJT pmax pmax
comp=Z,13nm,0.9s
DZA Taraz 38.89 336 *e*P **P** **03 55 52.2 -0.7**
baz=336
DZA Taraz 38.89 336 *e*P **P** **03 55 52.2 -0.7**
JOW Kunigami 39.22 57 P **P** **03 55 57.5 +1.6**
comp=Z,14nm,0.6s,baz=264,slow=10,SNR=1.9
JOW LR LR 04 12 53.8
comp=Z,438nm,18.1s,baz=116,slow=37
comp=Z,14nm,0.6s
MK31 Makanchi Array 39.25 350 *i* P **P** **03 55 55.8 0.0**
MKAR Makanchi Array 39.25 350 P **P** **03 55 56.5 +0.6**
comp=Z,33nm,0.7s,baz=159,slow=9.3,SNR=146
MKAR PcP **PcP** **03 58 05.0 +0.3**
comp=Z,2.6nm,0.7s,baz=159,slow=4.5,SNR=2.2
comp=Z,33nm,0.7s
KK31 Karatay Array 39.40 335 P **P** **03 55 58.0 +0.9**
KK31 Karatay Array 39.40 335 P **P** **03 55 58.0 +0.9**
KK31 pmax pmax
comp=Z,29nm,0.8s
KKAR Karatay Array 39.40 335 P **P** **03 55 57.8 +0.6**
KKAR Karatay Array 39.40 335 P **P** **03 55 57.7 +0.6**
KKAR IAmb IAmb 03 55 58.9
comp=Z,29nm,0.8s
KKAR Karatay Array 39.40 335 P **P** **03 55 57.8 +0.6**
ZSN Zaisan 39.50 353 *e*P **P** **03 55 57.5 -0.5**
baz=352
ZSN Zaisan 39.50 353 *e*P **P** **03 55 57.4 -0.5**
BTLS Baital 39.74 340 *e*P **P** **03 55 59.4 -0.4**
baz=340
BTLS Baital 39.74 340 *e*P **P** **03 55 59.4 -0.4**
SONM Songino Array 41.37 15 P **P** **03 56 13.7 +0.3**
SONM Songino Array 41.37 15 P **P** **03 56 13.8 +0.3**
comp=Z,23nm,0.8s,baz=196,slow=8.8,SNR=156
SONM PcP **PcP** **03 58 12.0 +0.3**
comp=Z,4.8nm,0.7s,baz=203,slow=4.6,SNR=3.8
comp=Z,23nm,0.8s
XLT XiLinHaoTe 41.37 27 *e*P **P** **03 56 13.6 +0.1**
XLT pmax pmax
comp=Z,25nm,0.9s
XLT pmax pmax
comp=Z,810nm,6.4s
DGZ Jazzator, Alta 41.48 356 *i* P **P** **03 56 13.5 -0.8**
DGZ pmax pmax
comp=Z,17nm,0.8s
ULN Ulaanbaatar 41.57 16 P **P** **03 56 15.2 +0.1**
ULN Ulaanbaatar 41.57 16 P **P** **03 56 15.2 +0.1**
ULN pmax pmax
comp=Z,20nm,0.9s
GEYT Alibeck 42.36 319 P **P** **03 56 22.9 +1.2**
GEYT IAmb IAmb 03 56 24.6
comp=Z,58nm,1.0s
GEYT Alibeck 42.36 319 P **P** **03 56 23.3 +1.6**
comp=Z,42nm,0.8s,baz=147,slow=8.8,SNR=56
GEYT LR LR 04 15 52.6
comp=Z,775nm,18.2s,baz=156,slow=39
comp=Z,42nm,0.8s
GYA0B ALIBECK ARRAY 42.36 319 P **P** **03 56 22.9 +1.2**
GYA0B IAmb IAmb 03 56 24.6
comp=Z,51nm,1.0s
TJN Taejon 42.82 44 *i* P **P** **03 56 24.4 -0.9**
ZAK Zakamensk 43.08 11 *e*P **P** **03 56 26.8 -0.6**
ZAK pmax pmax
comp=Z,13nm,1.6s
MEEK Meekatharra 43.38 144 P **P** **03 56 31.2 +1.2**
baz=44,SNR=4.4
KURBB Kurchatov Arra 43.65 348 P **P** **03 56 32.4 +0.7**
comp=Z,36nm,0.8s,baz=173,slow=7.5,SNR=184
KURBB PcP **PcP** **03 58 19.1 +0.2**
comp=Z,4.9nm,0.8s,baz=156,slow=2.7,SNR=5.2
comp=Z,36nm,0.8s
KURK Kurchatov 43.72 348 P **P** **03 56 32.4 +0.1**
KURK 03 58 19.1
KSRS Korea Array 43.77 43 P **P** **03 56 32.7 -0.2**
comp=Z,2.1nm,0.8s,baz=248,slow=8.4,SNR=5.3
comp=Z,2.1nm,0.8s
JNU Nakatsue 43.80 50 P **P** **03 56 33.4 +0.1**
comp=Z,9.5nm,0.7s,baz=267,slow=1.7,SNR=5.8
JNU LR LR 04 16 48.2
comp=Z,542nm,18.1s,baz=31,slow=39
comp=Z,9.5nm,0.7s
BRZS Berezniki 44.54 342 *e*P **P** **03 56 38.5 -0.6**
comp=Z,37nm,2.3s,baz=343
BRZS Berezniki 44.54 342 *e*P **P** **03 56 38.4 -0.6**
BRZS pmax pmax
comp=Z,37nm,2.3s
ZALV Zalesovo Beam 45.91 354 P **P** **03 56 50.1 +0.3**
comp=Z,47nm,0.9s,baz=175,slow=10,SNR=36
comp=Z,47nm,0.9s
CN2 Changchun 46.01 34 P **P** **03 56 50.5 -0.2**
CN2 pP pwP 03 57 01.8 +2.9
CN2 pmax pmax
comp=Z,20nm,0.7s
HIA Hailar 47.14 25 P **P** **03 56 59.7 +0.1**
HIA IAmb IAmb 03 57 01.1
comp=Z,72nm,1.7s
HIA Hailar 47.14 25 P **P** **03 56 59.7 +0.1**
HIA pmax pmax
comp=Z,72nm,1.7s
H01W3 Cape Leeuwin H 47.84 155 T T 04 48 26.1
baz=330,slow=74
H01W2 Cape Leeuwin H 47.85 155 T T 04 48 23.0
baz=330
H01W1 Cape Leeuwin H 47.85 155 T T 04 48 30.6
baz=330,slow=74
BVAR Borovoye Array 47.90 343 P **P** **03 57 05.4 0.0**
comp=Z,21nm,0.8s,baz=145,slow=8.0,SNR=47
BVAR PcP **PcP** **03 58 34.0 +0.2**
comp=Z,4.8nm,0.9s,baz=172,slow=4.1,SNR=2.1
comp=Z,21nm,0.8s
BRVK Borovoye 47.96 343 P **P** **03 57 05.5 -0.4**
BRVK IAmb IAmb 03 57 07.0
comp=Z,23nm,0.9s
BRVK Borovoye 47.96 343*ce*P **P** **03 57 06.2 +0.3**
BRVK pmax pmax
comp=Z,21nm,0.8s
BNX BinXian 48.32 33 ⇑P **P** **03 57 08.4 -0.3**
BNX pmax pmax
comp=Z,14nm,0.8s
BNX pmax pmax
comp=Z,680nm,6.9s
WRKA Warakurna 48.60 134 P **P** **03 57 11.8 +0.6**
baz=49,SNR=6.7
ABKAR Akbulak array 48.79 333 P **P** **03 57 12.7 +0.4**
ABKAR Akbulak array 48.79 333 P **P** **03 57 12.9 +0.6**
ABKAR IAmb IAmb 03 57 13.6
comp=Z,19nm,0.7s
MDJ Mudanjiang 48.85 36 P **P** **03 57 13.6 +0.7**
MDJ pmax pmax
comp=Z,20nm,1.4s
MDJ pmax pmax
comp=Z,1µm,5.6s
JGF Kuroka 49.70 50 P **P** **03 57 18.3 -1.2**
USRK Ussuriysk Ar. 50.03 37 P **P** **03 57 20.1 -1.7**
comp=Z,4.0nm,0.8s,baz=240,slow=6.9,SNR=6.9
USRK PKKP **PKKPdf** **04 19 46.5 -6.9**
comp=Z,1.4nm,0.6s,baz=100,slow=10,SNR=4.0
USRK LR LR 04 21 03.9
comp=Z,550nm,18.0s,baz=7.3,slow=39
comp=Z,4.0nm,0.8s
WB0 Warramunga Arr 50.37 124 P **P** **03 57 24.3 -0.6**
WB0 IAmb IAmb 03 57 34.3
comp=Z,40nm,1.6s
WRA Warramunga Arr 50.41 124 P **P** **03 57 24.6 -0.6**
WRA Warramunga Arr 50.41 124 P **P** **03 57 24.4 -0.7**
comp=Z,7.2nm,0.7s,baz=304,slow=8.8,SNR=31
WRA PcP **PcP** **03 58 43.5 0.0**
comp=Z,1.9nm,0.9s,baz=310,slow=3.1,SNR=4.6
comp=Z,7.2nm,0.7s
WB2 Warramunga Arr 50.42 124 P **P** **03 57 25.0 -0.2**
WR0 Warramunga Arr 50.59 124 P **P** **03 57 26.1 -0.3**
MJAR Matsushiro Arr 50.69 49 P **P** **03 57 27.9 +0.9**
comp=Z,3.4nm,0.8s,baz=235,slow=5.5,SNR=6.2
MJAR PcP **PcP** **03 58 44.3 +0.1**
comp=Z,8.4nm,0.7s,baz=243,slow=3.1,SNR=14
MJAR LR LR 04 19 25.6
comp=Z,449nm,19.2s,baz=310,slow=37
comp=Z,3.4nm,0.8s
HEH HeiHe 51.28 29 *e*P **P** **03 57 30.5 -0.7**
HEH pmax pmax
comp=Z,20nm,0.9s
MAK Makhachkala 51.88 319*c i*P **P** **03 57 33.4 -2.4**
MAK *e* 03 59 29.0
MAK *e*S **S** **04 04 57.3 -0.8**
MAK *e*SS **SS** **04 08 36.6 +1.6**
MAK pmax pmax
comp=Z,236nm,1.6s
MAK MLR MLR
comp=Z,297nm,14.0s
AS31 Alice Springs 51.98 129 P **P** **03 57 37.2 +0.3**
ASAR Alice Springs 51.98 129 P **P** **03 57 36.5 -0.4**
ASAR Alice Springs 51.98 129 P **P** **03 57 36.8 -0.1**
comp=Z,5.5nm,0.6s,baz=302,slow=6.9,SNR=37
ASAR PcP **PcP** **03 58 49.8 +0.5**
comp=Z,1.8nm,0.6s,baz=306,slow=3.5,SNR=7.0
comp=Z,5.5nm,0.6s
FORT Forrest 52.13 140 P **P** **03 57 39.6 +1.8**
baz=52,SNR=7.8
FORT Forrest 52.13 140 P **P** **03 57 39.2 +1.4**
GNI Garni 52.49 315 P **P** **03 57 41.6 +1.0**
GNI IAmb IAmb 03 57 58.3
comp=Z,30nm,1.1s
GNI Garni 52.49 315 P **P** **03 57 41.6 +1.0**
GNI pmax pmax
comp=Z,30nm,1.1s
KLR Kul'dur 52.80 32 P **P** **03 57 42.4 -0.1**
comp=Z,3.3nm,0.8s,baz=248,slow=6.2,SNR=11
comp=Z,3.3nm,0.8s
GROC Groznyy 53.10 319 *e*P **P** **03 57 45.1 +0.2**
GROC *e* 03 58 54.0
GROC *e* 03 59 46.3
GROC pmax pmax
comp=Z,51nm,1.0s
GURO Guroymak-BITLI 53.83 312 P **P** **03 57 51.2 +0.7**
AKH Akhalkalaki 53.87 316 P **P** **03 57 51.0 +0.3**
AKH IAmb IAmb 03 57 52.3
comp=Z,46nm,1.2s
AKH Akhalkalaki 53.87 316 P **P** **03 57 51.1 +0.3**
AKH pmax pmax
comp=Z,46nm,1.2s
ZEI Tsey 54.17 318 *e*P **P** **03 57 52.6 -0.4**
ZEI pmax pmax
comp=Z,12nm,1.0s
SVE Sverdlovsk 54.20 340*c i*P **P** **03 57 53.4 +0.7**
SVE pmax pmax
comp=Z,161nm,0.9s
ONI Oni 54.38 317 P **P** **03 57 55.4 +1.0**
ONI IAmb IAmb 03 58 21.4
comp=Z,35nm,1.6s
ONI Oni 54.38 317 P **P** **03 57 55.4 +1.0**
ONI pmax pmax
comp=Z,35nm,1.6s
KIBK Kibwezi 54.57 261 P **P** **03 57 57.5 +1.3**
KIBK IAmb IAmb 03 58 46.1
comp=Z,10nm,0.4s
ARU Arti 54.64 338 P **P** **03 57 56.1 +0.2**
ARU IAmb IAmb 03 57 57.2
comp=Z,41nm,0.9s
ARU Arti 54.64 338*d i*P **P** **03 57 56.1 +0.2**
ARU S **S** **04 05 39.3 +4.0**
ARU SS **SS** **04 09 22.7 +4.5**
ARU pmax pmax
comp=Z,48nm,0.9s
QIS Mount Isa 55.07 122 P **P** **03 58 00.3 +0.7**
baz=55,SNR=3.4
KMBO Kilima Mbogo 55.12 263 P **P** **03 58 02.1 +1.8**
KMBO Kilima Mbogo 55.12 263 P **P** **03 58 02.1 +1.8**
KMBO pmax pmax
comp=Z,6.0nm,0.5s
KMBO Kilima Mbogo 55.12 263 P **P** **03 57 59.2 -1.1**
comp=Z,3.7nm,0.7s,baz=57,slow=11,SNR=14
comp=Z,3.7nm,0.7s
KBZ Khabaz 55.23 318 P **P** **03 58 00.4 0.0**
comp=Z,12nm,0.9s,baz=147,slow=5.6,SNR=17
comp=Z,12nm,0.9s
SHA1 Shidzhatmaz 55.39 318 *i* P **P** **03 58 02.2 +0.4**
KIV Kislovodsk 55.46 319 ⇑P **P** **03 58 01.6 -0.6**
KIV Kislovodsk 55.46 319 P **P** **03 58 02.4 +0.2**
KIV IAmb IAmb 03 58 03.5
comp=Z,30nm,0.9s
KIV Kislovodsk 55.46 319 P **P** **03 58 01.6 -0.6**
ASAJ Asahikawa 56.70 42 P **P** **03 58 11.6 +0.7**
comp=Z,15nm,0.8s,baz=276,slow=9.2,SNR=3.7
ASAJ LR LR 04 25 00.2
comp=Z,644nm,18.2s,baz=137,slow=39
comp=Z,15nm,0.8s
BELG Belogornoye 56.77 329 *i* P **P** **03 58 10.3 -0.9**
BELG pmax pmax
comp=Z,12nm,0.9s
GAZ Gaziantep 57.01 309 P **P** **03 58 14.4 +1.0**
GAZ IAmb IAmb 03 58 16.6
comp=Z,28nm,0.9s
SOC Sochi 57.29 317 *e*P **P** **03 58 10.9 -4.2**
SOC *e* 04 00 17.4
SOC *e*S **S** **04 06 07.5 -3.5**
SOC *e*SS **SS** **04 09 58.7 -1.6**
SOC pmax pmax
comp=Z,30nm,0.9s
SOC MLR MLR
comp=Z,379nm,16.0s
MMAI Mount Meron Ar 57.44 304 P **P** **03 58 18.0 +1.5**
comp=Z,9.9nm,0.9s,baz=118,slow=8.7,SNR=7.2
comp=Z,9.9nm,0.9s
YSS Yuzh-Sakhalins 57.96 39 *e*P **P** **03 58 23.2 +3.4**
BNN Bunyan 58.51 311 P **P** **03 58 24.7 +0.7**
BNN IAmb IAmb 03 59 20.2
comp=Z,54nm,1.2s
BBOO Buckleboo 58.70 136 P **P** **03 58 25.6 +0.5**
VRH Novokhopyorsk 59.28 326 *e*P **P** **03 58 27.9 -1.0**
VRH pmax pmax
comp=Z,23nm,0.7s
KIRV Kirov 59.69 336 *i* P **P** **03 58 30.8 -0.7**
BR131 Keskin Array S 60.40 311 P **P** **03 58 36.2 -0.7**
BR131 IAmb IAmb 03 58 37.1
comp=Z,18nm,0.8s
BR131 Keskin Array S 60.40 311 P **P** **03 58 36.3 -0.7**
BR131 pmax pmax
comp=Z,18nm,0.8s
BRTR Keskin Array B 60.40 311 P **P** **03 58 36.5 -0.5**
BRTR Keskin Array B 60.40 311 P **P** **03 58 36.5 -0.5**
BRTR Keskin Array B 60.40 311 P **P** **03 58 36.2 -0.7**
comp=Z,13nm,0.8s,baz=124,slow=7.5,SNR=58
BRTR PcP **PcP** **03 59 22.9 +1.0**
comp=Z,3.4nm,0.8s,baz=137,slow=5.1,SNR=2.0
comp=Z,13nm,0.8s
YAK Yakutsk 60.41 19 P **P** **03 58 36.2 -0.2**
YAK Yakutsk 60.41 19 *e*P **P** **03 58 36.0 -0.4**
YAK *e**PP **sP** **03 58 42.2 +1.2**
YAK *e* 03 59 20.7
YAK *e* 04 00 54.9
YAK *e*S **S** **04 06 48.9 -2.0**
YAK *e**SS sS 04 07 09.7 +13
YAK *e* 04 08 24.1
YAK *e*SS **SS** **04 10 48.2 -0.5**
YAK pmax pmax
comp=Z,63nm,1.1s
YAK pmax pmax
comp=N,32nm,1.9s
YAK pmax pmax
comp=E,32nm,1.8s
YAK pmax pmax
comp=Z,1µm,7.9s
YAK pmax pmax
comp=N,528nm,7.1s
YAK pmax pmax
comp=E,190nm,3.7s
YAK smax smax
comp=E,833nm,7.1s
YAK smax smax
comp=N,577nm,7.7s
YAK Yakutsk 60.41 19 P **P** **03 58 35.9 -0.5**
comp=N,24nm,0.5s,baz=237,slow=5.7,SNR=14
comp=N,24nm,0.5s
VSR Storozhevoye 60.72 325 *e*P P 03 58 33.2 -5.6
VSR pmax pmax
comp=Z,30nm,1.8s
VORR Voronezh 60.90 326 *e*P **P** **03 58 39.0 -0.9**
VORR pmax pmax
comp=Z,26nm,0.4s
NRIK Noril'sk 61.08 358 P **P** **03 58 40.2 -0.7**
NRIK Noril'sk 61.08 358 P **P** **03 58 40.6 -0.2**
comp=Z,4.9nm,0.7s,baz=163,slow=5.0,SNR=9.0
comp=Z,4.9nm,0.7s
LPSR Galich'ya Gora 61.46 326 *e*P P 03 58 37.2 -6.5
LPSR pmax pmax
comp=Z,30nm,0.9s
SIM Simferopol' 61.54 317 *e*P **P** **03 58 44.4 0.0**
SIM pmax pmax
comp=Z,56nm,1.0s
STKA Stephens Creek 62.09 133 P **P** **03 58 48.6 +0.3**
STKA Stephens Creek 62.09 133 P **P** **03 58 49.2 +0.8**
comp=Z,10nm,0.6s,baz=307,slow=5.0,SNR=24
comp=Z,10nm,0.6s
MOS Moscow 63.54 329 *e*P **P** **03 58 55.8 -1.8**
MOS pmax pmax
comp=Z,41nm,1.0s
MOS MLR MLR
comp=Z,600nm,18.0s
OBN Obninsk 63.81 328 ⇑P **P** **03 58 59.1 -0.2**
OBN Obninsk 63.81 328*de*P **P** **03 58 58.6 -0.8**
OBN *i**PP **sP** **03 59 03.3 -0.7**
OBN *e**SP **pwP** **03 59 05.6 -1.9**
OBN *i* 03 59 35.2
OBN *e* 04 01 23.0
OBN *e*PPP PPP 04 02 50.7
OBN S **S** **04 07 37.0 +3.0**
OBN 04 08 46.0
OBN *e*SS **SS** **04 11 35.3 -6.8**
OBN pmax pmax
comp=Z,73nm,2.5s
OBN MLR MLR
comp=Z,506nm,17.0s
KARP Karpathos 64.61 305 P **P** **03 59 05.8 +0.7**
PURM Purcari 64.84 318 ⇑P **P** **03 59 05.6 -0.7**

H04N2 CROZET ISLANDS 64.85 210 T T 05 10 05.7
baz=45,slow=75,SNR=1141
H04N1 CROZET ISLANDS 64.86 210 T T 05 10 06.5
baz=45,slow=75,SNR=1342
H04N3 CROZET ISLANDS 64.87 210 T T 05 10 05.1
baz=45,slow=75,SNR=1232
KLMR Klimovskoe 65.10 335 *e*P **P** **03 59 06.0 -1.7**
KLMR pmax pmax
comp=Z,52nm,1.4s
TLCR 65.21 316 ⇓P **P** **03 59 08.1 -0.7**
TLCR 65.21 316 P **P** **03 59 08.0 -0.7**
H04S1 CROZET ISLANDS 65.28 209 T T 05 10 41.2
baz=45,slow=75,SNR=2.9
H04S3 CROZET ISLANDS 65.29 209 T T 05 10 59.7
baz=45,slow=75,SNR=7.5
H04S2 CROZET ISLANDS 65.30 209 T T 05 10 54.2
baz=45,slow=75,SNR=4.5
TIRR Tirgusor 65.32 315 ⇑P **P** **03 59 09.4 -0.1**
TIRR Tirgusor 65.32 315 P **P** **03 59 09.3 -0.1**
TPGR Topolog 65.41 316 ⇑P **P** **03 59 09.1 -0.9**
MILM Milestii Mici 65.64 318 ⇑P **P** **03 59 10.9 -0.7**
MILM Milestii Mici 65.64 318 ⇓*i*P **P** **03 59 10.5 -1.0**
comp=Z,30nm,0.6s
MILM Milestii Mici 65.64 318 P **P** **03 59 10.8 -0.7**
CFR Carcaliu 65.68 316 ⇑P **P** **03 59 11.0 -0.8**
CFR Carcaliu 65.68 316 P **P** **03 59 10.9 -0.8**
HARR Harsova 65.71 315 ⇓P **P** **03 59 11.9 -0.1**
HARR Harsova 65.71 315 P **P** **03 59 11.8 -0.1**
NEF NEVSHA 65.86 314 *e*P **P** **03 59 12.5 -0.6**
VLDR Vladesti 65.87 317 ⇑P **P** **03 59 12.7 -0.3**
SORM Soroca 66.25 319 ⇑P **P** **03 59 14.7 -0.7**
SORM Soroca 66.25 319 P **P** **03 59 14.7 -0.7**
AKASG Malin Array Be 66.40 322 P **P** **03 59 14.7 -1.6**
comp=Z,2.3nm,0.8s,baz=91,slow=5.0,SNR=22
comp=Z,2.3nm,0.8s
AKBB Malin Array Si 66.40 322 *i*P **P** **03 59 14.5 -1.8**
AKBB pmax pmax
comp=Z,29nm,2.3s
KIEV Kiev 66.41 322 ⇑P **P** **03 59 15.1 -1.2**
KIEV Kiev 66.41 322 P **P** **03 59 15.1 -1.2**
EIDS Eidsvold 66.67 122 IAmb IAmb 03 59 29.9
comp=Z,39nm,1.4s
VRI Vrincioaia 66.80 316 ⇑P **P** **03 59 19.4 +0.4**
VRI Vrincioaia 66.80 316 P **P** **03 59 19.3 +0.4**
PLOR Plostina 66.85 316 ⇑P **P** **03 59 19.8 +0.4**
PLOR Plostina 66.85 316 P **P** **03 59 19.7 +0.4**
KDZ Kurdzhali 66.97 312 *e*P **P** **03 59 19.8 -0.3**
TESR Tescani 66.99 317 ⇓P **P** **03 59 20.1 -0.1**
NEHR Nehoiu 67.00 316 ⇓P **P** **03 59 20.5 +0.2**
COVR Voineasa-Covas 67.15 316 ⇓P **P** **03 59 20.9 -0.3**
MLR Muntele Rosu 67.25 316 ⇓P **P** **03 59 22.6 +0.5**
MLR Muntele Rosu 67.25 316 IAmb IAmb 03 59 34.3
comp=Z,45nm,1.2s
MLR Muntele Rosu 67.25 316 P **P** **03 59 22.5 +0.5**
TURR Turia 67.32 317 ⇑P **P** **03 59 22.1 -0.3**
TIXI Tiksi 67.35 12 P **P** **03 59 21.4 -0.5**
TIXI Tiksi 67.35 12 P **P** **03 59 21.4 -0.5**
TIXI pmax pmax
comp=Z,36nm,0.9s
MA2 Magadan 67.55 28 P **P** **03 59 23.2 -0.2**
MA2 Magadan 67.55 28*c*e**P** **P** **03 59 23.7 +0.3**
MA2 pmax pmax
comp=Z,35nm,0.8s
MA2 Magadan 67.55 28 P **P** **03 59 23.5 +0.1**
comp=Z,28nm,0.8s,baz=216,slow=2.1,SNR=17
comp=Z,28nm,0.8s
DOPR Dopca 67.73 316 ⇑P **P** **03 59 24.7 -0.2**
TOO Toolangi 67.75 136 P **P** **03 59 26.2 +1.0**
TOO Toolangi 67.75 136 P **P** **03 59 26.2 +1.0**
TOO pmax pmax
comp=Z,58nm,1.2s
PLVB Pleven 67.79 313 ⇑P **P** **03 59 25.8 +0.5**
VOIR 67.86 316 ⇑P **P** **03 59 25.3 -0.6**
VOIR 67.86 316 P **P** **03 59 25.2 -0.6**
ARR Arges 68.14 316 ⇑P **P** **03 59 26.9 -0.6**
BURAR Bucovina Array 68.18 318 ⇑P **P** **03 59 28.3 +0.5**
BURAR Bucovina Array 68.18 318 IAmb IAmb 03 59 28.8
comp=Z,8.7nm,0.7s
BURAR Bucovina Array 68.18 318 P **P** **03 59 28.3 +0.5**
MNK Minsk 68.28 326 *i*P **P** **03 59 26.8 -1.4**
comp=E,4.0nm,0.8s
MNK *i*P **P** **03 59 26.8 -1.4**
comp=N,12nm,0.8s
MNK *i*P **P** **03 59 26.8 -1.4**
comp=Z,25nm,0.8s,baz=107
MNK *i* PcP **PcP** **03 59 52.0 -1.8**
MNK *i* PP **PP** **04 01 57.5 -1.3**
MNK *i* PPP PPP 04 03 36.2
MNK *i* S **S** **04 08 28.9 +0.4**
MNK *i* SS **SS** **04 12 53.5 +1.8**
MNK *i* LQ LQ 04 25 27.5
MNK Minsk 68.28 326 *i*P **P** **03 59 26.7 -1.4**
MNK *i* 03 59 51.9
MNK *i* 04 01 57.5
MNK *i* PPP PPP 04 03 36.1
MNK *i* S **S** **04 08 28.9 +0.4**
MNK *i* SS **SS** **04 12 53.4 +1.8**
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,25nm,0.8s
MPEP Malo Peshtene 68.42 313 *e*P **P** **03 59 28.9 -0.4**
KKB Krupnik 68.63 312 *e*P **P** **03 59 30.3 -0.4**
VTS Vitosha 68.67 312 *e*P **P** **03 59 30.6 -0.4**
VALD Valchedram 68.69 314 *e*P **P** **03 59 30.3 -0.6**
CJR Cluj-Napoca 69.09 317 ⇑P **P** **03 59 34.1 +0.6**
CJR Cluj-Napoca 69.09 317 P **P** **03 59 34.0 +0.6**
PETK Petropavlovsk- 69.09 36 P **P** **03 59 32.8 -0.5**
comp=Z,5.0nm,0.9s,baz=258,slow=5.6,SNR=1.4
comp=Z,5.0nm,0.9s
CAN Canberra 69.16 133 P **P** **03 59 35.0 +1.0**
CAN Canberra 69.16 133 P **P** **03 59 35.0 +1.0**
CAN pmax pmax
comp=Z,171nm,1.8s
BLKB Belogradchik 69.22 313 ⇑P **P** **03 59 33.6 -0.8**
MARR Marisel-Cluj 69.41 317 ⇑P **P** **03 59 35.2 -0.3**
LVV L'vov 69.41 320 *e*P **P** **03 59 32.1 -3.2**
GZR Gura Zlata 69.43 315 ⇓P **P** **03 59 35.4 -0.3**
GZR Gura Zlata 69.43 315 P **P** **03 59 35.3 -0.3**
DJES Djerdap 69.49 315 ⇑P **P** **03 59 35.5 -0.4**
SEY Seymchan 69.59 25 P **P** **03 59 35.3 -0.8**
comp=Z,8.4nm,0.8s,baz=264,slow=6.3,SNR=14
SEY LR LR 04 31 47.5
comp=Z,364nm,19.7s,baz=302,slow=37
comp=Z,8.4nm,0.8s
HERR Herculane 69.60 315 ⇑P **P** **03 59 36.9 +0.3**
DRGR 69.71 317 ⇑P **P** **03 59 36.6 -0.7**
DRGR 69.71 317 P **P** **03 59 36.6 -0.7**
SURR Surduc 69.94 316 ⇑P **P** **03 59 38.2 -0.4**
VSU Vasula 70.06 330*c*e**P** **P** **03 59 39.2 +0.1**
VSU pmax pmax
comp=Z,62nm,1.7s
VSU Vasula 70.06 330⇑*e*P **P** **03 59 39.1 +0.1**
BZS Buzias 70.27 315 ⇑P **P** **03 59 40.5 -0.2**
BZS Buzias 70.27 315 P **P** **03 59 40.5 -0.2**
SIRR Siria 70.34 316 ⇓P **P** **03 59 41.4 +0.3**
KOLS Kolonicke sedl 70.37 319 *e*P **P** **03 59 42.1 +0.9**
KOLS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 70.37 319 *e*P **P** **03 59 42.1 +0.9**
PABE Paberze 70.72 326 P **P** **03 59 42.9 -0.3**
PABE Paberze 70.72 326 *e*P **P** **03 59 43.4 +0.1**
SUW Suwalki 70.82 324 *e*P **P** **03 59 43.4 -0.5**
CRVS Cervenica-Dubn 70.89 319 *e*P **P** **03 59 44.9 +0.5**
CRVS pmax pmax
comp=Z,163nm,2.6s
CRVS Cervenica-Dubn 70.89 319 *e*P **P** **03 59 44.9 +0.5**
PUK Puka 71.06 312 IAmb IAmb 03 59 45.5
comp=Z,25nm,1.0s
STHS Stebnicka Huta 71.12 319 *e*P **P** **03 59 45.6 -0.2**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 71.12 319 *e*P **P** **03 59 45.6 -0.2**
SJES Sjenica 71.13 313 *e*P **P** **03 59 46.1 0.0**
FINES FINESS Array B 71.28 332 P **P** **03 59 45.9 -0.6**
comp=Z,18nm,0.7s,baz=103,slow=5.2,SNR=33
comp=Z,18nm,0.7s
DRME Dracevica, Mon 71.59 312 *e*P **P** **03 59 47.0 -1.8**
RUDO Rudo 71.61 313 *e*P **P** **03 59 47.0 -1.9**
BBLS Lazići 71.61 313 *e*P **P** **03 59 47.6 -1.3**
HAPS Han Pijesak,BI 71.96 314 *e*P **P** **03 59 49.9 -1.2**

PBUR Paburge 71.96 326 *e*P **P** **03 59 51.1 +0.4**
HCY Herceg Novi 72.13 312 *e*P **P** **03 59 50.4 -1.6**
BRY Bratogost 72.14 312 *e*P **P** **03 59 51.6 -0.6**
OJC Ojcow 72.17 320 IAmb IAmb 03 59 53.0
comp=Z,16nm,0.9s
LANS Liptovska Anna 72.22 319 *e*P **P** **03 59 52.8 +0.3**
LANS pmax pmax
comp=Z,2.0nm,1.1s
LANS Liptovska Anna 72.22 319 *e*P **P** **03 59 52.8 +0.3**
TREB Trebinje 72.26 312 *e*P **P** **03 59 51.2 -1.6**
LBTB Lobatse 72.35 241 P **P** **03 59 54.9 +1.2**
LBTB Lobatse 72.35 241 P **P** **03 59 54.9 +1.2**
LBTB pmax pmax
comp=Z,20nm,1.4s
MORH Mrgy, Hungar 72.41 316 ⇑P **P** **03 59 53.3 -0.3**
VYHS Vyhne 72.55 318 *e*P **P** **03 59 54.0 -0.4**
VYHS pmax pmax
comp=Z,12nm,1.3s
VYHS Vyhne 72.55 318 *e*P **P** **03 59 54.0 -0.4**
STON Ston 72.75 312 *e*P P 04 00 02.9 +7.2
SRO Srobarova 72.81 317 *e*P **P** **03 59 56.1 +0.1**
SRO pmax pmax
comp=Z,15nm,1.1s
SRO Srobarova 72.81 317 *e*P **P** **03 59 56.1 +0.1**
VADS Vadso 73.09 342 *e*P **P** **03 59 57.5 +0.4**
VADS IAmb IAmb 03 59 57.9
comp=Z,48nm,1.0s
BLY Banja Luka 73.28 314 *e*P **P** **03 59 57.9 -0.9**
MAUC Maruska 73.32 319 *e*P **P** **03 59 58.1 -0.9**
MGRS Mrkonjic Grad 73.32 314 *e*P **P** **03 59 58.1 -1.0**
A051A Mrakovica 73.50 314 *e*P **P** **03 59 58.3 -1.9**
MORC Moravsky Berou 73.55 319 ⇑P **P** **03 59 59.7 -0.7**
MORC Moravsky Berou 73.55 319 *e*P **P** **04 00 00.6 +0.2**
MORC Moravsky Berou 73.55 319 P **P** **03 59 59.6 -0.7**
MODS Modra-Piesok 73.57 318 *e*P **P** **04 00 00.8 +0.3**
MODS pmax pmax
comp=Z,244nm,2.8s
MODS Modra-Piesok 73.57 318 *e*P **P** **04 00 00.8 +0.3**
ZST Bratislava 73.67 318 *e*P **P** **04 00 01.1 +0.1**
ZST Bratislava 73.67 318 *e*P **P** **04 00 01.1 +0.1**
BOSA Boshof 73.79 237 P **P** **04 00 03.3 +1.1**
BOSA IAmb IAmb 04 00 18.4
comp=Z,31nm,1.4s
BOSA Boshof 73.79 237 P **P** **04 00 03.3 +1.1**
BOSA pmax pmax
comp=Z,31nm,1.4s
BOSA Boshof 73.79 237 P **P** **04 00 02.0 -0.2**
comp=Z,8.6nm,0.8s,baz=85,slow=5.9,SNR=14
comp=Z,8.6nm,0.8s
CEL Celeste 73.84 307 IAmb IAmb 04 00 13.6
comp=Z,52nm,1.2s
KRLC Kraliky 74.07 320 *e*P **P** **04 00 02.8 -0.6**
KRLC Kraliky 74.07 320 *e*P **P** **04 00 02.8 -0.6**
KOGS Kog 74.08 316 *i*P **P** **04 00 03.2 -0.2**
VRAC Vranov 74.11 319 *e*P **P** **04 00 03.3 -0.3**
ARA0 ARCESS Array S 74.12 340 *e*P **P** **04 00 03.4 +0.2**
ARCES ARCESS Array B 74.12 340 P **P** **04 00 03.3 0.0**
comp=Z,9.5nm,0.7s,baz=106,slow=5.2,SNR=25
comp=Z,9.5nm,0.7s
RONA Rosalia, Austr 74.16 317 *e*P **P** **04 00 03.8 -0.2**
comp=Z,3.9nm,0.8s
KRUC Moravsky 74.22 319 *e*P **P** **04 00 03.9 -0.3**
DPC Dobruska-Polom 74.40 320 *e*P **P** **04 00 05.9 +0.6**
DPC Dobruska-Polom 74.40 320 *e*P **P** **04 00 05.9 +0.6**
KSP Ksiaz 74.47 320 *e*P **P** **04 00 06.0 +0.4**
CONA Conrad Observa 74.47 317 *e*P **P** **04 00 05.8 0.0**
comp=Z,4.6nm,0.8s
OSTC Ostas 74.49 320 *e*P **P** **04 00 05.8 0.0**
OSTC Ostas 74.49 320 *e*P **P** **04 00 05.8 0.0**
CRES Cresnjev 74.58 315 *e*P **P** **04 00 04.8 -1.6**
CHVC Chvalec 74.59 320 *e*P **P** **04 00 06.5 +0.1**
CHVC Chvalec 74.59 320 *e*P **P** **04 00 06.5 +0.1**
UPC Upice 74.61 320 *e*P **P** **04 00 07.0 +0.5**
UPC Upice 74.61 320 *e*P **P** **04 00 07.0 +0.5**
ARSA Arzberg 74.64 317 *e*P **P** **04 00 07.2 +0.4**
comp=Z,4.2nm,0.7s
BOJS Bojanci 74.70 315 *e*P **P** **04 00 06.2 -0.9**
KTK1 Kautokeino 74.72 340 *e*P **P** **04 00 06.5 -0.3**
KTK1 IAmb IAmb 04 00 06.8
comp=Z,13nm,0.7s
SOKA Soboth 74.93 316 *i*P **P** **04 00 08.6 +0.1**
comp=Z,7.6nm,1.0s,SNR=8.2
HAMF Hammerfest 75.07 341 *e*P **P** **04 00 08.9 +0.2**
HAMF IAmb IAmb 04 00 14.8
comp=Z,31nm,0.9s
LJU Ljubljana 75.24 315 *i*P **P** **04 00 10.3 +0.1**
OBKA Obir 75.26 316 *e*P **P** **04 00 10.7 +0.2**
comp=Z,5.0nm,0.8s
OBKA Obir 75.26 316 *e*P **P** **04 00 10.0 -0.4**
CEY Cerknica 75.29 315 *e*P **P** **04 00 08.3 -2.3**
GOPC GO Pecny, Ondr 75.34 319 *e*P **P** **04 00 10.3 -0.4**
GOPC GO Pecny, Ondr 75.34 319 *e*P **P** **04 00 10.3 -0.4**
PRU Pruhonice 75.50 319 *e*P **P** **04 00 11.4 -0.2**
PRU Pruhonice 75.50 319 *e*P **P** **04 00 11.4 -0.2**
PVCC Panska Ves 75.53 320 *e*P **P** **04 00 12.2 +0.4**
PVCC Panska Ves 75.53 320 *e*P **P** **04 00 12.2 +0.4**
MOA Moln 75.53 317 *e*P **P** **04 00 11.7 -0.2**
comp=Z,3.1nm,0.6s
CKRC Cesky Krumlov 75.57 318 *e*P **P** **04 00 11.0 -1.1**
CKRC Cesky Krumlov 75.57 318 *e*P **P** **04 00 11.0 -1.1**
ZVC Zvikov 75.69 319 *e*P **P** **04 00 12.8 +0.1**
RICC Richard 75.83 320 *e*P **P** **04 00 14.1 +0.6**
JETT Jettan, Norway 75.84 340 *e*P **P** **04 00 13.4 +0.2**
SABO M.te Sabotino 75.88 315 IAmb IAmb 04 00 13.7
comp=Z,11nm,1.0s
MYKA Terra Mystica 75.89 316 *e*P **P** **04 00 14.0 -0.1**
comp=Z,2.8nm,0.4s
PRED Cave del Predi 75.93 316 IAmb IAmb 04 00 15.9
comp=Z,18nm,0.9s
BIOA Bad Iseli, A 75.95 317 *e*P **P** **04 00 14.1 -0.2**
comp=Z,1.9nm,0.3s
BRG Berggiesshubel 75.95 320 *i*P **P** **04 00 14.5 +0.3**
BRG Amp 04 00 15.7
comp=Z,13nm,0.9s
BRG Berggiesshubel 75.95 320 P P 04 00 23.2 +9.0
BRG Amp 04 00 26.6
comp=Z,14nm,1.1s
BRG Amp 04 32 41.0
comp=Z,0.9nm,12.2s
BRG Berggiesshubel 75.95 320 *i*P **P** **04 00 14.5 +0.3**
BRG *e* 04 00 23.1
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,14nm,1.1s
BRG Berggiesshubel 75.95 320 *e*P **P** **04 00 14.4 +0.3**
comp=Z,9.1nm,0.8s,baz=92,slow=5.6
ROBS Robic 75.96 316 *i*P **P** **04 00 13.7 -0.7**
GEC2 GERESS Array S 75.97 318 IAmb IAmb 04 00 16.4
comp=Z,16nm,1.0s
GEC2 GERESS Array S 75.97 318 *e*P **P** **04 00 14.4 -0.1**
comp=Z,11nm,0.8s,baz=92,slow=5.6
GERES GERESS Array B 75.97 318 P **P** **04 00 14.6 +0.1**
comp=Z,12nm,0.8s,baz=76,slow=5.6,SNR=37
GERES LR LR 04 39 31.5
comp=Z,296nm,19.0s,baz=206,slow=40
comp=Z,12nm,0.8s
KHC Kasperske Hory 76.07 319 *e*P **P** **04 00 14.2 -0.8**
KHC Kasperske Hory 76.07 319 *e*P **P** **04 00 14.2 -0.8**
KBA Koelnbreinsper 76.11 316 *e*P **P** **04 00 15.0 -0.4**
comp=Z,5.5nm,1.0s
RUE Ruedersdorf 76.18 322 *e*P **P** **04 00 15.7 +0.3**
RUE Ruedersdorf 76.18 322 *e*P **P** **04 00 15.4 0.0**
comp=Z,34nm,0.8s,baz=92,slow=5.6
HSKC Hora Svate Kat 76.26 320 *e*P **P** **04 00 15.5 -0.5**
TRO Tromso 76.36 340 *e*P **P** **04 00 15.9 -0.2**
CLUD Cludinico 76.40 316 IAmb IAmb 04 00 17.6
comp=Z,34nm,0.9s
STAL STALIGIAL 76.51 316 IAmb IAmb 04 00 17.6
comp=Z,14nm,0.9s
RJOB Jochberg 76.52 317 *e*P **P** **04 00 16.9 -0.6**
comp=Z,13nm,0.8s,baz=92,slow=5.6
WET Wettzell 76.53 319 *e*P **P** **04 00 17.7 +0.1**
comp=Z,7.1nm,0.9s,baz=92,slow=5.6
CLL Collm 76.58 321 IAmb IAmb 04 00 28.1
comp=Z,24nm,1.3s
CLL Collm 76.58 321 *i*P **P** **04 00 17.6 -0.1**
CLL *i* 04 00 27.1
CLL pmax pmax
comp=Z,17nm,1.1s
CLL MLR MLR
comp=Z,600nm,21.1s
CLL Collm 76.58 321 *i*P **P** **04 00 17.6 -0.1**
comp=Z,17nm,1.1s
CLL *i* (PcP) **pwP** **04 00 27.1 +1.2**
comp=Z,28nm,1.4s
CLL AMS AMS 04 38 00.0
comp=Z,600nm,21.1s
CLL Collm 76.58 321 *e*P **P** **04 00 17.7 -0.1**
comp=Z,6.9nm,0.8s,baz=92,slow=5.6
LESA Schwarzleotal 76.58 317 *e*P **P** **04 00 17.4 -0.6**
comp=Z,5.3nm,0.6s
BILL Billibino 76.62 22 *i*P **P** **04 00 16.0 -1.7**
ABTA Abfaltersbach 76.67 316 *e*P **P** **04 00 18.0 -0.5**
comp=Z,4.7nm,0.9s
HOPEN Hopen 76.69 347 IAmb IAmb 04 00 21.6
comp=Z,37nm,1.2s
NKC Novy Kostel 76.86 320 *e*P **P** **04 00 19.3 -0.1**
NKC Novy Kostel 76.86 320 *e*P **P** **04 00 19.3 -0.1**
TANN Tannenbergstha 76.87 320 *e*P **P** **04 00 19.6 +0.1**
comp=Z,5.6nm,0.9s,baz=92,slow=5.6
HFS Hagfors 76.94 330 P **P** **04 00 19.1 -0.5**
comp=Z,9.6nm,0.6s,baz=104,slow=6.3,SNR=24
comp=Z,9.6nm,0.6s
ROTZ Rotzenmuhle 77.00 319 *e*P **P** **04 00 20.5 +0.3**
comp=Z,3.1nm,0.8s,baz=92,slow=5.6
MANZ Manzenberg 77.07 319 *e*P **P** **04 00 21.1 +0.4**
comp=Z,4.1nm,0.9s,baz=92,slow=5.6
TEOL Teolo 77.22 315 IAmb IAmb 04 02 34.0
comp=Z,17nm,0.6s
FAUS Fauske 77.23 337 *e*P **P** **04 00 20.9 -0.2**
FAUS IAmb IAmb 04 00 20.9
comp=Z,309nm,2.1s
CTI Castel Tesino 77.25 315 IAmb IAmb 04 00 22.3
comp=Z,17nm,0.8s
WTTA Wattenberg 77.28 317 *i*P **P** **04 00 21.2 -0.9**
comp=Z,8.2nm,0.6s,SNR=6.5
WATA Walderalm 77.33 317 *e*P **P** **04 00 21.5 -0.8**
comp=Z,6.6nm,0.7s
STEI Steigen 77.34 338 *e*P **P** **04 00 21.6 0.0**
STEI IAmb IAmb 04 00 22.8
comp=Z,23nm,0.9s
NEUB Neuenburg 77.34 321 *e*P **P** **04 00 22.2 +0.1**
comp=Z,15nm,0.8s,baz=92,slow=5.6
MOR8 Moi Rana 77.38 336 *e*P **P** **04 00 21.3 -0.7**
MOX Moxa 77.42 320 *e*P **P** **04 00 22.7 +0.2**
comp=Z,6.0nm,0.8s,baz=92,slow=5.6
SQTA Sankt Quirin 77.58 316 *i*P **P** **04 00 23.1 -0.5**
comp=Z,13nm,0.8s,SNR=5.2
GRA1 Grafenberg Arr 77.63 319 IAmb IAmb 04 00 25.4
comp=Z,30nm,0.9s
GRF Grafenberg Arr 77.63 319 *e*P **P** **04 00 24.2 +0.4**
comp=Z,24nm,0.9s,baz=92,slow=5.6
GRFO Grafenberg 77.64 319 P **P** **04 00 24.5 +0.8**
GRFO IAmb IAmb 04 00 25.4
comp=Z,28nm,0.9s
GRFO Grafenberg 77.64 319 P **P** **04 00 24.5 +0.8**
GRFO pmax pmax
comp=Z,28nm,0.9s
MOTA Moosalm 77.65 317 *i*P **P** **04 00 23.4 -0.7**
comp=Z,14nm,0.8s,SNR=6.8
ZCCA Zocca 77.69 314 IAmb IAmb 04 00 43.6
comp=Z,48nm,1.3s
FLTG Flechtingen 77.72 322 *e*P **P** **04 00 24.2 +0.1**
baz=92,slow=5.6
RETA Reutte 77.88 317 *i*P **P** **04 00 25.0 -0.3**
comp=Z,9.4nm,0.7s,SNR=6.5
FETA Feichten 77.90 316 *e*P **P** **04 00 25.2 -0.2**
comp=Z,6.5nm,0.7s
LOF Lofoten 78.00 338 *e*P **P** **04 00 24.7 -0.7**
ASSE Asse, Semlinge 78.06 322 *e*P **P** **04 00 26.0 +0.1**
comp=Z,6.4nm,0.8s,baz=92,slow=5.6
NC602 NORSAR Array S 78.06 330 *e*P **P** **04 00 25.4 -0.5**
NSS Namsos 78.20 334 *e*P **P** **04 00 26.1 -0.5**
NSS IAmb IAmb 04 00 26.6
comp=Z,29nm,0.8s
CLZ Clausthal 78.24 321 *e*P **P** **04 00 26.7 -0.4**
comp=Z,13nm,0.8s,baz=92,slow=5.6
NB2 NORSAR Subarra 78.25 331 P **P** **04 00 25.6 -1.3**
comp=Z,2.9nm,0.6s,baz=97,slow=5.3
NB2 NORSAR Subarra 78.25 331 P **P** **04 00 25.6 -1.3**
baz=97,slow=5.3
NOA NORSAR Array B 78.25 331 P **P** **04 00 26.0 -1.0**
NOA NORSAR Array B 78.25 331 P **P** **04 00 26.0 -1.0**
comp=Z,5.8nm,0.8s,baz=94,slow=5.9,SNR=14
comp=Z,5.8nm,0.8s
UBR Ueberruh 78.33 317 *e*P **P** **04 00 27.2 -0.6**
comp=Z,16nm,0.8s,baz=92,slow=5.6
BSEG Bad Segeberg 78.34 323 *e*P **P** **04 00 27.6 +0.1**
comp=Z,17nm,0.9s,baz=92,slow=5.6
OSL Oslo 78.41 329 *e*P **P** **04 00 28.8 +1.0**
DAVA Damuels 78.48 317 *i*P **P** **04 00 28.8 +0.1**
comp=Z,24nm,0.8s,SNR=12
GTTG Gottingen 78.48 321 *e*P **P** **04 00 28.6 +0.2**
comp=Z,14nm,0.9s,baz=92,slow=5.6
SHEM Shemya Is, Ala 78.86 38 P **P** **04 00 30.1 -0.3**
comp=Z,71nm,0.7s,baz=298,slow=6.3,SNR=5.8
comp=Z,71nm,0.7s
KONO Kongsberg 78.97 329 *e*P **P** **04 00 30.8 -0.1**
SPB2 Spitsbergen Ar 78.99 348 IAmb IAmb 04 03 10.3
comp=Z,59nm,1.4s
SPA0 Spitsbergen Ar 78.99 348 *e*P **P** **04 00 30.9 +0.2**
SPITS Spitsbergen Ar 78.99 348 P **P** **04 00 30.5 -0.3**
comp=Z,16nm,0.7s,baz=98,slow=10,SNR=34
comp=Z,16nm,0.7s
KEST Kesra 79.09 305 IAmb IAmb 04 00 33.5
comp=Z,17nm,0.9s
KEST Kesra 79.09 305 P **P** **04 00 32.7 +0.5**
comp=Z,14nm,1.0s,baz=180,slow=3.0,SNR=11
comp=Z,14nm,1.0s
DZM Mont Dzumac 79.10 114 LR LR 04 39 25.9
comp=Z,357nm,20.3s,baz=205,slow=39
DOMB Dombas 79.33 332 *e*P **P** **04 00 32.7 -0.2**
TNS Taunus Mts 79.43 320 *e*P **P** **04 00 34.2 +0.5**
comp=Z,11nm,0.9s,baz=92,slow=5.6
KASTN Kahler Asten 79.45 321 *e*P **P** **04 00 33.8 0.0**
comp=Z,5.8nm,0.8s,baz=92,slow=5.6
BFO Black Forest 79.52 318 P **P** **04 00 34.3 +0.1**
BFO Black Forest 79.52 318 P **P** **04 00 34.3 +0.1**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 79.52 318 *e*P **P** **04 00 34.2 0.0**
comp=Z,7.5nm,0.8s,baz=92,slow=5.6
IBBN Ibbenburen 79.86 322 *e*P **P** **04 00 36.0 +0.1**
comp=Z,12nm,0.8s,baz=92,slow=5.6
KBS Kingsbay 80.00 349 *e*P **P** **04 00 35.9 -0.3**
BUG Bochum-Univer 80.17 321 *e*P **P** **04 00 37.9 +0.3**
comp=Z,8.2nm,0.8s,baz=92,slow=5.6
BNI Bardonecchia 80.75 314 IAmb IAmb 04 00 46.0
comp=Z,22nm,0.9s
SSB Saint Sauveur 82.24 315 IAmb IAmb 04 00 50.1
comp=Z,22nm,1.0s
TAM Tamanrasset 83.39 292 IAmb IAmb 04 00 57.8
comp=Z,10.0nm,0.8s
CLF Chambon-Foret 83.59 318 IAmb IAmb 04 00 56.3
comp=Z,31nm,0.9s
GAMB Gambell 85.55 26 P **P** **04 01 05.6 +0.4**
baz=280
EKA Eskdalemuir Ar 86.07 325 P **P** **04 01 08.0 0.0**
EKA Eskdalemuir Ar 86.07 325 P **P** **04 01 08.0 0.0**
comp=Z,13nm,0.7s,baz=98,slow=5.4,SNR=21
comp=Z,13nm,0.7s
TNA Tin City 86.80 24 P **P** **04 01 11.4 0.0**
baz=283
C16K Lisburne Hills 87.14 21 P **P** **04 01 13.6 +0.6**
baz=285
F14K Arctic Creek 87.47 24 P **P** **04 01 15.0 +0.3**
baz=284
C17K DeLong Mountai 87.85 21 P **P** **04 01 17.2 +0.7**
baz=287
A19K Wainwright 88.03 19 P **P** **04 01 18.4 +1.2**
baz=289
B18K Kokolik River 88.06 20 P **P** **04 01 18.7 +1.3**
baz=288
F15K North Star Dit 88.08 24 P **P** **04 01 18.0 +0.4**
baz=286
ANM Nome 88.09 25 IAmb IAmb 04 01 19.1
comp=Z,17nm,1.0s
ANM Nome 88.09 25 P **P** **04 01 18.9 +1.3**
baz=285,SNR=6.4
TORD Torodi Ar. Bea 88.21 283 P **P** **04 01 19.9 +0.8**
comp=Z,3.1nm,0.8s,baz=76,slow=5.8,SNR=22
comp=Z,3.1nm,0.8s
C18K Utukok River 88.50 21 P **P** **04 01 19.9 +0.3**
baz=289
G15K Niukluk 88.53 24 P **P** **04 01 19.9 +0.2**
baz=286
M11K Mekoryuk 88.79 29 P **P** **04 01 21.3 +0.3**
baz=284
C19K Lookout Ridge 88.89 20 P **P** **04 01 21.9 +0.5**
baz=290
A21K Barrow 89.01 17 P **P** **04 01 22.2 +0.4**

	baz=293						
G16K	**Koyuk River**	**89.09**	**24**	IAmb	IAmb	04 01 23.9	
	comp=Z,17nm,0.9s						
G16K	**Koyuk River**	**89.09**	**24**	P	**P**	**04 01 22.7**	**+0.4**
	baz=288						
ESBB	**Sonseca Array**	**89.16**	**310**	IAmb	IAmb	04 01 24.4	
	comp=Z,13nm,1.1s						
ESDC	**Sonseca Array**	**89.16**	**310**	P	**P**	**04 01 23.7**	**+0.4**
	comp=Z,6.0nm,0.9s,baz=59,slow=4.2,SNR=24 comp=Z,6.0nm,0.9s						
F17K	**Baldwin Pennin**	**89.19**	**23**	P	**P**	**04 01 23.4**	**+0.7**
	baz=289						
B20K	**Meade River**	**89.35**	**19**	IAmb	IAmb	04 01 25.3	
	comp=Z,14nm,0.7s						
B20K	**Meade River**	**89.35**	**19**	P	**P**	**04 01 24.3**	**+0.8**
	baz=293						
H16K	**Elim**	**89.37**	**24**	P	**P**	**04 01 24.4**	**+0.7**
	baz=288,SNR=16						
J14K	**Nanvaranak Lak**	**89.38**	**26**	P	**P**	**04 01 24.4**	**+0.8**
	baz=287						
D19K	**Kuna River**	**89.61**	**20**	P	**P**	**04 01 25.5**	**+0.7**
	baz=292						
A22K	**Sinclair Lake**	**89.62**	**18**	P	**P**	**04 01 24.8**	**+0.1**
	baz=295						
G17K	**Kiwalik Mounta**	**89.73**	**23**	P	**P**	**04 01 25.9**	**+0.5**
	baz=289						
D20K	**Etivluk River**	**90.03**	**20**	P	**P**	**04 01 27.1**	**+0.3**
	baz=293						
L14K	**Kuka Creek**	**90.18**	**28**	P	**P**	**04 01 28.1**	**+0.6**
	baz=288						
H17K	**Granite Mounta**	**90.21**	**24**	P	**P**	**04 01 28.5**	**+0.8**
	baz=290						
I17K	**Unalakleet**	**90.25**	**25**	IAmb	IAmb	04 01 39.7	
	comp=Z,39nm,1.6s						
I17K	**Unalakleet**	**90.25**	**25**	P	**P**	**04 01 28.6**	**+0.9**
	baz=289						
E19K	**Redstone River**	**90.31**	**21**	P	**P**	**04 01 28.4**	**+0.4**
	baz=292						
B21K	**Ikpikpuk River**	**90.32**	**19**	IAmb	IAmb	04 01 30.5	
	comp=Z,15nm,1.0s						
B21K	**Ikpikpuk River**	**90.32**	**19**	P	**P**	**04 01 28.5**	**+0.6**
	baz=295						
F19K	**Shaleruckik Mo**	**90.35**	**22**	P	**P**	**04 01 28.8**	**+0.7**
	baz=292						
E20K	**Nigu River**	**90.36**	**20**	P	**P**	**04 01 28.4**	**+0.1**
	baz=294						
G18K	**Tagagawik**	**90.37**	**23**	P	**P**	**04 01 28.3**	**0.0**
	baz=291						
B22K	**Teshekpuk Lake**	**90.38**	**18**	P	**P**	**04 01 28.1**	**-0.2**
	baz=296						
K15K	**Wolf Creek Mou**	**90.41**	**27**	P	**P**	**04 01 29.5**	**+1.0**
	baz=289						
C21K	**Knifeblade Rid**	**90.46**	**19**	P	**P**	**04 01 28.4**	**-0.3**
	baz=295						
J16K	**Anvik River**	**90.49**	**26**	P	**P**	**04 01 29.8**	**+0.9**
	baz=289						
L15K	**Ungalak Mounta**	**90.62**	**27**	P	**P**	**04 01 30.0**	**+0.4**
	baz=289						
M14K	**Bethel**	**90.70**	**28**	P	**P**	**04 01 30.4**	**+0.5**
	baz=288						
H18K	**Honhosa River**	**90.75**	**23**	IAmb	IAmb	04 01 31.6	
	comp=Z,17nm,0.7s						
H18K	**Honhosa River**	**90.75**	**23**	P	**P**	**04 01 30.4**	**+0.3**
	baz=292						
PBRG	**Braganca**	**90.84**	**312**	*e*P	**P**	**04 01 32.4**	**+1.3**
G19K	**Purcell Mounta**	**90.87**	**22**	P	**P**	**04 01 31.4**	**+0.7**
	baz=293						
F20K	**Avaraart Lake**	**91.01**	**21**	P	**P**	**04 01 31.9**	**+0.7**
	baz=294						
N14K	**Kuskokwak Cree**	**91.09**	**29**	P	**P**	**04 01 32.6**	**+0.9**
	baz=288						
MVO	**Moncorvo**	**91.18**	**312**	*e*P	**P**	**04 01 33.8**	**+1.1**
ELIB	**Princess Elisa**	**91.25**	**197**	*d*P	**P**	**04 01 34.6**	**+2.2**
	comp=Z,16nm,1.2s						
ELIB				*d*x	x	04 01 44.3	
D22K	**Ayikyak River**	**91.26**	**19**	P	**P**	**04 01 33.1**	**+0.6**
	baz=297						
M15K	**Kasigluk River**	**91.31**	**28**	P	**P**	**04 01 33.6**	**+0.8**
	baz=289						
H19K	**Roundabout Mou**	**91.35**	**23**	P	**P**	**04 01 33.8**	**+1.0**
	baz=293						
GCSA	**Galena City Sc**	**91.49**	**24**	P	**P**	**04 01 34.9**	**+1.4**
	baz=293						
L16K	**Owhat River**	**91.52**	**27**	P	**P**	**04 01 34.5**	**+0.8**
	baz=290						
K17K	**Iditarod**	**91.67**	**26**	P	**P**	**04 01 35.5**	**+1.1**
	baz=292						
MTE	**Manteigas**	**91.72**	**311**	*e*P	**P**	**04 01 36.8**	**+1.5**
	comp=Z,76nm,1.7s						
F21K	**Alatna River**	**91.73**	**21**	P	**P**	**04 01 35.1**	**+0.4**
	baz=296						
N15K	**Kwethluk River**	**91.77**	**28**	IAmb	IAmb	04 01 37.1	
	comp=Z,26nm,1.0s						
N15K	**Kwethluk River**	**91.77**	**28**	P	**P**	**04 01 35.9**	**+0.9**
	baz=290						
PCBR	**Castelo Branco**	**91.79**	**311**	*e*P	**P**	**04 01 36.5**	**+1.0**
	comp=Z,43nm,1.7s						
PBAR	**Barrancos**	**91.80**	**309**	*e*P	**P**	**04 01 36.6**	**+1.0**
	comp=Z,45nm,1.5s						
PMRV	**Marv??o**	**91.81**	**310**	*e*P	**P**	**04 01 36.7**	**+1.1**
	comp=Z,47nm,1.3s						
L17K	**Donlin**	**91.89**	**26**	P	**P**	**04 01 36.4**	**+1.0**
	baz=292						
PVIS	**Viseu**	**91.92**	**311**	*e*P	**P**	**04 01 38.1**	**+2.0**
NEEM	**North Greenlan**	**91.92**	**352**	*i* P	**P**	**04 01 34.6**	**-1.1**
H20K	**Anotleneega Mo**	**91.96**	**23**	P	**P**	**04 01 36.5**	**+0.7**
	baz=295						
M16K	**Timber Creek**	**91.99**	**27**	P	**P**	**04 01 36.5**	**+0.5**
	baz=291						
G21K	**Allakaket**	**92.03**	**21**	P	**P**	**04 01 36.5**	**+0.5**
	baz=296						
F22K	**John River**	**92.06**	**20**	P	**P**	**04 01 36.9**	**+0.7**
	baz=297						
J18K	**Innoko River**	**92.06**	**25**	P	**P**	**04 01 37.1**	**+0.8**
	baz=293						
C24K	**Franklin Bluff**	**92.10**	**18**	P	**P**	**04 01 36.4**	**+0.2**
	baz=300						
BORG	**Borgarnes**	**92.16**	**337**	LR	LR	04 46 33.3	
	comp=Z,478nm,19.2s,baz=162,slow=38						
O15K	**Ungalikthiuk R**	**92.23**	**29**	P	**P**	**04 01 37.8**	**+0.8**
	baz=290						
N16K	**Nishlik Lake**	**92.28**	**28**	P	**P**	**04 01 38.3**	**+1.0**
	baz=291						
J19K	**Poorman**	**92.29**	**24**	IAmb	IAmb	04 01 39.2	
	comp=Z,15nm,0.8s						
J19K	**Poorman**	**92.29**	**24**	P	**P**	**04 01 38.1**	**+0.8**
	baz=294						
D24K	**Happy Valley**	**92.35**	**18**	IAmb	IAmb	04 01 39.8	
	comp=Z,18nm,1.2s						
D24K	**Happy Valley**	**92.35**	**18**	P	**P**	**04 01 37.8**	**+0.3**
	baz=300						
I20K	**Naaghedeneel**	**92.41**	**23**	P	**P**	**04 01 38.9**	**+1.2**
	baz=295						
PBEJ	**Beja**	**92.47**	**309**	*e*P	**P**	**04 01 40.0**	**+1.3**
EVO	**Evora**	**92.48**	**309**	*e*P	**P**	**04 01 39.8**	**+1.1**
	comp=Z,26nm,1.6s						
PVAQ	**Vaqueiros**	**92.49**	**308**	*e*P	**P**	**04 01 40.2**	**+1.4**
M17K	**Holitna River**	**92.54**	**27**	P	**P**	**04 01 39.2**	**+0.7**
	baz=292						
L18K	**Granite Mounta**	**92.55**	**26**	P	**P**	**04 01 39.2**	**+0.7**
	baz=293						
G22K	**Bettles**	**92.56**	**21**	P	**P**	**04 01 39.0**	**+0.6**
	baz=298						
TTA	**Tatalina**	**92.56**	**25**	P	**P**	**04 01 39.4**	**+0.7**
	baz=294						
E23K	**Chandalar**	**92.65**	**19**	P	**P**	**04 01 39.2**	**+0.2**
	baz=300						
H21K	**Melozitna Rive**	**92.67**	**22**	IAmb	IAmb	04 01 42.5	
	comp=Z,17nm,1.1s						
H21K	**Melozitna Rive**	**92.67**	**22**	P	**P**	**04 01 39.8**	**+0.8**
	baz=297						
PBDV	**Barranco-do-Ve**	**92.69**	**308**	*e*P	**P**	**04 01 39.2**	**-0.5**
MESJ	**Messejana**	**92.79**	**309**	*e*P	**P**	**04 01 41.2**	**+1.1**
	comp=Z,22nm,1.3s						
J20K	**Nowinta River**	**92.81**	**24**	P	**P**	**04 01 40.8**	**+1.1**
	baz=295						
COLD	**Coldfoot**	**92.86**	**20**	P	**P**	**04 01 40.3**	**+0.5**
	baz=299						
O16K	**Kokwok River B**	**92.91**	**29**	P	**P**	**04 01 40.8**	**+0.6**
	baz=292						
N17K	**Nushagak Hills**	**92.98**	**28**	P	**P**	**04 01 41.4**	**+0.8**
	baz=292						
D25K	**Kavik River**	**93.01**	**18**	P	**P**	**04 01 40.8**	**+0.3**
	baz=303						
H22K	**Ishtalitna Cre**	**93.09**	**22**	P	**P**	**04 01 41.7**	**+0.8**
	baz=298						
P16K	**Nushagak River**	**93.17**	**29**	P	**P**	**04 01 42.1**	**+0.7**
	baz=292						
G23K	**Bananza Creek**	**93.18**	**21**	IAmb	IAmb	04 01 42.7	
	comp=Z,7.5nm,0.8s						
G23K	**Bananza Creek**	**93.18**	**21**	P	**P**	**04 01 42.1**	**+0.8**
	baz=299						
K20K	**Telida**	**93.19**	**24**	IAmb	IAmb	04 01 44.0	
	comp=Z,17nm,0.8s						
K20K	**Telida**	**93.19**	**24**	P	**P**	**04 01 42.4**	**+1.0**
	baz=295						
SDPT	**Sand Point**	**93.19**	**33**	P	**P**	**04 01 42.4**	**+0.8**
	baz=289						
I21K	**Tanana**	**93.19**	**22**	IAmb	IAmb	04 01 43.0	
	comp=Z,13nm,1.0s						
I21K	**Tanana**	**93.19**	**22**	P	**P**	**04 01 42.4**	**+1.0**
	baz=297						
M18K	**Stony River**	**93.22**	**26**	P	**P**	**04 01 42.5**	**+0.9**
	baz=294						
MORF	**Marmelete**	**93.24**	**308**	*e*P	**P**	**04 01 43.2**	**+0.9**
	comp=Z,31nm,1.5s						
SUMG	**Summit**	**93.25**	**347**	IAmb	IAmb	04 01 44.9	
	comp=Z,14nm,1.2s						
SUMG	**Summit**	**93.25**	**347**	*i* P	**P**	**04 01 41.0**	**-1.0**
O17K	**Koliganek Bris**	**93.31**	**28**	P	**P**	**04 01 42.6**	**+0.5**
	baz=292						
L19K	**White Mountain**	**93.36**	**26**	IAmb	IAmb	04 01 53.7	
	comp=Z,18nm,1.1s						
L19K	**White Mountain**	**93.36**	**26**	P	**P**	**04 01 43.4**	**+1.1**
	baz=294						
F24K	**Squaw Lake**	**93.49**	**19**	IAmb	IAmb	04 01 44.0	
	comp=Z,6.0nm,0.8s						
F24K	**Squaw Lake**	**93.49**	**19**	P	**P**	**04 01 43.6**	**+0.8**
	baz=301						
N18K	**Kilae Creek**	**93.52**	**27**	P	**P**	**04 01 44.1**	**+1.1**
	baz=294						
L20K	**Farewell, AK**	**93.64**	**25**	P	**P**	**04 01 44.4**	**+0.8**
	baz=295						
M19K	**Big River Lodg**	**93.67**	**26**	P	**P**	**04 01 44.6**	**+0.9**
	baz=295						
MLY	**Manley**	**93.73**	**22**	P	**P**	**04 01 44.7**	**+0.7**
	baz=298,SNR=5.5						
CHNA	**Chernabura Isl**	**93.84**	**33**	P	**P**	**04 01 46.1**	**+1.6**
	baz=290						
P17K	**Kvichak River**	**93.85**	**29**	P	**P**	**04 01 45.6**	**+1.1**
	baz=293						
E25K	**Arctic Village**	**93.91**	**18**	P	**P**	**04 01 45.3**	**+0.6**
	baz=303						
CHGN	**Chignik**	**93.95**	**32**	P	**P**	**04 01 46.0**	**+1.0**
	baz=291						
CAST	**Castle Rocks**	**93.96**	**24**	IAmb	IAmb	04 01 47.4	
	comp=Z,7.1nm,0.9s						
CAST	**Castle Rocks**	**93.96**	**24**	P	**P**	**04 01 46.2**	**+1.2**
	baz=297						
G24K	**Hadweenzic Riv**	**94.06**	**20**	IAmb	IAmb	04 01 46.7	
	comp=Z,7.1nm,0.8s						
G24K	**Hadweenzic Riv**	**94.06**	**20**	P	**P**	**04 01 46.4**	**+1.0**
	baz=302						
BPAW	**Bear Paw Mtn.**	**94.08**	**23**	IAmb	IAmb	04 01 47.1	
	comp=Z,8.7nm,0.7s						
BPAW	**Bear Paw Mtn.**	**94.08**	**23**	P	**P**	**04 01 46.5**	**+1.0**
	baz=298,SNR=5.5						
N19K	**Bonanza Creek**	**94.09**	**27**	P	**P**	**04 01 46.9**	**+1.1**
	baz=295						
F25K	**Christian Rive**	**94.18**	**19**	P	**P**	**04 01 46.8**	**+0.8**
	baz=303						
I23K	**Minto, Yukon-K**	**94.18**	**22**	IAmb	IAmb	04 01 57.2	
	comp=Z,21nm,1.4s						
I23K	**Minto, Yukon-K**	**94.18**	**22**	P	**P**	**04 01 46.3**	**+0.4**
	baz=300						
M20K	**Styx River**	**94.22**	**25**	P	**P**	**04 01 47.1**	**+0.8**
	baz=296						
H24K	**Noodor Dome**	**94.37**	**21**	IAmb	IAmb	04 01 58.1	
	comp=Z,20nm,1.6s						
H24K	**Noodor Dome**	**94.37**	**21**	P	**P**	**04 01 47.6**	**+0.8**
	baz=295						
O19K	**Port Alsworth**	**94.42**	**27**	P	**P**	**04 01 48.0**	**+0.8**
	baz=295						
G25K	**Bearman Lake**	**94.48**	**20**	P	**P**	**04 01 48.1**	**+0.9**
	baz=303						
NEA2	**Nenana**	**94.57**	**22**	IAmb	IAmb	04 01 49.4	
	comp=Z,8.8nm,0.8s						
NEA2	**Nenana**	**94.57**	**22**	P	**P**	**04 01 48.5**	**+0.8**
	baz=300,SNR=6.5						
F26K	**Sheenjek River**	**94.60**	**18**	P	**P**	**04 01 48.7**	**+0.8**
	baz=294						
D27M	**Malcolm River**	**94.62**	**17**	IAmb	IAmb	04 01 49.3	
	comp=Z,7.5nm,0.8s						
D27M	**Malcolm River**	**94.62**	**17**	P	**P**	**04 01 48.8**	**+0.8**
	baz=308						
TRF	**Thorofare Moun**	**94.66**	**23**	P	**P**	**04 01 48.8**	**+0.4**
	baz=299						
SKT	**Skwentna**	**94.85**	**25**	P	**P**	**04 01 49.1**	**0.0**
	baz=298						
POKR	**Poker Plat Res**	**94.90**	**21**	P	**P**	**04 01 49.5**	**+0.2**
	baz=302						
MCK	**McKinley**	**95.05**	**23**	P	**P**	**04 01 50.4**	**+0.4**
	baz=300						
E27K	**Coleen River**	**95.09**	**18**	P	**P**	**04 01 50.7**	**+0.6**
	baz=307						
G26K	**Porcupine Rive**	**95.14**	**19**	P	**P**	**04 01 51.3**	**+1.1**
	baz=305						
D28M	**Stokes Point**	**95.19**	**16**	P	**P**	**04 01 51.4**	**+1.0**
	baz=310						
IL31		**95.28**	**22**	IAmb	IAmb	04 01 51.3	
	comp=Z,5.8nm,0.8s						
ILAR	**Eielson Array**	**95.28**	**22**	P	**P**	**04 01 50.1**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=301,slow=4.6,SNR=18 comp=Z,3.5nm,0.7s						
PRP	**Porcupine Dome**	**95.36**	**21**	P	**P**	**04 01 52.1**	**+0.5**
	baz=303						
E28M	**Babbage River**	**95.43**	**17**	IAmb	IAmb	04 01 52.7	
	comp=Z,7.1nm,0.8s						
E28M	**Babbage River**	**95.43**	**17**	P	**P**	**04 01 52.2**	**+0.5**
	baz=309						
HDA	**Harding Lake**	**95.45**	**22**	P	**P**	**04 01 51.0**	**-0.8**
	baz=302						
DBIC	**Dimbokro**	**95.55**	**278**	P	**P**	**04 01 54.4**	**+1.1**
	comp=Z,5.4nm,0.8s,baz=76,slow=5.2,SNR=8.3 comp=Z,5.4nm,0.8s						
J25K	**Salcha River,**	**95.92**	**21**	P	**P**	**04 01 53.6**	**-0.4**
	baz=303						
F28M	**Old Crow**	**95.96**	**18**	IAmb	IAmb	04 02 23.3	
	comp=Z,6.4nm,1.0s						
F28M	**Old Crow**	**95.96**	**18**	P	**P**	**04 01 54.1**	**+0.1**
	baz=309						
E29M	**Blow River**	**96.03**	**16**	IAmb	IAmb	04 01 57.2	
	comp=Z,30nm,1.8s						
E29M	**Blow River**	**96.03**	**16**	P	**P**	**04 01 55.0**	**+0.6**
	baz=311						
RC01	**Rabbit Creek A**	**96.03**	**25**	P	**P**	**04 01 54.7**	**+0.2**
	baz=299						
WAT6	**Susitna Watana**	**96.10**	**24**	P	**P**	**04 01 54.8**	**-0.2**
	baz=301						
K24K	**Donnelly Dome**	**96.21**	**22**	P	**P**	**04 01 55.1**	**-0.3**
	baz=303						
SML	**Sawmill**	**96.26**	**24**	P	**P**	**04 01 55.5**	**-0.1**
	baz=300						
H27K	**Steamboat Moun**	**96.29**	**19**	P	**P**	**04 01 55.8**	**+0.2**
	baz=307						
I26K	**Coal Creek Min**	**96.30**	**20**	P	**P**	**04 01 56.0**	**+0.4**
	baz=306						
A36M	**Sachs Harbour**	**96.34**	**11**	P	**P**	**04 01 55.9**	**+0.2**
	baz=323,SNR=32						
KNK	**Knik Glacier**	**96.41**	**25**	P	**P**	**04 01 56.1**	**-0.2**
	baz=300						
M23K	**Glacier View**	**96.52**	**24**	P	**P**	**04 01 57.0**	**+0.3**
	baz=301						
RIDG	**Independent Ri**	**96.59**	**22**	P	**P**	**04 01 56.6**	**-0.5**
	baz=304						
J26L	**Joseph Creek**	**96.62**	**21**	P	**P**	**04 01 57.2**	**-0.1**
	baz=305						
SEW	**Seward**	**96.63**	**26**	P	**P**	**04 01 57.2**	**0.0**
	baz=299						
I27K	**Kandik River**	**96.64**	**20**	P	**P**	**04 01 58.0**	**+0.7**
	baz=307						
SCM	**Sheep Creek Mo**	**96.66**	**24**	P	**P**	**04 01 58.0**	**+0.5**
	baz=301						
SCRK	**Sand Creek**	**96.77**	**22**	P	**P**	**04 01 58.0**	**0.0**
	baz=305						
PAX	**Paxson**	**96.78**	**23**	P	**P**	**04 01 58.1**	**+0.1**
	baz=303						
G29M	**Pine Creek**	**96.96**	**18**	P	**P**	**04 01 59.0**	**+0.4**
	baz=310						
M24K	**Tolsona, Glenn**	**96.97**	**24**	P	**P**	**04 01 57.8**	**-1.1**
	baz=302						
F30M	**Barrier River**	**97.14**	**17**	P	Pdif	04 01 59.8	**+0.3**
	baz=313						
HARP	**HAARP**	**97.22**	**23**	P	**P**	**04 01 59.8**	**-0.1**
	baz=303						
INK	**Inuvik**	**97.28**	**15**	IAmb	IAmb	04 02 10.7	
	comp=Z,25nm,1.7s						
INK	**Inuvik**	**97.28**	**15**	P	**P**	**04 02 00.0**	**0.0**
	baz=315,SNR=5.9						
I28M	**Miner Creek**	**97.29**	**19**	P	**P**	**04 02 00.2**	**0.0**
	baz=308						
EGAK	**Eagle**	**97.30**	**20**	P	**P**	**04 02 00.1**	**-0.1**
	baz=307						
H29M	**Whitestone**	**97.30**	**18**	P	**P**	**04 02 00.1**	**0.0**
	baz=310						
K27K	**Chicken**	**97.43**	**21**	P	Pdif	04 02 01.2	**+0.3**
	baz=306						
G30M	**tAoh Zraii Nji**	**97.45**	**17**	IAmb	IAmb	04 02 26.6	
	comp=Z,16nm,1.3s						
G30M	**tAoh Zraii Nji**	**97.45**	**17**	P	**P**	**04 02 00.8**	**0.0**
	baz=312						
P23K	**Montague Islan**	**97.58**	**26**	P	Pdif	04 02 01.8	**+0.2**
	baz=301						
EPYK	**Eagle Plains**	**97.71**	**18**	P	**P**	**04 02 01.8**	**-0.3**
	baz=312						
F31M	**Tsiigehtchic**	**97.83**	**16**	P	**P**	**04 02 02.2**	**-0.2**
	baz=315						
I29M	**Ogilvie Camp,**	**97.88**	**19**	P	**P**	**04 02 02.2**	**-0.6**
	baz=310						
G31M	**Satah River**	**98.05**	**17**	P	**P**	**04 02 03.3**	**-0.1**
	baz=314						
M26K	**Nabesna, AK**	**98.05**	**23**	P	Pdif	04 02 03.8	**+0.1**
	baz=305						
L27K	**Beaver Creek,**	**98.09**	**22**	P	**P**	**04 02 03.7**	**-0.1**
	baz=306						
BMRM	**Bremner River**	**98.23**	**24**	P	Pdif	04 02 04.6	**0.0**
	baz=304						
DAWY	**Dawson**	**98.34**	**20**	IAmb	IAmb	04 02 15.7	
	comp=Z,15nm,1.6s						
DAWY	**Dawson**	**98.34**	**20**	P	**P**	**04 02 04.8**	**-0.2**
	baz=309						
M27K	**Edge Creek, AK**	**98.50**	**22**	P	**P**	**04 02 05.7**	**0.0**
	baz=306						
I30M	**Mount Dempster**	**98.58**	**19**	IAmb	IAmb	04 02 06.9	
	comp=Z,4.1nm,0.8s						
I30M	**Mount Dempster**	**98.58**	**19**	P	**P**	**04 02 05.9**	**-0.2**
	baz=312						
C36M	**Paulatuk**	**98.72**	**12**	IAmb	IAmb	04 02 06.8	
	comp=Z,7.8nm,0.7s						
C36M	**Paulatuk**	**98.72**	**12**	P	Pdif	04 02 06.7	**+0.3**
	baz=324						
J30M	**Hart River**	**99.03**	**19**	P	**Pdif**	**04 02 08.6**	**+0.5**
	baz=312						
K29M	**Barlow Dome**	**99.12**	**20**	P	**Pdif**	**04 02 09.3**	**+0.7**
	baz=311						
YUK3	**Moose Creek**	**99.38**	**22**	P	**Pdif**	**04 02 10.2**	**+0.4**
	baz=308						
L29M	**L29M**	**99.39**	**21**	P	**Pdif**	**04 02 10.7**	**+1.1**
	baz=310						
CTG	**Chitna Glacier**	**99.53**	**23**	P	**Pdif**	**04 02 10.3**	**-0.2**
	baz=307						
M30M	**Minto, Yukon**	**100.20**	**21**	P	**Pdif**	**04 02 13.4**	**+0.1**
	baz=311						
MSO	**Missoula**	**120.59**	**20**	P	**PKPdf**	**04 07 19.0**	**-0.5**
	baz=330						
EGMT	**Eagleton**	**120.84**	**17**	P	**PKiKP**	**04 07 20.2**	**+0.2**
	baz=335						
ULM	**Lac du Bonnet**	**121.37**	**6**	PKP	**PKPdf**	**04 07 19.5**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=21,slow=5.8,SNR=4.0						
ULM				PKKPab	**PKKPbc**	**04 17 20.4**	**-2.9**
	comp=Z,1.2nm,0.6s,baz=166,slow=9.0,SNR=3.2						
DGMT	**Dagmar**	**121.80**	**12**	P	**PKPdf**	**04 07 21.4**	**-0.3**
	baz=341						
LAO	**LASA Array**	**123.01**	**15**	P	**PKiKP**	**04 07 24.6**	**+0.3**
	baz=339						
HLID	**Hailey**	**123.23**	**23**	PKPdf	**PKiKP**	**04 07 24.9**	**0.0**
HLID	**Hailey**	**123.23**	**23**	P	**PKiKP**	**04 07 25.0**	**0.0**
	baz=329						
EYMN	**Ely**	**123.98**	**3**	P	**PKPdf**	**04 07 25.5**	**-0.3**
	baz=356						
BW06	**Boulder Array**	**125.64**	**19**	P	**PKPdf**	**04 07 29.2**	**-0.3**
	baz=334						
PDAR	**Pinedale Array**	**125.64**	**19**	PKP	**PKPdf**	**04 07 29.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=108,slow=1.1,SNR=21						
NVAR	**Mina Array Bea**	**125.78**	**29**	PKP	**PKiKP**	**04 07 31.0**	**+0.7**
	comp=Z,4.9nm,0.8s,baz=286,slow=1.5,SNR=22						
RSSD	**Black Hills**	**125.95**	**14**	P	**PKPdf**	**04 07 29.6**	**-0.4**
	baz=341						
K22A	**Casper**	**126.67**	**17**	P	**PKPdf**	**04 07 30.8**	**-0.6**
	baz=337						
DUG	**Dugway, Tooele**	**126.72**	**23**	P	**PKiKP**	**04 07 31.9**	**-0.1**
	baz=329						
R11B	**Troy Canyon, C**	**127.11**	**27**	P	**PKiKP**	**04 07 33.3**	**+0.5**
	baz=325						
NLU	**North Lily Min**	**127.22**	**23**	PKPdf	**PKPdf**	**04 07 32.4**	**-0.1**
VES	**Vestal, Richgr**	**127.41**	**32**	P	**PKiKP**	**04 07 33.2**	**0.0**
	baz=320						
PKM	**Mcpherson Peak**	**127.75**	**33**	P	**PKiKP**	**04 07 34.7**	**+0.5**
	baz=319						
TPNV	**Topopah Spring**	**127.94**	**28**	P	**PKiKP**	**04 07 34.7**	**+0.2**
	baz=324						
MPMC	**Manual Prospec**	**128.05**	**30**	P	**PKiKP**	**04 07 35.0**	**+0.2**
	baz=322						
O20A	**White River Ci**	**128.44**	**20**	P	**PKPdf**	**04 07 35.0**	**+0.1**
	baz=334						
N23A	**Red Feather La**	**128.46**	**17**	P	**PKPdf**	**04 07 34.2**	**-0.8**
	baz=338						
BINY	**Binghamton**	**128.56**	**348**	P	**PKPdf**	**04 07 34.6**	**-0.2**
	baz=16						
EDW2	**Edwards Air Fo**	**128.71**	**32**	P	**PKiKP**	**04 07 36.3**	**+0.4**
	baz=321						
MURC	**Murrieta**	**130.12**	**32**	P	**PKiKP**	**04 07 38.8**	**0.0**
	baz=321						
IRM	**Iron Mountain**	**130.72**	**30**	P	**PKiKP**	**04 07 40.2**	**+0.2**
	baz=324						
MVCO	**Mesa Verde**	**130.96**	**21**	P	**PKiKP**	**04 07 40.5**	**-0.2**
	baz=333						
BC3	**Big Chuckawall**	**130.97**	**30**	P	**PKPdf**	**04 07 39.6**	**-0.1**
	baz=323						
MONP2	**Monument Peak**	**131.08**	**32**	P	**PKPdf**	**04 07 40.2**	**+0.1**
	baz=322						
PDMCI	**Parker Dam,Lak**	**131.09**	**29**	P	**PKPdf**	**04 07 39.8**	**+0.1**
	baz=325						
SWSC	**Sam W. Stewart**	**131.36**	**31**	P	**PKPdf**	**04 07 40.6**	**+0.3**
	baz=323						
IKP	**In-Ko-Pah, Jac**	**131.43**	**32**	P	**PKPdf**	**04 07 41.1**	**+0.5**
	baz=322						
O48B	**Farmland**	**131.66**	**357**	P	**PKPdf**	**04 07 40.2**	**-0.5**
	baz=4.1						
P52A	**Corning**	**132.03**	**354**	P	**PKPdf**	**04 07 41.4**	**0.0**
	baz=8.1						
P46A	**Rosedale**	**132.37**	**359**		**PKPdf**	**04 07 42.6**	**+0.5**
ANMO	**Albuquerque**	**133.72**	**21**	PKPdf	**PKPdf**	**04 07 45.4**	**+0.4**
ANMO	**Albuquerque**	**133.72**	**21**	P	**PKPdf**	**04 07 45.4**	**+0.4**
	baz=335						
ANMO	**Albuquerque**	**133.72**	**21**	PKIKP	**PKPdf**	**04 07 45.4**	**+0.4**
TUC	**Tucson**	**134.30**	**27**		**PKPdf**	**04 07 46.2**	**+0.2**
TUC	**Tucson**	**134.30**	**27**	P	**PKiKP**	**04 07 46.7**	**-0.6**
	baz=328						
TUC	**Tucson**	**134.30**	**27

*ISN **25** 03:50:26.3±1.2,33.64N×46.95E,h25km,ML2.0*
ISC 25 03:50:26.8±1.5,33°63N±0.06°×46°83E±0.04,h17km,n8,
σ0892/9,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**270**	Pg	**Pg**	**03 50 36.2**	**-0.9**
KCHF	**Cheshme Sefid,**	**0.67**	**15**	Pg	**Pg**	**03 50 39.2**	**-0.8**
IKFM	**Kafar-mosalman**	**0.86**	**97**	Pg	**Pg**	**03 50 42.8**	**-0.7**
IBDR	**Badra**	**0.91**	**236**	*e*Pg	**Pg**	**03 50 44.0**	**-0.5**
	baz=58						
IBDR				*e*Sg	**Sn**	**03 50 59.0**	**+1.5**
IBDR				AML	AML	03 51 02.5	
	comp=N,43nm,0.7s						
IBDR				AML	AML	03 51 10.8	
	comp=E,48nm,0.5s						
IDHR	**Dehrash**	**1.13**	**341**	Pg	**Pg**	**03 50 48.3**	**-0.4**
IBZA	**Bozab**	**1.20**	**45**	Pg	**Pg**	**03 50 50.1**	**0.0**
HSAM	**Samen**	**1.59**	**68**	Pg	**Pg**	**03 50 56.7**	**-0.7**
IALM	**Almabolaq**	**1.66**	**42**	Pg	**Pg**	**03 50 58.7**	**0.0**

IDC 25 03:53:08.0±845.0,26°92N×131°47E,h0km,Error ellipse:
s-maj=405.8km s-min=161.7km az=42.0,Southeast of
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**11.28**	**40**	I	I	05 01 40.0	
	baz=225,slow=312,SNR=1.1						
I45RU	**USSURIYSK INFR**	**17.25**	**1**	I	I	05 37 30.0	
	baz=183,slow=351,SNR=1.5						
I60US	**Wake Island**	**33.12**	**96**	I	I	07 14 20.0	
	baz=294,slow=319,SNR=1.9						

*IDC **25** 03:56:02.8±1.6,55°55N×166°29E,h0km,mb3.6/9,*
mbtmp3.7/10,ML3.3/1,Error ellipse: s-maj=46.8km
s-min=18.3km az=166.0
*KRSC **25** 03:56:03.3±2.5,55°21N×166°60E,h38km±15km,Ml4.0*
ISC 25 03:56:05.0±0.8,55°32N±0°07×166°55E±0°06,h20km,n35,
σ1§88/55,mb3.7/9,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.35**	**251**	*e*P	**Pb**	**03 56 12.0**	**-0.4**
BKI				*e*S	**Sb**	**03 56 18.0**	**+0.6**
KBG	**Krutoberegovo**	**2.36**	**295**	*e*S	**Sn**	**03 57 10.8**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**3.38**	**283**	*e*P	**Pn**	**03 56 59.1**	**+2.6**
BZGR				*e*S	**Sn**	**03 57 39.5**	**+3.5**
KLY	**Klyuchi**	**3.47**	**289**	*e*S	**Sn**	**03 57 38.4**	**+0.2**
BZMR	**Bezymyannaya**	**3.49**	**283**	*e*P	**Pn**	**03 57 00.1**	**+2.0**
BZWR	**Bezymyannyi-We**	**3.49**	**283**	*e*P	**Pn**	**03 56 59.3**	**+1.2**
BZWR				*e*S	**Sb**	**03 57 44.2**	**-3.8**
TUMD	**Tumrok D**	**3.52**	**271**	*e*P	**Pn**	**03 56 59.5**	**+1.1**
TUMD				*e*S	**Sn**	**03 57 40.3**	**+0.9**
KIRR	**Kirishev**	**3.57**	**283**	*e*P	**Pn**	**03 56 59.9**	**+0.5**
KIRR				*e*S	**Sn**	**03 57 45.0**	**+4.0**
KMNR	**Kamenistaya**	**3.61**	**280**	*e*P	**Pn**	**03 57 03.3**	**+3.5**
KMNR				*e*S	**Sn**	**03 57 46.3**	**+4.4**
KPT	**Kopyto**	**3.64**	**283**	*e*P	**Pn**	**03 57 01.2**	**+1.0**
KPT				*e*S	**Sn**	**03 57 44.2**	**+1.6**
TUMR	**Tumrok**	**3.66**	**272**	*e*P	**Pn**	**03 57 02.3**	**+1.8**
TUMR				*e*S	**Sn**	**03 57 46.4**	**+3.3**
KOZ	**Kozyrevsk**	**3.85**	**284**	*e*P	**Pn**	**03 57 06.8**	**+3.8**
SRDR	**Sredinnyy**	**3.98**	**287**	*e*P	**Pn**	**03 57 05.4**	**+0.5**
SRDR				*e*S	**Sn**	**03 57 49.6**	**-1.3**
KII	**Karymskiy**	**4.32**	**256**	*e*P	**Pn**	**03 57 10.8**	**+1.4**
KII				*e*S	**Sn**	**03 57 59.8**	**+0.6**
SMAR	**Somma**	**4.98**	**249**	*e*P	**Pn**	**03 57 20.4**	**+1.7**
SMAR				*e*S	**Sn**	**03 58 16.7**	**+0.9**
UGLR	**Uglovaya**	**5.00**	**248**	*e*P	**Pn**	**03 57 20.7**	**+1.9**
AVH	**Avacha**	**5.01**	**249**	*e*P	**Pn**	**03 57 21.1**	**+2.1**
AVH				*e*S	**Sn**	**03 58 18.0**	**+1.6**
KRX	**Arik**	**5.02**	**250**	*e*P	**Pn**	**03 57 21.1**	**+1.9**
KRX				*e*S	**Sn**	**03 58 16.2**	**-0.4**
KOK	**Koryaka**	**5.06**	**250**	*e*P	**Pn**	**03 57 21.5**	**+1.9**
DALK	**Dalny**	**5.12**	**247**	*e*P	**Pn**	**03 57 19.9**	**-0.5**
DALK				*e*S	**Sn**	**03 58 18.2**	**-0.5**
KRMR	**Karymshinskiy**	**5.55**	**247**	*e*P	**Pn**	**03 57 27.8**	**+1.5**
KRMR				*e*S	**Sn**	**03 58 30.6**	**+1.3**
PETK	**Petropavlovsk-**	**5.64**	**251**	Pn	**Pn**	**03 57 29.3**	**+1.7**
	4.1nm,0.3s,baz=71,slow=16,SNR=20						
PETK				Sn	**Sn**	**03 58 32.6**	**+0.8**
	0.5nm,0.3s,baz=217,slow=15,SNR=1.7						
	13nm,0.5s						
MTVR	**Mutnovka**	**5.70**	**244**	*e*P	**Pn**	**03 57 29.3**	**+0.7**
MTVR				*e*S	**Sn**	**03 58 32.6**	**-0.8**
GRL	**Gorelyy**	**5.72**	**245**	*e*P	**Pn**	**03 57 31.1**	**+2.3**
GRL				*e*S	**Sn**	**03 58 33.7**	**-0.1**
ASAK	**Asacha**	**5.90**	**244**	*e*P	**Pn**	**03 57 32.4**	**+1.2**
ASAK				*e*S	**Sn**	**03 58 39.3**	**+1.1**
APC	**Apacha**	**6.02**	**250**	*e*P	**Pn**	**03 57 35.5**	**+2.8**
ILAR	**Eielson Array**	**24.53**	**49**	P	**P**	**04 01 23.0**	**+0.3**
	0.9nm,0.9s,baz=252,slow=9.0,SNR=7.1						
	0.9nm,0.9s						
SONM	**Songino Array**	**37.06**	**284**	P	**P**	**04 03 11.9**	**-1.5**
	0.3nm,0.5s,baz=50,slow=11,SNR=2.3						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**38.92**	**46**	P	**P**	**04 03 29.6**	**+0.8**
	0.1nm,0.5s,baz=300,slow=7.7,SNR=1.9						
	0.1nm,0.5s						
SPITS	**Spitsbergen Ar**	**45.52**	**352**	P	**P**	**04 04 22.1**	**-0.3**
	10nm,1.1s,baz=18,slow=9.6,SNR=1.4						
	10nm,1.1s						
KURBB	**Kurchatov Arra**	**49.82**	**304**	P	**P**	**04 04 55.4**	**-0.7**
	0.6nm,0.6s,baz=54,slow=7.9,SNR=6.1						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**50.54**	**298**	P	**P**	**04 05 00.5**	**-1.1**
	0.3nm,0.5s,baz=54,slow=6.9,SNR=9.0						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**04 05 09.2**	**-2.6**
	0.6nm,0.6s,baz=56,slow=7.7,SNR=3.1						
BVAR				PcP	**PcP**	**04 06 24.0**	**-0.1**
	0.4nm,0.5s,baz=64,slow=3.4,SNR=2.6						
	0.6nm,0.6s						
NOA	**NORSAR Array B**	**62.36**	**347**	P	**P**	**04 06 25.6**	**+0.1**
	1.1nm,0.8s,baz=13,slow=8.2,SNR=1.5						
	1.1nm,0.8s						
TXAR	**Lajitas Array**	**66.31**	**72**	P	**P**	**04 06 53.1**	**+1.2**
	0.3nm,0.5s,baz=306,slow=5.2,SNR=5.2						
	0.3nm,0.5s						

*GEN **25** 04:01:47.3,44.50N×10.31E,h20km±1km,Ml1.0*
ROM 25 04:01:47.7±0.2,44°482N±0.005°×10°27E±0.01,h24km±1km,
ML1.2/6,Error ellipse: s-maj=0.8km s-min=0.4km
az=275.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVI	**Neviano degli**	**0.11**	**19**	P	Pb	04 01 52.2	-0.1
NEVI				S	Sb	04 01 56.2	+0.8
GRAM	**Graiana**	**0.14**	**274**	P	Pb	04 01 52.4	-0.3
GRAM				S	Sb	04 01 56.1	+0.1
GRAM				AML	AML		
	comp=N,447μm,1.2s						
GRAM				AML	AML		
	comp=E,610μm,0.2s						
GRAM				AML	AML		
	comp=N,363μm,0.2s						
GRAM				AML	AML		
	comp=E,610μm,0.2s						
GRAM				AML	AML		
	comp=N,447μm,0.8s						
GRAM	**Graiana**	**0.14**	**274**	P	Pb	04 01 52.4	-0.3
GRAM				S	Sb	04 01 56.1	+0.1
GRAM	**Graiana**	**0.14**	**274**	P	Pb	04 01 52.4	-0.3
GRAM				S	Sb	04 01 56.0	0.0
FIVI	**Fivizzano**	**0.26**	**203**	P	Pb	04 01 54.1	0.0
FIVI				S	Sb	04 01 59.2	+0.8
FIVI	**Fivizzano**	**0.26**	**203**	P	Pb	04 01 54.2	+0.1
FIVI				S	Sb	04 01 59.4	+1.0
FIVI	**Fivizzano**	**0.26**	**203**	P	Pb	04 01 54.2	+0.1
FIVI				S	Sb	04 01 59.5	+1.1
GSCL	**Gusciola**	**0.26**	**120**	P	Pb	04 01 54.2	0.0
GSCL				S	Sb	04 01 59.2	+0.7
GSCL				AML	AML		
	comp=N,80μm,0.7s						
GSCL				AML	AML		
	comp=E,62μm,0.2s						
GSCL				AML	AML		
	comp=N,85μm,0.6s						
GSCL				AML	AML		
	comp=E,58μm,1.0s						
GSCL	**Gusciola**	**0.26**	**120**	P	Pb	04 01 54.1	0.0
GSCL				S	Sb	04 01 59.5	+1.0
GSCL	**Gusciola**	**0.26**	**120**	P	Pb	04 01 54.1	0.0
GSCL				S	Sb	04 01 59.5	+1.0
SARO	**Sassorosso**	**0.31**	**162**	P	Pb	04 01 54.7	-0.2
SARO				S	Sb	04 02 00.0	+0.3
SARO	**Sassorosso**	**0.31**	**162**	P	Pb	04 01 54.6	-0.3
SARO				S	Sb	04 02 00.3	+0.5
SARO	**Sassorosso**	**0.31**	**162**	P	Pb	04 01 54.6	-0.3
SARO				S	Sb	04 02 00.2	+0.4
EQUI	**Equi**	**0.33**	**195**	P	Pb	04 01 55.4	+0.4
EQUI				S	Sb	04 02 00.8	+0.8
EQUI				AML	AML		
	comp=E,16μm,0.1s						
EQUI				AML	AML		
	comp=N,35μm,0.4s						
EQUI				AML	AML		
	comp=N,49μm,1.0s						
EQUI				AML	AML		
	comp=E,28μm,2.4s						
EQUI	**Equi**	**0.33**	**195**	P	Pb	04 01 56.0	+1.0
EQUI				S	Sb	04 02 00.9	+0.9
EQUI	**Equi**	**0.33**	**195**	P	Pb	04 01 55.2	+0.1
EQUI				S	Sb	04 02 00.9	+0.9
VLC	**Villacollemand**	**0.33**	**165**	P	Pb	04 01 55.1	0.0
VLC				S	Sb	04 02 00.7	+0.5
VLC	**Villacollemand**	**0.33**	**165**	P	Pb	04 01 55.4	+0.2
VLC				S	Sb	04 02 01.1	+0.9
VLC	**Villacollemand**	**0.33**	**165**	P	Pb	04 01 55.4	+0.3
VLC				S	Sb	04 02 01.1	+0.9
BDI	**Bagni Di Lucca**	**0.48**	**150**	P	Pb	04 01 57.7	+0.1
BDI				S	Sb	04 02 04.7	+0.4
PLMA	**Palmaria, Port**	**0.53**	**215**	P	Pb	04 01 58.3	0.0
PLMA				S	Sb	04 02 05.8	+0.4
MSSA	**Maissana**	**0.56**	**253**	P	Pb	04 01 59.1	+0.1
MSSA				S	Sb	04 02 07.5	+0.9
MSSA				AML	AML		
	comp=E,33μm,1.0s						
MSSA				AML	AML		
	comp=N,44μm,1.2s						
MSSA				AML	AML		
	comp=E,45μm,5.4s						
MSSA				AML	AML		
	comp=N,38μm,3.0s						
MSSA	**Maissana**	**0.56**	**253**	P	Pb	04 01 59.1	+0.1
CAVE	**Cavezzo**	**0.65**	**54**	P	Pn	04 02 05.7	+4.2
MNTV	**Mantova**	**0.76**	**29**	S	Sn	04 02 19.1	+5.3
PII	**Pisa**	**0.78**	**166**	AML	AML		
	comp=N,38μm,0.4s						
PII				AML	AML		
	comp=E,50μm,1.3s						
PII	**Pisa**	**0.78**	**166**	P	Pn	04 02 03.5	+0.3
SARZ	**Sarezzano**	**1.04**	**292**	S	Sn	04 02 22.7	+2.0

*IDC **25** 04:03:40.5±2.4,37.78N×72.79W,h0km,mb3.9/4,*
mbtmp3.9/5,ML4.0/1,Error ellipse: s-maj=66.7km
s-min=32.8km az=92.0
*GUC **25** 04:03:50.9±0.7,38.18S×72.42W,h71km±10km,ML4.2*
*NEIC **25** 04:03:50.5±1.7,38.13S±0.05°×72.46W±0.06,h67km±9km,*
mb4.4/6,Error ellipse: s-maj=8.5km s-min=5.2km
az=130.0
ISC 25 04:03:50.4±0.9,38°13S±0.03°×72°48W±0.06,h69km±10km,
n61,σ1§19/70,mb4.0/7,1C,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LC02	**Puerto Saavedr**	**0.96**	**227**		**Pn**	**04 04 09.1**	**+0.7**
LC02	**Puerto Saavedr**	**0.96**	**227**	*e*P	**Pn**	**04 04 09.1**	**+0.7**
LC02				*i* S	**Sn**	**04 04 22.2**	**+0.5**
LC02				IAML		04 04 27.9	
	comp=N,20μm,0.8s						
BI04	**Isla Mocha**	**1.14**	**255**	*e*P	**Pn**	**04 04 11.5**	**+1.0**
BI04				*i* S	**Sn**	**04 04 26.9**	**+1.3**
BI04				IAML		04 04 34.5	
	comp=N,5μm,0.2s						
BI05	**Punta Hualpn**	**1.49**	**338**		**Pn**	**04 04 16.1**	**+0.8**
BI05	**Punta Hualpn**	**1.49**	**338**	*e*P	**Pn**	**04 04 16.9**	**+1.6**
BI05				*i* S	**Sn**	**04 04 35.8**	**+1.9**
BI05				IAML		04 04 43.0	
	comp=N,3μm,0.2s						
LR03	**Panguipulli**	**1.50**	**176**	*i* P	**Pn**	**04 04 14.7**	**-0.7**
LR03				*e*S	**Sn**	**04 04 33.4**	**-0.8**
LR03				IAML		04 04 39.6	
	comp=E,4μm,0.4s						
GO06	**Curarrehue**	**1.65**	**152**	Pn	**Pn**	**04 04 16.8**	**-0.7**
GO06	**Curarrehue**	**1.65**	**152**	*i* P	**Pn**	**04 04 16.7**	**-0.7**
GO06				*i* S	**Sn**	**04 04 37.2**	**-0.7**
LR04	**Corral**	**1.89**	**203**	*i* P	**Pn**	**04 04 20.3**	**-0.3**
LR04				*i* S	**Sn**	**04 04 43.2**	**-0.3**
LR04				IAML		04 04 50.4	
	comp=E,4μm,0.3s						
LR05	**Currie**	**2.13**	**170**	Pn	**Pn**	**04 04 23.9**	**+0.2**
LR05	**Currie**	**2.13**	**170**	*e*P	**Pn**	**04 04 23.9**	**+0.2**
LR05				*i* S	**Sn**	**04 04 48.0**	**-1.2**
ML02	**Panimavida**	**2.52**	**20**	Pn	**Pn**	**04 04 30.0**	**+1.0**
ML02	**Panimavida**	**2.52**	**20**	*e*P	**Pn**	**04 04 30.0**	**+1.0**
ML02				*i* S	**Sn**	**04 04 59.5**	**+0.8**
ML02				IAML		04 05 11.3	
	comp=E,1μm,0.3s						
PLCA	**Paso Flores**	**3.00**	**151**	Pn	**Pn**	**04 04 35.7**	**+0.1**
PLCA	**Paso Flores**	**3.00**	**151**	Pn	**Pn**	**04 04 35.5**	**-0.1**
	comp=E,3.3nm,0.3s,baz=328,slow=12,SNR=152						
PLCA				Sn	**Sn**	**04 05 16.2**	**+5.8**
	comp=E,5.3nm,0.3s,baz=259,slow=19,SNR=7.0						
	comp=E,7.2nm,0.3s						
GO05	**Huala**	**3.15**	**8**	Pn	**Pn**	**04 04 38.4**	**+0.8**
GO05	**Huala**	**3.15**	**8**	*e*P	**Pn**	**04 04 38.2**	**+0.5**
GO05				*i* S	**Sn**	**04 05 14.7**	**+0.6**
GO05				IAML		04 05 27.9	
	comp=E,849nm,0.3s						
LL05	**Los Muermos**	**3.36**	**193**		**Pn**	**04 04 40.2**	**-0.2**
LL05	**Los Muermos**	**3.36**	**193**	*e*P	**Pn**	**04 04 40.3**	**-0.1**
LL05				IAML		04 05 41.6	
	comp=E,419nm,0.8s						
BO02	**Sierra Bellavi**	**3.61**	**23**		**Pn**	**04 04 44.9**	**+1.0**
BO02	**Sierra Bellavi**	**3.61**	**23**	*e*P	**Pn**	**04 04 45.3**	**+1.4**
BO02				*e*S	**Sn**	**04 05 25.5**	**+0.2**
BO01	**Tunca**	**3.90**	**17**		**Pn**	**04 04 48.3**	**+0.4**
LL06	**Loncomilla**	**4.17**	**192**	Pn	**Pn**	**04 04 53.3**	**+1.8**
LL06	**Loncomilla**	**4.17**	**192**	*e*P	**Pn**	**04 04 51.0**	**-0.5**
LL01	**San Ignacio de**	**4.24**	**179**		**Pn**	**04 04 52.3**	**-0.2**
LL01	**San Ignacio de**	**4.24**	**179**	*e*P	**Pn**	**04 04 52.7**	**+0.2**
LL01				*i* S	**Sn**	**04 05 38.9**	**-1.7**
MT01	**Popeta**	**4.38**	**14**		**Pn**	**04 04 54.3**	**-0.1**
BO04	**La Punta**	**4.41**	**21**		**Pn**	**04 04 54.2**	**-0.6**
MT09	**Talagante**	**4.51**	**16**		**Pn**	**04 04 55.9**	**-0.5**
VA05	**Santo Domingo**	**4.52**	**9**		**Pn**	**04 04 55.4**	**-1.0**
LMEL	**Las Melosas**	**4.66**	**24**		**Pn**	**04 04 58.9**	**+0.5**
LMEL	**Las Melosas**	**4.66**	**24**	*e*P	**Pn**	**04 04 59.5**	**+1.1**
MT13	**San Alfonso**	**4.73**	**23**		**Pn**	**04 04 58.9**	**-0.4**
MT03	**Universidad Ad**	**4.90**	**20**		**Pn**	**04 05 01.5**	**-0.2**
MT05	**Renca**	**4.94**	**17**	Pn	**Pn**	**04 05 02.0**	**-0.1**
MT02	**Curacav**	**4.99**	**13**		**Pn**	**04 05 02.1**	**-0.6**
GO07	**Milladeo Hill,**	**5.06**	**190**		**Pn**	**04 05 03.0**	**-0.6**
LL02	**Futaleuf**	**5.08**	**175**	Pn	**Pn**	**04 05 05.4**	**+1.5**
PEL	**Peldehue**	**5.19**	**17**	Pn	**Pn**	**04 05 05.1**	**-0.4**
VA03	**San Esteban**	**5.58**	**17**		**Pn**	**04 05 10.0**	**-1.0**
VA06	**Catapilco**	**5.64**	**10**		**Pn**	**04 05 10.1**	**-1.7**
AY01	**Puyuhuapi**	**6.28**	**181**	Pn	**Pn**	**04 05 19.7**	**-0.6**
H03S1	**Juan Fernandez**	**6.74**	**308**	T	T	04 11 28.4	
	baz=123,slow=76,SNR=8.2						
H03S3	**Juan Fernandez**	**6.75**	**308**	T	T	04 11 21.9	
	baz=123,slow=76,SNR=16						
H03S2	**Juan Fernandez**	**6.75**	**307**	T	T	04 11 28.4	
	baz=123,slow=76,SNR=13						
CO03	**El Pedregal**	**7.43**	**12**		**Pn**	**04 05 35.5**	**-0.7**
TRQA	**Tornquist**	**8.28**	**93**	Pn	**Pn**	**04 05 47.1**	**-0.8**
AY02	**Valle Explorad**	**8.36**	**183**		**Pn**	**04 05 48.2**	**-0.6**
CO01	**Juntas del Tor**	**8.37**	**14**	Pn	**Pn**	**04 05 49.1**	**-0.2**
AY03	**Cochrane**	**9.12**	**180**	Pn	**Pn**	**04 05 59.4**	**+0.4**
AC05	**El Transito**	**9.45**	**12**	Pn	**Pn**	**04 06 02.4**	**-1.6**
GO08	**Villa O'Higgin**	**10.33**	**180**	Pn	**Pn**	**04 06 13.7**	**-1.9**
PB18	**Visviri**	**20.64**	**8**	P	**P**	**04 08 23.4**	**-1.6**
PB18				IAmb	IAmb	04 09 05.4	
	comp=Z,22nm,1.2s						
CHSH	**Refugio Sur-Vo**	**36.93**	**349**	P	**P**	**04 10 51.6**	**-1.9**
BOAV	**Boa Vista**	**41.82**	**18**	P	**P**	**04 11 33.0**	**-0.4**
BOAV				IAmb	IAmb	04 11 37.1	
	comp=Z,9.3nm,1.4s						
BELA	**Belgrano 2**	**42.89**	**169**	P	**P**	**04 11 42.2**	**+0.6**
BELA				IAmb	IAmb	04 12 24.2	
	comp=Z,24nm,1.5s						
SNAA	**Sanae**	**47.92**	**156**	P	**P**	**04 12 22.4**	**+1.0**
SNAA				IAmb	IAmb	04 12 41.3	
	comp=Z,5.5nm,1.4s						
QSPA	**South Pole Qui**	**52.11**	**180**	P	**P**	**04 12 54.6**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=133,slow=2.7,SNR=3.6						
	comp=Z,1.2nm,0.8s						
DBIC	**Dimbokro**	**76.87**	**71**	P	**P**	**04 15 35.3**	**0.0**
	comp=Z,1.4nm,0.7s,baz=260,slow=6.1,SNR=1.6						
	comp=Z,1.4nm,0.7s						
BOSA	**Boshof**	**78.49**	**117**	P	**P**	**04 15 46.3**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=263,slow=6.0,SNR=4.8						
	comp=Z,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**85.96**	**70**	P	**P**	**04 16 23.0**	**-0.4**
	comp=Z,0.4nm,1.0s,baz=246,slow=5.7,SNR=1.8						
	comp=Z,0.4nm,1.0s						

*IDC **25** 04:05:15.3±1.1,55.33N×166.43E,h0km,mb3.4/3,*
mbtmp3.7/5,ML4.0/2,Error ellipse: s-maj=51.3km
s-min=20.3km az=161.0
*KRSC **25** 04:05:16.5±1.6,55.20N×166.64E,h30km±11km,Ml4.0*
ISC 25 04:05:16.9±1.1,55°25N±0°09×166°72E±0°07,h10km,n24,
σ1§38/35,mb3.3/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.43**	**264**	*e*P	**Pg**	**04 05 25.8**	**+0.4**
BKI				*e*S	**Sg**	**04 05 31.5**	**+0.5**
SMKR	**Semkarok**	**3.24**	**297**	*e*P	**Pn**	**04 06 06.5**	**-1.4**
ZLN	**Zelenaya**	**3.44**	**285**	*e*S	**Sn**	**04 06 50.7**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**3.49**	**284**	*e*S	**Sn**	**04 06 52.3**	**-0.3**
TUMD	**Tumrok D**	**3.62**	**272**	*e*P	**Pn**	**04 06 13.1**	**+0.1**
TUMD				*e*S	**Sn**	**04 06 55.1**	**-0.6**
KIRR	**Kirishev**	**3.68**	**284**	*e*P	**Pn**	**04 06 15.4**	**+1.3**
KIRR				*e*S	**Sn**	**04 06 58.0**	**+0.4**
KMNR	**Kamenistaya**	**3.72**	**281**	*e*P	**Pn**	**04 06 15.5**	**+1.0**
KMNR				*e*S	**Sn**	**04 07 00.7**	**+2.4**
KPT	**Kopyto**	**3.75**	**284**	*e*P	**Pn**	**04 06 15.9**	**+1.0**
KPT				*e*S	**Sn**	**04 07 01.1**	**+1.9**
TUMR	**Tumrok**	**3.76**	**273**	*e*P	**Pn**	**04 06 16.0**	**+1.0**
TUMR				*e*S	**Sn**	**04 07 00.5**	**+1.1**
SMAR	**Somma**	**5.05**	**250**	*e*P	**Pn**	**04 06 34.2**	**+1.4**
UGLR	**Uglovaya**	**5.06**	**249**	*e*P	**Pn**	**04 06 34.6**	**+1.7**
AVH	**Avacha**	**5.08**	**250**	*e*P	**Pn**	**04 06 34.8**	**+1.6**
AVH				*e*S	**Sn**	**04 07 31.7**	**-0.2**
KRX	**Arik**	**5.09**	**251**	*e*P	**Pn**	**04 06 34.7**	**+1.4**
KRX				*e*S	**Sn**	**04 07 31.0**	**-1.2**
KOK	**Koryaka**	**5.12**	**251**	*e*P	**Pn**	**04 06 35.3**	**+1.5**
KRMR	**Karymshinskiy**	**5.61**	**248**	*e*P	**Pn**	**04 06 41.7**	**+1.4**
KRMR				*e*S	**Sn**	**04 07 43.8**	**-0.9**
PETK	**Petropavlovsk-**	**5.71**	**252**	Pn	**Pn**	**04 06 41.7**	**-0.1**
	2.7nm,0.3s,baz=70,slow=18,SNR=26						
PETK				Sn	**Sn**	**04 07 45.4**	**-1.9**
	1.5nm,0.3s,baz=118,slow=19,SNR=7.0						
	6.3nm,0.6s						
MTVR	**Mutnovka**	**5.76**	**245**	*e*P	**Pn**	**04 06 43.4**	**+0.9**
MTVR				*e*S	**Sn**	**04 07 46.6**	**-2.0**
ASAK	**Asacha**	**5.96**	**245**	*e*P	**Pn**	**04 06 47.1**	**+2.0**
ASAK				*e*S	**Sn**	**04 07 52.8**	**-0.7**
APC	**Apacha**	**6.09**	**251**	*e*P	**Pn**	**04 06 48.9**	**+2.0**
ASAJ	**Asahikawa**	**19.07**	**244**	P	**P**	**04 09 37.3**	**-1.9**
	2.1nm,0.3s,baz=310,slow=30,SNR=1.5						
	3.8nm,0.3s						
ILAR	**Eielson Array**	**24.50**	**48**	P	**P**	**04 10 35.9**	**-0.1**
	0.7nm,1.0s,baz=249,slow=7.4,SNR=4.3						
	0.7nm,1.0s						
MKAR	**Makanchi Array**	**50.66**	**298**	P	**P**	**04 14 14.1**	**-2.0**
	0.3nm,0.7s,baz=50,slow=6.8,SNR=6.0						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**66.24**	**73**	P	**P**	**04 16 06.6**	**+1.5**
	0.5nm,0.5s,baz=303,slow=5.2,SNR=11						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**145.00**	**180**	PKPbc	PKPbc	04 24 51.0	-1.2
	1.3nm,0.6s,baz=26,slow=0.9,SNR=7.2						

*AUST **25** 04:12:02.6±7.7,23.30S×148.55E,h26km±99km,Error*
ellipse: s-maj=101.3km s-min=22.2km az=135.0
*IDC **25** 04:12:03.6±2.6,23.53S×148.81E,h0km,mbtmp3.3/4,*
ML3.3/4,Error ellipse: s-maj=32.3km s-min=20.7km
az=81.0
ISC 25 04:12:02.3±0.8,23°24S±0.07°×148°78E±0.07,h10km,n9,
σ2§01/12,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUNRC	**North Rockhamp**	**1.61**	**94**	P	**Pg**	**04 12 33.5**	**+0.2**
	baz=1.8						
EIDS	**Eidsvold**	**2.99**	**136**	P	**Pn**	**04 12 49.0**	**-0.7**
	baz=3.1						
EIDS				S	**Sn**	**04 13 27.4**	**+1.8**
	baz=3.1						
RMQ	**Roma**	**3.24**	**180**	P	**Pn**	**04 12 51.0**	**-2.2**
	baz=3.2						
RMQ				S	**Sn**	**04 13 29.4**	**-2.4**
	baz=3.2						
CTA	**Char

MTVR					*e*S		**Sn**	04 16 38.8	-1.4
ASAK	**Asacha**	**5.81**	**241**		*e*P		**Pn**	04 15 40.6	+1.6
ASAK					*e*S		**Sn**	04 16 46.3	+1.3
ILAR	**Eielson Array**	**24.56**	**49**	P			**P**	04 19 31.2	-0.7
	0.7nm,0.9s,baz=258,slow=8.8,SNR=6.7 0.7nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**35.69**	**179**	T			T	04 58 26.9	
	baz=360,slow=76,SNR=8.5								
H11N3	**WAKE ISLAND Hy**	**35.70**	**179**	T			T	04 58 27.4	
	baz=360,slow=76,SNR=7.9								
H11N1	**WAKE ISLAND Hy**	**35.70**	**179**	T			T	04 58 26.9	
	baz=360,slow=76,SNR=7.7								
KURBB	**Kurchatov Arra**	**49.59**	**303**	P			**P**	04 23 02.0	-1.2
	0.1nm,0.3s,baz=50,slow=7.4,SNR=1.9 0.1nm,0.3s								
TXAR	**Lajitas Array**	**66.44**	**72**	P			**P**	04 25 02.0	+0.3
	0.3nm,0.5s,baz=299,slow=4.5,SNR=6.0 0.3nm,0.5s								

IDC ***25*** *04:15:51.6±2.2,7.°86N×91.°24E,h0km,mb3.5/6,*
mbtmp3.6/7,ML3.7/1,Error ellipse: s-maj=77.1km
s-min=23.3km az=63.0

ISC 25 04:15:57.2±1.8,7.°9N±0.°2×91.°4E±0.°3,h35km,n13,σ0.°36/7,
mb3.5/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.80**	**34**	Pn	**Pn**	**04 18 56.7**	**-0.1**
	0.1nm,0.3s,baz=228,slow=15,SNR=1.6 1.3nm,0.2s						
H08S3	**Diego Garcia H**	**24.36**	**231**	T	T	04 47 42.9	
	baz=48,slow=76,SNR=7.3						
H08S2	**Diego Garcia H**	**24.36**	**231**	T	T	04 47 43.4	
	baz=48,slow=76,SNR=8.0						
H08S1	**Diego Garcia H**	**24.38**	**231**	T	T	04 47 43.9	
	baz=48,slow=76,SNR=3.5						
MKAR	**Makanchi Array**	**39.50**	**350**	P	**P**	**04 23 24.0**	**-0.5**
	0.4nm,0.6s,baz=166,slow=9.2,SNR=5.8 0.4nm,0.6s						
SONM	**Songino Array**	**41.77**	**15**	P	**P**	**04 23 43.8**	**+0.4**
	0.3nm,0.4s,baz=203,slow=6.3,SNR=1.8 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**43.88**	**348**	P	**P**	**04 24 00.2**	**0.0**
	0.4nm,0.6s,baz=166,slow=7.5,SNR=4.9 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**46.19**	**355**	P	**P**	**04 24 18.6**	**+0.1**
	0.4nm,0.5s,baz=165,slow=7.3,SNR=1.7 0.4nm,0.5s						
WRA	**Warramunga Arr**	**50.55**	**124**	P	**P**	**04 24 52.4**	**-0.2**
	0.5nm,0.8s,baz=300,slow=9.2,SNR=0.8 0.5nm,0.8s						
ASAR	**Alice Springs**	**52.08**	**128**	P	**P**	**04 25 04.3**	**+0.2**
	0.5nm,0.6s,baz=302,slow=7.2,SNR=4.1 0.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**64.39**	**209**	T	T	05 37 40.2	
	baz=46,slow=75,SNR=8.4						
H04N1	**CROZET ISLANDS**	**64.40**	**209**	T	T	05 37 44.5	
	baz=46,slow=75,SNR=10						
H04N3	**CROZET ISLANDS**	**64.41**	**209**	T	T	05 37 43.2	
	baz=46,slow=75,SNR=8.8						

IDC ***25*** *04:18:42.2±1.0,55.°44N×166.°31E,h0km,mb3.7/8,*
mbtmp3.8/10,ML3.6/2,Error ellipse: s-maj=32.6km
s-min=15.7km az=173.0
KRSC ***25*** *04:18:44.1±1.9,55.°31N×166.°31E,h41km±13km,Ml4.2*

ISC 25 04:18:44.8±0.7,55.°34N±0.°06×166.°47E±0.°05,h20km,n46,
σ1°29/64,mb3.6/8,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.32**	**244**	*e*P	**Pb**	**04 18 51.4**	**-0.3**
BKI				*e*S	**Sb**	04 18 56.8	+0.4
SMKR	**Semkarok**	**3.08**	**296**	*e*P	**Pn**	04 19 31.0	-1.3
BDR	**Baidarnaya**	**3.20**	**295**	*e*P	**Pn**	04 19 33.6	-0.4
ZLN	**Zelenaya**	**3.28**	**284**	*e*P	**Pn**	04 19 35.2	+0.1
BZGR	**Bezymyannyi-Gr**	**3.33**	**283**	*e*P	**Pn**	04 19 36.7	+0.9
BZGR				*e*S	**Sn**	04 20 15.9	+1.2
CIRR	**Tsirk**	**3.33**	**286**	*e*P	**Pn**	04 19 36.4	+0.6
BZP	**Bezymyannyi-Pe**	**3.41**	**282**	*e*P	**Pn**	04 19 37.3	+0.3
KLY	**Klyuchi**	**3.42**	**289**	*e*P	**Pn**	04 19 34.9	-2.1
KLY				*e*S	**Sn**	04 20 15.1	-1.8
BZMR	**Bezymyannaya**	**3.44**	**282**	*e*P	**Pn**	04 19 37.3	-0.1
BZMR				*e*S	**Sn**	04 20 17.4	-0.2
BZWR	**Bezymyannyi-We**	**3.44**	**283**	*e*P	**Pn**	04 19 37.0	-0.4
TUMD	**Tumrok D**	**3.48**	**270**	*e*P	**Pn**	04 19 38.0	+0.3
TUMD				*e*S	**Sn**	04 20 18.0	-0.3
KIRR	**Kirishev**	**3.53**	**283**	*e*P	**Pn**	04 19 38.8	+0.2
KIRR				*e*S	**Sn**	04 20 19.0	-0.7
KMNR	**Kamenistaya**	**3.57**	**279**	*e*P	**Pn**	04 19 39.5	+0.5
KMNR				*e*S	**Sn**	04 20 21.6	+1.0
KPT	**Kopyto**	**3.60**	**283**	*e*P	**Pn**	04 19 39.6	+0.2
KPT				*e*S	**Sn**	04 20 22.3	+1.0
TUMR	**Tumrok**	**3.62**	**272**	*e*P	**Pn**	04 19 40.4	+0.7
TUMR				*e*S	**Sn**	04 20 22.7	+0.9
KOZ	**Kozyrevsk**	**3.80**	**284**	*e*P	**Pn**	04 19 43.0	+0.8
SRDR	**Sredinnyy**	**3.93**	**287**	*e*P	**Pn**	04 19 44.2	+0.1
SRDR				*e*S	**Sn**	04 20 31.2	+1.6
KII	**Karymskiy**	**4.28**	**255**	*e*P	**Pn**	04 19 50.2	+1.3
SPN	**Mys Shipunski**	**4.40**	**242**	*e*S	**Sn**	04 20 38.4	-2.6
SMAR	**Somma**	**4.95**	**248**	*e*P	**Pn**	04 19 59.3	+1.1
SMAR				*e*S	**Sn**	04 20 54.1	-0.8
UGLR	**Uglovaya**	**4.97**	**248**	*e*P	**Pn**	04 19 59.9	+1.6
AVH	**Avacha**	**4.99**	**248**	*e*P	**Pn**	04 19 59.9	+1.4
AVH				*e*S	**Sn**	04 20 54.8	-0.7
KRX	**Arik**	**4.99**	**250**	*e*P	**Pn**	04 19 59.9	+1.3
KRX				*e*S	**Sn**	04 20 55.1	-0.6
KOK	**Koryaka**	**5.03**	**249**	*e*P	**Pn**	04 20 00.4	+1.4
DALK	**Dalny**	**5.09**	**246**	*e*P	**Pn**	04 20 01.0	+1.2
DALK				*e*S	**Sn**	04 20 56.6	-1.3
PET	**Petropavlovsk**	**5.15**	**246**	*e*P	**Pn**	04 20 01.9	+1.3
PET				*e*S	**Sn**	04 20 56.8	-2.5
SHEM	**Shemya Is, Ala**	**5.20**	**117**	Pn	**Pn**	04 20 01.5	+0.1
	4.3nm,0.3s,baz=60,slow=9.7,SNR=2.1						
SHEM				Sn	**Sn**	**04 20 58.1**	**-2.6**
	1.6nm,0.3s,baz=267,slow=22,SNR=1.4 89nm,1.0s						
KRMR	**Karymshinskiy**	**5.52**	**246**	*e*P	**Pn**	04 20 07.1	+1.4
KRMR				*e*S	**Sn**	04 21 06.4	-2.1
RUS	**Russkaya**	**5.54**	**242**	*e*S	**Sn**	04 21 06.9	-2.1
PETK	**Petropavlovsk-**	**5.61**	**250**	Pn	**Pn**	04 20 08.1	+1.1
	4.5nm,0.3s,baz=73,slow=15,SNR=32						
PETK				Sn	**Sn**	**04 21 11.9**	**+1.1**
	3.2nm,0.3s,baz=93,slow=5.9,SNR=7.5 15nm,0.5s						
MTVR	**Mutnovka**	**5.67**	**243**	*e*P	**Pn**	04 20 09.2	+1.2
MTVR				*e*S	**Sn**	04 21 10.9	-1.7
GRL	**Gorelyy**	**5.69**	**244**	*e*P	**Pn**	04 20 11.3	+3.1
GRL				*e*S	**Sn**	04 21 12.7	-0.3
ASAK	**Asacha**	**5.87**	**243**	*e*P	**Pn**	04 20 12.5	+1.8
ASAK				*e*S	**Sn**	04 21 16.5	-0.9
APC	**Apacha**	**5.99**	**250**	*e*P	**Pn**	04 20 14.4	+2.3
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	**04 24 03.4**	**+0.8**
	1.6nm,0.9s,baz=252,slow=8.0,SNR=12 1.6nm,0.9s						
INK	**Inuvik**	**29.76**	**40**	P	**P**	**04 24 50.1**	**+0.7**
	0.8nm,0.7s,baz=262,slow=5.8,SNR=4.7 0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.55**	**179**	T	T	05 02 53.8	
	baz=359						
H11N3	**WAKE ISLAND Hy**	**35.57**	**179**	T	T	05 03 04.9	
	baz=359,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.57**	**179**	T	T	05 02 52.6	
	baz=359,slow=74						
SONM	**Songino Array**	**37.01**	**284**	P	**P**	**04 25 52.7**	**-0.2**
	1.0nm,0.7s,baz=59,slow=7.1,SNR=6.9 1.0nm,0.7s						
YKA	**Yellowknife Ar**	**38.93**	**46**	P	**P**	**04 26 08.8**	**+0.1**
	0.4nm,0.8s,baz=297,slow=8.2,SNR=4.7 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**49.77**	**304**	P	**P**	**04 27 34.8**	**-0.7**
	1.2nm,0.9s,baz=50,slow=7.4,SNR=9.7 1.2nm,0.9s						
MKAR	**Makanchi Array**	**50.49**	**298**	P	**P**	**04 27 40.0**	**-1.1**
	0.3nm,0.5s,baz=50,slow=8.0,SNR=6.4 0.3nm,0.5s						
BVAR	**Borovoye Array**	**51.86**	**310**	P	**P**	**04 27 50.2**	**-1.0**
	0.3nm,0.3s,baz=77,slow=6.4,SNR=4.1 0.3nm,0.3s						
TXAR	**Lajitas Array**	**66.34**	**72**	P	**P**	**04 29 33.7**	**+1.7**
	0.8nm,0.5s,baz=301,slow=5.1,SNR=15 0.8nm,0.5s						
QSPA	**South Pole Qui**	**145.09**	**180**	PKPbc	**PKPbc**	**04 38 18.4**	**-0.3**
	1.5nm,0.8s,baz=270,slow=0.9,SNR=6.0						

KRSC 25 04:27:42.8±1.6,55.°30N×166.°66E,h27km±7km,Ml3.5,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.41**	**257**	*e*P	Pn	04 27 52.4	-0.4
BKI				*e*S	Sb	04 27 58.1	+0.7
SMKR	**Semkarok**	**3.19**	**296**	*e*P	Pn	04 28 33.3	+2.1
TUMD	**Tumrok D**	**3.58**	**271**	*e*P	Pn	04 28 39.7	+3.1
TUMD				*e*S	Sn	04 29 22.8	+4.7
KMNR	**Kamenistaya**	**3.68**	**280**	*e*P	Pb	04 28 43.3	-3.8
KPT	**Kopyto**	**3.71**	**283**	*e*P	Pn	04 28 42.8	+4.4
TUMR	**Tumrok**	**3.72**	**272**	*e*P	Pn	04 28 43.1	+4.5
SMAR	**Somma**	**5.04**	**249**	*e*P	Pn	04 29 00.9	+4.2
AVH	**Avacha**	**5.07**	**250**	*e*P	Pn	04 29 01.4	+4.4
KOK	**Koryaka**	**5.11**	**250**	*e*P	Pn	04 29 02.0	+4.3

KRSC 25 04:29:21.1±1.0,55.°24N×166.°56E,h34km±4km,Ml4.0,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.34**	**264**	*e*P	Pn	04 29 29.7	0.0
BKI				*e*S	Sb	04 29 36.0	+0.9
TUMD	**Tumrok D**	**3.53**	**272**	*e*P	Pn	04 30 16.8	+3.2
TUMD				*e*S	Sn	04 30 58.8	+4.6
KMNR	**Kamenistaya**	**3.64**	**281**	*e*P	Pn	04 30 19.8	+4.7
TUMR	**Tumrok**	**3.67**	**273**	*e*P	Pn	04 30 19.9	+4.3
SMAR	**Somma**	**4.96**	**250**	*e*P	Pn	04 30 38.0	+4.5
KRX	**Arik**	**5.00**	**251**	*e*P	Pn	04 30 38.3	+4.4
KRX				*e*S	Sn	04 31 36.6	+6.0
KOK	**Koryaka**	**5.04**	**250**	*e*P	Pn	04 30 38.7	+4.4
KRMR	**Karymshinskiy**	**5.53**	**248**	*e*S	Sn	04 31 48.7	+5.5
MTVR	**Mutnovka**	**5.68**	**244**	*e*P	Pn	04 30 47.6	+4.5
MTVR				*e*S	Sn	04 31 51.2	+4.0
ASAK	**Asacha**	**5.88**	**244**	*e*P	Pn	04 30 51.5	+5.7
ASAK				*e*S	Sn	04 31 57.0	+5.0

MOS ***25*** *04:39:13.8±1.2,55.°33N×166.°72E,h10km,mb4.5/5,Error*
ellipse: s-maj=7.7km s-min=6.0km az=157.8
IDC ***25*** *04:39:14.5±0.7,55.°55N×166.°37E,h0km,mb4.0/18,*
mbtmp4.1/21,ML3.7/2,Error ellipse: s-maj=19.0km
s-min=13.7km az=166.0
KRSC ***25*** *04:39:16.0±1.3,55.°32N×166.°45E,h36km±8km,Ml4.8,Felt at Nikolskoe.*
NEIC ***25*** *04:39:17.4±1.3,55.°63N±0.°08×166.°2E±0.°2,h10km±1km,*
mb4.2/36,Error ellipse: s-maj=18.5km s-min=13.7km
az=100.0

ISC 25 04:39:17.6±0.5,55.°49N±0.°04×166.°37E±0.°04,h20km,n148,
σ1°65/155,mb4.1/35,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.37**	**218**	PN	**Pb**	**04 39 24.2**	**-1.1**
BKI				S	**Sb**	04 39 30.3	-0.3
BKI	**Bering**	**0.37**	**218**	*e*P	**Pb**	04 39 24.3	-1.1
BKI				*e*S	**Sb**	04 39 30.3	-0.3
SMKR	**Semkarok**	**2.96**	**294**	PN	**Pn**	04 40 05.3	+1.9
SMKR	**Semkarok**	**2.96**	**294**	*e*P	**Pn**	04 40 04.7	+1.3
SMKR				*e*S	**Sn**	04 40 40.6	+2.2
BDR	**Baidarnaya**	**3.09**	**293**	PN	**Pn**	04 40 06.6	+1.4
ZLN	**Zelenaya**	**3.19**	**282**	PN	**Pb**	04 40 10.6	-2.9
CIRR	**Tsirk**	**3.23**	**283**	PN	**Pn**	04 40 10.6	+3.3
BZGR	**Bezymyannyi-Gr**	**3.24**	**280**	PN	**Pb**	04 40 11.1	-3.3
BZGR	**Bezymyannyi-Gr**	**3.24**	**280**	*e*P	**Pn**	04 40 08.9	+1.6
KLY	**Klyuchi**	**3.32**	**287**	PN	**Pn**	04 40 08.2	-0.1
KLY	**Klyuchi**	**3.32**	**287**	*e*S	**Sn**	04 40 47.0	-0.2
BZWR	**Bezymyannyi-We**	**3.35**	**281**	PN	**Pn**	04 40 11.1	+2.1
BZWR	**Bezymyannyi-We**	**3.35**	**281**	*e*P	**Pn**	04 40 11.1	+2.1
BZMR	**Bezymyannaya**	**3.36**	**280**	PN	**Pn**	04 40 12.1	+3.1
BZMR	**Bezymyannaya**	**3.36**	**280**	*e*P	**Pn**	04 40 11.0	+2.0
BZMR				*e*S	**Sb**	04 40 53.5	-3.3
TUMD	**Tumrok D**	**3.42**	**268**	*e*P	**Pn**	04 40 11.4	+1.7
TUMD				*e*S	**Sn**	04 40 52.4	+2.7
KIRR	**Kirishev**	**3.44**	**280**	PN	**Pn**	04 40 12.7	+2.6
KIRR	**Kirishev**	**3.44**	**280**	*e*P	**Pn**	04 40 11.7	+1.6
KMNR	**Kamenistaya**	**3.49**	**277**	PN	**Pn**	04 40 13.0	+2.3
KMNR	**Kamenistaya**	**3.49**	**277**	*e*P	**Pn**	04 40 13.1	+2.3
KPT	**Kopyto**	**3.51**	**280**	PN	**Pn**	04 40 13.4	+2.4
KPT	**Kopyto**	**3.51**	**280**	*e*P	**Pn**	04 40 13.2	+2.2
TUMR	**Tumrok**	**3.56**	**269**	PN	**Pn**	04 40 11.4	-0.3
TUMR	**Tumrok**	**3.56**	**269**	*e*P	**Pn**	04 40 13.6	+1.9
KOZ	**Kozyrevsk**	**3.71**	**281**	PN	**Pn**	04 40 17.2	+3.5
SRDR	**Sredinnyy**	**3.83**	**285**	PN	**Pn**	04 40 17.6	+2.1
SRDR	**Sredinnyy**	**3.83**	**285**	*e*S	**Sn**	04 41 03.9	+3.9
OSSR	**Ossora**	**4.17**	**336**	PN	**Pb**	04 40 26.4	-3.8
KII	**Karymskiy**	**4.27**	**253**	PN	**Pn**	04 40 22.7	+1.3
KII	**Karymskiy**	**4.27**	**253**	*e*P	**Pn**	04 40 23.0	+1.6
ESO	**Esso**	**4.36**	**279**	PN	**Pn**	04 40 26.6	+3.9
ESO	**Esso**	**4.36**	**279**	*e*P	**Pn**	04 40 26.5	+3.9
SPN	**Mys Shipunski**	**4.42**	**240**	PN	**Pn**	04 40 24.7	+1.2
SMAR	**Somma**	**4.96**	**246**	PN	**Pn**	04 40 32.4	+1.4
SMAR	**Somma**	**4.96**	**246**	*e*P	**Pn**	04 40 32.3	+1.3
SMAR				*e*S	**Sn**	04 41 28.9	+1.2
UGLR	**Uglovaya**	**4.97**	**246**	PN	**Pn**	04 40 32.6	+1.5
UGLR	**Uglovaya**	**4.97**	**246**	*e*P	**Pn**	04 40 32.8	+1.7
UGLR				*e*S	**Sn**	04 41 28.2	+0.2
AVH	**Avacha**	**4.99**	**247**	PN	**Pn**	04 40 33.0	+1.7
AVH	**Avacha**	**4.99**	**247**	*e*P	**Pn**	04 40 33.0	+1.7
AVH				*e*S	**Sn**	04 41 29.6	+1.3
KRX	**Arik**	**4.99**	**248**	PN	**Pn**	04 40 32.9	+1.6
KRX	**Arik**	**4.99**	**248**	*e*P	**Pn**	04 40 33.0	+1.6
KRX				*e*S	**Sn**	04 41 29.2	+0.7
PALN	**Palana**	**5.00**	**319**	PN	Pb	04 40 37.5	-6.9
KOK	**Koryaka**	**5.03**	**247**	PN	**Pn**	04 40 33.3	+1.5
KOK	**Koryaka**	**5.03**	**247**	*e*P	**Pn**	04 40 33.4	+1.5
KOK				*e*S	**Sn**	04 41 31.6	+2.2
DALK	**Dalny**	**5.10**	**244**	PN	**Pn**	04 40 33.6	+0.9
DALK	**Dalny**	**5.10**	**244**	*e*P	**Pn**	04 40 33.9	+1.2
DALK				*e*S	**Sn**	04 41 30.4	-0.6
PET	**Petropavlovsk**	**5.16**	**245**		**Pn**	04 40 35.2	+1.7
PET	**Petropavlovsk**	**5.16**	**245**	*e*PN	**Pn**	04 40 33.0	-0.5
PET				pmax	pmax		
	comp=Z,111nm,1.2s						
PET	**Petropavlovsk**	**5.16**	**245**	*e*P	**Pn**	04 40 35.3	+1.8
PET				*e*S	**Sn**	04 41 31.6	-0.7
INSR	**Institute**	**5.16**	**245**	*e*S	**Sn**	04 41 32.7	+0.3
SHEM	**Shemya Is, Ala**	**5.32**	**118**	Pn	**Pn**	04 40 34.2	-1.6
	comp=Z,1.9nm,0.3s,baz=156,slow=18,SNR=1.6						
SHEM				Sn	**Sn**	**04 41 30.0**	**-6.4**
	baz=44,slow=22 comp=Z,75nm,0.9s						
KRMR	**Karymshinskiy**	**5.53**	**245**	PN	**Pn**	04 40 39.9	+1.3
KRMR	**Karymshinskiy**	**5.53**	**245**	*e*P	**Pn**	04 40 39.8	+1.2
KRMR				*e*S	**Sn**	04 41 42.0	+0.5
RUS	**Russkaya**	**5.56**	**240**	PN	**Pn**	04 40 40.0	+1.0
PEA0B	**Petropavlovsk-**	**5.61**	**248**		**Pn**	04 40 41.4	+1.6
PEA0B	**Petropavlovsk-**	**5.61**	**248**	PN	**Pn**	04 40 41.4	+1.6
PETK	**Petropavlovsk-**	**5.61**	**248**		**Pn**	04 40 39.8	0.0
PETK	**Petropavlovsk-**	**5.61**	**248**	Pn	**Pn**	04 40 40.1	+0.3
	comp=Z,11nm,0.3s,baz=71,slow=15,SNR=66						
PETK				Sn	**Sn**	**04 41 45.8**	**+2.1**
	comp=Z,18nm,0.3s,baz=74,slow=6.3,SNR=3.9 comp=Z,38nm,0.6s						
MTVR	**Mutnovka**	**5.69**	**241**	PN	**Pn**	04 40 41.9	+0.9
MTVR	**Mutnovka**	**5.69**	**241**	*e*P	**Pn**	04 40 42.0	+0.9
GRL	**Gorelyy**	**5.71**	**242**	PN	**Pn**	04 40 42.2	+1.0
GRL	**Gorelyy**	**5.71**	**242**	*e*P	**Pn**	04 40 42.6	+1.4
GRL				*e*S	**Sn**	04 41 46.3	+0.1
ASAK	**Asacha**	**5.89**	**242**	PN	**Pn**	04 40 44.9	+1.2
ASAK	**Asacha**	**5.89**	**242**	*e*P	**Pn**	04 40 45.4	+1.7
ASAK				*e*S	**Sn**	04 41 51.4	+0.8
APC	**Apacha**	**5.99**	**248**	PN	**Pn**	04 40 46.9	+2.0
APC	**Apacha**	**5.99**	**248**	*e*P	**Pn**	04 40 47.1	+2.2
KDTR	**Khodutka, Kamc**	**6.16**	**237**	PN	**Pn**	04 40 47.0	-0.3
YAK	**Yakutsk**	**19.90**	**304**	*e*P	**Pn**	04 43 48.2	-0.9
YAK				pmax	pmax		
	comp=Z,30nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK	**Yakutsk**	**19.90**	**304**	P	**P**	**04 43 47.1**	**-0.3**
	comp=E,22nm,0.8s,baz=96,slow=15,SNR=8.2						
J18K	**Innoko River**	**20.11**	**52**	P	Pn	04 43 51.6	0.0
J18K				IAmb	IAmb	04 44 00.9	
	comp=Z,10nm,0.9s						
H19K	**Roundabout Mou**	**20.54**	**46**	P	Pn	04 43 55.9	-0.8
J19K	**Poorman**	**20.65**	**50**	P	Pn	04 43 57.4	-0.6
K20K	**Telida**	**21.29**	**52**	P	**P**	**04 44 06.7**	**+4.2**
B20K	**Meade River**	**21.64**	**34**	P	**P**	**04 44 06.7**	**+0.5**
B20K				IAmb	IAmb	04 44 13.1	
	comp=Z,16nm,1.2s						
F21K	**Alatna River**	**22.07**	**42**	P	**P**	**04 44 12.6**	**+1.8**
B21K	**Ikpikpuk River**	**22.32**	**35**	P	**P**	**04 44 13.7**	**+0.2**
SML	**Sawmill**	**23.97**	**56**	P	**P**	**04 44 29.9**	**-0.5**
SML				IAmb	IAmb	04 44 34.5	
	comp=Z,7.2nm,0.9s						
CCB	**Clear Creek Bu**	**24.09**	**49**	P	**P**	**04 44 32.7**	**+1.4**
CCB				IAmb	IAmb	04 44 42.2	
	comp=Z,10nm,1.2s						
F24K	**Squaw Lake**	**24.25**	**42**	P	**P**	**04 44 32.8**	**0.0**
G24K	**Hadweenzic Riv**	**24.32**	**44**	P	**P**	**04 44 33.4**	**-0.1**
G24K				IAmb	IAmb	04 44 36.6	
	comp=Z,6.6nm,1.1s						
IL31		**24.49**	**49**	P	**P**	**04 44 35.9**	**+1.0**
IL31				IAmb	IAmb	04 44 45.8	
	comp=Z,8.9nm,1.0s						
ILAR	**Eielson Array**	**24.49**	**49**	P	**P**	**04 44 34.5**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=258,slow=8.7,SNR=26 comp=Z,2.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**24.62**	**257**	P	**P**	**04 44 37.1**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=59,slow=9.4,SNR=1.7 comp=Z,1.0nm,0.6s						
D25K	**Kavik River**	**25.06**	**38**	P	**P**	**04 44 40.9**	**+0.7**
J25K	**Salcha River,**	**25.14**	**49**	P	**P**	**04 44 41.6**	**+0.6**
E25K	**Arctic Village**	**25.19**	**41**	P	**P**	**04 44 42.8**	**+1.4**
FYU	**Fort Yukon**	**25.21**	**45**	P	**P**	**04 44 42.7**	**+1.3**
J26L	**Joseph Creek**	**25.93**	**49**	P	**P**	**04 44 50.0**	**+1.9**
MENT	**Mentasta**	**25.99**	**53**	P	**P**	**04 44 50.1**	**+1.4**
L27K	**Beaver Creek,**	**26.83**	**52**	P	**P**	**04 44 57.4**	**+1.1**
L27K				IAmb	IAmb	04 45 03.4	
	comp=Z,6.8nm,1.2s						
BCAR	**Beaver Creek A**	**26.85**	**52**	P	**P**	**04 44 57.5**	**+1.1**
MJAR	**Matsushiro Arr**	**26.93**	**237**	P	**P**	**04 44 58.1**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=40,slow=9.7,SNR=3.3 comp=Z,1.4nm,0.4s						
EGAK	**Eagle**	**26.94**	**49**	P	**P**	**04 44 56.7**	**-0.4**
EGAK				IAmb	IAmb	04 44 58.6	
	comp=Z,3.4nm,0.9s						
F28M	**Old Crow**	**27.32**	**42**	P	**P**	**04 45 01.5**	**+1.0**
F28M				IAmb	IAmb	04 45 05.7	
	comp=Z,6.1nm,1.3s						
H29M	**Whitestone**	**27.98**	**45**	P	**P**	**04 45 07.8**	**+1.3**
G29M	**Pine Creek**	**28.07**	**44**	P	**P**	**04 45 08.8**	**+1.5**
G29M				IAmb	IAmb	04 45 12.2	
	comp=Z,6.5nm,1.1s						
L29M	**L29M**	**28.49**	**52**	P	**P**	**04 45 12.4**	**+1.4**
INK	**Inuvik**	**29.68**	**41**	P	**P**	**04 45 22.7**	**+1.2**
INK				IAmb	IAmb	04 45 28.7	
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**29.68**	**41**	P	**P**	**04 45 22.7**	**+1.2**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
F31M	**Tsiigehtchic**	**29.68**	**42**	P	**P**	**04 45 22.0**	**+0.5**
R32K	**Eaglecrest**	**31.52**	**60**	P	**P**	**04 45 38.8**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**35.71**	**179**	T	T	05 24 27.3	
	baz=0.7,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.72**	**179**	T	T	05 24 28.4	
	baz=0.7,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.72**	**179**	T	T	05 24 28.6	
	baz=0.7						
SONM	**Songino Array**	**36.92**	**284**	P	**P**	**04 46 24.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=58,slow=7.7,SNR=8.8 comp=Z,0.4nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**36.92**	**179**	T	T	05 25 04.4	
	baz=4.2,slow=78,SNR=12			

*AEIC **25** 04:43:46.0±1.6, 67.51N±0.02×158.47W±0.08, h15km±5km, ML2.8, ML3.0/76(NEIC), Error ellipse: s-maj=4.7km s-min=3.4km az=78.0*
*NEIC **25** 04:43:49.4±1.6, 67.53N±0.02×158.45W±0.07, h28km±7km, Error ellipse: s-maj=4.2km s-min=2.4km az=65.0*
*IDC **25** 04:43:53.2±4.2, 68.21N×156.77W, h0km, mb3.2/1, mbtmp3.0/3, ML2.9/2, Error ellipse: s-maj=57.2km s-min=37.0km az=54.0*

ISC 25 04:43:46.8±1.3, 67.53N±0.03×158.45W±0.03, h3km±11km, n79, σ0s95/75, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E19K	**Redstone River**	**0.47**	**98**		**Pg**	**04 43 55.6**	**-0.2**
E19K					**Sg**	**04 44 01.7**	**-0.2**
E19K	**Redstone River**	**0.47**	**98**	IAML		04 44 02.6	
	comp=E,635nm,0.4s						
E19K				IAML		04 44 07.6	
	comp=N,705nm,0.5s						
F19K	**Shaleruckik Mo**	**0.74**	**159**		**Pg**	**04 44 01.2**	**+0.3**
F19K	**Shaleruckik Mo**	**0.74**	**159**		**Sb**	**04 44 11.8**	**-1.0**
D19K	**Kuna River**	**0.98**	**7**		**Pb**	**04 44 05.2**	**-1.3**
D19K					**Sb**	**04 44 19.4**	**-0.4**
E20K	**Nigu River**	**1.13**	**48**		**Pb**	**04 44 07.3**	**-1.6**
E20K					**Sg**	**04 44 24.4**	**+1.5**
F20K	**Avaraart Lake**	**1.16**	**113**		**Pn**	**04 44 07.6**	**-2.3**
F20K	**Avaraart Lake**	**1.16**	**113**	IAML		04 44 26.4	
	comp=N,316nm,0.7s						
F20K				IAML		04 44 26.5	
	comp=E,219nm,0.5s						
D20K	**Etivluk River**	**1.38**	**29**		**Pn**	**04 44 12.5**	**-0.4**
E17K	**Hotham Inlet**	**1.39**	**253**		**Pn**	**04 44 12.2**	**-0.7**
G19K	**Purcell Mounta**	**1.49**	**158**		**Pn**	**04 44 14.1**	**-0.3**
C18K	**Utukok River**	**1.53**	**319**		**Pb**	**04 44 15.1**	**-0.6**
C18K	**Utukok River**	**1.53**	**319**		**Sg**	**04 44 35.7**	**-0.1**
F17K	**Baldwin Pennin**	**1.55**	**227**		**Pb**	**04 44 15.1**	**-0.9**
F17K	**Baldwin Pennin**	**1.55**	**227**	IAML		04 44 37.2	
	comp=N,185nm,0.7s						
F17K				IAML		04 44 38.1	
	comp=E,274nm,0.8s						
G18K	**Tagagawik**	**1.64**	**183**		**Pn**	**04 44 15.8**	**-0.7**
G18K				IAML		04 44 40.4	
	comp=N,129nm,0.4s						
C19K	**Lookout Ridge**	**1.64**	**346**	Pn	**Pn**	**04 44 16.5**	**-0.1**
C19K				IAML		04 44 41.0	
	comp=E,157nm,0.9s						
C19K				IAML		04 44 48.2	
	comp=N,135nm,1.1s						
C19K	**Lookout Ridge**	**1.64**	**346**		**Sg**	**04 44 41.5**	**+2.0**
C17K	**DeLong Mountai**	**2.02**	**300**		**Pn**	**04 44 21.5**	**-0.2**
C17K					**Sb**	**04 44 49.5**	**-0.2**
C21K	**Knifeblade Rid**	**2.13**	**38**		**Pn**	**04 44 23.9**	**+0.7**
H19K	**Roundabout Mou**	**2.16**	**157**		**Pn**	**04 44 23.3**	**-0.2**
H19K					**Sn**	**04 44 50.8**	**0.0**
G21K	**Allakaket**	**2.19**	**115**	Pn	**Pn**	**04 44 23.8**	**-0.2**
G21K				IAML		04 44 52.4	
	comp=E,83nm,0.3s						
G21K				IAML		04 44 59.3	
	comp=N,70nm,0.9s						
G17K	**Kiwalik Mounta**	**2.22**	**205**		**Pn**	**04 44 23.4**	**-1.0**
H18K	**Honhosa River**	**2.38**	**179**		**Pn**	**04 44 26.3**	**-0.4**
H18K				IAML		04 45 02.8	
	comp=E,79nm,0.6s						
H18K				IAML		04 45 02.9	
	comp=N,106nm,0.6s						
IMAR	**Indian Mountai**	**2.42**	**128**		**Pn**	**04 44 27.0**	**-0.2**
B21K	**Ikpikpuk River**	**2.53**	**32**		**Pn**	**04 44 29.2**	**+0.5**
B21K	**Ikpikpuk River**	**2.53**	**32**	IAML		04 45 14.9	
	comp=E,69nm,0.7s						
B20K	**Meade River**	**2.54**	**10**		**Pn**	**04 44 28.7**	**-0.1**
B20K					**Sb**	**04 45 02.4**	**-2.1**
B20K	**Meade River**	**2.54**	**10**	IAML		04 45 36.9	
	comp=E,45nm,1.9s						
D22K	**Ayikyak River**	**2.54**	**55**	Pn	**Pn**	**04 44 29.3**	**+0.4**
G16K	**Koyuk River**	**2.65**	**218**		**Pn**	**04 44 29.8**	**-0.6**
H17K	**Granite Mounta**	**2.67**	**194**		**Pn**	**04 44 30.1**	**-0.5**
H17K				IAML		04 45 12.1	
	comp=E,57nm,0.6s						
H17K				IAML		04 45 12.1	
	comp=N,53nm,0.5s						
H17K	**Granite Mounta**	**2.67**	**194**		**Sn**	**04 45 02.9**	**-0.4**
C16K	**Lisburne Hills**	**2.71**	**289**	Pn	**Pn**	**04 44 30.3**	**-0.9**
A19K	**Wainwright**	**2.85**	**342**		**Pn**	**04 44 33.0**	**-0.1**
H21K	**Melozitna Rive**	**2.93**	**127**		**Pn**	**04 44 33.9**	**-0.3**
F15K	**North Star Dit**	**3.07**	**236**		**Pn**	**04 44 35.6**	**-0.6**
H22K	**Ishtalitna Cre**	**3.25**	**117**		**Pn**	**04 44 38.8**	**+0.2**
H16K	**Elim**	**3.29**	**210**		**Pn**	**04 44 38.1**	**-0.9**
B22K	**Teshekpuk Lake**	**3.36**	**30**		**Pn**	**04 44 39.9**	**-0.2**
B22K				IAML		04 45 40.0	
	comp=E,28nm,0.5s						
B22K				IAML		04 45 46.4	
	comp=N,34nm,1.2s						
G23K	**Bananza Creek**	**3.39**	**100**	Pn	**Pn**	**04 44 41.9**	**+1.4**
G23K				IAML		04 45 38.3	
	comp=N,28nm,0.8s						
G23K				IAML		04 45 39.4	
	comp=E,27nm,0.9s						
I21K	**Tanana**	**3.51**	**129**		**Pn**	**04 44 43.5**	**+1.4**
I21K				IAML		04 45 40.3	
	comp=E,34nm,1.5s						
I21K				IAML		04 45 42.0	
	comp=N,28nm,0.8s						
J19K	**Poorman**	**3.73**	**161**		**Pn**	**04 44 44.8**	**-0.4**
J19K				IAML		04 45 46.4	
	comp=E,18nm,2.0s						
J19K				IAML		04 45 58.7	
	comp=N,22nm,3.4s						
I17K	**Unalakleet**	**3.77**	**195**		**Pn**	**04 44 45.9**	**+0.2**
I17K				IAML		04 45 31.8	
	comp=N,20nm,0.6s						
I17K				IAML		04 45 52.9	
	comp=E,25nm,0.7s						
J20K	**Nowinta River**	**3.80**	**150**		**Pn**	**04 44 46.5**	**+0.4**
J20K				IAML		04 45 57.2	
	comp=E,16nm,0.8s						
J20K				IAML		04 45 59.9	
	comp=N,20nm,0.8s						
A21K	**Barrow**	**3.87**	**9**		**Pn**	**04 44 46.3**	**-0.7**
MLY	**Manley**	**4.00**	**125**		**Pn**	**04 44 48.6**	**-0.2**
J18K	**Innoko River**	**4.14**	**169**		**Pn**	**04 44 50.7**	**-0.2**
J18K	**Innoko River**	**4.14**	**169**	IAML		04 45 54.4	
	comp=E,17nm,3.3s						
J18K				IAML		04 46 11.7	
	comp=N,20nm,3.8s						
J16K	**Anvik River**	**4.35**	**193**		**Pn**	**04 44 54.0**	**+0.3**
J16K	**Anvik River**	**4.35**	**193**	IAML		04 46 14.4	
	comp=E,18nm,1.3s						
J16K				IAML		04 46 14.7	
	comp=N,22nm,2.4s						
H24K	**Noodor Dome**	**4.53**	**107**		**Pn**	**04 44 55.7**	**-0.5**
H24K	**Noodor Dome**	**4.53**	**107**	IAML		04 46 33.5	
	comp=N,16nm,4.6s						
H24K				IAML		04 47 40.4	
	comp=E,17nm,4.2s						
BPAW	**Bear Paw Mtn.**	**4.61**	**135**		**Pn**	**04 44 57.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**4.61**	**135**	IAML		04 45 59.4	
	comp=E,16nm,4.2s						
D25K	**Kavik River**	**4.81**	**62**		**Pn**	**04 44 59.9**	**-0.1**
D25K	**Kavik River**	**4.81**	**62**	IAML		04 46 34.5	
	comp=E,9.7nm,3.2s						
D25K				IAML		04 46 40.1	
	comp=N,10nm,2.8s						
NEA2	**Nenana**	**4.82**	**123**		**Pn**	**04 45 00.5**	**+0.3**
CAST	**Castle Rocks**	**4.90**	**144**		**Pn**	**04 45 01.7**	**+0.5**
E25K	**Arctic Village**	**4.92**	**77**		**Pn**	**04 45 02.2**	**+0.7**
E25K	**Arctic Village**	**4.92**	**77**	IAML		04 46 21.5	
	comp=E,11nm,4.0s						
E25K				IAML		04 46 25.4	
	comp=N,11nm,3.8s						
CCB	**Clear Creek Bu**	**5.20**	**119**		**Pn**	**04 45 05.8**	**+0.4**
PPLA	**Purkeypile**	**5.34**	**148**		**Pn**	**04 45 07.9**	**+0.6**
K15K	**Wolf Creek Mou**	**5.41**	**195**		**Pn**	**04 45 08.3**	**0.0**
IL31		**5.44**	**115**		**Pn**	**04 45 08.0**	**-0.6**
ILAR	**Eielson Array**	**5.44**	**115**	Pn	**Pn**	**04 45 08.8**	**+0.2**
	comp=N,0.4nm,0.3s,baz=310,slow=14,SNR=20						
ILAR				Sn	**Sn**	**04 46 08.9**	**-2.7**
	comp=N,0.6nm,0.3s,baz=319,slow=27,SNR=6.9						
ILAR				Lg	Lg	04 46 39.5	
	comp=N,0.3nm,0.3s,baz=316,slow=31,SNR=4.5						
	comp=N,1.6nm,0.6s						
L16K	**Owhat River**	**5.86**	**185**		**Pn**	**04 45 13.8**	**-0.5**
L15K	**Ungalak Mounta**	**6.01**	**194**		**Pn**	**04 45 16.3**	**-0.2**
M20K	**Styx River**	**6.10**	**156**		**Pn**	**04 45 18.9**	**+1.0**
SKT	**Skwentna**	**6.30**	**149**		**Pn**	**04 45 21.6**	**+1.2**
E27K	**Coleen River**	**6.40**	**76**		**Pn**	**04 45 22.5**	**+0.6**
SPNN	**North Nagishla**	**6.66**	**155**		**Pn**	**04 45 26.6**	**+1.0**
D27M	**Malcolm River**	**6.68**	**67**		**Pn**	**04 45 25.0**	**-0.7**
N18K	**Kilae Creek**	**6.96**	**170**		**Pn**	**04 45 30.0**	**+0.5**
N16K	**Nishlik Lake**	**7.08**	**181**		**Pn**	**04 45 31.3**	**+0.2**
E28M	**Babbage River**	**7.16**	**73**		**Pn**	**04 45 32.8**	**+0.6**
N15K	**Kwethluk River**	**7.42**	**186**		**Pn**	**04 45 36.4**	**+0.5**
YKA	**Yellowknife Ar**	**18.85**	**84**	P	**P**	**04 48 06.4**	**-1.1**
	baz=304,slow=10,SNR=1.9						
	comp=N,0.2nm,0.7s						
PDAR	**Pinedale Array**	**35.83**	**109**	P	**P**	**04 50 51.3**	**+3.8**
	comp=N,0.2nm,0.5s,baz=348,slow=8.3,SNR=2.2						
	comp=N,0.2nm,0.5s						

KRSC 25 04:50:51.1±1.3, 55.32N×166.47E, h32km±5km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.31**	**249**	*eP*	Pn	04 50 59.3	+0.1
BKI				*eS*	Sn	04 51 05.0	+0.3
SMKR	**Semkarok**	**3.09**	**296**	*eP*	Pn	04 51 39.8	+2.3
BZGR	**Bezymyannyi-Gr**	**3.33**	**283**	*eP*	Pb	04 51 45.3	-4.2
BZMR	**Bezymyannaya**	**3.45**	**283**	*eP*	Pb	04 51 47.4	-4.1
BZWR	**Bezymyannyi-We**	**3.45**	**283**	*eP*	Pb	04 51 47.4	-4.1
TUMD	**Tumrok D**	**3.48**	**271**	*eP*	Pn	04 51 46.3	+3.4
TUMD				*eS*	Sn	04 52 27.7	+4.8
KMNR	**Kamenistaya**	**3.57**	**280**	*eP*	Pn	04 51 48.3	+4.0
KPT	**Kopyto**	**3.60**	**283**	*eP*	Pn	04 51 48.3	+3.6
TUMR	**Tumrok**	**3.62**	**272**	*eP*	Pn	04 51 48.8	+3.9
SMAR	**Somma**	**4.94**	**249**	*eP*	Pn	04 52 07.1	+3.9
AVH	**Avacha**	**4.98**	**249**	*eP*	Pn	04 52 08.6	+5.1
KRX	**Arik**	**4.98**	**250**	*eP*	Pn	04 52 08.1	+4.4
KOK	**Koryaka**	**5.02**	**249**	*eP*	Pn	04 52 08.8	+4.7
ASAK	**Asacha**	**5.86**	**243**	*eP*	Pn	04 52 20.5	+4.8

IDC 25 04:59:57.5±3.7, 55.50N×86.42E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=28.7km s-min=28.2km az=126.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**211**	I	I	05 12 00.0	
	baz=29,slow=331,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.81**	**211**	Pg	Pn	05 00 29.9	-0.1
	1.9nm,0.3s,baz=29,slow=17,SNR=26						
ZALV				Lg	Lg	05 00 54.8	
	1.1nm,0.3s,baz=32,slow=14,SNR=3.9						
KURBB	**Kurchatov Arra**	**6.82**	**227**	Pn	Pn	05 01 39.0	+0.3
	baz=43,slow=14,SNR=2.0						
KURBB				Lg	Lg	05 03 36.5	
	baz=47,slow=33,SNR=3.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**9.10**	**198**	Pn	Pn	05 02 10.1	+0.1
	baz=20,slow=12,SNR=1.3						
MKAR				Lg	Lg	05 04 46.5	
	baz=8.4,slow=31,SNR=2.0						
	0.1nm,0.3s						

KRSC 25 05:03:26.9±0.7, 55.24N×166.27E, h32km±2km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.17**	**260**	*i* P	Pn	05 03 33.3	+0.1
BKI				*eS*	Sb	05 03 38.2	+0.9
TUMD	**Tumrok D**	**3.36**	**272**	*eS*	Sn	05 05 00.4	+4.6
KMNR	**Kamenistaya**	**3.47**	**281**	*eP*	Pn	05 04 22.0	+3.4
KMNR				*eS*	Sn	05 05 03.7	+5.1
TUMR	**Tumrok**	**3.50**	**273**	*eP*	Pn	05 04 23.1	+4.0
SMAR	**Somma**	**4.80**	**249**	*eP*	Pn	05 04 41.4	+4.4
AVH	**Avacha**	**4.84**	**249**	*eP*	Pn	05 04 41.6	+4.2
KOK	**Koryaka**	**4.88**	**250**	*eP*	Pn	05 04 42.9	+4.9
KRMR	**Karymshinskiy**	**5.37**	**247**	*eS*	Sn	05 05 50.1	+4.9
MTVR	**Mutnovka**	**5.52**	**243**	*eP*	Pn	05 04 51.5	+4.7
ASAK	**Asacha**	**5.72**	**243**	*eP*	Pn	05 04 54.7	+5.2

*IDC **25** 05:11:02.2±2.4, 54.40N×167.14E, h0km, mb3.2/2, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=123.5km s-min=27.1km az=164.0*
*KRSC **25** 05:11:03.5±1.3, 55.38N×166.50E, h32km±5km, Ml4.0*

ISC 25 05:11:05.2±1.2, 55.46N±0.10×166.48E±0.09, h10km, n27, σ0s82/27, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.39**	**229**	*eP*	**Pg**	**05 11 12.6**	**-0.1**
BKI				*eS*	**Sg**	**05 11 18.0**	**+0.1**
SMKR	**Semkarok**	**3.03**	**294**	*eP*	**Pn**	**05 11 52.9**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**3.31**	**281**	*eP*	**Pn**	**05 11 57.6**	**+0.5**
BZP	**Bezymyannyi-Pe**	**3.40**	**280**	*eP*	**Pn**	**05 11 57.8**	**-0.5**
BZWR	**Bezymyannyi-We**	**3.42**	**281**	*eP*	**Pn**	**05 11 59.4**	**+0.7**
BZMR	**Bezymyannaya**	**3.42**	**281**	*eP*	**Pn**	**05 11 59.2**	**+0.5**
TUMD	**Tumrok D**	**3.48**	**268**	*eP*	**Pn**	**05 11 59.3**	**-0.1**
TUMD				*eS*	**Sn**	**05 12 40.6**	**-0.1**
KMNR	**Kamenistaya**	**3.56**	**277**	*eP*	**Pn**	**05 12 01.4**	**+0.9**
KPT	**Kopyto**	**3.58**	**281**	*eP*	**Pn**	**05 12 01.2**	**+0.4**
TUMR	**Tumrok**	**3.62**	**270**	*eP*	**Pn**	**05 12 01.7**	**+0.3**
SRDR	**Sredinnyy**	**3.91**	**286**	*eP*	**Pn**	**05 12 05.4**	**+0.1**
KII	**Karymskiy**	**4.32**	**254**	*eP*	**Pn**	**05 12 11.6**	**+0.7**
SMAR	**Somma**	**5.00**	**247**	*eP*	**Pn**	**05 12 20.6**	**+0.1**
AVH	**Avacha**	**5.03**	**247**	*eP*	**Pn**	**05 12 21.8**	**+1.0**
KRX	**Arik**	**5.03**	**249**	*eP*	**Pn**	**05 12 21.2**	**+0.4**
KOK	**Koryaka**	**5.07**	**248**	*eP*	**Pn**	**05 12 21.9**	**+0.6**
DALK	**Dalny**	**5.14**	**245**	*eP*	**Pn**	**05 12 22.1**	**0.0**
KRMR	**Karymshinskiy**	**5.57**	**245**	*eP*	**Pn**	**05 12 27.8**	**-0.2**
PETK	**Petropavlovsk-**	**5.66**	**249**	Pn	**Pn**	**05 12 29.9**	**+0.6**
	1.4nm,0.3s,baz=70,slow=18,SNR=8.7						
PETK				Sn	**Sn**	**05 13 33.6**	**-0.6**
	0.5nm,0.3s,baz=344,slow=22,SNR=1.6						
	2.9nm,0.4s						
MTVR	**Mutnovka**	**5.73**	**242**	*eP*	**Pn**	**05 12 30.6**	**+0.2**
GRL	**Gorely**	**5.75**	**243**	*eP*	**Pn**	**05 12 30.9**	**+0.3**
ASAK	**Asacha**	**5.93**	**242**	*eP*	**Pn**	**05 12 33.8**	**+0.8**
ILAR	**Eielson Array**	**24.46**	**49**	P	**P**	**05 16 26.4**	**+2.5**
	0.5nm,1.0s,baz=250,slow=9.5,SNR=2.4						
	0.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**35.67**	**179**	T	T	05 55 44.1	
	baz=359,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.68**	**179**	T	T	05 55 34.9	
	baz=359						
H11N1	**WAKE ISLAND Hy**	**35.69**	**179**	T	T	05 55 47.2	
	baz=359,slow=74						
TXAR	**Lajitas Array**	**66.30**	**72**	P	**P**	**05 21 51.9**	**-1.9**
	0.2nm,0.7s,baz=310,slow=4.2,SNR=1.8						
	0.2nm,0.7s						

*NEIC **25** 05:11:25.9±1.2, 19.05N±0.07×122.2E±0.1, h83km±5km, mb4.6/60, Error ellipse: s-maj=14.5km s-min=10.1km az=78.0*
*IDC **25** 05:11:28.2±0.8, 19.00N×122.28E, h118km±6km, mb3.9/19, mbtmp4.3/23, MS3.3/1, Error ellipse: s-maj=16.1km s-min=7.6km az=83.0*

ISC 25 05:11:27.1±0.6, 19.04N±0.04×122.25E±0.07, h102km±4km, h103km:pP-P, n123, σ2s22/139, mb4.4/52, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**3.92**	**344**		**Pn**	**05 12 22.4**	**-2.9**
TWG				Sn	**Sn**	**05 13 04.5**	**-5.8**
YULB	**Yu-li**	**4.42**	**349**	Pn	**Pn**	**05 12 30.1**	**-2.0**
TPUB	**Ta-pu**	**4.50**	**341**		**Pn**	**05 12 31.4**	**-1.7**
SSLB	**Suanglung**	**4.88**	**346**		**Pn**	**05 12 36.4**	**-1.9**
TGY	**Tagaytay City**	**5.06**	**195**	P	**Pn**	**05 12 40.9**	**+0.1**
	145nm,0.3s,baz=327,slow=16,SNR=1.3						
TGY				S	**Sn**	**05 13 43.0**	**+4.9**
	200nm,0.5s,baz=306,slow=13,SNR=4.2						
NACB	**Ninganchiao**	**5.15**	**353**		**Pn**	**05 12 39.9**	**-1.9**
YOJ	**Yonaguni jima**	**5.45**	**7**	Pn	**Pn**	**05 12 43.6**	**-2.3**
YHNB	**Yeheng**	**5.67**	**352**		**Pn**	**05 12 47.5**	**-1.5**
TATO	**Taitei**	**5.95**	**353**	Pn	**Pn**	**05 12 51.3**	**-1.5**
KNMB	**Chin-men Tao**	**6.48**	**327**	Pn	**Pn**	**05 12 57.9**	**-2.1**
QZH	**Quanzhou**	**6.79**	**331**	Pn	**Pn**	**05 13 02.6**	**-1.4**
QZH				Sn	**Sn**	**05 14 12.8**	**-7.0**
QZH				smax	smax		
	comp=N,120nm,0.6s						
QZH				smax	smax		
	comp=E,160nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HKPS	**Hong Kong Po S**	**8.24**	**294**	Pn	**Pn**	**05 13 21.2**	**-2.7**
JOW	**Kunigami**	**9.54**	**34**	Pn	**Pn**	**05 13 39.1**	**-2.5**
JOW	**Kunigami**	**9.54**	**34**	P	**Pn**	**05 13 43.2**	**+1.7**
	comp=E,10nm,0.3s,baz=230,slow=30,SNR=1.7						
QIZ	**Qiongzhong**	**11.73**	**272**	Pn	**Pn**	**05 14 10.3**	**-0.9**
NJ2	**Nanjing**	**13.32**	**347**	*eP*	**Pn**	**05 14 29.9**	**-2.1**
NJ2				pP	**P**	**05 14 39.6**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,330nm,7.3s						
WHN	**Wuhan**	**13.51**	**330**	⇑P	**P**	**05 14 41.8**	**+1.7**
WHN				pmax	pmax		
	comp=Z,100nm,1.0s						
JNU	**Nakatsue**	**16.02**	**27**	Pn	**Pn**	**05 15 06.4**	**-0.1**
JNU				IAmb	IAmb	05 15 10.2	
	comp=Z,64nm,1.4s						
JNU	**Nakatsue**	**16.02**	**27**	P	**Pn**	**05 15 06.3**	**-0.1**
	comp=Z,9.5nm,0.8s,baz=254,slow=3.2,SNR=2.4						
ENH	**Enshi**	**16.10**	**316**	Pn	**Pn**	**05 15 04.7**	**-2.9**
LYN	**LuoYang**	**17.73**	**333**	⇑P	**Pn**	**05 15 28.3**	**+0.9**
LYN				PP	**pP**	**05 15 44.9**	**-0.7**
LYN				sP	sP	05 15 50.8	-7.5
LYN				pmax	pmax		
	comp=Z,88nm,0.8s						
LYN				pmax	pmax		
	comp=Z,360nm,10.8s						
TOLI2	**Tolitoli**	**17.87**	**185**		**P**	**05 15 28.4**	**-0.1**
KSAR	**Wonju Array Be**	**18.99**	**14**	P	**P**	**05 15 40.5**	**-0.1**
KSRS	**Korea Array**	**19.01**	**14**	P	**P**	**05 15 41.2**	**+0.4**
	comp=Z,6.8nm,0.7s,baz=193,slow=11,SNR=17						
KS19	**Wonju Array Si**	**19.05**	**14**	P	**P**	**05 15 40.6**	**-0.6**
KS19				IAmb	IAmb	05 15 45.1	
	comp=Z,30nm,1.2s						
XAN	**Xi'an**	**19.09**	**324**	P	**Pn**	**05 15 42.8**	**-0.8**
XAN				pP	pP	05 15 56.3	-4.1
XAN				pmax	pmax		
	comp=Z,22nm,1.2s						
SBUM	**Sibu**	**19.18**	**212**		**P**	**05 15 41.7**	**-1.1**
LUWI	**Luwuk**	**19.96**	**178**	P	**P**	**05 15 51.4**	**+0.2**
PZH	**PanZhiHua**	**20.30**	**295**	P	**P**	**05 15 56.3**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,4.0s						
BJT	**Baijiatuau**	**21.56**	**347**	P	**P**	**05 16 07.9**	**-0.3**
BJT				IAmb	IAmb	05 16 09.6	
	comp=Z,12nm,0.5s						
BJI	**Beijing**	**21.58**	**347**	P	**P**	**05 16 08.6**	**+0.2**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**22.07**	**272**	P	**P**	**05 16 14.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=81,slow=7.6,SNR=4.8						
CMAR				LR	LR	05 24 07.6	
	comp=Z,83nm,19.7s,baz=55,slow=34						
	comp=Z,0.8nm,0.3s						
MJAR	**Matsushiro Arr**	**22.39**	**36**	P	**P**	**05 16 17.3**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=213,slow=8.5,SNR=2.0						
	comp=Z,0.9nm,0.5s						
LZH	**Lanzhou**	**23.48**	**320**	*eP*	**P**	**05 16 28.3**	**+0.4**
LZH				sP	pwP	05 16 50.5	+2.0
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
HHC	**Hu-ho-hao-te**	**23.59**	**339**	*eP*	**P**	**05 16 28.9**	**+0.2**
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,330nm,4.4s						
BTO	**Baotou**	**23.92**	**337**	*eP*	**P**	**05 16 35.5**	**+3.8**
BTO				pP	**pP**	**05 16 52.6**	**-0.5**
BTO				sP	**sP**	**05 17 02.0**	**-3.7**
BTO				PP	**PnPn**	**05 17 13.4**	**+6.9**
BTO				S	**S**	**05 20 49.1**	**+8.3**
BTO				sS	Sn	05 21 16.0	+2.4
BTO				SS	**SnSn**	**05 21 45.1**	**+13**
BTO				pmax	pmax		
	comp=Z,25nm,0.7s						
BTO				pmax	pmax		
	comp=Z,630nm,5.8s						
XLT	**XiLinHaoTe**	**25.33**	**350**	*eP*	**P**	**05 16 45.3**	**+0.9**
XLT				pmax	pmax		
	comp=Z,12nm,1.0s						
XLT				pmax	pmax		
	comp=Z,180nm,4.8s						
USRK	**Ussuriysk Ar.**	**26.39**	**16**	P	**P**	**05 16 54.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**26.39**	**16**	P	**P**	**05 16 54.7**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=215,slow=11,SNR=7.8						
	comp=Z,4.7nm,0.7s						
BNX	**BinXian**	**26.97**	**8**	⇑P	**P**	**05 17 00.8**	**+1.7**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,540nm,5.3s						
KLR	**Kul'dur**	**31.08**	**12**	P	**P**	**05 17 35.8**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=230,slow=5.2,SNR=8.5						
	comp=Z,3.1nm,0.8s						
ULN	**Ulaanbaatar**	**31.31**	**340**	P	**P**	**05 17 38.3**	**+0.7**
SONM	**Songino Array**	**31.49**	**339**	P	**P**	**05 17 39.8**	**+0.5**
SONM	**Songino Array**	**31.49**	**339**	P	**P**	**05 17 39.0**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=157,slow=10.0,SNR=23						

ASAR				S		**S**	**05 25 45.0**	**-3.2**
	comp=Z,1.6nm,0.8s,baz=357,slow=24,SNR=8.2							
	comp=Z,3.4nm,0.3s							
ZAA0	**Zalesovo Array**	**45.12**	**330**	P		**P**	**05 19 33.2**	**+0.1**
ZALV	**Zalesovo Beam**	**45.12**	**330**	P		**P**	**05 19 33.0**	**-0.2**
ZALV	**Zalesovo Beam**	**45.12**	**330**	P		**P**	**05 19 32.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=120,slow=8.5,SNR=9.6							
ZALV				pP		**pP**	**05 21 19.9**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=117,slow=8.3,SNR=2.3							
	comp=Z,1.7nm,0.6s							
CTAO	**Charters Tower**	**45.45**	**148**	P		**P**	**05 19 36.6**	**+0.5**
CTAO				IAmb		IAmb	05 20 00.5	
	comp=Z,24nm,1.4s							
KURK	**Kurchatov**	**46.72**	**323**	P		**P**	**05 19 45.8**	**+0.1**
KURK				IAmb		IAmb	05 19 46.5	
	comp=Z,7.1nm,1.2s							
KURBB	**Kurchatov Arra**	**46.73**	**323**	P		**P**	**05 19 45.2**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=119,slow=7.5,SNR=44							
KURBB				pP		**pP**	**05 20 12.2**	**+2.5**
	comp=Z,1.6nm,0.6s,baz=117,slow=7.6,SNR=3.9							
KURBB				ScP		**ScP**	**05 24 58.1**	**-4.0**
	comp=Z,0.5nm,0.6s,baz=119,slow=4.0,SNR=5.9							
	comp=Z,4.1nm,0.7s							
MORW	**Morawa**	**48.20**	**187**	P		**P**	**05 19 56.6**	**-0.7**
MORW				IAmb		IAmb	05 20 09.2	
	comp=Z,14nm,1.2s							
SEY	**Seymchan**	**48.51**	**18**	P		**P**	**05 19 59.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=162,slow=23,SNR=1.9							
	comp=Z,1.6nm,0.6s							
KBL	**Kabul**	**49.40**	**299**	P		**P**	**05 20 06.0**	**-0.9**
KBL				IAmb		IAmb	05 20 21.9	
	comp=Z,3.2nm,0.5s							
KK31	**Karatay Array**	**49.47**	**311**	P		**P**	**05 20 06.6**	**-0.5**
KKAR	**Karatay Array**	**49.47**	**311**	P		**P**	**05 20 07.4**	**+0.4**
FORT	**Forrest**	**49.84**	**173**	P		**P**	**05 20 10.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**51.89**	**185**	P		**P**	**05 20 25.2**	**0.0**
EIDS	**Eidsvold**	**52.30**	**147**	P		**P**	**05 20 28.8**	**+0.5**
BVAR	**Borovoye Array**	**52.32**	**323**	P		**P**	**05 20 28.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=125,slow=7.7,SNR=6.5							
BVAR				PcP		**PcP**	**05 21 37.2**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=114,slow=3.6,SNR=4.3							
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**52.39**	**323**	P		**P**	**05 20 29.2**	**+0.5**
BRVK				IAmb		IAmb	05 20 29.5	
	comp=Z,3.4nm,0.8s							
TIXI	**Tiksi**	**52.76**	**3**	P		**P**	**05 20 31.8**	**+0.6**
TIXI				IAmb		IAmb	05 21 00.4	
	comp=Z,4.0nm,1.1s							
BBOO	**Buckleboo**	**53.22**	**165**	P		**P**	**05 20 35.0**	**-0.1**
STKA	**Stephens Creek**	**53.91**	**160**	P		**P**	**05 20 40.4**	**+0.3**
STKA	**Stephens Creek**	**53.91**	**160**	P		**P**	**05 20 40.0**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=342,slow=7.1,SNR=8.4							
	comp=Z,3.7nm,0.5s							
NRIK	**Noril'sk**	**54.61**	**346**	P		**P**	**05 20 44.9**	**+0.2**
NRIK				IAmb		IAmb	05 20 45.0	
	comp=Z,4.1nm,0.7s							
NRIK	**Noril'sk**	**54.61**	**346**	P		**P**	**05 20 44.3**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=111,slow=8.3,SNR=7.2							
	comp=Z,3.5nm,0.7s							
ABKAR	**Akbulak array**	**57.79**	**317**	P		**P**	**05 21 07.5**	**-0.2**
ABKAR				IAmb		IAmb	05 21 35.2	
	comp=Z,4.0nm,1.2s							
ATKA	**Atka Island**	**59.02**	**40**	P		**P**	**05 21 16.7**	**+0.6**
DZM	**Mont Dzumac**	**59.47**	**131**	P		**P**	**05 21 20.1**	**+0.4**
CAN	**Canberra**	**59.72**	**155**	P		**P**	**05 21 22.7**	**+1.5**
OUENC	**Ouen Island, N**	**59.98**	**131**	P		**P**	**05 21 23.9**	**+0.9**
TOO	**Toolangi**	**60.41**	**159**	P		**P**	**05 21 26.4**	**+0.6**
TOO				IAmb		IAmb	05 21 27.6	
	comp=Z,5.4nm,1.0s							
ANM	**Nome**	**65.42**	**27**	P		**P**	**05 22 00.5**	**+1.9**
ANM				IAmb		IAmb	05 22 28.9	
	comp=Z,9.4nm,1.4s							
M13K	**Dall Lake**	**65.94**	**32**	P		**P**	**05 22 04.0**	**+2.0**
C16K	**Lisburne Hills**	**65.96**	**23**	IAmb		IAmb	05 22 04.0	
	comp=Z,4.0nm,0.9s							
J14K	**Nanvaranak Lak**	**66.02**	**29**	P		**P**	**05 22 04.1**	**+1.6**
J14K				IAmb		IAmb	05 22 12.0	
	comp=Z,15nm,1.5s							
L14K	**Kuka Creek**	**66.33**	**31**	P		**P**	**05 22 05.9**	**+1.4**
L14K				IAmb		IAmb	05 22 09.1	
	comp=Z,8.2nm,0.9s							
C18K	**Utukok River**	**67.53**	**23**	P		**P**	**05 22 13.4**	**+1.3**
C18K				IAmb		IAmb	05 22 14.4	
	comp=Z,7.9nm,1.3s							
G18K	**Tagagawik**	**68.34**	**26**	P		**P**	**05 22 18.4**	**+1.2**
D19K	**Kuna River**	**68.65**	**23**	IAmb		IAmb	05 22 21.2	
	comp=Z,6.5nm,0.8s							
TTA	**Tatalina**	**69.49**	**29**	P		**P**	**05 22 25.7**	**+1.3**
TTA				IAmb		IAmb	05 22 27.1	
	comp=Z,6.0nm,1.1s							
IMAR	**Indian Mountai**	**70.35**	**26**	P		**P**	**05 22 30.6**	**+1.1**
CAST	**Castle Rocks**	**71.24**	**28**	P		**P**	**05 22 36.5**	**+1.5**
CAST				IAmb		IAmb	05 22 36.9	
	comp=Z,6.5nm,0.7s							
NEA2	**Nenana**	**72.43**	**27**	P		**P**	**05 22 43.4**	**+1.3**
NEA2				IAmb		IAmb	05 22 43.6	
	comp=Z,5.4nm,0.9s							
ILAR	**Eielson Array**	**73.34**	**27**	P		**P**	**05 22 46.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=264,slow=4.7,SNR=8.5							
	comp=Z,0.6nm,0.6s							
ARCES	**ARCESS Array B**	**74.67**	**339**	P		**P**	**05 22 54.1**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=73,slow=6.7,SNR=1.9							
	comp=Z,3.7nm,0.9s							
BCAR	**Beaver Creek A**	**75.89**	**28**	P		**P**	**05 23 03.8**	**+1.5**
FINES	**FINESS Array B**	**76.38**	**331**	P		**P**	**05 23 02.9**	**-2.1**
	comp=Z,4.8nm,1.0s,baz=44,slow=6.2,SNR=1.8							
	comp=Z,4.8nm,1.0s							
NNZ	**Nelson**	**76.41**	**143**	P		**P**	**05 23 06.7**	**+1.3**
DAWY	**Dawson**	**76.66**	**27**	P		**P**	**05 23 07.3**	**+0.7**
HYT	**Haines Junctio**	**78.46**	**29**	P		**P**	**05 23 17.2**	**+0.4**
HYT				IAmb		IAmb	05 23 17.3	
	comp=Z,15nm,1.4s							
A36M	**Sachs Harbour**	**78.73**	**17**	P		**P**	**05 23 17.8**	**-0.1**
M31M	**Drury Creek, Y**	**79.41**	**28**	P		**P**	**05 23 22.8**	**+1.0**
M31M				IAmb		IAmb	05 23 22.9	
	comp=Z,2.6nm,0.6s							
WHY	**Whitehorse**	**79.73**	**29**	P		**P**	**05 23 25.1**	**+1.4**
WHY				IAmb		IAmb	05 23 50.9	
	comp=Z,4.3nm,0.8s							
HFS	**Hagfors**	**82.53**	**331**	P		**P**	**05 23 38.7**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=124,slow=7.7,SNR=1.7							
	comp=Z,3.6nm,0.9s							
RES	**Resolute Bay**	**83.56**	**9**	P		**P**	**05 23 43.4**	**0.0**
YKA	**Yellowknife Ar**	**87.31**	**23**	P		**P**	**05 24 02.4**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=306,slow=4.9,SNR=48							
YKA				pP		**pwP**	**05 24 30.4**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=308,slow=4.7,SNR=3.7							
	comp=Z,1.9nm,0.5s							
TXAR	**Lajitas Array**	**114.63**	**44**	PKP		**PKiKP**	**05 29 56.0**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=328,slow=3.2,SNR=1.8							
PLCA	**Paso Flores**	**155.75**	**156**	PKPbc		PKPdf	05 31 19.7	+10
	comp=Z,1.4nm,0.7s,baz=60,slow=2.7,SNR=4.2							

KRSC 25 05:13:43.8±1.6, 55°24'N×166°19'E, h33km±10km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.13**	**254**	*i* P	Pb	05 13 49.4	-0.3
BKI				*e*S	Sb	05 13 54.8	+1.1
TUMD	**Tumrok D**	**3.32**	**272**	*e*P	Pn	05 14 37.1	+3.8
TUMD				*e*S	Sb	05 15 17.5	-4.3
KMNR	**Kamenistaya**	**3.43**	**281**	*e*P	Pn	05 14 38.4	+3.5
TUMR	**Tumrok**	**3.46**	**273**	*e*P	Pb	05 14 40.0	-4.4
KPT	**Kopyto**	**3.46**	**285**	*e*P	Pn	05 14 38.9	+3.5
SMAR	**Somma**	**4.76**	**248**	*e*P	Pn	05 14 57.7	+4.3
AVH	**Avacha**	**4.80**	**249**	*e*P	Pn	05 14 58.4	+4.7
KRX	**Arik**	**4.80**	**250**	*e*P	Pn	05 14 58.2	+4.4
KOK	**Koryaka**	**4.84**	**249**	*e*P	Pn	05 14 58.7	+4.4
DALK	**Dalny**	**4.90**	**246**	*e*S	Sn	05 15 54.0	+3.5
KRMR	**Karymshinskiy**	**5.33**	**246**	*e*P	Pn	05 15 05.5	+4.6
KRMR				*e*S	Sn	05 16 06.7	+5.6
MTVR	**Mutnovka**	**5.48**	**243**	*e*P	Pn	05 15 07.6	+4.3
GRL	**Gorelyy**	**5.50**	**244**	*e*P	Pn	05 15 10.1	+6.7
ASAK	**Asacha**	**5.68**	**243**	*e*P	Pn	05 15 11.4	+5.5

*SJA **25** 05:15:19.3±0.5, 20°52'S×69°43'W, h84km±2km, ML3.2, MW3.5*
*GUC **25** 05:15:20.4±0.8, 20°52'S×69°44'W, h79km±2km, ML3.2*
ISC 25 05:15:22.4±1.3, 20°53'S±0°02'×69°46'W±0°04, h66km±7km, n38, σ1°18/66, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX03	**IPOC Station P**	**0.20**	**308**	*e*P	**Pn**	**05 15 31.6**	**-1.1**
PX03				*i* S	**Sn**	**05 15 41.3**	**+1.2**
PX03				IAML		05 15 42.0	
	comp=N,4μm,0.2s						
HMBC	**Humberstone**	**0.47**	**302**	*e*P	**Pn**	**05 15 34.3**	**-0.4**
HMBC				*e*S	**Sn**	**05 15 45.4**	**+1.6**
HMBC	**Humberstone**	**0.47**	**302**	↓*i*P	**Pn**	**05 15 34.3**	**-0.4**
HMBC				*i* S	**Sn**	**05 15 44.9**	**+1.2**
HMBC				IAML		05 15 48.6	
	comp=E,2μm,0.5s						
PB08	**IPOC Station P**	**0.48**	**37**	*e*P	**Pn**	**05 15 34.4**	**-0.7**
PB08				*e*S	**Sn**	**05 15 45.5**	**+1.1**
PB08				IAML		05 15 45.7	
	comp=Z,457nm,0.1s						
PB08	**IPOC Station P**	**0.48**	**37**	↓*i*P	**Pn**	**05 15 34.5**	**-0.7**
PB08				*e*S	**Sn**	**05 15 45.0**	**+0.6**
PB01	**IPOC Station P**	**0.51**	**183**	*e*P	**Pn**	**05 15 34.3**	**-0.8**
PB01				*e*S	**Sn**	**05 15 45.3**	**+0.9**
PB01				IAML		05 15 47.2	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**0.51**	**183**	↓*i*P	**Pn**	**05 15 34.5**	**-0.6**
PB01				*i* S	**Sn**	**05 15 45.0**	**+0.7**
PB01				IAML		05 15 45.9	
	comp=E,4μm,0.2s						
TA01	**Diego Aracena**	**0.68**	**267**	*e*P	**Pn**	**05 15 36.0**	**-0.7**
TA01				*e*S	**Sn**	**05 15 44.4**	**-2.8**
TA01	**Diego Aracena**	**0.68**	**267**	*e*P	**Pn**	**05 15 36.0**	**-0.7**
TA01				*i* S	**Sn**	**05 15 47.8**	**+0.5**
TA01				IAML		05 15 48.4	
	comp=E,1μm,0.1s						
TA02	**Huaiquique**	**0.68**	**292**	*e*P	**Pn**	**05 15 36.5**	**-0.3**
TA02				*e*S	**Sn**	**05 15 48.7**	**+1.4**
TA02	**Huaiquique**	**0.68**	**292**	*e*P	**Pn**	**05 15 36.3**	**-0.5**
TA02				*e*S	**Sn**	**05 15 48.0**	**+0.6**
PATCX	**Punta Patache**	**0.71**	**246**	*e*P	**Pn**	**05 15 36.6**	**-0.6**
PATCX				*e*S	**Sn**	**05 15 49.4**	**+1.3**
PATCX	**Punta Patache**	**0.71**	**246**	*e*P	**Pn**	**05 15 36.8**	**-0.4**
PATCX				*i* S	**Sn**	**05 15 49.2**	**+1.1**
PATCX				IAML		05 15 50.1	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**0.79**	**347**	*e*P	**Pn**	**05 15 37.3**	**-0.9**
PB11				*e*S	**Sn**	**05 15 50.6**	**+0.7**
PB11				IAML		05 15 51.8	
	comp=Z,585nm,0.1s						
PB11	**IPOC Station P**	**0.79**	**347**	*i* P	**Pn**	**05 15 37.4**	**-0.9**
PB11				*i* S	**Sn**	**05 15 50.4**	**+0.5**
PB11				IAML		05 15 51.1	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**0.89**	**207**	*e*P	**Pn**	**05 15 38.6**	**-0.7**
PB02				*e*S	**Sn**	**05 15 53.0**	**+1.1**
PB02				IAML		05 15 55.5	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**0.89**	**207**	*e*P	**Pn**	**05 15 38.7**	**-0.7**
PB02				*i* S	**Sn**	**05 15 52.6**	**+0.7**
PB02				IAML		05 15 57.5	
	comp=E,2μm,0.4s						
GO01	**Chusmiza**	**0.89**	**16**	*e*P	**Pn**	**05 15 38.7**	**-1.1**
GO01				*e*S	**Sn**	**05 15 52.8**	**+0.1**
GO01	**Chusmiza**	**0.89**	**16**	*e*P	**Pn**	**05 15 38.7**	**-1.1**
GO01				*i* S	**Sn**	**05 15 52.4**	**-0.2**
PB07	**IPOC Station P**	**1.25**	**198**	*e*P	Pn	05 15 37.1	-7.1
PB07				*e*S	**Pn**	**05 15 43.3**	**-0.9**
PB07				IAML		05 16 05.0	
	comp=Z,485nm,0.2s						
PB07	**IPOC Station P**	**1.25**	**198**	*e*P	**Pn**	**05 15 43.2**	**-1.0**
PB07				*i* S	**Sn**	**05 16 00.6**	**+0.1**
PB07				IAML		05 16 04.8	
	comp=E,689nm,0.3s						
PB09	**IPOC Station P**	**1.28**	**171**	*e*P	**Pn**	**05 15 43.1**	**-1.4**
PB09				*e*S	**Sn**	**05 16 01.4**	**+0.4**
PB09				IAML		05 16 03.7	
	comp=Z,193nm,0.2s						
PB09	**IPOC Station P**	**1.28**	**171**	*e*P	**Pn**	**05 15 43.8**	**-0.7**
PB09				*e*S	**Sn**	**05 16 01.0**	**+0.1**
PB09				IAML		05 16 02.6	
	comp=E,261nm,0.3s						
PB04	**IPOC Station P**	**1.91**	**200**	*e*P	**Pn**	**05 15 52.1**	**-0.8**
PB04				IAML		05 16 21.2	
	comp=Z,141nm,0.2s						
PB04	**IPOC Station P**	**1.91**	**200**	*i* P	**Pn**	**05 15 52.0**	**-0.8**
PB04				IAML		05 16 20.3	
	comp=E,250nm,0.2s						
PB12	**IPOC Station P**	**2.07**	**337**	*e*P	**Pn**	**05 15 53.4**	**-1.7**
PB12				*e*S	**Sn**	**05 16 24.1**	**+4.2**
PB12				IAML		05 16 25.9	
	comp=Z,123nm,0.5s						
PB12	**IPOC Station P**	**2.07**	**337**	*e*P	**Pn**	**05 15 53.7**	**-1.4**
PB12				*e*S	**Sn**	**05 16 19.3**	**-0.7**
PB12				IAML		05 16 25.2	
	comp=N,241nm,0.4s						
LVC	**Limon Verde**	**2.13**	**166**	*e*P	**Pn**	**05 15 56.0**	**-0.1**
LVC				*e*S	**Sn**	**05 16 23.7**	**+1.9**
LVC	**Limon Verde**	**2.13**	**166**	*e*P	**Pn**	**05 15 55.8**	**-0.3**
LVC				*i* S	**Sn**	**05 16 22.2**	**+0.4**
PB06	**IPOC Station P**	**2.17**	**183**	*e*P	**Pn**	**05 15 55.3**	**-1.1**
PB06				*e*S	**Sn**	**05 16 25.4**	**+3.0**
PB06				IAML		05 16 28.0	
	comp=Z,164nm,0.4s						
PB06	**IPOC Station P**	**2.17**	**183**	*e*P	**Pn**	**05 15 55.4**	**-1.0**
PB06				IAML		05 16 27.4	
	comp=N,226nm,0.3s						
PB16	**IPOC Station P**	**2.18**	**359**	*e*P	**Pn**	**05 15 57.3**	**+0.3**
PB16				IAML		05 16 32.7	
	comp=Z,89nm,0.5s						
PB16	**IPOC Station P**	**2.18**	**359**	*e*P	**Pn**	**05 15 57.2**	**+0.1**
PB16				*e*S	**Sn**	**05 16 24.1**	**+0.8**
PB16				IAML		05 16 28.0	
	comp=N,99nm,0.6s						
PB05	**IPOC Station P**	**2.41**	**196**	*e*P	**Pn**	**05 15 58.5**	**-1.2**
PB05				IAML		05 16 42.7	
	comp=Z,72nm,0.7s						
PB05	**IPOC Station P**	**2.41**	**196**	*e*P	**Pn**	**05 15 59.4**	**-0.3**
PB15	**IPOC Station P**	**2.67**	**180**	*e*P	**Pn**	**05 16 03.8**	**+0.6**
PB15	**IPOC Station P**	**2.67**	**180**	*e*P	**Pn**	**05 16 02.9**	**-0.4**
GO02	**Mina Guanaco**	**4.61**	**181**	*e*P	**Pn**	**05 16 27.7**	**-2.2**

*KRSC **25** 05:16:34.8±1.6, 55°41'N×166°67'E, h30km±11km, Ml3.9*
*IDC **25** 05:16:36.1±1.2, 55°.63'N×166°.29'E, h0km, mb3.7/8, mbtmp3.7/9, ML3.0/1, Error ellipse: s-maj=33.7km s-min=19.1km az=164.0*
ISC 25 05:16:38.6±0.9, 55°.49'N±0°.07'×166°.47'E±0°.08, h20km, n38, σ1°21/40, mb3.7/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**225**	*e*P	**Pb**	**05 16 45.2**	**-1.8**
BKI				*e*S	Sb	05 16 51.0	-1.6
SMKR	**Semkarok**	**3.02**	**293**	*e*P	**Pn**	**05 17 25.3**	**+0.1**
BDR	**Baidarnaya**	**3.15**	**292**	*e*P	**Pn**	**05 17 27.9**	**+0.8**
SRKR	**Sorokina**	**3.19**	**294**	*e*P	**Pn**	**05 17 28.7**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**3.30**	**280**	*e*P	**Pn**	**05 17 31.0**	**+1.8**
KLY	**Klyuchi**	**3.38**	**287**	*e*P	**Pn**	**05 17 29.3**	**-0.9**
KLY				*e*S	**Sn**	**05 18 09.7**	**0.0**
BZP	**Bezymyannyi-Pe**	**3.39**	**280**	*e*P	**Pn**	**05 17 31.6**	**+1.1**
BZWR	**Bezymyannyi-We**	**3.41**	**281**	*e*P	**Pn**	**05 17 31.7**	**+0.9**
BZMR	**Bezymyannaya**	**3.42**	**280**	*e*P	**Pn**	**05 17 31.9**	**+1.1**
TUMD	**Tumrok D**	**3.48**	**268**	*e*P	**Pn**	**05 17 32.5**	**+0.9**
TUMD				*e*S	**Sn**	**05 18 13.4**	**+1.3**
KIRR	**Kirishev**	**3.50**	**280**	*e*P	**Pn**	**05 17 32.7**	**+0.7**
KMNR	**Kamenistaya**	**3.55**	**277**	*e*P	**Pn**	**05 17 33.6**	**+1.0**
KPT	**Kopyto**	**3.57**	**280**	*e*P	**Pn**	**05 17 34.1**	**+1.3**
TUMR	**Tumrok**	**3.62**	**269**	*e*P	**Pn**	**05 17 34.9**	**+1.4**
TUMR				*e*S	**Sn**	**05 18 19.4**	**+3.8**
SRDR	**Sredinnyy**	**3.89**	**285**	*e*P	**Pn**	**05 17 36.4**	**-0.9**
KII	**Karymskiy**	**4.32**	**253**	*e*P	**Pn**	**05 17 44.1**	**+0.9**
SMAR	**Somma**	**5.01**	**247**	*e*P	**Pn**	**05 17 53.2**	**+0.4**
UGLR	**Uglovaya**	**5.02**	**246**	*e*P	**Pn**	**05 17 53.8**	**+1.0**
AVH	**Avacha**	**5.04**	**247**	*e*P	**Pn**	**05 17 54.1**	**+1.0**
KRX	**Arik**	**5.04**	**248**	*e*P	**Pn**	**05 17 54.0**	**+0.8**
KOK	**Koryaka**	**5.08**	**248**	*e*P	**Pn**	**05 17 54.3**	**+0.7**
DALK	**Dalny**	**5.15**	**245**	*e*P	**Pn**	**05 17 54.8**	**+0.3**
PET	**Petropavlovsk**	**5.21**	**245**	*e*P	**Pn**	**05 17 56.0**	**+0.8**
PETK	**Petropavlovsk-**	**5.66**	**249**	Pn	**Pn**	**05 18 01.4**	**-0.2**
	2.2nm,0.3s,baz=90,slow=19,SNR=21						
PETK				Sn	**Sn**	**05 19 07.2**	**+1.3**
	2.0nm,0.3s,baz=84,slow=24,SNR=6.9						
	5.0nm,0.4s						
MTVR	**Mutnovka**	**5.74**	**242**	*e*P	**Pn**	**05 18 03.5**	**+0.7**
GRL	**Gorelyy**	**5.76**	**243**	*e*P	**Pn**	**05 18 03.9**	**+1.0**
ASAK	**Asacha**	**5.94**	**242**	*e*P	**Pn**	**05 18 06.8**	**+1.4**
ILAR	**Eielson Array**	**24.45**	**49**	P	**P**	**05 21 55.9**	**+0.3**
	1.6nm,0.9s,baz=260,slow=8.9,SNR=15						
	1.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.70**	**179**	T	T	06 00 58.5	
	baz=358,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.71**	**179**	T	T	06 00 59.7	
	baz=358						
H11N1	**WAKE ISLAND Hy**	**35.72**	**179**	T	T	06 01 00.7	
	baz=358,slow=74						
SONM	**Songino Array**	**36.98**	**284**	P	**P**	**05 23 45.7**	**-0.7**
	0.4nm,0.7s,baz=59,slow=8.6,SNR=2.9						
	0.4nm,0.7s						
SPITS	**Spitsbergen Ar**	**45.35**	**352**	P	**P**	**05 24 54.4**	**-0.2**
	3.9nm,0.8s,baz=29,slow=3.3,SNR=6.5						
	3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**49.70**	**303**	P	**P**	**05 25 28.1**	**-0.6**
	0.9nm,0.6s,baz=52,slow=7.7,SNR=9.6						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**50.43**	**298**	P	**P**	**05 25 32.9**	**-1.5**
	0.4nm,0.4s,baz=48,slow=6.3,SNR=10						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**05 25 43.8**	**-0.5**
	0.5nm,0.4s,baz=60,slow=7.0,SNR=3.8						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**66.30**	**72**	P	**P**	**05 27 26.4**	**+0.9**
	0.3nm,0.6s,baz=290,slow=4.7,SNR=6.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**79.94**	**211**	P	**P**	**05 28 47.4**	**+1.4**
	0.5nm,0.8s,baz=20,slow=5.2,SNR=2.0						
	0.5nm,0.8s						

IDC 25 05:31:18.0±2.1, 55°.18N×166°.62E, h0km, mb3.2/3, mbtmp3.2/4, ML2.3/1, Error ellipse: s-maj=77.9km s-min=24.7km az=165.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.64**	**252**	Pn	Pn	05 32 42.6	-0.4
	0.4nm,0.3s,baz=75,slow=18,SNR=5.8						
PETK				Sn	Sn	05 33 47.8	-0.5
	0.5nm,0.3s,baz=87,slow=25,SNR=4.3						
	3.5nm,0.9s						
ILAR	**Eielson Array**	**24.59**	**48**	P	P	05 36 38.4	-1.0
	0.4nm,0.8s,baz=263,slow=7.9,SNR=2.7						
	0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.39**	**180**	T	T	06 15 39.8	
	baz=360						
H11N3	**WAKE ISLAND Hy**	**35.41**	**180**	T	T	06 15 51.4	
	baz=360						
H11N1	**WAKE ISLAND Hy**	**35.41**	**180**	T	T	06 15 37.5	
	baz=360						
ZALV	**Zalesovo Beam**	**44.84**	**304**	P	P	05 39 33.8	+0.5
	0.3nm,0.4s,baz=69,slow=8.4,SNR=1.8						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**66.31**	**72**	P	P	05 42 08.7	+0.4
	0.2nm,0.8s,baz=320,slow=5.6,SNR=1.8						
	0.2nm,0.8s						

*NEIC **25** 05:47:12.7±1.5, 56°.22N±0°.09×149°.9W±0°.1, h21km±10km, ML3.5/32, ML3.2(AEIC), Error ellipse: s-maj=13.8km s-min=9.1km az=167.0*
*AEIC **25** 05:47:15.3±1.6, 56°.15N±0°.08×149°.8W±0°.1, h12km±7km, Error ellipse: s-maj=12.2km s-min=9.8km az=152.0*
ISC 25 05:47:10.4±1.8, 56°.21N±0°.10×149°.90W±0°.06, h10km, n84, σ1°04/91, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.12**	**300**		**Pn**	**05 47 46.4**	**+0.5**
OHAK					**Sn**	**05 48 11.0**	**-1.4**
OHAK	**Old Harbor**	**2.12**	**300**	P	**Pn**	**05 47 46.5**	**+0.5**
	baz=118						
OHAK				S	**Sn**	**05 48 11.0**	**-1.4**
	baz=118						
KDAK	**Kodiak Island**	**2.15**	**318**		**Pn**	**05 47 47.3**	**+1.0**
KDAK	**Kodiak Island**	**2.15**	**318**		**Sn**	**05 48 12.2**	**-0.9**
KDAK	**Kodiak Island**	**2.15**	**318**	P	**Pn**	**05 47 47.3**	**+1.0**
	baz=136						
SII	**Sitkinak Islan**	**2.41**	**280**	S	**Sn**	**05 48 18.1**	**-1.2**
	baz=98						
SYI	**Shuyak Island**	**2.76**	**332**		**Pn**	**05

BMRM	**Bremner River** baz=212	**5.52**	**28**	P		**Pn**	**05 48 33.5**	**+0.8**
O16K	**Kokwok River B**	**5.53**	**311**	Pn		**Pn**	**05 48 34.3**	**+1.6**
GHO	**Glory Hole Cre**	**5.60**	**5**			**Pn**	**05 48 34.7**	**+0.9**
SML	**Sawmill** baz=189	**5.67**	**8**	P		**Pn**	**05 48 35.8**	**+1.1**
CHNA	**Chernabura Isl** baz=72	**5.67**	**260**	P		**Pn**	**05 48 34.8**	**+0.1**
CNBA	**Chernabura Isl**	**5.68**	**260**			**Pn**	**05 48 34.6**	**-0.1**
KLU	**Klutina**	**5.69**	**20**			**Pn**	**05 48 35.6**	**+0.7**
KLU	**Klutina** baz=203	**5.69**	**20**	P		**Pn**	**05 48 35.7**	**+0.7**
BARK	**Barkley Ridge**	**5.74**	**40**			**Pn**	**05 48 36.5**	**+0.8**
SCM	**Sheep Creek Mo**	**5.80**	**12**			**Pn**	**05 48 37.6**	**+1.2**
SCM	**Sheep Creek Mo** baz=194	**5.80**	**12**	P		**Pn**	**05 48 37.7**	**+1.2**
SDPT	**Sand Point**	**6.03**	**266**	Pn		**Pn**	**05 48 40.5**	**+1.0**
VRDI	**Verde Repeater**	**6.05**	**31**	Pn		**Pn**	**05 48 40.8**	**+0.8**
N25K	**Chitina, Valde**	**6.07**	**25**	Pn		**Pn**	**05 48 41.0**	**+0.9**
GLB	**Gilahina Butte**	**6.13**	**29**	Pn		**Pn**	**05 48 40.9**	**0.0**
M24K	**Tolsona, Glenn**	**6.22**	**16**	Pn		**Pn**	**05 48 44.3**	**+2.1**
BARN	**Barnard Glacie**	**6.49**	**38**	Pn		**Pn**	**05 48 47.1**	**+1.0**
CTGM	**Chitina Glacie**	**6.54**	**40**	Pn		**Pn**	**05 48 47.4**	**+0.7**
LOGN	**Logan Glacier**	**6.57**	**42**	Pn		**Pn**	**05 48 47.8**	**+0.7**
BCPM	**Bancas Point**	**6.61**	**51**	Pn		**Pn**	**05 48 48.3**	**+0.7**
N15K	**Kwethluk River**	**6.69**	**311**	Pn		**Pn**	**05 48 50.8**	**+2.1**
M16K	**Timber Creek**	**6.75**	**319**	Pn		**Pn**	**05 48 51.4**	**+1.8**
L18K	**Granite Mounta**	**6.96**	**333**	Pn		**Pn**	**05 48 52.5**	**+0.2**
O29M	**Mount Kennedy**	**7.25**	**51**	Pn		**Pn**	**05 48 57.7**	**+1.3**
P29M	**Windy Craggy**	**7.33**	**57**	Pn		**Pn**	**05 48 58.0**	**+0.6**
L26K	**Log Cabin Wild**	**7.60**	**23**	Pn		**Pn**	**05 49 00.3**	**-0.8**
S31K	**Pelican**	**7.65**	**71**	Pn		**Pn**	**05 49 00.7**	**-1.1**
K17K	**Iditarod**	**7.80**	**330**	Pn		**Pn**	**05 49 04.4**	**+0.6**
BPAW	**Bear Paw Mtn.**	**7.94**	**357**	Pn		**Pn**	**05 49 05.5**	**-0.2**
HYT	**Haines Junctio**	**7.96**	**49**	Pn		**Pn**	**05 49 05.0**	**-1.3**
J19K	**Poorman**	**8.31**	**342**	Pn		**Pn**	**05 49 10.4**	**-0.4**
HDA	**Harding Lake**	**8.36**	**9**	Pn		**Pn**	**05 49 12.6**	**+1.1**
N30M	**Aishikik Lake**	**8.47**	**46**	Pn		**Pn**	**05 49 13.2**	**+0.2**
CCB	**Clear Creek Bu**	**8.53**	**6**	Pn		**Pn**	**05 49 15.0**	**+1.2**
M29M	**Somme Creek**	**8.55**	**38**	Pn		**Pn**	**05 49 15.6**	**+1.4**
J26L	**Joseph Creek**	**8.89**	**18**	Pn		**Pn**	**05 49 20.5**	**+1.7**
WHY	**Whitehorse**	**9.05**	**54**	Pn		**Pn**	**05 49 22.4**	**+1.4**
L29M	**L29M**	**9.12**	**36**	Pn		**Pn**	**05 49 23.3**	**+1.3**
P32M	**Atlin**	**9.26**	**62**	Pn		**Pn**	**05 49 23.9**	**+0.1**
H21K	**Melozitna Rive**	**9.59**	**353**	Pn		**Pn**	**05 49 29.0**	**+0.7**
P33M	**Teslin, Yukon**	**9.86**	**59**	Pn		**Pn**	**05 49 32.6**	**+0.5**

*SLM **25** 05:59:13.3±0.4,36°.562N±0°.007×89°.598W±0°.004, h8km±2km,Md2.0/25,ML1.7/25(NEIC),Error ellipse: s-maj=1.1km s-min=0.6km az=198.0*

NEIC 25 05:59:13.8±0.6,36°.566N±0°.007×89°.598W±0°.006, h9km±2km,Error ellipse: s-maj=1.0km s-min=0.6km az=197.0,New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEM	**New Madrid Sch**	**0.01**	**52**		Pg	05 59 15.1	-0.3
NMMO	**New Madrid**	**0.04**	**59**		Pg	05 59 17.1	+1.5
WALK	**Watson Lake**	**0.05**	**121**		Pg	05 59 17.1	+1.4
CATM	**Catron**	**0.06**	**320**		Pg	05 59 17.4	+1.6
MARMO	**Marston**	**0.07**	**238**		Pg	05 59 17.4	+1.6
SJMO	**Saint John's B**	**0.12**	**57**		Pg	05 59 16.4	-0.1
SJMO					Sg	05 59 18.9	+0.5
PENMO	**Penman**	**0.12**	**192**		Pg	05 59 16.2	-0.3
KEWM	**Kewanee**	**0.13**	**2**		Pg	05 59 16.6	-0.2
KEWM					Sg	05 59 19.2	+0.4
PGVM	**Portageville**	**0.15**	**225**		Pg	05 59 16.7	-0.3
PGVM					Sg	05 59 19.5	+0.2
PARMO	**Parma**	**0.16**	**308**		Pg	05 59 17.0	-0.2
PARMO					Sg	05 59 19.9	+0.4
PARMO	comp=N,194nm,0.1s			IAML		05 59 20.1	
PPLM	**Point Pleasant**	**0.16**	**176**		Pg	05 59 17.0	-0.3
PPLM					Sg	05 59 19.9	+0.3
POBM	**Portage Bay**	**0.17**	**198**		Pg	05 59 17.0	-0.3
PVMO	**Portageville**	**0.17**	**208**	Pg	Pg	05 59 17.1	-0.4
PVMO	**Portageville**	**0.17**	**208**		Sg	05 59 20.1	+0.2
PVMO	**Portageville** comp=E,170nm,0.5s	**0.17**	**208**	IAML		05 59 20.3	
PVMO	comp=N,148nm,0.5s			IAML		05 59 20.4	
COKM	**Charter Oak**	**0.18**	**324**		Pg	05 59 17.5	-0.1
COKM					Sg	05 59 20.5	+0.4
HENM	**Henderson Moun**	**0.18**	**34**		Pg	05 59 17.4	-0.2
MATM	**Matthews**	**0.21**	**358**		Pg	05 59 17.9	-0.2
WYBT	**Wynnburg**	**0.23**	**160**		Pg	05 59 18.3	-0.2
WYBT					Sg	05 59 22.1	+0.5
TOPM	**Tallapoosa**	**0.24**	**260**		Pg	05 59 18.3	-0.3
DWDM	**Dogwood**	**0.24**	**20**		Pg	05 59 18.5	-0.2
EPRM	**East Prairie**	**0.24**	**52**		Pg	05 59 18.6	-0.1
EPRM					Sg	05 59 22.5	+0.4
WADM	**Wardell**	**0.26**	**219**		Pg	05 59 18.6	-0.4
WADM					Sg	05 59 22.7	+0.3
MLDM	**Malden**	**0.27**	**283**		Pg	05 59 18.8	-0.3
FLPT	**Flippin**	**0.27**	**125**		Pg	05 59 19.1	-0.2
HICK	**Hickman**	**0.30**	**95**	Pg	Pg	05 59 19.5	-0.2
CHRM	**Charleston**	**0.34**	**34**		Pg	05 59 20.3	-0.3
CHRM					Sg	05 59 25.3	+0.1
BRNM	**Bernie**	**0.36**	**296**		Pg	05 59 20.5	-0.4
GLAT	**Glass**	**0.39**	**140**	Pg	Pg	05 59 21.1	-0.3
GLAT	comp=N,70nm,0.2s			IAML		05 59 27.1	
GLAT	comp=E,71nm,0.2s			IAML		05 59 27.1	
LNXT	**Lenox**	**0.47**	**169**	Pg	Pg	05 59 22.7	-0.2
LNXT	comp=E,70nm,0.7s			IAML		05 59 30.5	
PEBM	**Pemiscott Bayo**	**0.50**	**205**	Pg	Pg	05 59 23.6	0.0
PEBM	comp=N,73nm,3.5s			IAML		05 59 32.0	
PEBM	comp=E,60nm,3.6s			IAML		05 59 34.1	
GNAR	**Gosnell**	**0.69**	**210**		Pg	05 59 26.8	-0.4
PBMO	**Poplar Bluff**	**0.70**	**288**	Pg	Pg	05 59 26.6	-0.8
CGM3	**Cape Girardeau**	**0.73**	**356**		Pg	05 59 27.1	-0.9
S44A	**Carbondale**	**1.16**	**14**		Pb	05 59 34.7	-1.4
S44A	comp=N,14nm,3.7s			IAML		05 59 46.9	
T42A	**Van Buren**	**1.29**	**292**		Pn	05 59 36.4	-1.6
T42A	comp=E,10nm,4.3s			IAML		05 59 48.2	
T42A	comp=N,13nm,4.8s			IAML		06 00 21.2	
LCAR	**Lake Charles**	**1.35**	**249**		Pn	05 59 37.6	-1.3
LCAR	comp=E,9.4nm,3.9s			IAML		06 00 17.9	
LCAR	comp=N,9.0nm,3.3s			IAML		06 00 22.7	
MET	**Memphis--Engin**	**1.47**	**191**		Pb	05 59 41.5	+0.2
WVT	**Waverly**	**1.49**	**106**		Pn	05 59 40.2	-0.7
SWET	**Sewanee**	**3.27**	**113**		Sn	06 00 40.1	-4.2

*IDC **25** 06:04:40.2±3.8,20°.30S×177°.84W,h541km±40km, mb3.5/14,mbtmp4.4/15,Error ellipse: s-maj=22.9km s-min=17.9km az=110.0*

*NEIC **25** 06:04:40.3±1.0,20°.3S±0°.1×177°.7W±0°.2,h539km±9km, mb4.3/22,Error ellipse: s-maj=20.5km s-min=15.8km az=87.0*

ISC 25 06:04:39.3±0.5,20°.4S±0°.1×177°.83W±0°.09,h534km,n61, σ1§62/62,mb4.2/26,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.56**	**81**	P	**P**	**06 06 33.4**	**+1.1**
PINNC	**Pines Island,**	**13.88**	**258**	P	**P**	**06 07 38.5**	**+1.1**
DZM	**Mont Dzumac**	**14.76**	**261**	P	**P**	**06 07 51.3**	**+4.6**
DZM	**Mont Dzumac** 5.4nm,0.4s,baz=113,slow=21,SNR=12	**14.76**	**261**	P	**P**	**06 07 47.3**	**+0.6**
URZ	**Urewera** 3.9nm,0.7s,baz=8.6,slow=21,SNR=1.7	**18.34**	**193**	S	**S**	**06 11 14.2**	**-7.1**
EIDS	**Eidsvold**	**29.03**	**254**	P	**P**	**06 09 57.0**	**+0.7**
EIDS	comp=Z,8.2nm,1.1s			IAmb	IAmb	06 10 06.9	
ARMA	**Armidale**	**29.25**	**244**	P	**P**	**06 10 00.1**	**+1.6**
ARMA	comp=Z,5.2nm,0.8s			IAmb	IAmb	06 10 00.8	
CTAO	**Charters Tower**	**33.66**	**264**	P	**P**	**06 10 36.8**	**+0.8**
CTAO	comp=Z,12nm,0.7s			IAmb	IAmb	06 10 37.1	
TOO	**Toolangi**	**36.09**	**234**	P	**P**	**06 10 57.7**	**+1.6**
TOO	comp=Z,7.3nm,1.1s			IAmb	IAmb	06 11 01.5	
COEN	**Coen**	**37.73**	**273**	P	**P**	**06 11 10.3**	**+0.4**
COEN	comp=E,6.1nm,0.9s			IAmb	IAmb	06 11 11.4	
STKA	**Stephens Creek**	**37.98**	**244**	P	**P**	**06 11 13.0**	**+1.3**
STKA	**Stephens Creek** comp=Z,3.2nm,0.6s,baz=75,slow=9.1,SNR=8.1	**37.98**	**244**	P	**P**	**06 11 12.2**	**+0.6**
STKA	comp=Z,1.5nm,0.7s,baz=285,slow=8.4,SNR=2.1 comp=Z,3.2nm,0.6s			PcP	**PcP**	**06 13 13.9**	**+0.4**
BBOO	**Buckleboo**	**42.73**	**243**	P	**P**	**06 11 50.2**	**+0.5**
BBOO	comp=Z,10nm,0.5s			IAmb	IAmb	06 11 50.7	
WR0	**Warramunga Arr**	**44.58**	**262**	P	**P**	**06 12 04.3**	**0.0**
WR0	comp=Z,11nm,1.1s			IAmb	IAmb	06 12 05.4	
AS31	**Alice Springs**	**44.69**	**257**		**P**	**06 12 05.5**	**+0.5**
ASAR	**Alice Springs**	**44.70**	**257**		**P**	**06 12 05.7**	**+0.6**
ASAR	**Alice Springs** comp=Z,15nm,0.7s,baz=94,slow=7.6,SNR=59	**44.70**	**257**	P	**P**	**06 12 05.5**	**+0.5**
ASAR	comp=Z,2.5nm,0.7s,baz=106,slow=4.2,SNR=8.4			PcP	**PcP**	**06 13 36.6**	**+0.4**
ASAR	comp=Z,0.7nm,0.9s,baz=90,slow=14,SNR=3.9 comp=Z,15nm,0.7s			S	**S**	**06 17 57.0**	**-5.9**
WB0	**Warramunga Arr**	**44.75**	**262**	P	**P**	**06 12 05.7**	**+0.2**
WB2	**Warramunga Arr**	**44.76**	**262**	P	**P**	**06 12 05.7**	**+0.1**
WB2	comp=Z,16nm,1.1s			IAmb	IAmb	06 12 06.1	
WRA	**Warramunga Arr**	**44.77**	**262**	P	**P**	**06 12 05.9**	**+0.2**
WRA	**Warramunga Arr** comp=Z,6.3nm,0.3s,baz=96,slow=7.6,SNR=225	**44.77**	**262**	P	**P**	**06 12 05.6**	**-0.1**
WRA	comp=Z,1.0nm,0.7s,baz=89,slow=4.1,SNR=2.9 comp=Z,6.3nm,0.3s			PcP	**PcP**	**06 13 34.6**	**-1.8**
MTN	**Manton Dam**	**49.32**	**270**	P	**P**	**06 12 39.6**	**-0.3**
FORT	**Forrest**	**49.48**	**247**	P	**P**	**06 12 41.3**	**+0.3**
KNRA	**Kununurra**	**50.82**	**266**	P	**P**	**06 12 51.4**	**+0.4**
KNRA	comp=Z,21nm,0.9s			IAmb	IAmb	06 12 52.2	
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P	**P**	**06 13 08.7**	**+0.7**
PSA00	**Pilbara Seismi**	**57.84**	**257**	P	**P**	**06 13 40.3**	**0.0**
PSA00	comp=Z,13nm,0.8s			IAmb	IAmb	06 13 40.9	
NWAO	**Narrogin (SRO)**	**58.56**	**243**	P	**P**	**06 13 45.8**	**+0.8**
MORW	**Morawa**	**60.01**	**248**	P	**P**	**06 13 55.3**	**+0.5**
MORW	comp=Z,11nm,1.1s			IAmb	IAmb	06 14 04.6	
GIRL	**Giralia**	**62.73**	**254**	P	**P**	**06 14 14.0**	**+1.4**
CASY	**Casey**	**64.13**	**205**	P	**P**	**06 14 22.6**	**+1.8**
QSPA	**South Pole Qui** comp=Z,1.6nm,0.2s,baz=69,slow=2.8,SNR=6.4 comp=Z,1.6nm,0.2s	**69.68**	**180**	P	**P**	**06 14 56.2**	**+1.0**
MJAR	**Matsushiro Arr** comp=Z,2.6nm,0.6s,baz=167,slow=6.4,SNR=7.6 comp=Z,2.6nm,0.6s	**70.22**	**324**	P	**P**	**06 14 57.4**	**-1.2**
PETK	**Petropavlovsk-** comp=Z,6.3nm,0.8s,baz=190,slow=7.3,SNR=2.0 comp=Z,6.3nm,0.8s	**76.21**	**345**	P	**P**	**06 15 30.6**	**-1.9**
KSRS	**Korea Array** comp=Z,1.2nm,0.6s,baz=125,slow=6.2,SNR=2.5 comp=Z,1.2nm,0.6s	**76.91**	**318**	P	**P**	**06 15 37.4**	**+0.7**
USRK	**Ussuriysk Ar.** comp=Z,6.4nm,0.9s,baz=133,slow=8.4,SNR=5.5 comp=Z,6.4nm,0.9s	**78.96**	**326**	P	**P**	**06 15 48.1**	**+0.4**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,baz=213,slow=8.1,SNR=2.8 comp=Z,0.4nm,0.7s	**80.84**	**43**	P	**P**	**06 15 58.3**	**+0.4**
SEY	**Seymchan** comp=Z,3.4nm,0.7s,baz=147,slow=11,SNR=5.5 comp=Z,3.4nm,0.7s	**86.31**	**347**	P	**P**	**06 16 24.4**	**+0.2**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=218,slow=7.7,SNR=4.6 comp=Z,0.2nm,0.5s	**86.87**	**57**	P	**P**	**06 16 27.8**	**0.0**
CCB	**Clear Creek Bu**	**87.88**	**12**	P	**P**	**06 16 31.4**	**-0.1**
CCB	comp=Z,3.4nm,0.6s			IAmb	IAmb	06 16 31.8	
ILAR	**Eielson Array** comp=Z,1.3nm,0.9s,baz=220,slow=5.1,SNR=15 comp=Z,1.3nm,0.9s	**88.17**	**13**	P	**P**	**06 16 32.5**	**-0.4**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=229,slow=7.7,SNR=2.6 comp=Z,0.2nm,0.5s	**88.78**	**43**	P	**P**	**06 16 36.3**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,3.8nm,0.8s,baz=120,slow=2.9,SNR=14 comp=Z,3.8nm,0.8s	**90.22**	**290**	P	**P**	**06 16 44.3**	**+0.8**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=112,slow=1.6,SNR=3.6	**110.51**	**321**	PKiKP	**PKiKP**	**06 22 10.1**	**-0.7**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.6s,baz=42,slow=2.3,SNR=8.4	**111.24**	**313**	PKiKP	**PKiKP**	**06 22 12.0**	**-0.4**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=91,slow=1.9,SNR=10	**114.07**	**317**	PKP	PKPdf	06 22 16.4	-1.3
BVAR	**Borovoye Array** comp=Z,1.8nm,0.4s,baz=134,slow=3.1,SNR=7.9	**119.10**	**320**	PKP	**PKPdf**	**06 22 26.5**	**-0.8**
ARU	**Arti** comp=Z,1.7nm,0.3s,baz=288,slow=3.8,SNR=4.1	**125.20**	**326**	PKP	**PKPdf**	**06 22 39.0**	**+0.1**
ARCES	**ARCESS Array B**	**128.84**	**350**	PKP	**PKPdf**	**06 22 43.5**	**-2.0**
FINES	**FINESS Array B** comp=Z,6.1nm,1.0s,baz=336,slow=2.0,SNR=4.6	**135.71**	**344**	PKP	**PKPdf**	**06 22 57.2**	**-1.4**
HFS	**Hagfors** comp=Z,2.9nm,0.7s,baz=31,slow=3.7,SNR=4.1	**139.46**	**351**	PKiKP	PKPpre	06 22 56.4	
AKASG	**Malin Array Be** comp=Z,4.0nm,0.6s,baz=43,slow=4.3,SNR=25	**142.99**	**331**	PKP	**PKPdf**	**06 23 09.2**	**-3.0**
LODK	**Lodwar**	**143.53**	**247**		**PKPdf**	**06 23 14.6**	**+0.2**
EKA	**Eskdalemuir Ar** comp=Z,1.7nm,0.8s,baz=40,slow=5.6,SNR=2.2	**144.88**	**5**	PKP	PKPbc	06 23 15.7	-0.1
BR131	**Keskin Array S**	**146.88**	**313**	PKPbc	**PKPbc**	**06 23 22.2**	**0.0**
BRTR	**Keskin Array B** comp=Z,2.2nm,0.6s,baz=138,slow=4.1,SNR=8.9	**146.88**	**313**	PKPbc	**PKPbc**	**06 23 22.1**	**0.0**
BUR00	**Bucovina Ar. S**	**147.03**	**331**		**PKiKP**	**06 23 24.4**	**+0.2**
MMAI	**Mount Meron Ar** comp=Z,3.5nm,0.5s,baz=61,slow=6.8,SNR=6.0	**147.90**	**300**	PKPbc	**PKiKP**	**06 23 26.1**	**-0.3**
GERES	**GERESS Array B** comp=Z,1.7nm,0.7s,baz=9.2,slow=4.2,SNR=6.8	**150.14**	**345**	PKPbc	**PKPbc**	**06 23 30.1**	**+0.2**
CONA	**Conrad Observa** comp=Z,2.4nm,0.5s	**150.38**	**341**	*e*PKP	**PKiKP**	**06 23 31.3**	**+0.2**
RONA	**Rosalia, Austr** comp=Z,3.5nm,0.5s	**150.45**	**340**	*e*PKP	**PKiKP**	**06 23 31.2**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.1nm,0.3s,baz=190,slow=0.9,SNR=1.8	**172.78**	**176**	PKPab	**PKPab**	**06 25 18.6**	**+1.0**

IDC 25 06:05:36.8±2.5,54°.12N×86°.29E,h0km,mbtmp2.8/2, ML2.7/2,Error ellipse: s-maj=19.9km s-min=11.7km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**260**	I	I	06 11 25.0	
	0.1nm,1.0s,baz=80,slow=350,SNR=6.3						
ZALV	**Zalesovo Beam** 1.0nm,0.3s,baz=76,slow=18,SNR=14	**0.88**	**260**	Pg	Pg	06 05 52.6	-1.1
ZALV	1.3nm,0.3s,baz=78,slow=30,SNR=10			Lg	Lg	06 06 06.3	
ZALV	1.6nm,0.3s,baz=80,slow=30,SNR=6.9			Rg	Rg	06 06 11.8	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=55,slow=14,SNR=4.2 0.4nm,0.4s	**5.90**	**237**	Pn	Pn	06 07 07.3	+2.0
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=24,slow=15,SNR=8.1 0.2nm,0.3s	**7.76**	**201**	Pn	Pn	06 07 31.6	+0.6

*NEIC **25** 06:05:51.9±1.8,55°.86N±0°.09×149°.9W±0°.1,h7km±4km, mb4.3/5,ML3.9/42,ML3.7(AEIC),Error ellipse: s-maj=12.7km s-min=8.5km az=171.0*

*IDC **25** 06:05:52.8±0.9,55°.94N×149°.94W,h0km,mb3.9/13, mbtmp3.9/18,ML3.7/5,Error ellipse: s-maj=22.7km s-min=14.5km az=36.0*

*AEIC **25** 06:05:57.6±1.6,55°.91N±0°.09×149°.9W±0°.1,h12km±3km, Error ellipse: s-maj=12.8km s-min=8.5km az=172.0*

ISC 25 06:05:54.1±0.7,56°.05N±0°.07×149°.85W±0°.05,h10km, n242,σ1§02/240,mb3.9/14,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.23**	**303**		**Pn**	**06 06 30.1**	**-1.0**
OHAK					Sn	**Sn**	**06 06 55.5**	**-3.1**
OHAK	**Old Harbor** baz=124	**2.23**	**303**	P	**Pn**	**06 06 30.0**	**-1.1**
OHAK	baz=124			S	**Sn**	**06 06 54.4**	**-4.2**
KDAK	**Kodiak Island**	**2.29**	**320**		**Pn**	**06 06 31.9**	**0.0**
KDAK					Sn	**Sn**	**06 06 59.2**	**-0.9**
KDAK	**Kodiak Island** 34nm,0.3s,baz=152,slow=4.5,SNR=70	**2.29**	**320**	Pn	**Pn**	**06 06 31.7**	**-0.2**
KDAK	14nm,0.3s,baz=28,slow=22,SNR=11 95nm,0.3s			Sn	**Sn**	**06 06 58.3**	**-1.9**
SII	**Sitkinak Islan**	**2.47**	**284**	Pn	**Pn**	**06 06 33.1**	**-1.3**
SII	comp=E,311nm,1.1s			IAML		06 07 08.6	
SII	comp=N,256nm,1.0s			IAML		06 07 16.1	
Q20K	**Shuyak Island** baz=153	**2.91**	**333**	P	**Pn**	**06 06 40.6**	**+0.2**
Q20K	baz=153			S	**Sn**	**06 07 15.5**	**+0.1**
SYI	**Shuyak Island**	**2.91**	**333**		**Pn**	**06 06 40.5**	**+0.1**
KAHG	**Katmai Hook Gl**	**3.53**	**316**		**Pn**	**06 06 49.7**	**+0.6**
Q19K	**Cape Douglas,**	**3.54**	**326**		**Pn**	**06 06 50.4**	**+1.4**
Q19K	**Cape Douglas,** baz=145	**3.54**	**326**	P	**Pn**	**06 06 49.7**	**+0.6**
CNPM	**China Poot**	**3.56**	**349**		**Pn**	**06 06 49.4**	**0.0**
CNPM	comp=E,74nm,0.4s			IAML		06 07 32.1	
CNPM	comp=N,78nm,1.4s			IAML		06 07 33.6	
ACHA	**Angle Creek He**	**3.69**	**308**		**Pn**	**06 06 51.5**	**+0.4**
BRSE	**Bradley Lake S**	**3.73**	**353**		**Pn**	**06 06 51.5**	**-0.2**
BRSE					**Sn**	**06 07 34.7**	**-0.9**
BRSE	**Bradley Lake S** baz=173	**3.73**	**353**	P	**Pn**	**06 06 51.5**	**-0.2**
BRSE	baz=173			S	**Sn**	**06 07 34.7**	**-0.9**
HOM	**Homer**	**3.74**	**346**	Pn	**Pn**	**06 06 51.9**	**+0.1**
HOM	comp=E,309nm,1.8s			IAML		06 07 45.1	
ANCK	**Angle Creek**	**3.75**	**307**		**Pn**	**06 06 52.4**	**+0.4**
BRLK	**Bradley Lake**	**3.76**	**352**		**Pn**	**06 06 51.8**	**-0.3**
KVTA	**Katmai Vly 10**	**3.77**	**311**		**Pn**	**06 06 53.1**	**+0.9**
KAHC	**Katmai Hardscr**	**3.82**	**315**		**Pn**	**06 06 53.7**	**+0.7**
KAHC	**Katmai Hardscr** baz=133	**3.82**	**315**	P	**Pn**	**06 06 53.7**	**+0.7**
AUCH	**Augustine Cone**	**3.84**	**331**		**Pn**	**06 06 54.3**	**+1.0**
AUL	**Augustine Lava**	**3.85**	**332**		**Pn**	**06 06 54.5**	**+1.2**
Q23K	**Middleton Isla**	**3.87**	**28**	Pn	**Pn**	**06 06 53.5**	**-0.1**
Q23K	comp=N,225nm,1.8s			IAML		06 07 38.9	
Q23K	comp=E,224nm,1.9s			IAML		06 07 48.8	
Q23K	**Middleton Isla** baz=210	**3.87**	**28**	P	**Pn**	**06 06 53.4**	**-0.2**
MID	**Middleton Isla**	**3.87**	**28**	Pn	**Pn**	**06 06 53.5**	**-0.1**
MID	comp=E,245nm,1.6s			IAML		06 07 52.9	
MID	comp=N,214nm,1.9s			IAML		06 09 16.3	
MID	**Middleton Isla**	**3.87**	**28**	P	**Pn**	**06 06 53.4**	**-0.1**
CNTC	**Contact Creek**	**3.96**	**306**		**Pn**	**06 06 55.1**	**+0.1**
Q17K	**Contact Creek** baz=124	**3.96**	**306**	P	**Pn**	**06 06 55.1**	**+0.1**
P19K	**Oil Pt**	**4.04**	**335**		**Pn**	**06 06 56.6**	**+0.7**
P19K	comp=N,233nm,0.6s			IAML		06 07 47.4	
P19K	**Oil Pt** baz=153	**4.04**	**335**	P	**Pn**	**06 06 56.3**	**+0.4**
SEW	**Seward**	**4.07**	**3**		**Pn**	**06 06 56.0**	**-0.3**
SEW	**Seward** baz=183	**4.07**	**3**	P	**Pn**	**06 06 55.6**	**-0.6**
P23K	**Montague Islan**	**4.16**	**17**		**Pn**	**06 06 57.6**	**0.0**
P23K	**Montague Islan** baz=199	**4.16**	**17**	P	**Pn**	**06 06 57.6**	**0.0**
O20K	**Slope Mountain**	**4.30**	**341**		**Pn**	**06 06 59.4**	**-0.2**
O20K	**Slope Mountain** baz=160	**4.30**	**341**	P	**Pn**	**06 06 59.8**	**+0.3**
IVE	**Iliamna Volcan**	**4.32**	**338**		**Pn**	**06 06 59.5**	**-0.4**
P18K	**Big Mountain,**	**4.42**	**321**		**Pn**	**06 07 01.1**	**0.0**
P18K	**Big Mountain,** baz=139	**4.42**	**321**	P	**Pn**	**06 07 00.9**	**-0.2**
O22K	**Cooper Landing**	**4.44**	**1**	Pn	**Pn**	**06 07 01.6**	**+0.1**
O22K	comp=N,188nm,1.0s			IAML		06 08 02.7	
SLKM	**Skilak Lake**	**4.47**	**358**		**Pn**	**06 07 01.5**	**-0.4**
Q16K	**King Salmon**	**4.53**	**308**		**Pn**	**06 07 02.7**	**+0.1**
Q16K	**King Salmon** baz=124	**4.53**	**308**	P	**Pn**	**06 07 02.7**	**+0.1**
RSO	**Redoubt South**	**4.68**	**342**		**Pn**	**06 07 04.6**	**-0.3**
HIN	**Hinchinbrook I**	**4.70**	**21**		**Pn**	**06 07 05.4**	**+0.4**
HIN	comp=E,117nm,1.5s			IAML		06 08 00.7	
HIN	comp=N,94nm,2.0s			IAML		06 08 35.0	
P17K	**Kvichak River**	**4.74**	**314**		**Pn**	**06 07 05.9**	**+0.4**
P17K	**Kvichak River** baz=130	**4.74**	**314**	P	**Pn**	**06 07 05.9**	**+0.4**
O18K	**Koktuh Hills**	**4.76**	**325**		**Pn**	**06 07 04.5**	**-1.3**
O18K	comp=N,59nm,0.6s			IAML		06 08 02.4	
O18K	comp=E,43nm,1.0s			IAML		06 08 04.4	
O18K	**Koktuh Hills** baz=142	**4.76**	**325**	P	**Pn**	**06 07 06.0**	**+0.1**
CAPN	**Captain Cook N**	**4.78**	**352**	Pn	**Pn**	**06 07 06.5**	**+0.5**
O19K	**Port Alsworth**	**4.78**	**332**		**Pn**	**06 07 06.2**	**+0.1**
CHGN	**Chignik**	**4.79**	**277**	Pn	Pn	06 07 04.2	-2.0
CHGN	comp=N,91nm,0.1s			IAML		06 09 18.0	
CHGN	comp=E,61nm,0.1s			IAML		06 09 32.8	
KAIM	**Kayak Island**	**4.84**	**34**		**Pn**	**06 07 07.2**	**+0.3**
KAIM	comp=E,105nm,1.4s			IAML		06 08 05.5	
KAIM	comp=N,115n

SCM	Sheep Creek Mo	5.94	12	P		Pn	06 07 22.9	+0.8
	baz=194							
SKT	Skwentna	6.01	352			Pn	06 07 23.1	+0.2
SDPT	Sand Point	6.05	268			Pn	06 07 21.7	-1.8
SDPT	Sand Point	6.05	268	P		Pn	06 07 29.3	+5.8
M20K	Styx River	6.09	345			Pn	06 07 23.3	-0.8
VRDI	Verde Repeater	6.17	30			Pn	06 07 25.9	+0.5
N25K	Chitina, Valde	6.20	24			Pn	06 07 27.2	+1.6
N25K	Chitina, Valde	6.20	24	P		Pn	06 07 26.6	+0.9
	baz=208							
O15K	Ungalikthiuk R	6.21	304			Pn	06 07 25.3	-0.3
GLB	Gilahina Butte	6.25	28			Pn	06 07 27.1	+0.8
KIAG	Kiagna River	6.26	36			Pn	06 07 27.0	+0.4
M18K	Stony River	6.27	333			Pn	06 07 26.0	-0.6
SAMH	Samovar Hills	6.31	46			Pn	06 07 27.9	+0.7
M19K	Big River Lodg	6.32	340			Pn	06 07 27.2	0.0
M24K	Tolsona, Glenn	6.36	16			Pn	06 07 29.4	+1.5
M24K	Tolsona, Glenn	6.36	16	P		Pn	06 07 29.1	+1.3
	baz=199							
PTPK	Patty Peak	6.43	34			Pn	06 07 29.1	+0.1
YKU2	Yakutat	6.45	53	Pn		Pn	06 07 29.4	+0.3
N16K	Nishlik Lake	6.46	317			Pn	06 07 29.3	+0.1
PCA	Pinnacle	6.50	48			Pn	06 07 30.1	+0.2
PINM	Pinnacle	6.50	48	P		Pn	06 07 29.7	-0.1
	baz=235							
BARN	Barnard Glacie	6.60	37			Pn	06 07 31.8	+0.6
CTGM	Chitina Glacie	6.64	39			Pn	06 07 32.3	+0.5
PNL	Peninsula	6.65	53			Pn	06 07 32.0	+0.2
PNL	Peninsula	6.65	53	P		Pn	06 07 32.2	+0.4
PNL	Peninsula	6.65	53	P		Pn	06 07 32.1	+0.4
	baz=240							
M17K	Holitna River	6.66	327	P		Pn	06 07 32.0	+0.2
	baz=141							
L19K	White Mountain	6.66	339			Pn	06 07 31.4	-0.6
LOGN	Logan Glacier	6.66	40			Pn	06 07 32.3	+0.2
BCPM	Bancas Point	6.69	50			Pn	06 07 33.5	+1.3
PS1A	Pavlof South-1	6.75	270			Pn	06 07 31.9	-1.2
HARP	HAARP	6.80	19			Pn	06 07 35.2	+1.4
HARP	HAARP	6.80	19	P		Pn	06 07 35.2	+1.4
	baz=203							
N15K	Kwethluk River	6.81	311			Pn	06 07 35.3	+1.3
WAT1	Susitna Watana	6.83	5			Pn	06 07 35.3	+1.1
WAT1	Susitna Watana	6.83	5	P		Pn	06 07 35.3	+1.1
	baz=186							
PN7A	Pavlof North-7	6.89	270			Pn	06 07 33.0	-2.1
M16K	Timber Creek	6.89	320			Pn	06 07 35.6	+0.6
O14K	Tigyukauivet M	6.91	302	Pn		Pn	06 07 35.8	+0.5
L18K	Granite Mounta	7.11	333	Pn		Pn	06 07 37.2	-0.9
DHY	Denali Highway	7.16	9			Pn	06 07 39.9	+1.1
DHY	Denali Highway	7.16	9	P		Pn	06 07 39.7	+0.9
	baz=191							
M26K	Nabesna, AK	7.27	26			Pn	06 07 41.2	+0.9
PAX	Paxson	7.29	16			Pn	06 07 41.3	+0.7
PAX	Paxson	7.29	16	P		Pn	06 07 40.8	+0.3
	baz=200							
M15K	Kasigluk River	7.35	314			Pn	06 07 41.5	+0.2
N14K	Kuskokwak Cree	7.39	307			Pn	06 07 41.9	+0.1
P29M	Windy Craggy	7.39	56			Pn	06 07 42.7	+0.8
P29M	Windy Craggy	7.39	56	P		Pn	06 07 41.8	-0.2
	baz=245							
RND	Reindeer	7.39	3	Pn		Pn	06 07 42.7	+0.7
YUK2	White River	7.40	35			Pn	06 07 42.8	+0.7
YUK8	Steele Glacier	7.42	41			Pn	06 07 43.9	+1.3
YUK8	Steele Glacier	7.42	41	P		Pn	06 07 43.9	+1.3
	baz=229							
TRF	Thorofare Moun	7.42	358			Pn	06 07 43.0	+0.5
TRF	Thorofare Moun	7.42	358	P		Pn	06 07 42.7	+0.2
	baz=178							
CAST	Castle Rocks	7.47	352			Pn	06 07 44.6	+1.5
CAST	Castle Rocks	7.47	352	P		Pn	06 07 43.9	+0.8
	baz=171							
L17K	Donlin	7.49	328			Pn	06 07 43.0	-0.2
YUK3	Moose Creek	7.51	36			Pn	06 07 44.6	+0.8
YUK3	Moose Creek	7.51	36	P		Pn	06 07 44.6	+0.8
	baz=224							
M27K	Edge Creek, AK	7.53	30			Pn	06 07 45.1	+1.1
M27K	Edge Creek, AK	7.53	30	P		Pn	06 07 45.0	+1.1
	baz=216							
KTH	Kantishna Hill	7.54	356			Pn	06 07 44.6	+0.5
L16K	Owhat River	7.55	323			Pn	06 07 44.3	+0.3
L16K	Owhat River	7.55	323	P		Pn	06 07 44.1	+0.1
	baz=135							
TTA	Tatalina	7.57	338			Pn	06 07 43.9	-0.6
K20K	Telida	7.63	346			Pn	06 07 44.2	-0.9
S31K	Pelican	7.68	70	Pn		Pn	06 07 44.5	-1.3
MCK	McKinley	7.72	3			Pn	06 07 47.0	+0.6
MCK	McKinley	7.72	3	P		Pn	06 07 47.1	+0.6
	baz=184							
YUK6	Outpost Mounta	7.76	46			Pn	06 07 47.5	+0.4
YUK6	Outpost Mounta	7.76	46	P		Pn	06 07 47.9	+0.8
	baz=235							
BVCY	Beaver Creek	7.86	32			Pn	06 07 49.4	+1.0
BVCY	Beaver Creek	7.86	32	P		Pn	06 07 49.4	+1.0
	baz=219							
YUK4	Talbot Arm	7.88	43	P		Pn	06 07 51.8	+3.0
	baz=232							
M14K	Bethel	7.91	312			Pn	06 07 49.6	+0.6
K17K	Iditarod	7.95	331			Pn	06 07 48.9	-0.7
P30M	Million Dollar	7.95	54			Pn	06 07 50.5	+0.8
HYT	Haines Junctio	8.05	48			Pn	06 07 51.6	+0.6
HYT	Haines Junctio	8.05	48	P		Pn	06 07 51.9	+0.9
	baz=238							
BPAW	Bear Paw Mtn.	8.09	356			Pn	06 07 50.8	-0.8
BPAW	Bear Paw Mtn.	8.09	356	P		Pn	06 07 51.7	+0.1
	baz=176							
RIDG	Independent Ri	8.11	16			Pn	06 07 52.4	+0.6
BCAR	Beaver Creek A	8.13	27	Pn		Pn	06 07 53.8	+1.7
SCRK	Sand Creek	8.47	18			Pn	06 07 58.2	+1.4
SCRK	Sand Creek	8.47	18	P		Pn	06 07 58.0	+1.2
	baz=203							
SKAG	Skagway	8.48	60	Pn		Pn	06 07 57.5	+0.7
HDA	Harding Lake	8.51	9			Pn	06 07 58.7	+1.5
HDA	Harding Lake	8.51	9	P		Pn	06 07 58.5	+1.3
	baz=191							
L14K	Kuka Creek	8.52	314			Pn	06 07 57.7	+0.3
NEA2	Nenana	8.58	2	P		Pn	06 07 59.5	+1.3
	baz=183							
CCB	Clear Creek Bu	8.68	6			Pn	06 08 00.4	+0.8
JIS	Juneau Island	8.70	69	Pn		Pn	06 07 59.5	-0.3
IL31		8.87	8			Pn	06 08 03.0	+0.9
ILAR	Eielson Array	8.87	8	Pn		Pn	06 08 02.4	+0.2
	comp=E,1.9nm,0.3s,baz=189,slow=13,SNR=64							
ILAR					Sn	Sn	06 09 36.9	-5.1
	baz=193,slow=20							
	comp=E,4.0nm,0.4s							
MLY	Manley	9.02	358			Pn	06 08 04.3	0.0
MLY	Manley	9.02	358	P		Pn	06 08 04.3	0.0
	baz=177							
WHY	Whitehorse	9.11	53			Pn	06 08 06.9	+1.3
I23K	Minto, Yukon-K	9.13	1			Pn	06 08 06.6	+0.9
P32M	Atlin	9.30	61	Pn		Pn	06 08 08.3	+0.1
M30M	Minto, Yukon	9.33	40			Pn	06 08 09.8	+1.2
M30M	Minto, Yukon	9.33	40	P		Pn	06 08 09.0	+0.5
	baz=231							
EGAK	Eagle	9.74	23			Pn	06 08 15.5	+1.5
P33M	Teslin, Yukon	9.91	58	Pn		Pn	06 08 16.9	+0.3
P33M	Teslin, Yukon	9.91	58	P		Pn	06 08 16.5	-0.1
	baz=252							
M31M	Drury Creek, Y	10.04	46			Pn	06 08 19.8	+1.6
IMAR	Indian Mountai	10.14	351	Pn		Pn	06 08 20.3	+0.7
G23K	Bananza Creek	10.70	360			Pn	06 08 26.9	-0.3
G24K	Hadweenzic Riv	10.74	5			Pn	06 08 28.6	+0.7
G18K	Tagagawik	10.74	340	Pn		Pn	06 08 28.1	+0.3
FYU	Fort Yukon	10.78	10			Pn	06 08 28.6	+0.4
DLBC	Dease Lake	10.99	69	Pn		Pn	06 08 31.5	+0.2
	comp=E,0.4nm,0.3s,baz=248,slow=15,SNR=8.3							
DLBC					Sn	Sn	06 10 29.0	-5.2
	comp=E,0.1nm,0.3s,baz=338,slow=15,SNR=1.3							
	comp=E,1.3nm,0.5s							
G16K	Koyuk River	11.16	332	Pn		Pn	06 08 33.6	+0.1
I30M	Mount Dempster	11.30	30	Pn		Pn	06 08 37.8	+2.3
F21K	Alatna River	11.34	353			Pn	06 08 35.6	-0.4
F20K	Avaraart Lake	11.38	348			Pn	06 08 36.7	+0.3
ANM	Nome	11.46	324	Pn		Pn	06 08 38.3	+0.8
F24K	Squaw Lake	11.54	4			Pn	06 08 39.3	+0.6
H29M	Whitestone	11.58	24	Pn		Pn	06 08 40.8	+1.5
G31M	Satah River	13.14	28			Pn	06 09 02.2	+1.7
INK	Inuvik	14.39	25			Pn	06 09 18.8	+1.3
INK	Inuvik	14.39	25	Pn		Pn	06 09 19.0	+1.5
	comp=E,0.2nm,0.3s,baz=208,slow=17,SNR=12							
	comp=E,4.3nm,1.0s							
ADK	Adak	16.28	266	Pn		Pn	06 09 39.7	-2.9
ADK				IAmb		IAmb	06 10 05.3	

	comp=Z,29nm,1.3s							
C36M	Paulatuk	17.60	31	P		Pn	06 10 00.3	+1.2
PGC	Sidney	17.67	104	P		Pn	06 09 58.7	-1.3
YKA	Yellowknife Ar	18.93	56	P		P	06 10 14.9	+0.1
YKA	Yellowknife Ar	18.93	56	P		P	06 10 16.2	+1.4
	comp=Z,0.1nm,0.3s,baz=265,slow=10,SNR=14							
	comp=Z,1.1nm,0.9s							
A36M	Sachs Harbour	19.02	23	P		P	06 10 17.0	+1.3
A36M				IAmb		IAmb	06 10 19.1	
	comp=Z,16nm,0.8s							
WVOR	Wild Horse Val	24.26	111	P		P	06 11 08.6	-2.7
WVOR				IAmb		IAmb	06 11 09.5	
	comp=Z,15nm,1.5s							
NVAR	Mina Array Bea	27.39	117	P		P	06 11 40.1	+0.4
	comp=Z,0.5nm,0.4s,baz=312,slow=9.5,SNR=4.1							
	comp=Z,0.5nm,0.4s							
PDAR	Pinedale Array	28.93	100	P		P	06 11 53.6	+0.1
	comp=Z,0.3nm,0.7s,baz=276,slow=4.2,SNR=3.0							
	comp=Z,0.3nm,0.7s							
TXAR	Lajitas Array	42.04	110	P		P	06 13 46.6	+0.8
	comp=Z,0.7nm,0.9s,baz=316,slow=5.6,SNR=6.9							
	comp=Z,0.7nm,0.9s							
KLR	Kul'dur	45.65	296	P		P	06 14 15.0	+0.6
	comp=Z,0.7nm,0.5s,baz=58,slow=13,SNR=1.7							
	comp=Z,0.7nm,0.5s							
H06N1	SOCORRO T-PHAS	47.18	126	T		T	07 03 34.8	
	SNR=5.2							
H11N2	WAKE ISLAND Hy	48.49	240	T		T	07 06 44.6	
	baz=31,slow=76,SNR=3.5							
H11N3	WAKE ISLAND Hy	48.50	240	T		T	07 06 46.3	
	baz=31,slow=76,SNR=3.6							
H11N1	WAKE ISLAND Hy	48.51	240	T		T	07 06 45.1	
	baz=31,slow=76,SNR=3.9							
H11S1	WAKE ISLAND Hy	49.63	239	T		T	07 09 02.8	
	baz=28,slow=76,SNR=3.9							
H11S2	WAKE ISLAND Hy	49.65	239	T		T	07 08 53.0	
	baz=28,slow=76,SNR=4.5							
H11S3	WAKE ISLAND Hy	49.65	239	T		T	07 08 54.2	
	baz=28,slow=76,SNR=3.7							
SONM	Songino Array	58.54	310	P		P	06 15 51.6	+1.1
	comp=Z,0.7nm,0.9s,baz=48,slow=6.1,SNR=3.9							
	comp=Z,0.7nm,0.9s							
ZALV	Zalesovo Beam	61.58	327	P		P	06 16 11.2	+0.1
	comp=Z,0.3nm,0.4s,baz=37,slow=6.6,SNR=1.8							
	comp=Z,0.3nm,0.4s							
FINES	FINESS Array B	62.80	2	P		P	06 16 20.0	+0.9
	comp=Z,8.0nm,1.1s,baz=358,slow=6.3,SNR=2.2							
	comp=Z,8.0nm,1.1s							
ARU	Arti	65.53	343	P		P	06 16 37.7	+0.6
	comp=Z,2.2nm,0.3s,baz=43,slow=3.8,SNR=6.1							
	comp=Z,2.2nm,0.3s							
BVAR	Borovoye Array	66.36	335	P		P	06 16 43.5	+1.0
	comp=Z,1.0nm,0.6s,baz=245,slow=42,SNR=3.7							
	comp=Z,1.0nm,0.6s							
KURBB	Kurchatov Arra	66.37	329	P		P	06 16 43.3	+0.7
	comp=Z,0.2nm,0.3s,baz=25,slow=5.9,SNR=2.4							
	comp=Z,0.2nm,0.3s							
MKAR	Makanchi Array	68.60	324	P		P	06 16 56.8	0.0
	comp=Z,0.8nm,0.8s,baz=40,slow=5.8,SNR=5.1							
	comp=Z,0.8nm,0.8s							
AKTO	Aktyubinsk	71.38	342	P		P	06 17 14.5	+0.7
	comp=Z,1.7nm,0.6s,baz=43,slow=2.6,SNR=5.6							
	comp=Z,1.7nm,0.6s							
ABKAR	Akbulak array	72.16	340	P		P	06 17 19.1	+0.6
ESDC	Sonseca Array	80.33	26	P		P	06 18 07.1	+1.9
	comp=Z,0.8nm,0.9s,baz=332,slow=7.3,SNR=2.8							
	comp=Z,0.8nm,0.9s							
QSPA	South Pole Qui	145.84	180	PKPbc		PKPdf	06 25 30.8	-0.6
	comp=Z,0.9nm,0.4s,baz=221,slow=6.2,SNR=1.6							

IDC 25 06:10:10.0±3.4, 54°.46N×86°.83E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=30.9km s-min=19.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.28	247	I	I	06 17 00.0	
	baz=68,slow=349,SNR=6.2						
ZALV	Zalesovo Beam	1.29	247	Pg	Pg	06 10 33.3	-1.3
	1.1nm,0.3s,baz=63,slow=16,SNR=16						
ZALV				Lg	Lg	06 10 52.1	
	1.1nm,0.3s,baz=67,slow=30,SNR=7.6						
KURBB	Kurchatov Arra	6.35	236	Pn	Pn	06 11 44.9	+0.1
	0.1nm,0.3s,baz=52,slow=14,SNR=5.2						
	0.5nm,0.4s						
MKAR	Makanchi Array	8.20	202	Pn	Pn	06 12 11.8	+1.7
	0.1nm,0.3s,baz=22,slow=12,SNR=5.0						
	0.1nm,0.4s						

IDC 25 06:10:39.6±8.5, 66°.60N×110°.39E, h0km, mb3.3/2, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=124.8km s-min=32.9km az=54.0, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRIK	Noril'sk	8.98	298	Pn	Pn	06 12 49.9	-0.4
	0.2nm,0.3s,baz=337,slow=12,SNR=1.4						
NRIK				Sn	Sn	06 14 33.0	+1.0
	0.2nm,0.3s,baz=155,slow=5.3,SNR=1.4						
NRIK				Lg	Lg	06 15 25.6	
	0.2nm,0.3s,baz=202,slow=8.0,SNR=2.3						
	0.9nm,0.5s						
ZALV	Zalesovo Beam	17.74	237	P	Pn	06 14 46.8	-0.8
	0.2nm,0.3s,baz=46,slow=10,SNR=5.6						
	1.0nm,0.5s						
KURBB	Kurchatov Arra	22.66	241	P	P	06 15 42.1	+0.1
	1.1nm,0.6s,baz=39,slow=11,SNR=12						
	1.1nm,0.6s						
MKAR	Makanchi Array	24.74	231	P	P	06 16 02.6	+0.2
	0.2nm,0.4s,baz=42,slow=7.7,SNR=13						
	0.2nm,0.4s						

*KRSC **25** 06:13:20.8±0.9, 55°.34N×166°.55E, h33km±4km, Ml3.9*
*IDC **25** 06:13:21.2±1.8, 55°.45N×166°.26E, h0km, mb3.5/8, mbtmp3.6/9, ML3.4/1, MS3.6/1, Error ellipse: s-maj=61.9km s-min=17.4km az=165.0*

ISC 25 06:13:24.2±0.9, 55°.39N±0°.10×166°.42E±0°.08, h20km, n33, σ0°.92/33, mb3.5/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.32	234	eP	Pb	06 13 29.8	-1.4
BKI				eS	Sb	06 13 35.8	0.0
SMKR	Semkarok	3.02	295	eP	Pn	06 14 10.5	-0.5
BDR	Baidarnaya	3.15	294	eP	Pn	06 14 12.9	+0.1
BZGR	Bezymyannyi-Gr	3.29	282	eP	Pn	06 14 14.6	0.0
BZP	Bezymyannyi-Pe	3.37	281	eP	Pn	06 14 15.8	0.0
KLY	Klyuchi	3.38	288	eP	Pn	06 14 15.3	-0.4
BZMR	Bezymyannaya	3.40	282	eP	Pn	06 14 16.9	+0.7
BZWR	Bezymyannyi-We	3.40	282	eP	Pn	06 14 16.9	+0.7
TUMD	Tumrok D	3.45	269	eP	Pn	06 14 17.1	+0.4
TUMD				eS	Sn	06 14 58.5	+1.6
KIRR	Kirishev	3.49	282	eP	Pn	06 14 18.0	+0.6
KMNR	Kamenistaya	3.53	278	eP	Pn	06 14 19.1	+1.2
KPT	Kopyto	3.56	282	eP	Pn	06 14 19.2	+0.9
TUMR	Tumrok	3.58	271	eP	Pn	06 14 19.8	+1.1
KOZ	Kozyrevsk	3.76	283	eP	Pn	06 14 22.1	+1.1
SRDR	Sredinnyy	3.89	287	eP	Pn	06 14 23.8	+1.0
SMAR	Somma	4.94	248	eP	Pn	06 14 38.0	+0.6
AVH	Avacha	4.97	248	eP	Pn	06 14 38.7	+1.0
KRX	Arik	4.98	249	eP	Pn	06 14 38.4	+0.5
KOK	Koryaka	5.01	248	eP	Pn	06 14 39.1	+0.8
DALK	Dalny	5.08	245	eP	Pn	06 14 39.9	+0.8
PETK	Petropavlovsk-	5.60	249	Pn	Pn	06 14 46.0	-0.2
	6.4nm,0.3s,baz=72,slow=18,SNR=78						
PETK				Sn	Sn	06 15 51.0	+1.1
	0.7nm,0.3s,baz=49,slow=14,SNR=1.1						
	20nm,0.6s						
MTVR	Mutnovka	5.67	242	eP	Pn	06 14 47.7	+0.4
ILAR	Eielson Array	24.53	49	P	P	06 18 43.0	+1.0
	1.5nm,0.9s,baz=256,slow=8.5,SNR=9.7						
	1.5nm,0.9s						
INK	Inuvik	29.74	40	P	P	06 19 28.6	-0.1
	0.5nm,0.7s,baz=317,slow=14,SNR=1.9						
	0.5nm,0.7s						
H11N2	WAKE ISLAND Hy	35.60	179	T	T	06 57 34.3	
	baz=360,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	35.62	179	T	T	06 57 43.6	
	baz=360,slow=76,SNR=13						
H11N1	WAKE ISLAND Hy	35.62	179	T	T	06 57 36.3	
	baz=360,slow=76,SNR=12						
SONM	Songino Array	36.97	284	P	P	06 20 31.8	-0.1
	0.5nm,0.6s,baz=69,slow=7.9,SNR=2.9						
	0.5nm,0.6s						
YKA	Yellowknife Ar	38.92	47	P	P	06 20 49.4	+1.4

	0.2nm,0.7s,baz=296,slow=7.9,SNR=3.5							
	0.2nm,0.7s							
KURBB	Kurchatov Arra	49.72	303	P		P	06 22 13.6	-0.9
	0.6nm,0.7s,baz=52,slow=7.2,SNR=4.3							
KURBB				LR		LR	06 45 19.3	
	comp=Z,60nm,18.4s,baz=180,slow=39							
	0.6nm,0.7s							
MKAR	Makanchi Array	50.44	298	P		P	06 22 17.9	-2.2
	0.3nm,0.6s,baz=50,slow=7.5,SNR=4.2							
	0.3nm,0.6s							
AAK	Ala-Archa	57.31	299	P		P	06 23 10.0	-0.5
	0.6nm,0.4s,baz=280,slow=19,SNR=2.3							
	0.6nm,0.4s							
TXAR	Lajitas Array	66.36	72	P		P	06 24 11.1	-0.4
	0.3nm,0.7s,baz=316,slow=5.2,SNR=4.2							
	0.3nm,0.7s							

*NEIC **25** 06:17:38.6±1.5, 55°.80N±0°.08×149°.2W±0°.1, h8km±6km, mb4.3/6, ML3.9/36, ML3.7(AEIC), Error ellipse: s-maj=12.0km s-min=8.5km az=171.0*
*IDC **25** 06:17:43.0±1.8, 56°.22N×149°.24W, h0km, mb3.7/5, mbtmp3.6/9, ML3.3/4, Error ellipse: s-maj=36.6km s-min=22.4km az=11.0*
*AEIC **25** 06:17:44.4±1.5, 55°.89N±0°.08×149°.2W±0°.1, h12km±6km, Error ellipse: s-maj=12.2km s-min=8.8km az=178.0*

ISC 25 06:17:39.9±0.8, 55°.89N±0°.07×149°.26W±0°.05, h10km, n204, σ1°.19/205, mb3.7/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.60	303	Pn	Pn	06 18 21.3	-0.7
OHAK				Sn	Sn	06 18 50.4	-3.0
OHAK	Old Harbor	2.60	303	P	Pn	06 18 21.1	-0.9
OHAK	Old Harbor	2.60	303	P	Pn	06 18 21.0	-0.9
	baz=121						
OHAK				S	Sn	06 18 50.5	-3.0
	baz=121						
KDAK	Kodiak Island	2.63	317	Pn	Pn	06 18 22.0	-0.4
KDAK				Sn	Sn	06 18 51.7	-2.6
KDAK	Kodiak Island	2.63	317	P	Pn	06 18 21.9	-0.6
	baz=136						
KDAK				S	Sn	06 18 51.5	-2.9
	baz=136						
KDAK	Kodiak Island	2.63	317	Pn	Pn	06 18 21.8	-0.6
	15nm,0.3s,baz=144,slow=7.6,SNR=70						
KDAK				Sn	Sn	06 18 51.0	-3.3
	49nm,0.3s,baz=31,slow=23,SNR=46						
	32nm,0.3s						
SII	Sitkinak Islan	2.83	286	Pn	Pn	06 18 24.3	-0.9
SII	Sitkinak Islan	2.83	286		Sn	06 18 56.3	-3.0
SII	Sitkinak Islan	2.83	286	P	Pn	06 18 24.0	-1.2
SII	Sitkinak Islan	2.83	286	P	Pn	06 18 24.2	-1.0
	baz=104						
SII				S	Sn	06 18 56.3	-3.0
	baz=104						
Q20K	Shuyak Island	3.21	329	P	Pn	06 18 30.2	-0.2
	baz=147						
SYI	Shuyak Island	3.21	329	Pn	Pn	06 18 30.4	0.0
SYI				IAML		06 19 08.6	
	comp=E,182nm,0.3s						
SYI				IAML		06 19 08.7	
	comp=N,227nm,0.2s						
CNPM	China Poot	3.79	345	Pn	Pn	06 18 38.0	-0.5
CNPM				IAML		06 19 23.3	
	comp=E,128nm,0.5s						
CNPM				IAML		06 19 23.6	
	comp=N,158nm,0.6s						
Q19K	Cape Douglas,	3.86	324		Pn	06 18 40.3	+1.0
Q19K				IAML		06 19 27.6	
	comp=N,273nm,0.6s						
Q19K	Cape Douglas,	3.86	324		Sn	06 19 21.5	-3.1
Q19K	Cape Douglas,	3.86	324	P	Pn	06 18 39.5	+0.2
	baz=141						
Q19K				S	Sn	06 19 23.3	-1.4
	baz=141						
Q23K	Middleton Isla	3.88	23	Pn	Pn	06 18 38.7	-0.8
Q23K				IAML		06 20 01.0	
	comp=N,180nm,1.8s						
Q23K				IAML		06 20 21.2	
	comp=E,228nm,1.8s						
Q23K	Middleton Isla	3.88	23	P	Pn	06 18 38.8	-0.6
	baz=204						
MID	Middleton Isla	3.88	23	Pn	Pn	06 18 38.5	-1.0
MID				IAML		06 20 06.1	
	comp=N,231nm,1.8s						
MID				IAML		06 20 21.1	
	comp=E,205nm,2.0s						
MID	Middleton Isla	3.88	23	P	Pn	06 18 39.0	-0.5
KAHG	Katmai Hook Gl	3.88	314		Pn	06 18 40.5	+0.8
BRSE	Bradley Lake S	3.94	349		Pn	06 18 39.5	-0.9
BRSE					Sn	06 19 23.2	-3.5
BRSE	Bradley Lake S	3.94	349	P	Pn	06 18 39.5	-0.9
	baz=168						
BRSE				S	Sn	06 19 23.6	-3.1
	baz=168						

KNK	Knik Glacier	5.55	4	Pn		Pn		06 19 02.5	0.0
KNK	Knik Glacier	5.55	4	P		Pn		06 19 02.2	-0.3
	baz=184								
DIV	Divide	5.56	18			Pn		06 19 02.1	-0.6
SPCG	Spurr Capps Gl	5.60	346			Pn		06 19 03.0	-0.4
BMRM	Bremner River	5.65	24			Pn		06 19 03.5	-0.4
BMRM	Bremner River	5.65	24	P		Pn		06 19 03.5	-0.4
	baz=207								
P16K	Nushagak River	5.67	307			Pn		06 19 04.3	+0.3
P16K	Nushagak River	5.67	307	P		Pn		06 19 04.3	+0.3
	baz=121								
PMR	Palmer	5.72	1			Pn		06 19 04.0	-0.8
PMR	Palmer	5.72	1	P		Pn		06 19 04.0	-0.8
PMR	Palmer	5.72	1	P		Pn		06 19 05.0	+0.2
	baz=181								
BARK	Barkley Ridge	5.77	36			Pn		06 19 04.5	-1.1
SPNN	North Nagishla	5.78	343			Pn		06 19 05.5	-0.3
VNFG	Fog Glacier, M	5.78	278			Pn		06 19 04.9	-0.8
STLK	Strandline Lak	5.78	348			Pn		06 19 04.9	-0.8
KLU	Klutina	5.88	16	Pn		Pn		06 19 06.8	-0.2
KLU	Klutina	5.88	16	P		Pn		06 19 06.9	-0.2
	baz=198								
N18K	Kilae Creek	5.94	327			Pn		06 19 07.0	-0.9
SML	Sawmill	5.95	4			Pn		06 19 08.3	+0.2
SML	Sawmill	5.95	4	P		Pn		06 19 08.0	0.0
	baz=185								
M23K	Glacier View	5.97	7			Pn		06 19 08.2	0.0
M23K	Glacier View	5.97	7	P		Pn		06 19 08.3	0.0
	baz=188								
CNBA	Chernabura Isl	5.99	264	Pn		Pn		06 19 04.8	-3.7
O16K	Kokwok River B	6.01	312			Pn		06 19 08.9	+0.1
SCM	Sheep Creek Mo	6.04	9	Pn		Pn		06 19 09.8	+0.4
SCM	Sheep Creek Mo	6.04	9	P		Pn		06 19 09.5	+0.2
	baz=190								
VRDI	Verde Repeater	6.15	27	Pn		Pn		06 19 10.6	-0.3
SVW2	Sparrevohn	6.18	330	Pn		Pn		06 19 10.0	-1.2
SAMH	Samovar Hills	6.19	43			Pn		06 19 11.1	-0.3
KIAG	Kiagna River	6.21	33			Pn		06 19 10.5	-1.2
N25K	Chitina, Valde	6.22	21	Pn		Pn		06 19 11.6	-0.1
N25K	Chitina, Valde	6.22	21	P		Pn		06 19 11.7	-0.1
	baz=204								
GLB	Gilahina Butte	6.25	25			Pn		06 19 11.8	-0.3
YKU2	Yakutat	6.29	51			Pn		06 19 12.5	-0.1
PCA	Pinnacle	6.38	45			Pn		06 19 13.0	-0.9
PINM	Pinnacle	6.38	45	P		Pn		06 19 13.5	-0.4
	baz=232								
SDPT	Sand Point	6.38	270	Pn		Pn		06 19 13.0	-0.8
SDPT	Sand Point	6.38	270	P		Pn		06 19 13.1	-0.8
PTPK	Patty Peak	6.39	31			Pn		06 19 12.9	-1.3
M24K	Tolsona, Glenn	6.43	13			Pn		06 19 15.3	+0.6
PNL	Peninsula	6.49	50			Pn		06 19 14.7	-0.7
PNL	Peninsula	6.49	50	P		Pn		06 19 15.0	-0.4
BARN	Barnard Glacie	6.53	34			Pn		06 19 15.4	-0.8
BCPM	Bancas Point	6.54	48			Pn		06 19 16.2	0.0
CTGM	Chitina Glacie	6.57	36			Pn		06 19 16.2	-0.4
O15K	Ungalikthiuk R	6.57	304			Pn		06 19 16.6	+0.1
WAT6	Susitna Watana	6.75	6			Pn		06 19 19.4	+0.2
HARP	HAARP	6.86	16			Pn		06 19 20.9	+0.4
WAT7	Susitna Watana	6.97	2			Pn		06 19 22.5	+0.5
WAT1	Susitna Watana	6.97	3			Pn		06 19 22.4	+0.5
PS1A	Pavlof South-1	7.08	271			Pn		06 19 22.6	-0.8
PN7A	Pavlof North-7	7.22	272			Pn		06 19 24.5	-1.0
DHY	Denali Highway	7.27	7			Pn		06 19 26.0	-0.2
YUK8	Steele Glacier	7.33	39			Pn		06 19 27.1	-0.1
YUK2	White River	7.34	33			Pn		06 19 26.8	-0.4
PAX	Paxson	7.36	14			Pn		06 19 25.2	+0.2
S31K	Pelican	7.42	68	Pn		Pn		06 19 26.2	-2.0
YUK3	Moose Creek	7.46	34			Pn		06 19 28.5	-0.3
YUK7	Dusty Glacier	7.49	47			Pn		06 19 29.4	+0.2
RND	Reindeer	7.54	1	Pn		Pn		06 19 29.3	-0.6
TRF	Thorofare Moun	7.60	357			Pn		06 19 30.4	-0.3
MENT	Mentasta	7.61	19	Pn		Pn		06 19 32.1	+1.3
YUK6	Outpost Mounta	7.63	44			Pn		06 19 31.3	0.0
CAST	Castle Rocks	7.68	350	Pn		Pn		06 19 33.2	+1.5
KTH	Kantishna Hill	7.73	354			Pn		06 19 32.3	-0.2
L26K	Log Cabin Wild	7.76	20			Pn		06 19 33.9	+1.1
SIT	Sitka	7.81	76	P		Pn		06 19 32.1	-1.3
BVCY	Beaver Creek	7.83	30			Pn		06 19 33.0	-0.8
TTA	Tatalina	7.85	337	Pn		Pn		06 19 34.4	+0.3
MCK	McKinley	7.87	1			Pn		06 19 35.1	+0.8
HYT	Haines Junctio	7.91	47	Pn		Pn		06 19 35.1	+0.1
YUK5	Granite Creek	7.94	44			Pn		06 19 35.6	+0.1
K24K	Donnelly Dome	8.13	11			Pn		06 19 39.0	+1.1
FALS	False Pass	8.13	269	P		Pn		06 19 37.2	-0.7
BCAR	Beaver Creek A	8.13	25	Pn		Pn		06 19 38.1	+0.2
RIDG	Independent Ri	8.18	14	Pn		Pn		06 19 39.1	+0.6
M14K	Bethel	8.26	311	Pn		Pn		06 19 40.2	+0.6
SKAG	Skagway	8.28	59	Pn		Pn		06 19 39.9	+0.1
SKAG	Skagway	8.28	59	P		Pn		06 19 39.7	-0.1
BPAW	Bear Paw Mtn.	8.28	355			Pn		06 19 39.5	-0.4
R32K	Eaglecrest	8.38	67	Pn		Pn		06 19 40.4	-0.9
N30M	Aishikik Lake	8.44	44			Pn		06 19 41.3	-0.9
JIS	Juneau Island	8.45	67	Pn		Pn		06 19 41.0	-1.2
JIS	Juneau Island	8.45	67	P		Pn		06 19 41.4	-0.8
O30N	Mendenhall	8.47	49			Pn		06 19 42.6	-0.1
SCRK	Sand Creek	8.53	16	Pn		Pn		06 19 43.8	+0.4
HDA	Harding Lake	8.62	7			Pn		06 19 45.8	+1.2
CCB	Clear Creek Bu	8.81	4			Pn		06 19 48.0	+0.9
WHY	Whitehorse	8.95	52	Pn		Pn		06 19 49.1	-0.1
ILAR	Eielson Array	8.98	7	Pn		Pn		06 19 49.1	-0.5
ILAR	Eielson Array	8.98	7	Pn		Pn		06 19 47.3	-2.3
	comp=N,0.5nm,0.3s,baz=189,slow=13,SNR=17								
ILAR				Sn		Sn		06 21 23.8	-6.9
	comp=N,0.7nm,0.3s,baz=198,slow=22,SNR=8.4								
	comp=N,1.2nm,0.4s								
COLA	College	9.04	4	P		Pn		06 19 49.3	-1.0
J26L	Joseph Creek	9.09	16			Pn		06 19 51.6	+0.6
P32M	Atlin	9.10	60			Pn		06 19 50.7	-0.5
L29M	L29M	9.17	33			Pn		06 19 51.7	-0.5
M30M	Minto, Yukon	9.24	38			Pn		06 19 53.0	-0.2
I23K	Minto, Yukon-K	9.29	360	Pn		Pn		06 19 53.6	0.0
I21K	Tanana	9.41	353	Pn		Pn		06 19 56.2	+0.8
DAWY	Dawson	9.56	27	Pn		Pn		06 19 57.1	-0.4
P33M	Teslin, Yukon	9.72	57			Pn		06 19 59.4	-0.3
K29M	Barlow Dome	9.90	32			Pn		06 20 02.2	0.0
M31M	Drury Creek, Y	9.92	44			Pn		06 20 02.5	+0.1
H21K	Melozitna Rive	9.95	351			Pn		06 20 02.8	0.0
S34M	Telegraph Cree	10.12	71	Pn		Pn		06 20 03.1	-2.0
UNV	Unalaska Valle	10.15	266	P		Pn		06 20 04.2	-1.3
FARO	Faro, Yukon	10.35	46			Pn		06 20 08.2	0.0
IMAR	Indian Mountai	10.35	350	Pn		Pn		06 20 08.3	0.0
R33M	Jennings River	10.40	63			Pn		06 20 08.6	-0.5
T35M	Bob Quinn	10.58	76	Pn		Pn		06 20 10.7	-0.8
DLBC	Dease Lake	10.74	68	Pn		Pn		06 20 12.5	-1.2
DLBC	Dease Lake	10.74	68	Pn		Pn		06 20 12.7	-1.0
	comp=N,0.3nm,0.3s,baz=256,slow=6.3,SNR=17								
DLBC				Sn		Sn		06 22 03.2	-11
	comp=N,0.2nm,0.3s,baz=151,slow=27,SNR=1.6								
J30M	Hart River	10.80	31			Pn		06 20 13.9	-0.6
E25K	Arctic Village	12.39	6	Pn		Pn		06 20 37.1	+0.9
F31M	Tsiigehtchic	13.67	26			Pn		06 20 53.1	-0.3
INK	Inuvik	14.40	24			Pn		06 21 04.2	+0.7
INK	Inuvik	14.40	24	Pn		Pn		06 21 03.0	-0.4
	comp=N,0.1nm,0.3s,baz=198,slow=10,SNR=13								
	comp=N,5.1nm,1.0s								
WRGLY	Wrigley	14.91	50	Pn		Pn		06 21 09.9	-0.5
CBB	Campbell River	15.50	102	Pn		Pn		06 21 16.2	-2.2
CBB				IAmb		IAmb		06 21 18.8	
	comp=Z,30nm,1.2s								
GSTR	Great Sitkin T	16.16	268	Pn		Pn		06 21 26.2	-0.8
CLRS	Cowichan Lake	16.84	104	Pn		Pn		06 21 34.2	-1.3
CLRS				IAmb		IAmb		06 21 39.1	
	comp=Z,19nm,1.2s								
C36M	Paulatuk	17.57	30	P		Pn		06 21 43.6	-0.9
E03A	Lebam	18.52	110	P		P		06 21 53.4	-2.8
E03A				IAmb		IAmb		06 22 00.3	
	comp=Z,40nm,1.1s								
YKA	Yellowknife Ar	18.75	55	P		P		06 21 57.8	-0.8
YKA	Yellowknife Ar	18.75	55	P		P		06 22 00.6	+1.9
	comp=Z,0.1nm,0.3s,baz=264,slow=13,SNR=5.4								
	comp=Z,0.3nm,0.6s								
A36M	Sachs Harbour	19.04	23	P		P		06 22 01.8	+0.1
A36M				IAmb		IAmb		06 22 03.7	
	comp=Z,6.1nm,0.8s								
F04D	Rainier, OR	19.11	110	P		P		06 22 00.0	-2.6
NEW	Newport	21.02	98	P		P		06 22 28.7	+5.2
	comp=Z,0.5nm,0.5s,baz=325,slow=8.1,SNR=3.5								
	comp=Z,0.5nm,0.5s								
K05A	Summer Lake	22.51	114	P		P		06 22 37.5	-2.3
KLR	Kul'dur	46.02	297	P		P		06 26 06.8	+3.7
	comp=Z,0.3nm,0.3s,baz=123,slow=4.7,SNR=3.9								
	comp=Z,0.3nm,0.3s								

H11N2	WAKE ISLAND Hy	48.70	240	T		T		07 17 35.2	
	baz=31								
H11N3	WAKE ISLAND Hy	48.70	240	T		T		07 17 35.6	
	baz=31								
H11N1	WAKE ISLAND Hy	48.72	240	T		T		07 17 40.9	
	baz=31								
H11S1	WAKE ISLAND Hy	49.84	240	T		T		07 21 02.9	
	baz=29,slow=74								
H11S2	WAKE ISLAND Hy	49.85	240	T		T		07 21 05.0	
	baz=29								
H11S3	WAKE ISLAND Hy	49.85	240	T		T		07 20 52.6	
	baz=29,slow=74								
ZALV	Zalesovo Beam	61.90	327	P		P		06 28 01.6	+2.6
	comp=Z,0.2nm,0.3s,baz=42,slow=6.0,SNR=1.7								
	comp=Z,0.2nm,0.3s								
KURBB	Kurchatov Arra	66.68	329	P		P		06 28 33.6	+3.1
	comp=Z,1.4nm,0.2s,baz=28,slow=6.7,SNR=1.9								
	comp=Z,1.4nm,0.2s								
MKAR	Makanchi Array	68.92	325	P		P		06 28 47.7	+3.1
	comp=Z,0.3nm,0.8s,baz=36,slow=6.8,SNR=1.8								
	comp=Z,0.3nm,0.8s								

*NEIC **25** 06:25:33.7±1.1, 38.58N±0.01×112.28W±0.01, h7km±2km, Error ellipse: s-maj=1.9km s-min=1.1km az=141.0*

UUSS 25 06:25:33.5±1.1, 38.57N±0.01×112.28W±0.01, h5km±3km, ML2.7/15, ML2.6/40(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=142.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MVU	Marysvale	0.08	141			Pg	06 25 35.4	-0.1
MVU	Marysvale	0.08	141		IAML		06 25 37.8	
	comp=E,25μm,0.5s							
MVU					IAML		06 25 38.1	
	comp=N,34μm,0.4s							
MSU	Marysvale	0.10	125			Pg	06 25 35.6	-0.1
TCRU	Three Creeks R	0.14	287			Pg	06 25 36.9	+0.5
TCRU	Three Creeks R	0.14	287	Sg		Sg	06 25 39.6	+1.3
TCRU					IAML		06 25 40.8	
	comp=E,9μm,0.5s							
TCRU					IAML		06 25 40.9	
	comp=N,6μm,0.4s							
WCU	Willow Creek	0.42	20			Pg	06 25 41.6	-0.1
WCU						Sg	06 25 48.3	+1.0
MTPU	Mount Pierson	0.53	172			Pg	06 25 44.1	+0.4
MTPU	Mount Pierson	0.53	172	Sg		Sg	06 25 52.0	+1.3
MTPU					IAML		06 25 56.8	
	comp=N,233nm,0.5s							
MTPU					IAML		06 25 57.9	
	comp=E,150nm,0.7s							
OWUT	Old Woman Plat	0.70	72			Pg	06 25 47.2	+0.2
FLU	Fool Peak	0.81	6			Pg	06 25 48.3	-0.8
Q16A	Castle Valley	0.93	68			Pg	06 25 51.2	-0.2
Q16A				Sg		Sg	06 26 03.5	0.0
Q16A					IAML		06 26 09.6	
	comp=E,115nm,0.3s							
LEVU	Levan	1.00	21			Pg	06 25 52.7	0.0
TMUT	Trail Mountain	1.11	49			Pg	06 25 54.9	+0.2
TMUT				Sg		Sg	06 26 08.8	-0.3
TMUT					IAML		06 26 17.1	
	comp=N,170nm,0.5s							
TMUT					IAML		06 26 17.3	
	comp=E,151nm,0.5s							
PKCU	Pink Cliffs	1.12	181			Pg	06 25 55.2	+0.2
SZCU	Shurtz Canyon	1.16	214			Pn	06 25 56.9	+0.3
SZCU					IAML		06 26 15.7	
	comp=E,174nm,0.4s							
SZCU					IAML		06 26 20.5	
	comp=N,174nm,0.3s							
ELU	Electric Lake	1.36	38			Pn	06 25 59.0	-0.4
HMU	Henry Mountain	1.36	117	Pg		Pn	06 25 58.6	-0.7
HMU					IAML		06 26 25.2	
	comp=N,175nm,0.8s							
SUU	Santaquin Cany	1.37	16			Pn	06 25 59.5	+0.1
NLU	North Lily Min	1.39	6			Pb	06 26 00.1	0.0
NLU					IAML		06 26 20.8	
	comp=N,119nm,0.5s							
NLU					IAML		06 26 21.6	
	comp=E,128nm,0.5s							
FSU	Fish Springs	1.44	323			Pn	06 25 59.9	-0.4
SRU	San Rafael Swe	1.47	68	Pg		Pn	06 26 00.9	+0.1
SRU					IAML		06 26 23.8	
	comp=N,131nm,0.6s							
SRU					IAML		06 26 30.4	
	comp=E,106nm,0.8s							
P17A	Butcher Ranch,	1.50	53			Pn	06 26 01.3	+0.1
P17A					IAML		06 26 25.2	
	comp=E,74nm,0.4s							
P17A					IAML		06 26 25.9	
	comp=N,54nm,0.5s							
MPU	Maple Canyon	1.53	19			Pb	06 26 02.5	+0.1
KNB	Kanab	1.61	196			Pn	06 26 02.9	+0.2
KNB					IAML		06 26 29.2	
	comp=E,40nm,0.5s							
KNB					IAML		06 26 35.2	
	comp=N,40nm,1.0s							
SPR3	Spring Creek 3	1.66	286			Pn	06 26 03.3	-0.2
DUG	Dugway, Tooele	1.68	346			Pn	06 26 03.2	-0.3
DUG					IAML		06 26 29.2	
	comp=N,126nm,0.6s							
LCMT	Little Creek M	1.73	206			Pb	06 26 05.8	0.0
LCMT					IAML		06 26 29.6	
	comp=N,85nm,0.2s							
P18A	Preston Nutter	1.90	56			Pn	06 26 07.5	+0.6
P18A					IAML		06 26 37.6	
	comp=N,63nm,0.7s							
CTU	Camp Tracy	2.16	11	Pn		Pn	06 26 09.9	-0.3
BSUT	Blindstream Ca	2.29	30	Pn		Pn	06 26 11.1	-1.1
BGU	Big Grassy Mou	2.42	346			Pn	06 26 13.2	-0.7
BGU					IAML		06 26 52.4	
	comp=N,20nm,0.5s							
BGU					IAML		06 26 55.0	
	comp=E,24nm,0.9s							
SPUT	South Promonto	2.74	357	Pn		Pn	06 26 18.9	+0.7
RDMU	Red Mountain	2.90	45	Pn		Pn	06 26 20.0	-0.4

IDC 25 07:00:18.6±3.0, 54.34N×87.21E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=23.8km s-min=17.3km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	255	I		I	07 11 15.0	
	0.3nm,1.2s,baz=74,slow=348,SNR=3.6							
ZALV	Zalesovo Beam	1.46	255	Pg		Pn	07 00 44.2	-2.0
	2.6nm,0.3s,baz=72,slow=17,SNR=42							
ZALV				Lg		Lg	07 01 05.4	
	1.9nm,0.3s,baz=75,slow=29,SNR=9.0							
KURBB	Kurchatov Arra	6.48	238	Pn		Pn	07 01 55.6	+0.5
	0.1nm,0.3s,baz=55,slow=14,SNR=11							
KURBB				Sn		Sn	07 03 08.4	-1.2
	0.1nm,0.3s,baz=50,slow=28,SNR=2.2							
KURBB				Lg		Lg	07 03 45.3	
	0.1nm,0.3s,baz=48,slow=30,SNR=1.4							
	1.9nm,0.7s							
MKAR	Makanchi Array	8.18	204	Pn		Pn	07 02 20.6	+2.1
	0.1nm,0.3s,baz=27,slow=13,SNR=3.1							
MKAR				Sn		Sn	07 03 50.8	-0.7
	0.1nm,0.3s,baz=25,slow=28,SNR=3.0							
MKAR				Lg		Lg	07 04 36.7	
	baz=25,slow=35							
	0.2nm,0.2s							

*IDC **25** 07:01:18.9±1.6, 55.37N×166.49E, h0km, mb3.6/4, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=73.4km s-min=20.3km az=162.0*

*KRSC **25** 07:01:20.6±1.7, 55.29N×166.35E, h36km±8km, Ml4.2*

ISC 25 07:01:21.8±1.0, 55.37N±0.10×166.46E±0.08, h20km, n35, σ1§13/33, mb3.6/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.33	239	eP		Pb	07 01 27.9	-1.1
BKI				eS		Sb	07 01 33.5	-0.2
SMKR	Semkarok	3.06	295	eP		Pn	07 02 07.9	-1.1
BDR	Baidarnaya	3.19	294	eP		Pn	07 02 10.7	-0.1
ZLN	Zelenaya	3.27	284	eP		Pn	07 02 12.2	+0.2
BZGR	Bezymyannyi-Gr	3.32	282	eP		Pn	07 02 13.5	+0.9
BZP	Bezymyannyi-Pe	3.40	282	eP		Pn	07 02 14.6	+0.8
BZMR	Bezymyannaya	3.43	282	eP		Pn	07 02 15.5	+1.3
BZWR	Bezymyannyi-We	3.43	282	eP		Pn	07 02 15.9	+1.7
TUMD	Tumrok D	3.47	270	eP		Pn	07 02 15.1	+0.4
TUMD				eS		Sn	07 02 55.7	+0.6
KIRR	Kirishev	3.52	282	eP		Pn	07 02 16.7	+1.4
KMNR	Kamenistaya	3.56	279	eP		Pn	07 02 17.6	+1.7
KPT	Kopyto	3.58	282	eP		Pn	07 02 17.6	+1.3
TUMR	Tumrok	3.61	271	eP		Pn	07 02 18.2	+1.6
KOZ	Kozyrevsk	3.79	283	eP		Pn	07 02 19.3	+0.2
SRDR	Sredinnyy	3.92	287	eP		Pn	07 02 21.9	+1.0
SMAR	Somma	4.96	248	eP		Pn	07 02 35.9	+0.6
UGLR	Uglovaya	4.97	247	eP		Pn	07 02 36.6	+1.3
AVH	Avacha	4.99	248	eP		Pn	07 02 36.7	+1.1
KRX	Arik	4.99	249	eP		Pn	07 02 36.5	+0.8
KOK	Koryaka	5.03	249	eP		Pn	07 02 37.0	+0.8
KRMR	Karymshinskiy	5.53	246	eP		Pn	07 02 43.3	+0.5
PETK	Petropavlovsk-	5.62	250	Pn		Pn	07 02 44.1	0.0
	6.0nm,0.3s,baz=69,slow=16,SNR=52							
PETK				Sn		Sn	07 03 49.3	+1.3
	1.5nm,0.3s,baz=308,slow=26,SNR=0.8							
	23nm,0.6s							
MTVR	Mutnovka	5.68	243	eP		Pn	07 02 45.9	+0.7
MTVR				eS		Sn	07 03 46.9	-2.9
GRL	Gorelyy	5.70	244	eP		Pn	07 02 46.8	+1.4
ASAK	Asacha	5.88	243	eP		Pn	07 02 48.7	+0.8
ILAR	Eielson Array	24.52	49	P		P	07 06 39.0	-0.5
	2.6nm,1.0s,baz=258,slow=8.0,SNR=17							
	2.6nm,1.0s							
H11N2	WAKE ISLAND Hy	35.59	179	T		T	07 45 36.3	
	baz=360,slow=76,SNR=24							
H11N3	WAKE ISLAND Hy	35.60	179	T		T	07 45 37.5	
	baz=360,slow=76,SNR=19							
H11N1	WAKE ISLAND Hy	35.60	179	T		T	07 45 40.6	
	baz=360,slow=76,SNR=20							
H11S1	WAKE ISLAND Hy	36.80	180	T		T	07 47 08.2	
H11S3	WAKE ISLAND Hy	36.81	180	T		T	07 47 03.6	
H11S2	WAKE ISLAND Hy	36.82	180	T		T	07 47 07.9	
SONM	Songino Array	37.00	284	P		P	07 08 30.1	+0.3
	0.4nm,0.7s,baz=60,slow=8.1,SNR=3.9							
	0.4nm,0.7s							
YKA	Yellowknife Ar	38.91	47	P		P	07 08 45.2	-0.4
	0.3nm,0.7s,baz=295,slow=7.9,SNR=4.0							
	0.3nm,0.7s							
TXAR	Lajitas Array	66.34	72	P		P	07 12 09.7	+0.7
	0.9nm,0.6s,baz=295,slow=4.2,SNR=12							
	0.9nm,0.6s							

TEH 25 07:06:18.6, 30.75N×57.37E, h8km±40km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRM1	Kerman Provinc	0.26	199	Pg		Pg	07 06 24.2	+0.4
ZRDN	Zarand Kerman	0.75	287	Pg		Pb	07 06 33.7	-0.4
KHGB	Koh Gabri	0.85	245	Pg		Pg	07 06 35.1	+0.1
CHMN	Cheshme madani	0.90	170	Pg		Pg	07 06 35.5	-0.4
TVBK	TV Kerman	0.92	215	Pg		Pb	07 06 37.2	+0.1
NGRK	Negar Kerman	1.23	207	Pg		Pn	07 06 42.5	+0.1
IBAF	Bafgh	1.76	299	Pg		Pb	07 06 51.6	+0.4
KBAM	BAM	1.86	149	Pn		Pb	07 06 52.5	-0.4
BSRN	Basiran	1.93	51	Pn		Pb	07 06 54.6	+0.4
IKOO	Kooshah	2.18	39	Pn		Pb	07 06 57.3	-1.1
TPRV	Parvadeh(Tabas	2.35	346	Pn		Pn	07 06 59.4	+1.8
NHDN	Nehbandan	2.39	74	Pn		Pb	07 07 00.6	-1.4
ITEG	Tejag	2.44	28	Pn		Pn	07 07 00.9	+1.9
IDAH	Dahanechah	2.91	46	Pn		Pn	07 07 08.0	+2.5
AFRZ	Afriz	3.02	27	Pn		Pn	07 07 09.1	+2.3
IMON	Monand	3.12	38	Pn		Pn	07 07 11.3	+2.8
TNSJ	Nastanj	3.27	349	Pn		Pn	07 07 12.3	+2.0
ISAD	Sadrabad	3.36	291	Pn		Pn	07 07 14.3	+2.6
SHRT	Shahrakht	3.81	40	Pn		Pn	07 07 20.5	+2.9
ANAR	Anarak	3.94	309	Pn		Pn	07 07 22.1	+2.6
IRAM	Ramesheh	4.40	285	Pn		Pn	07 07 28.7	+2.8
IZEF	Zefreh	4.79	298	Pn		Pn	07 07 32.7	+1.4
KLNJ	Kolanjah	4.97	274	Pn		Pn	07 07 36.4	+2.5
SRVN	Saravan	5.52	126	Pn		Pn	07 07 43.4	+2.1

TEH 25 07:06:51.6, 28.56N×51.81E, h0km, ML2.8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.52

TCS1				IAML		07 15 11.5	
	comp=Z,770nm,1.0s						
SAJU	**San Juanillo,**	**0.91**	**231**	*i* P	**Pg**	**07 14 43.9**	**-0.9**
SAJU				*i* S	**Sb**	**07 14 57.9**	**+1.4**
SAJU				IAML		07 14 58.2	
	comp=Z,110nm,1.0s						
INDI	**Punta indio, G**	**0.92**	**213**	*e*P	**Pg**	**07 14 44.4**	**-0.6**
INDI				*e*S	**Sb**	**07 14 58.3**	**+1.5**
INDI	**Punta indio, G**	**0.92**	**213**	*i* P	**Pg**	**07 14 44.1**	**-0.9**
INDI				*i* S	**Sb**	**07 14 58.1**	**+1.3**
INDI				IAML		07 15 04.1	
	comp=Z,110nm,1.0s						
JACO	**JACO, Garabito**	**1.02**	**162**	*e*P	**Pg**	**07 14 45.4**	**-1.5**
JACO				*e*S	**Sg**	**07 14 59.7**	**-0.6**
JACO	**JACO, Garabito**	**1.02**	**162**	*i* P	**Pg**	**07 14 45.2**	**-1.7**
JACO				*i* S	**Sg**	**07 14 59.7**	**-0.6**
JACO				IAML		07 15 10.6	
	comp=Z,73nm,1.0s						
CBL1	**Cabuya**	**1.05**	**186**	*e*P	**Pg**	**07 14 46.0**	**-1.4**
CBL1				*e*S	**Sb**	**07 15 01.7**	**+1.2**
RIFO	**Rio Frio, Sara**	**1.09**	**107**	*e*P	**Pg**	**07 14 46.2**	**-2.1**
RIFO	**Rio Frio, Sara**	**1.09**	**107**	*i* P	**Pg**	**07 14 46.1**	**-2.1**
RIFO				*i* S	**Sg**	**07 15 02.1**	**-0.5**
RIFO				IAML		07 15 15.4	
	comp=Z,150nm,1.0s						
ACOS	**Acosta**	**1.17**	**136**	*e*P	**Pg**	**07 14 48.2**	**-1.5**
AMPA	**Desamparados**	**1.17**	**129**	*e*P	**Pg**	**07 14 49.0**	**-0.7**
LCR2	**La Lucha 2**	**1.32**	**133**	*e*P	**Pg**	**07 14 50.3**	**-2.2**
LCR2	**La Lucha 2**	**1.32**	**133**	*i* P	**Pg**	**07 14 50.3**	**-2.2**
LCR2				*i* S	**Sn**	**07 15 09.9**	**+1.4**
LCR2				IAML		07 15 17.8	
	comp=Z,57nm,1.0s						
ACON	**Acoyapa**	**1.33**	**352**	*e*P	**Pn**	**07 14 50.4**	**-0.7**
ACON				*e*S	**Sb**	**07 15 08.9**	**+0.2**
ACON	**Acoyapa**	**1.33**	**352**	*i* P	**Pn**	**07 14 50.3**	**-0.8**
ACON				*i* S	**Sb**	**07 15 08.8**	**+0.2**
ACON				IAML		07 15 13.2	
	comp=Z,240nm,1.0s						
RIMA	**Rio Macho**	**1.41**	**128**	*e*P	**Pn**	**07 14 52.9**	**+0.5**
RIMA	**Rio Macho**	**1.41**	**128**	*i* P	**Pn**	**07 14 52.1**	**-0.2**
RIMA				IAML		07 14 54.7	
	comp=Z,51nm,1.0s						
RIMA				*i* S	**Sn**	**07 15 13.0**	**+2.3**
LLNJ	**Naranjito**	**1.45**	**143**	*e*P	**Pn**	**07 14 52.6**	**-0.1**
CDM	**Cerro de Muert**	**1.62**	**132**	*e*P	**Pn**	**07 14 55.4**	**-0.1**
CDM	**Cerro de Muert**	**1.62**	**132**	*i* P	**Pn**	**07 14 55.2**	**-0.3**
CDM				*i* S	**Sg**	**07 15 19.5**	**+0.1**
CDM				IAML		07 15 25.8	
	comp=Z,42nm,1.0s						
BUS1	**Rivas**	**1.63**	**131**	*e*P	**Pn**	**07 14 55.6**	**-0.1**
ESPN	**Las Esperanzas**	**1.68**	**23**	*i* P	**Pn**	**07 14 55.9**	**-0.1**
ESPN				*i* S	**Sb**	**07 15 19.3**	**+0.5**
ESPN				IAML		07 15 23.7	
	comp=Z,120nm,1.0s						
PEZE	**Perez Zeledon,**	**1.80**	**134**	*i* P	**Pn**	**07 14 58.6**	**+1.0**
PEZE				*i* S	**Sg**	**07 15 24.9**	**-0.1**
PEZE				IAML		07 15 28.5	
	comp=Z,60nm,1.0s						
BLUN	**Bluefields**	**1.80**	**41**	*i* P	**Pn**	**07 14 56.2**	**-1.4**
BLUN				*i* S	**Sn**	**07 15 20.8**	**+0.6**
BOAB	**BOACO BROADBAN**	**.92**	**340**	*i* P	**Pn**	**07 14 59.4**	**+0.2**
BOAB				*i* S	**Sb**	**07 15 26.0**	**+0.5**
BOAB				IAML		07 15 29.2	
	comp=Z,100nm,1.0s						

IDC ***25*** *07:19:10.6±1.2,56˚35N×148˚56W, h0km, mb3.3/6, mbtmp3.5/11, ML3.5/5, MS2.5/1, Error ellipse: s-maj=25.9km s-min=15.9km az=35.0*

NEIC ***25*** *07:19:13.0±1.8,56˚42N±0˚08×148˚48W±0˚10, h27km±9km, mb4.0/4, ML3.9/52, ML3.7(AEIC), Error ellipse: s-maj=11.9km s-min=7.5km az=161.0*

AEIC ***25*** *07:19:16.5±1.4,56˚49N±0˚08×148˚50W±0˚10, h11km±7km, Error ellipse: s-maj=12.4km s-min=7.1km az=159.0*

ISC 25 07:19:11.8±0.8, 56˚54N±0˚07×148˚54W±0˚05, h10km, n241, σ1§12/236, mb3.3/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.53**	**301**			**Pn**	**07 19 53.2**	**+0.3**
KDAK	**Kodiak Island**	**2.53**	**301**	S		**Sn**	**07 20 21.8**	**-2.0**
	baz=118							
KDAK	**Kodiak Island**	**2.53**	**301**	Pn		**Pn**	**07 19 52.8**	**-0.1**
	11nm,0.3s,baz=128,slow=4.5,SNR=106							
KDAK				Sn		**Sn**	**07 20 22.3**	**-1.5**
	32nm,0.3s,baz=217,slow=24,SNR=9.1							
KDAK				LR		LR	07 21 06.3	
	comp=Z,99nm,20.6s,baz=113,slow=44							
	24nm,0.3s							
OHAK	**Old Harbor**	**2.70**	**287**			**Pn**	**07 19 54.8**	**-0.4**
OHAK	**Old Harbor**	**2.70**	**287**			**Sn**	**07 20 24.6**	**-3.2**
OHAK	**Old Harbor**	**2.70**	**287**	P		**Pn**	**07 19 54.9**	**-0.2**
OHAK	**Old Harbor**	**2.70**	**287**	P		**Pn**	**07 19 54.8**	**-0.4**
	baz=103							
OHAK				S		**Sn**	**07 20 24.6**	**-3.2**
	baz=103							
SYI	**Shuyak Island**	**2.94**	**317**			**Pn**	**07 19 59.1**	**+0.7**
SYI				IAML			07 20 34.6	
	comp=E,192nm,0.5s							
Q20K	**Shuyak Island**	**2.94**	**317**	P		**Pn**	**07 19 59.4**	**+1.0**
	baz=134							
Q20K				S		**Sn**	**07 20 33.0**	**-0.8**
	baz=134							
Q23K	**Middleton Isla**	**3.12**	**21**	Pn		**Pn**	**07 20 00.8**	**-0.2**
Q23K				IAML			07 20 39.7	
	comp=N,217nm,1.2s							
Q23K				IAML			07 20 42.6	
	comp=E,156nm,1.1s							
Q23K	**Middleton Isla**	**3.12**	**21**			**Sn**	**07 20 35.2**	**-3.1**
Q23K	**Middleton Isla**	**3.12**	**21**	P		**Pn**	**07 20 01.1**	**+0.1**
	baz=202							
MID	**Middleton Isla**	**3.12**	**21**	Pn		**Pn**	**07 20 00.6**	**-0.4**
MID				IAML			07 20 41.7	
	comp=E,180nm,1.1s							
MID	**Middleton Isla**	**3.12**	**21**			**Sn**	**07 20 35.4**	**-3.0**
MID	**Middleton Isla**	**3.12**	**21**	P		**Pn**	**07 20 01.1**	**+0.1**
SII	**Sitkinak Islan**	**3.13**	**273**			**Sn**	**07 20 34.8**	**-3.7**
CNPM	**China Poot**	**3.32**	**336**			**Pn**	**07 20 03.8**	**0.0**
CNPM	**China Poot**	**3.32**	**336**			**Sn**	**07 20 41.6**	**-1.7**
BRSE	**Bradley Lake S**	**3.42**	**341**			**Pn**	**07 20 05.3**	**+0.2**
BRSE						**Sn**	**07 20 43.9**	**-1.8**
BRSE	**Bradley Lake S**	**3.42**	**341**	P		**Pn**	**07 20 05.5**	**+0.4**
	baz=159							
BRSE				S		**Sn**	**07 20 43.8**	**-1.8**
	baz=159							
BRLK	**Bradley Lake**	**3.47**	**340**			**Pn**	**07 20 05.6**	**-0.1**
BRLK				IAML			07 20 51.0	
	comp=E,117nm,0.4s							
P23K	**Montague Islan**	**3.52**	**9**			**Pn**	**07 20 06.7**	**+0.2**
P23K						**Sn**	**07 20 45.9**	**-2.3**
P23K	**Montague Islan**	**3.52**	**9**	P		**Pn**	**07 20 06.7**	**+0.2**
	baz=190							
HOM	**Homer**	**3.54**	**334**			**Pn**	**07 20 08.0**	**+1.3**
SEW	**Seward**	**3.61**	**353**			**Pn**	**07 20 07.7**	**0.0**
SEW	**Seward**	**3.61**	**353**	P		**Pn**	**07 20 07.7**	**0.0**
	baz=172							
Q19K	**Cape Douglas,**	**3.64**	**313**			**Pn**	**07 20 09.5**	**+1.4**
Q19K				IAML			07 20 58.7	
	comp=N,333nm,0.8s							
Q19K	**Cape Douglas,**	**3.64**	**313**	P		**Pn**	**07 20 09.6**	**+1.4**
	baz=129							
KAHG	**Katmai Hook Gl**	**3.79**	**304**			**Pn**	**07 20 11.7**	**+1.5**
AUCH	**Augustine Cone**	**3.85**	**319**			**Pn**	**07 20 12.8**	**+1.7**
AUL	**Augustine Lava**	**3.87**	**320**			**Pn**	**07 20 12.8**	**+1.6**
O22K	**Cooper Landing**	**4.00**	**352**			**Pn**	**07 20 13.3**	**+0.2**
HIN	**Hinchinbrook I**	**4.01**	**15**			**Pn**	**07 20 13.7**	**+0.4**
HIN				IAML			07 21 00.1	
	comp=N,186nm,0.5s							
HIN				IAML			07 21 01.1	
	comp=E,177nm,0.6s							
KAIM	**Kayak Island**	**4.04**	**31**			**Pn**	**07 20 13.7**	**+0.1**
KAIM				IAML			07 21 03.3	
	comp=E,192nm,1.2s							
KAIM				IAML			07 21 03.3	
	comp=N,166nm,1.1s							
ACHA	**Angle Creek He**	**4.04**	**297**			**Pn**	**07 20 15.2**	**+1.6**
KAHC	**Katmai Hardscr**	**4.08**	**304**			**Pn**	**07 20 15.5**	**+1.3**
KAHC	**Katmai Hardscr**	**4.08**	**304**	P		**Pn**	**07 20 15.5**	**+1.3**
	baz=119							
SLKM	**Skilak Lake**	**4.08**	**348**			**Pn**	**07 20 14.4**	**+0.2**
KVTA	**Katmai Vly 10**	**4.09**	**300**			**Pn**	**07 20 16.3**	**+1.9**
ANCK	**Angle Creek**	**4.12**	**297**			**Pn**	**07 20 16.4**	**+1.6**
O20K	**Slope Mountain**	**4.16**	**330**			**Pn**	**07 20 16.0**	**+0.7**
IVE	**Iliamna Volcan**	**4.21**	**328**			**Pn**	**07 20 16.4**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.28**	**19**			**Pn**	**07 20 17.5**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.28**	**19**	P		**Pn**	**07 20 17.5**	**+0.7**
CNTC	**Contact Creek**	**4.34**	**297**			**Pn**	**07 20 19.2**	**+1.4**
FID	**Port Fidalgo**	**4.36**	**13**			**Pn**	**07 20 18.2**	**+0.3**
FID	**Port Fidalgo**	**4.36**	**13**	IAML			07 21 06.5	
	comp=E,62nm,0.3s							
FID				IAML			07 21 10.3	
	comp=N,86nm,0.7s							
RAGM	**Ragged Mountai**	**4.36**	**26**			**Pn**	**07 20 18.7**	**+0.6**
CAPN	**Captain Cook N**	**4.46**	**343**			**Pn**	**07 20 21.1**	**+1.8**
RED	**Redoubt Volcan**	**4.48**	**332**			**Pn**	**07 20 20.0**	**+0.2**
RDSO	**Redoubt South**	**4.50**	**332**			**Pn**	**07 20 20.2**	**+0.1**
RSO	**Redoubt South**	**4.51**	**332**			**Pn**	**07 20 20.4**	**+0.1**
GOAT	**Goat Mountain**	**4.52**	**25**			**Pn**	**07 20 21.1**	**+0.8**
RDT	**Redoubt**	**4.53**	**335**			**Pn**	**07 20 20.2**	**-0.1**
RDWB	**Redoubt West**	**4.56**	**332**			**Pn**	**07 20 20.6**	**-0.3**
P18K	**Big Mountain,**	**4.57**	**312**			**Pn**	**07 20 21.2**	**+0.2**
P18K	**Big Mountain,**	**4.57**	**312**	P		**Pn**	**07 20 21.3**	**+0.4**
	baz=126							
RC01	**Rabbit Creek A**	**4.61**	**353**			**Pn**	**07 20 22.3**	**+0.8**
RC01				IAML			07 21 14.0	
	comp=E,153nm,0.4s							
RC01				IAML			07 21 14.3	
	comp=N,132nm,0.3s							
RC01	**Rabbit Creek A**	**4.61**	**353**	P		**Pn**	**07 20 22.2**	**+0.8**
	baz=172							
DFR	**Drift River**	**4.61**	**334**			**Pn**	**07 20 21.5**	**0.0**
BERG	**Berg Lake**	**4.62**	**31**			**Pn**	**07 20 21.9**	**+0.3**
NCT	**North Crescent**	**4.64**	**332**			**Pn**	**07 20 22.2**	**+0.2**
SNH	**Sunshine Point**	**4.72**	**37**	Pn		**Pn**	**07 20 23.5**	**+0.4**
SNH				IAML			07 21 20.4	
	comp=E,69nm,0.9s							
SNH				IAML			07 21 20.7	
	comp=N,76nm,1.1s							
O19K	**Port Alsworth**	**4.77**	**323**			**Pn**	**07 20 24.1**	**+0.6**
O19K	**Port Alsworth**	**4.77**	**323**	P		**Pn**	**07 20 24.4**	**+0.9**
	baz=138							
DIV	**Divide**	**4.82**	**16**			**Pn**	**07 20 25.2**	**+0.7**
KNK	**Knik Glacier**	**4.89**	**0**			**Pn**	**07 20 26.0**	**+0.7**
KNK				IAML			07 22 56.4	
	comp=E,97nm,0.5s							
KNK				IAML			07 22 56.6	
	comp=N,66nm,0.3s							
KNK	**Knik Glacier**	**4.89**	**0**	P		**Pn**	**07 20 26.5**	**+1.2**
	baz=180							
BMRM	**Bremner River**	**4.89**	**23**			**Pn**	**07 20 26.1**	**+0.8**
BMRM	**Bremner River**	**4.89**	**23**	P		**Pn**	**07 20 25.9**	**+0.6**
	baz=206							
P17K	**Kvichak River**	**4.99**	**306**			**Pn**	**07 20 27.1**	**+0.5**
P17K	**Kvichak River**	**4.99**	**306**	P		**Pn**	**07 20 27.9**	**+1.3**
	baz=119							
BARK	**Barkley Ridge**	**5.01**	**37**			**Pn**	**07 20 27.4**	**+0.4**
R16K	**Pilot Point**	**5.04**	**286**			**Pn**	**07 20 27.8**	**+0.5**
R16K	**Pilot Point**	**5.04**	**286**	IAML			07 21 39.0	
	comp=E,76nm,1.2s							
R16K				IAML			07 23 41.9	
	comp=N,54nm,1.1s							
N20K	**Mount Spurr**	**5.05**	**339**	P		**Pn**	**07 20 28.7**	**+1.1**
	baz=156							
SPCR	**Spurr Chakacha**	**5.05**	**339**			**Pn**	**07 20 28.0**	**+0.5**
SUA	**Susitna One**	**5.07**	**348**			**Pn**	**07 20 28.1**	**+0.2**
SUA	**Susitna One**	**5.07**	**348**	P		**Pn**	**07 20 28.1**	**+0.2**
	baz=166							
PMR	**Palmer**	**5.08**	**357**			**Pn**	**07 20 28.2**	**+0.4**
PMR				IAML			07 21 24.6	
	comp=E,49nm,0.6s							
PMR				IAML			07 21 25.1	
	comp=N,49nm,0.7s							
PMR	**Palmer**	**5.08**	**357**	P		**Pn**	**07 20 28.4**	**+0.6**
SPCG	**Spurr Capps Gl**	**5.10**	**341**			**Pn**	**07 20 29.0**	**+0.8**
SPCP	**Crater Peak Br**	**5.10**	**340**			**Pn**	**07 20 28.9**	**+0.7**
KLU	**Klutina**	**5.15**	**14**			**Pn**	**07 20 29.6**	**+0.7**
KLU				IAML			07 21 31.1	
	comp=N,56nm,0.6s							
KLU				IAML			07 21 32.7	
	comp=E,42nm,0.4s							
KLU	**Klutina**	**5.15**	**14**	P		**Pn**	**07 20 29.6**	**+0.7**
	baz=196							
GHO	**Glory Hole Cre**	**5.25**	**358**			**Pn**	**07 20 31.4**	**+1.0**
GHO				IAML			07 21 29.8	
	comp=E,64nm,0.7s							
GHO				IAML			07 21 32.8	
	comp=N,92nm,0.5s							
STLK	**Strandline Lak**	**5.26**	**342**			**Pn**	**07 20 31.1**	**+0.7**
SML	**Sawmill**	**5.29**	**1**			**Pn**	**07 20 31.8**	**+1.1**
SML	**Sawmill**	**5.29**	**1**	P		**Pn**	**07 20 31.9**	**+1.2**
	baz=181							
M23K	**Glacier View**	**5.29**	**4**			**Pn**	**07 20 32.2**	**+1.4**
M23K	**Glacier View**	**5.29**	**4**	P		**Pn**	**07 20 32.2**	**+1.4**
	baz=185							
N19K	**Bonanza Creek**	**5.29**	**327**			**Pn**	**07 20 30.9**	**0.0**
SPNN	**North Nagishla**	**5.30**	**338**			**Pn**	**07 20 31.6**	**+0.5**
SCM	**Sheep Creek Mo**	**5.35**	**6**			**Pn**	**07 20 32.7**	**+1.0**
SCM	**Sheep Creek Mo**	**5.35**	**6**	P		**Pn**	**07 20 32.8**	**+1.2**
	baz=187							
VRDI	**Verde Repeater**	**5.39**	**27**			**Pn**	**07 20 32.9**	**+0.5**
SAMH	**Samovar Hills**	**5.44**	**45**			**Pn**	**07 20 33.8**	**+0.8**
KIAG	**Kiagna River**	**5.45**	**34**			**Pn**	**07 20 33.5**	**+0.4**
N25K	**Chitina, Valde**	**5.47**	**20**			**Pn**	**07 20 34.0**	**+0.7**
N25K	**Chitina, Valde**	**5.47**	**20**	P		**Pn**	**07 20 34.3**	**+0.9**
	baz=203							
CHGN	**Chignik**	**5.49**	**272**	Pn		**Pn**	**07 20 34.0**	**+0.5**
GLB	**Gilahina Butte**	**5.49**	**24**			**Pn**	**07 20 34.4**	**+0.8**
PTPK	**Patty Peak**	**5.62**	**32**			**Pn**	**07 20 36.3**	**+0.7**
PCA	**Pinnacle**	**5.63**	**47**			**Pn**	**07 20 36.1**	**+0.5**
P16K	**Nushagak River**	**5.64**	**300**			**Pn**	**07 20 37.0**	**+1.4**
P16K	**Nushagak River**	**5.64**	**300**	P		**Pn**	**07 20 37.0**	**+1.4**
	baz=112							
N18K	**Kilae Creek**	**5.66**	**320**			**Pn**	**07 20 36.0**	**+0.1**
SKT	**Skwentna**	**5.67**	**346**			**Pn**	**07 20 36.5**	**+0.5**
SKT	**Skwentna**	**5.67**	**346**	P		**Pn**	**07 20 36.8**	**+0.8**
	baz=163							
M24K	**Tolsona, Glenn**	**5.71**	**11**			**Pn**	**07 20 37.9**	**+1.2**
M24K	**Tolsona, Glenn**	**5.71**	**11**	P		**Pn**	**07 20 38.1**	**+1.4**
	baz=193							
BARN	**Barnard Glacie**	**5.77**	**35**			**Pn**	**07 20 38.0**	**+0.5**
PNL	**Peninsula**	**5.77**	**53**			**Pn**	**07 20 37.9**	**+0.5**
PNL	**Peninsula**	**5.77**	**53**	P		**Pn**	**07 20 37.9**	**+0.5**
	baz=241							
CTGM	**Chitina Glacie**	**5.81**	**37**			**Pn**	**07 20 38.5**	**+0.5**
LOGN	**Logan Glacier**	**5.82**	**39**			**Pn**	**07 20 38.6**	**+0.4**
M20K	**Styx River**	**5.86**	**338**			**Pn**	**07 20 38.9**	**+0.3**
O16K	**Kokwok River B**	**5.92**	**305**			**Pn**	**07 20 40.3**	**+0.9**
N17K	**Nushagak Hills**	**6.04**	**315**			**Pn**	**07 20 41.9**	**+0.8**
WAT6	**Susitna Watana**	**6.08**	**3**			**Pn**	**07 20 42.7**	**+1.0**
WAT6	**Susitna Watana**	**6.08**	**3**	P		**Pn**	**07 20 42.7**	**+1.0**
	baz=184							
VNFG	**Fog Glacier, M**	**6.12**	**272**			**Pn**	**07 20 43.1**	**+0.8**
HARP	**HAARP**	**6.12**	**15**			**Pn**	**07 20 43.8**	**+1.6**
M19K	**Big River Lodg**	**6.16**	**333**			**Pn**	**07 20 42.7**	**0.0**
M18K	**Stony River**	**6.23**	**326**			**Pn**	**07 20 43.5**	**-0.2**
M18K	**Stony River**	**6.23**	**326**	P		**Pn**	**07 20 44.0**	**+0.3**
	baz=140							
WAT1	**Susitna Watana**	**6.31**	**360**			**Pn**	**07 20 46.1**	**+1.3**
WAT1	**Susitna Watana**	**6.31**	**360**	P		**Pn**	**07 20 46.1**	**+1.3**
	baz=180							
WAT7	**Susitna Watana**	**6.32**	**359**			**Pn**	**07 20 46.2**	**+1.2**
O29M	**Mount Kennedy**	**6.45**	**50**			**Pn**	**07 20 47.9**	**+1.1**
CHNA	**Chernabura Isl**	**6.48**	**259**	P		**Pn**	**07 20 47.1**	**0.0**
	baz=70							
CNBA	**Chernabura Isl**	**6.49**	**259**			**Pn**	**07 20 46.9**	**-0.2**
P29M	**Windy Craggy**	**6.51**	**57**			**Pn**	**07 20 47.6**	**+0.1**
L19K	**White Mountain**	**6.51**	**333**			**Pn**	**07 20 47.6**	**0.0**
M26K	**Nabesna, AK**	**6.52**	**23**			**Pn**	**07 20 48.6**	**+0.9**
L20K	**Farewell, AK**	**6.55**	**338**			**Pn**	**07 20 47.8**	**-0.3**
O15K	**Ungalikthiuk R**	**6.58**	**298**			**Pn**	**07 20 49.8**	**+1.3**
YUK2	**White River**	**6.58**	**34**			**Pn**	**07 20 50.1**	**+1.6**
DHY	**Denali Highway**	**6.58**	**5**			**Pn**	**07 20 49.5**	**+0.9**
PAX	**Paxson**	**6.63**	**12**			**Pn**	**07 20 50.5**	**+1.1**
PPLA	**Purkeypile**	**6.64**	**345**			**Pn**	**07 20 50.2**	**+0.8**
N16K	**Nishlik Lake**	**6.66**	**311**			**Pn**	**07 20 50.4**	**+0.8**
M27K	**Edge Creek, AK**	**6.75**	**27**			**Pn**	**07 20 51.5**	**+0.6**
SDPT	**Sand Point**	**6.81**	**265**			**Pn**	**07 20 51.9**	**+0.2**
SDPT	**Sand Point**	**6.81**	**265**	P		**Pn**	**07 20 52.2**	**+0.5**
S31K	**Pelican**	**6.83**	**73**			Pn	07 20 49.7	-2.1
RNR	**Reindeer**	**6.89**	**359**			**Pn**	**07 20 54.4**	**+1.6**
TRF	**Thorofare Moun**	**6.99**	**354**	Pn		**Pn**	**07 20 55.1**	**+0.9**
L26K	**Log Cabin Wild**	**7.01**	**20**			**Pn**	**07 20 56.4**	**+2.0**
M16K	**Timber Creek**	**7.04**	**314**			**Pn**	**07 20 55.7**	**+1.0**
L18K	**Granite Mounta**	**7.05**	**327**			**Pn**	**07 20 54.6**	**-0.4**
BVCY	**Beaver Creek**	**7.07**	**30**			**Pn**	**07 20 56.7**	**+1.5**
P30M	**Million Dollar**	**7.07**	**55**			**Pn**	**07 20 56.2**	**+0.9**
N15K	**Kwethluk River**	**7.08**	**306**	Pn		**Pn**	**07 20 56.8**	**+1.4**
CAST	**Castle Rocks**	**7.13**	**347**	Pn		**Pn**	**07 20 57.0**	**+1.0**
KTH	**Kantishna Hill**	**7.14**	**351**			**Pn**	**07 20 57.2**	**+1.0**
R31K	**City Hall, Gus**	**7.15**	**69**			**Pn**	**07 20 55.9**	**-0.3**
MCK	**McKinley**	**7.22**	**359**			**Pn**	**07 20 59.0**	**+1.7**
SIT	**Sitka**	**7.28**	**80**	P		Pn	07 20 55.8	-2.2
O14K	**Tigyukauivet M**	**7.31**	**297**			**Pn**	**07 21 00.0**	**+1.6**
L27K	**Beaver Creek,**	**7.36**	**25**			**Pn**	**07 20 60.0**	**+0.8**
BCAR	**Beaver Creek A**	**7.38**	**25**	Pn		**Pn**	**07 20 59.6**	**+0.2**
TTA	**Tatalina**	**7.44**	**333**	P		**Pn**	**07 21 00.8**	**+0.5**
RIDG	**Independent Ri**	**7.46**	**13**	Pn		**Pn**	**07 21 01.6**	**+1.1**
PS1A	**Pavlof South-1**	**7.50**	**267**			**Pn**	**07 21 01.4**	**+0.3**
PVV	**Pavlof Volcano**	**7.53**	**267**			**Pn**	**07 21 01.6**	**0.0**
M15K	**Kasigluk River**	**7.59**	**308**			**Pn**	**07 21 03.0**	**+0.8**
SKAG	**Skagway**	**7.60**	**62**	P		**Pn**	**07 21 03.0**	**+0.6**
PN7A	**Pavlof North-7**	**7.63**	**267**			**Pn**	**07 21 03.7**	**+0.7**
BESE	**Bessie Mountai**	**7.64**	**69**			**Pn**	**07 21 02.5**	**-0.5**
L16K	**Owhat River**	**7.65**	**317**			**Pn**	**07 21 03.6**	**+0.5**
S32K	**Killisnoo**	**7.68**	**77**			**Pn**	**07 21 01.4**	**-2.1**
BPAW	**Bear Paw Mtn.**	**7.68**	**352**	Pn		**Pn**	**07 21 04.0**	**+0.4**
N30M	**Aishikik Lake**	**7.69**	**45**			**Pn**	**07 21 04.5**	**+0.7**
N14K	**Kuskokwak Cree**	**7.72**	**302**			**Pn**	**07 21 05.4**	**+1.3**
O30N	**Mendenhall**	**7.75**	**52**			**Pn**	**07 21 05.6**	**+1.0**
SCRK	**Sand Creek**	**7.80**	**15**	Pn		**Pn**	**07 21 05.5**	**+0.2**
JIS	**Juneau Island**	**7.84**	**71**			**Pn**	**07 21 05.6**	**-0.1**
JIS	**Juneau Island**	**7.84**	**71**	P		**Pn**	**07 21 05.8**	**+0.1**
K17K	**Iditarod**	**7.92**	**325**			**Pn**	**07 21 07.0**	**+0.1**
HDA	**Harding Lake**	**7.94**	**5**			**Pn**	**07 21 08.2**	**+1.2**
NEA2	**Nenana**	**8.09**	**358**			**Pn**	**07 21 09.6**	**+0.4**
CCB	**Clear Creek Bu**	**8.14**	**2**			**Pn**	**07 21 10.8**	**+0.9**
J20K	**Nowinta River**	**8.15**	**342**	Pn		**Pn**	**07 21 10.8**	**+0.9**
WHY	**Whitehorse**	**8.24**	**54**	Pn		**Pn**	**07 21 12.0**	**+0.7**
IL31		**8.30**	**5**	Pn		**Pn**	**07 21 12.4**	**+0.4**
ILAR	**Eielson Array**	**8.30**	**5**	Pn		**Pn**	**07 21 12.6**	**+0.6**
	comp=N,0.7nm,0.3s,baz=188,slow=13,SNR=31							
ILAR					Sn	**Sn**	**07 22 42.9**	**-2.8**
	comp=N,0.7nm,0.3s,baz=196,slow=23,SNR=8.7							
	comp=N,1.8nm,0.4s							
J26L	**Joseph Creek**	**8.35**	**15**			**Pn**	**07 21 13.3**	**+0.4**
COLA	**College**	**8.37**	**2**			**Pn**	**07 21 14.7**	**+1.7**
COLA	**College**	**8.37**	**2**	P		**Pn**	**07 21 14.5**	**+1.5**
L29M	**L29M**	**8.41**	**34**			**Pn**	**07 21 14.5**	**+0.9**
L15K	**Ungalak Mounta**	**8.42**	**313**			**Pn**	**07 21 14.5**	**+0.9**
P32M	**Atlin**	**8.43**	**63**			**Pn**	**07 21 14.3**	**+0.4**
M30M	**Minto, Yukon**	**8.49**	**40**			**Pn**	**07 21 15.6**	**+1.0**
FALS	**False Pass**	**8.57**	**265**	P		**Pn**	**07 21 15.9**	**+0.1**
U33K	**Whale Pass**	**8.58**	**86**			Pn	07 21 12.4	-3.4
MLY	**Manley**	**8.59**	**354**			**Pn**	**07 21 16.9**	**+0.9**
I23K	**Minto, Yukon-K**	**8.65**	**358**			**Pn**	**07 21 16.8**	**+0.1**
CRAG	**Craig**	**8.71**	**91**			Pn	07 21 14.2	-3.4
CRAG	**Craig**	**8.71**	**91**	P		Pn	07 21 14.3

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTVR	**Mutnovka**	**5.70**	**242**	*e*P	**Pn**	**07 27 26.0**	**+0.5**
GRL	**Gorelyy**	**5.72**	**243**	*e*P	**Pn**	**07 27 27.0**	**+1.3**
ASAK	**Asacha**	**5.90**	**243**	*e*P	**Pn**	**07 27 29.6**	**+1.4**
ILAR	**Eielson Array**	**24.50**	**49**	P	**P**	**07 31 18.7**	**-0.7**
	1.7nm,1.0s,baz=258,slow=9.2,SNR=12						
	1.7nm,1.0s						
INK	**Inuvik**	**29.71**	**41**	P	**P**	**07 32 06.2**	**+0.2**
	0.4nm,0.5s,baz=262,slow=4.3,SNR=5.6						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**35.63**	**179**	T	T	08 10 19.5	
	baz=360,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	08 10 20.5	
	baz=360,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	08 10 19.8	
	baz=360,slow=76,SNR=3.7						
YKA	**Yellowknife Ar**	**38.89**	**47**	P	**P**	**07 33 25.0**	**-0.4**
	0.2nm,0.6s,baz=299,slow=7.8,SNR=4.3						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**66.33**	**72**	P	**P**	**07 36 49.8**	**+0.8**
	0.5nm,0.6s,baz=298,slow=5.2,SNR=9.4						
	0.5nm,0.6s						

IDC ***25*** *07:34:00.5±2.1,47.89N×154.86E,h0km,mb3.7/6, mbtmp3.7/7,ML2.7/1,Error ellipse: s-maj=50.1km s-min=27.8km az=164.0*

ISC 25 07:34:05.3±1.8,47.9N±0.2×154.8E±0.2,h33km,n16, σ1§07/8,mb3.7/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.54**	**18**	Pn	**Pn**	**07 35 23.8**	**-1.5**
	1.0nm,0.3s,baz=180,slow=11,SNR=11						
PETK				Sn	**Sn**	**07 36 28.9**	**+1.1**
	baz=92,slow=40						
	4.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.75**	**157**	T	T	08 11 52.4	
	baz=344						
H11N1	**WAKE ISLAND Hy**	**29.77**	**157**	T	T	08 11 57.8	
	baz=344						
H11N3	**WAKE ISLAND Hy**	**29.77**	**157**	T	T	08 11 51.8	
	baz=344						
H11S1	**WAKE ISLAND Hy**	**30.87**	**158**	T	T	08 13 14.8	
	baz=344,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**30.88**	**158**	T	T	08 13 18.1	
	baz=344,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**30.89**	**158**	T	T	08 13 16.7	
	baz=344,slow=76,SNR=32						
SONM	**Songino Array**	**32.06**	**288**	P	**P**	**07 40 27.9**	**-1.0**
	0.3nm,0.7s,baz=93,slow=3.2,SNR=2.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**47.45**	**297**	P	**P**	**07 42 37.3**	**+0.8**
	0.4nm,0.6s,baz=66,slow=6.7,SNR=5.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**47.79**	**303**	P	**P**	**07 42 39.6**	**+0.5**
	1.0nm,0.6s,baz=68,slow=8.5,SNR=9.8						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.03**	**309**	P	**P**	**07 43 04.0**	**+0.3**
	0.4nm,0.4s,baz=78,slow=7.5,SNR=2.7						
	0.4nm,0.4s						
HFS	**Hagfors**	**67.78**	**340**	P	**P**	**07 44 59.8**	**+0.5**
	3.2nm,0.7s,baz=46,slow=4.5,SNR=4.5						
	3.2nm,0.7s						
TXAR	**Lajitas Array**	**75.92**	**62**	P	**P**	**07 45 49.1**	**+0.3**
	0.1nm,0.5s,baz=295,slow=4.9,SNR=4.1						
	0.1nm,0.5s						
H03N2	**Juan Fernandez**	**137.60**	**90**	T	T	10 26 40.8	
	baz=306						
H03N1	**Juan Fernandez**	**137.61**	**90**	T	T	10 26 37.1	
	baz=306						
H03N3	**Juan Fernandez**	**137.61**	**90**	T	T	10 26 32.8	
	baz=306						

IDC ***25*** *07:35:52.7±1.7,55.62N×166.23E,h0km,mb3.4/5, mbtmp3.4/6,ML2.6/1,MS3.5/1,Error ellipse: s-maj=66.7km s-min=19.8km az=163.0*

KRSC ***25*** *07:35:53.7±1.2,55.40N×166.17E,h30km±9km,Ml3.8*

ISC 25 07:35:55.2±0.9,55.47N±0.07×166.26E±0.08,h20km,n23, σ1§17/23,mb3.4/5,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.31**	**212**	*i* P	**Pb**	**07 36 00.6**	**-1.4**
BKI				*e*S	**Sb**	**07 36 06.1**	**-0.5**
SMKR	**Semkarok**	**2.91**	**294**	*e*P	**Pn**	**07 36 40.9**	**+0.6**
SMKR				*e*S	**Sn**	**07 37 15.1**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**3.18**	**281**	*e*P	**Pn**	**07 36 42.8**	**-1.3**
KLY	**Klyuchi**	**3.27**	**287**	*e*S	**Sn**	**07 37 21.8**	**-1.7**
TUMD	**Tumrok D**	**3.36**	**268**	*e*P	**Pn**	**07 36 46.8**	**+0.3**
TUMD				*e*S	**Sn**	**07 37 25.2**	**-0.5**
KMNR	**Kamenistaya**	**3.43**	**277**	*e*P	**Pn**	**07 36 48.8**	**+1.3**
KPT	**Kopyto**	**3.45**	**281**	*e*P	**Pn**	**07 36 48.4**	**+0.6**
TUMR	**Tumrok**	**3.49**	**269**	*e*P	**Pn**	**07 36 49.3**	**+0.9**
SRDR	**Sredinnyy**	**3.78**	**286**	*e*P	**Pn**	**07 36 54.9**	**+2.6**
SMAR	**Somma**	**4.89**	**246**	*e*P	**Pn**	**07 37 08.4**	**+0.7**
KRMR	**Karymshinskiy**	**5.46**	**244**	*e*S	**Sn**	**07 38 18.4**	**+1.0**
PETK	**Petropavlovsk-**	**5.54**	**248**	Pn	**Pn**	**07 37 17.8**	**+1.3**
	1.0nm,0.3s,baz=70,slow=17,SNR=9.8						
PETK				Sn	**Sn**	**07 38 20.6**	**+1.0**
	0.6nm,0.3s,baz=266,slow=14,SNR=0.9						
	2.7nm,0.6s						
GRL	**Gorelyy**	**5.64**	**242**	*e*P	**Pn**	**07 37 18.5**	**+0.6**
ASAK	**Asacha**	**5.83**	**241**	*e*P	**Pn**	**07 37 21.9**	**+1.5**
ILAR	**Eielson Array**	**24.55**	**49**	P	**P**	**07 41 12.3**	**-0.8**
	1.3nm,0.9s,baz=254,slow=7.3,SNR=11						
	1.3nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.68**	**179**	T	T	08 20 28.2	
	baz=359						
H11N3	**WAKE ISLAND Hy**	**35.70**	**179**	T	T	08 20 36.8	
	baz=359						
H11N1	**WAKE ISLAND Hy**	**35.70**	**179**	T	T	08 20 38.3	
	baz=359						
SONM	**Songino Array**	**36.86**	**284**	P	**P**	**07 43 02.9**	**+1.0**
	0.4nm,0.8s,baz=64,slow=6.6,SNR=2.4						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**38.93**	**47**	P	**P**	**07 43 19.2**	**+0.2**
	0.4nm,0.8s,baz=296,slow=8.1,SNR=4.3						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**49.60**	**303**	P	**P**	**07 44 43.4**	**-1.1**
	0.2nm,0.5s,baz=47,slow=7.9,SNR=2.5						
	0.2nm,0.5s						
JMIC	**Jan Mayen**	**53.79**	**358**	LR	LR	08 08 07.7	
	comp=Z,41nm,18.5s,baz=283,slow=36						
TXAR	**Lajitas Array**	**66.42**	**72**	P	**P**	**07 46 43.5**	**+0.7**
	0.3nm,0.7s,baz=312,slow=6.3,SNR=4.8						
	0.3nm,0.7s						

IDC 25 07:37:50.1±7.7,17.51S×176.99W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=337.2km s-min=41.1km az=142.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.03**	**259**	P	P	07 46 16.1	+0.1
	0.3nm,0.4s,baz=95,slow=7.8,SNR=5.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**46.20**	**254**	P	P	07 46 16.9	-0.3
	1.4nm,0.8s,baz=87,slow=8.4,SNR=13						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**85.20**	**12**	P	P	07 50 28.0	-0.1
	0.1nm,0.3s,baz=202,slow=4.0,SNR=1.5						
	0.1nm,0.3s						

IDC 25 07:46:20.1±8.6,26.30S×28.61E,h0km,mbtmp2.6/1, ML2.0/1,Error ellipse: s-maj=85.8km s-min=54.6km az=142.0,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**3.77**	**232**	Pn	Pn	07 47 19.8	+0.1
	0.1nm,0.3s,baz=54,slow=17,SNR=1.5						
BOSA				Lg	Lg	07 48 19.9	
	1.6nm,0.3s,baz=337,slow=16,SNR=11						
	1.0nm,0.5s						
I47ZA	**BOSHOF INFRASO**	**3.79**	**232**	I	I	08 10 50.0	
	baz=52,slow=311,SNR=1.1						
I35NA	**TSUMEB INFRASO**	**12.39**	**303**	I	I	09 04 30.0	
	baz=128,slow=320,SNR=0.7						

IDC 25 07:49:17.5±3.1,53.66N×88.04E,h0km,mbtmp2.7/2, ML2.3/2,Error ellipse: s-maj=25.1km s-min=16.2km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.93**	**280**	I	I	08 00 45.0	
	0.1nm,1.2s,baz=94,slow=349,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.93**	**280**	Pg	Pn	07 49 52.1	+0.6
	0.8nm,0.3s,baz=101,slow=12,SNR=35						
ZALV				Lg	Lg	07 50 19.3	
	1.3nm,0.3s,baz=93,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**6.59**	**246**	Pn	Pn	07 50 56.2	+0.6
	baz=61,slow=14,SNR=6.6						
KURBB				Sn	Sn	07 52 11.1	-0.2
	baz=64,slow=34,SNR=2.3						
KURBB				Lg	Lg	07 52 46.4	
	baz=59,slow=30,SNR=5.4						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**7.79**	**210**	Pn	Pn	07 51 13.7	+1.6
	0.1nm,0.3s,baz=23,slow=12,SNR=1.9						
MKAR				Sn	Sn	07 52 39.5	-1.5
	baz=23,slow=22,SNR=1.3						
MKAR				Lg	Lg	07 53 22.9	
	baz=20,slow=36,SNR=3.0						
	0.1nm,0.3s						

IDC ***25*** *07:50:55.0±0.7,55.51N×166.43E,h0km,mb4.1/19, mbtmp4.1/21,ML4.2/2,MS3.3/6,Error ellipse: s-maj=20.0km s-min=12.4km az=155.0*

KRSC ***25*** *07:50:55.0±2.0,55.36N×166.56E,h43km±12km,Ml4.7*

MOS ***25*** *07:50:55.1±0.9,55.44N×166.51E,h11km,mb4.6/12,Error ellipse: s-maj=7.5km s-min=5.6km az=149.9*

NEIC ***25*** *07:50:57.7±1.2,55.6N±0.1×166.3E±0.2,h10km±1km, mb4.4/62,Error ellipse: s-maj=26.3km s-min=12.6km az=156.0*

ISC 25 07:50:58.1±0.5,55.40N±0.05×166.41E±0.05,h20km,n197, σ1§18/208,mb4.3/49,MS3.1/5,7C-2D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.32**	**232**	PN	**Pb**	**07 51 04.7**	**-0.4**
BKI				S	**Sb**	**07 51 10.4**	**+0.6**
BKI	**Bering**	**0.32**	**232**	*e*P	**Pb**	**07 51 04.7**	**-0.4**
BKI				*e*S	**Sb**	**07 51 10.4**	**+0.6**
KBG	**Krutoberegovo**	**2.26**	**294**	PN	**Pn**	**07 51 32.9**	**-1.4**
KBG				S	**Sn**	**07 52 00.6**	**-0.9**
KBG	**Krutoberegovo**	**2.26**	**294**	*e*P	**Pn**	**07 51 32.9**	**-1.4**
KBG				*e*S	**Sn**	**07 52 00.6**	**-0.9**
SMKR	**Semkarok**	**3.02**	**295**	PN	**Pn**	**07 51 44.8**	**0.0**
SMKR				S	**Sn**	**07 52 20.6**	**+0.2**
SMKR	**Semkarok**	**3.02**	**295**	*e*P	**Pn**	**07 51 44.8**	**0.0**
BDR	**Baidarnaya**	**3.15**	**294**	PN	**Pn**	**07 51 47.2**	**+0.6**
BDR				S	**Sn**	**07 52 25.5**	**+1.9**
BDR	**Baidarnaya**	**3.15**	**294**	*e*P	**Pn**	**07 51 47.2**	**+0.6**
BDR				*e*S	**Sn**	**07 52 25.5**	**+1.9**
SRKR	**Sorokina**	**3.20**	**295**	PN	**Pn**	**07 51 47.8**	**+0.5**
SRKR	**Sorokina**	**3.20**	**295**	*e*P	**Pn**	**07 51 47.8**	**+0.5**
ZLN	**Zelenaya**	**3.23**	**283**	PN	**Pn**	**07 51 48.8**	**+1.1**
ZLN	**Zelenaya**	**3.23**	**283**	*e*P	**Pn**	**07 51 48.8**	**+1.1**
ZLN				*e*S	**Sn**	**07 52 29.0**	**+3.4**
CIRR	**Tsirk**	**3.28**	**285**	PN	**Pn**	**07 51 49.3**	**+0.9**
CIRR	**Tsirk**	**3.28**	**285**	*e*P	**Pn**	**07 51 49.3**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.28**	**282**	PN	**Pn**	**07 51 49.7**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.28**	**282**	*e*P	**Pn**	**07 51 49.7**	**+1.2**
BZP	**Bezymyannyi-Pe**	**3.37**	**281**	*e*P	**Pn**	**07 51 50.6**	**+0.9**
BZP				*e*S	**Sn**	**07 52 33.3**	**+4.2**
KLY	**Klyuchi**	**3.37**	**288**	PN	**Pn**	**07 51 48.4**	**-1.1**
KLY				S	**Sn**	**07 52 26.8**	**-2.1**
KLY	**Klyuchi**	**3.37**	**288**	*e*P	**Pn**	**07 51 48.4**	**-1.1**
KLY				*e*S	**Sn**	**07 52 28.4**	**-0.5**
BZMR	**Bezymyannaya**	**3.40**	**281**	PN	**Pn**	**07 51 51.0**	**+1.0**
BZMR	**Bezymyannaya**	**3.40**	**281**	*e*P	**Pn**	**07 51 51.0**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.40**	**282**	PN	**Pn**	**07 51 51.1**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.40**	**282**	*e*P	**Pn**	**07 51 51.1**	**+1.0**
TUMD	**Tumrok D**	**3.44**	**269**	*e*P	**Pn**	**07 51 51.5**	**+0.9**
TUMD				*e*S	**Sn**	**07 52 32.1**	**+1.3**
KIRR	**Kirishev**	**3.48**	**282**	PN	**Pn**	**07 51 52.5**	**+1.3**
KIRR	**Kirishev**	**3.48**	**282**	*e*P	**Pn**	**07 51 52.5**	**+1.3**
KMNR	**Kamenistaya**	**3.52**	**278**	PN	**Pn**	**07 51 52.8**	**+1.1**
KMNR	**Kamenistaya**	**3.52**	**278**	*e*P	**Pn**	**07 51 52.8**	**+1.1**
KPT	**Kopyto**	**3.55**	**282**	PN	**Pn**	**07 51 53.1**	**+1.0**
KPT	**Kopyto**	**3.55**	**282**	*e*P	**Pn**	**07 51 53.1**	**+1.0**
TUMR	**Tumrok**	**3.58**	**271**	PN	**Pn**	**07 51 51.5**	**-1.0**
TUMR	**Tumrok**	**3.58**	**271**	*e*P	**Pn**	**07 51 54.0**	**+1.5**
TUMR				*e*S	**Sn**	**07 52 38.0**	**+3.7**
KOZ	**Kozyrevsk**	**3.76**	**283**	PN	**Pn**	**07 51 55.9**	**+1.0**
KOZ	**Kozyrevsk**	**3.76**	**283**	*e*P	**Pn**	**07 51 56.2**	**+1.4**
SRDR	**Sredinnyy**	**3.88**	**286**	PN	**Pn**	**07 51 57.5**	**+0.8**
SRDR				S	**Sn**	**07 52 43.2**	**+1.5**
SRDR	**Sredinnyy**	**3.88**	**286**	*e*P	**Pn**	**07 51 57.6**	**+1.0**
KII	**Karymskiy**	**4.26**	**254**	PN	**Pn**	**07 52 03.4**	**+1.5**
KII	**Karymskiy**	**4.26**	**254**	*e*P	**Pn**	**07 52 03.4**	**+1.5**
SPN	**Mys Shipunski**	**4.40**	**241**	PN	**Pn**	**07 52 03.5**	**-0.2**
SPN	**Mys Shipunski**	**4.40**	**241**	*e*P	**Pn**	**07 52 03.5**	**-0.2**
SPN				*e*S	**Sn**	**07 52 52.1**	**-2.3**
SMAR	**Somma**	**4.94**	**247**	PN	**Pn**	**07 52 12.6**	**+1.2**
SMAR	**Somma**	**4.94**	**247**	*e*P	**Pn**	**07 52 12.8**	**+1.4**
SMAR				*e*S	**Sn**	**07 53 08.8**	**+0.8**
UGLR	**Uglovaya**	**4.96**	**247**	PN	**Pn**	**07 52 12.8**	**+1.4**
UGLR	**Uglovaya**	**4.96**	**247**	*e*P	**Pn**	**07 52 12.8**	**+1.4**
AVH	**Avacha**	**4.98**	**248**	PN	**Pn**	**07 52 13.2**	**+1.5**
AVH	**Avacha**	**4.98**	**248**	*e*P	**Pn**	**07 52 13.3**	**+1.7**
KRX	**Arik**	**4.98**	**249**	PN	**Pn**	**07 52 13.1**	**+1.3**
KRX	**Arik**	**4.98**	**249**	*e*P	**Pn**	**07 52 13.1**	**+1.3**
KOK	**Koryaka**	**5.02**	**248**	PN	**Pn**	**07 52 13.8**	**+1.5**
KOK	**Koryaka**	**5.02**	**248**	*e*P	**Pn**	**07 52 13.8**	**+1.5**
DALK	**Dalny**	**5.08**	**245**	PN	**Pn**	**07 52 13.6**	**+0.5**
DALK	**Dalny**	**5.08**	**245**	*e*P	**Pn**	**07 52 13.8**	**+0.7**
DALK				*e*S	**Sn**	**07 53 09.7**	**-1.4**
PALN	**Palana**	**5.09**	**319**	PN	**Pn**	**07 52 15.8**	**+2.3**
PALN	**Palana**	**5.09**	**319**	*e*P	**Pn**	**07 52 15.8**	**+2.3**
PET	**Petropavlovsk**	**5.14**	**246**		**Pn**	**07 52 14.1**	**+0.2**
PET	**Petropavlovsk**	**5.14**	**246**	*e*PN	**Pn**	**07 52 14.7**	**+0.9**
PET				pmax	pmax		
	comp=Z,160nm,0.8s						
PET	**Petropavlovsk**	**5.14**	**246**	*e*P	**Pn**	**07 52 14.5**	**+0.7**
PET				*e*S	**Sn**	**07 53 11.9**	**-0.6**
KRMR	**Karymshinskiy**	**5.51**	**246**	PN	**Pn**	**07 52 19.8**	**+0.9**
KRMR	**Karymshinskiy**	**5.51**	**246**	*e*P	**Pn**	**07 52 19.8**	**+0.9**
RUS	**Russkaya**	**5.54**	**241**	PN	**Pn**	**07 52 19.4**	**+0.1**
RUS	**Russkaya**	**5.54**	**241**	*e*S	**Sn**	**07 53 19.9**	**-2.3**
PEA0B	**Petropavlovsk-**	**5.60**	**249**		**Pn**	**07 52 21.2**	**+1.0**
PEA0B	**Petropavlovsk-**	**5.60**	**249**	*e*PN	**Pn**	**07 52 21.5**	**+1.3**
PETK	**Petropavlovsk-**	**5.60**	**249**	Pn	**Pn**	**07 52 20.7**	**+0.5**
	comp=Z,27nm,0.3s,baz=70,slow=16,SNR=207						
PETK				Sn	**Sn**	**07 53 26.6**	**+2.7**
	comp=Z,12nm,0.3s,baz=42,slow=24,SNR=8.5						
	comp=Z,106nm,0.5s						
MTVR	**Mutnovka**	**5.67**	**242**	PN	**Pn**	**07 52 22.1**	**+0.8**
MTVR	**Mutnovka**	**5.67**	**242**	*e*P	**Pn**	**07 52 22.1**	**+0.8**
MTVR				*e*S	**Sn**	**07 53 24.9**	**-0.9**
GRL	**Gorelyy**	**5.69**	**243**	PN	**Pn**	**07 52 23.2**	**+1.7**
GRL	**Gorelyy**	**5.69**	**243**	*e*P	**Pn**	**07 52 23.2**	**+1.7**
ASAK	**Asacha**	**5.87**	**243**	PN	**Pn**	**07 52 25.3**	**+1.4**
ASAK	**Asacha**	**5.87**	**243**	*e*P	**Pn**	**07 52 25.3**	**+1.4**
ASAK				*e*S	**Sn**	**07 53 30.1**	**-0.5**
APC	**Apacha**	**5.98**	**249**	PN	**Pn**	**07 52 27.1**	**+1.8**
APC	**Apacha**	**5.98**	**249**	*e*P	**Pn**	**07 52 27.3**	**+2.0**
PAU	**Pauzhetka**	**6.96**	**239**	PN	**Pn**	**07 52 40.3**	**+1.5**
KMSK	**Kamenskaya**	**7.09**	**359**	*e*P	**Pn**	**07 52 39.7**	**-0.8**
SEY	**Seymchan**	**10.41**	**322**	*e*PN	**Pn**	**07 53 22.6**	**-3.4**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL	**Bilibino**	**12.68**	**360**	*e*PN	**Pn**	**07 53 53.6**	**-3.5**
K13K	**Kusilvak Mount**	**16.30**	**55**	Pn	**Pn**	**07 54 46.1**	**+0.6**
ANM	**Nome**	**16.69**	**45**		**Pn**	**07 54 51.3**	**+0.9**
ANM				IAmb	IAmb	07 55 04.8	
	comp=Z,28nm,1.3s						
ANM	**Nome**	**16.69**	**45**	P	**Pn**	**07 54 51.3**	**+0.9**
ANM				pmax	pmax		
	comp=Z,28nm,1.3s						
J14K	**Nanvaranak Lak**	**16.96**	**52**	Pn	**Pn**	**07 54 53.1**	**-0.8**
YSS	**Yuzh-Sakhalins**	**17.00**	**250**	*e*P	**P**	**07 54 57.6**	**+1.3**
YSS				pmax	pmax		
	comp=Z,44nm,1.2s						
F15K	**North Star Dit**	**17.39**	**42**		**Pn**	**07 54 59.8**	**+0.6**
M14K	**Bethel**	**17.44**	**59**		**Pn**	**07 55 00.1**	**+0.2**
M14K				IAmb	IAmb	07 55 13.6	
	comp=Z,29nm,1.1s						
C16K	**Lisburne Hills**	**18.30**	**34**	P	**P**	**07 55 11.1**	**+0.6**
I17K	**Unalakleet**	**18.46**	**49**	P	**Pn**	**07 55 12.8**	**+0.5**
I17K				IAmb	IAmb	07 55 23.5	
	comp=Z,19nm,1.1s						
L16K	**Owhat River**	**18.71**	**56**	P	**Pn**	**07 55 16.3**	**+0.9**
F17K	**Baldwin Pennin**	**18.95**	**41**	P	**P**	**07 55 17.3**	**-0.2**
ASAJ	**Asahikawa**	**18.98**	**243**	P	**P**	**07 55 19.0**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=93,slow=7.9,SNR=7.4						
ASAJ				LR	LR	08 02 48.3	
	comp=Z,62nm,18.2s,baz=314,slow=38						
	comp=Z,9.4nm,0.5s						
H17K	**Granite Mounta**	**19.03**	**46**	P	**Pn**	**07 55 20.2**	**+0.9**
G18K	**Tagagawik**	**19.79**	**44**	P	**P**	**07 55 26.5**	**-0.3**
C18K	**Utukok River**	**19.83**	**35**	P	**P**	**07 55 26.6**	**-0.6**
YAK	**Yakutsk**	**19.97**	**304**	P	**P**	**07 55 27.2**	**-1.5**
YAK	**Yakutsk**	**19.97**	**304**	*de*P	**P**	**07 55 28.4**	**-0.3**
YAK				pmax	pmax		
	comp=Z,23nm,1.0s						
J18K	**Innoko River**	**20.15**	**51**	P	Pn	07 55 32.2	-0.3
J18K				IAmb	IAmb	07 55 41.6	
	comp=Z,25nm,0.9s						
ERM	**Erimo**	**20.24**	**238**	P	**P**	**07 55 33.0**	**+1.2**
ERM	**Erimo**	**20.24**	**238**	P	**P**	**07 55 33.0**	**+1.2**
ERM				pmax	pmax		
	comp=Z,83nm,1.2s						
TTA	**Tatalina**	**20.41**	**53**	P	**P**	**07 55 33.7**	**0.0**
TTA				IAmb	IAmb	07 55 44.6	
	comp=Z,31nm,1.4s						
TTA	**Tatalina**	**20.41**	**53**	P	**P**	**07 55 33.7**	**0.0**
TTA				pmax	pmax		
	comp=Z,31nm,1.4s						
C19K	**Lookout Ridge**	**20.55**	**35**	P	**P**	**07 55 35.8**	**+0.7**
H19K	**Roundabout Mou**	**20.59**	**46**	P	**P**	**07 55 36.5**	**+1.1**
H19K				IAmb	IAmb	07 55 45.9	
	comp=Z,22nm,1.0s						
J19K	**Poorman**	**20.69**	**50**	P	**P**	**07 55 37.0**	**+0.4**
J19K				IAmb	IAmb	07 55 46.7	
	comp=Z,12nm,0.8s						
K20K	**Telida**	**21.32**	**52**	P	**P**	**07 55 44.1**	**+0.7**
IMAR	**Indian Mountai**	**21.77**	**45**	P	**P**	**07 55 47.9**	**-0.2**
KLR	**Kul'dur**	**21.90**	**268**	P	**P**	**07 55 51.0**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=344,slow=9.9,SNR=4.3						
	comp=Z,1.5nm,0.7s						
G21K	**Allakaket**	**21.96**	**44**	P	**P**	**07 55 51.6**	**+1.4**
G21K				IAmb	IAmb	07 56 02.3	
	comp=Z,12nm,1.1s						
H21K	**Melozitna Rive**	**22.10**	**46**	P	**P**	**07 55 52.5**	**+0.8**
H21K				IAmb	IAmb	07 55 54.5	
	comp=Z,12nm,1.0s						
JTM	**Tenmabayashi**	**22.19**	**239**	P	**P**	**07 55 53.0**	**+0.1**
CAST	**Castle Rocks**	**22.22**	**52**	P	**P**	**07 55 54.3**	**+1.3**
B21K	**Ikpikpuk River**	**22.38**	**35**	P	**P**	**07 55 55.2**	**+0.5**
TIXI	**Tiksi**	**22.73**	**330**	P	**P**	**07 55 57.9**	**-0.5**
TIXI	**Tiksi**	**22.73**	**330**	*e*P	**P**	**07 55 58.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,18nm,3.3s						
TIXI	**Tiksi**	**22.73**	**330**	LR	LR	08 04 17.5	
	comp=Z,51nm,19.7s,baz=112,slow=36						
BPAW	**Bear Paw Mtn.**	**22.73**	**50**	P	**P**	**07 55 58.8**	**+0.3**
BPAW				IAmb	IAmb	07 56 12.2	
	comp=Z,10nm,1.2s						
D22K	**Ayikyak River**	**22.81**	**38**	P	**P**	**07 55 59.7**	**+0.4**
D22K				IAmb	IAmb	07 56 10.9	
	comp=Z,21nm,1.3s						
MLY	**Manley**	**22.90**	**48**	P	**P**	**07 56 00.5**	**+0.3**
MLY				IAmb	IAmb	07 56 11.6	
	comp=Z,9.1nm,1.2s						
TRF	**Thorofare Moun**	**23.03**	**52**	P	**P**	**07 56 02.4**	**+0.7**
TRF				IAmb	IAmb	07 56 15.5	
	comp=Z,14nm,1.2s						
I23K	**Minto, Yukon-K**	**23.49**	**48**	P	**P**	**07 56 06.2**	**+0.1**
I23K				IAmb	IAmb	07 56 06.9	
	comp=Z,8.6nm,1.0s						
NEA2	**Nenana**	**23.59**	**49**	P	**P**	**07 56 07.3**	**+0.2**
NEA2				IAmb	IAmb	07 56 11.1	
	comp=Z,7.6nm,1.0s						
SML	**Sawmill**	**24.00**	**56**	P	**P**	**07 56 11.8**	**+0.7**
CCB	**Clear Creek Bu**	**24.13**	**49**	P	**P**	**07 56 12.1**	**-0.1**
D24K	**Happy Valley**	**24.23**	**38**	P	**P**	**07 56 12.7**	**-0.4**
F24K	**Squaw Lake**	**24.30**	**42**	P	**P**	**07 56 13.9**	**+0.1**
G24K	**Hadweenzic Riv**	**24.37**	**44**	P	**P**	**07 56 14.9**	**+0.4**
G24K				IAmb	IAmb	07 56 16.7	
	comp=Z,12nm,0.9s						
SCM	**Sheep Creek Mo**	**24.48**	**56**	P	**P**	**07 56 15.0**	**-0.5**
SCM	**Sheep Creek Mo**	**24.48**	**56**	P	**P**	**07 56 15.0**	**-0.5**
SCM				pmax	pmax		
	comp=Z,15nm,0.9s						
HDA	**Harding Lake**	**24.50**	**50**	P	**P**	**07 56 15.2**	**-0.4**
HDA				IAmb	IAmb	07 56 25.2	
	comp=Z,12nm,1.1s						
IL31		**24.53**	**49**	P	**P**	**07 56 16.3**	**+0.5**
ILAR	**Eiel

H11S3	**WAKE ISLAND Hy**	**36.84**	**180**	T		T		08 37 11.2	
	baz=359,slow=76,SNR=6.5								
H11S2	**WAKE ISLAND Hy**	**36.85**	**180**	T		T		08 36 42.7	
	baz=359,slow=76,SNR=16								
SONM	**Songino Array**	**36.97**	**284**	P		**P**		**07 58 06.4**	**+0.6**
SONM	**Songino Array**	**36.97**	**284**	P		**P**		**07 58 06.8**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=59,slow=8.2,SNR=18								
	comp=Z,2.2nm,0.6s								
HHC	**Hu-ho-hao-te**	**38.34**	**271**	*e*P		**P**		**07 58 16.8**	**-0.7**
HHC				pmax		pmax			
	comp=Z,22nm,0.6s								
HHC				pmax		pmax			
	comp=Z,580nm,5.2s								
YKA	**Yellowknife Ar**	**38.91**	**47**	P		**P**		**07 58 21.5**	**-0.3**
YKA	**Yellowknife Ar**	**38.91**	**47**	*e*P		**P**		**07 58 22.3**	**+0.4**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**38.91**	**47**	P		**P**		**07 58 21.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=299,slow=8.0,SNR=17								
	comp=Z,1.2nm,0.8s								
ZALV	**Zalesovo Beam**	**44.62**	**304**	P		**P**		**07 59 07.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=72,slow=6.2,SNR=2.0								
	comp=Z,0.3nm,0.3s								
SPITS	**Spitsbergen Ar**	**45.43**	**352**	P		**P**		**07 59 13.4**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=64,slow=11,SNR=15								
	comp=Z,2.5nm,0.5s								
DGZ	**Jazzator, Alta**	**45.94**	**298**⇑	*e*P		**P**		**07 59 18.9**	**-0.4**
DGZ				pmax		pmax			
	comp=Z,13nm,3.0s								
KURK	**Kurchatov**	**49.61**	**303**	P		**P**		**07 59 46.9**	**-0.7**
KURK				IAmb		IAmb		07 59 47.7	
	comp=Z,3.9nm,0.7s								
KURK	**Kurchatov**	**49.61**	**303**	P		**P**		**07 59 47.7**	**+0.2**
KURBB	**Kurchatov Arra**	**49.71**	**303**	P		**P**		**07 59 47.7**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=54,slow=7.8,SNR=42								
	comp=Z,3.5nm,0.7s								
MK31	**Makanchi Array**	**50.44**	**298**	P		**P**		**07 59 53.0**	**-1.0**
MK31				IAmb		IAmb		07 59 53.5	
	comp=Z,1.9nm,0.6s								
MK31	**Makanchi Array**	**50.44**	**298**	P		**P**		**07 59 53.0**	**-1.0**
MK31				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**50.44**	**298**	P		**P**		**07 59 52.8**	**-1.1**
MKAR	**Makanchi Array**	**50.44**	**298**	P		**P**		**07 59 52.8**	**-1.1**
MKAR	**Makanchi Array**	**50.44**	**298**	P		**P**		**07 59 53.0**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=49,slow=6.0,SNR=55								
	comp=Z,2.0nm,0.5s								
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**		**08 00 03.6**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=54,slow=7.5,SNR=19								
	comp=Z,3.5nm,0.6s								
BRVK	**Borovoye**	**51.82**	**310**	P		**P**		**08 00 03.8**	**-0.4**
BRVK	**Borovoye**	**51.82**	**310**	*de*P		**P**		**08 00 04.0**	**-0.2**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
PDAR	**Pinedale Array**	**53.17**	**66**	P		**P**		**08 00 14.4**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=323,slow=2.2,SNR=4.7								
	comp=Z,0.8nm,0.9s								
FRB	**Frobisher Bay**	**53.84**	**27**	LR		LR		08 27 13.1	
	comp=Z,35nm,18.7s,baz=218,slow=40								
ULM	**Lac du Bonnet**	**54.51**	**51**	*e*P		**P**		**08 00 27.8**	**+3.8**
ULM				pmax		pmax			
	comp=Z,1.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**62.23**	**262**	*ce*P		**P**		**08 01 18.8**	**+0.5**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**62.23**	**262**	P		**P**		**08 01 18.2**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=30,slow=6.4,SNR=4.6								
	comp=Z,1.0nm,0.3s								
NOA	**NORSAR Array B**	**62.26**	**347**	P		**P**		**08 01 17.0**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=18,slow=6.8,SNR=3.3								
	comp=Z,0.8nm,0.5s								
HFS	**Hagfors**	**62.78**	**345**	P		**P**		**08 01 19.7**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=15,slow=12,SNR=1.4								
	comp=Z,1.8nm,0.7s								
TX31	**Lajitas Ar. Si**	**66.36**	**72**	P		**P**		**08 01 46.1**	**+0.7**
TX31				IAmb		IAmb		08 01 56.6	
	comp=Z,4.8nm,1.3s								
TXAR	**Lajitas Array**	**66.36**	**72**	P		**P**		**08 01 46.1**	**+0.7**
TXAR	**Lajitas Array**	**66.36**	**72**	P		**P**		**08 01 46.1**	**+0.7**
TXAR	**Lajitas Array**	**66.36**	**72**	P		**P**		**08 01 46.0**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=302,slow=4.8,SNR=26								
	comp=Z,1.3nm,0.6s								
AKASG	**Malin Array Be**	**68.42**	**332**	*e*P		**P**		**08 01 57.2**	**-0.8**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**68.42**	**332**	P		**P**		**08 01 56.9**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=27,slow=6.3,SNR=4.6								
	comp=Z,0.8nm,0.5s								
DZM	**Mont Dzumac**	**77.16**	**180**	LR		LR		08 30 33.6	
	comp=Z,48nm,20.2s,baz=261,slow=31								
WRA	**Warramunga Arr**	**79.85**	**210**	P		**P**		**08 03 03.9**	**-1.0**
	comp=Z,1.7nm,1.1s,baz=24,slow=6.0,SNR=4.7								
	comp=Z,1.7nm,1.1s								
ASAR	**Alice Springs**	**83.50**	**210**	P		**P**		**08 03 24.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=11,slow=4.6,SNR=7.1								
	comp=Z,1.0nm,0.8s								
QSPA	**South Pole Qui**	**145.16**	**180**	PKPbc		**PKPbc**		**08 10 31.0**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=331,slow=3.0,SNR=8.5								

*IDC **25** 07:59:32.8±3.6, 31°.73S×176°.08E, h0km, mb3.6/2, mbtmp3.7/3, ML3.6/1, MS3.6/2, Error ellipse: s-maj=81.5km s-min=30.4km az=63.0*

*WEL **25** 07:59:39.6±1.2, 32°.3S±7°×17°.8E±2°.8, h33km, M4.1/8, mB4.5/7, ML4.6/12, MLv4.4/8, Mw(mB)3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=91.2, confirmed*

ISC 25 07:59:29.5±2.4, 31°.6S±0°.1×177°.0E±0°.3, h10km, n22, σ2§81/27, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.09**	**170**	P		**Pn**	**08 01 03.6**	**+4.1**
MXZ				S		**Sn**	**08 02 05.9**	**-3.4**
HAZ	**Te Kaha**	**6.22**	**174**	P		**Pn**	**08 01 03.6**	**+2.3**
HAZ				S		**Sn**	**08 02 12.1**	**-0.4**
WMGZ	**Waiomatatini S**	**6.36**	**170**	P		**Pn**	**08 01 04.9**	**+1.6**
WMGZ				S		Sn	08 02 08.9	-7.0
RUGZ	**Raukumara Rang**	**6.42**	**175**	P		**Pn**	**08 01 07.6**	**+3.4**
RUGZ				S		**Sn**	**08 02 13.2**	**-4.4**
MKRZ	**Makatiti**	**6.58**	**184**	P		Pn	08 01 13.9	+7.5
PUZ	**Puketiti**	**6.58**	**171**	P		**Pn**	**08 01 04.9**	**-1.4**
PUZ				S		Sn	08 02 14.6	-6.9
TWGZ	**Tauwhareparae**	**6.66**	**173**	P		**Pn**	**08 01 10.6**	**+3.2**
TWGZ				S		Sn	**08 02 19.3**	**-4.0**
URZ	**Urewera**	**6.69**	**179**	Pn		**Pn**	**08 01 11.1**	**+3.3**
	1.3nm,0.3s,baz=350,slow=6.4,SNR=13							
URZ				Sn		**Sn**	**08 02 25.6**	**+1.5**
	2.9nm,0.3s,baz=293,slow=21,SNR=13							
	2.8nm,0.3s							
URZ	**Urewera**	**6.69**	**179**	P		**Pn**	**08 01 10.3**	**+2.5**
URZ				S		**Sn**	**08 02 24.2**	**+0.2**
MWZ	**Matawai**	**6.78**	**176**	P		**Pn**	**08 01 10.8**	**+1.7**
MWZ				S		**Sn**	**08 02 26.0**	**-0.3**
MUGZ	**Murupara**	**6.91**	**181**	P		**Pn**	**08 01 14.3**	**+3.4**
MUGZ				S		**Sn**	**08 02 29.9**	**+0.4**
SNGZ	**Shannon Statio**	**7.21**	**178**	P		**Pn**	**08 01 18.4**	**+3.4**
SNGZ				S		**Sn**	**08 02 33.9**	**-3.2**
OTVZ	**Oturere**	**7.67**	**188**	P		Pn	08 01 28.0	+6.6
ARHZ	**Aropaoanui**	**7.69**	**180**	P		**Pn**	**08 01 24.8**	**+3.2**
KWHZ	**Kaweka Forest**	**7.86**	**183**	P		**Pn**	**08 01 27.0**	**+3.0**
KRHZ	**Kereru**	**8.09**	**183**	P		**Pn**	**08 01 28.4**	**+1.4**
PXZ	**Pawanui**	**8.46**	**181**	P		**Pn**	**08 01 31.7**	**-0.4**
ASAR	**Alice Springs**	**38.79**	**271**	P		**P**	**08 06 52.7**	**-1.8**
	0.6nm,0.8s,baz=110,slow=7.8,SNR=8.8							
	0.6nm,0.8s							
WRA	**Warramunga Arr**	**39.89**	**276**	P		**P**	**08 07 02.1**	**-1.7**
	0.6nm,0.4s,baz=114,slow=7.8,SNR=11							
	0.6nm,0.4s							
NWAO	**Narrogin (SRO)**	**49.96**	**252**	LR		LR	08 28 03.8	
	comp=Z,59nm,18.3s,baz=49,slow=35							
MA2	**Magadan**	**93.36**	**347**	LR		LR	08 48 33.6	
	comp=Z,24nm,19.6s,baz=111,slow=32							
SONM	**Songino Array**	**101.17**	**320**	P		**Pdif**	**08 13 23.3**	**+3.3**
	2.9nm,0.8s,baz=126,slow=3.7,SNR=10							

IDC 25 08:02:04.7±2.9, 53°.58N×87°.93E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.6km s-min=15.7km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**283**	I		I	08 13 05.0	
	0.3nm,1.1s,baz=97,slow=348,SNR=15							
ZALV	**Zalesovo Beam**	**1.88**	**283**	Pn		Pn	08 02 37.7	-0.4
	0.9nm,0.3s,baz=104,slow=12,SNR=24							
ZALV				Lg		Lg	08 03 04.4	
	1.5nm,0.3s,baz=104,slow=25,SNR=18							
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn		Pn	08 03 42.0	+0.5
	baz=61,slow=14,SNR=6.7							
KURBB				Lg		Lg	08 05 32.3	
	baz=62,slow=32,SNR=6.8							
	1.0nm,0.6s							
MKAR	**Makanchi Array**	**7.70**	**210**	Pn		Pn	08 03 59.4	+1.4
	0.1nm,0.3s,baz=27,slow=13,SNR=6.0							
MKAR				Sn		Sn	08 05 25.6	-0.2
	baz=28,slow=22,SNR=3.3							
MKAR				Lg		Lg	08 06 07.4	
	baz=36,slow=32,SNR=3.6							
	0.2nm,0.5s							

*GCMT **25** 08:03:36.8±0.3, 5°.77N±0°.03×126°.06E±0°.03, h96km±4km, MW4.8/79, Moment Tensor Solution. s24,c26; s79,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~2.11±.09; Mθθ0.39±.15; Mϕϕ1.72±.19; Mrθ~0.20±.09; Mϕϕ-1.10±.11; Mϕr~0.59±.10; Best double couple: Mo2.31500×10^16 NP1:ϕs343.00000°, δ52.00000°, λ-74.00000°. NP2: ϕs138.00000°, δ41.00000°, λ-110.00000°. Principal axes: T 2.3780, Plg5.0000°, Azm62.0000°; N -0.1290, Plg13.0000°, Azm153.0000°; P -2.2530, Plg76.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **25** 08:03:37.4±0.3, 6°.N±2°×12°.6E±°, h103km±3km, M4.8/21, mb4.7/21, mB5.2/8, MLv5.2/9, Mw(mB)4.6/8, MwMwp7.0/1, Mwp6.8/1*

*IDC **25** 08:03:37.0±1.2, 5°.55N×125°.52E, h98km±9km, mb4.1/24, mbtmp4.4/24, MS3.5/18, Error ellipse: s-maj=21.7km s-min=9.2km az=70.0*

*NEIC **25** 08:03:38.9±1.8, 5°.71N±0°.06×125°.93E±0°.09, h100km±1km, mb4.8/55, Error ellipse: s-maj=13.8km s-min=8.4km az=74.0*

ISC 25 08:03:38.1±0.3, 5°.68N±0°.03×125°.85E±0°.06, h10km, n156, σ1§41/161, mb4.7/63, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**1.41**	**349**⇑	*i*P		**Pn**	**08 04 03.0**	**-0.2**
DAV	**Davao City (W)**	**1.41**	**349**			**Pn**	**08 04 03.0**	**-0.2**
DAV	**Davao City (W)**	**1.41**	**349**	P		**Pn**	**08 04 03.1**	**-0.1**
	291nm,0.3s,baz=272,slow=4.7,SNR=8.1							
DAV				S		**Sn**	**08 04 22.9**	**+0.7**
	456nm,0.3s,baz=358,slow=17,SNR=7.1							
DAV	**Davao City (W)**	**1.41**	**349**	P		**Pn**	**08 04 03.0**	**-0.2**
DAV				S		**Sn**	**08 04 22.1**	**-0.1**
SGSI	**Sangihe**	**2.01**	**189**	P		**Pn**	**08 04 11.5**	**+0.7**
SGSI				S		**Sn**	**08 04 37.2**	**+1.5**
TNTI	**Ternate**	**5.11**	**163**			**Pn**	**08 04 51.8**	**-0.5**
TNTI	**Ternate**	**5.11**	**163**	P		**Pn**	**08 04 52.6**	**+0.3**
	116nm,1.0s,1.2nm							
TNTI				S		**Sn**	**08 05 50.2**	**+0.1**
	116nm,1.0s,1.2nm							
KMSI	**Cibinong**	**5.41**	**200**	P		Pn	08 05 05.2	+8.9
MRSI	**Marisa**	**6.48**	**217**	P		**Pn**	**08 05 12.3**	**+1.4**
	626nm,0.7s,5μm1.6nm							
MRSI				S		**Sn**	**08 06 21.2**	**-2.2**
	626nm,0.7s,5μm1.6nm							
LBMI	**Labuha**	**6.49**	**165**	P		**Pn**	**08 05 10.4**	**-0.7**
	126nm,0.9s,3μm2.1nm							
LBMI				S		**Sn**	**08 06 22.1**	**-1.6**
	126nm,0.9s,3μm2.1nm							
TOLI2	**Tolitoli**	**6.80**	**228**	Pn		**Pn**	**08 05 15.2**	**-0.1**
LUWI	**Luwuk**	**7.35**	**205**	Pn		**Pn**	**08 05 25.9**	**+3.1**
LUWI	**Luwuk**	**7.35**	**205**	P		**Pn**	**08 05 25.4**	**+2.6**
	217nm,0.8s,4μm1.5nm							
LUWI				S		**Sn**	**08 06 47.0**	**+2.3**
	217nm,0.8s,4μm1.5nm							
SANI	**Sanana**	**7.68**	**179**	P		**Pn**	**08 05 25.3**	**-2.0**
	93nm,0.9s,2μm0.4nm							
MPSI	**Mapaga**	**7.97**	**228**	P		**Pn**	**08 05 33.2**	**+2.0**
	30nm,0.7s							
SWI	**Sorong**	**8.45**	**140**	P		**Pn**	**08 05 35.6**	**-2.2**
	65nm,0.9s							
SIJI	**Sorong**	**8.46**	**140**	P		**Pn**	**08 05 37.3**	**-0.6**
	24nm,0.7s							
NLAI	**Namlea**	**8.95**	**172**	P		**Pn**	**08 05 43.0**	**-1.5**
	40nm,0.5s,11μm959μm							
TTSI	**Tana Toraja**	**10.56**	**215**	P		**Pn**	**08 06 08.2**	**+1.8**
	40nm,0.8s							
FAKI	**Fak Fak**	**10.67**	**143**	Pn		**Pn**	**08 06 07.7**	**-0.3**
FAKI	**Fak Fak**	**10.67**	**143**	P		**Pn**	**08 06 05.6**	**-2.4**
	41nm,1.1s							
BKB	**Balikpapan**	**11.29**	**233**	Pn		**Pn**	**08 06 18.4**	**+2.0**
KAPI	**Kappang**	**12.25**	**210**	P		**Pn**	**08 06 30.8**	**+1.7**
	20nm,0.7s,baz=204,slow=6.5,SNR=7.9							
KAPI				LR		LR	08 11 37.6	
	comp=Z,132nm,18.3s,baz=38,slow=40							
SBUM	**Sibu**	**13.97**	**257**			**P**	**08 06 56.0**	**-0.5**
SBUM	**Sibu**	**13.97**	**257**	P		**Pn**	**08 06 53.1**	**+1.4**
	16nm,1.2s,327nm							
MMRI	**Maumere**	**14.67**	**194**	P		**Pn**	**08 07 03.8**	**+3.1**
SOEI	**Soe**	**15.42**	**186**	P		**Pn**	**08 07 12.5**	**+2.2**
KSM	**Kuching**	**16.06**	**255**	P		**P**	**08 07 21.5**	**+1.8**
KSM	**Kuching**	**16.06**	**255**	P		**P**	**08 07 20.8**	**+1.1**
	21nm,1.2s							
DLV	**T Lat**	**18.24**	**291**	P		**P**	**08 07 44.6**	**+0.6**
JAGI	**Jajag, Banyuwa**	**18.27**	**220**	P		**P**	**08 07 44.9**	**+0.8**
MTN	**Manton Dam**	**19.14**	**164**	P		**P**	**08 07 53.5**	**0.0**
JOW	**Kunigami**	**21.16**	**6**	P		**P**	**08 08 16.5**	**+1.2**
JOW	**Kunigami**	**21.16**	**6**	P		**P**	**08 08 16.2**	**+0.9**
	18nm,0.8s,baz=229,slow=21,SNR=1.3							
JOW				LR		LR	08 17 32.4	
	comp=Z,41nm,18.6s,baz=114,slow=39							
	18nm,0.8s							
KNRA	**Kununurra**	**21.42**	**172**			**P**	**08 08 17.9**	**-0.2**
MYKOM	**Kota Tinggi**	**22.29**	**261**	P		**P**	**08 08 30.0**	**+2.6**
MYKOM	**Kota Tinggi**	**22.29**	**261**	P		**P**	**08 08 28.7**	**+1.3**
	29nm,1.6s,740nm							
FITZ	**Fitzroy Crossi**	**23.63**	**180**	P		**P**	**08 08 40.7**	**+0.4**
PMG	**Port Moresby**	**25.99**	**125**	LR		LR	08 19 13.1	
	comp=Z,64nm,18.4s,baz=314,slow=36							
COEN	**Coen**	**26.01**	**139**	P		**P**	**08 09 01.6**	**-0.3**
COEN				IAmb		IAmb	08 09 08.0	
	comp=Z,27nm,1.2s							
WB0	**Warramunga Arr**	**26.65**	**162**	P		**P**	**08 09 06.8**	**-0.9**
WB0				IAmb		IAmb	08 09 42.8	
	comp=Z,69nm,1.9s							
WRA	**Warramunga Arr**	**26.80**	**162**	P		**P**	**08 09 08.4**	**-0.6**
WRA	**Warramunga Arr**	**26.80**	**162**	P		**P**	**08 09 07.8**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=335,slow=11,SNR=18							
WRA				S		**S**	**08 13 35.0**	**-3.0**
	comp=Z,4.5nm,1.2s,baz=333,slow=16,SNR=4.8							
	comp=Z,2.8nm,0.7s							
NJ2	**Nanjing**	**27.04**	**347**	*e*P		**P**	**08 09 13.3**	**+2.3**
NJ2				pmax		pmax		
	comp=Z,11nm,0.8s							
NJ2				pmax		pmax		
	comp=Z,350nm,3.6s							
PSA00	**Pilbara Seismi**	**27.72**	**192**	P		**P**	**08 09 17.2**	**0.0**
PSA00				IAmb		IAmb	08 09 18.9	
	comp=Z,17nm,0.8s							
GSI	**Gunungsitoli**	**28.55**	**262**	P		**P**	**08 09 25.3**	**+0.6**
GSI				IAmb		IAmb	08 09 26.6	
	comp=Z,36nm,0.8s							
GSI	**Gunungsitoli**	**28.55**	**262**	P		**P**	**08 09 24.7**	**0.0**
	comp=Z,47nm,0.7s							
CMAR	**Chiang Mai Arr**	**29.16**	**298**	P		**P**	**08 09 27.0**	**-3.0**
	comp=Z,0.9nm,0.3s,baz=108,slow=5.8,SNR=1.4							
CMAR				LR		LR	08 22 07.5	
	comp=Z,41nm,18.0s,baz=100,slow=38							
	comp=Z,0.9nm,0.3s							
KMI	**Kunming**	**29.40**	**314**	⇑P		**P**	**08 09 32.0**	**-0.4**
KMI				pmax		pmax		
	comp=Z,20nm,1.1s							
AS31	**Alice Springs**	**30.21**	**165**	P		**P**	**08 09 39.5**	**+0.2**
ASAR	**Alice Springs**	**30.21**	**165**	P		**P**	**08 09 39.6**	**+0.3**
ASAR	**Alice Springs**	**30.21**	**165**	P		**P**	**08 09 39.1**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=345,slow=7.3,SNR=20							
ASAR				ScP		**ScP**	**08 16 11.1**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=342,slow=3.2,SNR=7.2							
	comp=Z,0.7nm,0.3s							
PZH	**PanZhiHua**	**30.95**	**315**	P		**P**	**08 09 49.5**	**+3.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,190nm,4.3s							
KSRS	**Korea Array**	**31.68**	**3**	P		**P**	**08 09 54.1**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=192,slow=10.0,SNR=9.1							
	comp=Z,2.6nm,0.6s							
XAN	**Xi'an**	**32.29**	**333**	P		**P**	**08 09 57.3**	**-0.2**
XAN				pP		pP	08 10 20.5	+0.3
XAN				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CTA	**Charters Tower**	**32.53**	**142**	LR		LR	08 24 45.2	
	comp=Z,68nm,19.7s,baz=258,slow=39							
CTAO	**Charters Tower**	**32.53**	**142**	P		**P**		
CTAO				IAmb		IAmb	08 10 57.3	
	comp=Z,42nm,1.7s							
MJAR	**Matsushiro Arr**	**32.74**	**19**	P		**P**	**08 10 03.0**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=200,slow=8.5,SNR=2.0							
	comp=Z,1.4nm,0.6s							
HNS	**HongShan**	**33.17**	**344**	*e*P		**P**	**08 10 08.0**	**+2.9**
JMM	**Marumori**	**34.81**	**21**	P		**P**	**08 10 20.2**	**+1.0**
MORW	**Morawa**	**35.81**	**195**	P		**P**	**08 10 28.5**	**+0.5**
FORT	**Forrest**	**36.32**	**177**	P		**P**	**08 10 32.2**	**0.0**
FORT				IAmb		IAmb	08 10 58.8	
	comp=Z,25nm,1.1s							
LZH	**Lanzhou**	**36.39**	**329**	*e*P		**P**	**08 10 37.8**	**+4.8**
LZH				pP		pP	08 10 57.5	+1.4
LZH				pmax		pmax		
	comp=Z,9.0nm,1.3s							
HHC	**Hu-ho-hao-te**	**37.28**	**342**	*e*P		**P**	**08 10 43.3**	**+2.8**
HHC				pmax		pmax		
	comp=Z,11nm,0.6s							
HHC				pmax		pmax		
	comp=Z,200nm,5.2s							
USA0B	**Ussuriysk Arra**	**38.74**	**7**	P		**P**	**08 10 53.6**	**+1.1**
USRK	**Ussuriysk Ar.**	**38.74**	**7**	P		**P**	**08 10 53.5**	**+1.0**
	comp=Z,4.9nm,0.9s,baz=198,slow=8.3,SNR=6.3							
	comp=Z,4.9nm,0.9s							
NWAO	**Narrogin (SRO)**	**39.26**	**191**	P		**P**	**08 10 57.6**	**+0.6**
NWAO	**Narrogin (SRO)**	**39.26**	**191**	P		**P**	**08 10 57.6**	**+0.6**
EIDS	**Eidsvold**	**39.42**	**143**	P		**P**	**08 10 57.4**	**-1.1**
EIDS				IAmb		IAmb	08 11 14.7	
	comp=Z,8.8nm,0.9s							
BBOO	**Buckleboo**	**39.49**	**166**	P		**P**	**08 10 58.8**	**-0.2**
BNX	**BinXian**	**39.93**	**2**	⇑P		**P**	**08 11 04.3**	**+1.9**
BNX				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BNX				pmax		pmax		
	comp=Z,600nm,4.6s							
STKA	**Stephens Creek**	**40.25**	**159**	P		**P**	**08 11 05.5**	**+0.2**
STKA	**Stephens Creek**	**40.25**	**159**	P		**P**	**08 11 05.5**	**+0.2**
	comp=Z,13nm,0.8s,baz=335,slow=8.6,SNR=28							
STKA				LR		LR	08 28 57.8	
	comp=Z,67nm,19.3s,baz=7.2,slow=38							
	comp=Z,13nm,0.8s							
ASAJ	**Asahikawa**	**41.01**	**18**	LR		LR	08 28 53.8	
	comp=Z,43nm,19.3s,baz=144,slow=37							
KLR	**Kul'dur**	**43.68**	**6**	LR		LR	08 30 22.5	
	comp=Z,60nm,19.7s,baz=256,slow=37							
HEH	**HeiHe**	**44.44**	**1**	*e*P		**P**	**08 11 39.0**	**+0.1**
HEH				pmax		pmax		
	comp=Z,11nm,0.7s							
HEH				pmax		pmax		
	comp=Z,350nm,4.7s							
SONM	**Songino Array**	**45.18**	**342**	LR		LR	08 33 33.9	
	comp=Z,39nm,18.1s,baz=71,slow=40							
CAN	**Canberra**	**46.24**	**154**	P		**P**	**08 11 55.6**	**+2.2**
CAN				sP		**sP**	**08 12 28.6**	**+1.7**
TOO	**Toolangi**	**46.77**	**158**	P		**P**	**08 11 58.4**	**+0.9**
TOO				IAmb		IAmb	08 12 55.6	
	comp=Z,28nm,1.5s							
DZM	**Mont Dzumac**	**48.38**	**126**	P		**P**	**08 12 10.6**	**+0.2**
DZM	**Mont Dzumac**	**48.38**	**126**	*e*LR		LR	08 26 01.3	
	comp=Z,162nm,36.6s							
DZM	**Mont Dzumac**	**48.38**	**126**	P		**P**	**08 12 10.4**	**+0.1**
	comp=Z,7.6nm,0.6s,baz=292,slow=6.1,SNR=7.3							
	comp=Z,7.6nm,0.6s							
DZM	**Mont Dzumac**	**48.38**	**126**	P		**P**	**08 12 11.3**	**+1.0**
DZM				sP		**sP**	**08 12 46.4**	**+2.3**
WMQ	**Urumqi**	**50.63**	**325**	*e*P		**P**	**08 12 24.0**	**-3.1**
WMQ				pmax		pmax		
	comp=Z,16nm,0.9s							
PETK	**Petropavlovsk-**	**53.98**	**23**	P		**P**	**08 12 52.5**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=214,slow=3.9,SNR=7.6							
PETK				PcP		**PcP**	**08 13 55.6**	**0.0**
	comp=Z,7.2nm,1.1s,baz=151,slow=3.3,S

H17K	**Granite Mounta**	**78.22**	**25**	P	**P**		**08 15 28.3**	**+1.8**
H17K				IAmb	IAmb		08 15 29.4	
	comp=Z,16nm,1.4s							
C18K	**Utukok River**	**78.56**	**21**	P	**P**		**08 15 28.8**	**+0.5**
C19K	**Lookout Ridge**	**79.23**	**21**	P	**P**		**08 15 32.6**	**+0.6**
D19K	**Kuna River**	**79.63**	**21**	P	**P**		**08 15 34.6**	**+0.5**
D19K				IAmb	IAmb		08 15 36.9	
	comp=Z,49nm,2.0s							
H19K	**Roundabout Mou**	**79.76**	**24**	P	**P**		**08 15 35.8**	**+0.9**
H19K				IAmb	IAmb		08 15 38.1	
	comp=Z,9.8nm,0.8s							
E19K	**Redstone River**	**79.77**	**22**	P	**P**		**08 15 36.5**	**+1.6**
E19K				IAmb	IAmb		08 16 36.4	
	comp=Z,12nm,0.6s							
B20K	**Meade River**	**80.25**	**20**	P	**P**		**08 15 37.8**	**+0.5**
F20K	**Avaraart Lake**	**80.28**	**23**	P	**P**		**08 15 38.5**	**+0.9**
KDAK	**Kodiak Island**	**80.72**	**32**	P	**P**		**08 15 40.7**	**+0.6**
B21K	**Ikpikpuk River**	**81.06**	**20**	P	**P**		**08 15 42.7**	**+1.0**
G21K	**Allakaket**	**81.09**	**24**	P	**P**		**08 15 44.4**	**+2.4**
G21K				IAmb	IAmb		08 15 45.1	
	comp=Z,8.4nm,0.9s							
CAST	**Castle Rocks**	**81.39**	**27**	P	**P**		**08 15 43.9**	**+0.2**
CAST				IAmb	IAmb		08 15 45.8	
	comp=Z,12nm,0.7s							
SUA	**Susitna One**	**81.89**	**29**	P	**P**		**08 15 45.8**	**-0.6**
MLY	**Manley**	**82.10**	**25**	P	**P**		**08 15 46.7**	**-0.6**
MLY				IAmb	IAmb		08 15 50.2	
	comp=Z,12nm,1.0s							
I23K	**Minto, Yukon-K**	**82.69**	**25**	P	**P**		**08 15 50.1**	**-0.2**
D24K	**Happy Valley**	**83.06**	**21**	P	**P**		**08 15 53.8**	**+1.6**
D24K				IAmb	IAmb		08 15 59.2	
	comp=Z,47nm,1.9s							
H24K	**Noodor Dome**	**83.32**	**24**	P	**P**		**08 15 54.2**	**+0.6**
H24K				IAmb	IAmb		08 15 58.0	
	comp=Z,7.2nm,0.9s							
G24K	**Hadweenzic Riv**	**83.50**	**24**	P	**P**		**08 15 55.2**	**+0.6**
G24K				IAmb	IAmb		08 15 58.0	
	comp=Z,25nm,1.4s							
ILAR	**Eielson Array**	**83.73**	**26**	P	**P**		**08 15 55.9**	**+0.2**
ILAR	**Eielson Array**	**83.73**	**26**	P	**P**		**08 15 56.6**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=245,slow=6.1,SNR=9.5							
	comp=Z,1.4nm,0.6s							
E25K	**Arctic Village**	**84.24**	**22**	P	**P**		**08 15 58.4**	**+0.1**
E25K				IAmb	IAmb		08 16 02.5	
	comp=Z,30nm,1.7s							
VNDA	**Vanda**	**85.46**	**173**	P	**P**		**08 16 04.5**	**+0.4**
F28M	**Old Crow**	**86.42**	**23**	P	**P**		**08 16 09.1**	**-0.1**
PPT2	**Papeete2**	**86.55**	**108**	*e*LR	LR		08 43 37.6	
	comp=Z,91nm,28.5s							
PPT2				*e*LR	LR		08 43 39.4	
	comp=Z,103nm,24.2s							
BRTR	**Keskin Array B**	**88.11**	**310**	P	**P**		**08 16 14.6**	**-3.4**
	comp=Z,0.6nm,0.7s,baz=131,slow=3.7,SNR=1.6							
	comp=Z,0.6nm,0.7s							
ARCES	**ARCES Array B**	**88.33**	**340**	P	**P**		**08 16 16.7**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=47,slow=5.3,SNR=5.0							
	comp=Z,1.7nm,0.6s							
SPITS	**Spitsbergen Ar**	**88.41**	**349**	P	**P**		**08 16 17.2**	**-1.3**
	comp=Z,4.4nm,0.7s,baz=91,slow=6.7,SNR=8.0							
	comp=Z,4.4nm,0.7s							
FINES	**FINESS Array B**	**89.71**	**332**	P	**P**		**08 16 22.6**	**-2.2**
	comp=Z,5.8nm,0.8s,baz=44,slow=4.9,SNR=14							
	comp=Z,5.8nm,0.8s							
IDI	**Anoyia**	**95.64**	**306**	LR	LR		09 05 29.1	
	comp=Z,21nm,18.0s,baz=78,slow=39							
HFS	**Hagfors**	**95.89**	**332**	P	**P**		**08 16 51.4**	**-2.0**
	comp=Z,5.7nm,0.9s,baz=48,slow=2.2,SNR=5.2							
	comp=Z,5.7nm,0.9s							
NB2	**NORSAR Subarra**	**96.66**	**334**	P	**P**		**08 16 55.2**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=66,slow=4.6							
NOA	**NORSAR Array B**	**96.66**	**334**	P	**P**		**08 16 54.5**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=4.9							
NOA				LR	LR		09 05 03.1	
	comp=Z,46nm,18.4s,baz=355,slow=38							
	comp=Z,1.1nm,0.7s							
YKA	**Yellowknife Ar**	**98.09**	**24**	P	**P**		**08 17 02.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=298,slow=4.8,SNR=6.4							
	comp=Z,0.5nm,0.8s							
GERES	**GERESS Array B**	**100.02**	**322**	LR	LR		09 08 42.6	
	comp=Z,50nm,20.4s,baz=306,slow=39							
TXAR	**Lajitas Array**	**121.08**	**51**	PKP	**PKPdf**		**08 22 20.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=268,slow=0.6,SNR=8.3							
TORD	**Torodi Ar. Bea**	**121.47**	**289**	PKP	**PKPdf**		**08 22 19.5**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=45,slow=2.8,SNR=11							
DBIC	**Dimbokro**	**129.30**	**283**	PKP	**PKPdf**		**08 22 36.0**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=345,slow=2.2,SNR=3.6							

IDC 25 08:04:44.0±2.7, 54°.10N×86°.43E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=20.9km s-min=11.7km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**262**	I	I	08 10 30.0	
	0.1nm,0.8s,baz=81,slow=349,SNR=4.3						
ZALV	**Zalesovo Beam**	**0.96**	**262**	*P*g	Pg	08 05 01.4	-1.0
	0.9nm,0.3s,baz=78,slow=17,SNR=11						
ZALV				Lg	Lg	08 05 16.2	
	1.0nm,0.3s,baz=80,slow=31,SNR=5.0						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	08 06 15.1	+1.7
	0.1nm,0.3s,baz=53,slow=13,SNR=3.2						
KURBB				Lg	Lg	08 07 53.5	
	baz=54,slow=30,SNR=1.4						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	08 06 39.3	+1.0
	0.2nm,0.3s,baz=14,slow=25,SNR=5.9						
MKAR				Sn	Sn	08 08 05.5	-1.5
	0.1nm,0.3s,baz=24,slow=25,SNR=1.4						
MKAR				Lg	Lg	08 08 51.6	
	baz=18,slow=29,SNR=2.1						
	0.2nm,0.3s						

IDC 25 08:11:34.2±8.7, 26°.22S×28°.81E, h0km, mbtmp2.4/1, ML2.2/1, Error ellipse: s-maj=89.8km s-min=55.5km az=142.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**3.14**	**292**	Lg	Lg	08 13 16.6	
	5.5nm,0.3s,baz=196,slow=23,SNR=8.1						
BOSA	**Boshof**	**3.96**	**232**	Pn	Pn	08 12 36.3	+0.1
	0.1nm,0.3s,baz=50,slow=16,SNR=1.5						
BOSA				Lg	Lg	08 13 39.8	
	2.6nm,0.3s,baz=329,slow=22,SNR=15						
	1.0nm,0.8s						
I47ZA	**BOSHOF INFRASO**	**3.97**	**232**	I	I	08 37 00.0	
	baz=52,slow=309,SNR=1.3						
SUR	**Sutherland**	**9.29**	**227**	Sn	Sn	08 15 33.8	-1.2
	0.1nm,0.3s,baz=330,slow=20,SNR=1.4						
I35NA	**TSUMEB INFRASO**	**12.50**	**302**	I	I	09 31 20.0	
	baz=128,slow=320,SNR=1.3						

NEIC ***25*** *08:12:06.3±1.6, 56°.24N×0°.10×149°.7W±0°.1, h22km±10km, ML3.9/48, ML3.6(AEIC), Error ellipse: s-maj=14.3km s-min=8.3km az=166.0*

AEIC ***25*** *08:12:08.9±1.6, 56°.18N±0°.08×149°.7W±0°.1, h10km±8km, Error ellipse: s-maj=13.2km s-min=7.4km az=147.0*

ISC 25 08:12:04.1±1.5, 56°.2N±0°.1×149°.78W±0°.07, h10km, n180, σ0s85/179, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.19**	**299**	Pn	**Pn**	**08 12 40.8**	**+0.3**
OHAK	**Old Harbor**	**2.19**	**299**		**Sn**	**08 13 06.0**	**-1.6**
OHAK	**Old Harbor**	**2.19**	**299**	IAML		08 13 06.3	
	comp=N,324nm,0.4s						
OHAK				IAML		08 13 06.3	
	comp=E,253nm,0.8s						
OHAK	**Old Harbor**	**2.19**	**299**	P	**Pn**	**08 12 40.9**	**+0.4**
OHAK	**Old Harbor**	**2.19**	**299**	P	**Pn**	**08 12 40.8**	**+0.3**
	baz=116						
OHAK				S	**Sn**	**08 13 06.0**	**-1.6**
	baz=116						
KDAK	**Kodiak Island**	**2.21**	**317**	Pn	**Pn**	**08 12 41.3**	**+0.6**
KDAK				IAML		08 13 08.2	
	comp=E,367nm,0.3s						
KDAK	**Kodiak Island**	**2.21**	**317**		**Sn**	**08 13 06.8**	**-1.3**
KDAK	**Kodiak Island**	**2.21**	**317**	P	**Pn**	**08 12 41.5**	**+0.7**
	baz=134						
SII	**Sitkinak Islan**	**2.48**	**280**		**Pn**	**08 12 44.9**	**+0.4**
SII	**Sitkinak Islan**	**2.48**	**280**	IAML		08 13 14.2	
	comp=E,373nm,0.6s						
SII				IAML		08 13 15.3	
	comp=N,309nm,0.5s						
SII	**Sitkinak Islan**	**2.48**	**280**	P	**Pn**	**08 12 44.9**	**+0.4**
	baz=97						
SII				S	**Sn**	**08 13 14.0**	**-0.7**
	baz=97						
SYI	**Shuyak Island**	**2.80**	**331**	Pn	**Pn**	**08 12 49.3**	**+0.4**
Q20K	**Shuyak Island**	**2.80**	**331**	P	**Pn**	**08 12 49.6**	**+0.7**
	baz=148						
Q20K				S	**Sn**	**08 13 22.0**	**-0.7**
	baz=148						
CNPM	**China Poot**	**3.43**	**347**	Pn	**Pn**	**08 12 56.9**	**-0.6**
Q19K	**Cape Douglas,**	**3.44**	**324**	Pn	**Pn**	**08 12 59.0**	**+1.3**
Q19K				IAML		08 13 42.3	
	comp=N,304nm,0.6s						
Q19K	**Cape Douglas,**	**3.44**	**324**	P	**Pn**	**08 12 59.3**	**+1.5**
	baz=140						
KAHG	**Katmai Hook Gl**	**3.46**	**314**		**Pn**	**08 12 60.0**	**+2.0**
KAHG					**Sn**	**08 13 38.7**	**-0.3**
KCE	**Katmai Mt Cerb**	**3.58**	**307**		**Pn**	**08 13 01.7**	**+2.0**
BRSE	**Bradley Lake S**	**3.59**	**352**		**Pn**	**08 12 59.5**	**-0.3**
BRSE	**Bradley Lake S**	**3.59**	**352**	P	**Pn**	**08 12 59.5**	**-0.3**
	baz=170						
HOM	**Homer**	**3.61**	**345**	Pn	**Pn**	**08 12 60.0**	**0.0**
HOM				IAML		08 13 25.3	
	comp=E,338nm,2.9s						
HOM				IAML		08 13 42.6	
	comp=N,341nm,2.1s						
BRLK	**Bradley Lake**	**3.62**	**351**		**Pn**	**08 12 59.8**	**-0.5**
ACHA	**Angle Creek He**	**3.63**	**306**		**Pn**	**08 13 01.7**	**+1.3**
ANCK	**Angle Creek**	**3.70**	**305**		**Pn**	**08 13 02.5**	**+1.2**
KVTA	**Katmai Vly 10**	**3.71**	**308**		**Pn**	**08 13 03.3**	**+2.0**
Q23K	**Middleton Isla**	**3.72**	**28**	Pn	**Pn**	**08 12 59.8**	**-1.8**
Q23K				IAML		08 13 48.8	
	comp=N,341nm,2.8s						
Q23K	**Middleton Isla**	**3.72**	**28**	P	**Pn**	**08 13 01.0**	**-0.6**
	baz=210						
MID	**Middleton Isla**	**3.73**	**28**	Pn	**Pn**	**08 12 59.8**	**-1.8**
MID				IAML		08 13 45.8	
	comp=N,284nm,2.7s						
MID	**Middleton Isla**	**3.73**	**28**	P	**Pn**	**08 13 01.0**	**-0.6**
AUL	**Augustine Lava**	**3.74**	**330**		**Pn**	**08 13 03.0**	**+1.2**
KAHC	**Katmai Hardscr**	**3.74**	**313**		**Pn**	**08 13 03.6**	**+1.6**
KAHC	**Katmai Hardscr**	**3.74**	**313**	P	**Pn**	**08 13 03.6**	**+1.6**
	baz=128						
CNTC	**Contact Creek**	**3.91**	**305**		**Pn**	**08 13 05.6**	**+1.3**
Q17K	**Contact Creek**	**3.91**	**304**	P	**Pn**	**08 13 05.6**	**+1.3**
	baz=119						
P19K	**Oil Pt**	**3.92**	**333**		**Pn**	**08 13 05.2**	**+0.9**
P19K	**Oil Pt**	**3.92**	**333**	IAML		08 13 53.8	
	comp=N,210nm,0.4s						
P19K				IAML		08 13 54.9	
	comp=E,192nm,0.4s						
P19K	**Oil Pt**	**3.92**	**333**	P	**Pn**	**08 13 05.2**	**+0.9**
	baz=150						
P23K	**Montague Islan**	**4.01**	**17**		**Pn**	**08 13 05.4**	**-0.2**
P23K	**Montague Islan**	**4.01**	**17**	P	**Pn**	**08 13 05.4**	**-0.2**
	baz=198						
O20K	**Slope Mountain**	**4.17**	**340**		**Pn**	**08 13 07.8**	**0.0**
O20K	**Slope Mountain**	**4.17**	**340**	P	**Pn**	**08 13 07.9**	**0.0**
	baz=157						
O22K	**Cooper Landing**	**4.30**	**0**	Pn	**Pn**	**08 13 09.1**	**-0.3**
O22K				IAML		08 14 07.2	
	comp=N,242nm,0.8s						
SLKM	**Skilak Lake**	**4.33**	**357**		**Pn**	**08 13 09.3**	**-0.6**
P18K	**Big Mountain,**	**4.33**	**320**	Pn	**Pn**	**08 13 10.6**	**+0.6**
P18K	**Big Mountain,**	**4.33**	**320**	P	**Pn**	**08 13 10.7**	**+0.7**
	baz=135						
R16K	**Pilot Point**	**4.49**	**291**		**Pn**	**08 13 13.7**	**+1.6**
R16K	**Pilot Point**	**4.49**	**291**	P	**Pn**	**08 13 13.7**	**+1.6**
	baz=104						
RDSO	**Redoubt South**	**4.54**	**341**		**Pn**	**08 13 13.0**	**0.0**
HIN	**Hinchinbrook I**	**4.55**	**21**	Pn	**Pn**	**08 13 12.5**	**-0.5**
HIN				IAML		08 14 09.6	
	comp=N,155nm,2.9s						
HIN				IAML		08 14 11.3	
	comp=E,140nm,1.9s						
RSO	**Redoubt South**	**4.55**	**341**	Pn	**Pn**	**08 13 12.8**	**-0.3**
DFR	**Drift River**	**4.66**	**342**		**Pn**	**08 13 14.5**	**-0.1**
O18K	**Koktuh Hills**	**4.66**	**324**	Pn	**Pn**	**08 13 16.2**	**+1.7**
O18K				IAML		08 14 09.2	
	comp=N,60nm,0.8s						
O18K				IAML		08 14 52.5	
	comp=E,56nm,4.2s						
P17K	**Kvichak River**	**4.67**	**313**		**Pn**	**08 13 16.1**	**+1.6**
P17K	**Kvichak River**	**4.67**	**313**	P	**Pn**	**08 13 16.1**	**+1.6**
	baz=127						
KAIM	**Kayak Island**	**4.70**	**35**	Pn	**Pn**	**08 13 14.3**	**-0.7**
KAIM	**Kayak Island**	**4.70**	**35**	P	**Pn**	**08 13 14.9**	**-0.1**
	baz=219						
EYAK	**Cordova Ski Ar**	**4.85**	**24**		**Pn**	**08 13 17.1**	**0.0**
EYAK	**Cordova Ski Ar**	**4.85**	**24**	P	**Pn**	**08 13 17.2**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.85**	**24**	P	**Pn**	**08 13 17.1**	**0.0**
	baz=207						
RC01	**Rabbit Creek A**	**4.91**	**0**		**Pn**	**08 13 17.0**	**-0.9**
RC01				IAML		08 14 13.7	
	comp=E,68nm,0.2s						
RC01				IAML		08 16 29.3	
	comp=N,46nm,4.2s						
RC01	**Rabbit Creek A**	**4.91**	**0**	P	**Pn**	**08 13 17.5**	**-0.3**
	baz=179						
RAGM	**Ragged Mountai**	**4.99**	**31**	Pn	**Pn**	**08 13 18.2**	**-0.8**
RAGM				IAML		08 14 18.6	
	comp=E,104nm,0.5s						
GOAT	**Goat Mountain**	**5.14**	**29**		**Pn**	**08 13 21.5**	**+0.4**
N19K	**Bonanza Creek**	**5.24**	**334**		**Pn**	**08 13 22.4**	**-0.2**
N19K	**Bonanza Creek**	**5.24**	**334**	IAML		08 14 29.1	
	comp=N,38nm,4.7s						
N19K	**Bonanza Creek**	**5.24**	**334**	P	**Pn**	**08 13 22.4**	**-0.2**
	baz=149						
P16K	**Nushagak River**	**5.25**	**306**		**Pn**	**08 13 24.1**	**+1.6**
P16K	**Nushagak River**	**5.25**	**306**	P	**Pn**	**08 13 24.1**	**+1.6**
	baz=119						
BERG	**Berg Lake**	**5.29**	**35**		**Pn**	**08 13 22.6**	**-0.5**
SUA	**Susitna One**	**5.30**	**355**	Pn	**Pn**	**08 13 22.4**	**-1.0**
SUA				IAML		08 15 02.5	
	comp=N,68nm,4.5s						
SUA				IAML		08 15 15.5	
	comp=E,64nm,4.4s						
DIV	**Divide**	**5.37**	**21**		**Pn**	**08 13 24.4**	**+0.2**
PMR	**Palmer**	**5.42**	**3**	Pn	**Pn**	**08 13 24.3**	**-0.6**
PMR				IAML		08 15 35.6	
	comp=N,32nm,3.9s						
PMR				IAML		08 15 58.1	
	comp=E,45nm,4.1s						
PMR	**Palmer**	**5.42**	**3**	P	**Pn**	**08 13 25.0**	**+0.1**
PMR	**Palmer**	**5.42**	**3**	P	**Pn**	**08 13 24.8**	**0.0**
	baz=183						
STLK	**Strandline Lak**	**5.42**	**350**		**Pn**	**08 13 24.9**	**-0.1**
SNH	**Sunshine Point**	**5.42**	**40**	Pn	**Pn**	**08 13 23.8**	**-1.2**
SNH				IAML		08 14 55.2	
	comp=E,82nm,4.4s						
S14K	**Fog Glacier**	**5.45**	**275**	P	**Pn**	**08 13 26.4**	**+1.0**
	baz=87						
VNFG	**Fog Glacier, M**	**5.45**	**275**		**Pn**	**08 13 26.4**	**+1.0**
CYK	**Cape Yakataga**	**5.49**	**42**		**Pn**	**08 13 25.8**	**+0.1**
BMRM	**Bremner River**	**5.50**	**27**		**Pn**	**08 13 26.2**	**+0.3**
BMRM	**Bremner River**	**5.50**	**27**	P	**Pn**	**08 13 26.2**	**+0.3**
	baz=211						
N18K	**Kilae Creek**	**5.52**	**327**	Pn	**Pn**	**08 13 26.1**	**-0.2**
GHO	**Glory Hole Cre**	**5.61**	**4**		**Pn**	**08 13 27.9**	**+0.3**
KLU	**Klutina**	**5.67**	**19**	Pn	**Pn**	**08 13 28.0**	**-0.5**
KLU	**Klutina**	**5.67**	**19**	P	**Pn**	**08 13 28.8**	**+0.3**
	baz=202						
SML	**Sawmill**	**5.68**	**7**		**Pn**	**08 13 28.7**	**+0.2**
SML	**Sawmill**	**5.68**	**7**	P	**Pn**	**08 13 29.0**	**+0.6**
	baz=188						
BARK	**Barkley Ridge**	**5.70**	**39**		**Pn**	**08 13 29.0**	**+0.1**
M23K	**Glacier View**	**5.71**	**10**		**Pn**	**08 13 29.4**	**+0.5**
M23K	**Glacier View**	**5.71**	**10**	P	**Pn**	**08 13 29.4**	**+0.5**
	baz=191						
SCM	**Sheep Creek Mo**	**5.79**	**12**	Pn	**Pn**	**08 13 31.2**	**+1.2**
SCM	**Sheep Creek Mo**	**5.79**	**12**	P	**Pn**	**08 13 30.9**	**+0.8**
	baz=193						
SKT	**Skwentna**	**5.87**	**352**	Pn	**Pn**	**08 13 30.9**	**-0.2**
VRDI	**Verde Repeater**	**6.02**	**31**	Pn	**Pn**	**08 13 32.6**	**-0.8**
N25K	**Chitina, Valde**	**6.05**	**24**		**Pn**	**08 13 33.9**	**+0.3**
N25K	**Chitina, Valde**	**6.05**	**24**	P	**Pn**	**08 13 34.0**	**+0.4**
	baz=208						
SDPT	**Sand Point**	**6.10**	**266**	P	**Pn**	**08 13 34.9**	**+0.8**
GLB	**Gilahina Butte**	**6.10**	**28**		**Pn**	**08 13 34.0**	**-0.3**
KIAG	**Kiagna River**	**6.12**	**36**		**Pn**	**08 13 34.6**	**-0.1**
SAMH	**Samovar Hills**	**6.18**	**47**		**Pn**	**08 13 35.5**	**+0.1**
M24K	**Tolsona, Glenn**	**6.21**	**16**		**Pn**	**08 13 36.0**	**+0.3**
M24K	**Tolsona, Glenn**	**6.21**	**16**	P	**Pn**	**08 13 36.8**	**+1.0**
	baz=198						
PTPK	**Patty Peak**	**6.29**	**34**		**Pn**	**08 13 37.5**	**+0.5**
PCA	**Pinnacle**	**6.38**	**48**		**Pn**	**08 13 38.5**	**+0.4**
PINM	**Pinnacle**	**6.38**	**48**	P	**Pn**	**08 13 38.5**	**+0.4**
	baz=236						
BARN	**Barnard Glacie**	**6.46**	**38**		**Pn**	**08 13 39.2**	**-0.1**
WAT6	**Susitna Watana**	**6.49**	**8**		**Pn**	**08 13 40.1**	**+0.5**
WAT6	**Susitna Watana**	**6.49**	**8**	P	**Pn**	**08 13 40.1**	**+0.5**
	baz=190						
PNL	**Peninsula**	**6.53**	**54**		**Pn**	**08 13 40.5**	**+0.3**
PNL	**Peninsula**	**6.53**	**54**	P	**Pn**	**08 13 40.5**	**+0.3**
M17K	**Holitna River**	**6.56**	**326**	Pn	**Pn**	**08 13 40.8**	**+0.3**
BCPM	**Bancas Point**	**6.56**	**51**	Pn	**Pn**	**08 13 40.7**	**+0.1**
HARP	**HAARP**	**6.65**	**19**		**Pn**	**08 13 43.0**	**+1.1**
HARP	**HAARP**	**6.65**	**19**	P	**Pn**	**08 13 42.9**	**+1.1**
	baz=202						
WAT7	**Susitna Watana**	**6.67**	**4**		**Pn**	**08 13 43.1**	**+0.9**
WAT1	**Susitna Watana**	**6.68**	**5**		**Pn**	**08 13 43.1**	**+0.9**
WAT1	**Susitna Watana**	**6.68**	**5**	P	**Pn**	**08 13 43.1**	**+0.9**
	baz=185						
N15K	**Kwethluk River**	**6.75**	**310**		**Pn**	**08 13 44.8**	**+1.7**
PN7A	**Pavlof North-7**	**6.93**	**269**		**Pn**	**08 13 46.7**	**+1.1**
DHY	**Denali Highway**	**7.00**	**9**		**Pn**	**08 13 47.7**	**+0.9**
DHY	**Denali Highway**	**7.00**	**9**	P	**Pn**	**08 13 47.7**	**+0.9**
	baz=190						
PAX	**Paxson**	**7.13**	**16**		**Pn**	**08 13 49.1**	**+0.6**
PAX	**Paxson**	**7.13**	**16**	P	**Pn**	**08 13 49.1**	**+0.6**
	baz=199						
YUK2	**White River**	**7.26**	**36**		**Pn**	**08 13 50.9**	**+0.7**
TRF	**Thorofare Moun**	**7.28**	**358**	Pn	**Pn**	**08 13 50.5**	**0.0**
TRF	**Thorofare Moun**	**7.28**	**358**	P	**Pn**	**08 13 50.6**	**0.0**
	baz=177						
CAST	**Castle Rocks**	**7.34**	**352**		**Pn**	**08 13 51.7**	**+0.6**
CAST	**Castle Rocks**	**7.34**	**352**	P	**Pn**	**08 13 51.7**	**+0.6**
	baz=169						
YUK3	**Moose Creek**	**7.38**	**37**		**Pn**	**08 13 52.8**	**+0.9**
YUK3	**Moose Creek**	**7.38**	**37**	P	**Pn**	**08 13 52.8**	**+0.9**
	baz=224						
M27K	**Edge Creek, AK**	**7.38**	**30**		**Pn**	**08 13 52.6**	**+0.7**
M27K	**Edge Creek, AK**	**7.38**	**30**	P	**Pn**	**08 13 52.8**	**+0.9**
	baz=216						
KTH	**Kantishna Hill**	**7.40**	**356**	Pn	**Pn**	**08 13 52.3**	**+0.1**
L26K	**Log Cabin Wild**	**7.58**	**23**	Pn	**Pn**	**08 13 56.0**	**+1.4**
BVCY	**Beaver Creek**	**7.72**	**33**		**Pn**	**08 13 56.5**	**+0.1**
BVCY	**Beaver Creek**	**7.72**	**33**	P	**Pn**	**08 13 56.5**	**+0.1**
	baz=220						
M14K	**Bethel**	**7.84**	**311**	Pn	**Pn**	**08 14 00.3**	**+2.3**
FALS	**False Pass**	**7.86**	**266**	P	**Pn**	**08 13 58.6**	**+0.3**
HYT	**Haines Junctio**	**7.92**	**49**	Pn	**Pn**	**08 13 59.3**	**+0.2**
BPAW	**Bear Paw Mtn.**	**7.95**	**356**	Pn	**Pn**	**08 13 58.4**	**-1.2**
RIDG	**Independent Ri**	**7.96**	**16**	Pn	**Pn**	**08 14 00.0**	**+0.3**
BCAR	**Beaver Creek A**	**7.99**	**27**	Pn	**Pn**	**08 13 59.7**	**-0.4**
SIT	**Sitka**	**8.02**	**78**	P	Pn	08 13 58.0	-2.5
ISLZ	**Isanotski Laza**	**8.05**	**265**		**Pn**	**08 14 01.5**	**+0.4**
SSLS	**Shishaldin Sou**	**8.22**	**265**		**Pn**	**08 14 04.2**	**+0.9**
SCRK	**Sand Creek**	**8.32**	**18**	Pn	**Pn**	**08 14 05.5**	**+0.7**
J19K	**Poorman**	**8.34**	**342**	Pn	**Pn**	**08 14 03.6**	**-1.4**
HDA	**Harding Lake**	**8.36**	**8**		**Pn**	**08 14 05.7**	**+0.5**
HDA	**Harding Lake**	**8.36**	**8**	P	**Pn**	**08 14 06.4**	**+1.2**
	baz=190						
SKAG	**Skagway**	**8.37**	**61**	P	**Pn**	**08 14 05.4**	**0.0**
NEA2	**Nenana**	**8.43**	**2**		**Pn**	**08 14 06.3**	**+0.1**
NEA2	**Nenana**	**8.43**	**2**	P	**Pn**	**08 14 06.3**	**+0.1**
	baz=182						
O30N	**Mendenhall**	**8.50**	**52**		**Pn**	**08 14 07.9**	**+0.7**
O30N	**Mendenhall**	**8.50**	**52**	P	**Pn**	**08 14 07.1**	**-0.1**
	baz=243						
CCB	**Clear Creek Bu**	**8.53**	**6**	Pn	**Pn**	**08 14 07.4**	**-0.1**
JIS	**Juneau Island**	**8.61**	**70**	P	**Pn**	**08 14 07.9**	**-0.6**
IL31		**8.72**	**8**		**Pn**	**08 14 10.8**	**+0.8**
K27K	**Chicken**	**8.74**	**23**		**Pn**	**08 14 11.1**	**+0.7**
K27K	**Chicken**	**8.74**	**23**	P	**Pn**	**08 14 11.1**	**+0.7**
	baz=209						
COLA	**College**	**8.76**	**5**	P	**Pn**	**08 14 11.9**	**+1.3**
MLY	**Manley**	**8.88**	**357**		**Pn**	**08 14 12.1**	**-0.2**
I23K	**Minto, Yukon-K**	**8.98**	**1**		**Pn**	**08 14 13.4**	**-0.3**
WHY	**Wh

comp=Z,2µm,0.6s
PAPH Port-au-Prince 0.64 342⇑ePg Pb 08 14 35.6 -0.8
PAPH ⇑eSg Sn 08 14 47.0 +1.2
PAPH IAML 08 14 48.7
comp=N,1µm,0.5s
PAPH IAML 08 14 48.8
comp=N,1µm,0.5s
PAPH Port-au-Prince 0.64 342⇑iP Pn 08 14 38.3 +1.7
PAPH IAML 08 14 51.0
comp=Z,242nm,0.5s
NEDR Neiba UASD 0.85 48⇓ePg Pn 08 14 37.5 -1.9
NEDR ⇑eSg Sn 08 14 48.2 -2.7
NEDR IAML 08 14 49.1
comp=N,708nm,0.7s
NEDR IAML 08 14 49.2
comp=N,708nm,0.7s
NEDR IAML 08 14 49.2
comp=E,1µm,0.6s
LOBA2 Hotel Casa Bon 0.96 80⇑ePg Pn 08 14 41.1 +0.2
LOBA2 ⇓eSg Sn 08 14 52.8 -0.7
SDDR Presa de Saban 1.31 35⇓ePg Pn 08 14 44.0 -1.8
SDDR ⇑eSg Sn 08 15 00.5 -1.8
SDDR IAML 08 15 06.6
comp=E,90nm,0.6s
SDDR IAML 08 15 12.2
comp=N,99nm,1.0s
SDDR IAML 08 15 12.3
comp=N,99nm,1.0s
SDDR Presa de Saban 1.31 35⇓iP Pn 08 14 43.9 -1.8
SDDR IAML 08 15 04.3
comp=Z,56nm,0.4s
ABDR Alto Bandera 1.65 57⇑ePg Pn 08 14 51.2 +0.5
ABDR ⇓eSg Sn 08 15 10.8 -0.3
ABDR IAML 08 15 13.5
comp=N,107nm,0.3s
ABDR IAML 08 15 13.6
comp=N,107nm,0.3s
ABDR IAML 08 15 21.4
comp=E,99nm,0.6s
MADR Mao Valverde 1.89 29⇑ePg Pn 08 14 54.3 +0.6
MADR ⇓eSg Sn 08 15 16.8 +0.2
MADR IAML 08 15 19.5
comp=E,157nm,0.7s
MADR IAML 08 15 26.6
comp=N,170nm,0.5s
MADR IAML 08 15 26.6
comp=N,170nm,0.5s
LUDR Luperon 2.25 28⇓ePg Pn 08 15 00.5 +1.9
LUDR ⇓eSg Sn 08 15 26.4 +1.1
LUDR IAML 08 15 30.9
comp=E,182nm,0.8s
LUDR IAML 08 15 33.7
comp=N,233nm,0.3s
LUDR IAML 08 15 33.8
comp=N,233nm,0.3s
HATOM Hato Mayor del 2.71 71⇑ePg Pn 08 15 07.8 +2.8
HATOM ⇑eSg Sn 08 15 39.0 +2.1
HATOM IAML 08 15 44.3
comp=N,23nm,0.7s
HATOM IAML 08 15 50.2
comp=E,22nm,1.4s
HATOM IAML 08 15 59.8
comp=N,23nm,3.0s

*AEIC **25** 08:15:34.5±1.4,56°.0N±0°.1×150°.1W±0°.2,h8km±9km,Error ellipse: s-maj=15.0km s-min=12.1km az=160.0*
*NEIC **25** 08:15:37.4±2.1,56°.53N±0°.05×150°.3W±0°.1,h22km±13km, ML3.6/26,ML3.4(AEIC),Error ellipse: s-maj=9.3km s-min=5.9km az=56.0*
ISC 25 08:15:30.6±2.6,56°.1N±0°.1×150°.12W±0°.06,h10km,n60, σ0s90/62,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.08**	**304**		**Pn**	**08 16 04.7**	**-0.8**
OHAK	**Old Harbor**	**2.08**	**304**		**Sn**	**08 16 29.4**	**-2.1**
OHAK	**Old Harbor**	**2.08**	**304**	P	**Pn**	**08 16 04.7**	**-0.8**
	baz=124						
OHAK				S	**Sn**	**08 16 29.4**	**-2.1**
	baz=124						
KDAK	**Kodiak Island**	**2.17**	**322**		**Pn**	**08 16 06.7**	**0.0**
KDAK					**Sn**	**08 16 33.2**	**-0.3**
KDAK	**Kodiak Island**	**2.17**	**322**	P	**Pn**	**08 16 06.7**	**0.0**
	baz=142						
KDAK				S	**Sn**	**08 16 33.2**	**-0.3**
	baz=142						
Q20K	**Shuyak Island**	**2.81**	**335**	P	**Pn**	**08 16 16.0**	**+0.5**
	baz=154						
Q20K				S	**Sn**	**08 16 49.1**	**-0.2**
	baz=154						
SYI	**Shuyak Island**	**2.81**	**335**		**Pn**	**08 16 16.0**	**+0.5**
SYI					**Sn**	**08 16 49.1**	**-0.2**
KAHG	**Katmai Hook Gl**	**3.40**	**317**		**Pn**	**08 16 25.0**	**+1.3**
KAHG					**Sn**	**08 17 03.8**	**-0.3**
Q19K	**Cape Douglas,**	**3.42**	**328**		**Pn**	**08 16 25.5**	**+1.6**
Q19K	**Cape Douglas,**	**3.42**	**328**	IAML		08 18 00.4	
	comp=N,128nm,2.4s						
Q19K				IAML		08 18 05.0	
	comp=E,206nm,2.4s						
Q19K	**Cape Douglas,**	**3.42**	**328**	P	**Pn**	**08 16 25.5**	**+1.6**
	baz=146						
CNPM	**China Poot**	**3.49**	**351**		**Pn**	**08 16 24.9**	**0.0**
CNPM					**Sn**	**08 17 05.4**	**-0.9**
CNPM	**China Poot**	**3.49**	**351**	IAML		08 17 06.5	
	comp=E,100nm,3.2s						
CNPM				IAML		08 17 16.2	
	comp=N,87nm,4.8s						
KCG	**Knife Ck. Glac**	**3.51**	**311**		**Pn**	**08 16 26.3**	**+1.2**
ANCK	**Angle Creek**	**3.61**	**308**		**Pn**	**08 16 27.6**	**+1.0**
BRSE	**Bradley Lake S**	**3.67**	**355**		**Pn**	**08 16 27.2**	**-0.2**
BRSE	**Bradley Lake S**	**3.67**	**355**	P	**Pn**	**08 16 27.2**	**-0.2**
	baz=174						
KAHC	**Katmai Hardscr**	**3.68**	**316**		**Pn**	**08 16 29.0**	**+1.3**
KAHC	**Katmai Hardscr**	**3.68**	**316**	P	**Pn**	**08 16 29.0**	**+1.3**
	baz=133						
BRLK	**Bradley Lake**	**3.70**	**354**		**Pn**	**08 16 27.3**	**-0.5**
BRLK	**Bradley Lake**	**3.70**	**354**	IAML		08 16 53.2	
	comp=E,64nm,2.8s						
BRLK				IAML		08 17 44.1	
	comp=N,87nm,3.7s						
CNTC	**Contact Creek**	**3.82**	**307**		**Pn**	**08 16 30.2**	**+0.7**
Q17K	**Contact Creek**	**3.82**	**307**	P	**Pn**	**08 16 30.2**	**+0.7**
	baz=124						
P23K	**Montague Islan**	**4.17**	**19**		**Pn**	**08 16 34.2**	**-0.1**
P23K	**Montague Islan**	**4.17**	**19**	P	**Pn**	**08 16 34.2**	**-0.1**
	baz=201						
P18K	**Big Mountain,**	**4.29**	**322**		**Pn**	**08 16 36.2**	**+0.3**
P18K	**Big Mountain,**	**4.29**	**322**	IAML		08 17 20.8	
	comp=E,59nm,3.8s						
P18K				IAML		08 19 18.0	
	comp=N,32nm,3.5s						
P18K	**Big Mountain,**	**4.29**	**322**	P	**Pn**	**08 16 36.2**	**+0.3**
	baz=139						
HIN	**Hinchinbrook I**	**4.72**	**22**		**Pn**	**08 16 41.9**	**+0.1**
HIN	**Hinchinbrook I**	**4.72**	**22**	IAML		08 17 46.1	
	comp=N,145nm,2.8s						
HIN				IAML		08 17 47.6	
	comp=E,163nm,2.7s						
KAIM	**Kayak Island**	**4.89**	**36**		**Pn**	**08 16 44.4**	**+0.2**
KAIM	**Kayak Island**	**4.89**	**36**	P	**Pn**	**08 16 44.4**	**+0.2**
	baz=220						
EYAK	**Cordova Ski Ar**	**5.03**	**25**		**Pn**	**08 16 46.4**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.03**	**25**	P	**Pn**	**08 16 46.4**	**+0.5**
	baz=208						
P16K	**Nushagak River**	**5.16**	**308**		**Pn**	**08 16 48.6**	**+0.9**
P16K	**Nushagak River**	**5.16**	**308**	P	**Pn**	**08 16 48.6**	**+0.9**
	baz=122						
RAGM	**Ragged Mountai**	**5.18**	**31**	Pn	**Pn**	**08 16 48.6**	**+0.6**
RAGM				IAML		08 20 05.6	
	comp=E,116nm,0.6s						
RAGM				IAML		08 20 05.9	
	comp=N,111nm,0.6s						
O17K	**Koliganek Bris**	**5.24**	**318**		**Pn**	**08 16 50.6**	**+1.8**
O17K	**Koliganek Bris**	**5.24**	**318**	P	**Pn**	**08 16 50.6**	**+1.8**
	baz=132						
GOAT	**Goat Mountain**	**5.32**	**30**		**Pn**	**08 16 51.0**	**+1.0**
BERG	**Berg Lake**	**5.48**	**36**	Pn	**Pn**	**08 16 52.3**	**+0.1**
O16K	**Kokwok River B**	**5.52**	**313**	Pn	**Pn**	**08 16 53.9**	**+1.2**
O16K				IAML		08 17 36.4	
	comp=N,25nm,3.7s						
O16K				IAML		08 19 55.5	
	comp=E,26nm,4.6s						
SNH	**Sunshine Point**	**5.62**	**40**	Pn	**Pn**	**08 16 54.7**	**+0.5**
BMRM	**Bremner River**	**5.67**	**28**		**Pn**	**08 16 55.6**	**+0.7**
BMRM	**Bremner River**	**5.67**	**28**	P	**Pn**	**08 16 55.6**	**+0.7**
	baz=212						
KLU	**Klutina**	**5.84**	**20**		**Pn**	**08 16 57.7**	**+0.6**
KLU	**Klutina**	**5.84**	**20**	P	**Pn**	**08 16 57.7**	**+0.6**
	baz=203						
BARK	**Barkley Ridge**	**5.90**	**40**		**Pn**	**08 16 58.3**	**+0.2**
O15K	**Ungalikthiuk R**	**6.06**	**305**		**Pn**	**08 17 00.7**	**+0.5**
O15K	**Ungalikthiuk R**	**6.06**	**305**	P	**Pn**	**08 17 00.7**	**+0.5**
	baz=117						
VRDI	**Verde Repeater**	**6.21**	**31**	Pn	**Pn**	**08 17 02.3**	**-0.1**
N25K	**Chitina, Valde**	**6.22**	**25**		**Pn**	**08 17 03.4**	**+0.9**
N25K	**Chitina, Valde**	**6.22**	**25**	P	**Pn**	**08 17 03.4**	**+0.9**
	baz=209						
KIAG	**Kiagna River**	**6.32**	**37**		**Pn**	**08 17 03.9**	**0.0**
SAMH	**Samovar Hills**	**6.39**	**47**		**Pn**	**08 17 05.9**	**+1.1**
PTPK	**Patty Peak**	**6.48**	**35**		**Pn**	**08 17 06.7**	**+0.6**
M17K	**Holitna River**	**6.54**	**327**	Pn	**Pn**	**08 17 07.5**	**+0.8**
N15K	**Kwethluk River**	**6.67**	**312**	Pn	**Pn**	**08 17 09.2**	**+0.7**
M16K	**Timber Creek**	**6.76**	**321**	Pn	**Pn**	**08 17 11.0**	**+1.2**
K15K	**Wolf Creek Mou**	**8.53**	**321**	Pn	**Pn**	**08 17 35.4**	**+1.4**

*NEIC **25** 08:18:03.8±1.5,56°.40N±0°.09×149°.2W±0°.1,h30km±10km, ML3.8/44,ML3.5(AEIC),Error ellipse: s-maj=13.6km s-min=8.6km az=162.0*
*AEIC **25** 08:18:06.1±1.3,56°.42N±0°.09×149°.2W±0°.1,h7km±8km, Error ellipse: s-maj=13.8km s-min=9.1km az=166.0*
ISC 25 08:18:01.2±1.2,56°.42N±0°.08×149°.25W±0°.07,h10km, n155,σ0s98/155,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.27**	**308**		**Pn**	**08 18 39.1**	**+0.3**
OHAK	**Old Harbor**	**2.36**	**292**	Pn	**Pn**	**08 18 39.8**	**-0.1**
OHAK	**Old Harbor**	**2.36**	**292**		**Sn**	**08 19 06.5**	**-2.4**
OHAK	**Old Harbor**	**2.36**	**292**	P	**Pn**	**08 18 40.0**	**+0.1**
	baz=108						
OHAK				S	**Sn**	**08 19 06.5**	**-2.4**
	baz=108						
SII	**Sitkinak Islan**	**2.74**	**275**	P	**Pn**	**08 18 45.7**	**+0.5**
SYI	**Shuyak Island**	**2.77**	**324**		**Pn**	**08 18 46.3**	**+0.7**
SYI	**Shuyak Island**	**2.77**	**324**	IAML		08 19 19.9	
	comp=E,473nm,0.6s						
SYI				IAML		08 19 20.0	
	comp=N,394nm,0.5s						
CNPM	**China Poot**	**3.29**	**342**		**Pn**	**08 18 52.7**	**0.0**
CNPM	**China Poot**	**3.29**	**342**		**Sn**	**08 19 30.8**	**-1.0**
CNPM	**China Poot**	**3.29**	**342**	IAML		08 19 32.9	
	comp=E,162nm,0.4s						
CNPM				IAML		08 19 35.1	
	comp=N,140nm,0.4s						
Q23K	**Middleton Isla**	**3.39**	**26**	Pn	**Pn**	**08 18 53.9**	**-0.2**
Q23K				IAML		08 20 41.7	
	comp=N,183nm,1.4s						
Q23K				IAML		08 21 03.2	
	comp=E,181nm,1.5s						
Q23K	**Middleton Isla**	**3.39**	**26**	P	**Pn**	**08 18 53.9**	**-0.2**
	baz=208						
MID	**Middleton Isla**	**3.39**	**26**	Pn	**Pn**	**08 18 53.3**	**-0.8**
MID				IAML		08 19 34.1	
	comp=E,194nm,1.4s						
MID				IAML		08 19 39.9	
	comp=N,177nm,1.5s						
MID	**Middleton Isla**	**3.39**	**26**	P	**Pn**	**08 18 54.0**	**-0.1**
BRSE	**Bradley Lake S**	**3.42**	**347**		**Pn**	**08 18 54.5**	**0.0**
BRSE					**Sn**	**08 19 33.2**	**-2.0**
BRSE	**Bradley Lake S**	**3.42**	**347**	P	**Pn**	**08 18 54.5**	**0.0**
	baz=165						
BRSE				S	**Sn**	**08 19 33.2**	**-2.0**
	baz=165						
Q19K	**Cape Douglas,**	**3.45**	**319**		**Pn**	**08 18 56.5**	**+1.6**
Q19K	**Cape Douglas,**	**3.45**	**319**	P	**Pn**	**08 18 55.7**	**+0.8**
	baz=134						
Q19K				S	**Sn**	**08 19 35.7**	**-0.1**
	baz=134						
BRLK	**Bradley Lake**	**3.46**	**346**		**Pn**	**08 18 54.6**	**-0.5**
BRLK				IAML		08 19 36.3	
	comp=E,120nm,0.3s						
BRLK				IAML		08 19 38.0	
	comp=N,123nm,0.4s						
HOM	**Homer**	**3.49**	**340**	Pn	**Pn**	**08 18 56.1**	**+0.7**
HOM				IAML		08 20 07.8	
	comp=E,299nm,1.4s						
HOM	**Homer**	**3.49**	**340**		**Sn**	**08 19 36.2**	**-0.4**
KAHG	**Katmai Hook Gl**	**3.54**	**308**		**Pn**	**08 18 58.2**	**+2.0**
AUJK	**Augustine Jueg**	**3.68**	**325**		**Pn**	**08 18 59.5**	**+1.4**
SEW	**Seward**	**3.70**	**358**		**Pn**	**08 18 58.2**	**-0.1**
SEW	**Seward**	**3.70**	**358**	P	**Pn**	**08 18 58.2**	**-0.1**
	baz=177						
KCE	**Katmai Mt Cerb**	**3.70**	**302**		**Pn**	**08 19 00.5**	**+2.1**
AUCH	**Augustine Cone**	**3.70**	**325**		**Pn**	**08 18 59.9**	**+1.4**
P23K	**Montague Islan**	**3.72**	**14**		**Pn**	**08 18 58.7**	**+0.1**
P23K	**Montague Islan**	**3.72**	**14**	P	**Pn**	**08 18 58.7**	**+0.1**
	baz=195						
ACHA	**Angle Creek He**	**3.75**	**301**		**Pn**	**08 19 00.8**	**+1.7**
KVTA	**Katmai Vly 10**	**3.81**	**304**		**Pn**	**08 19 01.9**	**+2.0**
KAHC	**Katmai Hardscr**	**3.82**	**308**		**Pn**	**08 19 01.7**	**+1.6**
KAHC	**Katmai Hardscr**	**3.82**	**308**	P	**Pn**	**08 19 02.1**	**+2.0**
	baz=123						
ANCK	**Angle Creek**	**3.83**	**300**		**Pn**	**08 19 01.7**	**+1.5**
P19K	**Oil Pt**	**3.87**	**329**		**Pn**	**08 19 02.0**	**+1.3**
PLK3	**Peulik 3**	**4.04**	**291**		**Pn**	**08 19 04.2**	**+1.3**
CNTC	**Contact Creek**	**4.04**	**300**		**Pn**	**08 19 04.5**	**+1.4**
Q17K	**Contact Creek**	**4.04**	**300**	P	**Pn**	**08 19 04.5**	**+1.4**
	baz=114						
O20K	**Slope Mountain**	**4.08**	**336**		**Pn**	**08 19 04.2**	**+0.5**
O22K	**Cooper Landing**	**4.08**	**357**		**Pn**	**08 19 04.2**	**+0.7**
O22K	**Cooper Landing**	**4.08**	**357**	P	**Pn**	**08 19 04.2**	**+0.7**
	baz=176						
IVE	**Iliamna Volcan**	**4.12**	**333**		**Pn**	**08 19 04.5**	**+0.3**
SLKM	**Skilak Lake**	**4.13**	**353**		**Pn**	**08 19 04.2**	**-0.1**
HIN	**Hinchinbrook I**	**4.24**	**19**	Pn	**Pn**	**08 19 06.1**	**+0.3**
HIN				IAML		08 19 55.0	
	comp=E,115nm,1.4s						
HIN				IAML		08 19 57.0	
	comp=N,105nm,1.2s						
KAIM	**Kayak Island**	**4.35**	**34**	Pn	**Pn**	**08 19 07.4**	**+0.1**
KAIM				IAML		08 19 59.2	
	comp=E,114nm,0.5s						
P18K	**Big Mountain,**	**4.36**	**316**	Pn	**Pn**	**08 19 07.8**	**+0.3**
P18K	**Big Mountain,**	**4.36**	**316**	P	**Pn**	**08 19 08.3**	**+0.9**
	baz=130						
RED	**Redoubt Volcan**	**4.42**	**337**		**Pn**	**08 19 08.0**	**-0.3**
RSO	**Redoubt South**	**4.45**	**337**		**Pn**	**08 19 08.8**	**0.0**
RDT	**Redoubt**	**4.48**	**340**		**Pn**	**08 19 08.8**	**-0.4**
RDWB	**Redoubt West**	**4.49**	**337**		**Pn**	**08 19 09.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.53**	**22**		**Pn**	**08 19 10.1**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.53**	**22**	P	**Pn**	**08 19 10.2**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.53**	**22**	P	**Pn**	**08 19 10.5**	**+0.8**
	baz=205						
DFR	**Drift River**	**4.55**	**338**		**Pn**	**08 19 10.1**	**-0.1**
NCT	**North Crescent**	**4.58**	**337**		**Pn**	**08 19 10.3**	**-0.2**
Q16K	**King Salmon**	**4.58**	**303**		**Pn**	**08 19 12.1**	**+1.6**
Q16K	**King Salmon**	**4.58**	**303**	P	**Pn**	**08 19 12.1**	**+1.6**
	baz=116						
RAGM	**Ragged Mountai**	**4.65**	**29**	Pn	**Pn**	**08 19 11.8**	**+0.3**
RAGM				IAML		08 20 08.5	
	comp=E,118nm,0.8s						
RC01	**Rabbit Creek A**	**4.69**	**357**		**Pn**	**08 19 12.1**	**+0.1**
RC01				IAML		08 20 06.2	
	comp=E,61nm,0.5s						
RC01	**Rabbit Creek A**	**4.69**	**357**	P	**Pn**	**08 19 12.2**	**+0.3**
	baz=176						
R16K	**Pilot Point**	**4.69**	**288**		**Pn**	**08 19 12.7**	**+0.7**
R16K	**Pilot Point**	**4.69**	**288**	IAML		08 20 29.0	
	comp=N,93nm,1.4s						
R16K				IAML		08 21 33.9	
	comp=E,81nm,1.3s						
P17K	**Kvichak River**	**4.74**	**309**		**Pn**	**08 19 14.4**	**+1.7**
P17K	**Kvichak River**	**4.74**	**309**	P	**Pn**	**08 19 14.5**	**+1.9**
	baz=122						
GOAT	**Goat Mountain**	**4.80**	**28**		**Pn**	**08 19 14.2**	**+0.7**
BERG	**Berg Lake**	**4.94**	**34**		**Pn**	**08 19 15.3**	**-0.1**
KNK	**Knik Glacier**	**5.03**	**4**	Pn	**Pn**	**08 19 16.3**	**-0.3**
KNK	**Knik Glacier**	**5.03**	**4**	P	**Pn**	**08 19 17.4**	**+0.8**
	baz=184						
N20K	**Mount Spurr**	**5.03**	**343**	P	**Pn**	**08 19 16.9**	**+0.1**
	baz=160						
SPCR	**Spurr Chakacha**	**5.03**	**343**		**Pn**	**08 19 16.9**	**+0.1**
DIV	**Divide**	**5.06**	**20**		**Pn**	**08 19 17.6**	**+0.6**
SPCP	**Crater Peak Br**	**5.09**	**344**		**Pn**	**08 19 18.0**	**+0.5**
SPCG	**Spurr Capps Gl**	**5.09**	**345**		**Pn**	**08 19 18.1**	**+0.6**
BMRM	**Bremner River**	**5.16**	**26**		**Pn**	**08 19 19.0**	**+0.5**
BMRM	**Bremner River**	**5.16**	**26**	P	**Pn**	**08 19 19.1**	**+0.6**
	baz=210						
PMR	**Palmer**	**5.19**	**1**	Pn	**Pn**	**08 19 18.9**	**+0.2**
PMR	**Palmer**	**5.19**	**1**	P	**Pn**	**08 19 19.5**	**+0.8**
PMR	**Palmer**	**5.19**	**1**	P	**Pn**	**08 19 19.3**	**+0.5**
	baz=180						
STLK	**Strandline Lak**	**5.26**	**346**		**Pn**	**08 19 20.4**	**+0.5**
SPNN	**North Nagishla**	**5.27**	**342**		**Pn**	**08 19 20.7**	**+0.6**
BARK	**Barkley Ridge**	**5.34**	**39**		**Pn**	**08 19 21.7**	**+0.7**
P16K	**Nushagak River**	**5.36**	**303**		**Pn**	**08 19 22.7**	**+1.6**
P16K	**Nushagak River**	**5.36**	**303**	P	**Pn**	**08 19 22.7**	**+1.6**
	baz=115						
GHO	**Glory Hole Cre**	**5.37**	**2**	Pn	**Pn**	**08 19 22.2**	**+0.9**
GHO				IAML		08 20 22.7	
	comp=N,54nm,1.4s						
GHO				IAML		08 20 23.2	
	comp=E,40nm,1.4s						
KLU	**Klutina**	**5.37**	**17**	Pn	**Pn**	**08 19 21.5**	**+0.2**
KLU				IAML		08 20 24.3	
	comp=E,40nm,0.4s						
KLU				IAML		08 20 25.9	
	comp=N,34nm,0.4s						
KLU	**Klutina**	**5.37**	**17**	P	**Pn**	**08 19 22.0**	**+0.7**
	baz=200						
SML	**Sawmill**	**5.42**	**5**		**Pn**	**08 19 22.4**	**+0.4**
SML	**Sawmill**	**5.42**	**5**	P	**Pn**	**08 19 23.0**	**+1.0**
	baz=185						
M23K	**Glacier View**	**5.45**	**8**		**Pn**	**08 19 23.4**	**+1.0**
M23K	**Glacier View**	**5.45**	**8**	P	**Pn**	**08 19 23.4**	**+1.0**
	baz=188						
SCM	**Sheep Creek Mo**	**5.52**	**10**	Pn	**Pn**	**08 19 24.3**	**+0.9**
SCM	**Sheep Creek Mo**	**5.52**	**10**	P	**Pn**	**08 19 24.5**	**+1.1**
	baz=191						
VRDI	**Verde Repeater**	**5.68**	**30**		**Pn**	**08 19 26.1**	**+0.4**
N25K	**Chitina, Valde**	**5.73**	**23**		**Pn**	**08 19 26.4**	**+0.1**
N25K	**Chitina, Valde**	**5.73**	**23**	P	**Pn**	**08 19 27.6**	**+1.3**
	baz=206						
GLB	**Gilahina Butte**	**5.77**	**27**		**Pn**	**08 19 27.4**	**+0.6**
KIAG	**Kiagna River**	**5.77**	**36**		**Pn**	**08 19 27.5**	**+0.5**
SAMH	**Samovar Hills**	**5.81**	**47**		**Pn**	**08 19 28.5**	**+1.1**
M24K	**Tolsona, Glenn**	**5.92**	**14**		**Pn**	**08 19 29.8**	**+0.9**
PTPK	**Patty Peak**	**5.94**	**34**		**Pn**	**08 19 30.2**	**+0.9**
PCA	**Pinnacle**	**6.01**	**48**		**Pn**	**08 19 31.2**	**+1.0**
CNBA	**Chernabura Isl**	**6.07**	**259**		**Pn**	**08 19 30.9**	**0.0**
BARN	**Barnard Glacie**	**6.10**	**37**	Pn	**Pn**	**08 19 32.3**	**+0.8**
M18K	**Stony River**	**6.11**	**329**		**Pn**	**08 19 31.8**	**+0.3**
PNL	**Peninsula**	**6.16**	**54**		**Pn**	**08 19 32.8**	**+0.6**
PNL	**Peninsula**	**6.16**	**54**	P	**Pn**	**08 19 33.0**	**+0.8**
LOGN	**Logan Glacier**	**6.17**	**41**		**Pn**	**08 19 33.0**	**+0.6**
BCPM	**Bancas Point**	**6.20**	**51**		**Pn**	**08 19 33.4**	**+0.8**
WAT6	**Susitna Watana**	**6.23**	**6**		**Pn**	**08 19 34.0**	**+0.8**
HARP	**HAARP**	**6.35**	**18**		**Pn**	**08 19 36.2**	**+1.4**
SDPT	**Sand Point**	**6.41**	**265**	P	**Pn**	**08 19 36.3**	**+0.8**
N16K	**Nishlik Lake**	**6.44**	**313**		**Pn**	**08 19 37.0**	**+1.1**
WAT7	**Susitna Watana**	**6.44**	**2**		**Pn**	**08 19 37.5**	**+1.5**
WAT1	**Susitna Watana**	**6.44**	**3**		**Pn**	**08 19 37.1**	**+1.1**
DHY	**Denali Highway**	**6.74**	**7**		**Pn**	**08 19 41.1**	**+0.8**
N15K	**Kwethluk River**	**6.84**	**308**		**Pn**	**08 19 43.0**	**+1.6**
PAX	**Paxson**	**6.84**	**15**		**Pn**	**08 19 42.8**	**+1.2**
YUK2	**White River**	**6.90**	**35**		**Pn**	**08 19 43.2**	**+0.8**
TRF	**Thorofare Moun**	**7.07**	**356**		**Pn**	**08 19 46.0**	**+1.2**
CAST	**Castle Rocks**	**7.16**	**350**		**Pn**	**08 19 47.5**	**+1.6**
KTH	**Kantishna Hill**	**7.21**	**354**		**Pn**	**08 19 47.5**	**+0.9**
PN7A	**Pavlof North-7**	**7.23**	**267**		**Pn**	**08 19 47.9**	**+1.0**
TTA	**Tatalina**	**7.37**	**335**	Pn	**Pn**	**08 19 48.4**	**-0.3**
TTA	**Tatalina**	**7.37**	**335**	P	**Pn**	**08 19 48.7**	**0.0**
BVCY	**Beaver Creek**	**7.37**	**32**		**Pn**	**08 19 50.3**	**+1.5**
N14K	**Kuskokwak Cree**	**7.45**	**303**		**Pn**	**08 19 51.6**	**+1.9**
L16K	**Owhat River**	**7.47**	**319**	Pn	**Pn**	**08 19 50.7**	**+0.6**
K24K	**Donnelly Dome**	**7.61**	**12**		**Pn**	**08 19 53.7**	**+1.7**
RIDG	**Independent Ri**	**7.66**	**15**	Pn	**Pn**	**08 19 53.3**	**+0.5**
SIT	**Sitka**	**7.69**	**79**	P	Pn	08 19 50.0	-3.0
BPAW	**Bear Paw Mtn.**	**7.75**	**354**	Pn	**Pn**	**08 19 53.5**	**-0.4**
SCRK	**Sand Creek**	**8.02**	**17**	Pn	**Pn**	**08 19 57.9**	**+0.1**
BESE	**Bessie Mountai**	**8.05**	**68**		**Pn**	**08 19 57.7**	**-0.4**
HDA	**Harding Lake**	**8.10**	**7**		**Pn**	**08 19 59.8**	**+1.2**
FALS	**False Pass**	**8.17**	**265**	P	**Pn**	**08 20 00.3**	**+0.7**
NEA2	**Nenana**	**8.20**	**1**	Pn	**Pn**	**08 20 00.4**	**+0.3**
JIS	**Juneau Island**	**8.26**	**71**		**Pn**	**08 20 00.6**	**-0.2**
JIS	**Juneau Island**	**8.26**	**71**	P	**Pn**	**08 20 00.4**	**-0.4**
CCB	**Clear Creek Bu**	**8.29**	**4**	Pn	**Pn**	**08 20 01.8**	**+0.6**
ISLZ	**Isanotski Laza**	**8.37**	**264**		**Pn**	**08 20 02.8**	**+0.4**
IL31		**8.46**	**7**	Pn	**Pn**	**08 20 04.2**	**+0.7**
J26L	**Joseph Creek**	**8.58**	**17**		**Pn**	**08 20 05.9**	**+0.6**
MLY	**Manley**	**8.67**	**356**		**Pn**	**08 20 07.0**	**+0.5**
L29M	**L29M**	**8.73**	**35**	Pn	**Pn**	**08 20 08.2**	**+0.8**
I23K	**Minto, Yukon-K**	**8.76**	**360**		**Pn**	**08 20 07.8**	**+0.1**
P32M	**Atlin**	**8.84**	**63**	Pn	**Pn**	**08 20 08.5**	**-0.4**
I21K	**Tanana**	**8.89**	**353**		**Pn**	**08 20 10.8**	**+1.3**
DAWY	**Dawson**	**9.09**	**28**	Pn	**Pn**	**08 20 12.8**	**+0.5**
CRAG	**Craig**	**9.10**	**89**	P	**Pn**	**08 20 10.2**	**-2.2**
P33M	**Teslin, Yukon**	**9.44**	**59**	Pn	**Pn**	**08 20 17.5**	**+0.4**
FARO	**Faro, Yukon**	**9.98**	**48**	Pn	**Pn**	**08 20 25.5**	**+1.0**
E25K	**Arctic Village**	**11.87**	**7**	Pn	**Pn**	**08 20 50.9**	**+0.7**
F31M	**Tsiigehtchic**	**13.19**	**27**	Pn	**Pn**	**08 21 08.8**	**+0.5**
INK	**Inuvik**	**13.91**	**25**	Pn	**Pn**	**08 21 19.3**	**+1.2**

*IDC **25** 08:18:55.0±1.3,55°.71S×128°.27W,h0km,mb3.9/4, mbtmp3.9/4,MS3.7/21,Error ellipse: s-maj=58.4km s-min=37.0km az=112.0*
**IS

TXAR	**Lajitas Array**	**87.28 21**	P	**P**	**08 31 43.4**	**+0.4**
	0.6nm,0.9s,baz=179,slow=6.3,SNR=5.0					
	0.6nm,0.9s					
SUR	**Sutherland**	**88.37 154**	LR	LR	09 09 30.3	
	comp=Z,60nm,18.2s,baz=164,slow=34					
H11S2	**WAKE ISLAND Hy**	**91.88 301**	T	T	10 14 04.2	
	baz=148,slow=76,SNR=5.7					
H11S3	**WAKE ISLAND Hy**	**91.89 301**	T	T	10 13 58.8	
	baz=148,slow=76,SNR=4.6					
H11S1	**WAKE ISLAND Hy**	**91.90 301**	T	T	10 13 58.2	
	baz=148,slow=76,SNR=4.9					
BOSA	**Boshof**	**93.03 157**	LR	LR	09 10 55.8	
	comp=Z,54nm,18.0s,baz=197,slow=34					
LBTB	**Lobatse**	**96.57 156**	LR	LR	09 12 22.9	
	comp=Z,44nm,18.0s,baz=190,slow=33					
ELK	**Elko**	**96.72 10**	LR	LR	09 05 39.9	
	comp=Z,39nm,20.5s,baz=280,slow=29					
YBH	**Yreka Blue Hor**	**97.19 4**	LR	LR	09 05 36.8	
	comp=Z,52nm,19.5s,baz=196,slow=29					
KAPI	**Kappang**	**98.00 249**	LR	LR	09 15 00.2	
	comp=Z,26nm,18.4s,baz=140,slow=34					
TSUM	**Tsumeb**	**99.98 147**	LR	LR	09 09 42.5	
	comp=Z,70nm,20.8s,baz=152,slow=30					
ILAR	**Eielson Array**	**120.99 351**	PKP	**PKPdf**	**08 37 47.0**	**-0.5**
	0.5nm,0.7s,baz=191,slow=2.6,SNR=4.8					
SONM	**Songino Array**	**146.05 280**	PKPbc	**PKPbc**	**08 38 35.0**	**-0.8**
	0.6nm,0.6s,baz=127,slow=1.7,SNR=3.1					

*IDC **25** 08:30:02.6±4.2, 48˚.27N×154˚.43E, h70km±40km, mb3.2/7, mbtmp3.5/9, ML2.7/2, Error ellipse: s-maj=31.2km s-min=23.6km az=133.0*

ISC 25 08:30:00.8±1.2, 48˚.2N±0˚.2×154˚.4E±0˚.2, h50km, n18, σ1§11/9, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.33**	**22**	P	**Pn**	**08 31 18.6**	**+0.9**
	0.5nm,0.3s,baz=178,slow=11,SNR=1.5						
	1.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**16.03**	**264**	P	**Pn**	**08 33 42.5**	**-0.2**
	0.1nm,0.3s,baz=63,slow=14,SNR=4.4						
	2.1nm,0.7s						
KSRS	**Korea Array**	**22.11**	**251**	P	**P**	**08 34 53.6**	**+1.9**
	1.6nm,0.7s,baz=42,slow=10.0,SNR=4.1						
	1.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**30.14**	**156**	T	T	09 08 16.2	
	baz=341,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**30.16**	**156**	T	T	09 07 46.0	
	baz=341,slow=76,SNR=55						
H11N3	**WAKE ISLAND Hy**	**30.16**	**156**	T	T	09 08 12.0	
	baz=341,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**31.26**	**157**	T	T	09 08 57.5	
	baz=344,slow=76,SNR=232						
H11S3	**WAKE ISLAND Hy**	**31.27**	**157**	T	T	09 08 58.2	
	baz=344,slow=76,SNR=241						
H11S2	**WAKE ISLAND Hy**	**31.27**	**157**	T	T	09 08 58.9	
	baz=344,slow=76,SNR=193						
MKAR	**Makanchi Array**	**47.08**	**297**	P	**P**	**08 38 26.6**	**-0.8**
	0.4nm,0.8s,baz=69,slow=7.9,SNR=3.7						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**47.41**	**303**	P	**P**	**08 38 29.0**	**-0.8**
	0.3nm,0.7s,baz=72,slow=8.3,SNR=1.4						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**49.22**	**38**	P	**P**	**08 38 43.2**	**-0.5**
	0.3nm,0.9s,baz=297,slow=6.9,SNR=3.8						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**50.64**	**309**	P	**P**	**08 38 53.9**	**-0.6**
	0.8nm,0.8s,baz=50,slow=9.9,SNR=1.3						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**70.18**	**200**	P	**P**	**08 41 07.2**	**-0.9**
	1.2nm,0.9s,baz=11,slow=6.3,SNR=3.5						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**73.88**	**200**	P	**P**	**08 41 30.7**	**+0.5**
	0.3nm,0.5s,baz=20,slow=5.9,SNR=4.9						
	0.3nm,0.5s						
H03N2	**Juan Fernandez**	**137.85**	**90**	T	T	11 22 35.6	
	baz=309,slow=77,SNR=4.7						
H03N1	**Juan Fernandez**	**137.87**	**90**	T	T	11 22 37.2	
	baz=309,slow=77,SNR=6.2						
H03N3	**Juan Fernandez**	**137.87**	**90**	T	T	11 22 38.5	
	baz=309,slow=77,SNR=6.8						

*IDC **25** 08:38:13.2±5.0, 7˚.49S×123˚.98E, h129km±48km, mb3.2/2, mbtmp3.8/4, Error ellipse: s-maj=132.4km s-min=17.4km az=59.0*

*DJA **25** 08:38:18.4±0.5, 8˚S±4˚×122˚.3E±˚, h198km±6km, M3.9/8, mb4.0/4, mB4.8/1, MLv3.8/8, Mw(mB)4.0/1*

ISC 25 08:38:19.2±0.9, 8˚.15S±0˚.08×123˚.20E±0˚.07, h200km, n27, σ2§01/30, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.06**	**243**	P	**Pn**	**08 38 49.2**	**-0.2**
MMRI	**Maumere**	**1.06**	**243**	P	**Pn**	**08 38 47.9**	**-1.5**
EDFI	**Ende, Flores**	**1.60**	**248**	P	**Pn**	**08 38 54.1**	**+0.1**
SOEI	**Soe**	**1.92**	**147**	P	**Pn**	**08 38 57.3**	**+0.3**
SOEI	**Soe**	**1.92**	**147**	P	**Pn**	**08 38 57.3**	**+0.3**
BBSI	**Bau Bau**	**2.72**	**347**	P	**Pn**	**08 39 04.6**	**-1.0**
BASI	**Baing, Sumba**	**3.30**	**231**	P	**Pn**	**08 39 11.5**	**-1.0**
BASI				S	**Sn**	**08 39 52.3**	**-1.9**
DBNI	**Kabupaten Domp**	**4.84**	**266**	P	**Pn**	**08 39 31.5**	**-0.2**
PLAI	**Plampang**	**5.40**	**262**	P	**Pn**	**08 39 38.5**	**-0.3**
PLAI	**Plampang**	**5.40**	**262**	P	**Pn**	**08 39 37.8**	**-1.0**
	34nm,0.6s,2µm0.3nm						
KNRA	**Kununurra**	**9.25**	**144**	P	**Pn**	**08 40 27.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.17**	**167**	P	**Pn**	**08 40 39.4**	**-1.3**
KDU	**Kakadu**	**10.18**	**117**	P	**Pn**	**08 40 39.9**	**-0.9**
WRA	**Warramunga Arr**	**15.93**	**139**	P	**Pn**	**08 41 51.7**	**-1.2**
	1.9nm,0.6s,baz=320,slow=12,SNR=7.8						
WRA				S	**S**	**08 44 43.8**	**-5.8**
	1.3nm,0.4s,baz=320,slow=25,SNR=10						
WRKA	**Warakurna**	**17.48**	**164**	P	**Pn**	**08 42 10.7**	**-0.6**
ASAR	**Alice Springs**	**18.53**	**148**	P	**Pn**	**08 42 22.2**	**-1.4**
	3.9nm,0.8s,baz=329,slow=12,SNR=31						
ASAR				S	**S**	**08 45 48.9**	**+7.1**
	1.0nm,0.6s,baz=312,slow=21,SNR=6.3						
AS01	**Alice Springs**	**18.55**	**147**	P	**Pn**	**08 42 22.6**	**-1.3**
QIS	**Mount Isa**	**20.09**	**130**	P	**P**	**08 42 38.3**	**+0.5**
COEN	**Coen**	**20.43**	**108**	P	**P**	**08 42 41.3**	**-0.1**
OOD	**Oodnadatta**	**22.83**	**150**	P	**P**	**08 43 05.4**	**+0.3**
FORT	**Forrest**	**22.97**	**169**	P	**P**	**08 43 07.0**	**+0.7**
BLDU	**Ballidu**	**23.16**	**194**	P	**P**	**08 43 09.2**	**+1.2**
KLBR	**Kellerberrin**	**23.87**	**192**	P	**P**	**08 43 16.0**	**+1.5**
MULG	**Mulgathing**	**24.26**	**157**	P	**P**	**08 43 18.8**	**+0.8**
HTT	**Hallett**	**29.06**	**152**	P	**P**	**08 44 02.2**	**+1.2**
STKA	**Stephens Creek**	**29.16**	**147**	P	**P**	**08 44 02.9**	**+1.0**
	0.6nm,0.3s,baz=329,slow=12,SNR=3.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**65.68**	**330**	P	**P**	**08 48 42.6**	**+0.4**
	0.2nm,0.7s,baz=135,slow=8.2,SNR=2.1						
	0.2nm,0.7s						

KRSC 25 08:40:44.7±1.6, 55˚.32N×166˚.76E, h31km±9km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.46**	**256**	*eP*	Pn	08 40 55.5	+0.4
BKI				*eS*	Sb	08 41 01.4	0.0
SMKR	**Semkarok**	**3.23**	**295**	*eP*	Pn	08 41 35.8	+2.4
SMKR				*eS*	Sb	08 42 15.7	-4.7
KLY	**Klyuchi**	**3.59**	**289**	*eP*	Pn	08 41 40.1	+2.0
KLY				*eS*	Sn	08 42 21.2	+1.9
TUMD	**Tumrok D**	**3.64**	**271**	*eS*	Sb	08 42 27.1	-4.9
KMNR	**Kamenistaya**	**3.73**	**279**	*eS*	Sb	08 42 29.1	-5.6
TUMR	**Tumrok**	**3.78**	**272**	*eP*	Pn	08 41 45.3	+4.4
TUMR				*eS*	Sn	08 42 29.7	+5.4
SRDR	**Sredinnyy**	**4.10**	**287**	*eP*	Pn	08 41 49.7	+4.6
SMAR	**Somma**	**5.09**	**249**	*eP*	Pn	08 42 03.3	+4.2
AVH	**Avacha**	**5.13**	**250**	*eP*	Pn	08 42 04.7	+5.4
KRMR	**Karymshinskiy**	**5.66**	**247**	*eP*	Pn	08 42 11.6	+5.1
KRMR				*eS*	Sn	08 43 14.6	+4.2
MTVR	**Mutnovka**	**5.81**	**244**	*eP*	Pn	08 42 13.7	+5.0
MTVR				*eS*	Sn	08 43 17.3	+3.0

*CATAC **25** 08:44:36.5±0.4, 10˚.06N×84˚.06W, h67km±3km, ML2.6*
*UCR **25** 08:44:36.7±1.3, 10˚.05N×84˚.09W, h78km±2km, MW3.6*

ISC 25 08:44:37.6±1.3, 9˚.99N±0˚.03×84˚.11W±0˚.03, h74km±5km, n106, σ0§78/184, 33C-15D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDC	**Heredia**	**0.01**	**337**	*eP*	**Pn**	**08 44 48.0**	**-0.5**
HDC				*eS*	**Sn**	**08 44 56.5**	**0.0**
HDC3	**Heredia 3**	**0.01**	**350**	*iP*	**Pn**	**08 44 48.0**	**-0.5**
HDC3				*eS*	**Sn**	**08 44 56.4**	**-0.1**
HDC3	**Heredia 3**	**0.01**	**350**	*i P*	**Pn**	**08 44 47.9**	**-0.7**
HDC3				*i S*	**Sn**	**08 44 56.6**	**+0.1**
HDC3				IAML		08 44 59.5	
	comp=Z,1µm,1.0s						
DOMI	**Santo Domingo**	**0.02**	**114**	*eP*	**Pn**	**08 44 48.1**	**-0.5**
DOMI				*eS*	**Sn**	**08 44 56.7**	**+0.2**
TIBA	**Tibas**	**0.05**	**127**	*eP*	**Pn**	**08 44 48.0**	**-0.6**
TIBA				*eS*	**Sn**	**08 44 56.9**	**+0.4**
MEXI	**Barrio Mexico**	**0.05**	**155**	*eP*	**Pn**	**08 44 49.1**	**+0.5**
MEXI				*eS*	**Sn**	**08 44 57.9**	**+1.4**
LUJA	**Lujan**	**0.07**	**150**	*iP*	**Pn**	**08 44 49.0**	**+0.4**
LUJA				*eS*	**Sn**	**08 44 57.6**	**+1.0**
SJS	**Escuela Geolog**	**0.07**	**133**	*iP*	**Pn**	**08 44 47.9**	**-0.7**
SJS				*eS*	**Sn**	**08 44 56.6**	**+0.1**
SJS3	**Mercedes San J**	**0.08**	**133**	*iP*	**Pn**	**08 44 48.0**	**-0.6**
SJS3				*eS*	**Sn**	**08 44 57.2**	**+0.6**
BELE	**Belen**	**0.08**	**260**	*iP*	**Pn**	**08 44 49.0**	**+0.4**
BELE				*eS*	**Sn**	**08 44 57.5**	**+1.0**
AMPA	**Desamparados**	**0.10**	**154**	*iP*	**Pn**	**08 44 48.8**	**+0.1**
AMPA				*eS*	**Sn**	**08 44 57.4**	**+0.7**
CORON	**Coronado**	**0.11**	**99**	*iP*	**Pn**	**08 44 48.3**	**-0.4**
CORON				*eS*	**Sn**	**08 44 57.3**	**+0.5**
TRIO	**Tres Rios**	**0.14**	**127**	*iP*	**Pn**	**08 44 48.0**	**-0.7**
TRIO				*eS*	**Sn**	**08 44 56.8**	**-0.1**
CVIMO	**Finca Echandi**	**0.17**	**78**	*eP*	**Pn**	**08 44 48.3**	**-0.6**
CVIMO				*eS*	**Sn**	**08 44 57.4**	**+0.2**
OCM	**Ochomogo**	**0.17**	**123**	*iP*	**Pn**	**08 44 48.1**	**-0.8**
OCM				*eS*	**Sn**	**08 44 56.7**	**-0.5**
OCM	**Ochomogo**	**0.17**	**123**	*i P*	**Pn**	**08 44 48.0**	**-0.9**
OCM				*i S*	**Sn**	**08 44 56.7**	**-0.5**
OCM				IAML		08 44 57.5	
	comp=Z,2µm,1.0s						
TCS1	**Tacares**	**0.20**	**285**	*iP*	**Pn**	**08 44 48.5**	**-0.4**
TCS1				*eS*	**Sn**	**08 44 57.8**	**+0.7**
TCS1	**Tacares**	**0.20**	**285**	*i P*	**Pn**	**08 44 48.3**	**-0.6**
TCS1				IAML		08 44 59.3	
	comp=Z,8µm,1.0s						
ACOS	**Acosta**	**0.20**	**196**	*iP*	**Pn**	**08 44 48.5**	**-0.5**
ACOS				*eS*	**Sn**	**08 44 57.4**	**+0.2**
GREC	**Grecia**	**0.21**	**293**	*eP*	**Pn**	**08 44 49.5**	**+0.5**
GREC				*eS*	**Sn**	**08 44 59.1**	**+1.8**
TAGO	**Cartago**	**0.22**	**124**	*iP*	**Pn**	**08 44 48.5**	**-0.6**
TAGO				*eS*	**Sn**	**08 44 57.7**	**+0.2**
SARCI	**Sarchi**	**0.25**	**293**	*iP*	**Pn**	**08 44 48.8**	**-0.4**
SARCI				*eS*	**Sn**	**08 44 58.2**	**+0.6**
VICA	**Volcano Irazu**	**0.26**	**91**	*eP*	**Pn**	**08 44 49.4**	**-0.2**
HAYA	**Volcan Irazu**	**0.26**	**92**	*i* PA		08 44 49.5	
HAYA				IAML		08 45 07.0	
	comp=Z,790nm,1.0s						
LCR2	**La Lucha 2**	**0.27**	**157**	*eP*	**Pn**	**08 44 48.5**	**-1.0**
LCR2				*eS*	**Sn**	**08 44 58.3**	**+0.3**
LCR2	**La Lucha 2**	**0.27**	**157**	*i P*	**Pn**	**08 44 48.4**	**-1.0**
LCR2				*i S*	**Sn**	**08 44 58.3**	**+0.3**
LCR2				IAML		08 44 59.1	
	comp=Z,1µm,1.0s						
ICR3	**Volcano Irazu**	**0.27**	**92**	*eP*	**Pn**	**08 44 50.4**	**+0.7**
ICR3				*eS*	**Sn**	**08 45 00.2**	**+1.7**
REPA	**Paraso**	**0.29**	**124**	*iP*	**Pn**	**08 44 49.8**	**+0.3**
REPA				*eS*	**Sn**	**08 44 59.2**	**+1.1**
ABE2	**San Pablo**	**0.29**	**169**	*eP*	**Pn**	**08 44 48.7**	**-0.9**
ABE2				*eS*	**Sn**	**08 44 58.6**	**+0.3**
PCAYA	**Pacayas**	**0.30**	**104**	*eP*	**Pn**	**08 44 49.0**	**-0.6**
PCAYA				*eS*	**Sn**	**08 44 58.7**	**+0.3**
RIMA	**Rio Macho**	**0.33**	**133**	*eP*	**Pn**	**08 44 48.9**	**-0.9**
RIMA				*eS*	**Sn**	**08 44 58.3**	**-0.3**
RIMA	**Rio Macho**	**0.33**	**133**	*i P*	**Pn**	**08 44 48.8**	**-0.9**
RIMA				IAML		08 44 49.2	
	comp=Z,2µm,1.0s						
RIMA				*i S*	**Sn**	**08 44 58.4**	**-0.3**
VTLA	**Turrialba Volc**	**0.33**	**88**	*eP*	**Pn**	**08 44 49.6**	**-0.3**
VTLA				*eS*	**Sn**	**08 44 59.6**	**+0.6**
RAZU	**San Marcos de**	**0.34**	**166**	*eP*	**Pn**	**08 44 48.9**	**-0.9**
RAZU				*eS*	**Sn**	**08 44 58.8**	**+0.1**
TRB2	**Turrubares**	**0.34**	**257**	*eP*	**Pn**	**08 44 49.1**	**-0.6**
TRB2				*eS*	**Sn**	**08 44 58.7**	**+0.2**
CVTV	**Tajo**	**0.35**	**88**	*eP*	**Pn**	**08 44 49.9**	**-0.2**
CVTV				*eS*	**Sn**	**08 44 59.9**	**+0.6**
RAMO	**San Ramon**	**0.36**	**285**	*eP*	**Pn**	**08 44 50.2**	**+0.3**
RAMO				*eS*	**Sn**	**08 45 00.1**	**+1.1**
VINA	**Juan Vinas**	**0.37**	**105**	*eP*	**Pn**	**08 44 49.5**	**-0.5**
RIFO	**Rio Frio, Sara**	**0.37**	**29**	*iP*	**Pn**	**08 44 48.9**	**-0.9**
RIFO				*eS*	**Sn**	**08 44 58.4**	**-0.4**
RIFO	**Rio Frio, Sara**	**0.37**	**29**	*i P*	**Pn**	**08 44 48.9**	**-0.9**
RIFO				*i S*	**Sn**	**08 44 58.4**	**-0.4**
RIFO				IAML		08 45 07.4	
	comp=Z,630nm,1.0s						
SRA1	**San Ramn**	**0.38**	**285**	*iP*	**Pn**	**08 44 49.2**	**-0.8**
SRA1				*eS*	**Sn**	**08 44 59.0**	**-0.1**
VTCV	**VTCV, Calle Va**	**0.38**	**91**	*eP*	**Pn**	**08 44 49.7**	**-0.4**
VTCV				*eS*	**Sn**	**08 45 00.0**	**+0.8**
VTLO	**VTLO**	**0.38**	**82**	*eP*	**Pn**	**08 44 49.6**	**-0.7**
CPMI	**Catarata Coope**	**0.40**	**317**	*eP*	**Pn**	**08 44 49.9**	**-0.3**
CPMI				*eS*	**Sn**	**08 45 00.2**	**+0.7**
CPMI	**Catarata Coope**	**0.40**	**317**	*i P*	**Pn**	**08 44 49.7**	**-0.6**
CPMI				*i S*	**Sn**	**08 44 59.8**	**+0.3**
CPMI				IAML		08 45 01.7	
	comp=Z,230nm,1.0s						
VERB	**Verbena**	**0.41**	**96**	*eP*	**Pn**	**08 44 49.8**	**-0.4**
VERB				*eS*	**Sn**	**08 45 00.1**	**+0.6**
TURIB	**Turrialba**	**0.42**	**101**	*eP*	**Pn**	**08 44 50.5**	**+0.2**
TURIB				*eS*	**Sn**	**08 45 00.3**	**+0.8**
RVSTA	**Santa Teresita**	**0.46**	**92**	*eP*	**Pn**	**08 44 50.2**	**-0.4**
RVSTA				*eS*	**Sn**	**08 45 00.6**	**+0.5**
SARA	**Sarapiqu**	**0.47**	**11**	*iP*	**Pn**	**08 44 49.7**	**-0.9**
SARA				*eS*	**Sn**	**08 44 59.4**	**-0.7**
ITAL	**Pital**	**0.48**	**341**	*eP*	**Pn**	**08 44 49.9**	**-0.9**
ITAL				*eS*	**Sn**	**08 44 59.8**	**-0.6**
LLNJ	**Naranjito**	**0.51**	**179**	*iP*	**Pn**	**08 44 50.7**	**-0.3**
LLNJ				*eS*	**Sn**	**08 45 01.8**	**+0.9**
RITA	**Parrita**	**0.52**	**205**	*eP*	**Pn**	**08 44 51.1**	**+0.1**
CARI	**Cariari**	**0.52**	**45**	*iP*	**Pn**	**08 44 51.6**	**+0.5**
CARI				*eS*	**Sn**	**08 45 02.2**	**+1.2**
RVLA	**Villa Bonita**	**0.53**	**77**	*iP*	**Pn**	**08 44 50.9**	**-0.3**
ARZA	**Esparza**	**0.55**	**270**	*eP*	**Pn**	**08 44 51.8**	**+0.4**
ARZA				*eS*	**Sn**	**08 45 02.7**	**+1.2**
LCOCO	**El Coco**	**0.55**	**80**	*iP*	**Pn**	**08 44 51.0**	**-0.3**
LCOCO				*eS*	**Sn**	**08 45 01.8**	**+0.3**
CDM	**Cerro de Muert**	**0.55**	**142**	*iP*	**Pn**	**08 44 50.9**	**-1.0**
CDM				*eS*	**Sn**	**08 45 01.6**	**-0.8**
CDM	**Cerro de Muert**	**0.55**	**142**	*i P*	**Pn**	**08 44 50.7**	**-1.2**
CDM				IAML		08 44 51.3	
	comp=Z,690nm,1.0s						
CDM				*i S*	**Sn**	**08 45 01.5**	**-0.8**
SVQ2	**Quepos**	**0.56**	**186**	*eP*	**Pn**	**08 44 51.0**	**-0.4**
BUS1	**Rivas**	**0.56**	**140**	*eP*	**Pn**	**08 44 51.0**	**-1.0**
BUS1				*eS*	**Sn**	**08 45 02.8**	**+0.3**
IRES	**Siquirres**	**0.60**	**80**	*iP*	**Pn**	**08 44 51.6**	**-0.3**
IRES				*eS*	**Sn**	**08 45 03.2**	**+0.8**
JACO	**JACO, Garabito**	**0.63**	**239**	*iP*	**Pn**	**08 44 51.6**	**-0.6**
JACO				*eS*	**Sn**	**08 45 03.4**	**+0.4**
JACO	**JACO, Garabito**	**0.63**	**239**	*i P*	**Pn**	**08 44 51.6**	**-0.6**
JACO				*i S*	**Sn**	**08 45 03.3**	**+0.4**
JACO				IAML		08 45 06.4	
	comp=Z,310nm,1.0s						
SOCE	**Pocosol**	**0.64**	**308**	*eP*	**Pn**	**08 44 51.8**	**-0.5**
SOCE				*eS*	**Sn**	**08 45 03.2**	**+0.1**
SOCE	**Pocosol**	**0.64**	**308**	*i P*	**Pn**	**08 44 51.6**	**-0.7**
SOCE				*i S*	**Sn**	**08 45 02.8**	**-0.2**
SOCE				IAML		08 45 07.2	
	comp=Z,700nm,1.0s						
TUNA	**La Fortuna**	**0.71**	**312**	*eP*	**Pn**	**08 44 53.6**	**+0.6**
VACR	**Volcan Arenal**	**0.74**	**311**	*eP*	**Pn**	**08 44 52.9**	**-0.5**
PEZE	**Perez Zeledon,**	**0.74**	**145**	*iP*	**Pn**	**08 44 52.6**	**-0.8**
PEZE				*eS*	**Sn**	**08 45 05.3**	**+0.2**
PEZE	**Perez Zeledon,**	**0.74**	**145**	*i P*	**Pn**	**08 44 52.4**	**-1.0**
PEZE				IAML		08 44 52.9	
	comp=Z,450nm,1.0s						
PEZE				*i S*	**Sn**	**08 45 03.9**	**-1.2**
TAAN	**Batan**	**0.76**	**83**	*iP*	**Pn**	**08 44 53.1**	**-0.4**
TAAN				*eS*	**Sn**	**08 45 06.3**	**+1.1**
ARE1	**Arenal 1**	**0.76**	**308**	*eP*	**Pn**	**08 44 53.3**	**-0.3**
ARE1				*eS*	**Sn**	**08 45 06.5**	**+1.1**
COVE	**Coope Vega, Sa**	**0.78**	**338**	*iP*	**Pn**	**08 44 52.6**	**-1.3**
COVE				*eS*	**Sn**	**08 45 04.8**	**-0.9**
COVE	**Coope Vega, Sa**	**0.78**	**338**	*i P*	**Pn**	**08 44 52.5**	**-1.3**
COVE				IAML		08 44 52.7	
	comp=Z,250nm,1.0s						
COVE				*i S*	**Sn**	**08 45 04.5**	**-1.3**
LAFE	**Finca La Fe, P**	**0.81**	**257**	*eP*	**Pn**	**08 44 54.2**	**+0.2**
LAFE	**Finca La Fe, P**	**0.81**	**257**	*i P*	**Pn**	**08 44 54.3**	**+0.2**
LAFE				IAML		08 44 56.3	
	comp=Z,2.1nm,1.0s						
LAFE				*i S*	**Sn**	**08 45 07.9**	**+1.6**
JTS	**Las Juntas de**	**0.88**	**290**	*eP*	**Pn**	**08 44 54.5**	**-0.5**
JTS				*eS*	**Sn**	**08 45 08.3**	**+0.4**
JUNT	**Juntas**	**0.89**	**289**	*eP*	**Pn**	**08 44 54.4**	**-0.7**
JUNT				*eS*	**Sn**	**08 45 08.4**	**+0.5**
OCHAL	**Ojochal**	**1.00**	**153**	*i P*	**Pn**	**08 44 56.1**	**-0.3**
OCHAL				IAML		08 44 56.8	
	comp=Z,30nm,1.0s						
OCHAL				*i S*	**Sn**	**08 45 11.0**	**+0.7**
CBL1	**Cabuya**	**1.05**	**248**	*eP*	**Pn**	**08 44 56.0**	**-0.9**
CNAS	**Canas**	**1.06**	**294**	*eP*	**Pn**	**08 44 58.3**	**+1.1**
CNAS				*eS*	**Sn**	**08 45 13.6**	**+1.9**
BURE	**Buenos Aires**	**1.11**	**137**	*eP*	**Pn**	**08 44 57.4**	**-0.4**
NYURE	**Nandayure**	**1.13**	**270**	*iP*	**Pn**	**08 44 57.5**	**-0.4**
VERA	**Finca Concepci**	**1.14**	**319**	*eP*	**Pn**	**08 44 57.2**	**-0.9**
POPE	**POPE, Guanacas**	**1.14**	**274**	*i P*	**Pn**	**08 44 57.4**	**-0.7**
POPE				IAML		08 44 58.6	
	comp=Z,25nm,1.0s						
POPE				*i S*	**Sn**	**08 45 13.6**	**+0.2**
EDBA	**Buenos Aires**	**1.16**	**135**	*eP*	**Pn**	**08 44 57.6**	**-0.9**
EDBA				*eS*	**Sn**	**08 45 13.1**	**-0.9**
EDPN	**Palmar Norte**	**1.21**	**148**	*eP*	**Pn**	**08 44 58.6**	**-0.4**
CUI	**Cuipilapa**	**1.23**	**303**	*eP*	**Pn**	**08 44 59.1**	**-0.2**
COLC	**Colonia**	**1.27**	**302**	*eP*	**Pn**	**08 44 59.7**	**-0.2**
COLC				*eS*	**Sn**	**08 45 16.8**	**+0.3**
PLVR	**Palo Verde**	**1.27**	**286**	*eP*	**Pn**	**08 45 00.2**	**+0.2**
BRIBI	**Bribri**	**1.29**	**106**	*eP*	**Pn**	**08 45 02.3**	**+2.2**
CMARA	**Lajas Hojancha**	**1.29**	**271**	*eP*	**Pn**	**08 44 59.4**	**-0.8**
CMARA				*eS*	**Sn**	**08 45 16.4**	**-0.7**
NICO	**Nicoya**	**1.32**	**276**	*eP*	**Pn**	**08 45 00.2**	**-0.3**
POTG	**Potrero Grande**	**1.35**	**134**	*iP*	**Pn**	**08 45 00.3**	**-0.6**
POTG	**Potrero Grande**	**1.35**	**134**	*i P*	**Pn**	**08 45 00.0**	**-0.9**
POTG				*i S*	**Sn**	**08 45 18.1**	**-0.3**
POTG				IAML		08 45 22.4	
	comp=Z,500nm,1.0s						
DUNO	**Dulce Nombre,**	**1.37**	**274**	*i P*	**Pn**	**08 45 00.2**	**-0.8**
DUNO				IAML		08 45 01.2	
	comp=Z,370nm,1.0s						
DUNO				*i S*	**Sn**	**08 45 19.9**	**+1.3**
INDI	**Punta indio, G**	**1.38**	**265**	*iP*	**Pn**	**08 45 00.1**	**-1.1**
INDI				*eS*	**Sn**	**08 45 16.9**	**-2.0**
ORTG	**Ortega, Santa**	**1.38**	**286**	*eP*	**Pn**	**08 45 01.4**	**+0.1**
ORTG				*eS*	**Sn**	**08 45 20.4**	**+1.3**
ORTG	**Ortega, Santa**	**1.38**	**286**	*i P*	**Pn**	**08 45 01.0**	**-0.3**
ORTG				*i S*	**Sn**	**08 45 20.1**	**+1.0**
ORTG				IAML		08 45 26.3	
	comp=Z,100nm,1.0s						
JUD3	**Juan Diaz 3**	**1.42**	**277**	*iP*	**Pn**	**08 45 01.7**	**-0.1**
JUD3				*eS*	**Sn**	**08 45 20.6**	**+0.6**
GPS3	**Bodega del ICE**	**1.45**	**302**	*eP*	Pn	08 44 47.9	-14
SAJU	**San Juanillo,**	**1.58**	**273**	*i P*	**Pn**	**08 45 02.6**	**-1.2**
SAJU				IAML		08 45 03.3	
	comp=Z,130nm,1.0s						
SAJU				*i S*	**Sn**	**08 45 22.2**	**-1.4**
EDAD	**Golfito**	**1.62**	**145**	*

PB15	**IPOC Station P**	**1.47 209**			**Pn**	**Pn**	**08 49 56.9**	**+0.6**
PB15	**IPOC Station P**	**1.47 209**	*eP*		**Pn**	**Pn**	**08 49 56.6**	**+0.3**
PB15			*eS*		**Sn**	**Sn**	**08 50 18.9**	**+1.7**
PB15	**IPOC Station P**	**1.47 209**	⇑*iP*		**Pn**	**Pn**	**08 49 56.6**	**+0.3**
PB15			*eS*		**Sn**	**Sn**	**08 50 17.7**	**+0.5**
PB05	**IPOC Station P**	**1.67 236**	Pn		**Pn**	**Pn**	**08 49 58.4**	**-0.1**
PB05	**IPOC Station P**	**1.67 236**	*eP*		**Pn**	**Pn**	**08 49 58.5**	**-0.1**
PB05			*eS*		**Sn**	**Sn**	**08 50 21.3**	**+0.1**
PB05			IAML				08 50 22.8	
	comp=Z,1μm,0.9s							
PB05	**IPOC Station P**	**1.67 236**	⇑*iP*		**Pn**	**Pn**	**08 49 58.5**	**-0.1**
PB05			*eS*		**Sn**	**Sn**	**08 50 20.2**	**-1.1**
PB05			IAML				08 50 23.1	
	comp=N,2μm,0.2s							
PATCX	**Punta Patache**	**1.74 309**	Pn		**Pn**	**Pn**	**08 49 59.2**	**-0.1**
PATCX	**Punta Patache**	**1.74 309**	*eP*		**Pn**	**Pn**	**08 49 59.0**	**-0.4**
PATCX			*eS*		**Sn**	**Sn**	**08 50 22.9**	**+0.2**
PATCX	**Punta Patache**	**1.74 309**	⇑*iP*		**Pn**	**Pn**	**08 49 58.9**	**-0.4**
PATCX			*eS*		**Sn**	**Sn**	**08 50 21.6**	**-1.1**
PATCX			IAML				08 50 23.3	
	comp=N,5μm,0.2s							
PB08	**IPOC Station P**	**1.82 346**			**Pn**	**Pn**	**08 50 01.3**	**+0.6**
PB08	**IPOC Station P**	**1.82 346**	*eP*		**Pn**	**Pn**	**08 50 00.6**	**-0.1**
PB08			*eS*		**Sn**	**Sn**	**08 50 26.3**	**+1.4**
PB08			IAML				08 50 28.6	
	comp=Z,969nm,0.5s							
PB08	**IPOC Station P**	**1.82 346**	⇑*iP*		**Pn**	**Pn**	**08 50 01.2**	**+0.6**
PB08			*eS*		**Sn**	**Sn**	**08 50 24.5**	**-0.4**
PB08			IAML				08 50 26.7	
	comp=E,2μm,0.3s							
TA01	**Diego Aracena**	**1.93 314**			**Pn**	**Pn**	**08 50 00.9**	**-0.6**
TA01	**Diego Aracena**	**1.93 314**	*eP*		**Pn**	**Pn**	**08 50 00.8**	**-0.7**
TA01			*eS*		**Sn**	**Sn**	**08 50 26.5**	**-0.1**
TA01			IAML				08 50 28.2	
	comp=Z,1μm,0.2s							
TA01	**Diego Aracena**	**1.93 314**	*eP*		**Pn**	**Pn**	**08 50 00.4**	**-1.1**
TA01			*eS*		**Sn**	**Sn**	**08 50 25.4**	**-1.2**
TA01			IAML				08 50 28.2	
	comp=N,3μm,0.4s							
HMBC	**Humberstone**	**1.98 326**	⇑*iP*		**Pn**	**Pn**	**08 50 01.5**	**-0.8**
HMBC			*eS*		**Sn**	**Sn**	**08 50 26.5**	**-1.3**
HMBC			IAML				08 50 28.7	
	comp=E,4μm,0.6s							
TA02	**Huaiquique**	**2.12 321**			**Pn**	**Pn**	**08 50 03.1**	**-0.8**
TA02	**Huaiquique**	**2.12 321**	*eP*		**Pn**	**Pn**	**08 50 03.0**	**-0.8**
TA02			*eS*		**Sn**	**Sn**	**08 50 29.7**	**-1.1**
TA02			IAML				08 50 35.7	
	comp=Z,2μm,0.1s							
TA02	**Huaiquique**	**2.12 321**	*eP*		**Pn**	**Pn**	**08 50 02.8**	**-1.1**
TA02			*eS*		**Sn**	**Sn**	**08 50 29.0**	**-1.8**
TA02			IAML				08 50 33.1	
	comp=N,4μm,0.1s							
GO01	**Chusmiza**	**2.29 348**			**Pn**	**Pn**	**08 50 07.0**	**+0.5**
GO01	**Chusmiza**	**2.29 348**	*eP*		**Pn**	**Pn**	**08 50 06.3**	**-0.3**
GO01	**Chusmiza**	**2.29 348**	*eP*		**Pn**	**Pn**	**08 50 06.4**	**-0.1**
GO01			*eS*		**Sn**	**Sn**	**08 50 34.9**	**-0.4**
GO01			IAML				08 50 38.4	
	comp=E,2μm,0.2s							
PB11	**IPOC Station P**	**2.33 337**	Pn		**Pn**	**Pn**	**08 50 06.1**	**-0.6**
PB11	**IPOC Station P**	**2.33 337**	*eP*		**Pn**	**Pn**	**08 50 06.0**	**-0.7**
PB11			*eS*		**Sn**	**Sn**	**08 50 34.9**	**-0.8**
PB11			IAML				08 50 38.1	
	comp=Z,653nm,0.1s							
PB11	**IPOC Station P**	**2.33 337**	⇑*iP*		**Pn**	**Pn**	**08 50 06.0**	**-0.6**
PB11			*eS*		**Sn**	**Sn**	**08 50 34.4**	**-1.3**
PB11			IAML				08 50 35.3	
	comp=E,3μm,0.4s							
PB14	**IPOC Station P**	**3.12 210**	Pn		**Pn**	**Pn**	**08 50 16.8**	**-0.2**
PB14	**IPOC Station P**	**3.12 210**	*eP*		**Pn**	**Pn**	**08 50 16.4**	**-0.6**
PB14			*eS*		**Sn**	**Sn**	**08 50 47.6**	**-6.5**
PB14			IAML				08 51 22.4	
	comp=Z,279nm,0.3s							
GO02	**Mina Guanaco**	**3.33 194**	Pn		**Pn**	**Pn**	**08 50 19.6**	**-0.2**
GO02	**Mina Guanaco**	**3.33 194**	*eP*		**Pn**	**Pn**	**08 50 19.8**	**0.0**
GO02			*eS*		**Sn**	**Sn**	**08 50 53.0**	**-6.2**
PB12	**IPOC Station P**	**3.63 335**	Pn		**Pn**	**Pn**	**08 50 21.4**	**-2.1**
PB12	**IPOC Station P**	**3.63 335**	*eP*		**Pn**	**Pn**	**08 50 21.5**	**-2.1**
PB12			*eS*		**Sn**	**Sn**	**08 51 02.1**	**-3.8**
PB12			IAML				08 51 05.1	
	comp=Z,283nm,0.3s							
PB16	**IPOC Station P**	**3.65 348**			**Pn**	**Pn**	**08 50 23.8**	**-0.5**
PB16	**IPOC Station P**	**3.65 348**	*eP*		**Pn**	**Pn**	**08 50 24.5**	**+0.2**
SLA	**San Lorenzo**	**4.05 134**	*eP*		**Pn**	**Pn**	**08 50 31.5**	**+2.3**
SLA			*eS*		**Sn**	**Sn**	08 50 55.8	-20
PB18	**Visviri**	**4.37 350**			**Pn**	**Pn**	**08 50 34.8**	**+0.9**
AC01	**Pan de Azucar**	**4.55 202**			**Pn**	**Pn**	**08 50 34.4**	**-1.4**
AC01	**Pan de Azucar**	**4.55 202**	*eP*		**Pn**	**Pn**	**08 50 34.1**	**-1.7**
AC01			IAML				08 51 55.1	
	comp=Z,101nm,1.3s							
AC06	**Mina Casimiro**	**5.62 195**			**Pn**	**Pn**	**08 50 47.4**	**-2.8**
LPAZ	**La Paz**	**5.63 6**			**Pn**	**Pn**	**08 50 52.2**	**+1.3**
GO03	**Copiap**	**5.82 194**	Pn		**Pn**	**Pn**	**08 50 51.3**	**-1.5**
AC05	**El Transito**	**7.03 191**			**Pn**	**Pn**	**08 51 07.1**	**-2.2**
TICA	**Tres Isletas**	**8.80 122**	*eP*		**Pn**	**Pn**	**08 51 32.4**	**-0.6**
BBSD	**Serra de San D**	**8.96 60**	*eP*		**Pn**	**Pn**	**08 51 32.2**	**-3.1**
SIV	**San Ignacio**	**9.32 52**	P		**Pn**	**Pn**	**08 51 35.9**	**-4.2**
	comp=Z,6.2nm,0.5s,baz=253,slow=9.8,SNR=29							
SIV			S		Sn		08 53 14.2	-9.1
	comp=Z,4.0nm,0.8s,baz=143,slow=21,SNR=3.0							
ESFA	**Espinillo Form**	**9.85 110**	*eP*		**Pn**	**Pn**	**08 51 46.9**	**-0.3**
PTLB	**Pontes e Lacer**	**11.11 56**	*eP*		**Pn**	**Pn**	**08 52 02.5**	**-1.8**
CPUP	**Villa Florida**	**11.27 115**	P		**Pn**	**Pn**	**08 52 03.0**	**-3.3**
	comp=Z,2.2nm,0.7s,baz=281,slow=8.2,SNR=4.0							
CPUP	**Villa Florida**	**11.27 115**	*eP*		**Pn**	**Pn**	**08 52 05.8**	**-0.4**
ANTJ	**Antonio Joao (**	**11.78 93**	*eP*		**Pn**	**Pn**	**08 52 11.9**	**-1.2**
MT01	**Popeta**	**12.11 190**	Pn		**Pn**	**Pn**	**08 52 16.8**	**-0.5**
AQDB	**Aquidauana**	**12.21 86**	*eP*		**Pn**	**Pn**	**08 52 19.2**	**+0.5**
ETMB	**Extrema**	**12.27 12**	Pn		**Pn**	**Pn**	**08 52 17.1**	**-2.4**
ETMB	**Extrema**	**12.27 12**	*eP*		Pn		08 52 14.6	-4.9
RVDE	**Rio Verde (Bra**	**13.21 80**	*eP*		**Pn**	**Pn**	**08 52 29.6**	**-2.2**
ITQB	**Itaqui**	**13.33 128**	*eP*		**Pn**	**Pn**	**08 52 34.6**	**+1.5**
MCR1	**Marechal Candi**	**13.72 103**	*eP*		**Pn**	**Pn**	**08 52 39.1**	**+0.9**
UNIS	**Unistalda (Bra**	**14.21 123**	*eP*		**P**	**P**	**08 52 46.6**	**-1.4**
RODS	**Rosario do Sul**	**14.73 127**	*eP*		**Pn**	**Pn**	**08 52 52.4**	**+1.2**
PDRB	**Porto dos Gac**	**15.37 50**	*eP*		**Pn**	**Pn**	**08 52 58.0**	**-1.2**
PTGB	**Pitanga**	**15.53 104**	*eP*		**P**	**P**	**08 53 03.1**	**+0.2**
ALGR	**Alto Alegre (B**	**15.72 119**	*eP*		**P**	**P**	**08 53 05.6**	**+0.6**
ITAB	**Concordia**	**15.97 113**	P		**P**	**P**	**08 53 07.5**	**-0.1**
ITAB			IAmb		IAmb	IAmb	08 53 08.4	
	comp=Z,20nm,0.7s							
ITAB	**Concordia**	**15.97 113**	*eP*		**P**	**P**	**08 53 07.9**	**+0.3**
CPSB	**Capacava Do Su**	**16.08 125**	*eP*		**P**	**P**	**08 53 09.0**	**+0.1**
PCMB	**Pacaembu**	**16.20 92**	*eP*		**Pn**	**Pn**	**08 53 09.5**	**0.0**
LDASE	**Londrina, Braz**	**16.30 99**	*eP*		**P**	**P**	**08 53 11.6**	**+0.2**
PLTB	**Pedras Altas**	**16.64 129**			**Pn**	**Pn**	**08 53 13.9**	**-0.9**
PLTB			IAmb		IAmb	IAmb	08 53 39.7	
	comp=Z,20nm,1.4s							
TRQA	**Tornquist**	**17.09 162**			**P**	**P**	**08 53 19.5**	**-0.5**
TRQA			IAmb		IAmb	IAmb	08 53 24.1	
	comp=Z,10.0nm,1.1s							
ITRB	**Iturama**	**17.29 86**	*eP*		**Pn**	**Pn**	**08 53 22.7**	**0.0**
FRTB	**Fartura**	**17.72 98**	*eP*		**P**	**P**	**08 53 27.0**	**0.0**
BB19B	**Bebedouro**	**18.79 91**	*eP*		**P**	**P**	**08 53 38.5**	**-0.2**
PLCA	**Paso Flores**	**18.82 184**	P		**P**	**P**	**08 53 38.0**	**-1.0**
PLCA			IAmb		IAmb	IAmb	08 54 16.1	
	comp=Z,8.9nm,1.3s							
PLCA	**Paso Flores**	**18.82 184**	P		**Pn**	**Pn**	**08 53 41.3**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=8.3,slow=12,SNR=3.4							
SNDB	**Serra Nova Dou**	**19.34 62**	*eP*		**P**	**P**	**08 53 43.5**	**-1.3**
RCLB	**Rio Claro- Sao**	**19.61 95**	*eP*		**P**	**P**	**08 53 47.5**	**-0.2**
IPMB	**Ipameri, GO**	**19.65 82**	*eP*		**P**	**P**	**08 53 47.8**	**-0.3**
SPB	**Sao Paulo**	**19.68 99**	*eP*		**P**	**P**	**08 53 49.3**	**+0.9**
PET01	**Itanhaem-SP**	**19.84 101**	*eP*		**P**	**P**	**08 53 49.9**	**-0.2**
MACA	**Manacapuru-AM**	**20.21 24**	P		**P**	**P**	**08 53 52.3**	**-1.8**
MACA			IAmb		IAmb	IAmb	08 53 55.9	
	comp=Z,13nm,0.5s							
MACA	**Manacapuru-AM**	**20.21 24**	*eP*		**P**	**P**	**08 53 52.7**	**-1.4**
BDFB	**Brasilia**	**20.54 76**	P		**P**	**P**	**08 53 55.9**	**-1.9**
BDFB			IAmb		IAmb	IAmb	08 53 59.1	
	comp=Z,14nm,1.2s							
BDFB	**Brasilia**	**20.54 76**	P		**P**	**P**	**08 53 56.1**	**-1.7**
	comp=Z,4.8nm,0.4s,baz=248,slow=10,SNR=5.8							
	comp=Z,4.8nm,0.4s							
MCRA	**Macar, Loja**	**20.58 326**	P		Pn		08 53 59.3	-2.3
BOSC	**San Juan Bosco**	**20.95 332**	P		Pn		08 54 04.5	-1.5
PMNB	**Patos De Minas**	**21.15 85**	*eP*		**P**		**08 54 03.4**	**-0.9**
PARB	**Paraibuna**	**21.34 98**	*eP*		**P**		**08 54 05.2**	**-1.1**
ITTB	**Itaituba**	**21.51 38**	*eP*		**P**		**08 54 06.2**	**-1.8**
BSCB	**Bom Sucesso**	**22.28 92**	*eP*		**P**		**08 54 15.2**	**-1.0**
DIAM	**Diamantina, MG**	**23.77 86**	*eP*		**P**		**08 54 30.1**	**-0.2**
JANB	**Januaria**	**24.09 78**	*eP*		**P**		**08 54 32.3**	**-0.9**
MALB	**Monte Alegre**	**24.40 37**	*eP*		**P**		**08 54 35.6**	**-0.3**
DUB01	**Friburgo-RJ**	**24.40 95**	*eP*		**P**		**08 54 37.3**	**+1.3**
SDBA	**SAO DESIDERIO**	**24.59 71**	*eP*		**P**		**08 54 37.3**	**-0.4**
SJMB	**Sao Joao De Ma**	**25.99 88**	*eP*		**P**		**08 54 50.8**	**+0.5**
RIB01	**Linhares ES**	**26.60 90**	*eP*		**P**		**08 54 55.6**	**-0.2**
GUA01	**Guaratinga, BA**	**27.76 84**	*eP*		**P**		**08 55 06.1**	**-0.1**
CELP	**Cerrillos**	**39.80 3**	P		**P**		**08 56 49.8**	**-0.3**
TXAR	**Lajitas Array**	**61.09 325**	P		**P**		**08 59 30.9**	**+0.9**
TXAR	**Lajitas Array**	**61.09 325**	P		**P**		**08 59 31.5**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=153,slow=11,SNR=2.4							
	comp=Z,0.2nm,0.7s							
SNAA	**Sanae**	**61.82 161**	P		**P**		**08 59 35.5**	**+1.1**
DBIC	**Dimbokro**	**68.67 73**	P		**P**		**09 00 19.5**	**+0.1**
DBIC			IAmb		IAmb		09 00 20.5	
	comp=Z,7.1nm,0.8s							
DBIC	**Dimbokro**	**68.67 73**	P		**P**		**09 00 19.8**	**+0.4**
	comp=Z,5.5nm,0.7s,baz=227,slow=7.8,SNR=9.3							
	comp=Z,5.5nm,0.7s							
PDAR	**Pinedale Array**	**74.57 330**	P		**P**		**09 00 56.7**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=118,slow=9.3,SNR=2.5							
	comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.31 70**	P		**P**		**09 01 10.5**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=260,slow=5.5,SNR=20							
	comp=Z,1.3nm,0.4s							
BOSA	**Boshof**	**83.08 118**	P		**P**		**09 01 42.7**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=199,slow=9.0,SNR=3.3							
	comp=Z,2.8nm,0.9s							
YKA	**Yellowknife Ar**	**91.65 341**	P		**P**		**09 02 23.2**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=128,slow=5.4,SNR=3.6							
	comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**145.86 36**	PKPbc		**PKPab**		**09 08 54.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=342,slow=3.6,SNR=5.4							

KRSC 25 08:52:40.4±1.5, 55.33N×166.34E, h37km±6km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.24**	**240**	*eP*	Pn	08 52 48.2	-0.7
BKI				*eS*	Sn	08 52 53.5	-3.3
SMKR	**Semkarok**	**3.01**	**297**	*eP*	Pn	08 53 28.5	+3.0
SMKR				*eS*	Sn	08 54 03.8	+3.4
KMNR	**Kamenistaya**	**3.49**	**280**	*eP*	Pn	08 53 36.5	+4.3
KMNR				*eS*	Sn	08 54 17.6	+5.3
TUMR	**Tumrok**	**3.54**	**272**	*eP*	Pn	08 53 37.1	+4.3
TUMR				*eS*	Sn	08 54 19.8	+6.4
SPN	**Mys Shipunski**	**4.33**	**242**	*eS*	Sn	08 54 36.1	+3.5
KRMR	**Karymshinskiy**	**5.44**	**246**	*eP*	Pn	08 54 04.0	+5.2
KRMR				*eS*	Sn	08 55 05.2	+5.2
MTVR	**Mutnovka**	**5.60**	**243**	*eP*	Pn	08 54 06.6	+5.5
MTVR				*eS*	Sn	08 55 09.1	+4.9

*IDC **25** 08:59:40.2±2.9, 54.39N×87.12E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=25.9km s-min=18.2km az=52.0*

NNC 25 08:59:40.2±1.5, 54.33N×86.95E, h0km, mb2.7, mpv2.6, 3C-4D, Error ellipse: s-maj=23.2km s-min=8.7km az=172.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**254**	*i*	*i*	09 06 50.0	
	0.2nm,0.9s,baz=73,slow=348,SNR=4.5						
ZAA0	**Zalesovo Array**	**1.31**	**254**	⇓P	Pg	09 00 04.7	-0.6
	0.2nm,0.3s						
ZAA0				⇑S	Sb	09 00 22.7	-0.3
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**1.31**	**254**	Pg	Pg	09 00 04.8	-0.5
	1.6nm,0.3s,baz=71,slow=16,SNR=25						
ZALV				Lg	Lg	09 00 24.9	
	1.8nm,0.3s,baz=71,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.34**	**238**	⇑Pn	Pn	09 01 15.3	+0.5
	1.8nm,0.8s						
KURBB				⇓Sn	Sn	09 02 29.1	+1.1
	2.4nm,0.8s						
KURBB				⇑Lg	Lg	09 03 02.7	
	3.1nm,0.9s						
KURBB	**Kurchatov Arra**	**6.34**	**238**	Pn	Pn	09 01 17.3	+2.5
	0.1nm,0.3s,baz=53,slow=14,SNR=8.6						
KURBB				Lg	Lg	09 03 09.1	
	baz=57,slow=30,SNR=1.7						
	0.9nm,0.5s						
MK31	**Makanchi Array**	**8.11**	**203**	⇓Pn	Pn	09 01 38.0	-1.1
	0.3nm,0.6s,baz=183,slow=24,SNR=4.0						
MK31				⇓Lg	Lg	09 04 02.0	
	1.4nm,0.8s,baz=24,slow=29,SNR=4.2						
MKAR	**Makanchi Array**	**8.11**	**203**	Pn	Pn	09 01 41.8	+2.7
	0.1nm,0.3s,baz=26,slow=13,SNR=7.0						
MKAR				Lg	Lg	09 04 01.4	
	baz=24,slow=30,SNR=9.0						
	0.2nm,0.3s						

IDC 25 09:00:33.2±3.7, 54.17N×87.30E, h0km, mbtmp2.5/2, ML2.1/1, Error ellipse: s-maj=33.6km s-min=21.0km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**262**	*i*	*i*	09 08 45.0	
	0.1nm,1.1s,baz=80,slow=347,SNR=8.2						
ZALV	**Zalesovo Beam**	**1.48**	**262**	Pg	Pn	09 00 60.0	-1.1
	1.8nm,0.3s,baz=81,slow=12,SNR=6.1						
ZALV				Lg	Lg	09 01 20.6	
	0.5nm,0.3s,baz=83,slow=25,SNR=1.8						
KURBB	**Kurchatov Arra**	**6.44**	**240**	Pn	Pn	09 02 09.7	+0.5
	baz=53,slow=14,SNR=2.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.04**	**205**	Pn	Pn	09 02 32.5	+1.2
	0.1nm,0.3s,baz=27,slow=13,SNR=1.1						

*NNC **25** 09:05:00.2±3.0, 54.04N×86.65E, h0km, mb2.4, mpv2.3, Error ellipse: s-maj=19.4km s-min=12.9km az=75.0, Suspected Mining explosion.*

IDC 25 09:05:01.7±2.5, 54.07N×86.52E, h0km, mbtmp3.0/2, ML2.8/2, 5C-1D, Error ellipse: s-maj=21.8km s-min=12.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**264**	*i*	*i*	09 10 55.0	
	0.2nm,1.2s,baz=83,slow=348,SNR=6.5						
ZAA0	**Zalesovo Array**	**1.01**	**264**	⇑P	Pg	09 05 20.2	-0.8
	0.1nm,0.3s,baz=87,slow=18						
ZAA0				⇑S	Sb	09 05 36.2	+0.3
	0.3nm,0.3s,baz=84,slow=26						
ZALV	**Zalesovo Beam**	**1.01**	**264**	Pg	Pg	09 05 19.8	-1.2
	0.7nm,0.3s,baz=82,slow=17,SNR=9.6						
ZALV				Lg	Lg	09 05 35.5	
	2.0nm,0.3s,baz=83,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**5.99**	**238**	⇑Pn	Pn	09 06 32.2	+0.8
	1.2nm,0.5s						
KURBB				⇓Lg	Lg	09 08 10.1	
	3.1nm,0.6s						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	09 06 32.4	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=16						
	0.6nm,0.3s						
MK31	**Makanchi Array**	**7.76**	**202**	⇑Pn	Pn	09 06 56.9	+1.0
	0.1nm,0.3s						
MK31				⇑Lg	Lg	09 09 08.2	
	1.2nm,0.7s,baz=339,slow=2.9,SNR=4.4						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	09 06 56.8	+0.9
	0.2nm,0.3s,baz=25,slow=14,SNR=12						
	0.2nm,0.3s						

IDC 25 09:05:14.3±2.9, 53.55N×87.98E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=24.0km s-min=16.3km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**283**	*i*	*i*	09 15 50.0	
	baz=97,slow=350,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.92**	**283**	Pn	Pn	09 05 48.4	+0.2
	1.5nm,0.3s,baz=101,slow=14,SNR=15						
ZALV				Lg	Lg	09 06 15.0	
	1.4nm,0.3s,baz=96,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	09 06 53.2	+1.8
	0.1nm,0.3s,baz=62,slow=14,SNR=7.0						
KURBB				Sn	Sn	09 08 04.0	-2.4
	baz=70,slow=24,SNR=1.6						
KURBB				Lg	Lg	09 08 40.9	
	baz=63,slow=33,SNR=5.7						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**7.68**	**211**	Pn	Pn	09 07 07.1	-0.3
	0.1nm,0.3s,baz=26,slow=13,SNR=2.6						
MKAR				Sn	Sn	09 08 35.7	+0.6
	0.1nm,0.3s,baz=32,slow=17,SNR=3.4						
MKAR				Lg	Lg	09 09 15.5	
	0.1nm,0.3s,baz=32,slow=28,SNR=3.6						
	0.1nm,0.4s						

TAP 25 09:08:07.6, 24.14N×121.66E, h9km, ML2.0, 7C-16D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.04**	**299**	*i* P	Pg	09 08 10.0	+0.6
	baz=297						
ETL				S	Sg	09 08 11.6	+0.8
	baz=297						
NACB	**Ninganchiao**	**0.07**	**299**	P	Pg	09 08 10.4	+0.7
	baz=299						
NACB				S	Sg	09 08 12.2	+1.0
	baz=299						
TWD	**Chiawan**	**0.08**	**222**	P	Pg	09 08 10.2	+0.4
	baz=218						
TWD				S	Sg	09 08 12.1	+0.6
	baz=218						
HWA	**Hwalien**	**0.17**	**196**	*eP*	Pg	09 08 14.0	+2.7
	baz=193						
HWA				*eS*	Sg	09 08 18.1	+4.3
	baz=193						
ETLH	**Xiulin Townshi**	**0.17**	**292**	⇓*iP*	Pg	09 08 12.3	+0.9
	baz=291						
ETLH				*i* S	Sg	09 08 15.4	+1.5
	baz=291						
EAHA	**Aohua**	**0.20**	**22**	⇑P	Pg	09 08 12.0	+0.2
	baz=21						
EAHA				*eS*	Sg	09 08 15.3	+0.6
	baz=21						
ETM	**Tongmen**	**0.23**	**221**	P	Pg	09 08 12.9	+0.6
	baz=220						
ETM				*eS*	Sg	09 08 16.1	+0.6
	baz=220						
LXIB	**Xiulin Townshi**	**0.25**	**242**	⇑P	Pg	09 08 13.3	+0.5
	baz=241						
LXIB				S	Sg	09 08 17.5	+1.2
	baz=241						
ENA	**Nanau**	**0.29**	**15**	⇑P	Pg	09 08 13.9	+0.4
	baz=16						
ENA				*eS*	Sg	09 08 18.3	+0.8
	baz=16						
EWUT	**Wuta**	**0.32**	**20**	*eS*	Sg	09 08 19.1	+0.8
	baz=20						
WHF	**Hehuan Shan**	**0.36**	**271**	*eP*	Pb	09 08 15.9	-0.5
	baz=270						
WHF				S	Sb	09 08 21.0	-1.3
	baz=270						
SHUL	**Shoufeng**	**0.36**	**194**	P	Pb	09 08 16.1	-0.2
	baz=193						
SHUL				*eS*	Sb	09 08 23.8	+1.8
	baz=193						
NNSB	**Datong**	**0.38**	**319**	⇓*iP*	Pb	09 08 16.3	-0.3
	baz=318						
NNSB				S	Sb	09 08 22.1	-0.5
	baz=318						
ESL	**Shilin**	**0.39**	**212**	P	Pg	09 08 15.7	+0.5
	baz=210						
ESL				*eS*	Sb	09 08 22.5	-0.1
	baz=210						
FUSS	**Fushou**	**0.39**	**286**	⇓*iP*	Pb	09 08 16.6	-0.3
	baz=285						
FUSS				*i* S	Sb	09 08 22.6	-0.5
	baz=285						
NNS	**Nan Shan**	**0.39**	**319**	*i* P	Pb	09 08 16.5	-0.4
	baz=319						
NNS				S	Sb	09 08 22.6	-0.4
	baz=319						
LATG	**Datong**	**0.41**	**343**	⇓*iP*	Pb	09 08 16.6	-0.5
	baz=343						
LATG				*eS*	Sb	09 08 25.8	+2.3
	baz=343						
CHGB	**Renai**	**0.45**	**260**	*eP*	Pb	09 08 17.6	-0.2
	baz=259						

LIOB				*e*S		Sn	09 08 35.5	-0.9
	baz=310							
YULB	**Yu-li**	**0.82**	**204**	P		Pb	09 08 23.8	-0.2
	baz=203							
YULB				*e*S		Sg	09 08 33.5	-0.5
	baz=203							
TIPB	**Shuangxi**	**0.84**	**10**	⇑P		Pb	09 08 24.5	+0.1
	baz=10.0							
TIPB				S		Sb	09 08 36.8	+0.9
	baz=10.0							
SXI1	**Grass Mountain**	**0.97**	**12**	*e*P		Pn	09 08 27.2	-0.3
	baz=11							

TAP 25 09:08:14.7, 23.12N×120.80E, h4km, ML1.5, 4C-6D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.06**	**334**	⇑*i*P	Pg	09 08 16.7	+0.8
	baz=341						
STYH				S	Sg	09 08 17.8	+0.9
	baz=341						
STYT	**Tauyuan**	**0.06**	**316**	*i*P	Pg	09 08 16.6	+0.5
	baz=320						
STYT				*i*S	Sg	09 08 17.6	+0.6
	baz=320						
SLGT	**Liugui**	**0.19**	**229**	⇑P	Pg	09 08 19.3	+0.9
	baz=228						
SLGT				S	Sg	09 08 22.5	+1.6
	baz=228						
SGST	**Jiashian**	**0.20**	**259**	*e*P	Pg	09 08 18.8	+0.1
	baz=258						
ELDTW	**Lidau**	**0.21**	**71**	S	Sg	09 08 23.8	+2.2
	baz=71						
WTP	**Ta-pu**	**0.21**	**306**	⇑*i*P	Pg	09 08 19.8	+1.0
	baz=306						
WTP				S	Sg	09 08 23.3	+1.7
	baz=306						
TPUB	**Ta-pu**	**0.24**	**319**	⇑P	Pg	09 08 20.4	+1.0
	baz=318						
TPUB				*e*S	Sg	09 08 24.1	+1.7
	baz=318						
CHN1	**Nanshi**	**0.26**	**284**	⇓*i*P	Pb	09 08 21.0	-1.0
	baz=284						
CHN1				S	Sb	09 08 25.1	-1.7
	baz=284						
SNST	**Tainan City**	**0.30**	**290**	⇓*e*P	Pb	09 08 22.4	-0.2
	baz=289						
SNST				*e*S	Sb	09 08 27.5	-0.4
	baz=289						
CHN4	**Tsaushan**	**0.30**	**320**	*i*P	Pb	09 08 21.8	-0.9
	baz=320						
CHN4				*e*S	Sb	09 08 26.4	-1.6
	baz=320						
TWK	**Hsinying**	**0.32**	**297**	⇓P	Pb	09 08 22.6	-0.5
	baz=297						
TWK				*e*S	Sb	09 08 28.2	-0.5
	baz=297						
WCKO	**Fanlu**	**0.36**	**330**	⇓*e*P	Pb	09 08 23.8	0.0
	baz=330						
WCKO				S	Sb	09 08 29.9	0.0
	baz=330						
SCST	**Cishan**	**0.37**	**231**	*i*P	Pb	09 08 23.3	-0.5
	baz=230						
SCST				S	Sb	09 08 29.2	-0.7
	baz=230						
LONT	**Longtian**	**0.37**	**125**	P	Pb	09 08 23.4	-0.5
	baz=125						
LONT				*i*S	Sb	09 08 29.4	-0.5
	baz=125						
EHD	**Haiduan**	**0.37**	**86**	*i*P	Pb	09 08 23.3	-0.6
	baz=85						
EHD				S	Sb	09 08 29.3	-0.8
	baz=85						
TWG	**Pinlang**	**0.39**	**140**	*i*P	Pb	09 08 23.7	-0.4
	baz=139						
ALS	**Alishan**	**0.39**	**0**	⇓P	Pb	09 08 23.4	-1.0
	baz=1.0						
ALS				*e*S	Sb	09 08 29.2	-1.6
	baz=1.0						
TWGBT	**Beinan**	**0.40**	**140**	*i*P	Pb	09 08 23.7	-0.6
	baz=139						
SHHT	**Tainan City**	**0.43**	**257**	*i*P	Pb	09 08 24.6	-0.3
	baz=256						
SHHT				*e*S	Sb	09 08 31.9	+0.2
	baz=256						
TSMG	**Majia**	**0.44**	**199**	*e*P	Pb	09 08 24.1	-0.9
	baz=199						
TSMG				*e*S	Sb	09 08 32.5	+0.5
	baz=199						
FULB	**Fuli**	**0.46**	**80**	*e*P	Pb	09 08 25.7	+0.3
	baz=199						
FULB				*e*S	Sb	09 08 33.1	+0.5
	baz=199						
FULB	**Fuli**	**0.46**	**80**	⇓*e*P	Pb	09 08 25.8	+0.4
	baz=80						
FULB				S	Sb	09 08 33.0	+0.5
	baz=80						
CHN5	**Tsauling**	**0.49**	**347**	*i*P	Pb	09 08 25.6	-0.3
	baz=346						
CHN5				*e*S	Sb	09 08 33.4	-0.1
	baz=346						
TWF1	**Yuli**	**0.51**	**63**	*e*P	Pg	09 08 25.0	+0.5
	baz=63						
TWF1				*e*S	Sb	09 08 33.6	-0.4
	baz=63						
MASBT	**Mashibuluo**	**0.53**	**197**	P	Pb	09 08 26.1	-0.4
	baz=197						
MASBT				*e*S	Sb	09 08 33.8	-0.7
	baz=197						

KRSC 25 09:25:22.2±1.5, 55.33N×166.51E, h34km±5km, MI3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**248**	*e*P	Pn	09 25 31.1	+0.6
BKI				*e*S	Sb	09 25 36.3	+0.4
SMKR	**Semkarok**	**3.10**	**296**	*e*P	Pn	09 26 11.6	+2.9
BZGR	**Bezymyannyi-Gr**	**3.35**	**283**	*e*P	Pn	09 26 16.2	+4.0
KMNR	**Kamenistaya**	**3.59**	**279**	*e*P	Pn	09 26 19.9	+4.5
TUMR	**Tumrok**	**3.63**	**272**	*e*P	Pn	09 26 20.0	+3.9
TUMR				*e*S	Sb	09 27 04.2	-5.2
SMAR	**Somma**	**4.96**	**249**	*e*P	Pn	09 26 39.0	+4.5
KRMR	**Karymshinskiy**	**5.53**	**247**	*e*S	Sn	09 27 49.3	+5.0
MTVR	**Mutnovka**	**5.69**	**243**	*e*P	Pn	09 26 49.2	+4.9
MTVR				*e*S	Sn	09 27 51.5	+3.2
ASAK	**Asacha**	**5.88**	**243**	*e*P	Pn	09 26 52.4	+5.4
ASAK				*e*S	Sn	09 27 58.8	+5.6

*NIED **25** 09:25:55.9, 36.73N×141.17E, h40km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.82; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$1.34; $M_{r\theta}$-1.04; $M_{\theta\phi}$0.30; $M_{\phi r}$-4.27; Fault plane solution: $M_0$4.54000×10^{14} NP1:ϕ_s14.00000°, δ83.00000°, λ-88.00000°. NP2:ϕ_s178.00000°, δ7.00000°, λ-106.00000°.*

*JMA **25** 09:25:55.9±0.1, 36.7N±0.3×141.2E±0.7, h40km±1km, MD3.8/38, MV4.3/38, E OFF IBARAKI PREF*

JMA Felt II J1 at E OFF IBARAKI PREF .

*IDC **25** 09:25:58.2±5.4, 36.63N×141.25E, h56km±43km, mb3.7/10, mbtmp4.0/12, ML3.3/2, MS2.9/3, Error ellipse: s-maj=44.1km s-min=12.4km az=61.0*

ISC 25 09:25:55.0±1.6, 36.73N±0.03×141.26E±0.08, h26km±10km, n44, σ0§93/34, mb4.0/10, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**315**	*i*P	Pb	**09 26 06.1**	**+0.5**
ONAJ				S	Sb	**09 26 12.7**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.52**	**315**	A	A	09 26 06.1	
	comp=E,25nm,0.3s,comp=N,16nm,0.4s						
JHO	**Hitachi**	**0.56**	**258**	*i*P	Pb	**09 26 06.3**	**0.0**
JHO				S	Sb	**09 26 13.9**	**-0.1**
JHO	**Hitachi**	**0.56**	**258**	A	A	09 26 06.3	
	comp=E,9.0nm,0.4s,comp=N,4.0nm,0.2s						
JFFD	**Fukushimafurud**	**0.66**	**303**	*i*P	Pb	**09 26 08.0**	**0.0**
JFFD				S	Sb	**09 26 16.3**	**-0.5**
JFFD	**Fukushimafurud**	**0.66**	**303**	A	A	09 26 08.0	
	comp=E,6.0nm,0.3s,comp=N,3.0nm,0.3s						
JHYU	**Hitachinakayam**	**0.67**	**234**	*i*P	Pb	**09 26 08.0**	**0.0**
JHYU				S	Sb	**09 26 16.5**	**-0.3**
JHYU	**Hitachinakayam**	**0.67**	**234**	A	A	09 26 08.0	
	comp=E,3.0nm,0.5s,comp=N,10.0nm,0.4s						
JFK	**Kawauchi**	**0.70**	**334**	*i*P	Pb	**09 26 08.7**	**+0.1**
JFK				S	Sb	**09 26 17.5**	**-0.5**
JFK	**Kawauchi**	**0.70**	**334**	A	A	09 26 08.7	
	comp=E,7.0nm,0.3s,comp=N,6.0nm,0.3s						
JYT	**Yasato**	**0.99**	**240**	*i*P	Pn	**09 26 12.4**	**-0.8**
JYT				S	Sb	**09 26 24.4**	**-1.8**
JYT	**Yasato**	**0.99**	**240**	A	A	09 26 12.4	
	comp=E,7.0nm,0.5s,comp=N,7.0nm,0.3s						
JMST	**Minamisoumatoc**	**1.03**	**344**	A	A	09 26 14.0	
	comp=E,5.0nm,0.2s,comp=N,9.0nm,0.3s						
JSB	**Shiboa**	**1.10**	**283**	A	A	09 26 14.2	
	comp=E,22nm,0.9s,comp=N,11nm,4.7s						
JOTO	**OTAMA OYAMA**	**1.11**	**319**	*i*P	Pn	**09 26 15.4**	**+0.6**
JOTO				S	Sb	**09 26 29.1**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.11**	**319**	A	A	09 26 15.4	
	comp=E,19nm,0.6s,comp=N,35nm,0.3s						
JMM	**Marumori**	**1.19**	**342**	⇓*i*P	Pn	**09 26 15.7**	**-0.2**
JMM				⇓S	Sn	**09 26 30.3**	**-1.0**
JMM	**Marumori**	**1.19**	**342**	A	A	09 26 15.7	
	comp=E,3.0nm,0.3s,comp=N,5.0nm,0.4s						
JFY	**Yanaizu**	**1.41**	**299**	*i*P	Pn	**09 26 19.6**	**+0.6**
JFY				S	Sn	**09 26 37.7**	**+0.9**
JFY	**Yanaizu**	**1.41**	**299**	A	A	09 26 19.6	
	comp=E,3.0nm,2.2s,comp=N,2.0nm,0.9s						
JYAR	**Yonezawaarcadi**	**1.47**	**323**	A	A	09 26 20.1	
	comp=E,12nm,1.2s,comp=N,16nm,1.1s						
JAG	**Ashikaga**	**1.48**	**259**	*i*P	Pn	**09 26 20.0**	**0.0**
JAG				S	Sn	**09 26 37.0**	**-1.5**
JAG	**Ashikaga**	**1.48**	**259**	A	A	09 26 20.0	
	comp=N,2.0nm,1.8s						
JOU	**Okura**	**1.70**	**344**	A	A	09 26 23.7	
	comp=E,3.0nm,0.3s,comp=N,5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**2.46**	**266**	P	Pn	**09 26 34.6**	**+1.2**
	comp=N,2.6nm,0.3s,baz=87,slow=14,SNR=82						
MJAR				S	Sn	**09 27 04.8**	**+2.2**
	comp=N,33nm,0.3s,baz=53,slow=22,SNR=8.2						
MJAR				LR	LR	09 27 52.4	
	comp=N,218nm,19.1s,baz=82,slow=46 comp=N,19nm,0.3s						
JHJ	**Hachijo jima 2**	**3.80**	**199**	P	Pn	**09 26 54.4**	**+2.5**
	comp=N,19nm,0.3s,baz=51,slow=14,SNR=1.7						
JHJ				S	Sn	**09 27 34.9**	**-0.9**
	comp=N,162nm,0.7s,baz=70,slow=17,SNR=1.7 comp=N,154nm,0.5s						
JNU	**Nakatsue**	**9.25**	**250**	LR	LR	09 32 03.7	
	comp=N,101nm,18.6s,baz=33,slow=40						
KSRS	**Korea Array**	**10.68**	**278**	LR	LR	09 32 20.4	
	comp=N,83nm,19.9s,baz=85,slow=36						
SONM	**Songino Array**	**27.85**	**304**	P	P	**09 31 43.0**	**+0.6**
	comp=N,1.7nm,0.7s,baz=104,slow=10,SNR=3.7 comp=N,1.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	10 01 20.8	
	baz=313,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	10 01 21.5	
	baz=313,slow=75,SNR=114						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	10 01 22.2	
	baz=313,slow=75,SNR=115						
H11S1	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	10 02 36.8	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	10 02 17.5	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	10 02 18.6	
	baz=314						
ZALV	**Zalesovo Beam**	**42.02**	**313**	P	P	**09 33 44.0**	**+0.1**
	comp=N,2.0nm,0.5s,baz=86,slow=6.7,SNR=7.8 comp=N,2.0nm,0.5s						
MKAR	**Makanchi Array**	**44.17**	**302**	P	P	**09 34 01.6**	**+0.1**
	comp=N,1.7nm,0.6s,baz=87,slow=10,SNR=10 comp=N,1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**46.09**	**308**	P	P	**09 34 16.7**	**+0.1**
	comp=N,1.4nm,0.5s,baz=84,slow=7.9,SNR=6.7 comp=N,1.4nm,0.5s						
BVAR	**Borovoye Array**	**50.68**	**312**	P	P	**09 34 52.8**	**+0.8**
	comp=N,0.7nm,0.5s,baz=87,slow=12,SNR=2.7 comp=N,0.7nm,0.5s						
WRA	**Warramunga Arr**	**56.74**	**188**	P	P	**09 35 35.4**	**-1.3**
	comp=N,0.5nm,0.4s,baz=3.7,slow=7.2,SNR=11 comp=N,0.5nm,0.4s						
AKTO	**Aktyubinsk**	**58.78**	**312**	P	P	**09 35 50.9**	**+0.1**
	comp=N,1.1nm,0.6s,baz=86,slow=9.0,SNR=3.8 comp=N,1.1nm,0.6s						
ASAR	**Alice Springs**	**60.47**	**188**	P	P	**09 36 02.6**	**0.0**
	comp=N,0.4nm,0.8s,baz=6.4,slow=11,SNR=2.3 comp=N,0.4nm,0.8s						
GEYT	**Alibeck**	**63.87**	**299**	P	P	**09 36 24.8**	**-0.6**
	comp=N,1.3nm,0.6s,baz=251,slow=9.0,SNR=1.8 comp=N,1.3nm,0.6s						
AKASG	**Malin Array Be**	**74.46**	**322**	P	P	**09 37 30.8**	**0.0**
	comp=N,0.5nm,0.3s,baz=46,slow=5.9,SNR=8.4 comp=N,0.5nm,0.3s						

KRSC 25 09:37:39.8±1.4, 55.39N×166.26E, h33km±10km, MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.25**	**221**	*e*P	Pb	09 37 47.0	+0.1
BKI				*e*S	Sb	09 37 52.3	+0.7
SMKR	**Semkarok**	**2.94**	**296**	*e*P	Pn	09 38 26.5	+2.2
TUMR	**Tumrok**	**3.49**	**271**	*e*P	Pn	09 38 36.0	+4.1
TUMR				*e*S	Sb	09 39 18.3	-4.7
SMAR	**Somma**	**4.86**	**247**	*e*P	Pn	09 38 55.7	+5.0
AVH	**Avacha**	**4.89**	**247**	*e*P	Pn	09 38 56.3	+5.2
KRMR	**Karymshinskiy**	**5.43**	**245**	*e*P	Pn	09 39 04.6	+6.3
KRMR				*e*S	Sn	09 40 04.5	+5.0
MTVR	**Mutnovka**	**5.59**	**242**	*e*P	Pn	09 39 05.2	+4.5
MTVR				*e*S	Sn	09 40 07.1	+3.3
GRL	**Gorelyy**	**5.61**	**243**	*e*P	Pn	09 39 05.5	+4.6

*IDC **25** 09:39:42.2±2.3, 54.28N×86.03E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=17.8km s-min=11.0km az=53.0*

NNC 25 09:39:36.3±2.8, 54.54N×86.23E, h0km, mb2.6, mpv2.5, 2C-2D, Error ellipse: s-maj=95.7km s-min=16.6km az=148.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**235**	I	I	09 44 10.0	
	0.1nm,0.8s,baz=67,slow=345,SNR=2.3						
ZAA0	**Zalesovo Array**	**1.02**	**235**	⇓P	Pg	09 39 55.7	-0.1
	0.1nm,0.2s						
ZAA0				⇑S	Sb	09 40 09.9	-0.8
	1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**1.02**	**235**	Pg	Pg	09 39 55.6	-0.2
	1.9nm,0.3s,baz=62,slow=18,SNR=12						
ZALV				Lg	Lg	09 40 08.2	
	10.0nm,0.3s,baz=63,slow=26,SNR=33						
KURBB	**Kurchatov Arra**	**6.11**	**233**	⇑Pn	Pn	09 41 09.0	+1.1
	1.2nm,0.5s						
KURBB				⇓Lg	Lg	09 42 52.1	
	1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**6.11**	**233**	Pn	Pn	09 41 11.4	+3.6
	0.2nm,0.3s,baz=50,slow=13,SNR=17						
KURBB				Lg	Lg	09 42 48.8	
	baz=44,slow=29,SNR=2.6 0.6nm,0.3s						
MK31	**Makanchi Array**	**8.15**	**199**	Pn	Pn	09 41 35.7	-0.1
	0.3nm,0.4s,baz=341,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**8.15**	**199**	Pn	Pn	09 41 38.1	+2.4
	0.3nm,0.3s,baz=22,slow=13,SNR=11						
MKAR				Sn	Sn	09 43 08.5	0.0
	0.1nm,0.3s,baz=23,slow=27,SNR=3.3						
MKAR				Lg	Lg	09 43 50.4	
	0.1nm,0.3s,baz=23,slow=32,SNR=2.4 0.4nm,0.3s						

*AEIC **25** 09:40:10.8±3.7, 55.8N±0.1×149.7W±0.2, h12km±9km, Error ellipse: s-maj=19.2km s-min=12.0km az=173.0*

NEIC 25 09:40:14.2±1.9, 56.33N±0.06×150.1W±0.1, h22km±13km, ML3.4/30, ML3.1(AEIC), Error ellipse: s-maj=11.0km s-min=5.6km az=49.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.97**	**298**		Pn	09 40 44.7	-1.5
OHAK					Sn	09 41 10.5	+0.3
KDAK	**Kodiak Island**	**1.99**	**318**		Pn	09 40 46.5	0.0
KDAK	**Kodiak Island**	**1.99**	**318**		Sb	09 41 14.8	+0.7
KDAK	**Kodiak Island**	**1.99**	**318**	IAML		09 41 21.1	
	36nm,1.5s						
KDAK				IAML		09 41 50.0	
	24nm,0.8s						
SYI	**Shuyak Island**	**2.60**	**333**		Pn	09 40 54.7	-0.2
SYI					Sb	09 41 30.1	-1.4
Q19K	**Cape Douglas,**	**3.23**	**325**		Pn	09 41 03.4	-0.2
KAHG	**Katmai Hook Gl**	**3.24**	**314**		Pn	09 41 03.9	+0.1
CNPM	**China Poot**	**3.27**	**350**		Pn	09 41 04.4	+0.4
ACHA	**Angle Creek He**	**3.41**	**306**		Pn	09 41 06.0	-0.1
BRSE	**Bradley Lake S**	**3.44**	**355**		Pn	09 41 06.7	+0.2
BRLK	**Bradley Lake**	**3.47**	**353**		Pn	09 41 05.8	-1.1
ANCK	**Angle Creek**	**3.48**	**305**		Pn	09 41 06.9	-0.2
CNTC	**Contact Creek**	**3.69**	**304**		Pn	09 41 09.8	-0.2
P18K	**Big Mountain,**	**4.12**	**320**	Pn	Pn	09 41 16.6	+0.9
HIN	**Hinchinbrook I**	**4.50**	**23**	Pn	Pn	09 41 21.8	+0.7
KAIM	**Kayak Island**	**4.70**	**37**	Pn	Pn	09 41 22.4	-1.3
KAIM				IAML		09 43 11.6	
	comp=N,52nm,1.4s						
RC01	**Rabbit Creek A**	**4.78**	**2**	Pn	Pn	09 41 26.3	+1.5
RC01					Sn	09 42 21.7	+2.2
FID	**Port Fidalgo**	**4.83**	**22**	Pn	Pn	09 41 25.4	0.0
FID				IAML		09 42 59.4	
	comp=N,36nm,1.3s						
N19K	**Bonanza Creek**	**5.05**	**335**	Pn	Pn	09 41 29.9	+1.3
N19K				IAML		09 43 25.5	
	comp=N,17nm,1.2s						
N19K				IAML		09 43 34.3	
	comp=E,17nm,1.2s						
BERG	**Berg Lake**	**5.29**	**37**	Pn	Pn	09 41 31.7	-0.1
N18K	**Kilae Creek**	**5.32**	**328**	Pn	Pn	09 41 33.6	+1.4
N18K				IAML		09 43 54.2	
	comp=E,13nm,1.3s						
N18K				IAML		09 43 55.1	
	comp=N,17nm,1.1s						
O16K	**Kokwok River B**	**5.37**	**311**	Pn	Pn	09 41 34.2	+1.3
O16K				IAML		09 42 41.0	
	comp=E,16nm,1.2s						
O16K				IAML		09 43 35.4	
	comp=N,19nm,1.2s						
SNH	**Sunshine Point**	**5.44**	**42**	Pn	Pn	09 41 33.8	-0.2
SML	**Sawmill**	**5.57**	**9**	Pn	Pn	09 41 37.9	+2.1
KLU	**Klutina**	**5.62**	**21**	Pn	Pn	09 41 37.9	+1.5
VRDI	**Verde Repeater**	**6.01**	**32**	Pn	Pn	09 41 41.4	-0.5
N25K	**Chitina, Valde**	**6.01**	**26**	Pn	Pn	09 41 42.8	+1.0
GLB	**Gilahina Butte**	**6.08**	**30**	Pn	Pn	09 41 42.4	-0.3
BARN	**Barnard Glacie**	**6.47**	**39**	Pn	Pn	09 41 48.0	-0.2
CTGM	**Chitina Glacie**	**6.52**	**41**	Pn	Pn	09 41 47.8	-1.1
LOGN	**Logan Glacier**	**6.55**	**43**	Pn	Pn	09 41 48.9	-0.4

*IDC **25** 09:40:54.6±2.5, 55.57N×148.88W, h0km, mb4.0/8, mbtmp3.8/12, ML3.1/4, MS3.1/4, Error ellipse: s-maj=53.1km s-min=30.8km az=161.0*

*AEIC **25** 09:41:01.8±3.2, 55.95N±0.09×149.3W±0.1, h10km±7km, Error ellipse: s-maj=14.4km s-min=9.4km az=141.0*

*NEIC **25** 09:41:01.0±1.9, 56.06N±0.07×149.5W±0.1, h21km±10km, ML3.7/30, ML3.1(AEIC), Error ellipse: s-maj=13.9km s-min=7.9km az=130.0*

ISC 25 09:40:58.9±1.1, 56.04N±0.10×149.42W±0.06, h10km, n80, σ1§15/74, mb4.0/8, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.44**	**301**		Pn	**09 41 38.1**	**-0.7**
OHAK					Sn	**09 42 06.9**	**-1.8**
KDAK	**Kodiak Island**	**2.46**	**317**		Pn	**09 41 39.5**	**+0.4**
KDAK					Sn	**09 42 07.8**	**-1.4**
KDAK	**Kodiak Island**	**2.46**	**317**	Pn	Pn	**09 41 40.5**	**+1.4**
	2.5nm,0.3s,baz=84,slow=3.2,SNR=7.0						
KDAK				Sn	Sn	**09 42 07.0**	**-2.2**
	7.8nm,0.3s,baz=305,slow=23,SNR=13						
KDAK				LR	LR	09 42 53.5	
	comp=Z,306nm,20.3s,baz=197,slow=40 8.3nm,0.3s						
SYI	**Shuyak Island**	**3.04**	**329**		Pn	**09 41 46.5**	**-0.5**
SYI					Sn	**09 42 22.2**	**-1.2**
SYI	**Shuyak Island**	**3.04**	**329**	IAML		09 42 32.4	
	comp=N,64nm,0.7s						
SYI				IAML		09 42 35.0	
	comp=E,86nm,0.9s						
CNPM	**China Poot**	**3.63**	**345**		Pn	**09 41 54.9**	**-0.2**
CNPM					Sn	**09 42 36.4**	**-1.6**
Q19K	**Cape Douglas,**	**3.69**	**324**		Pn	**09 41 56.1**	**+0.1**
Q19K	**Cape Douglas,**	**3.69**	**324**	IAML		09 42 51.6	
	comp=N,282nm,1.3s						
Q19K				IAML		09 42 53.9	
	comp=E,459nm,1.1s						
KAHG	**Katmai Hook Gl**	**3.72**	**314**		Pn	**09 41 57.4**	**+1.0**
BRLK	**Bradley Lake**	**3.82**	**349**		Pn	09 41 56.0	-1.7
HOM	**Homer**	**3.82**	**343**	Pn	Pn	**09 41 57.1**	**-0.6**
ACHA	**Angle Creek He**	**3.89**	**307**		Pn	**09 41 58.7**	**-0.1**
ANCK	**Angle Creek**	**3.96**	**306**		Pn	**09 41 58.9**	**-0.8**
P19K	**Oil Pt**	**4.16**	**332**	Pn	Pn	**09 42 01.7**	**-0.7**
P19K				IAML		09 42 55.5	
	comp=N,175nm,0.6s						
P19K				IAML		09 42 55.7	
	comp=E,190nm,1.5s						
CNTC	**Contact Creek**	**4.17**	**305**		Pn	**09 42 03.1**	**+0.5**
O22K	**Cooper Landing**	**4.46**	**358**	Pn	Pn	**09 42 07.8**	**+1.3**
P18K	**Big Mountain,**	**4.58**	**320**	Pn	Pn	**09 42 07.6**	**-0.6**
HIN	**Hinchinbrook I**	**4.63**	**18**	Pn	Pn	**09 42 07.7**	**-1.2**
HIN				IAML		09 43 05.6	
	comp=N,85nm,1.2s						
HIN				IAML		09 43 22.7	
	comp=E,74nm,1.5s						
KAIM	**Kayak Island**	**4.72**	**32**	Pn	Pn	**09 42 10.3**	**+0.2**
KAIM				IAML		09 43 36.8	
	comp=E,54nm,1.3s						
KAIM				IAML		09 44 51.2	
	comp=N,61nm,1.4s						
RSO	**Redoubt South**	**4.77**	**340**	Pn	Pn	**09 42 11.8**	**+0.8**
RSO					Sn	**09 43 06.1**	**-0.3**
RAGM	**Ragged Mountai**	**5.03**	**28**	Pn	Pn	**09 42 14.7**	**+0.3**
RAGM				IAML		09 43 21.9	
	comp=E,72nm,1.3s						
RC01	**Rabbit Creek A**	**5.07**	**358**	Pn	Pn	**09 42 13.7**	**-1.2**
BERG	**Berg Lake**	**5.31**	**32**	Pn	Pn	**09 42 18.1**	**-0.1**
BERG				IAML		09 43 20.2	
	comp=E,74nm,1.3s						
BERG				IAML		09 43 27.9	
	comp=N,53nm,1.1s						
SNH	**Sunshine Point**	**5.42**	**37**	Pn	Pn	**09 42 21.1**	**+1.4**
N19K	**Bonanza Creek**	**5.48**	**333**	Pn	Pn	**09 42 21.2**	**+0.7**
SUA	**Susitna One**	**5.49**	**353**	Pn	Pn	**09 42 23.1**	**+2.4**
PMR	**Palmer**	**5.57**	**1**	Pn	Pn	**09 42 22.6**	**+0.8**
GHO	**Glory Hole Cre**	**5.76**	**2**		Pn	**09 42 23.9**	**-0.5**
KLU	**Klutina**	**5.76**	**17**	Pn	Pn	**09 42 24.6**	**+0.1**
N18K	**Kilae Creek**	**5.76**	**326**	Pn	Pn	09 42 23.1	-1.4
SML	**Sawmill**	**5.81**	**5**		Pn	**09 42 25.8**	**+0.7**
O16K	**Kokwok River B**	**5.85**	**311**		Pn	**09 42

comp=N,78nm,18.2s,baz=306,slow=33
INK Inuvik 14.30 24 Pn **Pn** 09 44 21.5 +0.4
baz=216,slow=16,SNR=3.2
comp=N,1.2nm,0.8s
YKA Yellowknife Ar 18.74 56 P **P** 09 45 14.8 -2.7
comp=N,0.1nm,0.3s,baz=265,slow=7.6,SNR=4.9
comp=N,0.1nm,0.5s
NEW Newport 21.13 98 LR LR 09 52 25.6
comp=N,48nm,19.8s,baz=342,slow=33
YBH Yreka Blue Hor 22.46 118 LR LR 09 52 26.8
comp=N,76nm,19.1s,baz=322,slow=32
H11N2 WAKE ISLAND Hy 48.69 240 T T 10 42 49.6
baz=29
H11N3 WAKE ISLAND Hy 48.70 240 T T 10 42 49.6
baz=29
H11N1 WAKE ISLAND Hy 48.71 240 T T 10 42 49.6
baz=29
H11S1 WAKE ISLAND Hy 49.83 239 T T 10 44 18.6
baz=29
H11S2 WAKE ISLAND Hy 49.85 239 T T 10 44 24.1
baz=29
H11S3 WAKE ISLAND Hy 49.85 239 T T 10 44 26.4
baz=29
ARCES ARCESS Array B 54.68 2 P **P** 09 50 27.5 +0.1
comp=N,4.9nm,1.0s,baz=348,slow=7.7,SNR=1.5
comp=N,4.9nm,1.0s
SONM Songino Array 58.74 310 P **P** 09 50 58.2 +1.5
comp=N,0.8nm,0.8s,baz=49,slow=6.7,SNR=5.6
comp=N,0.8nm,0.8s
ZALV Zalesovo Beam 61.72 327 P **P** 09 51 17.6 +0.8
comp=N,0.9nm,0.6s,baz=23,slow=5.8,SNR=4.7
comp=N,0.9nm,0.6s
FINES FINESS Array B 62.80 2 P **P** 09 51 24.2 +0.3
comp=N,5.5nm,1.1s,baz=0.7,slow=11,SNR=2.2
comp=N,5.5nm,1.1s
KURBB Kurchatov Arra 66.51 329 P **P** 09 51 48.9 +0.6
comp=N,0.6nm,0.7s,baz=30,slow=6.2,SNR=5.3
comp=N,0.6nm,0.7s
MKAR Makanchi Array 68.75 325 P **P** 09 52 03.2 +0.6
comp=N,0.7nm,0.7s,baz=41,slow=7.3,SNR=6.3
comp=N,0.7nm,0.7s
AKASG Malin Array Be 73.62 1 P **P** 09 52 32.1 +0.2
comp=N,0.6nm,0.6s,baz=5.0,slow=6.7,SNR=1.9
comp=N,0.6nm,0.6s
BRTR Keskin Array B 84.57 358 P **P** 09 53 31.9 -0.3
comp=N,0.7nm,0.8s,baz=343,slow=4.5,SNR=2.2
comp=N,0.7nm,0.8s

*ISN **25** 09:41:24.7±0.7, 33.°62N×45.°56E, h7km±5km, ML3.3*
*TEH **25** 09:41:26.5, 33.°73N×45.°62E, h8km±50km, ML3.4*
ISC 25 09:41:26.2±1.0, 33°66N±0°04×45°56E±0°05, h13km, n20, σ1°99/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.55**	**94**	**Pg**	**Pg**	**09 41 36.4**	**-0.5**
IBDR	**Badra**	**0.63**	**150**	***e*Pg**	**Pg**	**09 41 36.0**	**-2.6**
IBDR				***e*Sg**	**Sg**	**09 41 45.0**	**-1.9**
KGS1	**Ghasr-e-Shirin**	**0.84**	**2**	**Pg**	**Pg**	**09 41 41.5**	**-0.9**
BHD	**Baghdad**	**1.06**	**249**	***e*Pn**	**Pn**	**09 41 48.0**	**+1.3**
BHD				***e*Sn**	**Sn**	**09 42 04.0**	**+2.7**
BHD				AML	AML	09 42 12.0	
	comp=E,854nm,0.5s						
IGHG	**Ghaleghazi**	**1.07**	**51**	Pg	**Pb**	**09 41 45.4**	**-1.3**
IDHR	**Dehrash**	**1.24**	**33**	Pg	**Pn**	**09 41 49.2**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.38**	**63**	Pg	**Pn**	**09 41 51.7**	**+0.4**
ILIN	**Lien**	**1.71**	**43**	Pg	**Pb**	**09 41 57.3**	**-0.3**
IKFM	**Kafar-mosalman**	**1.92**	**94**	Pn	**Pb**	**09 42 01.4**	**+0.4**
RAFI	**Al-Rafai**	**1.99**	**166**	***e*Pn**	**Pn**	**09 42 00.0**	**+0.5**
RAFI				***e*Sn**	**Sb**	**09 42 26.0**	**-1.0**
IBZA	**Bozab**	**2.08**	**67**	Pn	**Pb**	**09 42 03.0**	**-0.9**
IALM	**Almabolaq**	**2.47**	**60**	Pn	**Pb**	**09 42 09.1**	**-1.5**
HSAM	**Samen**	**2.59**	**77**	Pn	**Pn**	**09 42 09.8**	**+1.7**
HAGD	**Aghdareh**	**3.19**	**68**	Pn	**Pn**	**09 42 17.8**	**+1.6**
JHBN	**Jahan bin**	**4.53**	**107**	Pn	**Pn**	**09 42 37.9**	**+3.2**
IPIR	**Pirpir**	**4.58**	**101**	Pn	**Pn**	**09 42 38.5**	**+3.1**
QAMS	**Qamsar**	**4.87**	**88**	Pn	**Pn**	**09 42 41.4**	**+2.0**
IKLH	**Kolahrood**	**5.04**	**92**	Pn	**Pn**	**09 42 44.4**	**+2.6**
IVRN	**Varamin**	**5.28**	**74**	Pn	**Pn**	**09 42 46.1**	**+1.3**
IRAM	**Ramesheh**	**6.04**	**106**	Pn	**Pn**	**09 42 59.3**	**+3.8**

IDC 25 09:47:24.2±3.9, 57°22S×26°62W, h0km, mb4.0/1, mbtmp4.0/1, Error ellipse: s-maj=270.2km s-min=68.5km az=141.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**73.93**	**29**	P	P	09 59 01.0	0.0
	0.5nm,0.3s,baz=200,slow=6.1,SNR=7.9						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**125.28**	**28**	PKP	PKPdf	10 06 24.9	-0.4
	2.5nm,1.0s,baz=156,slow=11,SNR=4.4						
YKA	**Yellowknife Ar**	**137.25**	**317**	PKP	PKPdf	10 06 47.6	-0.2
	0.2nm,0.4s,baz=111,slow=3.3,SNR=5.6						
ILAR	**Eielson Array**	**151.12**	**310**	PKPbc	PKPbc	10 07 17.4	-0.3
	1.1nm,0.8s,baz=123,slow=3.8,SNR=11						

KRSC 25 09:48:35.8±0.1, 55°23N×166°33E, h35km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.20**	**262**	***e*P**	Pb	09 48 42.8	+0.2
BKI				***e*S**	Sb	09 48 48.1	+0.9
TUMR	**Tumrok**	**3.54**	**273**	***e*P**	Pn	09 49 32.4	+4.1
SMAR	**Somma**	**4.83**	**249**	***e*P**	Pn	09 49 50.6	+4.5
MTVR	**Mutnovka**	**5.55**	**244**	***e*P**	Pn	09 50 00.7	+4.8
MTVR				***e*S**	Sn	09 51 03.3	+4.8

IDC 25 09:56:31.4±3.0, 53°61N×87°98E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=27.5km s-min=17.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**282**	I	I	10 07 20.0	
	0.1nm,1.0s,baz=97,slow=349,SNR=16						
ZALV	**Zalesovo Beam**	**1.91**	**282**	Pn	Pn	09 57 05.0	-0.1
	3.8nm,0.3s,baz=103,slow=15,SNR=35						
ZALV				Lg	Lg	09 57 31.8	
	3.1nm,0.3s,baz=102,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.54**	**247**	Pn	Pn	09 58 09.3	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=2.9						
KURBB				Lg	Lg	10 00 00.3	
	baz=60,slow=29						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	09 58 26.4	+1.2
	0.1nm,0.3s,baz=31,slow=14,SNR=7.3						
MKAR				Lg	Lg	10 00 36.0	
	baz=27,slow=32						
	0.1nm,0.3s						

*IDC **25** 10:00:03.4±3.9, 64°51N×31°93E, h0km, mbtmp3.3/4, ML2.1/4, Error ellipse: s-maj=54.5km s-min=13.8km az=101.0*
*HEL **25** 10:00:05.1±0.2, 64°73N×30°86E, h0km, ML1.7, Suspected explosion*
ISC 25 10:00:04.9±1.0, 64°71N±0°03×30°64E±0°06, h0km, n26, σ1°86/35, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.58**	**212**	PG	**Pg**	**10 00 16.8**	**+0.8**
RMF				MSG		10 00 25.9	
	comp=Z,13nm,0.2s						
KU6	**Riekki**	**1.36**	**347**	PN	**Pg**	**10 00 31.3**	**+0.4**
	baz=163						
KU6				MSG		10 00 46.1	
	comp=Z,9.3nm,0.2s						
KU6				SN	**Sn**	**10 00 50.0**	**+0.3**
MSF	**Maaselka**	**1.38**	**332**	PN	**Pg**	**10 00 31.2**	**-0.2**
	baz=150						
MSF				SN	**Sn**	**10 00 51.5**	**+1.1**
OLKF	**Oulanka, Finla**	**1.70**	**343**	PN	**Pb**	**10 00 37.4**	**+0.4**
OLKF				MSG		10 00 56.2	
	comp=Z,4.8nm,0.2s						
NIF	**Nilsia**	**1.82**	**224**	PG	**Pg**	**10 00 39.2**	**-0.5**
	baz=39						
JOF	**Joensuu**	**1.82**	**170**	PG	**Pn**	**10 00 38.0**	**+0.6**
JOF				SG	**Sb**	**10 01 03.1**	**+0.7**
OUL	**Oulu**	**2.06**	**283**	PG	**Pg**	**10 00 43.6**	**-0.7**
OUL				SG	**Sg**	**10 01 10.8**	**-0.2**
RANF	**Ranua**	**2.08**	**311**	PG	**Pb**	**10 00 43.6**	**+0.1**
	baz=127						
RANF				SG	**Sg**	**10 01 11.3**	**-0.3**
OBF4	**Vikkela, Lumij**	**2.38**	**275**	PB	**Pb**	**10 00 47.6**	**-0.8**
OBF4				MSG		10 01 17.9	
	comp=Z,3.9nm,0.2s						
OBF4				SG	**Sg**	**10 01 22.6**	**+1.5**
OUF	**Merijarvi**	**2.58**	**265**	PB	**Pb**	**10 00 50.3**	**-1.6**
	baz=82						
OUF				MSG		10 01 23.9	
	comp=Z,4.2nm,0.2s						
OUF				SB	**Sg**	**10 01 25.5**	**-2.1**
SUF	**Sumiainen**	**2.83**	**227**	PB	**Pb**	**10 00 54.6**	**-1.6**
SUF				MSG		10 01 30.9	
	comp=Z,1.6nm,0.2s						
TOF	**Tornio**	**2.98**	**300**	MSG		10 01 34.5	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sg**	**10 01 39.8**	**-0.7**
KAF	**Kangasniemi**	**3.25**	**219**	SB	**Sb**	**10 01 44.0**	**+0.4**
KALU	**Kalix**	**3.27**	**294**	SG	**Sg**	**10 01 48.4**	**-1.4**
RUF	**Ruokolahti**	**3.39**	**194**	PN	**Pn**	**10 01 01.3**	**+2.4**
KEF	**Keuruu**	**3.64**	**228**	PB	**Pb**	**10 01 07.8**	**-2.2**
KEF				SB	**Sb**	**10 01 56.0**	**+1.4**
KLF	**Kolari**	**3.73**	**316**	PB	**Pb**	**10 01 07.9**	**-3.5**
FIA0	**FINESS Array S**	**3.88**	**214**	SG	**Sg**	**10 02 06.7**	**-2.7**
FINES	**FINESS Array B**	**3.88**	**214**	Pn	**Pn**	**10 01 05.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=38,slow=14,SNR=1.3						
FINES				Lg	Lg	10 02 05.4	
	comp=Z,0.4nm,0.3s,baz=36,slow=29,SNR=7.0						
	comp=Z,1.7nm,0.9s						
RAJF	**Raja-Jooseppi**	**3.89**	**347**	PB	**Pb**	**10 01 11.9**	**-2.4**
VAF	**Ylistaro**	**3.90**	**248**	PN	**Pn**	**10 01 09.2**	**+3.2**
	baz=61						
HEF	**Hetta**	**4.64**	**326**	SG	**Sg**	**10 02 30.4**	**-3.4**
KMNF	**Kaamanen**	**4.68**	**344**	PB	**Pb**	**10 01 23.7**	**-4.1**
ARCES	**ARCESS Array B**	**5.24**	**340**	Pn	**Pn**	**10 01 25.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=14,SNR=12						
ARCES				Sn	**Sn**	**10 02 28.9**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=144,slow=21,SNR=1.9						
	comp=Z,1.7nm,0.8s						
HFS	**Hagfors**	**9.09**	**247**	Pn	**Pn**	**10 02 18.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=58,slow=11,SNR=1.4						
	comp=Z,13nm,1.2s						
NOA	**NORSAR Array B**	**9.59**	**256**	Pn	**Pn**	**10 02 23.9**	**-0.1**
	baz=54,slow=19,SNR=2.5						
	comp=Z,1.0nm,0.9s						

*IDC **25** 10:09:55.7±1.0, 33.°71N×117.°47W, h0km, mb4.0/7, mbtmp3.7/14, ML3.4/7, Error ellipse: s-maj=14.0km s-min=7.2km az=34.0*
*ANF **25** 10:09:55.8±0.2, 33.°72N×117.°51W, h13km±1km, ML4.4/41, Error ellipse: s-maj=1.6km s-min=1.1km az=17.0*
*NEIC **25** 10:09:56.3±1.2, 33.°751N±0.°009×117.°49W±0.°01, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=347.0*
*PAS **25** 10:09:56.8±1.2, 33.°74N±0.°01×117.°49W±0.°01, h11km±4km, Mwr4.0/6, mb4.3/5(NEIC), ML4.0/76(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=190.0*
ISC 25 10:09:56.6±0.8, 33°72N±0°01×117°50W±0°01, h13km±5km, n163, σ0s90/236, mb4.1/8, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELS	**Elsinore Mount**	**0.10**	**139**		**Pg**	**10 09 59.8**	**+0.1**
ELS	**Elsinore Mount**	**0.10**	**139**	Sg	**Sg**	**10 10 01.7**	**0.0**
ELS				IAML		10 10 02.0	
	comp=E,75μm,0.5s						
ELS				IAML		10 10 02.1	
	comp=N,76μm,0.3s						
CRNC	**Corona**	**0.16**	**343**		**Pg**	**10 09 60.0**	**-0.5**
CRNC					**Sg**	**10 10 02.2**	**-0.9**
MURC	**Murrieta**	**0.28**	**115**		**Pn**	**10 10 07.1**	**+0.5**
MURC	**Murrieta**	**0.28**	**115**	P	**Pg**	**10 10 02.6**	**+0.1**
	baz=300,SNR=1000						
MURC				S	**Sg**	**10 10 06.8**	**+0.3**
	baz=300						
RSBC	**Riverside Bore**	**0.29**	**30**		**Pg**	**10 10 02.1**	**-0.6**
RSBC					**Sg**	**10 10 05.9**	**-0.8**
RVR	**Riverside**	**0.29**	**21**		**Pn**	**10 10 05.8**	**-0.9**
CHNC	**Chino**	**0.31**	**332**		**Pg**	**10 10 02.8**	**-0.3**
CHNC					**Sg**	**10 10 07.0**	**-0.4**
SANC	**Santa Ana**	**0.32**	**267**		**Pg**	**10 10 03.6**	**+0.4**
SANC					**Sb**	**10 10 09.0**	**-0.4**
PEC	**Perris**	**0.33**	**59**		**Pg**	**10 10 02.9**	**-0.5**
PEC					**Sg**	**10 10 07.4**	**-0.6**
FULC	**Fullerton**	**0.38**	**293**		**Pb**	**10 10 05.1**	**-0.2**
FULC					**Sb**	**10 10 11.3**	**+0.2**
FON	**Fontana**	**0.38**	**8**		**Pg**	**10 10 03.7**	**-0.6**
FON					**Sg**	**10 10 08.6**	**-0.8**
BACC	**Bachelor Mtn.**	**0.40**	**106**		**Sg**	**10 10 10.0**	**-0.1**
CLTC	**Calectric**	**0.40**	**23**		**Pg**	**10 10 04.2**	**-0.5**
CLTC					**Sg**	**10 10 09.4**	**-0.7**
BREC	**Barre Substati**	**0.41**	**282**		**Pb**	**10 10 05.4**	**-0.4**
BREC					**Sb**	**10 10 12.2**	**+0.3**
HMTC	**Hemet**	**0.42**	**92**		**Sg**	**10 10 10.3**	**-0.3**
CFSC	**Central Fire S**	**0.42**	**26**		**Sg**	**10 10 10.0**	**-0.8**
PSRC	**Puddingstone R**	**0.45**	**326**		**Sg**	**10 10 11.2**	**-0.3**
CFT	**Crafton Hills**	**0.45**	**46**		**Sg**	**10 10 11.4**	**-0.3**
HLNC	**Highland**	**0.46**	**31**		**Pg**	**10 10 05.3**	**-0.5**
HLNC					**Sg**	**10 10 11.6**	**-0.5**
POB	**Polly Butte**	**0.48**	**94**		**Pg**	**10 10 05.9**	**-0.3**
POB					**Sg**	**10 10 12.4**	**-0.3**
RHC	**Rose Hills Cem**	**0.51**	**304**		**Sg**	**10 10 14.1**	**+0.7**
DLAC	**Del Amo**	**0.51**	**285**		**Pb**	**10 10 07.3**	**-0.1**
DLAC					**Sb**	**10 10 15.8**	**+1.0**
SVD	**Seven Oaks Dam**	**0.51**	**41**		**Pg**	**10 10 06.2**	**-0.5**
SVD					**Sg**	**10 10 13.3**	**-0.3**
SSK	**Sunset Peak**	**0.51**	**342**		**Pg**	**10 10 06.2**	**-0.6**
BFSC	**Mount Baldy Ra**	**0.53**	**346**		**Pg**	**10 10 06.2**	**-0.9**
BFSC					**Sg**	**10 10 13.1**	**-1.1**
BFSC	**Mount Baldy Ra**	**0.53**	**346**	P	**Pg**	**10 10 06.2**	**-0.9**
	baz=164,SNR=1000						
BFSC				S	**Sg**	**10 10 13.1**	**-1.1**
	baz=164						
GVRC	**Garvey Reservo**	**0.61**	**303**		**Pg**	**10 10 08.5**	**0.0**
GVRC	**Garvey Reservo**	**0.61**	**303**		**Sb**	**10 10 17.9**	**+0.3**
GORC	**Green Oak Ranc**	**0.61**	**158**		**Pg**	**10 10 08.0**	**-0.6**
GORC					**Sg**	**10 10 16.5**	**-0.1**
PLM	**Palomar**	**0.65**	**124**		**Sg**	**10 10 18.0**	**+0.1**
CRY	**Cary Ranch**	**0.66**	**103**		**Sg**	**10 10 18.0**	**-0.2**
FMP	**Fort Macarthur**	**0.66**	**270**		**Pg**	**10 10 08.9**	**-0.6**
FMP					**Sg**	**10 10 18.6**	**+0.4**
FMP	**Fort Macarthur**	**0.66**	**270**	P	**Pg**	**10 10 08.8**	**-0.6**
	baz=87,SNR=54						
FMP				S	**Sg**	**10 10 17.3**	**-0.9**
	baz=87						
CACC	**Caltech Cellar**	**0.66**	**309**		**Pg**	**10 10 09.1**	**-0.4**
CACC					**Sg**	**10 10 18.7**	**+0.5**
CRPC	**Caltech Rob'n**	**0.66**	**309**		**Pg**	**10 10 09.2**	**-0.4**
CRPC					**Sg**	**10 10 18.1**	**-0.2**
GSA	**Caltech--GSA**	**0.67**	**309**		**Sg**	**10 10 18.1**	**-0.3**
CBCC	**Caltech Broad**	**0.67**	**309**		**Pb**	**10 10 10.2**	**0.0**
CBCC					**Sb**	**10 10 18.5**	**+0.1**
WTT2	**Watts, South G**	**0.67**	**290**		**Pg**	**10 10 09.9**	**+0.3**
WTT2					**Sb**	**10 10 19.8**	**+0.4**
MWC	**Mount Wilson**	**0.68**	**318**		**Pg**	**10 10 09.2**	**-0.8**
MWC					**Sg**	**10 10 18.0**	**-1.0**
GVDA	**Garner Valley**	**0.69**	**94**		**Pg**	**10 10 09.7**	**-0.5**
GVDA					**Sg**	**10 10 19.2**	**-0.1**
USC	**University of**	**0.72**	**295**		**Pg**	**10 10 10.6**	**0.0**
USC					**Sb**	**10 10 21.6**	**+0.8**
PASC	**Pasadena Art C**	**0.72**	**309**		**Pg**	**10 10 09.7**	**-1.0**
PASC				Sg	**Sg**	**10 10 19.1**	**-1.1**
PASC				IAML		10 10 21.5	
	comp=N,11μm,0.4s						
PASC				IAML		10 10 21.7	
	comp=E,7μm,0.4s						
BBRC	**Big Bear Solar**	**0.72**	**42**		**Pg**	**10 10 10.1**	**-0.7**
BBRC					**Sg**	**10 10 19.7**	**-0.7**
BBRC	**Big Bear Solar**	**0.72**	**42**	P	**Pg**	**10 10 10.1**	**-0.7**
	baz=222,SNR=258						
BBRC				S	**Sg**	**10 10 19.6**	**-0.7**
	baz=222						
BZNA	**Buzz No.'s Pla**	**0.73**	**108**		**Pg**	**10 10 10.4**	**-0.5**
BZNA					**Sg**	**10 10 20.1**	**-0.5**
DNR	**Dunn Ranch,Anz**	**0.74**	**102**		**Pg**	**10 10 10.7**	**-0.4**
DNR					**Sg**	**10 10 21.2**	**+0.3**
CHFC	**Chilao Flat St**	**0.75**	**325**		**Sg**	**10 10 19.7**	**-1.4**
RPV	**Rancho Palos V**	**0.75**	**272**		**Pg**	**10 10 10.2**	**-1.0**
RPV					**Sb**	**10 10 22.0**	**+0.3**
SNDA	**J Saunders Pla**	**0.76**	**103**		**Pg**	**10 10 11.0**	**-0.4**
SNDA					**Sg**	**10 10 21.6**	**+0.1**
BHPC	**Baldwin Hills**	**0.76**	**291**		**Pg**	**10 10 11.7**	**+0.3**
BHPC					**Sb**	**10 10 22.9**	**+0.8**
GR2C	**Griffith Obs.**	**0.77**	**301**		**Pg**	**10 10 10.8**	**-0.8**
GR2C					**Sg**	**10 10 21.5**	**-0.3**
LCGC	**La Cienega, Cu**	**0.78**	**291**		**Pb**	**10 10 12.3**	**+0.2**
LCGC					**Sn**	**10 10 24.3**	**-0.6**
FRD	**Ford Ranch, An**	**0.79**	**106**		**Pg**	**10 10 11.2**	**-0.6**
FRD					**Sg**	**10 10 21.8**	**-0.4**
DEVC	**Devers**	**0.80**	**74**		**Pg**	**10 10 11.6**	**-0.5**
DEVC					**Sg**	**10 10 22.0**	**-0.6**
JNH	**Juniper Hills**	**0.82**	**333**		**Pg**	**10 10 11.3**	**-1.1**
JNH					**Sg**	**10 10 21.8**	**-1.4**
CIAC	**Catalina I. Ai**	**0.82**	**248**		**Pg**	**10 10 11.9**	**-0.7**
CIAC					**Sg**	**10 10 22.7**	**-0.7**
CIS	**Catalina Islan**	**0.82**	**248**	P	**Pg**	**10 10 12.2**	**-0.4**
	baz=66,SNR=100						
CIS				S	**Sg**	**10 10 23.0**	**-0.4**
	baz=66						
ADO	**Adelanto Recei**	**0.83**	**4**		**Pg**	**10 10 11.7**	**-1.1**
ADO					**Sg**	**10 10 22.8**	**-0.8**
SIL	**Silver Peak**	**0.84**	**42**		**Pg**	**10 10 12.0**	**-0.9**
HLLC	**North Hollywoo**	**0.84**	**303**		**Pg**	**10 10 12.2**	**-0.7**
HLLC					**Sg**	**10 10 23.4**	**-0.7**
VTV	**Victorville**	**0.85**	**10**		**Pg**	**10 10 11.7**	**-1.4**
VTV					**Sg**	**10 10 22.6**	**-1.7**
DECC	**Green Verdugo**	**0.87**	**308**		**Pg**	**10 10 12.5**	**-0.9**
DECC					**Sg**	**10 10 24.2**	**-0.6**
DECC	**Green Verdugo**	**0.87**	**308**	P	**Pg**	**10 10 12.6**	**-0.9**
	baz=126,SNR=620						
DECC				S	**Sg**	**10 10 24.5**	**-0.4**
	baz=126						
PFO	**Pinyon Flats O**	**0.88**	**97**		**Pg**	**10 10 12.9**	**-0.7**
PFO				Sg	**Sg**	**10 10 24.6**	**-0.6**
PFO	**Pinyon Flats O**	**0.88**	**97**		**Pg**	**10 10 12.9**	**-0.7**
PFO					**Sg**	**10 10 24.3**	**-0.8**
PFO	**Pinyon Flats O**	**0.88**	**97**	P	**Pg**	**10 10 12.9**	**-0.7**
	baz=279,SNR=759						
PFO				S	**Sg**	**10 10 24.0**	**-1.1**
	baz=279						
PFO	**Pinyon Flats O**	**0.88**	**97**	Pg	**Pg**	**10 10 13.1**	**-0.5**
	comp=E,285nm,0.3s,baz=284,slow=17,SNR=1405						
PFO				Lg	Lg	10 10 24.2	
	comp=E,858nm,0.3s,baz=180,slow=20,SNR=37						
DJJ	**Donna J Jenkin**	**0.88**	**296**		**Pg**	**10 10 12.3**	**-1.3**
DJJ					**Sg**	**10 10 24.9**	**-0.2**
XPFO	**Pion Flat**	**0.88**	**97**		**Pg**	**10 10 12.9**	**-0.8**
XPFO					**Sg**	**10 10 24.2**	**-1.0**
MATG	**Mataguay Scout**	**0.89**	**126**		**Pg**	**10 10 12.4**	**-1.3**
MATG					**Sg**	**10 10 24.6**	**-0.7**
109C	**Camp Elliot, M**	**0.89**	**158**		**Pg**	**10 10 12.6**	**-1.3**
109C				IAML		10 10 27.1	
	comp=E,7μm,0.5s						
109C				IAML		10 10 28.3	
	comp=N,6μm,0.3s						
109C	**Camp Elliot, M**	**0.89**	**158**	P	**Pg**	**10 10 12.6**	**-1.3**
	baz=339,SNR=536						
109C				S	**Sg**	**10 10 24.9**	**-0.7**
	baz=339						
PMD	**Palm Desert**	**0.94**	**94**		**Pb**	**10 10 13.8**	**-1.0**
PMD				IAML		10 10 29.4	
	comp=E,6μm,0.5s						
PMD				IAML		10 10 29.7	
	comp=N,4μm,0.4s						
EDW2	**Edwards Air Fo**	**1.23**	**341**	P	**Pn**	**10 10 18.7**	**-0.9**
	baz=160,SNR=1000						
EDW2				S	**Sb**	**10 10 34.3**	**-1.3**
	baz=160						
MONP2	**Monument Peak**	**1.23**	**132**	P	**Pn**	**10 10 18.4**	**-1.4**
	baz=314,SNR=775						
MONP2				S	**Sb**	**10 10 34.5**	**-1.1**
	baz=314						
RRX	**Edison Barstow**	**1.23**	**20**	P	**Pn**	**10 10 18.8**	**-0.8**
	baz=200,SNR=63						
RRX				S	**Sb**	**10 10 34.8**	**-0.7**
	baz=200						
BAR	**Barrett**	**1.25**	**146**		**Pn**	**10 10 18.5**	**-1.4**
TJX	**Tijuana**	**1.27**	**163**		**Pn**	**10 10 19.5**	**-0.6**
BELC	**Belle Mtn. Jos**	**1.28**	**77**	P	**Pn**	**10 10 20.0**	**-0.5**
	baz=259,SNR=1000						
BELC				S	**Sb**	**10 10 36.5**	**-0.8**
	baz=259						
OSI	**Osito Audit: C**	**1.35**	**312**	P	**Pn**	**10 10 20.2**	**-1.1**
	baz=130,SNR=134						
OSI				S	**Sb**	**10 10 37.8**	**-1.2**
	baz=130						
TKX	**Tecate**	**1.37**	**147**		**Pn**	**10 10 20.5**	**-1.1**
TKX				IAML		10 10 40.0	
	comp=E,4μm,0.1s						
TKX				IAML		10 10 41.8	
	comp=N,3μm,0.3s						
HEC	**Hector,Ludlow**	**1.47**	**41**	P	**Pn**	**10 10 22.3**	**-0.7**
	baz=222,SNR=1000						
HEC				Sb	**Sb**	**10 10 42.7**	**+0.2**
	baz=222						
CCAC	**Calif City Air**	**1.49**	**344**		**Pn**	**10 10 22.4**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**1.58**	**132**	P	**Pn**	**10 10 24.2**	**-0.3**
	baz=314,SNR=304						
SWSC	**Sam W. Stewart**	**1.62**	**118**	P	**Pn**	**10 10 23.6**	**-1.4**
	baz=300,SNR=209						
SWSC				Sb	**Sb**	**10 10 47.7**	**+0.9**
	baz=300						
RMX	**La Rumorosa**	**1.64**	**133**		**Pb**	**10 10 26.5**	**-0.3**
RMX				IAML		10 10 51.1	
	comp=E,2μm,0.7s						
RMX				IAML		10 10 59.5	
	comp=N,1μm,0.7s						
GSC	**Goldstone, Bar**	**1.68**	**20**		**Pn**	**10 10 25.6**	**-0.2**
GSC	**Goldstone, Bar**	**1.68**	**20**	P	**Pn**	**10 10 25.6**	**-0.2**
	baz=200,SNR=1000						
GSC				S	**Sn**	**10 10 47.1**	**-0.3**
	baz=200						
YUH	**Yuha Desert**	**1.70**	**128**		**Pn**	**10 10 26.8**	**+0.7**
BC3	**Big Chuckawall**	**1.71**	**92**	P

ESJX	**Sierra Juarez**	**2.15**	**142**			**Pn**	**10 10 33.0**	**+0.5**
ESJX				IAML			10 11 07.5	
	comp=E,1μm,0.8s							
ESJX				IAML			10 11 09.5	
	comp=N,994nm,0.8s							
PKM	**Mcpherson Peak**	**2.24**	**302**	P		**Pn**	**10 10 32.9**	**-0.8**
	baz=120,SNR=35							
QSM	**Queen of Sheba**	**2.30**	**13**	IAML			10 11 09.4	
	comp=E,2μm,0.2s							
SHOC	**Shoshone, Teco**	**2.40**	**25**	P		**Pn**	**10 10 35.3**	**-0.3**
	baz=205,SNR=107							
SHOC				Sb		**Sg**	**10 11 11.6**	**-2.0**
	baz=205							
BLYC	**Blythe**	**2.48**	**88**	Pn		**Pn**	**10 10 35.8**	**-1.0**
BLYC				IAML			10 11 22.0	
	comp=N,479nm,0.8s							
VES	**Vestal, Richgr**	**2.48**	**329**	P		**Pn**	**10 10 36.3**	**-0.6**
	baz=148,SNR=141							
VES				Sb		**Sb**	**10 11 13.2**	**+1.5**
	baz=148							
GWY	**Greenwater Val**	**2.55**	**15**	IAML			10 11 20.3	
	comp=N,1μm,0.7s							
SMMC	**Simmler**	**2.60**	**308**	P		**Pn**	**10 10 37.5**	**-1.0**
	baz=127,SNR=36							
SMMC				S		**Sn**	**10 11 09.6**	**-0.4**
	baz=127							
NEE2	**Needles Airpor**	**2.61**	**66**	P		**Pn**	**10 10 38.0**	**-0.6**
	baz=247,SNR=19							
NEE2				Sb		**Sb**	**10 11 17.4**	**+2.2**
	baz=247							
VTX	**Valle De La Tr**	**2.74**	**148**			**Pn**	**10 10 41.3**	**+0.9**
VTX				IAML			10 11 23.2	
	comp=N,454nm,0.9s							
VTX				IAML			10 11 23.8	
	comp=E,557nm,0.7s							
CWC	**Cottonwood Cre**	**2.75**	**350**	P		**Pn**	**10 10 40.4**	**-0.3**
	baz=170							
CWC				Sb		**Sb**	**10 11 21.2**	**+1.6**
	baz=170							
FURC	**Furnace Creek,**	**2.79**	**11**	P		**Pn**	**10 10 40.6**	**-0.4**
	baz=191,SNR=39							
FURC				Sb		**Sb**	**10 11 23.2**	**+2.7**
	baz=191							
PDMCI	**Parker Dam,Lak**	**2.85**	**77**	P		**Pn**	**10 10 41.3**	**-0.6**
	baz=260,SNR=39							
PDMCI				S		**Sn**	**10 11 15.0**	**-1.2**
	baz=260							
V12A	**Nelson**	**2.96**	**47**			**Pn**	**10 10 43.4**	**-0.2**
V12A				IAML			10 11 29.7	
	comp=E,585nm,0.5s							
V12A				IAML			10 11 29.8	
	comp=N,550nm,0.5s							
VOG	**Valley Oaks Go**	**3.02**	**330**	Sb		**Sb**	**10 11 29.4**	**+2.4**
	baz=148							
WCT	**Wildcat Mounta**	**3.15**	**13**	IAML			10 11 36.7	
	comp=E,333nm,0.6s							
WTNK	**Soaring Height**	**3.20**	**39**			**Pn**	**10 10 46.4**	**-0.4**
GRAC	**Grapevine Rang**	**3.27**	**2**	P		**Pn**	**10 10 48.4**	**+0.7**
	baz=182							
GRAC				S		**Sn**	**10 11 26.6**	**+0.1**
	baz=182							
113A	**Mohawk Valley,**	**3.27**	**106**			**Pn**	**10 10 47.8**	**+0.2**
TIN	**Tinemaha, Big**	**3.38**	**350**	P		**Pn**	**10 10 49.7**	**+0.4**
	baz=170							
TPNV	**Topopah Spring**	**3.38**	**17**	IAML			10 11 50.6	
	comp=E,654nm,0.9s							
TPNV	**Topopah Spring**	**3.38**	**17**	P		**Pn**	**10 10 49.6**	**+0.3**
	baz=198							
TPNV				S		**Sn**	**10 11 30.0**	**+0.6**
	baz=198							
GMN	**Gold Mountain**	**3.58**	**3**	IAML			10 11 59.6	
	comp=N,194nm,1.2s							
PMPB	**Monarch Peak**	**3.68**	**314**	Pn		**Pn**	**10 10 52.4**	**-0.9**
PIX	**Pinacate**	**4.04**	**121**	Pn		**Pn**	**10 10 56.5**	**-1.6**
OMMB	**Old Mammoth Mi**	**4.07**	**343**			**Pn**	**10 10 58.3**	**-0.7**
SAO	**San Andreas Ge**	**4.43**	**314**	Pn		**Pn**	**10 11 02.6**	**-1.0**
NVAR	**Mina Array Bea**	**4.74**	**352**			**Pn**	**10 11 09.0**	**+0.9**
NVAR	**Mina Array Bea**	**4.74**	**352**	Pn		**Pn**	**10 11 09.4**	**+1.3**
	comp=N,1.6nm,0.3s,baz=176,slow=16,SNR=16							
NVAR				Lg		Lg	10 12 27.5	
	comp=N,3.5nm,0.3s,baz=225,slow=24,SNR=1.4							
	comp=N,3.1nm,0.6s							
R11B	**Troy Canyon, C**	**4.87**	**18**	IAML			10 12 33.4	
	comp=E,76nm,1.4s							
R11B	**Troy Canyon, C**	**4.87**	**18**	P		**Pn**	**10 11 10.8**	**+1.0**
	baz=199							
CMB	**Columbia Colle**	**4.90**	**332**	Pn		**Pn**	**10 11 10.3**	**+0.2**
CMB				IAML			10 12 32.5	
	comp=N,74nm,0.8s							
CMB				IAML			10 12 33.7	
	comp=E,72nm,0.7s							
WUAZ	**Wupatki**	**5.36**	**69**	Pn		**Pn**	**10 11 17.8**	**+1.2**
WUAZ				IAML			10 12 49.5	
	comp=E,81nm,0.8s							
WUAZ				IAML			10 12 50.3	
	comp=E,68nm,0.7s							
WUAZ	**Wupatki**	**5.36**	**69**	P		**Pn**	**10 11 17.4**	**+0.9**
	baz=252							
TUC	**Tucson**	**5.82**	**102**	Pn		**Pn**	**10 11 22.4**	**-0.3**
TUC	**Tucson**	**5.82**	**102**	P		**Pn**	**10 11 21.8**	**-0.9**
	baz=286							
SPR3	**Spring Creek 3**	**5.86**	**25**	Pn		**Pn**	**10 11 23.7**	**+0.2**
ORV	**Oroville**	**6.65**	**332**	Pn		**Pn**	**10 11 33.9**	**-0.2**
ELK	**Elko**	**7.24**	**14**	Pn		**Pn**	**10 11 44.1**	**+1.7**
ELK	**Elko**	**7.24**	**14**	Pn		**Pn**	**10 11 43.9**	**+1.5**
	comp=E,1.0nm,0.3s,baz=198,slow=9.4,SNR=31							
ELK				Sn		**Sn**	**10 13 04.8**	**+0.2**
	comp=E,1.9nm,0.3s,baz=267,slow=24,SNR=9.9							
ELK				Lg		Lg	10 13 40.2	
	comp=E,0.2nm,0.3s,baz=252,slow=16,SNR=2.6							
	comp=E,5.9nm,0.6s							
121A	**Cookes Peak, D**	**8.24**	**96**	P		**Pn**	**10 11 56.5**	**+0.5**
	baz=281							
YBH	**Yreka Blue Hor**	**9.00**	**334**	Pn		**Pn**	**10 12 09.4**	**+3.0**
	comp=E,0.2nm,0.3s,baz=152,slow=8.5,SNR=5.4							
YBH				Lg		Lg	10 14 38.4	
	baz=109,slow=18,SNR=2.6							
	comp=E,2.5nm,0.8s							
ANMO	**Albuquerque**	**9.22**	**79**	Pn		**Pn**	**10 12 09.4**	**-0.1**
	comp=E,0.1nm,0.3s,baz=315,slow=5.7,SNR=4.1							
ANMO				Lg		Lg	10 14 43.6	
	comp=E,0.1nm,0.3s,baz=272,slow=20,SNR=1.2							
	comp=E,0.5nm,0.5s							
BW06	**Boulder Array**	**10.97**	**32**	P		**Pn**	**10 12 33.9**	**+0.3**
	baz=217							
PDAR	**Pinedale Array**	**10.97**	**32**	Pn		**Pn**	**10 12 37.2**	**+3.6**
	comp=E,0.1nm,0.3s,baz=224,slow=10,SNR=10							
PDAR				Lg		Lg	10 15 39.0	
	comp=E,0.1nm,0.3s,baz=202,slow=27,SNR=1.4							
	comp=E,1.9nm,1.0s							
TXAR	**Lajitas Array**	**12.59**	**107**	Pn		**Pn**	**10 12 57.5**	**+2.0**
	baz=295,slow=13,SNR=1.8							
	comp=E,0.1nm,0.4s							
NEW	**Newport**	**14.53**	**1**	Pn		**P**	**10 13 26.5**	**-2.1**
	comp=E,0.2nm,0.3s,baz=168,slow=12,SNR=5.6							
	comp=E,1.7nm,0.7s							
E28A	**Huff**	**18.12**	**40**			**Pn**	**10 14 08.0**	**0.0**
E28A				IAmb		IAmb	10 14 10.4	
	comp=Z,27nm,1.0s							
EDM	**Edmonton**	**19.72**	**7**	P		**P**	**10 14 24.1**	**-1.7**
EDM				IAmb		IAmb	10 14 30.6	
	comp=Z,14nm,0.9s							
AGMN	**Agassiz Nation**	**21.78**	**42**	P		**P**	**10 14 48.4**	**+0.3**
ULM	**Lac du Bonnet**	**22.92**	**37**	P		**P**	**10 14 59.6**	**-0.6**
ULM	**Lac du Bonnet**	**22.92**	**37**	P		**P**	**10 14 60.0**	**-0.3**
	comp=Z,2.8nm,0.5s,baz=238,slow=9.3,SNR=6.8							
	comp=Z,2.8nm,0.5s							
FFC	**Flin Flon**	**23.66**	**23**	P		**P**	**10 15 07.6**	**0.0**
FFC				IAmb		IAmb	10 15 12.7	
	comp=Z,9.3nm,1.2s							
YKA	**Yellowknife Ar**	**28.85**	**3**	P		**P**	**10 15 55.0**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=179,slow=8.5,SNR=9.5							
YKA				PcP		**PcP**	**10 19 04.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=180,slow=0.5,SNR=5.4							
	comp=Z,0.7nm,0.8s							
INK	**Inuvik**	**35.83**	**350**	P		**P**	**10 16 56.2**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=154,slow=8.4,SNR=7.8							
	comp=Z,1.6nm,0.8s							
ILAR	**Eielson Array**	**35.85**	**339**	P		**P**	**10 16 57.0**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=155,slow=8.0,SNR=16							
	comp=Z,1.0nm,0.7s							
SEY	**Seymchan**	**60.62**	**328**	P		**P**	**10 20 07.3**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=17,slow=19,SNR=1.7							
	comp=Z,1.6nm,0.9s							
PETK	**Petropavlovsk-**	**60.90**	**317**	P		**P**	**10 20 09.4**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=72,slow=11,SNR=1.8							
	comp=Z,3.1nm,0.8s							
BVAR	**Borovoye Array**	**93.34**	**355**	P		**P**	**10 23 12.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=25,slow=4.8,SNR=5.5							
	comp=Z,0.6nm,0.6s							

*IDC **25** 10:09:56.0±1.5,55.80N×149.15W,h0km,mb3.9/8, mbtmp3.7/12,ML3.0/4,MS3.2/2,Error ellipse: s-maj=33.4km s-min=28.3km az=139.0*
*NEIC **25** 10:09:58.4±1.6,56.0N±0.1×149.4W±0.1,h9km±8km, ML3.6/30,ML3.4(AEIC),Error ellipse: s-maj=15.8km s-min=9.5km az=159.0*
*AEIC **25** 10:10:02.5±2.2,56.0N±0.1×149.3W±0.1,h12km±8km, Error ellipse: s-maj=16.2km s-min=9.8km az=158.0*

ISC 25 10:09:59.1±0.9,56.12N±0.08×149.35W±0.05,h10km, n112,σ1§15/104,mb4.0/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.43**	**315**			**Sn**	**10 11 07.4**	**-1.1**
KDAK	**Kodiak Island**	**2.43**	**315**	IAML			10 11 09.2	
	75nm,0.8s							
KDAK				IAML			10 11 10.0	
	92nm,1.4s							
KDAK	**Kodiak Island**	**2.43**	**315**	P		**Pn**	**10 10 39.1**	**+0.3**
	baz=133							
KDAK	**Kodiak Island**	**2.43**	**315**	Pn		**Pn**	**10 10 38.9**	**+0.1**
	2.3nm,0.3s,baz=127,slow=5.1,SNR=11							
KDAK				Sn		**Sn**	**10 11 07.2**	**-1.3**
	13nm,0.3s,baz=215,slow=19,SNR=16							
	16nm,0.8s							
OHAK	**Old Harbor**	**2.44**	**298**			**Pn**	**10 10 38.6**	**-0.2**
OHAK						**Sn**	**10 11 06.0**	**-2.6**
OHAK	**Old Harbor**	**2.44**	**298**	P		**Pn**	**10 10 38.6**	**-0.2**
	baz=117							
OHAK				S		**Sn**	**10 11 07.2**	**-1.5**
	baz=117							
SII	**Sitkinak Islan**	**2.73**	**281**			**Sn**	**10 11 13.1**	**-2.8**
SYI	**Shuyak Island**	**2.99**	**328**			**Pn**	**10 10 46.6**	**+0.2**
SYI						**Sn**	**10 11 21.8**	**-0.5**
Q20K	**Shuyak Island**	**2.99**	**328**	P		**Pn**	**10 10 47.2**	**+0.7**
	baz=145							
Q20K				S		**Sn**	**10 11 21.8**	**-0.5**
	baz=145							
CNPM	**China Poot**	**3.56**	**344**			**Pn**	**10 10 54.3**	**0.0**
CNPM						**Sn**	**10 11 35.7**	**-0.6**
CNPM	**China Poot**	**3.56**	**344**	IAML			10 11 38.6	
	comp=E,74nm,0.6s							
CNPM				IAML			10 11 39.6	
	comp=N,67nm,1.1s							
Q19K	**Cape Douglas,**	**3.64**	**322**			**Pn**	**10 10 55.5**	**0.0**
BRSE	**Bradley Lake S**	**3.70**	**349**			**Pn**	**10 10 56.2**	**-0.1**
BRSE						**Sn**	**10 11 38.3**	**-1.7**
BRSE	**Bradley Lake S**	**3.70**	**349**	P		**Pn**	**10 10 56.5**	**+0.2**
	baz=167							
BRSE				S		**Sn**	**10 11 38.3**	**-1.7**
	baz=167							
BRLK	**Bradley Lake**	**3.74**	**348**			**Pn**	**10 10 56.3**	**-0.5**
BRLK	**Bradley Lake**	**3.74**	**348**	IAML			10 11 45.5	
	comp=E,65nm,0.5s							
BRLK				IAML			10 11 48.5	
	comp=N,48nm,1.3s							
HOM	**Homer**	**3.75**	**342**	Pn		**Pn**	**10 10 56.6**	**-0.3**
ACHA	**Angle Creek He**	**3.87**	**305**			**Pn**	**10 10 59.9**	**+1.3**
ACHA						**Sn**	**10 11 44.5**	**+0.4**
ANCK	**Angle Creek**	**3.94**	**304**			**Pn**	**10 11 00.8**	**+1.2**
KVTA	**Katmai Vly 10**	**3.94**	**307**			**Pn**	**10 11 01.1**	**+1.5**
KAHC	**Katmai Hardscr**	**3.97**	**312**			**Pn**	**10 11 01.6**	**+1.5**
KAHC	**Katmai Hardscr**	**3.97**	**312**	P		**Pn**	**10 11 01.4**	**+1.3**
	baz=128							
P19K	**Oil Pt**	**4.10**	**331**			**Pn**	**10 11 02.5**	**+0.8**
P19K	**Oil Pt**	**4.10**	**331**	IAML			10 11 56.7	
	comp=N,144nm,0.4s							
CNTC	**Contact Creek**	**4.15**	**304**			**Pn**	**10 11 03.3**	**+0.7**
Q17K	**Contact Creek**	**4.15**	**304**	P		**Pn**	**10 11 03.6**	**+1.0**
	baz=119							
SLKM	**Skilak Lake**	**4.42**	**354**			**Pn**	**10 11 06.0**	**-0.2**
HIN	**Hinchinbrook I**	**4.54**	**18**			**Pn**	**10 11 07.5**	**-0.3**
HIN	**Hinchinbrook I**	**4.54**	**18**	IAML			10 12 05.3	
	comp=N,104nm,1.4s							
HIN				IAML			10 12 34.8	
	comp=E,73nm,1.5s							
P18K	**Big Mountain,**	**4.54**	**319**			**Pn**	**10 11 08.0**	**+0.2**
P18K	**Big Mountain,**	**4.54**	**319**	IAML			10 12 01.7	
	comp=N,24nm,1.0s							
RSO	**Redoubt South**	**4.71**	**339**	Pn		**Pn**	**10 11 11.2**	**+1.0**
R16K	**Pilot Point**	**4.74**	**291**	Pn			10 11 08.9	-1.6
R16K	**Pilot Point**	**4.74**	**291**	IAML			10 12 48.1	
	comp=N,96nm,1.5s							
EYAK	**Cordova Ski Ar**	**4.83**	**22**	P		**Pn**	**10 11 12.1**	**+0.5**
P17K	**Kvichak River**	**4.90**	**312**			**Pn**	**10 11 13.6**	**+1.0**
P17K	**Kvichak River**	**4.90**	**312**	P		**Pn**	**10 11 13.7**	**+1.0**
	baz=126							
RAGM	**Ragged Mountai**	**4.94**	**28**	Pn		**Pn**	**10 11 15.7**	**+2.4**
RAGM				IAML			10 12 19.4	
	comp=E,74nm,1.2s							
RC01	**Rabbit Creek A**	**4.99**	**358**			**Pn**	**10 11 14.3**	**+0.4**
RC01				IAML			10 12 14.8	
	comp=N,26nm,1.3s							
RC01				IAML			10 12 21.9	
	comp=E,32nm,0.9s							
CHGN	**Chignik**	**5.07**	**276**	Pn		**Pn**	**10 11 14.4**	**-0.5**
CHGN				IAML			10 13 51.0	
	comp=E,45nm,1.3s							
CHGN				IAML			10 14 41.4	
	comp=N,40nm,1.0s							
BERG	**Berg Lake**	**5.21**	**33**	Pn		**Pn**	**10 11 17.1**	**0.0**
BERG				IAML			10 12 44.1	
	comp=E,51nm,0.9s							
BERG				IAML			10 12 55.8	
	comp=N,44nm,1.1s							
KNK	**Knik Glacier**	**5.33**	**5**			**Pn**	**10 11 19.5**	**+1.0**
SNH	**Sunshine Point**	**5.33**	**38**	Pn		**Pn**	**10 11 19.6**	**+1.0**
SPCP	**Crater Peak Br**	**5.36**	**345**			**Pn**	**10 11 19.6**	**+0.4**
SUA	**Susitna One**	**5.41**	**353**	Pn		**Pn**	**10 11 20.7**	**+1.0**
N19K	**Bonanza Creek**	**5.42**	**332**	Pn		**Pn**	**10 11 20.7**	**+0.8**
BMRM	**Bremner River**	**5.46**	**25**			**Pn**	**10 11 20.8**	**+0.5**
PMR	**Palmer**	**5.49**	**1**	Pn		**Pn**	**10 11 20.5**	**-0.2**
PMR	**Palmer**	**5.49**	**1**	P		**Pn**	**10 11 23.3**	**+2.6**
P16K	**Nushagak River**	**5.49**	**306**			**Pn**	**10 11 21.7**	**+0.9**
P16K	**Nushagak River**	**5.49**	**306**	P		**Pn**	**10 11 22.4**	**+1.7**
	baz=119							
GHO	**Glory Hole Cre**	**5.67**	**2**			**Pn**	**10 11 24.3**	**+0.9**
KLU	**Klutina**	**5.67**	**17**			**Pn**	**10 11 24.0**	**+0.7**
KLU	**Klutina**	**5.67**	**17**	P		**Pn**	**10 11 24.5**	**+1.2**
	baz=199							
N18K	**Kilae Creek**	**5.72**	**326**	Pn		**Pn**	**10 11 23.8**	**-0.2**
SML	**Sawmill**	**5.72**	**5**	Pn		**Pn**	**10 11 24.7**	**+0.6**
O16K	**Kokwok River B**	**5.82**	**310**			**Pn**	**10 11 25.9**	**+0.5**
SCM	**Sheep Creek Mo**	**5.82**	**9**	Pn		**Pn**	**10 11 28.0**	**+2.6**
VRDI	**Verde Repeater**	**5.97**	**29**	Pn		**Pn**	**10 11 28.5**	**+0.9**
SKT	**Skwentna**	**5.98**	**350**	Pn		**Pn**	**10 11 29.1**	**+1.6**
N25K	**Chitina, Valde**	**6.02**	**22**			**Pn**	**10 11 28.7**	**+0.5**
N25K	**Chitina, Valde**	**6.02**	**22**	P		**Pn**	**10 11 29.6**	**+1.4**
	baz=205							
GLB	**Gilahina Butte**	**6.06**	**26**	Pn		**Pn**	**10 11 29.8**	**+1.2**
M20K	**Styx River**	**6.10**	**343**	Pn		**Pn**	**10 11 30.4**	**+1.2**
PTPK	**Patty Peak**	**6.22**	**32**			**Pn**	**10 11 31.3**	**+0.3**
M24K	**Tolsona, Glenn**	**6.22**	**14**	Pn		**Pn**	**10 11 33.0**	**+2.1**
PCA	**Pinnacle**	**6.25**	**47**			**Pn**	**10 11 31.0**	**-0.2**
SDPT	**Sand Point**	**6.33**	**268**	P		**Pn**	**10 11 32.3**	**-0.1**
BARN	**Barnard Glacie**	**6.37**	**36**			**Pn**	**10 11 33.3**	**+0.2**
PNL	**Peninsula**	**6.38**	**52**	P		**Pn**	**10 11 32.1**	**-1.0**
CTGM	**Chitina Glacie**	**6.41**	**38**			**Pn**	**10 11 33.7**	**+0.1**
LOGN	**Logan Glacier**	**6.43**	**39**			**Pn**	**10 11 34.1**	**+0.2**
HARP	**HAARP**	**6.65**	**17**			**Pn**	**10 11 37.3**	**+0.6**
M17K	**Holitna River**	**6.76**	**325**			**Pn**	**10 11 38.0**	**-0.2**
N15K	**Kwethluk River**	**6.98**	**310**			**Pn**	**10 11 41.9**	**+0.6**
N15K	**Kwethluk River**	**6.98**	**310**	P		**Pn**	**10 11 42.8**	**+1.5**
	baz=121							
DHY	**Denali Highway**	**7.04**	**7**	Pn		**Pn**	**10 11 42.8**	**+0.5**
O29M	**Mount Kennedy**	**7.06**	**49**			**Pn**	**10 11 42.3**	**-0.1**
P29M	**Windy Craggy**	**7.12**	**56**			**Pn**	**10 11 43.1**	**0.0**
P29M	**Windy Craggy**	**7.12**	**56**	P		**Pn**	**10 11 42.5**	**-0.7**
	baz=244							
CAST	**Castle Rocks**	**7.45**	**350**			**Pn**	**10 11 50.2**	**+2.6**
YUK6	**Outpost Mounta**	**7.50**	**45**			**Pn**	**10 11 49.1**	**+0.4**
K20K	**Telida**	**7.64**	**344**	Pn		**Pn**	**10 11 51.0**	**+0.7**
L16K	**Owhat River**	**7.67**	**321**	Pn		**Pn**	**10 11 50.5**	**-0.1**
SIT	**Sitka**	**7.80**	**77**	P		Pn	10 11 48.6	-3.8
RIDG	**Independent Ri**	**7.96**	**15**	Pn		**Pn**	**10 11 56.4**	**+1.6**
BPAW	**Bear Paw Mtn.**	**8.04**	**355**	Pn		**Pn**	**10 11 56.8**	**+1.0**
N30M	**Aishikik Lake**	**8.31**	**45**	Pn		**Pn**	**10 12 00.0**	**+0.5**
L14K	**Kuka Creek**	**8.68**	**313**	Pn		**Pn**	**10 12 04.9**	**+0.5**
ILAR	**Eielson Array**	**8.76**	**7**	Pn		**Pn**	**10 12 07.3**	**+1.7**
ILAR	**Eielson Array**	**8.76**	**7**	Pn		**Pn**	**10 12 06.6**	**+1.0**
	comp=N,0.4nm,0.3s,baz=190,slow=14,SNR=16							
ILAR				Sn		**Sn**	**10 13 40.2**	**-4.1**
	comp=N,0.2nm,0.3s,baz=180,slow=19,SNR=5.8							
	comp=N,0.9nm,0.4s							
L29M	**L29M**	**9.01**	**34**	Pn		**Pn**	**10 12 10.6**	**+1.5**
BBB	**Bella Bella**	**13.04**	**99**	LR		LR	10 16 39.4	
	comp=N,90nm,19.6s,baz=139,slow=31							
INK	**Inuvik**	**14.21**	**24**	Pn		**Pn**	**10 13 20.5**	**+0.5**
	baz=205,slow=17,SNR=4.0							
	comp=N,0.9nm,0.9s							
YKA	**Yellowknife Ar**	**18.66**	**56**	P		**P**	**10 14 16.7**	**0.0**
	baz=264,slow=9.1,SNR=5.1							
	comp=N,0.2nm,0.6s							
ELK	**Elko**	**27.01**	**110**	LR		LR	10 24 10.8	
	comp=N,50nm,18.9s,baz=7.0,slow=32							
H11N2	**WAKE ISLAND Hy**	**48.77**	**240**	T		T	10 11 53.1	
	baz=36							
H11N3	**WAKE ISLAND Hy**	**48.78**	**240**	T		T	10 11 43.8	
	baz=36							
H11N1	**WAKE ISLAND Hy**	**48.79**	**240**	T		T	10 11 56.8	
	baz=36							
H11S1	**WAKE ISLAND Hy**	**49.91**	**239**	T		T	10 13 25.0	
	baz=27							
H11S2	**WAKE ISLAND Hy**	**49.92**	**239**	T		T	10 13 27.0	
	baz=27							
H11S3	**WAKE ISLAND Hy**	**49.93**	**239**	T		T	10 13 24.3	
	baz=27							
SONM	**Songino Array**	**58.71**	**310**	P		**P**	**10 19 57.9**	**+1.3**
	comp=N,0.7nm,0.7s,baz=62,slow=7.9,SNR=3.1							
	comp=N,0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**61.67**	**327**	P		**P**	**10 20 17.6**	**+1.0**
	comp=N,1.4nm,0.7s,baz=20,slow=6.3,SNR=7.9							
	comp=N,1.4nm,0.7s							
FINES	**FINESS Array B**	**62.72**	**2**	P		**P**	**10 20 23.8**	**+0.3**
	comp=N,2.1nm,0.7s,baz=9.6,slow=9.2,SNR=1.4							
	comp=N,2.1nm,0.7s							
KURBB	**Kurchatov Arra**	**66.46**	**329**	P		**P**	**10 20 48.8**	**+0.7**
	comp=N,0.6nm,0.2s,baz=31,slow=6.5,SNR=5.8							
	comp=N,0.6nm,0.2s							
MKAR	**Makanchi Array**	**68.70**	**325**	P		**P**	**10 21 02.6**	**+0.1**
	comp=N,0.5nm,0.6s,baz=23,slow=5.7,SNR=9.9							
	comp=N,0.5nm,0.6s							
AKASG	**Malin Array Be**	**73.53**	**1**	P		**P**	**10 21 31.3**	**-0.3**
	comp=N,0.6nm,0.5s,baz=0.1,slow=5.0,SNR=2.0							
	comp=N,0.6nm,0.5s							
GERES	**GERESS Array B**	**74.45**	**12**	P		**P**	**10 21 37.7**	**+0.6**
	comp=N,0.4nm,0.4s,baz=34,slow=5.3,SNR=1.5							
	comp=N,0.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**86.32**	**298**	P		**P**	**10 22 41.1**	**-0.1**
	comp=N,0.4nm,0.3s,baz=34,slow=6.7,SNR=1.0							
	comp=N,0.4nm,0.3s							
CTA	**Charters Tower**	**93.18**	**238**	LR		LR	10 57 15.5	
	comp=N,569nm,20.7s,baz=156,slow=30							
QSPA	**South Pole Qui**	**145.92**	**180**	PKPbc		**PKPdf**	**10 29 34.3**	**-2.2**
	comp=N,1.1nm,0.3s,baz=112,slow=2.3,SNR=4.1							

*IDC **25** 10:25:39.1±0.6,8.18S×13.37W,h0km,mb4.5/26, mbtmp4.5/27,ML3.6/1,MS4.6/58,Error ellipse: s-maj=21.9km s-min=14.8km az=137.0*
*MOS **25** 10:25:39.5±1.0,8.00S×13.56W,h10km,mb5.1/29,Error ellipse: s-maj=11.4km s-min=7.2km az=50.6*
*NEIC **25** 10:25:41.8±2.0,8.05S±0.10×13.63W±0.05,h10km±1km, mb5.0/83,Error ellipse: s-maj=16.5km s-min=8.4km az=185.0*
*GCMT **25** 10:25:42.8±0.1,8.03S±0.01×13.50W±0.01,h12km, MW5.2/147,Moment Tensor Solution. s80,c117; s147,c240; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr-0.86±.01; Mθθ0.03±.01; Mφφ0.83±.01; Mrθ0.02±.04; Mrφ-0.01±.01; Mθφ-0.20±.03; Best double couple: M0:0.87400×1017 NP1:φ1358.00000°,δ52.00000°, λ-92.00000°. NP2:φ1181.00000°,δ38.00000°, λ-88.00000°. Principal axes: T 0.8590, Plg7.0000°, Azm89.0000°; N 0.0310, Plg1.0000°, Azm359.0000°; P -0.8890, Plg83.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 10:25:42.2±0.3,8.03S±0.06×13.59W±0.05,h17km,n264, σ1§44/209,mb4.9/86,MS4.6/59,15C-4D,Ascension Island region

| Code | Station Name | Δ° | AZ

LBTB Lobatse 40.99 119 P **P** **10 33 24.9 +0.3**
LBTB IAmb IAmb 10 33 31.2
comp=Z,34nm,1.4s
LBTB Lobatse 40.99 119 P **P** **10 33 25.0 +0.3**
LBTB pmax pmax
comp=Z,34nm,1.4s
LBTB Lobatse 40.99 119 LR LR 10 47 50.0
comp=Z,2μm,20.4s,baz=283,slow=33
PP1B Ponte de Pedra 41.29 253 *eP* **P** **10 33 30.2 +3.0**
NPGB Novo Progresso 41.41 268 *eP* **P** **10 33 29.5 +1.3**
LSZ Lusaka 41.48 104 P **P** **10 33 29.4 +0.5**
LSZ Lusaka 41.48 104 P **P** **10 33 29.4 +0.5**
LSZ pmax pmax
comp=Z,27nm,1.4s
LSZ Lusaka 41.48 104 LR LR 10 47 54.9
comp=Z,2μm,21.3s,baz=293,slow=32
MDT Midelt 41.51 11 LR LR 10 49 56.3
comp=Z,813nm,18.4s,baz=200,slow=35
AVE Averroes 41.52 8 P **P** **10 33 29.7 +1.0**
AVE IAmb IAmb 10 33 40.8
comp=Z,57nm,1.3s
RVDE Rio Verde (Bra 41.56 250 *eP* **P** **10 33 31.4 +2.0**
SALV Santo Antonio 41.86 255 *eP* **P** **10 33 33.9 +2.1**
BOSA Boshof 41.90 124 P **P** **10 33 33.0 +0.8**
BOSA Boshof 41.90 124 P **P** **10 33 33.0 +0.8**
BOSA pmax pmax
comp=Z,24nm,1.2s
BOSA Boshof 41.90 124 P **P** **10 33 29.1 -3.0**
comp=Z,6.6nm,1.0s,baz=313,slow=9.2,SNR=5.7
BOSA LR LR 10 47 56.0
comp=Z,1μm,20.7s,baz=290,slow=32
comp=Z,6.6nm,1.0s
ITTB Itaituba 42.04 272 *eP* **P** **10 33 34.2 +0.8**
AQDB Aquidauana 42.52 248 P **P** **10 33 37.8 +0.6**
CRSM Crissiumal (Br 42.85 238 *eP* **P** **10 33 42.2 +2.4**
ANTJ Antonio Joao (43.10 246 *eP* **P** **10 33 44.9 +3.0**
CPSB Cacapava Do Su 43.39 234 *eP* **P** **10 33 45.6 +1.5**
PLTB Pedras Altas 44.05 232 P **P** **10 33 49.6 +0.3**
PLTB IAmb IAmb 10 33 52.8
comp=Z,23nm,1.1s
PLTB Pedras Altas 44.05 232 *eP* **P** **10 33 50.8 +1.4**
UNIS Unistalda (Bra 44.23 236 *eP* **P** **10 33 52.0 +1.2**
MURT Porto Murtinho 44.49 247 *eP* **P** **10 33 55.1 +2.0**
MBAR Mbarara 44.78 83 P **P** **10 33 56.9 +1.3**
MBAR IAmb IAmb 10 34 03.6
comp=Z,45nm,1.4s
MBAR Mbarara 44.78 83 P **P** **10 33 56.9 +1.3**
MBAR pmax pmax
comp=Z,45nm,1.4s
RODS Rosario do Sul 44.78 235 *eP* **P** **10 33 58.1 +2.9**
PTLB Pontes e Lacer 45.13 256 P **P** **10 33 58.0 -0.2**
PTLB IAmb IAmb 10 34 02.7
comp=Z,20nm,1.4s
PTLB Pontes e Lacer 45.13 256 *eP* **P** **10 34 01.1 +2.9**
CPUP Villa Florida 45.31 241 P **P** **10 34 00.1 +0.6**
CPUP Villa Florida 45.31 241 P **P** **10 34 00.1 +0.6**
CPUP pmax pmax
comp=Z,17nm,1.4s
CPUP Villa Florida 45.31 241 P **P** **10 33 58.9 -0.6**
comp=Z,1.3nm,0.4s,baz=59,slow=4.0,SNR=3.6
CPUP LR LR 10 51 01.6
comp=Z,1μm,18.6s,baz=80,slow=34
comp=Z,1.3nm,0.4s
ITQB Itaqui 45.71 236 *eP* **P** **10 34 04.7 +2.1**
BBRB Robore, Bolivi 46.03 252 *eP* **P** **10 34 07.8 +2.4**
BBSD Serra de San D 46.68 254 *eP* **P** **10 34 12.6 +2.1**
SIV San Ignacio 47.02 256 LR LR 10 51 51.3
comp=Z,1μm,20.8s,baz=97,slow=33
MACA Manacapuru-AM 47.10 273 P **P** **10 34 13.8 0.0**
BOAV Boa Vista 47.94 281 P **P** **10 34 20.8 +0.4**
BOAV IAmb IAmb 10 34 30.1
comp=Z,28nm,1.3s
BOAV Boa Vista 47.94 281 *eP* **P** **10 34 21.5 +1.1**
BOAV Boa Vista 47.94 281 *eP* **P** **10 34 22.4 +2.0**
ESDC Sonseca Array 48.30 10 P **P** **10 34 22.8 +0.1**
comp=Z,0.9nm,0.9s,baz=213,slow=5.8,SNR=2.8
ESDC PP **PP** **10 36 13.9 -1.5**
comp=Z,2.4nm,1.0s,baz=199,slow=8.8,SNR=4.5
ESDC LR LR 10 55 17.3
comp=Z,423nm,18.4s,baz=164,slow=37
comp=Z,0.9nm,0.9s
KEST Kesra 48.60 25 P **P** **10 34 25.8 +0.7**
comp=Z,3.5nm,0.8s,baz=186,slow=2.8,SNR=5.0
KEST LR LR 10 54 45.7
comp=Z,1μm,20.1s,baz=182,slow=36
comp=Z,3.5nm,0.8s
SAML Samuel 49.03 265 P **P** **10 34 29.2 +0.5**
SAML IAmb IAmb 10 34 33.6
comp=Z,22nm,1.2s
SAML Samuel 49.03 265 P **P** **10 34 29.2 +0.5**
SAML pmax pmax
comp=Z,22nm,1.2s
SAML Samuel 49.03 265 *eP* **P** **10 34 31.1 +2.3**
LODK Lodwar 50.13 79 P **P** **10 34 38.6 +1.3**
LODK IAmb IAmb 10 34 50.7
comp=Z,25nm,1.5s
KMBO Kilima Mbogo 51.10 85 *i* P **P** **10 34 44.5 -0.3**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 51.10 85 P **P** **10 34 42.9 -1.8**
comp=Z,0.7nm,0.3s,baz=246,slow=9.4,SNR=3.3
KMBO LR LR 10 55 03.9
comp=Z,1μm,18.2s,baz=268,slow=35
comp=Z,0.7nm,0.3s
H05S1 Guadeloupe/Mar 51.91 295 T T 11 30 49.2
SNR=18
ETMB Extrema 51.98 264 P **P** **10 34 51.4 +0.3**
ETMB IAmb IAmb 10 34 55.4
comp=Z,29nm,1.3s
ETMB Extrema 51.98 264 *eP* **P** **10 34 52.8 +1.7**
VAE Valguarnera 52.30 28 LR LR 10 58 04.1
comp=Z,629nm,18.1s,baz=172,slow=37
TRQA Tornquist 52.82 228 P **P** **10 34 56.4 -0.6**
TRQA IAmb IAmb 10 34 59.6
comp=Z,18nm,1.2s
TRQA Tornquist 52.82 228 P **P** **10 34 56.4 -0.6**
TRQA pmax pmax
comp=Z,18nm,1.2s
H05N1 Guadeloupe/Mar 52.84 297 T T 11 31 59.9
SNR=12
LVC Limon Verde 54.99 248 LR LR 10 58 09.6
comp=Z,758nm,18.9s,baz=98,slow=35
PB16 IPOC Station P 55.22 253 P **P** **10 35 14.5 -0.9**
PB01 IPOC Station P 55.38 250 P **P** **10 35 14.7 -1.3**
PB01 IAmb IAmb 10 35 18.9
comp=Z,15nm,1.1s
GO02 Mina Guanaco 55.91 245 P **P** **10 35 17.8 -2.2**
IDI Anoyia 56.33 38 LR LR 10 59 40.2
comp=Z,443nm,21.6s,baz=246,slow=36
BAUV El Baul 56.81 286 P **P** **10 35 26.3 +0.1**
BAUV IAmb IAmb 10 35 29.0
comp=Z,27nm,1.2s
AC06 Mina Casimiro 56.90 243 IAmb IAmb 10 35 29.8
comp=Z,19nm,1.2s
CO01 Juntas del Tor 57.10 240 IAmb IAmb 10 35 40.9
comp=Z,33nm,1.4s
CO03 El Pedregal 57.76 239 P **P** **10 35 32.8 -0.1**
CO03 IAmb IAmb 10 35 36.7
comp=Z,21nm,1.4s
SJG San Juan 58.02 297 LR LR 10 56 39.4
comp=Z,403nm,19.7s,baz=92,slow=32
CO02 Combarbal 58.09 238 IAmb IAmb 10 35 44.9
comp=Z,18nm,1.0s
DAVOX Davos/Dischmat 58.44 19 P **P** **10 35 39.0 +1.7**
comp=Z,2.5nm,0.5s,baz=182,slow=10.0,SNR=4.0
DAVOX LR LR 11 01 13.6
comp=Z,750nm,18.6s,baz=247,slow=36
comp=Z,2.5nm,0.5s
PRSN Puerto Rico Se 58.94 297 P **P** **10 35 39.2 -1.8**
CLUD Cludinico 59.17 21 P **P** **10 35 41.9 -0.3**
CLUD IAmb IAmb 10 36 06.8
comp=Z,19nm,1.3s
SDV Santo Domingo 59.27 285 LR LR 10 59 18.2
comp=Z,595nm,20.6s,baz=97,slow=34
ATD Arta Tunnel 59.40 72 LR LR 11 00 25.8
comp=Z,44nm,19.7s,baz=216,slow=35
PRED Cave del Predi 59.40 22 P **P** **10 35 42.7 -1.2**
PRED IAmb IAmb 10 35 56.0
comp=Z,15nm,1.3s
OPO Ambohidratompo 59.83 107 LR LR 11 00 30.9
comp=Z,368nm,18.2s,baz=62,slow=35
EIL Elat 59.85 49 LR LR 11 00 31.8
comp=Z,435nm,20.9s,baz=236,slow=35
PLCA Paso Flores 59.97 227 LR LR 11 00 21.6
comp=Z,375nm,18.1s,baz=88,slow=35
BARC Barichara 61.18 282 *eP* **P** **10 35 58.8 +2.0**

GEC2 GERESS Array S 61.50 20 P **P** **10 35 57.8 -0.4**
GERES GERESS Array B 61.50 20 P **P** **10 35 58.3 +0.1**
GERES GERESS Array B 61.50 20 P **P** **10 35 58.7 +0.5**
comp=Z,1.0nm,0.8s,baz=199,slow=8.3,SNR=2.1
GERES PP **PP** **10 38 12.2 -1.6**
comp=Z,0.3nm,0.3s,baz=280,slow=5.6,SNR=2.3
comp=Z,1.0nm,0.8s
LL02 Futaleuf 61.59 225 P **P** **10 35 58.4 -0.6**
KHC Kasperske Hory 61.70 20⇑ *eP* **P** **10 35 59.5 0.0**
KHC pmax pmax
comp=Z,4.0nm,1.1s
ROSC El Rosal 61.91 280 P **P** **10 36 03.9 +1.9**
comp=Z,12nm,0.7s,baz=39,slow=2.6,SNR=8.8
ROSC LR LR 11 00 52.4
comp=Z,3μm,20.3s,baz=113,slow=34
comp=Z,12nm,0.7s
NNA Nana 62.31 261 LR LR 11 01 55.5
comp=Z,1μm,20.0s,baz=94,slow=35
MODS Modra-Piesok 62.40 23 *eP* **P** **10 36 04.9 +0.8**
MODS Modra-Piesok 62.40 23 *eP* **P** **10 36 04.9 +0.8**
GARC Garzon, Huila 62.56 277 *eP* **P** **10 36 07.2 +1.0**
KRUC Moravsky 62.64 22 *eP* **P** **10 36 05.5 -0.2**
ORTC Ortega, Tolima 62.64 279 *eP* **P** **10 36 07.0 +0.5**
VNA1 Neumayer--Stat 62.64 178⇑ P **P** **10 36 06.2 +0.9**
comp=Z,16nm,1.1s
GO07 Milladeo Hill, 62.85 226 P **P** **10 36 06.8 -0.5**
VRAC Vranov 62.91 22 *eP* **P** **10 36 06.9 -0.6**
JAVC Velka Javorina 62.95 23 *eP* **P** **10 36 08.0 +0.2**
VNA2 Neumayer--Watz 62.95 178⇑ P **P** **10 36 07.3 -0.1**
comp=Z,7.0nm,0.8s,baz=353,slow=8.0
GUY2C Guyana, Caldas 63.01 280 *eP* **P** **10 36 09.7 +0.3**
VYHS Vyhne 63.10 24 *eP* **P** **10 36 09.5 +0.7**
VYHS Vyhne 63.10 24 P **P** **10 36 09.5 +0.7**
VNA3 Neumayer Olymp 63.19 179⇑ P **P** **10 36 08.7 -0.4**
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 63.32 19 *eP* **P** **10 36 11.5 +1.3**
BRG Amp 10 36 12.4
comp=Z,6.2nm,1.1s
BRG Berggiesshubel 63.32 19 *eP* **P** **10 36 11.4 +1.3**
BRG pmax pmax
comp=Z,6.0nm,1.1s
MORC Moravsky Berou 63.65 22 P **P** **10 36 12.7 +0.2**
MORC IAmb IAmb 10 36 41.2
comp=Z,13nm,1.4s
MORC Moravsky Berou 63.65 22 *eP* **P** **10 36 12.0 -0.5**
MORC Moravsky Berou 63.65 22 P **P** **10 36 12.7 +0.2**
MORC pmax pmax
comp=Z,13nm,1.4s
EKA Eskdalemuir Ar 63.73 7 P **P** **10 36 13.1 +0.3**
comp=Z,1.0nm,0.6s,baz=199,slow=13,SNR=1.7
comp=Z,1.0nm,0.6s
CBOC Ciudad Bolivar 63.77 281 *eP* **P** **10 36 12.6 -1.6**
PLMC San Jos del P 63.84 279 *eP* **P** **10 36 14.2 -0.2**
SJCC San Jacinto, C 63.86 285 *eP* **P** **10 36 16.6 +2.0**
SNAA Sanae 63.92 176 P **P** **10 36 13.9 -0.1**
SNAA IAmb IAmb 10 36 14.8
comp=Z,13nm,1.1s
SNAA Sanae 63.92 176⇑ P **P** **10 36 13.6 -0.4**
comp=Z,131nm,0.9s
SNAA Sanae 63.92 176 *c iP* **P** **10 36 14.0 0.0**
SNAA pmax pmax
comp=Z,10.0nm,1.1s
MLR Muntele Rosu 63.99 30 P **P** **10 36 14.9 0.0**
MLR Muntele Rosu 63.99 30 P **P** **10 36 14.9 0.0**
MLR pmax pmax
comp=Z,30nm,1.3s
MLR Muntele Rosu 63.99 30 P **P** **10 36 14.7 -0.2**
comp=Z,10nm,1.1s,baz=165,slow=7.5,SNR=5.2
comp=Z,10nm,1.1s
ATAH Atahualpa 64.19 266 LR LR 11 03 09.7
comp=Z,2μm,21.6s,baz=110,slow=35
BBAC Balboa, Cauca 64.26 276 *eP* **P** **10 36 18.2 +0.8**
BR131 Keskin Array S 64.51 39 P **P** **10 36 18.2 -0.2**
BR131 IAmb IAmb 10 36 26.4
comp=Z,8.5nm,1.0s
BR131 Keskin Array S 64.51 39⇑ *iP* **P** **10 36 19.2 +0.8**
BRTR Keskin Array B 64.51 39 *i* P **P** **10 36 19.3 +0.8**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 64.51 39 P **P** **10 36 18.3 -0.2**
comp=Z,3.9nm,0.9s,baz=200,slow=10.0,SNR=10
BRTR LR LR 11 07 39.8
comp=Z,194nm,18.2s,baz=234,slow=39
comp=Z,3.9nm,0.9s
TROLL Troll, Antarti 64.68 175⇑ P **P** **10 36 18.8 -0.2**
comp=Z,146nm,0.8s
BOSC San Juan Bosco 64.73 270 P **P** **10 36 20.2 -0.3**
PIAT Ana Tenorio 64.79 273 *eP* **P** **10 36 22.9 +1.9**
OTAV Otavalo 65.16 274 P **P** **10 36 22.8 -0.8**
OTAV IAmb IAmb 10 36 34.1
comp=Z,10nm,1.2s
OTAV Otavalo 65.16 274 P **P** **10 36 22.8 -0.8**
OTAV pmax pmax
comp=Z,10.0nm,1.3s
OTAV Otavalo 65.16 274 *eP* **P** **10 36 26.1 +2.5**
BNN Bunyan 65.41 41 P **P** **10 36 24.2 -0.1**
COHC Cochancay 65.57 271 P **P** **10 36 26.6 +0.9**
COHC Cochancay 65.57 271 *eP* **P** **10 36 26.6 +0.9**
MCRA Macar, Loja 66.02 269 P **P** **10 36 28.3 -0.4**
MCRA Macar, Loja 66.02 269 *eP* **P** **10 36 28.7 0.0**
PMSA Palmer Station 66.70 201 LR LR 10 58 51.3
comp=Z,264nm,20.9s,baz=36,slow=30
ELIB Princess Elisa 67.75 168 *dP* **P** **10 36 38.5 -0.2**
comp=Z,5.0nm,1.4s
KIEV Kiev 69.20 28 P **P** **10 36 47.2 -0.7**
KIEV Kiev 69.20 28 P **P** **10 36 47.2 -0.7**
KIEV pmax pmax
comp=Z,35nm,1.4s
AKASG Malin Array Be 69.22 28 P **P** **10 36 46.9 -1.1**
comp=Z,4.3nm,0.8s,baz=228,slow=7.0,SNR=24
AKASG LR LR 11 09 05.6
comp=Z,196nm,18.6s,baz=218,slow=38
comp=Z,4.3nm,0.8s
ANN Anapa 69.76 36⇑ *eP* **P** **10 36 50.4 -1.0**
ANN pmax pmax
comp=Z,43nm,0.9s
BELA Belgrano 2 70.66 185 P **P** **10 36 56.4 -0.2**
BELA IAmb IAmb 10 36 58.0
comp=Z,27nm,1.4s
HFS Hagfors 71.32 14 P **P** **10 37 01.0 +0.3**
HFS Hagfors 71.32 14 P **P** **10 37 01.0 +0.3**
comp=Z,4.3nm,0.9s,baz=210,slow=8.3,SNR=2.5
HFS LR LR 11 08 49.9
comp=Z,204nm,19.4s,baz=202,slow=36
comp=Z,4.3nm,0.9s
NOA NORSAR Array B 71.56 12 P **P** **10 37 01.5 -0.7**
comp=Z,3.5nm,1.1s,baz=217,slow=7.6,SNR=1.9
NOA LR LR 11 09 21.5
comp=Z,209nm,19.4s,baz=215,slow=37
comp=Z,3.5nm,1.1s
GNI Garni 71.98 43 LR LR 11 09 39.2
comp=Z,267nm,21.9s,baz=258,slow=37
KIV Kislovodsk 72.48 39 *eP* **P** **10 37 08.2 +0.1**
KIV pmax pmax
comp=Z,14nm,1.1s
KBZ Khabaz 72.50 39 *deP* **P** **10 37 08.5 +0.4**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 72.50 39 P **P** **10 37 08.4 +0.3**
comp=Z,6.3nm,0.8s,baz=240,slow=5.6,SNR=12
comp=Z,6.3nm,0.8s
ZEI Tsey 72.67 41 *eP* **P** **10 37 07.0 -2.5**
ZEI pmax pmax
comp=Z,8.0nm,1.2s
BORG Borgarnes 72.81 357 LR LR 11 04 52.4
comp=Z,102nm,19.9s,baz=165,slow=32
JTS Las Juntas de 73.34 283 LR LR 11 09 18.9
comp=Z,392nm,19.0s,baz=118,slow=36
VORD Divnogorie 74.31 32 *eP* **P** **10 37 17.2 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.5s
VSR Storozhevoye 74.39 31 *eP* **P** **10 37 17.0 -2.1**
VSR pmax pmax
comp=Z,20nm,1.4s
VORR Voronezh 74.68 31 *eP* **P** **10 37 19.2 -1.5**
VORR pmax pmax
comp=Z,56nm,0.4s
UOSS Minazif 75.39 62 P **P** **10 37 24.7 -0.7**
UOSS IAmb IAmb 10 37 33.9
comp=Z,19nm,0.9s
OBN Obninsk 75.47 27 LR LR 11 12 46.6
comp=Z,306nm,19.8s,baz=194,slow=38
VRH Novokhopyorsk 75.72 32 *eP* **P** **10 37 26.3 -0.4**
VRH pmax pmax
comp=Z,15nm,0.9s
FINES FINESS Array B 75.84 18 P **P** **10 37 27.9 +0.6**
comp=Z,8.9nm,1.1s,baz=191,slow=9.3,SNR=5.1
FINES LR LR 11 13 22.1
comp=Z,272nm,18.5s,baz=234,slow=38
comp=Z,8.9nm,1.1s
MOS Moscow 76.33 27 *eP* **P** **10 37 29.0 -1.1**
MOS *e* 10 40 24.2
TRQ Mont Tremblant 76.48 321 P **P** **10 37 32.4 +1.1**
TRQ IAmb IAmb 10 37 33.5
comp=Z,15nm,0.8s
SCHQ Schefferville 76.73 332 P **P** **10 37 33.0 +0.5**
comp=Z,4.2nm,0.8s,baz=76,slow=12,SNR=3.6
SCHQ LR LR 11 06 58.8
comp=Z,211nm,20.1s,baz=91,slow=32
comp=Z,4.2nm,0.8s
MAW Mawson 77.46 158 LR LR 11 03 44.6
comp=Z,425nm,22.0s,baz=296,slow=30
TEIG Tepich 78.59 292 LR LR 11 07 13.4
comp=Z,2μm,21.8s,baz=196,slow=32
SADO Sadowa 78.79 319 LR LR 11 05 56.1
comp=Z,562nm,20.7s,baz=78,slow=31
TKL Tuckaleechee C 78.89 309 LR LR 11 05 53.6
comp=Z,685nm,20.7s,baz=134,slow=30
P52A Corning 78.96 313 P **P** **10 37 46.1 +0.9**
BELG Belogornoye 79.48 33 P **P** **10 37 47.6 -0.1**
comp=Z,14nm,0.8s,baz=270,slow=15,SNR=3.7
BELG LR LR 11 14 30.1
comp=Z,171nm,19.4s,baz=243,slow=37
comp=Z,14nm,0.8s
GEYT Alibeck 80.74 50 P **P** **10 37 54.9 0.0**
comp=Z,3.7nm,0.8s,baz=246,slow=11,SNR=7.7
GEYT LR LR 11 13 27.1
comp=Z,260nm,21.0s,baz=269,slow=36
comp=Z,3.7nm,0.8s
ARCES ARCESS Array B 81.93 13 P **P** **10 38 00.3 -0.3**
comp=Z,2.5nm,0.7s,baz=232,slow=4.2,SNR=6.7
ARCES LR LR 11 15 36.8
comp=Z,257nm,20.1s,baz=229,slow=36
comp=Z,2.5nm,0.7s
SUMG Summit 82.05 353 P **P** **10 38 03.3 +1.7**
SUMG Summit 82.05 353 P **P** **10 38 03.3 +1.7**
SUMG pmax pmax
comp=Z,33nm,1.4s
SUMG Summit 82.05 353 *i* P **P** **10 38 02.0 +0.4**
QSPA South Pole Qui 82.09 180 P **P** **10 38 01.1 -0.6**
QSPA South Pole Qui 82.09 180 P **P** **10 38 01.4 -0.3**
comp=Z,14nm,1.0s,baz=216,slow=4.6,SNR=20
QSPA LR LR 11 08 15.0
comp=Z,282nm,20.4s,baz=224,slow=31
comp=Z,14nm,1.0s
KIRV Kirov 83.27 28 LR LR 11 17 21.8
comp=Z,350nm,18.6s,baz=241,slow=37
CMIG Matias Romero 84.10 288 LR LR 11 15 09.1
comp=Z,125nm,20.5s,baz=96,slow=35
LCAR Lake Charles 84.76 307 P **P** **10 38 15.7 -0.2**
LCAR IAmb IAmb 10 38 16.5
comp=Z,14nm,1.4s
CCM Cathedral Cave 85.30 309 P **P** **10 38 18.5 0.0**
CCM IAmb IAmb 10 38 20.1
comp=Z,18nm,1.1s
CCM Cathedral Cave 85.30 309 P **P** **10 38 18.5 0.0**
CCM pmax pmax
comp=Z,18nm,1.2s
ABKAR Akbulak array 85.47 39 P **P** **10 38 18.8 -0.3**
ABKAR Akbulak array 85.47 39 IAmb IAmb 10 38 19.6
comp=Z,5.4nm,1.1s
S39A Bolivar 86.82 309 IAmb IAmb 10 38 26.7
comp=Z,7.2nm,1.1s
ARU Arti 86.95 32 *d iP* **P** **10 38 26.3 +0.1**
ARU S **SKSac** **10 48 52.9 +0.4**
ARU pmax pmax
comp=Z,20nm,2.2s
ARU Arti 86.95 32 LR LR 11 20 41.4
comp=Z,180nm,18.4s,baz=198,slow=38
HHAR Hobbs 87.00 307 IAmb IAmb 10 38 27.8
comp=Z,7.1nm,1.0s
U38A Gravette 87.39 307 IAmb IAmb 10 38 29.6
comp=Z,8.4nm,1.0s
F36A Milaca 88.76 317 IAmb IAmb 10 38 36.1
comp=Z,16nm,1.2s
SIMJ Simiganj 89.22 51 P **P** **10 38 37.9 +0.2**
SIMJ IAmb IAmb 10 38 43.1
comp=Z,17nm,1.2s
B35A Bob, Littlefor 89.45 319 IAmb IAmb 10 38 46.9
comp=Z,18nm,1.4s
BRDY Brady 90.23 301 IAmb IAmb 10 38 43.5
comp=Z,7.3nm,1.2s
JCT Junction City 90.78 301 IAmb IAmb 10 38 46.4
comp=Z,10nm,1.2s
KKAR Karatay Array 91.14 47 P **P** **10 38 46.0 -0.4**
KKAR Karatay Array 91.14 47 P **P** **10 38 46.0 -0.4**
ULM Lac du Bonnet 91.21 320 LR LR 11 13 19.0
comp=Z,510nm,21.1s,baz=108,slow=31
RPN Rapa Nui 91.46 243 LR LR 11 13 55.4
comp=Z,309nm,19.8s,baz=102,slow=32
FCC Fort Churchill 91.91 329 P **P** **10 38 49.5 +0.1**
FCC IAmb IAmb 10 38 51.2
comp=Z,14nm,1.2s
FCC Fort Churchill 91.91 329 P **P** **10 38 49.6 +0.1**
FCC pmax pmax
comp=Z,14nm,1.3s
OZNA Ozona 91.98 301 IAmb IAmb 10 38 59.7
comp=Z,10nm,1.4s
BRVK Borovoye 92.69 37⇑ *eP* **P** **10 38 53.6 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,1.3s
BVAR Borovoye Array 92.74 37 P **P** **10 38 52.1 -1.4**
comp=Z,0.8nm,0.6s,baz=242,slow=3.2,SNR=4.7
BVAR LR LR 11 24 52.4
comp=Z,224nm,18.6s,baz=245,slow=38
comp=Z,0.8nm,0.6s
TXAR Lajitas Array 93.95 299 P **P** **10 39 00.7 +0.9**
comp=Z,0.9nm,0.9s,baz=111,slow=6.9,SNR=8.3
TXAR LR LR 11 15 14.5
comp=Z,58nm,21.6s,baz=57,slow=32
comp=Z,0.9nm,0.9s
AAK Ala-Archa 93.97 48⇑ *eP* **P** **10 38 59.9 +0.2**
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 93.97 48 LR LR 11 24 57.1
comp=Z,116nm,18.1s,baz=261,slow=38
VNDA Vanda 94.54 179 LR LR 11 15 19.9
comp=Z,265nm,21.8s,baz=180,slow=32
KSH Kashi 94.71 51 P **P** **10 39 03.5 +0.4**
KSH pmax pmax
comp=Z,4.0nm,1.0s
EUNU Eureka 94.93 350 IAmb IAmb 10 39 05.3
comp=Z,13nm,1.4s
ANMO Albuquerque 96.89 304 LR LR 11 16 10.3
comp=Z,208nm,21.2s,baz=196,slow=31
KURBB Kurchatov Arra 97.49 40 PP **PP** **10 43 12.9 +0.3**
comp=Z,0.2nm,0.2s,baz=278,slow=7.6,SNR=5.5
KURK Kurchatov 97.55 40 P Pdif 10 39 15.5 -0.1
KURK Kurchatov 97.55 40⇓ *eP* Pdif 10 39 16.7 +1.1
KURK pmax pmax
comp=Z,3.0nm,1.1s
LPIG La Paz 99.34 293 LR LR 11 20 49.6
comp=Z,80nm,21.9s,baz=104,slow=33
MKAR Makanchi Array 99.82 44 P **Pdif** **10 39 24.8 -1.0**
comp=Z,0.3nm,0.3s,baz=245,slow=3.0,SNR=3.1
MKAR LR LR 11 29 48.8
comp=Z,179nm,19.4s,baz=223,slow=39
comp=Z,0.3nm,0.3s
TIXI Tiksi 112.36 12 *i* PKIKP **PKiKP** **10 44 18.1 +1.4**
SONM Songino Array 115.85 40 PKP **PKiKP** **10 44 22.9 -1.4**
comp=Z,1.2nm,1.1s,baz=284,slow=5.8,SNR=4.1
PZH PanZhiHua 116.19 64 PKP **PKiKP** **10 44 26.3 +0.8**
PZH PP PP 10 45 40.5 +10
PZH SKS **SKSac** **10 51 23.0 +7.3**
PZH AMB AMB
comp=Z,110nm,5.5s
PZH LR LR
comp=N,270nm,20.1s
PZH LR LR
comp=E,350nm,20.1s
PZH LR LR
comp=Z,330nm,21.0s
CD2 Chengdu 117.51 59 PKP **PKiKP** **10 44 28.0 +0.1**
HHC Hu-ho-hao-te 121.53 47 *eP* **PKPdf** **10 44 32.3 -3.1**
TAOE Nuku Hiva Isla 124.18 254 *eLR* LR 11 23 17.2
comp=Z,428nm,22.3s
SEY Seymchan 124.26 8⇓ *i* PKIKP **PKPdf** **10 44 39.3 -0.5**
TBI Tubuai 126.77 233 *eSS* SS 11 03 50.6 +2.3
comp=Z,338nm,25.8s
TBI Tubuai 126.77 233 *eLR* LR 11 24 16.4
comp=Z,2μm,29.8s
OXZ Oxford 128.63 185 PKPpre 10 44 41.6
PPT2 Papeete2 129.62 239 *eSS* **SS** **11 04 20.3 -4.0**

	comp=Z,249nm,24.2s							
PPT2				*e*SS	**SS**	**11 04 20.3**	**-4.0**
	comp=Z,283nm,28.2s							
PPT2	**Papeete2**	**129.62**	**239**	*e*LR	LR	11 25 35.7		
	comp=Z,232nm,23.0s							
PPT2				*e*LR	LR	11 25 42.6		
	comp=Z,258nm,29.8s							
NJ2	**Nanjing**	**129.85**	**55**	*e*P	**PKiKP**	**10 44 52.5**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**135.26**	**136**	PKhKP	PKPpre	10 44 52.7		
	comp=Z,0.6nm,0.8s,baz=240,slow=1.4,SNR=3.7							
CTAO	**Charters Tower**	**145.73**	**145**		**PKPdf**	**10 45 20.7**	**-0.2**
CTAO	**Charters Tower**	**145.73**	**145**	PKP2	**PKPdf**	**10 45 20.7**	**-0.2**
DZM	**Mont Dzumac**	**150.08**	**180**	*e*LR	LR	11 35 19.0		
	comp=Z,244nm,25.4s							

IDC ***25*** *10:27:13.4±4.5,31°.55N×141°.19E,h0km,mb3.5/5, mbtmp3.4/6,ML1.8/1,Error ellipse: s-maj=175.9km s-min=23.0km az=70.0*

ISC 25 10:27:07.3±7.7,32°.3N±0°.8×14°.3E±°,h10km,n6,σ0§26/6, mb3.6/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.04**	**316**	Pn	**Pn**	**10 28 36.7**	**+0.1**
	baz=156,slow=12,SNR=1.2						
	0.7nm,0.6s						
SONM	**Songino Array**	**31.95**	**310**	P	**P**	**10 33 33.5**	**+0.1**
	0.2nm,0.3s,baz=95,slow=10,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**48.13**	**306**	P	**P**	**10 35 47.2**	**-0.3**
	0.2nm,0.3s,baz=81,slow=9.3,SNR=2.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**50.29**	**311**	P	**P**	**10 36 03.6**	**-0.1**
	0.5nm,0.7s,baz=88,slow=7.8,SNR=4.6						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**52.66**	**191**	P	**P**	**10 36 21.6**	**-0.2**
	0.6nm,0.6s,baz=5.4,slow=7.6,SNR=4.7						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**56.38**	**190**	P	**P**	**10 36 49.1**	**+0.3**
	0.4nm,0.9s,baz=357,slow=5.2,SNR=4.5						
	0.4nm,0.9s						

NNC 25 10:38:03.0±0.7,51°.73N×75°.31E,h0km,mb2.7,mpv2.3, 2C-4D,Error ellipse: s-maj=56.4km s-min=4.6km az=26.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.31**	**117**	⇓Pg	Pb	10 38 45.3	-0.2
	1.4nm,0.8s						
KURBB				⇓Lg	Lg	10 39 17.5	
	9.8nm,0.7s						
KURK	**Kurchatov**	**2.32**	**115**	⇓Pg	Pb	10 38 44.9	-0.7
	3.4nm,1.4s						
BVA0	**Borovoye Array**	**3.28**	**295**	⇓Lg	Lg	10 39 47.2	
	3.5nm,0.8s,baz=117,slow=22,SNR=4.6						
BRVK	**Borovoye**	**3.35**	**295**	⇑Lg	Lg	10 39 49.8	
	3.8nm,1.0s						
MK31	**Makanchi Array**	**6.73**	**135**	⇑Lg	Lg	10 41 36.0	
	1.5nm,0.8s,baz=0.0,slow=0.1,SNR=7.3						

IDC ***25*** *10:40:51.4±3.1,55°.69N×166°.26E,h0km,mb3.4/4, mbtmp3.5/5,ML3.2/1,Error ellipse: s-maj=88.6km s-min=25.1km az=156.0*

KRSC ***25*** *10:40:52.6±1.3,55°.29N×166°.36E,h37km±6km,Ml4.0*

ISC 25 10:40:53.2±1.5,55°.35N±0°.08×166°.55E±0°.10,h20km,n25, σ1§14/29,mb3.4/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.36**	**246**	*e*P	**Pb**	**10 41 00.2**	**-0.6**
BKI				*e*S	**Sb**	**10 41 05.8**	**-0.2**
SMKR	**Semkarok**	**3.11**	**295**	*e*P	**Pn**	**10 41 40.7**	**-0.4**
SMKR				*e*S	**Sn**	**10 42 17.1**	**-0.6**
BZP	**Bezymyannyi-Pe**	**3.46**	**282**	*e*P	**Pn**	**10 41 47.3**	**+1.4**
BZWR	**Bezymyannyi-We**	**3.48**	**283**	*e*P	**Pn**	**10 41 47.5**	**+1.2**
TUMD	**Tumrok D**	**3.52**	**270**	*e*P	**Pn**	**10 41 47.2**	**+0.5**
KMNR	**Kamenistaya**	**3.61**	**279**	*e*P	**Pn**	**10 41 49.3**	**+1.3**
TUMR	**Tumrok**	**3.66**	**272**	*e*P	**Pn**	**10 41 49.3**	**+0.6**
TUMR				*e*S	**Sn**	**10 42 32.8**	**+1.5**
SRDR	**Sredinnyy**	**3.97**	**287**	*e*P	**Pn**	**10 41 54.1**	**+1.2**
SRDR				*e*S	**Sn**	**10 42 39.3**	**+0.4**
SMAR	**Somma**	**5.00**	**248**	*e*P	**Pn**	**10 42 08.1**	**+1.0**
AVH	**Avacha**	**5.03**	**249**	*e*P	**Pn**	**10 42 08.6**	**+1.1**
KRX	**Arik**	**5.03**	**250**	*e*P	**Pn**	**10 42 08.6**	**+1.0**
KOK	**Koryaka**	**5.07**	**249**	*e*P	**Pn**	**10 42 09.2**	**+1.2**
DALK	**Dalny**	**5.13**	**246**	*e*P	**Pn**	**10 42 09.6**	**+0.8**
DALK				*e*S	**Sn**	**10 43 04.9**	**-2.5**
KRMR	**Karymshinskiy**	**5.56**	**246**	*e*P	**Pn**	**10 42 15.8**	**+1.1**
KRMR				*e*S	**Sn**	**10 43 18.4**	**+0.5**
PETK	**Petropavlovsk-**	**5.66**	**250**	Pn	**Pn**	**10 42 15.9**	**-0.1**
	3.8nm,0.3s,baz=70,slow=17,SNR=3.1						
PETK				Sn	**Sn**	**10 43 21.1**	**+0.8**
	0.8nm,0.3s,baz=73,slow=26,SNR=1.5						
	10nm,0.5s						
MTVR	**Mutnovka**	**5.72**	**243**	*e*P	**Pn**	**10 42 17.9**	**+1.0**
MTVR				*e*S	**Sn**	**10 43 20.7**	**-1.3**
GRL	**Gorelyy**	**5.74**	**244**	*e*P	**Pn**	**10 42 18.3**	**+1.1**
ASAK	**Asacha**	**5.92**	**243**	*e*P	**Pn**	**10 42 21.5**	**+1.8**
ILAR	**Eielson Array**	**24.50**	**49**	P	**P**	**10 46 11.1**	**+0.4**
	0.6nm,0.9s,baz=263,slow=9.1,SNR=5.4						
	0.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.56**	**179**	T	T	11 25 02.8	
	baz=360,slow=76,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**35.58**	**179**	T	T	11 25 03.6	
	baz=360,slow=76,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**35.58**	**179**	T	T	11 25 16.1	
	baz=360,slow=76,SNR=10						
SONM	**Songino Array**	**37.05**	**284**	P	**P**	**10 48 02.3**	**+0.7**
	0.3nm,0.5s,baz=54,slow=7.3,SNR=2.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**49.81**	**304**	P	P	10 49 42.2	-2.0
	0.3nm,0.2s,baz=55,slow=8.0,SNR=2.2						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**50.53**	**298**	P	**P**	**10 49 48.2**	**-1.5**
	0.2nm,0.3s,baz=40,slow=7.5,SNR=1.9						
	0.2nm,0.3s						

BGR ***25*** *10:41:10.2,17°.62S×176°.55W,h624km±11km*

BJI ***25*** *10:41:12.0±0.0,17°.70S×179°.70W,h610km,mb4.9/62, mB5.2/33*

IDC ***25*** *10:41:13.8±0.5,17°.75S×179°.63W,h631km±5km,mb4.3/24, mbtmp5.2/26,Error ellipse: s-maj=8.2km s-min=8.0km az=141.0*

NOU ***25*** *10:41:14.4,17°.79S×179°.59W,h638km,ML5.1/130,Fiji Islands Region*

NEIC ***25*** *10:41:14.2,17°.76S×179°.73W,h618km*

NEIC ***25*** *10:41:15.0±2.1,17°.79S±0°.09×179°.61W±0°.10, h640km±4km,mb4.8/343,Mwb5.8/24,Mww5.8/26,Error ellipse: s-maj=13.7km s-min=13.0km az=133.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.67; $M_{\theta\theta}$1.03; $M_{\phi\phi}$-0.36; $M_{r\theta}$-0.24; $M_{\theta\phi}$3.76; $M_{\phi r}$-4.40; Fault plane solution: $M_0$5.86000×10^{17} NP1:ϕ_s7.56000°, δ85.57000°,λ-130.77000°. NP2:ϕ_s272.45000°, δ40.97000°,λ-6.76000°. Principal axes: T 5.8287, Plg29.0000°, Azm129.0000°; N 0.0671, Plg41.0000°, Azm11.0000°; P -5.8958, Plg36.0000°, Azm243.0000°;*

NEIC ***25*** *10:41:14.2,17°.46S×179°.63W,h650km,Moment Tensor Solution. Duration: 3§9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30; $M_{\theta\theta}$0.49; $M_{\phi\phi}$-0.19; $M_{r\theta}$0.01; $M_{\theta\phi}$4.11; $M_{\phi r}$-4.02; Fault plane solution: $M_0$5.77000×10^{17} NP1:ϕ_s3.27000°, δ87.68000°,λ-135.77000°. NP2:ϕ_s271.01000°, δ45.82000°,λ-3.23000°. Principal axes: T 5.7195, Plg28.0000°, Azm128.0000°; N 0.0979, Plg46.0000°, Azm6.0000°; P -5.8174, Plg31.0000°, Azm237.0000°;*

NEIC ***25*** *10:41:14.2,17°.76S×179°.73W,h650km*

GCMT ***25*** *10:41:17.0±0.2,17°.73S±0°.02×179°.69W±0°.01, h652km±1km,MW5.9/138,Moment Tensor Solution. s138,c248; s55,c56; Duration: 2§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.43±.07; $M_{\theta\theta}$0.95±.11; $M_{\phi\phi}$-0.51±.11; $M_{r\theta}$-0.27±.12; $M_{\theta\phi}$4.50±.10; $M_{\phi r}$-6.30±.11; Best double couple: $M_0$7.78800×10^{17} NP1:ϕ_s5.00000°, δ88.00000°, λ-126.00000°. NP2:ϕ_s273.00000°, δ36.00000°,*

λ-3.00000°. Principal axes: T 7.6770, Plg33.0000°, Azm125.0000°; N 0.2210, Plg36.0000°, Azm7.0000°; P -7.8980, Plg37.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function

ISC 25 10:41:13.4±0.3,17°.81S±0°.04×179°.57W±0°.03, h627km±2km,h629km:pP-P,n1033,σ1§27/1000,mb4.8/273, 37C-44D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**1.14**	**344**	P	**P**	**10 42 30.0**	**+2.3**
YSA	**Yasawairara**	**2.94**	**292**	P	**P**	**10 42 36.1**	**+1.5**
AFI	**Afiamalu**	**8.44**	**64**	P	**P**	**10 43 16.0**	**-2.0**
AFI	**Afiamalu**	**8.44**	**64**	P	**P**	**10 43 16.0**	**-2.0**
NIUE	**Niue**	**9.24**	**99**	P	**P**	**10 43 26.7**	**+1.2**
	baz=9.3,SNR=30						
NIUE	**Niue**	**9.24**	**99**	P	**P**	**10 43 26.8**	**+1.3**
NIUE	**Niue**	**9.24**	**99**	P	**P**	**10 43 27.3**	**+1.8**
FUNA	**Funafuti**	**9.30**	**352**	P	**P**	**10 43 25.8**	**-0.3**
RAO	**Raoul Island**	**11.49**	**173**	S	**S**	**10 45 51.9**	**-1.3**
	266nm,0.3s,baz=86,slow=22,SNR=5.7						
GLKZ	**Green Lake**	**11.51**	**173**	P	**P**	**10 43 46.7**	**-0.6**
GLKZ				S	S	10 45 43.5	-10
LIFNC	**LIFOU**	**12.80**	**255**	P	**P**	**10 43 59.2**	**-0.6**
LIFNC	**LIFOU**	**12.80**	**255**	P	**P**	**10 44 01.0**	**+1.2**
PINNC	**Pines Island,**	**13.09**	**246**	P	**P**	**10 44 03.1**	**+0.5**
PINNC	**Pines Island,**	**13.09**	**246**	P	**P**	**10 44 03.9**	**+1.3**
YATNC	**Mamie plateau,**	**13.41**	**249**	P	**P**	**10 44 06.7**	**+0.9**
OUENC	**Ouen Island, N**	**13.56**	**248**	P	**P**	**10 44 08.5**	**+1.4**
OUENC	**Ouen Island, N**	**13.56**	**248**	P	**P**	**10 44 07.8**	**+0.6**
DZM	**Mont Dzumac**	**13.81**	**250**	P	**P**	**10 44 11.0**	**+1.3**
DZM	**Mont Dzumac**	**13.81**	**250**	*e*Pn	**P**	**10 44 09.9**	**+0.2**
	568nm,1.2s						
DZM				*e*Sn	**S**	**10 46 32.4**	**-1.3**
	164nm,1.1s						
DZM	**Mont Dzumac**	**13.81**	**250**	P	**P**	**10 44 10.6**	**+0.9**
	175nm,0.6s,baz=101,slow=7.3,SNR=66						
DZM				S	**S**	**10 46 35.4**	**+1.6**
	34nm,1.0s,baz=344,slow=22,SNR=1.8						
ONTNC	**Ouen Toro**	**13.87**	**249**	P	**P**	**10 44 10.8**	**+0.7**
ONTNC	**Ouen Toro**	**13.87**	**249**	P	**P**	**10 44 11.7**	**+1.6**
NOUC	**Port Laguerre**	**13.95**	**250**	P	**P**	**10 44 12.4**	**+1.5**
KOUNC	**Koumac, New Ca**	**15.49**	**257**	P	**P**	**10 44 26.9**	**+1.9**
KOUNC	**Koumac, New Ca**	**15.49**	**257**	P	**P**	**10 44 26.7**	**+1.7**
NFK	**Norfolk Island**	**16.00**	**223**	P	**P**	**10 44 31.8**	**+2.2**
	baz=16,SNR=12						
NFK	**Norfolk Island**	**16.00**	**223**	P	**P**	**10 44 30.3**	**+0.8**
OUZ	**Omahuta**	**18.38**	**198**	P	**P**	**10 44 53.0**	**+1.9**
WCZ	**Waipu Caves**	**18.85**	**195**	P	**P**	**10 44 57.9**	**+2.5**
GRZ	**Great Barrier**	**18.89**	**192**	P	**P**	**10 44 58.5**	**+2.8**
RAR	**Rarotonga**	**18.97**	**104**	P	**P**	**10 44 57.6**	**+0.9**
RAR	**Rarotonga**	**18.97**	**104**	P	**P**	**10 44 58.2**	**+1.5**
RAR	**Rarotonga**	**18.97**	**104**	PKIKP	**P**	**10 44 57.6**	**+0.9**
RAR	**Rarotonga**	**18.97**	**104**	P	**P**	**10 44 57.8**	**+1.2**
	119nm,0.8s,baz=243,slow=7.6,SNR=11						
KUZ	**Kuaotunu**	**19.32**	**191**	P	**P**	**10 45 01.4**	**+1.8**
KUZ	**Kuaotunu**	**19.32**	**191**	P	**P**	**10 45 01.1**	**+1.5**
ABAZ	**Army Bay**	**19.36**	**194**	P	**P**	**10 45 01.1**	**+1.1**
MBAZ	**Motutapu North**	**19.51**	**193**	P	**P**	**10 45 03.4**	**+2.0**
EPAZ	**Eden Park BICE**	**19.65**	**194**	P	**P**	**10 45 04.3**	**+1.8**
MXZ	**Matakaoa Point**	**19.77**	**185**	P	**P**	**10 45 02.4**	**-1.3**
AWAZ	**Awhitu Peninsu**	**19.85**	**194**	P	**P**	**10 45 05.6**	**+1.2**
HAZ	**Te Kaha**	**20.01**	**186**	P	**P**	**10 45 04.3**	**-1.5**
WMGZ	**Waiomatatini S**	**20.02**	**185**	P	**P**	**10 45 05.6**	**-0.3**
TOZ	**Tahuroa Road**	**20.32**	**191**	P	**P**	**10 45 10.6**	**+2.1**
TARA	**Tarawa**	**20.42**	**338**	P	**P**	**10 45 10.5**	**+0.6**
TARA	**Tarawa**	**20.42**	**339**	P	**P**	**10 45 10.4**	**+0.6**
URZ	**Urewera**	**20.58**	**187**	P	**P**	**10 45 10.1**	**-0.9**
	16nm,0.4s,baz=43,slow=2.9,SNR=23						
URZ				S	**S**	**10 48 17.7**	**-4.6**
	10nm,0.6s,baz=86,slow=19,SNR=1.1						
	16nm,0.4s						
RTZ	**Ruatahuna**	**20.95**	**188**	P	**P**	**10 45 13.5**	**-0.9**
HIZ	**Hauiti**	**21.20**	**192**	P	**P**	**10 45 19.1**	**+2.6**
HNR	**Honiara**	**21.56**	**290**	P	**P**	**10 45 19.1**	**-0.9**
HNR	**Honiara**	**21.56**	**290**	P	**P**	**10 45 20.7**	**+0.7**
HNR	**Honiara**	**21.56**	**290**	P	**P**	**10 45 21.0**	**+1.0**
	2µm,0.7s,baz=147,slow=1.3,SNR=6.8						
BKZ	**Black Stump Fm**	**21.56**	**188**	P	**P**	**10 45 19.0**	**-0.7**
BFZ	**Birch Farm**	**23.08**	**188**	P	**P**	**10 45 33.1**	**0.0**
BFZ	**Birch Farm**	**23.08**	**188**	P	**P**	**10 45 33.6**	**+0.4**
MRZ	**Mangatainoka R**	**23.16**	**189**	P	**P**	**10 45 31.9**	**-2.0**
LHI	**Lord Howe Isla**	**23.68**	**231**	P	**P**	**10 45 39.8**	**+1.3**
	baz=24,SNR=9.1						
LHI	**Lord Howe Isla**	**23.68**	**231**	P	**P**	**10 45 37.1**	**-1.5**
LHI	**Lord Howe Isla**	**23.68**	**231**	P	**P**	**10 45 39.6**	**+1.0**
TCW	**Tory Channel**	**23.92**	**192**	P	**P**	**10 45 40.6**	**+0.1**
QRZ	**Quartz Range**	**23.93**	**195**	P	**P**	**10 45 42.2**	**+1.5**
QRZ	**Quartz Range**	**23.93**	**195**	P	**P**	**10 45 42.0**	**+1.3**
SNZO	**South Karori**	**23.94**	**191**	P	**P**	**10 45 41.0**	**+0.4**
NNZ	**Nelson**	**24.11**	**193**	P	**P**	**10 45 41.8**	**-0.4**
MRNZ	**Matariki Terra**	**24.42**	**194**	P	**P**	**10 45 44.8**	**-0.2**
MRNZ				S	**S**	**10 49 21.4**	**-1.2**
THZ	**Tophouse**	**24.73**	**194**	P	**P**	**10 45 47.7**	**-0.1**
THZ				S	**S**	**10 49 23.0**	**-4.7**
DSZ	**Denniston Nort**	**24.98**	**195**	P	**P**	**10 45 50.3**	**+0.3**
DSZ				S	**S**	**10 49 30.4**	**-1.1**
KHZ	**Kahutara**	**25.22**	**192**	P	**P**	**10 45 51.3**	**-0.7**
KHZ				S	**S**	**10 49 31.1**	**-4.0**
LTZ	**Lake Taylor**	**25.84**	**194**	P	**P**	**10 45 56.2**	**-1.3**
LTZ				S	**S**	**10 49 41.1**	**-3.9**
GVZ	**Greta Valley S**	**25.86**	**193**	P	**P**	**10 45 56.6**	**-1.0**
INZ	**Inchbonnie**	**25.99**	**195**	P	**P**	**10 45 58.0**	**-0.7**
INZ				S	**S**	**10 49 43.6**	**-3.5**
OXZ	**Oxford**	**26.41**	**194**	P	**P**	**10 46 02.1**	**-0.5**
OXZ				S	**S**	**10 49 50.2**	**-3.6**
WVZ	**Waitaha Valley**	**26.50**	**196**	P	**P**	**10 46 02.8**	**-0.4**
OKCZ	**Okains Bay**	**26.58**	**192**	P	**P**	**10 46 03.8**	**-0.1**
MQZ	**McQueen's Vall**	**26.64**	**193**	P	**P**	**10 46 03.5**	**-1.0**
MQZ				S	**S**	**10 49 56.4**	**-0.9**
AKCZ	**Akaroa Harbour**	**26.75**	**192**	P	**P**	**10 46 06.3**	**+0.9**
GC1S	**Gold Coast 1 S**	**26.78**	**243**	P	**P**	**10 46 07.2**	**+1.3**
RPZ	**Rata Peaks**	**27.02**	**195**	P	**P**	**10 46 08.5**	**+0.7**
JCZ	**Jackson Bay**	**27.96**	**198**	P	**P**	**10 46 16.9**	**+0.8**
GD1S	**Gladstone Soft**	**27.97**	**253**	P	**P**	**10 46 16.8**	**+0.5**
EIDS	**Eidsvold**	**28.26**	**249**	P	**P**	**10 46 18.7**	**-0.1**
	baz=28,SNR=54						
EIDS	**Eidsvold**	**28.26**	**249**	P	**P**	**10 46 18.8**	**-0.1**
EIDS	**Eidsvold**	**28.26**	**249**	P	**P**	**10 46 19.4**	**+0.5**
ODZ	**Otahua Downs**	**28.37**	**195**	P	**P**	**10 46 19.0**	**-0.5**
ODZ				IAmb	IAmb	10 46 21.4	
	comp=Z,43nm,1.1s						
ODZ	**Otahua Downs**	**28.37**	**195**	P	**P**	**10 46 19.4**	**0.0**
RK1H	**Rockhampton Ha**	**28.53**	**254**	P	**P**	**10 46 21.7**	**+0.5**
PAE	**Paea**	**28.56**	**94**	*e*P	**P**	**10 46 22.4**	**+0.9**
	comp=Z,40nm,0.8s						
PPT2	**Papeete2**	**28.57**	**94**	*e*P	**P**	**10 46 18.2**	**-3.5**
	comp=Z,278nm,26.8s						
PPT2				*e*S	S	10 50 12.9	-15
	comp=Z,562nm,30.0s						
PPT2				*e*sS	**sS**	**10 53 29.8**	**+0.1**
	comp=Z,2µm,25.5s						
PPT2				*e*sS	**SS**	**10 53 31.5**	**-3.6**
	comp=Z,2µm,27.8s						
PPT	**Papeete**	**28.57**	**94**	P	**P**	**10 46 22.8**	**+1.2**
	comp=Z,253nm,0.7s,baz=270,slow=0.7,SNR=31						
PPT				ScP	**ScP**	**10 51 55.4**	**+0.7**
	comp=Z,58nm,0.8s,baz=213,slow=4.9,SNR=7.5						
	comp=Z,253nm,0.7s						
PPTF	**Pamatai, Papee**	**28.58**	**94**	P	**P**	**10 46 22.5**	**+0.8**
PPTF	**Pamatai, Papee**	**28.58**	**94**	P	**P**	**10 46 22.7**	**+1.0**
WKZ	**Wanaka**	**28.59**	**197**	P	**P**	**10 46 20.5**	**-0.9**
TBI	**Tubuai**	**28.69**	**106**	*e*P	**P**	**10 46 24.5**	**+1.9**
	comp=Z,1µm,28.5s						
TBI	**Tubuai**	**28.69**	**106**	*e*P	**P**	**10 46 26.3**	**+3.7**
	comp=Z,417nm,0.9s						
TBI				*e*S	**S**	**10 50 30.2**	**+0.6**
	comp=Z,3µm,26.0s						
TBI				*e*sS	**sS**	**10 53 24.9**	**-6.6**
	comp=Z,1µm,46.5s						
TBI				*e*sS	**SS**	**10 53 36.1**	**-0.8**
	comp=Z,6µm,28.0s						
TIAR	**Tiarei**	**28.79**	**94**	*e*P	**P**	**10 46 24.7**	**+1.2**
	comp=Z,21nm,0.7s						
TVO	**Taravao**	**28.86**	**95**	*e*P	**P**	**10 46 25.4**	**+1.2**
	comp=Z,78nm,0.7s						
ARMA	**Armidale**	**29.04**	**239**	P	**P**	**10 46 26.7**	**+1.0**
	baz=29,SNR=138						
ARMA	**Armidale**	**29.04**	**239**	P	**P**	**10 46 26.6**	**+1.0**
ARMA	**Armidale**	**29.04**	**239**	P	**P**	**10 46 27.1**	**+1.5**
AUPHS	**Peel High Scho**	**29.86**	**238**	P	**P**	**10 46 33.8**	**+1.2**
SYZ	**Scrubby Hill**	**30.14**	**196**	P	**P**	**10 46 35.6**	**+1.0**
MGCD	**Mangrove Creek**	**30.45**	**234**	P	**P**	**10 46 38.7**	**+1.2**
	baz=30,SNR=57						
MGCD	**Mangrove Creek**	**30.45**	**234**	P	**P**	**10 46 38.7**	**+1.2**
PMOR	**Pomariorio Ree**	**30.50**	**89**	*e*P	**P**	**10 46 39.2**	**+1.1**
	comp=Z,268nm,0.8s						
RMQ	**Roma**	**30.51**	**248**	P	**P**	**10 46 38.9**	**+0.7**
	baz=30,SNR=27						
RMQ	**Roma**	**30.51**	**248**	P	**P**	**10 46 39.4**	**+1.2**
RIV	**Riverview**	**30.66**	**233**	P	**P**	**10 46 40.1**	**+0.8**
	baz=31,SNR=8.4						
RIV	**Riverview**	**30.66**	**233**	P	**P**	**10 46 40.0**	**+0.7**
VAH	**Vaihoa**	**30.71**	**90**	*e*P	**P**	**10 46 40.8**	**+0.8**
	comp=Z,143nm,0.8s						
RABL	**Rabaul**	**30.80**	**293**	P	**P**	**10 46 38.7**	**-2.1**
SYDH	**Sydney Hard Ro**	**30.95**	**233**	P	**P**	**10 46 42.2**	**+0.5**
WOLH	**Wollongong Har**	**31.11**	**232**	P	**P**	**10 46 43.6**	**+0.5**
AUAYR	**Ayr State High**	**31.30**	**261**	P	**P**	**10 46 45.3**	**+0.4**
AULRC	**Lightning Ridg**	**31.80**	**243**	P	**P**	**10 46 50.4**	**+1.4**
AUUHS	**Uiladulla High**	**31.81**	**231**	P	**P**	**10 46 50.1**	**+1.1**
TV1H	**Townsville Har**	**31.89**	**262**	P	**P**	**10 46 50.3**	**+0.3**
AUDCS	**Dubbo College**	**32.05**	**237**	P	**P**	**10 46 51.7**	**+0.6**
CTA	**Charters Tower**	**32.37**	**260**	P	**P**	**10 46 54.2**	**+0.2**
CTAO	**Charters Tower**	**32.37**	**260**	P	**P**	**10 46 54.3**	**+0.4**
CTAO	**Charters Tower**	**32.37**	**260**	P	**P**	**10 46 54.4**	**+0.4**
CTAO	**Charters Tower**	**32.37**	**260**	⇓P	**P**	**10 46 54.1**	**+0.1**
CTAO				PcP	**PcP**	**10 49 22.2**	**+0.2**
CNB	**Canberra Magne**	**32.62**	**232**	P	**P**	**10 46 56.9**	**+1.0**
	baz=33,SNR=194						
CNB	**Canberra Magne**	**32.62**	**232**	P	**P**	**10 46 57.2**	**+1.3**
CAN	**Canberra**	**32.89**	**232**	P	**P**	**10 46 58.5**	**+0.3**
CAN	**Canberra**	**32.89**	**232**	P	**P**	**10 46 59.0**	**+0.8**
CAN	**Canberra**	**32.89**	**232**	P	**P**	**10 46 59.0**	**+0.8**
YNG	**Young**	**32.95**	**234**	P	**P**	**10 46 59.8**	**+1.1**
PMG	**Port Moresby**	**33.35**	**280**	P	**P**	**10 47 02.9**	**+0.6**
	comp=Z,196nm,0.6s,baz=83,slow=5.4,SNR=52						
PMG				S	**S**	**10 51 40.1**	**-0.7**
	comp=Z,6.7nm,0.6s,baz=155,slow=20,SNR=1.8						
	comp=Z,196nm,0.6s						
PMG	**Port Moresby**	**33.35**	**280**	⇓P	**P**	**10 47 03.3**	**+1.1**
PMG				pP	**pwP**	**10 48 46.1**	**+0.4**
PMG				PcP	**PcP**	**10 49 25.5**	**+0.7**
PMG				ScP	**ScP**	**10 52 05.2**	**-5.7**
MILA	**Mila**	**33.51**	**229**	P	**P**	**10 47 04.6**	**+1.2**
	baz=34,SNR=37						
MILA	**Mila**	**33.51**	**229**	P	**P**	**10 47 04.4**	**+1.0**
AUSMG	**Snowy Mountain**	**33.63**	**230**	P	**P**	**10 47 05.8**	**+1.4**
CMSA	**Cobar Meteorol**	**34.24**	**240**	P	**P**	**10 47 10.0**	**+0.6**
	baz=34,SNR=492						
CMSA	**Cobar Meteorol**	**34.24**	**240**	P	**P**	**10 47 10.1**	**+0.6**
MTSU	**Mount Surprise**	**34.32**	**264**	P	**P**	**10 47 10.4**	**+0.1**
	baz=34,SNR=140						
MTSU	**Mount Surprise**	**34.32**	**264**	P	**P**	**10 47 10.8**	**+0.5**
QLP	**Quilpie**	**34.53**	**249**	P	**P**	**10 47 12.2**	**+0.2**
	baz=34,SNR=119						
QLP	**Quilpie**	**34.53**	**249**	P	**P**	**10 47 12.6**	**+0.6**
COEN	**Coen**	**35.99**	**271**	P	**P**	**10 47 25.1**	**+0.9**
COEN	**Coen**	**35.99**	**271**	P	**P**	**10 47 25.4**	**+1.2**
MANU	**Manus Island**	**36.03**	**292**	P	**P**	**10 47 25.3**	**+0.8**
MANU	**Manus Island**	**36.03**	**292**	P	**P**	**10 47 25.4**	**+0.9**
GLAD	**Gladstone**	**36.16**	**223**	P	**P**	**10 47 25.4**	**+0.3**
TOO	**Toolangi**	**36.38**	**230**	P	**P**	**10 47 28.0**	**+1.0**
	baz=36,SNR=209						
TOO	**Toolangi**	**36.38**	**230**	P	**P**	**10 47 28.1**	**+1.0**
TOO	**Toolangi**	**36.38**	**230**	P	**P**	**10 47 28.2**	**+1.2**
AULHS	**Lilydale High**	**36.80**	**224**	P	**P**	**10 47 31.9**	**+1.5**
MLBS	**Spotswood, Mel**	**36.91**	**230**	P	**P**	**10

KNRA **Kununurra** 49.40 264 P P 10 49 07.7 -0.4
baz=49,SNR=72
KNRA **Kununurra** 49.40 264 P P 10 49 07.9 -0.2
KNRA **Kununurra** 49.40 264 P P 10 49 08.4 +0.3
FAKI **Fak Fak** 49.47 282 P P 10 49 08.1 -0.6
FAKI IAmb IAmb 10 49 12.5
comp=Z,39nm,0.8s
BNDI **Bandanaira** 51.12 279 P P 10 49 20.5 -0.2
comp=Z,186nm,0.6s
SIJI **Sorong** 51.13 284 P P 10 49 20.4 -0.4
comp=Z,217nm,0.6s,comp=Z,2µm
SWI **Sorong** 51.14 284 P P 10 49 20.7 -0.1
comp=Z,320nm,0.6s,comp=Z,3µm
FITZ **Fitzroy Crossi** 51.95 261 P P 10 49 26.4 -0.1
baz=52,SNR=64
FITZ **Fitzroy Crossi** 51.95 261 P P 10 49 26.4 -0.1
FITZ IAmb IAmb 10 49 28.9
comp=Z,17nm,0.6s
FITZ **Fitzroy Crossi** 51.95 261 P P 10 49 27.1 +0.6
NLAI **Namlea** 54.19 279 P P 10 49 42.4 0.0
comp=Z,82nm,0.6s,comp=Z,5µm
KMBL **Kambalda** 54.36 244 P P 10 49 42.5 -0.8
baz=54,SNR=46
KMBL **Kambalda** 54.36 244 P P 10 49 44.0 +0.6
LBMI **Labuha** 54.71 282 P P 10 49 46.5 +0.4
comp=Z,133nm,0.7s
SOEI **Soe** 54.96 270 P P 10 49 49.1 +1.2
SOEI **Soe** 54.96 270 P P 10 49 48.9 +1.0
SOEI **Soe** 54.96 270 P P 10 49 49.1 +1.2
comp=Z,537nm,0.7s,comp=Z,4µm
TNTI **Ternate** 55.36 284 P P 10 49 50.2 -0.3
TNTI IAmb IAmb 10 49 51.7
comp=Z,85nm,0.9s
TNTI **Ternate** 55.36 284 P P 10 49 50.9 +0.4
TNTI **Ternate** 55.36 284 P P 10 49 51.1 +0.6
comp=Z,97nm,0.8s,comp=Z,1µm
DRV **Dumont d'Urvil** 55.41 198 P P 10 49 50.7 +0.8
SANI **Sanana** 55.63 280 P P 10 49 52.9 +0.5
SANI **Sanana** 55.63 280 P P 10 49 51.7 -0.7
comp=Z,160nm,0.9s,comp=Z,2µm
PSA00 **Pilbara Seismi** 56.86 256 P P 10 50 00.2 -0.6
PSA00 **Pilbara Seismi** 56.86 256 IAmb IAmb 10 50 03.1
comp=Z,82nm,0.8s
PSA00 **Pilbara Seismi** 56.86 256 P P 10 50 00.3 -0.4
MEEK **Meekatharra** 57.43 249 P P 10 50 03.8 -0.7
baz=57,SNR=118
MEEK **Meekatharra** 57.43 249 P P 10 50 04.1 -0.5
EDFI **Ende, Flores** 57.68 271 P P 10 50 05.6 -0.9
comp=Z,137nm,0.8s,comp=Z,2µm
AUALB **St Joseph's Co** 57.70 240 P P 10 50 06.3 +0.1
KLBR **Kellerberrin** 57.88 244 P P 10 50 06.9 -0.6
baz=58,SNR=203
KLBR **Kellerberrin** 57.88 244 P P 10 50 08.0 +0.5
NWAO **Narrogin (SRO)** 58.28 242 P P 10 50 09.5 -0.6
baz=58,SNR=42
NWAO P P 10 50 09.5 -0.6
baz=58,SNR=42
NWAO **Narrogin (SRO)** 58.28 242 P P 10 50 10.1 0.0
NWAO IAmb IAmb 10 50 11.7
comp=Z,46nm,0.8s
NWAO **Narrogin (SRO)** 58.28 242 P P 10 50 09.7 -0.4
NWAO IAmb IAmb 10 50 11.7
comp=Z,148nm,0.8s
NWAO **Narrogin (SRO)** 58.28 242 P P 10 50 10.1 0.0
NWAO **Narrogin (SRO)** 58.28 242 P P 10 50 09.7 -0.4
BASI **Baing, Sumba** 58.36 269 P P 10 50 11.0 +0.1
comp=Z,148nm,1.3s
KMSI **Cibinong** 58.43 282 P P 10 50 12.2 +0.8
comp=Z,299nm,0.7s,comp=Z,4µm
RKGY **Rocky Gully** 58.46 240 P P 10 50 11.3 +0.1
baz=58,SNR=21
RKGY **Rocky Gully** 58.46 240 P P 10 50 12.0 +0.7
BLDU **Ballidu** 58.82 245 P P 10 50 13.0 -0.8
baz=59,SNR=81
BLDU **Ballidu** 58.82 245 P P 10 50 13.5 -0.3
LUWI **Luwuk** 58.99 280 P P 10 50 15.4 +0.3
LUWI **Luwuk** 58.99 280 P P 10 50 15.5 +0.3
LUWI **Luwuk** 58.99 280 P P 10 50 15.5 +0.3
comp=Z,133nm,0.7s,comp=Z,5µm
MUN **Mundaring** 59.18 243 P P 10 50 15.8 -0.4
baz=59,SNR=27
MUN **Mundaring** 59.18 243 P P 10 50 17.1 +0.9
MORW **Morawa** 59.51 246 P P 10 50 17.9 -0.5
baz=59,SNR=13
MORW **Morawa** 59.51 246 P P 10 50 17.7 -0.7
MORW IAmb IAmb 10 50 20.1
comp=Z,83nm,0.7s
MORW **Morawa** 59.51 246 P P 10 50 19.0 +0.6
MTKN **Mount Kenneth** 59.55 243 P P 10 50 19.5 +0.9
BKSI **Bulukumba** 60.13 274 P P 10 50 21.6 -1.1
comp=Z,56nm,0.8s
MRSI **Marisa** 60.30 281 P P 10 50 24.0 +0.2
comp=Z,89nm,0.6s,comp=Z,1µm
SBA **Scott Base** 60.45 183 P P 10 50 26.0 +2.3
VNDA **Vanda** 60.46 185 P P 10 50 25.5 +1.8
VNDA **Vanda** 60.46 185 P P 10 50 24.9 +1.2
comp=Z,9.2nm,0.5s,baz=9.0,slow=8.4,SNR=30
comp=Z,9.2nm,0.5s
VNDA **Vanda** 60.46 185 P P 10 50 25.9 +2.2
KAPI **Kappang** 60.58 274 P P 10 50 25.1 -0.5
KAPI IAmb IAmb 10 50 27.4
comp=Z,31nm,0.7s
DBNI **Kabupaten Domp** 60.96 270 P P 10 50 27.1 -1.1
comp=Z,566nm,0.7s,comp=Z,5µm
TTSI **Tana Toraja** 61.12 276 P P 10 50 29.6 +0.4
comp=Z,46nm,1.0s
PLAI **Plampang** 61.39 270 P P 10 50 31.0 +0.1
PLAI **Plampang** 61.39 270 P P 10 50 30.5 -0.4
comp=Z,296nm,0.7s,comp=Z,2µm
TOLI2 **Tolitoli** 61.61 281 P P 10 50 32.6 +0.3
TOLI2 IAmb IAmb 10 50 36.0
comp=Z,57nm,0.7s
TOLI2 **Tolitoli** 61.61 281 P P 10 50 33.6 +1.3
PMSI **Majene** 61.84 276 P P 10 50 34.8 +0.9
comp=Z,260nm,0.7s,comp=Z,2µm
GIRL **Giralia** 61.86 253 P P 10 50 34.7 +0.9
baz=62,SNR=28
GIRL **Giralia** 61.86 253 P P 10 50 34.7 +0.9
MPSI **Mapaga** 62.16 280 P P 10 50 35.2 -0.7
comp=Z,130nm,0.8s,comp=Z,1µm
TWSI **Taliwang, Sumb** 62.26 269 P P 10 50 36.0 -0.6
comp=Z,312nm,0.8s,comp=Z,3µm
SRBI **Singaraja** 64.03 270 P P 10 50 47.4 -0.4
comp=Z,122nm,0.7s
CCD **Concordia, Ant** 64.70 194 P P 10 50 52.2 +0.8
CCD pP pwP 10 53 03.3 +5.5
BYJI **Banyuwangi** 64.81 269 P P 10 50 53.0 +0.3
comp=Z,171nm,0.7s
JAGI **Jajag, Banyuwa** 64.93 269 P P 10 50 51.6 -1.9
JAGI **Jajag, Banyuwa** 64.93 269 P P 10 50 52.4 -1.1
JAGI **Jajag, Banyuwa** 64.93 269 P P 10 50 52.2 -1.3
comp=Z,229nm,0.8s
ABJI **Asem Bagus** 65.04 270 P P 10 50 53.7 -0.5
comp=Z,131nm,0.8s
BLJI **Banyuglugur** 65.66 269 P P 10 50 57.7 -0.3
comp=Z,231nm,0.7s,comp=Z,3µm
CASY **Casey** 65.77 205 P P 10 50 58.2 +0.5
CASY **Casey** 65.77 205 ⇓P P 10 50 58.4 +0.6
MTKI **Muara Teweh, K** 66.45 277 P P 10 51 04.2 +1.3
KRKI **Karangkates** 66.64 269 P P 10 51 04.3 +0.3
comp=Z,346nm,0.6s
GRJI **Gresik** 66.95 270 P P 10 51 05.9 -0.1
comp=Z,292nm,0.8s
MJAR **Matsushiro Arr** 67.17 324 P P 10 51 05.9 -0.9
comp=Z,19nm,0.7s,baz=157,slow=5.8,SNR=35
comp=Z,19nm,0.7s
MAJO **Matsushiro** 67.17 324 P P 10 51 06.5 -0.4
MAJO IAmb IAmb 10 51 08.6
comp=Z,29nm,0.7s
MAJO **Matsushiro** 67.17 324 P P 10 51 07.1 +0.3
MAJO **Matsushiro** 67.17 324 P P 10 51 06.5 -0.4
MJB9 **Matsu-Tunnel** 67.17 324 P P 10 51 07.5 +0.6
MJB9 IAmb IAmb 10 51 09.6
comp=Z,28nm,0.7s
SJI **Sawahan** 67.41 269 P P 10 51 09.5 +0.6
comp=Z,120nm,0.7s
KKM **Kota Kinabalu** 67.64 284 P P 10 51 10.3 +0.1
KKM **Kota Kinabalu** 67.64 284 P P 10 51 10.7 +0.4
KKM **Kota Kinabalu** 67.64 284 P P 10 51 10.4 +0.1
comp=Z,79nm,0.9s,comp=Z,1µm
NGJI **Ngawi** 67.80 269 P P 10 51 11.7 +0.6
comp=Z,111nm,0.9s
UGM **Wanagama** 68.54 268 P P 10 51 15.7 0.0
UGM **Wanagama** 68.54 268 P P 10 51 15.9 +0.2
UGM **Wanagama** 68.54 268 P P 10 51 15.5 -0.2

ADK **Adak** 69.44 2 P P 10 51 19.7 -0.4
ADK IAmb IAmb 10 51 21.4
comp=Z,43nm,1.3s
GSTR **Great Sitkin T** 69.67 2 P P 10 51 20.9 -0.6
ATKA **Atka Island** 69.87 4 IAmb IAmb 10 51 24.5
comp=Z,48nm,1.1s
ATKA **Atka Island** 69.87 4 P P 10 51 21.9 -0.7
STKI **Sintang** 70.01 277 P P 10 51 25.4 +1.0
comp=Z,86nm,1.0s
SBUM **Sibu** 70.09 279 P P 10 51 25.4 +0.5
SBUM **Sibu** 70.09 279 P P 10 51 25.2 +0.3
comp=Z,16nm,0.7s
KPJI **Karang Pucung** 70.22 268 P P 10 51 25.6 0.0
comp=Z,176nm,0.7s
CMJI **Cimerak** 70.55 268 P P 10 51 26.8 -0.7
comp=Z,129nm,0.7s
ASAJ **Asahikawa** 70.66 332 P P 10 51 27.9 +0.4
comp=Z,26nm,0.7s,baz=210,slow=5.3,SNR=17
comp=Z,26nm,0.7s
YULB **Yu-li** 70.78 303 P P 10 51 27.6 -1.1
NACB **Ninganchiao** 70.94 304 IAmb IAmb 10 51 30.4
comp=Z,49nm,0.9s
NACB **Ninganchiao** 70.94 304 P P 10 51 30.5 +0.9
NIKH **Nikolski High** 71.09 7 P P 10 51 30.1 +0.3
baz=191
SSLB **Suanglung** 71.25 304 P P 10 51 30.8 -0.7
TPUB **Ta-pu** 71.27 303 P P 10 51 31.8 +0.2
BBJI **Bungbulang** 71.40 268 P P 10 51 32.0 -0.6
BBJI **Bungbulang** 71.40 268 P P 10 51 31.5 -1.1
comp=Z,302nm,0.8s,comp=Z,2µm
KSM **Kuching** 71.57 278 P P 10 51 34.7 +1.2
KSM **Kuching** 71.57 278 P P 10 51 33.9 +0.4
comp=Z,141nm,0.8s,comp=Z,1µm
LEM **Lembang** 71.61 269 P P 10 51 34.0 +0.1
comp=Z,347nm,0.7s,comp=Z,3µm
CNJI **Cibinong** 71.94 268 P P 10 51 35.8 +0.2
comp=Z,111nm,0.7s,comp=Z,918nm
UNV **Unalaska Valle** 72.24 8 P P 10 51 36.4 +0.1
baz=193
QSPA **South Pole Qui** 72.25 180 P P 10 51 37.5 +0.9
QSPA **South Pole Qui** 72.25 180 P P 10 51 37.5 +0.9
comp=Z,60nm,0.7s,baz=23,slow=1.2,SNR=81
QSPA S S 11 00 10.3 -0.1
comp=Z,0.9nm,0.2s,baz=134,slow=18,SNR=1.4
comp=Z,60nm,0.7s
CBJI **Citeko** 72.45 269 P P 10 51 38.7 +0.1
comp=Z,313nm,0.7s
DBJI **Dramaga** 72.51 269 P P 10 51 38.8 -0.1
comp=Z,215nm,0.7s
SKJI **Subumi** 72.57 268 P P 10 51 39.9 +0.6
comp=Z,970nm,0.6s,comp=Z,8µm
YSS **Yuzh-Sakhalins** 72.83 334 P P 10 51 40.4 +0.4
YSS IAmb IAmb 10 51 42.7
comp=Z,35nm,0.8s
PET **Petropavlovsk** 73.01 346 P P 10 51 40.5 -0.3
PEA0B **Petropavlovsk-** 73.30 346 P P 10 51 42.3 -0.2
PETK **Petropavlovsk-** 73.30 346 P P 10 51 42.6 +0.1
PETK **Petropavlovsk-** 73.30 346 P P 10 51 41.1 -1.4
comp=Z,24nm,0.9s,baz=123,slow=6.7,SNR=10
comp=Z,24nm,0.9s
FALS **False Pass** 73.67 10 P P 10 51 45.7 +1.2
baz=196
QZH **Quanzhou** 73.69 304 ⇓iP P 10 51 47.5 +2.2
QZH S S 11 00 29.0 +1.7
QZH sS sS 11 04 08.0 -5.5
KSRS **Korea Array** 73.89 319 P P 10 51 45.8 -0.4
comp=Z,4.7nm,0.7s,baz=123,slow=5.7,SNR=16
comp=Z,4.7nm,0.7s
KSAR **Wonju Array Be** 73.91 319 P P 10 51 46.4 +0.1
PPBI **Pangkal Pinang** 74.39 273 P P 10 51 50.1 +0.6
comp=Z,78nm,0.7s,comp=Z,10µm
KASI **Kota Agung** 74.95 269 P P 10 51 51.7 -1.0
comp=Z,446nm,0.8s,comp=Z,3µm
LWLI **Liwa** 75.52 269 P P 10 51 56.9 +0.9
comp=Z,359nm,0.6s
S14K **Fog Glacier** 75.71 11 P P 10 51 57.6 +1.6
baz=200
USRK **Ussuriysk Ar.** 75.91 326 P P 10 51 57.8 +0.5
comp=Z,8.2nm,0.6s,baz=145,slow=3.3,SNR=19
comp=Z,8.2nm,0.6s
DSRI **Dabo** 76.38 274 P P 10 52 03.9 +3.3
comp=Z,39nm,1.1s,comp=Z,5µm
DLV **T Lat** 76.91 287 IAmb IAmb 10 52 06.6
comp=Z,29nm,0.9s
DLV **T Lat** 76.91 287 P P 10 52 04.2 +0.6
NJ2 **Nanjing** 77.02 310 ⇓P P 10 52 04.0 +0.4
NJ2 pmax pmax
comp=Z,23nm,0.8s
NJ2 pmax pmax
comp=Z,670nm,3.7s
SAO **San Andreas Ge** 77.12 44 IAmb IAmb 10 52 06.2
comp=Z,18nm,0.8s
PKM **Mcpherson Peak** 77.21 47 P P 10 52 06.6 +1.7
baz=238
PMPB **Monarch Peak** 77.25 45 IAmb IAmb 10 52 07.2
comp=Z,20nm,0.8s
SMMC **Simmler** 77.31 46 P P 10 52 06.3 +1.1
baz=237
MDJ **Mudanjiang** 77.47 325 P P 10 52 06.5 +0.8
MDJ PcP PcP 10 52 13.5 +0.4
MDJ sP sP 10 55 16.5 -1.1
MDJ S S 11 01 09.5 +2.6
MDJ pmax pmax
comp=Z,47nm,0.9s
MDJ pmax pmax
comp=Z,600nm,5.4s
MDJ **Mudanjiang** 77.47 325 IAmb IAmb 10 52 07.7
comp=Z,33nm,0.8s
MDJ **Mudanjiang** 77.47 325 P P 10 52 06.5 +0.8
BCW **Bitter Crk WRg** 77.52 47 IAmb IAmb 10 52 10.2
comp=Z,24nm,0.7s
MYKOM **Kota Tinggi** 77.78 276 IAmb IAmb 10 52 10.7
comp=Z,29nm,0.6s
MYKOM **Kota Tinggi** 77.78 276 P P 10 52 08.3 +0.2
comp=Z,47nm,0.7s,comp=Z,683nm
PASC **Pasadena Art C** 77.97 48 IAmb IAmb 10 52 10.3
comp=Z,16nm,0.7s
ARVC **Arvin** 78.02 47 P P 10 52 10.0 +1.1
baz=238,SNR=6.8
109C **Camp Elliot, M** 78.10 50 P P 10 52 10.1 +0.7
baz=240
VES **Vestal, Richgr** 78.22 46 P P 10 52 10.4 +0.4
baz=238,SNR=16
Q17K **Contact Creek** 78.28 13 P P 10 52 10.5 +0.6
baz=203
BFSC **Mount Baldy Ra** 78.38 48 P P 10 52 11.8 +0.7
baz=239,SNR=7.8
MURC **Murrieta** 78.39 49 P P 10 52 11.2 +0.2
baz=240
QIZ **Qiongzhong** 78.40 294 P P 10 52 12.3 +1.0
QIZ pP pwP 10 54 23.0 -0.6
QIZ sP sP 10 55 23.3 -0.2
QIZ S S 11 01 18.8 +1.2
QIZ pmax pmax
comp=Z,310nm,10.3s
EDW2 **Edwards Air Fo** 78.48 48 P P 10 52 12.6 +1.1
baz=239,SNR=15
CMB **Columbia Colle** 78.53 44 IAmb IAmb 10 52 13.4
comp=Z,17nm,0.8s
ISA **Isabella, Lake** 78.55 47 IAmb IAmb 10 52 15.8
comp=Z,18nm,0.8s
ISA **Isabella, Lake** 78.55 47 P P 10 52 13.3 +1.4
baz=238,SNR=18
MONP2 **Monument Peak** 78.59 50 P P 10 52 13.6 +1.3
baz=240,SNR=19
M11K **Mekoryuk** 78.66 7 P P 10 52 12.9 +1.3
baz=193
IKP **In-Ko-Pah, Jac** 78.70 50 P P 10 52 14.1 +1.3
baz=240,SNR=9.2
DL2 **Dalian** 78.76 317 P P 10 52 13.0 +0.3
DL2 S S 11 01 22.0 +1.5
DL2 pmax pmax
comp=Z,38nm,0.7s
N14K **Kuskokwak Cree** 78.81 9 P P 10 52 13.7 +1.2
baz=197
PFO **Pinyon Flats O** 78.93 49 P P 10 52 14.7 +0.8
baz=240
TPFO **Pinon Flats** 78.93 49 P P 10 52 14.4 +0.4
baz=240
P17K **Kvichak River** 79.03 12 P P 10 52 14.6 +1.0
baz=202
SWSC **Sam W. Stewart** 79.08 50 P P 10 52 15.2 +0.6
baz=240
O16K **Kokwok River B** 79.09 11 P P 10 52 14.5 +0.5
baz=201
YBH **Yreka Blue Hor** 79.15 40 IAmb IAmb 10 52 17.1
comp=Z,74nm,1.8s

SNY **Shenyang** 79.20 320 ⇓P P 10 52 15.0 0.0
SNY pmax pmax
comp=Z,11nm,0.7s
CWC **Cottonwood Cre** 79.23 46 P P 10 52 16.3 +0.8
baz=238
CN2 **Changchun** 79.27 323 P P 10 52 15.8 +0.5
CN2 pmax pmax
comp=Z,30nm,1.1s
N15K **Kwethluk River** 79.29 10 P P 10 52 16.9 +1.8
baz=199
MLAC **Mammoth, Mammo** 79.34 45 P P 10 52 17.9 +1.7
baz=238,SNR=6.2
BNX **BinXian** 79.38 325 ⇓P P 10 52 15.8 0.0
BNX pmax pmax
comp=Z,47nm,0.8s
BNX pmax pmax
comp=Z,580nm,4.0s
WAKR **Walker** 79.41 44 IAmb IAmb 10 52 18.3
comp=Z,20nm,0.9s
MPMC **Manual Prospec** 79.44 47 P P 10 52 17.8 +1.1
baz=239
O17K **Koliganek Bris** 79.44 11 P P 10 52 16.8 +1.0
baz=202
TIN **Tinemaha, Big** 79.45 46 P P 10 52 18.0 +1.4
baz=238
BELC **Belle Mtn. Jos** 79.45 49 P P 10 52 18.2 +1.5
baz=240,SNR=10
P18K **Big Mountain,** 79.45 12 P P 10 52 15.8 -0.1
P18K IAmb IAmb 10 52 19.0
comp=Z,28nm,0.8s
P18K **Big Mountain,** 79.45 12 P P 10 52 16.2 +0.2
baz=204
SLBS **Sierra La Lagu** 79.48 61 P P 10 52 18.6 +1.6
SLBS IAmb IAmb 10 52 21.4
comp=Z,24nm,0.7s
GSC **Goldstone, Bar** 79.53 48 P P 10 52 18.1 +1.1
baz=239,SNR=5.2
M14K **Bethel** 79.56 9 P P 10 52 17.1 +0.7
baz=197
PNTR **Pine Nut** 79.62 43 IAmb IAmb 10 52 21.5
comp=Z,32nm,0.7s
HEC **Hector,Ludlow** 79.62 48 P P 10 52 17.8 +0.3
baz=240,SNR=8.1
WHN **Wuhan** 79.65 307 ⇑P P 10 52 18.8 +1.2
WHN pmax pmax
comp=Z,62nm,0.9s
BC3 **Big Chuckawall** 79.68 50 P P 10 52 19.3 +1.5
baz=241
M15K **Kasigluk River** 79.70 9 P P 10 52 18.2 +1.1
baz=198
N16K **Nishlik Lake** 79.80 10 P P 10 52 19.9 +2.1
baz=200
YERR **Yerington** 79.80 43 IAmb IAmb 10 52 21.8
comp=Z,21nm,0.7s
QSM **Queen of Sheba** 79.82 47 IAmb IAmb 10 52 20.2
comp=Z,48nm,1.7s
O18K **Koktuh Hills** 79.88 12 P P 10 52 20.4 +2.2
baz=204
LHV **Little Huntoon** 79.89 44 IAmb IAmb 10 52 21.2
comp=Z,19nm,0.8s
BKNI **Bangkinang** 79.99 274 P P 10 52 20.9 +1.1
GRAC **Grapevine Rang** 80.01 46 IAmb IAmb 10 52 21.8
comp=Z,79nm,1.6s
GRAC **Grapevine Rang** 80.01 46 P P 10 52 20.9 +1.5
baz=239,SNR=12
L14K **Kuka Creek** 80.03 8 P P 10 52 20.7 +1.9
baz=196
GWY **Greenwater Val** 80.07 47 IAmb IAmb 10 52 23.0
comp=Z,15nm,0.7s
FURC **Furnace Creek,** 80.08 47 P P 10 52 20.8 +1.1
baz=239
GMRC **Granite Mounta** 80.08 49 P P 10 52 20.9 +0.9
baz=240
NVAR **Mina Array Bea** 80.12 44 P P 10 52 20.9 +0.6
comp=Z,9.4nm,0.7s,baz=225,slow=8.3,SNR=34
comp=Z,9.4nm,0.7s
N17K **Nushagak Hills** 80.13 11 P P 10 52 21.3 +1.9
baz=202
IRM **Iron Mountain** 80.15 49 P P 10 52 21.3 +1.1
baz=241,SNR=9.5
PDSI **Padang** 80.17 272 P P 10 52 19.8 -0.9
comp=Z,89nm,0.6s
SHOC **Shoshone, Teco** 80.20 47 P P 10 52 21.3 +0.9
baz=240
TUQ **Turquoise Moun** 80.22 48 P P 10 52 21.7 +1.0
baz=240,SNR=5.9
M16K **Timber Creek** 80.28 10 IAmb IAmb 10 52 24.2
comp=Z,29nm,1.1s
M16K **Timber Creek** 80.28 10 P P 10 52 22.5 +2.3
baz=200
K13K **Kusilvak Mount** 80.35 7 P P 10 52 22.7 +2.2
baz=194
TIA **Tai'an** 80.36 313 P P 10 52 21.8 +0.6
TIA pmax pmax
comp=Z,14nm,0.8s
O19K **Port Alsworth** 80.38 12 IAmb IAmb 10 52 23.1
comp=Z,34nm,0.8s
O19K **Port Alsworth** 80.38 12 P P 10 52 21.5 +0.8
baz=204
WCT **Wildcat Mounta** 80.41 46 IAmb IAmb 10 52 23.9
comp=Z,28nm,1.5s
GULI **GuiLin** 80.50 300 ⇓P P 10 52 18.5 -3.7
GULI PcP PcP 10 52 21.5 -5.3
GULI S SKSac 11 01 39.8 -1.9
GULI pmax pmax
comp=Z,20nm,0.9s
GULI pmax pmax
comp=Z,440nm,4.9s
GULI LR LR
comp=N,370nm,20.6s
GULI LR LR
comp=E,420nm,22.2s
GULI LR LR
comp=Z,500nm,24.4s
N18K **Kilae Creek** 80.51 12 P P 10 52 22.1 +0.6
baz=203
L15K **Ungalak Mounta** 80.52 9 P P 10 52 22.1 +0.7
baz=198
KVN **Kaiserville** 80.59 44 IAmb IAmb 10 52 24.4
comp=Z,70nm,1.7s
TPNV **Topopah Spring** 80.75 46 P P 10 52 24.6 +1.2
baz=240,SNR=8.8
BRSE **Bradley Lake S** 80.76 14 P P 10 52 25.0 +2.3
baz=206
MA2 **Magadan** 80.81 345 P P 10 52 21.9 -1.0
comp=Z,14nm,0.8s,baz=143,slow=3.6,SNR=5.8
comp=Z,14nm,0.8s
NEE2 **Needles Airpor** 80.82 49 P P 10 52 25.0 +1.4
baz=241
214A **Organ Pipe Nat** 80.83 52 P P 10 52 24.9 +1.1
baz=242,SNR=5.4
L16K **Owhat River** 80.85 10 IAmb IAmb 10 52 26.6
comp=Z,29nm,1.1s
L16K **Owhat River** 80.85 10 P P 10 52 24.5 +1.4
baz=199
M17K **Holitna River** 80.90 11 IAmb IAmb 10 52 27.3
comp=Z,36nm,1.1s
M17K **Holitna River** 80.90 11 P P 10 52 24.6 +1.2
baz=201
N19K **Bonanza Creek** 80.91 12 P P 10 52 24.7 +1.1
baz=204
J05D **Fort Rock, OR** 80.94 39 P P 10 52 25.3 +1.1
PDMCI **Parker Dam,Lak** 80.94 50 P P 10 52 25.6 +1.3
baz=241,SNR=7.2
K15K **Wolf Creek Mou** 81.10 8 P P 10 52 25.6 +1.2
baz=197
H04A **Detroit Lake** 81.18 37 P P 10 52 25.6 +0.3
H04A IAmb IAmb 10 52 27.7
comp=Z,21nm,0.6s
J14K **Nanvaranak Lak** 81.27 7 P P 10 52 26.3 +1.1
baz=196
M18K **Stony River** 81.27 11 P P 10 52 26.6 +1.4
baz=203
SISI **Saibi** 81.35 271 P P 10 52 28.9 +2.1
comp=Z,54nm,0.7s
PINE **Pine Mountain** 81.40 39 IAmb IAmb 10 52 30.6
comp=Z,30nm,0.7s
L17K **Donlin** 81.44 10 P P 10 52 27.3 +1.2
baz=200
S11A **Rachel** 81.45 46 IAmb IAmb 10 52 30.3
comp=Z,29nm,0.7s
N20K **Mount Spurr** 81.73 13 P P 10 52 28.5 +0.8
baz=206
L18K **Granite Mounta** 81.79 11 IAmb IAmb 10 52 55.7
comp=Z,51nm,1.8s
L18K **Granite Mounta** 81.79 11 P P 10 52 28.8 +0.9
baz=202
PRN **Pahroc Range** 81.81 47 IAmb IAmb 10 52 31.1

comp=Z,23nm,0.7s
HOOD Mount Hood Mea 81.86 37 IAmb IAmb 10 52 33.3
comp=Z,24nm,0.7s
BMN Battle Mountai 81.89 43 IAmb IAmb 10 52 31.1
comp=Z,16nm,0.7s
R11B Troy Canyon, C 81.91 46 P **P** **10 52 29.8 +0.4**
baz=240
KULM Kulim 81.92 278 IAmb IAmb 10 52 32.5
comp=Z,23nm,0.6s
KULM Kulim 81.92 278 P **P** **10 52 30.3 +0.6**
comp=Z,36nm,0.7s,comp=Z,547nm
M19K Big River Lodg 81.93 12 P **P** **10 52 28.4 -0.2**
M19K IAmb IAmb 10 53 16.1
comp=Z,40nm,1.8s
M19K Big River Lodg 81.93 12 P **P** **10 52 28.9 +0.3**
baz=204
K17K Iditarod 81.99 10 P **P** **10 52 29.9 +1.0**
baz=200
WVOR Wild Horse Val 82.05 41 IAmb IAmb 10 52 31.9
comp=Z,16nm,0.8s
L19K White Mountain 82.09 11 IAmb IAmb 10 52 33.2
comp=Z,17nm,0.8s
L19K White Mountain 82.09 11 P **P** **10 52 30.6 +1.2**
baz=204
M20K Styx River 82.16 12 P **P** **10 52 30.6 +0.7**
baz=205
J16K Anvik River 82.18 9 P **P** **10 52 30.9 +1.1**
baz=198
RC01 Rabbit Creek A 82.19 14 P **P** **10 52 29.8 -0.1**
baz=209
HEH HeiHe 82.25 329 *e*P **P** **10 52 29.5 -1.0**
HEH pmax pmax
comp=Z,14nm,0.7s
HEH pmax pmax
comp=Z,260nm,3.9s
SUA Susitna One 82.29 14 P **P** **10 52 30.4 -0.2**
SUA IAmb IAmb 10 52 33.6
comp=Z,16nm,0.8s
SUA Susitna One 82.29 14 P **P** **10 52 30.6 0.0**
baz=208
G06A Carlson Farm, 82.40 38 IAmb IAmb 10 55 44.3
comp=Z,56nm,1.9s
I07A Izee 82.42 39 IAmb IAmb 10 52 35.1
comp=Z,20nm,0.7s
TUC Tucson 82.52 53 P **P** **10 52 32.9 +0.6**
baz=244
L20K Farewell, AK 82.55 12 P **P** **10 52 32.1 +0.3**
baz=205
TTA Tatalina 82.57 11 P **P** **10 52 32.3 +0.4**
TTA IAmb IAmb 10 54 48.6
comp=Z,31nm,1.5s
TTA Tatalina 82.57 11 P **P** **10 52 32.1 +0.2**
TTA Tatalina 82.57 11 P **P** **10 52 31.8 -0.2**
baz=203
LON Longmire 82.60 36 IAmb IAmb 10 54 41.0
comp=Z,50nm,1.9s
HNS HongShan 82.64 313 ⇓P **P** **10 52 33.3 +0.6**
HNS pmax pmax
comp=Z,16nm,1.4s
J08A Circle Bar Ran 82.65 40 P **P** **10 52 34.0 +1.1**
J08A IAmb IAmb 10 52 35.4
comp=Z,36nm,1.4s
I17K Unalakleet 82.74 8 P **P** **10 52 32.7 +0.1**
baz=198
Q12A Willow Creek R 82.77 45 IAmb IAmb 10 52 37.3
comp=Z,19nm,0.7s
PMR Palmer 82.77 14 P **P** **10 52 32.5 -0.3**
baz=209
PSI Prapat 82.77 275 P **P** **10 52 33.8 -0.3**
PSI Prapat 82.77 275 P **P** **10 52 33.0 -1.1**
comp=Z,62nm,0.8s,comp=Z,530nm
KNK Knik Glacier 82.77 15 P **P** **10 52 32.5 -0.4**
baz=210
PGC Sidney 82.84 34 P **P** **10 52 34.7 +1.3**
PGC IAmb IAmb 10 54 20.2
comp=Z,66nm,1.4s
LYN LuoYang 82.91 310 ⇓P **P** **10 52 34.5 +0.4**
LYN pP pwP 10 54 48.8 +0.4
LYN PP **PP** **10 55 56.5 -0.6**
LYN SKS **SKSac** **11 01 56.0 -1.0**
LYN S **SKKSac** **11 02 05.0 +2.0**
LYN sS sS 11 05 53.3 -2.8
LYN pmax pmax
comp=Z,80nm,0.9s
LYN pmax pmax
comp=Z,330nm,5.5s
BJT Baijiatuan 82.93 316 P **P** **10 52 34.2 +0.1**
BJI Beijing 82.94 316 P **P** **10 52 34.5 +0.4**
BJI pmax pmax
comp=Z,12nm,1.3s
J18K Innoko River 82.95 10 IAmb IAmb 10 52 36.6
comp=Z,21nm,1.4s
J18K Innoko River 82.95 10 P **P** **10 52 33.7 0.0**
baz=202
X16A Lo Mia Camp, P 82.97 51 IAmb IAmb 10 52 37.4
comp=Z,20nm,1.0s
GHO Glory Hole Cre 82.97 14 IAmb IAmb 10 52 36.8
comp=Z,20nm,0.8s
F07A Phinny Hill Vi 83.18 37 IAmb IAmb 10 52 36.9
comp=Z,9.3nm,0.6s
CUT Chulitna 83.23 13 P **P** **10 52 34.8 -0.3**
baz=208
H16K Elim 83.26 7 P **P** **10 52 35.4 +0.2**
baz=197
319A Douglas 83.26 54 IAmb IAmb 10 52 40.4
comp=Z,15nm,0.7s
PPLA Purkeypile 83.26 12 P **P** **10 52 36.0 +0.5**
baz=206
M23K Glacier View 83.28 15 P **P** **10 52 35.9 +0.5**
baz=210
U15A North Rim 83.28 49 IAmb IAmb 10 52 38.8
comp=Z,15nm,0.7s
ENH Enshi 83.30 305 P **P** **10 52 36.6 +0.4**
ENH Enshi 83.30 305 P **P** **10 52 36.5 +0.3**
K20K Telida 83.32 11 IAmb IAmb 10 54 52.3
comp=Z,35nm,1.4s
K20K Telida 83.32 11 P **P** **10 52 36.2 +0.7**
baz=204
U33K Whale Pass 83.35 24 P **P** **10 52 37.3 +1.5**
baz=224
MXC Moxie City 83.36 37 IAmb IAmb 10 53 44.6
comp=Z,26nm,1.7s
BMRM Bremner River 83.37 16 P **P** **10 52 36.0 +0.1**
baz=213
G15K Niukluk 83.39 7 P **P** **10 52 35.6 -0.3**
baz=195
SCM Sheep Creek Mo 83.41 15 P **P** **10 52 36.4 +0.3**
baz=211
G08A Pilot Rock 83.41 38 P **P** **10 52 36.9 +0.3**
G08A IAmb IAmb 10 52 40.0
comp=Z,13nm,0.6s
SEY Seymchan 83.43 347 P **P** **10 52 35.4 -0.7**
comp=Z,20nm,0.8s,baz=143,slow=6.3,SNR=55
comp=Z,20nm,0.8s
KLU Klutina 83.47 16 P **P** **10 52 36.7 +0.3**
baz=212
WUAZ Wupatki 83.52 50 P **P** **10 52 38.2 +0.8**
baz=243
MAW Mawson 83.58 200 P **P** **10 52 37.9 +1.0**
baz=84,SNR=51
MAW Mawson 83.58 200 P **P** **10 52 37.3 +0.4**
comp=Z,53nm,0.7s,baz=133,slow=6.4,SNR=54
comp=Z,53nm,0.7s
TNA Tin City 83.58 5 P **P** **10 52 37.5 +0.8**
baz=191
GSI Gunungsitoli 83.59 273 P **P** **10 52 38.6 +0.6**
GSI Gunungsitoli 83.59 273 P **P** **10 52 38.8 +0.8**
comp=Z,159nm,0.7s,comp=Z,6µm
E07A Sunnyside 83.60 37 IAmb IAmb 10 52 39.2
comp=Z,15nm,0.7s
J19K Poorman 83.62 10 P **P** **10 52 37.7 +0.7**
baz=203
F14K Arctic Creek 83.63 6 P **P** **10 52 38.0 +1.0**
baz=193
HAWA Hanford 83.69 37 IAmb IAmb 10 52 39.6
comp=Z,16nm,0.8s
PKCU Pink Cliffs 83.74 48 IAmb IAmb 10 52 41.7
comp=Z,63nm,1.7s
CAST Castle Rocks 83.75 12 IAmb IAmb 10 52 39.8
comp=Z,14nm,0.8s
CAST Castle Rocks 83.75 12 P **P** **10 52 36.7 -1.0**
baz=206
H17K Granite Mounta 83.85 8 P **P** **10 52 38.5 +0.4**
baz=199
N25K Chitina, Valde 83.90 16 IAmb IAmb 10 52 41.3
comp=Z,16nm,0.8s
N25K Chitina, Valde 83.90 16 P **P** **10 52 38.6 +0.1**
baz=213
DUN6 Lazy B Ranch 83.91 53 IAmb IAmb 10 52 45.1
comp=Z,25nm,0.6s
NONG Nongkai 83.92 291 P **P** **10 52 39.6 +0.1**
M24K Tolsona, Glenn 83.92 15 P **P** **10 52 38.3 -0.3**
baz=212
WAT6 Susitna Watana 83.95 14 P **P** **10 52 38.5 -0.3**
baz=210
SRIT Nakonsritamara 83.97 281 P **P** **10 52 40.7 +0.9**
G16K Koyuk River 83.97 7 P **P** **10 52 38.7 +0.1**
baz=196
GLB Gilahina Butte 83.98 16 IAmb IAmb 10 52 41.4
comp=Z,11nm,0.7s
WAT1 Susitna Watana 83.98 14 P **P** **10 52 38.8 -0.1**
baz=210
E08A Dider Farm, El 84.02 37 IAmb IAmb 10 52 43.1
comp=Z,16nm,0.6s
F15K North Star Dit 84.02 6 P **P** **10 52 38.4 -0.5**
baz=194
GYA Guiyang 84.02 300 ⇓*i*P **P** **10 52 40.3 +0.3**
GYA pP pwP 10 54 54.5 -1.0
GYA PP **PP** **10 56 03.0 -3.4**
GYA SKS **SKSac** **11 02 05.0 +0.3**
GYA S **S** **11 02 14.5 +0.6**
GYA SS **SS** **11 08 05.0 +2.5**
GYA pmax pmax
comp=Z,26nm,0.8s
GYA pmax pmax
comp=Z,270nm,6.0s
J20K Nowinta River 84.05 11 P **P** **10 52 39.0 -0.1**
baz=204
KCSI Kotacane, Aceh 84.09 276 P **P** **10 52 40.1 -0.4**
comp=Z,53nm,0.6s,comp=Z,3µm
GCSA Galena City Sc 84.12 10 P **P** **10 52 39.1 -0.3**
baz=202
SURA Surathani 84.12 282 P **P** **10 52 41.8 +1.2**
TRF Thorofare Moun 84.15 13 P **P** **10 52 39.0 -0.8**
TRF IAmb IAmb 10 52 42.8
comp=Z,17nm,0.9s
TRF Thorofare Moun 84.15 13 P **P** **10 52 39.3 -0.6**
baz=208
NAYO Nakonayok 84.27 287 P **P** **10 52 42.2 +0.9**
H18K Honhosa River 84.27 9 P **P** **10 52 39.7 -0.5**
baz=200
CTG Chitna Glacier 84.27 18 P **P** **10 52 40.1 -0.4**
baz=216
G17K Kiwalik Mounta 84.29 8 P **P** **10 52 39.5 -0.8**
baz=198
P29M Windy Craggy 84.32 20 P **P** **10 52 39.6 -0.9**
baz=220
HPIG 84.33 60 IAmb IAmb 10 52 44.3
comp=Z,26nm,1.5s
TIY Taiyuan 84.38 312 P **P** **10 52 42.0 +0.6**
TIY PP **PP** **10 56 03.8 -5.1**
TIY S **S** **11 02 23.5 +6.7**
TIY pmax pmax
comp=Z,45nm,0.8s
R32K Eaglecrest 84.40 22 P **P** **10 52 40.7 -0.2**
baz=223
D08A Wollman Farm, 84.41 37 IAmb IAmb 10 52 43.0
comp=Z,12nm,0.7s
HARP HAARP 84.43 15 P **P** **10 52 40.8 -0.2**
baz=213
DHY Denali Highway 84.47 14 P **P** **10 52 40.8 -0.6**
baz=211
E09A Wood Farm, Sta 84.56 38 IAmb IAmb 10 52 46.0
comp=Z,45nm,1.9s
BPAW Bear Paw Mtn. 84.58 12 P **P** **10 52 40.8 -1.0**
baz=207
DUG Duguay, Tooele 84.69 45 P **P** **10 52 42.2 -0.8**
baz=242
MCK McKinley 84.69 13 P **P** **10 52 42.7 +0.4**
baz=209
F10A Beach Ranch, E 84.80 38 P **P** **10 52 43.2 -0.1**
F10A IAmb IAmb 10 52 46.8
comp=Z,22nm,0.7s
PAX Paxson 84.83 15 P **P** **10 52 42.7 -0.4**
baz=212
121A Cookes Peak, D 84.90 54 IAmb IAmb 10 52 48.7
comp=Z,29nm,1.7s
121A Cookes Peak, D 84.90 54 P **P** **10 52 43.3 -0.9**
baz=245
121A Cookes Peak, D 84.90 54 P **P** **10 52 45.6 +1.4**
baz=245
H19K Roundabout Mou 84.91 9 IAmb IAmb 10 55 01.1
comp=Z,41nm,1.7s
H19K Roundabout Mou 84.91 9 P **P** **10 52 42.9 -0.3**
baz=202
G18K Tagagawik 84.93 8 P **P** **10 52 42.8 -0.6**
baz=200
XLT XiLinHaoTe 84.94 319 ⇑*i*P **P** **10 52 44.5 +0.5**
XLT pmax pmax
comp=Z,16nm,0.7s
XLT pmax pmax
comp=Z,310nm,4.6s
P30M Million Dollar 84.95 20 P **P** **10 52 43.5 -0.2**
baz=220
M26K Nabesna, AK 84.99 16 P **P** **10 52 44.0 +0.2**
baz=215
YUK8 Steele Glacier 84.99 18 P **P** **10 52 43.7 -0.3**
baz=218
F17K Baldwin Pennin 85.11 7 IAmb IAmb 10 55 02.0
comp=Z,41nm,1.6s
F17K Baldwin Pennin 85.11 7 P **P** **10 52 44.5 +0.4**
baz=198
H20K Anotleneega Mo 85.13 10 P **P** **10 52 44.2 -0.2**
baz=204
YUK6 Outpost Mounta 85.15 19 P **P** **10 52 44.6 -0.2**
baz=219
YUK3 Moose Creek 85.18 18 P **P** **10 52 44.4 -0.5**
baz=217
M27K Edge Creek, AK 85.25 17 IAmb IAmb 10 52 48.3
comp=Z,12nm,0.9s
M27K Edge Creek, AK 85.25 17 P **P** **10 52 46.2 +1.1**
baz=216
HLID Hailey 85.28 41 P **P** **10 52 46.4 +0.6**
HLID Hay 85.28 41 P **P** **10 52 46.3 +0.5**
baz=240,SNR=20
XAN Xi'an 85.32 308 ⇓P **P** **10 52 47.0 +1.0**
XAN pP pwP 10 55 01.5 +0.1
XAN SKS **SKSac** **11 02 13.3 +1.0**
XAN S **ScS** **11 02 29.5 -2.8**
XAN pmax pmax
comp=Z,71nm,1.2s
HYT Haines Junctio 85.32 19 P **P** **10 52 46.2 +0.7**
baz=220
I21K Tanana 85.36 11 IAmb IAmb 10 54 16.8
comp=Z,25nm,0.6s
I21K Tanana 85.36 11 P **P** **10 52 45.9 +0.6**
baz=206
TMUT Trail Mountain 85.36 46 IAmb IAmb 10 52 51.8
comp=Z,12nm,0.6s
ZAIG Zacatecas 85.37 64 IAmb IAmb 10 52 50.2
comp=Z,21nm,1.5s
YUK4 Talbot Arm 85.37 18 P **P** **10 52 46.5 +0.7**
baz=219
G19K Purcell Mounta 85.39 9 P **P** **10 52 45.9 +0.3**
baz=202
S34M Telegraph Cree 85.39 24 IAmb IAmb 10 52 49.7
comp=Z,13nm,0.7s
S34M Telegraph Cree 85.39 24 P **P** **10 52 46.8 +1.1**
baz=226
L26K Log Cabin Wild 85.41 16 P **P** **10 52 45.5 -0.2**
baz=214
NEA2 Nenana 85.42 13 P **P** **10 52 46.0 +0.3**
baz=209
MLY Manley 85.47 12 IAmb IAmb 10 55 02.6
comp=Z,25nm,1.7s
MLY Manley 85.47 12 P **P** **10 52 45.5 -0.5**
baz=208
K24K Donnelly Dome 85.47 14 P **P** **10 52 46.7 +0.7**
baz=212
HVU Hansel Valley 85.47 44 P **P** **10 52 47.1 +0.4**
HVU IAmb IAmb 10 52 50.0
comp=Z,14nm,0.6s
BVCY Beaver Creek 85.58 17 P **P** **10 52 46.9 +0.3**
baz=217
MLSI Meulaboh, Aceh 85.61 276 P **P** **10 52 48.2 +0.4**
comp=Z,135nm,0.7s
RIDG Independent Ri 85.64 15 IAmb IAmb 10 52 49.8
comp=Z,15nm,1.1s
RIDG Independent Ri 85.64 15 P **P** **10 52 47.1 +0.3**
baz=213
H21K Melozitna Rive 85.64 11 IAmb IAmb 10 55 06.2
comp=Z,27nm,1.9s
H21K Melozitna Rive 85.64 11 P **P** **10 52 47.3 +0.5**
baz=206
P32M Atlin 85.65 21 P **P** **10 52 47.4 +0.4**
baz=223
Q32M Nakina River 85.71 22 P **P** **10 52 47.8 +0.3**
baz=225
HDA Harding Lake 85.72 14 IAmb IAmb 10 55 05.2
comp=Z,27nm,1.6s
HDA Harding Lake 85.72 14 P **P** **10 52 46.3 -0.9**
baz=211
O30N Mendenhall 85.73 20 P **P** **10 52 47.5 +0.1**
baz=221
CCB Clear Creek Bu 85.73 13 P **P** **10 52 46.0 -1.2**
SRU San Rafael Swe 85.75 47 IAmb IAmb 10 52 51.4
comp=Z,12nm,0.6s
L27K Beaver Creek, 85.84 16 P **P** **10 52 47.8 0.0**
baz=216
I23K Minto, Yukon-K 85.84 12 IAmb IAmb 10 55 11.9
comp=Z,23nm,1.6s
I23K Minto, Yukon-K 85.84 12 P **P** **10 52 47.5 -0.1**
baz=209
COLA College 85.92 13 P **P** **10 52 46.4 -1.7**
COLA IAmb IAmb 10 52 49.8
comp=Z,14nm,0.8s
COLA College 85.92 13 P **P** **10 52 47.4 -0.6**
F19K Shaleruckik Mo 85.94 8 IAmb IAmb 10 55 12.3
comp=Z,20nm,1.6s
F19K Shaleruckik Mo 85.94 8 P **P** **10 52 48.1 0.0**
baz=201
N30M Aishikik Lake 85.94 19 P **P** **10 52 48.2 -0.1**
baz=220
IL31 86.04 13 P **P** **10 52 47.2 -1.4**
IL31 IAmb IAmb 10 55 17.4
comp=Z,37nm,1.6s
ILAR Eielson Array 86.04 13 P **P** **10 52 46.7 -1.9**
ILAR Eielson Array 86.04 13 P **P** **10 52 47.2 -1.4**
comp=Z,3.1nm,0.7s,baz=212,slow=6.2,SNR=26
ILAR pP **pwP** **10 55 03.4 -0.9**
comp=Z,2.8nm,1.0s,baz=230,slow=4.5,SNR=4.2
ILAR S **SKSac** **11 02 12.9 -2.3**
comp=Z,0.1nm,0.5s,baz=234,slow=13,SNR=1.0
comp=Z,3.1nm,0.7s
SCRK Sand Creek 86.04 15 IAmb IAmb 10 53 05.2
comp=Z,22nm,1.8s
SCRK Sand Creek 86.04 15 P **P** **10 52 48.6 -0.3**
baz=214
NEW Newport 86.08 36 P **P** **10 52 49.1 -0.2**
NEW Newport 86.08 36 P **P** **10 52 48.6 -0.7**
baz=238
Y22A Socorro 86.11 53 P **P** **10 52 51.1 +1.2**
baz=246
H22K Ishtalitna Cre 86.11 11 P **P** **10 52 48.5 -0.5**
baz=207
DLBC Dease Lake 86.18 24 P **P** **10 52 49.4 -0.1**
baz=227
POKR Poker Plat Res 86.22 13 P **P** **10 52 49.5 0.0**
baz=211
J25K Salcha River, 86.25 14 IAmb IAmb 10 52 51.5
comp=Z,37nm,1.9s
J25K Salcha River, 86.25 14 P **P** **10 52 49.7 -0.1**
baz=212
M29M Somme Creek 86.29 18 IAmb IAmb 10 55 07.2
comp=Z,46nm,1.9s
M29M Somme Creek 86.29 18 P **P** **10 52 49.7 -0.3**
baz=219
G21K Allakaket 86.30 10 IAmb IAmb 10 55 09.8
comp=Z,25nm,1.6s
G21K Allakaket 86.30 10 P **P** **10 52 49.8 -0.1**
baz=205
HHC Hu-ho-hao-te 86.41 315 *e*P **P** **10 52 52.3 +1.2**
HHC pP pP 10 55 04.0 +0.3
HHC S **S** **11 02 37.8 +1.7**
HHC pmax pmax
comp=Z,36nm,0.9s
HHC pmax pmax
comp=Z,370nm,5.0s
P33M Teslin, Yukon 86.41 21 P **P** **10 52 51.6 +1.0**
baz=224
MNTX Cornudas Mount 86.43 55 P **P** **10 52 51.9 +0.6**
baz=247,SNR=23
MNTX Cornudas Mount 86.43 55 P **P** **10 52 52.5 +1.2**
baz=247
F20K Avaraart Lake 86.44 9 P **P** **10 52 50.4 0.0**
baz=203
C16K Lisburne Hills 86.46 5 P **P** **10 52 50.7 +0.2**
baz=194
R33M Jennings River 86.49 23 P **P** **10 52 51.1 +0.1**
baz=226
K27K Chicken 86.56 16 P **P** **10 52 51.6 +0.5**
baz=216
J26L Joseph Creek 86.58 15 IAmb IAmb 10 52 54.4
comp=Z,9.8nm,0.7s
J26L Joseph Creek 86.58 15 P **P** **10 52 51.7 +0.3**
baz=214
E19K Redstone River 86.60 8 P **P** **10 52 51.2 -0.1**
baz=201
H24K Noodor Dome 86.75 13 P **P** **10 52 51.9 -0.2**
baz=210
KMI Kunming 86.80 297 ⇓P **P** **10 52 54.8 +1.4**
KMI SKS **SKSac** **11 02 27.0 +5.0**
KMI S **ScS** **11 02 44.0 -1.3**
KMI SS **SS** **11 08 42.8 -0.1**
KMI pmax pmax
comp=Z,28nm,0.8s
C17K DeLong Mountai 86.86 6 P **P** **10 52 52.6 +0.2**
baz=196
TX31 Lajitas Ar. Si 86.88 58 IAmb IAmb 10 52 56.7
comp=Z,48nm,1.4s
TX31 Lajitas Ar. Si 86.88 58 P **P** **10 52 55.3 +1.7**
baz=248
TXAR Lajitas Array 86.88 58 P **P** **10 52 55.0 +1.4**
TXAR Lajitas Array 86.88 58 P **P** **10 52 55.3 +1.7**
comp=Z,9.6nm,0.7s,baz=215,slow=4.8,SNR=83
TXAR PP **PP** **10 56 28.2 -0.8**
comp=Z,0.8nm,0.9s,baz=240,slow=4.2,SNR=3.5
TXAR S **SKSac** **11 02 18.3 -3.8**
comp=Z,0.2nm,0.8s,baz=292,slow=3.2,SNR=2.7
TXAR PKKP **PKKPdf** **11 10 35.8 -1.1**
comp=Z,0.1nm,0.4s,baz=90,slow=5.0,SNR=0.9
TXAR PKKPbc **PKKPbc** **11 10 42.9 -0.5**
comp=Z,0.4nm,0.7s,baz=86,slow=2.8,SNR=5.6
comp=Z,9.6nm,0.7s
M30M Minto, Yukon 86.88 18 P **P** **10 52 53.4 +0.7**
baz=220
L29M L29M 86.90 18 P **P** **10 52 53.6 +0.8**
baz=219
ANMO Albuquerque 86.91 52 P **P** **10 52 54.3 +0.6**
ANMO Albuquerque 86.91 52 P **P** **10 52 53.7 0.0**
baz=246
ANMO Albuquerque 86.91 52 P **P** **10 52 54.6 +1.0**
baz=246
F21K Alatna River 86.95 10 P **P** **10 52 53.0 +0.1**
baz=205
PRP Porcupine Dome 86.98 14 IAmb IAmb 10 56 04.7
comp=Z,29nm,1.9s
PRP Porcupine Dome 86.98 14 P **P** **10 52 53.3 +0.1**
baz=212
N32M Quiet Lake 87.00 21 IAmb IAmb 10 52 57.3
comp=Z,20nm,1.1s
N32M Quiet Lake 87.00 21 P **P** **10 52 54.0 +0.7**
baz=224
G22K Bettles 87.01 11 P **P** **10 52 53.6 +0.4**
baz=207
TLIG Tlapa 87.08 71 IAmb IAmb 10 52 57.7
comp=Z,46nm,1.7s
G23K Bananza Creek 87.10 11 IAmb IAmb 10 55 24.5
comp=Z,29nm,1.8s
G23K Bananza Creek 87.10 11 P **P** **10 52 53.3 -0.4**
baz=208
CRAI Chiangrai 87.13 292 IAmb IAmb 10 52 58.6
comp=Z,36nm,1.8s
MSO Missoula 87.20 39 P **P** **10 52 54.6 -0.1**
baz=240
C18K Utukok River 87.23 7 P **P** **10 52 54.8 +0.5**
baz=198
DAWY Dawson 87.30 17 P **P** **10 52 53.9 -0.8**
DAWY IAmb IAmb 10 52 56.6
comp=Z,19nm,1.5s
DAWY Dawson 87.30 17 P **P** **10 52 54.6 -0.1**
baz=218
M31M Drury Creek, Y 87.34 19 P **P** **10 52 54.6 -0.2**
baz=223
I26K Coal Creek Min 87.35 14 IAmb IAmb 10 56 00.1
comp=Z,33nm,1.9s
I26K Coal Creek Min 87.35 14 P **P** **10 52 54.7 -0.1**
baz=214
BTO Baotou 87.35 314 *e*P **P** **10 52 59.3 +3.8**
BTO pP **pP** **10 55 09.3 +0.9**
BTO sP **sP** **10 56 08.3 -2.1**

BTO PP **PP** **10 56 38.0 +5.6**
BTO S **S** **11 02 42.3 -2.5**
BTO sS **sS** **11 06 38.5 -3.0**
BTO pmax pmax
comp=Z,31nm,2.0s
BTO pmax pmax
comp=Z,220nm,7.1s
EGAK Eagle **87.41 15** P **P** **10 52 55.2 +0.1**
baz=216
D19K Kuna River **87.45 8** P **P** **10 52 54.9 -0.3**
baz=200
TPAW Teton Pass **87.46 43** P **P** **10 52 56.3 +0.1**
E20K Nigu River **87.49 9** P **P** **10 52 55.3 -0.2**
baz=202
COLD Coldfoot **87.52 11** P **P** **10 52 56.0 +0.5**
baz=208
SNOW Snow King Moun **87.57 43** IAmb IAmb 10 52 58.8
comp=Z,23nm,1.2s
G24K Hadweenzic Riv **87.58 12** P **P** **10 52 55.5 -0.3**
baz=210
GO08 Villa O'Higgin **87.64 140** P **P** **10 52 55.4 -1.3**
GO08 IAmb IAmb 10 53 02.6
comp=Z,19nm,1.2s
K29M Barlow Dome **87.64 17** P **P** **10 52 56.4 0.0**
baz=220
IMW Indian Meadow **87.66 42** IAmb IAmb 10 52 59.2
comp=Z,34nm,1.5s
FARO Faro, Yukon **87.70 20** P **P** **10 52 56.3 -0.2**
baz=224
S22A 4UR Ranch, Cre **87.78 49** IAmb IAmb 10 53 00.3
comp=Z,28nm,1.6s
S22A 4UR Ranch, Cre **87.78 49** P **P** **10 52 58.6 +0.7**
baz=246
O20A White River Ci **87.78 47** IAmb IAmb 10 53 01.4
comp=Z,13nm,0.7s
O20A White River Ci **87.78 47** P **P** **10 52 58.6 +0.9**
baz=245
WTLY Watson Lake, Y **87.79 23** P **P** **10 52 58.1 +1.1**
baz=228
CM31 Chiang Mai Arr **87.81 290** P **P** **10 52 58.4 +0.4**
CM31 IAmb IAmb 10 53 00.2
comp=Z,28nm,1.1s
CMAR Chiang Mai Arr **87.81 290** P **P** **10 52 59.0 +1.0**
comp=Z,12nm,0.9s,baz=107,slow=2.9,SNR=63
CMAR PP **PP** **10 56 38.3 +2.0**
comp=Z,0.7nm,0.6s,baz=115,slow=4.9,SNR=4.2
comp=Z,12nm,0.9s
C19K Lookout Ridge **87.85 7** IAmb IAmb 10 55 19.2
comp=Z,19nm,1.6s
C19K Lookout Ridge **87.85 7** P **P** **10 52 58.7 +1.6**
baz=199
B18K Kokolik River **87.86 6** P **P** **10 52 57.1 +0.1**
baz=197
D20K Etivluk River **87.86 8** P **P** **10 52 57.1 0.0**
baz=202
FLWY Flagg Ranch **87.89 42** IAmb IAmb 10 55 18.1
comp=Z,39nm,1.7s
CMMT Chiang Mai **87.92 290** P **P** **10 52 59.0 +0.5**
comp=Z,60nm,0.9s
G25K Bearman Lake **87.92 13** P **P** **10 52 57.3 -0.1**
baz=212
CHTO Chiang Mai **87.92 290** P **P** **10 52 59.1 +0.6**
CHTO IAmb IAmb 10 53 01.5
comp=Z,14nm,0.7s
CHTO Chiang Mai **87.92 290** P **P** **10 52 59.6 +1.1**
CHTO Chiang Mai **87.92 290** P **P** **10 52 59.0 +0.5**
comp=Z,22nm,1.0s
MAYO Mayo, Yukon **87.93 18** IAmb IAmb 10 53 01.3
comp=Z,20nm,0.7s
MAYO Mayo, Yukon **87.93 18** P **P** **10 52 58.0 +0.5**
baz=221
YHL Hebgen Lake **87.94 41** IAmb IAmb 10 53 01.0
comp=Z,15nm,1.0s
I27K Kandik River **87.96 15** P **P** **10 52 58.1 +0.4**
baz=216
BW06 Boulder Array **88.04 44** IAmb IAmb 10 53 00.2
comp=Z,24nm,1.6s
BW06 Boulder Array **88.04 44** P **P** **10 52 59.1 +0.3**
baz=244,SNR=13
PD31 Pinedale Array **88.04 44** P **P** **10 52 59.2 +0.3**
PD31 IAmb IAmb 10 53 00.2
comp=Z,21nm,1.6s
PDAR Pinedale Array **88.04 44** P **P** **10 52 59.1 +0.3**
comp=Z,5.2nm,0.6s,baz=222,slow=3.2,SNR=49
PDAR pP **pP** **10 55 13.1 +1.1**
comp=Z,1.6nm,1.0s,baz=226,slow=6.0,SNR=3.6
PDAR PP **PP** **10 56 36.2 -1.8**
comp=Z,3.1nm,1.1s,baz=242,slow=7.9,SNR=5.9
PDAR PKKPbc **PKKPbc** **11 10 38.9 -2.4**
comp=Z,0.4nm,0.6s,baz=49,slow=4.5,SNR=4.3
comp=Z,5.2nm,0.6s
CD2 Chengdu **88.08 303** P **P** **10 53 00.0 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
H17A Grant Village **88.11 42** P **P** **10 53 01.6 +2.4**
baz=243,SNR=8.3
PZH PanZhiHua **88.13 298** P **P** **10 53 00.0 +0.5**
PZH pP **pP** **10 55 12.5 -0.7**
PZH S **S** **11 02 53.5 +0.9**
F24K Squaw Lake **88.21 12** P **P** **10 52 59.2 +0.4**
baz=210
I28M Miner Creek **88.26 15** IAmb IAmb 10 53 01.0
comp=Z,18nm,1.6s
I28M Miner Creek **88.26 15** P **P** **10 52 59.0 -0.2**
baz=218
SMCO Snowmass **88.27 48** P **P** **10 53 00.1 -0.1**
SMCO IAmb IAmb 10 53 03.9
comp=Z,10nm,0.7s
MNHN Monahans **88.36 56** IAmb IAmb 10 53 03.7
comp=Z,8.8nm,0.7s
SAND Sanderson **88.36 58** IAmb IAmb 10 53 03.8
comp=Z,9.5nm,0.7s
E23K Chandalar **88.36 11** P **P** **10 53 00.2 +0.6**
baz=208
H27K Steamboat Moun **88.50 14** P **P** **10 53 00.5 +0.4**
baz=216
C21K Knifeblade Rid **88.52 9** P **P** **10 53 00.9 +0.7**
baz=204
G26K Porcupine Rive **88.57 13** P **P** **10 53 01.1 +0.7**
baz=214
D22K Ayikyak River **88.58 9** IAmb IAmb 10 53 03.9
comp=Z,12nm,1.0s
D22K Ayikyak River **88.58 9** P **P** **10 53 00.7 +0.2**
baz=206
I29M Ogilvie Camp, **88.61 16** P **P** **10 53 01.2 +0.5**
baz=219
F25K Christian Rive **88.72 12** P **P** **10 53 01.7 +0.5**
baz=212
SDCO Great Sand Dun **88.74 50** P **P** **10 53 02.1 -0.2**
baz=246,SNR=6.8
SDCO Great Sand Dun **88.74 50** P **P** **10 53 02.8 +0.5**
baz=246
ODSA Odessa **88.81 56** IAmb IAmb 10 56 36.7
comp=Z,13nm,0.6s
B21K Ikpikpuk River **88.98 9** IAmb IAmb 10 53 05.0
comp=Z,11nm,1.1s
B21K Ikpikpuk River **88.98 9** P **P** **10 53 02.4 +0.2**
baz=204
B20K Meade River **89.00 8** IAmb IAmb 10 56 19.5
comp=Z,30nm,1.9s
B20K Meade River **89.00 8** P **P** **10 53 02.9 +0.6**
baz=201
I30M Mount Dempster **89.02 17** P **P** **10 53 02.9 +0.1**
baz=221
BRLDA Berland Lookou **89.06 31** P **P** **10 53 03.9 +0.7**
BRLDA IAmb IAmb 10 53 07.3
comp=Z,13nm,0.6s
YAK Yakutsk **89.07 339** P **P** **10 53 01.7 -1.1**
comp=Z,8.0nm,0.5s,baz=56,slow=1.7,SNR=7.2
comp=Z,8.0nm,0.5s
F26K Sheenjek River **89.12 13** P **P** **10 53 03.4 +0.4**
baz=214
COYC Coyhaique **89.13 138** P **P** **10 53 04.8 +1.1**
ELIB Princess Elisa **89.13 187** *d*P **P** **10 53 03.1 -0.2**
comp=Z,36nm,0.7s
E25K Arctic Village **89.18 12** IAmb IAmb 10 53 06.1
comp=Z,11nm,1.3s
E25K Arctic Village **89.18 12** P **P** **10 53 03.9 +0.6**
baz=212
H29M Whitestone **89.26 15** IAmb IAmb 10 53 06.3
comp=Z,19nm,1.4s
H29M Whitestone **89.26 15** P **P** **10 53 04.3 +0.6**
baz=219
RLMT Red Lodge **89.28 42** P **P** **10 53 04.2 -0.3**
baz=244
MSTX Muleshoe **89.33 54** IAmb IAmb 10 53 07.8
comp=Z,11nm,0.6s
MSTX Muleshoe **89.33 54** P **P** **10 53 05.1 +0.2**
baz=248
MSTX Muleshoe **89.33 54** P **P** **10 53 05.6 +0.7**
baz=248
DRIO Del Rio **89.39 59** IAmb IAmb 10 53 07.3
comp=Z,20nm,0.8s
D24K Happy Valley **89.47 11** P **P** **10 53 05.3 +0.8**
baz=209
Q24A Divide **89.48 49** IAmb IAmb 10 53 07.8
comp=Z,11nm,1.1s
Q24A Divide **89.48 49** P **P** **10 53 07.1 +1.4**
baz=247,SNR=5.3
ISCO Idaho Springs **89.48 48** P **P** **10 53 06.5 +0.7**
ISCO Idaho Springs **89.48 48** P **P** **10 53 07.0 +1.3**
baz=246,SNR=8.9
ISCO Idaho Springs **89.48 48** P **P** **10 53 06.9 +1.2**
baz=246
OZNA Ozona **89.51 57** IAmb IAmb 10 53 08.6
comp=Z,14nm,0.7s
KOTAN Kotaneelee Air **89.61 24** P **P** **10 53 06.2 +0.8**
baz=232
N23A Red Feather La **89.69 47** IAmb IAmb 10 53 09.8
comp=Z,11nm,0.8s
N23A Red Feather La **89.69 47** P **P** **10 53 07.8 +1.2**
baz=246,SNR=9.3
B22K Teshekpuk Lake **89.80 9** P **P** **10 53 07.1 +1.1**
baz=205
EPYK Eagle Plains **89.81 16** IAmb IAmb 10 53 09.1
comp=Z,9.7nm,1.0s
EPYK Eagle Plains **89.81 16** P **P** **10 53 06.9 +0.7**
baz=220
G29M Pine Creek **89.89 15** P **P** **10 53 07.8 +1.2**
baz=219
LZH Lanzhou **89.95 308** ⇓P **P** **10 53 09.0 +1.2**
LZH sP sP 10 56 20.5 -3.2
LZH S **S** **11 03 12.8 +4.0**
LZH sS sS 11 07 05.8 -0.5
LZH pmax pmax
comp=Z,18nm,1.2s
POST Post **89.98 55** IAmb IAmb 10 53 10.4
comp=Z,13nm,0.7s
C24K Franklin Bluff **89.99 10** P **P** **10 53 07.3 +0.4**
baz=209
F28M Old Crow **90.00 14** P **P** **10 53 07.4 +0.4**
baz=218
833A Chaparral WMA, **90.01 60** IAmb IAmb 10 53 11.7
comp=Z,15nm,0.7s
833A Chaparral WMA, **90.01 60** P **P** **10 53 09.1 +1.1**
baz=250
833A Chaparral WMA, **90.01 60** P **P** **10 53 09.3 +1.3**
baz=250
K22A Casper **90.01 45** P **P** **10 53 07.0 -0.9**
baz=246
D25K Kavik River **90.05 11** P **P** **10 53 07.2 -0.1**
baz=212
E27K Coleen River **90.07 13** P **P** **10 53 07.1 -0.3**
baz=216
PHWY Pilot Hill **90.19 46** IAmb IAmb 10 53 10.4
comp=Z,6.2nm,0.8s
A22K Sinclair Lake **90.20 8** P **P** **10 53 07.8 -0.1**
baz=203
EGMT Eagleton **90.27 39** P **P** **10 53 08.2 -0.7**
baz=243
RTBA Rita Blanca **90.27 52** IAmb IAmb 10 53 12.3
comp=Z,5.9nm,0.8s
LL02 Futaleuf **90.28 136** P **P** **10 53 10.0 +0.9**
TNCH TengChong **90.36 296** P **P** **10 53 11.3 +1.4**
TNCH pP pP 10 55 23.0 -1.5
TNCH sP sP 10 56 22.3 -4.2
TNCH SKS **SKSac** **11 02 44.8 +2.2**
TNCH S **S** **11 03 13.3 +0.4**
TNCH sS sS 11 07 07.0 -4.6
TNCH pmax pmax
comp=Z,67nm,0.4s
TNCH pmax pmax
comp=Z,260nm,4.8s
SN01 Snyder 1 **90.39 56** IAmb IAmb 10 53 12.4
comp=Z,9.1nm,0.7s
TROLL Troll, Antarti **90.40 181** ⇑P **P** **10 53 09.4 +0.2**
comp=Z,2µm,0.6s
G30M tAoh Zraii Nji **90.40 16** IAmb IAmb 10 53 12.3
comp=Z,12nm,1.0s
G30M tAoh Zraii Nji **90.40 16** P **P** **10 53 09.6 +0.7**
baz=221
JCT Junction City **90.42 58** P **P** **10 53 09.6 -0.4**
JCT IAmb IAmb 10 53 12.7
comp=Z,6.2nm,0.6s
JCT Junction City **90.42 58** P **P** **10 53 09.2 -0.7**
baz=250
JCT Junction City **90.42 58** P **P** **10 53 10.3 +0.4**
baz=250
HNDO Hondo **90.52 59** IAmb IAmb 10 53 12.9
comp=Z,17nm,0.9s
EDM Edmonton **90.68 33** P **P** **10 53 11.0 +0.4**
EDM IAmb IAmb 10 53 13.1
comp=Z,6.9nm,0.6s
SNAA Sanae **90.72 179** P **P** **10 53 10.6 0.0**
SNAA Sanae **90.72 179** ⇑P **P** **10 53 10.4 -0.2**
comp=Z,226nm,0.5s
G31M Satah River **90.87 16** IAmb IAmb 10 53 13.4
comp=Z,16nm,1.2s
G31M Satah River **90.87 16** P **P** **10 53 11.4 +0.4**
baz=223
VNA3 Neumayer Olymp **90.91 177** ⇑P **P** **10 53 11.2 -0.1**
comp=Z,41nm,0.6s
F30M Barrier River **90.99 15** P **P** **10 53 12.5 +0.9**
baz=221
D27M Malcolm River **91.06 13** IAmb IAmb 10 55 44.1
comp=Z,11nm,1.4s
D27M Malcolm River **91.06 13** P **P** **10 53 12.7 +0.6**
baz=216
E29M Blow River **91.07 14** P **P** **10 53 13.0 +1.1**
baz=219
APMT Aspermont **91.16 55** IAmb IAmb 10 53 16.3
comp=Z,12nm,0.6s
ABTX Abilene, Hawle **91.29 56** P **P** **10 53 13.9 0.0**
baz=250
ABTX Abilene, Hawle **91.29 56** P **P** **10 53 14.6 +0.7**
baz=250
KSCO Kaye Shedlock' **91.31 49** P **P** **10 53 14.1 +0.1**
baz=248
VNA2 Neumayer--Watz **91.33 177** ⇑P **P** **10 53 13.5 +0.1**
comp=Z,39nm,0.6s,baz=182,slow=3.0
BRDY Brady **91.34 58** IAmb IAmb 10 53 17.0
comp=Z,16nm,1.7s
F31M Tsigehtchic **91.39 16** P **P** **10 53 13.7 +0.3**
baz=223
VNA1 Neumayer--Stat **91.57 177** ⇑P **P** **10 53 15.3 +0.9**
comp=Z,40nm,1.0s
WRGLY Wrigley **91.74 22** P **P** **10 53 15.9 +0.7**
baz=232
LAO LASA Array **91.86 41** P **P** **10 53 16.6 +0.4**
baz=246
LAO LASA Array **91.86 41** P **P** **10 53 17.5 +1.3**
baz=246
INK Inuvik **92.08 16** IAmb IAmb 10 53 19.1
comp=Z,7.6nm,1.2s
INK Inuvik **92.08 16** P **P** **10 53 17.1 +0.5**
baz=223
PLCA Paso Flores **92.20 134** P **P** **10 53 19.9 +1.8**
comp=Z,1.9nm,0.6s,baz=228,slow=3.8,SNR=11
comp=Z,1.9nm,0.6s
RSSD Black Hills **92.26 44** P **P** **10 53 18.1 -0.3**
RSSD IAmb IAmb 10 53 20.4
comp=Z,4.5nm,0.8s
RSSD Black Hills **92.26 44** P **P** **10 53 18.3 0.0**
baz=247
ULN Ulaanbaatar **92.36 320** P **P** **10 53 18.1 -0.5**
ULN IAmb IAmb 10 53 21.0
comp=Z,5.5nm,0.8s
ULN Ulaanbaatar **92.36 320** P **P** **10 53 18.5 -0.1**
PLPT Palo Pinto **92.41 56** IAmb IAmb 10 53 22.0
comp=Z,9.4nm,0.6s
SONM Songino Array **92.75 320** P **P** **10 53 19.8 -0.5**
SONM IAmb IAmb 10 55 40.0
comp=Z,21nm,1.8s
SONM Songino Array **92.75 320** P **P** **10 53 19.7 -0.7**
comp=Z,1.4nm,0.6s,baz=136,slow=5.3,SNR=9.8
SONM pP **pP** **10 55 36.4 +2.0**
comp=Z,1.0nm,1.0s,baz=146,slow=3.7,SNR=3.5
SONM S **SKSac** **11 02 53.0 -1.7**
comp=Z,0.2nm,0.5s,baz=68,slow=5.1,SNR=1.8
comp=Z,1.4nm,0.6s
CBKS Cedar Bluff **93.35 50** P **P** **10 53 23.1 -0.1**
baz=250
DGMT Dagmar **93.83 40** IAmb IAmb 10 53 27.8
comp=Z,11nm,0.8s
DGMT Dagmar **93.83 40** P **P** **10 53 25.3 +0.2**
baz=248
R32A Long Quarter, **93.97 51** P **P** **10 53 26.5 +0.5**
baz=251
GTA Gaotai **94.12 310** P **P** **10 53 26.8 0.0**
GTA pP pP 10 55 45.0 +3.4
GTA PP **PP** **10 57 30.3 +5.3**
GTA pmax pmax
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar **94.70 25** P **P** **10 53 28.3 -0.4**
comp=Z,1.1nm,0.7s,baz=246,slow=4.5,SNR=15
YKA pP **pwP** **10 55 45.0 -0.7**
comp=Z,0.5nm,0.9s,baz=246,slow=4.6,SNR=3.6
YKA PKKPbc **PKKPdf** **11 10 23.1 -1.1**
comp=Z,0.3nm,0.6s,baz=49,slow=2.5,SNR=6.4
comp=Z,1.1nm,0.7s
C36M Paulatuk **95.32 17** P **P** **10 53 31.9 +0.7**
baz=232
TIXI Tiksi **95.78 346** P **P** **10 53 32.2 -1.1**
TIXI IAmb IAmb 10 56 00.1
comp=Z,11nm,1.4s
A36M Sachs Harbour **96.66 15** IAmb IAmb 10 54 41.7
comp=Z,4.3nm,0.7s
GOMU GeErMu **96.88 306** P **P** **10 53 41.3 +1.7**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
ULM Lac du Bonnet **99.55 40** PKKPbc PKKPbc 11 10 09.1 -2.3
comp=Z,1.3nm,0.6s,baz=114,slow=4.1,SNR=4.6
ZALV Zalesovo Beam **107.47 322** PKiKP **PKiKP** **10 58 28.5 -1.4**
comp=Z,3.3nm,0.6s,baz=116,slow=1.3,SNR=18
MKAR Makanchi Array **108.27 314** Pdiff **Pdif** **10 54 28.2 -1.3**
comp=Z,0.1nm,0.5s,baz=64,slow=14,SNR=1.4
MKAR PKiKP **PKiKP** **10 58 30.2 -1.5**
comp=Z,3.8nm,0.6s,baz=80,slow=0.7,SNR=26
MKAR SKP **SKiKP** **11 01 07.7 -0.9**
comp=Z,1.1nm,0.6s,baz=76,slow=1.8,SNR=3.7
MKAR PKKPbc **PKKPbc** **11 09 44.6 -1.0**
comp=Z,0.5nm,0.3s,baz=296,slow=2.4,SNR=14
MKAR PKKP **PKKPab** **11 09 59.5 -0.3**
comp=Z,0.6nm,0.6s,baz=262,slow=4.7,SNR=5.1
KURBB **Kurchatov Arra** **111.06 318** PKiKP **PKiKP** **10 58 35.5 -1.3**
comp=Z,3.6nm,0.6s,baz=98,slow=1.7,SNR=26
KURBB SKP **SKPdf** **11 01 12.4 -1.4**
comp=Z,1.0nm,0.7s,baz=97,slow=1.8,SNR=4.3
KURBB PKKPbc **PKKPbc** **11 09 36.0 -0.7**
comp=Z,0.6nm,0.3s,baz=278,slow=4.2,SNR=12
KSH Kashi **112.12 306** PKP **PKiKP** **10 58 44.8 +5.4**
BVAR Borovoye Array **116.06 321** PKP **PKPdf** **10 58 45.0 -1.4**
comp=Z,8.6nm,0.6s,baz=74,slow=1.5,SNR=28
BVAR PKKPbc **PKKPab** **11 09 25.5 +0.4**
comp=Z,1.2nm,0.5s,baz=282,slow=2.9,SNR=4.6
BRVK Borovoye **116.13 321** **PKPdf** **10 58 45.4 -1.0**
KKAR Karatay Array **116.40 310** **PKPdf** **10 58 45.6 -1.7**
KBL Kabul **117.28 300** **PKPdf** **10 58 49.3 -0.3**
SIMJ Simiganj **117.48 305** PKPdf **PKPdf** **10 58 48.8 -0.9**
SPITS Spitsbergen Ar **119.10 356** PKP **PKPdf** **10 58 50.6 -1.0**
comp=Z,8.2nm,0.7s,baz=67,slow=6.4,SNR=8.8
SPITS PKKPbc **PKKPbc** **11 09 09.9 -0.2**
comp=Z,46nm,1.4s,baz=201,slow=7.6,SNR=1.1
OPO Ambohidratompo **121.52 234** PKP **PKPdf** **10 58 57.9 -0.2**
comp=Z,13nm,0.7s,baz=166,slow=1.1,SNR=11
BDFB Brasilia **121.83 122** PKKPbc PKKPbc 11 08 59.0 -0.5
comp=Z,3.5nm,0.6s,baz=137,slow=2.0,SNR=5.2
ARU Arti **122.15 326** **PKPdf** **10 58 57.3 -0.6**
ABKAR Akbulak array **123.11 318** **PKPdf** **10 58 59.4 -0.6**
GRHM Grahamstown, E **123.48 206** **PKiKP** **10 59 01.9 +0.2**
ARCES ARCESS Array B **126.01 349** PKP **PKPdf** **10 59 03.3 -1.7**
comp=Z,8.5nm,0.8s,baz=83,slow=1.6,SNR=21
GEYT Alibeck **126.06 304** PKP **PKPdf** **10 59 05.2 -0.9**
comp=Z,8.8nm,0.7s,baz=116,slow=3.4,SNR=10.0
UOSS Minazif **127.87 288** PKPdf **PKPdf** **10 59 08.8 -1.1**
BOSA Boshof **127.98 208** PKP **PKPdf** **10 59 10.4 +0.2**
comp=Z,6.3nm,0.9s,baz=153,slow=4.5,SNR=5.9
BOSA PP **PP** **11 01 24.2 +2.3**
comp=Z,4.9nm,0.9s,baz=147,slow=7.2,SNR=5.2
FINES FINESS Array B **132.78 344** PKhKP PKPpre 10 59 09.5
comp=Z,3.8nm,0.9s,baz=45,slow=2.6,SNR=5.6
FINES PKP **PKPdf** **10 59 16.1 -1.9**
comp=Z,6.4nm,0.6s,baz=63,slow=2.5,SNR=11
FINES SKPbc **SKPbc** **11 01 48.2 +0.2**
comp=Z,11nm,0.7s,baz=63,slow=2.0,SNR=12
KBZ Khabaz **135.95 315** SKPbc **SKPbc** **11 01 58.6 +0.1**
comp=Z,6.3nm,0.9s,baz=124,slow=2.6,SNR=6.5
NB2 NORSAR Subarra **136.13 352** PKP **PKPdf** **10 59 17.7 -6.7**
comp=Z,3.0nm,0.6s,baz=15,slow=4.0
NB2 SKPa **SKPdf** **11 02 00.1 -0.9**
comp=Z,2.3nm,0.6s,baz=11,slow=2.9
NOA NORSAR Array B **136.13 352** PKP **PKPdf** **10 59 24.6 +0.2**
comp=Z,0.9nm,0.6s,baz=7.6,slow=4.0,SNR=6.3
NOA SKPbc **SKPbc** **11 01 57.8 -0.8**
comp=Z,2.4nm,0.6s,baz=14,slow=4.4,SNR=7.3
HFS Hagfors **136.65 350** PKhKP PKPpre 10 59 13.5
comp=Z,1.2nm,0.3s,baz=56,slow=3.9,SNR=11
HFS PKP **PKPdf** **10 59 24.3 -1.0**
comp=Z,3.9nm,0.7s,baz=50,slow=2.3,SNR=7.1
HFS SKPbc **SKPbc** **11 01 59.4 -0.7**
comp=Z,4.4nm,0.6s,baz=66,slow=2.9,SNR=6.3
LSZ Lusaka **137.23 221** PKPpre 10 59 21.3
ATD Ata Tunnel **138.56 267** SKPbc **SKPbc** **11 02 08.1 +1.1**
comp=Z,0.9nm,1.0s,baz=102,slow=0.7,SNR=4.8
KMBO Kilima Mbogo **139.16 246** PKPdf **PKPdf** **10 59 26.5 -5.2**
KMBO Kilima Mbogo **139.16 246** PKhKP PKPpre 10 59 21.2
comp=Z,1.3nm,0.5s,baz=51,slow=8.5,SNR=6.9
KMBO PKP **PKPdf** **10 59 30.3 -1.3**
comp=Z,5.2nm,0.8s,baz=52,slow=6.6,SNR=7.9
KMBO SKPbc **SKPbc** **11 02 07.9 -1.1**
comp=Z,1.8nm,0.5s,baz=96,slow=10,SNR=4.5
AKASG Malin Array Be **139.95 332** PKhKP PKPpre 10 59 23.4
comp=Z,2.3nm,0.3s,baz=38,slow=4.1,SNR=18
AKASG PKP **PKPdf** **10 59 32.2 +0.7**
comp=Z,5.7nm,0.5s,baz=44,slow=3.3,SNR=13
AKASG SKPbc **SKPbc** **11 02 09.1 -0.4**
comp=Z,0.5nm,0.3s,baz=36,slow=3.1,SNR=6.2
KIEV Kiev **139.96 332** ⇓P **PKPdf** **10 59 24.2 -7.3**
SORM Soroca **142.14 329** ⇓P **PKPdf** **10 59 32.0 -3.6**
EKA Eskdalemuir Ar **142.44 3** PKhKP PKPpre 10 59 31.9
comp=Z,2.1nm,0.4s,baz=343,slow=2.7,SNR=15
MILM Milestii Mici **142.73 327** *e*PKP **PKPdf** **10 59 34.0 -2.7**
comp=Z,120nm,1.7s
LODK Lodwar **142.91 251** **PKPdf** **10 59 37.2 -0.9**
BSEG Bad Segeberg **143.13 350** *e*PKPbc PKPbc 10 59 35.6 -0.1
baz=15,slow=2.7
VASR Vaslui **143.44 328** ⇑P PKPbc 10 59 37.3 +0.4
KWP Kalwaria Pacla **143.53 335** *e*PKP PKPab 10 59 37.0 0.0
VLDR Vladesti **143.82 327** ⇑P **PKPdf** **10 59 38.5 -0.1**
RUE Ruedersdorf **143.84 346** *e*PKPbc PKPab 10 59 38.0 -0.1
baz=15,slow=2.7
TLCR **143.86 325** ⇓P PKPab 10 59 38.4 0.0
BR131 Keskin Array S **143.92 314** PKPbc 10 59 37.0 -1.7
BRTR Keskin Array B **143.92 314** PKPbc 10 59 37.2 -1.6
BRTR Keskin Array B **143.92 314** PKP PKPbc 10 59 38.2 -0.5
comp=Z,10nm,0.5s,baz=144,slow=6.4,SNR=52
BRTR SKPbc **SKPbc** **11 02 19.1 -0.8**
comp=Z,4.4nm,0.8s,baz=137,slow=4.9,SNR=6.7
BURAR Bucovina Array **144.00 331** ⇑P **PKPab** **10 59 39.3 +0.3**
GHRR **144.03 327** ⇓P **PKPab** **10 59 39.5 +0.5**
TESR Tescani **144.10 329** ⇓P PKPbc 10 59 38.8 -0.1
OJC Ojcow **144.12 339** PKPbc 10 59 37.6 -1.2
NEGRR Negrea **144.13 326** ⇓P **PKPab** **10 59 39.7 +0.3**
ASF Jabal al Asfar **144.17 301** PKP PKPbc 10 59 39.0 -0.7
comp=Z,30nm,0.8s,baz=79,slow=6.0,SNR=22
ASF SKPbc **SKiKP** **11 02 20.9 -0.5**
comp=Z,7.3nm,1.0s,baz=340,slow=12,SNR=3.8
IZVR Izvoarele **144.19 327** ⇑P **PKPab** **10 59 39.5 -0.1**
CFR Carcaliu **144.23 326** ⇓P PKPbc 10 59 39.2 -0.1
KOLS Kolonicke sedl **144.25 335** *e*PKP **PKPab** **10 59 39.6 -0.2**
TPGR Topolog **144.29 325** ⇓P **PKPab** **10 59 40.1 0.0**
PANC Panciu **144.29 327** ⇓P **PKPab** **10 59 40.3 +0.3**
ANTO Ankara **144.43 315** ⇓P PKPbc 10 59 40.2 0.0
ANTO Ankara **144.43 315** **PKPdf** **10 59 39.5 -0.5**
VRI Vrincioaia **144.51 328** ⇑P PKPbc 10 59 40.3 +0.2
FLTG Flechtingen **144.51 349** *e*PKPbc **PKPdf** **10 59 39.6 0.0**
baz=15,slow=2.7
TIRR Tirgusor **144.55 325** ⇑P PKPbc 10 59 40.5 +0.2
NRDL Niedersach Rie **144.56 350** *e*PKPbc **PKPdf** **10 59 39.4 -0.1**
baz=15,slow=2.7
PLOR Plostina **144.56 328** ⇑P PKPbc 10 59 40.3 -0.1
HARR Harsova **144.66 325** ⇓P **PKPab** **10 59 41.2 -0.3**
TLBR Topalu **144.69 325** ⇑P PKPbc 10 59 40.9 +0.2
TURR Turia **144.73 329** ⇑P **PKPab** **10 59 41.6 -0.3**
ARCR ARCALIA **144.78 331** ⇓P **PKPab** **10 59 41.5 -0.4**
COVR Voineasa-Covas **144.79 328** ⇓P PKPbc 10 59 40.9 -0.1
OZUR **144.82 329** ⇑P PKPbc 10 59 41.4 +0.2
MANR Mangalia **144.85 324** ⇑P PKPbc 10 59 41.4 +0.2
OSTC Ostas **144.97 342** *e*PKP PKPbc 10 59 41.8 +0.4
CHVC Chvalec **144.99 343** *e*PKP PKPbc 10 59 41.5 0.0
OKC Ostrava-Krasne **145.00 340** *e*PKP **PKPbc** **10 59 41.6 +0.1**
UPC Upice **145.07 343** *e*PKP **PKPbc** **10 59 42.0 +0.3**

IBBN	Ibbenburen	145.09 352	*e*PKPbc	PKPbc	10 59 41.2	-0.4		baz=15,slow=2.7
DOPR	Dopca	145.10 329	⇑P	PKPbc	10 59 42.6	+0.6		
CLL	Collm	145.11 346	*e*PKPbc	PKPbc	10 59 41.6	-0.1		baz=15,slow=2.7
DPC	Dobruska-Polom	145.12 342	*e*PKP	PKPbc	10 59 42.0	+0.1		
CLZ	Clausthal	145.14 349	*e*PKPbc	PKPbc	10 59 41.5	-0.4		baz=15,slow=2.7
MMAI	Mount Meron Ar	145.15 303	PKPbc	PKPbc	10 59 42.3	-0.3		comp=Z,41nm,0.6s,baz=65,slow=4.0,SNR=33
MMAI			SKPbc	SKiKP	11 02 23.6	+0.2		comp=Z,7.9nm,0.6s,baz=82,slow=6.0,SNR=5.9
MLR	Muntele Rosu	145.16 328	⇑P	PKPab	10 59 43.3	-0.3		
KRLC	Kraliky	145.23 341	*e*PKP	PKPbc	10 59 42.2	0.0		
MORC	Moravsky Berou	145.25 340	PKPdf	PKPdf	10 59 41.2	+0.2		
BRG	Berggiesshubel	145.29 345	*i* PKP	PKPbc	10 59 42.3	0.0		
BRG			Amp		10 59 44.9			comp=Z,32nm,0.7s
BRG	Berggiesshubel	145.29 345	P	PKiKP	10 59 50.3	+5.1		
BRG			Amp		10 59 50.9			comp=Z,13nm,0.8s
BRG			pPKP	pPKPdf	11 02 24.1	+19		
BRG			Amp		11 02 26.0			comp=Z,8.6nm,0.6s
BRG	Berggiesshubel	145.29 345	*e*PKPbc	PKPbc	10 59 42.7	+0.4		baz=15,slow=2.7
BRG			*e*pPKPbc	pPKPab	11 02 01.3	-1.0		
CJR	Cluj-Napoca	145.41 332	⇑P	PKPbc	10 59 43.3	+0.5		
PVCC	Panska Ves	145.45 344	*e*PKP	PKPbc	10 59 42.7	-0.1		
NEUB	Neuenburg	145.47 347	*e*PKPbc	PKPbc	10 59 42.6	-0.2		baz=15,slow=2.7
GTTG	Gottingen	145.50 349	*e*PKPbc	PKPbc	10 59 42.3	-0.6		baz=15,slow=2.7
MAUC	Maruska	145.52 340	*e*PKP	PKPbc	10 59 43.4	+0.3		
RICC	Richard	145.55 345	*e*PKP	PKPbc	10 59 43.9	+0.8		
VOIR		145.65 329	⇑P	PKPbc	10 59 42.9	-0.7		
MARR	Marisel-Cluj	145.65 332	⇑P	PKPbc	10 59 43.6	0.0		
HSKC	Hora Svate Kat	145.66 345	*e*PKP	PKPbc	10 59 43.5	+0.1		
DRGR		145.74 332	⇑P	PKPbc	10 59 43.6	-0.2		
PRA	Prague	145.90 344	*e*PKP	PKPab	10 59 46.2	0.0		
VYHS	Vyhne	145.92 338	*e*PKP	PKPbc	10 59 44.1	-0.1		
VYHS			*e*		11 02 10.2			
NEF	NEVSHA	145.94 324	*e*P	PKPbc	10 59 44.6	+0.2		
PRU	Pruhonice	145.95 344	*e*PKP	PKPbc	10 59 43.8	-0.4		
GOPC	GO Pecny, Ondr	145.95 343	*e*PKP	PKPbc	10 59 44.4	+0.2		
MOX	Moxa	146.04 347	*e*PKPbc	PKPbc	10 59 44.2	-0.2		baz=15,slow=2.7
TANN	Tannenbergstha	146.07 346	*e*PKPbc	PKPbc	10 59 44.5	-0.1		baz=15,slow=2.7
KASTN	Kahler Asten	146.08 351	*e*PKPbc	PKPbc	10 59 44.0	-0.5		baz=15,slow=2.7
UBBA	Unterbreizbach	146.19 349	*e*PKPbc	PKPbc	10 59 44.3	-0.3		baz=15,slow=2.7
NKC	Novy Kostel	146.24 346	*e*PKP	PKPbc	10 59 44.9	-0.1		
LOT	Lotru	146.26 330	⇑P	PKPbc	10 59 45.5	+0.1		
TREC	Trest	146.31 342	*e*PKP	PKPbc	10 59 45.4	+0.2		
EIL	Elat	146.39 297	PKPbc	PKPbc	10 59 45.2	-0.8		comp=Z,22nm,0.6s,baz=19,slow=3.9,SNR=18
EIL			SKPbc	SKiKP	11 02 26.0	+0.2		comp=Z,5.6nm,0.6s,baz=3.4,slow=7.1,SNR=4.4
ZVC	Zvikov	146.54 344	*e*PKP	PKPbc	10 59 45.9	+0.1		
MANZ	Manzenberg	146.55 346	*e*PKPbc	PKPbc	10 59 45.7	-0.2		baz=15,slow=2.7
SIRR	Siria	146.61 333	⇓P	PKPbc	10 59 46.5	+0.4		
SZH	Strazhitsa	146.66 325	*e*P	PKPbc	10 59 46.1	-0.3		
ROTZ	Rotzenmuhle	146.73 346	*e*PKPbc	PKPbc	10 59 46.3	-0.1		baz=15,slow=2.7
GZR	Gura Zlata	146.77 331	⇑P	PKPbc	10 59 46.2	-0.4		
SURR	Surduc	146.80 332	⇑P	PKPbc	10 59 46.3	-0.4		
ELND	Elena	146.94 325	⇓P	PKPbc	10 59 46.8	-0.3		
MEM	Membach	146.97 353	*d*PKP	PKPdf	10 59 44.0	+0.2		
BTNL	Ternell	146.98 353	*d*PKP	PKPbc	10 59 47.1	+0.1		
KHC	Kasperske Hory	146.99 344	*e*PKP	PKPbc	10 59 46.8	-0.3		
VLAD	Vladila	146.99 327	⇑P	PKPbc	10 59 47.2	0.0		
GRF	Grafenberg Arr	147.02 347	*e*PKPbc	PKPbc	10 59 46.7	-0.5		baz=15,slow=2.7
GRF			*e*pPKPbc	pPKPdf	11 02 08.6	+0.7		
GRFO	Grafenberg	147.02 347		PKPbc	10 59 45.6	-1.5		
GRFO				PKiKP	10 59 48.7	-0.1		
TNS	Taunus Mts	147.03 351	*e*PKPbc	PKPbc	10 59 46.8	-0.4		baz=15,slow=2.7
BSTI	Sart Tilman	147.04 354	*d*PKP	PKPbc	10 59 46.9	-0.2		
CKRC	Cesky Krumlov	147.07 343	*e*PKP	PKPbc	10 59 47.5	+0.2		
BZS	Buzias	147.13 332	⇑P	PKPbc	10 59 46.6	-0.9		
WET	Wettzell	147.15 345	*e*PKPbc	PKPbc	10 59 47.4	-0.1		baz=15,slow=2.7
GEC2	GERESS Array S	147.21 344		PKPbc	10 59 47.9	+0.1		
GEC2	GERESS Array S	147.21 344	*e*PKPbc	PKPbc	10 59 47.8	+0.1		baz=15,slow=2.7
GEC2			*e*pPKPbc	pPKPab	11 02 09.4	+0.2		
GERES	GERESS Array B	147.21 344		PKPbc	10 59 48.0	+0.3		
GERES	GERESS Array B	147.21 344	PKPbc	PKPbc	10 59 47.6	-0.1		comp=Z,18nm,0.6s,baz=29,slow=3.0,SNR=50
BHOU	Houvegnez	147.22 353	*d*PKP	PKPbc	10 59 48.0	+0.4		
BCLA	Clavier	147.23 354	*d*PKiKP	PKiKP	10 59 49.3	+0.1		
BGES	Gesves	147.28 354	*d*PKP	PKPbc	10 59 48.5	+0.8		
PLVB	Pleven	147.31 326	⇓P	PKPbc	10 59 48.3	+0.3		
HERR	Herculane	147.33 330	⇓P	PKPbc	10 59 47.1	-0.9		
BMRD	Maredsous	147.39 355	*d*PKP	PKPdf	10 59 46.2	+1.7		
CONA	Conrad Observa	147.41 341	*i* PKP	PKPbc	10 59 48.6	+0.3		comp=Z,12nm,0.7s,SNR=20
RONA	Rosalia, Austr	147.47 340	*i* PKP	PKPbc	10 59 48.6	+0.2		comp=Z,23nm,0.8s,SNR=16
RCHB	Rochefort	147.50 354	*d*PKP	PKPbc	10 59 48.0	-0.2		
DOU	Dourbes	147.61 355	*d*PKP	PKPbc	10 59 48.6	0.0		
VALD	Valchedram	147.71 328	*e*P	PKPbc	10 59 49.3	+0.3		
MDVR	Moldovita	147.73 331	⇑P	PKPbc	10 59 48.2	-1.0		
MPEP	Malo Peshtene	147.79 327	*e*P	PKPbc	10 59 49.0	-0.3		
WLF	Walferdange	147.88 353	*d*PKP	PKPbc	10 59 49.7	+0.4		
WLF	Walferdange	147.88 353	*e*PKPbc	PKPbc	10 59 49.2	-0.1		baz=15,slow=2.7
MOA	Molln	147.96 342	*i* PKP	PKPbc	10 59 49.3	-0.3		comp=Z,17nm,0.6s,SNR=6.7
ARSA	Arzberg	148.12 340	*i* PKP	PKPbc	10 59 49.8	-0.2		comp=Z,9.6nm,0.7s,SNR=6.4
BLKB	Belogradchik	148.13 329	⇑P	PKPdf	10 59 47.5	+1.5		
BIOA	Bad Ischl, Aus	148.28 343	*e*PKP	PKPbc	10 59 49.9	-0.5		comp=Z,12nm,0.6s
FUR	Furstenfeldbru	148.45 346	*e*PKPbc	PKPbc	10 59 50.3	-0.5		baz=15,slow=2.7
RJOB	Jochberg	148.47 344	*e*PKPbc	PKPbc	10 59 50.9	-0.1		baz=15,slow=2.7
VTS	Vitosha	148.57 327	*e*P	PKPbc	10 59 51.3	-0.1		
SOKA	Soboth	148.78 340	*i* PKP	PKPbc	10 59 51.0	-0.7		comp=Z,13nm,0.9s,SNR=12
LESA	Schwarzleotal	148.79 344	*e*PKP	PKPbc	10 59 51.5	-0.2		comp=Z,9.6nm,0.5s
BFO	Black Forest	148.88 350		PKPbc	10 59 50.0	-1.9		
BFO	Black Forest	148.88 350	*e*PKPbc	PKPbc	10 59 51.3	-0.5		baz=15,slow=2.7
KBA	Koelnbreinsper	148.93 343	*e*PKP	PKPbc	10 59 51.8	-0.4		comp=Z,9.6nm,0.5s
MMB	Musomishta	149.04 325	*e*P	PKPbc	10 59 51.8	-0.7		
OBKA	Obir	149.08 341	*e*PKP	PKPbc	10 59 51.6	-0.8		comp=Z,9.5nm,1.1s
OBKA	Obir	149.08 341	*e*P	PKPbc	10 59 51.2	-1.3		
WATA	Walderalm	149.15 345	*i* PKP	PKPbc	10 59 52.3	-0.4		comp=Z,35nm,0.9s,SNR=9.8
UBR	Ueberruh	149.16 347	*e*PKPbc	PKPbc	10 59 52.3	-0.3		baz=15,slow=2.7
KKB	Krupnik	149.17 326	*e*P	PKPbc	10 59 52.5	-0.2		
RETA	Reutte	149.20 346	*e*PKP	PKPbc	10 59 52.5	-0.2		comp=Z,20nm,0.9s
WTTA	Wattenberg	149.21 345	*i* PKP	PKPbc	10 59 52.7	-0.2		comp=Z,34nm,0.8s,SNR=13
MYKA	Terra Mystica	149.25 342	*i* PKP	PKPbc	10 59 51.8	-1.1		comp=Z,20nm,0.5s,SNR=14
MOTA	Moosalm	149.26 346	*i* PKP	PKPbc	10 59 52.5	-0.5		comp=Z,53nm,1.2s,SNR=11
SQTA	Sankt Quirin	149.35 346	*i* PKP	PKPbc	10 59 52.8	-0.3		comp=Z,33nm,0.7s,SNR=14
CRES	Cresnjev	149.39 339	⇓*i*P	PKPbc	10 59 52.3	-0.8		
ABTA	Abfaltersbach	149.46 344	*i* PKP	PKPbc	10 59 52.5	-0.9		comp=Z,30nm,0.8s,SNR=12
DAVA	Damuels	149.59 347	*i* PKP	PKPbc	10 59 53.6	-0.1		comp=Z,66nm,1.3s,SNR=5.2
FETA	Feichten	149.65 346	*i* PKP	PKPbc	10 59 53.9	0.0		comp=Z,40nm,1.0s,SNR=11
RUDO	Rudo	149.70 332	*e*P	PKPbc	10 59 52.7	-1.2		
SJES	Sjenica	149.70 331	*e*P	PKPbc	10 59 53.2	-0.9		
BOJS	Bojanci	149.74 339	*i* PKPdf	PKPdf	10 59 50.1	+1.7		
BOJS			*i* PKPbc	PKPbc	10 59 53.8	-0.2		
BOJS	Bojanci	149.74 339	*e*P	PKPbc	10 59 53.6	-0.3		
STIP	Stip	149.77 327	*i* P	PKPbc	10 59 52.8	-1.4		
CEY	Cerknica	149.81 340	*i* PKPbc	PKPbc	10 59 53.8	-0.4		
CEY	Cerknica	149.81 340	*e*P	PKPbc	10 59 53.7	-0.4		
VAY	Valandovo	149.83 326	*i* P	PKPbc	10 59 53.4	-0.9		
SKO	Skopje	149.96 328	*i* P	PKPbc	10 59 54.4	-0.2		
SKDS	Skadanscina	150.11 341	*e*P	PKPbc	10 59 53.0	-1.8		
DRME	Dracevica, Mon	150.90 331	*e*P	PKPbc	10 59 54.8	-1.9		
OHR	Ohrid	150.92 327	*i* P	PKPbc	10 59 56.8	-0.1		
TEOL	Teolo	150.97 344		PKPbc	10 59 56.2	-0.5		
HCY	Herceg Novi	151.01 332	*e*P	PKPbc	10 59 56.0	-1.0		
CAMP	Campotosto	152.98 339	PKPdf	PKPdf	10 59 52.8	-0.7		
CAMP				PKPbc	11 00 01.0	-0.4		
CAMP			PKPab	PKPab	11 00 15.9	-0.1		
ESDC	Sonseca Array	157.88 9	PKP	PKPdf	10 59 59.3	-0.7		comp=Z,0.4nm,0.3s,baz=296,slow=2.6,SNR=2.7
ESDC			PKPab	PKPab	11 00 36.2	-0.9		comp=Z,1.9nm,0.8s,baz=348,slow=3.5,SNR=5.9
KEST	Kesra	160.47 338	PKPab	PKPab	11 00 47.8	-0.8		comp=Z,4.8nm,0.7s,baz=82,slow=5.0,SNR=5.7
LIC	Lamto	167.32 155	*e*P	PKPab	11 01 20.5	+1.4		comp=Z,15nm,0.8s
LIC	Lamto	167.32 155	⇑*i*P	PKPab	11 01 20.5	+1.4		comp=Z,16nm,0.8s
KIC	Kosan Boka	167.56 155	⇑*e*P	PKPab	11 01 20.9	+0.7		comp=Z,25nm,0.8s
KIC	Kosan Boka	167.56 155	⇑*e*P	PKPab	11 01 20.8	+0.6		comp=Z,26nm,0.8s
TIC	Toumodi	167.70 154	⇓*e*P	PKPab	11 01 22.7	+1.8		comp=Z,17nm,0.7s
TIC	Toumodi	167.70 154	⇑*e*P	PKPab	11 01 23.0	+2.1		comp=Z,18nm,0.7s
DBIC	Dimbokro	167.79 154		PKPab	11 01 22.9	+1.6		
DBIC	Dimbokro	167.79 154	PKP	PKPdf	11 00 09.2	-0.8		comp=Z,1.9nm,0.5s,baz=181,slow=3.5,SNR=2.9
DBIC			PKPab	PKPab	11 01 21.5	+0.3		comp=Z,5.8nm,0.7s,baz=200,slow=6.2,SNR=7.4
TOA0	Torodi Ar. Sit	175.21 195		PKPdf	11 00 10.3	-3.2		
TOA0				PKPab	11 01 53.6	-0.4		
TORD	Torodi Ar. Bea	175.21 195		PKPdf	11 00 12.1	-1.4		
TORD	Torodi Ar. Bea	175.21 195	PKP	PKPdf	11 00 11.9	-1.6		comp=Z,2.1nm,0.8s,baz=252,slow=2.9,SNR=13
TORD			PKPab	PKPab	11 01 54.0	-0.1		comp=Z,4.5nm,1.0s,baz=104,slow=2.3,SNR=14
TORD			PP	PP	11 05 46.8	+1.0		comp=Z,1.8nm,0.9s,baz=126,slow=4.0,SNR=4.9

*IDC **25** 10:43:03.6±3.4, 17°.73S×179°.76W, h614km±47km, mb3.7/12, mbtmp4.6/12, Error ellipse: s-maj=33.9km s-min=16.2km az=170.0*
ISC 25 10:43:02.9±0.8, 17.7S±0.2×179.8W±0.1, h600km±0, n18, σ1=9.03/17, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPT	Papeete	28.75	94	P		P		10 48 14.1	0.0
	25nm,0.7s,baz=280,slow=6.1,SNR=2.4								
	25nm,0.7s								
CTAO	Charters Tower	32.22	260	pwP		P		10 48 43.6	-0.1
PMG	Port Moresby	33.16	280	P		P		10 48 52.1	+0.5
	38nm,0.8s,baz=93,slow=7.0,SNR=3.6								
	38nm,0.8s								
PMG	Port Moresby	33.16	280	pwP		P		10 48 52.6	+0.9
STKA	Stephens Creek	37.62	241	P		P		10 49 28.6	+0.4
	29nm,0.7s,baz=84,slow=12,SNR=2.3								
	29nm,0.7s								
WRA	Warramunga Arr	43.41	259	P		P		10 50 12.9	-1.5
	20nm,0.6s,baz=94,slow=8.7,SNR=8.1								
	20nm,0.6s								
ASAR	Alice Springs	43.62	254	P		P		10 50 15.8	-0.2
	134nm,0.6s,baz=88,slow=8.1,SNR=9.9								
MJAR	Matsushiro Arr	66.97	324	P		P		10 52 56.4	-0.8
	3.6nm,0.8s,baz=146,slow=5.9,SNR=4.6								
	1.6nm,0.8s								
ASAJ	Asahikawa	70.47	332	P		P		10 53 18.9	+0.8
	14nm,1.0s,baz=200,slow=15,SNR=2.1								
	14nm,1.0s								
PETK	Petropavlovsk-	73.14	346	P		P		10 53 32.6	-0.7
	2.0nm,0.6s,baz=106,slow=8.7,SNR=1.2								
	2.0nm,0.6s								
NVAR	Mina Array Bea	80.16	44	P		P		10 54 12.2	0.0
	1.9nm,0.8s,baz=229,slow=8.2,SNR=2.6								
	1.9nm,0.8s								
ILAR	Eielson Array	85.96	13	P		P		10 54 41.4	+1.2
	0.4nm,0.6s,baz=228,slow=5.6,SNR=2.1								
	0.4nm,0.6s								
TXAR	Lajitas Array	86.96	58	P		P		10 54 46.0	+0.1
	3.2nm,1.0s,baz=217,slow=6.0,SNR=5.5								
	3.2nm,1.0s								
CMAR	Chiang Mai Arr	87.60	290	P		P		10 54 48.8	-0.1
	4.3nm,1.1s,baz=114,slow=2.9,SNR=4.5								
	4.3nm,1.1s								
PDAR	Pinedale Array	88.07	44	P		P		10 54 48.7	-2.2
	0.6nm,0.7s,baz=197,slow=2.8,SNR=3.0								
	0.6nm,0.7s								
BRTR	Keskin Array B	143.71	314	PKP		PKPbc		11 01 28.9	-1.3
	1.0nm,0.5s,baz=35,slow=3.3,SNR=2.1								
MMAI	Mount Meron Ar	144.94	303	PKP		PKPdf		11 01 33.1	-0.2
	4.5nm,0.5s,baz=65,slow=6.5,SNR=3.9								
GERES	GERESS Array B	147.05	344	PKPbc		PKPdf		11 01 38.0	+1.7
	1.1nm,0.4s,baz=56,slow=4.9,SNR=2.6								

ISC 25 10:51:02.8±1.3, 49.6N±0.1×17.99E±0.05, h12km±14km, n5, σ0=9.45/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.36	307	*e*PG		Pg		10 51 09.8	-0.2
MORC				*e*SG		Sg		10 51 15.4	+0.5
VRAC	Vranov	0.94	255	*e*PG		Pg		10 51 21.1	+0.1
VRAC				*e*SG		Sn		10 51 35.1	-0.3
LANS	Liptovska Anna	1.05	113	*e*PG		Pg		10 51 23.0	-0.1
LANS				*e*SG		Sn		10 51 38.7	+0.6
LANS				*e*LG		Lg		10 51 39.2	
KRUC	Moravsky	1.16	245	*e*PG		Pb		10 51 24.6	-0.2
KRUC				*e*SG		Sn		10 51 41.1	+0.5
VYHS	Vyhne	1.21	152	*e*PG		Pn		10 51 25.3	-0.3
VYHS				*e*SG		Sn		10 51 42.2	+0.3

IDC 25 10:52:19.9±5.4, 16°.24S×176°.16W, h0km, mb4.6/3, mbtmp4.6/3, MS3.6/1, Error ellipse: s-maj=161.1km s-min=104.1km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPT	Papeete	25.46	97	LR		LR		11 05 33.6	
	comp=Z,143nm,20.9s,baz=204,slow=31								
STKA	Stephens Creek	41.32	240	P		P		11 00 08.2	+0.7
	3.1nm,0.4s,baz=106,slow=7.4,SNR=13								
	3.1nm,0.4s								
WRA	Warramunga Arr	47.07	258	P		P		11 00 53.0	-0.8
	1.8nm,0.5s,baz=97,slow=6.1,SNR=36								
	1.8nm,0.5s								
ASAR	Alice Springs	47.32	253	P		P		11 00 55.2	-0.6
	15nm,0.4s,baz=89,slow=7.7,SNR=360								
ASAR				PcP		PcP		11 02 27.1	+0.2
	0.4nm,0.5s,baz=104,slow=3.9,SNR=1.7								
	15nm,0.4s								

*IDC **25** 10:56:08.4±3.3, 16°.97S×179°.15W, h604km±35km, mb3.6/5, mbtmp4.5/6, Error ellipse: s-maj=43.2km s-min=27.1km az=173.0*
ISC 25 10:56:07.8±1.3, 16.9S±0.4×179.1W±0.2, h600km, n6, σ0=9.71/7, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.54	247	P		P		10 59 12.9	+0.9
	6.1nm,0.7s,baz=101,slow=8.8,SNR=7.5								
STKA	Stephens Creek	38.53	240	P		P		11 02 39.9	-0.7
	4.2nm,0.4s,baz=81,slow=9.8,SNR=18								
	4.2nm,0.4s								
WRA	Warramunga Arr	44.15	259	P		P		11 03 25.0	0.0
	2.3nm,0.4s,baz=96,slow=6.9,SNR=42								
	2.3nm,0.4s								
ASAR	Alice Springs	44.41	253	P		P		11 03 26.7	-0.3
	32nm,0.6s,baz=89,slow=7.7,SNR=251								
ASAR				ScP		ScP		11 07 52.3	-0.8
	0.6nm,0.9s,baz=93,slow=4.6,SNR=3.4								
	32nm,0.6s								
QSPA	South Pole Qui	73.17	180	P		P		11 06 38.6	+0.1
	1.4nm,0.3s,baz=47,slow=1.2,SNR=5.9								
	1.4nm,0.3s								
TXAR	Lajitas Array	86.04	58	P		P		11 07 46.6	+0.2
	0.6nm,1.0s,baz=228,slow=8.1,SNR=4.3								
	0.6nm,1.0s								

*IDC **25** 11:22:51.0±1.8, 55°.70N×166°.15E, h0km, mb3.2/2, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=82.4km s-min=27.1km az=164.0*
*KRSC **25** 11:22:52.4±1.3, 55°.36N×166°.27E, h32km±7km, Ml3.8*
ISC 25 11:22:53.7±1.3, 55.57N±0.07×166.13E±0.08, h20km, n16, σ2=3.31/18, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	Bering	0.38	194	*e*P		Pb		11 22 59.6	-2.1
BKI				*e*S		Sb		11 23 04.9	-2.1
SMKR	Semkarok	2.81	293	*e*P		Pn		11 23 39.7	+2.3
SMKR				*e*S		Sb		11 24 14.8	-2.2
KMNR	Kamenistaya	3.34	276	*e*P		Pb		11 23 48.8	-3.5
TUMR	Tumrok	3.42	268	*e*P		Pn		11 23 49.1	+3.2
SMAR	Somma	4.87	245	*e*P		Pn		11 24 07.9	+2.0
AVH	Avacha	4.90	245	*e*P		Pn		11 24 08.5	+2.3
KRMR	Karymshinskiy	5.44	243	*e*P		Pn		11 24 15.6	+2.1
KRMR				*e*S		Sn		11 25 18.3	+2.8
PETK	Petropavlovsk-	5.51	247	Pn		Pn		11 24 15.4	+0.8
	1.6nm,0.3s,baz=74,slow=19,SNR=28								
PETK				Sn		Sn		11 25 20.2	+2.9
	0.5nm,0.3s,baz=20,slow=26,SNR=6.0								
	4.2nm,0.5s								
MTVR	Mutnovka	5.61	240	*e*P		Pn		11 24 17.2	+1.1
MTVR				*e*S		Sn		11 25 20.0	0.0
GRL	Gorelyy	5.63	241	*e*P		Pn		11 24 17.7	+1.5
ASAK	Asacha	5.81	240	*e*P		Pn		11 24 21.1	+2.3
H11N2	WAKE ISLAND Hy	35.78	179	T		T		12 07 03.9	
	baz=0.2,slow=76,SNR=6.6								
H11N3	WAKE ISLAND Hy	35.80	179	T		T		12 07 06.7	
	baz=0.2,slow=76,SNR=6.5								
H11N1	WAKE ISLAND Hy	35.80	179	T		T		12 07 07.9	
	baz=0.2,slow=76,SNR=5.8								
MKAR	Makanchi Array	50.22	297	P		P		11 31 47.8	-0.1
	0.1nm,0.4s,baz=57,slow=5.3,SNR=1.4								
	0.1nm,0.4s								
TXAR	Lajitas Array	66.46	72	P		P		11 33 41.8	+0.2
	0.2nm,0.5s,baz=303,slow=4.9,SNR=4.4								
	0.2nm,0.5s								

*IDC **25** 11:25:57.7±1.4, 55°.95N×149°.31W, h0km, mb3.8/5, mbtmp3.6/10, ML3.1/5, Error ellipse: s-maj=28.0km s-min=23.5km az=147.0*
*NEIC **25** 11:26:00.1±2.1, 56°.03N±0°.07×149°.3W±0°.1, h22km±10km, ML3.6/26, ML3.1(AEIC), Error ellipse: s-maj=11.1km s-min=7.9km az=212.0*
*AEIC **25** 11:26:03.9±2.0, 56°.1N±0°.1×149°.4W±0°.1, h12km±8km, Error ellipse: s-maj=15.3km s-min=8.8km az=161.0*
ISC 25 11:26:00.0±1.0, 56.18N±0.08×149.39W±0.06, h10km, n96, σ0=9.99/94, mb4.0/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.38	314	P		Pn		11 26 39.1	+0.1
	baz=134								
KDAK				S		Sn		11 27 06.3	-1.9
	baz=134								
KDAK	Kodiak Island	2.38	314	Pn		Pn		11 26 39.2	+0.2
	2.6nm,0.3s,baz=138,slow=7.3,SNR=9.0								
KDAK				Sn		Sn		11 27 06.2	-1.9
	8.8nm,0.3s,baz=24,slow=21,SNR=13								
	6.7nm,0.3s								
OHAK	Old Harbor	2.39	298			Pn		11 26 38.8	-0.4
OHAK						Sn		11 27 05.9	-2.6
OHAK	Old Harbor	2.39	298	P		Pn		11 26 38.8	-0.4
	baz=117								
OHAK				S		Sn		11 27 05.9	-2.6
	baz=117								
SYI	Shuyak Island	2.93	328			Pn		11 26 47.3	+0.7
SYI						Sn		11 27 21.5	-0.3
SYI	Shuyak Island	2.93	328	IAML				11 27 26.7	
	comp=N,71nm,1.1s								
Q20K	Shuyak Island	2.93	328	P		Pn		11 26 47.3	+0.7
	baz=146								
Q20K				S		Sn		11 27 21.5	-0.4
	baz=146								
CNPM	China Poot	3.50	344			Pn		11 26 54.2	-0.3
CNPM						Sn		11 27 35.2	-0.7
CNPM	China Poot	3.50	344	IAML				11 27 37.6	
	comp=E,41nm,0.4s								
CNPM				IAML				11 27 40.1	
	comp=N,62nm,1.5s								
Q19K	Cape Douglas,	3.59	322			Pn		11 26 55.7	0.0
KAHG	Katmai Hook Gl	3.63	312			Pn		11 26 57.3	+0.9
BRSE	Bradley Lake S	3.65	349			Pn		11 26 55.9	-0.6
BRSE	Bradley Lake S	3

M19K	**Big River Lodg**	**6.30**	**338**	Pn		**Pn**	**11 27 33.7**	**+0.9**
BARN	**Barnard Glacie**	**6.34**	**36**			**Pn**	**11 27 33.9**	**+0.3**
M17K	**Holitna River**	**6.70**	**325**	Pn		**Pn**	**11 27 38.1**	**-0.3**
N15K	**Kwethluk River**	**6.93**	**310**			**Pn**	**11 27 43.4**	**+1.9**
M16K	**Timber Creek**	**6.97**	**318**	Pn		**Pn**	**11 27 44.4**	**+2.3**
O14K	**Tigyukauivet M**	**7.07**	**301**	Pn		**Pn**	**11 27 44.8**	**+1.4**
CAST	**Castle Rocks**	**7.39**	**351**	Pn		**Pn**	**11 27 49.5**	**+1.6**
TTA	**Tatalina**	**7.56**	**336**	Pn		**Pn**	**11 27 50.9**	**+0.7**
BCAR	**Beaver Creek A**	**7.91**	**26**	Pn		**Pn**	**11 27 56.3**	**+1.3**
RIDG	**Independent Ri**	**7.92**	**15**	Pn		**Pn**	**11 27 57.0**	**+1.9**
K17K	**Iditarod**	**7.97**	**329**	Pn		**Pn**	**11 27 55.8**	**+0.1**
BPAW	**Bear Paw Mtn.**	**7.99**	**355**	Pn		**Pn**	**11 27 56.5**	**+0.5**
SCRK	**Sand Creek**	**8.28**	**17**	Pn		**Pn**	**11 28 00.7**	**+0.6**
K27K	**Chicken**	**8.68**	**22**	Pn		**Pn**	**11 28 06.1**	**+0.7**
IL31		**8.71**	**7**	Pn		**Pn**	**11 28 06.2**	**+0.3**
ILAR	**Eielson Array**	**8.71**	**7**	Pn		**Pn**	**11 28 07.0**	**+1.0**
ILAR	**Eielson Array**	**8.71**	**7**	Pn		**Pn**	**11 28 05.7**	**-0.3**
	comp=N,0.3nm,0.3s,baz=191,slow=14,SNR=16							
ILAR					Sn	**Sn**	**11 29 42.3**	**-1.8**
	comp=N,0.1nm,0.3s,baz=185,slow=23,SNR=6.1							
	comp=N,0.7nm,0.4s							
J26L	**Joseph Creek**	**8.83**	**17**	Pn		**Pn**	**11 28 08.7**	**+1.1**
MLY	**Manley**	**8.91**	**356**	Pn		**Pn**	**11 28 09.5**	**+0.9**
I23K	**Minto, Yukon-K**	**9.00**	**0**	Pn		**Pn**	**11 28 10.9**	**+1.0**
P32M	**Atlin**	**9.02**	**61**	Pn		**Pn**	**11 28 08.7**	**-1.6**
P33M	**Teslin, Yukon**	**9.63**	**58**	Pn		**Pn**	**11 28 18.2**	**-0.3**
IMAR	**Indian Mountai**	**10.06**	**350**	Pn		**Pn**	**11 28 24.6**	**+0.2**
DLBC	**Dease Lake**	**10.71**	**70**	Pn		**Pn**	**11 28 33.0**	**-0.4**
	comp=N,0.1nm,0.3s,baz=256,slow=12,SNR=1.5							
	comp=N,0.6nm,0.5s							
INK	**Inuvik**	**14.17**	**25**	Pn		**Pn**	**11 29 21.9**	**+1.5**
	baz=208,slow=12,SNR=6.7							
	comp=N,1.8nm,0.9s							
YKA	**Yellowknife Ar**	**18.65**	**56**	P		**P**	**11 30 17.8**	**+0.1**
	comp=N,0.1nm,0.3s,baz=266,slow=13,SNR=3.9							
	comp=N,0.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**48.78**	**240**	T		T	12 27 17.2	
	baz=31							
H11N3	**WAKE ISLAND Hy**	**48.78**	**240**	T		T	12 27 24.7	
	baz=31							
H11N1	**WAKE ISLAND Hy**	**48.80**	**240**	T		T	12 27 20.1	
	baz=31							
H11S1	**WAKE ISLAND Hy**	**49.92**	**239**	T		T	12 29 14.3	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**49.93**	**239**	T		T	12 29 10.5	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**49.94**	**239**	T		T	12 29 10.7	
	baz=29							
SONM	**Songino Array**	**58.66**	**310**	P		**P**	**11 35 58.9**	**+1.7**
	comp=N,0.8nm,0.8s,baz=36,slow=7.5,SNR=4.2							
	comp=N,0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**61.62**	**327**	P		**P**	**11 36 17.9**	**+0.7**
	comp=N,0.6nm,0.6s,baz=19,slow=9.4,SNR=3.2							
	comp=N,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**66.40**	**329**	P		**P**	**11 36 48.3**	**-0.5**
	comp=N,0.5nm,0.7s,baz=30,slow=6.4,SNR=3.1							
	comp=N,0.5nm,0.7s							
MKAR	**Makanchi Array**	**68.65**	**325**	P		**P**	**11 37 02.9**	**-0.1**
	comp=N,0.5nm,0.5s,baz=29,slow=5.8,SNR=10							
	comp=N,0.5nm,0.5s							
CMAR	**Chiang Mai Arr**	**86.28**	**298**	P		**P**	**11 38 42.0**	**0.0**
	comp=N,0.3nm,0.3s,baz=29,slow=6.2,SNR=1.6							
	comp=N,0.3nm,0.3s							
QSPA	**South Pole Qui**	**145.97**	**180**	PKPbc		**PKPdf**	**11 45 37.0**	**-0.6**
	comp=N,1.0nm,0.6s,baz=278,slow=2.7,SNR=3.7							

IDC 25 11:31:28.2±49.0,**14°54S**×**169°90W**,**h0**km,**mb4.3**/3,
mbtmp4.3/3,**Error ellipse: s-maj=969.1km**
s-min=192.4km az=79.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**47.39**	**240**	P		P		11 40 04.5	+0.1
	1.6nm,0.6s,baz=64,slow=9.6,SNR=4.6								
	1.6nm,0.6s								
WRA	**Warramunga Arr**	**53.33**	**256**	P		P		11 40 49.0	-0.6
	0.6nm,0.4s,baz=94,slow=6.7,SNR=18								
	0.6nm,0.4s								
ASAR	**Alice Springs**	**53.59**	**251**	P		P		11 40 51.8	+0.3
	5.4nm,0.4s,baz=89,slow=7.8,SNR=198								
	5.4nm,0.4s								

CATAC ***25*** *11:32:14.9±1.1, 15°.27N×94°.64W, h11km±9km, MB5.2, mb4.9, ML4.9*
MEX ***25*** *11:32:16.5±1.6, 15°.37N×94°.65W, h29km±13km, MD4.6*
IDC ***25*** *11:32:17.3±2.4, 15°.61N×94°.22W, h46km±19km, mb3.6/9, mbtmp3.8/11, ML4.0/2, MS3.8/6, Error ellipse: s-maj=43.9km s-min=15.5km az=59.0*
NEIC ***25*** *11:32:17.3±1.9, 15°.32N±0°.06×94°.59W±0°.04, h35km±2km, mb4.3/62, Md4.6/56(MEX), Error ellipse: s-maj=9.8km s-min=5.8km az=187.0*

ISC 25 11:32:16.2±0.9,**15°33N**±0°.04×**94°67W**±0°.02,**h45**km±11km,
n147,σ**2**§**21**/171,**mb4.1**/17,**MS3.5**/5,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.23**	**2**	*e*P			**Pn**	**11 32 34.4**	**-2.6**
NILT				*e*S			**Sn**	**11 32 47.0**	**-5.6**
PCIG		**1.45**	**75**				**Pn**	**11 32 38.2**	**-1.8**
PCIG							**Sn**	**11 32 54.3**	**-3.5**
PCIG		**1.45**	**75**	*i* P			**Pn**	**11 32 38.2**	**-1.8**
PCIG				*e*S			**Sn**	**11 32 54.3**	**-3.5**
HUIG	**Huatulco**	**1.45**	**288**				**Pn**	**11 32 38.7**	**-1.3**
HUIG							**Sn**	**11 32 54.9**	**-3.1**
HUIG	**Huatulco**	**1.45**	**288**	*e*P			**Pn**	**11 32 38.7**	**-1.3**
HUIG				*e*S			**Sn**	**11 32 54.9**	**-3.1**
CMIG	**Matias Romero**	**1.77**	**353**				**Pn**	**11 32 42.7**	**-1.7**
CMIG							**Sn**	**11 33 02.4**	**-3.3**
CMIG	**Matias Romero**	**1.77**	**353**	P			**Pn**	**11 32 42.9**	**-1.5**
	615nm,0.3s,baz=173,slow=13,SNR=2357								
CMIG					S		**Sn**	**11 33 03.0**	**-2.7**
	3µm,0.5s,baz=65,slow=14,SNR=26								
CMIG					LR		LR	11 33 36.9	
	comp=Z,480nm,22.0s,baz=184,slow=50								
CMIG	**Matias Romero**	**1.77**	**353**	*i* P			**Pn**	**11 32 42.7**	**-1.7**
CMIG				*e*S			**Sn**	**11 33 02.4**	**-3.3**
UXUV	**UXUV**	**2.04**	**14**	*e*P			**Pn**	**11 32 47.3**	**-0.9**
UXUV				*e*S			**Sn**	**11 33 10.4**	**-2.1**
TGIG		**2.07**	**46**				**Pn**	**11 32 48.0**	**-0.7**
TGIG							**Sn**	**11 33 13.1**	**-0.2**
TGIG		**2.07**	**46**	*e*P			**Pn**	**11 32 48.0**	**-0.7**
TGIG				*e*S			**Sn**	**11 33 13.1**	**-0.2**
TGBT	**Tuxtla Gutierr**	**2.10**	**46**				**Pn**	**11 32 48.1**	**-0.7**
TGBT							**Sn**	**11 33 13.0**	**-0.8**
TGBT	**Tuxtla Gutierr**	**2.10**	**46**	*e*P			**Pn**	**11 32 48.1**	**-0.7**
TGBT				*e*S			**Sn**	**11 33 13.0**	**-0.8**
THIG		**2.36**	**100**				**Pn**	**11 32 50.2**	**-2.3**
THIG		**2.36**	**100**	*e*P			**Pn**	**11 32 50.2**	**-2.3**
PATR	**El Naranjo**	**2.36**	**95**	*e*P			**Pn**	**11 32 51.1**	**-1.6**
PATR				*e*S			**Sn**	**11 33 17.5**	**-3.1**
PAVE	**Pavencul**	**2.41**	**93**	*e*P			**Pn**	**11 32 52.6**	**-0.8**
PAVE				*e*S			**Sn**	**11 33 19.8**	**-2.1**
PEIG	**Puerto Escondi**	**2.48**	**286**				**Pn**	**11 32 53.3**	**-0.8**
PEIG							**Sn**	**11 33 18.3**	**-4.9**
PEIG	**Puerto Escondi**	**2.48**	**286**	*i* P			**Pn**	**11 32 53.3**	**-0.8**
PEIG				*e*S			**Sn**	**11 33 18.3**	**-4.9**
CHUJ	**Union Juarez**	**2.48**	**95**	*e*P			**Pn**	**11 32 53.1**	**-1.3**
CHUJ				*e*S			**Sn**	**11 33 20.8**	**-2.9**
SMCA	**Catarina**	**2.55**	**100**	*i* P			**Pn**	**11 32 53.8**	**-1.3**
SMCA				*i* S			**Sn**	**11 33 21.3**	**-3.7**
SMCA					IAML			11 33 26.8	
	comp=Z,2µm,1.0s								
NEUV	**Arroyo Zacate**	**2.61**	**336**	*e*P			**Pn**	**11 32 54.1**	**-1.8**
NEUV				*e*S			**Sn**	**11 33 23.3**	**-3.2**
CCIG	**Comitan**	**2.62**	**68**				**Pn**	**11 32 55.9**	**-0.3**
CCIG	**Comitan**	**2.62**	**68**	*e*P			**Pn**	**11 32 57.1**	**+0.9**
CCIG				*e*S			**Sn**	**11 33 28.0**	**+1.1**
CCIG	**Comitan**	**2.62**	**68**	*i* P			**Pn**	**11 32 55.9**	**-0.3**
CCIG					IAML			11 33 35.4	
	comp=Z,5µm,1.0s								
OXIG	**Oaxaca**	**2.63**	**312**				**Pn**	**11 32 57.5**	**+1.1**
OXIG							**Sn**	**11 33 26.8**	**-0.5**
VHO	**Vista Hermosa**	**2.63**	**312**	*i* P			**Pn**	**11 32 57.5**	**+1.1**
VHO				*e*S			**Sn**	**11 33 26.8**	**-0.5**
TUIG	**Tuzandepetl**	**2.70**	**5**	*e*P			**Pn**	**11 32 56.3**	**-0.9**
TUIG				*e*S			**Sn**	**11 33 27.3**	**-1.4**
RTAL	**Retalhuleu**	**2.98**	**105**				**Pn**	**11 33 00.9**	**-0.2**
RTAL	**Retalhuleu**	**2.98**	**105**	*i* P			**Pn**	**11 33 00.8**	**-0.3**
RTAL					IAML			11 33 41.1	
	comp=Z,2µm,1.0s								

HUEH	**Huehuetenango**	**3.06**	**90**			**Pn**	**11 33 03.4**	**+1.1**
HUEH	**Huehuetenango**	**3.06**	**90**	*i* P		**Pn**	**11 33 03.4**	**+1.1**
HUEH				*i* S		**Sn**	**11 33 40.3**	**+2.5**
HUEH					IAML		11 34 03.1	
	comp=Z,7µm,1.0s							
YOIG	**Yosondua**	**3.15**	**299**			**Pn**	**11 33 04.8**	**+1.1**
YOIG						**Sn**	**11 33 39.4**	**-0.9**
YOIG	**Yosondua**	**3.15**	**299**	*e*P		**Pn**	**11 33 04.8**	**+1.1**
YOIG				*e*S		**Sn**	**11 33 39.4**	**-0.9**
PMUV	**Sontecomapan**	**3.23**	**352**	*e*P		**Pn**	**11 33 02.3**	**-2.2**
PMUV				*e*S		**Sn**	**11 33 37.1**	**-4.8**
QUIS	**Sacapulas**	**3.45**	**90**	*i* P		**Pn**	**11 33 08.9**	**+1.2**
QUIS				*i* S		**Sn**	**11 33 50.0**	**+2.6**
QUIS					IAML		11 33 59.3	
	comp=Z,2µm,1.0s							
PNIG	**Pinotepa**	**3.49**	**288**			**Pn**	**11 33 08.0**	**-0.1**
PNIG						**Sn**	**11 33 43.3**	**-4.9**
PNIG	**Pinotepa**	**3.49**	**288**	*i* P		**Pn**	**11 33 08.0**	**-0.1**
PNIG				*e*S		**Sn**	**11 33 43.3**	**-4.9**
TXIG	**Tlaxiaco**	**3.54**	**303**			**Pn**	**11 33 10.3**	**+1.4**
TXIG						**Sn**	**11 33 48.3**	**-1.4**
TXIG	**Tlaxiaco**	**3.54**	**303**	*e*P		**Pn**	**11 33 10.3**	**+1.4**
TXIG				*e*S		**Sn**	**11 33 48.3**	**-1.4**
TOIG	**Toxpalan**	**3.58**	**321**			**Pn**	**11 33 11.7**	**+2.3**
TOIG						**Sn**	**11 33 50.0**	**-0.6**
TOIG	**Toxpalan**	**3.58**	**321**	*i* P		**Pn**	**11 33 11.7**	**+2.3**
TOIG				*e*S		**Sn**	**11 33 50.0**	**-0.6**
HLIG	**Huajuapan de L**	**3.90**	**310**			**Pn**	**11 33 15.7**	**+1.8**
HLIG						**Sn**	**11 33 57.1**	**-1.4**
HLIG	**Huajuapan de L**	**3.90**	**310**	*e*P		**Pn**	**11 33 15.7**	**+1.8**
HLIG				*e*S		**Sn**	**11 33 57.1**	**-1.4**
FTIG	**Fresnillo de T**	**4.20**	**308**			**Pn**	**11 33 19.9**	**+2.1**
FTIG						**Sn**	**11 34 02.6**	**-3.1**
FTIG	**Fresnillo de T**	**4.20**	**308**	*e*P		**Pn**	**11 33 19.9**	**+2.1**
FTIG				*e*S		**Sn**	**11 34 02.6**	**-3.1**
GUNB	**GUNB**	**4.24**	**99**	*i* P		**Pn**	**11 33 21.7**	**+3.0**
TLIG	**Tlapa**	**4.35**	**301**	Pn		**Pn**	**11 33 21.8**	**+1.8**
TLIG	**Tlapa**	**4.35**	**301**	*e*P		**Pn**	**11 33 21.8**	**+1.8**
TLIG				*e*S		**Sn**	**11 34 08.8**	**-0.7**
TLIG	**Tlapa**	**4.35**	**301**	*i* PA			11 33 22.0	
TLIG					IAML		11 34 25.6	
	comp=Z,480nm,1.0s							
JAUV	**Jalcomulco**	**4.50**	**333**	*e*P		**Pn**	**11 33 20.5**	**-1.5**
JAUV				*e*S		**Sn**	**11 34 04.9**	**-8.3**
CRIG	**Cruz Grande**	**4.51**	**289**			**Pn**	**11 33 22.3**	**+0.2**
CRIG						**Sn**	**11 34 07.8**	**-5.5**
CRIG	**Cruz Grande**	**4.51**	**289**	*i* P		**Pn**	**11 33 22.3**	**+0.2**
CRIG				*e*S		**Sn**	**11 34 07.8**	**-5.5**
LVIG	**Laguna Verde**	**4.68**	**339**	*e*S		**Sn**	**11 34 10.8**	**-6.6**
JAMO	**Monjas**	**4.71**	**99**	*i* P		**Pn**	**11 33 27.0**	**+2.2**
PETF	**Flores**	**4.88**	**70**			**Pn**	**11 33 27.4**	**+0.3**
PETF	**Flores**	**4.88**	**70**	*i* P		**Pn**	**11 33 27.5**	**+0.4**
PETF				*i* S		**Sn**	**11 34 19.4**	**-3.0**
PETF					IAML		11 34 28.4	
	comp=Z,820nm,1.0s							
SCIG	**Sabancuy**	**4.92**	**42**	*e*P		**Pn**	**11 33 26.1**	**-1.6**
SCIG				*e*S		**Sn**	**11 34 17.7**	**-5.7**
NUBE	**Las Nubes**	**4.94**	**106**	*i* P		**Pn**	**11 33 28.5**	**+0.4**
NUBE				*i* S		**Sn**	**11 34 22.2**	**-1.9**
NUBE					IAML		11 34 51.4	
	comp=Z,420nm,1.0s							
CEVE	**Cerro Verde**	**5.11**	**106**	*i* P		Pn	11 33 35.1	+4.6
ESQI	**Esquipulas**	**5.21**	**98**			**Pn**	**11 33 32.5**	**+0.7**
MTO3	**Montecristo**	**5.22**	**99**			**Pn**	**11 33 32.4**	**+0.5**
PPM	**Popocatepetl**	**5.30**	**315**	*e*P		**Pn**	**11 33 36.9**	**+3.4**
PPM				*e*S		**Sn**	**11 34 35.0**	**+1.5**
PPIG	**Popocatepetl**	**5.30**	**315**			**Pn**	**11 33 36.9**	**+3.4**
PPIG						**Sn**	**11 34 35.0**	**+1.4**
PMON	**Piamonte**	**5.43**	**106**	*i* P		**Pn**	**11 33 35.5**	**+0.7**
PMON				IVmB_BB			11 33 56.2	
	comp=Z,2µm,1.0s							
PMON				IAmb	IAmb		11 33 57.1	
	comp=Z,130nm,0.6s							
PMON				IAML			11 35 12.1	
	comp=Z,330nm,1.0s							
LALI	**Alcalda de L**	**5.50**	**109**	*i* P		**Pn**	**11 33 35.9**	**+0.3**
LALI				IAmb	IAmb		11 34 00.2	
	comp=Z,59nm,1.6s							
LALI				IVmB_BB			11 34 19.4	
	comp=Z,3µm,1.0s							
LALI				IAML			11 35 05.4	
	comp=Z,160nm,1.0s							
SNET	**Serv Nac Est T**	**5.51**	**106**	Pn		**Pn**	**11 33 37.0**	**+1.1**
UNM	**Universidad Na**	**5.86**	**313**	Pn		**Pn**	**11 33 43.4**	**+2.5**
TGUH	**Tegucigalpa,Un**	**7.27**	**99**	Pn		**Pn**	**11 34 00.4**	**+0.4**
MOIG	**Morelia**	**7.58**	**306**			**Pn**	**11 34 07.4**	**+3.0**
MOIG	**Morelia**	**7.58**	**306**	*i* P		**Pn**	**11 34 06.1**	**+1.7**
MOIG				IAML			11 34 08.7	
	comp=Z,150nm,1.0s							
MOIG				IAmb	IAmb		11 34 08.8	
	comp=Z,110nm,0.6s							
TEIG	**Tepich**	**7.80**	**50**	Pn		**Pn**	**11 34 05.4**	**-1.8**
TEIG	**Tepich**	**7.80**	**50**	LR		LR	11 37 32.1	
	comp=Z,3µm,19.8s,baz=6.5,slow=43							
MATN	**Matagalpa**	**8.81**	**105**			**Pn**	**11 34 19.1**	**-2.1**
SAJU	**San Juanillo,**	**10.18**	**120**	*i* P		**Pn**	**11 34 40.8**	**+0.9**
SAJU				IAmb	IAmb		11 34 50.9	
	comp=Z,36nm,0.7s							
SAJU				*i* S		**Sn**	**11 36 35.7**	**+2.9**
ORTG	**Ortega, Santa**	**10.25**	**118**			**Pn**	**11 34 40.8**	**-0.1**
ORTG	**Ortega, Santa**	**10.25**	**118**	*i* S		**Sn**	**11 36 35.3**	**+0.8**
ZAIG	**Zacatecas**	**10.51**	**316**	Pn		**Pn**	**11 34 46.0**	**+1.3**
JTS	**Las Juntas de**	**10.72**	**117**	P		**Pn**	**11 34 44.1**	**-3.1**
	comp=Z,1.5nm,0.3s,baz=305,slow=19,SNR=2.6							
	comp=Z,2.0nm,0.3s							
TCS1	**Tacares**	**11.40**	**116**	*i* P		Pn	11 35 06.6	+10
HBVL	**Hebbronville**	**12.26**	**343**	Pn		**Pn**	**11 35 10.0**	**+1.7**
SOR	**Soroa**	**13.29**	**54**	Pn		**Pn**	**11 35 22.4**	**+0.1**
833A	**Chaparral WMA,**	**13.65**	**342**			**Pn**	**11 35 29.9**	**+2.6**
HNDO	**Hondo**	**14.76**	**344**	Pn		**Pn**	**11 35 44.0**	**+1.8**
DRIO	**Del Rio**	**15.06**	**340**	Pn		**P**	**11 35 49.2**	**-1.6**
435B	**Jarrell**	**15.62**	**351**			**P**	**11 35 55.1**	**-1.7**
JCT	**Junction City**	**15.80**	**344**			**Pn**	**11 35 56.9**	**+1.2**
TXAR	**Lajitas Array**	**16.22**	**331**	Pn		**P**	**11 36 03.1**	**-0.6**
TXAR	**Lajitas Array**	**16.22**	**331**	P		**Pn**	**11 36 02.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=158,slow=13,SNR=10.0							
	comp=Z,1.1nm,0.8s							
TX31	**Lajitas Ar. Si**	**16.23**	**331**	Pn		**P**	**11 36 03.1**	**-0.6**
BRDY	**Brady**	**16.37**	**347**	Pn		**Pn**	**11 36 03.7**	**+0.8**
OZNA	**Ozona**	**16.61**	**340**	Pn		**P**	**11 36 07.9**	**-0.1**
237A	**Washetta, Mont**	**16.63**	**357**			**P**	**11 36 07.7**	**-0.4**
237A					IAmb	IAmb	11 36 20.0	
	comp=Z,45nm,1.4s							
WHTX	**Lake Whitney,**	**16.78**	**352**	P		**P**	**11 36 11.2**	**+1.4**
WHTX					IAmb	IAmb	11 36 24.7	
	comp=Z,20nm,0.7s							
ALPN	**Alpine**	**17.09**	**333**			**P**	**11 36 13.6**	**+0.2**
FW13	**Cleburne**	**17.14**	**352**	P		**P**	**11 36 13.3**	**-0.3**
FW13					IAmb	IAmb	11 36 25.9	
	comp=Z,26nm,0.9s							
FW14	**Alvarado**	**17.15**	**353**			**P**	**11 36 14.1**	**+0.2**
FW14					IAmb	IAmb	11 36 19.4	
	comp=Z,27nm,0.8s							
FW07	**Weatherford**	**17.53**	**351**	P		**P**	**11 36 18.8**	**+0.7**
FW07					IAmb	IAmb	11 36 40.4	
	comp=Z,24nm,0.8s							
SGCY	**Sterling City**	**17.53**	**341**	P		**P**	**11 36 19.1**	**+1.0**
SGCY					IAmb	IAmb	11 36 32.4	
	comp=Z,23nm,0.9s							
MNHN	**Monahans**	**17.57**	**336**	P		**P**	**11 36 19.9**	**+1.3**
PLPT	**Palo Pinto**	**17.72**	**350**			**P**	**11 36 21.6**	**+1.4**
PLPT					IAmb	IAmb	11 36 37.1	
	comp=Z,15nm,0.6s							
ABTX	**Abilene, Hawle**	**17.80**	**346**		IAmb	IAmb	11 36 32.5	
	comp=Z,31nm,1.4s							
FW03	**Perrin-Whitt E**	**17.90**	**351**	P		**P**	**11 36 24.4**	**+2.2**
FW03					IAmb	IAmb	11 36 40.3	
	comp=Z,20nm,0.7s							
ODSA	**Odessa**	**18.20**	**338**		IAmb	IAmb	11 36 38.2	
	comp=Z,14nm,0.8s							
SN01	**Snyder 1**	**18.35**	**343**	P		**Pn**	**11 36 28.5**	**+1.0**
352A	**Blakely**	**18.38**	**27**	P		**Pn**	**11 36 28.4**	**+0.6**
APMT	**Aspermont**	**18.59**	**346**	IAmb	IAmb	IAmb	11 36 58.5	
	comp=Z,11nm,0.6s							
WTFS	**Witchita Falls**	**18.68**	**350**	IAmb	IAmb	IAmb	11 36 45.6	
	comp=Z,16nm,0.6s							
Y45A	**Yeager Farm, C**	**19.03**	**13**	P		**Pn**	**11 36 35.3**	**-0.3**
Y45A					IAmb	IAmb	11 36 47.1	
	comp=Z,18nm,0.9s							
DKNS	**Dickens**	**19.12**	**344**	IAmb	IAmb	IAmb	11 36 46.4	
	comp=Z,9.3nm,0.7s							
152A	**Waverly Hall**	**19.49**	**26**	P		**Pn**	**11 36 40.8**	**-0.3**
152A					IAmb	IAmb	11 36 44.8	

	comp=Z,29nm,1.4s							
WMOK	**Wichita Mounta**	**19.68**	**350**			**Pn**	**11 36 43.6**	**+0.2**
W35A	**Tecumseh**	**19.84**	**355**	IAmb	IAmb	IAmb	11 37 10.2	
	comp=Z,16nm,0.9s							
MSTX	**Muleshoe**	**19.95**	**340**	IAmb	IAmb	IAmb	11 37 10.0	
	comp=Z,8.2nm,0.8s							
WHAR	**Wooly Hollow**	**20.00**	**6**	P		Pn	11 36 46.6	-0.5
WHAR				IAmb		IAmb	11 36 53.2	
	comp=Z,18nm,1.3s							
SMWD	**Samnorwood**	**20.32**	**347**	P		Pn	11 36 50.3	-0.7
SMWD				IAmb		IAmb	11 37 06.5	
	comp=Z,20nm,0.8s							
GOGA	**Godfrey**	**20.67**	**27**	P		**P**	**11 36 52.9**	**+0.6**
GOGA				IAmb		IAmb	11 37 11.2	
	comp=Z,10nm,1.0s							
OK052	**Battle Ridge R**	**20.67**	**355**			**P**	**11 36 53.0**	**+0.6**
OK033	**Mehan**	**20.73**	**355**			Pn	11 36 54.9	-0.9
QUOK	**Quay**	**20.84**	**355**	IAmb		IAmb	11 37 07.4	
	comp=Z,18nm,0.9s							
121A	**Cookes Peak, D**	**20.87**	**327**	IAmb		IAmb	11 37 08.3	
	comp=Z,11nm,1.1s							
HHAR	**Hobbs**	**20.88**	**2**	P		Pn	11 36 56.5	-1.0
U38A	**Gravette**	**21.03**	**1**	P		**P**	**11 36 57.5**	**+1.2**
U38A				IAmb		IAmb	11 37 09.2	
	comp=Z,10.0nm,1.0s							
U32A	**Winter Ranch,**	**21.32**	**350**	IAmb		IAmb	11 37 09.2	
	comp=Z,18nm,0.8s							
T35A	**Sooner Cattle**	**21.57**	**356**	IAmb		IAmb	11 37 25.8	
	comp=Z,12nm,0.8s							
TULM	**Tulcn-Chalpat**	**22.11**	**129**	P		**P**	**11 37 09.5**	**+1.0**
TULM				IAmb		IAmb	11 37 35.1	
	comp=Z,11nm,0.8s							
RTBA	**Rita Blanca**	**22.22**	**343**	P		**P**	**11 37 10.5**	**+1.3**
RTBA				IAmb		IAmb	11 37 20.4	
	comp=Z,10.0nm,0.6s							
TUC	**Tucson**	**22.38**	**322**	P		**P**	**11 37 13.4**	**+2.6**
U49A	**Red Boiling Sp**	**22.54**	**19**	IAmb		IAmb	11 37 28.2	
	comp=Z,10.0nm,1.1s							
SDCO	**Great Sand Dun**	**24.30**	**339**	P		**P**	**11 37 31.4**	**+1.6**
SDV	**Santo Domingo**	**24.34**	**102**	LR		LR	11 47 30.5	
	comp=Z,80nm,19.6s,baz=72,slow=38							
Y14A	**Wickenburg**	**24.85**	**322**	IAmb		IAmb	11 38 02.2	
	comp=Z,9.2nm,1.5s							
PRSN	**Puerto Rico Se**	**26.50**	**80**	P		**P**	**11 37 47.3**	**-2.3**
ECSD	**EROS Data Cent**	**28.36**	**357**	IAmb		IAmb	11 38 17.7	
	comp=Z,4.9nm,0.7s							
PDAR	**Pinedale Array**	**30.19**	**338**	P		**P**	**11 38 22.2**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=154,slow=5.0,SNR=2.1							
PDAR				LR		LR	11 51 56.5	
	comp=Z,80nm,19.6s,baz=14,slow=39							
	comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**31.04**	**322**	P		**P**	**11 38 31.0**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=133,slow=9.2,SNR=6

PB07 IAML 11 55 33.2
comp=E,5µm,0.5s
PB09 IPOC Station P 3.46 180 Pn 11 54 43.9 +2.6
PB09 IPOC Station P 3.46 180 *e*P **Pn 11 54 43.9 +2.6**
PB09 *e*S **Sb 11 55 31.5 +0.6**
PB09 IAML 11 55 38.9
comp=E,4µm,0.6s
PB04 IPOC Station P 4.08 192 Pn 11 54 52.0 +2.2
PB04 IPOC Station P 4.08 192 *e*P **Pn 11 54 52.2 +2.3**
LVC Limon Verde 4.28 176 Pn **Pn 11 54 55.9 +3.1**
comp=E,26nm,0.3s,baz=334,slow=7.7,SNR=114
LVC Sn **Sb 11 55 50.9 -3.8**
comp=E,54nm,0.3s,baz=88,slow=23,SNR=9.1
comp=E,132nm,0.5s
LVC Limon Verde 4.28 176 *e*P **Pn 11 54 56.7 +3.9**
PB06 IPOC Station P 4.38 184 Pn 11 54 56.1 +2.3
PB06 IPOC Station P 4.38 184⇓*e*P **Pn 11 54 55.7 +1.9**
PB05 IPOC Station P 4.60 191 Pn **Pn 11 54 58.6 +1.7**
PB15 IPOC Station P 4.87 182 Pn 11 55 02.7 +2.0
PB14 IPOC Station P 6.37 189 Pn **Pn 11 55 20.9 -0.5**
GO02 Mina Guanaco 6.82 183 Pn **Pn 11 55 28.5 +1.0**
AC01 Pan de Azucar 7.89 189 Pn 11 55 38.0 -4.1
SIV San Ignacio 8.15 75 Pn **Pn 11 55 43.5 -2.2**
comp=E,0.5nm,0.3s,baz=250,slow=13,SNR=34
SIV LR LR 11 59 14.1
comp=E,4µm,18.2s,baz=273,slow=41
comp=E,6.5nm,0.5s
BBSD Serra de San D 8.31 84 *e*P **Pn 11 55 47.8 0.0**
ETMB Extrema 8.95 20 Pn 11 55 57.4 +0.9
ETMB Extrema 8.95 20 *e*P **Pn 11 55 59.0 +2.5**
BBRB Robore, Bolivi 8.97 91 *e*P **Pn 11 55 55.1 -1.8**
GO03 Copiap 9.28 185 Pn **Pn 11 56 01.1 0.0**
NNA Nana 9.66 310 Pn **Pn 11 56 06.6 +0.3**
comp=E,3.0nm,0.3s,baz=127,slow=15,SNR=2.7
NNA LR LR 12 00 33.0
comp=E,984nm,18.2s,baz=156,slow=42
comp=E,7.3nm,0.4s
AC04 Llanos de Chal 9.98 189 Pn 11 56 08.6 -2.1
PTLB Pontes e Lacer 10.10 75 *e*P **Pn 11 56 13.0 +0.8**
AC05 El Transito 10.51 185 Pn 11 56 16.7 -1.4
SAML Samuel 11.02 33 Pn 11 56 24.9 0.0
SAML Samuel 11.02 33 *e*P **Pn 11 56 25.5 +0.6**
CZSB Cruzeiro do Su 11.05 342 Pn 11 56 27.4 +2.1
CZSB Cruzeiro do Su 11.05 342 *e*P **Pn 11 56 29.9 +4.6**
MURT Porto Murtinho 11.44 109 *e*P **Pn 11 56 29.3 -1.3**
TICA Tres Isletas 11.48 136 *e*P **Pn 11 56 33.8 +2.7**
ESFA Espinillo Form 11.99 125 *e*P **Pn 11 56 38.2 0.0**
CO03 El Pedregal 12.54 186 Pn 11 56 45.8 +0.1
AQDB Aquidauana 12.97 102 Pn 11 56 50.8 -0.8
AQDB Aquidauana 12.97 102 *e*P **Pn 11 56 51.1 -0.5**
ANTJ Antonio Joao (12.97 109 *e*P **Pn 11 56 52.2 +0.6**
SALV Santo Antonio 13.18 82 *e*P **Pn 11 56 54.8 +0.2**
CPUP Villa Florida 13.61 128 Pn Pn 11 57 00.5 +0.2
CPUP Villa Florida 13.61 128 Pn Pn 11 57 00.8 +0.5
comp=E,0.2nm,0.3s,baz=300,slow=15,SNR=2.4
comp=E,2.2nm,0.7s
CPUP Villa Florida 13.61 128 *e*P **Pn 11 57 01.6 +1.4**
PP1B Ponte de Pedra 13.70 89 *e*P **Pn 11 57 01.1 -0.5**
ATAH Atahualpa 14.24 320 Pn Pn 11 57 07.5 -1.9
comp=E,0.3nm,0.3s,baz=136,slow=18,SNR=1.9
ATAH LR LR 12 02 25.4
comp=E,751nm,21.1s,baz=148,slow=37
comp=E,2.4nm,0.6s
VA03 San Esteban 14.43 184 Pn 11 57 13.2 +1.5
RPRD Ribas do Rio P 14.83 101 *e*P **Pn 11 57 17.4 +0.3**
CLDB Colider 14.97 62 *e*P **Pn 11 57 18.3 -0.7**
MT02 Curacav 14.98 186 Pn 11 57 18.8 -0.1
MT05 Renca 15.07 185 Pn Pn 11 57 21.1 +0.8
MT05 IAmb IAmb 11 57 28.0
comp=E,76nm,0.9s
MT03 Universidad Ad 15.16 184 Pn Pn 11 57 22.8 +1.3
MT13 San Alfonso 15.39 183 Pn 11 57 24.9 +0.4
MT13 IAmb IAmb 11 57 32.3
comp=E,47nm,1.0s
TEFE Tefe 15.40 18 *e*P **Pn 11 57 26.4 +1.8**
VA05 Santo Domingo 15.42 187 Pn 11 57 25.0 +0.2
VA05 IAmb IAmb 11 57 47.7
comp=E,89nm,1.4s
MT09 Talagante 15.47 185 IAmb IAmb 11 57 32.3
comp=E,52nm,0.9s
LMEL Las Melosas 15.49 183 IAmb IAmb 11 57 48.6
comp=E,43nm,0.9s
MT01 Popeta 15.59 186 IAmb IAmb 11 57 34.3
comp=E,54nm,0.9s
ITQB Itaqui 16.14 137 *e*P **Pn 11 57 35.6 +1.5**
BO02 Sierra Bellavi 16.47 184 IAmb IAmb 11 57 43.9
comp=E,67nm,1.0s
CRSM Crissiumal (Br 16.71 126 *e*P **P 11 57 44.4 +0.6**
UNIS Unistalda (Bra 16.81 132 *e*P **Pn 11 57 44.6 +1.9**
PTGB Pitanga 17.21 115 *e*P **P 11 57 50.3 +0.9**
PCMB Pacaembu 17.23 104 *e*P **P 11 57 49.4 -0.1**
MACA Manacapuru-AM 17.24 30 Pn 11 57 49.4 +1.2
MACA Manacapuru-AM 17.24 30 *e*P **P 11 57 50.5 +0.8**
MCRA Macar, Loja 17.37 322 P P 11 57 51.9 +0.7
MCRA Macar, Loja 17.37 322 *e*P **P 11 57 52.6 +1.4**
NPGB Novo Progresso 17.57 52 *e*P **P 11 57 53.4 0.0**
BOSC San Juan Bosco 17.58 328 Pn 11 57 52.6 -0.1
LDASE Londrina, Braz 17.68 110 *e*P **Pn 11 57 53.4 -0.3**
ITRB Iturama 17.92 97 *e*P **P 11 57 58.4 +1.2**
ITAB Concordia 18.10 122 P Pn 11 57 59.1 +0.3
ITAB Concordia 18.10 122 *e*P **P 11 58 00.7 +1.6**
ALGR Alto Alegre (B 18.15 128 *e*P **P 11 58 01.5 +1.8**
SNDB Serra Nova Dou 18.44 73 *e*P **P 11 58 03.2 +0.2**
COHC Cochancay 18.55 327 *e*P **Pn 11 58 07.2 +2.8**
CPSB Cacapava Do Su 18.75 133 *e*P **Pn 11 58 07.7 +1.0**
FRTB Fartura 19.07 109 *e*P **P 11 58 10.3 +0.5**
ITTB Itaituba 19.16 45 *e*P **P 11 58 10.5 -0.3**
PIAT Ana Tenorio 19.35 332 *e*P **Pn 11 58 17.5 +3.0**
PLTB Pedras Altas 19.47 136 *e*P **P 11 58 14.2 0.0**
SLOR San Lorenzo - 19.70 332 P P 11 58 18.4 +1.2
BB19B Bebedouro 19.70 101 *e*P **Pn 11 58 18.5 +0.2**
IPMB Ipameri, GO 20.00 92 *e*P **Pn 11 58 22.3 +0.4**
BONI La Bonita 20.35 336 *e*P **P 11 58 25.0 +0.8**
BDFB Brasilia 20.49 86 P P 11 58 26.2 +0.7
BDFB Brasilia 20.49 86 P P 11 58 23.9 -1.5
comp=E,4.6nm,0.8s,baz=260,slow=14,SNR=3.0
BDFB LR LR 12 06 52.2
comp=E,868nm,19.2s,baz=284,slow=39
comp=E,4.6nm,0.8s
OTAV Otavalo 20.54 333 *e*P Pn 11 58 30.5 +1.9
OTAV Otavalo 20.54 333 *e*P Pn 11 58 31.9 +3.3
TRQA Tornquist 20.67 164 P P 11 58 27.2 0.0
TRQA IAmb IAmb 11 58 34.9
comp=E,89nm,1.1s
TULM Tulcn-Chalpat 20.69 335 P P 11 58 29.2 +1.1
TULM IAmb IAmb 11 58 38.1
comp=E,64nm,1.1s
TULM Tulcn-Chalpat 20.69 335 *e*P Pn 11 58 31.9 +1.5
RCLB Rio Claro- Sao 20.77 105 *e*P Pn 11 58 30.5 -0.3
GCUF Volcan Galeras 20.99 337 *e*P Pn 11 58 36.8 +2.9
SPB Sao Paulo 21.04 108 *e*P **P 11 58 31.9 +0.6**
PMNB Patos De Minas 21.65 94 *e*P **P 11 58 38.6 +0.7**
BBAC Balboa, Cauca 21.69 338 *e*P **P 11 58 40.7 +2.2**
POPC Popayan, Colom 21.98 340 *e*P **P 11 58 43.6 +1.9**
MALB Monte Alegre 22.00 44 *e*P **P 11 58 44.2 +2.6**
PLCA Paso Flores 22.37 183 P P 11 58 45.2 -0.3
PLCA IAmb IAmb 11 58 49.3
comp=E,81nm,1.1s
PLCA Paso Flores 22.37 183 P P 11 58 46.0 +0.5
comp=E,46nm,1.0s,baz=8.2,slow=12,SNR=39
comp=E,46nm,1.0s
BSCB Bom Sucesso 23.20 101 *e*P **P 11 58 55.7 +1.3**
ROSC El Rosal 23.55 347 LR LR 12 09 10.0
comp=E,1µm,19.8s,baz=216,slow=40
PLMC San Jos del P 24.09 343 *e*P **P 11 59 02.3 -0.9**
JANB Januaria 24.10 86 *e*P **P 11 59 03.1 -0.2**
LL01 San Ignacio de 24.14 186 IAmb IAmb 11 59 05.1
comp=E,27nm,0.9s
GUY2C Guyana, Caldas 24.16 345 *e*P **P 11 59 05.1 +1.0**
DIAM Diamantina, MG 24.28 94 *e*P **P 11 59 05.5 +0.5**
LL02 Futaleuf 24.89 185 P P 11 59 09.7 -0.4
BARC Barichara 25.05 351 *e*P **P 11 59 11.2 -0.8**
PTBC PUERTO BERRIO, 25.23 348 *e*P **P 11 59 10.8 -2.6**
AY01 Puyuhuapi 26.18 186 P P 11 59 21.2 -0.5
AY01 IAmb IAmb 11 59 25.4
comp=E,27nm,1.1s
SDV Santo Domingo 27.06 357 LR LR 12 11 12.9
comp=E,560nm,19.2s,baz=184,slow=39
BAUV El Baul 27.11 3 P P 11 59 29.9 -0.5
BAUV IAmb IAmb 11 59 43.5
comp=E,34nm,1.1s
MDP Montagnes des 28.46 37 LR LR 12 11 12.3
comp=E,505nm,20.4s,baz=209,slow=37

PCRV Puerto La Cruz 28.68 10 LR LR 12 12 04.6
comp=E,502nm,19.2s,slow=39
JTS Las Juntas de 32.38 330 LR LR 12 14 39.0
comp=E,729nm,19.4s,baz=150,slow=39
RCBR Riachuelo 34.82 73 LR LR 12 15 35.5
comp=E,784nm,20.8s,baz=244,slow=38
RPN Rapa Nui 37.86 249 LR LR 12 12 51.6
comp=E,569nm,18.4s,baz=109,slow=30
TEIG Tepich 42.61 333 LR LR 12 20 07.5
comp=E,3µm,21.1s,baz=344,slow=37
PMSA Palmer Station 46.55 177 LR LR 12 23 11.3
comp=E,225nm,18.1s,baz=336,slow=38
833A Chaparral WMA, 54.77 327 IAmb IAmb 12 03 20.1
comp=E,12nm,0.8s
TKL Tuckaleechee C 55.42 346 LR LR 12 30 18.0
comp=E,85nm,18.1s,baz=178,slow=40
HNDO Hondo 55.69 328 IAmb IAmb 12 03 34.3
comp=E,12nm,0.9s
DRIO Del Rio 56.29 327 IAmb IAmb 12 03 31.4
comp=E,7.3nm,0.8s
WHTX Lake Whitney, 56.86 331 IAmb IAmb 12 03 36.6
comp=E,17nm,0.9s
Z38A Mt. Pleasant 56.87 334 IAmb IAmb 12 03 35.6
comp=E,16nm,0.8s
FW13 Cleburne 57.15 332 IAmb IAmb 12 03 38.6
comp=E,16nm,1.0s
WHAR Wooly Hollow 57.62 338 IAmb IAmb 12 03 43.3
comp=E,12nm,1.0s
FW06 Azle 57.73 332 IAmb IAmb 12 03 42.3
comp=E,18nm,0.8s
TXAR Lajitas Array 57.86 324 P **P 12 03 39.0 -0.3**
comp=E,0.6nm,0.8s,baz=142,slow=6.3,SNR=5.7
TXAR LR LR 12 26 43.3
comp=E,84nm,20.0s,baz=145,slow=34
comp=E,0.6nm,0.8s
LCAR Lake Charles 57.93 339 P **P 12 03 38.4 -1.1**
LCAR IAmb IAmb 12 03 45.0
comp=E,9.8nm,1.0s
PLPT Palo Pinto 57.94 331 IAmb IAmb 12 03 56.3
comp=E,16nm,1.4s
FCAR Ozark Folk Cen 58.10 338 P **P 12 03 40.2 -0.5**
FCAR IAmb IAmb 12 03 46.2
comp=E,10nm,0.9s
PBMO Poplar Bluff 58.33 340 IAmb IAmb 12 03 48.5
comp=E,12nm,0.9s
ABTX Abilene 58.41 330 IAmb IAmb 12 03 46.9
comp=E,14nm,1.1s
WTFS Witchita Falls 58.81 332 P **P 12 03 45.8 0.0**
MNHN Monahans 58.93 327 IAmb IAmb 12 03 50.0
comp=E,6.8nm,0.9s
HHAR Hobbs 59.11 337 IAmb IAmb 12 03 53.9
comp=E,11nm,1.0s
APMT Aspermont 59.21 330 IAmb IAmb 12 03 53.0
comp=E,12nm,1.0s
MGMO Mountain Grove 59.29 339 P **P 12 03 48.6 -0.4**
MGMO IAmb IAmb 12 03 55.0
comp=E,13nm,0.9s
TUL3 Leonard 59.50 335 IAmb IAmb 12 03 53.2
comp=E,12nm,1.0s
DEOK Depew 59.73 334 P **P 12 03 51.5 -0.6**
CCM Cathedral Cave 59.76 340 P **P 12 03 51.8 -0.5**
CCM IAmb IAmb 12 03 57.9
comp=E,12nm,0.8s
OK052 Battle Ridge R 59.98 334 P 12 03 52.6 -1.2
OK033 Mehan 60.08 334 P 12 03 55.1 +0.5
S39A Bolivar 60.14 338 IAmb IAmb 12 04 00.7
comp=E,14nm,0.8s
R40A Maddies Statio 60.31 339 IAmb IAmb 12 04 01.6
comp=E,12nm,0.8s
T35A Sooner Cattle 60.66 335 P 12 03 57.9 -0.6
T35A IAmb IAmb 12 04 01.3
comp=E,12nm,1.0s
MSTX Muleshoe 61.02 328 IAmb IAmb 12 04 03.7
comp=E,12nm,0.9s
VNA3 Neumayer Olymp 63.18 162⇓P **P 12 04 15.8 +0.8**
comp=E,11nm,0.8s
VNA1 Neumayer--Stat 63.38 161⇓P **P 12 04 16.6 +0.3**
comp=E,15nm,1.0s
SADO Sadowa 63.42 352 LR LR 12 32 45.3
comp=E,199nm,21.8s,baz=146,slow=37
ANMO Albuquerque 63.68 326 LR LR 12 32 30.1
comp=E,94nm,21.1s,baz=226,slow=37
VNA2 Neumayer--Watz 63.75 161⇓P **P 12 04 19.8 +1.1**
comp=E,8.5nm,0.9s,baz=289,slow=6.0
SDCO Great Sand Dun 65.36 329 P **P 12 04 30.8 +0.7**
SNAA Sanae 65.38 161 P **P 12 04 30.0 +0.5**
SNAA Sanae 65.38 161⇓P **P 12 04 30.4 +0.9**
comp=E,184nm,0.8s
ECSD EROS Data Cent 66.65 339 IAmb IAmb 12 04 41.0
comp=E,16nm,1.2s
TROLL Troll, Antarti 67.09 161⇓P **P 12 04 41.9 +1.3**
comp=E,358nm,0.7s
SMCO Snowmass 67.20 329 P **P 12 04 42.8 +0.8**
SMCO IAmb IAmb 12 04 48.4
comp=E,5.6nm,0.9s
F36A Milaca 67.56 342 IAmb IAmb 12 04 49.5
comp=E,11nm,0.8s
DBIC Dimbokro 68.18 75 P **P 12 04 47.6 -0.6**
comp=E,2.1nm,0.7s,baz=248,slow=10,SNR=3.6
DBIC LR LR 12 32 43.5
comp=E,189nm,20.5s,baz=228,slow=34
comp=E,2.1nm,0.7s
KNB Kanab 68.68 324 IAmb IAmb 12 05 10.9
comp=E,16nm,1.3s
TAOE Nuku Hiva Isla 69.20 267 *e*LR LR 12 25 47.2
comp=E,178nm,34.4s
B35A Bob, Littlefor 69.89 343 IAmb IAmb 12 05 03.9
comp=E,9.4nm,0.9s
AGMN Agassiz Nation 70.45 341 P **P 12 05 00.6 -1.0**
AGMN IAmb IAmb 12 05 15.3
comp=E,9.1nm,1.1s
PDAR Pinedale Array 71.21 330 P **P 12 05 05.0 -1.5**
comp=E,0.4nm,0.7s,baz=120,slow=8.8,SNR=4.9
PDAR LR LR 12 39 16.1
comp=E,80nm,21.5s,baz=153,slow=38
comp=E,0.4nm,0.7s
QSPA South Pole Qui 71.86 180 P **P 12 05 08.3 -1.8**
QSPA South Pole Qui 71.86 180 P **P 12 05 10.7 +0.6**
comp=E,2.6nm,0.6s,baz=196,slow=0.8,SNR=7.7
comp=E,2.6nm,0.6s
ULM Lac du Bonnet 72.20 342 IAmb IAmb 12 05 13.8
comp=E,23nm,1.4s
ULM Lac du Bonnet 72.20 342 P **P 12 05 10.6 -1.4**
comp=E,4.5nm,0.6s,baz=146,slow=5.7,SNR=12
ULM LR LR 12 39 21.1
comp=E,81nm,19.3s,baz=152,slow=38
comp=E,4.5nm,0.6s
ELK Elko 72.64 325 LR LR 12 38 09.5
comp=E,115nm,18.7s,baz=142,slow=37
NVAR Mina Array Bea 72.81 322 P **P 12 05 15.8 -0.5**
comp=E,1.0nm,0.8s,baz=155,slow=6.4,SNR=6.7
comp=E,1.0nm,0.8s
SCHQ Schefferville 72.88 1 LR LR 12 38 05.8
comp=E,86nm,20.4s,baz=108,slow=37
HLID Hailey 74.19 328 P **P 12 05 25.1 +0.8**
TBI Tubuai 74.24 250 *e*LR LR 12 28 03.3
comp=E,2µm,29.0s
TBI *e*LR LR 12 28 15.9
comp=E,2µm,27.5s
PPT2 Papeete2 75.75 256 *e*LR LR 12 28 42.9
comp=E,112nm,28.0s
PPT2 *e*LR LR 12 28 49.6
comp=E,138nm,26.0s
PPT Papeete 75.76 256 LR LR 12 31 53.9
comp=E,80nm,18.1s,baz=228,slow=30
PLID Pearl Lake 76.08 328 P **P 12 05 36.0 +0.8**
TORD Torodi Ar. Bea 76.62 71 P **P 12 05 36.4 -2.2**
comp=E,15nm,1.0s,baz=268,slow=4.9,SNR=26
TORD LR LR 12 37 28.9
comp=E,280nm,20.9s,baz=308,slow=34
comp=E,15nm,1.0s
YBH Yreka Blue Hor 77.51 322 LR LR 12 40 49.4
comp=E,89nm,18.1s,baz=143,slow=36
NEW Newport 78.85 330 LR LR 12 45 20.8
comp=E,74nm,19.9s,baz=145,slow=39
MDT Midelt 79.98 51 LR LR 12 39 49.7
comp=E,69nm,19.1s,baz=148,slow=35
SUR Sutherland 80.47 121 LR LR 12 40 22.9
comp=E,139nm,18.6s,baz=230,slow=35
EDM Edmonton 80.76 335 IAmb IAmb 12 06 03.0
comp=E,20nm,1.3s
TSUM Tsumeb 81.28 107 P **P 12 06 04.8 +0.4**
TSUM IAmb IAmb 12 06 21.3
comp=E,13nm,1.3s
FRB Frobisher Bay 81.80 0 LR LR 12 45 57.9
comp=E,96nm,18.1s,baz=218,slow=38
TAM Tamanrasset 83.69 64 P **P 12 06 17.2 +0.4**
TAM IAmb IAmb 12 06 21.7
comp=E,11nm,1.1s
ESDC Sonseca Array 83.81 45 P **P 12 06 17.9 +1.0**
ESDC IAmb IAmb 12 06 26.7
comp=E,8.0nm,1.4s
ESDC Sonseca Array 83.81 45 P **P 12 06 14.4 -2.5**
comp=E,2.7nm,1.1s,baz=253,slow=5.8,SNR=8.3
comp=E,2.7nm,1.1s
RAR Rarotonga 84.01 250 LR LR 12 35 27.2
comp=E,103nm,19.8s,baz=90,slow=30
BOSA Boshof 85.23 118 LR LR 12 40 50.4
comp=E,289nm,20.0s,baz=216,slow=33
LBTB Lobatse 86.65 115 LR LR 12 42 11.3
comp=E,148nm,19.0s,baz=234,slow=34
BBB Bella Bella 86.77 328 LR LR 12 49 12.9
comp=E,49nm,18.2s,baz=147,slow=38
MAW Mawson 87.46 163 LR LR 12 45 46.6
comp=E,106nm,19.8s,baz=240,slow=36
YKA Yellowknife Ar 88.09 341 P **P 12 06 36.5 -1.0**
comp=E,2.4nm,0.8s,baz=134,slow=4.9,SNR=19
YKA LR LR 12 52 01.3
comp=E,52nm,18.0s,baz=15,slow=40
comp=E,2.4nm,0.8s
LSZ Lusaka 92.12 107 LR LR 12 47 22.1
comp=E,279nm,18.0s,baz=223,slow=35
RES Resolute Bay 94.22 353 LR LR 12 51 47.7
comp=E,61nm,19.7s,baz=12,slow=37
DAVOX Davos/Dischmat 95.96 43 LR LR 12 50 43.9
comp=E,86nm,18.5s,baz=78,slow=36
VAE Valguarnera 96.08 53 LR LR 12 51 51.1
comp=E,136nm,18.1s,baz=308,slow=36
URZ Urewera 96.15 226 LR LR 12 41 33.0
comp=E,157nm,20.3s,baz=301,slow=30
INK Inuvik 97.86 340 LR LR 12 53 54.6
comp=E,106nm,21.7s,baz=184,slow=37
GERES GERESS Array B 99.06 42 LR LR 12 49 25.2
comp=E,78nm,18.2s,baz=269,slow=34
DZM Mont Dzumac 112.33 236 *e*LR LR 12 45 43.8
comp=E,151nm,30.4s
ASAR Alice Springs 132.54 209 PKP **PKPdf 12 13 02.1 -0.7**
comp=E,0.5nm,0.6s,baz=138,slow=2.0,SNR=11
WRA Warramunga Arr 135.49 212 PKP **PKPdf 12 13 07.9 -0.5**
comp=E,1.3nm,0.7s,baz=158,slow=1.6,SNR=4.7
KURBB Kurchatov Arra 138.83 31 PKP **PKPdf 12 13 12.2 -1.4**
comp=E,0.3nm,0.3s,baz=321,slow=2.8,SNR=1.5
ZALV Zalesovo Beam 139.20 23 PKP **PKPdf 12 13 13.1 -1.0**
comp=E,3.0nm,0.8s,baz=294,slow=1.9,SNR=13
MKAR Makanchi Array 143.21 33 PKhKP PKPpre 12 13 13.8
comp=E,0.3nm,0.9s,baz=298,slow=4.1,SNR=2.3
KLR Kul'dur 144.81 336 PKP **PKPab 12 13 23.2 0.0**
comp=E,5.7nm,1.1s,baz=347,slow=6.7,SNR=6.6
WMQ Urumqi 148.02 32 *e*P **PKPdf 12 13 30.8 +0.8**
MJAR Matsushiro Arr 149.77 312 PKPbc **PKPbc 12 13 38.1 +0.4**
comp=E,3.1nm,0.8s,baz=148,slow=1.7,SNR=5.6
SONM Songino Array 150.34 6 PKP **PKPdf 12 13 33.3 -0.4**
comp=E,1.3nm,0.8s,baz=323,slow=2.2,SNR=2.8
SONM PKPbc **PKPbc 12 13 38.6 -0.3**
comp=E,5.1nm,0.7s,baz=319,slow=1.5,SNR=36
HHC Hu-ho-hao-te 157.53 358 *e*P **PKPdf 12 13 40.8 -3.2**
LZH Lanzhou 161.28 18 *e*P PKPdf 12 13 39.8 -8.8
LZH pP pPKPdf 12 13 50.8 -3.0
LZH pmax pmax
comp=E,9.0nm,1.2s
CD2 Chengdu 165.95 26 PKP PKPdf 12 13 52.5 -0.4
PZH PanZhiHua 168.35 44 PKP PKPdf 12 13 54.5 -0.4

IDC 25 11:57:00.1±4.8,19°.44S×175°.66W,**h0**km,**mb4.1**/4,
mbtmp4.1/4,**Error ellipse: s-maj=149.0km**
s-min=92.6km az=168.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.80**	**262**	P	P	12 04 03.0	+1.6
	2.8nm,0.4s,baz=84,slow=10,SNR=8.0						
	2.8nm,0.4s						
STKA	**Stephens Creek**	**40.23**	**243**	P	P	12 04 38.2	-0.5
	1.0nm,0.5s,baz=81,slow=9.5,SNR=3.9						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**46.91**	**255**	P	P	12 05 32.0	-0.7
	1.2nm,0.5s,baz=88,slow=8.7,SNR=20						
ASAR				PcP	PcP	12 07 05.5	-0.1
	0.3nm,0.5s,baz=92,slow=3.4,SNR=4.6						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**46.94**	**261**	P	P	12 05 32.2	-0.7
	0.7nm,0.3s,baz=96,slow=7.6,SNR=27						
	0.7nm,0.3s						

*TEH **25** 12:13:50.5,34°.55N×45°.55E,h12km±25km,ML3.4*
*ISN **25** 12:13:51.6±1.1,34°.62N×45°.60E,h27km±7km,ML3.3*
ISC 25 12:13:51.2±1.4,**34°.58N**±0°.04×**45°.60E**±0°.05,**h4**km±10km,
n21,σ**0°60/25**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.07**	**186**	Pg	**Pg**	**12 13 53.2**	**+0.4**
IDHR	**Dehrash**	**0.66**	**79**	Pg	**Pg**	**12 14 03.5**	**-0.4**
IGHG	**Ghaleghazi**	**0.84**	**107**	Pg	**Pg**	**12 14 07.2**	**-0.1**
IGHG				Sg	**Sb**	**12 14 20.6**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.08**	**152**	Pg	**Pg**	**12 14 10.6**	**-1.3**
ILIN	**Lien**	**1.17**	**73**	Pg	**Pg**	**12 14 13.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.23**	**104**	Pg	**Pg**	**12 14 14.7**	**-0.1**
IBDR	**Badra**	**1.49**	**169**	*e*Pg	**Pg**	**12 14 20.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**12 14 39.0**	**-0.1**
SDS1	**Sardasht. Az.**	**1.57**	**357**	Pg	**Pn**	**12 14 20.2**	**+0.2**
BHD	**Baghdad**	**1.65**	**218**	*e*Pn	**Pn**	**12 14 21.0**	**+0.1**
BHD				*e*Sn	**Sn**	**12 14 43.0**	**+0.4**
BHD				AML	AML	12 14 59.6	
	comp=E,379nm,0.4s						
IBZA	**Bozab**	**1.87**	**93**	Pn	**Pb**	**12 14 25.2**	**-0.9**
IALM	**Almabolaq**	**2.13**	**82**	Pn	**Pn**	**12 14 28.8**	**+0.9**
IKFM	**Kafar-mosalman**	**2.14**	**119**	Pn	**Pn**	**12 14 28.2**	**+0.5**
MAHB	**Mahabad**	**2.19**	**2**	Pn	**Pn**	**12 14 29.3**	**+0.8**
HSAM	**Samen**	**2.51**	**98**	Pn	**Pn**	**12 14 33.5**	**+0.5**
RAFI	**Al-Rafai**	**2.88**	**171**	*e*Pn	**Pn**	**12 14 38.0**	**+0.2**
RAFI				*e*Sn	**Sn**	**12 15 13.0**	**+0.1**
HAGD	**Aghdareh**	**2.93**	**84**	Pn	**Pn**	**12 14 39.7**	**+1.0**
ISHB	**Shabestar**	**3.70**	**0**	Pn	**Pn**	**12 14 49.0**	**-0.3**
GRMI	**Germi**	**4.61**	**23**	Pn	**Pn**	**12 15 02.3**	**+0.6**
QAMS	**Qamsar**	**4.88**	**98**	Pn	**Pn**	**12 15 06.3**	**+0.7**
IKLH	**Kolahrood**	**5.13**	**103**	Pn	**Pn**	**12 15 09.5**	**+0.5**
IDMV	**Damavand**	**5.37**	**77**	Pn	**Pn**	**12 15 12.8**	**+0.5**

*TEH **25** 12:20:51.7,33°.73N×45°.67E,h10km,ML2.6*
*ISN **25** 12:20:52.8±1.1,33°.65N×45°.63E,h17km±8km,ML2.6*
ISC 25 12:20:52.4±1.0,**33°.69N**±0°.05×**45°.72E**±0°.05,**h13**km,**n7**,
σ**0°92/10**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.41**	**99**	Pg	**Pg**	**12 21 00.2**	**-0.6**
IBDR	**Badra**	**0.61**	**163**	*e*Pg	**Pg**	**12 21 04.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**12 21 13.0**	**+0.7**
IDHR	**Dehrash**	**1.15**	**29**	Pg	**Pg**	**12 21 13.3**	**-1.0**
BHD	**Baghdad**	**1.19**	**250**	*e*Pn	**Pg**	**12 21 15.0**	**-0.4**
BHD				*e*Sn	**Sn**	**12 21 32.0**	**+1.1**
BHD				AML	AML	12 21 45.0	
	comp=E,292nm,0.5s						
ILIN	**Lien**	**1.60**	**40**	Pg	**Pn**	**12 21 21.6**	**+0.9**
IKFM	**Kafar-mosalman**	**1.79**	**95**	Pn	**Pb**	**12 21 25.4**	**+0.4**
RAFI	**Al-Rafai**	**1.99**	**170**	*e*Pn	**Pb**	**12 21 28.0**	**-0.5**
RAFI				*e*Sn	**Sb**	**12 21 52.0**	**-1.2**

*ISU **25** 12:22:20.0,39°.75N×70°.35E,h5km*
*KRNET **25** 12:22:20.8±0.1,39°.69N×70°.40E,h13km,mb3.0*
*SOME **25** 12:22:21.6,39°.93N×70°.23E,h0km*
*NNC **25** 12:22:23.9±1.7,39°.92N×70°.31E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=14.2km s-min=11.0km az=5.0
ISC 25 12:22:23.9±1.5,**39°.86N**±0°.05×**70°.42E**±0°.03,**h1**km±11km,
n35,σ**1°99/64**,**27C-6D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.36**	**57**⇑*i*P		**Pg**	**12 22 30.2**	**-0.7**
	baz=42						
BTK			⇑*i*S		**Sg**	**12 22 37.0**	**+1.4**
	baz=42						
MINT	**Mingtut**	**0.74**	**35**	P	**Pg**	**12 22 37.3**	**-0.7**
MINT				S	**Sb**	**12 22 50.0**	**-0.2**
DRK	**Karamyk**	**1.13**	**109**⇑*e*P		Pn	12 22 41.6	-5.6
	baz=0.0						
DRK			⇑*e*S		**Sb**	**12 22 57.0**	**-4.8**
	baz=0.0						

FRG	**Fergana**	**1.17**	**64**	P		**Pn**	**12 22 44.6**	**-2.8**
FRG				S		**Sb**	**12 23 02.8**	**+0.3**
KSNS	**Kasansay**	**1.54**	**33**	P		**Pn**	**12 22 51.8**	**-0.8**
KSNS				S		**Sg**	**12 23 15.3**	**+1.8**
YBZ	**Yangibazar**	**1.57**	**336**	P		**Pn**	**12 22 51.6**	**-1.4**
YBZ				S		**Sg**	**12 23 15.0**	**+0.6**
CHMG	**Chimgan**	**1.71**	**350**	P		**Pn**	**12 22 54.6**	**-0.5**
CHMG				S		**Sg**	**12 23 20.1**	**+1.1**
TSTA	**Tashata**	**1.73**	**65**	P		**Pn**	**12 22 54.7**	**-0.5**
TSTA				S		**Sb**	**12 23 20.2**	**+1.4**
TRKS	**Terek-Say**	**1.75**	**18**	⇑*iP*		**Pn**	**12 22 55.2**	**-0.4**
	baz=18							
TRKS				⇑*iS*		**Sg**	**12 23 20.5**	**+0.2**
	baz=18							
BXML	**Bakhmal**	**1.85**	**265**	P		**Pn**	**12 22 57.9**	**+1.0**
BXML				S		**Sg**	**12 23 25.6**	**+2.4**
OHH	**Osh**	**1.93**	**69**	⇑*iP*		**Pn**	**12 22 57.4**	**-0.6**
	baz=65							
OHH				⇑*iS*		**Sn**	**12 23 23.8**	**+0.9**
	baz=65							
ARK	**Arkit**	**2.26**	**31**	⇑*iP*		**Pn**	**12 23 02.8**	**+0.2**
	baz=29							
ARK				⇑*iS*		**Sb**	**12 23 33.4**	**-0.8**
	baz=29							
SFK	**Sufi-Kurgan**	**2.38**	**85**	⇑*eP*		**Pn**	**12 23 02.9**	**-1.3**
	baz=81							
SFK				⇑*eS*		**Sn**	**12 23 33.7**	**-0.5**
	baz=81							
ARSB	**Arslanbob**	**2.44**	**52**	⇑*iP*		**Pn**	**12 23 04.9**	**-0.1**
	baz=50							
ARSB				⇑*iS*		**Sb**	**12 23 37.1**	**-2.2**
	baz=50							
KK31	**Karatay Array**	**3.24**	**1**	Pn		**Pn**	**12 23 15.8**	**-0.1**
	1.4nm,0.3s,baz=190,slow=13,SNR=59							
KK31				Pg		**Pb**	**12 23 21.5**	**-0.7**
	1.4nm,0.2s,baz=65,slow=22,SNR=34							
KK31				Lg		Lg	12 24 06.0	
	7.6nm,0.3s,baz=181,slow=28,SNR=18							
AML	**Almayashu**	**3.36**	**46**	⇓Pn		**Pn**	**12 23 17.2**	**-0.7**
	0.7nm,0.6s							
AML				⇑Pg		**Pb**	**12 23 26.2**	**+1.8**
	2.1nm,0.8s							
AML				⇓Lg		Lg	12 24 14.2	
	2.6nm,0.6s							
AML	**Almayashu**	**3.36**	**46**	⇑*iP*		**Pn**	**12 23 17.8**	**-0.1**
	baz=45							
AML				⇑*iS*		**Sn**	**12 23 59.9**	**+1.3**
	baz=45							
ARLS	**Aral**	**3.57**	**55**	⇓*iP*		**Pn**	**12 23 20.7**	**+0.1**
	baz=53							
ARLS				⇓*iS*		**Sn**	**12 24 04.4**	**+0.8**
	baz=53							
MRKS	**Merke**	**3.57**	**35**	Pg		**Pb**	**12 23 28.5**	**+0.6**
	5.5nm,0.4s							
MRKS				Lg		Lg	12 24 16.9	
	22nm,0.3s							
MRKS	**Merke**	**3.57**	**35**	*eP*		**Pb**	**12 23 28.5**	**+0.6**
	5.5nm,0.4s							
MRKS				*eS*		**Sg**	**12 24 16.9**	**-1.8**
	22nm,0.3s							
EKS2	**Erkin-Say**	**3.77**	**41**	⇑*iP*		**Pn**	**12 23 23.8**	**+0.5**
	baz=40							
EKS2				⇑*iS*		**Sn**	**12 24 09.4**	**+0.9**
	baz=40							
UCH	**Uchtor**	**3.90**	**51**	⇑*iP*		**Pn**	**12 23 25.4**	**+0.1**
	baz=50							
UCH				⇑*iS*		**Sn**	**12 24 12.6**	**+0.7**
	baz=50							
AAK	**Ala-Archa**	**4.14**	**47**	⇑*iP*		**Pn**	**12 23 28.7**	**+0.3**
	baz=45							
AAK				⇑*iS*		**Sn**	**12 24 18.1**	**+0.6**
	baz=45							
KBK	**Karagaybulak**	**4.41**	**49**	⇓*iP*		**Pn**	**12 23 32.6**	**+0.5**
	baz=48							
KBK				⇓*iS*		**Sn**	**12 24 24.6**	**+0.4**
	baz=48							
USP	**Ospenovka**	**4.58**	**41**	⇑*iP*		**Pn**	**12 23 34.7**	**+0.4**
	baz=39							
USP				⇑*iS*		**Sn**	**12 24 28.5**	**+0.3**
	baz=39							
TMD	**Tamdy-Bulak**	**4.77**	**295**	P		**Pn**	**12 23 37.3**	**+0.4**
TMD				S		**Sb**	**12 24 43.5**	**-2.8**
TKM2	**Tokmak 2**	**4.95**	**50**	⇑Pn		**Pn**	**12 23 41.7**	**+2.1**
	4.7nm,0.6s							
TKM2				⇑Lg		Lg	12 25 02.1	
	6.9nm,0.8s							
KST	**Kastek**	**5.24**	**51**	Pg		**Pb**	**12 24 00.0**	**+3.6**
	4.7nm,0.5s							
KST				Lg		Lg	12 25 10.6	
	11nm,0.8s							
KST	**Kastek**	**5.24**	**51**	*eP*		**Pb**	**12 24 00.0**	**+3.6**
	4.7nm,0.5s							
KST				*eS*		**Sg**	**12 25 10.6**	**-1.6**
	11nm,0.8s							
DGS	**Degeres**	**5.25**	**48**	Pg		**Pb**	**12 24 00.3**	**+3.8**
	2.1nm,0.6s							
DGS				Lg		Lg	12 25 11.1	
	8.7nm,0.7s							
DGS	**Degeres**	**5.25**	**48**	*eP*		**Pb**	**12 24 00.3**	**+3.8**
	2.1nm,0.6s							
DGS				*eS*		**Sg**	**12 25 11.2**	**-1.3**
	8.7nm,0.7s							
KRBS	**Karabastau**	**5.49**	**44**	*eP*		**Pb**	**12 24 03.8**	**+3.2**
	1.0nm,0.3s							
KRBS				*eS*		**Sg**	**12 25 16.3**	**-3.8**
	3.1nm,0.5s							
DZN	**Dzhankel'dy**	**5.50**	**283**	P		**Pn**	**12 23 47.1**	**+0.2**
DZN				S		**Sb**	**12 25 01.8**	**-5.3**
BTLS	**Baital**	**5.83**	**26**	Pg		**Pb**	**12 24 09.5**	**+3.2**
	0.9nm,0.3s							
BTLS				Lg		Lg	12 25 26.5	
	2.7nm,0.5s							
BTLS	**Baital**	**5.83**	**26**	*eP*		**Pb**	**12 24 09.5**	**+3.2**
	0.9nm,0.3s							
BTLS				*eS*		**Sg**	**12 25 26.5**	**-4.5**
	2.7nm,0.5s							

NEIC ***25*** *12:22:40.6±1.5,51°.74N±0°.08×178°.74E±0°.05, h133km±4km,mb4.0/12,ML3.6(AEIC),Error ellipse: s-maj=11.9km s-min=3.1km az=162.0*
IDC ***25*** *12:22:41.3±1.8,52°.03N×178°.74E,h123km±14km, mb3.4/17,mbtmp3.9/20,MS3.6/2,Error ellipse: s-maj=21.8km s-min=10.8km az=171.0*
AEIC ***25*** *12:22:41.6±1.4,51°.87N±0°.10×178°.75E±0°.08, h128km±4km,Error ellipse: s-maj=14.2km s-min=7.3km az=183.0*
ISC 25 12:22:41.0±0.7,**51°.9N**±0°.1×**178°.72E**±0°.04,**h125**km±6km, **n76**,σ1$**00**/72,**mb3.9**/24,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSPA	**Little Sitkin**	**0.09**	**278**		**Pn**	**12 22 58.9**	**+0.9**
LSSE	**Little Sitkin**	**0.09**	**263**		**Pn**	**12 22 58.5**	**+0.6**
LSNW	**Little Sitkin**	**0.13**	**282**		**Pn**	**12 22 58.5**	**+0.4**
CESW	**Semis' Southwe**	**0.53**	**94**		**Pn**	**12 22 59.5**	**-0.1**
CEAP	**Semis' Anvil P**	**0.54**	**83**		**Pn**	**12 22 60.0**	**+0.3**
CERB	**Semis' Cerberu**	**0.56**	**91**		**Pn**	**12 23 00.3**	**+0.5**
CERB					**Sn**	**12 23 15.5**	**+1.5**
AMKA	**Amchitka**	**0.67**	**147**		**Pn**	**12 23 00.4**	**-0.2**
AMKA	**Amchitka**	**0.67**	**147**		**Sn**	**12 23 14.6**	**-0.8**
GANO	**Gareloi North**	**1.54**	**94**		**Pn**	**12 23 09.0**	**-0.1**
GAEA	**Gareloi East**	**1.58**	**95**		**Pn**	**12 23 09.6**	**0.0**
TANO	**Tanaga North**	**1.96**	**90**		**Pn**	**12 23 14.0**	**-0.1**
TASE	**Tanaga Southea**	**2.01**	**92**		**Pn**	**12 23 14.5**	**-0.3**
TAFP	**Tanaga Falls P**	**2.04**	**90**		**Pn**	**12 23 14.7**	**-0.5**
TAFP					**Sn**	**12 23 40.4**	**-1.0**
KICM	**Kanaga Island**	**2.53**	**89**		**Sn**	**12 23 51.4**	**-0.9**
KIWB	**Kanaga Island**	**2.56**	**90**		**Pn**	**12 23 20.9**	**-0.8**
ADK	**Adak**	**2.85**	**89**		**Pn**	**12 23 24.4**	**-0.9**
ADK	**Adak**	**2.85**	**89**		**Sn**	**12 23 58.2**	**-1.4**
ADK	**Adak**	**2.85**	**89**	P	**Pn**	**12 23 24.5**	**-0.9**
ADAG	**Mount Adagdak**	**2.90**	**87**		**Pn**	**12 23 25.2**	**-0.8**
SHEM	**Shemya Is, Ala**	**2.94**	**287**	P	**Pn**	**12 23 26.4**	**-0.2**
	39nm,0.3s,baz=211,slow=2.4,SNR=14						
SHEM				S	**Sn**	**12 24 02.2**	**+0.5**
	46nm,0.3s,baz=272,slow=19,SNR=12						
GSCK	**Great Sitkin C**	**3.17**	**87**		**Pn**	**12 23 28.7**	**-0.9**
GSTR	**Great Sitkin T**	**3.23**	**85**		**Pn**	**12 23 29.5**	**-0.9**
GSMY	**Great Sitkin M**	**3.23**	**86**		**Pn**	**12 23 29.4**	**-1.0**
ATKA	**Atka Island**	**4.38**	**84**		**Pn**	**12 23 44.8**	**-0.8**
ATKA	**Atka Island**	**4.38**	**84**	P	**Pn**	**12 23 44.8**	**-0.8**
KOFP	**Korovin Flat P**	**4.44**	**83**		**Pn**	**12 23 46.4**	**-0.1**
NIKH	**Nikolski High**	**7.66**	**77**		**Pn**	**12 24 30.9**	**+1.1**
NIKH	**Nikolski High**	**7.66**	**77**	P	**Pn**	**12 24 30.3**	**+0.5**
SPIA	**Saint Paul Isl**	**8.28**	**46**	P	**Pn**	**12 24 40.6**	**+2.6**
MGOD	**Makushin Gods**	**8.91**	**72**		**Pn**	**12 24 47.8**	**+1.2**
UNV	**Unalaska Valle**	**9.13**	**72**		**Pn**	**12 24 50.8**	**+1.2**
UNV	**Unalaska Valle**	**9.13**	**72**	P	**Pn**	**12 24 50.8**	**+1.2**
AKUT	**Akutan**	**9.60**	**71**	Pn	**Pn**	**12 24 57.1**	**+1.4**
SDPT	**Sand Point**	**12.79**	**66**	P	**Pn**	**12 25 35.8**	**-2.3**
PETK	**Petropavlovsk-**	**12.85**	**283**	P	**Pn**	**12 25 39.2**	**+0.3**
	4.6nm,0.9s,baz=96,slow=18,SNR=1.6						
PETK				S	**Sn**	**12 27 56.2**	**-4.1**
	4.6nm,1.0s,baz=294,slow=21,SNR=1.0						
KDAK	**Kodiak Island**	**17.43**	**59**	P	**P**	**12 26 35.2**	**-0.3**
	5.4nm,0.3s,baz=267,slow=1.1,SNR=10						
C18K	**Utukok River**	**19.31**	**22**	P	**P**	**12 26 57.0**	**+1.0**
ILAR	**Eielson Array**	**21.80**	**41**	P	**P**	**12 27 22.6**	**-0.1**
	0.3nm,0.8s,baz=261,slow=12,SNR=5.7						
	0.3nm,0.8s						
D25K	**Kavik River**	**23.87**	**30**	P	**P**	**12 27 42.9**	**+0.4**
D25K				IAmb	IAmb	12 27 48.5	
	comp=Z,5.1nm,1.2s						
EGAK	**Eagle**	**24.15**	**42**	P	**P**	**12 27 45.5**	**+0.5**
EGAK				IAmb	IAmb	12 28 19.8	
	comp=Z,9.8nm,1.4s						
DAWY	**Dawson**	**24.77**	**44**	P	**P**	**12 27 51.9**	**+1.2**
DAWY				IAmb	IAmb	12 28 25.1	
	comp=Z,2.7nm,1.0s						
I28M	**Miner Creek**	**24.81**	**41**	P	**P**	**12 27 50.8**	**-0.4**
INK	**Inuvik**	**27.89**	**36**	P	**P**	**12 28 18.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=256,slow=7.4,SNR=1.4						
	comp=Z,0.5nm,0.8s						
DLBC	**Dease Lake**	**29.34**	**57**	P	**P**	**12 28 33.0**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=217,slow=5.1,SNR=1.6						
	comp=Z,1.1nm,0.7s						
KLR	**Kul'dur**	**29.54**	**284**	LR	LR	12 42 38.6	
	comp=Z,41nm,18.0s,baz=12,slow=40						
MJAR	**Matsushiro Arr**	**32.37**	**258**	P	**P**	**12 29 00.5**	**+2.0**
	comp=Z,1.4nm,0.7s,baz=30,slow=6.0,SNR=1.8						
	comp=Z,1.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.46**	**200**	T	T	13 04 38.2	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.47**	**200**	T	T	13 04 45.8	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.47**	**200**	T	T	13 04 48.4	
	baz=11						
H11S1	**WAKE ISLAND Hy**	**34.68**	**200**	T	T	13 06 11.0	
	baz=10						
H11S2	**WAKE ISLAND Hy**	**34.70**	**200**	T	T	13 06 15.5	
	baz=10						
H11S3	**WAKE ISLAND Hy**	**34.70**	**200**	T	T	13 06 11.9	
	baz=10						
YKA	**Yellowknife Ar**	**35.96**	**47**	P	**P**	**12 29 29.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=241,slow=7.6,SNR=4.9						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**45.01**	**82**	P	**P**	**12 30 44.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=297,slow=8.0,SNR=3.8						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**45.01**	**295**	P	**P**	**12 30 43.1**	**-0.7**
SONM	**Songino Array**	**45.01**	**295**	P	**P**	**12 30 44.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=55,slow=7.7,SNR=11						
	comp=Z,1.3nm,0.6s						
PDAR	**Pinedale Array**	**47.60**	**71**	P	**P**	**12 31 03.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=336,slow=2.0,SNR=3.2						
	comp=Z,0.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**49.69**	**355**	P	**P**	**12 31 19.0**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=43,slow=6.2,SNR=10						
	comp=Z,1.1nm,0.4s						
ARCES	**ARCESS Array B**	**57.26**	**349**	P	**P**	**12 32 13.5**	**-1.2**
	comp=Z,9.2nm,1.2s,baz=27,slow=10,SNR=1.7						
	comp=Z,9.2nm,1.2s						
KURK	**Kurchatov**	**57.50**	**312**	P	**P**	**12 32 17.2**	**+0.5**
KURBB	**Kurchatov Arra**	**57.61**	**312**	P	**P**	**12 32 17.9**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=41,slow=6.7,SNR=52						
	comp=Z,1.8nm,0.4s						
MK31	**Makanchi Array**	**58.46**	**307**	P	**P**	**12 32 23.3**	**-0.2**
MKAR	**Makanchi Array**	**58.46**	**307**	P	**P**	**12 32 23.4**	**-0.2**
MKAR	**Makanchi Array**	**58.46**	**307**	P	**P**	**12 32 23.5**	**0.0**
	comp=Z,1.0nm,0.3s,baz=46,slow=6.8,SNR=30						
	comp=Z,1.0nm,0.3s						
MAKZ	**Makanchi**	**58.61**	**307**	P	**P**	**12 32 23.9**	**-0.6**
MAKZ				IAmb	IAmb	12 32 25.2	
	comp=Z,1.5nm,0.6s						
BVAR	**Borovoye Array**	**59.45**	**318**	P	**P**	**12 32 30.8**	**+0.6**
	comp=Z,7.6nm,0.6s,baz=48,slow=7.0,SNR=42						
BRVK	**Borovoye**	**59.47**	**318**	P	**P**	**12 32 30.7**	**+0.4**
TXAR	**Lajitas Array**	**60.08**	**80**	P	**P**	**12 32 35.0**	**0.0**
	comp=Z,2.0nm,0.5s,baz=312,slow=4.5,SNR=7.0						
	comp=Z,2.0nm,0.5s						
AKTO	**Aktyubinsk**	**66.32**	**323**	LR	LR	13 05 15.4	
	comp=Z,87nm,18.0s,baz=190,slow=38						
KK31	**Karatay Array**	**66.85**	**311**	P	**P**	**12 33 19.3**	**+0.1**
KK31				IAmb	IAmb	12 33 20.9	
	comp=Z,2.1nm,0.7s						
KKAR	**Karatay Array**	**66.85**	**311**	P	**P**	**12 33 19.9**	**+0.7**
KKAR				IAmb	IAmb	12 33 20.9	
	comp=Z,2.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**69.42**	**274**	P	**P**	**12 33 36.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=25,slow=7.3,SNR=4.8						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**74.51**	**340**	P	**P**	**12 34 04.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=24,slow=7.1,SNR=3.7						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**81.38**	**222**	P	**P**	**12 34 43.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=36,slow=7.2,SNR=1.9						
	comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**84.89**	**220**	P	**P**	**12 35 02.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=22,slow=5.1,SNR=4.9						
	comp=Z,0.3nm,0.4s						
BOSA	**Boshof**	**149.44**	**309**	PKPbc	**PKPbc**	**12 42 15.6**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=100,slow=3.4,SNR=5.3						

IDC 25 12:24:31.9±3.4,**32°.22S**×**178°.33W**,**h0**km,**mb3.8**/2, **mbtmp3.8**/3,**ML3.5/1**,**Error ellipse: s-maj=78.6km s-min=47.7km az=113.0**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.09**	**210**	Pn	Pn	12 26 17.1	+0.2
	0.8nm,0.3s,baz=184,slow=0.8,SNR=12						
URZ				Sn	Sn	12 27 34.2	-4.0
	0.8nm,0.3s,baz=30,slow=20,SNR=1.9						
	2.5nm,0.3s						
ASAR	**Alice Springs**	**42.76**	**269**	P	P	12 32 31.1	-0.3
	0.7nm,0.8s,baz=109,slow=7.5,SNR=2.7						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**43.91**	**274**	P	P	12 32 40.6	-0.1
	0.9nm,0.4s,baz=116,slow=7.6,SNR=4.7						
	0.9nm,0.4s						
FINES	**FINESS Array B**	**146.74**	**339**	PKPbc	PKPbc	12 44 14.3	-0.8
	4.1nm,0.9s,baz=75,slow=5.9,SNR=2.3						

IDC ***25*** *12:24:57.4±1.3,3°.65S×130°.98E,h0km,mb3.9/8, mbtmp3.9/9,ML3.7/1,Error ellipse: s-maj=91.2km s-min=19.2km az=69.0*
DJA ***25*** *12:25:02.4±0.7,3°.S±3°×13°.1E±°,h30km±9km,M4.2/8, mb4.3/1,MLv4.1/8*
ISC 25 12:25:01.3±0.6,**3°.50S**±0°.05×**131°.20E**±0°.05,**h30**km,**n27**, σ2$**30**/33,**mb4.0**/7,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.20**	**61**	P	**Pn**	**12 25 23.3**	**+1.3**
FAKI	**Fak Fak**	**1.20**	**61**	P	**Pn**	**12 25 23.1**	**+1.1**
FAKI				S	**Sn**	**12 25 37.6**	**+0.4**
BNDI	**Bandanaira**	**1.64**	**232**	P	**Pb**	**12 25 31.3**	**+0.4**
BNDI				S	**Sb**	**12 25 52.3**	**+1.0**
KMPI	**Kaimana, Papua**	**2.51**	**94**	P	**Pn**	**12 25 40.5**	**+0.5**
SIJI	**Sorong**	**2.61**	**1**	P	**Pn**	**12 25 40.2**	**-1.3**
SIJI				S	**Sn**	**12 26 09.5**	**-2.7**
SWI	**Sorong**	**2.62**	**1**	P	**Pn**	**12 25 39.4**	**-2.1**
SWI				S	**Sn**	**12 26 10.0**	**-2.3**
NLAI	**Namlea**	**4.10**	**273**	P	**Pn**	**12 26 03.4**	**+1.5**
LBMI	**Labuha**	**4.66**	**307**	P	**Pn**	**12 26 09.8**	**+0.1**
SANI	**Sanana**	**5.40**	**285**	P	**Pn**	**12 26 19.0**	**-0.8**
SANI	**Sanana**	**5.40**	**285**	P	**Pn**	**12 26 20.2**	**+0.4**
KDU	**Kakadu**	**9.22**	**172**	P	**Pn**	**12 27 12.5**	**+0.3**
MTN	**Manton Dam**	**9.29**	**180**	P	**Pn**	**12 27 14.0**	**+0.8**
WRA	**Warramunga Arr**	**16.63**	**170**	Pn	**Pn**	**12 28 48.9**	**-3.4**
	0.3nm,0.3s,baz=351,slow=13,SNR=9.0						
WRA				Sn	**Sn**	**12 31 46.9**	**-9.3**
	0.2nm,0.3s,baz=3.1,slow=23,SNR=4.8						
	0.5nm,0.4s						
QIS	**Mount Isa**	**18.83**	**155**	P	**Pn**	**12 29 20.8**	**+1.3**
ASAR	**Alice Springs**	**20.22**	**173**	P	**P**	**12 29 32.2**	**-1.8**
	4.0nm,0.6s,baz=353,slow=12,SNR=97						
ASAR				S	**S**	**12 33 15.9**	**-3.6**
	0.5nm,0.7s,baz=2.0,slow=29,SNR=2.8						
	4.0nm,0.6s						
PSA00	**Pilbara Seismi**	**21.08**	**211**	P	**P**	**12 29 43.4**	**+0.1**
WRKA	**Warakurna**	**21.60**	**187**	P	**P**	**12 29 49.8**	**+0.9**
OOD	**Oodnadatta**	**24.54**	**170**	P	**P**	**12 30 20.5**	**+2.1**
FORT	**Forrest**	**27.30**	**186**	P	**P**	**12 30 44.6**	**+1.3**
KMBL	**Kambalda**	**29.08**	**197**	P	**P**	**12 31 00.0**	**+0.8**
STKA	**Stephens Creek**	**29.88**	**162**	P	**P**	**12 31 07.4**	**+1.2**
	1.5nm,0.8s,baz=332,slow=14,SNR=2.9						
	1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.54**	**306**	P	**P**	**12 32 21.8**	**+0.2**
	0.3nm,0.3s,baz=114,slow=4.4,SNR=6.8						
	0.3nm,0.3s						
SONM	**Songino Array**	**55.55**	**340**	P	**P**	**12 34 35.8**	**+1.8**
	0.4nm,0.7s,baz=145,slow=5.4,SNR=3.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**66.00**	**325**	P	**P**	**12 35 45.9**	**+0.9**
	0.9nm,0.5s,baz=119,slow=8.5,SNR=19						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**69.01**	**333**	P	**P**	**12 36 04.1**	**+0.2**
	0.5nm,0.3s,baz=101,slow=7.9,SNR=3.7						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**70.19**	**327**	P	**P**	**12 36 11.8**	**+0.6**
	1.8nm,0.6s,baz=125,slow=5.8,SNR=22						
	1.8nm,0.6s						
BVAR	**Borovoye Array**	**75.77**	**327**	P	**P**	**12 36 44.9**	**+0.7**
	0.6nm,0.3s,baz=128,slow=8.7,SNR=7.4						
	0.6nm,0.3s						

AEIC ***25*** *12:34:14.6±1.9,56°.0N±0°.1×149°.3W±0°.1,h4km±8km,Error ellipse: s-maj=16.2km s-min=9.7km az=163.0*
NEIC 25 12:34:13.0±1.7,**56°.1N**±0°.1×**149°.4W**±0°.1,**h21**km±10km, **ML3.5**/30,**ML3.0**(AEIC),**Error ellipse: s-maj=15.8km s-min=8.9km az=161.0**,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.43**	**300**		**Pn**	**12 34 50.9**	**-0.5**
OHAK					**Sn**	**12 35 19.2**	**-1.2**
OHAK	**Old Harbor**	**2.43**	**300**	IAML		**12 35 20.3**	
	comp=N,99nm,0.4s						
KDAK	**Kodiak Island**	**2.44**	**316**		**Pn**	**12 34 51.6**	**0.0**
KDAK					**Sn**	**12 35 19.5**	**-1.2**
SYI	**Shuyak Island**	**3.01**	**329**		**Pn**	**12 34 58.6**	**-0.8**
SYI					**Sn**	**12 35 34.7**	**-0.1**
CNPM	**China Poot**	**3.60**	**345**		**Pn**	**12 35 07.0**	**-0.4**
CNPM	**China Poot**	**3.60**	**345**	IAML		**12 35 53.1**	
	comp=E,39nm,0.6s						
CNPM				IAML		**12 35 53.2**	
	comp=N,42nm,0.5s						
Q19K	**Cape Douglas,**	**3.66**	**323**		**Pn**	**12 35 07.8**	**-0.6**
Q19K	**Cape Douglas,**	**3.66**	**323**	IAML		**12 36 00.8**	
	comp=N,158nm,1.0s						
KAHG	**Katmai Hook Gl**	**3.69**	**313**		**Pn**	**12 35 08.8**	**0.0**
BRSE	**Bradley Lake S**	**3.75**	**350**		**Pn**	**12 35 09.0**	**-0.5**
BRLK	**Bradley Lake**	**3.78**	**349**		**Pn**	**12 35 09.3**	**-0.8**
BRLK					**Sn**	**12 35 52.8**	**-1.1**
BRLK	**Bradley Lake**	**3.78**	**349**	IAML		**12 35 55.7**	
	comp=E,28nm,0.6s						
BRLK				IAML		**12 35 59.9**	
	comp=N,28nm,1.0s						
HOM	**Homer**	**3.79**	**343**	Pn	Pn	**12 35 08.2**	**-1.8**
ANCK	**Angle Creek**	**3.94**	**305**		**Pn**	**12 35 12.9**	**+0.7**
P23K	**Montague Islan**	**4.08**	**14**		**Pn**	**12 35 13.4**	**-0.6**
P19K	**Oil Pt**	**4.13**	**332**		**Pn**	**12 35 14.8**	**+0.1**
P19K	**Oil Pt**	**4.13**	**332**	IAML		**12 36 08.3**	
	comp=E,102nm,0.5s						
CNTC	**Contact Creek**	**4.15**	**305**		**Pn**	**12 35 15.4**	**+0.3**
P18K	**Big Mountain,**	**4.56**	**319**	Pn	**Pn**	**12 35 21.5**	**+0.9**
HIN	**Hinchinbrook I**	**4.60**	**18**	Pn	**Pn**	**12 35 21.9**	**+0.6**
HIN				IAML		**12 36 41.7**	
	comp=N,30nm,1.2s						
HIN				IAML		**12 37 29.3**	
	comp=E,48nm,1.1s						
KAIM	**Kayak Island**	**4.69**	**32**	Pn	Pn	**12 35 23.1**	**+0.7**
KAIM				IAML		**12 36 25.7**	
	comp=E,60nm,1.1s						
KAIM				IAML		**12 38 04.8**	
	comp=N,52nm,1.2s						
RSO	**Redoubt South**	**4.74**	**340**	Pn	Pn	**12 35 24.3**	**+1.0**
RAGM	**Ragged Mountai**	**5.00**	**28**	Pn	Pn	**12 35 27.3**	**+0.6**
CHGN	**Chignik**	**5.03**	**276**	Pn	Pn	**12 35 27.8**	**+0.7**
CHGN				IAML		**12 36 25.1**	
	comp=E,56nm,0.8s						

HOM				IAML		13 04 10.0		
	comp=N,366nm,2.5s							
ANCK	**Angle Creek**	**3.73**	**307**		**Pn**	**13 02 22.4**	**+1.7**	
BRLK	**Bradley Lake**	**3.73**	**352**		**Pn**	**13 02 21.1**	**+0.3**	
BRLK	**Bradley Lake**	**3.73**	**352**	IAML		13 04 56.5		
	comp=E,103nm,4.5s							
KVTA	**Katmai Vly 10**	**3.74**	**310**		**Pn**	**13 02 23.1**	**+2.2**	
Q23K	**Middleton Isla**	**3.85**	**28**		**Pn**	**13 02 22.7**	**+0.3**	
Q23K	**Middleton Isla**	**3.85**	**28**	IAML		13 04 46.1		
	comp=N,398nm,3.6s							
CNTC	**Contact Creek**	**3.94**	**306**		**Pn**	**13 02 24.9**	**+1.3**	
Q17K	**Contact Creek**	**3.94**	**306**	P	**Pn**	**13 02 24.9**	**+1.2**	
	baz=122							
SEW	**Seward**	**4.04**	**3**		**Pn**	**13 02 25.1**	**0.0**	
SEW	**Seward**	**4.04**	**3**	P	**Pn**	**13 02 25.0**	**0.0**	
	baz=183							
P23K	**Montague Islan**	**4.14**	**17**		**Pn**	**13 02 26.8**	**+0.4**	
P23K	**Montague Islan**	**4.14**	**17**	P	**Pn**	**13 02 26.8**	**+0.4**	
	baz=199							
P18K	**Big Mountain,**	**4.39**	**321**		**Pn**	**13 02 30.6**	**+0.8**	
P18K	**Big Mountain,**	**4.39**	**321**	IAML		13 05 12.7		
	comp=E,58nm,3.7s							
P18K	**Big Mountain,**	**4.39**	**321**	P	**Pn**	**13 02 30.6**	**+0.8**	
	baz=137							
SLKM	**Skilak Lake**	**4.44**	**358**		**Pn**	**13 02 30.5**	**-0.1**	
R16K	**Pilot Point**	**4.48**	**293**		**Pn**	**13 02 32.2**	**+1.2**	
R16K	**Pilot Point**	**4.48**	**293**	IAML		13 05 12.2		
	comp=E,226nm,3.3s							
RSO	**Redoubt South**	**4.65**	**342**	Pn	**Pn**	**13 02 36.8**	**+3.2**	
HIN	**Hinchinbrook I**	**4.68**	**21**		**Pn**	**13 02 34.6**	**+0.8**	
HIN	**Hinchinbrook I**	**4.68**	**21**	IAML		13 05 33.5		
	comp=E,196nm,0.6s							
O18K	**Koktuh Hills**	**4.73**	**325**		**Pn**	**13 02 35.9**	**+1.4**	
O18K	**Koktuh Hills**	**4.73**	**325**	IAML		13 04 07.0		
	comp=N,43nm,4.4s							
O18K				IAML		13 04 15.2		
	comp=E,51nm,3.4s							
CAPN	**Captain Cook N**	**4.75**	**352**	Pn	**Pn**	**13 02 33.1**	**-1.6**	
KAIM	**Kayak Island**	**4.83**	**35**		**Pn**	**13 02 36.5**	**+0.8**	
KAIM	**Kayak Island**	**4.83**	**35**	P	**Pn**	**13 02 36.5**	**+0.8**	
	baz=218							
EYAK	**Cordova Ski Ar**	**4.98**	**24**		**Pn**	**13 02 38.6**	**+0.8**	
EYAK	**Cordova Ski Ar**	**4.98**	**24**	P	**Pn**	**13 02 38.6**	**+0.8**	
	baz=207							
FID	**Port Fidalgo**	**5.01**	**19**	Pn	**Pn**	**13 02 38.8**	**+0.4**	
FID				IAML		13 05 38.6		
	comp=N,105nm,1.1s							
FID				IAML		13 05 39.5		
	comp=E,137nm,1.0s							
RC01	**Rabbit Creek A**	**5.02**	**1**	Pn	**Pn**	**13 02 39.1**	**+0.6**	
RC01				IAML		13 05 44.8		
	comp=E,123nm,0.6s							
GOAT	**Goat Mountain**	**5.26**	**29**		**Pn**	**13 02 42.9**	**+1.0**	
P16K	**Nushagak River**	**5.28**	**307**		**Pn**	**13 02 43.5**	**+1.5**	
O17K	**Koliganek Bris**	**5.34**	**317**		**Pn**	**13 02 44.5**	**+1.8**	
KNK	**Knik Glacier**	**5.40**	**7**	P	**Pn**	**13 02 44.8**	**+1.1**	
	baz=188							
BERG	**Berg Lake**	**5.42**	**34**	Pn	**Pn**	**13 02 44.4**	**+0.5**	
PMR	**Palmer**	**5.54**	**4**		**Pn**	**13 02 47.1**	**+1.6**	
SNH	**Sunshine Point**	**5.55**	**39**	Pn	**Pn**	**13 02 46.3**	**+0.6**	
N18K	**Kilae Creek**	**5.59**	**328**	Pn	**Pn**	**13 02 47.4**	**+1.1**	
BMRM	**Bremner River**	**5.62**	**27**	P	**Pn**	**13 02 47.9**	**+1.1**	
	baz=211							
O16K	**Kokwok River B**	**5.63**	**312**	Pn	**Pn**	**13 02 47.7**	**+1.0**	
SML	**Sawmill**	**5.80**	**7**	Pn	**Pn**	**13 02 48.9**	**-0.3**	
KLU	**Klutina**	**5.80**	**19**		**Pn**	**13 02 50.7**	**+1.4**	
KLU	**Klutina**	**5.80**	**19**	P	**Pn**	**13 02 50.5**	**+1.2**	
	baz=202							
M23K	**Glacier View**	**5.84**	**10**	P	**Pn**	**13 02 51.0**	**+1.3**	
	baz=191							
N17K	**Nushagak Hills**	**5.89**	**322**	Pn	**Pn**	**13 02 50.4**	**0.0**	
SCM	**Sheep Creek Mo**	**5.92**	**12**		**Pn**	**13 02 52.3**	**+1.5**	
SKT	**Skwentna**	**5.98**	**352**	Pn	**Pn**	**13 02 51.7**	**0.0**	
VRDI	**Verde Repeater**	**6.15**	**30**		**Pn**	**13 02 55.0**	**+0.8**	
N25K	**Chitina, Valde**	**6.18**	**24**		**Pn**	**13 02 55.7**	**+1.3**	
GLB	**Gilahina Butte**	**6.23**	**28**	Pn	**Pn**	**13 02 56.2**	**+1.0**	
KIAG	**Kiagna River**	**6.25**	**36**		**Pn**	**13 02 56.2**	**+0.7**	
M24K	**Tolsona, Glenn**	**6.34**	**16**	Pn	**Pn**	**13 02 57.8**	**+1.2**	
PTPK	**Patty Peak**	**6.42**	**34**		**Pn**	**13 02 59.0**	**+1.2**	
BARN	**Barnard Glacie**	**6.58**	**37**		**Pn**	**13 03 00.6**	**+0.5**	
M17K	**Holitna River**	**6.63**	**327**	Pn	**Pn**	**13 03 02.0**	**+1.6**	
CTGM	**Chitina Glacie**	**6.63**	**39**	Pn	**Pn**	**13 03 01.4**	**+0.7**	
LOGN	**Logan Glacier**	**6.65**	**41**	Pn	**Pn**	**13 03 02.6**	**+1.6**	
BCPM	**Bancas Point**	**6.68**	**50**	Pn	**Pn**	**13 03 02.6**	**+1.4**	
N15K	**Kwethluk River**	**6.78**	**311**	Pn	**Pn**	**13 03 04.7**	**+2.1**	
M16K	**Timber Creek**	**6.86**	**320**	Pn	**Pn**	**13 03 05.3**	**+1.6**	
DHY	**Denali Highway**	**7.13**	**9**	Pn	**Pn**	**13 03 07.4**	**-0.1**	
P29M	**Windy Craggy**	**7.39**	**56**	Pn	**Pn**	**13 03 11.8**	**+0.9**	
M27K	**Edge Creek, AK**	**7.51**	**30**	Pn	**Pn**	**13 03 13.6**	**+0.9**	
KTH	**Kantishna Hill**	**7.51**	**356**	Pn	**Pn**	**13 03 12.6**	**-0.1**	
L16K	**Owhat River**	**7.52**	**323**	Pn	**Pn**	**13 03 13.7**	**+1.1**	
S31K	**Pelican**	**7.68**	**70**	Pn	**Pn**	**13 03 13.8**	**-1.1**	
RIDG	**Independent Ri**	**8.09**	**16**	Pn	**Pn**	**13 03 21.1**	**+0.6**	
M13K	**Dall Lake**	**8.32**	**307**	Pn	**Pn**	**13 03 23.2**	**-0.4**	
J20K	**Nowinta River**	**8.39**	**347**	Pn	Pn	13 03 22.6	-2.1	
HDA	**Harding Lake**	**8.48**	**9**	Pn	**Pn**	**13 03 26.4**	**+0.5**	
L14K	**Kuka Creek**	**8.49**	**314**	Pn	**Pn**	**13 03 27.2**	**+1.2**	
N30M	**Aishikik Lake**	**8.55**	**46**	Pn	**Pn**	**13 03 27.7**	**+0.8**	
K15K	**Wolf Creek Mou**	**8.63**	**321**	Pn	**Pn**	**13 03 28.4**	**+1.5**	
M29M	**Somme Creek**	**8.64**	**38**	Pn	**Pn**	**13 03 29.7**	**+1.5**	
CCB	**Clear Creek Bu**	**8.65**	**6**	Pn	**Pn**	**13 03 29.7**	**+1.4**	
ILAR	**Eielson Array**	**8.84**	**8**	Pn	**Pn**	**13 03 33.0**	**+2.1**	
J26L	**Joseph Creek**	**9.01**	**18**	Pn	**Pn**	**13 03 34.3**	**+1.2**	
L29M	**L29M**	**9.21**	**35**	Pn	**Pn**	**13 03 37.2**	**+1.2**	
P32M	**Atlin**	**9.30**	**61**	Pn	**Pn**	**13 03 37.7**	**+0.5**	
U33K	**Whale Pass**	**9.37**	**83**	Pn	Pn	13 03 35.4	-2.6	
DAWY	**Dawson**	**9.56**	**29**	Pn	**Pn**	**13 03 40.7**	**+0.1**	
K13K	**Kusilvak Mount**	**9.60**	**314**	Pn	**Pn**	**13 03 43.6**	**+2.3**	
H21K	**Melozitna Rive**	**9.71**	**353**	Pn	**Pn**	**13 03 44.4**	**+1.7**	
P33M	**Teslin, Yukon**	**9.91**	**58**	Pn	**Pn**	**13 03 45.6**	**0.0**	
K29M	**Barlow Dome**	**9.93**	**33**	Pn	**Pn**	**13 03 46.4**	**+0.6**	
FARO	**Faro, Yukon**	**10.47**	**47**	Pn	**Pn**	**13 03 55.4**	**+2.3**	
DLBC	**Dease Lake**	**11.00**	**69**	Pn	**Pn**	**13 04 01.2**	**+0.7**	
D24K	**Happy Valley**	**13.13**	**2**	Pn	Pn	13 04 27.7	-1.7	
KIWB	**Kanaga Island**	**16.54**	**267**	Pn	**Pn**	**13 05 13.7**	**-1.3**	
CLRS	**Cowichan Lake**	**17.22**	**104**	Pn	**Pn**	**13 05 21.9**	**-1.6**	
CLRS				IAmb	IAmb	13 05 49.9		
	comp=Z,30nm,1.3s							
AMKA	**Amchitka**	**18.74**	**268**	P	**P**	**13 05 43.6**	**+1.8**	
LON	**Longmire**	**19.71**	**106**	P	**P**	**13 05 52.7**	**+0.2**	
LON				IAmb	IAmb	13 06 32.4		
	comp=Z,7.8nm,1.2s							

*IDC **25** 13:03:39.8±1.1,56°.36N×148°.92W,h0^{km},mb3.6/9, mbtmp3.7/14,ML3.6/5,MS3.6/4,Error ellipse: s-maj=25.3km s-min=15.3km az=35.0*

*NEIC **25** 13:03:43.2±1.8,56°.44N±0°.07×148°.76W±0°.09,h22^{km}±8^{km}, mb4.4/7,ML4.1/58,ML3.8(AEIC),Error ellipse: s-maj=10.4km s-min=7.2km az=166.0*

*AEIC **25** 13:03:46.8±1.7,56°.47N±0°.05×148°.78W±0°.08,h12^{km}±6^{km}, Error ellipse: s-maj=9.7km s-min=2.0km az=223.0*

ISC 25 13:03:41.4±0.6,**56°.49N**±0°.06×**148°.73W**±0°.05,**h10**^{km}, **n291**,σ=**1°.47**/288,**mb3.8**/11,**MS4.0**/3,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**303**			**Pn**	**13 04 21.9**			**+0.3**
KDAK	**Kodiak Island**	**2.47**	**303**			**Pn**	**13 04 20.8**			**-0.8**
	14nm,0.3s,baz=112,slow=4.9,SNR=34									
KDAK					Sn	**Sn**	**13 04 48.6**			**-3.2**
	25nm,0.3s,baz=242,slow=23,SNR=30									
	36nm,0.3s									
OHAK	**Old Harbor**	**2.61**	**288**			**Pn**	**13 04 23.3**			**-0.3**
OHAK	**Old Harbor**	**2.61**	**288**			**Sn**	**13 04 51.3**			**-3.9**
OHAK	**Old Harbor**	**2.61**	**288**	P		**Pn**	**13 04 23.4**			**-0.1**
OHAK	**Old Harbor**	**2.61**	**288**	P		**Pn**	**13 04 23.3**			**-0.3**
	baz=105									
OHAK				S		**Sn**	**13 04 51.3**			**-3.9**
	baz=105									
SYI	**Shuyak Island**	**2.90**	**319**			**Pn**	**13 04 28.0**			**+0.5**
SYI				IAML			13 05 02.3			
	comp=E,360nm,0.3s									
SYI				IAML			13 05 02.3			
	comp=N,340nm,0.4s									
Q20K	**Shuyak Island**	**2.90**	**319**	P		**Pn**	**13 04 28.3**			**+0.7**
	baz=137									
Q20K				S		**Sn**	**13 05 00.9**			**-1.5**
	baz=137									
Q23K	**Middleton Isla**	**3.21**	**22**	Pn		**Pn**	**13 04 32.1**			**+0.4**
Q23K				IAML			13 05 14.9			
	comp=N,338nm,2.3s									
Q23K				IAML			13 05 31.3			
	comp=E,491nm,3.6s									
Q23K	**Middleton Isla**	**3.21**	**22**	P		**Pn**	**13 04 32.5**			**+0.8**
	baz=205									
MID	**Middleton Isla**	**3.21**	**22**	Pn		**Pn**	**13 04 32.3**			**+0.5**
MID				IAML			13 05 05.3			
	comp=N,307nm,3.7s									
MID				IAML			13 05 31.3			
	comp=E,480nm,3.6s									
MID	**Middleton Isla**	**3.21**	**22**			**Sn**	**13 05 06.6**			**-3.3**
MID	**Middleton Isla**	**3.21**	**22**	P		**Pn**	**13 04 32.6**			**+0.9**
CNPM	**China Poot**	**3.32**	**337**			**Pn**	**13 04 33.6**			**+0.2**
CNPM				IAML			13 05 12.2			
	comp=N,205nm,0.8s									
CNPM	**China Poot**	**3.32**	**337**			**Sn**	**13 05 10.8**			**-2.1**
BRSE	**Bradley Lake S**	**3.43**	**343**			**Pn**	**13 04 35.1**			**+0.3**
BRSE						**Sn**	**13 05 12.8**			**-2.8**
BRSE	**Bradley Lake S**	**3.43**	**343**	P		**Pn**	**13 04 35.1**			**+0.3**
	baz=162									
BRSE				S		**Sn**	**13 05 13.3**			**-2.2**
	baz=162									
BRLK	**Bradley Lake**	**3.48**	**342**			**Pn**	**13 04 35.5**			**+0.1**
HOM	**Homer**	**3.53**	**335**			**Pn**	**13 04 36.5**			**+0.3**
HOM				IAML			13 05 24.4			
	comp=E,543nm,0.8s									
HOM				IAML			13 06 12.8			
	comp=N,510nm,1.8s									
HOM	**Homer**	**3.53**	**335**	P		**Pn**	**13 04 36.7**			**+0.5**
	baz=154									
HOM				S		**Sn**	**13 05 17.7**			**-0.3**
	baz=154									
P23K	**Montague Islan**	**3.58**	**11**			**Pn**	**13 04 37.6**			**+0.6**
P23K	**Montague Islan**	**3.58**	**11**	P		**Pn**	**13 04 37.6**			**+0.6**
	baz=192									
Q19K	**Cape Douglas,**	**3.59**	**315**			**Pn**	**13 04 38.2**			**+1.1**
Q19K	**Cape Douglas,**	**3.59**	**315**	P		**Pn**	**13 04 38.4**			**+1.2**
	baz=132									
SEW	**Seward**	**3.64**	**354**			**Pn**	**13 04 37.9**			**+0.1**
SEW	**Seward**	**3.64**	**354**	P		**Pn**	**13 04 37.8**			**+0.1**
	baz=174									
KAHG	**Katmai Hook Gl**	**3.73**	**305**			**Pn**	**13 04 40.3**			**+1.3**
AUJK	**Augustine Jueg**	**3.80**	**321**			**Pn**	**13 04 41.4**			**+1.5**
AUCH	**Augustine Cone**	**3.82**	**321**			**Pn**	**13 04 41.4**			**+1.1**
ACHA	**Angle Creek He**	**3.97**	**298**			**Pn**	**13 04 43.4**			**+1.1**
P19K	**Oil Pt**	**3.97**	**325**			**Pn**	**13 04 43.1**			**+0.9**
KAHC	**Katmai Hardscr**	**4.01**	**305**			**Pn**	**13 04 44.2**			**+1.2**
KAHC	**Katmai Hardscr**	**4.01**	**305**	P		**Pn**	**13 04 44.2**			**+1.2**
	baz=121									
KVTA	**Katmai Vly 10**	**4.02**	**301**			**Pn**	**13 04 44.7**			**+1.7**
O22K	**Cooper Landing**	**4.04**	**353**	Pn		**Pn**	**13 04 43.6**			**+0.5**
ANCK	**Angle Creek**	**4.05**	**298**			**Pn**	**13 04 44.8**			**+1.4**
HIN	**Hinchinbrook I**	**4.09**	**16**			**Pn**	**13 04 44.7**			**+0.8**
SLKM	**Skilak Lake**	**4.10**	**350**			**Pn**	**13 04 44.3**			**+0.2**
KAIM	**Kayak Island**	**4.13**	**32**			**Pn**	**13 04 46.0**			**+1.6**
O20K	**Slope Mountain**	**4.14**	**332**			**Pn**	**13 04 45.0**			**+0.3**
IVE	**Iliamna Volcan**	**4.20**	**329**			**Pn**	**13 04 45.6**			**+0.1**
CNTC	**Contact Creek**	**4.26**	**298**			**Pn**	**13 04 47.5**			**+1.2**
Q17K	**Contact Creek**	**4.26**	**298**	P		**Pn**	**13 04 47.7**			**+1.3**
	baz=112									
EYAK	**Cordova Ski Ar**	**4.36**	**20**			**Pn**	**13 04 48.8**			**+1.2**
EYAK	**Cordova Ski Ar**	**4.36**	**20**	P		**Pn**	**13 04 48.9**			**+1.4**
EYAK	**Cordova Ski Ar**	**4.36**	**20**	P		**Pn**	**13 04 48.8**			**+1.2**
	baz=203									
FID	**Port Fidalgo**	**4.43**	**14**			**Pn**	**13 04 49.1**			**+0.5**
RAGM	**Ragged Mountai**	**4.45**	**27**			**Pn**	**13 04 50.9**			**+2.1**
RAGM				IAML			13 05 42.3			
	comp=E,238nm,0.5s									
RED	**Redoubt Volcan**	**4.47**	**333**			**Pn**	**13 04 49.3**			**+0.1**
RDSO	**Redoubt South**	**4.50**	**334**			**Pn**	**13 04 49.3**			**-0.3**
RSO	**Redoubt South**	**4.51**	**334**			**Pn**	**13 04 50.0**			**+0.2**
P18K	**Big Mountain,**	**4.52**	**313**			**Pn**	**13 04 49.7**			**-0.2**
P18K	**Big Mountain,**	**4.52**	**313**	P		**Pn**	**13 04 50.1**			**+0.3**
	baz=128									
RDT	**Redoubt**	**4.52**	**336**			**Pn**	**13 04 49.7**			**-0.2**
RDWB	**Redoubt West**	**4.55**	**333**			**Pn**	**13 04 50.2**			**-0.2**
GOAT	**Goat Mountain**	**4.61**	**25**			**Pn**	**13 04 52.4**			**+1.4**
RC01	**Rabbit Creek A**	**4.64**	**354**			**Pn**	**13 04 52.4**			**+1.0**
RC01	**Rabbit Creek A**	**4.64**	**354**	P		**Pn**	**13 04 52.2**			**+0.7**
	baz=174									
BERG	**Berg Lake**	**4.72**	**32**			**Pn**	**13 04 53.9**			**+1.3**
BERG				IAML			13 05 51.3			
	comp=E,215nm,0.8s									
O19K	**Port Alsworth**	**4.74**	**324**			**Pn**	**13 04 52.8**			**0.0**
Q16K	**King Salmon**	**4.80**	**300**			**Pn**	**13 04 54.9**			**+1.3**
Q16K	**King Salmon**	**4.80**	**300**	P		**Pn**	**13 04 54.9**			**+1.3**
	baz=114									
O18K	**Koktuh Hills**	**4.81**	**317**	Pn		**Pn**	**13 04 53.6**			**-0.2**
O18K				IAML			13 05 48.5			
	comp=N,85nm,0.9s									
SNH	**Sunshine Point**	**4.83**	**38**			**Pn**	**13 04 56.0**			**+2.0**
SNH				IAML			13 05 47.3			
	comp=N,149nm,3.2s									
SNH				IAML			13 06 42.8			
	comp=E,163nm,3.6s									
DIV	**Divide**	**4.90**	**17**			**Pn**	**13 04 56.0**			**+0.9**
P17K	**Kvichak River**	**4.93**	**307**			**Pn**	**13 04 56.5**			**+1.1**
P17K	**Kvichak River**	**4.93**	**307**	P		**Pn**	**13 04 56.8**			**+1.4**
	baz=121									
KNK	**Knik Glacier**	**4.94**	**2**			**Pn**	**13 04 56.4**			**+0.9**
KNK				IAML			13 05 50.2			
	comp=E,96nm,0.8s									
KNK				IAML			13 05 50.3			
	comp=N,96nm,0.6s									
KNK	**Knik Glacier**	**4.94**	**2**	P		**Pn**	**13 04 56.6**			**+1.0**
	baz=182									
R16K	**Pilot Point**	**4.95**	**286**			**Pn**	**13 04 56.1**			**+0.4**
BMRM	**Bremner River**	**4.97**	**24**			**Pn**	**13 04 57.5**			**+1.4**
BMRM	**Bremner River**	**4.97**	**24**	P		**Pn**	**13 04 57.5**			**+1.4**
	baz=208									
SUA	**Susitna One**	**5.09**	**349**	Pn		**Pn**	**13 04 57.8**			**0.0**
SUA				IAML			13 05 57.3			
	comp=N,84nm,2.7s									
SUA				IAML			13 06 04.5			
	comp=E,96nm,3.8s									
SPCG	**Spurr Capps Gl**	**5.11**	**342**			**Pn**	**13 04 59.0**			**+1.0**
BARK	**Barkley Ridge**	**5.11**	**37**			**Pn**	**13 04 59.7**			**+1.7**
PMR	**Palmer**	**5.12**	**358**			**Pn**	**13 04 58.5**			**+0.6**
PMR	**Palmer**	**5.12**	**358**	P		**Pn**	**13 04 58.9**			**+0.9**
KLU	**Klutina**	**5.22**	**15**			**Pn**	**13 05 00.7**			**+1.2**
KLU				IAML			13 05 59.4			
	comp=N,111nm,0.3s									
KLU				IAML			13 06 01.7			
	comp=E,60nm,0.5s									
KLU	**Klutina**	**5.22**	**15**	P		**Pn**	**13 05 00.8**			**+1.3**
	baz=198									
ANNW	**Aniakchak Nort**	**5.25**	**279**			**Pn**	**13 05 00.1**			**+0.2**
N19K	**Bonanza Creek**	**5.27**	**328**			**Pn**	**13 05 00.1**			**-0.1**
STLK	**Strandline Lak**	**5.27**	**344**			**Pn**	**13 05 00.9**			**+0.8**
GHO	**Glory Hole Cre**	**5.30**	**359**			**Pn**	**13 05 02.0**			**+1.4**
GHO				IAML			13 06 02.6			
	comp=E,106nm,0.6s									
GHO				IAML			13 06 02.8			
	comp=N,106nm,0.6s									
SPNN	**North Nagishla**	**5.30**	**339**			**Pn**	**13 05 01.3**			**+0.6**
SML	**Sawmill**	**5.33**	**2**			**Pn**	**13 05 02.2**			**+1.1**
SML				IAML			13 06 00.4			
	comp=N,77nm,0.6s									
SML				IAML			13 06 02.2			
	comp=E,73nm,0.6s									
SML	**Sawmill**	**5.33**	**2**	P		**Pn**	**13 05 02.4**			**+1.4**
	baz=183									
M23K	**Glacier View**	**5.34**	**5**			**Pn**	**13 05 02.6**			**+1.6**
M23K	**Glacier View**	**5.34**	**5**	P		**Pn**	**13 05 02.6**			**+1.6**
	baz=186									
CHGN	**Chignik**	**5.38**	**272**	Pn		**Pn**	**13 05 01.7**			**0.0**
CHGN				IAML			13 05 59.6			
	comp=E,122nm,0.5s									
CHGN				IAML			13 06 00.0			
	comp=N,147nm,0.5s									
SCM	**Sheep Creek Mo**	**5.41**	**7**			**Pn**	**13 05 03.4**			**+1.4**
SCM	**Sheep Creek Mo**	**5.41**	**7**	P		**Pn**	**13 05 03.6**			**+1.6**
	baz=189									
VRDI	**Verde Repeater**	**5.48**	**28**			**Pn**	**13 05 04.7**			**+1.6**
O17K	**Koliganek Bris**	**5.52**	**310**			**Pn**	**13 05 03.6**			**+0.1**
O17K	**Koliganek Bris**	**5.52**	**310**	P		**Pn**	**13 05 04.4**			**+0.9**
	baz=124									
KIAG	**Kiagna River**	**5.54**	**34**			**Pn**	**13 05 05.2**			**+1.2**
N25K	**Chitina, Valde**	**5.55**	**21**			**Pn**	**13 05 05.5**			**+1.5**
N25K	**Chitina, Valde**	**5.55**	**21**	P		**Pn**	**13 05 05.5**			**+1.5**
	baz=205									
SAMH	**Samovar Hills**	**5.55**	**46**			**Pn**	**13 05 05.8**			**+1.8**
P16K	**Nushagak River**	**5.57**	**301**			**Pn**	**13 05 05.2**			**+1.0**
GLB	**Gilahina Butte**	**5.58**	**25**			**Pn**	**13 05 05.3**			**+0.9**
N18K	**Kilae Creek**	**5.63**	**321**			**Pn**	**13 05 04.9**			**-0.1**
SKT	**Skwentna**	**5.69**	**347**	Pn		**Pn**	**13 05 06.7**			**+0.8**
PTPK	**Patty Peak**	**5.72**	**32**			**Pn**	**13 05 08.2**			**+1.7**
PCA	**Pinnacle**	**5.74**	**48**			**Pn**	**13 05 08.4**			**+1.8**
PINM	**Pinnacle**	**5.75**	**48**	P		**Pn**	**13 05 08.8**			**+2.2**
	baz=235									
M24K	**Tolsona, Glenn**	**5.78**	**12**			**Pn**	**13 05 09.3**			**+2.1**
M24K	**Tolsona, Glenn**	**5.78**	**12**	P		**Pn**	**13 05 09.3**			**+2.1**
	baz=194									
M20K	**Styx River**	**5.86**	**339**			**Pn**	**13 05 08.4**			**+0.2**
O16K	**Kokwok River B**	**5.87**	**306**			**Pn**	**13 05 08.4**			**+0.2**
BARN	**Barnard Glacie**	**5.87**	**36**			**Pn**	**13 05 10.5**			**+1.9**
PNL	**Peninsula**	**5.88**	**53**			**Pn**	**13 05 10.4**			**+1.9**
PNL	**Peninsula**	**5.88**	**53**	P		**Pn**	**13 05 11.0**			**+2.5**
PNL	**Peninsula**	**5.88**	**53**	P		**Pn**	**13 05 10.9**			**+2.3**
	baz=241									
CTGM	**Chitina Glacie**	**5.91**	**38**			**Pn**	**13 05 10.1**			**+1.1**
LOGN	**Logan Glacier**	**5.92**	**40**			**Pn**	**13 05 10.5**			**+1.3**
BCPM	**Bancas Point**	**5.92**	**50**			**Pn**	**13 05 11.2**			**+2.1**
WASW	**Wrangell South**	**5.93**	**21**			**Pn**	**13 05 11.0**			**+1.6**
CUT	**Chulitna**	**5.98**	**353**	Pn		Pn	13 05 08.1			-1.8
N17K	**Nushagak Hills**	**6.00**	**316**			**Pn**	**13 05 10.3**			**+0.2**
VNFG	**Fog Glacier, M**	**6.02**	**273**			**Pn**	**13 05 10.6**			**+0.2**
WAT6	**Susitna Watana**	**6.13**	**4**			**Pn**	**13 05 13.2**			**+1.2**
WAT6	**Susitna Watana**	**6.13**	**4**	P		**Pn**	**13 05 13.2**			**+1.2**
	baz=186									
M19K	**Big River Lodg**	**6.16**	**334**			**Pn**	**13 05 12.1**			**-0.2**
HARP	**HAARP**	**6.20**	**16**			**Pn**	**13 05 14.7**			**+1.8**
M18K	**Stony River**	**6.21**	**327**			**Pn**	**13 05 12.7**			**-0.3**
WAT1	**Susitna Watana**	**6.36**	**1**			**Pn**	**13 05 16.6**			**+1.5**
WAT1	**Susitna Watana**	**6.36**	**1**	P		**Pn**	**13 05 17.0**			**+1.9**
	baz=181									
WAT7	**Susitna Watana**	**6.36**	**360**			**Pn**	**13 05 16.7**			**+1.6**
CNBA	**Chernabura Isl**	**6.37**	**259**			**Pn**	**13 05 14.5**			**-0.7**
L19K	**White Mountain**	**6.51**	**334**			**Pn**	**13 05 16.8**			**-0.3**
O15K	**Ungalikthiuk R**	**6.51**	**299**			**Pn**	**13 05 18.2**			**+1.1**
O29M	**Mount Kennedy**	**6.56**	**50**			**Pn**	**13 05 20.2**			**+2.3**
N16K	**Nishlik Lake**	**6.61**	**311**			**Pn**	**13 05 19.0**			**+0.6**
M26K	**Nabesna, AK**	**6.61**	**24**	Pn		**Pn**	**13 05 20.3**			**+1.8**
P29M	**Windy Craggy**	**6.62**	**57**			**Pn**	**13 05

E25K	**Arctic Village**	**11.76**	**6**	Pn		**Pn**	**13 06 30.6**	**+1.6**
E27K	**Coleen River**	**12.18**	**13**	Pn		**Pn**	**13 06 34.9**	**+0.1**
G31M	**Satah River**	**12.46**	**27**	Pn		**Pn**	**13 06 39.6**	**+1.1**
D22K	**Ayikyak River**	**12.56**	**353**	Pn		**Pn**	**13 06 41.2**	**+1.3**
BBB	**Bella Bella**	**12.76**	**101**	Sn		**Sn**	**13 08 59.0**	**-5.6**
	comp=N,0.2nm,0.3s,baz=158,slow=3.2,SNR=3.3							
E28M	**Babbage River**	**12.85**	**15**	Pn		**Pn**	**13 06 46.5**	**+2.7**
E29M	**Blow River**	**12.92**	**18**	Pn		**Pn**	**13 06 45.4**	**+0.7**
D25K	**Kavik River**	**12.92**	**4**	Pn		**Pn**	**13 06 45.8**	**+1.0**
F31M	**Tsiigehtchic**	**13.00**	**26**	Pn		**Pn**	**13 06 46.5**	**+0.7**
D27M	**Malcolm River**	**13.26**	**12**	Pn		**Pn**	**13 06 50.5**	**+1.1**
INK	**Inuvik**	**13.73**	**24**	Pn		**Pn**	**13 06 57.9**	**+2.1**
INK	**Inuvik**	**13.73**	**24**	Pn		**Pn**	**13 06 57.3**	**+1.6**
	comp=N,0.2nm,0.3s,baz=208,slow=14,SNR=18							
	comp=N,6.6nm,0.9s							
C16K	**Lisburne Hills**	**14.04**	**334**	Pn		**Pn**	**13 07 00.8**	**+0.9**
B20K	**Meade River**	**14.06**	**348**	Pn		**Pn**	**13 06 59.9**	**-0.4**
ATKA	**Atka Island**	**15.42**	**265**	Pn		**Pn**	**13 07 18.1**	**-0.6**
ATKA				IAmb		IAmb	13 07 37.5	
	comp=Z,27nm,1.1s							
C36M	**Paulatuk**	**16.90**	**31**	Pn		**Pn**	**13 07 38.4**	**+0.7**
ADK	**Adak**	**16.93**	**266**	Pn		**Pn**	**13 07 37.3**	**-0.9**
ADK				IAmb		IAmb	13 08 00.2	
	comp=Z,51nm,1.5s							
ADK	**Adak**	**16.93**	**266**	P		**Pn**	**13 07 38.6**	**+0.5**
PGC	**Sidney**	**17.18**	**106**	Pn		**Pn**	**13 07 41.0**	**-0.2**
PGC				IAmb		IAmb	13 08 08.5	
	comp=Z,44nm,1.4s							
YKAB2	**New Yellowknif**	**18.16**	**57**			**Pn**	**13 07 54.8**	**+1.5**
YKA	**Yellowknife Ar**	**18.17**	**57**	P		**Pn**	**13 07 55.5**	**+2.1**
YKA	**Yellowknife Ar**	**18.17**	**57**	P		**Pn**	**13 07 55.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=268,slow=12,SNR=6.9							
YKA				LR		LR	13 14 57.2	
	comp=Z,34nm,19.0s,baz=103,slow=37							
	comp=Z,0.5nm,0.7s							
A36M	**Sachs Harbour**	**18.36**	**23**	P		**Pn**	**13 07 56.4**	**+0.7**
A36M				IAmb		IAmb	13 08 05.0	
	comp=Z,4.3nm,0.8s							
L02F	**Cave Junction**	**21.64**	**121**	P		**P**	**13 08 31.9**	**+0.3**
PNTR	**Pine Nut**	**25.90**	**120**	P		**P**	**13 09 12.6**	**-0.9**
PNTR				IAmb		IAmb	13 09 22.2	
	comp=Z,13nm,1.3s							
NVAR	**Mina Array Bea**	**27.04**	**119**	P		**P**	**13 09 24.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=289,slow=9.2,SNR=4.5							
	comp=Z,0.8nm,0.7s							
PDAR	**Pinedale Array**	**28.41**	**102**	P		**P**	**13 09 36.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=3.5							
	comp=Z,0.4nm,0.7s							
TXAR	**Lajitas Array**	**41.61**	**111**	P		**P**	**13 11 29.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=330,slow=5.2,SNR=4.4							
	comp=Z,0.4nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**49.26**	**240**	T		T	14 05 27.2	
	baz=31,slow=76							
H11N3	**WAKE ISLAND Hy**	**49.26**	**240**	T		T	14 05 42.4	
	baz=31,slow=76							
H11N1	**WAKE ISLAND Hy**	**49.27**	**240**	T		T	14 05 27.3	
	baz=31,slow=76							
H11S1	**WAKE ISLAND Hy**	**50.40**	**240**	T		T	14 07 14.9	
	baz=30,slow=76							
H11S2	**WAKE ISLAND Hy**	**50.41**	**240**	T		T	14 07 01.9	
	baz=30,slow=76							
H11S3	**WAKE ISLAND Hy**	**50.41**	**240**	T		T	14 06 58.4	
	baz=30,slow=76							
CMIG	**Matias Romero**	**56.22**	**112**	LR		LR	13 37 10.3	
	comp=Z,116nm,18.5s,baz=8.0,slow=36							
SONM	**Songino Array**	**58.74**	**310**	P		**P**	**13 13 39.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=35,slow=7.5,SNR=2.8							
	comp=Z,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**61.55**	**327**	P		**P**	**13 13 58.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=22,slow=9.3,SNR=1.8							
	comp=Z,0.2nm,0.4s							
FINES	**FINESS Array B**	**62.33**	**3**	P		**P**	**13 14 03.5**	**+0.3**
	comp=Z,13nm,1.2s,baz=0.0,slow=6.9,SNR=1.6							
EKA	**Eskdalemuir Ar**	**65.07**	**21**	P		**P**	**13 14 23.5**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=6.8,slow=7.1,SNR=2.6							
	comp=Z,1.1nm,0.6s							
BVAR	**Borovoye Array**	**66.22**	**335**	P		**P**	**13 14 29.5**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=342,slow=9.1,SNR=2.1							
	comp=Z,0.4nm,0.5s							
JTS	**Las Juntas de**	**67.11**	**107**	LR		LR	13 45 42.1	
	comp=Z,106nm,19.4s,baz=355,slow=38							
MKAR	**Makanchi Array**	**68.60**	**325**	P		**P**	**13 14 43.9**	**-0.2**
	comp=Z,0.4nm,1.0s,baz=32,slow=6.9,SNR=1.9							
	comp=Z,0.4nm,1.0s							
AKASG	**Malin Array Be**	**73.16**	**1**	P		**P**	**13 15 11.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=13,slow=0.2,SNR=1.1							
	comp=Z,0.4nm,0.5s							
KBZ	**Khabaz**	**79.67**	**351**	LR		LR	13 53 24.3	
	comp=Z,48nm,20.0s,baz=330,slow=37							

*IDC **25** 13:10:50.9±1.1,55˚.56N×166˚.27E,h0km,mb3.5/8, mbtmp3.6/9,ML3.3/1, Error ellipse: s-maj=39.5km s-min=16.8km az=170.0*
*KRSC **25** 13:10:51.5±1.5,55˚.40N×166˚.35E,h41km±9km,Ml4.1*
ISC 25 13:10:53.8±0.8,55˚.43N±0˙.06×166˚.34E±0˙.06,h20km,n45, σ1s16/62,mb3.5/8,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.31**	**224**	*eP*	**Pb**	**13 10 59.8**	**-0.8**
BKI				*eS*	**Sb**	**13 11 05.2**	**0.0**
KBG	**Krutoberegovo**	**2.21**	**293**	*eS*	**Sn**	**13 11 55.4**	**-0.6**
SMKR	**Semkarok**	**2.97**	**295**	*eP*	**Pn**	**13 11 39.6**	**-0.2**
SMKR				*eS*	**Sn**	**13 12 15.0**	**+0.2**
BDR	**Baidarnaya**	**3.10**	**294**	*eS*	**Sn**	**13 12 17.4**	**-0.7**
SRKR	**Sorokina**	**3.15**	**295**	*eS*	**Sn**	**13 12 19.0**	**-0.3**
ZLN	**Zelenaya**	**3.19**	**283**	*eP*	**Pn**	**13 11 41.9**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**3.24**	**281**	*eP*	**Pn**	**13 11 44.1**	**+0.6**
BZP	**Bezymyannyi-Pe**	**3.32**	**281**	*eP*	**Pn**	**13 11 44.8**	**+0.1**
BZP				*eS*	**Sn**	**13 12 22.9**	**-0.8**
KLY	**Klyuchi**	**3.33**	**288**	*eP*	**Pn**	**13 11 43.2**	**-1.4**
KLY				*eS*	**Sn**	**13 12 20.9**	**-2.6**
BZMR	**Bezymyannaya**	**3.35**	**281**	*eP*	**Pn**	**13 11 45.5**	**+0.4**
BZMR				*eS*	**Sn**	**13 12 25.5**	**+1.1**
BZWR	**Bezymyannyi-We**	**3.35**	**282**	*eP*	**Pn**	**13 11 45.3**	**+0.2**
BZWR				*eS*	**Sn**	**13 12 25.5**	**+1.0**
TUMD	**Tumrok D**	**3.41**	**269**	*eP*	**Pn**	**13 11 46.6**	**+0.9**
TUMD				*eS*	**Sn**	**13 12 26.6**	**+1.2**
KIRR	**Kirishev**	**3.44**	**281**	*eP*	**Pn**	**13 11 46.9**	**+0.6**
KMNR	**Kamenistaya**	**3.48**	**278**	*eP*	**Pn**	**13 11 47.8**	**+1.0**
KMNR				*eS*	**Sn**	**13 12 28.3**	**+0.8**
KPT	**Kopyto**	**3.51**	**281**	*eP*	**Pn**	**13 11 47.7**	**+0.5**
TUMR	**Tumrok**	**3.54**	**270**	*eP*	**Pn**	**13 11 48.8**	**+1.1**
TUMR				*eS*	**Sn**	**13 12 30.9**	**+1.9**
KOZ	**Kozyrevsk**	**3.71**	**282**	*eP*	**Pn**	**13 11 52.3**	**+2.3**
SRDR	**Sredinnyy**	**3.84**	**286**	*eP*	**Pn**	**13 11 52.5**	**+0.8**
SRDR				*eS*	**Sn**	**13 12 37.6**	**+1.4**
KII	**Karymskiy**	**4.23**	**254**	*eP*	**Pn**	**13 11 58.2**	**+1.1**
ESO	**Esso**	**4.36**	**280**	*eP*	**Pn**	**13 11 60.0**	**+1.2**
SMAR	**Somma**	**4.92**	**247**	*eP*	**Pn**	**13 12 07.6**	**+1.0**
SMAR				*eS*	**Sn**	**13 13 02.7**	**-0.3**
UGLR	**Uglovaya**	**4.93**	**246**	*eP*	**Pn**	**13 12 08.1**	**+1.3**
AVH	**Avacha**	**4.95**	**247**	*eP*	**Pn**	**13 12 08.4**	**+1.4**
AVH				*eS*	**Sn**	**13 13 03.3**	**-0.3**
KRX	**Arik**	**4.95**	**248**	*eP*	**Pn**	**13 12 07.8**	**+0.7**
KRX				*eS*	**Sn**	**13 13 03.1**	**-0.6**
KOK	**Koryaka**	**4.99**	**248**	*eP*	**Pn**	**13 12 08.5**	**+1.0**
KOK				*eS*	**Sn**	**13 13 03.8**	**-0.9**
DALK	**Dalny**	**5.06**	**245**	*eP*	**Pn**	**13 12 09.0**	**+0.6**
DALK				*eS*	**Sn**	**13 13 04.4**	**-1.8**
PET	**Petropavlovsk**	**5.11**	**245**	*eP*	**Pn**	**13 12 09.5**	**+0.4**
PET				*eS*	**Sn**	**13 13 05.6**	**-1.9**
RUS	**Russkaya**	**5.51**	**240**	*eS*	**Sn**	**13 13 15.6**	**-1.8**
PETK	**Petropavlovsk-**	**5.57**	**249**	Pn	**Pn**	**13 12 16.2**	**+0.7**
	4.9nm,0.3s,baz=64,slow=14,SNR=34						
PETK				Sn	**Sn**	**13 13 20.4**	**+1.6**
	2.9nm,0.3s,baz=48,slow=22,SNR=7.7						
	13nm,0.5s						
MTVR	**Mutnovka**	**5.65**	**242**	*eP*	**Pn**	**13 12 17.6**	**+1.0**
MTVR				*eS*	**Sn**	**13 13 19.3**	**-1.6**
GRL	**Gorelyy**	**5.67**	**243**	*eP*	**Pn**	**13 12 19.1**	**+2.2**
GRL				*eS*	**Sn**	**13 13 21.9**	**+0.6**
ASAK	**Asacha**	**5.85**	**242**	*eP*	**Pn**	**13 12 20.0**	**+0.7**
ASAK				*eS*	**Sn**	**13 13 24.7**	**-1.1**
KMSK	**Kamenskaya**	**7.06**	**359**	*eP*	**Pn**	**13 12 35.2**	**-0.6**
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	**13 16 10.5**	**-1.1**
	0.9nm,0.8s,baz=248,slow=8.4,SNR=10						
	0.9nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	13 55 10.1	
	baz=359,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.65**	**179**	T	T	13 55 37.7	
	baz=359,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.66**	**179**	T	T	13 55 36.7	
	baz=359,slow=76						
SONM	**Songino Array**	**36.92**	**284**	P	**P**	**13 18 02.2**	**+1.1**
	0.8nm,0.8s,baz=56,slow=8.8,SNR=3.3						
	0.8nm,0.8s						
YKA	**Yellowknife Ar**	**38.92**	**47**	P	**P**	**13 18 17.3**	**-0.3**
	0.2nm,0.7s,baz=298,slow=8.1,SNR=4.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**49.67**	**303**	P	**P**	**13 19 43.2**	**-0.5**
	0.8nm,0.8s,baz=56,slow=6.9,SNR=2.7						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**50.39**	**297**	P	**P**	**13 19 47.8**	**-1.5**
	0.3nm,0.6s,baz=59,slow=6.0,SNR=4.5						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**51.55**	**76**	P	**P**	**13 20 00.4**	**+2.0**
	0.2nm,0.5s,baz=321,slow=8.5,SNR=2.0						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**51.75**	**310**	P	**P**	**13 19 58.2**	**-1.2**
	0.6nm,0.5s,baz=57,slow=8.8,SNR=4.0						
	0.6nm,0.5s						
TXAR	**Lajitas Array**	**66.39**	**72**	P	**P**	**13 21 41.8**	**+0.6**
	0.5nm,0.5s,baz=294,slow=4.9,SNR=11						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**145.18**	**180**	PKPbc	**PKPbc**	**13 30 26.5**	**-1.5**
	5.8nm,1.3s,baz=340,slow=1.0,SNR=6.8						

IDC 25 13:18:04.3±2.0,0˚.79N×125˚.03E,h0km,mb3.3/3, mbtmp3.4/3,Error ellipse: s-maj=193.7km s-min=26.6km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.54**	**157**	P	P	13 23 06.1	+0.1
	0.9nm,0.6s,baz=334,slow=11,SNR=14						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**25.80**	**161**	P	P	13 23 37.1	-0.1
	0.2nm,0.3s,baz=348,slow=7.2,SNR=5.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.03**	**327**	P	P	13 28 06.1	0.0
	0.2nm,0.5s,baz=110,slow=7.3,SNR=4.4						
	0.2nm,0.5s						

*NEIC **25** 13:22:52.5±2.1,48˚.2N±0˙.1×154˚.6E±0˙.1,h35km±10km, mb4.5/25, Error ellipse: s-maj=17.0km s-min=12.0km az=155.0*
*MOS **25** 13:22:53.6±1.3,48˚.46N×154˚.31E,h39km,mb4.7/5, Error ellipse: s-maj=18.5km s-min=12.7km az=66.1*
*SKHL **25** 13:22:54.5±0.5,48˚.30N×154˚.30E,h52km±7km,mb4.5/4*
*IDC **25** 13:22:55.4±1.4,48˚.99N×153˚.83E,h0km,mb4.0/8, mbtmp4.0/10,ML3.3/2,MS3.6/2, Error ellipse: s-maj=34.7km s-min=21.8km az=104.0*
ISC 25 13:22:52.4±0.8,48˚.1N±0˙.1×154˚.8E±0˙.1,h35km,n68, σ1s66/61,mb4.3/22,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.73**	**18**	*eP*	**Pn**	**13 23 34.4**	**+0.8**
SKR				AMB	AMB	13 23 38.9	
	70nm,0.7s						
SKR				*eS*	**Sn**	**13 24 03.8**	**-1.5**
SKR				A	A	13 24 07.8	
	80nm,0.3s						
SKR				A	A	13 24 07.8	
	70nm,0.3s						
PAU	**Pauzhetka**	**3.62**	**21**	*eP*	**Pn**	**13 23 47.6**	**+1.8**
PAU				AMB	AMB	13 23 50.5	
	40nm,0.5s						
PAU				*eS*	**Sn**	**13 24 27.1**	**-0.1**
PAU				A	A	13 24 34.0	
	100nm,0.3s						
PAU				A	A	13 24 34.0	
	80nm,0.3s						
PEA0B	**Petropavlovsk-**	**5.34**	**19**	Pn	**Pn**	**13 24 10.0**	**+0.4**
PEA0B	**Petropavlovsk-**	**5.34**	**19**	PN	**Pn**	**13 24 10.0**	**+0.4**
PETK	**Petropavlovsk-**	**5.34**	**19**	Pn	**Pn**	**13 24 08.4**	**-1.2**
PETK	**Petropavlovsk-**	**5.34**	**19**	Pn	**Pn**	**13 24 09.1**	**-0.5**
	1.4nm,0.3s,baz=174,slow=12,SNR=16						
	3.5nm,0.5s						
PET	**Petropavlovsk**	**5.51**	**25**	Pn	**Pn**	**13 24 08.5**	**-3.4**
SHO	**Shikotan**	**6.97**	**235**	*e*PN	**Pn**	**13 24 34.8**	**+2.9**
SHO	**Shikotan**	**6.97**	**235**	*eP*	**Pn**	**13 24 33.7**	**+1.8**
SHO				AMB	AMB	13 24 36.8	
	40nm,0.5s						
SHO				*eS*	**Sn**	**13 25 47.9**	**-1.9**
SHO				A	A	13 25 52.8	
	40nm,0.6s						
SHO				A	A	13 25 52.8	
	60nm,0.6s						
NMR	**Nemuro--Hokkai**	**7.90**	**237**	*eP*	**Pn**	**13 24 45.3**	**+0.6**
NMR				*eS*	**Sn**	**13 26 09.4**	**-3.4**
JKA	**Kamikawa-asahi**	**9.35**	**249**	Pn	**Pn**	**13 25 06.0**	**+1.6**
JKA	**Kamikawa-asahi**	**9.35**	**249**	*eP*	**Pn**	**13 25 06.1**	**+1.6**
ASAJ	**Asahikawa**	**9.35**	**249**	PN	**Pn**	**13 25 06.1**	**+1.6**
ASAJ	**Asahikawa**	**9.35**	**249**	Pn	Pn	13 25 09.7	+5.1
	0.8nm,0.3s,baz=128,slow=15,SNR=6.3						
	6.5nm,0.7s						
JSD	**Sado**	**15.68**	**236**	Pn	**Pn**	**13 26 28.6**	**-1.9**
JSD				IAmb	IAmb	13 26 31.7	
	comp=Z,34nm,1.1s						
USA0B	**Ussuriysk Arra**	**16.25**	**265**	Pn	**Pn**	**13 26 34.8**	**-2.9**
USA0B	**Ussuriysk Arra**	**16.25**	**265**	P	**Pn**	**13 26 34.8**	**-2.9**
USA0B				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JHJ	**Hachijo jima 2**	**18.75**	**222**	LR	LR	13 33 53.2	
	comp=Z,119nm,21.0s,baz=332,slow=35						
GSTR	**Great Sitkin T**	**19.07**	**67**	P	**P**	**13 27 10.4**	**-1.2**
KSRS	**Korea Array**	**22.29**	**251**	P	**P**	**13 27 49.7**	**+3.3**
	comp=Z,2.2nm,0.8s,baz=48,slow=12,SNR=4.4						
	comp=Z,2.2nm,0.8s						
CLES	**Cleveland East**	**22.83**	**65**	P	**P**	**13 27 51.8**	**-0.2**
K13K	**Kusilvak Mount**	**26.53**	**44**	P	**P**	**13 28 26.5**	**+0.1**
K13K				IAmb	IAmb	13 28 31.0	
	comp=Z,5.6nm,1.2s						
O14K	**Tigyukauivet M**	**27.80**	**50**	P	**P**	**13 28 42.0**	**+4.3**
L16K	**Oowhat River**	**28.92**	**45**	P	**P**	**13 28 51.1**	**+3.4**
C18K	**Utukok River**	**29.88**	**31**	P	**P**	**13 28 58.1**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**29.96**	**157**	T	T	14 00 42.2	
	baz=344						
H11N1	**WAKE ISLAND Hy**	**29.98**	**157**	T	T	14 00 44.9	
	baz=344						
H11N3	**WAKE ISLAND Hy**	**29.98**	**157**	T	T	14 00 44.3	
	baz=344						
H11S1	**WAKE ISLAND Hy**	**31.08**	**158**	T	T	14 02 08.0	
	baz=344						
H11S3	**WAKE ISLAND Hy**	**31.09**	**158**	T	T	14 02 06.6	
	baz=344						
H11S2	**WAKE ISLAND Hy**	**31.10**	**158**	T	T	14 02 06.9	
	baz=344						
CAST	**Castle Rocks**	**32.47**	**42**	P	**P**	**13 29 21.7**	**+2.6**
CAST				IAmb	IAmb	13 29 26.1	
	comp=Z,5.1nm,0.4s						
D22K	**Ayikyak River**	**32.92**	**32**	P	**P**	**13 29 23.2**	**+0.2**
KTH	**Kantishna Hill**	**33.00**	**42**	P	**P**	**13 29 22.5**	**-1.3**
KTH				IAmb	IAmb	13 29 33.5	
	comp=Z,4.4nm,1.0s						
SUA	**Susitna One**	**33.08**	**46**	P	**P**	**13 29 24.1**	**-0.3**
SUA				IAmb	IAmb	13 29 30.1	
	comp=Z,8.4nm,0.9s						
BRLK	**Bradley Lake**	**33.09**	**49**	P	**P**	**13 29 23.6**	**-0.9**
G23K	**Bananza Creek**	**33.59**	**36**	P	**P**	**13 29 28.4**	**-0.5**
G23K				IAmb	IAmb	13 29 52.8	
	comp=Z,5.2nm,1.4s						
BWN	**Browne**	**33.66**	**41**	P	**P**	**13 29 29.7**	**+0.3**
BWN				IAmb	IAmb	13 29 50.3	
	comp=Z,31nm,1.4s						
Q23K	**Middleton Isla**	**35.42**	**49**	P	**P**	**13 29 46.6**	**+2.1**
MID	**Middleton Isla**	**35.42**	**49**	P	**P**	**13 29 46.6**	**+2.0**
MID	**Middleton Isla**	**35.42**	**49**	P	**P**	**13 29 46.7**	**+2.0**
MID				pmax	pmax		
	comp=Z,422nm,1.2s						
TWG	**Pinlang**	**36.80**	**239**	P	**P**	**13 29 56.5**	**-0.4**
TWG				IAmb	IAmb	13 29 58.5	
	comp=Z,58nm,1.3s						
EGAK	**Eagle**	**37.24**	**40**	P	**P**	**13 30 00.4**	**+0.3**
EGAK				IAmb	IAmb	13 30 12.7	
	comp=Z,10nm,1.4s						
BCPM	**Bancas Point**	**38.68**	**47**	P	**P**	**13 30 12.3**	**0.0**
A36M	**Sachs Harbour**	**42.13**	**27**	P	**P**	**13 30 40.1**	**-0.6**
MK31	**Makanchi Array**	**47.33**	**297**	P	**P**	**13 31 21.9**	**-0.5**
MK31	**Makanchi Array**	**47.33**	**297**	P	**P**	**13 31 21.9**	**-0.5**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.33**	**297**	P	**P**	**13 31 22.7**	**+0.3**
MKAR	**Makanchi Array**	**47.33**	**297**	P	**P**	**13 31 22.7**	**+0.3**
MKAR	**Makanchi Array**	**47.33**	**297**	P	**P**	**13 31 23.2**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=66,slow=7.1,SNR=11						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**47.33**	**297**	*e*P	**P**	**13 31 22.7**	**+0.3**
MAKZ	**Makanchi**	**47.51**	**297**	P	**P**	**13 31 22.1**	**-1.7**
MAKZ				IAmb	IAmb	13 31 29.9	
	comp=Z,4.3nm,1.5s						
MAKZ	**Makanchi**	**47.51**	**297**	P	**P**	**13 31 22.1**	**-1.7**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KURK	**Kurchatov**	**47.56**	**303**	P	**P**	**13 31 23.7**	**-0.4**
KURK				IAmb	IAmb	13 31 26.1	
	comp=Z,3.6nm,0.8s						
KURK	**Kurchatov**	**47.56**	**303**	P	**P**	**13 31 23.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**47.56**	**303**	*eP*	**P**	**13 31 23.7**	**-0.4**
KURBB	**Kurchatov Arra**	**47.65**	**303**	P	**P**	**13 31 25.6**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=67,slow=8.4,SNR=15						
	comp=Z,2.4nm,0.6s						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**13 31 50.0**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=61,slow=7.0,SNR=10						
	comp=Z,1.3nm,0.5s						
BRVK	**Borovoye**	**50.91**	**309**	P	**P**	**13 31 48.4**	**-1.3**
BRVK				IAmb	IAmb	13 31 51.5	
	comp=Z,2.6nm,1.0s						
BRVK	**Borovoye**	**50.91**	**309**	P	**P**	**13 31 48.4**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**50.91**	**309**	*eP*	**P**	**13 31 48.4**	**-1.3**
DLV	**T Lat**	**52.71**	**243**	P	**P**	**13 32 03.7**	**0.0**
DLV				IAmb	IAmb	13 32 17.5	
	comp=Z,28nm,1.4s						
RADR	**Rader Ridge**	**52.77**	**59**	P	**P**	**13 32 03.4**	**-0.3**
FINES	**FINESS Array B**	**63.29**	**335**	P	**P**	**13 33 17.7**	**+0.6**
	comp=Z,3.0nm,1.0s,baz=44,slow=8.3,SNR=3.6						
	comp=Z,3.0nm,1.0s						
BORG	**Borgarnes**	**67.45**	**358**	LR	LR	14 02 53.2	
	comp=Z,67nm,18.3s,baz=71,slow=36						
HFS	**Hagfors**	**67.57**	**340**	P	**P**	**13 33 46.2**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=46,slow=4.2,SNR=11						
	comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**70.17**	**200**	P	P	13 34 13.2	+12
	comp=Z,1.0nm,0.8s,baz=20,slow=6.6,SNR=4.5						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**73.86**	**200**	P	P	13 34 36.2	+13
	comp=Z,0.5nm,0.9s,baz=13,slow=6.1,SNR=3.0						
	comp=Z,0.5nm,0.9s						

*IDC **25** 13:24:12.1±1.1,48˚.63N×154˚.81E,h0km,mb3.8/10, mbtmp3.8/12,ML3.3/2,MS3.2/1, Error ellipse: s-maj=26.8km s-min=24.0km az=107.0*
ISC 25 13:24:17.2±1.1,48˚.6N±0˙.2×154˚.7E±0˙.2,h35km,n20, σ1s25/14,mb3.7/11,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**4.88**	**22**	Pn	**Pn**	**13 25 27.8**	**-0.2**
	1.0nm,0.3s,baz=259,slow=15,SNR=1.5						
	5.9nm,1.0s						
ASAJ	**Asahikawa**	**9.49**	**246**	Pn	**Pn**	**13 26 31.4**	**+0.1**
	0.7nm,0.3s,baz=49,slow=16,SNR=1.6						
	14nm,1.0s						
SHEM	**Shemya Is, Ala**	**12.97**	**64**	LR	LR	13 34 01.1	
	comp=Z,89nm,18.1s,baz=326,slow=46						
KSRS	**Korea Array**	**22.41**	**250**	P	**P**	**13 29 10.2**	**-2.3**
	2.2nm,0.8s,baz=50,slow=9.7,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**30.46**	**157**	T	T	14 02 04.0	
	baz=351						
H11N1	**WAKE ISLAND Hy**	**30.48**	**157**	T	T	14 02 03.4	
	baz=351						
H11N3	**WAKE ISLAND Hy**	**30.48**	**157**	T	T	14 02 06.4	
	baz=351						
H11S1	**WAKE ISLAND Hy**	**31.58**	**158**	T	T	14 03 15.7	
	baz=344,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**31.59**	**158**	T	T	14 03 26.7	
	baz=344,slow=76,SNR=48		

SCM	Sheep Creek Mo	5.80	11	Pn	Pn	13 26 07.5	-0.1
VRDI	Verde Repeater	6.01	30	Pn	Pn	13 26 10.1	-0.5
N25K	Chitina, Valde	6.05	24	Pn	Pn	13 26 11.1	+0.1
GLB	Gilahina Butte	6.09	28	Pn	Pn	13 26 11.3	-0.3
M24K	Tolsona, Glenn	6.21	16	Pn	Pn	13 26 14.9	+1.7
CTGM	Chitina Glacie	6.49	39	Pn	Pn	13 26 16.8	-0.3
M17K	Holitna River	6.59	326	Pn	Pn	13 26 17.7	-0.6
N15K	Kwethluk River	6.79	310	Pn	Pn	13 26 21.6	+0.5
M16K	Timber Creek	6.84	319	Pn	Pn	13 26 22.6	+0.8
P29M	Windy Craggy	7.25	57	Pn	Pn	13 26 27.4	-0.1
CAST	Castle Rocks	7.36	352	Pn	Pn	13 26 30.7	+1.8
M27K	Edge Creek, AK	7.37	30	Pn	Pn	13 26 30.1	+0.9
TTA	Tatalina	7.48	337	Pn	Pn	13 26 30.7	+0.1
L16K	Owhat River	7.49	322	Pn	Pn	13 26 30.8	+0.1
J20K	Nowinta River	8.31	346	Pn	Pn	13 26 42.8	+0.8
L14K	Kuka Creek	8.49	313	Pn	Pn	13 26 45.2	+0.8
M29M	Somme Creek	8.50	38	Pn	Pn	13 26 45.3	+0.6
K15K	Wolf Creek Mou	8.61	320	Pn	Pn	13 26 47.0	+1.0
J26L	Joseph Creek	8.88	17	Pn	Pn	13 26 49.5	-0.3

NEIC 25 13:28:22.6±1.6, **32°.85N**±0°.02×**100°.92W**±0°.02, **h4**km±5km, **mb_Lg2.7**/43, **ML3.1**/8, **Error ellipse: s-maj=3.2km s-min=1.8km az=165.0, Western Texas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SN01	**Snyder 1**	**0.03**	**73**		Pg	13 28 23.0	-0.6
SN01				Sg	Sg	13 28 23.7	-0.6
SN01				IAML		13 28 23.8	
	40μm,0.2s						
SN05	**Snyder 5**	**0.04**	**51**	Pg	Pg	13 28 23.2	-0.6
SN05				IAML		13 28 24.3	
	11μm,0.4s						
SN05				IAML		13 28 25.1	
	11μm,0.2s						
POST	**Post**	**0.53**	**294**		Pg	13 28 32.4	-0.5
POST				Sg	Sg	13 28 39.7	-0.1
DKNS	**Dickens**	**0.81**	**360**		Pg	13 28 37.2	-1.0
DKNS				Sg	Sg	13 28 48.2	-0.6
APMT	**Aspermont**	**0.82**	**55**		Pg	13 28 37.5	-0.9
APMT				Sg	Sg	13 28 48.0	-1.1
SGCY	**Sterling City**	**0.95**	**191**		Pg	13 28 39.8	-1.1
ABTX	**Abilene, Hawle**	**1.10**	**102**		Pg	13 28 42.5	-1.2
ABTX				IAML		13 29 02.3	
	comp=N,861nm,0.2s						
ODSA	**Odessa**	**1.56**	**242**	Pg	Pn	13 28 50.8	-0.4
MSTX	**Muleshoe**	**1.91**	**306**		Pn	13 28 56.3	+0.3
OZNA	**Ozona**	**1.93**	**185**		Pn	13 28 56.5	+0.2
OZNA				IAmb_Lg		13 29 28.1	
	comp=Z,41nm,1.0s						
AMTX	**Amarillo**	**2.12**	**343**		Pn	13 28 59.6	+0.6
MNHN	**Monahans**	**2.17**	**226**		Pn	13 28 59.6	0.0
PLPT	**Palo Pinto**	**2.19**	**90**	Pg	Pb	13 29 01.8	-1.1
WTFS	**Witchita Falls**	**2.25**	**65**		Pn	13 29 00.8	+0.2
BRDY	**Brady**	**2.26**	**133**	Pg	Pb	13 29 03.5	-0.5
SMWD	**Samnorwood**	**2.31**	**14**		Pn	13 29 02.3	+0.7
FW03	**Perrin-Whitt E**	**2.41**	**85**		Pn	13 29 02.7	-0.1
FW03				IAmb_Lg		13 29 39.9	
	comp=Z,40nm,0.9s						
JCT	**Junction City**	**2.55**	**158**		Pn	13 29 04.4	-0.4
WMOK	**Wichita Mounta**	**2.59**	**43**	Pn	Pn	13 29 05.2	-0.1
FW07	**Weatherford**	**2.65**	**92**	Pn	Pn	13 29 02.3	-3.8
PECS	**Pecos**	**2.90**	**240**	Pn	Pn	13 29 09.8	0.0
FW13	**Cleburne**	**2.99**	**99**	IAmb_Lg		13 29 59.7	
	comp=Z,26nm,0.9s						
WHTX	**Lake Whitney,**	**3.05**	**105**	Pn	Pn	13 29 11.5	-0.2
SAND	**Sanderson**	**3.07**	**200**	Pn	Pn	13 29 11.9	0.0
X34A	**Smith Ranch, M**	**3.11**	**55**	IAmb_Lg		13 30 05.9	
	comp=Z,19nm,0.8s						
LOOK	**Love County**	**3.33**	**69**	IAmb_Lg		13 30 16.5	
	comp=Z,23nm,0.9s						
ALPN	**Alpine**	**3.39**	**224**	Pn	Pn	13 29 16.8	+0.3
FW16	**Waxahatchie**	**3.41**	**95**	IAmb_Lg		13 30 09.0	
	comp=Z,22nm,0.8s						
DRIO	**Del Rio**	**3.43**	**176**		Pn	13 29 17.3	+0.4
DRIO				IAmb_Lg		13 30 19.2	
	comp=Z,28nm,0.8s						
435B	**Jarrell**	**3.51**	**125**	IAmb_Lg		13 30 18.6	
	comp=Z,25nm,0.8s						
HNDO	**Hondo**	**3.60**	**157**	Pn	Pn	13 29 19.6	+0.3
FNO	**Franklin**	**3.78**	**50**	IAmb_Lg		13 30 26.9	
	comp=Z,21nm,0.7s						
U32A	**Winter Ranch,**	**3.86**	**24**	IAmb_Lg		13 30 33.0	
	comp=Z,23nm,1.0s						
RTBA	**Rita Blanca**	**3.88**	**338**	Pn	Pn	13 29 23.9	+0.8
MNTX	**Cornudas Mount**	**3.95**	**254**	Pn	Pn	13 29 25.6	+1.6
MNTX				IAmb_Lg		13 30 30.0	
	comp=Z,22nm,0.9s						
VHRN	**Van Horn**	**4.03**	**240**	Pn	Pn	13 29 26.4	+1.1
VHRN				IAmb_Lg		13 30 39.7	
	comp=Z,15nm,0.9s						
W35A	**Tecumseh**	**4.07**	**55**	IAmb_Lg		13 30 34.4	
	comp=Z,23nm,0.7s						
OK029	**Liberty Lake**	**4.11**	**43**	IAmb_Lg		13 30 35.9	
	comp=Z,22nm,1.0s						
TX31	**Lajitas Ar. Si**	**4.22**	**215**	Pn	Pn	13 29 28.1	+0.2
TXAR	**Lajitas Airp**	**4.22**	**215**	Pn	Pn	13 29 28.1	+0.2
EF01	**Eagle Ford 01**	**4.31**	**149**	IAmb_Lg		13 30 50.7	
	comp=Z,19nm,0.8s						
ANMO	**Albuquerque**	**5.05**	**296**	IAmb_Lg		13 31 01.5	
	comp=Z,10nm,0.7s						
T25A	**Trinidad**	**5.15**	**327**	IAmb_Lg		13 31 05.2	
	comp=Z,16nm,0.8s						
121A	**Cookes Peak, D**	**5.79**	**269**	IAmb_Lg		13 31 31.4	
	comp=Z,11nm,0.8s						

IDC ***25*** *13:28:38.4±1.6, 14°.33S×166°.68E, h0km, mb3.9/5, mbtmp4.0/6, ML3.9/1, MS3.6/6, Error ellipse: s-maj=47.0km s-min=27.5km az=124.0*

ISC 25 13:28:39.4±1.5, **14°.5S**±0°.1×**166°.9E**±0°.3, **h10**km, **n10**, σ1°**68**/**7**, **mb3.9**/5, **MS3.4**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.50**	**183**	Pn	**Pn**	**13 30 30.3**	**+1.3**
	1.7nm,0.3s,baz=326,slow=13,SNR=19						
DZM				Sn	**Sn**	**13 31 51.9**	**-2.2**
	0.5nm,0.3s,baz=302,slow=19,SNR=1.0 3.5nm,0.3s						
HNR	**Honiara**	**8.45**	**306**	LR	LR	13 33 39.2	
	comp=Z,2μm,19.6s,baz=212,slow=37						
PMG	**Port Moresby**	**19.92**	**283**	LR	LR	13 40 04.4	
	comp=Z,72nm,18.7s,baz=336,slow=35						
CTA	**Charters Tower**	**20.41**	**251**	LR	LR	13 40 04.3	
	comp=Z,112nm,19.4s,baz=116,slow=34						
STKA	**Stephens Creek**	**28.81**	**229**	P	**P**	**13 34 39.5**	**+1.6**
	1.2nm,0.5s,baz=42,slow=12,SNR=1.9 1.2nm,0.5s						
RPZ	**Rata Peaks**	**29.29**	**174**	LR	LR	13 44 06.3	
	comp=Z,72nm,19.6s,baz=192,slow=31						
WRA	**Warramunga Arr**	**31.48**	**256**	P	**P**	**13 35 01.5**	**-0.2**
	1.3nm,0.9s,baz=86,slow=9.4,SNR=6.5 1.3nm,0.9s						
ASAR	**Alice Springs**	**32.36**	**249**	P	**P**	**13 35 08.9**	**-0.5**
	1.5nm,0.7s,baz=71,slow=9.7,SNR=22						
ASAR				LR	LR	13 48 08.5	
	comp=Z,95nm,18.8s,baz=134,slow=36 1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.50**	**294**	P	**P**	**13 40 17.4**	**-1.3**
	0.3nm,0.4s,baz=132,slow=4.9,SNR=2.1 0.3nm,0.4s						
ILAR	**Eielson Array**	**86.48**	**18**	P	**P**	**13 41 22.1**	**0.0**
	1.1nm,0.8s,baz=236,slow=4.6,SNR=17						
ILAR				LR	LR	14 15 45.5	
	comp=Z,49nm,19.2s,baz=250,slow=33 1.1nm,0.8s						

NEIC ***25*** *13:33:15.2±1.6,56°.13N±0°.08×149°.2W±0°.1, h23km±10km, ML3.7/30, ML3.4(AEIC), Error ellipse: s-maj=12.6km s-min=8.2km az=160.0*

AEIC ***25*** *13:33:17.2±1.7,56°.07N±0°.09×149°.2W±0°.1, h6km±7km, Error ellipse: s-maj=13.0km s-min=9.5km az=163.0*

ISC 25 13:33:13.6±1.5, **56°.16N**±0°.10×**149°.25W**±0°.07, **h10**km, **n147**, σ0°**91**/147, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.44**	**313**		**Pn**	**13 33 53.6**	**+0.1**
KDAK	**Kodiak Island**	**2.44**	**313**		**Sn**	**13 34 22.2**	**-1.3**
KDAK	**Kodiak Island**	**2.44**	**313**		**Pn**	**13 33 55.0**	**+1.5**
KDAK				IAML		13 34 40.7	
	116nm,4.0s						
KDAK				IAML		13 34 53.7	
	77nm,3.5s						
KDAK	**Kodiak Island**	**2.44**	**313**	P	**Pn**	**13 33 54.1**	**+0.5**
	baz=132						
OHAK	**Old Harbor**	**2.47**	**297**		**Pn**	**13 33 54.1**	**+0.3**
OHAK					**Sn**	**13 34 22.2**	**-1.9**
OHAK	**Old Harbor**	**2.47**	**297**	S	**Sn**	**13 34 22.2**	**-1.9**
	baz=116						
SYI	**Shuyak Island**	**2.98**	**327**		**Pn**	**13 34 00.7**	**-0.3**
SYI					**Sn**	**13 34 36.0**	**-0.8**
Q20K	**Shuyak Island**	**2.99**	**327**	P	**Pn**	**13 34 01.4**	**+0.4**
	baz=145						
Q20K				S	**Sn**	**13 34 36.5**	**-0.3**
	baz=145						
CNPM	**China Poot**	**3.54**	**343**		**Pn**	**13 34 09.1**	**+0.5**
CNPM					**Sn**	**13 34 49.2**	**-1.2**
CNPM	**China Poot**	**3.54**	**343**	IAML		13 35 07.7	
	comp=N,116nm,3.2s						
CNPM				IAML		13 35 23.6	
	comp=E,111nm,3.7s						
Q19K	**Cape Douglas,**	**3.65**	**321**		**Pn**	**13 34 11.3**	**+1.2**
Q19K					**Sn**	**13 34 53.1**	**0.0**
Q19K	**Cape Douglas,**	**3.65**	**321**	IAML		13 35 02.9	
	comp=N,190nm,1.1s						
Q19K	**Cape Douglas,**	**3.65**	**321**	P	**Pn**	**13 34 11.3**	**+1.2**
	baz=139						
Q19K				S	**Sn**	**13 34 53.1**	**0.0**
	baz=139						
BRSE	**Bradley Lake S**	**3.68**	**348**		**Pn**	**13 34 10.8**	**+0.3**
BRSE	**Bradley Lake S**	**3.68**	**348**	P	**Pn**	**13 34 10.8**	**+0.3**
	baz=167						
BRLK	**Bradley Lake**	**3.71**	**347**		**Pn**	**13 34 11.2**	**+0.2**
BRLK					**Sn**	**13 34 53.9**	**-0.9**
BRLK	**Bradley Lake**	**3.71**	**347**	IAML		13 36 05.9	
	comp=E,74nm,4.3s						
BRLK				IAML		13 36 33.3	
	comp=N,84nm,4.7s						
HOM	**Homer**	**3.73**	**341**		**Pn**	**13 34 12.6**	**+1.4**
HOM	**Homer**	**3.73**	**341**	P	**Pn**	**13 34 12.6**	**+1.4**
	baz=159						
SEW	**Seward**	**3.95**	**359**		**Pn**	**13 34 14.1**	**-0.1**
SEW	**Seward**	**3.95**	**359**	P	**Pn**	**13 34 14.1**	**-0.1**
	baz=178						
P23K	**Montague Islan**	**3.97**	**14**		**Pn**	**13 34 14.5**	**0.0**
P23K	**Montague Islan**	**3.97**	**14**	P	**Pn**	**13 34 14.5**	**0.0**
	baz=194						
P19K	**Oil Pt**	**4.09**	**330**	Pn	**Pn**	**13 34 17.4**	**+1.2**
P19K				IAML		13 35 18.2	
	comp=N,116nm,3.4s						
P19K				IAML		13 36 35.4	
	comp=E,98nm,4.3s						
IVE	**Iliamna Volcan**	**4.35**	**334**		**Pn**	**13 34 19.6**	**-0.3**
HIN	**Hinchinbrook I**	**4.49**	**18**		**Pn**	**13 34 21.9**	**+0.2**
HIN	**Hinchinbrook I**	**4.49**	**18**	IAML		13 36 09.0	
	comp=E,141nm,3.6s						
HIN				IAML		13 37 16.2	
	comp=N,145nm,2.9s						
P18K	**Big Mountain,**	**4.55**	**318**	Pn	**Pn**	**13 34 23.5**	**+0.9**
P18K				IAML		13 35 21.6	
	comp=E,56nm,3.9s						
KAIM	**Kayak Island**	**4.56**	**32**	Pn	**Pn**	**13 34 23.4**	**+0.7**
RSO	**Redoubt South**	**4.69**	**338**	Pn	**Pn**	**13 34 24.5**	**-0.1**
RDT	**Redoubt**	**4.72**	**341**		**Pn**	**13 34 25.1**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.77**	**21**		**Pn**	**13 34 25.8**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.77**	**21**	P	**Pn**	**13 34 24.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.77**	**21**	P	**Pn**	**13 34 25.8**	**+0.4**
	baz=203						
RC01	**Rabbit Creek A**	**4.95**	**357**	Pn	**Pn**	**13 34 27.8**	**-0.2**
RC01				IAML		13 36 00.5	
	comp=N,38nm,3.6s						
RC01				IAML		13 36 12.7	
	comp=E,40nm,3.5s						
GOAT	**Goat Mountain**	**5.03**	**26**		**Pn**	**13 34 30.0**	**+0.9**
CHGN	**Chignik**	**5.12**	**275**	Pn	**Pn**	**13 34 32.1**	**+1.9**
CHGN				IAML		13 37 01.6	
	comp=N,65nm,0.1s						
CHGN				IAML		13 37 06.9	
	comp=E,61nm,0.4s						
SNH	**Sunshine Point**	**5.26**	**37**	Pn	**Pn**	**13 34 31.9**	**-0.4**
KNK	**Knik Glacier**	**5.28**	**4**		**Pn**	**13 34 33.2**	**+0.6**
KNK	**Knik Glacier**	**5.28**	**4**	IAML		13 35 43.9	
	comp=E,49nm,4.0s						
KNK				IAML		13 36 20.7	
	comp=N,36nm,3.1s						
KNK	**Knik Glacier**	**5.28**	**4**	P	**Pn**	**13 34 33.2**	**+0.6**
	baz=184						
SUA	**Susitna One**	**5.37**	**352**	Pn	**Pn**	**13 34 34.8**	**+0.9**
BMRM	**Bremner River**	**5.39**	**25**		**Pn**	**13 34 34.9**	**+0.8**
BMRM	**Bremner River**	**5.39**	**25**	P	**Pn**	**13 34 34.9**	**+0.8**
	baz=208						
PMR	**Palmer**	**5.45**	**1**		**Pn**	**13 34 35.2**	**+0.5**
PMR	**Palmer**	**5.45**	**1**	P	**Pn**	**13 34 36.3**	**+1.6**
PMR	**Palmer**	**5.45**	**1**	P	**Pn**	**13 34 35.2**	**+0.5**
	baz=180						
KLU	**Klutina**	**5.62**	**17**		**Pn**	**13 34 37.9**	**+0.7**
KLU	**Klutina**	**5.62**	**17**	P	**Pn**	**13 34 37.9**	**+0.7**
	baz=199						
SML	**Sawmill**	**5.68**	**4**	P	**Pn**	**13 34 39.1**	**+1.1**
	baz=185						
N18K	**Kilae Creek**	**5.72**	**325**	Pn	**Pn**	**13 34 39.1**	**+0.6**
SCM	**Sheep Creek Mo**	**5.77**	**9**	Pn	**Pn**	**13 34 40.5**	**+1.2**
O16K	**Kokwok River B**	**5.84**	**310**	Pn	**Pn**	**13 34 41.0**	**+0.9**
VRDI	**Verde Repeater**	**5.91**	**28**		**Pn**	**13 34 41.8**	**+0.5**
SKT	**Skwentna**	**5.95**	**350**	Pn	**Pn**	**13 34 42.7**	**+1.0**
N25K	**Chitina, Valde**	**5.97**	**22**		**Pn**	**13 34 43.0**	**+1.0**
N25K	**Chitina, Valde**	**5.97**	**22**	P	**Pn**	**13 34 43.0**	**+1.0**
	baz=205						
KIAG	**Kiagna River**	**5.98**	**34**		**Pn**	**13 34 42.9**	**+0.7**
GLB	**Gilahina Butte**	**6.00**	**26**		**Pn**	**13 34 43.0**	**+0.6**
CNBA	**Chernabura Isl**	**6.03**	**261**	Pn	**Pn**	**13 34 44.1**	**+1.3**
N17K	**Nushagak Hills**	**6.05**	**320**	Pn	**Pn**	**13 34 43.9**	**+0.9**
M20K	**Styx River**	**6.08**	**342**	Pn	**Pn**	**13 34 43.9**	**+0.4**
PTPK	**Patty Peak**	**6.15**	**32**		**Pn**	**13 34 45.5**	**+0.8**
M24K	**Tolsona, Glenn**	**6.17**	**14**	Pn	**Pn**	**13 34 46.6**	**+1.9**
PCA	**Pinnacle**	**6.18**	**47**		**Pn**	**13 34 45.4**	**+0.5**
PINM	**Pinnacle**	**6.18**	**47**	P	**Pn**	**13 34 45.4**	**+0.5**
	baz=233						
BARN	**Barnard Glacie**	**6.31**	**36**		**Pn**	**13 34 47.5**	**+0.7**
PNL	**Peninsula**	**6.32**	**52**		**Pn**	**13 34 46.8**	**+0.1**
PNL	**Peninsula**	**6.32**	**52**	P	**Pn**	**13 34 47.5**	**+0.8**
PNL	**Peninsula**	**6.32**	**52**	P	**Pn**	**13 34 46.8**	**+0.1**
	baz=239						
M19K	**Big River Lodg**	**6.34**	**337**	Pn	**Pn**	**13 34 47.8**	**+0.8**
CTG	**Chitna Glacier**	**6.34**	**37**	P	**Pn**	**13 34 47.7**	**+0.4**
	baz=223						
CTGM	**Chitina Glacie**	**6.35**	**37**		**Pn**	**13 34 47.7**	**+0.4**
BCPM	**Bancas Point**	**6.36**	**49**		**Pn**	**13 34 47.8**	**+0.4**
LOGN	**Logan Glacier**	**6.36**	**39**		**Pn**	**13 34 47.8**	**+0.3**
SDPT	**Sand Point**	**6.39**	**267**	Pn	**Pn**	**13 34 48.1**	**+0.4**
SDPT	**Sand Point**	**6.39**	**267**	P	**Pn**	**13 34 49.8**	**+2.1**
WAT6	**Susitna Watana**	**6.48**	**6**		**Pn**	**13 34 49.7**	**+0.5**
WAT6	**Susitna Watana**	**6.48**	**6**	P	**Pn**	**13 34 49.7**	**+0.5**
	baz=187						
L19K	**White Mountain**	**6.69**	**337**	Pn	**Pn**	**13 34 51.8**	**0.0**
WAT7	**Susitna Watana**	**6.69**	**2**		**Pn**	**13 34 53.0**	**+1.0**
M17K	**Holitna River**	**6.76**	**324**	Pn	**Pn**	**13 34 50.0**	**-2.7**
O29M	**Mount Kennedy**	**6.99**	**49**		**Pn**	**13 34 56.5**	**+0.4**
O29M	**Mount Kennedy**	**6.99**	**49**	P	**Pn**	**13 34 56.5**	**+0.4**
	baz=237						
DHY	**Denali Highway**	**7.00**	**7**	Pn	**Pn**	**13 34 55.9**	**-0.3**
N15K	**Kwethluk River**	**7.00**	**309**	Pn	**Pn**	**13 34 57.9**	**+1.8**
M16K	**Timber Creek**	**7.03**	**318**	Pn	**Pn**	**13 34 57.3**	**+0.8**
P29M	**Windy Craggy**	**7.05**	**56**		**Pn**	**13 34 56.4**	**-0.4**
P29M	**Windy Craggy**	**7.05**	**56**	P	**Pn**	**13 34 56.4**	**-0.4**
	baz=244						
L18K	**Granite Mounta**	**7.17**	**331**	Pn	**Pn**	**13 34 58.2**	**-0.2**
M27K	**Edge Creek, AK**	**7.27**	**28**		**Pn**	**13 35 00.9**	**+1.1**
M27K	**Edge Creek, AK**	**7.27**	**28**	P	**Pn**	**13 35 00.9**	**+1.1**
	baz=214						
YUK7	**Dusty Glacier**	**7.30**	**49**		**Pn**	**13 35 00.9**	**+0.5**
S31K	**Pelican**	**7.32**	**70**	Pn	**Pn**	**13 34 58.6**	**-1.9**
TRF	**Thorofare Moun**	**7.33**	**356**	Pn	**Pn**	**13 35 01.9**	**+1.1**
CAST	**Castle Rocks**	**7.42**	**350**	Pn	**Pn**	**13 35 03.2**	**+1.4**
YUK6	**Outpost Mounta**	**7.44**	**45**		**Pn**	**13 35 03.2**	**+0.9**
YUK6	**Outpost Mounta**	**7.44**	**45**	P	**Pn**	**13 35 03.2**	**+0.9**
	baz=234						
KTH	**Kantishna Hill**	**7.46**	**354**	Pn	**Pn**	**13 35 03.0**	**+0.5**
YUK4	**Talbot Arm**	**7.57**	**42**	P	**Pn**	**13 35 06.3**	**+2.2**
	baz=230						
K20K	**Telida**	**7.61**	**343**	Pn	**Pn**	**13 35 04.6**	**+0.1**
P30M	**Million Dollar**	**7.61**	**54**		**Pn**	**13 35 05.5**	**+1.0**
P30M	**Million Dollar**	**7.61**	**54**	P	**Pn**	**13 35 05.5**	**+1.0**
	baz=243						
L16K	**Owhat River**	**7.67**	**321**	Pn	**Pn**	**13 35 05.6**	**+0.4**
HYT	**Haines Junctio**	**7.72**	**48**	Pn	**Pn**	**13 35 05.7**	**-0.4**
SIT	**Sitka**	**7.74**	**78**	Pn	Pn	13 35 03.2	-3.0
L27K	**Beaver Creek,**	**7.87**	**25**	Pn	**Pn**	**13 35 07.4**	**-0.6**
BCAR	**Beaver Creek A**	**7.88**	**26**	Pn	**Pn**	**13 35 09.3**	**+1.1**
RIDG	**Independent Ri**	**7.91**	**14**	Pn	**Pn**	**13 35 09.9**	**+1.2**
BPAW	**Bear Paw Mtn.**	**8.01**	**355**	P	**Pn**	**13 35 10.5**	**+0.5**
	baz=173						
K17K	**Iditarod**	**8.02**	**329**	Pn	**Pn**	**13 35 10.5**	**+0.4**
BESE	**Bessie Mountai**	**8.15**	**67**		**Pn**	**13 35 11.2**	**-0.6**
FALS	**False Pass**	**8.15**	**267**	P	**Pn**	**13 35 13.3**	**+1.4**
S32K	**Killisnoo**	**8.16**	**75**	Pn	**Pn**	**13 35 09.6**	**-2.3**
N30M	**Aishikik Lake**	**8.24**	**45**		**Pn**	**13 35 13.8**	**+0.6**
N30M	**Aishikik Lake**	**8.24**	**45**	P	**Pn**	**13 35 13.8**	**+0.6**
	baz=234						
R32K	**Eaglecrest**	**8.27**	**69**	Pn	**Pn**	**13 35 13.2**	**-0.3**
O30N	**Mendenhall**	**8.29**	**51**		**Pn**	**13 35 14.1**	**+0.2**
O30N	**Mendenhall**	**8.29**	**51**	P	**Pn**	**13 35 14.1**	**+0.2**
	baz=241						
JIS	**Juneau Island**	**8.34**	**69**	Pn	**Pn**	**13 35 13.7**	**-0.7**
JIS	**Juneau Island**	**8.34**	**69**	P	**Pn**	**13 35 14.8**	**+0.4**
HDA	**Harding Lake**	**8.35**	**7**	Pn	**Pn**	**13 35 15.4**	**+0.8**
M29M	**Somme Creek**	**8.36**	**37**		**Pn**	**13 35 15.5**	**+0.6**
M29M	**Somme Creek**	**8.36**	**37**	P	**Pn**	**13 35 15.5**	**+0.6**
	baz=225						
J20K	**Nowinta River**	**8.40**	**345**	Pn	**Pn**	**13 35 16.0**	**+0.7**
NEA2	**Nenana**	**8.46**	**1**	Pn	**Pn**	**13 35 16.1**	**+0.1**
J19K	**Poorman**	**8.47**	**341**	Pn	**Pn**	**13 35 16.3**	**0.0**
CCB	**Clear Creek Bu**	**8.54**	**4**	Pn	**Pn**	**13 35 18.4**	**+1.2**
IL31		**8.71**	**7**		**Pn**	**13 35 20.4**	**+0.9**
ILAR	**Eielson Array**	**8.71**	**7**	Pn	**Pn**	**13 35 19.9**	**+0.4**
COLA	**College**	**8.77**	**4**	P	**Pn**	**13 35 22.2**	**+1.9**
WHY	**Whitehorse**	**8.78**	**53**	Pn	**Pn**	**13 35 21.8**	**+1.2**
K15K	**Wolf Creek Mou**	**8.79**	**319**	Pn	**Pn**	**13 35 22.2**	**+1.7**
J26L	**Joseph Creek**	**8.82**	**16**		**Pn**	**13 35 22.2**	**+1.0**
J26L	**Joseph Creek**	**8.82**	**16**	P	**Pn**	**13 35 22.2**	**+1.0**
	baz=201						
L29M	**L29M**	**8.94**	**34**	Pn	**Pn**	**13 35 23.9**	**+1.1**
P32M	**Atlin**	**8.96**	**61**		**Pn**	**13 35 22.9**	**-0.1**
P32M	**Atlin**	**8.96**	**61**	P	**Pn**	**13 35 22.9**	**-0.1**
	baz=253						
I23K	**Minto, Yukon-K**	**9.02**	**360**	Pn	**Pn**	**13 35 24.6**	**+0.9**
CRAG	**Craig**	**9.11**	**88**	P	**Pn**	**13 35 24.4**	**-0.5**
	comp=N,43nm,0.5s						
Q32M	**Nakina River**	**9.54**	**66**	Pn	**Pn**	**13 35 30.2**	**-0.9**
P33M	**Teslin, Yukon**	**9.57**	**58**	Pn	**Pn**	**13 35 29.2**	**-2.2**
K29M	**Barlow Dome**	**9.67**	**32**	Pn	**Pn**	**13 35 32.8**	**0.0**
H21K	**Melozitna Rive**	**9.68**	**351**	Pn	**Pn**	**13 35 32.5**	**-0.3**
M31M	**Drury Creek, Y**	**9.72**	**45**	Pn	**Pn**	**13 35 32.9**	**-0.5**
H24K	**Noodor Dome**	**9.73**	**3**	Pn	**Pn**	**13 35 33.4**	**-0.1**
N32M	**Quiet Lake**	**9.78**	**53**	Pn	**Pn**	**13 35 34.2**	**0.0**

IDC ***25*** *13:33:38.3±1.4,2°.21S×123°.91E, h0km, mb3.3/4, mbtmp3.5/5, ML4.3/1, MS3.2/2, Error ellipse: s-maj=35.3km s-min=22.9km az=71.0*

DJA ***25*** *13:33:38.1±0.2,2°.5±2°×12°4E±°, h10km, M4.7/19, mb5.0/9, mB5.3/2, MLv4.5/19, Mw(mB)4.7/2*

ISC 25 13:33:38.7±0.9, **2°.02S**±0°.07×**123°.91E**±0°.06, **h10**km, **n26**, σ1°**39**/**26**, **mb3.5**/3, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.50**	**311**	P	**Pn**	**13 34 03.8**	**-1.9**
LUWI				S	**Sb**	**13 34 25.0**	**-0.7**
SANI	**Sanana**	**2.08**	**91**	P	**Pn**	**13 34 11.0**	**-2.7**
KMSI	**Cibinong**	**2.58**	**2**	P	**Pn**	**13 34 20.0**	**-0.6**
MRSI	**Marisa**	**3.17**	**322**	P	**Pn**	**13 34 27.7**	**-1.0**
NLAI	**Namlea**	**3.41**	**111**	P	**Pn**	**13 34 31.3**	**-0.7**
BBSI	**Bau Bau**	**3.69**	**201**	P	**Pn**	**13 34 36.0**	**+0.1**
LBMI	**Labuha**	**3.85**

JEW				S		**Sn**	**13 35 47.2**	**+1.5**	
ASAJ	**Asahikawa**	**3.08**	**2**	P		**Pn**	**13 35 39.3**	**+1.2**	
	15nm,0.3s,baz=210,slow=12,SNR=60								
ASAJ				S		**Sn**	**13 36 15.9**	**+2.2**	
	18nm,0.4s,baz=169,slow=30,SNR=3.6								
JKA	**Kamikawa-asahi**	**3.08**	**2**			**Pn**	**13 35 39.3**	**+1.3**	
JMM	**Marumori**	**3.41**	**202**			**Pn**	**13 35 44.8**	**+2.3**	
MJB9	**Matsu-Tunnel**	**5.56**	**218**	Pn		**Pn**	**13 36 13.5**	**+1.3**	
MAJO	**Matsushiro**	**5.56**	**218**	Pn		**Pn**	**13 36 13.2**	**+1.0**	
MJAR	**Matsushiro Arr**	**5.56**	**218**	P		**Pn**	**13 36 14.1**	**+2.0**	
	3.0nm,0.7s,baz=36,slow=12,SNR=9.0								
USRK	**Ussuriysk Ar.**	**8.32**	**296**	P		**Pn**	**13 36 50.8**	**+1.0**	
	4.4nm,0.7s,baz=106,slow=14,SNR=4.2								
KLR	**Kul'dur**	**11.12**	**321**	P		**Pn**	**13 37 29.8**	**+1.7**	
	0.4nm,0.4s,baz=148,slow=19,SNR=1.3								
KSRS	**Korea Array**	**11.79**	**257**	P		Pn	13 37 42.9	+5.6	
	0.5nm,0.3s,baz=53,slow=15,SNR=1.8								
KSRS				LR		LR	13 41 45.2		
	comp=Z,39nm,19.8s,baz=320,slow=35								
PEA0B	**Petropavlovsk-**	**15.90**	**35**	Pn		**Pn**	**13 38 25.8**	**-6.3**	
PEA0B				IAmb		IAmb	13 38 36.5		
	comp=Z,36nm,1.1s								
PETK	**Petropavlovsk-**	**15.90**	**35**	Pn		**Pn**	**13 38 25.7**	**-6.4**	
HIA	**Hailar**	**17.94**	**305**	P		**P**	**13 38 56.6**	**-0.9**	
JOW	**Kunigami**	**18.36**	**224**	P		**P**	**13 39 01.6**	**-0.7**	
SONM	**Songino Array**	**26.43**	**297**	P		**P**	**13 40 24.1**	**+0.4**	
	comp=Z,0.4nm,0.5s,baz=94,slow=8.4,SNR=2.9								
	comp=Z,0.4nm,0.5s								
AMKA	**Amchitka**	**27.27**	**55**	P		**P**	**13 40 31.3**	**+0.2**	
H11N2	**WAKE ISLAND Hy**	**29.77**	**128**	T		T	14 12 26.5		
	baz=321,slow=75								
H11N1	**WAKE ISLAND Hy**	**29.78**	**128**	T		T	14 12 33.8		
	baz=321,slow=75								
H11N3	**WAKE ISLAND Hy**	**29.78**	**128**	T		T	14 12 33.9		
	baz=321,slow=75								
H11S1	**WAKE ISLAND Hy**	**30.60**	**130**	T		T	14 13 34.8		
	baz=323,slow=76								
H11S3	**WAKE ISLAND Hy**	**30.61**	**130**	T		T	14 13 36.2		
	baz=323,slow=76								
H11S2	**WAKE ISLAND Hy**	**30.62**	**130**	T		T	14 13 36.0		
	baz=323,slow=76								
ZAA0	**Zalesovo Array**	**39.91**	**309**	P		**P**	**13 42 21.3**	**+0.8**	
ZAA0				IAmb		IAmb	13 42 24.7		
	comp=Z,2.5nm,0.8s								
ZALV	**Zalesovo Beam**	**39.91**	**309**	P		**P**	**13 42 20.9**	**+0.4**	
	comp=Z,2.6nm,0.6s,baz=89,slow=8.5,SNR=9.7								
	comp=Z,2.6nm,0.6s								
C18K	**Utukok River**	**40.36**	**28**	P		**P**	**13 42 24.6**	**+0.4**	
H19K	**Roundabout Mou**	**41.69**	**33**	P		**P**	**13 42 34.9**	**-0.1**	
H19K				IAmb		IAmb	13 42 55.8		
	comp=Z,5.3nm,1.5s								
MK31	**Makanchi Array**	**42.77**	**299**	P		**P**	**13 42 43.8**	**-0.4**	
MKAR	**Makanchi Array**	**42.77**	**299**	P		**P**	**13 42 44.5**	**+0.4**	
MKAR	**Makanchi Array**	**42.77**	**299**	P		**P**	**13 42 44.8**	**+0.6**	
	comp=Z,1.0nm,0.6s,baz=80,slow=13,SNR=13								
	comp=Z,1.0nm,0.6s								
IMAR	**Indian Mountai**	**42.84**	**33**	P		**P**	**13 42 46.0**	**+1.7**	
MAKZ	**Makanchi**	**42.98**	**299**	P		**P**	**13 42 45.3**	**-0.5**	
D22K	**Ayikyak River**	**43.46**	**28**	P		**P**	**13 42 49.9**	**+0.5**	
D22K				IAmb		IAmb	13 43 18.4		
	comp=Z,4.8nm,1.4s								
E22K	**Anaktuvuk Pass**	**43.72**	**30**	P		**P**	**13 42 52.6**	**+1.0**	
E22K				IAmb		IAmb	13 43 06.3		
	comp=Z,5.3nm,1.4s								
KURK	**Kurchatov**	**44.18**	**305**	P		**P**	**13 42 55.3**	**0.0**	
KURK				IAmb		IAmb	13 42 56.7		
	comp=Z,3.4nm,0.7s								
KURBB	**Kurchatov Arra**	**44.26**	**305**	P		**P**	**13 42 56.1**	**+0.1**	
	comp=Z,2.2nm,0.3s,baz=78,slow=8.7,SNR=21								
	comp=Z,2.2nm,0.3s								
TOLI2	**Tolitoli**	**44.30**	**212**	P		**P**	**13 42 55.4**	**-1.3**	
TOLI2				IAmb		IAmb	13 43 12.9		
	comp=Z,5.5nm,0.9s								
BRLK	**Bradley Lake**	**44.31**	**42**	P		**P**	**13 42 54.9**	**-1.5**	
ILAR	**Eielson Array**	**45.73**	**34**	P		**P**	**13 43 08.0**	**+0.5**	
	comp=Z,0.4nm,0.8s,baz=267,slow=5.4,SNR=6.6								
	comp=Z,0.4nm,0.8s								
SCRK	**Sand Creek**	**47.06**	**35**	P		**P**	**13 43 18.7**	**+0.6**	
SCRK				IAmb		IAmb	13 43 29.5		
	comp=Z,3.1nm,1.2s								
J26L	**Joseph Creek**	**47.18**	**35**	P		**P**	**13 43 18.9**	**-0.1**	
J26L				IAmb		IAmb	13 43 26.1		
	comp=Z,2.0nm,1.1s								
BVAR	**Borovoye Array**	**48.53**	**310**	P		**P**	**13 43 29.9**	**+0.4**	
	comp=Z,2.1nm,0.5s,baz=79,slow=8.7,SNR=17								
	comp=Z,2.1nm,0.5s								
ABKAR	**Akbulak array**	**56.02**	**308**	P		**P**	**13 44 25.7**	**+0.7**	
WRA	**Warramunga Arr**	**61.13**	**189**	P		**P**	**13 45 01.0**	**+0.2**	
	comp=Z,0.6nm,0.8s,baz=9.1,slow=6.8,SNR=5.5								
	comp=Z,0.6nm,0.8s								
ASAR	**Alice Springs**	**64.86**	**189**	P		**P**	**13 45 26.2**	**+0.7**	
	comp=Z,0.3nm,0.7s,baz=7.7,slow=7.6,SNR=2.2								
	comp=Z,0.3nm,0.7s								
FINES	**FINESS Array B**	**65.65**	**332**	P		**P**	**13 45 30.7**	**+0.5**	
	comp=Z,4.6nm,1.0s,baz=52,slow=9.0,SNR=4.0								
	comp=Z,4.6nm,1.0s								
HFS	**Hagfors**	**70.77**	**336**	P		**P**	**13 46 02.5**	**+0.2**	
	comp=Z,2.2nm,0.8s,baz=45,slow=4.3,SNR=1.1								
	comp=Z,2.2nm,0.8s								
PDAR	**Pinedale Array**	**74.33**	**47**	LR		LR	14 21 11.3		
	comp=Z,18nm,18.9s,baz=337,slow=37								

*IDC **25** 13:48:02.6±0.9, 52.˚35N× 170.˚44E, h0km, mb3.7/11, mbtmp3.8/13, ML4.0/2, Error ellipse: s-maj=30.8km s-min=14.5km az=171.0*

*NEIC **25** 13:48:02.6±1.9, 52.˚1N±0.˚1× 170.˚6E±0.˚2, h10km±2km, mb3.9/39, Error ellipse: s-maj=23.7km s-min=6.1km az=135.0*

*KRSC **25** 13:48:09.6±1.5, 52.˚61N× 169.˚22E, h11km±84km, Ml4.0*

ISC 25 13:48:07.3±0.8, 52.˚3N±0.˚1× 170.˚30E±0.˚05, h35km, n71, σ2ş27/70, mb3.8/27, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.35**	**79**	**Pn**	**Pn**	**13 48 43.0**	**-0.4**
	122nm,0.3s,baz=129,slow=2.9,SNR=72						
SHEM				Sn	**Sn**	**13 49 10.6**	**-0.4**
	76nm,0.3s,baz=224,slow=18,SNR=14						
	277nm,0.3s						
UGLR	**Uglovaya**	**7.02**	**282**	*e*P	**Pn**	**13 49 48.3**	**+0.7**
SMAR	**Somma**	**7.04**	**282**	*e*P	**Pn**	**13 49 47.8**	**0.0**
DALK	**Dalny**	**7.06**	**280**	*e*P	**Pn**	**13 49 47.8**	**-0.1**
DALK				*e*S	**Sn**	**13 51 01.5**	**-5.3**
AVH	**Avacha**	**7.07**	**282**	*e*P	**Pn**	**13 49 48.6**	**+0.3**
PET	**Petropavlovsk**	**7.12**	**280**	Pn	**Pn**	**13 49 48.4**	**-0.4**
PET	**Petropavlovsk**	**7.12**	**280**	*e*P	**Pn**	**13 49 48.6**	**-0.2**
PET				*e*S	**Sn**	**13 51 02.0**	**-6.3**
KRX	**Arik**	**7.13**	**283**	*e*P	**Pn**	**13 49 48.8**	**-0.3**
MTVR	**Mutnovka**	**7.42**	**276**	*e*P	**Pn**	**13 49 52.9**	**-0.1**
KRMR	**Karymshinskiy**	**7.43**	**279**	*e*P	**Pn**	**13 49 53.5**	**+0.5**
KRMR				*e*S	**Sn**	**13 51 11.1**	**-5.0**
GRL	**Gorelyy**	**7.48**	**277**	*e*P	**Pn**	**13 49 55.6**	**+1.7**
ASAK	**Asacha**	**7.59**	**275**	*e*P	**Pn**	**13 49 56.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**7.69**	**281**	Pn	**Pn**	**13 49 57.7**	**+1.0**
PETK	**Petropavlovsk-**	**7.69**	**281**	Pn	**Pn**	**13 49 57.1**	**+0.4**
PETK	**Petropavlovsk-**	**7.69**	**281**	Pn	**Pn**	**13 49 56.6**	**-0.1**
	4.1nm,0.3s,baz=89,slow=19,SNR=24						
PETK				Sn	**Sn**	**13 51 18.1**	**-4.5**
	baz=58,slow=14						
	26nm,0.6s						
KMSK	**Kamenskaya**	**10.39**	**349**	*e*P	**Pn**	**13 50 38.0**	**+4.4**
K13K	**Kusilvak Mount**	**16.54**	**45**	Pn	**Pn**	**13 51 53.6**	**-2.5**
K13K				IAmb	IAmb	13 52 03.5	
	comp=Z,6.0nm,1.1s						
O14K	**Tigyukauivet M**	**17.32**	**55**	Pn	**Pn**	**13 52 01.3**	**-4.6**
O14K				IAmb	IAmb	13 52 02.6	
	comp=Z,13nm,1.1s						
K15K	**Wolf Creek Mou**	**18.03**	**45**		**Pn**	**13 52 12.3**	**-2.4**
C16K	**Lisburne Hills**	**19.79**	**27**	P	**P**	**13 52 33.1**	**-0.9**
SVW2	**Sparrevohn**	**20.45**	**51**	P	**P**	**13 52 36.6**	**-4.8**
O18K	**Koktuh Hills**	**20.46**	**55**	P	**P**	**13 52 38.6**	**-2.9**
J18K	**Innoko River**	**20.50**	**44**	P	**P**	**13 52 40.5**	**-1.5**
G18K	**Tagagawik**	**20.64**	**37**	P	**P**	**13 52 39.0**	**-4.4**
G18K				IAmb	IAmb	13 52 50.0	
	comp=Z,3.7nm,0.8s						
TTA	**Tatalina**	**20.66**	**46**	P	**P**	**13 52 41.1**	**-2.5**
TTA				IAmb	IAmb	13 52 54.0	
	comp=Z,3.2nm,1.1s						
C18K	**Utukok River**	**21.22**	**29**	P	**P**	**13 52 49.7**	**+0.1**
C18K				IAmb	IAmb	13 52 57.4	
	comp=Z,4.1nm,1.1s						
OHAK	**Old Harbor**	**21.38**	**62**	P	**P**	**13 52 48.5**	**-2.9**
KDAK	**Kodiak Island**	**21.74**	**61**	P	**P**	**13 52 54.3**	**-0.9**
	comp=Z,19nm,1.0s,baz=294,slow=18,SNR=2.2						
	comp=Z,19nm,1.0s						
SKT	**Skwentna**	**22.51**	**50**	P	**P**	**13 53 02.1**	**-1.4**
SKT				IAmb	IAmb	13 53 04.6	
	comp=Z,8.0nm,1.2s						
KTH	**Kantishna Hill**	**23.04**	**46**	P	**P**	**13 53 06.8**	**-2.3**
KTH				IAmb	IAmb	13 53 19.0	
	comp=Z,4.5nm,0.9s						
F21K	**Alatna River**	**23.07**	**36**	P	**P**	**13 53 07.0**	**-2.3**
F21K				IAmb	IAmb	13 53 35.8	
	comp=Z,1.9nm,0.8s						
B20K	**Meade River**	**23.17**	**28**	P	**P**	**13 53 12.6**	**+2.4**
B21K	**Ikpikpuk River**	**23.73**	**30**	P	**P**	**13 53 16.7**	**+1.1**
B21K				IAmb	IAmb	13 53 19.9	
	comp=Z,4.3nm,0.8s						
E22K	**Anaktuvuk Pass**	**24.00**	**34**	P	**P**	**13 53 20.7**	**+2.3**
E22K				IAmb	IAmb	13 53 21.5	
	comp=Z,1.9nm,0.9s						
D22K	**Ayikyak River**	**24.01**	**32**	P	**P**	**13 53 20.8**	**+2.4**
D22K				IAmb	IAmb	13 53 22.4	
	comp=Z,2.1nm,0.7s						
I23K	**Minto, Yukon-K**	**24.04**	**42**	P	**P**	**13 53 19.8**	**+1.2**
NEA2	**Nenana**	**24.04**	**44**	P	**P**	**13 53 19.6**	**+0.9**
G23K	**Bananza Creek**	**24.18**	**38**	P	**P**	**13 53 21.6**	**+1.6**
G23K				IAmb	IAmb	13 53 40.9	
	comp=Z,2.6nm,0.8s						
B22K	**Teshekpuk Lake**	**24.44**	**29**	P	**P**	**13 53 21.4**	**-0.8**
ILAR	**Eielson Array**	**25.00**	**44**	P	**P**	**13 53 26.4**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=258,slow=6.6,SNR=9.9						
	comp=Z,0.4nm,0.5s						
G24K	**Hadweenzic Riv**	**25.15**	**39**	P	**P**	**13 53 27.8**	**-0.9**
G24K				IAmb	IAmb	13 53 42.9	
	comp=Z,4.4nm,1.1s						
D24K	**Happy Valley**	**25.40**	**33**	P	**P**	**13 53 33.3**	**+2.5**
FYU	**Fort Yukon**	**26.00**	**40**	P	**P**	**13 53 36.6**	**+0.3**
D25K	**Kavik River**	**26.28**	**33**	P	**P**	**13 53 41.8**	**+2.8**
D25K				IAmb	IAmb	13 53 51.1	
	comp=Z,3.0nm,0.8s						
J26L	**Joseph Creek**	**26.38**	**45**	P	**P**	**13 53 41.2**	**+1.2**
J26L				IAmb	IAmb	13 53 52.6	
	comp=Z,4.2nm,1.1s						
F28M	**Old Crow**	**28.24**	**38**	P	**P**	**13 53 58.0**	**+1.5**
E28M	**Babbage River**	**28.51**	**36**	P	**P**	**13 54 01.3**	**+2.4**
E28M				IAmb	IAmb	13 54 04.3	
	comp=Z,1.6nm,1.1s						
M29M	**Somme Creek**	**28.64**	**49**	P	**P**	**13 53 58.0**	**-2.2**
M29M				IAmb	IAmb	13 54 19.8	
	comp=Z,2.1nm,1.0s						
H29M	**Whitestone**	**28.69**	**41**	P	**P**	**13 54 02.2**	**+1.7**
G29M	**Pine Creek**	**28.88**	**40**	P	**P**	**13 54 03.7**	**+1.5**
G29M				IAmb	IAmb	13 54 09.6	
	comp=Z,1.2nm,0.8s						
E29M	**Blow River**	**29.07**	**37**	P	**P**	**13 54 00.5**	**-3.4**
G31M	**Satah River**	**30.36**	**40**	P	**P**	**13 54 14.8**	**-0.4**
G31M				IAmb	IAmb	13 54 37.0	
	comp=Z,2.7nm,1.1s						
INK	**Inuvik**	**30.68**	**37**	P	**P**	**13 54 19.3**	**+1.3**
INK				IAmb	IAmb	13 54 29.9	
	comp=Z,1.1nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**32.65**	**186**	T	T	14 28 52.8	
	baz=3.7,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.66**	**186**	T	T	14 28 54.0	
	baz=3.7,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.66**	**186**	T	T	14 28 56.2	
	baz=3.7,slow=76						
H11S1	**WAKE ISLAND Hy**	**33.87**	**186**	T	T	14 30 25.7	
	baz=3.7						
H11S3	**WAKE ISLAND Hy**	**33.89**	**186**	T	T	14 30 39.4	
	baz=3.7						
H11S2	**WAKE ISLAND Hy**	**33.89**	**186**	T	T	14 30 27.5	
	baz=3.7						
YKA	**Yellowknife Ar**	**39.41**	**45**	P	**P**	**13 55 31.4**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=293,slow=7.7,SNR=2.2						
	comp=Z,0.2nm,0.7s						
SONM	**Songino Array**	**40.06**	**290**	P	**P**	**13 55 40.0**	**+1.0**
SONM	**Songino Array**	**40.06**	**290**	P	**P**	**13 55 41.2**	**+2.2**
	comp=Z,0.8nm,0.5s,baz=61,slow=7.3,SNR=3.6						
	comp=Z,0.8nm,0.5s						
KURK	**Kurchatov**	**53.27**	**308**	P	**P**	**13 57 23.5**	**+1.5**
KURBB	**Kurchatov Arra**	**53.37**	**308**	P	**P**	**13 57 23.3**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=53,slow=8.0,SNR=11						
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**53.96**	**302**	P	**P**	**13 57 27.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=48,slow=5.6,SNR=5.6						
	comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**55.56**	**314**	P	**P**	**13 57 40.0**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=64,slow=7.4,SNR=11						
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**62.83**	**316**	P	**P**	**13 58 30.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**64.23**	**267**	P	**P**	**13 58 40.6**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=25,slow=7.9,SNR=5.2						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**65.05**	**74**	P	**P**	**13 58 44.9**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=299,slow=4.3,SNR=4.6						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**78.49**	**214**	P	**P**	**14 00 04.5**	**0.0**
	comp=Z,0.7nm,0.8s,baz=27,slow=5.7,SNR=2.8						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**82.08**	**213**	P	**P**	**14 00 24.7**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=32,slow=5.5,SNR=1.7						
	comp=Z,0.3nm,0.9s						

*NEIC **25** 13:50:21.3±1.6, 55.˚80N±0.˚09× 149.˚3W±0.˚1, h10km±2km, ML3.7/22, ML3.4(AEIC), Error ellipse: s-maj=15.8km s-min=11.4km az=175.0*

*AEIC **25** 13:50:26.2±1.4, 55.˚9N±0.˚1× 149.˚3W±0.˚1, h12km±8km, Error ellipse: s-maj=14.8km s-min=10.8km az=167.0*

ISC 25 13:50:21.8±1.7, 55.˚9N±0.˚1× 149.˚27W±0.˚07, h10km, n121, σ1ş10/123, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.57**	**302**		**Pn**	**13 51 03.3**	**-0.2**
OHAK	**Old Harbor**	**2.57**	**302**		**Sn**	**13 51 32.5**	**-2.2**
OHAK	**Old Harbor**	**2.57**	**302**	P	**Pn**	**13 51 03.3**	**-0.2**
	baz=120						
OHAK				S	**Sn**	**13 51 32.5**	**-2.2**
	baz=120						
KDAK	**Kodiak Island**	**2.60**	**317**		**Pn**	**13 51 04.3**	**+0.5**
KDAK	**Kodiak Island**	**2.60**	**317**		**Sn**	**13 51 34.2**	**-1.2**
KDAK	**Kodiak Island**	**2.60**	**317**	P	**Pn**	**13 51 04.3**	**+0.5**
	baz=135						
KDAK				S	**Sn**	**13 51 34.2**	**-1.2**
	baz=135						
SYI	**Shuyak Island**	**3.17**	**329**		**Pn**	**13 51 12.3**	**+0.6**
SYI					**Sn**	**13 51 48.6**	**-1.0**
SYI	**Shuyak Island**	**3.17**	**329**	IAML		13 53 13.0	
	comp=N,111nm,4.4s						
Q20K	**Shuyak Island**	**3.18**	**329**	P	**Pn**	**13 51 12.3**	**+0.6**
	baz=147						
Q20K				S	**Sn**	**13 51 48.6**	**-1.0**
	baz=147						
CNPM	**China Poot**	**3.76**	**345**		**Pn**	**13 51 20.2**	**+0.4**
CNPM	**China Poot**	**3.76**	**345**	IAML		13 52 59.5	
	comp=N,82nm,3.5s						
CNPM				IAML		13 53 21.4	
	comp=E,74nm,3.1s						
Q19K	**Cape Douglas,**	**3.82**	**324**		**Pn**	**13 51 22.0**	**+1.4**
Q19K	**Cape Douglas,**	**3.82**	**324**	IAML		13 52 31.3	
	comp=E,220nm,1.9s						
Q19K				IAML		13 53 22.6	
	comp=N,134nm,1.8s						
Q19K	**Cape Douglas,**	**3.82**	**324**	P	**Pn**	**13 51 22.0**	**+1.4**
	baz=141						
KAHG	**Katmai Hook Gl**	**3.85**	**314**		**Pn**	**13 51 22.4**	**+1.4**
BRSE	**Bradley Lake S**	**3.90**	**349**		**Pn**	**13 51 22.1**	**+0.4**
BRSE					**Sn**	**13 52 06.5**	**-1.1**
BRSE	**Bradley Lake S**	**3.90**	**349**	P	**Pn**	**13 51 22.1**	**+0.4**
	baz=168						
BRSE				S	**Sn**	**13 52 06.5**	**-1.1**
	baz=168						
BRLK	**Bradley Lake**	**3.94**	**348**		**Pn**	**13 51 22.6**	**+0.3**
BRLK					**Sn**	**13 52 08.3**	**-0.3**
BRLK	**Bradley Lake**	**3.94**	**348**	IAML		13 52 15.3	
	comp=N,80nm,4.1s						
BRLK				IAML		13 52 22.0	
	comp=E,70nm,3.2s						
ACHA	**Angle Creek He**	**4.02**	**307**		**Pn**	**13 51 24.7**	**+1.3**
ANCK	**Angle Creek**	**4.09**	**306**		**Pn**	**13 51 25.3**	**+1.0**
KAHC	**Katmai Hardscr**	**4.14**	**314**		**Pn**	**13 51 26.6**	**+1.6**
KAHC	**Katmai Hardscr**	**4.14**	**314**	P	**Pn**	**13 51 26.6**	**+1.6**
	baz=130						
SEW	**Seward**	**4.19**	**359**		**Pn**	**13 51 25.9**	**+0.3**
SEW					**Sn**	**13 52 12.3**	**-2.2**
SEW	**Seward**	**4.19**	**359**	P	**Pn**	**13 51 25.9**	**+0.3**
	baz=178						
SEW				S	**Sn**	**13 52 12.3**	**-2.2**
	baz=178						
P23K	**Montague Islan**	**4.20**	**13**		**Pn**	**13 51 26.2**	**+0.4**
P23K	**Montague Islan**	**4.20**	**13**	P	**Pn**	**13 51 26.2**	**+0.4**
	baz=194						
P19K	**Oil Pt**	**4.29**	**332**	Pn	**Pn**	**13 51 27.9**	**+0.8**
P19K				IAML		13 52 30.9	
	comp=N,133nm,2.7s						
P19K				IAML		13 52 34.0	
	comp=E,102nm,2.8s						
CNTC	**Contact Creek**	**4.30**	**306**		**Pn**	**13 51 28.4**	**+1.2**
Q17K	**Contact Creek**	**4.30**	**306**	P	**Pn**	**13 51 28.4**	**+1.2**
	baz=121						
PLK1	**Peulik 1**	**4.44**	**298**		**Pn**	**13 51 30.1**	**+1.0**
IVE	**Iliamna Volcan**	**4.56**	**336**		**Pn**	**13 51 31.3**	**+0.5**
HIN	**Hinchinbrook I**	**4.71**	**17**		**Pn**	**13 51 33.4**	**+0.5**
HIN	**Hinchinbrook I**	**4.71**	**17**	IAML		13 53 32.1	
	comp=N,144nm,2.7s						
P18K	**Big Mountain,**	**4.72**	**320**		**Pn**	**13 51 33.7**	**+0.7**
P18K	**Big Mountain,**	**4.72**	**320**	IAML		13 52 46.3	
	comp=E,41nm,4.1s						
P18K				IAML		13 53 07.4	
	comp=N,39nm,4.2s						
P18K	**Big Mountain,**	**4.72**	**320**	P	**Pn**	**13 51 33.7**	**+0.7**
	baz=135						
KAIM	**Kayak Island**	**4.77**	**31**	Pn	**Pn**	**13 51 34.1**	**+0.5**
R16K	**Pilot Point**	**4.86**	**293**		**Pn**	**13 51 35.3**	**+0.5**
R16K	**Pilot Point**	**4.86**	**293**	P	**Pn**	**13 51 35.3**	**+0.5**
	baz=107						
EYAK	**Cordova Ski Ar**	**4.99**	**20**		**Pn**	**13 51 37.3**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.99**	**20**	P	**Pn**	**13 51 37.3**	**+0.6**
	baz=203						
P17K	**Kvichak River**	**5.06**	**313**		**Pn**	**13 51 39.0**	**+1.4**
P17K	**Kvichak River**	**5.06**	**313**	P	**Pn**	**13 51 39.0**	**+1.4**
	baz=128						
ANPB	**Aniakchak Plen**	**5.08**	**284**		**Pn**	**13 51 38.6**	**+0.6**
BERG	**Berg Lake**	**5.36**	**31**		**Pn**	**13 51 42.2**	**+0.5**
SNH	**Sunshine Point**	**5.46**	**36**	Pn	**Pn**	**13 51 43.8**	**+0.7**
KNK	**Knik Glacier**	**5.52**	**4**		**Pn**	**13 51 45.2**	**+1.3**
KNK	**Knik Glacier**	**5.52**	**4**	P	**Pn**	**13 51 45.2**	**+1.3**
	baz=185						
BMRM	**Bremner River**	**5.61**	**24**		**Pn**	**13 51 46.0**	**+0.7**
BMRM	**Bremner River**	**5.61**	**24**	P	**Pn**	**13 51 46.0**	**+0.7**
	baz=208						
P16K	**Nushagak River**	**5.64**	**307**		**Pn**	**13 51 46.7**	**+1.2**
P16K	**Nushagak River**	**5.64**	**307**	P	**Pn**	**13 51 46.7**	**+1.2**
	baz=120						
S14K	**Fog Glacier**	**5.76**	**278**	P	**Pn**	**13 51 47.7**	**+0.3**
	baz=90						
VNFG	**Fog Glacier, M**	**5.76**	**278**		**Pn**	**13 51 47.7**	**+0.3**
KLU	**Klutina**	**5.84**	**16**		**Pn**	**13 51 49.5**	**+1.0**
KLU	**Klutina**	**5.84**	**16**	P	**Pn**	**13 51 49.5**	**+1.0**
	baz=198						
GHO	**Glory Hole Cre**	**5.86**	**2**		**Pn**	**13 51 50.4**	**+1.7**
N18K	**Kilae Creek**	**5.90**	**327**	Pn	**Pn**	**13 51 49.9**	**+0.7**
SML	**Sawmill**	**5.92**	**4**		**Pn**	**13 51 50.7**	**+1.3**
SML	**Sawmill**	**5.92**	**4**	P	**Pn**	**13 51 50.7**	**+1.3**
	baz=185						
M23K	**Glacier View**	**5.94**	**7**		**Pn**	**13 51 50.9**	**+1.2**
M23K	**Glacier View**	**5.94**	**7**	P	**Pn**	**13 51 50.9**	**+1.2**
	baz=188						
O16K	**Kokwok River B**	**5.98**	**312**		**Pn**	**13 51 51.4**	**+1.2**
O16K	**Kokwok River B**	**5.98**	**312**	P	**Pn**	**13 51 51.4**	**+1.2**
	baz=125						
CNBA	**Chernabura Isl**	**5.99**	**264**	Pn	**Pn**	**13 51 50.0**	**-0.3**
SCM	**Sheep Creek Mo**	**6.01**	**9**	Pn	**Pn**	**13 51 52.6**	**+2.0**
VRDI	**Verde Repeater**	**6.12**	**27**		**Pn**	**13 51 52.9**	**+0.5**
KIAG	**Kiagna River**	**6.18**	**33**		**Pn**	**13 51 53.7**	**+0.5**
N25K	**Chitina, Valde**	**6.19**	**21**	Pn	**Pn**	**13 51 54.0**	**+0.8**
GLB	**Gilahina

PET	Petropavlovsk	5.18	246	*e*P		Pn	13 59 27.9	+1.1
KRMR	Karymshinskiy	5.55	245	*e*P		Pn	13 59 32.3	+0.3
PETK	Petropavlovsk- 9.7nm,0.3s,baz=75,slow=18,SNR=84	5.64	249	Pn	Sn	Sn	13 59 33.2	0.0
PETK	1.1nm,0.3s,baz=0.9,slow=9.1,SNR=2.5 28nm,0.5s				Sn	Sn	14 00 38.9	+1.5
MTVR	Mutnovka	5.71	242	*e*P		Pn	13 59 34.3	0.0
GRL	Gorelyy	5.73	243	*e*P		Pn	13 59 35.2	+0.6
ASAJ	Asahikawa 0.4nm,0.3s,baz=80,slow=8.3,SNR=4.4 6.2nm,0.7s	19.02	243	P		Pn	14 02 32.8	+1.0
YAK	Yakutsk comp=Z,54nm,18.1s,baz=53,slow=39	19.98	304	LR	LR		14 10 55.9	
TIXI	Tiksi comp=Z,38nm,21.4s,baz=120,slow=38	22.73	330	LR	LR		14 12 28.8	
ILAR	Eielson Array 1.0nm,0.8s,baz=263,slow=9.6,SNR=11 1.0nm,0.8s	24.48	49	P		P	14 03 27.6	-0.5
MJAR	Matsushiro Arr 1.8nm,0.8s,baz=33,slow=8.1,SNR=4.3 1.8nm,0.8s	26.95	237	P		P	14 03 50.5	-0.1
H11N2	WAKE ISLAND Hy baz=0.1,slow=76,SNR=26	35.64	179	T		T	14 42 18.8	
H11N3	WAKE ISLAND Hy baz=0.1,slow=76,SNR=23	35.65	179	T		T	14 42 25.9	
H11N1	WAKE ISLAND Hy baz=0.1,slow=76,SNR=21	35.66	179	T		T	14 42 23.0	
SONM	Songino Array 0.6nm,0.7s,baz=48,slow=11,SNR=3.1 0.6nm,0.7s	36.99	284	P		P	14 05 18.5	0.0
YKA	Yellowknife Ar 0.2nm,0.8s,baz=303,slow=8.1,SNR=2.9 0.2nm,0.8s	38.87	47	P		P	14 05 35.2	+1.2
KURBB	Kurchatov Arra 0.4nm,0.3s,baz=53,slow=7.6,SNR=7.5 0.4nm,0.3s	49.73	303	P		P	14 06 58.4	-2.6
MKAR	Makanchi Array 0.4nm,0.4s,baz=55,slow=6.7,SNR=9.0 0.4nm,0.4s	50.45	298	P		P	14 07 05.1	-1.5
BVAR	Borovoye Array 0.7nm,0.6s,baz=78,slow=14,SNR=3.9 0.7nm,0.6s	51.81	310	P		P	14 07 15.8	-0.9
CMAR	Chiang Mai Arr 0.3nm,0.3s,baz=23,slow=7.1,SNR=2.4 0.3nm,0.3s	62.27	262	P		P	14 08 31.9	+0.9
TXAR	Lajitas Array 0.4nm,0.6s,baz=291,slow=4.2,SNR=5.7 0.4nm,0.6s	66.32	72	P		P	14 08 58.5	+0.8
GNI	Garni comp=Z,60nm,18.7s,baz=322,slow=38	72.67	317	LR	LR		14 44 30.9	

*IDC **25** 14:05:25.5±2.9, 33°.03S×178°.82W, h0km, mb3.6/2, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=67.5km s-min=44.0km az=122.0*
*WEL **25** 14:06:42.6, 38°.S±23°×17°.8E±1°.4, h40km±15km, M2.2/13, MLv2.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=167.5*
ISC 25 14:05:26.3±2.2, 33°.2S±0°.1×178°.7W±0°.3, h10km, n33, σ2§81/27, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	Pakihiroa	5.37	209	P	Pn	14 06 48.6	+2.1
HAZ	Te Kaha	5.38	211	P	Pn	14 06 49.6	+3.0
PUZ	Puketiti	5.46	206	P	Pn	14 06 50.4	+2.7
RUGZ	Raukumara Rang	5.60	211	P	Pn	14 06 52.3	+2.6
TWGZ	Tauwhareparae	5.66	208	P	Pn	14 06 53.6	+3.2
KUZ	Kuaotunu	5.80	231	P	Pn	14 06 56.6	+4.3
CNGZ	Carnagh Statio	5.84	205	P	Pn	14 06 48.9	-4.1
TKGZ	Te Karaka	5.94	207	P	Pn	14 06 56.8	+2.6
MWZ	Matawai	5.97	210	P	Pn	14 06 55.7	+0.9
OPRZ	Ohinepanea	6.04	219	P	Pn	14 06 59.7	+4.0
MARZ	Manawahe	6.09	217	P	Pn	14 07 00.2	+3.8
URZ	Urewera 1.6nm,0.3s,baz=351,slow=4.2,SNR=22	6.09	213	Pn	Pn	14 06 57.8	+1.4
URZ	4.1nm,0.3s,baz=188,slow=17,SNR=10 4.2nm,0.4s			Sn	Sn	14 08 01.7	-4.5
URZ	Urewera	6.09	213	P	Pn	14 06 57.8	+1.4
RIGZ	Rimuhau	6.20	207	P	Pn	14 07 00.9	+3.0
MUGZ	Murupara	6.43	214	P	Pn	14 07 02.0	+1.0
SNGZ	Shannon Statio	6.43	209	P	Pn	14 07 03.7	+2.6
RTZ	Ruatahuna	6.45	212	P	Pn	14 07 02.6	+1.3
HLRZ	Highlands Stat	6.46	217	P	Pn	14 06 59.5	-1.9
RAHZ	Arahi	6.65	210	P	Pn	14 07 07.3	+3.2
MTHZ	Maungataniwha	6.70	212	P	Pn	14 07 08.0	+3.2
WHHZ	Waihua	6.73	208	P	Pn	14 07 08.2	+3.2
MRHZ	Matea Rd	6.88	214	P	Pn	14 07 08.6	+1.4
ARHZ	Aropaoanui	6.98	209	P	Pn	14 07 10.9	+2.3
MCHZ	McNeill Hill	7.26	210	P	Pn	14 07 14.4	+2.0
ASAR	Alice Springs 0.4nm,0.4s,baz=107,slow=7.5,SNR=17 0.4nm,0.4s	42.47	270	P	P	14 13 21.4	-0.3
WRA	Warramunga Arr 0.3nm,0.3s,baz=116,slow=8.1,SNR=9.6 0.3nm,0.3s	43.71	275	P	P	14 13 31.4	-0.4
H03S2	Juan Fernandez baz=241	79.40	123	T	T		15 45 58.6	
H03S1	Juan Fernandez baz=241	79.41	123	T	T		15 45 59.6	
H03S3	Juan Fernandez baz=241	79.42	123	T	T		15 45 58.8	
H03N3	Juan Fernandez baz=240,slow=72,SNR=8.9	79.61	123	T	T		15 46 06.7	
H03N2	Juan Fernandez baz=240,slow=72,SNR=8.2	79.61	123	T	T		15 46 06.7	
H03N1	Juan Fernandez baz=240,slow=72,SNR=16	79.62	123	T	T		15 46 11.6	
FINES	FINESS Array B 2.1nm,0.8s,baz=25,slow=3.7,SNR=9.0	147.55	338	PKPbc	PKPab		14 25 09.6	-2.5

*JMA **25** 14:18:45.7±0.3, 26°.N±1°.×12°.8E±°, h63km±3km, MV3.3/19, NEAR OKINAWAJIMA ISLAND*
*IDC **25** 14:18:48.9±4.0, 24°.60N×128°.07E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=283.6km s-min=20.4km az=68.0*
ISC 25 14:18:45.3±1.0, 25°.56N±0°.05×128°.47E±0°.04, h35km, n22, σ1§13/32, mb3.8/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.85	313	*i* P	Pn	14 19 00.5	-0.4
JJT3				S	Sn	14 19 11.9	-0.3
JNTH	Nagotoyohara	1.04	337	*i* P	Pn	14 19 02.8	-0.7
JNTH				S	Sn	14 19 14.8	-2.0
JOW	Kunigami	1.28	352	*i* P	Pn	14 19 06.7	-0.1
JOW				S	Sn	14 19 22.5	-0.3
JYRO	Yoronjima	1.46	359	P	Pn	14 19 09.2	-0.1
JYRO				S	Sn	14 19 26.6	-0.6
JAGN	Aguni-jima	1.51	313	*i* P	Pn	14 19 09.8	-0.1
JAGN				S	Sn	14 19 27.2	-1.2
JIH	Iheya	1.54	343	*i* P	Pn	14 19 10.7	+0.4
JIH				*e*S	Sn	14 19 28.2	-1.0
JKE	Kume jima 2	1.70	297	*i* P	Pn	14 19 11.8	-0.8
JKE				S	Sn	14 19 30.7	-2.4
JOKE	Okinoerabujima	1.80	3	P	Pn	14 19 14.2	+0.3
JOKE				*e*S	Sn	14 19 34.5	-1.1
JTK	Tokunoshima	2.26	11	P	Pn	14 19 20.7	+0.5
JTK				*e*S	Sn	14 19 45.8	-1.2
JMZ	Minamidaito 2	2.50	83	*i* P	Pn	14 19 22.8	-0.7
JMZ				S	Sn	14 19 50.5	-2.2
JKDJ	Kitadaitoujima	2.58	81	P	Pn	14 19 24.3	-0.3
JKDJ				S	Sn	14 19 52.7	-1.9
JAMN	Amaminishikomi	2.75	13	P	Pn	14 19 27.7	+0.7
JOGS	Gusukube	2.89	255	P	Pn	14 19 29.4	+0.5
JOGS				S	Sn	14 20 02.4	0.0
JMJ2	Miyako jima3	2.96	255	P	Pn	14 19 29.6	-0.3
JMJ2				S	Sn	14 20 03.4	-0.8
JAM	Amami Oshima	3.02	19	P	Pn	14 19 31.1	+0.5
JIRB	Irabujima	3.08	257	P	Pn	14 19 30.6	-0.8
JIRB				S	Sn	14 20 05.1	-1.9
SONM	Songino Array 0.6nm,0.6s,baz=125,slow=9.0,SNR=3.9 0.6nm,0.6s	28.24	328	P	P	14 24 50.2	+15
ZALV	Zalesovo Beam 0.6nm,0.6s,baz=113,slow=9.6,SNR=2.5 0.6nm,0.6s	42.91	323	P	P	14 26 51.7	+11
KURBB	Kurchatov Arra 0.4nm,0.3s,baz=104,slow=8.9,SNR=3.5 0.4nm,0.3s	45.49	317	P	P	14 27 12.9	+12
WRA	Warramunga Arr 1.1nm,0.7s,baz=353,slow=8.5,SNR=8.8	45.58	172	P	P	14 27 03.5	+1.4
	1.1nm,0.7s						
ASAR	Alice Springs 0.5nm,0.5s,baz=4.4,slow=8.6,SNR=8.1 0.5nm,0.5s	49.21	173	P	P	14 27 32.2	+1.9
AKASG	Malin Array Be 1.0nm,0.7s,baz=60,slow=5.6,SNR=1.5 1.0nm,0.7s	76.19	320	P	P	14 30 42.8	+13

*IDC **25** 14:33:58.5±0.8, 14°.75N×144°.50E, h0km, mb4.0/14, mbtmp4.0/14, MS3.2/4, Error ellipse: s-maj=31.6km s-min=12.9km az=78.0*
ISC 25 14:34:02.4±0.7, 14°.70N±0°.09×144°.5E±0°.2, h27km, n20, σ0§89/16, mb4.0/14, MS3.0/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam 306nm,0.3s,baz=290,slow=4.0,SNR=337	1.16	163	Pn	Pn	14 34 22.5	-0.3
GUMO	204nm,0.3s,baz=79,slow=20,SNR=8.7			Sn	Sn	14 34 36.9	-0.8
GUMO	comp=Z,168nm,19.1s,baz=298,slow=37			LR	LR	14 34 43.5	
JOW	Kunigami comp=Z,85nm,18.6s,baz=80,slow=33	19.37	311	LR	LR	14 44 40.5	
H11S3	WAKE ISLAND Hy baz=262,slow=75,SNR=54	21.57	77	T	T	15 01 40.4	
H11S1	WAKE ISLAND Hy baz=262,slow=75,SNR=43	21.59	77	T	T	15 01 42.0	
H11S2	WAKE ISLAND Hy baz=262,slow=75,SNR=50	21.59	77	T	T	15 01 40.4	
JNU	Nakatsue comp=Z,33nm,19.5s,baz=74,slow=35	22.13	328	LR	LR	14 46 44.6	
MJAR	Matsushiro Arr 3.8nm,0.8s,baz=172,slow=9.3,SNR=9.2	22.47	347	P	P	14 38 58.0	-1.6
MJAR	comp=Z,51nm,19.8s,baz=158,slow=32 3.8nm,0.8s			LR	LR	14 45 45.2	
KSRS	Korea Array 1.3nm,0.7s,baz=154,slow=10,SNR=3.2 1.3nm,0.7s	27.04	330	P	P	14 39 40.5	-1.9
WRA	Warramunga Arr 3.5nm,0.8s,baz=16,slow=9.7,SNR=15 3.5nm,0.8s	35.85	196	P	P	14 41 00.2	+0.2
ASAR	Alice Springs 0.5nm,0.7s,baz=17,slow=10,SNR=9.8 0.5nm,0.7s	39.52	195	P	P	14 41 31.5	+0.4
CMAR	Chiang Mai Arr 1.4nm,0.9s,baz=87,slow=6.6,SNR=10.0 1.4nm,0.9s	43.76	281	P	P	14 42 06.0	0.0
SONM	Songino Array 1.3nm,0.8s,baz=141,slow=9.0,SNR=8.2 1.3nm,0.8s	45.63	324	P	P	14 42 21.3	+0.6
STKA	Stephens Creek 1.9nm,0.7s,baz=341,slow=9.4,SNR=5.7 1.9nm,0.7s	46.40	183	P	P	14 42 27.1	+0.5
MKAR	Makanchi Array 2.0nm,0.8s,baz=95,slow=8.2,SNR=24 2.0nm,0.8s	60.46	316	P	P	14 44 09.8	-0.1
ZALV	Zalesovo Beam 1.8nm,0.7s,baz=86,slow=7.7,SNR=7.2 1.8nm,0.7s	60.53	324	P	P	14 44 09.5	-0.6
KURBB	Kurchatov Arra 5.5nm,0.7s,baz=100,slow=6.8,SNR=40	63.56	319	P	P	14 44 30.8	+0.2
KURBB	comp=Z,47nm,18.9s,baz=159,slow=36 5.5nm,0.7s			LR	LR	15 12 12.2	
NRIK	Noril'sk 1.7nm,0.5s,baz=112,slow=6.1,SNR=4.8 1.7nm,0.5s	64.98	341	P	P	14 44 39.9	+0.4
ILAR	Eielson Array 0.2nm,0.6s,baz=243,slow=6.1,SNR=1.8 0.2nm,0.6s	67.72	26	P	P	14 44 56.7	-0.4
BVAR	Borovoye Array 2.4nm,0.5s,baz=108,slow=7.1,SNR=20 2.4nm,0.5s	68.85	321	P	P	14 45 04.8	+0.3
YKA	Yellowknife Ar 0.2nm,0.7s,baz=298,slow=6.0,SNR=3.8 0.2nm,0.7s	82.03	27	P	P	14 46 21.2	+1.3

*KRSC **25** 14:44:09.9±1.2, 55°.40N×166°.55E, h32km±5km, Ml3.6*
*IDC **25** 14:44:10.2±1.8, 55°.64N×166°.37E, h0km, mb3.4/4, mbtmp3.5/5, ML2.9/1, MS3.7/1, Error ellipse: s-maj=61.9km s-min=22.5km az=166.0*
ISC 25 14:44:11.2±1.1, 55°.48N±0°.09×166°.46E±0°.09, h10km, n16, σ1§25/15, mb3.6/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.40	225	*e*P	Pb	14 44 19.2	-1.0
BKI				*e*S	Sb	14 44 25.1	-1.3
SMKR	Semkarok	3.01	294	*e*P	Pn	14 44 59.3	+0.3
KLY	Klyuchi	3.38	287	*e*S	Sn	14 45 43.5	-0.5
TUMD	Tumrok D	3.47	268	*e*S	Sn	14 45 48.5	+2.0
SMAR	Somma	5.00	247	*e*P	Pn	14 45 27.5	+1.1
UGLR	Uglovaya	5.01	246	*e*P	Pn	14 45 28.0	+1.4
AVH	Avacha	5.03	247	*e*P	Pn	14 45 28.2	+1.5
AVH				*e*S	Sn	14 46 24.0	-0.9
PETK	Petropavlovsk- 1.9nm,0.3s,baz=70,slow=17,SNR=23	5.66	249	Pn	Pn	14 45 36.2	+0.9
PETK	1.0nm,0.3s,baz=83,slow=24,SNR=6.9 6.8nm,0.5s			Sn	Sn	14 46 42.1	+1.9
ILAR	Eielson Array 0.4nm,0.9s,baz=273,slow=10,SNR=4.3 0.4nm,0.9s	24.45	49	P	P	14 49 30.1	+0.2
H11N2	WAKE ISLAND Hy baz=0.3,slow=76,SNR=5.3	35.69	179	T	T	15 28 20.1	
H11N3	WAKE ISLAND Hy baz=0.3,slow=76,SNR=4.5	35.71	179	T	T	15 28 18.4	
H11N1	WAKE ISLAND Hy baz=0.3,slow=76,SNR=5.0	35.71	179	T	T	15 28 21.0	
MKAR	Makanchi Array 0.2nm,0.4s,baz=63,slow=5.8,SNR=5.7 0.2nm,0.4s	50.42	298	P	P	14 53 07.7	-0.9
BVAR	Borovoye Array 0.7nm,0.7s,baz=49,slow=6.5,SNR=3.6 0.7nm,0.7s	51.77	310	P	P	14 53 18.3	-0.3
AAK	Ala-Archa comp=Z,60nm,19.1s,baz=359,slow=37	57.29	299	LR	LR	15 19 28.1	
TXAR	Lajitas Array 0.3nm,0.6s,baz=288,slow=3.9,SNR=4.3 0.3nm,0.6s	66.31	72	P	P	14 55 00.2	+0.4

*IDC **25** 14:45:31.4±0.8, 12°.45N×144°.78E, h0km, mb4.0/14, mbtmp4.0/14, MS3.4/5, Error ellipse: s-maj=27.9km s-min=15.3km az=102.0*
*NEIC **25** 14:45:32.3±1.9, 12°.37N±0°.07×144°.97E±0°.06, h10km±2km, mb4.8/8, Error ellipse: s-maj=12.5km s-min=9.2km az=28.0*
ISC 25 14:45:36.5±0.6, 12°.38N±0°.07×145°.0E±0°.1, h38km, n32, σ1§20/27, mb4.2/18, MS3.2/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.21	356	Pn	Pn	14 45 56.8	0.0
GUMO				Sn	Sn	14 46 11.9	0.0
GUMO	Guam 125nm,0.3s,baz=156,slow=10,SNR=43	1.21	356	Pn	Pn	14 45 56.5	-0.3
GUMO	267nm,0.3s,baz=4.9,slow=21,SNR=8.7			Sn	Sn	14 46 11.3	-0.6
GUMO	comp=Z,506nm,18.9s,baz=168,slow=43			LR	LR	14 46 20.7	
PATS	Pohnpei	14.28	111	Pn	Pn	14 48 53.8	-2.4
JHJ	Hachijo jima 2 comp=Z,391nm,19.8s,baz=100,slow=33	21.18	348	LR	LR	14 57 05.7	
JOW	Kunigami comp=Z,61nm,18.2s,baz=304,slow=35	21.26	315	LR	LR	14 57 57.5	
H11S3	WAKE ISLAND Hy baz=253	21.81	71	T	T	15 14 04.1	
H11S1	WAKE ISLAND Hy baz=253	21.82	71	T	T	15 14 26.0	
H11S2	WAKE ISLAND Hy baz=253	21.82	71	T	T	15 14 18.5	
YOJ	Yonaguni jima comp=Z,80nm,1.0s	23.99	303	P	P	14 50 46.7	-1.0
YOJ				IAmb	IAmb	14 50 51.0	
MJAR	Matsushiro Arr comp=Z,65nm,21.3s,baz=162,slow=32	24.81	347	LR	LR	14 58 29.8	
YULB	Yu-li comp=Z,11nm,0.8s	24.99	299	P	P	14 50 55.7	-1.2
YULB				IAmb	IAmb	14 51 07.0	
SSLB	Suanglung comp=Z,23nm,1.0s	25.43	300	P	P	14 50 59.4	-1.4
SSLB				IAmb	IAmb	14 51 08.5	
TPUB	Ta-pu	25.53	299	P	P	14 50 59.8	-2.0
KSRS	Korea Array comp=Z,64nm,18.1s,baz=140,slow=36	29.26	332	LR	LR	15 03 15.2	
SOEI	Soe	30.10	224	P	P	14 51 43.9	+1.2
WB0	Warramunga Arr	33.59	198	P	P	14 52 11.5	-1.8
WB2	Warramunga Arr	33.77	198	P	P	14 52 15.2	+0.4
WB2				IAmb	IAmb	14 52 19.2	
WRA	Warramunga Arr comp=Z,1.5nm,0.7s,baz=21,slow=9.7,SNR=11 comp=Z,1.5nm,0.7s	33.77	198	P	P	14 52 16.1	+1.3
ASAR	Alice Springs comp=Z,0.4nm,0.6s,baz=11,slow=9.7,SNR=8.9 comp=Z,0.4nm,0.6s	37.42	197	P	P	14 52 46.0	-0.2
CMAR	Chiang Mai Arr comp=Z,0.8nm,0.6s,baz=89,slow=7.0,SNR=6.1	44.67	284	P	P	14 53 46.0	0.0
CMAR	comp=Z,25nm,18.8s,baz=305,slow=36 comp=Z,0.8nm,0.6s			LR	LR	15 12 28.2	
MKAR	Makanchi Array comp=Z,0.3nm,0.5s,baz=95,slow=7.7,SNR=8.8 comp=Z,0.3nm,0.5s	62.41	316	P	P	14 55 54.8	-0.9
ZALV	Zalesovo Beam comp=Z,0.4nm,0.3s,baz=107,slow=8.4,SNR=2.4 comp=Z,0.4nm,0.3s	62.65	325	P	P	14 55 56.8	-0.3
KURBB	Kurchatov Arra comp=Z,0.6nm,0.2s,baz=106,slow=6.6,SNR=1.7 comp=Z,0.6nm,0.2s	65.60	320	P	P	14 56 15.4	-1.0
NRIK	Noril'sk comp=Z,1.5nm,0.4s,baz=83,slow=8.1,SNR=2.1 comp=Z,1.5nm,0.4s	67.29	341	P	P	14 56 27.0	0.0
ILAR	Eielson Array comp=Z,0.8nm,0.4s,baz=249,slow=5.9,SNR=10.0 comp=Z,0.8nm,0.4s	69.62	25	P	P	14 56 41.0	-0.6
BVAR	Borovoye Array comp=Z,1.1nm,0.5s,baz=105,slow=7.2,SNR=13 comp=Z,1.1nm,0.5s	70.92	322	P	P	14 56 48.9	-0.9
YKA	Yellowknife Ar comp=Z,0.5nm,0.8s,baz=286,slow=5.4,SNR=5.5 comp=Z,0.5nm,0.8s	83.89	27	P	P	14 58 02.9	+0.8
RES	Resolute Bay comp=Z,1.2nm,0.7s,baz=319,slow=6.8,SNR=4.9 comp=Z,1.2nm,0.7s	85.70	13	P	P	14 58 12.5	+1.5
NEW	Newport comp=Z,1.3nm,0.3s,baz=259,slow=5.2,SNR=3.1 comp=Z,1.3nm,0.3s	86.08	42	P	P	14 58 14.9	+1.4
NVAR	Mina Array Bea comp=Z,0.2nm,0.5s,baz=285,slow=3.5,SNR=2.4 comp=Z,0.2nm,0.5s	87.61	51	P	P	14 58 23.6	+2.2
FINES	FINESS Array B comp=Z,6.4nm,1.0s,baz=114,slow=3.5,SNR=4.0 comp=Z,6.4nm,1.0s	92.29	335	P	P	14 58 41.6	-0.8
TORD	Torodi Ar. Bea comp=Z,0.8nm,1.0s,baz=29,slow=3.3,SNR=3.2	135.60	304	PKP	PKiKP	15 04 56.1	+0.8

*IDC **25** 14:52:33.2±2.2, 56°.21N×148°.98W, h0km, mb3.5/4, mbtmp3.3/9, ML2.9/5, Error ellipse: s-maj=38.1km s-min=25.3km az=166.0*
*NEIC **25** 14:52:36.1±1.5, 56°.3N±0°.1×149°.26W±0°.08, h23km±9km, ML3.3/34, ML3.2(AEIC), Error ellipse: s-maj=15.3km s-min=6.8km az=180.0*
*AEIC **25** 14:52:39.2±1.7, 56°.3N±0°.1×149°.24W±0°.09, h12km±7km, Error ellipse: s-maj=14.9km s-min=7.5km az=180.0*
ISC 25 14:52:37.9±3.0, 56°.49N±0°.06×149°.22W±0°.03, h23km±24km, n129, σ1§03/115, mb3.6/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.25	307		Pn	14 53 12.9	-0.7
KDAK					Sn	14 53 38.4	-2.2
KDAK	Kodiak Island baz=127	2.25	307	P	Pn	14 53 12.9	-0.7
KDAK	baz=127			S	Sn	14 53 38.4	-2.2
KDAK	Kodiak Island 1.3nm,0.3s,baz=117,slow=10,SNR=2.1	2.25	307	Pn	Pn	14 53 11.5	-2.0
KDAK	2.1nm,0.3s,baz=85,slow=23,SNR=6.7 6.1nm,0.5s			Sn	Sn	14 53 38.0	-2.6
OHAK	Old Harbor	2.36	290		Pn	14 53 13.2	-1.8
OHAK					Sn	14 53 40.7	-2.5
OHAK	Old Harbor baz=110	2.36	290	P	Pn	14 53 13.2	-1.8
OHAK	baz=110			S	Sn	14 53 40.7	-2.5
SYI	Shuyak Island	2.73	323		Pn	14 53 20.0	-0.2
SYI					Sn	14 53 53.1	+0.7
SYI	Shuyak Island comp=E,50nm,0.7s	2.73	323	IAML		14 53 54.5	
Q20K	Shuyak Island baz=142	2.73	323	P	Pn	14 53 20.0	-0.2
Q20K	baz=142			S	Sn	14 53 53.2	+0.7
CNPM	China Poot	3.23	341		Pn	14 53 27.0	-0.1
CNPM	China Poot comp=E,43nm,1.5s	3.23	341	IAML		14 54 11.2	
Q23K	Middleton Isla	3.32	26		Pn	14 53 27.7	-0.6
Q23K	Middleton Isla comp=N,184nm,1.5s	3.32	26	IAML		14 55 24.5	
BRSE	Bradley Lake S	3.37	347		Pn	14 53 28.6	-0.3
BRSE	Bradley Lake S baz=166	3.37	347	P	Pn	14 53 28.6	-0.3
BRLK	Bradley Lake	3.41	346		Pn	14 53 29.0	-0.5
BRLK	comp=N,26nm,1.0s			IAML		14 54 14.8	
BRLK	comp=E,30nm,1.4s			IAML		14 54 27.2	
Q19K	Cape Douglas,	3.41	318	Pn	Pn	14 53 29.1	-0.6
Q19K	comp=N,116nm,1.4s			IAML		14 54 32.5	
HOM	Homer	3.43	339	Pn	Pn	14 53 30.2	+0.3
KAHG	Katmai Hook Gl	3.51	307		Pn	14 53 30.7	-0.3
KAHG					Sn	14 54 09.8	-2.1
P23K	Montague Islan	3.65	14		Pn	14 53 32.6	-0.2
P19K	Oil Pt	3.83	328		Pn	14 53 35.5	+0.3
P19K	Oil Pt comp=E,97nm,1.4s	3.83	328	IAML		14 54 42.2	
P19K	comp=N,67nm,1.1s			IAML		14 55 07.2	
Q20K	Slope Mountain	4.03	335		Pn	14 53 38.3	+0.2
HIN	Hinchinbrook I	4.17	19		Pn	14 53 39.9	-0.2
HIN					Sn	14 54 26.9	-1.2
HIN	Hinchinbrook I comp=N,88nm,1.4s	4.17	19	IAML		14 54 35.9	
HIN	comp=E,78nm,1.5s			IAML		14 56 25.6	
KAIM	Kayak Island	4.28	34	Pn	Pn	14 53 39.8	-1.8
P18K	Big Mountain,	4.33	315		Pn	14 53 41.8	-0.5
RSO	Redoubt South	4.40	337	Pn	Pn	14 53 42.5	-0.8
RC01	Rabbit Creek A	4.63	357	Pn	Pn	14 53 45.7	-0.5
RC01	comp=E,18nm,0.4s			IAML		14 54 44.1	
RC01	comp=N,13nm,1.1s			IAML		14 55 04.2	
GOAT	Goat Mountain	4.73	28		Pn	14 53 48.4	+0.6
KNK	Knik Glacier	4.96	4		Pn	14 53 51.6	+0.7
KNK	Knik Glacier comp=E,15nm,1.5s	4.96	4	IAML		14 55 31.8	
KNK	comp=N,15nm,1.4s			IAML		14 57 16.7	
SNH	Sunshine Point	5.00	40	Pn	Pn	14 53 51.8	+0.3
BMRM	Bremner River	5.10	26		Pn	14 53 53.0	+0.2
BMRM	Bremner River baz=210	5.10	26	P	Pn	14 53 53.0	+0.2
PMR	Palmer	5.12	0	Pn	Pn	14 53 51.6	-1.4
PMR	comp=N,13nm,1.1s			IAML		14 54 57.2	
PMR	comp=E,9.2nm,1.5s			IAML		14 55 10.0	
N19K	Bonanza Creek	5.14	330	Pn	Pn	14 53 53.7	+0.4
N19K	comp=E,7.2nm,1.2s			IAML		14 55 03.9	
N19K	comp=N,8.8nm,1.5s			IAML		14 56 43.0	
KLU	Klutina	5.30	17	Pn	Pn	14 53 56.0	+0.3
KLU	Klutina baz=200	5.30	17	P	Pn	14 53 55.9	+0.3
GHO	Glory Hole Cre	5.31	1		Pn	14 53 55.1	-0.5
SML	Sawmill	5.36	4	Pn	Pn	14 53 56.6	+0.3
SML	Sawmill baz=185	5.36	4

N25K	Chitina, Valde	5.66	23			Pn		14 54 01.0	+0.5
GLB	Gilahina Butte	5.70	27		Pn	Pn		14 54 01.6	+0.6
M20K	Styx River	5.78	341		Pn	Pn		14 54 01.9	-0.1
N17K	Nushagak Hills	5.82	317		Pn	Pn	14 54 01.1		-1.5
M24K	Tolsona, Glenn	5.85	14		Pn	Pn		14 54 04.1	+1.1
CUT	Chulitna	5.96	355		Pn	Pn		14 54 05.9	+1.4
BARN	Barnard Glacie	6.04	37			Pn		14 54 05.8	0.0
M19K	Big River Lodg	6.05	336		Pn	Pn	14 54 05.0		-0.7
CTGM	Chitina Glacie	6.08	39		Pn	Pn		14 54 06.2	-0.2
LOGN	Logan Glacier	6.11	41		Pn	Pn		14 54 07.0	+0.3
BCPM	Bancas Point	6.14	52		Pn	Pn		14 54 06.6	-0.4
WAT6	Susitna Watana baz=188	6.16	6		P	Pn		14 54 07.2	-0.2
L19K	White Mountain	6.40	336		Pn	Pn		14 54 10.0	-0.6
M17K	Holitna River	6.51	323		Pn	Pn		14 54 11.3	-0.7
DHY	Denali Highway	6.68	7		Pn	Pn		14 54 16.9	+2.4
M26K	Nabesna, AK	6.72	26		Pn	Pn		14 54 15.8	+0.7
O29M	Mount Kennedy	6.77	51		Pn	Pn		14 54 16.4	+0.5
M16K	Timber Creek	6.81	316		Pn	Pn		14 54 15.4	-0.8
N15K	Kwethluk River	6.81	307		Pn	Pn		14 54 17.5	+1.3
P29M	Windy Craggy	6.86	58			Pn		14 54 16.9	0.0
L18K	Granite Mounta	6.90	330		Pn	Pn	14 54 16.0		-1.5
M27K	Edge Creek, AK	6.97	29		Pn	Pn		14 54 18.8	+0.2
O14K	Tigyukauivet M	7.00	298		Pn	Pn		14 54 17.6	-1.1
TRF	Thorofare Moun	7.01	356		Pn	Pn		14 54 20.2	+1.2
CAST	Castle Rocks	7.10	350		Pn	Pn		14 54 20.8	+0.6
KTH	Kantishna Hill	7.14	354		Pn	Pn		14 54 21.0	+0.2
S31K	Pelican	7.20	73		Pn	Pn		14 54 20.4	-1.1
K20K	Telida	7.31	343		Pn	Pn		14 54 23.4	+0.3
L16K	Owhat River	7.43	319		Pn	Pn		14 54 24.4	-0.4
L27K	Beaver Creek,	7.57	26		Pn	Pn		14 54 26.6	0.0
BCAR	Beaver Creek A	7.59	26		Pn	Pn		14 54 27.7	+0.8
RIDG	Independent Ri	7.60	15		Pn	Pn		14 54 28.1	+1.0
BPAW	Bear Paw Mtn.	7.69	354		Pn	Pn	14 54 27.5		-0.8
K17K	Iditarod	7.76	327		Pn	Pn	14 54 27.9		-1.3
SCRK	Sand Creek	7.95	17		Pn	Pn	14 54 30.9		-1.0
N30M	Aishikik Lake	8.00	46		Pn	Pn		14 54 32.1	-0.4
HDA	Harding Lake	8.03	7		Pn	Pn		14 54 34.0	+1.1
O30N	Mendenhall	8.08	52		Pn	Pn		14 54 34.8	+1.2
J20K	Nowinta River	8.09	344		Pn	Pn	14 54 32.9		-0.9
M29M	Somme Creek	8.10	38		Pn	Pn		14 54 34.9	+1.0
J19K	Poorman	8.17	340		Pn	Pn	14 54 34.2		-0.7
JIS	Juneau Island	8.21	71		Pn	Pn		14 54 34.4	-1.0
CCB	Clear Creek Bu	8.22	4		Pn	Pn		14 54 36.4	+1.0
K27K	Chicken	8.35	22		Pn	Pn		14 54 38.2	+0.8
J25K	Salcha River,	8.37	11		Pn	Pn	14 54 36.5		-1.1
IL31		8.39	7		Pn	Pn	14 54 35.7		-2.1
ILAR	Eielson Array	8.39	7		Pn	Pn	14 54 36.0		-1.9
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=188,slow=14,SNR=13	8.39	7		Pn	Pn		14 54 37.1	-0.7
ILAR	comp=N,0.1nm,0.3s,baz=188,slow=24,SNR=4.5 comp=N,0.8nm,0.4s				Sn	Sn		14 56 10.3	-1.4
J26L	Joseph Creek	8.51	17		Pn	Pn		14 54 40.6	+1.1
K15K	Wolf Creek Mou	8.56	318		Pn	Pn		14 54 39.9	-0.2
WHY	Whitehorse	8.57	55		Pn	Pn		14 54 40.6	+0.1
L29M	L29M	8.67	35		Pn	Pn		14 54 42.5	+0.8
I23K	Minto, Yukon-K	8.69	360		Pn	Pn		14 54 42.3	+0.4
M30M	Minto, Yukon	8.77	41		Pn	Pn		14 54 44.3	+1.2
P32M	Atlin	8.79	63		Pn	Pn		14 54 42.6	-0.8
I21K	Tanana	8.83	352		Pn	Pn		14 54 45.8	+2.0
DAWY	Dawson	9.02	29		Pn	Pn		14 54 47.6	+1.0
I26K	Coal Creek Min	9.32	16		Pn	Pn		14 54 51.2	+0.6
WRAK	Wrangell Islan	9.34	83		Pn	Pn		14 54 49.6	-1.3
H21K	Melozitna Rive	9.36	351			Pn		14 54 50.5	-0.6
H21K	Melozitna Rive baz=168	9.36	351		P	Pn		14 54 51.6	+0.5
K29M	Barlow Dome	9.39	33			Pn		14 54 52.6	+1.0
P33M	Teslin, Yukon	9.39	60		Pn	Pn		14 54 51.0	-0.7
Q32M	Nakina River	9.40	68		Pn	Pn		14 54 50.7	-1.1
H24K	Noodor Dome	9.41	3		Pn	Pn		14 54 53.5	+1.7
M31M	Drury Creek, Y	9.48	47		Pn	Pn		14 54 53.1	+0.3
K13K	Kusilvak Mount	9.60	311		Pn	Pn		14 54 53.9	-0.6
H17K	Granite Mounta	9.95	333		Pn	Pn		14 54 59.3	+0.1
I28M	Miner Creek	10.04	23		Pn	Pn		14 55 01.8	+1.2
R33M	Jennings River	10.12	66		Pn	Pn		14 55 00.5	-1.3
G21K	Allakaket	10.27	350		Pn	Pn		14 55 05.0	+1.4
G23K	Bananza Creek	10.27	358		Pn	Pn		14 55 04.7	+1.0
J30M	Hart River	10.28	33		Pn	Pn		14 55 05.4	+1.5
FYU	Fort Yukon	10.29	9		Pn	Pn		14 55 03.8	0.0
DLBC	Dease Lake comp=N,0.1nm,0.3s,baz=263,slow=8.1,SNR=1.6 comp=N,1.7nm,1.0s	10.52	71		Pn	Pn		14 55 04.5	-2.5
G29M	Pine Creek	11.70	22		Pn	Pn		14 55 23.2	0.0
E22K	Anaktuvuk Pass	11.75	355		Pn	Pn		14 55 24.2	+0.3
G31M	Satah River	12.60	28		Pn	Pn		14 55 36.5	+1.3
INK	Inuvik comp=N,0.1nm,0.3s,baz=199,slow=5.3,SNR=4.4 comp=N,0.4nm,0.5s	13.85	25		Pn	Pn		14 55 52.7	+0.4
YKA	Yellowknife Ar baz=268,slow=9.3,SNR=2.1 comp=N,0.1nm,0.8s	18.40	57		P	P		14 56 50.4	-0.5
SONM	Songino Array comp=N,0.6nm,1.0s,baz=49,slow=6.5,SNR=1.9 comp=N,0.6nm,1.0s	58.54	310		P	P		15 02 34.8	+2.7
ZALV	Zalesovo Beam comp=N,0.2nm,0.5s,baz=45,slow=6.3,SNR=1.5 comp=N,0.2nm,0.5s	61.41	327		P	P		15 02 54.1	+2.5
MKAR	Makanchi Array comp=N,0.1nm,0.5s,baz=54,slow=8.2,SNR=1.7 comp=N,0.1nm,0.5s	68.45	325		P	P		15 03 36.8	-0.7
AKASG	Malin Array Be comp=N,0.7nm,0.6s,baz=3.3,slow=6.6,SNR=2.4 comp=N,0.7nm,0.6s	73.17	1		P	P		15 04 06.0	-0.1

TEH ***25*** *14:57:54.1,33.74N×45.73E,h10km±101km, ML2.5*
ISN ***25*** *14:57:54.5±0.4, 33.69N×45.75E, h10km*
ISC 25 14:57:54.4±2.0, 33.71N±0.06×45.7E±0.1, h13km, n6, σ1°06/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	Ilam Banvizeh	0.44	101	Pg		Pg	14 58 01.9	-1.2
IBDR	Badra baz=345	0.63	162	ePg		Pg	14 58 06.0	-0.7
IBDR					eSg	Sg	14 58 15.0	-0.1
IDHR	Dehrash	1.14	30	Pg		Pb	14 58 15.8	-0.3
ILIN	Lien	1.60	41	Pg		Pb	14 58 23.4	-0.5
IKFM	Kafar-mosalman	1.81	95	Pg		Pb	14 58 27.6	+0.3
IALM	Almabolaq	2.35	60	Pn		Pn	14 58 34.4	+1.5

IDC ***25*** *15:02:06.6±0.8, 0.04N×77.48W, h0km, mb3.8/9, mbtmp4.0/12, ML4.5/2, MS3.5/11, Error ellipse: s-maj=29.0km s-min=15.9km az=90.0*
IGQ ***25*** *15:02:07±0.2, 0.7N±1.4×7.8W±1.4, h4km*
RSNC ***25*** *15:02:08.8±1.7, 0.19N×77.77W, h4km±8km, ML4.2, Mw4.4, Fault plane solution: NP1:ϕs±55.00000°, δ16.00000°, λ138.00000°.*
NEIC ***25*** *15:02:10.0±2.5, 0.22N±0.02×77.76W±0.03, h10km±1km, mb4.5/23, Error ellipse: s-maj=5.4km s-min=2.8km az=303.0*
ISC 25 15:02:07.1±1.1, 0.16N±0.01×77.73W±0.02, h1km±7km, n193, σ1°45/215, mb4.5/19, MS3.5/8, 5C-3D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAYA	Cayambe	0.27	251	P		Pg	15 02 13.0	+0.6
CAYA				S		Sg	15 02 17.0	+1.1
ANGU	Angureal	0.30	247	P		Pg	15 02 14.0	+1.1
ANGU				S		Sg	15 02 18.0	+1.2
BONI	La Bonita	0.35	35	ePg		Pg	15 02 14.5	+0.6
BONI	La Bonita	0.35	35	P		Pg	15 02 14.0	+0.1
BONI				S		Sg	15 02 19.0	+0.5
AV05	Acelerografo,	0.37	173	P		Pg	15 02 15.0	+0.9
AV05				S		Sg	15 02 20.0	+1.1
CASC	Dorado de Casc	0.39	94	P		Pb	15 02 16.0	-1.0
CASC				S		Sb	15 02 22.0	-1.6
AIB2	Ibarra (Univer	0.41	296	P		Pb	15 02 16.0	-1.4
AIB2				S		Sg	15 02 21.0	+0.6
AV03	Acelerografo,	0.43	105	P		Pg	15 02 16.0	+0.7
AV03				S		Sg	15 02 22.0	+1.1
IMBA	Imbabura, San	0.48	284			Pb	15 02 17.8	-0.9
IMBA				Sg		Sb	15 02 24.6	-1.8
IMBA	Imbabura, San	0.48	284	P		Pg	15 02 17.0	+0.7
IMBA				S		Sg	15 02 24.0	+1.4
TULM	Tulcn-Chalpat	0.55	354			Pg	15 02 18.0	+0.3
TULM				Sg		Sg	15 02 25.6	+0.7
TULM	Tulcn-Chalpat	0.55	354	iP		Pg	15 02 18.1	+0.3
TULM				eS		Sg	15 02 25.7	+0.7
TULM	comp=Z,9μm,0.3s			i			15 02 27.7	
TULM	Tulcn-Chalpat	0.55	354	P		Pg	15 02 18.0	+0.3
ACOT	Cotacachi (Cas	0.56	284	P		Pb	15 02 19.0	-0.9
URCU	Urcuqui	0.59	298	P		Pg	15 02 19.0	+0.5
URCU				S		Sg	15 02 27.0	+0.9
COTA	Cotacachi	0.63	286	P		Pb	15 02 20.0	-1.2
CUSW	Cuicocha Oeste	0.63	281	P		Pb	15 02 21.0	-0.2
LNGL	El Angel-Carch	0.63	335	P		Pg	15 02 19.0	-0.3
LNGL				S		Sg	15 02 27.0	-0.6
CUIC	Cuicocha-Domo	0.64	283	P		Pg	15 02 21.0	+0.5
APS4	Papallacta	0.65	215	P		Pg	15 02 20.0	+0.4
APS4				S		Sg	15 02 28.0	0.0
CHL1	Volcįn Chiles	0.66	341	P		Pg	15 02 19.0	-0.8
CHL1				S		Sg	15 02 28.0	-0.4
CHL2	Volcįn Chiles	0.66	344	P		Pg	15 02 19.0	-0.8
CHL2				S		Sg	15 02 28.0	-0.4
GBMB	Ecuador-Guayll	0.67	250	P		Pb	15 02 21.0	-0.7
AV11	Acelerografo,	0.68	250	P		Pb	15 02 21.0	-1.0
CUSE	Cuicocha Este	0.68	282	iP		Pb	15 02 20.9	-1.2
CUSE				eS		Sg	15 02 29.8	+0.8
CUSE	comp=Z,20μm,0.4s			i			15 02 35.5	
CUSE	Cuicocha Este	0.68	282	P		Pg	15 02 20.0	-0.2
ECEN	Cerro Negro	0.70	340	P		Pg	15 02 20.0	-0.5
OTAV	Otavalo	0.72	276			Pg	15 02 21.2	+0.2
OTAV				Sg		Sg	15 02 31.3	+0.9
OTAV	Otavalo	0.72	276	eP		Pg	15 02 20.6	-0.4
OTAV				eS		Sg	15 02 31.1	+0.8
OTAV	Otavalo	0.72	276	P		Pg	15 02 21.0	0.0
OTAV				S		Sg	15 02 31.0	+0.6
SADP	Ecuador-Quito-	0.74	257	P		Pb	15 02 23.0	+0.1
ANTI	Antisana	0.74	215	P		Pg	15 02 22.0	+0.6
CHMA	Chilma	0.77	335	P		Pg	15 02 21.0	-0.9
CMBC	Cumbal	0.78	353	iP		Pg	15 02 22.5	+0.5
CMBC				eS		Sb	15 02 33.4	-1.6
CMBC	Cumbal	0.78	353	P		Pg	15 02 22.0	-0.1
PULU	Pululahua	0.78	260			Pg	15 02 22.5	+0.4
PULU				Sg		Sb	15 02 34.0	-1.1
PULU	Pululahua	0.78	260	P		Pg	15 02 22.0	-0.1
ANTS	Antisana-Sarah	0.79	214	P		Pb	15 02 23.0	-1.0
APS1	Acelerografo,	0.82	94	P		Pb	15 02 24.0	-0.1
ANTG	Antisana-Guama	0.84	218	P		Pb	15 02 24.0	-0.9
ANTM	Antisana-La Mi	0.85	215	P		Pg	15 02 24.0	+0.6
YANA	Yana	0.88	252	P		Pg	15 02 24.0	-0.1
ALIT	Ecuador-Imbabu	0.89	315	P		Pg	15 02 24.0	-0.1
LITE1	Lita	0.89	315	P		Pg	15 02 23.0	-1.2
APR1	Acelerografo,	0.91	257	P		Pb	15 02 25.0	-0.9
GGPC	Guagua Pichinc	0.93	249	P		Pg	15 02 25.0	+0.1
PINO	Pino	0.93	250	P		Pg	15 02 25.0	0.0
TERV	Terraza Guagua	0.93	249	P		Pg	15 02 25.0	0.0
TOMA	Boca Toma-Volc	0.96	227	P		Pg	15 02 26.0	+0.4
GGPT	Toaza - Volcan	0.97	247	P		Pg	15 02 26.0	+0.3
HPAL	Hacienda Las P	0.99	248	P		Pg	15 02 26.0	-0.2
PITA	Cotopaxi Volc	1.00	224	P		Pb	15 02 27.0	-0.6
VC1	Cotopaxi 1	1.04	220	P		Pb	15 02 28.0	-0.3
BVC2	Cotopaxi Volca	1.06	220	P		Pb	15 02 28.0	-0.6
TAMB	Tambo	1.06	217	P		Pb	15 02 28.0	-0.7
PAC1	Pacto, Paraso	1.06	276	iP		Pg	15 02 27.0	-0.5
PAC1				eS		Sg	15 02 41.1	-0.2
PAC1	comp=Z,20μm,0.3s			i			15 02 42.0	
PAC1	Pacto, Paraso	1.06	276	P		Pg	15 02 27.0	-0.5
BTAM	Cotopaxi Volca	1.06	219	P		Pb	15 02 28.0	-0.7
BREF	Cotopaxi Volca	1.09	221	P		Pg	15 02 28.0	0.0
SUCR	Mariscal Sucre	1.10	224	P		Pb	15 02 29.0	-0.3
BNAS	Cotopaxi Volca	1.12	222	P		Pn	15 02 30.0	-0.4
GCUF	Volcan Galeras	1.12	20	eP		Pg	15 02 28.4	-0.3
GCUF				eS		Sg	15 02 43.5	+0.2
GCUF	comp=Z,17μm,0.3s			i			15 02 45.4	
CAMI	Rancho Maria	1.14	223	P		Pn	15 02 30.0	-0.6
BMOR	Cotopaxi Volca	1.15	219	P		Pb	15 02 30.0	-0.1
VCES	Cotopaxi	1.16	215	P		Pb	15 02 30.0	-0.4
SLOR	San Lorenzo -	1.17	221			Pn	15 02 30.5	-0.6
SLOR				Sg		Sn	15 02 47.4	-0.6
SLOR	San Lorenzo -	1.17	221	P		Pb	15 02 30.0	-0.5
BRRN	Barrancas-Volc	1.20	218	P		Pg	15 02 30.0	-0.1
SRAM	San Ramn-Vol	1.23	223	P		Pn	15 02 32.0	+0.1
APR2	Miler	1.24	266	P		Pg	15 02 30.0	-0.9
PAST	Pastocalle	1.25	227	P		Pn	15 02 32.0	-0.1
APSY	Ecuador-Napo A	1.25	205	P		Pg	15 02 31.0	-0.1
PIAT	Ana Tenorio	1.27	205	eP		Pg	15 02 31.0	-0.5
PIAT				eS		Sg	15 02 47.3	-0.6
PIAT	Ana Tenorio	1.27	205	P		Pg	15 02 31.0	-0.5
ILLI	Illinizas Sur	1.32	229	P		Pn	15 02 33.0	-0.2
PIS1	Pisayambo	1.38	208	P		Pg	15 02 33.0	-0.6
CRUC	La Cruz	1.60	29	eP		Pb	15 02 36.9	-0.8
CRUC				eS		Sg	15 02 58.5	-0.1
PUYO	Puyo, Santa Ro	1.67	190	P		Pb	15 02 38.0	-0.8
BRUN	Tungurahua Vol	1.72	204	P		Pg	15 02 40.0	-0.1
BULB	Ulba Tungurahu	1.73	203	P		Pg	15 02 40.0	-0.3
POND	Pondoa	1.73	205	P		Pg	15 02 40.0	-0.3
AV18	Acelerografo,	1.75	275	P		Pb	15 02 40.0	-0.1
BBIL	Ulba Tungurahu	1.77	205	P		Pb	15 02 40.0	-0.6
TUYU	Q. Yuibug Volc	1.79	204	P		Pb	15 02 41.0	-0.1
BMAS	Trigal station	1.81	204	P		Pb	15 02 41.0	-0.4
IGUA	Igualata	1.88	209	P		Pg	15 02 43.0	-0.1
BBAC	Balboa, Cauca	1.91	15	iP		Pb	15 02 42.0	-0.9
BBAC				eS		Sg	15 03 08.3	-0.2
BBAC	comp=Z,1μm,0.3s			i			15 03 11.1	
BBAC	Balboa, Cauca	1.91	15	P		Pb	15 02 42.0	-0.9
PORT	Chimborazo Vol	1.92	213	P		Pg	15 02 44.0	0.0
TUMC	Tumaco	1.93	329	Pn		Pb	15 02 41.9	-1.2
TUMC	Tumaco	1.93	329	eP		Pb	15 02 41.8	-1.2
TUMC				eS		Sg	15 03 12.1	+3.0
TUMC	comp=Z,1μm,0.7s			i			15 03 29.4	
TUMC	Tumaco	1.93	329	P		Pn	15 02 41.0	-0.1
TAMH	Tambohuasha Ch	1.99	212	P		Pg	15 02 45.0	-0.3
CHSH	Refugio Sur-Vo	2.00	215			Pg	15 02 45.5	0.0
CHSH	Refugio Sur-Vo	2.00	215	P		Pg	15 02 45.0	-0.5
MAG1	Magdalena	2.05	263	P		Pb	15 02 44.0	-1.3
PTGL	Punta Galera	2.38	285	P		Pn	15 02 48.0	+0.7
TAIS	Taisha	2.54	175	P		Pn	15 02 51.0	+1.5
POPC	Popayan, Colom	2.59	24	eP		Pb	15 02 53.0	-1.5
POPC				eS		Sb	15 03 26.9	0.0
POPC	comp=Z,466nm,0.7s			i			15 03 33.1	
GR1C	Gorgona, Isla	2.85	351	eP		Pn	15 02 54.8	+1.0
PTLC	Puerto Leguiza	2.94	90	eP		Pn	15 02 54.9	-0.1
PTLC	Puerto Leguiza	2.94	90	P		Pn	15 02 54.0	-1.0
GARC	Garzon, Huila	3.01	48	eP		Pn	15 02 56.3	+0.1
GARC				eS		Sb	15 03 40.9	+1.7
COHC	Cochancay	3.02	210	P		Pb	15 03 00.8	-0.9
COHC	Cochancay	3.02	210	eP		Pg	15 03 03.6	-1.4
COHC	Cochancay	3.02	210	P		Pb	15 03 03.0	+1.2
JAMC	Jamundi, Valle	3.21	19	eP		Pb	15 03 03.9	-1.3
JAMC				eS		Sb	15 03 46.7	+1.8
BOSC	San Juan Bosco	3.38	193			Pb	15 03 05.0	-3.0
BOSC	San Juan Bosco	3.38	193	P		Pb	15 03 05.0	-3.0
PPLP	Puerto Lpez	3.48	241	eP		Pb	15 03 07.5	-2.2
PPLP				eS		Sb	15 03 51.5	-1.1
PPLP	Puerto Lpez	3.48	241	P		Pb	15 03 07.0	-2.7
ISPT	Isla de la Pla	3.63	247	P		Pn	15 03 07.0	+2.5
MALC	Bahia Malaga	3.84	6	eP		Pb	15 03 11.8	-4.0
MALC				eS		Sb	15 04 01.9	-1.0
MALC	Bahia Malaga	3.84	6	P		Pn	15 03 11.0	+3.5
SALI	Salinas	4.01	234			Pn	15 03 11.8	+2.1
SALI	Salinas	4.01	234	P		Pn	15 03 14.0	-4.6
YOTC	Yotoco, Valle	4.04	20	eP		Pn	15 03 13.6	+3.3
ARNL	Arenillas	4.36	212			Pn	15 03 15.0	+0.4
ARNL	Arenillas	4.36	212	P		Pb	15 03 22.0	-2.6
PRAC	Prado	4.53	39	Pn		Pn	15 03 18.2	+1.2
PRAC	Prado	4.53	39	eP		Pn	15 03 19.2	+2.2
PLMC	San Jos del P	4.93	17	eP		Pn	15 03 24.5	+2.0
MCRA	Macar, Loja	5.02	206	Pn		Pn	15 03 25.9	+2.1
MCRA	Macar, Loja	5.02	206	eP		Pn	15 03 26.4	+2.6
MCRA	Macar, Loja	5.02	206	P		Pn	15 03 26.0	+2.3
ZUMB	Zumba	5.19	196	P		Pn	15 03 30.0	+3.9
GUY2C	Guyana, Caldas	5.55	25	eP		Pn	15 03 35.8	+4.3
ROSC	El Rosal	5.76	36			Pn	15 03 36.0	+1.8
ROSC	El Rosal comp=Z,6.3nm,0.3s,baz=211,slow=18,SNR=6.7	5.76	36	Pn		Pn	15 03 40.5	+6.3
ROSC				Lg		Lg	15 05 13.2	
CBOC	Ciudad Bolivar	5.92	17	eP		Pn	15 03 39.6	+3.5
PTAC	Punta Ardita,	6.94	359	eP		Pn	15 03 54.2	+4.2
DBBC	Dabeiba	6.98	13	eP		Pb	15 04 00.1	-9.2
PTBC	PUERTO BERRIO,	7.13	27	eP		Pn	15 03 55.8	+3.1
ATAH	Atahualpa comp=Z,12nm,0.3s,baz=17,slow=8.5,SNR=57	7.28	185	Pn		Pn	15 03 55.1	0.0
ATAH	comp=Z,1.1nm,0.3s,baz=189,slow=23,SNR=1.1				Sn	Sn	15 05 17.7	-1.0
ATAH	comp=Z,230nm,21.6s,baz=315,slow=39 comp=Z,92nm,0.6s				LR	LR	15 06 49.3	
CACAO	El Cacao, Vera	7.79	336	eP		Pn	15 04 03.5	+1.8
BARC	Barichara	7.84	35	eP		Pn	15 04 09.3	+6.7
UREC	San Jos de Ur	7.85	16	eP		Pn	15 04 06.7	+4.1
CAP2	Capurgana	8.44	3	Pn		Pn	15 04 10.6	-0.1
PAMC	Pamplona, Colo	8.72	35	eP		Pn	15 04 20.6	+5.6
CZSB	Cruzeiro do Su	9.31	148	Pn		Pn	15 04 22.0	-0.5
BRU2	Volcan	9.89	330	Pn		Pn	15 04 32.5	+1.7
SRBA	San Rafael, Bu	10.61	328			Pn	15 04 41.3	+0.8
PEZE	Perez Zeledon,	10.90	327	Pn		Pn	15 04 45.5	+0.9
SDV	Santo Domingo	11.18	39			Pn	15 04 50.1	+1.6
SDV	Santo Domingo comp=Z,2.8nm,0.4s,baz=206,slow=16,SNR=6.3	11.18	39	Pn		Pn	15 04 47.9	-0.6
SDV	comp=Z,2.2nm,0.3s,baz=267,slow=21,SNR=3.7			Lg		Lg	15 08 02.4	
SDV	comp=Z,323nm,18.1s,baz=230,slow=40				LR	LR	15 09 36.5	
RIMA	Rio Macho	11.32	328			Pn	15 04 52.5	+2.1
LCR2	La Lucha 2	11.38	327	Pn		Pn	15 04 51.9	+0.7
NNA	Nana	12.10	176	Pn		Pn	15 05 01.8	+0.8
NNA	Nana comp=Z,2.2nm,0.3s,baz=341,slow=15,SNR=5.0 comp=Z,7.4nm,0.3s	12.10	176	Pn		Pn	15 04 59.9	-1.0
SOCE	Pocosol	12.25	326	Pn		Pn	15 05 04.9	+2.0
BAUV	El Baul	13.01	48			Pn	15 05 11.2	-2.1
MATN	Matagalpa	15.06	328			Pn	15 05 39.4	-2.0
ETMB	Extrema	15.16	131	Pn		Pn	15 05 40.2	-2.3
PCRV	Puerto La Cruz comp=Z,414nm,21.6s,slow=42	16.39	52	LR		LR	15 13 28.9	
SAML	Samuel	17.09	122			Pn	15 06 04.1	-3.4
BOAV	Boa Vista	17.35	83			Pn	15 06 07.7	-3.1
PB12	IPOC Station P	20.03	159	P		Pn	15 06 43.1	-0.3
PB12	comp=Z,30nm,1.3s			IAmb		IAmb	15 07 00.4	
PB16	IPOC Station P	20.08	157	P		Pn	15 06 44.3	-0.3
PB16	comp=Z,12nm,0.7s			IAmb		IAmb	15 06 51.5	
SJG	San Juan comp=Z,18nm,0.6s,baz=217,slow=10,SNR=5.3	21.16	32	P		P	15 06 54.5	+0.6
SJG	comp=Z,113nm,20.7s,baz=210,slow=38 comp=Z,18nm,0.6s			LR		LR	15 15 36.7	
PB11	IPOC Station P	21.32	159	P		P	15 06 57.7	+1.8
PB11	comp=Z,24nm,0.8s			IAmb		IAmb	15 07 01.2	
HUMP	Col San Antoni	21.35	33	P		P	15 06 56.2	+0.3
HUMP	comp=Z,17nm,0.7s			IAmb		IAmb	15 07 02.9	
GCPR	Guaynabo City	21.36	32	P		P	15 06 57.0	+0.9
GO01	Chusmiza	21.41	157	P		P	15 06 58.7	+1.5
GO01	comp=Z,11nm,0.8s			IAmb		IAmb	15 07 08.7	
VILB	Vilhena	21.73	128	P		P	15 06 59.3	-0.8
VILB	comp=Z,22nm,1.1s			IAmb		IAmb	15 07 11.1	
TEIG	Tepich comp=Z,483nm,21.1s,baz=190,slow=36	22.45	333	LR		LR	15 15 35.2	
PB01	IPOC Station P	22.57	160	P

0.2nm,0.5s,baz=92,slow=10,SNR=1.4
0.2nm,0.5s

H11N2	**WAKE ISLAND Hy**	**28.58**	**119**	T	T	15 57 17.4	
	baz=312,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.59**	**119**	T	T	15 57 17.9	
	baz=312,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.60**	**119**	T	T	15 57 18.6	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.27**	**121**	T	T	15 58 09.6	
	baz=314,slow=75						
H11S3	**WAKE ISLAND Hy**	**29.27**	**121**	T	T	15 58 09.4	
	baz=314,slow=75						
H11S2	**WAKE ISLAND Hy**	**29.29**	**121**	T	T	15 58 10.3	
	baz=314,slow=75						
CMAR	**Chiang Mai Arr**	**40.83**	**255**	P	**P**	**15 29 19.1**	**+0.9**
	0.2nm,0.3s,baz=46,slow=7.8,SNR=1.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**43.71**	**302**	P	**P**	**15 29 42.4**	**+1.0**
	0.2nm,0.6s,baz=89,slow=9.4,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.65**	**308**	P	**P**	**15 29 55.9**	**-0.8**
	0.2nm,0.4s,baz=84,slow=8.3,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**56.75**	**187**	P	**P**	**15 31 18.7**	**-1.6**
	0.5nm,0.8s,baz=2.8,slow=7.5,SNR=2.0						
	0.5nm,0.8s						

*JMA **25** 15:27:02.5±0.3,23°N±2°×12°3E±°, h55km, MV2.6/15, FAR S OFF ISHIGAKIJIMA*
ISC 25 15:27:00.4±1.7,23°0N±0°1×123°20E±0°06, h26km, n15, σ0882/22, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.20**	**27**	P	**Pb**	**15 27 23.1**	**+0.6**
HATJ				S	**Sb**	**15 27 37.2**	**-0.4**
IRIF	**Iriomote-Funau**	**1.43**	**20**	P	**Pb**	**15 27 26.6**	**+0.3**
IRIF				S	**Sb**	**15 27 43.2**	**-0.8**
JKRS	**Kuro-shima**	**1.45**	**31**	P	**Pb**	**15 27 26.8**	**+0.1**
JKRS				*eS*	**Sn**	**15 27 43.2**	**+0.1**
JYNG	**Yonagunijimaku**	**1.48**	**351**	*eP*	**Pb**	**15 27 27.9**	**+0.8**
YOJ	**Yonaguni jima**	**1.48**	**353**	P	**Pb**	**15 27 27.7**	**+0.5**
JIJ	**Ishigaki jima**	**1.62**	**32**	P	**Pb**	**15 27 28.6**	**-1.0**
JIJ				S	**Sn**	**15 27 46.7**	**-0.6**
YULB	**Yu-li**	**1.80**	**283**	P	**Pb**	**15 27 32.6**	**0.0**
NACB	**Ninganchiao**	**1.89**	**309**	P	**Pb**	**15 27 33.5**	**-0.7**
JISG	**Ishigakijimahi**	**1.89**	**32**	P	**Pb**	**15 27 32.2**	**-2.0**
JISG				*eS*	**Sn**	**15 27 53.5**	**-0.5**
TWGBT	**Beinan**	**1.96**	**265**	P	**Pb**	**15 27 35.3**	**-0.1**
JTJ	**Tarama**	**2.15**	**40**	P	**Pn**	**15 27 35.9**	**+1.4**
JTJ				*eS*	**Sn**	**15 27 59.8**	**-0.5**
SSLB	**Suanglung**	**2.21**	**292**	P	**Pb**	**15 27 38.9**	**-0.8**
YHNB	**Yeheng**	**2.37**	**315**	P	**Pb**	**15 27 41.5**	**-0.9**
TPUB	**Ta-pu**	**2.39**	**278**	P	**Pb**	**15 27 42.5**	**-0.2**
JIRB	**Irabujima**	**2.57**	**44**	*eP*	**Pn**	**15 27 41.2**	**+0.9**
JIRB				*eS*	**Sn**	**15 28 10.5**	**-0.3**

*IDC **25** 15:32:35.7±3.1,48°22N×154°90E, h0km, mb3.7/6, mbtmp3.8/8, ML3.1/2, Error ellipse: s-maj=72.8km s-min=24.8km az=145.0*
*KRSC **25** 15:32:38.7±1.8,48°52N×154°13E, h156km±28km, Ml4.0*
ISC 25 15:32:40.5±1.7,48°1N±0°2×155°1E±0°2, h50km, n20, σ1836/15, mb3.9/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.70**	**14**	*eS*	**Sn**	**15 33 53.5**	**+0.8**
ASAK	**Asacha**	**4.68**	**22**	*eP*	**Pn**	**15 33 48.6**	**0.0**
MTVR	**Mutnovka**	**4.84**	**23**	*eP*	**Pn**	**15 33 50.1**	**-0.8**
MTVR				*eS*	**Sn**	**15 34 43.6**	**-2.1**
GRL	**Gorelyy**	**4.88**	**22**	*eS*	**Sn**	**15 34 46.2**	**-0.3**
APC	**Apacha**	**5.04**	**15**	*eP*	**Pn**	**15 33 50.8**	**-2.5**
PETK	**Petropavlovsk-**	**5.31**	**17**	Pn	**Pn**	**15 33 57.0**	**-0.2**
	0.6nm,0.3s,baz=203,slow=14,SNR=2.1						
	4.1nm,0.5s						
SHO	**Shikotan**	**7.12**	**237**	*eP*	**Pn**	**15 34 19.6**	**-2.3**
ASAJ	**Asahikawa**	**9.53**	**250**	Pn	**Pn**	**15 34 54.8**	**-0.2**
	0.4nm,0.3s,baz=85,slow=13,SNR=2.2						
	17nm,1.1s						
KSRS	**Korea Array**	**22.47**	**252**	P	**P**	**15 37 36.5**	**+1.2**
	1.0nm,0.7s,baz=48,slow=10,SNR=2.4						
	1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.85**	**157**	T	T	16 10 18.5	
	baz=343						
H11N1	**WAKE ISLAND Hy**	**29.87**	**157**	T	T	16 10 24.2	
	baz=343						
H11N3	**WAKE ISLAND Hy**	**29.87**	**157**	T	T	16 10 16.1	
	baz=343						
H11S1	**WAKE ISLAND Hy**	**30.98**	**158**	T	T	16 11 56.9	
	baz=344,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**30.98**	**158**	T	T	16 11 47.1	
	baz=344,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**30.99**	**158**	T	T	16 11 48.1	
	baz=344,slow=76,SNR=33						
MKAR	**Makanchi Array**	**47.52**	**297**	P	**P**	**15 41 10.7**	**+0.2**
	0.7nm,0.6s,baz=65,slow=8.5,SNR=8.8						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**47.84**	**303**	P	**P**	**15 41 13.1**	**+0.3**
	1.9nm,0.6s,baz=68,slow=8.4,SNR=17						
	1.9nm,0.6s						
YKA	**Yellowknife Ar**	**49.06**	**38**	P	**P**	**15 41 23.1**	**+1.0**
	0.1nm,0.4s,baz=295,slow=7.6,SNR=1.8						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**51.05**	**309**	P	**P**	**15 41 37.4**	**+0.1**
	0.7nm,0.4s,baz=62,slow=8.0,SNR=8.0						
	0.7nm,0.4s						
HFS	**Hagfors**	**67.67**	**340**	P	**P**	**15 43 33.2**	**+1.4**
	1.1nm,0.5s,baz=64,slow=6.6,SNR=8.1						
	1.1nm,0.5s						

*AEIC **25** 15:34:32.1±2.5,56°0N±0°1×149°57W±0°08, h12km±8km, Error ellipse: s-maj=16.6km s-min=6.4km az=179.0*
NEIC 25 15:34:31.4±1.7,56°14N±0°08×149°7W±0°1, h20km±10km, ML3.3/34, ML2.8(AEIC), Error ellipse: s-maj=12.1km s-min=9.4km az=182.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.24**	**300**		Pn	15 35 06.3	-0.9
OHAK	**Old Harbor**	**2.24**	**300**	P	Pn	15 35 07.7	+0.5
	baz=120						
KDAK	**Kodiak Island**	**2.26**	**318**		Pn	15 35 07.1	-0.4
KDAK					Sn	15 35 34.2	-0.7
KDAK	**Kodiak Island**	**2.26**	**318**	P	Pn	15 35 07.4	-0.2
	baz=137						
KDAK				S	Sn	15 35 34.2	-0.7
	baz=137						
Q20K	**Shuyak Island**	**2.86**	**331**	P	Pn	15 35 16.1	+0.3
	baz=149						
Q20K				S	Sn	15 35 50.6	+1.0
	baz=149						
SYI	**Shuyak Island**	**2.86**	**331**		Pn	15 35 16.0	+0.3
SYI				IAML		15 35 52.9	
	comp=N,46nm,1.3s						
SYI	**Shuyak Island**	**2.86**	**331**		Sn	15 35 50.6	+1.0
SYI	**Shuyak Island**	**2.86**	**331**	IAML		15 35 50.4	
	comp=E,42nm,1.4s						
CNPM	**China Poot**	**3.49**	**347**		Pn	15 35 24.3	-0.1
CNPM				IAML		15 37 02.9	
	comp=E,52nm,1.4s						
CNPM				IAML		15 37 13.8	
	comp=N,28nm,1.3s						
CNPM	**China Poot**	**3.49**	**347**		Sn	15 36 05.7	+0.7
Q19K	**Cape Douglas,**	**3.50**	**325**		Pn	15 35 25.1	+0.5
Q19K	**Cape Douglas,**	**3.50**	**325**	IAML		15 37 08.8	
	comp=N,98nm,1.4s						
Q19K				IAML		15 37 13.8	
	comp=E,174nm,1.4s						
Q19K	**Cape Douglas,**	**3.50**	**325**	P	Pn	15 35 25.5	+0.9
	baz=142						
KAHG	**Katmai Hook Gl**	**3.51**	**314**		Pn	15 35 25.5	+0.7
BRSE	**Bradley Lake S**	**3.65**	**352**		Pn	15 35 26.5	-0.1
BRSE					Sn	15 36 09.1	0.0
BRSE	**Bradley Lake S**	**3.65**	**352**	P	Pn	15 35 26.5	-0.1
	baz=171						
BRSE				S	Sn	15 36 09.0	0.0
	baz=171						
ACHA	**Angle Creek He**	**3.68**	**307**		Pn	15 35 26.5	-0.6
BRLK	**Bradley Lake**	**3.68**	**351**		Pn	15 35 26.4	-0.8
BRLK	**Bradley Lake**	**3.68**	**351**	IAML		15 36 28.6	
	comp=E,26nm,1.4s						
ANCK	**Angle Creek**	**3.75**	**306**		Pn	15 35 28.3	+0.3
Q23K	**Middleton Isla**	**3.76**	**27**	Pn	Pn	15 35 27.7	-0.4
MID	**Middleton Isla**	**3.77**	**28**	Pn	Pn	15 35 27.6	-0.5
KAHC	**Katmai Hardscr**	**3.80**	**314**		Pn	15 35 29.8	+1.0
KAHC	**Katmai Hardscr**	**3.80**	**314**	P	Pn	15 35 29.8	+1.0
	baz=130						
CNTC	**Contact Creek**	**3.96**	**305**		Pn	15 35 30.8	-0.2
Q17K	**Contact Creek**	**3.96**	**305**	P	Pn	15 35 30.8	-0.2
	baz=121						
P19K	**Oil Pt**	**3.98**	**334**		Pn	15 35 31.6	+0.4
P19K	**Oil Pt**	**3.98**	**334**	IAML		15 37 19.3	
	comp=E,68nm,1.4s						
P19K				IAML		15 38 00.5	
	comp=N,59nm,1.1s						
P19K	**Oil Pt**	**3.98**	**334**	P	Pn	15 35 32.0	+0.7
	baz=151						
IVE	**Iliamna Volcan**	**4.26**	**337**		Pn	15 35 34.9	-0.2
P18K	**Big Mountain,**	**4.39**	**320**		Pn	15 35 36.6	-0.2
P18K	**Big Mountain,**	**4.39**	**320**	P	Pn	15 35 36.6	-0.2
	baz=136						
HIN	**Hinchinbrook I**	**4.60**	**20**	Pn	Pn	15 35 40.1	+0.4
HIN				IAML		15 36 47.7	
	comp=N,61nm,1.5s						
RSO	**Redoubt South**	**4.62**	**341**	Pn	Pn	15 35 40.0	-0.1
P17K	**Kvichak River**	**4.72**	**313**		Pn	15 35 38.9	-2.4
P17K	**Kvichak River**	**4.72**	**313**	P	Pn	15 35 38.9	-2.4
	baz=128						
KAIM	**Kayak Island**	**4.73**	**34**	Pn	Pn	15 35 42.4	+0.9
KAIM				IAML		15 38 09.9	
	comp=E,70nm,1.1s						
RC01	**Rabbit Creek A**	**4.96**	**0**		Pn	15 35 44.5	-0.1
RC01				IAML		15 36 45.3	
	comp=N,22nm,1.4s						
RC01				IAML		15 37 48.8	
	comp=E,17nm,1.4s						
P16K	**Nushagak River**	**5.30**	**307**		Pn	15 35 49.5	+0.2
P16K	**Nushagak River**	**5.30**	**307**	P	Pn	15 35 49.5	+0.2
	baz=120						
N19K	**Bonanza Creek**	**5.30**	**334**	Pn	Pn	15 35 49.3	-0.1
N19K				IAML		15 38 54.6	
	comp=N,6.6nm,1.2s						
BERG	**Berg Lake**	**5.32**	**34**	Pn	Pn	15 35 51.2	+1.6
KNK	**Knik Glacier**	**5.33**	**7**	Pn	Pn	15 35 51.8	+2.0
KNK				IAML		15 36 58.9	
	comp=E,11nm,1.1s						
KNK				IAML		15 39 08.5	
	comp=N,16nm,1.5s						
O17K	**Koliganek Bris**	**5.34**	**316**		Pn	15 35 50.2	+0.3
O17K	**Koliganek Bris**	**5.34**	**316**	P	Pn	15 35 50.2	+0.3
	baz=130						
SUA	**Susitna One**	**5.36**	**355**	Pn	Pn	15 35 51.1	+0.8
SUA				IAML		15 37 00.2	
	comp=E,7.1nm,1.2s						
SNH	**Sunshine Point**	**5.45**	**39**	Pn	Pn	15 35 52.2	+0.7
PMR	**Palmer**	**5.48**	**3**		Pn	15 35 51.9	+0.2
BMRM	**Bremner River**	**5.54**	**27**		Pn	15 35 53.4	+0.8
BMRM	**Bremner River**	**5.54**	**27**	P	Pn	15 35 53.4	+0.8
	baz=210						
N18K	**Kilae Creek**	**5.58**	**327**	Pn	Pn	15 35 53.0	-0.1
O16K	**Kokwok River B**	**5.64**	**311**		Pn	15 35 54.4	+0.5
O16K	**Kokwok River B**	**5.64**	**311**	P	Pn	15 35 54.4	+0.5
	baz=125						
GHO	**Glory Hole Cre**	**5.66**	**4**	Pn	Pn	15 35 54.8	+0.4
KLU	**Klutina**	**5.72**	**19**	Pn	Pn	15 35 56.3	+1.2
SML	**Sawmill**	**5.73**	**7**	Pn	Pn	15 35 56.1	+0.9
SVW2	**Sparrevohn**	**5.83**	**331**	Pn	Pn	15 35 57.0	+0.5
SCM	**Sheep Creek Mo**	**5.84**	**11**	Pn	Pn	15 35 56.7	-0.1
N17K	**Nushagak Hills**	**5.89**	**321**	Pn	Pn	15 35 57.0	-0.3
SKT	**Skwentna**	**5.93**	**352**	Pn	Pn	15 35 58.0	0.0
M20K	**Styx River**	**6.02**	**345**	Pn	Pn	15 35 58.7	-0.5
VRDI	**Verde Repeater**	**6.06**	**30**	Pn	Pn	15 35 58.5	-1.4
N25K	**Chitina, Valde**	**6.09**	**24**	Pn	Pn	15 36 00.8	+0.6
GLB	**Gilahina Butte**	**6.14**	**28**	Pn	Pn	15 36 00.7	-0.2
M19K	**Big River Lodg**	**6.26**	**339**	Pn	Pn	15 36 00.1	-2.3
M24K	**Tolsona, Glenn**	**6.26**	**16**	Pn	Pn	15 36 03.1	+0.6
BARN	**Barnard Glacie**	**6.49**	**37**	Pn	Pn	15 36 05.6	-0.2
CTGM	**Chitina Glacie**	**6.54**	**39**	Pn	Pn	15 36 06.4	+0.1
LOGN	**Logan Glacier**	**6.56**	**41**	Pn	Pn	15 36 07.5	+0.8
BCPM	**Bancas Point**	**6.58**	**50**	Pn	Pn	15 36 06.9	0.0
L19K	**White Mountain**	**6.60**	**339**	Pn	Pn	15 36 07.4	+0.2
M17K	**Holitna River**	**6.62**	**326**	Pn	Pn	15 36 07.5	+0.1
N15K	**Kwethluk River**	**6.80**	**311**	Pn	Pn	15 36 10.7	+0.8
M16K	**Timber Creek**	**6.86**	**319**	Pn	Pn	15 36 11.0	+0.3
O14K	**Tigyukauivet M**	**6.92**	**302**	Pn	Pn	15 36 12.1	+0.7
DHY	**Denali Highway**	**7.06**	**9**	Pn	Pn	15 36 14.7	+1.2
L18K	**Granite Mounta**	**7.06**	**333**	Pn	Pn	15 36 12.5	-0.9
O29M	**Mount Kennedy**	**7.22**	**50**	Pn	Pn	15 36 16.7	+1.0
P29M	**Windy Craggy**	**7.29**	**56**	Pn	Pn	15 36 16.8	+0.2
TRF	**Thorofare Moun**	**7.34**	**358**	Pn	Pn	15 36 17.4	0.0
CAST	**Castle Rocks**	**7.40**	**352**	Pn	Pn	15 36 15.3	-2.7
M27K	**Edge Creek, AK**	**7.42**	**30**	Pn	Pn	15 36 15.8	-2.7
KTH	**Kantishna Hill**	**7.46**	**356**	Pn	Pn	15 36 16.6	-2.3
L16K	**Owhat River**	**7.51**	**322**	Pn	Pn	15 36 19.4	-0.2
K20K	**Telida**	**7.56**	**345**	Pn	Pn	15 36 18.9	-1.4
S31K	**Pelican**	**7.59**	**71**	Pn	Pn	15 36 19.4	-1.3
M14K	**Bethel**	**7.90**	**311**	Pn	Pn	15 36 24.9	+0.1
K17K	**Iditarod**	**7.90**	**330**	Pn	Pn	15 36 24.2	-0.7
HYT	**Haines Junctio**	**7.94**	**49**	Pn	Pn	15 36 25.1	-0.5
RIDG	**Independent Ri**	**8.01**	**16**	Pn	Pn	15 36 26.4	0.0
BPAW	**Bear Paw Mtn.**	**8.01**	**356**	Pn	Pn	15 36 25.7	-0.7
L27K	**Beaver Creek,**	**8.01**	**27**	Pn	Pn	15 36 24.6	-1.9
BCAR	**Beaver Creek A**	**8.03**	**27**	Pn	Pn	15 36 27.6	+0.9
BWN	**Browne**	**8.06**	**1**	Pn	Pn	15 36 27.3	+0.2
M13K	**Dall Lake**	**8.35**	**306**	Pn	Pn	15 36 31.5	+0.5
J20K	**Nowinta River**	**8.35**	**347**	Pn	Pn	15 36 29.7	-1.4
J19K	**Poorman**	**8.40**	**342**	Pn	Pn	15 36 32.2	+0.4
N30M	**Aishikik Lake**	**8.45**	**46**	Pn	Pn	15 36 33.5	+1.0
NEA2	**Nenana**	**8.49**	**2**	Pn	Pn	15 36 33.0	+0.1
L14K	**Kuka Creek**	**8.50**	**313**	Pn	Pn	15 36 34.1	+0.9
O30N	**Mendenhall**	**8.52**	**51**	Pn	Pn	15 36 33.2	-0.3
R32K	**Eaglecrest**	**8.54**	**69**	Pn	Pn	15 36 32.8	-0.9
M29M	**Somme Creek**	**8.55**	**38**	Pn	Pn	15 36 32.7	-1.2
CCB	**Clear Creek Bu**	**8.59**	**6**	Pn	Pn	15 36 33.1	-1.2
K15K	**Wolf Creek Mou**	**8.63**	**320**	Pn	Pn	15 36 33.5	-1.4
IL31		**8.77**	**8**	Pn	Pn	15 36 35.3	-1.5
ILAR	**Eielson Array**	**8.77**	**8**	Pn	Pn	15 36 35.7	-1.2
J26L	**Joseph Creek**	**8.92**	**17**	Pn	Pn	15 36 37.9	-1.1
J16K	**Anvik River**	**9.01**	**327**	Pn	Pn	15 36 39.2	-0.9
WHY	**Whitehorse**	**9.01**	**54**	Pn	Pn	15 36 40.4	+0.1
L29M	**L29M**	**9.12**	**35**	Pn	Pn	15 36 42.0	+0.3
P32M	**Atlin**	**9.21**	**61**	Pn	Pn	15 36 41.7	-1.3
M30M	**Minto, Yukon**	**9.22**	**40**	Pn	Pn	15 36 43.0	-0.2
J14K	**Nanvaranak Lak**	**9.64**	**319**	Pn	Pn	15 36 47.2	-1.6
H21K	**Melozitna Rive**	**9.66**	**352**	Pn	Pn	15 36 47.4	-1.7
K29M	**Barlow Dome**	**9.84**	**33**	Pn	Pn	15 36 50.9	-0.7
M31M	**Drury Creek, Y**	**9.93**	**46**	Pn	Pn	15 36 51.1	-1.7
IMAR	**Indian Mountai**	**10.06**	**351**	Pn	Pn	15 36 53.6	-1.0

*IDC **25** 15:55:00.8±1.3,56°41N×148°49W, h0km, mb3.9/5, mbtmp3.6/10, ML3.2/5, MS3.1/1, Error ellipse: s-maj=26.3km s-min=22.3km az=157.0*
*NEIC **25** 15:55:03.6±1.6,56°46N±0°07×148°55W±0°02, h30km±9km, ML3.6/50, ML3.4(AEIC), Error ellipse: s-maj=11.1km s-min=0.5km az=187.0*
*AEIC **25** 15:55:06.4±1.8,56°49N±0°08×148°5W±0°1, h12km±7km, Error ellipse: s-maj=11.4km s-min=7.9km az=168.0*
ISC 25 15:55:02.4±0.8,56°59N±0°08×148°58W±0°05, h10km, n200, σ1906/200, mb4.0/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.49**	**300**	P	**Pn**	**15 55 43.0**	**+0.1**
	baz=118						
KDAK				S	**Sn**	**15 56 11.6**	**-1.6**
	baz=118						
KDAK	**Kodiak Island**	**2.49**	**300**	Pn	**Pn**	**15 55 42.9**	**+0.1**
	5.8nm,0.3s,baz=133,slow=3.9,SNR=21						
KDAK				Sn	**Sn**	**15 56 11.5**	**-1.6**
	10nm,0.3s,baz=235,slow=22,SNR=4.7						
	11nm,0.3s						
OHAK	**Old Harbor**	**2.66**	**286**		**Sn**	**15 56 14.4**	**-3.0**
SYI	**Shuyak Island**	**2.88**	**316**		**Pn**	**15 55 48.9**	**+0.6**
SYI					**Sn**	**15 56 22.6**	**-0.4**
Q20K	**Shuyak Island**	**2.88**	**316**	P	**Pn**	**15 55 48.9**	**+0.6**
	baz=133						
Q20K				S	**Sn**	**15 56 22.6**	**-0.4**
	baz=133						
Q23K	**Middleton Isla**	**3.09**	**22**		**Pn**	**15 55 51.5**	**+0.4**
Q23K				IAML		15 56 36.6	
	comp=N,252nm,1.2s						
Q23K				IAML		15 57 46.3	
	comp=E,160nm,1.1s						
Q23K	**Middleton Isla**	**3.09**	**22**		**Sn**	**15 56 25.8**	**-2.2**
Q23K	**Middleton Isla**	**3.09**	**22**	P	**Pn**	**15 55 52.2**	**+1.1**
	baz=203						
Q23K				S	**Sn**	**15 56 26.2**	**-1.8**
	baz=203						
MID	**Middleton Isla**	**3.09**	**22**		**Pn**	**15 55 51.6**	**+0.5**
MID				IAML		15 56 36.6	
	comp=N,265nm,1.1s						
MID				IAML		15 57 00.5	
	comp=E,132nm,1.1s						
MID	**Middleton Isla**	**3.09**	**22**		**Sn**	**15 56 25.5**	**-2.5**
CNPM	**China Poot**	**3.27**	**336**		**Pn**	**15 55 54.0**	**+0.4**
CNPM					Sn	**Sn**	**15 56 31.9**	**-0.6**
CNPM					IAML		15 56 36.6
	comp=E,66nm,1.2s						
CNPM					IAML		15 56 38.6
	comp=N,64nm,0.5s						
BRSE	**Bradley Lake S**	**3.36**	**341**		**Pn**	**15 55 55.3**	**+0.4**
BRSE					**Sn**	**15 56 33.4**	**-1.5**
BRSE	**Bradley Lake S**	**3.36**	**341**	P	**Pn**	**15 55 55.5**	**+0.6**
	baz=159						
BRSE				S	**Sn**	**15 56 34.1**	**-0.7**
	baz=159						
BRLK	**Bradley Lake**	**3.41**	**340**		**Pn**	**15 55 55.8**	**+0.2**
BRLK					Sn	**Sn**	**15 56 34.1**	**-2.0**
P23K	**Montague Islan**	**3.48**	**10**		**Pn**	**15 55 56.8**	**+0.4**
P23K						**Sn**	**15 56 35.6**	**-2.0**
P23K	**Montague Islan**	**3.48**	**10**	P	**Pn**	**15 55 56.8**	**+0.4**
	baz=190						
HOM	**Homer**	**3.48**	**333**	Pn	**Pn**	**15 55 56.0**	**-0.5**
HOM				IAML		15 56 59.8	
	comp=N,178nm,1.1s						
SEW	**Seward**	**3.56**	**353**		**Pn**	**15 55 57.5**	**0.0**
SEW	**Seward**	**3.56**	**353**	P	**Pn**	**15 55 57.7**	**+0.2**
	baz=172						
Q19K	**Cape Douglas,**	**3.59**	**313**	Pn	**Pn**	**15 55 58.8**	**+0.8**
Q19K				IAML		15 56 48.5	
	comp=N,133nm,0.7s						
KAHG	**Katmai Hook Gl**	**3.74**	**303**		**Pn**	**15 56 01.0**	**+0.8**
P19K	**Oil Pt**	**3.94**	**323**	Pn	**Pn**	**15 56 04.3**	**+1.4**
P19K				IAML		15 56 53.8	
	comp=E,122nm,0.6s						
P19K				IAML		15 56 54.5	
	comp=N,116nm,0.7s						
O22K	**Cooper Landing**	**3.95**	**352**		**Pn**	**15 56 03.9**	**+0.9**
HIN	**Hinchinbrook I**	**3.97**	**15**		**Pn**	**15 56 03.9**	**+0.6**
HIN				IAML		15 56 58.0	
	comp=E,94nm,1.2s						
ACHA	**Angle Creek He**	**4.00**	**297**		**Pn**	**15 56 05.2**	**+1.6**
KAIM	**Kayak Island**	**4.00**	**32**	Pn	**Pn**	**15 56 03.1**	**-0.6**
KAIM				IAML		15 56 53.9	
	comp=E,107nm,1.0s						
SLKM	**Skilak Lake**	**4.02**	**348**		**Pn**	**15 56 04.4**	**+0.4**
O20K	**Slope Mountain**	**4.10**	**330**		**Pn**	**15 56 06.2**	**+1.1**
O20K	**Slope Mountain**	**4.10**	**330**	P	**Pn**	**15 56 06.2**	**+1.1**
	baz=147						
EYAK	**Cordova Ski Ar**	**4.24**	**19**		**Pn**	**15 56 07.6**	**+0.7**
FID	**Port Fidalgo**	**4.32**	**14**		**Pn**	**15 56 08.2**	**+0.2**
CAPN	**Captain Cook N**	**4.40**	**343**	Pn	**Pn**	**15 56 08.7**	**-0.4**
RED	**Redoubt Volcan**	**4.42**	**332**		**Pn**	**15 56 09.8**	**+0.2**
RDSO	**Redoubt South**	**4.45**	**332**		**Pn**	**15 56 10.3**	**+0.3**
RSO	**Redoubt South**	**4.46**	**332**		**Pn**	**15 56 10.3**	**+0.2**
RDWB	**Redoubt West**	**4.50**	**332**		**Pn**	**15 56 11.1**	**+0.4**
P18K	**Big Mountain,**	**4.52**	**311**		**Pn**	**15 56 11.3**	**+0.5**
P18K	**Big Mountain,**	**4.52**	**311**	P	**Pn**	**15 56 11.6**	**+0.8**
	baz=126						
RC01	**Rabbit Creek A**	**4.55**	**353**	Pn	**Pn**	**15 56 12.1**	**+0.9**
RC01				IAML		15 57 03.9	
	comp=N,42nm,0.4s						
RC01				IAML		15 57 05.2	
	comp=E,58nm,0.4s						
NCT	**North Crescent**	**4.59**	**332**		**Pn**	**15 56 12.1**	**+0.2**
BERG	**Berg Lake**	**4.59**	**32**		**Pn**	**15 56 12.2**	**+0.4**
SNH	**Sunshine Point**	**4.70**	**38**	Pn	**Pn**	**15 56 13.7**	**+0.4**
SNH				IAML		15 56 52.8	
	comp=E,39nm,1.2s						
SNH				IAML		15 58 30.6	
	comp=N,52nm,1.2s						
Q19K	**Port Alsworth**	**4.71**	**323**	Pn	**Pn**	**15 56 12.9**	**-0.4**
KNK	**Knik Glacier**	**4.84**	**1**	Pn	**Pn**	**15 56 15.3**	**+0.2**
KNK				IAML		15 57 18.0	
	comp=E,24nm,1.2s						
KNK				IAML		15 57 31.4	
	comp=N,21nm,1.2s						
BMRM	**Bremner River**	**4.85**	**24**		**Pn**	**15 56 16.4**	**+1.0**
BARK	**Barkley Ridge**	**4.98**	**37**		**Pn**	**15 56 17.7**	**+0.5**
SUA	**Susit

L27K	Beaver Creek,	7.33	25	Pn		Pn	15 56 48.2	-1.1	
BCAR	Beaver Creek A	7.34	25	Pn		Pn	15 56 50.0	+0.4	
TTA	Tatalina	7.38	333			Pn	15 56 50.4	+0.3	
RIDG	Independent Ri	7.41	13			Pn	15 56 51.3	+0.8	
L16K	Owhat River	7.59	317	Pn		Pn	15 56 53.4	+0.4	
SKAG	Skagway	7.60	62	Pn		Pn	15 56 53.6	+0.6	
BWN	Browne	7.62	357	Pn		Pn	15 56 53.9	+0.5	
BPAW	Bear Paw Mtn.	7.63	352	Pn		Pn	15 56 54.3	+0.8	
N30M	Aishikik Lake	7.67	46	Pn		Pn	15 56 54.9	+0.7	
S32K	Killisnoo	7.69	78	Pn		Pn	15 56 52.3	-2.0	
O30N	Mendenhall	7.74	52	Pn		Pn	15 56 53.8	-1.2	
SCRK	Sand Creek	7.75	15	Pn		Pn	15 56 55.1	-0.2	
R32K	Eaglecrest	7.78	72	Pn		Pn	15 56 53.2	-2.3	
M29M	Somme Creek	7.80	37			Pn	15 56 56.6	+0.7	
JIS	Juneau Island	7.85	72	Pn		Pn	15 56 54.5	-1.9	
K17K	Iditarod	7.87	325	Pn		Pn	15 56 56.6	-0.1	
HDA	Harding Lake	7.89	5	Pn		Pn	15 56 57.5	+0.5	
J18K	Innoko River	8.00	333	Pn		Pn	15 56 58.2	-0.3	
NEA2	Nenana	8.04	358	Pn		Pn	15 56 58.9	-0.1	
J20K	Nowinta River	8.09	342	Pn		Pn	15 57 01.5	+1.7	
CCB	Clear Creek Bu	8.09	2	Pn		Pn	15 57 02.0	+2.2	
M14K	Bethel	8.12	306	Pn		Pn	15 57 02.1	+2.0	
K27K	Chicken	8.13	21	Pn		Pn	15 57 02.5	+2.2	
J25K	Salcha River,	8.20	10	Pn		Pn	15 57 01.9	+0.6	
J19K	Poorman	8.21	338	Pn		Pn	15 57 00.7	-0.6	
WHY	Whitehorse	8.23	55	Pn		Pn	15 57 02.6	+0.9	
IL31		8.25	5	Pn		Pn	15 57 02.6	+0.7	
ILAR	Eielson Array	8.25	5	Pn		Pn	15 57 02.7	+0.7	
ILAR	Eielson Array	8.25	5	Pn		Pn	15 57 02.1	+0.2	
	comp=N,0.1nm,0.3s,baz=187,slow=13,SNR=9.9								
ILAR				Sn		Sn	15 58 33.7	-1.4	
	comp=N,0.3nm,0.3s,baz=188,slow=22,SNR=6.6								
	comp=N,0.3nm,0.4s								
J26L	Joseph Creek	8.31	15			Pn	15 57 02.7	-0.1	
L29M	L29M	8.38	34	Pn		Pn	15 57 04.8	+1.0	
P32M	Atlin	8.43	63	Pn		Pn	15 57 04.7	+0.2	
M30M	Minto, Yukon	8.46	40	Pn		Pn	15 57 05.6	+0.7	
FALS	False Pass	8.55	265	Pn		Pn	15 57 03.6	-2.5	
POKR	Poker Plat Res	8.58	3	Pn		Pn	15 57 04.9	-1.5	
I23K	Minto, Yukon-K	8.60	358	Pn		Pn	15 57 07.0	+0.4	
U33K	Whale Pass	8.60	87	Pn		Pn	15 57 03.0	-3.7	
M13K	Dall Lake	8.63	302	Pn		Pn	15 57 08.3	+1.2	
L14K	Kuka Creek	8.70	309	Pn		Pn	15 57 08.2	+0.2	
K15K	Wolf Creek Mou	8.72	316	Pn		Pn	15 57 08.1	-0.3	
CRAG	Craig	8.73	91	Pn		Pn	15 57 05.2	-3.3	
DAWY	Dawson	8.77	27	Pn		Pn	15 57 08.1	-1.0	
I21K	Tanana	8.78	351	Pn		Pn	15 57 08.8	-0.4	
EGAK	Eagle	8.98	21	Pn		Pn	15 57 12.6	+0.7	
WRAK	Wrangell Islan	8.98	84	Pn		Pn	15 57 08.8	-3.1	
J16K	Anvik River	9.01	323	Pn		Pn	15 57 12.7	+0.3	
P33M	Teslin, Yukon	9.03	60	Pn		Pn	15 57 11.4	-1.3	
Q32M	Nakina River	9.03	68	Pn		Pn	15 57 11.7	-1.2	
K29M	Barlow Dome	9.11	32	Pn		Pn	15 57 13.6	-0.2	
I26K	Coal Creek Min	9.13	14	Pn		Pn	15 57 15.0	+1.0	
M31M	Drury Creek, Y	9.15	46	Pn		Pn	15 57 15.7	+1.3	
N32M	Quiet Lake	9.23	54	Pn		Pn	15 57 15.6	+0.2	
H24K	Noodor Dome	9.29	2	Pn		Pn	15 57 15.8	-0.3	
H21K	Melozitna River	9.32	349			Pn	15 57 17.5	+0.8	
MAYO	Mayo, Yukon	9.45	37	Pn		Pn	15 57 17.6	-0.7	
I17K	Unalakleet	9.46	326	Pn		Pn	15 57 17.6	-0.9	
S34M	Telegraph Cree	9.55	75	Pn		Pn	15 57 18.9	-0.8	
FARO	Faro, Yukon	9.59	48	Pn		Pn	15 57 21.8	+1.5	
V35K	Ketchikan	9.60	90	Pn		Pn	15 57 16.9	-3.5	
IMAR	Indian Mountai	9.74	347	Pn		Pn	15 57 23.1	+0.7	
J14K	Nanvaranak Lak	9.76	315	Pn		Pn	15 57 24.2	+1.7	
R33M	Jennings River	9.76	66	Pn		Pn	15 57 22.1	-0.6	
H18K	Honhosa River	9.81	335	Pn		Pn	15 57 24.7	+1.4	
I28M	Miner Creek	9.82	22	Pn		Pn	15 57 23.5	+0.1	
DIB	Dawson Inlet,	9.87	103	Pn		Pn	15 57 23.8	-0.4	
J30M	Hart River	10.00	32	Pn		Pn	15 57 27.6	+1.6	
H17K	Granite Mounta	10.02	331	Pn		Pn	15 57 27.1	+0.9	
T35M	Bob Quinn	10.07	80	Pn		Pn	15 57 25.7	-1.1	
FYU	Fort Yukon	10.14	8	Pn		Pn	15 57 28.9	+1.2	
DLBC	Dease Lake	10.15	72	Pn		Pn	15 57 28.1	0.0	
DLBC	Dease Lake	10.15	72	Pn		Pn	15 57 27.1	-0.9	
	comp=N,0.5nm,0.3s,baz=271,slow=7.7,SNR=11								
	comp=N,1.1nm,0.3s								
G24K	Hadweenzic Riv	10.16	2	Pn		Pn	15 57 29.5	+1.4	
G23K	Bananza Creek	10.18	357	Pn		Pn	15 57 29.4	+1.0	
G21K	Allakaket	10.23	349	Pn		Pn	15 57 30.4	+1.3	
I30M	Mount Dempster	10.48	29	Pn		Pn	15 57 35.2	+2.7	
UNV	Unalaska Valle	10.60	262	Pn		Pn	15 57 32.2	-1.9	
RUBB	Prince Rupert	10.65	95	Pn		Pn	15 57 33.5	-1.2	
COLD	Coldfoot	10.70	357	Pn		Pn	15 57 35.7	+0.2	
F24K	Squaw Lake	10.97	1	Pn		Pn	15 57 38.9	-0.4	
G16K	Koyuk River	11.05	329	Pn		Pn	15 57 39.2	-1.0	
F19K	Shaleruckik Mo	11.15	341	Pn		Pn	15 57 41.8	+0.2	
E19K	Redstone River	11.62	343	Pn		Pn	15 57 47.0	-1.0	
G31M	Satah River	12.34	27	Pn		Pn	15 58 00.6	+2.8	
BBB	Bella Bella	12.70	102	LR		LR	16 01 39.4		
	comp=N,77nm,19.0s,baz=29,slow=32								
INK	Inuvik	13.60	24	Pn		Pn	15 58 17.9	+2.9	
	baz=207,slow=9.0,SNR=1.8								
	comp=N,0.6nm,0.8s								
B22K	Teshekpuk Lake	13.96	353	Pn		Pn	15 58 21.1	+1.1	
B20K	Meade River	13.99	348	Pn		Pn	15 58 21.3	+1.0	
YKA	Yellowknife Ar	18.05	57	P		Pn	15 59 13.1	+0.2	
	comp=N,0.1nm,0.3s,baz=267,slow=11,SNR=4.4								
	comp=N,0.5nm,0.8s								
H11S1	WAKE ISLAND Hy	50.52	240	T		T	16 59 07.3		
	baz=29								
H11S2	WAKE ISLAND Hy	50.53	240	T		T	16 59 00.0		
	baz=29								
H11S3	WAKE ISLAND Hy	50.53	240	T		T	16 59 09.4		
	baz=29								
SONM	Songino Array	58.74	310	P		P	16 05 00.9	+0.7	
	comp=N,0.9nm,0.8s,baz=45,slow=8.6,SNR=5.9								
	comp=N,0.9nm,0.8s								
ZALV	Zalesovo Beam	61.51	327	P		P	16 05 19.3	+0.4	
	comp=N,0.7nm,0.5s,baz=41,slow=7.1,SNR=4.2								
	comp=N,0.7nm,0.5s								
KURBB	Kurchatov Arra	66.28	329	P		P	16 05 51.2	+1.0	
	comp=N,0.3nm,0.5s,baz=22,slow=7.0,SNR=3.1								
	comp=N,0.3nm,0.5s								
BRTR	Keskin Array B	84.03	358	P		P	16 07 33.4	+0.5	
	comp=N,0.9nm,0.8s,baz=3.2,slow=7.7,SNR=2.1								
	comp=N,0.9nm,0.8s								
CMAR	Chiang Mai Arr	86.48	299	P		P	16 07 46.2	+0.9	
	comp=N,0.6nm,0.3s,baz=12,slow=4.7,SNR=1.2								
	comp=N,0.6nm,0.3s								
QSPA	South Pole Qui	146.38	180	PKPbc		PKPdf	16 14 42.1	+1.5	
	comp=N,2.0nm,0.9s,baz=269,slow=1.6,SNR=6.4								

*IDC **25** 16:17:42.3±2.1,31°.17S×179°.12W,h0km,mb4.0/3, mbtmp4.0/3,MS3.7/1,Error ellipse: s-maj=60.9km s-min=34.6km az=44.0*
*NEIC **25** 16:17:42.9±0.9,31°.09S±0°.09×178°.9W±0°.2,h10km±2km, mb4.5/4,Error ellipse: s-maj=37.3km s-min=7.3km az=112.0*

ISC 25 16:17:47.5±1.7,31°.2S±0°.2×179°.2W±0°.3,h35km,n14, σ0s52/13,mb4.1/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTZ	Ruatahuna	8.04	202	Pn	Pn	16 19 40.9	-0.8
BFZ	Birch Farm	10.16	200	Pn	Pn	16 20 11.6	+0.8
MRZ	Mangatainoka R	10.35	203	Pn	Pn	16 20 13.5	+0.2
PMG	Port Moresby	38.04	297	LR	LR	16 37 42.6	
	comp=Z,91nm,18.4s,baz=24,slow=32						
AS31	Alice Springs	42.05	268	P	P	16 25 36.1	+0.2
ASAR	Alice Springs	42.05	268	P	P	16 25 35.1	-0.8
ASAR	Alice Springs	42.05	268	P	P	16 25 36.2	+0.3
	0.8nm,0.3s,baz=108,slow=7.6,SNR=35						
	0.8nm,0.3s						
WB2	Warramunga Arr	43.10	274	P	P	16 25 44.9	+0.4
WB2				IAmb	IAmb	16 26 07.8	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	43.11	274	P	P	16 25 45.0	+0.4
	comp=Z,1.3nm,0.5s,baz=113,slow=7.6,SNR=13						
	comp=Z,1.3nm,0.5s						
WB0	Warramunga Arr	43.14	274	P	P	16 25 44.7	-0.1
QSPA	South Pole Qui	58.91	180	P	P	16 27 42.5	-0.3
QSPA	South Pole Qui	58.91	180	P	P	16 27 43.1	+0.3
	comp=Z,0.8nm,0.5s,baz=27,slow=2.3,SNR=9.3						
	comp=Z,0.8nm,0.5s						
SNAA	Sanae	77.38	179	P	P	16 29 38.4	0.0
SNAA				IAmb	IAmb	16 30 04.5	
	comp=Z,7.1nm,1.5s						
FINES	FINESS Array B	145.53	339	PKPbc	PKPdf	16 37 21.0	-0.1
	comp=Z,9.5nm,1.3s,baz=29,slow=4.4,SNR=5.2						

*IDC **25** 16:20:10.2±1.1,56°.20N×149°.47W,h0km,mb3.7/8, mbtmp3.6/12,ML3.0/4,MS3.0/4,Error ellipse: s-maj=27.0km s-min=18.4km az=38.0*
*NEIC **25** 16:20:10.9±1.7,56°.14N±0°.08×149°.3W±0°.1,h21km±8km, mb4.3/4,ML4.0/48,ML3.5(AEIC),Error ellipse: s-maj=11.6km s-min=8.0km az=173.0*
*AEIC **25** 16:20:12.6±2.2,56°.01N±0°.08×149°.3W±0°.1,h10km±6km, Error ellipse: s-maj=11.3km s-min=8.2km az=175.0*

ISC 25 16:20:10.5±0.7,56°.21N±0°.07×149°.41W±0°.05,h10km, n226,σ0s90/219,mb3.9/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.34	314		Pn	16 20 48.6	-0.4
KDAK	Kodiak Island	2.34	314	P	Pn	16 20 49.0	0.0
	baz=133						
KDAK				S	Sn	16 21 16.7	-1.0
	baz=133						
KDAK	Kodiak Island	2.34	314	Pn	Pn	16 20 48.3	-0.6
	2.8nm,0.3s,baz=140,slow=7.1,SNR=6.4						
KDAK				Sn	Sn	16 21 16.8	-1.0
	12nm,0.3s,baz=141,slow=22,SNR=13						
	7.2nm,0.2s						
OHAK	Old Harbor	2.36	297		Pn	16 20 48.7	-0.6
OHAK	Old Harbor	2.36	297		Sn	16 21 16.6	-1.7
OHAK	Old Harbor	2.36	297	P	Pn	16 20 49.2	-0.1
	baz=117						
OHAK				S	Sn	16 21 17.0	-1.2
	baz=117						
SII	Sitkinak Islan	2.67	279	Pn	Pn	16 20 53.5	-0.1
SII				IAML		16 21 32.6	
	comp=E,249nm,0.9s						
SII				IAML		16 21 56.3	
	comp=N,330nm,1.9s						
Q20K	Shuyak Island	2.89	327	P	Pn	16 20 56.8	+0.2
	baz=146						
Q20K				S	Sn	16 21 30.4	-1.0
	baz=146						
SYI	Shuyak Island	2.89	327	Pn	Pn	16 20 55.7	-0.8
SYI	Shuyak Island	2.89	327		Sn	16 21 30.4	-1.0
R18K	Karluk	3.08	298		Pn	16 20 59.7	+0.6
R18K					Sn	16 21 34.7	-1.2
R18K	Karluk	3.08	298	IAML		16 21 40.7	
	comp=N,240nm,0.5s						
R18K				IAML		16 21 43.1	
	comp=E,160nm,0.4s						
R18K	Karluk	3.08	298	P	Pn	16 20 59.7	+0.6
	baz=116						
R18K				S	Sn	16 21 34.7	-1.2
	baz=116						
CNPM	China Poot	3.46	344	Pn	Pn	16 21 04.3	-0.1
CNPM	China Poot	3.46	344		Sn	16 21 44.0	-1.5
Q19K	Cape Douglas,	3.55	322		Pn	16 21 06.8	+1.1
Q19K				IAML		16 21 58.3	
	comp=E,460nm,1.4s						
Q19K				IAML		16 21 59.2	
	comp=N,420nm,0.9s						
Q19K	Cape Douglas,	3.55	322	S	Sn	16 21 47.5	-0.1
	baz=139						
KAHG	Katmai Hook Gl	3.60	312		Pn	16 21 06.1	-0.3
KAHG					Sn	16 21 47.6	-1.3
BRSE	Bradley Lake S	3.61	349		Pn	16 21 06.0	-0.4
BRSE					Sn	16 21 50.8	+1.7
BRSE	Bradley Lake S	3.61	349	P	Pn	16 21 06.0	-0.4
	baz=168						
BRSE				S	Sn	16 21 50.7	+1.7
	baz=168						
Q23K	Middleton Isla	3.62	26	Pn	Pn	16 21 05.8	-0.7
MID	Middleton Isla	3.62	26	Pn	Pn	16 21 05.6	-0.9
MID				IAML		16 22 32.7	
	comp=N,434nm,3.6s						
BRLK	Bradley Lake	3.65	348		Pn	16 21 06.7	-0.3
HOM	Homer	3.65	342	Pn	Pn	16 21 06.4	-0.6
HOM				IAML		16 22 58.5	
	comp=N,394nm,1.9s						
HOM				IAML		16 23 08.1	
	comp=E,372nm,2.9s						
ACHA	Angle Creek He	3.79	304		Pn	16 21 10.1	+1.1
KAHC	Katmai Hardscr	3.89	311		Pn	16 21 11.5	+1.2
KAHC	Katmai Hardscr	3.89	311	P	Pn	16 21 11.5	+1.2
	baz=128						
SEW	Seward	3.90	360		Pn	16 21 09.8	-0.6
P23K	Montague Islan	3.94	15		Pn	16 21 09.4	-1.6
P23K	Montague Islan	3.94	15	P	Pn	16 21 10.2	-0.8
	baz=195						
P19K	Oil Pt	4.00	331		Pn	16 21 11.5	-0.4
P19K				IAML		16 22 02.4	
	comp=N,207nm,1.0s						
P19K				IAML		16 22 02.6	
	comp=E,173nm,0.9s						
CNTC	Contact Creek	4.07	303		Pn	16 21 13.8	+0.9
Q17K	Contact Creek	4.07	303	P	Pn	16 21 13.8	+0.9
	baz=119						
IVE	Iliamna Volcan	4.27	335		Pn	16 21 15.2	-0.4
O22K	Cooper Landing	4.28	358	Pn	Pn	16 21 15.7	0.0
O22K				IAML		16 22 26.8	
	comp=E,232nm,0.7s						
SLKM	Skilak Lake	4.33	355		Pn	16 21 15.9	-0.4
P18K	Big Mountain,	4.45	318		Pn	16 21 17.8	-0.2
HIN	Hinchinbrook I	4.47	19	Pn	Pn	16 21 17.9	-0.4
HIN				IAML		16 24 02.3	
	comp=N,155nm,3.6s						
HIN				IAML		16 24 19.3	
	comp=E,163nm,2.5s						
KAIM	Kayak Island	4.57	33	Pn	Pn	16 21 19.3	-0.3
RDSO	Redoubt South	4.60	339		Pn	16 21 20.0	-0.2
RSO	Redoubt South	4.61	339		Pn	16 21 20.2	-0.1
RDWB	Redoubt West	4.65	339		Pn	16 21 20.7	-0.1
CAPN	Captain Cook N	4.66	349	Pn	Pn	16 21 22.0	+1.2
EYAK	Cordova Ski Ar	4.76	22	Pn	Pn	16 21 21.8	-0.4
EYAK	Cordova Ski Ar	4.76	22	P	Pn	16 21 22.0	-0.1
	baz=204						
O19K	Port Alsworth	4.76	329		Pn	16 21 22.8	+0.6
O19K				IAML		16 22 20.9	
	comp=N,184nm,0.4s						
P17K	Kvichak River	4.81	311		Pn	16 21 23.6	+0.8
P17K	Kvichak River	4.81	311	P	Pn	16 21 23.6	+0.8
	baz=126						
RC01	Rabbit Creek A	4.89	358		Pn	16 21 23.2	-0.8
RC01				IAML		16 22 26.4	
	comp=N,61nm,0.5s						
RC01				IAML		16 22 29.6	
	comp=E,52nm,0.6s						
RC01	Rabbit Creek A	4.89	358	P	Pn	16 21 23.8	-0.3
	baz=177						
CHGN	Chignik	5.02	275	Pn	Pn	16 21 25.6	-0.2
CHGN				IAML		16 22 24.1	
	comp=N,72nm,0.6s						
CHGN				IAML		16 22 53.6	
	comp=E,57nm,2.3s						
GOAT	Goat Mountain	5.03	27		Pn	16 21 25.9	-0.1
BERG	Berg Lake	5.16	33	Pn	Pn	16 21 26.8	-0.9
BERG				IAML		16 22 42.5	
	comp=N,144nm,3.0s						
KNK	Knik Glacier	5.24	5		Pn	16 21 28.1	-0.7
KNK				IAML		16 22 54.8	
	comp=E,53nm,3.3s						
KNK				IAML		16 23 09.6	
	comp=N,62nm,3.6s						
SNH	Sunshine Point	5.28	38	Pn	Pn	16 21 28.9	-0.5
DIV	Divide	5.28	20	Pn	Pn	16 21 29.3	-0.2
SUA	Susitna One	5.31	353	Pn	Pn	16 21 29.5	-0.4
SUA				IAML		16 24 41.7	
	comp=N,85nm,3.7s						
SUA				IAML		16 24 56.3	
	comp=E,65nm,4.0s						
N19K	Bonanza Creek	5.32	332	Pn	Pn	16 21 30.0	0.0
N19K	Bonanza Creek	5.32	332	P	Pn	16 21 29.6	-0.4
	baz=148						
BMRM	Bremner River	5.39	26	Pn	Pn	16 21 30.7	-0.2
BMRM	Bremner River	5.39	26	P	Pn	16 21 30.8	-0.2
	baz=208						
PMR	Palmer	5.40	1	Pn	Pn	16 21 30.3	-0.6
STLK	Strandline Lak	5.45	348		Pn	16 21 31.6	-0.2
GHO	Glory Hole Cre	5.58	2	Pn	Pn	16 21 34.2	+0.6
KLU	Klutina	5.60	17	Pn	Pn	16 21 33.8	+0.1
KLU	Klutina	5.60	17	P	Pn	16 21 33.9	+0.1
	baz=199						
N18K	Kilae Creek	5.62	325	Pn	Pn	16 21 34.0	-0.1
SML	Sawmill	5.64	5	Pn	Pn	16 21 34.7	+0.4
SML	Sawmill	5.64	5	P	Pn	16 21 34.7	+0.4
	baz=185						
O16K	Kokwok River B	5.73	310		Pn	16 21 36.4	+0.9
SCM	Sheep Creek Mo	5.74	10	Pn	Pn	16 21 36.0	+0.2
SCM	Sheep Creek Mo	5.74	10	P	Pn	16 21 36.3	+0.6
	baz=191						
SVW2	Sparrevohn	5.86	329	Pn	Pn	16 21 37.8	+0.5
SKT	Skwentna	5.89	350	Pn	Pn	16 21 37.9	+0.2
VRDI	Verde Repeater	5.91	29	Pn	Pn	16 21 38.1	-0.1
CNBA	Chernabura Isl	5.95	261	Pn	Pn	16 21 37.8	-0.6
N17K	Nushagak Hills	5.95	320	Pn	Pn	16 21 38.6	0.0
N25K	Chitina, Valde	5.96	23		Pn	16 21 38.7	0.0
N25K	Chitina, Valde	5.96	23	P	Pn	16 21 38.7	0.0
	baz=205						
KIAG	Kiagna River	5.99	35		Pn	16 21 39.0	-0.3
GLB	Gilahina Butte	6.00	27		Pn	16 21 38.8	-0.4
M20K	Styx River	6.00	343	Pn	Pn	16 21 39.0	-0.4
M24K	Tolsona, Glenn	6.14	14		Pn	16 21 41.6	+0.4
PCA	Pinnacle	6.21	47	Pn	Pn	16 21 42.2	-0.1
CUT	Chulitna	6.23	356	Pn	Pn	16 21 42.8	+0.5
M19K	Big River Lodg	6.26	338	Pn	Pn	16 21 42.8	0.0
SDPT	Sand Point	6.30	267	Pn	Pn	16 21 43.5	+0.1
BARN	Barnard Glacie	6.32	37		Pn	16 21 44.0	+0.2
CTGM	Chitina Glacie	6.37	38	Pn	Pn	16 21 43.4	-1.0
LOGN	Logan Glacier	6.38	40	Pn	Pn	16 21 43.6	-1.0
BCPM	Bancas Point	6.40	50	Pn	Pn	16 21 44.4	-0.3
HARP	HAARP	6.58	18		Pn	16 21 48.2	+1.1
HARP	HAARP	6.58	18	P	Pn	16 21 48.2	+1.1
	baz=200						
L19K	White Mountain	6.60	337	Pn	Pn	16 21 46.9	-0.7
M17K	Holitna River	6.66	325		Pn	16 21 48.8	+0.5
PPLA	Purkeypile	6.85	349	Pn	Pn	16 21 52.2	+1.2
N15K	Kwethluk River	6.89	309		Pn	16 21 53.2	+1.7
M16K	Timber Creek	6.93	318	Pn	Pn	16 21 52.7	+0.7
DHY	Denali Highway	6.96	8		Pn	16 21 53.0	+0.5
DHY	Denali Highway	6.96	8	P	Pn	16 21 53.1	+0.5
	baz=189						
M26K	Nabesna, AK	7.02	25	Pn	Pn	16 21 53.1	-0.1
O29M	Mount Kennedy	7.03	50		Pn	16 21 53.7	+0.2
O14K	Tigyukauivet M	7.04	301	Pn	Pn	16 21 54.4	+1.0
PAX	Paxson	7.07	15	Pn	Pn	16 21 54.7	+0.8
L18K	Granite Mounta	7.08	331	Pn	Pn	16 21 54.5	+0.5
P29M	Windy Craggy	7.10	56		Pn	16 21 53.9	-0.4
RND	Reindeer	7.22	2	Pn	Pn	16 21 54.4	-1.7
YUK3	Moose Creek	7.24	36		Pn	16 21 57.4	+0.9
YUK3	Moose Creek	7.24	36	P	Pn	16 21 57.4	+0.9
	baz=222						
M27K	Edge Creek, AK	7.27	29	Pn	Pn	16 21 55.2	-1.5
TRF	Thorofare Moun	7.27	357	Pn	Pn	16 21 57.2	+0.3
MENT	Mentasta	7.34	21	Pn	Pn	16 21 57.0	-0.6
CAST	Castle Rocks	7.35	351	Pn	Pn	16 21 58.3	+0.5
S31K	Pelican	7.39	71	Pn	Pn	16 21 56.0	-2.3
KTH	Kantishna Hill	7.40	355	Pn	Pn	16 21 59.9	+1.3
N14K	Kuskokwak Cree	7.49	305		Pn	16 22 00.6	+0.9
N14K	Kuskokwak Cree	7.49	305	P	Pn	16 22 00.6	+0.9
	baz=115						
TTA	Tatalina	7.52	336	Pn	Pn	16 21 58.8	-1.3
K20K	Telida	7.54	344	Pn	Pn	16 21 59.3	-1.0
MCK	McKinley	7.55	2	Pn	Pn	16 21 59.6	-0.8
L16K	Owhat River	7.57	321	Pn	Pn	16 21 59.8	+0.5
HYT	Haines Junctio	7.76	49	Pn	Pn	16 22 03.3	-0.2
SIT	Sitka	7.82	78	Pn	Pn	16 22 00.6	-3.6
L27K	Beaver Creek,	7.87	26	Pn	Pn	16 22 05.1	+0.3
BCAR	Beaver Creek A	7.88	26	Pn	Pn	16 22 05.5	+0.5
RIDG	Independent Ri	7.89	15	Pn	Pn	16 22 05.4	+0.2
K17K	Iditarod	7.93	329	Pn	Pn	16 22 05.5	-0.2
BPAW	Bear Paw Mtn.	7.95	355	Pn	Pn	16 22 05.2	-0.8
BWN	Browne	7.99	360	Pn	Pn	16 22 07.1	+0.6
M14K	Bethel	7.99	310	Pn	Pn	16 22 07.4	+0.9
FALS	False Pass	8.06	266	Pn	Pn	16 22 07.8	+0.3
J18K	Innoko River	8.14	336	Pn	Pn	16 22 08.3	-0.4
SKAG	Skagway	8.19	61	Pn	Pn	16 22 08.8	-0.4
BESE	Bessie Mountai	8.21	67	Pn	Pn	16 22 08.0	-1.7
S32K	Killisnoo	8.23	75		Pn	16 22 07.2	-2.7
SCRK	Sand Creek	8.24	17	Pn	Pn	16 22 09.8	-0.3
N30M	Aishikik Lake	8.27	45	Pn	Pn	16 22 10.4	0.0
HDA	Harding Lake	8.31	7		Pn	16 22 10.8	-0.1
J20K	Nowinta River	8.33	346	Pn	Pn	16 22 11.6	+0.5
O30N	Mendenhall	8.33	51	Pn	Pn	16 22 08.9	-2.3
R32K	Eaglecrest	8.34	69		Pn	16 22 08.8	-2.5
M29

NEW	**Newport**	**21.15**	**98**	LR	LR	16 31 13.4	
	comp=Z,44nm,21.1s,baz=322,slow=31						
PINE	**Pine Mountain**	**21.94**	**112**	P	**P**	**16 25 02.2**	**-1.9**
PINE				IAmb	IAmb	16 25 14.6	
	comp=Z,14nm,1.1s						
KRMB	**Red Mountain**	**22.12**	**121**	P	**P**	**16 25 03.9**	**-2.2**
NVAR	**Mina Array Bea**	**27.25**	**118**	P	**P**	**16 25 56.9**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=295,slow=11,SNR=1.9						
	comp=Z,0.3nm,0.3s						
TXAR	**Lajitas Array**	**41.87**	**110**	P	**P**	**16 28 02.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=322,slow=5.7,SNR=2.5						
	comp=Z,0.1nm,0.3s						
H11S1	**WAKE ISLAND Hy**	**49.93**	**239**	T	T	17 23 50.8	
	baz=29						
H11S2	**WAKE ISLAND Hy**	**49.94**	**239**	T	T	17 23 48.7	
	baz=29						
H11S3	**WAKE ISLAND Hy**	**49.94**	**239**	T	T	17 23 54.3	
	baz=29						
SONM	**Songino Array**	**58.63**	**310**	P	**P**	**16 30 08.5**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=34,slow=9.0,SNR=6.7						
	comp=Z,1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**61.58**	**327**	P	**P**	**16 30 28.9**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=14,slow=6.5,SNR=2.3						
	comp=Z,0.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**61.71**	**302**	*eP*	**P**	**16 30 28.0**	**-0.7**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,350nm,4.5s						
FINES	**FINESS Array B**	**62.63**	**2**	P	**P**	**16 30 35.4**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=353,slow=8.4,SNR=1.4						
	comp=Z,2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**66.36**	**329**	P	**P**	**16 31 00.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=27,slow=6.4,SNR=2.9						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.61**	**325**	P	**P**	**16 31 14.3**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=30,slow=6.4,SNR=5.2						
	comp=Z,0.3nm,0.4s						
PZH	**PanZhiHua**	**78.09**	**300**	P	**P**	**16 32 08.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**86.25**	**298**	P	**P**	**16 32 53.6**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=13,slow=5.6,SNR=2.3						
	comp=Z,0.4nm,0.4s						

*SJA **25** 16:22:19.2±0.6, 18°.27S×69°.19W, h8km±1km, ML4.2, MW3.9*

*GUC **25** 16:22:20.5±0.9, 18°.32S×69°.18W, h11km±3km, ML4.1*

*NEIC **25** 16:22:22.4±2.2, 18°.27S±0°.05×69°.26W±0°.04, h10km±2km, mb4.2/3, Error ellipse: s-maj=8.9km s-min=6.1km az=347.0*

*IDC **25** 16:22:28.4±4.4, 18°.25S×68°.86W, h62km±39km, mb3.7/3, mbtmp4.0/5, ML3.8/2, MS3.4/7, Error ellipse: s-maj=49.6km s-min=20.8km az=133.0*

ISC 25 16:22:21.5±1.1, 18°.29S±0°.03×69°.23W±0°.03, h10km±7km, n77, σ1§94/111, mb4.0/3, 2C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.27**	**260**			**Pg**	**16 22 26.1**	**-1.0**
PB16				Sg		**Sg**	**16 22 31.0**	**+0.1**
PB16	**IPOC Station P**	**0.27**	**260**	*eP*		**Pg**	**16 22 26.7**	**-0.4**
PB16				*eS*		**Sg**	**16 22 32.2**	**+1.4**
PB16	**IPOC Station P**	**0.27**	**260**	*↑iP*		**Pg**	**16 22 26.7**	**-0.4**
PB16				*eS*		**Sg**	**16 22 31.6**	**+0.8**
PB18	**Visviri**	**0.73**	**341**			**Pg**	**16 22 35.7**	**-0.1**
PB18	**Visviri**	**0.73**	**341**	*eP*		**Pg**	**16 22 35.7**	**-0.1**
AP01	**Chacalluta**	**1.06**	**265**			**Pb**	**16 22 40.4**	**-1.5**
AP01						**Sb**	**16 22 56.1**	**+0.4**
AP01	**Chacalluta**	**1.06**	**265**	*eP*		**Pb**	**16 22 40.4**	**-1.5**
AP01	**Chacalluta**	**1.06**	**265**	*eP*		**Pb**	**16 22 40.3**	**-1.5**
AP01				IAML			16 22 57.5	
	comp=N,7μm,0.4s							
PB12	**IPOC Station P**	**1.09**	**253**			**Pb**	**16 22 40.9**	**-1.6**
PB12						**Sb**	**16 22 56.3**	**-0.5**
PB12	**IPOC Station P**	**1.09**	**253**	*eP*		**Pb**	**16 22 40.9**	**-1.6**
PB12				*eS*		**Sb**	**16 22 57.2**	**+0.4**
PB12	**IPOC Station P**	**1.09**	**253**	*↑iP*		**Pb**	**16 22 41.0**	**-1.5**
PB12				*i* S		**Sb**	**16 22 56.3**	**-0.5**
PX02	**IPOC Station P**	**1.13**	**234**	*↓iP*		**Pb**	**16 22 41.1**	**-2.2**
GO01	**Chusmiza**	**1.37**	**178**			**Pn**	**16 22 45.7**	**-1.5**
GO01						**Sb**	**16 23 03.9**	**-1.5**
GO01	**Chusmiza**	**1.37**	**178**	*eP*		**Pn**	**16 22 45.8**	**-1.4**
GO01				*eS*		**Sb**	**16 23 03.8**	**-1.6**
GO01	**Chusmiza**	**1.37**	**178**	*↓iP*		**Pn**	**16 22 45.8**	**-1.4**
GO01				*i* S		**Sb**	**16 23 04.3**	**-1.1**
PB11	**IPOC Station P**	**1.52**	**195**	Pn		**Pn**	**16 22 47.8**	**-1.1**
PB11				Sn		**Sn**	**16 23 07.8**	**-1.0**
PB11	**IPOC Station P**	**1.52**	**195**	*eP*		**Pn**	**16 22 47.8**	**-1.1**
PB11				*eS*		**Sn**	**16 23 08.6**	**-0.3**
PB11	**IPOC Station P**	**1.52**	**195**	*↓iP*		**Pn**	**16 22 47.8**	**-1.1**
PB11				*i* S		**Sn**	**16 23 08.1**	**-0.7**
PB08	**IPOC Station P**	**1.84**	**178**			**Pn**	**16 22 53.9**	**+0.3**
PB08	**IPOC Station P**	**1.84**	**178**	*eP*		**Pn**	**16 22 54.0**	**+0.4**
PB08				*eS*		**Sb**	**16 23 19.4**	**+0.6**
PB08	**IPOC Station P**	**1.84**	**178**	*↓iP*		**Pn**	**16 22 54.0**	**+0.4**
HMBC	**Humberstone**	**2.07**	**197**	*eP*		**Pn**	**16 22 57.3**	**+0.8**
HMBC				*eS*		**Sb**	**16 23 26.4**	**+1.2**
HMBC	**Humberstone**	**2.07**	**197**	*eP*		**Pn**	**16 22 56.9**	**+0.4**
HMBC				*i* S		**Sn**	**16 23 24.8**	**+2.4**
HMBC				IAML			16 23 34.4	
	comp=E,1μm,0.4s							
PX03	**IPOC Station P**	**2.14**	**190**	*i* P		**Pn**	**16 22 58.2**	**+0.9**
PX03				*i* S		**Sb**	**16 23 27.1**	**+0.1**
PX03				IAML			16 23 27.9	
	comp=N,2μm,0.3s							
TA02	**Huaiquique**	**2.15**	**203**			**Pn**	**16 22 58.4**	**+1.0**
TA02				Sn		**Sn**	**16 23 25.6**	**+1.5**
TA02	**Huaiquique**	**2.15**	**203**	*eP*		**Pn**	**16 22 59.2**	**+1.9**
TA02				*eS*		**Sn**	**16 23 26.9**	**+2.8**
TA02				IAML			16 23 28.8	
	comp=Z,1μm,0.5s							
TA02	**Huaiquique**	**2.15**	**203**	*eP*		**Pn**	**16 22 58.8**	**+1.4**
TA02				*eS*		**Sn**	**16 23 27.0**	**+2.8**
TA02				IAML			16 23 29.6	
	comp=N,3μm,0.1s							
LPAZ	**La Paz**	**2.25**	**28**			**Pb**	**16 23 03.5**	**+0.8**
LPAZ	**La Paz**	**2.25**	**28**	*eP*		**Pg**	**16 23 04.3**	**-0.4**
TA01	**Diego Aracena**	**2.43**	**201**			**Pn**	**16 23 02.4**	**+1.0**
TA01				Sn		**Sn**	**16 23 34.9**	**+3.7**
TA01	**Diego Aracena**	**2.43**	**201**	*eP*		**Pn**	**16 23 02.9**	**+1.5**
TA01				*eS*		**Sb**	**16 23 35.5**	**0.0**
TA01				IAML			16 23 36.4	
	comp=Z,1μm,0.8s							
TA01	**Diego Aracena**	**2.43**	**201**	*i* P		**Pn**	**16 23 02.7**	**+1.4**
TA01				*i* S		**Sn**	**16 23 34.3**	**+3.1**
TA01				IAML			16 23 36.7	
	comp=E,2μm,0.3s							
PATCX	**Punta Patache**	**2.66**	**199**	Pn		**Pn**	**16 23 06.6**	**+2.0**
PATCX				Sn		**Sn**	**16 23 37.4**	**+0.4**
PATCX	**Punta Patache**	**2.66**	**199**	*eP*		**Pn**	**16 23 06.8**	**+2.2**
PATCX				*eS*		**Sb**	**16 23 42.4**	**+0.2**
PATCX	**Punta Patache**	**2.66**	**199**	*↓iP*		**Pn**	**16 23 06.5**	**+2.0**
PATCX				*eS*		**Sb**	**16 23 42.1**	**0.0**
PATCX				IAML			16 23 46.7	
	comp=E,2μm,0.3s							
PB01	**IPOC Station P**	**2.75**	**185**			**Pn**	**16 23 08.5**	**+2.7**
PB01				Sn		**Sn**	**16 23 41.5**	**+2.3**
PB01	**IPOC Station P**	**2.75**	**185**	*eP*		**Pn**	**16 23 08.7**	**+2.9**
PB01				*eS*		**Sb**	**16 23 45.6**	**+0.9**
PB01				IAML			16 23 48.2	
	comp=Z,648nm,0.3s							
PB01	**IPOC Station P**	**2.75**	**185**	*↓iP*		**Pn**	**16 23 08.5**	**+2.7**
PB01				*i* S		**Sb**	**16 23 44.2**	**-0.5**
PB01				IAML			16 23 48.3	
	comp=E,564nm,0.3s							
PB02	**IPOC Station P**	**3.08**	**192**			**Pn**	**16 23 12.7**	**+2.4**
PB02				Sn		**Sn**	**16 23 47.6**	**+0.3**
PB02	**IPOC Station P**	**3.08**	**192**	*eP*		**Pn**	**16 23 13.2**	**+2.9**
PB02				*eS*		**Sb**	**16 23 54.4**	**+0.2**
PB02				IAML			16 23 56.6	
	comp=Z,1μm,0.3s							
PB02	**IPOC Station P**	**3.08**	**192**	*i* P		**Pn**	**16 23 13.3**	**+2.9**
PB02				*i* S		**Sb**	**16 23 54.0**	**-0.2**
PB02				IAML			16 23 56.6	
	comp=E,1μm,0.3s							
PB07	**IPOC Station P**	**3.47**	**190**			**Pn**	**16 23 18.5**	**+2.7**
PB07	**IPOC Station P**	**3.47**	**190**	*eP*		**Pn**	**16 23 19.1**	**+3.2**
PB07				*eS*		**Sb**	**16 24 06.4**	**+0.8**
PB07				IAML			16 24 13.2	
	comp=Z,486nm,1.1s							
PB07	**IPOC Station P**	**3.47**	**190**	*i* P		**Pn**	**16 23 19.0**	**+3.2**
PB07				*i* S		**Sb**	**16 24 04.2**	**-1.4**
PB07				IAML			16 24 10.5	
	comp=E,288nm,0.6s							
PB09	**IPOC Station P**	**3.49**	**180**			**Pn**	**16 23 19.7**	**+3.7**
PB09	**IPOC Station P**	**3.49**	**180**	*eP*		**Pn**	**16 23 20.2**	**+4.1**
PB09				*eS*		**Sb**	**16 24 09.9**	**+3.8**
PB09				IAML			16 24 26.7	
	comp=Z,409nm,1.0s							
PB09	**IPOC Station P**	**3.49**	**180**	*i* P		**Pn**	**16 23 20.2**	**+4.1**
PB09				*i* S		**Sb**	**16 24 06.5**	**+0.5**
PB09				IAML			16 24 16.5	
	comp=E,237nm,0.7s							
PB04	**IPOC Station P**	**4.11**	**192**			**Pn**	**16 23 28.8**	**+4.2**
LVC	**Limon Verde**	**4.31**	**176**	P		**Pn**	**16 23 31.8**	**+4.4**
	comp=E,6.6nm,0.3s,baz=355,slow=10,SNR=26							
LVC				S		**Sb**	**16 24 28.6**	**-1.2**
	comp=E,126nm,0.9s,baz=211,slow=23,SNR=6.9							
LVC				LR	LR		16 25 07.9	
	comp=E,252nm,19.7s,baz=4.5,slow=37							
	comp=E,21nm,0.4s							
PB06	**IPOC Station P**	**4.41**	**184**			**Pn**	**16 23 31.8**	**+3.2**
PB06	**IPOC Station P**	**4.41**	**184**	*eP*		**Pn**	**16 23 33.1**	**+4.5**
PB06				*eS*		**Sg**	**16 24 41.2**	**-1.9**
PB06				IAML			16 24 46.6	
	comp=Z,194nm,1.1s							
PB05	**IPOC Station P**	**4.63**	**191**	Pn		**Pn**	**16 23 34.4**	**+2.7**
AF01	**San Pedro de A**	**4.74**	**168**			**Pn**	**16 23 34.3**	**+0.9**
PB15	**IPOC Station P**	**4.90**	**183**			**Pn**	**16 23 36.3**	**+0.9**
PB10	**IPOC Station P**	**5.34**	**193**	Pn		**Pn**	**16 23 42.0**	**+0.7**
PB14	**IPOC Station P**	**6.40**	**190**	Pn		**Pn**	**16 23 57.1**	**+0.9**
GO02	**Mina Guanaco**	**6.85**	**183**	Pn		**Pn**	**16 24 03.0**	**+0.6**
AC01	**Pan de Azucar**	**7.92**	**189**	Pn		**Pn**	**16 24 17.8**	**+0.9**
SIV	**San Ignacio**	**8.13**	**75**	P		**Pn**	**16 24 20.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=251,slow=13,SNR=17							
SIV				S		**Sn**	**16 25 46.0**	**-5.8**
	comp=Z,6.7nm,0.8s,baz=185,slow=20,SNR=1.7							
SIV				LR	LR		16 27 58.2	
	comp=Z,453nm,18.2s,baz=278,slow=42							
	comp=Z,6.6nm,0.8s							
ETMB	**Extrema**	**8.92**	**20**	Pn		**Pn**	**16 24 31.2**	**+0.7**
NNA	**Nana**	**9.65**	**309**	Pn		**Pn**	**16 24 41.1**	**+0.4**
NNA	**Nana**	**9.65**	**309**	LR	LR		16 29 09.6	
	comp=Z,108nm,19.0s,baz=176,slow=40							
PTLB	**Pontes e Lacer**	**10.07**	**75**	Pn		**Pn**	**16 24 47.4**	**+1.1**
VILB	**Vilhena**	**10.19**	**60**	Pn		**Pn**	**16 24 47.2**	**-0.8**
SAML	**Samuel**	**10.99**	**33**	Pn		**Pn**	**16 24 57.3**	**-1.6**
CPUP	**Villa Florida**	**13.61**	**128**	LR	LR		16 31 48.4	
	comp=Z,103nm,18.1s,baz=302,slow=42							
ATAH	**Atahualpa**	**14.23**	**320**	LR	LR		16 30 51.8	
	comp=Z,96nm,21.3s,baz=145,slow=35							
MT02	**Curacav**	**15.01**	**186**	Pn		**Pn**	**16 25 52.2**	**-1.5**
MT02				IAmb	IAmb		16 26 22.0	
	comp=Z,30nm,1.4s							
TRQA	**Tornquist**	**20.69**	**164**	P		**P**	**16 27 02.4**	**+0.6**
TRQA				IAmb	IAmb		16 27 11.6	
	comp=Z,12nm,1.2s							
PLCA	**Paso Flores**	**22.40**	**183**	P		**P**	**16 27 22.0**	**+1.8**
PLCA				IAmb	IAmb		16 27 23.9	
	comp=Z,8.3nm,1.0s							
PLCA	**Paso Flores**	**22.40**	**183**	P		**P**	**16 27 22.5**	**+2.3**
	comp=Z,4.6nm,0.9s,baz=357,slow=9.5,SNR=6.6							
	comp=Z,4.6nm,0.9s							
ROSC	**El Rosal**	**23.52**	**347**	LR	LR		16 37 46.2	
	comp=Z,184nm,21.4s,baz=232,slow=39							
SDV	**Santo Domingo**	**27.04**	**357**	LR	LR		16 39 48.9	
	comp=Z,153nm,18.3s,baz=224,slow=38							
TORD	**Torodi Ar. Bea**	**76.59**	**71**	P	**P**		**16 34 10.3**	**-2.5**
	comp=Z,2.1nm,0.8s,baz=258,slow=4.2,SNR=9.6							
	comp=Z,2.1nm,0.8s							
YKA	**Yellowknife Ar**	**88.07**	**341**	P	**P**		**16 35 10.9**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=131,slow=4.9,SNR=7.4							
	comp=Z,0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**139.16**	**23**	PKP		**PKPdf**	**16 41 48.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=304,slow=1.0,SNR=2.5							
SONM	**Songino Array**	**150.32**	**6**	PKPbc		**PKPbc**	**16 42 13.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=306,slow=2.2,SNR=7.0							

*NEIC **25** 16:27:56.0±2.1, 56°.03N±0°.09×149°.2W±0°.1, h22km±9km, ML3.5/36, ML3.2(AEIC), Error ellipse: s-maj=13.1km s-min=8.4km az=174.0*

*AEIC **25** 16:28:01.0±1.9, 56°.13N±0°.09×149°.2W±0°.1, h11km±7km, Error ellipse: s-maj=13.2km s-min=8.7km az=168.0*

ISC 25 16:27:55.8±1.5, 56°.18N±0°.10×149°.27W±0°.06, h10km, n149, σ1§02/155, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.42**	**313**			**Pn**	**16 28 36.1**	**+0.7**
KDAK						**Sn**	**16 29 03.5**	**-1.7**
OHAK	**Old Harbor**	**2.45**	**297**			**Pn**	**16 28 36.0**	**+0.3**
OHAK						**Sn**	**16 29 04.0**	**-1.8**
OHAK	**Old Harbor**	**2.45**	**297**	IAML			16 29 05.1	
	comp=N,108nm,0.3s							
OHAK				IAML			16 29 05.1	
	comp=E,92nm,0.6s							
OHAK	**Old Harbor**	**2.45**	**297**	P		**Pn**	**16 28 36.0**	**+0.3**
	baz=115							
OHAK				S		**Sn**	**16 29 04.4**	**-1.3**
	baz=115							
SYI	**Shuyak Island**	**2.96**	**327**			**Pn**	**16 28 44.0**	**+1.1**
SYI						**Sn**	**16 29 19.1**	**+0.7**
Q20K	**Shuyak Island**	**2.96**	**327**	P		**Pn**	**16 28 44.0**	**+1.1**
	baz=144							
Q20K				S		**Sn**	**16 29 19.1**	**+0.6**
	baz=144							
R18K	**Karluk**	**3.17**	**298**			**Pn**	**16 28 46.1**	**+0.5**
R18K				IAML			16 29 23.2	
	comp=N,166nm,0.5s							
R18K				IAML			16 29 23.8	
	comp=E,127nm,0.4s							
R18K	**Karluk**	**3.17**	**298**			**Sn**	**16 29 22.4**	**-0.9**
R18K	**Karluk**	**3.17**	**298**	P		**Pn**	**16 28 46.7**	**+1.1**
	baz=115							
R18K				S		**Sn**	**16 29 22.7**	**-0.6**
	baz=115							
CNPM	**China Poot**	**3.52**	**343**			**Pn**	**16 28 51.2**	**+0.7**
CNPM						**Sn**	**16 29 32.5**	**+0.4**
Q23K	**Middleton Isla**	**3.62**	**24**	Pn		**Pn**	**16 28 52.0**	**+0.1**
MID	**Middleton Isla**	**3.62**	**25**	Pn		**Pn**	**16 28 52.2**	**+0.4**
Q19K	**Cape Douglas,**	**3.63**	**321**	Pn		**Pn**	**16 28 53.2**	**+1.2**
Q19K				IAML			16 30 00.8	
	comp=E,127nm,1.0s							
Q19K				IAML			16 30 01.1	
	comp=N,91nm,1.1s							
BRSE	**Bradley Lake S**	**3.66**	**348**			**Pn**	**16 28 53.0**	**+0.5**
BRSE						**Sn**	**16 29 34.6**	**-1.0**
BRSE	**Bradley Lake S**	**3.66**	**348**	P		**Pn**	**16 28 53.0**	**+0.5**
	baz=167							
BRSE				S		**Sn**	**16 29 34.6**	**-1.0**
	baz=167							
BRLK	**Bradley Lake**	**3.70**	**347**			**Pn**	**16 28 53.5**	**+0.5**
BRLK						**Sn**	**16 29 36.4**	**-0.2**
BRLK	**Bradley Lake**	**3.70**	**347**	IAML			16 29 37.1	
	comp=N,36nm,1.1s							
HOM	**Homer**	**3.71**	**341**	Pn		**Pn**	**16 28 53.8**	**+0.7**
KCG	**Knife Ck. Glac**	**3.82**	**306**			**Pn**	**16 28 56.4**	**+1.6**
ACHA	**Angle Creek He**	**3.87**	**304**			**Pn**	**16 28 57.1**	**+1.6**
P23K	**Montague Islan**	**3.96**	**14**			**Pn**	**16 28 57.0**	**+0.5**
P23K						**Sn**	**16 29 42.2**	**-0.7**
P23K	**Montague Islan**	**3.96**	**14**	P		**Pn**	**16 28 57.0**	**+0.5**
	baz=194							
KAHC	**Katmai Hardscr**	**3.97**	**311**			**Pn**	**16 28 58.6**	**+1.8**
KAHC	**Katmai Hardscr**	**3.97**	**311**	P		**Pn**	**16 28 58.6**	**+1.8**
	baz=127							
P19K	**Oil Pt**	**4.07**	**330**	Pn		**Pn**	**16 28 59.4**	**+1.3**
P19K				IAML			16 29 52.0	
	comp=E,62nm,0.8s							
P19K				IAML			16 29 52.2	
	comp=N,40nm,0.4s							
CNTC	**Contact Creek**	**4.16**	**303**			**Pn**	**16 29 01.0**	**+1.6**
Q17K	**Contact Creek**	**4.16**	**303**	P		**Pn**	**16 29 01.0**	**+1.6**
	baz=118							
O22K	**Cooper Landing**	**4.32**	**357**	Pn		**Pn**	**16 29 02.5**	**+0.9**
IVE	**Iliamna Volcan**	**4.33**	**334**			**Pn**	**16 29 02.3**	**+0.5**
SLKM	**Skilak Lake**	**4.37**	**354**			**Pn**	**16 29 02.4**	**+0.1**
HIN	**Hinchinbrook I**	**4.47**	**18**			**Pn**	**16 29 04.0**	**+0.4**
HIN				IAML			16 29 54.9	
	comp=E,73nm,0.9s							
HIN				IAML			16 29 56.5	
	comp=N,55nm,1.0s							
P18K	**Big Mountain,**	**4.53**	**318**			**Pn**	**16 29 05.0**	**+0.6**
P18K	**Big Mountain,**	**4.53**	**318**	P		**Pn**	**16 29 05.3**	**+0.9**
	baz=133							
KAIM	**Kayak Island**	**4.56**	**32**	Pn		**Pn**	**16 29 04.8**	**0.0**
KAIM				IAML			16 29 47.9	
	comp=E,57nm,1.1s							
RSO	**Redoubt South**	**4.67**	**338**			**Pn**	**16 29 06.3**	**-0.2**
RDT	**Redoubt**	**4.71**	**341**			**Pn**	**16 29 07.4**	**+0.5**
P17K	**Kvichak River**	**4.89**	**311**			**Pn**	**16 29 11.1**	**+1.8**
P17K	**Kvichak River**	**4.89**	**311**	P		**Pn**	**16 29 11.1**	**+1.8**
	baz=126							
RC01	**Rabbit Creek A**	**4.93**	**357**	Pn		**Pn**	**16 29 09.7**	**-0.2**
RC01				IAML			16 30 07.5	
	comp=E,18nm,0.3s							
RC01				IAML			16 30 13.8	
	comp=N,20nm,1.2s							
GOAT	**Goat Mountain**	**5.02**	**27**			**Pn**	**16 29 12.5**	**+1.3**
CHGN	**Chignik**	**5.10**	**275**	Pn		**Pn**	**16 29 12.0**	**-0.2**
CHGN				IAML			16 30 14.5	
	comp=N,53nm,1.1s							
CHGN				IAML			16 30 23.9	
	comp=E,51nm,0.5s							
SNH	**Sunshine Point**	**5.26**	**38**	Pn		**Pn**	**16 29 13.9**	**-0.6**
SNH				IAML			16 31 25.8	
	comp=N,36nm,1.1s							
SNH				IAML			16 31 50.2	
	comp=E,39nm,1.2s							
KNK	**Knik Glacier**	**5.27**	**4**	Pn		**Pn**	**16 29 14.3**	**-0.3**
SUA	**Susitna One**	**5.36**	**352**	Pn		**Pn**	**16 29 15.1**	**-0.8**
N19K	**Bonanza Creek**	**5.39**	**332**			**Pn**	**16 29 16.0**	**-0.3**
N19K	**Bonanza Creek**	**5.39**	**332**	P		**Pn**	**16 29 16.7**	**+0.4**
	baz=147							
STLK	**Strandline Lak**	**5.50**	**347**			**Pn**	**16 29 18.8**	**+1.0**
O17K	**Koliganek Bris**	**5.50**	**314**			**Pn**	**16 29 19.3**	**+1.5**
O17K	**Koliganek Bris**	**5.50**	**314**	P		**Pn**	**16 29 19.3**	**+1.5**
	baz=128							
KLU	**Klutina**	**5.61**	**17**			**Pn**	**16 29 20.5**	**+1.2**
KLU	**Klutina**	**5.61**	**17**	P		**Pn**	**16 29 20.5**	**+1.2**
	baz=199							
GHO	**Glory Hole Cre**	**5.61**	**2**			**Pn**	**16 29 21.1**	**+1.8**
SML	**Sawmill**	**5.67**	**5**	Pn		**Pn**	**16 29 20.9**	**+0.9**
N18K	**Kilae Creek**	**5.70**	**325**	Pn		**Pn**	**16 29 20.9**	**+0.5**
SCM	**Sheep Creek Mo**	**5.76**	**9**	Pn		**Pn**	**16 29 22.0**	**+0.7**
O16K	**Kokwok River B**	**5.82**	**310**	Pn		**Pn**	**16 29 22.2**	**+0.2**
VRDI	**Verde Repeater**	**5.90**	**29**			**Pn**	**16 29 24.2**	**+0.8**
SKT	**Skwentna**	**5.93**	**350**	Pn		**Pn**	**16 29 23.8**	**+0.1**
N25K	**Chitina, Valde**	**5.96**	**22**			**Pn**	**16 29 25.2**	**+1.1**
N25K	**Chitina, Valde**	**5.96**	**22**	P		**Pn**	**16 29 25.2**	**+1.1**
	baz=205							
KIAG	**Kiagna River**	**5.98**	**34**			**Pn**	**16 29 25.0**	**+0.6**
GLB	**Gilahina Butte**	**5.99**	**26**	Pn		**Pn**	**16 29 25.0**	**+0.5**
CNBA	**Chernabura Isl**	**6.02**	**261**	Pn		**Pn**	**16 29 22.2**	**-2.6**
N17K	**Hushagak Hills**	**6.03**	**320**	Pn		**Pn**	**16 29 23.5**	**-1.4**
M20K	**Styx River**	**6.06**	**342**	Pn		**Pn**	**16 29 24.9**	**-0.5**
M24K	**Tolsona, Glenn**	**6.16**	**14**	Pn		**Pn**	**16 29 28.7**	**+1.9**
PCA	**Pinnacle**	**6.18**	**47**			**Pn**	**16 29 27.6**	**+0.4**
PINM	**Pinnacle**	**6.18**	**47**	P		**Pn**	**16 29 27.5**	**+0.4**
	baz=234							
CUT	**Chulitna**	**6.27**	**356**	Pn		**Pn**	**16 29 28.8**	**+0.6**
BARN	**Barnard Glacie**	**6.30**	**36**			**Pn**	**16 29 29.7**	**+0.7**
PNL	**Peninsula**	**6.32**	**52**			**Pn**	**16 29 29.3**	**+0.4**
PNL	**Peninsula**	**6.32**	**52**	P		**Pn**	**16 29 29.3**	**+0.4**
	baz=240							
M19K	**Big River Lodg**	**6.32**	**337**	Pn		**Pn**	**16 29 28.8**	**-0.2**
CTGM	**Chitina Glacie**	**6.34**	**38**	Pn		**Pn**	**16 29 29.6**	**+0.2**
BCPM	**Bancas Point**	**6.36**	**50**			**Pn**	**16 29 30.2**	**+0.7**
LOGN	**Logan Glacier**	**6.36**	**40**	Pn		**Pn**	**16 29 29.9**	**+0.3**
SDPT	**Sand Point**	**6.38**	**267**	Pn		**Pn**	**16 29 29.8**	**0.0**
O15K	**Ungalikthiuk R**	**6.41**	**302**			**Pn**	**16 29 31.7**	**+1.5**
O15K	**Ungalikthiuk R**	**6.41**	**302**	P		**Pn**	**16 29 31.7**	**+1.5**
	baz=114							
L19K	**White Mountain**	**6.67**	**337**	Pn		**Pn**	**16 29 33.9**	**+0.2**
M17K	**Holitna River**	**6.74**	**324**	Pn		**Pn**	**16 29 35.2**	**+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.27**	**241**	*eP*	Pn	16 36 41.1	+0.5
BKI				*eS*	Sn	16 36 46.4	+0.1
SMKR	**Semkarok**	**3.03**	**296**	*eP*	Pn	16 37 21.6	+3.1
BZGR	**Bezymyannyi-Gr**	**3.28**	**283**	*eP*	Pn	16 37 26.0	+4.1
KLY	**Klyuchi**	**3.38**	**289**	*eP*	Pn	16 37 25.0	+1.8
BZWR	**Bezymyannyi-We**	**3.40**	**283**	*eP*	Pn	16 37 27.6	+4.1
TUMD	**Tumrok D**	**3.43**	**270**	*eP*	Pn	16 37 27.7	+3.9
KMNR	**Kamenistaya**	**3.52**	**279**	*eP*	Pn	16 37 29.7	+4.6
TUMR	**Tumrok**	**3.57**	**272**	*eP*	Pn	16 37 30.7	+4.8
KOZ	**Kozyrevsk**	**3.76**	**284**	*eP*	Pn	16 37 33.1	+4.8
SRDR	**Sredinnyy**	**3.89**	**287**	*eP*	Pn	16 37 34.2	+4.0
SMAR	**Somma**	**4.90**	**248**	*eP*	Pn	16 37 49.0	+4.7
AVH	**Avacha**	**4.94**	**248**	*eP*	Pn	16 37 49.4	+4.8
KRX	**Arik**	**4.94**	**250**	*eP*	Pn	16 37 49.5	+4.8
KOK	**Koryaka**	**4.98**	**249**	*eP*	Pn	16 37 49.4	+4.2
DALK	**Dalny**	**5.04**	**246**	*eP*	Pn	16 37 49.9	+4.0
MTVR	**Mutnovka**	**5.63**	**243**	*eP*	Pn	16 37 59.1	+4.9

IDC ***25*** *16:39:42.6±0.5, 40.6°N×126.3°W, h0km, mb4.8/31, mbtmp4.8/39, ML4.5/7, MS5.2/90, Error ellipse: s-maj=12.8km s-min=7.2km az=15.0*

NEIC ***25*** *16:39:43.4, 40.7°N×126.3°W, h8km*

IPGP ***25*** *16:39:43.0, 40.5°N×126.3°W, h8km, Mw5.9, Fault plane solution: NP1:φs16.00000°, δ69.00000°, λ38.00000°. NP2:φs270.00000°, δ55.00000°, λ154.00000°.*

NCEDC ***25*** *16:39:43.3±2.8, 40.6°N±0.05×126.5°W±0.07, h19km±1km, Error ellipse: s-maj=9.1km s-min=7.7km az=247.0*

NEIC ***25*** *16:39:43.5±2.0, 40.4°N±0.04×126.3°W±0.07, h9km±3km, mb5.6/605, ML5.0/88, Ms_20 5.4/803, Mwb5.7/33, Mww5.8/62, Mwr5.8/4(NCEDC), Error ellipse: s-maj=7.6km s-min=6.3km az=70.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.56; Mθθ0.13; Mφφ-0.69; Mrθ-0.42; Mθφ-4.94; Mφr0.65; Fault plane solution: Ms5.04000×10^17 NP1:φs267.23000°, δ81.60000°, λ174.28000°. NP2:φs358.07000°, δ84.34000°, λ8.44000°. Principal axes: T 4.8071, Plg10.0000°, Azm223.0000°; N 0.4395, Plg80.0000°, Azm32.0000°; P -5.2465, Plg2.0000°, Azm132.0000°;*

MOS ***25*** *16:39:43.3±1.3, 40.4°N×126.2°W, h17km, mb5.6/56, MS5.4/57 Error ellipse: s-maj=5.3km s-min=4.4km az=103.9*

BJI ***25*** *16:39:44.1±0.0, 40.8°N×127.0°W, h10km, mb4.9/56, mB5.7/36, Ms5.7/57, Ms7 5.4/56*

NEIC ***25*** *16:39:45, 40.5°N×126.5°W, h12km, Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10^17 Nm; Mrr-0.63; Mθθ0.09; Mφφ0.54; Mrθ0.47; Mθφ-5.36; Mφr0.27; Fault plane solution: Ms5.40000×10^17 NP1: φs271.41000°, δ86.14000°, λ-174.47000°. NP2: φs181.04000°, δ84.48000°, λ-3.87000°. Principal axes: T 5.6841, Plg1.0000°, Azm46.0000°; N -0.5672, Plg83.0000°, Azm306.0000°; P -5.1169, Plg7.0000°, Azm136.0000°;*

NEIC ***25*** *16:39:45, 40.5°N×126.1°W, h12km*

GCMT ***25*** *16:39:46.5±0.1, 40.4°N×126.5°W, h15km, MW5.8/170, Moment Tensor Solution. s146,c293; s170,c521; Duration: 2s0 Moment tensor: Scale 10^17 Nm; Mrr-0.48±.04; Mθθ-0.17±.04; Mφφ0.64±.04; Mrθ0.97±.14; Mθφ-6.19±.04; Mφr2.77±.14; Best double couple: Mo6.87000×10^17 NP1:φs180.00000°, δ83.00000°, λ-24.00000°. NP2:φs274.00000°, δ66.00000°, λ-172.00000°. Principal axes: T 6.7230, Plg12.0000°, Azm229.0000°; N 0.2950, Plg65.0000°, Azm345.0000°; P -7.0180, Plg22.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR ***25*** *16:39:54.5, 40.7°N×122.7°W, h10km, mb4.8*

ISC 25 16:39:43.6±0.5, 40.42°N±0.04×126.40°W±0.03, h9km±2km, h9km:pP-P,n1823,σ1§53/1450, mb5.6/395, MS5.4/525, 29C-16D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.57**	**87**		**Pn**	**16 40 10.1**	**-1.7**
KCTM					**Sn**	**16 40 30.7**	**-1.6**
FER	**Ferndale**	**1.64**	**84**		**Pn**	**16 40 10.9**	**-1.6**
KMPM	**Mount Pierce**	**1.74**	**89**		**Pn**	**16 40 12.1**	**-2.0**
KMPM				Sn	**Sn**	**16 40 34.3**	**-2.1**
JCC	**Jacoby Creek,**	**1.85**	**77**		**Pn**	**16 40 12.7**	**-2.8**
JCC	**Jacoby Creek,**	**1.85**	**77**	Sn	**Sn**	**16 40 34.7**	**-4.2**
JCC				IAML		16 40 39.6	
	comp=E,24μm,0.6s						
KRPM	**Rodgers**	**1.95**	**67**		**Pn**	**16 40 14.3**	**-2.7**
KRPM	**Rodgers**	**1.95**	**67**	Sn	**Sn**	**16 40 37.5**	**-4.1**
KRPM				IAML		16 40 41.0	
	comp=E,28μm,1.2s						
KCRM	**Chalk Rock**	**1.97**	**89**		**Pn**	**16 40 15.5**	**-1.7**
KMRM	**Mail Ridge**	**2.07**	**95**		**Pn**	**16 40 16.9**	**-1.6**
KHMM	**Horse Mountain**	**2.08**	**76**		**Pn**	**16 40 16.4**	**-2.5**
KHMM				Sn	**Sn**	**16 40 41.3**	**-3.3**
KRMM	**Red Mountain**	**2.19**	**59**		**Pn**	**16 40 17.5**	**-2.8**
KRMB				Sn	**Sn**	**16 40 42.8**	**-4.7**
KCPM	**Cahto Peak**	**2.28**	**108**		**Pn**	**16 40 18.7**	**-2.9**
KCPM				Sn	**Sn**	**16 40 46.7**	**-3.2**
KCPM				IAML		16 40 56.9	
	comp=N,19μm,0.7s						
KIPM	**Iron Peak**	**2.32**	**104**		**Pn**	**16 40 20.1**	**-2.0**
KSXB	**Camp Six Broad**	**2.37**	**53**		**Pn**	**16 40 20.5**	**-2.3**
KSXB				Sn	**Sn**	**16 40 47.4**	**-4.7**
KSXB				IAML		16 40 50.7	
	comp=N,10μm,0.8s						
KOMM	**Orleans Mounta**	**2.40**	**68**		**Pn**	**16 40 20.8**	**-2.4**
KBO	**Bosley Butte**	**2.43**	**42**		**Pn**	**16 40 21.3**	**-2.3**
KBO				Sn	**Sn**	**16 40 50.6**	**-2.9**
KBO				IAML		16 40 52.0	
	comp=E,6μm,0.4s						
KBO				IAML		16 41 08.0	
	comp=N,7μm,1.2s						
KHBM	**Hayfork Bally**	**2.44**	**83**		**Pn**	**16 40 21.5**	**-2.2**
KBNM	**Bluenose Ridge**	**2.51**	**101**		**Pn**	**16 40 23.4**	**-1.4**
DCMP	**DeCamp, Califo**	**2.54**	**111**		**Pn**	**16 40 22.9**	**-2.1**
GHOM	**Hamilton Openi**	**2.60**	**121**		**Pb**	**16 40 28.4**	**-1.9**
GWRM	**Wonder Ranch**	**2.67**	**116**		**Pn**	**16 40 26.4**	**-0.5**
LBPM	**Beegum Peak**	**2.69**	**91**		**Pn**	**16 40 25.5**	**-1.6**
KTRM	**Thompson Ridge**	**2.73**	**56**		**Pn**	**16 40 27.7**	**-0.1**
LGPM	**Granite Peak**	**2.76**	**79**		**Pn**	**16 40 25.8**	**-2.4**
O02D	**Mt. Diablo Mer**	**2.77**	**94**		**Pn**	**16 40 26.9**	**-1.4**
GHMM	**Hull Mountain**	**2.82**	**108**		**Pn**	**16 40 27.2**	**-1.8**
N02D	**Trinity Center**	**2.86**	**78**		**Pn**	**16 40 27.3**	**-2.2**
KEBM	**Edson Butte**	**2.90**	**32**		**Pn**	**16 40 27.6**	**-2.5**
KEBM				IAML		16 41 10.7	
	comp=E,6μm,1.3s						
KEBM				IAML		16 41 11.6	
	comp=N,4μm,1.4s						
HOPS	**Hopland Field**	**2.93**	**118**		**Pn**	**16 40 27.6**	**-2.9**
HOPS				Sn	**Sn**	**16 41 04.8**	**-1.0**
HOPS				IAML		16 41 07.8	
	comp=N,5μm,0.7s						
HOPS				IAML		16 41 08.0	
	comp=E,6μm,1.1s						
GHLM	**Highland Sprin**	**2.95**	**117**		**Pn**	**16 40 28.1**	**-2.6**
K02D	**Willamette Mer**	**3.06**	**41**		**Pn**	**16 40 30.5**	**-1.8**
GHCM	**House Creek**	**3.07**	**125**		**Pn**	**16 40 29.4**	**-2.9**
YBH	**Yreka Blue Hor**	**3.08**	**64**		**Pn**	**16 40 30.8**	**-1.8**
YBH				IAML		16 41 15.3	
	comp=N,4μm,0.7s						
YBH	**Yreka Blue Hor**	**3.08**	**64**	Pn	**Pn**	**16 40 31.4**	**-1.2**
	comp=N,267nm,0.3s,baz=266,slow=9.7,SNR=767						
YBH				Sn	**Sn**	**16 41 06.1**	**-3.5**
	comp=N,212nm,0.3s,baz=185,slow=14,SNR=4.3						
	comp=N,850nm,0.4s						
GPMM	**Pine Mountain**	**3.09**	**119**		**Pn**	**16 40 31.7**	**-0.9**
GTSM	**Trough Springs**	**3.12**	**109**		**Pn**	**16 40 31.6**	**-1.5**
GDXM	**Geysers**	**3.21**	**119**		**Pn**	**16 40 31.9**	**-2.5**
HUMO	**Hull Mountain**	**3.39**	**49**		**Pn**	**16 40 35.4**	**-1.4**
NHSM	**Mount Saint He**	**3.41**	**120**		**Pn**	**16 40 37.1**	**0.0**
NTYM	**Taylor**	**3.53**	**124**		**Pn**	**16 40 39.0**	**+0.3**
MCCM	**Marconi Confer**	**3.55**	**129**		**Pn**	**16 40 35.9**	**-3.0**
MCCM				IAML		16 41 22.9	
	comp=E,4μm,0.6s						
MCCM				IAML		16 41 25.7	
	comp=N,3μm,1.4s						
L04D	**Klamath Falls**	**3.57**	**58**		**Pn**	**16 40 38.8**	**-0.5**
L04D				IAML		16 41 29.8	
	comp=N,6μm,1.0s						
DBO	**Dodson Butte**	**3.59**	**40**		**Pn**	**16 40 38.1**	**-1.4**
NOLM	**Olema**	**3.67**	**129**		**Pn**	**16 40 37.0**	**-3.5**
BBOR	**Butler Butte**	**3.72**	**47**		**Pn**	**16 40 40.8**	**-0.7**
FARB	**Farallon Islan**	**3.79**	**135**		**Pn**	**16 40 39.5**	**-2.7**
ORV	**Oroville**	**3.86**	**101**	Pn	**Pn**	**16 40 40.6**	**-2.5**
ORV				IAML		16 41 32.3	
	comp=N,2μm,0.7s						
ORV				IAML		16 41 43.5	
	comp=E,2μm,0.9s						
ORV	**Oroville**	**3.86**	**101**	P	**Pn**	**16 40 40.7**	**-2.5**
CPMM	**Point Molate**	**3.96**	**127**		**Pn**	**16 40 42.5**	**-2.0**
I03D	**Drain, OR**	**3.99**	**34**		**Pn**	**16 40 42.9**	**-2.0**
K04D	**Chiloquin, OR**	**4.13**	**56**		**Pn**	**16 40 46.5**	**-0.5**
SAC	**San Andreas**	**4.20**	**131**		**Pn**	**16 40 45.0**	**-2.8**
AFDM	**Forest Hills D**	**4.44**	**108**	Pn	**Pn**	**16 40 49.7**	**-1.5**
AFDM				IAML		16 41 48.7	
	comp=N,1μm,0.9s						
AFDM				IAML		16 41 50.1	
	comp=E,2μm,1.0s						
JSFB	**Stanford Teles**	**4.46**	**131**		**Pn**	**16 40 49.0**	**-2.4**
I04A	**Tendick Farm,**	**4.49**	**40**		**Pn**	**16 40 50.6**	**-1.3**
I04A				IAML		16 41 54.6	
	comp=E,1μm,1.7s						
JBMM	**Black Mountain**	**4.53**	**132**		**Pn**	**16 40 50.0**	**-2.5**
BUCK	**Buck Mountain**	**4.55**	**33**		**Pn**	**16 40 51.3**	**-1.4**
BUCK				IAML		16 41 55.2	
	comp=N,2μm,1.9s						
BUCK				IAML		16 42 16.1	
	comp=E,2μm,1.8s						
K05A	**Summer Lake**	**4.73**	**59**		**Pn**	**16 40 54.6**	**-0.7**
K05A				IAML		16 41 25.2	
	comp=E,1μm,1.5s						
K05A				IAML		16 42 25.9	
	comp=N,2μm,1.9s						
COR	**Corvallis**	**4.75**	**28**		**Pn**	**16 40 54.4**	**-1.0**
COR				IAML		16 42 01.2	
	comp=N,1μm,1.7s						
COR				IAML		16 42 02.5	
	comp=N,1μm,1.9s						
COR	**Corvallis**	**4.75**	**28**	P	**Pn**	**16 40 54.4**	**-1.0**
J05D	**Fort Rock, OR**	**4.80**	**52**		**Pn**	**16 40 56.0**	**-0.3**
J05D				IAML		16 41 28.5	
	comp=E,1μm,1.4s						
J05D				IAML		16 42 16.2	
	comp=N,1μm,1.4s						
H04D	**Lebanon**	**4.92**	**32**		**Pn**	**16 40 56.4**	**-1.3**
H04D				IAML		16 41 31.2	
	comp=N,1μm,1.0s						
H04D				IAML		16 41 41.9	
	comp=E,1μm,1.3s						
MPK	**Martis Peak**	**5.03**	**101**		**Pn**	**16 40 58.8**	**-0.7**
EMB	**Emerald Bay**	**5.07**	**104**		**Pn**	**16 40 59.4**	**-0.5**
HEBO	**Mount Hebo**	**5.17**	**21**		**Pn**	**16 41 00.7**	**-0.6**
HEBO				IAML		16 42 17.3	
	comp=N,862nm,1.8s						
CMB	**Columbia Colle**	**5.24**	**115**	Pn	**Pn**	**16 41 01.0**	**-1.2**
CMB				IAML		16 42 11.6	
	comp=N,815nm,1.2s						
CMB	**Columbia Colle**	**5.24**	**115**	P	**Pn**	**16 41 01.0**	**-1.2**
H04A	**Detroit Lake**	**5.28**	**35**		**Pn**	**16 41 01.1**	**-1.5**
H04A				IAML		16 42 09.0	
	comp=E,787nm,0.5s						
H04A				IAML		16 42 10.1	
	comp=N,670nm,0.7s						
PINE	**Pine Mountain**	**5.28**	**48**		**Pn**	**16 41 02.2**	**-0.6**
PINE				IAML		16 41 45.0	
	comp=E,1μm,1.1s						
PINE				IAML		16 42 03.4	
	comp=N,720nm,1.2s						
PLTX	**Planet X, Gerl**	**5.29**	**85**		**Pn**	**16 41 02.6**	**-0.3**
G03D	**McMinnville, O**	**5.32**	**25**		**Pn**	**16 41 02.5**	**-0.6**
G03D				IAML		16 42 10.2	
	comp=N,716nm,1.3s						
SAO	**San Andreas Ge**	**5.32**	**132**	Pn	**Pn**	**16 40 60.0**	**-3.3**
SAO	**San Andreas Ge**	**5.32**	**132**	P	**Pn**	**16 41 00.0**	**-3.3**
PNTR	**Pine Nut**	**5.41**	**102**		**Pn**	**16 41 03.8**	**-0.8**
I05D	**Terrebonne, OR**	**5.42**	**42**		**Pn**	**16 41 03.9**	**-0.8**
I05D				IAML		16 41 45.7	
	comp=E,745nm,1.4s						
I05D				IAML		16 41 49.7	
	comp=N,1μm,1.4s						
PAHR	**Pah Rah Range**	**5.43**	**95**		**Pn**	**16 41 03.5**	**-1.4**
PAHR				IAML		16 42 18.9	
	comp=E,740nm,1.3s						
PAHR				IAML		16 42 25.0	
	comp=N,1μm,2.4s						
BBGB	**Big Mountain B**	**5.69**	**131**		**Pn**	**16 41 05.6**	**-2.8**
YERR	**Yerington**	**5.70**	**102**		**Pn**	**16 41 07.6**	**-1.1**
WAKR	**Walker**	**5.72**	**107**		**Pn**	**16 41 08.3**	**-0.5**
HOOD	**Mount Hood Mea**	**6.01**	**34**		**Pn**	**16 41 11.4**	**-1.5**
PMPB	**Monarch Peak**	**6.08**	**132**		**Pn**	**16 41 10.5**	**-3.3**
G05A	**Wamic**	**6.10**	**36**		**Pn**	**16 41 13.6**	**-0.4**
WVOR	**Wild Horse Val**	**6.17**	**68**		**Pn**	**16 41 13.5**	**-1.6**
WVOR	**Wild Horse Val**	**6.17**	**68**	P	**Pn**	**16 41 13.5**	**-1.6**
F04D	**Rainier, OR**	**6.18**	**22**		**Pn**	**16 41 14.2**	**-0.8**
F04A	**Amboy**	**6.23**	**26**		**Pn**	**16 41 14.7**	**-1.0**
I07A	**Izee**	**6.29**	**52**		**Pn**	**16 41 16.1**	**-0.6**
RADR	**Rader Ridge**	**6.29**	**17**		**Pn**	**16 41 15.9**	**-0.7**
MDPB	**Devils Postpil**	**6.34**	**114**	Pn	**Pn**	**16 41 18.3**	**+0.8**
RYN	**Ryan**	**6.35**	**104**		**Pn**	**16 41 16.8**	**-0.7**
OMMB	**Old Mammoth Mi**	**6.41**	**114**		**Pn**	**16 41 18.9**	**+0.4**
G06A	**Carlson Farm,**	**6.41**	**39**		**Pn**	**16 41 17.7**	**-0.6**
E03A	**Lebam**	**6.46**	**18**		**Pn**	**16 41 18.8**	**-0.1**
LHV	**Little Huntoon**	**6.49**	**107**		**Pn**	**16 41 19.2**	**-0.1**
MLAC	**Mammoth, Mammo**	**6.51**	**113**	P	**Pn**	**16 41 20.9**	**+1.0**
	baz=298,SNR=77						
KVN	**Kaiserville**	**6.54**	**99**		**Pn**	**16 41 19.5**	**-0.7**
KVN	**Kaiserville**	**6.54**	**99**	P	**Pn**	**16 41 19.5**	**-0.7**
NVAR	**Mina Array Bea**	**6.57**	**105**		**Pn**	**16 41 20.1**	**-0.6**
NVAR	**Mina Array Bea**	**6.57**	**105**	Pn	**Pn**	**16 41 21.0**	**+0.3**
	comp=N,38nm,0.3s,baz=284,slow=14,SNR=232						
NVAR				Sn	**Sn**	**16 42 38.1**	**+2.2**
	baz=46,slow=23						
NVAR				LR	LR	16 44 05.3	
	comp=N,36μm,21.0s,baz=291,slow=39						
	comp=N,75nm,0.4s						
J08A	**Circle Bar Ran**	**6.60**	**61**		**Pn**	**16 41 19.7**	**-1.3**
NV11	**Mina Array Sit**	**6.68**	**105**		**Pn**	**16 41 21.2**	**-0.9**
VOG	**Valley Oaks Go**	**6.86**	**124**	P	**Pn**	**16 41 22.4**	**-2.0**
	baz=309,SNR=19						
VOG				S	**Sn**	**16 42 42.9**	**+0.3**
	baz=309						
WISH	**Wishkah**	**6.96**	**15**		**Pn**	**16 41 25.2**	**-0.5**
BMN	**Battle Mountai**	**7.00**	**87**		**Pn**	**16 41 25.4**	**-1.1**
BMN	**Battle Mountai**	**7.00**	**87**	P	**Pn**	**16 41 25.4**	**-1.1**
LON	**Longmire**	**7.15**	**26**		**Pn**	**16 41 27.6**	**-0.8**
LON	**Longmire**	**7.15**	**26**	P	**Pn**	**16 41 27.6**	**-0.8**
SMMC	**Simmler**	**7.18**	**133**	P	**Pn**	**16 41 25.7**	**-3.1**
SMMC	baz=318,SNR=47			S	**Sn**	**16 42 49.4**	**-1.2**
	baz=318						
NLWA	**Neilton Lookou**	**7.21**	**14**		**Pn**	**16 41 27.5**	**-1.7**
TIN	**Tinemaha, Big**	**7.21**	**115**	P	**Pn**	**16 41 29.0**	**-0.4**
	baz=301,SNR=54						
F07A	**Phinny Hill Vi**	**7.23**	**39**		**Pn**	**16 41 29.0**	**-0.5**
Q09A	**Carvers**	**7.29**	**100**		**Pn**	**16 41 30.2**	**-0.3**
G08A	**Pilot Rock**	**7.32**	**46**		**Pn**	**16 41 30.9**	**+0.1**
VES	**Vestal, Richgr**	**7.35**	**126**	P	**Pn**	**16 41 30.5**	**-0.6**
	baz=311,SNR=300						
VES				S	**Sn**	**16 42 54.5**	**-0.2**
	baz=311						
D05A	**Enumclaw**	**7.48**	**24**		**Pn**	**16 41 33.6**	**+0.7**
TPH	**Tonopah**	**7.50**	**105**		**Pn**	**16 41 33.5**	**+0.2**
TPH	**Tonopah**	**7.50**	**105**	P	**Pn**	**16 41 33.5**	**+0.2**
MZP	**Montezuma Peak**	**7.52**	**108**		**Pn**	**16 41 33.6**	**-0.1**
MXC	**Moxie City**	**7.59**	**34**		**Pn**	**16 41 34.7**	**+0.3**
GNW	**Green Mountain**	**7.59**	**19**		**Pn**	**16 41 34.3**	**-0.1**
PKM	**Mcpherson Peak**	**7.60**	**135**	P	**Pn**	**16 41 32.3**	**-2.4**
	baz=319,SNR=140						
PKM				S	**Sn**	**16 42 59.3**	**-1.7**
	baz=319						
CWC	**Cottonwood Cre**	**7.64**	**119**	P	**Pn**	**16 41 35.6**	**+0.3**
	baz=304						
C03A	**Quillayute Air**	**7.64**	**9**		**Pn**	**16 41 32.9**	**-2.2**
E07A	**Sunnyside**	**7.76**	**36**	Pn	**Pn**	**16 41 36.3**	**-0.5**
GMN	**Gold Mountain**	**7.78**	**111**		**Pn**	**16 41 39.1**	**+1.9**
BCW	**Bitter Crk WRg**	**7.78**	**132**		**Pn**	**16 41 35.1**	**-2.0**
HAWA	**Hanford**	**7.79**	**38**		**Pn**	**16 41 36.7**	**-0.4**
GRAC	**Grapevine Rang**	**7.84**	**113**		**Pn**	**16 41 39.1**	**+1.1**
GRAC	**Grapevine Rang**	**7.84**	**113**	P	**Pn**	**16 41 39.9**	**+2.0**
	baz=299,SNR=126						
ISA	**Isabella, Lake**	**7.85**	**125**	Pn	**Pn**	**16 41 37.4**	**-0.6**
ISA	**Isabella, Lake**	**7.85**	**125**	P	**Pn**	**16 41 37.1**	**-1.0**
	baz=310,SNR=421						
ISA				S	**Sn**	**16 43 07.7**	**+0.6**
	baz=310						
ISA	**Isabella, Lake**	**7.85**	**125**	P	**Pn**	**16 41 37.4**	**-0.6**
ARVC	**Arvin**	**7.99**	**129**	P	**Pn**	**16 41 38.0**	**-1.8**
	baz=314,SNR=44						
ARVC				S	**Sn**	**16 43 10.7**	**+0.4**
	baz=314						
SBC	**Santa Barbara**	**7.99**	**136**	P	**Pn**	**16 41 37.8**	**-2.1**
	baz=321						
SBC				S	**Sn**	**16 43 10.0**	**-0.3**
	baz=321						
LTY	**Liberty**	**7.99**	**29**		**Pn**	**16 41 39.6**	**-0.3**
BMO	**Blue Mountains**	**8.04**	**54**		**Pn**	**16 41 40.6**	**0.0**
BMO	**Blue Mountains**	**8.04**	**54**	P	**Pn**	**16 41 40.6**	**0.0**
E08A	**Dider Farm, El**	**8.08**	**39**	Pn	**Pn**	**16 41 39.8**	**-1.4**
MPMC	**Manual Prospec**	**8.25**	**119**	P	**Pn**	**16 41 44.2**	**+0.6**
	baz=305						
OSI	**Osito Audit: C**	**8.41**	**131**	P	**Pn**	**16 41 44.2**	**-1.5**
	baz=316,SNR=18						
OSI				S	**Sn**	**16 43 20.1**	**-0.7**
	baz=316						
MFID	**Camas Ranch**	**8.43**	**66**		**Pn**	**16 41 45.4**	**-0.6**
FURC	**Furnace Creek,**	**8.46**	**115**	P	**Pn**	**16 41 47.5**	**+1.3**
	baz=301,SNR=109						
CCAC	**Calif City Air**	**8.46**	**126**		**Pn**	**16 41 45.4**	**-1.0**
WCT	**Wildcat Mounta**	**8.46**	**112**	Pn	**Pn**	**16 41 47.9**	**+1.4**
LRMC	**Laurel Mtn Rad**	**8.47**	**123**	P	**Pn**	**16 41 45.5**	**-1.1**
	baz=309,SNR=34						
PGC	**Sidney**	**8.50**	**13**	Pn	**Pn**	**16 41 46.5**	**-0.3**
ELK	**Elko**	**8.50**	**84**	Pn	**Pn**	**16 41 46.5**	**-0.6**
ELK	**Elko**	**8.50**	**84**	Pn	**Pn**	**16 41 47.7**	**+0.6**
	comp=N,1.8nm,0.3s,baz=277,slow=12,SNR=90						
ELK				Sn	**Sn**	**16 43 24.6**	**+1.3**
	baz=180,slow=20						
ELK				LR	LR	16 45 16.6	
	comp=N,12μm,18.1s,baz=266,slow=40						
	comp=N,26nm,0.7s						
E09A	**Wood Farm, Sta**	**8.55**	**42**		**Pn**	**16 41 46.4**	**-1.2**
CLRS	**Cowichan Lake**	**8.56**	**10**		**Pn**	**16 41 48.2**	**+0.6**
D08A	**Wollman Farm,**	**8.56**	**37**		**Pn**	**16 41 46.8**	**-0.9**
OZB	**Mount Ozzard**	**8.57**	**4**	Pn	**Pn**	**16 41 48.4**	**+0.5**
R11B	**Troy Canyon, C**	**8.62**	**100**		**Pn**	**16 41 48.4**	**-0.4**
R11B	**Troy Canyon, C**	**8.62**	**100**	P	**Pn**	**16 41 48.3**	**-0.5**
	baz=287,SNR=50						
EDW2	**Edwards Air Fo**	**8.66**	**127**	P	**Pn**	**16 41 46.4**	**-2.7**
	baz=312,SNR=92						
TPNV	**Topopah Spring**	**8.66**	**110**		**Pn**	**16 41 50.5**	**+1.3**
TPNV	**Topopah Spring**	**8.66**	**110**	P	**Pn**	**16 41 47.2**	**-2.1**
	baz=297,SNR=46						
TPNV	**Topopah Spring**	**8.66**	**110**	P	**Pn**	**16 41 50.5**	**+1.3**
F10A	**Beach Ranch, E**	**8.70**	**47**		**Pn**	**16 41 49.0**	**-0.7**
QSM	**Queen of Sheba**	**8.72**	**118**		**Pn**	**16 41 49.7**	**-0.2**
GWY	**Greenwater Val**	**8.74**	**116**	Pn	**Pn**	**16 41 50.1**	**-0.2**
S11A	**Rachel**	**8.74**	**105**		**Pn**	**16 41 51.0**	**+0.7**
B06A	**Marblemount**	**8.83**	**22**	Pn	**Pn**	**16 41 51.3**	**0.0**
DECC	**Green Verdugo**	**8.89**	**131**	P	**Pn**	**16 41 51.7**	**-0.6**
	baz=316						
PLID	**Pearl Lake**	**8.96**	**55**	Pn	**Pn**	**16 41 53.2**	**-0.2**
Q12A	**Willow Creek R**	**9.02**	**95**		**Pn**	**16 41 54.4**	**+0.2**
SNCC	**San Nicolas Is**	**9.03**	**140**		**Pn**	**16 41 51.6**	**-2.5**
SNCC	**San Nicolas Is**	**9.03**	**140**	P	**Pn**	**16 41 52.4**	**-1.8**
	baz=325						
PASC	**Pasadena Art C**	**9.04**	**131**		**Pn**	**16 41 52.8**	**-1.4**
GSC	**Goldstone, Bar**	**9.14**	**121**		**Pn**	**16 41 55.5**	**-0.3**
GSC	**Goldstone, Bar**	**9.14**	**121**	P	**Pn**	**16 41 54.5**	**-1.3**
	baz=307,SNR=84						
GSC	**Goldstone, Bar**	**9.14**	**121**	P	**Pn**	**16 41 55.5**	**-0.3**
SHOC	**Shoshone, Teco**	**9.16**	**116**	P	**Pn**	**16 41 55.9**	**-0.1**
	baz=303,SNR=37						
RRX	**Edison Barstow**	**9.28**	**124**	P	**Pn**	**16 41 57.4**	**-0.2**
	baz=310,SNR=33						
BFSC	**Mount Baldy Ra**	**9.30**	**129**	P	**Pn**	**16 41 55.3**	**-2.7**
	baz=314,SNR=50						
FMP	**Fort Macarthur**	**9.31**	**133**	P	**Pn**	**16 41 55.4**	**-2.6**
	baz=319						
SPR3	**Spring Creek 3**	**9.41**	**95**	Pn	**Pn**	**16 42 00.2**	**+0.6**
B08A	**Colville Reser**	**9.41**	**30**	Pn	**Pn**	**16 41 59.1**	**-0.3**
C09A	**Chrisman Ranch**	**9.41**	**36**	Pn	**Pn**	**16 41 57.6**	**-1.7**
HLID	**Hailey**	**9.46**	**67**		**Pn**	**16 41 58.8**	**-1.4**
HLID	**Hailey**	**9.46**	**67**	P	**Pn**	**16 41 59.7**	**-0.6**
	baz=255,SNR=340						
CIS	**

PDMCI	Parker Dam,Lak	11.50	118	P		Pn	16 42 27.5	-0.4	
	baz=306,SNR=49								
BLYC	Blythe	11.58	121			Pn	16 42 27.2	-1.9	
CCX	Cicese	11.60	134			Pn	16 42 28.9	-0.4	
AHID	Auburn Hatcher	11.70	73			Pn	16 42 31.5	+0.6	
OVMT	Ovando	11.74	51			Pn	16 42 31.3	-0.1	
BBB	Bella Bella	11.83	355	Pn		Pn	16 42 31.5	-0.9	
	comp=Z,32nm,1.1s,baz=206,slow=15,SNR=2.3								
BBB				LR		LR	16 45 37.6		
	comp=Z,4µm,21.1s,baz=178,slow=30								
ESJX	Sierra Juarez	11.90	132			Pn	16 42 31.1	-2.4	
BSUT	Blindstream Ca	11.91	84			Pn	16 42 33.2	-0.8	
REDW	Red Top Meadow	11.96	71			Pn	16 42 35.0	+0.6	
YHL	Hebgen Lake	12.05	63			Pn	16 42 35.5	-0.2	
MOOW	Moose Ponds	12.10	69			Pn	16 42 36.1	-0.2	
FLWY	Flagg Ranch	12.20	67			Pn	16 42 34.8	-2.9	
YHH	Holmes Hill	12.26	64			Pn	16 42 35.0	-3.6	
HG4B	Hotspring	12.33	346			Pn	16 42 38.3	-1.0	
H17A	Grant Village	12.35	66	P		Pn	16 42 37.1	-2.7	
	baz=257,SNR=35								
YNR	Norris Junctio	12.36	64			Pn	16 42 38.8	-1.1	
VTX	Valle De La Tr	12.45	133			Pn	16 42 41.5	+0.4	
Y14A	Wickenburg	12.48	117			Pn	16 42 41.6	+0.1	
113A	Mohawk Valley,	12.69	123			Pn	16 42 42.5	-1.8	
WUAZ	Wupatki	12.82	108	P		Pn	16 42 48.8	+2.6	
	baz=297,SNR=78								
BW06	Boulder Array	12.83	74			Pn	16 42 46.7	+0.4	
BW06	Boulder Array	12.83	74	P		Pn	16 42 47.5	+1.2	
	baz=265,SNR=33								
PD31	Pinedale Array	12.83	74	Pn		Pn	16 42 46.3	0.0	
PDAR	Pinedale Array	12.83	74			Pn	16 42 44.3	-2.0	
PDAR	Pinedale Array	12.83	74	Pn		Pn	16 42 47.0	+0.7	
	comp=Z,0.6nm,0.3s,baz=273,slow=10,SNR=24								
PDAR				LR		LR	16 48 08.4		
	comp=Z,15µm,18.1s,baz=264,slow=40								
	comp=Z,12nm,0.8s								
RLMT	Red Lodge	13.43	64			Pn	16 42 53.9	-0.7	
RLMT	Red Lodge	13.43	64	P		Pn	16 42 53.4	-1.2	
	baz=256,SNR=31								
DIB	Dawson Inlet,	13.44	344			Pn	16 42 53.9	-0.5	
GRNB	Grenville Isla	13.65	351	Pn		Pn	16 42 58.0	+0.7	
214A	Organ Pipe Nat	13.83	123			Pn	16 42 59.5	-0.4	
214A	Organ Pipe Nat	13.83	123	P		Pn	16 42 59.8	-0.1	
	baz=312,SNR=42								
O20A	White River Ci	13.87	85	P		Pn	16 43 00.7	+0.2	
	baz=277,SNR=12								
EGMT	Eagleton	14.13	52	P		Pn	16 43 03.1	-0.9	
	baz=244,SNR=146								
RUBB	Prince Rupert	14.16	351			Pn	16 43 06.7	+2.5	
W18A	Petrified Fore	14.20	107	P		Pn	16 43 06.5	+1.4	
	baz=297,SNR=20								
MVCO	Mesa Verde	14.32	97	P		Pn	16 43 09.0	+2.2	
	baz=289,SNR=49								
RWWY	Rawlins	14.54	79			Pn	16 43 08.5	-1.2	
TUC	Tucson	14.94	118	P		Pn	16 43 15.6	+0.5	
TUC	Tucson	14.94	118	P		Pn	16 43 16.0	+0.9	
	baz=307								
TUC	Tucson	14.94	118	P		Pn	16 43 15.6	+0.5	
BRLDA	Berland Lookou	14.96	21	P		Pn	16 43 15.4	+0.1	
K22A	Casper	15.05	75			Pn	16 43 14.9	-1.7	
K22A	Casper	15.05	75	P		Pn	16 43 15.0	-1.7	
	baz=268								
K22A	Casper	15.05	75	P		Pn	16 43 15.4	-1.2	
	baz=268								
K22A				S		Sn	16 46 10.8	+7.3	
	baz=268								
V35K	Ketchikan	15.32	349			Pn	16 43 19.2	-0.7	
V35K	Ketchikan	15.32	349	P		Pn	16 43 20.8	+1.0	
	baz=165								
S22A	4UR Ranch, Cre	15.43	94	P		Pn	16 43 22.4	+0.7	
	baz=286,SNR=109								
N23A	Red Feather La	15.53	82	P		Pn	16 43 22.6	-0.5	
	baz=275,SNR=11								
EDM	Edmonton	15.58	30			Pn	16 43 21.1	-2.3	
EDM	Edmonton	15.58	30	P		Pn	16 43 21.1	-2.3	
EDM				pmax		pmax			
	comp=Z,128nm,0.9s								
CRAG	Craig	15.71	346	P		P	16 43 33.6	+4.6	
CRAG	Craig	15.71	346	P		Pn	16 43 25.7	+0.8	
	baz=161								
LAO	LASA Array	15.89	60	P		Pn	16 43 26.8	-0.8	
	baz=254,SNR=67								
LAO	LASA Array	15.89	60	P		Pn	16 43 26.1	-1.4	
	baz=254,SNR=67								
ISCO	Idaho Springs	15.92	85	P		Pn	16 43 27.2	-0.9	
ISCO	Idaho Springs	15.92	85	P		Pn	16 43 28.2	+0.2	
	baz=279,SNR=34								
ISCO	Idaho Springs	15.92	85	P		Pn	16 43 28.7	+0.6	
	baz=279,SNR=34								
ISCO				S		Sn	16 46 29.5	+4.8	
	baz=279								
ISCO	Idaho Springs	15.92	85	P		Pn	16 43 27.2	-0.9	
ISCO				pmax		pmax			
	comp=Z,33nm,1.1s								
U33K	Whale Pass	16.32	347			Pn	16 43 34.0	+1.2	
U33K	Whale Pass	16.32	347	P		Pn	16 43 32.6	-0.2	
	baz=161								
Q24A	Divide	16.42	88	P		Pn	16 43 34.4	-0.2	
Q24A	Divide	16.42	88	P		Pn	16 43 35.6	+1.0	
	baz=282,SNR=23								
SDCO	Great Sand Dun	16.44	93	IAmb		IAmb	16 43 41.0		
	comp=Z,506nm,1.6s								
SDCO	Great Sand Dun	16.44	93	P		Pn	16 43 34.6	-0.2	
	baz=286,SNR=179								
SDCO	Great Sand Dun	16.44	93	P		P	16 43 36.7	-1.0	
	baz=286,SNR=179								
SDCO				S		S	16 46 44.7	-5.2	
	baz=286								
WRAK	Wrangell Islan	16.48	348	P		Pn	16 43 35.8	+0.9	
WRAK	Wrangell Islan	16.48	348	P		Pn	16 43 35.2	+0.4	
	baz=164								
319A	Douglas	16.52	118	IAmb		IAmb	16 43 40.1		
	comp=Z,1µm,1.9s								
ANMO	Albuquerque	16.69	103	P		Pn	16 43 38.8	+0.8	
ANMO	Albuquerque	16.69	103	P		P	16 43 39.4	-1.0	
	baz=295								
ANMO	Albuquerque	16.69	103	P		P	16 43 40.3	0.0	
	baz=295,SNR=100								
ANMO				S		S	16 46 54.2	-0.6	
	baz=295								
ANMO	Albuquerque	16.69	103	Pn		P	16 43 39.5	-0.8	
	comp=Z,0.4nm,0.3s,baz=21,slow=13,SNR=36								
ANMO				LR		LR	16 50 31.1		
	comp=Z,15µm,18.7s,baz=26,slow=39								
	comp=Z,82nm,1.2s								
Y22D	IRIS PASSCAL I	16.74	106	IAmb		IAmb	16 43 45.6		
	comp=Z,2µm,1.9s								
Y22D	IRIS PASSCAL I	16.74	106	P		Pn	16 43 35.4	-3.1	
	baz=298,SNR=9.1								
Y22D	IRIS PASSCAL I	16.74	106	P		P	16 43 43.4	+2.6	
	baz=298,SNR=9.1								
Y22F	Passcal Instru	16.74	106	P		Pn	16 43 35.9	-2.5	
	baz=298,SNR=8.8								
T35M	Bob Quinn	16.77	353	P		P	16 43 39.7	-1.1	
T35M	Bob Quinn	16.77	353	P		Pn	16 43 37.0	-1.5	
	baz=170,SNR=6.9								
Y22A	Socorro	16.77	107	P		P	16 43 43.4	+2.2	
	baz=298,SNR=206								
Y22A				S		S	16 46 58.5	+2.2	
	baz=298								
121A	Cookes Peak, D	16.89	112	IAmb		IAmb	16 43 47.8		
	comp=Z,2µm,1.9s								
121A	Cookes Peak, D	16.89	112	P		P	16 43 43.0	+0.5	
	baz=303,SNR=168								
121A	Cookes Peak, D	16.89	112	P		P	16 43 43.5	+1.0	
	baz=303,SNR=168								
121A				S		S	16 46 58.5	-0.4	
	baz=303								
RSSD	Black Hills	16.95	70			Pn	16 43 38.0	-3.1	
RSSD	Black Hills	16.95	70	P		Pn	16 43 38.9	-2.3	
	baz=265								
RSSD	Black Hills	16.95	70	P		Pn	16 43 39.1	-2.1	
	baz=265,SNR=24								
RSSD				S		Sn	16 46 50.2	+0.5	
	baz=265								
RSSD	Black Hills	16.95	70	P		Pn	16 43 38.0	-3.1	
RSSD				pmax		pmax			
	comp=Z,216nm,1.7s								
HSIG		17.02	127	P		P	16 43 43.2	-0.5	
HSIG				IAmb		IAmb	16 43 47.7		
	comp=Z,780nm,1.7s								
T25A	Trinidad	17.45	94	P		P	16 43 48.2	-0.5	
	baz=288,SNR=18								
SRIG	Santa Rosalia	17.54	134	P		Pn	16 43 47.8	-0.6	
SIT	Sitka	17.64	344	P		P	16 43 51.5	+1.2	
SIT	Sitka	17.64	344	P		P	16 43 58.7	+8.4	
SIT	Sitka	17.64	344	P		Pn	16 43 48.6	-0.7	
	baz=157								
SIT	Sitka	17.64	344	P		P	16 43 51.5	+1.2	
SIT				pmax		pmax			
	comp=Z,168nm,1.7s								
DGMT	Dagmar	17.74	56	P		Pn	16 43 49.1	-1.6	
	baz=251,SNR=68								
DGMT	Dagmar	17.74	56	P		Pn	16 43 49.1	-1.6	
	baz=251,SNR=68								
S34M	Telegraph Cree	17.77	352	P		Pn	16 43 50.7	-0.3	
S34M	Telegraph Cree	17.77	352	P		Pn	16 43 51.1	0.0	
	baz=168								
S32K	Killisnoo	17.87	345	P		P	16 43 52.8	0.0	
S32K	Killisnoo	17.87	345	P		Pn	16 43 51.7	-0.5	
	baz=159								
DLBC	Dease Lake	18.19	354	P		Pn	16 43 53.9	-2.4	
DLBC	Dease Lake	18.19	354	P		Pn	16 43 54.4	-1.8	
	baz=171,SNR=14								
DLBC	Dease Lake	18.19	354	P		Pn	16 43 56.0	-0.2	
	comp=Z,0.4nm,0.3s,baz=177,slow=12,SNR=16								
	comp=Z,14nm,1.0s								
KIDD	KIDD Seismic O	18.22	112	S		S	16 47 34.4	+8.7	
	baz=304								
KSCO	Kaye Shedlock'	18.34	87	P		Pn	16 43 57.6	-0.7	
	baz=282								
KSCO	Kaye Shedlock'	18.34	87	P		P	16 43 59.0	+0.6	
	baz=282								
KSCO				S		S	16 47 27.0	-1.1	
	baz=282								
OGNE	Ogallala	18.48	80	P		P	16 43 58.3	-1.6	
OGNE				IAmb		IAmb	16 44 08.7		
	comp=Z,2µm,1.9s								
OGNE	Ogallala	18.48	80	P		P	16 43 59.0	-0.9	
	baz=276,SNR=30								
OGNE	Ogallala	18.48	80	P		P	16 43 58.3	-1.6	
	baz=276,SNR=30								
OGNE				S		S	16 47 28.7	-2.2	
	baz=276								
JIS	Juneau Island	18.59	347			P	16 43 59.4	-1.5	
JIS	Juneau Island	18.59	347	P		Pn	16 44 03.6	+2.5	
R32K	Eaglecrest	18.62	346	P		P	16 43 59.4	-1.8	
R32K	Eaglecrest	18.62	346	P		Pn	16 44 01.6	+0.2	
	baz=160								
S31K	Pelican	18.66	343	P		Pn	16 44 02.1	+0.2	
	baz=156								
Q32M	Nakina River	18.93	351	P		P	16 44 03.5	-1.3	
Q32M	Nakina River	18.93	351	P		P	16 44 04.7	-0.2	
	baz=166								
BESE	Bessie Mountai	18.96	346	P		P	16 44 05.2	+0.1	
R31K	City Hall, Gus	18.98	345	P		Pn	16 44 06.8	+1.1	
	baz=158								
MNTX	Cornudas Mount	19.06	111	P		P	16 44 06.4	+0.2	
	baz=303,SNR=204								
MNTX	Cornudas Mount	19.06	111	P		Pn	16 44 09.3	+2.4	
	baz=303,SNR=204								
MNTX				S		S	16 47 50.9	+8.3	
	baz=303								
HILA	High Level	19.12	15	P		P	16 44 05.6	-1.0	
R33M	Jennings River	19.22	353	P		Pn	16 44 09.3	+0.5	
	baz=169								
E28A	Huff	19.59	63	IAmb		IAmb	16 44 14.5		
	comp=Z,336nm,0.9s								
E28A	Huff	19.59	63	P		P	16 44 12.1	+0.1	
	baz=261,SNR=31								
P32M	Atlin	19.74	349	P		P	16 44 11.4	-2.1	
P32M	Atlin	19.74	349	P		Pn	16 44 14.4	-0.5	
	baz=163								
WTLY	Watson Lake, Y	19.78	356	P		Pn	16 44 15.3	-0.1	
WTLY	Watson Lake, Y	19.78	356	P		P	16 44 13.0	-0.9	
	baz=174,SNR=14								
KOTAN	Kotaneelee Air	19.79	3	P		P	16 44 12.9	-1.1	
	baz=185,SNR=22								
VHRN	Van Horn	19.84	112	IAmb		IAmb	16 44 26.5		
	comp=Z,699nm,1.7s								
MSTX	Muleshoe	19.86	101	IAmb		IAmb	16 44 25.7		
	comp=Z,328nm,1.4s								
MSTX	Muleshoe	19.86	101	P		P	16 44 14.3	-0.8	
	baz=296,SNR=26								
MSTX	Muleshoe	19.86	101	P		Pn	16 44 17.9	+1.2	
	baz=296,SNR=26								
MSTX				S		Sn	16 48 02.3	+2.3	
	baz=296								
SKAG	Skagway	19.88	347	P		P	16 44 13.6	-1.3	
SKAG	Skagway	19.88	347	P		Pn	16 44 19.8	+3.3	
SKAG	Skagway	19.88	347	P		P	16 44 14.4	-0.5	
	baz=160								
FLDN	Fort Liard	19.93	4	P		P	16 44 16.1	+0.7	
FLDN	Fort Liard	19.93	4	P		P	16 44 14.6	-0.9	
	baz=186								
PLBC	Pleasant Camp	20.07	345	P		P	16 44 17.0	-0.1	
	baz=157								
K30B	Basset	20.15	75	P		P	16 44 17.4	-0.7	
K30B				IAmb		IAmb	16 44 30.0		
	comp=Z,758nm,1.4s								
K30B	Basset	20.15	75	P		Pn	16 44 19.7	-0.2	
	baz=273,SNR=7.3								
K30B				S		Sn	16 48 06.5	-0.2	
	baz=273								
P33M	Teslin, Yukon	20.22	351	P		P	16 44 18.8	0.0	
P33M	Teslin, Yukon	20.22	351	P		Pn	16 44 19.8	-0.8	
	baz=166,SNR=9.7								
AMTX	Amarillo	20.31	98	IAMs_20		IAMs_20	16 52 39.0		
	comp=Z,18µm,18.0s								
AMTX	Amarillo	20.31	98	P		P	16 44 20.6	+0.7	
	baz=293								
AMTX	Amarillo	20.31	98	P		Pn	16 44 22.5	+0.6	
	baz=293,SNR=8.3								
AMTX				S		Sn	16 48 13.6	+2.9	
	baz=293								
PECS	Pecos	20.32	109	IAmb		IAmb	16 44 31.1		
	comp=Z,320nm,1.2s								
P29M	Windy Craggy	20.51	343	P		P	16 44 21.2	-0.6	
P29M				IAmb		IAmb	16 44 33.7		
	comp=Z,285nm,1.5s								
P29M	Windy Craggy	20.51	343	P		Pn	16 44 23.5	-0.6	
	baz=155								
MDND	Maddock	20.55	60	IAmb		IAmb	16 44 37.2		
	comp=Z,805nm,1.6s								
MDND	Maddock	20.55	60	P		P	16 44 21.2	-1.2	
	baz=259,SNR=13								
MDND	Maddock	20.55	60	P		Pn	16 44 23.4	-1.1	
	baz=259,SNR=13								
CBKS	Cedar Bluff	20.58	86	P		P	16 44 23.6	+0.8	
	baz=283,SNR=83								
CBKS	Cedar Bluff	20.58	86	P		Pn	16 44 24.0	-1.0	
	baz=283,SNR=83								
CBKS				S		S	16 48 13.1	+0.1	
	baz=283								
SUSD	Miller	20.61	70	P		P	16 44 21.8	-1.2	
SUSD				IAmb		IAmb	16 44 24.9		
	comp=Z,493nm,0.9s								
SUSD				IAMs_20		IAMs_20	16 52 35.5		
	comp=Z,23µm,21.0s								
SUSD	Miller	20.61	70	P		P	16 44 23.9	+0.8	
	baz=268,SNR=20								
SUSD	Miller	20.61	70	P		P	16 44 23.6	+0.5	
	baz=268,SNR=20								
SUSD				S		Sn	16 48 18.8	+1.0	
	baz=268								
YKU2	Yakutat	20.86	341	IAMs_20		IAMs_20	16 50 28.1		
	comp=Z,14µm,20.0s								
PNL	Peninsula	20.93	341	P		Pn	16 44 33.1	+4.2	
PNL	Peninsula	20.93	341	P		P	16 44 27.1	+0.7	
	baz=151								
WHY	Whitehorse	20.94	348	P		P	16 44 25.8	-0.8	
WHY	Whitehorse	20.94	348	P		P	16 44 26.6	0.0	
	baz=152,SNR=19								
MNHN	Monahans	21.14	108	IAmb		IAmb	16 44 34.4		
	comp=Z,243nm,1.4s								
LPIG	La Paz	21.15	135	P		P	16 44 30.4	+1.4	
	comp=Z,54nm,0.3s,baz=327,slow=3.7,SNR=14								
LPIG				LR		LR	16 51 50.9		
	comp=Z,10µm,19.9s,baz=326,slow=34								
	comp=Z,54nm,0.3s								
N32M	Quiet Lake	21.16	351	IAMs_20		IAMs_20	16 51 43.3		
	comp=Z,11nm,18.0s								
N32M	Quiet Lake	21.16	351	P		P	16 44 29.8	+0.9	
	baz=166								
POST	Post	21.21	102	IAmb		IAmb	16 44 39.5		
	comp=Z,718nm,1.7s								
BCPM	Bancas Point	21.24	341	IAMs_20		IAMs_20	16 50 41.1		
	comp=Z,13µm,18.0s								
O30N	Mendenhall	21.24	347	P		P	16 44 29.7	-0.1	
O30N	Mendenhall	21.24	347	P		P	16 44 30.1	+0.3	
	baz=159,SNR=9.3								
O29M	Mount Kennedy	21.30	343	P		P	16 44 30.5	-0.1	
O29M	Mount Kennedy	21.30	343	P		P	16 44 31.4	+0.9	
	baz=154,SNR=19								
BGNE	Belgrade	21.34	78	P		P	16 44 29.7	-1.2	
BGNE	Belgrade	21.34	78	P		P	16 44 31.2	+0.3	
	baz=277,SNR=23								
BGNE	Belgrade	21.34	78	P		P	16 44 32.5	+1.5	
	baz=277,SNR=23								
DKNS	Dickens	21.38	100	IAmb		IAmb	16 44 40.1		
	comp=Z,188nm,1.2s								
R32A	Long Quarter,	21.45	86	IAmb		IAmb	16 44 44.8		
	comp=Z,534nm,1.1s								
R32A	Long Quarter,	21.45	86	P		P	16 44 33.8	+1.5	
	baz=284,SNR=25								
R32A				S		Sn	16 48 36.3	-1.8	
	baz=284								
PINM	Pinnacle	21.51	341	P		P	16 44 33.1	+0.3	
	baz=150								
PCA	Pinnacle	21.52	341			P	16 44 31.6	-1.1	
PCA				IAmb		IAmb	16 44 43.3		
	comp=Z,350nm,1.4s								
HYT	Haines Junctio	21.55	345	P		P	16 44 31.1	-2.1	
HYT	Haines Junctio	21.55	345	P		P	16 44 33.5	+0.2	
	baz=156								
ELIS	Ellis County	21.60	93	P		P	16 44 32.9	-0.9	
ELIS				IAMs_20		IAMs_20	16 52 46.0		
	comp=Z,13µm,19.0s								
TX31	Lajitas Ar. Si	21.62	114	P		P	16 44 34.9	+0.8	
TX31				IAmb		IAmb	16 44 42.9		
	comp=Z,656nm,1.4s								
TX31	Lajitas Ar. Si	21.62	114	P		P	16 44 36.6	+2.5	
	baz=307,SNR=230								
TXAR	Lajitas Array	21.62	114	P		P	16 44 36.2	+2.0	
	comp=Z,153nm,1.1s,baz=302,slow=7.2,SNR=265								
TXAR				LR		LR	16 53 36.2		
	comp=Z,3µm,18.9s,baz=286,slow=38								
FFC	Flin Flon	21.67	41	P		P	16 44 33.7	-0.7	
FFC	Flin Flon	21.67	41	P		P	16 44 33.7	-0.7	
FFC				pmax		pmax			
	comp=Z,1µm,1.6s								
FFC				MLR		MLR			
	comp=Z,10µm,19.0s								
SLBS	Sierra La Lagu	21.68	135	P		P	16 44 35.8	+1.0	
SLBS				IAmb		IAmb	16 44 41.4		
	comp=Z,646nm,1.4s								
SN01	Snyder 1	21.77	102	IAmb		IAmb	16 44 48.9		
	comp=Z,241nm,1.0s								
HPIG		21.81	122	P		P	16 44 37.8	+1.5	
HPIG				IAMs_20		IAMs_20	16 52 45.4		
	comp=Z,15µm,20.0s								
U32A	Winter Ranch,	21.81	92	P		P	16 44 37.7	+1.6	
	baz=289								
U32A				S		Sn	16 48 42.0	-4.7	
	baz=289								
YUK6	Outpost Mounta	21.84	344	P		P	16 44 36.8	+0.4	
	baz=155								
N33A	J Bar K, Exete	21.95	80	P		P	16 44 37.6	0.0	
N33B	J Bar K, Exete	21.95	80	P		P	16 44 38.5	+0.9	
	baz=279,SNR=12								
N33B				S		S	16 48 41.9	+2.0	
	baz=279								
OK038	West end E0370	21.98	91			P	16 44 37.6	-0.2	
SGCY	Sterling City	22.04	105	P		P	16 44 39.3	+0.7	
N30M	Aishikik Lake	22.06	346	IAMs_20		IAMs_20	16 51 38.3		
	comp=Z,12µm,19.0s								
N30M	Aishikik Lake	22.06	346	P		P	16 44 38.9	+0.3	
	baz=158								
APMT	Aspermont	22.13	100	P		P	16 44 39.5	0.0	
D32A	Dogwood Acres,	22.17	63	P		P	16 44 39.2	-0.5	
D32A				IAmb		IAmb	16 44 56.6		
	comp=Z,351nm,1.4s								
D32A				IAMs_20		IAMs_20	16 53 43.6		
	comp=Z,22µm,21.0s								
D32B	Dogwood Acres,	22.17	63	P		P	16 44 40.3	+0.6	
	baz=263								
D32B				S		S	16 48 43.8	-0.1	
	baz=263								
FARO	Faro, Yukon	22.25	351	P		P	16 44 41.1	+0.6	
FARO	Faro, Yukon	22.25	351	P		P	16 44 41.6	+1.1	
	baz=166,SNR=24								
YUK4	Talbot Arm	22.26	344	P		P	16 44 42.5	+1.6	
	baz=155,SNR=12								
SNH	Sunshine Point	22.28	338	IAMs_20		IAMs_20	16 51 28.3		
	comp=Z,11µm,18.0s								
OK032	Salt Plains WL	22.28	90			P	16 44 39.9	-1.2	
ECSD	EROS Data Cent	22.30	72	P		P	16 44 40.4	-0.8	
ECSD				IAMs_20		IAMs_20	16 53 39.2		
	comp=Z,18µm,19.0s								
LOGN	Logan Glacier	22.33	341			S	16 48 48.5	+1.4	
LOGN	Logan Glacier	22.33	341	IAmb		IAmb	16 44 58.1		
	comp=Z,339nm,1.4s								
LOGN	Logan Glacier	22.33	341	IAMs_20		IAMs_20	16 51 14.6		
	comp=Z,12µm,21.0s								
M31M	Drury Creek, Y	22.35	350	P		P	16 44 41.5	-0.1	
M31M	Drury Creek, Y	22.35	350	P		P	16 44 41.8	+0.2	
	baz=164,SNR=24								
SAND	Sanderson	22.35	110	P		P	16 44 41.4	-0.5	
SAND				IAmb		IAmb	16 44 50.4		
	comp=Z,204nm,1.2s								
YUK8	Steele Glacier	22.45	343	P		P	16 44 42.9	0.0	
	baz=152,SNR=31								
CTGM	Chitina Glacie	22.54	341	IAmb		IAmb	16 44 54.0		
	comp=Z,297nm,1.3s								
CTGM				IAMs_20		IAMs_20	16 51 31.0		
	comp=Z,12µm,18.0s								
CTG	Chitna Glacier	22.54	341	P		P	16 44 43.8	0.0	
	baz=149								
KAIM	Kayak Island	22.54	336	IAMs_20		IAMs_20	16 50 56.4		
	comp=Z,14µm,22.0s								
KAIM	Kayak Island	22.54	336	P		P	16 44 43.2	-0.5	
	baz=142								
OZNA	Ozona	22.55	107	IAmb		IAmb	16 45 01.4		
	comp=Z,461nm,1.4s								
F33A	5 Mile Ranch,	22.

baz=152,SNR=13
BLOK Blackwell 23.05 90 IAmb IAmb 16 44 59.7
comp=Z,311nm,1.1s
M30M Minto, Yukon 23.06 348 P **P** **16 44 48.5 -0.5**
M30M Minto, Yukon 23.06 348 P **P** **16 44 49.2 +0.1**
baz=159
AGMN Agassiz Nation 23.10 60 IAmb IAmb 16 45 00.9
comp=Z,447nm,1.3s
AGMN Agassiz Nation 23.10 60 P **P** **16 44 48.6 -1.0**
baz=261,SNR=74
AGMN Agassiz Nation 23.10 60 P **P** **16 44 50.1 +0.5**
baz=261,SNR=74
AGMN S **S** **16 49 01.6 +0.9**
baz=261
OK029 Liberty Lake 23.19 92 IAMs_20 IAMs_20 16 53 37.0
comp=Z,11µm,18.0s
YKA Yellowknife Ar 23.22 14 P **P** **16 44 48.9 -1.8**
YKA Yellowknife Ar 23.22 14 P **P** **16 44 49.6 -1.1**
comp=Z,9.3nm,0.9s,baz=198,slow=10,SNR=61
YKA LR LR 16 53 23.2
comp=Z,3µm,18.6s,baz=204,slow=36
comp=Z,9.3nm,0.9s
M29M Somme Creek 23.23 346 IAMs_20 IAMs_20 16 52 21.8
comp=Z,14µm,18.0s
M29M Somme Creek 23.23 346 P **P** **16 44 50.4 -0.5**
baz=156
YKAW1 Yellowknife Wh 23.23 14 IAMs_20 IAMs_20 16 53 01.3
comp=Z,4µm,21.0s
N35A Tabor 23.29 79 P **P** **16 44 52.6 +1.0**
baz=279,SNR=31
N35A S **S** **16 49 05.9 +1.8**
baz=279
OKCSW OKLAHOMA CITY 23.34 93 IAMs_20 IAMs_20 16 53 40.0
comp=Z,20µm,20.0s
X34A Smith Ranch, M 23.34 95 IAmb IAmb 16 45 06.9
comp=Z,320nm,1.2s
X34A IAMs_20 IAMs_20 16 54 32.1
comp=Z,15µm,19.0s
FNO Franklin 23.42 93 IAMs_20 IAMs_20 16 53 54.2
comp=Z,14µm,18.0s
OK051 E0350 and S346 23.42 90 **P** **16 44 53.4 +0.4**
OK051 IAMs_20 IAMs_20 16 53 54.3
comp=Z,11µm,20.0s
BMRM Bremner River 23.43 337 P **P** **16 44 52.8 -0.1**
baz=143,SNR=12
EYAK Cordova Ski Ar 23.45 336 P **P** **16 44 53.9 +0.9**
baz=140
ULM Lac du Bonnet 23.45 55 IAmb IAmb 16 45 01.6
comp=Z,263nm,1.0s
ULM Lac du Bonnet 23.45 55 P **P** **16 44 52.9 -0.3**
comp=Z,162nm,0.8s,baz=261,slow=9.6,SNR=179
ULM LR LR 16 54 22.5
comp=Z,22µm,19.4s,baz=256,slow=38
comp=Z,162nm,0.8s
OK033 Mehan 23.50 91 IAmb IAmb 16 45 05.2
comp=Z,384nm,1.2s
OK033 IAMs_20 IAMs_20 16 54 33.2
comp=Z,10µm,18.0s
T35A Sooner Cattle 23.54 89 IAMs_20 IAMs_20 16 54 08.4
comp=Z,10µm,19.0s
T35B Sooner Cattle 23.54 89 P **P** **16 44 55.7 +1.5**
baz=288,SNR=71
T35B S **S** **16 49 13.0 +4.7**
baz=288
HIN Hinchinbrook I 23.57 335 IAMs_20 IAMs_20 16 51 35.6
comp=Z,15µm,19.0s
GLB Gilahina Butte 23.59 339 IAmb IAmb 16 45 03.6
comp=Z,237nm,1.6s
OK052 Battle Ridge R 23.62 91 IAMs_20 IAMs_20 16 54 36.4
comp=Z,10µm,18.0s
QUOK Quay 23.63 91 IAmb IAmb 16 45 06.6
comp=Z,437nm,1.3s
BVCY Beaver Creek 23.69 343 P **P** **16 44 54.7 -0.7**
baz=152,SNR=15
DRIO Del Rio 23.73 109 IAmb IAmb 16 45 01.2
comp=Z,201nm,1.0s
JCT Junction City 23.75 106 IAMs_20 IAMs_20 16 54 11.4
comp=Z,15µm,22.0s
JCT Junction City 23.75 106 P **P** **16 44 57.3 +1.0**
baz=302,SNR=70
JCT Junction City 23.75 106 P **P** **16 44 57.6 +1.3**
baz=302,SNR=70
JCT S **S** **16 49 13.6 +1.9**
baz=302
L29M L29M 23.78 347 IAmb IAmb 16 45 04.8
L29M IAMs_20 IAMs_20 16 52 41.7
comp=Z,11µm,20.0s
L29M L29M 23.78 347 P **P** **16 44 57.4 +1.1**
baz=157
W35A Tecumseh 23.86 93 IAMs_20 IAMs_20 16 54 08.8
comp=Z,11µm,18.0s
M27K Edge Creek, AK 23.87 342 IAmb IAmb 16 45 06.7
comp=Z,201nm,1.6s
M27K IAMs_20 IAMs_20 16 52 18.3
comp=Z,15µm,20.0s
M27K Edge Creek, AK 23.87 342 P **P** **16 44 57.6 +0.3**
baz=150
MAYO Mayo, Yukon 23.89 350 P **P** **16 44 57.9 +0.6**
MAYO Mayo, Yukon 23.89 350 P **P** **16 44 57.2 0.0**
baz=162
DEOK Depew 23.90 91 IAMs_20 IAMs_20 16 54 11.9
comp=Z,12µm,18.0s
N25K Chitina, Valde 23.94 338 IAmb IAmb 16 45 07.5
comp=Z,194nm,1.5s
N25K Chitina, Valde 23.94 338 P **P** **16 44 58.3 +0.4**
baz=144
LOOK Love County 24.07 96 IAmb IAmb 16 45 12.2
comp=Z,434nm,1.4s
LOOK IAMs_20 IAMs_20 16 55 13.6
comp=Z,11µm,21.0s
KDAK Kodiak Island 24.17 325 P **P** **16 44 59.1 -0.8**
KDAK IAmb IAmb 16 45 22.2
comp=Z,271nm,1.6s
KDAK Kodiak Island 24.17 325 IAMs_20 IAMs_20 16 51 35.8
comp=Z,16µm,22.0s
KDAK Kodiak Island 24.17 325 P **P** **16 44 59.6 -0.4**
baz=125
KDAK Kodiak Island 24.17 325 P **P** **16 44 59.1 -0.8**
KDAK pmax pmax
comp=Z,271nm,1.6s
KDAK MLR MLR
comp=Z,16µm,22.0s
KDAK Kodiak Island 24.17 325 LR LR 16 51 56.9
comp=Z,14µm,21.2s,baz=105,slow=30
OHAK Old Harbor 24.17 323 P **P** **16 44 60.0 0.0**
OHAK IAmb IAmb 16 45 08.6
comp=Z,216nm,1.4s
OHAK IAMs_20 IAMs_20 16 51 35.0
comp=Z,11µm,21.0s
OHAK Old Harbor 24.17 323 P **P** **16 45 04.0 +4.0**
OHAK Old Harbor 24.17 323 P **P** **16 44 59.6 -0.4**
baz=122
M26K Nabesna, AK 24.18 341 IAMs_20 IAMs_20 16 52 26.4
comp=Z,10µm,21.0s
FW06 Azle 24.22 99 IAmb IAmb 16 45 11.6
comp=Z,248nm,1.1s
KLU Klutina 24.23 337 P **P** **16 44 59.6 -1.0**
KLU IAMs_20 IAMs_20 16 52 03.1
comp=Z,10µm,20.0s
KLU Klutina 24.23 337 P **P** **16 45 00.4 -0.3**
baz=142
SII Sitkinak Islan 24.25 321 IAMs_20 IAMs_20 16 51 35.1
comp=Z,14µm,21.0s
SII Sitkinak Islan 24.25 321 P **P** **16 45 00.9 +0.2**
baz=120
Z35A Perchaven, San 24.29 98 IAmb IAmb 16 45 05.5
comp=Z,232nm,0.8s
Z35A Perchaven, San 24.29 98 P **P** **16 45 00.9 -0.5**
baz=296,SNR=25
Z35A S **S** **16 49 23.5 +3.2**
baz=296
K29M Barlow Dome 24.36 348 P **P** **16 45 02.5 +0.6**
baz=159
SEW Seward 24.38 332 P **P** **16 45 01.2 -0.6**
baz=134
TUL3 Leonard 24.42 91 IAMs_20 IAMs_20 16 54 25.9
comp=Z,10µm,19.0s
TUL3 Leonard 24.42 91 P **P** **16 45 02.4 -0.1**
baz=290,SNR=12
TUL3 Leonard 24.42 91 P **P** **16 45 03.8 +1.3**
baz=290,SNR=12
TUL3 S **S** **16 49 20.5 -1.8**
baz=290
BCAR Beaver Creek A 24.47 343 P **P** **16 45 02.6 -0.2**
L27K Beaver Creek, 24.47 343 P **P** **16 45 02.6 -0.1**
L27K IAmb IAmb 16 45 12.8
comp=Z,155nm,1.6s
L27K IAMs_20 IAMs_20 16 52 47.8
comp=Z,10µm,19.0s
L27K Beaver Creek, 24.47 343 P **P** **16 45 02.5 -0.3**
baz=151
F36A Milaca 24.49 66 IAMs_20 IAMs_20 16 54 51.0
comp=Z,14µm,18.0s
F36A Milaca 24.49 66 P **P** **16 45 03.5 +0.5**
baz=269,SNR=44
F36A S **S** **16 49 27.1 +3.8**
baz=269
B35A Bob, Littlefor 24.52 60 IAmb IAmb 16 45 17.4
comp=Z,343nm,1.8s
B35A Bob, Littlefor 24.52 60 P **P** **16 45 03.1 -0.1**
baz=263,SNR=27
B35A S **S** **16 49 26.6 +2.9**
baz=263
SYI Shuyak Island 24.57 327 P **P** **16 45 04.3 +0.8**
SYI IAmb IAmb 16 45 16.4
comp=Z,259nm,1.3s
SYI IAMs_20 IAMs_20 16 52 11.3
comp=Z,9µm,20.0s
Q20K Shuyak Island 24.57 327 P **P** **16 45 04.4 +0.8**
baz=126
I37A Lemond, Waseca 24.61 71 IAMs_20 IAMs_20 16 54 58.3
comp=Z,18µm,20.0s
I37B Waseca 24.61 71 P **P** **16 45 04.6 +0.5**
baz=273,SNR=28
I37B S **S** **16 49 28.5 +3.3**
baz=273
BRSE Bradley Lake S 24.61 330 P **P** **16 45 03.1 -0.9**
baz=131
HNDO Hondo 24.64 108 IAmb IAmb 16 45 31.0
comp=Z,140nm,1.1s
CNPM China Poot 24.66 329 P **P** **16 45 03.2 -1.3**
CNPM IAmb IAmb 16 45 15.4
comp=Z,202nm,1.3s
CNPM IAMs_20 IAMs_20 16 52 05.7
comp=Z,10µm,20.0s
BRLK Bradley Lake 24.68 330 P **P** **16 45 03.0 -1.7**
BRLK IAmb IAmb 16 45 20.3
comp=Z,194nm,1.5s
O22K Cooper Landing 24.73 332 IAMs_20 IAMs_20 16 52 09.5
comp=Z,10µm,20.0s
O22K Cooper Landing 24.73 332 P **P** **16 45 04.7 -0.4**
baz=134
WHTX Lake Whitney, 24.74 101 IAMs_20 IAMs_20 16 55 10.4
comp=Z,11µm,18.0s
WHTX Lake Whitney, 24.74 101 P **P** **16 45 05.3 -0.1**
baz=298,SNR=49
WHTX Lake Whitney, 24.74 101 P **P** **16 45 06.6 +1.2**
baz=298,SNR=49
WHTX S **S** **16 49 28.3 +0.8**
baz=298
HARP HAARP 24.74 339 P **P** **16 45 06.0 +0.8**
baz=144
M24K Tolsona, Glenn 24.79 338 IAmb IAmb 16 45 18.6
comp=Z,262nm,1.2s
M24K Tolsona, Glenn 24.79 338 P **P** **16 45 05.6 -0.1**
baz=142
L26K Log Cabin Wild 24.80 342 P **P** **16 45 06.0 +0.3**
L26K IAmb IAmb 16 45 18.0
comp=Z,180nm,1.4s
L26K IAMs_20 IAMs_20 16 52 55.8
comp=Z,14µm,19.0s
L26K Log Cabin Wild 24.80 342 P **P** **16 45 05.4 -0.3**
baz=148,SNR=33
MENT Mentasta 24.81 341 P **P** **16 45 05.4 -0.5**
MENT IAmb IAmb 16 45 16.2
comp=Z,284nm,1.4s
MENT IAMs_20 IAMs_20 16 52 56.2
comp=Z,11µm,19.0s
MENT Mentasta 24.81 341 P **P** **16 45 08.2 +2.4**
J30M Hart River 24.88 350 P **P** **16 45 04.3 -2.2**
baz=162
DAWY Dawson 24.88 346 P **P** **16 45 05.3 -1.1**
DAWY IAmb IAmb 16 45 16.4
comp=Z,173nm,1.4s
DAWY Dawson 24.88 346 P **P** **16 45 05.1 -1.3**
baz=156,SNR=43
HOM Homer 24.91 329 IAMs_20 IAMs_20 16 52 13.3
comp=Z,11µm,21.0s
HOM Homer 24.91 329 P **P** **16 45 04.3 -2.3**
baz=129
RLO Rose Lookout 24.92 90 IAmb IAmb 16 45 15.5
comp=Z,907nm,1.9s
RLO IAMs_20 IAMs_20 16 54 55.7
comp=Z,8µm,19.0s
SCM Sheep Creek Mo 24.93 336 IAmb IAmb 16 45 20.2
comp=Z,317nm,1.3s
SCM IAMs_20 IAMs_20 16 52 42.3
comp=Z,10µm,19.0s
SCM Sheep Creek Mo 24.93 336 P **P** **16 45 06.5 -0.4**
baz=140,SNR=12
SCIA State Center 24.94 76 IAMs_20 IAMs_20 16 55 05.6
comp=Z,10µm,20.0s
SCIA State Center 24.94 76 P **P** **16 45 04.6 -2.6**
baz=278,SNR=13
SCIA State Center 24.94 76 P **P** **16 45 08.8 +1.7**
baz=278,SNR=13
KNK Knik Glacier 24.97 335 P **P** **16 45 06.5 -0.7**
KNK IAmb IAmb 16 45 18.0
comp=Z,185nm,1.2s
KNK IAMs_20 IAMs_20 16 52 20.6
comp=Z,13µm,21.0s
KNK Knik Glacier 24.97 335 P **P** **16 45 07.4 +0.2**
baz=137,SNR=13
SPMN Marine on St. 24.99 68 P **P** **16 45 07.4 -0.2**
SPMN IAMs_20 IAMs_20 16 55 08.7
comp=Z,13µm,20.0s
SPMN Marine on St. 24.99 68 P **P** **16 45 08.0 +0.5**
baz=271,SNR=20
SPMN Marine on St. 24.99 68 P **P** **16 45 09.1 +1.6**
baz=271,SNR=20
SPMN S **S** **16 49 33.5 +2.1**
baz=271
M23K Glacier View 25.02 336 P **P** **16 45 09.6 +2.0**
baz=139,SNR=28
J29N Klondike Camp 25.04 348 P **P** **16 45 07.4 -0.5**
J29N IAmb IAmb 16 45 14.8
comp=Z,201nm,1.8s
J29N IAMs_20 IAMs_20 16 53 04.0
comp=Z,8µm,20.0s
J29N Klondike Camp 25.04 348 P **P** **16 45 08.4 +0.5**
baz=158
N38A Joes South For 25.10 78 IAmb IAmb 16 45 13.4
comp=Z,139nm,0.8s
N38A Joes South For 25.10 78 P **P** **16 45 09.2 +0.6**
baz=280,SNR=22
N38A S **S** **16 49 35.2 +2.0**
baz=280
P38A Dawn 25.11 81 IAmb IAmb 16 45 16.2
comp=Z,151nm,0.9s
P38A Dawn 25.11 81 P **P** **16 45 09.5 +0.9**
baz=282,SNR=50
P38A S **S** **16 49 35.7 +2.4**
baz=282
RC01 Rabbit Creek A 25.16 333 IAmb IAmb 16 45 22.1
comp=Z,253nm,1.5s
RC01 IAMs_20 IAMs_20 16 52 23.8
comp=Z,12µm,20.0s
RC01 Rabbit Creek A 25.16 333 P **P** **16 45 09.5 +0.5**
baz=135
K38A Parkersburg 25.18 74 IAMs_20 IAMs_20 16 55 21.4
comp=Z,18µm,20.0s
K38A Parkersburg 25.18 74 P **P** **16 45 10.1 +0.8**
baz=276,SNR=23
K38A S **S** **16 49 36.3 +1.8**
baz=276
SML Sawmill 25.22 335 IAmb IAmb 16 45 18.6
comp=Z,296nm,1.3s
SML IAMs_20 IAMs_20 16 52 30.2
comp=Z,13µm,22.0s
SML Sawmill 25.22 335 P **P** **16 45 10.3 +0.8**
baz=138,SNR=13
435B Jarrell 25.23 103 IAMs_20 IAMs_20 16 55 32.8
comp=Z,17µm,21.0s
435B Jarrell 25.23 103 P **P** **16 45 10.2 +0.4**
baz=300
435B Jarrell 25.23 103 P **P** **16 45 11.3 +1.4**
baz=300,SNR=18
435B S **S** **16 49 39.4 +4.0**
baz=300
833A Chaparral WMA, 25.24 110 IAMs_20 IAMs_20 16 55 32.0
comp=Z,10µm,18.0s
833A Chaparral WMA, 25.24 110 P **P** **16 45 10.7 +0.8**
baz=306,SNR=38
833A Chaparral WMA, 25.24 110 P **P** **16 45 11.6 +1.6**
baz=306,SNR=38
833A S **S** **16 49 32.0 -3.5**
baz=306
Q19K Cape Douglas, 25.28 326 P **P** **16 45 09.5 -0.6**
Q19K IAmb IAmb 16 45 25.9
comp=Z,363nm,1.4s
Q19K IAMs_20 IAMs_20 16 52 23.7
comp=Z,9µm,20.0s
Q19K Cape Douglas, 25.28 326 P **P** **16 45 11.5 +1.4**
baz=125
PAX Paxson 25.29 340 P **P** **16 45 11.2 +1.0**
baz=144
U38A Gravette 25.32 89 P **P** **16 45 10.5 -0.1**
U38A IAMs_20 IAMs_20 16 55 11.3
comp=Z,9µm,18.0s
U38A Gravette 25.32 89 P **P** **16 45 12.1 +1.5**
baz=289,SNR=63
U38A S **S** **16 49 42.4 +5.6**
baz=289
PMR Palmer 25.32 334 P **P** **16 45 10.2 -0.1**
PMR IAmb IAmb 16 45 20.5
comp=Z,310nm,1.4s
PMR IAMs_20 IAMs_20 16 52 30.9
comp=Z,11µm,22.0s
PMR Palmer 25.32 334 P **P** **16 45 11.9 +1.6**
PMR Palmer 25.32 334 P **P** **16 45 10.4 +0.1**
baz=136,SNR=17
PMR Palmer 25.32 334 P **P** **16 45 10.2 -0.1**
PMR pmax pmax
comp=Z,310nm,1.4s
PMR MLR MLR
comp=Z,11µm,22.0s
FIS Fire Island 25.37 333 IAMs_20 IAMs_20 16 52 29.8
comp=Z,13µm,20.0s
K27K Chicken 25.38 344 P **P** **16 45 09.9 -1.0**
K27K IAmb IAmb 16 45 19.9
comp=Z,179nm,1.4s
K27K IAMs_20 IAMs_20 16 53 17.7
comp=Z,12µm,20.0s
K27K Chicken 25.38 344 P **P** **16 45 10.8 0.0**
baz=151,SNR=48
GHO Glory Hole Cre 25.38 335 IAmb IAmb 16 45 20.4
comp=Z,337nm,1.4s
GHO IAMs_20 IAMs_20 16 52 34.5
comp=Z,13µm,22.0s
TREL Terrell 25.43 98 IAmb IAmb 16 45 22.7
comp=Z,232nm,1.1s
CAPN Captain Cook N 25.45 331 P **P** **16 45 12.0 +0.5**
baz=132
I30M Mount Dempster 25.50 350 P **P** **16 45 12.4 +0.3**
baz=162
P19K Oil Pt 25.54 328 P **P** **16 45 12.2 -0.2**
baz=127
O20K Slope Mountain 25.56 329 P **P** **16 45 12.9 +0.3**
baz=128
WAT6 Susitna Watana 25.62 337 P **P** **16 45 15.1 +1.8**
baz=140,SNR=19
HHAR Hobbs 25.71 89 IAmb IAmb 16 45 25.3
comp=Z,249nm,1.1s
S39A Bolivar 25.75 85 IAmb IAmb 16 45 27.6
comp=Z,313nm,1.2s
S39A IAMs_20 IAMs_20 16 55 26.0
comp=Z,8µm,19.0s
S39A Bolivar 25.75 85 P **P** **16 45 15.1 +0.6**
baz=286,SNR=71
S39A S **S** **16 49 46.6 +3.1**
baz=286
SCRK Sand Creek 25.76 342 P **P** **16 45 13.7 -0.8**
SCRK IAMs_20 IAMs_20 16 53 36.2
comp=Z,13µm,18.0s
SCRK Sand Creek 25.76 342 P **P** **16 45 16.1 +1.6**
baz=148,SNR=11
RIDG Independent Ri 25.77 341 P **P** **16 45 13.8 -0.7**
RIDG IAMs_20 IAMs_20 16 53 34.4
comp=Z,12µm,18.0s
RIDG Independent Ri 25.77 341 P **P** **16 45 15.5 +1.0**
baz=146,SNR=5.2
SUA Susitna One 25.78 333 P **P** **16 45 13.6 -1.1**
SUA IAmb IAmb 16 45 24.1
comp=Z,135nm,1.2s
SUA IAMs_20 IAMs_20 16 52 45.0
comp=Z,11µm,22.0s
SUA Susitna One 25.78 333 P **P** **16 45 16.5 +1.8**
baz=134,SNR=18
RSO Redoubt South 25.85 330 P **P** **16 45 13.6 -1.8**
EGAK Eagle 25.86 346 P **P** **16 45 15.1 -0.1**
EGAK IAMs_20 IAMs_20 16 53 44.3
comp=Z,8µm,19.0s
EGAK Eagle 25.86 346 P **P** **16 45 16.2 +1.0**
baz=153
E38A The Farm, Brul 25.87 65 IAmb IAmb 16 45 26.1
comp=Z,410nm,1.9s
E38A IAMs_20 IAMs_20 16 55 56.9
comp=Z,13µm,21.0s
E38A The Farm, Brul 25.87 65 P **P** **16 45 15.9 +0.4**
baz=269,SNR=14
E38A S **S** **16 49 54.8 +9.5**
baz=269
DHY Denali Highway 25.90 338 P **P** **16 45 15.5 -0.3**
DHY IAmb IAmb 16 45 25.3
comp=Z,220nm,1.2s
DHY IAMs_20 IAMs_20 16 53 43.1
comp=Z,8µm,18.0s
DHY Denali Highway 25.90 338 P **P** **16 45 17.2 +1.4**
baz=141,SNR=28
I29M Ogilvie Camp, 25.91 349 P **P** **16 45 15.3 -0.3**
I29M Ogilvie Camp, 25.91 349 P **P** **16 45 16.7 +1.0**
baz=159
Q17K Contact Creek 25.91 323 P **P** **16 45 18.4 +2.5**
baz=121,SNR=14
EYMN Ely 25.97 61 P **P** **16 45 15.9 -0.5**
EYMN Ely 25.97 61 P **P** **16 45 17.5 +1.1**
baz=266,SNR=16
EYMN Ely 25.97 61 P **P** **16 45 17.3 +0.9**
baz=266,SNR=16
EYMN S **S** **16 49 47.4 +0.5**
baz=266
237A Washetta, Mont 25.97 99 IAMs_20 IAMs_20 16 55 59.3
comp=Z,15µm,19.0s
237A Washetta, Mont 25.97 99 P **P** **16 45 17.9 +1.3**
baz=298,SNR=13
Z38A Mt. Pleasant 26.04 96 IAMs_20 IAMs_20 16 56 23.8
comp=Z,17µm,20.0s
K24K Donnelly Dome 26.05 340 P **P** **16 45 18.4 +1.3**
baz=145
WAT1 Susitna Watana 26.06 337 P **P** **16 45 18.4 +1.3**
baz=139
735A Kenedy 26.09 107 P **P** **16 45 20.0 +2.4**
baz=304
735A S **S** **16 49 49.0 +0.1**
baz=304
J26L Joseph Creek 26.11 343 IAMs_20 IAMs_20 16 53 49.4
comp=Z,12µm,19.0s
J26L Joseph Creek 26.11 343 P **P** **16 45 18.0 +0.3**
baz=149
N20K Mount Spurr 26.12 331 P **P** **16 45 17.4 -0.4**
baz=131
P18K Big Mountain, 26.22 326 P **P** **16 45 18.1 -0.5**
P18K IAmb IAmb 16 45 31.6
comp=Z,143nm,1.2s
P18K Big Mountain, 26.22 326 P **P** **16 45 19.9 +1.3**
baz=124,SNR=9.4
CHGN Chignik 26.23 318 P **P** **16 45 18.3 -0.3**
CHGN IAmb IAmb 16 45 28.4
comp=Z,148nm,1.1s
CHGN IAMs_20 IAMs_20 16 52 51.6
comp=Z,9µm,20.0s
CHGN Chignik 26.23 318 P **P** **16 45 19.1 +0.5**
baz=114
P40A Paris 26.25 81 P **P** **16 45 19.4 +0.4**
baz=283,SNR=82
I28M Miner Creek 26.25 347 IAMs_20 IAMs_20 16 54 19.9
comp=Z,14µm,18.0s
I28M Miner Creek 26.25 347 P **P** **16 45 18.2 -0.6**
baz=156
CUT Chulitna 26.28 335 IAmb IAmb 16 45 30.9
comp=Z,271nm,1.2s
CUT IAMs_20 IAMs_20 16 53 12.8
comp=Z,9µm,20.0s
CUT Chulitna 26.28 335 P **P** **16 45 21.1 +2.0**
baz=136
O19K Port Alsworth 26.30 328 P **P** **16 45 18.0 -1.2**
O19K IAmb IAmb 16 45 30.0
comp=Z,291nm,1.4s
O19K IAMs_20 IAMs_20 16 53 17.6
comp=Z,10µm,20.0s
O19K Port Alsworth 26.30 328 P **P** **16 45 20.4 +1.1**
baz=126,SNR=7.9

CNBA Chernabura Isl 26.30 314 P P 16 45 18.2 -1.1
CNBA IAmb IAmb 16 45 29.4
comp=Z,190nm,1.3s
CNBA IAMs_20 IAMs_20 16 52 48.3
comp=Z,11µm,20.0s
CHNA Chernabura Isl 26.31 314 P P 16 45 20.2 +0.9
baz=109
R16K Pilot Point 26.36 321 P P 16 45 19.4 -0.4
baz=117
R40A Maddies Statio 26.38 83 P P 16 45 20.7 +0.5
baz=286,SNR=55
L40A Anamosa 26.39 75 IAmb IAmb 16 45 33.4
comp=Z,244nm,1.4s
L40A IAMs_20 IAMs_20 16 55 59.9
comp=Z,15µm,20.0s
L40A Anamosa 26.39 75 P P 16 45 20.6 +0.3
baz=278,SNR=17
L40A S S 16 50 00.6 +7.0
baz=278
SKT Skwentna 26.40 333 P P 16 45 18.9 -1.3
SKT IAMs_20 IAMs_20 16 53 04.1
comp=Z,14µm,22.0s
SKT Skwentna 26.40 333 P P 16 45 20.9 +0.7
baz=133
O18K Koktuh Hills 26.47 327 P P 16 45 19.2 -1.6
O18K IAmb IAmb 16 45 33.6
comp=Z,99nm,1.1s
O18K IAMs_20 IAMs_20 16 53 02.1
comp=Z,11µm,22.0s
O18K Koktuh Hills 26.47 327 P P 16 45 21.3 +0.4
baz=124
HBVL Hebbronville 26.50 112 IAmb IAmb 16 45 33.2
comp=Z,331nm,1.3s
U40A Yellville 26.51 88 P P 16 45 22.2 +0.8
baz=289,SNR=31
U40A P P 16 45 22.2 +0.8
baz=289,SNR=31
U40A S S 16 49 59.3 +3.7
baz=289
U40A S S 16 49 59.3 +3.7
baz=289
RND Reindeer 26.58 337 P P 16 45 20.4 -1.5
RND IAMs_20 IAMs_20 16 54 12.8
comp=Z,9µm,18.0s
RND Reindeer 26.58 337 P P 16 45 20.4 -1.5
RND pmax pmax
comp=Z,103nm,1.4s
RND MLR MLR
comp=Z,9µm,18.0s
I40A Norwalk 26.62 71 P P 16 45 23.7 +1.3
baz=275,SNR=18
I40A S S 16 50 00.1 +2.9
baz=275
J25K Salcha River, 26.62 342 P P 16 45 21.8 -0.5
J25K IAmb IAmb 16 45 30.9
comp=Z,147nm,1.7s
J25K IAMs_20 IAMs_20 16 54 03.0
comp=Z,9µm,19.0s
J25K Salcha River, 26.62 342 P P 16 45 23.5 +1.3
baz=146,SNR=34
P17K Kvichak River 26.64 325 P P 16 45 22.8 +0.5
baz=122
EPYK Eagle Plains 26.64 351 P P 16 45 22.4 0.0
EPYK Eagle Plains 26.64 351 P P 16 45 22.4 0.0
baz=162
I27K Kandik River 26.69 346 P P 16 45 22.4 -0.4
baz=153,SNR=30
MGMO Mountain Grove 26.71 86 IAmb IAmb 16 45 35.6
comp=Z,284nm,1.2s
H29M Whitestone 26.72 349 P P 16 45 23.1 +0.1
baz=159
I26K Coal Creek Min 26.72 344 IAmb IAmb 16 45 32.0
comp=Z,221nm,1.5s
I26K IAMs_20 IAMs_20 16 54 09.5
comp=Z,9µm,19.0s
I26K Coal Creek Min 26.72 344 P P 16 45 23.5 +0.4
baz=151
ZAIG Zacatecas 26.73 124 P P 16 45 23.8 0.0
ZAIG IAmb IAmb 16 45 32.7
comp=Z,274nm,1.9s
ZAIG IAMs_20 IAMs_20 16 55 06.1
comp=Z,11µm,21.0s
N19K Bonanza Creek 26.74 329 IAmb IAmb 16 45 30.6
comp=Z,217nm,1.6s
N19K IAMs_20 IAMs_20 16 53 10.6
comp=Z,9µm,21.0s
N19K Bonanza Creek 26.74 329 P P 16 45 23.6 +0.3
baz=127
S14K Fog Glacier 26.81 317 P P 16 45 23.5 -0.5
baz=112
G40A Rib Lake 26.83 68 IAMs_20 IAMs_20 16 56 14.3
comp=Z,14µm,19.0s
G40A Rib Lake 26.83 68 P P 16 45 25.5 +1.2
baz=272,SNR=34
G40A S S 16 50 11.4 +11
baz=272
HDA Harding Lake 26.85 340 P P 16 45 23.4 -0.7
HDA Harding Lake 26.85 340 P P 16 45 25.9 +1.7
baz=144,SNR=12
MCK McKinley 26.86 338 P P 16 45 24.3 0.0
MCK IAmb IAmb 16 45 33.3
comp=Z,146nm,1.4s
MCK McKinley 26.86 338 P P 16 45 25.5 +1.2
baz=140,SNR=16
MCK McKinley 26.86 338 P P 16 45 24.3 0.0
MCK pmax pmax
comp=Z,146nm,1.4s
N41A Harden Midland 26.89 78 P P 16 45 25.1 +0.3
baz=281,SNR=13
M20K Styx River 26.90 332 IAMs_20 IAMs_20 16 53 29.7
comp=Z,9µm,20.0s
M20K Styx River 26.90 332 P P 16 45 24.6 -0.2
baz=131
G31M Satah River 26.92 353 IAMs_20 IAMs_20 16 55 26.4
comp=Z,8µm,20.0s
G31M Satah River 26.92 353 P P 16 45 26.3 +1.6
baz=167
NATX Nacogdoches 26.95 99 P P 16 45 25.9 +0.5
baz=298
HKT Hockley 26.95 103 P P 16 45 26.2 +0.8
HKT Hockley 26.95 103 P P 16 45 26.7 +1.3
baz=301
HKT S S 16 50 14.1 +12
baz=301
HKT Hockley 26.95 103 *de* **P P 16 45 26.7 +1.3**
HKT pmax pmax
comp=Z,677nm,1.6s
HKT MLR MLR
comp=Z,17µm,21.0s
SDPT Sand Point 26.96 315 P P 16 45 24.8 -0.4
SDPT IAmb IAmb 16 45 34.8
comp=Z,249nm,1.2s
SDPT IAMs_20 IAMs_20 16 53 09.5
comp=Z,9µm,21.0s
SDPT Sand Point 26.96 315 P P 16 45 29.4 +4.2
SDPT Sand Point 26.96 315 P P 16 45 26.2 +0.9
baz=109
JFWS Jewell Farm 26.99 73 P P 16 45 25.0 -0.7
baz=277,SNR=27
JFWS Jewell Farm 26.99 73 P P 16 45 25.9 +0.2
baz=277,SNR=27
JFWS S S 16 50 10.4 +7.2
baz=277
TRF Thorofare Moun 27.05 336 P P 16 45 25.4 -0.8
TRF IAmb IAmb 16 45 50.5
comp=Z,143nm,1.5s
TRF IAMs_20 IAMs_20 16 53 59.0
comp=Z,12µm,19.0s
TRF Thorofare Moun 27.05 336 P P 16 45 27.9 +1.8
baz=137
IL03 Eielson Array 27.12 341 P P 16 45 26.6 0.0
IL31 27.12 341 P P 16 45 25.1 -1.5
ILAR Eielson Array 27.12 341 P P 16 45 25.6 -1.1
ILAR Eielson Array 27.12 341 P P 16 45 26.3 -0.4
comp=Z,9.4nm,1.1s,baz=160,slow=7.6,SNR=37
ILAR PcP PcP 16 48 46.2 -0.8
comp=Z,1.5nm,0.7s,baz=179,slow=2.9,SNR=5.7
ILAR LR LR 16 54 36.9
comp=Z,6µm,18.9s,baz=136,slow=33
comp=Z,9.4nm,1.1s
G30M tAoh Zrail Nji 27.17 352 P P 16 45 28.3 +1.2
baz=163
X40A Basin Creek Fa 27.19 92 IAmb IAmb 16 45 39.5
comp=Z,299nm,2.0s
X40A IAMs_20 IAMs_20 16 56 14.3
comp=Z,9µm,20.0s
N18K Kilae Creek 27.22 328 IAmb IAmb 16 45 37.4
comp=Z,143nm,1.4s
N18K IAMs_20 IAMs_20 16 53 46.4
comp=Z,9µm,21.0s
N18K Kilae Creek 27.22 328 P P 16 45 28.0 +0.4
baz=125
FCAR Ozark Folk Cen 27.22 88 IAmb IAmb 16 45 35.9
comp=Z,172nm,1.6s
CCM Cathedral Cave 27.22 83 P P 16 45 27.9 +0.2
CCM Cathedral Cave 27.22 83 P P 16 45 28.2 +0.4
baz=286
CCM Cathedral Cave 27.22 83 P P 16 45 28.2 +0.4
baz=286,SNR=49
CCM Cathedral Cave 27.22 83 P P 16 45 28.0 +0.2
CCM pmax pmax
comp=Z,517nm,1.5s
CCM MLR MLR
comp=Z,4µm,19.0s
O17K Koliganek Bris 27.22 326 P P 16 45 29.3 +1.7
baz=122
H27K Steamboat Moun 27.24 347 P P 16 45 27.8 +0.1
baz=154
P16K Nushagak River 27.24 324 P P 16 45 28.9 +1.1
baz=119
PPLA Purkeypile 27.26 334 P P 16 45 30.5 +2.5
baz=134,SNR=22
WHAR Wooly Hollow 27.31 90 IAMs_20 IAMs_20 16 56 14.4
comp=Z,9µm,18.0s
KTH Kantishna Hill 27.32 336 P P 16 45 28.4 -0.1
KTH IAMs_20 IAMs_20 16 53 57.2
comp=Z,12µm,20.0s
G29M Pine Creek 27.33 350 P P 16 45 28.4 -0.1
baz=160
SVW2 Sparrevohn 27.34 329 P P 16 45 32.8 +4.2
BWN Browne 27.34 338 IAmb IAmb 16 45 48.7
comp=Z,252nm,1.4s
M19K Big River Lodg 27.37 331 IAmb IAmb 16 45 39.3
comp=Z,162nm,1.4s
M19K IAMs_20 IAMs_20 16 53 45.0
comp=Z,8µm,21.0s
M19K Big River Lodg 27.37 331 P P 16 45 29.2 +0.2
baz=129
F31M Tsiigehtchic 27.38 354 P P 16 45 26.9 -2.0
F31M Tsiigehtchic 27.38 354 P P 16 45 30.2 +1.3
baz=168
PRP Porcupine Dome 27.42 343 P P 16 45 29.3 -0.2
PRP IAMs_20 IAMs_20 16 54 28.6
comp=Z,11µm,20.0s
PRP Porcupine Dome 27.42 343 P P 16 45 29.7 +0.2
baz=147
FCC Fort Churchill 27.44 37 P P 16 45 28.5 -1.0
FCC IAmb IAmb 16 45 40.9
comp=Z,135nm,0.7s
FCC IAMs_20 IAMs_20 16 56 10.4
comp=Z,14µm,21.0s
FCC Fort Churchill 27.44 37 P P 16 45 28.5 -1.0
FCC pmax pmax
comp=Z,135nm,0.7s
FCC MLR MLR
comp=Z,14µm,21.0s
COLA College 27.45 340 P P 16 45 32.1 +2.5
COLA College 27.45 340 P P 16 45 31.0 +1.4
baz=143
UALR University of 27.45 91 IAmb IAmb 16 45 40.8
comp=Z,182nm,1.6s
POKR Poker Plat Res 27.54 341 P P 16 45 30.3 -0.1
POKR IAmb IAmb 16 45 43.3
comp=Z,112nm,1.4s
POKR Poker Plat Res 27.54 341 P P 16 45 29.9 -0.6
baz=144,SNR=15
L42A Oliver, Polo 27.55 75 IAmb IAmb 16 45 40.9
comp=Z,239nm,1.1s
L42A IAMs_20 IAMs_20 16 56 44.4
comp=Z,16µm,21.0s
L42A Oliver, Polo 27.55 75 P P 16 45 31.0 +0.3
baz=279,SNR=26
L42A S S 16 50 15.0 +3.1
baz=279
L20K Farewell, AK 27.56 332 P P 16 45 31.2 +0.7
baz=130,SNR=14
NEA2 Nenana 27.56 339 IAmb IAmb 16 45 42.7
comp=Z,156nm,1.4s
NEA2 Nenana 27.56 339 P P 16 45 30.5 -0.1
baz=140,SNR=35
O16K Kokwok River B 27.57 325 IAmb IAmb 16 45 44.1
comp=Z,84nm,1.1s
O16K IAMs_20 IAMs_20 16 53 53.7
comp=Z,8µm,20.0s
O16K Kokwok River B 27.57 325 P P 16 45 30.7 0.0
baz=120
CAST Castle Rocks 27.59 335 IAMs_20 IAMs_20 16 54 05.4
comp=Z,12µm,21.0s
CAST Castle Rocks 27.59 335 P P 16 45 30.8 -0.1
baz=134,SNR=14
M18K Stony River 27.66 329 P P 16 45 32.4 +0.9
baz=126,SNR=6.4
N17K Nushagak Hills 27.67 327 IAmb IAmb 16 45 43.5
comp=Z,135nm,1.6s
N17K Nushagak Hills 27.67 327 P P 16 45 32.0 +0.4
baz=123
Z41A Richland Creek 27.70 94 IAMs_20 IAMs_20 16 57 19.0
comp=Z,14µm,18.0s
L19K White Mountain 27.72 331 P P 16 45 31.5 -0.6
L19K IAmb IAmb 16 45 42.2
comp=Z,224nm,1.4s
L19K IAMs_20 IAMs_20 16 54 06.4
comp=Z,8µm,20.0s
L19K White Mountain 27.72 331 P P 16 45 33.5 +1.5
baz=128,SNR=36
F30M Barrier River 27.73 352 P P 16 45 32.4 +0.3
baz=164
BPAW Bear Paw Mtn. 27.73 337 P P 16 45 30.0 -2.2
BPAW IAMs_20 IAMs_20 16 54 00.2
comp=Z,9µm,20.0s
BPAW Bear Paw Mtn. 27.73 337 P P 16 45 32.2 +0.1
baz=137
SLM Saint Louis 27.83 82 IAmb IAmb 16 45 38.9
comp=Z,183nm,1.0s
SLM IAMs_20 IAMs_20 16 57 36.1
comp=Z,8µm,18.0s
SLM Saint Louis 27.83 82 P P 16 45 33.1 -0.2
baz=285
I42A Draeger Farm, 27.85 70 P P 16 45 33.9 +0.6
baz=276,SNR=20
I42A S S 16 50 18.4 +1.8
baz=276
FVM French Village 27.86 83 IAmb IAmb 16 45 42.1
comp=Z,109nm,1.1s
FVM French Village 27.86 83 P P 16 45 33.7 +0.1
baz=286,SNR=20
LCAR Lake Charles 27.90 88 IAmb IAmb 16 45 49.0
comp=Z,294nm,1.5s
LCAR Lake Charles 27.90 88 P P 16 45 34.4 +0.5
baz=290,SNR=30
LCAR S S 16 50 18.3 +0.8
baz=290
D41A Chassel 27.92 64 P P 16 45 33.5 -0.5
baz=270,SNR=19
CHUM Lake Minchumin 27.99 336 P P 16 45 33.2 -1.1
baz=135
I23K Minto, Yukon-K 28.07 339 IAmb IAmb 16 45 45.2
comp=Z,210nm,1.4s
I23K Minto, Yukon-K 28.07 339 P P 16 45 34.6 -0.5
baz=141,SNR=40
HDIL Hopedale 28.09 77 IAmb IAmb 16 45 43.0
comp=Z,242nm,1.4s
HDIL Hopedale 28.09 77 P P 16 45 33.1 -2.4
baz=282
HDIL Hopedale 28.09 77 P P 16 45 35.7 +0.2
baz=282
P43A Skaggs, Pawnee 28.12 79 P P 16 45 38.3 +2.4
baz=284
O15K Ungalikthiuk R 28.15 323 P P 16 45 35.6 -0.2
baz=117
K20K Telida 28.20 334 IAmb IAmb 16 45 43.6
comp=Z,168nm,1.6s
K20K IAMs_20 IAMs_20 16 54 12.0
comp=Z,9µm,22.0s
K20K Telida 28.20 334 P P 16 45 36.7 +0.4
baz=131
INK Inuvik 28.21 354 P P 16 45 36.2 -0.1
INK Inuvik 28.21 354 P P 16 45 37.0 +0.6
baz=168
INK Inuvik 28.21 354 P P 16 45 36.2 -0.1
INK pmax pmax
comp=Z,29nm,1.3s
INK MLR MLR
comp=Z,4µm,18.0s
INK Inuvik 28.21 354 LR LR 16 55 19.2
comp=Z,4µm,20.4s,baz=164,slow=33
CCAR Cane Creek 28.22 92 IAMs_20 IAMs_20 16 56 56.7
comp=Z,11µm,20.0s
PBMO Poplar Bluff 28.22 86 IAmb IAmb 16 45 42.5
comp=Z,119nm,1.1s
PBMO IAMs_20 IAMs_20 16 58 08.6
comp=Z,9µm,19.0s
PBMO Poplar Bluff 28.22 86 P P 16 45 37.4 +0.6
baz=289,SNR=14
H24K Noodor Dome 28.23 341 P P 16 45 35.6 -1.0
H24K IAMs_20 IAMs_20 16 55 02.3
comp=Z,7µm,18.0s
H24K Noodor Dome 28.23 341 P P 16 45 36.0 -0.6
baz=144
F28M Old Crow 28.24 349 P P 16 45 35.3 -1.3
F28M Old Crow 28.24 349 P P 16 45 37.8 +1.1
baz=158,SNR=13
FYU Fort Yukon 28.25 344 P P 16 45 35.8 -0.8
FYU IAmb IAmb 16 45 46.3
comp=Z,204nm,1.5s
FYU IAMs_20 IAMs_20 16 55 16.5
comp=Z,12µm,19.0s
M17K Holitna River 28.25 328 P P 16 45 35.5 -1.2
M17K IAmb IAmb 16 45 50.2
comp=Z,105nm,1.4s
M17K IAMs_20 IAMs_20 16 54 29.4
comp=Z,8µm,19.0s
M17K Holitna River 28.25 328 P P 16 45 36.2 -0.5
baz=124
F42A Maple Grove Fa 28.26 66 IAmb IAmb 16 45 50.0
comp=Z,265nm,1.4s
F42A IAMs_20 IAMs_20 16 56 57.1
comp=Z,12µm,19.0s
F42A Maple Grove Fa 28.26 66 P P 16 45 38.6 +1.6
baz=273
G26K Porcupine Rive 28.29 346 P P 16 45 35.5 -1.5
baz=151
N16K Nishlik Lake 28.30 326 P P 16 45 36.1 -1.2
baz=120
K43A Burlington 28.42 73 IAmb IAmb 16 45 53.6
comp=Z,249nm,1.2s
K43A Burlington 28.42 73 P P 16 45 39.1 +0.6
baz=278,SNR=9.9
L18K Granite Mounta 28.43 330 P P 16 45 37.8 -0.5
baz=126
FALS False Pass 28.43 313 P P 16 45 38.2 -0.2
baz=105
441A DeRidder 28.54 99 IAMs_20 IAMs_20 16 56 23.2
comp=Z,12µm,19.0s
G25K Bearman Lake 28.60 344 P P 16 45 39.2 -0.5
baz=147
TTA Tatalina 28.61 332 P P 16 45 39.5 -0.5
TTA IAMs_20 IAMs_20 16 54 33.4
comp=Z,8µm,20.0s
TTA Tatalina 28.61 332 P P 16 45 43.5 +3.5
TTA Tatalina 28.61 332 P P 16 45 38.1 -1.9
baz=128,SNR=9.7
TTA Tatalina 28.61 332 P P 16 45 39.5 -0.5
TTA pmax pmax
comp=Z,65nm,1.4s
TTA MLR MLR
comp=Z,8µm,20.0s
H43A Windswept, Lux 28.61 69 IAMs_20 IAMs_20 16 57 20.4
comp=Z,13µm,20.0s
CGM3 Cape Girardeau 28.65 84 IAmb IAmb 16 45 53.2
comp=Z,345nm,1.7s
M16K Timber Creek 28.67 327 IAmb IAmb 16 45 48.5
comp=Z,253nm,1.9s
M16K IAMs_20 IAMs_20 16 54 30.7
comp=Z,8µm,21.0s
M16K Timber Creek 28.67 327 P P 16 45 40.0 -0.5
baz=121
Q44A Meyer Farm, Va 28.68 81 P P 16 45 41.1 +0.3
baz=285
E29M Blow River 28.71 351 P P 16 45 40.6 -0.2
baz=162
N15K Kwethluk River 28.73 325 IAmb IAmb 16 45 52.1
comp=Z,93nm,1.1s
N15K IAMs_20 IAMs_20 16 54 32.2
comp=Z,8µm,21.0s
N15K Kwethluk River 28.73 325 P P 16 45 40.2 -0.8
baz=118
J20K Nowinta River 28.77 335 P P 16 45 40.7 -0.7
J20K IAmb IAmb 16 45 49.7
comp=Z,116nm,1.4s
J20K IAMs_20 IAMs_20 16 54 52.2
comp=Z,10µm,20.0s
J20K Nowinta River 28.77 335 P P 16 45 41.1 -0.3
baz=132,SNR=17
PARMO Parma 28.78 86 IAMs_20 IAMs_20 16 58 45.2
comp=Z,8µm,18.0s
L44A Lake County Fo 28.81 74 IAmb IAmb 16 45 52.9
comp=Z,214nm,1.1s
L44A Lake County Fo 28.81 74 P P 16 45 40.6 -1.3
baz=280
I21K Tanana 28.82 338 IAMs_20 IAMs_20 16 55 06.9
comp=Z,8µm,20.0s
I21K Tanana 28.82 338 P P 16 45 41.5 -0.3
baz=137,SNR=16
S44A Carbondale 28.84 83 IAmb IAmb 16 45 52.4
comp=Z,137nm,1.1s
O14K Tigyukauivet M 28.85 323 P P 16 45 41.1 -0.9
O14K IAMs_20 IAMs_20 16 54 34.1
comp=Z,9µm,21.0s
O14K Tigyukauivet M 28.85 323 P P 16 45 41.3 -0.8
baz=115
G24K Hadweenzic Riv 28.85 343 IAMs_20 IAMs_20 16 55 24.5
comp=Z,7µm,20.0s
G24K Hadweenzic Riv 28.85 343 P P 16 45 41.8 -0.2
baz=145
M44A Midewin, Midew 28.85 75 P P 16 45 42.8 +0.5
baz=281
SIUC Southern Illin 28.86 83 IAmb IAmb 16 45 52.5
comp=Z,123nm,1.1s
PVMO Portageville 28.90 86 IAMs_20 IAMs_20 16 57 24.4
comp=Z,7µm,20.0s
L17K Donlin 29.00 329 P P 16 45 43.1 -0.3
baz=124
F26K Sheenjek River 29.02 346 P P 16 45 42.5 -1.1
baz=151
C36M Paulatuk 29.02 2 P P 16 45 42.5 -0.9
C36M IAMs_20 IAMs_20 16 56 31.5
comp=Z,7µm,18.0s
C36M Paulatuk 29.02 2 P P 16 45 43.1 -0.4
baz=184
E43A Lone Tree Farm 29.02 65 IAmb IAmb 16 46 00.7
comp=Z,298nm,1.5s
E43A Lone Tree Farm 29.02 65 P P 16 45 44.6 +0.8
baz=272,SNR=16
E27K Coleen River 29.03 348 IAMs_20 IAMs_20 16 55 59.1
comp=Z,6µm,18.0s
E27K Coleen River 29.03 348 P P 16 45 42.4 -1.2
baz=156
E28M Babbage River 29.12 350 IAMs_20 IAMs_20 16 56 23.6
comp=Z,8µm,18.0s
E28M Babbage River 29.12 350 P P 16 45 43.2 -1.2
baz=159
J19K Poorman 29.14 334 IAMs_20 IAMs_20 16 54 40.9
comp=Z,10µm,21.0s
J19K Poorman 29.14 334 P P 16 45 44.1 -0.5
baz=130
H22K Ishtalitna Cre 29.18 339 P P 16 45 44.0 -1.0
baz=139
J18K Innoko River 29.19 332 IAmb IAmb 16 45 54.6
comp=Z,87nm,1.3s
J18K IAMs_20 IAMs_20 16 54 42.2
comp=Z,10µm,21.0s
J18K Innoko River 29.19 332 P P 16 45 44.5 -0.6
baz=128
F25K Christian Rive 29.21 345 P P 16 45 43.7 -1.6
baz=149
HICK Hickman 29.21 86 IAMs_20 IAMs_20 16 58 58.8
comp=Z,7µm,18.0s
L16K Owhat River 29.24 328 P P 16 45 45.3 -0.2
L16K IAmb IAmb 16 45 56.9
comp=Z,154nm,1.1s
L16K IAMs_20 IAMs_20 16 55 00.2
comp=Z,7µm,20.0s
L16K Owhat River 29.24 328 P P 16 45 44.6 -0.9
baz=121,SNR=35
M15K Kasigluk River 29.24 325 P P 16 45 45.2 -0.3
baz=118
GLAT Glass 29.26 86 IAMs_20 IAMs_20 16 57 35.0
comp=Z,8µm,20.0s
K17K Iditarod 29.33 330 P P 16 45 45.2 -1.1
K17K IAmb IAmb 16 45 56.6
comp=Z,105nm,1.3s
K17K IAMs_20 IAMs_20 16 54 54.9

	comp=Z,7µm,21.0s										comp=Z,11µm,19.0s								
K17K	**Iditarod**	29.33	330	P		**P**		**16 45 45.6**	**-0.7**	E46A	**Sault Ste Mari**	30.88	65	P		**P**		**16 45 59.4**	**-0.8**
	baz=124,SNR=12										baz=274,SNR=12								
N14K	**Kuskokwak Cree**	29.33	324	P		**P**		**16 45 44.6**	**-1.8**	WCI	**Wyandotte Cave**	30.92	81	P		**P**		**16 46 00.2**	**-0.5**
	baz=116									WCI	**Wyandotte Cave**	30.92	81	IAms_20	IAms_20			16 59 31.8	
H21K	**Melozitna Rive**	29.41	338	P		**P**		**16 45 46.2**	**-0.8**		comp=Z,6µm,19.0s								
H21K	**Melozitna Rive**	29.41	338	P		**P**		**16 45 45.8**	**-1.2**	WCI	**Wyandotte Cave**	30.92	81	P		**P**		**16 45 59.3**	**-1.3**
	baz=136										baz=287								
OLIL	**Olney**	29.42	81	IAmb		IAmb		16 45 58.4		WCI	**Wyandotte Cave**	30.92	81	P		**P**		**16 46 01.0**	**+0.4**
	comp=Z,358nm,1.9s										baz=287,SNR=6.6								
G23K	**Bananza Creek**	29.46	341	P		**P**		**16 45 47.4**	**-0.1**	WCI				S		**S**		**16 51 08.4**	**+3.5**
	baz=142										baz=287								
UTMT	**University of**	29.56	86	IAMs_20	IAMs_20			16 58 57.8		WCI	**Wyandotte Cave**	30.92	81	P		**P**		**16 46 00.2**	**-0.5**
	comp=Z,7µm,19.0s									WCI				pmax		pmax			
AKUT	**Akutan**	29.60	311	P		**P**		**16 45 48.0**	**-0.8**		comp=Z,541nm,2.0s								
AKUT				IAmb		IAmb		16 46 23.3		WCI				MLR		MLR			
	comp=Z,244nm,1.4s										comp=Z,6µm,19.0s								
AKUT				IAMs_20	IAMs_20			16 54 31.5		E22K	**Anaktuvuk Pass**	31.01	342	IAMs_20	IAMs_20			16 56 41.8	
	comp=Z,7µm,21.0s										comp=Z,7µm,22.0s								
F24K	**Squaw Lake**	29.62	343	IAMs_20	IAMs_20			16 55 59.9		E22K	**Anaktuvuk Pass**	31.01	342	P		**P**		**16 46 01.0**	**-0.1**
	comp=Z,10µm,20.0s										baz=140								
F24K	**Squaw Lake**	29.62	343	P		**P**		**16 45 48.8**	**-0.1**	G19K	**Purcell Mounta**	31.02	336	IAMs_20	IAMs_20			16 56 23.9	
	baz=146										comp=Z,9µm,19.0s								
E25K	**Arctic Village**	29.65	346	P		**P**		**16 45 48.4**	**-0.8**	G19K	**Purcell Mounta**	31.02	336	P		**P**		**16 46 00.6**	**-0.6**
E25K				IAMs_20	IAMs_20			16 56 15.6			baz=131								
	comp=Z,10µm,20.0s									346A	**Big Creek Wild**	31.06	95	IAMs_20	IAMs_20			17 00 02.9	
E25K	**Arctic Village**	29.65	346	P		**P**		**16 45 48.8**	**-0.4**		comp=Z,10µm,18.0s								
	baz=150									346A	**Big Creek Wild**	31.06	95	P		**P**		**16 46 04.5**	**+2.5**
D28M	**Stokes Point**	29.71	351	P		**P**		**16 45 49.9**	**+0.3**		baz=297								
	baz=161									D24K	**Happy Valley**	31.17	345	IAMs_20	IAMs_20			16 57 12.9	
I45A	**Fountain**	29.75	70	IAMs_20	IAMs_20			16 58 05.7			comp=Z,8µm,19.0s								
	comp=Z,14µm,21.0s									D24K	**Happy Valley**	31.17	345	P		**P**		**16 46 02.8**	**+0.3**
SFIN	**Lafayette**	29.76	77	IAMs_20	IAMs_20			16 57 30.2			baz=146								
	comp=Z,9µm,21.0s									H17K	**Granite Mounta**	31.19	333	P		**P**		**16 46 01.8**	**-1.0**
SFIN	**Lafayette**	29.76	77	P		**P**		**16 45 48.4**	**-2.0**	H17K				IAMs_20	IAMs_20			16 55 55.7	
	baz=283										comp=Z,10µm,22.0s								
SFIN	**Lafayette**	29.76	77	P		**P**		**16 45 51.0**	**+0.6**	H17K	**Granite Mounta**	31.19	333	P		**P**		**16 46 02.0**	**-0.8**
	baz=283										baz=126,SNR=9.1								
OXF	**Oxford**	29.79	89	P		**P**		**16 45 50.8**	**+0.1**	F20K	**Avaraart Lake**	31.23	338	P		**P**		**16 46 03.2**	**+0.2**
	baz=292,SNR=28										baz=134								
OXF	**Oxford**	29.79	89	P		**P**		**16 45 52.6**	**+1.9**	P48A	**Milroy**	31.23	78	IAmb		IAmb		16 46 17.0	
	baz=292,SNR=28										comp=Z,146nm,1.4s								
M14K	**Bethel**	29.82	325	P		**P**		**16 45 49.6**	**-1.1**	P48A				IAMs_20	IAMs_20			16 59 05.1	
M14K				IAmb		IAmb		16 45 58.8			comp=Z,6µm,18.0s								
	comp=Z,134nm,1.4s									P48A	**Milroy**	31.23	78	P		**P**		**16 46 03.2**	**-0.2**
M14K				IAMs_20	IAMs_20			16 55 15.7			baz=285								
	comp=Z,7µm,20.0s									P48A				P		**P**		**16 46 03.2**	**-0.2**
M14K	**Bethel**	29.82	325	P		**P**		**16 45 51.4**	**+0.8**		baz=285								
	baz=117									O48B	**Farmland**	31.24	77	IAmb		IAmb		16 46 08.3	
P46A	**Rosedale**	29.86	79	P		**P**		**16 45 50.9**	**-0.4**		comp=Z,139nm,1.2s								
	baz=284									O48B				IAMs_20	IAMs_20			16 58 24.1	
VBMS	**Vicksburg**	29.89	94	IAMs_20	IAMs_20			16 59 14.8			comp=Z,10µm,22.0s								
	comp=Z,13µm,19.0s									O48B	**Farmland**	31.24	77	P		**P**		**16 46 02.0**	**-1.4**
VBMS	**Vicksburg**	29.89	94	P		**P**		**16 45 50.5**	**-1.1**		baz=284,SNR=17								
	baz=296									O48B	**Farmland**	31.24	77	P		**P**		**16 46 02.9**	**-0.6**
H20K	**Anotleneega Mo**	29.90	336	P		**P**		**16 45 50.0**	**-1.4**		baz=284,SNR=17								
	baz=133,SNR=32									NIKH	**Nikolski High**	31.24	308	P		**P**		**16 46 02.1**	**-1.2**
D27M	**Malcolm River**	29.91	350	IAMs_20	IAMs_20			16 55 12.5		NIKH				IAmb		IAmb		16 46 11.9	
	comp=Z,8µm,19.0s										comp=Z,111nm,0.9s								
D27M	**Malcolm River**	29.91	350	P		**P**		**16 45 50.2**	**-1.3**	NIKH	**Nikolski High**	31.24	308	P		P		16 46 11.5	+8.2
	baz=157									NIKH	**Nikolski High**	31.24	308	P		**P**		**16 46 01.3**	**-2.0**
COLD	**Coldfoot**	29.91	342	P		**P**		**16 45 51.3**	**-0.1**		baz=96								
COLD	**Coldfoot**	29.91	342	P		**P**		**16 45 49.5**	**-1.9**	V48A	**Smith Brothers**	31.32	86	IAmb		IAmb		16 46 15.4	
	baz=142,SNR=21										comp=Z,208nm,1.8s								
Y45A	**Yeager Farm, C**	29.94	91	IAMs_20	IAMs_20			16 57 46.2		V48A				IAMs_20	IAMs_20			16 58 46.5	
	comp=Z,8µm,19.0s										comp=Z,6µm,19.0s								
USIN	**University of**	29.96	82	IAmb		IAmb		16 45 57.8		G18K	**Tagagawik**	31.35	335	IAMs_20	IAMs_20			16 56 24.2	
	comp=Z,116nm,0.9s										comp=Z,7µm,20.0s								
USIN				IAMs_20	IAMs_20			16 59 38.5		G18K	**Tagagawik**	31.35	335	P		**P**		**16 46 01.1**	**-3.0**
	comp=Z,9µm,18.0s										baz=128								
UNV	**Unalaska Valle**	29.97	310	P		**P**		**16 45 51.2**	**-0.8**	L48A	**N Adams**	31.40	73	IAmb		IAmb		16 46 10.2	
UNV	**Unalaska Valle**	29.97	310	P		P		16 45 58.3	+6.2		comp=Z,122nm,1.1s								
UNV	**Unalaska Valle**	29.97	310	P		P		**16 45 50.7**	**-1.4**	L48A	**N Adams**	31.40	73	P		**P**		**16 46 05.1**	**+0.2**
	baz=100										baz=282								
G22K	**Bettles**	30.00	340	P		**P**		**16 45 51.0**	**-1.1**	L48A				P		**P**		**16 46 05.1**	**+0.2**
	baz=140										baz=282								
L46A	**Eue Claire**	30.02	74	IAmb		IAmb		16 45 58.3		D23K	**Nanushuk River**	31.40	343	P		**P**		**16 46 02.2**	**-2.4**
	comp=Z,166nm,1.0s										baz=143								
GCSA	**Galena City Sc**	30.05	334	P		**P**		**16 45 51.0**	**-1.6**	J14K	**Nanvaranak Lak**	31.41	328	IAMs_20	IAMs_20			16 56 18.3	
	baz=129,SNR=7.3										comp=Z,7µm,20.0s								
L15K	**Ungalak Mounta**	30.05	327	P		**P**		**16 45 50.6**	**-2.1**	J14K	**Nanvaranak Lak**	31.41	328	P		**P**		**16 46 03.1**	**-1.6**
	baz=119										baz=118								
G45A	**Suttons Bay**	30.05	68	IAMs_20	IAMs_20			16 58 03.6		CLTN	**Cedars of Leba**	31.57	85	IAmb		IAmb		16 46 18.2	
	comp=Z,13µm,20.0s										comp=Z,201nm,1.7s								
G21K	**Allakaket**	30.23	339	IAmb		IAmb		16 46 03.0		M11K	**Mekoryuk**	31.59	323	P		**P**		**16 46 03.7**	**-2.5**
	comp=Z,102nm,1.4s										baz=111								
G21K				IAMs_20	IAMs_20			16 56 21.3		C24K	**Franklin Bluff**	31.62	345	P		**P**		**16 46 06.0**	**-0.5**
	comp=Z,6µm,18.0s										baz=146								
G21K	**Allakaket**	30.23	339	P		**P**		**16 45 54.2**	**0.0**	X48A	**Hartselle**	31.62	88	IAmb		IAmb		16 46 16.9	
	baz=136										comp=Z,111nm,1.1s								
M13K	**Dall Lake**	30.29	324	IAmb		IAmb		16 46 04.9		X48A	**Hartselle**	31.62	88	P		**P**		**16 46 06.8**	**-0.1**
	comp=Z,139nm,1.1s										baz=293,SNR=25								
M13K				IAMs_20	IAMs_20			16 55 39.8		A36M	**Sachs Harbour**	31.65	1	P		**P**		**16 46 06.7**	**0.0**
	comp=Z,8µm,19.0s									A36M				IAmb		IAmb		16 46 17.3	
M13K	**Dall Lake**	30.29	324	P		**P**		**16 45 55.2**	**+0.4**		comp=Z,90nm,1.6s								
	baz=114									A36M				IAMs_20	IAMs_20			16 57 50.0	
K15K	**Wolf Creek Mou**	30.37	328	P		**P**		**16 45 55.1**	**-0.4**		comp=Z,6µm,19.0s								
K15K				IAMs_20	IAMs_20			16 55 35.7		A36M	**Sachs Harbour**	31.65	1	P		**P**		**16 46 06.4**	**-0.3**
	comp=Z,7µm,20.0s										baz=182,SNR=22								
K15K	**Wolf Creek Mou**	30.37	328	P		**P**		**16 45 54.0**	**-1.5**	F19K	**Shaleruckik Mo**	31.68	337	IAMs_20	IAMs_20			16 56 44.8	
	baz=120										comp=Z,7µm,20.0s								
L14K	**Kuka Creek**	30.40	326	IAmb		IAmb		16 46 04.9		F19K	**Shaleruckik Mo**	31.68	337	P		**P**		**16 46 07.0**	**0.0**
	comp=Z,140nm,1.3s										baz=131								
L14K				IAMs_20	IAMs_20			16 55 35.6		P49A	**Miami Univ. Ec**	31.74	78	IAMs_20	IAMs_20			16 59 19.6	
	comp=Z,6µm,20.0s										comp=Z,7µm,21.0s								
L14K	**Kuka Creek**	30.40	326	P		**P**		**16 45 55.6**	**-0.2**	P49A	**Miami Univ. Ec**	31.74	78	P		**P**		**16 46 06.1**	**-1.8**
	baz=117										baz=285,SNR=14								
H19K	**Roundabout Mou**	30.41	336	P		**P**		**16 45 55.8**	**0.0**	P49A	**Miami Univ. Ec**	31.74	78	P		**P**		**16 46 07.2**	**-0.7**
H19K				IAmb		IAmb		16 46 05.5			baz=285,SNR=14								
	comp=Z,149nm,1.3s									R49A	**Shelbyville**	31.75	80	IAmb		IAmb		16 46 21.8	
H19K				IAMs_20	IAMs_20			16 55 55.0			comp=Z,274nm,1.9s								
	comp=Z,9µm,20.0s									R49A				IAMs_20	IAMs_20			16 58 13.7	
H19K	**Roundabout Mou**	30.41	336	P		**P**		**16 45 56.5**	**+0.7**		comp=Z,6µm,19.0s								
	baz=131									G17K	**Kiwalik Mounta**	31.77	334	P		**P**		**16 46 07.8**	**-0.1**
WVT	**Waverly**	30.41	86	P		**P**		**16 45 55.7**	**-0.5**		baz=125								
WVT	**Waverly**	30.41	86	IAMs_20	IAMs_20			16 58 09.6		D22K	**Ayikyak River**	31.79	342	P		**P**		**16 46 07.1**	**-0.8**
	comp=Z,7µm,21.0s									D22K				IAmb		IAmb		16 46 17.7	
WVT	**Waverly**	30.41	86	P		**P**		**16 45 55.6**	**-0.6**		comp=Z,114nm,1.5s								
	baz=290									D22K				IAMs_20	IAMs_20			16 57 19.4	
WVT	**Waverly**	30.41	86	P		**P**		**16 45 56.3**	**+0.1**		comp=Z,8µm,20.0s								
	baz=290,SNR=24									D22K	**Ayikyak River**	31.79	342	P		**P**		**16 46 07.5**	**-0.5**
WVT	**Waverly**	30.41	86	P		**P**		**16 45 55.7**	**-0.5**		baz=140,SNR=22								
WVT				pmax		pmax				N49A	**Columbus Grove**	31.80	75	IAmb		IAmb		16 46 13.4	
	comp=Z,408nm,2.0s										comp=Z,130nm,1.3s								
WVT				MLR		MLR				N49A	**Columbus Grove**	31.80	75	P		**P**		**16 46 08.0**	**-0.4**
	comp=Z,7µm,21.0s										baz=283,SNR=16								
E23K	**Chandalar**	30.44	343	P		**P**		**16 45 55.5**	**-0.7**	N49A				P		**P**		**16 46 08.0**	**-0.4**
	baz=144										baz=283,SNR=16								
BLO	**Bloomington**	30.49	79	IAmb		IAmb		16 46 00.4		U49A	**Red Boiling Sp**	31.84	84	IAMs_20	IAMs_20			16 58 46.4	
	comp=Z,71nm,0.8s										comp=Z,5µm,18.0s								
J16K	**Anvik River**	30.52	330	P		**P**		**16 45 56.6**	**-0.3**	U49A	**Red Boiling Sp**	31.84	84	P		**P**		**16 46 09.4**	**+0.6**
J16K	**Anvik River**	30.52	330	P		**P**		**16 45 56.7**	**-0.1**		baz=290,SNR=16								
	baz=122,SNR=13									CLES	**Cleveland East**	31.85	308	IAMs_20	IAMs_20			16 55 20.1	
F22K	**John River**	30.61	341	P		**P**		**16 45 56.8**	**-0.8**		comp=Z,6µm,21.0s								
	baz=139									H16K	**Elim**	31.85	331	P		**P**		**16 46 08.8**	**+0.3**
T47A	**Sharon Grove**	30.68	84	P		**P**		**16 45 59.4**	**+0.9**		baz=122,SNR=29								
	baz=289									O49A	**Covington**	31.86	76	IAmb		IAmb		16 46 13.8	
N47A	**Urbana**	30.69	76	IAmb		IAmb		16 46 14.1			comp=Z,74nm,0.9s								
	comp=Z,51nm,0.9s									O49A				IAMs_20	IAMs_20			16 59 19.7	
N47A	**Urbana**	30.69	76	P		**P**		**16 45 58.2**	**-0.4**		comp=Z,11µm,20.0s								
	baz=283									O49A	**Covington**	31.86	76	P		**P**		**16 46 08.5**	**-0.5**
N47A				P		**P**		**16 45 58.2**	**-0.4**		baz=284,SNR=11								
	baz=283									O49A				P		**P**		**16 46 08.5**	**-0.5**
F21K	**Alatna River**	30.74	340	P		**P**		**16 45 58.1**	**-0.7**		baz=284,SNR=11								
	baz=137									E19K	**Redstone River**	31.93	338	IAmb		IAmb		16 46 17.7	
H18K	**Honhosa River**	30.79	334	IAMs_20	IAMs_20			16 56 05.5			comp=Z,76nm,1.3s								
	comp=Z,7µm,20.0s									E19K	**Redstone River**	31.93	338	P		**P**		**16 46 08.9**	**-0.4**
H18K	**Honhosa River**	30.79	334	P		**P**		**16 45 58.1**	**-1.2**		baz=132								
	baz=128									KHLH	**Kahului Airpor**	32.10	242	P		**P**		**16 46 11.3**	**+0.1**
GLMI	**Grayling**	30.81	68	IAMs_20	IAMs_20			16 58 44.6		KHLH				IAMs_20	IAMs_20			16 54 50.7	
	comp=Z,11µm,22.0s										comp=Z,11µm,20.0s								
GLMI	**Grayling**	30.81	68	P		**P**		**16 45 56.7**	**-2.9**	P08K	**Saint George I**	32.21	315	P		**P**		**16 46 10.8**	**-0.9**
	baz=277										baz=102								
146A	**Union**	30.82	93	IAmb		IAmb		16 46 12.3		LRAL	**Lakeview Retre**	32.22	91	IAMs_20	IAMs_20			16 59 09.5	
	comp=Z,207nm,1.2s										comp=Z,5µm,18.0s								
146A				IAMs_20	IAMs_20			16 58 40.5		LRAL	**Lakeview Retre**	32.22	91	P		**P**		**16 46 10.9**	**-1.3**
	comp=Z,13µm,22.0s										baz=295,SNR=26								
D25K	**Kavik River**	30.84	346	IAMs_20	IAMs_20			16 57 17.1		LRAL	**Lakeview Retre**	32.22	91	P		**P**		**16 46 13.2**	**+1.0**
	comp=Z,9µm,19.0s										baz=295,SNR=26								
D25K	**Kavik River**	30.84	346	P		**P**		**16 45 58.8**	**-0.9**	HPAH	**Hawaii Prepara**	32.23	240	IAMs_20	IAMs_20			16 55 16.0	
	baz=149										comp=Z,9µm,20.0s								
I17K	**Unalakleet**	30.88	331	IAmb		IAmb		16 46 09.9		G16K	**Koyuk River**	32.30	333	IAMs_20	IAMs_20			16 56 41.4	
	comp=Z,102nm,1.2s										comp=Z,9µm,22.0s								
I17K				IAMs_20	IAMs_20			16 56 04.6		G16K	**Koyuk River**	32.30	333	P		**P**		**16 46 10.7**	**-1.8**
	comp=Z,7µm,19.0s										baz=123								
I17K	**Unalakleet**	30.88	331	P		**P**		**16 45 60.0**	**0.0**	POHA	**Pohakuloa**	32.31	239	IAMs_20	IAMs_20			16 55 50.3	
	baz=123										comp=Z,12µm,21.0s								
E46A	**Sault Ste Mari**	30.88	65	IAMs_20	IAMs_20			16 58 38.4		STCH	**Steam Cracks**	32.32	238	IAMs_20	IAMs_20			16 55 10.3	

	comp=Z,12µm,21.0s								
Y49A	**Blount Mountai**	32.34	89	IAmb		IAmb		16 46 23.6	
	comp=Z,164nm,1.8s								
Y49A				IAMs_20	IAMs_20			17 00 41.5	
	comp=Z,7µm,19.0s								
Y49A	**Blount Mountai**	32.34	89	P		**P**		**16 46 13.4**	**+0.3**
	baz=294								
HATHI	**Halema'uma'u T**	32.38	238	IAMs_20	IAMs_20			16 55 10.9	
	comp=Z,11µm,21.0s								
PUH	**Pauahi**	32.38	238	IAMs_20	IAMs_20			16 55 52.1	
	comp=Z,10µm,19.0s								
BYL	**Byron's Ledge**	32.38	238	P		**P**		**16 46 12.2**	**-1.6**
BYL				IAMs_20	IAMs_20			16 56 13.1	
	comp=Z,12µm,20.0s								
R50A	**Paris**	32.38	80	IAMs_20	IAMs_20			16 58 43.6	
	comp=Z,6µm,20.0s								
R50A	**Paris**	32.38	80	P		**P**		**16 46 14.2**	**+0.7**
	baz=287								
R50A				P		**P**		**16 46 14.2**	**+0.7**
	baz=287								
T50A	**Nancy**	32.39	82	IAmb		IAmb		16 46 25.0	
	comp=Z,244nm,1.6s								
T50A	**Nancy**	32.39	82	P		**P**		**16 46 14.3**	**+0.7**
	baz=289								
T50A				P		**P**		**16 46 14.3**	**+0.7**
	baz=289								
HMH	**Humu'ula Sheep**	32.39	239	IAMs_20	IAMs_20			16 55 10.3	
	comp=Z,12µm,21.0s								
OBL	**Observatory Le**	32.40	238	P		**P**		**16 46 12.5**	**-1.4**
OBL				IAMs_20	IAMs_20			16 55 11.4	
	comp=Z,11µm,21.0s								
NPH	**North Pit**	32.40	238	IAMs_20	IAMs_20			16 55 02.5	
	comp=Z,12µm,21.0s								
KKO	**Keanakako`i**	32.40	238	P		**P**		**16 46 12.8**	**-1.2**
KKO				IAmb		IAmb		16 46 16.0	
	comp=Z,155nm,1.1s								
KKO				IAMs_20	IAMs_20			16 56 12.5	
	comp=Z,11µm,20.0s								
RIM	**Rim**	32.41	238	IAMs_20	IAMs_20			16 55 02.7	
	comp=Z,12µm,21.0s								
MLH	**Mauna Loa**	32.41	239	IAMs_20	IAMs_20			16 56 00.7	
	comp=Z,11µm,20.0s								
WRMHI	**West Rim**	32.41	238	P		**P**		**16 46 13.2**	**-0.9**
WRMHI				IAmb		IAmb		16 46 19.3	
	comp=Z,211nm,1.4s								
WRMHI				IAMs_20	IAMs_20			16 55 03.9	
	comp=Z,12µm,20.0s								
SDHHI	**Sand Hill**	32.42	238	P		**P**		**16 46 13.2**	**-0.9**
SDHHI				IAmb		IAmb		16 47 06.0	
	comp=Z,205nm,1.4s								
C21K	**Knifeblade Rid**	32.49	342	P		**P**		**16 46 13.1**	**-1.1**
	baz=137								
MLOA	**Mauna Loa Obse**	32.50	239	P		**P**		**16 46 13.2**	**-2.0**
F17K	**Baldwin Pennin**	32.52	335	IAmb		IAmb		16 46 28.4	
	comp=Z,107nm,1.2s								
F17K				IAMs_20	IAMs_20			16 57 10.2	
	comp=Z,7µm,20.0s								
F17K	**Baldwin Pennin**	32.52	335	P		**P**		**16 46 14.1**	**-0.3**
	baz=126								
M50A	**Fremont**	32.53	74	IAmb		IAmb		16 46 28.8	
	comp=Z,173nm,1.5s								
M50A	**Fremont**	32.53	74	P		**P**		**16 46 15.1**	**+0.3**
	baz=283								
M50A				P		**P**		**16 46 15.1**	**+0.3**
	baz=283								
MWH	**Moku'aweowe**	32.55	239	IAMs_20	IAMs_20			16 55 58.5	
	comp=Z,11µm,20.0s								
K50A	**Casco**	32.55	71	IAMs_20	IAMs_20			17 00 03.8	
	comp=Z,12µm,20.0s								
HUH	**Hualalai**	32.56	239	P		**P**		**16 46 13.8**	**-1.8**
HUH				IAMs_20	IAMs_20			16 55 16.9	
	comp=Z,12µm,22.0s								
OPA	**Opana**	32.65	245	IAMs_20	IAMs_20			16 55 11.0	
	comp=Z,11µm,20.0s								
W50A	**Signal Mountai**	32.66	86	IAMs_20	IAMs_20			16 59 28.1	
	comp=Z,8µm,20.0s								
W50A	**Signal Mountai**	32.66	86	P		**P**		**16 46 17.2**	**+1.2**
	baz=292,SNR=29								
W50A				S		**S**		**16 51 35.7**	**+3.5**
	baz=292								
KHLU	**Kahalu`u**	32.67	239	P		**P**		**16 46 14.7**	**-1.6**
KHLU				IAMs_20	IAMs_20			16 55 59.6	
	comp=Z,10µm,20.0s								
FPAL	**Fort Paine**	32.68	87	IAmb		IAmb		16 46 26.4	
	comp=Z,101nm,1.1s								
G15K	**Niukluk**	32.70	331	P		**P**		**16 46 15.5**	**-0.4**
	baz=120								
SPIA	**Saint Paul Isl**	32.70	316	P		**P**		**16 46 15.4**	**-0.6**
	baz=102								
KHU	**Kahuku**	32.73	239	P		**P**		**16 46 15.7**	**-1.3**
KHU	**Kahuku**	32.73	239	P		**P**		**16 46 15.7**	**-1.3**
KHU				pmax		pmax			
	comp=Z,649nm,1.5s								
KHU				MLR		MLR			
	comp=Z,12µm,20.0s								
B21K	**Ikpikpuk River**	32.80	342	IAMs_20	IAMs_20			16 57 27.0	
	comp=Z,8µm,21.0s								
KIP	**Kipapa**	32.83	244	eP		**P**		**16 46 17.6**	**+0.1**
KIP				pmax		pmax			
	comp=Z,621nm,3.6s								
ACSO	**Alum Creek Sta**	32.85	76	P		**P**		**16 46 16.6**	**-1.0**
	baz=285,SNR=15								
ACSO	**Alum Creek Sta**	32.85	76	P		**P**		**16 46 17.9**	**+0.2**
	baz=285,SNR=15								
Q51A	**Peebles**	32.91	78	IAMs_20	IAMs_20			16 59 55.3	
	comp=Z,8µm,21.0s								
Q51A	**Peebles**	32.91	78	P		**P**		**16 46 18.2**	**+0.1**
	baz=286								
Q51A				P		**P**		**16 46 18.2**	**+0.1**
	baz=286								
ANM	**Nome**	32.98	330	IAmb		IAmb		16 46 28.5	
	comp=Z,92nm,1.3s								
ANM	**Nome**	32.98	330	P		**P**		**16 46 18.1**	**-0.4**
	baz=118,SNR=25								
P51A	**Williamsport**	32.99	77	IAMs_20	IAMs_20			16 59 54.6	
	comp=Z,8µm,22.0s								
P

P52A	**Corning**	**33.64**	**77**	P	**P**	**16 46 22.6**	**-1.9**	
	baz=286								
TKL	**Tuckaleechee C**	**33.66**	**84**	P	**P**	**16 46 25.4**	**+0.6**	
	baz=291,SNR=8.3								
TKL	**Tuckaleechee C**	**33.66**	**84**	LR	LR	16 59 56.3		
	comp=Z,3µm,19.1s,baz=290,slow=36								
B20K	**Meade River**	**33.69**	**342**	IAMs_20	IAMs_20	16 58 16.5		
	comp=Z,8µm,22.0s								
B20K	**Meade River**	**33.69**	**342**	P	**P**	**16 46 23.3**	**-1.3**	
	baz=135								
C19K	**Lookout Ridge**	**33.69**	**339**	IAmb	IAmb	16 46 33.1		
C19K	comp=Z,120nm,1.4s			IAMs_20	IAMs_20	16 58 27.9			
	comp=Z,6µm,20.0s								
C19K	**Lookout Ridge**	**33.69**	**339**	P	**P**	**16 46 23.9**	**-0.8**	
	baz=131								
Q52A	**Bidwell**	**33.73**	**78**	IAmb	IAmb	16 46 30.4		
Q52A	comp=Z,83nm,1.0s			IAMs_20	IAMs_20	17 00 30.1			
	comp=Z,9µm,20.0s								
Q52A	**Bidwell**	**33.73**	**78**	P	**P**	**16 46 25.2**	**-0.1**	
	baz=287,SNR=12								
Q52A				P	**P**	**16 46 25.2**	**-0.1**		
	baz=287,SNR=12								
M52A	**Chesterland**	**33.73**	**73**	IAmb	IAmb	16 46 31.3		
	comp=Z,185nm,1.8s								
O52A	**Adamsville**	**33.73**	**76**	IAmb	IAmb	16 46 30.1		
	comp=Z,88nm,1.3s								
O52A	**Adamsville**	**33.73**	**76**	P	**P**	**16 46 24.4**	**-0.9**	
	baz=285								
O52A				P	**P**	**16 46 24.4**	**-0.9**		
	baz=285								
V52A	**Sevierville**	**33.73**	**84**	P	**P**	**16 46 26.4**	**+1.0**	
	baz=291,SNR=6.0								
F14K	**Arctic Creek**	**33.77**	**331**	P	**P**	**16 46 24.0**	**-1.3**	
	baz=118,SNR=16								
C18K	**Utukok River**	**33.84**	**338**	IAmb	IAmb	16 46 33.9		
C18K	comp=Z,94nm,1.5s			IAMs_20	IAMs_20	16 58 46.9			
	comp=Z,6µm,20.0s								
C18K	**Utukok River**	**33.84**	**338**	P	**P**	**16 46 26.6**	**+0.6**	
	baz=128,SNR=25								
A22K	**Sinclair Lake**	**33.92**	**344**	P	**P**	**16 46 26.4**	**-0.2**	
	baz=139								
152A	**Waverly Hall**	**34.12**	**90**	IAmb	IAmb	16 46 34.8		
152A	comp=Z,143nm,1.6s			IAMs_20	IAMs_20	17 01 17.7			
	comp=Z,5µm,20.0s								
152A	**Waverly Hall**	**34.12**	**90**	P	**P**	**16 46 28.6**	**-0.1**	
	baz=295								
Y52A	**Lilburn**	**34.13**	**87**	IAMs_20	IAMs_20	17 00 24.9		
	comp=Z,5µm,18.0s								
Y52A	**Lilburn**	**34.13**	**87**	P	**P**	**16 46 29.4**	**+0.6**	
	baz=294,SNR=13								
Y52A				P	**P**	**16 46 29.4**	**+0.6**		
	baz=294,SNR=13								
R53A	**Hurricane**	**34.15**	**79**	IAmb	IAmb	16 46 36.4		
	comp=Z,140nm,1.9s								
R53A				IAMs_20	IAMs_20	17 00 44.4			
	comp=Z,7µm,20.0s								
O53A	**New Philadelph**	**34.16**	**75**	IAmb	IAmb	16 46 34.1		
	comp=Z,151nm,1.4s								
O53A	**New Philadelph**	**34.16**	**75**	P	**P**	**16 46 27.7**	**-1.3**	
	baz=285								
P53A	**Whipple**	**34.23**	**77**	IAmb	IAmb	16 46 35.9		
	comp=Z,280nm,1.9s								
P53A				IAMs_20	IAMs_20	17 00 43.5			
	comp=Z,9µm,20.0s								
P53A	**Whipple**	**34.23**	**77**	P	**P**	**16 46 29.3**	**-0.3**	
	baz=286								
P53A				P	**P**	**16 46 29.3**	**-0.3**		
	baz=286								
451A	**Vernon**	**34.25**	**94**	IAMs_20	IAMs_20	17 01 55.2		
	comp=Z,8µm,19.0s								
M53A	**WI Miller and**	**34.25**	**73**	IAmb	IAmb	16 46 35.1		
	comp=Z,137nm,1.4s								
M53A	**WI Miller and**	**34.25**	**73**	P	**P**	**16 46 29.0**	**-0.9**	
	baz=284								
N53A	**Lisbon**	**34.29**	**74**	P	**P**	**16 46 30.0**	**-0.2**	
	baz=285								
N53A				P	**P**	**16 46 30.0**	**-0.2**		
	baz=285								
C17K	**DeLong Mountai**	**34.32**	**337**	P	**P**	**16 46 29.3**	**-0.8**	
	baz=126								
V53A	**Saluda**	**34.39**	**84**	IAMs_20	IAMs_20	17 02 24.8		
	comp=Z,6µm,18.0s								
V53A	**Saluda**	**34.39**	**84**	P	**P**	**16 46 31.9**	**+0.7**	
	baz=291,SNR=22								
V53A				P	**P**	**16 46 31.9**	**+0.7**		
	baz=291,SNR=22								
TNA	**Tin City**	**34.40**	**331**	P	**P**	**16 46 31.0**	**+0.2**	
	baz=116,SNR=9.2								
ATKA	**Atka Island**	**34.45**	**306**	P	**P**	**16 46 30.2**	**-1.1**	
B18K	**Kokolik River**	**34.46**	**339**	P	**P**	**16 46 30.7**	**-0.6**	
	baz=128								
352A	**Blakely**	**34.48**	**92**	IAMs_20	IAMs_20	17 00 29.3		
	comp=Z,9µm,22.0s								
A21K	**Barrow**	**34.52**	**343**	P	**P**	**16 46 31.0**	**-0.7**	
	baz=137,SNR=17								
BG3	**Lake Jocassee**	**34.55**	**85**	IAmb	IAmb	16 46 44.3		
	comp=Z,150nm,1.3s								
BG3				IAMs_20	IAMs_20	17 00 14.0			
	comp=Z,5µm,18.0s								
CASEE	**Lake Jocassee**	**34.55**	**85**	P	**P**	**16 46 33.2**	**+0.7**	
	baz=292,SNR=10								
ALLY	**Alegheny Colle**	**34.59**	**72**	P	**P**	**16 46 33.3**	**+0.5**	
	baz=284								
ERPA	**Erie**	**34.60**	**72**	IAmb	IAmb	16 46 47.4		
	comp=Z,169nm,1.4s								
ERPA	**Erie**	**34.60**	**72**	P	**P**	**16 46 33.2**	**+0.4**	
	baz=283								
ERPA	**Erie**	**34.60**	**72**	P	**P**	**16 46 33.3**	**+0.5**	
	baz=283								
SADO	**Sadowa**	**34.68**	**67**	IAmb	IAmb	16 46 45.4		
	comp=Z,205nm,1.4s								
SADO				IAMs_20	IAMs_20	17 00 53.9			
	comp=Z,8µm,18.0s								
SADO	**Sadowa**	**34.68**	**67**	LR	LR	17 01 36.2		
	comp=Z,8µm,18.1s,baz=284,slow=38								
GOGA	**Godfrey**	**34.76**	**88**	IAMs_20	IAMs_20	17 02 02.8		
	comp=Z,6µm,20.0s								
GOGA	**Godfrey**	**34.76**	**88**	P	**P**	**16 46 32.5**	**-1.8**	
	baz=294								
GOGA	**Godfrey**	**34.76**	**88**	P	**P**	**16 46 35.1**	**+0.8**	
	baz=294								
O54A	**Avella**	**34.79**	**75**	IAmb	IAmb	16 46 39.8		
	comp=Z,124nm,1.4s								
A19K	**Wainwright**	**34.80**	**340**	P	**P**	**16 46 33.8**	**-0.4**	
	baz=130								
U54A	**Nelsons Funny**	**34.84**	**82**	IAMs_20	IAMs_20	17 00 01.6		
	comp=Z,6µm,19.0s								
C16K	**Lisburne Hills**	**34.87**	**336**	IAmb	IAmb	16 46 43.8		
	comp=Z,83nm,1.3s								
C16K				IAMs_20	IAMs_20	16 58 58.2			
	comp=Z,8µm,19.0s								
C16K	**Lisburne Hills**	**34.87**	**336**	P	**P**	**16 46 34.3**	**-0.5**	
	baz=123								
GAMB	**Gambell**	**35.20**	**327**	P	**P**	**16 46 35.9**	**-1.8**	
	baz=110								
J54A	**Appleton**	**35.31**	**69**	IAmb	IAmb	16 46 51.1		
	comp=Z,102nm,1.1s								
J54A	**Appleton**	**35.31**	**69**	P	**P**	**16 46 39.5**	**+0.5**	
	baz=282								
J54A				P	**P**	**16 46 39.5**	**+0.5**		
	baz=282								
MCWV	**Mont Chateau**	**35.33**	**76**	P	**P**	**16 46 37.7**	**-1.5**	
	baz=287								
MCWV	**Mont Chateau**	**35.33**	**76**	P	**P**	**16 46 39.8**	**+0.6**	
	baz=287								
154A	**Montrose**	**35.37**	**89**	IAMs_20	IAMs_20	17 02 07.9		
	comp=Z,6µm,18.0s								
VLDQ	**Val d'Or**	**35.38**	**61**	IAmb	IAmb	16 46 48.7		
	comp=Z,255nm,1.8s								
553A	**Crawfordville**	**35.45**	**93**	IAMs_20	IAMs_20	17 01 45.1		
	comp=Z,8µm,20.0s								
PAULI	**Pauline**	**35.46**	**85**	P	**P**	**16 46 40.7**	**+0.4**	
	baz=293,SNR=6.5								
MEDO	**Medina**	**35.47**	**69**	IAmb	IAmb	16 46 52.4		
	comp=Z,145nm,1.2s								
TIGA	**Tifton**	**35.52**	**91**	IAMs_20	IAMs_20	17 01 01.8		
	comp=Z,8µm,22.0s								
TIGA	**Tifton**	**35.52**	**91**	P	**P**	**16 46 39.7**	**-1.1**	
	baz=297								
WVNY	**West Valley, N**	**35.53**	**71**	P	**P**	**16 46 41.1**	**+0.2**	
	baz=283,SNR=13								
V55A	**Taylorsville**	**35.53**	**83**	IAmb	IAmb	16 46 51.6		
	comp=Z,118nm,1.2s								
V55A				IAMs_20	IAMs_20	17 03 13.1			
	comp=Z,7µm,18.0s								
V55A	**Taylorsville**	**35.53**	**83**	P	**P**	**16 46 40.9**	**-0.1**	
	baz=291,SNR=13								
V55A				P	**P**	**16 46 40.9**	**-0.1**		
	baz=291,SNR=13								
R55A	**Marlinton**	**35.54**	**78**	IAMs_20	IAMs_20	17 01 37.4		
	comp=Z,8µm,21.0s								
R55A	**Marlinton**	**35.54**	**78**	P	**P**	**16 46 41.6**	**+0.6**	
	baz=288								
R55A				P	**P**	**16 46 41.6**	**+0.6**		
	baz=288								
GSTR	**Great Sitkin T**	**35.59**	**306**	P	**P**	**16 46 39.8**	**-1.5**	
M55A	**Ridgway**	**35.64**	**72**	P	**P**	**16 46 42.2**	**+0.4**	
	baz=285,SNR=13								
M55A				P	**P**	**16 46 42.2**	**+0.4**		
	baz=285,SNR=13								
BLA	**Blacksburg**	**35.66**	**80**	IAmb	IAmb	16 46 49.1		
	comp=Z,110nm,0.9s								
BLA	**Blacksburg**	**35.66**	**80**	P	**P**	**16 46 41.4**	**-0.7**	
	baz=290,SNR=14								
BLA	**Blacksburg**	**35.66**	**80**	P	**P**	**16 46 42.6**	**+0.6**	
	baz=290,SNR=14								
KMSC	**Kings Mountain**	**35.71**	**84**	IAmb	IAmb	16 46 54.5		
	comp=Z,176nm,1.3s								
KMSC	**Kings Mountain**	**35.71**	**84**	P	**P**	**16 46 41.9**	**-0.6**	
	baz=292,SNR=12								
KMSC	**Kings Mountain**	**35.71**	**84**	P	**P**	**16 46 43.0**	**+0.6**	
	baz=292,SNR=12								
DELO	**Deloro Mine**	**35.79**	**67**	IAMs_20	IAMs_20	17 01 27.4		
	comp=Z,8µm,18.0s								
CMIG	**Matias Romero**	**35.79**	**121**	LR	LR	17 02 32.9		
	comp=Z,7µm,19.8s,baz=310,slow=38								
J55A	**Hilton**	**35.90**	**69**	IAmb	IAmb	16 46 57.8		
	comp=Z,99nm,0.9s								
J55A	**Hilton**	**35.90**	**69**	P	**P**	**16 46 44.2**	**+0.2**	
	baz=282,SNR=13								
J55A				P	**P**	**16 46 44.2**	**+0.2**		
	baz=282,SNR=13								
ADK	**Adak**	**35.98**	**306**	P	**P**	**16 46 43.8**	**-0.8**	
ADK				IAmb	IAmb	16 46 52.8			
	comp=Z,60nm,1.1s								
ADK	**Adak**	**35.98**	**306**	P	**P**	**16 46 43.8**	**-0.8**	
ADK				pmax	pmax				
	comp=Z,60nm,1.1s								
ADK				MLR	MLR				
	comp=Z,4µm,20.0s								
U56A	**King**	**35.99**	**81**	IAmb	IAmb	16 46 50.6		
	comp=Z,202nm,1.8s								
U56A				IAMs_20	IAMs_20	17 00 47.0			
	comp=Z,5µm,18.0s								
U56A	**King**	**35.99**	**81**	P	**P**	**16 46 45.8**	**+1.0**	
	baz=291								
U56A				P	**P**	**16 46 45.8**	**+1.0**		
	baz=291								
JSC	**Jenkinsville**	**36.09**	**85**	IAmb	IAmb	16 46 59.5		
	comp=Z,213nm,1.6s								
JSC				IAMs_20	IAMs_20	17 03 32.0			
	comp=Z,7µm,18.0s								
JSC	**Jenkinsville**	**36.09**	**85**	P	**P**	**16 46 45.8**	**+0.1**	
	baz=293,SNR=11								
HAW	**Hawthorne Fire**	**36.20**	**87**	P	**P**	**16 46 47.4**	**+0.8**	
	baz=294								
KIWB	**Kanaga Island**	**36.27**	**306**	P	**P**	**16 46 46.7**	**-0.4**	
L56A	**Greenwood**	**36.35**	**71**	P	**P**	**16 46 48.3**	**+0.4**	
	baz=284,SNR=13								
L56A				P	**P**	**16 46 48.3**	**+0.4**		
	baz=284,SNR=13								
SSPA	**Standing Stone**	**36.50**	**73**	P	**P**	**16 46 48.4**	**-0.7**	
SSPA				IAmb	IAmb	16 47 01.5			
	comp=Z,280nm,1.9s								
SSPA	**Standing Stone**	**36.50**	**73**	P	**P**	**16 46 49.8**	**+0.7**	
	baz=286								
SSPA	**Standing Stone**	**36.50**	**73**	P	**P**	**16 46 49.6**	**+0.4**	
	baz=286,SNR=13								
BIRD	**Birdtown, Kers**	**36.56**	**84**	IAmb	IAmb	16 46 55.0		
	comp=Z,108nm,1.4s								
BIRD				IAMs_20	IAMs_20	17 03 24.2			
	comp=Z,4µm,18.0s								
S57A	**Dark Hollow, R**	**36.58**	**78**	IAmb	IAmb	16 46 56.8		
	comp=Z,239nm,1.4s								
S57A				IAMs_20	IAMs_20	17 02 08.5			
	comp=Z,10µm,21.0s								
S57A	**Dark Hollow, R**	**36.58**	**78**	P	**P**	**16 46 48.5**	**-1.4**	
	baz=289,SNR=18								
S57A				P	**P**	**16 46 48.5**	**-1.4**		
	baz=289,SNR=18								
J56A	**Wolcott**	**36.59**	**69**	P	**P**	**16 46 49.0**	**-0.8**	
J56A				IAmb	IAmb	16 47 03.7			
	comp=Z,79nm,1.1s								
J56A	**Wolcott**	**36.59**	**69**	P	**P**	**16 46 49.6**	**-0.2**	
	baz=283,SNR=7.9								
J56A				P	**P**	**16 46 49.6**	**-0.2**		
	baz=283,SNR=7.9								
T57A	**Hurt**	**36.61**	**80**	IAmb	IAmb	16 46 55.8		
	comp=Z,123nm,1.7s								
T57A				IAMs_20	IAMs_20	17 01 50.4			
	comp=Z,5µm,18.0s								
W57A	**Gilead**	**36.72**	**83**	IAmb	IAmb	16 46 56.4		
	comp=Z,95nm,1.2s								
W57A				IAMs_20	IAMs_20	17 02 50.4			
	comp=Z,5µm,18.0s								
W57A	**Gilead**	**36.72**	**83**	P	**P**	**16 46 51.5**	**+0.4**	
	baz=292								
W57A				P	**P**	**16 46 51.5**	**+0.4**		
	baz=292								
P57A	**Homestead Farm**	**36.74**	**75**	IAmb	IAmb	16 46 58.1		
	comp=Z,135nm,1.3s								
P57A	**Homestead Farm**	**36.74**	**75**	P	**P**	**16 46 51.8**	**+0.7**	
	baz=288,SNR=12								
P57A				P	**P**	**16 46 51.8**	**+0.7**		
	baz=288,SNR=12								
Y57A	**Sumter**	**36.86**	**85**	IAMs_20	IAMs_20	17 03 50.2		
	comp=Z,5µm,18.0s								
M57A	**Sunshine Farm,**	**36.86**	**72**	IAmb	IAmb	16 47 04.3		
	comp=Z,414nm,1.9s								
456A	**Hilliard**	**37.04**	**91**	IAmb	IAmb	16 46 59.6		
	comp=Z,254nm,1.1s								
456A				IAMs_20	IAMs_20	17 01 59.1			
	comp=Z,7µm,22.0s								
456A	**Hilliard**	**37.04**	**91**	P	**P**	**16 46 53.6**	**-0.2**	
	baz=298								
V58A	**Windy Hill, Pi**	**37.14**	**82**	IAmb	IAmb	16 47 00.3		
	comp=Z,119nm,1.1s								
V58A	**Windy Hill, Pi**	**37.14**	**82**	P	**P**	**16 46 54.9**	**+0.2**	
	baz=292,SNR=15								
V58A				P	**P**	**16 46 54.9**	**+0.2**		
	baz=292,SNR=15								
J57A	**Williamstown**	**37.17**	**68**	IAMs_20	IAMs_20	17 02 21.9		
	comp=Z,9µm,21.0s								
J57A	**Williamstown**	**37.17**	**68**	P	**P**	**16 46 54.8**	**0.0**	
	baz=283								
J57A				P	**P**	**16 46 54.8**	**0.0**		
	baz=283								
257A	**Skidaway Islan**	**37.23**	**88**	IAMs_20	IAMs_20	17 03 14.2		
	comp=Z,6µm,18.0s								
WCNY	**West Carthage**	**37.28**	**67**	P	**P**	**16 46 54.8**	**-1.0**	
	baz=283								
656A	**Willston**	**37.29**	**93**	IAMs_20	IAMs_20	17 02 40.8		
	comp=Z,9µm,21.0s								
RES	**Resolute Bay**	**37.29**	**13**	P	**P**	**16 46 55.0**	**-0.4**	
RES				IAMs_20	IAMs_20	17 02 57.8			
	comp=Z,5µm,20.0s								
RES	**Resolute Bay**	**37.29**	**13**	P	**P**	**16 46 55.0**	**-0.4**	
RES	**Resolute Bay**	**37.29**	**13**	LR	LR	17 01 02.3		
	comp=Z,2µm,20.9s,baz=226,slow=34								
N58A	**Sunbury**	**37.30**	**73**	IAmb	IAmb	16 47 10.9		
	comp=Z,254nm,1.6s								
N58A	**Sunbury**	**37.30**	**73**	P	**P**	**16 46 54.8**	**-1.1**	
	baz=286,SNR=10								
N58A				P	**P**	**16 46 54.8**	**-1.1**		
	baz=286,SNR=10								
R58B	**Mineral**	**37.31**	**78**	IAmb	IAmb	16 47 02.4		
	comp=Z,202nm,1.8s								
WBO	**Williamsburg**	**37.34**	**66**	IAmb	IAmb	16 47 01.6		
	comp=Z,258nm,1.9s								
NHSC	**New Hope**	**37.40**	**86**	IAMs_20	IAMs_20	17 02 25.4		
	comp=Z,5µm,19.0s								
X58A	**Rowland**	**37.45**	**84**	IAMs_20	IAMs_20	17 03 15.7		
	comp=Z,5µm,20.0s								
Y58A	**Scranton**	**37.46**	**85**	IAMs_20	IAMs_20	17 02 01.0		
	comp=Z,5µm,22.0s								
BINY	**Binghamton**	**37.47**	**70**	IAmb	IAmb	16 47 09.4		
	comp=Z,220nm,1.5s								
BINY	**Binghamton**	**37.47**	**70**	P	**P**	**16 46 57.0**	**-0.3**	
	baz=285,SNR=11								
BINY	**Binghamton**	**37.47**	**70**	P	**P**	**16 46 57.7**	**+0.4**	
	baz=285,SNR=11								
TRQ	**Mont Tremblant**	**37.60**	**63**	IAmb	IAmb	16 47 03.8		
	comp=Z,80nm,1.0s								
CBN	**Corbin Frederi**	**37.61**	**77**	P	**P**	**16 46 58.7**	**+0.1**	
	baz=289								
SDMD	**Soldier's Deli**	**37.62**	**75**	IAMs_20	IAMs_20	17 03 04.1		
	comp=Z,7µm,18.0s								
J58A	**Remsen**	**37.68**	**68**	IAmb	IAmb	16 47 04.8		
	comp=Z,275nm,1.9s								
J58A				IAMs_20	IAMs_20	17 02 37.5			
	comp=Z,8µm,21.0s								
J58A	**Remsen**	**37.68**	**68**	P	**P**	**16 46 59.2**	**0.0**	
	baz=284								
J58A				P	**P**	**16 46 59.2**	**0.0**		
	baz=284								
W59A	**Clinton**	**37.89**	**82**	IAMs_20	IAMs_20	17 03 57.3		
	comp=Z,5µm,18.0s								
LONY	**Lake Ozonia**	**37.90**	**66**	IAmb	IAmb	16 47 06.4		
	comp=Z,144nm,1.7s								
LONY	**Lake Ozonia**	**37.90**	**66**	P	**P**	**16 47 00.4**	**-0.6**	
	baz=282,SNR=8.5								
T59A	**Double "B" Far**	**37.90**	**79**	IAmb	IAmb	16 47 52.3		
	comp=Z,119nm,0.8s								
T59A	**Double "B" Far**	**37.90**	**79**	P	**P**	**16 47 01.9**	**+0.9**	
	baz=291,SNR=14								
T59A				P	**P**	**16 47 01.9**	**+0.9**		
	baz=291,SNR=14								
BMNY	**Brushton-Moira**	**37.90**	**66**	P	**P**	**16 47 00.9**	**0.0**	
	baz=282,SNR=15								
U59A	**Littleton**	**37.94**	**80**	IAMs_20	IAMs_20	17 02 40.6		
	comp=Z,5µm,22.0s								
L59A	**Walton**	**38.15**	**70**	P	**P**	**16 47 03.5**	**+0.3**	
	baz=285,SNR=11								
L59A				P	**P**	**16 47 03.5**	**+0.3**		
	baz=285,SNR=11								
TEIG	**Tepich**	**38.19**	**110**	P	**P**	**16 47 03.9**	**+0.3**	
TEIG	**Tepich**	**38.19**	**110**	LR	LR	17 05 54.8		
	comp=Z,22µm,18.2s,baz=106,slow=41								
CCIG	**Comitan**	**38.19**	**119**	IAMs_20	IAMs_20	17 02 45.6		
	comp=Z,7µm,21.0s								
J59A	**Piesco**	**38.21**	**68**	IAmb	IAmb	16 47 14.6		
	comp=Z,366nm,2.0s								
J59A				IAMs_20	IAMs_20	17 03 02.5			
	comp=Z,8µm,21.0s								
CNNC	**Cliffs of the**	**38.28**	**82**	IAMs_20	IAMs_20	17 02 06.7		
	comp=Z,4µm,19.0s								
NCB	**Newcomb**	**38.29**	**67**	IAmb	IAmb	16 47 15.5		
	comp=Z,322nm,2.0s								
NCB				IAMs_20	IAMs_20	17 02 55.6			
	comp=Z,5µm,19.0s								
LUPA	**Lehigh Univers**	**38.34**	**73**	IAmb	IAmb	16 47 16.9		
	comp=Z,264nm,1.5s								
WUPA	**West Chester U**	**38.37**	**74**	IAmb	IAmb	16 47 17.1		
	comp=Z,132nm,1.6s								
WUPA				IAMs_20	IAMs_20	17 03 27.9			
	comp=Z,8µm,18.0s								
T60A	**Surry**	**38.45**	**78**	IAMs_20	IAMs_20	17 03 15.1		
	comp=Z,8µm,21.0s								
AMKA	**Amchitka**	**38.51**	**305**	P	**P**	**16 47 05.3**	**-0.7**	
Y60A	**Bolivia**	**38.52**	**84**	IAMs_20	IAMs_20	17 03 57.1		
	comp=Z,7µm,19.0s								
FRNY	**Flat Rock**	**38.54**	**65**	IAmb	IAmb	16 47 12.9		
	comp=Z,110nm,1.4s								
FRNY	**Flat Rock**	**38.54**	**65**	P	**P**	**16 47 06.3**	**-0.1**	
	baz=283,SNR=6.0								
DWPF	**Disney Wildern**	**38.75**	**94**	IAMs_20	IAMs_20	17 05 14.6		
	comp=Z,6µm,20.0s								
ODNJ	**Ogdensburg**	**38.76**	**72**	IAmb	IAmb	16 47 20.4		
	comp=Z,215nm,1.4s								
ODNJ	**Ogdensburg**	**38.76**	**72**	P	**P**	**16 47 09.0**	**+0.7**	
	baz=287,SNR=11								
ACCN	**Adirondack Com**	**38.82**	**68**	IAmb	IAmb	16 47 19.8		
	comp=Z,242nm,1.7s								
ACCN				IAMs_20	IAMs_20	17 02 48.7			
	comp=Z,6µm,21.0s								
ACCN	**Adirondack Com**	**38.82**	**68**	P	**P**	**16 47 08.7**	**-0.1**	
	baz=284								
BRNJ	**Basking Ridge**	**38.91**	**72**	P	**P**	**16 47 09.7**	**+0.2**	
	baz=287								
NPNY	**Mohonk Preserv**	**38.91**	**70**	P	**P**	**16 47 09.8**	**+0.3**	
	baz=286								
TRNY	**Table Rock, Ra**	**39.02**	**71**	IAmb	IAmb	16 47 22.8		
	comp=Z,271nm,1.9s								
V61A	**Roper**	**39.06**	**80**	IAMs_20	IAMs_20	17 03 15.3		
	comp=Z,5µm,22.0s								
BRNY	**Black Rk. Fore**	**39.10**	**71**	P	**P**	**16 47 11.7**	**+0.7**	
	baz=286,SNR=9.8								
MCVT	**Middlebury Col**	**39.16**	**67**	P	**P**	**16 47 12.0**	**+0.4**	
	baz=284								
PETF	**Flores**	**39.28**	**116**	IAMs_20	IAMs_20	17 05 18.4		
	comp=Z,5µm,20.0s								
PAL	**Palisades**	**39.29**	**71**	P	**P**	**16 47 11.8**	**-0.9**	
	baz=287								
KSCT	**Kent School, K**	**39.39**	**70**	IAmb	IAmb	16 47 20.1		
	comp=Z,227nm,1.8s								
J61A	**Chester**	**39.62**	**67**	IAMs_20	IAMs_20	17 03 35.7		
	comp=Z,6µm,20.0s								
HNH	**Hanover**	**39.72**	**67**	IAmb	IAmb	16 47 27.0		
	comp=Z,368nm,1.9s								
HNH				IAMs_20	IAMs_20	17 03 39.3			
	comp=Z,6µm,21.0s								
L61B	**Northampton**	**39.77**	**69**	P	**P**	**16 47 16.3**	**-0.3**	
	baz=286								
LBNH	**Lisbon**	**39.84**	**66**	P	**P**	**16 47 16.4**	**-0.8**	
	baz=284,SNR=8.8								
LBNH	**Lisbon**	**39.84**	**66**	P	**P**	**16 47 17.1**	**-0.1**	
	baz=284,SNR=8.8								
K62A	**Royalston**	**40.02**	**68**	IAMs_20	IAMs_20	17 03 59.5		
	comp=Z,6µm,19.0s								
060A	**Indiantown**	**40.12**	**95**	IAMs_20	IAMs_20	17 06 15.8		
	comp=Z,8µm,20.0s								
LMQ	**La Malbaie**	**40.20**	**61**	IAmb	IAmb	16 47 25.6		

MATN	**Matagalpa**	**44.78**	**116**		P	**P**	**16 47 57.0**	**-0.9**		
MATN					IAmb	IAmb	16 48 03.3			
	comp=Z,45nm,0.9s									
BILL	**Bilibino**	**44.84**	**331**		IAMs_20	IAMs_20	17 04 39.8			
	comp=Z,5μm,19.0s									
BILL	**Bilibino**	**44.84**	**331**	*i*	P	**P**	**16 47 57.3**	**-0.3**		
BOAB	**BOACO BROADBAN**	**45.30**	**116**		IAMs_20	IAMs_20	17 06 52.6			
	comp=Z,7μm,22.0s									
ACON	**Acoyapa**	**45.97**	**116**		IAMs_20	IAMs_20	17 07 23.8			
	comp=Z,4μm,22.0s									
UPNV	**Upernavik**	**46.11**	**23**	*i*	P	**P**	**16 48 07.2**	**-0.4**		
UPNV					IAmb	IAmb	16 48 19.1			
	comp=Z,16nm,0.9s									
ESPN	**Las Esperanzas**	**46.41**	**115**		P	**P**	**16 48 09.9**	**-0.8**		
ESPN					IAmb	IAmb	16 48 15.8			
	comp=Z,80nm,1.0s									
DUNO	**Dulce Nombre,**	**47.11**	**118**		IAmb	IAmb	16 48 21.1			
	comp=Z,76nm,1.0s									
UMMG	**Uummannaq**	**47.32**	**26**	*i*	P	**P**	**16 48 16.8**	**-0.3**		
JTS	**Las Juntas de**	**47.33**	**118**		P	**P**	**16 48 16.7**	**-1.2**		
JTS					IAmb	IAmb	16 48 22.0			
	comp=Z,52nm,1.1s									
JTS	**Las Juntas de**	**47.33**	**118**	*c*	*i*P	**P**	**16 48 17.5**	**-0.4**		
JTS	**Las Juntas de**	**47.33**	**118**		LR	LR	17 10 38.5			
	comp=Z,2μm,20.9s,baz=315,slow=39									
ARE1	**Arenal 1**	**47.36**	**117**		IAmb	IAmb	16 48 23.0			
	comp=Z,96nm,1.0s									
XMAS	**Kiritimati**	**47.42**	**224**		P	**P**	**16 48 18.4**	**-0.1**		
NEEM	**North Greenlan**	**47.74**	**17**	*i*	P	**P**	**16 48 19.4**	**-1.3**		
NEEM					IAmb	IAmb	16 48 31.9			
	comp=Z,19nm,0.8s									
JACO	**JACO, Garabito**	**47.98**	**118**		IAmb	IAmb	16 48 27.0			
	comp=Z,60nm,1.0s									
NUUK	**Nuuk**	**48.01**	**35**	*i*	P	**P**	**16 48 22.2**	**-0.3**		
NUUK					IAmb	IAmb	16 48 34.1			
	comp=Z,19nm,1.1s									
GTBY	**Guantanamo Bay**	**48.08**	**99**		IAMs_20	IAMs_20	17 09 56.1			
	comp=Z,4μm,21.0s									
SFJD	**Kangerlussuaq**	**48.12**	**31**		P	**P**	**16 48 22.3**	**-1.1**		
SFJD					IAmb	IAmb	16 48 39.0			
	comp=Z,116nm,1.6s									
SFJD	**Kangerlussuaq**	**48.12**	**31**		P	**P**	**16 48 22.3**	**-1.1**		
SFJD					pmax	pmax				
	comp=Z,116nm,1.6s									
SFJD	**Kangerlussuaq**	**48.12**	**31**		LR	LR	17 06 55.3			
	comp=Z,3μm,20.4s,baz=280,slow=34									
SFJD	**Kangerlussuaq**	**48.12**	**31**	*i*	P	**P**	**16 48 23.4**	**0.0**		
RGM0	**Gandoca**	**49.43**	**116**		IAMs_20	IAMs_20	17 03 28.3			
	comp=Z,3μm,19.0s									
BBSR	**BB Station**	**49.43**	**79**		IAMs_20	IAMs_20	17 08 59.0			
	comp=Z,4μm,21.0s									
DY2G	**Dye2**	**49.91**	**31**	*i*	P	**P**	**16 48 36.0**	**-1.4**		
DY2G					IAmb	IAmb	16 48 47.3			
	comp=Z,33nm,0.7s									
PET	**Petropavlovsk**	**50.62**	**311**		P	**P**	**16 48 41.9**	**-0.7**		
PET	**Petropavlovsk**	**50.62**	**311**		*e*P	P	16 48 49.7	+7.0		
PET					*e*S	**S**	**16 56 02.0**	**+4.8**		
PET					pmax	pmax				
	comp=Z,400nm,9.5s									
PET					MLR	MLR				
	comp=Z,1μm,17.0s									
SEY	**Seymchan**	**51.13**	**324**	⇑	*e*P	**P**	**16 48 45.4**	**-0.9**		
SEY					pmax	pmax				
	comp=Z,15nm,1.1s									
SEY	**Seymchan**	**51.13**	**324**		LR	LR	17 08 38.4			
	comp=Z,6μm,21.0s,baz=76,slow=34									
PEA0B	**Petropavlovsk-**	**51.14**	**311**		P	**P**	**16 48 46.6**	**-0.1**		
PEA0B					IAmb	IAmb	16 48 55.7			
	comp=Z,221nm,1.4s									
PEA0B	**Petropavlovsk-**	**51.14**	**311**	⇑	*e*P	**P**	**16 48 47.2**	**+0.6**		
PETK	**Petropavlovsk-**	**51.14**	**311**		P	**P**	**16 48 46.1**	**-0.6**		
	comp=Z,15nm,0.9s,baz=80,slow=11,SNR=6.3									
PETK					LR	LR	17 07 40.4			
	comp=Z,2μm,19.5s,baz=74,slow=33									
	comp=Z,15nm,0.9s									
SUMG	**Summit**	**51.39**	**23**		P	**P**	**16 48 47.9**	**-0.8**		
SUMG					IAmb	IAmb	16 49 00.2			
	comp=Z,53nm,0.9s									
SUMG	**Summit**	**51.39**	**23**		P	**P**	**16 48 47.9**	**-0.8**		
SUMG					pmax	pmax				
	comp=Z,53nm,0.9s									
SUMG					MLR	MLR				
	comp=Z,8μm,20.0s									
SUMG	**Summit**	**51.39**	**23**	*i*	P	**P**	**16 48 48.0**	**-0.7**		
SUMG					IAmb	IAmb	16 48 59.9			
	comp=Z,34nm,0.9s									
SDDR	**Presa de Saban**	**51.53**	**98**		IAmb	IAmb	16 49 02.3			
	comp=Z,57nm,1.0s									
SDDR	**Presa de Saban**	**51.53**	**98**		*e*P	**P**	**16 48 51.2**	**+1.2**		
ICESG	**Greenland Ices**	**51.81**	**27**	*i*	P	**P**	**16 48 50.3**	**-1.5**		
ICESG					IAmb	IAmb	16 49 02.8			
	comp=Z,38nm,0.9s									
PAYG	**Puerto Ayora**	**52.47**	**132**		P	**P**	**16 48 56.8**	**-0.1**		
PAYG					IAmb	IAmb	16 49 03.0			
	comp=Z,60nm,1.1s									
MA2	**Magadan**	**52.81**	**321**		LR	LR	17 10 11.5			
	comp=Z,2μm,18.7s,baz=78,slow=35									
SKR	**Severo-Kuril's**	**52.88**	**309**		*e*P	P	16 48 53.1	-6.4		
SKR					*e*		16 50 16.4			
SKR					*e*PPP	PPP	16 51 01.5			
SKR					*e*S	**S**	**16 56 28.3**	**0.0**		
SKR					*e*PS	**PKiKP**	**16 56 46.4**	**-0.3**		
SKR					pmax	pmax				
	comp=Z,148nm,1.2s									
SKR					pmax	pmax				
	comp=Z,8μm,4.9s									
SKR					MLR	MLR				
	comp=Z,6μm,20.0s									
SJCC	**San Jacinto, C**	**54.45**	**109**		*e*P	**P**	**16 49 12.2**	**+0.7**		
PTAC	**Punta Ardita,**	**54.48**	**114**		*e*P	**P**	**16 49 09.1**	**-2.7**		
CRPR	**Cabo Rojo, PR**	**55.29**	**96**		IAMs_20	IAMs_20	17 12 58.8			
	comp=Z,3μm,20.0s									
CELP	**Cerrillos**	**55.65**	**95**		IAMs_20	IAMs_20	17 17 40.4			
	comp=Z,3μm,18.0s									
UREC	**San Jos de Ur**	**55.66**	**111**		*e*P	**P**	**16 49 20.7**	**+0.4**		
DBBC	**Dabeiba**	**55.70**	**113**		*e*P	**P**	**16 49 23.9**	**+3.2**		
GCPR	**Guaynabo City**	**55.88**	**95**		IAmb	IAmb	16 49 42.8			
	comp=Z,147nm,1.4s									
SJG	**San Juan**	**55.95**	**95**		P	**P**	**16 49 21.7**	**-0.6**		
SJG					IAmb	IAmb	16 49 40.8			
	comp=Z,119nm,1.2s									
SJG	**San Juan**	**55.95**	**95**		IAMs_20	IAMs_20	17 17 54.5			
	comp=Z,3μm,18.0s									
SJG	**San Juan**	**55.95**	**95**		P	**P**	**16 49 21.7**	**-0.6**		
SJG					pmax	pmax				
	comp=Z,119nm,1.3s									
SJG					MLR	MLR				
	comp=Z,3μm,18.0s									
SJG	**San Juan**	**55.95**	**95**		LR	LR	17 17 57.1			
	comp=Z,2μm,18.4s,baz=288,slow=41									
IGPR	**InterUniversit**	**56.07**	**95**		IAMs_20	IAMs_20	17 17 55.6			
	comp=Z,3μm,18.0s									
HUMP	**Col San Antoni**	**56.16**	**95**		IAmb	IAmb	16 49 34.1			
	comp=Z,39nm,1.0s									
TIXI	**Tiksi**	**56.56**	**338**		P	**P**	**16 49 23.9**	**-2.0**		
TIXI					IAmb	IAmb	16 49 33.5			
	comp=Z,57nm,1.4s									
TIXI	**Tiksi**	**56.56**	**338**		IAMs_20	IAMs_20	17 13 52.5			
	comp=Z,4μm,21.0s									
TIXI	**Tiksi**	**56.56**	**338**	⇑	*e*P	**P**	**16 49 25.1**	**-0.8**		
TIXI					pmax	pmax				
	comp=Z,17nm,1.0s									
TIXI	**Tiksi**	**56.56**	**338**		LR	LR	17 13 32.4			
	comp=Z,3μm,21.1s,baz=80,slow=36									
CBOC	**Ciudad Bolivar**	**56.64**	**113**		*e*P	P	16 49 19.1	-8.4		
PLMC	**San Jos del P**	**57.13**	**114**		*e*P	**P**	**16 49 31.1**	**+0.3**		
GR1C	**Gorgona, Isla**	**57.22**	**118**		*e*P	**P**	**16 49 34.2**	**+2.9**		
PTBC	**PUERTO BERRIO,**	**57.27**	**112**		*e*P	**P**	**16 49 31.7**	**-0.1**		
HATO	**Hato, Curacao**	**57.51**	**102**		IAMs_20	IAMs_20	17 18 07.0			
	comp=Z,2μm,19.0s									
GUY2C	**Guyana, Caldas**	**57.55**	**113**		*e*P	**P**	**16 49 35.0**	**+0.8**		
YOTC	**Yotoco, Valle**	**57.75**	**115**		*e*P	**P**	**16 49 35.7**	**+0.4**		
PAMC	**Pamplona, Colo**	**57.97**	**109**		*e*P	**P**	**16 49 37.5**	**+0.2**		
JAMC	**Jamundi, Valle**	**58.08**	**116**		*e*P	**P**	**16 49 40.7**	**+3.0**		
BARC	**Barichara**	**58.14**	**110**		*e*P	**P**	**16 49 38.8**	**+0.6**		
SPBC	**San Pablo de B**	**58.16**	**112**		*e*P	**P**	**16 49 38.5**	**+0.3**		
SMRT	**St. Maarten**	**58.33**	**93**		IAMs_20	IAMs_20	17 14 09.4			
	comp=Z,3μm,22.0s									
SDV	**Santo Domingo**	**58.43**	**106**		P	**P**	**16 49 39.7**	**-0.5**		
SDV	**Santo Domingo**	**58.43**	**106**		LR	LR	17 17 51.3			
	comp=Z,813nm,20.1s,baz=326,slow=39									
SDV	**Santo Domingo**	**58.43**	**106**		*e*P	**P**	**16 49 40.9**	**+0.8**		
KBS	**Kingsbay**	**58.44**	**9**	⇑	*e*P	**P**	**16 49 36.4**	**-2.7**		
KBS					pmax	pmax				
	comp=Z,54nm,1.6s									
KBS					MLR	MLR				
	comp=Z,1μm,17.0s									
SABA	**Saba**	**58.46**	**93**		IAMs_20	IAMs_20	17 15 41.8			
	comp=Z,4μm,22.0s									
BBAC	**Balboa, Cauca**	**58.55**	**118**		*e*P	**P**	**16 49 42.0**	**+0.9**		
BBAC					*e*P	**pP**	**16 49 42.8**	**-0.1**		
ROSC	**El Rosal**	**58.55**	**113**		IAmb	IAmb	16 49 57.9			
	comp=Z,124nm,1.2s									
ROSC	**El Rosal**	**58.55**	**113**		P	**P**	**16 49 42.5**	**+1.3**		
	comp=Z,37nm,0.8s,baz=338,slow=6.5,SNR=12									
ROSC					LR	LR	17 20 29.1			
	comp=Z,1μm,18.1s,baz=336,slow=42									
	comp=Z,37nm,0.8s									
ROSC	**El Rosal**	**58.55**	**113**		*e*P	**P**	**16 49 43.3**	**+2.0**		
POPC	**Popayan, Colom**	**58.56**	**117**		*e*P	**P**	**16 49 38.1**	**-3.0**		
ORTC	**Ortega, Tolima**	**58.56**	**114**		*e*P	**P**	**16 49 43.4**	**+2.5**		
PAC1	**Pacto, Paraso**	**58.82**	**120**		*e*P	**P**	**16 49 47.4**	**+4.6**		
CVER	**Cruz Verde, Cu**	**58.95**	**113**		*e*P	**P**	**16 49 45.7**	**+1.6**		
PRAC	**Prado**	**58.95**	**114**		*e*P	**P**	**16 49 46.1**	**+2.5**		
OTAV	**Otavalo**	**59.07**	**120**		P	**P**	**16 49 45.0**	**+0.2**		
OTAV					IAmb	IAmb	16 49 51.0			
	comp=Z,87nm,1.1s									
OTAV	**Otavalo**	**59.07**	**120**		*e*P	**P**	**16 49 46.3**	**+1.4**		
OTAV	**Otavalo**	**59.07**	**120**		*e*P	**P**	**16 49 46.5**	**+1.6**		
OTAV	**Otavalo**	**59.07**	**120**		*e*P	**P**	**16 49 45.8**	**+0.9**		
GCUF	**Volcan Galeras**	**59.07**	**118**		*e*P	**P**	**16 49 46.5**	**+1.6**		
CRUC	**La Cruz**	**59.09**	**118**		*e*P	**P**	**16 49 45.7**	**+0.8**		
TAMC	**Tame, Arauca**	**59.25**	**109**		*e*P	**P**	**16 49 46.9**	**+1.2**		
BETC	**Betania**	**59.31**	**116**		*e*P	**P**	**16 49 48.6**	**+2.5**		
VILC	**Villavicencio,**	**59.51**	**113**		*e*P	**P**	**16 49 48.0**	**+0.5**		
BONI	**La Bonita**	**59.52**	**119**		*e*P	**P**	**16 49 50.0**	**+2.2**		
SPA1	**Spitsbergen Ar**	**59.56**	**8**		P	**P**	**16 49 46.8**	**-0.1**		
SPA1					IAmb	IAmb	16 50 02.7			
	comp=Z,83nm,1.3s									
SPITS	**Spitsbergen Ar**	**59.56**	**8**		P	**P**	**16 49 46.2**	**-0.7**		
	comp=Z,10nm,0.9s,baz=316,slow=10,SNR=2.5									
SPITS					LR	LR	17 14 14.5			
	comp=Z,1μm,19.7s,baz=300,slow=35									
	comp=Z,10nm,0.9s									
SPB1	**Spitsbergen Ar**	**59.56**	**8**		P	**P**	**16 49 46.7**	**-0.2**		
SPB1					IAmb	IAmb	16 50 02.7			
	comp=Z,68nm,1.2s									
SPB2	**Spitsbergen Ar**	**59.57**	**8**		P	**P**	**16 49 47.0**	**0.0**		
SPB2					IAmb	IAmb	16 50 02.7			
	comp=Z,82nm,1.4s									
H11N3	**WAKE ISLAND Hy**	**59.92**	**271**		T	T	17 54 36.5			
	baz=54,slow=75									
H11N2	**WAKE ISLAND Hy**	**59.92**	**271**		T	T	17 54 39.5			
	baz=54,slow=75									
H11N1	**WAKE ISLAND Hy**	**59.94**	**271**		T	T	17 54 55.2			
	baz=54,slow=75									
BORG	**Borgarnes**	**60.12**	**29**		LR	LR	17 16 17.4			
	comp=Z,7μm,18.4s,baz=300,slow=37									
BAUV	**El Baul**	**60.30**	**104**		IAmb	IAmb	16 49 57.6			
	comp=Z,91nm,1.0s									
GDHS	**Morne Mazeau,**	**60.40**	**94**		IAMs_20	IAMs_20	17 20 51.9			
	comp=Z,2μm,18.0s									
JMIC	**Jan Mayen**	**60.46**	**19**		LR	LR	17 17 04.4			
	comp=Z,2μm,18.4s,baz=308,slow=37									
PTGC	**Puerto Gaitan,**	**60.55**	**112**		*e*P	**P**	**16 49 54.2**	**-0.4**		
TYV	**Tymovskoe**	**60.55**	**313**		*e*P	**P**	**16 49 57.7**	**+3.6**		
TYV					pmax	pmax				
	comp=Z,23nm,1.4s									
TYV					pmax	pmax				
	comp=Z,800nm,2.9s									
COHC	**Cochancay**	**60.58**	**123**		P	**P**	**16 49 53.7**	**-1.0**		
COHC	**Cochancay**	**60.58**	**123**		*e*P	**P**	**16 49 55.3**	**+0.6**		
CBE	**Ff, Capester**	**60.64**	**94**		IAMs_20	IAMs_20	17 20 48.6			
	comp=Z,3μm,19.0s									
MAGL	**Barre de l'ile**	**60.96**	**93**		IAMs_20	IAMs_20	17 21 09.1			
	comp=Z,3μm,18.0s									
YAK	**Yakutsk**	**61.12**	**328**		P	**P**	**16 49 56.8**	**-1.0**		
YAK					IAmb	IAmb	16 50 05.0			
	comp=Z,81nm,1.3s									
YAK	**Yakutsk**	**61.12**	**328**		IAMs_20	IAMs_20	17 15 10.3			
	comp=Z,4μm,20.0s									
YAK	**Yakutsk**	**61.12**	**328**		*e*P	**P**	**16 49 57.7**	**-0.1**		
YAK					*e**PP	**pwP**	**16 50 05.2**	**+1.6**		
YAK					*e*		16 50 44.8			
YAK					*e*		16 52 13.0			
YAK					*e*S	**S**	**16 58 18.4**	**+1.7**		
YAK					*e*		16 59 50.6			
YAK					*e*SS	**SS**	**17 02 13.5**	**-2.2**		
YAK					*e*SSS	SSS	17 04 49.3			
YAK					pmax	pmax				
	comp=Z,29nm,1.1s									
YAK					pmax	pmax				
	comp=N,5.0nm,1.1s									
YAK					pmax	pmax				
	comp=E,22nm,2.0s									
YAK					pmax	pmax				
	comp=Z,260nm,6.8s									
YAK					pmax	pmax				
	comp=E,290nm,8.2s									
YAK					pmax	pmax				
	comp=N,350nm,6.4s									
YAK					smax	smax				
	comp=E,2μm,12.4s									
YAK					smax	smax				
	comp=N,368nm,4.4s									
YAK	**Yakutsk**	**61.12**	**328**		LR	LR	17 15 28.6			
	comp=N,3μm,20.1s,baz=52,slow=35									
PTLC	**Puerto Leguiza**	**61.57**	**117**		*e*P	**P**	**16 50 04.0**	**+2.5**		
PPT	**Papeete**	**61.59**	**205**		LR	LR	17 10 17.0			
	comp=N,2μm,21.9s,baz=20,slow=30									
MCRA	**Macar, Loja**	**61.59**	**125**		*e*P	**P**	**16 50 02.0**	**+0.3**		
BIM	**Bigot**	**62.00**	**95**		IAMs_20	IAMs_20	17 19 29.7			
	comp=Z,2μm,20.0s									
PCRV	**Puerto La Cruz**	**62.03**	**101**		LR	LR	17 20 31.3			
	comp=Z,2μm,19.1s,slow=40									
YSS	**Yuzh-Sakhalins**	**62.44**	**309**		*e*P	**P**	**16 50 07.2**	**+0.3**		
YSS					*e*S	**S**	**16 58 33.5**	**-0.3**		
YSS					*e*SS	**SS**	**17 02 37.5**	**+0.6**		
YSS					pmax	pmax				
	comp=Z,30nm,0.9s									
GRGR	**Grenville**	**63.04**	**97**		IAMs_20	IAMs_20	17 16 09.0			
	comp=Z,3μm,22.0s									
ASAJ	**Asahikawa**	**64.00**	**307**		LR	LR	17 13 21.0			
	comp=Z,929nm,21.4s,baz=68,slow=32									
ATAH	**Atahualpa**	**64.71**	**125**		LR	LR	17 16 52.0			
	comp=Z,755nm,18.7s,baz=335,slow=34									
ZEA	**Zeya**	**66.93**	**322**		*e*P	**P**	**16 50 36.5**	**+0.4**		
ZEA					*e*S	**S**	**16 59 32.9**	**+3.8**		
ZEA					pmax	pmax				
	comp=Z,10.0nm,1.3s									
ZEA					smax	smax				
	comp=E,600nm,7.6s									
ZEA					smax	smax				
	comp=N,600nm,5.4s									
ZEA					MLR	MLR				
	comp=E,800nm,19.0s									
ZEA					MLR	MLR				
	comp=N,600nm,17.0s									
ZEA					MLR	MLR				
	comp=Z,1μm,18.0s									
TARA	**Tarawa**	**67.11**	**251**		IAMs_20	IAMs_20	17 12 03.9			
	comp=Z,3μm,20.0s									
KLR	**Kul'dur**	**67.36**	**316**	⇑	*i*P	**P**	**16 50 38.7**	**-0.2**		
KLR					pmax	pmax				
	comp=Z,16nm,1.6s									
KLR	**Kul'dur**	**67.36**	**316**		LR	LR	17 17 25.8			
	comp=Z,1μm,19.7s,baz=41,slow=34									
NRIK	**Noril'sk**	**67.73**	**348**		P	**P**	**16 50 40.0**	**-1.0**		
NRIK					IAmb	IAmb	16 50 49.0			
	comp=Z,56nm,1.4s									
NRIK	**Noril'sk**	**67.73**	**348**	*c*	*e*P	**P**	**16 50 41.1**	**+0.2**		
NRIK					MLR	MLR				
	comp=Z,1μm,19.0s									
NRIK	**Noril'sk**	**67.73**	**348**		P	**P**	**16 50 39.9**	**-1.0**		
	comp=Z,5.8nm,0.9s,baz=15,slow=6.0,SNR=9.7									
NRIK					LR	LR	17 21 09.1			
	comp=Z,1μm,20.0s,baz=38,slow=37									
	comp=Z,5.8nm,0.9s									
TBTG	**Tabatinga, AM**	**68.06**	**116**		*e*P	**P**	**16 50 43.4**	**-0.4**		
KEV	**Kevo**	**68.42**	**10**		P	**P**	**16 50 46.5**	**+1.3**		
KEV					IAmb	IAmb	16 50 55.8			
	comp=Z,38nm,1.0s									
KEV	**Kevo**	**68.42**	**10**		P	**P**	**16 50 46.5**	**+1.3**		
KEV					pmax	pmax				
	comp=Z,38nm,1.0s									
ARCES	**ARCESS Array B**	**68.43**	**10**		P	**P**	**16 50 46.4**	**+1.1**		
ARCES					IAmb	IAmb	16 50 55.6			
	comp=Z,43nm,1.2s									
ARCES	**ARCESS Array B**	**68.43**	**10**		P	**P**	**16 50 46.4**	**+1.1**		
ARCES					pmax	pmax				
	comp=Z,43nm,1.3s									
ARCES	**ARCESS Array B**	**68.43**	**10**		P	**P**	**16 50 45.2**	**-0.1**		
	comp=Z,4.4nm,0.8s,baz=339,slow=4.8,SNR=7.6									
ARCES					LR	LR	17 23 21.1			
	comp=Z,1μm,18.5s,baz=336,slow=38									
	comp=Z,4.4nm,0.8s									
RAR	**Rarotonga**	**68.74**	**213**		LR	LR	17 14 25.5			
	comp=Z,3μm,18.6s,baz=20,slow=30									
CZSB	**Cruzeiro do Su**	**68.79**	**121**		P	**P**	**16 50 47.5**	**-0.8**		
CZSB	**Cruzeiro do Su**	**68.79**	**121**		*e*P	**P**	**16 50 46.1**	**-2.2**		
HEH	**HeiHe**	**68.99**	**319**		*e*P	**P**	**16 50 49.3**	**+0.2**		
HEH					S	**S**	**16 59 57.5**	**+3.7**		
HEH					pmax	pmax				
	comp=Z,12nm,1.4s									
HEH					pmax	pmax				
	comp=Z,660nm,6.0s									
HEH					LR	LR				
	comp=Z,1μm,23.4s									
HEH					LR	LR				
	comp=Z,1μm,22.7s									
HEH					LR	LR				
	comp=Z,2μm,22.2s									
NNA	**Nana**	**69.43**	**127**		P	**P**	**16 50 51.4**	**-0.9**		
NNA					IAmb	IAmb	16 50 56.9			
	comp=Z,52nm,1.0s									
NNA	**Nana**	**69.43**	**127**	*e*	P	**P**	**16 50 53.7**	**+1.4**		
NNA	**Nana**	**69.43**	**127**		LR	LR	17 17 56.8			
	comp=Z,867nm,21.6s,baz=328,slow=33									
BOD	**Bodaibo**	**69.89**	**330**	*e*	P	**P**	**16 50 53.4**	**-1.2**		
BOD					pmax	pmax				
	comp=Z,18nm,1.3s									
BOAV	**Boa Vista**	**70.21**	**104**		IAmb	IAmb	16 51 02.0			
	comp=Z,47nm,1.2s									
BOAV	**Boa Vista**	**70.21**	**104**	*e*	P	**P**	**16 50 56.1**	**-1.0**		
USA0B	**Ussuriysk Arra**	**70.24**	**312**		P	**P**	**16 50 57.1**	**+0.2**		
USA0B					IAmb	IAmb	16 51 15.7			
	comp=Z,62nm,1.4s									
USA0B	**Ussuriysk Arra**	**70.24**	**312**	⇑	*e*P	**P**	**16 50 57.5**	**+0.6**		
USRK	**Ussuriysk Ar.**	**70.24**	**312**		P	**P**	**16 50 56.8**	**-0.1**		
USRK	**Ussuriysk Ar.**	**70.24**	**312**		P	**P**	**16 50 56.7**	**-0.2**		
	comp=Z,10nm,0.9s,baz=37,slow=5.9,SNR=14									
USRK					LR	LR	17 16 41.8			
	comp=Z,830nm,21.4s,baz=46,slow=32									
	comp=Z,10nm,0.9s									
MJAR	**Matsushiro Arr**	**71.03**	**302**		P	**P**	**16 51 01.6**	**-0.3**		
	comp=Z,8.8nm,1.0s,baz=40,slow=5.3,SNR=8.3									
MJAR					LR	LR	17 16 27.1			
	comp=Z,2μm,21.5s,baz=61,slow=31									
	comp=Z,8.8nm,1.0s									
MAJO	**Matsushiro**	**71.03**	**302**		P	**P**	**16 51 01.9**	**-0.1**		
MAJO					IAmb	IAmb	16 51 06.0			
	comp=Z,87nm,1.6s									
MAJO	**Matsushiro**	**71.03**	**302**		P	**P**	**16 51 01.9**	**-0.1**		
MAJO					pmax	pmax				
	comp=Z,87nm,1.6s									
MJB9	**Matsu-Tunnel**	**71.03**	**302**		P	**P**	**16 51 02.2**	**+0.3**		
MJB9					IAmb	IAmb	16 51 07.0			
	comp=Z,89nm,1.6s									
LVZ	**Lovozero**	**71.06**	**7**		P	**P**	**16 51 01.8**	**+0.2**		
LVZ					IAmb	IAmb	16 51 12.2			
	comp=Z,87nm,1.1s									
LVZ	**Lovozero**	**71.06**	**7**		P	**P**	**16 51 01.8**	**+0.2**		
LVZ					pmax	pmax				
	comp=Z,87nm,1.1s									
APA	**Apatity**	**71.25**	**8**	⇓	*i*P	**P**	**16 51 03.7**	**+1.0**		
APA					*i*		16 51 19.5			
APA					pmax	pmax				
	comp=Z,13nm,1.1s									
TEFE	**Tefe**	**71.26**	**112**		*e*P	**P**	**16 51 03.7**	**+0.2**		
MDJ	**Mudanjiang**	**71.33**	**313**		IAMs_20	IAMs_20	17 17 55.8			
	comp=Z,2μm,22.0s

comp=Z,1µm,21.6s,baz=70,slow=31
TJN Taejon 77.93 308 ⇓ *e*P **P 16 51 41.7 -0.3**
ITTB Itaituba 78.28 106 *e*P **P 16 51 43.4 -0.8**
MCPB Macapa, AP 78.34 101 *e*P **P 16 51 43.4 -1.2**
KLMR Klimovskoe 78.43 7 *e*P **P 16 51 41.4 -2.9**
KLMR *e* 16 54 38.8
KLMR *e*PPP PPP 16 56 32.3
KLMR pmax pmax
comp=Z,99nm,1.4s
KLMR MLR MLR
comp=Z,2µm,19.0s
PB12 IPOC Station P 78.51 127 IAmb IAmb 16 51 50.0
comp=Z,77nm,1.1s
PB16 IPOC Station P 78.80 126 IAmb IAmb 16 51 59.6
comp=Z,47nm,1.3s
XLT XiLinHaoTe 78.98 319 *e*P **P 16 51 51.0 +3.2**
XLT pmax pmax
comp=Z,23nm,1.8s
XLT pmax pmax
comp=Z,510nm,5.2s
XLT LR LR
comp=Z,1µm,17.0s
XLT LR LR
comp=Z,500nm,21.1s
DL2 Dalian 79.57 313 *e*P **P 16 51 49.0 -2.0**
DL2 S **S 17 01 55.8 +3.0**
DL2 pmax pmax
comp=Z,49nm,1.3s
DL2 LR LR
comp=Z,1µm,19.1s
DL2 LR LR
comp=Z,1µm,18.2s
DL2 LR LR
comp=Z,1µm,21.2s
ZAK Zakamensk 79.64 330 *e*P **P 16 51 50.3 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
PB11 IPOC Station P 79.79 127 IAmb IAmb 16 51 57.0
comp=Z,70nm,1.0s
BGES Gesves 80.08 29 *d*P **P 16 51 52.5 -1.0**
BCLA Clavier 80.13 29 *d*P **P 16 51 54.5 +0.7**
ULN Ulaanbaatar 80.14 327 P **P 16 51 54.6 +0.5**
ULN Ulaanbaatar 80.14 327 IAMs_20 IAMs_20 17 27 39.4
comp=Z,2µm,20.0s
ULN Ulaanbaatar 80.14 327 ⇓ *e*P **P 16 51 55.6 +1.5**
ULN pmax pmax
comp=Z,26nm,2.0s
ULN MLR MLR
comp=Z,2µm,18.0s
NPGB Novo Progresso 80.36 108 *e*P **P 16 51 55.4 -0.2**
GUMO Guam 80.38 280 LR LR 17 19 08.3
comp=Z,797nm,21.9s,baz=64,slow=29
PB08 IPOC Station P 80.38 127 IAmb IAmb 16 52 07.6
comp=Z,67nm,1.4s
SONM Songino Array 80.43 327 P **P 16 51 54.5 -1.2**
SONM Songino Array 80.43 327 P **P 16 51 56.5 +0.8**
comp=Z,7.4nm,1.1s,baz=60,slow=3.8,SNR=20
SONM PP **PP 16 55 02.5 +4.5**
comp=Z,3.8nm,1.2s,baz=24,slow=6.5,SNR=4.3
SONM LR LR 17 27 17.0
comp=Z,3µm,19.9s,baz=29,slow=36
comp=Z,7.4nm,1.1s
PGAV Gavieira, Arco 80.69 42 *e*LR LR 17 18 01.3
comp=Z,2µm,22.0s
PB01 IPOC Station P 80.86 128 IAmb IAmb 16 52 02.8
comp=Z,42nm,1.1s
VILB Vilhena 80.99 115 *e*P **P 16 51 58.3 -0.6**
KLNR Kaliningrad 81.12 19 ⇑ *e*P **P 16 51 57.4 -1.6**
KLNR pmax pmax
comp=Z,162nm,1.6s
KLNR MLR MLR
comp=Z,2µm,20.0s
PABE Paberze 81.17 17 P **P 16 51 58.7 -0.6**
PABE IAmb IAmb 16 52 11.4
comp=Z,114nm,1.2s
KIRV Kirov 81.30 2 LR LR 17 31 09.7
comp=Z,762nm,19.1s,baz=357,slow=38
PBRG Braganca 81.58 41 *e*P **P 16 52 02.5 +0.7**
comp=Z,6.2nm,1.2s
BJI Beijing 81.73 316 P **P 16 52 04.0 +1.5**
BJI S **SKSac 17 02 19.3 -3.4**
BJI SS **SS 17 07 29.3 -2.6**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI LR LR
comp=Z,200nm,17.2s
BJI LR LR
comp=Z,740nm,19.4s
BJI LR LR
comp=Z,1µm,26.9s
BJT Baijiatuau 81.75 316 IAMs_20 IAMs_20 17 25 35.1
comp=Z,1µm,20.0s
MVO Moncorvo 81.91 42 *e*P **P 16 52 07.4 +3.8**
comp=Z,9.2nm,0.9s
MVO Moncorvo 81.91 42 *e*LR LR 17 19 36.6
comp=Z,2µm,20.0s
CLL Collm 82.02 24 P **P 16 52 03.5 -0.3**
CLL Collm 82.02 24 *e*P **P 16 52 04.0 +0.1**
CLL *e*S **S 17 02 17.0 -1.0**
CLL pmax pmax
comp=Z,31nm,1.3s
CLL MLR MLR
comp=Z,3µm,20.2s
CLL Collm 82.02 24 *e*P **P 16 52 04.0 +0.1**
comp=Z,31nm,1.3s
CLL *e*S **S 17 02 17.0 -1.0**
CLL *e*PS 17 03 06.0
CLL *e*SS **SS 17 07 42.0 +6.5**
CLL *e*SSS SSS 17 11 06.0
CLL AMS AMS 17 28 00.0
comp=Z,3µm,20.2s
PMOZ Porto Moniz, M 82.13 53 *e*LR LR 17 26 47.0
comp=Z,2µm,20.0s
MTE Manteigas 82.21 42 *e*P **P 16 52 07.7 +2.5**
comp=Z,11nm,0.9s
MTE Manteigas 82.21 42 *e*LR LR 17 20 29.6
comp=Z,2µm,22.0s
VBST Vila Bela da S 82.23 116 *e*P **P 16 52 05.2 -0.3**
ZAA0 Zalesovo Array 82.24 342 P **P 16 52 03.6 -1.3**
ZAA0 IAMs_20 IAMs_20 17 30 16.0
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 82.24 342 *i* P **P 16 52 08.3 +3.3**
ZALV pmax pmax
comp=Z,6.0nm,1.0s
ZALV Zalesovo Beam 82.24 342 P **P 16 52 05.0 0.0**
comp=Z,4.5nm,0.9s,baz=28,slow=6.7,SNR=13
ZALV LR LR 17 30 27.0
comp=Z,2µm,20.1s,baz=18,slow=37
comp=Z,4.5nm,0.9s
NACGM Naroch 82.32 15 *e*P P 16 52 15.4 +10
comp=N,1µm,1.0s
PMAR Madeira 82.37 53 *e*P P 16 52 15.5 +9.2
SUW Suwalki 82.37 18 P **P 16 52 04.9 -0.7**
SUW IAmb IAmb 16 52 17.3
comp=Z,119nm,1.4s
SUW Suwalki 82.37 18 P **P 16 52 04.9 -0.7**
SUW pmax pmax
comp=Z,119nm,1.4s
SUW MLR MLR
comp=Z,4µm,22.0s
LVC Limon Verde 82.40 128 *e*P **P 16 52 09.1 +2.5**
LVC Limon Verde 82.40 128 *e*P **P 16 52 05.8 -0.8**
PDRB Porto dos Gac 82.49 112 *e*P **P 16 52 06.7 -0.1**
SIV San Ignacio 82.55 118 LR LR 17 30 50.2
comp=Z,872nm,21.8s,baz=342,slow=37
TMAB Tom-Au,PA,Br 82.64 99 *e*P **P 16 52 07.1 -0.6**
CLDB Colider 82.64 111 *e*P **P 16 52 07.3 -0.3**
BRG Berggiesshubel 82.69 24 *e*P **P 16 52 08.1 +0.7**
BRG Amp 16 52 13.8
comp=Z,36nm,1.3s
BRG Berggiesshubel 82.69 24 P P 16 52 19.4 +12
BRG Amp 16 52 21.7
comp=Z,47nm,1.4s
BRG Berggiesshubel 82.69 24 P P 16 52 40.1 +33
BRG Amp 16 52 41.1
comp=Z,14nm,1.1s
BRG Berggiesshubel 82.69 24 *e*P **P 16 52 08.1 +0.7**
BRG *e* 16 52 19.3
BRG pmax pmax
comp=Z,36nm,1.3s
BRG pmax pmax
comp=Z,47nm,1.4s
BRG pmax pmax
comp=Z,14nm,1.1s
BRG MLR MLR
comp=E,2µm,23.1s
BRG MLR MLR
comp=Z,3µm,21.2s
HSKC Hora Svate Kat 82.76 24 *e*P **P 16 52 11.8 +4.0**
HSKC AMS AMS 17 28 50.0
comp=Z,4µm,23.0s
NKC Novy Kostel 82.77 25 *e*P **P 16 52 11.4 +3.5**
NKC AMS AMS 17 29 10.0
comp=Z,5µm,21.2s
NKC Novy Kostel 82.77 25 *e*P **P 16 52 11.4 +3.5**
NKC MLR MLR
comp=Z,5µm,21.2s
GRA1 Grafenberg Arr 82.83 26 P **P 16 52 07.6 -0.6**
GRA1 IAmb IAmb 16 52 12.4
comp=Z,132nm,2.0s
GRA1 IAMs_20 IAMs_20 17 28 41.4
comp=Z,2µm,21.0s
GRF Grafenberg Arr 82.83 26 P **P 16 52 07.6 -0.6**
GRF pmax pmax
comp=Z,132nm,2.0s
GRF MLR MLR
comp=Z,2µm,21.0s
GRF Grafenberg Arr 82.83 26 *e*P **P 16 52 09.2 +1.0**
comp=Z,8.5nm,0.9s,baz=332,slow=4.7
GRFO Grafenberg 82.83 26 P **P 16 52 07.9 -0.3**
GRFO IAmb IAmb 16 52 13.2
comp=Z,55nm,1.5s
GRFO IAMs_20 IAMs_20 17 28 42.4
comp=Z,2µm,21.0s
GRFO Grafenberg 82.83 26 P **P 16 52 07.9 -0.3**
GRFO pmax pmax
comp=Z,55nm,1.5s
GRFO MLR MLR
comp=Z,2µm,21.0s
MNK Minsk 82.91 15 *i* P P 16 52 16.9 +8.5
comp=E,1.0nm,0.8s
MNK *i* P P 16 52 16.9 +8.5
comp=N,7.0nm,0.8s
MNK *i* P P 16 52 16.9 +8.5
comp=Z,24nm,0.8s,baz=341
MNK *i* PcP pwP 16 52 21.2 +6.9
MNK *i* PP PP 16 55 26.6 +8.6
MNK *i* PPP PPP 16 57 17.8
MNK *i* S S 17 02 39.9 +13
MNK *i* SS SS 17 08 54.6 +66
MNK *i* SSS SSS 17 11 28.1
MNK *i* LQ LQ 17 25 05.9
MNK *i* LR LR 17 27 36.8
MNK *i* LRM MLR 17 30 29.4
comp=E,344nm,18.7s
MNK *i* LRM MLR 17 30 32.3
comp=N,1µm,18.7s
MNK *i* LRM MLR 17 30 34.3
comp=Z,2µm,18.7s
MNK Minsk 82.91 15 *i* P P 16 52 16.9 +8.4
MNK *i* 16 52 21.1
MNK *i* 16 55 26.5
MNK *i* PPP PPP 16 57 17.8
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK MLR MLR
comp=E,344nm,19.0s
MNK MLR MLR
comp=N,1µm,19.0s
MNK MLR MLR
comp=Z,2µm,19.0s
SVE Sverdlovsk 82.94 356 *e*P **P 16 52 10.6 +2.0**
SVE *e*S **S 17 02 30.3 +3.0**
SVE pmax pmax
comp=Z,20nm,1.1s
PMRV Marv??o 83.01 43 *e*P **P 16 52 13.9 +4.6**
comp=Z,14nm,1.2s
PMRV Marv??o 83.01 43 *e*LR LR 17 21 09.7
comp=Z,2µm,22.0s
RICC Richard 83.03 24 *e*P P 16 52 21.4 +12
RICC AMS AMS 17 28 50.0
comp=Z,3µm,20.5s
PB14 IPOC Station P 83.05 131 IAmb IAmb 16 52 14.4
comp=Z,88nm,1.9s
PVCC Panska Ves 83.19 24 *e*P P 16 52 15.4 +5.4
PVCC AMS AMS 17 27 00.0
comp=Z,3µm,21.7s
PVCC Panska Ves 83.19 24 *e*P P 16 52 15.4 +5.4
PVCC MLR MLR
comp=Z,3µm,21.7s
MOS Moscow 83.25 9 *e*P **P 16 52 11.0 +0.8**
MOS *e* 16 55 27.4
MOS *e*S **SKSac 17 02 30.0 -2.3**
MOS pmax pmax
comp=Z,31nm,0.6s
MOS MLR MLR
comp=Z,1µm,19.0s
PESTR Estremoz 83.32 44 *e*P **P 16 52 13.8 +2.9**
comp=Z,17nm,0.9s
PESTR Estremoz 83.32 44 IAmb IAmb 16 52 15.9
comp=Z,64nm,1.2s
ARU Arti 83.43 357 P **P 16 52 11.5 +0.4**
ARU Arti 83.43 357 *d* P **P 16 52 11.9 +0.8**
ARU 16 55 24.7
ARU S **S 17 02 33.5 +1.3**
ARU SS **SS 17 07 55.7 -0.3**
ARU pmax pmax
comp=Z,16nm,1.3s
ARU MLR MLR
comp=Z,999nm,22.0s
ARU Arti 83.43 357 LR LR 17 30 39.3
comp=Z,459nm,21.0s,baz=358,slow=37
PTLB Pontes e Lacer 83.48 116 IAmb IAmb 16 52 16.4
comp=Z,33nm,1.2s
PTLB Pontes e Lacer 83.48 116 *e*P **P 16 52 11.9 0.0**
HHC Hu-ho-hao-te 83.48 320 *e*P **P 16 52 09.0 -2.8**
HHC S **S 17 02 30.5 -3.1**
HHC SS **SS 17 07 56.5 -1.5**
HHC pmax pmax
comp=Z,36nm,0.7s
HHC pmax pmax
comp=Z,650nm,4.6s
HHC LR LR
comp=Z,2µm,17.6s
HHC LR LR
comp=Z,2µm,18.5s
HHC LR LR
comp=Z,2µm,19.9s
PRA Prague 83.55 24 AMS AMS 17 26 40.0
comp=Z,3µm,22.1s
CHVC Chvalec 83.58 23 *e*P P 16 52 20.1 +8.0
CHVC AMS AMS 17 26 30.0
comp=Z,4µm,21.9s
CHVC Chvalec 83.58 23 *e*P P 16 52 20.1 +8.0
CHVC MLR MLR
comp=Z,4µm,21.9s
UPC Upice 83.64 23 AMS AMS 17 26 20.0
comp=Z,4µm,26.0s
PRU Pruhonice 83.65 24 *e*P **P 16 52 16.6 +4.2**
PRU AMS AMS 17 29 20.0
comp=Z,4µm,20.0s
PRU Pruhonice 83.65 24 *e*P **P 16 52 16.6 +4.2**
PRU MLR MLR
comp=Z,4µm,20.0s
OSTC Ostas 83.66 23 AMS AMS 17 26 10.0
comp=Z,4µm,26.9s
BBSD Serra de San D 83.71 119 *e*P **P 16 52 11.9 -1.1**
JOW Kunigami 83.71 300 LR LR 17 23 16.1
comp=Z,745nm,21.8s,baz=102,slow=31
OBN Obninsk 83.73 10 P **P 16 52 12.5 -0.2**
OBN IAmb IAmb 16 52 23.1
comp=Z,99nm,1.4s
OBN Obninsk 83.73 10 ⇓ *e*P **P 16 52 13.8 +1.2**
OBN *i* 16 52 21.9
OBN *i* S **SKSac 17 02 33.8 -1.6**
OBN *i* PS 17 03 43.1
OBN *e*SS **SS 17 08 01.2 +0.7**
OBN pmax pmax
comp=Z,72nm,1.3s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN Obninsk 83.73 10 LR LR 17 31 09.9
comp=Z,1µm,18.6s,baz=352,slow=37
MESJ Messejana 83.74 45 *e*P **P 16 52 15.9 +2.8**
comp=Z,14nm,1.1s
GOPC GO Pecny, Ondr 83.79 24 AMS AMS 17 29 00.0
comp=Z,4µm,22.1s
HNR Honiara 83.86 252 IAMs_20 IAMs_20 17 30 32.2
comp=Z,1µm,20.0s
HNR Honiara 83.86 252 LR LR 17 24 25.5
comp=Z,13µm,19.5s,baz=84,slow=32
DPC Dobruska-Polom 83.88 23 *e*P **P 16 52 13.7 +0.1**
DPC AMS AMS 17 26 20.0
comp=Z,3µm,23.4s
DPC Dobruska-Polom 83.88 23 *e*P **P 16 52 13.7 +0.1**
DPC MLR MLR
comp=Z,3µm,23.4s
MORF Marmelete 83.90 45 *e*P **P 16 52 13.3 -0.6**
comp=Z,17nm,1.0s
TIA Tai'an 84.00 313 P P 16 51 56.3 -18
ZVC Zvikov 84.02 25 *e*P **P 16 52 15.0 +0.7**
ZVC AMS AMS 17 28 30.0
comp=Z,4µm,21.2s
KHC Kasperske Hory 84.09 25 P **P 16 52 14.1 -0.6**
KHC IAmb IAmb 16 52 20.4
comp=Z,47nm,1.6s
KHC Kasperske Hory 84.09 25 *e*P **P 16 52 14.6 -0.1**
KHC AMS AMS 17 29 50.0
comp=Z,4µm,17.5s
KHC Kasperske Hory 84.09 25 *e*P **P 16 52 14.6 -0.1**
KHC MLR MLR
comp=Z,4µm,17.5s
PBAR Barrancos 84.12 44 *e*P **P 16 52 15.6 +0.6**
comp=Z,11nm,1.0s
RAO Raoul Island 84.19 223 LR LR 17 26 29.4
comp=Z,635nm,18.1s,baz=21,slow=33
KRLC Kraliky 84.26 23 *e*P **P 16 52 16.3 +0.8**
KRLC AMS AMS 17 26 20.0
comp=Z,2µm,24.1s
KRLC Kraliky 84.26 23 *e*P **P 16 52 16.3 +0.8**
KRLC MLR MLR
comp=Z,2µm,24.1s
PBDV Barranco-do-Ve 84.33 45 *e*P **P 16 52 19.5 +3.4**
comp=Z,18nm,1.0s
GEC2 GERESS Array S 84.38 25 P **P 16 52 15.2 -1.0**
GEC2 IAmb IAmb 16 52 21.5
comp=Z,36nm,1.5s
GERES GERESS Array B 84.38 25 P **P 16 52 16.1 -0.1**
comp=Z,4.9nm,1.1s,baz=347,slow=5.5,SNR=11
GERES LR LR 17 30 39.7
comp=Z,4µm,19.7s,baz=329,slow=36
comp=Z,4.9nm,1.1s
DAVA Damuels 84.41 28 *i* PcP **P 16 52 17.7 +1.2**
comp=Z,34nm,1.3s
BTO Baotou 84.42 320 *e*P **P 16 52 17.3 +0.7**
BTO pP **pwP 16 52 22.0 -0.5**
BTO sP **PcP 16 52 24.5 +4.2**
BTO PP **PP 16 55 33.0 +2.1**
BTO S **S 17 02 44.3 +1.3**
BTO sS **sS 17 02 48.5 +2.1**
BTO SS **SS 17 08 10.5 -1.4**
BTO pmax pmax
comp=Z,12nm,1.0s
BTO pmax pmax
comp=Z,750nm,5.5s
BTO LR LR
comp=Z,2µm,14.8s
BTO LR LR
comp=Z,3µm,18.1s
BTO LR LR
comp=Z,4µm,18.7s
HNS HongShan 84.45 316 ⇓ P **P 16 52 20.0 +3.4**
HNS S **S 17 02 42.0 -1.1**
HNS SS **SS 17 08 11.0 -1.2**
HNS pmax pmax
comp=Z,16nm,1.2s
HNS LR LR
comp=Z,950nm,18.3s
HNS LR LR
comp=Z,2µm,21.5s
HNS LR LR
comp=Z,2µm,22.0s
PAB San Pablo 84.48 41 P **P 16 52 16.5 -0.4**
PAB IAmb IAmb 16 52 29.1
comp=Z,53nm,1.4s
PAB San Pablo 84.48 41 P **P 16 52 16.5 -0.4**
PAB pmax pmax
comp=Z,53nm,1.5s
PAB MLR MLR
comp=Z,3µm,21.0s
TREC Trest 84.55 24 AMS AMS 17 27 20.0
comp=Z,4µm,22.8s
RETA Reutte 84.56 28 *e*PcP **PcP 16 52 21.7 +0.9**
comp=Z,13nm,1.0s
ESBB Sonseca Array 84.57 41 IAmb IAmb 16 52 21.8
comp=Z,49nm,1.5s
ESBB IAMs_20 IAMs_20 17 26 17.1
comp=Z,2µm,19.0s
ESDC Sonseca Array 84.57 41 P **P 16 52 17.1 -0.2**
comp=Z,7.0nm,1.0s,baz=302,slow=3.5,SNR=15
ESDC LR LR 17 26 27.0
comp=Z,2µm,21.6s,baz=324,slow=33
comp=Z,7.0nm,1.0s
CKRC Cesky Krumlov 84.60 25 *e*P **P 16 52 17.5 +0.2**
CKRC Cesky Krumlov 84.60 25 *e*P **P 16 52 17.5 +0.2**
MORC Moravsky Berou 84.75 23 ⇑ P **P 16 52 18.9 +0.9**
MORC Moravsky Berou 84.75 23 P **P 16 52 18.2 +0.2**
MORC IAmb IAmb 16 52 31.2
comp=Z,70nm,1.8s
MORC IAMs_20 IAMs_20 17 29 17.1
comp=Z,2µm,20.0s
MORC Moravsky Berou 84.75 23 *e*P **P 16 52 18.2 +0.2**
MORC Moravsky Berou 84.75 23 P **P 16 52 18.2 +0.2**
MORC pmax pmax
comp=Z,70nm,1.8s
MORC MLR MLR
comp=Z,2µm,20.0s
MOTA Moosalm 84.80 27 *e*PcP **P 16 52 19.6 +1.2**
comp=Z,32nm,1.7s
DAVOX Davos/Dischmat 84.84 28 LR LR 17 31 37.2
comp=Z,3µm,18.8s,baz=329,slow=37
OKC Ostrava-Krasne 84.87 22 *e*P **P 16 52 21.3 +2.8**
OKC AMS AMS 17 28 00.0
comp=Z,2µm,19.6s
OKC Ostrava-Krasne 84.87 22 *e*P **P 16 52 21.3 +2.8**
OKC MLR MLR
comp=Z,2µm,19.6s
VRAC Vranov 84.88 23 *e*P **P 16 52 18.5 -0.2**
VRAC Vranov 84.88 23 LR LR 17 29 31.6
comp=Z,3µm,21.9s,baz=330,slow=35
FETA Feichten 84.94 28 *e*PcP **P 16 52 20.4 +1.2**
comp=Z,24nm,1.2s,SNR=6.8
SQTA Sankt Quirin 84.94 27 *i* PcP **P 16 52 20.5 +1.3**
comp=Z,45nm,1.5s,SNR=7.3
WATA Walderalm 84.97 27 *i* PcP **P 16 52 20.2 +0.9**
comp=Z,40nm,1.4s,SNR=7.9
OJC Ojcow 84.99 21 P **P 16 52 18.1 -1.1**
OJC IAmb IAmb 16 52 30.7
comp=Z,37nm,1.0s
OJC Ojcow 84.99 21 P **P 16 52 18.1 -1.1**
OJC pmax pmax
comp=Z,37nm,1.0s
BBRB Robore, Bolivi 85.02 119 *e*P **P 16 52 18.9 -0.8**
NBRS Nobres 85.02 113 *e*P **P 16 52 19.2 -0.6**
KRUC Moravsky 85.04 24 *e*P **P 16 52 19.7 +0.3**
WTTA Wattenberg 85.05 27 *i* PcP **P 16 52 20.7 +0.9**
comp=Z,41nm,1.7s,SNR=8.7
BNI Bardonecchia 85.07 31 IAmb IAmb 16 52 38.8
comp=Z,89nm,1.6s
FUORN Ofenpass-Fuorn 85.12 28 IAmb IAmb 16 52 26.6
comp=Z,88nm,1.4s
MAUC Maruska 85.20 23 *e*P **P 16 52 19.5 -0.8**
MAUC AMS AMS 17 28 00.0
comp=Z,4µm,18.3s
LESA Schwarzleotal 85.27 27 *e*PcP **P 16 52 21.4 +0.7**
comp=Z,21nm,1.3s
SSE Sheshan 85.29 307 P **P 16 52 20.8 -0.2**
SSE S **S 17 02 48.5 -3.2**
SSE pmax pmax
comp=Z,17nm,0.8s
SSE pmax pmax
comp=Z,320nm,4.3s
SSE LR LR
comp=Z,300nm,17.6s
SSE LR LR
comp=Z,350nm,17.6s
BIOA Bad Ischl, Aus 85.37 26 *i* PcP **PcP 16 52 24.0 -0.2**
comp=Z,32nm,1.4s,SNR=7.2
MOA Molln 85.44 25 *e*PcP **PcP 16 52 23.1 -1.4**
comp=Z,20nm,1.3s
H03N2 Juan Fernandez 85.56 142 T T 18 27 03.4
baz=325,slow=74
H03N1 Juan Fernandez 85.57 142 T T 18 27 05.7
baz=325

H03N3 Juan Fernandez 85.58 142 T T 18 27 03.8
baz=325,slow=74
JAVC Velka Javorina 85.60 23 eP **P** **16 52 25.3 +3.0**
BRVK Borovoye 85.79 350 P **P** **16 52 21.8 -1.3**
BRVK IAMs_20 IAMs_20 17 32 50.2
comp=Z,1µm,20.0s
BRVK Borovoye 85.79 350 deP **P** **16 52 23.5 +0.4**
BRVK pmax pmax
comp=Z,25nm,1.0s
BRVK MLR MLR
comp=Z,988nm,22.0s
KBA Koelnbreinsper 85.80 26 i PcP **PcP** **16 52 25.0 -1.3**
comp=Z,30nm,1.6s,SNR=7.1
ABTA Abfaltersbach 85.80 27 ePcP **P** **16 52 24.6 +1.2**
comp=Z,22nm,1.5s
BVAR Borovoye Array 85.81 350 P **P** **16 52 22.7 -0.5**
comp=Z,14nm,1.0s,baz=5.4,slow=3.1,SNR=20
BVAR LR LR 17 32 05.8
comp=Z,632nm,21.7s,baz=14,slow=37
comp=Z,14nm,1.0s
SMOL Smolenice 85.84 23 eP **P** **16 52 26.0 +2.5**
LANS Liptovska Anna 85.86 22 eP **P** **16 52 24.6 +1.0**
LANS pmax pmax
comp=Z,8.0nm,1.2s
LANS Liptovska Anna 85.86 22 eP **P** **16 52 24.6 +1.0**
CONA Conrad Observa 85.88 24 i PcP **P** **16 52 24.9 +1.1**
comp=Z,28nm,1.3s,SNR=9.2
MODS Modra-Piesok 85.92 23 eP **P** **16 52 25.3 +1.4**
MODS pmax pmax
comp=Z,61nm,1.3s
MODS Modra-Piesok 85.92 23 eP **P** **16 52 25.3 +1.4**
BBLB La Banda, Boli 85.96 119 eP **P** **16 52 23.8 -0.6**
NJ2 Nanjing 86.00 309 eP **P** **16 52 24.5 0.0**
NJ2 pmax pmax
comp=Z,11nm,1.3s
NJ2 pmax pmax
comp=Z,450nm,3.5s
NJ2 LR LR
comp=Z,1µm,20.8s
NJ2 LR LR
comp=Z,1µm,20.5s
NJ2 LR LR
comp=Z,900nm,17.1s
RABL Rabaul 86.19 261 IAMs_20 IAMs_20 17 29 58.3
comp=Z,2µm,18.0s
RONA Rosalia, Austr 86.22 24 i PcP **PcP** **16 52 27.9 0.0**
comp=Z,25nm,2.0s,SNR=6.3
LCO Las Campanas 86.26 134 P **P** **16 52 24.8 -1.1**
LCO IAmb IAmb 16 52 30.4
comp=Z,27nm,1.0s
LCO Las Campanas 86.26 134 P **P** **16 52 24.8 -1.1**
LCO pmax pmax
comp=Z,27nm,1.0s
VYHS Vyhne 86.27 22 eP **P** **16 52 27.9 +2.3**
VYHS pmax pmax
comp=Z,49nm,2.3s
VYHS Vyhne 86.27 22 eP **P** **16 52 27.9 +2.3**
MYKA Terra Mystica 86.29 26 ePcP **PcP** **16 52 27.8 -0.6**
comp=Z,12nm,1.2s
KWP Kalwaria Pacla 86.29 20 P **P** **16 52 26.5 +0.8**
KWP IAmb IAmb 16 53 20.3
comp=Z,42nm,1.4s
KWP IAMs_20 IAMs_20 17 30 07.0
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 86.29 20 P **P** **16 52 26.5 +0.8**
KWP pmax pmax
comp=Z,42nm,1.4s
KWP MLR MLR
comp=Z,2µm,20.0s
AC05 El Transito 86.36 133 IAmb IAmb 16 52 29.3
comp=Z,37nm,1.1s
ARSA Arzberg 86.37 25 ePcP **PcP** **16 52 27.8 -0.9**
comp=Z,13nm,1.3s
PRED Cave del Predi 86.43 26 IAMs_20 IAMs_20 17 30 56.6
comp=Z,2µm,22.0s
LVV L'vov 86.45 19 eP **P** **16 52 26.7 +0.3**
LVV eS **S** **17 02 59.7 -2.8**
LVV MLR MLR
comp=Z,1µm,17.0s
LPSR Galich'ya Gora 86.49 9 eP **P** **16 52 27.3 +0.8**
LPSR pmax pmax
comp=Z,60nm,1.0s
SNDB Serra Nova Dou 86.62 109 eP **P** **16 52 27.7 -0.1**
LIFNC LIFOU 86.63 239 P **P** **16 52 28.8 +1.2**
KURK Kurchatov 86.64 344 P **P** **16 52 25.5 -1.8**
KURK Kurchatov 86.64 344⇑ eP **P** **16 52 28.1 +0.8**
KURK pmax pmax
comp=Z,18nm,1.2s
KURK MLR MLR
comp=Z,2µm,18.0s
OBKA Obir 86.70 26 epP **P** **16 52 27.5 -0.3**
comp=Z,8.0nm,1.1s
SOKA Soboth 86.71 25 ePcP **P** **16 52 28.3 +0.4**
comp=Z,18nm,1.5s,SNR=7.6
KURBB Kurchatov Arra 86.74 344 P **P** **16 52 26.9 -0.9**
comp=Z,8.7nm,1.1s,baz=18,slow=4.4,SNR=19
KURBB LR LR 17 34 28.3
comp=Z,2µm,18.1s,baz=358,slow=38
comp=Z,8.7nm,1.1s
AKASG Malin Array Be 86.78 15 P **P** **16 52 28.7 +0.7**
AKASG Malin Array Be 86.78 15 P **P** **16 52 28.7 +0.7**
AKASG pmax pmax
comp=Z,21nm,1.3s
AKASG Malin Array Be 86.78 15 P **P** **16 52 26.6 -1.3**
comp=Z,5.8nm,0.9s,baz=335,slow=3.8,SNR=21
AKASG LR LR 17 32 19.8
comp=Z,1µm,20.1s,baz=334,slow=36
comp=Z,5.8nm,0.9s
AKBB Malin Array Si 86.78 15 P **P** **16 52 28.1 +0.1**
AKBB IAmb IAmb 16 52 40.0
comp=Z,136nm,1.8s
AKBB Malin Array Si 86.78 15 P **P** **16 52 28.1 +0.1**
AKBB pmax pmax
comp=Z,136nm,1.8s
KIEV Kiev 86.78 15 ⇓P **P** **16 52 29.9 +1.9**
KIEV Kiev 86.78 15 P **P** **16 52 27.9 0.0**
KIEV IAmb IAmb 16 52 40.0
comp=Z,133nm,1.8s
KIEV Kiev 86.78 15 IAMs_20 IAMs_20 17 30 24.8
comp=Z,2µm,22.0s
KIEV Kiev 86.78 15 P **P** **16 52 28.0 0.0**
KIEV pmax pmax
comp=Z,133nm,1.8s
MSSA Maissana 86.79 30 IAMs_20 IAMs_20 17 32 20.4
comp=Z,2µm,20.0s
KOLS Kolonicke sedl 86.82 20 eP **P** **16 52 29.9 +1.6**
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 86.82 20 eP **P** **16 52 29.9 +1.6**
SABO M.te Sabotino 86.84 27 P **P** **16 52 27.6 -0.9**
SABO IAmb IAmb 16 52 33.5
comp=Z,66nm,1.6s
SABO IAMs_20 IAMs_20 17 30 47.8
comp=Z,3µm,21.0s
AK05 Malin Array Si 86.85 15 P **P** **16 52 28.9 +0.6**
AK05 IAmb IAmb 16 52 41.3
comp=Z,34nm,1.2s
PSZ Piszkesteto 87.10 22 P **P** **16 52 29.4 -0.4**
PSZ IAmb IAmb 16 52 43.2
comp=Z,35nm,1.2s
PSZ IAMs_20 IAMs_20 17 30 21.3
comp=Z,2µm,21.0s
PSZ Piszkesteto 87.10 22 P **P** **16 52 29.4 -0.4**
PSZ pmax pmax
comp=Z,35nm,1.2s
PSZ MLR MLR
comp=Z,2µm,21.0s
SMTB Santa Maria do 87.27 104 eP **P** **16 52 31.3 +0.3**
BELG Belogornoye 87.42 4⇑ eP **P** **16 52 29.9 -1.1**
BELG MLR MLR
comp=Z,176nm,16.0s
BELG Belogornoye 87.42 4 LR LR 17 35 18.0
comp=Z,632nm,18.7s,baz=340,slow=38
VORR Voronezh 87.43 9 eP **P** **16 52 32.9 +1.7**
VORR pmax pmax
comp=Z,63nm,0.4s
PANT Pantanal (Braz 87.66 117 eP **P** **16 52 32.0 -0.7**
CO03 El Pedregal 87.68 135 IAmb IAmb 16 52 35.0
comp=Z,22nm,1.1s
LYN LuoYang 87.78 315 ⇑P **P** **16 52 36.8 +3.6**
LYN SKS **SKSac** **17 02 59.8 -1.8**
LYN S **S** **17 03 18.8 +3.0**
LYN pmax pmax
comp=Z,15nm,1.4s
LYN pmax pmax
comp=Z,460nm,5.6s
LYN LR LR
comp=Z,2µm,17.9s
LYN LR LR
comp=Z,1µm,20.3s
LYN LR LR
comp=Z,1µm,18.9s
CO02 Combarbal 87.79 135 IAmb IAmb 16 53 00.4
comp=Z,35nm,1.2s
VSR Storozhevoye 87.88 9 eP **P** **16 52 35.0 +1.7**
VSR pmax pmax
comp=Z,30nm,1.2s
PP1B Ponte de Pedra 87.89 115 eP **P** **16 52 33.7 -0.1**
OUENC Ouen Island, N 88.06 238 P **P** **16 52 32.5 -1.9**
OUENC IAmb IAmb 16 53 29.0
comp=Z,22nm,0.9s
DZM Mont Dzumac 88.07 239 P **P** **16 52 34.4 -0.3**
DZM IAmb IAmb 16 52 45.4
comp=Z,30nm,1.1s
DZM Mont Dzumac 88.07 239 LR LR 17 23 47.0
comp=Z,4µm,20.8s,baz=28,slow=30
VORD Divnogorie 88.14 9 eP **P** **16 52 34.8 +0.3**
VORD pmax pmax
comp=Z,30nm,0.5s
VRH Novokhopyorsk 88.17 7 eP P 16 52 41.1 +6.4
VRH pmax pmax
comp=Z,11nm,0.9s
MORH Mrgy, Hungar 88.27 23 ⇓P **P** **16 52 34.2 -1.0**
MANU Manus Island 88.44 266 IAMs_20 IAMs_20 17 21 32.8
comp=Z,1µm,20.0s
ARAG Araguaiana, MT 88.76 112 eP **P** **16 52 37.9 0.0**
BUR08 Bucovina Ar. S 88.76 19 P **P** **16 52 37.5 -0.3**
BUR08 IAmb IAmb 16 52 55.2
comp=Z,39nm,1.8s
BURAR Bucovina Array 88.79 19 ⇑P **P** **16 52 41.2 +3.4**
BURAR Bucovina Array 88.79 19 P **P** **16 52 37.7 -0.1**
MURT Porto Murtinho 88.86 120 eP **P** **16 52 37.5 -0.7**
DRGR 88.91 21 ⇓P **P** **16 52 39.7 +1.3**
NBPS Pedro II - PI 88.98 97 eP **P** **16 52 39.3 +0.1**
SORM Soroca 89.03 17 ⇑P **P** **16 52 40.9 +2.1**
MARR Marisel-Cluj 89.12 20 ⇓P P 16 52 44.5 +5.0
VA03 San Esteban 89.24 136 P **P** **16 52 39.2 -0.7**
VA03 IAmb IAmb 16 53 37.2
comp=Z,15nm,0.6s
GUMA Gualdo di Mace 89.29 28 IAMs_20 IAMs_20 17 33 57.4
comp=Z,3µm,20.0s
AKTO Aktyubinsk 89.44 357 LR LR 17 37 09.8
comp=Z,746nm,18.5s,baz=352,slow=39
MDT Midelt 89.45 46 LR LR 17 32 47.5
comp=Z,649nm,18.0s,baz=339,slow=36
MK31 Makanchi Array 89.48 341 P **P** **16 52 39.0 -2.0**
MK31 Makanchi Array 89.48 341⇑ eP **P** **16 52 43.0 +2.0**
MKAR Makanchi Array 89.48 341 P **P** **16 52 40.4 -0.6**
MKAR Makanchi Array 89.48 341 P **P** **16 52 40.4 -0.6**
MKAR Makanchi Array 89.48 341 P **P** **16 52 39.9 -1.1**
comp=Z,2.4nm,1.1s,baz=22,slow=4.5,SNR=9.5
MKAR PP **PP** **16 56 12.4 +1.2**
comp=Z,1.4nm,1.1s,baz=40,slow=5.6,SNR=3.8
MKAR LR LR 17 35 15.6
comp=Z,2µm,19.6s,baz=20,slow=37
comp=Z,2.4nm,1.1s
MAKZ Makanchi 89.55 341 P **P** **16 52 40.2 -1.1**
MAKZ IAMs_20 IAMs_20 17 35 17.1
comp=Z,1µm,20.0s
MAKZ Makanchi 89.55 341 P **P** **16 52 40.2 -1.1**
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ MLR MLR
comp=Z,1µm,20.0s
BZS Buzias 89.68 22 ⇓P **P** **16 52 43.8 +1.9**
MT01 Popeta 89.72 137 IAMs_20 IAMs_20 17 23 11.8
comp=Z,1µm,19.0s
WHN Wuhan 89.73 311 P **P** **16 52 45.5 +3.1**
WHN sP **pwP** **16 52 49.5 +1.2**
WHN S **S** **17 03 35.8 +1.5**
WHN LR LR
comp=Z,2µm,20.9s
SACV Santiago Islan 89.86 70 IAMs_20 IAMs_20 17 28 11.2
comp=Z,2µm,22.0s
XAN Xi'an 90.05 317 P **P** **16 52 43.8 -0.2**
XAN S **S** **17 03 37.5 +0.1**
XAN pmax pmax
comp=Z,35nm,1.4s
XAN LR LR
comp=Z,2µm,17.2s
XAN LR LR
comp=Z,2µm,16.6s
XAN LR LR
comp=Z,2µm,20.4s
GTA Gaotai 90.05 326 P **P** **16 52 46.5 +2.5**
GTA sP pwP 16 52 52.8 +3.0
GTA S **S** **17 03 38.8 +1.4**
GTA SS **SS** **17 09 38.5 +4.4**
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=Z,2µm,20.7s
GTA LR LR
comp=Z,2µm,19.9s
GTA LR LR
comp=Z,3µm,19.5s
GO05 Huala 90.27 138 IAMs_20 IAMs_20 17 23 54.4
comp=Z,1µm,22.0s
TICA Tres Isletas 90.41 125 eP **P** **16 52 45.3 -0.1**
ABKAR Akbulak array 90.53 356 P **P** **16 52 45.6 -0.2**
ABKAR Akbulak array 90.53 356 P **P** **16 52 46.2 +0.4**
ABKAR IAmb IAmb 16 52 59.7
comp=Z,16nm,1.1s
ESFA Espinillo Form 90.59 123 eP **P** **16 52 46.2 -0.1**
WMQ Urumqi 90.69 336 eP **P** **16 52 48.0 +1.2**
WMQ pmax pmax
comp=Z,26nm,1.1s
WMQ LR LR
comp=Z,2µm,22.9s
WMQ LR LR
comp=Z,2µm,22.9s
WMQ LR LR
comp=Z,2µm,18.3s
MLR Muntele Rosu 90.95 19 LR LR 17 33 24.0
comp=Z,4µm,21.3s,baz=338,slow=36
LZH Lanzhou 90.96 321 eP **P** **16 52 51.5 +3.2**
LZH sP pwP 16 52 55.8 +1.6
LZH SKS **SKSac** **17 03 19.5 -1.2**
LZH sS pS 17 03 48.8 +0.2
LZH pmax pmax
comp=Z,7.0nm,1.4s
LZH LR LR
comp=Z,1µm,20.0s
LZH LR LR
comp=Z,2µm,20.3s
LZH LR LR
comp=Z,2µm,21.3s
BI05 Punta Hualpn 91.00 140 IAMs_20 IAMs_20 17 24 50.9
comp=Z,1µm,21.0s
SGRT San Giovanni R 91.29 27 IAMs_20 IAMs_20 17 35 41.3
comp=Z,2µm,18.0s
BDFB Brasilia 91.43 109 IAMs_20 IAMs_20 17 35 57.2
comp=Z,2µm,22.0s
BDFB Brasilia 91.43 109 P **P** **16 52 50.6 +0.1**
comp=Z,1.1nm,0.3s,baz=318,slow=5.5,SNR=3.1
BDFB LR LR 17 36 41.2
comp=Z,2µm,21.9s,baz=316,slow=37
comp=Z,1.1nm,0.3s
SDBA SAO DESIDERIO 91.58 105 eP **P** **16 52 51.1 -0.1**
CFR Carcaliu 91.78 18 ⇑P **P** **16 52 51.5 -0.1**
BLKB Belogradchik 91.81 22 ⇑P **P** **16 52 53.3 +1.3**
TPGR Topolog 92.15 18 ⇑P **P** **16 52 54.4 +1.0**
CPUP Villa Florida 92.30 123 P **P** **16 52 53.2 -0.9**
comp=Z,3.1nm,0.7s,baz=306,slow=2.2,SNR=4.4
CPUP LR LR 17 36 35.4
comp=Z,402nm,19.6s,baz=340,slow=37
comp=Z,3.1nm,0.7s
ENH Enshi 92.67 314 IAMs_20 IAMs_20 17 31 20.2
comp=Z,1µm,22.0s
CUC Castrocucco 92.87 28 IAMs_20 IAMs_20 17 34 31.2
comp=Z,2µm,20.0s
PMG Port Moresby 93.33 261 LR LR 17 27 04.1
comp=Z,2µm,21.8s,baz=44,slow=30
ERBR Yeremizino-Bor 93.45 9 eP P 16 53 06.5 +7.1
ERBR pmax pmax
comp=Z,37nm,1.2s
ERBR MLR MLR
comp=Z,2µm,18.0s
VLO Vlora 93.71 25 IAMs_20 IAMs_20 17 35 07.3
comp=Z,2µm,22.0s
SCTE Santa Cesarea 93.73 26 IAMs_20 IAMs_20 17 34 26.7
comp=Z,2µm,22.0s
JANB Januaria 93.74 106 eP **P** **16 52 57.4 -3.8**
URZ Urewera 93.81 221 LR LR 17 27 57.1
comp=Z,2µm,19.6s,baz=124,slow=31
ANN Anapa 93.93 11 eP **P** **16 53 01.4 -0.2**
ANN pmax pmax
comp=Z,110nm,1.4s
ANN MLR MLR
comp=E,1µm,19.0s
ANN MLR MLR
comp=Z,1µm,19.0s
ANN MLR MLR
comp=N,904nm,18.0s
KEST Kesra 93.98 35 IAMs_20 IAMs_20 17 32 36.8
comp=Z,2µm,22.0s
KEST Kesra 93.98 35 P **P** **16 53 01.8 -0.4**
comp=Z,7.3nm,0.9s,baz=346,slow=5.4,SNR=6.1
KEST LR LR 17 32 46.9
comp=Z,2µm,21.7s,baz=272,slow=34
comp=Z,7.3nm,0.9s
RCBR Riachuelo 94.11 94 IAMs_20 IAMs_20 17 39 12.5
comp=Z,1µm,20.0s
RCBR Riachuelo 94.11 94 LR LR 17 39 12.7
comp=Z,575nm,20.9s,baz=311,slow=38
RTZ Ruatahuna 94.15 221 P **P** **16 53 02.4 -0.1**
RTZ IAmb IAmb 16 53 11.8
comp=Z,44nm,1.3s
CEL Celeste 94.43 29 IAMs_20 IAMs_20 17 35 58.4
comp=Z,2µm,20.0s
PRZ Przheval'sk 94.48 342 IAMs_20 IAMs_20 17 37 22.2
comp=Z,2µm,21.0s
KEK Kerkira 94.50 25 IAMs_20 IAMs_20 17 37 48.0
comp=Z,1µm,20.0s
LABN Labinsk 94.54 9 eP P 16 52 58.2 -6.2
LABN pmax pmax
comp=Z,20nm,0.4s
VAE Valguarnera 94.56 30 LR LR 17 35 24.5
comp=Z,2µm,21.0s,baz=354,slow=35
BKZ Black Stump Fm 94.81 221 IAMs_20 IAMs_20 17 25 52.3
comp=Z,2µm,21.0s
RDO Rodhopi 94.91 21 IAMs_20 IAMs_20 17 33 21.7
comp=Z,1µm,21.0s
FRU1 Bishkek 95.00 345 IAMs_20 IAMs_20 17 36 36.1
comp=Z,2µm,21.0s
HIZ Hauiti 95.15 222 IAMs_20 IAMs_20 17 31 46.2
comp=Z,1µm,20.0s
CD2 Chengdu 95.18 318 P **P** **16 53 06.3 -1.4**
CD2 S **S** **17 04 21.0 -2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,1µm,17.6s
CD2 LR LR
comp=Z,2µm,25.0s
CD2 LR LR
comp=Z,1µm,19.6s
AAK Ala-Archa 95.19 345 IAMs_20 IAMs_20 17 36 52.3
comp=Z,1µm,21.0s
AAK Ala-Archa 95.19 345 LR LR 17 38 26.4
comp=Z,859nm,21.9s,baz=14,slow=37
ALN Alexandroupoli 95.27 21 IAMs_20 IAMs_20 17 35 12.6
comp=Z,1µm,21.0s
PLCA Paso Flores 95.40 141 IAMs_20 IAMs_20 17 28 27.3
comp=Z,1µm,19.0s
PLCA Paso Flores 95.40 141 P **P** **16 53 08.4 +0.2**
comp=Z,2.2nm,0.9s,baz=9.3,slow=5.6,SNR=4.3
PLCA LR LR 17 28 19.0
comp=Z,716nm,19.4s,baz=342,slow=30
comp=Z,2.2nm,0.9s
KIV Kislovodsk 95.44 8 P **P** **16 53 08.5 -0.2**
KIV IAMs_20 IAMs_20 17 38 25.7
comp=Z,1µm,20.0s
KIV Kislovodsk 95.44 8 eP **P** **16 53 10.1 +1.4**
KIV e 17 03 46.5
KIV eSS SS 17 10 56.0 +5.5
KIV pmax pmax
comp=Z,12nm,1.0s
KIV pmax pmax
comp=Z,75nm,4.2s
KIV MLR MLR
comp=Z,860nm,20.0s
SOC Sochi 95.45 10 eP **P** **16 53 06.6 -2.0**
SOC e 16 56 56.4
SOC ePPP PPP 16 58 59.1
SOC eS **SKSac** **17 03 42.5 -2.3**
SOC eSSS SSS 17 14 42.6
SOC MLR MLR
comp=Z,1µm,18.0s
KBZ Khabaz 95.68 8 ceP **P** **16 53 09.1 -0.5**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ MLR MLR
comp=Z,1µm,20.0s
KBZ Khabaz 95.68 8 P **P** **16 53 08.3 -1.3**
comp=Z,1.7nm,0.9s,baz=333,slow=4.5,SNR=2.8
KBZ LR LR 17 38 47.7
comp=Z,1µm,19.6s,baz=340,slow=37
comp=Z,1.7nm,0.9s
NBLA Lagarto - SE 95.98 99 eP **P** **16 53 12.8 +1.4**
NRN Naryn 96.03 343 IAMs_20 IAMs_20 17 39 07.0
comp=Z,1µm,19.0s
WDD Wied Dalam 96.04 31 IAMs_20 IAMs_20 17 39 11.0
comp=Z,1µm,18.0s
MAK Makhachkala 96.82 5 eP P 16 53 08.9 -5.9
MAK e 17 03 42.8
MAK pmax pmax
comp=Z,135nm,1.3s
ONI Oni 96.86 8 P **P** **16 53 14.6 -0.5**
ONI IAMs_20 IAMs_20 17 39 08.5
comp=Z,1µm,20.0s
ONI Oni 96.86 8 P **P** **16 53 14.6 -0.5**
ONI pmax pmax
comp=Z,10.0nm,1.1s
ONI MLR MLR
comp=Z,1µm,20.0s
BALB Balikesir 96.94 20 IAMs_20 IAMs_20 17 37 04.5
comp=Z,1µm,21.0s
SPB Sao Paulo 97.06 115 IAMs_20 IAMs_20 17 41 40.7
comp=Z,1µm,21.0s
GYA Guiyang 97.19 314 P Pdif 16 53 18.0 +0.9
GYA LR LR
comp=Z,760nm,17.4s
GYA LR LR
comp=Z,2µm,24.3s
GYA LR LR
comp=Z,1µm,26.6s
BHW Baring Head 97.32 220 IAMs_20 IAMs_20 17 27 23.7
comp=Z,1µm,21.0s
TGY Tagaytay City 97.42 295 LR LR 17 29 33.5
comp=Z,821nm,21.8s,baz=102,slow=31
ANTO Ankara 97.87 16 IAMs_20 IAMs_20 17 42 35.2
comp=Z,1µm,19.0s
NNZ Nelson 97.92 221 IAMs_20 IAMs_20 17 34 57.6
comp=Z,2µm,19.0s
BRTR Keskin Array B 98.18 15 P Pdif 16 53 21.6 +0.3
comp=Z,1.1nm,0.8s,baz=3.8,slow=4.3,SNR=3.8
BRTR LR LR 17 39 03.3
comp=Z,991nm,21.1s,baz=347,slow=36
comp=Z,1.1nm,0.8s
DAV Davao City (W) 98.94 287 LR LR 17 31 20.7
comp=Z,752nm,20.7s,baz=53,slow=31
ISP Isparta 99.31 18 IAMs_20 IAMs_20 17 43 58.8
comp=Z,1µm,18.0s
GNI Garni 99.41 7 LR LR 17 41 14.6
comp=Z,773nm,20.5s,baz=351,slow=37
PZH PanZhiHua 99.78 317 P **Pdif** **16 53 28.5 -0.1**
PZH SKS **SKSac** **17 04 04.8 -3.0**
PZH S **S** **17 05 00.8 -2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,6.5s
PZH LR LR
comp=Z,510nm,22.9s
PZH LR LR
comp=Z,860nm,21.8s
PZH LR LR
comp=Z,580nm,25.5s
SIMJ Simiganj 100.05 348 IAMs_20 IAMs_20 17 42 33.6
comp=Z,2µm,20.0s
FAKI Fak Fak 100.53 275 IAMs_20 IAMs_20 17 32 48.8
comp=Z,1µm,22.0s
EIDS Eidsvold 100.68 246 IAMs_20 IAMs_20 17 30 54.9
comp=Z,2µm,22.0s
CTAO Charters Tower 100.80 253 IAMs_20 IAMs_20 17 37 22.9
comp=Z,1µm,19.0s
QIZ Qiongzhong 101.07 307 P **Pdif** **16 53 34.3 0.0**
QIZ PP **PP** **16 57 40.8 -1.4**

QIZ			S	**Sdif**	**17 05 11.0**	**-2.6**	
QIZ			LR	LR			
	comp=Z,650nm,30.8s						
QIZ			LR	LR			
	comp=Z,490nm,28.2s						
QIZ			LR	LR			
	comp=Z,750nm,22.1s						
GAZ	**Gaziantep**	**101.33 13**	IAMs_20	IAMs_20	17 41 40.8		
	comp=Z,1µm,22.0s						
GYA0B	**ALIBECK ARRAY**	**101.92 356**	IAMs_20	IAMs_20	17 45 13.7		
	comp=Z,876nm,19.0s						
TNCH	**TengChong**	**102.64 319**	*e*P	**Pdif**	**16 53 40.3**	**-1.1**	
TNCH			SKS	**SKSac**	**17 04 19.0**	**-2.7**	
TNCH			S	**Sdif**	**17 05 21.0**	**-5.8**	
TNCH			SS	**SS**	**17 12 29.8**	**-3.0**	
TNCH			pmax	pmax			
	comp=Z,4.0nm,0.7s						
TNCH			pmax	pmax			
	comp=Z,71nm,5.0s						
TNCH			LR	LR			
	comp=Z,540nm,21.5s						
TNCH			LR	LR			
	comp=Z,580nm,24.8s						
TNCH			LR	LR			
	comp=Z,910nm,24.3s						
TAM	**Tamanrasset**	**102.83 45**	IAMs_20	IAMs_20	17 41 25.7		
	comp=Z,1µm,20.0s						
ARMA	**Armidale**	**103.49 242**	IAMs_20	IAMs_20	17 32 10.3		
	comp=Z,2µm,21.0s						
KKM	**Kota Kinabalu**	**106.36 293**	IAMs_20	IAMs_20	17 34 25.6		
	comp=Z,1µm,22.0s						
CHTO	**Chiang Mai**	**107.53 315**	IAMs_20	IAMs_20	17 45 44.1		
	comp=Z,972nm,20.0s						
MTN	**Manton Dam**	**107.66 268**	IAMs_20	IAMs_20	17 41 45.3		
	comp=Z,960nm,19.0s						
TORD	**Torodi Ar. Bea**	**108.23 54**	PP	**PP**	**16 58 32.5**	**-2.9**	
	comp=Z,2.4nm,1.1s,baz=326,slow=6.1,SNR=5.7						
WB0	**Warramunga Arr**	**109.40 260**	IAMs_20	IAMs_20	17 35 24.7		
	comp=Z,2µm,22.0s						
WR8	**Warramunga Arr**	**109.43 260**	IAMs_20	IAMs_20	17 35 25.6		
	comp=Z,1µm,22.0s						
WB7	**Warramunga Arr**	**109.45 260**	IAMs_20	IAMs_20	17 50 31.1		
	comp=Z,934nm,19.0s						
WR6	**Warramunga Arr**	**109.47 260**	IAMs_20	IAMs_20	17 35 26.5		
	comp=Z,2µm,22.0s						
WB5	**Warramunga Arr**	**109.49 260**	IAMs_20	IAMs_20	17 35 28.0		
	comp=Z,2µm,22.0s						
WR4	**Warramunga Arr**	**109.50 260**	IAMs_20	IAMs_20	17 35 04.3		
	comp=Z,2µm,21.0s						
WR3	**Warramunga Arr**	**109.51 260**	IAMs_20	IAMs_20	17 35 14.7		
	comp=Z,2µm,22.0s						
WC2	**Warramunga Arr**	**109.52 260**	IAMs_20	IAMs_20	17 35 05.8		
	comp=Z,1µm,21.0s						
WB3	**Warramunga Arr**	**109.52 260**	IAMs_20	IAMs_20	17 33 05.9		
	comp=Z,954nm,19.0s						
WR2	**Warramunga Arr**	**109.53 260**	IAMs_20	IAMs_20	17 38 32.2		
	comp=Z,903nm,20.0s						
WRAB	**Tennant Creek**	**109.53 260**	IAMs_20	IAMs_20	17 35 40.0		
	comp=Z,1µm,22.0s						
WC1	**Warramunga Arr**	**109.54 260**	IAMs_20	IAMs_20	17 35 53.3		
	comp=Z,1µm,21.0s						
WR1	**Warramunga Arr**	**109.55 260**	IAMs_20	IAMs_20	17 35 29.6		
	comp=Z,2µm,22.0s						
WC4	**Warramunga Arr**	**109.56 260**	IAMs_20	IAMs_20	17 35 29.9		
	comp=Z,2µm,22.0s						
KNRA	**Kununurra**	**111.21 267**	IAMs_20	IAMs_20	17 38 30.3		
	comp=Z,1µm,21.0s						
ASAR	**Alice Springs**	**112.07 257**	PP	**PP**	**16 59 05.1**	**+1.1**	
	comp=Z,1.7nm,1.2s,baz=53,slow=8.4,SNR=4.2						
BBOO	**Buckleboo**	**115.64 248**	IAMs_20	IAMs_20	17 39 23.1		
	comp=Z,1µm,20.0s						
PBA	**Port Blair**	**116.77 316**	IAMs_20	IAMs_20	17 56 28.8		
	comp=Z,808nm,19.0s						
PMBI	**Palembang**	**120.72 295**	IAMs_20	IAMs_20	17 40 59.9		
	comp=Z,779nm,22.0s						
VNDA	**Vanda**	**125.33 195**	IAMs_20	IAMs_20	17 46 00.0		
	comp=Z,932nm,18.0s						
NWAO	**Narrogin (SRO)**	**129.39 257**	IAMs_20	IAMs_20	17 48 33.1		
	comp=Z,847nm,19.0s						
QSPA	**South Pole Qui**	**130.22 180**		**PKPdf**	**16 58 52.4**	**-0.8**	
QSPA	**South Pole Qui**	**130.22 180**	IAMs_20	IAMs_20	17 51 59.2		
	comp=Z,1µm,19.0s						
QSPA	**South Pole Qui**	**130.22 180**	PKP	**PKPdf**	**16 58 53.3**	**+0.2**	
	comp=Z,4.8nm,0.8s,baz=86,slow=0.7,SNR=20						
QSPA			SKPbc	**SKPab**	**17 02 15.9**	**0.0**	
	comp=Z,4.3nm,1.0s,baz=139,slow=4.9,SNR=3.8						
LODK	**Lodwar**	**133.28 25**	IAMs_20	IAMs_20	18 01 31.3		
	comp=Z,911nm,21.0s						
MBAR	**Mbarara**	**135.25 33**	IAMs_20	IAMs_20	18 00 16.0		
	comp=Z,1µm,21.0s						
VNA3	**Neumayer Olymp**	**136.24 155**	⇑PKPdf	**PKPdf**	**16 59 04.1**	**-0.2**	
	comp=Z,23nm,0.8s						
VNA1	**Neumayer--Stat**	**136.79 155**	⇑PKPdf	**PKiKP**	**16 59 07.3**	**+0.3**	
	comp=Z,12nm,1.0s						
VNA2	**Neumayer--Watz**	**137.02 155**	⇑PKPdf	**PKPdf**	**16 59 05.9**	**+0.2**	
	comp=Z,11nm,0.8s,baz=309,slow=4.0						
KMBO	**Kilima Mbogo**	**138.17 25**	PKPdf	**PKPdf**	**16 59 06.1**	**-3.9**	
KMBO	**Kilima Mbogo**	**138.17 25**	IAMs_20	IAMs_20	18 05 58.9		
	comp=Z,1µm,21.0s						
KMBO	**Kilima Mbogo**	**138.17 25**	PKP	**PKPdf**	**16 59 10.9**	**+0.9**	
	comp=Z,2.1nm,0.8s,baz=360,slow=6.7,SNR=4.8						
SNAA	**Sanae**	**138.26 157**		**PKPdf**	**16 59 06.3**	**-1.7**	
SNAA			IAMs_20	IAMs_20	17 48 12.4		
	comp=Z,862nm,20.0s						
SNAA	**Sanae**	**138.26 157**	⇑PKPdf	**PKPdf**	**16 59 07.4**	**-0.6**	
SNAA	**Sanae**	**138.26 157**	PKIKP	**PKPdf**	**16 59 06.3**	**-1.7**	
SNAA			MLR	MLR			
	comp=Z,900nm,20.0s						
CASY	**Casey**	**139.39 211**	IAMs_20	IAMs_20	18 00 16.3		
	comp=Z,890nm,18.0s						
TROLL	**Troll, Antarti**	**139.72 158**	⇑PKPdf	**PKiKP**	**16 59 12.5**	**-0.7**	
	comp=Z,369nm,0.9s						
ELIB	**Princess Elisa**	**145.01 164**	*d*PKPdf	**PKPbc**	**16 59 18.8**	**-0.8**	
BOSA	**Boshof**	**153.96 72**	PKP	**PKPdf**	**16 59 36.1**	**+0.4**	
	comp=Z,3.7nm,1.1s,baz=331,slow=4.2,SNR=2.9						

*NEIC **25** 16:47:10.6±2.0,55°.83N±0°.07×149°.3W±0°.1,h10km±7km, ML3.7/34,ML3.5(AEIC),Error ellipse: s-maj=11.0km s-min=8.6km az=194.0*

*AEIC **25** 16:47:16.1±2.1,55°.92N±0°.09×149°.4W±0°.1,h4km±7km, Error ellipse: s-maj=12.9km s-min=9.1km az=173.0*

ISC 25 16:47:11.2±1.7,55°.9N±0°.1×149°.33W±0°.07,h10km,n176,
σ1§03/180,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.54**	**302**		**Pn**	**16 47 52.8**	**+0.3**
OHAK	**Old Harbor**	**2.54**	**302**		**Sn**	**16 48 21.8**	**-1.7**
OHAK	**Old Harbor**	**2.54**	**302**	P	**Pn**	**16 47 52.8**	**+0.3**
	baz=119						
OHAK				S	**Sn**	**16 48 21.8**	**-1.7**
	baz=119						
KDAK	**Kodiak Island**	**2.58**	**317**		**Pn**	**16 47 53.5**	**+0.6**
KDAK					**Sn**	**16 48 22.9**	**-1.3**
KDAK	**Kodiak Island**	**2.58**	**317**	P	**Pn**	**16 47 53.5**	**+0.6**
	baz=135						
KDAK				S	**Sn**	**16 48 22.9**	**-1.3**
	baz=135						
SYI	**Shuyak Island**	**3.16**	**329**		**Pn**	**16 48 01.5**	**+0.6**
SYI				IAML		16 48 39.4	
	comp=N,85nm,0.6s						
SYI	**Shuyak Island**	**3.16**	**329**		**Sn**	**16 48 38.4**	**-0.1**
Q20K	**Shuyak Island**	**3.16**	**329**	P	**Pn**	**16 48 02.0**	**+1.1**
	baz=147						
Q20K				S	**Sn**	**16 48 38.4**	**-0.2**
	baz=147						
R18K	**Karluk**	**3.26**	**302**		**Pn**	**16 48 03.3**	**+0.9**
R18K				IAML		16 48 45.1	
	comp=N,116nm,1.3s						
R18K				IAML		16 48 46.0	
	comp=E,103nm,0.4s						
R18K	**Karluk**	**3.26**	**302**		**Sn**	**16 48 39.9**	**-1.2**
R18K	**Karluk**	**3.26**	**302**	P	**Pn**	**16 48 03.3**	**+0.9**
	baz=118						
R18K				S	**Sn**	**16 48 39.9**	**-1.2**
	baz=118						
CNPM	**China Poot**	**3.74**	**345**		**Pn**	**16 48 08.4**	**-0.6**
CNPM				IAML		16 48 54.6	
	comp=E,59nm,0.4s						
CNPM	**China Poot**	**3.74**	**345**		**Sn**	**16 48 51.9**	**-1.2**
KAHG	**Katmai Hook Gl**	**3.83**	**314**		**Pn**	**16 48 11.7**	**+1.5**
Q23K	**Middleton Isla**	**3.85**	**23**	Pn	**Pn**	**16 48 10.1**	**-0.3**
Q23K				IAML		16 50 06.6	
	comp=N,197nm,1.3s						
MID	**Middleton Isla**	**3.85**	**23**	Pn	**Pn**	**16 48 10.0**	**-0.4**
MID				IAML		16 48 54.9	
	comp=N,190nm,1.3s						
BRSE	**Bradley Lake S**	**3.89**	**349**		**Pn**	**16 48 11.0**	**-0.1**
BRSE					**Sn**	**16 48 55.5**	**-1.2**
BRSE	**Bradley Lake S**	**3.89**	**349**	P	**Pn**	**16 48 11.0**	**-0.1**
	baz=168						
BRSE				S	**Sn**	**16 48 55.5**	**-1.2**
	baz=168						
BRLK	**Bradley Lake**	**3.93**	**348**		**Pn**	**16 48 11.4**	**-0.1**
BRLK				IAML		16 48 58.1	
	comp=E,54nm,0.3s						
BRLK				IAML		16 48 59.5	
	comp=N,58nm,0.3s						
ACHA	**Angle Creek He**	**3.99**	**307**		**Pn**	**16 48 14.1**	**+1.6**
ANCK	**Angle Creek**	**4.06**	**307**		**Pn**	**16 48 15.0**	**+1.6**
KVTA	**Katmai Vly 10**	**4.07**	**309**		**Pn**	**16 48 15.5**	**+2.0**
P23K	**Montague Islan**	**4.20**	**13**		**Pn**	**16 48 15.2**	**0.0**
P23K	**Montague Islan**	**4.20**	**13**	P	**Pn**	**16 48 15.2**	**0.0**
	baz=195						
PLK3	**Peulik 3**	**4.20**	**298**		**Pn**	**16 48 16.7**	**+1.5**
CNTC	**Contact Creek**	**4.27**	**306**		**Pn**	**16 48 17.6**	**+1.3**
Q17K	**Contact Creek**	**4.27**	**306**	P	**Pn**	**16 48 17.7**	**+1.3**
	baz=121						
P19K	**Oil Pt**	**4.27**	**332**	Pn	**Pn**	**16 48 15.8**	**-0.4**
P19K				IAML		16 49 08.8	
	comp=N,106nm,0.5s						
P19K				IAML		16 49 09.8	
	comp=E,121nm,0.6s						
IVE	**Iliamna Volcan**	**4.54**	**336**		**Pn**	**16 48 20.9**	**+0.9**
O22K	**Cooper Landing**	**4.56**	**358**	Pn	**Pn**	**16 48 19.2**	**-1.0**
O22K				IAML		16 49 30.7	
	comp=E,118nm,0.9s						
SLKM	**Skilak Lake**	**4.61**	**354**		**Pn**	**16 48 20.7**	**-0.2**
P18K	**Big Mountain,**	**4.70**	**320**		**Pn**	**16 48 22.0**	**-0.1**
P18K	**Big Mountain,**	**4.70**	**320**	P	**Pn**	**16 48 22.6**	**+0.5**
	baz=135						
HIN	**Hinchinbrook I**	**4.72**	**17**		**Pn**	**16 48 22.4**	**0.0**
HIN	**Hinchinbrook I**	**4.72**	**17**	IAML		16 49 06.0	
	comp=N,58nm,1.4s						
HIN				IAML		16 50 52.2	
	comp=E,69nm,1.5s						
KAIM	**Kayak Island**	**4.78**	**31**	Pn	**Pn**	**16 48 23.4**	**+0.2**
R16K	**Pilot Point**	**4.83**	**293**		**Pn**	**16 48 24.5**	**+0.7**
R16K				IAML		16 49 44.7	
	comp=N,98nm,1.5s						
R16K	**Pilot Point**	**4.83**	**293**	P	**Pn**	**16 48 24.8**	**+0.9**
	baz=107						
RSO	**Redoubt South**	**4.89**	**340**	Pn	**Pn**	**16 48 25.2**	**+0.3**
CAPN	**Captain Cook N**	**4.94**	**350**	Pn	**Pn**	**16 48 25.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.00**	**21**		**Pn**	**16 48 25.8**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.00**	**21**	P	**Pn**	**16 48 26.6**	**+0.4**
	baz=204						
ANPB	**Aniakchak Plen**	**5.05**	**284**		**Pn**	**16 48 28.0**	**+1.0**
CHGN	**Chignik**	**5.10**	**278**	Pn	**Pn**	**16 48 27.6**	**+0.1**
CHGN				IAML		16 51 21.4	
	comp=E,78nm,0.5s						
CHGN				IAML		16 51 21.4	
	comp=N,75nm,0.1s						
RC01	**Rabbit Creek A**	**5.17**	**358**		**Pn**	**16 48 28.8**	**+0.1**
RC01	**Rabbit Creek A**	**5.17**	**358**	IAML		16 49 26.8	
	comp=N,23nm,0.6s						
RC01				IAML		16 49 27.7	
	comp=E,39nm,1.0s						
RC01	**Rabbit Creek A**	**5.17**	**358**	P	**Pn**	**16 48 28.8**	**+0.1**
	baz=178						
BERG	**Berg Lake**	**5.37**	**31**	Pn	**Pn**	**16 48 31.2**	**-0.1**
SNH	**Sunshine Point**	**5.47**	**36**		**Pn**	**16 48 32.7**	**-0.1**
KNK	**Knik Glacier**	**5.51**	**4**		**Pn**	**16 48 32.8**	**-0.5**
KNK	**Knik Glacier**	**5.51**	**4**	P	**Pn**	**16 48 33.7**	**+0.4**
	baz=185						
N19K	**Bonanza Creek**	**5.59**	**333**	Pn	**Pn**	**16 48 34.2**	**-0.3**
SUA	**Susitna One**	**5.59**	**353**	Pn	**Pn**	**16 48 33.8**	**-0.7**
BMRM	**Bremner River**	**5.62**	**24**		**Pn**	**16 48 35.3**	**+0.5**
BMRM	**Bremner River**	**5.62**	**24**	P	**Pn**	**16 48 35.3**	**+0.5**
	baz=208						
PMR	**Palmer**	**5.67**	**1**		**Pn**	**16 48 35.2**	**-0.3**
PMR	**Palmer**	**5.67**	**1**	P	**Pn**	**16 48 36.6**	**+1.1**
	baz=181						
S14K	**Fog Glacier**	**5.74**	**278**	P	**Pn**	**16 48 37.8**	**+1.4**
	baz=89						
VNFG	**Fog Glacier, M**	**5.74**	**278**		**Pn**	**16 48 36.8**	**+0.4**
BARK	**Barkley Ridge**	**5.76**	**36**		**Pn**	**16 48 37.3**	**+0.6**
KLU	**Klutina**	**5.85**	**16**		**Pn**	**16 48 37.5**	**-0.4**
KLU	**Klutina**	**5.85**	**16**	P	**Pn**	**16 48 38.6**	**+0.7**
	baz=199						
GHO	**Glory Hole Cre**	**5.86**	**2**		**Pn**	**16 48 36.5**	**-1.6**
N18K	**Kilae Creek**	**5.88**	**327**	Pn	**Pn**	**16 48 38.5**	**+0.2**
SML	**Sawmill**	**5.91**	**5**		**Pn**	**16 48 38.7**	**-0.1**
SML	**Sawmill**	**5.91**	**5**	P	**Pn**	**16 48 39.6**	**+0.8**
	baz=186						
O16K	**Kokwok River B**	**5.95**	**312**	Pn	**Pn**	**16 48 39.4**	**+0.1**
CHNA	**Chernabura Isl**	**5.96**	**264**	P	**Pn**	**16 48 39.5**	**+0.2**
	baz=75						
CNBA	**Chernabura Isl**	**5.96**	**263**		**Pn**	**16 48 39.0**	**-0.4**
SCM	**Sheep Creek Mo**	**6.01**	**9**	Pn	**Pn**	**16 48 38.6**	**-1.5**
VRDI	**Verde Repeater**	**6.13**	**28**		**Pn**	**16 48 42.1**	**+0.2**
SKT	**Skwentna**	**6.17**	**350**	Pn	**Pn**	**16 48 43.4**	**+1.1**
KIAG	**Kiagna River**	**6.20**	**33**		**Pn**	**16 48 43.2**	**+0.4**
N25K	**Chitina, Valde**	**6.20**	**21**		**Pn**	**16 48 42.1**	**-0.6**
N25K	**Chitina, Valde**	**6.20**	**21**	P	**Pn**	**16 48 42.7**	**-0.1**
	baz=206						
N17K	**Nushagak Hills**	**6.20**	**321**	Pn	**Pn**	**16 48 43.0**	**+0.3**
GLB	**Gilahina Butte**	**6.22**	**25**		**Pn**	**16 48 43.3**	**+0.2**
M20K	**Styx River**	**6.28**	**343**	Pn	**Pn**	**16 48 43.5**	**-0.4**
SDPT	**Sand Point**	**6.34**	**269**	Pn	**Pn**	**16 48 44.9**	**+0.2**
PCA	**Pinnacle**	**6.37**	**45**		**Pn**	**16 48 44.7**	**-0.4**
PTPK	**Patty Peak**	**6.37**	**31**		**Pn**	**16 48 45.7**	**+0.5**
PINM	**Pinnacle**	**6.37**	**45**	P	**Pn**	**16 48 45.6**	**+0.5**
	baz=233						
M24K	**Tolsona, Glenn**	**6.40**	**13**	Pn	**Pn**	**16 48 46.2**	**+0.7**
PNL	**Peninsula**	**6.49**	**51**		**Pn**	**16 48 47.5**	**+0.8**
PNL	**Peninsula**	**6.49**	**51**	P	**Pn**	**16 48 47.5**	**+0.8**
	baz=239						
O15K	**Ungalikthiuk R**	**6.52**	**304**		**Pn**	**16 48 48.4**	**+1.3**
O15K	**Ungalikthiuk R**	**6.52**	**304**	P	**Pn**	**16 48 48.4**	**+1.3**
	baz=116						
BARN	**Barnard Glacie**	**6.52**	**35**		**Pn**	**16 48 47.0**	**-0.2**
M19K	**Big River Lodg**	**6.53**	**338**	Pn	**Pn**	**16 48 48.0**	**+0.7**
BCPM	**Bancas Point**	**6.54**	**48**		**Pn**	**16 48 47.9**	**+0.5**
CTG	**Chitna Glacier**	**6.55**	**36**	P	**Pn**	**16 48 48.1**	**+0.4**
	baz=223						
CTGM	**Chitina Glacie**	**6.56**	**36**		**Pn**	**16 48 47.5**	**-0.2**
LOGN	**Logan Glacier**	**6.57**	**38**		**Pn**	**16 48 47.8**	**-0.1**
WAT6	**Susitna Watana**	**6.72**	**6**		**Pn**	**16 48 50.6**	**+0.7**
WAT6	**Susitna Watana**	**6.72**	**6**	P	**Pn**	**16 48 50.6**	**+0.7**
	baz=188						
L19K	**White Mountain**	**6.88**	**338**	Pn	**Pn**	**16 48 52.9**	**+0.8**
M17K	**Holitna River**	**6.92**	**326**	Pn	**Pn**	**16 48 53.4**	**+0.8**
WAT7	**Susitna Watana**	**6.92**	**2**		**Pn**	**16 48 53.3**	**+0.6**
PS1A	**Pavlof South-1**	**7.04**	**271**		**Pn**	**16 48 54.6**	**+0.4**
N15K	**Kwethluk River**	**7.11**	**311**	Pn	**Pn**	**16 48 56.9**	**+1.7**
M16K	**Timber Creek**	**7.17**	**319**	Pn	**Pn**	**16 48 57.5**	**+1.5**
O29M	**Mount Kennedy**	**7.18**	**48**		**Pn**	**16 48 57.2**	**+0.9**
O29M	**Mount Kennedy**	**7.18**	**48**	P	**Pn**	**16 48 57.3**	**+1.1**
	baz=237						
PN7A	**Pavlof North-7**	**7.18**	**271**		**Pn**	**16 48 57.3**	**+1.1**
P29M	**Windy Craggy**	**7.21**	**54**	Pn	**Pn**	**16 48 56.6**	**0.0**
O14K	**Tigyukauivet M**	**7.22**	**302**	Pn	**Pn**	**16 48 58.0**	**+1.2**
DHY	**Denali Highway**	**7.23**	**7**		**Pn**	**16 48 57.3**	**+0.3**
DHY	**Denali Highway**	**7.23**	**7**	P	**Pn**	**16 48 57.8**	**+0.8**
	baz=189						
M26K	**Nabesna, AK**	**7.25**	**24**	Pn	**Pn**	**16 48 58.0**	**+0.8**
YUK2	**White River**	**7.33**	**33**		**Pn**	**16 48 59.1**	**+0.8**
L18K	**Granite Mounta**	**7.35**	**332**	Pn	**Pn**	**16 48 59.1**	**+0.6**
S31K	**Pelican**	**7.44**	**69**	Pn	**Pn**	**16 48 57.5**	**-2.2**
YUK7	**Dusty Glacier**	**7.48**	**47**		**Pn**	**16 49 01.8**	**+1.2**
M27K	**Edge Creek, AK**	**7.49**	**28**	Pn	**Pn**	**16 49 01.4**	**+0.8**
RND	**Reindeer**	**7.50**	**2**	Pn	**Pn**	**16 49 02.0**	**+1.4**
TRF	**Thorofare Moun**	**7.55**	**357**	Pn	**Pn**	**16 49 02.5**	**+1.1**
YUK6	**Outpost Mounta**	**7.63**	**44**		**Pn**	**16 49 04.2**	**+1.7**
YUK6	**Outpost Mounta**	**7.63**	**44**	P	**Pn**	**16 49 04.2**	**+1.7**
	baz=234						
CAST	**Castle Rocks**	**7.63**	**351**	Pn	**Pn**	**16 49 03.0**	**+0.6**
KTH	**Kantishna Hill**	**7.69**	**355**	Pn	**Pn**	**16 49 03.6**	**+0.5**
N14K	**Kuskokwak Cree**	**7.70**	**306**		**Pn**	**16 49 04.6**	**+1.5**
N14K	**Kuskokwak Cree**	**7.70**	**306**	P	**Pn**	**16 49 04.6**	**+1.5**
	baz=116						
YUK4	**Talbot Arm**	**7.77**	**41**	P	**Pn**	**16 49 07.7**	**+3.3**
	baz=230						
TTA	**Tatalina**	**7.80**	**337**	Pn	**Pn**	**16 49 03.5**	**-1.2**
K20K	**Telida**	**7.82**	**344**	Pn	**Pn**	**16 49 04.0**	**-0.9**
L16K	**Owhat River**	**7.82**	**322**	Pn	**Pn**	**16 49 04.3**	**-0.6**
SIT	**Sitka**	**7.83**	**76**	Pn	**Pn**	**16 49 02.4**	**-2.6**
HYT	**Haines Junctio**	**7.91**	**47**	Pn	**Pn**	**16 49 06.9**	**+0.6**
L27K	**Beaver Creek,**	**8.10**	**25**	Pn	**Pn**	**16 49 10.1**	**+1.4**
BCAR	**Beaver Creek A**	**8.11**	**25**	Pn	**Pn**	**16 49 09.4**	**+0.5**
RIDG	**Independent Ri**	**8.14**	**14**	Pn	**Pn**	**16 49 11.1**	**+1.6**
K17K	**Iditarod**	**8.20**	**330**	Pn	**Pn**	**16 49 10.5**	**+0.4**
M14K	**Bethel**	**8.21**	**311**	Pn	**Pn**	**16 49 10.9**	**+0.8**
BPAW	**Bear Paw Mtn.**	**8.23**	**355**	Pn	**Pn**	**16 49 10.4**	**-0.2**
S32K	**Killisnoo**	**8.26**	**73**	Pn	**Pn**	**16 49 09.1**	**-1.9**
N30M	**Aishikik Lake**	**8.43**	**44**	Pn	**Pn**	**16 49 13.9**	**+0.5**
O30N	**Mendenhall**	**8.47**	**50**	Pn	**Pn**	**16 49 13.6**	**-0.4**
SCRK	**Sand Creek**	**8.50**	**16**	Pn	**Pn**	**16 49 15.0**	**+0.7**
M29M	**Somme Creek**	**8.57**	**36**	Pn	**Pn**	**16 49 16.7**	**+1.4**
HDA	**Harding Lake**	**8.58**	**7**	Pn	**Pn**	**16 49 16.3**	**+0.9**
J20K	**Nowinta River**	**8.61**	**346**	Pn	**Pn**	**16 49 16.9**	**+1.2**
M13K	**Dall Lake**	**8.66**	**307**	Pn	**Pn**	**16 49 18.0**	**+1.7**
J19K	**Poorman**	**8.67**	**341**	Pn	**Pn**	**16 49 16.8**	**+0.2**
NEA2	**Nenana**	**8.69**	**1**	Pn	**Pn**	**16 49 17.0**	**+0.2**
CCB	**Clear Creek Bu**	**8.77**	**4**	Pn	**Pn**	**16 49 18.6**	**+0.7**
L14K	**Kuka Creek**	**8.82**	**313**	Pn	**Pn**	**16 49 20.3**	**+1.8**
K27K	**Chicken**	**8.89**	**21**	Pn	**Pn**	**16 49 20.7**	**+1.1**
J25K	**Salcha River,**	**8.92**	**11**	Pn	**Pn**	**16 49 20.4**	**+0.3**
K15K	**Wolf Creek Mou**	**8.94**	**320**	Pn	**Pn**	**16 49 23.4**	**+3.2**
IL31		**8.95**	**7**	Pn	**Pn**	**16 49 20.8**	**+0.5**
WHY	**Whitehorse**	**8.95**	**52**	Pn	**Pn**	**16 49 21.0**	**+0.5**
J26L	**Joseph Creek**	**9.05**	**16**	Pn	**Pn**	**16 49 23.0**	**+1.1**
U33K	**Whale Pass**	**9.08**	**82**	Pn	Pn	16 49 19.0	-3.1
P32M	**Atlin**	**9.11**	**60**	Pn	**Pn**	**16 49 22.3**	**-0.3**
L29M	**L29M**	**9.16**	**34**	Pn	**Pn**	**16 49 24.8**	**+1.5**
M30M	**Minto, Yukon**	**9.23**	**39**	Pn	**Pn**	**16 49 25.2**	**+0.9**
I23K	**Minto, Yukon-K**	**9.24**	**360**	Pn	**Pn**	**16 49 25.1**	**+0.7**
I21K	**Tanana**	**9.37**	**353**	Pn	**Pn**	**16 49 27.3**	**+1.2**
DAWY	**Dawson**	**9.54**	**27**	Pn	**Pn**	**16 49 29.4**	**+0.9**
O32M	**Nakina River**	**9.68**	**65**	Pn	**Pn**	**16 49 30.4**	**-0.2**
P33M	**Teslin, Yukon**	**9.73**	**57**	Pn	**Pn**	**16 49 31.1**	**0.0**
EGAK	**Eagle**	**9.74**	**21**	Pn	**Pn**	**16 49 33.3**	**+2.2**
I26K	**Coal Creek Min**	**9.87**	**15**	Pn	**Pn**	**16 49 34.6**	**+1.6**
K29M	**Barlow Dome**	**9.89**	**32**	Pn	**Pn**	**16 49 34.6**	**+1.3**
H21K	**Melozitna Rive**	**9.90**	**352**	Pn	**Pn**	**16 49 34.4**	**+1.0**
M31M	**Drury Creek, Y**	**9.91**	**45**	Pn	**Pn**	**16 49 35.0**	**+1.4**
N32M	**Quiet Lake**	**9.96**	**52**	Pn	**Pn**	**16 49 35.1**	**+0.9**
H24K	**Noodor Dome**	**9.96**	**3**	Pn	**Pn**	**16 49 35.0**	**+0.7**
IMAR	**Indian Mountai**	**10.31**	**350**	Pn	**Pn**	**16 49 39.5**	**+0.6**
R33M	**Jennings River**	**10.42**	**63**	Pn	**Pn**	**16 49 40.5**	**-0.1**
I28M	**Miner Creek**	**10.58**	**22**	Pn	**Pn**	**16 49 44.4**	**+1.6**
J30M	**Hart River**	**10.78**	**31**	Pn	**Pn**	**16 49 47.3**	**+1.8**
G21K	**Allakaket**	**10.80**	**351**	Pn	**Pn**	**16 49 46.4**	**+0.7**
G23K	**Bananza Creek**	**10.82**	**359**	Pn	**Pn**	**16 49 46.9**	**+0.9**
I30M	**Mount Dempster**	**11.25**	**29**	Pn	**Pn**	**16 49 54.1**	**+2.1**
F24K	**Squaw Lake**	**11.64**	**3**	Pn	**Pn**	**16 49 58.8**	**+1.5**

*IDC **25** 16:59:15.7±0.5,86°.14N×32°.14E,h0km,mb3.9/20, mbtmp3.9/24,ML3.7/4,Error ellipse: s-maj=17.0km s-min=11.7km az=63.0*

*NEIC **25** 16:59:17.2±1.7,86°.06N±0°.08×3°.0E±°,h10km±1km, mb4.4/57,Error ellipse: s-maj=18.2

C16K	**Lisburne Hills**	**25.74**	**13**	P		**P**	**17 04 46.9**	**-0.2**
E22K	**Anaktuvuk Pass**	**26.00**	**2**	P		**P**	**17 04 49.1**	**-0.5**
E22K				IAmb		IAmb	17 04 50.9	
	comp=Z,6.6nm,0.8s							
E25K	**Arctic Village**	**26.01**	**356**	P		**P**	**17 04 49.7**	**+0.1**
F28M	**Old Crow**	**26.47**	**351**	P		**P**	**17 04 53.5**	**-0.3**
F31M	**Tsiigehtchic**	**26.56**	**346**	P		**P**	**17 04 54.3**	**-0.2**
F31M				IAmb		IAmb	17 05 04.0	
	comp=Z,11nm,1.1s							
E19K	**Redstone River**	**26.66**	**6**	P		**P**	**17 04 55.5**	**+0.1**
E19K				IAmb		IAmb	17 04 59.2	
	comp=Z,6.6nm,1.1s							
COLD	**Coldfoot**	**26.91**	**0**	P		**P**	**17 04 57.5**	**-0.3**
COLD				IAmb		IAmb	17 04 58.9	
	comp=Z,9.6nm,1.5s							
G31M	**Satah River**	**27.09**	**346**	P		**P**	**17 04 58.5**	**-0.8**
G31M				IAmb		IAmb	17 05 11.6	
	comp=Z,9.5nm,1.1s							
F19K	**Shaleruckik Mo**	**27.28**	**7**	P		**P**	**17 05 01.4**	**+0.4**
G21K	**Allakaket**	**27.62**	**3**	P		**P**	**17 05 03.4**	**-0.8**
G21K				IAmb		IAmb	17 05 05.4	
	comp=Z,13nm,1.4s							
H29M	**Whitestone**	**27.86**	**350**	P		**P**	**17 05 05.2**	**-1.0**
H29M				IAmb		IAmb	17 05 40.7	
	comp=Z,8.8nm,1.2s							
G19K	**Purcell Mounta**	**27.98**	**6**	P		**P**	**17 05 07.6**	**+0.3**
IMAR	**Indian Mountai**	**28.16**	**3**	P		**P**	**17 05 08.3**	**-0.6**
H24K	**Noodor Dome**	**28.31**	**358**	P		**P**	**17 05 10.5**	**+0.2**
H24K				IAmb		IAmb	17 05 37.2	
	comp=Z,6.8nm,1.2s							
F15K	**North Star Dit**	**28.33**	**13**	P		**P**	**17 05 10.2**	**-0.2**
F15K				IAmb		IAmb	17 05 31.1	
	comp=Z,9.0nm,1.4s							
I28M	**Miner Creek**	**28.65**	**351**	P		**P**	**17 05 12.8**	**-0.6**
I28M				IAmb		IAmb	17 05 18.3	
	comp=Z,6.9nm,1.3s							
I30M	**Mount Dempster**	**28.83**	**348**	P		**P**	**17 05 14.4**	**-0.7**
YAK	**Yakutsk**	**29.05**	**73**	P		**P**	**17 05 14.9**	**-1.8**
IL03	**Eielson Array**	**29.38**	**357**	P		**P**	**17 05 19.7**	**0.0**
ILAR	**Eielson Array**	**29.38**	**357**	P		**P**	**17 05 20.9**	**+1.2**
ILAR	**Eielson Array**	**29.38**	**357**	P		**P**	**17 05 19.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=358,slow=7.5,SNR=19							
	comp=Z,1.4nm,0.8s							
J30M	**Hart River**	**29.48**	**348**	P		**P**	**17 05 20.6**	**-0.2**
CCB	**Clear Creek Bu**	**29.50**	**358**	P		**P**	**17 05 20.7**	**-0.1**
J26L	**Joseph Creek**	**29.63**	**354**	P		**P**	**17 05 22.0**	**-0.1**
J26L				IAmb		IAmb	17 05 40.9	
	comp=Z,9.2nm,1.4s							
DAWY	**Dawson**	**30.03**	**351**	P		**P**	**17 05 24.7**	**-0.9**
DAWY				IAmb		IAmb	17 05 38.5	
	comp=Z,5.6nm,1.3s							
KTH	**Kantishna Hill**	**30.60**	**1**	P		**P**	**17 05 31.4**	**+0.7**
KTH				IAmb		IAmb	17 05 49.5	
	comp=Z,9.0nm,1.2s							
YKA	**Yellowknife Ar**	**31.01**	**329**	P		**P**	**17 05 33.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=6.9,slow=8.1,SNR=7.8							
YKA				PcP		**PcP**	**17 08 30.2**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=350,slow=2.6,SNR=4.6							
	comp=Z,0.4nm,0.7s							
BCAR	**Beaver Creek A**	**31.06**	**353**	P		**P**	**17 05 35.8**	**+1.2**
L27K	**Beaver Creek,**	**31.06**	**353**	P		**P**	**17 05 36.1**	**+1.5**
L27K				IAmb		IAmb	17 05 44.3	
	comp=Z,9.7nm,1.4s							
PPLA	**Purkeypile**	**31.26**	**2**	P		**P**	**17 05 37.7**	**+1.2**
M30M	**Minto, Yukon**	**31.49**	**348**	P		**P**	**17 05 38.9**	**+0.5**
M30M				IAmb		IAmb	17 06 22.3	
	comp=Z,5.3nm,1.3s							
HYT	**Haines Junctio**	**33.26**	**349**	P		**P**	**17 05 53.6**	**-0.4**
O30N	**Mendenhall**	**33.29**	**348**	P		**P**	**17 05 54.8**	**+0.6**
O30N				IAmb		IAmb	17 05 56.2	
	comp=Z,4.4nm,0.9s							
ZALV	**Zalesovo Beam**	**34.06**	**120**	P		**P**	**17 06 01.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=353,slow=10,SNR=2.4							
ZALV				PcP		**PcP**	**17 08 39.0**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=305,slow=3.0,SNR=3.7							
	comp=Z,0.4nm,0.5s							
BVAR	**Borovoye Array**	**34.20**	**136**	P		**P**	**17 06 03.0**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=352,slow=9.1,SNR=5.2							
	comp=Z,1.2nm,0.7s							
Q32M	**Nakina River**	**35.04**	**344**	P		**P**	**17 06 10.2**	**+0.6**
Q32M				IAmb		IAmb	17 06 29.6	
	comp=Z,9.9nm,1.4s							
CLL	**Collm**	**35.07**	**199**	*i* P		**P**	**17 06 12.1**	**+2.5**
	comp=Z,5.0nm,1.0s							
CLL				*ex*		x	17 06 28.0	
AKASG	**Malin Array Be**	**35.48**	**181**	P		**P**	**17 06 13.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=357,slow=8.8,SNR=3.5							
	comp=Z,0.5nm,0.6s							
DLBC	**Dease Lake**	**35.52**	**342**	P		**P**	**17 06 15.1**	**+1.5**
KURBB	**Kurchatov Arra**	**37.02**	**128**	P		**P**	**17 06 25.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=352,slow=8.9,SNR=7.3							
KURBB				PcP		**PcP**	**17 08 47.1**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=345,slow=3.2,SNR=5.1							
	comp=Z,0.3nm,0.3s							
ABKAR	**Akbulak array**	**37.51**	**148**	P		**P**	**17 06 31.9**	**+1.4**
GEC2	**GERESS Array S**	**37.52**	**198**	P		**P**	**17 06 31.9**	**+1.2**
GERES	**GERESS Array B**	**37.52**	**198**	P		**P**	**17 06 31.3**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=357,slow=8.0,SNR=5.3							
	comp=Z,1.5nm,0.9s							
BURAR	**Bucovina Array**	**38.59**	**185**	P		**P**	**17 06 39.9**	**+0.1**
EDM	**Edmonton**	**40.24**	**326**	P		**P**	**17 06 54.0**	**+0.6**
MAKZ	**Makanchi**	**41.02**	**124**	P		**P**	**17 06 59.4**	**-0.5**
MKAR	**Makanchi Array**	**41.05**	**124**	P		**P**	**17 06 59.5**	**-0.6**
MKAR	**Makanchi Array**	**41.05**	**124**	P		**P**	**17 06 59.6**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=359,slow=6.3,SNR=5.6							
	comp=Z,0.8nm,0.9s							
SONM	**Songino Array**	**41.56**	**99**	P		**P**	**17 07 03.7**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=0.0,slow=10,SNR=1.9							
	comp=Z,0.2nm,0.5s							
ULM	**Lac du Bonnet**	**42.39**	**309**	P		**P**	**17 07 11.5**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=19,slow=8.0,SNR=6.8							
	comp=Z,3.2nm,0.6s							
KK31	**Karatay Array**	**44.10**	**137**	P		**P**	**17 07 26.2**	**+1.2**
KKAR	**Karatay Array**	**44.10**	**137**	P		**P**	**17 07 25.7**	**+0.8**
KKAR	**Karatay Array**	**44.10**	**137**	P		**P**	**17 07 25.8**	**+0.9**
WMQ	**Urumqi**	**44.33**	**119**	*e*P		**P**	**17 07 29.5**	**+2.7**
AGMN	**Agassiz Nation**	**44.34**	**309**	P		**P**	**17 07 27.7**	**+1.0**
AGMN				IAmb		IAmb	17 07 28.8	
	comp=Z,5.2nm,0.7s							
FNA	**Florina**	**45.45**	**189**	P		**P**	**17 07 37.5**	**+1.7**
FNA				IAmb		IAmb	17 07 40.1	
	comp=Z,3.7nm,1.1s							
OVMT	**Ovando**	**46.38**	**325**	P		**P**	**17 07 43.3**	**+0.2**
LAO	**LASA Array**	**46.46**	**319**	P		**P**	**17 07 44.6**	**+0.9**
BRTR	**Keskin Array B**	**46.47**	**176**	P		**P**	**17 07 43.6**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=357,slow=6.3,SNR=1.7							
	comp=Z,1.6nm,1.0s							
ESDC	**Sonseca Array**	**47.23**	**216**	P		**P**	**17 07 50.8**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=13,slow=9.6,SNR=6.4							
	comp=Z,1.8nm,0.9s							
GEYT	**Alibeck**	**48.75**	**150**	P		**P**	**17 08 03.3**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=254,slow=11,SNR=4.2							
	comp=Z,1.6nm,0.7s							
HHC	**Hu-ho-hao-te**	**48.87**	**95**	*e*P		**P**	**17 08 03.0**	**+0.5**
HHC				pmax		pmax		
	comp=Z,21nm,0.6s							
HHC				pmax		pmax		
	comp=Z,550nm,6.7s							
HHC				LR		LR		
	comp=N,2μm,18.3s							
HHC				LR		LR		
	comp=E,2μm,18.3s							
HHC				LR		LR		
	comp=Z,2μm,18.3s							
RSSD	**Black Hills**	**48.92**	**317**	P		**P**	**17 08 03.0**	**+0.1**
ECSD	**EROS Data Cent**	**48.93**	**309**	P		**P**	**17 08 03.6**	**+0.9**
PDAR	**Pinedale Array**	**50.52**	**322**	P		**P**	**17 08 15.7**	**+0.5**
PDAR	**Pinedale Array**	**50.52**	**322**	P		**P**	**17 08 15.8**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=21,slow=5.3,SNR=12							
	comp=Z,1.5nm,0.8s							
KEST	**Kesra**	**50.72**	**202**	P		**P**	**17 08 19.0**	**+2.5**
KEST	**Kesra**	**50.72**	**202**	P		**P**	**17 08 19.2**	**+2.7**
	comp=Z,11nm,1.1s,baz=16,slow=1.4,SNR=5.7							
	comp=Z,11nm,1.1s							
S22A	**4UR Ranch, Cre**	**55.41**	**319**	P		**P**	**17 08 51.2**	**-0.2**
S22A				IAmb		IAmb	17 08 53.6	
	comp=Z,4.3nm,0.8s							
LCMT	**Little Creek M**	**56.41**	**325**	P		**P**	**17 08 57.2**	**-1.2**
LCMT				IAmb		IAmb	17 09 01.4	
	comp=Z,3.3nm,0.9s							
VHRN	**Van Horn**	**62.25**	**317**	P		**P**	**17 09 38.3**	**-0.5**
TXAR	**Lajitas Array**	**63.63**	**315**	P		**P**	**17 09 47.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=17,slow=3.8,SNR=4.2							
	comp=Z,0.5nm,0.5s							
CMAR	**Chiang Mai Arr**	**70.26**	**110**	P		**P**	**17 10 28.7**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=349,slow=7.8,SNR=17							
	comp=Z,1.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**73.42**	**209**	P		**P**	**17 10 49.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=354,slow=7.9,SNR=3.0							
	comp=Z,0.5nm,0.7s							

WEL 25 17:12:50.1±0.8, 31°S±12°×17°9W±2°8, h277km, M4.2/8, mB4.7/8, ML4.7/11, MLv4.6/7, Mw(mB)3.9/8, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.23**	**38**	S	S	17 14 13.8	-0.2
MXZ	**Matakaoa Point**	**6.76**	**195**	P	Pn	17 14 30.8	+2.8
MXZ				S	S	17 15 48.3	+1.4
WMGZ	**Waiomatatini S**	**6.98**	**194**	P	Pn	17 14 31.0	+0.3
WMGZ				S	S	17 15 53.6	+1.6
HAZ	**Te Kaha**	**7.07**	**198**	P	Pn	17 14 30.6	-1.3
HAZ				S	S	17 15 55.0	+1.1
PKGZ	**Pakihiroa**	**7.12**	**196**	P	Pn	17 14 32.0	-0.6
PKGZ				S	S	17 15 54.5	-0.7
PUZ	**Puketiti**	**7.26**	**194**	P	Pn	17 14 33.0	-1.2
PUZ				S	S	17 15 57.4	-0.8
RUGZ	**Raukumara Rang**	**7.29**	**198**	P	Pn	17 14 33.9	-0.9
RUGZ				S	S	17 15 58.3	-0.9
TWGZ	**Tauwhareparae**	**7.42**	**196**	P	Pn	17 14 39.3	+3.1
TWGZ				S	S	17 16 06.8	+4.9
CNGZ	**Carnagh Statio**	**7.67**	**194**	P	Pn	17 14 41.4	+2.2
MWZ	**Matawai**	**7.68**	**198**	P	Pn	17 14 38.2	-1.3
MWZ				S	S	17 16 08.5	+0.6
URZ	**Urewera**	**7.73**	**200**	P	Pn	17 14 38.0	-2.0
RAGZ	**Rawiri**	**7.86**	**198**	P	Pn	17 14 40.0	-1.8
RAGZ				S	S	17 16 09.5	-2.6
RIGZ	**Rimuhau**	**7.97**	**196**	P	Pn	17 14 43.0	-0.2
RIGZ				S	S	17 16 12.5	-2.0
MUGZ	**Murupara**	**8.04**	**202**	P	Pn	17 14 43.5	-0.3
MUGZ				S	S	17 16 15.6	-0.3
HSRZ	**Hossack Road**	**8.06**	**205**	P	Pn	17 14 48.9	+4.7
RTZ	**Ruatahuna**	**8.10**	**200**	P	Pn	17 14 43.4	-1.3
SNGZ	**Shannon Statio**	**8.15**	**198**	P	Pn	17 14 43.8	-1.6
KNZ	**Kokohu**	**8.30**	**196**	P	Pn	17 14 46.2	-0.9
RAHZ	**Arahi**	**8.35**	**199**	P	Pn	17 14 46.9	-0.8
RAHZ				S	S	17 16 22.6	-0.4
TLZ	**Tolley Road**	**8.35**	**208**	P	Pn	17 14 50.4	+2.6
MRHZ	**Matea Rd**	**8.47**	**202**	P	Pn	17 14 47.7	-1.7
NMHZ	**Naumai**	**8.59**	**200**	P	Pn	17 14 49.9	-1.0
ARHZ	**Aropaoanui**	**8.70**	**198**	P	Pn	17 14 51.6	-0.4
BKZ	**Black Stump Fm**	**8.75**	**201**	P	Pn	17 14 50.6	-2.2
MCHZ	**McNeill Hill**	**8.95**	**199**	P	Pn	17 14 54.1	-1.2
ETVZ	**East Tongariro**	**8.99**	**205**	P	Pn	17 14 55.0	-0.9
KWHZ	**Kaweka Forest**	**9.01**	**201**	P	Pn	17 14 53.5	-2.6
WTVZ	**West Tongariro**	**9.01**	**205**	P	Pn	17 14 54.1	-2.0
OTVZ	**Oturere**	**9.03**	**205**	P	Pn	17 14 54.3	-2.1
SNVZ	**South Ngauruho**	**9.06**	**205**	P	Pn	17 14 54.5	-2.3
FWVZ	**Far West T-bar**	**9.15**	**205**	P	Pn	17 14 55.6	-2.3
WNVZ	**Wahianoa**	**9.20**	**205**	P	Pn	17 14 55.3	-3.2
KRHZ	**Kereru**	**9.23**	**200**	P	Pn	17 14 56.1	-2.6
PNHZ	**Pukenui**	**9.53**	**201**	P	Pn	17 14 58.5	-4.0

*NEIC **25** 17:17:35.8±2.5, 27°35N±0°06×57°38E±0°09, h10km±1km, mb4.2/19, Error ellipse: s-maj=16.0km s-min=5.7km az=123.0*
*THR **25** 17:17:36.3±1.0, 27°19N×57°41E, h15km, ML4.5*
*DSN **25** 17:17:38.0±2.0, 27°13N×57°66E, h12km, ML3.8/15, Error ellipse: s-maj=25.9km s-min=16.1km az=159.0*
*TEH **25** 17:17:38.4, 27°24N×57°48E, h20km±72km, ML4.1*
*OMAN **25** 17:17:39.6±0.2, 27°17N×57°38E, h20km, ml4.1/25, Error ellipse: s-maj=3.0km s-min=1.7km az=10.0*
*IDC **25** 17:17:40.0±2.7, 27°29N×57°49E, h53km±26km, mb3.7/17, mbtmp4.0/22, ML4.2/5, Error ellipse: s-maj=15.5km s-min=13.1km az=162.0*

ISC 25 17:17:39.5±0.8, 27°26N±0°04×57°50E±0°03, h52km±9km, n183, σ1§65/216, mb4.1/30, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.71**	**15**	Pg	**Pn**	**17 17 53.1**	**-0.4**
KHNJ				Sg	**Sn**	**17 18 02.9**	**-0.9**
GENO	**Geno**	**1.19**	**277**	Pg	**Pn**	**17 18 01.2**	**+1.1**
BNDS	**Bandar-Abbas**	**1.19**	**277**	*e*Pg	**Pn**	**17 18 00.6**	**+0.5**
BNDS				IAML		17 18 18.6	
	comp=E,12μm,0.3s						
BNDS				IAML		17 18 19.1	
	comp=N,9μm,0.3s						
BANOM	**Banah**	**1.71**	**219**	*e*P	**Pn**	**17 18 07.9**	**+1.0**
	SNR=40						
BANOM				S	**Sn**	**17 18 30.3**	**+2.7**
BANOM	**Banah**	**1.71**	**219**	Pg	**Pn**	**17 18 08.5**	**+1.6**
BANOM	**Banah**	**1.71**	**219**	P	**Pn**	**17 18 08.0**	**+1.1**
BANOM				S	**Sn**	**17 18 29.7**	**+2.1**
SHME	**Shamm**	**1.71**	**226**	*e*P	**Pn**	**17 18 08.4**	**+1.4**
	SNR=112						
SHME	**Shamm**	**1.71**	**226**	Pg	**Pn**	**17 18 08.3**	**+1.4**
SHME	**Shamm**	**1.71**	**226**	P	**Pn**	**17 18 08.5**	**+1.6**
	SNR=132						
SHME				S	**Sn**	**17 18 30.1**	**+2.5**
KBAM	**BAM**	**2.05**	**24**	Pn	**Pn**	**17 18 13.7**	**+2.0**
MDH	**Madha**	**2.23**	**209**	*e*P	**Pn**	**17 18 13.6**	**-0.5**
	SNR=45						
MDH	**Madha**	**2.23**	**209**	Pn	**Pn**	**17 18 13.6**	**-0.5**
MDH	**Madha**	**2.23**	**209**	P	**Pn**	**17 18 13.5**	**-0.5**
	SNR=77						
MDH				S	**Sn**	**17 18 38.4**	**-2.0**
MASF	**Masafi**	**2.23**	**213**	P	**Pn**	**17 18 14.1**	**0.0**
	SNR=30						
MASF				S	**Sn**	**17 18 43.3**	**+2.8**
MSFE	**Esma-Masafi**	**2.24**	**213**	*e*P	**Pn**	**17 18 14.2**	**-0.1**
	SNR=33						
MSFE	**Esma-Masafi**	**2.24**	**213**	Pn	**Pn**	**17 18 14.6**	**+0.4**
UMQ	**Umm Al-Quwin**	**2.38**	**224**	*e*P	**Pn**	**17 18 18.8**	**+2.6**
	SNR=10						
UMQ	**Umm Al-Quwin**	**2.38**	**224**	Pn	**Pn**	**17 18 16.8**	**+0.7**
UMQ	**Umm Al-Quwin**	**2.38**	**224**	P	**Pn**	**17 18 19.1**	**+3.0**
	SNR=10						
NGRK	**Negar Kerman**	**2.48**	**344**	Pn	**Pn**	**17 18 19.6**	**+1.9**
UOSS	**Minazif**	**2.58**	**207**		**Pn**	**17 18 18.0**	**-0.8**
UOSS	**Minazif**	**2.58**	**207**	*e*P	**Pn**	**17 18 18.1**	**-0.8**
	SNR=20						
UOSS	**Minazif**	**2.58**	**207**	Pn	**Pn**	**17 18 19.0**	**+0.1**
UOSS	**Minazif**	**2.58**	**207**	P	**Pn**	**17 18 18.2**	**-0.6**
UOSS				S	**Sn**	**17 18 47.7**	**-1.3**
CHMN	**Cheshme madani**	**2.60**	**1**	Pn	**Pn**	**17 18 22.3**	**+2.9**
HATD	**Hatta, Dubai**	**2.71**	**207**	*e*P	**Pn**	**17 18 20.2**	**-0.5**
	SNR=29						
HATD	**Hatta, Dubai**	**2.71**	**207**	Pn	**Pn**	**17 18 20.2**	**-0.5**
HATD	**Hatta, Dubai**	**2.71**	**207**	P	**Pn**	**17 18 20.4**	**-0.3**
HATD				S	**Sn**	**17 18 52.6**	**+0.3**
NAZ	**Nazwa, Dubai**	**2.80**	**217**	*e*P	**Pn**	**17 18 23.9**	**+2.1**
	SNR=24						
NAZ	**Nazwa, Dubai**	**2.80**	**217**	Pn	**Pn**	**17 18 24.2**	**+2.4**
NAZ	**Nazwa, Dubai**	**2.80**	**217**	P	**Pn**	**17 18 24.3**	**+2.5**
	SNR=24						
NAZ				S	**Sn**	**17 18 57.4**	**+3.0**
TVBK	**TV Kerman**	**2.80**	**347**	Pn	**Pn**	**17 18 24.8**	**+2.6**
LAR1	**LAR**	**2.81**	**279**	Pn	**Pn**	**17 18 22.6**	**+0.5**
ASHO	**Ashiyiah**	**2.87**	**207**	*e*P	**Pn**	**17 18 23.0**	**+0.1**
	SNR=206						
ASHO	**Ashiyiah**	**2.87**	**207**	Pn	**Pn**	**17 18 24.2**	**+1.4**
ASHO	**Ashiyiah**	**2.87**	**207**	P	**Pn**	**17 18 23.3**	**+0.4**
	SNR=204						
ASHO				S	**Sn**	**17 19 00.6**	**+4.4**
FAQ	**Al Faqa, Dubai**	**3.03**	**215**	*i* P	**Pn**	**17 18 27.2**	**+2.2**
	SNR=55						
FAQ	**Al Faqa, Dubai**	**3.03**	**215**	Pn	**Pn**	**17 18 27.5**	**+2.4**
FAQ	**Al Faqa, Dubai**	**3.03**	**215**	P	**Pn**	**17 18 27.2**	**+2.2**
	SNR=55						
FAQ				S	**Sn**	**17 19 02.4**	**+2.2**
CHBR	**Chabahar**	**3.14**	**121**	*e*Pn	**Pn**	**17 18 27.7**	**+1.2**
CHBR	**Chabahar**	**3.14**	**121**	Pn	**Pn**	**17 18 27.8**	**+1.2**
SOHO	**SOHO**	**3.23**	**196**	*i* P	**Pn**	**17 18 27.0**	**-0.8**
	SNR=188						
SOHO	**SOHO**	**3.23**	**196**	Pn	**Pn**	**17 18 27.5**	**-0.2**
SOHO	**SOHO**	**3.23**	**196**	P	**Pn**	**17 18 27.2**	**-0.6**
SOHO				S	**Sn**	**17 19 03.5**	**-1.4**
KHGB	**Koh Gabri**	**3.24**	**344**	Pn	**Pn**	**17 18 30.6**	**+2.5**
KRM1	**Kerman Provinc**	**3.24**	**356**	Pn	**Pn**	**17 18 30.8**	**+2.6**
ASUD	**Al Ashush, Dub**	**3.27**	**217**	*i* P	**Pn**	**17 18 30.8**	**+2.5**
	SNR=147						
ASUD	**Al Ashush, Dub**	**3.27**	**217**	P	**Pn**	**17 18 30.8**	**+2.5**
	SNR=147						
ASUD				S	**Sn**	**17 19 08.0**	**+2.1**
AJN	**Ajban**	**3.51**	**221**	*i* P	**Pn**	**17 18 33.2**	**+1.6**
	SNR=5.9						
AJN	**Ajban**	**3.51**	**221**	P	**Pn**	**17 18 33.4**	**+1.8**
	SNR=18						
AJN				S	**Sn**	**17 19 14.7**	**+2.9**
	SNR=7.4						
ALNE	**Al Ain**	**3.56**	**207**	*i* P	**Pn**	**17 18 34.1**	**+1.9**
	SNR=78						
ALNE	**Al Ain**	**3.56**	**207**	P	**Pn**	**17 18 34.5**	**+2.2**
	SNR=78						
ALNE				S	**Sn**	**17 19 15.5**	**+2.4**
ZHDN	**Zahedan**	**3.62**	**53**	Pn	**Pn**	**17 18 35.3**	**+2.1**
JHRM	**Jahrom**	**3.69**	**291**	Pn	**Pn**	**17 18 34.6**	**+0.4**
ZHSF	**Zahedan**	**3.72**	**50**	*e*Pn	**Pn**	**17 18 36.7**	**+2.1**
BIDO	**Bidbid**	**3.76**	**171**	P	**Pn**	**17 18 35.5**	**+0.5**
	SNR=7.3						
BIDO				S	**Sn**	**17 19 15.4**	**-2.7**
NGCH	**Negor - Chabah**	**3.77**	**119**	Pn	**Pn**	**17 18 36.8**	**+1.7**
NGCH	**Negor - Chabah**	**3.77**	**119**	P	**Pn**	**17 18 36.8**	**+1.7**
	SNR=26						
ZRDN	**Zarand Kerman**	**3.79**	**347**	Pn	**Pn**	**17 18 38.2**	**+2.5**
LMD1	**Lamerd**	**3.86**	**272**	Pn	**Pn**	**17 18 37.0**	**+0.5**
ARQ	**Araqi**	**4.00**	**193**	P	**Pn**	**17 18 41.1**	**+2.7**
	SNR=817						
ARQ				S	**Sn**	**17 19 25.7**	**+1.7**
	SNR=8.4						
WSAR	**Wadi Sarin**	**4.13**	**165**	P	**Pn**	**17 18 41.2**	**+1.1**
	comp=N,12nm,0.3s,baz=359,slow=7.0,SNR=376						
WSAR				S	**Sn**	**17 19 24.2**	**-2.9**
	comp=N,168nm,0.3s,baz=16,slow=5.8,SNR=8.7						
	comp=N,34nm,0.4s						
WSAR	**Wadi Sarin**	**4.13**	**165**	P	**Pn**	**17 18 41.1**	**+1.0**
	SNR=407						
WSAR				S	**Sn**	**17 19 24.9**	**-2.2**
QIR1	**Qir**	**4.13**	**288**	Pn	**Pn**	**17 18 40.5**	**+0.3**
GHIR	**Ghir-Karzin**	**4.13**	**285**	*e*Pn	**Pn**	**17 18 40.5**	**+0.3**
SMDO	**Samad**	**4.21**	**173**	P	**Pn**	**17 18 42.4**	**+1.1**
	SNR=22						
SMDO				S	**Sn**	**17 19 29.1**	**-0.1**
SRVN	**Saravan**	**4.36**	**87**	Pn	**Pn**	**17 18 45.6**	**+2.2**
BSY	**Bisya**	**4.50**	**184**	P	**Pn**	**17 18 47.6**	**+2.4**
	SNR=21						
BSY				S	**Sn**	**17 19 36.6**	**+0.4**
IBAF	**Bafgh**	**4.64**	**339**	Pn	**Pn**	**17 18 48.9**	**+1.7**
NHDN	**Nehbandan**	**4.69**	**28**	Pn	**Pn**	**17 18 49.9**	**+2.0**
JRN	**Qarnain Island**	**4.78**	**242**	P	**Pn**	**17 18 48.6**	**-0.3**
	SNR=6.1						
JRN				S	**Sn**	**17 19 39.9**	**-3.1**
MZWR	**Madinat Zayed**	**4.78**	**224**	P	**Pn**	**17 18 49.6**	**+0.7**
MZWR				S	**Sn**	**17 19 43.5**	**+0.5**
WBK	**Wadi Bani Khal**	**4.81**	**164**	Pn	**Pn**	**17 18 50.2**	**+0.7**
WBK	**Wadi Bani Khal**	**4.81**	**164**	P	**Pn**	**17 18 50.1**	**+0.6**
	SNR=60						
WBK				S	**Sn**	**17 19 40.9**	**-3.1**
IMEH	**Mehriz**	**4.83**	**329**	Pn	**Pn**	**17 18 51.1**	**+1.1**
JMDO	**Jabal Madar**	**4.89**	**173**	P	**Pn**	**17 18 52.6**	**+2.0**
JMDO				S	**Sn**	**17 19 43.7**	**-2.3**
BSRN	**Basiran**	**4.90**	**16**	*e*Pn	**Pn**	**17 18 53.3**	**+2.4**
SHI	**Shiraz**	**4.99**	**300**	Pn	**Pn**	**17 18 51.8**	**-0.3**
UMZA	**Um Al Zommool**	**5.00**	**206**	P	**Pn**	**17 18 52.7**	**+0.7**
UMZA				S	**Sn**	**17 19 47.2**	**-1.2**
GHWR	**Ruwais**	**5.31**	**233**	P	**Pn**	**17 18 55.8**	**-0.5**
GHWR				S	**Sn**	**17 19 53.4**	**-2.7**
IKOO	**Kooshah**	**5.32**	**14**	Pn	**Pn**	**17 18 57.4**	**+0.8**
**JLN

AAK	**Ala-Archa**	**20.66**	**38**	P	Pn	17 22 15.7	-2.2
AAK				IAmb	IAmb	17 22 16.6	
	comp=Z,6.4nm,0.8s						
AAK	**Ala-Archa**	**20.66**	**38**	P	**P**	**17 22 15.0**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=216,slow=5.9,SNR=16						
	comp=Z,5.3nm,0.7s						
NRN	**Naryn**	**20.76**	**42**	P	**P**	**17 22 16.1**	**-0.2**
NRN				IAmb	IAmb	17 22 21.8	
	comp=Z,6.9nm,0.9s						
ABKAR	**Akbulak array**	**22.05**	**4**	P	**P**	**17 22 29.0**	**-0.7**
ABKAR				IAmb	IAmb	17 22 32.4	
	comp=Z,11nm,0.7s						
ABKAR	**Akbulak array**	**22.05**	**4**	P	**P**	**17 22 29.3**	**-0.4**
BRTR	**Keskin Array B**	**23.39**	**308**	P	**P**	**17 22 44.8**	**+0.9**
BRTR	**Keskin Array B**	**23.39**	**308**	P	**P**	**17 22 44.0**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=134,slow=11,SNR=16						
	comp=Z,3.4nm,0.8s						
BR131	**Keskin Array S**	**23.39**	**308**	P	**P**	**17 22 45.1**	**+1.3**
BR131				IAmb	IAmb	17 23 14.4	
	comp=Z,16nm,1.4s						
BVAR	**Borovoye Array**	**27.47**	**17**	P	**P**	**17 23 20.3**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=194,slow=6.0,SNR=18						
	comp=Z,1.7nm,0.5s						
MK31	**Makanchi Array**	**27.59**	**38**	P	**P**	**17 23 21.6**	**-0.3**
MKAR	**Makanchi Array**	**27.59**	**38**	P	**P**	**17 23 21.6**	**-0.3**
MKAR	**Makanchi Array**	**27.59**	**38**	P	**P**	**17 23 21.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=233,slow=8.1,SNR=16						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**28.30**	**29**	P	**P**	**17 23 28.1**	**0.0**
	comp=Z,0.9nm,0.5s,baz=229,slow=8.1,SNR=14						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**28.41**	**29**	P	**P**	**17 23 28.7**	**-0.4**
KURK				IAmb	IAmb	17 23 50.0	
	comp=Z,5.4nm,1.4s						
WMQ	**Urumqi**	**29.40**	**48**	*e*P	**P**	**17 23 41.5**	**+3.5**
WMQ				LR	LR		
	comp=N,1μm,15.7s						
WMQ				LR	LR		
	comp=E,2μm,23.9s						
WMQ				LR	LR		
	comp=Z,2μm,21.7s						
AKASG	**Malin Array Be**	**31.78**	**325**	P	**P**	**17 23 58.4**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=135,slow=8.8,SNR=7.4						
	comp=Z,0.6nm,0.4s						
KBN	**Korca**	**33.01**	**303**	P	**P**	**17 24 07.8**	**-2.0**
ZAA0	**Zalesovo Array**	**33.39**	**30**	P	**P**	**17 24 12.1**	**-0.7**
ZALV	**Zalesovo Beam**	**33.39**	**30**	P	**P**	**17 24 12.1**	**-0.7**
ZALV	**Zalesovo Beam**	**33.39**	**30**	P	**P**	**17 24 12.6**	**-0.3**
	comp=Z,7.1nm,0.3s,baz=230,slow=8.9,SNR=49						
KMBO	**Kilima Mbogo**	**34.30**	**218**	P	**P**	**17 24 20.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=40,slow=14,SNR=4.7						
	comp=Z,1.2nm,0.5s						
KOLS	**Kolonicke sedl**	**34.72**	**318**	*e*P	**P**	**17 24 25.9**	**+1.4**
CEL	**Celeste**	**36.40**	**298**	P	**P**	**17 24 39.6**	**+0.5**
CEL				IAmb	IAmb	17 24 56.8	
	comp=Z,6.7nm,1.0s						
CUC	**Castrocucco**	**36.65**	**301**	P	**P**	**17 24 42.9**	**+1.7**
CUC				IAmb	IAmb	17 24 43.5	
	comp=Z,3.8nm,0.6s						
GTA	**Gaotai**	**37.06**	**60**	*e*P	**P**	**17 24 46.3**	**+1.5**
GTA				sP	pP	17 24 58.5	+0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**39.97**	**315**	P	**P**	**17 25 08.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=103,slow=11,SNR=3.4						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**40.14**	**337**	P	**P**	**17 25 10.1**	**0.0**
	comp=Z,9.0nm,1.2s,baz=130,slow=13,SNR=5.4						
	comp=Z,9.0nm,1.2s						
ABTA	**Abfaltersbach**	**40.21**	**311**	*e*P	**P**	**17 25 11.7**	**+0.6**
	comp=Z,1.4nm,0.5s						
LESA	**Schwarzleotal**	**40.26**	**312**	*e*P	**P**	**17 25 11.3**	**-0.1**
	comp=Z,1.3nm,0.3s						
WTTA	**Wattenberg**	**40.91**	**312**	*e*P	**P**	**17 25 17.0**	**+0.1**
	comp=Z,3.1nm,0.5s						
WATA	**Walderalm**	**40.97**	**312**	*e*P	**P**	**17 25 17.2**	**-0.1**
	comp=Z,1.8nm,0.5s						
SQTA	**Sankt Quirin**	**41.19**	**312**	*e*P	**P**	**17 25 19.2**	**+0.1**
	comp=Z,3.3nm,0.4s						
MOTA	**Moosalm**	**41.28**	**312**	*e*P	**P**	**17 25 19.2**	**-0.7**
	comp=Z,0.9nm,0.3s						
FETA	**Feichten**	**41.46**	**311**	*e*P	**P**	**17 25 21.6**	**+0.2**
	comp=Z,2.6nm,0.5s						
DAVA	**Damuels**	**42.09**	**311**	*e*P	**P**	**17 25 26.4**	**-0.1**
	comp=Z,3.3nm,0.3s						
SONM	**Songino Array**	**43.03**	**48**	P	**P**	**17 25 34.5**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=258,slow=7.4,SNR=4.6						
	comp=Z,0.6nm,0.7s						
XAN	**Xi'an**	**44.37**	**68**	*e*P	**P**	**17 25 45.5**	**+0.5**
HHC	**Hu-ho-hao-te**	**46.12**	**58**	*e*P	**P**	**17 25 59.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,39nm,0.6s						
HHC				pmax	pmax		
	comp=Z,1μm,5.2s						
ARCES	**ARCESS Array B**	**46.22**	**345**	P	**P**	**17 26 00.3**	**+1.2**
	comp=Z,3.8nm,1.0s,baz=126,slow=9.3,SNR=1.8						
	comp=Z,3.8nm,1.0s						
EKA	**Eskdalemuir Ar**	**51.46**	**320**	P	**P**	**17 26 38.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=94,slow=7.2,SNR=1.3						
	comp=Z,0.3nm,0.4s						
TOA0	**Torodi Ar. Sit**	**53.82**	**267**	P	**P**	**17 26 56.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**53.82**	**267**	P	**P**	**17 26 56.5**	**-1.0**
TORD				IAmb	IAmb	17 26 58.1	
	comp=Z,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**53.82**	**267**	P	**P**	**17 26 57.0**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=62,slow=7.9,SNR=39						
	comp=Z,2.1nm,0.4s						
KSRS	**Korea Array**	**59.12**	**61**	P	**P**	**17 27 34.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=275,slow=6.7,SNR=2.1						
	comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**87.92**	**114**	P	**P**	**17 30 25.1**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=315,slow=4.1,SNR=10						
	comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	**89.42**	**117**	P	**P**	**17 30 32.1**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=305,slow=5.1,SNR=9.8						
	comp=Z,0.6nm,0.8s						

*IDC **25** 17:20:46.4±1.3,2.˚09S×126.˚12E, h0km, mb3.4/4, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=139.3km s-min=22.0km az=67.0*
*DJA **25** 17:20:48.2±0.3,2.˚5S±3.˚×12.˚6E±.˚, h30km±3km, M4.0/11, mb4.1/3, MLv3.9/11*

ISC 25 17:20:49.8±1.0,2.˚13S±0.˚05×126.˚18E±0.˚05, h30km±7km, n16, σ1°72/22, mb3.6/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.21**	**293**	P	**Pb**	**17 20 56.1**	**+0.1**
SANI				S	**Sb**	**17 21 00.9**	**+0.6**
NLAI	**Namlea**	**1.44**	**140**	P	**Pn**	**17 21 10.5**	**-3.3**
NLAI				S	**Sn**	**17 21 31.5**	**-0.1**
LBMI	**Labuha**	**1.98**	**42**	P	**Pn**	**17 21 18.9**	**-2.5**
LBMI				S	**Sn**	**17 21 43.3**	**-2.0**
KRAI	**Karang Ratu**	**2.51**	**118**	P	**Pn**	**17 21 27.1**	**-1.5**
TNTI	**Ternate**	**3.12**	**22**	P	**Pn**	**17 21 35.7**	**-1.2**
KMSI	**Cibinong**	**3.47**	**321**	P	**Pn**	**17 21 40.5**	**-1.3**
KMSI				S	**Sn**	**17 22 20.5**	**-1.4**
LUWI	**Luwuk**	**3.57**	**288**	P	**Pn**	**17 21 41.2**	**-2.0**
LUWI				S	**Sn**	**17 22 22.9**	**-1.6**
BNDI	**Bandanaira**	**4.41**	**123**	P	**Pn**	**17 21 52.6**	**-2.2**
BNDI				S	**Sn**	**17 22 45.6**	**+0.4**
BBSI	**Bau Bau**	**4.91**	**227**	P	**Pn**	**17 22 00.2**	**-1.4**
SWI	**Sorong**	**5.23**	**76**	P	**Pn**	**17 22 05.1**	**-0.9**
	22nm,0.9s,0.1nm						
FAKI	**Fak Fak**	**6.11**	**97**	P	**Pn**	**17 22 17.7**	**-0.5**
WRA	**Warramunga Arr**	**19.42**	**156**	P	**P**	**17 25 14.6**	**+0.8**
	0.1nm,0.3s,baz=336,slow=11,SNR=3.5						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**22.68**	**161**	P	**P**	**17 25 50.8**	**+1.7**
	0.9nm,0.9s,baz=345,slow=13,SNR=7.4						
	0.9nm,0.9s						
SONM	**Songino Array**	**52.68**	**343**	P	**P**	**17 30 04.0**	**+2.5**
	0.3nm,0.6s,baz=156,slow=7.3,SNR=2.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**62.10**	**327**	P	**P**	**17 31 08.6**	**+0.7**
	0.3nm,0.4s,baz=115,slow=8.6,SNR=8.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**66.40**	**329**	P	**P**	**17 31 35.8**	**-0.2**
	0.4nm,0.6s,baz=130,slow=6.2,SNR=5.4						
	0.4nm,0.6s						

*GUC **25** 17:22:15.6±0.6,21.˚32S×67.˚43W, h211km±6km, ML3.3*
*SCB **25** 17:22:16.1±1.5,21.˚36S×67.˚28W, h178km±13km, ML3.5/4, MW3.7, Error ellipse: s-maj=5.1km s-min=3.7km az=0.0*

ISC 25 17:22:15.6±1.9,21.˚35S±0.˚05×67.˚30W±0.˚05, h188km±17km, n34, σ0°87/47, 1C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.55**	**87**	Pg	**Pn**	**17 22 49.0**	**-0.3**
MOCB				Sg	**Sn**	**17 23 14.0**	**-1.2**
MOCB				IAML		17 23 14.5	
	258nm,0.5s						
PB09	**IPOC Station P**	**1.86**	**256**	IAML		17 23 24.1	
	comp=N,45nm,0.3s						
PB09	**IPOC Station P**	**1.86**	**256**	Pg	**Pn**	**17 22 53.1**	**+1.1**
LVC	**Limon Verde**	**1.95**	**230**	*e*P	**Pn**	**17 22 53.7**	**+0.6**
LVC				*i* S	**Sn**	**17 23 23.1**	**+0.8**
LVC				IAML		17 23 24.2	
	comp=N,116nm,0.4s						
LVC	**Limon Verde**	**1.95**	**230**	Pg	**Pn**	**17 22 53.9**	**+0.8**
PB01	**IPOC Station P**	**2.07**	**278**	*e*P	**Pn**	**17 22 54.3**	**+0.2**
PB01				*e*S	**Sn**	**17 23 22.9**	**-1.0**
PB01				IAML		17 23 25.6	
	comp=N,60nm,0.3s						
PB01	**IPOC Station P**	**2.07**	**278**	Pg	**Pn**	**17 22 55.2**	**+1.1**
PB08	**IPOC Station P**	**2.11**	**304**	↓*i*P	**Pn**	**17 22 55.8**	**+0.8**
PB08				*i* S	**Sn**	**17 23 25.9**	**+0.6**
PB08				IAML		17 23 29.0	
	comp=E,33nm,0.2s						
PB08	**IPOC Station P**	**2.11**	**304**	Pg	**Pn**	**17 22 55.9**	**+1.0**
PB02	**IPOC Station P**	**2.42**	**270**	*i* S	**Sn**	**17 23 30.4**	**-0.6**
PB02				IAML		17 23 32.0	
	comp=N,220nm,0.1s						
PB02	**IPOC Station P**	**2.42**	**270**	Pg	**Pn**	**17 22 58.3**	**+0.3**
PB02				Sg	**Sn**	**17 23 30.4**	**-0.6**
PB02				IAML		17 23 31.9	
	comp=N,126nm,0.3s						
PB07	**IPOC Station P**	**2.44**	**261**	↑*i*P	**Pn**	**17 22 58.7**	**+0.4**
PB07				*i* S	**Sn**	**17 23 30.8**	**-0.7**
PB07				IAML		17 23 32.8	
	comp=E,119nm,0.2s						
PB07	**IPOC Station P**	**2.44**	**261**	Pg	**Pn**	**17 22 58.7**	**+0.4**
GO01	**Chusmiza**	**2.44**	**313**	*e*P	**Pn**	**17 22 59.1**	**+0.4**
GO01				*i* S	**Sn**	**17 23 31.9**	**-0.2**
GO01				IAML		17 23 42.0	
	comp=E,139nm,0.1s						
GO01	**Chusmiza**	**2.44**	**313**	Pg	**Pn**	**17 22 59.2**	**+0.5**
PB06	**IPOC Station P**	**2.50**	**237**	*e*P	**Pn**	**17 23 00.2**	**+1.2**
PB06				*i* S	**Sn**	**17 23 32.9**	**+0.1**
PB06	**IPOC Station P**	**2.50**	**237**	Pg	**Pn**	**17 23 00.2**	**+1.2**
HMBC	**Humberstone**	**2.65**	**293**	↓*i*P	**Pn**	**17 23 00.1**	**-0.5**
HMBC				*i* S	**Sn**	**17 23 34.4**	**-1.3**
HMBC				IAML		17 23 35.7	
	comp=E,103nm,0.2s						
PB11	**IPOC Station P**	**2.72**	**305**	↓*i*P	**Pn**	**17 23 01.3**	**-0.3**
PB11				*i* S	**Sn**	**17 23 35.7**	**-1.6**
PB11				IAML		17 23 37.5	
	comp=N,119nm,0.1s						
PB11	**IPOC Station P**	**2.72**	**305**	Pg	**Pn**	**17 23 01.6**	**+0.1**
PB11				Sg	**Sn**	**17 23 36.3**	**-0.9**
PB11				IAML		17 23 38.0	
	comp=N,66nm,0.2s						
PB15	**IPOC Station P**	**2.73**	**227**	*e*P	**Pn**	**17 23 02.0**	**+0.3**
PB15				*i* S	**Sn**	**17 23 37.8**	**+0.2**
PB15	**IPOC Station P**	**2.73**	**227**	Pg	**Pn**	**17 23 02.5**	**+0.8**
PB15				Sg	**Sn**	**17 23 38.0**	**+0.4**
PB15				IAML		17 23 41.3	
	comp=N,317nm,0.3s						
PB05	**IPOC Station P**	**3.08**	**240**	↓*i*P	**Pn**	**17 23 05.9**	**+0.2**
PB05				*i* S	**Sn**	**17 23 43.0**	**-1.9**
PB05				IAML		17 23 46.0	
	comp=E,47nm,0.3s						
PB05	**IPOC Station P**	**3.08**	**240**	Pg	**Pn**	**17 23 06.0**	**+0.2**
SOET	**ToroToro**	**3.51**	**24**	Pg	**Pn**	**17 23 11.6**	**+0.3**
PB16	**IPOC Station P**	**3.65**	**325**	↓*e*P	**Pn**	**17 23 14.0**	**+0.7**
PB16	**IPOC Station P**	**3.65**	**325**	Pg	**Pn**	**17 23 14.0**	**+0.7**
AOEA	**Aiquile**	**3.71**	**32**	Pg	**Pn**	**17 23 14.8**	**+1.1**
PB12	**IPOC Station P**	**3.94**	**313**	*i* P	**Pn**	**17 23 15.8**	**-0.6**
GO02	**Mina Guanaco**	**4.34**	**209**	Pg	**Pn**	**17 23 21.2**	**-0.4**
SOEJ	**Jacaque**	**4.44**	**349**	Pg	**Pn**	**17 23 24.7**	**+1.6**
BBOE	**La Paz, Chanca**	**4.56**	**352**	Pg	**Pn**	**17 23 25.9**	**+1.1**
BBOD	**La Paz, Gloria**	**4.85**	**345**	Pg	**Pn**	**17 23 29.9**	**+1.5**
LPAZ	**La Paz**	**5.10**	**351**	Pg	**Pn**	**17 23 31.5**	**-0.2**

*BJI **25** 17:24:30.3±0.0,39.˚92N×126.˚15W, h11km, mb4.8/31, mB5.8/9, Ms5.6/2, Ms7 5.2/3*
*IDC **25** 17:24:32.5±0.5,40.˚48N×126.˚36W, h0km, mb4.6/30, mbtmp4.6/39, ML4.4/8, MS4.4/63, Error ellipse: s-maj=12.2km s-min=7.9km az=23.0*
*MOS **25** 17:24:32.4±1.1,40.˚44N×126.˚34W, h11km, mb5.3/39, Error ellipse: s-maj=6.8km s-min=5.2km az=104.8*
*NEIC **25** 17:24:33.8,40.˚43N×126.˚39W, h16km*
*NEIC **25** 17:24:33.8,40.˚43N×126.˚65W, h16km, Moment Tensor Solution. Duration: 18 Moment tensor: Scale 10^16Nm; Mrr0.16; Mθθ-0.35; Mϕϕ0.19; Mrθ-0.47; Mθϕ-5.29; Mϕr0.51; Fault plane solution: M05.35000×10^16 NP1:ϕs1.71000°, δ84.64000°, λ5.56000°. NP2:ϕs271.19000°, δ84.47000°, λ174.62000°. Principal axes: T 5.3158, Plg8.0000°, Azm226.0000°; N 0.0648, Plg82.0000°, Azm46.0000°; P -5.3805, Plg0.0000°, Azm136.0000°;*
*NEIC **25** 17:24:33.7,40.˚45N×126.˚40W, h5km*
*NCEDC **25** 17:24:34.5±2.5,40.˚43N±0.˚05×126.˚46W±0.˚08, h12km±4km, Error ellipse: s-maj=9.0km s-min=7.2km az=65.0*
*NEIC **25** 17:24:34.1±2.0,40.˚42N±0.˚05×126.˚38W±0.˚05, h11km±3km, mb5.1/309, ML4.5/82, Mwr4.8/50, Mww5.1/47, Mwr5.1/4(NCEDC), Error ellipse: s-maj=7.4km s-min=5.9km az=193.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.39; Mθθ-0.30; Mϕϕ-0.08; Mrθ-0.24; Mθϕ-2.23; Mϕr0.14; Fault plane solution: M02.28000×10^16 NP1:ϕs271.05000°, δ84.73000°, λ172.50000°. NP2:ϕs1.74000°, δ82.53000°, λ5.32000°. Principal axes: T 2.0840, Plg9.0000°, Azm226.0000°; N 0.3466, Plg81.0000°, Azm56.0000°; P -2.4306, Plg2.0000°, Azm317.0000°;*
*GCMT **25** 17:24:35.2±0.2,40.˚40N±0.˚01×126.˚60W±0.˚01, h20km, MW5.2/132, Moment Tensor Solution. s45,c53; s132,c204; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.19±.17; Mθθ-0.26±.16; Mϕϕ0.07±.13; Mrθ-1.36±.28; Mθϕ-6.45±.14; Mϕr1.82±.27; Best double couple: Mw6.82700×10^16 NP1:ϕs2.00000°, δ79.00000°, λ15.00000°. NP2:ϕs269.00000°, δ75.00000°, λ169.00000°. Principal axes: T 7.0930, Plg18.0000°, Azm226.0000°; N -0.5320, Plg72.0000°, Azm37.0000°; P -6.5610, Plg3.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **25** 17:24:43.9,40.˚16N×125.˚51W, h10km, mb4.9*

ISC 25 17:24:34.0±1.1,40.˚43N±0.˚04×126.˚37W±0.˚04, h7km±6km, n926, σ1°53/765, mb5.0/227, MS4.4/57, 8C-16D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**1.56**	**88**		**Pn**	**17 25 01.5**	**-0.6**
KCTM					**Sg**	**17 25 22.7**	**-1.3**
KMPM	**Mount Pierce**	**1.72**	**90**		**Pn**	**17 25 03.4**	**-1.0**
KMPM					**Sn**	**17 25 25.3**	**-1.4**
JCC	**Jacoby Creek,**	**1.82**	**77**		**Pn**	**17 25 03.7**	**-2.1**
JCC				Sn	**Sn**	**17 25 26.5**	**-2.6**
JCC				IAML		17 25 28.2	
	comp=N,5μm,0.7s						
JCC				IAML		17 25 28.4	
	comp=E,4μm,0.6s						
KRPM	**Rodgers**	**1.93**	**67**		**Pn**	**17 25 05.5**	**-1.7**
KRPM				Sn	**Sn**	**17 25 29.0**	**-2.7**
KRPM				IAML		17 25 36.9	
	comp=N,5μm,0.9s						
KRPM				IAML		17 25 37.1	
	comp=E,4μm,1.0s						
KCRM	**Chalk Rock**	**1.95**	**89**		**Pn**	**17 25 06.9**	**-0.6**
KMRM	**Mail Ridge**	**2.05**	**95**	Pn	**Pn**	**17 25 08.0**	**-0.9**
KMRM				Sn	**Sn**	**17 25 34.5**	**-0.3**
KHMM	**Horse Mountain**	**2.06**	**77**		**Pn**	**17 25 07.6**	**-1.5**
KHMM				Sn	**Sn**	**17 25 33.3**	**-1.8**
KHMM				IAML		17 25 40.5	
	comp=E,5μm,0.9s						
KRMB	**Red Mountain**	**2.16**	**59**		**Pn**	**17 25 08.9**	**-1.6**
KCPM	**Cahto Peak**	**2.27**	**108**		**Pn**	**17 25 10.2**	**-1.7**
KCPM				Sn	**Sn**	**17 25 37.7**	**-2.5**

KIPM	**Iron Peak**	**2.31**	**105**		**Pn**	**17 25 11.4**	**-1.0**
KSXB	**Camp Six Broad**	**2.35**	**53**		**Pn**	**17 25 11.6**	**-1.4**
KSXB				Sn	**Sn**	**17 25 38.2**	**-3.9**
KSXB				IAML		17 25 42.5	
	comp=N,3μm,0.7s						
KSXB				IAML		17 25 43.5	
	comp=E,3μm,0.7s						
KOMM	**Orleans Mounta**	**2.37**	**68**		**Pn**	**17 25 12.2**	**-1.2**
KBO	**Bosley Butte**	**2.40**	**42**		**Pn**	**17 25 12.5**	**-1.3**
KBO				Sn	**Sn**	**17 25 40.0**	**-3.5**
KBO				IAML		17 25 41.7	
	comp=N,2μm,0.5s						
KBO				IAML		17 25 41.9	
	comp=E,2μm,0.4s						
KHBM	**Hayfork Bally**	**2.42**	**84**		**Pn**	**17 25 12.9**	**-1.1**
KBNM	**Bluenose Ridge**	**2.50**	**101**		**Pn**	**17 25 14.8**	**-0.4**
DCMP	**DeCamp, Califo**	**2.52**	**111**		**Pn**	**17 25 14.2**	**-1.2**
LBPM	**Beegum Peak**	**2.67**	**91**		**Pn**	**17 25 17.0**	**-0.5**
KEBM	**Edson Butte**	**2.88**	**31**		**Pn**	**17 25 18.9**	**-1.4**
KEBM				IAML		17 25 54.2	
	comp=N,1μm,0.9s						
KEBM				IAML		17 25 59.5	
	comp=E,2μm,1.0s						
HOPS	**Hopland Field**	**2.92**	**118**		**Pn**	**17 25 19.1**	**-1.8**
HOPS				Sn	**Sn**	**17 25 56.2**	**-0.1**
HOPS				IAML		17 25 58.2	
	comp=N,1μm,0.5s						
HOPS				IAML		17 25 59.1	
	comp=E,2μm,0.8s						
K02D	**Willamette Mer**	**3.04**	**41**		**Pn**	**17 25 21.9**	**-0.7**
YBH	**Yreka Blue Hor**	**3.06**	**64**		**Pn**	**17 25 22.0**	**-0.8**
YBH	**Yreka Blue Hor**	**3.06**	**64**	Pn	**Pn**	**17 25 22.6**	**-0.2**
	comp=E,160nm,0.3s,baz=260,slow=10,SNR=633						
YBH				Sn	**Sn**	**17 25 57.5**	**-2.2**
	comp=E,29nm,0.3s,baz=279,slow=17,SNR=3.6						
YBH				LR	LR	17 26 36.9	
	comp=E,7μm,19.7s,baz=318,slow=41						
	comp=E,501nm,0.5s						
HUMO	**Hull Mountain**	**3.36**	**49**	Pn	**Pn**	**17 25 26.7**	**-0.3**
HUMO				IAML		17 25 48.7	
	comp=N,798nm,0.6s						
HUMO				IAML		17 25 49.4	
	comp=E,807nm,0.9s						
L04D	**Klamath Falls**	**3.54**	**58**		**Pn**	**17 25 29.8**	**+0.3**
DBO	**Dodson Butte**	**3.56**	**40**		**Pn**	**17 25 29.4**	**-0.3**
DBO				IAML		17 25 53.3	
	comp=N,860nm,0.8s						
ORV	**Oroville**	**3.84**	**102**		**Pn**	**17 25 31.9**	**-1.6**
ORV	**Oroville**	**3.84**	**102**	P	**Pn**	**17 25 31.9**	**-1.6**
I03D	**Drain, OR**	**3.96**	**34**		**Pn**	**17 25 34.1**	**-1.1**
K04D	**Chiloquin, OR**	**4.10**	**56**		**Pn**	**17 25 37.7**	**+0.5**
AFDM	**Forest Hills D**	**4.42**	**108**		**Pn**	**17 25 40.8**	**-0.8**
AFDM				IAML		17 26 37.5	
	comp=E,411nm,0.6s						
I04A	**Tendick Farm,**	**4.47**	**40**	IAML		17 26 38.4	
	comp=N,414nm,0.6s						
I04A				IAML		17 26 39.9	
	comp=E,592nm,0.8s						
BUCK	**Buck Mountain**	**4.52**	**33**		**Pn**	**17 25 42.7**	**-0.2**
BUCK				IAML		17 26 39.1	
	comp=N,554nm,1.2s						
BUCK				IAML		17 26 42.0	
	comp=E,427nm,1.1s						
K05A	**Summer Lake**	**4.71**	**59**	Pn	**Pn**	**17 25 46.1**	**+0.6**
K05A				IAML		17 26 22.2	
	comp=E,494nm,0.9s						
K05A				IAML		17 26 28.3	
	comp=N,526nm,1.1s						
COR	**Corvallis**	**4.73**	**28**		**Pn**	**17 25 46.3**	**+0.6**
COR				IAML		17 26 45.9	
	comp=N,534nm,1.8s						
COR				IAML		17 26 59.7	
	comp=N,325nm,1.7s						
COR	**Corvallis**	**4.73**	**28**	P	**Pn**	**17 25 46.3**	**+0.6**
J05D	**Fort Rock, OR**	**4.78**	**52**	Pn	**Pn**	**17 25 47.2**	**+0.7**
J05D				IAML		17 26 24.1	
	comp=E,479nm,1.0s						
J05D				IAML		17 26 45.1	
	comp=N,451nm,1.0s						
H04D	**Lebanon**	**4.89**	**32**		**Pn**	**17 25 47.8**	**-0.1**
H04D				IAML		17 26 54.1	
	comp=N,431nm,1.3s						
MPK	**Martis Peak**	**5.01**	**101**		**Pn**	**17 25 50.8**	**+1.0**
EMB	**Emerald Bay**	**5.05**	**105**		**Pn**	**17 25 50.6**	**+0.2**
EMB				IAML		17 26 54.5	
	comp=N,426nm,0.7s						
EMB				IAML		17 26 55.5	
	comp=E,357nm,0.9s						
HEBO	**Mount Hebo**	**5.15**	**21**		**Pn**	**17 25 52.1**	**+0.6**
HEBO				IAML		17 26 52.3	
	comp=N,222nm,1.9s						
HEBO				IAML		17 26 57.0	
	comp=E,299nm,3.1s						
CMB	**Columbia Colle**	**5.23**	**115**	Pn	**Pn**	**17 25 52.0**	**-0.6**
CMB				IAML		17 27 01.6	
	comp=N,193nm,0.6s						
CMB	**Columbia Colle**	**5.23**	**115**	P	**Pn**	**17 25 52.0**	**-0.6**
PINE	**Pine Mountain**	**5.25**	**49**		**Pn**	**17 25 53.9**	**+0.8**
PINE				IAML		17 26 33.6	
	comp=N,265nm,1.2s						
PINE				IAML		17 26 42.4	
	comp=E,351nm,1.0s						
H04A	**Detroit Lake**	**5.25**	**35**	Pn	**Pn**	**17 25 52.5**	**-0.4**
H04A				IAML		17 26 59.6	
	comp=E,297nm,0.4s						

MXC **Moxie City** 7.56 34 Pn 17 26 25.5 +0.9
GNW **Green Mountain** 7.57 19 Pn 17 26 25.2 +0.5
PKM **Mcpherson Peak** 7.59 135 P Pn 17 26 23.1 -2.1
baz=318,SNR=69
PKM S Sn 17 27 49.5 -2.1
baz=318
CWC **Cottonwood Cre** 7.63 119 P Pn 17 26 28.4 +2.7
baz=303
BCW **Bitter Crk WRg** 7.78 133 Pn 17 26 26.6 -1.0
GRAC **Grapevine Rang** 7.83 113 Pn 17 26 29.0 +0.6
GRAC **Grapevine Rang** 7.83 113 P Pn 17 26 31.0 +2.6
baz=298,SNR=42
ISA **Isabella, Lake** 7.84 125 Pn 17 26 27.9 -0.6
ISA **Isabella, Lake** 7.84 125 P Pn 17 26 29.1 +0.6
baz=309,SNR=277
ISA **Isabella, Lake** 7.84 125 P Pn 17 26 27.9 -0.6
ARVC **Arvin** 7.98 129 P Pn 17 26 28.5 -1.9
baz=313,SNR=39
SBC **Santa Barbara** 7.99 136 P Pn 17 26 29.5 -0.9
baz=320
MPMC **Manual Prospec** 8.24 119 P Pn 17 26 35.7 +1.6
baz=304
SCZ2 **Santa Cruz Isl** 8.38 138 P Pn 17 26 34.9 -0.9
baz=322
OSI **Osito Audit: C** 8.40 131 P Pn 17 26 36.2 0.0
baz=315,SNR=8.9
FURC **Furnace Creek,** 8.45 115 P Pn 17 26 35.4 -1.3
baz=300,SNR=15
LRMC **Laurel Mtn Rad** 8.46 123 P Pn 17 26 37.4 +0.3
baz=308,SNR=55
ELK **Elko** 8.48 84 Pn 17 26 38.0 +0.6
ELK **Elko** 8.48 84 Pn Pn 17 26 38.8 +1.4
comp=N,0.7nm,0.3s,baz=278,slow=13,SNR=23
ELK LR LR 17 30 14.0
comp=N,2µm,19.1s,baz=268,slow=40
comp=N,6.0nm,0.6s
E09A **Wood Farm, Sta** 8.53 42 Pn 17 26 37.5 -0.3
D08A **Wollman Farm,** 8.54 37 Pn 17 26 37.8 -0.2
R11B **Troy Canyon, C** 8.61 101 P Pn 17 26 40.8 +1.7
baz=287,SNR=15
TPNV **Topopah Spring** 8.65 110 P Pn 17 26 37.8 -1.9
baz=296,SNR=19
EDW2 **Edwards Air Fo** 8.65 127 P Pn 17 26 38.6 -1.0
baz=312,SNR=44
QSM **Queen of Sheba** 8.71 118 Pn 17 26 41.6 +1.2
S11A **Rachel** 8.73 105 Pn 17 26 42.3 +1.6
B06A **Marblemount** 8.80 22 Pn 17 26 42.6 +1.0
Q12A **Willow Creek R** 9.00 95 Pn 17 26 44.2 -0.3
SNCC **San Nicolas Is** 9.03 140 Pn Pn 17 26 42.9 -1.8
SNCC **San Nicolas Is** 9.03 140 P Pn 17 26 43.7 -1.0
baz=324
PASC **Pasadena Art C** 9.03 131 Pn 17 26 44.5 -0.3
GSC **Goldstone, Bar** 9.13 121 P Pn 17 26 46.8 +0.5
baz=306,SNR=60
SHOC **Shoshone, Teco** 9.15 116 P Pn 17 26 47.6 +1.2
baz=302
RRX **Edison Barstow** 9.28 124 P Pn 17 26 48.6 +0.5
baz=309,SNR=11
BFSC **Mount Baldy Ra** 9.29 129 P Pn 17 26 47.6 -0.8
baz=314,SNR=19
B08A **Colville Reser** 9.38 30 Pn 17 26 49.3 -0.3
HLID **Hailey** 9.44 67 Pn Pn 17 26 51.6 +1.2
HLID **Hailey** 9.44 67 P Pn 17 26 53.0 +2.5
baz=255,SNR=134
CIS **Catalina Islan** 9.48 135 P Pn 17 26 49.3 -1.5
baz=320
CBB **Campbell River** 9.63 4 Pn 17 26 54.3 +1.5
TUQ **Turquoise Moun** 9.64 118 P Pn 17 26 55.3 +2.0
baz=304
BBRC **Big Bear Solar** 9.72 126 P Pn 17 26 53.7 -0.7
baz=312
HEC **Hector,Ludlow** 9.73 122 P Pn 17 26 54.7 +0.3
baz=306,SNR=120
ELS **Elsinore Mount** 9.85 131 Pn 17 26 54.4 -1.6
WTNK **Soaring Height** 9.88 112 Pn 17 26 59.5 +3.0
BGU **Big Grassy Mou** 10.15 83 Pn 17 27 00.1 -0.1
GMRC **Granite Mounta** 10.20 120 P Pn 17 27 01.0 +0.2
baz=306,SNR=48
NEW **Newport** 10.25 37 Pn 17 26 59.9 -1.5
NEW **Newport** 10.25 37 P Pn 17 27 02.3 +0.9
baz=224
NEW **Newport** 10.25 37 Pn Pn 17 27 01.8 +0.3
comp=N,0.9nm,0.3s,baz=210,slow=13,SNR=12
NEW LR LR 17 31 07.3
comp=N,2µm,18.2s,baz=220,slow=39
comp=N,7.2nm,0.6s
DUG **Dugway, Tooele** 10.36 87 P Pn 17 27 04.9 +1.8
baz=275,SNR=33
PFO **Pinyon Flats O** 10.44 128 Pn 17 27 02.9 -1.3
PFO **Pinyon Flats O** 10.44 128 P Pn 17 27 04.0 -0.2
baz=313,SNR=9.4
PFO **Pinyon Flats O** 10.44 128 Pn Pn 17 27 03.9 -0.3
comp=N,1.7nm,0.3s,baz=308,slow=9.1,SNR=16
PFO LR LR 17 31 07.4
comp=N,3µm,18.9s,baz=304,slow=38
comp=N,14nm,0.7s
TPFO **Pinon Flats** 10.45 128 P Pn 17 27 04.1 -0.2
baz=313,SNR=7.3
BELC **Belle Mtn. Jos** 10.47 125 P Pn 17 27 04.0 -0.6
baz=310,SNR=25
LCMT **Little Creek M** 10.81 104 Pn 17 27 09.8 +0.5
TCRU **Three Creeks R** 10.91 95 Pn Pn 17 27 11.4 +0.7
IRM **Iron Mountain** 10.91 121 P Pn 17 27 10.3 -0.3
baz=308,SNR=18
NLU **North Lily Min** 10.95 88 Pn 17 27 11.4 +0.1
MONP2 **Monument Peak** 10.97 130 P Pn 17 27 11.6 +0.1
baz=316,SNR=30
BAR **Barrett** 10.98 132 Pn 17 27 09.2 -2.3
BC3 **Big Chuckawall** 11.04 124 P Pn 17 27 11.4 -1.0
baz=311,SNR=13
MSO **Missoula** 11.04 51 Pn 17 27 12.9 +0.6
MSO **Missoula** 11.04 51 P Pn 17 27 13.9 +1.6
baz=239,SNR=70
TKX **Tecate** 11.10 132 Pn Pn 17 27 14.9 +1.7
CTU **Camp Tracy** 11.13 84 Pn 17 27 14.4 +0.7
BPMT **Black Pine Rid** 11.15 53 Pn 17 27 14.3 +0.4
HWUT **Hardware Ranch** 11.25 79 Pn 17 27 17.2 +1.9
CBX **Cerro Bola** 11.26 133 Pn 17 27 14.0 -1.4
MTPU **Mount Pierson** 11.26 98 Pn 17 27 16.4 +0.7
SWSC **Sam W. Stewart** 11.30 128 P Pn 17 27 16.2 +0.3
baz=314
IKP **In-Ko-Pah, Jac** 11.33 130 P Pn 17 27 17.5 +1.2
baz=316,SNR=6.4
TCUT **Toone Canyon** 11.37 82 Pn 17 27 16.1 -0.9
YUH **Yuha Desert** 11.44 130 Pn 17 27 17.5 -0.2
PDMCI **Parker Dam,Lak** 11.49 118 P Pn 17 27 19.9 +1.4
baz=305,SNR=27
BLYC **Blythe** 11.57 121 Pn 17 27 18.2 -1.3
OVMT **Ovando** 11.72 51 Pn 17 27 22.3 +0.6
BBB **Bella Bella** 11.81 355 Pn Pn 17 27 22.4 -0.3
BBB **Bella Bella** 11.81 355 Pn Pn 17 27 23.2 +0.4
comp=N,0.4nm,0.3s,baz=176,slow=15,SNR=5.7
BBB LR LR 17 30 59.3
comp=N,1µm,20.4s,baz=174,slow=33
comp=N,36nm,0.9s
FXWY **Fox Creek** 11.85 69 Pn 17 27 23.6 0.0
TPAW **Teton Pass** 11.88 70 Pn 17 27 24.5 +0.5
BSUT **Blindstream Ca** 11.89 84 Pn 17 27 23.5 -0.8
ESJX **Sierra Juarez** 11.89 132 Pn 17 27 23.3 -0.9
REDW **Red Top Meadow** 11.93 71 Pn 17 27 26.3 +1.7
IMW **Indian Meadow** 11.96 68 Pn 17 27 27.1 +1.9
MOOW **Moose Ponds** 12.07 69 Pn 17 27 27.5 +0.9
LYMT **Lyon Mountain** 12.10 53 Pn 17 27 27.5 +0.6
YHH **Holmes Hill** 12.23 64 Pn 17 27 27.9 -0.9
H17A **Grant Village** 12.33 66 P Pn 17 27 34.1 +4.1
baz=257,SNR=15
113A **Mohawk Valley,** 12.69 123 Pn Pn 17 27 35.0 +0.2
BW06 **Boulder Array** 12.80 74 P Pn 17 27 40.6 +4.1
baz=265,SNR=19
PDAR **Pinedale Array** 12.80 74 Pn Pn 17 27 38.2 +1.6
comp=N,0.2nm,0.3s,baz=268,slow=9.8,SNR=23
comp=N,4.9nm,0.9s
WUAZ **Wupatki** 12.81 108 P Pn 17 27 41.4 +4.8
baz=297,SNR=15
RLMT **Red Lodge** 13.41 64 P Pn 17 27 46.4 +1.6
baz=255,SNR=11
DIB **Dawson Inlet,** 13.43 344 Pn Pn 17 27 43.5 -1.3
214A **Organ Pipe Nat** 13.83 123 P Pn 17 27 51.8 +1.4
baz=311,SNR=13
O20A **White River Ci** 13.85 85 P Pn 17 27 52.9 +2.1
baz=277,SNR=12
EGMT **Eagleton** 14.11 52 P Pn 17 27 54.5 +0.2
baz=244,SNR=66
W18A **Petrified Fore** 14.18 107 P P 17 27 59.8 -3.2
baz=297,SNR=8.1
MVCO **Mesa Verde** 14.30 97 P Pn 17 28 00.6 +3.5
baz=288,SNR=6.4
TUC **Tucson** 14.93 118 Pn Pn 17 28 05.3 -0.3
TUC **Tucson** 14.93 118 P Pn 17 28 07.7 +2.1
baz=307
TUC **Tucson** 14.93 118 P Pn 17 28 05.3 -0.3
K22A **Casper** 15.03 75 P Pn 17 28 08.1 +1.2
baz=268
V35K **Ketchikan** 15.30 349 P Pn 17 28 12.8 +2.6
baz=165
S22A **4UR Ranch, Cre** 15.41 94 P P 17 28 15.7 -1.1
baz=286,SNR=22
N23A **Red Feather La** 15.51 82 P Pn 17 28 14.7 +1.3
baz=275
EDM **Edmonton** 15.56 30 Pn Pn 17 28 11.7 -1.9
EDM **Edmonton** 15.56 30 P Pn 17 28 11.7 -1.9
EDM pmax pmax
comp=Z,42nm,0.9s
CRAG **Craig** 15.70 346 P Pn 17 28 15.9 +0.6
baz=161
LAO **LASA Array** 15.87 60 IAmb IAmb 17 28 25.2
comp=Z,82nm,0.9s
LAO **LASA Array** 15.87 60 P P 17 28 21.0 -0.6
baz=254,SNR=48
LAO **LASA Array** 15.87 60 P P 17 28 20.5 -1.1
baz=254,SNR=48
ISCO **Idaho Springs** 15.90 86 P P 17 28 21.4 -0.8
baz=279,SNR=8.5
ISCO **Idaho Springs** 15.90 86 P P 17 28 20.9 -1.3
baz=279,SNR=8.5
DUN6 **Lazy B Ranch** 15.95 114 IAmb IAmb 17 28 25.9
comp=Z,118nm,1.1s
U33K **Whale Pass** 16.31 346 P Pn 17 28 25.2 +2.0
baz=162
Q24A **Divide** 16.40 88 P P 17 28 27.9 +0.2
baz=282
SDCO **Great Sand Dun** 16.43 93 P P 17 28 28.6 +0.6
baz=286,SNR=26
SDCO **Great Sand Dun** 16.43 93 P P 17 28 28.2 +0.2
baz=286,SNR=26
WRAK **Wrangell Islan** 16.47 348 P Pn 17 28 26.9 +1.6
baz=164
ANMO **Albuquerque** 16.68 103 P Pn 17 28 27.3 -1.0
ANMO **Albuquerque** 16.68 103 P P 17 28 33.0 +2.2
baz=295
ANMO **Albuquerque** 16.68 103 P P 17 28 32.6 +1.9
baz=295,SNR=27
ANMO **Albuquerque** 16.68 103 Pn Pn 17 28 29.2 +0.9
comp=Z,11nm,1.1s,baz=25,slow=14,SNR=16
ANMO LR LR 17 34 30.9
comp=Z,1µm,19.5s,baz=30,slow=36
T35M **Bob Quinn** 16.75 353 P P 17 28 31.1 -0.2
baz=170,SNR=16
Y22A **Socorro** 16.76 107 P P 17 28 34.6 +3.0
baz=298,SNR=31
121A **Cookes Peak, D** 16.88 112 IAmb IAmb 17 28 38.7
comp=Z,10nm,1.2s
121A **Cookes Peak, D** 16.88 112 P P 17 28 35.2 +2.2
baz=303,SNR=42
121A **Cookes Peak, D** 16.88 112 P P 17 28 35.6 +2.6
baz=303,SNR=42
RSSD **Black Hills** 16.93 70 Pn 17 28 28.1 -3.3
RSSD **Black Hills** 16.93 70 P Pn 17 28 30.6 -0.8
baz=265
RSSD **Black Hills** 16.93 70 P Pn 17 28 30.6 -0.8
baz=265
RSSD **Black Hills** 16.93 70 P Pn 17 28 28.1 -3.3
RSSD pmax pmax
comp=Z,48nm,1.7s
T25A **Trinidad** 17.43 94 P P 17 28 40.9 +1.8
baz=288
DGMT **Dagmar** 17.71 56 IAmb IAmb 17 28 49.4
comp=Z,416nm,1.8s
DGMT **Dagmar** 17.71 56 P P 17 28 42.8 +0.9
baz=251,SNR=20
DGMT **Dagmar** 17.71 56 P Pn 17 28 40.7 -0.3
baz=251,SNR=20
S34M **Telegraph Cree** 17.76 352 P P 17 28 44.9 +2.5
baz=168,SNR=8.5
DLBC **Dease Lake** 18.17 354 P P 17 28 49.0 +2.1
baz=171,SNR=20
DLBC **Dease Lake** 18.17 354 P Pn 17 28 47.3 +0.7
comp=Z,0.9nm,0.3s,baz=182,slow=12,SNR=40
comp=Z,58nm,1.0s
OGNE **Ogilala** 18.46 80 P P 17 28 50.5 +0.3
baz=276
OGNE **Ogallala** 18.46 80 P P 17 28 50.7 +0.5
baz=276
JIS **Juneau Island** 18.58 347 P Pn 17 28 54.0 +2.5
S31K **Pelican** 18.65 343 P P 17 28 53.1 +1.0
baz=156
Q32M **Nakina River** 18.92 351 IAmb IAmb 17 29 01.2
comp=Z,109nm,1.4s
Q32M **Nakina River** 18.92 351 P Pn 17 28 57.0 +1.1
baz=166
MNTX **Cornudas Mount** 19.04 111 P Pn 17 29 00.3 +2.9
baz=303,SNR=34
MNTX **Cornudas Mount** 19.04 111 P Pn 17 28 59.7 +2.3
baz=303,SNR=34
HILA **High Level** 19.10 15 P P 17 28 56.9 -0.1
R33M **Jennings River** 19.20 353 P Pn 17 28 59.8 +0.6
baz=170
E28A **Huff** 19.57 63 IAmb IAmb 17 29 12.5
comp=Z,152nm,0.9s
E28A **Huff** 19.57 63 P Pn 17 29 03.1 -0.5
baz=261,SNR=22
P32M **Atlin** 19.73 349 P 17 29 03.7 -0.2
P32M **Atlin** 19.73 349 P P 17 29 05.2 +1.3
baz=164,SNR=8.1
WTLY **Watson Lake, Y** 19.76 356 IAmb IAmb 17 29 09.7
comp=Z,85nm,1.0s
WTLY **Watson Lake, Y** 19.76 356 P Pn 17 29 06.5 +0.7
baz=175,SNR=16
KOTAN **Kotaneelee Air** 19.77 3 P P 17 29 05.7 +1.3
baz=186,SNR=34
MSTX **Muleshoe** 19.85 101 P Pn 17 29 09.8 +2.7
baz=296,SNR=10
MSTX **Muleshoe** 19.85 101 P Pn 17 29 09.8 +2.7
baz=296,SNR=10
SKAG **Skagway** 19.86 346 IAmb IAmb 17 29 10.5
comp=Z,66nm,1.1s
SKAG **Skagway** 19.86 346 P Pn 17 29 08.0 +1.0
SKAG **Skagway** 19.86 346 P P 17 29 06.8 +1.4
baz=160
K30B **Basset** 20.12 75 IAmb IAmb 17 29 18.0
comp=Z,134nm,1.1s
K30B **Basset** 20.12 75 P Pn 17 29 10.7 +0.4
baz=273,SNR=6.6
P33M **Teslin, Yukon** 20.20 351 IAmb IAmb 17 29 14.7
comp=Z,70nm,1.1s
P33M **Teslin, Yukon** 20.20 351 P Pn 17 29 10.9 -0.1
baz=166,SNR=21
AMTX **Amarillo** 20.29 98 P Pn 17 29 14.2 +1.9
baz=293
AMTX **Amarillo** 20.29 98 P Pn 17 29 15.8 +3.4
baz=293
P29M **Windy Craggy** 20.50 343 IAmb IAmb 17 29 17.4
comp=Z,67nm,1.1s
P29M **Windy Craggy** 20.50 343 P P 17 29 12.9 +0.6
baz=155
MDND **Maddock** 20.52 60 IAmb IAmb 17 29 27.4
comp=Z,93nm,1.1s
MDND **Maddock** 20.52 60 P Pn 17 29 15.9 +1.0
baz=259
CBKS **Cedar Bluff** 20.56 86 P Pn 17 29 16.0 +0.6
baz=283,SNR=21
CBKS **Cedar Bluff** 20.56 86 P Pn 17 29 15.8 +0.4
baz=283,SNR=21
SUSD **Miller** 20.59 70 P Pn 17 29 15.1 -0.6
baz=268,SNR=8.4
SUSD **Miller** 20.59 70 P Pn 17 29 14.9 -0.7
baz=268,SNR=8.4
P30M **Million Dollar** 20.79 345 P P 17 29 17.1 +1.6
baz=157
ODSA **Odessa** 20.88 106 IAmb IAmb 17 29 29.9
comp=Z,98nm,1.0s
PNL **Peninsula** 20.92 341 P P 17 29 17.9 +1.0
baz=152
WHY **Whitehorse** 20.93 348 P P 17 29 18.7 +1.7
baz=162,SNR=14
LPIG **La Paz** 21.15 136 P P 17 29 21.2 +1.6
comp=Z,14nm,0.3s,baz=350,slow=2.0,SNR=9.4
LPIG LR LR 17 36 28.5
comp=Z,1µm,19.9s,baz=332,slow=34
comp=Z,14nm,0.3s
N32M **Quiet Lake** 21.15 351 P P 17 29 20.4 +1.0
baz=166
O30N **Mendenhall** 21.23 347 P P 17 29 21.8 +1.6
baz=160,SNR=10
O29M **Mount Kennedy** 21.29 343 IAmb IAmb 17 29 23.4
comp=Z,55nm,1.0s
O29M **Mount Kennedy** 21.29 343 P P 17 29 22.4 +1.4
baz=154,SNR=12
SMWD **Samnorwood** 21.30 96 IAmb IAmb 17 29 32.0
comp=Z,123nm,1.0s
BGNE **Belgrade** 21.32 78 P P 17 29 23.4 +2.1
baz=277
R32A **Long Quarter,** 21.43 86 IAmb IAmb 17 29 33.7
comp=Z,100nm,0.9s
R32A **Long Quarter,** 21.43 86 P P 17 29 25.6 +3.0
baz=284,SNR=7.9
PINM **Pinnacle** 21.50 341 P P 17 29 24.0 +0.8
baz=150
HYT **Haines Junctio** 21.54 345 P P 17 29 25.4 +1.7
baz=157,SNR=12
TX31 **Lajitas Ar. Si** 21.61 114 P P 17 29 27.7 +3.0
baz=307,SNR=117
TXAR **Lajitas Array** 21.61 114 P P 17 29 26.0 +1.4
comp=Z,58nm,1.0s,baz=299,slow=6.3,SNR=85
TXAR LR LR 17 37 48.6
comp=Z,425nm,18.3s,baz=286,slow=37
comp=Z,58nm,1.0s
FFC **Flin Flon** 21.65 41 P P 17 29 24.4 -0.3
FFC IAmb IAmb 17 29 37.8
comp=Z,122nm,1.0s
FFC **Flin Flon** 21.65 41 P P 17 29 24.4 -0.3
FFC pmax pmax
comp=Z,123nm,1.0s
SLBS **Sierra La Lagu** 21.68 135 P P 17 29 26.2 +0.8
YUK6 **Outpost Mounta** 21.82 344 P P 17 29 28.0 +1.2
baz=155,SNR=5.2
N33B **J Bar K, Exete** 21.93 80 P P 17 29 31.1 +3.2
baz=279
SGCY **Sterling City** 22.03 105 IAmb IAmb 17 29 41.1
comp=Z,98nm,1.5s
N30M **Aishikik Lake** 22.05 346 P P 17 29 30.8 +1.7
baz=158,SNR=9.4
APMT **Aspermont** 22.12 100 IAmb IAmb 17 29 41.2
comp=Z,47nm,0.9s
FARO **Faro, Yukon** 22.23 351 P P 17 29 32.2 +1.3
baz=166,SNR=17
YUK4 **Talbot Arm** 22.25 344 P P 17 29 32.9 +1.6
baz=155,SNR=6.8
OK032 **Salt Plains WL** 22.26 90 IAmb IAmb 17 29 42.8
comp=Z,110nm,1.0s
LOGN **Logan Glacier** 22.32 341 IAmb IAmb 17 29 36.0
comp=Z,98nm,1.1s
M31M **Drury Creek, Y** 22.33 350 P P 17 29 32.8 +0.8
baz=164,SNR=12
YUK8 **Steele Glacier** 22.43 343 P P 17 29 35.1 +1.7
baz=153,SNR=14
CTGM **Chitina Glacie** 22.53 341 IAmb IAmb 17 29 38.7
comp=Z,95nm,1.1s
CTG **Chitna Glacier** 22.53 341 P P 17 29 35.9 +1.6
baz=149
F33A **5 Mile Ranch,** 22.53 66 P P 17 29 35.2 +1.0
baz=267,SNR=47
OZNA **Ozona** 22.53 107 IAmb IAmb 17 29 44.5
comp=Z,83nm,1.0s
KAIM **Kayak Island** 22.54 336 P P 17 29 37.5 +3.3
baz=142
WMOK **Wichita Mounta** 22.55 96 P P 17 29 38.0 +3.4
baz=293
WMOK **Wichita Mounta** 22.55 96 P P 17 29 38.7 +4.1
baz=293
BARN **Barnard Glacie** 22.69 341 P P 17 29 36.0 -0.1
BARN IAmb IAmb 17 29 46.2
comp=Z,69nm,1.0s
BERG **Berg Lake** 22.69 337 P P 17 29 34.5 -1.3
BERG IAmb IAmb 17 29 56.8
comp=Z,74nm,0.8s
MID **Middleton Isla** 22.78 333 P P 17 29 34.2 -2.6
MID **Middleton Isla** 22.78 333 P P 17 29 34.2 -2.6
MID pmax pmax
comp=Z,466nm,1.3s
ABTX **Abilene, Hawle** 22.79 102 P P 17 29 41.0 +3.9
baz=298,SNR=14
ABTX **Abilene, Hawle** 22.79 102 P P 17 29 41.2 +4.1
baz=298,SNR=14
KSU1 **Kansas State U** 22.87 84 IAmb IAmb 17 29 48.4
comp=Z,74nm,1.0s
KSU1 **Kansas State U** 22.87 84 P P 17 29 40.4 +2.5
baz=283
WRGLY **Wrigley** 22.89 3 P P 17 29 38.2 +0.3
WRGLY IAmb IAmb 17 29 46.0
comp=Z,65nm,1.0s
WRGLY **Wrigley** 22.89 3 P P 17 29 40.3 +2.4
baz=186,SNR=12
YUK3 **Moose Creek** 23.03 343 P P 17 29 41.0 +1.4
baz=152,SNR=7.4
M30M **Minto, Yukon** 23.04 348 IAmb IAmb 17 29 55.2
comp=Z,87nm,1.8s
M30M **Minto, Yukon** 23.04 348 P P 17 29 40.6 +1.0
baz=160,SNR=8.3
AGMN **Agassiz Nation** 23.07 60 IAmb IAmb 17 29 48.5
comp=Z,76nm,1.1s
AGMN **Agassiz Nation** 23.07 60 P P 17 29 41.5 +1.6
baz=261,SNR=33
AGMN **Agassiz Nation** 23.07 60 P P 17 29 41.1 +1.2
baz=261,SNR=33
YKA **Yellowknife Ar** 23.20 14 P P 17 29 37.7 -3.4
YKA **Yellowknife Ar** 23.20 14 P P 17 29 40.7 -0.4
comp=Z,5.4nm,0.7s,baz=199,slow=9.9,SNR=51
YKA PcP PcP 17 33 28.3 -0.6
comp=Z,2.1nm,0.8s,baz=194,slow=2.3,SNR=4.2
comp=Z,5.4nm,0.7s
M29M **Somme Creek** 23.21 346 P P 17 29 43.0 +1.6
baz=156
N35A **Tabor** 23.27 79 IAmb IAmb 17 29 57.0
comp=Z,72nm,0.8s
N35A **Tabor** 23.27 79 P P 17 29 43.9 +1.9
baz=279
VRDI **Verde Repeater** 23.31 339 IAmb IAmb 17 29 45.8
comp=Z,39nm,1.0s
BMRM **Bremner River** 23.42 337 P P 17 29 45.0 +1.6
baz=143
ULM **Lac du Bonnet** 23.43 55 P P 17 29 43.9 +0.3
comp=Z,59nm,0.9s,baz=261,slow=9.9,SNR=85
ULM LR LR 17 39 11.2
comp=Z,2µm,18.5s,baz=260,slow=38
comp=Z,59nm,0.9s
T35B **Sooner Cattle** 23.52 89 P P 17 29 46.5 +1.9
baz=288,SNR=25
GLB **Gilahina Butte** 23.58 339 P P 17 29 44.2 -0.8
BVCY **Beaver Creek** 23.68 343 P P 17 29 47.0 +1.1
baz=152,SNR=8.7
DRIO **Del Rio** 23.72 110 IAmb IAmb 17 29 57.1
comp=Z,72nm,0.9s
JCT **Junction City** 23.74 106 IAmb IAmb 17 29 56.1
comp=Z,44nm,0.9s
JCT **Junction City** 23.74 106 P P 17 29 50.2 +3.5
baz=302,SNR=10
JCT **Junction City** 23.74 106 P P 17 29 50.7 +3.9
baz=302,SNR=10
L29M **L29M** 23.77 347 IAmb IAmb 17 29 49.5
comp=Z,36nm,0.9s
L29M **L29M** 23.77 347 P P 17 29 48.2 +1.4
baz=158
W35A **Tecumseh** 23.84 93 IAmb IAmb 17 29 57.2
comp=Z,68nm,1.2s
M27K **Edge Creek, AK** 23.86 342 IAmb IAmb 17 29 50.6
comp=Z,44nm,1.1s
M27K **Edge Creek, AK** 23.86 342 P P 17 29 49.4 +1.5
baz=150,SNR=13
BRDY **Brady** 23.91 104 IAmb IAmb 17 29 57.5
comp=Z,52nm,0.8s
N25K **Chitina, Valde** 23.93 338 P P 17 29 47.3 -1.1
N25K IAmb IAmb 17 29 50.8
comp=Z,46nm,1.1s
N25K **Chitina, Valde** 23.93 338 P P 17 29 49.5 +1.0
baz=144,SNR=5.9
LOOK **Love County** 24.06 96 IAmb IAmb 17 30 05.7
comp=Z,52nm,1.0s
KDAK **Kodiak Island** 24.16 325 P P 17 29 51.0 +0.5
baz=125
KDAK **Kodiak Island** 24.16 325 P P 17 29 50.5 0.0
KDAK pmax pmax
comp=Z,72nm,1.0s
KDAK **Kodiak Island** 24.16 325 LR LR 17 36 47.4
comp=Z,1µm,20.8s,baz=81,slow=30
M26K **Nabesna, AK** 24.17 341 P P 17 29 51.5 +0.9
baz=148
OHAK **Old Harbor** 24.17 323 P P 17 29 50.1 -0.5
OHAK IAmb IAmb 17 29 53.7
comp=Z,52nm,0.9s
OHAK **Old Harbor** 24.17 323 P P 17 29 51.8 +1.2
OHAK **Old Harbor** 24.17 323 P P 17 29 51.3 +0.7

baz=123
KLU Klutina 24.23 337 P P 17 29 51.1 -0.1
KLU IAmb IAmb 17 30 02.1
comp=Z,45nm,1.1s
KLU Klutina 24.23 337 P P 17 29 52.7 +1.5
baz=142
SII Sitkinak Islan 24.25 321 P P 17 29 50.4 -0.9
SII Sitkinak Islan 24.25 321 P P 17 29 51.6 +0.2
baz=120
K29M Barlow Dome 24.35 348 P P 17 29 53.7 +1.4
baz=159,SNR=13
SEW Seward 24.37 332 P P 17 29 52.2 -0.2
baz=134
TUL3 Leonard 24.40 91 P P 17 29 55.7 +2.8
baz=290
F36A Milaca 24.46 66 IAmb IAmb 17 30 02.5
comp=Z,45nm,1.1s
F36A Milaca 24.46 66 P P 17 29 54.9 +1.5
baz=269,SNR=17
L27K Beaver Creek, 24.46 343 P P 17 29 54.2 +0.9
baz=151
B35A Bob, Littlefor 24.49 60 IAmb IAmb 17 30 04.2
comp=Z,43nm,1.1s
B35A Bob, Littlefor 24.49 60 P P 17 29 55.3 +1.7
baz=263,SNR=9.8
I37B Waseca 24.59 71 P P 17 29 57.2 +2.6
baz=273,SNR=8.7
BRSE Bradley Lake S 24.61 330 P P 17 29 55.7 +1.1
baz=131
HNDO Hondo 24.63 108 IAmb IAmb 17 30 05.3
comp=Z,33nm,0.8s
WHTX Lake Whitney, 24.72 101 P P 17 29 59.9 +4.0
baz=298,SNR=11
WHTX Lake Whitney, 24.72 101 P P 17 30 01.4 +5.5
baz=298,SNR=11
HARP HAARP 24.73 339 P P 17 29 57.6 +1.9
baz=144
M24K Tolsona, Glenn 24.79 338 P P 17 29 54.8 -1.4
M24K Tolsona, Glenn 24.79 338 P P 17 29 57.9 +1.6
baz=142
L26K Log Cabin Wild 24.79 341 IAmb IAmb 17 30 00.1
comp=Z,50nm,1.1s
L26K Log Cabin Wild 24.79 341 P P 17 29 58.0 +1.9
baz=148,SNR=17
MENT Mentasta 24.80 341 P P 17 29 54.5 -1.9
MENT Mentasta 24.80 341 P P 17 29 58.0 +1.6
J30M Hart River 24.87 350 IAmb IAmb 17 29 59.6
comp=Z,30nm,0.8s
J30M Hart River 24.87 350 P P 17 29 58.5 +1.5
baz=162,SNR=19
DAWY Dawson 24.87 346 IAmb IAmb 17 30 00.5
comp=Z,67nm,1.4s
DAWY Dawson 24.87 346 P P 17 29 58.0 +1.0
baz=156,SNR=21
SCM Sheep Creek Mo 24.92 336 P P 17 29 58.0 +0.6
SCM Sheep Creek Mo 24.92 336 P P 17 29 58.9 +1.5
baz=140,SNR=7.7
SCM Sheep Creek Mo 24.92 336 P P 17 29 58.0 +0.6
SCM pmax pmax
comp=Z,105nm,1.2s
SCIA State Center 24.92 76 P P 17 30 01.0 +3.4
baz=278
KNK Knik Glacier 24.96 335 P P 17 29 57.9 +0.1
KNK IAmb IAmb 17 30 01.4
comp=Z,86nm,1.3s
KNK Knik Glacier 24.96 335 P P 17 29 59.3 +1.5
baz=137
SPMN Marine on St. 24.97 68 IAmb IAmb 17 30 08.6
comp=Z,39nm,0.8s
SPMN Marine on St. 24.97 68 P P 17 30 01.2 +3.2
baz=271,SNR=8.6
SPMN Marine on St. 24.97 68 P P 17 30 02.8 +4.8
baz=271,SNR=8.6
M23K Glacier View 25.01 336 P P 17 29 59.5 +1.3
baz=139,SNR=15
J29N Klondike Camp 25.03 348 IAmb IAmb 17 30 01.0
comp=Z,71nm,1.4s
N38A Joes South For 25.08 78 IAmb IAmb 17 30 04.9
comp=Z,43nm,0.8s
P38A Dawn 25.09 81 IAmb IAmb 17 30 10.9
comp=Z,34nm,0.8s
P38A Dawn 25.09 81 P P 17 30 01.5 +2.4
baz=282,SNR=12
K38A Parkersburg 25.16 74 P P 17 30 02.6 +2.9
baz=276,SNR=18
RC01 Rabbit Creek A 25.16 333 P P 17 29 59.5 0.0
RC01 IAmb IAmb 17 30 07.8
comp=Z,92nm,1.6s
RC01 Rabbit Creek A 25.16 333 P P 17 29 59.5 0.0
baz=135
SML Sawmill 25.21 335 P P 17 30 00.1 0.0
SML Sawmill 25.21 335 P P 17 30 01.5 +1.5
baz=138,SNR=7.4
435B Jarrell 25.21 103 P P 17 30 03.8 +3.5
baz=300
833A Chaparral WMA, 25.23 110 P P 17 30 05.3 +4.9
baz=306,SNR=7.1
833A Chaparral WMA, 25.23 110 P P 17 30 05.1 +4.7
baz=306,SNR=7.1
PAX Paxson 25.28 340 P P 17 30 01.3 +0.5
baz=144
U38A Gravette 25.30 89 P P 17 30 03.7 +2.7
baz=289,SNR=35
PMR Palmer 25.31 334 P P 17 29 59.6 -1.2
PMR IAmb IAmb 17 30 03.8
comp=Z,99nm,1.6s
PMR Palmer 25.31 334 P P 17 30 02.0 +1.1
PMR Palmer 25.31 334 P P 17 30 01.9 +1.0
baz=137
PMR Palmer 25.31 334 P P 17 29 59.6 -1.2
PMR pmax pmax
comp=Z,99nm,1.6s
K27K Chicken 25.37 344 P P 17 30 02.9 +1.6
baz=151
GHO Glory Hole Cre 25.38 335 P P 17 30 00.7 -0.9
GHO IAmb IAmb 17 30 05.5
comp=Z,65nm,1.0s
I30M Mount Dempster 25.49 350 P P 17 30 02.9 +0.2
baz=162
O20K Slope Mountain 25.55 329 P P 17 30 01.4 -1.8
baz=129
WAT6 Susitna Watana 25.61 337 P P 17 30 05.1 +1.3
baz=140,SNR=6.5
S39A Bolivar 25.73 85 IAmb IAmb 17 30 14.4
comp=Z,53nm,1.1s
S39A Bolivar 25.73 85 P P 17 30 06.4 +1.5
baz=286,SNR=18
SCRK Sand Creek 25.75 342 P P 17 30 05.4 +0.4
baz=148,SNR=8.2
RIDG Independent Ri 25.76 341 IAmb IAmb 17 30 09.2
comp=Z,30nm,1.1s
RIDG Independent Ri 25.76 341 P P 17 30 05.9 +0.9
baz=146,SNR=6.0
SUA Susitna One 25.77 333 P P 17 30 05.3 +0.1
SUA IAmb IAmb 17 30 18.8
comp=Z,42nm,1.2s
SUA Susitna One 25.77 333 P P 17 30 05.9 +0.7
baz=134
RSO Redoubt South 25.84 330 P P 17 30 06.0 0.0
E38A The Farm, Brul 25.84 65 IAmb IAmb 17 30 16.2
comp=Z,26nm,0.8s
E38A The Farm, Brul 25.84 65 P P 17 30 08.8 +2.9
baz=269
EGAK Eagle 25.85 345 P P 17 30 06.5 +0.8
baz=154
DHY Denali Highway 25.89 338 P P 17 30 05.7 -0.7
DHY IAmb IAmb 17 30 11.2
comp=Z,48nm,0.8s
DHY Denali Highway 25.89 338 P P 17 30 07.9 +1.6
baz=142,SNR=14
I29M Ogilvie Camp, 25.89 349 P P 17 30 07.1 +0.9
baz=159,SNR=6.5
Q17K Contact Creek 25.90 323 P P 17 30 06.5 +0.1
baz=121
EYMN Ely 25.94 62 P P 17 30 11.2 +4.4
baz=266,SNR=6.9
EYMN Ely 25.94 62 P P 17 30 12.1 +5.3
baz=266,SNR=6.9
K24K Donnelly Dome 26.04 340 P P 17 30 08.8 +1.3
baz=145
J26L Joseph Creek 26.10 343 P P 17 30 08.5 +0.3
baz=149
N20K Mount Spurr 26.11 331 P P 17 30 08.9 +0.6
baz=131
P18K Big Mountain, 26.21 326 P P 17 30 08.5 -0.7
P18K IAmb IAmb 17 30 14.4
comp=Z,59nm,1.2s

P18K Big Mountain, 26.21 326 P P 17 30 09.5 +0.3
baz=124
P40A Paris 26.23 81 P P 17 30 11.2 +1.8
baz=283,SNR=25
CHGN Chignik 26.23 318 P P 17 30 09.6 +0.3
baz=114
I28M Miner Creek 26.24 347 P P 17 30 10.5 +1.2
baz=156,SNR=11
O19K Port Alsworth 26.30 328 P P 17 30 10.5 +0.7
baz=126
CHNA Chernabura Isl 26.31 314 P P 17 30 09.6 -0.4
baz=110
R16K Pilot Point 26.36 321 P P 17 30 10.7 +0.4
baz=117
R40A Maddies Statio 26.36 84 IAmb IAmb 17 30 19.4
comp=Z,44nm,1.1s
R40A Maddies Statio 26.36 84 P P 17 30 11.5 +0.8
baz=286,SNR=8.9
L40A Anamosa 26.37 75 IAmb IAmb 17 30 15.5
comp=Z,39nm,1.1s
SKT Skwentna 26.40 333 P P 17 30 07.9 -2.9
SKT IAmb IAmb 17 30 09.4
comp=Z,83nm,1.5s
SKT Skwentna 26.40 333 P P 17 30 08.2 -2.5
baz=133
Q16K King Salmon 26.46 324 P P 17 30 12.8 +1.5
baz=120,SNR=8.3
O18K Koktuh Hills 26.46 327 P P 17 30 12.4 +1.0
baz=125
RND Reindeer 26.57 337 P P 17 30 11.1 -1.4
RND IAmb IAmb 17 30 18.0
comp=Z,30nm,1.1s
RND Reindeer 26.57 337 P P 17 30 11.1 -1.4
RND pmax pmax
comp=Z,30nm,1.1s
J25K Salcha River, 26.61 342 IAmb IAmb 17 30 14.9
comp=Z,34nm,1.1s
J25K Salcha River, 26.61 342 P P 17 30 13.8 +1.0
baz=147,SNR=13
EPYK Eagle Plains 26.63 351 IAmb IAmb 17 30 14.5
comp=Z,41nm,1.1s
EPYK Eagle Plains 26.63 351 P P 17 30 13.4 +0.6
baz=162,SNR=12
P17K Kvichak River 26.63 325 P P 17 30 13.6 +0.7
baz=122
I27K Kandik River 26.68 346 P P 17 30 14.3 +1.0
baz=154
MGMO Mountain Grove 26.69 86 IAmb IAmb 17 30 22.9
comp=Z,40nm,0.9s
H29M Whitestone 26.71 349 IAmb IAmb 17 30 15.4
comp=Z,49nm,0.8s
H29M Whitestone 26.71 349 P P 17 30 14.4 +0.9
baz=160,SNR=20
I26K Coal Creek Min 26.71 344 IAmb IAmb 17 30 16.1
comp=Z,54nm,1.4s
I26K Coal Creek Min 26.71 344 P P 17 30 14.6 +1.0
baz=151
N19K Bonanza Creek 26.73 329 IAmb IAmb 17 30 25.9
comp=Z,37nm,1.1s
N19K Bonanza Creek 26.73 329 P P 17 30 14.2 +0.3
baz=127
G40A Rib Lake 26.81 68 IAmb IAmb 17 30 28.2
comp=Z,32nm,1.1s
HDA Harding Lake 26.84 340 P P 17 30 15.6 +0.9
baz=144
MCK McKinley 26.85 338 P P 17 30 15.6 +0.7
baz=140
N41A Harden Midland 26.87 78 IAmb IAmb 17 30 20.9
comp=Z,51nm,1.0s
N41A Harden Midland 26.87 78 P P 17 30 17.3 +2.0
baz=281,SNR=6.6
M20K Styx River 26.89 332 P P 17 30 16.5 +1.1
baz=131
G31M Satah River 26.90 353 P P 17 30 15.2 0.0
baz=167,SNR=6.4
HKT Hockley 26.94 103⇑eP P 17 30 17.3 +1.4
HKT pmax pmax
comp=Z,16nm,1.0s
JFWS Jewell Farm 26.97 73 IAmb IAmb 17 30 22.4
comp=Z,67nm,1.1s
JFWS Jewell Farm 26.97 73 P P 17 30 18.4 +2.2
baz=277,SNR=9.9
JFWS Jewell Farm 26.97 73 P P 17 30 18.1 +2.0
baz=277,SNR=9.9
ILAR Eielson Array 27.11 341 P P 17 30 16.2 -1.0
ILAR Eielson Array 27.11 341 P P 17 30 17.6 +0.4
comp=Z,9.8nm,0.9s,baz=157,slow=7.6,SNR=13
ILAR PcP PcP 17 33 36.9 -0.8
comp=Z,2.1nm,0.9s,baz=183,slow=2.5,SNR=5.2
ILAR LR LR 17 38 41.7
comp=Z,1μm,20.9s,baz=104,slow=31
comp=Z,9.8nm,0.9s
G30M tAoh Zraii Nji 27.16 352 P P 17 30 18.1 +0.4
baz=164
CCM Cathedral Cave 27.20 84 P P 17 30 17.7 -0.6
CCM Cathedral Cave 27.20 84 P P 17 30 20.0 +1.7
baz=286
CCM Cathedral Cave 27.20 84 P P 17 30 19.2 +1.0
baz=286,SNR=12
CCM Cathedral Cave 27.20 84 P P 17 30 17.7 -0.6
CCM pmax pmax
comp=Z,78nm,1.2s
N18K Kilae Creek 27.21 328 P P 17 30 18.2 +0.1
N18K IAmb IAmb 17 30 28.2
comp=Z,37nm,1.4s
N18K Kilae Creek 27.21 328 P P 17 30 18.6 +0.5
baz=125
O17K Koliganek Bris 27.22 326 P P 17 30 19.1 +0.9
baz=122
H27K Steamboat Moun 27.22 347 P P 17 30 19.4 +1.2
baz=154
P16K Nushagak River 27.24 324 P P 17 30 19.3 +1.0
baz=119
PPLA Purkeypile 27.25 334 P P 17 30 19.8 +1.2
baz=134
G29M Pine Creek 27.31 350 P P 17 30 19.5 +0.5
baz=161
F31M Tsiigehtchic 27.36 354 P P 17 30 19.4 0.0
baz=168
M19K Big River Lodg 27.37 331 P P 17 30 20.4 +0.9
baz=129
PRP Porcupine Dome 27.41 343 P P 17 30 20.9 +0.9
baz=147
COLA College 27.44 340 P P 17 30 20.6 +0.5
L42A Oliver, Polo 27.52 75 P P 17 30 22.7 +1.6
baz=279,SNR=9.8
POKR Poker Plat Res 27.53 341 P P 17 30 19.9 -1.1
POKR IAmb IAmb 17 30 38.1
comp=Z,24nm,1.1s
POKR Poker Plat Res 27.53 341 P P 17 30 22.1 +1.2
baz=144,SNR=6.6
NEA2 Nenana 27.55 339 P P 17 30 20.8 -0.3
NEA2 IAmb IAmb 17 30 26.8
comp=Z,46nm,1.2s
NEA2 Nenana 27.55 339 P P 17 30 22.2 +1.1
baz=141,SNR=6.5
O16K Kokwok River B 27.57 325 IAmb IAmb 17 30 33.7
comp=Z,36nm,0.9s
O16K Kokwok River B 27.57 325 P P 17 30 22.2 +0.9
baz=120
CAST Castle Rocks 27.58 335 P P 17 30 21.7 +0.3
baz=135
M18K Stony River 27.66 329 P P 17 30 22.2 +0.1
baz=126
N17K Nushagak Hills 27.66 327 IAmb IAmb 17 30 32.9
comp=Z,82nm,1.8s
N17K Nushagak Hills 27.66 327 P P 17 30 22.4 +0.3
baz=123
L19K White Mountain 27.71 331 P P 17 30 24.1 +1.4
baz=129,SNR=8.2
F30M Barrier River 27.72 352 P P 17 30 22.8 +0.2
baz=165
BPAW Bear Paw Mtn. 27.73 337 P P 17 30 23.5 +0.8
baz=137
I42A Draeger Farm, 27.83 70 P P 17 30 25.3 +1.6
baz=276,SNR=5.7
FVM French Village 27.84 83 IAmb IAmb 17 30 32.6
comp=Z,34nm,1.2s
LCAR Lake Charles 27.88 88 IAmb IAmb 17 30 37.9
comp=Z,31nm,1.2s
CHUM Lake Minchumin 27.98 336 P P 17 30 24.8 -0.1
baz=135
I23K Minto, Yukon-K 28.06 339 P P 17 30 25.9 +0.4
baz=141
O15K Ungalikthiuk R 28.15 323 P P 17 30 25.9 -0.5
baz=117
K20K Telida 28.19 334 P P 17 30 26.7 -0.2
baz=132

INK Inuvik 28.20 354 P P 17 30 27.1 +0.2
baz=169,SNR=5.8
INK Inuvik 28.20 354 LR LR 17 41 04.8
comp=Z,604nm,18.2s,baz=176,slow=35
PBMO Poplar Bluff 28.20 86 IAmb IAmb 17 30 35.9
comp=Z,43nm,1.1s
H24K Noodor Dome 28.23 341 P P 17 30 27.5 +0.3
baz=144
F28M Old Crow 28.23 349 P P 17 30 28.2 +1.1
baz=158,SNR=19
M17K Holitna River 28.24 328 IAmb IAmb 17 30 41.1
comp=Z,40nm,1.3s
M17K Holitna River 28.24 328 P P 17 30 27.3 0.0
baz=124
G26K Porcupine Rive 28.28 346 P P 17 30 28.6 +1.0
baz=151
N16K Nishlik Lake 28.30 326 P P 17 30 27.8 -0.1
baz=121
L18K Granite Mounta 28.42 330 IAmb IAmb 17 30 30.7
comp=Z,23nm,0.9s
L18K Granite Mounta 28.42 330 P P 17 30 29.4 +0.5
baz=126,SNR=8.0
H43A Windswept, Lux 28.59 69 P P 17 30 35.5 +4.9
baz=276,SNR=5.5
G25K Bearman Lake 28.59 344 P P 17 30 31.8 +1.5
baz=148
TTA Tatalina 28.60 332 P P 17 30 29.5 -1.1
TTA Tatalina 28.60 332 P P 17 30 30.3 -0.3
TTA Tatalina 28.60 332 P P 17 30 30.0 -0.5
baz=128,SNR=6.8
TTA Tatalina 28.60 332 P P 17 30 29.5 -1.1
TTA pmax pmax
comp=Z,13nm,1.0s
M16K Timber Creek 28.66 327 P P 17 30 31.9 +0.9
baz=121
E29M Blow River 28.70 351 P P 17 30 32.7 +1.4
baz=162
N15K Kwethluk River 28.73 325 IAmb IAmb 17 30 34.2
comp=Z,33nm,1.2s
N15K Kwethluk River 28.73 325 P P 17 30 32.3 +0.7
baz=118
J20K Nowinta River 28.77 335 P P 17 30 32.4 +0.4
baz=133
I21K Tanana 28.81 338 P P 17 30 30.9 -1.4
I21K IAmb IAmb 17 30 34.2
comp=Z,23nm,1.1s
I21K Tanana 28.81 338 P P 17 30 32.8 +0.5
baz=137
G24K Hadweenzic Riv 28.84 343 P P 17 30 33.4 +0.9
baz=146
L17K Donlin 28.99 329 P P 17 30 34.7 +0.7
baz=124
C36M Paulatuk 29.00 2 P P 17 30 33.0 -0.9
C36M Paulatuk 29.00 2 P P 17 30 33.9 0.0
baz=184
F26K Sheenjek River 29.00 346 P P 17 30 35.6 +1.5
baz=152,SNR=9.2
E27K Coleen River 29.01 348 P P 17 30 35.6 +1.5
baz=156
E28M Babbage River 29.11 350 P P 17 30 35.7 +0.8
baz=159
J19K Poorman 29.14 334 P P 17 30 35.6 +0.4
baz=130
H22K Ishtalitna Cre 29.17 339 P P 17 30 36.1 +0.5
baz=139
J18K Innoko River 29.18 332 P P 17 30 35.9 +0.2
baz=128,SNR=6.9
F25K Christian Rive 29.20 345 P P 17 30 36.4 +0.6
baz=149
L16K Owhat River 29.23 328 P P 17 30 36.0 -0.1
L16K Owhat River 29.23 328 P P 17 30 37.3 +1.2
baz=122,SNR=21
M15K Kasigluk River 29.24 325 P P 17 30 36.6 +0.5
baz=118
K17K Iditarod 29.32 330 IAmb IAmb 17 30 38.5
comp=Z,26nm,0.9s
K17K Iditarod 29.32 330 P P 17 30 37.9 +1.0
baz=125,SNR=7.4
N14K Kuskokwak Cree 29.33 324 P P 17 30 37.6 +0.7
baz=116
H21K Melozitna Rive 29.40 338 P P 17 30 38.0 +0.5
baz=136
G23K Bananza Creek 29.45 341 IAmb IAmb 17 30 40.4
comp=Z,26nm,1.1s
G23K Bananza Creek 29.45 341 P P 17 30 39.4 +1.3
baz=142
F24K Squaw Lake 29.61 343 P P 17 30 40.5 +1.1
baz=146
E25K Arctic Village 29.64 346 P P 17 30 41.0 +1.3
baz=150,SNR=7.4
D28M Stokes Point 29.69 351 P P 17 30 40.6 +0.6
baz=161
SFIN Lafayette 29.74 77 IAmb IAmb 17 30 49.5
comp=Z,31nm,0.8s
SFIN Lafayette 29.74 77 P P 17 30 41.0 +0.1
baz=283
OXF Oxford 29.77 90 P P 17 30 41.7 +0.6
baz=292
M14K Bethel 29.82 325 P P 17 30 41.3 +0.1
M14K IAmb IAmb 17 30 45.0
comp=Z,37nm,1.1s
M14K Bethel 29.82 325 P P 17 30 41.3 +0.1
baz=117,SNR=6.7
H20K Anotleneega Mo 29.89 336 P P 17 30 43.1 +1.2
baz=133,SNR=8.2
D27M Malcolm River 29.90 350 IAmb IAmb 17 30 45.6
comp=Z,46nm,1.9s
D27M Malcolm River 29.90 350 P P 17 30 43.2 +1.2
baz=158
COLD Coldfoot 29.90 342 P P 17 30 42.5 +0.6
baz=142,SNR=8.4
IMAR Indian Mountai 29.90 338 P P 17 30 40.9 -1.1
UNV Unalaska Valle 29.98 310 P P 17 30 46.2 +3.5
UNV Unalaska Valle 29.98 310 P P 17 30 43.4 +0.7
baz=100
G22K Bettles 29.99 340 P P 17 30 44.3 +1.6
baz=140
GCSA Galena City Sc 30.04 334 P P 17 30 43.9 +0.8
baz=130
L15K Ungalak Mounta 30.05 327 P P 17 30 43.8 +0.5
baz=119
G21K Allakaket 30.22 339 P P 17 30 45.3 +0.5
baz=136
M13K Dall Lake 30.29 324 P P 17 30 45.8 +0.4
baz=115
K15K Wolf Creek Mou 30.37 328 IAmb IAmb 17 31 28.1
comp=Z,72nm,1.8s
K15K Wolf Creek Mou 30.37 328 P P 17 30 46.2 +0.1
baz=120
WVT Waverly 30.39 86 P P 17 30 45.6 -1.0
WVT IAmb IAmb 17 30 55.8
comp=Z,41nm,1.4s
WVT Waverly 30.39 86 P P 17 30 48.2 +1.6
baz=290
WVT Waverly 30.39 86 P P 17 30 48.4 +1.7
baz=290,SNR=5.5
WVT Waverly 30.39 86 P P 17 30 45.6 -1.0
WVT pmax pmax
comp=Z,41nm,1.4s
L14K Kuka Creek 30.40 326 P P 17 30 45.7 -0.7
L14K IAmb IAmb 17 30 47.6
comp=Z,39nm,1.1s
L14K Kuka Creek 30.40 326 P P 17 30 46.5 +0.2
baz=117,SNR=8.7
H19K Roundabout Mou 30.40 336 P P 17 30 46.8 +0.5
baz=131
E23K Chandalar 30.43 343 P P 17 30 48.2 +1.5
baz=144,SNR=18
J16K Anvik River 30.51 330 IAmb IAmb 17 30 49.0
comp=Z,26nm,1.1s
J16K Anvik River 30.51 330 P P 17 30 47.5 +0.1
baz=122,SNR=13
F22K John River 30.60 341 P P 17 30 48.7 +0.5
baz=140
N47A Urbana 30.67 76 IAmb IAmb 17 30 57.4
comp=Z,23nm,0.9s
F21K Alatna River 30.73 340 P P 17 30 49.8 +0.5
baz=137
H18K Honhosa River 30.79 334 IAmb IAmb 17 31 07.2
comp=Z,27nm,1.4s
H18K Honhosa River 30.79 334 P P 17 30 49.6 -0.2
baz=128
D25K Kavik River 30.83 346 P P 17 30 51.1 +0.8
baz=150
E46A Sault Ste Mari 30.86 65 P P 17 30 55.1 +4.5
baz=274,SNR=6.7
I17K Unalakleet 30.87 331 P P 17 30 51.1 +0.6
baz=123

WCI Wyandotte Cave 30.90 81 P **P** 17 30 51.3 +0.2
baz=287
E22K Anaktuvuk Pass 31.00 342 IAmb IAmb 17 30 53.9
comp=Z,26nm,1.1s
E22K Anaktuvuk Pass 31.00 342 P **P** 17 30 53.0 +1.3
baz=141
G19K Purcell Mounta 31.01 336 P **P** 17 30 51.6 -0.1
baz=131
D24K Happy Valley 31.16 345 IAmb IAmb 17 30 55.5
comp=Z,23nm,1.2s
D24K Happy Valley 31.16 345 P **P** 17 30 55.0 +1.9
baz=146
H17K Granite Mounta 31.18 333 P **P** 17 30 53.0 -0.3
baz=126
P48A Milroy 31.21 78 IAmb IAmb 17 31 02.4
comp=Z,23nm,0.9s
O48B Farmland 31.21 77 P **P** 17 30 54.8 +1.0
baz=284
F20K Avaraart Lake 31.22 338 P **P** 17 30 53.0 -0.6
baz=134
G18K Tagagawik 31.34 335 P **P** 17 30 55.3 +0.6
baz=129,SNR=5.2
L48A N Adams 31.38 73 IAmb IAmb 17 31 05.0
comp=Z,27nm,0.9s
D23K Nanushuk River 31.39 343 P **P** 17 30 57.0 +1.9
baz=143
J14K Nanvaranak Lak 31.41 328 P **P** 17 30 56.0 +0.8
baz=118
M11K Mekoryuk 31.58 323 P **P** 17 30 56.6 -0.2
baz=111
X48A Hartselle 31.60 88 P **P** 17 30 58.4 +1.1
baz=293,SNR=11
C24K Franklin Bluff 31.61 345 P **P** 17 30 57.8 +0.9
baz=147
A36M Sachs Harbour 31.64 1 P **P** 17 30 56.8 -0.4
A36M IAmb IAmb 17 31 08.3
comp=Z,16nm,0.9s
A36M Sachs Harbour 31.64 1 P **P** 17 30 58.4 +1.2
baz=182,SNR=8.1
F19K Shaleruckik Mo 31.67 337 P **P** 17 30 57.4 -0.2
baz=131
P49A Miami Univ. Ec 31.72 78 IAmb IAmb 17 31 06.3
comp=Z,35nm,1.0s
P49A Miami Univ. Ec 31.72 78 P **P** 17 30 59.3 +0.9
baz=285
G17K Kiwalik Mounta 31.77 334 P **P** 17 30 58.5 0.0
baz=126
D22K Ayikyak River 31.78 342 IAmb IAmb 17 31 00.9
comp=Z,26nm,1.2s
D22K Ayikyak River 31.78 342 P **P** 17 30 59.5 +1.0
baz=140
N49A Columbus Grove 31.78 75 IAmb IAmb 17 31 07.4
comp=Z,30nm,1.0s
U49A Red Boiling Sp 31.82 84 IAmb IAmb 17 31 04.8
comp=Z,25nm,1.2s
O49A Covington 31.84 77 IAmb IAmb 17 31 07.2
comp=Z,26nm,0.8s
H16K Elim 31.85 331 P **P** 17 30 59.8 +0.6
baz=122,SNR=8.7
E19K Redstone River 31.93 338 P **P** 17 31 00.8 +0.9
baz=132
LRAL Lakeview Retre 32.20 91 P **P** 17 31 03.9 +1.3
baz=295,SNR=11
LRAL Lakeview Retre 32.20 91 P **P** 17 31 04.0 +1.4
baz=295,SNR=11
G16K Koyuk River 32.30 333 P **P** 17 31 02.8 -0.2
baz=123
KKO Keanakako`i 32.42 238 P **P** 17 31 03.3 -1.5
C21K Knifeblade Rid 32.48 342 P **P** 17 31 05.2 +0.5
baz=138
F17K Baldwin Pennin 32.52 335 IAmb IAmb 17 31 07.2
comp=Z,31nm,0.9s
F17K Baldwin Pennin 32.52 335 P **P** 17 31 05.8 +0.9
baz=126
W50A Signal Mountai 32.64 86 P **P** 17 31 08.0 +1.5
baz=292,SNR=8.0
FPAL Fort Paine 32.66 87 IAmb IAmb 17 31 13.9
comp=Z,24nm,1.0s
G15K Niukluk 32.69 331 P **P** 17 31 07.2 +0.6
baz=120,SNR=7.2
B21K Ikpikpuk River 32.79 342 P **P** 17 31 07.8 +0.5
baz=138
ACSO Alum Creek Sta 32.83 76 P **P** 17 31 08.3 +0.2
baz=285
D19K Kuna River 32.87 339 P **P** 17 31 08.5 +0.3
baz=132
P51A Williamsport 32.97 77 IAmb IAmb 17 31 17.6
comp=Z,30nm,0.8s
ANM Nome 32.98 330 P **P** 17 31 09.1 0.0
ANM Nome 32.98 330 P **P** 17 31 09.9 +0.8
baz=118,SNR=8.4
ANM Nome 32.98 330 P **P** 17 31 09.1 0.0
ANM pmax pmax
comp=Z,14nm,1.0s
B22K Teshekpuk Lake 33.07 344 IAmb IAmb 17 31 11.8
comp=Z,35nm,1.1s
B22K Teshekpuk Lake 33.07 344 P **P** 17 31 11.1 +1.3
baz=141
E17K Hotham Inlet 33.08 335 P **P** 17 31 10.8 +0.9
baz=126,SNR=5.7
N51A Ashland 33.11 75 IAmb IAmb 17 31 18.5
comp=Z,22nm,0.9s
S51A Beattyville 33.11 81 IAmb IAmb 17 31 20.8
comp=Z,15nm,0.8s
CPCT Cooper Cave 33.15 85 IAmb IAmb 17 31 16.4
comp=Z,32nm,1.1s
X51A Calhoun 33.23 87 IAmb IAmb 17 31 23.5
comp=Z,34nm,0.9s
F15K North Star Dit 33.27 332 IAmb IAmb 17 31 13.9
comp=Z,25nm,1.2s
F15K North Star Dit 33.27 332 P **P** 17 31 12.6 +1.0
baz=121
TZTN Tazewell 33.50 83 P **P** 17 31 15.1 +1.1
baz=290
P52A Corning 33.62 77 P **P** 17 31 16.6 +1.7
baz=286
TKL Tuckaleechee C 33.64 84 IAmb IAmb 17 31 23.5
comp=Z,18nm,0.9s
TKL Tuckaleechee C 33.64 84 LR LR 17 44 46.1
comp=Z,366nm,21.1s,baz=294,slow=36
B20K Meade River 33.68 341 P **P** 17 31 16.1 +1.0
baz=135
C19K Lookout Ridge 33.68 339 IAmb IAmb 17 31 17.1
comp=Z,32nm,1.4s
C19K Lookout Ridge 33.68 339 P **P** 17 31 15.9 +0.7
baz=131,SNR=15
O52A Adamsville 33.71 76 IAmb IAmb 17 31 24.1
comp=Z,22nm,0.9s
F14K Arctic Creek 33.77 331 P **P** 17 31 17.2 +1.3
baz=118,SNR=6.4
C18K Utukok River 33.84 338 IAmb IAmb 17 31 17.8
comp=Z,20nm,0.9s
C18K Utukok River 33.84 338 P **P** 17 31 17.1 +0.5
baz=129
A22K Sinclair Lake 33.91 344 P **P** 17 31 17.9 +0.8
baz=139
O53A New Philadelph 34.13 75 P **P** 17 31 20.7 +1.3
baz=285
M53A WI Miller and 34.23 73 P **P** 17 31 22.0 +1.7
baz=284
N53A Lisbon 34.27 74 IAmb IAmb 17 31 34.9
comp=Z,19nm,1.1s
C17K DeLong Mountai 34.31 337 P **P** 17 31 21.0 +0.4
baz=126,SNR=14
TNA Tin City 34.40 331 P **P** 17 31 22.3 +0.9
baz=116
ATKA Atka Island 34.45 306 P **P** 17 31 21.4 -0.5
ATKA Atka Island 34.45 306 P **P** 17 31 22.3 +0.3
B18K Kokolik River 34.45 339 P **P** 17 31 22.4 +0.6
baz=129
A21K Barrow 34.51 343 P **P** 17 31 23.2 +0.9
baz=138,SNR=13
SADO Sadowa 34.65 67 LR LR 17 45 21.7
comp=Z,794nm,18.3s,baz=266,slow=36
A19K Wainwright 34.80 340 P **P** 17 31 25.4 +0.6
baz=131
C16K Lisburne Hills 34.86 336 IAmb IAmb 17 31 27.0
comp=Z,20nm,0.8s
C16K Lisburne Hills 34.86 336 P **P** 17 31 26.1 +0.7
baz=123,SNR=14
GAMB Gambell 35.20 327 P **P** 17 31 28.9 +0.7
baz=110
MCWV Mont Chateau 35.31 76 P **P** 17 31 31.0 +1.5
baz=287
VLDQ Val d'Or 35.35 61 IAmb IAmb 17 31 36.5
comp=Z,37nm,1.1s
TIGA Tifton 35.50 91 P **P** 17 31 33.0 +1.8
baz=297

WVNY West Valley, N 35.51 71 IAmb IAmb 17 31 36.5
comp=Z,46nm,1.1s
V55A Taylorsville 35.51 83 IAmb IAmb 17 31 40.3
comp=Z,26nm,0.8s
R55A Marlinton 35.52 78 P **P** 17 31 33.3 +1.9
baz=288
R55A P **P** 17 31 33.3 +1.9
baz=288
GSTR Great Sitkin T 35.60 306 P **P** 17 31 32.4 +0.5
M55A Ridgway 35.62 72 IAmb IAmb 17 31 41.0
comp=Z,38nm,1.0s
BLA Blacksburg 35.64 80 P **P** 17 31 33.6 +1.1
baz=290
KMSC Kings Mountain 35.69 84 P **P** 17 31 33.8 +0.9
baz=292
CMIG Matias Romero 35.79 121 LR LR 17 47 11.1
comp=Z,652nm,20.4s,baz=332,slow=38
L56A Greenwood 36.33 71 P **P** 17 31 39.9 +1.6
baz=284
L56A P **P** 17 31 39.9 +1.6
baz=284
SSPA Standing Stone 36.48 73 P **P** 17 31 39.5 -0.1
SSPA IAmb IAmb 17 31 47.9
comp=Z,34nm,1.1s
SSPA Standing Stone 36.48 73 P **P** 17 31 40.8 +1.2
baz=286
SSPA Standing Stone 36.48 73 P **P** 17 31 40.7 +1.2
baz=286
P57A Homestead Farm 36.71 75 IAmb IAmb 17 31 50.5
comp=Z,30nm,0.8s
P57A Homestead Farm 36.71 75 P **P** 17 31 43.2 +1.6
baz=287
P57A P **P** 17 31 43.2 +1.6
baz=287
V58A Windy Hill, Pi 37.12 82 IAmb IAmb 17 31 53.8
comp=Z,33nm,0.8s
J57A Williamstown 37.14 68 IAmb IAmb 17 31 59.3
comp=Z,26nm,1.1s
RES Resolute Bay 37.27 13 P **P** 17 31 45.7 -0.2
RES IAmb IAmb 17 31 54.0
comp=Z,26nm,0.9s
RES Resolute Bay 37.27 13 P **P** 17 31 45.7 -0.2
RES pmax pmax
comp=Z,26nm,0.9s
RES Resolute Bay 37.27 13 LR LR 17 46 11.3
comp=Z,334nm,19.0s,baz=202,slow=35
WBO Williamsburg 37.31 66 IAmb IAmb 17 31 55.1
comp=Z,48nm,1.1s
BINY Binghamton 37.44 70 P **P** 17 31 48.9 +1.1
baz=285
LONY Lake Ozonia 37.87 66 P **P** 17 31 53.0 +1.6
baz=282
T59A Double "B" Far 37.87 79 IAmb IAmb 17 32 00.4
comp=Z,46nm,0.8s
TEIG Tepich 38.17 110 LR LR 17 50 15.6
comp=Z,2µm,18.7s,baz=77,slow=40
ODNJ Ogdensburg 38.74 72 IAmb IAmb 17 32 07.9
comp=Z,41nm,1.1s
LBNH Lisbon 39.81 66 IAmb IAmb 17 32 17.4
comp=Z,29nm,0.8s
LBNH Lisbon 39.81 66 P **P** 17 32 08.8 +1.1
baz=284
LMQ La Malbaie 40.18 61 P **P** 17 32 09.5 -1.1
LMQ IAmb IAmb 17 32 19.8
comp=Z,35nm,1.0s
FRB Frobisher Bay 40.59 35 LR LR 17 48 57.7
comp=Z,561nm,18.6s,baz=256,slow=36
SCHQ Schefferville 41.34 49 IAmb IAmb 17 32 27.9
comp=Z,51nm,1.1s
SCHQ Schefferville 41.34 49 P **P** 17 32 19.8 -0.4
comp=Z,20nm,1.0s,baz=280,slow=7.6,SNR=15
SCHQ LR LR 17 50 52.0
comp=Z,376nm,18.2s,baz=264,slow=38
comp=Z,20nm,1.0s
SHEM Shmya Is, Ala 41.56 308 LR LR 17 45 20.0
comp=Z,255nm,20.8s,baz=126,slow=30
EUNU Eureka 42.45 10 P **P** 17 32 29.6 +0.6
BATG Bathurst New B 43.07 60 IAmb IAmb 17 32 42.8
comp=Z,49nm,0.9s
BILL Bilibino 44.84 331 *e*P **P** 17 32 47.8 -0.4
UPNV Upernavik 46.09 23 *e*P **P** 17 32 58.7 +0.7
JTS Las Juntas de 47.32 118⇓*e*P **P** 17 33 09.3 +0.9
JTS Las Juntas de 47.32 118 LR LR 17 55 03.7
comp=Z,208nm,18.8s,baz=304,slow=39
NEEM North Greenlan 47.72 17 *i* P **P** 17 33 10.8 -0.3
NEEM IAmb IAmb 17 33 19.4
comp=Z,14nm,0.7s
SFJD Kangerlussuaq 48.10 31 P **P** 17 33 11.9 -1.9
SFJD Kangerlussuaq 48.10 31 P **P** 17 33 11.9 -1.9
SFJD pmax pmax
comp=Z,137nm,1.9s
SFJD Kangerlussuaq 48.10 31 LR LR 17 51 34.6
comp=Z,319nm,20.1s,baz=279,slow=34
SFJD Kangerlussuaq 48.10 31 *i* P **P** 17 33 13.9 +0.1
SFJD IAmb IAmb 17 33 22.7
comp=Z,18nm,0.8s
DY2G Dye2 49.88 31 *i* P **P** 17 33 28.3 +0.5
DY2G IAmb IAmb 17 33 36.4
comp=Z,36nm,0.7s
TAOE Nuku Hiva Isla 50.67 198 P **P** 17 33 34.1 0.0
TAOE Nuku Hiva Isla 50.67 198 *e*LR LR 17 47 56.8
comp=Z,506nm,24.2s
SEY Seymchan 51.12 324⇓*e*P **P** 17 33 35.3 -1.7
SEY pmax pmax
comp=Z,3.0nm,1.1s
SEY Seymchan 51.12 324 LR LR 17 53 58.2
comp=Z,564nm,18.2s,baz=56,slow=35
PETK Petropavlovsk- 51.15 311 P **P** 17 33 36.1 -1.2
PETK Petropavlovsk- 51.15 311 P **P** 17 33 36.6 -0.7
comp=Z,9.1nm,0.9s,baz=76,slow=12,SNR=4.3
PETK LR LR 17 51 51.8
comp=Z,225nm,20.9s,baz=35,slow=32
comp=Z,9.1nm,0.9s
SUMG Summit 51.36 23 P **P** 17 33 38.6 -0.5
SUMG Summit 51.36 23 P **P** 17 33 38.6 -0.5
SUMG pmax pmax
comp=Z,38nm,0.8s
SUMG Summit 51.36 23 *i* P **P** 17 33 39.0 -0.1
SUMG IAmb IAmb 17 33 47.7
comp=Z,25nm,0.7s
ICESG Greenland Ices 51.78 27 *i* P **P** 17 33 42.2 -0.1
ICESG IAmb IAmb 17 33 50.5
comp=Z,24nm,0.9s
MA2 Magadan 52.81 321 LR LR 17 53 04.9
comp=Z,357nm,19.4s,baz=82,slow=32
SJG San Juan 55.94 95 LR LR 18 00 46.2
comp=Z,156nm,18.6s,baz=338,slow=39
TIXI Tiksi 56.55 338⇓*e*P **P** 17 34 15.3 -1.2
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 56.55 338 LR LR 17 58 21.7
comp=Z,512nm,19.5s,baz=63,slow=36
SDV Santo Domingo 58.42 107 LR LR 18 03 29.8
comp=Z,125nm,19.0s,baz=15,slow=40
KBS Kingsbay 58.42 9 P **P** 17 34 30.2 +0.6
KBS Kingsbay 58.42 9 P **P** 17 34 30.2 +0.6
KBS pmax pmax
comp=Z,82nm,1.8s
ROSC El Rosal 58.54 113 LR LR 18 04 41.8
comp=Z,198nm,18.0s,baz=258,slow=41
SPITS Spitsbergen Ar 59.54 8 P **P** 17 34 37.0 -0.5
SPITS Spitsbergen Ar 59.54 8 P **P** 17 34 37.0 -0.5
comp=Z,15nm,0.9s,baz=354,slow=13,SNR=3.1
comp=Z,15nm,0.9s
H11N3 WAKE ISLAND Hy 59.94 271 T T 18 39 26.1
baz=53,slow=75,SNR=59
H11N2 WAKE ISLAND Hy 59.94 271 T T 18 39 35.5
baz=53,slow=75,SNR=38
H11N1 WAKE ISLAND Hy 59.96 271 T T 18 39 36.7
baz=53,slow=75,SNR=44
BORG Borgarnes 60.09 29 LR LR 18 00 56.0
comp=Z,607nm,18.1s,baz=298,slow=36
BAUV El Baul 60.28 104 P **P** 17 34 42.1 -1.3
COHC Cochancay 60.57 123 P **P** 17 34 44.6 -0.7
YAK Yakutsk 61.12 328 P **P** 17 34 47.4 -1.0
YAK IAmb IAmb 17 34 56.9
comp=Z,21nm,0.9s
YAK Yakutsk 61.12 328 *e*P **P** 17 34 47.7 -0.7
YAK *e**PP **pwP** 17 34 53.7 +0.3
YAK *e* 17 35 31.2
YAK *e* 17 37 02.2
YAK *e*S **S** 17 43 07.7 +0.2
YAK *e**SS sS 17 43 32.3 +22
YAK *e* 17 44 41.5
YAK *e*SS **SS** 17 47 11.1 +4.7
YAK pmax pmax
comp=Z,13nm,1.0s

YAK pmax pmax
comp=N,2.0nm,1.4s
YAK pmax pmax
comp=E,8.0nm,2.0s
YAK pmax pmax
comp=Z,260nm,6.2s
YAK pmax pmax
comp=E,270nm,6.2s
YAK pmax pmax
comp=N,453nm,7.4s
YAK smax smax
comp=E,529nm,7.2s
YAK smax smax
comp=N,350nm,5.5s
YAK MLR MLR
comp=Z,191nm,16.0s
YAK MLR MLR
comp=N,152nm,24.0s
YAK MLR MLR
comp=E,98nm,11.0s
YAK Yakutsk 61.12 328 LR LR 17 59 02.9
comp=E,435nm,18.7s,baz=32,slow=34
MCRA Macar, Loja 61.59 125 IAmb IAmb 17 35 00.5
comp=Z,11nm,1.2s
PPT Papeete 61.61 205 LR LR 17 55 36.8
comp=Z,244nm,20.4s,baz=0.0,slow=30
PPT2 Papeete2 61.63 205 *e*LR LR 17 52 53.7
comp=Z,300nm,29.0s
PPT2 *e*LR LR 17 52 53.7
comp=Z,295nm,21.8s
PCRV Puerto La Cruz 62.02 101 LR LR 18 05 20.2
comp=Z,196nm,19.5s,slow=39
ATAH Atahualpa 64.70 125 LR LR 18 03 09.8
comp=Z,194nm,18.3s,baz=340,slow=36
ZEA Zeya 66.93 322 *e*P **P** 17 35 29.8 +3.1
TBI Tubuai 67.00 203 *e*LR LR 17 55 23.1
comp=Z,2µm,32.0s
KLR Kul'dur 67.36 316 LR LR 18 01 56.5
comp=Z,212nm,19.8s,baz=12,slow=33
NRIK Noril'sk 67.72 348 IAmb IAmb 17 35 38.7
comp=Z,14nm,0.9s
NRIK Noril'sk 67.72 348 *ce*P **P** 17 35 31.2 -0.3
NRIK pmax pmax
comp=Z,18nm,1.0s
NRIK Noril'sk 67.72 348 P **P** 17 35 30.7 -0.8
comp=Z,5.4nm,0.9s,baz=28,slow=4.1,SNR=10
comp=Z,5.4nm,0.9s
ARCES ARCESS Array B 68.41 10 P **P** 17 35 34.9 -0.9
comp=Z,1.7nm,0.8s,baz=352,slow=5.5,SNR=0.9
ARCES LR LR 18 04 49.6
comp=Z,255nm,20.6s,baz=132,slow=35
comp=Z,1.7nm,0.8s
RAR Rarotonga 68.77 213 LR LR 17 59 25.1
comp=Z,349nm,21.2s,baz=326,slow=30
HEH HeiHe 68.99 319 *e*P **P** 17 35 43.8 +4.1
HEH pmax pmax
comp=Z,9.0nm,1.1s
NNA Nana 69.43 127 P **P** 17 35 41.8 -1.1
NNA Nana 69.43 127 P **P** 17 35 41.8 -1.1
NNA pmax pmax
comp=Z,33nm,1.0s
USRK Ussuriysk Ar. 70.24 312 P **P** 17 35 47.3 -0.3
comp=Z,9.2nm,0.9s,baz=53,slow=7.0,SNR=6.0
USRK LR LR 18 05 16.4
comp=Z,204nm,18.6s,baz=4.8,slow=35
comp=Z,9.2nm,0.9s
MAJO Matsushiro 71.04 302⇑*e*P **P** 17 35 52.1 -0.5
MAJO pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 71.04 302 P **P** 17 35 51.0 -1.6
comp=Z,3.8nm,0.9s,baz=40,slow=5.6,SNR=5.1
MJAR LR LR 18 01 16.4
comp=Z,181nm,19.8s,baz=353,slow=31
comp=Z,3.8nm,0.9s
LVZ Lovozero 71.05 7⇓*e*P **P** 17 35 50.5 -1.6
LVZ pmax pmax
comp=Z,73nm,1.8s
BNX BinXian 71.83 315 ⇓P **P** 17 36 02.0 +4.8
BNX pmax pmax
comp=Z,16nm,1.8s
BNX pmax pmax
comp=Z,610nm,4.9s
EKA Eskdalemuir Ar 73.06 30 P **P** 17 36 04.4 0.0
comp=Z,1.5nm,0.8s,baz=337,slow=5.1,SNR=2.3
comp=Z,1.5nm,0.8s
NB2 NORSAR Subarra 73.14 20 P **P** 17 36 05.0 +0.2
comp=Z,23nm,1.4s,baz=328,slow=5.6
NB2 NORSAR Subarra 73.14 20 P **P** 17 36 05.0 +0.2
baz=328,slow=5.6
NOA NORSAR Array B 73.14 20 P **P** 17 36 04.8 0.0
comp=Z,2.3nm,0.7s,baz=330,slow=5.7,SNR=2.1
NOA LR LR 18 07 03.1
comp=Z,227nm,19.2s,baz=330,slow=35
comp=Z,2.3nm,0.7s
JCJ Chichijima 74.00 292 LR LR 18 00 59.7
comp=Z,208nm,20.2s,baz=34,slow=30
CN2 Changchun 74.15 314 P **P** 17 36 12.8 +1.8
CN2 pmax pmax
comp=Z,10.0nm,1.3s
MDP Montagnes des 74.33 97 LR LR 18 12 38.2
comp=Z,200nm,20.1s,baz=296,slow=39
HFS Hors 74.55 19 P **P** 17 36 12.9 -0.1
comp=Z,6.5nm,0.8s,baz=343,slow=4.5,SNR=5.3
HFS LR LR 18 08 07.2
comp=Z,427nm,18.4s,baz=336,slow=35
comp=Z,6.5nm,0.8s
FINES FINESS Array B 76.03 13 P **P** 17 36 20.8 -0.7
comp=Z,2.8nm,0.6s,baz=352,slow=4.1,SNR=11
comp=Z,2.8nm,0.6s
SAML Samuel 76.10 115 P **P** 17 36 20.0 -2.5
SAML IAmb IAmb 17 36 29.3
comp=Z,16nm,0.9s
SAML Samuel 76.10 115 P **P** 17 36 20.0 -2.5
SAML pmax pmax
comp=Z,16nm,0.9s
KSRS Korea Array 76.89 308 P **P** 17 36 25.6 -1.2
comp=Z,2.4nm,0.9s,baz=53,slow=4.1,SNR=4.7
KSRS LR LR 18 05 36.4
comp=Z,94nm,21.2s,baz=320,slow=32
comp=Z,2.4nm,0.9s
KSAR Wonju Array Be 76.92 308 P **P** 17 36 25.7 -1.3
KSAR Wonju Array Be 76.92 308 P **P** 17 36 25.7 -1.3
TJN Taejon 77.94 308 P **P** 17 36 31.8 -0.9
TJN Taejon 77.94 308 P **P** 17 36 31.8 -0.9
TJN pmax pmax
comp=Z,1µm,2.0s
KLMR Klimovskoe 78.41 7 *e*P **P** 17 36 33.5 -1.3
KLMR pmax pmax
comp=Z,50nm,1.2s
PB12 IPOC Station P 78.50 127 IAmb IAmb 17 36 44.0
comp=Z,24nm,0.9s
ZAK Zakamensk 79.63 330 *e*P **P** 17 36 40.4 -1.5
ZAK pmax pmax
comp=Z,4.0nm,1.3s
PB08 IPOC Station P 80.38 127 IAmb IAmb 17 36 54.9
comp=Z,19nm,0.9s
GUMO Guam 80.39 280 LR LR 18 03 55.3
comp=Z,126nm,21.6s,baz=56,slow=29
SONM Songino Array 80.43 327 P **P** 17 36 46.0 -0.3
SONM Songino Array 80.43 327 P **P** 17 36 46.0 -0.3
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 80.43 327 P **P** 17 36 45.1 -1.2
comp=Z,2.8nm,0.9s,baz=46,slow=2.9,SNR=14
SONM LR LR 18 12 29.9
comp=Z,319nm,18.9s,baz=7.5,slow=36
comp=Z,2.8nm,0.9s
PB01 IPOC Station P 80.86 128 IAmb IAmb 17 36 56.8
comp=Z,23nm,1.1s
KIRV Kirov 81.28 2⇑*e*P **P** 17 36 49.7 -0.7
CLL Collm 82.00 24 *e*P **P** 17 36 55.0 +0.6
CLL *i* 17 37 00.8
CLL pmax pmax
comp=Z,43nm,1.9s
CLL Collm 82.00 24 *e*P **P** 17 36 55.0 +0.6
comp=Z,43nm,1.9s
CLL *i* PcP **PcP** 17 37 00.8 +0.9
comp=Z,21nm,1.6s
CLL *i* x x 17 37 05.7
CLL *e*PP **PP** 17 40 02.0 +0.8
ZALV Zalesovo Beam 82.23 342 *i* P **P** 17 36 55.9 +0.3
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 82.23 342 P **P** 17 36 55.0 -0.6
comp=Z,2.9nm,0.9s,baz=39,slow=5.5,SNR=10
ZALV LR LR 18 15 16.2
comp=Z,327nm,18.5s,baz=6.0,slow=37
comp=Z,2.9nm,0.9s

LVC	Limon Verde	82.39	128	P		P	17 36 56.7	-0.5	
	comp=Z,4.6nm,0.7s,baz=270,slow=5.1,SNR=4.5								
	comp=Z,4.6nm,0.7s								
SIV	San Ignacio	82.54	118	P		P	17 36 57.4	-0.2	
	comp=Z,9.6nm,0.6s,baz=301,slow=5.1,SNR=42								
SIV				LR		LR	18 17 55.1		
	comp=Z,169nm,18.1s,baz=330,slow=39								
	comp=Z,9.6nm,0.6s								
BRG	Berggiesshubel	82.67	24	eP		P	17 37 00.8	+2.9	
BRG				Amp			17 37 06.5		
	comp=Z,26nm,1.3s								
BRG	Berggiesshubel	82.67	24	eP		P	17 37 00.8	+2.9	
BRG				pmax	pmax				
	comp=Z,26nm,1.3s								
NKC	Novy Kostel	82.75	25	eP		P	17 37 03.1	+4.7	
NKC	Novy Kostel	82.75	25	eP		P	17 37 03.1	+4.7	
GRF	Grafenberg Arr	82.81	26	eP		P	17 37 03.2	+4.6	
	comp=Z,7.3nm,0.9s,baz=334,slow=4.6								
SVE	Sverdlovsk	82.92	356	eP		P	17 36 59.3	+0.2	
SVE				pmax	pmax				
	comp=Z,13nm,1.1s								
ARU	Arti	83.41	357	P		P	17 36 59.3	-2.4	
ARU				IAmb	IAmb		17 37 08.5		
	comp=Z,8.8nm,0.7s								
ARU	Arti	83.41	357	*c iP*		P	17 37 00.2	-1.5	
ARU							17 40 08.9		
ARU				S		S	17 47 21.9	-1.0	
ARU				SS		SS	17 52 48.9	+2.3	
ARU				pmax	pmax				
	comp=Z,22nm,2.8s								
HHC	Hu-ho-hao-te	83.48	320	eP		P	17 37 00.0	-2.5	
HHC				pmax	pmax				
	comp=Z,49nm,0.8s								
HHC				pmax	pmax				
	comp=Z,550nm,4.7s								
PRU	Pruhonice	83.63	24	epP		pP	17 37 10.1	+5.7	
PRU	Pruhonice	83.63	24	eP		P	17 37 10.1	+7.2	
OBN	Obninsk	83.71	10	⇑ *iP*		P	17 37 04.3	+1.1	
OBN				*e*			17 37 07.8		
OBN				*i*			17 37 10.8		
OBN				*e*			17 48 41.5		
OBN				pmax	pmax				
	comp=Z,43nm,1.7s								
OBN				MLR	MLR				
	comp=Z,171nm,17.0s								
DPC	Dobruska-Polom	83.85	23	eP		P	17 37 05.9	+1.8	
DPC	Dobruska-Polom	83.85	23	eP		P	17 37 05.9	+1.8	
HNR	Honiara	83.89	252	LR		LR	18 11 44.4		
	comp=Z,1μm,18.1s,baz=26,slow=34								
ZVC	Zvikov	84.00	25	eP		P	17 37 07.6	+2.8	
KHC	Kasperske Hory	84.07	25	eP		P	17 37 07.9	+2.7	
KHC	Kasperske Hory	84.07	25	eP		P	17 37 07.9	+2.7	
RAO	Raoul Island	84.22	223	LR		LR	18 12 19.4		
	comp=Z,110nm,18.2s,baz=20,slow=34								
GEC2	GERESS Array S	84.36	25	P		P	17 37 05.6	-1.2	
GEC2				IAmb	IAmb		17 37 14.5		
	comp=Z,29nm,1.8s								
GERES	GERESS Array B	84.36	25	P		P	17 37 07.0	+0.2	
	comp=Z,1.7nm,0.8s,baz=348,slow=6.0,SNR=8.6								
GERES				LR		LR	18 16 17.3		
	comp=Z,509nm,18.5s,baz=327,slow=37								
	comp=Z,1.7nm,0.8s								
DAVA	Damuels	84.39	28	ePcP		P	17 37 09.3	+2.3	
	comp=Z,15nm,1.4s								
HNS	HongShan	84.45	316	eP		P	17 37 09.0	+1.7	
RETA	Reutte	84.53	28	ePcP		P	17 37 09.8	+2.1	
	comp=Z,11nm,1.3s								
ESDC	Sonseca Array	84.55	41	P		P	17 37 06.7	-1.2	
ESDC				IAmb	IAmb		17 37 16.7		
	comp=Z,11nm,1.1s								
ESDC	Sonseca Array	84.55	41	P		P	17 37 08.5	+0.7	
	comp=Z,6.0nm,1.1s,baz=302,slow=4.3,SNR=11								
	comp=Z,6.0nm,1.1s								
CKRC	Cesky Krumlov	84.58	25	eP		P	17 37 14.2	+6.4	
CKRC	Cesky Krumlov	84.58	25	eP		P	17 37 14.2	+6.4	
MORC	Moravsky Berou	84.72	23	IAmb		IAmb	17 37 17.0		
	comp=Z,14nm,1.1s								
MORC	Moravsky Berou	84.72	23	eP		P	17 37 10.3	+1.8	
MOTA	Moosalm	84.77	27	ePcP		P	17 37 11.1	+2.1	
	comp=Z,20nm,1.4s								
DAVOX	Davos/Dischmat	84.82	28	LR		LR	18 16 24.3		
	comp=Z,328nm,18.9s,baz=345,slow=37								
VRAC	Vranov	84.86	23	eP		P	17 37 11.2	+2.0	
VRAC	Vranov	84.86	23	LR		LR	18 15 34.6		
	comp=Z,321nm,18.7s,baz=332,slow=36								
SQTA	Sankt Quirin	84.92	27	ePcP		P	17 37 11.2	+1.5	
	comp=Z,23nm,1.0s								
FETA	Feichten	84.92	28	epP		P	17 37 10.5	+0.8	
	comp=Z,16nm,1.9s								
WATA	Walderalm	84.95	27	ePcP		P	17 37 11.9	+2.1	
	comp=Z,27nm,1.2s								
KRUC	Moravsky	85.02	24	eP		P	17 37 11.7	+1.7	
WTTA	Wattenberg	85.03	27	ePcP		PcP	17 37 12.9	-0.7	
	comp=Z,24nm,1.5s								
MAUC	Maruska	85.17	23	eP		P	17 37 13.4	+2.6	
LESA	Schwarzleotal	85.25	27	ePcP		P	17 37 13.3	+2.0	
	comp=Z,13nm,1.4s								
BIOA	Bad Ischl, Aus	85.34	26	ePcP		PcP	17 37 14.1	-0.7	
	comp=Z,21nm,1.9s								
MOA	Molln	85.41	25	ePcP		PcP	17 37 16.2	+1.1	
	comp=Z,13nm,1.4s								
H03N2	Juan Fernandez	85.56	142	T		T	19 12 02.7		
	baz=323,slow=77,SNR=7.8								
H03N1	Juan Fernandez	85.58	142	T		T	19 12 07.0		
	baz=323,slow=77,SNR=9.2								
JAVC	Velka Javorina	85.58	23	eP		P	17 37 15.7	+2.8	
H03N3	Juan Fernandez	85.58	142	T		T	19 12 11.2		
	baz=323,slow=77,SNR=8.4								
BRVK	Borovoye	85.77	350	P		P	17 37 12.9	-0.7	
BRVK				IAmb		IAmb	17 37 28.1		
	comp=Z,18nm,0.9s								
BRVK	Borovoye	85.77	350	⇓ *eP*		P	17 37 13.6	-0.1	
BRVK				pmax	pmax				
	comp=Z,11nm,1.3s								
KBA	Koelnbreinsper	85.78	26	ePcP		P	17 37 15.4	+1.4	
	comp=Z,12nm,1.7s								
ABTA	Abfaltersbach	85.78	27	ePcP		P	17 37 14.9	+0.9	
	comp=Z,14nm,1.6s								
BVAR	Borovoye Array	85.79	350	P		P	17 37 12.9	-0.9	
	comp=Z,2.9nm,0.7s,baz=9.9,slow=3.5,SNR=12								
	comp=Z,2.9nm,0.7s								
LANS	Liptovska Anna	85.84	22	eP		P	17 37 16.7	+2.6	
LANS				pmax	pmax				
	comp=Z,8.0nm,0.9s								
LANS	Liptovska Anna	85.84	22	eP		P	17 37 16.7	+2.6	
CONA	Conrad Observa	85.86	24	ePcP		PcP	17 37 16.8	-0.3	
	comp=Z,23nm,1.3s								
MODS	Modra-Piesok	85.90	23	eP		P	17 37 17.1	+2.7	
MODS				pmax	pmax				
	comp=Z,57nm,1.2s								
MODS	Modra-Piesok	85.90	23	eP		P	17 37 17.1	+2.7	
NJ2	Nanjing	86.01	309	eP		P	17 37 15.5	+0.3	
NJ2				pmax	pmax				
	comp=Z,16nm,0.5s								
RONA	Rosalia, Austr	86.19	24	epP		pP	17 37 19.4	+2.0	
	comp=Z,19nm,1.9s								
VYHS	Vyhne	86.25	22	eP		P	17 37 18.1	+2.0	
VYHS				pmax	pmax				
	comp=Z,26nm,1.8s								
VYHS	Vyhne	86.25	22	eP		P	17 37 18.1	+2.0	
MYKA	Terra Mystica	86.27	26	epP		pP	17 37 18.8	+1.0	
	comp=Z,3.0nm,0.9s								
ARSA	Arzberg	86.34	25	ePcP		P	17 37 17.1	+0.4	
	comp=Z,4.8nm,1.2s								
LPSR	Galich'ya Gora	86.47	9	eP		P	17 37 16.1	-1.0	
LPSR				pmax	pmax				
	comp=Z,30nm,0.8s								
KURK	Kurchatov	86.62	344	P		P	17 37 15.2	-2.6	
KURK	Kurchatov	86.62	344	⇑ *eP*		P	17 37 17.5	-0.4	
KURK				pmax	pmax				
	comp=Z,10.0nm,1.5s								
OBKA	Obir	86.68	26	eP		P	17 37 14.8	-3.6	
	comp=Z,9.5nm,1.1s								
SOKA	Soboth	86.69	25	eP		P	17 37 15.7	-2.7	
	comp=Z,12nm,1.7s								
KURBB	Kurchatov Arra	86.73	344	P		P	17 37 16.8	-1.6	
	comp=Z,3.8nm,0.8s,baz=17,slow=4.4,SNR=21								
	comp=Z,3.8nm,0.8s								
AKASG	Malin Array Be	86.76	15	P		P	17 37 17.9	-0.6	
	comp=Z,2.0nm,0.7s,baz=340,slow=3.9,SNR=15								
AKASG				LR		LR	18 15 58.6		
	comp=Z,308nm,21.5s,baz=359,slow=36								
	comp=Z,2.0nm,0.7s								
AKBB	Malin Array Si	86.76	15	⇑ *eP*		P	17 37 17.4	-1.1	
KIEV	Kiev	86.76	15	P		P	17 37 16.4	-2.1	
KIEV	Kiev	86.76	15	P		P	17 37 16.4	-2.1	
KIEV				pmax	pmax				
	comp=Z,26nm,1.1s								
KOLS	Kolonicke sedl	86.80	20	eP		P	17 37 21.2	+2.4	
KOLS	Kolonicke sedl	86.80	20	eP		P	17 37 21.2	+2.4	
PSZ	Piszkesteto	87.08	22	IAmb		IAmb	17 37 28.9		
	comp=Z,13nm,0.9s								
BELG	Belogornoye	87.40	4	⇓ *eP*		P	17 37 21.7	+0.1	
BELG				pmax	pmax				
	comp=Z,3.0nm,1.2s								
VORR	Voronezh	87.41	9	eP		P	17 37 24.1	+2.4	
VORR				pmax	pmax				
	comp=Z,43nm,0.4s								
VSR	Storozhevoye	87.86	9	eP		P	17 37 22.9	-0.9	
VSR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
DZM	Mont Dzumac	88.10	239	eLR		LR	18 05 15.5		
	comp=Z,663nm,23.9s								
DZM	Mont Dzumac	88.10	239	LR		LR	18 11 50.3		
	comp=Z,277nm,18.4s,baz=34,slow=32								
VRH	Novokhopyorsk	88.15	7	eP		P	17 37 28.0	+2.8	
VRH				pmax	pmax				
	comp=Z,6.0nm,0.6s								
MK31	Makanchi Array	89.47	341	P		P	17 37 30.4	-1.2	
MK31	Makanchi Array	89.47	341	P		P	17 37 30.4	-1.2	
MK31				pmax	pmax				
	comp=Z,3.0nm,1.2s								
MKAR	Makanchi Array	89.47	341	P		P	17 37 30.4	-1.2	
	comp=Z,0.8nm,0.8s,baz=40,slow=3.2,SNR=5.7								
MKAR				LR		LR	18 19 32.7		
	comp=Z,187nm,19.6s,baz=344,slow=37								
	comp=Z,0.8nm,0.8s								
MAKZ	Makanchi	89.53	341	P		P	17 37 29.9	-2.0	
MAKZ				IAmb	IAmb		17 37 39.5		
	comp=Z,7.6nm,0.9s								
MAKZ	Makanchi	89.53	341	P		P	17 37 29.9	-2.0	
MAKZ				pmax	pmax				
	comp=Z,8.0nm,1.0s								
WHN	Wuhan	89.73	311	⇓ P		P	17 37 34.5	+1.4	
GTA	Gaotai	90.05	326	eP		P	17 37 36.5	+1.9	
GTA				pP		pwP	17 37 41.3	+1.5	
XAN	Xi'an	90.05	317	P		P	17 37 34.5	-0.1	
XAN				pmax	pmax				
	comp=Z,12nm,1.4s								
ABKAR	Akbulak array	90.52	356	IAmb		IAmb	17 37 44.5		
	comp=Z,9.8nm,0.8s								
WMQ	Urumqi	90.68	336	eP		P	17 37 38.8	+1.4	
WMQ				sP		pwP	17 37 44.5	+1.9	
WMQ				pmax	pmax				
	comp=Z,20nm,0.9s								
MLR	Muntele Rosu	90.93	19	LR		LR	18 21 00.8		
	comp=Z,262nm,18.4s,baz=342,slow=37								
LZH	Lanzhou	90.96	321	eP		P	17 37 43.8	+4.9	
LZH				pP		pwP	17 37 49.3	+5.2	
LZH				pmax	pmax				
	comp=Z,17nm,1.4s								
BDFB	Brasilia	91.42	109	LR		LR	18 21 30.4		
	comp=Z,260nm,21.9s,baz=334,slow=37								
PMG	Port Moresby	93.35	261	LR		LR	18 17 01.5		
	comp=Z,175nm,18.0s,baz=58,slow=34								
URZ	Urewera	93.83	221	LR		LR	18 12 57.5		
	comp=Z,214nm,19.4s,baz=121,slow=31								
KEST	Kesra	93.96	35	P		P	17 37 52.0	-0.7	
	comp=Z,8.5nm,1.2s,baz=358,slow=3.9,SNR=2.2								
	comp=Z,8.5nm,1.2s								
AAK	Ala-Archa	95.18	345	⇓ *eP*		P	17 37 55.4	-2.9	
AAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
CD2	Chengdu	95.18	319	eP		P	17 37 56.0	-2.3	
PLCA	Paso Flores	95.40	141	LR		LR	18 11 16.8		
	comp=Z,183nm,19.0s,baz=34,slow=29								
KIV	Kislovodsk	95.42	8	eP		P	17 38 00.0	+0.8	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KBZ	Khabaz	95.66	8	⇓ *eP*		P	17 38 00.6	+0.4	
KBZ				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KBZ	Khabaz	95.66	8	P		P	17 37 59.8	-0.4	
	comp=Z,4.1nm,1.0s,baz=286,slow=2.6,SNR=6.0								
	comp=Z,4.1nm,1.0s								
BRTR	Keskin Array B	98.16	15	P		P	17 38 12.5	+0.7	
	comp=Z,0.6nm,0.8s,baz=317,slow=5.9,SNR=2.0								
	comp=Z,0.6nm,0.8s								
GNI	Garni	99.39	7	LR		LR	18 26 58.5		
	comp=Z,75nm,18.1s,baz=200,slow=38								
PZH	PanZhiHua	99.78	317	P		Pdif	17 38 19.8	+0.5	
PZH				pmax	pmax				
	comp=Z,10.0nm,1.5s								
TORD	Torodi Ar. Bea	108.21	54	PP		PP	17 43 27.9	+2.0	
	comp=Z,1.3nm,0.9s,baz=322,slow=8.7,SNR=4.6								
QSPA	South Pole Qui	130.24	180	PKP		PKPdf	17 43 43.3	-0.5	
	comp=Z,12nm,0.9s,baz=123,slow=0.4,SNR=30								
VNA3	Neumayer Olymp	136.24	155	⇓ PKPdf		PKPdf	17 43 54.1	-0.8	
	comp=Z,21nm,0.8s								
VNA2	Neumayer--Watz	137.03	155	⇓ PKPdf		PKPdf	17 43 55.7	-0.7	
	comp=Z,8.5nm,0.7s,baz=321,slow=4.0								
KMBO	Kilima Mbogo	138.14	25	PKP		PKPdf	17 44 00.7	+0.2	
	comp=Z,1.3nm,0.6s,baz=21,slow=8.6,SNR=2.2								
SNAA	Sanae	138.27	157	PKPdf		PKPdf	17 43 56.9	-1.8	
SNAA	Sanae	138.27	157	⇓ PKPdf		PKPdf	17 43 58.3	-0.4	
	comp=Z,233nm,0.9s								
SNAA	Sanae	138.27	157	PKIKP		PKPdf	17 43 56.9	-1.8	
TROLL	Troll, Antarti	139.73	158	⇓ PKPdf		PKPdf	17 44 01.1	-0.4	
	comp=Z,409nm,0.9s								
ELIB	Princess Elisa	145.02	164	*d* PKPdf		PKPbc	17 44 08.7	-1.6	
MAW	Mawson	152.30	188	PKP		PKPdf	17 44 22.5	0.0	
	comp=Z,7.2nm,0.8s,baz=56,slow=3.6,SNR=1.6								
BOSA	Boshof	153.94	72	PKP		PKPdf	17 44 26.3	0.0	
	comp=Z,1.8nm,0.8s,baz=16,slow=7.4,SNR=2.0								

OMAN ***25*** *17:28:23.2±0.1,27.09N×57.55E,h10km,mb4.5/1, ml2.9/15,Error ellipse: s-maj=2.5km s-min=1.6km az=28.0*
TEH ***25*** *17:28:27.9,27.87N×57.10E,h10km±968km,ML2.9*
ISC 25 17:28:23.9±1.1,27.22N±0.04×57.52E±0.05,h25km,n27, σ1§75/38,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHNJ	Kahnooj	0.74	13	Pg		Pb	17 28 38.8	+0.6
IBND	Bandar-abas	0.90	285	Pg		Pn	17 28 41.5	+0.5
GENO	Geno	1.21	279	Pg		Pn	17 28 45.4	-0.1
BANOM	Banah	1.69	220	P		Pn	17 28 53.7	+1.8
BANOM				S		Sn	17 29 13.9	+1.1
SHME	Shamm	1.70	227	P		Pn	17 28 53.5	+1.5
	SNR=16							
KBAM	BAM	2.08	23	Pg		Pn	17 28 59.3	+2.1
MDH	Madha	2.21	210	P		Pn	17 28 58.6	-0.3
MASF	Masafi	2.21	214	P		Pn	17 29 00.8	+1.7
UOSS	Minazif	2.56	208	P		Pn	17 29 05.0	+1.2
HATD	Hatta, Dubai	2.69	208	P		Pn	17 29 08.7	+3.0
ASHO	Ashiyiah	2.85	208	P		Pn	17 29 09.9	+2.0
FAQ	Al Faqa, Dubai	3.02	216	P		Pn	17 29 10.4	+0.3
SOHO	SOHO	3.20	196	P		Pn	17 29 14.0	+1.4
SOHO				S		Sn	17 29 46.3	-3.7
ASUD	Al Ashush, Dub	3.25	218	P		Pn	17 29 16.0	+2.7
ASUD				S		Sn	17 29 52.2	+0.9
KHGB	Koh Gabri	3.27	344	Pn		Pn	17 29 12.0	-1.8
BIDO	Bidbid	3.73	171	P		Pn	17 29 20.4	+0.5
BIDO				S		Sn	17 30 00.9	-2.0
ARQ	Araqi	3.97	193	P		Pn	17 29 25.6	+2.3
	SNR=8.1							
ARQ				S		Sn	17 30 10.7	+1.5
WSAR	Wadi Sarin	4.09	166	P		Pn	17 29 26.1	+1.2
	SNR=66							
WSAR				S		Sn	17 30 09.5	-2.5
SMDO	Samad	4.17	173	P		Pn	17 29 26.5	+0.4
SMDO				S		Sn	17 30 13.6	-0.6
BSY	Bisya	4.47	184	P		Pn	17 29 32.2	+2.1
BSY				S		Sn	17 30 20.8	-0.5
WBK	Wadi Bani Khal	4.78	164	P		Pn	17 29 35.6	+1.3
	SNR=7.4							
WBK				S		Sn	17 30 25.8	-3.1
UMZA	Um Al Zommool	4.97	206	P		Pn	17 29 37.2	+0.2
JLN	Jalan Bani Buh	5.33	161	P		Pn	17 29 42.8	+0.8
	SNR=9.0							
JLN				S		Sn	17 30 39.5	-3.1
SHMA	Al-Shehemyia	6.03	258	P		Pn	17 29 51.0	-0.5
	SNR=14							
TRNA	Turayna	6.19	248	P		Pn	17 29 52.4	-1.4
MHTO	MHTO	6.22	176	P		Pn	17 29 53.8	-0.3
MHTO				S		Sn	17 31 03.0	-1.5
SMRA	Abu-Samra	6.51	249	P		Pn	17 29 58.2	+0.1

IDC ***25*** *17:36:31.4±1.0,26.39S×178.36E,h616km±10km, mb3.8/18,mbtmp4.9/22,Error ellipse: s-maj=14.1km s-min=11.2km az=51.0*
NOU ***25*** *17:36:31.1,26.41S×178.56E,h634km,mb4.9/85,South of Fiji Islands*
NEIC ***25*** *17:36:32.3±1.6,26.5S±0.1×178.3E±0.1,h621km±7km, mb4.8/52,Error ellipse: s-maj=16.6km s-min=15.5km az=77.0*
BJI ***25*** *17:36:33.4±0.0,26.10S×178.01E,h625km,mb4.6/18, mB5.5/8*
ISC 25 17:36:31.0±0.3,26.49S±0.05×178.34E±0.07,h612km, n361,σ1§60/388,mb4.8/65,8C-4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	Raoul Island	4.31	131	P		P	17 38 01.2	+1.8
RAO	Raoul Island	4.31	131	P		P	17 38 01.0	+1.6
	614nm,0.4s,baz=44,slow=1.6,SNR=7.4							
GLKZ	Green Lake	4.31	131	P		P	17 38 01.2	+1.9
GLKZ				S		S	17 39 17.1	+5.4
NFK	Norfolk Island	9.55	252	P		P	17 38 48.8	+3.2
	baz=9.9,SNR=4.7							
NFK	Norfolk Island	9.55	252	P		P	17 38 49.0	+3.4
OUZ	Omahuta	9.61	204	P		P	17 38 49.1	+3.2
OUZ	Omahuta	9.61	204	P		P	17 38 49.9	+3.9
YSA	Yasawairara	9.77	356	P		P	17 38 47.5	-0.4
TAVE	Taveuni	9.87	10	P		P	17 38 49.0	+0.1
WCZ	Waipu Caves	10.02	199	P		P	17 38 54.1	+4.1
DGTI	Dogotuki	10.22	8	P		P	17 38 52.1	-0.3
KUZ	Kuaotunu	10.46	192	P		P	17 38 56.7	+2.3
PINNC	Pines Island,	10.64	289	P		P	17 38 57.7	+1.4
PINNC	Pines Island,	10.64	289	P		P	17 38 58.2	+1.9
MXZ	Matakaoa Point	11.04	180	P		P	17 38 58.3	-1.8
MXZ	Matakaoa Point	11.04	180	P		P	17 39 01.3	+1.2
MXZ	Matakaoa Point	11.04	180	P		P	17 39 03.5	+3.4
MXZ				S		S	17 41 02.1	-0.4
OUENC	Ouen Island, N	11.23	289	P		P	17 39 00.7	-1.5
OUENC	Ouen Island, N	11.23	289	P		P	17 39 04.1	+1.9
HAZ	Te Kaha	11.24	182	P		P	17 39 01.6	-0.4
HAZ				S		S	17 41 00.9	-5.2
YATNC	Mamie plateau,	11.33	290	P		P	17 39 03.7	+0.4
PKGZ	Pakihiroa	11.37	181	P		P	17 39 01.7	-1.7
PKGZ				S		S	17 41 01.9	-6.6
RUGZ	Raukumara Rang	11.46	183	P		P	17 39 04.3	0.0
RUGZ				S		S	17 41 04.8	-5.3
TOZ	Tahuroa Road	11.46	191	P		P	17 39 06.8	+2.6
TOZ	Tahuroa Road	11.46	191	P		P	17 39 07.3	+3.0
PUZ	Puketiti	11.55	180	P		P	17 39 04.3	-0.8
PUZ				S		S	17 41 06.2	-5.5
ONTNC	Ouen Toro	11.60	289	P		P	17 39 07.4	+1.5
LIFNC	LIFOU	11.65	297	P		P	17 39 06.5	+0.1
LIFNC	LIFOU	11.65	297	P		P	17 39 06.6	+0.4
TWGZ	Tauwhareparae	11.66	181	P		P	17 39 07.5	+1.3
TWGZ				S		S	17 41 10.7	-3.0
OMRZ	Omania	11.70	188	P		P	17 39 10.6	+4.0
DZM	Mont Dzumac	11.70	290	P		P	17 39 08.1	+1.1
DZM	Mont Dzumac	11.70	290	P		P	17 39 08.9	+1.9
DZM	Mont Dzumac	11.70	290	P		P	17 39 08.5	+1.4
	82nm,0.6s,baz=116,slow=9.7,SNR=124							
URZ	Urewera	11.78	185	P		P	17 39 07.4	0.0
URZ	Urewera	11.78	185	P		P	17 39 07.2	-0.1
	27nm,0.3s,baz=13,slow=3.4,SNR=46							
URZ				S		S	17 41 11.1	-4.6
	20nm,0.4s,baz=157,slow=22,SNR=16							
URZ	Urewera	11.78	185	P		P	17 39 07.2	-0.1
URZ				S		S	17 41 10.3	-5.4
NOUC	Port Laguerre	11.81	289	P		P	17 39 09.6	+1.7
TARZ	Mount Tarawera	11.81	187	P		P	17 39 09.9	+2.1
MWZ	Matawai	11.83	183	P		P	17 39 07.0	-0.9
MWZ				S		S	17 41 14.7	-2.1
TKGZ	Te Karaka	11.92	182	P		P	17 39 09.0	+0.3
TKGZ				S		S	17 41 14.1	-4.2
RAGZ	Rawiri	12.00	183	P		P	17 39 10.7	+1.1
RAGZ				S		S	17 41 14.1	-5.7
MUGZ	Murupara	12.03	186	P		P	17 39 10.4	+0.6
MUGZ				S		S	17 41 15.8	-4.4
TLZ	Tolley Road	12.04	191	P		P	17 39 14.4	+4.4
RTZ	Ruatahuna	12.14	185	P		P	17 39 11.4	+0.3
RIGZ	Rimuhau	12.19	182	P		P	17 39 12.4	+0.9
RIGZ				S		S	17 41 18.8	-4.4
SNGZ	Shannon Statio	12.29	184	P		P	17 39 12.9	+0.6
SNGZ				S		S	17 41 21.9	-5.3
MTHZ	Maungataniwha	12.39	185	P		P	17 39 13.8	+0.4
MTHZ				S		S	17 41 21.9	-5.0
PRGZ	Paritu Road	12.40	182	P		P	17 39 15.5	+2.0
MRHZ	Matea Rd	12.41	187	P		P	17 39 14.1	+0.4
MRHZ				S		S	17 41 26.3	-1.0
KNZ	Kokohu	12.51	182	P		P	17 39 15.6	+1.1
RATZ	Rangitukua	12.53	189	P		P	17 39 16.4	+1.6
MHGZ	Mahia Peninsul	12.63	182	P		P	17 39 16.7	+0.9

DCZ	**Deep Cove**	20.95	202	P		**P**	17 40 33.2 +0.8
WHZ	**Wether Hill Ro**	21.07	201	P		**P**	17 40 33.2 -0.3
ARMA	**Armidale**	23.78	254	P		**P**	17 41 00.4 +2.4
	baz=24,SNR=34						
ARMA	**Armidale**	23.78	254	P		**P**	17 40 59.6 +1.5
ARMA	**Armidale**	23.78	254	P		**P**	17 41 00.4 +2.4
MGCD	**Mangrove Creek**	24.50	248	P		**P**	17 41 06.9 +2.8
	baz=25,SNR=64						
MGCD	**Mangrove Creek**	24.50	248	P		**P**	17 41 07.0 +2.8
EIDS	**Eidsvold**	24.52	267	P		**P**	17 41 05.4 +0.9
	baz=25,SNR=46						
EIDS	**Eidsvold**	24.52	267	P		**P**	17 41 04.8 +0.3
EIDS	**Eidsvold**	24.52	267	P		**P**	17 41 05.7 +1.2
RIV	**Riverview**	24.57	246	P		**P**	17 41 07.2 +2.5
	baz=25,SNR=3.3						
RIV	**Riverview**	24.57	246	P		**P**	17 41 05.9 +1.2
SYDH	**Sydney Hard Ro**	24.89	246	P		**P**	17 41 09.2 +1.6
RK1H	**Rockhampton Ha**	25.41	271	P		**P**	17 41 13.1 +0.8
CNB	**Canberra Magne**	26.30	243	P		**P**	17 41 22.3 +2.3
	baz=27,SNR=23						
CNB	**Canberra Magne**	26.30	243	P		**P**	17 41 21.9 +1.9
RMQ	**Roma**	26.45	263	P		**P**	17 41 23.7 +2.3
	baz=27,SNR=6.6						
CAN	**Canberra**	26.59	244	P		**P**	17 41 24.3 +1.7
CAN	**Canberra**	26.59	244	P		**P**	17 41 24.5 +1.9
MILA	**Mila**	26.86	240	P		**P**	17 41 27.3 +2.4
	baz=27,SNR=13						
MILA	**Mila**	26.86	240	P		**P**	17 41 27.5 +2.6
YNG	**Young**	26.90	246	P		**P**	17 41 27.5 +2.2
GLAD	**Gladstone**	28.90	232	P		**P**	17 41 44.2 +1.8
CMSA	**Cobar Meteorol**	28.92	252	P		**P**	17 41 44.1 +1.3
	baz=29,SNR=32						
CMSA	**Cobar Meteorol**	28.92	252	P		**P**	17 41 44.1 +1.3
TOO	**Toolangi**	29.82	240	P		**P**	17 41 52.2 +1.8
	baz=30,SNR=32						
TOO	**Toolangi**	29.82	240	P		**P**	17 41 51.6 +1.2
TOO				IAmb		IAmb	17 41 53.1
	comp=Z,18nm,0.7s						
TOO	**Toolangi**	29.82	240	P		**P**	17 41 52.2 +1.8
TV1H	**Townsville Har**	29.88	277	P		**P**	17 41 51.8 +0.6
TAU	**Tasmania Unive**	30.09	229	P		**P**	17 41 53.9 +1.3
CTA	**Charters Tower**	30.10	275	P		**P**	17 41 53.6 +0.5
CTA	**Charters Tower**	30.10	275	P		**P**	17 41 53.9 +0.8
	comp=Z,79nm,0.5s,baz=99,slow=10.0,SNR=102						
	comp=Z,79nm,0.5s						
CTAO	**Charters Tower**	30.10	275	P		**P**	17 41 53.9 +0.8
CTAO	**Charters Tower**	30.10	275	P		**P**	17 41 53.9 +0.8
CTAO	**Charters Tower**	30.10	275	⇓P		**P**	17 41 54.1 +1.0
QLP	**Quilpie**	30.46	262	P		**P**	17 41 56.8 +0.8
	baz=31,SNR=27						
QLP	**Quilpie**	30.46	262	P		**P**	17 41 57.2 +1.1
BRAT	**Ballarat**	31.03	241	P		**P**	17 42 02.1 +1.4
STKA	**Stephens Creek**	32.42	252	P		**P**	17 42 13.8 +1.1
	baz=33,SNR=46						
STKA	**Stephens Creek**	32.42	252	P		**P**	17 42 12.8 +0.1
STKA	**Stephens Creek**	32.42	252	P		**P**	17 42 14.0 +1.4
STKA	**Stephens Creek**	32.42	252	P		**P**	17 42 13.7 +1.1
	comp=Z,17nm,0.5s,baz=96,slow=10,SNR=72						
	comp=Z,17nm,0.5s						
MTSU	**Mount Surprise**	32.48	278	P		**P**	17 42 14.4 +1.1
	baz=33,SNR=128						
MTSU	**Mount Surprise**	32.48	278	P		**P**	17 42 14.7 +1.4
ARPS	**Mount Arapiles**	32.55	243	P		**P**	17 42 15.0 +1.3
	baz=33,SNR=12						
ARPS	**Mount Arapiles**	32.55	243	P		**P**	17 42 14.3 +0.6
INKA	**Innaminka**	33.40	259	P		**P**	17 42 22.4 +1.5
PMG	**Port Moresby**	34.04	294	P		**P**	17 42 26.4 +0.1
PMG				IAmb		IAmb	17 42 27.8
	comp=Z,38nm,0.9s						
PMG	**Port Moresby**	34.04	294	P		**P**	17 42 26.5 +0.1
	comp=Z,36nm,0.9s,baz=142,slow=3.4,SNR=9.1						
	comp=Z,36nm,0.9s						
PMG	**Port Moresby**	34.04	294	P		**P**	17 42 26.6 +0.1
HTT	**Hallett**	34.69	249	P		**P**	17 42 32.4 +0.8
	baz=35,SNR=28						
HTT	**Hallett**	34.69	249	P		**P**	17 42 32.3 +0.7
COEN	**Coen**	35.15	284	P		**P**	17 42 36.0 +0.4
	baz=35						
COEN	**Coen**	35.15	284	P		**P**	17 42 35.8 +0.2
COEN				IAmb		IAmb	17 42 37.3
	comp=Z,39nm,0.7s						
COEN	**Coen**	35.15	284	P		**P**	17 42 36.7 +1.1
LCRK	**Leigh Creek**	35.36	254	P		**P**	17 42 38.0 +0.8
PTPS	**Port Pirie**	35.46	249	P		**P**	17 42 39.2 +1.3
QIS	**Mount Isa**	35.90	271	P		**P**	17 42 41.9 +0.1
	baz=36,SNR=37						
QIS	**Mount Isa**	35.90	271	P		**P**	17 42 42.2 +0.4
BBOO	**Buckleboo**	37.09	250	P		**P**	17 42 51.3 0.0
	baz=37,SNR=32						
BBOO	**Buckleboo**	37.09	250	P		**P**	17 42 50.5 -0.9
BBOO				IAmb		IAmb	17 42 52.2
	comp=Z,30nm,0.8s						
BBOO	**Buckleboo**	37.09	250	P		**P**	17 42 51.8 +0.5
OOD	**Oodnadatta**	37.84	258	P		**P**	17 42 58.8 +1.4
MULG	**Mulgathing**	38.96	254	P		**P**	17 43 06.6 +0.2
AS01	**Alice Springs**	40.15	264	P		**P**	17 43 16.6 +0.5
AS31	**Alice Springs**	40.19	264	P		**P**	17 43 16.1 -0.3
AS31				IAmb		IAmb	17 43 18.0
	comp=Z,22nm,0.6s						
ASAR	**Alice Springs**	40.20	264	P		**P**	17 43 16.3 -0.2
ASAR	**Alice Springs**	40.20	264	P		**P**	17 43 16.7 +0.2
	comp=Z,43nm,0.5s,baz=91,slow=7.3,SNR=953						
ASAR				ScP		**ScP**	17 47 56.5 -0.4
	comp=Z,1.9nm,0.8s,baz=108,slow=5.1,SNR=4.5						
	comp=Z,43nm,0.5s						
WR0	**Warramunga Arr**	40.62	270	P		**P**	17 43 19.0 -0.8
WR0				IAmb		IAmb	17 43 20.5
	comp=Z,83nm,1.2s						
WC3	**Warramunga Arr**	40.77	270	P		**P**	17 43 20.7 -0.3
	baz=41						
WB2	**Warramunga Arr**	40.79	270	P		**P**	17 43 20.4 -0.8
WRAB	**Tennant Creek**	40.80	270	P		**P**	17 43 20.3 -0.9
WRAB				IAmb		IAmb	17 43 21.8
	comp=Z,63nm,0.8s						
WRA	**Warramunga Arr**	40.80	270	P		**P**	17 43 19.7 -1.6
WRA	**Warramunga Arr**	40.80	270	P		**P**	17 43 20.9 -0.3
	comp=Z,62nm,0.6s,baz=104,slow=7.9,SNR=349						
WRA				ScP		**ScP**	17 47 59.2 -0.1
	comp=Z,2.7nm,0.9s,baz=98,slow=4.2,SNR=5.1						
	comp=Z,62nm,0.6s						
WB0	**Warramunga Arr**	40.81	270	P		**P**	17 43 20.0 -1.3
FORT	**Forrest**	44.04	252	P		**P**	17 43 45.9 -0.5
	baz=44,SNR=55						
FORT	**Forrest**	44.04	252	P		**P**	17 43 45.3 -1.1
FORT	**Forrest**	44.04	252	P		**P**	17 43 46.4 +0.1
JOHN	**Johnston Islan**	44.55	17	P		**P**	17 43 51.8 +1.5
WRKA	**Warakurna**	44.86	260	P		**P**	17 43 52.4 -0.3
	baz=45,SNR=177						
WRKA	**Warakurna**	44.86	260	P		**P**	17 43 52.6 -0.1
KDU	**Kakadu**	45.10	279	P		**P**	17 43 53.9 -0.7
	baz=45,SNR=17						
KDU	**Kakadu**	45.10	279	P		**P**	17 43 54.3 -0.3
MTN	**Manton Dam**	46.23	278	P		**P**	17 44 02.4 -0.7
	baz=46,SNR=9.8						
MTN	**Manton Dam**	46.23	278	P		**P**	17 44 02.8 -0.4
MTN				IAmb		IAmb	17 44 08.1
	comp=Z,115nm,1.7s						
MTN	**Manton Dam**	46.23	278	P		**P**	17 44 03.2 +0.1
KNRA	**Kununurra**	47.24	273	P		**P**	17 44 10.9 +0.3
	baz=48,SNR=36						
KNRA	**Kununurra**	47.24	273	P		**P**	17 44 10.3 -0.3
KNRA	**Kununurra**	47.24	273	P		**P**	17 44 11.0 +0.3
SAUI	**Saumlaki**	48.23	284	P		**P**	17 44 15.1 -3.0
SAUI	**Saumlaki**	48.23	284	P		**P**	17 44 17.7 -0.4
	comp=Z,252nm,1.4s						
FITZ	**Fitzroy Crossi**	49.19	268	P		**P**	17 44 25.2 +0.1
	baz=50,SNR=31						
FITZ	**Fitzroy Crossi**	49.19	268	P		**P**	17 44 24.4 -0.7
FITZ	**Fitzroy Crossi**	49.19	268	P		**P**	17 44 26.0 +0.9
KMBL	**Kambalda**	49.20	250	P		**P**	17 44 25.2 +0.1
	baz=50,SNR=7.8						
KMBL	**Kambalda**	49.20	250	P		**P**	17 44 25.1 +0.1
FAKI	**Fak Fak**	49.97	290	P		**P**	17 44 29.6 -1.3
	comp=Z,43nm,1.3s						
VNDA	**Vanda**	51.69	185	P		**P**	17 44 43.6 +1.4
	comp=Z,2.6nm,0.4s,baz=10,slow=8.4,SNR=2.5						
	comp=Z,2.6nm,0.4s						
SIJI	**Sorong**	51.90	292	P		**P**	17 44 44.2 -0.6
	comp=Z,121nm,0.7s,comp=Z,1μm						
SWI	**Sorong**	51.91	292	P		**P**	17 44 44.3 -0.6
	comp=Z,169nm,0.8s,comp=Z,2μm						
KLBR	**Kellerberrin**	52.63	249	P		**P**	17 44 49.6 -0.2
	baz=53,SNR=31						
KLBR	**Kellerberrin**	52.63	249	P		**P**	17 44 49.9 +0.1
NWAO	**Narrogin (SRO)**	52.83	248	P		**P**	17 44 51.2 +0.1

MEEK	**Meekatharra**	52.97	256	P		**P**	17 44 51.4 -0.9
	baz=53,SNR=15						
MEEK	**Meekatharra**	52.97	256	P		**P**	17 44 52.5 +0.2
PSA00	**Pilbara Seismi**	53.26	262	P		**P**	17 44 53.9 -0.5
SOEI	**Soe**	53.62	278	P		**P**	17 44 57.4 +0.2
SOEI				IAmb		IAmb	17 45 14.2
	comp=Z,66nm,0.8s						
SOEI	**Soe**	53.62	278	P		**P**	17 44 56.8 -0.4
SOEI	**Soe**	53.62	278	P		**P**	17 44 56.8 -0.4
	comp=Z,86nm,0.8s						
BLDU	**Ballidu**	53.70	250	P		**P**	17 44 56.9 -0.4
	baz=54,SNR=35						
BLDU	**Ballidu**	53.70	250	P		**P**	17 44 57.3 -0.1
MUN	**Mundaring**	53.85	248	P		**P**	17 44 58.4 0.0
	baz=54,SNR=4.8						
MUN	**Mundaring**	53.85	248	P		**P**	17 44 58.6 +0.2
NLAI	**Namlea**	54.19	286	P		**P**	17 45 00.5 -0.5
	comp=Z,22nm,0.8s,comp=Z,3μm						
MORW	**Morawa**	54.61	252	P		**P**	17 45 03.3 -0.4
	baz=55,SNR=21						
MORW	**Morawa**	54.61	252	P		**P**	17 45 03.4 -0.4
MORW				IAmb		IAmb	17 45 04.9
	comp=Z,108nm,1.9s						
MORW	**Morawa**	54.61	252	P		**P**	17 45 04.0 +0.3
LBMI	**Labuha**	55.19	289	P		**P**	17 45 07.5 -0.5
	comp=Z,55nm,0.8s						
SANI	**Sanana**	55.74	287	P		**P**	17 45 10.4 -1.4
SANI	**Sanana**	55.74	287	P		**P**	17 45 10.9 -0.9
	comp=Z,49nm,0.7s						
CCD	**Concordia, Ant**	55.85	195	⇑P		**P**	17 45 12.7 +0.7
CCD				ScP		**ScP**	17 49 01.0 -1.6
TNTI	**Ternate**	56.06	291	P		**P**	17 45 14.0 +0.1
	comp=Z,36nm,1.1s						
EDFI	**Ende, Flores**	56.35	277	P		**P**	17 45 15.4 -0.7
	comp=Z,41nm,0.7s						
BASI	**Baing, Sumba**	56.71	275	P		**P**	17 45 18.3 -0.1
	comp=Z,135nm,0.9s						
BBSI	**Bau Bau**	57.04	281	P		**P**	17 45 20.6 -0.1
CASY	**Casey**	57.13	206	P		**P**	17 45 20.2 -0.2
GIRL	**Giralia**	57.90	259	P		**P**	17 45 27.3 +1.0
	baz=58,SNR=5.9						
GIRL	**Giralia**	57.90	259	P		**P**	17 45 26.1 -0.2
GIRL	**Giralia**	57.90	259	P		**P**	17 45 26.7 +0.4
LUWI	**Luwuk**	59.02	286	P		**P**	17 45 33.3 -0.7
	comp=Z,80nm,0.7s						
BKSI	**Bulukumba**	59.27	280	P		**P**	17 45 34.7 -1.0
	comp=Z,57nm,0.8s						
DBNI	**Kabupaten Domp**	59.46	276	P		**P**	17 45 36.1 -0.8
	comp=Z,59nm,0.8s						
PLAI	**Plampang**	59.80	275	P		**P**	17 45 39.0 -0.2
PLAI	**Plampang**	59.80	275	P		**P**	17 45 38.0 -1.2
	comp=Z,97nm,0.8s						
MRSI	**Marisa**	60.51	287	P		**P**	17 45 41.7 -2.1
	comp=Z,21nm,0.7s						
TWSI	**Taliwang, Sumb**	60.64	275	P		**P**	17 45 44.4 -0.3
	comp=Z,32nm,0.8s						
TOLI2	**Tolitoli**	61.83	287	P		**P**	17 45 50.2 -2.2
TOLI2	**Tolitoli**	61.83	287	P		**P**	17 45 52.1 -0.3
DNP	**Denpasar**	62.16	274	P		**P**	17 45 54.0 -0.5
	comp=Z,556nm,1.4s,comp=Z,25μm						
MPSI	**Mapaga**	62.19	286	P		**P**	17 45 53.7 -1.1
	comp=Z,19nm,0.7s						
JAGI	**Jajag, Banyuwa**	63.19	274	P		**P**	17 46 00.4 -0.8
JAGI	**Jajag, Banyuwa**	63.19	274	P		**P**	17 46 01.1 -0.1
QSPA	**South Pole Qui**	63.60	180	P		**P**	17 46 04.3 +1.3
QSPA				IAmb		IAmb	17 46 05.3
	comp=Z,36nm,0.8s						
QSPA	**South Pole Qui**	63.60	180	P		**P**	17 46 04.2 +1.1
	comp=Z,39nm,0.7s,baz=215,slow=0.9,SNR=217						
	comp=Z,39nm,0.7s						
QSPA	**South Pole Qui**	63.60	180	⇑P		**P**	17 46 04.5 +1.4
QSPA				PcP		**PcP**	17 46 33.7 +1.0
UGM	**Wanagama**	66.68	273	P		**P**	17 46 22.1 -1.0
UGM	**Wanagama**	66.68	273	P		**P**	17 46 22.8 -0.2
STKI	**Sintang**	69.41	281	P		**P**	17 46 40.2 +0.7
SBUM	**Sibu**	69.90	283	P		**P**	17 46 42.3 -0.1
SBUM	**Sibu**	69.90	283	P		**P**	17 46 42.8 +0.4
	comp=Z,8.7nm,1.0s						
KSM	**Kuching**	71.10	282	P		**P**	17 46 48.4 -1.1
KSM				IAmb		IAmb	17 46 50.2
	comp=Z,24nm,0.8s						
KSM	**Kuching**	71.10	282	P		**P**	17 46 49.5 0.0
	comp=Z,32nm,0.9s						
JSG	**Sagara**	71.74	326	P		**P**	17 46 52.0 -0.7
MJAR	**Matsushiro Arr**	73.21	327	P		**P**	17 47 00.0 -1.1
	comp=Z,3.5nm,0.6s,baz=160,slow=5.8,SNR=9.3						
	comp=Z,3.5nm,0.6s						
BELA	**Belgrano 2**	74.06	173	P		**P**	17 47 05.1 -0.2
BELA				IAmb		IAmb	17 47 06.4
	comp=Z,24nm,0.8s						
TPUB	**Ta-pu**	74.59	306	P		**P**	17 47 07.2 -2.0
SSLB	**Suanglung**	74.66	307	P		**P**	17 47 07.2 -2.4
SSLB	**Suanglung**	74.66	307	P		**P**	17 47 09.2 -0.4
MAW	**Mawson**	74.80	201	P		**P**	17 47 10.2 +0.6
	comp=Z,9.5nm,0.6s,baz=156,slow=7.4,SNR=6.6						
	comp=Z,9.5nm,0.6s						
KIWB	**Kanaga Island**	78.10	3	P		**P**	17 47 27.8 +0.1
ADK	**Adak**	78.16	3	P		**P**	17 47 27.7 -0.2
ADK				IAmb		IAmb	17 48 41.8
	comp=Z,66nm,1.6s						
ADK	**Adak**	78.16	3	P		**P**	17 47 26.6 -1.3
ATKA	**Atka Island**	78.63	5	P		**P**	17 47 28.2 -2.2
KSRS	**Korea Array**	79.29	321	P		**P**	17 47 33.8 -0.5
	comp=Z,2.7nm,0.7s,baz=140,slow=6.6,SNR=8.4						
	comp=Z,2.7nm,0.7s						
ELIB	**Princess Elisa**	80.31	188	*d*P		**P**	17 47 39.4 0.0
	comp=Z,23nm,0.6s						
NJ2	**Nanjing**	81.25	312	*e*P		**P**	17 47 47.5 +2.9
NJ2				pmax		pmax	
	comp=Z,14nm,0.5s						
TROLL	**Troll, Antarti**	81.72	181	⇑P		**P**	17 47 46.9 +0.3
	comp=Z,2μm,0.5s						
RPSI	**Rantau Prapat**	81.73	277	P		**P**	17 47 45.4 -2.1
SNAA	**Sanae**	82.11	180	P		**P**	17 47 47.5 -1.0
SNAA				IAmb		IAmb	17 47 49.2
	comp=Z,18nm,0.7s						
SNAA	**Sanae**	82.11	180	⇑P		**P**	17 47 48.3 -0.1
	comp=Z,415nm,0.6s						
USRK	**Ussuriysk Ar.**	82.14	328	P		**P**	17 47 49.0 +0.2
USRK	**Ussuriysk Ar.**	82.14	328	P		**P**	17 47 49.1 +0.2
	comp=Z,5.4nm,0.7s,baz=127,slow=4.0,SNR=8.9						
	comp=Z,5.4nm,0.7s						
GSI	**Gunungsitoli**	82.31	275	P		**P**	17 47 49.9 -0.5
GSI				IAmb		IAmb	17 47 51.7
	comp=Z,23nm,0.6s						
GSI	**Gunungsitoli**	82.31	275	P		**P**	17 47 50.7 +0.3
VNA3	**Neumayer Olymp**	82.38	177	⇑P		**P**	17 47 49.4 -0.3
	comp=Z,39nm,0.8s						
VNA2	**Neumayer--Watz**	82.77	178	⇑P		**P**	17 47 51.7 0.0
	comp=Z,28nm,0.6s,baz=178,slow=5.0						
VNA1	**Neumayer--Stat**	83.02	178	⇑P		**P**	17 47 52.8 -0.1
	comp=Z,12nm,0.8s						
CN2	**Changchun**	85.09	325	P		**P**	17 48 03.5 +0.1
CN2				pmax		pmax	
	comp=Z,20nm,0.7s						
LL02	**Futaleuf**	85.39	136	P		**P**	17 48 05.9 +0.8
LL02				IAmb		IAmb	17 48 07.2
	comp=Z,15nm,0.7s						
ISA	**Isabella, Lake**	85.89	47	P		**P**	17 48 08.6 +1.0
CMB	**Columbia Colle**	86.11	44	P		**P**	17 48 08.8 +0.3
ENH	**Enshi**	86.72	306	P		**P**	17 48 11.4 -0.1
ENH				IAmb		IAmb	17 48 12.4
	comp=Z,14nm,1.0s						
SRDT	**SRDT**	86.95	288	P		**P**	17 48 12.6 -0.2
HSIG		87.41	56	P		**P**	17 48 15.4 +0.7
HSIG				IAmb		IAmb	17 48 16.2
	comp=Z,9.4nm,1.1s						
PLCA	**Paso Flores**	87.53	135	P		**P**	17 48 16.2 +0.8
PLCA				IAmb		IAmb	17 48 18.4
	comp=Z,18nm,1.4s						
PLCA	**Paso Flores**	87.53	135	P		**P**	17 48 16.1 +0.8
	comp=Z,3.9nm,0.8s,baz=247,slow=5.3,SNR=6.7						
	comp=Z,3.9nm,0.8s						
NVAR	**Mina Array Bea**	87.65	45	P		**P**	17 48 15.9 0.0
NVAR	**Mina Array Bea**	87.65	45	P		**P**	17 48 15.6 -0.3
	comp=Z,0.4nm,0.3s,baz=220,slow=7.8,SNR=5.5						
	comp=Z,0.4nm,0.3s						
CRAI	**Chiangrai**	88.68	293	P		**P**	17 48 21.0 +0.2
CM31	**Chiang Mai Arr**	89.03	291	P		**P**	17 48 21.2 -1.3
CM31				IAmb		IAmb	17 48 24.6
	comp=Z,12nm,1.6s						
CMAR	**Chiang Mai Arr**	89.03	291	P		**P**	17 48 21.3 -1.1
CMAR	**Chiang Mai Arr**	89.03	291	P		**P**	17 48 23.2 +0.8
	comp=Z,1.2nm,0.7s,baz=135,slow=4.0,SNR=13						
CMAR				PP		**PP**	17 52 04.1 -0.2
	comp=Z,0.3nm,0.7s,baz=115,slow=6.1,SNR=6.4						
	comp=Z,1.2nm,0.7s						
XAN	**Xi'an**	89.17	309	P		**P**	17 48 23.5 +0.6
XAN				pmax		pmax	
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	89.19	291	P		**P**	17 48 23.7 +0.4
CHTO	**Chiang Mai**	89.19	291	P		**P**	17 48 24.6 +1.4
BMN	**Battle Mountai**	89.51	44	P		**P**	17 48 25.0 +0.5
LCMT	**Little Creek M**	90.12	48	P		**P**	17 48 28.2 +0.9
PZH	**PanZhiHua**	90.61	299	P		**P**	17 48 29.8 0.0
PZH				pmax		pmax	
	comp=Z,10.0nm,1.1s						
MT01	**Popeta**	90.80	129	P		**P**	17 48 30.1 -0.5
ELK	**Elko**	90.92	44	P		**P**	17 48 31.4 +0.4
	comp=Z,1.0nm,0.6s,baz=215,slow=10,SNR=2.4						
	comp=Z,1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	91.20	316	*e*P		**P**	17 48 36.5 +4.4
HHC				pmax		pmax	
	comp=Z,23nm,0.7s						
HHC				pmax		pmax	
	comp=Z,460nm,5.7s						
MTPU	**Mount Pierson**	91.39	48	P		**P**	17 48 34.5 +1.1
MTPU				IAmb		IAmb	17 48 49.7
	comp=Z,7.9nm,1.0s						
TMUT	**Trail Mountain**	92.70	47	P		**P**	17 48 40.1 +0.7
TMUT				IAmb		IAmb	17 48 41.2
	comp=Z,3.5nm,0.8s						
TXAR	**Lajitas Array**	93.07	59	P		**P**	17 48 41.4 +0.5
	comp=Z,0.6nm,0.8s,baz=224,slow=5.2,SNR=3.7						
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	95.59	45	P		**P**	17 48 52.8 +0.5
	comp=Z,0.3nm,0.6s,baz=251,slow=2.8,SNR=2.7						
	comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	98.09	320	P		Pdif	17 49 03.1 0.0
	comp=Z,0.5nm,0.7s,baz=105,slow=5.0,SNR=3.3						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	116.05	316	PKP		**PKPdf**	17 54 03.4 -1.9
	comp=Z,0.4nm,0.7s,baz=99,slow=2.7,SNR=4.2						
KURBB				SKP		**SKPdf**	17 56 41.9 -1.6
	comp=Z,0.3nm,0.9s,baz=105,slow=2.1,SNR=7.7						
BVAR	**Borovoye Array**	121.36	318	PKP		**PKPdf**	17 54 14.1 -1.3
	comp=Z,1.3nm,0.8s,baz=126,slow=2.1,SNR=19						
BVAR				SKP		**SKPdf**	17 56 52.9 -0.7
	comp=Z,1.3nm,0.8s,baz=90,slow=3.0,SNR=5.2						
KMBO	**Kilima Mbogo**	133.51	240	SKPbc		**SKPbc**	17 57 09.4 -2.9
	comp=Z,3.3nm,0.9s,baz=141,slow=3.2,SNR=8.7						
ARCES	**ARCESS Array B**	134.08	347	PKhKP		PKPpre	17 54 33.8
	comp=Z,20nm,1.4s,baz=69,slow=3.0,SNR=4.0						
ARCES				PKP		**PKPdf**	17 54 37.4 -1.7
	comp=Z,2.5nm,0.9s,baz=66,slow=2.2,SNR=1.5						
ARCES				SKPbc		**SKPbc**	17 57 11.5 -0.6
	comp=Z,2.1nm,0.6s,baz=60,slow=2.9,SNR=9.9						
FINES	**FINESS Array B**	140.37	339	PKhKP		PKPpre	17 54 42.6
	comp=Z,2.1nm,0.8s,baz=35,slow=5.1,SNR=10						
FINES				PKP		**PKiKP**	17 54 52.3 -1.4
	comp=Z,1.4nm,0.5s,baz=95,slow=3.2,SNR=6.0						
NB2	**NORSAR Subarra**	144.37	349	PKP		**PKPdf**	17 54 57.0 -1.0
	comp=Z,2.4nm,0.5s,baz=16,slow=4.4						
NOA	**NORSAR Array B**	144.37	349	PKP		**PKPdf**	17 54 57.1 -0.9
	comp=Z,0.3nm,0.4s,baz=26,slow=2.9,SNR=8.3						
HFS	**Hagfors**	144.75	347	PKP		**PKPdf**	17 54 58.2 -0.5
	comp=Z,5.3nm,0.4s,baz=64,slow=3.4,SNR=60						
PABE	**Paberze**	145.54	334			**PKPdf**	17 54 59.0 -1.1
AKASG	**Malin Array Be**	146.25	324			**PKPdf**	17 55 00.2 -1.2
AKASG	**Malin Array Be**	146.25	324	PKPbc		**PKPbc**	17 55 02.8 -1.0
	comp=Z,3.2nm,0.6s,baz=44,slow=3.6,SNR=21						
AKBB	**Malin Array Si**	146.25	324			**PKPbc**	17 55 03.0 -0.8
KIEV	**Kiev**	146.26	324			**PKPbc**	17 55 03.1 -0.8
AK05	**Malin Array Si**	146.31	324	PKPbc		**PKPbc**	17 55 02.9 -1.1

ELIS				IAML			18 02 24.3	
	comp=E,180nm,0.3s							
ELIS				IAML			18 02 33.1	
	comp=N,186nm,0.3s							
KAN14	**Manchester OK**	**1.07**	**89**	Pg	Pg		18 02 11.5	-0.8
KAN12	**Harper NE Stat**	**1.10**	**71**	Pg	Pg		18 02 13.2	+0.4
CROK	**Carrier**	**1.15**	**112**	Pg	Pg		18 02 12.7	-1.1
CROK				IAML			18 02 35.0	
	comp=E,152nm,0.3s							
KAN05	**Bluff City Nor**	**1.16**	**82**	Pg	Pg		18 02 12.9	-1.1
R32A	**Long Quarter,**	**1.54**	**18**		Pn		18 02 20.4	-0.2
CBKS	**Cedar Bluff**	**1.89**	**350**		Pn		18 02 25.0	-0.4
CBKS					Sn		18 02 50.7	+0.7
OK048	**Pawnee Station**	**1.97**	**105**	Pn	Pn		18 02 26.6	+0.1
SMWD	**Samnorwood**	**2.00**	**203**		Pn		18 02 27.4	+0.5
SMWD					Sb		18 02 55.0	+0.6
T35A	**Sooner Cattle**	**2.24**	**90**	Pn	Pn		18 02 28.8	-1.3
WMOK	**Wichita Mounta**	**2.25**	**169**		Pn		18 02 29.6	-0.7
W35A	**Tecumseh**	**2.66**	**132**	Pn	Pn		18 02 34.9	-1.0
RTBA	**Rita Blanca**	**2.81**	**261**	Pn	Pn		18 02 35.0	-3.1
MSTX	**Muleshoe**	**4.11**	**225**	IAmb_Lg			18 04 02.8	
	comp=Z,4.8nm,0.8s							
OGNE	**Ogallala**	**4.52**	**333**	Pn	Pn		18 02 59.8	-1.8
S39A	**Bolivar**	**4.82**	**79**	Pn	Pn		18 03 05.4	-0.2

*NEIC **25** 18:09:45.0±1.3,36°.51N±0°.03×98°.92W±0°.04,h5km±1km,*
Error ellipse: s-maj=6.7km s-min=3.0km az=312.0
TUL 25 18:09:44.9±1.0,36°.54N±0°.03×98°.95W±0°.04,h4km±4km,
ML2.7,mb_Lg2.4/14(NEIC),ML2.7/10(NEIC),Error
ellipse: s-maj=5.6km s-min=2.3km az=133.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.17**	**193**	Pg	Pg	18 09 48.5	+0.3
OK038	**West end E0370**	**0.18**	**111**		Pg	18 09 49.0	+0.5
OK038				IAML		18 09 52.4	
	3µm,0.2s						
OK038				IAML		18 09 52.4	
	3µm,0.3s						
OK035	**E0210 Rd and N**	**0.26**	**50**		Pg	18 09 50.6	+0.7
OK035				Sg	Sg	18 09 54.6	+1.3
ELIS	**Ellis County**	**0.61**	**218**		Pg	18 09 56.2	-0.4
ELIS				Sg	Sg	18 10 05.3	+0.9
ELIS				IAML		18 10 05.4	
	comp=E,394nm,0.3s						
ELIS				IAML		18 10 05.9	
	comp=N,361nm,0.2s						
CROK	**Carrier**	**0.78**	**92**	Pg	Pg	18 09 59.9	0.0
CSTR	**Hydro, Custer**	**0.92**	**166**	Pg	Pg	18 10 02.4	-0.2
GC02	**Grant County #**	**0.93**	**70**		Pg	18 10 02.8	0.0
OK029	**Liberty Lake**	**1.42**	**121**		Pn	18 10 11.2	-0.3
OK048	**Pawnee Station**	**1.62**	**94**		Pn	18 10 14.6	+0.3
SMWD	**Samnorwood**	**1.78**	**216**		Pn	18 10 15.9	-0.5
FNO	**Franklin**	**1.80**	**135**		Pn	18 10 16.1	-0.6
WMOK	**Wichita Mounta**	**1.81**	**175**	Pn	Pn	18 10 16.4	-0.4
WMOK	**Wichita Mounta**	**1.81**	**175**	IAmb_Lg		18 10 40.8	
	comp=Z,12nm,1.0s						
OK052	**Battle Ridge R**	**1.82**	**107**		Pn	18 10 16.7	-0.3
QUOK	**Quay**	**1.85**	**101**		Pn	18 10 17.6	+0.2
R32A	**Long Quarter,**	**1.89**	**6**		Pn	18 10 18.9	+0.9
T35A	**Sooner Cattle**	**2.00**	**79**		Pn	18 10 19.2	-0.3
DEOK	**Depew**	**2.11**	**109**		Pn	18 10 19.1	-1.8
X34A	**Smith Ranch, M**	**2.14**	**154**	Pn	Pn	18 10 20.6	-0.9
X34A				IAmb_Lg		18 10 56.7	
	comp=Z,29nm,0.9s						
W35A	**Tecumseh**	**2.19**	**129**	Pn	Pn	18 10 20.8	-1.3
AMTX	**Amarillo**	**2.77**	**234**	IAmb_Lg		18 11 14.0	
	comp=Z,12nm,0.8s						
RTBA	**Rita Blanca**	**3.05**	**269**	Pn	Pn	18 10 32.9	-1.1
U38A	**Gravette**	**3.68**	**90**	IAmb_Lg		18 11 41.3	
	comp=Z,7.2nm,1.0s						
PLPT	**Palo Pinto**	**3.76**	**172**	IAmb_Lg		18 11 50.3	
	comp=Z,7.3nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.81**	**311**	IAmb_Lg		18 11 54.2	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**4.42**	**279**	IAmb_Lg		18 12 06.3	
	comp=Z,9.8nm,0.8s						

*NCEDC **25** 18:26:51.9±2.3,40°.28N±0°.07×126°.5W±0°.1,h15km±2km,*
Error ellipse: s-maj=13.4km s-min=12.1km az=261.0
NEIC 25 18:26:50.7±1.6,40°.38N±0°.02×126°.5W±0°.2,h11km±14km,
ML3.3/54,ML3.3/5(NCEDC),Error ellipse: s-maj=19.2km
s-min=1.5km az=81.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.63**	**86**		Pn	18 27 19.6	+0.2
KMPM	**Mount Pierce**	**1.79**	**88**		Pn	18 27 21.4	-0.3
KMPM				IAML		18 27 51.2	
	comp=N,267nm,1.1s						
KMPM				IAML		18 27 52.9	
	comp=E,269nm,0.8s						
JCC	**Jacoby Creek,**	**1.91**	**76**	Pn	Pn	18 27 22.0	-1.1
JCC				IAML		18 27 41.1	
	comp=N,134nm,3.9s						
KRPM	**Rodgers**	**2.01**	**67**	Pn	Pn	18 27 25.1	+0.4
KRPM				IAML		18 27 54.0	
	comp=E,240nm,2.9s						
KRPM				IAML		18 27 54.5	
	comp=N,232nm,2.0s						
KCRM	**Chalk Rock**	**2.02**	**88**		Pn	18 27 25.0	+0.2
KMRM	**Mail Ridge**	**2.12**	**93**		Pn	18 27 26.5	+0.4
KMRM				IAML		18 27 56.0	
	comp=E,156nm,1.1s						
KMRM				IAML		18 28 00.8	
	comp=N,200nm,0.8s						
KHMM	**Horse Mountain**	**2.14**	**76**	Pn	Pn	18 27 26.1	-0.4
KHMM				IAML		18 27 54.1	
	comp=N,194nm,0.9s						
KRMB	**Red Mountain**	**2.25**	**59**		Pn	18 27 27.7	-0.3
KRMB				IAML		18 28 03.1	
	comp=E,96nm,4.6s						
KCPM	**Cahto Peak**	**2.32**	**106**	Pn	Pn	18 27 28.8	-0.2
KCPM				IAML		18 28 04.6	
	comp=E,161nm,1.9s						
KCPM				IAML		18 28 28.3	
	comp=N,131nm,4.4s						
KIPM	**Iron Peak**	**2.36**	**103**		Pn	18 27 30.3	+0.7
KSXB	**Camp Six Broad**	**2.44**	**53**		Pn	18 27 30.5	0.0
KSXB				IAML		18 28 14.0	
	comp=N,87nm,3.3s						
KOMM	**Orleans Mounta**	**2.46**	**68**		Pn	18 27 30.2	-0.7
KBO	**Bosley Butte**	**2.49**	**42**		Pn	18 27 30.7	-0.6
KHBM	**Hayfork Bally**	**2.49**	**83**		Pn	18 27 31.2	-0.2
KBNM	**Bluenose Ridge**	**2.56**	**100**		Pn	18 27 32.7	+0.4
KEBM	**Edson Butte**	**2.96**	**32**		Pn	18 27 35.7	-2.0
HOPS	**Hopland Field**	**2.97**	**117**		Pn	18 27 36.9	-0.9
HOPS				IAML		18 28 20.8	
	comp=E,117nm,3.7s						
HOPS				IAML		18 29 10.7	
	comp=N,78nm,4.2s						
K02D	**Willamette Mer**	**3.13**	**41**		Pn	18 27 40.4	+0.4
K02D				IAML		18 28 43.7	
	comp=N,61nm,3.1s						
K02D				IAML		18 29 28.8	
	comp=E,64nm,3.9s						
YBH	**Yreka Blue Hor**	**3.15**	**63**		Pn	18 27 41.2	+0.9
GDXM	**Geysers**	**3.25**	**118**	Pn	Pn	18 27 41.1	-0.5
GDXM				IAML		18 28 27.6	
	comp=E,45nm,4.7s						
HUMO	**Hull Mountain**	**3.45**	**49**		Pn	18 27 45.3	+0.9
HUMO				IAML		18 28 06.9	
	comp=E,35nm,2.9s						
MCCM	**Marconi Confer**	**3.57**	**128**		Pn	18 27 45.4	-0.6
MCCM				IAML		18 28 28.7	
	comp=E,112nm,2.0s						
L04D	**Klamath Falls**	**3.63**	**58**		Pn	18 27 49.2	+2.1
L04D				IAML		18 28 17.0	
	comp=E,80nm,3.8s						
L04D				IAML		18 29 37.5	
	comp=N,67nm,4.9s						
DBO	**Dodson Butte**	**3.65**	**40**	Pn	Pn	18 27 47.0	-0.1
DBO				IAML		18 29 33.0	
	comp=N,72nm,3.6s						
DBO				IAML		18 29 58.9	
	comp=E,72nm,3.8s						
ORV	**Oroville**	**3.91**	**101**	Pn	Pn	18 27 51.3	+0.6
I03D	**Drain, OR**	**4.05**	**34**	Pn	Pn	18 27 51.2	-1.3
I03D				IAML		18 28 23.9	
	comp=E,62nm,3.9s						
I03D				IAML		18 29 23.6	
	comp=N,57nm,5.0s						

K04D	**Chiloquin, OR**	**4.19**	**56**		Pn		18 27 54.9	+0.2
AFDM	**Forest Hills D**	**4.48**	**107**		Pn		18 27 59.7	+1.2
BUCK	**Buck Mountain**	**4.61**	**33**	Pn	Pn		18 27 58.2	-2.1
K05A	**Summer Lake**	**4.79**	**59**		Pn		18 28 02.7	-0.3
K05A				IAML			18 30 40.5	
	comp=N,45nm,4.8s							
K05A				IAML			18 31 04.8	
	comp=E,43nm,5.0s							
CMB	**Columbia Colle**	**5.27**	**114**		Pn		18 28 11.3	+1.8
CMB				IAML			18 29 21.4	
	comp=N,8.9nm,4.6s							
H04A	**Detroit Lake**	**5.34**	**35**		Pn		18 28 11.8	+1.5
PINE	**Pine Mountain**	**5.34**	**49**		Pn		18 28 12.6	+2.1
SAO	**San Andreas Ge**	**5.34**	**131**	Pn	Pn		18 28 09.3	-1.1
I05D	**Terrebonne, OR**	**5.48**	**42**		Pn		18 28 11.9	-0.5
BBGB	**Big Mountain B**	**5.71**	**130**	Pn	Pn		18 28 15.1	-0.4
WAKR	**Walker**	**5.76**	**107**		Pn		18 28 16.5	+0.2
PMPB	**Monarch Peak**	**6.10**	**131**	Pn	Pn		18 28 20.4	-0.4
G05A	**Wamic**	**6.16**	**36**	Pn	Pn		18 28 20.7	-0.9
I07A	**Izee**	**6.36**	**52**		Pn		18 28 26.6	+2.2
MDPB	**Devils Postpil**	**6.38**	**113**		Pn		18 28 25.3	+0.4
OMMB	**Old Mammoth Mi**	**6.44**	**113**		Pn		18 28 27.2	+1.5
G06A	**Carlson Farm,**	**6.47**	**40**	Pn	Pn		18 28 27.4	+1.4
KVN	**Kaiserville**	**6.59**	**99**	Pn	Pn		18 28 28.6	+0.9
F10A	**Beach Ranch, E**	**8.76**	**47**	Pn	Pn		18 28 56.1	-1.3
PLID	**Pearl Lake**	**9.02**	**55**	Pn	Pn		18 29 02.4	+1.3

IDC 25 18:35:04.5±1.2,28°.07N×104°.86E,h0km,mb3.5/4,
mbtmp3.4/5,ML3.7/1,Error ellipse: s-maj=87.0km
s-min=21.8km az=61.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.77**	**3**	P	P	18 39 36.8	+0.6
	0.2nm,0.3s,baz=178,slow=11,SNR=2.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**25.74**	**323**	P	P	18 40 37.0	+0.3
	0.4nm,0.6s,baz=139,slow=9.4,SNR=7.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**30.08**	**326**	P	P	18 41 14.5	-0.8
	0.2nm,0.2s,baz=128,slow=11,SNR=1.4						
	0.2nm,0.2s						
WRA	**Warramunga Arr**	**55.60**	**146**	P	P	18 44 42.0	-0.2
	0.9nm,1.1s,baz=335,slow=8.4,SNR=2.7						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**58.57**	**149**	P	P	18 45 03.2	0.0
	0.2nm,0.6s,baz=331,slow=6.4,SNR=6.0						
	0.2nm,0.6s						

*MOS **25** 18:49:54.0,43°.06N×45°.33E,h20km,MPVA3.7*
*TIF **25** 18:49:54.6,43°.10N×45°.29E,h11km±1km*
*NORS **25** 18:49:54.0,43°.04N×45°.34E,h20km,MPVA3.5*
*DRS **25** 18:49:56.5,43°.09N×45°.26E,h20km*
ISC 25 18:49:54.4±1.0,43°.10N±0°.02×45°.36E±0°.01,h19km±3km,
n49,σ0s99/97,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.34**	**72**	*i* Pg	**Pn**	**18 50 02.9**	**-1.4**
GROC				*i* Sg	**Sn**	**18 50 10.0**	**-0.7**
KMGR	**Komgaron**	**0.36**	**264**	*e*Pg	**Pb**	**18 50 02.2**	**-0.2**
KMGR				*e*Sg	**Sb**	**18 50 09.3**	**+1.6**
SHTL	**Shatili**	**0.47**	**199**	P	**Pb**	**18 50 04.1**	**0.0**
SHTL				S	**Sb**	**18 50 10.9**	**+0.2**
SHTL	**Shatili**	**0.47**	**199**	*e*Pg	**Pb**	**18 50 04.1**	**0.0**
SHTL				*e*Sg	**Sb**	**18 50 10.9**	**+0.2**
VLKR	**Vladikavkaz**	**0.50**	**264**	*e*Pg	**Pb**	**18 50 05.1**	**+0.4**
VLKR				*e*Sg	**Sn**	**18 50 14.6**	**-0.3**
DVE	**Vedeno**	**0.58**	**104**	*e*Pg	**Pg**	**18 50 06.2**	**+0.2**
DVE				*e*Sg	**Sn**	**18 50 15.6**	**-1.2**
BTKR	**Batakoyurt**	**0.66**	**295**	*e*Pg	**Pn**	**18 50 08.2**	**-0.6**
BTKR				*e*Sg	**Sn**	**18 50 18.1**	**-0.5**
MTEO	**Meteo**	**0.74**	**236**	P	**Pb**	**18 50 08.8**	**-0.1**
MTEO				S	**Sg**	**18 50 19.1**	**+0.2**
BTLR	**Botlikh**	**0.77**	**124**	*e*Pg	**Pn**	**18 50 10.0**	**-0.3**
BTLR				*e*Sg	**Sn**	**18 50 21.2**	**-0.2**
TRKR	**Terskaya**	**0.78**	**324**	*e*Pg	**Pn**	**18 50 10.0**	**-0.4**
TRKR				*e*Sg	**Sn**	**18 50 21.6**	**+0.1**
ARNR	**Ardon**	**0.79**	**276**	*e*Pg	**Pn**	**18 50 11.6**	**+1.0**
ARNR				*e*Sg	**Sn**	**18 50 25.1**	**+3.1**
LACR	**Lac**	**0.82**	**251**	*e*Pg	**Pb**	**18 50 12.2**	**0.0**
LACR				*e*Sg	**Sn**	**18 50 22.9**	**0.0**
CHRG	**Chargali**	**0.83**	**203**	P	**Pg**	**18 50 10.6**	**-0.1**
CHRG				S	**Sb**	**18 50 20.9**	**-0.2**
GUDG	**Gudauri**	**0.91**	**226**	P	**Pb**	**18 50 11.7**	**+0.1**
GUDG				S	**Sb**	**18 50 23.7**	**+0.3**
GUDG	**Gudauri**	**0.91**	**226**	*e*Pg	**Pb**	**18 50 11.7**	**+0.1**
GUDG				*i* Pg	**Pg**	**18 50 11.8**	**-0.3**
GUDG				*e*Sg	**Sb**	**18 50 23.7**	**+0.3**
GUDG				*e*Sg	**Sg**	**18 50 24.5**	**+0.4**
DLMR	**Dylym**	**0.93**	**91**	*e*Pg	**Pg**	**18 50 13.1**	**+0.6**
	114nm,0.2s						
DLMR				*e*Sg	**Sn**	**18 50 26.8**	**+1.4**
	16nm,0.2s						
KORR	**Kora**	**0.95**	**270**	*e*Pg	**Pg**	**18 50 12.8**	**-0.1**
KORR				*e*Sg	**Sn**	**18 50 27.1**	**+1.4**
STDR	**Stavd-Durt**	**0.99**	**286**	*e*Pg	**Pg**	**18 50 14.0**	**+0.4**
STDR				*e*Sg	**Sn**	**18 50 29.2**	**+2.5**
DBC	**Dubki**	**1.08**	**94**	*e*Pg	**Pg**	**18 50 16.1**	**+0.7**
	21nm,0.1s						
DBC				*e*Sg	**Sg**	**18 50 31.4**	**+1.9**
	225nm,0.6s						
ZEI	**Tsey**	**1.11**	**254**	*i* Pg	**Pn**	**18 50 14.9**	**-0.3**
ZEI				*e*Sg	**Sn**	**18 50 30.1**	**0.0**
UNCR	**Uncukul**	**1.12**	**109**	*i* Pg	**Pg**	**18 50 16.2**	**+0.1**
	104nm,0.4s						
UNCR				*e*Sg	**Sg**	**18 50 32.2**	**+1.4**
	57nm,0.4s						
XNZR	**Khunzakh**	**1.14**	**119**	*e*Pg	**Pg**	**18 50 16.6**	**+0.2**
XNZR				*e*Sg	**Sg**	**18 50 32.5**	**+1.2**
LSNR	**Lesken**	**1.14**	**280**	*e*Pg	**Pg**	**18 50 16.4**	**0.0**
LSNR				*e*Sg	**Sg**	**18 50 32.3**	**+1.0**
KRNR	**Karanay**	**1.17**	**103**	*i* Pg	**Pb**	**18 50 16.1**	**+0.1**
	30nm,0.4s						
KRNR				*e*Sg	**Sg**	**18 50 32.1**	**-0.2**
	9.0nm,0.3s						
ARKR	**Arakani**	**1.30**	**112**	*e*Pg	**Pg**	**18 50 19.3**	**-0.2**
	17nm,0.3s						
ARKR				*e*Sg	**Sg**	**18 50 37.3**	**+0.8**
	75nm,0.5s						
BUJR	**Buynaksk**	**1.31**	**101**	*e*Pg	**Pg**	**18 50 20.3**	**+0.5**
	45nm,0.4s						
BUJR				*e*Sg	**Sg**	**18 50 39.3**	**+2.4**
	247nm,0.7s						
DIGR	**Digorskoe uzhe**	**1.32**	**262**	*e*Pg	**Pn**	**18 50 18.1**	**0.0**
DIGR				*e*Sg	**Sb**	**18 50 35.8**	**+0.5**
GNBR	**Gunib**	**1.38**	**120**	*e*Pg	**Pg**	**18 50 20.8**	**-0.2**
	45nm,0.3s						
GNBR				*e*Sg	**Sg**	**18 50 39.8**	**+0.8**
	284nm,0.5s						
LGD	**Lagodekhi**	**1.42**	**152**	P	**Pg**	**18 50 21.2**	**-0.6**
LGD				S	**Sg**	**18 50 39.7**	**-0.6**
LGD	**Lagodekhi**	**1.42**	**152**	*e*Pg	**Pg**	**18 50 21.2**	**-0.6**
LGD				*e*Sg	**Sg**	**18 50 39.7**	**-0.6**
ONI	**Oni**	**1.49**	**251**	P	**Pb**	**18 50 21.6**	**0.0**
ONI				S	**Sg**	**18 50 41.8**	**-0.8**
ONI	**Oni**	**1.49**	**251**	*e*Pg	**Pb**	**18 50 22.0**	**+0.5**
ONI				*e*Sg	**Sg**	**18 50 41.5**	**-1.0**
MAK	**Makhachkala**	**1.58**	**94**	*e*Pg	**Pg**	**18 50 24.1**	**-0.7**
	59nm,0.2s						
MAK				*e*Sg	**Sg**	**18 50 46.4**	**+1.1**
	126nm,0.3s						
KMKR	**Kumukh**	**1.61**	**126**	*e*Pg	**Pb**	**18 50 24.1**	**+0.5**
	61nm,0.4s						
KMKR				*e*Sg	**Sg**	**18 50 46.5**	**+0.2**
	56nm,0.4s						
DDFL	**Dedoflistskaro**	**1.74**	**161**	P	**Pg**	**18 50 29.9**	**+1.9**
SGKR	**Sergokala**	**1.81**	**110**	*e*Pg	**Pb**	**18 50 27.1**	**+0.2**
	16nm,0.2s						
SGKR				*e*Sg	**Sg**	**18 50 51.9**	**-0.7**
	39nm,0.6s						
BRNG	**Burnasheti**	**1.86**	**218**	P	**Pb**	**18 50 28.0**	**+0.1**
BRNG				S	**Sb**	**18 50 52.0**	**+1.2**
BRNG	**Burnasheti**	**1.86**	**218**	*e*Pg	**Pb**	**18 50 28.0**	**+0.1**
BRNG				*e*Sg	**Sb**	**18 50 52.0**	**+1.2**
KBZ	**Khabaz**	**1.90**	**290**	*e*Pg	**Pn**	**18 50 26.5**	**+0.7**
KBZ				*e*Sg	**Sb**	**18 50 51.4**	**-0.4**
PYA1	**Pyatigorsk**	**1.91**	**301**	*e*Pg	**Pn**	**18 50 26.2**	**+0.2**
PYA1				*e*Sg	**Sb**	**18 50 51.8**	**-0.3**
URKR	**Urkarakh**	**1.92**	**118**	*e*Pg	**Pb**	**18 50 29.3**	**+0.5**
	18nm,0.6s						
URKR				*e*Sg	**Sg**	**18 50 55.6**	**-0.6**
	7.0nm,0.4s						
NEUR	**Neytrino**	**1.95**	**276**	*e*Pg	**Pb**	**18 50 28.2**	**-1.2**
NEUR				*e*Sg	**Sb**	**18 50 52.1**	**-1.4**
DMNI	**Dmanisi**	**1.97**	**207**	P	**Pb**	**18 50 29.1**	**-0.7**
VSHL	**Vashlovani**	**2.02**	**157**	P	**Pg**	**18 50 31.9**	**-1.2**
BEYR	**Belyy Ugol+**	**2.06**	**297**	*e*Pg	**Pb**	**18 50 30.0**	**-1.3**
BEYR				*e*Sg	**Sb**	**18 50 56.0**	**-0.5**
KIV	**Kislovodsk**	**2.12**	**295**	*e*Pg	**Pb**	**18 50 30.5**	**-1.9**
KIV				*e*Sg	**Sb**	**18 50 57.3**	**-1.1**
AKT	**Akhty**	**2.39**	**132**	*e*Pn	**Pb**	**18 50 36.4**	**-0.4**
	9.0nm,0.3s						
AKT				*e*Sn	**Sb**	**18 51 07.9**	**+2.0**
	41nm,0.3s						
KSMR	**Kasumkent**	**2.54**	**125**	*e*Pn	**Pb**	**18 50 37.1**	**-2.3**
	10.0nm,0.3s						
KSMR				*e*Sn	**Sb**	**18 51 10.4**	**+0.2**
GNI	**Garni**	**2.98**	**189**	*e*Pn	**Pb**	**18 50 46.6**	**-0.4**
GNI				*e*Sn	**Sb**	**18 51 19.8**	**-3.3**

JMA 25 18:50:15.3±0.1,24°.3N±0°.4×123°.9E±0°.3,h10km±2km,
MV0.6/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**271**	P	Pg	18 50 18.4	0.0
IRIF				S	Sg	18 50 21.1	+0.6
JKRS	**Kuro-shima**	**0.16**	**128**	P	Pg	18 50 18.8	0.0
JKRS				S	Sg	18 50 21.7	+0.5
JIJ	**Ishigaki jima**	**0.25**	**83**	P	Pg	18 50 20.3	-0.1
JIJ				S	Sg	18 50 23.9	+0.1
HATJ	**Hateruma jima**	**0.28**	**193**	P	Pg	18 50 21.0	-0.1
HATJ				eS	Sg	18 50 25.4	+0.5
JISG	**Ishigakijimahi**	**0.47**	**58**	P	Pg	18 50 24.8	+0.2

TAP 25 18:50:37.0,24°.40N×122°.00E,h22km,ML1.9,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.20**	**284**	P	Pb	18 50 42.3	-0.2
	baz=291						
EWUT				S	Sb	18 50 46.3	+0.1
	baz=291						
EOS2	**EOS2**	**0.22**	**84**	*i* P	Pb	18 50 41.9	-0.6
	baz=88						
ESAO	**Su ao**	**0.23**	**322**	*e*P	Pb	18 50 42.4	-0.4
	baz=322						
ESAO				*e*S	Sb	18 50 46.9	+0.2
	baz=322						
ENA	**Nanau**	**0.23**	**278**	*i* P	Pb	18 50 42.5	-0.3
	baz=284						
ENA				*i* S	Sb	18 50 47.1	+0.3
	baz=284						
EAHA	**Aohua**	**0.24**	**254**	*e*S	Sb	18 50 47.7	+0.6
	baz=254						
TWC	**Suao**	**0.25**	**328**	*i* P	Pb	18 50 43.0	-0.1
	baz=335						
TWC				*i* S	Sb	18 50 47.2	0.0
	baz=335						
EOS3	**EOS3**	**0.31**	**110**	*i* P	Pb	18 50 42.9	-1.0
	baz=117						
NDS	**Dongshan**	**0.35**	**313**	P	Pb	18 50 45.0	+0.4
	baz=310						
NDS				S	Sn	18 50 51.4	-1.6
	baz=310						
EOS4	**EOS4**	**0.40**	**133**	*i* P	Pb	18 50 43.6	-1.6
	baz=129						
ETL	**Fush Village**	**0.41**	**235**	*e*P	Pb	18 50 46.2	+0.5
	baz=238						
NACB	**Ninganchiao**	**0.43**	**239**	P	Pb	18 50 45.9	0.0
	baz=237						
NACB				S	Sb	18 50 52.8	+0.9
	baz=237						
TWE	**Neicheng**	**0.44**	**317**	*i* P	Pb	18 50 46.4	+0.3
	baz=324						
TWE				S	Sb	18 50 53.4	+1.1
	baz=324						
LATG	**Datong**	**0.45**	**288**	P	Pb	18 50 46.7	+0.3
	baz=289						
LATG				S	Sb	18 50 53.5	+0.9
	baz=289						
ENTT	**Nioudou**	**0.46**	**302**	*i* P	Pb	18 50 46.8	+0.3
	baz=304						
ENTT				*i* S	Sb	18 50 54.1	+1.3
	baz=304						
TWD	**Chiawan**	**0.48**	**229**	P	Pb	18 50 47.3	+0.5
	baz=227						
TWD				S	Sn	18 50 55.2	-1.1
	baz=227						
NDT	**Datong Townshi**	**0.48**	**295**	P	Pb	18 50 47.6	+0.7
	baz=296						
NDT				S	Sb	18 50 54.5	+0.9
	baz=296						
ETLH	**Xiulin Townshi**	**0.51**	**248**	*e*P	Pb	18 50 46.8	-0.4
	baz=253						
FUSB	**Fushanzhiwuyua**	**0.52**	**314**	*e*P	Pb	18 50 48.1	+0.6
	baz=316						
FUSB				*e*S	Sb	18 50 55.6	+0.9
	baz=316						
NNSB	**Datong**	**0.56**	**273**	*e*P	Pb	18 50 48.2	0.0
	baz=281						
NNS	**Nan Shan**	**0.57**	**275**	P	Pn	18 50 49.3	-0.5
	baz=280						
NNS				S	Sb	18 50 57.0	+0.9
	baz=280						
NWLT	**Wulai**	**0.59**	**310**	*e*P	Pn	18 50 50.2	+0.1
	baz=311						
NWLT				*e*S	Sb	18 50 57.0	+0.4
	baz=311						
TIPB	**Shuangxi**	**0.59**	**345**	*e*P	Pb	18 50 48.5	-0.3
	baz=346			

GO02	**Mina Guanaco**	**0.46**	**255**	⇑	*i* P	**Pn**	**19 00 34.2**	**+0.2**
GO02					*i* S	**Sn**	**19 00 47.9**	**+0.3**
PB14	**IPOC Station P**	**1.26**	**289**	⇑	*i* P	**Pn**	**19 00 41.5**	**+0.6**
PB14					*i* S	**Sn**	**19 00 59.7**	**-0.1**
PB14					IAML		19 01 01.9	
	comp=E,319nm,0.5s							
AC01	**Pan de Azucar**	**1.75**	**231**	⇑	*i* P	**Pn**	**19 00 46.3**	**0.0**
AC01					*i* S	**Sn**	**19 01 09.0**	**-0.4**
AC01					IAML		19 01 09.8	
	comp=E,553nm,0.4s							
PB06	**IPOC Station P**	**2.36**	**349**	⇓	*i* P	**Pn**	**19 00 54.7**	**+0.5**
PB06					*i* S	**Sn**	**19 01 22.3**	**-1.1**
PB06					IAML		19 01 25.5	
	comp=E,124nm,0.7s							
PB05	**IPOC Station P**	**2.40**	**335**	⇓	*i* P	**Pn**	**19 00 54.7**	**+0.1**
PB05					*i* S	**Sn**	**19 01 22.8**	**-1.4**
PB05					IAML		19 01 31.9	
	comp=E,140nm,0.4s							
LVC	**Limon Verde**	**2.42**	**4**		P	**Pn**	**19 00 55.5**	**+0.3**
	comp=E,87nm,0.3s,baz=171,slow=12,SNR=218							
LVC					S	**Sn**	**19 01 24.3**	**-0.9**
	comp=E,58nm,0.4s,baz=200,slow=8.8,SNR=5.7							
LVC	**Limon Verde**	**2.42**	**4**		*i* P	**Pn**	**19 00 55.0**	**-0.2**
LVC					*i* S	**Sn**	**19 01 24.4**	**-0.8**
AC06	**Mina Casimiro**	**2.57**	**206**		*i* P	**Pn**	**19 00 56.1**	**-0.6**
GO03	**Copiap**	**2.74**	**202**		*i* P	**Pn**	**19 00 58.4**	**-0.5**
PB04	**IPOC Station P**	**2.86**	**340**		*e*P	**Pn**	**19 01 00.2**	**-0.5**
PB09	**IPOC Station P**	**3.23**	**358**	⇓	*i* P	**Pn**	**19 01 06.0**	**+0.5**
PB07	**IPOC Station P**	**3.38**	**347**		*i* P	**Pn**	**19 01 07.5**	**0.0**
TORD	**Torodi Ar. Bea**	**78.72**	**70**		P	**P**	**19 12 06.0**	**+0.3**
	comp=E,0.8nm,0.5s,baz=260,slow=5.4,SNR=7.2							
	comp=E,0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**145.19**	**27**		PKP	**PKPab**	**19 19 40.3**	**+1.1**
	comp=E,0.4nm,0.4s,baz=328,slow=5.1,SNR=3.6							
MKAR	**Makanchi Array**	**148.53**	**39**		PKPbc	**PKiKP**	**19 19 50.0**	**-0.3**
	comp=E,0.3nm,0.6s,baz=320,slow=2.7,SNR=4.7							

IDC ***25*** *19:10:39.6±0.9,56.˚18N×149.˚28W,h0km,mb3.7/16, mbtmp3.7/21,ML3.2/5,MS3.6/13,Error ellipse: s-maj=24.1km s-min=14.9km az=29.0*

NEIC ***25*** *19:10:40.1±2.3,56.˚32N±0.˚07×149.˚30W±0.˚10,h10km±1km, mb4.6/5,ML3.8/50,ML3.6(AEIC),Error ellipse: s-maj=12.7km s-min=9.0km az=170.0*

AEIC ***25*** *19:10:44.9±2.5,56.˚33N±0.˚08×149.˚2W±0.˚1,h12km±6km, Error ellipse: s-maj=11.6km s-min=8.0km az=167.0*

ISC 25 19:10:41.3±0.6,56.˚38N±0.˚07×149.˚31W±0.˚05,h10km, n270,σ1ꝑ04/235,mb3.8/17,MS3.7/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.27**	**309**		**Pn**	**19 11 18.4**	**-0.4**
KDAK	**Kodiak Island**	**2.27**	**309**		**Sn**	**19 11 44.4**	**-2.4**
KDAK	**Kodiak Island**	**2.27**	**309**	Pn	**Pn**	**19 11 18.2**	**-0.6**
	5.3nm,0.3s,baz=127,slow=5.3,SNR=38						
KDAK				Sn	**Sn**	**19 11 43.6**	**-3.3**
	7.8nm,0.3s,baz=306,slow=15,SNR=5.3						
KDAK				LR	LR	19 12 29.4	
	comp=Z,1μm,19.1s,baz=183,slow=45						
	49nm,0.9s						
OHAK	**Old Harbor**	**2.34**	**293**	Pn	**Pn**	**19 11 18.7**	**-1.1**
OHAK				IAML		19 11 46.8	
	comp=N,302nm,0.9s						
OHAK	**Old Harbor**	**2.34**	**293**		**Sn**	**19 11 45.4**	**-3.2**
OHAK	**Old Harbor**	**2.34**	**293**	P	**Pn**	**19 11 19.0**	**-0.7**
	baz=111						
OHAK				S	**Sn**	**19 11 45.4**	**-3.2**
	baz=111						
SII	**Sitkinak Islan**	**2.71**	**276**		**Sn**	**19 11 54.8**	**-2.9**
SYI	**Shuyak Island**	**2.78**	**325**	Pn	**Pn**	**19 11 25.5**	**-0.4**
SYI	**Shuyak Island**	**2.78**	**325**		**Sn**	**19 11 58.5**	**-1.0**
Q20K	**Shuyak Island**	**2.79**	**325**	P	**Pn**	**19 11 25.8**	**0.0**
	baz=143						
Q20K				S	**Sn**	**19 11 58.5**	**-1.0**
	baz=143						
R18K	**Karluk**	**3.06**	**295**		**Pn**	**19 11 29.1**	**-0.4**
R18K					**Sn**	**19 12 03.6**	**-2.5**
R18K	**Karluk**	**3.06**	**295**	IAML		19 12 07.7	
	comp=N,235nm,0.6s						
R18K				IAML		19 12 13.1	
	comp=E,235nm,0.6s						
R18K	**Karluk**	**3.06**	**295**	P	**Pn**	**19 11 29.8**	**+0.3**
	baz=112						
R18K				S	**Sn**	**19 12 03.6**	**-2.5**
	baz=112						
CNPM	**China Poot**	**3.31**	**343**		**Pn**	**19 11 32.4**	**-0.8**
CNPM				IAML		19 12 17.6	
	comp=E,123nm,1.3s						
CNPM	**China Poot**	**3.31**	**343**		**Sn**	**19 12 10.3**	**-2.3**
Q23K	**Middleton Isla**	**3.44**	**26**	Pn	**Pn**	**19 11 33.7**	**-1.1**
Q23K				IAML		19 12 39.4	
	comp=N,231nm,1.1s						
MID	**Middleton Isla**	**3.44**	**26**	Pn	**Pn**	**19 11 33.5**	**-1.4**
MID				IAML		19 12 24.4	
	comp=N,275nm,1.5s						
MID				IAML		19 12 24.9	
	comp=E,357nm,1.4s						
BRSE	**Bradley Lake S**	**3.45**	**348**		**Pn**	**19 11 34.3**	**-0.8**
BRSE					**Sn**	**19 12 14.0**	**-2.0**
BRSE	**Bradley Lake S**	**3.45**	**348**	P	**Pn**	**19 11 34.5**	**-0.5**
	baz=167						
BRSE				S	**Sn**	**19 12 14.0**	**-2.0**
	baz=167						
Q19K	**Cape Douglas,**	**3.46**	**319**		**Pn**	**19 11 35.2**	**+0.1**
Q19K	**Cape Douglas,**	**3.46**	**319**	P	**Pn**	**19 11 35.6**	**+0.5**
	baz=136						
BRLK	**Bradley Lake**	**3.49**	**347**		**Pn**	**19 11 34.5**	**-1.1**
BRLK				IAML		19 12 21.5	
	comp=E,105nm,1.2s						
HOM	**Homer**	**3.51**	**340**	Pn	**Pn**	**19 11 34.9**	**-0.9**
KAHG	**Katmai Hook Gl**	**3.53**	**309**		**Pn**	**19 11 36.6**	**+0.4**
AUCH	**Augustine Cone**	**3.71**	**325**		**Pn**	**19 11 39.5**	**+0.8**
SEW	**Seward**	**3.73**	**359**	Pn	**Pn**	**19 11 37.5**	**-1.4**
SEW	**Seward**	**3.73**	**359**	P	**Pn**	**19 11 38.2**	**-0.7**
	baz=179						
P23K	**Montague Islan**	**3.76**	**15**		**Pn**	**19 11 38.0**	**-1.2**
KVTA	**Katmai Vly 10**	**3.81**	**304**		**Pn**	**19 11 41.1**	**+1.2**
ANCK	**Angle Creek**	**3.82**	**301**		**Pn**	**19 11 41.3**	**+1.2**
P19K	**Oil Pt**	**3.89**	**329**	Pn	**Pn**	**19 11 41.1**	**+0.1**
P19K				IAML		19 12 29.7	
	comp=N,173nm,0.9s						
P19K				IAML		19 12 33.6	
	comp=E,168nm,1.1s						
P19K	**Oil Pt**	**3.89**	**329**	P	**Pn**	**19 11 41.3**	**+0.3**
	baz=146						
CNTC	**Contact Creek**	**4.03**	**301**		**Pn**	**19 11 43.9**	**+0.8**
Q17K	**Contact Creek**	**4.03**	**301**	P	**Pn**	**19 11 43.9**	**+0.8**
	baz=116						
O20K	**Slope Mountain**	**4.10**	**336**		**Pn**	**19 11 43.7**	**-0.3**
O20K	**Slope Mountain**	**4.10**	**336**	P	**Pn**	**19 11 43.9**	**-0.1**
	baz=154						
O22K	**Cooper Landing**	**4.12**	**357**	Pn	Pn	19 11 42.4	-1.7
SLKM	**Skilak Lake**	**4.17**	**354**		**Pn**	**19 11 43.9**	**-0.9**
HIN	**Hinchinbrook I**	**4.29**	**19**		**Pn**	**19 11 45.7**	**-0.8**
HIN				IAML		19 12 45.7	
	comp=N,176nm,1.1s						
HIN				IAML		19 12 54.1	
	comp=E,159nm,0.9s						
P18K	**Big Mountain,**	**4.37**	**316**		**Pn**	**19 11 46.6**	**-1.0**
P18K	**Big Mountain,**	**4.37**	**316**	P	**Pn**	**19 11 47.1**	**-0.5**
	baz=132						
KAIM	**Kayak Island**	**4.40**	**34**	Pn	**Pn**	**19 11 48.0**	**0.0**
KAIM				IAML		19 13 29.3	
	comp=N,175nm,1.5s						
RED	**Redoubt Volcan**	**4.44**	**337**		**Pn**	**19 11 47.5**	**-1.1**
RDSO	**Redoubt South**	**4.46**	**338**		**Pn**	**19 11 48.0**	**-1.1**
RSO	**Redoubt South**	**4.47**	**338**		**Pn**	**19 11 48.7**	**-0.5**
RDT	**Redoubt**	**4.51**	**340**		**Pn**	**19 11 48.5**	**-1.1**
EYAK	**Cordova Ski Ar**	**4.58**	**23**	P	**Pn**	**19 11 49.9**	**-0.5**
	baz=205						
DFR	**Drift River**	**4.58**	**339**		**Pn**	**19 11 49.9**	**-0.7**
FID	**Port Fidalgo**	**4.62**	**18**		**Pn**	**19 11 50.3**	**-0.8**
FID				IAML		19 12 49.6	
	comp=N,68nm,1.5s						
FID				IAML		19 12 52.8	
	comp=E,88nm,1.4s						
O19K	**Port Alsworth**	**4.65**	**327**	Pn	**Pn**	**19 11 50.6**	**-0.8**
O19K				IAML		19 12 45.8	
	comp=N,143nm,0.4s						
RC01	**Rabbit Creek A**	**4.73**	**357**		**Pn**	**19 11 51.2**	**-1.3**
RC01				IAML		19 12 52.7	
	comp=E,71nm,0.6s						
RC01				IAML		19 12 55.2	
	comp=N,58nm,1.5s						

RC01	**Rabbit Creek A**	**4.73**	**357**	P	**Pn**	**19 11 52.0**	**-0.5**
	baz=177								
P17K	**Kvichak River**	**4.74**	**309**	P	**Pn**	**19 11 53.5**	**+0.8**
	baz=124								
GOAT	**Goat Mountain**	**4.85**	**28**		**Pn**	**19 11 54.0**	**-0.2**
BERG	**Berg Lake**	**4.99**	**34**	Pn	Pn	19 11 53.2	-2.8
N20K	**Mount Spurr**	**5.06**	**344**	P	**Pn**	**19 11 56.6**	**-0.5**
	baz=162								
SPCR	**Spurr Chakacha**	**5.06**	**344**		**Pn**	**19 11 56.3**	**-0.9**
KNK	**Knik Glacier**	**5.07**	**5**	Pn	**Pn**	**19 11 56.0**	**-1.2**
KNK				IAML		19 13 05.5			
	comp=E,51nm,1.0s								
KNK				IAML		19 13 07.6			
	comp=N,45nm,1.5s								
CHGN	**Chignik**	**5.07**	**273**	Pn	Pn	19 11 55.5	-1.7		
CHGN				IAML		19 12 58.8			
	comp=N,97nm,0.7s								
DIV	**Divide**	**5.10**	**20**	Pn	**Pn**	**19 11 56.7**	**-1.1**		
SNH	**Sunshine Point**	**5.11**	**39**	Pn	Pn	19 11 56.2	-1.6		
SNH				IAML		19 13 06.4			
	comp=E,84nm,1.3s								
SNH				IAML		19 13 09.5			
	comp=N,82nm,1.3s								
SPCP	**Crater Peak Br**	**5.12**	**344**		**Pn**	**19 11 57.7**	**-0.3**		
SPCG	**Spurr Capps Gl**	**5.12**	**345**		Pn	19 11 56.5	-1.5		
SUA	**Susitna One**	**5.15**	**352**		Pn	19 11 56.9	-1.5		
SUA				IAML		19 13 15.8			
	comp=E,41nm,1.0s								
SUA	**Susitna One**	**5.15**	**352**	P	**Pn**	**19 11 58.2**	**-0.2**		
	baz=171								
N19K	**Bonanza Creek**	**5.20**	**331**	Pn	Pn	19 11 55.5	-3.6		
N19K				IAML		19 13 14.3			
	comp=E,30nm,1.2s								
N19K				IAML		19 13 19.7			
	comp=N,33nm,1.4s								
N19K	**Bonanza Creek**	**5.20**	**331**	P	**Pn**	**19 11 58.5**	**-0.6**		
	baz=147								
BMRM	**Bremner River**	**5.21**	**26**	Pn	**Pn**	**19 11 58.9**	**-0.3**		
BMRM	**Bremner River**	**5.21**	**26**	P	**Pn**	**19 11 59.2**	**0.0**		
	baz=210								
PMR	**Palmer**	**5.23**	**1**		**Pn**	**19 11 59.3**	**0.0**		
O17K	**Koliganek Bris**	**5.35**	**313**		**Pn**	**19 12 00.8**	**-0.2**		
O17K	**Koliganek Bris**	**5.35**	**313**	P	**Pn**	**19 12 01.1**	**+0.1**		
	baz=127								
P16K	**Nushagak River**	**5.36**	**303**		**Pn**	**19 12 01.3**	**+0.1**		
P16K	**Nushagak River**	**5.36**	**303**	P	**Pn**	**19 12 01.3**	**+0.1**		
	baz=117								
GHO	**Glory Hole Cre**	**5.41**	**2**		**Pn**	**19 12 01.6**	**-0.3**		
KLU	**Klutina**	**5.42**	**17**		Pn	19 12 00.0	-2.0		
KLU	**Klutina**	**5.42**	**17**	P	**Pn**	**19 12 02.0**	**0.0**		
	baz=200								
SML	**Sawmill**	**5.46**	**5**		**Pn**	**19 12 02.3**	**-0.4**		
N18K	**Kilae Creek**	**5.52**	**324**		**Pn**	**19 12 02.6**	**-0.8**		
N18K	**Kilae Creek**	**5.52**	**324**	P	**Pn**	**19 12 02.7**	**-0.7**		
	baz=139								
SCM	**Sheep Creek Mo**	**5.56**	**10**		**Pn**	**19 12 03.2**	**-0.8**		
SCM	**Sheep Creek Mo**	**5.56**	**10**	P	**Pn**	**19 12 04.5**	**+0.5**		
	baz=191								
O16K	**Kokwok River B**	**5.67**	**308**	Pn	**Pn**	**19 12 05.3**	**-0.1**		
SKT	**Skwentna**	**5.73**	**349**		**Pn**	**19 12 07.1**	**+0.8**		
VRDI	**Verde Repeater**	**5.73**	**30**		**Pn**	**19 12 06.2**	**-0.3**		
N25K	**Chitina, Valde**	**5.78**	**23**		**Pn**	**19 12 06.4**	**-0.6**		
N25K	**Chitina, Valde**	**5.78**	**23**	P	**Pn**	**19 12 06.9**	**-0.1**		
	baz=207								
GLB	**Gilahina Butte**	**5.82**	**27**		**Pn**	**19 12 06.3**	**-1.2**		
M20K	**Styx River**	**5.86**	**342**	Pn	**Pn**	**19 12 08.1**	**0.0**		
N17K	**Nushagak Hills**	**5.86**	**318**		Pn	19 12 06.5	-1.6		
N17K	**Nushagak Hills**	**5.86**	**318**	P	**Pn**	**19 12 07.6**	**-0.5**		
	baz=132								
SAMH	**Samovar Hills**	**5.86**	**47**		**Pn**	**19 12 08.2**	**0.0**		
M24K	**Tolsona, Glenn**	**5.96**	**14**		**Pn**	**19 12 10.8**	**+1.3**		
MCARA	**McCarthy VSAT**	**5.98**	**30**		**Pn**	**19 12 09.9**	**+0.2**		
MCARA	**McCarthy VSAT**	**5.98**	**30**	P	**Pn**	**19 12 09.9**	**+0.2**		
	baz=215								
PTPK	**Patty Peak**	**5.99**	**34**		**Pn**	**19 12 09.9**	**-0.1**		
PCA	**Pinnacle**	**6.06**	**48**		**Pn**	**19 12 10.5**	**-0.4**		
PINM	**Pinnacle**	**6.06**	**48**	P	**Pn**	**19 12 10.5**	**-0.4**		
	baz=236								
M19K	**Big River Lodg**	**6.12**	**337**		**Pn**	**19 12 11.1**	**-0.5**		
M18K	**Stony River**	**6.13**	**329**		**Pn**	**19 12 11.0**	**-0.8**		
M18K	**Stony River**	**6.13**	**329**	P	**Pn**	**19 12 11.0**	**-0.8**		
	baz=144								
BARN	**Barnard Glacie**	**6.15**	**37**		**Pn**	**19 12 11.5**	**-0.8**		
WACK	**Wrangell Chich**	**6.17**	**22**		**Pn**	**19 12 13.1**	**+0.5**		
CTGM	**Chitina Glacie**	**6.20**	**39**		**Pn**	**19 12 12.3**	**-0.5**		
PNL	**Peninsula**	**6.21**	**54**		**Pn**	**19 12 12.7**	**-0.2**		
PNL	**Peninsula**	**6.21**	**54**	P	**Pn**	**19 12 12.7**	**-0.2**		
	baz=242								
LOGN	**Logan Glacier**	**6.22**	**41**		**Pn**	**19 12 12.8**	**-0.4**		
BCPM	**Bancas Point**	**6.24**	**51**	Pn	**Pn**	**19 12 13.0**	**-0.3**		
WAT6	**Susitna Watana**	**6.27**	**7**	P	**Pn**	**19 12 14.1**	**+0.3**		
	baz=188								
L19K	**White Mountain**	**6.47**	**336**		**Pn**	**19 12 15.5**	**-1.0**		
M17K	**Holitna River**	**6.56**	**323**		**Pn**	**19 12 17.2**	**-0.4**		
M17K	**Holitna River**	**6.56**	**323**	P	**Pn**	**19 12 17.4**	**-0.3**		
	baz=137								
DHY	**Denali Highway**	**6.78**	**7**		**Pn**	**19 12 21.9**	**+1.0**		
DHY	**Denali Highway**	**6.78**	**7**	P	**Pn**	**19 12 21.5**	**+0.6**		
	baz=189								
N15K	**Kwethluk River**	**6.83**	**308**		**Pn**	**19 12 21.8**	**+0.4**		
N15K	**Kwethluk River**	**6.83**	**308**	P	**Pn**	**19 12 21.9**	**+0.4**		
	baz=120								
M16K	**Timber Creek**	**6.85**	**317**	Pn	**Pn**	**19 12 21.0**	**-0.6**		
O29M	**Mount Kennedy**	**6.88**	**51**		**Pn**	**19 12 21.9**	**-0.3**		
PAX	**Paxson**	**6.89**	**15**		**Pn**	**19 12 22.8**	**+0.5**		
PAX	**Paxson**	**6.89**	**15**	P	**Pn**	**19 12 22.8**	**+0.5**		
	baz=198								
YUK2	**White River**	**6.95**	**35**		**Pn**	**19 12 23.3**	**+0.1**		
P29M	**Windy Craggy**	**6.96**	**57**		**Pn**	**19 12 22.4**	**-0.7**		
P29M	**Windy Craggy**	**6.96**	**57**	P	**Pn**	**19 12 22.6**	**-0.6**		
	baz=247								
RND	**Reindeer**	**7.05**	**2**	Pn	Pn	19 12 23.0	-1.5		
YUK3	**Moose Creek**	**7.07**	**36**		**Pn**	**19 12 25.4**	**+0.5**		
YUK3	**Moose Creek**	**7.07**	**36**	P	**Pn**	**19 12 25.4**	**+0.5**		
	baz=224								
M27K	**Edge Creek, AK**	**7.09**	**29**		**Pn**	**19 12 25.4**	**+0.4**		
M27K	**Edge Creek, AK**	**7.09**	**29**	P	**Pn**	**19 12 25.5**	**+0.5**		
	baz=215								
TRF	**Thorofare Moun**	**7.11**	**356**	Pn	**Pn**	**19 12 24.5**	**-0.8**		
YUK7	**Dusty Glacier**	**7.18**	**50**		**Pn**	**19 12 26.8**	**+0.4**		
YUK6	**Outpost Mounta**	**7.31**	**47**		**Pn**	**19 12 27.5**	**-0.6**		
YUK6	**Outpost Mounta**	**7.31**	**47**	P	**Pn**	**19 12 27.5**	**-0.6**		
	baz=236								
L26K	**Log Cabin Wild**	**7.31**	**22**	Pn	Pn	19 12 25.6	-2.4		
MCK	**McKinley**	**7.38**	**1**	Pn	Pn	19 12 26.6	-2.3		
TTA	**Tatalina**	**7.39**	**335**	Pn	Pn	19 12 27.7	-1.4		
BVCY	**Beaver Creek**	**7.42**	**32**		**Pn**	**19 12 29.8**	**+0.2**		
BVCY	**Beaver Creek**	**7.42**	**32**	P	**Pn**	**19 12 29.8**	**+0.2**		
	baz=219								
L16K	**Owhat River**	**7.48**	**320**		**Pn**	**19 12 30.1**	**-0.1**		
L16K	**Owhat River**	**7.48**	**320**	P	**Pn**	**19 12 30.5**	**+0.3**		
	baz=131								
HYT	**Haines Junctio**	**7.60**	**49**	Pn	**Pn**	**19 12 30.7**	**-1.3**		
L27K	**Beaver Creek,**	**7.69**	**26**	Pn	**Pn**	**19 12 33.4**	**+0.2**		
BCAR	**Beaver Creek A**	**7.70**	**26**	Pn	**Pn**	**19 12 31.9**	**-1.5**		
RIDG	**Independent Ri**	**7.71**	**15**		**Pn**	**19 12 34.2**	**+0.7**		
SIT	**Sitka**	**7.73**	**79**	Pn	Pn	19 12 30.7	-2.9		
BWN	**Browne**	**7.81**	**359**	Pn	Pn	19 12 32.8	-2.1		
K17K	**Iditarod**	**7.82**	**328**		**Pn**	**19 12 33.6**	**-1.3**		
K17K	**Iditarod**	**7.82**	**328**	P	**Pn**	**19 12 34.0**	**-0.9**		
	baz=140								
M14K	**Bethel**	**7.93**	**309**		**Pn**	**19 12 35.3**	**-1.0**		
J18K	**Innoko River**	**8.01**	**335**	Pn	Pn	19 12 35.3	-2.3		
SKAG	**Skagway**	**8.05**	**62**	Pn	Pn	19 12 35.6	-2.5		
SCRK	**Sand Creek**	**8.06**	**17**	Pn	Pn	19 12 36.0	-2.4		
BESE	**Bessie Mountai**	**8.09**	**68**	Pn	**Pn**	**19 12 37.8**	**-0.9**		
N30M	**Aishikik Lake**	**8.11**	**46**		**Pn**	**19 12 38.4**	**-0.5**		
S32K	**Killisnoo**	**8.13**	**76**	Pn	Pn	19 12 35.5	-3.7		
HDA	**Harding Lake**	**8.14**	**7**		**Pn**	**19 12 39.9**	**+0.6**		
O30N	**Mendenhall**	**8.18**	**52**	Pn	**Pn**	**19 12 38.5**	**-1.5**		
M29M	**Somme Creek**	**8.21**	**38**		**Pn**	**19 12 40.2**	**-0.1**		
M29M	**Somme Creek**	**8.21**	**38**	P	**Pn**	**19 12 40.6**	**+0.3**		
	baz=227								
L15K	**Ungalak Mounta**	**8.22**	**315**		**Pn**	**19 12 40.4**	**0.0**		
L15K	**Ungalak Mounta**	**8.22**	**315**	P	**Pn**	**19 12 40.4**	**0.0**		
	baz=125								
NEA2	**Nenana**	**8.24**	**1**		**Pn**	**19 12 41.2**	**+0.5**		
J19K	**Poorman**	**8.25**	**340**	Pn	Pn	19 12 39.1	-1.8		
JIS	**Juneau Island**	**8.30**	**71**	Pn	Pn	19 12 38.7	-2.8		
CCB	**Clear Creek Bu**	**8.32**	**4**	Pn	**Pn**	**19 12 41.3**	**-0.5**		
ISLZ	**Isanotski Laza**	**8.33**	**265**		**Pn**	**19 12 41.5**	**-0.5**		
M13K	**Dall Lake**	**8.40**	**305**	Pn	**Pn**	**19 12 42.0**	**-0.8**		
K27K	**Chicken**	**8.47**	**22**	Pn	**Pn**	**19 12 44.5**	**+0.7**		

J25K	**Salcha River,**	**8.48**	**12**			**Pn**	**19 12 45.8**	**+1.7**	
IL31		**8.50**	**7**			**Pn**	**19 12 44.9**	**+0.7**	
ILAR	**Eielson Array**	**8.50**	**7**	Pn		**Pn**	**19 12 44.7**	**+0.4**	
ILAR	**Eielson Array**	**8.50**	**7**	Pn		**Pn**	**19 12 44.9**	**+0.6**	
	comp=N,0.3nm,0.3s,baz=186,slow=12,SNR=18								
ILAR					Sn	**Sn**	**19 14 16.4**	**-3.7**	
	comp=N,0.3nm,0.3s,baz=164,slow=14,SNR=3.8								
ILAR					LR	LR	19 16 04.2		
	comp=N,180nm,18.4s,baz=258,slow=37								
	comp=N,0.8nm,0.4s								
IL03	**Eielson Array**	**8.50**	**7**	Pn		**Pn**	**19 12 43.5**	**-0.8**	
L14K	**Kuka Creek**	**8.52**	**311**	Pn		**Pn**	**19 12 45.4**	**+0.9**	
K15K	**Wolf Creek Mou**	**8.60**	**319**	Pn		**Pn**	**19 12 45.7**	**0.0**	
J26L	**Joseph Creek**	**8.62**	**17**			**Pn**	**19 12 45.8**	**-0.2**	
WHY	**Whitehorse**	**8.68**	**54**	Pn		**Pn**	**19 12 45.6**	**-1.1**	
L29M	**L29M**	**8.78**	**35**			**Pn**	**19 12 48.6**	**+0.4**	
I23K	**Minto, Yukon-K**	**8.79**	**360**			**Pn**	**19 12 49.2**	**+1.0**	
P32M	**Atlin**	**8.88**	**62**	Pn		**Pn**	**19 12 48.2**	**-1.3**	
M30M	**Minto, Yukon**	**8.88**	**41**	Pn		**Pn**	**19 12 48.9**	**-0.7**	
I21K	**Tanana**	**8.92**	**353**			**Pn**	**19 12 50.8**	**+0.8**	
J16K	**Anvik River**	**8.95**	**325**	Pn		Pn	19 12 48.6	-1.7	
U33K	**Whale Pass**	**9.02**	**85**	Pn		Pn	19 12 47.6	-3.7	
DAWY	**Dawson**	**9.14**	**28**	Pn		**Pn**	**19 12 52.4**	**-0.7**	
EGAK	**Eagle**	**9.32**	**22**	Pn		**Pn**	**19 12 55.2**	**-0.3**	
I26K	**Coal Creek Min**	**9.44**	**16**	Pn		**Pn**	**19 12 57.1**	**0.0**	
H21K	**Melozitna Rive**	**9.46**	**351**			**Pn**	**19 12 57.5**	**+0.1**	
Q32M	**Nakina River**	**9.48**	**67**	Pn		**Pn**	**19 12 56.9**	**-1.0**	
P33M	**Teslin, Yukon**	**9.48**	**59**	Pn		**Pn**	**19 12 56.9**	**-0.9**	
K29M	**Barlow Dome**	**9.50**	**33**	Pn		**Pn**	**19 12 57.9**	**-0.2**	
H24K	**Noodor Dome**	**9.51**	**4**			**Pn**	**19 12 59.5**	**+1.3**	
M31M	**Drury Creek, Y**	**9.59**	**46**			**Pn**	**19 12 59.5**	**+0.3**	
J14K	**Nanvaranak Lak**	**9.63**	**317**	Pn		**Pn**	**19 12 59.5**	**-0.1**	
K13K	**Kusilvak Mount**	**9.63**	**312**	Pn		**Pn**	**19 13 00.2**	**+0.5**	
N32M	**Quiet Lake**	**9.68**	**54**	Pn		**Pn**	**19 12 59.2**	**-1.2**	
H19K	**Roundabout Mou**	**9.80**	**342**	Pn		Pn	19 13 00.6	-1.4	
H18K	**Honhosa River**	**9.84**	**337**	Pn		**Pn**	**19 13 01.6**	**-1.0**	
IMAR	**Indian Mountai**	**9.87**	**349**	Pn		**Pn**	**19 13 01.7**	**-1.2**	
S34M	**Telegraph Cree**	**9.99**	**74**	Pn		Pn	19 13 02.0	-2.8	
H17K	**Granite Mounta**	**10.02**	**333**	Pn		**Pn**	**19 13 05.4**	**+0.3**	
FARO	**Faro, Yukon**	**10.03**	**48**	Pn		Pn	19 13 03.0	-2.2	
I28M	**Miner Creek**	**10.16**	**23**	Pn		**Pn**	**19 13 08.1**	**+1.0**	
R33M	**Jennings River**	**10.21**	**65**	Pn		**Pn**	**19 13 07.2**	**-0.7**	
G21K	**Alaknet**	**10.36**	**351**	Pn		**Pn**	**19 13 09.3**	**-0.5**	
G23K	**Bananza Creek**	**10.37**	**358**	Pn		**Pn**	**19 13 10.8**	**+0.9**	
J30M	**Hart River**	**10.39**	**33**	Pn		**Pn**	**19 13 09.7**	**-0.6**	
FYU	**

comp=Z,0.5nm,0.8s,baz=316,slow=5.4,SNR=1.9
comp=Z,0.5nm,0.8s

GEYT	**Alibeck**	**83.21**	**338**	P	**P**	**19 23 07.0**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=356,slow=5.8,SNR=1.8						
	comp=Z,0.6nm,0.8s						
BRTR	**Keskin Array B**	**84.23**	**358**	P	**P**	**19 23 14.8**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=350,slow=7.3,SNR=2.1						
	comp=Z,1.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**86.22**	**298**	P	**P**	**19 23 23.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=9.0,slow=4.2,SNR=5.8						
CMAR				LR	LR	20 06 39.9	
	comp=Z,18nm,18.7s,baz=165,slow=39						
	comp=Z,0.5nm,0.7s						

*DJA **25** 19:23:47.7±0.6,3˚S±3˚×12˚8E±˚, h16^{km}±6^{km}, M3.5/9, MLv3.5/9*
*IDC **25** 19:23:55.1±1.8,3˚75S×128˚18E, h0^{km}, mb3.7/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=132.1km s-min=27.2km az=72.0*
ISC 25 19:23:47.1±0.9,**2.79S**±0˚05×**128˚07E**±0˚05,**h10**^{km},**n13,** σ1ᵍ**38/16, mb3.6/3,Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**0.62**	**148**	P		**Pg**	**19 23 59.7**	**+0.6**
KRAI				S		**Sb**	19 24 09.3	+0.5
NLAI	**Namlea**	**1.06**	**245**	P		**Pn**	**19 24 08.8**	**+0.7**
NLAI				S		**Sn**	19 24 23.0	+0.1
SANI	**Sanana**	**2.20**	**289**	P		**Pn**	**19 24 23.2**	**-0.5**
SANI				S		**Sn**	19 24 49.2	-1.9
LBMI	**Labuha**	**2.21**	**345**	P		**Pn**	**19 24 24.7**	**+0.8**
LBMI				S		**Sn**	**19 24 52.2**	**+0.9**
BNDI	**Bandanaira**	**2.52**	**133**	P		**Pn**	**19 24 28.4**	**+0.4**
TNTI	**Ternate**	**3.61**	**349**	P		**Pn**	**19 24 43.2**	**+0.1**
SWI	**Sorong**	**3.72**	**59**	P		**Pn**	**19 24 44.4**	**-0.2**
SIJI	**Sorong**	**3.72**	**59**	P		**Pn**	**19 24 44.4**	**-0.3**
FAKI	**Fak Fak**	**4.18**	**92**	P		**Pn**	**19 24 50.2**	**-0.8**
WRA	**Warramunga Arr**	**18.11**	**161**	P		**Pn**	**19 27 56.5**	**-2.5**
	0.2nm,0.3s,baz=339,slow=12,SNR=10							
	0.5nm,0.3s							
ASAR	**Alice Springs**	**21.51**	**165**	P		**P**	**19 28 34.2**	**-2.1**
	1.5nm,0.6s,baz=346,slow=12,SNR=31							
	1.5nm,0.6s							
STKA	**Stephens Creek**	**31.61**	**158**	P		**P**	**19 30 12.9**	**+2.6**
	3.2nm,1.0s,baz=328,slow=15,SNR=3.4							
	3.2nm,1.0s							
SONM	**Songino Array**	**53.87**	**342**	P		P	19 33 27.0	+16
	0.3nm,0.6s,baz=148,slow=8.5,SNR=2.6							
	0.3nm,0.6s							

*IDC **25** 19:27:22.1±4.1,5˚71S×148˚60E, h127^{km}±42^{km}, mb2.9/4, mbtmp3.3/6, Error ellipse: s-maj=74.3km s-min=32.6km az=116.0*
ISC 25 19:27:24.3±1.6,**5˚8S**±0˚1×**148˚4E**±0˚4,**h150**^{km},**n7,** σ1ᵍ**53/8, mb3.1/4,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**199**	P		**Pn**	**19 28 22.3**	**+0.2**
	4.1nm,0.4s,baz=191,slow=17,SNR=1.7							
PMG				S		**Sn**	19 29 06.7	-0.3
	26nm,0.6s,baz=181,slow=21,SNR=7.7							
WRA	**Warramunga Arr**	**19.64**	**223**	P		**Pn**	**19 31 43.0**	**-1.5**
	0.6nm,0.6s,baz=48,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**22.62**	**217**	P		**P**	**19 32 14.9**	**+2.2**
	0.3nm,0.7s,baz=54,slow=9.1,SNR=5.1							
	0.3nm,0.7s							
SONM	**Songino Array**	**64.92**	**330**	P		**P**	**19 37 49.3**	**+1.4**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=1.7							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**78.25**	**320**	P		**P**	**19 39 06.7**	**-0.8**
	0.3nm,0.9s,baz=108,slow=7.2,SNR=2.4							
	0.3nm,0.9s							
ILAR	**Eielson Array**	**84.73**	**23**	P		**P**	**19 39 40.8**	**-0.4**
	0.3nm,0.7s,baz=240,slow=5.0,SNR=4.3							
	0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**146.41**	**285**	PKPbc		**PKPab**	**19 46 48.7**	**-1.2**
	0.3nm,0.6s,baz=64,slow=5.0,SNR=2.8							

*IDC **25** 19:35:54.6±2.2,30˚98S×65˚43W, h177^{km}±20^{km}, mb3.4/6, mbtmp3.8/10, Error ellipse: s-maj=23.6km s-min=15.9km az=95.0*
*NEIC **25** 19:35:55.5±1.3,30˚99S±0˚08×65˚51W±0˚08, h187^{km}±15^{km}, mb4.1/4, Error ellipse: s-maj=13.8km s-min=5.5km az=142.0*
*SJA **25** 19:35:55.2±1.0,30˚90S×65˚52W, h192^{km}±4^{km}, ML3.6, MW3.7*
ISC 25 19:35:55.4±0.7,**30˚90S**±0˚05×**65˚53W**±0˚06,**h190**^{km}±6^{km}, **n83,** σ1ᵍ**16/95, mb4.0/8,Cordoba Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.91**	**119**	*e*P		**Pn**	**19 36 24.2**	**+0.6**
TCA				*e*S		**Sn**	19 36 45.1	-0.4
ACHE	**Chepes**	**1.01**	**255**	*e*P		**Pn**	**19 36 25.3**	**+1.0**
ACHE				*e*S		**Sn**	19 36 46.7	0.0
AVFE	**Valle Fertil**	**1.67**	**278**	*e*P		**Pn**	**19 36 30.8**	**+0.9**
AVFE				*i* S		**Sn**	19 36 56.3	-0.4
ACLC	**CERRO LA CRUZ**	**1.92**	**320**	*e*P		**Pn**	**19 36 33.4**	**+0.9**
ACLC				*e*S		**Sn**	**19 37 01.1**	**-0.2**
ACLC				IAML			19 37 03.2	
	comp=Z,188nm,0.6s							
CYA	**Choya**	**2.46**	**354**	*e*P		**Pn**	**19 36 38.9**	**+0.7**
CYA				*e*S		**Sn**	**19 37 10.2**	**-1.5**
CYA				IAML			19 37 11.8	
	comp=Z,178nm,0.8s							
RTLL	**Cerro Villicun**	**2.56**	**260**	*e*P		**Pn**	**19 36 40.1**	**+0.8**
RTLL				*e*S		**Sn**	**19 37 13.2**	**-0.4**
RTLL				IAML			19 37 16.4	
	comp=Z,148nm,0.2s							
SJA	**San Juan**	**2.67**	**256**	*e*P		**Pn**	**19 36 41.6**	**+1.0**
SJA				IAML			19 37 49.8	
	comp=Z,79nm,0.1s							
RTCV	**Cerro Valdivia**	**2.75**	**249**	*e*P		**Pn**	**19 36 42.1**	**+0.6**
DOCA	**Reserva Natura**	**3.05**	**268**	*e*P		**Pn**	**19 36 46.4**	**+0.9**
DOCA				*e*S		**Sn**	**19 37 24.5**	**0.0**
ACCO	**Cerro Coronel**	**3.06**	**275**	*e*P		**Pn**	**19 36 46.5**	**+1.0**
ACCO				*e*S		**Sn**	**19 37 25.3**	**+0.7**
ACCO				IAML			19 37 26.2	
	comp=Z,64nm,0.3s							
GUSE	**Guasayan**	**3.06**	**11**	*e*P		**Pn**	**19 36 45.9**	**+0.6**
GUSE				*e*S		**Sn**	**19 37 21.7**	**-2.5**
VCA	**Vinchina**	**3.17**	**312**	*e*P		**Pn**	**19 36 48.5**	**+1.7**
VCA				IAML			19 38 16.1	
	comp=Z,178nm,1.0s							
ASAL	**Salagasta**	**3.28**	**238**	*e*P		**Pn**	**19 36 48.5**	**+0.5**
ASAL				IAML			19 37 30.6	
	comp=Z,198nm,0.7s							
RTLS	**Leoncito**	**3.34**	**253**	*e*P		**Pn**	**19 36 50.0**	**+1.0**
RTLS				IAML			19 37 35.1	
	comp=Z,129nm,0.3s							
AROD	**Rodeo**	**3.48**	**281**	*e*P		**Pn**	**19 36 52.2**	**+1.6**
ARCO	**CERRO ARCO**	**3.48**	**235**	*e*P		**Pn**	**19 36 51.0**	**+0.5**
ARCO				IAML			19 37 34.1	
	comp=Z,167nm,0.3s							
AAGR	**Agrelo**	**3.55**	**231**	*e*P		**Pn**	**19 36 51.8**	**+0.6**
AAGR				IAML			19 37 41.6	
	comp=Z,73nm,0.7s							
AVIZ	**Vizcacheras**	**3.61**	**224**	*e*P		**Pn**	**19 36 52.7**	**+0.8**
AVIZ				*e*S		**Sn**	**19 37 31.6**	**-4.6**
CO01	**Juntas del Tor**	**4.05**	**282**			**Pn**	**19 36 59.0**	**+1.4**
CO01	**Juntas del Tor**	**4.05**	**282**	*e*P		**Pn**	**19 36 59.2**	**+1.6**
AHML	**Horco Molle**	**4.10**	**2**	*e*P		**Pn**	**19 36 58.8**	**+0.6**
AHML				IAML			19 37 48.9	
	comp=Z,32nm,0.6s							
CO03	**El Pedregal**	**4.44**	**269**			**Pn**	**19 37 03.0**	**+0.6**
RFA	**San Rafael**	**4.58**	**212**	*e*P		**Pn**	**19 37 03.6**	**-0.6**
RFA				IAML			19 38 00.4	
	comp=Z,39nm,0.6s							
AC05	**El Transito**	**4.60**	**295**			**Pn**	**19 37 06.7**	**+2.1**
GO04	**Tololo Observa**	**4.60**	**278**	Pn		**Pn**	**19 37 04.1**	**-0.6**
VA03	**San Esteban**	**4.66**	**245**			**Pn**	**19 37 06.0**	**+0.7**
CO02	**Combarbal**	**4.70**	**265**	Pn		**Pn**	**19 37 05.7**	**-0.1**
LCO	**Las Campanas**	**4.87**	**291**	Pn		**Pn**	**19 37 08.4**	**+0.4**
PEL	**Peldehue**	**4.92**	**242**	Pn		**Pn**	**19 37 08.0**	**-0.5**
MT13	**San Alfonso**	**4.92**	**234**			**Pn**	**19 37 07.5**	**-1.2**
LMEL	**Las Melosas**	**4.93**	**232**			**Pn**	**19 37 08.8**	**+0.1**
MT16	**CCHEN**	**4.93**	**238**	Pn		**Pn**	**19 37 08.2**	**-0.5**
MT03	**Universidad Ad**	**4.95**	**237**	Pn		**Pn**	**19 37 07.9**	**-1.1**
MT05	**Renca**	**5.07**	**239**	Pn		**Pn**	**19 37 10.6**	**+0.1**
VA06	**Catapilco**	**5.18**	**250**	Pn		**Pn**	**19 37 10.7**	**-1.2**
GO03	**Copiap**	**5.27**	**308**	Pn		**Pn**	**19 37 14.5**	**+1.4**
GO03	**Copiap**	**5.27**	**308**	*e*P		**Pn**	**19 37 14.2**	**+1.2**
BO04	**La Punta**	**5.29**	**233**	Pn		**Pn**	**19 37 12.3**	**-0.9**
MT02	**Curacav**	**5.31**	**242**	Pn		**Pn**	**19 37 13.1**	**-0.4**
MT09	**Talagante**	**5.44**	**237**			**Pn**	**19 37 14.9**	**-0.4**
AC06	**Mina Casimiro**	**5.50**	**309**	Pn		**Pn**	**19 37 16.7**	**+0.7**
VA01	**Torpederas**	**5.61**	**246**	Pn		**Pn**	**19 37 15.9**	**-1.5**
BO01	**Tunca**	**5.84**	**232**	Pn		**Pn**	**19 37 19.4**	**-0.9**
BO02	**Sierra Bellavi**	**5.88**	**227**			**Pn**	**19 37 20.4**	**-0.6**
AC01	**Pan de Azucar**	**6.50**	**315**	Pn		**Pn**	**19 37 29.1**	**0.0**
GO02	**Mina Guanaco**	**6.75**	**327**	Pn		**Pn**	**19 37 33.8**	**+1.2**
PB14	**IPOC Station P**	**7.59**	**324**	Pn		**Pn**	**19 37 43.7**	**0.0**
TRQA	**Tornquist**	**7.72**	**159**	Pn		**Pn**	**19 37 44.5**	**-0.4**
PB07	**IPOC Station P**	**8.43**	**334**	Pn		**Pn**	**19 37 55.5**	**+1.0**
CPUP	**Villa Florida**	**8.52**	**60**	Pn		**Pn**	**19 37 55.3**	**-0.2**
CPUP	**Villa Florida**	**8.52**	**60**	P		**Pn**	**19 37 55.2**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=239,slow=18,SNR=2.0							
LVC	**Limon Verde**	**8.79**	**339**	Pn		**Pn**	**19 38 00.6**	**+1.2**
LVC	**Limon Verde**	**8.79**	**339**	P		**Pn**	**19 38 00.2**	**+0.8**
	comp=Z,7.1nm,0.4s,baz=175,slow=6.2,SNR=9.6							
LVC				S		**Sn**	**19 39 35.1**	**-3.0**
	comp=Z,2.6nm,0.3s,baz=265,slow=20,SNR=2.1							
PB06	**IPOC Station P**	**8.92**	**335**	Pn		**Pn**	**19 38 02.0**	**+1.1**
PB05	**IPOC Station P**	**9.03**	**331**	Pn		**Pn**	**19 38 02.8**	**+0.5**
PB09	**IPOC Station P**	**9.65**	**339**	Pn		**Pn**	**19 38 09.1**	**-1.4**
GO06	**Curarrehue**	**9.93**	**208**	Pn		**Pn**	**19 38 12.3**	**-1.6**
PB08	**IPOC Station P**	**9.93**	**336**	Pn		**Pn**	**19 38 13.4**	**-0.7**
PB02	**IPOC Station P**	**10.31**	**337**	Pn		**Pn**	**19 38 17.0**	**-1.9**
PB01	**IPOC Station P**	**10.44**	**339**	Pn		**Pn**	**19 38 20.4**	**-0.2**
PLCA	**Paso Flores**	**10.62**	**201**	P		**Pn**	**19 38 22.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=15,slow=15,SNR=1.6							
PB08	**IPOC Station P**	**11.20**	**342**	Pn		**Pn**	**19 38 28.0**	**-2.7**
GO01	**Chusmiza**	**11.66**	**343**			**Pn**	**19 38 36.4**	**-0.3**
PB11	**IPOC Station P**	**11.70**	**340**	Pn		**Pn**	**19 38 36.7**	**-0.2**
PB18	**Visviri**	**13.73**	**344**			**Pn**	**19 39 03.8**	**+0.9**
LPAZ	**La Paz**	**14.74**	**350**			**Pn**	**19 39 15.0**	**-0.5**
SIV	**San Ignacio**	**15.39**	**16**	P		**Pn**	**19 39 22.3**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=196,slow=10,SNR=5.8							
PTLB	**Pontes e Lacer**	**16.45**	**22**	P		**P**	**19 39 35.1**	**+0.1**
PTLB				IAmb		IAmb	19 39 38.3	
	comp=Z,5.2nm,0.5s							
ETMB	**Extrema**	**20.99**	**358**	P		**P**	**19 40 25.8**	**+1.8**
SAML	**Samuel**	**21.95**	**6**	P		**P**	**19 40 35.0**	**+1.0**
SAML				IAmb		IAmb	19 40 36.9	
	comp=Z,7.7nm,1.2s							
BDFB	**Brasilia**	**22.08**	**50**	P		**P**	**19 40 33.8**	**-1.6**
	comp=Z,2.7nm,0.5s,baz=223,slow=8.4,SNR=3.3							
	comp=Z,2.7nm,0.5s							
BOSC	**San Juan Bosco**	**30.19**	**334**	P		**P**	**19 41 48.8**	**+0.5**
QSPA	**South Pole Qui**	**59.33**	**180**	P		**P**	**19 45 38.3**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=148,slow=1.7,SNR=5.0							
	comp=Z,1.3nm,0.3s							
TXAR	**Lajitas Array**	**70.04**	**325**	P		**P**	**19 46 48.1**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=156,slow=9.3,SNR=4.6							
	comp=Z,0.2nm,0.4s							
MAW	**Mawson**	**74.49**	**162**	P		**P**	**19 47 12.0**	**-0.4**
	comp=Z,7.5nm,0.3s,baz=207,slow=6.8,SNR=21							
BOSA	**Boshof**	**76.52**	**115**	P		**P**	**19 47 25.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=201,slow=6.9,SNR=3.3							
	comp=Z,1.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.96**	**67**	P		**P**	**19 47 32.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=222,slow=1.9,SNR=3.4							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**83.72**	**329**	P		**P**	**19 48 03.9**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=138,slow=9.6,SNR=2.4							
	comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**122.64**	**201**	PKP		**PKPdf**	**19 54 27.4**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=152,slow=1.1,SNR=1.8							
WRA	**Warramunga Arr**	**125.97**	**203**	PKP		**PKPdf**	**19 54 34.0**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=169,slow=0.9,SNR=3.2							
KURBB	**Kurchatov Arra**	**146.85**	**43**	PKPbc		**PKPab**	**19 55 16.1**	**-0.4**
	comp=Z,0.4nm,0.2s,baz=309,slow=4.4,SNR=4.3							
ZALV	**Zalesovo Beam**	**148.62**	**34**	PKPbc		**PKiKP**	**19 55 21.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=298,slow=3.1,SNR=2.3							
MKAR	**Makanchi Array**	**150.59**	**48**	PKPbc		**PKiKP**	**19 55 25.9**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=318,slow=1.9,SNR=1.5							
MKAR				PKPab		**PKPab**	**19 55 33.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=313,slow=1.7,SNR=4.6							

*JMA **25** 19:42:02.1±0.7,45˚N±2˚×14˚6E±˚, h168^{km}±4^{km}, MV3.1/34, NEAR KUNASHIRI ISLAND*
*IDC **25** 19:42:03.3±1.4,44˚72N×145˚72E, h178^{km}±12^{km}, mb3.1/13, mbtmp3.6/16, Error ellipse: s-maj=17.5km s-min=13.8km az=127.0*
ISC 25 19:42:01.9±0.8,**44.61N**±0˚08×**145˚93E**±0˚07,**h170**^{km}±7^{km}, **n32,** σ0ᵍ**90/40, mb3.3**/14,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.89**	**221**	*e*P		**Pn**	**19 42 27.9**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.07**	**219**	*e*P		**Pn**	**19 42 29.6**	**+0.6**
NEM2	**Nemuro 2**	**1.25**	**186**	*e*P		**Pn**	**19 42 30.3**	**-0.3**
NEM2				*e*S		**Sn**	**19 42 51.6**	**-1.2**
JNK	**Nakash**	**1.35**	**221**	P		**Pn**	**19 42 32.1**	**+0.6**
JTKR	**Abashiri--Toko**	**1.58**	**247**	*e*P		**Pn**	**19 42 34.1**	**+0.4**
JTKR				S		**Sn**	**19 42 58.9**	**+0.5**
JKHN	**Kushirohamanak**	**1.63**	**200**	*e*P		**Pn**	**19 42 34.3**	**0.0**
JAK	**Akkeshi**	**1.85**	**209**	*e*P		**Pn**	**19 42 36.9**	**+0.4**
JAK				*e*S		**Sn**	**19 43 03.2**	**0.0**
JMP	**Maruseppu**	**1.94**	**253**	*e*P		**Pn**	**19 42 38.1**	**+0.5**
JAR	**Ashorobuto**	**2.04**	**231**	*e*P		**Pn**	**19 42 39.8**	**+1.1**
JOB	**Onbets**	**2.28**	**222**	*i* P		**Pn**	**19 42 42.5**	**+1.1**
JOB				*e*S		**Sn**	**19 43 12.9**	**+0.9**
JKK2	**Kamakawa 2**	**2.40**	**253**	*e*P		**Pn**	**19 42 43.6**	**+0.9**
JSE	**Soyaes**	**2.40**	**279**	*e*P		**Pn**	**19 42 43.5**	**+0.8**
ASAJ	**Asahikawa**	**2.44**	**259**	P		**Pn**	**19 42 44.2**	**+0.9**
ASAJ	**Asahikawa**	**2.44**	**259**	P		**Pn**	**19 42 44.1**	**+0.9**
	62nm,0.5s,baz=76,slow=12,SNR=26							
ASAJ				S		**Sn**	**19 43 16.0**	**+0.7**
	22nm,0.8s,baz=304,slow=29,SNR=2.3							
JCH	**Churui**	**2.73**	**224**	*e*P		**Pn**	**19 42 47.2**	**+0.4**
JCH				*e*S		**Sn**	**19 43 21.3**	**-0.3**
JNBK	**Urakawa-nobuka**	**3.28**	**226**	P		**Pn**	**19 42 53.5**	**-0.1**
MJAR	**Matsushiro Arr**	**9.97**	**219**	P		**Pn**	**19 44 21.8**	**+0.6**
	1.7nm,0.6s,baz=25,slow=11,SNR=6.4							
PETK	**Petropavlovsk-**	**11.49**	**38**	P		**Pn**	**19 44 40.5**	**-0.4**
	2.0nm,0.5s,baz=209,slow=9.5,SNR=9.1							
SONM	**Songino Array**	**27.33**	**291**	P		**P**	**19 47 30.5**	**-0.3**
	0.3nm,0.6s,baz=95,slow=24,SNR=2.1							
	0.3nm,0.6s							
ILAR	**Eielson Array**	**41.32**	**37**	P		**P**	**19 49 30.8**	**+0.4**
	0.3nm,0.9s,baz=272,slow=5.7,SNR=1.4							
	0.3nm,0.9s							
MKAR	**Makanchi Array**	**43.41**	**296**	P		**P**	**19 49 46.6**	**-0.9**
	0.2nm,0.4s,baz=75,slow=8.0,SNR=7.1							
MKAR				PcP		**PcP**	**19 51 33.4**	**+0.7**
	0.2nm,0.4s,baz=93,slow=4.2,SNR=2.4							
	0.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**46.94**	**252**	P		**P**	**19 50 13.6**	**-2.0**
	0.4nm,0.4s,baz=36,slow=7.9,SNR=1.6							
	0.4nm,0.4s							
BVAR	**Borovoye Array**	**48.27**	**308**	P		**P**	**19 50 24.1**	**-1.4**
	0.2nm,0.3s,baz=98,slow=8.9,SNR=1.9							
BVAR				PcP		**PcP**	**19 51 50.6**	**+1.0**
	0.5nm,0.3s,baz=82,slow=4.4,SNR=4.7							
	0.2nm,0.3s							
JMIC	**Jan Mayen**	**63.25**	**351**	P		**P**	**19 52 11.5**	**-0.1**
	93nm,0.4s,baz=185,slow=5.3,SNR=2.2							
FINES	**FINESS Array B**	**63.70**	**332**	P		**P**	**19 52 14.3**	**-0.4**
	3.0nm,0.9s,baz=60,slow=8.2,SNR=4.9							
	3.0nm,0.9s							
WRA	**Warramunga Arr**	**65.11**	**192**	P		**P**	**19 52 25.2**	**+0.9**
	1.3nm,0.6s,baz=8.4,slow=6.6,SNR=9.5							
	1.3nm,0.6s							
NVAR	**Mina Array Bea**	**67.86**	**58**	P		**P**	**19 52 43.5**	**+1.5**
	0.3nm,0.6s,baz=294,slow=8.8,SNR=2.3							
	0.3nm,0.6s							
HFS	**Hagfors**	**68.55**	**337**	P		**P**	**19 52 44.1**	**-1.5**
	1.4nm,0.8s,baz=44,slow=4.4,SNR=1.0							
	1.4nm,0.8s							
ASAR	**Alice Springs**	**68.83**	**192**	P		**P**	**19 52 49.0**	**+1.2**
	0.4nm,0.6s,baz=5.9,slow=5.5,SNR=6.1							
	0.4nm,0.6s							
PDAR	**Pinedale Array**	**70.02**	**49**	P		**P**	**19 52 56.4**	**+1.2**
	0.2nm,0.5s,baz=278,slow=0.9,SNR=4.5							
	0.2nm,0.5s							
AKASG	**Malin Array Be**	**70.36**	**323**	P		**P**	**19 52 56.1**	**-0.8**
	0.2nm,0.3s,baz=40,slow=6.5,SNR=3.2							
	0.2nm,0.3s							
TXAR	**Lajitas Array**	**82.90**	**56**	P		**P**	**19 54 09.0**	**+1.3**
	0.3nm,0.5s,baz=291,slow=3.9,SNR=4.1							
	0.3nm,0.5s							

*AEIC **25** 19:59:28.7±2.0,56˚2N±0˚1×149˚6W±0˚1, h7^{km}±8^{km}, Error ellipse: s-maj=16.2km s-min=10.6km az=180.0*
NEIC 25 19:59:24.0±2.4,**56˚16N**±0˚10×**149˚6W**±0˚1,**h10**^{km}±2^{km}, **ML3.3**/29,**ML3.5**(AEIC),**Error ellipse: s-maj=16.7km s-min=11.1km az=176.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.31**	**316**			Pn	20 00 02.1	+0.1
KDAK						Sn	20 00 27.8	-2.5
SYI	**Shuyak Island**	**2.88**	**330**			Pn	20 00 10.4	+0.5
SYI						Sn	20 00 43.8	-0.9
CNPM	**China Poot**	**3.49**	**346**			Pn	20 00 17.9	-0.4
CNPM						Sn	20 00 57.5	-2.1
CNPM	**China Poot**	**3.49**	**346**	IAML			20 01 00.6	
	comp=N,30nm,1.4s							
Q19K	**Cape Douglas,**	**3.53**	**324**	Pn	Pn		20 00 17.0	-1.8
Q19K				IAML			20 00 47.3	
	comp=N,157nm,1.5s							
BRSE	**Bradley Lake S**	**3.65**	**351**			Pn	20 00 19.9	-0.6
BRSE						Sn	20 01 00.8	-2.6
BRLK	**Bradley Lake**	**3.68**	**350**			Pn	20 00 20.3	-0.6
BRLK						Sn	20 01 01.5	-2.8
BRLK	**Bradley Lake**	**3.68**	**350**	IAML			20 01 05.9	
	comp=N,29nm,1.1s							
BRLK				IAML			20 01 13.9	
	comp=E,27nm,1.3s							
P19K	**Oil Pt**	**4.00**	**333**	Pn	Pn		20 00 26.0	+0.6
P19K				IAML			20 02 18.6	
	comp=N,59nm,1.4s							
P19K				IAML			20 02 50.6	
	comp=E,63nm,1.4s							
P23K	**Montague Islan**	**4.03**	**16**			Pn	20 00 25.4	-0.3
P23K						Sn	20 01 09.6	-3.2
P18K	**Big Mountain,**	**4.42**	**319**	Pn		Pn	20 00 29.9	-1.2
HIN	**Hinchinbrook I**	**4.56**	**20**			Pn	20 00 33.0	0.0
HIN	**Hinchinbrook I**	**4.56**	**20**	IAML			20 01 24.4	
	comp=N,85nm,1.5s							
HIN				IAML			20 03 09.6	
	comp=E,63nm,1.5s							
RSO	**Redoubt South**	**4.63**	**340**	Pn	Pn		20 00 33.7	-0.4
KAIM	**Kayak Island**	**4.68**	**34**	Pn		Pn	20 00 34.2	-0.3
EYAK	**Cordova Ski Ar**	**4.85**	**23**			Pn	20 00 37.2	+0.3
CHGN	**Chignik**	**4.92**	**275**	Pn	Pn		20 00 38.8	+1.0
CHGN				IAML			20 01 15.7	
	comp=E,42nm,1.0s							
CHGN				IAML			20 03 34.5	
	comp=N,52nm,0.1s							
RC01	**Rabbit Creek A**	**4.95**	**359**	Pn	Pn		20 00 37.0	-1.2
RC01				IAML			20 01 32.6	
	comp=E,15nm,1.3s							
RC01				IAML			20 01 46.5	
	comp=N,9.8nm,1.4s							
GOAT	**Goat Mountain**	**5.13**	**28**			Pn	20 00 41.9	+1.1
BERG	**Berg Lake**	**5.27**	**34**			Pn	20 00 44.2	+1.6
KNK	**Knik Glacier**	**5.31**	**6**	Pn	Pn		20 00 43.6	+0.4
KNK				IAML			20 02 02.7	
	comp=N,10nm,1.3s							
KNK				IAML			20 02 28.2	
	comp=E,19nm,1.5s							
SUA	**Susitna One**	**5.36**	**354**	Pn	Pn		20 00 43

SBUM	**Sibu**	**15.37**	**252**	P	**P**	**20 08 05.7**	**+2.3**
SOEI	**Soe**	**17.25**	**189**		**Pn**	**20 08 22.5**	**-1.0**
SOEI				IAmb	IAmb	20 08 49.8	
	comp=Z,36nm,1.1s						
KSM	**Kuching**	**17.50**	**251**	P	**P**	**20 08 27.7**	**+0.7**
PLAI	**Plampang**	**18.49**	**209**	P	**Pn**	**20 08 39.1**	**+0.6**
GUMO	**Guam**	**18.75**	**69**	LR	LR	20 14 03.7	
	comp=Z,46nm,220.9s,baz=119,slow=31						
MTN	**Manton Dam**	**20.58**	**168**	P	**P**	**20 09 00.6**	**-0.1**
MTN	**Manton Dam**	**20.58**	**168**	P	**P**	**20 09 00.9**	**+0.2**
KDU	**Kakadu**	**20.75**	**164**	P	**P**	**20 09 02.5**	**+0.1**
KNRA	**Kununurra**	**23.03**	**175**	P	**P**	**20 09 26.4**	**-0.3**
KNRA	**Kununurra**	**23.03**	**175**	P	**P**	**20 09 26.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**25.38**	**183**	P	**P**	**20 09 48.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**25.38**	**183**	P	**P**	**20 09 48.8**	**+0.3**
COEN	**Coen**	**26.72**	**143**	P	**P**	**20 10 01.0**	**+0.3**
COEN				IAmb	IAmb	20 10 18.3	
	comp=Z,9.0nm,1.1s						
COEN	**Coen**	**26.72**	**143**	P	**P**	**20 10 01.8**	**+1.1**
WB0	**Warramunga Arr**	**28.02**	**165**	P	**P**	**20 10 11.3**	**-1.0**
WB0				IAmb	IAmb	20 10 16.3	
	comp=Z,6.7nm,0.5s						
WRA	**Warramunga Arr**	**28.18**	**165**	P	**P**	**20 10 12.0**	**-1.7**
WRA	**Warramunga Arr**	**28.18**	**165**	P	**P**	**20 10 12.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=344,slow=11,SNR=20						
WRA				PcP	**PcP**	**20 13 26.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=332,slow=2.7,SNR=3.1						
	comp=Z,0.6nm,0.3s						
WB2	**Warramunga Arr**	**28.18**	**165**	P	**P**	**20 10 12.2**	**-1.5**
WB2				IAmb	IAmb	20 10 43.8	
	comp=Z,8.6nm,1.1s						
WR0	**Warramunga Arr**	**28.24**	**165**	P	**P**	**20 10 12.2**	**-2.1**
WR0				IAmb	IAmb	20 10 44.7	
	comp=Z,11nm,1.4s						
CMAR	**Chiang Mai Arr**	**29.27**	**295**	P	**P**	**20 10 21.7**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.6,SNR=1.3						
CMAR				PcP	**PcP**	**20 13 30.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=128,slow=1.5,SNR=4.6						
CMAR				LR	LR	20 22 36.7	
	comp=Z,23nm,18.8s,baz=180,slow=37						
	comp=Z,0.5nm,0.3s						
PSA00	**Pilbara Seismi**	**29.62**	**193**	P	**P**	**20 10 25.6**	**-0.9**
GSI	**Gunungsitoli**	**29.79**	**260**	P	**P**	**20 10 27.2**	**-0.9**
GSI				IAmb	IAmb	20 11 04.8	
	comp=Z,17nm,1.4s						
KSRS	**Korea Array**	**29.91**	**2**	LR	LR	20 24 12.7	
	comp=Z,13nm,19.2s,baz=5.0,slow=40						
QIS	**Mount Isa**	**30.50**	**156**	P	**P**	**20 10 34.6**	**+0.2**
MJAR	**Matsushiro Arr**	**30.79**	**18**	P	**P**	**20 10 37.5**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=190,slow=9.2,SNR=4.7						
	comp=Z,2.4nm,0.8s						
AS31	**Alice Springs**	**31.66**	**168**	P	**P**	**20 10 43.1**	**-1.4**
AS31				IAmb	IAmb	20 10 45.6	
	comp=Z,1.9nm,0.3s						
ASAR	**Alice Springs**	**31.66**	**168**	P	**P**	**20 10 43.1**	**-1.4**
ASAR	**Alice Springs**	**31.66**	**168**	P	**P**	**20 10 43.7**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=339,slow=7.3,SNR=76						
ASAR				PcP	**PcP**	**20 13 35.5**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=348,slow=2.5,SNR=11						
ASAR				ScP	**ScP**	**20 17 13.1**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=351,slow=3.7,SNR=1.9						
	comp=Z,1.7nm,0.3s						
AS01	**Alice Springs**	**31.67**	**168**	P	**P**	**20 10 44.0**	**-0.6**
WRKA	**Warakurna**	**32.29**	**178**	P	**P**	**20 10 49.4**	**-0.6**
MEEK	**Meekatharra**	**34.78**	**193**	P	**P**	**20 11 11.1**	**-0.6**
OOD	**Oodnadatta**	**36.04**	**167**	P	**P**	**20 11 22.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**36.91**	**6**	P	**P**	**20 11 30.4**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=186,slow=8.8,SNR=6.7						
	comp=Z,0.9nm,0.4s						
INKA	**Innaminka**	**37.45**	**159**	P	**P**	**20 11 34.6**	**+0.1**
SHL	**Shillong**	**37.88**	**303**	P	**P**	**20 11 38.4**	**-0.1**
SHL				IAmb	IAmb	20 11 42.8	
	comp=Z,3.8nm,0.8s						
FORT	**Forrest**	**38.00**	**178**	P	**P**	**20 11 38.7**	**-0.3**
FORT	**Forrest**	**38.00**	**178**	P	**P**	**20 11 38.8**	**-0.3**
MULG	**Mulgathing**	**38.12**	**170**	P	**P**	**20 11 40.1**	**0.0**
KMBL	**Kambalda**	**38.86**	**187**	P	**P**	**20 11 45.9**	**-0.3**
BLDU	**Ballidu**	**39.04**	**194**	P	**P**	**20 11 47.7**	**-0.1**
LCRK	**Leigh Creek**	**39.20**	**164**	P	**P**	**20 11 49.6**	**+0.5**
KLBR	**Kellerberrin**	**39.75**	**192**	P	**P**	**20 11 53.4**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**40.27**	**70**	T	T	20 55 35.1	
	baz=262,slow=73						
H11S1	**WAKE ISLAND Hy**	**40.29**	**70**	T	T	20 55 31.2	
	baz=262,slow=73						
H11S2	**WAKE ISLAND Hy**	**40.29**	**70**	T	T	20 55 43.7	
	baz=262,slow=73						
MUN	**Mundaring**	**40.47**	**194**	P	**P**	**20 12 00.0**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**40.70**	**68**	T	T	20 56 24.7	
	baz=265,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**40.71**	**68**	T	T	20 56 29.7	
	baz=265,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**40.72**	**68**	T	T	20 56 15.6	
	baz=265,slow=75,SNR=8.5						
BBOO	**Buckleboo**	**40.96**	**168**	P	**P**	**20 12 03.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**41.15**	**192**	P	**P**	**20 12 05.4**	**+0.2**
STKA	**Stephens Creek**	**41.54**	**161**	P	**P**	**20 12 07.8**	**-0.7**
STKA	**Stephens Creek**	**41.54**	**161**	P	**P**	**20 12 08.6**	**+0.1**
STKA	**Stephens Creek**	**41.54**	**161**	P	**P**	**20 12 08.1**	**-0.4**
	comp=Z,3.9nm,0.5s,baz=336,slow=8.7,SNR=17						
	comp=Z,3.9nm,0.5s						
HTT	**Hallett**	**42.22**	**165**	P	**P**	**20 12 14.6**	**+0.6**
SONM	**Songino Array**	**43.87**	**340**	P	**P**	**20 12 27.3**	**0.0**
	comp=Z,0.2nm,0.4s,baz=138,slow=9.5,SNR=1.5						
	comp=Z,0.2nm,0.4s						
PETK	**Petropavlovsk-**	**52.01**	**23**	P	**P**	**20 13 31.9**	**+1.9**
	comp=Z,4.8nm,0.9s,baz=208,slow=9.0,SNR=5.0						
	comp=Z,4.8nm,0.9s						
MK31	**Makanchi Array**	**54.63**	**324**	P	**P**	**20 13 50.1**	**+0.6**
MKAR	**Makanchi Array**	**54.63**	**324**	P	**P**	**20 13 49.7**	**+0.3**
MKAR	**Makanchi Array**	**54.63**	**324**	P	**P**	**20 13 50.0**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=115,slow=6.7,SNR=18						
MKAR				PcP	**PcP**	**20 14 51.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=125,slow=3.2,SNR=4.4						
MKAR				ScP	**ScP**	**20 18 42.0**	**-4.2**
	comp=Z,0.4nm,0.7s,baz=83,slow=9.6,SNR=4.7						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**57.38**	**332**	P	**P**	**20 14 08.0**	**-0.9**
ZALV	**Zalesovo Beam**	**57.38**	**332**	P	**P**	**20 14 09.3**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=116,slow=7.0,SNR=4.9						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**58.73**	**326**	P	**P**	**20 14 19.8**	**+1.4**
KURK				IAmb	IAmb	20 14 20.0	
	comp=Z,2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**58.73**	**326**	P	**P**	**20 14 18.9**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=126,slow=5.9,SNR=11						
	comp=Z,1.2nm,0.5s						
KK31	**Karatay Array**	**60.65**	**316**	P	**P**	**20 14 31.4**	**-0.5**
KK31				IAmb	IAmb	20 14 46.9	
	comp=Z,4.8nm,1.4s						
KKAR	**Karatay Array**	**60.65**	**316**	P	**P**	**20 14 31.9**	**+0.1**
KKAR	**Karatay Array**	**60.65**	**316**	P	**P**	**20 14 31.4**	**-0.5**
KKAR				IAmb	IAmb	20 14 46.9	
	comp=Z,4.8nm,1.4s						
BVAR	**Borovoye Array**	**64.32**	**326**	P	**P**	**20 14 56.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=110,slow=6.3,SNR=7.0						
	comp=Z,0.7nm,0.5s						
GEYT	**Alibeck**	**68.70**	**308**	P	**P**	**20 15 24.9**	**+0.4**
GEYT				IAmb	IAmb	20 15 27.8	
	comp=Z,2.5nm,0.8s						
GEYT	**Alibeck**	**68.70**	**308**	P	**P**	**20 15 25.2**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=134,slow=6.2,SNR=5.7						
	comp=Z,1.5nm,0.6s						
ABKAR	**Akbulak array**	**69.39**	**320**	P	**P**	**20 15 28.3**	**-0.1**
ILAR	**Eielson Array**	**81.75**	**26**	P	**P**	**20 16 39.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=252,slow=4.4,SNR=4.5						
	comp=Z,0.5nm,0.7s						
I28M	**Miner Creek**	**84.65**	**25**	P	**P**	**20 16 56.4**	**+2.4**
G29M	**Pine Creek**	**85.25**	**23**	P	**P**	**20 16 58.8**	**+2.0**
G29M				IAmb	IAmb	20 17 00.7	
	comp=Z,3.0nm,1.0s						
EPYK	**Eagle Plains**	**85.84**	**24**	P	**P**	**20 16 59.8**	**0.0**
EPYK				IAmb	IAmb	20 17 20.2	
	comp=Z,5.3nm,1.2s						
VNDA	**Vanda**	**87.05**	**173**	P	**P**	**20 17 05.1**	**-0.2**
VNDA	**Vanda**	**87.05**	**173**	P	**P**	**20 17 04.5**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=312,slow=6.3,SNR=8.1						
	comp=Z,0.9nm,0.4s						
BRTR	**Keskin Array B**	**87.76**	**310**	P	**P**	**20 17 08.6**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=127,slow=7.0,SNR=2.5						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**88.65**	**332**	P	**P**	**20 17 12.6**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=90,slow=5.7,SNR=7.2						
	comp=Z,3.5nm,0.9s						
AKASG	**Malin Array Be**	**89.11**	**321**	P	**P**	**20 17 14.6**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=76,slow=1.8,SNR=1.8						
	comp=Z,0.8nm,0.6s						

HFS	**Hagfors**	**94.82**	**332**	P	**P**	**20 17 40.6**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=82,slow=10,SNR=1.8						
	comp=Z,1.8nm,0.7s						
TXAR	**Lajitas Array**	**119.23**	**51**	PKP	**PKiKP**	**20 23 10.6**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=264,slow=4.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**121.81**	**290**	PKP	**PKPdf**	**20 23 14.7**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=54,slow=2.0,SNR=5.3						
BO02	**Sierra Bellavi**	**148.30**	**152**	PKPbc	**PKPbc**	**20 24 07.2**	**+0.2**
TRQA	**Tornquist**	**148.47**	**167**	PKPbc	**PKPbc**	**20 24 06.3**	**-1.1**
MT02	**Curacav**	**149.37**	**150**	PKPbc	**PKiKP**	**20 24 10.7**	**-0.2**

TAP 25 20:08:17.5,23.65N×120.93E,h12km,ML0.9,2C-1D,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHYT	**Xinyi Township**	**0.09**	**304**	⇑*i*P	Pg	20 08 20.9	+0.7
	baz=304						
WHYT				S	Sg	20 08 23.0	+0.8
	baz=304						
SSLB	**Suanglung**	**0.14**	**9**	⇑P	Pb	20 08 21.6	-0.5
	baz=8.0						
SSLB				*e*S	Sg	20 08 24.0	+0.6
	baz=8.0						
SSLB	**Suanglung**	**0.14**	**9**	P	Sg	20 08 23.9	+0.5
ALS	**Alishan**	**0.18**	**220**	P	Pb	20 08 22.7	-0.2
	baz=217						
ALS				S	Sg	20 08 26.0	+1.4
	baz=217						
VWDT	**VWDT**	**0.22**	**61**	*e*P	Pb	20 08 23.9	+0.4
	baz=61						
VWDT				*i* S	Sg	20 08 27.4	+2.0
	baz=61						
CHN5	**Tsauling**	**0.24**	**258**	⇓P	Pb	20 08 23.5	-0.3
	baz=257						
CHN5				S	Sg	20 08 27.6	+1.6
	baz=257						
SMLT	**Sun Moon Lake**	**0.24**	**353**	*i* P	Pb	20 08 23.6	-0.3
	baz=354						
SMLT				S	Sg	20 08 27.9	+2.0
	baz=354						
WJS	**Zhushan**	**0.26**	**313**	P	Pb	20 08 24.3	+0.2
	baz=313						
WJS				S	Sb	20 08 28.7	+0.2
	baz=313						
TYC	**Yuchr**	**0.27**	**345**	S	Sb	20 08 28.9	+0.2
	baz=347						
WUSB	**Renai**	**0.38**	**26**	P	Pb	20 08 26.0	-0.3
	baz=26						
WUSB				S	Sb	20 08 32.8	+0.5
	baz=26						
EHY	**Hungye**	**0.39**	**111**	P	Pb	20 08 26.3	0.0
	baz=111						
EHY				S	Sb	20 08 32.6	+0.4
	baz=111						
WCS	**Beigang Elemen**	**0.41**	**358**	P	Pb	20 08 26.7	0.0
	baz=357						
WCS				S	Sb	20 08 33.0	+0.1
	baz=357						
YULB	**Yu-li**	**0.42**	**127**	*i* P	Pb	20 08 27.1	+0.2
	baz=127						
YULB				S	Sb	20 08 33.5	+0.2
	baz=127						
WARBT	**Fenglin Townsh**	**0.42**	**80**	P	Pb	20 08 27.4	+0.4
	baz=80						
WARBT				*e*S	Sb	20 08 33.1	-0.3
	baz=80						
TPUB	**Ta-pu**	**0.44**	**219**	P	Pb	20 08 27.6	+0.3
	baz=218						
TPUB				*i* S	Sb	20 08 34.4	+0.6
	baz=218						
TWF1	**Yuli**	**0.45**	**131**	P	Pb	20 08 27.4	+0.1
	baz=130						
TWF1				S	Sb	20 08 35.2	+1.2
	baz=130						
EGFH	**Guangfu**	**0.46**	**87**	P	Pb	20 08 27.9	+0.4
	baz=87						
EGFH				*i* S	Sb	20 08 35.0	+0.7
	baz=87						
ELDTW	**Lidau**	**0.46**	**170**	P	Pb	20 08 27.5	-0.1
	baz=169						
ELDTW				S	Sb	20 08 35.4	+0.8
	baz=169						
CHGB	**Renai**	**0.47**	**28**	P	Pb	20 08 28.0	+0.2
	baz=28						
CHGB				*i* S	Sb	20 08 35.2	+0.4
	baz=28						
HGSD	**Ruisui**	**0.48**	**109**	*e*S	Sb	20 08 37.4	+2.6
	baz=108						
WTP	**Ta-pu**	**0.49**	**216**	*i* P	Pb	20 08 28.3	+0.1
	baz=215						
WTP				S	Sb	20 08 36.1	+0.7
	baz=215						
STYH	**Taoyuan**	**0.49**	**197**	P	Pb	20 08 28.1	-0.1
	baz=196						

NEIC ***25*** *20:11:54.5±1.0,36.94N±0.02×97.38W±0.02,h9km±7km, Error ellipse: s-maj=2.8km s-min=1.6km az=223.0*
TUL 25 20:11:55.2±0.8,36.96N±0.01×97.36W±0.02,h8km±7km, ML2.6,mL2.3/44(NEIC),**Error ellipse: s-maj=2.5km s-min=1.3km az=223.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN13	**South Haven SW**	**0.11**	**302**	Pg	Pg	20 11 57.6	-0.2
KAN13				Sg	Sg	20 11 59.2	-0.3
BLOK	**Blackwell**	**0.23**	**149**	Pg	Pg	20 11 58.6	-1.2
BLOK				Sg	Sg	20 12 02.7	-0.2
KAN09	**Caldwell North**	**0.27**	**311**	Pg	Pg	20 12 00.4	-0.2
KAN09				IAML		20 12 03.6	
	comp=E,458nm,1.5s						
KAN09				IAML		20 12 05.9	
	comp=N,533nm,1.2s						
KAN17	**Caldwell West**	**0.33**	**285**	Pg	Pg	20 12 01.3	-0.5
KAN17				IAML		20 12 06.2	
	comp=E,342nm,0.2s						
KAN17				IAML		20 12 06.7	
	comp=N,348nm,0.3s						
KAN01	**Argonia South**	**0.37**	**302**		Pg	20 12 01.8	-0.8
KAN01				IAML		20 12 07.6	
	comp=N,361nm,0.1s						
KAN01				IAML		20 12 07.8	
	comp=E,258nm,0.2s						
KS21	**Milan North St**	**0.41**	**324**	Pg	Pg	20 12 02.9	-0.2
GC02	**Grant County #**	**0.41**	**255**	Pg	Pg	20 12 02.9	-0.3
KAN05	**Bluff City Nor**	**0.43**	**291**	Pg	Pg	20 12 02.8	-0.9
KAN06	**Argonia West S**	**0.49**	**306**	Pg	Pg	20 12 04.3	-0.4
KAN06				IAML		20 12 11.4	
	comp=E,241nm,0.1s						
KAN08	**Anthony NE Sta**	**0.56**	**299**	Pg	Pg	20 12 05.4	-0.6
KAN08				IAML		20 12 15.9	
	comp=E,150nm,1.5s						
KAN12	**Harper NE Stat**	**0.61**	**304**	Pg	Pg	20 12 06.3	-0.7
KAN12				IAML		20 12 22.6	
	comp=N,199nm,0.3s						
KAN12				IAML		20 12 24.6	
	comp=E,182nm,0.3s						
OK051	**E0350 and S346**	**0.62**	**137**	Pg	Pg	20 12 06.8	-0.3
OK051				IAML		20 12 20.3	
	comp=E,172nm,0.2s						
OK051				IAML		20 12 28.8	
	comp=E,185nm,0.2s						
OK048	**Pawnee Station**	**0.64**	**148**	Pg	Pg	20 12 06.9	-0.6
CROK	**Carrier**	**0.67**	**228**	Pg	Pg	20 12 06.5	-1.6
CROK				IAML		20 12 18.5	
	comp=N,156nm,0.4s						
T35A	**Sooner Cattle**	**0.68**	**93**	Pg	Pg	20 12 07.9	-0.5
OK032	**Salt Plains WL**	**0.70**	**258**	Pg	Pg	20 12 07.6	-1.0
OK032				IAML		20 12 17.9	
	comp=N,140nm,0.1s						
OK032				IAML		20 12 18.0	
	comp=N,127nm,0.1s						
QUOK	**Quay**	**0.94**	**146**	Pg	Pg	20 12 12.3	-1.0
QUOK				IAML		20 12 30.3	
	comp=E,77nm,0.2s						
QUOK				IAML		20 12 30.7	
	comp=N,73nm,0.2s						
OK033	**Mehan**	**0.97**	**159**	Pg	Pg	20 12 13.2	-0.7
OK052	**Battle Ridge R**	**1.06**	**155**	Pg	Pg	20 12 14.5	-1.1
OK052				IAML		20 12 33.4	
	comp=N,78nm,0.2s						
OK052				IAML		20 12 33.5	
	comp=N,85nm,0.2s						
OK029	**Liberty Lake**	**1.16**	**184**	Pg	Pg	20 12 16.3	-1.1
OK029				IAML		20 12 32.6	
	comp=N,59nm,0.2s						
DEOK	**Depew**	**1.31**	**148**		Pn	20 12 18.7	-1.1
DEOK				IAML		20 12 39.6	
	comp=N,55nm,0.3s						
DEOK				IAML		20 12 42.8	
	comp=E,43nm,0.1s						
TUL3	**Leonard**	**1.64**	**129**		Pn	20 12 24.3	-0.1
FN0A	**Franklin**	**1.70**	**181**	Pn	Pn	20 12 24.8	-0.3
R32A	**Long Quarter,**	**1.81**	**324**	Pn	Pn	20 12 26.7	-0.1
W35A	**Tecumseh**	**1.84**	**167**	Pn	Pn	20 12 27.0	-0.1
WMOK	**Wichita Mounta**	**2.50**	**208**	Pn	Pn	20 12 35.9	-0.2

GCG ***25*** *20:23:02.3±0.6,13.74N×89.74W,h107km±24km,MD3.3*
CATAC ***25*** *20:23:02.5±0.5,13.48N×89.94W,h52km±6km,ML3.3*
SNET ***25*** *20:23:03.1±0.8,13.67N×89.78W,h80km±3km,ML3.2*
ISC 25 20:23:04.4±1.5,13.62N±0.07×89.79W±0.05,h73km±8km, n45,σ0.982/68,10C,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.26**	**37**	⇑*i*P	Pn	**20 23 15.3**	**-0.7**
CEVE				*e*S	Sn	**20 23 25.3**	**+0.7**
CEVE	**Cerro Verde**	**0.26**	**37**	*i* P	Pn	**20 23 15.3**	**-0.8**
CEVE				IAML		20 23 29.8	
	comp=Z,930nm,1.0s						
SBLS	**San Blas**	**0.27**	**36**	⇑*e*P	Pn	**20 23 15.4**	**-0.7**
SBLS				*e*S	Sn	**20 23 25.6**	**+0.9**
NUBE	**Las Nubes**	**0.28**	**1**	⇑*i*P	Pn	**20 23 15.1**	**-0.9**
NUBE				*e*S	Sn	**20 23 24.9**	**+0.3**
NUBE	**Las Nubes**	**0.28**	**1**	*i* P	Pn	**20 23 15.0**	**-1.1**
NUBE				IAML		20 23 15.5	
	comp=Z,470nm,1.0s						
SNJE	**San Jose**	**0.30**	**35**	⇑*i*P	Pn	**20 23 15.7**	**-0.5**
SNJE				⇑*i*P	Pn	**20 23 15.7**	**-0.5**
SNJE				*e*S	Sn	**20 23 25.9**	**+1.0**
RTR	**El Retiro**	**0.31**	**26**	⇑*e*P	Pn	**20 23 15.7**	**-0.6**
JAYA	**Jayaque - finc**	**0.33**	**84**	⇑*i*P	Pn	**20 23 15.7**	**-0.6**
JAYA				*e*S	Sn	**20 23 25.4**	**+0.3**
JAYA	**Jayaque - finc**	**0.33**	**84**	*i* P	Pn	**20 23 15.8**	**-0.6**
JAYA				*i* S	Sn	**20 23 25.3**	**+0.2**
JAYA				IAML		20 23 26.4	
	comp=Z,17μm,1.0s						
LOAL	**Lomas de Alarc**	**0.38**	**1**	*i* P	Pn	**20 23 15.7**	**-0.9**
LOAL				IAML		20 23 59.1	
	comp=Z,1μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.40**	**0**	⇑*e*P	Pn	**20 23 15.8**	**-1.0**
UNIC	**Universidad Ca**	**0.43**	**33**	*i* P	Pn	**20 23 16.1**	**-0.9**
UNIC				IAML		20 23 16.3	
	comp=Z,380nm,1.0s						
PMON	**Piamonte**	**0.47**	**79**	*i* P	Pn	**20 23 16.9**	**-0.5**
PMON				*i* S	Sn	**20 23 27.9**	**+1.0**
PMON				IAML		20 23 33.5	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**0.47**	**106**	*e*P	Pn	**20 23 16.6**	**-0.7**
LALI	**Alcalda de L**	**0.47**	**106**	*i* P	Pn	**20 23 16.7**	**-0.6**
LALI				*i* S	Sn	**20 23 27.7**	**+1.0**
LALI				IAML		20 23 32.8	
	comp=Z,300nm,1.0s						
BOQS	**Boqueron**	**0.50**	**77**	*e*P	Pn	**20 23 17.2**	**-0.6**
UEES	**Universidad Ev**	**0.54**	**80**	*i* P	Pn	**20 23 17.4**	**-0.6**
UEES				IAML		20 23 35.6	
	comp=Z,560nm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.54**	**67**	*i* P	Pn	**20 23 17.2**	**-0.8**
QUEZ				*i* S	Sn	**20 23 29.0**	**+1.0**
QUEZ				IAML		20 23 34.4	
	comp=Z,3μm,1.0s						
SNET	**Serv Nac Est T**	**0.54**	**83**	*i* P	Pn	**20 23 17.4**	**-0.6**
SNET				*i* S	Sn	**20 23 29.2**	**+1.1**
SNET				IAML		20 23 30.1	
	comp=Z,2μm,1.0s						
PANCS	**Alcalda de**	**0.59**	**91**	*i* P	Pn	**20 23 17.6**	**-0.9**
PANCS				*i* S	Sn	**20 23 29.1**	**+0.2**
PANCS				IAML		20 23 31.2	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**0.60**	**88**	*e*P	Pn	**20 23 18.4**	**-0.3**
LOMA				IAML		20 23 33.0	
	comp=Z,1μm,0.2s						
LOMA	**Loma Larga**	**0.60**	**88**	*i* P	Pn	**20 23 18.2**	**-0.4**
LOMA				*i* S	Sn	**20 23 29.9**	**+0.8**
LOMA				IAML		20 23 32.8	
	comp=Z,1μm,1.0s						
IGN	**Direccin Gen**	**0.60**	**81**	*i* P	Pn	**20 23 18.5**	**-0.1**
IGN				*i* S	Sn	**20 23 30.1**	**+0.9**
IGN				IAML		20 23 31.8	
	comp=Z,3μm,1.0s						
LFRS	**El Faro**	**0.70**	**90**	⇑*i*P	Pn	**20 23 19.4**	**-0.4**
LFRS				*e*S	Sn	**20 23 31.3**	**+0.2**
SJTE	**Alcalda de S**	**0.76**	**90**	*e*P	Pn	**20 23 19.7**	**-0.6**
SJTE	**Alcalda de S**	**0.76**	**90**	*i* P	Pn	**20 23 19.7**	**-0.6**
SJTE				*i* S	Sn	**20 23 32.7**	**+0.6**
SJTE				IAML		20 23 34.8	
	comp=Z,640nm,1.0s						
PAVA	**Las Pavas**	**0.83**	**83**	*e*P	Pn	**20 23 20.9**	**-0.2**
PAVA	**Las Pavas**	**0.83**	**83**	*i* P	Pn	**20 23 21.1**	**-0.1**
PAVA				IAML		20 23 21.3	
	comp=Z,630nm,1.0s						
PAVA				*i* S	Sn	**20 23 34.4**	**+0.8**
JAMO	**Monjas**	**0.88**	**354**	*i* P	Pn	**20 23 21.0**	**-0.7**
JAMO				IAML		20

SYI	**Shuyak Island**	**2.59**	**324**		IAML			20 26 58.9		
	comp=E,222nm,0.6s									
SYI					IAML			20 26 59.0		
	comp=N,253nm,0.4s									
Q20K	**Shuyak Island**	**2.59**	**323**		P		**Pn**	**20 26 26.9**	**+1.1**	
	baz=142									
Q20K					S		**Sn**	**20 26 57.8**	**+0.5**	
	baz=142									
R18K	**Karluk**	**2.91**	**292**				**Pn**	**20 26 31.0**	**+0.9**	
R18K							**Sn**	**20 27 03.5**	**-1.6**	
R18K	**Karluk**	**2.91**	**292**		IAML			20 27 06.7		
	comp=E,320nm,0.3s									
R18K					IAML			20 27 07.8		
	comp=N,254nm,0.4s									
R18K	**Karluk**	**2.91**	**292**		P		**Pn**	**20 26 31.0**	**+0.9**	
	baz=109									
R18K					S		**Sn**	**20 27 03.5**	**-1.6**	
	baz=109									
CNPM	**China Poot**	**3.12**	**343**		Pn		**Pn**	**20 26 33.5**	**+0.5**	
CNPM					IAML			20 27 11.3		
	comp=E,112nm,1.0s									
CNPM					IAML			20 27 11.8		
	comp=N,73nm,0.8s									
BRSE	**Bradley Lake S**	**3.26**	**348**				**Pn**	**20 26 35.5**	**+0.6**	
BRSE							**Sn**	**20 27 12.7**	**-1.1**	
BRSE	**Bradley Lake S**	**3.26**	**348**		P		**Pn**	**20 26 35.5**	**+0.6**	
	baz=168									
BRSE					S		**Sn**	**20 27 12.7**	**-1.1**	
	baz=168									
Q19K	**Cape Douglas,**	**3.27**	**318**				**Pn**	**20 26 36.5**	**+1.5**	
Q19K	**Cape Douglas,**	**3.27**	**318**		P		**Pn**	**20 26 36.5**	**+1.5**	
	baz=135									
BRLK	**Bradley Lake**	**3.30**	**347**				**Pn**	**20 26 35.8**	**+0.3**	
BRLK					IAML			20 27 16.9		
	comp=E,68nm,0.2s									
Q23K	**Middleton Isla**	**3.31**	**29**		Pn		**Pn**	**20 26 36.0**	**+0.4**	
MID	**Middleton Isla**	**3.31**	**29**				**Pn**	**20 26 35.9**	**+0.3**	
MID	**Middleton Isla**	**3.31**	**29**		IAML			20 28 43.0		
	comp=N,289nm,1.4s									
KAHG	**Katmai Hook Gl**	**3.36**	**307**				**Pn**	**20 26 38.5**	**+2.1**	
ACHA	**Angle Creek He**	**3.58**	**300**				**Pn**	**20 26 41.3**	**+1.8**	
P23K	**Montague Islan**	**3.61**	**17**				**Pn**	**20 26 40.4**	**+0.7**	
P23K	**Montague Islan**	**3.61**	**17**		P		**Pn**	**20 26 40.4**	**+0.7**	
	baz=198									
KAHC	**Katmai Hardscr**	**3.65**	**307**				**Pn**	**20 26 42.3**	**+1.9**	
KAHC	**Katmai Hardscr**	**3.65**	**307**		P		**Pn**	**20 26 42.3**	**+1.9**	
	baz=123									
ANCK	**Angle Creek**	**3.66**	**299**				**Pn**	**20 26 42.4**	**+1.9**	
P19K	**Oil Pt**	**3.69**	**329**				**Pn**	**20 26 42.5**	**+1.6**	
P19K	**Oil Pt**	**3.69**	**329**		IAML			20 27 27.8		
	comp=E,221nm,0.8s									
P19K					IAML			20 27 31.1		
	comp=N,172nm,0.5s									
P19K	**Oil Pt**	**3.69**	**329**		P		**Pn**	**20 26 42.5**	**+1.6**	
	baz=146									
CNTC	**Contact Creek**	**3.88**	**299**				**Pn**	**20 26 44.9**	**+1.4**	
Q17K	**Contact Creek**	**3.88**	**299**		P		**Pn**	**20 26 44.8**	**+1.4**	
	baz=114									
PLK3	**Peulik 3**	**3.88**	**290**				**Pn**	**20 26 44.9**	**+1.4**	
O20K	**Slope Mountain**	**3.90**	**336**				**Pn**	**20 26 44.7**	**+0.9**	
O20K	**Slope Mountain**	**3.90**	**336**		P		**Pn**	**20 26 44.7**	**+0.9**	
	baz=154									
O22K	**Cooper Landing**	**3.93**	**358**		Pn		**Pn**	**20 26 45.2**	**+1.1**	
O22K					IAML			20 27 37.5		
	comp=E,177nm,0.8s									
HIN	**Hinchinbrook I**	**4.14**	**21**		IAML			20 27 34.8		
	comp=E,98nm,0.9s									
HIN					IAML			20 27 34.9		
	comp=N,120nm,0.4s									
P18K	**Big Mountain,**	**4.18**	**315**				**Pn**	**20 26 48.5**	**+0.8**	
P18K	**Big Mountain,**	**4.18**	**315**		P		**Pn**	**20 26 48.5**	**+0.8**	
	baz=131									
P18K					S		**Sn**	**20 27 35.4**	**-1.2**	
	baz=131									
RED	**Redoubt Volcan**	**4.24**	**337**				**Pn**	**20 26 48.7**	**+0.2**	
RDSO	**Redoubt South**	**4.27**	**337**				**Pn**	**20 26 49.1**	**+0.2**	
RSO	**Redoubt South**	**4.28**	**337**				**Pn**	**20 26 49.6**	**+0.6**	
KAIM	**Kayak Island**	**4.29**	**36**		Pn		**Pn**	**20 26 50.1**	**+1.1**	
CAPN	**Captain Cook N**	**4.31**	**349**		Pn		**Pn**	**20 26 50.1**	**+0.8**	
RDWB	**Redoubt West**	**4.32**	**337**				**Pn**	**20 26 49.9**	**+0.3**	
NCT	**North Crescent**	**4.40**	**337**				**Pn**	**20 26 51.0**	**+0.3**	
EYAK	**Cordova Ski Ar**	**4.44**	**24**				**Pn**	**20 26 52.2**	**+1.1**	
EYAK	**Cordova Ski Ar**	**4.44**	**24**		P		**Pn**	**20 26 52.2**	**+1.1**	
	baz=207									
O19K	**Port Alsworth**	**4.45**	**327**		Pn		**Pn**	**20 26 51.9**	**+0.7**	
RC01	**Rabbit Creek A**	**4.54**	**358**				**Pn**	**20 26 52.5**	**0.0**	
RC01					IAML			20 27 46.0		
	comp=N,36nm,0.4s									
RC01					IAML			20 27 46.2		
	comp=E,38nm,0.4s									
RC01	**Rabbit Creek A**	**4.54**	**358**		P		**Pn**	**20 26 53.1**	**+0.6**	
	baz=178									
N20K	**Mount Spurr**	**4.86**	**344**		P		**Pn**	**20 26 57.2**	**+0.2**	
	baz=162									
SPCR	**Spurr Chakacha**	**4.86**	**344**				**Pn**	**20 26 57.2**	**+0.2**	
KNK	**Knik Glacier**	**4.89**	**6**				**Pn**	**20 26 58.3**	**+1.0**	
KNK	**Knik Glacier**	**4.89**	**6**		IAML			20 28 01.4		
	comp=E,28nm,1.0s									
KNK					IAML			20 28 09.2		
	comp=N,20nm,1.3s									
KNK	**Knik Glacier**	**4.89**	**6**		P		**Pn**	**20 26 58.3**	**+1.0**	
	baz=186									
SPCP	**Crater Peak Br**	**4.92**	**345**				**Pn**	**20 26 58.5**	**+0.7**	
SUA	**Susitna One**	**4.96**	**353**				**Pn**	**20 26 59.1**	**+0.7**	
SUA	**Susitna One**	**4.96**	**353**		IAML			20 27 57.6		
	comp=E,23nm,1.4s									
SUA	**Susitna One**	**4.96**	**353**		P		**Pn**	**20 26 59.1**	**+0.7**	
	baz=172									
CHGN	**Chignik**	**4.99**	**271**		Pn		**Pn**	**20 26 58.4**	**-0.2**	
CHGN					IAML			20 27 56.9		
	comp=E,53nm,0.3s									
CHGN					IAML			20 27 58.8		
	comp=N,73nm,0.1s									
N19K	**Bonanza Creek**	**5.00**	**330**				**Pn**	**20 26 59.6**	**+0.6**	
N19K	**Bonanza Creek**	**5.00**	**330**		P		**Pn**	**20 26 59.6**	**+0.6**	
	baz=146									
SNH	**Sunshine Point**	**5.02**	**41**				**Pn**	**20 27 00.3**	**+1.1**	
SNH	**Sunshine Point**	**5.02**	**41**		IAML			20 27 57.6		
	comp=N,81nm,1.5s									
PMR	**Palmer**	**5.04**	**2**		Pn		**Pn**	**20 26 60.0**	**+0.6**	
BMRM	**Bremner River**	**5.08**	**28**		P		**Pn**	**20 27 01.0**	**+1.0**	
	baz=212									
GHO	**Glory Hole Cre**	**5.23**	**3**				**Pn**	**20 27 03.4**	**+1.3**	
GHO	**Glory Hole Cre**	**5.23**	**3**		IAML			20 28 02.1		
	comp=N,40nm,0.6s									
GHO					IAML			20 28 07.6		
	comp=E,38nm,1.1s									
KLU	**Klutina**	**5.27**	**19**				**Pn**	**20 27 03.5**	**+0.9**	
KLU					IAML			20 28 05.0		
	comp=N,52nm,0.4s									
KLU					IAML			20 28 05.8		
	comp=E,42nm,0.4s									
KLU	**Klutina**	**5.27**	**19**		P		**Pn**	**20 27 03.8**	**+1.3**	
	baz=202									
SML	**Sawmill**	**5.29**	**6**				**Pn**	**20 27 03.9**	**+1.1**	
SML					IAML			20 28 04.3		
	comp=N,17nm,0.7s									
SML					IAML			20 28 19.9		
	comp=E,19nm,1.2s									
SML	**Sawmill**	**5.29**	**6**		P		**Pn**	**20 27 04.3**	**+1.5**	
	baz=187									
M23K	**Glacier View**	**5.32**	**9**		P		**Pn**	**20 27 04.8**	**+1.5**	
	baz=190									
N18K	**Kilae Creek**	**5.32**	**323**		Pn		**Pn**	**20 27 03.2**	**-0.1**	
SCM	**Sheep Creek Mo**	**5.39**	**11**				**Pn**	**20 27 05.9**	**+1.6**	
SCM	**Sheep Creek Mo**	**5.39**	**11**		P		**Pn**	**20 27 05.9**	**+1.6**	
	baz=192									
O16K	**Kokwok River B**	**5.50**	**307**				**Pn**	**20 27 07.3**	**+1.6**	
O16K	**Kokwok River B**	**5.50**	**307**		P		**Pn**	**20 27 07.3**	**+1.6**	
	baz=120									
SKT	**Skwentna**	**5.54**	**350**		Pn		**Pn**	**20 27 07.0**	**+0.8**	
S14K	**Fog Glacier**	**5.62**	**271**		P		**Pn**	**20 27 08.7**	**+1.3**	
	baz=84									
VNFG	**Fog Glacier, M**	**5.62**	**271**				**Pn**	**20 27 08.7**	**+1.3**	
N25K	**Chitina, Valde**	**5.64**	**24**				**Pn**	**20 27 08.8**	**+1.2**	
M20K	**Styx River**	**5.66**	**342**		Pn		**Pn**	**20 27 07.7**	**-0.2**	
N17K	**Nushagak Hills**	**5.67**	**318**		Pn		**Pn**	**20 27 09.2**	**+1.1**	
GLB	**Gilahina Butte**	**5.69**	**28**				**Pn**	**20 27 09.1**	**+0.8**	
GLB							**Sn**	**20 28 10.9**	**-2.8**	
M24K	**Tolsona, Glenn**	**5.80**	**15**				**Pn**	**20 27 11.8**	**+1.9**	
M24K	**Tolsona, Glenn**	**5.80**	**15**		P		**Pn**	**20 27 11.8**	**+1.9**	
	baz=198									
MCARA	**McCarthy VSAT**	**5.86**	**32**				**Pn**	**20 27 11.8**	**+1.2**	
MCARA	**McCarthy VSAT**	**5.86**	**32**		P		**Pn**	**20 27 11.8**	**+1.2**	
	baz=217									

M19K	**Big River Lodg**	**5.92**	**337**		Pn		**Pn**	**20 27 11.4**	**-0.1**	
CNBA	**Chernabura Isl**	**6.00**	**257**		Pn		**Pn**	**20 27 12.2**	**-0.3**	
PINM	**Pinnacle**	**6.00**	**50**		P		**Pn**	**20 27 13.6**	**+1.0**	
	baz=237									
BARN	**Barnard Glacie**	**6.05**	**39**				**Pn**	**20 27 14.7**	**+1.2**	
WAT6	**Susitna Watana**	**6.10**	**7**		P		**Pn**	**20 27 15.4**	**+1.4**	
	baz=189									
CTGM	**Chitina Glacie**	**6.10**	**40**		Pn		**Pn**	**20 27 15.4**	**+1.3**	
LOGN	**Logan Glacier**	**6.13**	**42**				**Pn**	**20 27 15.6**	**+1.2**	
PNL	**Peninsula**	**6.17**	**56**		P		**Pn**	**20 27 16.0**	**+1.2**	
	baz=244									
L19K	**White Mountain**	**6.27**	**336**		Pn		**Pn**	**20 27 15.9**	**-0.4**	
M17K	**Holitna River**	**6.37**	**323**		Pn		**Pn**	**20 27 18.3**	**+0.7**	
DHY	**Denali Highway**	**6.61**	**8**				**Pn**	**20 27 22.5**	**+1.4**	
DHY	**Denali Highway**	**6.61**	**8**		P		**Pn**	**20 27 22.5**	**+1.4**	
	baz=190									
M16K	**Timber Creek**	**6.66**	**316**		Pn		**Pn**	**20 27 22.8**	**+1.2**	
N15K	**Kwethluk River**	**6.66**	**307**		Pn		**Pn**	**20 27 23.6**	**+1.9**	
M26K	**Nabesna, AK**	**6.71**	**27**		Pn		**Pn**	**20 27 23.4**	**+1.1**	
PAX	**Paxson**	**6.73**	**16**				**Pn**	**20 27 24.4**	**+1.8**	
PAX	**Paxson**	**6.73**	**16**		P		**Pn**	**20 27 24.4**	**+1.8**	
	baz=199									
L18K	**Granite Mounta**	**6.77**	**330**		Pn		**Pn**	**20 27 23.2**	**+0.1**	
O29M	**Mount Kennedy**	**6.83**	**52**				**Pn**	**20 27 25.5**	**+1.6**	
O14K	**Tigyukauivet M**	**6.85**	**298**		Pn		**Pn**	**20 27 24.3**	**+0.1**	
YUK2	**White River**	**6.85**	**37**				**Pn**	**20 27 26.1**	**+1.9**	
YUK8	**Steele Glacier**	**6.89**	**43**				**Pn**	**20 27 27.0**	**+2.0**	
YUK8	**Steele Glacier**	**6.89**	**43**		P		**Pn**	**20 27 27.0**	**+2.0**	
	baz=231									
TRF	**Thorofare Moun**	**6.92**	**357**		Pn		**Pn**	**20 27 26.4**	**+1.1**	
P29M	**Windy Craggy**	**6.92**	**59**				**Pn**	**20 27 25.8**	**+0.6**	
M27K	**Edge Creek, AK**	**6.97**	**30**				**Pn**	**20 27 27.7**	**+1.7**	
M27K	**Edge Creek, AK**	**6.97**	**30**		P		**Pn**	**20 27 27.7**	**+1.7**	
	baz=217									
YUK3	**Moose Creek**	**6.97**	**38**				**Pn**	**20 27 28.0**	**+1.9**	
YUK3	**Moose Creek**	**6.97**	**38**		P		**Pn**	**20 27 28.0**	**+1.9**	
	baz=225									
CAST	**Castle Rocks**	**7.00**	**350**				**Pn**	**20 27 27.5**	**+1.2**	
CAST	**Castle Rocks**	**7.00**	**350**		P		**Pn**	**20 27 27.5**	**+1.2**	
	baz=168									
KTH	**Kantishna Hill**	**7.05**	**355**		Pn		**Pn**	**20 27 27.9**	**+0.9**	
YUK7	**Dusty Glacier**	**7.12**	**51**				**Pn**	**20 27 30.1**	**+1.9**	
PN7A	**Pavlof North-7**	**7.13**	**266**				**Pn**	**20 27 29.2**	**+1.0**	
L26K	**Log Cabin Wild**	**7.17**	**23**				**Pn**	**20 27 30.1**	**+1.5**	
TTA	**Tatalina**	**7.19**	**335**		Pn		**Pn**	**20 27 28.8**	**-0.1**	
YUK6	**Outpost Mounta**	**7.24**	**48**		P		**Pn**	**20 27 31.9**	**+2.2**	
	baz=237									
L16K	**Owhat River**	**7.29**	**319**		Pn		**Pn**	**20 27 30.7**	**+0.5**	
S31K	**Pelican**	**7.30**	**73**		Pn		**Pn**	**20 27 29.3**	**-1.1**	
BVCY	**Beaver Creek**	**7.31**	**33**				**Pn**	**20 27 32.5**	**+1.9**	
BVCY	**Beaver Creek**	**7.31**	**33**		P		**Pn**	**20 27 32.5**	**+1.9**	
	baz=220									
YUK4	**Talbot Arm**	**7.35**	**45**		P		**Pn**	**20 27 34.5**	**+3.2**	
	baz=234									
HYT	**Haines Junctio**	**7.54**	**51**		Pn		**Pn**	**20 27 32.7**	**-1.1**	
YUK5	**Granite Creek**	**7.55**	**48**				**Pn**	**20 27 35.7**	**+1.7**	
RIDG	**Independent Ri**	**7.55**	**16**				**Pn**	**20 27 34.9**	**+1.0**	
BPAW	**Bear Paw Mtn.**	**7.60**	**355**		P		**Pn**	**20 27 35.5**	**+1.0**	
	baz=174									
SIT	**Sitka**	**7.77**	**80**		Pn		**Pn**	**20 27 34.6**	**-2.2**	
HDA	**Harding Lake**	**7.96**	**8**				**Pn**	**20 27 41.5**	**+2.0**	
HDA	**Harding Lake**	**7.96**	**8**		P		**Pn**	**20 27 41.5**	**+2.0**	
	baz=190									
J20K	**Nowinta River**	**7.98**	**345**		Pn		**Pn**	**20 27 40.0**	**+0.3**	
NEA2	**Nenana**	**8.06**	**1**				**Pn**	**20 27 42.3**	**+1.5**	
NEA2	**Nenana**	**8.06**	**1**		P		**Pn**	**20 27 42.3**	**+1.5**	
	baz=182									
M29M	**Somme Creek**	**8.11**	**39**				**Pn**	**20 27 43.4**	**+1.7**	
M29M	**Somme Creek**	**8.11**	**39**		P		**Pn**	**20 27 43.4**	**+1.7**	
	baz=228									
O30N	**Mendenhall**	**8.13**	**53**				**Pn**	**20 27 43.1**	**+1.3**	
O30N	**Mendenhall**	**8.13**	**53**		P		**Pn**	**20 27 43.1**	**+1.3**	
	baz=244									
CCB	**Clear Creek Bu**	**8.15**	**5**		Pn		**Pn**	**20 27 43.0**	**+1.1**	
ISNN	**Isanotski Nort**	**8.28**	**264**				**Pn**	**20 27 44.4**	**+0.6**	
IL31		**8.33**	**8**				**Pn**	**20 27 44.4**	**0.0**	
ILAR	**Eielson Array**	**8.33**	**8**		Pn		**Pn**	**20 27 44.2**	**-0.2**	
COLA	**College**	**8.37**	**5**				**Pn**	**20 27 47.0**	**+2.0**	
COLA	**College**	**8.37**	**5**		P		**Pn**	**20 27 47.0**	**+2.0**	
	baz=186									
J26L	**Joseph Creek**	**8.47**	**18**				**Pn**	**20 27 47.4**	**+1.0**	
L29M	**L29M**	**8.68**	**36**				**Pn**	**20 27 50.8**	**+1.5**	
I21K	**Tanana**	**8.73**	**353**		P		**Pn**	**20 27 51.6**	**+1.7**	
	baz=171									
J16K	**Bevik River**	**8.75**	**325**		Pn		**Pn**	**20 27 48.9**	**-1.3**	
DAWY	**Dawson**	**9.02**	**29**		Pn		**Pn**	**20 27 55.0**	**+1.0**	
I26K	**Coal Creek Min**	**9.28**	**17**		Pn		**Pn**	**20 27 58.8**	**+1.3**	
K29M	**Barlow Dome**	**9.39**	**34**		Pn		**Pn**	**20 28 01.0**	**+1.8**	
IMAR	**Indian Mountai**	**9.67**	**349**		Pn		**Pn**	**20 28 02.8**	**-0.1**	
G23K	**Bananza Creek**	**10.19**	**359**		Pn		**Pn**	**20 28 10.6**	**+0.7**	
I30M	**Mount Dempster**	**10.74**	**31**		Pn		**Pn**	**20 28 18.4**	**+0.8**	
MMPY	**Sheldon Lake,**	**11.01**	**49**		Pn		**Pn**	**20 28 22.7**	**+1.6**	
G31M	**Satah River**	**12.58**	**28**		Pn		**Pn**	**20 28 43.1**	**+0.5**	
B22K	**Teshekpuk Lake**	**13.94**	**354**				Pn	20 28 59.0	-2.0	

*NEIC **25** 20:32:46.5±2.3,56°23N±0°02×148°1W±0°1,h10km±2km, ML3.8/40,ML3.3(AEIC),Error ellipse: s-maj=11.5km s-min=4.6km az=83.0*
*AEIC **25** 20:32:53.9±1.2,56°42N±0°10×148°41W±0°07,h12km±8km, Error ellipse: s-maj=14.1km s-min=5.3km az=174.0*
*IDC **25** 20:32:59.6±2.5,56°97N×147°28W,h0km,mb3.6/5, mbtmp3.5/8,ML3.0/3,Error ellipse: s-maj=50.1km s-min=29.7km az=129.0*

ISC 25 20:32:49.4±1.5,56°52N±0°10×148°45W±0°06,h10km, n169,σ1§18/161,mb3.8/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.58**	**301**		**Pn**	**20 33 32.3**	**+1.1**
KDAK					**Sn**	**20 34 01.4**	**-1.3**
KDAK	**Kodiak Island**	**2.58**	**301**	P	**Pn**	**20 33 32.3**	**+1.1**
	baz=121						
KDAK				S	**Sn**	**20 34 01.4**	**-1.3**
	baz=121						
OHAK	**Old Harbor**	**2.75**	**287**		**Pn**	**20 33 33.6**	**+0.1**
OHAK					**Sn**	**20 34 04.2**	**-2.4**
OHAK	**Old Harbor**	**2.75**	**287**	P	**Pn**	**20 33 33.6**	**+0.1**
	baz=107						
OHAK				S	**Sn**	**20 34 04.2**	**-2.4**
	baz=107						
SYI	**Shuyak Island**	**2.98**	**316**		**Pn**	**20 33 38.0**	**+1.2**
SYI					**Sn**	**20 34 12.3**	**-0.2**
Q20K	**Shuyak Island**	**2.99**	**316**	P	**Pn**	**20 33 38.0**	**+1.2**
	baz=134						
Q20K				S	**Sn**	**20 34 12.3**	**-0.2**
	baz=134						
Q23K	**Middleton Isla**	**3.13**	**20**	Pn	**Pn**	**20 33 37.7**	**-1.0**
Q23K				IAML		20 34 09.9	
	comp=E,310nm,1.2s						
Q23K				IAML		20 35 41.7	
	comp=N,308nm,1.4s						
MID	**Middleton Isla**	**3.13**	**20**		**Pn**	**20 33 38.7**	**0.0**
MID	**Middleton Isla**	**3.13**	**20**	IAML		20 35 21.3	
	comp=N,296nm,1.3s						
CNPM	**China Poot**	**3.36**	**335**		**Pn**	**20 33 42.8**	**+0.9**
CNPM					**Sn**	**20 34 21.3**	**-0.5**
CNPM	**China Poot**	**3.36**	**335**	IAML		20 34 25.1	
	comp=E,60nm,1.2s						
BRSE	**Bradley Lake S**	**3.46**	**340**		**Pn**	**20 33 44.5**	**+1.3**
BRSE	**Bradley Lake S**	**3.46**	**340**	P	**Pn**	**20 33 44.5**	**+1.3**
	baz=157						
BRLK	**Bradley Lake**	**3.50**	**339**		**Pn**	**20 33 44.0**	**+0.1**
BRLK				IAML		20 34 26.1	
	comp=N,66nm,1.3s						
BRLK				IAML		20 34 26.4	
	comp=E,75nm,1.2s						
BRLK	**Bradley Lake**	**3.50**	**339**		**Sn**	**20 34 23.9**	**-1.4**
P23K	**Montague Islan**	**3.53**	**9**		**Pn**	**20 33 44.6**	**+0.4**
P23K					**Sn**	**20 34 24.3**	**-1.8**
P23K	**Montague Islan**	**3.53**	**9**	P	**Pn**	**20 33 44.6**	**+0.4**
	baz=186						
P23K				S	**Sn**	**20 34 24.3**	**-1.8**
	baz=186						
HOM	**Homer**	**3.58**	**333**		**Pn**	**20 33 45.3**	**+0.5**
HOM				IAML		20 35 24.4	
	comp=E,263nm,1.4s						
HOM	**Homer**	**3.58**	**333**	P	**Pn**	**20 33 46.3**	**+1.4**
	baz=150						
Q19K	**Cape Douglas,**	**3.69**	**313**		**Pn**	**20 33 47.4**	**+1.0**
Q19K				IAML		20 34 40.5	
	comp=N,210nm,1.4s						
HIN	**Hinchinbrook I**	**4.02**	**14**		**Pn**	**20 33 51.4**	**+0.3**

HIN					IAML			20 34 38.0		
	comp=N,155nm,1.4s									
HIN					IAML			20 34 38.2		
	comp=E,122nm,1.0s									
KAIM	**Kayak Island**	**4.03**	**30**		Pn		Pn	20 33 47.4	-3.6	
KAIM					IAML			20 35 06.8		
	comp=N,140nm,1.5s									
KAIM					IAML			20 35 51.8		
	comp=E,132nm,1.4s									
O22K	**Cooper Landing**	**4.03**	**351**		Pn		**Pn**	**20 33 50.9**	**-0.1**	
O22K					IAML			20 34 46.5		
	comp=N,137nm,0.8s									
P19K	**Oil Pt**	**4.04**	**323**		Pn		**Pn**	**20 33 50.9**	**-0.3**	
P19K					IAML			20 34 42.0		
	comp=N,145nm,0.6s									
SLKM	**Skilak Lake**	**4.11**	**348**				**Pn**	**20 33 52.9**	**+0.7**	
IVE	**Iliamna Volcan**	**4.26**	**327**				**Pn**	**20 33 54.9**	**+0.6**	
EYAK	**Cordova Ski Ar**	**4.28**	**18**				**Pn**	**20 33 55.3**	**+0.7**	
EYAK	**Cordova Ski Ar**	**4.28**	**18**		P		**Pn**	**20 33 55.3**	**+0.7**	
	baz=197									
CAPN	**Captain Cook N**	**4.49**	**343**		Pn		**Pn**	**20 33 59.2**	**+1.8**	
RSO	**Redoubt South**	**4.55**	**332**				**Pn**	**20 33 59.0**	**+0.5**	
BERG	**Berg Lake**	**4.62**	**31**		Pn		**Pn**	**20 33 58.7**	**-0.5**	
BERG					IAML			20 34 52.5		
	comp=N,130nm,0.4s									
P18K	**Big Mountain,**	**4.62**	**311**		Pn		**Pn**	**20 33 59.6**	**+0.4**	
RC01	**Rabbit Creek A**	**4.63**	**352**				**Sn**	**20 34 51.3**	**-1.9**	
RC01					IAML			20 34 53.2		
	comp=N,46nm,0.4s									
RC01					IAML			20 34 56.7		
	comp=E,42nm,0.5s									
RC01	**Rabbit Creek A**	**4.63**	**352**		P		**Pn**	**20 34 00.3**	**+0.9**	
	baz=170									
SNH	**Sunshine Point**	**4.71**	**36**		Pn		**Pn**	**20 34 00.9**	**+0.4**	
SNH					IAML			20 34 55.5		
	comp=N,111nm,1.4s									
SNH					IAML			20 35 15.8		
	comp=E,65nm,1.4s									
O19K	**Port Alsworth**	**4.81**	**322**		Pn		**Pn**	**20 34 01.8**	**0.0**	
BMRM	**Bremner River**	**4.89**	**23**		P		**Pn**	**20 34 03.6**	**+0.7**	
	baz=203									
KNK	**Knik Glacier**	**4.91**	**360**		IAML			20 35 05.0		
	comp=N,23nm,1.5s									
KNK	**Knik Glacier**	**4.91**	**360**		P		**Pn**	**20 34 04.3**	**+1.1**	
	baz=178									
SUA	**Susitna One**	**5.10**	**347**		Pn		**Pn**	**20 34 06.7**	**+0.8**	
PMR	**Palmer**	**5.10**	**356**		Pn		**Pn**	**20 34 07.4**	**+1.6**	
	baz=174									
KLU	**Klutina**	**5.16**	**14**				**Pn**	**20 34 07.4**	**+0.7**	
KLU	**Klutina**	**5.16**	**14**		P		**Pn**	**20 34 07.6**	**+0.9**	
	baz=193									
GHO	**Glory Hole Cre**	**5.28**	**358**				**Pn**	**20 34 09.5**	**+1.2**	
SML	**Sawmill**	**5.31**	**1**		P		**Pn**	**20 34 10.0**	**+1.4**	
	baz=179									
N19K	**Bonanza Creek**	**5.33**	**326**		Pn		**Pn**	**20 34 09.5**	**+0.4**	
SCM	**Sheep Creek Mo**	**5.36**	**6**		P		**Pn**	**20 34 11.5**	**+2.0**	
	baz=184									
N25K	**Chitina, Valde**	**5.48**	**20**				**Pn**	**20 34 11.7**	**+0.7**	
N25K	**Chitina, Valde**	**5.48**	**20**		P		**Pn**	**20 34 12.1**	**+1.1**	
	baz=200									
GLB	**Gilahina Butte**	**5.49**	**24**				**Pn**	**20 34

J16K	**Anvik River**	**9.12**	**323**	Pn		**Pn**	**20 35 00.1**	**-0.7**
K29M	**Barlow Dome**	**9.13**	**32**	Pn		**Pn**	**20 35 02.0**	**+0.9**
M31M	**Drury Creek, Y**	**9.15**	**46**	Pn		**Pn**	**20 35 02.5**	**+1.1**
I26K	**Coal Creek Min**	**9.18**	**14**	Pn		**Pn**	**20 35 02.8**	**+1.0**
N32M	**Quiet Lake**	**9.21**	**53**	Pn		**Pn**	**20 35 02.0**	**-0.2**
H24K	**Noodor Dome**	**9.36**	**1**	Pn		**Pn**	**20 35 06.2**	**+2.0**
H21K	**Melozitna Rive**	**9.41**	**349**	Pn		**Pn**	**20 35 06.0**	**+1.1**
S34M	**Telegraph Cree**	**9.50**	**74**	Pn		Pn	20 35 01.8	-4.3
FARO	**Faro, Yukon**	**9.59**	**47**	Pn		**Pn**	**20 35 08.3**	**+1.0**
R33M	**Jennings River**	**9.72**	**66**	Pn		**Pn**	**20 35 08.9**	**-0.4**
H19K	**Roundabout Mou**	**9.83**	**340**	Pn		**Pn**	**20 35 11.9**	**+1.4**
IMAR	**Indian Mountai**	**9.83**	**347**	Pn		**Pn**	**20 35 12.1**	**+1.5**
I28M	**Miner Creek**	**9.86**	**21**	Pn		**Pn**	**20 35 12.5**	**+1.4**
J30M	**Hart River**	**10.03**	**31**	Pn		**Pn**	**20 35 15.0**	**+1.6**
G23K	**Bananza Creek**	**10.26**	**356**	Pn		**Pn**	**20 35 17.3**	**+0.8**
G21K	**Allakaket**	**10.31**	**349**	Pn		**Pn**	**20 35 17.9**	**+0.7**
G19K	**Purcell Mounta**	**10.50**	**340**	Pn		**Pn**	**20 35 22.2**	**+2.5**
MMPY	**Sheldon Lake,**	**10.62**	**48**	Pn		**Pn**	**20 35 22.8**	**+1.3**
E19K	**Redstone River**	**11.71**	**343**	Pn		**Pn**	**20 35 38.0**	**+1.7**
E25K	**Arctic Village**	**11.72**	**5**	Pn		**Pn**	**20 35 38.6**	**+2.2**
D22K	**Ayikyak River**	**12.55**	**353**	Pn		**Pn**	**20 35 50.0**	**+2.2**
D19K	**Kuna River**	**12.80**	**344**	Pn		**Pn**	**20 35 52.5**	**+1.3**
INK	**Inuvik**	**13.64**	**24**	Pn		**Pn**	**20 36 04.4**	**+1.8**
	comp=N,0.1nm,0.3s,baz=209,slow=15,SNR=4.5 comp=N,2.5nm,1.0s							
YKA	**Yellowknife Ar**	**18.02**	**57**	P		**P**	**20 37 02.6**	**+2.5**
	comp=N,0.1nm,0.3s,baz=264,slow=13,SNR=5.7 comp=N,0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**49.40**	**241**	T		T	21 34 56.0	
	baz=31							
H11N3	**WAKE ISLAND Hy**	**49.41**	**241**	T		T	21 34 55.4	
	baz=31							
H11N1	**WAKE ISLAND Hy**	**49.42**	**241**	T		T	21 35 20.6	
	baz=31							
H11S1	**WAKE ISLAND Hy**	**50.54**	**240**	T		T	21 36 27.6	
	baz=34							
H11S2	**WAKE ISLAND Hy**	**50.56**	**240**	T		T	21 36 38.7	
	baz=34							
H11S3	**WAKE ISLAND Hy**	**50.56**	**240**	T		T	21 36 35.2	
	baz=34							
SONM	**Songino Array**	**58.84**	**311**	P		P	20 43 00.8	+13
	comp=N,0.6nm,0.8s,baz=51,slow=8.0,SNR=2.9 comp=N,0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**61.61**	**327**	P		P	20 43 18.8	+12
	comp=N,0.6nm,0.6s,baz=43,slow=8.7,SNR=3.8 comp=N,0.6nm,0.6s							
BVAR	**Borovoye Array**	**66.26**	**336**	P		P	20 43 48.8	+12
	comp=N,0.6nm,0.7s,baz=40,slow=7.5,SNR=4.8 comp=N,0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**66.37**	**329**	P		P	20 43 48.5	+11
	comp=N,0.4nm,0.6s,baz=25,slow=6.1,SNR=1.8 comp=N,0.4nm,0.6s							
MKAR	**Makanchi Array**	**68.67**	**325**	P		P	20 44 03.9	+11
	comp=N,0.4nm,0.8s,baz=45,slow=6.7,SNR=3.6 comp=N,0.4nm,0.8s							

*IDC **25** 20:42:55.5±0.6, 33.01N×83.13E, h0km, mb4.0/23, mbtmp4.0/26, ML3.1/3, MS3.3/9, Error ellipse: s-maj=19.6km s-min=12.2km az=46.0*

*NEIC **25** 20:42:57.4±1.4, 33.16N±0.07×83.20E±0.05, h10km±1km, mb4.0/25, Error ellipse: s-maj=12.6km s-min=5.6km az=332.0*

*NDI **25** 20:42:58.6±3.3, 33.27N×83.56E, h10km, ML3.7, MW4.1, mb4.0(NEIC)*

ISC 25 20:42:57.7±0.4, 33°18N±0.06×83°28E±0.05, h10km, n82, σ1§81/77, mb4.0/25, MS3.3/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**4.47**	**217**	**eP**	**Pn**	**20 44 08.1**	**+2.5**
LGTI	**Lohaghat**	**4.54**	**216**	*eP*	Pb	20 44 11.2	-6.2
DDI	**Dehra Dun**	**5.28**	**239**	*eS*	**Sn**	**20 45 23.3**	**+5.6**
SMLA	**Simla**	**5.57**	**250**	*eP*	**Pn**	**20 44 23.3**	**+2.6**
DHRM	**DHARAMSHALA**	**5.96**	**263**	*eP*	Pn	20 44 29.8	+3.7
DHRM				*ex*	**Sn**	**20 45 36.9**	**+2.3**
DHRM				IAML		20 45 43.5	
	comp=E,88nm,0.9s						
DHRM				IAML		20 45 48.0	
	comp=E,103nm,1.1s						
BHK	**Bhakra**	**6.07**	**255**	*eS*	**Sn**	**20 45 41.7**	**+4.6**
GTK	**Tadong**	**7.44**	**140**	*eP*	**Pn**	**20 44 47.2**	**+0.8**
GTK				*ex*	**Sn**	**20 46 13.5**	**+2.6**
LSA	**Lhasa**	**7.57**	**115**	Pn	**Pn**	**20 44 49.5**	**+1.0**
KUDL	**Kundal**	**7.71**	**231**	*eP*	**Pn**	**20 44 53.5**	**+3.5**
KUDL				*eS*	**Sn**	**20 46 15.3**	**-1.9**
NIL	**Nilore**	**8.40**	**276**	Pn	**Pn**	**20 44 58.4**	**-1.0**
KSH	**Kashi**	**8.64**	**319**	P	Pn	20 45 09.3	+6.4
KSH				S	Sn	20 46 48.5	+8.1
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NRN	**Naryn**	**10.07**	**327**	Pn	**Pn**	**20 45 26.2**	**+3.6**
SHL	**Shillong**	**10.67**	**133**	Pn	**Pn**	**20 45 27.8**	**-2.9**
AAK	**Ala-Archa**	**11.71**	**326**	Pn	**Pn**	**20 45 44.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=169,slow=10,SNR=2.3						
AAK				LR	LR	20 50 39.3	
	comp=Z,92nm,18.7s,baz=147,slow=39 comp=Z,0.7nm,0.7s						
KBL	**Kabul**	**11.91**	**280**	Pn	**Pn**	**20 45 46.4**	**-1.4**
BTK	**Batken**	**12.13**	**308**	Pn	**Pn**	**20 45 47.0**	**-3.6**
SIMJ	**Simiganj**	**12.79**	**299**	Pn	**Pn**	**20 45 58.2**	**-1.5**
MK31	**Makanchi Array**	**13.62**	**357**		**Pn**	**20 46 10.5**	**-0.3**
MKAR	**Makanchi Array**	**13.62**	**357**	Pn	**Pn**	**20 46 10.9**	**+0.1**
MKAR	**Makanchi Array**	**13.62**	**357**	Pn	**Pn**	**20 46 12.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=181,slow=14,SNR=30 comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**13.65**	**356**	Pn	**Pn**	**20 46 11.9**	**+0.7**
GTA	**Gaotai**	**14.70**	**60**	*eP*	**P**	**20 46 34.3**	**+2.3**
GTA				pP	P	20 46 37.8	+5.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
LZH	**Lanzhou**	**17.17**	**75**	*eP*	**P**	**20 47 04.8**	**+5.3**
LZH				pP	sP	20 47 12.0	+6.3
LZH				pmax	pmax		
	comp=Z,18nm,1.7s						
HRA	**Herat**	**17.53**	**280**		**Pn**	**20 47 01.5**	**-0.9**
KURBB	**Kurchatov Arra**	**17.78**	**350**	P	**P**	**20 47 05.8**	**-0.1**
KURBB				LR	LR	20 55 02.2	
	comp=Z,104nm,19.8s,baz=196,slow=40 comp=Z,2.7nm,0.9s						
KURK	**Kurchatov**	**17.86**	**350**	P	**Pn**	**20 47 05.3**	**-0.7**
KURK				IAmb	IAmb	20 47 08.9	
	comp=Z,8.7nm,0.9s						
CRAI	**Chiangrai**	**19.95**	**126**	P	**P**	**20 47 29.6**	**-0.4**
CRAI				IAmb	IAmb	20 47 31.5	
	comp=Z,7.2nm,0.8s						
CHTO	**Chiang Mai**	**20.04**	**132**	P	**P**	**20 47 29.7**	**-1.2**
CHTO				IAmb	IAmb	20 47 31.8	
	comp=Z,7.7nm,0.8s						
CM31	**Chiang Mai Arr**	**20.30**	**132**	P	**P**	**20 47 33.2**	**-0.6**
CM31				IAmb	IAmb	20 47 35.4	
	comp=Z,17nm,1.2s						
CMAR	**Chiang Mai Arr**	**20.30**	**132**	P	**P**	**20 47 33.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**20.30**	**132**	P	**P**	**20 47 33.2**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=309,slow=10,SNR=54						
CMAR				LR	LR	20 56 20.6	
	comp=Z,30nm,19.9s,baz=310,slow=40 comp=Z,5.0nm,0.7s						
ZAA0	**Zalesovo Array**	**20.79**	**3**	P	**P**	**20 47 39.4**	**+0.6**
ZALV	**Zalesovo Beam**	**20.79**	**3**	P	**P**	**20 47 37.9**	**-0.9**
ZALV	**Zalesovo Beam**	**20.79**	**3**	P	**P**	**20 47 39.7**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=191,slow=11,SNR=15 comp=Z,2.5nm,0.6s						
GEYT	**Alibeck**	**20.99**	**290**	P	**P**	**20 47 40.4**	**-0.8**
GEYT				IAmb	IAmb	20 47 47.5	
	comp=Z,4.3nm,0.8s						
GEYT	**Alibeck**	**20.99**	**290**	P	**P**	**20 47 41.3**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=127,slow=16,SNR=8.6 comp=Z,3.0nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**20.99**	**290**		**P**	**20 47 38.5**	**-2.7**
XAN	**Xi'an**	**21.36**	**81**	P	**P**	**20 47 47.8**	**+2.6**
XAN				pP	sP	20 47 58.3	+6.8
XAN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BVAR	**Borovoye Array**	**21.89**	**339**	P	**P**	**20 47 52.4**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=146,slow=11,SNR=7.5 comp=Z,0.9nm,0.7s						
BRVK	**Borovoye**	**21.95**	**339**	P	**P**	**20 47 50.5**	**-0.8**
SONM	**Songino Array**	**22.75**	**43**	P	**P**	**20 47 59.8**	**-0.3**
SONM				IAmb	IAmb	20 48 04.7	
	comp=Z,8.4nm,1.2s						
SONM	**Songino Array**	**22.75**	**43**	P	**P**	**20 48 02.7**	**+2.6**
	comp=Z,4.3nm,1.0s,baz=238,slow=7.7,SNR=24						
	comp=Z,4.3nm,1.0s						
ULN	**Ulaanbaatar**	**23.15**	**44**	P	**P**	**20 48 04.5**	**+0.3**
ULN				IAmb	IAmb	20 48 09.5	
	comp=Z,8.1nm,1.4s						
ABKAR	**Akbulak array**	**23.65**	**320**	P	**P**	**20 48 08.3**	**-0.7**
ABKAR	**Akbulak array**	**23.65**	**320**	P	**P**	**20 48 08.5**	**-0.5**
ABKAR				IAmb	IAmb	20 48 13.2	
	comp=Z,2.4nm,0.8s						
WSAR	**Wadi Sarin**	**23.82**	**252**	LR	LR	20 59 57.1	
	comp=Z,28nm,20.3s,baz=52,slow=43						
AKTO	**Aktyubinsk**	**25.34**	**320**	P	**P**	**20 48 25.2**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=137,slow=6.4,SNR=6.5 comp=Z,2.0nm,0.5s						
GNI	**Garni**	**31.50**	**294**	LR	LR	21 03 15.3	
	comp=Z,46nm,20.0s,baz=80,slow=39						
KBZ	**Khabaz**	**33.04**	**301**	LR	LR	21 06 21.7	
	comp=Z,52nm,18.4s,baz=84,slow=43						
NRIK	**Noril'sk**	**36.29**	**3**	P	**P**	**20 50 02.1**	**+1.2**
	comp=Z,2.4nm,1.0s,baz=166,slow=7.8,SNR=1.7 comp=Z,2.4nm,1.0s						
KSRS	**Korea Array**	**36.42**	**70**	P	**P**	**20 50 02.7**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=277,slow=10,SNR=2.1 comp=Z,1.0nm,0.7s						
JOW	**Kunigami**	**39.24**	**87**	LR	LR	21 08 45.2	
	comp=Z,56nm,20.1s,baz=298,slow=39						
BRTR	**Keskin Array B**	**40.04**	**294**	LR	LR	21 10 15.9	
	comp=Z,56nm,19.4s,baz=296,slow=41						
AKASG	**Malin Array Be**	**42.83**	**311**	P	**P**	**20 50 54.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=77,slow=8.0,SNR=4.3 comp=Z,0.1nm,0.3s						
ELL	**Elmali**	**43.42**	**290**	P	**P**	**20 51 01.3**	**+0.6**
MLR	**Muntele Rosu**	**45.13**	**303**	P	**P**	**20 51 13.9**	**-0.5**
FINES	**FINESS Array B**	**45.90**	**326**	P	**P**	**20 51 20.4**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=101,slow=3.9,SNR=18 comp=Z,2.5nm,0.6s						
ARCES	**ARCESS Array B**	**48.15**	**336**	P	**P**	**20 51 38.0**	**+0.5**
	comp=Z,7.2nm,1.0s,baz=95,slow=9.9,SNR=4.2 comp=Z,7.2nm,1.0s						
HFS	**Hagfors**	**51.83**	**323**	P	**P**	**20 52 04.9**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=86,slow=8.0,SNR=6.9 comp=Z,2.9nm,0.8s						
GERES	**GERESS Array B**	**52.97**	**309**	P	**P**	**20 52 14.5**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=90,slow=3.9,SNR=2.6						
GERES				LR	LR	21 19 24.0	
	comp=Z,81nm,19.3s,baz=298,slow=41 comp=Z,0.8nm,0.9s						
NB2	**NORSAR Subarra**	**53.02**	**325**	P	**P**	**20 52 14.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=86,slow=7.9						
NOA	**NORSAR Array B**	**53.02**	**325**	P	**P**	**20 52 13.9**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=87,slow=7.1,SNR=3.9 comp=Z,1.5nm,0.9s						
EKA	**Eskdalemuir Ar**	**61.52**	**320**	P	**P**	**20 53 14.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=73,slow=7.6,SNR=3.8 comp=Z,0.5nm,0.5s						
ESDC	**Sonseca Array**	**67.82**	**304**	P	**P**	**20 53 55.1**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=58,slow=6.0,SNR=5.2 comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**71.87**	**130**	P	**P**	**20 54 20.3**	**-0.7**
WRA	**Warramunga Arr**	**71.87**	**130**	P	**P**	**20 54 20.5**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=326,slow=6.2,SNR=37 comp=Z,5.4nm,0.7s						
WB2	**Warramunga Arr**	**71.88**	**130**	P	**P**	**20 54 20.8**	**-0.3**
IMAR	**Indian Mountai**	**71.93**	**21**	P	**P**	**20 54 20.5**	**-0.3**
WR0	**Warramunga Arr**	**72.01**	**130**	P	**P**	**20 54 21.0**	**-0.9**
NWAO	**Narrogin (SRO)**	**73.12**	**151**	P	**P**	**20 54 26.1**	**-2.1**
COEN	**Coen**	**73.87**	**119**	P	**P**	**20 54 29.8**	**-3.2**
E29M	**Blow River**	**74.21**	**15**	P	**P**	**20 54 34.9**	**+0.6**
E29M				IAmb	IAmb	20 54 38.3	
	comp=Z,2.7nm,1.2s						
AS31	**Alice Springs**	**74.31**	**133**	P	**P**	**20 54 34.1**	**-1.4**
AS31				IAmb	IAmb	20 54 35.8	
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**74.31**	**133**	P	**P**	**20 54 34.4**	**-1.1**
ASAR	**Alice Springs**	**74.31**	**133**	P	**P**	**20 54 35.0**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=316,slow=5.7,SNR=54 comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**74.82**	**20**	P	**P**	**20 54 38.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=308,slow=5.2,SNR=6.0 comp=Z,0.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**75.96**	**277**	P	**P**	**20 54 42.9**	**-2.3**
TOA0				IAmb	IAmb	20 54 44.7	
	comp=Z,2.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**75.96**	**277**	P	**P**	**20 54 43.3**	**-1.9**
TORD				IAmb	IAmb	20 54 44.8	
	comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.96**	**277**	P	**P**	**20 54 43.9**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=43,slow=6.3,SNR=8.2 comp=Z,0.9nm,0.7s						
CTA	**Charters Tower**	**80.08**	**122**	P	**P**	**20 55 07.8**	**-0.1**
	comp=Z,9.4nm,0.9s,baz=294,slow=9.4,SNR=5.3 comp=Z,9.4nm,0.9s						
BOSA	**Boshof**	**82.47**	**229**	P	**P**	**20 55 19.1**	**-1.5**
	comp=Z,2.9nm,0.9s,baz=37,slow=5.1,SNR=4.3 comp=Z,2.9nm,0.9s						
YKA	**Yellowknife Ar**	**83.58**	**8**	P	**P**	**20 55 25.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=339,slow=5.3,SNR=12 comp=Z,0.6nm,0.7s						

IDC 25 20:52:44.7±4.3, 7°88S×147°10E, h115km±45km, mb2.9/1, mbtmp3.4/2, Error ellipse: s-maj=83.3km s-min=40.2km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.52**	**178**	P	Pn	20 53 12.8	+0.8
	26nm,0.3s,baz=359,slow=7.2,SNR=29						
PMG				S	Sn	20 53 32.8	-0.1
	60nm,0.3s,baz=213,slow=20,SNR=26						
WRA	**Warramunga Arr**	**17.22**	**225**	P	Pn	20 56 38.3	+0.1
	0.3nm,0.3s,baz=49,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**20.16**	**217**	P	P	20 57 10.2	+0.1
	0.5nm,0.4s,baz=50,slow=8.7,SNR=18 0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.60**	**282**	PKPbc	PKPdf	21 12 09.6	-0.9
	0.2nm,0.4s,baz=71,slow=4.7,SNR=2.2						

*NEIC **25** 21:35:06.9±1.4, 56.30N±0.05×149.5W±0.1, h10km±2km, ML3.6/28, ML3.2(AEIC), Error ellipse: s-maj=12.8km s-min=4.6km az=53.0*

*AEIC **25** 21:35:09.7±1.3, 56.2N±0.1×149.2W±0.2, h10km±9km, Error ellipse: s-maj=19.6km s-min=11.1km az=131.0*

ISC 25 21:35:05.4±2.5, 56.3N±0.1×149.37W±0.08, h10km, n36, σ1§12/43, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.32**	**312**		**Sn**	**21 36 11.6**	**-0.6**
KDAK	**Kodiak Island**	**2.32**	**312**		**Pn**	**21 35 44.1**	**+0.5**
KDAK				IAML		21 36 13.3	
	185nm,0.3s						
OHAK	**Old Harbor**	**2.36**	**296**		**Pn**	**21 35 44.1**	**-0.1**
OHAK					**Sn**	**21 36 11.4**	**-1.7**
OHAK	**Old Harbor**	**2.36**	**296**	P	**Pn**	**21 35 44.1**	**-0.1**
	baz=113						
OHAK				S	**Sn**	**21 36 11.4**	**-1.7**
	baz=113						
SII	**Sitkinak Islan**	**2.69**	**278**	Pn	**Pn**	**21 35 48.4**	**-0.3**
SII				IAML		21 36 20.2	
	comp=E,288nm,1.0s						
SII				IAML		21 36 22.3	
	comp=N,242nm,0.9s						
SYI	**Shuyak Island**	**2.86**	**326**		**Sn**	**21 36 25.9**	**+0.4**
SYI	**Shuyak Island**	**2.86**	**326**		**Pn**	**21 35 51.5**	**+0.5**
SYI				IAML		21 36 27.3	
	comp=N,107nm,1.4s						
SYI				IAML		21 36 29.0	
	comp=E,119nm,0.5s						
Q20K	**Shuyak Island**	**2.86**	**326**	P	**Pn**	**21 35 51.6**	**+0.6**
	baz=143						
Q20K				S	**Sn**	**21 36 25.9**	**+0.4**
	baz=143						
R18K	**Karluk**	**3.07**	**297**		**Pn**	**21 35 54.7**	**+0.7**
R18K					**Sn**	**21 36 29.4**	**-1.3**
R18K	**Karluk**	**3.07**	**297**	IAML		21 36 31.3	
	comp=E,407nm,0.3s						
R18K	**Karluk**	**3.07**	**297**	P	**Pn**	**21 35 54.7**	**+0.7**
	baz=113						
R18K				S	**Sn**	**21 36 29.4**	**-1.3**
	baz=113						
CNPM	**China Poot**	**3.42**	**344**		**Pn**	**21 35 59.0**	**+0.3**
CNPM				IAML		21 36 41.7	
	comp=E,65nm,0.9s						
Q19K	**Cape Douglas,**	**3.52**	**321**		**Pn**	**21 36 01.0**	**+0.8**
Q19K				IAML		21 36 45.9	
	comp=E,252nm,1.3s						
Q19K				IAML		21 36 54.5	
	comp=N,224nm,0.9s						
Q19K	**Cape Douglas,**	**3.52**	**321**		**Sn**	**21 36 41.3**	**-0.5**
Q19K	**Cape Douglas,**	**3.52**	**321**	P	**Pn**	**21 36 02.0**	**+1.9**
	baz=137						
Q19K				S	**Sn**	**21 36 41.3**	**-0.5**
	baz=137						
BRSE	**Bradley Lake S**	**3.56**	**349**		**Pn**	**21 36 00.9**	**+0.2**
BRSE					**Sn**	**21 36 41.2**	**-1.6**
BRSE	**Bradley Lake S**	**3.56**	**349**	P	**Pn**	**21 36 00.9**	**+0.2**
	baz=167						
BRSE				S	**Sn**	**21 36 41.2**	**-1.6**
	baz=167						
KAHG	**Katmai Hook Gl**	**3.58**	**311**		**Pn**	**21 36 03.1**	**+2.1**
BRLK	**Bradley Lake**	**3.60**	**348**		**Pn**	**21 36 01.5**	**+0.3**
HOM	**Homer**	**3.61**	**341**	Pn	**Pn**	**21 36 02.6**	**+1.3**
ACHA	**Angle Creek He**	**3.78**	**304**		**Pn**	**21 36 05.1**	**+1.4**
ANCK	**Angle Creek**	**3.85**	**303**		**Pn**	**21 36 06.3**	**+1.7**
KAHC	**Katmai Hardscr**	**3.87**	**310**	P	**Pn**	**21 36 06.6**	**+1.6**
	baz=126						
P19K	**Oil Pt**	**3.97**	**330**	Pn	**Pn**	**21 36 07.0**	**+0.7**
P19K				IAML		21 36 56.9	
	comp=N,120nm,0.5s						
P19K				IAML		21 36 59.7	
	comp=E,126nm,1.3s						
Q17K	**Contact Creek**	**4.06**	**302**	P	**Pn**	**21 36 09.5**	**+1.9**
	baz=117						
O22K	**Cooper Landing**	**4.23**	**358**	Pn	**Pn**	**21 36 10.5**	**+0.7**
HIN	**Hinchinbrook I**	**4.41**	**19**	Pn	**Pn**	**21 36 11.5**	**-0.9**
HIN				IAML		21 37 02.2	
	comp=N,134nm,1.4s						
HIN				IAML		21 37 41.6	
	comp=E,103nm,1.5s						
P18K	**Big Mountain,**	**4.43**	**317**		**Pn**	**21 36 13.0**	**+0.4**
P18K				IAML		21 37 04.7	
	comp=E,37nm,0.4s						
P18K	**Big Mountain,**	**4.43**	**317**	P	**Pn**	**21 36 13.1**	**+0.4**
	baz=132						
KAIM	**Kayak Island**	**4.51**	**34**	Pn	**Pn**	**21 36 15.2**	**+1.4**
RSO	**Redoubt South**	**4.57**	**338**		**Pn**	**21 36 15.0**	**+0.3**
P17K	**Kvichak River**	**4.79**	**311**	P	**Pn**	**21 36 19.0**	**+1.5**
	baz=125						
P16K	**Nushagak River**	**5.39**	**304**	P	**Pn**	**21 36 27.2**	**+1.4**
	baz=117						
O17K	**Koliganek Bris**	**5.40**	**314**	P	**Pn**	**21 36 27.2**	**+1.3**
	baz=127						
KLU	**Klutina**	**5.54**	**17**	P	**Pn**	**21 36 28.6**	**+0.7**
	baz=199						
O16K	**Kokwok River B**	**5.72**	**309**	P	**Pn**	**21 36 31.4**	**+1.2**
	baz=122						

*IDC **25** 21:37:09.8±1.3, 28.97S×61.62E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=52.2km s-min=29.6km az=78.0*

ISC 25 21:37:11.4±1.3, 29.0S±0.2×61.6E±0.4, h11km, n17, σ0§99/8, mb3.8/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**18.83**	**202**	T	T	22 00 35.0	
	baz=27,slow=75,SNR=684						
H04N1	**CROZET ISLANDS**	**18.84**	**202**	T	T	22 00 36.5	
	baz=27,slow=75,SNR=622						
H04N3	**CROZET ISLANDS**	**18.85**	**202**	T	T	22 00 35.3	
	baz=27,slow=75,SNR=642						
H08S1	**Diego Garcia H**	**23.54**	**28**	T	T	22 07 03.6	
	baz=203,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**23.55**	**28**	T	T	22 06 32.7	
	baz=203,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**23.56**	**28**	T	T	22 06 41.6	
	baz=203,slow=75,SNR=30						
H01W2	**Cape Leeuwin H**	**44.56**	**112**	T	T	22 33 07.4	
	baz=262,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**44.56**	**112**	T	T	22 33 07.8	
	baz=262,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**44.58**	**112**	T	T	22 33 06.8	
	baz=262,slow=75,SNR=21						
QSPA	**South Pole Qui**	**61.20**	**180**	P	**P**	**21 47 26.1**	**+0.1**
	0.7nm,0.3s,baz=243,slow=2.4,SNR=4.3 0.7nm,0.3s						
ASAR	**Alice Springs**	**64.12**	**104**	P	**P**	**21 47 46.1**	**+0.1**
	0.5nm,0.8s,baz=251,slow=6.0,SNR=5.0 0.5nm,0.8s						
WRA	**Warramunga Arr**	**65.92**	**100**	P	**P**	**21 47 58.0**	**+0.2**
	1.0nm,1.1s,baz=249,slow=5.9,SNR=2.4 1.0nm,1.1s						
MKAR	**Makanchi Array**	**77.68**	**14**	P	**P**	**21 49 07.7**	**0.0**
	0.3nm,0.8s,baz=190,slow=2.6,SNR=2.4 0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**80.63**	**11**	P	**P**	**21 49 25.6**	**+1.9**
	0.1nm,0.3s,baz=205,slow=4.1,SNR=1.7 0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**84.97**	**14**	P	**P**	**21 49 46.5**	**+0.3**
	0.6nm,0.4s,baz=224,slow=4.0,SNR=6.0 0.6nm,0.4s						
SONM	**Songino Array**	**86.38**	**28**	P	**P**	**21 49 52.8**	**-0.8**
	0.3nm,0.9s,baz=220,slow=3.6,SNR=2.4 0.3nm,0.9s

SP2	**Seward Park 2**	**0.20**	**320**			Pg	21 58 32.4	+0.2
CDMR	**Cedar Moraine**	**0.21**	**85**			Pg	21 58 32.3	-0.1
CDMR						Sg	21 58 36.3	+0.9
D05A	**Enumclaw**	**0.22**	**167**			Pg	21 58 32.7	+0.1
GSM	**Grass Mountain**	**0.27**	**138**			Pg	21 58 33.2	-0.3
C05A	**Tolt Reservoir**	**0.39**	**41**			Pg	21 58 35.1	-0.5
GHW	**Garrison Hill**	**0.39**	**202**			Pg	21 58 35.0	-0.7
GHW						Sg	21 58 41.1	+0.3
B941	**Kapowsin**	**0.43**	**195**			Pg	21 58 35.4	-1.0
RVC	**Mount Rainier-**	**0.46**	**173**			Pg	21 58 36.5	-0.6
GMW	**Gold Mountain**	**0.51**	**287**			Pg	21 58 37.3	-0.7
OBSR	**Observation Ro**	**0.53**	**162**			Pg	21 58 37.7	-0.7
OBSR						Sg	21 58 45.3	-0.1
FMW	**Mount Fremont**	**0.54**	**151**			Pg	21 58 37.6	-0.9
GNW	**Green Mountain**	**0.54**	**288**			Pg	21 58 37.7	-0.9
GNW						Sg	21 58 45.7	0.0
GNW				IAML			21 58 46.3	
	comp=E,36nm,0.3s							
RCS	**Mount Rainier-**	**0.58**	**157**			Pg	21 58 38.5	-0.7
REMR	**Mount Rainier-**	**0.60**	**166**			Pg	21 58 38.7	-1.0
RCM	**Mount Rainier-**	**0.61**	**158**			Pg	21 58 39.1	-0.8
LON	**Longmire**	**0.68**	**165**			Pg	21 58 39.7	-1.3
LON	**Longmire**	**0.68**	**165**			Pg	21 58 39.8	-1.3
LON						Sg	21 58 48.5	-1.4
LON				IAML			21 58 49.2	
	comp=E,28nm,1.6s							
LON				IAML			21 58 49.3	
	comp=N,27nm,0.1s							
C04A	**Brinnon**	**0.69**	**297**			Sg	21 58 49.8	-0.7
HDW	**Hoodsport**	**0.72**	**290**			Pg	21 58 40.6	-1.2
JCW	**Jim Creek**	**0.80**	**6**			Pg	21 58 42.1	-1.2
GPW	**Glacier Peak**	**0.95**	**41**			Pg	21 58 45.0	-1.3
LTY	**Liberty**	**0.96**	**98**	Pg		Pg	21 58 45.3	-1.0
LTY				IAML			21 59 05.2	
	comp=E,14nm,4.0s							
LTY				IAML			21 59 12.6	
	comp=N,16nm,4.3s							
RPW	**Rockport**	**1.11**	**19**			Pb	21 58 47.6	-1.5
B06A	**Marblemount**	**1.18**	**19**			Pb	21 58 48.5	-1.7
B023	**Clatskanie**	**1.47**	**209**			Pn	21 58 53.0	-1.2
RNO	**Roman Nose**	**3.69**	**199**			Pb	21 59 29.4	-3.6

*VAO **25** 22:03:32.7±0.7, 4°.81S×76°.30W, h10km, mb4.3*
*IDC **25** 22:03:34.2±2.9, 4°.73S×76°.35W, h37km±26km, mb3.7/9, mbtmp4.0/15, ML3.7/6, MS3.1/7, Error ellipse: s-maj=24.4km s-min=17.0km az=66.0*
*IGQ **25** 22:03:34±0.7, 5°.5±5°.×7°.7W±°, h10km*
*NEIC **25** 22:03:35.7±1.6, 4°.84S±0°.07×76°.52W±0°.07, h45km±11km, mb4.5/16, Error ellipse: s-maj=11.8km s-min=7.6km az=48.0*

ISC 25 22:03:33.6±0.5, 4°.82S±0°.04×76°.41W±0°.05, h35km, n109, σ1°77/123, mb4.3/16, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAIS	**Taisha**	**2.66**	**336**	P	**Pn**	**22 04 14.0**	**0.0**
TAIS				S	**Sn**	**22 04 45.0**	**0.0**
BOSC	**San Juan Bosco**	**2.66**	**308**	Pn	**Pn**	**22 04 12.4**	**-1.8**
BOSC				Sn	**Sn**	**22 04 41.8**	**-3.5**
BOSC	**San Juan Bosco**	**2.66**	**308**	P	**Pn**	**22 04 11.0**	**-3.2**
BOSC				S	**Sn**	**22 04 41.0**	**-4.3**
ZUMB	**Zumba**	**2.73**	**269**	P	**Pn**	**22 04 14.0**	**-1.1**
ZUMB				S	**Sn**	**22 04 43.0**	**-4.0**
ATAH	**Atahualpa**	**3.04**	**221**	Pn	**Pn**	**22 04 22.1**	**+2.5**
	53nm,0.3s,baz=33,slow=8.8,SNR=303						
ATAH				Sn	**Sn**	**22 04 55.5**	**+0.6**
	50nm,0.3s,baz=294,slow=19,SNR=12						
	157nm,0.3s						
SANGA	**Volcan Sangay**	**3.38**	**324**	P	**Pn**	**22 04 24.0**	**-0.3**
SANGA				S	**Sn**	**22 05 04.0**	**+0.6**
MCRA	**Macar, Loja**	**3.57**	**277**	Pn	**Pn**	**22 04 26.3**	**-0.2**
MCRA				Sn	**Sn**	**22 05 04.9**	**-2.6**
MCRA	**Macar, Loja**	**3.57**	**277**	P	**Pn**	**22 04 26.0**	**-0.5**
MCRA				S	**Sn**	**22 05 04.0**	**-3.5**
PUYO	**Puyo, Santa Ro**	**3.68**	**334**	P	**Pn**	**22 04 28.0**	**-0.1**
COHC	**Cochancay**	**3.68**	**309**		**Pn**	**22 04 28.6**	**+0.5**
COHC				Sn	**Sn**	**22 05 10.6**	**+0.3**
ARNL	**Arenillas**	**3.86**	**289**	Pn	**Pn**	**22 04 31.3**	**+0.7**
ARNL				Sn	**Sn**	**22 05 12.6**	**-2.2**
ARNL	**Arenillas**	**3.86**	**289**	P	**Pn**	**22 04 30.0**	**-0.6**
BMAS	**Trigal station**	**3.89**	**328**	P	**Pn**	**22 04 31.0**	**-0.3**
TUYU	**Q. Yuibug Volc**	**3.90**	**328**	P	**Pn**	**22 04 32.0**	**+0.5**
BULB	**Ulba Tungurahu**	**3.91**	**329**	P	**Pn**	**22 04 31.0**	**-0.5**
BBIL	**Ulba Tungurahu**	**3.94**	**328**	P	**Pn**	**22 04 32.0**	**+0.1**
POND	**Pondoa**	**3.94**	**329**	P	**Pn**	**22 04 32.0**	**0.0**
TAMH	**Tambohuasha Ch**	**4.03**	**324**	P	**Pn**	**22 04 36.0**	**+2.8**
PORT	**Chimborazo Vol**	**4.09**	**325**	P	**Pn**	**22 04 35.0**	**+0.8**
CHSH	**Refugio Sur-Vo**	**4.12**	**323**		**Pn**	**22 04 36.1**	**+1.5**
CHSH				Sn	**Sn**	**22 05 23.8**	**+2.0**
CHSH	**Refugio Sur-Vo**	**4.12**	**323**	P	**Pn**	**22 04 36.0**	**+1.4**
ISPG	**Isla Puna-Puer**	**4.18**	**296**	P	**Pn**	**22 04 37.0**	**+2.0**
PIAT	**Ana Tenorio**	**4.22**	**334**	P	**Pn**	**22 04 35.7**	**-0.9**
BRRN	**Barrancas-Volc**	**4.57**	**333**	P	**Pn**	**22 04 42.0**	**+2.1**
TAMB	**Tambo**	**4.54**	**334**	P	**Pn**	**22 04 41.0**	**+0.6**
BMOR	**Cotopaxi Volca**	**4.55**	**333**	P	**Pn**	**22 04 41.0**	**+0.5**
SLOR	**San Lorenzo -**	**4.57**	**333**		**Pn**	**22 04 42.1**	**+1.4**
SLOR				Sn	**Sn**	**22 05 33.4**	**+0.6**
SLOR	**San Lorenzo -**	**4.57**	**333**	P	**Pn**	**22 04 42.0**	**+1.4**
BTAM	**Cotopaxi Volca**	**4.57**	**334**	P	**Pn**	**22 04 41.0**	**+0.2**
BVC2	**Cotopaxi Volca**	**4.59**	**334**	P	**Pn**	**22 04 42.0**	**+0.9**
BREF	**Cotopaxi Volca**	**4.59**	**334**	P	**Pn**	**22 04 42.0**	**+0.8**
BNAS	**Cotopaxi Volca**	**4.61**	**333**	P	**Pn**	**22 04 43.0**	**+1.7**
CAMI	**Rancho Maria**	**4.62**	**333**	P	**Pn**	**22 04 43.0**	**+1.6**
ANTS	**Antisana-Sarah**	**4.64**	**338**	P	**Pn**	**22 04 42.0**	**+0.2**
ANTG	**Antisana-Guama**	**4.67**	**337**	P	**Pn**	**22 04 42.0**	**-0.1**
ANTI	**Antisana**	**4.68**	**338**	P	**Pn**	**22 04 42.0**	**-0.3**
CZSB	**Cruzeiro do Su**	**4.68**	**128**	Pn	**Pn**	**22 04 44.1**	**+2.3**
CZSB				Sn	**Sn**	**22 05 38.1**	**+3.1**
CZSB	**Cruzeiro do Su**	**4.68**	**128**	eP	**Pn**	**22 04 43.8**	**+2.0**
CZSB				eS	**Sn**	**22 05 36.9**	**+2.0**
PITA	**Cotopaxi Volc**	**4.69**	**334**	P	**Pn**	**22 04 44.0**	**+1.6**
LAV4	**Lava4-Reventad**	**4.85**	**345**	P	**Pn**	**22 04 44.0**	**-0.4**
GGPT	**Toaza - Volcan**	**5.07**	**334**	P	**Pn**	**22 04 50.0**	**+2.5**
ANGU	**Angureal**	**5.09**	**342**	P	**Pn**	**22 04 48.0**	**0.0**
CAYA	**Cayambe**	**5.11**	**342**	P	**Pn**	**22 04 49.0**	**+0.8**
TERV	**Terraza Guagua**	**5.11**	**334**	P	**Pn**	**22 04 50.0**	**+1.8**
PTLC	**Puerto Leguiza**	**5.21**	**18**	P	**Pn**	**22 04 46.0**	**-3.1**
BONI	**La Bonita**	**5.35**	**348**	P	**Pn**	**22 04 51.0**	**-0.3**
OTAV	**Otavalo**	**5.42**	**338**		**Pn**	**22 04 55.0**	**+2.6**
OTAV	**Otavalo**	**5.42**	**338**	eP	**Pn**	**22 04 55.0**	**+2.6**
OTAV				eS	**Sn**	**22 05 57.6**	**+3.8**
PPLP	**Puerto Lpez**	**5.44**	**307**	P	**Pn**	**22 04 57.0**	**+4.7**
URCU	**Urcuqui**	**5.54**	**340**	P	**Pn**	**22 04 57.0**	**+3.0**
TULM	**Tulcn-Chalpat**	**5.67**	**346**	Pn	**Pn**	**22 04 57.7**	**+1.9**
ISPT	**Isla de la Pla**	**5.85**	**307**	P	**Pn**	**22 04 58.0**	**+0.1**
GCUF	**Volcan Galeras**	**6.08**	**351**	eP	**Pn**	**22 05 02.8**	**+1.4**
CRUC	**La Cruz**	**6.37**	**355**	eP	**Pn**	**22 05 06.5**	**+1.1**
PTGL	**Punta Galera**	**6.64**	**327**	P	**Pn**	**22 05 11.0**	**+2.3**
BBAC	**Balboa, Cauca**	**6.84**	**353**	eP	**Pn**	**22 05 13.7**	**+1.9**
GARC	**Garzon, Huila**	**7.02**	**7**	eP	**Pn**	**22 05 15.2**	**+1.0**
NNA	**Nana**	**7.14**	**183**	Pn	**Pn**	**22 05 16.6**	**+1.0**
NNA	**Nana**	**7.14**	**183**	Pn	**Pn**	**22 05 16.0**	**+0.4**
	11nm,0.3s,baz=348,slow=12,SNR=8.1						
NNA				Sn	**Sn**	**22 06 31.5**	**-4.1**
	26nm,0.3s,baz=337,slow=23,SNR=10						
NNA				LR	LR	22 08 50.8	
	comp=Z,102nm,20.2s,baz=354,slow=44						
	28nm,0.3s						
VILC	**Villavicencio,**	**9.28**	**17**	eP	**Pn**	**22 05 48.3**	**+3.3**
ROSC	**El Rosal**	**9.82**	**12**	Pn	**Pn**	**22 05 51.8**	**-0.9**
	1.9nm,0.3s,baz=204,slow=21,SNR=1.7						
ROSC				Sn	**Sn**	**22 07 42.0**	**0.0**
	2.2nm,0.3s,baz=184,slow=21,SNR=1.2						
	7.2nm,0.4s						
ETMB	**Extrema**	**11.26**	**117**		**Pn**	**22 06 11.8**	**-0.3**
ETMB	**Extrema**	**11.26**	**117**	eP	**Pn**	**22 06 12.2**	**0.0**
SAML	**Samuel**	**13.75**	**108**	Pn	**Pn**	**22 06 45.7**	**-0.5**
SAML	**Samuel**	**13.75**	**108**	eP	**Pn**	**22 06 45.6**	**-0.6**
LPAZ	**La Paz**	**14.00**	**145**	Pn	**Pn**	**22 06 50.5**	**+0.3**
SDV	**Santo Domingo**	**14.78**	**23**	Pn	**Pn**	**22 06 59.3**	**-1.1**
	0.9nm,0.3s,baz=341,slow=23,SNR=3.4						
SDV				Sn	**Sn**	**22 09 40.9**	**-2.3**
	1.0nm,0.3s,baz=26,slow=19,SNR=2.4						
SDV				LR	LR	22 13 55.4	
	comp=Z,44nm,21.9s,baz=177,slow=42						
	2.7nm,0.4s						
SDV	**Santo Domingo**	**14.78**	**23**	eP	**Pn**	**22 07 01.1**	**+0.7**
PB16	**IPOC Station P**	**15.03**	**154**	P	**P**	**22 07 10.7**	**+1.5**
PB16				IAmb	IAmb	22 07 24.2	
	comp=Z,13nm,0.7s						

SRBA	**San Rafael, Bu**	**15.58**	**334**			**Pn**	**22 07 12.0**	**+1.1**
BAUV	**El Baul**	**16.01**	**31**	Pn		**Pn**	**22 07 15.9**	**-0.4**
PB11	**IPOC Station P**	**16.24**	**157**			**P**	**22 07 21.9**	**-0.2**
GO01	**Chusmiza**	**16.35**	**155**	P		**P**	**22 07 25.6**	**+2.0**
JTS	**Las Juntas de**	**17.25**	**330**	LR		LR	22 13 53.9	
	comp=Z,55nm,18.0s,baz=64,slow=36							
BOAV	**Boa Vista**	**17.41**	**66**	eP		**P**	**22 07 35.9**	**+1.0**
SIV	**San Ignacio**	**18.71**	**128**	P		**P**	**22 07 49.5**	**+0.3**
	baz=319,slow=14,SNR=3.0							
SIV				S		**Sn**	**22 11 10.5**	**-7.8**
	comp=Z,3.1nm,0.7s,baz=61,slow=11,SNR=5.8							
	comp=Z,0.5nm,0.3s							
PCRV	**Puerto La Cruz**	**18.95**	**38**	LR		LR	22 16 42.4	
	comp=Z,33nm,18.7s,slow=42							
LVC	**Limon Verde**	**19.12**	**158**	P		**Pn**	**22 07 55.7**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=200,slow=11,SNR=2.8							
LVC				LR		LR	22 16 11.6	
	comp=Z,66nm,21.2s,baz=290,slow=40							
	comp=Z,4.9nm,0.5s							
BBSD	**Serra de San D**	**19.76**	**130**	eP		**P**	**22 08 01.8**	**+1.0**
MALB	**Monte Alegre**	**22.30**	**83**	eP		**P**	**22 08 30.2**	**+2.1**
MCPB	**Macapa, AP**	**24.72**	**80**	eP		**P**	**22 08 51.6**	**-0.3**
MDP	**Montagnes des**	**25.70**	**68**	LR		LR	22 18 49.9	
	comp=Z,37nm,21.7s,baz=198,slow=36							
SNDB	**Serra Nova Dou**	**25.82**	**108**	eP		**P**	**22 09 02.8**	**+0.9**
TEIG	**Tepich**	**27.49**	**335**	LR		LR	22 19 03.2	
	comp=Z,404nm,19.7s,baz=360,slow=34							
TZTN	**Tazewell**	**41.69**	**351**	P		**P**	**22 11 19.4**	**+0.4**
TXAR	**Lajitas Array**	**42.88**	**324**	P		**P**	**22 11 29.9**	**+1.0**
	comp=Z,9nm,0.7s,baz=143,slow=9.8,SNR=7.9							
	comp=Z,0.9nm,0.7s							
SMWD	**Samnorwood**	**45.60**	**332**	P		**P**	**22 11 51.0**	**+0.4**
319A	**Douglas**	**47.73**	**321**	P		**P**	**22 12 07.9**	**+0.4**
319A				IAmb		IAmb	22 12 09.6	
	comp=Z,6.6nm,0.9s							
RTBA	**Rita Blanca**	**47.87**	**331**	P		**P**	**22 12 08.7**	**+0.3**
RTBA				IAmb		IAmb	22 12 09.2	
	comp=Z,3.6nm,0.9s							
ANMO	**Albuquerque**	**48.62**	**327**	P		**P**	**22 12 14.8**	**+0.5**
ANMO				IAmb		IAmb	22 12 16.4	
	comp=Z,3.8nm,0.8s							
SDCO	**Great Sand Dun**	**50.25**	**330**	P		**P**	**22 12 27.5**	**+0.6**
SDCO				IAmb		IAmb	22 12 28.6	
	comp=Z,2.6nm,0.6s							
214A	**Organ Pipe Nat**	**50.37**	**319**	P		**P**	**22 12 27.1**	**-0.4**
214A				IAmb		IAmb	22 12 29.9	
	comp=Z,5.8nm,1.2s							
RWWY	**Rawlins**	**54.14**	**332**			pP	22 13 08.7	+2.4
PDAR	**Pinedale Array**	**56.09**	**331**	P		**P**	**22 13 09.9**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=127,slow=9.8,SNR=5.5							
	comp=Z,0.8nm,0.8s							
ULM	**Lac du Bonnet**	**57.37**	**345**	P		**P**	**22 13 17.2**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=154,slow=8.7,SNR=5.8							
	comp=Z,2.5nm,0.6s							
NVAR	**Mina Array Bea**	**57.93**	**322**	P		**P**	**22 13 23.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=126,slow=6.8,SNR=1.9							
	comp=Z,0.4nm,0.5s							
YHL	**Hebgen Lake**	**58.43**	**332**	P		**P**	**22 13 26.4**	**+0.2**
HLID	**Hailey**	**59.10**	**329**	P		**P**	**22 13 31.0**	**+0.2**
HLID				IAmb		IAmb	22 14 07.8	
	comp=Z,5.5nm,1.4s							
MFID	**Camas Ranch**	**59.75**	**328**	P		**P**	**22 13 34.6**	**-0.6**
MFID				IAmb		IAmb	22 13 37.6	
	comp=Z,5.1nm,0.9s							
MSO	**Missoula**	**61.19**	**331**	P		**P**	**22 13 44.6**	**-0.4**
DBIC	**Dimbokro**	**72.32**	**81**	P		**P**	**22 14 56.9**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=281,slow=4.8,SNR=4.1							
	comp=Z,1.2nm,0.4s							
YKA	**Yellowknife Ar**	**73.16**	**343**	P		**P**	**22 15 00.1**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=157,slow=10,SNR=9.1							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**79.55**	**76**	P		**P**	**22 15 37.9**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=293,slow=5.7,SNR=14							
	comp=Z,0.5nm,0.4s							
INK	**Inuvik**	**82.89**	**342**	P		**P**	**22 15 54.6**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=125,slow=5.8,SNR=4.3							
	comp=Z,2.0nm,0.9s							
ILAR	**Eielson Array**	**86.14**	**336**	P		**P**	**22 16 09.5**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=137,slow=3.4,SNR=3.7							
	comp=Z,0.6nm,0.9s							
ZALV	**Zalesovo Beam**	**128.68**	**14**	PKP		**PKPdf**	**22 22 36.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=298,slow=4.6,SNR=3.8							
KURBB	**Kurchatov Arra**	**129.74**	**21**	PKP		**PKPdf**	**22 22 38.6**	**-0.6**
	comp=Z,0.2nm,0.2s,baz=322,slow=3.4,SNR=4.0							
MKAR	**Makanchi Array**	**134.31**	**20**	PKP		**PKPdf**	**22 22 48.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=282,slow=2.8,SNR=4.8							
WRA	**Warramunga Arr**	**141.03**	**230**	PKP		**PKPdf**	**22 23 02.0**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=126,slow=2.9,SNR=1.6							

*KRSC **25** 22:04:48.5±1.1, 55°.20N×166°.68E, h31km±5km, Ml3.7*
*IDC **25** 22:04:49.5±3.2, 55°.65N×166°.25E, h0km, mb3.2/2, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=103.6km s-min=26.7km az=154.0*

ISC 25 22:04:49.7±1.6, 55°.3N±0°.1×166°.67E±0°.10, h10km, n16, σ1°14/20, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**261**	eP	**Pb**	**22 04 58.4**	**-0.5**
BKI				eS	**Sb**	**22 05 04.4**	**-0.7**
SMKR	**Semkarok**	**3.21**	**296**	eP	**Pn**	**22 05 40.2**	**0.0**
SMKR				eS	**Sn**	**22 06 20.1**	**+1.7**
TUMD	**Tumrok D**	**3.59**	**272**	eP	**Pn**	**22 05 46.0**	**+0.6**
TUMD				eS	**Sn**	**22 06 27.1**	**-0.7**
KMNR	**Kamenistaya**	**3.69**	**280**	eP	**Pn**	**22 05 47.9**	**+1.1**
KMNR				eS	**Sn**	**22 06 32.0**	**+1.6**
SMAR	**Somma**	**5.03**	**250**	eP	**Pn**	**22 06 05.5**	**+0.3**
UGLR	**Uglovaya**	**5.04**	**249**	eP	**Pn**	**22 06 06.4**	**+1.0**
AVH	**Avacha**	**5.06**	**250**	eP	**Pn**	**22 06 07.2**	**+1.6**
KRX	**Arik**	**5.07**	**251**	eP	**Pn**	**22 06 06.8**	**+1.0**
KRMR	**Karymshinskiy**	**5.59**	**248**	eP	**Pn**	**22 06 14.4**	**+1.7**
KRMR				eS	**Sn**	**22 07 17.5**	**+0.5**
PETK	**Petropavlovsk-**	**5.69**	**251**	Pn	**Pn**	**22 06 14.5**	**+0.3**
	2.7nm,0.3s,baz=66,slow=14,SNR=16						
PETK				Sn	**Sn**	**22 07 19.8**	**+0.3**
	0.4nm,0.3s,baz=89,slow=23,SNR=0.9						
	7.7nm,0.5s						
MTVR	**Mutnovka**	**5.74**	**244**	eP	**Pn**	**22 06 16.3**	**+1.3**
MTVR				eS	**Sn**	**22 07 20.5**	**-0.5**
ILAR	**Eielson Array**	**24.51**	**48**	P	**P**	**22 10 09.5**	**+0.8**
	0.6nm,0.9s,baz=257,slow=8.2,SNR=4.1						
	0.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.48**	**180**	T	T	22 49 11.4	
	baz=359,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**35.49**	**180**	T	T	22 49 11.5	
	baz=359,slow=76,SNR=2.6						
H11N1	**WAKE ISLAND Hy**	**35.50**	**180**	T	T	22 49 10.4	
	baz=359,slow=76,SNR=4.5						
MKAR	**Makanchi Array**	**50.63**	**298**	P	**P**	**22 13 46.7**	**-1.8**
	0.1nm,0.4s,baz=51,slow=6.7,SNR=5.6						
	0.1nm,0.4s						

KRSC 25 22:16:07.6±1.2, 55°.19N×166°.66E, h30km±5km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.39**	**272**	eP	Pn	22 16 16.9	-0.4
BKI				eS	Sn	22 16 23.2	-0.6
SMKR	**Semkarok**	**3.24**	**298**	eS	Sn	22 17 38.5	+4.5
BZGR	**Bezymyannyi-Gr**	**3.47**	**285**	eS	Sn	22 17 43.8	+4.0
TUMD	**Tumrok D**	**3.59**	**273**	eP	Pn	22 17 04.8	+3.6
TUMD				eS	Sn	22 17 46.6	+4.1
KMNR	**Kamenistaya**	**3.70**	**281**	eP	Pn	22 17 06.7	+3.9
KMNR				eS	Sn	22 17 50.1	+4.7
SMAR	**Somma**	**5.00**	**250**	eP	Pn	22 17 25.1	+4.3
AVH	**Avacha**	**5.03**	**251**	eP	Pn	22 17 25.5	+4.4
KRX	**Arik**	**5.04**	**252**	eP	Pn	22 17 26.1	+4.8
KRMR	**Karymshinskiy**	**5.56**	**248**	eS	Sn	22 18 37.7	+6.7
MTVR	**Mutnovka**	**5.71**	**245**	eP	Pn	22 17 34.9	+4.6
MTVR				eS	Sn	22 18 38.2	+3.3

*IDC **25** 22:18:01.3±2.0, 8°.30N×91°.78E, h0km, mb3.6/5, mbtmp3.7/6, Error ellipse: s-maj=53.1km s-min=29.9km az=52.0*

ISC 25 22:18:04.9±1.6, 8°.3N±0°.2×91°.8E±0°.2, h24km, n12, σ0°27/6, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.25**	**34**	Pn	**Pn**	**22 20 58.2**	**+0.2**
	1.0nm,0.3s,baz=223,slow=14,SNR=0.9						
H08S3	**Diego Garcia H**	**24.92**	**231**	T	T	22 49 42.3	
	baz=51,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**24.93**	**231**	T	T	22 49 41.1	
	baz=51,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**24.94**	**231**	T	T	22 49 42.3	
	baz=51,slow=75,SNR=6.4						
MKAR	**Makanchi Array**	**39.20**	**350**	P	**P**	**22 25 30.9**	**-0.3**
	0.9nm,0.7s,baz=166,slow=8.8,SNR=10						
	0.9nm,0.7s						
SONM	**Songino Array**	**41.30**	**15**	P	**P**	**22 25 48.5**	**-0.1**
	0.6nm,0.7s,baz=194,slow=9.4,SNR=4.9						
	0.6nm,0.7s						
GEYT	**Alibeck**	**42.35**	**319**	P	**P**	**22 25 57.5**	**+0.3**
	1.2nm,0.8s,baz=150,slow=10.0,SNR=4.8						
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**43.60**	**348**	P	**P**	**22 26 07.0**	**-0.1**
	0.7nm,0.6s,baz=170,slow=7.9,SNR=7.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**50.41**	**124**	P	**P**	**22 27 00.9**	**0.0**
	0.5nm,0.7s,baz=303,slow=9.0,SNR=2.5						
	0.5nm,0.7s						
H04N2	**CROZET ISLANDS**	**64.93**	**210**	T	T	23 39 33.2	
	baz=45,slow=75,SNR=9.2						
H04N1	**CROZET ISLANDS**	**64.94**	**210**	T	T	23 39 32.8	
	baz=45,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**64.95**	**210**	T	T	23 39 35.6	
	baz=45,slow=75,SNR=11						

*IDC **25** 22:30:50.7±4.2, 55°.55N×150°.47W, h0km, mb3.4/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=77.4km s-min=47.6km az=163.0*
*NEIC **25** 22:30:53.5±1.6, 56°.0N±0°.1×150°.5W±0°.1, h7km±8km, ML3.4/30, ML3.2(AEIC), Error ellipse: s-maj=15.8km s-min=8.7km az=166.0*
*AEIC **25** 22:30:56.9±1.6, 55°.9N±0°.1×150°.3W±0°.1, h10km±8km, Error ellipse: s-maj=16.8km s-min=9.4km az=170.0*

ISC 25 22:30:53.9±1.6, 56°.0N±0°.1×150°.40W±0°.05, h10km, n96, σ1°06/98, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.00**	**308**		**Pn**	**22 31 27.1**	**-0.6**
OHAK	**Old Harbor**	**2.00**	**308**		**Sn**	**22 31 50.4**	**-2.4**
OHAK	**Old Harbor**	**2.00**	**308**	IAML		22 31 51.2	
	comp=E,110nm,0.5s						
OHAK				IAML		22 31 52.0	
	comp=N,66nm,0.3s						
OHAK	**Old Harbor**	**2.00**	**308**	P	**Pn**	**22 31 27.5**	**-0.2**
	baz=128						
OHAK				S	**Sn**	**22 31 50.4**	**-2.4**
	baz=128						
KDAK	**Kodiak Island**	**2.14**	**327**		**Pn**	**22 31 29.4**	**-0.2**
KDAK	**Kodiak Island**	**2.14**	**327**		**Sn**	**22 31 55.4**	**-0.7**
KDAK	**Kodiak Island**	**2.14**	**327**	P	**Pn**	**22 31 29.7**	**+0.1**
	baz=146						
SII	**Sitkinak Islan**	**2.18**	**286**		**Sn**	**22 31 54.8**	**-2.4**
Q20K	**Shuyak Island**	**2.81**	**338**	P	**Pn**	**22 31 39.0**	**+0.1**
	baz=158						
Q20K				S	**Sn**	**22 32 12.2**	**-0.6**
	baz=158						
SYI	**Shuyak Island**	**2.81**	**338**		**Pn**	**22 31 39.0**	**+0.1**
SYI					**Sn**	**22 32 12.2**	**-0.6**
SYI	**Shuyak Island**	**2.81**	**338**	IAML		22 32 14.5	
	comp=N,82nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.35**	**320**		**P

M17K	Holitna River	6.52	329			Pn		22 32 30.3 +0.5
L19K	White Mountain	6.59	342		Pn	Pn		22 32 30.6 -0.2
N15K	Kwethluk River	6.61	313			Pn		22 32 32.1 +1.1
MCARA	McCarthy VSAT	6.61	32			Pn		22 32 31.8 +0.8
O14K	Tigyukauivet M	6.67	304		Pn	Pn		22 32 31.6 -0.3
M16K	Timber Creek	6.72	322			Pn		22 32 33.4 +0.8
BARN	Barnard Glacie	6.81	39			Pn		22 32 34.3 +0.3
CTGM	Chitina Glacie	6.87	40		Pn	Pn		22 32 34.8 +0.1
BCPM	Bancas Point	6.95	51		Pn	Pn		22 32 36.0 +0.4
L18K	Granite Mounta	7.01	335			Pn		22 32 36.9 +0.4
DHY	Denali Highway	7.24	11		Pn	Pn		22 32 42.0 +2.2
L16K	Owhat River	7.39	324		Pn	Pn		22 32 42.4 +0.7
TRF	Thorofare Moun	7.46	0		Pn	Pn		22 32 44.6 +1.9
CAST	Castle Rocks	7.47	354		Pn	Pn		22 32 44.2 +1.3
TTA	Tatalina	7.50	340		Pn	Pn		22 32 44.1 +0.9
KTH	Kantishna Hill	7.56	358		Pn	Pn		22 32 45.4 +1.2
O29M	Mount Kennedy	7.58	51			Pn		22 32 45.9 +1.4
K20K	Telida	7.59	347		Pn	Pn		22 32 45.4 +1.0
P29M	Windy Craggy	7.67	57		Pn	Pn		22 32 45.7 +0.2
M14K	Bethel	7.70	313		Pn	Pn		22 32 46.4 +0.4
M27K	Edge Creek, AK	7.71	31		Pn	Pn		22 32 46.5 +0.3
K17K	Iditarod	7.83	332		Pn	Pn		22 32 47.9 +0.2
BPAW	Bear Paw Mtn.	8.11	358		Pn	Pn		22 32 53.1 +1.5
J18K	Innoko River	8.12	340		Pn	Pn		22 32 51.8 +0.1
ILAR	Eielson Array	8.95	10		Pn	Pn		22 33 03.5 +0.4
	comp=N,0.1nm,0.3s,baz=193,slow=14,SNR=6.2							
ILAR					Sn	Sn		22 34 39.0 -4.9
	comp=N,0.1nm,0.3s,baz=203,slow=16,SNR=1.8							
	comp=N,0.3nm,0.3s							
YKA	Yellowknife Ar	19.21	56		P	P		22 35 19.1 +1.5
	comp=N,0.1nm,0.3s,baz=266,slow=9.7,SNR=6.5							
	comp=N,0.4nm,0.6s							
MKAR	Makanchi Array	68.44	324		P	P		22 41 56.4 +0.7
	comp=N,0.3nm,0.9s,baz=40,slow=7.5,SNR=2.0							
	comp=N,0.3nm,0.9s							

IDC ***25*** *22:36:04.3±10.0, 55°.99N×148°.17W, h0km, mb3.8/4, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=233.8km s-min=51.9km az=122.0*

NEIC ***25*** *22:36:08.6±1.8, 56°.36N±0°.08×148°.63W±0°.10, h23km±8km, mb3.8/2, ML3.7/42, ML3.3(AEIC), Error ellipse: s-maj=12.5km s-min=7.5km az=167.0*

AEIC ***25*** *22:36:11.6±1.9, 56°.37N±0°.09×148°.60W±0°.07, h12km±7km, Error ellipse: s-maj=12.6km s-min=5.9km az=176.0*

ISC 25 22:36:08.1±1.1, 56°.49N±0°.09×148°.65W±0°.05, h10km, n169, σ1§19/167, mb3.9/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	Kodiak Island	2.51	303			Pn	22 36 48.4	-0.5
KDAK	Kodiak Island	2.51	303			Sn	22 37 16.7	-2.8
KDAK	Kodiak Island	2.51	303	IAML			22 37 21.0	
	49nm,1.4s							
KDAK				IAML			22 37 21.1	
	58nm,1.0s							
KDAK	Kodiak Island	2.51	303	P		Pn	22 36 48.4	-0.5
	baz=122							
OHAK	Old Harbor	2.66	288			Pn	22 36 49.8	-1.1
OHAK						Sn	22 37 19.6	-3.5
OHAK	Old Harbor	2.66	288	P		Pn	22 36 49.8	-1.1
	baz=107							
OHAK				S		Sn	22 37 19.6	-3.5
	baz=107							
SYI	Shuyak Island	2.94	318			Pn	22 36 54.9	+0.1
SYI						Sn	22 37 29.4	-0.6
Q20K	Shuyak Island	2.94	318	P		Pn	22 36 54.8	+0.1
	baz=136							
Q20K				S		Sn	22 37 29.4	-0.6
	baz=136							
Q23K	Middleton Isla	3.20	22			Pn	22 36 58.2	-0.1
Q23K				IAML			22 37 35.1	
	comp=E,291nm,1.1s							
Q23K				IAML			22 38 05.2	
	comp=N,212nm,1.3s							
Q23K	Middleton Isla	3.20	22			Sn	22 37 34.7	-1.7
Q23K	Middleton Isla	3.20	22	P		Pn	22 36 58.1	-0.2
	baz=203							
Q23K				S		Sn	22 37 34.7	-1.7
	baz=203							
MID	Middleton Isla	3.20	22			Pn	22 36 58.1	-0.2
MID	Middleton Isla	3.20	22	IAML			22 38 05.2	
	comp=N,250nm,1.4s							
CNPM	China Poot	3.35	337			Pn	22 37 00.5	+0.1
CNPM						Sn	22 37 39.5	-0.7
CNPM	China Poot	3.35	337	IAML			22 37 49.3	
	comp=N,56nm,1.3s							
BRSE	Bradley Lake S	3.45	342			Pn	22 37 01.8	-0.1
BRSE						Sn	22 37 41.1	-1.7
BRSE	Bradley Lake S	3.45	342	P		Pn	22 37 01.8	-0.1
	baz=161							
BRSE				S		Sn	22 37 41.1	-1.7
	baz=161							
BRLK	Bradley Lake	3.50	341			Pn	22 37 02.3	-0.2
BRLK						Sn	22 37 43.2	-0.7
BRLK	Bradley Lake	3.50	341	IAML			22 37 53.9	
	comp=N,63nm,1.3s							
P23K	Montague Islan	3.58	10			Pn	22 37 03.5	-0.1
P23K						Sn	22 37 43.3	-2.7
P23K	Montague Islan	3.58	10	P		Pn	22 37 03.5	-0.1
	baz=191							
P23K				S		Sn	22 37 43.3	-2.7
	baz=191							
Q19K	Cape Douglas,	3.63	314			Pn	22 37 04.2	-0.1
Q19K	Cape Douglas,	3.63	314	P		Pn	22 37 05.2	+0.8
	baz=132							
KAHG	Katmai Hook Gl	3.77	305			Pn	22 37 06.5	+0.2
P19K	Oil Pt	4.00	324			Pn	22 37 10.6	+1.2
P19K				IAML			22 37 53.9	
	comp=E,106nm,1.4s							
P19K				IAML			22 38 03.4	
	comp=N,147nm,0.5s							
P19K	Oil Pt	4.00	324	P		Pn	22 37 10.8	+1.4
	baz=142							
ACHA	Angle Creek He	4.01	298			Pn	22 37 10.4	+0.8
O22K	Cooper Landing	4.05	352	Pn		Pn	22 37 12.3	+2.2
KAHC	Katmai Hardscr	4.05	305			Pn	22 37 11.4	+1.1
KAHC	Katmai Hardscr	4.05	305	P		Pn	22 37 11.4	+1.1
	baz=121							
HIN	Hinchinbrook I	4.08	15			Pn	22 37 10.3	-0.2
HIN				IAML			22 38 01.4	
	comp=N,145nm,1.2s							
HIN				IAML			22 38 45.7	
	comp=E,145nm,1.5s							
ANCK	Angle Creek	4.09	298			Pn	22 37 11.9	+1.2
KAIM	Kayak Island	4.11	31	Pn		Pn	22 37 11.2	+0.3
KAIM				IAML			22 38 31.1	
	comp=N,147nm,1.3s							
O20K	Slope Mountain	4.17	331			Pn	22 37 11.8	0.0
O20K	Slope Mountain	4.17	331	P		Pn	22 37 11.8	0.0
	baz=149							
IVE	Iliamna Volcan	4.23	329			Pn	22 37 12.1	-0.5
CNTC	Contact Creek	4.30	297			Pn	22 37 14.1	+0.4
Q17K	Contact Creek	4.31	297	P		Pn	22 37 14.1	+0.4
	baz=113							
EYAK	Cordova Ski Ar	4.35	19	P		Pn	22 37 14.5	+0.3
	baz=201							
RDSO	Redoubt South	4.52	333			Pn	22 37 16.4	-0.3
RSO	Redoubt South	4.53	333	Pn		Pn	22 37 17.8	+0.9
P18K	Big Mountain,	4.56	312	Pn		Pn	22 37 17.0	-0.1
P18K	Big Mountain,	4.56	312	P		Pn	22 37 16.9	-0.2
	baz=128							
RC01	Rabbit Creek A	4.65	353	Pn		Pn	22 37 18.9	+0.6
RC01				IAML			22 38 15.4	
	comp=E,46nm,1.4s							
RC01				IAML			22 38 18.2	
	comp=N,39nm,0.5s							
NCT	North Crescent	4.66	333			Pn	22 37 18.6	0.0
BERG	Berg Lake	4.70	31	Pn		Pn	22 37 17.8	-1.2
BERG				IAML			22 38 22.3	
	comp=N,83nm,1.4s							
O19K	Port Alsworth	4.77	324	Pn		Pn	22 37 20.5	+0.6
SNH	Sunshine Point	4.80	37	Pn		Pn	22 37 20.8	+0.3
SNH				IAML			22 38 23.8	
	comp=E,64nm,1.1s							
SNH				IAML			22 39 09.8	
	comp=N,71nm,1.3s							
KNK	Knik Glacier	4.94	1			Pn	22 37 22.9	+0.5
KNK	Knik Glacier	4.94	1	IAML			22 39 40.7	
	comp=E,43nm,0.9s							
KNK				IAML			22 39 42.2	
	comp=N,39nm,1.3s							
KNK	Knik Glacier	4.94	1	P		Pn	22 37 22.9	+0.5
	baz=181							
BMRM	Bremner River	4.96	23			Pn	22 37 22.8	+0.1
BMRM	Bremner River	4.96	23	P		Pn	22 37 22.8	+0.1
	baz=206							
P17K	Kvichak River	4.97	306			Pn	22 37 23.0	+0.3
P17K	Kvichak River	4.97	306	P		Pn	22 37 23.0	+0.3
	baz=121							
SUA	Susitna One	5.11	349	Pn		Pn	22 37 24.6	-0.2
SUA				IAML			22 38 35.9	
	comp=N,22nm,1.4s							
SUA				IAML			22 38 36.2	
	comp=E,19nm,1.5s							
PMR	Palmer	5.13	357	Pn		Pn	22 37 25.2	+0.3
PMR				IAML			22 38 24.4	
	comp=E,25nm,0.6s							
PMR				IAML			22 38 32.5	
	comp=N,18nm,0.8s							
SPCP	Crater Peak Br	5.13	341			Pn	22 37 25.7	+0.7
KLU	Klutina	5.22	15			Pn	22 37 26.1	0.0
KLU				IAML			22 39 35.0	
	comp=E,39nm,0.7s							
KLU	Klutina	5.22	15	P		Pn	22 37 26.7	+0.5
	baz=196							
STLK	Strandline Lak	5.29	343			Pn	22 37 27.3	+0.2
N19K	Bonanza Creek	5.30	327			Pn	22 37 27.5	+0.1
N19K	Bonanza Creek	5.30	327	P		Pn	22 37 27.4	0.0
	baz=143							
GHO	Glory Hole Cre	5.31	359	Pn		Pn	22 37 28.4	+1.0
SML	Sawmill	5.34	2			Pn	22 37 28.7	+0.8
SML	Sawmill	5.34	2	P		Pn	22 37 28.7	+0.8
	baz=182							
VRDI	Verde Repeater	5.47	27	Pn		Pn	22 37 30.3	+0.6
N25K	Chitina, Valde	5.54	20			Pn	22 37 31.4	+0.7
N25K	Chitina, Valde	5.54	20	P		Pn	22 37 31.3	+0.7
	baz=203							
GLB	Gilahina Butte	5.56	25			Pn	22 37 31.3	+0.4
P16K	Nushagak River	5.62	301			Pn	22 37 32.2	+0.7
P16K	Nushagak River	5.62	301	P		Pn	22 37 32.2	+0.7
	baz=114							
N18K	Kilae Creek	5.66	321	Pn		Pn	22 37 32.2	0.0
PTPK	Patty Peak	5.70	32			Pn	22 37 33.3	+0.3
SKT	Skwentna	5.71	346	Pn		Pn	22 37 33.9	+1.0
MCARA	McCarthy VSAT	5.71	28			Pn	22 37 34.3	+1.5
M24K	Tolsona, Glenn	5.78	12	Pn		Pn	22 37 35.5	+1.7
BARN	Barnard Glacie	5.85	35			Pn	22 37 35.3	+0.3
M20K	Chyx River	5.88	339			Pn	22 37 35.0	-0.3
CTGM	Chitina Glacie	5.89	37	Pn		Pn	22 37 35.8	+0.3
BCPM	Bancas Point	5.89	50	Pn		Pn	22 37 37.1	+1.7
LOGN	Logan Glacier	5.90	39	Pn		Pn	22 37 36.1	+0.5
O16K	Kokwok River B	5.91	306			Pn	22 37 36.2	+0.7
O16K	Kokwok River B	5.91	306	P		Pn	22 37 36.0	+0.4
	baz=119							
N17K	Nushagak Hills	6.04	316	Pn		Pn	22 37 36.9	-0.4
M19K	Big River Lodg	6.18	334	Pn		Pn	22 37 38.4	-0.9
CNBA	Chernabura Isl	6.42	259	Pn		Pn	22 37 41.7	-0.8
O29M	Mount Kennedy	6.53	50			Pn	22 37 44.6	+0.4
O29M	Mount Kennedy	6.53	50	P		Pn	22 37 43.9	-0.3
	baz=238							
L19K	White Mountain	6.54	334			Pn	22 37 43.8	-0.4
O15K	Ungalikthiuk R	6.55	299			Pn	22 37 44.8	+0.4
O15K	Ungalikthiuk R	6.55	299	P		Pn	22 37 44.7	+0.4
	baz=110							
P29M	Windy Craggy	6.59	57			Pn	22 37 44.8	-0.1
P29M	Windy Craggy	6.59	57	P		Pn	22 37 44.8	-0.1
	baz=245							
M26K	Nabesna, AK	6.59	24	Pn		Pn	22 37 46.6	+1.5
DHY	Denali Highway	6.64	5			Pn	22 37 47.0	+1.2
DHY	Denali Highway	6.64	5	P		Pn	22 37 47.0	+1.2
	baz=186							
M17K	Holitna River	6.70	321			Pn	22 37 46.5	0.0
SDPT	Sand Point	6.75	265	Pn		Pn	22 37 43.9	-3.2
M27K	Edge Creek, AK	6.82	28	Pn		Pn	22 37 49.2	+0.9
YUK7	Duke Glacier	6.83	49			Pn	22 37 48.3	-0.2
S31K	Pelican	6.90	72	Pn		Pn	22 37 47.7	-1.5
MENT	Mentasta	6.93	19	Pn		Pn	22 37 50.5	+0.8
RND	Reindeer	6.95	359			Pn	22 37 49.7	-0.2
M16K	Timber Creek	7.03	315	Pn		Pn	22 37 51.0	0.0
TRF	Thorofare Moun	7.04	354	Pn		Pn	22 37 52.3	+1.1
L18K	Granite Mounta	7.07	328	Pn		Pn	22 37 51.4	0.0
N15K	Kwethluk River	7.07	306			Pn	22 37 52.5	+1.0
CAST	Castle Rocks	7.17	348	Pn		Pn	22 37 53.6	+0.8
KTH	Kantishna Hill	7.18	352	Pn		Pn	22 37 55.2	+2.1
HYT	Haines Junctio	7.26	49	Pn		Pn	22 37 54.1	-0.1
SIT	Sitka	7.34	80	Pn		Pn	22 37 52.0	-3.3
K20K	Telida	7.41	341	Pn		Pn	22 37 57.9	+1.7
L27K	Beaver Creek,	7.44	25	Pn		Pn	22 37 57.6	+1.0
BCAR	Beaver Creek A	7.45	25	Pn		Pn	22 37 58.0	+1.3
TTA	Tatalina	7.46	333	Pn		Pn	22 37 57.4	+0.5
RIDG	Independent Ri	7.52	13			Pn	22 37 58.5	+0.8
L16K	Owhat River	7.64	318	Pn		Pn	22 37 59.4	+0.1
BPAW	Bear Paw Mtn.	7.73	352	Pn		Pn	22 38 01.4	+0.8
S32K	Killisnoo	7.75	77	Pn		Pn	22 37 59.7	-1.2
N30M	Aishikik Lake	7.77	45	Pn		Pn	22 38 02.0	+0.7
O30N	Mendenhall	7.83	52	Pn		Pn	22 38 02.4	+0.4
SCRK	Sand Creek	7.86	15	Pn		Pn	22 38 03.5	+1.0
M29M	Somme Creek	7.90	37			Pn	22 38 03.6	+0.6
JIS	Juneau Island	7.92	71	Pn		Pn	22 38 03.7	+0.7
K17K	Iditarod	7.93	326	Pn		Pn	22 38 02.9	-0.5
J18K	Innoko River	8.08	333	Pn		Pn	22 38 05.5	+0.1
NEA2	Nenana	8.14	359	Pn		Pn	22 38 06.5	+0.3
M14K	Bethel	8.15	307	Pn		Pn	22 38 07.6	+1.3
J20K	Nowinta River	8.18	343	Pn		Pn	22 38 08.2	+1.5
CCB	Clear Creek Bu	8.20	3	Pn		Pn	22 38 08.7	+1.8
K27K	Chicken	8.24	21	Pn		Pn	22 38 08.5	+1.0
J19K	Poorman	8.29	338	Pn		Pn	22 38 07.9	-0.3
J25K	Salcha River,	8.31	10	Pn		Pn	22 38 08.7	+0.1
WHY	Whitehorse	8.32	54	Pn		Pn	22 38 09.7	+1.0
IL31		8.36	5	Pn		Pn	22 38 10.1	+1.0
ILAR	Eielson Array	8.36	5	Pn		Pn	22 38 09.8	+0.6
ILAR	Eielson Array	8.36	5	Pn		Pn	22 38 10.8	+1.7
	comp=E,0.1nm,0.3s,baz=189,slow=13,SNR=7.0							
ILAR					Sn	Sn	22 39 39.9	-3.6
	comp=E,0.3nm,0.3s,baz=205,slow=23,SNR=5.9							
	comp=E,0.5nm,0.5s							
J26L	Joseph Creek	8.42	15	Pn		Pn	22 38 10.6	+0.5
L29M	L29M	8.49	34	Pn		Pn	22 38 12.7	+1.7
P32M	Atlin	8.51	62	Pn		Pn	22 38 11.3	0.0
M30M	Minto, Yukon	8.57	40	Pn		Pn	22 38 13.7	+1.6
U33K	Whale Pass	8.64	86	Pn		Pn	22 39 10.5	-2.6
I26K	Coal Creek Min	9.24	14	Pn		Pn	22 38 23.2	+1.9
N32M	Quiet Lake	9.32	53	Pn		Pn	22 38 24.9	+2.6
H24K	Noodor Dome	9.39	2	Pn		Pn	22 38 26.5	+3.1
H21K	Melozitna Rive	9.42	349	Pn		Pn	22 38 24.4	+0.7
IMAR	Indian Mountai	9.84	348	Pn		Pn	22 38 30.7	+1.2
G23K	Bananza Creek	10.28	357	Pn		Pn	22 38 36.8	+1.2
MMPY	Sheldon Lake,	10.73	48	Pn		Pn	22 38 43.2	+1.6
ANM	Nome	11.52	321	Pn		Pn	22 38 52.7	+0.4
G29M	Pine Creek	11.59	21	Pn		Pn	22 38 56.7	+3.3
F17K	Baldwin Pennin	11.63	334	Pn		Pn	22 38 54.3	+0.4
E19K	Redstone River	11.71	344	Pn		Pn	22 38 57.0	+2.0
D22K	Ayikyak River	12.57	353	Pn		Pn	22 39 10.6	+3.7
B20K	Meade River	14.08	348	Pn		Pn	22 39 28.1	+0.8
A36M	Sachs Harbour	18.35	23	P		Pn	22 40 22.7	+0.4
A36M						IAmb	IAmb	22 40 27.9
	comp=E,5.9nm,0.8s							
CEPE	Semis' Perret	18.98	270	P		P	22 40 29.8	+0.4
EDM	Edmonton	20.44	84	P		P	22 40 42.7	-2.6
EDM						IAmb	IAmb	22 40 46.3
	comp=Z,3.0nm,0.6s							
H11N2	WAKE ISLAND Hy	49.29	241	T		T	23 38 04.3	
	baz=31,slow=76,SNR=5.8							
H11N3	WAKE ISLAND Hy	49.30	240	T		T	23 38 03.3	
	baz=31,slow=76,SNR=4.8							
H11N1	WAKE ISLAND Hy	49.31	240	T		T	23 38 07.0	
	baz=31,slow=76,SNR=5.0							
H11S1	WAKE ISLAND Hy	50.43	240	T		T	23 40 12.8	
	baz=32,slow=74							
H11S2	WAKE ISLAND Hy	50.45	240	T		T	23 40 14.8	
	baz=32,slow=74							
H11S3	WAKE ISLAND Hy	50.45	240	T		T	23 39 42.7	
	baz=32							
SONM	Songino Array	58.78	310	P		P	22 46 08.3	+2.1
	comp=Z,0.6nm,0.7s,baz=46,slow=5.8,SNR=4.3							
	comp=Z,0.6nm,0.7s							
ZALV	Zelesovo Beam	61.58	327	P		P	22 46 26.7	+1.6
	comp=Z,0.6nm,0.6s,baz=15,slow=6.0,SNR=2.9							
	comp=Z,0.6nm,0.6s							
KURBB	Kurchatov Arra	66.35	329	P		P	22 46 57.6	+1.1
	comp=Z,0.9nm,0.2s,baz=28,slow=6.8,SNR=1.3							
	comp=Z,0.9nm,0.2s							
MKAR	Makanchi Array	68.63	325	P		P	22 47 11.6	+0.5
	comp=Z,0.2nm,0.6s,baz=47,slow=6.3,SNR=2.4							
	comp=Z,0.2nm,0.6s							

IDC ***25*** *22:49:38.2±1.2, 22°.16S×68°.66W, h96km±8km, mb3.8/4, mbtmp4.0/6, Error ellipse: s-maj=52.0km s-min=21.4km az=128.0*

SJA ***25*** *22:49:38.0±0.7, 22°.27S×68°.74W, h113km±3km, ML3.8, MW3.8*

NEIC ***25*** *22:49:38.9±1.9, 22°.26S±0°.04×68°.85W±0°.06, h117km±3km, mb4.4/12, Error ellipse: s-maj=8.8km s-min=5.9km az=80.0*

GUC ***25*** *22:49:39.9±0.9, 22°.24S×68°.81W, h113km±4km, ML4.0*

ISC 25 22:49:38.7±0.6, 22°.27S±0°.03×68°.81W±0°.04, h116km±5km, n96, σ1§10/130, mb4.2/6, 7C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	Limon Verde	0.35	195	Pn		Pn	22 49 56.0	+0.1
LVC				Sn		Sn	22 50 07.9	-0.9
LVC	Limon Verde	0.35	195	eP		Pn	22 49 55.6	-0.3
LVC				eS		Sn	22 50 08.1	-0.6
LVC				IAML			22 50 09.5	
	comp=Z,2μm,0.2s							
LVC	Limon Verde	0.35	195	P		Pn	22 49 55.7	-0.1
	comp=Z,1μm,0.4s,baz=11,slow=5.6,SNR=3965							
LVC				S		Sn	22 50 07.5	-1.3
	comp=Z,2μm,0.3s,baz=206,slow=18,SNR=35							
LVC	Limon Verde	0.35	195	i P		Pn	22 49 55.6	-0.3
LVC				i S		Sn	22 50 07.7	-1.1
PB09	IPOC Station P	0.62	320			Pn	22 49 57.3	0.0
PB09				Sn		Sn	22 50 10.9	-0.3
PB09	IPOC Station P	0.62	320	eP		Pn	22 49 57.8	+0.6
PB09				eS		Sn	22 50 11.6	+0.4
PB09				IAML			22 50 12.9	
	comp=Z,4μm,0.3s							
PB09	IPOC Station P	0.62	320	⇑ i P		Pn	22 49 57.8	+0.6
PB09				i S		Sn	22 50 11.2	0.0
PB06	IPOC Station P	0.83	238			Pn	22 49 59.5	+0.6
PB06				Sn		Sn	22 50 14.7	+0.5
PB06	IPOC Station P	0.83	238	eP		Pn	22 49 59.7	+0.7
PB06				eS		Sn	22 50 15.3	+1.1
PB06				IAML			22 50 16.4	
	comp=Z,2μm,0.1s							
PB06	IPOC Station P	0.83	238	⇑ i P		Pn	22 49 59.6	+0.7
PB06				i S		Sn	22 50 14.7	+0.5
PB06				IAML			22 50 15.4	
	comp=N,4μm,0.5s							
AF01	San Pedro de A	0.89	139			Pn	22 50 00.2	+0.5
AF01				Sn		Sn	22 50 16.5	+1.0
AF01	San Pedro de A	0.89	139	eP		Pn	22 50 00.6	+0.8
AF01				i S		Sn	22 50 16.1	+0.6
PB15	IPOC Station P	1.11	213			Pn	22 50 02.7	+0.9
PB15				Sn		Sn	22 50 20.5	+1.3
PB07	IPOC Station P	1.14	298			Pn	22 50 02.0	0.0
PB07				Sn		Sn	22 50 19.7	+0.1
PB07	IPOC Station P	1.14	298	eP		Pn	22 50 02.7	+0.7
PB07				eS		Sn	22 50 20.5	+0.9
PB07				IAML			22 50 21.0	
	comp=Z,3μm,0.2s							
PB07	IPOC Station P	1.14	298	⇑ i P		Pn	22 50 02.8	+0.7
PB07				i S		Sn	22 50 19.8	+0.2
PB07				IAML			22 50 20.5	
	comp=N,5μm,0.4s							
PB04	IPOC Station P	1.24	267			Pn	22 50 03.7	+0.6
PB04				Sn		Sn	22 50 22.6	+1.0
PB04	IPOC Station P	1.24	267	eP		Pn	22 50 03.2	+0.1
PB04				eS		Pn	22 50 03.8	+0.7
PB04				IAML			22 50 24.1	
	comp=Z,1μm,0.2s							
PB04	IPOC Station P	1.24	267	⇑ i P		Pn	22 50 03.9	+0.7
PB04				i S		Sn	22 50 22.6	+1.0
PB04				IAML			22 50 24.5	
	comp=N,2μm,0.2s							
PB01	IPOC Station P	1.38	333			Pn	22 50 04.8	+0.3
PB01				Sn		Sn	22 50 23.8	-0.4
PB01	IPOC Station P	1.38	333	eP		Pn	22 50 04.9	+0.3
PB01				eS		Sn	22 50 24.8	+0.7
PB01				IAML			22 50 31.7	
	comp=Z,1μm,0.2s							
PB01	IPOC Station P	1.38	333	⇓ i P		Pn	22 50 04.8	+0.3
PB01				i S		Sn	22 50 23.8	-0.4
PB01				IAML			22 50 24.8	
	comp=E,4μm,0.2s							
PB02	IPOC Station P	1.38	313			Pn	22 50 04.9	+0.2
PB02				Sn		Sn	22 50 23.9	-0.5
PB02	IPOC Station P	1.38	313	eP		Pn	22 50 05.0	+0.4
PB02				eS		Sn	22 50 24.6	+0.3
PB02				IAML			22 50 26.2	
	comp=Z,4μm,0.2s							
PB02	IPOC Station P	1.38	313	⇑ i P		Pn	22 50 05.3	+0.6
PB02				i S		Sn	22 50 24.1	-0.2
PB02				IAML			22 50 25.7	
	comp=E,4μm,0.4s							
PB05	IPOC Station P	1.41

PB12	**IPOC Station P**	**3.91**	**338**	*eP*	**Pn**	**22 50 35.7**	**-1.4**
PB12				*eS*	Sn	22 51 09.5	-13
PB12				IAML		22 51 36.8	
	comp=Z,106nm,0.5s						
PB16	**IPOC Station P**	**3.97**	**350**		**Pn**	**22 50 36.6**	**-1.8**
PB16	**IPOC Station P**	**3.97**	**350**	*eP*	**Pn**	**22 50 39.1**	**+0.8**
PB16				*eS*	Sn	22 51 11.0	-13
PB16				IAML		22 51 59.4	
	comp=Z,72nm,0.7s						
AC01	**Pan de Azucar**	**4.19**	**203**		**Pn**	**22 50 40.2**	**-0.5**
AC01	**Pan de Azucar**	**4.19**	**203**	*eP*	**Pn**	**22 50 39.2**	**-1.5**
AC01				IAML		22 51 55.8	
	comp=Z,79nm,0.9s						
AC06	**Mina Casimiro**	**5.25**	**195**	Pn	**Pn**	**22 50 53.6**	**-1.4**
GO03	**Copiap**	**5.45**	**193**		**Pn**	**22 50 56.5**	**-1.3**
LPAZ	**La Paz**	**5.99**	**6**		**Pn**	**22 51 04.0**	**-1.6**
AC04	**Llanos de Chal**	**6.25**	**199**	Pn	**Pn**	**22 51 06.1**	**-2.4**
AC05	**El Transito**	**6.67**	**191**		**Pn**	**22 51 12.7**	**-1.6**
LCO	**Las Campanas**	**6.92**	**194**	Pn	**Pn**	**22 51 14.6**	**-3.3**
CO01	**Juntas del Tor**	**7.76**	**188**	Pn	**Pn**	**22 51 28.2**	**-0.9**
CO02	**Combarbal**	**9.11**	**192**	Pn	**Pn**	**22 51 43.7**	**-3.6**
SIV	**San Ignacio**	**9.62**	**51**	P	**Pn**	**22 51 51.1**	**-3.1**
	comp=Z,2.1nm,0.4s,baz=238,slow=12,SNR=11						
SIV				S	Sn	22 53 30.0	-10
	comp=Z,1.8nm,0.5s,baz=311,slow=23,SNR=6.0						
BO02	**Sierra Bellavi**	**12.59**	**187**	Pn	**Pn**	**22 52 33.6**	**-0.3**
H03N1	**Juan Fernandez**	**14.26**	**217**	T	T	23 05 43.0	
	baz=42,slow=74,SNR=5.1						
H03N2	**Juan Fernandez**	**14.27**	**217**	T	T	23 05 43.0	
	baz=42,slow=74,SNR=4.6						
H03N3	**Juan Fernandez**	**14.28**	**217**	T	T	23 05 49.3	
	baz=42						
SAML	**Samuel**	**14.31**	**23**	P	**Pn**	**22 52 57.0**	**+0.9**
ITAB	**Concordia**	**15.93**	**111**	P	**Pn**	**22 53 16.5**	**+0.1**
ITAB				IAmb	IAmb	22 53 18.6	
	comp=Z,13nm,0.7s						
PLCA	**Paso Flores**	**18.46**	**184**	Pn	**Pn**	**22 53 47.0**	**0.0**
PLCA	**Paso Flores**	**18.46**	**184**	P	**Pn**	**22 53 47.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=356,slow=13,SNR=3.7						
MACA	**Manacapuru-AM**	**20.57**	**24**	P	**P**	**22 54 07.7**	**-0.8**
MACA				IAmb	IAmb	22 54 09.1	
	comp=Z,13nm,0.9s						
BDFB	**Brasilia**	**20.73**	**75**	P	**P**	**22 54 09.8**	**-0.6**
BDFB				IAmb	IAmb	22 54 11.7	
	comp=Z,8.3nm,1.0s						
BDFB	**Brasilia**	**20.73**	**75**	P	**P**	**22 54 09.5**	**-0.9**
	comp=Z,2.8nm,0.4s,baz=240,slow=12,SNR=7.0						
	comp=Z,2.8nm,0.4s						
CRPR	**Cabo Rojo, PR**	**40.07**	**3**	P	**P**	**22 57 02.7**	**-0.1**
OBIP	**Obispado Ponce**	**40.12**	**3**	P	**P**	**22 57 01.9**	**-1.5**
OBIP				IAmb	IAmb	22 57 20.9	
	comp=Z,19nm,1.1s						
CELP	**Cerrillos**	**40.16**	**3**	P	**P**	**22 57 02.3**	**-1.3**
CELP				IAmb	IAmb	22 57 18.1	
	comp=Z,9.7nm,0.9s						
BBSR	**BB Station**	**54.48**	**4**	P	**P**	**22 58 54.5**	**+0.2**
QSPA	**South Pole Qui**	**67.92**	**180**	P	**P**	**23 00 27.4**	**+2.6**
	comp=Z,0.9nm,0.5s,baz=151,slow=2.1,SNR=2.5						
	comp=Z,0.9nm,0.5s						
DBIC	**Dimbokro**	**68.87**	**73**	P	**P**	**23 00 31.8**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=242,slow=7.7,SNR=4.2						
	comp=Z,2.1nm,0.7s						
TOA0	**Torodi Ar. Sit**	**77.53**	**70**	P	**P**	**23 01 22.3**	**+0.1**
TOA0				IAmb	IAmb	23 01 26.7	
	comp=Z,2.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.53**	**70**	P	**P**	**23 01 22.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**77.53**	**70**	P	**P**	**23 01 22.8**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=257,slow=5.0,SNR=28						
	comp=Z,1.4nm,0.4s						
H11S2	**WAKE ISLAND Hyl**	**28.06**	**277**	T	T	01 28 47.5	
	baz=103,slow=74,SNR=6.4						
H11S1	**WAKE ISLAND Hyl**	**28.07**	**277**	T	T	01 28 55.3	
	baz=103,slow=74,SNR=7.6						
H11S3	**WAKE ISLAND Hyl**	**28.08**	**277**	T	T	01 28 40.1	
	baz=103,slow=74,SNR=3.9						
H11N3	**WAKE ISLAND Hyl**	**28.16**	**278**	T	T	01 29 02.2	
	baz=104						
H11N2	**WAKE ISLAND Hyl**	**28.18**	**278**	T	T	01 29 00.3	
	baz=104						
H11N1	**WAKE ISLAND Hyl**	**28.18**	**278**	T	T	01 29 08.1	
	baz=104						
MKAR	**Makanchi Array**	**146.20**	**37**	PKPbc	**PKPbc**	**23 09 06.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=334,slow=3.4,SNR=4.7						

TRN 25 22:49:57.5, 11.49N×61.62W, h73km, MD3.8, 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFF	**Grenada Fort F**	**0.57**	**348**	*eP*	Pn	22 50 10.9	-0.4
GRFF				*eS*	Sn	22 50 21.6	0.0
GRGR	**Grenville**	**0.64**	**357**	*eP*	Pn	22 50 11.8	-0.3
GRGR				*eS*	Sn	22 50 23.2	+0.4
GRW	**Mount Saint Ca**	**0.67**	**356**	*eP*	Pn	22 50 12.4	-0.1
GRW				*eS*	Sn	22 50 24.5	+1.0
GRHS	**Sauteurs**	**0.73**	**358**	*eP*	Pn	22 50 12.8	-0.3
GRHS				*eS*	Sn	22 50 24.9	+0.3
TRN	**Trinidad (W)**	**0.86**	**166**	*eP*	Pn	22 50 14.9	+0.4
TRN				*eS*	Sn	22 50 27.2	+0.1
GCMP	**Grenada, Carri**	**1.01**	**11**	*eP*	Pn	22 50 15.8	-0.6
GCMP				*eS*	Sn	22 50 29.8	-0.5
SVOC	**Richmond Hill,**	**1.70**	**13**	*eP*	Pn	22 50 25.7	+0.4
SVOC				*eS*	Sn	22 50 46.6	+0.3
SVB	**Belmont**	**1.81**	**11**	*eP*	Pn	22 50 27.2	+0.4
SVB				*eS*	Sn	22 50 49.1	+0.2
SVV	**Soufriere Volc**	**1.86**	**12**	*eP*	Pn	22 50 26.9	-0.6
SVV				*eS*	Sn	22 50 49.8	-0.4
SSV	**Crater Summit**	**1.88**	**13**	*eP*	Pn	22 50 26.8	-0.9
SSV				*eS*	Sn	22 50 50.0	-0.6
SLCP	**Castries, St.**	**2.58**	**14**	*eS*	Sn	22 51 06.1	-1.3
SLBI	**Saint Lucia, B**	**2.60**	**14**	*eP*	Pn	22 50 37.3	0.0
SLBI				*eS*	Sn	22 51 07.0	-0.9
BBGH	**Gun Hill**	**2.60**	**50**	*eP*	Pn	22 50 38.4	+1.0
BBGH				*eS*	Sn	22 51 07.2	-0.7
MPOM	**Morne Pois Mar**	**3.03**	**14**	*eP*	Pn	22 50 43.3	0.0
MPOM				*eS*	Sn	22 51 17.9	-0.5
BIM	**Bigot**	**3.06**	**10**	*eP*	Pn	22 50 43.8	+0.1
BIM				*eS*	Sn	22 51 19.0	-0.2
TRMF	**Trois Ilets**	**3.08**	**10⇓**	*eP*	Pn	22 50 44.2	+0.3
ZAM	**Aeronautique**	**3.12**	**11**	*eP*	Pn	22 50 44.7	+0.3
MVM	**Montagne Vaucl**	**3.13**	**13**	*eP*	Pn	22 50 45.2	+0.6
LPMF	**Morne Lapointe**	**3.13**	**12**	*eP*	Pn	22 50 45.4	+0.8
FDF	**Fort de France**	**3.26**	**8**	*eP*	Pn	22 50 46.8	+0.4
FDF				*eS*	Sn	22 51 21.9	-2.2
PML	**Morne Lenard**	**3.30**	**7**	*eP*	Pn	22 50 47.4	+0.5
GBMF	**Grand Be**	**3.32**	**8**	*eP*	Pn	22 50 47.5	+0.3
PCM	**Pelee Case Pet**	**3.33**	**7**	*eP*	Pn	22 50 47.7	+0.3
BAMF	**Morne Balai**	**3.34**	**8**	*eP*	Pn	22 50 47.9	+0.3
ILAM	**Ilet Lapin Mar**	**3.35**	**12**	*eP*	Pn	22 50 48.4	+0.8
SVN	**Savane Anatole**	**3.36**	**7**	*eP*	Pn	22 50 48.1	+0.3
SVN				*eS*	Sn	22 51 25.0	-1.7
CBE	**Ff, Capester**	**4.56**	**0**	*eP*	Pn	22 51 05.3	+1.2
CBE	**Ff, Capester**	**4.56**	**0**	*eS*	Sn	22 51 53.7	-2.1
ABD	**La Joyeuse, An**	**4.96**	**1**	*eP*	Pn	22 51 10.6	+1.0
ANBD	**Bethesda, Anti**	**5.53**	**359**	*eP*	Pn	22 51 17.2	-0.2
ANBD	**Bethesda, Anti**	**5.53**	**359**	*eS*	Sn	22 52 16.6	-3.0
BAUV	**El Baul**	**6.81**	**249**	*eP*	Pn	22 51 35.5	+0.6
BAUV	**El Baul**	**6.81**	**249**	*eS*	Sn	22 52 47.2	-3.8

NIED ***25*** *22:59:32.4, 33.32N×132.45E, h39km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.20; Mθθ0.18; Mφφ2.02; Mrθ0.06; Mθφ0.01; Mφr-0.52; Fault plane solution: M₀2.17000×10¹⁴ NP1: φs359.00000°, δ52.00000°, λ-92.00000°. NP2: φs182.00000°, δ38.00000°, λ-88.00000°.*

JMA 25 22:59:32.4±0.0, 33.32N±0.08×132.45E±0.09, h39km, MV3.5/35, 4D, SW EHIME PREF, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWA2	**Uwa jima 2**	**0.18**	**126⇓**	*iP*	Pn	22 59 39.0	-2.1
UWA2				⇓S	Sn	22 59 44.0	-4.8
JNA	**Nagahama**	**0.24**	**6⇓**	*iP*	Pn	22 59 39.7	-0.9
JNA				⇓S	Sn	22 59 44.8	-2.8
JKU	**Kubokawa**	**0.52**	**91**	*i* P	Pn	22 59 43.1	-0.2
JKU				S	Sn	22 59 50.9	-0.1
JTO	**Tosashimizu**	**0.55**	**147**	*i* P	Pn	22 59 43.5	-0.2
JTO				S	Sn	22 59 51.8	+0.1
JUS	**Usuki**	**0.64**	**247**	*i* P	Pn	22 59 44.8	-0.2
JUS				S	Sn	22 59 53.8	-0.1
JET	**Tanbara**	**0.68**	**47**	*i* P	Pn	22 59 45.4	-0.2
JET				S	Sn	22 59 55.0	+0.1
JHM	**Kurahashi**	**0.82**	**5**	P	Pn	22 59 47.5	+0.1
JHM				S	Sn	22 59 58.6	+0.3

IDC ***25*** *23:04:30.9±0.8, 32.99N×83.10E, h0km, mb3.6/10, mbtmp3.6/12, ML2.9/2, Error ellipse: s-maj=28.5km s-min=16.5km az=51.0*

ISC 25 23:04:35.9±0.9, 33.1N±0.1×83.1E±0.1, h35km, n12, σ0 90/12, mb3.4/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.74**	**358**	Pn	**Pn**	**23 07 47.6**	**-0.6**
	0.1nm,0.3s,baz=185,slow=14,SNR=8.5						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**17.89**	**350**	P	**Pn**	**23 08 40.3**	**-1.5**
	baz=174,slow=11,SNR=9.1						
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.30**	**132**	P	**P**	**23 09 07.6**	**-1.3**
	1.3nm,0.3s,baz=305,slow=10,SNR=12						
	1.3nm,0.3s						
GEYT	**Alibeck**	**20.92**	**291**	P	**P**	**23 09 15.2**	**-0.3**
	0.4nm,0.6s,baz=90,slow=5.8,SNR=1.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**20.93**	**3**	P	**P**	**23 09 15.3**	**0.0**
	1.0nm,0.6s,baz=193,slow=8.9,SNR=5.9						
	1.0nm,0.6s						
SONM	**Songino Array**	**22.93**	**43**	P	**P**	**23 09 38.2**	**+1.2**
	0.9nm,1.0s,baz=239,slow=8.4,SNR=6.0						
	0.9nm,1.0s						
AKASG	**Malin Array Be**	**42.82**	**311**	P	**P**	**23 12 30.6**	**+0.4**
	0.1nm,0.3s,baz=83,slow=6.5,SNR=4.6						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**45.94**	**326**	P	**P**	**23 12 55.7**	**+0.7**
	1.3nm,0.4s,baz=96,slow=8.5,SNR=6.4						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**71.88**	**130**	P	**P**	**23 15 56.1**	**+0.5**
	1.4nm,0.6s,baz=324,slow=6.2,SNR=18						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**74.31**	**132**	P	**P**	**23 16 10.4**	**+0.5**
	1.2nm,0.7s,baz=318,slow=5.8,SNR=13						
	1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.85**	**277**	P	**P**	**23 16 19.2**	**+0.1**
	0.3nm,0.6s,baz=58,slow=7.1,SNR=2.5						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**83.72**	**8**	P	**P**	**23 17 00.4**	**-0.5**
	0.1nm,0.4s,baz=346,slow=5.1,SNR=2.3						
	0.1nm,0.4s						

NEIC ***25*** *23:07:08.4±1.1, 36.96N±0.02×97.37W±0.02, h9km±7km, Error ellipse: s-maj=3.2km s-min=1.6km az=51.0*

TUL 25 23:07:08.7±0.8, 36.96N±0.02×97.36W±0.02, h8km±4km, ML2.7, mb_Lg2.5/4(NEIC), ML2.6/44(NEIC), Error ellipse: s-maj=3.1km s-min=1.3km az=224.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.11**	**298**	Pg	Pg	23 07 11.5	+0.3
KAN13				Sg	Sg	23 07 13.4	+0.5
KAN13				IAML		23 07 14.1	
	comp=E,4μm,0.3s						
BLOK	**Blackwell**	**0.23**	**150**	Pg	Pg	23 07 13.6	+0.3
BLOK				Sg	Sg	23 07 16.9	+0.4
KAN09	**Caldwell North**	**0.27**	**310**	Pg	Pg	23 07 14.4	+0.3
KAN09				Sg	Sg	23 07 18.3	+0.5
KAN09				IAML		23 07 19.9	
	comp=E,1μm,0.2s						
KAN09				IAML		23 07 21.1	
	comp=N,1μm,0.2s						
KAN17	**Caldwell West**	**0.34**	**284**	Pg	Pg	23 07 14.6	-0.7
KAN17				Sg	Sg	23 07 20.0	+0.3
KAN17				IAML		23 07 21.3	
	comp=E,554nm,0.3s						
KAN01	**Argonia South**	**0.37**	**301**	Pg	Pg	23 07 16.1	+0.1
KAN01				Sg	Sg	23 07 21.0	+0.1
KS21	**Milan North St**	**0.41**	**323**	Pg	Pg	23 07 16.8	+0.2
KS21				Sg	Sg	23 07 22.4	+0.4
GC02	**Grant County #**	**0.42**	**255**	Pg	Pg	23 07 16.6	-0.2
GC02				Sg	Sg	23 07 21.9	-0.3
KAN05	**Bluff City Nor**	**0.44**	**290**	Pg	Pg	23 07 17.0	-0.2
KAN05				Sg	Sg	23 07 23.2	+0.3
KAN05				IAML		23 07 23.8	
	comp=N,466nm,0.3s						
KAN14	**Manchester OK**	**0.48**	**270**	Pg	Pg	23 07 18.3	+0.2
KAN14				Sg	Sg	23 07 24.3	-0.1
KAN06	**Argonia West S**	**0.49**	**306**	Pg	Pg	23 07 18.2	0.0
KAN06				Sg	Sg	23 07 24.7	0.0
KAN06				IAML		23 07 25.7	
	comp=E,466nm,0.3s						
KAN06				IAML		23 07 25.8	
	comp=N,319nm,0.1s						
OK051	**E0350 and S346**	**0.62**	**137**	Pg	Pg	23 07 20.9	+0.2
OK051				IAML		23 07 30.9	
	comp=N,236nm,0.1s						
OK051				IAML		23 07 33.1	
	comp=N,380nm,0.2s						
OK048	**Pawnee Station**	**0.64**	**148**	Pg	Pg	23 07 20.8	-0.2
CROK	**Carrier**	**0.68**	**228**	Pg	Pg	23 07 21.5	-0.3
OK032	**Salt Plains WL**	**0.70**	**257**	Pg	Pg	23 07 21.2	-1.0
OK032				IAML		23 07 31.7	
	comp=N,254nm,0.3s						
OK032				IAML		23 07 31.8	
	comp=N,263nm,0.3s						
QUOK	**Quay**	**0.95**	**146**	Pg	Pg	23 07 26.8	-0.1
QUOK				IAML		23 07 44.5	
	comp=E,161nm,0.2s						
QUOK				IAML		23 07 45.0	
	comp=N,141nm,0.3s						
OK033	**Mehan**	**0.98**	**160**	Pg	Pg	23 07 27.2	-0.2
OK033				IAML		23 07 51.8	
	comp=N,256nm,0.3s						
OK052	**Battle Ridge R**	**1.06**	**155**	Pg	Pg	23 07 28.6	-0.5
OK052				IAML		23 07 47.4	
	comp=N,162nm,0.3s						
OK052				IAML		23 07 47.4	
	comp=N,212nm,0.3s						
OK029	**Liberty Lake**	**1.17**	**184**	Pg	Pg	23 07 30.3	-0.8
OK029				Sg	Sg	23 07 44.9	-1.3
OK029				IAML		23 07 47.1	
	comp=N,206nm,0.2s						
OK038	**West end E0370**	**1.21**	**247**	Pg	Pb	23 07 31.0	-0.9
NOKA	**Waynoka**	**1.30**	**256**	Pg	Pb	23 07 33.4	0.0
NOKA				IAML		23 07 39.7	
	comp=E,82nm,1.3s						
NOKA				IAML		23 07 39.7	
	comp=N,83nm,1.2s						
ADOK	**Arcadia Dam**	**1.31**	**180**	Pg	Pn	23 07 31.9	-1.4
DEOK	**Depew**	**1.31**	**148**	Pg	Pn	23 07 32.6	-0.7
DEOK				IAML		23 07 53.3	
	comp=E,134nm,0.5s						
DEOK				IAML		23 07 54.0	
	comp=N,162nm,0.5s						
U32A	**Winter Ranch,**	**1.44**	**247**		Pn	23 07 35.3	+0.1
OKCSW	**OKLAHOMA CITY**	**1.55**	**182**		Pn	23 07 37.0	+0.3
TUL3	**Leonard**	**1.64**	**129**		Pn	23 07 37.7	-0.2
TUL3				IAmb_Lg		23 08 02.3	
	comp=Z,18nm,0.8s						
CSTR	**Hydro, Custer**	**1.70**	**220**		Pn	23 07 38.8	+0.2
FNO	**Franklin**	**1.70**	**181**	Pn	Pn	23 07 38.9	+0.2
W35A	**Tecumseh**	**1.85**	**168**		Pn	23 07 40.8	+0.1
ELIS	**Ellis County**	**1.89**	**242**		Pb	23 07 43.7	+0.3
RLO	**Rose Lookout**	**2.04**	**112**		Pb	23 07 45.3	-0.7
KSU1	**Kansas State U**	**2.22**	**15**		Pn	23 07 44.4	-1.4
X34A	**Smith Ranch, M**	**2.39**	**189**	Pg	Pg	23 07 53.8	-0.6
U38A	**Gravette**	**2.44**	**101**	Pn	Pn	23 07 48.5	-0.4
WMOK	**Wichita Mounta**	**2.50**	**208**	Pn	Pn	23 07 49.8	+0.1
CBKS	**Cedar Bluff**	**2.64**	**315**	Pn	Pn	23 07 52.7	+1.1
HHAR	**Hobbs**	**2.83**	**103**		Pn	23 07 53.8	-0.5
X37A	**Clayton**	**2.87**	**145**	Pn	Pn	23 07 56.3	+1.6
LOOK	**Love County**	**2.97**	**177**	Pn	Pn	23 07 56.2	+0.1
SMWD	**Samnorwood**	**2.98**	**232**	Pn	Pn	23 07 56.2	-0.2
WTFS	**Witchita Falls**	**3.31**	**196**	Pn	Pn	23 08 00.7	-0.2
P38A	**Dawn**	**4.02**	**47**		Pg	23 08 24.2	-1.5
FCAR	**Ozark Folk Cen**	**4.36**	**103**	IAmb_Lg		23 09 28.1	
	comp=Z,13nm,0.7s						

SJA ***25*** *23:29:20.4±0.7, 19.92S×69.12W, h106km±2km, ML3.7, MW3.7*
GUC ***25*** *23:29:22.6±0.7, 19.93S×69.12W, h99km±2km, ML3.7*

ISC 25 23:29:23.8±1.5, 19.92S±0.03×69.19W±0.06, h91km±7km, n35, σ1 57/62, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.23**	**171**	*eP*	**Pn**	**23 29 36.7**	**-0.8**
PB08				*eS*	**Sn**	**23 29 48.6**	**+0.9**
PB08				IAML		23 29 51.0	
	comp=Z,2μm,0.2s						
PB08	**IPOC Station P**	**0.23**	**171⇑**	*iP*	**Pn**	**23 29 36.8**	**-0.8**
PB08				*eS*	**Sn**	**23 29 48.1**	**+0.4**
PB08				IAML		23 29 48.9	
	comp=N,7μm,0.3s						
GO01	**Chusmiza**	**0.25**	**359**	*eP*	**Pn**	**23 29 37.0**	**-0.7**
GO01				*eS*	**Sn**	**23 29 49.0**	**+1.0**
GO01	**Chusmiza**	**0.25**	**359**	*eP*	**Pn**	**23 29 37.2**	**-0.6**
GO01				*eS*	**Sn**	**23 29 48.6**	**+0.6**
PB11	**IPOC Station P**	**0.47**	**290**	*eP*	**Pn**	**23 29 38.0**	**-0.6**
PB11				*eS*	**Sn**	**23 29 50.6**	**+1.0**
PB11				IAML		23 29 51.7	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**0.47**	**290⇑**	*iP*	**Pn**	**23 29 38.0**	**-0.6**
PB11				*eS*	**Sn**	**23 29 50.6**	**+1.0**
PB11				IAML		23 29 51.1	
	comp=E,4μm,0.3s						
HMBC	**Humberstone**	**0.75**	**241**	*eP*	**Pn**	**23 29 40.1**	**-0.9**
HMBC				*eS*	**Sn**	**23 29 55.0**	**+1.1**
HMBC	**Humberstone**	**0.75**	**241⇑**	*iP*	**Pn**	**23 29 40.2**	**-0.9**
HMBC				*i* S	**Sn**	**23 29 54.6**	**+0.7**
HMBC				IAML		23 29 55.3	
	comp=N,3μm,0.3s						
TA02	**Huaiquique**	**0.95**	**248**	*eP*	**Pn**	**23 29 42.5**	**-0.5**
TA02				IAML		23 30 00.7	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**0.95**	**248**	*eP*	**Pn**	**23 29 42.5**	**-0.5**
TA02				*eS*	**Sn**	**23 29 58.4**	**+1.0**
TA01	**Diego Aracena**	**1.13**	**235**	*eP*	**Pn**	**23 29 44.0**	**-1.1**
TA01				*eS*	**Sn**	**23 30 02.4**	**+1.3**
TA01				IAML		23 30 08.1	
	comp=Z,568nm,0.2s						
TA01	**Diego Aracena**	**1.13**	**235⇑**	*iP*	**Pn**	**23 29 44.0**	**-1.1**
TA01				*eS*	**Sn**	**23 30 01.0**	**0.0**
TA01				IAML		23 30 06.0	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.15**	**194**	*eP*	**Pn**	**23 29 44.0**	**-1.4**
PB01				*eS*	**Sn**	**23 30 01.9**	**+0.2**
PB01				IAML		23 30 04.6	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**1.15**	**194⇑**	*iP*	**Pn**	**23 29 44.2**	**-1.2**
PB01				*eS*	**Sn**	**23 30 01.4**	**-0.3**
PB01				IAML		23 30 02.6	
	comp=E,1μm,0.3s						
PATCX	**Punta Patache**	**1.27**	**225**	*eP*	**Pn**	**23 29 45.7**	**-1.1**
PATCX				*eS*	**Sn**	**23 30 05.4**	**+1.1**
PATCX	**Punta Patache**	**1.27**	**225**	*i* P	**Pn**	**23 29 45.8**	**-1.1**
PATCX				*i* S	**Sn**	**23 30 04.3**	**0.0**
PATCX				IAML		23 30 10.9	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**1.54**	**205**	*eP*	**Pn**	**23 29 48.9**	**-1.4**
PB02				*eS*	**Sn**	**23 30 12.3**	**+2.0**
PB02				IAML		23 30 20.1	
	comp=Z,2μm,0.3s						
PB02	**IPOC Station P**	**1.54**	**205**	*eP*	**Pn**	**23 29 49.0**	**-1.3**
PB02				*i* S	**Sn**	**23 30 09.6**	**-0.7**
PB02				IAML		23 30 16.4	
	comp=N,2μm,0.3s						
PB16	**IPOC Station P**	**1.60**	**349**	*eP*	**Pn**	**23 29 50.8**	**-0.7**
PB16	**IPOC Station P**	**1.60**	**349**	*eP*	**Pn**	**23 29 51.4**	**-0.1**
PB16				*eS*	**Sn**	**23 30 13.5**	**+1.2**
PB12	**IPOC Station P**	**1.68**	**320**	*eP*	**Pn**	**23 29 50.9**	**-1.1**
PB12				*eS*	**Sn**	**23 30 14.4**	**+0.9**
PB12				IAML		23 30 21.1	
	comp=Z,300nm,0.4s						
PB12	**IPOC Station P**	**1.68**	**320**	*eP*	**Pn**	**23 29 50.9**	**-1.1**
PB12				*i* S	**Sn**	**23 30 13.3**	**-0.1**
PB12				IAML		23 30 21.6	
	comp=N,500nm,0.2s						
PB09	**IPOC Station P**	**1.87**	**181**	*eP*	**Pn**	**23 29 53.3**	**-1.2**
PB09				*eS*	**Sn**	**23 30 19.6**	**+1.7**
PB09				IAML		23 30 22.1	
	comp=Z,419nm,0.5s						
PB09	**IPOC Station P**	**1.87**	**181**	*eP*	**Pn**	**23 29 53.4**	**-1.2**
PB09				*i* S	**Sn**	**23 30 17.2**	**-0.6**
PB09				IAML		23 30 21.5	
	comp=N,537nm,0.4s						
AP01	**Chacalluta**	**1.88**	**325**	*eP*	**Pn**	**23 29 53.6**	**-1.0**
AP01				IAML		23 30 21.4	
	comp=Z,432nm,0.2s						
PB07	**IPOC Station P**	**1.91**	**200**	*eP*	**Pn**	**23 29 53.5**	**-1.6**
PB07				*eS*	**Sn**	**23 30 23.9**	**+5.0**
PB07				IAML		23 30 25.0	
	comp=Z,618nm,0.3s						
PB07	**IPOC Station P**	**1.91**	**200**	*eP*	**Pn**	**23 29 53.7**	**-1.4**
PB07				*i* S	**Sn**	**23 30 17.9**	**-1.0**
PB07				IAML		23 30 25.1	
	comp=E,922nm,0.3s						
PB04	**IPOC Station P**	**2.56**

KLU	**Klutina**	**2.38**	**357**		Pn		**Pn**	**23 32 50.3**	**-1.3**
KLU	comp=N,62nm,0.8s				IAML			23 33 27.5	
KLU	comp=E,57nm,1.5s				IAML			23 33 37.8	
VRDI	**Verde Repeater**	**2.39**	**27**		Pn		**Pn**	**23 32 50.4**	**-1.4**
VRDI	**Verde Repeater**	**2.39**	**27**				**Sn**	**23 33 18.6**	**-2.6**
VRDI	**Verde Repeater**	**2.39**	**27**		IAML			23 33 21.0	
VRDI	comp=E,60nm,0.8s				IAML			23 33 28.1	
GLB	**Gilahina Butte**	**2.51**	**21**				**Pn**	**23 32 52.1**	**-1.2**
GLB	comp=E,57nm,0.9s				IAML			23 33 23.6	
N25K	**Chitina, Valde**	**2.55**	**12**				**Pn**	**23 32 52.7**	**-1.3**
N25K	**Chitina, Valde**	**2.55**	**12**				**Sn**	**23 33 22.5**	**-2.5**
N25K	**Chitina, Valde**	**2.55**	**12**		IAML			23 33 24.7	
N25K	comp=E,74nm,0.8s				IAML			23 33 28.0	
MCARA	**McCarthy VSAT**	**2.63**	**29**				**Pn**	**23 32 54.2**	**-0.7**
SLKM	**Skilak Lake**	**2.68**	**303**				**Pn**	**23 32 54.5**	**-1.2**
KNK	**Knik Glacier**	**2.68**	**330**				**Pn**	**23 32 54.8**	**-0.9**
KNK	comp=N,61nm,1.4s				IAML			23 33 49.7	
KNK	comp=E,56nm,1.0s				IAML			23 33 56.6	
BARN	**Barnard Glacie**	**2.80**	**44**				**Pn**	**23 32 57.0**	**-0.5**
BARN	comp=N,62nm,0.6s				IAML			23 33 30.1	
BARN	comp=E,52nm,0.8s				IAML			23 33 34.5	
RC01	**Rabbit Creek A**	**2.83**	**316**				**Pn**	**23 32 56.5**	**-1.3**
RC01	comp=N,37nm,1.4s				IAML			23 34 02.4	
SCM	**Sheep Creek Mo**	**2.84**	**344**				**Pn**	**23 32 57.2**	**-0.7**
SCM	comp=E,63nm,1.3s				IAML			23 33 48.7	
SCM	comp=N,54nm,1.3s				IAML			23 33 56.5	
CTGM	**Chitina Glacie**	**2.86**	**48**				**Pn**	**23 32 56.8**	**-1.4**
CTGM	comp=N,46nm,1.2s				IAML			23 33 52.1	
CNPM	**China Poot**	**2.88**	**280**		Pn		**Pn**	**23 32 57.4**	**-1.0**
CNPM	comp=N,34nm,0.5s				IAML			23 33 31.3	
CNPM	comp=E,45nm,1.4s				IAML			23 33 47.4	
LOGN	**Logan Glacier**	**2.91**	**52**				**Pn**	**23 32 57.8**	**-1.1**
LOGN	comp=N,58nm,0.6s				IAML			23 33 32.6	
LOGN	comp=E,62nm,0.6s				IAML			23 33 34.2	
SML	**Sawmill**	**3.00**	**335**		Pn		**Pn**	**23 32 59.9**	**-0.1**
SML	comp=E,65nm,1.2s				IAML			23 34 02.6	
SML	comp=N,50nm,1.5s				IAML			23 34 08.9	
M24K	**Tolsona, Glenn**	**3.01**	**356**				**Pn**	**23 33 00.2**	**+0.1**
PMR	**Palmer**	**3.01**	**327**		Pn		**Pn**	**23 33 01.0**	**+0.8**
GHO	**Glory Hole Cre**	**3.11**	**330**		Pn		**Pn**	**23 33 02.1**	**+0.5**
GHO	comp=E,57nm,0.8s				IAML			23 34 06.5	
SUA	**Susitna One**	**3.45**	**315**				**Pn**	**23 33 04.9**	**-1.4**
SUA	comp=N,25nm,0.8s				IAML			23 33 50.9	
YUK8	**Steele Glacier**	**3.67**	**51**				**Pn**	**23 33 10.1**	**+0.8**
M27K	**Edge Creek, AK**	**3.75**	**28**		Pn		**Pn**	**23 33 10.3**	**-0.1**
M27K	comp=E,21nm,1.4s				IAML			23 34 14.1	
M27K	comp=N,20nm,1.4s				IAML			23 34 17.7	
RSO	**Redoubt South**	**3.82**	**294**		Pn		**Pn**	**23 33 12.5**	**+1.0**
KDAK	**Kodiak Island**	**3.87**	**253**		Pn		**Pn**	**23 33 12.6**	**+0.7**
KDAK	comp=N,21nm,1.4s				IAML			23 33 38.4	
KDAK	comp=N,23nm,1.5s				IAML			23 35 21.3	
KDAK	**Kodiak Island**	**3.87**	**253**		Pn		**Pn**	**23 33 10.9**	**-0.9**
KDAK	comp=N,0.6nm,0.3s,baz=86,slow=13,SNR=1.3 comp=N,1.5nm,0.3s,baz=273,slow=20,SNR=7.0 comp=N,7.5nm,0.7s				Sn		**Sn**	**23 33 52.7**	**-4.6**
SPCP	**Crater Peak Br**	**3.88**	**306**				**Pn**	**23 33 11.7**	**-0.6**
P19K	**Oil Pt**	**3.90**	**281**		Pn		**Pn**	**23 33 12.5**	**+0.1**
CUT	**Chulitna**	**3.99**	**328**				**Pn**	**23 33 14.3**	**+0.7**
WAT7	**Susitna Watana**	**4.03**	**339**				**Pn**	**23 33 13.9**	**-0.4**
DHY	**Denali Highway**	**4.05**	**349**				**Pn**	**23 33 14.0**	**-0.6**
DHY	comp=E,18nm,1.2s				IAML			23 34 18.9	
DHY	comp=N,15nm,1.1s				IAML			23 34 41.7	
SKT	**Skwentna**	**4.07**	**317**		Pn		**Pn**	**23 33 14.9**	**+0.1**
SKT	comp=E,22nm,0.7s				IAML			23 34 11.5	
L26K	**Log Cabin Wild**	**4.08**	**15**				**Pn**	**23 33 14.3**	**-0.6**
Q19K	**Cape Douglas,**	**4.12**	**271**		Pn		**Pn**	**23 33 14.7**	**-0.7**
L27K	**Beaver Creek,**	**4.37**	**24**				**Pn**	**23 33 18.5**	**-0.4**
BCAR	**Beaver Creek A**	**4.39**	**24**		Pn		**Pn**	**23 33 18.8**	**-0.3**
HYT	**Haines Junctio**	**4.45**	**64**		Pn		**Pn**	**23 33 20.1**	**0.0**
OHAK	**Old Harbor**	**4.45**	**248**		Pn		**Pn**	**23 33 20.0**	**0.0**
OHAK	comp=E,22nm,1.5s				IAML			23 34 23.7	
RND	**Reindeer**	**4.56**	**342**				**Pn**	**23 33 20.6**	**-1.0**
RND	comp=E,15nm,1.2s				IAML			23 34 36.9	
RND	comp=N,13nm,1.5s				IAML			23 35 12.3	
RIDG	**Independent Ri**	**4.65**	**5**				**Pn**	**23 33 22.9**	**+0.2**
RIDG	comp=N,11nm,1.3s				IAML			23 34 51.5	
RIDG	comp=E,19nm,1.3s				IAML			23 35 07.3	
K24K	**Donnelly Dome**	**4.70**	**359**				**Pn**	**23 33 23.4**	**0.0**
M29M	**Somme Creek**	**4.86**	**44**		IAML			23 34 18.2	
M29M	comp=E,7.3nm,1.5s				IAML			23 34 20.4	
TRF	**Thorofare Moun**	**4.88**	**335**				**Pn**	**23 33 26.0**	**0.0**
MCK	**McKinley**	**4.88**	**343**				**Pn**	**23 33 25.7**	**-0.2**
SCRK	**Sand Creek**	**4.94**	**9**				**Pn**	**23 33 26.1**	**-0.6**
SCRK	comp=E,6.9nm,1.3s				IAML			23 34 51.4	
O30N	**Mendenhall**	**5.10**	**67**		Pn		**Pn**	**23 33 28.5**	**-0.4**
KTH	**Kantishna Hill**	**5.11**	**333**				**Pn**	**23 33 29.8**	**+0.7**
M19K	**Big River Lodg**	**5.13**	**307**		Pn		**Pn**	**23 33 27.9**	**-1.4**
K27K	**Chicken**	**5.22**	**18**		Pn		**Pn**	**23 33 30.0**	**-0.5**
CAST	**Castle Rocks**	**5.30**	**327**				**Pn**	**23 33 31.6**	**-0.1**
HDA	**Harding Lake**	**5.34**	**354**				**Pn**	**23 33 31.2**	**-0.9**
HDA	comp=N,8.0nm,0.9s				IAML			23 35 03.2	
HDA	comp=E,9.7nm,1.4s				IAML			23 35 26.1	
N18K	**Kilae Creek**	**5.37**	**291**		Pn		**Pn**	**23 33 32.5**	**-0.1**
N18K	comp=N,8.7nm,1.2s				IAML			23 35 03.7	
BWN	**Browne**	**5.38**	**342**				**Pn**	**23 33 31.6**	**-1.1**
L29M	**L29M**	**5.42**	**39**				**Pn**	**23 33 33.1**	**-0.2**
L19K	**White Mountain**	**5.46**	**308**				**Pn**	**23 33 33.2**	**-0.6**
J26L	**Joseph Creek**	**5.49**	**10**				**Pn**	**23 33 34.0**	**-0.3**
J25K	**Salcha River,**	**5.51**	**1**				**Pn**	**23 33 33.5**	**-1.1**
M30M	**Minto, Yukon**	**5.56**	**48**		Pn		**Pn**	**23 33 34.8**	**-0.3**
BPAW	**Bear Paw Mtn.**	**5.60**	**335**				**Pn**	**23 33 35.8**	**+0.1**
CCB	**Clear Creek Bu**	**5.64**	**351**		Pn		**Pn**	**23 33 36.4**	**+0.3**
WHY	**Whitehorse**	**5.65**	**70**		Pn		**Pn**	**23 33 36.5**	**0.0**
IL31		**5.70**	**355**		Pn		**Pn**	**23 33 36.0**	**-1.0**
ILAR	**Eielson Array**	**5.70**	**355**		Pn		**Pn**	**23 33 35.3**	**-1.8**
ILAR	**Eielson Array**	**5.70**	**355**		Pn		**Pn**	**23 33 35.1**	**-2.0**
	comp=N,0.4nm,0.3s,baz=182,slow=13,SNR=19 comp=N,2.8nm,0.6s								
NEA2	**Nenana**	**5.72**	**345**				**Pn**	**23 33 36.0**	**-1.4**
DAWY	**Dawson**	**5.80**	**28**		Pn		**Pn**	**23 33 38.0**	**-0.4**
K20K	**Telida**	**5.87**	**320**				**Pn**	**23 33 39.3**	**-0.1**
EGAK	**Eagle**	**6.06**	**19**				**Pn**	**23 33 41.8**	**-0.2**
K29M	**Barlow Dome**	**6.14**	**36**				**Pn**	**23 33 42.9**	**-0.3**
P32M	**Atlin**	**6.14**	**80**		Pn		**Pn**	**23 33 44.3**	**+1.2**
I23K	**Minto, Yukon-K**	**6.29**	**346**		Pn		**Pn**	**23 33 44.9**	**-0.2**
TTA	**Tatalina**	**6.31**	**312**		Pn		**Pn**	**23 33 44.7**	**-0.7**
I26K	**Coal Creek Min**	**6.32**	**10**				**Pn**	**23 33 45.5**	**-0.1**
M31M	**Drury Creek, Y**	**6.35**	**56**		Pn		**Pn**	**23 33 45.4**	**-0.6**
O16K	**Kokwok River B**	**6.37**	**280**		Pn		**Pn**	**23 33 46.0**	**-0.2**
MLY	**Manley**	**6.39**	**340**				**Pn**	**23 33 46.3**	**-0.2**
J20K	**Nowinta River**	**6.48**	**325**				**Pn**	**23 33 47.6**	**-0.1**
N32M	**Quiet Lake**	**6.61**	**67**		Pn		**Pn**	**23 33 49.4**	**-0.3**
I21K	**Tanana**	**6.76**	**337**				**Pn**	**23 33 51.9**	**+0.4**
J19K	**Poorman**	**6.81**	**320**		Pn		**Pn**	**23 33 52.3**	**+0.1**
FARO	**Faro, Yukon**	**6.81**	**58**		Pn		**Pn**	**23 33 52.2**	**-0.2**
H24K	**Noodor Dome**	**6.82**	**352**		Pn		**Pn**	**23 33 53.4**	**+0.9**
J18K	**Innoko River**	**6.87**	**314**		Pn		**Pn**	**23 33 52.9**	**-0.2**
I28M	**Miner Creek**	**6.89**	**20**		Pn		**Pn**	**23 33 53.4**	**-0.1**
M16K	**Timber Creek**	**6.91**	**292**		Pn		**Pn**	**23 33 53.9**	**+0.2**
Q32M	**Nakina River**	**6.92**	**86**		Pn		**Pn**	**23 33 53.9**	**-0.2**
J30M	**Hart River**	**7.03**	**35**		Pn		**Pn**	**23 33 55.4**	**0.0**
K17K	**Iditarod**	**7.13**	**306**		Pn		**Pn**	**23 33 56.0**	**-0.7**
I29M	**Ogilvie Camp,**	**7.14**	**26**		Pn		**Pn**	**23 33 56.6**	**-0.2**
L16K	**Owhat River**	**7.30**	**297**		Pn		**Pn**	**23 33 58.5**	**-0.5**
H21K	**Melozitna Rive**	**7.34**	**336**				**Pn**	**23 33 59.4**	**-0.2**
N15K	**Kwethluk River**	**7.38**	**284**		Pn		**Pn**	**23 34 01.4**	**+1.3**
U33K	**Whale Pass**	**7.39**	**109**		Pn			23 33 57.7	**-2.5**
I30M	**Mount Dempster**	**7.50**	**31**		Pn		**Pn**	**23 34 03.2**	**+1.2**
IMAR	**Indian Mountai**	**7.82**	**335**		Pn		**Pn**	**23 34 06.2**	**0.0**
G23K	**Bananza Creek**	**7.87**	**347**				**Pn**	**23 34 06.9**	**+0.1**
H19K	**Roundabout Mou**	**8.14**	**327**		Pn		**Pn**	**23 34 10.6**	**+0.1**
DLBC	**Dease Lake**	**8.16**	**88**		Pn		**Pn**	**23 34 11.8**	**+0.9**
G21K	**Allakaket**	**8.23**	**338**		Pn		**Pn**	**23 34 11.8**	**0.0**
J16K	**Anvik River**	**8.32**	**306**		Pn		**Pn**	**23 34 11.9**	**-1.1**
EPYK	**Eagle Plains**	**8.35**	**26**		Pn		**Pn**	**23 34 14.8**	**+1.4**
K15K	**Wolf Creek Mou**	**8.39**	**299**		Pn		**Pn**	**23 34 14.5**	**+0.5**
H18K	**Honhosa River**	**8.46**	**321**		Pn		**Pn**	**23 34 16.0**	**+1.0**
F24K	**Squaw Lake**	**8.49**	**354**		Pn		**Pn**	**23 34 15.3**	**0.0**
G19K	**Purcell Mounta**	**8.77**	**328**		Pn		**Pn**	**23 34 19.1**	**-0.1**
H17K	**Granite Mounta**	**8.86**	**317**		Pn		**Pn**	**23 34 20.4**	**+0.1**
F28M	**Old Crow**	**8.91**	**14**		Pn		**Pn**	**23 34 22.3**	**+1.2**
G18K	**Tagagawik**	**9.05**	**324**		Pn		**Pn**	**23 34 22.9**	**-0.1**
E19K	**Redstone River**	**9.83**	**333**		Pn		**Pn**	**23 34 34.3**	**+0.6**
E28M	**Babbage River**	**9.89**	**13**		Pn		**Pn**	**23 34 35.1**	**+0.7**
E29M	**Blow River**	**9.91**	**17**		Pn		**Pn**	**23 34 34.6**	**-0.1**
D19K	**Kuna River**	**10.86**	**335**		Pn		**Pn**	**23 34 48.0**	**+0.2**
F15K	**North Star Dit**	**10.96**	**315**				**Pn**	**23 34 49.4**	**+0.3**
C18K	**Utukok River**	**11.70**	**331**		Pn		**Pn**	**23 34 59.3**	**0.0**
YKA	**Yellowknife Ar**	**15.45**	**64**		Pn		**Pn**	**23 35 53.7**	**+3.6**
	comp=N,0.1nm,0.3s,baz=270,slow=10,SNR=5.6 comp=N,0.1nm,0.4s								
SONM	**Songino Array**	**58.25**	**311**		P		**P**	**23 42 08.1**	**+1.3**
	comp=N,0.3nm,0.7s,baz=43,slow=6.5,SNR=2.5 comp=N,0.3nm,0.7s								
KURBB	**Kurchatov Arra**	**64.85**	**331**		P		**P**	**23 42 50.7**	**-0.4**
	comp=N,0.3nm,0.6s,baz=31,slow=6.9,SNR=3.5 comp=N,0.3nm,0.6s								
MKAR	**Makanchi Array**	**67.34**	**326**		P		**P**	**23 43 06.1**	**-1.2**
	comp=N,0.4nm,0.9s,baz=42,slow=4.7,SNR=2.2 comp=N,0.4nm,0.9s								

IDC ***25*** *23:55:13.8±0.5,55.˚78N×149.˚65W,h0km,mb4.4/35, mbtmp4.5/40,ML4.3/6,MS4.2/84,Error ellipse: s-maj=15.3km s-min=9.2km az=29.0*

NEIC ***25*** *23:55:14.9,55.˚63N×149.˚72W,h16km,Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10¹⁶Nm; Mrr=0.52; Mθθ=4.13; Mϕϕ=4.66; Mrθ=0.42; Mθϕ=0.39; Mϕr=0.05; Fault plane solution: M0=4.44000×10¹⁶ NP1: ϕs=227.33000°,δ86.00000°,λ=5.12000°. NP2:ϕs=317.69000°, δ84.89000°,λ=175.98000°. Principal axes: T 4.6738, Plg1.0000°, Azm273.0000°; N -0.4751, Plg84.0000°, Azm9.0000°; P -4.1987, Plg6.0000°, Azm182.0000°;*

NEIC ***25*** *23:55:14.9±2.3,55.˚73N±0.˚07×149.˚72W±0.˚09,h10km±1km, mb4.7/196,ML5.0/40,Mww5.0/56,ML4.3(AEIC) Error ellipse: s-maj=11.7km s-min=8.9km az=189.0*

NEIC ***25*** *23:55:14.9,55.˚73N×149.˚72W,h16km*

GCMT ***25*** *23:55:15.9±0.2,55.˚77N±0.˚01×149.˚49W±0.˚02,h20km, MW5.1/131,Moment Tensor Solution. s66,c86; s131,c205; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.03±.13; Mθθ=5.36±.13; Mϕϕ=5.39±.13; Mrθ=0.25±.22; Mθϕ=0.81±.10; Mϕr=1.48±.22; Best double couple: M0=5.63000×10¹⁶ NP1:ϕs139.00000°,δ83.00000°, λ167.00000°. NP2:ϕs230.00000°,δ77.00000°,λ7.00000°. Principal axes: T 5.8140, Plg14.0000°, Azm94.0000°; N -0.3720, Plg75.0000°, Azm290.0000°; P -5.4450, Plg4.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AEIC ***25*** *23:55:18.7±2.3,55.˚74N±0.˚08×149.˚7W±0.˚1,h10km±4km Error ellipse: s-maj=11.1km s-min=7.8km az=196.0*

BGR ***25*** *23:55:22.6,56.˚08N×149.˚69W,h33km,mb5.0*

ISC 25 23:55:15.5±0.4,55.˚81N±0.˚07×149.˚74W±0.˚04,h10km, n708,σ1$06/581,mb4.7/153,MS4.2/87,2C-4D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.42**	**307**	Pn	Pn	23 55 53.9	-1.2
OHAK					**Sn**	**23 56 21.7**	**-3.2**
OHAK	**Old Harbor**	**2.42**	**307**	P	**Pn**	**23 55 54.4**	**-0.7**
OHAK	**Old Harbor** baz=125,SNR=19	**2.42**	**307**	P	**Pn**	**23 55 54.2**	**-1.0**
KDAK	**Kodiak Island**	**2.52**	**323**	Pn	**Pn**	**23 55 55.7**	**-0.8**
KDAK	**Kodiak Island** baz=141	**2.52**	**323**	P	**Pn**	**23 55 55.9**	**-0.6**
KDAK	**Kodiak Island** 147nm,0.3s,baz=140,slow=4.8,SNR=1082	**2.52**	**323**	Pn	**Pn**	**23 55 55.9**	**-0.6**
KDAK	221nm,0.3s,baz=224,slow=24,SNR=43 565nm,0.2s			Sn	**Sn**	**23 56 24.6**	**-2.7**
SII	**Sitkinak Islan**	**2.60**	**289**	Pn	Pn	23 55 56.1	-1.5
SII	comp=E,4μm,0.6s			IAML		23 56 29.4	
SII	comp=N,3μm,0.5s			IAML		23 56 30.3	
SII	**Sitkinak Islan**	**2.60**	**289**		**Sn**	**23 56 26.4**	**-2.7**
SII	**Sitkinak Islan**	**2.60**	**289**	P	Pn	23 55 56.2	-1.3
SII	**Sitkinak Islan** baz=106,SNR=20	**2.60**	**289**	P	Pn	23 55 56.0	-1.5
R18K	**Karluk** baz=123	**3.14**	**306**	P	**Pn**	**23 56 04.7**	**-0.3**
SYI	**Shuyak Island**	**3.16**	**334**	Pn	**Pn**	**23 56 04.8**	**-0.5**
SYI	**Shuyak Island**	**3.16**	**334**		**Sn**	**23 56 41.8**	**-1.1**
Q20K	**Shuyak Island** baz=152,SNR=14	**3.16**	**334**	P	**Pn**	**23 56 04.7**	**-0.5**
KAHG	**Katmai Hook Gl**	**3.76**	**318**		**Pn**	**23 56 13.5**	**0.0**
KAHG					**Sn**	**23 56 54.2**	**-3.6**
Q19K	**Cape Douglas,**	**3.78**	**328**		**Pn**	**23 56 13.2**	**-0.5**
Q19K					**Sn**	**23 56 58.5**	**+0.2**
Q19K	**Cape Douglas,** baz=145,SNR=14	**3.78**	**328**	P	**Pn**	**23 56 14.0**	**+0.2**
CNPM	**China Poot**	**3.82**	**348**	Pn	**Pn**	**23 56 13.4**	**-0.9**
CNPM	comp=E,1μm,1.0s			IAML		23 57 02.9	
KCE	**Katmai Mt Cerb**	**3.85**	**312**		**Pn**	**23 56 15.1**	**+0.3**
ACHA	**Angle Creek He**	**3.89**	**311**		**Pn**	**23 56 15.7**	**+0.3**
BRSE	**Bradley Lake S** baz=172,SNR=35	**3.98**	**353**	P	**Pn**	**23 56 15.3**	**-1.3**
HOM	**Homer**	**4.00**	**346**	Pn	**Pn**	**23 56 15.8**	**-0.9**
HOM	comp=E,3μm,1.0s			IAML		23 57 15.1	
HOM	comp=N,3μm,1.5s			IAML		23 57 18.1	
HOM	**Homer** baz=164,SNR=5.1	**4.00**	**346**	P	**Pn**	**23 56 16.1**	**-0.7**
BRLK	**Bradley Lake**	**4.02**	**352**		**Pn**	**23 56 15.5**	**-1.6**
BRLK	comp=N,888nm,0.8s			IAML		23 57 05.8	
BRLK	comp=E,1μm,0.8s			IAML		23 57 05.9	
Q23K	**Middleton Isla**	**4.07**	**25**	Pn	**Pn**	**23 56 16.6**	**-1.1**
Q23K	comp=E,1μm,1.1s			IAML		23 57 02.0	
Q23K	comp=N,982nm,1.1s			IAML		23 57 02.1	
Q23K	**Middleton Isla** baz=207,SNR=5.4	**4.07**	**25**	P	**Pn**	**23 56 16.3**	**-1.4**
MID	**Middleton Isla**	**4.07**	**25**	Pn	**Pn**	**23 56 15.9**	**-1.8**
MID	comp=E,1μm,1.1s			IAML		23 57 02.0	
MID	comp=N,1μm,1.1s			IAML		23 57 02.0	
MID	**Middleton Isla**	**4.07**	**25**	P	**Pn**	**23 56 16.5**	**-1.2**
Q17K	**Contact Creek** baz=124,SNR=74	**4.16**	**309**	P	**Pn**	**23 56 19.3**	**+0.1**
P19K	**Oil Pt**	**4.29**	**336**		**Pn**	**23 56 19.9**	**-0.9**
P19K	comp=E,3μm,0.7s			IAML		23 57 15.6	
P19K	comp=N,3μm,0.5s			IAML		23 57 15.9	
P19K	**Oil Pt**	**4.29**	**336**	P	**Pn**	**23 56 20.5**	**-0.3**
	baz=153,SNR=11						
SEW	**Seward** baz=182,SNR=41	**4.31**	**2**	P	**Pn**	**23 56 19.7**	**-1.4**
P23K	**Montague Islan** baz=197,SNR=19	**4.38**	**16**	P	**Pn**	**23 56 21.1**	**-1.0**
O20K	**Slope Mountain** baz=159	**4.55**	**341**	P	**Pn**	**23 56 23.8**	**-0.7**
P18K	**Big Mountain,**	**4.65**	**323**	Pn	**Pn**	**23 56 25.2**	**-0.6**
P18K	**Big Mountain,** baz=139,SNR=12	**4.65**	**323**	P	**Pn**	**23 56 25.1**	**-0.7**
R16K	**Pilot Point** baz=110	**4.67**	**295**	P	**Pn**	**23 56 25.5**	**-0.4**
O22K	**Cooper Landing**	**4.69**	**0**		**Pn**	**23 56 24.6**	**-1.6**
O22K	**Cooper Landing** baz=180,SNR=14	**4.69**	**0**	P	**Pn**	**23 56 25.2**	**-1.0**
Q16K	**King Salmon** baz=125,SNR=28	**4.73**	**310**	P	**Pn**	**23 56 26.8**	**0.0**
CHGN	**Chignik**	**4.89**	**279**		Pn	23 56 27.3	-1.6
CHGN	comp=N,579nm,0.5s			IAML		23 57 25.2	
CHGN	**Chignik** baz=93,SNR=26	**4.89**	**279**	P	Pn	23 56 27.4	-1.6
HIN	**Hinchinbrook I**	**4.91**	**19**	Pn	**Pn**	**23 56 28.5**	**-0.9**
HIN	comp=E,2μm,0.9s			IAML		23 57 23.4	
HIN	comp=N,1μm,0.7s			IAML		23 57 26.2	
RSO	**Redoubt South**	**4.94**	**342**		**Pn**	**23 56 28.9**	**-0.9**
P17K	**Kvichak River** baz=131,SNR=40	**4.96**	**316**	P	**Pn**	**23 56 30.2**	**+0.3**
O18K	**Koktuh Hills** comp=N,681nm,0.8s	**5.00**	**327**	IAML		23 57 29.6	
O18K	comp=E,544nm,1.1s			IAML		23 57 49.7	
O18K	**Koktuh Hills** baz=142,SNR=7.8	**5.00**	**327**	P	**Pn**	**23 56 30.0**	**-0.6**
KAIM	**Kayak Island** baz=216,SNR=16	**5.01**	**32**	P	**Pn**	**23 56 30.2**	**-0.6**
O19K	**Port Alsworth** comp=N,2μm,0.5s	**5.03**	**333**	IAML		23 57 29.5	
O19K	**Port Alsworth** baz=149,SNR=9.6	**5.03**	**333**	P	**Pn**	**23 56 30.3**	**-0.6**
CAPN	**Captain Cook N** comp=E,2μm,1.2s	**5.03**	**352**	IAML		23 58 17.5	
CAPN	**Captain Cook N** baz=171	**5.03**	**352**	P	**Pn**	**23 56 30.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.20**	**22**	P	**Pn**	**23 56 32.8**	**-0.5**
EYAK	**Cordova Ski Ar** baz=205,SNR=72	**5.20**	**22**	P	**Pn**	**23 56 32.6**	**-0.7**
RC01	**Rabbit Creek A** baz=180,SNR=31	**5.30**	**0**	P	**Pn**	**23 56 33.5**	**-1.2**
P16K	**Nushagak River** baz=123,SNR=30	**5.51**	**309**	P	**Pn**	**23 56 37.6**	**+0.2**
S14K	**Fog Glacier** baz=92	**5.52**	**279**	P	Pn	23 56 36.9	-0.8
N20K	**Mount Spurr** baz=165,SNR=18	**5.56**	**348**	P	**Pn**	**23 56 36.5**	**-1.8**
O17K	**Koliganek Bris** baz=132,SNR=9.0	**5.59**	**318**	P	**Pn**	**23 56 38.5**	**-0.2**
N19K	**Bonanza Creek** baz=152,SNR=13	**5.61**	**336**	P	**Pn**	**23 56 37.7**	**-1.3**
KNK	**Knik Glacier** baz=187,SNR=17	**5.66**	**6**	P	**Pn**	**23 56 38.7**	**-1.0**
SUA	**Susitna One** baz=174,SNR=16	**5.70**	**355**	P	**Pn**	**23 56 38.6**	**-1.7**
CHNA	**Chernabura Isl** baz=77,SNR=9.9	**5.71**	**264**	P	Pn	23 56 37.3	-3.0
CNBA	**Chernabura Isl**	**5.71**	**264**	Pn	Pn	23 56 37.6	-2.7
PMR	**Palmer**	**5.81**	**3**	Pn	**Pn**	**23 56 41.1**	**-0.6**
PMR	**Palmer**	**5.81**	**3**	P	**Pn**	**23 56 41.1**	**-0.6**
PMR	**Palmer** baz=183,SNR=22	**5.81**	**3**	P	**Pn**	**23 56 41.0**	**-0.7**
BMRM	**Bremner River** baz=209,SNR=83	**5.84**	**25**	P	**Pn**	**23 56 41.5**	**-0.5**
N18K	**Kilae Creek** baz=144	**5.87**	**329**	P	**Pn**	**23 56 41.7**	**-0.7**
O16K	**Kokwok River B** baz=127	**5.87**	**314**	P	**Pn**	**23 56 42.6**	**+0.2**
KLU	**Klutina** baz=200,SNR=73	**6.04**	**18**	P	**Pn**	**23 56 44.5**	**-0.4**
SML	**Sawmill** baz=187,SNR=75	**6.06**	**6**	P	**Pn**	**23 56 44.8**	**-0.4**
M23K	**Glacier View** baz=190,SNR=56	**6.10**	**9**	P	**Pn**	**23 56 45.4**	**-0.2**
SDPT	**Sand Point**	**6.11**	**270**	Pn	Pn	23 56 44.1	-1.6
SDPT	**Sand Point**	**6.11**	**270**	P	Pn	23 56 44.2	-1.5
SDPT	**Sand Point** baz=82,SNR=15	**6.11**	**270**	P	Pn	23 56 43.8	-1.9
SVW2	**Sparrevohn**	**6.13**	**332**	P	**Pn**	**23 56 47.8**	**+1.8**
N17K	**Nushagak Hills** baz=137	**6.16**	**323**	P	**Pn**	**23 56 45.7**	**-0.7**
SCM	**Sheep Creek Mo** baz=192,SNR=29	**6.17**	**11**	P	**Pn**	**23 56 46.6**	**-0.2**
SKT	**Skwentna** baz=170,SNR=23	**6.26**	**352**	P	**Pn**	**23 56 46.7**	**-1.1**
M20K	**Styx River** baz=162	**6.34**	**345**	P	**Pn**	**23 56 47.7**	**-1.4**
O15K	**Ungalikthiuk R** baz=118,SNR=43	**6.40**	**306**	P	**Pn**	**23 56 49.9**	**+0.1**
N25K	**Chitina, Valde** baz=206,SNR=94	**6.40**	**23**	P	**Pn**	**23 56 49.6**	**-0.3**
M18K	**Stony River** baz=148,SNR=32	**6.52**	**333**	P	**Pn**	**23 56 50.2**	**-1.3**
M19K	**Big River Lodg** baz=156	**6.57**	**340**	P	**Pn**	**23 56 51.2**	**-1.0**
M24K	**Tolsona, Glenn** baz=197,SNR=33	**6.58**	**15**	P	**Pn**	**23 56 52.7**	**+0.4**
MCARA	**McCarthy VSAT** baz=214,SNR=82	**6.60**	**29**	P	**Pn**	**23 56 52.1**	**-0.4**
CUT	**Chulitna** baz=177	**6.62**	**358**	P	**Pn**	**23 56 52.6**	**-0.2**
PINM	**Pinnacle** baz=233,SNR=21	**6.63**	**46**	P	**Pn**	**23 56 53.0**	**0.0**
N16K	**Nishlik Lake** baz=131	**6.69**

L16K **Owhat River** 7.78 324 P Pn 23 57 07.9 -0.8
baz=135,SNR=15
MENT **Mentasta** 7.78 21 P Pn 23 57 10.3 +1.6
TTA **Tatalina** 7.83 338 P Pn 23 57 07.8 -1.6
TTA **Tatalina** 7.83 338 P Pn 23 57 07.6 -1.8
baz=153
FALS **False Pass** 7.86 269 P Pn 23 57 07.6 -2.1
baz=78
K20K **Telida** 7.88 346 P Pn 23 57 08.3 -1.8
baz=162
YUK6 **Outpost Mounta** 7.89 45 P Pn 23 57 10.9 +0.5
baz=234,SNR=32
L26K **Log Cabin Wild** 7.94 22 P Pn 23 57 11.7 +0.9
baz=207
MCK **McKinley** 7.96 3 P Pn 23 57 11.5 +0.3
baz=183,SNR=33
YUK4 **Talbot Arm** 8.02 42 P Pn 23 57 14.2 +2.0
baz=230
BVCY **Beaver Creek** 8.04 31 P Pn 23 57 12.6 +0.3
baz=218,SNR=25
P30M **Million Dollar** 8.05 52 P Pn 23 57 12.6 +0.1
baz=242
PLBC **Pleasant Camp** 8.05 57 P Pn 23 57 12.0 -0.4
baz=248,SNR=17
R31K **City Hall, Gus** 8.06 65 P Pn 23 57 10.5 -2.0
baz=256
SIT **Sitka** 8.09 75 Pn Pn 23 57 08.9 -4.0
SIT **Sitka** 8.09 75 P Pn 23 57 08.2 -4.7
SIT **Sitka** 8.09 75 P Pn 23 57 08.6 -4.3
baz=267
M14K **Bethel** 8.12 313 Pn 23 57 13.7 +0.4
M14K **Bethel** 8.12 313 P Pn 23 57 13.7 +0.4
baz=122,SNR=14
HYT **Haines Junctio** 8.17 47 P Pn 23 57 14.2 +0.1
baz=237
K17K **Iditarod** 8.19 331 P Pn 23 57 13.6 -0.8
baz=144,SNR=13
CHUM **Lake Minchumin** 8.21 352 P Pn 23 57 13.6 -0.9
baz=170,SNR=27
K24K **Donnelly Dome** 8.27 12 P Pn 23 57 16.2 +0.8
baz=195,SNR=66
L27K **Beaver Creek,** 8.31 26 P Pn 23 57 16.5 +0.5
baz=212
RIDG **Independent Ri** 8.33 15 P Pn 23 57 16.1 -0.1
baz=199,SNR=98
BPAW **Bear Paw Mtn.** 8.35 356 P Pn 23 57 15.1 -1.3
baz=175,SNR=19
J18K **Innoko River** 8.45 338 P Pn 23 57 17.0 -0.9
baz=152
L15K **Ungalak Mounta** 8.47 319 P Pn 23 57 18.4 +0.3
baz=129
S32K **Killisnoo** 8.53 72 Pn 23 57 16.3 -2.5
S32K **Killisnoo** 8.53 72 P Pn 23 57 15.9 -3.0
baz=265,SNR=11
M13K **Dall Lake** 8.55 308 P Pn 23 57 19.5 +0.3
baz=117
SKAG **Skagway** 8.55 59 P Pn 23 57 18.6 -0.6
R32K **Eaglecrest** 8.66 67 P Pn 23 57 19.4 -1.4
baz=259,SNR=8.7
J20K **Nowinta River** 8.68 347 P Pn 23 57 20.1 -0.9
baz=163,SNR=14
SCRK **Sand Creek** 8.69 17 P Pn 23 57 20.9 -0.4
baz=202,SNR=29
N30M **Aishikik Lake** 8.69 44 P Pn 23 57 21.1 -0.1
baz=234
J19K **Poorman** 8.72 343 P Pn 23 57 19.9 -1.7
baz=158,SNR=19
JIS **Juneau Island** 8.73 67 P Pn 23 57 20.0 -1.7
O30N **Mendenhall** 8.74 50 P Pn 23 57 21.7 -0.1
baz=241
L14K **Kuka Creek** 8.74 315 P Pn 23 57 21.9 +0.2
baz=124,SNR=23
HDA **Harding Lake** 8.74 8 P Pn 23 57 22.4 +0.5
baz=190,SNR=41
M29M **Somme Creek** 8.82 36 P Pn 23 57 23.0 0.0
baz=226
NEA2 **Nenana** 8.82 2 P Pn 23 57 22.6 -0.3
baz=182,SNR=30
K15K **Wolf Creek Mou** 8.89 322 P Pn 23 57 24.0 +0.1
baz=132
K27K **Chicken** 9.10 22 P Pn 23 57 26.8 +0.1
baz=208,SNR=19
J25K **Salcha River,** 9.10 12 P Pn 23 57 26.1 -0.6
baz=196,SNR=30
ILAR **Eielson Array** 9.11 8 Pn Pn 23 57 25.4 -1.4
comp=E,5.8nm,0.3s,baz=187,slow=13,SNR=147
ILAR Sn Sn 23 59 01.8 -7.4
comp=E,4.2nm,0.3s,baz=185,slow=21,SNR=3.8
ILAR LR LR 00 01 04.8
comp=E,1µm,18.9s,baz=168,slow=38
comp=E,17nm,0.4s
COLA **College** 9.15 5 P Pn 23 57 27.7 +0.4
WHY **Whitehorse** 9.22 52 P Pn 23 57 28.2 -0.3
baz=244,SNR=32
N31M **Braeburn, Yuko** 9.23 46 P Pn 23 57 28.8 +0.2
baz=238
J26L **Joseph Creek** 9.24 17 P Pn 23 57 28.3 -0.5
baz=202,SNR=133
MLY **Manley** 9.27 357 P Pn 23 57 28.3 -0.8
baz=176,SNR=42
J16K **Anvik River** 9.29 328 P Pn 23 57 29.1 -0.3
baz=139,SNR=9.7
U33K **Whale Pass** 9.33 81 Pn 23 57 26.4 -3.4
U33K **Whale Pass** 9.33 81 P Pn 23 57 25.2 -4.6
baz=274
P32M **Atlin** 9.38 60 Pn Pn 23 57 29.4 -1.1
P32M **Atlin** 9.38 60 P Pn 23 57 29.5 -1.1
baz=253,SNR=20
I23K **Minto, Yukon-K** 9.38 1 P Pn 23 57 30.3 -0.2
baz=181,SNR=37
L29M **L29M** 9.40 34 P Pn 23 57 31.2 +0.3
baz=224
CRAG **Craig** 9.41 85 Pn Pn 23 57 29.9 -1.0
CRAG **Craig** 9.41 85 P Pn 23 57 26.1 -4.8
POKR **Poker Plat Res** 9.41 6 P Pn 23 57 31.4 +0.4
baz=188,SNR=31
I21K **Tanana** 9.47 354 P Pn 23 57 31.0 -0.8
baz=172
M30M **Minto, Yukon** 9.48 39 Pn Pn 23 57 32.1 +0.1
M30M **Minto, Yukon** 9.48 39 P Pn 23 57 32.2 +0.1
baz=230,SNR=10
WRAK **Wrangell Islan** 9.74 79 P Pn 23 57 32.1 -3.4
baz=273
DAWY **Dawson** 9.76 28 Pn Pn 23 57 34.7 -1.2
DAWY **Dawson** 9.76 28 P Pn 23 57 35.7 -0.1
baz=216,SNR=15
I17K **Unalakleet** 9.78 330 P Pn 23 57 35.9 -0.2
baz=141,SNR=12
M11K **Mekoryuk** 9.84 305 P Pn 23 57 36.6 -0.2
baz=111,SNR=6.5
UNV **Unalaska Valle** 9.87 265 P Pn 23 57 34.7 -2.6
UNV **Unalaska Valle** 9.87 265 P Pn 23 57 34.0 -3.3
baz=72
J14K **Nanvaranak Lak** 9.90 320 Pn 23 57 38.5 +0.8
J14K **Nanvaranak Lak** 9.90 320 P Pn 23 57 37.8 +0.2
baz=129
Q32M **Nakina River** 9.94 64 P Pn 23 57 36.8 -1.7
baz=258
EGAK **Eagle** 9.95 22 P Pn 23 57 38.3 0.0
baz=209,SNR=18
PRP **Porcupine Dome** 9.96 10 Pn Pn 23 57 38.9 +0.2
PRP **Porcupine Dome** 9.96 10 P Pn 23 57 38.3 -0.4
baz=194,SNR=13
H21K **Melozitna Rive** 10.00 353 P Pn 23 57 37.5 -1.5
baz=170
P33M **Teslin, Yukon** 10.00 57 P Pn 23 57 38.2 -0.9
baz=251,SNR=19
H20K **Anotleneega Mo** 10.04 348 P Pn 23 57 40.0 +0.4
baz=163
I26K **Coal Creek Min** 10.06 16 P Pn 23 57 39.9 0.0
baz=201
H24K **Noodor Dome** 10.11 4 P Pn 23 57 41.2 +0.7
baz=186
K29M **Barlow Dome** 10.12 32 Pn Pn 23 57 40.8 -0.1
K29M **Barlow Dome** 10.12 32 P Pn 23 57 41.0 +0.1
baz=222,SNR=41
H22K **Ishtalitna Cre** 10.15 356 P Pn 23 57 40.9 -0.3
baz=175
M31M **Drury Creek, Y** 10.17 45 P Pn 23 57 42.0 +0.6
baz=237,SNR=17
N32M **Quiet Lake** 10.22 52 P Pn 23 57 42.1 -0.1
baz=245,SNR=18
V35K **Ketchikan** 10.28 85 Pn 23 57 44.1 +1.2
V35K **Ketchikan** 10.28 85 P Pn 23 57 39.2 -3.7
baz=280
H18K **Honhosa River** 10.28 339 P Pn 23 57 42.3 -0.7
baz=152

H19K **Roundabout Mou** 10.29 344 P Pn 23 57 42.9 0.0
baz=158
IMAR **Indian Mountai** 10.39 351 Pn 23 57 43.0 -1.5
S34M **Telegraph Cree** 10.40 71 Pn Pn 23 57 43.6 -1.0
S34M **Telegraph Cree** 10.40 71 P Pn 23 57 42.4 -2.2
baz=266,SNR=12
H17K **Granite Mounta** 10.44 335 P Pn 23 57 44.0 -1.0
baz=147,SNR=8.2
MAYO **Mayo, Yukon** 10.46 36 P Pn 23 57 45.0 -0.4
baz=228
I27K **Kandik River** 10.59 19 P Pn 23 57 47.4 +0.2
baz=205
FARO **Faro, Yukon** 10.60 46 Pn 23 57 48.7 +1.3
FARO **Faro, Yukon** 10.60 46 P Pn 23 57 47.8 +0.5
baz=240,SNR=8.3
R33M **Jennings River** 10.69 63 P Pn 23 57 47.6 -1.0
baz=258
I28M **Miner Creek** 10.79 22 P Pn 23 57 51.1 +1.2
baz=211,SNR=24
H16K **Elim** 10.80 330 P Pn 23 57 50.1 +0.2
baz=139,SNR=6.5
T35M **Bob Quinn** 10.87 76 P Pn 23 57 49.6 -1.4
baz=272,SNR=11
G21K **Allakaket** 10.90 352 P Pn 23 57 51.4 +0.1
baz=169
G23K **Bananza Creek** 10.95 359 P Pn 23 57 51.8 -0.2
baz=179
G19K **Purcell Mounta** 10.96 344 P Pn 23 57 52.6 +0.5
baz=158
G24K **Hadweenzic Riv** 10.99 5 P Pn 23 57 52.4 -0.2
baz=186
G18K **Tagagawik** 11.00 341 Pn Pn 23 57 53.1 +0.3
G18K **Tagagawik** 11.00 341 P Pn 23 57 52.6 -0.1
baz=153
FYU **Fort Yukon** 11.01 9 Pn Pn 23 57 52.8 0.0
J30M **Hart River** 11.01 32 P Pn 23 57 53.5 +0.4
baz=223
DLBC **Dease Lake** 11.03 68 Pn Pn 23 57 52.5 -0.6
DLBC **Dease Lake** 11.03 68 P Pn 23 57 52.6 -0.6
baz=264,SNR=14
DLBC **Dease Lake** 11.03 68 Pn Pn 23 57 51.2 -2.0
comp=E,3.6nm,0.3s,baz=284,slow=5.4,SNR=91
DLBC Sn Sn 23 59 47.7 -8.8
comp=E,0.3nm,0.3s,baz=142,slow=25,SNR=1.5
DLBC LR LR 00 01 32.2
comp=E,2µm,20.2s,baz=282,slow=34
comp=E,10nm,0.4s
G17K **Kiwalik Mounta** 11.08 336 P Pn 23 57 53.5 -0.3
baz=146
I29M **Ogilvie Camp,** 11.09 26 P Pn 23 57 54.1 +0.2
baz=215,SNR=16
G25K **Bearman Lake** 11.13 7 P Pn 23 57 54.6 +0.1
baz=190
H27K **Steamboat Moun** 11.18 17 P Pn 23 57 55.0 -0.3
baz=204,SNR=30
G22K **Bettles** 11.19 356 P Pn 23 57 54.4 -0.8
baz=175
G16K **Koyuk River** 11.41 332 P Pn 23 57 57.3 -1.0
baz=142
SPIA **Saint Paul Isl** 11.41 285 P Pn 23 57 58.4 0.0
SPIA **Saint Paul Isl** 11.41 285 P Pn 23 57 57.1 -1.3
baz=89
COLD **Coldfoot** 11.46 359 P Pn 23 57 58.6 -0.4
baz=178,SNR=31
I30M **Mount Dempster** 11.48 29 P Pn 23 58 00.2 +0.8
baz=221
G26K **Porcupine Rive** 11.53 12 P Pn 23 57 59.6 -0.4
baz=197
G15K **Niukluk** 11.58 328 P Pn 23 57 58.9 -1.7
baz=136
F21K **Alatna River** 11.59 353 P Pn 23 58 00.4 -0.4
baz=169
F20K **Avaraart Lake** 11.63 348 P Pn 23 58 00.9 -0.4
baz=163
ANM **Nome** 11.69 325 Pn 23 58 03.0 +0.8
ANM **Nome** 11.69 325 P Pn 23 58 02.4 +0.1
baz=132
F19K **Shaleruckik Mo** 11.70 344 P Pn 23 58 02.9 +0.6
baz=157
H29M **Whitestone** 11.79 23 P Pn 23 58 03.7 +0.2
baz=213
F24K **Squaw Lake** 11.79 3 P Pn 23 58 03.9 +0.3
baz=185
F22K **John River** 11.80 355 P Pn 23 58 04.2 +0.6
baz=173
WTLY **Watson Lake, Y** 11.91 60 P Pn 23 58 04.4 -0.9
baz=258
F25K **Christian Rive** 11.98 8 P Pn 23 58 06.2 0.0
baz=191,SNR=17
F17K **Baldwin Pennin** 12.00 337 P Pn 23 58 05.9 -0.5
baz=147
E19K **Redstone River** 12.21 346 P Pn 23 58 08.9 -0.4
baz=160
F26K **Sheenjek River** 12.21 10 P Pn 23 58 08.5 -0.9
baz=185
F15K **North Star Dit** 12.28 330 P Pn 23 58 10.3 +0.2
baz=137
EPYK **Eagle Plains** 12.29 25 P Pn 23 58 12.5 +2.1
baz=216,SNR=30
E23K **Chandalar** 12.30 0 P Pn 23 58 11.1 +0.5
baz=180
G29M **Pine Creek** 12.45 22 P Pn 23 58 14.1 +1.6
baz=212
E25K **Arctic Village** 12.51 7 P Pn 23 58 13.2 -0.2
baz=191,SNR=34
F14K **Arctic Creek** 12.61 327 P Pn 23 58 14.3 -0.4
baz=132
E17K **Hotham Inlet** 12.67 338 P Pn 23 58 15.3 -0.2
baz=147,SNR=5.9
F28M **Old Crow** 12.71 17 Pn Pn 23 58 16.4 +0.3
F28M **Old Crow** 12.71 17 P Pn 23 58 16.7 +0.6
baz=206,SNR=47
E20K **Nigu River** 12.85 349 P Pn 23 58 16.8 -1.2
baz=163
G30M **tAoh Zraii Nji** 12.90 24 Pn Pn 23 58 19.3 +0.6
G30M **tAoh Zraii Nji** 12.90 24 P Pn 23 58 19.5 +0.7
baz=216,SNR=9.8
E27K **Coleen River** 12.98 14 P Pn 23 58 19.6 -0.2
baz=201
TNA **Tin City** 13.17 325 P Pn 23 58 21.6 -0.7
baz=129,SNR=5.1
D22K **Ayikyak River** 13.19 355 Pn Pn 23 58 21.1 -1.5
D22K **Ayikyak River** 13.19 355 P Pn 23 58 22.5 -0.2
baz=173
BBB **Bella Bella** 13.21 97 Pn Pn 23 58 19.8 -3.2
comp=E,0.4nm,0.3s,baz=296,slow=11,SNR=6.0
BBB Sn Sn 00 00 37.8 -12
comp=E,0.3nm,0.3s,baz=124,slow=18,SNR=1.6
BBB LR LR 00 02 14.3
comp=E,2µm,19.1s,baz=284,slow=32
comp=E,19nm,1.0s
D23K **Nanushuk River** 13.22 359 P Pn 23 58 23.4 +0.4
baz=178
D19K **Kuna River** 13.30 347 P Pn 23 58 23.6 -0.6
baz=159
D20K **Etivluk River** 13.33 349 P Pn 23 58 24.1 -0.4
baz=163
G31M **Satah River** 13.34 27 P Pn 23 58 23.8 -0.8
baz=220
D24K **Happy Valley** 13.40 1 Pn 23 58 24.9 -0.6
D24K **Happy Valley** 13.40 1 P Pn 23 58 27.0 +1.5
baz=182,SNR=22
D17K **Noatak River** 13.45 338 P Pn 23 58 26.6 +0.5
baz=146
F30M **Barrier River** 13.51 23 P Pn 23 58 28.0 +0.9
baz=215
C21K **Knifeblade Rid** 13.59 352 P Pn 23 58 26.6 -1.5
baz=168,SNR=16
D25K **Kavik River** 13.65 5 P Pn 23 58 29.2 +0.2
baz=188
E28M **Hubbage River** 13.67 16 P Pn 23 58 30.3 +1.2
baz=205
E29M **Blow River** 13.75 19 P Pn 23 58 30.4 +0.2
baz=209
F31M **Tsiigehtchic** 13.87 26 P Pn 23 58 31.8 0.0
baz=220,SNR=49
C18K **Utukok River** 13.91 342 P Pn 23 58 32.2 -0.2
baz=152
HOLB **Holberg** 13.91 103 Pn 23 58 30.5 -2.1
C24K **Franklin Bluff** 13.98 2 P Pn 23 58 32.5 -0.8
baz=182
D27M **Malcolm River** 14.06 13 P Pn 23 58 36.4 +1.9
baz=201
C19K **Lookout Ridge** 14.07 345 P Pn 23 58 35.0 +0.3
baz=157
C17K **DeLong Mountai** 14.12 339 P Pn 23 58 35.4 0.0
baz=148
KOTAN **Kotaneelee Air** 14.26 62 P Pn 23 58 38.1 +0.9
baz=263,SNR=19
C16K **Lisburne Hills** 14.42 336 P Pn 23 58 39.6 +0.2
baz=142
D28M **Stokes Point** 14.45 16 P Pn 23 58 41.4 +1.7
baz=205
INK **Inuvik** 14.59 24 Pn Pn 23 58 41.8 +0.1
INK **Inuvik** 14.59 24 P Pn 23 58 42.0 +0.3
baz=218,SNR=143
INK **Inuvik** 14.59 24 Pn Pn 23 58 41.9 +0.2
comp=E,1.3nm,0.3s,baz=210,slow=14,SNR=181
INK Sn Sn 00 01 14.1 -9.1
baz=18,slow=30
INK LR LR 00 04 27.8
comp=E,1µm,18.3s,baz=188,slow=38
B20K **Meade River** 14.63 350 P Pn 23 58 41.2 -1.1
baz=163
B18K **Kokolik River** 14.65 343 P Pn 23 58 41.2 -1.3
baz=152
B22K **Teshekpuk Lake** 14.68 355 P Pn 23 58 42.4 -0.6
baz=172
ATKA **Atka Island** 14.79 266 Pn Pn 23 58 41.6 -3.0
ATKA P P **23 58 50.3 -0.2**
ATKA **Atka Island** 14.79 266 P Pn 23 58 41.9 -2.7
WRGLY **Wrigley** 15.17 50 IAmb IAmb 23 59 06.3
comp=Z,32nm,0.9s
WRGLY **Wrigley** 15.17 50 P Pn **23 58 50.3 +0.7**
baz=252
A19K **Wainwright** 15.29 345 P Pn **23 58 51.1 0.0**
baz=155
A22K **Sinclair Lake** 15.43 354 P Pn **23 58 50.9 -1.9**
baz=169,SNR=58
CBB **Campbell River** 15.75 101 P Pn **23 58 59.0 +1.7**
CBB IAmb IAmb 23 59 12.8
comp=Z,76nm,1.2s
A21K **Barrow** 15.86 352 P Pn **23 58 57.1 -1.3**
baz=166,SNR=11
GSTR **Great Sitkin T** 15.89 267 **Pn 23 58 57.5 -1.5**
ADK **Adak** 16.33 267 Pn Pn **23 59 03.4 -1.2**
ADK IAmb IAmb 23 59 10.1
comp=Z,48nm,1.1s
ADK **Adak** 16.33 267 P Pn **23 59 03.0 -1.6**
KIWB **Kanaga Island** 16.60 268 **Pn 23 59 07.3 -0.8**
CLRS **Cowichan Lake** 17.08 103 P Pn **23 59 15.8 +1.7**
CLRS IAmb IAmb 23 59 18.6
comp=Z,73nm,1.2s
C03A **Quillayute Air** 17.35 106 P Pn **23 59 19.9 +2.5**
C03A IAmb IAmb 23 59 22.9
comp=Z,89nm,1.1s
C36M **Paulatuk** 17.78 30 IAmb IAmb 23 59 25.9
comp=Z,74nm,0.8s
C36M **Paulatuk** 17.78 30 P Pn **23 59 21.4 -1.3**
baz=233,SNR=77
NLWA **Neilton Lookou** 18.06 107 **Pn 23 59 23.7 -2.7**
NLWA IAmb IAmb 23 59 30.1
comp=Z,49nm,1.1s
GNW **Green Mountain** 18.52 105 P P **23 59 29.4 -2.4**
B06A **Marblemount** 18.71 101 P P **23 59 32.7 -1.2**
B06A IAmb IAmb 23 59 36.8
comp=Z,37nm,1.0s
E03A **Lebam** 18.75 109 P P **23 59 33.7 -0.5**
E03A IAmb IAmb 23 59 44.9
comp=Z,56nm,1.0s
AMKA **Amchitka** 18.81 269 P P **23 59 32.6 -2.3**
YKA **Yellowknife Ar** 19.02 55 P P **23 59 37.5 +0.3**
comp=Z,0.3nm,0.3s,baz=262,slow=10,SNR=33
YKA LR LR 00 06 39.4
comp=Z,866nm,19.0s,baz=268,slow=36
comp=Z,4.3nm,0.8s
D05A **Enumclaw** 19.20 105 P P **23 59 40.5 +1.2**
D05A IAmb IAmb 23 59 55.0
comp=Z,46nm,1.2s
A36M **Sachs Harbour** 19.22 23 P **23 59 38.8 -0.5**
A36M **Sachs Harbour** 19.22 23 P P **23 59 39.5 +0.2**
baz=225,SNR=115
F04D **Rainier, OR** 19.34 109 P P **23 59 39.6 -1.1**
F04D IAmb IAmb 23 59 54.4
comp=Z,20nm,0.7s
LON **Longmire** 19.56 106 P P **23 59 41.8 -1.5**
F04A **Amboy** 19.75 109 P **23 59 43.2 -2.0**
F04A IAmb IAmb 23 59 53.2
comp=Z,24nm,1.1s
LTY **Liberty** 19.88 103 P P **23 59 47.1 +0.3**
LTY IAmb IAmb 23 59 58.4
comp=Z,33nm,1.1s
B08A **Colville Reser** 19.99 99 P P **23 59 47.5 -0.5**
B08A IAmb IAmb 23 59 51.8
comp=Z,41nm,1.1s
MXC **Moxie City** 20.50 104 P P **23 59 52.7 -0.7**
MXC IAmb IAmb 23 59 59.6
comp=Z,35nm,1.2s
H04D **Lebanon** 20.51 112 P P **23 59 53.1 -0.5**
HOOD **Mount Hood Mea** 20.55 109 P P **23 59 53.5 -0.7**
HOOD IAmb IAmb 23 59 57.7
comp=Z,42nm,1.1s
H04A **Detroit Lake** 20.69 111 P P **23 59 55.5 -0.1**
H04A IAmb IAmb 00 00 07.5
comp=Z,65nm,1.2s
E07A **Sunnyside** 20.75 104 P P **23 59 54.7 -1.4**
G05A **Wamic** 20.79 109 P P **23 59 55.7 -0.9**
G05A IAmb IAmb 00 00 13.1
comp=Z,58nm,1.1s
C09A **Chrisman Ranch** 20.89 99 P P **23 59 55.9 -1.8**
C09A IAmb IAmb 00 00 01.6
comp=Z,54nm,1.0s
D08A **Wollman Farm,** 20.96 102 P P **23 59 58.2 -0.3**
HAWA **Hanford** 21.02 104 IAmb IAmb 00 00 02.3
comp=Z,37nm,1.1s
G06A **Carlson Farm,** 21.16 108 P P **00 00 00.7 +0.1**
I04A **Tendick Farm,** 21.18 113 IAmb IAmb 00 00 13.9
comp=Z,62nm,1.2s
SHEM **Shemya Is, Ala** 21.18 277 P P **00 00 01.3 +0.6**
comp=Z,95nm,0.8s,baz=65,slow=4.3,SNR=4.5
SHEM LR LR 00 07 43.5
comp=Z,306nm,21.7s,baz=356,slow=35
comp=Z,95nm,0.8s
NEW **Newport** 21.28 97 IAmb IAmb 00 00 09.1
comp=Z,23nm,1.0s
NEW **Newport** 21.28 97 P P **00 00 00.9 -1.1**
baz=303,SNR=22
NEW **Newport** 21.28 97 P P **00 00 01.1 -0.8**
comp=Z,25nm,1.1s,baz=312,slow=11,SNR=15
NEW LR LR 00 07 09.1
comp=Z,652nm,21.0s,baz=289,slow=34
comp=Z,25nm,1.1s
I05D **Terrebonne, OR** 21.37 111 P P **00 00 01.4 -1.5**
I05D IAmb IAmb 00 00 07.8
comp=Z,37nm,1.1s
E09A **Wood Farm, Sta** 21.71 102 P P **00 00 04.8 -1.8**
E09A IAmb IAmb 00 00 07.0
comp=Z,38nm,1.1s
HUMO **Hull Mountain** 21.75 116 P P **00 00 06.1 -0.8**
HUMO IAmb IAmb 00 00 08.6
comp=Z,35nm,1.1s
PINE **Pine Mountain** 21.96 111 P P **00 00 08.8 -0.5**
J05D **Fort Rock, OR** 22.15 112 P P **00 00 10.4 -1.1**
J05D IAmb IAmb 00 00 23.8
comp=Z,27nm,1.0s
K04D **Chiloquin, OR** 22.35 114 P P **00 00 12.6 -0.9**
K04D IAmb IAmb 00 00 24.9
comp=Z,41nm,1.0s
L04D **Klamath Falls** 22.36 116 P P **00 00 12.1 -1.6**
L04D IAmb IAmb 00 00 16.4
comp=Z,26nm,1.1s
YBH **Yreka Blue Hor** 22.52 117 P P **00 00 15.2 -0.1**
YBH **Yreka Blue Hor** 22.52 117 P P **00 00 13.7 -1.6**
comp=Z,7.8nm,1.0s,baz=305,slow=1.6,SNR=4.6
YBH LR LR 00 06 47.0
comp=Z,879nm,21.6s,baz=310,slow=31
comp=Z,7.8nm,1.0s
I07A **Izee** 22.52 109 P P **00 00 14.2 -1.1**
I07A IAmb IAmb 00 00 26.4
comp=Z,25nm,1.1s
F10A **Beach Ranch, E** 22.55 102 P P **00 00 14.1 -1.5**
F10A IAmb IAmb 00 00 28.6
comp=Z,33nm,1.1s
K05A **Summer Lake** 22.72 113 P P **00 00 17.0 -0.6**
K05A IAmb IAmb 00 00 20.4
comp=Z,46nm,1.1s
BMO **Blue Mountains** 23.21 104 P P **00 00 21.5 -1.0**
J08A **Circle Bar Ran** 23.56 109 P P **00 00 24.6 -1.4**
J08A IAmb IAmb 00 00 43.6
comp=Z,13nm,1.0s
PLID **Pearl Lake** 23.77 103 P P **00 00 26.6 -1.6**
MSO **Missoula** 23.87 97 P P **00 00 28.6 -0.4**
MSO IAmb IAmb 00 00 40.2
comp=Z,14nm,1.0s

MSO Missoula 23.87 97 P **P** **00 00 28.2 -0.8**
baz=305,SNR=6.6
WVOR Wild Horse Val 24.11 111 P **P** **00 00 30.4 -1.0**
WVOR IAmb IAmb 00 00 42.8
comp=Z,15nm,1.0s
LYMT Lyon Mountain 24.72 95 P **P** **00 00 35.0 -1.9**
ORV Oroville 24.77 119 P **P** **00 00 35.4 -1.8**
MFID Camas Ranch 24.95 105 P **P** **00 00 37.6 -1.3**
MFID IAmb IAmb 00 00 39.6
comp=Z,13nm,1.1s
AFDM Forest Hills D 25.49 119 P **P** **00 00 42.9 -0.9**
EGMT Eagleton 25.56 91 P **P** **00 00 42.5 -1.9**
EGMT IAmb IAmb 00 00 53.1
comp=Z,21nm,1.1s
EGMT Eagleton 25.56 91 P **P** **00 00 43.2 -1.2**
baz=303
HLID Hailey 25.63 104 P **P** **00 00 43.2 -1.9**
HLID Hailey 25.63 104 P **P** **00 00 43.0 -2.1**
baz=311
PNTR Pine Nut 26.07 117 P **P** **00 00 48.4 -0.8**
PNTR IAmb IAmb 00 00 50.5
comp=Z,17nm,1.1s
CMB Columbia Colle 26.49 120 P **P** **00 00 52.0 -0.8**
WAKR Walker 26.60 118 P **P** **00 00 53.9 -0.1**
YHL Hebgen Lake 26.60 98 IAmb IAmb 00 01 08.2
comp=Z,17nm,1.2s
FFC Flin Flon 26.82 72 P **P** **00 00 55.6 0.0**
YHH Holmes Hill 26.82 98 P **P** **00 00 54.7 -1.4**
KVN Kaiserville 26.86 115 P **P** **00 00 53.5 -2.8**
KVN IAmb IAmb 00 01 05.9
comp=Z,11nm,1.2s
ELK Elko 27.11 109 IAmb IAmb 00 00 59.9
comp=Z,9.9nm,1.0s
ELK Elko 27.11 109 P **P** **00 00 58.8 +0.1**
comp=Z,6.7nm,0.9s,baz=276,slow=10,SNR=17
ELK LR LR 00 09 55.4
comp=Z,582nm,19.3s,baz=310,slow=33
comp=Z,6.7nm,0.9s
H17A Grant Village 27.22 98 P **P** **00 00 59.5 -0.1**
baz=309
NVAR Mina Array Bea 27.22 116 P **P** **00 00 59.2 -0.4**
comp=Z,3.4nm,0.7s,baz=304,slow=9.2,SNR=22
NVAR PcP **PcP** **00 04 19.7 +0.3**
comp=Z,0.3nm,0.5s,baz=270,slow=0.9,SNR=1.7
NVAR LR LR 00 10 03.4
comp=Z,868nm,18.2s,baz=308,slow=33
comp=Z,3.4nm,0.7s
LHV Little Huntoon 27.26 117 IAmb IAmb 00 01 12.9
comp=Z,13nm,1.1s
OMMB Old Mammoth Mi 27.50 118 IAmb IAmb 00 01 03.9
comp=Z,9.2nm,1.0s
RLMT Red Lodge 27.50 96 P **P** **00 00 59.8 -2.3**
baz=307
RES Resolute Bay 28.10 27 P **P** **00 01 07.3 +0.5**
RES IAmb IAmb 00 01 17.2
comp=Z,8.0nm,0.9s
RES Resolute Bay 28.10 27 LR LR 00 12 28.0
comp=Z,391nm,19.5s,baz=218,slow=37
LAO LASA Array 28.30 90 P **P** **00 01 07.7 -1.3**
baz=305
LAO LASA Array 28.30 90 P **P** **00 01 09.0 0.0**
baz=305
Q12A Willow Creek R 28.56 111 IAmb IAmb 00 01 21.5
comp=Z,17nm,1.1s
R11B Troy Canyon, C 28.68 113 IAmb IAmb 00 01 22.1
comp=Z,9.5nm,1.1s
R11B Troy Canyon, C 28.68 113 P **P** **00 01 12.0 -0.6**
baz=319,SNR=11
DUG Dugway, Tooele 28.80 107 P **P** **00 01 12.9 -0.7**
baz=315
BW06 Boulder Array 28.83 100 P **P** **00 01 12.7 -1.3**
baz=311
PDAR Pinedale Array 28.83 100 P **P** **00 01 13.1 -0.9**
comp=Z,0.9nm,0.5s,baz=335,slow=3.7,SNR=19
PDAR LR LR 00 12 12.7
comp=Z,437nm,18.1s,baz=310,slow=35
comp=Z,0.9nm,0.5s
SPR3 Spring Creek 3 28.85 111 IAmb IAmb 00 01 16.3
comp=Z,15nm,1.1s
CWC Cottonwood Cre 28.88 119 P **P** **00 01 14.4 0.0**
baz=322
S11A Rachel 29.13 114 IAmb IAmb 00 01 21.9
comp=Z,9.4nm,0.8s
ISA Isabella, Lake 29.30 120 P **P** **00 01 17.4 -0.6**
baz=323
WCT Wildcat Mounta 29.33 116 IAmb IAmb 00 01 19.7
comp=Z,9.1nm,1.1s
SEY Seymchan 29.39 308 LR LR 00 14 36.1
comp=Z,842nm,18.4s,baz=80,slow=40
TPNV Topopah Spring 29.40 116 P **P** **00 01 18.5 -0.5**
baz=321,SNR=5.3
FURC Furnace Creek, 29.47 117 P **P** **00 01 19.7 +0.4**
baz=322
FCC Fort Churchill 29.49 61 P **P** **00 01 19.6 +0.3**
FCC IAmb IAmb 00 01 31.0
comp=Z,16nm,0.9s
BSUT Blindstream Ca 29.68 104 IAmb IAmb 00 01 32.0
comp=Z,11nm,1.1s
PETK Petropavlovsk- 30.07 287 P **P** **00 01 24.9 +0.4**
comp=Z,2.0nm,0.5s,baz=72,slow=14,SNR=1.5
PETK LR LR 00 12 58.4
comp=Z,371nm,21.4s,baz=60,slow=35
comp=Z,2.0nm,0.5s
SRU San Rafael Swe 30.81 106 IAmb IAmb 00 01 32.9
comp=Z,18nm,1.1s
BFSC Mount Baldy Ra 30.84 121 P **P** **00 01 30.9 -0.8**
baz=324
RWWY Rawlins 30.85 99 IAmb IAmb 00 01 32.3
comp=Z,6.1nm,0.8s
EUNU Eureka 31.03 18 P **P** **00 01 34.6 +1.8**
EUNU IAmb IAmb 00 01 36.1
comp=Z,12nm,0.9s
V12A Nelson 31.06 116 IAmb IAmb 00 01 35.3
comp=Z,14nm,1.2s
RSSD Black Hills 31.07 93 P **P** **00 01 33.5 -0.3**
RSSD IAmb IAmb 00 01 43.2
comp=Z,8.3nm,1.1s
RSSD Black Hills 31.07 93 P **P** **00 01 33.2 -0.6**
baz=308
RSSD Black Hills 31.07 93 P **P** **00 01 33.4 -0.3**
baz=308,SNR=6.9
MA2 Magadan 31.09 302 LR LR 00 15 35.9
comp=Z,1µm,18.8s,baz=108,slow=39
O20A White River Ci 31.34 102 IAmb IAmb 00 01 45.5
comp=Z,12nm,1.1s
O20A White River Ci 31.34 102 P **P** **00 01 35.9 -0.2**
baz=314
GMRC Granite Mounta 31.39 118 P **P** **00 01 36.0 -0.6**
baz=323
MURC Murrieta 31.59 121 P **P** **00 01 37.2 -1.0**
baz=325
PFO Pinyon Flats O 31.94 120 LR LR 00 11 27.1
comp=Z,578nm,21.4s,baz=330,slow=30
W13A Hualapai Mount 32.04 115 IAmb IAmb 00 01 43.7
comp=Z,10.0nm,1.2s
N23A Red Feather La 32.09 99 P **P** **00 01 41.7 -1.1**
baz=313
IRM Iron Mountain 32.15 118 P **P** **00 01 42.8 -0.3**
baz=323,SNR=6.6
ULM Lac du Bonnet 32.16 77 P **P** **00 01 42.8 -0.3**
ULM Lac du Bonnet 32.16 77 P **P** **00 01 42.5 -0.5**
comp=Z,1.9nm,0.4s,baz=303,slow=9.3,SNR=5.6
ULM LR LR 00 14 24.9
comp=Z,993nm,18.6s,baz=294,slow=36
comp=Z,1.9nm,0.4s
PDMCI Parker Dam,Lak 32.54 116 P **P** **00 01 45.4 -1.1**
baz=322
IKP In-Ko-Pah, Jac 32.89 121 P **P** **00 01 47.9 -1.7**
baz=325
WUAZ Wupatki 33.02 112 P **P** **00 01 50.5 -0.4**
baz=320
ISCO Idaho Springs 33.02 100 P **P** **00 01 49.6 -1.4**
baz=314
AGMN Agassiz Nation 33.21 80 IAmb IAmb 00 01 52.3
comp=Z,7.8nm,0.8s
AGMN Agassiz Nation 33.21 80 P **P** **00 01 51.9 -0.3**
baz=304,SNR=7.1
AGMN Agassiz Nation 33.21 80 P **P** **00 01 52.0 -0.3**
baz=304,SNR=7.1
MVCO Mesa Verde 33.29 106 P **P** **00 01 52.3 -1.0**
baz=317
Y14A Wickenburg 33.40 115 IAmb IAmb 00 01 55.4
comp=Z,6.6nm,0.9s
S22A 4UR Ranch, Cre 33.81 104 P **P** **00 01 56.8 -1.0**
baz=316
X16A Lo Mia Camp, P 33.83 113 IAmb IAmb 00 01 59.8
comp=Z,15nm,1.1s
Q24A Divide 33.87 101 P **P** **00 01 57.3 -1.1**
baz=315
W18A Petrified Fore 34.19 110 P P 00 01 58.5 -2.6
baz=320
OGNE Ogallala 34.25 95 P **P** **00 02 00.7 -0.8**
baz=312
SDCO Great Sand Dun 34.54 103 P P 00 02 01.5 -2.7
baz=316
214A Organ Pipe Nat 35.08 117 IAmb IAmb 00 02 10.1
comp=Z,13nm,1.1s
214A Organ Pipe Nat 35.08 117 P **P** **00 02 07.2 -1.4**
baz=324
KSCO Kaye Shedlock' 35.24 98 P **P** **00 02 08.9 -1.1**
baz=314
T25A Trinidad 35.57 102 P **P** **00 02 12.7 -0.3**
baz=316
TUC Tucson 35.83 115 P **P** **00 02 15.8 +0.8**
TUC Tucson 35.83 115 P **P** **00 02 14.0 -1.1**
baz=323
EYMN Ely 35.83 78 IAmb IAmb 00 02 15.3
comp=Z,13nm,0.8s
EYMN Ely 35.83 78 P **P** **00 02 13.6 -1.3**
baz=305,SNR=6.3
EYMN Ely 35.83 78 P **P** **00 02 14.7 -0.2**
baz=305,SNR=6.3
F36A Milaca 35.93 82 IAmb IAmb 00 02 20.0
comp=Z,7.2nm,1.1s
F36A Milaca 35.93 82 P **P** **00 02 15.0 -0.7**
baz=307
TIXI Tiksi 35.94 328 P **P** **00 02 16.7 +1.2**
TIXI IAmb IAmb 00 02 18.1
comp=Z,10.0nm,1.1s
TIXI Tiksi 35.94 328 LR LR 00 18 01.3
comp=Z,278nm,18.9s,baz=113,slow=38
ANMO Albuquerque 36.07 107 P **P** **00 02 17.6 +0.3**
ANMO Albuquerque 36.07 107 P P 00 02 14.7 -2.6
baz=319
ANMO Albuquerque 36.07 107 P **P** **00 02 17.2 -0.1**
baz=319
ANMO Albuquerque 36.07 107 P **P** **00 02 16.8 -0.5**
comp=Z,2.6nm,0.9s,baz=52,slow=8.5,SNR=4.8
ANMO LR LR 00 16 22.0
comp=Z,134nm,18.8s,baz=42,slow=35
comp=Z,2.6nm,0.9s
BGNE Belgrade 36.13 91 P **P** **00 02 16.6 -1.0**
baz=311
DUN6 Lazy B Ranch 36.51 112 IAmb IAmb 00 02 30.7
comp=Z,13nm,1.0s
E38A The Farm, Brul 36.58 79 P **P** **00 02 20.8 -0.5**
baz=306,SNR=7.3
SPMN Marine on St. 36.71 82 P **P** **00 02 22.1 -0.3**
baz=308
CBKS Cedar Bluff 36.99 96 P **P** **00 02 24.8 -0.1**
baz=314
121A Cookes Peak, D 37.21 111 IAmb IAmb 00 02 28.8
comp=Z,7.9nm,0.9s
121A Cookes Peak, D 37.21 111 P **P** **00 02 27.3 +0.2**
baz=321
121A Cookes Peak, D 37.21 111 P **P** **00 02 27.8 +0.7**
baz=321
NEEM North Greenlan 38.12 21 *i* P **P** **00 02 32.8 -1.6**
NEEM IAmb IAmb 00 02 45.7
comp=Z,26nm,0.9s
G40A Rib Lake 38.14 80 IAmb IAmb 00 02 34.6
comp=Z,6.3nm,0.7s
G40A Rib Lake 38.14 80 P **P** **00 02 34.1 -0.4**
baz=308
KSU1 Kansas State U 38.55 93 P **P** **00 02 37.9 -0.2**
baz=314
AMTX Amarillo 38.73 102 P **P** **00 02 38.2 -1.5**
baz=318
AMTX Amarillo 38.73 102 P **P** **00 02 39.9 +0.2**
baz=318
I40A Norwalk 38.77 82 IAmb IAmb 00 02 40.5
comp=Z,18nm,1.1s
I40A Norwalk 38.77 82 P **P** **00 02 39.7 -0.2**
baz=309
MSTX Muleshoe 38.81 104 P **P** **00 02 39.8 -0.6**
baz=319
FRB Frobisher Bay 38.95 44 LR LR 00 18 57.9
comp=Z,441nm,18.1s,baz=292,slow=37
UPNV Upernavik 38.98 28 *i* P **P** **00 02 40.0 -1.3**
UPNV IAmb IAmb 00 02 42.6
comp=Z,21nm,1.0s
MNTX Cornudas Mount 39.13 109 P **P** **00 02 42.5 -0.6**
baz=321,SNR=7.6
MNTX Cornudas Mount 39.13 109 P **P** **00 02 43.2 +0.2**
baz=321,SNR=7.6
YAK Yakutsk 39.51 313 LR LR 00 18 37.3
comp=Z,370nm,22.0s,baz=48,slow=36
I42A Draeger Farm, 39.72 81 IAmb IAmb 00 02 48.7
comp=Z,20nm,0.8s
I42A Draeger Farm, 39.72 81 P **P** **00 02 47.2 -0.6**
baz=310
P38A Dawn 39.93 90 IAmb IAmb 00 02 59.0
comp=Z,11nm,1.1s
P38A Dawn 39.93 90 P **P** **00 02 48.7 -0.9**
baz=313
WMOK Wichita Mounta 40.44 100 P **P** **00 02 53.6 -0.3**
UMMG Uummannaq 41.12 30 *i* P **P** **00 02 57.7 -1.3**
UMMG IAmb IAmb 00 03 14.3
comp=Z,8.8nm,0.9s
ABTX Abilene, Hawle 41.54 103 P **P** **00 03 02.0 -1.0**
baz=319
R40A Maddies Statio 41.56 90 P **P** **00 03 01.4 -1.7**
baz=314
U38A Gravette 41.67 94 P **P** **00 03 02.9 -1.2**
baz=316
HDIL Hopedale 41.69 85 P **P** **00 03 03.0 -1.1**
baz=312,SNR=5.1
HDIL Hopedale 41.69 85 P **P** **00 03 03.3 -0.8**
baz=312,SNR=5.1
TX31 Lajitas Ar. Si 41.90 110 P **P** **00 03 06.0 -0.1**
baz=322,SNR=9.7
TXAR Lajitas Array 41.90 110 P **P** **00 03 06.1 0.0**
comp=Z,4.7nm,1.0s,baz=317,slow=6.8,SNR=32
TXAR PcP **PcP** **00 05 01.4 -0.2**
comp=Z,0.3nm,0.7s,baz=318,slow=2.6,SNR=1.7
TXAR LR LR 00 19 25.0
comp=Z,387nm,18.8s,baz=320,slow=35
comp=Z,4.7nm,1.0s
OZNA Ozona 42.03 106 P **P** **00 03 06.8 -0.2**
OZNA IAmb IAmb 00 03 16.4
comp=Z,12nm,0.9s
CCM Cathedral Cave 42.31 89 P P 00 03 07.0 -2.1
baz=314
LPIG La Paz 42.81 121 LR LR 00 19 11.8
comp=Z,165nm,18.1s,baz=335,slow=34
SFIN Lafayette 43.05 84 P **P** **00 03 13.4 -1.7**
baz=313
JCT Junction City 43.09 105 P **P** **00 03 15.6 -0.1**
baz=321,SNR=6.8
JCT Junction City 43.09 105 P **P** **00 03 15.3 -0.4**
baz=321,SNR=6.8
ASAJ Asahikawa 43.35 284 LR LR 00 19 09.7
comp=Z,236nm,21.1s,baz=350,slow=33
DRIO Del Rio 43.47 106 IAmb IAmb 00 03 29.1
comp=Z,11nm,0.7s
L48A N Adams 43.48 80 IAmb IAmb 00 03 28.0
comp=Z,12nm,0.9s
N47A Urbana 43.49 82 IAmb IAmb 00 03 27.7
comp=Z,16nm,1.0s
SUMG Summit 43.51 24 P **P** **00 03 19.1 +0.1**
SUMG Summit 43.51 24 *i* P **P** **00 03 18.0 -1.0**
SUMG IAmb IAmb 00 03 21.0
comp=Z,18nm,1.0s
OLIL Olney 43.61 86 IAmb IAmb 00 03 19.3
comp=Z,22nm,1.1s
SFJD Kangerlussuaq 43.63 34 LR LR 00 20 52.2
comp=Z,279nm,18.5s,baz=306,slow=35
SCHQ Schefferville 44.48 55 LR LR 00 22 00.2
comp=Z,403nm,18.1s,baz=291,slow=36
SADO Sadowa 44.53 73 LR LR 00 20 20.0
comp=Z,429nm,20.9s,baz=271,slow=34
CCAR Cane Creek 44.97 94 P **P** **00 03 29.6 -1.1**
833A Chaparral WMA, 44.99 106 P **P** **00 03 29.4 -1.5**
833A IAmb IAmb 00 03 31.8
comp=Z,9.6nm,0.7s
833A Chaparral WMA, 44.99 106 P P 00 03 28.8 -2.1
baz=322
HNVL Huntsville, TX 45.27 100 P **P** **00 03 32.5 -0.6**
ACSO Alum Creek Sta 45.45 81 P **P** **00 03 32.4 -1.9**
ACSO Alum Creek Sta 45.45 81 P **P** **00 03 33.3 -1.1**
baz=313
ICESG Greenland Ices 45.52 28 *i* P P 00 03 32.0 -3.0
ICESG IAmb IAmb 00 03 36.1
comp=Z,17nm,0.9s
WVT Waverly 45.59 89 P **P** **00 03 33.8 -1.7**
WVT Waverly 45.59 89 P **P** **00 03 34.1 -1.5**
baz=316
HKT Hockley 45.68 101 P **P** **00 03 35.1 -1.2**
HKT IAmb IAmb 00 03 38.9
comp=Z,8.1nm,1.1s
KLR Kul'dur 45.81 296 LR LR 00 23 34.3
comp=Z,303nm,20.6s,baz=59,slow=37
ERPA Erie 45.82 77 P **P** **00 03 36.6 -0.7**
ERPA Erie 45.82 77 P **P** **00 03 36.9 -0.4**
baz=312
OXF Oxford 45.87 92 P **P** **00 03 36.7 -1.0**
OXF Oxford 45.87 92 P **P** **00 03 36.3 -1.4**
baz=317
OXF Oxford 45.87 92 P **P** **00 03 36.4 -1.4**
baz=317
M53A WI Miller and 45.91 78 P **P** **00 03 37.3 -0.7**
baz=313
SPITS Spitsbergen Ar 46.00 4 P **P** **00 03 38.2 -0.1**
comp=Z,24nm,1.1s,baz=78,slow=4.7,SNR=7.3
SPITS LR LR 00 21 52.7
comp=Z,147nm,20.5s,baz=321,slow=35
comp=Z,24nm,1.1s
R50A Paris 46.05 84 IAmb IAmb 00 03 48.5
comp=Z,13nm,1.1s
Q51A Peebles 46.08 82 P **P** **00 03 38.7 -0.7**
baz=314,SNR=5.7
Q51A P **P** **00 03 38.7 -0.7**
baz=314,SNR=5.7
O52A Adamsville 46.17 80 IAmb IAmb 00 03 49.2
comp=Z,11nm,1.0s
O52A Adamsville 46.17 80 P **P** **00 03 39.9 -0.2**
baz=314
O52A P **P** **00 03 39.9 -0.2**
baz=314
P52A Corning 46.33 81 P **P** **00 03 39.9 -1.5**
baz=314
WVNY West Valley, N 46.39 75 P **P** **00 03 41.8 0.0**
WVNY IAmb IAmb 00 03 59.5
comp=Z,12nm,1.0s
O53A New Philadelph 46.42 79 P **P** **00 03 41.6 -0.5**
O53A New Philadelph 46.42 79 P **P** **00 03 41.4 -0.7**
baz=314
CLTN Cedars of Leba 46.47 87 IAmb IAmb 00 04 01.6
comp=Z,9.0nm,1.1s
Q52A Bidwell 46.72 82 P **P** **00 03 43.4 -1.1**
baz=314,SNR=6.1
Q52A P **P** **00 03 43.4 -1.1**
baz=314,SNR=6.1
J56A Wolcott 46.75 73 P **P** **00 03 44.0 -0.6**
baz=312
J56A P **P** **00 03 44.0 -0.6**
baz=312
P53A Whipple 46.85 80 P **P** **00 03 44.7 -0.7**
baz=314
P53A P **P** **00 03 44.7 -0.7**
baz=314
O54A Avella 46.93 79 P **P** **00 03 44.8 -1.3**
baz=314
O54A P **P** **00 03 44.8 -1.3**
baz=314
WCNY West Carthage 46.93 72 P **P** **00 03 45.6 -0.4**
baz=312
L56A Greenwood 47.14 75 P **P** **00 03 47.5 -0.2**
baz=313
L56A P **P** **00 03 47.5 -0.2**
baz=313
X48A Hartselle 47.25 90 IAmb IAmb 00 03 48.8
comp=Z,7.6nm,0.8s
X48A Hartselle 47.25 90 P **P** **00 03 47.8 -0.8**
baz=317
HEH HeiHe 47.31 300 *e*P **P** **00 03 48.0 -0.9**
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,520nm,5.5s
R53A Hurricane 47.34 82 P **P** **00 03 48.8 -0.5**
baz=315
R53A P **P** **00 03 48.8 -0.5**
baz=315
W50A Signal Mountai 47.69 88 P **P** **00 03 51.6 -0.4**
baz=316
TZTN Tazewell 47.71 85 P **P** **00 03 51.1 -1.1**
baz=316
BINY Binghamton 47.95 74 P **P** **00 03 53.4 -0.6**
baz=313
SSPA Standing Stone 47.99 77 P P 00 03 50.9 -3.4
SSPA IAmb IAmb 00 04 09.8
comp=Z,11nm,1.1s
SSPA Standing Stone 47.99 77 P **P** **00 03 53.1 -1.2**
baz=314
FPAL Fort Paine 47.99 88 P **P** **00 03 52.7 -1.7**
ISOG Isortoq, Green 48.15 31 *e*P **P** **00 03 53.4 -1.7**
ISOG IAmb IAmb 00 04 05.1
comp=Z,20nm,0.9s
TKL Tuckaleechee C 48.22 86 P **P** **00 03 55.0 -1.1**
TKL Tuckaleechee C 48.22 86 LR LR 00 24 10.4
comp=Z,1µm,18.5s,baz=323,slow=36
SOEG Soedalen 48.28 26 *e*P **P** **00 03 54.8 -1.3**
SOEG IAmb IAmb 00 04 29.7
comp=Z,6.3nm,1.1s
H11N2 WAKE ISLAND Hy 48.42 240 T T 00 56 03.8
baz=31,slow=76,SNR=34
H11N3 WAKE ISLAND Hy 48.42 240 T T 00 56 11.1
baz=31,slow=76,SNR=33
H11N1 WAKE ISLAND Hy 48.44 240 T T 00 56 05.6
baz=31,slow=76,SNR=29
NRIK Noril'sk 48.44 336 P **P** **00 03 56.8 -0.6**
NRIK Noril'sk 48.44 336 P **P** **00 03 58.0 +0.6**
comp=Z,6.2nm,0.5s,baz=46,slow=6.2,SNR=19
NRIK LR LR 00 27 22.9
comp=Z,404nm,18.9s,baz=42,slow=40
comp=Z,6.2nm,0.5s
ANGG Ammassalik, Gr 48.49 31 *i* P **P** **00 03 56.1 -1.6**
ANGG IAmb IAmb 00 04 07.9
comp=Z,15nm,1.0s
V53A Saluda 48.75 85 P **P** **00 04 00.3 0.0**
baz=316
V53A P **P** **00 04 00.3 0.0**
baz=316
USRK Ussuriysk Ar. 49.01 291 P **P** **00 04 01.6 -0.4**
comp=Z,2.0nm,0.6s,baz=34,slow=9.9,SNR=1.1
USRK LR LR 00 26 11.9
comp=Z,398nm,18.5s,baz=36,slow=38
comp=Z,2.0nm,0.6s
LUPA Lehigh Univers 49.39 75 P **P** **00 04 04.5 -0.6**
H11S1 WAKE ISLAND Hy 49.56 239 T T 00 58 06.8
baz=28,slow=76,SNR=53
H11S2 WAKE ISLAND Hy 49.57 239 T T 00 58 05.9
baz=28,slow=76,SNR=37
H11S3 WAKE ISLAND Hy 49.58 239 T T 00 58 05.9
baz=28,slow=76,SNR=46
KMSC Kings Mountain 49.97 84 P **P** **00 04 09.2 -0.3**
baz=317
GOGA Godfrey 50.03 88 P **P** **00 04 09.5 -0.5**
baz=318
JMIC Jan Mayen 50.54 15 LR LR 00 26 49.0
comp=Z,102nm,21.1s,baz=9.5,slow=38
MJAR Matsushiro Arr 50.99 280 P **P** **00 04 17.1 -0.1**
comp=Z,1.7nm,0.5s,baz=42,slow=6.2,SNR=5.4
MJAR LR LR 00 26 08.9
comp=Z,147nm,20.7s,baz=57,slow=36
comp=Z,1.7nm,0.5s
CN2 Changchun 52.68 295 P **P** **00 04 29.8 +0.1**
CN2 sP pwP 00 04 39.8 +2.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,600nm,18.0s
CN2 LR LR
comp=E,400nm,18.0s
CN2 LR LR
comp=Z,500nm,16.0s
BORG Borgarnes 53.48 25 LR LR 00 28 15.9
comp=Z,305nm,18.8s,baz=330,slow=37
ARCES ARCESS Array B 54.92 2 P **P** **00 04 45.1 -0.7**
comp=Z,2.1nm,0.5s,baz=3.9,slow=8.4,SNR=24
ARCES LR LR 00 29 45.5
comp=Z,67nm,18.2s,baz=13,slow=38
comp=Z,2.1nm,0.5s
JCJ Chichijima 55.81 269 LR LR 00 26 23.5
comp=Z,100nm,21.8s,baz=130,slow=34
KSRS Korea Array 55.96 288 P **P** **00 04 54.5 +0.8**
comp=Z,2.3nm,0.6s,baz=40,slow=7.1,SNR=6.5
KSRS LR LR 00 27 01.9
comp=Z,108nm,21.6s,baz=40,slow=34
comp=Z,2.3nm,0.6s
CMIG Matias Romero 56.50 110 LR LR 00 29 07.4
comp=Z,150nm,19.3s,baz=354,slow=36
TEIG Tepich 57.52 102 LR LR 00 31 17.5

comp=Z,1μm,21.6s,baz=159,slow=38
JNU Nakatsue 57.58 282 LR LR 00 30 32.7
comp=Z,43nm,21.0s,baz=18,slow=37
SONM Songino Array 58.75 310 P 00 05 16.8 +3.4
SONM Songino Array 58.75 310 P **P 00 05 14.2 +0.8**
comp=Z,2.5nm,0.7s,baz=54,slow=5.3,SNR=12
SONM LR LR 00 31 26.4
comp=Z,488nm,20.8s,baz=29,slow=37
comp=Z,2.5nm,0.7s
HHC Hu-ho-hao-te 61.77 302 *eP* **P 00 05 37.5 +3.4**
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,250nm,5.1s
HHC LR LR
comp=N,2μm,13.3s
HHC LR LR
comp=E,2μm,14.0s
HHC LR LR
comp=Z,1μm,16.8s
ZAA0 Zalesovo Array 61.82 327 IAmb IAmb 00 05 44.8
comp=Z,6.2nm,0.8s
ZALV Zalesovo Beam 61.82 327 P **P 00 05 34.4 +0.2**
comp=Z,1.8nm,0.6s,baz=41,slow=6.4,SNR=10
ZALV LR LR 00 33 19.8
comp=Z,242nm,19.5s,baz=34,slow=37
comp=Z,1.8nm,0.6s
NB2 NORSAR Subarra 62.53 10 P **P 00 05 38.4 -0.4**
comp=Z,7.8nm,0.7s,baz=348,slow=6.9
NOA NORSAR Array B 62.53 10 P **P 00 05 39.0 +0.1**
comp=Z,4.2nm,0.8s,baz=349,slow=6.8,SNR=10
NOA LR LR 00 33 05.6
comp=Z,63nm,22.0s,baz=345,slow=36
comp=Z,4.2nm,0.8s
HNS HongShan 62.89 297 ⇑P **P 00 05 42.3 +0.8**
HNS *eS* **S 00 14 07.5 -3.4**
HNS pmax pmax
comp=Z,9.0nm,0.9s
HNS LR LR
comp=E,570nm,17.6s
HNS LR LR
comp=Z,490nm,17.5s
FINES FINESS Array B 63.05 2 P **P 00 05 42.4 +0.3**
comp=Z,5.5nm,0.7s,baz=1.6,slow=8.5,SNR=44
comp=Z,5.5nm,0.7s
HFS Hagfors 63.66 9 P **P 00 05 45.9 -0.4**
comp=Z,2.9nm,0.5s,baz=36,slow=2.8,SNR=14
HFS LR LR 00 35 03.3
comp=Z,78nm,18.1s,baz=346,slow=38
comp=Z,2.9nm,0.5s
JOW Kunigami 63.84 280 LR LR 00 33 19.2
comp=Z,80nm,20.9s,baz=276,slow=36
KIRV Kirov 64.93 349 P **P 00 05 54.9 +0.3**
comp=Z,5.5nm,0.6s,baz=13,slow=5.3,SNR=3.7
KIRV LR LR 00 36 46.4
comp=Z,214nm,21.0s,baz=19,slow=38
comp=Z,5.5nm,0.6s
ARU Arti 65.79 343 P **P 00 06 00.4 +0.2**
ARU Arti 65.79 343 LR LR 00 35 43.3
comp=Z,240nm,21.8s,baz=14,slow=37
EKA Eskdalemuir Ar 65.91 20 P **P 00 06 00.7 -0.3**
comp=Z,3.5nm,0.7s,baz=323,slow=5.5,SNR=14
comp=Z,3.5nm,0.7s
KURK Kurchatov 66.51 329 P **P 00 06 05.6 +0.7**
KURK IAmb IAmb 00 06 16.8
comp=Z,6.1nm,0.9s
BRVK Borovoye 66.60 335 P **P 00 06 06.6 +1.1**
BRVK IAmb IAmb 00 06 19.1
comp=Z,4.7nm,0.9s
BVAR Borovoye Array 66.61 335 P **P 00 06 05.7 +0.1**
comp=Z,3.8nm,0.9s,baz=46,slow=6.4,SNR=15
BVAR LR LR 00 38 59.0
comp=Z,265nm,19.0s,baz=19,slow=39
comp=Z,3.8nm,0.9s
KURBB Kurchatov Arra 66.61 329 P **P 00 06 05.6 0.0**
comp=Z,2.2nm,0.9s,baz=32,slow=6.8,SNR=8.4
KURBB LR LR 00 36 49.4
comp=Z,370nm,19.3s,baz=305,slow=37
comp=Z,2.2nm,0.9s
JTS Las Juntas de 67.47 105 LR LR 00 37 28.6
comp=Z,65nm,19.2s,baz=320,slow=38
GTA Gaotai 68.34 309 P P 00 06 26.3 +9.4
GTA pP pwP 00 06 31.5 +6.9
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA LR LR
comp=N,630nm,15.9s
GTA LR LR
comp=E,870nm,17.5s
GTA LR LR
comp=Z,390nm,20.3s
MK31 Makanchi Array 68.83 324 IAmb IAmb 00 06 30.1
comp=Z,6.8nm,0.9s
MKAR Makanchi Array 68.83 324 P **P 00 06 20.0 +0.2**
comp=Z,3.7nm,0.9s,baz=41,slow=6.0,SNR=24
MKAR LR LR 00 40 36.1
comp=Z,297nm,18.1s,baz=32,slow=40
comp=Z,3.7nm,0.9s
MAKZ Makanchi 68.92 325 P **P 00 06 21.1 +0.8**
BSEG Bad Segeberg 69.40 12 *eP* **P 00 06 24.4 +1.4**
comp=Z,26nm,1.3s,baz=349,slow=5.9
WMQ Urumqi 69.54 319 *eP* **P 00 06 26.0 +1.8**
WMQ sP pwP 00 06 35.0 +3.0
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ LR LR
comp=N,810nm,20.1s
WMQ LR LR
comp=E,770nm,17.1s
WMQ LR LR
comp=Z,270nm,20.1s
IBBN Ibbenburen 70.66 14 *eP* **P 00 06 31.8 +1.0**
comp=Z,13nm,1.1s,baz=349,slow=5.9
NRDL Niedersach Rie 70.79 13 *eP* **P 00 06 32.8 +1.3**
comp=Z,100nm,2.2s,baz=349,slow=5.9
FLTG Flechtingen 71.09 12 *eP* **P 00 06 34.0 +0.6**
comp=Z,15nm,1.2s,baz=349,slow=5.9
BELG Belogornoye 71.21 349 P **P 00 06 34.5 +0.3**
comp=Z,21nm,1.1s,baz=232,slow=3.4,SNR=6.2
BELG LR LR 00 41 49.2
comp=Z,215nm,19.0s,baz=353,slow=39
comp=Z,21nm,1.1s
ASSE Asse, Remlinge 71.22 13 *eP* **P 00 06 35.1 +1.0**
comp=Z,15nm,1.3s,baz=349,slow=5.9
RUE Ruedersdorf 71.22 11 *eP* **P 00 06 35.5 +1.3**
comp=Z,20nm,0.9s,baz=349,slow=5.9
BUG Bochum--Univer 71.43 15 *eP* **P 00 06 36.5 +1.0**
comp=Z,11nm,1.0s,baz=349,slow=5.9
CLZ Clausthal 71.46 13 *eP* **P 00 06 37.0 +1.2**
comp=Z,27nm,1.3s,baz=349,slow=5.9
AKTO Aktyubinsk 71.64 342 P **P 00 06 36.6 -0.2**
comp=Z,2.6nm,0.5s,baz=47,slow=8.6,SNR=7.9
AKTO LR LR 00 43 01.4
comp=Z,140nm,18.6s,baz=14,slow=40
comp=Z,2.6nm,0.5s
SJG San Juan 71.64 85 LR LR 00 38 44.7
comp=Z,155nm,19.8s,baz=332,slow=36
GTTG Gottingen 71.70 13 *eP* **P 00 06 38.5 +1.3**
comp=Z,20nm,1.0s,baz=349,slow=5.9
KASTN Kahler Asten 71.83 14 *eP* **P 00 06 38.8 +0.8**
comp=Z,11nm,1.1s,baz=349,slow=5.9
BCLA Clavier 72.12 16 *dP* **P 00 06 37.8 -1.9**
BMRD Maredsous 72.15 17 *dP* **P 00 06 41.0 +1.1**
CLL Collm 72.30 11 IAmb IAmb 00 06 42.3
comp=Z,6.7nm,0.9s
CLL Collm 72.30 11 *eP* **P 00 06 41.3 +0.6**
comp=Z,6.3nm,0.9s,baz=349,slow=5.9
DOU Dourbes 72.32 17 *dP* P 00 06 38.7 -2.2
TNS Taunus Mts 72.79 14 *eP* **P 00 06 44.7 +0.9**
comp=Z,17nm,1.4s,baz=349,slow=5.9
MOX Moxa 72.79 12 *eP* **P 00 06 44.6 +0.9**
comp=Z,19nm,1.2s,baz=349,slow=5.9
BRG Berggiesshubel 72.83 11 *eP* **P 00 06 44.8 +0.9**
BRG Amp 00 06 45.8
comp=Z,13nm,1.2s
BRG Berggiesshubel 72.83 11 *eP* **P 00 06 44.8 +0.9**
comp=Z,411nm,3.8s,baz=349,slow=5.9
HSKC Hora Svate Kat 73.03 11 *eP* **P 00 06 46.8 +1.6**
PPT Papeete 73.08 180 LR LR 00 29 31.8
comp=Z,248nm,19.9s,baz=5.0,slow=28
TANN Tannenbergstha 73.11 12 *eP* **P 00 06 46.5 +0.8**
comp=Z,12nm,1.4s,baz=349,slow=5.9
NKC Novy Kostel 73.29 12 *eP* **P 00 06 47.3 +0.6**
CHVC Chvalec 73.32 9 *eP* **P 00 06 47.5 +0.7**
OSTC Ostas 73.36 9 *eP* **P 00 06 47.7 +0.6**
MANZ Manzenberg 73.50 12 *eP* **P 00 06 48.6 +0.7**
comp=Z,2.2nm,1.2s,baz=349,slow=5.9
DPC Dobruska-Polom 73.58 9 *eP* **P 00 06 49.3 +0.9**

ROTZ Rotzenmuhle 73.72 12 *eP* **P 00 06 50.3 +1.1**
comp=Z,3.2nm,1.1s,baz=349,slow=5.9
AKASG Malin Array Be 73.86 1 P **P 00 06 49.9 0.0**
comp=Z,4.2nm,0.7s,baz=359,slow=5.9,SNR=15
AKASG LR LR 00 38 03.8
comp=Z,57nm,21.1s,baz=23,slow=35
comp=Z,4.2nm,0.7s
KIEV Kiev 73.86 1 P **P 00 06 49.7 -0.2**
KIEV IAmb IAmb 00 07 01.6
comp=Z,9.9nm,0.9s
KRLC Kraliky 73.89 9 *eP* **P 00 06 50.9 +0.7**
MORC Moravsky Berou 74.25 9 *eP* **P 00 06 53.1 +0.7**
ZVC Zvikov 74.27 11 *eP* **P 00 06 53.1 +0.7**
STU Stuttgart 74.31 14 *eP* **P 00 06 52.8 +0.1**
baz=349,slow=5.9
WET Wettzell 74.42 12 *eP* **P 00 06 54.4 +1.1**
comp=Z,7.0nm,1.1s,baz=349,slow=5.9
KHC Kasperske Hory 74.51 11 IAmb IAmb 00 07 11.7
comp=Z,6.1nm,1.1s
KHC Kasperske Hory 74.51 11 *eP* **P 00 06 54.8 +1.0**
VRAC Vranov 74.64 9 *eP* **P 00 06 55.0 +0.5**
VRAC Vranov 74.64 9 LR LR 00 42 53.0
comp=Z,56nm,18.3s,baz=356,slow=38
MAUC Maruska 74.69 8 *eP* **P 00 06 55.8 +0.9**
GEC2 GERESS Array S 74.80 11 *eP* **P 00 06 56.5 +0.9**
comp=Z,8.9nm,1.4s,baz=349,slow=5.9
GERES GERESS Array B 74.80 11 P **P 00 06 55.8 +0.1**
comp=Z,1.5nm,0.6s,baz=359,slow=5.3,SNR=7.8
GERES LR LR 00 42 51.4
comp=Z,65nm,18.5s,baz=346,slow=38
comp=Z,1.5nm,0.6s
KRUC Moravsky 74.86 9 *eP* **P 00 06 56.6 +0.8**
CKRC Cesky Krumlov 74.89 11 *eP* **P 00 06 56.8 +0.7**
AAK Ala-Archa 75.02 328 LR LR 00 41 59.6
comp=Z,375nm,19.5s,baz=29,slow=37
JAVC Velka Javorina 75.17 9 *eP* **P 00 06 59.5 +1.8**
FUR Furstenfeldbru 75.18 13 *eP* **P 00 06 58.7 +1.0**
comp=Z,18nm,1.1s,baz=349,slow=5.9
RETA Reutte 75.78 14 *epP* pP 00 07 07.7 +4.7
comp=Z,3.9nm,1.1s
RJOB Jochberg 75.79 12 *eP* **P 00 07 02.0 +0.7**
comp=Z,14nm,1.5s,baz=349,slow=5.9
MOA Molln 75.85 11 *ePcP* **PcP 00 07 13.0 -1.1**
comp=Z,13nm,1.6s
CONA Conrad Observa 75.93 10 *eP* **P 00 07 03.3 +1.1**
comp=Z,13nm,1.5s
BIOA Bad Ischl, Aus 75.93 11 *i P* **P 00 07 03.0 +0.9**
comp=Z,8.1nm,1.1s
MOTA Moosalm 75.97 13 *eP* **P 00 07 03.4 +1.0**
comp=Z,14nm,1.3s
WATA Walderalm 76.04 13 *i P* **P 00 07 04.0 +1.2**
comp=Z,16nm,1.2s,SNR=4.8
SQTA Sankt Quirin 76.10 13 *eP* **P 00 07 04.4 +1.2**
comp=Z,14nm,1.0s
WTTA Wattenberg 76.12 13 *i P* **P 00 07 05.0 +1.7**
comp=Z,13nm,0.9s,SNR=5.0
RONA Rosalia, Austr 76.20 10 *eP* **P 00 07 05.0 +1.4**
comp=Z,7.7nm,1.9s
FETA Feichten 76.24 14 *eP* **P 00 07 05.0 +1.0**
comp=Z,7.4nm,1.1s
DAVOX Davos/Dischmat 76.36 14 LR LR 00 44 24.9
comp=Z,38nm,18.1s,baz=342,slow=39
KBA Koelnbreinsper 76.50 12 *i P* **P 00 07 06.8 +1.3**
comp=Z,14nm,1.0s
FUORN Ofenpass-Fuorn 76.57 14 IAmb IAmb 00 07 08.4
comp=Z,6.6nm,1.1s
ARSA Arzberg 76.57 10 *eP* **P 00 07 07.4 +1.8**
comp=Z,6.1nm,1.2s
SDV Santo Domingo 76.58 94 LR LR 00 42 46.7
comp=Z,132nm,18.3s,baz=314,slow=37
ABTA Abfaltersbach 76.73 12 *eP* **P 00 07 07.7 +1.0**
comp=Z,7.2nm,1.2s
BUR08 Bucovina Ar. S 76.83 4 IAmb IAmb 00 07 19.9
comp=Z,4.6nm,1.1s
SOKA Soboth 77.09 11 *i P* **P 00 07 10.0 +1.3**
comp=Z,12nm,1.3s,SNR=4.7
RAR Rarotonga 77.18 190 LR LR 00 36 17.6
comp=Z,178nm,19.0s,baz=338,slow=32
OBKA Obir 77.20 11 *i P* **P 00 07 10.1 +0.8**
comp=Z,12nm,1.1s,SNR=4.9
HNR Honiara 77.21 231 LR LR 00 32 53.2
comp=Z,3μm,21.4s,baz=22,slow=29
ROSC El Rosal 77.83 99 LR LR 00 45 40.6
comp=Z,44nm,19.0s,baz=84,slow=39
KMI Kunming 78.79 298 ⇑P **P 00 07 20.5 +1.9**
KMI pmax pmax
comp=Z,8.0nm,0.7s
KMI LR LR
comp=N,280nm,15.9s
KMI LR LR
comp=E,330nm,13.8s
KMI LR LR
comp=Z,330nm,15.5s
PCRV Puerto La Cruz 78.91 88 LR LR 00 43 15.7
comp=Z,186nm,19.2s,slow=36
QIZ Qiongzhong 80.16 289 P P 00 07 23.8 -2.1
QIZ Qiongzhong 80.16 289 S **S 00 17 29.5 -1.2**
QIZ LR LR
comp=N,380nm,18.5s
QIZ LR LR
comp=E,370nm,18.5s
QIZ LR LR
comp=Z,360nm,13.5s
KBZ Khabaz 80.26 351 P **P 00 07 27.2 +1.2**
comp=Z,2.8nm,1.1s,baz=13,slow=7.0,SNR=3.7
KBZ LR LR 00 45 54.2
comp=Z,109nm,21.9s,baz=16,slow=38
comp=Z,2.8nm,1.1s
ESDC Sonseca Array 80.53 26 IAmb IAmb 00 07 40.1
comp=Z,7.4nm,1.1s
ESDC Sonseca Array 80.53 26 P **P 00 07 28.1 +0.4**
comp=Z,4.3nm,1.2s,baz=339,slow=5.8,SNR=7.2
ESDC LR LR 00 43 56.2
comp=Z,147nm,18.3s,baz=1.0,slow=36
comp=Z,4.3nm,1.2s
DAV Davao City (W) 81.21 270 LR LR 00 37 59.3
comp=Z,112nm,20.4s,baz=35,slow=32
MCRA Macar, Loja 82.41 109 P **P 00 07 36.7 -1.2**
PMG Port Moresby 83.22 242 LR LR 00 40 15.2
comp=Z,100nm,19.1s,baz=61,slow=32
GNI Garni 83.62 349 LR LR 00 50 56.7
comp=Z,102nm,18.4s,baz=16,slow=40
GEYT Ailbeck 83.65 338 P **P 00 07 44.8 +0.7**
comp=Z,2.8nm,0.9s,baz=17,slow=6.5,SNR=7.7
GEYT LR LR 00 52 02.2
comp=Z,235nm,18.4s,baz=24,slow=41
comp=Z,2.8nm,0.9s
BRTR Keskin Array B 84.79 357 P **P 00 07 49.9 -0.1**
comp=Z,1.0nm,0.6s,baz=340,slow=1.8,SNR=5.1
BRTR LR LR 00 46 53.4
comp=Z,48nm,21.2s,baz=38,slow=36
comp=Z,1.0nm,0.6s
VAE Valguarnera 86.10 13 LR LR 00 50 19.0
comp=Z,50nm,18.2s,baz=354,slow=38
CMAR Chiang Mai Arr 86.28 298 P **P 00 07 57.2 -0.3**
comp=Z,1.6nm,0.5s,baz=13,slow=4.9,SNR=13
CMAR LR LR 00 49 38.2
comp=Z,156nm,19.7s,baz=40,slow=38
comp=Z,1.6nm,0.5s
MDT Midelt 86.84 29 LR LR 00 46 15.1
comp=Z,117nm,18.1s,baz=343,slow=35
KEST Kesra 87.09 17 LR LR 00 48 54.7
comp=Z,62nm,20.5s,baz=308,slow=37
IDI Anoyia 89.15 4 LR LR 00 49 31.8
comp=Z,28nm,21.3s,baz=282,slow=36
RPN Rapa Nui 89.50 145 LR LR 00 41 21.6
comp=Z,59nm,18.5s,baz=293,slow=31
MDP Montagnes des 89.81 81 LR LR 00 45 57.3
comp=Z,163nm,21.9s,baz=355,slow=34
NNA Nana 90.45 111 LR LR 00 47 12.4
comp=Z,30nm,18.2s,baz=328,slow=34
CTA Charters Tower 92.82 238 LR LR 00 44 48.3
comp=Z,53nm,19.9s,baz=86,slow=32
KAPI Kappang 94.39 268 LR LR 00 46 17.8
comp=Z,33nm,21.9s,baz=50,slow=32
WSAR Wadi Sarin 97.65 334 LR LR 00 58 56.7
comp=Z,129nm,18.6s,baz=49,slow=39
URZ Urewera 97.86 206 LR LR 00 46 57.6
comp=Z,67nm,19.9s,baz=120,slow=32
QSPA South Pole Qui 145.60 180 PKPdf 00 14 51.7 -0.7
QSPA South Pole Qui 145.60 180 PKPbc **PKPdf 00 14 51.5 -0.9**
comp=Z,4.9nm,0.8s,baz=50,slow=1.2,SNR=11
BOSA Boshof 152.59 10 PKPbc **PKPdf 00 15 10.8 +5.8**
comp=Z,1.0nm,0.5s,baz=51,slow=1.4,SNR=3.9
TROLL Troll, Antarti 160.02 155 ⇓PKPab **PKPab 00 15 59.5 +6.2**
comp=Z,252nm,0.8s

KRSC 26 00:03:19.7±0.7, 55°.25N×166°.60E, h32km±2km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.36**	**264**	*eP*	Pn	00 03 28.5	-0.2
BKI				*eS*	Sn	00 03 34.7	-0.1
TUMR	**Tumrok**	**3.69**	**273**	*eP*	Pn	00 04 18.6	+3.9
SMAR	**Somma**	**4.99**	**250**	*eP*	Pn	00 04 37.2	+4.7
UGLR	**Uglovaya**	**5.00**	**249**	*eP*	Pn	00 04 37.3	+4.7
AVH	**Avacha**	**5.02**	**250**	*eP*	Pn	00 04 37.5	+4.7
MTVR	**Mutnovka**	**5.70**	**244**	*eP*	Pn	00 04 46.5	+4.3

JMA 26 00:15:25.6±0.4, 22°.7N×122°.5E±°, h65km, MV4.9/23, FAR S OFF ISHIGAKIJIMA, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**2.84**	**329**	P	Pn	00 16 09.5	+1.0
HATJ				S	Sn	00 16 42.3	+0.8
JKRS	**Kuro-shima**	**2.91**	**334**	*i* P	Pn	00 16 11.1	+1.6
JKRS				S	Sn	00 16 44.7	+1.5
JIJ	**Ishigaki jima**	**2.97**	**338**	*i* P	Pn	00 16 11.2	+0.9
JIJ				S	Sn	00 16 45.5	+0.8
JTJ	**Tarama**	**3.08**	**348**	P	Pn	00 16 13.4	+1.5
JTJ				S	Sn	00 16 49.8	+2.2
IRIF	**Iriomote-Funau**	**3.11**	**331**	P	Pn	00 16 13.7	+1.4
IRIF				*eS*	Sn	00 16 49.6	+1.4
JMJ2	**Miyako jima3**	**3.12**	**359**	P	Pn	00 16 13.0	+0.7
JISG	**Ishigakijimahi**	**3.12**	**342**	P	Pn	00 16 13.5	+1.1
JISG				S	Sn	00 16 49.7	+1.2
JOGS	**Gusukube**	**3.14**	**0**	*eP*	Pn	00 16 13.8	+1.1
JIRB	**Irabujima**	**3.21**	**357**	*eP*	Pn	00 16 14.5	+0.9
JIKM	**Ikemajima**	**3.30**	**358**	*eS*	Sn	00 16 56.5	+3.6
YOJ	**Yonaguni jima**	**3.58**	**323**	P	Pn	00 16 20.0	+1.3
YOJ				S	Sn	00 17 00.4	+0.6
JYNG	**Yonagunijimaku**	**3.61**	**322**	P	Pn	00 16 20.5	+1.4
JYNG				*eS*	Sn	00 17 00.7	+0.3
JKE	**Kume jima 2**	**4.87**	**15**	*eS*	Sn	00 17 30.8	-0.5
JAGN	**Aguni-jima**	**5.24**	**19**	*eS*	Sn	00 17 41.1	+0.6
JOW	**Kunigami**	**5.83**	**26**	S	Sn	00 17 55.4	+0.3
JIH	**Iheya**	**5.89**	**23**	*eS*	Sn	00 17 55.6	-0.9
JOKE	**Okinoerabujima**	**6.42**	**26**	P	Pn	00 16 56.9	-0.6
JMZ	**Minamidaito 2**	**6.80**	**51**	P	Pn	00 16 59.1	-3.6
JMZ				*eS*	Sn	00 18 10.9	-7.8
JTK	**Tokunoshima**	**6.95**	**27**	*eP*	Pn	00 17 03.0	-1.9

IDC 26 00:17:27.9±2.4, 27°.85N×142°.43E, h0km, mb3.5/4, mbtmp3.5/4, MS3.7/1, Error ellipse: s-maj=79.3km s-min=18.6km az=87.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.78**	**196**	Pn	Pn	00 17 45.5	-0.6
	23nm,0.3s,baz=76,slow=22,SNR=2.3						
JCJ				Sn	Sn	00 18 00.0	+1.4
	50nm,0.3s,baz=100,slow=23,SNR=8.2						
WRA	**Warramunga Arr**	**48.15**	**190**	P	P	00 26 10.4	+0.4
	1.5nm,0.7s,baz=12,slow=8.6,SNR=12						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**50.17**	**309**	P	P	00 26 25.1	-0.2
	0.2nm,0.7s,baz=93,slow=8.3,SNR=2.6						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**51.87**	**190**	P	P	00 26 37.7	-0.5
	0.3nm,0.8s,baz=1.0,slow=5.6,SNR=2.0						
ASAR				LR	LR	00 49 15.1	
	comp=Z,74nm,18.6s,baz=49,slow=37						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**57.64**	**317**	P	P	00 27 19.8	0.0
	0.4nm,0.4s,baz=88,slow=6.9,SNR=4.6						
	0.4nm,0.4s						

*IDC **26** 00:31:49.1±0.9, 51°.63N×178°.05W, h0km, mb3.4/7, mbtmp3.5/7, Error ellipse: s-maj=41.5km s-min=23.5km az=148.0*
*AEIC **26** 00:31:58.6±1.4, 51°.49N±0°.09×177°.83W±0°.08, h60km±6km, Error ellipse: s-maj=13.9km s-min=6.0km az=160.0*
*NEIC **26** 00:31:58.6±1.5, 51°.5N±0°.1×177°.80W±0°.08, h59km±9km, mb3.5/50, ML3.5(AEIC), Error ellipse: s-maj=17.4km s-min=6.2km az=165.0*

ISC 26 00:31:58.1±1.1, 51°.5N±0°.1×177°.81W±0°.04, h66km±7km, n107, σ1°.02/103, mb3.5/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFL	**Tanaga Flats**	**0.31**	**349**		**Pn**	**00 32 09.0**	**+0.1**
TAPA	**Tanaga Point A**	**0.36**	**359**		**Pn**	**00 32 09.6**	**+0.2**
TASE	**Tanaga Southea**	**0.41**	**339**		**Pn**	**00 32 10.1**	**+0.3**
KIMD	**Kanaga Island**	**0.47**	**49**		**Pn**	**00 32 10.5**	**+0.2**
KIWB	**Kanaga Island**	**0.57**	**46**		**Pn**	**00 32 11.5**	**+0.2**
KIWB					**Sn**	**00 32 20.6**	**-0.4**
KICM	**Kanaga Island**	**0.60**	**39**		**Pn**	**00 32 12.0**	**+0.4**
KIRH	**Kanaga Island**	**0.63**	**45**		**Pn**	**00 32 12.3**	**+0.3**
GAKI	**Gareloi-Kavalg**	**0.64**	**279**		**Pn**	**00 32 12.4**	**+0.4**
GAKI					**Sn**	**00 32 22.6**	**+0.4**
GAEA	**Gareloi East**	**0.67**	**300**		**Pn**	**00 32 12.9**	**+0.5**
GALAA	**Gareloi Lava P**	**0.67**	**297**		**Pn**	**00 32 13.0**	**+0.5**
GANO	**Gareloi North**	**0.72**	**301**		**Pn**	**00 32 13.2**	**+0.1**
ADK	**Adak**	**0.82**	**58**		**Pn**	**00 32 13.8**	**-0.4**
ADK					**Sn**	**00 32 25.9**	**-0.1**
GSSP	**Great Sitkin S**	**1.20**	**57**		**Pn**	**00 32 19.4**	**+0.4**
GSTR	**Great Sitkin T**	**1.26**	**59**	Pn	**Pn**	**00 32 20.3**	**+0.5**
CERB	**Semis' Cerberu**	**1.66**	**288**		**Pn**	**00 32 26.0**	**+0.9**
CESW	**Semis' Southwe**	**1.70**	**286**		**Pn**	**00 32 26.1**	**+0.5**
AMKA	**Amchitka**	**1.81**	**269**		**Pn**	**00 32 27.6**	**+0.5**
AMKA					**Sn**	**00 32 49.5**	**+0.4**
LSSE	**Little Sitkin**	**2.31**	**283**		**Pn**	**00 32 34.7**	**+0.9**
LSPA	**Little Sitkin**	**2.31**	**284**		**Pn**	**00 32 34.7**	**+0.9**
LSPA					**Sn**	**00 33 01.4**	**+0.2**
LSNW	**Little Sitkin**	**2.34**	**284**		**Pn**	**00 32 34.9**	**+0.6**
ATKA	**Atka Island**	**2.36**	**70**		**Pn**	**00 32 35.2**	**+0.7**
ATKA					**Sn**	**00 33 03.1**	**+0.6**
KOKL	**Mount Kliuchef**	**2.40**	**67**		**Pn**	**00 32 36.2**	**+1.1**
KOFP	**Korovin Flat P**	**2.44**	**69**		**Pn**	**00 32 37.0**	**+1.3**
KOSE	**Korovin Southe**	**2.49**	**68**		**Pn**	**00 32 37.7**	**+1.4**
N15K	**Kwethluk River**	**13.20**	**42**	Pn	**P**	**00 35 07.6**	**-2.5**
K15K	**Wolf Creek Mou**	**13.99**	**33**	P	**P**	**00 35 20.2**	**+1.5**
M16K	**Timber Creek**	**14.14**	**40**	P	**P**	**00 35 19.2**	**-1.3**
L16K	**Owhat River**	**14.35**	**37**	P	**P**	**00 35 21.9**	**-0.8**
ANM	**Nome**	**14.66**	**22**		**P**	**00 35 25.4**	**-0.8**
J16K	**Anvik River**	**14.98**	**31**	P	**P**	**00 35 31.4**	**+1.6**
P18K	**Big Mountain,**	**15.02**	**49**	P	**P**	**00 35 30.6**	**+0.3**
P18K				IAmb	IAmb	00 35 33.4	
	comp=Z,3.2nm,0.8s						
N18K	**Kilae Creek**	**15.26**	**44**	P	**P**	**00 35 33.4**	**+0.5**
N18K				IAmb	IAmb	00 35 50.1	
	comp=Z,3.9nm,0.8s						
OHAK	**Old Harbor**	**15.37**	**58**	Pn	**Pn**	**00 35 29.7**	**-1.1**
L18K	**Granite Mounta**	**15.71**	**39**	Pn	**Pn**	**00 35 36.2**	**+1.1**
L18K				IAmb	IAmb	00 35 41.2	
	comp=Z,4.7nm,1.1s						
F15K	**North Star Dit**	**15.79**	**20**	P	**P**	**00 35 40.4**	**+1.6**
F15K				IAmb	IAmb	00 35 43.2	
	comp=Z,2.4nm,1.1s						
N19K	**Bonanza Creek**	**15.94**	**45**	P	**P**	**00 35 41.2**	**+0.7**
G16K	**Koyuk River**	**16.07**	**24**	P	**P**	**00 35 44.0**	**+2.2**
H17K	**Granite Mounta**	**16.38**	**28**	P	**P**	**00 35 47.5**	**+2.1**
H17K				IAmb	IAmb	00 35 51.9	
	comp=Z,2.3nm,1.1s						
M19K	**Big River Lodg**	**16.48**	**42**	P	**P**	**00 35 48.6**	**+2.3**
M19K				IAmb	IAmb	00 35 50.8	
	comp=Z,3.9nm,1.0s						
CNPM	**China Poot**	**16.99**	**51**		**Pn**	**00 35 52.4**	**+1.2**
J19K	**Poorman**	**17.14**	**34**		**Pn**	**00 35 53.7**	**+0.8**
K20K	**Telida**	**17.34**	**37**		**Pn**	**00 35 56.3**	**+0.8**
G18K	**Tagagawik**	**17.45**	**27**		**P**	**00 35 58.0**	**+1.0**
J20K	**Nowinta River**	**17.77**	**35**		**Pn**	**00 36 01.1**	**+0.5**
SUA	**Susitna One**	**17.86**	**45**		**P**	**00 36 03.0**	**+1.2**
SUA				IAmb	IAmb	00 36 06.6	
	comp=Z,2.8nm,1.0s						
C16K	**Lisburne Hills**	**17.93**	**15**	P	**Pn**	**00 36 03.2**	**+0.7**
G19K	**Purcell Mounta**	**18.07**	**28**	Pn	**Pn**	**00 36 06.5**	**+2.3**
G19K				IAmb	IAmb	00 36 13.5	
	comp=Z,2.5nm,0.9s						
CAST	**Castle Rocks**	**18.14**	**39**	P	**Pn**	**00 36 05.9**	**+0.7**
CAST				IAmb	IAmb	00 36 10.8	
	comp=Z,2.9nm,0.8s						
F19K	**Shaleruckik Mo**	**18.38**	**25**	P	**Pn**	**00 36 08.8**	**+0.8**
KTH	**Kantishna Hill**	**18.67**	**39**	P	**P**	**00 36 11.5**	**+1.0**
TRF	**Thorofare Moun**	**18.87**	**40**	P	**P**	**00 36 14.1**	**+1.2**

BPAW	Bear Paw Mtn.	18.91	38	Pn	Pn	00 36 16.2	+1.9	
E19K	Redstone River	18.98	25	P	P	00 36 14.8	+0.9	
E19K				IAmb	IAmb	00 36 20.1		
	comp=Z,1.8nm,0.8s							
IMAR	Indian Mountai	18.99	31	P	P	00 36 14.5	+0.5	
C18K	Utukok River	19.01	19	P	P	00 36 15.1	+0.9	
C18K				IAmb	IAmb	00 36 17.8		
	comp=Z,1.6nm,0.9s							
H21K	Melozitna Rive	19.10	32	P	P	00 36 16.4	+1.2	
H21K				IAmb	IAmb	00 36 23.5		
	comp=Z,2.5nm,1.1s							
Q23K	Middleton Isla	19.39	53	P	P	00 36 18.9	+0.6	
G21K	Allakaket	19.40	30	P	P	00 36 19.5	+1.1	
D19K	Kuna River	19.55	22	P	P	00 36 21.1	+1.0	
D19K				IAmb	IAmb	00 36 23.1		
	comp=Z,3.7nm,1.1s							
C19K	Lookout Ridge	19.72	19	P	P	00 36 22.6	+0.7	
C19K				IAmb	IAmb	00 36 27.4		
	comp=Z,1.5nm,0.9s							
DHY	Denali Highway	19.92	43	P	P	00 36 24.1	-0.2	
DHY				IAmb	IAmb	00 36 32.3		
	comp=Z,3.8nm,1.0s							
I23K	Minto, Yukon-K	20.03	36	P	P	00 36 25.5	+0.2	
I23K				IAmb	IAmb	00 36 44.8		
	comp=Z,2.3nm,0.8s							
KLU	Klutina	20.06	48	P	Pn	00 36 27.8	-0.3	
CCB	Clear Creek Bu	20.39	38	P	P	00 36 29.6	+0.4	
G23K	Bananza Creek	20.63	32	P	P	00 36 32.8	+0.9	
G23K				IAmb	IAmb	00 36 43.1		
	comp=Z,3.8nm,1.1s							
N25K	Chitina, Valde	20.70	48	P	P	00 36 33.9	+1.2	
ILAR	Eielson Array	20.80	38	P	P	00 36 35.9	+2.3	
ILAR	Eielson Array	20.80	38	P	P	00 36 32.4	-1.1	
	comp=Z,0.3nm,0.6s,baz=238,slow=11,SNR=1.6							
	comp=Z,3nm,0.6s							
H24K	Noodor Dome	20.91	35	P	P	00 36 34.9	0.0	
H24K				IAmb	IAmb	00 36 40.0		
	comp=Z,3.4nm,1.1s							
D22K	Ayikyak River	21.19	25	P	P	00 36 38.1	+0.3	
RIDG	Independent Ri	21.22	42	P	P	00 36 38.0	-0.2	
J25K	Salcha River,	21.33	39	P	P	00 36 39.8	+0.5	
F24K	Squaw Lake	21.77	31	P	P	00 36 45.5	+1.4	
F24K				IAmb	IAmb	00 37 04.0		
	comp=Z,1.8nm,0.8s							
J26L	Joseph Creek	22.01	41	P	P	00 36 46.6	-0.1	
J26L				IAmb	IAmb	00 36 49.1		
	comp=Z,1.4nm,0.8s							
M27K	Edge Creek, AK	22.13	47	P	P	00 36 48.8	+0.8	
L27K	Beaver Creek,	22.32	45	P	P	00 36 49.1	-0.9	
BCAR	Beaver Creek A	22.34	45	P	P	00 36 50.5	+0.4	
K27K	Chicken	22.48	42	P	P	00 36 50.5	-1.1	
E25K	Arctic Village	22.84	31	P	P	00 36 54.8	-0.6	
D25K	Kavik River	23.24	28	P	P	00 36 58.6	-0.8	
D25K				IAmb	IAmb	00 37 02.2		
	comp=Z,2.5nm,1.0s							
DAWY	Dawson	23.62	43	P	P	00 37 01.8	-1.1	
M29M	Somme Creek	23.71	47	P	P	00 37 03.9	+0.2	
M29M				IAmb	IAmb	00 37 07.2		
	comp=Z,0.7nm,0.7s							
I28M	Miner Creek	23.78	40	P	P	00 37 03.9	-0.5	
L29M	L29M	23.97	46	P	P	00 37 06.0	0.0	
L29M				IAmb	IAmb	00 37 24.6		
	comp=Z,2.8nm,1.1s							
E27K	Coleen River	24.18	33	P	P	00 37 08.2	+0.3	
H29M	Whitestone	24.63	38	P	P	00 37 12.0	+0.1	
D27M	Malcolm River	24.86	31	P	P	00 37 14.5	+0.4	
D27M				IAmb	IAmb	00 37 23.8		
	comp=Z,0.9nm,1.0s							
E28M	Babbage River	25.05	32	P	P	00 37 17.2	+1.4	
E28M				IAmb	IAmb	00 37 35.3		
	comp=Z,2.1nm,1.1s							
I30M	Mount Dempster	25.16	41	P	P	00 37 16.4	-0.5	
E29M	Blow River	25.53	33	P	P	00 37 21.7	+1.7	
E29M				IAmb	IAmb	00 37 41.3		
	comp=Z,2.0nm,1.1s							
INK	Inuvik	27.04	35	P	P	00 37 32.6	-1.0	
	comp=Z,0.4nm,0.6s,baz=241,slow=8.6,SNR=1.1							
	comp=Z,0.4nm,0.6s							
H11N2	WAKE ISLAND Hy	33.87	206	T	T	01 15 07.0		
	baz=18,slow=76,SNR=192							
H11N3	WAKE ISLAND Hy	33.88	206	T	T	01 15 11.4		
	baz=18,slow=76,SNR=194							
H11N1	WAKE ISLAND Hy	33.89	206	T	T	01 15 08.3		
	baz=18,slow=76,SNR=209							
H11S1	WAKE ISLAND Hy	35.09	206	T	T	01 16 28.5		
	baz=17,slow=76,SNR=273							
H11S2	WAKE ISLAND Hy	35.10	206	T	T	01 16 27.6		
	baz=17,slow=76,SNR=168							
H11S3	WAKE ISLAND Hy	35.10	206	T	T	01 16 26.4		
	baz=17,slow=76,SNR=156							
PDAR	Pinedale Array	45.69	73	P	P	00 40 12.5	+0.1	
	comp=Z,0.6nm,0.5s,baz=304,slow=5.0,SNR=8.5							
	comp=Z,0.6nm,0.5s							
TXAR	Lajitas Array	58.03	82	P	P	00 41 43.6	-0.6	
	comp=Z,0.2nm,0.7s,baz=304,slow=6.4,SNR=2.0							
	comp=Z,0.2nm,0.7s							
BVAR	Borovoye Array	61.23	320	P	P	00 42 03.4	-2.4	
	comp=Z,0.3nm,0.3s,baz=61,slow=6.8,SNR=2.0							
	comp=Z,0.3nm,0.3s							
WRA	Warramunga Arr	82.50	225	P	P	00 44 13.6	+0.2	
	comp=Z,0.2nm,0.5s,baz=33,slow=5.7,SNR=1.9							
	comp=Z,0.2nm,0.5s							
ASAR	Alice Springs	85.97	223	P	P	00 44 32.0	+1.1	
	comp=Z,0.4nm,0.4s,baz=22,slow=5.6,SNR=8.0							
	comp=Z,0.4nm,0.4s							
TORD	Torodi Ar. Bea	115.67	1	PKP	PKiKP	00 50 31.1	-1.9	
	comp=Z,0.1nm,0.4s,baz=280,slow=0.9,SNR=1.3							
H03N2	Juan Fernandez	120.57	106	T	T	03 02 41.3		
	baz=317,slow=77,SNR=7.0							
H03N1	Juan Fernandez	120.58	106	T	T	03 02 38.7		
	baz=317,slow=77,SNR=12							
H03N3	Juan Fernandez	120.58	106	T	T	03 02 42.5		
	baz=317,slow=77,SNR=13							
BOSA	Boshof	151.38	314	PKPbc	PKPbc	00 51 43.8	-0.4	
	comp=Z,2.3nm,0.6s,baz=330,slow=1.0,SNR=7.0							

*IDC **26** 00:37:00.1±1.7,55°.77N×149°.95W,h0km,mb3.4/4, mbtmp3.4/9,ML3.2/5,MS3.1/4,Error ellipse: s-maj=33.5km s-min=22.6km az=21.0*
*NEIC **26** 00:37:01.2±1.6,55°.95N±0°.09×150°.1W±0°.1,h7km±7km, ML3.5/34,ML3.6(AEIC),Error ellipse: s-maj=12.8km s-min=8.7km az=164.0*
*AEIC **26** 00:37:05.0±1.7,55°.92N±0°.06×150°.0W±0°.1,h8km±7km, Error ellipse: s-maj=11.8km s-min=5.3km az=135.0*

ISC 26 00:37:02.3±1.0,56°.07N±0°.08×150°.07W±0°.06,h10km, n201,σ0896/192,mb3.4/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.12	304		Pn	00 37 37.1	-0.7
OHAK	Old Harbor	2.12	304		Sn	00 38 01.9	-2.2
OHAK	Old Harbor	2.12	304	P	Pn	00 37 37.0	-0.7
OHAK	baz=125			S	Sn	00 38 01.9	-2.2
	baz=125						
KDAK	Kodiak Island	2.20	322		Pn	00 37 38.7	-0.2
KDAK	Kodiak Island	2.20	322		Sn	00 38 05.1	-1.0
KDAK	Kodiak Island	2.20	322	Pn	Pn	00 37 38.6	-0.2
KDAK	6.3nm,0.3s,baz=132,slow=4.6,SNR=42			Sn	Sn	00 38 04.1	-2.0
KDAK	3.6nm,0.3s,baz=310,slow=17,SNR=15			LR	LR	00 38 48.9	
	comp=Z,239nm,19.3s,baz=243,slow=44 18nm,0.2s						
SII	Sitkinak Islan	2.34	284		Sn	00 38 08.2	-1.5
SII	Sitkinak Islan	2.34	284	S	Sn	00 38 08.3	-1.5
	baz=104						
R18K	Karluk	2.84	304		Pn	00 37 47.6	0.0
R18K	Karluk	2.84	304	IAML		00 38 30.6	
R18K	comp=N,123nm,0.6s			IAML		00 38 37.2	
	comp=E,113nm,0.8s						
R18K	Karluk	2.84	304	P	Pn	00 37 47.6	0.0
	baz=122						
Q20K	Shuyak Island	2.84	335	P	Pn	00 37 47.9	+0.2
Q20K	baz=154			S	Sn	00 38 21.9	0.0
	baz=154						
SYI	Shuyak Island	2.84	335		Pn	00 37 47.9	+0.2
SYI					Sn	00 38 21.9	0.0
SYI	Shuyak Island	2.84	335	IAML		00 38 24.7	
	comp=E,82nm,1.1s						
Q19K	Cape Douglas,	3.46	328		Pn	00 37 56.9	+0.7
Q19K	Cape Douglas,	3.46	328	P	Pn	00 37 56.9	+0.7
	baz=146						
CNPM	China Poot	3.52	350		Pn	00 37 56.6	-0.5
CNPM	China Poot	3.52	350	IAML		00 38 40.3	
	comp=E,71nm,0.7s						
HOM	Homer	3.70	348	Pn	Pn	00 37 58.7	-0.7
BRSE	Bradley Lake S	3.70	355		Pn	00 37 59.1	-0.4
BRSE					Sn	00 38 41.3	-1.9
BRSE	Bradley Lake S	3.70	355	P	Pn	00 37 59.1	-0.4
BRSE	baz=174			S	Sn	00 38 41.3	-1.9
	baz=174						
BRLK	Bradley Lake	3.73	354		Pn	00 37 59.5	-0.5
BRLK					Sn	00 38 43.5	-0.4
BRLK	Bradley Lake	3.73	354	IAML		00 38 46.7	
BRLK	comp=N,42nm,1.1s			IAML		00 38 50.9	
	comp=E,41nm,1.0s						
AUCH	Augustine Cone	3.77	333		Pn	00 38 01.1	+0.6
CNTC	Contact Creek	3.85	307		Pn	00 38 01.2	-0.5
Q17K	Contact Creek	3.86	307	P	Pn	00 38 01.2	-0.5
	baz=124						
P19K	Oil Pt	3.97	336		Pn	00 38 04.2	+1.0
P19K	Oil Pt	3.97	336	IAML		00 38 53.2	
P19K	comp=E,110nm,0.6s			IAML		00 38 56.0	
	comp=N,141nm,0.6s						
P19K	Oil Pt	3.97	336	P	Pn	00 38 04.2	+1.0
	baz=154						
SEW	Seward	4.06	4	S	Sn	00 38 50.5	-1.4
	baz=184						
P23K	Montague Islan	4.19	19		Pn	00 38 05.9	-0.3
P23K	Montague Islan	4.19	19	P	Pn	00 38 05.9	-0.3
	baz=200						
IVE	Iliamna Volcan	4.26	340		Pn	00 38 07.5	+0.3
P18K	Big Mountain,	4.33	322		Pn	00 38 08.2	0.0
P18K	Big Mountain,	4.33	322	P	Pn	00 38 08.2	0.0
	baz=139						
O22K	Cooper Landing	4.43	2	Pn	Pn	00 38 09.9	+0.4
O22K				IAML		00 39 20.9	
	comp=E,142nm,1.2s						
RSO	Redoubt South	4.63	343	Pn	Pn	00 38 11.8	-0.6
P17K	Kvichak River	4.64	315		Pn	00 38 13.0	+0.6
P17K	Kvichak River	4.64	315	P	Pn	00 38 13.0	+0.6
	baz=131						
CHGN	Chignik	4.67	276	Pn	Pn	00 38 08.8	-4.0
CHGN				IAML		00 40 46.4	
	comp=N,112nm,0.1s						
O18K	Koktuh Hills	4.68	326	Pn	Pn	00 38 12.5	-0.5
O18K				IAML		00 39 22.5	
	comp=E,48nm,0.8s						
O18K				IAML		00 39 24.0	
	comp=N,43nm,1.1s						
HIN	Hinchinbrook I	4.73	22		Pn	00 38 13.8	+0.2
HIN	Hinchinbrook I	4.73	22	IAML		00 39 08.3	
	comp=E,77nm,1.3s						
KAIM	Kayak Island	4.90	36		Pn	00 38 16.4	+0.5
KAIM	Kayak Island	4.90	36	IAML		00 39 01.6	
	comp=N,107nm,1.3s						
KAIM	Kayak Island	4.90	36	P	Pn	00 38 16.4	+0.5
	baz=219						
EYAK	Cordova Ski Ar	5.04	25		Pn	00 38 18.1	+0.3
EYAK	Cordova Ski Ar	5.04	25	P	Pn	00 38 18.1	+0.3
	baz=208						
RC01	Rabbit Creek A	5.04	2	Pn	Pn	00 38 17.8	0.0
RC01				IAML		00 39 16.2	
	comp=E,23nm,1.5s						
RC01				IAML		00 39 22.7	
	comp=N,23nm,1.4s						
P16K	Nushagak River	5.20	308		Pn	00 38 20.2	+0.2
P16K	Nushagak River	5.20	308	P	Pn	00 38 20.2	+0.2
	baz=123						
N20K	Mount Spurr	5.26	349	P	Pn	00 38 21.6	+0.6
	baz=167						
SPCR	Spurr Chakacha	5.27	349		Pn	00 38 21.6	+0.6
O17K	Koliganek Bris	5.27	318	P	Pn	00 38 21.6	+0.6
	baz=133						
N19K	Bonanza Creek	5.29	336		Pn	00 38 21.8	+0.3
N19K	Bonanza Creek	5.29	336	IAML		00 39 29.2	
	comp=E,13nm,0.7s						
N19K				IAML		00 39 44.2	
	comp=N,13nm,0.9s						
N19K	Bonanza Creek	5.29	336	P	Pn	00 38 21.7	+0.3
	baz=133						
GOAT	Goat Mountain	5.33	30		Pn	00 38 22.4	+0.6
SUA	Susitna One	5.42	357	Pn	Pn	00 38 23.2	0.0
KNK	Knik Glacier	5.42	8		Pn	00 38 23.3	+0.1
KNK	Knik Glacier	5.42	8	P	Pn	00 38 23.3	+0.1
	baz=189						
BERG	Berg Lake	5.49	35	Pn	Pn	00 38 24.9	+0.8
STLK	Strandline Lak	5.52	351		Pn	00 38 24.8	+0.3
N18K	Kilae Creek	5.54	329		Pn	00 38 24.6	-0.2
N18K	Kilae Creek	5.54	329	P	Pn	00 38 24.6	-0.2
	baz=145						
O16K	Kokwok River B	5.55	313		Pn	00 38 24.9	0.0
O16K	Kokwok River B	5.55	313	P	Pn	00 38 25.1	+0.1
	baz=127						
PMR	Palmer	5.56	5	Pn	Pn	00 38 25.3	+0.3
CNBA	Chernabura Isl	5.56	261	Pn	Pn	00 38 24.5	-0.5
SNH	Sunshine Point	5.63	40	Pn	Pn	00 38 26.7	+0.7
BMRM	Bremner River	5.68	28	P	Pn	00 38 27.1	+0.3
	baz=212						
GHO	Glory Hole Cre	5.75	5		Pn	00 38 28.1	+0.4
SVW2	Sparrevohn	5.81	333	Pn	Pn	00 38 29.3	+0.9
SML	Sawmill	5.83	8		Pn	00 38 29.5	+0.8
SML	Sawmill	5.83	8	P	Pn	00 38 29.5	+0.8
	baz=189						
N17K	Nushagak Hills	5.83	323	Pn	Pn	00 38 29.1	+0.4
KLU	Klutina	5.85	20		Pn	00 38 29.4	+0.3
KLU	Klutina	5.85	20	P	Pn	00 38 29.4	+0.3
	baz=203						
BARK	Barkley Ridge	5.91	40		Pn	00 38 30.1	+0.3
SCM	Sheep Creek Mo	5.95	13	Pn	Pn	00 38 31.9	+1.5
SKT	Skwentna	5.98	353	Pn	Pn	00 38 30.8	0.0
M20K	Styx River	6.04	346	Pn	Pn	00 38 30.6	-1.1
O15K	Ungalikthiuk R	6.09	305		Pn	00 38 32.5	+0.1
O15K	Ungalikthiuk R	6.09	305	P	Pn	00 38 32.4	+0.1
	baz=118						
M18K	Stony River	6.20	334		Pn	00 38 33.3	-0.5
M18K	Stony River	6.20	334	P	Pn	00 38 33.3	-0.5
	baz=149						
VRDI	Verde Repeater	6.22	31	Pn	Pn	00 38 34.3	+0.1
N25K	Chitina, Valde	6.24	25		Pn	00 38 35.4	+1.0
N25K	Chitina, Valde	6.24	25	P	Pn	00 38 35.2	+0.8
	baz=209						
M19K	Big River Lodg	6.26	341	Pn	Pn	00 38 35.6	+0.9
GLB	Gilahina Butte	6.29	29		Pn	00 38 36.3	+1.2
KIAG	Kiagna River	6.32	37		Pn	00 38 35.6	-0.1
N16K	Nishlik Lake	6.37	317		Pn	00 38 36.3	+0.2
N16K	Nishlik Lake	6.37	317	P	Pn	00 38 36.3	+0.2
	baz=131						
M24K	Tolsona, Glenn	6.38	17		Pn	00 38 36.8	+0.5
M24K	Tolsona, Glenn	6.38	17	P	Pn	00 38 36.8	+0.5
	baz=199						
MCARA	McCarthy VSAT	6.47	32		Pn	00 38 37.5	+0.1
MCARA	McCarthy VSAT	6.47	32	P	Pn	00 38 37.5	+0.1
	baz=217						
PTPK	Patty Peak	6.49	35		Pn	00 38 37.6	-0.3
M17K	Holitna River	6.58	327		Pn	00 38 39.2	+0.3
PCA	Pinnacle	6.58	48		Pn	00 38 39.3	+0.1
PINM	Pinnacle	6.58	48	P	Pn	00 38 39.3	+0.1
	baz=235						
L19K	White Mountain	6.61	340	Pn	Pn	00 38 39.1	-0.2
WASW	Wrangell South	6.62	25		Pn	00 38 40.4	+0.7
BARN	Barnard Glacie	6.66	38		Pn	00 38 40.7	+0.4
CTG	Chitna Glacier	6.70	39	P	Pn	00 38 41.2	+0.4
	baz=226						
CTGM	Chitina Glacie	6.71	39		Pn	00 38 41.2	+0.3
N15K	Kwethluk River	6.71	312		Pn	00 38 41.4	+0.6
N15K	Kwethluk River	6.71	312	P	Pn	00 38 41.4	+0.6
	baz=124						
LOGN	Logan Glacier	6.73	41	Pn	Pn	00 38 41.5	+0.2
PNL	Peninsula	6.74	53		Pn	00 38 41.3	+0.1
PNL	Peninsula	6.74	53	P	Pn	00 38 41.3	+0.1
	baz=241						
BCPM	Bancas Point	6.77	51	Pn	Pn	00 38 42.1	+0.5
O14K	Tigyukauivet M	6.80	303	Pn	Pn	00 38 42.4	+0.4
M16K	Timber Creek	6.80	321		Pn	00 38 41.8	-0.2
M16K	Timber Creek	6.80	321	P	Pn	00 38 41.8	-0.2
	baz=134						
HARP	HAARP	6.83	20		Pn	00 38 43.0	+0.6
HARP	HAARP	6.83	20	P	Pn	00 38 43.0	+0.6
	baz=203						
L18K	Granite Mounta	7.04	334	Pn	Pn	00 38 45.1	-0.2
DHY	Denali Highway	7.16	10	Pn	Pn	00 38 47.5	+0.4
N14K	Kuskokwak Cree	7.28	307		Pn	00 38 47.5	-1.1
N14K	Kuskokwak Cree	7.28	307	P	Pn	00 38 47.5	-1.1
	baz=118						
TRF	Thorofare Moun	7.41	359	Pn	Pn	00 38 50.7	+0.3
O29M	Mount Kennedy	7.41	50		Pn	00 38 50.2	-0.2
O29M	Mount Kennedy	7.41	50	P	Pn	00 38 50.2	-0.2
	baz=239						
CAST	Castle Rocks	7.44	353	Pn	Pn	00 38 52.2	+1.4
L16K	Owhat River	7.46	323		Pn	00 38 51.4	+0.3
L16K	Owhat River	7.46	323	P	Pn	00 38 51.4	+0.3
	baz=136						
P29M	Windy Craggy	7.48	56		Pn	00 38 51.2	-0.3
P29M	Windy Craggy	7.48	56	P	Pn	00 38 50.4	-1.0
	baz=246						
KTH	Kantishna Hill	7.52	357	Pn	Pn	00 38 52.3	+0.4
M27K	Edge Creek, AK	7.57	30	Pn	Pn	00 38 53.8	+1.0
K20K	Telida	7.58	346	Pn	Pn	00 38 53.2	+0.4
S31K	Pelican	7.79	70		Pn	00 38 54.7	-0.8
S31K	Pelican	7.79	70	P	Pn	00 38 54.7	-0.8
	baz=261						
M14K	Bethel	7.81	312		Pn	00 38 56.6	+0.8
K17K	Iditarod	7.87	331	Pn	Pn	00 38 58.2	+1.4
ISLZ	Isanotski Laza	7.88	266		Pn	00 38 55.3	-1.6
ISNN	Isanotski Nort	7.89	267		Pn	00 38 54.4	-2.6
BPAW	Bear Paw Mtn.	8.07	357		Pn	00 38 58.8	-0.6
RIDG	Independent Ri	8.13	17	Pn	Pn	00 39 02.9	+2.6
J18K	Innoko River	8.14	338	Pn	Pn	00 39 01.2	+0.9
L15K	Ungalak Mounta	8.15	318		Pn	00 39 00.4	-0.1
L15K	Ungalak Mounta	8.15	318	P	Pn	00 39 00.4	-0.1
	baz=129						
L27K	Beaver Creek,	8.16	27		Pn	00 39 00.5	-0.2
L27K	Beaver Creek,	8.16	27	P	Pn	00 39 00.5	-0.2
	baz=214						
BCAR	Beaver Creek A	8.17	27	Pn	Pn	00 39 01.9	+1.0
J20K	Nowinta River	8.38	348	Pn	Pn	00 39 04.4	+0.7
J19K	Poorman	8.42	343	Pn	Pn	00 39 05.5	+1.3
L14K	Kuka Creek	8.42	314	Pn	Pn	00 39 04.2	0.0
SCRK	Sand Creek	8.49	18	Pn	Pn	00 39 06.4	+1.1
HDA	Harding Lake	8.51	9		Pn	00 39 07.8	+2.3
NEA2	Nenana	8.57	3	Pn	Pn	00 39 08.2	+2.0
K15K	Wolf Creek Mou	8.57	321	Pn	Pn	00 39 07.2	+1.0
N30M	Aishikik Lake	8.63	46	Pn	Pn	00 39 08.0	+0.8
CCB	Clear Creek Bu	8.68	6	Pn	Pn	00 39 09.0	+1.3
O30N	Mendenhall	8.71	52	Pn	Pn	00 39 08.7	+0.4
M29M	Somme Creek	8.72	38		Pn	00 39 09.6	+1.2
IL31		8.87	9		Pn	00 39 11.2	+0.8
ILAR	Eielson Array	8.87	9	Pn	Pn	00 39 12.2	+1.9
ILAR	Eielson Array	8.87	9	Pn	Pn	00 39 11.7	+1.3
	comp=N,0.2nm,0.3s,baz=187,slow=13,SNR=11						
ILAR				Sn	Sn	00 40 45.4	-4.9
	baz=190,slow=16,SNR=1.3						
ILAR				LR	LR	00 42 22.7	
	comp=N,80nm,18.7s,baz=291,slow=35						
	comp=N,0.5nm,0.5s						
J25K	Salcha River,	8.88	13	Pn	Pn	00 39 11.6	+1.0
K27K	Chicken	8.92	23	Pn	Pn	00 39 12.3	+1.2
J16K	Anvik River	8.97	328	Pn	Pn	00 39 11.7	-0.1
J26L	Joseph Creek	9.05	18		Pn	00 39 13.5	+0.6
I23K	Minto, Yukon-K	9.12	2	Pn	Pn	00 39 13.5	-0.2
N31M	Braeburn, Yuko	9.18	48	Pn	Pn	00 39 15.6	+0.9
WHY	Whitehorse	9.20	54	Pn	Pn	00 39 16.3	+1.3
L29M	L29M	9.29	36	Pn	Pn	00 39 16.8	+0.7
M30M	Minto, Yukon	9.40	41	Pn	Pn	00 39 18.4	+0.8
P32M	Atlin	9.40	61	Pn	Pn	00 39 17.6	-0.2
J14K	Nanvaranak Lak	9.58	320	Pn	Pn	00 39 21.0	+0.9
DAWY	Dawson	9.62	29	Pn	Pn	00 39 21.6	+1.0
H21K	Melozitna Rive	9.71	353	Pn	Pn	00 39 22.9	+1.0
H24K	Noodor Dome	9.86	5	Pn	Pn	00 39 26.3	+2.4
I26K	Coal Creek Min	9.86	17	Pn	Pn	00 39 25.2	+1.3
K29M	Barlow Dome	10.00	34	Pn	Pn	00 39 26.9	+0.9
Q32M	Nakina River	10.00	66	Pn	Pn	00 39 26.9	+0.8
P33M	Teslin, Yukon	10.01	58	Pn	Pn	00 39 25.7	-0.4
IMAR	Indian Mountai	10.10	351	Pn	Pn	00 39 29.0	+1.7
M31M	Drury Creek, Y	10.11	46	Pn	Pn	00 39 28.9	+1.4
H17K	Granite Mounta	10.12	336	Pn	Pn	00 39 28.3	+0.9
N32M	Quiet Lake	10.21	53	Pn	Pn	00 39 28.5	-0.2
G21K	Allakaket	10.61	353	Pn	Pn	00 39 36.3	+2.1
I28M	Miner Creek	10.62	24	Pn	Pn	00 39 36.1	+1.7
G23K	Bananza Creek	10.68	0	Pn	Pn	00 39 36.8	+1.6
R33M	Jennings River	10.73	64	Pn	Pn	00 39 36.5	+0.5
DLBC	Dease Lake	11.10	69	Pn	Pn	00 39 39.5	-1.6
	comp=N,0.1nm,0.3s,baz=188,slow=15,SNR=2.0						
	comp=N,2.6nm,1.1s						
INK	Inuvik	14.42	25	Pn	Pn	00 40 28.0	+1.8
	comp=N,0.1nm,0.3s,baz=212,slow=19,SNR=6.9						
INK				LR	LR	00 46 29.7	
	comp=N,77nm,19.9s,baz=163,slow=39						
	comp=N,1.4nm,0.9s						
YKA	Yellowknife Ar	19.02	56	P	P	00 41 25.2	+1.2
	comp=N,0.1nm,0.3s,baz=266,slow=12,SNR=7.0						
	comp=N,0.3nm,0.5s						
ELK	Elko	27.37	109	LR	LR	00 51 24.8	
	comp=N,66nm,18.6s,baz=34,slow=32						
NVAR	Mina Array Bea	27.51	116	P	P	00 42 47.1	-1.9
	comp=N,0.1nm,0.3s,baz=316,slow=5.0,SNR=2.3						
	comp=N,0.1nm,0.3s						
H11N2	WAKE ISLAND Hy	48.40	239	T	T	01 37 44.9	
	baz=31,slow=76,SNR=

	baz=229							
ARA0					SG	**Sb**	**00 41 01.3**	**-1.8**
KMNF	**Kaamanen**	**2.86**	**58**		SB	**Sn**	**00 41 05.9**	**+1.6**

*IDC **26** 00:41:05.9±2.8,55.83N×149.56W,h0km,mb3.3/3, mbtmp3.4/8,ML3.1/5,MS3.1/1,Error ellipse: s-maj=50.6km s-min=26.2km az=174.0*
*NEIC **26** 00:41:08.2±0.7,56.09N±0.09×149.8W±0.1,h20km±11km, ML3.5/40,ML3.3(AEIC),Error ellipse: s-maj=14.1km s-min=9.4km az=155.0*
*AEIC **26** 00:41:10.8±1.3,56.0N±0.1×149.7W±0.1,h8km±9km,Error ellipse: s-maj=18.4km s-min=10.2km az=158.0*
ISC 26 00:41:08.3±1.2,56.14N±0.08×149.79W±0.06,h10km, n109,σ0§93/107,mb3.4/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.21**	**301**		**Pn**	**00 41 44.3**	**-0.7**
OHAK					**Sn**	**00 42 10.3**	**-2.1**
OHAK	**Old Harbor**	**2.21**	**301**	P	**Pn**	**00 41 44.6**	**-0.5**
	baz=120						
OHAK				S	**Sn**	**00 42 10.3**	**-2.1**
	baz=120						
KDAK	**Kodiak Island**	**2.25**	**318**		**Sn**	**00 42 12.0**	**-1.2**
KDAK	**Kodiak Island**	**2.25**	**318**	Pn	**Pn**	**00 41 44.6**	**-0.9**
KDAK				IAML		00 42 12.6	
	71nm,1.3s						
KDAK				IAML		00 42 12.6	
	65nm,0.4s						
KDAK	**Kodiak Island**	**2.25**	**318**	Pn	**Pn**	**00 41 45.4**	**0.0**
	5.1nm,0.3s,baz=136,slow=3.5,SNR=8.2						
KDAK				Sn	**Sn**	**00 42 11.6**	**-1.7**
	11nm,0.3s,baz=30,slow=21,SNR=13 9.0nm,0.3s						
SII	**Sitkinak Islan**	**2.48**	**281**		**Sn**	**00 42 17.1**	**-2.0**
SII	**Sitkinak Islan**	**2.48**	**281**	Pn	**Pn**	**00 41 47.9**	**-0.8**
SII				IAML		00 42 24.1	
	comp=N,190nm,1.4s						
SII				IAML		00 42 54.2	
	comp=E,189nm,1.3s						
SII	**Sitkinak Islan**	**2.48**	**281**	S	**Sn**	**00 42 17.1**	**-2.0**
	baz=100						
Q20K	**Shuyak Island**	**2.85**	**331**	P	**Pn**	**00 41 53.6**	**-0.1**
	baz=149						
Q20K				S	**Sn**	**00 42 28.3**	**+0.3**
	baz=149						
SYI	**Shuyak Island**	**2.85**	**331**		**Pn**	**00 41 53.6**	**-0.1**
SYI					**Sn**	**00 42 28.3**	**+0.3**
SYI	**Shuyak Island**	**2.85**	**331**	IAML		00 42 31.1	
	comp=E,72nm,0.8s						
R18K	**Karluk**	**2.93**	**301**		**Pn**	**00 41 54.2**	**-0.7**
R18K				IAML		00 42 30.7	
	comp=N,105nm,0.5s						
R18K				IAML		00 42 33.9	
	comp=E,91nm,0.5s						
R18K	**Karluk**	**2.93**	**301**	P	**Pn**	**00 41 54.8**	**-0.1**
	baz=118						
CNPM	**China Poot**	**3.48**	**348**		**Pn**	**00 42 02.1**	**-0.4**
CNPM					Pb	00 42 02.4	-7.6
CNPM				IAML		00 42 45.4	
	comp=E,54nm,1.1s						
Q19K	**Cape Douglas,**	**3.48**	**325**		**Pn**	**00 42 02.5**	**0.0**
Q19K	**Cape Douglas,**	**3.48**	**325**	IAML		00 42 51.0	
	comp=E,287nm,1.2s						
Q19K	**Cape Douglas,**	**3.48**	**325**	P	**Pn**	**00 42 02.5**	**0.0**
	baz=142						
BRSE	**Bradley Lake S**	**3.65**	**352**		**Pn**	**00 42 04.1**	**-0.6**
BRSE					**Sn**	**00 42 46.5**	**-1.2**
BRSE	**Bradley Lake S**	**3.65**	**352**	P	**Pn**	**00 42 04.1**	**-0.6**
	baz=171						
BRSE				S	**Sn**	**00 42 46.5**	**-1.2**
	baz=171						
HOM	**Homer**	**3.66**	**345**	Pn	**Pn**	**00 42 04.0**	**-0.9**
BRLK	**Bradley Lake**	**3.68**	**351**		**Pn**	**00 42 04.8**	**-0.4**
BRLK				IAML		00 42 54.5	
	comp=E,43nm,1.4s						
BRLK				IAML		00 42 58.7	
	comp=N,49nm,1.5s						
BRLK	**Bradley Lake**	**3.68**	**351**		**Pn**	**00 42 04.6**	**-0.6**
Q23K	**Middleton Isla**	**3.77**	**28**		**Pn**	**00 42 05.7**	**-0.8**
Q23K	**Middleton Isla**	**3.77**	**28**	P	**Pn**	**00 42 05.2**	**-1.2**
	baz=209						
MID	**Middleton Isla**	**3.77**	**28**	Pn	**Pn**	**00 42 05.7**	**-0.7**
MID				IAML		00 42 46.8	
	comp=N,158nm,1.5s						
P19K	**Oil Pt**	**3.97**	**334**	Pn	**Pn**	**00 42 08.4**	**-0.7**
P19K				IAML		00 43 01.9	
	comp=N,162nm,0.6s						
P19K				IAML		00 43 02.0	
	comp=E,133nm,0.6s						
P23K	**Montague Islan**	**4.07**	**17**		**Pn**	**00 42 10.1**	**-0.4**
P23K	**Montague Islan**	**4.07**	**17**	P	**Pn**	**00 42 10.1**	**-0.4**
	baz=198						
IVE	**Iliamna Volcan**	**4.25**	**338**		**Pn**	**00 42 12.8**	**-0.2**
O22K	**Cooper Landing**	**4.35**	**0**	Pn	**Pn**	**00 42 14.3**	**0.0**
O22K				IAML		00 43 16.5	
	comp=E,144nm,0.7s						
O22K				IAML		00 43 18.7	
	comp=N,114nm,1.0s						
P18K	**Big Mountain,**	**4.37**	**320**		**Pn**	**00 42 14.0**	**-0.7**
P18K				IAML		00 43 05.1	
	comp=N,21nm,1.4s						
P18K	**Big Mountain,**	**4.37**	**320**	P	**Pn**	**00 42 14.6**	**-0.1**
	baz=136						
SLKM	**Skilak Lake**	**4.38**	**357**		**Pn**	**00 42 14.2**	**-0.7**
RDSO	**Redoubt South**	**4.60**	**341**		**Pn**	**00 42 17.4**	**-0.4**
HIN	**Hinchinbrook I**	**4.60**	**21**		**Pn**	**00 42 17.4**	**-0.5**
HIN				IAML		00 43 17.9	
	comp=N,93nm,1.4s						
HIN				IAML		00 43 52.5	
	comp=E,97nm,1.5s						
RSO	**Redoubt South**	**4.61**	**341**		**Pn**	**00 42 18.2**	**+0.1**
RDT	**Redoubt**	**4.65**	**344**		**Pn**	**00 42 18.3**	**-0.3**
KAIM	**Kayak Island**	**4.75**	**35**	Pn	**Pn**	**00 42 19.2**	**-0.5**
CHGN	**Chignik**	**4.82**	**275**	Pn	**Pn**	**00 42 19.4**	**-1.4**
EYAK	**Cordova Ski Ar**	**4.90**	**24**		**Pn**	**00 42 21.7**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	**Pn**	**00 42 21.4**	**-0.5**
	baz=206						
RC01	**Rabbit Creek A**	**4.96**	**0**		**Pn**	**00 42 22.4**	**-0.4**
RC01	**Rabbit Creek A**	**4.96**	**0**	IAML		00 43 22.9	
	comp=E,29nm,1.2s						
RC01				IAML		00 43 25.1	
	comp=N,23nm,1.3s						
RC01	**Rabbit Creek A**	**4.96**	**0**	P	**Pn**	**00 42 22.4**	**-0.4**
	baz=180						
P16K	**Nushagak River**	**5.28**	**307**		**Pn**	**00 42 27.7**	**+0.6**
P16K	**Nushagak River**	**5.28**	**307**	P	**Pn**	**00 42 27.7**	**+0.6**
	baz=120						
N19K	**Bonanza Creek**	**5.29**	**334**		**Pn**	**00 42 27.2**	**-0.2**
N19K	**Bonanza Creek**	**5.29**	**334**	P	**Pn**	**00 42 27.2**	**-0.2**
	baz=150						
SPCG	**Spurr Capps Gl**	**5.29**	**348**		**Pn**	**00 42 26.6**	**-0.9**
O17K	**Koliganek Bris**	**5.33**	**316**		**Pn**	**00 42 27.6**	**-0.1**
O17K	**Koliganek Bris**	**5.33**	**316**	P	**Pn**	**00 42 27.6**	**-0.1**
	baz=130						
KNK	**Knik Glacier**	**5.33**	**7**		**Pn**	**00 42 27.2**	**-0.7**
KNK	**Knik Glacier**	**5.33**	**7**	IAML		00 43 49.6	
	comp=N,16nm,1.4s						
KNK	**Knik Glacier**	**5.33**	**7**	P	**Pn**	**00 42 27.2**	**-0.7**
	baz=187						
SUA	**Susitna One**	**5.36**	**355**		**Pn**	**00 42 28.0**	**-0.3**
SUA	**Susitna One**	**5.36**	**355**	P	**Pn**	**00 42 28.0**	**-0.3**
	baz=174						
STLK	**Strandline Lak**	**5.48**	**350**		**Pn**	**00 42 29.6**	**-0.3**
N18K	**Kilae Creek**	**5.57**	**327**		**Pn**	**00 42 30.8**	**-0.2**
N18K	**Kilae Creek**	**5.57**	**327**	P	**Pn**	**00 42 30.8**	**-0.2**
	baz=142						
GHO	**Glory Hole Cre**	**5.66**	**4**		**Pn**	**00 42 32.2**	**-0.3**
KLU	**Klutina**	**5.73**	**19**		**Pn**	**00 42 32.8**	**-0.6**
KLU	**Klutina**	**5.73**	**19**	P	**Pn**	**00 42 32.8**	**-0.6**
	baz=201						
VRDI	**Verde Repeater**	**6.07**	**30**		**Pn**	**00 42 37.2**	**-0.9**
N25K	**Chitina, Valde**	**6.10**	**24**	P	**Pn**	**00 42 38.0**	**-0.5**
	baz=207						
GLB	**Gilahina Butte**	**6.15**	**28**		**Pn**	**00 42 38.8**	**-0.4**
KIAG	**Kiagna River**	**6.17**	**36**		**Pn**	**00 42 38.6**	**-0.9**
O15K	**Ungalikthiuk R**	**6.19**	**304**		**Pn**	**00 42 39.9**	**+0.3**
O15K	**Ungalikthiuk R**	**6.19**	**304**	P	**Pn**	**00 42 39.9**	**+0.3**
	baz=116						
M18K	**Stony River**	**6.21**	**332**		**Pn**	**00 42 39.9**	**0.0**
M18K	**Stony River**	**6.21**	**332**	P	**Pn**	**00 42 39.9**	**0.0**
	baz=147						
MCARA	**McCarthy VSAT**	**6.32**	**31**		**Pn**	**00 42 41.7**	**+0.3**
	baz=216						
PTPK	**Patty Peak**	**6.33**	**34**		**Pn**	**00 42 41.8**	**0.0**
PCA	**Pinnacle**	**6.42**	**48**		**Pn**	**00 42 42.5**	**-0.3**
PINM	**Pinnacle**	**6.42**	**48**	P	**Pn**	**00 42 42.5**	**-0.3**
	baz=235						
BARN	**Barnard Glacie**	**6.50**	**37**		**Pn**	**00 42 43.8**	**-0.3**
CTG	**Chitna Glacier**	**6.55**	**39**	P	**Pn**	**00 42 44.1**	**-0.5**
	baz=225						
CTGM	**Chitina Glacie**	**6.55**	**39**		**Pn**	**00 42 44.1**	**-0.6**
PNL	**Peninsula**	**6.57**	**53**		**Pn**	**00 42 43.7**	**-1.1**
PNL	**Peninsula**	**6.57**	**53**	P	**Pn**	**00 42 43.7**	**-1.1**
	baz=241						
PN7A	**Pavlof North-7**	**6.93**	**269**		**Pn**	**00 42 48.4**	**-1.4**
M26K	**Nabesna, AK**	**7.17**	**26**		**Pn**	**00 42 52.5**	**-0.6**
M26K	**Nabesna, AK**	**7.17**	**26**	P	**Pn**	**00 42 52.5**	**-0.6**
	baz=211						
O29M	**Mount Kennedy**	**7.24**	**50**		**Pn**	**00 42 52.4**	**-1.7**
O29M	**Mount Kennedy**	**7.24**	**50**	P	**Pn**	**00 42 52.4**	**-1.7**
	baz=239						
N14K	**Kuskokwak Cree**	**7.36**	**306**		**Pn**	**00 42 56.0**	**+0.3**
N14K	**Kuskokwak Cree**	**7.36**	**306**	P	**Pn**	**00 42 56.0**	**+0.3**
	baz=116						
KTH	**Kantishna Hill**	**7.46**	**356**		**Pn**	**00 42 57.1**	**+0.1**
L16K	**Owhat River**	**7.50**	**322**		**Pn**	**00 42 57.7**	**+0.2**
L16K	**Owhat River**	**7.50**	**322**	P	**Pn**	**00 42 57.7**	**+0.2**
	baz=134						
BVCY	**Beaver Creek**	**7.77**	**32**		**Pn**	**00 43 01.7**	**+0.4**
BVCY	**Beaver Creek**	**7.77**	**32**	P	**Pn**	**00 43 01.7**	**+0.4**
	baz=219						
P30M	**Million Dollar**	**7.87**	**54**		**Pn**	**00 43 02.0**	**-0.7**
P30M	**Million Dollar**	**7.87**	**54**	P	**Pn**	**00 43 02.0**	**-0.7**
	baz=244						
ISLZ	**Isanotski Laza**	**8.05**	**266**		**Pn**	**00 43 03.6**	**-1.6**
ISNN	**Isanotski Nort**	**8.06**	**266**		**Pn**	**00 43 04.3**	**-1.0**
ILAR	**Eielson Array**	**8.77**	**8**	Pn	**Pn**	**00 43 15.9**	**+0.9**
	comp=N,0.4nm,0.3s,baz=188,slow=14,SNR=12						
ILAR				Sn	**Sn**	**00 44 49.6**	**-4.2**
	comp=N,0.1nm,0.3s,baz=110,slow=23,SNR=1.8 comp=N,1.4nm,0.5s						
DLBC	**Dease Lake**	**10.93**	**70**	Pn	**Pn**	**00 43 43.5**	**-1.1**
	comp=N,0.2nm,0.3s,baz=192,slow=7.6,SNR=1.8						
DLBC				LR	LR	00 47 23.9	
	comp=N,90nm,19.8s,baz=108,slow=35 comp=N,0.6nm,0.3s						
INK	**Inuvik**	**14.29**	**25**	Pn	**Pn**	**00 44 31.6**	**+1.2**
	baz=205,slow=12,SNR=5.0 comp=N,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**18.85**	**56**	P	**P**	**00 45 28.2**	**+0.1**
	baz=267,slow=13,SNR=3.4 comp=N,0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**48.57**	**240**	T	T	01 42 08.2	
	baz=31,slow=76,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**48.58**	**240**	T	T	01 42 09.7	
	baz=31,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**48.59**	**240**	T	T	01 42 10.9	
	baz=31,slow=76,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**49.71**	**239**	T	T	01 44 05.6	
	baz=28,slow=76,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**49.72**	**239**	T	T	01 44 02.8	
	baz=28,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**49.73**	**239**	T	T	01 44 02.3	
	baz=28,slow=76,SNR=6.6						
SONM	**Songino Array**	**58.51**	**310**	P	**P**	**00 51 07.3**	**+2.8**
	comp=N,0.3nm,0.6s,baz=32,slow=8.5,SNR=2.6 comp=N,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**61.52**	**327**	P	**P**	**00 51 25.7**	**+0.8**
	comp=N,0.1nm,0.3s,baz=43,slow=8.7,SNR=1.6 comp=N,0.1nm,0.3s						
MKAR	**Makanchi Array**	**68.55**	**324**	P	**P**	**00 52 11.1**	**+0.5**
	comp=N,0.2nm,0.8s,baz=11,slow=9.5,SNR=1.5 comp=N,0.2nm,0.8s						

*UPP **26** 00:41:21.0±0.0,67.83N×20.21E,h0km,ML2.5,Suspected explosion*
*HEL **26** 00:41:21.5±0.4,67.73N×20.34E,h0km,ML1.4,Suspected explosion*
ISC 26 00:41:20.4±0.9,67.80N±0.03×20.39E±0.04,h0km,n27, σ1§45/39,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**353**	P	**Pg**	**00 41 23.8**	**+0.5**
KUA				S	**Sg**	**00 41 25.7**	**+0.5**
RATU	**Laukkuluspa**	**0.30**	**274**	P	**Pg**	**00 41 25.6**	**-0.5**
LANU	**Lannavaara**	**0.66**	**67**	PG	**Pb**	**00 41 34.5**	**-0.3**
LANU				SG	**Sb**	**00 41 44.0**	**-0.4**
LANU	**Lannavaara**	**0.66**	**67**	P	**Pb**	**00 41 34.4**	**-0.3**
DUNU	**Dundret**	**0.69**	**174**	P	**Pg**	**00 41 34.5**	**+1.0**
MASU	**Masugnsbyn**	**0.71**	**119**	P	**Pb**	**00 41 35.8**	**+0.2**
SALU	**Saltoluokta**	**0.84**	**240**	P	**Pg**	**00 41 35.9**	**-0.5**
PAJU	**Pajala**	**1.31**	**125**	PN	**Pn**	**00 41 46.3**	**+0.4**
	baz=303						
PAJU				SN	**Sn**	**00 42 05.1**	**+0.9**
PAJU	**Pajala**	**1.31**	**125**	P	**Pn**	**00 41 46.3**	**+0.4**
HEF	**Hetta**	**1.37**	**62**	*e*P	**Pb**	**00 41 46.4**	**-0.5**
HEF	**Hetta**	**1.37**	**62**	PG	**Pn**	**00 41 47.1**	**+0.3**
HEF				MSG		00 42 04.3	
	comp=Z,4.0nm,0.2s						
HEF				SN	**Sn**	**00 42 07.5**	**+2.0**
KLF	**Kolari**	**1.49**	**111**	PN	**Pb**	**00 41 49.8**	**+0.9**
KLF				MSG		00 42 05.8	
	comp=Z,2.5nm,0.2s						
KLF				SN	**Sn**	**00 42 10.7**	**+2.2**
KTK1	**Kautokeino**	**1.61**	**40**	*e*P	**Pb**	**00 41 50.7**	**-0.2**
KTK1	**Kautokeino**	**1.61**	**40**	PG	**Pg**	**00 41 50.9**	**-0.3**
KTK1				SN	**Sg**	**00 42 15.3**	**+3.3**
HARU	**Harads**	**1.67**	**172**	P	**Pn**	**00 41 51.9**	**+1.1**
TRO	**Tromso**	**1.91**	**345**	PG	**Pg**	**00 41 57.7**	**+0.7**
TRO				SN	**Sn**	**00 42 20.1**	**+1.2**
KALU	**Kalix**	**2.28**	**148**	PB	**Pn**	**00 41 59.7**	**+0.5**
TOF	**Tornio**	**2.33**	**136**	PG	**Pb**	**00 42 02.9**	**-0.2**
	baz=320						
TOF				MSG		00 42 29.1	
	comp=Z,1.6nm,0.2s						
SGF	**Sodankyl**	**2.38**	**96**	PG	**Pb**	**00 42 04.1**	**+0.1**
RNF	**Rovaniemi**	**2.50**	**116**	PG	**Pb**	**00 42 06.0**	**-0.1**
	baz=296						
RNF				SG	**Sg**	**00 42 39.2**	**-1.4**
ARA0	**ARCESS Array S**	**2.56**	**45**	*e*P	**Pb**	**00 42 05.4**	**-1.7**
ARA0	**ARCESS Array S**	**2.56**	**45**	PB	**Pb**	**00 42 05.4**	**-1.7**
ARA0				SG	**Sb**	**00 42 39.7**	**+0.7**
KMNF	**Kaamanen**	**2.79**	**58**	PB	**Pb**	**00 42 10.2**	**-0.7**
KMNF				SB	**Sb**	**00 42 43.6**	**-2.0**
RAJF	**Raja-Jooseppi**	**3.04**	**74**	PB	**Pb**	**00 42 14.1**	**-1.2**
RAJF				SG	**Sg**	**00 42 56.4**	**-1.6**
KEV	**Kevo**	**3.10**	**48**	*e*P	**Pb**	**00 42 14.1**	**-2.3**
KEV	**Kevo**	**3.10**	**48**	PB	**Pb**	**00 42 16.1**	**-0.3**
KEV				SN	**Sb**	**00 42 51.2**	**-3.6**
OUL	**Oulu**	**3.51**	**138**	SB	**Sb**	**00 43 02.8**	**-3.7**

*IDC **26** 00:43:26.1±1.4,14.38S×166.71E,h0km,mb4.1/5, mbtmp4.1/6,ML3.7/1,Error ellipse: s-maj=39.4km s-min=27.9km az=126.0*
*NEIC **26** 00:43:30.4±0.8,14.44S±0.07×167.0E±0.3,h38km±20km, mb4.3/6,Error ellipse: s-maj=36.0km s-min=5.2km az=102.0*
ISC 26 00:43:32.8±2.5,14.7S±0.2×166.7E±0.2,h35km,n14, σ1§15/14,mb4.1/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.26**	**201**	Pn	**Pn**	**00 45 04.7**	**+2.0**
DZM	**Mont Dzumac**	**7.35**	**182**	Pn	**Pn**	**00 45 18.4**	**+0.6**
	1.1nm,0.3s,baz=11,slow=16,SNR=20						
DZM				Sn	**Sn**	**00 46 39.1**	**-1.0**
	baz=154,slow=21 8.7nm,0.7s						
CTAO	**Charters Tower**	**20.20**	**252**	P	**P**	**00 48 03.1**	**-1.7**
CTAO				IAmb	IAmb	00 48 34.3	
	comp=Z,11nm,1.1s						
ARMA	**Armidale**	**20.89**	**219**	P	**P**	**00 48 13.4**	**+1.1**
ARMA				IAmb	IAmb	00 48 24.5	
	comp=Z,10nm,1.2s						
TKNZ	**Takaka Hill**	**26.82**	**169**		**S**	**00 53 42.0**	**-1.8**
STKA	**Stephens Creek**	**28.58**	**229**	P	**P**	**00 49 25.7**	**-0.1**
STKA	**Stephens Creek**	**28.58**	**229**	P	**P**	**00 49 25.4**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=40,slow=7.9,SNR=5.2 comp=Z,1.8nm,0.5s						
TOO	**Toolangi**	**29.55**	**216**	P	**P**	**00 49 34.4**	**+0.1**
TOO				IAmb	IAmb	00 49 44.6	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**31.21**	**256**	P	**P**	**00 49 48.4**	**-0.8**
WB0				IAmb	IAmb	00 50 12.1	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**31.27**	**256**	P	**P**	**00 49 49.5**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=87,slow=9.5,SNR=8.8 comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**32.15**	**249**	P	**P**	**00 49 57.3**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=71,slow=9.7,SNR=17 comp=Z,1.3nm,0.7s						
BBOO	**Buckleboo**	**33.15**	**232**	P	**P**	**00 50 06.8**	**+0.7**
QSPA	**South Pole Qui**	**75.34**	**180**	P	**P**	**00 55 13.4**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=67,slow=2.0,SNR=3.8 comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**86.66**	**18**	P	P	00 56 09.7	-2.8
	comp=Z,1.0nm,0.8s,baz=239,slow=5.0,SNR=14 comp=Z,1.0nm,0.8s						

*MOS **26** 01:09:27.9±0.8,56.11N×149.23W,h34km,mb5.5/92, MS4.7/13,Error ellipse: s-maj=9.0km s-min=3.5km az=95.1*
*NEIC **26** 01:09:28.5,56.04N×149.27W,h36km*
*NEIC **26** 01:09:28.5,56.04N×149.27W,h36km,Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^16Nm; Mrr5.32; Mθθ-5.69; Mφφ0.37; Mrθ0.16; Mθφ5.85; Mφr-5.31; Fault plane solution: M0 9.63000×10^16 NP1: φs153.64000°,δ66.50000°,λ131.24000°. NP2: φs268.10000°,δ46.40000°,λ33.41000°. Principal axes: T 9.4007, Plg50.0000°, Azm111.0000°; N 0.4634, Plg37.0000°, Azm314.0000°; P -9.8641, Plg12.0000°, Azm215.0000°;*
*NEIC **26** 01:09:28.9,56.04N×149.27W,h32km*
*BGR **26** 01:09:28.3,56.08N×149.77W,h34km±3km, mb5.3*
*NEIC **26** 01:09:29.1±1.4,56.03N±0.07×149.27W±0.09,h34km±3km, mb5.5/679,ML5.5/52,Ms_20 4.9/82,Mwr5.2/113, Mww5.3/50,ML5.4(AEIC),Error ellipse: s-maj=9.5km s-min=7.2km az=182.0,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr3.47; Mθθ-4.54; Mφφ1.07; Mrθ0.58; Mθφ3.41; Mφr-4.33; Fault plane solution: M0 6.90000×10^16 NP1:φs262.01000°,δ44.20000°, λ30.29000°. NP2:φs149.29000°,δ69.42000°,λ130.02000°. Principal axes: T 7.0053, Plg49.0000°, Azm103.0000°; N -0.2185, Plg37.0000°, Azm313.0000°; P -6.7867, Plg15.0000°, Azm211.0000°;*
*GCMT **26** 01:09:29.1±0.2,56.09N±0.01×149.19W±0.01,h36km, MW5.3/144,Moment Tensor Solution. s85,c120; s144,c237; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.48±.02; Mθθ-0.68±.02; Mφφ0.19±.02; Mrθ0.04±.02; Mθφ0.64±.01; Mφr-0.55±.02; Best double couple: M0 1.03700×10^17 NP1:φs153.00000°,δ69.00000°, λ137.00000°. NP2:φs261.00000°,δ50.00000°,λ27.00000°. Principal axes: T 0.9990, Plg44.0000°, Azm110.0000°; N 0.0770, Plg43.0000°, Azm312.0000°; P -1.0750, Plg12.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 01:09:30.8±0.5,56.15N×149.26W,h43km±2km,mb4.8/38, mbtmp5.0/43,MS4.5/83 Error ellipse: s-maj=12.5km s-min=6.7km az=26.0*
*AEIC **26** 01:09:30.6±1.2,56.04N±0.07×149.27W±0.09,h12km±3km, Error ellipse: s-maj=9.6km s-min=7.1km az=192.0*
ISC 26 01:09:29.2±0.3,56.02N±0.04×149.12W±0.03,h35km±1km, h35km:pP-P,n1960,σ1§26/1866,mb5.5/473,MS4.7/138, 78C-52D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.60**	**314**	Pn	**Pn**	**01 10 06.6**	**-1.9**
KDAK	**Kodiak Island**	**2.60**	**314**		**Sn**	**01 10 34.6**	**-4.2**
KDAK	**Kodiak Island**	**2.60**	**314**	P	**Pn**	**01 10 06.8**	**-1.8**
	baz=133						
KDAK	**Kodiak Island**	**2.60**	**314**	P	**Pn**	**01 10 06.7**	**-1.9**
	958nm,0.7s,baz=161,slow=5.6,SNR=423						
KDAK				S	**Sn**	**01 10 35.1**	**-3.8**
	3µm,0.4s,baz=320,slow=19,SNR=15						
KDAK				LR	LR	01 11 17.5	
	comp=Z,13µm,20.9s,baz=41,slow=44						
OHAK	**Old Harbor**	**2.60**	**299**		**Pn**	**01 10 06.3**	**-2.3**
OHAK	**Old Harbor**	**2.60**	**299**		**Sn**	**01 10 34.1**	**-4.8**
OHAK	**Old Harbor**	**2.60**	**299**	P	**Pn**	**01 10 06.2**	**-2.3**
OHAK	**Old Harbor**	**2.60**	**299**	P	**Pn**	**01 10 06.4**	**-2.3**
	baz=117,SNR=149						
SII	**Sitkinak Islan**	**2.87**	**283**	Pn	**Pn**	**01 10 10.1**	**-2.3**
SII				IAML		01 10 42.1	
	comp=E,29µm,0.8s						
SII				IAML		01 10 44.7	
	comp=N,22µm,0.8s						
SII	**Sitkinak Islan**	**2.87**	**283**		**Sn**	**01 10 40.6**	**-5.2**
SII	**Sitkinak Islan**	**2.87**	**283**	P	**Pn**	**01 10 10.3**	**-2.1**
SII	**Sitkinak Islan**	**2.87**	**283**	P	**Pn**	**01 10 10.1**	**-2.3**
	baz=99,SNR=26						
SYI	**Shuyak Island**	**3.15**	**327**		**Pn**	**01 10 14.4**	**-1.8**
SYI	**Shuyak Island**	**3.15**	**327**		**Sn**	**01 10 49.4**	**-3.1**
Q20K	**Shuyak Island**	**3.15**	**327**	P	**Pn**	**01 10 14.4**	**-1.8**
	baz=146,SNR=23						
R18K	**Karluk**	**3.32**	**300**		**Pn**	**01 10 16.8**	**-1.7**
R18K					**Sn**	**01 10 52.6**	**-4.0**
R18K	**Karluk**	**3.32**	**300**	IAML		01 10 54.3	
	comp=N,11µm,0.7s						
R18K				IAML		01 10 58.6	
	comp=E,10µm,0.7s						
R18K	**Karluk**	**3.32**	**300**	P	**Pn**	**01 10 16.8**	**-1.7**
	baz=116						
CNPM	**China Poot**	**3.70**	**343**	Pn	**Pn**	**01 10 21.6**	**-2.1**
CNPM	**China Poot**	**3.70**	**343**		**Sn**	**01 11 03.0**	**-3.1**
CNPM	**China Poot**	**3.70**	**343**	IAML		01 11 05.0	
	comp=N,6µm,0.6s						
CNPM				IAML		01 11 06.6	
	comp=E,8µm,0.7s						
Q23K	**Middleton Isla**	**3.73**	**22**		**Pn**	**01 10 22.9**	**-1.3**
Q23K	**Middleton Isla

O22K Cooper Landing 4.49 356 P Pn 01 10 33.0 -1.6
baz=177,SNR=24
SLKM Skilak Lake 4.54 353 Pn 01 10 33.4 -2.0
HIN Hinchinbrook I 4.61 16 Pn 01 10 35.2 -1.1
HIN IAML 01 11 27.2
comp=N,5μm,0.6s
HIN IAML 01 11 28.9
comp=E,4μm,1.0s
KAIM Kayak Island 4.65 31 Pn 01 10 36.4 -0.4
KAIM IAML 01 11 32.1
comp=E,6μm,1.2s
KAIM IAML 01 11 36.8
comp=N,5μm,0.9s
KAIM Kayak Island 4.65 31 P Pn 01 10 36.6 -0.3
baz=216,SNR=108
P18K Big Mountain, 4.71 318 Pn Pn 01 10 35.4 -2.3
P18K Big Mountain, 4.71 318 P Pn 01 10 35.7 -2.0
baz=134,SNR=28
RED Redoubt Volcan 4.82 338 Pn 01 10 36.4 -2.8
RSO Redoubt South 4.85 338 Pn Pn 01 10 38.0 -1.8
Q16K King Salmon 4.87 306 Pn 01 10 38.5 -1.4
Q16K King Salmon 4.87 306 P Pn 01 10 38.5 -1.4
baz=120,SNR=83
EYAK Cordova Ski Ar 4.88 20 Pn 01 10 39.2 -0.7
EYAK Cordova Ski Ar 4.88 20 P Pn 01 10 39.0 -1.0
EYAK Cordova Ski Ar 4.88 20 P Pn 01 10 39.3 -0.7
baz=204,SNR=337
CAPN Captain Cook N 4.88 348 Pn 01 10 38.9 -1.1
CAPN Captain Cook N 4.88 348 P Pn 01 10 39.2 -0.7
baz=167,SNR=9.1
RDT Redoubt 4.89 341 Pn 01 10 37.9 -2.3
R16K Pilot Point 4.90 292 Pn 01 10 38.2 -2.0
R16K IAML 01 11 37.6
comp=E,3μm,0.9s
R16K IAML 01 12 13.4
comp=N,3μm,1.5s
R16K Pilot Point 4.90 292 P Pn 01 10 38.7 -1.5
baz=105,SNR=10
RAGM Ragged Mountai 4.97 26 Pn 01 10 39.1 -2.2
RAGM IAML 01 11 48.2
comp=E,5μm,0.7s
RDJH Redoubt Jeurge 4.98 339 Pn 01 10 39.3 -2.2
O19K Port Alsworth 5.01 329 Pn 01 10 39.5 -2.3
O19K Port Alsworth 5.01 329 P Pn 01 10 39.7 -2.1
baz=145
O18K Koktuh Hills 5.03 322 Pn 01 10 40.1 -1.9
O18K IAML 01 11 49.9
comp=E,2μm,0.9s
O18K IAML 01 11 56.1
comp=N,2μm,0.8s
O18K Koktuh Hills 5.03 322 P Pn 01 10 40.2 -1.9
baz=138,SNR=14
P17K Kvichak River 5.06 312 P Pn 01 10 41.3 -1.1
baz=126,SNR=149
RC01 Rabbit Creek A 5.10 357 Pn 01 10 41.2 -1.8
RC01 IAML 01 11 39.3
comp=N,4μm,0.6s
RC01 IAML 01 11 41.1
comp=E,4μm,0.7s
RC01 Rabbit Creek A 5.10 357 P Pn 01 10 41.1 -1.8
baz=177,SNR=62
GOAT Goat Mountain 5.13 25 Pn 01 10 43.1 -0.4
ANPB Aniakchak Plen 5.15 283 Pn 01 10 41.8 -1.8
FIS Fire Island 5.18 354 Pn 01 10 43.0 -1.0
CHGN Chignik 5.20 277 Pn 01 10 42.6 -1.8
CHGN IAML 01 11 40.3
comp=E,3μm,0.7s
CHGN IAML 01 11 40.4
comp=N,3μm,0.7s
CHGN Chignik 5.20 277 P Pn 01 10 42.6 -1.8
baz=89,SNR=24
BERG Berg Lake 5.24 31 Pn 01 10 44.5 -0.4
BERG IAML 01 11 48.1
comp=N,4μm,0.9s
SNH Sunshine Point 5.34 36 Pn 01 10 46.2 -0.1
SNH IAML 01 11 50.4
comp=E,2μm,1.2s
SNH IAML 01 11 52.4
comp=N,2μm,1.0s
CYK Cape Yakataga 5.39 38 Pn 01 10 46.2 -0.7
KNK Knik Glacier 5.42 3 Pn 01 10 45.9 -1.6
KNK Knik Glacier 5.42 3 P Pn 01 10 45.9 -1.6
baz=185,SNR=50
N20K Mount Spurr 5.44 344 P Pn 01 10 45.6 -2.2
baz=162,SNR=34
BMRM Bremner River 5.50 24 P Pn 01 10 48.0 -0.5
baz=208,SNR=285
SPCG Spurr Capps Gl 5.50 345 Pn 01 10 46.6 -2.0
SUA Susitna One 5.53 352 Pn 01 10 46.8 -2.2
SUA Susitna One 5.53 352 P Pn 01 10 46.9 -2.1
baz=171,SNR=26
N19K Bonanza Creek 5.57 332 Pn 01 10 47.3 -2.3
N19K Bonanza Creek 5.57 332 P Pn 01 10 47.4 -2.1
baz=148,SNR=26
PMR Palmer 5.59 360 Pn Pn 01 10 48.1 -1.6
PMR Palmer 5.59 360 P Pn 01 10 48.5 -1.2
PMR Palmer 5.59 360 P Pn 01 10 48.2 -1.5
baz=181,SNR=71
PMR Palmer 5.59 360 P Pn 01 10 48.1 -1.6
P16K Nushagak River 5.65 306 Pn 01 10 49.3 -1.2
P16K Nushagak River 5.65 306 P Pn 01 10 49.4 -1.2
baz=119,SNR=124
O17K Koliganek Bris 5.68 315 Pn 01 10 49.0 -1.9
O17K Koliganek Bris 5.68 315 P Pn 01 10 49.0 -1.9
baz=129
KLU Klutina 5.74 16 Pn 01 10 51.2 -0.6
KLU Klutina 5.74 16 P Pn 01 10 51.3 -0.6
baz=199,SNR=306
GHO Glory Hole Cre 5.78 1 Pn Pn 01 10 51.0 -1.3
SML Sawmill 5.82 4 Pn Pn 01 10 51.9 -1.1
SML Sawmill 5.82 4 P Pn 01 10 52.2 -0.8
baz=185,SNR=248
S14K Fog Glacier 5.84 277 P Pn 01 10 51.2 -2.0
baz=88
VNFG Fog Glacier, M 5.84 277 Pn 01 10 51.9 -1.3
M23K Glacier View 5.84 7 P Pn 01 10 52.5 -0.6
baz=189,SNR=126
N18K Kilae Creek 5.88 326 Pn 01 10 51.4 -2.2
N18K Kilae Creek 5.88 326 P Pn 01 10 51.5 -2.2
baz=140,SNR=20
SCM Sheep Creek Mo 5.91 8 Pn 01 10 53.6 -0.6
SCM Sheep Creek Mo 5.91 8 P Pn 01 10 53.6 -0.6
baz=191,SNR=119
SCM Sheep Creek Mo 5.91 8 P Pn 01 10 53.6 -0.6
O16K Kokwok River B 5.99 311 Pn 01 10 53.3 -1.8
O16K Kokwok River B 5.99 311 P Pn 01 10 53.8 -1.3
baz=123
VRDI Verde Repeater 6.01 27 Pn Pn 01 10 55.0 -0.6
CHNA Chernabura Isl 6.08 263 P Pn 01 10 54.1 -2.3
baz=74,SNR=36
CNBA Chernabura Isl 6.08 263 Pn Pn 01 10 53.8 -2.6
N25K Chitina, Valde 6.08 21 P Pn 01 10 56.0 -0.5
baz=206,SNR=648
GLB Gilahina Butte 6.10 25 Pn 01 10 56.2 -0.6
SKT Skwentna 6.11 349 Pn 01 10 54.9 -2.0
SKT Skwentna 6.11 349 P Pn 01 10 54.9 -2.0
baz=168,SNR=69
YKU2 Yakutat 6.15 51 Pn 01 10 57.1 -0.3
YKU2 Yakutat 6.15 51 P Pn 01 10 58.2 +0.8
N17K Nushagak Hills 6.21 320 P Pn 01 10 56.2 -1.9
baz=134,SNR=38
PINM Pinnacle 6.24 45 P Pn 01 10 58.8 +0.2
baz=234,SNR=219
M20K Styx River 6.24 342 Pn 01 10 55.9 -2.8
M20K Styx River 6.24 342 P Pn 01 10 56.4 -2.3
baz=160
MCARA McCarthy VSAT 6.25 28 Pn 01 10 58.5 -0.3
MCARA McCarthy VSAT 6.25 28 P Pn 01 10 58.5 -0.3
baz=214,SNR=428
M24K Tolsona, Glenn 6.29 13 Pn 01 10 59.3 -0.1
M24K Tolsona, Glenn 6.29 13 P Pn 01 10 59.6 +0.1
baz=196,SNR=244
PNL Peninsula 6.35 51 Pn 01 11 00.3 +0.1
PNL Peninsula 6.35 51 P Pn 01 11 00.4 +0.1
PNL Peninsula 6.35 51 P Pn 01 11 00.3 +0.1
baz=240,SNR=425
BCPM Bancas Point 6.40 48 Pn 01 11 01.4 +0.5
CTG Chitna Glacier 6.42 36 P Pn 01 11 01.2 0.0
baz=224,SNR=160
CUT Chulitna 6.44 355 P Pn 01 10 59.9 -1.4
baz=175,SNR=34
SDPT Sand Point 6.46 269 Pn Pn 01 10 59.8 -1.8
SDPT Sand Point 6.46 269 P Pn 01 10 59.8 -1.8
SDPT Sand Point 6.46 269 P Pn 01 10 59.7 -1.8
baz=79,SNR=22

WASW Wrangell South 6.46 21 Pn 01 11 01.5 -0.4
M18K Stony River 6.50 330 Pn 01 10 59.7 -2.5
M18K Stony River 6.50 330 P Pn 01 10 59.9 -2.4
baz=145,SNR=44
M19K Big River Lodg 6.50 337 P Pn 01 11 00.1 -2.1
baz=154,SNR=18
O15K Ungalikthiuk R 6.56 303 Pn 01 11 01.6 -1.5
O15K Ungalikthiuk R 6.56 303 P Pn 01 11 02.0 -1.1
baz=115,SNR=150
WAZA Wrangell Mount 6.59 21 Pn 01 11 03.5 -0.2
WAT6 Susitna Watana 6.62 6 P Pn 01 11 03.0 -1.0
baz=188,SNR=254
HARP HAARP 6.72 16 P Pn 01 11 05.4 +0.2
baz=200,SNR=165
N16K Nishlik Lake 6.77 315 P Pn 01 11 04.5 -1.5
baz=128,SNR=79
WAT7 Susitna Watana 6.84 1 Pn 01 11 06.1 -0.8
WAT1 Susitna Watana 6.84 2 P Pn 01 11 06.1 -0.8
baz=183
L19K White Mountain 6.85 337 Pn 01 11 04.9 -2.2
L19K White Mountain 6.85 337 P Pn 01 11 05.0 -2.0
baz=153,SNR=40
M17K Holitna River 6.92 325 P Pn 01 11 06.1 -1.8
baz=138,SNR=33
L20K Farewell, AK 6.92 341 Pn 01 11 05.3 -2.8
L20K Farewell, AK 6.92 341 P Pn 01 11 06.5 -1.5
baz=158,SNR=15
O29M Mount Kennedy 7.04 48 Pn 01 11 10.1 +0.4
O29M Mount Kennedy 7.04 48 P Pn 01 11 10.3 +0.5
baz=238,SNR=334
P29M Windy Craggy 7.08 55 P Pn 01 11 10.3 +0.2
baz=245,SNR=449
PPLA Purkeypile 7.08 349 P Pn 01 11 09.2 -1.0
baz=167,SNR=17
M26K Nabesna, AK 7.13 24 Pn 01 11 10.4 -0.5
M26K Nabesna, AK 7.13 24 P Pn 01 11 10.5 -0.5
baz=210
DHY Denali Highway 7.14 6 Pn Pn 01 11 10.4 -0.7
DHY Denali Highway 7.14 6 P Pn 01 11 10.4 -0.7
baz=189,SNR=276
N15K Kuuk River 7.15 310 P Pn 01 11 10.1 -0.9
baz=121,SNR=156
PS1A Pavlof South-1 7.16 270 Pn 01 11 09.2 -2.0
M16K Timber Creek 7.19 318 Pn 01 11 10.0 -1.6
M16K Timber Creek 7.19 318 P Pn 01 11 09.8 -1.9
baz=130
YUK8 Steele Glacier 7.19 39 P Pn 01 11 12.9 +1.0
baz=227,SNR=274
PVV Pavlof Volcano 7.19 270 Pn 01 11 09.8 -1.9
PAX Paxson 7.22 13 P Pn 01 11 11.4 -0.7
baz=197,SNR=152
O14K Tigyukauivet M 7.28 301 P Pn 01 11 11.6 -1.3
baz=112,SNR=39
S31K Pelican 7.31 69 P Pn 01 11 12.3 -1.0
baz=260,SNR=110
YUK3 Moose Creek 7.31 34 P Pn 01 11 14.4 +0.9
baz=222,SNR=346
L18K Granite Mounta 7.33 331 Pn 01 11 11.2 -2.4
L18K Granite Mounta 7.33 331 P Pn 01 11 11.3 -2.4
baz=145
M27K Edge Creek, AK 7.37 27 Pn 01 11 14.4 +0.2
M27K Edge Creek, AK 7.37 27 P Pn 01 11 14.1 -0.1
baz=214
RND Reindeer 7.42 1 Pn 01 11 14.1 -0.7
RND Reindeer 7.42 1 P Pn 01 11 14.1 -0.7
MENT Mentasta 7.47 19 P Pn 01 11 16.0 +0.5
TRF Thorofare Moun 7.48 356 Pn Pn 01 11 14.2 -1.6
TRF Thorofare Moun 7.48 356 P Pn 01 11 14.3 -1.6
baz=176,SNR=53
YUK6 Outpost Mounta 7.49 44 P Pn 01 11 17.3 +1.2
baz=234,SNR=503
DT1 Dutton Hound H 7.52 269 Pn 01 11 13.9 -2.2
CAST Castle Rocks 7.58 350 P Pn 01 11 15.4 -1.6
baz=168,SNR=70
L26K Log Cabin Wild 7.62 20 P Pn 01 11 17.6 0.0
baz=206,SNR=78
YUK4 Talbot Arm 7.63 41 P Pn 01 11 20.4 +2.5
baz=230,SNR=396
P30M Million Dollar 7.65 52 Pn 01 11 18.6 +0.6
P30M Million Dollar 7.65 52 P Pn 01 11 18.6 +0.6
baz=243
PLBC Pleasant Camp 7.65 58 P Pn 01 11 18.6 +0.7
baz=249,SNR=133
R31K City Hall, Gus 7.65 66 Pn 01 11 17.8 -0.2
R31K City Hall, Gus 7.65 66 P Pn 01 11 18.0 0.0
baz=258,SNR=14
M15K Kasigluk River 7.68 312 Pn 01 11 16.7 -1.6
M15K Kasigluk River 7.68 312 P Pn 01 11 16.9 -1.4
baz=123,SNR=73
BVCY Beaver Creek 7.69 30 Pn 01 11 19.0 +0.5
BVCY Beaver Creek 7.69 30 P Pn 01 11 18.7 +0.2
baz=218,SNR=126
SIT Sitka 7.70 77 Pn 01 11 16.9 -1.8
SIT Sitka 7.70 77 P Pn 01 11 16.5 -2.2
SIT Sitka 7.70 77 P Pn 01 11 16.4 -2.3
baz=268,SNR=15
SIT Sitka 7.70 77 P Pn 01 11 16.9 -1.8
L17K Donlin 7.74 326 P Pn 01 11 16.9 -2.3
baz=139
N14K Kuskokwak Cree 7.74 306 P Pn 01 11 18.2 -0.9
baz=115,SNR=94
MCK McKinley 7.74 1 P Pn 01 11 18.2 -1.0
baz=181,SNR=120
TTA Tatalina 7.77 336 Pn 01 11 17.2 -2.4
TTA Tatalina 7.77 336 P Pn 01 11 17.5 -2.1
TTA Tatalina 7.77 336 P Pn 01 11 16.9 -2.7
baz=151
TTA Tatalina 7.77 336 P Pn 01 11 17.2 -2.4
HYT Haines Junctio 7.77 47 P Pn 01 11 20.3 +0.6
baz=237,SNR=47
K20K Telida 7.78 343 Pn 01 11 17.3 -2.4
K20K Telida 7.78 343 P Pn 01 11 17.0 -2.7
baz=160,SNR=56
L16K Owhat River 7.83 321 P Pn 01 11 18.3 -2.1
baz=133,SNR=39
L27K Beaver Creek, 7.97 25 Pn 01 11 21.8 -0.7
L27K Beaver Creek, 7.97 25 P Pn 01 11 22.1 -0.3
baz=212
K24K Donnelly Dome 7.99 11 P Pn 01 11 22.6 -0.1
baz=194,SNR=141
RIDG Independent Ri 8.04 14 P Pn 01 11 22.8 -0.5
baz=198,SNR=300
CHUM Lake Minchumin 8.05 350 Pn 01 11 22.1 -1.3
CHUM Lake Minchumin 8.05 350 P Pn 01 11 21.9 -1.5
baz=168,SNR=73
S32K Killisnoo 8.13 74 P Pn 01 11 23.3 -1.2
baz=266,SNR=41
SKAG Skagway 8.15 59 P Pn 01 11 25.1 +0.4
SKAG Skagway 8.15 59 P Pn 01 11 25.4 +0.6
baz=251,SNR=98
BPAW Bear Paw Mtn. 8.16 354 P Pn 01 11 22.7 -2.3
baz=173,SNR=37
K17K Iditarod 8.19 329 Pn 01 11 22.8 -2.5
K17K Iditarod 8.19 329 P Pn 01 11 23.0 -2.3
baz=142
FALS False Pass 8.21 268 P Pn 01 11 23.4 -2.3
FALS False Pass 8.21 268 P Pn 01 11 23.8 -1.9
baz=76,SNR=45
M14K Bethel 8.24 310 Pn 01 11 24.7 -1.3
M14K Bethel 8.24 310 P Pn 01 11 24.9 -1.1
baz=120,SNR=55
R32K Eaglecrest 8.26 68 Pn 01 11 26.1 -0.2
R32K Eaglecrest 8.26 68 P Pn 01 11 26.4 0.0
baz=261,SNR=58
N30M Aishikik Lake 8.30 44 Pn 01 11 27.0 +0.1
N30M Aishikik Lake 8.30 44 P Pn 01 11 27.3 +0.4
baz=235
JIS Juneau Island 8.33 68 Pn 01 11 27.2 0.0
JIS Juneau Island 8.33 68 P Pn 01 11 26.8 -0.4
O30N Mendenhall 8.34 50 P Pn 01 11 27.9 +0.5
baz=241,SNR=73
SCRK Sand Creek 8.39 16 P Pn 01 11 27.1 -1.1
baz=201,SNR=113
J18K Innoko River 8.39 336 Pn 01 11 26.0 -2.1
J18K Innoko River 8.39 336 P Pn 01 11 26.3 -1.9
baz=150
ISNN Isanotski Nort 8.42 268 Pn 01 11 27.0 -1.6
M29M Somme Creek 8.44 36 Pn 01 11 29.1 +0.1
M29M Somme Creek 8.44 36 P Pn 01 11 29.5 +0.6
baz=226
HDA Harding Lake 8.49 6 Pn 01 11 28.9 -0.6
HDA Harding Lake 8.49 6 P Pn 01 11 28.6 -0.9
baz=189,SNR=188
SSLN Shishaldin Nor 8.55 268 Pn 01 11 28.8 -1.5
L15K Ungalak Mounta 8.55 317 Pn 01 11 29.2 -1.1
L15K Ungalak Mounta 8.55 317 P Pn 01 11 29.2 -1.1
baz=126,SNR=27
J20K Nowinta River 8.56 345 Pn 01 11 28.5 -1.9
J20K Nowinta River 8.56 345 P Pn 01 11 28.6 -1.9
baz=161
SSLS Shishaldin Sou 8.57 267 Pn 01 11 26.7 -4.0
NEA2 Nenana 8.61 0 P Pn 01 11 29.7 -1.3
baz=181,SNR=73
J19K Poorman 8.63 341 Pn 01 11 29.1 -2.4
J19K Poorman 8.63 341 P Pn 01 11 28.9 -2.5
baz=156
CCB Clear Creek Bu 8.68 4 Pn Pn 01 11 30.5 -1.6
M13K Dall Lake 8.70 306 P Pn 01 11 30.9 -1.4
baz=114,SNR=41
K27K Chicken 8.77 21 Pn 01 11 32.7 -0.6
K27K Chicken 8.77 21 P Pn 01 11 32.5 -0.8
baz=207
WHY Whitehorse 8.81 52 Pn 01 11 34.5 +0.5
WHY Whitehorse 8.81 52 P Pn 01 11 34.6 +0.6
baz=245,SNR=390
J25K Salcha River, 8.82 11 Pn 01 11 32.5 -1.6
J25K Salcha River, 8.82 11 P Pn 01 11 32.4 -1.7
baz=194,SNR=70
N31M Braeburn, Yuko 8.83 46 Pn 01 11 35.0 +0.7
N31M Braeburn, Yuko 8.83 46 P Pn 01 11 34.9 +0.7
baz=238
L14K Kuka Creek 8.84 313 Pn 01 11 32.9 -1.3
L14K Kuka Creek 8.84 313 P Pn 01 11 33.0 -1.3
baz=121
IL31 8.85 6 Pn 01 11 33.1 -1.3
ILAR Eielson Array 8.85 6 P Pn 01 11 32.9 -1.6
comp=N,92nm,0.8s,baz=187,slow=13,SNR=194
ILAR S Sn 01 13 08.2 -4.7
comp=N,278nm,0.8s,baz=186,slow=20,SNR=9.8
ILAR LR LR 01 15 17.5
comp=N,4μm,18.5s,baz=187,slow=40
COLA College 8.91 4 Pn 01 11 33.7 -1.5
COLA College 8.91 4 P Pn 01 11 33.9 -1.3
COLA College 8.91 4 P Pn 01 11 34.1 -1.1
baz=185
COLA College 8.91 4 P Pn 01 11 33.7 -1.5
J26L Joseph Creek 8.95 16 Pn 01 11 35.0 -0.8
J26L Joseph Creek 8.95 16 P Pn 01 11 35.0 -0.8
baz=201,SNR=307
K15K Wolf Creek Mou 8.95 320 Pn 01 11 34.1 -1.6
K15K Wolf Creek Mou 8.95 320 P Pn 01 11 33.4 -2.3
baz=130
U33K Whale Pass 8.96 83 Pn Pn 01 11 36.1 +0.3
U33K Whale Pass 8.96 83 P Pn 01 11 33.8 -2.0
baz=276,SNR=9.8
P32M Atlin 8.97 60 P Pn 01 11 36.5 +0.4
baz=254,SNR=124
WESE West Dahl East 8.97 266 Pn 01 11 34.4 -1.7
L29M L29M 9.03 34 P Pn 01 11 37.3 +0.4
baz=224,SNR=212
WEBT Westdahl Beart 9.03 267 Pn 01 11 35.1 -1.8
CRAG Craig 9.04 87 Pn Pn 01 11 35.4 -1.7
CRAG Craig 9.04 87 P Pn 01 11 35.5 -1.6
CRAG Craig 9.04 87 P Pn 01 11 35.4 -1.6
baz=280,SNR=6.5
M30M Minto, Yukon 9.10 39 P Pn 01 11 38.1 +0.2
baz=230,SNR=83
I23K Minto, Yukon-K 9.16 359 P Pn 01 11 37.7 -0.9
baz=180,SNR=110
POKR Poker Plat Res 9.17 4 P Pn 01 11 37.3 -1.4
baz=186,SNR=75
I20K Naaghedeneel 9.19 346 P Pn 01 11 38.1 -1.0
baz=161,SNR=8.3
I21K Tanana 9.30 353 Pn 01 11 38.9 -1.6
I21K Tanana 9.30 353 P Pn 01 11 38.9 -1.6
baz=170
J16K Anvik River 9.31 326 Pn 01 11 38.3 -2.3
J16K Anvik River 9.31 326 P Pn 01 11 38.4 -2.3
baz=137,SNR=12
WRAK Wrangell Islan 9.36 81 Pn Pn 01 11 41.0 -0.3
WRAK Wrangell Islan 9.36 81 P Pn 01 11 40.1 -1.3
baz=275,SNR=16
DAWY Dawson 9.42 27 Pn 01 11 42.1 -0.1
DAWY Dawson 9.42 27 P Pn 01 11 41.9 -0.3
baz=216,SNR=103
Q32M Nakina River 9.54 65 P Pn 01 11 44.3 +0.3
baz=260,SNR=58
GCSA Galena City Sc 9.55 340 P Pn 01 11 41.4 -2.6
baz=153
P33M Teslin, Yukon 9.59 57 P Pn 01 11 44.9 +0.3
baz=252,SNR=355
EGAK Eagle 9.62 21 Pn 01 11 45.3 +0.3
EGAK Eagle 9.62 21 P Pn 01 11 44.5 -0.4
baz=208,SNR=94
AKSA Akutan Strait 9.69 266 Pn 01 11 43.8 -2.1
PRP Porcupine Dome 9.69 9 Pn 01 11 44.5 -1.6
PRP Porcupine Dome 9.69 9 P Pn 01 11 44.5 -1.6
baz=193,SNR=25
AKUT Akutan 9.73 266 P Pn 01 11 44.3 -2.2
K29M Barlow Dome 9.76 32 Pn 01 11 46.9 0.0
K29M Barlow Dome 9.76 32 P Pn 01 11 47.3 +0.4
baz=222,SNR=212
AHB Akutan Harbor 9.76 266 Pn 01 11 44.4 -2.5
I26K Coal Creek Min 9.77 15 P Pn 01 11 46.0 -0.9
baz=201,SNR=121
M31M Drury Creek, Y 9.78 45 P Pn 01 11 48.2 +1.1
baz=238,SNR=173
I17K Unalakleet 9.78 328 Pn 01 11 45.2 -1.9
I17K Unalakleet 9.78 328 P Pn 01 11 45.0 -2.1
baz=139,SNR=7.7
N32M Quiet Lake 9.82 52 Pn 01 11 48.4 +0.7
N32M Quiet Lake 9.82 52 P Pn 01 11 48.2 +0.5
baz=246
H21K Melozitna Rive 9.84 351 P Pn 01 11 45.3 -2.6
baz=168,SNR=191
AKV Akutan Volcano 9.84 266 Pn 01 11 45.7 -2.4
ZRO Akutan Zero 9.86 266 Pn 01 11 46.1 -2.2
H24K Noodor Dome 9.87 3 P Pn 01 11 47.4 -1.0
baz=185,SNR=134
AKRB Akutan Reef Bi 9.90 266 Pn 01 11 46.3 -2.5
H20K Anotleneega Mo 9.91 346 Pn 01 11 47.5 -1.4
H20K Anotleneega Mo 9.91 346 P Pn 01 11 48.0 -0.9
baz=161,SNR=42
V35K Ketchikan 9.92 87 Pn 01 11 49.7 +0.7
V35K Ketchikan 9.92 87 P Pn 01 11 48.7 -0.3
baz=281,SNR=9.5
J14K Nanvaranak Lak 9.97 318 Pn 01 11 48.1 -1.6
J14K Nanvaranak Lak 9.97 318 P Pn 01 11 48.1 -1.6
baz=126
H22K Ishtalitna Cre 9.97 355 Pn 01 11 47.8 -1.9
H22K Ishtalitna Cre 9.97 355 P Pn 01 11 47.8 -1.9
baz=173
S34M Telegraph Cree 10.01 72 P Pn 01 11 50.7 +0.5
baz=267,SNR=26
M11K Mekoryuk 10.01 303 Pn 01 11 48.1 -2.1
M11K Mekoryuk 10.01 303 P Pn 01 11 48.8 -1.4
baz=109,SNR=21
J29N Klondike Camp 10.03 28 P Pn 01 11 50.5 -0.1
baz=218,SNR=16
MAYO Mayo, Yukon 10.09 36 Pn Pn 01 11 51.4 +0.1
MAYO Mayo, Yukon 10.09 36 P Pn 01 11 51.6 +0.2
baz=228,SNR=35
H19K Roundabout Mou 10.18 343 P Pn 01 11 51.6 -1.0
baz=157
FARO Faro, Yukon 10.21 46 Pn 01 11 53.5 +0.5
FARO Faro, Yukon 10.21 46 P Pn 01 11 54.0 +1.0
baz=240,SNR=136
H18K Honhosa River 10.22 338 P Pn 01 11 51.4 -1.7
baz=150
UNV Unalaska Valle 10.23 265 Pn Pn 01 11 50.0 -3.3
UNV Unalaska Valle 10.23 265 P Pn 01 11 50.7 -2.7
UNV Unalaska Valle 10.23 265 P Pn 01 11 50.6 -2.7
baz=71,SNR=13
IMAR Indian Mountai 10.25 349 Pn 01 11 51.1 -2.4
R33M Jennings River 10.28 63 P Pn 01 11 54.5 +0.4
baz=259,SNR=83
I27K Kandik River 10.28 18 P Pn 01 11 53.8 -0.3
baz=205
H17K Granite Mounta 10.39 334 P Pn 01 11 53.6 -1.9
baz=145,SNR=18
I28M Miner Creek 10.46 22 P Pn 01 11 56.5 0.0
baz=210
T35M Bob Quinn 10.48 77 P Pn 01 11 57.7 +0.9
baz=273,SNR=27
DLBC Dease Lake 10.63 69 Pn Pn 01 11 59.7 +0.8
DLBC Dease Lake 10.63 69 P Pn 01 11 59.6 +0.8
baz=265,SNR=63
DLBC Dease Lake 10.63 69 P Pn 01 11 59.3 +0.5
comp=N,51nm,0.5s,baz=314,slow=6.9,SNR=86
DLBC S Sn 01 13 54.3 -2.2
comp=N,52nm,0.6s,baz=174,slow=26,SNR=7.2
DLBC LR LR 01 15 28.5

comp=N,7µm,20.4s,baz=276,slow=34
J30M Hart River 10.65 31 P Pn 01 11 59.2 0.0
baz=223
U35K Hyder 10.71 83 P Pn 01 12 00.0 +0.3
baz=279,SNR=9.9
G21K Allakaket 10.74 351 P Pn 01 11 57.8 -2.4
baz=167
G23K Bananza Creek 10.74 358 P Pn 01 11 58.9 -1.4
baz=178
FYU Fort Yukon 10.75 8 Pn Pn 01 11 58.9 -1.4
I29M Ogilvie Camp, 10.75 25 Pn 01 12 00.5 +0.1
I29M Ogilvie Camp, 10.75 25 P Pn 01 12 00.2 -0.2
baz=215,SNR=6.1
G24K Hadweenzic Riv 10.75 4 P Pn 01 11 59.3 -1.1
baz=185
H16K Elim 10.79 329 P Pn 01 11 59.8 -1.2
baz=138,SNR=11
G19K Purcell Mounta 10.86 343 P Pn 01 12 00.8 -1.0
baz=156
H27K Steamboat Moun 10.88 17 P Pn 01 12 01.2 -1.0
baz=204,SNR=180
G25K Bearman Lake 10.88 6 P Pn 01 12 01.4 -0.7
baz=190
G18K Tagagawik 10.92 339 P Pn 01 12 01.8 -0.9
baz=151,SNR=22
G17K Kiwalik Mounta 11.04 334 P Pn 01 12 03.0 -1.3
baz=144
I30M Mount Dempster 11.13 29 P Pn 01 12 05.6 -0.1
baz=220
HG4B Hotspring 11.15 102 Pn Pn 01 12 07.2 +1.3
GRNB Grenville Isla 11.23 93 Pn Pn 01 12 07.3 +0.2
G26K Porcupine Rive 11.26 11 P Pn 01 12 06.3 -1.0
baz=196
COLD Coldfoot 11.26 358 P Pn 01 12 05.8 -1.6
baz=177,SNR=26
G16K Koyuk River 11.39 331 P Pn 01 12 07.2 -1.9
baz=140
F21K Alatna River 11.43 351 P Pn 01 12 07.3 -2.5
baz=168
H29M Whitestone 11.46 22 P Pn 01 12 09.8 -0.2
baz=212
F20K Avaraart Lake 11.50 347 P Pn 01 12 09.1 -1.5
baz=162,SNR=46
WTLY Watson Lake, Y 11.50 61 P Pn 01 12 11.5 +0.8
baz=258,SNR=40
F24K Squaw Lake 11.56 2 P Pn 01 12 10.4 -1.1
baz=184
G15K Niukluk 11.59 327 P Pn 01 12 10.8 -1.0
baz=134,SNR=12
F19K Shaleruckik Mo 11.60 343 P Pn 01 12 11.2 -0.8
baz=156
F22K John River 11.62 354 P Pn 01 12 11.3 -1.0
baz=172
SPIA Saint Paul Isl 11.69 284 P Pn 01 12 11.7 -1.6
baz=87
ANM Nome 11.73 324 Pn Pn 01 12 12.7 -1.0
ANM Nome 11.73 324 P Pn 01 12 12.3 -1.4
baz=130,SNR=18
ANM Nome 11.73 324 P Pn 01 12 12.7 -1.0
F25K Christian Rive 11.73 7 P Pn 01 12 12.5 -1.4
baz=190,SNR=89
NIKH Nikolski High 11.86 263 P Pn 01 12 13.9 -1.7
baz=67
F17K Baldwin Pennin 11.95 336 P Pn 01 12 14.3 -2.4
baz=146,SNR=5.8
F26K Sheenjek River 11.95 9 P Pn 01 12 15.5 -1.3
baz=194
EPYK Eagle Plains 11.95 25 P Pn 01 12 16.2 -0.7
baz=216,SNR=111
E23K Chandalar 12.09 359 P Pn 01 12 18.3 -0.5
baz=179
E19K Redstone River 12.09 345 P Pn 01 12 17.5 -1.2
baz=158
G29M Pine Creek 12.12 21 P Pn 01 12 18.6 -0.5
baz=211
E25K Arctic Village 12.26 6 P Pn 01 12 19.9 -1.1
baz=190,SNR=44
F15K North Star Dit 12.27 329 P Pn 01 12 19.0 -2.1
baz=135
F28M Old Crow 12.41 17 Pn Pn 01 12 23.3 +0.2
F28M Old Crow 12.41 17 P Pn 01 12 22.5 -0.5
baz=205,SNR=178
G30M tAoh Zrail Nji 12.57 24 P Pn 01 12 24.0 -1.3
baz=216,SNR=53
E17K Hotham Inlet 12.61 337 P Pn 01 12 23.0 -2.7
baz=146,SNR=27
F14K Arctic Creek 12.62 326 P Pn 01 12 23.0 -3.0
baz=131
E27K Coleen River 12.70 13 P Pn 01 12 25.5 -1.5
baz=200
E20K Nigu River 12.71 348 P Pn 01 12 25.6 -1.5
baz=162
BBB Bella Bella 12.90 99 P Pn 01 12 30.9 +1.2
comp=N,37nm,1.0s,baz=302,slow=12,SNR=4.9
BBB S Sn 01 14 44.5 -7.3
comp=N,12nm,0.8s,baz=323,slow=20,SNR=1.4
BBB LR LR 01 16 24.8
comp=N,4µm,18.6s,baz=297,slow=32
G31M Satah River 12.99 27 P Pn 01 12 30.0 -1.0
baz=220
D22K Ayikyak River 13.01 354 P Pn 01 12 30.3 -1.0
baz=172,SNR=31
D23K Nanushuk River 13.02 358 P Pn 01 12 30.4 -0.9
baz=176
D19K Kuna River 13.18 345 P Pn 01 12 31.8 -1.8
baz=158
F30M Barrier River 13.18 23 P Pn 01 12 33.1 -0.5
baz=215
D24K Happy Valley 13.19 0 P Pn 01 12 33.3 -0.3
baz=181
D20K Etivluk River 13.19 348 P Pn 01 12 32.5 -1.2
baz=162
TNA Tin City 13.20 324 Pn Pn 01 12 33.6 -0.1
TNA Tin City 13.20 324 P Pn 01 12 32.0 -1.8
baz=128
E28M Babbage River 13.37 15 P Pn 01 12 35.8 -0.3
baz=204
D25K Kavik River 13.41 4 P Pn 01 12 35.8 -0.9
baz=187
C21K Knifeblade Rid 13.44 351 P Pn 01 12 35.3 -1.7
baz=167
E29M Blow River 13.44 18 P Pn 01 12 36.8 -0.3
baz=208,SNR=112
F31M Tsiigehtchic 13.52 26 P Pn 01 12 38.5 +0.3
baz=220,SNR=115
GAMB Gambell 13.67 314 Pn Pn 01 12 39.0 -1.3
GAMB Gambell 13.67 314 P Pn 01 12 37.8 -2.5
baz=114
C24K Franklin Bluff 13.76 1 P Pn 01 12 41.3 -0.1
baz=181
D27M Malcolm River 13.77 12 P Pn 01 12 44.0 +2.4
baz=200
C18K Utukok River 13.82 341 P Pn 01 12 41.1 -1.2
baz=151,SNR=26
KOTAN Kotaneelee Air 13.85 62 P Pn 01 12 43.8 +1.1
baz=264,SNR=143
C19K Lookout Ridge 13.96 344 P Pn 01 12 43.2 -0.9
baz=155,SNR=11
C17K DeLong Mountai 14.05 338 P Pn 01 12 44.5 -1.0
baz=146,SNR=32
FLDN Fort Liard 14.15 62 P Pn 01 12 47.7 +1.0
baz=264,SNR=22
D28M Stokes Point 14.15 15 P Pn 01 12 48.0 +1.3
baz=205
INK Inuvik 14.25 24 P Pn 01 12 48.3 +0.2
baz=218,SNR=685
INK Inuvik 14.25 24 P Pn 01 12 48.4 +0.2
comp=N,591nm,1.0s,baz=208,slow=14,SNR=708
INK LR LR 01 18 37.5
comp=N,3µm,19.2s,baz=190,slow=39
C16K Lisburne Hills 14.37 335 P Pn 01 12 49.5 -0.2
baz=141,SNR=16
B20K Meade River 14.49 349 P Pn 01 12 48.6 -2.7
baz=162
B22K Teshekpuk Lake 14.50 354 P Pn 01 12 49.8 -1.7
baz=171
B18K Kokolik River 14.55 342 P Pn 01 12 50.6 -1.6
baz=151
WRGLY Wrigley 14.77 50 P Pn 01 12 54.7 -0.5
baz=253,SNR=166
ATKA Atka Island 15.16 266 Pn Pn 01 12 59.1 -1.3
ATKA IAmb IAmb 01 13 06.1
comp=Z,222nm,0.8s
ATKA Atka Island 15.16 266 P Pn 01 12 57.4 -3.0
A19K Wainwright 15.18 344 P Pn 01 12 57.4 -3.1
baz=154
A22K Sinclair Lake 15.26 353 P Pn 01 12 58.4 -3.1
baz=168

A21K Barrow 15.70 351 P Pn 01 13 03.1 -4.2
baz=165,SNR=17
GSTR Great Sitkin T 16.25 267 Pn Pn 01 13 12.7 -1.7
ADK Adak 16.68 267 Pn Pn 01 13 18.4 -1.6
ADK Adak 16.68 267 P Pn 01 13 18.0 -2.0
ADK Adak 16.68 267 P Pn 01 13 18.4 -1.6
ADK pmax pmax
comp=Z,167nm,0.9s
CLRS Cowichan Lake 16.80 105 IAmb IAmb 01 13 27.2
C03A Quillayute Air 17.07 108 IAmb IAmb 01 13 31.9
comp=Z,905nm,1.6s
PGC Sidney 17.26 104 Pn Pn 01 13 26.5 -0.7
C36M Paulatuk 17.43 30 P Pn 01 13 27.2 -1.9
baz=233,SNR=151
NLWA Neilton Lookou 17.79 108 Pn Pn 01 13 33.2 -0.6
BRLDA Berland Lookou 18.19 83 P P 01 13 39.3 +0.5
BRLDA IAmb IAmb 01 13 43.5
comp=Z,328nm,1.2s
RADR Rader Ridge 18.44 111 IAmb IAmb 01 13 45.2
comp=Z,547nm,1.4s
E03A Lebam 18.49 110 IAmb IAmb 01 13 45.4
comp=Z,300nm,1.0s
YKA Yellowknife Ar 18.62 56 P Pn 01 13 44.4 +0.6
comp=Z,26nm,0.8s,baz=265,slow=11,SNR=188
YKA PcP PcP 01 18 10.2 -0.4
comp=Z,5.4nm,0.8s,baz=262,slow=1.7,SNR=6.1
YKA LR LR 01 20 44.4
comp=Z,4µm,18.6s,baz=261,slow=36
YKA ScP ScP 01 21 44.5 +1.3
comp=Z,2.1nm,0.9s,baz=282,slow=1.9,SNR=6.3
A36M Sachs Harbour 18.89 23 IAmb IAmb 01 13 51.4
comp=Z,320nm,0.8s
A36M Sachs Harbour 18.89 23 P Pn 01 13 46.5 -0.4
baz=225,SNR=313
F03A Seaside 18.89 112 IAmb IAmb 01 13 49.4
comp=Z,294nm,1.2s
D05A Enumclaw 18.92 106 IAmb IAmb 01 13 51.8
comp=Z,637nm,1.7s
F04D Rainier, OR 19.08 110 P Pn 01 13 49.4 0.0
F04D IAmb IAmb 01 13 52.2
comp=Z,234nm,1.0s
AMKA Amchitka 19.16 269 P P 01 13 48.3 -1.0
F04A Amboy 19.49 110 IAmb IAmb 01 13 58.1
comp=Z,574nm,1.8s
G03D McMinnville, O 19.53 113 IAmb IAmb 01 13 59.6
comp=Z,319nm,1.3s
LTY Liberty 19.59 105 IAmb IAmb 01 13 59.4
comp=Z,377nm,1.2s
COR Corvallis 19.94 114 P P 01 13 57.8 0.0
COR IAmb IAmb 01 14 03.7
comp=Z,530nm,1.2s
COR Corvallis 19.94 114 P P 01 13 57.8 0.0
COR pmax pmax
comp=Z,530nm,1.3s
MXC Moxie City 20.21 106 IAmb IAmb 01 14 06.8
comp=Z,279nm,1.1s
H04D Lebanon 20.27 113 IAmb IAmb 01 14 08.3
comp=Z,294nm,1.2s
HOOD Mount Hood Mea 20.30 110 IAmb IAmb 01 14 05.1
comp=Z,364nm,1.1s
BUCK Buck Mountain 20.37 114 IAmb IAmb 01 14 09.1
comp=Z,478nm,1.1s
H04A Detroit Lake 20.45 112 IAmb IAmb 01 14 06.5
comp=Z,267nm,1.0s
E07A Sunnyside 20.46 105 IAmb IAmb 01 14 09.3
comp=Z,146nm,0.9s
G05A Wamic 20.53 110 IAmb IAmb 01 14 13.2
comp=Z,269nm,1.0s
I03D Drain, OR 20.54 116 IAmb IAmb 01 14 10.8
comp=Z,313nm,1.2s
KEBM Edson Butte 20.66 119 IAmb IAmb 01 14 09.3
comp=Z,275nm,1.1s
D08A Wollman Farm, 20.67 103 P Pn 01 14 07.0 -1.2
D08A IAmb IAmb 01 14 08.5
comp=Z,254nm,1.0s
HAWA Hanford 20.74 105 P P 01 14 07.5 +1.0
HAWA IAmb IAmb 01 14 12.7
comp=Z,296nm,1.4s
EDM Edmonton 20.76 83 IAmb IAmb 01 14 09.1
comp=Z,213nm,1.1s
F07A Phinny Hill Vi 20.84 107 IAmb IAmb 01 14 10.8
comp=Z,260nm,1.1s
E08A Dider Farm, El 20.94 104 IAmb IAmb 01 14 11.3
comp=Z,300nm,1.1s
I04A Tendick Farm, 20.95 114 IAmb IAmb 01 14 12.0
comp=Z,316nm,1.1s
NEW Newport 20.96 98 P P 01 14 10.1 +1.1
NEW IAmb IAmb 01 14 15.2
comp=Z,208nm,1.1s
NEW Newport 20.96 98 P P 01 14 10.0 +1.1
baz=304,SNR=123
NEW Newport 20.96 98 P Pn 01 14 10.8 -0.9
comp=Z,137nm,1.0s,baz=305,slow=9.2,SNR=65
NEW LR LR 01 21 09.3
comp=Z,2µm,21.2s,baz=301,slow=33
comp=Z,137nm,1.0s
DBO Dodson Butte 21.02 117 IAmb IAmb 01 14 16.4
comp=Z,236nm,1.2s
K02D Willamette Mer 21.12 118 IAmb IAmb 01 14 14.3
comp=Z,272nm,1.2s
I05D Terrebonne, OR 21.12 112 IAmb IAmb 01 14 13.8
comp=Z,242nm,1.1s
E09A Wood Farm, Sta 21.42 103 IAmb IAmb 01 14 19.4
comp=Z,328nm,1.2s
SHEM Shemya Is, Ala 21.51 277 P P 01 14 15.9 +1.2
comp=Z,95nm,0.9s,baz=349,slow=10,SNR=2.1
SHEM LR LR 01 23 17.6
comp=Z,1µm,18.4s,baz=124,slow=39
comp=Z,95nm,0.9s
HUMO Hull Mountain 21.54 118 IAmb IAmb 01 14 18.9
comp=Z,358nm,1.4s
HUMO IAMs_20 IAMs_20 01 20 16.0
comp=Z,3µm,21.0s
PINE Pine Mountain 21.71 112 IAmb IAmb 01 14 25.7
comp=Z,421nm,1.2s
G08A Pilot Rock 21.75 107 IAmb IAmb 01 14 22.2
comp=Z,212nm,1.3s
KRMB Red Mountain 21.88 121 IAmb IAmb 01 14 24.4
comp=Z,263nm,1.4s
J05D Fort Rock, OR 21.92 114 P P 01 14 20.2 +0.8
J05D IAmb IAmb 01 14 22.9
comp=Z,290nm,1.1s
L04D Klamath Falls 22.15 117 IAmb IAmb 01 14 26.6
comp=Z,400nm,1.4s
F10A Beach Ranch, E 22.26 103 IAmb IAmb 01 14 26.9
comp=Z,262nm,1.0s
I07A Izee 22.26 110 IAmb IAmb 01 14 26.1
comp=Z,246nm,1.1s
YBH Yreka Blue Hor 22.31 119 IAMs_20 IAMs_20 01 20 59.5
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 22.31 119 LR LR 01 21 00.8
comp=Z,2µm,20.1s,baz=326,slow=31
JCC Jacoby Creek, 22.37 122 IAmb IAmb 01 14 28.7
JCC comp=Z,306nm,1.2s IAMs_20 IAMs_20 01 20 44.1
comp=Z,5µm,19.0s
KHMM Horse Mountain 22.47 122 IAmb IAmb 01 14 29.9
comp=Z,170nm,1.2s
K05A Summer Lake 22.49 114 IAmb IAmb 01 14 30.5
comp=Z,362nm,1.2s
KMPM Mount Pierce 22.64 123 IAmb IAmb 01 14 31.4
comp=Z,176nm,1.0s
KMRM Mail Ridge 22.99 123 IAmb IAmb 01 14 34.9
comp=Z,167nm,1.1s
J08A Circle Bar Ran 23.30 110 P P 01 14 35.4 +1.5
J08A IAmb IAmb 01 14 37.1
comp=Z,131nm,1.0s
J08A pcP 01 18 20.2 +0.1
BILL Bilibino 23.50 319 IAMs_20 IAMs_20 01 24 32.7
comp=Z,3µm,19.0s
MSO Missoula 23.55 98 IAmb IAmb 01 14 39.8
comp=Z,191nm,1.4s
MSO Missoula 23.55 98 P P 01 14 37.1 +0.8
baz=306,SNR=76
WVOR Wild Horse Val 23.86 112 IAmb IAmb 01 14 42.5
comp=Z,213nm,1.0s
WVOR IAMs_20 IAMs_20 01 22 17.6
comp=Z,3µm,20.0s
ORV Oroville 24.57 120 P P 01 14 46.0 +0.4
ORV PcP 01 18 21.4 -1.3
ORV Oroville 24.57 120 P P 01 14 46.0 +0.4
ORV 01 18 21.4
ORV pmax pmax
comp=Z,61nm,1.0s
MFID Camas Ranch 24.68 107 IAmb IAmb 01 14 50.4
comp=Z,164nm,1.1s

MFID IAMs_20 IAMs_20 01 22 47.0
comp=Z,2µm,19.0s
PLTX Planet X, Gerl 24.70 116 IAmb IAmb 01 14 50.9
comp=Z,244nm,1.2s
EGMT Eagleton 25.21 92 IAmb IAmb 01 14 53.0
comp=Z,131nm,1.2s
EGMT IAMs_20 IAMs_20 01 23 59.1
comp=Z,5µm,18.0s
EGMT Eagleton 25.21 92 P P 01 14 51.6 +0.2
baz=303,SNR=35
HLID Hailey 25.34 105 P P 01 14 53.1 +0.3
HLID PcP PcP 01 18 25.0 +0.4
HLID IAMs_20 IAMs_20 01 23 36.6
comp=Z,2µm,18.0s
HLID Hailey 25.34 105 P P 01 14 54.0 +1.3
baz=312,SNR=78
MPK Martis Peak 25.49 119 IAmb IAmb 01 14 57.3
comp=Z,216nm,1.2s
PAHR Pah Rah Range 25.49 117 IAmb IAmb 01 14 57.0
comp=Z,124nm,1.1s
PNTR Pine Nut 25.86 118 IAmb IAmb 01 15 00.8
comp=Z,168nm,1.2s
YERR Yerington 26.12 118 IAmb IAmb 01 15 02.9
comp=Z,130nm,1.3s
CMB Columbia Colle 26.30 121 P P 01 15 01.7 +0.4
CMB PcP 01 18 25.9 -0.7
CMB IAMs_20 IAMs_20 01 23 03.1
comp=Z,2µm,20.0s
WAKR Walker 26.39 119 IAmb IAmb 01 15 05.7
comp=Z,219nm,1.8s
FFC Flin Flon 26.42 73 P P 01 15 02.7 +0.5
FFC Flin Flon 26.42 73 P P 01 15 02.7 +0.5
FFC pmax pmax
comp=Z,86nm,1.4s
YHH Holmes Hill 26.51 99 PcP PcP 01 18 27.1 -0.3
KVN Kaiserville 26.63 116 IAmb IAmb 01 15 07.6
comp=Z,141nm,1.4s
KVN PcP PcP 01 18 26.8 -0.9
ELK Elko 26.85 110 P P 01 15 07.6 +1.1
ELK PcP 01 18 28.5 +0.3
ELK Elko 26.85 110 P P 01 15 07.6 +1.1
ELK 01 18 28.5
ELK pmax pmax
comp=Z,89nm,1.1s
ELK MLR MLR
comp=Z,1µm,19.0s
ELK Elko 26.85 110 LR LR 01 23 57.7
comp=Z,1µm,21.3s,baz=329,slow=32
H17A Grant Village 26.91 99 P P 01 15 09.6 +2.6
baz=309,SNR=40
NVAR Mina Array Bea 27.01 118 P P 01 15 09.1 +1.2
NVAR PcP PcP 01 18 28.6 0.0
NVAR Mina Array Bea 27.01 118 P P 01 15 09.7 +1.8
comp=Z,39nm,0.9s,baz=302,slow=8.9,SNR=165
NVAR PcP PcP 01 18 29.3 +0.7
comp=Z,8.7nm,0.8s,baz=292,slow=2.2,SNR=15
NVAR ScP ScP 01 22 07.6 +1.8
comp=Z,2.7nm,1.0s,baz=292,slow=1.9,SNR=7.2
NVAR LR LR 01 24 08.4
comp=Z,2µm,18.6s,baz=306,slow=32
comp=Z,39nm,0.9s
LHV Little Huntoon 27.05 118 IAmb IAmb 01 15 11.5
comp=Z,132nm,1.3s
RLMT Red Lodge 27.18 97 P P 01 15 11.1 +1.6
baz=308,SNR=13
MOOW Moose Ponds 27.23 100 P P 01 15 10.2 +0.3
MOOW PcP PcP 01 18 28.3 -0.7
OMMB Old Mammoth Mi 27.30 120 IAmb IAmb 01 15 14.2
comp=Z,92nm,1.1s
MLAC Mammoth, Mammo 27.37 119 P P 01 15 13.7 +2.5
baz=322,SNR=6.0
HVU Hansel Valley 27.44 106 P P 01 15 13.0 +1.4
HVU PcP 01 18 29.3 -0.2
HVU Hansel Valley 27.44 106 P P 01 15 13.0 +1.4
HVU 01 18 29.3
HVU pmax pmax
comp=Z,88nm,1.3s
PMPB Monarch Peak 27.57 124 P P 01 15 13.0 +0.3
RES Resolute Bay 27.76 28 P P 01 15 13.6 -0.4
RES Resolute Bay 27.76 28 P P 01 15 13.6 -0.4
RES pmax pmax
comp=Z,37nm,1.0s
RES Resolute Bay 27.76 28 LR LR 01 26 59.7
comp=Z,2µm,18.0s,baz=246,slow=38
TPH Tonopah 27.82 117 P P 01 15 16.4 +1.2
TPH PcP PcP 01 18 31.1 +0.6
LAO LASA Array 27.95 91 IAmb IAmb 01 15 18.8
comp=Z,94nm,1.1s
LAO IAMs_20 IAMs_20 01 25 35.5
comp=Z,4µm,19.0s
LAO LASA Array 27.95 91 P P 01 15 17.6 +1.5
baz=306,SNR=25
LAO LASA Array 27.95 91 P P 01 15 17.4 +1.3
baz=306,SNR=25
DGMT Dagmar 28.09 86 IAMs_20 IAMs_20 01 26 11.2
comp=Z,4µm,18.0s
DGMT Dagmar 28.09 86 P P 01 15 18.4 +1.0
baz=303,SNR=11
DGMT Dagmar 28.09 86 P P 01 15 18.2 +0.9
baz=303,SNR=11
TIN Tinemaha, Big 28.12 119 P P 01 15 19.6 +1.9
baz=322
VOG Valley Oaks Go 28.15 122 P P 01 15 19.2 +1.3
baz=324
HWUT Hardware Ranch 28.21 105 P P 01 15 19.4 +0.8
HWUT PcP PcP 01 18 31.4 0.0
HWUT IAMs_20 IAMs_20 01 25 29.6
comp=Z,2µm,18.0s
Q12A Willow Creek R 28.32 112 IAmb IAmb 01 15 22.8
comp=Z,116nm,1.0s
R11B Troy Canyon, C 28.44 114 IAmb IAmb 01 15 23.6
comp=Z,80nm,1.0s
R11B Troy Canyon, C 28.44 114 P P 01 15 22.3 +1.6
baz=319,SNR=116
BW06 Boulder Array 28.53 101 P P 01 15 22.3 +0.8
baz=312,SNR=28
PDAR Pinedale Array 28.53 101 P P 01 15 22.4 +0.9
comp=Z,15nm,0.8s,baz=317,slow=4.7,SNR=127
PDAR PcP PcP 01 18 31.4 -0.8
comp=Z,3.5nm,0.8s,baz=217,slow=1.1,SNR=6.6
PDAR LR LR 01 25 48.8
comp=Z,289nm,19.3s,baz=322,slow=34
comp=Z,15nm,0.8s
DUG Dugway, Tooele 28.53 108 P P 01 15 22.4 +1.0
DUG PcP 01 18 33.0 +0.8
DUG Dugway, Tooele 28.53 108 P P 01 15 22.8 +1.4
baz=316,SNR=28
DUG Dugway, Tooele 28.53 108 P P 01 15 22.4 +1.0
DUG 01 18 33.0
DUG pmax pmax
comp=Z,49nm,1.2s
DUG MLR MLR
comp=Z,2µm,22.0s
GRAC Grapevine Rang 28.59 118 IAmb IAmb 01 15 25.6
comp=Z,132nm,1.2s
GRAC Grapevine Rang 28.59 118 P P 01 15 24.0 +2.2
baz=322,SNR=12
SPR3 Spring Creek 3 28.61 112 IAmb IAmb 01 15 26.2
comp=Z,116nm,1.1s
SMMC Simmler 28.68 124 P P 01 15 24.5 +1.9
baz=325
VES Vestal, Richgr 28.68 122 P P 01 15 23.9 +1.3
baz=324,SNR=8.5
CWC Cottonwood Cre 28.68 120 P P 01 15 25.0 +2.2
baz=323
CTU Camp Tracy 28.75 106 P P 01 15 24.3 +0.9
CTU PcP PcP 01 18 32.8 0.0
S11A Rachel 28.90 115 IAmb IAmb 01 15 30.7
comp=Z,256nm,1.3s
FCC Fort Churchill 29.09 61 P P 01 15 26.9 +1.0
FCC IAmb IAmb 01 15 28.3
comp=Z,107nm,0.9s
FCC Fort Churchill 29.09 61 P P 01 15 26.9 +1.0
FCC pmax pmax
comp=Z,107nm,1.0s
PKM Mcpherson Peak 29.11 124 P P 01 15 29.1 +2.5
baz=326,SNR=14
ISA Isabella, Lake 29.11 121 P P 01 15 27.2 +0.8
ISA IAmb IAmb 01 15 29.2
comp=Z,145nm,1.9s
ISA Isabella, Lake 29.11 121 P P 01 15 28.0 +1.5
baz=324,SNR=16
ISA Isabella, Lake 29.11 121 P P 01 15 27.3 +0.8
ISA pmax pmax
comp=Z,145nm,2.0s
WCT Wildcat Mounta 29.12 118 IAmb IAmb 01 15 29.9

comp=Z,102nm,1.2s
TPNV Topopah Spring 29.18 117 IAmb IAmb 01 15 30.5
comp=Z,114nm,1.2s
TPNV Topopah Spring 29.18 117 P **P** **01 15 29.0 +1.8**
baz=321,SNR=67
BCW Bitter Crk WRg 29.26 124 IAmb IAmb 01 15 32.4
comp=Z,135nm,1.8s
FURC Furnace Creek, 29.26 118 P **P** **01 15 29.7 +2.1**
baz=322,SNR=16
MPMC Manual Prospec 29.27 120 P **P** **01 15 30.1 +2.0**
baz=323
ARVC Arvin 29.38 123 P **P** **01 15 29.8 +1.1**
baz=325
BSUT Blindstream Ca 29.39 105 P **P** **01 15 30.5 +1.2**
BSUT IAmb IAmb 01 15 32.2
comp=Z,84nm,1.0s
BSUT **PcP** **01 18 34.5 -0.1**
SBC Santa Barbara 29.53 125 P **P** **01 15 29.9 -0.2**
baz=326
SEY Seymchan 29.54 308 P **P** **01 15 30.3 +0.4**
comp=Z,5.8nm,0.2s,baz=60,slow=11,SNR=8.2
SEY LR LR 01 28 27.8
comp=Z,2µm,19.6s,baz=94,slow=39
comp=Z,5.8nm,0.2s
GWY Greenwater Val 29.57 118 IAmb IAmb 01 15 33.8
comp=Z,175nm,1.6s
LRMC Laurel Mtn Rad 29.64 121 P **P** **01 15 32.7 +1.4**
baz=324
QSM Queen of Sheba 29.65 119 IAmb IAmb 01 15 34.5
comp=Z,107nm,1.2s
OSI Osito Audit: C 29.85 123 P **P** **01 15 34.6 +1.6**
baz=325
EDW2 Edwards Air Fo 29.98 122 P **P** **01 15 35.3 +1.1**
baz=324,SNR=6.6
SHOC Shoshone, Teco 30.00 118 P **P** **01 15 36.4 +2.2**
baz=322,SNR=24
GSC Goldstone, Bar 30.21 120 P **P** **01 15 37.4 +1.1**
GSC **PcP** **01 18 36.9 +0.4**
GSC Goldstone, Bar 30.21 120 P **P** **01 15 38.2 +1.9**
baz=323,SNR=13
K22A Casper 30.29 98 IAmb IAmb 01 15 38.9
comp=Z,158nm,1.9s
K22A Casper 30.29 98 P **P** **01 15 37.7 +0.7**
baz=311,SNR=9.3
K22A Casper 30.29 98 P **P** **01 15 37.6 +0.6**
baz=311,SNR=9.3
DECC Green Verdugo 30.33 123 P **P** **01 15 38.6 +1.4**
baz=325
PETK Petropavlovsk- 30.34 287 P **P** **01 15 37.1 0.0**
PETK LR LR 01 27 22.2
comp=Z,12nm,0.8s,baz=71,slow=14,SNR=9.6
comp=Z,1µm,21.9s,baz=84,slow=35
comp=Z,12nm,0.8s
RRX Edison Barstow 30.46 120 P **P** **01 15 40.4 +2.0**
baz=324
TUQ Turquoise Moun 30.54 118 P **P** **01 15 40.9 +1.7**
baz=323
RWWY Rawlins 30.54 100 IAmb IAmb 01 15 41.4
comp=Z,136nm,1.0s
BFSC Mount Baldy Ra 30.66 122 P **P** **01 15 42.3 +2.1**
baz=325,SNR=20
RSSD Black Hills 30.73 93 P **P** **01 15 41.5 +0.6**
RSSD IAmb IAmb 01 15 43.5
comp=Z,92nm,1.1s
RSSD PcP **PcP** **01 18 37.5 -0.3**
RSSD Black Hills 30.73 93 IAMs_20 IAMs_20 01 27 02.1
comp=Z,3µm,20.0s
RSSD Black Hills 30.73 93 P **P** **01 15 42.1 +1.2**
baz=309
RSSD Black Hills 30.73 93 P **P** **01 15 42.5 +1.6**
baz=309,SNR=44
RSSD Black Hills 30.73 93 P **P** **01 15 41.5 +0.6**
RSSD 01 18 37.5
RSSD pmax pmax
comp=Z,92nm,1.1s
RSSD MLR MLR
comp=Z,3µm,20.0s
RSSD Black Hills 30.73 93 ⇑P **P** **01 15 42.3 +1.4**
RSSD pP **pwP** **01 15 54.6 -0.8**
RSSD PcP **PcP** **01 18 37.5 -0.3**
HEC Hector,Ludlow 30.82 120 P **P** **01 15 43.2 +1.6**
baz=324,SNR=5.0
PKCU Pink Cliffs 30.82 111 IAmb IAmb 01 15 45.6
comp=Z,108nm,1.2s
V12A Nelson 30.84 117 IAmb IAmb 01 15 45.4
comp=Z,132nm,1.2s
KNB Kanab 30.88 113 IAmb IAmb 01 15 45.6
comp=Z,73nm,1.1s
CIS Catalina Islan 30.99 124 P **P** **01 15 44.6 +1.5**
baz=326
BBRC Big Bear Solar 30.99 121 P **P** **01 15 44.8 +1.5**
baz=324
MDND Maddock 31.00 84 P **P** **01 15 44.8 +1.7**
baz=304,SNR=11
MDND Maddock 31.00 84 P **P** **01 15 44.6 +1.5**
baz=304,SNR=11
O20A White River Ci 31.05 103 IAmb IAmb 01 15 46.2
comp=Z,144nm,0.9s
O20A White River Ci 31.05 103 P **P** **01 15 45.1 +1.4**
baz=315,SNR=68
E28A Huff 31.12 87 IAmb IAmb 01 15 46.9
comp=Z,106nm,1.1s
E28A Huff 31.12 87 P **P** **01 15 45.6 +1.5**
baz=306,SNR=9.9
GMRC Granite Mounta 31.18 119 P **P** **01 15 46.6 +1.7**
baz=323,SNR=20
MA2 Magadan 31.27 302 P **P** **01 15 46.4 +1.1**
MA2 LR LR 01 28 25.1
comp=Z,11nm,0.8s,baz=126,slow=19,SNR=2.8
comp=Z,848nm,21.9s,baz=92,slow=36
comp=Z,11nm,0.8s
MURC Murrieta 31.40 122 P **P** **01 15 48.1 +1.4**
baz=325
U15A North Rim 31.60 113 P **P** **01 15 50.2 +1.5**
U15A **PcP** **01 18 40.4 +0.1**
BELC Belle Mtn. Jos 31.65 120 P **P** **01 15 50.5 +1.5**
baz=324,SNR=7.6
NEE2 Needles Airpor 31.71 117 P **P** **01 15 51.5 +2.1**
baz=323,SNR=5.5
PFO Pinyon Flats O 31.74 121 P **P** **01 15 51.0 +1.2**
PFO Pinyon Flats O 31.74 121 P **P** **01 15 51.0 +1.2**
baz=325,SNR=11
PFO Pinyon Flats O 31.74 121 P **P** **01 15 51.0 +1.2**
PFO pmax pmax
comp=Z,63nm,1.4s
PFO Pinyon Flats O 31.74 121 P **P** **01 15 51.0 +1.2**
PFO PcP **PcP** **01 18 41.4 +0.8**
TPFO Pinon Flats 31.75 121 P **P** **01 15 51.1 +1.2**
baz=325,SNR=13
ULM Lac du Bonnet 31.77 78 IAmb IAmb 01 15 52.0
comp=Z,79nm,1.1s
ULM Lac du Bonnet 31.77 78 P **P** **01 15 50.7 +0.9**
comp=Z,48nm,1.0s,baz=298,slow=9.4,SNR=54
ULM LR LR 01 28 23.3
comp=Z,3µm,19.2s,baz=298,slow=36
comp=Z,48nm,1.0s
N23A Red Feather La 31.78 100 P **P** **01 15 51.4 +1.1**
baz=313,SNR=20
W13A Hualapai Mount 31.82 116 IAmb IAmb 01 15 53.9
comp=Z,95nm,1.2s
PV10 Paradox Valley 31.87 107 P **P** **01 15 51.8 +0.8**
PV10 IAmb IAmb 01 15 54.4
comp=Z,65nm,1.0s
PV10 PcP **PcP** **01 18 41.5 +0.4**
IRM Iron Mountain 31.94 119 P **P** **01 15 53.3 +1.8**
baz=324,SNR=72
109C Camp Elliot, M 32.03 123 IAmb IAmb 01 15 55.4
comp=Z,89nm,1.4s
109C Camp Elliot, M 32.03 123 P **P** **01 15 54.0 +1.8**
baz=326
BC3 Big Chuckawall 32.20 120 P **P** **01 15 55.3 +1.5**
baz=324,SNR=6.7
PDMCI Parker Dam,Lak 32.32 117 P **P** **01 15 56.3 +1.6**
baz=323,SNR=18
MONP2 Monument Peak 32.35 122 P **P** **01 15 57.2 +2.0**
baz=326,SNR=14
BAR Barrett 32.41 122 IAmb IAmb 01 15 58.7
comp=Z,70nm,1.4s
SMCO Snowmass 32.41 103 P **P** **01 15 56.3 +0.3**
SMCO IAmb IAmb 01 15 59.6
comp=Z,77nm,1.5s
SMCO PcP **PcP** **01 18 42.5 -0.2**
SWSC Sam W. Stewart 32.60 121 P **P** **01 15 58.8 +1.6**
baz=325,SNR=6.4
IKP In-Ko-Pah, Jac 32.70 122 P **P** **01 16 00.1 +1.9**
baz=326,SNR=9.9
ISCO Idaho Springs 32.72 101 P **P** **01 15 58.8 +0.2**
ISCO PcP **PcP** **01 18 42.6 -0.8**
ISCO Idaho Springs 32.72 101 P **P** **01 15 59.6 +1.0**
baz=314,SNR=20
ISCO Idaho Springs 32.72 101 P **P** **01 15 59.8 +1.2**
baz=314,SNR=20
WUAZ Wupatki 32.78 113 IAMs_20 IAMs_20 01 28 12.6
comp=Z,1µm,18.0s
WUAZ Wupatki 32.78 113 P **P** **01 16 00.7 +1.7**
baz=321,SNR=16
YUH Yuha Desert 32.79 121 IAmb IAmb 01 16 02.0
comp=Z,79nm,1.4s
AGMN Agassiz Nation 32.84 81 IAmb IAmb 01 16 01.1
comp=Z,100nm,1.1s
AGMN IAMs_20 IAMs_20 01 28 55.5
comp=Z,3µm,18.0s
AGMN Agassiz Nation 32.84 81 P **P** **01 15 60.0 +0.9**
baz=304,SNR=35
AGMN Agassiz Nation 32.84 81 P **P** **01 16 00.0 +0.9**
baz=304,SNR=35
D32B Dogwood Acres, 32.85 83 P **P** **01 16 00.3 +1.0**
baz=305
MVCO Mesa Verde 33.02 107 P **P** **01 16 02.0 +0.9**
baz=318,SNR=27
Y14A Wickenburg 33.18 116 IAmb IAmb 01 16 05.5
comp=Z,110nm,1.2s
CPBX Cerro Prieto 33.27 121 P **P** **01 16 05.1 +2.1**
CPBX IAmb IAmb 01 16 21.3
comp=Z,91nm,1.5s
SUSD Miller 33.38 89 P **P** **01 16 05.0 +1.1**
baz=308,SNR=6.8
SUSD Miller 33.38 89 P **P** **01 16 05.2 +1.2**
baz=308,SNR=6.8
S22A 4UR Ranch, Cre 33.52 105 P **P** **01 16 07.1 +1.5**
baz=317,SNR=30
Q24A Divide 33.56 102 P **P** **01 16 07.1 +1.2**
baz=315,SNR=19
X16A Lo Mia Camp, P 33.60 114 IAmb IAmb 01 16 09.8
comp=Z,93nm,1.0s
113A Mohawk Valley, 33.74 119 P **P** **01 16 08.0 +0.8**
113A IAmb IAmb 01 16 10.0
comp=Z,84nm,1.3s
113A **PcP** **01 18 46.5 +0.5**
OGNE Ogallala 33.92 96 IAMs_20 IAMs_20 01 29 12.6
comp=Z,2µm,19.0s
OGNE Ogallala 33.92 96 P **P** **01 16 10.1 +1.3**
baz=313,SNR=27
OGNE Ogallala 33.92 96 P **P** **01 16 10.2 +1.4**
baz=313,SNR=27
W18A Petrified Fore 33.94 111 IAmb IAmb 01 16 12.3
comp=Z,108nm,1.3s
W18A Petrified Fore 33.94 111 P **P** **01 16 10.8 +1.8**
baz=320,SNR=8.3
B35A Bob, Littlefor 33.98 79 IAmb IAmb 01 16 11.2
comp=Z,72nm,1.2s
B35A Bob, Littlefor 33.98 79 P **P** **01 16 09.5 +0.4**
baz=304,SNR=18
F33A 5 Mile Ranch, 34.02 85 P **P** **01 16 10.3 +0.8**
baz=307,SNR=11
K30B Basset 34.13 92 P **P** **01 16 12.1 +1.5**
baz=311,SNR=12
SDCO Great Sand Dun 34.24 104 P **P** **01 16 13.4 +1.5**
baz=317,SNR=39
SDCO Great Sand Dun 34.24 104 P **P** **01 16 13.3 +1.5**
baz=317,SNR=39
X18A Snowflake 34.28 112 IAmb IAmb 01 16 15.4
comp=Z,86nm,1.2s
ALE Alert 34.47 13 P **P** **01 16 13.1 +0.2**
ALE pP **sP** **01 16 25.0 -0.3**
ALE PcP **PcP** **01 18 47.5 +0.2**
214A Organ Pipe Nat 34.87 118 P **P** **01 16 18.9 +1.9**
baz=324,SNR=44
PIX Pinacate 34.87 119 IAmb IAmb 01 16 20.1
comp=Z,88nm,1.3s
KSCO Kaye Shedlock' 34.92 99 P **P** **01 16 19.5 +2.0**
baz=315,SNR=37
KSCO Kaye Shedlock' 34.92 99 P **P** **01 16 19.4 +1.9**
baz=315,SNR=37
ECSD EROS Data Cent 35.14 88 IAmb IAmb 01 16 20.8
comp=Z,68nm,1.1s
KIP Kipapa 35.17 194⇑ *e*P **P** **01 16 18.0 -1.6**
KIP pmax pmax
comp=Z,17nm,0.8s
T25A Trinidad 35.28 103 IAmb IAmb 01 16 23.7
comp=Z,70nm,1.1s
T25A Trinidad 35.28 103 P **P** **01 16 22.3 +1.6**
baz=317,SNR=18
EYMN Ely 35.45 78 P **P** **01 16 22.5 +0.8**
EYMN Ely 35.45 78 IAMs_20 IAMs_20 01 30 24.4
comp=Z,3µm,19.0s
EYMN Ely 35.45 78 P **P** **01 16 22.9 +1.1**
baz=305,SNR=43
EYMN Ely 35.45 78 P **P** **01 16 22.6 +0.8**
baz=305,SNR=43
F36A Milaca 35.55 83 IAmb IAmb 01 16 24.8
comp=Z,101nm,1.3s
F36A Milaca 35.55 83 P **P** **01 16 23.5 +0.8**
baz=307,SNR=31
TUC Tucson 35.60 116 P **P** **01 16 24.7 +1.4**
TUC IAmb IAmb 01 16 26.9
comp=Z,79nm,1.3s
TUC PcP **PcP** **01 18 51.8 +0.4**
TUC Tucson 35.60 116 P **P** **01 16 25.6 +2.3**
baz=323
TUC Tucson 35.60 116 P **P** **01 16 24.7 +1.4**
TUC 01 18 51.8
TUC pmax pmax
comp=Z,79nm,1.3s
TUC Tucson 35.60 116 P **P** **01 16 25.4 +2.1**
TUC pP **pwP** **01 16 38.2 +0.5**
TUC PcP **PcP** **01 18 52.2 +0.7**
BGNE Belgrade 35.79 92 P **P** **01 16 25.9 +1.1**
baz=312,SNR=10
BGNE Belgrade 35.79 92 P **P** **01 16 26.1 +1.3**
baz=312,SNR=10
ANMO Albuquerque 35.80 108 P **P** **01 16 26.2 +1.1**
ANMO PcP **PcP** **01 18 52.8 +0.6**
ANMO Albuquerque 35.80 108 P **P** **01 16 26.6 +1.5**
baz=320
ANMO Albuquerque 35.80 108 P **P** **01 16 26.6 +1.5**
baz=320,SNR=29
ANMO Albuquerque 35.80 108 P **P** **01 16 26.2 +1.1**
ANMO 01 18 52.8
ANMO pmax pmax
comp=Z,37nm,1.2s
ANMO Albuquerque 35.80 108 P **P** **01 16 26.6 +1.5**
ANMO PcP **PcP** **01 18 53.0 +0.8**
ANMO ScP **ScP** **01 22 37.6 +2.4**
TIXI Tiksi 35.95 328 P **P** **01 16 25.1 -0.6**
TIXI IAmb IAmb 01 16 39.6
comp=Z,89nm,1.4s
TIXI Tiksi 35.95 328 *ce*P **P** **01 16 26.1 +0.4**
TIXI pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 35.95 328 P **P** **01 16 25.9 +0.2**
TIXI pP **sP** **01 16 38.2 +0.2**
TIXI PcP **PcP** **01 18 51.4 -0.3**
E38A The Farm, Brul 36.20 80 P **P** **01 16 28.9 +0.7**
baz=307,SNR=41
Y22D IRIS PASSCAL I 36.22 109 P **P** **01 16 31.3 +2.5**
baz=320
Y22D IRIS PASSCAL I 36.22 109 P **P** **01 16 31.2 +2.5**
baz=320
Y22F Passcal Instru 36.22 109 P **P** **01 16 31.1 +2.4**
baz=320
Y22A Socorro 36.30 110 P **P** **01 16 31.6 +2.1**
baz=321,SNR=32
SPMN Marine on St. 36.34 83 IAmb IAmb 01 16 31.6
comp=Z,52nm,0.9s
SPMN Marine on St. 36.34 83 P **P** **01 16 30.5 +1.0**
baz=308,SNR=17
SPMN Marine on St. 36.34 83 P **P** **01 16 30.4 +1.0**
baz=308,SNR=17
L34A Svendsen Farm, 36.41 90 P **P** **01 16 30.7 +0.6**
baz=311,SNR=7.0
N33A J Bar K, Exete 36.63 92 IAmb IAmb 01 16 33.9
comp=Z,115nm,1.0s
CBKS Cedar Bluff 36.67 97 P **P** **01 16 34.1 +1.7**
baz=315,SNR=13
CBKS Cedar Bluff 36.67 97 P **P** **01 16 33.9 +1.6**
baz=315,SNR=13
RTBA Rita Blanca 36.71 102 IAmb IAmb 01 16 35.5
comp=Z,128nm,1.3s
I37B Waseca 36.76 85 P **P** **01 16 34.1 +1.1**
baz=309,SNR=20
121A Cookes Peak, D 36.97 112 IAmb IAmb 01 16 38.8
comp=Z,156nm,1.4s
121A Cookes Peak, D 36.97 112 P **P** **01 16 37.5 +2.4**
baz=322,SNR=43
121A Cookes Peak, D 36.97 112 P **P** **01 16 37.3 +2.2**
baz=322,SNR=43
319A Douglas 37.11 115 IAmb IAmb 01 16 39.8
comp=Z,97nm,1.3s
R32A Long Quarter, 37.52 96 IAmb IAmb 01 16 42.0
comp=Z,111nm,1.2s
R32A Long Quarter, 37.52 96 P **P** **01 16 40.5 +1.0**
baz=315,SNR=13
N35A Tabor 37.56 91 P **P** **01 16 41.3 +1.4**
baz=312,SNR=17
D41A Chassel 37.57 78 IAmb IAmb 01 16 42.5
comp=Z,136nm,1.4s
D41A Chassel 37.57 78 P **P** **01 16 41.1 +1.2**
baz=307,SNR=5.5
G40A Rib Lake 37.76 81 IAmb IAmb 01 16 43.0
comp=Z,51nm,0.8s
G40A Rib Lake 37.76 81 P **P** **01 16 42.3 +0.8**
baz=308,SNR=22
NEEM North Greenlan 37.80 21 *i* P **P** **01 16 41.4 -0.4**
NEEM IAmb IAmb 01 16 43.9
comp=Z,32nm,0.9s
K38A Parkersburg 37.99 86 IAmb IAmb 01 16 45.4
comp=Z,155nm,1.4s
K38A Parkersburg 37.99 86 P **P** **01 16 44.2 +0.8**
baz=311,SNR=6.3
HSIG 38.19 119 IAmb IAmb 01 16 48.3
comp=Z,64nm,1.0s
KSU1 Kansas State U 38.22 94 IAmb IAmb 01 16 46.9
comp=Z,55nm,0.9s
KSU1 IAMs_20 IAMs_20 01 31 40.3
comp=Z,2µm,21.0s
KSU1 Kansas State U 38.22 94 P **P** **01 16 46.2 +0.8**
baz=314,SNR=11
KSU1 Kansas State U 38.22 94 P **P** **01 16 46.4 +1.0**
baz=314,SNR=11
SCIA State Center 38.23 87 P **P** **01 16 46.1 +0.6**
SCIA IAmb IAmb 01 16 47.6
comp=Z,109nm,1.2s
SCIA PcP **PcP** **01 18 59.1 -0.1**
SCIA State Center 38.23 87 P **P** **01 16 46.6 +1.1**
baz=311
I40A Norwalk 38.40 83 IAmb IAmb 01 16 48.9
comp=Z,124nm,1.0s
I40A Norwalk 38.40 83 P **P** **01 16 47.8 +1.0**
baz=310,SNR=23
AMTX Amarillo 38.44 103 IAmb IAmb 01 16 50.1
comp=Z,123nm,1.0s
AMTX Amarillo 38.44 103 P **P** **01 16 48.9 +1.5**
baz=318
AMTX Amarillo 38.44 103 P **P** **01 16 48.9 +1.5**
baz=318,SNR=14
MSTX Muleshoe 38.53 105 IAmb IAmb 01 16 50.7
comp=Z,101nm,1.1s
MSTX Muleshoe 38.53 105 P **P** **01 16 49.5 +1.4**
baz=319,SNR=25
MSTX Muleshoe 38.53 105 P **P** **01 16 49.4 +1.2**
baz=319,SNR=25
FRB Frobisher Bay 38.56 45 LR LR 01 32 44.4
comp=Z,3µm,18.7s,baz=298,slow=36
UPNV Upernavik 38.63 28 *i* P **P** **01 16 48.5 0.0**
UPNV IAmb IAmb 01 17 05.2
comp=Z,18nm,0.8s
OK035 E0210 Rd and N 38.74 98 IAMs_20 IAMs_20 01 32 40.1
comp=Z,1µm,18.0s
KAN08 Anthony NE Sta 38.78 97 IAmb IAmb 01 16 52.4
comp=Z,112nm,1.1s
KAN10 Anthony SW Sta 38.78 97 IAmb IAmb 01 16 52.5
comp=Z,115nm,1.2s
ELIS Ellis County 38.81 100 P **P** **01 16 51.6 +1.2**
U32A Winter Ranch, 38.81 99 P **P** **01 16 51.7 +1.3**
baz=317,SNR=17
E43A Lone Tree Farm 38.85 77 IAmb IAmb 01 16 52.9
comp=Z,75nm,0.9s
E43A Lone Tree Farm 38.85 77 P **P** **01 16 51.8 +1.2**
baz=308,SNR=21
MNTX Cornudas Mount 38.88 110 P **P** **01 16 53.1 +2.1**
baz=322,SNR=66
MNTX Cornudas Mount 38.88 110 P **P** **01 16 53.0 +2.0**
baz=322,SNR=66
OK032 Salt Plains WL 38.95 98 IAmb IAmb 01 16 53.9
comp=Z,110nm,1.1s
N38A Joes South For 38.96 89 IAmb IAmb 01 16 53.4
comp=Z,151nm,1.2s
N38A Joes South For 38.96 89 P **P** **01 16 52.3 +0.7**
baz=312,SNR=10
SRIG Santa Rosalia 38.98 122 P **P** **01 16 52.5 +0.7**
SMWD Samnorwood 39.06 101 IAmb IAmb 01 16 55.3
comp=Z,97nm,0.9s
KAN13 South Haven SW 39.20 97 IAmb IAmb 01 16 55.8
comp=Z,125nm,1.1s
JFWS Jewell Farm 39.23 84 IAmb IAmb 01 16 55.1
comp=Z,127nm,1.1s
JFWS Jewell Farm 39.23 84 IAMs_20 IAMs_20 01 32 46.8
comp=Z,3µm,19.0s
JFWS Jewell Farm 39.23 84 P **P** **01 16 54.2 +0.4**
baz=311,SNR=19
JFWS Jewell Farm 39.23 84 P **P** **01 16 54.1 +0.2**
baz=311,SNR=19
L40A Anamosa 39.24 86 IAmb IAmb 01 16 55.3
comp=Z,124nm,0.9s
L40A Anamosa 39.24 86 P **P** **01 16 54.2 +0.2**
baz=311,SNR=34
CROK Carrier 39.29 98 IAmb IAmb 01 16 56.5
comp=Z,83nm,1.1s
I42A Draeger Farm, 39.34 82 P **P** **01 16 55.6 +0.9**
baz=310,SNR=18
TYV Tymovskoe 39.45 292 *e*P P 01 17 07.9 +12
TYV pmax pmax
comp=Z,71nm,1.0s
TYV pmax pmax
comp=Z,300nm,3.1s
BLOK Blackwell 39.53 97 IAmb IAmb 01 16 58.5
comp=Z,110nm,1.2s
P38A Dawn 39.59 90 IAmb IAmb 01 16 58.7
comp=Z,152nm,1.1s
P38A Dawn 39.59 90 P **P** **01 16 57.2 +0.4**
baz=314,SNR=31
H43A Windswept, Lux 39.61 80 IAmb IAmb 01 16 59.1
comp=Z,86nm,1.1s
H43A Windswept, Lux 39.61 80 P **P** **01 16 57.7 +0.7**
baz=310
YAK Yakutsk 39.62 313 *e*P **P** **01 16 56.1 -0.7**
YAK *e**PP **sP** **01 17 07.4 -1.8**
YAK *e* 01 18 27.3
YAK *e*PPP PPP 01 18 50.5
YAK *e* 01 19 03.0
YAK *e*S **S** **01 22 55.8 -1.3**
YAK *e**SS **sS** **01 23 16.1 +4.8**
YAK *e* 01 26 59.7
YAK pmax pmax
comp=Z,51nm,1.0s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,31nm,1.3s
YAK pmax pmax
comp=Z,254nm,4.3s
YAK pmax pmax
comp=N,129nm,3.8s
YAK pmax pmax
comp=E,252nm,3.5s
YAK smax smax
comp=N,791nm,5.6s
YAK smax smax
comp=E,429nm,5.8s
YAK Yakutsk 39.62 313 P **P** **01 16 57.2 +0.4**
comp=E,32nm,0.6s,baz=71,slow=4.8,SNR=4.8
YAK LR LR 01 34 10.5
comp=E,593nm,20.0s,baz=63,slow=38
comp=E,32nm,0.6s
DKNS Dickens 39.76 104 P **P** **01 16 58.8 +0.4**
DKNS **PcP** **01 19 04.1 -0.1**
T35B Sooner Cattle 39.81 96 P **P** **01 16 59.3 +0.5**
baz=316,SNR=17
POST Post 39.90 105 IAmb IAmb 01 17 01.8
comp=Z,92nm,1.0s
OK051 E0350 and S346 39.93 97 IAmb IAmb 01 17 01.7
comp=Z,75nm,1.1s
OK048 Pawnee Station 39.93 97 IAmb IAmb 01 17 01.8
comp=Z,70nm,1.0s
PECS Pecos 39.94 109 IAmb IAmb 01 17 03.1
comp=Z,112nm,1.3s
ODSA Odessa 40.06 107 IAmb IAmb 01 17 03.5
comp=Z,168nm,1.1s
OK029 Liberty Lake 40.10 98 **P** **01 17 01.4 +0.3**
OK029 IAmb IAmb 01 17 03.3
comp=Z,123nm,1.1s

OK029					PcP	**PcP**	**01 19 04.3**	**-0.8**		
WMOK	**Wichita Mounta**	**40.14**	**100**		IAmb	IAmb	01 17 04.1			
	comp=Z,121nm,1.1s									
WMOK					IAMs_20	IAMs_20	01 33 28.2			
	comp=Z,1µm,18.0s									
WMOK	**Wichita Mounta**	**40.14**	**100**		P	**P**	**01 17 03.0**	**+1.5**		
	baz=318,SNR=7.6									
WMOK	**Wichita Mounta**	**40.14**	**100**		P	**P**	**01 17 02.8**	**+1.3**		
	baz=318,SNR=7.6									
L42A	**Oliver, Polo**	**40.15**	**85**		P	**P**	**01 17 01.4**	**-0.1**		
	baz=312,SNR=19									
OK033	**Mehan**	**40.20**	**97**		IAmb	IAmb	01 17 03.9			
	comp=Z,70nm,1.0s									
OK033					IAMs_20	IAMs_20	01 32 28.9			
	comp=Z,1µm,18.0s									
OK052	**Battle Ridge R**	**40.31**	**97**		IAmb	IAmb	01 17 04.9			
	comp=Z,102nm,1.0s									
E46A	**Sault Ste Mari**	**40.32**	**76**		IAmb	IAmb	01 17 05.3			
	comp=Z,167nm,1.2s									
E46A	**Sault Ste Mari**	**40.32**	**76**		P	**P**	**01 17 04.0**	**+1.1**		
	baz=308,SNR=24									
N41A	**Harden Midland**	**40.35**	**87**		P	**P**	**01 17 03.6**	**+0.4**		
	baz=313,SNR=26									
SN01	**Snyder 1**	**40.39**	**104**		P	**P**	**01 17 04.0**	**+0.3**		
SN01					PcP	**PcP**	**01 19 05.3**	**-0.9**		
G45A	**Suttons Bay**	**40.41**	**78**		IAmb	IAmb	01 17 05.3			
	comp=Z,67nm,0.9s									
G45A	**Suttons Bay**	**40.41**	**78**		P	**P**	**01 17 04.9**	**+1.3**		
	baz=309									
G45A					P	**P**	**01 17 04.9**	**+1.3**		
	baz=309									
K43A	**Burlington**	**40.44**	**83**		P	**P**	**01 17 04.1**	**+0.3**		
	baz=311,SNR=10									
P40A	**Paris**	**40.48**	**89**		IAmb	IAmb	01 17 05.9			
	comp=Z,143nm,1.1s									
P40A	**Paris**	**40.48**	**89**		P	**P**	**01 17 04.5**	**+0.2**		
	baz=314,SNR=47									
FNO	**Franklin**	**40.52**	**99**		IAmb	IAmb	01 17 06.9			
	comp=Z,146nm,1.2s									
DEOK	**Depew**	**40.59**	**97**		P	**P**	**01 17 05.4**	**+0.2**		
DEOK					PcP	**PcP**	**01 19 06.7**	**0.0**		
UMMG	**Uummannaq**	**40.76**	**30**	*e*	P	**P**	**01 17 06.7**	**+0.6**		
X34A	**Smith Ranch, M**	**40.76**	**100**		IAmb	IAmb	01 17 09.7			
	comp=Z,98nm,1.2s									
W35A	**Tecumseh**	**40.89**	**98**		IAmb	IAmb	01 17 09.8			
	comp=Z,114nm,1.0s									
TUL3	**Leonard**	**40.94**	**96**		IAmb	IAmb	01 17 10.0			
	comp=Z,74nm,1.1s									
TUL3					IAMs_20	IAMs_20	01 33 32.4			
	comp=Z,2µm,21.0s									
TUL3	**Leonard**	**40.94**	**96**		P	**P**	**01 17 08.9**	**+0.8**		
	baz=317,SNR=14									
TUL3	**Leonard**	**40.94**	**96**		P	**P**	**01 17 08.5**	**+0.4**		
	baz=317,SNR=14									
SGCY	**Sterling City**	**40.99**	**106**		IAmb	IAmb	01 17 10.7			
	comp=Z,94nm,1.1s									
L44A	**Lake County Fo**	**41.02**	**83**		IAmb	IAmb	01 17 10.3			
	comp=Z,206nm,1.2s									
L44A	**Lake County Fo**	**41.02**	**83**		P	**P**	**01 17 08.9**	**+0.2**		
	baz=312,SNR=6.4									
L44A	**Lake County Fo**	**41.02**	**83**		P	**P**	**01 17 09.3**	**+0.7**		
	baz=312,SNR=6.4									
WTFS	**Witchita Falls**	**41.03**	**101**		IAmb	IAmb	01 17 11.1			
	comp=Z,98nm,1.0s									
S39A	**Bolivar**	**41.05**	**92**		P	**P**	**01 17 08.2**	**-0.7**		
	baz=315,SNR=34									
GLMI	**Grayling**	**41.12**	**78**		IAmb	IAmb	01 17 11.8			
	comp=Z,156nm,0.9s									
GLMI	**Grayling**	**41.12**	**78**		P	**P**	**01 17 10.3**	**+0.8**		
	baz=310,SNR=12									
GLMI	**Grayling**	**41.12**	**78**		P	**P**	**01 17 10.6**	**+1.1**		
	baz=310,SNR=12									
RLO	**Rose Lookout**	**41.19**	**95**		IAmb	IAmb	01 17 11.7			
	comp=Z,67nm,1.0s									
R40A	**Maddies Statio**	**41.22**	**91**		P	**P**	**01 17 10.1**	**-0.2**		
	baz=315,SNR=34									
ABTX	**Abilene, Hawle**	**41.25**	**103**		P	**P**	**01 17 11.6**	**+0.9**		
	baz=320,SNR=25									
ABTX	**Abilene, Hawle**	**41.25**	**103**		P	**P**	**01 17 11.5**	**+0.9**		
	baz=320,SNR=25									
HDIL	**Hopedale**	**41.33**	**86**		P	**P**	**01 17 11.5**	**+0.4**		
HDIL	**Hopedale**	**41.33**	**86**		P	**P**	**01 17 11.6**	**+0.4**		
	baz=313,SNR=45									
HDIL	**Hopedale**	**41.33**	**86**		P	**P**	**01 17 11.7**	**+0.5**		
	baz=313,SNR=45									
U38A	**Gravette**	**41.34**	**95**		IAmb	IAmb	01 17 12.9			
	comp=Z,89nm,1.0s									
U38A	**Gravette**	**41.34**	**95**		P	**P**	**01 17 11.7**	**+0.2**		
	baz=316,SNR=39									
M44A	**Midewin, Midew**	**41.47**	**84**		P	**P**	**01 17 12.7**	**+0.4**		
	baz=312,SNR=13									
LOOK	**Love County**	**41.58**	**100**		IAmb	IAmb	01 17 16.0			
	comp=Z,212nm,1.5s									
TX31	**Lajitas Ar. Si**	**41.65**	**111**		IAmb	IAmb	01 17 17.4			
	comp=Z,117nm,1.2s									
TX31	**Lajitas Ar. Si**	**41.65**	**111**		P	**P**	**01 17 15.7**	**+1.7**		
	baz=323,SNR=69									
TXAR	**Lajitas Array**	**41.65**	**111**		P	**P**	**01 17 15.8**	**+1.8**		
	comp=Z,32nm,0.9s,baz=319,slow=6.0,SNR=162									
TXAR					PcP	**PcP**	**01 19 10.7**	**+0.3**		
	comp=Z,9.0nm,0.9s,baz=279,slow=2.4,SNR=10									
	comp=Z,32nm,0.9s									
YSS	**Yuzh-Sakhalins**	**41.74**	**287**	*e*	P	**P**	**01 17 14.5**	**0.0**		
YSS					pmax	pmax				
	comp=Z,40nm,1.2s									
YSS					MLR	MLR				
	comp=Z,2µm,15.0s									
OZNA	**Ozona**	**41.75**	**106**		IAmb	IAmb	01 17 17.2			
	comp=Z,141nm,1.1s									
FW03	**Perrin-Whitt E**	**41.80**	**101**		IAmb	IAmb	01 17 17.2			
	comp=Z,77nm,1.0s									
P43A	**Skaggs, Pawnee**	**41.83**	**87**		IAmb	IAmb	01 17 16.9			
	comp=Z,173nm,1.1s									
P43A	**Skaggs, Pawnee**	**41.83**	**87**		P	**P**	**01 17 15.6**	**+0.3**		
	baz=314,SNR=15									
PLPT	**Palo Pinto**	**41.83**	**102**		IAmb	IAmb	01 17 17.4			
	comp=Z,95nm,1.1s									
CCM	**Cathedral Cave**	**41.96**	**90**		P	**P**	**01 17 16.2**	**-0.2**		
CCM					IAmb	IAmb	01 17 17.3			
	comp=Z,82nm,1.1s									
CCM					PcP	**PcP**	**01 19 10.2**	**-1.0**		
CCM	**Cathedral Cave**	**41.96**	**90**		P	**P**	**01 17 16.0**	**-0.4**		
	baz=315									
CCM	**Cathedral Cave**	**41.96**	**90**		P	**P**	**01 17 16.0**	**-0.4**		
	baz=315,SNR=33									
CCM	**Cathedral Cave**	**41.96**	**90**	⇑	P	**P**	**01 17 16.1**	**-0.3**		
CCM					PcP	**PcP**	**01 19 10.4**	**-0.8**		
SAND	**Sanderson**	**41.98**	**108**		IAmb	IAmb	01 17 19.5			
	comp=Z,89nm,1.1s									
L46A	**Eue Claire**	**42.02**	**82**		P	**P**	**01 17 17.4**	**+0.5**		
	baz=312,SNR=6.0									
L46A					P	**P**	**01 17 17.4**	**+0.5**		
	baz=312,SNR=6.0									
Z35A	**Perchaven, San**	**42.03**	**100**		P	**P**	**01 17 18.0**	**+1.0**		
	baz=319,SNR=21									
J47A	**Sunmer**	**42.03**	**80**		P	**P**	**01 17 17.7**	**+0.7**		
	baz=311,SNR=8.6									
J47A					P	**P**	**01 17 17.7**	**+0.7**		
	baz=311,SNR=8.6									
O44A	**Mansfield**	**42.07**	**86**		IAmb	IAmb	01 17 18.7			
	comp=Z,154nm,1.2s									
O44A	**Mansfield**	**42.07**	**86**		P	**P**	**01 17 17.2**	**0.0**		
	baz=313,SNR=13									
SLM	**Saint Louis**	**42.12**	**89**		IAmb	IAmb	01 17 19.2			
	comp=Z,184nm,1.1s									
SLM	**Saint Louis**	**42.12**	**89**		P	**P**	**01 17 17.9**	**+0.2**		
	baz=314,SNR=10.0									
FW06	**Azle**	**42.13**	**101**		IAmb	IAmb	01 17 20.3			
	comp=Z,142nm,1.1s									
FW07	**Weatherford**	**42.21**	**101**		IAmb	IAmb	01 17 20.8			
	comp=Z,120nm,1.1s									
U40A	**Yellville**	**42.26**	**93**		P	**P**	**01 17 18.3**	**-0.6**		
	baz=316,SNR=42									
U40A					P	**P**	**01 17 18.3**	**-0.6**		
	baz=316,SNR=42									
FVM	**French Village**	**42.47**	**90**		IAmb	IAmb	01 17 21.9			
	comp=Z,119nm,1.1s									
FVM	**French Village**	**42.47**	**90**		P	**P**	**01 17 20.5**	**-0.1**		
	baz=315,SNR=32									
HPIG		**42.55**	**115**		P	**P**	**01 17 22.0**	**+0.5**		
HPIG					PcP	**PcP**	**01 19 13.7**	**+0.1**		
Q44A	**Meyer Farm, Va**	**42.62**	**88**		IAmb	IAmb	01 17 23.1			
	comp=Z,127nm,1.0s									
Q44A	**Meyer Farm, Va**	**42.62**	**88**		P	**P**	**01 17 22.2**	**+0.5**		
	baz=314,SNR=12									
LPIG	**La Paz**	**42.62**	**122**		LR	LR	01 32 44.3			
	comp=Z,510nm,19.4s,baz=332,slow=33									
FW13	**Cleburne**	**42.67**	**101**		IAmb	IAmb	01 17 24.6			
	comp=Z,97nm,1.1s									
I49A	**Point Hope**	**42.67**	**77**		IAmb	IAmb	01 17 24.6			
	comp=Z,163nm,0.9s									
I49A	**Point Hope**	**42.67**	**77**		P	**P**	**01 17 23.2**	**+1.0**		
	baz=311,SNR=18									
I49A					P	**P**	**01 17 23.2**	**+1.0**		
	baz=311,SNR=18									
SFIN	**Lafayette**	**42.68**	**84**		IAmb	IAmb	01 17 23.5			
	comp=Z,64nm,0.8s									
SFIN	**Lafayette**	**42.68**	**84**		P	**P**	**01 17 22.8**	**+0.7**		
	baz=313,SNR=20									
SFIN	**Lafayette**	**42.68**	**84**		P	**P**	**01 17 22.9**	**+0.7**		
	baz=313,SNR=20									
GRNR	**Gornyy**	**42.71**	**296**	⇑	*i* P	**P**	**01 17 22.9**	**+0.5**		
GRNR					pmax	pmax				
	comp=Z,6.0nm,0.8s									
GRNR					MLR	MLR				
	comp=N,850nm,17.0s									
GRNR					MLR	MLR				
	comp=E,930nm,17.0s									
GRNR					MLR	MLR				
	comp=Z,770nm,17.0s									
FW14	**Alvarado**	**42.77**	**101**		IAmb	IAmb	01 17 25.4			
	comp=Z,156nm,1.1s									
JCT	**Junction City**	**42.81**	**106**		IAMs_20	IAMs_20	01 35 19.1			
	comp=Z,1µm,18.0s									
JCT	**Junction City**	**42.81**	**106**		P	**P**	**01 17 24.7**	**+1.3**		
	baz=321,SNR=83									
JCT	**Junction City**	**42.81**	**106**		P	**P**	**01 17 24.8**	**+1.3**		
	baz=321,SNR=83									
FW16	**Waxahatchie**	**42.87**	**101**		IAmb	IAmb	01 17 26.3			
	comp=Z,147nm,1.1s									
WHTX	**Lake Whitney,**	**42.93**	**102**		IAmb	IAmb	01 17 26.8			
	comp=Z,131nm,1.1s									
WHTX	**Lake Whitney,**	**42.93**	**102**		P	**P**	**01 17 25.3**	**+0.9**		
	baz=320,SNR=18									
WHTX	**Lake Whitney,**	**42.93**	**102**		P	**P**	**01 17 25.5**	**+1.2**		
	baz=320,SNR=18									
FCAR	**Ozark Folk Cen**	**43.01**	**93**		IAmb	IAmb	01 17 25.4			
	comp=Z,66nm,0.9s									
L48A	**N Adams**	**43.10**	**81**		IAmb	IAmb	01 17 27.6			
	comp=Z,138nm,1.1s									
L48A	**N Adams**	**43.10**	**81**		P	**P**	**01 17 26.3**	**+0.6**		
	baz=312,SNR=20									
L48A					P	**P**	**01 17 26.3**	**+0.6**		
	baz=312,SNR=20									
N47A	**Urbana**	**43.12**	**83**		IAmb	IAmb	01 17 26.9			
	comp=Z,113nm,1.0s									
N47A	**Urbana**	**43.12**	**83**		P	**P**	**01 17 25.7**	**-0.1**		
	baz=313,SNR=16									
N47A					P	**P**	**01 17 25.7**	**-0.1**		
	baz=313,SNR=16									
P46A	**Rosedale**	**43.14**	**85**		IAmb	IAmb	01 17 27.8			
	comp=Z,192nm,1.0s									
P46A	**Rosedale**	**43.14**	**85**		P	**P**	**01 17 26.7**	**+0.7**		
	baz=314,SNR=21									
SLBS	**Sierra La Lagu**	**43.15**	**122**		P	**P**	**01 17 27.3**	**+1.0**		
SUMG	**Summit**	**43.17**	**24**		P	**P**	**01 17 26.4**	**+0.1**		
SUMG	**Summit**	**43.17**	**24**		P	**P**	**01 17 26.4**	**+0.1**		
SUMG					pmax	pmax				
	comp=Z,58nm,1.0s									
SUMG	**Summit**	**43.17**	**24**	*i*	P	**P**	**01 17 25.5**	**-0.8**		
SUMG					IAmb	IAmb	01 17 28.0			
	comp=Z,25nm,0.7s									
DRIO	**Del Rio**	**43.20**	**107**		IAmb	IAmb	01 17 28.4			
	comp=Z,111nm,0.9s									
OLIL	**Olney**	**43.25**	**87**		P	**P**	**01 17 27.6**	**+0.7**		
	baz=314,SNR=44									
SFJD	**Kangerlussuaq**	**43.26**	**35**		P	**P**	**01 17 26.4**	**-0.2**		
SFJD	**Kangerlussuaq**	**43.26**	**35**		P	**P**	**01 17 26.4**	**-0.2**		
SFJD					pmax	pmax				
	comp=Z,52nm,1.1s									
SFJD	**Kangerlussuaq**	**43.26**	**35**		LR	LR	01 35 27.1			
	comp=Z,910nm,20.1s,baz=314,slow=36									
SFJD	**Kangerlussuaq**	**43.26**	**35**	*i*	P	**P**	**01 17 26.0**	**-0.6**		
SFJD					IAmb	IAmb	01 17 42.8			
	comp=Z,23nm,0.9s									
SFJD	**Kangerlussuaq**	**43.26**	**35**		P	**P**	**01 17 27.3**	**+0.7**		
SFJD					PcP	**PcP**	**01 19 15.0**	**0.0**		
AAM	**Ann Arbor**	**43.30**	**80**		P	**P**	**01 17 28.1**	**+0.9**		
	baz=312,SNR=5.7									
AAM	**Ann Arbor**	**43.30**	**80**		P	**P**	**01 17 28.5**	**+1.3**		
	baz=312,SNR=5.7									
PBMO	**Poplar Bluff**	**43.32**	**91**		P	**P**	**01 17 27.0**	**-0.4**		
	baz=316,SNR=10									
S44A	**Carondale**	**43.33**	**89**		IAmb	IAmb	01 17 28.8			
	comp=Z,123nm,1.0s									
S44A	**Carbondale**	**43.33**	**89**		P	**P**	**01 17 27.8**	**+0.3**		
	baz=315,SNR=33									
SIUC	**Southern Illin**	**43.34**	**89**		IAmb	IAmb	01 17 28.8			
	comp=Z,154nm,1.1s									
Z38A	**Mt. Pleasant**	**43.34**	**98**		P	**P**	**01 17 29.1**	**+1.5**		
	baz=319,SNR=8.6									
WHAR	**Wooly Hollow**	**43.35**	**94**		IAmb	IAmb	01 17 28.7			
	comp=Z,146nm,1.9s									
CGM3	**Cape Girardeau**	**43.38**	**90**		IAmb	IAmb	01 17 28.9			
	comp=Z,100nm,1.2s									
LCAR	**Lake Charles**	**43.42**	**92**		P	**P**	**01 17 27.3**	**-1.0**		
LCAR					PcP	**PcP**	**01 19 15.2**	**-0.9**		
LCAR	**Lake Charles**	**43.42**	**92**		P	**P**	**01 17 27.0**	**-1.2**		
	baz=316,SNR=22									
ASAJ	**Asahikawa**	**43.64**	**284**		P	**P**	**01 17 31.2**	**+1.3**		
	comp=Z,30nm,0.8s,baz=225,slow=16,SNR=4.1									
ASAJ					LR	LR	01 35 32.4			
	comp=Z,586nm,18.8s,baz=32,slow=36									
	comp=Z,30nm,0.8s									
435B	**Jarrell**	**43.78**	**103**		P	**P**	**01 17 32.8**	**+1.5**		
	baz=321									
435B	**Jarrell**	**43.78**	**103**		P	**P**	**01 17 32.9**	**+1.6**		
	baz=321,SNR=21									
237A	**Washetta, Mont**	**43.83**	**100**		P	**P**	**01 17 33.0**	**+1.4**		
	baz=320,SNR=5.6									
BLO	**Bloomington**	**43.83**	**85**		IAmb	IAmb	01 17 33.1			
	comp=Z,117nm,0.9s									
O48B	**Farmland**	**43.84**	**83**		IAmb	IAmb	01 17 32.4			
	comp=Z,81nm,1.0s									
O48B	**Farmland**	**43.84**	**83**		P	**P**	**01 17 31.2**	**-0.4**		
	baz=313,SNR=14									
O48B	**Farmland**	**43.84**	**83**		P	**P**	**01 17 31.2**	**-0.4**		
	baz=313,SNR=14									
N49A	**Columbus Grove**	**43.93**	**82**		IAmb	IAmb	01 17 33.8			
	comp=Z,147nm,1.3s									
N49A	**Columbus Grove**	**43.93**	**82**		P	**P**	**01 17 32.6**	**+0.3**		
	baz=313,SNR=18									
N49A					P	**P**	**01 17 32.6**	**+0.3**		
	baz=313,SNR=18									
WLAR	**White Oak Lake**	**44.06**	**96**		IAmb	IAmb	01 17 35.7			
	comp=Z,188nm,1.4s									
SCHQ	**Schefferville**	**44.07**	**56**		P	**P**	**01 17 33.8**	**+0.4**		
	comp=Z,20nm,0.9s,baz=311,slow=8.1,SNR=17									
SCHQ					LR	LR	01 35 56.4			
	comp=Z,2µm,18.4s,baz=298,slow=36									
	comp=Z,20nm,0.9s									
SADO	**Sadowa**	**44.14**	**74**		P	**P**	**01 17 34.1**	**+0.2**		
SADO					IAmb	IAmb	01 17 35.6			
	comp=Z,63nm,1.1s									
SADO	**Sadowa**	**44.14**	**74**		LR	LR	01 35 37.2			
	comp=Z,1µm,18.4s,baz=306,slow=36									
T45B	**Paducah**	**44.15**	**89**		P	**P**	**01 17 34.6**	**+0.4**		
	baz=316,SNR=9.7									
HICK	**Hickman**	**44.16**	**90**		IAmb	IAmb	01 17 35.6			
	comp=Z,168nm,1.2s									
M50A	**Fremont**	**44.24**	**80**		P	**P**	**01 17 35.7**	**+0.9**		
	baz=313,SNR=5.7									
M50A					P	**P**	**01 17 35.7**	**+0.9**		
	baz=313,SNR=5.7									
P48A	**Milroy**	**44.24**	**84**		P	**P**	**01 17 34.5**	**-0.3**		
	baz=314,SNR=24									
P48A					P	**P**	**01 17 34.5**	**-0.3**		
	baz=314,SNR=24									
O49A	**Covington**	**44.35**	**83**		IAmb	IAmb	01 17 36.8			
	comp=Z,139nm,1.6s									
O49A	**Covington**	**44.35**	**83**		P	**P**	**01 17 35.1**	**-0.5**		
	baz=314,SNR=12									
O49A					P	**P**	**01 17 35.1**	**-0.5**		
	baz=314,SNR=12									
Z41A	**Richland Creek**	**44.56**	**96**		IAmb	IAmb	01 17 39.7			
	comp=Z,101nm,1.1s									
NUUK	**Nuuk**	**44.58**	**38**	*i*	P	**P**	**01 17 37.5**	**+0.3**		
NUUK					IAmb	IAmb	01 17 53.9			
	comp=Z,23nm,0.9s									
P49A	**Miami Univ. Ec**	**44.59**	**83**		P	**P**	**01 17 37.1**	**-0.5**		
	baz=314,SNR=8.6									
P49A	**Miami Univ. Ec**	**44.59**	**83**		P	**P**	**01 17 37.3**	**-0.3**		
	baz=314,SNR=8.6									
WCI	**Wyandotte Cave**	**44.62**	**86**		P	**P**	**01 17 37.9**	**+0.1**		
WCI					IAmb	IAmb	01 17 39.3			
	comp=Z,107nm,1.3s									
WCI	**Wyandotte Cave**	**44.62**	**86**		P	**P**	**01 17 38.2**	**+0.4**		
	baz=315									
WCI	**Wyandotte Cave**	**44.62**	**86**		P	**P**	**01 17 38.2**	**+0.4**		
	baz=315,SNR=12									
WCI	**Wyandotte Cave**	**44.62**	**86**		P	**P**	**01 17 37.9**	**+0.1**		
WCI					pmax	pmax				
	comp=Z,107nm,1.3s									
WCI					MLR	MLR				
	comp=Z,4µm,18.0s									
WCI	**Wyandotte Cave**	**44.62**	**86**		P	**P**	**01 17 38.1**	**+0.4**		
WCI					PcP	**PcP**	**01 19 19.6**	**-0.5**		
CCAR	**Cane Creek**	**44.64**	**95**		P	**P**	**01 17 39.0**	**+1.0**		
	baz=318,SNR=7.7									
NATX	**Nacogdoches**	**44.65**	**99**		IAmb	IAmb	01 17 40.9			
	comp=Z,128nm,1.1s									
NATX	**Nacogdoches**	**44.65**	**99**		P	**P**	**01 17 39.3**	**+1.2**		
	baz=320,SNR=6.9									
NATX	**Nacogdoches**	**44.65**	**99**		P	**P**	**01 17 39.1**	**+0.9**		
	baz=320,SNR=6.9									
833A	**Chaparral WMA,**	**44.72**	**107**		IAmb	IAmb	01 17 41.6			
	comp=Z,102nm,1.1s									
833A	**Chaparral WMA,**	**44.72**	**107**		P	**P**	**01 17 40.0**	**+1.3**		
	baz=323,SNR=16									
833A	**Chaparral WMA,**	**44.72**	**107**		P	**P**	**01 17 40.1**	**+1.3**		
	baz=323,SNR=16									
ERM	**Erimo**	**44.73**	**282**	⇓	*e* P	**P**	**01 17 36.5**	**-2.2**		
ERM					pmax	pmax				
	comp=Z,41nm,1.4s									
KBS	**Kingsbay**	**44.83**	**5**		P	**P**	**01 17 39.6**	**+0.6**		
KBS					IAmb	IAmb	01 17 55.3			
	comp=Z,62nm,1.1s									
KBS	**Kingsbay**	**44.83**	**5**		P	**P**	**01 17 39.6**	**+0.6**		
KBS					pmax	pmax				
	comp=Z,62nm,1.2s									
KBS	**Kingsbay**	**44.83**	**5**	*i*	P	**P**	**01 17 39.7**	**+0.6**		
KBS	**Kingsbay**	**44.83**	**5**		P	**P**	**01 17 40.3**	**+1.2**		
KBS					pP	**sP**	**01 17 52.4**	**+0.8**		
KBS					PcP	**PcP**	**01 19 21.4**	**+1.2**		
N51A	**Ashland**	**44.94**	**80**		IAmb	IAmb	01 17 41.9			
	comp=Z,93nm,0.8s									
N51A	**Ashland**	**44.94**	**80**		P	**P**	**01 17 40.9**	**+0.5**		
	baz=313,SNR=16									
N51A					P	**P**	**01 17 40.9**	**+0.5**		
	baz=313,SNR=16									
T47A	**Sharon Grove**	**45.04**	**88**		IAmb	IAmb	01 17 42.8			
	comp=Z,100nm,1.1s									
T47A	**Sharon Grove**	**45.04**	**88**		P	**P**	**01 17 41.7**	**+0.5**		
	baz=316,SNR=28									
ACSO	**Alum Creek Sta**	**45.07**	**81**		P	**P**	**01 17 41.7**	**+0.3**		
	baz=314,SNR=16									
ACSO	**Alum Creek Sta**	**45.07**	**81**		P	**P**	**01 17 41.9**	**+0.5**		
	baz=314,SNR=16									
M52A	**Chesterland**	**45.08**	**79**		IAmb	IAmb	01 17 43.2			
	comp=Z,87nm,0.8s									
M52A	**Chesterland**	**45.08**	**79**		P	**P**	**01 17 42.0**	**+0.5**		
	baz=313,SNR=16									
M52A					P	**P**	**01 17 42.0**	**+0.5**		
	baz=313,SNR=16									
DELO	**Deloro Mine**	**45.12**	**73**		IAmb	IAmb	01 17 43.9			
	comp=Z,102nm,1.2s									
735A	**Kenedy**	**45.16**	**105**		IAmb	IAmb	01 17 46.0			
	comp=Z,116nm,1.0s									
ICESG	**Greenland Ices**	**45.16**	**29**	*i*	P	**P**	**01 17 41.6**	**-0.6**		
ICESG					IAmb	IAmb	01 18 03.3			
	comp=Z,31nm,0.9s									
WVT	**Waverly**	**45.24**	**89**		P	**P**	**01 17 43.0**	**+0.1**		
WVT					IAmb	IAmb	01 17 44.5			
	comp=Z,56nm,0.9s									
WVT					PcP	**PcP**	**01 19 21.7**	**-0.6**		
WVT	**Waverly**	**45.24**	**89**		P	**P**	**01 17 43.4**	**+0.5**		
	baz=316									
WVT	**Waverly**	**45.24**	**89**		P	**P**	**01 17 43.4**	**+0.5**		
	baz=316,SNR=26									
WVT	**Waverly**	**45.24**	**89**	⇑	P	**P**	**01 17 43.3**	**+0.4**		
WVT					sP	**pwP**	**01 18 01.6**	**+4.1**		
WVT					PcP	**PcP**	**01 19 22.1**	**-0.2**		
ZEA	**Zeya**	**45.36**	**304**	*e*	P	P	01 17 48.4	+4.9		
ZEA					pmax	pmax				
	comp=Z,20nm,1

comp=Z,71nm,1.1s
U49A Red Boiling Sp 46.12 87 P **P** **01 17 50.5 +0.7**
baz=316,SNR=21
LDAQ Lac Daran 46.22 66 IAmb IAmb 01 17 52.3
comp=Z,108nm,1.0s
T50A Nancy 46.28 86 IAmb IAmb 01 17 52.3
comp=Z,56nm,1.0s
T50A Nancy 46.28 86 P **P** **01 17 51.5 +0.5**
baz=316
T50A P **P** **01 17 51.5 +0.5**
baz=316
Q52A Bidwell 46.35 82 P **P** **01 17 51.9 +0.4**
baz=315,SNR=44
Q52A P **P** **01 17 51.9 +0.4**
baz=315,SNR=44
J56A Wolcott 46.36 74 P **P** **01 17 52.3 +0.8**
baz=312
J56A P **P** **01 17 52.3 +0.8**
baz=312
P53A Whipple 46.47 81 P **P** **01 17 52.9 +0.4**
baz=314,SNR=34
P53A P **P** **01 17 52.9 +0.4**
baz=314,SNR=34
WCNY West Carthage 46.53 72 P **P** **01 17 53.8 +0.9**
baz=312,SNR=30
S51A Beattyville 46.54 85 P **P** **01 17 53.6 +0.6**
baz=315,SNR=22
S51A P **P** **01 17 53.6 +0.6**
baz=315,SNR=22
O54A Avella 46.55 80 P **P** **01 17 53.6 +0.5**
baz=314,SNR=34
O54A P **P** **01 17 53.6 +0.5**
baz=314,SNR=34
M55A Ridgway 46.55 77 P **P** **01 17 53.9 +0.8**
baz=313,SNR=32
M55A P **P** **01 17 53.9 +0.8**
baz=313,SNR=32
BMNY Brushton-Moira 46.57 71 P **P** **01 17 53.2 0.0**
baz=312,SNR=8.6
VBMS Vicksburg 46.61 95 P **P** **01 17 55.0 +1.4**
baz=319,SNR=10
VBMS Vicksburg 46.61 95 P **P** **01 17 55.2 +1.6**
baz=319,SNR=10
LONY Lake Ozonia 46.68 71 P **P** **01 17 54.5 +0.5**
baz=312,SNR=14
J57A Williamstown 46.73 73 IAmb IAmb 01 17 56.5
comp=Z,96nm,1.1s
J57A Williamstown 46.73 73 P **P** **01 17 55.3 +0.8**
baz=313,SNR=18
J57A P **P** **01 17 55.3 +0.8**
baz=313,SNR=18
L56A Greenwood 46.75 76 P **P** **01 17 55.6 +0.9**
baz=313,SNR=34
L56A P **P** **01 17 55.6 +0.9**
baz=313,SNR=34
X48A Hartselle 46.90 90 P **P** **01 17 56.5 +0.5**
baz=317,SNR=64
K57A Scipio Center 46.91 74 P **P** **01 17 56.5 +0.6**
baz=313,SNR=12
LMQ La Malbaie 46.96 65 IAmb IAmb 01 17 57.7
comp=Z,139nm,1.5s
R53A Hurricane 46.97 83 P **P** **01 17 57.2 +0.8**
baz=315,SNR=54
R53A P **P** **01 17 57.2 +0.8**
baz=315,SNR=54
FRNY Flat Rock 47.06 70 IAmb IAmb 01 17 58.1
comp=Z,42nm,1.0s
FRNY Flat Rock 47.06 70 P **P** **01 17 57.3 +0.2**
baz=312,SNR=11
146A Union 47.11 94 P **P** **01 17 58.5 +0.9**
baz=319,SNR=12
Q54A Coxs Mills 47.13 81 P **P** **01 17 58.1 +0.4**
baz=315,SNR=21
Q54A P **P** **01 17 58.1 +0.4**
baz=315,SNR=21
J58A Remsen 47.15 73 P **P** **01 17 58.7 +0.9**
baz=313,SNR=25
J58A P **P** **01 17 58.7 +0.9**
baz=313,SNR=25
MCWV Mont Chateau 47.21 80 P **P** **01 17 58.6 +0.4**
baz=314,SNR=26
MCWV Mont Chateau 47.21 80 P **P** **01 17 58.7 +0.4**
baz=314,SNR=26
Z47A Carrollton 47.25 92 P **P** **01 17 59.4 +0.8**
baz=318,SNR=23
NCB Newcomb 47.30 72 P **P** **01 17 59.7 +0.8**
baz=313,SNR=28
W50A Signal Mountai 47.33 88 P **P** **01 17 60.0 +0.7**
baz=317,SNR=78
TZTN Tazewell 47.35 86 P **P** **01 18 00.1 +0.7**
baz=316,SNR=20
TZTN Tazewell 47.35 86 P **P** **01 18 00.1 +0.7**
baz=316,SNR=20
V51A Loudon 47.43 87 P **P** **01 18 00.6 +0.6**
baz=317,SNR=13
J59A Piesco 47.50 72 IAmb IAmb 01 18 02.4
comp=Z,80nm,1.1s
J59A Piesco 47.50 72 P **P** **01 18 01.2 +0.7**
baz=313,SNR=11
J59A P **P** **01 18 01.2 +0.7**
baz=313,SNR=11
HEH HeiHe 47.51 300 *e*P **P** **01 18 02.0 +1.6**
HEH pmax pmax
comp=Z,16nm,1.0s
HEH pmax pmax
comp=Z,570nm,5.8s
HEH LR LR
comp=Z,830nm,17.1s
HEH LR LR
comp=Z,1μm,16.9s
HEH LR LR
comp=Z,2μm,20.5s
M57A Sunshine Farm, 47.53 76 P **P** **01 18 01.3 +0.6**
baz=314,SNR=19
M57A P **P** **01 18 01.3 +0.6**
baz=314,SNR=19
ZAIG Zacatecas 47.56 115 P **P** **01 18 02.7 +1.2**
ZAIG IAmb IAmb 01 18 04.7
comp=Z,119nm,1.5s
BINY Binghamton 47.56 74 P **P** **01 18 01.4 +0.4**
BINY Binghamton 47.56 74 P **P** **01 18 01.9 +0.9**
baz=313,SNR=31
BINY Binghamton 47.56 74 P **P** **01 18 02.1 +1.1**
baz=313,SNR=31
CPCT Cooper Cave 47.59 87 IAmb IAmb 01 18 03.0
comp=Z,81nm,1.0s
SSPA Standing Stone 47.60 77 P **P** **01 18 01.2 -0.1**
SSPA IAmb IAmb 01 18 03.0
comp=Z,106nm,1.1s
SSPA Standing Stone 47.60 77 P **P** **01 18 01.7 +0.3**
baz=314
SSPA Standing Stone 47.60 77 P **P** **01 18 01.8 +0.5**
baz=314,SNR=15
SSPA Standing Stone 47.60 77 P **P** **01 18 01.6 +0.3**
SSPA PcP **PcP** **01 19 30.0 -0.6**
Y49A Blount Mountai 47.69 90 P **P** **01 18 02.8 +0.7**
baz=318,SNR=30
S54A Dingess, Beckl 47.70 83 P **P** **01 18 02.9 +0.7**
baz=316,SNR=16
S54A P **P** **01 18 02.9 +0.7**
baz=316,SNR=16
ISOG Isortoq, Green 47.79 32 *i* P **P** **01 18 01.3 -1.1**
ISOG IAmb IAmb 01 18 03.0
comp=Z,27nm,0.7s
346A Big Creek Wild 47.82 95 P **P** **01 18 04.3 +1.2**
baz=319,SNR=6.0
V52A Sevierville 47.83 86 P **P** **01 18 03.9 +0.8**
baz=317,SNR=20
VT1 Waterbury 47.84 70 IAmb IAmb 01 18 04.8
comp=Z,69nm,1.1s
TKL Tuckaleechee C 47.86 87 P **P** **01 18 04.0 +0.6**
baz=317,SNR=27
TKL Tuckaleechee C 47.86 87 LR LR 01 38 11.3
comp=Z,4μm,18.3s,baz=322,slow=36
D62A Allapoint, All 47.92 65 P **P** **01 18 04.2 +0.6**
baz=312,SNR=21
D62A P **P** **01 18 04.2 +0.6**
baz=312,SNR=21
SOEG Soedalen 47.94 26 *i* P **P** **01 18 02.4 -1.1**
SOEG IAmb IAmb 01 18 18.2
comp=Z,17nm,0.9s
MCVT Middlebury Col 47.97 71 P **P** **01 18 04.9 +0.8**
baz=313
LRAL Lakeview Retre 47.97 92 IAmb IAmb 01 18 05.7
comp=Z,47nm,0.9s
LRAL Lakeview Retre 47.97 92 P **P** **01 18 04.7 +0.5**
baz=318,SNR=18
LRAL Lakeview Retre 47.97 92 P **P** **01 18 04.5 +0.2**
baz=318,SNR=18
E62A Clayton Lake 47.98 66 IAmb IAmb 01 18 05.6
comp=Z,96nm,1.1s
E62A Clayton Lake 47.98 66 P **P** **01 18 04.4 +0.3**
baz=312,SNR=10
E62A P **P** **01 18 04.4 +0.3**
baz=312,SNR=10
ACCN Adirondack Com 48.00 72 IAmb IAmb 01 18 06.5
comp=Z,86nm,1.0s
ACCN Adirondack Com 48.00 72 P **P** **01 18 05.4 +1.0**
baz=313,SNR=16
R55A Marlinton 48.02 81 IAmb IAmb 01 18 06.6
comp=Z,76nm,1.0s
R55A Marlinton 48.02 81 P **P** **01 18 05.0 +0.3**
baz=315,SNR=12
R55A P **P** **01 18 05.0 +0.3**
baz=315,SNR=12
X51A Calhoun 48.05 88 P **P** **01 18 05.8 +1.0**
baz=317,SNR=65
X51A P **P** **01 18 05.8 +1.0**
baz=317,SNR=65
HCNY Howe Caverns 48.08 73 P **P** **01 18 06.0 +1.1**
baz=313,SNR=24
L59A Walton 48.08 74 P **P** **01 18 06.1 +1.1**
baz=314,SNR=20
L59A P **P** **01 18 06.1 +1.1**
baz=314,SNR=20
N58A Sunbury 48.10 76 P **P** **01 18 05.7 +0.6**
baz=314,SNR=18
N58A P **P** **01 18 05.7 +0.6**
baz=314,SNR=18
KSPA Keystone Colle 48.12 75 P **P** **01 18 06.0 +0.7**
baz=314,SNR=14
ANGG Ammassalik, Gr 48.13 31 *i* P **P** **01 18 03.5 -1.6**
ANGG IAmb IAmb 01 18 05.4
comp=Z,29nm,0.7s
W52A Murphy 48.18 87 P **P** **01 18 06.3 +0.4**
baz=317,SNR=28
SCO Scoresbysund 48.30 21 *i* P **P** **01 18 04.3 -1.9**
SCO IAmb IAmb 01 18 08.0
comp=Z,4.5nm,0.9s
U54A Nelsons Funny 48.33 84 P **P** **01 18 08.4 +1.3**
baz=316,SNR=35
U54A P **P** **01 18 08.4 +1.3**
baz=316,SNR=35
LBNH Lisbon 48.34 70 P **P** **01 18 07.6 +0.6**
LBNH IAmb IAmb 01 18 08.4
comp=Z,48nm,0.9s
LBNH Lisbon 48.34 70 P **P** **01 18 07.8 +0.8**
baz=313,SNR=6.7
LBNH Lisbon 48.34 70 P **P** **01 18 08.0 +1.0**
baz=313,SNR=6.7
LBNH Lisbon 48.34 70 P **P** **01 18 07.6 +0.6**
LBNH pmax pmax
comp=Z,48nm,1.0s
P57A Homestead Farm 48.34 79 P **P** **01 18 07.1 0.0**
baz=315,SNR=21
P57A P **P** **01 18 07.1 0.0**
baz=315,SNR=21
NRIK Noril'sk 48.39 337 P **P** **01 18 06.8 -0.1**
NRIK IAmb IAmb 01 18 21.2
comp=Z,66nm,1.2s
NRIK Noril'sk 48.39 337 P **P** **01 18 06.9 -0.1**
comp=Z,7.5nm,0.7s,baz=52,slow=6.1,SNR=17
comp=Z,7.5nm,0.7s
V53A Saluda 48.39 86 P **P** **01 18 08.8 +1.3**
baz=317,SNR=66
V53A P **P** **01 18 08.8 +1.3**
baz=317,SNR=66
G62A West of Eustis 48.41 68 IAmb IAmb 01 18 09.3
comp=Z,88nm,1.1s
G62A West of Eustis 48.41 68 P **P** **01 18 08.0 +0.5**
baz=313,SNR=7.4
G62A P **P** **01 18 08.0 +0.5**
baz=313,SNR=7.4
TRY Troy 48.45 72 IAmb IAmb 01 18 09.4
comp=Z,36nm,0.8s
BOD Bodaibo 48.47 315 *e*P **P** **01 18 07.4 -0.4**
BOD pmax pmax
comp=Z,99nm,1.2s
HNH Hanover 48.51 71 IAmb IAmb 01 18 10.5
comp=Z,47nm,1.1s
H62A Milan 48.52 69 IAmb IAmb 01 18 10.1
comp=Z,70nm,0.9s
H62A Milan 48.52 69 P **P** **01 18 08.5 +0.1**
baz=313,SNR=9.0
H62A P **P** **01 18 08.5 +0.1**
baz=313,SNR=9.0
BLA Blacksburg 48.62 82 P **P** **01 18 09.9 +0.7**
baz=316,SNR=17
BLA Blacksburg 48.62 82 P **P** **01 18 10.2 +1.0**
baz=316,SNR=17
J61A Chester 48.62 71 IAmb IAmb 01 18 11.5
comp=Z,79nm,1.1s
J61A Chester 48.62 71 P **P** **01 18 10.1 +1.0**
baz=313,SNR=6.8
J61A P **P** **01 18 10.1 +1.0**
baz=313,SNR=6.8
E63A Oxbow 48.68 65 P **P** **01 18 09.3 -0.2**
baz=313,SNR=9.7
E63A P **P** **01 18 09.3 -0.2**
baz=313,SNR=9.7
PQI Presque Isle 48.72 65 IAmb IAmb 01 18 11.6
comp=Z,72nm,1.3s
Z51A Franklin 48.79 90 P **P** **01 18 10.8 +0.2**
baz=318,SNR=12
BG3 Lake Jocassee 48.81 86 P **P** **01 18 11.1 +0.4**
BG3 PcP **PcP** **01 19 35.0 0.0**
CASEE Lake Jocassee 48.81 86 P **P** **01 18 11.7 +0.9**
baz=317,SNR=42
F63A Nahmakanta, Br 48.82 66 IAmb IAmb 01 18 12.1
comp=Z,65nm,1.0s
F63A Nahmakanta, Br 48.82 66 P **P** **01 18 10.9 +0.3**
baz=313,SNR=8.6
F63A P **P** **01 18 10.9 +0.3**
baz=313,SNR=8.6
H11N2 WAKE ISLAND Hy 48.83 240 T T 02 10 48.7
baz=31,slow=76,SNR=6.7
H11N3 WAKE ISLAND Hy 48.83 240 T T 02 10 49.3
baz=31,slow=76,SNR=6.1
H11N1 WAKE ISLAND Hy 48.84 240 T T 02 10 51.7
baz=31,slow=76,SNR=7.7
NPNY Mohonk Preserv 48.86 74 P **P** **01 18 11.0 0.0**
baz=314,SNR=8.2
MVL Millersville 48.89 77 IAmb IAmb 01 18 12.9
comp=Z,68nm,0.9s
Y52A Lilburn 49.01 88 P **P** **01 18 13.0 +0.8**
baz=318,SNR=36
Y52A P **P** **01 18 13.0 +0.8**
baz=318,SNR=36
PKME Peaks-Kenny Pk 49.02 67 P **P** **01 18 12.6 +0.5**
baz=313,SNR=8.0
PKME Peaks-Kenny Pk 49.02 67 P **P** **01 18 12.5 +0.4**
baz=313,SNR=8.0
SDMD Soldier's Deli 49.03 78 P **P** **01 18 12.3 -0.1**
baz=315,SNR=7.9
S57A Dark Hollow, R 49.04 81 IAmb IAmb 01 18 14.3
comp=Z,71nm,1.1s
S57A Dark Hollow, R 49.04 81 P **P** **01 18 12.9 +0.5**
baz=316,SNR=11
S57A P **P** **01 18 12.9 +0.5**
baz=316,SNR=11
ODNJ Ogdensburg 49.08 75 P **P** **01 18 13.0 +0.4**
ODNJ IAmb IAmb 01 18 14.6
comp=Z,76nm,1.1s
ODNJ Ogdensburg 49.08 75 P **P** **01 18 13.4 +0.7**
baz=314,SNR=11
F64A Sherman 49.09 66 P **P** **01 18 13.0 +0.3**
baz=313,SNR=18
F64A P **P** **01 18 13.0 +0.3**
baz=313,SNR=18
V55A Taylorsville 49.15 84 P **P** **01 18 14.3 +0.9**
baz=317,SNR=32
V55A P **P** **01 18 14.3 +0.9**
baz=317,SNR=32
L61B Northampton 49.17 72 P **P** **01 18 13.9 +0.6**
baz=314
250A Grady 49.17 92 P **P** **01 18 14.1 +0.7**
baz=319,SNR=29
BRNY Black Rk. Fore 49.17 74 P **P** **01 18 13.7 +0.3**
baz=314,SNR=18
I63A Otisfield 49.18 69 P **P** **01 18 14.4 +1.1**
baz=314
I63A P **P** **01 18 14.4 +1.1**
baz=314
KSCT Kent School, K 49.24 73 IAmb IAmb 01 18 15.8
comp=Z,68nm,0.9s
TRNY Table Rock, Ra 49.24 74 IAmb IAmb 01 18 15.9
comp=Z,66nm,1.1s
USRK Ussuriysk Ar. 49.25 291 P **P** **01 18 13.3 -0.6**
comp=Z,2.1nm,0.8s,baz=58,slow=9.6,SNR=1.8
USRK LR LR 01 38 46.6
comp=Z,1μm,21.5s,baz=56,slow=36
comp=Z,2.1nm,0.8s
K62A Royalston 49.26 71 P **P** **01 18 15.6 +1.6**
baz=314,SNR=14
K62A P **P** **01 18 15.6 +1.6**
baz=314,SNR=14
U56A King 49.26 83 P **P** **01 18 15.2 +1.1**
baz=316,SNR=26
U56A P **P** **01 18 15.2 +1.1**
baz=316,SNR=26
WVL Waterville 49.30 68 IAmb IAmb 01 18 16.0
comp=Z,97nm,1.2s
BRAL Brewton 49.34 93 P **P** **01 18 16.3 +1.5**
baz=319,SNR=23
BRAL Brewton 49.34 93 P **P** **01 18 16.3 +1.5**
baz=319,SNR=23
WUPA West Chester U 49.34 76 IAmb IAmb 01 18 16.5
comp=Z,56nm,1.0s
BRNJ Basking Ridge 49.38 75 P **P** **01 18 15.3 +0.4**
BRNJ Basking Ridge 49.38 75 P **P** **01 18 15.7 +0.7**
baz=315,SNR=13
GEDE Greenville 49.41 77 P **P** **01 18 15.5 +0.3**
baz=315,SNR=12
T57A Hurt 49.42 82 IAmb IAmb 01 18 16.8
comp=Z,47nm,1.1s
T57A Hurt 49.42 82 P **P** **01 18 15.5 +0.1**
baz=316,SNR=8.5
T57A P **P** **01 18 15.5 +0.1**
baz=316,SNR=8.5
QUA2 Belchertown 49.46 72 IAmb IAmb 01 18 17.8
comp=Z,73nm,0.9s
QUA2 Belchertown 49.46 72 P **P** **01 18 16.8 +1.2**
baz=314,SNR=7.9
R58B Mineral 49.49 80 P **P** **01 18 16.2 +0.3**
baz=316,SNR=11
R58B P **P** **01 18 16.2 +0.3**
baz=316,SNR=11
PAL Palisades 49.51 74 P **P** **01 18 16.6 +0.7**
baz=315,SNR=5.5
PAL Palisades 49.51 74 P **P** **01 18 16.6 +0.7**
baz=315,SNR=5.5
PANJ Princeton 49.52 75 P **P** **01 18 16.1 +0.1**
baz=315,SNR=10
152A Waverly Hall 49.52 90 P **P** **01 18 16.1 -0.1**
baz=318,SNR=22
PAULI Pauline 49.57 86 P **P** **01 18 17.0 +0.5**
baz=317,SNR=16
KMSC Kings Mountain 49.60 85 P **P** **01 18 17.5 +0.8**
baz=317,SNR=30
KMSC Kings Mountain 49.60 85 P **P** **01 18 17.2 +0.5**
baz=317,SNR=30
FOR Fordham 49.62 74 P **P** **01 18 17.8 +1.0**
baz=315,SNR=6.3
CPNY Central Park 49.63 74 IAmb IAmb 01 18 19.0
comp=Z,92nm,1.2s
GOGA Godfrey 49.68 88 IAmb IAmb 01 18 18.8
comp=Z,68nm,1.0s
GOGA Godfrey 49.68 88 P **P** **01 18 17.8 +0.5**
baz=318,SNR=18
GOGA Godfrey 49.68 88 P **P** **01 18 17.6 +0.2**
baz=318,SNR=18
WSPT Westport, CT 49.71 74 IAmb IAmb 01 18 19.4
comp=Z,65nm,1.1s
HRV Adam Dziewonsk 49.73 71 P **P** **01 18 18.4 +0.9**
baz=314
HODGE Hodges 49.75 87 P **P** **01 18 18.7 +0.9**
baz=318,SNR=32
WES Weston 49.94 71 P **P** **01 18 20.0 +0.8**
WES Weston 49.94 71 P **P** **01 18 20.0 +0.8**
WES pmax pmax
comp=Z,143nm,1.0s
G65A Princeton 49.95 66 P **P** **01 18 19.4 +0.2**
baz=314,SNR=5.8
G65A P **P** **01 18 19.4 +0.2**
baz=314,SNR=5.8
H11S1 WAKE ISLAND Hy 49.97 240 T T 02 12 32.4
baz=28,slow=76,SNR=79
H11S2 WAKE ISLAND Hy 49.98 240 T T 02 12 34.0
baz=28,slow=76,SNR=44
H11S3 WAKE ISLAND Hy 49.98 240 T T 02 12 32.6
baz=28,slow=76,SNR=38
BCX Boston College 50.05 71 IAmb IAmb 01 18 22.2
comp=Z,64nm,0.9s
MDJ Mudanjiang 50.21 293 SS SS 01 28 51.5 -12
MDJ pmax pmax
comp=Z,37nm,1.2s
MDJ pmax pmax
comp=Z,610nm,4.1s
MDJ LR LR
comp=N,840nm,22.3s
MDJ LR LR
comp=E,1μm,23.4s
MDJ LR LR
comp=Z,1μm,24.7s
M63A Gales Ferry 50.23 73 P **P** **01 18 21.5 0.0**
baz=315,SNR=11
M63A P **P** **01 18 21.5 0.0**
baz=315,SNR=11
JMIC Jan Mayen 50.25 16 LR LR 01 41 48.0
comp=Z,314nm,18.5s,baz=0.5,slow=39
JSC Jenkinsville 50.27 86 IAmb IAmb 01 18 23.1
comp=Z,64nm,0.9s
JSC Jenkinsville 50.27 86 P **P** **01 18 22.5 +0.7**
baz=318,SNR=16
352A Blakely 50.30 91 P **P** **01 18 22.1 +0.1**
baz=319,SNR=6.5
W57A Gilead 50.34 84 P **P** **01 18 22.2 -0.1**
baz=317,SNR=18
W57A P **P** **01 18 22.2 -0.1**
baz=317,SNR=18
JRQG Juriquilla Cam 50.36 114 IAmb IAmb 01 18 25.7
comp=Z,65nm,1.5s
V58A Windy Hill, Pi 50.37 83 P **P** **01 18 23.4 +0.9**
baz=317,SNR=19
V58A P **P** **01 18 23.4 +0.9**
baz=317,SNR=19
GGN Saint George 50.38 66 IAmb IAmb 01 18 23.7
comp=Z,94nm,1.1s
T59A Double "B" Far 50.38 81 IAmb IAmb 01 18 23.8
comp=Z,50nm,0.9s
T59A Double "B" Far 50.38 81 P **P** **01 18 23.3 +0.7**
baz=316,SNR=10
T59A P **P** **01 18 23.3 +0.7**
baz=316,SNR=10
BIRD Birdtown, Kers 50.45 85 IAmb IAmb 01 18 25.0
comp=Z,59nm,0.9s
BIRD Birdtown, Kers 50.45 85 P **P** **01 18 23.6 +0.5**
baz=318,SNR=8.9
154A Montrose 50.47 89 P **P** **01 18 23.2 -0.1**
baz=318,SNR=16
451A Vernon 50.49 93 P **P** **01 18 24.2 +0.8**
baz=320,SNR=6.1
U59A Littleton 50.70 81 IAmb IAmb 01 18 26.8
comp=Z,55nm,0.9s
U59A Littleton 50.70 81 P **P** **01 18 25.6 +0.6**
baz=317,SNR=16
U59A P **P** **01 18 25.6 +0.6**
baz=317,SNR=16
T60A Surry 50.71 80 P **P** **01 18 25.5 +0.4**
baz=316,SNR=6.4
T60A P **P** **01 18 25.5 +0.4**
baz=316,SNR=6.4
HAW Hawthorne Fire 50.76 87 P **P** **01 18 25.7 +0.3**
baz=318,SNR=12
LMN Caledonia Moun 50.90 64 IAmb IAmb 01 18 27.7
comp=Z,93nm,0.9s
Y57A Sumter 50.95 85 P **P** **01 18 27.5 +0.5**
baz=318,SNR=9.5
Y57A P **P** **01 18 27.5 +0.5**
baz=318,SNR=9.5
TIGA Tifton 51.08 90 P **P** **01 18 27.0 -0.9**
baz=319,SNR=6.4
TIGA Tifton 51.08 90 P **P** **01 18 27.6 -0.3**
baz=319,SNR=6.4
X58A Rowland 51.15 84 P **P** **01 18 29.0 +0.6**
baz=318,SNR=12
X58A P **P** **01 18 29.0 +0.6**
baz=318,SNR=12
W59A Clinton 51.20 83 P **P** **01 18 29.6 +0.9**
baz=317,SNR=10
MJAR Matsushiro Arr 51.30 280 P **P** **01 18 28.9 -0.6**
comp=Z,1.6nm,0.6s,baz=42,slow=5.7,SNR=1.9
MJAR LR LR 01 40 02.8
comp=Z,487nm,21.1s,baz=50,slow=36

comp=Z,1.6nm,0.6s
MAJO Matsushiro 51.30 280 P **P** **01 18 29.6 0.0**
MAJO IAmb IAmb 01 18 44.8
comp=Z,68nm,1.1s
MAJO Matsushiro 51.30 280 P **P** **01 18 29.6 0.0**
MAJO pmax pmax
comp=Z,68nm,1.2s
255A Hazlehurst 51.34 89 P **P** **01 18 29.8 -0.1**
baz=319,SNR=7.4
Y58A Scranton 51.44 85 P **P** **01 18 31.5 +0.9**
baz=318,SNR=5.4
Y58A P **P** **01 18 31.5 +0.9**
baz=318,SNR=5.4
CNNC Cliffs of the 51.45 82 P **P** **01 18 31.3 +0.6**
baz=317,SNR=7.6
CNNC Cliffs of the 51.45 82 P **P** **01 18 31.8 +1.1**
baz=317,SNR=7.6
553A Crawfordville 51.55 92 P **P** **01 18 32.2 +0.8**
baz=320,SNR=7.5
NHSC New Hope 51.75 86 P **P** **01 18 33.5 +0.6**
baz=318,SNR=14
NHSC New Hope 51.75 86 P **P** **01 18 33.5 +0.6**
baz=318,SNR=14
V61A Roper 51.78 81 P **P** **01 18 34.2 +1.1**
baz=317,SNR=5.6
V61A P **P** **01 18 34.2 +1.1**
baz=317,SNR=5.6
HIA Hailar 51.84 304 P **P** **01 18 33.1 -0.3**
HIA Hailar 51.84 304 IAMs_20 IAMs_20 01 42 50.4
comp=Z,960nm,19.0s
HIA Hailar 51.84 304 P **P** **01 18 33.1 -0.3**
HIA pmax pmax
comp=Z,40nm,1.1s
HIA MLR MLR
comp=Z,1μm,19.0s
UNM Universidad Na 52.16 114 IAMs_20 IAMs_20 01 40 08.9
comp=Z,1μm,19.0s
Y60A Bolivia 52.18 84 P **P** **01 18 35.9 -0.2**
baz=318,SNR=7.9
Y60A P **P** **01 18 35.9 -0.2**
baz=318,SNR=7.9
CN2 Changchun 52.91 295 P **P** **01 18 41.5 +0.1**
CN2 pP pP 01 18 46.5 -3.9
CN2 sP sP 01 18 53.3 -0.7
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
JHJ Hachijo jima 2 52.94 276 LR LR 01 39 50.8
comp=Z,202nm,21.2s,baz=49,slow=34
BORG Borgarnes 53.14 25 LR LR 01 42 30.0
comp=Z,701nm,19.4s,baz=328,slow=37
TLIG Tlapa 53.95 114 IAmb IAmb 01 18 52.2
comp=Z,66nm,1.0s
ARCES ARCESS Array B 54.69 2 P **P** **01 18 53.5 -0.7**
comp=Z,5.5nm,0.6s,baz=352,slow=7.0,SNR=21
ARCES PcP **PcP** **01 19 56.4 0.0**
comp=Z,8.2nm,0.9s,baz=352,slow=5.6,SNR=4.4
comp=Z,5.5nm,0.6s
DWPF Disney Wildern 54.82 91 P **P** **01 18 55.6 +0.1**
baz=321
JCJ Chichijima 56.16 269 LR LR 01 40 27.8
comp=Z,371nm,21.8s,baz=6.0,slow=33
KSRS Korea Array 56.23 288 P **P** **01 19 06.7 +1.2**
comp=Z,2.0nm,0.8s,baz=50,slow=7.1,SNR=3.2
KSRS pP **sP** **01 19 18.4 +0.3**
comp=Z,17nm,1.1s,baz=41,slow=6.3,SNR=10
KSRS LR LR 01 41 35.9
comp=Z,376nm,21.9s,baz=45,slow=34
comp=Z,2.0nm,0.8s
CMIG Matias Romero 56.25 111 LR LR 01 42 19.4
comp=Z,488nm,20.4s,baz=344,slow=35
KSAR Wonju Array Be 56.26 288 P **P** **01 19 05.4 -0.4**
KSAR Wonju Array Be 56.26 288 P **P** **01 19 05.4 -0.4**
IRK Irkutsk 56.37 315 *e*P P 01 19 11.4 +5.0
IRK pmax pmax
comp=Z,98nm,2.0s
LVZ Lovozero 56.37 358 P **P** **01 19 06.2 0.0**
LVZ IAmb IAmb 01 19 21.5
comp=Z,89nm,1.1s
LVZ Lovozero 56.37 358 P **P** **01 19 06.2 0.0**
LVZ pmax pmax
comp=Z,89nm,1.1s
LVZ Lovozero 56.37 358 P **P** **01 19 06.5 +0.3**
LVZ pP **sP** **01 19 19.2 +0.4**
TEIG Tepich 57.23 103 P **P** **01 19 13.1 +0.3**
TEIG IAmb IAmb 01 19 14.5
comp=Z,95nm,1.1s
TEIG Tepich 57.23 103 LR LR 01 46 01.8
comp=Z,2μm,20.1s,baz=152,slow=38
TEIG Tepich 57.23 103 P **P** **01 19 13.5 +0.6**
XLT XiLinHaoTe 57.47 301 *e*P P 01 19 20.0 +5.6
XLT sP sP 01 19 27.0 0.0
XLT pmax pmax
comp=Z,26nm,1.1s
XLT pmax pmax
comp=Z,310nm,5.0s
XLT LR LR
comp=Z,510nm,12.2s
XLT LR LR
comp=Z,430nm,22.1s
JNU Nakatsue 57.87 283 LR LR 01 45 53.5
comp=Z,133nm,19.2s,baz=46,slow=38
ZAK Zakamensk 58.20 314 *e*P **P** **01 19 18.3 -1.1**
ZAK pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 58.57 310 P **P** **01 19 22.0 -0.1**
ULN IAmb IAmb 01 19 35.9
comp=Z,44nm,0.9s
ULN Ulaanbaatar 58.57 310 IAMs_20 IAMs_20 01 45 14.7
comp=Z,826nm,20.0s
ULN Ulaanbaatar 58.57 310 P **P** **01 19 22.0 -0.1**
ULN pmax pmax
comp=Z,44nm,1.0s
ULN MLR MLR
comp=Z,800nm,20.0s
ULN Ulaanbaatar 58.57 310 P **P** **01 19 21.8 -0.4**
comp=Z,205nm,1.0s
SONM Songino Array 58.88 310 P **P** **01 19 23.9 -0.4**
SONM Songino Array 58.88 310 P **P** **01 19 25.1 +0.8**
comp=Z,14nm,0.9s,baz=48,slow=6.3,SNR=68
SONM pP **sP** **01 19 36.6 -0.4**
comp=Z,81nm,1.0s,baz=47,slow=5.6,SNR=32
SONM LR LR 01 47 13.5
comp=Z,635nm,18.4s,baz=26,slow=38
SONM PKPPKP **P'P'df** **01 49 04.1 0.0**
comp=Z,1.9nm,1.1s,baz=213,slow=4.3,SNR=6.3
comp=Z,14nm,0.9s
PETF Flores 59.06 106 IAmb IAmb 01 19 27.9
comp=Z,86nm,1.2s
BJT Baijiatuau 60.36 298 P **P** **01 19 33.8 -0.6**
BJT Baijiatuau 60.36 298 P **P** **01 19 33.8 -0.6**
BJT pmax pmax
comp=Z,30nm,1.3s
MTO3 Montecristo 61.41 108 IAmb IAmb 01 19 43.8
comp=Z,75nm,1.3s
ZAA0 Zalesovo Array 61.83 327 P **P** **01 19 43.7 -0.5**
ZAA0 IAmb IAmb 01 19 58.3
comp=Z,62nm,0.9s
ZALV Zalesovo Beam 61.83 327 P **P** **01 19 44.0 -0.1**
comp=Z,29nm,0.8s,baz=29,slow=6.8,SNR=130
ZALV pP **sP** **01 19 56.9 0.0**
comp=Z,53nm,0.8s,baz=30,slow=6.2,SNR=27
ZALV PKPPKP **P'P'df** **01 48 58.1 -1.8**
comp=Z,0.7nm,0.8s,baz=336,slow=3.2,SNR=1.5
ZALV LR LR 01 50 58.3
comp=Z,457nm,18.3s,baz=12,slow=40
comp=Z,29nm,0.8s
HHC Hu-ho-hao-te 61.95 302 *e*P **P** **01 19 45.5 +0.2**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,250nm,4.9s
HHC LR LR
comp=Z,570nm,15.3s
HHC LR LR
comp=Z,960nm,15.3s
HHC LR LR
comp=Z,1μm,16.0s
NC204 NORSAR Array S 61.98 11 IAmb IAmb 01 19 45.5
comp=Z,72nm,1.2s
NB2 NORSAR Subarra 62.26 11 P **P** **01 19 46.3 -0.7**
comp=Z,6.8nm,0.8s,baz=347,slow=6.9

NOA NORSAR Array B 62.26 11 P **P** **01 19 46.7 -0.2**
comp=Z,11nm,0.8s,baz=348,slow=6.7,SNR=30
NOA pP **sP** **01 19 59.7 0.0**
comp=Z,14nm,0.8s,baz=348,slow=6.7,SNR=16
NOA LR LR 01 47 08.9
comp=Z,140nm,21.9s,baz=340,slow=36
comp=Z,11nm,0.8s
TIA Tai'an 62.81 295 *e*P **P** **01 19 55.0 +4.0**
TIA pmax pmax
comp=Z,4.0nm,1.2s
FIA1 FINESS Array S 62.82 3 P **P** **01 19 50.1 -0.5**
FINES FINESS Array B 62.82 3 P **P** **01 19 50.5 -0.1**
comp=Z,21nm,0.7s,baz=7.6,slow=8.5,SNR=50
FINES pP **sP** **01 20 03.5 +0.2**
comp=Z,34nm,0.8s,baz=15,slow=7.9,SNR=13
comp=Z,21nm,0.7s
TGUH Tegucigalpa,Un 62.82 106 P **P** **01 19 51.4 0.0**
TGUH IAMs_20 IAMs_20 01 48 55.2
comp=Z,487nm,19.0s
TGUH Tegucigalpa,Un 62.82 106 *e*P **P** **01 19 52.5 +1.1**
BTO Baotou 62.88 303 *e*P **P** **01 19 54.8 +3.3**
BTO pP **pP** **01 19 59.5 -1.1**
BTO sP **sP** **01 20 01.8 -2.4**
BTO PP **PP** **01 22 14.3 +4.8**
BTO S **S** **01 28 24.0 +5.5**
BTO sS **pS** **01 28 27.5 -2.0**
BTO SS **SS** **01 32 26.5 +3.4**
BTO pmax pmax
comp=Z,21nm,0.7s
BTO pmax pmax
comp=Z,630nm,6.3s
BTO LR LR
comp=Z,1μm,16.2s
BTO LR LR
comp=Z,1μm,15.1s
BTO LR LR
comp=Z,1μm,17.2s
HNS HongShan 63.10 297 ⇓P **P** **01 19 53.5 +0.6**
HNS pP **pP** **01 19 59.0 -3.0**
HNS PcP **PcP** **01 20 30.3 0.0**
HNS *e*S **S** **01 28 18.5 -2.6**
HNS pmax pmax
comp=Z,10.0nm,1.6s
HNS LR LR
comp=Z,410nm,19.1s
HNS LR LR
comp=Z,690nm,21.5s
HNS LR LR
comp=Z,580nm,15.9s
KPL Plockton 63.22 21 *e*P **P** **01 19 53.1 -0.2**
HFS Hagfors 63.40 10 P **P** **01 19 54.1 -0.4**
comp=Z,6.0nm,0.6s,baz=356,slow=4.5,SNR=14
HFS pP **sP** **01 20 06.5 -0.6**
comp=Z,8.4nm,0.8s,baz=64,slow=3.4,SNR=4.9
HFS LR LR 01 49 25.5
comp=Z,250nm,18.5s,baz=345,slow=38
comp=Z,6.0nm,0.6s
MCD Coleburn Disti 63.46 20 *e*P **P** **01 19 55.1 +0.2**
JOW Kunigami 64.14 280 LR LR 01 46 49.1
comp=Z,219nm,22.0s,baz=328,slow=35
DRUM Mains of Drumt 64.24 20 *e*P **P** **01 19 59.9 -0.2**
DRUM IAmb IAmb 01 20 00.8
comp=Z,84nm,1.0s
MATN Matagalpa 64.48 105 IAmb IAmb 01 20 03.7
comp=Z,74nm,1.0s
PUL Pulkovo 64.56 0⇑*e*P **P** **01 20 01.4 -0.7**
PUL pmax pmax
comp=Z,48nm,0.4s
KIRV Kirov 64.79 349*d i*P **P** **01 20 03.6 0.0**
KIRV Kirov 64.79 349 LR LR 01 52 38.5
comp=Z,370nm,18.3s,baz=30,slow=40
GTBY Guantanamo Bay 64.80 92 P **P** **01 20 04.1 -0.1**
GTBY Guantanamo Bay 64.80 92 *e*P **P** **01 20 02.9 -1.3**
MTDJ Mount Denham 64.80 95 P **P** **01 20 04.7 +0.3**
SVE Sverdlovsk 64.96 342 *e*P **P** **01 20 04.8 0.0**
SVE pmax pmax
comp=Z,62nm,1.5s
BOAB BOACO BROADBA 65.02 105 P **P** **01 20 05.3 -0.4**
EDI Edinburgh 65.03 20 *e*P **P** **01 20 04.9 -0.3**
NJ2 Nanjing 65.15 291 *e*P **P** **01 20 10.3 +3.9**
NJ2 sP **pP** **01 20 14.5 -1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,480nm,4.0s
EKA Eskdalemuir Ar 65.60 21 P **P** **01 20 08.9 0.0**
comp=Z,18nm,0.9s,baz=337,slow=5.0,SNR=25
EKA pP **sP** **01 20 21.9 +0.3**
comp=Z,14nm,0.8s,baz=345,slow=5.1,SNR=10.0
comp=Z,18nm,0.9s
ESK Eskdalemuir 65.60 21 *e*P **P** **01 20 08.7 -0.2**
ARU Arti 65.68 344 P **P** **01 20 09.2 -0.3**
ARU IAmb IAmb 01 20 23.8
comp=Z,68nm,1.4s
ARU Arti 65.68 344*ce*P **P** **01 20 09.1 -0.3**
ARU pmax pmax
comp=Z,34nm,1.7s
ARU Arti 65.68 344 LR LR 01 51 04.6
comp=Z,343nm,19.3s,baz=16,slow=38
ARU Arti 65.68 344 P **P** **01 20 09.2 -0.3**
ARU pP **sP** **01 20 21.9 -0.3**
GAL1 Galloway 65.72 22 *e*P **P** **01 20 08.8 -0.9**
GAL1 IAmb IAmb 01 20 10.5
comp=Z,43nm,0.9s
BORU Boraas 65.77 11 *e*P **P** **01 20 08.6 -1.3**
VSU Vasula 65.82 2*ce*P **P** **01 20 10.3 0.0**
VSU pmax pmax
comp=Z,178nm,1.3s
VSU Vasula 65.82 2 *e*P **P** **01 20 11.3 +1.0**
ONAU Onsala 65.91 11 *e*P **P** **01 20 07.9 -3.0**
SEM Semipalatinsk 66.30 328 *e*P **P** **01 20 13.7 -0.2**
baz=328
SEM Semipalatinsk 66.30 328 *e*P **P** **01 20 13.6 -0.2**
LYN LuoYang 66.46 297 ⇓P **P** **01 20 15.5 +0.7**
LYN pP pP 01 20 20.5 -3.5
LYN PP **PP** **01 22 46.3 +5.4**
LYN pmax pmax
comp=Z,19nm,0.8s
LYN LR LR
comp=Z,690nm,20.6s
LYN LR LR
comp=Z,790nm,19.6s
LYN LR LR
comp=Z,1μm,23.5s
SLIT Slitere, Latvi 66.50 5 *e*P **P** **01 20 15.3 +0.7**
KURK Kurchatov 66.50 329 P **P** **01 20 14.3 -0.5**
KURK IAmb IAmb 01 20 28.3
comp=Z,50nm,1.1s
KURK Kurchatov 66.50 329 P **P** **01 20 15.2 +0.4**
KURK *PP **sP** **01 20 28.2 +0.7**
KURK Kurchatov 66.50 329 P **P** **01 20 14.6 -0.2**
KURK pP **sP** **01 20 27.6 0.0**
MUD Monsted U'grnd 66.51 13 *e*P **P** **01 20 14.9 +0.2**
MUD IAmb IAmb 01 20 16.3
comp=Z,123nm,1.6s
BRVK Borovoye 66.56 335 P **P** **01 20 14.9 -0.2**
BRVK IAmb IAmb 01 20 29.4
comp=Z,61nm,1.1s
BRVK Borovoye 66.56 335 P **P** **01 20 14.9 -0.2**
BRVK Borovoye 66.56 335 P **P** **01 20 15.0 -0.1**
BRVK pP **sP** **01 20 27.9 0.0**
BVAR Borovoye Array 66.56 335 P **P** **01 20 14.8 -0.3**
comp=Z,12nm,0.8s,baz=31,slow=7.0,SNR=61
BVAR pP **sP** **01 20 27.5 -0.4**
comp=Z,43nm,1.1s,baz=23,slow=8.0,SNR=17
BVAR PKPPKP P'P'df 01 48 35.1 -17
comp=Z,1.8nm,1.1s,baz=321,slow=3.7,SNR=4.2
BVAR LR LR 01 53 28.5
comp=Z,465nm,18.6s,baz=25,slow=40
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 66.61 329 P **P** **01 20 15.2 -0.3**
comp=Z,11nm,0.7s,baz=28,slow=6.3,SNR=76
KURBB pP **sP** **01 20 28.2 0.0**
comp=Z,31nm,0.9s,baz=24,slow=5.7,SNR=26
KURBB LR LR 01 52 47.3
comp=Z,486nm,18.4s,baz=342,slow=39
comp=Z,11nm,0.7s
DEL Delary 67.03 10 *i* P **P** **01 20 17.6 -0.4**
COVE Coope Vega, Sa 67.14 105 P **P** **01 20 18.6 -0.7**
JTS Las Juntas de 67.19 106 LR LR 01 51 41.3
comp=Z,232nm,19.8s,baz=288,slow=38
BLEU Blekinge 67.37 9 *e*P **P** **01 20 18.5 -1.7**
ZSN Zaisan 67.44 324 *e*P **P** **01 20 21.6 +0.8**
baz=324
ZSN Zaisan 67.44 324 *e*P **P** **01 20 21.6 +0.8**

SDDR Presa de Saban 67.70 89 P **P** **01 20 23.3 +0.5**
SDDR IAMs_20 IAMs_20 01 48 56.8
comp=Z,738nm,21.0s
SDDR Presa de Saban 67.70 89 *e*P **P** **01 20 23.4 +0.5**
FOEL Foel Wylfa 67.89 21 *e*P **P** **01 20 23.8 +0.2**
VSVD Vaisvydziai 68.22 4 *e*P **P** **01 20 26.1 +0.6**
CWF Charnwood Fore 68.41 20 *e*P **P** **01 20 27.0 +0.2**
CWF IAmb IAmb 01 20 28.0
comp=Z,44nm,1.3s
BSD Bornholm Skovb 68.47 10 *e*P **P** **01 20 26.6 -0.5**
BSD IAmb IAmb 01 20 28.3
comp=Z,26nm,1.0s
MOS Moscow 68.47 356 *e*P **P** **01 20 26.2 -0.9**
MOS *e* 01 20 49.6
MOS *e* 01 22 59.4
GTA Gaotai 68.48 309 P **P** **01 20 27.5 -0.1**
GTA sP sP 01 20 39.8 -0.6
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA LR LR
comp=Z,420nm,16.4s
GTA LR LR
comp=Z,660nm,17.4s
GTA LR LR
comp=Z,730nm,18.2s
XAN Xi'an 68.63 299 ⇑P **P** **01 20 28.0 -0.5**
XAN pP pP 01 20 33.5 -4.3
XAN sP sP 01 20 40.0 -1.3
XAN S **S** **01 29 35.0 +6.3**
XAN pmax pmax
comp=Z,13nm,1.2s
XAN pmax pmax
comp=Z,350nm,4.3s
XAN LR LR
comp=Z,820nm,16.5s
XAN LR LR
comp=Z,580nm,15.1s
XAN LR LR
comp=Z,870nm,16.5s
XAN Xi'an 68.63 299 P **P** **01 20 28.3 -0.3**
XAN pP **sP** **01 20 41.2 -0.1**
WHN Wuhan 68.69 293 P P 01 20 36.0 +7.1
WHN sP sP 01 20 41.3 -0.4
PABE Paberze 68.69 4 P **P** **01 20 28.6 +0.1**
PABE Paberze 68.69 4 *e*P **P** **01 20 29.0 +0.5**
ISAL Salakas 68.70 3 *e*P **P** **01 20 30.4 +1.8**
BRZS Berezniki 68.80 333 *e*P **P** **01 20 28.8 -0.6**
comp=Z,10nm,1.0s,baz=332
BRZS Berezniki 68.80 333 *e*P **P** **01 20 28.7 -0.6**
BRZS pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 68.86 325 P **P** **01 20 29.3 -0.5**
MK31 IAmb IAmb 01 20 43.8
comp=Z,54nm,1.0s
MK31 Makanchi Array 68.86 325*ce*P **P** **01 20 29.5 -0.3**
MKAR Makanchi Array 68.86 325 P **P** **01 20 29.4 -0.5**
comp=Z,15nm,0.8s,baz=43,slow=6.0,SNR=168
MKAR pP **sP** **01 20 42.5 -0.1**
comp=Z,52nm,0.9s,baz=44,slow=5.9,SNR=28
MKAR PKPPKP P'P'df 01 48 39.0 -9.0
comp=Z,2.0nm,0.9s,baz=224,slow=4.0,SNR=7.9
MKAR LR LR 01 55 15.9
comp=Z,572nm,18.3s,baz=26,slow=40
comp=Z,15nm,0.8s
RGN Rugen 68.86 11 P **P** **01 20 29.8 +0.2**
RGN Rugen 68.86 11 *e*P **P** **01 20 29.9 +0.3**
MAKZ Makanchi 68.95 325 P **P** **01 20 30.1 -0.2**
MAKZ IAmb IAmb 01 20 43.9
comp=Z,76nm,0.9s
MAKZ Makanchi 68.95 325 P **P** **01 20 30.1 -0.2**
MAKZ pmax pmax
comp=Z,76nm,1.0s
MAKZ Makanchi 68.95 325 ⇑P **P** **01 20 30.0 -0.3**
MAKZ pP **sP** **01 20 42.9 -0.2**
DRK0 Durika 68.97 105 P **P** **01 20 30.7 -0.4**
OBN Obninsk 69.13 357 P **P** **01 20 30.3 -1.0**
OBN IAmb IAmb 01 20 32.3
comp=Z,39nm,0.9s
OBN Obninsk 69.13 357 *e*P **P** **01 20 31.2 0.0**
OBN *e* 01 20 54.6
OBN *e* 01 23 05.3
OBN *e*PPP PPP 01 24 46.3
OBN *e*S **S** **01 29 37.8 +4.0**
OBN *e*SS **SS** **01 34 04.9 +5.9**
OBN pmax pmax
comp=Z,45nm,0.9s
OBN MLR MLR
comp=Z,238nm,18.0s
LZH Lanzhou 69.39 304 *e*P **P** **01 20 33.0 -0.4**
LZH pP pP 01 20 39.0 -3.7
LZH pmax pmax
comp=Z,13nm,1.3s
LZH LR LR
comp=Z,940nm,18.2s
LZH LR LR
comp=Z,820nm,17.5s
LZH LR LR
comp=Z,1μm,18.9s
KLNR Kaliningrad 69.39 7*de*P **P** **01 20 33.5 +0.6**
KLNR pmax pmax
comp=Z,173nm,1.2s
WMQ Urumqi 69.61 320 *e*P **P** **01 20 35.5 +1.0**
WMQ sP pwP 01 20 48.5 -1.2
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,160nm,4.1s
BRU2 Volcan 69.66 105 P **P** **01 20 35.5 +0.2**
BRU2 IAmb IAmb 01 20 37.7
comp=Z,65nm,1.1s
MNK Minsk 69.81 2*d i*P **P** **01 20 36.3 +0.8**
SUW Suwalki 70.15 5 *e*P **P** **01 20 37.4 -0.1**
SUW Suwalki 70.15 5 P **P** **01 20 37.1 -0.4**
SUW Suwalki 70.15 5 P **P** **01 20 37.1 -0.4**
SUW pmax pmax
comp=Z,87nm,0.9s
SUW Suwalki 70.15 5 *e*P **P** **01 20 38.2 +0.6**
RETH Rethem/Aller, 70.17 14 *e*P **P** **01 20 38.3 +0.7**
comp=Z,28nm,1.2s,baz=349,slow=5.9
RETH *e*pP **pP** **01 20 48.2 +1.3**
RETH *e*sP **pwP** **01 20 51.6 -1.2**
baz=350,slow=6.0
IBBN Ibbenburen 70.37 15 *e*P **P** **01 20 39.8 +0.9**
comp=Z,64nm,1.4s,baz=349,slow=5.9
IBBN *e*sP **sP** **01 20 52.8 +1.1**
baz=350,slow=6.0
GKP Gorka Klasztor 70.50 9 *e*P **P** **01 20 41.0 +1.3**
NRDL Niedersach Rie 70.50 13 *e*P **P** **01 20 40.1 +0.5**
comp=Z,47nm,1.1s,baz=349,slow=5.9
NRDL *e*pP **pP** **01 20 49.9 +1.0**
NRDL *e*sP **sP** **01 20 52.7 +0.3**
baz=350,slow=6.0
AOPR Arecibo Observ 70.75 86 P **P** **01 20 41.6 -0.1**
FLTG Flechtingen 70.81 13 *e*P **P** **01 20 41.7 +0.2**
comp=Z,26nm,1.0s,baz=349,slow=5.9
ASSE Asse, Remlinge 70.93 13 *e*P **P** **01 20 42.8 +0.6**
comp=Z,20nm,1.0s,baz=349,slow=5.9
ASSE *e*sP **sP** **01 20 56.2 +1.1**
baz=350,slow=6.0
RUE Ruedersdorf 70.95 11 *e*P **P** **01 20 43.4 +1.0**
RUE Ruedersdorf 70.95 11 *e*P **P** **01 20 43.2 +0.8**
comp=Z,58nm,1.0s,baz=349,slow=5.9
RUE *e*sP **pwP** **01 20 56.5 -1.2**
baz=350,slow=6.0
CELP Cerrillos 71.07 86 P **P** **01 20 43.9 +0.2**
CELP IAmb IAmb 01 20 45.3
comp=Z,66nm,0.9s
BELG Belogornoye 71.07 349*ce*P **P** **01 20 42.5 -0.7**
BELG pmax pmax
comp=Z,8.0nm,0.9s
BELG Belogornoye 71.07 349 LR LR 01 55 59.2
comp=Z,441nm,18.5s,baz=15,slow=39
OBIP Obispado Ponce 71.08 86 P **P** **01 20 44.0 +0.3**
BUG Bochum--Univer 71.14 15 *e*P **P** **01 20 44.0 +0.4**
comp=Z,32nm,0.8s,baz=349,slow=5.9
BUG *e*pP **pP** **01 20 53.4 +0.5**
BUG *e*sP **sP** **01 20 57.2 +0.8**
baz=350,slow=6.0
GCPR Guaynabo City 71.16 85 P **P** **01 20 44.1 -0.1**
CLZ Clausthal 71.18 13 *e*P **P** **01 20 45.0 +1.1**
comp=Z,45nm,1.1s,baz=349,slow=5.9
SJG San Juan 71.28 85 P **P** **01 20 45.0 +0.1**
SJG San Juan 71.28 85 IAMs_20 IAMs_20 01 55 27.5
comp=Z,468nm,18.0s
SJG San Juan 71.28 85 P **P** **01 20 45.0 +0.1**

SJG pmax pmax
comp=Z,195nm,1.7s
SJG MLR MLR
comp=Z,500nm,18.0s
SJG San Juan 71.28 85 LR LR 01 52 33.5
comp=Z,276nm,20.0s,baz=321,slow=36
SJG San Juan 71.28 85 *eP* **P 01 20 45.0 +0.1**
ENH Enshi 71.39 297 P **P 01 20 44.5 -1.0**
ENH IAmb IAmb 01 20 59.6
comp=Z,43nm,1.1s
GTTG Gottingen 71.41 14 *eP* **P 01 20 46.3 +1.0**
comp=Z,58nm,1.0s,baz=349,slow=5.9
GTTG *epP* **pP 01 20 55.9 +1.4**
IGPR InterUniversit 71.42 85 P **P 01 20 45.0 -0.8**
HUMP Col San Antoni 71.42 85 P **P 01 20 46.1 +0.3**
HUMP IAmb IAmb 01 20 47.1
comp=Z,50nm,1.0s
KASTN Kahler Asten 71.54 15 *eP* **P 01 20 46.5 +0.5**
comp=Z,29nm,1.1s,baz=349,slow=5.9
KASTN *epP* **pP 01 20 56.3 +0.9**
LPSR Galich'ya Gora 71.54 355 *eP* **P 01 20 45.1 -0.9**
LPSR pmax pmax
comp=Z,40nm,1.0s
AKTO Aktyubinsk 71.54 342 LR LR 01 56 50.3
comp=Z,308nm,19.2s,baz=49,slow=40
TDK Taldyqorghan 71.69 327 *eP* **P 01 20 47.4 +0.3**
comp=Z,23nm,1.0s,baz=326
TDK Taldyqorghan 71.69 327 *eP* **P 01 20 47.4 +0.3**
TDK pmax pmax
comp=Z,23nm,1.0s
BSTI Sart Tilman 71.71 17 *dP* **P 01 20 47.7 +0.6**
BSTI *dx* x 01 21 00.7
MEM Membach 71.75 16 *dP* **P 01 20 47.8 +0.5**
MEM *dx* x 01 20 59.2
BTNL Ternell 71.79 16 *dP* **P 01 20 47.8 +0.2**
BTNL *dx* x 01 21 00.1
BGES Gesves 71.82 17 *dP* **P 01 20 47.7 -0.1**
BCLA Clavier 71.82 17 *dP* **P 01 20 47.9 +0.1**
BMRD Maredsous 71.85 17 *dP* **P 01 20 48.6 +0.7**
CACAO El Cacao, Vera 71.86 104 *eP* **P 01 20 48.5 +0.1**
NEUB Neuenburg 71.97 13 *eP* **P 01 20 49.2 +0.6**
comp=Z,64nm,1.1s,baz=349,slow=5.9
AHRW Bad Neuenahr-A 71.98 16 *eP* **P 01 20 49.5 +0.8**
comp=Z,33nm,1.2s,baz=349,slow=5.9
AHRW *epP* **sP 01 20 59.8 -1.7**
AHRW *esP* **pwP 01 21 03.7 -0.2**
baz=350,slow=6.0
BHOU Houvegnez 72.00 16 *dP* **P 01 20 49.1 +0.3**
BHOU *dx* x 01 21 01.7
DOU Dourbes 72.02 17 *dP* **P 01 20 48.4 -0.5**
CLL Collm 72.02 12 P **P 01 20 49.2 +0.2**
CLL Collm 72.02 12 *i* P **P 01 20 48.7 -0.2**
CLL *i* 01 20 58.4
CLL pmax pmax
comp=Z,31nm,1.1s
CLL Collm 72.02 12 *eP* **P 01 20 49.2 +0.2**
comp=Z,26nm,1.0s,baz=349,slow=5.9
CLL *epP* **pP 01 20 59.7 +1.5**
CLL *esP* **sP 01 21 02.5 +0.8**
baz=350,slow=6.0
RCHB Rochefort 72.06 17 *dP* **P 01 20 49.5 +0.3**
RCHB *dx* x 01 21 01.9
UBBA Unterbreizbach 72.13 14 *eP* **P 01 20 50.8 +1.3**
comp=Z,21nm,1.3s,baz=349,slow=5.9
ABKAR Akbulak array 72.33 340 P **P 01 20 50.6 -0.2**
VORR Voronezh 72.46 355 P **P 01 20 51.0 -0.5**
VORR pmax pmax
comp=Z,22nm,1.5s
TNS Taunus Mts 72.50 15 *epP* pP 01 21 01.9 +0.7
MOX Moxa 72.51 13 *eP* **P 01 20 52.4 +0.5**
comp=Z,38nm,1.0s,baz=349,slow=5.9
MOX *esP* **sP 01 21 05.7 +1.0**
baz=350,slow=6.0
BRG Berggiesshubel 72.55 11 *i* P **P 01 20 52.7 +0.5**
BRG Amp 01 20 53.9
comp=Z,33nm,1.1s
BRG Berggiesshubel 72.55 11 *i* P **P 01 20 52.6 +0.5**
BRG *e* 01 21 05.8
BRG pmax pmax
comp=Z,33nm,1.1s
BRG pmax pmax
comp=Z,21nm,0.9s
BRG Berggiesshubel 72.55 11 *eP* **P 01 20 52.6 +0.4**
comp=Z,33nm,1.1s,baz=349,slow=5.9
WLF Walferdange 72.69 17 P **P 01 20 52.2 -0.8**
WLF IAmb IAmb 01 20 55.2
comp=Z,56nm,1.4s
WLF Walferdange 72.69 17 *dP* **P 01 20 54.0 +1.0**
WLF Walferdange 72.69 17 P **P 01 20 52.2 -0.8**
WLF pmax pmax
comp=Z,56nm,1.4s
WLF Walferdange 72.69 17 *eP* **P 01 20 53.8 +0.8**
comp=Z,44nm,1.3s,baz=349,slow=5.9
WLF *epP* **pP 01 21 03.8 +1.5**
PLN Plauen 72.73 12 *eP* **P 01 20 53.8 +0.6**
comp=Z,32nm,1.1s,baz=349,slow=5.9
HSKC Hora Svate Kat 72.76 12 *eP* **P 01 20 54.1 +0.7**
HSKC *ex* x 01 21 06.6
VRH Novokhopyorsk 72.77 353 *eP* **P 01 20 53.1 -0.3**
VRH pmax pmax
comp=Z,18nm,1.6s
KSP Ksiaz 72.82 10 *eP* **P 01 20 54.5 +0.7**
TANN Tannenbergstha 72.84 12 *eP* **P 01 20 54.5 +0.5**
comp=Z,24nm,1.1s,baz=349,slow=5.9
RICC Richard 72.90 11 *eP* **P 01 20 55.2 +1.0**
RICC *ex* x 01 21 07.4
VSR Storozhevoye 72.91 355 *eP* **P 01 20 52.5 -1.7**
VSR pmax pmax
comp=Z,30nm,0.9s
BTLS Baital 72.95 330 *eP* **P 01 20 54.6 -0.1**
baz=329
BTLS Baital 72.95 330 *eP* **P 01 20 54.5 -0.1**
PVCC Panska Ves 72.96 11 *eP* **P 01 20 55.3 +0.7**
PVCC *epP* **pP 01 21 03.6 -0.3**
PVCC Panska Ves 72.96 11 *eP* **P 01 20 55.3 +0.7**
PVCC *e* 01 21 03.6
KPKS Kokpek 72.98 326 *eP* **P 01 20 55.3 +0.3**
comp=Z,11nm,0.8s,baz=326
KPKS Kokpek 72.98 326 *eP* **P 01 20 55.3 +0.3**
KPKS pmax pmax
comp=Z,11nm,0.8s
NKC Novy Kostel 73.01 12 *eP* **P 01 20 55.6 +0.7**
NKC *epP* **sP 01 21 08.1 +0.4**
NKC Novy Kostel 73.01 12 *eP* **P 01 20 55.6 +0.7**
NKC *e* 01 21 08.1
SHLS Shalkode 73.02 325 *eP* **P 01 20 55.2 0.0**
comp=Z,30nm,0.9s,baz=324
SHLS Shalkode 73.02 325 *eP* **P 01 20 55.1 0.0**
SHLS pmax pmax
comp=Z,30nm,0.9s
SMRT St. Maarten 73.04 83 IAMs_20 IAMs_20 01 50 25.1
comp=Z,451nm,21.0s
CHVC Chvalec 73.05 10 *eP* **P 01 20 55.7 +0.6**
CHVC Chvalec 73.05 10 *eP* **P 01 20 55.7 +0.6**
OSTC Ostas 73.10 10 *eP* **P 01 20 56.2 +0.8**
OSTC *epP* **sP 01 21 07.9 -0.3**
OSTC Ostas 73.10 10 *eP* **P 01 20 56.2 +0.8**
OSTC *e* 01 21 07.9
UPC Upice 73.13 10 *eP* **P 01 20 56.2 +0.7**
UPC *epP* **sP 01 21 08.3 -0.1**
UPC Upice 73.13 10 *eP* **P 01 20 56.2 +0.7**
UPC *e* 01 21 08.3
VORD Divnogorie 73.16 354 *eP* **P 01 20 54.2 -1.5**
VORD pmax pmax
comp=Z,20nm,0.8s
CHKK Chushkaly 73.16 327 *eP* **P 01 20 55.0 -0.9**
baz=327
CHKK Chushkaly 73.16 327 *eP* **P 01 20 55.0 -0.9**
UZB Uzynbulak 73.17 325 *eP* **P 01 20 56.5 +0.4**
baz=325
UZB Uzynbulak 73.17 325 *eP* **P 01 20 56.5 +0.4**
MANZ Manzenberg 73.22 13 *eP* **P 01 20 56.6 +0.5**
comp=Z,4.6nm,1.1s,baz=349,slow=5.9
CRJC Cerrejon, Guaj 73.25 95 *eP* **P 01 20 56.5 -0.3**
PPT Papeete 73.30 180 LR LR 01 45 38.0
comp=Z,579nm,19.2s,baz=4.5,slow=30
DPC Dobruska-Polom 73.31 10 *eP* **P 01 20 57.6 +0.9**
DPC *epP* **sP 01 21 09.6 +0.1**
DPC Dobruska-Polom 73.31 10 *eP* **P 01 20 57.6 +0.9**
DPC *e* 01 21 09.6
PPT2 Papeete2 73.32 180 *eP* P 01 20 48.7 -8.3
comp=Z,61nm,23.5s
PPT2 *eS* **SKiKP 01 30 35.1 +10**
comp=Z,109nm,26.2s
PPT2 *eSS* **SS 01 35 11.0 +5.0**
comp=Z,172nm,28.5s
PPT2 *eLR* LR 01 43 28.5
comp=Z,532nm,22.0s
PPT2 *eLR* LR 01 43 35.8
comp=Z,450nm,22.2s
GOMU GeErMu 73.32 311 P **P 01 20 58.0 +0.6**
GOMU pP sP 01 21 10.8 +0.6
GOMU pmax pmax
comp=Z,6.0nm,0.6s
GOMU LR LR
comp=Z,810nm,19.8s
GOMU LR LR
comp=Z,370nm,19.3s
GOMU LR LR
comp=Z,1μm,19.8s
ZHN Zhinishke 73.33 326 *eP* **P 01 20 57.2 +0.2**
baz=326
ZHN Zhinishke 73.33 326 *eP* **P 01 20 57.2 +0.2**
GRA1 Grafenberg Arr 73.39 13 P **P 01 20 57.3 +0.1**
GRF Grafenberg Arr 73.39 13 P **P 01 20 57.3 +0.1**
GRF pmax pmax
comp=Z,31nm,1.0s
GRF Grafenberg Arr 73.39 13 *eP* **P 01 20 58.0 +0.8**
comp=Z,28nm,0.9s,baz=349,slow=5.9
GRF *esP* **sP 01 21 11.0 +1.0**
baz=350,slow=6.0
GRFO Grafenberg 73.39 13 P **P 01 20 57.1 -0.1**
GRFO Grafenberg 73.39 13 P **P 01 20 57.1 -0.1**
GRFO pmax pmax
comp=Z,26nm,0.9s
ROTZ Rotzenmuhle 73.44 13 *eP* **P 01 20 58.3 +0.8**
comp=Z,7.4nm,0.9s,baz=349,slow=5.9
ROTZ *esP* **sP 01 21 10.7 +0.4**
baz=350,slow=6.0
PRU Pruhonice 73.49 11 *eP* **P 01 20 58.3 +0.6**
PRU *epP* **pP 01 21 06.2 -0.8**
PRU Pruhonice 73.49 11 *eP* **P 01 20 58.3 +0.6**
PRU *e* 01 21 06.2
GOPC GO Pecny, Ondr 73.59 11 *eP* **P 01 20 58.8 +0.5**
GOPC *epP* **sP 01 21 12.0 +0.9**
GOPC GO Pecny, Ondr 73.59 11 *eP* **P 01 20 58.8 +0.5**
GOPC *e* 01 21 12.0
CLF Chambon-Foret 73.60 20 P **P 01 20 57.1 -1.2**
CLF IAmb IAmb 01 21 00.9
comp=Z,70nm,1.3s
KRLC Kraliky 73.63 9 *eP* **P 01 20 59.4 +0.8**
KRLC *epP* **sP 01 21 11.8 +0.4**
KRLC Kraliky 73.63 9 *eP* **P 01 20 59.4 +0.8**
KRLC *e* 01 21 11.8
AKASG Malin Array Be 73.64 1 P **P 01 20 58.1 -0.5**
AKASG IAmb IAmb 01 20 59.4
comp=Z,51nm,0.9s
AKASG Malin Array Be 73.64 1 P **P 01 20 58.3 -0.3**
comp=Z,30nm,0.7s,baz=358,slow=5.8,SNR=83
AKASG pP **sP 01 21 10.9 -0.4**
comp=Z,20nm,0.7s,baz=0.1,slow=5.8,SNR=14
AKASG LR LR 01 52 47.8
comp=Z,152nm,22.0s,baz=10,slow=35
comp=Z,30nm,0.7s
AKBB Malin Array Si 73.64 1 P **P 01 20 58.3 -0.2**
AKBB IAmb IAmb 01 20 59.3
comp=Z,54nm,0.8s
AKBB Malin Array Si 73.64 1 P **P 01 20 58.3 -0.2**
AKBB pmax pmax
comp=Z,54nm,0.9s
KIEV Kiev 73.65 1 ⇑P **P 01 20 58.4 -0.2**
KIEV Kiev 73.65 1 P **P 01 20 58.1 -0.4**
KIEV IAmb IAmb 01 20 59.3
comp=Z,48nm,0.8s
KIEV Kiev 73.65 1 *i* P **P 01 20 58.3 -0.3**
SNR=34
KIEV Kiev 73.65 1 P **P 01 20 58.4 -0.2**
CD2 Chengdu 73.69 301 P **P 01 20 57.5 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PTAC Punta Ardita, 73.69 102 *eP* **P 01 20 58.8 -0.6**
OJC Ojcow 73.73 7 *eP* **P 01 20 59.5 +0.4**
OJC Ojcow 73.73 7 P **P 01 20 58.8 -0.3**
OJC Ojcow 73.73 7 P **P 01 20 58.8 -0.3**
OJC pmax pmax
comp=Z,28nm,0.9s
APAC Apartado, Choc 73.75 100 *eP* **P 01 21 00.4 +0.7**
AAA Alma-Ata 73.77 327 *eP* **P 01 20 58.6 -0.9**
baz=327
AAA Alma-Ata 73.77 327 *eP* **P 01 20 58.6 -0.9**
MDOK Medeo 73.77 327 *eP* **P 01 20 58.5 -1.2**
baz=326
MDOK Medeo 73.77 327 *eP* **P 01 20 58.5 -1.2**
TNSS Tian-Shan 73.92 327 *eP* **P 01 20 59.9 -0.9**
baz=326
TNSS Tian-Shan 73.92 327 *eP* **P 01 20 59.9 -0.9**
OKC Ostrava-Krasne 73.98 9 *eP* **P 01 21 01.3 +0.7**
OKC *epP* **sP 01 21 14.1 +0.7**
OKC Ostrava-Krasne 73.98 9 *eP* **P 01 21 01.3 +0.7**
OKC *e* 01 21 14.1
MORC Moravsky Berou 73.99 9 ⇑P **P 01 21 01.1 +0.3**
MORC Moravsky Berou 73.99 9 P **P 01 21 00.2 -0.5**
MORC Moravsky Berou 73.99 9 *eP* **P 01 21 01.0 +0.3**
MORC *e* 01 21 14.0
MORC Moravsky Berou 73.99 9 P **P 01 21 01.0 +0.3**
ZVC Zvikov 74.00 11 *eP* **P 01 21 03.3 +0.6**
ZVC *epP* **sP 01 21 13.7 +0.2**
LL6C La Loma 6 Bece 74.08 96 *eP* **P 01 21 01.6 0.0**
WET Wettzell 74.14 12 *eP* **P 01 21 02.3 +0.8**
comp=Z,37nm,1.2s,baz=349,slow=5.9
WET *esP* **PcP 01 21 15.7 -0.7**
baz=350,slow=6.0
KHC Kasperske Hory 74.23 12 P **P 01 21 02.8 +0.7**
KHC IAmb IAmb 01 21 04.3
comp=Z,55nm,1.4s
KHC Kasperske Hory 74.23 12 *eP* **P 01 21 02.9 +0.8**
KHC *epP* **sP 01 21 15.2 +0.3**
KHC Kasperske Hory 74.23 12 *eP* **P 01 21 02.9 +0.8**
KHC *e* 01 21 15.2
SGDS Sogindy 74.24 328 *eP* **P 01 21 02.6 +0.3**
baz=328
SGDS Sogindy 74.24 328 *eP* **P 01 21 02.5 +0.3**
ECH Echery 74.26 16 P **P 01 21 02.5 +0.3**
ECH Echery 74.26 16 P **P 01 21 02.5 +0.3**
ECH pmax pmax
comp=Z,32nm,1.1s
TREC Trest 74.28 10 *eP* **P 01 21 02.8 +0.5**
TREC Trest 74.28 10 *eP* **P 01 21 02.8 +0.5**
BFO Black Forest 74.33 15 P **P 01 21 03.1 +0.4**
BFO Black Forest 74.33 15 P **P 01 21 03.1 +0.4**
BFO pmax pmax
comp=Z,54nm,1.5s
BFO Black Forest 74.33 15 *eP* **P 01 21 03.2 +0.6**
comp=Z,56nm,1.5s,baz=349,slow=5.9
VRAC Vranov 74.37 10 ⇑P **P 01 21 03.7 +0.9**
VRAC Vranov 74.37 10 *eP* **P 01 21 03.4 +0.5**
VRAC *e* 01 21 15.8
VRAC Vranov 74.37 10 P **P 01 21 03.7 +0.9**
LVV L'vov 74.38 5 *eP* **P 01 21 03.0 +0.1**
LVV *e* 01 21 14.1
MAUC Maruska 74.42 9 *eP* **P 01 21 03.9 +0.7**
MAUC *ex* x 01 21 16.8
TKM2 Tokmak 2 74.43 328 P **P 01 21 04.6 +1.0**
SNR=10
USP Ussonovka 74.44 328 P **P 01 21 03.9 +0.5**
SNR=11
UREC San Jos de Ur 74.45 99 *eP* **P 01 21 02.7 -1.1**
KWP Kalwaria Pacla 74.50 6 *eP* **P 01 21 04.3 +0.7**
GEC2 GERESS Array S 74.53 12 P **P 01 21 04.2 +0.3**
GEC2 GERESS Array S 74.53 12 *eP* **P 01 21 04.2 +0.3**
comp=Z,14nm,0.9s,baz=349,slow=5.9
GEC2 *esP* **PcP 01 21 17.5 -0.7**
baz=350,slow=6.0
GERES GERESS Array B 74.53 12 P **P 01 21 03.8 -0.1**
GERES GERESS Array B 74.53 12 P **P 01 21 04.3 +0.3**
comp=Z,8.0nm,0.7s,baz=359,slow=5.6,SNR=41
GERES pP **sP 01 21 17.2 +0.4**
comp=Z,7.8nm,0.7s,baz=359,slow=5.6,SNR=13
GERES LR LR 01 58 58.6
comp=Z,134nm,18.1s,baz=0.5,slow=40
comp=Z,8.0nm,0.7s
KRUC Moravsky 74.59 10 *eP* **P 01 21 04.6 +0.4**
KRUC *e* 01 21 16.9
CHMS Chumysh 74.61 328 P **P 01 21 05.2 +0.7**
SNR=15
STHS Stebnicka Huta 74.63 7 *eP* **P 01 21 04.6 +0.2**
STHS *e* 01 21 17.7
STHS pmax pmax
comp=Z,36nm,0.8s
STHS Stebnicka Huta 74.63 7 *eP* **P 01 21 04.6 +0.2**
STHS *e* 01 21 17.7
DBBC Dabeiba 74.68 100 *eP* **P 01 21 04.9 -0.3**
LANS Liptovska Anna 74.77 8 *eP* **P 01 21 06.8 +1.6**
LANS *e* 01 21 19.7
LANS pmax pmax
comp=Z,38nm,1.4s
LANS Liptovska Anna 74.77 8 *eP* **P 01 21 06.8 +1.6**
LANS *e* 01 21 19.7
FRU1 Bishkek 74.82 328 P **P 01 21 05.7 0.0**
FRU1 IAmb IAmb 01 21 20.4
comp=Z,84nm,1.0s
FRU1 Bishkek 74.82 328 P **P 01 21 05.7 0.0**
FRU1 pmax pmax
comp=Z,84nm,1.0s
KBK Karagaybulak 74.87 328 P **P 01 21 06.8 +0.7**
SNR=12
FUR Furstenfeldbru 74.90 13 *eP* **P 01 21 06.7 +0.7**
comp=Z,46nm,0.9s,baz=349,slow=5.9
FUR *esP* **PcP 01 21 19.9 +0.1**
baz=350,slow=6.0
JAVC Velka Javorina 74.91 9 *eP* **P 01 21 07.4 +1.3**
JAVC *e* 01 21 20.0
GULI GuiLin 75.00 293 *eP* P 01 21 14.5 +7.6
AAK Ala-Archa 75.02 328 P **P 01 21 07.5 +0.6**
SNR=6.3
AAK Ala-Archa 75.02 328 P **P 01 21 06.5 -0.5**
AAK IAmb IAmb 01 21 21.4
comp=Z,46nm,1.1s
AAK Ala-Archa 75.02 328 *i* P **P 01 21 07.3 +0.4**
SNR=6.8
AAK Ala-Archa 75.02 328 *c i* P **P 01 21 07.2 +0.2**
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 75.02 328 LR LR 01 57 26.2
comp=Z,399nm,18.5s,baz=22,slow=38
CRVS Cervenica-Dubn 75.16 6 *eP* **P 01 21 08.1 +0.7**
CRVS pmax pmax
comp=Z,52nm,1.4s
CRVS Cervenica-Dubn 75.16 6 *eP* **P 01 21 08.1 +0.7**
KOLS Kolonicke sedl 75.17 6 *eP* **P 01 21 08.9 +1.4**
KOLS *e* 01 21 24.4
KOLS pmax pmax
comp=Z,22nm,1.2s
KOLS Kolonicke sedl 75.17 6 *eP* **P 01 21 08.9 +1.4**
KOLS *e* 01 21 24.4
EKS2 Erkin-Say 75.21 329 P **P 01 21 08.7 +0.7**
SNR=13
GDHS Morne Mazeau, 75.21 83 P **P 01 21 08.4 +0.2**
UBR Ueberruh 75.22 14 *eP* **P 01 21 07.7 -0.1**
comp=Z,21nm,1.0s,baz=349,slow=5.9
UBR *epP* **pP 01 21 18.2 +1.0**
SMOL Smolenice 75.23 9 *eP* **P 01 21 09.4 +1.5**
OCAC Ocana 75.28 97 *eP* **P 01 21 08.1 -0.6**
MODS Modra-Piesok 75.36 9 *eP* **P 01 21 09.5 +0.9**
MODS *e* 01 21 22.7
MODS pmax pmax
comp=Z,119nm,1.2s
MODS Modra-Piesok 75.36 9 *eP* **P 01 21 09.5 +0.9**
MODS *e* 01 21 22.7
VYHS Vyhne 75.37 8 *eP* **P 01 21 09.3 +0.6**
VYHS *e* 01 21 22.3
VYHS pmax pmax
comp=Z,44nm,1.2s
VYHS Vyhne 75.37 8 *eP* **P 01 21 09.3 +0.6**
VYHS *e* 01 21 22.3
CBE Ff, Capester 75.46 83 P **P 01 21 09.2 -0.5**
CBE IAMs_20 IAMs_20 01 54 46.2
comp=Z,762nm,19.0s
RETA Reutte 75.50 14 *eP* **P 01 21 09.9 +0.4**
comp=Z,9.6nm,1.2s
KECS Kecovo 75.51 7 *eP* **P 01 21 10.6 +1.2**
KECS *e* 01 21 23.5
KECS pmax pmax
comp=Z,23nm,1.0s
KECS Kecovo 75.51 7 *eP* **P 01 21 10.6 +1.2**
KECS *e* 01 21 23.5
RJOB Jochberg 75.51 12 *eP* **P 01 21 10.1 +0.6**
comp=Z,23nm,0.9s,baz=349,slow=5.9
RJOB *esP* **PcP 01 21 23.3 +0.8**
baz=350,slow=6.0
ZST Bratislava 75.52 9 *eP* **P 01 21 10.8 +1.3**
ZST *e* 01 21 23.2
ZST pmax pmax
comp=Z,115nm,1.3s
ZST Bratislava 75.52 9 *eP* **P 01 21 10.8 +1.3**
ZST *e* 01 21 23.2
GDSD La Dsirade Is 75.57 82 P **P 01 21 10.1 -0.1**
DAVA Damuels 75.57 15 *eP* **P 01 21 10.8 +0.8**
comp=Z,21nm,1.2s
MOA Molln 75.57 11 *eP* **P 01 21 10.2 +0.4**
comp=Z,13nm,1.0s
BIOA Bad Ischl, Aus 75.66 12 *i* P **P 01 21 10.9 +0.6**
comp=Z,22nm,0.9s,SNR=14
CONA Conrad Observa 75.67 10 *i* P **P 01 21 11.4 +1.0**
comp=Z,43nm,1.2s,SNR=20
MOTA Moosalm 75.68 14 *i* P **P 01 21 10.9 +0.3**
comp=Z,39nm,1.1s,SNR=11
DZA Taraz 75.69 331 *eP* **P 01 21 10.7 +0.1**
baz=330
DZA Taraz 75.69 331 *eP* **P 01 21 10.7 +0.1**
KK31 Karatay Array 75.72 331 P **P 01 21 10.7 -0.1**
KK31 IAmb IAmb 01 21 25.3
comp=Z,45nm,1.1s
KK31 Karatay Array 75.72 331 P **P 01 21 10.7 -0.1**
KK31 pmax pmax
comp=Z,45nm,1.1s
KKAR Karatay Array 75.72 331 P **P 01 21 10.7 -0.1**
KKAR IAmb IAmb 01 21 25.3
comp=Z,45nm,1.1s
KKAR Karatay Array 75.72 331 P **P 01 21 10.7 -0.1**
KKAR pmax pmax
comp=Z,45nm,1.1s
AML Almayashu 75.72 329 P **P 01 21 12.2 +1.0**
SNR=9.8
CBOC Ciudad Bolivar 75.74 101 *eP* **P 01 21 11.2 -0.3**
WATA Walderalm 75.75 13 *i* P **P 01 21 11.8 +0.8**
comp=Z,66nm,1.2s,SNR=18
LESA Schwarzleotal 75.81 13 *eP* **P 01 21 11.9 +0.6**
comp=Z,28nm,1.3s
SQTA Sankt Quirin 75.82 14 *i* P **P 01 21 12.3 +1.0**
comp=Z,58nm,1.1s,SNR=15
WTTA Wattenberg 75.83 13 *i* P **P 01 21 12.4 +0.9**
comp=Z,50nm,1.0s,SNR=16
GYA Guiyang 75.93 296 P **P 01 21 16.3 +4.0**
GYA sP sP 01 21 25.0 -0.2
GYA pmax pmax
comp=Z,400nm,5.3s
GYA LR LR
comp=Z,500nm,19.7s
RONA Rosalia, Austr 75.93 10 *i* P **P 01 21 12.8 +0.8**
comp=Z,13nm,0.9s,SNR=8.0
FETA Feichten 75.95 14 *i* P **P 01 21 13.0 +0.8**
comp=Z,34nm,1.0s,SNR=14
PSZ Piszkesteto 76.03 8 ⇑P **P 01 21 13.6 +1.1**
PSZ Piszkesteto 76.03 8 P **P 01 21 12.8 +0.3**
PSZ IAmb IAmb 01 21 14.8
comp=Z,57nm,1.1s
PSZ Piszkesteto 76.03 8 P **P 01 21 12.8 +0.3**
PSZ pmax pmax
comp=Z,57nm,1.1s
PTBC PUERTO BERRIO, 76.05 99 *eP* **P 01 21 12.1 -0.9**
DAVOX Davos/Dischmat 76.07 15 LR LR 01 59 11.4
comp=Z,114nm,18.0s,baz=337,slow=39
SENIN Lac Senin/Sane 76.08 17 P **P 01 21 13.0 0.0**
SENIN IAmb IAmb 01 21 14.4
comp=Z,79nm,1.1s
SORM Soroca 76.20 2 ⇑P **P 01 21 13.1 -0.2**
SORM Soroca 76.20 2 P **P 01 21 13.1 -0.2**
KBA Koelnbreinsper 76.23 12 *i* P **P 01 21 14.8 +1.1**
comp=Z,66nm,1.1s,SNR=26
SDV Santo Domingo 76.25 95 LR LR 01 57 31.1
comp=Z,308nm,18.7s,baz=320,slow=38
SDV Santo Domingo 76.25 95 *eP* **P 01 21 13.8 -0.6**
SDV Santo Domingo 76.25 95 *eP* **P 01 21 14.1 -0.2**
FUORN Ofenpass-Fuorn 76.28 14 P **P 01 21 13.9 -0.3**
TUE Stuetta 76.29 15 P **P 01 21 14.6 +0.4**
ARSA Arzberg 76.30 11 *i* P **P 01 21 14.9 +0.9**
comp=Z,23nm,1.1s,SNR=10
PAMC Pamplona, Colo 76.36 97 *eP* **P 01 21 14.7 -0.6**
PLMC San Jos del P 76.39 102 *eP* **P 01 21 14.1 -0.9**
ABTA Abfaltersbach 76.45 13 *i* P **P 01 21 14.9 0.0**
comp=Z,21nm,1.1s,SNR=6.2
BMR Baia Mare 76.50 5 ⇓P **P 01 21 16.1 +1.1**

BMR Baia Mare 76.50 5 P P 01 21 16.1 +1.1
BUR08 Bucovina Ar. S 76.60 4 P P 01 21 15.6 -0.2
BURAR Bucovina Array 76.63 4 ⇑P P 01 21 16.4 +0.5
BURAR Bucovina Array 76.63 4 P P 01 21 16.4 +0.5
BURAR Bucovina Array 76.63 4 P P 01 21 16.4 +0.5
GUY2C Guyana, Caldas 76.63 101 eP P 01 21 16.6 -0.2
BSZH Besenyszg 76.67 7 ⇑P P 01 21 17.8 +1.8
ARSB Arslanbob 76.67 329 P P 01 21 16.4 0.0
ARSB Arslanbob 76.67 329 P P 01 21 16.4 0.0
ARSB pmax pmax
comp=Z,14nm,1.2s
MYKA Terra Mystica 76.70 12 *i* P P 01 21 16.6 +0.2
comp=Z,15nm,1.0s,SNR=5.7
BARC Barichara 76.71 98 eP P 01 21 16.6 -0.4
CLUD Cludinico 76.78 13 P P 01 21 16.3 -0.5
FDF Fort de France 76.80 83 IAMs_20 IAMs_20 01 59 59.7
comp=Z,761nm,18.0s
SOKA Soboth 76.81 11 *i* P P 01 21 17.6 +0.6
comp=Z,63nm,1.2s,SNR=30
PERS Pernice 76.86 11 *i* P P 01 21 17.6 +0.4
PERS *i* 01 21 31.1
PRED Cave del Predi 76.88 12 P P 01 21 17.0 -0.4
PRAR RASCA 76.92 3 ⇓P P 01 21 17.8 +0.3
OBKA Obir 76.93 11 *i*P P 01 21 18.3 +0.6
comp=Z,66nm,0.8s,SNR=22
OBKA Obir 76.93 11 ⇑*i*P P 01 21 18.0 +0.4
MESR Meseseni 76.99 6 ⇓P P 01 21 19.3 +1.4
SPBC San Pablo de B 76.99 99 eP P 01 21 17.5 -0.9
BIM Bigot 77.02 83 P P 01 21 18.1 -0.4
CTI Castel Tesino 77.03 14 P P 01 21 18.3 +0.1
CTI Castel Tesino 77.03 14 P P 01 21 18.3 +0.1
CTI pmax pmax
comp=Z,20nm,1.3s
GORS Gorjuse 77.05 12 *i* P P 01 21 18.1 -0.2
YOTC Yotoco, Valle 77.12 102 eP P 01 21 18.5 -0.7
ARCR ARCALIA 77.12 5 ⇑P P 01 21 19.6 +1.0
MPOM Morne Pois Mar 77.20 83 IAMs_20 IAMs_20 01 53 51.2
comp=Z,738nm,21.0s
BNI Bardonecchia 77.26 17 P P 01 21 19.9 +0.3
BNI Bardonecchia 77.26 17 P P 01 21 19.9 +0.3
BNI pmax pmax
comp=Z,31nm,1.2s
DRGR 77.33 6 ⇑P P 01 21 20.3 +0.4
DRGR 77.33 6 P P 01 21 20.3 +0.4
SABO M.te Sabotino 77.34 12 P P 01 21 19.2 -0.7
SABO IAmb IAmb 01 21 20.8
comp=Z,32nm,0.9s
MILM Milestii Mici 77.42 1 ⇑P P 01 21 20.0 -0.3
MILM Milestii Mici 77.42 1 ⇑*i*P P 01 21 19.9 -0.3
comp=Z,160nm,1.3s
MILM Milestii Mici 77.42 1 P P 01 21 19.9 -0.3
KSH Kashi 77.42 326 P P 01 21 23.8 +3.2
KSH pP pP 01 21 29.5 -0.4
KSH sP pwP 01 21 36.3 +0.4
KSH pmax pmax
comp=Z,20nm,0.9s
KSH LR LR
comp=Z,370nm,16.0s
KSH LR LR
comp=Z,610nm,14.7s
KSH LR LR
comp=Z,630nm,21.1s
RAR Rarotonga 77.45 190 LR LR 01 46 50.7
comp=Z,324nm,19.9s,baz=356,slow=29
CJR Cluj-Napoca 77.46 5 ⇑P P 01 21 22.0 +1.4
CJR Cluj-Napoca 77.46 5 P P 01 21 21.9 +1.4
PBRG Braganca 77.47 28 eP P 01 21 21.8 +1.1
comp=Z,57nm,2.0s
MARR Marisel-Cluj 77.47 5 ⇑P P 01 21 21.0 +0.3
ROSC El Rosal 77.52 100 P P 01 21 21.9 +0.2
ROSC IAmb IAmb 01 21 23.6
comp=Z,51nm,1.1s
ROSC El Rosal 77.52 100 P P 01 21 22.0 +0.2
ROSC El Rosal 77.52 100 P P 01 21 21.9 +0.2
comp=Z,32nm,0.9s,baz=6.1,slow=6.0,SNR=15
ROSC LR LR 01 59 20.7
comp=Z,163nm,19.4s,baz=30,slow=38
comp=Z,32nm,0.9s
ROSC El Rosal 77.52 100 eP P 01 21 22.2 +0.5
JAMC Jamundi, Valle 77.58 103 eP P 01 21 21.7 -0.2
PTO Porto 77.59 29 eP P 01 21 20.9 -0.4
comp=Z,66nm,2.0s
POLO Lamas de Olo 77.59 29 eP P 01 21 22.5 +1.0
comp=Z,28nm,1.4s
HNR Honiara 77.61 232 LR LR 01 48 34.8
comp=Z,6µm,21.2s,baz=12,slow=30
TAMC Tame, Arauca 77.61 97 eP P 01 21 21.7 -0.1
MORH Mrgy, Hungar 77.62 9 ⇑P P 01 21 21.9 +0.5
BAUV El Baul 77.66 92 P P 01 21 21.5 -0.5
CEY Cerknica 77.67 12 ⇑*i*P P 01 21 20.0 -1.8
VASR Vaslui 77.68 2 ⇓P P 01 21 22.3 +0.6
CRES Cresnjev 77.70 11 eP P 01 21 18.4 -3.5
PVRL Vila Real 77.70 29 eP P 01 21 22.9 +0.9
comp=Z,72nm,1.7s
TEOL Teolo 77.71 14 P P 01 21 22.2 +0.3
TEOL IAmb IAmb 01 21 23.3
comp=Z,56nm,0.8s
TESR Tescani 77.78 3 ⇑P P 01 21 22.5 +0.2
ORTC Ortega, Tolima 77.78 101 eP P 01 21 21.9 -0.9
SIRR Siria 77.79 7 ⇑P P 01 21 23.2 +0.8
SKDS Skadanscina 77.82 12 eP P 01 21 21.3 -1.2
PURM Purcari 77.82 1 ⇓P P 01 21 22.9 +0.4
MVO Moncorvo 77.99 28 eP P 01 21 24.7 +1.0
comp=Z,50nm,1.6s
BOJS Bojanci 78.00 11 *i* P P 01 21 23.6 0.0
BOJS Bojanci 78.00 11 ⇑*i*P P 01 21 23.2 -0.3
PRMA PARMA 78.10 15 P P 01 21 25.2 +1.1
PRMA IAmb IAmb 01 21 27.4
comp=Z,53nm,0.9s
POPC Popayan, Colom 78.14 103 eP P 01 21 24.2 -0.8
PRAC Prado 78.14 101 eP P 01 21 23.6 -1.1
OZUR 78.17 4 ⇑P P 01 21 25.6 +1.1
BOSR Bodos 78.19 4 ⇑P P 01 21 25.9 +1.3
TURR Turia 78.22 3 ⇓P P 01 21 26.1 +1.4
GHRR 78.25 2 ⇓P P 01 21 26.2 +1.3
BBAC Balboa, Cauca 78.25 104 eP P 01 21 25.2 -0.4
DOPR Dopca 78.28 4 ⇓P P 01 21 26.4 +1.3
PZH PanZhiHua 78.33 300 P P 01 21 25.5 -0.3
PZH sP sP 01 21 38.3 -0.4
PZH S S 01 31 23.5 +4.8
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,130nm,3.5s
PZH LR LR
comp=Z,380nm,17.4s
PZH LR LR
comp=Z,380nm,15.0s
PZH LR LR
comp=Z,300nm,20.6s
SURR Surduc 78.33 6 ⇑P P 01 21 25.7 +0.4
TGY Tagaytay City 78.41 278 LR LR 01 54 32.9
comp=Z,87nm,19.5s,baz=124,slow=34
VRI Vrincioaia 78.43 3 ⇑P P 01 21 26.5 +0.5
VRI Vrincioaia 78.43 3 P P 01 21 26.4 +0.5
COVR Voineasa-Covas 78.43 3 ⇓P P 01 21 27.4 +1.4
BZS Buzias 78.44 7 ⇑P P 01 21 26.4 +0.5
BZS Buzias 78.44 7 P P 01 21 26.4 +0.5
PLOR Plostina 78.44 3 ⇑P P 01 21 26.6 +0.6
PLOR Plostina 78.44 3 P P 01 21 26.6 +0.6
BTK Batken 78.46 330 P P 01 21 26.0 -0.3
BTK IAmb IAmb 01 21 41.1
comp=Z,68nm,1.1s
BTK Batken 78.46 330 P P 01 21 26.0 -0.3
BTK pmax pmax
comp=Z,69nm,1.1s
VLDR Vladesti 78.48 2 ⇓P P 01 21 27.0 +0.8
COI Coimbra 78.51 30 eP P 01 21 27.7 +1.3
COI Coimbra 78.51 30 P P 01 21 26.2 -0.2
COI IAmb IAmb 01 21 28.3
comp=Z,111nm,1.3s
COI Coimbra 78.51 30 P P 01 21 26.2 -0.2
COI pmax pmax
comp=Z,111nm,1.3s
ODBI Odobesti 78.54 3 ⇑P P 01 21 27.8 +1.3
PCRV Puerto La Cruz 78.56 89 LR LR 01 57 05.1
comp=Z,407nm,19.2s,slow=36
MTE Manteigas 78.57 29 eP P 01 21 27.7 +0.9
comp=Z,67nm,1.5s
PCAS Casmilo, Conde 78.63 30 eP P 01 21 28.1 +1.0
comp=Z,80nm,1.4s
BANR Banloc 78.64 7 ⇓P P 01 21 28.5 +1.5
A051A Mrakovica 78.66 10 ⇑*i*P P 01 21 26.7 -0.5
BETC Betania 78.69 102 eP P 01 21 27.8 0.0

TATR Tatarca 78.73 2 ⇑P P 01 21 28.8 +1.3
LOT Lotru 78.73 5 ⇓P P 01 21 27.6 -0.1
GZR Gura Zlata 78.73 6 ⇑P P 01 21 28.1 +0.4
GZR Gura Zlata 78.73 6 P P 01 21 28.1 +0.4
SLCR Slobozia Conac 78.73 2 ⇑P P 01 21 28.9 +1.3
FRGS Fruska Gora 78.77 8 ⇑P P 01 21 28.2 +0.4
FRGS Fruska Gora 78.77 8 ⇑*i*P P 01 21 27.9 +0.1
GOF Gofitskoye 78.78 351 eP P 01 21 28.2 +0.4
IZVR Izvoarele 78.78 2 ⇓P P 01 21 28.8 +1.0
MLR Muntele Rosu 78.78 4 ⇑P P 01 21 29.2 +1.1
MLR Muntele Rosu 78.78 4 P P 01 21 28.3 +0.3
MLR IAmb IAmb 01 21 31.0
comp=Z,60nm,1.3s
MLR Muntele Rosu 78.78 4 P P 01 21 29.1 +1.1
NEGRR Negrea 78.79 2 ⇑P P 01 21 28.5 +0.6
VOIR 78.80 4 ⇑P P 01 21 28.2 +0.2
VOIR 78.80 4 P P 01 21 28.2 +0.2
SCHL Schela 78.82 2 ⇑P P 01 21 29.1 +1.1
ARR Arges 78.85 4 ⇓P P 01 21 29.4 +1.1
SCHLR Schela 78.85 2 ⇑P P 01 21 29.0 +0.8
NEHR Nehoiu 78.85 3 ⇑P P 01 21 28.9 +0.6
GCUF Volcan Galeras 78.86 105 eP P 01 21 28.9 -0.4
PAC1 Pacto, Paraso 78.88 106 eP P 01 21 27.9 -1.0
BLY Banja Luka 78.94 10 ⇑*i*P P 01 21 28.6 -0.1
KMI Kunming 78.99 299 ⇑P P 01 21 34.0 +4.4
KMI S S 01 31 28.3 +2.3
KMI pmax pmax
comp=Z,13nm,0.7s
KMI LR LR
comp=Z,350nm,22.7s
KMI LR LR
comp=Z,450nm,19.8s
KMI LR LR
comp=Z,410nm,22.4s
TBI Tubuai 79.05 180 eLR LR 01 46 01.0
comp=Z,2µm,32.5s
TBI eLR LR 01 46 13.9
comp=Z,2µm,23.2s
TULM Tulcn-Chalpat 79.05 105 P P 01 21 30.3 0.0
TULM Tulcn-Chalpat 79.05 105 eP P 01 21 31.4 +1.1
CUSE Cuicocha Este 79.06 106 eP P 01 21 30.8 +0.5
OTAV Otavalo 79.09 106 P P 01 21 31.0 +0.6
OTAV IAmb IAmb 01 21 32.6
comp=Z,98nm,1.6s
OTAV Otavalo 79.09 106 P P 01 21 31.1 +0.6
OTAV Otavalo 79.09 106 eP P 01 21 31.3 +0.8
OTAV Otavalo 79.09 106 eP P 01 21 31.0 +0.6
PCBR Castelo Branco 79.11 29 eP P 01 21 30.4 +0.7
comp=Z,36nm,1.9s
A050A Klekovaca 79.14 10 ⇑*i*P P 01 21 29.7 -0.2
CFR Carcaliu 79.15 2 ⇑P P 01 21 30.3 +0.4
CFR Carcaliu 79.15 2 P P 01 21 30.2 +0.4
TLCR 79.15 1 ⇓P P 01 21 30.5 +0.6
TLCR 79.15 1 P P 01 21 30.4 +0.6
IMBA Imbabura, San 79.19 106 P P 01 21 30.9 -0.2
HERR Herculane 79.22 6 ⇓P P 01 21 30.7 +0.5
MGRS Mrkonjic Grad 79.26 10 eP P 01 21 27.6 -2.9
PTGC Puerto Gaitan, 79.27 98 eP P 01 21 29.5 -1.4
PPLP Puerto Lpez 79.34 109 eP P 01 21 31.9 +0.6
TEKS Tekeris 79.35 8 ⇑*i*P P 01 21 30.9 -0.1
STFAR Stefanesti-Arg 79.37 4 ⇑P P 01 21 32.1 +1.0
SIM Simferopol' 79.37 358 P P 01 21 25.2 -5.9
SIM pmax pmax
comp=Z,15nm,0.9s
PGOR Pogoanele 79.39 3 ⇓P P 01 21 31.9 +0.8
BONI La Bonita 79.41 105 eP P 01 21 31.9 -0.1
OSSC Osservatorio P 79.45 14 P P 01 21 31.6 +0.1
TPGR Topolog 79.48 2 ⇑P P 01 21 32.1 +0.4
SRE Strehaia 79.48 6 ⇓P P 01 21 32.4 +0.7
SRE Strehaia 79.48 6 P P 01 21 32.4 +0.7
PMTG Montargil 79.62 30 eP P 01 21 32.8 +0.3
comp=Z,30nm,1.8s
HARR Harsova 79.63 2 ⇓P P 01 21 33.1 +0.6
HARR Harsova 79.63 2 P P 01 21 33.1 +0.6
HUMR Humele 79.70 4 ⇑P P 01 21 32.6 -0.3
HAPS Han Pijesak,BI 79.76 9 ⇑*i*P P 01 21 33.7 +0.3
TIRR Tirgusor 79.88 2 ⇑P P 01 21 34.3 +0.5
TIRR Tirgusor 79.88 2 P P 01 21 33.5 -0.3
TIRR IAmb IAmb 01 21 35.3
comp=Z,81nm,1.0s
TIRR Tirgusor 79.88 2 P P 01 21 34.2 +0.5
SLOR San Lorenzo - 79.88 107 P P 01 21 34.3 -0.5
MURB Monte Urbino 79.88 14 P P 01 21 33.9 0.0
MURB IAmb IAmb 01 21 36.8
comp=Z,43nm,1.0s
KIV Kislovodsk 79.90 351 ⇑P P 01 21 34.4 +0.3
KIV Kislovodsk 79.90 351 P P 01 21 34.3 +0.2
KIV IAmb IAmb 01 21 35.6
comp=Z,35nm,0.8s
KIV Kislovodsk 79.90 351 *i* P P 01 21 34.4 +0.3
SNR=15
KIV Kislovodsk 79.90 351 eP P 01 21 34.4 +0.3
KIV pmax pmax
comp=Z,37nm,1.0s
BBLS Lazići 80.02 8 ⇑*i*P P 01 21 35.3 +0.6
SGRR Singureni 80.05 4 ⇑P P 01 21 35.2 +0.5
KBZ Khabaz 80.11 351 P P 01 21 35.9 +0.8
comp=Z,20nm,0.9s,baz=339,slow=4.1,SNR=45
KBZ LR LR 02 00 48.9
comp=Z,192nm,19.3s,baz=12,slow=38
comp=Z,20nm,0.9s
BAIL Bailesti 80.13 6 ⇓P P 01 21 35.7 +0.5
MFTR Murfatlar 80.16 2 ⇓P P 01 21 36.2 +0.9
FDMO Fiordimonte 80.17 13 P P 01 21 34.8 -0.7
EVO Evora 80.18 30 eP P 01 21 36.5 +0.9
comp=Z,15nm,2.1s
GUMA Gualdo di Mace 80.18 13 P P 01 21 35.7 +0.2
GUMA IAmb IAmb 01 21 37.4
comp=Z,50nm,1.0s
ESBB Sonseca Array 80.19 27 P P 01 21 36.4 +0.8
ESDC Sonseca Array 80.19 27 P P 01 21 35.7 0.0
ESDC Sonseca Array 80.19 27 P P 01 21 36.4 +0.7
comp=Z,28nm,0.9s,baz=335,slow=5.3,SNR=74
ESDC LR LR 01 56 44.4
comp=Z,444nm,19.7s,baz=330,slow=35
comp=Z,28nm,0.9s
ICOR Ion Corvin 80.20 2 ⇓P P 01 21 36.6 +1.1
VLAD Vladila 80.21 5 ⇑P P 01 21 35.7 +0.1
PAB San Pablo 80.21 27 P P 01 21 35.4 -0.4
PAB San Pablo 80.21 27 P P 01 21 36.1 +0.3
PIAT Ana Tenorio 80.23 107 eP P 01 21 37.2 +0.7
RUDO Rudo 80.26 8 eP P 01 21 35.6 -0.3
SIMJ Simiganj 80.27 331 P P 01 21 36.3 0.0
SIMJ IAmb IAmb 01 21 50.8
comp=Z,92nm,1.0s
CHSH Refugio Sur-Vo 80.32 107 P P 01 21 36.8 -0.5
NRCA Norcia 80.38 13 P P 01 21 36.9 +0.2
MAK Makhachkala 80.39 348 eP P 01 21 32.8 -3.8
MAK eS S 01 31 37.0 -2.8
MAK pmax pmax
comp=Z,158nm,1.2s
QIZ Qiongzhong 80.42 290 P P 01 21 41.0 +3.9
QIZ S SKSac 01 31 46.0 -6.4
QIZ pmax pmax
comp=Z,34nm,1.9s
QIZ pmax pmax
comp=Z,440nm,7.4s
QIZ LR LR
comp=Z,220nm,18.5s
QIZ LR LR
comp=Z,410nm,18.5s
QIZ LR LR
comp=Z,380nm,23.5s
BOVS Bovan 80.42 7 ⇓P P 01 21 36.8 +0.1
PNCL Nicolau / Gran 80.43 31 eP P 01 21 37.6 +0.7
comp=Z,61nm,1.5s
LSA Lhasa 80.47 310 P P 01 21 38.2 +0.4
LSA IAmb IAmb 01 21 52.8
comp=Z,45nm,1.1s
LSA IAMs_20 IAMs_20 02 00 37.3
comp=Z,707nm,19.0s
LSA Lhasa 80.47 310 P P 01 21 38.7 +0.8
LSA Lhasa 80.47 310 P P 01 21 38.2 +0.4
LSA pmax pmax
comp=Z,45nm,1.1s
LSA MLR MLR
comp=Z,700nm,19.0s
VALD Valchedram 80.47 5 *i* P P 01 21 36.6 -0.4
NEVS Nevesinje 80.47 9 eP P 01 21 35.9 -1.2
BLKB Belogradchik 80.49 6 ⇑P P 01 21 37.0 -0.2
SOC Sochi 80.49 353 eP P 01 21 36.4 -0.7
SOC *e* 01 24 41.4
SOC *e*PPP PPP 01 26 32.9

SOC *e*S S 01 31 42.5 +1.7
SOC *e*SS SS 01 36 57.5 +5.8
SOC *e*SSS SSS 01 40 21.3
SOC pmax pmax
comp=Z,20nm,0.7s
SOC MLR MLR
comp=Z,224nm,16.0s
CESX Cesi 80.53 14 P P 01 21 36.7 -0.7
UPM Unac-Piva 80.63 9 ⇑*i*P P 01 21 37.2 -1.0
SJES Sjenica 80.66 8 ⇑*i*P P 01 21 38.7 +0.5
PBEJ Beja 80.69 30 eP P 01 21 39.2 +0.9
comp=Z,50nm,1.7s
CAMP Campotosto 80.71 13 P P 01 21 38.5 0.0
PBAR Barrancos 80.78 29 eP P 01 21 39.5 +0.7
comp=Z,47nm,1.3s
MPEP Malo Peshtene 80.81 5 *i* P P 01 21 38.7 -0.2
PLVB Pleven 80.83 5 ⇑P P 01 21 38.9 -0.1
STON Ston 80.85 10 ⇑*i*P P 01 21 38.5 -0.6
BRY Bratogost 80.90 9 ⇑*i*P P 01 21 39.2 -0.3
LOZB Loznitsa 80.92 3 ⇓P P 01 21 39.5 +0.1
COHC Cochancay 80.93 108 P P 01 21 39.4 -0.4
COHC Cochancay 80.93 108 eP P 01 21 39.4 -0.4
ZEI Tsey 80.95 350 eP P 01 21 38.9 -1.0
ZEI pmax pmax
comp=Z,11nm,1.0s
NEF NEVSHA 81.04 3 *i* P P 01 21 40.3 +0.2
TREB Trebinje 81.07 9 eP P 01 21 39.7 -0.5
PTLC Puerto Leguiza 81.13 103 eP P 01 21 42.5 +1.6
PRD Provadia 81.15 3 *i* P P 01 21 41.3 +0.6
ONI Oni 81.19 351 P P 01 21 40.4 -0.6
ONI Oni 81.19 351 P P 01 21 40.4 -0.6
ONI pmax pmax
comp=Z,10.0nm,0.9s
INTR Introdacqua 81.29 13 P P 01 21 41.0 -0.6
ARNL Arenillas 81.40 109 P P 01 21 42.6 +0.3
ARNL IAmb IAmb 01 21 43.8
comp=Z,75nm,0.9s
PBDV Barranco-do-Ve 81.41 30 eP P 01 21 43.2 +1.0
comp=Z,58nm,1.7s
VTS Vitosha 81.52 6 *i* P P 01 21 42.7 -0.2
DRME Dracevica, Mon 81.67 9 ⇑*i*P P 01 21 43.3 -0.1
PGB Panagyurishte 81.68 5 *i* P P 01 21 43.2 -0.3
JMB Yambol 81.79 3 *i* P P 01 21 44.4 +0.3
BOSC San Juan Bosco 81.91 108 P P 01 21 45.9 +0.7
SKO Skopje 82.05 7 *i* P P 01 21 46.1 +0.6
PLD Plovdiv 82.07 5 *i* P P 01 21 45.9 +0.4
MCRA Macar, Loja 82.16 110 P P 01 21 46.1 -0.3
MCRA Macar, Loja 82.16 110 eP P 01 21 46.3 -0.1
DIM Dimitrovgrad 82.20 4 *i* P P 01 21 47.3 +1.1
KKB Krupnik 82.29 6 *i* P P 01 21 47.1 +0.4
PAOL Paolisi 82.33 12 P P 01 21 46.6 -0.5
AKH Akhalkalaki 82.35 350 P P 01 21 47.7 +0.4
AKH Akhalkalaki 82.35 350 P P 01 21 47.7 +0.4
AKH pmax pmax
comp=Z,25nm,0.9s
RZN Rozhen 82.52 5 *i* P P 01 21 48.9 +0.7
KDZ Kurdzhali 82.61 4 *i* P P 01 21 48.9 +0.5
MMB Musomishta 82.62 5 *i* P P 01 21 48.9 +0.4
VAY Valandovo 82.78 6 *i* P P 01 21 50.1 +0.9
NVR Nevrokopi 82.82 5 P P 01 21 51.3 +1.8
OHR Ohrid 82.86 8 *i* P P 01 21 50.4 +0.6
MATE Matera 82.95 11 ⇓P P 01 21 50.8 +0.7
KNT Kendrikon 82.95 6 P P 01 21 51.0 +0.8
SRS Serrai 83.04 6 P P 01 21 51.0 +0.4
RDO Rodhopi 83.10 4 P P 01 21 51.2 +0.3
RDO Rodhopi 83.10 4 P P 01 21 51.8 +0.9
VSL Villasalto 83.11 17 IAmb IAmb 01 21 52.7
comp=Z,39nm,1.1s
GRG Griva 83.13 6 P P 01 21 51.9 +0.8
KARS Kars 83.17 351 P P 01 21 51.6 +0.1
KARS Kars 83.17 351 P P 01 21 51.6 +0.1
KARS pmax pmax
comp=Z,84nm,1.0s
FNA Florina 83.23 7 P P 01 21 51.6 -0.1
FNA Florina 83.23 7 P P 01 21 51.6 -0.1
FNA Florina 83.23 7 P P 01 21 51.6 -0.1
FNA pmax pmax
comp=Z,18nm,1.1s
SOH Sokhos 83.32 6 P P 01 21 52.7 +0.6
KOKK Kokkinochori, 83.36 5 P P 01 21 52.5 +0.2
ALN Alexandroupoli 83.37 4 P P 01 21 52.9 +0.6
ALN IAmb IAmb 01 21 53.9
comp=Z,40nm,1.0s
ALN Alexandroupoli 83.37 4 P P 01 21 52.9 +0.6
ALN pmax pmax
comp=Z,40nm,1.0s
GNI Garni 83.48 349 P P 01 21 53.7 +0.5
GNI IAmb IAmb 01 22 12.3
comp=Z,57nm,1.4s
GNI Garni 83.48 349 P P 01 21 54.0 +0.9
GNI Garni 83.48 349 *de*P P 01 21 55.0 +1.9
GNI pmax pmax
comp=Z,17nm,1.0s
GNI Garni 83.48 349 LR LR 02 05 15.4
comp=Z,279nm,18.1s,baz=9.5,slow=40
CUC Castrocucco 83.50 12 P P 01 21 52.1 -1.0
CUC IAmb IAmb 01 21 53.6
comp=Z,33nm,1.1s
GEYT Alibeck 83.59 339 P P 01 21 53.6 0.0
GEYT IAmb IAmb 01 22 08.5
comp=Z,42nm,1.2s
GEYT Alibeck 83.59 339 P P 01 21 54.2 +0.7
comp=Z,16nm,1.0s,baz=341,slow=3.6,SNR=30
GEYT LR LR 02 05 09.9
comp=Z,279nm,18.7s,baz=25,slow=40
comp=Z,16nm,1.0s
GYA0B ALIBECK ARRAY 83.59 339 P P 01 21 53.9 +0.3
GYA0B IAmb IAmb 01 22 08.5
comp=Z,37nm,1.2s
PMG Port Moresby 83.63 243 LR LR 01 53 54.4
comp=Z,251nm,21.0s,baz=44,slow=32
NIL Nilore 83.67 326 P P 01 21 53.9 -0.1
NIL Nilore 83.67 326 P P 01 21 53.9 -0.1
NIL pmax pmax
comp=Z,78nm,1.1s
SHL Shillong 83.72 307 P P 01 21 53.7 -0.9
SHL Shillong 83.72 307 P P 01 21 53.7 -0.9
SHL pmax pmax
comp=Z,23nm,1.1s
LSK Leskovik 83.80 8 P P 01 21 55.1 +0.4
KBL Kabul 84.11 329 P P 01 21 55.4 -1.1
KBL Kabul 84.11 329 P P 01 21 55.4 -1.1
KBL pmax pmax
comp=Z,24nm,1.1s
KEK Kerkira 84.17 9 P P 01 21 55.3 -1.2
KEK IAmb IAmb 01 21 56.1
comp=Z,61nm,1.1s
KEK Kerkira 84.17 9 P P 01 21 53.6 -2.9
CRAI Chiangrai 84.28 298 IAmb IAmb 01 22 10.9
comp=Z,86nm,1.8s
TYRN Tyrnavos 84.36 7 P P 01 21 57.2 -0.2
IGT Igoumenitsa 84.40 8 P P 01 21 57.7 +0.1
TIP Timpagrande 84.41 11 ⇑P P 01 21 57.8 0.0
TIP Timpagrande 84.41 11 P P 01 21 57.9 +0.1
TIP IAmb IAmb 01 21 58.9
comp=Z,51nm,1.2s
ANTO Ankara 84.47 359 ⇑P P 01 21 59.0 +1.0
ANTO Ankara 84.47 359 P P 01 21 58.0 -0.1
ANTO IAmb IAmb 01 22 00.1
comp=Z,41nm,0.9s
ANTO Ankara 84.47 359 P P 01 21 59.0 +1.0
BR131 Keskin Array S 84.60 358 P P 01 21 59.6 +0.8
BR131 IAmb IAmb 01 22 00.3
comp=Z,26nm,0.9s
BR131 Keskin Array S 84.60 358 P P 01 21 59.6 +0.8
BRTR Keskin Array B 84.60 358 P P 01 21 58.6 -0.2
BRTR Keskin Array B 84.60 358 P P 01 21 59.1 +0.3
comp=Z,13nm,0.8s,baz=360,slow=2.6,SNR=56
BRTR pP sP 01 22 12.4 +0.7
comp=Z,7.1nm,0.8s,baz=24,slow=1.8,SNR=7.7
comp=Z,13nm,0.8s
NEO Neokhori 84.82 6 P P 01 21 59.7 -0.1
MAKR Makrakomi, Fth 85.05 7 P P 01 22 01.3 +0.4
AGG Agios Georgios 85.05 7 P P 01 21 59.7 -1.2
AGG IAmb IAmb 01 22 01.7
comp=Z,27nm,0.9s
AGG Agios Georgios 85.05 7 P P 01 21 59.7 -1.2
AGG pmax pmax
comp=Z,27nm,0.9s
EVR Evrytania 85.12 7 P P 01 22 03.2 +1.8
CEL Celeste 85.23 12 P P 01 21 59.8 -2.1
CEL IAmb IAmb 01 22 01.7
comp=Z,21nm,0.8s

NYDR	Nydri-Lefkada	85.24	8	P	P	01 22 01.8	0.0	
ATAH	Atahualpa	85.31	110	LR	LR	02 00 25.5		
	comp=Z,194nm,18.1s,baz=355,slow=36							
GURO	Guroymak-BITLI	85.32	351	IAmb	IAmb	01 22 05.3		
	comp=Z,46nm,1.9s							
AXAR	Agios Charalam	85.33	6	P	P	01 22 01.8	-0.5	
EVGI	Lefkada island	85.33	8	P	P	01 22 02.1	-0.2	
BNN	Bunyan	85.40	356	P	P	01 22 03.3	+0.5	
ANX	Ano Chora	85.45	7	P	P	01 22 03.5	+0.5	
GEVA	Gevas	85.47	350	P	P	01 22 04.0	+0.8	
GEVA				IAmb	IAmb	01 22 05.7		
	comp=Z,46nm,1.0s							
FSK	Fiskardo	85.48	8	P	P	01 22 02.5	-0.5	
EFP	Efpalio	85.61	7	P	P	01 22 04.8	+1.1	
KEF4	Livadi, Kephal	85.67	8	P	P	01 22 04.1	+0.1	
DMLN	Damoulianata-K	85.69	8	P	P	01 22 04.1	0.0	
KEF3	Kipouria, Keph	85.72	8	P	P	01 22 04.2	0.0	
VLS	Valsamata	85.76	8	P	P	01 22 01.8	-2.7	
VAE	Valguarnera	85.82	13	LR	LR	02 02 37.7		
	comp=Z,266nm,20.3s,baz=340,slow=37							
PSDA	Pessada-Kefalo	85.83	8	P	P	01 22 03.4	-1.3	
VILL	Villia	85.96	6	P	P	01 22 05.1	-0.4	
KLV	Kalavryta, Ach	86.01	7	P	P	01 22 06.1	+0.3	
HRA	Herat	86.06	334	P	P	01 22 06.5	+0.2	
HRA				IAmb	IAmb	01 22 21.0		
	comp=Z,32nm,1.4s							
GUR	Goura	86.13	7	P	P	01 22 06.6	+0.2	
CMMT	Chiang Mai	86.18	298	P	P	01 22 05.1	-1.7	
CHTO	Chiang Mai	86.18	298	P	P	01 22 05.9	-0.9	
CHTO				IAmb	IAmb	01 22 20.0		
	comp=Z,32nm,1.4s							
CHTO	Chiang Mai	86.18	298	IAMs_20	IAMs_20	02 05 55.0		
	comp=Z,399nm,21.0s							
CHTO	Chiang Mai	86.18	298	P	P	01 22 05.9	-0.9	
CHTO				pmax	pmax			
	comp=Z,32nm,1.4s							
CHTO	Chiang Mai	86.18	298	P	P	01 22 05.7	-1.1	
	comp=Z,17nm,1.4s,comp=Z,268nm							
LTHK	Lithakia	86.25	8	P	P	01 22 06.6	-0.2	
BRDH	Bariadhala	86.34	306	LR	LR	02 04 40.6		
	comp=Z,444nm,19.5s,baz=92,slow=38							
DZM	Mont Dzumac	86.40	221	LR	LR	01 59 45.7		
	comp=Z,291nm,18.0s,baz=35,slow=35							
CM31	Chiang Mai Arr	86.49	298	P	P	01 22 07.7	-0.6	
CM31				IAmb	IAmb	01 22 22.0		
	comp=Z,72nm,1.4s							
CMAR	Chiang Mai Arr	86.49	298	P	P	01 22 08.9	+0.6	
CMAR	Chiang Mai Arr	86.49	298	P	P	01 22 08.2	-0.2	
	comp=Z,12nm,0.8s,baz=15,slow=5.1,SNR=62							
CMAR				pP	sP	01 22 20.9	-0.4	
	comp=Z,16nm,0.9s,baz=11,slow=4.9,SNR=8.6							
	comp=Z,12nm,0.8s							
MDT	Midelt	86.49	29	LR	LR	02 01 00.8		
	comp=Z,446nm,18.3s,baz=348,slow=36							
MARD	Mardin	86.65	352	P	P	01 22 09.3	+0.3	
KEST	Kesra	86.78	17	P	P	01 22 08.9	-0.7	
KEST	Kesra	86.78	17	P	P	01 22 10.2	+0.5	
	comp=Z,12nm,0.8s,baz=237,slow=5.0,SNR=14							
KEST				LR	LR	02 02 54.3		
	comp=Z,198nm,20.6s,baz=286,slow=37							
	comp=Z,12nm,0.8s							
BOAV	Boa Vista	87.25	90	P	P	01 22 12.0	-0.1	
BOAV				IAmb	IAmb	01 22 12.9		
	comp=Z,50nm,1.3s							
BOAV	Boa Vista	87.25	90	*e*P	P	01 22 11.9	-0.1	
VLI	Velia	87.38	6	P	P	01 22 11.7	-0.7	
RAO	Raoul Island	88.41	205	LR	LR	01 57 09.2		
	comp=Z,276nm,18.3s,baz=5.0,slow=32							
CZSB	Cruzeiro do Su	88.85	106	P	P	01 22 19.4	-0.1	
CZSB	Cruzeiro do Su	88.85	106	*e*P	P	01 22 19.2	-0.4	
CZSB	Cruzeiro do Su	88.85	106	*e*P	P	01 22 19.5	-0.1	
IDI	Anoyia	88.91	5	LR	LR	02 02 28.8		
	comp=Z,63nm,21.0s,baz=80,slow=36							
CSS	Mathiatis	89.36	358	P	P	01 22 21.6	-0.3	
MDP	Montagnes des	89.43	82	LR	LR	01 59 53.1		
	comp=Z,332nm,21.8s,baz=342,slow=34							
RPN	Rapa Nui	89.47	145	LR	LR	01 54 00.2		
	comp=Z,163nm,19.2s,baz=304,slow=30							
TEFE	Tefe	89.80	97	*e*P	P	01 22 23.4	-0.7	
NNA	Nana	90.20	111	P	P	01 22 25.6	-0.3	
NNA				IAmb	IAmb	01 22 26.2		
	comp=Z,36nm,1.1s							
NNA	Nana	90.20	111	P	P	01 22 25.6	-0.3	
NNA				pmax	pmax			
	comp=Z,36nm,1.1s							
NNA	Nana	90.20	111	LR	LR	02 00 31.0		
	comp=Z,122nm,21.9s,baz=340,slow=34							
MMAI	Mount Meron Ar	91.24	356	LR	LR	02 09 28.4		
	comp=Z,55nm,20.6s,baz=340,slow=40							
MACA	Manacapuru-AM	91.72	93	*e*P	P	01 22 32.0	-1.0	
CTA	Charters Tower	93.23	238	LR	LR	01 58 47.5		
	comp=Z,189nm,20.5s,baz=78,slow=32							
ETMB	Extrema	94.12	101	P	P	01 22 41.7	-2.3	
ETMB				IAmb	IAmb	01 22 43.2		
	comp=Z,18nm,1.1s							
ETMB	Extrema	94.12	101	*e*P	P	01 22 41.9	-2.1	
MALB	Monte Alegre	94.25	87	*e*P	P	01 22 44.3	-0.4	
MCPB	Macapa, AP	94.26	84	*e*P	P	01 22 43.7	-1.0	
EIL	Elat	94.59	356	LR	LR	02 11 34.4		
	comp=Z,43nm,19.7s,baz=60,slow=39							
KAPI	Kappang	94.75	268	LR	LR	02 01 29.3		
	comp=Z,61nm,22.0s,baz=52,slow=33							
SAML	Samuel	95.08	98	P	P	01 22 47.2	-1.2	
SAML				IAmb	IAmb	01 22 48.0		
	comp=Z,22nm,1.4s							
SAML	Samuel	95.08	98	P	P	01 22 47.2	-1.2	
SAML				pmax	pmax			
	comp=Z,22nm,1.4s							
SAML				MLR	MLR			
	comp=Z,800nm,20.0s							
SAML	Samuel	95.08	98	*e*P	P	01 22 46.6	-1.8	
SAML	Samuel	95.08	98	*e*P	P	01 22 46.8	-1.7	
ITTB	Itaituba	95.49	90	*e*P	P	01 22 49.0	-1.3	
HYB	Hyderabad	96.59	315	*e*P	P	01 22 55.4	0.0	
ASHO	Ashiyiah	96.81	337	P	P	01 22 55.4	-1.0	
ASUD	Al Ashush, Dub	97.03	338	P	P	01 22 56.9	-0.4	
ALNE	Al Ain	97.49	337	P	P	01 22 58.6	-0.8	
WSAR	Wadi Sarin	97.61	334	LR	LR	02 13 25.7		
	comp=Z,174nm,18.3s,baz=48,slow=39							
NPGB	Novo Progresso	97.90	91	*e*P	P	01 22 59.8	-1.5	
MYKOM	Kota Tinggi	97.97	285	IAMs_20	IAMs_20	02 13 01.1		
	comp=Z,226nm,19.0s							
URZ	Urewera	98.21	206	LR	LR	02 00 57.0		
	comp=Z,261nm,20.0s,baz=121,slow=31							
LPAZ	La Paz	98.41	106	P	P	01 23 02.4	-1.8	
LPAZ	La Paz	98.41	106	P	P	01 23 02.4	-1.8	
WRA	Warramunga Arr	99.06	248	P	Pdif	01 23 05.0	-1.3	
	comp=Z,0.6nm,0.6s,baz=38,slow=5.4,SNR=5.9							
WRA				pP	sP	01 23 17.9	-1.3	
	comp=Z,1.5nm,1.0s,baz=5.1,slow=5.1,SNR=4.9							
	comp=Z,0.6nm,0.6s							
RAYN	Ar Rayn	99.81	346	*i* P	Pdif	01 23 10.3	+0.5	
	SNR=13							
ASAR	Alice Springs	102.37	246	P	Pdif	01 23 20.6	-0.4	
	comp=Z,0.6nm,0.8s,baz=23,slow=5.0,SNR=2.2							
TORD	Torodi Ar. Bea	106.89	30	PP	PP	01 28 01.6	-5.0	
	comp=Z,1.1nm,1.0s,baz=354,slow=5.8,SNR=4.2							
PLCA	Paso Flores	116.96	123	PKP	PKPdf	01 28 08.7	-0.7	
	comp=Z,5.6nm,1.3s,baz=156,slow=6.3,SNR=5.0							
PLCA				PKKPbc	PKKPab	01 38 35.3	-1.4	
	comp=Z,1.1nm,0.9s,baz=135,slow=2.9,SNR=3.2							
KMBO	Kilima Mbogo	125.04	352	PKPdf	PKPdf	01 28 26.0	0.0	
KMBO	Kilima Mbogo	125.04	352	*i* P	PKiKP	01 28 26.5	+0.1	
	SNR=7.5							
KMBO	Kilima Mbogo	125.04	352	PKIKP	PKPdf	01 28 26.0	0.0	
KMBO	Kilima Mbogo	125.04	352	PKhKP	PKPpre	01 28 23.2		
	comp=Z,4.8nm,0.9s,baz=6.8,slow=5.3,SNR=14							
LSZ	Lusaka	139.29	4	PKPdf	PKPdf	01 28 50.7	-1.9	
LSZ	Lusaka	139.29	4	PKIKP	PKPdf	01 28 50.7	-1.9	
TSUM	Tsumeb	141.91	21	PKPdf	PKPdf	01 28 53.9	-3.3	
VOI	Vohitsoka	143.94	334	PKPdf	PKPbc	01 28 58.4	-0.1	
WIN	Windhoek	145.07	23	PKPbc	PKPab	01 29 02.3	0.0	
WIN	Windhoek	145.07	23	PKIKP	PKPab	01 29 02.3	0.0	
QSPA	South Pole Qui	145.81	180		PKPdf	01 29 02.7	+0.3	
QSPA	South Pole Qui	145.81	180	PKPbc	PKPbc	01 29 02.9	-0.1	
	comp=Z,48nm,0.9s,baz=72,slow=0.8,SNR=72							
LBTB	Lobatse	148.79	9		PKPbc	01 29 12.0	-0.7	
LBTB	Lobatse	148.79	9	PKP2	PKPbc	01 29 12.0	-0.7	
BELA	Belgrano 2	149.09	158	PKPbc	PKPbc	01 29 10.8	-1.0	
BOSA	Boshof	152.32	11		PKPbc	01 29 19.1	-1.9	
BOSA	Boshof	152.32	11	PKP	PKPdf	01 29 15.2	+1.0	
	comp=Z,38nm,0.9s,baz=0.4,slow=4.2,SNR=3.3							
BOSA				PKPbc	PKPbc	01 29 20.6	-0.5	
	comp=Z,32nm,0.8s,baz=351,slow=2.4,SNR=56							
GRHM	Grahamstown, E	157.05	10	PKPdf	PKPdf	01 29 20.6	+0.1	
GRHM					PKPab	01 29 51.4	+0.4	
VNA3	Neumayer Olymp	157.07	147	⇓PKPab	PKPab	01 29 48.2	-1.9	
	comp=Z,20nm,0.7s							
VNA1	Neumayer--Stat	157.71	146	⇓PKPab	PKPab	01 29 49.9	-2.9	
	comp=Z,15nm,1.0s							
VNA2	Neumayer--Watz	157.88	147	⇓PKPab	PKPab	01 29 51.1	-2.5	
	comp=Z,9.0nm,0.8s,baz=239,slow=3.7							
SNAA	Sanae	158.86	151		PKPab	01 29 57.2	-0.7	
SNAA	Sanae	158.86	151	⇓PKPab	PKPab	01 29 54.8	-3.2	
	comp=Z,122nm,0.8s							
SNAA	Sanae	158.86	151	PKP2	PKPab	01 29 57.2	-0.7	
SNAA	Sanae	158.86	151	PKPab	PKPab	01 29 56.4	-1.5	
	comp=Z,4.7nm,0.8s,baz=295,slow=6.7,SNR=6.2							
TROLL	Troll, Antarti	160.06	154	⇓PKPab	PKPab	01 30 02.8	-0.4	
	comp=Z,1μm,1.1s							

*IDC **26** 01:19:19.6±1.0,50°.28S×112°.53E,h0km,mb4.3/7, mbtmp4.3/7,MS3.7/5,Error ellipse: s-maj=51.2km s-min=18.1km az=106.0*
*NEIC **26** 01:19:20.9±0.9,50°.29S±0°.09×112°.1E±0°.2,h10km±1km, mb4.8/18,Error ellipse: s-maj=20.9km s-min=10.8km az=234.0*

ISC 26 01:19:20.7±0.5,50°.26S±0°.09×112°.1E±0°.1,h10km,n33, σ0$96/27,mb4.7/14,MS3.6/4,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	Cape Leeuwin H	15.42	6	T	T	01 38 40.3	
	baz=183,slow=74,SNR=223						
H01W1	Cape Leeuwin H	15.43	6	T	T	01 38 40.7	
	baz=183,slow=74,SNR=317						
H01W3	Cape Leeuwin H	15.44	6	T	T	01 38 41.4	
	baz=183,slow=74,SNR=262						
NWAO	Narrogin (SRO)	17.73	14	LR	LR	01 28 31.6	
	comp=Z,379nm,21.0s,baz=168,slow=31						
MORW	Morawa	21.37	9	P	P	01 24 08.9	+0.7
FORT	Forrest	22.83	38	P	P	01 24 24.6	+0.8
FORT				IAmb	IAmb	01 24 29.9	
	comp=Z,48nm,1.2s						
TAU	Tasmania Unive	25.10	87	P	P	01 24 45.4	0.0
TAU				IAmb	IAmb	01 24 48.2	
	comp=Z,23nm,1.1s						
MCQ	Macquarie Isla	28.48	117	P	P	01 25 15.1	-0.6
STKA	Stephens Creek	28.55	61	LR	LR	01 35 22.1	
	comp=Z,51nm,19.7s,baz=209,slow=34						
MAW	Mawson	29.68	216	LR	LR	01 35 16.4	
	comp=Z,155nm,19.9s,baz=252,slow=32						
ASAR	Alice Springs	31.51	41	P	P	01 25 41.5	-1.3
	comp=Z,1.4nm,0.9s,baz=208,slow=8.1,SNR=12						
ASAR				LR	LR	01 36 54.7	
	comp=Z,133nm,19.4s,baz=175,slow=34						
	comp=Z,1.4nm,0.9s						
VNDA	Vanda	32.99	162	P	P	01 25 55.1	-0.2
VNDA				IAmb	IAmb	01 26 02.3	
	comp=Z,9.4nm,0.9s						
VNDA	Vanda	32.99	162	P	P	01 25 55.0	-0.3
	comp=Z,4.3nm,0.8s,baz=281,slow=10,SNR=8.7						
VNDA				LR	LR	01 38 24.3	
	comp=Z,139nm,19.4s,baz=279,slow=35						
	comp=Z,4.3nm,0.8s						
WRA	Warramunga Arr	35.02	38	P	P	01 26 12.9	-0.5
	comp=Z,2.7nm,0.9s,baz=204,slow=8.1,SNR=6.8						
	comp=Z,2.7nm,0.9s						
WB2	Warramunga Arr	35.02	38	P	P	01 26 12.1	-1.3
WB0	Warramunga Arr	35.20	38	P	P	01 26 14.9	-0.1
QSPA	South Pole Qui	39.87	180	P	P	01 26 54.4	+0.1
QSPA	South Pole Qui	39.87	180	P	P	01 26 54.6	+0.4
	comp=Z,3.9nm,0.6s,baz=326,slow=3.0,SNR=12						
	comp=Z,3.9nm,0.6s						
MRZ	Mangatainoka R	44.28	103	P	P	01 27 29.6	-0.8
MRZ				IAmb	IAmb	01 27 34.5	
	comp=Z,13nm,1.1s						
RTZ	Ruatahuna	46.35	101	P	P	01 27 46.5	-0.4
RTZ				IAmb	IAmb	01 27 46.7	
	comp=Z,10nm,0.8s						
ROCAM	Rodrigues Isla	48.99	290	P	P	01 28 06.8	-0.6
SNAA	Sanae	50.08	202	P	P	01 28 16.6	+1.4
SNAA				IAmb	IAmb	01 28 23.2	
	comp=Z,5.9nm,0.8s						
SNAA	Sanae	50.08	202	P	P	01 28 16.2	+0.9
	comp=Z,5.2nm,0.8s,baz=115,slow=7.0,SNR=11						
	comp=Z,5.2nm,0.8s						
BELA	Belgrano 2	50.50	189	P	P	01 28 18.3	0.0
BELA				IAmb	IAmb	01 28 25.3	
	comp=Z,11nm,1.0s						
SMAI	San Martin Ant	61.93	180	P	P	01 29 41.8	+1.9
SOE	Somerset East	63.58	250	P	P	01 29 49.0	-2.6
CMAR	Chiang Mai Arr	69.40	347	P	P	01 30 30.0	+1.3
	comp=Z,1.5nm,0.3s,baz=195,slow=5.1,SNR=2.0						
	comp=Z,1.5nm,0.3s						
HOPE	Hope Point	72.55	199	P	P	01 30 47.7	+0.2
HOPE				IAmb	IAmb	01 30 55.7	
	comp=Z,27nm,1.2s						
LSA	Lhasa	81.75	342	P	P	01 31 40.3	+0.4
LSA				IAmb	IAmb	01 31 48.4	
	comp=Z,5.6nm,0.5s						
PLCA	Paso Flores	89.36	178	P	P	01 32 17.1	-0.2
	comp=Z,1.7nm,0.8s,baz=201,slow=3.0,SNR=3.5						
	comp=Z,1.7nm,0.8s						
TXAR	Lajitas Array	145.93	114	PKPbc	PKPdf	01 38 59.4	-0.3
	comp=Z,0.6nm,0.7s,baz=199,slow=5.0,SNR=6.5						
PDAR	Pinedale Array	150.67	89	PKPbc	PKPbc	01 39 12.4	-0.2
	comp=Z,1.3nm,0.9s,baz=198,slow=2.1,SNR=9.2						
YKA	Yellowknife Ar	152.06	46	PKPbc	PKPbc	01 39 14.4	-0.5
	comp=Z,1.1nm,0.8s,baz=285,slow=2.0,SNR=12						

KRSC 26 01:25:18.9±2.8,54°.88N×167°.61E,h36km±17km,Ml4.2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.99	290	*e*P	Pn	01 25 37.5	+1.3
BKI				*e*S	Sn	01 25 50.5	+1.5
SMKR	Semkarok	3.87	299	*e*P	Pn	01 26 18.6	+2.8
TUMD	Tumrok D	4.16	277	*e*P	Pn	01 26 24.0	+4.2
KMNR	Kamenistaya	4.30	285	*e*P	Pn	01 26 27.0	+5.2
TUMR	Tumrok	4.31	278	*e*P	Pn	01 26 27.1	+5.3
KPT	Kopyto	4.34	287	*e*P	Pn	01 26 27.3	+4.9
SRDR	Sredinnyy	4.70	291	*e*P	Pn	01 26 32.6	+5.3
AVH	Avacha	5.47	256	*e*P	Pn	01 26 43.4	+5.6
KRX	Arik	5.49	257	*e*P	Pn	01 26 42.5	+4.4
ASAK	Asacha	6.29	251	*e*P	Pn	01 26 53.6	+4.4

*IDC **26** 01:34:16.7±1.5,4°.16S×129°.18E,h0km,mb4.0/4, mbtmp3.9/6,ML3.4/2,MS4.3/2,Error ellipse: s-maj=87.7km s-min=24.4km az=67.0*
*DJA **26** 01:34:18.9±1.1,4°.5±12°×12°.9E±°,h17km±19km,M3.9/7, MLv3.9/7*

ISC 26 01:34:20.7±0.9,4°.19S±0°.08×129°.33E±0°.06,h36km,n15, σ0$95/15,mb3.9/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	0.66	120	P	Pn	01 34 32.7	-1.0
BNDI				S	Sn	01 34 42.3	-0.5
KRAI	Karang Ratu	1.27	313	P	Pn	01 34 41.5	-0.5
KRAI				S	Sn	01 34 55.9	-1.9
NLAI	Namlea	2.42	293	P	Pn	01 34 58.2	+0.5
FAKI	Fak Fak	3.17	67	P	Pn	01 35 08.4	+0.3
SIJI	Sorong	3.82	30	P	Pn	01 35 16.2	-0.8
SWI	Sorong	3.82	30	P	Pn	01 35 16.8	-0.2
SANI	Sanana	3.96	302	P	Pn	01 35 17.9	-1.0
WRA	Warramunga Arr	16.40	163	Pn	Pn	01 38 07.2	-1.1
	0.1nm,0.3s,baz=339,slow=13,SNR=5.7						
	1.0nm,0.6s						
ASAR	Alice Springs	19.86	168	P	Pn	01 38 51.2	+0.6
	0.2nm,0.3s,baz=350,slow=12,SNR=19						
	1.6nm,0.6s						
CMAR	Chiang Mai Arr	37.46	308	P	P	01 41 32.1	+1.1
	1.6nm,0.3s,baz=136,slow=8.1,SNR=5.2						
	1.6nm,0.3s						
RPZ	Rata Peaks	53.86	143	LR	LR	02 08 41.1	
	comp=Z,248nm,18.3s,baz=30,slow=38						
MKAR	Makanchi Array	65.53	326	P	P	01 45 01.0	+0.5
	0.5nm,0.4s,baz=114,slow=8.1,SNR=13						
	0.5nm,0.4s						
ZALV	Zalesovo Beam	68.78	334	P	P	01 45 21.4	+0.3
	0.8nm,0.7s,baz=123,slow=4.5,SNR=4.1						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	69.78	328	P	P	01 45 28.1	+0.8
	0.8nm,0.7s,baz=127,slow=5.5,SNR=11						
	0.8nm,0.7s						
QSPA	South Pole Qui	85.77	180	LR	LR	02 27 42.4	
	comp=Z,121nm,18.0s,baz=194,slow=37						

*IDC **26** 02:07:23.4±1.9,6°.83S×128°.93E,h0km,mb3.7/2, mbtmp3.7/4,ML3.9/2,Error ellipse: s-maj=141.4km s-min=28.7km az=65.0*

ISC 26 02:07:39.9±1.4,7°.5S±0°.1×129°.2E±0°.2,h150km,n12, σ3$04/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	Manton Dam	5.69	160	P	Pn	02 09 05.3	+2.7
KDU	Kakadu	6.13	148	P	Pn	02 09 10.2	+1.8
KNRA	Kununurra	8.18	183	P	Pn	02 09 38.0	+2.2
WRA	Warramunga Arr	13.38	159	Pn	Pn	02 10 43.4	-0.8
	0.5nm,0.3s,baz=340,slow=12,SNR=15						
WRA				Sn	Sn	02 13 08.1	-4.3
	0.8nm,0.3s,baz=55,slow=11,SNR=9.2						
	0.7nm,0.5s						
WB1	Warramunga Ar.	13.40	159	P	P	02 10 46.7	-1.8
QIS	Mount Isa	16.48	143	P	Pn	02 11 24.4	+1.7
ASAR	Alice Springs	16.75	165	P	Pn	02 11 28.4	+2.6
	0.4nm,0.3s,baz=346,slow=10,SNR=34						
ASAR				S	S	02 14 29.4	-2.8
	0.6nm,0.6s,baz=347,slow=25,SNR=4.9						
	2.4nm,0.7s						
AS01	Alice Springs	16.76	165	P	Pn	02 11 28.6	+2.6
WRKA	Warakurna	17.50	183	P	Pn	02 11 37.0	+2.1
OOD	Oodnadatta	21.15	164	P	P	02 12 14.7	+1.5
STKA	Stephens Creek	26.92	156	P	P	02 13 12.3	+5.1
	0.9nm,0.4s,baz=339,slow=14,SNR=1.7						
	0.9nm,0.4s						
MKAR	Makanchi Array	68.16	327	P	P	02 18 21.4	-2.6
	0.2nm,0.6s,baz=126,slow=7.4,SNR=2.3						
	0.2nm,0.6s						

IDC 26 02:17:36.5±2.0,6°.57S×129°.54E,h0km,mb3.4/2, mbtmp3.5/4,ML3.6/2,Error ellipse: s-maj=139.0km s-min=30.5km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.09	161	Pn	Pn	02 20 56.5	-1.1
	0.3nm,0.3s,baz=343,slow=13,SNR=13						
WRA				Sn	Sn	02 23 28.8	-6.0
	0.2nm,0.3s,baz=352,slow=21,SNR=5.3						
	1.1nm,0.5s						
ASAR	Alice Springs	17.51	167	P	P	02 21 43.0	-0.5
	0.2nm,0.3s,baz=357,slow=11,SNR=8.6						
ASAR				S	Sn	02 24 55.1	-2.9
	1.0nm,0.8s,baz=356,slow=27,SNR=5.3						
	0.9nm,0.7s						
MKAR	Makanchi Array	67.61	327	P	P	02 28 34.5	-0.6
	0.3nm,0.8s,baz=115,slow=6.5,SNR=2.1						
	0.3nm,0.8s						
KURBB	Kurchatov Arra	71.90	329	P	P	02 29 02.2	+0.7
	0.1nm,0.3s,baz=124,slow=4.7,SNR=2.1						
	0.1nm,0.3s						

OTT 26 02:25:55.2±0.5,55°.12N×52°.10W,h18km,ML4.0/2, 398km northeast from Mary''s Harbour, Nl,Labrador Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NANL	Nain	5.59	289	PN	Pn	02 27 16.2	-1.1
NANL				SN	Sn	02 28 15.4	-5.5
NANL				Trac		02 28 22.1	
	comp=Z,1.0nm,0.0s						
DRLN	Deer Lake	6.75	212	PN	Pn	02 27 32.6	-0.7
DRLN				SN	Sn	02 28 44.7	-4.9
DRLN				Trac		02 29 07.0	
	comp=Z,47nm,0.9s						
SJNN	Saint John's	7.55	183	SN	Sn	02 29 03.2	-6.0
SJNN				Trac		02 29 15.4	
	comp=Z,1μm,2.2s						
BJBQ	Baie Johan-Bee	8.11	238	PN	Pn	02 27 50.3	-1.5
BJBQ				SN	Sn	02 29 17.0	-5.9
BJBQ				Trac		02 29 33.1	
	comp=Z,260nm,1.4s						
SCHQ	Schefferville	8.48	274	PN	Pn	02 27 56.2	-0.8
SCHQ				SN	Sn	02 29 25.9	-6.4
SCHQ				Trac		02 29 29.3	
	comp=Z,6.4nm,0.5s						
CHEG	Cheticamp, Nov	9.92	216	PN	Pn	02 28 15.5	-1.2
CHEG				SN	Sn	02 30 00.1	-7.4
CHEG				Trac		02 30 06.7	
	comp=Z,2μm,3.6s						

*IDC **26** 02:33:44.3±3.7,56°.18N×148°.61W,h0km,mb3.8/2, mbtmp3.4/6,ML3.0/4,MS2.6/1,Error ellipse: s-maj=70.5km s-min=27.8km az=3.0*
*NEIC **26** 02:33:47.5±0.8,56°.6N±0°.1×148°.6W±0°.1,h21km±11km, ML2.9/16,ML3.2(AEIC),Error ellipse: s-maj=16.9km s-min=8.6km az=169.0*
*AEIC **26** 02:33:51.2±0.8,56°.6N±0°.1×148°.58W±0°.10,h11km±8km, Error ellipse: s-maj=18.6km s-min=7.5km az=174.0*

**ISC 26 02:33:47.4±1.4,56°.65N±0°.09×148°

	comp=N,14nm,1.2s							
KLU				IAML			02 36 12.9	
	comp=E,11nm,1.3s							
KLU	**Klutina**	**5.06**	**15**	P		**Pn**	**02 35 03.6**	**+0.3**
	baz=197							
VRDI	**Verde Repeater**	**5.33**	**28**			**Pn**	**02 35 07.0**	**-0.1**
N25K	**Chitina, Valde**	**5.40**	**21**			**Pn**	**02 35 08.4**	**+0.5**
N25K	**Chitina, Valde**	**5.40**	**21**	P		**Pn**	**02 35 08.4**	**+0.5**
	baz=204							
KIAG	**Kiagna River**	**5.40**	**35**			**Pn**	**02 35 07.7**	**-0.4**
GLB	**Gilahina Butte**	**5.42**	**26**			**Pn**	**02 35 08.2**	**-0.1**
N18K	**Kilae Creek**	**5.53**	**320**	Pn		**Pn**	**02 35 09.5**	**-0.1**
PTPK	**Patty Peak**	**5.57**	**33**			**Pn**	**02 35 10.1**	**-0.4**
MCARA	**McCarthy VSAT**	**5.58**	**29**	Pn		**Pn**	**02 35 10.3**	**+0.1**
PCA	**Pinnacle**	**5.62**	**48**			**Pn**	**02 35 10.5**	**-0.4**
PINM	**Pinnacle**	**5.62**	**49**	P		**Pn**	**02 35 10.5**	**-0.5**
	baz=235							
M20K	**Styx River**	**5.73**	**338**	Pn		**Pn**	**02 35 12.2**	**-0.2**
BARN	**Barnard Glacie**	**5.73**	**37**			**Pn**	**02 35 12.5**	**-0.1**
CTG	**Chitna Glacier**	**5.77**	**38**	P		**Pn**	**02 35 12.6**	**-0.4**
	baz=224							
CTGM	**Chitina Glacie**	**5.77**	**38**			**Pn**	**02 35 12.6**	**-0.5**
PNL	**Peninsula**	**5.77**	**54**			**Pn**	**02 35 12.7**	**-0.3**
PNL	**Peninsula**	**5.77**	**54**	P		**Pn**	**02 35 12.7**	**-0.3**
	baz=241							
WASW	**Wrangell South**	**5.78**	**22**			**Pn**	**02 35 13.4**	**+0.2**
LOGN	**Logan Glacier**	**5.79**	**40**			**Pn**	**02 35 12.7**	**-0.6**
O29M	**Mount Kennedy**	**6.44**	**51**			**Pn**	**02 35 21.4**	**-0.8**
O29M	**Mount Kennedy**	**6.44**	**51**	P		**Pn**	**02 35 21.4**	**-0.8**
	baz=239							
O15K	**Ungalikthiuk R**	**6.46**	**298**			**Pn**	**02 35 22.3**	**-0.1**
O15K	**Ungalikthiuk R**	**6.46**	**298**	P		**Pn**	**02 35 22.3**	**-0.1**
	baz=109							
P29M	**Windy Craggy**	**6.52**	**58**			**Pn**	**02 35 22.4**	**-0.8**
P29M	**Windy Craggy**	**6.52**	**58**	P		**Pn**	**02 35 22.4**	**-0.8**
	baz=246							
S31K	**Pelican**	**6.87**	**74**			Pn	02 35 25.7	-2.3
S31K	**Pelican**	**6.87**	**74**	P		Pn	02 35 25.7	-2.3
	baz=263							
ILAR	**Eielson Array**	**8.20**	**5**	Pn		**Pn**	**02 35 47.6**	**+1.4**
	comp=E,0.1nm,0.3s,baz=190,slow=14,SNR=1.9							
ILAR				Sn		**Sn**	**02 37 16.8**	**-2.0**
	comp=E,0.1nm,0.3s,baz=187,slow=25,SNR=5.4							
	comp=E,0.2nm,0.3s							
DLBC	**Dease Lake**	**10.18**	**72**	Pn		**Pn**	**02 36 13.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=233,slow=10,SNR=1.5							
	comp=E,0.7nm,0.3s							
YKA	**Yellowknife Ar**	**18.06**	**57**	P		**Pn**	**02 37 59.0**	**+1.0**
	baz=268,slow=11,SNR=4.1							
	comp=E,0.1nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**49.36**	**240**	T		T	03 35 50.5	
	baz=30,slow=76,SNR=4.0							
H11N3	**WAKE ISLAND Hy**	**49.36**	**240**	T		T	03 35 51.4	
	baz=30,slow=76,SNR=4.7							
H11N1	**WAKE ISLAND Hy**	**49.38**	**240**	T		T	03 35 52.9	
	baz=30,slow=76,SNR=4.8							
ZALV	**Zalesovo Beam**	**61.44**	**327**	P		**P**	**02 44 04.5**	**+1.1**
	comp=E,0.5nm,0.4s,baz=29,slow=6.6,SNR=2.6							
	comp=E,0.5nm,0.4s							
BVAR	**Borovoye Array**	**66.09**	**335**	P		**P**	**02 44 35.7**	**+1.6**
	comp=E,1.0nm,0.8s,baz=46,slow=8.3,SNR=3.1							
	comp=E,1.0nm,0.8s							

*IDC **26** 03:06:10.8±1.0, 16°.47N×146°.01E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=47.0km s-min=21.6km az=107.0*
*NEIC **26** 03:06:16.8±1.0, 17°.07N±0°.10×145°.5E±0°.1, h15km±6km, mb4.4/10, Error ellipse: s-maj=22.8km s-min=9.6km az=58.0*

ISC 26 03:06:12.6±0.8, 16°.52N±0°.10×145°.8E±0°.3, h10km, n24, σ1§34/24, mb4.0/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**3.04**	**197**	Pn		**Pg**	**03 07 10.6**	**-0.3**
JSD	**Sado**	**22.43**	**344**	P		**P**	**03 11 07.9**	**-3.6**
WRA	**Warramunga Arr**	**37.93**	**198**	P		**P**	**03 13 30.6**	**+0.1**
	0.3nm,0.4s,baz=8.6,slow=8.5,SNR=8.1							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**41.59**	**196**	P		**P**	**03 14 00.0**	**-0.9**
	0.2nm,0.4s,baz=23,slow=12,SNR=1.8							
	0.2nm,0.4s							
K15K	**Wolf Creek Mou**	**58.57**	**26**	P		**P**	**03 16 07.8**	**-1.5**
K15K				IAmb		IAmb	03 16 14.6	
	comp=Z,11nm,1.3s							
F15K	**North Star Dit**	**59.03**	**22**	P		**P**	**03 16 12.6**	**+0.1**
F15K				IAmb		IAmb	03 16 17.4	
	comp=Z,6.1nm,1.5s							
MKAR	**Makanchi Array**	**60.02**	**315**	P		**P**	**03 16 22.1**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=104,slow=8.4,SNR=1.8							
	comp=Z,0.2nm,0.4s							
F17K	**Baldwin Pennin**	**60.60**	**22**	P		**P**	**03 16 24.1**	**+1.0**
F17K				IAmb		IAmb	03 16 30.1	
	comp=Z,4.3nm,1.4s							
Q19K	**Cape Douglas,**	**60.93**	**31**	P		**P**	**03 16 28.1**	**+2.4**
KDAK	**Kodiak Island**	**61.14**	**33**	P		**P**	**03 16 27.6**	**+0.6**
J19K	**Poorman**	**61.71**	**25**	P		**P**	**03 16 31.8**	**+1.0**
G19K	**Purcell Mounta**	**61.98**	**23**	P		**P**	**03 16 32.9**	**+0.4**
G19K				IAmb		IAmb	03 16 35.0	
	comp=Z,1.8nm,0.8s							
E19K	**Redstone River**	**62.47**	**21**	P		**P**	**03 16 36.0**	**+0.2**
F20K	**Avaraart Lake**	**62.84**	**22**	P		**P**	**03 16 39.2**	**+0.9**
F20K				IAmb		IAmb	03 16 43.8	
	comp=Z,2.9nm,1.4s							
CAST	**Castle Rocks**	**63.00**	**27**	P		**P**	**03 16 40.4**	**+0.9**
CAST				IAmb		IAmb	03 16 41.8	
	comp=Z,4.3nm,1.0s							
H21K	**Melozitna Rive**	**63.43**	**24**	P		**P**	**03 16 43.3**	**+1.1**
I21K	**Tanana**	**63.60**	**25**	P		**P**	**03 16 44.4**	**+1.1**
ILAR	**Eielson Array**	**65.56**	**26**	P		**P**	**03 16 55.0**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=245,slow=5.7,SNR=9.0							
	comp=Z,0.5nm,0.5s							
BVAR	**Borovoye Array**	**68.19**	**321**	P		**P**	**03 17 14.2**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=98,slow=10,SNR=1.9							
	comp=Z,0.3nm,0.4s							
INK	**Inuvik**	**71.34**	**23**	P		**P**	**03 17 31.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=243,slow=7.2,SNR=3.3							
	comp=Z,0.8nm,0.7s							
C36M	**Paulatuk**	**74.74**	**22**	P		**P**	**03 17 52.1**	**-0.2**
ABKAR	**Akbulak array**	**74.97**	**317**	P		**P**	**03 17 53.8**	**-0.3**
ABKAR	**Akbulak array**	**74.97**	**317**	P		**P**	**03 17 53.7**	**-0.3**
ABKAR				IAmb		IAmb	03 17 53.9	
	comp=Z,0.1nm,0.5s							
YKA	**Yellowknife Ar**	**79.88**	**28**	P		**P**	**03 18 21.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=288,slow=5.7,SNR=10.0							
	comp=Z,0.7nm,0.7s							

*NIED **26** 03:07:24.7, 36°.63N×141°.00E, h47km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr4.69; Mθθ-1.40; Mφφ-3.29; Mrθ0.79; Mrφ-1.18; Mθφ5.21; Fault plane solution: M0 6.77000×10^14^ NP1:φs 13.00000°, δ71.00000°, λ84.00000°. NP2:φs 212.00000°, δ20.00000°, λ107.00000°.*
*JMA **26** 03:07:24.7±0.1, 36°.6N±0°.3×141°.0E±0°.7, h47km±1km, MD4.0/38, MV4.0/38, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*IDC **26** 03:07:26.4±0.8, 36°.55N×141°.04E, h64km±6km, mb3.6/11, mbtmp3.9/13, MS2.9/2, Error ellipse: s-maj=12.8km s-min=10.9km az=132.0*

ISC 26 03:07:25.6±0.9, 36°.63N±0°.05×141°.07E±0°.09, h52km±6km, n42, σ1§79/42, mb4.0/13, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.40**	**267**	⇓P		**Pn**	**03 07 34.0**	**-1.8**
JHO				⇓S		**Sn**	**03 07 40.3**	**-3.0**
JHO	**Hitachi**	**0.40**	**267**	A		A	03 07 34.0	
	comp=E,24nm,0.9s,comp=N,13nm,0.5s							
JHYU	**Hitachinakayam**	**0.48**	**233**	⇓P		**Pn**	**03 07 35.0**	**-1.7**
JHYU				⇓S		**Sn**	**03 07 42.1**	**-2.7**
JHYU	**Hitachinakayam**	**0.48**	**233**	A		A	03 07 35.0	
	comp=E,23nm,0.7s,comp=N,17nm,0.3s							
ONAJ	**Iwakimizuishiy**	**0.52**	**335**	P		**Pn**	**03 07 35.5**	**-1.7**
ONAJ				S		**Sn**	**03 07 42.9**	**-2.7**
ONAJ	**Iwakimizuishiy**	**0.52**	**335**	A		A	03 07 35.5	
	comp=E,34nm,0.4s,comp=N,16nm,0.2s							
JFFD	**Fukushimafurud**	**0.61**	**319**	⇓P		**Pn**	**03 07 36.8**	**-1.5**
JFFD				⇓S		**Sn**	**03 07 45.0**	**-2.6**
JFFD	**Fukushimafurud**	**0.61**	**319**	A		A	03 07 36.8	
	comp=E,16nm,0.6s,comp=N,7.0nm,0.5s							
JFK	**Kawauchi**	**0.75**	**348**	P		**Pn**	**03 07 38.5**	**-1.5**
JFK				S		**Sn**	**03 07 48.2**	**-2.4**
JFK	**Kawauchi**	**0.75**	**348**	A		A	03 07 38.5	
	comp=E,4.0nm,3.3s,comp=N,3.0nm,0.4s							
JIHU	**Itakohorinouch**	**0.80**	**213**	A		A	03 07 39.2	
	comp=E,15nm,4.1s,comp=N,16nm,4.1s							
JYT	**Yasato**	**0.81**	**240**	P		**Pn**	**03 07 39.0**	**-1.9**
JYT				S		**Sn**	**03 07 49.2**	**-2.8**
JYT	**Yasato**	**0.81**	**240**	A		A	03 07 39.0	
	comp=E,10.0nm,0.3s,comp=N,11nm,0.4s							
JSB	**Shiboa**	**0.98**	**290**	A		A	03 07 41.6	
	comp=E,7.0nm,3.2s,comp=N,6.0nm,2.8s							
JOTO	**OTAMA OYAMA**	**1.10**	**328**	*i* P		**Pn**	**03 07 44.1**	**-0.5**
JOTO				S		**Sn**	**03 07 58.2**	**-0.7**
JOTO	**OTAMA OYAMA**	**1.10**	**328**	A		A	03 07 44.1	
	comp=E,32nm,0.5s,comp=N,17nm,0.3s							
JMM	**Marumori**	**1.25**	**350**	*i* P		**Pn**	**03 07 45.8**	**-0.9**
JMM				S		**Sn**	**03 08 00.9**	**-1.6**
JKT	**Katashina**	**1.47**	**276**	*i* P		**Pn**	**03 07 48.8**	**-0.9**
JKT				S		**Sn**	**03 08 06.6**	**-1.3**
MJAR	**Matsushiro Arr**	**2.30**	**269**	P		**Pn**	**03 08 00.6**	**-0.5**
	comp=N,40nm,0.5s,baz=97,slow=12,SNR=126							
MJAR				S		**Sn**	**03 08 28.6**	**+0.4**
	comp=N,39nm,0.5s,baz=200,slow=29,SNR=4.9							
MJAR				LR		LR	03 09 14.2	
	comp=N,209nm,18.8s,baz=76,slow=47							
JHJ	**Hachijo jima 2**	**3.66**	**197**	P		**Pn**	**03 08 19.2**	**-0.5**
	comp=N,46nm,0.3s,baz=329,slow=22,SNR=7.4							
JHJ				S		**Sn**	**03 09 00.6**	**-1.0**
	comp=N,99nm,0.3s,baz=270,slow=20,SNR=1.9							
ASAJ	**Asahikawa**	**7.57**	**8**	P		**Pn**	**03 09 10.9**	**-2.2**
	comp=N,3.5nm,0.3s,baz=226,slow=13,SNR=8.3							
ASAJ				S		**Sn**	**03 10 34.9**	**-2.6**
	comp=N,7.1nm,0.7s,baz=332,slow=19,SNR=2.0							
KSRS	**Korea Array**	**10.54**	**278**	LR		LR	03 13 43.6	
	comp=N,74nm,18.2s,baz=35,slow=36							
SONM	**Songino Array**	**27.78**	**305**	P		**P**	**03 13 09.3**	**-0.3**
	comp=N,1.0nm,0.9s,baz=94,slow=8.9,SNR=4.6							
SONM				pP		**pP**	**03 13 25.8**	**+2.8**
	comp=N,1.5nm,0.7s,baz=107,slow=9.0,SNR=7.4							
	comp=N,1.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.19**	**120**	T		T	03 43 16.8	
	baz=313,slow=75,SNR=73							
H11N1	**WAKE ISLAND Hy**	**28.19**	**120**	T		T	03 43 17.0	
	baz=313,slow=75,SNR=51							
H11N3	**WAKE ISLAND Hy**	**28.20**	**120**	T		T	03 43 19.3	
	baz=313,slow=75,SNR=46							
H11S1	**WAKE ISLAND Hy**	**28.88**	**122**	T		T	03 44 04.9	
	baz=314,slow=75,SNR=90							
H11S3	**WAKE ISLAND Hy**	**28.88**	**122**	T		T	03 44 09.4	
	baz=314,slow=75,SNR=90							
H11S2	**WAKE ISLAND Hy**	**28.90**	**122**	T		T	03 44 07.3	
	baz=314,slow=75,SNR=70							
ZALV	**Zalesovo Beam**	**41.98**	**313**	P		**P**	**03 15 10.9**	**-0.4**
	comp=N,2.5nm,0.5s,baz=92,slow=7.3,SNR=16							
ZALV				pP		**pP**	**03 15 27.9**	**+2.9**
	comp=N,1.1nm,0.6s,baz=90,slow=7.5,SNR=3.5							
	comp=N,2.5nm,0.5s							
MKAR	**Makanchi Array**	**44.10**	**302**	P		**P**	**03 15 28.8**	**+0.2**
	comp=N,0.3nm,0.5s,baz=83,slow=10,SNR=6.6							
MKAR				pP		**pP**	**03 15 45.0**	**+2.7**
	comp=N,0.6nm,0.7s,baz=90,slow=9.5,SNR=4.7							
	comp=N,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**46.03**	**308**	P		**P**	**03 15 43.4**	**-0.4**
	comp=N,1.0nm,0.2s,baz=85,slow=8.1,SNR=5.6							
KURBB				pP		**pP**	**03 15 60.0**	**+2.3**
	comp=N,2.7nm,0.6s,baz=85,slow=8.0,SNR=3.9							
	comp=N,1.0nm,0.2s							
ILAR	**Eielson Array**	**49.98**	**32**	P		**P**	**03 16 14.8**	**+0.8**
	comp=N,0.5nm,0.8s,baz=273,slow=7.9,SNR=4.9							
ILAR				pP		**pP**	**03 16 28.6**	**+0.6**
	comp=N,0.6nm,0.6s,baz=265,slow=6.2,SNR=4.9							
	comp=N,0.5nm,0.8s							
BVAR	**Borovoye Array**	**50.64**	**312**	P		**P**	**03 16 18.7**	**-0.5**
	comp=N,0.7nm,0.5s,baz=71,slow=7.4,SNR=7.5							
BVAR				pP		**pP**	**03 16 36.2**	**+3.0**
	comp=N,0.8nm,0.6s,baz=79,slow=7.3,SNR=3.7							
	comp=N,0.7nm,0.5s							
INK	**Inuvik**	**54.87**	**27**	P		**P**	**03 16 50.2**	**+0.1**
	comp=N,0.5nm,0.5s,baz=305,slow=4.2,SNR=4.8							
	comp=N,0.5nm,0.5s							
WRA	**Warramunga Arr**	**56.63**	**188**	P		**P**	**03 17 02.5**	**-0.8**
	comp=N,1.3nm,0.5s,baz=2.8,slow=7.2,SNR=7.1							
	comp=N,1.3nm,0.5s							
FINES	**FINESS Array B**	**69.04**	**332**	P		**P**	**03 18 25.1**	**-0.2**
	comp=N,1.8nm,0.7s,baz=46,slow=8.2,SNR=5.5							
	comp=N,1.8nm,0.7s							
AKASG	**Malin Array Be**	**74.44**	**322**	P		**P**	**03 18 57.6**	**-0.4**
	comp=N,0.8nm,0.3s,baz=45,slow=6.2,SNR=15							
	comp=N,0.8nm,0.3s							
NB2	**NORSAR Subarra**	**74.45**	**337**	P		**P**	**03 18 58.1**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**74.45**	**337**	P		**P**	**03 18 58.3**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=40,slow=6.0,SNR=4.0							
	comp=Z,0.9nm,0.7s							
NVAR	**Mina Array Bea**	**75.45**	**53**	pP		pP	03 19 19.7	+0.6
	comp=Z,0.3nm,0.5s,baz=308,slow=4.4,SNR=2.8							
TXAR	**Lajitas Array**	**90.59**	**52**	pP		pP	03 20 38.8	+1.2
	comp=Z,0.5nm,0.8s,baz=300,slow=2.0,SNR=3.5							

*IDC **26** 03:08:27.4±3.0, 55°.96N×148°.97W, h0km, mb3.4/2, mbtmp3.3/6, ML3.1/4, MS2.8/1, Error ellipse: s-maj=57.4km s-min=26.9km az=179.0*
*NEIC **26** 03:08:30.3±0.9, 56°.3N±0°.1×149°.3W±0°.1, h21km±11km, ML3.3/28, ML3.3(AEIC), Error ellipse: s-maj=17.1km s-min=9.4km az=179.0*
*AEIC **26** 03:08:32.4±0.9, 56°.20N±0°.09×149°.2W±0°.1, h5km±8km, Error ellipse: s-maj=13.1km s-min=10.3km az=167.0*

ISC 26 03:08:30.0±1.3, 56°.33N±0°.10×149°.29W±0°.05, h10km, n98, σ0§90/91, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.32**	**310**	Pn		**Pn**	**03 09 08.0**	**-0.1**
	4.4nm,0.3s,baz=114,slow=5.7,SNR=36							
KDAK				Sn		**Sn**	**03 09 35.3**	**-1.3**
	5.0nm,0.3s,baz=198,slow=22,SNR=9.7							
KDAK				LR		LR	03 10 20.3	
	comp=Z,184nm,21.5s,baz=243,slow=42							
	11nm,0.3s							
OHAK	**Old Harbor**	**2.38**	**294**			**Pn**	**03 09 08.0**	**-0.9**
OHAK						**Sn**	**03 09 35.8**	**-2.3**
OHAK	**Old Harbor**	**2.38**	**294**	P		**Pn**	**03 09 08.0**	**-0.9**
	baz=113							
OHAK				S		**Sn**	**03 09 35.8**	**-2.3**
	baz=113							
SII	**Sitkinak Islan**	**2.73**	**277**	S		**Sn**	**03 09 44.5**	**-2.4**
	baz=95							
SYI	**Shuyak Island**	**2.84**	**325**			**Pn**	**03 09 15.5**	**+0.2**
SYI						**Sn**	**03 09 48.9**	**-0.6**
SYI	**Shuyak Island**	**2.84**	**325**	IAML			03 09 50.6	
	comp=N,59nm,1.1s							
SYI				IAML			03 09 52.0	
	comp=E,59nm,1.3s							
Q20K	**Shuyak Island**	**2.84**	**325**	P		**Pn**	**03 09 15.5**	**+0.2**
	baz=143							
Q20K				S		**Sn**	**03 09 48.9**	**-0.6**
	baz=143							
CNPM	**China Poot**	**3.37**	**343**			**Pn**	**03 09 22.9**	**+0.3**
CNPM						**Sn**	**03 10 02.8**	**+0.1**
CNPM	**China Poot**	**3.37**	**343**	IAML			03 10 05.4	
	comp=N,36nm,1.2s							
CNPM				IAML			03 10 19.0	
	comp=E,44nm,0.9s							
Q19K	**Cape Douglas,**	**3.50**	**320**			**Pn**	**03 09 24.6**	**+0.1**
Q19K	**Cape Douglas,**	**3.50**	**320**	P		**Pn**	**03 09 24.6**	**+0.1**
	baz=137							
BRSE	**Bradley Lake S**	**3.51**	**348**			**Pn**	**03 09 24.5**	**0.0**
BRSE	**Bradley Lake S**	**3.51**	**348**	P		**Pn**	**03 09 24.5**	**0.0**
	baz=167							
BRLK	**Bradley Lake**	**3.55**	**347**			**Pn**	**03 09 24.8**	**-0.3**
BRLK	**Bradley Lake**	**3.55**	**347**	IAML			03 10 11.4	
	comp=E,51nm,1.2s							
BRLK				IAML			03 10 16.2	
	comp=N,32nm,1.3s							
SEW	**Seward**	**3.79**	**359**			**Pn**	**03 09 28.4**	**+0.1**
SEW	**Seward**	**3.79**	**359**	P		**Pn**	**03 09 28.4**	**+0.1**
	baz=178							
P23K	**Montague Islan**	**3.81**	**14**			**Pn**	**03 09 28.5**	**-0.2**
P23K	**Montague Islan**	**3.81**	**14**	P		**Pn**	**03 09 28.5**	**-0.2**
	baz=195							
P19K	**Oil Pt**	**3.94**	**329**			**Pn**	**03 09 30.5**	**+0.1**
P19K	**Oil Pt**	**3.94**	**329**	IAML			03 10 21.1	
	comp=E,72nm,1.5s							
P19K				IAML			03 10 46.8	
	comp=N,79nm,1.4s							
P19K	**Oil Pt**	**3.94**	**329**	P		**Pn**	**03 09 30.5**	**+0.1**
	baz=147							
IVE	**Iliamna Volcan**	**4.19**	**333**			**Pn**	**03 09 34.4**	**+0.4**
SLKM	**Skilak Lake**	**4.22**	**354**			**Pn**	**03 09 33.9**	**-0.4**
HIN	**Hinchinbrook I**	**4.33**	**19**			**Pn**	**03 09 35.4**	**-0.5**
HIN	**Hinchinbrook I**	**4.33**	**19**	IAML			03 11 39.8	
	comp=E,61nm,1.2s							
P18K	**Big Mountain,**	**4.42**	**317**			**Pn**	**03 09 36.5**	**-0.5**
P18K	**Big Mountain,**	**4.42**	**317**	P		**Pn**	**03 09 36.5**	**-0.5**
	baz=132							
RED	**Redoubt Volcan**	**4.49**	**337**			**Pn**	**03 09 37.8**	**-0.3**
RSO	**Redoubt South**	**4.53**	**338**	Pn		**Pn**	**03 09 38.2**	**-0.5**
RDT	**Redoubt**	**4.56**	**340**			**Pn**	**03 09 38.6**	**-0.4**
RDWB	**Redoubt West**	**4.57**	**337**			**Pn**	**03 09 38.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**4.62**	**22**			**Pn**	**03 09 39.3**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.62**	**22**	P		**Pn**	**03 09 39.3**	**-0.5**
	baz=204							
O19K	**Port Alsworth**	**4.70**	**328**			**Pn**	**03 09 39.9**	**-0.9**
O19K	**Port Alsworth**	**4.70**	**328**	P		**Pn**	**03 09 39.9**	**-0.9**
	baz=144							
P17K	**Kvichak River**	**4.79**	**310**			**Pn**	**03 09 42.6**	**+0.5**
P17K	**Kvichak River**	**4.79**	**310**	P		**Pn**	**03 09 42.6**	**+0.5**
	baz=125							
GOAT	**Goat Mountain**	**4.89**	**27**			**Pn**	**03 09 43.7**	**+0.2**
KNK	**Knik Glacier**	**5.12**	**4**			**Pn**	**03 09 47.0**	**+0.4**
KNK	**Knik Glacier**	**5.12**	**4**	IAML			03 10 49.6	
	comp=E,27nm,1.1s							
KNK				IAML			03 10 52.6	
	comp=N,16nm,1.5s							
KNK	**Knik Glacier**	**5.12**	**4**	P		**Pn**	**03 09 47.0**	**+0.4**
	baz=185							
SNH	**Sunshine Point**	**5.15**	**39**			**Pn**	**03 09 46.8**	**-0.3**
SUA	**Susitna One**	**5.21**	**352**			**Pn**	**03 09 47.8**	**-0.1**
SUA	**Susitna One**	**5.21**	**352**	IAML			03 10 51.4	
	comp=E,20nm,1.3s							
SUA	**Susitna One**	**5.21**	**352**	P		**Pn**	**03 09 47.8**	**-0.1**
	baz=171							
BMRM	**Bremner River**	**5.25**	**26**			**Pn**	**03 09 48.4**	**-0.2**
BMRM	**Bremner River**	**5.25**	**26**	P		**Pn**	**03 09 48.3**	**-0.2**
	baz=209							
N19K	**Bonanza Creek**	**5.25**	**331**			**Pn**	**03 09 48.2**	**-0.3**
N19K	**Bonanza Creek**	**5.25**	**331**	IAML			03 11 22.6	
	comp=N,8.5nm,1.4s							
N19K				IAML			03 11 23.9	
	comp=E,12nm,1.3s							
N19K	**Bonanza Creek**	**5.25**	**331**	P		**Pn**	**03 09 48.2**	**-0.3**
	baz=147							
STLK	**Strandline Lak**	**5.35**	**347**			**Pn**	**03 09 49.9**	**0.0**
P16K	**Nushagak River**	**5.40**	**304**			**Pn**	**03 09 50.2**	**-0.3**
P16K	**Nushagak River**	**5.40**	**304**	P		**Pn**	**03 09 50.2**	**-0.3**
	baz=117							
GHO	**Glory Hole Cre**	**5.46**	**2**			**Pn**	**03 09 52.1**	**+0.7**
KLU	**Klutina**	**5.46**	**17**			**Pn**	**03 09 51.8**	**+0.3**
KLU	**Klutina**	**5.46**	**17**	P		**Pn**	**03 09 51.7**	**+0.3**
	baz=199							
SML	**Sawmill**	**5.52**	**5**			**Pn**	**03 09 52.5**	**+0.3**
SML	**Sawmill**	**5.52**	**5**	P		**Pn**	**03 09 52.5**	**+0.3**
	baz=185							
N18K	**Kilae Creek**	**5.57**	**324**			**Pn**	**03 09 52.5**	**-0.3**
N18K	**Kilae Creek**	**5.57**	**324**	P		**Pn**	**03 09 52.5**	**-0.3**
	baz=139							
SCM	**Sheep Creek Mo**	**5.61**	**10**			**Pn**	**03 09 54.2**	**+0.8**
SCM	**Sheep Creek Mo**	**5.61**	**10**	P		**Pn**	**03 09 54.2**	**+0.8**
	baz=191							
O16K	**Kokwok River B**	**5.72**	**309**			**Pn**	**03 09 55.0**	**+0.2**
O16K	**Kokwok River B**	**5.72**	**309**	P		**Pn**	**03 09 55.0**	**+0.2**
	baz=122							
N25K	**Chitina, Valde**	**5.82**	**23**			**Pn**	**03 09 56.2**	**-0.1**
N25K	**Chitina, Valde**	**5.82**	**23**	P		**Pn**	**03 09 56.2**	**-0.1**
	baz=206							
KIAG	**Kiagna River**	**5.86**	**35**			**Pn**	**03 09 56.4**	**-0.5**
MCARA	**McCarthy VSAT**	**6.02**	**30**			**Pn**	**03 09 58.6**	**-0.4**
PTPK	**Patty Pe

0.4nm,0.3s,baz=127,slow=5.9,SNR=1.3
0.4nm,0.3s
BVAR Borovoye Array 75.20 327 P **P** **03 24 14.1 -0.1**
0.6nm,0.8s,baz=111,slow=7.9,SNR=2.8
0.6nm,0.8s

IDC 26 03:16:04.6±2.9, 55°47N×35°39W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=83.0km s-min=47.8km az=70.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**47.12**	**79**	P	P	03 24 39.0	+0.6
	0.6nm,0.6s,baz=328,slow=7.2,SNR=3.6						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**51.08**	**131**	P	P	03 25 08.2	-0.5
	0.7nm,0.8s,baz=338,slow=10.0,SNR=4.1						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**65.45**	**42**	P	P	03 26 48.3	-0.7
	0.3nm,0.6s,baz=339,slow=5.6,SNR=4.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**147.26**	**18**	PKPbc	PKPbc	03 35 49.4	-0.3
	0.3nm,0.5s,baz=356,slow=3.0,SNR=6.6						

IDC 26 03:20:05.3±2.0, 3°28S×130°42E, h0km, mb3.4/2, mbtmp3.6/3, ML3.7/1, MS3.5/1, Error ellipse: s-maj=109.7km s-min=27.3km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.00**	**167**	P	P	03 24 06.4	-0.3
	0.3nm,0.3s,baz=348,slow=11,SNR=9.9						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**20.55**	**171**	P	P	03 24 45.0	-0.7
	1.2nm,0.5s,baz=352,slow=10,SNR=21						
	1.2nm,0.5s						
DZM	**Mont Dzumac**	**39.63**	**121**	LR	LR	03 41 56.9	
	comp=Z,61nm,20.1s,baz=222,slow=33						
MKAR	**Makanchi Array**	**65.38**	**326**	P	P	03 30 49.8	0.0
	0.2nm,0.4s,baz=114,slow=7.6,SNR=9.7						
	0.2nm,0.4s						

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*ISK **26** 03:25:44.2, 35°88N×35°92E, h11km, ML2.5/8*
*AFAD **26** 03:25:46.9±0.0, 36°03N×35°91E, h28km±1km, ML2.5*
*GRAL **26** 03:25:51.7±0.3, 35°48N×35°56E, h6km±5km, MD3.1*

ISC 26 03:25:42.0±1.3, 35°84N±0°02×35°89E±0°04, h2km±11km, n25, σ0°93/40, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAHT	**Tahtakopru-Hat**	**0.58**	**24**	Pg	**Pb**	**03 25 55.2**	**+0.2**
TAHT				Sg	**Sb**	**03 26 03.1**	**-0.7**
HASA	**Hatay-Hassa-Ha**	**1.03**	**28**	P	**Pn**	**03 26 04.2**	**+0.7**
HASA				S	**Sb**	**03 26 16.3**	**-0.3**
CEYT	**Ceyhan**	**1.17**	**354**	Pn	**Pn**	**03 26 06.4**	**+1.0**
BEIL	**Beino**	**1.32**	**169**	*e*P	**Pn**	**03 26 10.6**	**+3.2**
BEIL				*e*S	**Sn**	**03 26 24.6**	**-1.0**
KAMA	**Osmaniye**	**1.48**	**25**	P	**Pg**	**03 26 11.1**	**+0.7**
KAMA				S	**Sg**	**03 26 28.4**	**-1.2**
KIZK	**Mersin**	**1.55**	**295**	Pn	**Pg**	**03 26 12.6**	**+0.8**
KARA	**Karaisali**	**1.57**	**335**	Pn	**Pg**	**03 26 11.8**	**-0.3**
KARA				Sn	**Sg**	**03 26 32.9**	**+0.4**
KOZT	**Kozan**	**1.64**	**358**	Pn	**Pg**	**03 26 13.2**	**-0.2**
AKO	**Adana**	**1.66**	**348**	P	**Pg**	**03 26 14.3**	**+0.6**
AKO				S	**Sn**	**03 26 33.8**	**-0.2**
GULE	**Gulek**	**1.70**	**328**	P	**Pg**	**03 26 14.8**	**+0.2**
GULE				S	**Sg**	**03 26 37.2**	**+0.6**
GULE				*i* AML	AML	03 26 47.0	
	comp=N,109nm,0.9s						
GAZ	**Gaziantep**	**1.70**	**38**	Pn	**Pb**	**03 26 13.8**	**-0.3**
HCB	**Kahramanmara**	**1.71**	**28**	P	**Pg**	**03 26 14.8**	**+0.1**
HCB				S	**Sn**	**03 26 34.3**	**-1.0**
ANDN	**Andirin**	**1.77**	**12**	P	**Pb**	**03 26 15.1**	**-0.3**
ANDN				S	**Sb**	**03 26 37.5**	**-0.6**
KMRS	**Kahramanmaras**	**1.85**	**26**	Pn	**Pb**	**03 26 16.2**	**-0.4**
KEBE	**Keben-Mersin**	**1.86**	**290**	Pn	**Pg**	**03 26 16.9**	**-0.8**
BHL	**Bhannes**	**1.94**	**186**	*e*P	**Pg**	**03 26 18.9**	**-0.2**
CMRD	**Camardi-Nigde**	**1.96**	**339**	Pn	**Pb**	**03 26 17.8**	**-0.7**
ZAHL	**Zahle**	**1.98**	**180**	*e*P	**Pg**	**03 26 19.9**	**0.0**
KERG	**Konya-Eregli**	**2.12**	**318**	P	**Pb**	**03 26 21.0**	**-0.2**
KERG				S	**Sb**	**03 26 48.4**	**+0.3**
KERG				*i* AML	AML	03 26 56.0	
	comp=N,42nm,0.8s						
SAIM	**ADANA**	**2.14**	**4**	P	**Pb**	**03 26 20.9**	**-0.7**
SAIM				S	**Sn**	**03 26 46.7**	**+0.7**
DQRL	**Deir Qamar**	**2.15**	**187**	*e*P	**Pg**	**03 26 21.6**	**-1.5**
YAHY	**KAYSERI_Yahyal**	**2.29**	**350**	P	**Pb**	**03 26 23.4**	**-0.8**
YAHY				S	**Sb**	**03 26 51.8**	**-1.2**
NIDE	**Nigde/Merkez-G**	**2.33**	**338**	P	**Pb**	**03 26 24.7**	**-0.2**
NIDE				S	**Sb**	**03 26 54.3**	**0.0**
NIDE				*i* AML	AML	03 26 57.0	
	comp=N,33nm,0.5s						
NIDE				*i* AML	AML	03 27 04.0	
	comp=E,50nm,0.3s						
RCY	**Rachaya**	**2.34**	**181**	*e*P	**Pb**	**03 26 24.7**	**-0.2**
RCY				*e*S	**Sn**	**03 26 49.2**	**-1.7**
BSIR	**Belisirma, Guz**	**2.74**	**333**	P	**Pb**	**03 26 30.3**	**-1.6**
BSIR				S	**Sb**	**03 27 05.4**	**-0.5**
BSIR				*i* AML	AML	03 27 12.0	
	comp=N,24nm,0.7s						
BSIR				*i* AML	AML	03 27 22.0	
	comp=E,24nm,0.6s						

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*IDC **26** 03:32:07.6±0.5, 42°45N×111°34W, h0km, mb4.1/11, mbtmp4.1/20, ML3.5/9, MS3.6/35, Error ellipse: s-maj=10.6km s-min=6.4km az=143.0*
*NEIC **26** 03:32:08.6±1.5, 42°53N±0°03×111°39W±0°05, h10km±2km, mb4.4/46, ML4.6/98, Mwr4.4/82, ML4.8/15(UUSS), Error ellipse: s-maj=7.0km s-min=3.5km az=301.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.30; $M_{\theta\theta}$-3.27; $M_{\phi\phi}$4.57; $M_{r\theta}$-1.23; $M_{\theta\phi}$1.22; $M_{\phi r}$0.32; Fault plane solution: $M_0$4.45000×10^{15} NP1: ϕ_s146.43000°,δ73.67000°,λ-161.04000°. NP2: ϕ_s50.91000°,δ71.83000°,λ-17.22000°. Principal axes: T 4.7609, Plg1.0000°, Azm278.0000°; N -0.7174, Plg65.0000°, Azm186.0000°; P -4.0435, Plg25.0000°, Azm9.0000°;*
*NEIC **26** 03:32:08.6, 42°53N×111°39W, h10km*
*UUSS **26** 03:32:09.0±1.3, 42°55N±0°02×111°43W±0°05, h8km±6km, Error ellipse: s-maj=6.3km s-min=0.9km az=117.0*
*ANF **26** 03:32:09.3±0.1, 42°61N×111°35W, h0km, ML4.9/11, Error ellipse: s-maj=2.5km s-min=1.9km az=126.0*

ISC 26 03:32:08.0±1.2, 42°60N±0°03×111°45W±0°02, h0km±9km, n284, σ1s92/265, mb4.4/19, MS3.7/28, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHID	**Auburn Hatcher**	**0.31**	**58**		**Pb**	**03 32 15.7**	**-0.8**
AHID				IAML		03 32 21.0	
	115μm,0.6s						
AHID				IAML		03 32 21.4	
	85μm,0.5s						
REDW	**Red Top Meadow**	**0.88**	**30**		**Pb**	**03 32 25.9**	**-0.3**
NPI	**North Pocatell**	**0.91**	**240**		**Pg**	**03 32 26.0**	**+0.5**
PTU	**Portage**	**0.93**	**224**		**Pg**	**03 32 26.3**	**+0.4**
TPAW	**Teton Pass**	**0.96**	**22**		**Pb**	**03 32 27.7**	**0.0**
TPAW				IAML		03 32 46.0	
	10μm,0.8s						
HWUT	**Hardware Ranch**	**1.00**	**185**	Pg	**Pg**	**03 32 26.3**	**-0.8**
HWUT				IAML		03 32 45.1	
	10μm,0.8s						
HWUT				IAML		03 32 46.5	
	9μm,0.6s						
SNOW	**Snow King Moun**	**1.00**	**31**		**Pb**	**03 32 28.4**	**0.0**
SNOW	**Snow King Moun**	**1.00**	**31**	IAML		03 32 49.6	
	9μm,1.3s						
FXWY	**Fox Creek**	**1.08**	**17**		**Pn**	**03 32 30.1**	**-0.6**
LTU	**Little Mountai**	**1.17**	**211**		**Pb**	**03 32 30.1**	**-1.1**
LOHW	**Long Hollow**	**1.19**	**31**	Pn	**Pg**	**03 32 31.4**	**+0.7**
LOHW				IAML		03 32 51.1	
	7μm,0.6s						
MOOW	**Moose Ponds**	**1.26**	**24**	Pn	**Pb**	**03 32 32.6**	**-0.1**
HVU	**Hansel Valley**	**1.28**	**231**		**Sb**	**03 32 49.5**	**-0.7**
HVU	**Hansel Valley**	**1.28**	**231**	Pn	**Pn**	**03 32 32.3**	**-1.0**
HVU	**Hansel Valley**	**1.28**	**231**	IAML		03 32 51.0	
	comp=E,41μm,0.5s						
HVU				IAML		03 32 51.6	
	comp=N,67μm,0.7s						
IMW	**Indian Meadow**	**1.35**	**16**		**Pb**	**03 32 34.4**	**+0.1**
IMW				IAML		03 32 57.7	
	comp=N,8μm,0.6s						
IMW				IAML		03 32 58.0	
	comp=N,16μm,0.5s						
EPU	**East Promontor**	**1.41**	**211**		**Pn**	**03 32 33.9**	**-1.1**
BW06	**Boulder Array**	**1.41**	**83**	Pn	**Pb**	**03 32 34.8**	**-0.4**
BW06				IAML		03 32 57.1	
	comp=N,7μm,1.2s						
BW06	**Boulder Array**	**1.41**	**83**	P	**Pb**	**03 32 34.8**	**-0.4**
	baz=263,SNR=1000						
BW06				S	**Sg**	**03 32 54.1**	**+0.9**
	baz=263						
PD31	**Pinedale Array**	**1.41**	**83**	Pn	**Pb**	**03 32 35.0**	**-0.3**
PDAR	**Pinedale Array**	**1.41**	**83**	Pn	**Pb**	**03 32 34.9**	**-0.3**
PDAR	**Pinedale Array**	**1.41**	**83**	Pg	**Pn**	**03 32 34.2**	**-0.9**
	comp=N,272nm,0.3s,baz=257,slow=13,SNR=3219						
PDAR				Lg	Lg	03 32 54.4	
	comp=N,637nm,0.3s,baz=260,slow=19,SNR=30						
PDAR				LR	LR	03 33 00.0	
	comp=N,943nm,18.5s,baz=335,slow=39						
SPUT	**South Promonto**	**1.49**	**210**		**Pn**	**03 32 35.5**	**-0.7**
SPUT	**South Promonto**	**1.49**	**210**	IAML		03 32 56.4	
	comp=E,16μm,0.6s						
SPUT				IAML		03 32 57.1	
	comp=N,17μm,0.4s						
FLWY	**Flagg Ranch**	**1.58**	**20**		**Pb**	**03 32 38.4**	**+0.2**
MCID	**Moose Creek**	**1.60**	**7**		**Pb**	**03 32 38.7**	**+0.1**
NAIU	**Northern Antel**	**1.69**	**200**		**Pn**	**03 32 38.3**	**-0.6**
YFT	**Old Faithful**	**1.90**	**13**		**Pb**	**03 32 43.5**	**-0.2**
YFT				IAML		03 32 53.4	
	comp=N,3μm,1.0s						
H17A	**Grant Village**	**1.90**	**19**		**Pb**	**03 32 43.1**	**-0.6**
H17A	**Grant Village**	**1.90**	**19**	P	**Pb**	**03 32 43.1**	**-0.6**
	baz=200,SNR=1000						
H17A				Sb	**Sg**	**03 33 10.3**	**+1.2**
	baz=200						
CTU	**Camp Tracy**	**1.92**	**187**		**Pn**	**03 32 42.9**	**+0.7**
CTU				IAML		03 33 11.9	
	comp=N,9μm,0.8s						
CTU				IAML		03 33 12.0	
	comp=E,7μm,0.5s						
NOQ	**North Oquirrh**	**2.01**	**195**		**Pn**	**03 32 43.1**	**-0.2**
BGU	**Big Grassy Mou**	**2.05**	**216**	Pn	**Pn**	**03 32 44.0**	**+0.1**
BGU				IAML		03 33 14.0	
	comp=E,6μm,0.8s						
BGU				IAML		03 33 14.3	
	comp=N,6μm,0.8s						
BSUT	**Blindstream Ca**	**2.13**	**166**		**Pn**	**03 32 46.1**	**+0.9**
BSUT				IAML		03 33 15.7	
	comp=N,9μm,0.8s						
YNR	**Norris Junctio**	**2.19**	**15**		**Pb**	**03 32 47.3**	**-1.3**
YHH	**Holmes Hill**	**2.23**	**11**		**Pb**	**03 32 48.1**	**-1.2**
YMP	**Mirror Lake Pl**	**2.33**	**23**		**Pb**	**03 32 49.7**	**-1.4**
HLID	**Hailey**	**2.37**	**295**	Pn	**Pn**	**03 32 50.0**	**+1.7**
HLID				IAML		03 33 26.3	
	comp=N,4μm,0.7s						
HLID				IAML		03 33 33.7	
	comp=N,3μm,0.7s						
HLID	**Hailey**	**2.37**	**295**	P	**Pn**	**03 32 49.5**	**+1.2**
	baz=114,SNR=1000						
HLID				S	**Sb**	**03 33 22.1**	**+0.5**
	baz=114						
RDMU	**Red Mountain**	**2.47**	**145**		**Pn**	**03 32 50.3**	**+0.6**
RDMU				IAML		03 33 24.6	
	comp=E,5μm,0.9s						
RDMU				IAML		03 33 24.6	
	comp=N,5μm,0.8s						
MPU	**Maple Canyon**	**2.59**	**183**		**Pn**	**03 32 51.6**	**+0.3**
MPU				IAML		03 33 30.6	
	comp=E,2μm,0.7s						
MPU				IAML		03 33 34.6	
	comp=N,2μm,0.9s						
DUG	**Dugway, Tooele**	**2.61**	**204**	Pn	**Pn**	**03 32 51.7**	**+0.1**
DUG				IAML		03 33 36.9	
	comp=N,3μm,0.6s						
DUG				IAML		03 33 41.2	
	comp=N,3μm,0.9s						
DUG	**Dugway, Tooele**	**2.61**	**204**	P	**Pn**	**03 32 51.5**	**-0.1**
	baz=22,SNR=1000						
DUG				S	**Sb**	**03 33 27.9**	**-0.6**
	baz=22						
NLU	**North Lily Min**	**2.69**	**190**		**Pn**	**03 32 52.7**	**0.0**
NLU				IAML		03 33 41.8	
	comp=N,1μm,0.9s						
RLMT	**Red Lodge**	**2.97**	**31**		**Pn**	**03 32 58.2**	**+1.6**
RLMT	**Red Lodge**	**2.97**	**31**	P	**Pn**	**03 32 58.1**	**+1.6**
	baz=213,SNR=110						
RLMT				Sb	**Sg**	**03 33 42.0**	**-1.5**
	baz=213						
RWWY	**Rawlins**	**3.28**	**105**		**Pn**	**03 33 02.1**	**+1.2**
RWWY				IAML		03 34 02.2	
	comp=N,3μm,0.9s						
TMUT	**Trail Mountain**	**3.31**	**177**		**Pn**	**03 33 02.1**	**+0.8**
MFID	**Camas Ranch**	**3.31**	**286**	Pn	**Pn**	**03 33 03.3**	**+2.2**
MFID				IAML		03 33 54.7	
	comp=N,2μm,1.0s						
MFID				IAML		03 34 01.6	
	comp=N,2μm,0.8s						
ELK	**Elko**	**3.39**	**238**	Pn	**Pn**	**03 33 02.7**	**+0.4**
ELK	**Elko**	**3.39**	**238**	Pn	**Pn**	**03 33 02.7**	**+0.4**
	comp=N,5.6nm,0.3s,baz=50,slow=8.3,SNR=105						
ELK				Lg	Lg	03 33 52.1	
	comp=N,182nm,0.3s,baz=199,slow=22,SNR=14						
	comp=N,23nm,0.4s						
O20A	**White River Ci**	**3.45**	**135**		**Pn**	**03 33 04.3**	**+1.1**
O20A				IAML		03 34 08.8	
	comp=N,3μm,1.1s						
O20A	**White River Ci**	**3.45**	**135**	P	**Pn**	**03 33 03.9**	**+0.7**
	baz=316,SNR=239						
O20A				Sb	**Sb**	**03 33 54.4**	**+1.7**
	baz=316						
SRU	**San Rafael Swe**	**3.56**	**168**		**Pn**	**03 33 06.9**	**+2.3**
K22A	**Casper**	**3.64**	**88**		**Pn**	**03 33 07.7**	**+2.0**
K22A				IAML		03 34 06.6	
	comp=E,2μm,1.1s						
K22A				IAML		03 34 09.7	
	comp=N,2μm,1.3s						
K22A	**Casper**	**3.64**	**88**	P	**Pn**	**03 33 07.5**	**+1.8**
	baz=270,SNR=372						
K22A				Sb	**Sb**	**03 33 59.3**	**+1.3**
	baz=270						
K22A	**Casper**	**3.64**	**88**	P	**Pn**	**03 33 08.4**	**+2.7**
	baz=270,SNR=372						
Q16A	**Castle Valley**	**3.69**	**177**	IAML		03 34 02.8	
	comp=E,2μm,0.9s						
Q16A				IAML		03 34 10.8	
	comp=N,1μm,0.7s						
TCRU	**Three Creeks R**	**4.06**	**191**		**Pn**	**03 33 12.8**	**+1.2**
TCRU				IAML		03 34 31.0	
	comp=N,907nm,1.0s						
TCRU				IAML		03 34 32.2	
	comp=E,874nm,1.0s						
BPMT	**Black Pine Rid**	**4.09**	**340**		**Pn**	**03 33 14.8**	**+2.8**
PLID	**Pearl Lake**	**4.12**	**309**		**Pn**	**03 33 15.9**	**+3.5**
PLID				IAML		03 34 23.7	
	comp=E,670nm,1.1s						
PLID				IAML		03 34 24.9	
	comp=E,610nm,0.8s						
MSU	**Marysvale**	**4.12**	**188**		**Pn**	**03 33 13.4**	**+0.9**
MVU	**Marysvale**	**4.13**	**188**	Pn	**Pn**	**03 33 13.6**	**+1.0**
SPR3	**Spring Creek 3**	**4.21**	**212**	Pn	**Pn**	**03 33 16.4**	**+2.7**
SPR3				IAML		03 34 24.1	
	comp=E,578nm,1.3s						
SPR3				IAML		03 34 24.2	
	comp=N,750nm,0.7s						
LYMT	**Lyon Mountain**	**4.41**	**353**		**Pn**	**03 33 20.0**	**+3.7**
N23A	**Red Feather La**	**4.46**	**111**	P	**Pn**	**03 33 18.1**	**+1.0**
	baz=294,SNR=397						
N23A				Sb	**Sb**	**03 34 25.7**	**+4.0**
	baz=294						
MSO	**Missoula**	**4.58**	**338**	IAML		03 34 41.1	
	comp=N,662nm,1.1s						
MSO				IAML		03 34 49.3	
	comp=N,499nm,0.9s						
MSO	**Missoula**	**4.58**	**338**	P	**Pn**	**03 33 20.6**	**+2.0**
	baz=157						
MSO				Sb	**Sg**	**03 34 31.6**	**-3.6**
	baz=157						
MTPU	**Mount Pierson**	**4.59**	**187**	IAML		03 34 35.9	
	comp=E,397nm,0.9s						
MTPU				IAML		03 34 40.6	
	comp=N,361nm,1.2s						
PHWY	**Pilot Hill**	**4.66**	**104**	IAML		03 34 48.2	
	comp=N,600nm,0.7s						
BMO	**Blue Mountains**	**4.80**	**300**	IAML		03 34 48.0	
	comp=N,500nm,1.6s						
BMO				IAML		03 34 55.7	
	comp=N,382nm,1.3s						
ISCO	**Idaho Springs**	**5.22**	**120**	P	**Pn**	**03 33 27.9**	**+0.3**
	baz=304,SNR=34						
ISCO				Sb	**Sb**	**03 34 47.2**	**+3.6**
	baz=304						
ISCO	**Idaho Springs**	**5.22**	**120**	P	**Pn**	**03 33 28.3**	**+0.7**
	baz=304,SNR=34						
R11B	**Troy Canyon, C**	**5.29**	**218**	P	**Pn**	**03 33 29.4**	**+1.0**
	baz=35,SNR=36						
R11B				Sb	**Sb**	**03 34 51.7**	**+6.2**
	baz=35						
LAO	**LASA Array**	**5.53**	**41**	P	**Pn**	**03 33 33.7**	**+2.1**
	baz=224,SNR=9.3						
LAO				Sb	**Sg**	**03 34 59.5**	**-6.1**
	baz=224						
LAO	**LASA Array**	**5.53**	**41**	P	**Pn**	**03 33 33.7**	**+2.1**
	baz=224,SNR=9.3						
EGMT	**Eagleton**	**5.55**	**12**	P	**Pn**	**03 33 34.8**	**+2.9**
	baz=193						
RSSD	**Black Hills**	**5.62**	**72**	P	**Pn**	**03 33 33.7**	**+0.8**
	baz=257						
RSSD				Sb	**Sb**	**03 35 00.4**	**+5.4**
	baz=257						
RSSD	**Black Hills**	**5.62**	**72**	P	**Pn**	**03 33 34.2**	**+1.3**
	baz=257,SNR=44						
MVCO	**Mesa Verde**	**5.84**	**156**	P	**Pn**	**03 33 36.0**	**-0.1**
	baz=338,SNR=30						
S22A	**4UR Ranch, Cre**	**6.00**	**142**	P	**Pn**	**03 33 38.3**	**-0.1**
	baz=325,SNR=59						
S22A				Sb	**Sb**	**03 35 11.4**	**+5.2**
	baz=325						
Q24A	**Divide**	**6.01**	**125**	P	**Pn**	**03 33 39.5**	**+1.1**
	baz=309						
Q24A				Sb	**Sb**	**03 35 09.9**	**+3.6**
	baz=309						
SDCO	**Great Sand Dun**	**6.66**	**135**	P	**Pn**	**03 33 47.0**	**-0.2**
	baz=318,SNR=14						
SDCO	**Great Sand Dun**	**6.66**	**135**	P	**Pn**	**03 33 48.0**	**+0.7**
	baz=318,SNR=14						
NVAR	**Mina Array Bea**	**6.68**	**234**	Pn	**Pn**	**03 33 49.0**	**+1.4**
	comp=N,2.5nm,0.3s,baz=42,slow=12,SNR=39						
NVAR				Sn	**Sn**	**03 35 01.7**	**-2.8**
	baz=42,slow=19						
NVAR				LR	LR	03 36 44.7	
	comp=N,562nm,18.2s,baz=54,slow=42						
	comp=N,6.4nm,0.6s						
TPNV	**Topopah Spring**	**6.75**	**215**	P	**Pn**	**03 33 49.9**	**+1.5**
	baz=32						
NEW	**Newport**	**6.92**	**327**	P	**Pn**	**03 33 52.7**	**+2.0**
	baz=143						
NEW	**Newport**	**6.92**	**327**	Pn	**Pn**	**03 33 53.9**	**+3.2**
	comp=N,1.2nm,0.3s,baz=130,slow=9.2,SNR=27						
NEW				Pg	**Pb**	**03 34 09.0**	**-0.1**
	comp=N,1.5nm,0.3s,baz=148,slow=16,SNR=9.4						
NEW				Sn	Sn	03 35 19.6	+9.4
	comp=N,1.3nm,0.3s,baz=146,slow=16,SNR=3.4						
NEW				Lg	Lg	03 35 44.8	
	comp=N,12nm,0.3s,baz=60,slow=21,SNR=17						
NEW				LR	LR	03 36 50.1	
	comp=N,235nm,19.2s,baz=155,slow=40						
	comp=N,14nm,0.7s						
WUAZ	**Wupatki**	**7.08**	**179**	P	**Pn**	**03 33 54.3**	**+1.4**
	baz=359						
OGNE	**Ogallala**	**7.23**	**100**	P	**Pn**	**03 33 54.1**	**-0.9**
	baz=286,SNR=11						
OGNE	**Ogallala**	**7.23**	**100**	P	**Pn**	**03 33 54.4**	**-0.6**
	baz=286,SNR=11						
W18A	**Petrified Fore**	**7.59**	**169**	P	**Pn**	**03 34 01.4**	**+1.3**
	baz=350						
KSCO	**Kaye Shedlock'**	**7.59**	**115**	P	**Pn**	**03 34 00.1**	**+0.1**
	baz=301,SNR=11						
KSCO	**Kaye Shedlock'**	**7.59**	**115**	P	**Pn**	**03 34 00.5**	**+0.5**
	baz=301,SNR=11						
T25A	**Trinidad**	**7.69**	**133**	P	**Pn**	**03 34 01.0**	**-0.4**
	baz=317,SNR=7.7						
DGMT	**Dagmar**	**7.77**	**38**	P	**Pn**	**03 34 03.9**	**+1.6**
	baz=224,SNR=28						
DGMT	**Dagmar**	**7.77**	**38**	P	**Pn**	**03 34 04.0**	**+1.8**
	baz=224,SNR=28						
TUQ	**Turquoise Moun**	**7.96**	**207**	P	**Pn**	**03 34 06.9**	**+1.9**
	baz=24						
CWC	**Cottonwood Cre**	**8.01**	**222**	P	**Pn**	**03 34 08.4**	**+2.7**
	baz=38						
NEE2	**Needles Airpor**	**8.21**	**199**	P	**Pn**	**03 34 10.8**	**+2.5**
	baz=16						
GSC	**Goldstone, Bar**	**8.40**	**212**	P	**Pn**	**03 34 11.9**	**+0.9**
	baz=28						
YBH	**Yreka Blue Hor**	**8.41**	**268**	Pn	**Pn**	**03 34 15.8**	**+4.7**
	comp=N,0.4nm,0.3s,baz=65,slow=11,SNR=15						
YBH				Pg	**Pb**	**03 34 37.3**	**+2.8**
	comp=N,0.4nm,0.3s,baz=95,slow=12,SNR=7.2						
YBH				LR	LR	03 37 36.5	
	comp=N,394nm,20.6s,baz=80,slow=39						
	comp=N,13nm,0.8s						
GMRC	**Granite Mounta**	**8.47**	**204**	P	**Pn**	**03 34 14.1**	**+2.1**
	baz=22						
PDMCI	**Parker Dam,Lak**	**8.55**	**195**	P	**Pn**	**03 34 15.8**	**+2.8**
	baz=13						
ANMO	**Albuquerque**	**8.58**	**151**	P	**Pn**	**03 34 13.7**	**+0.1**
	baz=334						
ANMO	**Albuquerque**	**8.58**	**151**	P	**Pn**	**03 34 12.9**	**-0.7**
	baz=334						
ANMO	**Albuquerque**	**8.58**	**151**	Pn	**Pn**	**03 34 12.3**	**-1.3**
	comp=N,0.3nm,0.3s,baz=43,slow=14,SNR=11						
ANMO				Lg	Lg	03 36 30.5	
	comp=N,3.6nm,0.3s,baz=356,slow=21,SNR=8.6						
	comp=N,2.3nm,0.6s						
E28A	**Huff**	**8.64**	**59**	P	**Pn**	**03 34 14.4**	**+0.2**
	baz=246						
K30B	**Basset**	**8.73**	**86**	P	**Pn**	**03 34 16.3**	**+0.8**
	baz=273						
ISA	**Isabella, Lake**	**8.82**	**220**	P	**Pn**	**03 34 19.5**	**+2.8**
	baz=36						
IRM	**Iron Mountain**	**8.91**	**200**	P	**Pn**	**03 34 21.2**	**+3.2**
	baz=18						
EDW2	**Edwards Air Fo**	**9.25**	**216**	P	**Pn**	**03 34 22.6**	**0.0**
	baz=32						
SUSD	**Miller**	**9.27**	**74**	P	**Pn**	**03 34 24.0**	**+1.2**
	baz=263						
BELC	**Belle Mtn. Jos**	**9.30**	**204**	P	**Pn**	**03 34 24.6**	**+1.2**
	baz=21,SNR=7.2						
BC3	**Big Chuckawall**	**9.47**	**201**	P	**Pn**	**03 34 27.6**	**+1.9**
	baz=18						
CBKS	**Cedar Bluff**	**9.67**	**109**	P	**Pn**	**03 34 27.8**	**-0.5**
	baz=297						
CBKS	**Cedar Bluff**	**9.67**	**109**	P	**Pn**	**03 34 27.3**	**-1.1**
	baz=297						
PFO	**Pinyon Flats O**	**9.80**	**205**	P	**Pn**	**03 34 30.8**	**+0.5**
	baz=22

SPMN	**Marine on St.** baz=265	13.70	73	P		Pn	03 35 21.4	-2.0
P38A	**Dawn** baz=288	13.84	96	P		Pn	03 35 25.0	-0.3
TUL3	**Leonard** baz=304	13.84	114	P		Pn	03 35 24.9	-0.5
U38A	**Gravette** baz=300,SNR=11	14.53	109	P		Pn	03 35 32.7	-2.1
TX31	**Lajitas Ar. Si** baz=337,SNR=8.9	14.65	152	P		Pn	03 35 37.6	+1.0
TXAR	**Lajitas Array** comp=N,0.1nm,0.3s,baz=340,slow=12,SNR=27	14.65	152	Pn		Pn	03 35 37.6	+1.0
TXAR	comp=N,0.1nm,0.3s,baz=351,slow=28,SNR=3.5			Lg		Lg	03 39 45.5	
TXAR	comp=N,100nm,18.7s,baz=332,slow=38 comp=N,4.0nm,0.9s			LR		LR	03 41 11.0	
S39A	**Bolivar** baz=295,SNR=5.8	14.70	103	P		Pn	03 35 34.1	-3.0
L40A	**Anamosa** baz=279	14.97	85	P		Pn	03 35 37.4	-3.4
R40A	**Maddies Statio** baz=292	15.22	100	P		Pn	03 35 43.8	-0.3
I40A	**Norwalk** baz=272	15.24	78	P		Pn	03 35 44.0	-0.3
JCT	**Junction City** comp=Z,18nm,0.9s	15.28	139	IAmb		IAmb	03 35 51.1	
JCT	**Junction City** baz=326,SNR=5.2	15.28	139	P		Pn	03 35 44.4	-0.6
JCT	**Junction City** baz=326,SNR=5.2	15.28	139	P		Pn	03 35 46.2	+1.2
JFWS	**Jewell Farm** baz=276	15.58	82	P		Pn	03 35 46.6	-2.3
JFWS	**Jewell Farm** baz=276	15.58	82	P		Pn	03 35 46.1	-2.7
CCM	**Cathedral Cave** comp=Z,22nm,0.8s	16.06	100	IAmb		IAmb	03 36 16.2	
CCM	**Cathedral Cave** baz=293	16.06	100	P		Pn	03 35 52.9	-2.2
CCM	**Cathedral Cave** baz=293	16.06	100	P		Pn	03 35 52.4	-2.7
FVM	**French Village** comp=Z,29nm,0.9s	16.68	99	IAmb		IAmb	03 36 36.5	
HDIL	**Hopedale** comp=Z,37nm,0.8s	16.70	90	IAmb		IAmb	03 36 16.6	
HDIL	**Hopedale** baz=284	16.70	90	P		Pn	03 36 00.3	-3.0
HDIL	**Hopedale** baz=284	16.70	90	P		Pn	03 35 59.7	-3.6
WLAR	**White Oak Lake** comp=Z,25nm,0.7s	16.93	116	IAmb		IAmb	03 36 26.1	
LCAR	**Lake Charles**	16.99	106	Pn		Pn	03 36 02.6	-4.3
LCAR	**Lake Charles** baz=299,SNR=9.1	16.99	106	P		Pn	03 36 07.1	+0.2
EF01	**Eagle Ford 01**	17.09	138	Pn		Pn	03 36 02.9	-5.3
NATX	**Nacogdoches**	17.18	124	Pn		Pn	03 36 02.9	-6.4
NATX	comp=Z,24nm,0.8s			IAmb		IAmb	03 36 13.3	
NATX	**Nacogdoches** baz=314	17.18	124	P		Pn	03 36 06.2	-3.1
CGM3	**Cape Girardeau**	17.51	100	Pn		Pn	03 36 07.1	-6.4
SFIN	**Lafayette**	18.37	89			Pn	03 36 20.9	-3.2
SFIN	**Lafayette** baz=285	18.37	89	P		Pn	03 36 21.3	-2.7
SFIN	**Lafayette** baz=285	18.37	89	P		Pn	03 36 21.8	-2.2
LPIG	**La Paz** comp=Z,156nm,21.6s,baz=0.5,slow=38	18.48	177	LR		LR	03 43 34.8	
USIN	**University of**	18.71	96	P		P	03 36 24.6	-3.3
USIN	comp=Z,24nm,0.8s			IAmb		IAmb	03 36 54.2	
T35M	**Bob Quinn** baz=132	18.73	327	P		P	03 36 26.1	-1.9
FLDN	**Fort Liard**	19.13	342	P		P	03 36 32.2	-0.1
FLDN	comp=Z,20nm,0.8s			IAmb		IAmb	03 36 37.8	
BLO	**Bloomington**	19.14	92	P		P	03 36 30.1	-2.5
BLO	comp=Z,18nm,0.8s			IAmb		IAmb	03 37 01.1	
KOTAN	**Kotaneelee Air** baz=151,SNR=9.3	19.17	341	P		P	03 36 32.5	-0.4
WVT	**Waverly**	19.34	102	P		P	03 36 31.9	-2.9
WVT	**Waverly** baz=297	19.34	102	P		Pn	03 36 35.1	-0.8
WVT	**Waverly** baz=297	19.34	102	P		Pn	03 36 35.2	-0.8
FCC	**Fort Churchill**	19.46	28	P		P	03 36 34.5	-1.4
J47A	**Sunmer** baz=277	19.49	79	P		P	03 36 35.4	-1.1
J47A	baz=277			P		P	03 36 35.4	-1.1
WCI	**Wyandotte Cave** comp=Z,15nm,0.8s	19.62	94	P		P	03 36 34.6	-3.3
WCI				IAmb		IAmb	03 37 17.7	
DLBC	**Dease Lake** comp=Z,0.1nm,0.3s,baz=114,slow=10.0,SNR=3.2 comp=Z,3.9nm,1.0s	19.66	330	P		Pn	03 36 39.8	+0.3
PLAL	**Pickwick Lake**	19.71	105	P		P	03 36 36.3	-2.6
O48B	**Farmland**	19.83	88	P		P	03 36 38.5	-1.7
O48B	comp=Z,14nm,0.8s			IAmb		IAmb	03 36 45.5	
O48B	**Farmland** baz=285	19.83	88	P		P	03 36 39.9	-0.3
YKA	**Yellowknife Ar** comp=Z,4.0nm,0.8s,baz=172,slow=9.9,SNR=60	20.01	356	P		Pn	03 36 42.9	-0.7
YKA	comp=Z,252nm,18.8s,baz=332,slow=37 comp=Z,4.0nm,0.8s			LR		LR	03 44 34.4	
P49A	**Miami Univ. Ec**	20.36	90	P		P	03 36 44.7	-1.3
P49A	**Miami Univ. Ec** baz=287	20.36	90	P		P	03 36 45.4	-0.6
CLTN	**Cedars of Leba**	20.45	100	P		P	03 36 47.0	0.0
CLTN	comp=Z,18nm,1.0s			IAmb		IAmb	03 37 24.5	
AAM	**Ann Arbor**	20.48	81	P		P	03 36 45.9	-1.3
AAM	comp=Z,18nm,0.8s			IAmb		IAmb	03 36 55.6	
AAM	**Ann Arbor** baz=280	20.48	81	P		P	03 36 47.5	+0.3
WTLY	**Watson Lake, Y**	20.49	335	P		P	03 36 48.0	+0.7
WTLY	comp=Z,20nm,0.9s			IAmb		IAmb	03 36 54.8	
WTLY	**Watson Lake, Y** baz=141,SNR=8.8	20.49	335	P		P	03 36 45.3	-2.0
SWET	**Sewanee**	21.13	102	P		P	03 36 53.2	-1.2
SWET	comp=Z,33nm,1.3s			IAmb		IAmb	03 37 11.8	
ACSO	**Alum Creek Sta**	21.44	87	P		P	03 36 55.6	-2.1
ACSO	comp=Z,12nm,0.8s			IAmb		IAmb	03 37 12.7	
ACSO	**Alum Creek Sta** baz=286	21.44	87	P		P	03 36 58.1	+0.5
LRAL	**Lakeview Retre**	21.49	108	P		P	03 36 55.3	-2.9
LRAL	comp=Z,15nm,0.9s			IAmb		IAmb	03 37 15.3	
LRAL	**Lakeview Retre** baz=303	21.49	108	P		P	03 36 58.1	-0.1
FPAL	**Fort Paine**	21.69	103	P		P	03 36 58.9	-1.5
SSFO	**Shawnee State**	21.75	91	P		P	03 36 58.0	-2.9
WRGLY	**Wrigley**	21.82	345	P		P	03 37 00.5	-0.9
WRGLY	comp=Z,21nm,1.1s			IAmb		IAmb	03 37 11.8	
CPCT	**Cooper Cave**	22.05	100	P		P	03 37 03.0	-1.1
CPCT	comp=Z,23nm,1.2s			IAmb		IAmb	03 37 40.0	
P52A	**Corning**	22.24	88	P		P	03 37 05.4	-0.8
TKL	**Tuckaleechee C** comp=Z,186nm,20.7s,baz=300,slow=37	22.50	99	LR		LR	03 46 05.6	
N32M	**Quiet Lake** baz=135	22.68	332	P		P	03 37 11.1	+0.3
O53A	**New Philadelph**	22.74	86	P		P	03 37 10.0	-1.6
O53A	**New Philadelph** baz=286	22.74	86	P		P	03 37 11.7	+0.2
M53A	**WI Miller and**	22.84	82	P		P	03 37 11.6	-1.0
M53A	**WI Miller and** baz=283	22.84	82	P		P	03 37 12.9	+0.3
ALLY	**Alegheny Colle**	23.18	82	P		P	03 37 13.8	-2.3
ERPA	**Erie**	23.19	80	P		P	03 37 14.8	-1.4
ERPA	comp=Z,17nm,0.9s			IAmb		IAmb	03 37 22.1	
ERPA	**Erie** baz=282	23.19	80	P		P	03 37 16.3	+0.1
SADO	**Sadowa** comp=Z,125nm,18.5s,baz=248,slow=36	23.39	74	LR		LR	03 46 02.5	
MCWV	**Mont Chateau**	23.92	86	P		P	03 37 21.6	-1.8
MCWV	**Mont Chateau** baz=287	23.92	86	P		P	03 37 21.2	-2.3
WVNY	**West Valley, N**	24.14	79	P		P	03 37 24.8	-0.8
SSPA	**Standing Stone**	25.08	83	P		P	03 37 32.2	-1.9
SSPA	**Standing Stone** baz=286	25.08	83	P		P	03 37 33.7	-0.4
BINY	**Binghamton**	26.08	79	P		P	03 37 41.3	-1.8
BINY	comp=Z,13nm,1.2s			IAmb		IAmb	03 38 11.4	
G31M	**Satah River**	27.36	341	P		P	03 37 53.5	-0.9
G31M	comp=Z,11nm,1.2s			IAmb		IAmb	03 37 57.8	
G31M	**Satah River** baz=142	27.36	341	P		P	03 37 54.5	+0.1
C36M	**Paulatuk**	27.60	350	P		P	03 37 54.4	-2.1
C36M	comp=Z,9.9nm,1.4s			IAmb		IAmb	03 38 09.5	
F31M	**Tsiigehtchic** baz=143	27.65	342	P		P	03 37 58.1	+1.2
I28M	**Miner Creek** baz=131	27.88	335	P		P	03 37 59.8	+0.5
F30M	**Barrier River** baz=140	28.27	341	P		P	03 38 03.4	+0.8
INK	**Inuvik** baz=144	28.30	343	P		P	03 38 03.8	+1.0
INK	**Inuvik** comp=Z,90nm,18.7s,baz=192,slow=40	28.30	343	LR		LR	03 51 12.4	
F28M	**Old Crow** baz=134	29.34	338	P		P	03 38 13.5	+1.4
E29M	**Blow River** baz=138	29.38	340	P		P	03 38 13.6	+1.2
KDAK	**Kodiak Island** comp=Z,108nm,19.4s,baz=112,slow=32	29.84	315	LR		LR	03 48 19.8	
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=114,slow=7.8,SNR=10	29.87	330	P		P	03 38 19.4	+2.7
ILAR	comp=Z,134nm,19.9s,baz=164,slow=36 comp=Z,0.9nm,0.8s			LR		LR	03 50 24.9	
E28M	**Babbage River** baz=136	29.95	340	P		P	03 38 18.7	+1.2
D27M	**Malcolm River** baz=135	30.77	340	P		P	03 38 26.1	+1.3
H24K	**Noodor Dome** baz=121	30.77	331	P		P	03 38 25.8	+1.0
SCHQ	**Schefferville** comp=Z,190nm,18.4s,baz=269,slow=35	31.33	51	LR		LR	03 50 38.5	
F24K	**Squaw Lake** baz=124	31.68	334	P		P	03 38 34.4	+1.7
D25K	**Kavik River** baz=128	32.27	338	P		P	03 38 39.8	+1.8
L18K	**Granite Mounta** baz=105	32.92	322	P		P	03 38 43.8	+0.2
J19K	**Poorman** baz=109	32.98	326	P		P	03 38 45.3	+1.2
RES	**Resolute Bay** comp=Z,156nm,20.0s,baz=209,slow=36	33.04	8	LR		LR	03 52 07.9	
F22K	**John River** baz=118	33.09	333	P		P	03 38 45.9	+0.8
C24K	**Franklin Bluff** baz=125	33.17	337	P		P	03 38 45.8	+0.1
H20K	**Anotleneega Mo** baz=112	33.21	328	P		P	03 38 47.6	+1.4
H19K	**Roundabout Mou** baz=110	33.84	328	P		P	03 38 53.1	+1.6
D22K	**Ayikyak River** baz=119	33.92	335	P		P	03 38 54.0	+1.7
N15K	**Kwethluk River** baz=99	34.10	318	P		P	03 38 53.9	-0.1
C21K	**Knifeblade Rid** baz=117	34.72	334	P		P	03 39 01.2	+2.0
E20K	**Nigu River** baz=114	34.78	333	P		P	03 39 01.9	+2.0
G18K	**Tagagawik** baz=108	34.82	328	P		P	03 39 01.5	+1.3
E19K	**Redstone River** baz=112	34.83	331	P		P	03 39 01.3	+1.1
B22K	**Teshekpuk Lake** baz=120	34.87	337	P		P	03 39 02.6	+2.2
H17K	**Granite Mounta** baz=106	35.04	326	P		P	03 39 03.9	+1.9
D20K	**Etivluk River** baz=115	35.12	333	P		P	03 39 04.3	+1.6
D19K	**Kuna River** baz=113	35.53	333	P		P	03 39 07.3	+1.0
A22K	**Sinclair Lake** baz=119	35.65	337	P		P	03 39 08.4	+1.2
H16K	**Elim** baz=103	35.93	325	P		P	03 39 10.7	+1.0
F17K	**Baldwin Pennin** baz=106	35.99	329	P		P	03 39 11.2	+1.1
C18K	**Utukok River** baz=109	36.65	332	P		P	03 39 17.5	+1.6
G15K	**Niukluk** baz=102	36.76	326	P		P	03 39 18.8	+2.1
A19K	**Wainwright** baz=111	37.15	335	P		P	03 39 21.5	+1.5
JTS	**Las Juntas de** comp=Z,41nm,18.6s,baz=351,slow=40	39.65	137	LR		LR	03 58 48.0	
SJG	**San Juan** comp=Z,22nm,21.8s,baz=239,slow=38	45.39	108	LR		LR	04 00 37.2	
SDV	**Santo Domingo** comp=Z,41nm,19.4s,baz=256,slow=40	49.03	121	LR		LR	04 04 49.6	
ROSC	**El Rosal** comp=Z,23nm,18.6s,baz=226,slow=42	49.98	128	LR		LR	04 06 44.9	
PCRV	**Puerto La Cruz** comp=Z,50nm,19.1s,slow=40	51.99	114	LR		LR	04 06 17.2	
MA2	**Magadan** comp=Z,94nm,21.9s,baz=113,slow=39	58.02	324	LR		LR	04 09 40.0	
TIXI	**Tiksi** comp=Z,41nm,19.0s,baz=14,slow=40	58.41	341	LR		LR	04 10 44.4	
ARCES	**ARCESS Array B** comp=Z,75nm,18.5s,baz=242,slow=37	63.80	16	LR		LR	04 11 07.3	
YAK	**Yakutsk** comp=Z,74nm,18.6s,baz=0.5,slow=39	64.74	333	LR		LR	04 14 05.9	
NB2	**NORSAR Subarra** comp=Z,17nm,1.4s,baz=312,slow=6.5	66.72	26	P		P	03 43 00.7	+0.3
NOA	**NORSAR Array B** comp=Z,2.8nm,0.9s,baz=312,slow=6.5,SNR=7.2 comp=Z,2.8nm,0.9s	66.72	26	P		P	03 43 00.8	+0.3
HFS	**Hagfors** comp=Z,3.4nm,0.8s,baz=221,slow=1.4,SNR=3.8 comp=Z,3.4nm,0.8s	68.21	26	P		P	03 43 10.2	+0.3
FINES	**FINESS Array B**	70.74	20	P		P	03 43 25.1	-0.3
FINES	**FINESS Array B** comp=Z,5.9nm,1.0s,baz=335,slow=8.4,SNR=5.6 comp=Z,5.9nm,1.0s	70.74	20	P		P	03 43 25.8	+0.3
DAVOX	**Davos/Dischmat** comp=Z,58nm,18.5s,baz=248,slow=36	76.93	37	LR		LR	04 18 09.4	
GERES	**GERESS Array B** comp=Z,68nm,18.2s,baz=300,slow=36	76.97	34	LR		LR	04 18 08.0	
KIRV	**Kirov** comp=Z,56nm,18.2s,baz=328,slow=37	77.93	10	LR		LR	04 20 46.1	
AKASG	**Malin Array Be** comp=Z,0.6nm,0.5s,baz=326,slow=4.9,SNR=7.5 comp=Z,0.6nm,0.5s	80.95	24	P		P	03 44 23.9	-0.1
ARU	**Arti** comp=Z,48nm,20.7s,baz=330,slow=37	80.98	6	LR		LR	04 22 36.6	
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.6s,baz=15,slow=6.2,SNR=6.6 comp=Z,1.0nm,0.6s	82.82	350	P		P	03 44 33.2	-0.6
BELG	**Belogornoye** comp=Z,67nm,19.2s,baz=72,slow=36	83.66	13	LR		LR	04 22 19.1	
SONM	**Songino Array** comp=Z,1.0nm,0.9s,baz=42,slow=4.7,SNR=6.0	83.94	335	P		P	03 44 41.0	+1.1
SONM	comp=Z,68nm,19.6s,baz=312,slow=37 comp=Z,1.0nm,0.9s			LR		LR	04 23 40.0	
BVAR	**Borovoye Array** comp=Z,1.9nm,0.7s,baz=349,slow=3.2,SNR=6.6	84.74	359	P		P	03 44 43.8	+0.1
BVAR	comp=Z,47nm,19.6s,baz=7.7,slow=38 comp=Z,1.9nm,0.7s			LR		LR	04 25 51.0	
KURBB	**Kurchatov Arra** comp=Z,1.1nm,1.0s,baz=9.1,slow=4.8,SNR=6.0 comp=Z,1.1nm,1.0s	86.75	354	P		P	03 44 53.3	-0.3
AKTO	**Akubinsk** comp=Z,51nm,18.0s,baz=82,slow=38	86.89	7	LR		LR	04 26 56.5	
ABKAR	**Akbulak array**	88.21	6	P		P	03 45 00.1	-0.6
MKAR	**Makanchi Array** comp=Z,1.5nm,0.8s,baz=347,slow=4.4,SNR=12	90.16	351	P		P	03 45 10.0	0.0
MKAR	comp=Z,21nm,21.1s,baz=20,slow=37 comp=Z,1.5nm,0.8s			LR		LR	04 28 03.3	
TORD	**Torodi Ar. Bea** comp=Z,57nm,18.2s,baz=316,slow=35	97.49	65	LR		LR	04 28 17.7	
DBIC	**Dimbokro** comp=Z,27nm,18.4s,baz=2.5,slow=36	97.56	74	LR		LR	04 29 52.4	

*IDC **26** 03:48:40.9±0.7, 1°.13S×120°.62E, h0km, mb4.1/12,*

mbtmp4.1/13, ML4.3/1, Error ellipse: s-maj=45.9km s-min=13.9km az=64.0

*DJA **26** 03:48:44.5±0.3, 1°.S±2°.×12°.1E±°, h10km, M4.3/6, MLv4.3/6*

*NEIC **26** 03:48:46.2±1.7, 1°.24S±0°.07×120°.53E±0°.06, h62km±6km, mb4.2/14, Error ellipse: s-maj=10.5km s-min=8.8km az=180.0*

ISC 26 03:48:40.9±0.5, 1°.22S±0°.04×120°.45E±0°.04, h10km, n40, σ1°.75/46, mb4.2/17, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	1.92	199	P		Pn	03 49 15.6	-0.5
TTSI				S		Sb	03 49 41.4	+1.3
MRSI	**Marisa**	2.25	42	P		Pn	03 49 19.9	+1.7
MRSI				S		Sb	03 49 49.8	+0.2
LUWI	**Luwuk**	2.33	86			Pb	03 49 22.0	-1.1
LUWI	**Luwuk**	2.33	86	P		Pn	03 49 20.9	+1.6
LUWI				S		Sb	03 49 53.6	+1.7
TOLI2	**Tolitoli**	2.34	8			Pb	03 49 21.6	-1.5
PMSI	**Majene**	2.74	214	P		Pb	03 49 28.0	-2.0
BKB	**Balikpapan**	3.55	269			Pn	03 49 40.1	+4.1
BKB	**Balikpapan**	3.55	269	P		Pn	03 49 35.3	-0.8
BKB				S		Sb	03 50 27.0	0.0
KAPI	**Kappang**	3.84	190			Pn	03 49 42.0	+2.0
KAPI	**Kappang** 18nm,0.3s,baz=46,slow=3.1,SNR=12	3.84	190	Pn		Pn	03 49 42.0	+2.0
KAPI	13nm,0.3s,baz=41,slow=19,SNR=2.0 53nm,0.4s			Sn		Sn	03 50 26.5	+1.3
BKSI	**Bulukumba**	4.09	185	P		Pn	03 49 44.1	+0.6
BKSI				S		Sn	03 50 32.7	+1.2
MKS	**Makassar**	4.09	194	P		Pn	03 49 30.7	-13
MTN	**Manton Dam**	15.67	138	Pn		Pn	03 52 20.4	-1.6
MTN	comp=Z,41nm,1.2s			IAmb		IAmb	03 52 24.9	
PSA00	**Pilbara Seismi**	20.24	182	P		P	03 53 14.8	-1.7
WB0	**Warramunga Arr**	22.94	144	P		P	03 53 44.8	-0.7
WB0	comp=Z,5.9nm,1.0s			IAmb		IAmb	03 54 01.7	
WRA	**Warramunga Arr**	23.05	145	P		P	03 53 45.0	-1.6
WRA	**Warramunga Arr** comp=Z,2.1nm,0.9s,baz=310,slow=13,SNR=13 comp=Z,2.1nm,0.9s	23.05	145	P		P	03 53 46.9	+0.3
WB2	**Warramunga Arr** comp=Z,9.7nm,1.0s	23.05	145	P		P	03 53 45.3	-1.3
WB2				IAmb		IAmb	03 53 49.1	
WR0	**Warramunga Arr** comp=Z,6.7nm,0.8s	23.18	144	P		P	03 53 46.5	-1.5
WR0				IAmb		IAmb	03 53 51.1	
ASAR	**Alice Springs** comp=Z,2.3nm,0.8s,baz=337,slow=10,SNR=19	25.85	151	P		P	03 54 13.8	+0.9
ASAR	comp=Z,0.3nm,0.6s,baz=340,slow=2.1,SNR=5.9 comp=Z,2.3nm,0.8s			PcP		PcP	03 57 44.8	+2.5
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.3s,baz=142,slow=7.0,SNR=6.2 comp=Z,1.3nm,0.3s	28.80	314	P		P	03 54 42.4	+3.0
BBOO	**Buckleboo**	34.69	157	P		P	03 55 30.0	-1.0
STKA	**Stephens Creek** comp=Z,1.2nm,0.6s,baz=313,slow=8.9,SNR=3.9 comp=Z,1.2nm,0.6s	36.45	149	P		P	03 55 48.9	+2.8
USRK	**Ussuriysk Ar.** comp=Z,1.5nm,0.6s,baz=148,slow=42,SNR=2.3 comp=Z,1.5nm,0.6s	46.38	11	P		P	03 57 08.2	+0.8
SONM	**Songino Array**	50.37	348	P		P	03 57 38.6	+0.3
SONM	comp=Z,1.8nm,1.2s			IAmb		IAmb	03 57 48.4	
SONM	**Songino Array** comp=Z,0.3nm,0.3s,baz=148,slow=8.5,SNR=2.0 comp=Z,0.3nm,0.3s	50.37	348	P		P	03 57 38.9	+0.6
MK31	**Makanchi Array**	58.34	330	P		P	03 58 34.8	-1.5
MK31	comp=Z,3.8nm,1.3s			IAmb		IAmb	03 58 43.0	
MKAR	**Makanchi Array**	58.34	330	P		P	03 58 35.4	-0.9
MKAR	**Makanchi Array** comp=Z,1.5nm,0.7s,baz=134,slow=7.7,SNR=12 comp=Z,1.5nm,0.7s	58.34	330	P		P	03 58 38.4	+2.0
KBL	**Kabul**	59.80	312	P		P	03 58 45.8	-1.1
AAK	**Ala-Archa** comp=Z,1.7nm,0.6s,baz=189,slow=2.1,SNR=4.7 comp=Z,1.7nm,0.6s	60.09	322	P		P	03 58 50.5	+1.9
ZALV	**Zalesovo Beam**	62.40	337	P		P	03 59 03.0	-0.9
ZALV	**Zalesovo Beam** comp=Z,1.5nm,0.7s,baz=93,slow=3.3,SNR=4.5 comp=Z,1.5nm,0.7s	62.40	337	P		P	03 59 04.3	+0.5
KURBB	**Kurchatov Arra** comp=Z,1.9nm,0.6s,baz=140,slow=6.0,SNR=13 comp=Z,1.9nm,0.6s	62.77	331	P		P	03 59 07.8	+1.5
BVAR	**Borovoye Array** comp=Z,2.5nm,0.9s,baz=141,slow=7.5,SNR=6.5 comp=Z,2.5nm,0.9s	68.23	330	P		P	03 59 43.2	+1.5
ABKAR	**Akbulak array**	72.15	323	P		P	04 00 03.2	-2.6
ABKAR	**Akbulak array**	72.15	323	P		P	04 00 03.4	-2.4
ABKAR	comp=Z,1.9nm,0.8s			IAmb		IAmb	04 00 10.2	
AKTO	**Aktyubinsk** comp=Z,1.5nm,0.5s,baz=129,slow=4.2,SNR=4.3 comp=Z,1.5nm,0.5s	73.76	324	P		P	04 00 16.6	+1.3
VNDA	**Vanda**	79.41	172	P		P	04 00 43.5	-3.3
C18K	**Utukok River**	86.89	21	P		P	04 01 23.5	-2.2

*NEIC **26** 03:48:51.3±1.9, 64°.42N±0°.10×76°.9W±0°.1, h15km±7km, mb3.5/4, mb_Lg3.8(OTT), Error ellipse: s-maj=13.9km s-min=8.5km az=182.0*

*IDC **26** 03:48:52.4±4.3, 64°.29N×76°.84W, h0km, mb3.1/1, mbtmp3.8/4, ML3.1/3, Error ellipse: s-maj=90.3km s-min=15.6km az=30.0*

*OTT **26** 03:48:53.5±0.1, 64°.39N×76°.75W, h18km, MN3.8/8*

OTT 20km northwest from Cape Dorset, Nu. Felt Felt in Cape Dorset, Nu.

ISC 26 03:48:48.9±0.7, 64°.36N±0°.05×76°.83W±0°.05, h10km, n40, σ2°.96/51, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	3.69	96	Pn		Pn	03 49 48.7	+2.8
FRB	**Frobisher Bay**	3.69	96	PN		Pn	03 49 48.7	+2.8
FRB				SN		Sn	03 50 29.2	-0.1
FRB	comp=Z,87nm,0.1s			Trac			03 50 46.0	
ILON	**Igloolik, Nuna**	5.41	341	Pn		Pn	03 50 12.0	+2.6
ILON	**Igloolik, Nuna**	5.41	341	PN		Pn	03 50 12.0	+2.6
ILON				SN		Sn	03 51 10.4	-1.1
ILON				LG		Lg	03 51 42.0	
ILON	comp=Z,161nm,0.4s			Trac			03 51 43.6	
SAKN	**Sanikiluaq**	7.94	190	Pn		Pn	03 50 48.1	+3.9
SAKN	**Sanikiluaq**	7.94	190	PN		Pn	03 50 48.1	+3.9
SAKN				SN		Sn	03 52 12.0	-1.8
SAKN				LG		Lg	03 53 03.6	
SAKN	comp=Z,23nm,0.2s			Trac			03 53 06.8	
BLKN	**Baker Lake**	8.32	278	PN		Pn	03 50 52.4	+3.0
BLKN				SN		Sn	03 52 21.0	-2.2
BLKN				LG		Lg	03 53 13.5	
BLKN	comp=Z,29nm,0.3s			Trac			03 53 20.9	
KJKQ	**Kuujjuarapik**	9.12	183	Pn		Pn	03 51 03.6	+3.2
KJKQ	**Kuujjuarapik**	9.12	183	PN		Pn	03 51 03.6	+3.2
KJKQ				SN		Sn	03 52 40.4	-2.6
KJKQ				LG		Lg	03 53 38.5	
KJKQ	comp=Z,14nm,0.3s			Trac			03 53 41.5	
FCC	**Fort Churchill**	9.94	244	Pn		Pn	03 51 14.8	+3.2
FCC	**Fort Churchill**	9.94	244	PN		Pn	03 51 14.8	+3.2
FCC				SN		Sn	03 53 00.7	-2.3
FCC				LG		Lg	03 54 08.6	
FCC	comp=Z,445nm,3.0s			Trac			03 54 28.4	
SCHQ	**Schefferville**	10.79	148	Pn		Pn	03 51 23.9	+0.6
SCHQ	**Schefferville** 1.3nm,0.3s,baz=332,slow=8.8,SNR=21	10.79	148	Pn		Pn	03 51 23.4	+0.1
SCHQ	2.4nm,0.3s,baz=57,slow=19,SNR=7.1 4.2nm,0.4s			Sn		Sn	03 53 15.2	-8.9
SCHQ	**Schefferville**	10.79	148	PN		Pn	03 51 23.9	+0.6
SCHQ				SN		Sn	03 53 18.3	-5.7
SCHQ	comp=Z,271nm,1.8s			Trac			03 54 26.8	
SCHQ				LG		Lg	03 54 29.7	
LG4Q	**La Grande 4**	10.85	171	Pn		Pn	03 51 27.0	+2.9
LG4Q	**La Grande 4**	10.85	171	PN		Pn	03 51 27.0	+2.9
LG4Q				SN		Sn	03 53 21.3	-4.2

LG4Q				Trac			03 54 37.7		
	comp=Z,23nm,0.3s								
SFJD	**Kangerlussuaq**	**11.08**	**65**	Pn	**Pn**		**03 51 29.6**	**+2.4**	
SFJD	**Kangerlussuaq**	**11.08**	**65**	Pn	**Pn**		**03 51 28.6**	**+1.4**	
SFJD	**Kangerlussuaq**	**11.08**	**65**	PN	**Pn**		**03 51 29.6**	**+2.4**	
SFJD				SN	**Sn**		**03 53 25.4**	**-5.6**	
RES	**Resolute Bay**	**12.06**	**337**	Pn	**Pn**		**03 51 40.8**	**+0.3**	
RES	**Resolute Bay**	**12.06**	**337**	PN	**Pn**		**03 51 40.8**	**+0.3**	
RES				SN	**Sn**		**03 53 49.3**	**-5.5**	
RES				Trac			03 55 10.6		
	comp=Z,65nm,0.9s								
RES				LG	Lg		03 55 12.4		
VIMO	**Victor Mine**	**12.11**	**200**	Pn	**Pn**		**03 51 44.1**	**+2.8**	
VIMO	**Victor Mine**	**12.11**	**200**	PN	**Pn**		**03 51 44.1**	**+2.8**	
VIMO				SN	**Sn**		**03 53 51.5**	**-4.7**	
VIMO				Trac			03 55 21.8		
	comp=Z,344nm,2.6s								
PKLO	**Pickle Lake**	**14.71**	**215**	Pn	**Pn**		**03 52 18.5**	**+1.8**	
PKLO	**Pickle Lake**	**14.71**	**215**	PN	**Pn**		**03 52 18.5**	**+1.8**	
PKLO				SN	Sn		03 54 51.9	-7.7	
PKLO				Trac			03 56 13.1		
	comp=Z,888nm,4.4s								
GTOO	**Geraldton**	**15.62**	**205**	Pn	**Pn**		**03 52 31.6**	**+2.8**	
GTOO	**Geraldton**	**15.62**	**205**	PN	**Pn**		**03 52 31.6**	**+2.8**	
GTOO				SN	Sn		03 55 00.1	-22	
GTOO				Trac			03 57 12.6		
	comp=Z,9.0nm,0.4s								
GTO	**Geraldton**	**15.62**	**205**	Pn	**Pn**		**03 52 30.8**	**+2.0**	
GTO	**Geraldton**	**15.62**	**205**	PN	**Pn**		**03 52 30.8**	**+2.0**	
GTO				SN	**Sn**		**03 55 14.3**	**-7.5**	
GTO				Trac			03 57 10.5		
	comp=Z,0.2nm,0.0s								
FFC	**Flin Flon**	**15.87**	**244**	Pn	**Pn**		**03 52 32.9**	**+0.8**	
FFC				IAmb	IAmb		03 52 33.2		
	comp=Z,3.1nm,0.9s								
BJBQ	**Baie Johan-Bee**	**15.95**	**146**	PN	**Pn**		**03 52 34.9**	**+1.8**	
BJBQ				SN	Sn		03 55 18.6	-11	
BJBQ				Trac			03 57 01.1		
	comp=Z,2µm,4.9s								
VLDQ	**Val d'Or**	**16.29**	**181**		**P**		**03 52 42.4**	**+1.9**	
VLDQ	**Val d'Or**	**16.29**	**181**	Pn	**Pn**		**03 52 39.7**	**+2.2**	
VLDQ				IAmb	IAmb		03 52 45.5		
	comp=Z,4.4nm,1.1s								
VLDQ	**Val d'Or**	**16.29**	**181**	PN	**P**		**03 52 42.4**	**+1.9**	
VLDQ				Trac			03 56 52.2		
	comp=Z,233nm,1.9s								
YKA	**Yellowknife Ar**	**16.84**	**281**	Pn	**Pn**		**03 52 44.1**	**-0.3**	
YKA	**Yellowknife Ar**	**16.84**	**281**	Pn	**Pn**		**03 52 43.4**	**-1.0**	
	comp=Z,0.4nm,0.3s,baz=69,slow=13,SNR=14								
YKA				Sn	Sn		03 55 41.1	-10	
	comp=Z,0.2nm,0.3s,baz=44,slow=13,SNR=5.8								
	comp=Z,1.6nm,0.5s								
LMQ	**La Malbaie**	**17.22**	**165**	Pn	**Pn**		**03 52 50.0**	**+0.7**	
ULM	**Lac du Bonnet**	**17.37**	**225**	Pn	**Pn**		**03 52 52.2**	**+1.0**	
ULM	**Lac du Bonnet**	**17.37**	**225**	P	**P**		**03 52 54.1**	**+1.7**	
	comp=Z,0.2nm,0.3s,baz=31,slow=15,SNR=1.7								
ULM				S	Sn		03 55 51.7	-13	
	comp=Z,1.4nm,0.6s,baz=198,slow=20,SNR=3.0								
	comp=Z,0.6nm,0.3s								
TXAR	**Lajitas Array**	**38.94**	**219**	P	P		03 56 20.7	+6.0	
	comp=Z,0.1nm,0.5s,baz=32,slow=7.5,SNR=2.5								
	comp=Z,0.1nm,0.5s								

NEIC ***26*** *04:03:45.4±1.1,56˚.45N±0˚.08×148˚.6W±0˚.1,h23km±5km, mb3.7/1,ML3.8/52,ML3.5(AEIC), Error ellipse: s-maj=12.7km s-min=7.0km az=156.0*

AEIC ***26*** *04:03:48.6±1.0,56˚.46N±0˚.08×148˚.6W±0˚.1,h10km±6km, Error ellipse: s-maj=12.7km s-min=8.4km az=155.0*

ISC 26 04:03:43.4±1.0,**56˚.48N**±0˚.07×**148˚.63W**±0˚.05,**h10**km, **n209,**σ**1**°**10**/205**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.52**	**303**			**Pn**	**04 04 24.9**	**+0.5**
OHAK	**Old Harbor**	**2.67**	**288**	Pn		**Pn**	**04 04 26.2**	**-0.1**
OHAK	**Old Harbor**	**2.67**	**288**			**Sn**	**04 04 55.9**	**-2.7**
OHAK	**Old Harbor**	**2.67**	**288**	P		**Pn**	**04 04 26.2**	**-0.1**
OHAK	**Old Harbor**	**2.67**	**288**	P		**Pn**	**04 04 26.3**	**-0.1**
	baz=105							
OHAK				S		**Sn**	**04 04 55.9**	**-2.7**
	baz=105							
SYI	**Shuyak Island**	**2.94**	**318**			**Pn**	**04 04 31.1**	**+0.9**
SYI						**Sn**	**04 05 04.3**	**-1.2**
SYI	**Shuyak Island**	**2.94**	**318**	IAML			04 05 09.8	
	comp=E,165nm,0.6s							
Q20K	**Shuyak Island**	**2.95**	**318**	P		**Pn**	**04 04 31.1**	**+0.9**
	baz=135							
Q20K				S		**Sn**	**04 05 04.3**	**-1.2**
	baz=135							
SII	**Sitkinak Islan**	**3.08**	**274**			**Sn**	**04 05 06.5**	**-2.4**
SII	**Sitkinak Islan**	**3.08**	**274**	S		**Sn**	**04 05 06.5**	**-2.4**
	baz=90							
Q23K	**Middleton Isla**	**3.20**	**21**			**Pn**	**04 04 33.9**	**+0.2**
Q23K				IAML			04 05 11.6	
	comp=E,338nm,1.2s							
Q23K	**Middleton Isla**	**3.20**	**21**			**Sn**	**04 05 09.8**	**-1.9**
Q23K	**Middleton Isla**	**3.20**	**21**	IAML			04 05 05.9	
	comp=N,236nm,1.4s							
Q23K	**Middleton Isla**	**3.20**	**21**	P		**Pn**	**04 04 33.9**	**+0.2**
	baz=203							
Q23K				S		**Sn**	**04 05 09.8**	**-1.9**
	baz=203							
MID	**Middleton Isla**	**3.20**	**21**			**Pn**	**04 04 33.9**	**+0.3**
MID						**Sn**	**04 05 09.7**	**-2.0**
MID	**Middleton Isla**	**3.20**	**21**	IAML			04 05 11.6	
	comp=E,366nm,1.3s							
MID				IAML			04 05 25.8	
	comp=N,223nm,1.3s							
MID	**Middleton Isla**	**3.20**	**21**	P		**Pn**	**04 04 33.9**	**+0.3**
CNPM	**China Poot**	**3.35**	**337**	Pn		**Pn**	**04 04 36.5**	**+0.6**
CNPM				IAML			04 05 19.5	
	comp=E,116nm,1.1s							
CNPM	**China Poot**	**3.35**	**337**			**Sn**	**04 05 14.3**	**-1.4**
BRSE	**Bradley Lake S**	**3.46**	**342**			**Pn**	**04 04 37.7**	**+0.4**
BRSE						**Sn**	**04 05 16.3**	**-2.0**
BRSE	**Bradley Lake S**	**3.46**	**342**	P		**Pn**	**04 04 37.7**	**+0.4**
	baz=160							
BRSE				S		**Sn**	**04 05 16.3**	**-2.0**
	baz=160							
BRLK	**Bradley Lake**	**3.50**	**341**			**Pn**	**04 04 37.7**	**-0.2**
BRLK				IAML			04 05 21.6	
	comp=E,122nm,0.7s							
HOM	**Homer**	**3.57**	**335**			**Sn**	**04 05 20.4**	**-0.5**
HOM	**Homer**	**3.57**	**335**	S		**Sn**	**04 05 20.4**	**-0.5**
	baz=152							
P23K	**Montague Islan**	**3.59**	**10**			**Pn**	**04 04 39.4**	**+0.4**
P23K	**Montague Islan**	**3.59**	**10**	P		**Pn**	**04 04 39.4**	**+0.4**
	baz=191							
Q19K	**Cape Douglas,**	**3.64**	**314**			**Pn**	**04 04 41.2**	**+1.4**
Q19K	**Cape Douglas,**	**3.64**	**314**	IAML			04 05 32.8	
	comp=N,208nm,0.8s							
Q19K				IAML			04 05 33.7	
	comp=E,277nm,1.4s							
Q19K	**Cape Douglas,**	**3.64**	**314**	P		**Pn**	**04 04 41.2**	**+1.4**
	baz=131							
SEW	**Seward**	**3.66**	**354**			**Pn**	**04 04 40.2**	**+0.2**
SEW	**Seward**	**3.66**	**354**	P		**Pn**	**04 04 40.2**	**+0.2**
	baz=173							
AUCH	**Augustine Cone**	**3.87**	**320**			**Pn**	**04 04 44.0**	**+1.1**
P19K	**Oil Pt**	**4.01**	**324**			**Pn**	**04 04 45.7**	**+0.9**
P19K	**Oil Pt**	**4.01**	**324**	P		**Pn**	**04 04 45.7**	**+0.9**
	baz=141							
O22K	**Cooper Landing**	**4.05**	**352**			**Pn**	**04 04 45.9**	**+0.5**
O22K	**Cooper Landing**	**4.05**	**352**	P		**Pn**	**04 04 45.9**	**+0.5**
	baz=172							
HIN	**Hinchinbrook I**	**4.08**	**15**			**Pn**	**04 04 46.5**	**+0.7**
HIN	**Hinchinbrook I**	**4.08**	**15**	IAML			04 05 33.7	
	comp=N,142nm,1.4s							
HIN				IAML			04 05 36.3	
	comp=E,97nm,0.6s							
KAIM	**Kayak Island**	**4.11**	**31**			**Pn**	**04 04 46.9**	**+0.7**
KAIM	**Kayak Island**	**4.11**	**31**	IAML			04 05 40.0	
	comp=E,204nm,1.5s							
KAIM	**Kayak Island**	**4.11**	**31**	P		**Pn**	**04 04 46.9**	**+0.7**
	baz=214							
SLKM	**Skilak Lake**	**4.12**	**349**			**Pn**	**04 04 47.0**	**+0.5**
O20K	**Slope Mountain**	**4.18**	**331**			**Pn**	**04 04 48.3**	**+1.1**
O20K	**Slope Mountain**	**4.18**	**331**	P		**Pn**	**04 04 48.3**	**+1.1**
	baz=148							
IVE	**Iliamna Volcan**	**4.24**	**329**			**Pn**	**04 04 48.8**	**+0.7**
CNTC	**Contact Creek**	**4.32**	**297**			**Pn**	**04 04 50.6**	**+1.5**
Q17K	**Contact Creek**	**4.32**	**297**	P		**Pn**	**04 04 50.6**	**+1.5**
	baz=112							
EYAK	**Cordova Ski Ar**	**4.35**	**19**			**Pn**	**04 04 50.5**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.35**	**19**	P		**Pn**	**04 04 50.2**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.35**	**19**	P		**Pn**	**04 04 50.5**	**+1.0**
	baz=202							
RAGM	**Ragged Mountai**	**4.43**	**26**			**Pn**	**04 04 49.9**	**-0.8**
CAPN	**Captain Cook N**	**4.50**	**344**	Pn		**Pn**	**04 04 53.2**	**+1.7**
RED	**Redoubt Volcan**	**4.51**	**333**			**Pn**	**04 04 52.2**	**+0.4**
RDSO	**Redoubt South**	**4.53**	**333**			**Pn**	**04 04 52.7**	**+0.5**
RSO	**Redoubt South**	**4.54**	**333**	Pn		**Pn**	**04 04 53.0**	**+0.6**
RDT	**Redoubt**	**4.56**	**336**			**Pn**	**04 04 52.8**	**+0.4**
P18K	**Big Mountain,**	**4.57**	**312**			**Pn**	**04 04 53.3**	**+0.7**
P18K	**Big Mountain,**	**4.57**	**312**	P		**Pn**	**04 04 53.3**	**+0.7**
	baz=127							
RDWB	**Redoubt West**	**4.59**	**333**			**Pn**	**04 04 53.4**	**+0.5**
GOAT	**Goat Mountain**	**4.59**	**25**			**Pn**	**04 04 53.8**	**+0.9**
RC01	**Rabbit Creek A**	**4.66**	**353**			**Pn**	**04 04 54.7**	**+1.0**
RC01				IAML			04 05 48.3	
	comp=N,81nm,1.0s							
RC01				IAML			04 05 49.3	
	comp=E,84nm,0.5s							
RC01	**Rabbit Creek A**	**4.66**	**353**	P		**Pn**	**04 04 54.8**	**+1.0**
	baz=172							
NCT	**North Crescent**	**4.67**	**333**			**Pn**	**04 04 54.8**	**+0.8**
BERG	**Berg Lake**	**4.70**	**31**			**Pn**	**04 04 55.2**	**+0.9**
O19K	**Port Alsworth**	**4.78**	**324**			**Pn**	**04 04 56.2**	**+0.8**
O19K	**Port Alsworth**	**4.78**	**324**	P		**Pn**	**04 04 56.2**	**+0.8**
	baz=139							
SNH	**Sunshine Point**	**4.80**	**37**			**Pn**	**04 04 56.5**	**+0.7**
SNH	**Sunshine Point**	**4.80**	**37**	IAML			04 05 57.5	
	comp=E,74nm,1.4s							
SNH				IAML			04 06 02.3	
	comp=N,66nm,1.1s							
DIV	**Divide**	**4.89**	**16**			**Pn**	**04 04 57.9**	**+0.8**
KNK	**Knik Glacier**	**4.95**	**1**			**Pn**	**04 04 58.6**	**+0.8**
KNK	**Knik Glacier**	**4.95**	**1**	IAML			04 05 59.5	
	comp=E,44nm,1.1s							
KNK				IAML			04 06 02.5	
	comp=N,32nm,1.4s							
KNK	**Knik Glacier**	**4.95**	**1**	P		**Pn**	**04 04 58.6**	**+0.8**
	baz=181							
BMRM	**Bremner River**	**4.96**	**23**			**Pn**	**04 04 58.9**	**+0.9**
BMRM	**Bremner River**	**4.96**	**23**	P		**Pn**	**04 04 58.9**	**+0.9**
	baz=207							
N20K	**Mount Spurr**	**5.09**	**340**	P		**Pn**	**04 05 00.4**	**+0.8**
	baz=157							
SPCR	**Spurr Chakacha**	**5.09**	**340**			**Pn**	**04 05 00.4**	**+0.8**
SUA	**Susitna One**	**5.12**	**349**			**Pn**	**04 05 00.8**	**+0.7**
SUA	**Susitna One**	**5.12**	**349**	IAML			04 06 04.3	
	comp=N,37nm,1.5s							
SUA	**Susitna One**	**5.12**	**349**	P		**Pn**	**04 05 00.8**	**+0.7**
	baz=167							
PMR	**Palmer**	**5.13**	**357**	Pn		**Pn**	**04 05 00.9**	**+0.7**
PMR				IAML			04 06 05.6	
	comp=N,28nm,1.0s							
PMR	**Palmer**	**5.13**	**357**	P		**Pn**	**04 05 01.1**	**+0.9**
SPCP	**Crater Peak Br**	**5.14**	**341**			**Pn**	**04 05 01.5**	**+1.0**
KLU	**Klutina**	**5.22**	**14**	Pn		**Pn**	**04 05 02.6**	**+1.1**
KLU				IAML			04 06 02.4	
	comp=N,48nm,0.6s							
KLU				IAML			04 06 04.6	
	comp=E,35nm,0.5s							
KLU	**Klutina**	**5.22**	**14**	P		**Pn**	**04 05 02.5**	**+1.0**
	baz=197							
STLK	**Strandline Lak**	**5.30**	**343**			**Pn**	**04 05 03.3**	**+0.7**
GHO	**Glory Hole Cre**	**5.31**	**358**			**Pn**	**04 05 04.1**	**+1.4**
GHO	**Glory Hole Cre**	**5.31**	**358**	IAML			04 06 03.3	
	comp=N,55nm,1.1s							
GHO				IAML			04 06 06.9	
	comp=E,46nm,1.2s							
N19K	**Bonanza Creek**	**5.31**	**327**			**Pn**	**04 05 03.4**	**+0.6**
N19K	**Bonanza Creek**	**5.31**	**327**	P		**Pn**	**04 05 03.4**	**+0.6**
	baz=142							
SML	**Sawmill**	**5.35**	**2**	Pn		**Pn**	**04 05 04.6**	**+1.4**
SML				IAML			04 06 04.4	
	comp=N,34nm,0.7s							
SML				IAML			04 06 07.9	
	comp=E,42nm,1.2s							
SML	**Sawmill**	**5.35**	**2**	P		**Pn**	**04 05 04.6**	**+1.4**
	baz=182							
M23K	**Glacier View**	**5.35**	**5**			**Pn**	**04 05 04.2**	**+0.9**
M23K	**Glacier View**	**5.35**	**5**	P		**Pn**	**04 05 04.2**	**+0.9**
	baz=185							
SCM	**Sheep Creek Mo**	**5.41**	**7**			**Pn**	**04 05 05.5**	**+1.4**
SCM	**Sheep Creek Mo**	**5.41**	**7**	P		**Pn**	**04 05 05.5**	**+1.4**
	baz=188							
VRDI	**Verde Repeater**	**5.47**	**27**			**Pn**	**04 05 05.5**	**+0.5**
SAMH	**Samovar Hills**	**5.52**	**45**			**Pn**	**04 05 07.0**	**+1.3**
KIAG	**Kiagna River**	**5.52**	**34**			**Pn**	**04 05 06.5**	**+0.8**
N25K	**Chitina, Valde**	**5.54**	**20**			**Pn**	**04 05 07.2**	**+1.2**
N25K	**Chitina, Valde**	**5.54**	**20**	P		**Pn**	**04 05 07.2**	**+1.2**
	baz=204							
GLB	**Gilahina Butte**	**5.56**	**25**			**Pn**	**04 05 07.2**	**+1.0**
N18K	**Kilae Creek**	**5.67**	**321**			**Pn**	**04 05 08.2**	**+0.6**
N18K	**Kilae Creek**	**5.67**	**321**	P		**Pn**	**04 05 08.2**	**+0.6**
	baz=135							
PTPK	**Patty Peak**	**5.70**	**32**			**Pn**	**04 05 09.4**	**+1.1**
MCARA	**McCarthy VSAT**	**5.71**	**28**			**Pn**	**04 05 08.5**	**+0.4**
MCARA	**McCarthy VSAT**	**5.71**	**28**	P		**Pn**	**04 05 08.5**	**+0.4**
	baz=213							
PCA	**Pinnacle**	**5.71**	**47**			**Pn**	**04 05 09.5**	**+1.2**
PINM	**Pinnacle**	**5.71**	**47**	P		**Pn**	**04 05 09.5**	**+1.2**
	baz=234							
SKT	**Skwentna**	**5.71**	**346**	Pn		**Pn**	**04 05 08.5**	**+0.3**
M24K	**Tolsona, Glenn**	**5.78**	**12**			**Pn**	**04 05 10.3**	**+1.1**
M24K	**Tolsona, Glenn**	**5.78**	**12**	P		**Pn**	**04 05 10.3**	**+1.1**
	baz=194							
PNL	**Peninsula**	**5.85**	**53**			**Pn**	**04 05 11.5**	**+1.4**
PNL	**Peninsula**	**5.85**	**53**	P		**Pn**	**04 05 10.9**	**+0.8**
PNL	**Peninsula**	**5.85**	**53**	P		**Pn**	**04 05 11.5**	**+1.4**
	baz=241							
BARN	**Barnard Glacie**	**5.85**	**35**			**Pn**	**04 05 11.1**	**+0.9**
SVW2	**Sparrevohn**	**5.87**	**325**	Pn		**Pn**	**04 05 11.8**	**+1.4**
CTG	**Chitina Glacier**	**5.88**	**37**	P		**Pn**	**04 05 11.5**	**+0.8**
	baz=223							
CTGM	**Chitina Glacie**	**5.89**	**37**			**Pn**	**04 05 09.3**	**-1.4**
CTGM						**Sn**	**04 06 15.2**	**-3.0**
M20K	**Styx River**	**5.89**	**339**			**Pn**	**04 05 11.5**	**+0.7**
M20K	**Styx River**	**5.89**	**339**	P		**Pn**	**04 05 11.5**	**+0.7**
	baz=155							
LOGN	**Logan Glacier**	**5.90**	**39**			**Pn**	**04 05 11.4**	**+0.5**
O16K	**Kokwok River B**	**5.92**	**306**			**Pn**	**04 05 11.9**	**+0.9**
O16K	**Kokwok River B**	**5.92**	**306**	P		**Pn**	**04 05 11.9**	**+0.9**
	baz=118							
WACK	**Wrangell Chich**	**5.95**	**20**			**Pn**	**04 05 12.7**	**+1.1**
CUT	**Chulitna**	**6.00**	**353**	Pn		**Pn**	**04 05 12.8**	**+0.7**
N17K	**Nushagak Hills**	**6.05**	**316**			**Pn**	**04 05 13.3**	**+0.6**
N17K	**Nushagak Hills**	**6.05**	**316**	P		**Pn**	**04 05 13.3**	**+0.6**
	baz=129							
WAT6	**Susitna Watana**	**6.14**	**4**			**Pn**	**04 05 15.4**	**+1.2**
WAT6	**Susitna Watana**	**6.14**	**4**	P		**Pn**	**04 05 15.4**	**+1.2**
	baz=185							
M19K	**Big River Lodg**	**6.19**	**334**			**Pn**	**04 05 15.1**	**+0.3**
M19K	**Big River Lodg**	**6.19**	**334**	P		**Pn**	**04 05 15.1**	**+0.3**
	baz=149							
HARP	**HAARP**	**6.20**	**15**			**Pn**	**04 05 16.0**	**+1.2**
HARP	**HAARP**	**6.20**	**15**	P		**Pn**	**04 05 16.0**	**+1.2**
	baz=198							
M18K	**Stony River**	**6.25**	**326**			**Pn**	**04 05 15.8**	**+0.3**
M18K	**Stony River**	**6.25**	**326**	P		**Pn**	**04 05 15.8**	**+0.3**
	baz=140							
WAT7	**Susitna Watana**	**6.38**	**359**			**Pn**	**04 05 18.6**	**+1.2**
CHNA	**Chernabura Isl**	**6.42**	**260**	P		**Pn**	**04 05 18.3**	**+0.4**
	baz=71							
CNBA	**Chernabura Isl**	**6.42**	**260**			**Pn**	**04 05 18.3**	**+0.4**
O29M	**Mount Kennedy**	**6.53**	**50**			**Pn**	**04 05 20.8**	**+1.3**
O29M	**Mount Kennedy**	**6.53**	**50**	P		**Pn**	**04 05 20.7**	**+1.3**
	baz=238							
O15K	**Ungalikthiuk R**	**6.56**	**299**			**Pn**	**04 05 21.0**	**+1.2**
O15K	**Ungalikthiuk R**	**6.56**	**299**	P		**Pn**	**04 05 21.0**	**+1.2**
	baz=110							
L20K	**Farewell, AK**	**6.58**	**338**			**Pn**	**04 05 20.5**	**+0.4**
L20K	**Farewell, AK**	**6.58**	**338**	P		**Pn**	**04 05 20.5**	**+0.4**
	baz=154							
P29M	**Windy Craggy**	**6.58**	**57**			**Pn**	**04 05 20.8**	**+0.6**
P29M	**Windy Craggy**	**6.58**	**57**	P		**Pn**	**04 05 20.9**	**+0.6**
	baz=246							
DHY	**Denali Highway**	**6.65**	**5**			**Pn**	**04 05 22.7**	**+1.6**
DHY	**Denali Highway**	**6.65**	**5**	P		**Pn**	**04 05 22.7**	**+1.6**
	baz=186							
N16K	**Nishlik Lake**	**6.65**	**311**			**Pn**	**04 05 22.4**	**+1.3**
N16K	**Nishlik Lake**	**6.65**	**311**	P		**Pn**	**04 05 22.4**	**+1.3**
	baz=123							
PAX	**Paxson**	**6.70**	**12**			**Pn**	**04 05 22.8**	**+0.9**
PAX	**Paxson**	**6.70**	**12**	P		**Pn**	**04 05 22.8**	**+0.9**
	baz=195							
SDPT	**Sand Point**	**6.76**	**265**	P		**Pn**	**04 05 23.6**	**+1.1**
S31K	**Pelican**	**6.89**	**72**			**Pn**	**04 05 23.4**	**-1.0**
S31K	**Pelican**	**6.89**	**72**	P		**Pn**	**04 05 23.4**	**-1.0**
	baz=263							
RND	**Reindeer**	**6.95**	**359**			**Pn**	**04 05 26.3**	**+1.1**
YUK6	**Outpost Mounta**	**6.97**	**46**			**Pn**	**04 05 27.2**	**+1.6**
YUK6	**Outpost Mounta**	**6.97**	**46**	P		**Pn**	**04 05 27.2**	**+1.6**
	baz=234							
TRF	**Thorofare Moun**	**7.04**	**354**			**Pn**	**04 05 27.8**	**+1.2**
TRF	**Thorofare Moun**	**7.04**	**354**	P		**Pn**	**04 05 27.8**	**+1.2**
	baz=172							
N15K	**Kwethluk River**	**7.08**	**306**			**Pn**	**04 05 28.7**	**+1.8**
N15K	**Kwethluk River**	**7.08**	**306**	P		**Pn**	**04 05 28.7**	**+1.8**
	baz=117							
L26K	**Log Cabin Wild**	**7.08**	**20**			**Pn**	**04 05 28.7**	**+1.7**
BVCY	**Beaver Creek**	**7.14**	**30**			**Pn**	**04 05 28.7**	**+0.9**
BVCY	**Beaver Creek**	**7.14**	**30**	P		**Pn**	**04 05 28.7**	**+0.9**
	baz=217							
P30M	**Million Dollar**	**7.15**	**54**			**Pn**	**04 05 28.9**	**+1.0**
P30M	**Million Dollar**	**7.15**	**54**	P		**Pn**	**04 05 29.0**	**+1.0**
	baz=244							
CAST	**Castle Rocks**	**7.17**	**347**			**Pn**	**04 05 29.7**	**+1.4**
CAST	**Castle Rocks**	**7.17**	**347**	P		**Pn**	**04 05 29.7**	**+1.4**
	baz=165							
KTH	**Kantishna Hill**	**7.19**	**352**	Pn		**Pn**	**04 05 30.2**	**+1.7**
MCK	**McKinley**	**7.28**	**359**			**Pn**	**04 05 31.1**	**+1.4**
MCK	**McKinley**	**7.28**	**359**	P		**Pn**	**04 05 31.1**	**+1.4**
	baz=179							
SIT	**Sitka**	**7.34**	**80**	P		Pn	04 05 27.9	-2.5
L27K	**Beaver Creek,**	**7.44**	**25**			**Pn**	**04 05 32.6**	**+0.7**
L27K	**Beaver Creek,**	**7.44**	**25**	P		**Pn**	**04 05 32.6**	**+0.7**
	baz=210							
RIDG	**Independent Ri**	**7.52**	**13**	Pn		**Pn**	**04 05 34.3**	**+1.2**
PN7A	**Pavlof North-7**	**7.58**	**268**			**Pn**	**04 05 34.4**	**+0.5**
SKAG	**Skagway**	**7.67**	**62**	P		**Pn**	**04 05 34.7**	**-0.4**
BPAW	**Bear Paw Mtn.**	**7.73**	**352**			**Pn**	**04 05 37.5**	**+1.6**
BPAW	**Bear Paw Mtn.**	**7.73**	**352**	P		**Pn**	**04 05 37.5**	**+1.6**
	baz=170							
O30N	**Mendenhall**	**7.83**	**51**	Pn		**Pn**	**04 05 38.4**	**+1.1**
M29M	**Somme Creek**	**7.90**	**37**			**Pn**	**04 05 39.7**	**+1.4**
JIS	**Juneau Island**	**7.91**	**71**			**Pn**	**04 05 38.6**	**+0.4**
JIS	**Juneau Island**	**7.91**	**71**	P		**Pn**	**04 05 38.7**	**+0.4**
HDA	**Harding Lake**	**8.00**	**5**			**Pn**	**04 05 40.4**	**+0.9**
CCB	**Clear Creek Bu**	**8.21**	**2**			**Pn**	**04 05 43.5**	**+1.2**
WHY	**Whitehorse**	**8.31**	**54**			**Pn**	**04 05 45.4**	**+1.5**
N31M	**Braeburn, Yuko**	**8.31**	**48**			**Pn**	**04 05 45.3**	**+1.4**
N31M	**Braeburn, Yuko**	**8.31**	**48**	P		**Pn**	**04 05 45.3**	**+1.4**
	baz=238							
IL31		**8.36**	**5**	Pn		**Pn**	**04 05 45.4**	**+0.9**
J26L	**Joseph Creek**	**8.42**	**15**			**Pn**	**04 05 45.8**	**+0.4**
COLA	**College**	**8.43**	**2**	P		**Pn**	**04 05 46.2**	**+0.8**
L29M	**L29M**	**8.49**	**34**	Pn		**Pn**	**04 05 47.9**	**+1.6**
P32M	**Atlin**	**8.50**	**62**			**Pn**	**04 05 47.4**	**+0.9**
P32M	**Atlin**	**8.50**	**62**	P		**Pn**	**04 05 47.4**	**+0.9**
	baz=255							
ISLZ	**Isanotski Laza**	**8.72**	**265**			**Pn**	**04 05 50.1**	**+0.6**
CRAG	**Craig**	**8.76**	**90**	P		Pn	04 05 47.5	-2.4
I21K	**Tanana**	**8.88**	**351**			**Pn**	**04 05 52.3**	**+0.7**
P33M	**Teslin, Yukon**	**9.11**	**59**			**Pn**	**04 05 55.9**	**+1.1**
P33M	**Teslin, Yukon**	**9.11**	**59**	P		**Pn**	**04 05 55.9**	**+1.1**

O15K	Ungalikthiuk R	6.36	305	P		Pn	04 36 20.7	+0.3
	baz=118							
KIAG	Kiagna River	6.37	34			Pn	04 36 20.7	+0.1
GLB	Gilahina Butte	6.37	26			Pn	04 36 20.9	+0.3
SAMH	Samovar Hills	6.38	44			Pn	04 36 21.5	+0.8
MCARA	McCarthy VSAT	6.53	30			Pn	04 36 23.7	+0.9
MCARA	McCarthy VSAT	6.53	30	P		Pn	04 36 23.7	+0.9
	baz=215							
PTPK	Patty Peak	6.54	33			Pn	04 36 23.6	+0.7
PCA	Pinnacle	6.57	46			Pn	04 36 23.5	+0.2
PINM	Pinnacle	6.57	46	P		Pn	04 36 23.5	+0.2
	baz=233							
BARN	Barnard Glacie	6.70	36			Pn	04 36 25.6	+0.5
PNL	Peninsula	6.70	51			Pn	04 36 25.2	+0.1
PNL	Peninsula	6.70	51	P		Pn	04 36 25.2	+0.1
	baz=239							
CTG	Chitna Glacier	6.74	37	P		Pn	04 36 25.6	0.0
	baz=224							
CTGM	Chitina Glacie	6.74	37			Pn	04 36 25.6	0.0
M16K	Timber Creek	7.07	321			Pn	04 36 31.0	+0.9
M16K	Timber Creek	7.07	321	P		Pn	04 36 31.0	+0.9
	baz=133							
O29M	Mount Kennedy	7.38	49			Pn	04 36 35.1	+0.6
O29M	Mount Kennedy	7.38	49	P		Pn	04 36 35.1	+0.6
	baz=237							
P29M	Windy Craggy	7.43	55			Pn	04 36 34.8	-0.3
P29M	Windy Craggy	7.43	55	P		Pn	04 36 34.8	-0.3
	baz=244							
ISLZ	Isanotski Laza	8.07	268			Pn	04 36 44.5	+0.7
N30M	Aishikik Lake	8.63	44			Pn	04 36 51.9	+0.3
N30M	Aishikik Lake	8.63	44	P		Pn	04 36 51.9	+0.3
	baz=234							

DJA 26 04:36:14.2±0.5,1°S±2°×12°0E±°,h10km±4km,M3.9/12, mb4.3/5,mB5.4/1,MLv3.7/12,Mw(mB)4.9/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTSI	Tana Toraja	1.65	198	P	Pg	04 36 46.6	+0.7
TTSI				S	Sn	04 37 04.7	+0.2
MPSI	Mapaga	1.85	346	P	Pn	04 36 41.8	-4.2
MPSI				Pn	Pb	04 36 46.1	-2.0
LUWI	Luwuk	2.47	80	Pg	Pg	04 37 01.8	+0.2
LUWI				Pn	Pn	04 36 54.5	0.0
LUWI				S	Sn	04 37 24.3	-0.4
PMSI	Majene	2.47	215	P	Pn	04 36 54.1	-0.5
PMSI				Pg	Pg	04 37 01.3	-0.3
MRSI	Marisa	2.51	40	P	Pn	04 36 53.1	-2.0
MKS	Makassar	3.82	193	Pn	Pn	04 37 12.4	-0.8
SANI	Sanana	5.67	96	Pn	Pn	04 37 39.8	+1.2
	21nm,0.9s,0.1nm						
NLAI	Namlea	6.98	105	Pn	Pn	04 37 56.8	+0.2
	15nm,1.1s,3µm0.1nm						
LBMI	Labuha	7.21	83	Pn	Pn	04 38 01.5	+1.8
	34nm,1.8s,0.2nm						
MMRI	Maumere	7.37	165	Pn	Pn	04 38 01.9	0.0
	91nm,0.7s,0.5nm						
TNTI	Ternate	7.37	72	Pn	Pn	04 38 02.4	+0.4

*NEIC **26** 04:36:43.0±1.3,56°2N±0°.1×150°.1W±0°.1,h30km±15km, ML3.3/22,ML3.2(AEIC),Error ellipse: s-maj=15.8km s-min=9.5km az=170.0*
*AEIC **26** 04:36:45.4±1.4,56°.2N±0°.1×150°.0W±0°.1,h10km±8km, Error ellipse: s-maj=15.1km s-min=9.2km az=168.0*
ISC 26 04:36:41.1±2.0,56°2N±0°.1×150°.08W±0°.06,h10km,n53, σ0s90/56,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.02	300	IAML		04 37 39.4	
	comp=N,139nm,0.3s						
OHAK				IAML		04 37 39.5	
	comp=E,99nm,0.3s						
OHAK	Old Harbor	2.02	300		Pn	04 37 15.9	+0.7
OHAK					Sn	04 37 38.9	-1.6
OHAK	Old Harbor	2.02	300	P	Pn	04 37 15.9	+0.7
	baz=119						
OHAK				S	Sn	04 37 38.9	-1.6
	baz=119						
KDAK	Kodiak Island	2.07	320		Pn	04 37 16.8	+1.0
KDAK	Kodiak Island	2.07	320		Sn	04 37 41.2	-0.3
KDAK	Kodiak Island	2.07	320	S	Sn	04 37 41.2	-0.3
	baz=138						
SII	Sitkinak Islan	2.30	280		Sn	04 37 46.3	-1.2
SII	Sitkinak Islan	2.30	280	S	Sn	04 37 46.3	-1.2
	baz=98						
SYI	Shuyak Island	2.69	333		Pn	04 37 25.3	+1.0
SYI					Sn	04 37 56.5	-0.3
SYI	Shuyak Island	2.69	333	IAML		04 37 59.9	
	comp=E,59nm,1.2s						
Q20K	Shuyak Island	2.69	333	P	Pn	04 37 25.3	+1.0
	baz=151						
Q20K				S	Sn	04 37 56.5	-0.3
	baz=151						
Q19K	Cape Douglas,	3.31	326		Pn	04 37 33.6	+0.7
Q19K	Cape Douglas,	3.31	326	P	Pn	04 37 33.6	+0.7
	baz=143						
CNPM	China Poot	3.35	350		Pn	04 37 34.1	+0.6
CNPM					Sn	04 38 12.6	-0.7
CNPM	China Poot	3.35	350	IAML		04 38 12.9	
	comp=E,39nm,1.5s						
CNPM				IAML		04 38 14.9	
	comp=N,70nm,1.0s						
BRSE	Bradley Lake S	3.53	355		Pn	04 37 35.8	-0.1
BRSE					Sn	04 38 16.8	-0.9
BRSE	Bradley Lake S	3.53	355	P	Pn	04 37 35.8	-0.1
	baz=173						
BRSE				S	Sn	04 38 16.8	-0.9
	baz=173						
CNTC	Contact Creek	3.75	305		Pn	04 37 40.4	+1.4
Q17K	Contact Creek	3.75	305	P	Pn	04 37 40.4	+1.4
	baz=121						
P19K	Oil Pt	3.81	335		Pn	04 37 41.6	+1.7
P19K					Sn	04 38 24.3	-0.3
P19K	Oil Pt	3.81	335	IAML		04 38 29.4	
	comp=E,65nm,1.4s						
P19K	Oil Pt	3.81	335	P	Pn	04 37 41.6	+1.7
	baz=152						
P19K				S	Sn	04 38 24.3	-0.3
	baz=152						
SEW	Seward	3.89	5		Pn	04 37 40.9	+0.1
SEW	Seward	3.89	5	P	Pn	04 37 40.9	+0.1
	baz=184						
O20K	Slope Mountain	4.08	342		Pn	04 37 44.4	+0.9
O20K	Slope Mountain	4.08	342	P	Pn	04 37 44.4	+0.9
	baz=159						
IVE	Iliamna Volcan	4.09	339		Pn	04 37 44.5	+0.7
P18K	Big Mountain,	4.19	321		Pn	04 37 45.5	+0.4
P18K	Big Mountain,	4.19	321	P	Pn	04 37 45.5	+0.4
	baz=137						
O22K	Cooper Landing	4.26	2	Pn	Pn	04 37 45.9	0.0
RED	Redoubt Volcan	4.42	342		Pn	04 37 48.3	0.0
RSO	Redoubt South	4.46	343	Pn	Pn	04 37 49.5	+0.6
RDWB	Redoubt West	4.50	342		Pn	04 37 49.5	+0.1
O19K	Port Alsworth	4.56	332		Pn	04 37 51.1	+1.2
O19K	Port Alsworth	4.56	332	IAML		04 38 50.8	
	comp=E,52nm,0.5s						
O19K				IAML		04 40 48.1	
	comp=N,42nm,0.5s						
O19K	Port Alsworth	4.56	332	P	Pn	04 37 51.1	+1.2
	baz=148						
NCT	North Crescent	4.59	342		Pn	04 37 50.6	+0.1
RC01	Rabbit Creek A	4.87	2	Pn	Pn	04 37 54.1	-0.2
RC01				IAML		04 38 56.9	
	comp=E,23nm,1.5s						
RC01				IAML		04 41 13.9	
	comp=N,26nm,1.3s						
N19K	Bonanza Creek	5.13	335		Pn	04 37 58.5	+0.5
N19K	Bonanza Creek	5.13	335	IAML		04 41 15.0	
	comp=E,11nm,1.4s						
N19K				IAML		04 41 24.7	
	comp=N,18nm,0.9s						
N19K	Bonanza Creek	5.13	335	P	Pn	04 37 58.5	+0.5
	baz=151						
N18K	Kilae Creek	5.40	328		Pn	04 38 02.4	+0.8
N18K	Kilae Creek	5.40	328	P	Pn	04 38 02.4	+0.8
	baz=143						
GHO	Glory Hole Cre	5.58	6		Pn	04 38 04.9	+0.8
KLU	Klutina	5.69	21		Pn	04 38 06.5	+0.9
KLU	Klutina	5.69	21	P	Pn	04 38 06.5	+0.9
	baz=203						
M18K	Stony River	6.05	333		Pn	04 38 11.3	+0.8
M18K	Stony River	6.05	333	P	Pn	04 38 11.3	+0.8
	baz=148						
BARN	Barnard Glacie	6.53	39		Pn	04 38 17.7	+0.4
P29M	Windy Craggy	7.39	58		Pn	04 38 30.6	+1.6
P29M	Windy Craggy	7.39	58	P	Pn	04 38 30.6	+1.6
	baz=247						
S31K	Pelican	7.74	71		Pn	04 38 32.8	-0.8
S31K	Pelican	7.74	71	P	Pn	04 38 32.8	-0.8
	baz=262						

*NEIC **26** 04:39:50.7±1.7,55°.93N±0°.07×150°.29W±0°.04,h10km±1km, mb4.2/14,ML4.1/42,ML4.1(AEIC),Error ellipse: s-maj=12.0km s-min=4.0km az=176.0*
*IDC **26** 04:39:50.2±0.9,55°.90N×150°.32W,h0km,mb3.9/11, mbtmp3.9/16,ML3.6/5,MS3.5/23,Error ellipse: s-maj=23.1km s-min=13.2km az=37.0*
*AEIC **26** 04:39:54.0±1.5,55°.86N±0°.08×150°.2W±0°.1,h10km±5km, Error ellipse: s-maj=11.8km s-min=8.7km az=180.0*
ISC 26 04:39:51.7±0.7,56°02N±0°.07×150°25W±0°.05,h10km, n268,σ0s84/238,mb4.2/17,MS3.5/19,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.07	307	Pn	Pn	04 40 25.3	-1.1
OHAK	Old Harbor	2.07	307		Sn	04 40 49.8	-2.4
OHAK	Old Harbor	2.07	307	P	Pn	04 40 25.2	-1.1
	baz=127						
OHAK				S	Sn	04 40 49.8	-2.4
	baz=127						
KDAK	Kodiak Island	2.19	325	Pn	Pn	04 40 27.6	-0.4
KDAK	Kodiak Island	2.19	325		Sn	04 40 54.0	-1.1
KDAK	Kodiak Island	2.19	325	Pn	Pn	04 40 27.5	-0.5
	24nm,0.3s,baz=154,slow=4.9,SNR=42						
KDAK					Sn	04 40 53.8	-1.3
	9.9nm,0.3s,baz=313,slow=17,SNR=8.1 79nm,0.3s						
SII	Sitkinak Islan	2.26	286		Pn	04 40 27.5	-1.6
SII					Sn	04 40 53.8	-3.2
SII	Sitkinak Islan	2.26	286	IAML		04 41 01.6	
	comp=E,1µm,0.6s						
SII				IAML		04 41 01.8	
	comp=N,1µm,0.7s						
Q20K	Shuyak Island	2.85	337	P	Pn	04 40 36.8	-0.3
	baz=156						
Q20K				S	Sn	04 41 10.6	-0.8
	baz=156						
SYI	Shuyak Island	2.85	337	Pn	Pn	04 40 37.0	-0.1
SYI	Shuyak Island	2.85	337		Sn	04 41 10.6	-0.8
KAHG	Katmai Hook Gl	3.41	319		Pn	04 40 45.8	+0.9
Q19K	Cape Douglas,	3.45	329		Pn	04 40 45.9	+0.5
Q19K					Sn	04 41 23.4	-2.9
Q19K	Cape Douglas,	3.45	329	P	Pn	04 40 46.1	+0.7
	baz=147						
Q19K				S	Sn	04 41 23.4	-2.9
	baz=147						
ACHA	Angle Creek He	3.54	311		Pn	04 40 47.5	+0.8
CNPM	China Poot	3.56	352		Pn	04 40 46.1	-0.8
CNPM					Sn	04 41 28.8	-0.3
CNPM	China Poot	3.56	352	IAML		04 41 29.6	
	comp=E,366nm,0.9s						
CNPM				IAML		04 41 30.2	
	comp=N,234nm,0.7s						
ANCK	Angle Creek	3.60	310		Pn	04 40 47.8	+0.3
KVTA	Katmai Vly 10	3.63	313		Pn	04 40 48.7	+0.8
KAHC	Katmai Hardscr	3.69	318		Pn	04 40 49.4	+0.6
KAHC	Katmai Hardscr	3.69	318	P	Pn	04 40 49.4	+0.6
	baz=135						
PLK3	Peulik 3	3.71	299		Pn	04 40 48.6	-0.3
HOM	Homer	3.73	349		Pn	04 40 49.8	+0.6
HOM					Sn	04 41 31.9	-1.2
BRSE	Bradley Lake S	3.75	356		Pn	04 40 48.5	-1.0
BRSE					Sn	04 41 33.3	-0.3
BRSE	Bradley Lake S	3.75	356	P	Pn	04 40 48.5	-1.0
	baz=176						
BRLK	Bradley Lake	3.77	355		Pn	04 40 48.7	-1.2
BRLK	Bradley Lake	3.77	355	IAML		04 41 34.8	
	comp=E,206nm,0.7s						
CNTC	Contact Creek	3.81	309		Pn	04 40 50.4	0.0
Q17K	Contact Creek	3.81	309	P	Pn	04 40 50.4	0.0
	baz=126						
PLK1	Peulik 1	3.92	300		Pn	04 40 51.7	-0.1
P19K	Oil Pt	3.98	338		Pn	04 40 52.9	+0.1
P19K	Oil Pt	3.98	338	IAML		04 41 43.7	
	comp=E,459nm,0.7s						
P19K				IAML		04 41 46.0	
	comp=N,540nm,0.6s						
Q23K	Middleton Isla	4.01	30		Pn	04 40 51.9	-1.2
Q23K	Middleton Isla	4.01	30	IAML		04 43 02.5	
	comp=N,189nm,1.5s						
Q23K				IAML		04 43 03.6	
	comp=E,250nm,1.4s						
MID	Middleton Isla	4.01	30		Pn	04 40 51.9	-1.2
MID	Middleton Isla	4.01	30	IAML		04 42 56.3	
	comp=N,189nm,1.4s						
MID				IAML		04 43 03.5	
	comp=E,229nm,1.4s						
MID	Middleton Isla	4.01	30	P	Pn	04 40 52.2	-0.9
SEW	Seward	4.12	6		Pn	04 40 53.2	-1.4
O20K	Slope Mountain	4.27	344		Pn	04 40 56.2	-0.5
P23K	Montague Islan	4.27	20		Pn	04 40 55.7	-1.0
IVE	Iliamna Volcan	4.27	341		Pn	04 40 56.1	-0.7
P18K	Big Mountain,	4.31	324		Pn	04 40 56.9	-0.4
P18K	Big Mountain,	4.31	324	P	Pn	04 40 57.1	-0.2
	baz=140						
R16K	Pilot Point	4.32	294		Pn	04 40 56.5	-0.8
R16K	Pilot Point	4.32	294	IAML		04 42 55.4	
	comp=E,187nm,1.4s						
R16K				IAML		04 42 57.6	
	comp=N,212nm,1.3s						
Q16K	King Salmon	4.38	310		Pn	04 40 57.8	-0.3
Q16K	King Salmon	4.38	310	P	Pn	04 40 58.1	0.0
	baz=126						
O22K	Cooper Landing	4.49	3		Pn	04 41 00.3	+0.7
ANNW	Aniakchak Nort	4.52	285		Pn	04 41 00.5	+0.4
P17K	Kvichak River	4.61	316		Pn	04 41 01.5	+0.2
P17K	Kvichak River	4.61	316	P	Pn	04 41 02.0	+0.7
	baz=132						
RSO	Redoubt South	4.65	345		Pn	04 41 02.7	+0.6
O18K	Koktuh Hills	4.67	328		Pn	04 41 02.4	+0.2
O18K				IAML		04 42 01.4	
	comp=N,117nm,0.9s						
O18K				IAML		04 42 15.3	
	comp=E,112nm,0.9s						
O18K	Koktuh Hills	4.67	328	P	Pn	04 41 02.3	+0.2
	baz=144						
RDWB	Redoubt West	4.69	344		Pn	04 41 01.8	-0.8
O19K	Port Alsworth	4.71	334		Pn	04 41 02.1	-0.6
O19K	Port Alsworth	4.71	334	P	Pn	04 41 03.5	+0.8
	baz=152						
NCT	North Crescent	4.77	344		Pn	04 41 02.4	-1.2
HIN	Hinchinbrook I	4.82	23		Pn	04 41 03.2	-1.0
HIN	Hinchinbrook I	4.82	23	IAML		04 42 00.8	
	comp=N,184nm,1.0s						
HIN				IAML		04 42 05.1	
	comp=E,283nm,1.0s						
KAIM	Kayak Island	5.00	36		Pn	04 41 05.7	-1.0
KAIM	Kayak Island	5.00	36	IAML		04 42 06.1	
	comp=N,259nm,1.5s						
KAIM				IAML		04 42 13.3	
	comp=E,155nm,1.4s						
RC01	Rabbit Creek A	5.09	3		Pn	04 41 07.5	-0.6
RC01	Rabbit Creek A	5.09	3	IAML		04 42 09.3	
	comp=E,124nm,0.6s						
RC01				IAML		04 42 09.4	
	comp=N,95nm,0.7s						
EYAK	Cordova Ski Ar	5.13	26		Pn	04 41 07.8	-0.6
EYAK	Cordova Ski Ar	5.13	26	P	Pn	04 41 08.0	-0.4
EYAK	Cordova Ski Ar	5.13	26	P	Pn	04 41 07.8	-0.6
	baz=208						
P16K	Nushagak River	5.15	309		Pn	04 41 08.4	-0.3
P16K	Nushagak River	5.15	309	P	Pn	04 41 09.1	+0.3
	baz=124						
VNFG	Fog Glacier, M	5.21	277		Pn	04 41 08.2	-1.5
O17K	Koliganek Bris	5.24	319		Pn	04 41 10.0	0.0
N19K	Bonanza Creek	5.30	337		Pn	04 41 10.2	-0.7
N19K	Bonanza Creek	5.30	337	IAML		04 42 30.2	
	comp=N,84nm,0.8s						
SPCR	Spurr Chakacha	5.30	350		Pn	04 41 09.9	-0.9
GOAT	Goat Mountain	5.42	30		Pn	04 41 12.0	-0.5
CNBA	Chernabura Isl	5.45	261		Pn	04 41 10.4	-2.5
SUA	Susitna One	5.47	357		Pn	04 41 12.3	-1.0
KNK	Knik Glacier	5.49	9		Pn	04 41 12.4	-1.1
O16K	Kokwok River B	5.52	314		Pn	04 41 13.6	-0.2
O16K	Kokwok River B	5.52	314	P	Pn	04 41 13.9	+0.1
	baz=128						
N18K	Kilae Creek	5.54	330		Pn	04 41 13.8	-0.3
STLK	Strandline Lak	5.56	352		Pn	04 41 13.8	-0.6
BERG	Berg Lake	5.59	36		Pn	04 41 14.1	-0.7
PMR	Palmer	5.62	5	Pn	Pn	04 41 14.8	-0.4
PMR	Palmer	5.62	5	P	Pn	04 41 15.5	+0.3
DIV	Divide	5.64	23		Pn	04 41 15.1	-0.4
SNH	Sunshine Point	5.73	40		Pn	04 41 15.9	-0.9
BMRM	Bremner River	5.78	28		Pn	04 41 16.7	-0.7
BMRM	Bremner River	5.78	28	P	Pn	04 41 17.0	-0.5
	baz=212						
GHO	Glory Hole Cre	5.81	6		Pn	04 41 17.4	-0.5
N17K	Nushagak Hills	5.82	324		Pn	04 41 17.6	-0.3
SDPT	Sand Point	5.83	268		Pn	04 41 16.2	-1.8
SML	Sawmill	5.89	9		Pn	04 41 18.5	-0.5
KLU	Klutina	5.93	20		Pn	04 41 19.6	0.0
KLU	Klutina	5.93	20	P	Pn	04 41 19.5	-0.1
	baz=203						
BARK	Barkley Ridge	6.01	40		Pn	04 41 19.9	-0.8
SKT	Skwentna	6.02	354		Pn	04 41 20.7	0.0
SCM	Sheep Creek Mo	6.03	13		Pn	04 41 20.5	-0.3
O15K	Ungalikthiuk R	6.04	306		Pn	04 41 20.8	-0.2
M20K	Styx River	6.07	347		Pn	04 41 21.4	-0.1
M19K	Big River Lodg	6.28	342		Pn	04 41 24.5	+0.2
VRDI	Verde Repeater	6.32	31		Pn	04 41 24.1	-0.8
N25K	Chitina, Valde	6.33	25		Pn	04 41 24.5	-0.4
N25K	Chitina, Valde	6.33	25	P	Pn	04 41 24.8	-0.2
	baz=209						
N16K	Nishlik Lake	6.34	318		Pn	04 41 25.4	+0.3
GLB	Gilahina Butte	6.39	29		Pn	04 41 25.3	-0.5
KIAG	Kiagna River	6.43	37		Pn	04 41 25.8	-0.7
M24K	Tolsona, Glenn	6.46	17		Pn	04 41 26.9	+0.2
SAMH	Samovar Hills	6.50	47		Pn	04 41 27.1	-0.2
PVV	Pavlof Volcano	6.56	269		Pn	04 41 26.2	-1.8
MCARA	McCarthy VSAT	6.56	32		Pn	04 41 27.5	-0.7
MCARA	McCarthy VSAT	6.56	32	P	Pn	04 41 27.9	-0.3
	baz=217						
M17K	Holitna River	6.57	328		Pn	04 41 27.8	-0.4
PTPK	Patty Peak	6.59	35		Pn	04 41 27.8	-0.9
L19K	White Mountain	6.62	341		Pn	04 41 28.1	-0.9
L19K					Sn	04 42 45.3	+0.9
PN7A	Pavlof North-7	6.66	270		Pn	04 41 27.8	-1.8
PCA	Pinnacle	6.69	48		Pn	04 41 29.6	-0.4
WACK	Wrangell Chich	6.72	25		Pn	04 41 30.4	-0.1
L20K	Farewell, AK	6.74	345		Pn	04 41 30.8	+0.1
BARN	Barnard Glacie	6.76	38		Pn	04 41 30.8	-0.2
M16K	Timber Creek	6.78	321	Pn	Pn	04 41 31.2	+0.1
CTGM	Chitina Glacie	6.81	40		Pn	04 41 31.1	-0.6
LOGN	Logan Glacier	6.84	41		Pn	04 41 31.1	-1.0
PNL	Peninsula	6.85	53		Pn	04 41 31.4	-0.7
PNL	Peninsula	6.85	53	P	Pn	04 41 31.9	-0.2
	comp=N,153nm,0.9s						
HARP	HAARP	6.91	20		Pn	04 41 32.9	0.0
L18K	Granite Mounta	7.04	335		Pn	04 41 34.5	-0.2
M15K	Kasigluk River	7.22	315		Pn	04 41 37.0	-0.1
DH1K	Denali Highway	7.23	10		Pn	04 41 38.0	+0.6
L17K	Donlin	7.40	329		Pn	04 41 39.3	-0.3
M26K	Nabesna, AK	7.40	27		Pn	04 41 40.2	+0.5
L16K	Owhat River	7.44	324	Pn	Pn	04 41 39.8	-0.4
RND	Reindeer	7.45	5		Pn	04 41 40.5	+0.2
TRF	Thorofare Moun	7.46	360	Pn	Pn	04 41 41.1	+0.6
CAST	Castle Rocks	7.48	354		Pn	04 41 41.1	+0.3
O29M	Mount Kennedy	7.52	50		Pn	04 41 40.4	-1.0
TTA	Tatalina	7.53	339	Pn	Pn	04 41 41.8	+0.3
TTA	Tatalina	7.53	339	P	Pn	04 41 43.3	+1.9
	comp=N,16nm,0.7s						
KTH	Kantishna Hill	7.57	358		Pn	04 41 42.1	+0.1
K20K	Telida	7.61	347		Pn	04 41 42.0	-0.5
MENT	Mentasta	7.69	23		Pn	04 41 44.3	+0.6
M14K	Bethel	7.77	312		Pn	04 41 44.9	+0.3
ISLZ	Isanotski Laza	7.78	266		Pn	04 41 42.9	-2.0
ISNN	Isanotski Nort	7.79	267		Pn	04 41 43.1	-1.9
L26K	Log Cabin Wild	7.85	24		Pn	04 41 46.9	+1.0
K17K	Iditarod	7.87	332		Pn	04 41 45.6	-0.4
S31K	Pelican	7.90	70		Pn	04 41 44.0	-2.5
SSLS	Shishaldin Sou	7.94	266		Pn	04 41 45.2	-1.9
BPAW	Bear Paw Mtn.	8.12	358		Pn	04 41 48.7	-0.8
L15K	Ungalak Mounta	8.13	319		Pn	04 41 49.1	-0.4
J18K	Innoko River	8.15	339		Pn	04 41 49.4	-0.5
RIDG	Independent Ri	8.21	17	Pn	Pn	04 41 50.7	0.0
HYT	Haines Junctio	8.24	49	Pn	Pn	04 41 51.6	+0.4
L27K	Beaver Creek,	8.25	28		Pn	04 41 51.3	-0.1
J20K	Nowinta River	8.41	348	Pn	Pn	04 41 53.5	+0.1
K15K	Wolf Creek Mou	8.55	322	Pn	Pn	04 41 55.8	+0.5
SCRK	Sand Creek	8.57	19	Pn	Pn	04 41 56.2	+0.4
HDA	Harding Lake	8.58	10		Pn	04 41 56.7	+0.9
SKAG	Skagway	8.69	60		Pn	04 41 56.8	-0.5
SKAG	Skagway	8.69	60	P	Pn	04 41 56.9	-0.4
	comp=N,33nm,2.9s						
CCB	Clear Creek Bu	8.74	7		Pn	04 41 58.6	+0.6
N30M	Aishikik Lake	8.74	46		Pn	04 41 58.0	-0.1
M29M	Somme Creek	8.82	38		Pn	04 41 59.5	+0.3
O30N	Mendenhall	8.82	52		Pn	04 41 59.0	-0.1
JIS	Juneau Island	8.92	69	P	Pn	04 42 00.5	+0.1
	comp=N,31nm,2.0s						
IL31		8.94	9		Pn	04 42 00.9	+0.3
ILAR	Eielson Array	8.94	9	Pn	Pn	04 42 00.1	-0.6
	comp=N,0.6nm,0.3s,baz=194,slow=14,SNR=24						
ILAR					Sn	04 43 37.8	-3.6
	comp=N,0.9nm,0.3s,baz=202,slow=16,SNR=7.8						
ILAR					LR	04 45 48.1	
	comp=N,179nm,19.0s,baz=249,slow=40 comp=N,3.1nm,0.6s						
J25K	Salcha River,	8.95	14		Pn	04 42 01.1	+0.1
COLA	College	8.96	7		Pn	04 42 00.8	-0.2
J16K	Anvik River	8.96	329		Pn	04 42 00.5	-0.6
K27K	Chicken	9.01	24		Pn	04 42 01.9	+0.2
J26L	Joseph Creek	9.13	19		Pn	04 42 03.0	-0.4
I23K	Minto, Yukon-K	9.17	2		Pn	04 42 03.9

	comp=N,6.3nm,0.8s							
C36M	**Paulatuk**	**17.75**	**31**			**Pn**	**04 43 59.1**	**+0.7**
C36M				IAmb		IAmb	04 44 09.0	
	comp=Z,15nm,0.9s							
YKA	**Yellowknife Ar**	**19.14**	**56**	P		**P**	**04 44 15.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=265,slow=9.6,SNR=30							
YKA				LR		LR	04 51 21.1	
	comp=Z,77nm,18.7s,baz=248,slow=36							
	comp=Z,1.4nm,0.7s							
A36M	**Sachs Harbour**	**19.14**	**24**	P		**P**	**04 44 15.8**	**+1.2**
NEW	**Newport**	**21.59**	**97**	P		**P**	**04 44 41.8**	**+0.4**
NEW	**Newport**	**21.59**	**97**	P		**P**	**04 44 41.7**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=350,slow=12,SNR=7.0							
NEW				LR		LR	04 51 30.5	
	comp=Z,140nm,19.4s,baz=302,slow=32							
	comp=Z,3.5nm,0.9s							
YBH	**Yreka Blue Hor**	**22.87**	**117**	LR		LR	04 51 31.4	
	comp=Z,165nm,20.9s,baz=338,slow=31							
WVOR	**Wild Horse Val**	**24.45**	**110**	P		**P**	**04 45 10.6**	**0.0**
ELK	**Elko**	**27.45**	**109**	LR		LR	04 54 38.6	
	comp=Z,82nm,18.6s,baz=314,slow=32							
NVAR	**Mina Array Bea**	**27.57**	**116**	P		**P**	**04 45 39.5**	**+0.5**
NVAR				LR		LR	04 54 39.6	
	comp=Z,144nm,20.3s,baz=300,slow=32							
	comp=Z,1.1nm,0.9s							
RES	**Resolute Bay**	**28.05**	**28**	LR		LR	04 56 40.8	
	comp=Z,77nm,21.4s,baz=50,slow=36							
Q12A	**Willow Creek R**	**28.90**	**111**	P		**P**	**04 45 49.9**	**-0.8**
Q12A				IAmb		IAmb	04 46 32.0	
	comp=Z,4.5nm,1.0s							
SEY	**Seymchan**	**29.04**	**307**	LR		LR	04 58 53.1	
	comp=Z,250nm,18.3s,baz=352,slow=39							
PDAR	**Pinedale Array**	**29.15**	**100**	P		**P**	**04 45 52.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=337,slow=3.4,SNR=6.3							
PDAR				LR		LR	04 55 48.2	
	comp=Z,52nm,19.4s,baz=266,slow=33							
	comp=Z,0.7nm,0.8s							
MA2	**Magadan**	**30.73**	**301**	LR		LR	05 00 03.3	
	comp=Z,162nm,19.5s,baz=100,slow=39							
PFO	**Pinyon Flats O**	**32.29**	**120**	LR		LR	04 56 45.1	
	comp=Z,117nm,18.2s,baz=308,slow=32							
ULM	**Lac du Bonnet**	**32.39**	**77**	LR		LR	04 57 44.0	
	comp=Z,37nm,21.4s,baz=286,slow=33							
ANMO	**Albuquerque**	**36.41**	**107**	LR		LR	05 00 11.8	
	comp=Z,58nm,19.8s,baz=44,slow=34							
FRB	**Frobisher Bay**	**39.00**	**44**	LR		LR	05 03 20.1	
	comp=Z,84nm,19.8s,baz=184,slow=36							
OK038	**West end E0370**	**39.51**	**97**	P		**P**	**04 47 21.7**	**-0.6**
TXAR	**Lajitas Array**	**42.24**	**109**	P		**P**	**04 47 45.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=320,slow=7.1,SNR=11							
TXAR				LR		LR	05 04 09.1	
	comp=Z,55nm,18.7s,baz=320,slow=34							
	comp=Z,1.1nm,0.8s							
LPIG	**La Paz**	**43.16**	**121**	LR		LR	05 01 37.6	
	comp=Z,46nm,21.0s,baz=348,slow=30							
SFJD	**Kangerlussuaq**	**43.62**	**34**	LR		LR	05 05 24.0	
	comp=Z,60nm,18.1s,baz=322,slow=35							
DRIO	**Del Rio**	**43.80**	**106**	P		**P**	**04 47 57.1**	**-0.4**
DRIO				IAmb		IAmb	04 47 58.5	
	comp=Z,3.7nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**48.28**	**239**	T		T	05 40 26.8	
	baz=31,slow=76,SNR=22							
H11N3	**WAKE ISLAND Hy**	**48.29**	**239**	T		T	05 40 27.5	
	baz=31,slow=76,SNR=25							
H11N1	**WAKE ISLAND Hy**	**48.30**	**239**	T		T	05 40 28.2	
	baz=31,slow=76,SNR=19							
USRK	**Ussuriysk Ar.**	**48.66**	**291**	LR		LR	05 08 39.2	
	comp=Z,58nm,21.9s,baz=56,slow=36							
H11S1	**WAKE ISLAND Hy**	**49.42**	**239**	T		T	05 41 54.8	
	baz=30,slow=76,SNR=25							
H11S2	**WAKE ISLAND Hy**	**49.44**	**239**	T		T	05 41 55.7	
	baz=30,slow=76,SNR=24							
H11S3	**WAKE ISLAND Hy**	**49.44**	**239**	T		T	05 41 56.1	
	baz=30,slow=76,SNR=23							
BORG	**Borgarnes**	**53.41**	**25**	LR		LR	05 13 13.3	
	comp=Z,49nm,18.6s,baz=333,slow=37							
CMIG	**Matias Romero**	**56.84**	**110**	LR		LR	05 14 34.3	
	comp=Z,30nm,19.5s,baz=16,slow=37							
SONM	**Songino Array**	**58.39**	**310**	P		**P**	**04 49 47.5**	**+0.4**
SONM				IAmb		IAmb	04 49 50.2	
	comp=Z,1.7nm,0.8s							
SONM	**Songino Array**	**58.39**	**310**	P		**P**	**04 49 48.4**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=44,slow=6.9,SNR=14							
	comp=Z,1.6nm,0.7s							
ZAA0	**Zalesovo Array**	**61.49**	**327**	P		**P**	**04 50 08.2**	**+0.2**
ZAA0				IAmb		IAmb	04 50 09.3	
	comp=Z,2.1nm,0.6s							
ZALV	**Zalesovo Beam**	**61.49**	**327**	P		**P**	**04 50 08.3**	**+0.3**
ZALV	**Zalesovo Beam**	**61.49**	**327**	P		**P**	**04 50 08.7**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=28,slow=7.5,SNR=12							
	comp=Z,2.1nm,0.7s							
FIA1	**FINESS Array S**	**62.84**	**2**	P		**P**	**04 50 18.0**	**+1.0**
FINES	**FINESS Array B**	**62.84**	**2**	P		**P**	**04 50 16.6**	**-0.3**
FINES	**FINESS Array B**	**62.84**	**2**	P		**P**	**04 50 18.9**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=0.0,slow=3.8,SNR=4.4							
	comp=Z,1.6nm,0.8s							
KURK	**Kurchatov**	**66.18**	**328**	P		**P**	**04 50 39.4**	**+0.5**
KURK				IAmb		IAmb	04 50 40.3	
	comp=Z,1.7nm,0.9s							
KURBB	**Kurchatov Arra**	**66.28**	**328**	P		**P**	**04 50 39.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=29,slow=6.7,SNR=7.9							
	comp=Z,1.1nm,0.7s							
BVAR	**Borovoye Array**	**66.29**	**335**	P		**P**	**04 50 39.8**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=24,slow=8.1,SNR=7.9							
	comp=Z,1.5nm,0.7s							
MK31	**Makanchi Array**	**68.50**	**324**	P		**P**	**04 50 54.1**	**+0.3**
MKAR	**Makanchi Array**	**68.50**	**324**	P		**P**	**04 50 53.8**	**0.0**
	comp=Z,0.9nm,0.5s,baz=29,slow=6.0,SNR=17							
	comp=Z,0.9nm,0.5s							
MAKZ	**Makanchi**	**68.59**	**324**	P		**P**	**04 50 54.1**	**-0.2**
MAKZ				IAmb		IAmb	04 50 55.3	
	comp=Z,1.8nm,0.8s							
ABKAR	**Akbulak array**	**72.11**	**340**	P		**P**	**04 51 16.1**	**+0.3**
ABKAR				IAmb		IAmb	04 51 17.1	
	comp=Z,1.8nm,0.8s							
ABKAR	**Akbulak array**	**72.11**	**340**	P		**P**	**04 51 16.2**	**+0.3**
AKASG	**Malin Array Be**	**73.65**	**0**	P		**P**	**04 51 24.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=1.9,slow=5.8,SNR=1.9							
	comp=Z,0.1nm,0.3s							
GERES	**GERESS Array B**	**74.65**	**11**	LR		LR	05 28 58.1	
	comp=Z,16nm,18.1s,baz=330,slow=39							
QSPA	**South Pole Qui**	**145.81**	**180**	PKPbc		**PKPdf**	**04 59 28.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=264,slow=1.6,SNR=2.1							

*IDC **26** 04:48:23.6±1.9, 6°.76S×106°.06E, h33km±13km, mb4.3/20, mbtmp4.4/20, MS3.7/22, Error ellipse: s-maj=19.5km s-min=10.8km az=47.0*
*NEIC **26** 04:48:23.4±1.7, 7°.06S±0°.07×105°.78E±0°.07, h37km±7km, mb4.6/37, Error ellipse: s-maj=11.0km s-min=8.9km az=224.0*
*DJA **26** 04:48:25.5±0.5, 7°.S±2°×107°.6E±°, h30km±4km, M5.2/18, mb5.2/7, mB5.6/6, MLv5.2/18, Mw(mB)5.1/6*
ISC 26 04:48:25.7±0.8, 7.11S±0°.04×105.99E±0°.04, h56km±6km**, n152,σ1°81/142, mb4.5/38, MS3.8/22, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.57**	**80**	P	**Pn**	**04 48 37.2**	**-0.9**
SKJI				S	**Sn**	**04 48 45.7**	**-1.5**
DBJI	**Dramaga**	**0.94**	**54**	P	**Pn**	**04 48 42.5**	**-0.2**
DBJI				S	**Sn**	**04 48 55.1**	**-0.2**
SBJI	**Serang**	**0.99**	**8**	P	**Pn**	**04 48 43.8**	**+0.4**
SBJI				S	**Sn**	**04 48 57.9**	**+1.4**
CBJI	**Citeko**	**1.09**	**52**	P	**Pn**	**04 48 43.9**	**-0.9**
TNG	**Tangerang**	**1.14**	**35**	P	**Pn**	**04 48 45.8**	**+0.4**
TNG				S	**Sn**	**04 49 00.6**	**+0.6**
CNJI	**Cibinong**	**1.15**	**100**	P	**Pn**	**04 48 44.7**	**-0.8**
CNJI				S	**Sn**	**04 48 58.5**	**-1.8**
LEM	**Lembang**	**1.64**	**80**	Pg	**Pn**	**04 48 53.0**	**+0.6**
	1μm,0.3s,baz=326,slow=5.2,SNR=325						
LEM				Lg	Lg	04 49 14.8	
	567nm,0.3s,baz=307,slow=20,SNR=4.7						
LEM				LR	LR	04 49 42.0	
	comp=Z,3μm,21.9s,baz=322,slow=51						
LEM	**Lembang**	**1.64**	**80**	P	**Pn**	**04 48 54.0**	**+1.7**
BBJI	**Bungbulang**	**1.69**	**102**	P	**Pn**	**04 48 52.5**	**-0.3**
BBJI	**Bungbulang**	**1.69**	**102**	P	**Pn**	**04 48 52.6**	**-0.3**
BBJI				S	**Sn**	**04 49 11.1**	**-2.3**
KASI	**Kota Agung**	**2.16**	**317**	P	**Pn**	**04 49 01.0**	**+1.7**
KASI				S	**Sn**	**04 49 27.7**	**+2.8**
JCJI	**Jatiwangi**	**2.35**	**75**	P	**Pn**	**04 49 01.6**	**-0.2**
CMJI	**Cimerak**	**2.53**	**106**	P	**Pn**	**04 49 03.3**	**-0.4**
CMJI				S	**Sn**	**04 49 31.6**	**-2.4**
LWLI	**Liwa**	**2.83**	**317**	P	**Pn**	**04 49 11.2**	**+2.7**
LWLI				S	**Sn**	**04 49 45.1**	**+3.7**
KPJI	**Karang Pucung**	**2.93**	**95**	P	**Pn**	**04 49 11.2**	**+1.4**
XMI	**Christmas Isla**	**3.33**	**185**	P	**Pn**	**04 49 14.1**	**-1.3**
XMIS	**Christmas Isla**	**3.37**	**186**	Pn	**Pn**	**04 49 14.2**	**-1.7**
XMIS	**Christmas Isla**	**3.37**	**186**	P	**Pn**	**04 49 14.4**	**-1.5**
LHSI	**Lahat**	**4.08**	**323**	P	**Pn**	**04 49 29.8**	**+4.2**
EGSI	**Enggano, Bengk**	**4.08**	**295**	P	**Pn**	**04 49 28.5**	**+2.9**
EGSI				S	**Sn**	**04 50 11.2**	**-0.9**
PMBI	**Palembang**	**4.33**	**344**	Pn	**Pn**	**04 49 26.8**	**-2.1**
SMRI	**Semarang**	**4.42**	**90**		**Pn**	**04 49 30.4**	**+0.2**
SMRI	**Semarang**	**4.42**	**90**	P	**Pn**	**04 49 34.0**	**+3.7**
UGM	**Wanagama**	**4.57**	**100**	Pn	**Pn**	**04 49 32.7**	**+0.4**
UGM	**Wanagama**	**4.57**	**100**	P	**Pn**	**04 49 32.6**	**+0.3**
PPBI	**Pangkal Pinang**	**4.92**	**2**	P	**Pn**	**04 49 38.6**	**+1.6**
SJI	**Sawahan**	**5.76**	**97**	P	**Pn**	**04 49 49.6**	**+0.8**
	94nm,0.5s,4μm2.1nm						
SJI				S	**Sn**	**04 51 00.7**	**+7.0**
	94nm,0.5s,4μm2.1nm						
DSRI	**Dabo**	**6.73**	**348**	P	**Pn**	**04 50 04.5**	**+2.5**
	122nm,0.8s,3μm0.6nm						
PPSI	**Pulau Pagai**	**7.35**	**306**	P	**Pn**	**04 50 11.2**	**+0.7**
	524nm,0.6s,6μm1.8nm						
TPRI	**Tanjung Pinang**	**8.10**	**350**	P	**Pn**	**04 50 22.9**	**+2.1**
	71nm,0.5s,4μm						
JAGI	**Jajag, Banyuwa**	**8.20**	**100**		**Pn**	**04 50 23.9**	**+1.8**
JAGI	**Jajag, Banyuwa**	**8.20**	**100**	P	**Pn**	**04 50 23.9**	**+1.8**
JAGI	**Jajag, Banyuwa**	**8.20**	**100**	P	**Pn**	**04 50 20.5**	**-1.6**
	65nm,0.8s,3μm						
ABJI	**Asem Bagus**	**8.21**	**95**	P	Pn	04 50 28.6	+6.4
PDSI	**Padang**	**8.26**	**318**	P	**Pn**	**04 50 23.1**	**+0.2**
	39nm,0.4s,4μm						
SISI	**Saibi**	**8.96**	**310**	P	**Pn**	**04 50 32.0**	**-0.5**
PLAI	**Plampang**	**11.80**	**99**	P	**Pn**	**04 51 11.7**	**+0.4**
GSI	**Gunungsitoli**	**11.84**	**315**	Pn	**Pn**	**04 51 07.5**	**-4.5**
KAPI	**Kappang**	**13.84**	**82**	LR	LR	04 57 39.4	
	comp=Z,307nm,19.3s,baz=256,slow=40						
GIRL	**Girilia**	**17.37**	**154**	P	**Pn**	**04 52 24.8**	**+0.5**
SOEI	**Soe**	**18.27**	**100**		**Pn**	**04 52 35.6**	**+0.1**
SOEI				IAmb	IAmb	04 52 52.2	
	comp=Z,46nm,0.7s						
PSA00	**Pilbara Seismi**	**19.65**	**138**	P	**P**	**04 52 49.7**	**-0.3**
PSA00				IAmb	IAmb	04 52 53.0	
	comp=Z,24nm,1.1s						
PSA00	**Pilbara Seismi**	**19.65**	**138**	P	**P**	**04 52 49.8**	**-0.3**
PSA00				IAmb	IAmb	04 52 56.8	
	comp=Z,9.8nm,1.1s						
PSA00	**Pilbara Seismi**	**19.65**	**138**	P	**Pn**	**04 52 52.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**22.04**	**122**	P	**P**	**04 53 15.2**	**-0.7**
MORW	**Morawa**	**23.82**	**158**	P	**P**	**04 53 34.8**	**+1.2**
KNRA	**Kununurra**	**23.87**	**113**	P	**P**	**04 53 34.7**	**+0.4**
KNRA	**Kununurra**	**23.87**	**113**	P	**P**	**04 53 35.0**	**+0.7**
MTN	**Manton Dam**	**25.40**	**105**	P	**P**	**04 53 47.8**	**-0.4**
MTN				IAmb	IAmb	04 53 55.1	
	comp=Z,33nm,1.1s						
MTN	**Manton Dam**	**25.40**	**105**	P	**P**	**04 53 49.0**	**+0.8**
QIZ	**Qiongzhong**	**26.25**	**8**	P	**P**	**04 53 56.8**	**+1.0**
QIZ				S	**S**	**04 58 28.5**	**+4.1**
QIZ				LR	LR		
	comp=N,320nm,19.4s						
QIZ				LR	LR		
	comp=E,270nm,16.8s						
QIZ				LR	LR		
	comp=Z,320nm,15.1s						
CMAR	**Chiang Mai Arr**	**26.34**	**345**	P	**P**	**04 53 54.4**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=182,slow=9.0,SNR=4.6						
CMAR				LR	LR	05 06 20.8	
	comp=Z,125nm,18.4s,baz=170,slow=41						
	comp=Z,1.3nm,0.3s						
KLBR	**Kellerberrin**	**26.73**	**157**	P	**P**	**04 54 01.3**	**+1.3**
NWAO	**Narrogin (SRO)**	**27.73**	**159**	P	**P**	**04 54 10.7**	**+1.6**
	comp=Z,3.6nm,0.6s,baz=321,slow=6.5,SNR=2.8						
NWAO				LR	LR	05 03 58.5	
	comp=Z,205nm,21.7s,baz=356,slow=33						
	comp=Z,3.6nm,0.6s						
WRKA	**Warakurna**	**27.80**	**132**	P	**P**	**04 54 11.3**	**+1.5**
KMBL	**Kambalda**	**28.34**	**150**	P	**P**	**04 54 16.0**	**+1.5**
H01W3	**Cape Leeuwin H**	**28.64**	**166**	T	T	05 23 55.9	
	baz=343,slow=74,SNR=755						
H01W1	**Cape Leeuwin H**	**28.66**	**166**	T	T	05 23 58.6	
	baz=265,slow=74,SNR=750						
WB0	**Warramunga Arr**	**30.29**	**117**	P	**P**	**04 54 32.5**	**+0.6**
WB0				IAmb	IAmb	04 54 33.3	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**30.31**	**118**	P	**P**	**04 54 32.4**	**+0.3**
WRA	**Warramunga Arr**	**30.31**	**118**	P	**P**	**04 54 32.8**	**+0.7**
	comp=Z,11nm,0.8s,baz=292,slow=11,SNR=85						
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**31.34**	**142**	P	**P**	**04 54 42.7**	**+1.7**
AS31	**Alice Springs**	**31.45**	**125**	P	**P**	**04 54 43.1**	**+1.0**
ASAR	**Alice Springs**	**31.45**	**125**	P	**P**	**04 54 43.1**	**+1.0**
ASAR	**Alice Springs**	**31.45**	**125**	P	**P**	**04 54 42.9**	**+0.7**
	comp=Z,2.6nm,0.4s,baz=304,slow=8.4,SNR=62						
ASAR				ScP	**ScP**	**05 01 13.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=316,slow=2.5,SNR=6.6						
ASAR				LR	LR	05 09 35.7	
	comp=Z,55nm,19.6s,baz=294,slow=40						
	comp=Z,2.6nm,0.4s						
AS01	**Alice Springs**	**31.49**	**125**	P	**P**	**04 54 43.5**	**+1.0**
H08S2	**Diego Garcia H**	**33.22**	**267**	T	T	05 30 35.4	
	baz=91,slow=76,SNR=175						
H08S3	**Diego Garcia H**	**33.23**	**267**	T	T	05 30 34.8	
	baz=91,slow=76,SNR=129						
H08S1	**Diego Carcia H**	**33.24**	**267**	T	T	05 30 35.5	
	baz=91,slow=76,SNR=132						
PZH	**PanZhiHua**	**33.66**	**353**	P	**P**	**04 55 05.0**	**+3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
OOD	**Oodnadatta**	**34.84**	**130**	P	**P**	**04 55 12.6**	**+1.0**
MULG	**Mulgathing**	**35.00**	**135**	P	**P**	**04 55 14.5**	**+1.5**
QIS	**Mount Isa**	**35.18**	**116**	P	**P**	**04 55 15.7**	**+1.0**
BBOO	**Buckleboo**	**37.86**	**137**	P	**P**	**04 55 38.9**	**+1.6**
HTT	**Hallett**	**40.19**	**135**	P	**P**	**04 55 58.3**	**+1.5**
CTA	**Charters Tower**	**41.09**	**112**	LR	LR	05 14 05.0	
	comp=Z,77nm,20.7s,baz=268,slow=38						
QLP	**Quilpie**	**41.18**	**123**	P	**P**	**04 56 07.5**	**+2.5**
STKA	**Stephens Creek**	**41.32**	**131**	P	**P**	**04 56 06.9**	**+0.7**
STKA				IAmb	IAmb	04 56 08.8	
	comp=Z,3.8nm,0.5s						
STKA	**Stephens Creek**	**41.32**	**131**	P	**P**	**04 56 08.2**	**+2.1**
STKA	**Stephens Creek**	**41.32**	**131**	P	**P**	**04 56 07.7**	**+1.5**
	comp=Z,17nm,0.4s,baz=306,slow=8.2,SNR=84						
STKA				LR	LR	05 14 05.1	
	comp=Z,62nm,21.2s,baz=291,slow=37						
	comp=Z,17nm,0.4s						
CMSA	**Cobar Meteorol**	**44.28**	**129**	P	**P**	**04 56 31.4**	**+1.3**
JNU	**Nakatsue**	**46.48**	**29**	LR	LR	05 17 02.3	
	comp=Z,25nm,20.2s,baz=178,slow=37						
GTA	**Gaotai**	**46.63**	**353**	eP	**P**	**04 56 47.5**	**-1.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
EIDS	**Eidsvold**	**46.67**	**118**	P	**P**	**04 56 50.5**	**+1.4**
EIDS				IAmb	IAmb	04 56 51.0	
	comp=Z,5.9nm,0.8s						
TOO	**Toolangi**	**46.92**	**136**	P	**P**	**04 56 51.5**	**+0.6**
TOO				IAmb	IAmb	04 57 06.3	
	comp=Z,20nm,1.5s						
HHC	**Hu-ho-hao-te**	**47.99**	**6**	eP	**P**	**04 57 02.5**	**+3.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,4.6s						
KSRS	**Korea Array**	**48.84**	**23**	LR	LR	05 18 09.6	
	comp=Z,14nm,18.9s,baz=190,slow=37						
NIL	**Nilore**	**51.06**	**325**	P	**P**	**04 57 20.6**	**-2.0**
NIL				IAmb	IAmb	04 57 39.4	
	comp=Z,18nm,1.4s						
KBL	**Kabul**	**54.17**	**322**	P	**P**	**04 57 43.8**	**-2.0**
KBL				IAmb	IAmb	04 57 45.5	
	comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**54.70**	**0**	P	**P**	**04 57 47.9**	**-1.5**
SONM	**Songino Array**	**54.70**	**0**	P	**P**	**04 57 46.5**	**-2.8**
	comp=Z,1.0nm,0.5s,baz=175,slow=8.3,SNR=11						
SONM				PcP	**PcP**	**04 58 51.1**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=182,slow=4.3,SNR=12						
SONM				ScP	**ScP**	**05 02 43.5**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=179,slow=2.4,SNR=4.7						
SONM				LR	LR	05 22 47.7	
	comp=Z,128nm,19.7s,baz=158,slow=38						
	comp=Z,1.0nm,0.5s						
ULN	**Ulaanbaatar**	**54.74**	**1**	P	**P**	**04 57 49.0**	**-0.7**
ULN				IAmb	IAmb	04 58 02.6	
	comp=Z,3.3nm,1.1s						
MK31	**Makanchi Array**	**57.65**	**341**	P	**P**	**04 58 07.8**	**-2.4**
MKAR	**Makanchi Array**	**57.65**	**341**	P	**P**	**04 58 07.6**	**-2.6**
MKAR	**Makanchi Array**	**57.65**	**341**	P	**P**	**04 58 07.9**	**-2.4**
	comp=Z,1.9nm,0.4s,baz=152,slow=8.5,SNR=43						
MKAR				LR	LR	05 26 20.8	
	comp=Z,106nm,19.0s,baz=176,slow=40						
	comp=Z,1.9nm,0.4s						
UOSS	**Minazif**	**57.98**	**305**	P	**P**	**04 58 09.2**	**-3.8**
UOSS				IAmb	IAmb	04 58 15.4	
	comp=Z,6.8nm,1.1s						
HRA	**Herat**	**58.41**	**318**	P	**P**	**04 58 13.3**	**-2.7**
HRA				IAmb	IAmb	04 58 16.8	
	comp=Z,2.5nm,0.7s						
KK31	**Karatay Array**	**59.45**	**330**	P	**P**	**04 58 22.1**	**-0.8**
KK31				IAmb	IAmb	04 58 35.9	
	comp=Z,5.2nm,1.5s						
KKAR	**Karatay Array**	**59.45**	**330**	P	**P**	**04 58 19.9**	**-3.0**
KKAR	**Karatay Array**	**59.45**	**330**	P	**P**	**04 58 22.1**	**-0.8**
KKAR				IAmb	IAmb	04 58 35.9	
	comp=Z,5.1nm,1.5s						
ERM	**Erimo**	**59.51**	**31**	P	**P**	**04 58 22.7**	**-0.6**
DZM	**Mont Dzumac**	**60.01**	**111**	LR	LR	05 23 02.6	
	comp=Z,47nm,22.0s,baz=196,slow=35						
H04N2	**CROZET ISLANDS**	**60.53**	**220**	T	T	06 04 40.8	
	baz=68,slow=75,SNR=1012						
H04N1	**CROZET ISLANDS**	**60.54**	**220**	T	T	06 04 41.2	
	baz=68,slow=75,SNR=928						
H04N3	**CROZET ISLANDS**	**60.55**	**220**	T	T	06 04 39.7	
	baz=68,slow=75,SNR=865						
H04S1	**CROZET ISLANDS**	**60.72**	**220**	T	T	06 04 50.6	
	baz=67,slow=76,SNR=75						
H04S3	**CROZET ISLANDS**	**60.73**	**220**	T	T	06 04 49.9	
	baz=67,slow=76,SNR=43						
H04S2	**CROZET ISLANDS**	**60.74**	**220**	T	T	06 04 51.3	
	baz=67,slow=76,SNR=55						
KURBB	**Kurchatov Arra**	**62.21**	**341**	P	**P**	**04 58 39.1**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=156,slow=6.0,SNR=4.5						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**62.26**	**341**	P	**P**	**04 58 39.9**	**-1.8**
KURK				IAmb	IAmb	04 58 41.0	
	comp=Z,2.2nm,0.8s						
GEYT	**Alibeck**	**63.18**	**319**	P	**P**	**04 58 47.1**	**-1.1**
GEYT	**Alibeck**	**63.18**	**319**	P	**P**	**04 58 48.0**	**-0.2**
	comp=Z,7.0nm,0.9s,baz=142,slow=7.5,SNR=9.6						
	comp=Z,7.0nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**63.18**	**319**	P	**P**	**04 58 47.1**	**-1.1**
ZAA0	**Zalesovo Array**	**63.39**	**346**	P	**P**	**04 58 47.2**	**-2.0**
ZALV	**Zalesovo Beam**	**63.39**	**346**	P	**P**	**04 58 47.1**	**-2.0**
ZALV	**Zalesovo Beam**	**63.39**	**346**	P	**P**	**04 58 46.6**	**-2.6**
	comp=Z,1.2nm,0.4s,baz=156,slow=5.3,SNR=11						
ZALV				LR	LR	05 28 55.6	
	comp=Z,68nm,18.5s,baz=167,slow=39						
	comp=Z,1.2nm,0.4s						
BVAR	**Borovoye Array**	**67.08**	**338**	P	**P**	**04 59 11.2**	**-1.9**
	comp=Z,2.5nm,0.4s,baz=143,slow=9.3,SNR=22						
	comp=Z,2.5nm,0.4s						
BRVK	**Borovoye**	**67.14**	**338**	P	**P**	**04 59 11.9**	**-1.6**
BRVK				IAmb	IAmb	04 59 12.8	
	comp=Z,2.7nm,0.5s						
RPZ	**Rata Peaks**	**67.17**	**134**	LR	LR	05 27 09.4	
	comp=Z,113nm,21.9s,baz=268,slow=34						
INZ	**Inchbonnie**	**67.24**	**133**	P	**P**	**04 59 14.3**	**-0.1**
QRZ	**Quartz Range**	**67.68**	**131**	P	**P**	**04 59 18.5**	**+1.3**
THZ	**Tophouse**	**68.12**	**132**	P	**P**	**04 59 21.6**	**+1.5**
KMBO	**Kilima Mbogo**	**68.76**	**272**	P	**P**	**04 59 24.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=170,slow=6.1,SNR=3.0						
KMBO				LR	LR	05 24 47.2	
	comp=Z,67nm,20.1s,baz=90,slow=32						
	comp=Z,0.6nm,0.3s						
TUWZ	**Tuamarina**	**68.83**	**132**	P	**P**	**04 59 25.4**	**+1.0**
ABKAR	**Akbulak array**	**68.99**	**330**	P	**P**	**04 59 23.9**	**-1.3**
**

SII	**Sitkinak Islan**	**2.28**	**285**			**Sn**	**04 56 48.6**	**-1.0**
SII	**Sitkinak Islan** baz=105	**2.28**	**285**	S		**Sn**	**04 56 48.6**	**-1.0**
SYI	**Shuyak Island**	**2.85**	**336**			**Pn**	**04 56 30.0**	**+0.5**
SYI						**Sn**	**04 57 03.8**	**0.0**
SYI	**Shuyak Island** comp=N,75nm,1.3s	**2.85**	**336**	IAML			04 57 06.5	
SYI	comp=E,83nm,0.6s			IAML			04 57 07.1	
Q20K	**Shuyak Island** baz=155	**2.85**	**336**	P		**Pn**	**04 56 30.0**	**+0.5**
Q20K	baz=155			S		**Sn**	**04 57 03.8**	**0.0**
Q19K	**Cape Douglas,**	**3.45**	**329**			**Pn**	**04 56 38.9**	**+1.1**
Q19K	**Cape Douglas,** comp=N,231nm,0.9s	**3.45**	**329**	IAML			04 57 25.5	
Q19K	comp=E,291nm,1.4s			IAML			04 57 29.1	
Q19K	**Cape Douglas,** baz=147	**3.45**	**329**	P		**Pn**	**04 56 38.9**	**+1.1**
CNPM	**China Poot**	**3.56**	**352**			**Pn**	**04 56 39.5**	**+0.3**
CNPM						**Sn**	**04 57 20.0**	**-1.2**
CNPM	**China Poot** comp=N,78nm,1.3s	**3.56**	**352**	IAML			04 57 24.0	
CNPM	comp=E,87nm,0.9s			IAML			04 57 24.5	
HOM	**Homer**	**3.72**	**349**			**Pn**	**04 56 42.8**	**+1.3**
HOM	**Homer** baz=168	**3.72**	**349**	P		**Pn**	**04 56 42.8**	**+1.3**
BRSE	**Bradley Lake S**	**3.74**	**356**			**Pn**	**04 56 41.6**	**-0.1**
BRSE						**Sn**	**04 57 24.6**	**-1.2**
BRSE	**Bradley Lake S** baz=175	**3.74**	**356**	P		**Pn**	**04 56 41.6**	**-0.1**
BRSE	baz=175			S		**Sn**	**04 57 24.6**	**-1.2**
BRLK	**Bradley Lake**	**3.77**	**355**			**Pn**	**04 56 41.8**	**-0.3**
BRLK						**Sn**	**04 57 25.0**	**-1.6**
BRLK	**Bradley Lake** comp=N,45nm,0.9s	**3.77**	**355**	IAML			04 57 28.4	
BRLK	comp=E,39nm,1.5s			IAML			04 57 29.7	
CNTC	**Contact Creek**	**3.82**	**308**			**Pn**	**04 56 43.6**	**+0.8**
Q17K	**Contact Creek** baz=125	**3.82**	**308**	P		**Pn**	**04 56 43.6**	**+0.8**
P19K	**Oil Pt**	**3.98**	**337**			**Pn**	**04 56 45.8**	**+0.8**
P19K						**Sn**	**04 57 32.8**	**+1.1**
P19K	**Oil Pt** comp=N,146nm,1.4s	**3.98**	**337**	IAML			04 57 35.5	
P19K	comp=E,127nm,0.5s			IAML			04 57 35.7	
P19K	**Oil Pt** baz=155	**3.98**	**337**	P		**Pn**	**04 56 45.8**	**+0.8**
P19K	baz=155			S		**Sn**	**04 57 32.8**	**+1.1**
Q23K	**Middleton Isla**	**4.00**	**30**			**Pn**	**04 56 45.1**	**0.0**
Q23K	**Middleton Isla** baz=212	**4.00**	**30**	P		**Pn**	**04 56 45.1**	**0.0**
MID	**Middleton Isla**	**4.00**	**30**			**Pn**	**04 56 45.0**	**-0.2**
MID	**Middleton Isla** comp=N,201nm,1.5s	**4.00**	**30**	IAML			04 58 49.1	
SEW	**Seward**	**4.11**	**5**			**Pn**	**04 56 46.5**	**-0.3**
SEW	**Seward** baz=186	**4.11**	**5**	P		**Pn**	**04 56 46.5**	**-0.3**
O20K	**Slope Mountain**	**4.27**	**344**			**Pn**	**04 56 49.5**	**+0.5**
O20K	**Slope Mountain** baz=162	**4.27**	**344**	P		**Pn**	**04 56 49.5**	**+0.5**
IVE	**Iliamna Volcan**	**4.27**	**341**			**Pn**	**04 56 49.4**	**+0.3**
P18K	**Big Mountain,**	**4.32**	**324**			**Pn**	**04 56 50.1**	**+0.5**
P18K	**Big Mountain,** baz=140	**4.32**	**324**	P		**Pn**	**04 56 50.1**	**+0.5**
P17K	**Kvichak River**	**4.62**	**316**			**Pn**	**04 56 54.3**	**+0.6**
P17K	**Kvichak River** baz=132	**4.62**	**316**	P		**Pn**	**04 56 54.3**	**+0.6**
RSO	**Redoubt South**	**4.65**	**344**	Pn		**Pn**	**04 56 55.1**	**+0.7**
O18K	**Koktuh Hills**	**4.67**	**327**			**Pn**	**04 56 54.6**	**+0.1**
O18K	**Koktuh Hills** comp=E,21nm,1.4s	**4.67**	**327**	IAML			04 57 52.2	
O18K	comp=N,27nm,1.5s			IAML			04 57 59.4	
O18K	**Koktuh Hills** baz=144	**4.67**	**327**	P		**Pn**	**04 56 54.6**	**+0.1**
O19K	**Port Alsworth**	**4.71**	**334**			**Pn**	**04 56 55.7**	**+0.7**
O19K	**Port Alsworth** comp=N,78nm,0.4s	**4.71**	**334**	IAML			04 57 51.1	
O19K	**Port Alsworth** baz=151	**4.71**	**334**	P		**Pn**	**04 56 55.7**	**+0.7**
KAIM	**Kayak Island**	**4.98**	**36**			**Pn**	**04 56 59.1**	**+0.4**
KAIM	**Kayak Island** baz=220	**4.98**	**36**	P		**Pn**	**04 56 59.1**	**+0.4**
RC01	**Rabbit Creek A**	**5.09**	**3**	Pn		**Pn**	**04 57 00.6**	**+0.4**
RC01	comp=E,38nm,0.4s			IAML			04 58 02.0	
RC01	comp=N,25nm,0.5s			IAML			04 58 04.9	
EYAK	**Cordova Ski Ar**	**5.11**	**26**			**Pn**	**04 57 00.6**	**+0.1**
EYAK	**Cordova Ski Ar** baz=209	**5.11**	**26**	P		**Pn**	**04 57 00.6**	**+0.1**
P16K	**Nushagak River**	**5.16**	**309**			**Pn**	**04 57 01.7**	**+0.5**
P16K	**Nushagak River** baz=123	**5.16**	**309**	P		**Pn**	**04 57 01.7**	**+0.5**
O17K	**Koliganek Bris**	**5.25**	**319**			**Pn**	**04 57 03.0**	**+0.6**
O17K	**Koliganek Bris** baz=133	**5.25**	**319**	P		**Pn**	**04 57 03.0**	**+0.6**
N20K	**Mount Spurr** baz=168	**5.30**	**349**	P		**Pn**	**04 57 03.1**	**0.0**
SPCR	**Spurr Chakacha**	**5.30**	**349**			**Pn**	**04 57 03.1**	**0.0**
N19K	**Bonanza Creek**	**5.30**	**337**			**Pn**	**04 57 03.2**	**0.0**
N19K	**Bonanza Creek** baz=153	**5.30**	**337**	P		**Pn**	**04 57 03.2**	**0.0**
GOAT	**Goat Mountain**	**5.41**	**30**			**Pn**	**04 57 05.3**	**+0.6**
SUA	**Susitna One**	**5.46**	**357**			**Pn**	**04 57 05.4**	**-0.1**
SUA	**Susitna One** baz=177	**5.46**	**357**	P		**Pn**	**04 57 05.4**	**-0.1**
O16K	**Kokwok River B**	**5.53**	**314**			**Pn**	**04 57 06.8**	**+0.6**
O16K	**Kokwok River B** baz=128	**5.53**	**314**	P		**Pn**	**04 57 06.8**	**+0.6**
N18K	**Kilae Creek**	**5.54**	**330**			**Pn**	**04 57 06.8**	**+0.3**
N18K	**Kilae Creek** baz=145	**5.54**	**330**	P		**Pn**	**04 57 06.8**	**+0.3**
STLK	**Strandline Lak**	**5.56**	**352**			**Pn**	**04 57 07.0**	**+0.3**
SNH	**Sunshine Point**	**5.71**	**40**			**Pn**	**04 57 09.3**	**+0.4**
BMRM	**Bremner River**	**5.76**	**28**			**Pn**	**04 57 10.2**	**+0.6**
BMRM	**Bremner River** baz=212	**5.76**	**28**	P		**Pn**	**04 57 10.2**	**+0.6**
GHO	**Glory Hole Cre**	**5.81**	**6**			**Pn**	**04 57 10.8**	**+0.6**
KLU	**Klutina**	**5.92**	**20**			**Pn**	**04 57 12.5**	**+0.8**
KLU	**Klutina** baz=204	**5.92**	**20**	P		**Pn**	**04 57 12.5**	**+0.8**
SKT	**Skwentna**	**6.01**	**354**	Pn		**Pn**	**04 57 11.9**	**-1.0**
O15K	**Ungalikthiuk R**	**6.05**	**305**			**Pn**	**04 57 14.2**	**+0.7**
O15K	**Ungalikthiuk R** baz=118	**6.05**	**305**	P		**Pn**	**04 57 14.2**	**+0.7**
M18K	**Stony River**	**6.21**	**334**			**Pn**	**04 57 15.4**	**-0.2**
M18K	**Stony River** baz=150	**6.21**	**334**	P		**Pn**	**04 57 15.4**	**-0.2**
VRDI	**Verde Repeater**	**6.30**	**31**			**Pn**	**04 57 17.5**	**+0.5**
N25K	**Chitina, Valde**	**6.31**	**25**			**Pn**	**04 57 17.5**	**+0.4**
N25K	**Chitina, Valde** baz=209	**6.31**	**25**	P		**Pn**	**04 57 17.5**	**+0.4**
N16K	**Nishlik Lake**	**6.34**	**318**			**Pn**	**04 57 18.6**	**+1.2**
N16K	**Nishlik Lake** baz=132	**6.34**	**318**	P		**Pn**	**04 57 18.6**	**+1.2**
KIAG	**Kiagna River**	**6.41**	**37**			**Pn**	**04 57 18.7**	**+0.2**
SAMH	**Samovar Hills**	**6.48**	**47**			**Pn**	**04 57 20.1**	**+0.8**
MCARA	**McCarthy VSAT**	**6.55**	**32**			**Pn**	**04 57 21.2**	**+0.9**
MCARA	**McCarthy VSAT** baz=217	**6.55**	**32**	P		**Pn**	**04 57 21.2**	**+0.9**
M17K	**Holitna River**	**6.57**	**328**			**Pn**	**04 57 20.9**	**+0.4**
PTPK	**Patty Peak**	**6.57**	**35**			**Pn**	**04 57 21.6**	**+0.9**
PCA	**Pinnacle**	**6.68**	**48**			**Pn**	**04 57 22.4**	**+0.3**
PINM	**Pinnacle** baz=236	**6.68**	**48**	P		**Pn**	**04 57 22.3**	**+0.3**
PN7A	**Pavlof North-7**	**6.68**	**270**			**Pn**	**04 57 21.7**	**-0.5**
BARN	**Barnard Glacie**	**6.75**	**38**			**Pn**	**04 57 23.9**	**+0.8**
M16K	**Timber Creek**	**6.79**	**321**			**Pn**	**04 57 24.4**	**+0.9**
LOGN	**Logan Glacier**	**6.82**	**41**			**Pn**	**04 57 24.6**	**+0.5**
PNL	**Peninsula**	**6.83**	**53**			**Pn**	**04 57 24.5**	**+0.4**
PNL	**Peninsula** baz=242	**6.83**	**53**	P		**Pn**	**04 57 24.5**	**+0.4**
M15K	**Kasigluk River**	**7.23**	**315**			**Pn**	**04 57 29.7**	**+0.2**
M15K	**Kasigluk River** baz=126	**7.23**	**315**	P		**Pn**	**04 57 29.7**	**+0.2**
L17K	**Donlin**	**7.40**	**329**			**Pn**	**04 57 32.8**	**+0.9**
L17K	**Donlin** baz=143	**7.40**	**329**	P		**Pn**	**04 57 32.8**	**+0.9**
L16K	**Owhat River**	**7.45**	**324**			**Pn**	**04 57 33.3**	**+0.7**
L16K	**Owhat River** baz=136	**7.45**	**324**	P		**Pn**	**04 57 33.3**	**+0.7**
O29M	**Mount Kennedy**	**7.50**	**50**			**Pn**	**04 57 33.5**	**+0.1**
O29M	**Mount Kennedy** baz=239	**7.50**	**50**	P		**Pn**	**04 57 33.5**	**+0.1**
KTH	**Kantishna Hill**	**7.56**	**358**	Pn		**Pn**	**04 57 35.3**	**+1.1**
P29M	**Windy Craggy**	**7.58**	**56**			**Pn**	**04 57 33.2**	**-1.2**
P29M	**Windy Craggy** baz=246	**7.58**	**56**	P		**Pn**	**04 57 33.2**	**-1.2**
ISLZ	**Isanotski Laza**	**7.80**	**266**			**Pn**	**04 57 36.8**	**-0.6**
ISNN	**Isanotski Nort**	**7.81**	**267**			**Pn**	**04 57 37.0**	**-0.6**
S31K	**Pelican**	**7.88**	**70**			**Pn**	**04 57 36.9**	**-1.6**
S31K	**Pelican** baz=261	**7.88**	**70**	P		**Pn**	**04 57 36.9**	**-1.6**
M29M	**Somme Creek**	**8.81**	**38**			**Pn**	**04 57 51.7**	**+0.4**
ILAR	**Eielson Array** comp=N,0.2nm,0.3s,baz=190,slow=13,SNR=7.3	**8.93**	**9**	Pn		**Pn**	**04 57 55.2**	**+2.4**
ILAR	comp=N,0.3nm,0.3s			Sn		**Sn**	**04 59 29.1**	**-4.3**
J26L	**Joseph Creek**	**9.12**	**18**			**Pn**	**04 57 56.6**	**+1.1**
DLBC	**Dease Lake** comp=N,0.1nm,0.3s,baz=260,slow=6.1,SNR=1.5 comp=N,2.2nm,1.0s	**11.20**	**69**	Pn		**Pn**	**04 58 24.3**	**+0.3**
YKA	**Yellowknife Ar** baz=266,slow=9.8,SNR=6.0 comp=N,0.4nm,0.8s	**19.12**	**56**	P		**P**	**05 00 08.7**	**+2.0**
MKAR	**Makanchi Array** comp=N,0.2nm,0.5s,baz=26,slow=5.9,SNR=2.0 comp=N,0.2nm,0.5s	**68.50**	**324**	P		**P**	**05 06 46.7**	**+0.6**

*TEH **26** 04:56:33.3,33°.69N×45°.70E,h12km±.53km, ML3.4*
*ISN **26** 04:56:34.4±0.4,33°.70N×45°.74E,h22km±.2km, ML3.1*

ISC 26 04:56:34.8±0.9, 33°.73N±0°.04×45°.74E±0°.04, h13km, n16, σ0.97/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILBA	**Ilam Banvizeh**	**0.40**	**105**	Pg		**Pg**	**04 56 41.8**	**-1.0**
ILBA				Sg		**Sg**	**04 56 48.3**	**0.0**
IBDR	**Badra**	**0.64**	**166**	*e*Pg		**Pg**	**04 56 46.0**	**-1.2**
IBDR				*e*Sg		**Sg**	**04 56 55.0**	**-0.7**
IBDR	comp=N,726nm,0.4s			AML	AML		04 57 06.1	
KGS1	**Ghasr-e-Shirin**	**0.78**	**351**	Pg		**Pg**	**04 56 49.0**	**-1.0**
IGHG	**Ghaleghazi**	**0.91**	**49**	Pg		**Pg**	**04 56 52.0**	**-0.4**
IDHR	**Dehrash**	**1.10**	**29**	Pg		**Pb**	**04 56 55.0**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.21**	**63**	Pg		**Pn**	**04 56 57.3**	**-0.3**
BHD	**Baghdad**	**1.23**	**248**	*e*Pn		**Pb**	**04 56 58.0**	**+0.2**
BHD				*e*Sn		**Sg**	**04 57 15.0**	**+0.6**
BHD	comp=E,631nm,0.4s			AML	AML		04 57 19.1	
ILIN	**Lien**	**1.56**	**40**	Pg		**Pb**	**04 57 03.9**	**+0.3**
IKFM	**Kafar-mosalman**	**1.77**	**96**	Pg		**Pn**	**04 57 06.4**	**+1.4**
IBZA	**Bozab**	**1.91**	**67**	Pn		**Pb**	**04 57 09.4**	**-0.1**
RAFI	**Al-Rafai**	**2.03**	**171**	*e*Pn		**Pn**	**04 57 09.0**	**+0.4**
RAFI				*e*Sn		**Sn**	**04 57 34.0**	**+0.2**
HSAM	**Samen**	**2.42**	**78**	Pn		**Pn**	**04 57 14.7**	**+0.3**
QAMS	**Qamsar**	**4.71**	**88**	Pn		**Pn**	**04 57 46.5**	**+0.7**
IKLH	**Kolahrood**	**4.89**	**93**	Pn		**Pn**	**04 57 50.5**	**+2.3**
KRSH	**Karshahi**	**5.32**	**86**	Pn		**Pn**	**04 57 55.6**	**+1.4**
IRAM	**Ramesheh**	**5.91**	**107**	Pn		**Pn**	**04 58 03.1**	**+0.9**

*IDC **26** 04:57:00.1±1.3,55°.55N×35°.03W,h0km,mb3.7/7, mbtmp3.7/8, ML2.4/1, Error ellipse: s-maj=40.2km s-min=22.1km az=19.0*

ISC 26 04:57:02.3±1.1, 55°.5N±0°.2×35°.1W±0°.1, h14km, n9, σ0.97/10, mb3.8/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCHQ	**Schefferville** 0.1nm,0.3s,baz=66,slow=10.0,SNR=2.4 3.7nm,0.9s	**18.07**	**281**	P		**Pn**	**05 01 12.2**	**-0.5**
YKA	**Yellowknife Ar** 0.5nm,0.8s,baz=57,slow=9.1,SNR=5.2 0.5nm,0.8s	**39.05**	**314**	P		**P**	**05 04 28.3**	**+0.2**
BRTR	**Keskin Array B** 1.3nm,0.8s,baz=307,slow=6.3,SNR=5.0 1.3nm,0.8s	**46.93**	**80**	P		**P**	**05 05 33.4**	**+1.1**
ILAR	**Eielson Array** 1.1nm,1.0s,baz=40,slow=7.1,SNR=5.6	**49.25**	**328**	P		**P**	**05 05 50.1**	**+0.4**
ILAR	0.4nm,0.7s,baz=355,slow=2.4,SNR=4.1 1.1nm,1.0s			PcP		**PcP**	**05 07 12.0**	**-0.4**
TORD	**Torodi Ar. Bea** 0.8nm,0.8s,baz=336,slow=9.9,SNR=4.9 0.8nm,0.8s	**50.98**	**131**	P		**P**	**05 06 03.0**	**-0.5**
BVAR	**Borovoye Array** 0.7nm,0.7s,baz=310,slow=9.0,SNR=3.6 0.7nm,0.7s	**55.66**	**45**	P		**P**	**05 06 35.9**	**-1.5**
KURBB	**Kurchatov Arra** 0.8nm,0.7s,baz=326,slow=7.0,SNR=6.3 0.8nm,0.7s	**60.71**	**42**	P		**P**	**05 07 12.5**	**-0.2**
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=338,slow=4.6,SNR=9.7 0.6nm,0.6s	**65.27**	**42**	P		**P**	**05 07 43.1**	**-0.1**
ASAR	**Alice Springs** 0.5nm,0.6s,baz=347,slow=2.3,SNR=11	**147.14**	**19**	PKPbc		**PKPdf**	**05 16 44.0**	**+1.5**

IDC 26 05:01:21.9±6.7, 27°.27S×22°.62E, h0km, mbtmp2.3/1, ML2.4/1, Error ellipse: s-maj=56.5km s-min=44.5km az=30.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I47ZA	**BOSHOF INFRASO** 0.2nm,0.8s,baz=300,slow=314,SNR=3.4	**2.67**	**121**	I		I	05 19 20.0	
BOSA	**Boshof** 0.5nm,0.3s,baz=309,slow=18,SNR=10	**2.69**	**121**	Pn		Pn	05 02 07.2	+0.6
BOSA	0.4nm,0.3s,baz=301,slow=17,SNR=1.9			Pg		Pb	05 02 10.5	-0.5
BOSA	1.3nm,0.3s,baz=31,slow=21,SNR=12			Sn		Sn	05 02 39.9	+0.1
BOSA	2.9nm,0.3s,baz=35,slow=21,SNR=7.5 0.9nm,0.3s			Lg		Lg	05 02 47.3	
I35NA	**TSUMEB INFRASO** baz=154,slow=322,SNR=1.8	**9.28**	**329**	I		I	05 56 10.0	

IDC 26 05:06:22.2±2.6, 54°.20N×86°.44E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.5km s-min=12.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA** 0.1nm,1.5s,baz=73,slow=347,SNR=1.4	**0.99**	**256**	I		I	05 11 55.0	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=74,slow=17,SNR=22	**0.99**	**256**	Pg		Pg	05 06 39.2	-1.8
ZALV	4.0nm,0.3s,baz=78,slow=28,SNR=12			Lg		Lg	05 06 55.9	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=13,SNR=5.3	**6.02**	**237**	Pn		Pn	05 07 53.6	+1.2
KURBB	baz=60,slow=34 0.3nm,0.3s			Sn		Sn	05 08 56.6	-5.4
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=23,slow=16,SNR=11	**7.87**	**201**	Pn		Pn	05 08 19.0	+1.1
MKAR	baz=17,slow=26,SNR=2.6 0.2nm,0.3s			Lg		Lg	05 10 30.8	

*NEIC **26** 05:07:43.0±1.5,55°.96N±0°.09×149°.74W±0°.07, h11km±7km, ML3.6/18, ML3.4(AEIC), Error ellipse: s-maj=13.6km s-min=5.8km az=175.0*
*AEIC **26** 05:07:46.4±1.2,55°.9N±0°.1×149°.64W±0°.06, h10km±8km, Error ellipse: s-maj=15.2km s-min=2.1km az=163.0*

ISC 26 05:07:41.9±1.9, 55°.9N±0°.1×149°.72W±0°.07, h10km, n64, σ1.18/68, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHAK	**Old Harbor**	**2.36**	**305**			**Pn**	**05 08 21.2**	**+0.6**
OHAK						**Sn**	**05 08 48.6**	**-1.0**
OHAK	**Old Harbor** baz=123	**2.36**	**305**	P		**Pn**	**05 08 21.2**	**+0.6**
OHAK	baz=123			S		**Sn**	**05 08 48.6**	**-1.0**
KDAK	**Kodiak Island**	**2.43**	**321**			**Pn**	**05 08 22.6**	**+1.0**
KDAK						**Sn**	**05 08 50.2**	**-1.1**
SII	**Sitkinak Islan**	**2.57**	**286**			**Sn**	**05 08 52.9**	**-1.9**
SII	**Sitkinak Islan** baz=104	**2.57**	**286**	S		**Sn**	**05 08 52.9**	**-1.9**
Q20K	**Shuyak Island** baz=150	**3.05**	**333**	S		**Sn**	**05 09 06.9**	**+0.3**
SYI	**Shuyak Island**	**3.05**	**333**			**Sn**	**05 09 06.9**	**+0.3**
SYI	**Shuyak Island**	**3.05**	**333**	Pn		**Pn**	**05 08 31.7**	**+1.6**
SYI	**Shuyak Island** comp=E,94nm,3.3s	**3.05**	**333**	IAML			05 09 23.2	
SYI	comp=N,96nm,3.4s			IAML			05 09 33.0	
Q19K	**Cape Douglas,**	**3.67**	**326**			**Pn**	**05 08 39.6**	**+0.9**
Q19K	**Cape Douglas,** comp=N,147nm,2.8s	**3.67**	**326**	IAML			05 10 23.0	
Q19K	comp=E,225nm,1.8s			IAML			05 10 39.4	
Q19K	**Cape Douglas,** baz=143	**3.67**	**326**	P		**Pn**	**05 08 39.6**	**+0.9**
CNPM	**China Poot**	**3.69**	**348**			**Pn**	**05 08 39.4**	**+0.5**
CNPM						**Sn**	**05 09 22.1**	**-0.4**
CNPM	**China Poot** comp=E,107nm,3.3s	**3.69**	**348**	IAML			05 09 55.7	
CNPM	comp=N,101nm,4.1s			IAML			05 10 40.5	
BRSE	**Bradley Lake S**	**3.86**	**352**			**Pn**	**05 08 41.5**	**+0.3**
BRSE						**Sn**	**05 09 23.9**	**-2.6**
BRSE	**Bradley Lake S** baz=171	**3.86**	**352**	P		**Pn**	**05 08 41.4**	**+0.3**
BRSE	baz=171			S		**Sn**	**05 09 23.9**	**-2.6**
BRLK	**Bradley Lake**	**3.89**	**351**			**Pn**	**05 08 42.1**	**+0.4**
BRLK	comp=N,84nm,3.8s			IAML			05 10 51.9	
BRLK	**Bradley Lake**	**3.89**	**351**			**Sn**	**05 09 26.4**	**-1.0**
BRLK	**Bradley Lake** comp=E,82nm,3.7s	**3.89**	**351**	IAML			05 09 20.7	
CNTC	**Contact Creek**	**4.09**	**307**			**Pn**	**05 08 45.8**	**+1.2**
CNTC						**Sn**	**05 09 32.5**	**0.0**
Q17K	**Contact Creek** baz=123	**4.09**	**307**	P		**Pn**	**05 08 45.8**	**+1.2**
Q17K	baz=123			S		**Sn**	**05 09 32.5**	**-0.1**
P18K	**Big Mountain,**	**4.56**	**322**			**Pn**	**05 08 52.2**	**+1.3**
P18K	comp=E,52nm,4.7s			IAML			05 10 48.3	
P18K	**Big Mountain,**	**4.56**	**322**			**Sn**	**05 09 42.1**	**-1.7**
P18K	**Big Mountain,** comp=N,44nm,4.0s	**4.56**	**322**	IAML			05 09 34.7	
P18K	**Big Mountain,** baz=137	**4.56**	**322**	P		**Pn**	**05 08 52.2**	**+1.3**
P18K	baz=137			S		**Sn**	**05 09 42.1**	**-1.7**
SLKM	**Skilak Lake**	**4.59**	**357**			**Pn**	**05 08 52.5**	**+1.1**
HIN	**Hinchinbrook I**	**4.79**	**19**			**Pn**	**05 08 54.6**	**+0.6**
RSO	**Redoubt South**	**4.81**	**342**	Pn		**Pn**	**05 08 57.0**	**+2.4**
KAIM	**Kayak Island**	**4.90**	**33**	Pn		**Pn**	**05 08 56.8**	**+1.3**
EYAK	**Cordova Ski Ar**	**5.08**	**23**			**Pn**	**05 08 58.6**	**+0.7**
EYAK	**Cordova Ski Ar** baz=205	**5.08**	**23**	P		**Pn**	**05 08 58.6**	**+0.7**
GOAT	**Goat Mountain**	**5.35**	**27**			**Pn**	**05 09 02.9**	**+1.1**
P16K	**Nushagak River**	**5.43**	**308**			**Pn**	**05 09 04.0**	**+1.1**
P16K	**Nushagak River** baz=122	**5.43**	**308**	P		**Pn**	**05 09 03.9**	**+1.1**
N19K	**Bonanza Creek**	**5.50**	**335**	Pn		**Pn**	**05 09 06.2**	**+2.4**
S14K	**Fog Glacier** baz=90	**5.52**	**278**	P		**Pn**	**05 09 04.4**	**+0.4**
VNFG	**Fog Glacier, M**	**5.52**	**278**			**Pn**	**05 09 04.5**	**+0.4**
SNH	**Sunshine Point**	**5.61**	**38**	Pn		**Pn**	**05 09 06.1**	**+0.8**
CHNA	**Chernabura Isl** baz=76	**5.74**	**263**	P		**Pn**	**05 09 07.7**	**+0.8**
CNBA	**Chernabura Isl**	**5.74**	**263**			**Pn**	**05 09 07.7**	**+0.7**
GHO	**Glory Hole Cre**	**5.87**	**4**	Pn		**Pn**	**05 09 08.2**	**-0.6**
VRDI	**Verde Repeater**	**6.23**	**29**			**Pn**	**05 09 13.8**	**-0.2**
N25K	**Chitina, Valde**	**6.28**	**23**			**Pn**	**05 09 15.7**	**+1.2**
N25K	**Chitina, Valde** baz=207	**6.28**	**23**	P		**Pn**	**05 09 15.7**	**+1.2**
GLB	**Gilahina Butte**	**6.32**	**27**	Pn		**Pn**	**05 09 15.7**	**+0.7**
M24K	**Tolsona, Glenn**	**6.45**	**15**	Pn		**Pn**	**05 09 17.7**	**+0.8**
PCA	**Pinnacle**	**6.53**	**46**			**Pn**	**05 09 18.4**	**+0.4**
PINM	**Pinnacle** baz=234	**6.53**	**46**	P		**Pn**	**05 09 18.4**	**+0.4**
PNL	**Peninsula**	**6.66**	**52**			**Pn**	**05 09 20.4**	**+0.7**
PNL	**Peninsula** baz=240	**6.66**	**52**	P		**Pn**	**05 09 20.4**	**+0.7**
CTG	**Chitna Glacier** baz=224	**6.69**	**38**	P		**Pn**	**05 09 20.9**	**+0.7**
CTGM	**Chitina Glacie**	**6.69**	**38**			**Pn**	**05 09 20.9**	**+0.7**
N15K	**Kwethluk River**	**6.95**	**312**			**Pn**	**05 09 25.1**	**+1.5**
N15K	**Kwethluk River** baz=123	**6.95**	**312**	P		**Pn**	**05 09 25.1**	**+1.5**
PN7A	**Pavlof North-7**	**6.96**	**271**			**Pn**	**05 09 24.6**	**+0.6**
M16K	**Timber Creek**	**7.03**	**320**			**Pn**	**05 09 26.0**	**+1.3**
M16K	**Timber Creek** baz=133	**7.03**	**320**	P		**Pn**	**05 09 26.0**	**+1.3**
O29M	**Mount Kennedy**	**7.34**	**49**			**Pn**	**05 09 29.4**	**+0.3**
O29M	**Mount Kennedy** baz=238	**7.34**	**49**	P		**Pn**	**05 09 29.4**	**+0.3**
M27K	**Edge Creek, AK**	**7.59**	**29**	Pn		**Pn**	**05 09 34.5**	**+1.9**
S31K	**Pelican**	**7.65**	**69**			**Pn**	**05 09 32.0**	**-1.2**
S31K	**Pelican** baz=260	**7.65**	**69**	P		**Pn**	**05 09 32.0**	**-1.2**
L16K	**Owhat River**	**7.69**	**323**	Pn		**Pn**	**05 09 35.4**	**+1.7**
ISLZ	**Isanotski Laza**	**8.07**	**267**			**Pn**	**05 09 39.7**	**+0.6**

IDC 26 05:12:54.4±7.7, 27°.41S×22°.70E, h0km, mbtmp2.1/1, ML1.9/1, Error ellipse: s-maj=53.8km s-min=47.0km az=28.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I47ZA	**BOSHOF INFRASO** 0.4nm,0.7s,baz=298,slow=319,SNR=3.3	**2.55**	**119**	I		I	05 30 50.0	
BOSA	**Boshof** 0.1nm,0.3s,baz=300,slow=18,SNR=2.0	**2.56**	**119**	Pn		Pn	05 13 37.9	+0.6
BOSA	0.5nm,0.3s,baz=17,slow=21,SNR=6.2			Sn		Sn	05 14 08.8	-0.5
BOSA	0.8nm,0.3s,baz=201,slow=15,SNR=3.6 1.5nm,0.8s			Lg		Lg	05 14 15.7	
I35NA	**TSUMEB INFRASO** baz=155,slow=320,SNR=1.8	**9.43**	**329**	I		I	06 09 20.0	

*IDC **26** 05:

CNPM						Sn	05 14 37.0	-1.5
CNPM	**China Poot**	**3.44**	**337**	IAML			05 14 53.5	
	comp=E,150nm,2.7s							
CNPM				IAML			05 15 08.4	
	comp=N,114nm,3.6s							
BRSE	**Bradley Lake S**	**3.54**	**342**			**Pn**	**05 13 58.5**	**-0.6**
BRSE	**Bradley Lake S**	**3.54**	**342**	P		**Pn**	**05 13 58.5**	**-0.6**
	baz=160							
BRLK	**Bradley Lake**	**3.59**	**341**			**Pn**	**05 13 58.8**	**-0.9**
BRLK						Sn	05 14 41.1	-1.1
BRLK	**Bradley Lake**	**3.59**	**341**	IAML			05 15 44.2	
	comp=N,94nm,3.3s							
P23K	**Montague Islan**	**3.66**	**9**			**Pn**	**05 13 59.2**	**-1.4**
P23K	**Montague Islan**	**3.66**	**9**	P		**Pn**	**05 13 59.2**	**-1.4**
	baz=189							
Q19K	**Cape Douglas,**	**3.73**	**315**			**Pn**	**05 14 01.6**	**0.0**
Q19K	**Cape Douglas,**	**3.73**	**315**	IAML			05 16 28.1	
	comp=E,300nm,1.6s							
Q19K	**Cape Douglas,**	**3.73**	**315**	P		**Pn**	**05 14 01.6**	**0.0**
	baz=131							
SEW	**Seward**	**3.74**	**353**			**Pn**	**05 14 00.9**	**-0.8**
SEW						Sn	05 14 43.9	-2.0
SEW	**Seward**	**3.74**	**353**	P		**Pn**	**05 14 00.9**	**-0.8**
	baz=172							
SEW				S		Sn	05 14 43.9	-2.0
	baz=172							
AU22	**Augustine Moun**	**3.93**	**321**			**Pn**	**05 14 05.0**	**+0.7**
P19K	**Oil Pt**	**4.10**	**325**			**Pn**	**05 14 07.6**	**+0.9**
P19K	**Oil Pt**	**4.10**	**325**	IAML			05 16 51.7	
	comp=E,206nm,0.9s							
P19K	**Oil Pt**	**4.10**	**325**	P		**Pn**	**05 14 07.6**	**+0.9**
	baz=141							
HIN	**Hinchinbrook I**	**4.15**	**14**			**Pn**	**05 14 06.9**	**-0.5**
HIN	**Hinchinbrook I**	**4.15**	**14**	IAML			05 16 51.7	
	comp=N,289nm,0.8s							
HIN				IAML			05 16 52.5	
	comp=E,261nm,0.7s							
KAIM	**Kayak Island**	**4.16**	**30**			**Pn**	**05 14 06.4**	**-1.0**
KAIM	**Kayak Island**	**4.16**	**30**	P		**Pn**	**05 14 06.4**	**-1.0**
	baz=212							
O20K	**Slope Mountain**	**4.27**	**331**			**Pn**	**05 14 09.5**	**+0.4**
O20K	**Slope Mountain**	**4.27**	**331**	P		**Pn**	**05 14 09.5**	**+0.4**
	baz=148							
CNTC	**Contact Creek**	**4.39**	**298**			**Pn**	**05 14 10.9**	**+0.2**
Q17K	**Contact Creek**	**4.39**	**298**	P		**Pn**	**05 14 10.9**	**+0.2**
	baz=113							
EYAK	**Cordova Ski Ar**	**4.41**	**18**			**Pn**	**05 14 10.2**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.41**	**18**	P		**Pn**	**05 14 10.2**	**-0.8**
	baz=200							
RED	**Redoubt Volcan**	**4.60**	**333**			**Pn**	**05 14 13.4**	**-0.2**
RSO	**Redoubt South**	**4.63**	**333**	Pn		**Pn**	**05 14 13.4**	**-0.7**
RDT	**Redoubt**	**4.65**	**336**			**Pn**	**05 14 13.7**	**-0.6**
GOAT	**Goat Mountain**	**4.65**	**24**			**Pn**	**05 14 13.5**	**-0.7**
P18K	**Big Mountain,**	**4.65**	**313**			**Pn**	**05 14 14.0**	**-0.3**
P18K	**Big Mountain,**	**4.65**	**313**	P		**Pn**	**05 14 14.0**	**-0.3**
	baz=128							
BERG	**Berg Lake**	**4.75**	**31**	Pn		**Pn**	**05 14 14.3**	**-1.2**
NCT	**North Crescent**	**4.76**	**333**			**Pn**	**05 14 15.5**	**-0.3**
SNH	**Sunshine Point**	**4.84**	**36**			**Pn**	**05 14 16.2**	**-0.7**
O19K	**Port Alsworth**	**4.87**	**324**			**Pn**	**05 14 17.6**	**+0.4**
O19K	**Port Alsworth**	**4.87**	**324**	P		**Pn**	**05 14 17.6**	**+0.4**
	baz=139							
BMRM	**Bremner River**	**5.02**	**23**			**Pn**	**05 14 18.7**	**-0.7**
BMRM	**Bremner River**	**5.02**	**23**	P		**Pn**	**05 14 18.7**	**-0.7**
	baz=205							
KNK	**Knik Glacier**	**5.03**	**1**			**Pn**	**05 14 18.8**	**-0.6**
KNK	**Knik Glacier**	**5.03**	**1**	IAML			05 17 47.0	
	comp=N,88nm,3.7s							
KNK				IAML			05 17 50.7	
	comp=E,146nm,0.9s							
KNK	**Knik Glacier**	**5.03**	**1**	P		**Pn**	**05 14 18.8**	**-0.6**
	baz=180							
SUA	**Susitna One**	**5.20**	**348**	Pn		**Pn**	**05 14 21.3**	**-0.6**
SUA				IAML			05 16 40.9	
	comp=E,101nm,3.7s							
SUA				IAML			05 17 12.3	
	comp=N,98nm,4.3s							
PMR	**Palmer**	**5.21**	**357**	Pn		**Pn**	**05 14 21.0**	**-0.9**
PMR				IAML			05 17 56.2	
	comp=N,121nm,0.7s							
PMR				IAML			05 17 56.3	
	comp=E,152nm,1.0s							
KLU	**Klutina**	**5.29**	**14**			**Pn**	**05 14 21.9**	**-1.2**
KLU	**Klutina**	**5.29**	**14**	P		**Pn**	**05 14 21.9**	**-1.2**
	baz=195							
STLK	**Strandline Lak**	**5.39**	**343**			**Pn**	**05 14 24.6**	**+0.2**
GHO	**Glory Hole Cre**	**5.39**	**358**			**Pn**	**05 14 24.7**	**+0.2**
N19K	**Bonanza Creek**	**5.40**	**327**			**Pn**	**05 14 24.5**	**-0.1**
N19K	**Bonanza Creek**	**5.40**	**327**	P		**Pn**	**05 14 24.5**	**-0.1**
	baz=143							
SML	**Sawmill**	**5.42**	**1**			**Pn**	**05 14 25.2**	**+0.3**
SML	**Sawmill**	**5.42**	**1**	P		**Pn**	**05 14 25.2**	**+0.3**
	baz=181							
M23K	**Glacier View**	**5.42**	**4**			**Pn**	**05 14 25.2**	**+0.3**
M23K	**Glacier View**	**5.42**	**4**	P		**Pn**	**05 14 25.2**	**+0.3**
	baz=184							
VRDI	**Verde Repeater**	**5.52**	**27**			**Pn**	**05 14 25.4**	**-1.0**
SAMH	**Samovar Hills**	**5.55**	**44**			**Pn**	**05 14 26.1**	**-0.6**
KIAG	**Kiagna River**	**5.57**	**33**			**Pn**	**05 14 26.1**	**-0.9**
N25K	**Chitina, Valde**	**5.61**	**20**			**Pn**	**05 14 27.1**	**-0.3**
N25K	**Chitina, Valde**	**5.61**	**20**	P		**Pn**	**05 14 27.1**	**-0.3**
	baz=202							
GLB	**Gilahina Butte**	**5.62**	**24**			**Pn**	**05 14 26.9**	**-0.6**
O17K	**Koliganek Bris**	**5.65**	**310**			**Pn**	**05 14 28.1**	**+0.2**
O17K	**Koliganek Bris**	**5.65**	**310**	P		**Pn**	**05 14 28.1**	**+0.2**
	baz=124							
P16K	**Nushagak River**	**5.70**	**301**			**Pn**	**05 14 28.7**	**+0.1**
P16K	**Nushagak River**	**5.70**	**301**	P		**Pn**	**05 14 28.7**	**+0.1**
	baz=114							
PCA	**Pinnacle**	**5.74**	**46**			**Pn**	**05 14 28.4**	**-0.8**
PINM	**Pinnacle**	**5.74**	**46**	P		**Pn**	**05 14 28.4**	**-0.8**
	baz=232							
PTPK	**Patty Peak**	**5.75**	**31**			**Pn**	**05 14 28.7**	**-0.7**
N18K	**Kilae Creek**	**5.76**	**321**			**Pn**	**05 14 29.2**	**-0.2**
N18K	**Kilae Creek**	**5.76**	**321**	P		**Pn**	**05 14 29.2**	**-0.2**
	baz=135							
MCARA	**McCarthy VSAT**	**5.76**	**28**			**Pn**	**05 14 29.3**	**-0.2**
MCARA	**McCarthy VSAT**	**5.76**	**28**	P		**Pn**	**05 14 29.3**	**-0.2**
	baz=211							
M24K	**Tolsona, Glenn**	**5.85**	**11**			**Pn**	**05 14 31.2**	**+0.4**
M24K	**Tolsona, Glenn**	**5.85**	**11**	P		**Pn**	**05 14 31.2**	**+0.4**
	baz=192							
PNL	**Peninsula**	**5.86**	**52**			**Pn**	**05 14 29.6**	**-1.3**
PNL	**Peninsula**	**5.86**	**52**	P		**Pn**	**05 14 29.6**	**-1.3**
	baz=239							
BARN	**Barnard Glacie**	**5.89**	**35**			**Pn**	**05 14 30.4**	**-1.1**
BCPM	**Bancas Point**	**5.91**	**49**			**Pn**	**05 14 30.5**	**-1.0**
CTGM	**Chitina Glacie**	**5.92**	**36**	Pn		**Pn**	**05 14 30.7**	**-1.2**
LOGN	**Logan Glacier**	**5.94**	**39**			**Pn**	**05 14 31.0**	**-1.0**
M20K	**Styx River**	**5.98**	**339**			**Pn**	**05 14 32.8**	**+0.2**
M20K	**Styx River**	**5.98**	**339**	P		**Pn**	**05 14 32.7**	**+0.2**
	baz=155							
N17K	**Nushagak Hills**	**6.13**	**316**			**Pn**	**05 14 34.6**	**0.0**
N17K	**Nushagak Hills**	**6.13**	**316**	P		**Pn**	**05 14 34.6**	**0.0**
	baz=129							
M19K	**Big River Lodg**	**6.28**	**334**			**Pn**	**05 14 35.3**	**-1.3**
M19K	**Big River Lodg**	**6.28**	**334**	P		**Pn**	**05 14 35.3**	**-1.3**
	baz=149							
M18K	**Stony River**	**6.34**	**327**			**Pn**	**05 14 37.0**	**-0.4**
M18K	**Stony River**	**6.34**	**327**	P		**Pn**	**05 14 37.0**	**-0.4**
	baz=141							
O29M	**Mount Kennedy**	**6.55**	**49**			**Pn**	**05 14 39.7**	**-0.7**
O29M	**Mount Kennedy**	**6.55**	**49**	P		**Pn**	**05 14 39.7**	**-0.7**
	baz=237							
P29M	**Windy Craggy**	**6.59**	**56**			**Pn**	**05 14 39.9**	**-1.1**
P29M	**Windy Craggy**	**6.59**	**56**	P		**Pn**	**05 14 39.9**	**-1.1**
	baz=244							
M26K	**Nabesna, AK**	**6.65**	**23**	Pn		**Pn**	**05 14 41.5**	**-0.2**
M27K	**Edge Creek, AK**	**6.88**	**27**	Pn		**Pn**	**05 14 44.9**	**0.0**
S31K	**Pelican**	**6.88**	**72**			**Pn**	**05 14 42.2**	**-2.6**
S31K	**Pelican**	**6.88**	**72**	P		**Pn**	**05 14 42.2**	**-2.6**
	baz=261							
M16K	**Timber Creek**	**7.12**	**315**			**Pn**	**05 14 48.3**	**+0.1**
M16K	**Timber Creek**	**7.12**	**315**	P		**Pn**	**05 14 48.3**	**+0.1**
	baz=126							
TRF	**Thorofare Moun**	**7.12**	**354**	Pn		**Pn**	**05 14 48.4**	**+0.1**
L18K	**Granite Mounta**	**7.16**	**328**			**Pn**	**05 14 49.3**	**+0.6**
L18K	**Granite Mounta**	**7.16**	**328**	P		**Pn**	**05 14 49.3**	**+0.6**
	baz=141							
P30M	**Million Dollar**	**7.16**	**54**			**Pn**	**05 14 48.2**	**-0.5**
P30M	**Million Dollar**	**7.16**	**54**	P		**Pn**	**05 14 48.2**	**-0.5**
	baz=243							
HYT	**Haines Junctio**	**7.28**	**48**	Pn		**Pn**	**05 14 49.8**	**-0.6**
L27K	**Beaver Creek,**	**7.49**	**24**			**Pn**	**05 14 53.2**	**0.0**
L27K	**Beaver Creek,**	**7.49**	**24**	P		**Pn**	**05 14 53.2**	**0.0**
	baz=209							
BCAR	**Beaver Creek A**	**7.50**	**24**	Pn		**Pn**	**05 14 52.7**	**-0.8**
K20K	**Telida**	**7.50**	**341**	Pn		**Pn**	**05 14 53.5**	**+0.1**
S32K	**Killisnoo**	**7.72**	**76**			**Pn**	**05 14 54.6**	**-1.8**
S32K	**Killisnoo**	**7.72**	**76**	P		**Pn**	**05 14 54.6**	**-1.8**
	baz=267							
L16K	**Owhat River**	**7.74**	**318**			**Pn**	**05 14 56.4**	**-0.2**
L16K	**Owhat River**	**7.74**	**318**	P		**Pn**	**05 14 56.4**	**-0.2**
	baz=129							
N30M	**Aishikik Lake**	**7.80**	**45**			**Pn**	**05 14 57.0**	**-0.5**
N30M	**Aishikik Lake**	**7.80**	**45**	P		**Pn**	**05 14 57.0**	**-0.5**
	baz=234							
O30N	**Mendenhall**	**7.84**	**51**			**Pn**	**05 14 57.4**	**-0.7**
O30N	**Mendenhall**	**7.84**	**51**	P		**Pn**	**05 14 57.4**	**-0.7**
	baz=241							
M29M	**Somme Creek**	**7.94**	**36**			**Pn**	**05 14 59.2**	**-0.3**
M29M	**Somme Creek**	**7.94**	**36**	P		**Pn**	**05 14 59.2**	**-0.3**
	baz=224							
K17K	**Iditarod**	**8.03**	**326**			**Pn**	**05 15 00.2**	**-0.4**
K17K	**Iditarod**	**8.03**	**326**	P		**Pn**	**05 15 00.2**	**-0.4**
	baz=138							
K27K	**Chicken**	**8.30**	**20**	Pn		**Pn**	**05 15 04.9**	**+0.6**
WHY	**Whitehorse**	**8.33**	**54**			**Pn**	**05 15 04.3**	**-0.4**
WHY	**Whitehorse**	**8.33**	**54**	P		**Pn**	**05 15 04.3**	**-0.4**
	baz=244							
N31M	**Braeburn, Yuko**	**8.34**	**47**			**Pn**	**05 15 04.9**	**+0.1**
N31M	**Braeburn, Yuko**	**8.34**	**47**	P		**Pn**	**05 15 04.9**	**+0.1**
	baz=237							
ILAR	**Eielson Array**	**8.44**	**5**	Pn		**Pn**	**05 15 06.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=192,slow=12,SNR=1.6 comp=E,0.7nm,1.0s							
J26L	**Joseph Creek**	**8.49**	**15**	Pn		**Pn**	**05 15 07.0**	**0.0**
P32M	**Atlin**	**8.50**	**62**			**Pn**	**05 15 05.9**	**-1.2**
P32M	**Atlin**	**8.50**	**62**	P		**Pn**	**05 15 05.9**	**-1.2**
	baz=254							
M30M	**Minto, Yukon**	**8.60**	**39**	Pn		**Pn**	**05 15 07.7**	**-0.8**
U33K	**Whale Pass**	**8.60**	**85**			**Pn**	**05 15 04.6**	**-3.8**
U33K	**Whale Pass**	**8.60**	**85**	P		**Pn**	**05 15 04.6**	**-3.8**
	baz=278							
I21K	**Tanana**	**8.96**	**351**	Pn		**Pn**	**05 15 13.9**	**+0.5**
P33M	**Teslin, Yukon**	**9.12**	**59**	Pn		**Pn**	**05 15 14.7**	**-0.9**
J16K	**Anvik River**	**9.17**	**324**	Pn		**Pn**	**05 15 15.7**	**-0.5**
K29M	**Barlow Dome**	**9.26**	**32**	Pn		**Pn**	**05 15 16.6**	**-1.0**
M31M	**Drury Creek, Y**	**9.28**	**45**	Pn		**Pn**	**05 15 17.4**	**-0.3**
FARO	**Faro, Yukon**	**9.71**	**47**	Pn		**Pn**	**05 15 24.0**	**+0.4**
IMAR	**Indian Mountai**	**9.93**	**348**	Pn		**Pn**	**05 15 26.9**	**+0.3**
DLBC	**Dease Lake**	**10.20**	**71**	Pn		**Pn**	**05 15 29.2**	**-1.1**
	comp=E,0.3nm,0.3s,baz=280,slow=6.1,SNR=7.6 comp=E,0.7nm,0.3s							
F20K	**Avaraart Lake**	**11.20**	**345**	Pn		**Pn**	**05 15 44.2**	**+0.3**
F17K	**Baldwin Pennin**	**11.73**	**334**	Pn		**Pn**	**05 15 51.7**	**+0.6**
INK	**Inuvik**	**13.77**	**24**	Pn		**Pn**	**05 16 21.4**	**+2.4**
	baz=208,slow=15,SNR=4.2 comp=E,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**18.14**	**56**	P		**P**	**05 17 16.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=264,slow=11,SNR=7.4 comp=E,0.8nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**49.29**	**241**	T		T	06 15 03.8	
	baz=28,slow=74,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	**49.30**	**241**	T		T	06 15 04.2	
	baz=28,slow=74,SNR=5.8							
H11N1	**WAKE ISLAND Hy**	**49.31**	**241**	T		T	06 15 04.1	
	baz=28							
SONM	**Songino Array**	**58.87**	**311**	P		**P**	**05 23 05.5**	**+2.8**
	comp=E,0.4nm,0.8s,baz=56,slow=5.9,SNR=3.0 comp=E,0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**61.68**	**327**	P		**P**	**05 23 22.6**	**+1.0**
	comp=E,0.3nm,0.3s,baz=46,slow=6.2,SNR=2.4 comp=E,0.3nm,0.3s							

IDC ***26*** *05:14:33.4±4.2,56˚.17N×148˚.61W,h0km,mb3.4/1, mbtmp3.4/5,ML2.9/4,Error ellipse: s-maj=69.1km s-min=34.1km az=165.0*

AEIC ***26*** *05:14:34.4±1.9,56˚.2N±0˚.1×148˚.4W±0˚.2,h10km±2km, Error ellipse: s-maj=22.5km s-min=15.4km az=154.0*

NEIC ***26*** *05:14:34.4±1.7,56˚.4N±0˚.1×148˚.4W±0˚.2,h20km±11km, ML3.7,ML3.5(AEIC),Error ellipse: s-maj=17.1km s-min=12.8km az=157.0*

ISC 26 05:14:35.3±1.8,56˚.6N±0˚.2×148˚.60W±0˚.09,h10km,n19, σ1§11/20,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.48**	**301**	Pn	**Pn**	**05 15 15.9**	**+0.3**
KDAK	**Kodiak Island**	**2.48**	**301**	Pn	**Pn**	**05 15 15.4**	**-0.2**
	1.3nm,0.3s,baz=121,slow=16,SNR=1.5						
KDAK				Sn	**Sn**	**05 15 44.9**	**-1.1**
	4.5nm,0.3s,baz=300,slow=20,SNR=1.9 26nm,0.8s						
OHAK	**Old Harbor**	**2.65**	**286**	Pn	**Pn**	**05 15 16.8**	**-1.2**
SYI	**Shuyak Island**	**2.88**	**316**	Pn	**Pn**	**05 15 20.1**	**-1.1**
CNPM	**China Poot**	**3.26**	**336**	Pn	**Pn**	**05 15 27.0**	**+0.5**
BRLK	**Bradley Lake**	**3.41**	**340**	Pn	**Pn**	**05 15 28.6**	**+0.1**
SEW	**Seward**	**3.56**	**353**	Pn	**Pn**	**05 15 29.4**	**-1.0**
Q19K	**Cape Douglas,**	**3.58**	**313**	Pn	**Pn**	**05 15 32.4**	**+1.6**
EYAK	**Cordova Ski Ar**	**4.24**	**19**	Pn	**Pn**	**05 15 40.1**	**+0.3**
RSO	**Redoubt South**	**4.45**	**332**	Pn	**Pn**	**05 15 43.1**	**+0.2**
P18K	**Big Mountain,**	**4.51**	**311**	Pn	**Pn**	**05 15 43.6**	**0.0**
CHGN	**Chignik**	**5.46**	**271**	Pn	**Pn**	**05 15 56.4**	**-0.1**
M16K	**Timber Creek**	**6.98**	**314**	Pn	**Pn**	**05 16 18.6**	**+1.2**
ILAR	**Eielson Array**	**8.25**	**5**	Pn	**Pn**	**05 16 36.4**	**+1.5**
	0.1nm,0.3s,baz=186,slow=14,SNR=2.2 0.5nm,0.4s						
D24K	**Happy Valley**	**12.61**	**360**	Pn	**Pn**	**05 17 33.7**	**-0.8**
GAMB	**Gambell**	**13.50**	**312**	Pn	**Pn**	**05 17 46.7**	**+0.1**
INK	**Inuvik**	**13.61**	**24**	Pn	**P**	**05 17 55.0**	**-2.0**
	0.1nm,0.3s,baz=198,slow=9.0,SNR=3.0 1.6nm,0.9s						
YKA	**Yellowknife Ar**	**18.05**	**57**	P	**P**	**05 18 47.0**	**+0.7**
	baz=265,slow=10,SNR=4.8 0.8nm,0.9s						
SONM	**Songino Array**	**58.73**	**310**	P	**P**	**05 24 35.1**	**+2.1**
	0.4nm,0.7s,baz=28,slow=6.5,SNR=2.2 0.4nm,0.7s						

IDC ***26*** *05:15:39.6±0.7,56˚.35N×148˚.60W,h0km,mb4.2/28, mbtmp4.2/33,ML3.9/5,MS3.8/19,Error ellipse: s-maj=19.4km s-min=11.4km az=33.0*

NEIC ***26*** *05:15:40.7±1.6,56˚.36N±0˚.09×148˚.5W±0˚.1,h20km±7km, mb4.5/4,ML4.4/32,ML4.3(AEIC),Error ellipse: s-maj=13.7km s-min=7.7km az=168.0*

MOS ***26*** *05:15:41.5±1.2,56˚.60N×148˚.67W,h17km,mb4.9/23, Error ellipse: s-maj=17.9km s-min=6.1km az=93.7*

AEIC ***26*** *05:15:43.2±1.6,56˚.30N±0˚.09×148˚.4W±0˚.1,h12km±6km, Error ellipse: s-maj=13.5km s-min=8.7km az=173.0*

ISC 26 05:15:41.3±0.5,56˚.44N±0˚.06×148˚.44W±0˚.04,h10km, n311,σ1§70/279,mb4.6/59,MS3.9/18,8C-7D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.63**	**303**	Pn	**Pn**	**05 16 22.0**	**-1.8**
KDAK	**Kodiak Island**	**2.63**	**303**	Pn	**Pn**	**05 16 22.0**	**-1.8**
	22nm,0.3s,baz=126,slow=5.5,SNR=14						
KDAK				Sn	**Sn**	**05 16 51.2**	**-4.5**
	50nm,0.3s,baz=294,slow=22,SNR=14 76nm,0.4s						
OHAK	**Old Harbor**	**2.78**	**288**		**Pn**	**05 16 23.2**	**-2.6**
OHAK	**Old Harbor**	**2.78**	**288**	P	**Pn**	**05 16 23.3**	**-2.5**
	baz=107						
OHAK				S	**Sn**	**05 16 54.9**	**-4.5**
	baz=107						
SYI	**Shuyak Island**	**3.05**	**317**	Pn	**Pn**	**05 16 28.5**	**-1.0**
SYI	**Shuyak Island**	**3.05**	**317**		**Sn**	**05 17 03.4**	**-2.6**
Q20K	**Shuyak Island**	**3.05**	**317**	P	**Pn**	**05 16 28.4**	**-1.1**
	baz=135						
Q20K				S	**Sn**	**05 17 04.4**	**-1.6**
	baz=135						
MID	**Middleton Isla**	**3.20**	**20**	Pn	**Pn**	**05 16 29.8**	**-1.8**
MID				IAML		05 17 08.5	
	comp=N,627nm,1.1s						
MID				IAML		05 18 34.2	
	comp=E,643nm,3.1s						
MID	**Middleton Isla**	**3.20**	**20**		**Sn**	**05 17 06.0**	**-3.8**
MID	**Middleton Isla**	**3.20**	**20**	P	**Pn**	**05 16 29.8**	**-1.8**
MID						05 17 06.0	
Q23K	**Middleton Isla**	**3.20**	**20**		**Pn**	**05 16 30.2**	**-1.4**
Q23K					**Sn**	**05 17 06.5**	**-3.3**
Q23K	**Middleton Isla**	**3.20**	**20**	P	**Pn**	**05 16 30.2**	**-1.4**
	baz=200						
CNPM	**China Poot**	**3.44**	**335**	Pn	**Pn**	**05 16 33.5**	**-1.4**
CNPM	**China Poot**	**3.44**	**335**		**Sn**	**05 17 13.6**	**-2.0**
CNPM	**China Poot**	**3.44**	**335**	IAML		05 17 18.7	
	comp=N,461nm,1.1s						
CNPM				IAML		05 17 21.6	
	comp=E,406nm,1.2s						
BRSE	**Bradley Lake S**	**3.53**	**341**		**Pn**	**05 16 34.6**	**-1.6**
BRSE					**Sn**	**05 17 15.8**	**-2.2**
BRSE	**Bradley Lake S**	**3.53**	**341**	P	**Pn**	**05 16 34.8**	**-1.4**
	baz=159						
BRLK	**Bradley Lake**	**3.58**	**340**		**Pn**	**05 16 35.0**	**-1.9**
P23K	**Montague Islan**	**3.61**	**8**		**Pn**	**05 16 36.0**	**-1.3**
P23K					**Sn**	**05 17 16.6**	**-3.4**
P23K	**Montague Islan**	**3.61**	**8**	P	**Pn**	**05 16 36.0**	**-1.3**
	baz=188						
P23K				S	**Sn**	**05 17 17.1**	**-2.8**
	baz=188						
HOM	**Homer**	**3.65**	**334**	Pn	**Pn**	**05 16 37.2**	**-0.6**
HOM				IAML		05 17 38.4	
	comp=N,1μm,1.4s						
HOM	**Homer**	**3.65**	**334**	P	**Pn**	**05 16 37.4**	**-0.4**
	baz=151						
SEW	**Seward**	**3.72**	**352**		**Pn**	**05 16 37.1**	**-1.6**
SEW	**Seward**	**3.72**	**352**	P	**Pn**	**05 16 37.1**	**-1.6**
	baz=171						
Q19K	**Cape Douglas,**	**3.75**	**314**		**Pn**	**05 16 38.6**	**-0.6**
Q19K	**Cape Douglas,**	**3.75**	**314**	P	**Pn**	**05 16 38.6**	**-0.6**
	baz=131						
KAHG	**Katmai Hook Gl**	**3.89**	**305**		**Pn**	**05 16 40.3**	**-0.9**
AU22	**Augustine Moun**	**3.94**	**320**		**Pn**	**05 16 41.6**	**-0.2**
AUCH	**Augustine Cone**	**3.97**	**320**		**Pn**	**05 16 41.7**	**-0.5**
AUL	**Augustine Lava**	**3.98**	**320**		**Pn**	**05 16 41.9**	**-0.4**
KAIM	**Kayak Island**	**4.09**	**30**		**Pn**	**05 16 42.9**	**-1.0**
KAIM				IAML		05 17 33.8	
	comp=E,581nm,1.7s						
HIN	**Hinchinbrook I**	**4.10**	**14**	Pn	**Pn**	**05 16 43.2**	**-0.8**
HIN				IAML		05 17 30.2	
	comp=E,1μm,1.2s						
HIN				IAML		05 17 31.4	
	comp=N,1μm,1.1s						
P19K	**Oil Pt**	**4.11**	**324**		**Pn**	**05 16 43.6**	**-0.5**
P19K	**Oil Pt**	**4.11**	**324**	P	**Pn**	**05 16 43.6**	**-0.5**
	baz=140						
O22K	**Cooper Landing**	**4.11**	**351**		**Pn**	**05 16 42.5**	**-1.6**
ACHA	**Anchor Creek He**	**4.13**	**298**		**Pn**	**05 16 42.2**	**-2.4**
KAHC	**Katmai Hardscr**	**4.18**	**305**		**Pn**	**05 16 45.1**	**0.0**
KAHC	**Katmai Hardscr**	**4.18**	**305**	P	**Pn**	**05 16 45.1**	**0.0**
	baz=121						
SLKM	**Skilak Lake**	**4.19**	**348**		**Pn**	**05 16 43.8**	**-1.4**
ANCK	**Angle Creek**	**4.21**	**298**		**Pn**	**05 16 44.6**	**-1.0**
O20K	**Slope Mountain**	**4.27**	**331**		**Pn**	**05 16 45.3**	**-1.1**
O20K	**Slope Mountain**	**4.27**	**331**	P	**Pn**	**05 16 45.5**	**-0.9**
	baz=148						
IVE	**Iliamna Volcan**	**4.33**	**328**		**Pn**	**05 16 45.8**	**-1.5**
EYAK	**Cordova Ski Ar**	**4.36**	**18**		**Pn**	**05 16 46.6**	**-0.9**
EYAK	**Cordova Ski Ar**	**4.36**	**18**	P	**Pn**	**05 16 46.6**	**-0.9**
	baz=198						
CNTC	**Contact Creek**	**4.43**	**298**		**Pn**	**05 16 47.8**	**-0.8**
CAPN	**Captain Cook N**	**4.57**	**343**	Pn	**Pn**	**05 16 49.2**	**-1.2**
GOAT	**Goat Mountain**	**4.59**	**24**		**Pn**	**05 16 49.8**	**-1.0**
RSO	**Redoubt South**	**4.63**	**332**		**Pn**	**05 16 49.8**	**-1.6**
RDT	**Redoubt**	**4.64**	**335**		**Pn**	**05 16 49.7**	**-1.8**
RDWB	**Redoubt West**	**4.67**	**332**		**Pn**	**05 16 50.4**	**-1.6**
P18K	**Big Mountain,**	**4.68**	**312**		**Pn**	**05 16 50.3**	**-1.7**
P18K	**Big Mountain,**	**4.68**	**312**	P	**Pn**	**05 16 50.3**	**-1.7**
	baz=128						
BERG	**Berg Lake**	**4.68**	**30**	Pn	**Pn**	**05 16 50.2**	**-1.8**
RC01	**Rabbit Creek A**	**4.71**	**352**		**Pn**	**05 16 51.7**	**-0.8**
RC01				IAML		05 17 46.8	
	comp=N,356nm,0.9s						
RC01				IAML		05 17 47.2	
	comp=E,360nm,0

M19K **Big River Lodg** 6.28 333 Pn 05 17 12.0 -1.9
WAT1 **Susitna Watana** 6.41 360 Pn 05 17 15.1 -0.6
WAT7 **Susitna Watana** 6.42 358 Pn 05 17 15.5 -0.4
P29M **Windy Craggy** 6.52 56 Pn 05 17 15.9 -1.4
M26K **Nabesna, AK** 6.59 23 Pn Pn 05 17 18.4 +0.1
L19K **White Mountain** 6.63 333 Pn Pn 05 17 16.7 -2.0
DHY **Denali Highway** 6.68 4 Pn 05 17 19.3 -0.2
PAX **Paxson** 6.72 12 Pn 05 17 20.3 +0.2
PAX **Paxson** 6.72 12 P Pn 05 17 20.3 +0.2
S31K **Pelican** 6.81 72 Pn 05 17 18.0 -3.1
M17K **Holitna River** 6.81 321 Pn 05 17 20.0 -1.2
M27K **Edge Creek, AK** 6.81 27 Pn 05 17 21.5 +0.1
RND **Reindeer** 7.00 358 Pn 05 17 24.1 +0.3
RND **Reindeer** 7.00 358 P Pn 05 17 24.1 +0.3
TRF **Thorofare Moun** 7.10 353 Pn Pn 05 17 24.3 -1.0
BVCY **Beaver Creek** 7.13 30 Pn 05 17 25.1 -0.5
M16K **Timber Creek** 7.14 314 Pn Pn 05 17 24.5 -1.2
L18K **Granite Mounta** 7.17 327 Pn 05 17 25.2 -0.8
N15K **Kwethluk River** 7.19 306 Pn 05 17 25.9 -0.5
HYT **Haines Junctio** 7.20 48 Pn Pn 05 17 26.6 -0.1
CAST **Castle Rocks** 7.24 347 Pn Pn 05 17 27.3 +0.3
MCK **McKinley** 7.32 358 Pn 05 17 28.1 -0.1
MCK **McKinley** 7.32 358 P Pn 05 17 28.1 -0.1
L27K **Beaver Creek,** 7.43 24 Pn 05 17 29.5 -0.2
BCAR **Beaver Creek A** 7.45 24 Pn Pn 05 17 30.2 +0.3
RIDG **Independent Ri** 7.54 12 Pn Pn 05 17 32.1 +0.8
TTA **Tatalina** 7.55 333 Pn Pn 05 17 29.8 -1.6
TTA **Tatalina** 7.55 333 P Pn 05 17 29.8 -1.6
N30M **Aishikik Lake** 7.73 45 Pn 05 17 33.0 -0.8
L16K **Owhat River** 7.76 318 Pn 05 17 32.8 -1.4
O30N **Mendenhall** 7.77 51 Pn 05 17 32.6 -1.8
BPAW **Bear Paw Mtn.** 7.79 352 Pn 05 17 34.0 -0.6
JIS **Juneau Island** 7.82 71 Pn Pn 05 17 34.4 -0.7
N14K **Kuskokwak Cree** 7.82 302 Pn 05 17 33.9 -1.1
HDA **Harding Lake** 8.03 5 Pn 05 17 38.4 +0.5
K17K **Iditarod** 8.04 326 Pn 05 17 36.3 -1.6
J18K **Innoko River** 8.17 333 Pn Pn 05 17 38.8 -1.1
NEA2 **Nenana** 8.19 358 Pn 05 17 39.2 -0.9
CCB **Clear Creek Bu** 8.24 2 Pn Pn 05 17 41.1 +0.3
N31M **Braeburn, Yuko** 8.26 47 Pn 05 17 40.9 -0.3
IL31 8.40 5 Pn Pn 05 17 42.7 -0.1
ILAR **Eielson Array** 8.40 5 Pn Pn 05 17 42.5 -0.5
comp=E,0.8nm,0.3s,baz=188,slow=13,SNR=9.8
ILAR Sn Sn 05 19 13.6 -4.1
comp=E,2.1nm,0.3s,baz=208,slow=16,SNR=7.4
ILAR LR LR 05 21 11.4
comp=E,358nm,19.7s,baz=203,slow=39
comp=E,1.6nm,0.4s
P32M **Atlin** 8.43 62 Pn 05 17 42.0 -1.5
J26L **Joseph Creek** 8.44 15 Pn 05 17 43.3 -0.3
L29M **L29M** 8.46 34 Pn 05 17 43.3 -0.6
M30M **Minto, Yukon** 8.53 39 Pn 05 17 43.6 -1.2
I23K **Minto, Yukon-K** 8.75 357 Pn 05 17 47.0 -0.7
ISLZ **Isanotski Laza** 8.82 265 Pn 05 17 46.0 -2.8
K15K **Wolf Creek Mou** 8.88 317 Pn 05 17 49.1 -0.5
P33M **Teslin, Yukon** 9.04 59 Pn 05 17 50.7 -1.1
EGAK **Eagle** 9.09 20 Pn 05 17 52.6 +0.2
M31M **Drury Creek, Y** 9.21 45 Pn 05 17 54.3 +0.3
H21K **Melozitna Rive** 9.49 349 Pn 05 17 57.3 -0.6
IMAR **Indian Mountai** 9.91 347 Pn 05 18 02.9 -0.8
J14K **Nanvaranak Lak** 9.92 316 Pn 05 18 03.3 -0.4
H18K **Honhosa River** 9.98 335 Pn 05 18 03.6 -1.0
DLBC **Dease Lake** 10.12 71 Pn Pn 05 18 06.8 +0.2
DLBC **Dease Lake** 10.12 71 Pn Pn 05 18 06.5 -0.2
comp=E,1.1nm,0.3s,baz=296,slow=5.8,SNR=19
DLBC Sn Sn 05 19 54.9 -5.2
comp=E,0.4nm,0.3s,baz=168,slow=19,SNR=1.3
comp=E,6.3nm,0.6s
ANM **Nome** 11.62 321 Pn Pn 05 18 26.3 -0.8
ANM **Nome** 11.62 321 P Pn 05 18 26.3 -0.8
BBB **Bella Bella** 12.59 101 LR LR 05 22 22.6
comp=E,553nm,19.9s,baz=319,slow=32
INK **Inuvik** 13.71 24 Pn Pn 05 18 56.7 +1.2
INK **Inuvik** 13.71 24 P Pn 05 18 56.7 +1.2
INK **Inuvik** 13.71 24 Pn Pn 05 18 57.2 +1.8
comp=E,0.2nm,0.3s,baz=203,slow=14,SNR=27
INK LR LR 05 24 33.2
comp=E,534nm,18.3s,baz=188,slow=39
comp=E,19nm,0.9s
ATKA **Atka Island** 15.57 265 P Pn 05 19 21.5 +0.8
CLRS **Cowichan Lake** 16.55 107 P Pn 05 19 32.6 -0.6
CLRS IAmb IAmb 05 19 40.1
comp=Z,64nm,1.5s
GSTR **Great Sitkin T** 16.65 267 P Pn 05 19 33.3 -1.3
ADK **Adak** 17.09 266 P Pn 05 19 38.4 -1.6
ADK IAmb IAmb 05 20 09.3
comp=Z,40nm,1.1s
ADK **Adak** 17.09 266 P Pn 05 19 38.4 -1.6
ADK pmax pmax
comp=Z,41nm,1.2s
KIWB **Kanaga Island** 17.36 267 P Pn 05 19 42.9 -0.6
YKA **Yellowknife Ar** 18.06 56 Pn 05 19 51.5 -0.5
YKA **Yellowknife Ar** 18.06 56 P Pn 05 19 51.5 -0.5
YKA **Yellowknife Ar** 18.06 56 P P 05 19 53.0 +0.5
comp=Z,0.5nm,0.3s,baz=263,slow=11,SNR=30
comp=Z,12nm,0.9s
NEW **Newport** 20.65 100 P Pn 05 20 22.7 -0.6
comp=Z,4.4nm,0.9s,baz=303,slow=9.1,SNR=5.7
comp=Z,4.4nm,0.9s
SHEM **Shemya Is, Ala** 21.84 276 LR LR 05 29 02.3
comp=Z,157nm,20.7s,baz=324,slow=37
YBH **Yreka Blue Hor** 22.18 121 P 05 20 37.0 -0.5
comp=Z,5.9nm,1.1s,baz=327,slow=4.4,SNR=3.7
YBH LR LR 05 27 02.6
comp=Z,473nm,20.9s,baz=323,slow=31
comp=Z,5.9nm,1.1s
BILL **Bilibino** 23.44 318 eP P 05 20 49.6 -0.7
ELK **Elko** 26.65 112 P P 05 21 20.1 -0.1
comp=Z,1.0nm,0.8s,baz=257,slow=5.5,SNR=4.2
comp=Z,1.0nm,0.8s
NVAR **Mina Array Bea** 26.88 119 P P 05 21 22.5 +0.2
comp=Z,1.8nm,0.9s,baz=305,slow=8.7,SNR=7.4
comp=Z,1.8nm,0.9s
RES **Resolute Bay** 27.20 28 P P 05 21 24.8 +0.2
comp=Z,2.1nm,1.0s,baz=247,slow=13,SNR=4.9
comp=Z,2.1nm,1.0s
FCC **Fort Churchill** 28.55 62 P P 05 21 37.6 +0.8
FCC **Fort Churchill** 28.55 62 P P 05 21 37.6 +0.8
FCC pmax pmax
comp=Z,11nm,1.5s
SEY **Seymchan** 29.58 307⇑eP P 05 21 45.9 0.0
SEY pmax pmax
comp=Z,5.0nm,1.0s
ULM **Lac du Bonnet** 31.31 79 P P 05 22 03.8 +2.5
comp=Z,3.4nm,0.9s,baz=323,slow=15,SNR=3.2
comp=Z,3.4nm,0.9s
TIXI **Tiksi** 35.79 328ceP P 05 22 43.4 +3.3
TIXI pmax pmax
comp=Z,9.0nm,2.5s
NEEM **North Greenlan** 37.27 21 iP P 05 22 53.5 +0.6
NEEM IAmb IAmb 05 23 01.8
comp=Z,9.0nm,0.8s
UPNV **Upernavik** 38.08 29 iP P 05 23 02.5 +3.1
UPNV IAmb IAmb 05 23 08.2
comp=Z,8.5nm,0.8s
YAK **Yakutsk** 39.62 313 eP P 05 23 10.2 -2.3
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
TXAR **Lajitas Array** 41.44 112 P P 05 23 28.4 +0.3
comp=E,0.9nm,1.0s,baz=330,slow=4.8,SNR=6.6
comp=E,0.9nm,1.0s
YSS **Yuzh-Sakhalins** 41.98 287⇓eP P 05 23 24.8 -7.4
YSS pmax pmax
comp=Z,14nm,1.2s
SUMG **Summit** 42.63 25 iP P 05 23 37.0 -0.6
SUMG IAmb IAmb 05 23 46.8
comp=Z,20nm,0.8s
SFJD **Kangerlussuaq** 42.70 35 iP P 05 23 38.4 +0.7
SFJD IAmb IAmb 05 23 47.7
comp=Z,9.1nm,0.9s
SCHQ **Schefferville** 43.52 56 P P 05 23 44.8 +0.2
comp=Z,3.2nm,0.9s,baz=322,slow=12,SNR=2.0
comp=Z,3.2nm,0.9s
ICESG **Greenland Ices** 44.61 29 iP P 05 23 53.4 -0.2
ICESG IAmb IAmb 05 24 02.4
comp=Z,14nm,1.0s
KLR **Kul'dur** 46.18 297⇓eP P 05 24 06.2 +0.4
KLR pmax pmax
comp=Z,19nm,2.5s
HEH **HeiHe** 47.63 300 eP P 05 24 16.0 -1.1
HEH pmax pmax
comp=Z,8.0nm,0.9s
HEH pmax pmax
comp=Z,310nm,5.7s
NRIK **Noril'sk** 48.15 337 eP P 05 24 21.6 +0.7
NRIK pmax pmax
comp=Z,2.0nm,0.4s
NRIK **Noril'sk** 48.15 337 P P 05 24 20.6 -0.3
comp=Z,2.3nm,0.4s,baz=60,slow=5.8,SNR=4.4
comp=Z,2.3nm,0.4s
BOD **Bodaibo** 48.44 315 eP P 05 24 19.1 -4.2
BOD pmax pmax
comp=Z,99nm,0.8s
H11N2 **WAKE ISLAND Hy** 49.37 241 T T 06 17 59.8
baz=31,slow=76,SNR=16
H11N3 **WAKE ISLAND Hy** 49.37 241 T T 06 17 41.4
baz=31,slow=76,SNR=16
H11N1 **WAKE ISLAND Hy** 49.38 241 T T 06 17 42.5
baz=31,slow=76,SNR=16
H11S1 **WAKE ISLAND Hy** 50.51 240 T T 06 17 13.7
baz=29,slow=75,SNR=7.8
H11S2 **WAKE ISLAND Hy** 50.52 240 T T 06 16 51.7
baz=29,slow=75,SNR=4.4
H11S3 **WAKE ISLAND Hy** 50.53 240 T T 06 17 14.0
baz=29,slow=75,SNR=3.5
CN2 **Changchun** 53.07 295 P P 05 24 59.0 +0.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ARCES **ARCESS Array B** 54.25 3 P P 05 25 07.3 +0.6
comp=Z,3.7nm,0.8s,baz=7.0,slow=8.2,SNR=1.8
comp=Z,3.7nm,0.8s
KSRS **Korea Array** 56.46 288 LR LR 05 51 39.2
comp=Z,17nm,18.5s,baz=35,slow=38
TEIG **Tepich** 56.95 104 LR LR 05 51 15.0
comp=Z,377nm,19.5s,baz=190,slow=37
ULN **Ulaanbaatar** 58.59 310⇓eP P 05 25 38.7 +0.6
ULN pmax pmax
comp=Z,3.0nm,0.9s
SONM **Songino Array** 58.90 311 P P 05 25 41.4 +1.2
comp=Z,4.4nm,0.9s,baz=50,slow=7.1,SNR=18
comp=Z,4.4nm,0.9s
ZALV **Zalesovo Beam** 61.68 327 eP P 05 25 59.0 0.0
ZALV pmax pmax
comp=Z,5.0nm,1.0s
ZALV **Zalesovo Beam** 61.68 327 P P 05 25 59.0 0.0
comp=Z,4.4nm,1.0s,baz=33,slow=5.7,SNR=8.8
comp=Z,4.4nm,1.0s
NB2 **NORSAR Subarra** 61.77 11 P P 05 26 06.2 +6.7
comp=Z,3.2nm,0.8s,baz=348,slow=6.9
NOA **NORSAR Array B** 61.77 11 P P 05 26 00.3 +0.8
comp=Z,0.7nm,0.8s,baz=346,slow=6.9,SNR=1.8
comp=Z,0.7nm,0.8s
FINES **FINESS Array B** 62.38 3 iP P 05 26 10.6 +7.1
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES **FINESS Array B** 62.38 3 P P 05 26 04.2 +0.7
comp=Z,4.0nm,0.9s,baz=4.7,slow=8.5,SNR=2.3
FINES PKKP PKKPdf 05 46 41.7 -3.3
comp=Z,1.5nm,0.9s,baz=25,slow=6.9,SNR=3.9
comp=Z,4.0nm,0.9s
KLMR **Klimovskoe** 62.88 356 eP P 05 26 12.1 +5.2
KLMR pmax pmax
comp=Z,29nm,1.8s
KIRV **Kirov** 64.44 350 LR LR 05 56 35.9
comp=Z,64nm,19.9s,baz=30,slow=38
SVE **Sverdlovsk** 64.67 343 eP P 05 26 26.5 +7.7
SVE pmax pmax
comp=Z,20nm,0.9s
EKA **Eskdalemuir Ar** 65.06 21 P P 05 26 22.3 +1.0
comp=Z,1.0nm,0.9s,baz=304,slow=5.1,SNR=1.9
comp=Z,1.0nm,0.9s
ARU **Arti** 65.39 344c iP P 05 26 23.1 -0.3
ARU 05 28 44.6
ARU S S 05 35 10.4 +3.3
ARU SS SS 05 39 22.5 +3.4
ARU pmax pmax
comp=Z,24nm,2.4s
ARU **Arti** 65.39 344 P P 05 26 23.1 -0.3
comp=Z,2.5nm,0.3s,baz=356,slow=4.7,SNR=5.7
ARU LR LR 05 58 32.7
comp=Z,54nm,18.9s,baz=16,slow=39
comp=Z,2.5nm,0.3s
BRVK **Borovoye** 66.33 336deP P 05 26 35.9 +6.3
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BVAR **Borovoye Array** 66.34 336 P P 05 26 29.2 -0.4
comp=Z,3.6nm,0.8s,baz=36,slow=6.0,SNR=10
comp=Z,3.6nm,0.8s
KURK **Kurchatov** 66.34 329⇑eP P 05 26 28.9 -0.7
KURK pmax pmax
comp=Z,5.0nm,1.4s
KURBB **Kurchatov Arra** 66.44 329 P P 05 26 29.9 -0.4
comp=Z,0.8nm,0.6s,baz=27,slow=5.8,SNR=6.0
KURBB LR LR 06 01 03.2
comp=Z,84nm,18.9s,baz=171,slow=41
comp=Z,0.8nm,0.6s
MOS **Moscow** 68.07 356 eP P 05 26 46.9 +6.4
GTA **Gaotai** 68.51 309 eP P 05 26 51.3 +7.6
GTA pmax pmax
comp=Z,7.0nm,0.9s
OBN **Obninsk** 68.73 357⇓eP P 05 26 52.3 +7.7
OBN e*PP pwP 05 26 57.0 +5.0
OBN e 05 29 26.2
OBN pmax pmax
OBN comp=Z,36nm,1.7s MLR MLR
comp=Z,94nm,18.0s
MK31 **Makanchi Array** 68.74 325deP P 05 26 44.4 -0.5
MKAR **Makanchi Array** 68.74 325 eP P 05 26 44.8 -0.1
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR **Makanchi Array** 68.74 325 P P 05 26 43.5 -1.4
comp=Z,0.7nm,0.6s,baz=32,slow=6.7,SNR=5.6
comp=Z,0.7nm,0.6s
LZH **Lanzhou** 69.47 305 eP P 05 26 56.3 +6.5
LZH pP pwP 05 27 01.8 +4.6
LZH pmax pmax
comp=Z,9.0nm,1.3s
BELG **Belogornoye** 70.73 350 P P 05 26 57.2 +0.3
comp=Z,15nm,1.0s,baz=349,slow=3.5,SNR=4.9
comp=Z,15nm,1.0s
LPSR **Galich'ya Gora** 71.16 355 eP P 05 27 04.0 +4.4
LPSR pmax pmax
comp=Z,10.0nm,0.8s
AKTO **Aktyubinsk** 71.26 342 P P 05 27 00.9 +0.6
comp=Z,4.9nm,1.0s,baz=16,slow=5.7,SNR=6.2
comp=Z,4.9nm,1.0s
VORR **Voronezh** 72.07 355 P P 05 27 12.8 +7.7
VORR pmax pmax
comp=Z,12nm,0.4s
HSKC **Hora Svate Kat** 72.27 12 eP P 05 27 14.1 +7.7
VRH **Novokhopyorsk** 72.40 353 eP P 05 27 11.6 +4.5
VRH pmax pmax
comp=Z,8.0nm,0.6s
VSR **Storozhevoye** 72.53 355 eP P 05 27 05.4 -2.5
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD **Divnogorie** 72.77 355 eP P 05 27 07.9 -1.4
VORD pmax pmax
comp=Z,10.0nm,0.9s
DPC **Dobruska-Polom** 72.83 10 eP P 05 27 10.2 +0.4
DPC epP pwP 05 27 17.6 +0.4
DPC **Dobruska-Polom** 72.83 10 eP P 05 27 10.2 +0.4
DPC e*PP pwP 05 27 17.6 +0.4
KRLC **Kraliky** 73.15 10 epP pP 05 27 19.6 +6.0
KRLC **Kraliky** 73.15 10 eP P 05 27 19.6 +8.0
AKASG **Malin Array Be** 73.21 2 P P 05 27 11.9 0.0
comp=Z,1.7nm,0.6s,baz=359,slow=6.0,SNR=7.5
AKASG LR LR 06 01 41.2
comp=Z,40nm,18.6s,baz=46,slow=38
comp=Z,1.7nm,0.6s
AKBB **Malin Array Si** 73.21 2⇑eP P 05 27 11.8 -0.1
ZVC **Zvikov** 73.51 12 epP pP 05 27 19.6 +4.0
MORC **Moravsky Berou** 73.51 9 eP P 05 27 21.2 +7.4
KHC **Kasperske Hory** 73.74 12 epP pP 05 27 23.5 +6.4
KHC **Kasperske Hory** 73.74 12⇑eP P 05 27 18.9 +3.8
KHC pmax pmax
comp=Z,4.0nm,1.6s
VRAC **Vranov** 73.89 10 eP P 05 27 23.3 +7.3
VRAC **Vranov** 73.89 10 LR LR 06 01 16.0
comp=Z,28nm,18.8s,baz=356,slow=37
GERES **GERESS Array B** 74.03 12 P P 05 27 16.4 -0.5
comp=Z,0.2nm,0.3s,baz=11,slow=11,SNR=1.5
GERES LR LR 06 02 41.3
comp=Z,21nm,19.1s,baz=344,slow=38
comp=Z,0.2nm,0.3s
KRUC **Moravsky** 74.11 10 eP P 05 27 24.8 +7.5
CKRC **Cesky Krumlov** 74.13 12 eP P 05 27 17.9 +0.5
CKRC **Cesky Krumlov** 74.13 12 eP P 05 27 17.9 +0.5
STHS **Stebnicka Huta** 74.16 7 eP P 05 27 25.5 +7.9
LANS **Liptovska Anna** 74.30 8 e P 05 27 26.9 +8.5
LANS **Liptovska Anna** 74.30 8 e P 05 27 26.9 +8.5
LANS **Liptovska Anna** 74.30 8 eP P 05 27 21.5 +3.1
LANS **Liptovska Anna** 74.30 8 eP P 05 27 21.5 +3.1
JAVC **Velka Javorina** 74.44 9 eP P 05 27 27.7 +8.5
AAK **Ala-Archa** 74.86 329⇑eP P 05 27 18.9 -3.1
AAK pmax pmax
comp=Z,3.0nm,1.2s
AAK **Ala-Archa** 74.86 329 LR LR 06 03 59.6
comp=Z,110nm,19.1s,baz=19,slow=39
MODS **Modra-Piesok** 74.88 10 eP P 05 27 25.0 +3.2
MODS e 05 27 30.4
MODS **Modra-Piesok** 74.88 10 eP P 05 27 25.0 +3.2
MODS e 05 27 30.4
VYHS **Vyhne** 74.90 9 eP P 05 27 29.2 +7.3
BIOA **Bad Ischl, Aus** 75.16 12 ePcP PcP 05 27 31.5 -5.4
comp=Z,4.9nm,0.9s
CONA **Conrad Observa** 75.18 11 ePcP PcP 05 27 31.7 -5.4
comp=Z,5.9nm,0.9s
WATA **Walderalm** 75.25 14 ePcP PcP 05 27 32.3 -5.2
comp=Z,8.7nm,1.0s
LESA **Schwarzleotal** 75.31 13 ePcP PcP 05 27 34.0 -3.7
comp=Z,1.2nm,0.5s
SQTA **Sankt Quirin** 75.32 14 ePcP PcP 05 27 32.1 -5.6
comp=Z,6.8nm,0.9s
WTTA **Wattenberg** 75.33 14 ePcP PcP 05 27 32.5 -5.4
comp=Z,11nm,1.6s
SDV **Santo Domingo** 75.90 95 LR LR 06 02 11.5
comp=Z,46nm,19.7s,baz=79,slow=37
SOKA **Soboth** 76.32 12 i PcP PcP 05 27 38.3 -3.8
comp=Z,9.2nm,1.2s
OBKA **Obir** 76.44 12 ePcP PcP 05 27 38.4 -4.2
comp=Z,10nm,0.9s
RAR **Rarotonga** 77.94 191 LR LR 05 59 54.5
comp=Z,102nm,18.6s,baz=200,slow=34
HNR **Honiara** 78.17 232 LR LR 05 53 34.8
comp=Z,1µm,21.5s,baz=350,slow=29
PZH **PanZhiHua** 78.44 301 P P 05 27 46.0 +3.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
KIV **Kislovodsk** 79.54 352 eP P 05 27 48.8 +0.7
KIV pmax pmax
comp=Z,11nm,1.0s
ESDC **Sonseca Array** 79.64 27 P P 05 27 50.3 +1.7
comp=Z,1.5nm,0.8s,baz=340,slow=5.5,SNR=6.7
comp=Z,1.5nm,0.8s
KBZ **Khabaz** 79.75 352⇓eP P 05 27 49.9 +0.9
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ **Khabaz** 79.75 352 P P 05 27 50.4 +1.3
comp=Z,2.7nm,0.9s,baz=278,slow=2.3,SNR=4.8
comp=Z,2.7nm,0.9s
ZEI **Tsey** 80.59 351 eP P 05 27 58.7 +4.7
ZEI pmax pmax
comp=Z,4.0nm,0.4s
DAV **Davao City (W)** 81.93 271 LR LR 05 57 12.0
comp=Z,62nm,21.6s,baz=165,slow=30
GNI **Garni** 83.13 350 LR LR 06 08 49.7
comp=Z,15nm,18.1s,baz=324,slow=38
GEYT **Alibeck** 83.33 339 P P 05 28 09.4 +1.2
comp=Z,2.1nm,0.8s,baz=57,slow=5.3,SNR=2.7
comp=Z,2.1nm,0.8s
BR131 **Keskin Array S** 84.19 358⇑eP P 05 28 12.2 -0.5
BRTR **Keskin Array B** 84.19 358 eP P 05 28 15.6 +2.9
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR **Keskin Array B** 84.19 358 P P 05 28 13.2 +0.5
comp=Z,1.8nm,0.9s,baz=28,slow=2.9,SNR=5.1
comp=Z,1.8nm,0.9s
CMAR **Chiang Mai Arr** 86.62 299 P P 05 28 25.1 +0.1
comp=Z,0.8nm,0.3s,baz=23,slow=4.9,SNR=8.6
comp=Z,0.8nm,0.3s
URZ **Urewera** 98.76 207 LR LR 06 06 46.8
comp=Z,61nm,19.6s,baz=122,slow=31
QSPA **South Pole Qui** 146.23 180 PKPbc PKPbc 05 35 19.3 -1.1
comp=Z,0.8nm,0.2s,baz=33,slow=3.4,SNR=4.0
BOSA **Boshof** 151.83 12 PKPbc PKPbc 05 35 35.8 -0.3
comp=Z,2.0nm,0.5s,baz=0.0,slow=2.0,SNR=0.8

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*NNC **26** 05:19:58.9±2.8,38°.90N×73°.32E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=21.1km s-min=14.7km az=166.0*
*IDC **26** 05:19:59.4±2.5,39°.27N×73°.14E,h0km,mb3.9/2, mbtmp3.7/6,ML3.0/4,MS3.9/1,Error ellipse: s-maj=32.6km s-min=25.2km az=168.0*
*KRNET **26** 05:20:01.2±0.1,39°.18N×72°.83E,h12km,mb3.4*
ISC 26 05:20:00.4±2.5,**39°.11N**±0°.08×**72°.90E**±0°.04,**h10**km±15km,
n35,σ2s09/45,mb3.9/3,22C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
DRK	**Karamyk**	**0.93**	**294**	**⇑eP**		**Pb**	**05 20 17.5**	**-1.3**
DRK	baz=91			⇑eS		**Sb**	**05 20 29.3**	**-2.0**
SFK	**Sufi-Kurgan**	**1.02**	**27**	**⇑iP**		**Pb**	**05 20 20.3**	**+0.1**
SFK	baz=32			⇑iS		**Sg**	**05 20 33.5**	**+0.3**
OHH	**Osh**	**1.42**	**356**	**⇑iP**		**Pb**	**05 20 26.5**	**-0.4**
OHH	baz=59			⇑iS		**Sg**	**05 20 45.3**	**-0.6**
BTK	**Batken**	**1.87**	**301**	**⇑eP**		**Pb**	**05 20 34.5**	**-0.1**
BTK	baz=0.0			⇑iS		**Sb**	**05 20 58.8**	**+0.8**
ARSB	**Arslanbob**	**2.21**	**2**	**⇑eP**		**Pb**	**05 20 40.1**	**-0.5**
ARSB	baz=3.0			⇑eS		**Sb**	**05 21 08.9**	**+0.8**
TRKS	**Terek-Say**	**2.77**	**331**	**⇑iP**		**Pn**	**05 20 46.7**	**+1.8**
TRKS	baz=31			⇑iS		**Sn**	**05 21 20.0**	**+1.5**
ARLS	**Aral**	**2.96**	**21**	**⇑eP**		**Pb**	**05 20 50.9**	**-2.3**
ARLS	baz=23			⇑eS		**Sb**	**05 21 26.6**	**-2.9**
AML	**Almayashu**	**3.08**	**11**	**⇓Pn**		**Pb**	**05 20 53.6**	**-1.8**
AML	1.5nm,0.5s			⇑Lg		Lg	05 21 40.1	
AML	24nm,0.9s **Almayashu**	**3.08**	**11**	**⇑iP**		**Pb**	**05 20 52.4**	**-3.1**
AML	baz=12			⇑iS		**Sb**	**05 21 30.0**	**-3.2**
UCH	**Uchtor**	**3.35**	**21**	**⇓iP**		**Pn**	**05 20 56.3**	**+3.1**
UCH	baz=22			⇓iS		**Sb**	**05 21 36.6**	**-4.5**
MNAS	**Manas**	**3.39**	**355**	**⇑eP**		**Pn**	**05 20 56.5**	**+3.0**
MNAS	baz=56			⇑eS		**Sn**	**05 21 36.7**	**+2.9**
AAK	**Ala-Archa**	**3.73**	**18**	Pn		**Pn**	**05 20 58.9**	**+0.8**
AAK	2.7nm,0.3s,baz=162,slow=7.3,SNR=10			Lg		Lg	05 21 52.0	
CHMS	1.5nm,0.3s,baz=190,slow=19,SNR=1.4 **Chumysh**	**4.13**	**19**	**⇓Pn**		**Pn**	**05 21 07.5**	**+3.9**
CHMS	3.6nm,0.4s 9.4nm,0.8s			⇓Lg		Lg	05 22 11.6	
TKM2	21nm,1.2s **Tokmak 2**	**4.32**	**27**	**⇑Pg**		**Pb**	**05 21 18.3**	**+1.8**
TKM2	7.2nm,0.5s			⇓Lg		Lg	05 22 18.6	
KK31	23nm,1.1s **Karatay Array**	**4.38**	**336**	**Pn**		**Pn**	**05 21 10.5**	**+3.6**
KK31	2.3nm,0.3s,baz=154,slow=13,SNR=20			⇑Sn		**Sb**	**05 22 07.1**	**-3.1**
KK31	20nm,0.7s,baz=150,slow=23,SNR=3.9			⇑Lg		Lg	05 22 29.5	
DGS	8.8nm,0.6s **Degeres**	**4.66**	**27**	**Pg**		**Pb**	**05 21 23.0**	**+0.7**
DGS	15nm,0.4s			Lg		Lg	05 22 32.6	
MTBS	17nm,0.4s **Maitube**	**4.82**	**32**	**Pg**		**Pb**	**05 21 24.8**	**-0.1**
MTBS	9.2nm,0.4s 13nm,0.4s			Lg		Lg	05 22 35.5	

TNSS	**Tian-Shan**	**4.97**	**37**	Pg	**Pb**	**05 21 28.3**	**+0.5**
	10.0nm,0.3s						
TNSS				Lg	Lg	05 22 41.8	
	8.7nm,0.6s						
KRBS	**Karabastau**	**5.04**	**24**	Pg	**Pb**	**05 21 28.9**	**+0.3**
	6.2nm,0.4s						
KRBS				Lg	Lg	05 22 42.6	
	9.6nm,0.5s						
MDOK	**Medeo**	**5.12**	**36**	Pg	**Pb**	**05 21 30.1**	**0.0**
	7.7nm,0.4s						
MDOK				Lg	Lg	05 22 44.7	
	19nm,1.0s						
KOTS	**Kotyrbulak**	**5.20**	**36**	Pg	**Pb**	**05 21 32.3**	**+0.7**
	11nm,0.5s						
KOTS				Lg	Lg	05 22 48.5	
	30nm,0.4s						
KTBS	**Karatobe**	**5.41**	**31**	Pg	**Pb**	**05 21 35.4**	**+0.5**
	8.1nm,0.7s						
KTBS				Lg	Lg	05 22 54.1	
	10nm,0.6s						
KUU	**Kurty**	**5.43**	**27**	Pg	**Pb**	**05 21 35.5**	**+0.2**
	6.6nm,0.3s						
KUU				Lg	Lg	05 22 53.8	
	14nm,0.8s						
CHKK	**Chushkaly**	**5.65**	**32**	Pg	**Pb**	**05 21 41.0**	**+2.0**
	5.7nm,0.3s						
CHKK				Lg	Lg	05 23 03.2	
	9.9nm,0.2s						
BTLS	**Baital**	**5.99**	**8**	Pg	**Pb**	**05 21 47.5**	**+2.7**
	1.8nm,0.4s						
BTLS				Lg	Lg	05 23 14.5	
	3.2nm,0.5s						
ARXS	**Arharly**	**6.29**	**34**	Pg	**Pb**	**05 21 52.5**	**+2.4**
	6.3nm,0.6s						
MKAR	**Makanchi Array**	**10.31**	**39**	Pn	**Pn**	**05 22 26.2**	**-2.1**
	0.1nm,0.3s,baz=224,slow=10.0,SNR=9.2						
	1.2nm,0.8s						
BVAR	**Borovoye Array**	**14.03**	**354**	Pn	**Pn**	**05 23 20.6**	**+1.6**
	baz=162,slow=10.0,SNR=4.7						
AKTO	**Aktyubinsk**	**15.46**	**322**	Pn	**Pn**	**05 23 37.5**	**-0.9**
	0.1nm,0.3s,baz=118,slow=14,SNR=4.6						
	2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**16.92**	**25**	Pn	**Pn**	**05 23 54.2**	**-2.8**
	0.1nm,0.3s,baz=221,slow=13,SNR=2.6						
	0.4nm,0.4s						
SONM	**Songino Array**	**25.66**	**59**	P	**P**	**05 25 29.4**	**-1.0**
SONM	**Songino Array**	**25.66**	**59**	P	**P**	**05 25 29.4**	**-1.0**
	1.6nm,0.9s,baz=230,slow=11,SNR=8.6						
	1.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**29.52**	**74**	*e*P	**P**	**05 26 05.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,580nm,5.4s						
ARCES	**ARCESS Array B**	**39.34**	**336**	P	**P**	**05 27 27.9**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=114,slow=9.0,SNR=3.9						
	comp=Z,2.4nm,0.8s						
TGY	**Tagaytay City**	**48.94**	**107**	LR	LR	05 49 44.8	
	comp=Z,144nm,21.0s,baz=277,slow=37						

IDC 26 05:23:20.1±13.0, 4°.98S×124°.41E, h0km, mb3.7/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=223.8km s-min=182.8km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.74**	**148**	P	Pn	05 27 29.1	+0.3
	0.1nm,0.3s,baz=316,slow=14,SNR=5.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**20.71**	**155**	P	Pn	05 28 03.6	-0.9
	1.4nm,0.5s,baz=334,slow=11,SNR=24						
	1.4nm,0.5s						
STKA	**Stephens Creek**	**31.23**	**151**	P	P	05 29 40.2	-1.3
	0.5nm,0.4s,baz=344,slow=18,SNR=2.8						
	0.5nm,0.4s						

IDC 26 05:27:50.1±3.0, 55°.84N×86°.30E, h0km, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=31.0km s-min=18.6km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.08**	**205**	I	I	05 40 58.6	
	0.1nm,0.9s,baz=19,slow=352,SNR=13						
ZALV	**Zalesovo Beam**	**2.08**	**205**	Pn	Pn	05 28 26.3	+0.1
	4.5nm,0.3s,baz=22,slow=15,SNR=49						
ZALV				Lg	Lg	05 28 56.8	
	5.1nm,0.3s,baz=26,slow=25,SNR=17						
	12nm,0.4s						
KURBB	**Kurchatov Arra**	**7.00**	**225**	Pn	Pn	05 29 33.0	-0.9
	0.1nm,0.3s,baz=43,slow=14,SNR=8.8						
KURBB				Sn	Sn	05 30 50.9	-3.2
	baz=5.7,slow=20,SNR=1.5						
KURBB				Lg	Lg	05 31 36.1	
	baz=45,slow=33,SNR=5.0						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**9.40**	**197**	Pn	Pn	05 30 06.4	-0.3
	0.1nm,0.3s,baz=18,slow=12,SNR=5.7						
MKAR				Lg	Lg	05 32 50.1	
	baz=16,slow=34						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**9.69**	**260**	Pn	Pn	05 30 10.3	-0.4
	0.1nm,0.3s,baz=63,slow=14,SNR=8.8						
	0.6nm,0.3s						

*NEIC **26** 05:28:16.7±1.2,56°.12N±0°.06×150°.2W±0°.1, h28km±11km, ML3.5/14,ML3.3(AEIC), Error ellipse: s-maj=10.8km s-min=8.1km az=112.0*
*AEIC **26** 05:28:17.5±1.5,56°.0N±0°.1×150°.2W±0°.1, h10km±9km, Error ellipse: s-maj=19.7km s-min=10.6km az=180.0*
ISC 26 05:28:14.0±2.3, 56°.1N±0°.1×150°.24W±0°.05, h10km, n53, σ0s77/57, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.03**	**305**		**Pn**	**05 28 47.9**	**-0.3**
OHAK	**Old Harbor**	**2.03**	**305**		**Sn**	**05 29 12.2**	**-1.3**
OHAK	**Old Harbor**	**2.03**	**305**	P	**Pn**	**05 28 48.6**	**+0.5**
	baz=122						
OHAK				S	**Sn**	**05 29 12.2**	**-1.3**
	baz=122						
KDAK	**Kodiak Island**	**2.13**	**324**		**Pn**	**05 28 50.0**	**+0.5**
KDAK				IAML		05 30 11.0	
	95nm,4.8s						
KDAK	**Kodiak Island**	**2.13**	**324**		**Sn**	**05 29 15.4**	**-0.7**
KDAK	**Kodiak Island**	**2.13**	**324**	S	**Sn**	**05 29 15.4**	**-0.7**
	baz=141						
SYI	**Shuyak Island**	**2.79**	**336**		**Pn**	**05 28 59.0**	**+0.4**
SYI					**Sn**	**05 29 32.6**	**+0.4**
Q20K	**Shuyak Island**	**2.79**	**336**	P	**Pn**	**05 28 59.0**	**+0.4**
	baz=154						
Q20K				S	**Sn**	**05 29 32.6**	**+0.4**
	baz=154						
Q19K	**Cape Douglas,**	**3.39**	**329**		**Pn**	**05 29 08.2**	**+1.3**
Q19K	**Cape Douglas,**	**3.39**	**329**	P	**Pn**	**05 29 08.3**	**+1.3**
	baz=145						
CNPM	**China Poot**	**3.49**	**352**		**Pn**	**05 29 08.7**	**+0.4**
CNPM					**Sn**	**05 29 50.6**	**+1.0**
CNPM	**China Poot**	**3.49**	**352**	IAML		05 31 00.9	
	comp=E,125nm,2.6s						
CNPM				IAML		05 31 22.2	
	comp=N,110nm,3.3s						
BRSE	**Bradley Lake S**	**3.68**	**356**		**Pn**	**05 29 10.8**	**0.0**
BRSE					**Sn**	**05 29 53.1**	**-1.0**
BRSE	**Bradley Lake S**	**3.68**	**356**	P	**Pn**	**05 29 10.8**	**0.0**
	baz=176						
BRSE				S	**Sn**	**05 29 53.2**	**-1.0**
	baz=176						
BRLK	**Bradley Lake**	**3.71**	**355**		**Pn**	**05 29 11.3**	**+0.1**
BRLK				IAML		05 30 33.3	
	comp=N,75nm,3.1s						
BRLK	**Bradley Lake**	**3.71**	**355**		**Sn**	**05 29 54.6**	**-0.3**
BRLK	**Bradley Lake**	**3.71**	**355**	IAML		05 29 50.0	
	comp=E,82nm,3.4s						
CNTC	**Contact Creek**	**3.77**	**308**		**Pn**	**05 29 13.2**	**+1.0**
Q17K	**Contact Creek**	**3.77**	**308**	P	**Pn**	**05 29 13.2**	**+1.0**
	baz=123						
P19K	**Oil Pt**	**3.92**	**337**		**Pn**	**05 29 15.1**	**+0.9**
P19K	**Oil Pt**	**3.92**	**337**	P	**Pn**	**05 29 15.1**	**+0.9**
	baz=154						
P18K	**Big Mountain,**	**4.26**	**323**		**Pn**	**05 29 19.4**	**+0.6**
P18K	**Big Mountain,**	**4.26**	**323**	P	**Pn**	**05 29 19.4**	**+0.6**
	baz=139						
O18K	**Koktuh Hills**	**4.61**	**327**		**Pn**	**05 29 24.0**	**+0.4**
HIN	**Hinchinbrook I**	**4.75**	**23**	Pn	**Pn**	**05 29 25.9**	**+0.3**
HIN				IAML		05 31 58.5	
	comp=N,188nm,2.5s						
KAIM	**Kayak Island**	**4.94**	**36**	Pn	**Pn**	**05 29 28.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.06**	**26**		**Pn**	**05 29 30.2**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.06**	**26**	P	**Pn**	**05 29 30.2**	**+0.5**
	baz=210						
N19K	**Bonanza Creek**	**5.24**	**337**	Pn	**Pn**	**05 29 33.4**	**+1.1**
N19K				IAML		05 30 47.6	
	comp=N,35nm,4.7s						
N19K				IAML		05 32 53.4	
	comp=E,27nm,3.4s						
O16K	**Kokwok River B**	**5.47**	**313**	Pn	**Pn**	**05 29 34.3**	**-1.2**
N18K	**Kilae Creek**	**5.48**	**330**	Pn	**Pn**	**05 29 35.8**	**+0.2**
SNH	**Sunshine Point**	**5.67**	**41**	Pn	**Pn**	**05 29 38.5**	**+0.2**
N17K	**Nushagak Hills**	**5.76**	**323**	Pn	**Pn**	**05 29 40.4**	**+0.9**
SML	**Sawmill**	**5.82**	**9**	Pn	**Pn**	**05 29 39.1**	**-1.2**
KLU	**Klutina**	**5.87**	**21**	Pn	**Pn**	**05 29 40.1**	**-0.8**
VRDI	**Verde Repeater**	**6.25**	**32**	Pn	**Pn**	**05 29 47.3**	**+0.9**
GLB	**Gilahina Butte**	**6.33**	**29**	Pn	**Pn**	**05 29 48.8**	**+1.5**
KIAG	**Kiagna River**	**6.37**	**37**		**Pn**	**05 29 48.4**	**+0.5**
SAMH	**Samovar Hills**	**6.45**	**47**		**Pn**	**05 29 48.1**	**-0.8**
PTPK	**Patty Peak**	**6.53**	**35**		**Pn**	**05 29 50.1**	**0.0**
N15K	**Kwethluk River**	**6.63**	**312**		**Pn**	**05 29 52.6**	**+1.2**
PCA	**Pinnacle**	**6.64**	**49**		**Pn**	**05 29 51.9**	**+0.3**
PINM	**Pinnacle**	**6.64**	**49**	P	**Pn**	**05 29 51.9**	**+0.3**
	baz=237						
BARN	**Barnard Glacie**	**6.71**	**38**		**Pn**	**05 29 52.1**	**-0.4**
CTG	**Chitna Glacier**	**6.75**	**40**	P	**Pn**	**05 29 53.4**	**+0.3**
	baz=228						
CTGM	**Chitina Glacie**	**6.76**	**40**		**Pn**	**05 29 53.4**	**+0.2**
LOGN	**Logan Glacier**	**6.78**	**42**		**Pn**	**05 29 53.5**	**-0.1**
PNL	**Peninsula**	**6.80**	**54**		**Pn**	**05 29 54.3**	**+0.5**
PNL	**Peninsula**	**6.80**	**54**	P	**Pn**	**05 29 54.3**	**+0.5**
	baz=243						
O29M	**Mount Kennedy**	**7.47**	**51**		**Pn**	**05 30 03.4**	**+0.4**
O29M	**Mount Kennedy**	**7.47**	**51**	P	**Pn**	**05 30 03.4**	**+0.4**
	baz=241						
P29M	**Windy Craggy**	**7.55**	**57**		**Pn**	**05 30 03.2**	**-0.8**
P29M	**Windy Craggy**	**7.55**	**57**	P	**Pn**	**05 30 03.2**	**-0.8**
	baz=248						

*IDC **26** 05:34:48.4±57.0, 20°.51N×123°.79E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=1059.0km s-min=174.5km az=133.0*
*TAP **26** 05:35:24.1, 22°.72N×121°.34E, h88km, ML4.0, B*
ISC 26 05:35:24.1±1.0, 22°.71N±0°.03×121°.34E±0°.03, h91km±5km, n155, σ0s81/281, mb3.5/4, 16C-16D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**0.13**	**106**	⇑P	**Pn**	**05 35 37.0**	**+0.1**
	baz=111						
LDUT				S	**Sn**	**05 35 46.8**	**+0.2**
	baz=111						
TTN	**Taitung**	**0.18**	**284**	P	**Pn**	**05 35 37.6**	**+0.5**
	baz=281						
TTN				S	**Sn**	**05 35 47.9**	**+1.0**
	baz=281						
TWGBT	**Beinan**	**0.26**	**295**	⇑*i*P	**Pn**	**05 35 37.2**	**-0.3**
	baz=284						
TWGBT				S	**Sn**	**05 35 46.5**	**-0.9**
	baz=284						
EDH	**Donghe**	**0.26**	**354**	⇑*i*P	**Pn**	**05 35 37.3**	**-0.2**
	baz=338						
EDH				*e*S	**Sn**	**05 35 47.5**	**+0.1**
	baz=338						
TWG	**Pinlang**	**0.27**	**294**	⇑*i*P	**Pn**	**05 35 37.2**	**-0.3**
	baz=292						
TWG				S	**Sn**	**05 35 46.6**	**-0.8**
	baz=292						
LONT	**Longtian**	**0.27**	**316**	⇑*i*P	**Pn**	**05 35 37.5**	**-0.1**
	baz=305						
LONT				S	**Sn**	**05 35 47.0**	**-0.5**
	baz=305						
ECL	**Taimali**	**0.37**	**252**	⇑*i*P	**Pn**	**05 35 37.6**	**-0.4**
	baz=253						
ECL				S	**Sn**	**05 35 47.1**	**-1.2**
	baz=253						
CHKT	**Chengkung**	**0.39**	**4**	*e*P	**Pn**	**05 35 38.4**	**+0.2**
	baz=355						
CHKT				S	**Sn**	**05 35 48.7**	**0.0**
	baz=355						
ECS	**Chishang**	**0.40**	**344**	P	**Pn**	**05 35 38.5**	**+0.2**
	baz=350						
ECS				S	**Sn**	**05 35 49.3**	**+0.5**
	baz=350						
EHD	**Haiduan**	**0.45**	**345**	⇓P	**Pn**	**05 35 38.2**	**-0.5**
	baz=348						
EHD				S	**Sn**	**05 35 48.1**	**-1.3**
	baz=348						
CHKH	**Chenggong**	**0.48**	**7**	*e*P	**Pn**	**05 35 39.0**	**+0.2**
	baz=356						
CHKH				S	**Sn**	**05 35 49.8**	**+0.1**
	baz=356						
FULB	**Fuli**	**0.49**	**355**	P	**Pn**	**05 35 39.1**	**+0.2**
	baz=346						
FULB				S	**Sn**	**05 35 50.5**	**+0.6**
	baz=346						
TAW	**Tawu**	**0.54**	**229**	*e*P	**Pn**	**05 35 39.1**	**-0.2**
	baz=226						
TAW				S	**Sn**	**05 35 50.2**	**-0.3**
	baz=226						
TAWH	**Dawu Township**	**0.55**	**228**	⇑P	**Pn**	**05 35 39.4**	**0.0**
	baz=228						
TAWH				*i* S	**Sn**	**05 35 50.5**	**-0.3**
	baz=228						
EAST	**Anshuo**	**0.56**	**234**	⇑*i*P	**Pn**	**05 35 39.5**	**+0.1**
	baz=230						
EAST				*e*S	**Sn**	**05 35 50.4**	**-0.4**
	baz=230						
ELDTW	**Lidau**	**0.56**	**328**	P	**Pn**	**05 35 39.8**	**+0.2**
	baz=327						
ELDTW				S	**Sn**	**05 35 50.8**	**-0.3**
	baz=327						
ECBN	**Changbin**	**0.61**	**10**	*e*P	**Pn**	**05 35 40.5**	**+0.6**
	baz=1.0						
ECBN				*e*S	**Sn**	**05 35 51.0**	**-0.6**
	baz=1.0						
EYUL	**Yuli**	**0.64**	**359**	*e*P	**Pn**	**05 35 39.9**	**-0.2**
	baz=350						
EYUL				*i* S	**Sn**	**05 35 51.5**	**-0.5**
	baz=350						
TSMG	**Majia**	**0.64**	**270**	P	**Pn**	**05 35 40.6**	**+0.5**
	baz=269						
TSMG				*e*S	**Sn**	**05 35 52.0**	**0.0**
	baz=269						
TWF1	**Yuli**	**0.64**	**357**	P	**Pn**	**05 35 39.7**	**-0.5**
	baz=355						
TWF1				*e*S	**Sn**	**05 35 51.3**	**-0.8**
	baz=355						
SSD	**Sandimen**	**0.65**	**273**	⇑P	**Pn**	**05 35 39.6**	**-0.6**
	baz=272						
SSD				*e*S	**Sn**	**05 35 51.1**	**-1.2**
	baz=272						
MASBT	**Mashibuluo**	**0.66**	**262**	⇑*i*P	**Pn**	**05 35 40.8**	**+0.5**
	baz=261						
MASBT				S	**Sn**	**05 35 51.9**	**-0.4**
	baz=261						
YULB	**Yu-li**	**0.68**	**357**	*e*P	**Pn**	**05 35 40.1**	**-0.5**
	baz=354						
YULB				*i* S	**Sn**	**05 35 51.6**	**-1.2**
	baz=354						
STYH	**Taoyuan**	**0.69**	**312**	⇓*i*P	**Pn**	**05 35 41.1**	**+0.5**
	baz=310						
STYH				S	**Sn**	**05 35 52.9**	**0.0**
	baz=310						
SLGT	**Liugui**	**0.70**	**294**	P	**Pn**	**05 35 41.5**	**+0.9**
	baz=293						
SLGT				*e*S	**Sn**	**05 35 53.3**	**+0.2**
	baz=293						
LAY	**Lan-yu**	**0.70**	**163**	*e*P	**Pn**	**05 35 40.3**	**-0.4**
	baz=170						
LAY				S	**Sn**	**05 35 52.2**	**-0.9**
	baz=170						
SLIU	**Shizi**	**0.70**	**225**	P	**Pn**	**05 35 41.0**	**+0.3**
	baz=227						
SLIU				*i* S	**Sn**	**05 35 53.4**	**+0.3**
	baz=227						
STYT	**Tauyuan**	**0.70**	**310**	⇓P	**Pn**	**05 35 41.1**	**+0.3**
	baz=309						
STYT				*e*S	**Sn**	**05 35 53.1**	**-0.1**
	baz=309						
LYUB	**Lan-yu**	**0.74**	**162**	⇑P	**Pn**	**05 35 40.0**	**-1.1**
	baz=168						
LYUB				*e*S	**Sn**	**05 35 51.6**	**-2.2**
	baz=168						
SCZT	**Fangliau**	**0.74**	**243**	⇑*i*P	**Pn**	**05 35 41.5**	**+0.4**
	baz=241						
SCZT				*i* S	**Sn**	**05 35 53.2**	**-0.6**
	baz=241						
TSPT	**Pingtung City**	**0.78**	**268**	*e*P	**Pn**	**05 35 41.5**	**+0.1**
	baz=268						
TSPT				*e*S	**Sn**	**05 35 55.5**	**+1.1**
	baz=268						
SGLT	**Jiouru**	**0.78**	**271**	*e*P	**Pn**	**05 35 43.3**	**+1.8**
	baz=271						
HGSD	**Ruisui**	**0.78**	**6**	P	**Pn**	**05 35 41.6**	**+0.1**
	baz=3.0						
HGSD				S	**Sn**	**05 35 54.6**	**0.0**
	baz=3.0						
SGST	**Jiashian**	**0.79**	**298**	⇓*i*P	**Pn**	**05 35 41.0**	**-0.5**
	baz=298						
SGST				*e*S	**Sn**	**05 35 53.4**	**-1.2**
	baz=298						
EHY	**Hungye**	**0.79**	**359**	⇓*i*P	**Pn**	**05 35 41.1**	**-0.5**
	baz=357						
EHY				S	**Sn**	**05 35 53.2**	**-1.6**
	baz=357						
SCST	**Cishan**	**0.80**	**283**	*i* P	**Pn**	**05 35 42.5**	**+0.9**
	baz=282						
SCST				S	**Sn**	**05 35 55.0**	**+0.3**
	baz=282						
SMST	**Manzhou Townsh**	**0.83**	**214**	*i* P	**Pn**	**05 35 42.7**	**+0.7**
	baz=212						
SMST				*e*S	**Sn**	**05 35 55.9**	**+0.6**
	baz=212						
TWM1	**Shoushan**	**0.85**	**278**	⇓P	**Pn**	**05 35 43.5**	**+1.3**
	baz=277						
TWM1				S	**Sn**	**05 35 56.9**	**+1.1**
	baz=277						
WTP	**Ta-pu**	**0.85**	**309**	⇓*i*P	**Pn**	**05 35 42.6**	**+0.3**
	baz=308						
WTP				S	**Sn**	**05 35 55.9**	**-0.1**
	baz=308						
TPUB	**Ta-pu**	**0.88**	**312**	⇓*i*P	**Pn**	**05 35 42.7**	**+0.1**
	baz=311						
TPUB				S	**Sn**	**05 35 56.3**	**0.0**
	baz=311						
CHN1	**Nanshi**	**0.88**	**303**	⇓*i*P	**Pn**	**05 35 42.9**	**+0.3**
	baz=301						
CHN1				S	**Sn**	**05 35 56.2**	**-0.3**
	baz=301						
HEN	**Hengchun**	**0.89**	**218**	*e*P	**Pn**	**05 35 42.8**	**+0.1**
	baz=220						
HEN				*e*S	**Sn**	**05 35 57.1**	**+0.5**
	baz=220						
TSEB	**Hengchuen, Pin**	**0.90**	**207**	*e*P	**Pn**	**05 35 41.1**	**-1.7**
	baz=207						
TSEB				*e*S	**Sn**	**05 35 58.2**	**+1.5**
	baz=207						
TWKBT	**Hengchun**	**0.91**	**212**	⇑*i*P	**Pn**	**05 35 43.6**	**+0.7**
	baz=212						
TWKBT				*e*S	**Sn**	**05 35 57.1**	**+0.2**
	baz=212						
TWK1	**Hengchun**	**0.91**	**213**	⇑*i*P	**Pn**	**05 35 43.6**	**+0.7**
	baz=212						
TWK1				*e*S	**Sn**	**05 35 56.9**	**0.0**
	baz=212						
SNW	**Nanwan**	**0.92**	**216**	*e*P	**Pn**	**05 35 44.1**	**+1.1**
	baz=218						
SNW				*e*S	**Sn**	**05 35 58.1**	**+0.9**
	baz=218						
SNJT	**Kaohsiung City**	**0.93**	**273**	*e*P	**Pn**	**05 35 44.2**	**+1.2**
	baz=273						
SNJT				S	**Sn**	**05 35 59.0**	**+1.8**
	baz=273						
SNST	**Tainan City**	**0.93**	**303**	P	**Pn**	**05 35 43.3**	**+0.3**
	baz=302						
SNST				*e*S	**Sn**	**05 35 57.1**	**-0.1**
	baz=302						
ALS	**Alishan**	**0.94**	**329**	⇓*i*P	**Pn**	**05 35 43.8**	**+0.3**
	baz=317						
ALS				*e*S	**Sn**	**05 35 58.6**	**+0.7**
	baz=317						
CHN4	**Tsaushan**	**0.94**	**313**	⇑*i*P	**Pn**	**05 35 43.5**	**+0.3**
	baz=312						
CHN4				*e*S	**Sn**	**05 35 57.2**	**-0.3**
	baz=312						
TWK	**Hsinying**	**0.96**	**306**	⇓*i*P	**Pn**	**05 35 43.6**	**+0.1**
	baz=297						
TWK				*i* S	**Sn**	**05 35 57.8**	**-0.2**
	baz=297						
EGFH	**Guangfu**	**0.96**	**5**	P	**Pn**	**05 35 43.0**	**-0.4**
	baz=2.0						
EGFH				S	**Sn**	**05 35 56.7**	**-1.1**
	baz=2.0						
KAU	**Kaohsiung**	**0.96**	**262**	*e*P	**Pn**	**05 35 44.4**	**+1.0**
	baz=263						
SHHT	**Tainan City**	**0.96**	**289**	*e*P	**Pn**	**05 35 44.9**	**+1.5**
	baz=288						
SHHT				*e*S	**Sn**	**05 35 59.5**	**+1.5**
	baz=288						
CHN3	**Shinhua**	**0.97**	**292**	*e*P	**Pn**	**05 35 44.6**	**+1.2**
	baz=291						
CHN3				*e*S	**Sn**	**05 35 59.3**	**+1.3**
	baz=291						
TWP	**Hsiaoliuchiu**	**0.97**	**248**	*e*P	**Pn**	**05 35 44.6**	**+1.1**
	baz=260						
TWP				*e*S	**Sn**	**05 36 00.2**	**+2.1**
	baz=260						
WCKO	**Fanlu**	**0.99**	**317**	⇑P	**Pn**	**05 35 44.1**	**+0.3**
	baz=316						
WCKO				S	**Sn**	**05 35 58.4**	**-0.1**
	baz=316						
WSSB	**Gushan**	**0.99**	**266**	*e*P	**Pn**	**05 35 44.9**	**+1.1**
	baz=267						
WSSB				*e*S	**Sn**	**05 35 59.6**	**+1.0**
	baz=267						
WARBT	**Fenglin Townsh**	**1.00**	**3**	⇓*i*P	**Pn**	**05 35 43.4**	**-0.6**
	baz=3.0						
WARBT				S	**Sn**	**05 35 57.1**	**-1.8**
	baz=3.0						
TEGC	**Jichi Village**	**1.01**	**11**	*e*P	**Pn**	**05 35 44.6**	**+0.5**
	baz=4.0						
SSHA	**Shanhua**	**1.05**	**294**	*e*P	**Pn**	**05 35 44.6**	**+0.1**
	baz=293						
SSHA				*e*S	**Sn**	**05 36 00.5**	**+0.7**
	baz=293						
VWDT	**VWDT**	**1.05**	**350**	P	**Pn**	**05 35 45.7**	**+1.2**
	baz=340						
CHN5	**Tsauling**	**1.07**	**326**	⇓*i*P	**Pn**	**05 35 44.8**	**0.0**
	baz=316						
CHN5				*e*S	**Sn**	**05 36 00.6**	**+0.2**
	baz=316						
TAI1	**Yung-k'ang**	**1.07**	**288**	*e*P	**Pn**	**05 35 45.5**	**+0.8**
	baz=287						
TAI1				*e*S	**Sn**	**05 36 00.4**	**+0.2**
	baz=287						
WHYT	**Xinyi Township**	**1.08**	**336**	P	**Pn**	**05 35 45.0**	**+0.1**
	baz=334						
WHYT				S	**Sn**	**05 36 00.6**	**+0.2**
	baz=334						
TAI	**Tainan**	**1.09**	**285**	P	**Pn**	**05 35 45.4**	**+0.6**
	baz=292						
TAI				S	**Sn**	**05 36 00.5**	**0.0**
	baz=292						
SHUL	**Shoufeng**	**1.09**	**11**	*e*P	**Pn**	**05 35 45.4**	**+0.5**
	baz=3.0						
SHUL				*e*S	**Sn**	**05 36 01.4**	**+0.8**
	baz=3.0						
ESL	**Shilin**	**1.10**	**5**	*e*P	**Pn**	**05 35 44.5**	**-0.6**
	baz=4.0						
ESL				*e*S	**Sn**	**05 35 58.9**	**-1.9**
	baz=4.0						
SSLB	**Suanglung**	**1.13**	**342**	⇓*i*P	**Pn**	**05 35 45.5**	**+0.1**
	baz=331						
SSLB				S	**Sn**	**05 36 01.7**	**+0.3**
	baz=331						
CHN2	**Minshiung**	**1.

WGK	**Gukeng**	**1.21**	**324**	*i* P	**Pn**	**05 35 46.5**	**+0.3**
	baz=313								
WGK				*i* S	**Sn**	**05 36 03.4**	**+0.5**
	baz=313								
CHN8	**Yiju**	**1.22**	**302**	P	**Pn**	**05 35 46.4**	**+0.1**
	baz=301								
CHN8				S	**Sn**	**05 36 03.5**	**+0.3**
	baz=301								
WDLH	**Douliu**	**1.22**	**323**	P	**Pn**	**05 35 46.4**	**0.0**
	baz=312								
WDLH				*e*S	**Sn**	**05 36 03.3**	**0.0**
	baz=312								
TSCK	**Chigu Township**	**1.23**	**291**	⇓*e*P	**Pn**	**05 35 47.0**	**+0.5**
	baz=297								
TSCK				*e*S	**Sn**	**05 36 03.7**	**+0.2**
	baz=297								
SMLT	**Sun Moon Lake**	**1.23**	**341**	*e*P	**Pn**	**05 35 46.9**	**+0.2**
	baz=331								
SMLT				*e*S	**Sn**	**05 36 03.8**	**0.0**
	baz=331								
WJS	**Zhushan**	**1.24**	**333**	*e*P	**Pn**	**05 35 47.2**	**+0.5**
	baz=331								
WJS				S	**Sn**	**05 36 04.4**	**+0.6**
	baz=331								
OWD	**Renai**	**1.25**	**353**	*e*P	**Pn**	**05 35 47.8**	**+0.9**
	baz=344								
OWD				*e*S	**Sn**	**05 36 04.0**	**-0.1**
	baz=344								
ETM	**Tongmen**	**1.26**	**7**	*i* P	**Pn**	**05 35 46.5**	**-0.5**
	baz=4.0								
ETM				*e*S	**Sn**	**05 36 02.8**	**-1.4**
	baz=4.0								
TYC	**Yuchr**	**1.27**	**340**	P	**Pn**	**05 35 47.1**	**+0.1**
	baz=330								
TYC				*e*S	**Sn**	**05 36 04.8**	**+0.5**
	baz=330								
HWA	**Hwalien**	**1.29**	**11**	*e*P	**Pn**	**05 35 47.8**	**+0.5**
	baz=9.0								
WUSB	**Renai**	**1.29**	**351**	P	**Pn**	**05 35 48.1**	**+0.6**
	baz=341								
WUSB				*e*S	**Sn**	**05 36 05.6**	**+0.6**
	baz=341								
WSL	**Shuilin Townsh**	**1.30**	**309**	*e*P	**Pn**	**05 35 47.6**	**+0.1**
	baz=307								
WSL				*e*S	**Sn**	**05 36 05.0**	**-0.1**
	baz=307								
WTK	**Tuku**	**1.31**	**318**	P	**Pn**	**05 35 47.3**	**-0.2**
	baz=317								
WTK				*e*S	**Sn**	**05 36 04.1**	**-1.0**
	baz=317								
LXIB	**Xiulin Townshi**	**1.31**	**3**	*i* P	**Pn**	**05 35 47.3**	**-0.4**
	baz=3.0								
LXIB				*e*S	**Sn**	**05 36 04.8**	**-0.7**
	baz=3.0								
WNT	**Mingjian**	**1.31**	**333**	*i* P	**Pn**	**05 35 48.0**	**+0.5**
	baz=322								
WNT				*e*S	**Sn**	**05 36 05.8**	**+0.6**
	baz=322								
WNT1	**Nantou City**	**1.34**	**333**	*e*P	**Pn**	**05 35 48.0**	**+0.1**
	baz=324								
WPL	**Puli Township**	**1.34**	**345**	*e*P	**Pn**	**05 35 49.2**	**+1.3**
	baz=336								
CHGB	**Renai**	**1.35**	**354**	*e*P	**Pn**	**05 35 49.0**	**+0.7**
	baz=344								
CHGB				*e*S	**Sn**	**05 36 07.5**	**+1.0**
	baz=344								
DPDB	**Guoxing**	**1.37**	**344**	*e*P	**Pn**	**05 35 48.2**	**-0.2**
	baz=334								
DPDB				*e*S	**Sn**	**05 36 07.3**	**+0.7**
	baz=334								
WSF	**Szhu**	**1.38**	**312**	*e*P	**Pn**	**05 35 48.2**	**-0.2**
	baz=311								
WSF				*e*S	**Sn**	**05 36 06.2**	**-0.6**
	baz=311								
TWD	**Chiawan**	**1.39**	**10**	P	**Pn**	**05 35 48.4**	**-0.1**
	baz=357								
TWD				*e*S	**Sn**	**05 36 06.8**	**-0.1**
	baz=357								
WCS	**Beigang Elemen**	**1.40**	**344**	*e*P	**Pn**	**05 35 49.2**	**+0.6**
	baz=334								
WCS				S	**Sn**	**05 36 07.9**	**+0.8**
	baz=334								
WHF	**Hehuan Shan**	**1.43**	**357**	*e*P	**Pn**	**05 35 50.3**	**+0.8**
	baz=350								
WHF				*e*S	**Sn**	**05 36 09.2**	**+0.7**
	baz=350								
WWF	**Wufeng**	**1.45**	**336**	P	**Pn**	**05 35 49.6**	**+0.3**
	baz=334								
WWF				*e*S	**Sn**	**05 36 08.7**	**+0.4**
	baz=334								
ETL	**Fush Village**	**1.47**	**10**	*e*P	**Pn**	**05 35 49.6**	**0.0**
	baz=1.0								
NACB	**Ninganchiao**	**1.48**	**9**	*e*P	**Pn**	**05 35 49.3**	**-0.3**
	baz=358								
NACB				S	**Sn**	**05 36 08.0**	**-0.9**
	baz=358								
WRL	**Guolierlin Hig**	**1.48**	**324**	P	**Pn**	**05 35 49.3**	**-0.3**
	baz=316								
WRL				*e*S	**Sn**	**05 36 09.3**	**+0.4**
	baz=316								
RLNB	**Erlin**	**1.48**	**323**	P	**Pn**	**05 35 49.4**	**-0.2**
	baz=315								
RLNB				S	**Sn**	**05 36 08.6**	**-0.3**
	baz=315								
WMLT	**Mailiao**	**1.50**	**317**	*e*P	**Pn**	**05 35 49.8**	**-0.1**
	baz=315								
WMLT				*e*S	**Sn**	**05 36 09.5**	**+0.2**
	baz=315								
ETLH	**Xiulin Townshi**	**1.50**	**5**	*e*P	**Pn**	**05 35 49.9**	**-0.1**
	baz=8.0								
ETLH				*e*S	**Sn**	**05 36 08.9**	**-0.6**
	baz=8.0								
WTCT	**Ta-ch'eng**	**1.50**	**320**	*e*P	**Pn**	**05 35 49.6**	**-0.3**
	baz=319								
FUSS	**Fushou**	**1.53**	**357**	P	**Pn**	**05 35 51.7**	**+1.1**
	baz=348								
FUSS				S	**Sn**	**05 36 12.0**	**+1.4**
	baz=348								
WCHH	**Zhanghua**	**1.54**	**332**	*i* P	**Pn**	**05 35 50.8**	**+0.4**
	baz=330								
WCHH				*e*S	**Sn**	**05 36 10.5**	**+0.2**
	baz=330								
TWT	**Tachien**	**1.54**	**355**	*e*P	**Pn**	**05 35 51.8**	**+1.1**
	baz=340								
TWT				*e*S	**Sn**	**05 36 10.8**	**+0.1**
	baz=340								
TDCB	**Techi**	**1.54**	**354**	*e*P	**Pn**	**05 35 51.6**	**+0.9**
	baz=346								
TCU	**Taichung**	**1.56**	**337**	*e*P	**Pn**	**05 35 51.1**	**+0.5**
	baz=326								
TCU				*e*S	**Sn**	**05 36 10.7**	**+0.1**
	baz=326								
WHP	**Taichung City**	**1.60**	**347**	P	**Pn**	**05 35 52.0**	**+0.7**
	baz=336								
WHP				*i* S	**Sn**	**05 36 13.4**	**+1.5**
	baz=336								
WDGT	**Dungji**	**1.64**	**290**	P	**Pn**	**05 35 51.2**	**-0.4**
	baz=289								
WDGT				*i* S	**Sn**	**05 36 10.4**	**-2.1**
	baz=289								
EAHA	**Aohua**	**1.65**	**13**	*e*P	**Pn**	**05 35 52.6**	**+0.7**
	baz=359								
EAHA				*e*S	**Sn**	**05 36 12.0**	**-0.9**
	baz=359								
EOS4	**EOS4**	**1.67**	**33**	*e*P	**Pn**	**05 35 52.4**	**+0.7**
	baz=30								
TWQ1	**Liyutan**	**1.71**	**343**	*e*P	**Pn**	**05 35 53.0**	**+0.4**
	baz=340								
TWQ1				*e*S	**Sn**	**05 36 15.1**	**+0.8**
	baz=340								
NNSB	**Datong**	**1.71**	**1**	P	**Pn**	**05 35 53.7**	**+1.0**
	baz=5.0								
NNSB				*e*S	**Sn**	**05 36 14.2**	**-0.3**
	baz=5.0								
NNSH	**Datong**	**1.71**	**1**	*e*P	**Pn**	**05 35 53.1**	**+0.4**
	baz=4.0								
NNS	**Nan Shan**	**1.72**	**1**	*e*P	**Pn**	**05 35 53.9**	**+1.0**
	baz=5.0								
NNS				*e*S	**Sn**	**05 36 15.6**	**+0.9**
	baz=5.0								
ENA	**Nanau**	**1.75**	**12**	*e*P	**Pn**	**05 35 53.6**	**+0.5**
	baz=359								
ENA				*e*S	**Sn**	**05 36 14.6**	**-0.5**
	baz=359								
EWUT	**Wuta**	**1.77**	**13**	*e*P	**Pn**	**05 35 54.1**	**+0.7**
	baz=360								
EWUT				*e*S	**Sn**	**05 36 14.5**	**-1.2**
	baz=360								
NSY	**Sanyi**	**1.78**	**343**	*e*P	**Pn**	**05 35 54.6**	**+1.1**
	baz=340								
NSY				*e*S	**Sn**	**05 36 16.2**	**+0.3**
	baz=340								
EOS3	**EOS3**	**1.81**	**30**	*e*P	**Pn**	**05 35 54.6**	**+0.9**
	baz=24								
PHUB	**P'eng-hu**	**1.81**	**297**	*e*P	**Pn**	**05 35 52.9**	**-1.0**
	baz=302								
PHUB				*e*S	**Sn**	**05 36 13.9**	**-2.6**
	baz=302								
LATG	**Datong**	**1.83**	**5**	P	**Pn**	**05 35 54.8**	**+0.6**
	baz=2.0								
LATG				*e*S	**Sn**	**05 36 17.4**	**+0.4**
	baz=2.0								
VCHM	**Qimei**	**1.83**	**286**	*i* P	**Pn**	**05 35 53.8**	**-0.3**
	baz=286								
VCHM				*e*S	**Sn**	**05 36 14.6**	**-2.3**
	baz=286								
PNG	**Penghu**	**1.85**	**298**	*i* P	**Pn**	**05 35 54.1**	**-0.2**
	baz=297								
PNG				*i* S	**Sn**	**05 36 15.9**	**-1.5**
	baz=297								
EOS2	**EOS2**	**1.89**	**26**	*e*P	**Pn**	**05 35 56.1**	**+1.4**
	baz=25								
NDT	**Datong Townshi**	**1.89**	**5**	*e*P	**Pn**	**05 35 55.7**	**+0.8**
	baz=2.0								
NDT				*i* S	**Sn**	**05 36 18.8**	**+0.4**
	baz=2.0								
NFF	**Wufeng Townshi**	**1.92**	**354**	*e*P	**Pn**	**05 35 55.7**	**+0.2**
	baz=339								
NFF				*e*S	**Sn**	**05 36 18.3**	**-1.0**
	baz=339								
ENTT	**Nioudou**	**1.93**	**6**	*e*P	**Pn**	**05 35 56.1**	**+0.6**
	baz=3.0								
ENTT				*e*S	**Sn**	**05 36 19.5**	**+0.1**
	baz=3.0								
NSTT	**Nanjuang**	**1.94**	**351**	*e*P	**Pn**	**05 35 55.7**	**+0.2**
	baz=349								
TWC	**Suao**	**1.95**	**14**	*e*P	**Pn**	**05 35 55.6**	**0.0**
	baz=1.0								
TWC				*e*S	**Sn**	**05 36 20.7**	**+1.0**
	baz=1.0								
YHNB	**Yeheng**	**1.95**	**1**	*e*P	**Pn**	**05 35 57.2**	**+1.4**
	baz=4.0								
YHNB				*e*S	**Sn**	**05 36 20.7**	**+0.8**
	baz=4.0								
NSK	**Sanguang**	**1.96**	**1**	*e*P	**Pn**	**05 35 57.6**	**+1.7**
	baz=4.0								
NSK				S	**Sn**	**05 36 21.3**	**+1.2**
	baz=4.0								
TWE	**Neicheng**	**2.02**	**9**	*e*P	**Pn**	**05 35 57.2**	**+0.5**
	baz=5.0								
TWE				*e*S	**Sn**	**05 36 22.7**	**+1.2**
	baz=5.0								
FUSB	**Fushanzhiwuyua**	**2.05**	**6**	P	**Pn**	**05 35 58.0**	**+0.8**
	baz=3.0								
FUSB				*e*S	**Sn**	**05 36 22.2**	**-0.1**
	baz=3.0								
NWLT	**Wulai**	**2.06**	**4**	P	**Pn**	**05 35 58.5**	**+1.3**
	baz=5.0								
NWLT				S	**Sn**	**05 36 23.3**	**+0.9**
	baz=5.0								
TIPB	**Shuangxi**	**2.30**	**11**	*e*P	**Pn**	**05 36 01.9**	**+1.6**
	baz=359								
TIPB				*e*S	**Sn**	**05 36 27.0**	**-0.9**
	baz=359								
WFSB	**Wu-fen Shan**	**2.39**	**10**	*e*P	**Pn**	**05 36 02.7**	**+1.2**
	baz=357								
SXI1	**Grass Mountain**	**2.42**	**12**	*e*P	**Pn**	**05 36 03.4**	**+1.3**
	baz=354								
SXI1				*e*S	**Sn**	**05 36 31.2**	**+0.1**
	baz=354								
VWUC	**VWUC**	**2.85**	**323**	⇓*i*P	**Pn**	**05 36 07.0**	**-0.7**
	baz=321								
VWUC				S	**Sn**	**05 36 39.0**	**-2.2**
	baz=321								
PTMZ	**Houxiangcun**	**3.08**	**319**	P	**Pn**	**05 36 10.2**	**-0.5**
	baz=317								
PTMZ				*i* S	**Sn**	**05 36 44.5**	**-2.2**
	baz=317								
KNM	**Kinmen**	**3.16**	**303**	*e*P	**Pn**	**05 36 12.5**	**+0.7**
	baz=302								
KNMB	**Chin-men Tao**	**3.22**	**303**	*e*P	**Pn**	**05 36 11.8**	**-0.7**
	baz=302								
KNMB				*e*S	**Sn**	**05 36 48.3**	**-1.7**
	baz=302								
ZPLA	**Ao Xicun**	**3.51**	**291**	*e*P	**Pn**	**05 36 16.1**	**-0.4**
	baz=292								
MATB	**Ma-tsu**	**3.65**	**340**	*e*P	**Pn**	**05 36 17.1**	**-1.3**
	baz=337								
DSXP	**Dongshan**	**3.73**	**286**	*e*P	**Pn**	**05 36 19.5**	**0.0**
	baz=287								
AXDP	**Jialang**	**3.78**	**306**	*e*P	**Pn**	**05 36 18.9**	**-1.2**
	baz=307								
MHZQ	**Yeshan**	**3.98**	**329**	*e*P	**Pn**	**05 36 22.1**	**-0.7**
	baz=327								
LYJJ	**Jianjiangzhen**	**4.08**	**340**	*e*P	**Pn**	**05 36 23.2**	**-1.1**
	baz=336								
XPSS	**Dashiqiu**	**4.33**	**346**	*e*P	**Pn**	**05 36 26.8**	**-0.8**
	baz=341								
SXFK	**Yanhouchang**	**4.98**	**318**	*e*P	**Pn**	**05 36 35.5**	**-1.0**
	baz=319								
SONM	**Songino Array**	**27.78**	**338**	P	**P**	**05 41 04.8**	**+0.3**
	0.5nm,0.7s,baz=148,slow=8.5,SNR=3.4								
	0.5nm,0.7s								
MKAR	**Makanchi Array**	**39.50**	**317**	P	**P**	**05 42 46.9**	**+1.1**
	0.6nm,0.7s,baz=113,slow=9.7,SNR=7.4								
	0.6nm,0.7s								
ZALV	**Zalesovo Beam**	**41.56**	**328**	P	**P**	**05 43 02.7**	**+0.1**
	0.6nm,0.5s,baz=120,slow=9.1,SNR=3.6								
	0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**43.33**	**321**	P	**P**	**05 43 16.4**	**-0.5**
	0.6nm,0.9s,baz=119,slow=7.3,SNR=4.1								
	0.6nm,0.9s								

*UUSS **26** 05:40:25.8±0.7, 42.˚55N±0.˚02×111.˚43W±0.˚02, h8km±6km, Error ellipse: s-maj=3.3km s-min=0.7km az=131.0*
*NEIC **26** 05:40:25.6±0.9, 42.˚54N±0.˚02×111.˚40W±0.˚04, h10km±1km, ML3.3/44, ML3.5/21(UUSS), Error ellipse: s-maj=6.1km s-min=3.0km az=297.0*
*IDC **26** 05:40:26.1±0.7, 42.˚38N×111.˚34W, h0km, mbtmp3.0/4, ML3.0/4, Error ellipse: s-maj=17.9km s-min=4.8km az=157.0*

ISC 26 05:40:26.2±0.8, 42.˚55N±0.˚03×111.˚39W±0.˚04, h9km, n38, σ0s95/43, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHID	**Auburn Hatcher**	**0.30**	**44**		**Pg**	**05 40 32.3**	**0.0**
AHID				Sg	**Sg**	**05 40 36.5**	**+0.1**
REDW	**Red Top Meadow**	**0.90**	**25**		**Pg**	**05 40 43.0**	**-0.6**
NPI	**North Pocatell**	**0.93**	**245**		**Pg**	**05 40 43.0**	**-1.1**
PTU	**Portage**	**0.93**	**229**		**Pg**	**05 40 43.1**	**-1.1**
HWUT	**Hardware Ranch**	**0.95**	**188**	Pg	**Pg**	**05 40 43.3**	**-1.2**
TPAW	**Teton Pass**	**0.99**	**19**		**Pg**	**05 40 44.5**	**-0.9**
TPAW				Sg	**Sg**	**05 40 58.2**	**-0.1**
TPAW				IAML		05 40 60.0	
	991nm,0.2s						
TPAW				IAML		05 41 01.7	
	706nm,0.6s						
SNOW	**Snow King Moun**	**1.02**	**27**		**Pg**	**05 40 45.3**	**-0.6**
SNOW				IAML		05 41 01.7	
	622nm,0.4s						
SNOW				IAML		05 41 05.7	
	872nm,0.5s						
MCU	**Monte Cristo P**	**1.09**	**185**		**Pg**	**05 40 46.2**	**-0.9**
BCUT	**Brigham City**	**1.13**	**203**		**Pg**	**05 40 46.7**	**-1.2**
LTU	**Little Mountai**	**1.15**	**214**		**Pg**	**05 40 47.0**	**-1.3**
LOHW	**Long Hollow**	**1.21**	**28**		**Pb**	**05 40 48.3**	**-1.1**
LOHW				Sg	**Sg**	**05 41 04.9**	**-0.2**
LOHW				IAML		05 41 08.1	
	599nm,0.5s						
LOHW				IAML		05 41 08.2	
	431nm,0.5s						
HVU	**Hansel Valley**	**1.29**	**234**		**Pn**	**05 40 49.4**	**-1.1**
MOOW	**Moose Ponds**	**1.29**	**21**	Pg	**Pn**	**05 40 49.5**	**-1.2**
MOOW				Sg	**Sb**	**05 41 06.8**	**-0.7**
MOOW				IAML		05 41 09.1	
	300nm,0.6s						
BW06	**Boulder Array**	**1.36**	**80**		**Pn**	**05 40 51.6**	**-0.1**
BW06				IAML		05 41 13.6	
	477nm,0.7s						
BW06				IAML		05 41 13.6	
	348nm,0.4s						
PD31	**Pinedale Array**	**1.36**	**80**	Pn	**Pn**	**05 40 51.5**	**-0.1**
PDAR	**Pinedale Array**	**1.36**	**80**	Pn	**Pn**	**05 40 51.4**	**-0.3**
PDAR	**Pinedale Array**	**1.36**	**80**	Pg	**Pb**	**05 40 51.9**	**-0.2**
	48nm,0.3s,baz=247,slow=14,SNR=947						
PDAR				Lg	Lg	05 41 09.8	
	66nm,0.3s,baz=287,slow=16,SNR=51						
EPU	**East Promontor**	**1.39**	**214**		**Pn**	**05 40 50.7**	**-1.1**
IMW	**Indian Meadow**	**1.39**	**13**	Pn	**Pn**	**05 40 51.0**	**-1.1**
IMW				IAML		05 41 15.3	
	691nm,0.6s						
TCUT	**Toone Canyon**	**1.43**	**181**		**Pg**	**05 40 53.1**	**-0.6**
SPUT	**South Promonto**	**1.47**	**213**		**Pn**	**05 40 52.4**	**-0.6**
SPUT				IAML		05 41 14.3	
	comp=N,632nm,0.2s						
SPUT				IAML		05 41 14.4	
	comp=E,463nm,0.7s						
FLWY	**Flagg Ranch**	**1.61**	**18**	Pn	**Pn**	**05 40 55.3**	**+0.2**
MCID	**Moose Creek**	**1.65**	**5**		**Pn**	**05 40 55.3**	**-0.2**
NAIU	**Northern Antel**	**1.66**	**203**		**Pn**	**05 40 55.0**	**-0.6**
CTU	**Camp Tracy**	**1.87**	**189**		**Pb**	**05 40 59.8**	**-0.9**
CTU				IAML		05 41 29.0	
	comp=N,360nm,1.0s						
CTU				IAML		05 41 34.4	
	comp=E,385nm,0.8s						
H17A	**Grant Village**	**1.94**	**17**		**Pn**	**05 40 59.6**	**0.0**
BGU	**Big Grassy Mou**	**2.04**	**218**	Pn	**Pn**	**05 41 01.0**	**+0.2**
BGU				IAML		05 41 30.8	
	comp=E,208nm,0.8s						
BGU				IAML		05 41 33.3	
	comp=N,210nm,0.6s						
BSUT	**Blindstream Ca**	**2.06**	**167**		**Pn**	**05 41 00.7**	**-0.6**
YNR	**Norris Junctio**	**2.23**	**13**		**Pn**	**05 41 04.1**	**+0.6**
HLID	**Hailey**	**2.44**	**296**	Pn	**Pn**	**05 41 07.3**	**+0.9**
HLID				IAML		05 41 42.4	
	comp=N,178nm,0.4s						
HLID				IAML		05 41 45.0	
	comp=N,144nm,0.4s						
MPU	**Maple Canyon**	**2.54**	**184**	Pn	**Pn**	**05 41 08.5**	**+0.7**
MPU				IAML		05 41 51.3	
	comp=E,99nm,0.7s						
MPU				IAML		05 41 51.3	
	comp=N,124nm,0.6s						
DUG	**Dugway, Tooele**	**2.58**	**205**	Pn	**Pn**	**05 41 08.9**	**+0.6**
DUG				IAML		05 41 51.9	
	comp=N,92nm,0.7s						
DUG				IAML		05 41 52.0	
	comp=N,120nm,0.7s						
NLU	**North Lily Min**	**2.64**	**192**	Pn	**Pn**	**05 41 09.8**	**+0.6**
ELK	**Elko**	**3.40**	**239**	Pn	**Pn**	**05 41 20.5**	**+0.8**
	comp=N,0.6nm,0.3s,baz=42,slow=13,SNR=7.8						
ELK				Pg	**Pb**	**05 41 26.1**	**-0.7**
	comp=N,1.2nm,0.3s,baz=55,slow=11,SNR=14						
ELK				Sn	**Sn**	**05 42 01.8**	**+1.5**
	comp=N,1.5nm,0.3s,baz=9.3,slow=17,SNR=4.5						
ELK				Lg	Lg	05 42 10.3	
	comp=N,3.9nm,0.3s,baz=176,slow=22,SNR=3.3						
	comp=N,1.1nm,0.3s						
NVAR	**Mina Array Bea**	**6.69**	**234**	Pn	**Pn**	**05 42 07.8**	**+3.0**
	comp=N,0.1nm,0.3s,baz=46,slow=12,SNR=4.5						
NVAR				Sn	**Sn**	**05 43 20.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=44,slow=22,SNR=1.3						
NVAR				Lg	Lg	05 43 52.2	
	comp=N,0.3nm,0.3s,baz=68,slow=26,SNR=2.2						
	comp=N,0.7nm,0.6s						
NEW	**Newport**	**7.00**	**327**	Pn	Pn	05 42 13.8	+5.0
	comp=N,0.2nm,0.3s,baz=108,slow=13,SNR=2.3						
NEW				Lg	Lg	05 44 01.5	
	comp=N,0.7nm,0.3s,baz=58,slow=22,SNR=10						
	comp=N,0.6nm,0.3s						
ANMO	**Albuquerque**	**8.51**	**152**	Lg	Lg	05 44 47.0	
	comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=7.5						
TXAR	**Lajitas Array**	**14.58**	**152**	Pn	**Pn**	**05 43 54.5**	**+1.7**
	baz=335,slow=12,SNR=4.0						
	comp=N,0.5nm,0.9s						

*IDC **26** 05:52:14.8±0.9, 57.˚62S×6.˚71W, h0km, mb4.1/6, mbtmp4.1/6, MS3.6/11, Error ellipse: s-maj=55.5km s-min=23.6km az=72.0*
*NEIC **26** 05:52:14.6±1.5, 57.˚7S±0.˚1×6.˚7W±0.˚2, h10km±1km, mb4.4/13, Error ellipse: s-maj=21.5km s-min=16.9km az=182.0*

ISC 26 05:52:15.0±0.6, 57.˚66S±0.˚09×6.˚8W±0.˚1, h10km, n42, σ1s23/30, mb4.3/11, MS3.6/11, 6C-3D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.06**	**182**	⇑P	**Pn**	**05 55 21.2**	**+0.8**
	comp=Z,4.6nm,0.2s						
VNA2	**Neumayer--Watz**	**13.33**	**181**	⇑P	**Pn**	**05 55 23.7**	**-0.3**
	comp=Z,10nm,0.3s,baz=359,slow=15						
VNA2				⇓S	Sn	05 57 37.2	-15
	comp=Z,4.4nm,0.7s,baz=354,slow=25						
VNA3	**Neumayer Olymp**	**13.70**	**184**	⇑P	**Pn**	**05 55 29.9**	**+0.9**
	comp=Z,9.4nm,0.2s						
VNA3				⇑S	Sn	05 57 44.7	-16
	comp=Z,1.0nm,0.2s						
SNAA	**Sanae**	**14.17**	**175**		**Pn**	**05 55 34.7**	**-0.8**
SNAA	**Sanae**	**14.17**	**175**	⇓P	**Pn**	**05 55 35.0**	**-0.5**
	comp=Z,174nm,0.5s						
SNAA				⇓S	Sn	05 57 54.6	-18
	comp=Z,17nm,0.2s						
TROLL	**Troll, Antarti**	**14.91**	**169**	⇑P	**Pn**	**05 55 45.9**	**+0.2**
	comp=Z,439nm,0.2s						
TROLL				⇑S	Sn	05 58 14.8	-16
	comp=Z,126nm,0.8s						
BELA	**Belgrano 2**	**22.38**	**195**	P	**P**	**05 57 12.7**	**-0.2**
SUR	**Sutherland**	**31.52**	**49**	LR	LR	06 08 32.1	
	comp=Z,52nm,18.3s,baz=172,slow=31						
MAW	**Mawson**	**31.74**	**137**	LR	LR	06 08 53.9	
	comp=Z,88nm,20.7s,baz=249,slow=32						
QSPA	**South Pole Qui**	**32.58**	**180**	P	**P**	**05 58 43.8**	**-2.5**
QSPA				IAmb	IAmb	05 59 03.6	
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**32.58**	**180**	P	**P**	**05 58 48.0**	**+1.7**
	comp=Z,1.5nm,0.4s,baz=242,slow=4.0,SNR=4.6						
	comp=Z,1.5nm,0.4s						
GO10	**Punta Arenas**	**35.53**	**249**	P	**P**	**05 59 10.1**	**-1.7**
H04S2	**CROZET ISLANDS**	**36.39**	**99**	T	T	06 38 25.5	
	baz=231,slow=75,SNR=165						
H04S3	**CROZET ISLANDS**	**36.40**	**99**	T	T	06 38 27.5	
	baz=231,slow=75,SNR=137						
H04S1	**CROZET ISLANDS**	**36.41**	**99**	T	T	06 38 27.9	
	baz=231,slow=75,SNR=217						
LBTB	**Lobatse**	**39.97**	**49**	LR	LR	06 12 52.8	
	comp=Z,72nm,19.1s,baz=192,slow=31						
TRQA	**Tornquist**	**40.54**	**274**	P	**P**	**05 59 53.1**	**-1.0**
PLTB	**Pedras Altas**	**40.96**	**289**	P	**P**	**05 59 57.6**	**-0.1**
PLTB					IAmb	IAmb	06 00 04.0
	comp=Z,5.9nm,1.1s						
PLCA	**Paso Flores**	**43.21**	**264**	LR	LR	06 16 32.9	
	comp=Z,72nm,18.4s,baz=178,slow=34						
LR05	**Currie**	**44.35**	**264**	P	**P**	**06 00 24.5**	**-0.6**
GO06	**Curarrehue**	**44.53**	**265**	P	**P**	**06 00 25.4**	**-1.3**
GO06					IAmb	IAmb	06 00 43

comp=Z,0.2nm,0.5s
ROSC El Rosal 82.29 292 LR LR 06 40 55.1
comp=Z,40nm,19.0s,baz=178,slow=36
SDV Santo Domingo 83.98 297 LR LR 06 41 08.9
comp=Z,41nm,19.2s,baz=86,slow=35
STKA Stephens Creek 86.93 153 P **P** **06 05 01.5 +1.5**
comp=Z,1.3nm,0.7s,baz=232,slow=12,SNR=3.3
comp=Z,1.3nm,0.7s
ASAR Alice Springs 92.57 144 P **P** **06 05 27.8 +1.1**
comp=Z,0.9nm,0.8s,baz=195,slow=4.6,SNR=6.8
ASAR LR LR 06 44 22.3
comp=Z,48nm,19.1s,baz=188,slow=34
comp=Z,0.9nm,0.8s
NRIK Noril'sk 143.40 36 PKP **PKPdf** **06 11 47.0 -0.9**
comp=Z,4.7nm,0.7s,baz=217,slow=1.2,SNR=7.5
HILA High Level 144.63 302 PKPdf **PKPdf** **06 11 49.8 -0.6**
YKA Yellowknife Ar 145.40 309 PKPbc **PKPdf** **06 11 51.6 0.0**
YKA Yellowknife Ar 145.40 309 PKPbc **PKPab** **06 11 51.8 0.0**
comp=Z,3.0nm,0.9s,baz=100,slow=5.3,SNR=34
ILAR Eielson Array 159.81 307 PKPab **PKPab** **06 12 52.5 +0.7**
comp=Z,0.6nm,0.7s,baz=99,slow=2.9,SNR=7.3

IDC 26 05:55:43.7±2.0, 14°22N×124°68E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=469.9km s-min=28.4km az=72.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**36.80**	**339**	P	P	06 02 53.3	-0.1
	0.2nm,0.4s,baz=159,slow=8.7,SNR=1.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**38.72**	**166**	P	P	06 03 09.2	-0.5
	0.4nm,0.4s,baz=356,slow=7.7,SNR=13						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**48.62**	**161**	P	P	06 04 29.9	+0.5
	1.1nm,0.7s,baz=329,slow=10,SNR=3.3						
	1.1nm,0.7s						

*IDC **26** 06:09:13.9±0.8, 44°.17N×38°.73E, h0km, mb3.5/2, mbtmp3.4/7, ML3.1/5, Error ellipse: s-maj=13.7km s-min=8.6km az=168.0*
*MOS **26** 06:09:17.2, 44°.15N×38°.68E, h20km, MPVA4.1, FELT I=III MSK at Dzhubga*
*CFUSG **26** 06:09:17.9, 43°.90N×38°.45E, h10km, mb3.2/7, Black Sea Magtype MSH 3.1 from 2 stations*
ISC 26 06:09:16.9±1.2, 44°13N±0°.03×38°64E±0°.02, h16km±9km, n66, σ1s25/115, 1C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOYR	**Goytkh**	**0.54**	**78**	*i* Pg	**Pb**	**06 09 28.2**	**+0.2**
GOYR				*i* Sg	**Sb**	**06 09 35.2**	**-0.3**
GOYR	**Goytkh**	**0.54**	**78**	*i* PG	**Pb**	**06 09 28.2**	**+0.2**
GOYR				*i* S	**Sb**	**06 09 35.2**	**-0.3**
GELR	**Gelenjik**	**0.65**	**314**	*e*Pg	**Pn**	**06 09 31.7**	**+0.3**
GELR				*e*Sg	**Sb**	**06 09 39.6**	**+0.9**
GELR	**Gelenjik**	**0.65**	**314**	*e*PG	**Pn**	**06 09 31.7**	**+0.3**
GELR				*e*S	**Sb**	**06 09 39.6**	**+0.9**
SPGR	**Shapsug**	**0.73**	**326**	*i* Pg	**Pb**	**06 09 32.0**	**+0.7**
SPGR				*i* Sg	**Sb**	**06 09 43.0**	**+1.9**
SPGR	**Shapsug**	**0.73**	**326**	*i* PG	**Pb**	**06 09 32.0**	**+0.7**
SPGR				*i* S	**Sb**	**06 09 43.0**	**+1.9**
SOC	**Sochi**	**0.95**	**125**	*i* Pg	**Pb**	**06 09 36.0**	**+1.0**
SOC				*i* Sg	**Sn**	**06 09 49.7**	**+0.9**
SOC	**Sochi**	**0.95**	**125**	*e*PG	**Pg**	**06 09 35.3**	**0.0**
SOC				*e*		06 09 49.5	
SOC				pmax	pmax		
	comp=Z,17nm,0.5s						
SOC				smax	smax		
	comp=N,195nm,0.7s						
SOC				smax	smax		
	comp=E,593nm,0.9s						
GUZR	**Guzeripl'**	**1.07**	**97**	*i* Pg	**Pg**	**06 09 37.2**	**-0.4**
GUZR				*i* Sg	**Sb**	**06 09 51.5**	**+0.6**
GUZR	**Guzeripl'**	**1.07**	**97**	*i* PG	**Pg**	**06 09 37.2**	**-0.4**
GUZR				*i* S	**Sb**	**06 09 51.5**	**+0.6**
ANN	**Anapa**	**1.09**	**308**	*i* Pg	**Pn**	**06 09 39.4**	**+1.9**
ANN				*i* Sg	**Sn**	**06 09 55.7**	**+3.4**
ANN	**Anapa**	**1.09**	**308**	*e*PG	**Pn**	**06 09 39.4**	**+1.9**
ANN				*e*S	**Sn**	**06 09 56.3**	**+4.0**
ANN				pmax	pmax		
	comp=Z,87nm,0.2s						
ANN				smax	smax		
	comp=N,845nm,0.3s						
ANN				smax	smax		
	comp=E,476nm,0.3s						
VSLR	**Vesyoloye**	**1.21**	**123**	*i* Pg	**Pb**	**06 09 39.5**	**+0.1**
VSLR				*i* Sg	**Sg**	**06 09 55.9**	**-0.1**
VSLR	**Vesyoloye**	**1.21**	**123**	*i* PG	**Pb**	**06 09 39.5**	**+0.1**
VSLR				*i* S	**Sg**	**06 09 55.9**	**-0.1**
RPOR	**Krasnaya Polya**	**1.25**	**110**	*i* Pg	**Pn**	**06 09 40.0**	**+0.3**
RPOR				*e*Sg	**Sb**	**06 09 56.2**	**+0.2**
RPOR	**Krasnaya Polya**	**1.25**	**110**	*i* PG	**Pn**	**06 09 40.0**	**+0.3**
RPOR				*e*S	**Sb**	**06 09 56.2**	**+0.2**
LABN	**Labinsk**	**1.57**	**70**	*e*Pg	**Pn**	**06 09 45.0**	**+0.8**
LABN				*i* Sg	**Sn**	**06 10 05.2**	**+1.0**
LABN	**Labinsk**	**1.57**	**70**	*e*PG	**Pn**	**06 09 45.0**	**+0.8**
LABN				*i* S	**Sn**	**06 10 05.2**	**+1.0**
ARXR	**Arkhyz**	**1.99**	**106**	*e*Pg	**Pn**	**06 09 51.6**	**+1.6**
ARXR				*e*Sg	**Sn**	**06 10 16.0**	**+1.4**
ARXR	**Arkhyz**	**1.99**	**106**	*e*PN	**Pn**	**06 09 51.6**	**+1.6**
ERBR	**Yeremizino-Bor**	**2.05**	**39**	*e*Pg	**Pn**	**06 09 50.5**	**-0.2**
ERBR				*e*Sg	**Sn**	**06 10 16.9**	**+0.9**
ERBR	**Yeremizino-Bor**	**2.05**	**39**	*e*PN	**Pn**	**06 09 50.5**	**-0.2**
ERBR				*e*S	**Sn**	**06 10 16.9**	**+0.9**
DOMR	**Dombai**	**2.32**	**110**	*e*Pn	**Pn**	**06 09 53.9**	**-0.6**
DOMR				*e*Sn	**Sn**	**06 10 23.8**	**+1.0**
DOMR	**Dombai**	**2.32**	**110**	*e*PN	**Pn**	**06 09 53.9**	**-0.6**
DOMR				*e*S	**Sn**	**06 10 23.8**	**+1.0**
NVNR	**Nevinnomyssk**	**2.43**	**77**	*e*Pn	**Pn**	**06 09 56.4**	**+0.5**
NVNR				*i* Sn	**Sn**	**06 10 25.8**	**+0.5**
NVNR	**Nevinnomyssk**	**2.43**	**77**	*e*PN	**Pn**	**06 09 56.4**	**+0.5**
NVNR				*i* S	**Sn**	**06 10 25.8**	**+0.5**
FEO	**Feodosiya**	**2.49**	**292**	*e*Pn	**Pb**	**06 10 01.0**	**-0.2**
FEO				*e*Sn	**Sn**	**06 10 27.2**	**+0.5**
FEO	**Feodosiya**	**2.49**	**292**	*e*S	**Sn**	**06 10 27.2**	**+0.5**
FEO				Sm		06 10 30.0	
	comp=N,50nm,0.3s						
FEO				Sm		06 10 30.0	
	comp=E,30nm,0.3s						
FEO	**Feodosiya**	**2.49**	**292**	*e*PN	**Pb**	**06 10 01.0**	**-0.2**
FEO				*e*S	**Sn**	**06 10 27.2**	**+0.5**
SUDU	**Sudak**	**2.71**	**287**	*e*Pn	**Pn**	**06 09 59.9**	**+0.1**
SUDU				*e*Sn	**Sn**	**06 10 32.2**	**-0.1**
SUDU	**Sudak**	**2.71**	**287**	*e*P	**Pn**	**06 09 59.9**	**+0.1**
SUDU				Pm		06 10 00.2	
	comp=Z,10.0nm,0.2s						
SUDU				*i* S	**Sn**	**06 10 32.2**	**-0.1**
SUDU				Sm		06 10 33.6	
	comp=N,54nm,0.3s						
SUDU				Sm		06 10 33.6	
	comp=E,19nm,0.3s						
SUDU	**Sudak**	**2.71**	**287**	*e*PN	**Pn**	**06 09 59.9**	**+0.1**
SUDU				*e*S	**Sn**	**06 10 32.2**	**-0.1**
KIV	**Kislovodsk**	**2.92**	**92**	*e*Pn	**Pn**	**06 10 03.5**	**+0.8**
KIV				*i* Sn	**Sn**	**06 10 39.4**	**+1.9**
KIV	**Kislovodsk**	**2.92**	**92**	*e*P	**Pn**	**06 10 03.6**	**+0.8**
KIV	**Kislovodsk**	**2.92**	**92**	*e*PN	**Pn**	**06 10 03.6**	**+0.8**
KIV				*e*S	**Sb**	**06 10 44.6**	**+0.5**
SHA1	**Shidzhatmaz**	**2.93**	**96**	*e*Pn	**Pn**	**06 10 03.4**	**+0.4**
SHA1				*e*Sn	**Sn**	**06 10 38.8**	**+0.9**
SHA1	**Shidzhatmaz**	**2.93**	**96**	*e*PN	**Pn**	**06 10 03.4**	**+0.4**
SHA1				*e*S	**Sn**	**06 10 38.8**	**+0.9**
KVAR	**Kislovodsk Arr**	**2.93**	**92**	Pn	**Pn**	**06 10 03.6**	**+0.7**
	baz=280,slow=19						
KVAR				Sn	**Sn**	**06 10 39.7**	**+2.0**
	baz=61,slow=19						
	comp=E,3.7nm,0.4s						
BEYR	**Belyy Ugol+**	**3.01**	**91**	*e*Pn	**Pn**	**06 10 04.8**	**+0.9**
BEYR				*e*Sn	**Sn**	**06 10 40.7**	**+1.0**
BEYR	**Belyy Ugol+**	**3.01**	**91**	*e*PN	**Pn**	**06 10 04.8**	**+0.9**
BEYR				*e*S	**Sn**	**06 10 40.7**	**+1.0**
ALU	**Alushta**	**3.09**	**282**	*e*P	**Pn**	**06 10 04.5**	**-0.4**
ALU				Pm		06 10 10.8	
	comp=Z,7.0nm,0.2s						
ALU				*e*S	**Sn**	**06 10 39.9**	**-1.6**
ALU				Sm		06 10 45.2	
	comp=N,94nm,0.3s						
ALU				Sm		06 10 45.2	
	comp=E,11nm,0.2s						
ALU	**Alushta**	**3.09**	**282**	*e*PN	**Pn**	**06 10 04.5**	**-0.4**
KBZ	**Khabaz**	**3.10**	**96**	*e*Pn	**Pn**	**06 10 05.0**	**-0.1**
KBZ				*e*Sn	**Sn**	**06 10 42.0**	**+0.3**
KBZ	**Khabaz**	**3.10**	**96**	*e*PN	**Pn**	**06 10 05.0**	**-0.1**
KBZ				*e*S	**Sn**	**06 10 42.0**	**+0.3**
KBZ	**Khabaz**	**3.10**	**96**	Pn	**Pn**	**06 10 05.6**	**+0.5**
	comp=E,0.6nm,0.3s,baz=69,slow=2.9,SNR=11						
KBZ				Lg	Lg	06 10 49.5	
	comp=E,2.1nm,0.3s,baz=177,slow=20,SNR=5.8						
	comp=E,2.0nm,0.4s						
ALER	**Alexandrovskoy**	**3.12**	**77**	*e*Pn	**Pn**	**06 10 06.7**	**+1.2**
ALER				*e*Sn	**Sn**	**06 10 42.6**	**+0.2**
ALER	**Alexandrovskoy**	**3.12**	**77**	*e*PN	**Pn**	**06 10 06.7**	**+1.2**
ALER				*e*S	**Sn**	**06 10 42.6**	**+0.2**
PYA1	**Pyatigorsk**	**3.21**	**90**	*e*Pn	**Pn**	**06 10 07.8**	**+1.2**
PYA1				*e*Sn	**Sn**	**06 10 44.3**	**-0.3**
PYA1	**Pyatigorsk**	**3.21**	**90**	*e*PN	**Pn**	**06 10 07.8**	**+1.2**
PYA1				*e*S	**Sn**	**06 10 44.3**	**-0.3**
YAL	**Yalta**	**3.24**	**278**	*e*Pn	**Pn**	**06 10 10.0**	**+3.0**
YAL				*e*Sn	**Sn**	**06 10 44.6**	**-0.7**
YAL	**Yalta**	**3.24**	**278**	*e*S	**Sn**	**06 10 44.6**	**-0.7**
YAL				Sm		06 10 47.5	
	comp=N,10.0nm,0.2s						
YAL				Sm		06 10 47.5	
	comp=E,18nm,0.3s						
YAL	**Yalta**	**3.24**	**278**	*e*PN	**Pn**	**06 10 10.0**	**+3.0**
YAL				*e*S	**Sn**	**06 10 44.6**	**-0.7**
GOF	**Gofitskoye**	**3.28**	**72**	*ce*PN	Pn	06 10 03.0	-4.5
GOF				*e*S	**Sn**	**06 10 50.1**	**+3.9**
SIM	**Simferopol'**	**3.34**	**286**	*e*Pn	**Pn**	**06 10 10.0**	**+1.6**
SIM				*e*Sn	**Sn**	**06 10 47.4**	**-0.3**
SIM	**Simferopol'**	**3.34**	**286**	*e*S	**Sn**	**06 10 47.4**	**-0.3**
SIM				Sm		06 10 49.7	
	comp=N,12nm,0.3s						
SIM				Sm		06 10 49.7	
	comp=E,26nm,0.3s						
SIM	**Simferopol'**	**3.34**	**286**	PN	**Pn**	**06 10 06.5**	**-1.9**
SIM				S	**Sn**	**06 10 47.8**	**+0.1**
SIM				pmax	pmax		
	comp=Z,23nm,0.3s						
SIM				smax	smax		
	comp=N,37nm,0.9s						
SEV	**Sevastopol'**	**3.59**	**278**	*e*P	**Pn**	**06 10 12.0**	**+0.1**
SEV				Pm		06 10 15.6	
	comp=E,3.0nm,0.3s						
SEV				*e*S	**Sn**	**06 10 52.4**	**-1.6**
SEV				Sm		06 10 53.9	
	comp=N,10.0nm,0.2s						
SEV				Sm		06 10 53.9	
	comp=E,3.0nm,0.3s						
TARU	**Tarkhankut**	**4.53**	**288**	*e*S	**Sn**	**06 11 17.1**	**+0.1**
TARU				Sm		06 11 17.5	
	comp=N,15nm,0.3s						
TARU				Sm		06 11 17.5	
	comp=E,20nm,0.3s						
BRTR	**Keskin Array B**	**5.77**	**222**	Pn	**Pn**	**06 10 43.5**	**+1.6**
	comp=E,0.6nm,0.3s,baz=38,slow=11,SNR=11						
BRTR				Pg	Pb	06 10 52.7	-4.5
	comp=E,0.6nm,0.3s,baz=45,slow=13,SNR=7.1						
BRTR				Sn	**Sn**	**06 11 50.5**	**+2.5**
	comp=E,0.2nm,0.3s,baz=27,slow=23,SNR=1.9						
	comp=E,2.6nm,0.5s						
GNI	**Garni**	**6.03**	**129**	*e*P	**Pn**	**06 10 47.5**	**+1.9**
AKASG	**Malin Array Be**	**9.16**	**319**	Pn	**Pn**	**06 11 27.1**	**-1.1**
	comp=E,1.0nm,0.3s,baz=130,slow=11,SNR=4.9						
	comp=E,0.2nm,0.3s						
OBN	**Obninsk**	**11.07**	**354**	*e*P	**Pn**	**06 11 55.7**	**+1.3**
OBN				pmax	pmax		
	comp=Z,20nm,0.4s						
FINES	**FINESS Array B**	**18.87**	**341**	P	**P**	**06 13 33.2**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=140,slow=12,SNR=5.6						
	comp=Z,4.0nm,0.9s						
HFS	**Hagfors**	**21.95**	**326**	P	**P**	**06 14 07.6**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=110,slow=12,SNR=6.0						
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**27.52**	**62**	P	**P**	**06 15 00.3**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=270,slow=9.4,SNR=6.1						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**27.57**	**62**	P	**P**	**06 15 00.3**	**-2.6**

*MOS **26** 06:10:33.6, 44°.14N×38°.67E, h14km, MPVA3.8, FELT I=II-III MSK at Dzhubga and Tuapse*
*CFUSG **26** 06:10:34.2, 44°.13N×38°.58E, h10km, mb2.6/3, Black Sea Magtype MSH 2.9 from 2 stations*
ISC 26 06:10:32.9±1.6, 44°05N±0°.05×38°59E±0°.03, h9km±11km, n21, σ1s20/41, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOYR	**Goytkh**	**0.60**	**71**	*i* Pg	**Pg**	**06 10 44.6**	**+0.1**
GOYR				*e*Sg	**Sg**	**06 10 52.1**	**-0.2**
GELR	**Gelenjik**	**0.68**	**321**	*e*Pg	**Pb**	**06 10 47.8**	**+0.8**
GELR				*e*Sg	**Sb**	**06 10 57.0**	**+0.5**
SPGR	**Shapsug**	**0.78**	**332**	*e*Pg	**Pb**	**06 10 48.9**	**+0.2**
SPGR				*e*Sg	**Sb**	**06 10 59.4**	**0.0**
SOC	**Sochi**	**0.94**	**120**	*i* Pg	**Pb**	**06 10 52.5**	**+1.1**
SOC				*i* Sg	**Sn**	**06 11 06.2**	**+0.4**
GUZR	**Guzeripl'**	**1.10**	**92**	*i* Pg	**Pb**	**06 10 53.8**	**-0.4**
GUZR				*i* Sg	**Sb**	**06 11 08.2**	**-0.6**
ANN	**Anapa**	**1.11**	**312**	*e*Pg	**Pn**	**06 10 55.9**	**+1.2**
ANN				*i* Sg	**Sn**	**06 11 13.2**	**+3.0**
VSLR	**Vesyoloye**	**1.20**	**119**	*e*Pg	**Pn**	**06 10 56.1**	**+0.2**
VSLR				*e*Sg	**Sb**	**06 11 12.4**	**+1.0**
RPOR	**Krasnaya Polya**	**1.26**	**106**	*e*Pg	**Pn**	**06 10 56.4**	**-0.4**
RPOR				*e*Sg	**Sb**	**06 11 13.7**	**+0.4**
LABN	**Labinsk**	**1.64**	**68**	*e*Pg	**Pb**	**06 11 02.8**	**-0.5**
LABN				*i* Sg	**Sb**	**06 11 22.8**	**-1.2**
ARXR	**Arkhyz**	**2.00**	**103**	*e*Pg	**Pn**	**06 11 08.7**	**+1.7**
ARXR				*e*Sg	**Sn**	**06 11 32.2**	**-0.2**
ERBR	**Yeremizino-Bor**	**2.14**	**38**	*e*Pg	**Pn**	**06 11 09.1**	**+0.3**
ERBR				*e*Sg	**Sn**	**06 11 34.5**	**-1.0**
DOMR	**Dombai**	**2.33**	**108**	*e*Pn	**Pn**	**06 11 12.4**	**+0.9**
DOMR				*e*Sn	**Sn**	**06 11 41.0**	**+0.6**
SUDU	**Sudak**	**2.70**	**289**	*e*Pn	**Pn**	**06 11 16.2**	**-0.3**
SUDU				*e*Sn	**Sn**	**06 11 48.7**	**-0.7**
SUDU	**Sudak**	**2.70**	**289**	*e*P	**Pn**	**06 11 16.2**	**-0.3**
SUDU				Pm		06 11 17.1	
	comp=Z,5.0nm,0.3s						
SUDU				*e*S	**Sn**	**06 11 48.7**	**-0.7**
SUDU				Sm		06 11 50.2	
	comp=N,19nm,0.3s						
SUDU				Sm		06 11 50.2	
	comp=E,12nm,0.4s						
KIV	**Kislovodsk**	**2.96**	**91**	*e*Pn	**Pb**	**06 11 23.8**	**-2.0**
KIV				*e*Sn	**Sn**	**06 11 54.2**	**-1.6**
SHA1	**Shidzhatmaz**	**2.96**	**95**	*e*Pn	**Pn**	**06 11 23.0**	**+2.7**
SHA1				*e*Sn	**Sn**	**06 11 55.5**	**-0.4**
BEYR	**Belyy Ugol+**	**3.05**	**89**	*e*Pn	**Pn**	**06 11 22.4**	**+1.1**
BEYR				*e*Sn	**Sn**	**06 11 59.8**	**+1.8**
KBZ	**Khabaz**	**3.13**	**94**	*e*Pn	**Pn**	**06 11 21.1**	**-1.3**
KBZ				*e*Sn	**Sn**	**06 11 59.6**	**-0.2**
PYA1	**Pyatigorsk**	**3.25**	**88**	*e*Pn	**Pn**	**06 11 25.9**	**+1.8**
PYA1				*e*Sn	**Sn**	**06 12 01.9**	**-1.0**
SEV	**Sevastopol'**	**3.57**	**280**	*e*P	**Pn**	**06 11 26.6**	**-1.8**
SEV				Pm		06 11 26.8	
	comp=E,5.0nm,0.3s						
SEV				*e*S	**Sn**	**06 12 09.1**	**-1.6**
SEV				Sm		06 12 12.5	
	comp=N,3.0nm,0.5s						
SEV				Sm		06 12 12.5	
	comp=E,9.0nm,0.5s						
TARU	**Tarkhankut**	**4.52**	**289**	*e*S	**Sn**	**06 12 33.8**	**-0.3**
TARU				Sm		06 12 37.0	
	comp=N,5.0nm,0.4s						
TARU				Sm		06 12 37.0	
	comp=E,10.0nm,0.3s						

IDC 26 06:12:13.8±3.4, 4°41S×151°87E, h0km, mb3.5/2, mbtmp3.6/2, Error ellipse: s-maj=135.2km s-min=46.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.02**	**226**	P	P	06 17 21.1	+0.3
	1.3nm,0.7s,baz=52,slow=10.0,SNR=10						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**25.83**	**220**	P	P	06 17 46.8	-0.4
	0.5nm,0.5s,baz=53,slow=9.1,SNR=14						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.30**	**288**	PKPbc	PKPbc	06 32 05.3	-0.4
	0.4nm,0.7s,baz=91,slow=3.6,SNR=3.7						

*IDC **26** 06:18:17.2±1.2, 55°.64N×149°.17W, h0km, mb3.7/4, mbtmp3.8/9, ML3.7/5, MS3.1/5, Error ellipse: s-maj=25.0km s-min=20.5km az=43.0*
*NEIC **26** 06:18:17.4±1.4, 55°.66N±0°.10×149°.2W±0°.1, h9km±7km, mb4.0/2, ML4.2/32, ML4.0(AEIC), Error ellipse: s-maj=14.7km s-min=9.3km az=170.0*
*AEIC **26** 06:18:21.7±1.4, 55°.65N±0°.10×149°.2W±0°.1, h10km±7km, Error ellipse: s-maj=14.2km s-min=9.3km az=163.0*
ISC 26 06:18:18.3±0.9, 55°76N±0°.08×149°24W±0°.06, h10km, n170, σ0s89/166, mb3.9/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.68**	**305**	Pn	**Pn**	**06 19 00.6**	**-0.8**
OHAK	**Old Harbor**	**2.68**	**305**		**Sn**	**06 19 32.0**	**-1.9**
OHAK	**Old Harbor**	**2.68**	**305**	P	**Pn**	**06 19 00.9**	**-0.5**
	baz=123						
OHAK				S	**Sn**	**06 19 32.1**	**-1.9**
	baz=123						
KDAK	**Kodiak Island**	**2.74**	**319**		**Pn**	**06 19 02.1**	**-0.1**
KDAK	**Kodiak Island**	**2.74**	**319**		**Sn**	**06 19 33.6**	**-1.7**
KDAK	**Kodiak Island**	**2.74**	**319**	Pn	**Pn**	**06 19 02.3**	**+0.1**
	13nm,0.3s,baz=154,slow=5.0,SNR=78						
KDAK				Sn	**Sn**	**06 19 33.1**	**-2.2**
	48nm,0.3s,baz=25,slow=21,SNR=19						
KDAK				LR	LR	06 19 57.3	
	comp=Z,142nm,19.6s,baz=176,slow=35						
	42nm,0.3s						
SII	**Sitkinak Islan**	**2.88**	**288**		**Pn**	**06 19 03.4**	**-0.8**
SII	**Sitkinak Islan**	**2.88**	**288**	IAML		06 19 40.0	
	comp=E,552nm,0.5s						
SII				IAML		06 19 42.6	
	comp=N,503nm,0.6s						
SII	**Sitkinak Islan**	**2.88**	**288**	P	**Pn**	**06 19 03.4**	**-0.8**
	baz=106						
SII				S	**Sn**	**06 19 36.5**	**-2.4**
	baz=106						
Q20K	**Shuyak Island**	**3.33**	**330**	P	**Pn**	**06 19 10.6**	**+0.2**
	baz=148						
Q20K				S	**Sn**	**06 19 49.7**	**-0.2**
	baz=148						
SYI	**Shuyak Island**	**3.33**	**330**		**Pn**	**06 19 10.6**	**+0.2**
SYI					**Sn**	**06 19 49.7**	**-0.2**
CNPM	**China Poot**	**3.92**	**345**	Pn	**Pn**	**06 19 18.6**	**0.0**
CNPM				IAML		06 20 05.5	
	comp=N,254nm,0.4s						
CNPM				IAML		06 20 09.0	
	comp=E,190nm,1.1s						
CNPM	**China Poot**	**3.92**	**345**		**Sn**	**06 20 03.2**	**-1.5**
Q19K	**Cape Douglas,**	**3.97**	**325**		**Pn**	**06 19 20.1**	**+0.9**
Q19K				IAML		06 20 14.0	
	comp=N,527nm,0.8s						
Q19K	**Cape Douglas,**	**3.97**	**325**		**Sn**	**06 20 04.4**	**-1.4**
Q19K	**Cape Douglas,**	**3.97**	**325**	P	**Pn**	**06 19 20.6**	**+1.4**
	baz=142						
Q23K	**Middleton Isla**	**3.99**	**22**	Pn	**Pn**	**06 19 18.8**	**-0.6**
Q23K				IAML		06 21 28.7	
	comp=N,561nm,2.9s						
Q23K	**Middleton Isla**	**3.99**	**22**	P	**Pn**	**06 19 19.2**	**-0.2**
	baz=203						
MID	**Middleton Isla**	**3.99**	**22**	Pn	**Pn**	**06 19 18.6**	**-0.8**
MID				IAML		06 20 38.2	
	comp=E,604nm,2.3s						
MID				IAML		06 21 08.8	
	comp=N,558nm,2.7s						
BRSE	**Bradley Lake S**	**4.07**	**349**		**Pn**	**06 19 20.4**	**-0.1**
BRSE					**Sn**	**06 20 06.3**	**-1.9**
BRSE	**Bradley Lake S**	**4.07**	**349**	P	**Pn**	**06 19 20.5**	**-0.1**
	baz=166						
KCE	**Katmai Mt Cerb**	**4.09**	**310**		**Pn**	**06 19 21.3**	**+0.4**
BRLK	**Bradley Lake**	**4.11**	**348**		**Pn**	**06 19 20.9**	**-0.2**
BRLK				IAML		06 20 09.6	
	comp=N,136nm,0.4s						
BRLK				IAML		06 20 11.0	
	comp=E,254nm,0.4s						
HOM	**Homer**	**4.12**	**343**		**Sn**	**06 20 09.5**	**+0.3**
ACHA	**Angle Creek He**	**4.14**	**309**		**Pn**	**06 19 22.6**	**+1.1**
ANCK	**Angle Creek**	**4.21**	**308**		**Pn**	**06 19 23.6**	**+1.1**
KVTA	**Katmai Vly 10**	**4.22**	**311**		**Pn**	**06 19 24.1**	**+1.5**
KAHC	**Katmai Hardscr**	**4.27**	**315**		**Pn**	**06 19 24.4**	**+1.0**
KAHC	**Katmai Hardscr**	**4.27**	**315**	P	**Pn**	**06 19 24.4**	**+1.0**
	baz=131						
PLK3	**Peulik 3**	**4.33**	**299**		**Pn**	**06 19 24.6**	**+0.6**
SEW	**Seward**	**4.36**	**359**		**Pn**	**06 19 24.5**	**+0.1**
SEW	**Seward**	**4.36**	**359**	P	**Pn**	**06 19 24.5**	**+0.1**
	baz=178						
P23K	**Montague Islan**	**4.36**	**12**		**Pn**	**06 19 24.3**	**-0.1**
P23K	**Montague Islan**	**4.36**	**12**	P	**Pn**	**06 19 24.4**	**-0.1**
	baz=193						
CNTC	**Contact Creek**	**4.42**	**307**		**Pn**	**06 19 26.0**	**+0.6**
Q17K	**Contact Creek**	**4.42**	**307**	P	**Pn**	**06 19 26.0**	**+0.6**
	baz=123						
P19K	**Oil Pt**	**4.45**	**333**		**Pn**	**06 19 26.3**	**+0.6**
P19K	**Oil Pt**	**4.45**	**333**	IAML		06 20 21.1	
	comp=E,330nm,0.3s						
P19K				IAML		06 20 21.2	
	comp=N,425nm,0.4s						
P19K	**Oil Pt**	**4.45**	**333**	P	**Pn**	**06 19 26.4**	**+0.6**
	baz=150						
PLK1	**Peulik 1**	**4.54**	**300**		**Pn**	**06 19 27.8**	**+0.8**
Q20K	**Slope Mountain**	**4.69**	**339**		**Pn**	**06 19 29.8**	**+0.6**
IVE	**Iliamna Volcan**	**4.72**	**336**		**Pn**	**06 19 29.7**	**+0.2**

SCM	Sheep Creek Mo	6.17	8	P		Pn	06 19 50.6	+1.2	
	baz=190								
VRDI	Verde Repeater	6.26	27			Pn	06 19 50.9	+0.2	
SAMH	Samovar Hills	6.28	42			Pn	06 19 51.5	+0.6	
KIAG	Kiagna River	6.31	32			Pn	06 19 51.6	+0.1	
N25K	Chitina, Valde	6.34	20			Pn	06 19 52.3	+0.5	
N25K	Chitina, Valde	6.34	20	P		Pn	06 19 52.4	+0.7	
	baz=204								
GLB	Gilahina Butte	6.36	24			Pn	06 19 51.9	-0.1	
PCA	Pinnacle	6.46	44			Pn	06 19 53.7	+0.3	
PINM	Pinnacle	6.46	44	P		Pn	06 19 53.7	+0.3	
	baz=231								
PTPK	Patty Peak	6.49	30			Pn	06 19 54.5	+0.5	
MCARA	McCarthy VSAT	6.50	27			Pn	06 19 54.2	+0.3	
MCARA	McCarthy VSAT	6.50	27	P		Pn	06 19 54.6	+0.7	
	baz=212								
M24K	Tolsona, Glenn	6.56	13			Pn	06 19 56.0	+1.2	
M24K	Tolsona, Glenn	6.56	13	P		Pn	06 19 56.4	+1.6	
	baz=195								
PNL	Peninsula	6.56	49			Pn	06 19 54.5	-0.3	
PNL	Peninsula	6.56	49	P		Pn	06 19 54.5	-0.3	
	baz=237								
BCPM	Bancas Point	6.62	47			Pn	06 19 55.9	+0.3	
BARN	Barnard Glacie	6.63	34			Pn	06 19 56.2	+0.3	
O15K	Ungalikthiuk R	6.66	305			Pn	06 19 56.6	+0.6	
CTG	Chitna Glacier	6.67	35	P		Pn	06 19 56.5	+0.2	
	baz=221								
M18K	Stony River	6.69	332			Pn	06 19 56.1	-0.4	
WASW	Wrangell South	6.72	21			Pn	06 19 57.9	+0.8	
WACK	Wrangell Chich	6.74	20			Pn	06 19 58.3	+0.9	
WAT6	Susitna Watana	6.88	6			Pn	06 19 60.0	+0.7	
WAT6	Susitna Watana	6.88	6	P		Pn	06 19 60.0	+0.7	
	baz=187								
HARP	HAARP	6.98	16			Pn	06 20 01.6	+1.1	
M17K	Holitna River	7.09	326			Pn	06 20 02.4	+0.4	
WAT7	Susitna Watana	7.10	1			Pn	06 20 03.3	+1.2	
PN7A	Pavlof North-7	7.24	273			Pn	06 20 03.2	-0.8	
O29M	Mount Kennedy	7.26	47			Pn	06 20 04.8	+0.4	
N15K	Kwethluk River	7.27	312			Pn	06 20 05.5	+1.2	
M16K	Timber Creek	7.34	320			Pn	06 20 05.3	-0.1	
M26K	Nabesna, AK	7.39	23			Pn	06 20 06.6	+0.5	
S31K	Pelican	7.46	67			Pn	06 20 04.6	-2.5	
PAX	Paxson	7.48	13			Pn	06 20 08.7	+1.3	
TRF	Thorofare Moun	7.73	356			Pn	06 20 11.7	+0.8	
M15K	Kasigluk River	7.80	314			Pn	06 20 12.6	+0.9	
R31K	City Hall, Gus	7.82	65			Pn	06 20 11.1	-0.8	
N14K	Kuskokwak Cree	7.84	307			Pn	06 20 13.2	+1.0	
P30M	Million Dollar	7.86	51			Pn	06 20 12.9	+0.4	
BVCY	Beaver Creek	7.94	29			Pn	06 20 15.0	+1.4	
HYT	Haines Junctio	7.99	46	Pn		Pn	06 20 15.1	+0.6	
MCK	McKinley	8.00	1			Pn	06 20 15.7	+1.3	
S32K	Killisnoo	8.27	72			Pn	06 20 15.8	-2.3	
RIDG	Independent Ri	8.30	14			Pn	06 20 19.3	+0.7	
BESE	Bessie Mountai	8.31	64			Pn	06 20 17.6	-1.1	
BPAW	Bear Paw Mtn.	8.41	355			Pn	06 20 21.0	+0.9	
SCRK	Sand Creek	8.65	16			Pn	06 20 24.1	+0.6	
M29M	Somme Creek	8.69	35			Pn	06 20 24.8	+0.8	
NEA2	Nenana	8.86	0			Pn	06 20 26.7	+0.4	
WHY	Whitehorse	9.02	51	Pn		Pn	06 20 29.1	+0.5	
J25K	Salcha River,	9.08	11			Pn	06 20 30.5	+1.2	
ILAR	Eielson Array	9.11	6	Pn		Pn	06 20 31.1	+1.4	
	comp=N,0.6nm,0.3s,baz=188,slow=13,SNR=32								
ILAR				Sn		Sn	06 22 08.9	-3.2	
	comp=N,1.4nm,0.3s,baz=185,slow=22,SNR=12								
ILAR				LR		LR	06 23 49.6		
	comp=N,79nm,18.8s,baz=102,slow=36								
	comp=N,1.5nm,0.5s								
P32M	Atlin	9.15	59	Pn		Pn	06 20 29.8	-0.5	
L29M	L29M	9.28	33	Pn		Pn	06 20 32.5	+0.5	
M30M	Minto, Yukon	9.34	38	Pn		Pn	06 20 33.3	+0.5	
DAWY	Dawson	9.67	27	Pn		Pn	06 20 37.8	+0.5	
H21K	Melozitna Rive	10.08	352			Pn	06 20 44.0	+1.1	
DLBC	Dease Lake	10.78	68	Pn		Pn	06 20 52.0	-0.6	
	comp=N,1.4nm,0.3s,baz=264,slow=6.2,SNR=44								
DLBC				Sn		Sn	06 22 45.3	-7.9	
	comp=N,0.1nm,0.3s,baz=135,slow=20,SNR=1.1								
	comp=N,3.1nm,0.3s								
J30M	Hart River	10.90	31			Pn	06 20 55.4	+1.1	
G23K	Bananza Creek	10.99	358			Pn	06 20 56.1	+0.7	
G31M	Satah River	13.25	26			Pn	06 21 26.6	+0.5	
INK	Inuvik	14.51	24			Pn	06 21 44.0	+0.6	
INK	Inuvik	14.51	24	Pn		Pn	06 21 44.6	+1.2	
	comp=N,0.1nm,0.3s,baz=202,slow=15,SNR=20								
INK				LR		LR	06 27 07.0		
	comp=N,38nm,18.5s,baz=195,slow=36								
	comp=N,7.0nm,0.9s								
B20K	Meade River	14.72	349	Pn		Pn	06 21 46.0	-0.3	
B22K	Teshekpuk Lake	14.75	354	Pn		Pn	06 21 47.3	+0.7	
C36M	Paulatuk	17.68	30	P		Pn	06 22 23.1	-1.1	
C36M				IAmb		IAmb	06 22 27.3		
	comp=Z,10nm,1.1s								
YKA	Yellowknife Ar	18.82	55	P		P	06 22 37.1	-0.6	
YKA	Yellowknife Ar	18.82	55	P		P	06 22 38.5	+0.9	
	comp=Z,0.1nm,0.3s,baz=263,slow=12,SNR=6.3								
	comp=Z,0.8nm,0.7s								
A36M	Sachs Harbour	19.15	23	P		P	06 22 42.3	+1.1	
A36M				IAmb		IAmb	06 22 46.9		
	comp=Z,12nm,0.8s								
YBH	Yreka Blue Hor	22.24	118	LR		LR	06 29 27.8		
	comp=Z,122nm,18.4s,baz=272,slow=30								
NVAR	Mina Array Bea	26.95	117	P		P	06 24 00.2	+0.3	
	comp=Z,0.6nm,0.7s,baz=310,slow=9.5,SNR=5.9								
	comp=Z,0.6nm,0.7s								
TXAR	Lajitas Array	41.62	110	LR		LR	06 42 15.1		
	comp=Z,38nm,18.7s,baz=44,slow=35								
H11N2	WAKE ISLAND Hy	48.65	240	T		T	07 19 26.8		
	baz=31,slow=76,SNR=6.0								
H11N3	WAKE ISLAND Hy	48.65	240	T		T	07 19 25.3		
	baz=31,slow=76,SNR=6.6								
H11N1	WAKE ISLAND Hy	48.66	240	T		T	07 19 31.2		
	baz=31,slow=76,SNR=5.8								
H11S1	WAKE ISLAND Hy	49.78	240	T		T	07 21 45.7		
	baz=28,slow=76,SNR=7.3								
H11S2	WAKE ISLAND Hy	49.80	240	T		T	07 21 53.5		
	baz=28,slow=76,SNR=4.7								
H11S3	WAKE ISLAND Hy	49.80	240	T		T	07 21 50.8		
	baz=28,slow=76,SNR=6.6								
SONM	Songino Array	59.00	310	P		P	06 28 19.8	+2.0	
	comp=Z,0.6nm,0.9s,baz=48,slow=6.4,SNR=2.3								
	comp=Z,0.6nm,0.9s								
ZALV	Zalesovo Beam	62.01	327	P		P	06 28 38.9	+0.7	
	comp=Z,0.5nm,0.5s,baz=15,slow=6.0,SNR=1.9								
	comp=Z,0.5nm,0.5s								
MKAR	Makanchi Array	69.03	325	P		P	06 29 24.2	+0.5	
	comp=Z,0.6nm,0.7s,baz=29,slow=6.1,SNR=5.2								
	comp=Z,0.6nm,0.7s								
PZH	PanZhiHua	78.40	300	P		P	06 30 18.8	-0.3	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,100nm,5.0s								
QSPA	South Pole Qui	145.55	180	PKPbc		PKPdf	06 37 54.9	-0.2	
	comp=Z,1.2nm,0.7s,baz=96,slow=1.0,SNR=2.1								

NNC ***26*** *06:20:12.9±0.3,43.08N×77.43E,h0km,mb3.2,mpv3.6,*
Error ellipse: s-maj=3.8km s-min=1.4km az=0.0
SOME ***26*** *06:20:13.5,43.12N×77.37E,h20km*
KRNET ***26*** *06:20:13.3±0.1,43.12N×77.39E,h21km,mb3.3*
KNET ***26*** *06:20:14.2±0.6,43.08N×77.32E,h24km±3km, ml2.5,Error*
ellipse: s-maj=6.1km s-min=4.1km az=175.0

ISC 26 06:20:14.1±0.9,43.12N±0.02×77.36E±0.01,h14km±7km,
n94,σ1s59/178,34C-24D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOTS	Kotyrbulak	0.21	303	P		Pb	06 20 19.1		-0.8
	89nm,0.1s								
KOTS				S		Sb	06 20 23.0		-0.8
	2µm,0.1s								
KOTS	Kotyrbulak	0.21	303	*e*P		Pb	06 20 19.1		-0.8
	89nm,0.1s								
KOTS				*e*S		Sb	06 20 23.0		-0.8
	2µm,0.1s								
MDOK	Medeo	0.23	282	⇓P		Pb	06 20 19.0		-1.1
	4.2nm,0.3s								
MDOK				Pg		Pb	06 20 19.1		-1.1
	28nm,0.1s								
MDOK				Lg		Lg	06 20 23.1		
	277nm,0.2s								
MDOK				⇑S		Sb	06 20 23.2		-1.1
	285nm,0.5s								
MDOK	Medeo	0.23	282	*e*P		Pb	06 20 19.1		-1.1
	28nm,0.1s								
MDOK				*e*S		Sb	06 20 23.1		-1.1
	277nm,0.2s								
MDOK	Medeo	0.23	282	*e*P		Pb	06 20 19.1		-1.1
	baz=80								
MDOK				*e*S		Sb	06 20 23.1		-1.1
	baz=80								
KNDC	Almaty	0.30	289	⇓P		Pg	06 20 20.5		+0.1
	38nm,0.4s								
KNDC				⇓S		Sg	06 20 25.7		+1.0
	317nm,0.2s								
TNSS	Tian-Shan	0.31	255	P		Pg	06 20 20.4		-0.2
	48nm,0.1s								
TNSS				S		Sb	06 20 25.5		-1.3
	347nm,0.1s								
TNSS	Tian-Shan	0.31	255	*e*P		Pg	06 20 20.4		-0.2
	48nm,0.1s								
TNSS				*e*S		Sb	06 20 25.5		-1.3
	347nm,0.1s								
TNSS	Tian-Shan	0.31	255	*e*P		Pg	06 20 20.5		-0.2
	baz=57								
TNSS				*e*S		Sb	06 20 25.5		-1.3
	baz=57								
AAA	Alma-Ata	0.34	286	P		Pg	06 20 20.9		-0.1
	102nm,0.1s								
AAA				S		Sg	06 20 26.1		+0.4
	791nm,0.1s								
AAA	Alma-Ata	0.34	286	*e*P		Pg	06 20 20.9		-0.1
	102nm,0.1s								
AAA				*e*S		Sg	06 20 26.1		+0.4
	791nm,0.1s								
AAA	Alma-Ata	0.34	286	*e*P		Pg	06 20 20.9		-0.1
	baz=84								
AAA				*e*S		Sg	06 20 26.1		+0.4
	baz=84								
ANVS	Anan'yevo	0.40	146	⇓*i*P		Pg	06 20 21.1		-1.1
	baz=49								
ANVS				⇓*i*S		Sg	06 20 26.9		-0.8
	baz=49								
IZV	Izvestkoviy	0.55	262	P		Pb	06 20 24.5		-1.1
	12nm,0.1s								
IZV				S		Sb	06 20 32.3		-1.2
	117nm,0.1s								
IZV	Izvestkoviy	0.55	262	*e*P		Pb	06 20 24.5		-1.1
	12nm,0.1s								
IZV				*e*S		Sb	06 20 32.3		-1.2
	117nm,0.1s								
IZV	Izvestkoviy	0.55	262	*e*P		Pb	06 20 24.5		-1.1
	baz=62								
IZV				*e*S		Sb	06 20 32.3		-1.2
	baz=62								
MTBS	Maitube	0.68	271	P		Pb	06 20 26.7		-1.1
	6.9nm,0.1s								
MTBS				S		Sb	06 20 36.0		-1.1
	62nm,0.1s								
MTBS	Maitube	0.68	271	*e*P		Pb	06 20 26.7		-1.1
	6.9nm,0.1s								
MTBS				*e*S		Sb	06 20 36.0		-1.1
	62nm,0.1s								
MTBS	Maitube	0.68	271	*e*P		Pb	06 20 26.7		-1.1
	baz=71								
MTBS				*e*S		Sb	06 20 36.0		-1.1
	baz=71								
KURS	Kuram	0.70	58	P		Pb	06 20 26.4		-1.7
	6.6nm,0.1s								
KURS				S		Sb	06 20 35.6		-2.1
	44nm,0.1s								
KURS	Kuram	0.70	58	*e*P		Pb	06 20 26.4		-1.7
	6.6nm,0.1s								
KURS				*e*S		Sb	06 20 35.6		-2.1
	44nm,0.1s								
KURS	Kuram	0.70	58	*e*P		Pb	06 20 26.4		-1.7
	baz=57								
KURS				*e*S		Sb	06 20 35.6		-2.1
	baz=57								
SATY	Saty	0.77	94	P		Pb	06 20 27.3		-2.0
	22nm,0.1s								
SATY				S		Sb	06 20 37.3		-2.5
	561nm,0.1s								
SATY	Saty	0.77	94	*e*P		Pb	06 20 27.3		-2.0
	22nm,0.1s								
SATY				*e*S		Sb	06 20 37.2		-2.5
	561nm,0.1s								
SATY	Saty	0.77	94	*e*P		Pb	06 20 27.3		-2.0
	baz=94								
SATY				*e*S		Sb	06 20 37.2		-2.5
	baz=94								
KTBS	Karatobe	0.77	321	P		Pb	06 20 28.3		-1.1
	76nm,0.1s								
KTBS				S		Sb	06 20 38.8		-0.9
	205nm,0.1s								
KTBS	Karatobe	0.77	321	*e*P		Pb	06 20 28.3		-1.1
	76nm,0.1s								
KTBS				*e*S		Sb	06 20 38.8		-0.9
	205nm,0.1s								
KTBS	Karatobe	0.77	321	*e*P		Pb	06 20 28.3		-1.1
	baz=19								
KTBS				*e*S		Sb	06 20 38.9		-0.9
	baz=19								
CHKK	Chushkaly	0.79	340	P		Pb	06 20 28.3		-1.2
	83nm,0.1s								
CHKK				S		Sb	06 20 38.9		-1.2
	335nm,0.1s								
CHKK	Chushkaly	0.79	340	*e*P		Pb	06 20 28.3		-1.2
	83nm,0.1s								
CHKK				*e*S		Sb	06 20 38.9		-1.2
	335nm,0.1s								
CHKK	Chushkaly	0.79	340	*e*P		Pb	06 20 28.3		-1.2
	baz=39								
CHKK				*e*S		Sb	06 20 38.9		-1.2
	baz=39								
ZHN	Zhinishke	0.79	86	P		Pb	06 20 27.6		-2.1
	28nm,0.1s								
ZHN				S		Sb	06 20 37.7		-2.6
	472nm,0.1s								
ZHN	Zhinishke	0.79	86	*e*P		Pb	06 20 27.6		-2.1
	28nm,0.1s								
ZHN				*e*S		Sb	06 20 37.7		-2.6
	472nm,0.1s								
ZHN	Zhinishke	0.79	86	*e*P		Pb	06 20 27.6		-2.1
	baz=86								
ZHN				*e*S		Sb	06 20 37.7		-2.6
	baz=86								
KDJ	Kajisay	0.99	188	⇑*i*P		Pb	06 20 32.0		-1.2
	baz=88								
KDJ				⇑*i*S		Sb	06 20 45.2		-1.0
	baz=88								
PRZ	Przheval'sk	0.99	129	⇓*i*P		Pb	06 20 31.5		-1.7
	baz=30								
PRZ				⇓*i*S		Sb	06 20 44.5		-1.7
	baz=30								
KST	Kastek	1.02	266	P		Pb	06 20 33.0		-0.7
	7.3nm,0.1s								
KST				S		Sb	06 20 46.8		-0.2
	36nm,0.1s								
KST	Kastek	1.02	266	*e*P		Pb	06 20 33.0		-0.7
	7.3nm,0.1s								
KST				*e*S		Sb	06 20 46.8		-0.2
	36nm,0.1s								
KST	Kastek	1.02	266	*e*P		Pb	06 20 33.0		-0.7
	baz=66								
KST				*e*S		Sb	06 20 46.9		-0.2
	baz=66								
KPKS	Kokpek	1.03	70	P		Pb	06 20 32.1		-1.6
	23nm,0.1s								
KPKS				S		Sb	06 20 45.4		-1.8
	94nm,0.2s								
KPKS	Kokpek	1.03	70	*e*P		Pb	06 20 32.1		-1.6
	23nm,0.1s								
KPKS				*e*S		Sb	06 20 45.4		-1.8
	94nm,0.2s								
KPKS	Kokpek	1.03	70	*e*P		Pb	06 20 32.1		-1.6
	baz=69								
KPKS				*e*S		Sb	06 20 45.4		-1.8
	baz=69								
ARXS	Arharly	1.15	17	P		Pn	06 20 34.3		-1.6
	47nm,0.1s								
ARXS				S		Sb	06 20 49.2		-1.4
	117nm,0.1s								
ARXS	Arharly	1.15	17	*e*P		Pn	06 20 34.3		-1.6
	47nm,0.1s								
ARXS				*e*S		Sb	06 20 49.1		-1.4
	117nm,0.1s								
DGS	Degeres	1.17	277	P		Pn	06 20 35.1		-1.0
	10nm,0.1s								
DGS				S		Sb	06 20 50.5		-0.7
	77nm,0.2s								
DGS	Degeres	1.17	277	*e*P		Pn	06 20 35.1		-1.0
	10nm,0.1s								
DGS				*e*S		Sb	06 20 50.5		-0.7
	77nm,0.2s								
ULHL	Ulahol	1.20	224	⇓P		Pn	06 20 35.6		-1.0
	14nm,0.1s,SNR=5.9								
ULHL				⇑S		Sn	06 20 51.7		-1.1
	70nm,0.1s								
ULHL	Ulahol	1.20	224	⇑*i*P		Pn	06 20 35.9		-0.7
	baz=25								
ULHL				⇑*i*S		Sn	06 20 52.0		-0.8
	baz=25								
BOOM	Boomskoye usch	1.22	240	⇑*i*P		Pn	06 20 36.0		-0.9
	baz=40								
BOOM				⇑*i*S		Sn	06 20 52.8		-0.4
	baz=40								
UZB	Uzynbulak	1.22	88	P		Pn	06 20 35.7		-1.2
	16nm,0.1s								
UZB				S		Sb	06 20 51.4		-1.2
	82nm,0.1s								
UZB	Uzynbulak	1.22	88	*e*P		Pn	06 20 35.7		-1.2
	16nm,0.1s								
UZB				*e*S		Sb	06 20 51.4		-1.2
	82nm,0.1s								
UZB	Uzynbulak	1.22	88	*e*P		Pn	06 20 35.7		-1.2
	baz=88								
UZB				*e*S		Sb	06 20 51.5		-1.2
	baz=88								
BLB	Baldybastay	1.27	39	P		Pn	06 20 36.4		-1.3
	33nm,0.1s								
BLB				S		Sb	06 20 52.7		-1.5
	51nm,0.2s								
TKM2	Tokmak 2	1.31	262	⇑P		Pn	06 20 37.9		-0.3
	6.1nm,0.1s,SNR=90								
TKM2				⇑S		Sg	06 20 56.2		-0.1
	121nm,0.1s								
TKM2	Tokmak 2	1.31	262	⇓P		Pn	06 20 37.6		-0.5
	1.5nm,0.2s								
TKM2				⇑S		Sb	06 20 55.3		+0.1
	30nm,0.3s								
TKM2	Tokmak 2	1.31	262	⇑*i*P		Pn	06 20 37.7		-0.5
	baz=62								
TKM2				⇑*i*S		Sb	06 20 55.6		+0.3
	baz=62								
KRBS	Karabastau	1.36	296	P		Pn	06 20 38.2		-0.4
	22nm,0.1s								
KRBS				S		Sb	06 20 56.1		-0.4
	109nm,0.1s								
KRBS	Karabastau	1.36	296	*e*P		Pn	06 20 38.2		-0.4
	22nm,0.1s								
KRBS				*e*S		Sb	06 20 56.1		-0.4
	109nm,0.1s								
TARG	Taragay, Kyrgy	1.43	166	⇓*i*P		Pb	06 20 39.6		-1.1
	baz=68								
TARG				⇓*i*S		Sb	06 20 58.6		-0.3
	baz=68								
SHLS	Shalkode	1.54	88	P		Pg	06 20 46.6		+2.9
	8.3nm,0.1s								
SHLS				S		Sg	06 21 10.3		+6.6
	32nm,0.2s								
SHLS	Shalkode	1.54	88	*e*P		Pg	06 20 46.6		+2.9
	8.3nm,0.1s								
SHLS				*e*S		Sg	06 21 10.3		+6.6
	32nm,0.2s								
SHLS	Shalkode	1.54	88	*e*P		Pg	06 20 46.6		+2.9
	baz=88								
SHLS				*e*S		Sg	06 21 10.3		+6.6
	baz=88								
PDGK	Podgornoye	1.57	82	P		Pb	06 20 41.8		-1.3
	2.9nm,0.2s								
PDGK				S		Sb	06 21 01.8		-1.0
	13nm,0.1s								
KNOS	Konyrlen	1.81	46	P		Pb	06 20 46.4		-0.7
	10nm,0.1s								
KNOS				S		Sb	06 21 09.9		+0.2
	56nm,0.2s								
KBK	Karagaybulak	1.83	256	⇓P		Pb	06 20 46.5		-0.9
	18nm,0.1s,SNR=29								
KBK				⇑S		Sg	06 21 12.1		-0.9
	59nm,0.2s								
KBK	Karagaybulak	1.83	256	⇑*i*P		Pb	06 20 46.9		-0.5
	baz=56								
KBK				⇑*i*S		Sb	06 21 10.9		+0.6
	baz=56								
CHMS	Chumysh	1.91	267	⇑P		Pb	06 20 47.4		-1.4
	10nm,0.2s,SNR=14								
CHMS				⇓S		Sb	06 21 13.6		+1.0
	64nm,0.2s								
CHMS	Chumysh	1.91	267	⇑Pn		Pb	06 20 47.3		-1.4
	1.9nm,0.2s								
CHMS				⇑Sn		Sb	06 21 13.3		+0.7
	10nm,0.2s								
CHMS	Chumysh	1.91	267	⇑*i*P		Pb	06 20 48.2		-0.6
	baz=67								
CHMS				⇑*i*S		Sb	06 21 12.7		+0.1
	baz=67								
NRN	Naryn	1.96	211	⇑*i*P		Pb	06 20 49.1		-0.7
	baz=12								
NRN				⇑*i*S		Sb	06 21 14.3		+0.1
	baz=12								
TDK	Taldyqorghan	2.03	21	Pg		Pb	06 20 50.2		-0.6
	27nm,0.1s								
TDK				Lg		Lg	06 21 16.2		
	144nm,0.2s								
TDK	Taldyqorghan	2.03	21	*e*P		Pb	06 20 50.2		-0.6
	27nm,0.1s								
TDK				*e*S		Sb	06 21 16.2		+0.3
	144nm,0.2s								
USP	Ospenovka	2.10	275	⇑P		Pn	06 20 49.5		+0.6
	10.0nm,0.2s,SNR=36								
USP				⇑S		Sb	06 21 17.8		0.0
	43nm,0.2s								
USP	Ospenovka	2.10	275	⇓*i*P		Pb	06 20 50.5		-1.4
	baz=75								
USP				⇓*i*S		Sb	06 21 17.1		-0.7
	baz=75								
DJR	Jarkent	2.14	55	Pg		Pb	06 20 52.0		-0.8
	3.3nm,0.1s								
DJR				Lg		Lg	06 21 19.6		
	41nm,0.2s								
DJR	Jarkent	2.14	55	*e*P		Pb	06 20 52.0		-0.8
	3.3nm,0.1s								
DJR				*e*S		Sb	06 21 19.6		+0.5
	41nm,0.2s								
AAK	Ala-Archa	2.16	258	⇑P		Pb	06 20 51.7		-1.4
	4.2nm,0.2s,SNR=6.3								
AAK				⇓S		Sb	06 21 20.4		+0.6
	18nm,0.3s								
AAK	Ala-Archa	2.16	258	⇑*i*P		Pb	06 20 51.9		-1.1
	baz=58								
AAK				⇑*i*S		Sb	06 21 18.8

MRKS					*e*S		**Sb**	**06 21 48.8**	**+3.2**
	12nm,0.2s								
BTLS	**Baital**	**3.06**	**310**		Pg		**Pb**	**06 21 09.4**	**+1.0**
	3.0nm,0.1s								
BTLS					Lg		Lg	06 21 49.4	
	6.2nm,0.1s								
BTLS	**Baital**	**3.06**	**310**		*e*P		**Pb**	**06 21 09.4**	**+1.0**
	3.0nm,0.1s								
BTLS					*e*S		**Sg**	**06 21 49.4**	**-3.1**
	6.2nm,0.1s								
MAKZ	**Makanchi**	**4.94**	**40**	⇓	Pg		**Pg**	**06 21 44.9**	**-3.6**
	0.9nm,0.6s								
MAKZ				⇓	Lg		Lg	06 22 51.3	
	2.1nm,0.8s								
KK31	**Karatay Array**	**5.01**	**272**	⇑	Lg		Lg	06 22 54.5	
	1.8nm,0.5s,baz=85,slow=29,SNR=4.6								
MK31	**Makanchi Array**	**5.08**	**42**	⇑	Pn		**Pn**	**06 21 29.9**	**+0.2**
	0.1nm,0.2s,baz=219,slow=14,SNR=9.9								
MK31					Sn		**Sn**	**06 22 29.6**	**+1.4**
	1.0nm,0.5s,baz=216,slow=25,SNR=4.3								
MK31				⇑	Lg		Lg	06 22 53.8	
	2.8nm,0.8s								

CFUSG ***26*** *06:32:34.5, 43.99N×38.49E, h10km, mb3.1/5, Black Sea Magtype MSH 3.1 from 3 stations*
MOS ***26*** *06:32:34.0, 44.14N×38.66E, h14km, MPVA3.8*
ISC 26 06:32:33.9±1.2, 44.08N±0.04×38.60E±0.02, h10km±9km, n49, σ0.95/82, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GOYR	**Goytkh**	**0.58**	**73**	*i* Pg	**Pg**		**06 32 45.3**	**+0.1**
GOYR				*e*Sg	**Sg**		**06 32 52.5**	**-0.4**
GOYR	**Goytkh**	**0.58**	**73**	*c i* PG	**Pg**		**06 32 45.3**	**+0.1**
GELR	**Gelenjik**	**0.67**	**319**	*e*Pg	**Pn**		**06 32 48.7**	**-0.7**
GELR				*e*Sg	**Sb**		**06 32 57.0**	**0.0**
GELR	**Gelenjik**	**0.67**	**319**	*e*PG	**Pn**		**06 32 48.7**	**-0.7**
GELR				*e*S	**Sb**		**06 32 57.0**	**0.0**
SPGR	**Shapsug**	**0.76**	**330**	*i* Pg	**Pg**		**06 32 49.0**	**+0.4**
SPGR				*i* Sg	**Sb**		**06 33 00.6**	**+0.9**
SPGR	**Shapsug**	**0.76**	**330**	*e*PG	**Pb**		**06 32 49.2**	**-0.1**
SPGR				*e*S	**Sb**		**06 33 00.4**	**+0.7**
SPGR				pmax	pmax			
	comp=Z,53nm,0.1s							
SPGR				smax	smax			
	comp=N,238nm,0.2s							
SOC	**Sochi**	**0.95**	**121**	*i* Pg	**Pn**		**06 32 53.1**	**-0.2**
SOC				*i* Sg	**Sn**		**06 33 07.0**	**+0.2**
SOC	**Sochi**	**0.95**	**121**	*e*PG	**Pg**		**06 32 52.1**	**0.0**
SOC				*e*			06 33 04.6	
SOC				pmax	pmax			
	comp=Z,44nm,0.4s							
SOC				smax	smax			
	comp=N,334nm,0.4s							
SOC				smax	smax			
	comp=E,376nm,0.4s							
GUZR	**Guzeripl'**	**1.09**	**94**	*i* Pg	**Pb**		**06 32 54.4**	**-0.6**
GUZR				*i* Sg	**Sg**		**06 33 09.1**	**-0.1**
GUZR	**Guzeripl'**	**1.09**	**94**	*i* PG	**Pb**		**06 32 54.4**	**-0.6**
GUZR				*i* S	**Sg**		**06 33 09.1**	**-0.1**
ANN	**Anapa**	**1.11**	**311**	*i* Pg	**Pn**		**06 32 56.6**	**+1.1**
ANN				*i* Sg	**Sn**		**06 33 13.1**	**+2.4**
ANN	**Anapa**	**1.11**	**311**	*e*PG	**Pn**		**06 32 56.7**	**+1.3**
ANN				*e*S	**Sn**		**06 33 12.8**	**+2.1**
ANN				smax	smax			
	comp=E,279nm,0.3s							
VSLR	**Vesyoloye**	**1.21**	**120**	*i* Pg	**Pn**		**06 32 56.7**	**-0.1**
VSLR				*i* Sg	**Sn**		**06 33 13.4**	**+0.2**
VSLR	**Vesyoloye**	**1.21**	**120**	*d i* PG	**Pn**		**06 32 56.7**	**-0.1**
RPOR	**Krasnaya Polya**	**1.26**	**107**	*i* Pg	**Pn**		**06 32 57.3**	**-0.3**
RPOR				*e*Sg	**Sb**		**06 33 14.2**	**+0.2**
RPOR	**Krasnaya Polya**	**1.26**	**107**	*e*PG	**Pn**		**06 32 57.3**	**-0.3**
RPOR				*e*S	**Sn**		**06 33 14.5**	**-0.1**
ARXR	**Arkhyz**	**2.00**	**104**	*e*Pg	**Pn**		**06 33 06.9**	**-1.0**
ARXR				*e*Sg	**Sn**		**06 33 33.4**	**+0.4**
ARXR	**Arkhyz**	**2.00**	**104**	*e*PN	**Pn**		**06 33 06.9**	**-1.0**
ERBR	**Yeremizino-Bor**	**2.11**	**39**	*e*Pg	**Pn**		**06 33 08.5**	**-0.8**
ERBR				*e*Sg	**Sn**		**06 33 35.0**	**-0.5**
ERBR	**Yeremizino-Bor**	**2.11**	**39**	*e*PN	**Pn**		**06 33 08.5**	**-0.8**
FEO	**Feodosiya**	**2.48**	**293**	*e*Pn	**Pn**		**06 33 15.0**	**+0.7**
FEO				*e*Sn	**Sn**		**06 33 43.4**	**-1.3**
FEO	**Feodosiya**	**2.48**	**293**	*e*S	**Sn**		**06 33 43.4**	**-1.3**
FEO				Sm			06 33 46.8	
	comp=N,47nm,0.3s							
FEO				Sm			06 33 46.8	
	comp=E,16nm,0.3s							
FEO	**Feodosiya**	**2.48**	**293**	*e*PN	**Pn**		**06 33 15.0**	**+0.7**
FEO				*e*S	**Sn**		**06 33 43.4**	**-1.3**
SUDU	**Sudak**	**2.70**	**289**	*e*Pn	**Pn**		**06 33 16.7**	**-0.7**
SUDU				*e*Sn	**Sn**		**06 33 49.2**	**-0.9**
SUDU	**Sudak**	**2.70**	**289**	*e*P	**Pn**		**06 33 16.7**	**-0.7**
SUDU				Pm			06 33 17.4	
	comp=Z,5.0nm,0.2s							
SUDU				*e*S	**Sn**		**06 33 49.2**	**-0.9**
SUDU				Sm			06 33 50.8	
	comp=N,36nm,0.3s							
SUDU				Sm			06 33 50.8	
	comp=E,9.0nm,0.3s							
SUDU	**Sudak**	**2.70**	**289**	*e*PN	**Pn**		**06 33 16.7**	**-0.7**
SUDU				*e*S	**Sn**		**06 33 49.2**	**-0.9**
KIV	**Kislovodsk**	**2.95**	**91**	*i* PN	**Pn**		**06 33 21.1**	**+0.2**
SHA1	**Shidzhatmaz**	**2.95**	**95**	*e*Pn	**Pn**		**06 33 22.8**	**+1.8**
SHA1				*e*Sn	**Sn**		**06 33 56.7**	**+0.1**
SHA1	**Shidzhatmaz**	**2.95**	**95**	*e*PN	**Pn**		**06 33 22.8**	**+1.8**
SHA1				*e*S	**Sn**		**06 33 56.7**	**+0.1**
BEYR	**Belyy Ugol+**	**3.04**	**90**	*e*Pn	**Pn**		**06 33 22.2**	**+0.1**
BEYR				*e*Sn	**Sn**		**06 33 59.8**	**+1.3**
BEYR	**Belyy Ugol+**	**3.04**	**90**	*e*PN	**Pn**		**06 33 22.2**	**+0.1**
BEYR				*e*S	**Sn**		**06 33 59.8**	**+1.3**
ALU	**Alushta**	**3.07**	**283**	*e*Pn	**Pn**		**06 33 21.4**	**-1.0**
ALU				*e*Sn	**Sn**		**06 33 58.7**	**-0.5**
ALU	**Alushta**	**3.07**	**283**	*e*P	**Pn**		**06 33 21.4**	**-1.0**
ALU				Pm			06 33 26.3	
	comp=Z,6.0nm,0.3s							
ALU				*e*S	**Sn**		**06 33 58.7**	**-0.5**
ALU				Sm			06 33 59.2	
	comp=N,71nm,0.3s							
ALU	**Alushta**	**3.07**	**283**	*e*PN	**Pn**		**06 33 21.4**	**-1.0**
ALU				*e*S	**Sn**		**06 33 58.7**	**-0.5**
NEUR	**Neytrino**	**3.08**	**104**	*e*Pn	**Pn**		**06 33 24.2**	**+1.4**
NEUR				*e*Sn	**Sn**		**06 34 00.0**	**+0.2**
NEUR	**Neytrino**	**3.08**	**104**	*e*PN	**Pn**		**06 33 24.2**	**+1.4**
NEUR				*e*S	**Sn**		**06 34 00.0**	**+0.2**
KBZ	**Khabaz**	**3.12**	**95**	*e*Pn	**Pn**		**06 33 22.6**	**-0.5**
KBZ				*e*Sn	**Sn**		**06 33 59.9**	**-0.6**
KBZ	**Khabaz**	**3.12**	**95**	*i* PN	**Pn**		**06 33 22.6**	**-0.5**
ALER	**Alexandrovskoy**	**3.16**	**76**	*e*Pn	**Pn**		**06 33 24.4**	**+0.7**
ALER				*e*Sn	**Sn**		**06 34 00.1**	**-1.4**
ALER	**Alexandrovskoy**	**3.16**	**76**	*e*PN	**Pn**		**06 33 24.4**	**+0.7**
ALER				*e*S	**Sn**		**06 34 00.1**	**-1.4**
SEV	**Sevastopol'**	**3.57**	**279**	*e*P	**Pn**		**06 33 28.5**	**-0.8**
SEV				Pm			06 33 30.2	
	comp=Z,3.0nm,0.3s							
SEV				*i* S	**Sn**		**06 34 09.9**	**-1.7**
SEV				Sm			06 34 11.9	
	comp=N,6.0nm,0.2s							
SEV				Sm			06 34 11.9	
	comp=E,2.0nm,0.2s							
TARU	**Tarkhankut**	**4.52**	**289**	*e*S	**Sn**		**06 34 33.5**	**-1.3**
TARU				Sm			06 34 34.7	
	comp=N,11nm,0.4s							
TARU				Sm			06 34 34.7	
	comp=E,11nm,0.2s							
BR131	**Keskin Array S**	**5.71**	**222**	*i* P	**Pn**		**06 33 59.5**	**+0.6**
BRTR	**Keskin Array B**	**5.71**	**222**	*i* P	**Pn**		**06 34 00.8**	**+1.9**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKBB	**Malin Array Si**	**9.18**	**319**	*i* P	**Pn**		**06 34 48.4**	**+2.1**
OBN	**Obninsk**	**11.12**	**354**	*e*P	**Pn**		**06 35 13.0**	**+0.2**
OBN				pmax	pmax			
	comp=Z,9.0nm,0.5s							
ARU	**Arti**	**17.68**	**39**	*i* P	**Pn**		**06 36 40.0**	**0.0**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**18.91**	**341**	*i* P	**P**		**06 36 53.0**	**-1.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**27.62**	**62**	*i* P	**P**		**06 38 22.1**	**+0.8**
KURK				pmax	pmax			
	comp=Z,5.0nm,1.6s							

NEIC ***26*** *06:33:12.8±1.6, 55.81N×0.10×149.9W×0.1, h8km±7km, mb3.9/2, ML3.9/32, ML3.7(AEIC), Error ellipse: s-maj=14.2km s-min=8.2km az=167.0*
AEIC ***26*** *06:33:17.9±1.7, 55.85N×0.08×149.8W×0.1, h10km±7km, Error ellipse: s-maj=11.7km s-min=9.2km az=159.0*
ISC 26 06:33:13.8±1.5, 55.91N×0.10×149.98W±0.06, h10km, n179, σ0.85/181, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
OHAK	**Old Harbor**	**2.26**	**307**	Pn	**Pn**		**06 33 51.4**	**+0.2**
OHAK	**Old Harbor**	**2.26**	**307**		**Sn**		**06 34 18.2**	**-0.8**
OHAK	**Old Harbor**	**2.26**	**307**	P	**Pn**		**06 33 51.5**	**+0.4**
	baz=126							
OHAK				S	**Sn**		**06 34 18.2**	**-0.8**
	baz=126							
KDAK	**Kodiak Island**	**2.36**	**324**	Pn	**Pn**		**06 33 53.2**	**+0.6**
KDAK	**Kodiak Island**	**2.36**	**324**		**Sn**		**06 34 21.3**	**-0.4**
SII	**Sitkinak Islan**	**2.44**	**287**		**Pn**		**06 33 54.5**	**+0.8**
SII					**Sn**		**06 34 22.1**	**-1.5**
SII	**Sitkinak Islan**	**2.44**	**287**	IAML			06 34 29.2	
	comp=E,465nm,0.4s							
SII				IAML			06 34 30.6	
	comp=N,397nm,0.6s							
SII	**Sitkinak Islan**	**2.44**	**287**	P	**Pn**		**06 33 54.5**	**+0.8**
	baz=106							
SII				S	**Sn**		**06 34 22.1**	**-1.5**
	baz=106							
SYI	**Shuyak Island**	**3.01**	**335**	Pn	**Pn**		**06 34 02.3**	**+0.8**
SYI	**Shuyak Island**	**3.01**	**335**		**Sn**		**06 34 37.0**	**-0.5**
Q20K	**Shuyak Island**	**3.01**	**335**	P	**Pn**		**06 34 02.0**	**+0.5**
	baz=153							
Q20K				S	**Sn**		**06 34 37.0**	**-0.5**
	baz=153							
Q19K	**Cape Douglas,**	**3.62**	**328**		**Pn**		**06 34 11.3**	**+1.4**
Q19K				IAML			06 35 10.5	
	comp=N,405nm,0.9s							
Q19K	**Cape Douglas,**	**3.62**	**328**	P	**Pn**		**06 34 11.2**	**+1.3**
	baz=146							
CNPM	**China Poot**	**3.69**	**350**	Pn	**Pn**		**06 34 10.8**	**-0.1**
CNPM				IAML			06 34 55.4	
	comp=N,133nm,0.3s							
CNPM				IAML			06 34 55.4	
	comp=E,129nm,0.6s							
CNPM	**China Poot**	**3.69**	**350**		**Sn**		**06 34 53.0**	**-1.4**
BRSE	**Bradley Lake S**	**3.87**	**354**		**Pn**		**06 34 13.1**	**-0.2**
BRSE					**Sn**		**06 34 56.9**	**-1.9**
BRSE	**Bradley Lake S**	**3.87**	**354**	P	**Pn**		**06 34 13.1**	**-0.2**
	baz=173							
BRSE				S	**Sn**		**06 34 56.9**	**-1.9**
	baz=173							
BRLK	**Bradley Lake**	**3.90**	**353**		**Pn**		**06 34 13.3**	**-0.5**
BRLK				IAML			06 35 03.4	
	comp=N,88nm,0.5s							
BRLK				IAML			06 35 05.3	
	comp=E,100nm,1.0s							
CNTC	**Contact Creek**	**4.00**	**309**		**Pn**		**06 34 15.8**	**+0.7**
Q17K	**Contact Creek**	**4.00**	**309**	P	**Pn**		**06 34 15.8**	**+0.7**
	baz=124							
Q23K	**Middleton Isla**	**4.03**	**27**	Pn	**Pn**		**06 34 15.1**	**-0.4**
Q23K				IAML			06 36 56.8	
	comp=N,192nm,1.3s							
Q23K	**Middleton Isla**	**4.03**	**27**	P	**Pn**		**06 34 15.0**	**-0.5**
	baz=209							
MID	**Middleton Isla**	**4.03**	**27**	Pn	**Pn**		**06 34 15.0**	**-0.5**
MID				IAML			06 36 56.8	
	comp=N,278nm,1.5s							
P19K	**Oil Pt**	**4.14**	**336**		**Pn**		**06 34 17.8**	**+0.7**
P19K	**Oil Pt**	**4.14**	**336**	IAML			06 35 10.9	
	comp=N,219nm,0.4s							
P19K	**Oil Pt**	**4.14**	**336**	P	**Pn**		**06 34 17.8**	**+0.7**
	baz=154							
P23K	**Montague Islan**	**4.32**	**17**		**Pn**		**06 34 19.4**	**-0.1**
P23K	**Montague Islan**	**4.32**	**17**	P	**Pn**		**06 34 19.4**	**-0.1**
	baz=195							
O20K	**Slope Mountain**	**4.42**	**342**		**Pn**		**06 34 21.3**	**+0.4**
O20K	**Slope Mountain**	**4.42**	**342**	P	**Pn**		**06 34 21.3**	**+0.4**
	baz=160							
IVE	**Iliamna Volcan**	**4.43**	**340**		**Pn**		**06 34 21.3**	**+0.3**
P18K	**Big Mountain,**	**4.49**	**323**		**Pn**		**06 34 22.4**	**+0.5**
P18K	**Big Mountain,**	**4.49**	**323**	P	**Pn**		**06 34 22.3**	**+0.5**
	baz=139							
ANNW	**Aniakchak Nort**	**4.70**	**286**		**Pn**		**06 34 25.0**	**+0.3**
RED	**Redoubt Volcan**	**4.76**	**343**		**Pn**		**06 34 25.4**	**-0.2**
P17K	**Kvichak River**	**4.79**	**316**		**Pn**		**06 34 26.5**	**+0.6**
P17K	**Kvichak River**	**4.79**	**316**	P	**Pn**		**06 34 26.5**	**+0.6**
	baz=131							
O18K	**Koktuh Hills**	**4.84**	**327**		**Pn**		**06 34 27.5**	**+0.8**
O18K				IAML			06 35 24.6	
	comp=N,52nm,1.4s							
O18K				IAML			06 35 38.3	
	comp=E,56nm,0.8s							
O18K	**Koktuh Hills**	**4.84**	**327**	P	**Pn**		**06 34 26.9**	**+0.2**
	baz=143							
RDT	**Redoubt**	**4.85**	**346**		**Pn**		**06 34 26.7**	**-0.1**
HIN	**Hinchinbrook I**	**4.86**	**21**		**Pn**		**06 34 26.9**	**-0.1**
HIN	**Hinchinbrook I**	**4.86**	**21**	IAML			06 35 21.6	
	comp=E,120nm,1.0s							
HIN				IAML			06 35 29.6	
	comp=N,78nm,1.3s							
O19K	**Port Alsworth**	**4.88**	**334**		**Pn**		**06 34 27.5**	**+0.4**
O19K	**Port Alsworth**	**4.88**	**334**	P	**Pn**		**06 34 27.4**	**+0.2**
	baz=150							
DFR	**Drift River**	**4.91**	**344**		**Pn**		**06 34 27.6**	**-0.1**
NCT	**North Crescent**	**4.92**	**343**		**Pn**		**06 34 27.8**	**0.0**
KAIM	**Kayak Island**	**5.00**	**34**	Pn	**Pn**		**06 34 28.8**	**0.0**
KAIM	**Kayak Island**	**5.00**	**34**	P	**Pn**		**06 34 27.9**	**-0.9**
	baz=218							
EYAK	**Cordova Ski Ar**	**5.16**	**24**		**Pn**		**06 34 30.6**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.16**	**24**	P	**Pn**		**06 34 30.6**	**-0.4**
	baz=207							
RC01	**Rabbit Creek A**	**5.20**	**1**		**Pn**		**06 34 31.3**	**-0.3**
RC01	**Rabbit Creek A**	**5.20**	**1**	IAML			06 35 33.1	
	comp=E,82nm,0.4s							
RC01				IAML			06 35 33.9	
	comp=N,62nm,0.4s							
RC01	**Rabbit Creek A**	**5.20**	**1**	P	**Pn**		**06 34 31.3**	**-0.3**
	baz=181							
P16K	**Nushagak River**	**5.34**	**309**		**Pn**		**06 34 34.1**	**+0.7**
P16K	**Nushagak River**	**5.34**	**309**	P	**Pn**		**06 34 34.2**	**+0.7**
	baz=123							
N20K	**Mount Spurr**	**5.43**	**349**	P	**Pn**		**06 34 34.9**	**0.0**
	baz=166							
SPCR	**Spurr Chakacha**	**5.43**	**349**		**Pn**		**06 34 34.9**	**0.0**
GOAT	**Goat Mountain**	**5.44**	**28**		**Pn**		**06 34 34.7**	**-0.3**
N19K	**Bonanza Creek**	**5.46**	**336**		**Pn**		**06 34 35.5**	**+0.2**
N19K	**Bonanza Creek**	**5.46**	**336**	P	**Pn**		**06 34 35.5**	**+0.2**
	baz=152							
KNK	**Knik Glacier**	**5.58**	**8**		**Pn**		**06 34 36.5**	**-0.3**
KNK	**Knik Glacier**	**5.58**	**8**	P	**Pn**		**06 34 36.5**	**-0.3**
	baz=188							
SUA	**Susitna One**	**5.59**	**356**		**Pn**		**06 34 36.9**	**-0.1**
SUA	**Susitna One**	**5.59**	**356**	P	**Pn**		**06 34 36.9**	**-0.1**
	baz=175							
BERG	**Berg Lake**	**5.59**	**34**		**Pn**		**06 34 37.1**	**+0.1**
STLK	**Strandline Lak**	**5.69**	**351**		**Pn**		**06 34 38.4**	**+0.1**
O16K	**Kokwok River B**	**5.70**	**314**		**Pn**		**06 34 39.5**	**+1.0**
O16K	**Kokwok River B**	**5.70**	**314**	P	**Pn**		**06 34 39.4**	**+0.9**
	baz=127							
N18K	**Kilae Creek**	**5.71**	**329**		**Pn**		**06 34 39.0**	**+0.4**
N18K	**Kilae Creek**	**5.71**	**329**	P	**Pn**		**06 34 39.0**	**+0.4**
	baz=144							
PMR	**Palmer**	**5.72**	**4**		**Pn**		**06 34 39.2**	**+0.6**
BMRM	**Bremner River**	**5.80**	**27**		**Pn**		**06 34 40.5**	**+0.6**
BMRM	**Bremner River**	**5.80**	**27**	P	**Pn**		**06 34 40.5**	**+0.6**
	baz=211							
SML	**Sawmill**	**5.98**	**8**		**Pn**		**06 34 43.2**	**+0.9**
SML	**Sawmill**	**5.98**	**8**	P	**Pn**		**06 34 42.3**	**0.0**
	baz=188							
KLU	**Klutina**	**5.99**	**19**		**Pn**		**06 34 42.5**	**+0.1**
KLU	**Klutina**	**5.99**	**19**	P	**Pn**		**06 34 42.1**	**-0.3**
	baz=202							
M23K	**Glacier View**	**6.02**	**10**		**Pn**		**06 34 42.7**	**-0.1**
M23K	**Glacier View**	**6.02**	**10**	P	**Pn**		**06 34 42.7**	**-0.1**
	baz=192							
SCM	**Sheep Creek Mo**	**6.10**	**12**		**Pn**		**06 34 43.7**	**-0.3**
SCM	**Sheep Creek Mo**	**6.10**	**12**	P	**Pn**		**06 34 43.7**	**-0.3**
	baz=194							
M20K	**Styx River**	**6.21**	**346**		**Pn**		**06 34 45.4**	**-0.1**
O15K	**Ungalikthiuk R**	**6.23**	**306**		**Pn**		**06 34 46.6**	**+0.9**
O15K	**Ungalikthiuk R**	**6.23**	**306**	P	**Pn**		**06 34 46.6**	**+0.9**
	baz=118							
VRDI	**Verde Repeater**	**6.33**	**30**		**Pn**		**06 34 46.9**	**-0.4**
N25K	**Chitina, Valde**	**6.36**	**24**		**Pn**		**06 34 48.3**	**+0.7**
N25K	**Chitina, Valde**	**6.36**	**24**	P	**Pn**		**06 34 47.9**	**+0.3**
	baz=208							
M18K	**Stony River**	**6.37**	**334**		**Pn**		**06 34 47.8**	**+0.2**
M18K	**Stony River**	**6.37**	**334**	P	**Pn**		**06 34 47.8**	**+0.2**
	baz=149							
GLB	**Gilahina Butte**	**6.41**	**28**		**Pn**		**06 34 48.6**	**+0.4**
KIAG	**Kiagna River**	**6.42**	**35**		**Pn**		**06 34 48.2**	**-0.3**
M19K	**Big River Lodg**	**6.43**	**341**		**Pn**		**06 34 48.4**	**-0.1**
M19K	**Big River Lodg**	**6.43**	**341**	P	**Pn**		**06 34 48.4**	**-0.1**
	baz=157							
N16K	**Nishlik Lake**	**6.52**	**318**		**Pn**		**06 34 51.1**	**+1.4**
N16K	**Nishlik Lake**	**6.52**	**318**	P	**Pn**		**06 34 51.1**	**+1.4**
	baz=131							
MCARA	**McCarthy VSAT**	**6.58**	**31**		**Pn**		**06 34 50.7**	**+0.2**
MCARA	**McCarthy VSAT**	**6.58**	**31**	P	**Pn**		**06 34 50.4**	**-0.1**
	baz=216							
PTPK	**Patty Peak**	**6.59**	**33**		**Pn**		**06 34 51.3**	**+0.4**
PCA	**Pinnacle**	**6.65**	**47**		**Pn**		**06 34 51.0**	**-0.5**
PINM	**Pinnacle**	**6.66**	**47**	P	**Pn**		**06 34 51.0**	**-0.6**
	baz=234							
M17K	**Holitna River**	**6.74**	**328**		**Pn**		**06 34 53.9**	**+1.2**
BARN	**Barnard Glacie**	**6.76**	**37**		**Pn**		**06 34 53.2**	**+0.1**
WAT6	**Susitna Watana**	**6.79**	**9**		**Pn**		**06 34 53.9**	**+0.4**
WAT6	**Susitna Watana**	**6.79**	**9**	P	**Pn**		**06 34 53.9**	**+0.4**
	baz=190							
PNL	**Peninsula**	**6.79**	**52**		**Pn**		**06 34 53.2**	**-0.2**
PNL	**Peninsula**	**6.79**	**52**	P	**Pn**		**06 34 53.2**	**-0.2**
	baz=240							
CTG	**Chitna Glacier**	**6.80**	**38**	P	**Pn**		**06 34 53.3**	**-0.3**
	baz=225							
CTGM	**Chitina Glacie**	**6.80**	**38**		**Pn**		**06 34 53.8**	**+0.1**
LOGN	**Logan Glacier**	**6.82**	**40**		**Pn**		**06 34 54.6**	**+0.6**
O14K	**Tigyukauivet M**	**6.93**	**304**		**Pn**		**06 34 56.2**	**+0.9**
O14K	**Tigyukauivet M**	**6.93**	**304**	P	**Pn**		**06 34 56.2**	**+0.9**
	baz=114							
M16K	**Timber Creek**	**6.96**	**321**		**Pn**		**06 34 56.6**	**+0.9**
M16K	**Timber Creek**	**6.96**	**321**	P	**Pn**		**06 34 56.5**	**+0.8**
	baz=134							
WAT7	**Susitna Watana**	**6.97**	**4**		**Pn**		**06 34 56.4**	**+0.4**
L18K	**Granite Mounta**	**7.21**	**334**		**Pn**		**06 34 59.5**	**+0.4**
L18K	**Granite Mounta**	**7.21**	**334**	P	**Pn**		**06 34 59.5**	**+0.4**
	baz=148							
DHY	**Denali Highway**	**7.31**	**9**		**Pn**		**06 35 02.0**	**+1.4**
DHY	**Denali Highway**	**7.31**	**9**	P	**Pn**		**06 35 00.9**	**+0.2**
	baz=191							
PAX	**Paxson**	**7.45**	**16**		**Pn**		**06 35 02.7**	**+0.2**
PAX	**Paxson**	**7.45**	**16**	P	**Pn**		**06 35 02.7**	**+0.2**
	baz=199							
O29M	**Mount Kennedy**	**7.47**	**49**		**Pn**		**06 35 03.2**	**+0.4**
P29M	**Windy Craggy**	**7.53**	**55**		**Pn**		**06 35 03.1**	**-0.4**
P29M	**Windy Craggy**	**7.53**	**55**	P	**Pn**		**06 35 03.1**	**-0.4**
	baz=245							
L17K	**Donlin**	**7.57**	**329**		**Pn**		**06 35 04.8**	**+0.7**
L17K	**Donlin**	**7.57**	**329**	P	**Pn**		**06 35 04.8**	**+0.7**
	baz=142							
K20K	**Telida**	**7.75**	**346**		**Pn**		**06 35 06.1**	**-0.5**
K20K	**Telida**	**7.75**	**346**	P	**Pn**		**06 35 06.1**	**-0.5**
	baz=162							
S31K	**Pelican**	**7.79**	**69**	Pn	**Pn**		**06 35 05.9**	**-1.2**
S31K	**Pelican**	**7.79**	**69**	P	**Pn**		**06 35 05.2**	**-1.9**
	baz=260							
ISLZ	**Isanotski Laza**	**7.93**	**267**		**Pn**		**06 35 08.9**	**-0.1**
M14K	**Bethel**	**7.95**	**313**		**Pn**		**06 35 10.7**	**+1.4**
BVCY	**Beaver Creek**	**8.02**	**32**		**Pn**		**06 35 11.4**	**+1.0**
BVCY	**Beaver Creek**	**8.02**	**32**	P	**Pn**		**06 35 11.4**	**+1.0**
	baz=219							
K17K	**Iditarod**	**8.04**	**332**		**Pn**		**06 35 10.7**	**+0.2**
K17K	**Iditarod**	**8.04**	**332**	P	**Pn**		**06 35 10.7**	**+0.2**
	baz=144							
P30M	**Million Dollar**	**8.09**	**53**		**Pn**		**06 35 09.8**	**-1.5**
P30M	**Million Dollar**	**8.09**	**53**	P	**Pn**		**06 35 09.8**	**-1.5**
	baz=244							
BPAW	**Bear Paw Mtn.**	**8.23**	**357**		**Pn**		**06 35 13.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**8.23**	**357**	P	**Pn**		**06 35 13.0**	**-0.1**
	baz=176							
RIDG	**Independent Ri

	baz=52							
KRUC				*e*Sg		Sn	06 35 50.3	-0.5
	4.4nm,0.3s,baz=52							
VYHS	**Vyhne**	**1.60**	**167**	*e*PG		Pn	06 35 28.2	-1.4
VYHS				*e*SG		Sn	06 35 47.9	-3.1
STHS	**Stebnicka Huta**	**2.01**	**108**	*e*P		Pn	06 35 33.6	-1.6
STHS	**Stebnicka Huta**	**2.01**	**108**	*e*PN		Pn	06 35 33.6	-1.6
GOPC	**GO Pecny, Ondr**	**2.28**	**268**	*e*SG		Sb	06 36 11.0	+0.3
CKRC	**Cesky Krumlov**	**2.89**	**246**	*e*SG		Sg	06 36 31.0	-1.8
KHC	**Kasperske Hory**	**3.22**	**255**	*e*SG		Sg	06 36 41.6	-1.7

KRSC 26 06:44:01.4±1.5, 55°.11N×166°.51E, h29km±7km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.32**	**288**	*e*P		Pb	06 44 09.2	+0.2
BKI				*e*S		Sn	06 44 15.2	-0.6
BZGR	**Bezymyannyi-Gr**	**3.41**	**287**	*e*S		Sb	06 45 37.2	-4.9
TUMD	**Tumrok D**	**3.51**	**274**	*e*S		Sn	06 45 39.4	+5.0
KMNR	**Kamenistaya**	**3.63**	**283**	*e*S		Sn	06 45 40.6	+3.0
SRDR	**Sredinnyy**	**4.03**	**290**	*e*S		Sn	06 45 52.8	+5.5
SMAR	**Somma**	**4.89**	**251**	*e*P		Pn	06 45 17.5	+4.5
AVH	**Avacha**	**4.92**	**251**	*e*S		Sn	06 46 13.9	+4.5
KRX	**Arik**	**4.93**	**252**	*e*P		Pn	06 45 18.1	+4.4
KRMR	**Karymshinskiy**	**5.45**	**249**	*e*S		Sn	06 46 27.6	+5.5

IDC 26 06:49:53.1±5.8, 22°.70S×148°.66E, h0km, mbtmp3.2/4, ML3.3/4, Error ellipse: s-maj=66.1km s-min=21.6km az=82.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**3.43**	**319**	Pn		Pn	06 50 48.7	+0.9
	1.9nm,0.3s,baz=134,slow=16,SNR=18							
CTA				Pg		Pb	06 50 54.2	-0.6
	4.1nm,0.3s,baz=142,slow=15,SNR=8.6							
CTA				Sn		Sn	06 51 29.8	+0.6
	3.8nm,0.3s,baz=121,slow=16,SNR=2.1							
CTA				Lg		Lg	06 51 44.0	
	11nm,0.3s,baz=222,slow=22,SNR=8.0 5.1nm,0.2s							
STKA	**Stephens Creek**	**11.09**	**213**	Pn		Pn	06 52 34.7	+1.7
	0.2nm,0.3s,baz=11,slow=16,SNR=3.1							
STKA				Sn		Sn	06 54 32.5	-5.3
	0.2nm,0.3s,baz=148,slow=24,SNR=1.6							
STKA				Lg		Lg	06 55 46.0	
	0.2nm,0.3s,baz=301,slow=24,SNR=3.0 0.5nm,0.4s							
ASAR	**Alice Springs**	**13.61**	**263**	Pn		Pn	06 53 05.3	-2.2
	0.1nm,0.3s,baz=95,slow=14,SNR=2.1							
ASAR				Sn		Sn	06 55 33.1	-6.4
	0.1nm,0.3s,baz=88,slow=23,SNR=2.7 0.2nm,0.4s							
WRA	**Warramunga Arr**	**13.63**	**279**	Pn		Pn	06 53 06.5	-1.2
	0.1nm,0.3s,baz=101,slow=11,SNR=1.6 0.3nm,0.7s							
I07AU	**WARRAMUNGA INF**	**13.64**	**279**	I		I	08 12 20.0	
	baz=105,slow=305,SNR=3.4							

IDC 26 07:03:02.8±2.6, 7°.18S×128°.74E, h0km, mb3.5/1, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=278.0km s-min=31.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**13.80**	**157**	Pn		Pn	07 06 19.2	-0.7
	1.1nm,0.3s,baz=333,slow=13,SNR=54							
WRA				Sn		Sn	07 08 42.1	-12
	1.1nm,0.3s,baz=330,slow=22,SNR=11 2.6nm,0.5s							
ASAR	**Alice Springs**	**17.13**	**164**	P		Pn	07 07 04.5	+0.6
	0.3nm,0.3s,baz=346,slow=14,SNR=21							
ASAR				S		Sn	07 09 59.7	-15
	0.4nm,0.7s,baz=335,slow=15,SNR=2.5 0.6nm,0.5s							
MKAR	**Makanchi Array**	**67.70**	**327**	P		P	07 14 02.0	0.0
	0.3nm,0.5s,baz=117,slow=7.8,SNR=6.8 0.3nm,0.5s							

IDC 26 07:04:42.3±2.6, 54°.14N×86°.42E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=20.8km s-min=11.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**259**	I		I	07 10 24.6	
	0.2nm,1.2s,baz=76,slow=346,SNR=5.1							
ZALV	**Zalesovo Beam**	**0.96**	**259**	Pg		Pg	07 04 59.3	-1.4
	0.7nm,0.3s,baz=75,slow=16,SNR=8.7							
ZALV				Lg		Lg	07 05 14.9	
	3.3nm,0.3s,baz=80,slow=31,SNR=22							
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn		Pn	07 06 12.9	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=4.4 0.6nm,0.6s							
MKAR	**Makanchi Array**	**7.81**	**201**	Pn		Pn	07 06 38.3	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=7.2							
MKAR				Lg		Lg	07 08 49.5	
	baz=35,slow=28,SNR=5.2 0.1nm,0.4s							

*NEIC **26** 07:05:50.7±1.2, 56°.06N±0°.10×149°.68W±0°.10, h23km±9km, mb3.5/2, ML3.6/30, ML3.4(AEIC), Error ellipse: s-maj=14.2km s-min=7.5km az=171.0*
*AEIC **26** 07:05:53.0±1.2, 55°.99N±0°.09×149°.6W±0°.1, h10km±7km, Error ellipse: s-maj=13.2km s-min=8.7km az=160.0*

ISC 26 07:05:49.1±1.4, 56°.09N±0°.09×149°.72W±0°.06, h10km, n124, σ0s78/125, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHAK	**Old Harbor**	**2.28**	**301**			**Pn**	**07 06 27.0**	**+0.3**
OHAK						**Sn**	**07 06 53.3**	**-1.5**
OHAK	**Old Harbor**	**2.28**	**301**	P		**Pn**	**07 06 27.0**	**+0.3**
	baz=119							
OHAK				S		**Sn**	**07 06 53.3**	**-1.5**
	baz=119							
KDAK	**Kodiak Island**	**2.31**	**318**			**Pn**	**07 06 27.9**	**+0.7**
KDAK						**Sn**	**07 06 54.6**	**-1.1**
SII	**Sitkinak Islan**	**2.53**	**283**			**Sn**	**07 06 59.8**	**-1.4**
SII	**Sitkinak Islan**	**2.53**	**283**	S		**Sn**	**07 06 59.8**	**-1.4**
	baz=100							
SYI	**Shuyak Island**	**2.91**	**331**			**Pn**	**07 06 36.4**	**+0.9**
SYI						**Sn**	**07 07 10.7**	**+0.2**
SYI	**Shuyak Island**	**2.91**	**331**	IAML			07 07 13.0	
	comp=N,81nm,0.8s							
Q20K	**Shuyak Island**	**2.91**	**331**	P		**Pn**	**07 06 36.4**	**+0.9**
	baz=149							
Q20K				S		**Sn**	**07 07 10.7**	**+0.2**
	baz=149							
CNPM	**China Poot**	**3.54**	**347**			**Pn**	**07 06 44.2**	**+0.1**
CNPM						**Sn**	**07 07 25.0**	**-1.1**
CNPM	**China Poot**	**3.54**	**347**	IAML			07 07 27.1	
	comp=E,63nm,0.4s							
CNPM				IAML			07 07 28.0	
	comp=N,50nm,0.9s							
Q19K	**Cape Douglas,**	**3.55**	**325**			**Pn**	**07 06 45.3**	**+1.1**
Q19K	**Cape Douglas,**	**3.55**	**325**	IAML			07 07 32.0	
	comp=N,240nm,1.1s							
Q19K	**Cape Douglas,**	**3.55**	**325**	P		**Pn**	**07 06 45.3**	**+1.1**
	baz=142							
BRSE	**Bradley Lake S**	**3.70**	**352**			**Pn**	**07 06 46.3**	**0.0**
BRSE						**Sn**	**07 07 28.3**	**-1.8**
BRSE	**Bradley Lake S**	**3.70**	**352**	P		**Pn**	**07 06 46.3**	**0.0**
	baz=171							
BRSE				S		**Sn**	**07 07 28.3**	**-1.8**
	baz=171							
BRLK	**Bradley Lake**	**3.74**	**351**			**Pn**	**07 06 46.7**	**-0.1**
BRLK						**Sn**	**07 07 29.3**	**-1.6**
BRLK	**Bradley Lake**	**3.74**	**351**	IAML			07 07 33.0	
	comp=N,52nm,0.9s							
BRLK				IAML			07 07 34.3	
	comp=E,73nm,1.0s							
Q23K	**Middleton Isla**	**3.80**	**27**			**Pn**	**07 06 47.3**	**-0.4**
Q23K	**Middleton Isla**	**3.80**	**27**	P		**Pn**	**07 06 47.3**	**-0.4**
	baz=209							
MID	**Middleton Isla**	**3.81**	**27**			**Pn**	**07 06 47.3**	**-0.4**
CNTC	**Contact Creek**	**4.00**	**306**			**Pn**	**07 06 51.2**	**+0.7**
Q17K	**Contact Creek**	**4.00**	**306**	P		**Pn**	**07 06 51.2**	**+0.6**
	baz=121							
SEW	**Seward**	**4.03**	**2**			**Pn**	**07 06 50.4**	**-0.4**
	baz=182							
P19K	**Oil Pt**	**4.04**	**334**	Pn		**Pn**	**07 06 51.2**	**+0.3**
P19K				IAML			07 07 43.5	
	comp=N,99nm,1.1s							
P23K	**Montague Islan**	**4.11**	**16**			**Pn**	**07 06 51.6**	**-0.3**
P23K	**Montague Islan**	**4.11**	**16**	P		**Pn**	**07 06 51.6**	**-0.3**
	baz=198							
P18K	**Big Mountain,**	**4.44**	**321**			**Pn**	**07 06 56.8**	**+0.4**
P18K	**Big Mountain,**	**4.44**	**321**	P		**Pn**	**07 06 56.8**	**+0.4**
	baz=136							
SLKM	**Skilak Lake**	**4.44**	**357**			**Pn**	**07 06 56.5**	**0.0**
HIN	**Hinchinbrook I**	**4.64**	**20**			**Pn**	**07 06 59.4**	**+0.1**
HIN	**Hinchinbrook I**	**4.64**	**20**	IAML			07 08 16.2	
	comp=N,49nm,1.4s							
HIN				IAML			07 08 49.1	
	comp=E,64nm,1.4s							
RSO	**Redoubt South**	**4.67**	**341**	Pn		**Pn**	**07 07 00.3**	**+0.5**
KAIM	**Kayak Island**	**4.77**	**34**			**Pn**	**07 07 01.2**	**+0.3**
KAIM	**Kayak Island**	**4.77**	**34**	IAML			07 09 49.2	
	comp=N,90nm,1.4s							
KAIM	**Kayak Island**	**4.77**	**34**	P		**Pn**	**07 07 01.2**	**+0.3**
	baz=218							
O18K	**Koktuh Hills**	**4.77**	**325**			**Pn**	**07 06 59.7**	**-1.4**
O18K				IAML			07 07 59.3	
	comp=E,21nm,0.5s							
O18K				IAML			07 08 11.0	
	comp=N,26nm,1.0s							
EYAK	**Cordova Ski Ar**	**4.94**	**23**			**Pn**	**07 07 03.4**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.94**	**23**	P		**Pn**	**07 07 03.4**	**+0.1**
	baz=206							
RC01	**Rabbit Creek A**	**5.01**	**360**			**Pn**	**07 07 04.5**	**+0.2**
RC01	**Rabbit Creek A**	**5.01**	**360**	IAML			07 08 04.2	
	comp=E,35nm,0.8s							
RC01				IAML			07 08 06.8	
	comp=N,38nm,1.3s							
RC01	**Rabbit Creek A**	**5.01**	**360**	P		**Pn**	**07 07 04.5**	**+0.2**
	baz=180							
GOAT	**Goat Mountain**	**5.21**	**28**			**Pn**	**07 07 07.5**	**+0.3**
BERG	**Berg Lake**	**5.36**	**34**			**Pn**	**07 07 09.2**	**+0.2**
BERG	**Berg Lake**	**5.36**	**34**	IAML			07 08 18.6	
	comp=E,67nm,1.5s							
BERG				IAML			07 09 06.6	
	comp=N,51nm,1.3s							
KNK	**Knik Glacier**	**5.38**	**6**			**Pn**	**07 07 09.6**	**+0.2**
KNK	**Knik Glacier**	**5.38**	**6**	P		**Pn**	**07 07 09.6**	**+0.2**
	baz=187							
SUA	**Susitna One**	**5.42**	**355**			**Pn**	**07 07 10.5**	**+0.5**
SUA	**Susitna One**	**5.42**	**355**	P		**Pn**	**07 07 10.5**	**+0.5**
	baz=174							
SNH	**Sunshine Point**	**5.49**	**39**			**Pn**	**07 07 11.0**	**+0.1**
PMR	**Palmer**	**5.53**	**3**	Pn		**Pn**	**07 07 12.1**	**+0.7**
STLK	**Strandline Lak**	**5.54**	**349**			**Pn**	**07 07 12.2**	**+0.6**
BMRM	**Bremner River**	**5.58**	**27**			**Pn**	**07 07 12.5**	**+0.4**
BMRM	**Bremner River**	**5.58**	**27**	P		**Pn**	**07 07 12.5**	**+0.4**
	baz=210							
N18K	**Kilae Creek**	**5.63**	**327**			**Pn**	**07 07 13.5**	**+0.6**
N18K	**Kilae Creek**	**5.63**	**327**	P		**Pn**	**07 07 13.5**	**+0.6**
	baz=142							
O16K	**Kokwok River B**	**5.69**	**312**	Pn		**Pn**	**07 07 14.8**	**+1.3**
GHO	**Glory Hole Cre**	**5.71**	**4**			**Pn**	**07 07 14.4**	**+0.4**
KLU	**Klutina**	**5.77**	**18**			**Pn**	**07 07 14.8**	**+0.1**
KLU	**Klutina**	**5.77**	**18**	P		**Pn**	**07 07 15.5**	**+0.7**
	baz=201							
SML	**Sawmill**	**5.78**	**7**			**Pn**	**07 07 16.1**	**+1.2**
SML	**Sawmill**	**5.78**	**7**	P		**Pn**	**07 07 16.1**	**+1.2**
	baz=188							
M23K	**Glacier View**	**5.81**	**9**			**Pn**	**07 07 16.3**	**+1.0**
M23K	**Glacier View**	**5.81**	**9**	P		**Pn**	**07 07 16.3**	**+1.0**
	baz=191							
SCM	**Sheep Creek Mo**	**5.89**	**11**	Pn		**Pn**	**07 07 17.0**	**+0.5**
SKT	**Skwentna**	**5.98**	**352**	Pn		**Pn**	**07 07 19.2**	**+1.5**
VRDI	**Verde Repeater**	**6.10**	**30**	Pn		**Pn**	**07 07 18.8**	**-0.7**
N25K	**Chitina, Valde**	**6.14**	**24**			**Pn**	**07 07 20.6**	**+0.7**
N25K	**Chitina, Valde**	**6.14**	**24**	P		**Pn**	**07 07 20.0**	**+0.2**
	baz=208							
GLB	**Gilahina Butte**	**6.18**	**27**	Pn		**Pn**	**07 07 20.7**	**+0.3**
KIAG	**Kiagna River**	**6.19**	**35**			**Pn**	**07 07 20.8**	**+0.1**
M24K	**Tolsona, Glenn**	**6.30**	**15**			**Pn**	**07 07 23.2**	**+1.1**
M24K	**Tolsona, Glenn**	**6.30**	**15**	P		**Pn**	**07 07 23.2**	**+1.1**
	baz=198							
MCARA	**McCarthy VSAT**	**6.35**	**30**			**Pn**	**07 07 23.1**	**+0.5**
MCARA	**McCarthy VSAT**	**6.35**	**30**	P		**Pn**	**07 07 23.1**	**+0.5**
	baz=216							
PTPK	**Patty Peak**	**6.36**	**34**			**Pn**	**07 07 23.5**	**+0.5**
PCA	**Pinnacle**	**6.42**	**47**			**Pn**	**07 07 23.9**	**+0.2**
PINM	**Pinnacle**	**6.42**	**47**	P		**Pn**	**07 07 23.9**	**+0.1**
	baz=235							
BARN	**Barnard Glacie**	**6.52**	**37**			**Pn**	**07 07 25.3**	**+0.1**
CTGM	**Chitina Glacie**	**6.57**	**38**	Pn		**Pn**	**07 07 25.1**	**-0.7**
PNL	**Peninsula**	**6.57**	**53**			**Pn**	**07 07 26.0**	**+0.3**
PNL	**Peninsula**	**6.57**	**53**	P		**Pn**	**07 07 26.0**	**+0.3**
	baz=241							
LOGN	**Logan Glacier**	**6.59**	**40**			**Pn**	**07 07 26.1**	**0.0**
HARP	**HAARP**	**6.75**	**18**			**Pn**	**07 07 28.9**	**+0.8**
HARP	**HAARP**	**6.75**	**18**	P		**Pn**	**07 07 28.9**	**+0.8**
	baz=202							
N15K	**Kwethluk River**	**6.85**	**311**			**Pn**	**07 07 31.1**	**+1.6**
N15K	**Kwethluk River**	**6.85**	**311**	P		**Pn**	**07 07 31.1**	**+1.6**
	baz=122							
M16K	**Timber Creek**	**6.91**	**319**	Pn		**Pn**	**07 07 31.1**	**+0.7**
O14K	**Tigyukauivet M**	**6.96**	**302**	Pn		**Pn**	**07 07 32.2**	**+1.2**
O29M	**Mount Kennedy**	**7.24**	**50**			**Pn**	**07 07 35.0**	**-0.1**
O29M	**Mount Kennedy**	**7.24**	**50**	P		**Pn**	**07 07 35.0**	**-0.1**
	baz=239							
P29M	**Windy Craggy**	**7.31**	**56**			**Pn**	**07 07 35.4**	**-0.4**
P29M	**Windy Craggy**	**7.31**	**56**	P		**Pn**	**07 07 35.4**	**-0.4**
	baz=246							
M27K	**Edge Creek, AK**	**7.46**	**29**			**Pn**	**07 07 38.8**	**+0.8**
M27K	**Edge Creek, AK**	**7.46**	**29**	P		**Pn**	**07 07 38.8**	**+0.8**
	baz=216							
L17K	**Donlin**	**7.50**	**327**			**Pn**	**07 07 39.5**	**+1.2**
L17K	**Donlin**	**7.50**	**327**	P		**Pn**	**07 07 39.5**	**+1.2**
	baz=140							
L16K	**Owhat River**	**7.56**	**322**	Pn		**Pn**	**07 07 40.2**	**+0.9**
S31K	**Pelican**	**7.59**	**70**			**Pn**	**07 07 38.0**	**-1.7**
S31K	**Pelican**	**7.59**	**70**	P		**Pn**	**07 07 38.0**	**-1.7**
	baz=261							
BVCY	**Beaver Creek**	**7.79**	**32**			**Pn**	**07 07 42.4**	**-0.1**
BVCY	**Beaver Creek**	**7.79**	**32**	P		**Pn**	**07 07 42.4**	**-0.1**
	baz=219							
HYT	**Haines Junctio**	**7.96**	**48**	Pn		**Pn**	**07 07 44.7**	**-0.2**
RIDG	**Independent Ri**	**8.05**	**16**			**Pn**	**07 07 46.8**	**+0.7**
BPAW	**Bear Paw Mtn.**	**8.06**	**356**	Pn		**Pn**	**07 07 46.0**	**-0.1**
ISNN	**Isanotski Nort**	**8.09**	**267**			**Pn**	**07 07 46.2**	**-0.5**
N30M	**Aishikik Lake**	**8.48**	**45**	Pn		**Pn**	**07 07 51.9**	**0.0**
O30N	**Mendenhall**	**8.54**	**51**	Pn		**Pn**	**07 07 52.9**	**+0.1**
L14K	**Kuka Creek**	**8.55**	**313**			**Pn**	**07 07 54.1**	**+1.3**
M29M	**Somme Creek**	**8.58**	**37**			**Pn**	**07 07 54.0**	**+0.6**
IL31		**8.82**	**8**			**Pn**	**07 07 57.5**	**+1.0**
J26L	**Joseph Creek**	**8.97**	**17**	Pn		**Pn**	**07 07 58.8**	**+0.1**
N31M	**Braeburn, Yuko**	**9.02**	**47**	Pn		**Pn**	**07 07 59.7**	**+0.3**
I23K	**Minto, Yukon-K**	**9.09**	**1**	Pn		**Pn**	**07 08 00.7**	**+0.5**
P32M	**Atlin**	**9.22**	**61**	Pn		**Pn**	**07 08 01.4**	**-0.7**
DAWY	**Dawson**	**9.51**	**29**	Pn		**Pn**	**07 08 06.7**	**+0.7**
H21K	**Melozitna Rive**	**9.72**	**352**	Pn		**Pn**	**07 08 08.6**	**-0.2**
P33M	**Teslin, Yukon**	**9.83**	**58**	Pn		**Pn**	**07 08 10.3**	**-0.1**
K29M	**Barlow Dome**	**9.87**	**33**	Pn		**Pn**	**07 08 11.7**	**+0.7**
FYU	**Fort Yukon**	**10.73**	**10**	Pn		**Pn**	**07 08 22.8**	**+0.2**
G31M	**Satah River**	**13.08**	**28**	Pn		**Pn**	**07 08 55.3**	**+0.7**
B22K	**Teshekpuk Lake**	**14.40**	**355**	Pn		**Pn**	**07 09 12.6**	**-0.1**
C36M	**Paulatuk**	**17.53**	**31**			**Pn**	**07 09 52.9**	**-0.3**
C36M				IAmb		IAmb	07 10 34.2	
	comp=Z,3.7nm,1.4s							
A36M	**Sachs Harbour**	**18.95**	**23**	P		**P**	**07 10 11.4**	**+1.4**
A36M				IAmb		IAmb	07 10 14.5	
	comp=Z,3.6nm,0.8s							

*IDC **26** 07:11:23.4±0.6, 42°.41S×80°.35E, h0km, mb4.4/16, mbtmp4.3/16, MS3.6/6, Error ellipse: s-maj=20.0km s-min=16.7km az=106.0*
*NEIC **26** 07:11:24.8±1.6, 42°.49S±0°.08×80°.2E±0°.1, h10km±1km, mb4.8/35, Error ellipse: s-maj=16.7km s-min=12.8km az=100.0*

ISC 26 07:11:24.5±0.4, 42°.46S±0°.07×80°.22E±0°.08, h10km, n71, σ0s89/64, mb4.7/33, MS3.7/6, 1C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AIS	**Amsterdam Isla**	**5.08**	**336**	Pn		**Pn**	**07 12 39.5**	**-1.1**
PAF	**Port-aux-Franc**	**9.80**	**222**	Pn		**Pn**	**07 13 42.8**	**-2.5**
H04S1	**CROZET ISLANDS**	**20.55**	**248**	T		T	07 37 33.4	
	baz=88,slow=76,SNR=20							
H04S2	**CROZET ISLANDS**	**20.57**	**248**	T		T	07 37 38.6	
	baz=88,slow=76,SNR=49							
H04S3	**CROZET ISLANDS**	**20.57**	**248**	T		T	07 37 36.4	
	baz=88,slow=76,SNR=33							
CRZF	**Crozet Islands**	**20.58**	**249**	P		**P**	**07 16 01.6**	**-1.7**
CRZF				IAmb		IAmb	07 16 14.1	
	comp=Z,81nm,1.0s							
H04N2	**CROZET ISLANDS**	**20.62**	**250**	T		T	07 37 46.3	
	baz=89,slow=75,SNR=912							
H04N3	**CROZET ISLANDS**	**20.63**	**250**	T		T	07 37 54.3	
	baz=89,slow=75,SNR=866							
H04N1	**CROZET ISLANDS**	**20.64**	**250**	T		T	07 37 41.7	
	baz=89,slow=75,SNR=623							
ROCAM	**Rodrigues Isla**	**26.74**	**323**	P		**P**	**07 17 04.7**	**+0.5**
MAW	**Mawson**	**26.88**	**195**	P		**P**	**07 17 04.6**	**-0.5**
	comp=Z,20nm,1.0s,baz=315,slow=1.4,SNR=2.1							
MAW				LR		LR	07 25 24.3	
	comp=Z,97nm,18.6s,baz=298,slow=31 comp=Z,20nm,1.0s							
H01W2	**Cape Leeuwin H**	**27.40**	**85**	T		T	07 45 26.9	
	baz=243,slow=75,SNR=66							
H01W3	**Cape Leeuwin H**	**27.41**	**85**	T		T	07 45 44.3	
	baz=243,slow=75,SNR=66							
H01W1	**Cape Leeuwin H**	**27.41**	**85**	T		T	07 45 31.7	
	baz=243,slow=75,SNR=50							
CASY	**Casey**	**29.13**	**155**	P		**P**	**07 17 25.6**	**+0.5**
CASY				IAmb		IAmb	07 17 40.3	
	comp=Z,7.5nm,0.7s							
VOI	**Vohitsoka**	**34.61**	**296**	P		**P**	**07 18 16.2**	**+2.3**
VOI				IAmb		IAmb	07 18 51.1	
	comp=Z,21nm,1.4s							
FORT	**Forrest**	**39.65**	**89**	P		**P**	**07 18 56.7**	**+0.3**
GRHM	**Grahamstown, E**	**42.85**	**264**	P		**P**	**07 19 22.5**	**-0.3**
SOE	**Somerset East**	**43.73**	**264**	P		**P**	**07 19 30.1**	**+0.2**
SOE				IAmb		IAmb	07 19 45.6	
	comp=Z,24nm,1.2s							
BBOO	**Buckleboo**	**44.55**	**97**	P		**P**	**07 19 35.7**	**-0.8**
BBOO				IAmb		IAmb	07 19 37.0	
	comp=Z,7.8nm,0.7s							
BOSA	**Boshof**	**46.05**	**269**	P		**P**	**07 19 48.5**	**0.0**
BOSA				IAmb		IAmb	07 19 51.6	
	comp=Z,14nm,1.3s							
BOSA	**Boshof**	**46.05**	**269**	P		**P**	**07 19 51.1**	**+2.5**
	comp=Z,3.3nm,0.9s,baz=124,slow=7.1,SNR=3.8 comp=Z,3.3nm,0.9s							
VNDA	**Vanda**	**47.16**	**163**	P		**P**	**07 19 57.0**	**+0.5**
VNDA				IAmb		IAmb	07 19 58.4	
	comp=Z,5.1nm,0.7s							
VNDA	**Vanda**	**47.16**	**163**	P		**P**	**07 19 57.3**	**+0.8**
	comp=Z,5.2nm,0.6s,baz=276,slow=6.8,SNR=26							
VNDA				LR		LR	07 37 34.5	
	comp=Z,101nm,20.1s,baz=219,slow=33 comp=Z,5.2nm,0.6s							
QSPA	**South Pole Qui**	**47.70**	**180**	P		**P**	**07 20 01.7**	**+0.7**
QSPA				PcP		**PcP**	**07 21 29.7**	**-0.4**
QSPA	**South Pole Qui**	**47.70**	**180**	P		**P**	**07 20 02.3**	**+1.3**
	comp=Z,22nm,0.9s,baz=295,slow=2.6,SNR=28 comp=Z,22nm,0.9s							
ASAR	**Alice Springs**	**47.91**	**85**	P		**P**	**07 20 04.4**	**+1.4**
ASAR				PcP		**PcP**	**07 21 30.6**	**-0.8**
ASAR	**Alice Springs**	**47.91**	**85**	P		**P**	**07 20 02.6**	**-0.5**
	comp=Z,2.8nm,1.0s,baz=236,slow=7.4,SNR=13							
ASAR				PcP		**PcP**	**07 21 30.7**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=224,slow=3.4,SNR=9.9							
ASAR				LR		LR	07 38 11.6	
	comp=Z,86nm,18.9s,baz=254,slow=34 comp=Z,2.8nm,1.0s							
AS31	**Alice Springs**	**47.91**	**85**	P		**P**	**07 20 03.9**	**+0.8**
SNAA	**Sanae**	**48.21**	**205**	P		**P**	**07 20 05.1**	**+0.3**
SNAA	**Sanae**	**48.21**	**205**	P		**P**	**07 20 06.0**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=156,slow=19,SNR=2.2 comp=Z,1.9nm,0.8s							
STKA	**Stephens Creek**	**49.08**	**99**	P		**P**	**07 20 11.9**	**0.0**
STKA	**Stephens Creek**	**49.08**	**99**	P		**P**	**07 20 12.3**	**+0.5**
	comp=Z,5.5nm,0.7s,baz=243,slow=4.6,SNR=19							
STKA				LR		LR	07 38 58.5	
	comp=Z,34nm,18.8s,baz=207,slow=34 comp=Z,5.5nm,0.7s							
WRA	**Warramunga Arr**	**50.50**	**81**	P		**P**	**07 20 23.0**	**+0.1**
WRA	**Warramunga Arr**	**50.50**	**81**	P		**P**	**07 20 22.9**	**0.0**
	comp=Z,3.9nm,0.9s,baz=230,slow=7.4,SNR=12 comp=Z,3.9nm,0.9s							
WB0	**Warramunga Arr**	**50.65**	**81**	P		**P**	**07 20 23.4**	**-0.6**
WB0				IAmb		IAmb	07 20 24.7	
	comp=Z,9.0nm,0.9s							
BELA	**Belgrano 2**	**53.73**	**194**	P		**P**	**07 20 46.2**	**+0.1**
BELA				IAmb		IAmb	07 20 47.5

PDAR	**Pinedale Array**	172.78	84	PKP		**PKPdf**	07 31 33.6	0.0
	comp=Z,0.7nm,0.8s,baz=259,slow=1.5,SNR=4.4							
PDAR				PKPab		**PKPab**	07 32 59.0	-0.9
	comp=Z,0.7nm,0.9s,baz=289,slow=2.8,SNR=3.5							

*IDC **26** 07:16:42.0±2.5,56°.07N×148°.68W,h0km,mb3.7/5, mbtmp3.7/9,ML3.6/4,MS3.0/1,Error ellipse: s-maj=50.6km s-min=22.6km az=173.0*

*NEIC **26** 07:16:47.0±1.7,56°.42N±0°.08×148°.82W±0°.10,h20km±8km, mb3.6/4,ML4.1/52,ML3.9(AEIC),Error ellipse: s-maj=12.0km s-min=7.7km az=173.0*

*AEIC **26** 07:16:50.7±1.7,56°.45N±0°.08×148°.8W±0°.1,h12km±7km, Error ellipse: s-maj=12.0km s-min=8.1km az=168.0*

ISC 26 07:16:45.7±0.8,56°.50N±0°.07×148°.80W±0°.05,h10km, n267,σ1§26/264,mb3.8/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	2.43	303		**Sn**	07 17 52.9	-2.3
KDAK	**Kodiak Island**	2.43	303		**Pn**	07 17 25.9	+0.5
KDAK	**Kodiak Island**	2.43	303	S	**Sn**	07 17 52.9	-2.3
	baz=122						
KDAK	**Kodiak Island**	2.43	303	Pn	**Pn**	07 17 25.9	+0.5
	7.2nm,0.3s,baz=121,slow=6.4,SNR=103						
KDAK				Sn	**Sn**	07 17 53.0	-2.1
	17nm,0.3s,baz=320,slow=22,SNR=8.4						
	18nm,0.3s						
OHAK	**Old Harbor**	2.57	288		**Pn**	07 17 27.4	+0.1
OHAK	**Old Harbor**	2.57	288		**Sn**	07 17 55.3	-3.3
OHAK	**Old Harbor**	2.57	288	P	**Pn**	07 17 27.3	0.0
OHAK	**Old Harbor**	2.57	288	P	**Pn**	07 17 27.4	+0.1
	baz=106						
OHAK				S	**Sn**	07 17 55.3	-3.3
	baz=106						
SYI	**Shuyak Island**	2.87	319		**Pn**	07 17 32.2	+0.9
SYI					**Sn**	07 18 05.0	-0.8
SYI	**Shuyak Island**	2.87	319	IAML		07 18 05.7	
	comp=N,249nm,0.4s						
SYI				IAML		07 18 06.2	
	comp=E,288nm,0.3s						
Q20K	**Shuyak Island**	2.87	319	P	**Pn**	07 17 32.2	+0.9
	baz=137						
Q20K				S	**Sn**	07 18 05.0	-0.9
	baz=137						
Q23K	**Middleton Isla**	3.21	23		**Pn**	07 17 36.6	+0.5
Q23K	**Middleton Isla**	3.21	23	IAML		07 18 13.7	
	comp=N,147nm,0.7s						
Q23K	**Middleton Isla**	3.21	23	P	**Pn**	07 17 36.6	+0.5
	baz=205						
MID	**Middleton Isla**	3.21	23		**Pn**	07 17 36.5	+0.4
MID	**Middleton Isla**	3.21	23	IAML		07 18 20.4	
	comp=N,206nm,1.2s						
MID				IAML		07 19 18.3	
	comp=E,195nm,1.2s						
MID	**Middleton Isla**	3.21	23	P	**Pn**	07 17 36.9	+0.8
CNPM	**China Poot**	3.30	338		**Pn**	07 17 37.7	+0.3
CNPM	**China Poot**	3.30	338		**Sn**	07 18 15.4	-1.2
BRSE	**Bradley Lake S**	3.41	343		**Pn**	07 17 39.5	+0.6
BRSE					**Sn**	07 18 17.3	-2.0
BRSE	**Bradley Lake S**	3.41	343	P	**Pn**	07 17 39.5	+0.6
	baz=162						
BRSE				S	**Sn**	07 18 17.3	-2.0
	baz=162						
BRLK	**Bradley Lake**	3.45	342		**Pn**	07 17 39.8	+0.3
BRLK					**Sn**	07 18 19.2	-1.2
HOM	**Homer**	3.51	336		**Pn**	07 17 41.3	+1.1
HOM	**Homer**	3.51	336	IAML		07 18 23.2	
	comp=E,222nm,0.6s						
HOM				IAML		07 18 23.9	
	comp=N,297nm,1.1s						
HOM	**Homer**	3.51	336	P	**Pn**	07 17 41.3	+1.1
	baz=154						
Q19K	**Cape Douglas,**	3.56	315		**Pn**	07 17 42.4	+1.4
Q19K	**Cape Douglas,**	3.56	315	IAML		07 18 28.8	
	comp=E,446nm,1.1s						
Q19K				IAML		07 18 29.5	
	comp=N,410nm,0.8s						
Q19K	**Cape Douglas,**	3.56	315	P	**Pn**	07 17 42.4	+1.4
	baz=132						
P23K	**Montague Islan**	3.58	11		**Pn**	07 17 41.8	+0.6
P23K					**Sn**	07 18 21.0	-2.5
P23K	**Montague Islan**	3.58	11	P	**Pn**	07 17 41.8	+0.6
	baz=192						
P23K				S	**Sn**	07 18 21.0	-2.5
	baz=192						
SEW	**Seward**	3.63	355		**Pn**	07 17 42.1	+0.3
SEW					**Sn**	07 18 22.2	-2.5
SEW	**Seward**	3.63	355	P	**Pn**	07 17 42.1	+0.3
	baz=174						
SEW				S	**Sn**	07 18 22.2	-2.5
	baz=174						
AUL	**Augustine Lava**	3.80	321		**Pn**	07 17 45.8	+1.6
P19K	**Oil Pt**	3.94	325		**Pn**	07 17 47.5	+1.4
P19K					**Sn**	07 18 32.5	0.0
P19K	**Oil Pt**	3.94	325	IAML		07 18 35.6	
	comp=E,277nm,0.4s						
P19K				IAML		07 18 36.5	
	comp=N,318nm,0.5s						
P19K	**Oil Pt**	3.94	325	P	**Pn**	07 17 47.5	+1.4
	baz=142						
P19K				S	**Sn**	07 18 32.4	0.0
	baz=142						
O22K	**Cooper Landing**	4.02	353		**Pn**	07 17 47.8	+0.5
O22K	**Cooper Landing**	4.02	353	IAML		07 18 37.8	
	comp=N,266nm,0.3s						
O22K				IAML		07 18 39.7	
	comp=E,304nm,0.5s						
O22K	**Cooper Landing**	4.02	353	P	**Pn**	07 17 47.8	+0.5
	baz=173						
SLKM	**Skilak Lake**	4.09	350		**Pn**	07 17 48.4	+0.2
HIN	**Hinchinbrook I**	4.09	16		**Pn**	07 17 49.0	+0.8
HIN	**Hinchinbrook I**	4.09	16	IAML		07 18 34.6	
	comp=E,277nm,0.4s						
HIN				IAML		07 18 34.9	
	comp=N,558nm,0.4s						
O20K	**Slope Mountain**	4.12	332		**Pn**	07 17 49.5	+0.8
O20K	**Slope Mountain**	4.12	332	P	**Pn**	07 17 49.5	+0.8
	baz=150						
KAIM	**Kayak Island**	4.14	32		**Pn**	07 17 50.2	+1.3
KAIM	**Kayak Island**	4.14	32	IAML		07 18 39.6	
	comp=N,171nm,0.6s						
KAIM				IAML		07 18 41.6	
	comp=E,182nm,1.1s						
KAIM	**Kayak Island**	4.14	32	P	**Pn**	07 17 50.2	+1.3
	baz=215						
IVE	**Iliamna Volcan**	4.17	329		**Pn**	07 17 49.7	+0.3
CNTC	**Contact Creek**	4.22	298		**Pn**	07 17 51.6	+1.4
Q17K	**Contact Creek**	4.22	298	P	**Pn**	07 17 51.6	+1.4
	baz=113						
EYAK	**Cordova Ski Ar**	4.36	20		**Pn**	07 17 53.0	+1.1
EYAK	**Cordova Ski Ar**	4.36	20	P	**Pn**	07 17 53.0	+1.1
RED	**Redoubt Volcan**	4.45	334		**Pn**	07 17 53.3	+0.1
CAPN	**Captain Cook N**	4.45	345	Pn	**Pn**	07 17 54.7	+1.6
CAPN				IAML		07 18 50.4	
	comp=N,218nm,0.9s						
CAPN				IAML		07 19 53.5	
	comp=E,187nm,1.2s						
RSO	**Redoubt South**	4.48	334		**Pn**	07 17 54.0	+0.3
P18K	**Big Mountain,**	4.49	313		**Pn**	07 17 54.0	+0.3
P18K	**Big Mountain,**	4.49	313	P	**Pn**	07 17 54.1	+0.5
	baz=128						
RDT	**Redoubt**	4.50	337		**Pn**	07 17 53.9	0.0
RDWB	**Redoubt West**	4.53	334		**Pn**	07 17 54.4	+0.1
DFR	**Drift River**	4.58	335		**Pn**	07 17 54.6	-0.4
RDJH	**Redoubt Jeurge**	4.61	335		**Pn**	07 17 55.3	-0.1
NCT	**North Crescent**	4.61	334		**Pn**	07 17 55.6	+0.1
GOAT	**Goat Mountain**	4.61	26		**Pn**	07 17 56.6	+1.2
RC01	**Rabbit Creek A**	4.63	354		**Pn**	07 17 56.3	+0.7
RC01				IAML		07 20 57.1	
	comp=E,535nm,0.7s						
RC01	**Rabbit Creek A**	4.63	354	P	**Pn**	07 17 56.2	+0.6
	baz=174						
O19K	**Port Alsworth**	4.71	324		**Pn**	07 17 56.7	0.0
O19K				IAML		07 18 53.0	
	comp=E,337nm,0.5s						
O19K				IAML		07 18 55.3	
	comp=N,299nm,0.4s						
O19K	**Port Alsworth**	4.71	324	P	**Pn**	07 17 57.1	+0.4
	baz=140						
BERG	**Berg Lake**	4.73	32		**Pn**	07 17 57.9	+0.9
O18K	**Koktuh Hills**	4.78	317		**Pn**	07 17 57.9	+0.3
O18K	**Koktuh Hills**	4.78	317	P	**Pn**	07 17 57.9	+0.3
	baz=133						
SNH	**Sunshine Point**	4.84	38		**Pn**	07 17 60.0	+1.4
SNH	**Sunshine Point**	4.84	38	IAML		07 18 53.7	
	comp=E,63nm,0.4s						
SNH				IAML		07 18 54.1	
	comp=N,101nm,1.2s						
DIV	**Divide**	4.90	17		**Pn**	07 18 00.2	+0.8
KNK	**Knik Glacier**	4.93	2		**Pn**	07 18 00.7	+0.9
KNK	**Knik Glacier**	4.93	2	P	**Pn**	07 18 00.7	+0.9
	baz=182						
BMRM	**Bremner River**	4.98	24		**Pn**	07 18 01.8	+1.3
BMRM	**Bremner River**	4.98	24	P	**Pn**	07 18 01.7	+1.3
	baz=208						
N20K	**Mount Spurr**	5.03	341	P	**Pn**	07 18 01.5	+0.3
	baz=158						
SPCR	**Spurr Chakacha**	5.03	341		**Pn**	07 18 01.6	+0.3
SUA	**Susitna One**	5.08	349		**Pn**	07 18 02.1	+0.2
SUA	**Susitna One**	5.08	349	P	**Pn**	07 18 02.1	+0.2
	baz=168						
SPCP	**Crater Peak Br**	5.08	341		**Pn**	07 18 02.4	+0.4
SPCG	**Spurr Capps Gl**	5.09	342		**Pn**	07 18 02.5	+0.5
PMR	**Palmer**	5.11	358		**Pn**	07 18 02.9	+0.8
PMR	**Palmer**	5.11	358	P	**Pn**	07 18 03.2	+1.1
PMR	**Palmer**	5.11	358	P	**Pn**	07 18 02.9	+0.8
	baz=178						
SPBG	**Spurr Blockage**	5.12	340		**Pn**	07 18 02.8	+0.4
BARK	**Barkley Ridge**	5.12	38		**Pn**	07 18 03.8	+1.3
KLU	**Klutina**	5.22	15		**Pn**	07 18 04.8	+1.1
KLU	**Klutina**	5.22	15	P	**Pn**	07 18 05.0	+1.2
	baz=198						
N19K	**Bonanza Creek**	5.24	328		**Pn**	07 18 04.4	+0.3
N19K	**Bonanza Creek**	5.24	328	IAML		07 21 35.5	
	comp=E,82nm,0.6s						
N19K				IAML		07 21 37.9	
	comp=N,71nm,0.9s						
N19K	**Bonanza Creek**	5.24	328	P	**Pn**	07 18 04.4	+0.3
	baz=144						
STLK	**Strandline Lak**	5.25	344		**Pn**	07 18 04.6	+0.4
GHO	**Glory Hole Cre**	5.29	359		**Pn**	07 18 05.9	+1.2
SML	**Sawmill**	5.33	2		**Pn**	07 18 06.7	+1.4
SML	**Sawmill**	5.33	2	P	**Pn**	07 18 06.7	+1.4
	baz=183						
M23K	**Glacier View**	5.33	5		**Pn**	07 18 06.8	+1.5
M23K	**Glacier View**	5.33	5	P	**Pn**	07 18 06.8	+1.5
	baz=186						
SCM	**Sheep Creek Mo**	5.40	7		**Pn**	07 18 07.7	+1.5
SCM	**Sheep Creek Mo**	5.40	7	P	**Pn**	07 18 07.7	+1.5
	baz=189						
O17K	**Koliganek Bris**	5.48	310		**Pn**	07 18 08.5	+1.2
O17K	**Koliganek Bris**	5.48	310	P	**Pn**	07 18 08.5	+1.2
	baz=124						
VRDI	**Verde Repeater**	5.49	28		**Pn**	07 18 08.8	+1.2
P16K	**Nushagak River**	5.54	301		**Pn**	07 18 09.6	+1.6
P16K	**Nushagak River**	5.54	301	P	**Pn**	07 18 09.6	+1.6
	baz=114						
N25K	**Chitina, Valde**	5.56	21		**Pn**	07 18 09.7	+1.3
N25K	**Chitina, Valde**	5.56	21	P	**Pn**	07 18 09.7	+1.3
	baz=204						
KIAG	**Kiagna River**	5.56	34		**Pn**	07 18 09.8	+1.3
SAMH	**Samovar Hills**	5.57	46		**Pn**	07 18 09.9	+1.3
GLB	**Gilahina Butte**	5.58	25		**Pn**	07 18 09.8	+1.1
N18K	**Kilae Creek**	5.59	321		**Pn**	07 18 09.0	+0.2
N18K	**Kilae Creek**	5.59	321	P	**Pn**	07 18 09.0	+0.2
	baz=136						
SKT	**Skwentna**	5.67	347		**Pn**	07 18 10.3	+0.4
SKT	**Skwentna**	5.67	347	P	**Pn**	07 18 10.3	+0.4
	baz=165						
PTPK	**Patty Pak**	5.73	32		**Pn**	07 18 12.5	+1.6
MCARA	**McCarthy VSAT**	5.73	29		**Pn**	07 18 12.3	+1.5
MCARA	**McCarthy VSAT**	5.73	29	P	**Pn**	07 18 12.3	+1.5
	baz=214						
PCA	**Pinnacle**	5.76	48		**Pn**	07 18 12.8	+1.5
PINM	**Pinnacle**	5.77	48	P	**Pn**	07 18 12.8	+1.5
	baz=234						
M24K	**Tolsona, Glenn**	5.78	12		**Pn**	07 18 13.2	+1.8
M24K	**Tolsona, Glenn**	5.78	12	P	**Pn**	07 18 13.2	+1.8
	baz=194						
M20K	**Styx River**	5.84	339		**Pn**	07 18 12.7	+0.4
M20K	**Styx River**	5.84	339	P	**Pn**	07 18 12.7	+0.4
	baz=156						
BARN	**Barnard Glacie**	5.88	36		**Pn**	07 18 14.3	+1.3
PNL	**Peninsula**	5.91	54		**Pn**	07 18 14.9	+1.7
PNL	**Peninsula**	5.91	54	P	**Pn**	07 18 15.1	+1.9
PNL	**Peninsula**	5.91	54	P	**Pn**	07 18 14.9	+1.7
	baz=241						
CTG	**Chitna Glacier**	5.92	38	P	**Pn**	07 18 14.9	+1.4
	baz=224						
CTGM	**Chitina Glacie**	5.92	38		**Pn**	07 18 14.9	+1.4
LOGN	**Logan Glacier**	5.94	40		**Pn**	07 18 15.1	+1.3
N17K	**Nushagak Hills**	5.97	316		**Pn**	07 18 14.8	+0.8
N17K	**Nushagak Hills**	5.97	316	P	**Pn**	07 18 14.8	+0.8
	baz=130						
CUT	**Chulitna**	5.97	353	Pn	**Pn**	07 18 15.4	+1.5
WAT6	**Susitna Watana**	6.12	5		**Pn**	07 18 17.2	+1.0
WAT6	**Susitna Watana**	6.12	5	P	**Pn**	07 18 17.2	+1.0
	baz=186						
M19K	**Big River Lodg**	6.13	334		**Pn**	07 18 16.2	0.0
M19K	**Big River Lodg**	6.13	334	P	**Pn**	07 18 16.2	0.0
	baz=150						
M18K	**Stony River**	6.18	327		**Pn**	07 18 16.9	+0.1
M18K	**Stony River**	6.18	327	P	**Pn**	07 18 17.0	+0.1
	baz=142						
HARP	**HAARP**	6.20	16		**Pn**	07 18 19.0	+1.9
HARP	**HAARP**	6.20	16	P	**Pn**	07 18 19.0	+1.9
	baz=199						
WAT7	**Susitna Watana**	6.35	360		**Pn**	07 18 21.1	+1.7
O15K	**Ungalikthiuk R**	6.47	299		**Pn**	07 18 22.4	+1.5
O15K	**Ungalikthiuk R**	6.47	299	P	**Pn**	07 18 22.4	+1.5
	baz=110						
L20K	**Farewell, AK**	6.53	339		**Pn**	07 18 21.6	-0.1
L20K	**Farewell, AK**	6.53	339	P	**Pn**	07 18 21.6	-0.1
	baz=155						
N16K	**Nishlik Lake**	6.57	311		**Pn**	07 18 23.3	+1.0
N16K	**Nishlik Lake**	6.57	311	P	**Pn**	07 18 23.3	+1.0
	baz=127						
O29M	**Mount Kennedy**	6.58	50		**Pn**	07 18 24.5	+2.0
O29M	**Mount Kennedy**	6.58	50	P	**Pn**	07 18 24.5	+2.0
	baz=239						
DHY	**Denali Highway**	6.63	6		**Pn**	07 18 24.9	+1.7
DHY	**Denali Highway**	6.63	6	P	**Pn**	07 18 24.7	+1.5
	baz=187						
M17K	**Holitna River**	6.64	321		**Pn**	07 18 23.8	+0.6
M17K	**Holitna River**	6.64	321	P	**Pn**	07 18 23.8	+0.6
	baz=134						
P29M	**Windy Craggy**	6.65	57		**Pn**	07 18 24.6	+1.2
P29M	**Windy Craggy**	6.65	57	P	**Pn**	07 18 24.6	+1.2
	baz=246						
PAX	**Paxson**	6.70	13		**Pn**	07 18 25.7	+1.6
PAX	**Paxson**	6.70	13	P	**Pn**	07 18 25.7	+1.6
	baz=196						
M27K	**Edge Creek, AK**	6.85	28		**Pn**	07 18 28.0	+1.9
M27K	**Edge Creek, AK**	6.85	28	P	**Pn**	07 18 28.0	+1.9
	baz=214						
RND	**Reindeer**	6.93	360		**Pn**	07 18 28.9	+1.7
M16K	**Timber Creek**	6.96	315		**Pn**	07 18 28.6	+1.1
M16K	**Timber Creek**	6.96	315	P	**Pn**	07 18 28.6	+1.1
	baz=127						
S31K	**Pelican**	6.98	73		**Pn**	07 18 27.4	-0.4
S31K	**Pelican**	6.98	73	P	**Pn**	07 18 27.4	-0.4
	baz=263						
N15K	**Kwethluk River**	6.99	306		**Pn**	07 18 29.2	+1.2
N15K	**Kwethluk River**	6.99	306	P	**Pn**	07 18 29.2	+1.2
	baz=117						
L18K	**Granite Mounta**	7.01	328		**Pn**	07 18 28.1	-0.1
L18K	**Granite Mounta**	7.01	328	P	**Pn**	07 18 28.1	-0.1
	baz=142						
TRF	**Thorofare Moun**	7.01	354		**Pn**	07 18 29.3	+0.9
TRF	**Thorofare Moun**	7.01	354	P	**Pn**	07 18 29.3	+0.9
	baz=244						
L26K	**Log Cabin Wild**	7.09	21		**Pn**	07 18 31.9	+2.4
CAST	**Castle Rocks**	7.13	348		**Pn**	07 18 30.7	+0.7
CAST	**Castle Rocks**	7.13	348	P	**Pn**	07 18 30.7	+0.7
	baz=165						
KTH	**Kantishna Hill**	7.15	352		**Pn**	07 18 31.2	+0.9
BVCY	**Beaver Creek**	7.17	31		**Pn**	07 18 32.2	+1.7
BVCY	**Beaver Creek**	7.17	31	P	**Pn**	07 18 32.2	+1.7
	baz=218						
O14K	**Tigyukauivet M**	7.20	298	Pn	**Pn**	07 18 32.3	+1.5
P30M	**Million Dollar**	7.21	55		**Pn**	07 18 32.3	+1.2
P30M	**Million Dollar**	7.21	55	P	**Pn**	07 18 32.3	+1.2
	baz=244						
MCK	**McKinley**	7.25	360		**Pn**	07 18 33.4	+1.7
MCK	**McKinley**	7.25	360	P	**Pn**	07 18 33.4	+1.7
	baz=180						
HYT	**Haines Junctio**	7.31	49		**Pn**	07 18 33.6	+1.2
HYT	**Haines Junctio**	7.31	49	P	**Pn**	07 18 33.6	+1.2
	baz=238						
K20K	**Telida**	7.37	341		**Pn**	07 18 33.2	0.0
K20K	**Telida**	7.37	341	P	**Pn**	07 18 33.2	0.0
	baz=157						
TTA	**Tatalina**	7.40	334	P	**Pn**	07 18 33.6	-0.1
SIT	**Sitka**	7.42	80	P	**Pn**	07 18 33.7	-0.2
L17K	**Donlin**	7.45	323		**Pn**	07 18 34.7	+0.4
L17K	**Donlin**	7.45	323	P	**Pn**	07 18 34.7	+0.4
	baz=136						
K24K	**Donnelly Dome**	7.48	10		**Pn**	07 18 36.7	+2.0
K24K	**Donnelly Dome**	7.48	10	P	**Pn**	07 18 36.7	+2.0
	baz=193						
PN7A	**Pavlof North-7**	7.49	267		**Pn**	07 18 35.9	+1.0
M15K	**Kasigluk River**	7.50	309		**Pn**	07 18 36.2	+1.3
M15K	**Kasigluk River**	7.50	309	P	**Pn**	07 18 36.2	+1.3
	baz=120						
RIDG	**Independent Ri**	7.52	14		**Pn**	07 18 36.9	+1.5
L16K	**Owhat River**	7.58	318		**Pn**	07 18 36.4	+0.4
L16K	**Owhat River**	7.58	318	P	**Pn**	07 18 36.4	+0.4
	baz=129						
BPAW	**Bear Paw Mtn.**	7.70	353		**Pn**	07 18 38.5	+0.8
BPAW	**Bear Paw Mtn.**	7.70	353	P	**Pn**	07 18 38.5	+0.8
	baz=171						
SKAG	**Skagway**	7.75	62	Pn	**Pn**	07 18 39.7	+1.4
SKAG	**Skagway**	7.75	62	P	**Pn**	07 18 40.4	+2.1
N30M	**Aishikik Lake**	7.82	46		**Pn**	07 18 41.2	+1.8
N30M	**Aishikik Lake**	7.82	46	P	**Pn**	07 18 41.2	+1.8
	baz=235						
K17K	**Iditarod**	7.87	326		**Pn**	07 18 40.0	0.0
O30N	**Mendenhall**	7.88	52		**Pn**	07 18 41.1	+0.8
O30N	**Mendenhall**	7.88	52	P	**Pn**	07 18 41.1	+0.8
	baz=242						
M29M	**Somme Creek**	7.94	37		**Pn**	07 18 43.1	+2.0
HDA	**Harding Lake**	7.99	6		**Pn**	07 18 42.9	+1.3
HDA	**Harding Lake**	7.99	6	P	**Pn**	07 18 42.9	+1.3
	baz=187						
JIS	**Juneau Island**	7.99	71	P	**Pn**	07 18 42.7	+1.1
J18K	**Innoko River**	8.03	334		**Pn**	07 18 42.5	+0.2
J18K	**Innoko River**	8.03	334	P	**Pn**	07 18 42.5	+0.2
	baz=147						
NEA2	**Nenana**	8.12	359		**Pn**	07 18 44.4	+0.9
J20K	**Nowinta River**	8.14	343		**Pn**	07 18 44.4	+0.6
J20K	**Nowinta River**	8.14	343	P	**Pn**	07 18 44.4	+0.6
	baz=159						
CCB	**Clear Creek Bu**	8.19	3		**Pn**	07 18 46.0	+1.6
J19K	**Poorman**	8.24	339		**Pn**	07 18 44.9	-0.2
J19K	**Poorman**	8.24	339	P	**Pn**	07 18 44.9	-0.2
	baz=153						
J25K	**Salcha River,**	8.31	10		**Pn**	07 18 47.2	+1.1
IL31		8.35	6		**Pn**	07 18 47.4	+0.9
ILAR	**Eielson Array**	8.35	6	Pn	**Pn**	07 18 47.6	+1.0
	comp=N,1.0nm,0.3s,baz=188,slow=13,SNR=37						
	comp=N,1.8nm,0.3s						
COLA	**College**	8.41	3		**Pn**	07 18 49.0	+1.6
COLA	**College**	8.41	3	P	**Pn**	07 18 48.7	+1.3
J26L	**Joseph Creek**	8.43	16		**Pn**	07 18 49.1	+1.4
L29M	**L29M**	8.52	35		**Pn**	07 18 50.9	+1.9
L29M	**L29M**	8.52	35	P	**Pn**	07 18 50.9	+1.9
	baz=224						
P32M	**Atlin**	8.57	63		**Pn**	07 18 51.2	+1.4
P32M	**Atlin**	8.57	63	P	**Pn**	07 18 51.2	+1.4
	baz=255						
I23K	**Minto, Yukon-K**	8.68	358		**Pn**	07 18 52.4	+1.3
K15K	**Wolf Creek Mou**	8.70	317	Pn	**Pn**	07 18 52.5	+1.0
U33K	**Whale Pass**	8.72	86		**Pn**	07 18 50.6	-1.2
U33K	**Whale Pass**	8.72	86	P	**Pn**	07 18 50.6	-1.2
	baz=278						
I21K	**Tanana**	8.84	351		**Pn**	07 18 54.7	+1.3
J16K	**Anvik River**	9.01	324	Pn	**Pn**	07 18 55.8	+0.1
I26K	**Coal Creek Min**	9.25	15		**Pn**	07 18 59.8	+0.9
K29M	**Barlow Dome**	9.25	33		**Pn**	07 19 01.2	+2.2
H24K	**Noodor Dome**	9.38	2		**Pn**	07 19 02.5	+1.8
H21K	**Melozitna Rive**	9.39	350		**Pn**	07 19 01.0	+0.2
H21K	**Melozitna Rive**	9.39	350	P	**Pn**	07 19 01.9	+1.1
	baz=166						
IMAR	**Indian Mountai**	9.80	348	Pn	**Pn**	07 19 07.0	+0.4
I28M	**Miner Creek**	9.94	22	Pn	**Pn**	07 19 11.0	+2.5
G23K	**Bananza Creek**	10.26	357		**Pn**	07 19 13.9	+1.1
DLBC	**Dease Lake**	10.29	71	Pn	**Pn**	07 19 13.5	+0.

comp=N,19µm,0.6s
SML Sawmill 0.42 208 Sn 07 20 48.7 +0.8
SML Sawmill 0.42 208 P Pn 07 20 40.7 0.0
baz=34
SML S Sn 07 20 48.7 +0.8
baz=34
WAT6 Susitna Watana 0.42 11 Pn 07 20 40.8 -0.1
WAT6 Sn 07 20 48.3 +0.2
WAT6 Susitna Watana 0.42 11 P Pn 07 20 40.8 -0.1
baz=184
WAT6 S Sn 07 20 48.3 +0.2
baz=184
SCM Sheep Creek Mo 0.44 141 Pn 07 20 40.2 -0.9
SCM IAML 07 20 49.6
comp=E,19µm,0.7s
SCM Sheep Creek Mo 0.44 141 Sn 07 20 48.4 0.0
SCM Sheep Creek Mo 0.44 141 P Pn 07 20 40.5 -0.5
baz=326
SCM S Sn 07 20 48.4 0.0
baz=326
GHO Glory Hole Cre 0.62 230 Pn 07 20 43.6 +0.3
GHO IAML 07 20 54.7
comp=E,9µm,0.5s
GHO IAML 07 20 55.4
comp=N,7µm,0.6s
GHO Glory Hole Cre 0.62 230 Sn 07 20 53.7 +1.2
WAT1 Susitna Watana 0.72 336 Pn 07 20 44.7 +0.1
WAT1 Sn 07 20 54.9 +0.3
WAT1 Susitna Watana 0.72 336 P Pn 07 20 44.7 +0.1
baz=152
WAT1 S Sn 07 20 54.9 +0.3
baz=152
WAT7 Susitna Watana 0.79 327 Pn 07 20 45.8 +0.2
WAT7 Sn 07 20 56.9 +0.5
KNK Knik Glacier 0.81 199 Pn 07 20 45.8 +0.1
KNK IAML 07 20 58.9
comp=N,11µm,0.6s
KNK Knik Glacier 0.81 199 Sn 07 20 56.9 +0.3
KNK Knik Glacier 0.81 199 P Pn 07 20 45.9 +0.3
baz=22
KNK S Sn 07 20 56.9 +0.3
baz=22
M24K Tolsona, Glenn 0.82 94 Pn 07 20 45.2 -0.7
M24K IAML 07 20 58.3
comp=N,11µm,0.7s
M24K IAML 07 20 59.3
comp=E,10µm,0.5s
M24K Tolsona, Glenn 0.82 94 Sn 07 20 57.9 +1.0
M24K Tolsona, Glenn 0.82 94 P Pn 07 20 45.9 0.0
baz=275
PMR Palmer 0.82 225 Pn 07 20 45.6 -0.2
PMR Palmer 0.82 225 P Pn 07 20 46.0 +0.2
PMR Palmer 0.82 225 P Pn 07 20 45.8 0.0
baz=47
DHY Denali Highway 0.94 15 Pn 07 20 47.3 -0.3
DHY Denali Highway 0.94 15 Sn 07 21 00.6 +0.6
DHY Denali Highway 0.94 15 P Pn 07 20 47.7 +0.1
baz=192
CUT Chulitna 1.12 283 Pn 07 20 50.7 +0.7
CUT Chulitna 1.12 283 P Pn 07 20 51.0 +1.1
baz=101
KLU Klutina 1.17 125 Pn 07 20 49.9 -0.8
KLU IAML 07 21 08.3
comp=E,7µm,0.4s
KLU Klutina 1.17 125 Sn 07 21 05.7 +0.3
KLU Klutina 1.17 125 P Pn 07 20 50.0 -0.6
baz=308
HARP HAARP 1.31 79 Pn 07 20 52.8 +0.3
HARP HAARP 1.31 79 P Pn 07 20 52.8 +0.3
baz=260
RND Reindeer 1.31 341 Pn 07 20 52.9 +0.3
PAX Paxson 1.39 54 Pn 07 20 53.8 +0.2
PAX Sn 07 21 11.9 +1.1
PAX Paxson 1.39 54 P Pn 07 20 53.8 +0.2
baz=234
RC01 Rabbit Creek A 1.39 219 Pn 07 20 54.7 +1.1
RC01 Rabbit Creek A 1.39 219 P Pn 07 20 54.9 +1.3
baz=40
DIV Divide 1.46 135 Pn 07 20 53.7 -0.9
FIS Fire Island 1.51 228 Pn 07 20 56.9 +1.8
FIS IAML 07 21 30.9
comp=N,4µm,0.9s
SUA Susitna One 1.52 243 Pn 07 20 56.6 +1.1
SUA IAML 07 21 19.6
comp=E,3µm,0.7s
SUA IAML 07 21 20.2
comp=N,3µm,0.7s
SUA Susitna One 1.52 243 P Pn 07 20 56.9 +1.4
baz=62
MCK McKinley 1.63 344 Pn 07 20 58.3 +1.4
MCK McKinley 1.63 344 P Pn 07 20 58.3 +1.4
baz=161
N25K Chitina, Valde 1.67 108 Pn 07 20 57.2 -0.3
N25K Chitina, Valde 1.67 108 P Pn 07 20 57.4 -0.1
baz=292
TRF Thorofare Moun 1.68 321 Pn 07 20 58.4 +0.6
TRF IAML 07 21 23.8
comp=N,2µm,0.6s
TRF IAML 07 21 26.8
comp=E,2µm,0.6s
TRF Thorofare Moun 1.68 321 P Pn 07 20 58.7 +0.9
baz=138
WACK Wrangell Chich 1.70 95 Pn 07 20 58.2 +0.2
SKT Skwentna 1.71 265 Pn 07 20 59.1 +1.1
SKT IAML 07 21 30.9
comp=N,2µm,0.9s
SKT Skwentna 1.71 265 P Pn 07 20 59.6 +1.5
baz=82
WAZA Wrangell Mount 1.77 92 Pn 07 20 60.0 +0.9
WASW Wrangell South 1.78 96 Pn 07 20 59.5 +0.4
K24K Donnelly Dome 1.91 30 Pn 07 21 03.1 +2.4
K24K Donnelly Dome 1.91 30 P Pn 07 21 03.1 +2.4
baz=210
HIN Hinchinbrook I 1.91 158 Pn 07 21 00.9 +0.2
HIN IAML 07 21 33.8
comp=N,2µm,1.1s
O22K Cooper Landing 1.91 208 Pn 07 21 02.3 +1.6
O22K Cooper Landing 1.91 208 P Pn 07 21 03.0 +2.3
baz=28
EYAK Cordova Ski Ar 1.93 146 Pn 07 21 01.6 +0.7
EYAK Cordova Ski Ar 1.93 146 P Pn 07 21 02.9 +1.9
EYAK Cordova Ski Ar 1.93 146 P Pn 07 21 01.7 +0.7
baz=330
KTH Kantishna Hill 1.96 316 Pn 07 21 02.4 +1.0
KTH IAML 07 21 30.7
comp=E,3µm,1.0s
STLK Strandline Lak 1.98 252 Pn 07 21 03.5 +1.8
BMRM Bremner River 1.99 126 Pn 07 21 01.4 -0.4
BMRM Bremner River 1.99 126 P Pn 07 21 01.5 -0.4
baz=310
SLKM Skilak Lake 2.01 215 Pn 07 21 03.3 +1.2
GLB Gilahina Butte 2.08 109 Pn 07 21 03.0 -0.1
GLB IAML 07 21 31.1
comp=E,2µm,0.5s
MENT Mentasta 2.09 67 Pn 07 21 03.5 +0.3
MENT Mentasta 2.09 67 P Pn 07 21 03.7 +0.5
RIDG Independent Ri 2.11 40 Pn 07 21 04.9 +1.4
RIDG IAML 07 21 32.8
comp=E,2µm,0.8s
RIDG IAML 07 21 33.2
comp=N,2µm,1.0s
RIDG Independent Ri 2.11 40 P Pn 07 21 04.9 +1.4
baz=222
PPLA Purkeypile 2.11 292 Pn 07 21 05.2 +1.6
PPLA Purkeypile 2.11 292 P Pn 07 21 04.9 +1.3
baz=108
SPCG Spurr Capps Gl 2.15 247 Pn 07 21 06.0 +2.0
P23K Montague Islan 2.20 173 Pn 07 21 05.1 +0.5
P23K Montague Islan 2.20 173 P Pn 07 21 06.5 +1.9
baz=355
SEW Seward 2.21 200 Pn 07 21 06.3 +1.6
SEW Seward 2.21 200 P Pn 07 21 06.5 +1.8
baz=20
GOAT Goat Mountain 2.21 135 Pn 07 21 04.9 -0.1
SPCP Crater Peak Br 2.21 248 Pn 07 21 07.0 +1.9
N20K Mount Spurr 2.27 246 P Pn 07 21 07.2 +1.6
baz=63
SPCR Spurr Chakacha 2.27 246 Pn 07 21 07.2 +1.6
L26K Log Cabin Wild 2.28 66 Pn 07 21 06.7 +1.0
L26K Log Cabin Wild 2.28 66 IAML 07 21 43.5
comp=N,2µm,0.5s
L26K IAML 07 21 44.3
comp=E,2µm,0.5s
HDA Harding Lake 2.29 11 Pn 07 21 07.5 +1.6
HDA Harding Lake 2.29 11 IAML 07 21 38.2
comp=E,2µm,0.5s
HDA IAML 07 21 38.7
comp=N,2µm,0.5s
HDA Harding Lake 2.29 11 P Pn 07 21 07.5 +1.6
baz=190
CAST Castle Rocks 2.29 305 Pn 07 21 06.9 +1.0
CAST IAML 07 21 49.0
comp=E,1µm,1.0s
CAST IAML 07 21 49.9
comp=N,1µm,0.6s
CAST Castle Rocks 2.29 305 P Pn 07 21 06.9 +1.0
baz=121
WRH Wood River Hil 2.31 358 Pn 07 21 07.4 +1.2
M26K Nabesna, AK 2.31 82 Pn 07 21 06.2 0.0
M26K Nabesna, AK 2.31 82 IAML 07 21 39.9
comp=E,1µm,0.5s
M26K IAML 07 21 48.7
comp=N,2µm,0.6s
VRDI Verde Repeater 2.33 112 Pn 07 21 06.7 +0.1
VRDI IAML 07 21 39.6
comp=E,1µm,0.6s
VRDI IAML 07 21 42.1
comp=N,1µm,0.5s
RAGM Ragged Mountai 2.38 137 Pn 07 21 07.9 +0.7
BPAW Bear Paw Mtn. 2.38 326 Pn 07 21 08.0 +0.7
BPAW Bear Paw Mtn. 2.38 326 P Pn 07 21 08.1 +0.9
baz=142
MCARA McCarthy VSAT 2.46 107 Pn 07 21 08.3 +0.1
MCARA McCarthy VSAT 2.46 107 P Pn 07 21 08.4 +0.3
baz=291
M20K Styx River 2.48 266 Pn 07 21 10.1 +1.6
M20K Styx River 2.48 266 IAML 07 21 45.1
comp=E,1µm,0.5s
M20K IAML 07 21 53.9
comp=N,1µm,0.9s
CCB Clear Creek Bu 2.48 1 Pn 07 21 09.5 +0.9
CCB IAML 07 21 39.8
comp=E,905nm,0.7s
NEA2 Nenana 2.48 348 Pn 07 21 09.1 +0.5
NEA2 IAML 07 21 39.8
comp=E,1µm,0.7s
NEA2 IAML 07 21 40.9
comp=N,1µm,0.7s
NEA2 Nenana 2.48 348 P Pn 07 21 09.0 +0.5
baz=166
SCRK Sand Creek 2.54 43 Pn 07 21 09.5 0.0
SCRK Sand Creek 2.54 43 P Pn 07 21 09.9 +0.4
baz=225
CHUM Lake Minchumin 2.64 312 Pn 07 21 11.9 +1.3
IL31 2.65 10 Pn 07 21 12.1 +1.3
ILAR Eielson Array 2.65 10 Pn 07 21 11.3 +0.5
ILAR Eielson Array 2.65 10 P Pn 07 21 12.1 +1.3
comp=N,88nm,0.3s,baz=188,slow=13,SNR=175
ILAR S Sn 07 21 43.1 +1.4
comp=N,435nm,0.7s,baz=191,slow=22,SNR=21
RDT Redoubt 2.69 235 Pn 07 21 12.8 +1.3
J25K Salcha River, 2.70 24 Pn 07 21 12.5 +0.9
J25K Salcha River, 2.70 24 IAML 07 21 47.6
comp=N,644nm,0.4s
J25K IAML 07 21 48.3
comp=E,1µm,0.6s
BERG Berg Lake 2.71 129 Pn 07 21 11.9 +0.3
BERG IAML 07 21 53.2
comp=N,5µm,0.6s
BERG IAML 07 21 55.4
comp=E,9µm,0.6s
COLA College 2.71 1 Pn 07 21 12.2 +0.6
COLA College 2.71 1 P Pn 07 21 13.0 +1.4
PTPK Patty Peak 2.78 108 Pn 07 21 12.8 0.0
DFR Drift River 2.79 237 Pn 07 21 14.5 +1.7
BRSE Bradley Lake S 2.80 211 Pn 07 21 14.1 +1.2
BRSE Bradley Lake S 2.80 211 P Pn 07 21 14.8 +1.9
baz=29
L20K Farewell, AK 2.80 279 Pn 07 21 14.3 +1.3
BRLK Bradley Lake 2.82 212 Pn 07 21 14.5 +1.3
KAIM Kayak Island 2.82 141 Pn 07 21 12.5 -0.7
KAIM IAML 07 22 00.5
comp=E,682nm,1.2s
KAIM IAML 07 22 00.6
comp=N,948nm,0.6s
M27K Edge Creek, AK 2.83 84 Pn 07 21 14.3 +0.9
M27K Edge Creek, AK 2.83 84 IAML 07 22 03.1
comp=N,890nm,1.1s
M27K IAML 07 22 03.5
comp=E,785nm,0.8s
RDJH Redoubt Jeurge 2.84 238 Pn 07 21 15.4 +1.9
RSO Redoubt South 2.90 236 Pn 07 21 16.2 +1.8
NCT North Crescent 2.91 238 Pn 07 21 16.2 +1.7
RDWB Redoubt West 2.92 237 Pn 07 21 15.9 +1.3
RED Redoubt Volcan 2.93 235 Pn 07 21 16.3 +1.6
KIAG Kiagna River 2.94 113 Pn 07 21 14.2 -0.8
L27K Beaver Creek, 2.95 70 Pn 07 21 15.2 +0.2
POKR Poker Plat Res 2.96 4 Pn 07 21 16.5 +1.3
POKR IAML 07 21 52.5
comp=N,709nm,0.9s
POKR IAML 07 22 07.1
comp=E,510nm,0.9s
POKR Poker Plat Res 2.96 4 P Pn 07 21 16.3 +1.2
baz=183
BCAR Beaver Creek A 2.97 70 Pn 07 21 15.0 -0.2
J26L Joseph Creek 3.05 38 Pn 07 21 17.2 +0.8
J26L Joseph Creek 3.05 38 IAML 07 21 53.2
comp=E,735nm,0.6s
J26L IAML 07 21 53.6
comp=N,824nm,0.5s
I23K Minto, Yukon-K 3.06 348 Pn 07 21 17.2 +0.9
I23K IAML 07 21 55.2
comp=N,771nm,0.8s
I23K Minto, Yukon-K 3.06 348 P Pn 07 21 17.3 +0.9
baz=166
M19K Big River Lodg 3.06 268 Pn 07 21 17.5 +0.9
M19K Big River Lodg 3.06 268 IAML 07 22 12.9
comp=N,596nm,0.8s
M19K IAML 07 22 22.4
comp=E,513nm,0.9s
K20K Telida 3.07 295 Pn 07 21 18.0 +1.4
K20K Telida 3.07 295 IAML 07 22 11.9
comp=N,540nm,0.7s
CNPM China Poot 3.11 213 Pn 07 21 18.5 +1.3
CNPM IAML 07 22 08.1
comp=E,522nm,0.9s
BARK Barkley Ridge 3.16 122 Pn 07 21 17.7 -0.3
SNH Sunshine Point 3.17 127 Pn 07 21 17.6 -0.4
SNH Sunshine Point 3.17 127 IAML 07 22 14.0
comp=N,844nm,0.7s
SNH IAML 07 22 18.0
comp=E,886nm,0.6s
BARN Barnard Glacie 3.19 108 Pn 07 21 18.1 -0.3
K27K Chicken 3.24 52 Pn 07 21 19.0 +0.1
L19K White Mountain 3.25 273 Pn 07 21 20.3 +1.1
L19K White Mountain 3.25 273 IAML 07 22 07.6
comp=N,382nm,0.8s
L19K IAML 07 22 15.8
comp=E,414nm,0.9s
BVCY Beaver Creek 3.30 83 Pn 07 21 20.5 +0.7
BVCY Beaver Creek 3.30 83 P Pn 07 21 20.5 +0.7
baz=269
YUK2 White River 3.36 93 Pn 07 21 21.2 +0.5
CTG Chitna Glacier 3.37 108 P Pn 07 21 21.0 +0.2
baz=294
CTGM Chitina Glacie 3.37 108 Pn 07 21 20.9 0.0
CTGM IAML 07 22 11.7
comp=E,584nm,0.6s
N19K Bonanza Creek 3.43 250 Pn 07 21 23.0 +1.3
N19K Bonanza Creek 3.43 250 IAML 07 22 30.1
comp=E,354nm,1.1s
J20K Nowinta River 3.47 308 Pn 07 21 23.2 +1.2
J20K Nowinta River 3.47 308 IAML 07 22 23.8
comp=E,510nm,0.6s
J20K IAML 07 22 24.4
comp=N,365nm,0.7s
I21K Tanana 3.52 331 Pn 07 21 24.1 +1.3
I21K Tanana 3.52 331 IAML 07 22 07.5
comp=N,418nm,0.9s
PRP Porcupine Dome 3.52 16 Pn Pn 07 21 23.8 +0.9
YUK3 Moose Creek 3.54 93 Pn 07 21 23.5 +0.3
YUK3 Moose Creek 3.54 93 P Pn 07 21 23.5 +0.3
baz=280
LOGN Logan Glacier 3.58 109 Pn 07 21 23.3 -0.4
LOGN IAML 07 22 18.6
comp=E,628nm,0.6s
P19K Oil Pt 3.62 228 Pn 07 21 25.6 +1.3
P19K IAML 07 22 29.4
comp=E,425nm,0.8s
P19K IAML 07 22 42.0
comp=N,425nm,0.7s
P19K Oil Pt 3.62 228 P Pn 07 21 26.4 +2.2
baz=44
H24K Noodor Dome 3.68 0 Pn 07 21 26.2 +1.2
H24K Noodor Dome 3.68 0 IAML 07 22 25.6
comp=E,297nm,1.0s
I26K Coal Creek Min 3.79 32 Pn 07 21 27.4 +1.0
I26K Coal Creek Min 3.79 32 IAML 07 22 26.7
comp=E,407nm,0.9s
I26K IAML 07 22 36.7
comp=N,418nm,0.7s
M18K Stony River 3.81 263 Pn 07 21 27.8 +1.0
SVW2 Sparrevohn 3.81 257 Pn 07 21 27.6 +0.8
TTA Tatalina 3.83 285 Pn Pn 07 21 27.1 +0.1
TTA IAML 07 22 46.2
comp=N,286nm,1.4s
TTA Tatalina 3.83 285 P Pn 07 21 27.7 +0.7
TTA Tatalina 3.83 285 P Pn 07 21 27.9 +0.8
baz=98
I20K Naaghedeneel 3.95 315 Pn 07 21 30.2 +1.6
J19K Poorman 3.95 301 Pn 07 21 29.6 +0.9
J19K IAML 07 22 45.3
comp=N,326nm,0.9s
J19K IAML 07 22 46.2
comp=E,265nm,0.9s
J19K Poorman 3.95 301 P Pn 07 21 29.9 +1.2
baz=114
YUK8 Steele Glacier 3.98 99 Pn 07 21 30.1 +0.8
YUK8 Steele Glacier 3.98 99 P Pn 07 21 30.1 +0.8
baz=286
EGAK Eagle 4.00 46 Pn 07 21 29.7 +0.3
EGAK IAML 07 22 43.2
comp=E,412nm,0.7s
EGAK IAML 07 22 44.2
comp=E,363nm,0.8s
EGAK Eagle 4.00 46 P Pn 07 21 29.9 +0.5
baz=232
SAMH Samovar Hills 4.02 118 Pn 07 21 30.7 +1.0
H21K Melozitna Rive 4.11 330 Pn 07 21 31.8 +0.9
H21K Melozitna Rive 4.11 330 P Pn 07 21 31.9 +1.1
baz=146
L18K Granite Mounta 4.11 275 Pn Pn 07 21 31.2 +0.4
L18K IAML 07 22 49.2
comp=E,218nm,1.3s
L18K IAML 07 22 50.2
comp=N,232nm,1.1s
N18K Kilae Creek 4.11 252 Pn Pn 07 21 31.8 +0.8
J18K Innoko River 4.24 292 Pn Pn 07 21 33.3 +0.7
J18K IAML 07 22 54.5
comp=N,228nm,1.1s
PCA Pinnacle 4.26 116 Pn 07 21 32.4 -0.5
PINM Pinnsula 4.26 116 P Pn 07 21 34.5 +1.5
baz=303
DAWY Dawson 4.31 60 Pn 07 21 33.7 +0.1
Q19K Cape Douglas, 4.31 224 Pn 07 21 34.8 +1.2
M29M Somme Creek 4.42 82 Pn 07 21 35.9 +0.7
M29M Somme Creek 4.42 82 IAML 07 22 53.4
comp=N,192nm,1.4s
I27K Kandik River 4.43 36 Pn 07 21 36.1 +0.9
YUK4 Talbot Arm 4.48 97 P Pn 07 21 36.5 +0.4
baz=284
P18K Big Mountain, 4.54 235 Pn 07 21 37.5 +0.7
P18K Big Mountain, 4.54 235 P Pn 07 21 38.3 +1.5
baz=49
BCPM Bancas Point 4.60 115 Pn 07 21 37.7 +0.2
IMAR Indian Mountai 4.60 329 Pn 07 21 38.6 +1.0
L29M L29M 4.61 74 Pn 07 21 38.1 +0.4
L29M IAML 07 23 00.4
comp=E,228nm,0.8s
G23K Bananza Creek 4.65 350 Pn 07 21 39.8 +1.5
G25K Bearman Lake 4.68 9 Pn 07 21 39.9 +1.3
YUK6 Outpost Mounta 4.73 101 Pn 07 21 40.3 +0.7
YUK6 Outpost Mounta 4.73 101 P Pn 07 21 40.3 +0.7
baz=289
N17K Nushagak Hills 4.76 254 Pn 07 21 40.4 +0.7
N17K Nushagak Hills 4.76 254 IAML 07 23 07.4
comp=N,207nm,1.2s
N17K IAML 07 23 10.2
comp=E,163nm,1.1s
GCSA Galena City Sc 4.78 307 Pn 07 21 41.5 +1.6
I28M Miner Creek 4.83 44 Pn 07 21 41.4 +0.6
I28M Miner Creek 4.83 44 IAML 07 23 05.7
comp=E,227nm,0.9s
I28M IAML 07 23 08.6
comp=N,142nm,1.1s
PNL Peninsula 4.86 117 Pn 07 21 41.1 0.0
PNL Peninsula 4.86 117 P Pn 07 21 41.5 +0.4
baz=305
K17K Iditarod 4.86 281 Pn 07 21 41.9 +0.8
K17K Iditarod 4.86 281 IAML 07 23 13.1
comp=E,216nm,1.1s
K17K IAML 07 23 20.8
comp=N,173nm,1.3s
L17K Donlin 4.87 274 Pn 07 21 41.9 +0.6
YUK5 Granite Creek 4.91 98 Pn 07 21 41.8 -0.2
J29N Klondike Camp 4.93 58 Pn 07 21 43.5 +1.3
J29N IAML 07 23 13.0
comp=E,518nm,0.7s
J29N IAML 07 23 13.3
comp=N,844nm,0.6s
KDAK Kodiak Island 4.99 210 Pn 07 21 43.0 +0.1
KDAK Kodiak Island 4.99 210 IAML 07 23 27.6
comp=N,117nm,3.5s
KDAK IAML 07 24 00.4
comp=N,131nm,3.2s
KDAK Kodiak Island 4.99 210 P Pn 07 21 43.2 +0.4
comp=N,4.8nm,0.3s,baz=112,slow=11,SNR=1.9
KDAK S Sn 07 22 35.8 -3.3
comp=N,36nm,0.6s,baz=260,slow=18,SNR=6.6
KDAK LR LR 07 23 44.3
comp=N,195nm,18.9s,baz=50,slow=38
K29M Barlow Dome 5.02 66 Pn 07 21 43.6 +0.2
K29M Barlow Dome 5.02 66 IAML 07 23 12.8
comp=N,134nm,0.9s
HYT Haines Junctio 5.17 101 Pn 07 21 45.0 -0.5
HYT Haines Junctio 5.17 101 P Pn 07 21 46.8 +1.3
baz=290
COLD Coldfoot 5.17 350 Pn 07 21 46.8 +1.5
COLD Coldfoot 5.17 350 P Pn 07 21 46.8 +1.5
baz=168
M30M Minto, Yukon 5.19 81 Pn 07 21 45.8 +0.1
M30M IAML 07 23 15.2
comp=N,102nm,1.1s
M30M Minto, Yukon 5.19 81 P Pn 07 21 46.0 +0.2
baz=270
L16K Owhat River 5.48 270 Pn 07 21 49.8 +0.2
OHAK Old Harbor 5.66 211 Pn 07 21 51.6 -0.5
MAYO Mayo, Yukon 5.68 70 Pn 07 21 53.3 +0.9
O30N Mendenhall 5.84 99 Pn 07 21 53.5 -1.1
E25K Arctic Village 6.05 8 Pn 07 21 58.7 +1.2
I17K Unalakleet 6.07 292 Pn 07 21 58.2 +0.6
N15K Kwethluk River 6.22 257 Pn 07 22 00.8 +0.9
M31M Drury Creek, Y 6.33 84 Pn 07 22 01.0 -0.3
EPYK Eagle Plains 6.44 44 Pn 07 22 02.2 -0.6
SKAG Skagway 6.73 108 P Pn 07 22 07.1 +0.4
FARO Faro, Yukon 6.81 83 Pn 07 22 08.2 +0.3
H16K Elim 6.89 297 Pn 07 22 10.2 +1.4
P33M Teslin, Yukon 7.55 98 Pn 07 22 18.3 +0.2
G31M Satah River 7.56 45 Pn 07 22 17.1 -0.9
E17K Hotham Inlet 7.73 316 Pn 07 22 22.3 +1.9
JIS Juneau Island 7.78 114 P Pn 07 22 21.0 -0.1
F31M Tsiigehtchic 8.02 43 Pn Pn 07 22 23.3 -0.9
SIT Sitka 8.18 123 P Pn 07 22 26.7 +0.1
ANM Nome 8.20 295 Pn 07 22 28.0 +1.2
INK Inuvik 8.60 38 P Pn 07 22 31.9 -0.3
comp=N,6.0nm,0.7s,baz=224,slow=13,SNR=39
INK S Sn 07 24 05.5 -2.2
comp=N,12nm,0.6s,baz=313,slow=13,SNR=5.3
R33M Jennings River 8.74 101 Pn 07 22 34.6 +0.3
C17K DeLong Mountai 8.96 321 Pn 07 22 38.2 +0.9
TNA Tin City 9.44 300 Pn 07 22 45.6 +1.8
DLBC Dease Lake 9.62 105 P Pn 07 22 46.5 +0.1
comp=N,1.0nm,0.4s,baz=318,slow=10,SNR=6.5
DLBC LR LR 07 26 54.7
comp=N,187nm,18.0s,baz=290,slow=40
A21K Barrow 9.80 343 Pn 07 22 49.4 +0.8
C36M Paulatuk 12.07 43 Pn Pn 07 23 17.6 -2.1
A36M Sachs Harbour 13.11 32 Pn Pn 07 23 33.2 -0.6
BBB Bella Bella 14.61 124 LR LR 07 30 08.2
comp=N,98nm,18.4s,baz=16,slow=39
YKA Yellowknife Ar 15.38 74 P Pn 07 24 01.9 -2.3
comp=N,2.1nm,0.6s,baz=285,slow=10,SNR=22
EDM Edmonton 20.29 100 P P 07 25 02.1 -0.1
LON Longmire 21.42 124 P P 07 25 16.0 +1.5
LON IAmb IAmb 07 25 36.6

	comp=Z,11nm,1.1s							
NEW	**Newport**	**22.13 115**	P	**P**	**07 25 23.2 +1.2**			
NEW			IAmb	IAmb	07 25 43.1			
	comp=Z,9.1nm,0.9s							
NEW	**Newport**	**22.13 115**	P	**P**	**07 25 23.2 +1.2**			
	comp=Z,7.4nm,1.0s,baz=319,slow=8.5,SNR=8.8							
	comp=Z,7.4nm,1.0s							
RES	**Resolute Bay**	**22.13 34**	P	**P**	**07 25 21.0 -0.7**			
RES	**Resolute Bay**	**22.13 34**	P	**P**	**07 25 20.8 -0.9**			
	comp=Z,1.6nm,0.4s,baz=259,slow=12,SNR=10							
	comp=Z,1.6nm,0.4s							
MXC	**Moxie City**	**22.16 122**	P	**P**	**07 25 23.3 +1.0**			
MXC			IAmb	IAmb	07 25 25.6			
	comp=Z,8.2nm,0.8s							
I07A	**Izee**	**24.54 124**	P	**P**	**07 25 46.9 +1.1**			
I07A			IAmb	IAmb	07 26 09.1			
	comp=Z,15nm,1.5s							
OVMT	**Ovando**	**24.83 111**	P	**P**	**07 25 48.6 +0.1**			
PLID	**Pearl Lake**	**25.12 118**	P	**P**	**07 25 51.3 +0.2**			
PLID			IAmb	IAmb	07 25 52.0			
	comp=Z,4.9nm,0.8s							
YBH	**Yreka Blue Hor**	**25.39 132**	P	**P**	**07 25 56.0 +2.5**			
	comp=Z,2.3nm,0.9s,baz=323,slow=5.1,SNR=1.8							
	comp=Z,2.3nm,0.9s							
HLID	**Hailey**	**27.02 118**	P	**P**	**07 26 08.6 +0.4**			
IMW	**Indian Meadow**	**28.22 113**	P	**P**	**07 26 20.8 +1.6**			
ELK	**Elko**	**29.04 122**	P	**P**	**07 26 27.6 +1.3**			
ELK			IAmb	IAmb	07 26 28.8			
	comp=Z,4.7nm,0.9s							
PDAR	**Pinedale Array**	**29.73 113**	P	**P**	**07 26 33.4 +0.9**			
	comp=Z,2.4nm,0.8s,baz=321,slow=6.0,SNR=18							
PDAR			pP	**pP**	**07 26 47.0 +2.0**			
	comp=Z,0.8nm,0.8s,baz=322,slow=9.4,SNR=4.0							
PDAR			LR	LR	07 39 28.2			
	comp=Z,90nm,18.8s,baz=3.0,slow=38							
	comp=Z,2.4nm,0.8s							
NVAR	**Mina Array Bea**	**29.88 129**	P	**P**	**07 26 35.5 +1.7**			
	comp=Z,1.6nm,0.8s,baz=311,slow=8.3,SNR=4.2							
NVAR			pP	**pP**	**07 26 48.3 +1.9**			
	comp=Z,1.4nm,0.9s,baz=310,slow=7.0,SNR=4.7							
	comp=Z,1.6nm,0.8s							
ULM	**Lac du Bonnet**	**30.42 89**	LR	LR	07 39 41.1			
	comp=Z,64nm,19.8s,baz=182,slow=38							
MSU	**Marysvale**	**32.17 121**	P	**P**	**07 26 55.6 +1.5**			
SRU	**San Rafael Swe**	**32.34 118**	P	**P**	**07 26 56.5 +1.0**			
L40A	**Anamosa**	**38.62 94**	P	**P**	**07 27 48.3 -0.7**			
SCHQ	**Schefferville**	**40.33 62**	P	**P**	**07 28 02.1 -1.0**			
	comp=Z,2.1nm,0.5s,baz=310,slow=10.0,SNR=7.4							
	comp=Z,2.1nm,0.5s							
VHRN	**Van Horn**	**41.80 118**	P	**P**	**07 28 17.1 +1.5**			
VHRN			IAmb	IAmb	07 28 17.7			
	comp=Z,4.6nm,0.8s							
NRIK	**Noril'sk**	**43.02 335**	P	**P**	**07 28 24.2 -0.6**			
	comp=Z,1.8nm,0.5s,baz=151,slow=2.8,SNR=4.1							
	comp=Z,1.8nm,0.5s							
TXAR	**Lajitas Array**	**43.62 118**	P	**P**	**07 28 31.3 +1.0**			
	comp=Z,1.4nm,0.8s,baz=330,slow=7.2,SNR=15							
TXAR			pP	**pP**	**07 28 45.3 +2.0**			
	comp=Z,0.8nm,0.6s,baz=326,slow=6.2,SNR=6.4							
	comp=Z,1.4nm,0.8s							
KSRS	**Korea Array**	**55.06 285**	P	**P**	**07 29 57.8 +0.5**			
	comp=Z,2.2nm,0.8s,baz=28,slow=5.5,SNR=3.4							
	comp=Z,2.2nm,0.8s							
SONM	**Songino Array**	**55.46 308**	P	**P**	**07 30 00.6 +0.3**			
	comp=Z,0.5nm,0.6s,baz=38,slow=7.5,SNR=4.6							
	comp=Z,0.5nm,0.6s							
FINES	**FINESS Array B**	**56.62 3**	P	**P**	**07 30 07.0 -1.1**			
	comp=Z,0.8nm,0.4s,baz=11,slow=7.9,SNR=8.1							
FINES			pP	**pP**	**07 30 20.5 -1.0**			
	comp=Z,1.8nm,0.7s,baz=340,slow=12,SNR=2.3							
	comp=Z,0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**57.02 326**	P	**P**	**07 30 09.9 -1.2**			
	comp=Z,1.0nm,0.5s,baz=13,slow=9.0,SNR=6.6							
ZALV			pP	**pP**	**07 30 23.7 -0.9**			
	comp=Z,1.7nm,0.7s,baz=28,slow=6.5,SNR=4.3							
	comp=Z,1.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**59.31 300**	*e*P	**P**	**07 30 31.0 +3.5**			
HHC			pmax	pmax				
	comp=Z,8.0nm,0.7s							
HHC			pmax	pmax				
	comp=Z,270nm,5.4s							
EKA	**Eskdalemuir Ar**	**59.62 22**	P	**P**	**07 30 28.9 -0.4**			
	comp=Z,2.0nm,0.5s,baz=336,slow=5.4,SNR=16							
EKA			pP	**pP**	**07 30 41.6 -1.0**			
	comp=Z,0.9nm,0.5s,baz=331,slow=5.2,SNR=3.1							
	comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**61.23 335**	P	**P**	**07 30 39.1 -1.2**			
	comp=Z,1.0nm,0.7s,baz=46,slow=4.3,SNR=5.6							
BVAR			pP	**pP**	**07 30 53.0 -0.9**			
	comp=Z,2.3nm,0.7s,baz=32,slow=5.9,SNR=8.1							
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**64.20 324**	P	**P**	**07 30 58.3 -1.9**			
	comp=Z,0.5nm,0.5s,baz=39,slow=6.9,SNR=12							
	comp=Z,0.5nm,0.5s							
WMQ	**Urumqi**	**65.33 319**	*e*P	P	07 31 13.3 +5.7			
AKASG	**Malin Array Be**	**67.45 2**	P	**P**	**07 31 19.8 -1.1**			
	comp=Z,1.7nm,0.6s,baz=358,slow=6.0,SNR=7.0							
	comp=Z,1.7nm,0.6s							
ESDC	**Sonseca Array**	**74.41 28**	P	**P**	**07 32 03.7 +0.3**			
	comp=Z,2.1nm,0.6s,baz=342,slow=5.6,SNR=9.7							
	comp=Z,2.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**84.10 299**	P	**P**	**07 32 57.2 +0.8**			
	comp=Z,0.6nm,0.3s,baz=20,slow=2.9,SNR=1.6							
CMAR			pP	**pP**	**07 33 10.7 +0.1**			
	comp=Z,0.6nm,0.3s,baz=5.3,slow=5.5,SNR=1.9							
	comp=Z,0.6nm,0.3s							
BOSA	**Boshof**	**146.14 11**	PKPbc	**PKPdf**	**07 40 02.2 -2.0**			
	comp=Z,2.1nm,0.5s,baz=2.3,slow=5.3,SNR=8.6							
QSPA	**South Pole Qui**	**151.99 180**	PKPbc	**PKPbc**	**07 40 17.8 -1.0**			
	comp=Z,1.7nm,0.6s,baz=76,slow=1.3,SNR=5.9							

*IDC **26** 07:28:32.1±0.4, 16.˚15N×47.˚14W, h0km, mb4.7/30, mbtmp4.7/32, ML4.9/2, MS4.1/50, Error ellipse: s-maj=13.2km s-min=12.3km az=137.0*
*MOS **26** 07:28:32.7±0.9, 16.˚22N×47.˚19W, h13km, mb5.1/30, Error ellipse: s-maj=10.4km s-min=6.7km az=52.3*
*NEIC **26** 07:28:34.9±1.7, 16.˚16N±0.˚09×47.˚17W±0.˚09, h10km±1km, mb5.1/96, Error ellipse: s-maj=15.9km s-min=13.7km az=128.0*
*INMG **26** 07:28:35.0, 16.˚13N×46.˚78W, h10km*
*GCMT **26** 07:28:37.9±0.2, 16.˚22N±0.˚01×47.˚09W±0.˚02, h14km, MW5.0/123, Moment Tensor Solution. s62,c79; s123,c186; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}=-4.24±.17; $M_{\theta\theta}$=4.27±.11; $M_{\phi\phi}$=-0.02±.09; $M_{r\theta}$=-0.95±.19; $M_{\theta\phi}$=-1.28±.07; $M_{\phi r}$=-0.27±.25; Best double couple: M_o=4.54500×10¹⁶ NP1:ϕ_s=98.00000°, δ51.00000°, λ=-99.00000°. NP2:ϕ_s=293.00000°, δ40.00000°, λ=-79.00000°. Principal axes: T 4.7030, Plg5.0000°, Azm195.0000°; N -0.3100, Plg7.0000°, Azm104.0000°; P -4.3860, Plg81.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 07:28:33.9±0.3, 16.˚14N±0.˚05×47.˚17W±0.˚05, h10km, n743, σ0s87/743, mb5.0/140, MS4.2/49, 8C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.21**	**207**			Pn	**Pn**	**07 31 27.4**	**-0.7**
	14nm,0.3s,baz=14,slow=15,SNR=144								
MDP						Sn	Sn	07 33 31.7	-13
	1.6nm,0.3s,baz=87,slow=19,SNR=1.2								
MDP						LR	LR	07 35 23.8	
	comp=Z,1μm,20.7s,baz=45,slow=34								
	65nm,0.5s								
BBGH	**Gun Hill**	**12.35**	**258**			Pn	**Pn**	**07 31 30.8**	**+0.8**
H05S1	**Guadeloupe/Mar**	**13.29**	**264**			T	T	07 45 21.6	
	SNR=30								
MPOM	**Morne Pois Mar**	**13.31**	**265**			Pn	**Pn**	**07 31 41.2**	**-1.9**
H05N1	**Guadeloupe/Mar**	**13.34**	**273**			T	T	07 45 21.5	
	SNR=8.3								
BIM	**Bigot**	**13.50**	**265**			Pn	**Pn**	**07 31 44.5**	**-1.2**
FDF	**Fort de France**	**13.55**	**266**			Pn	**Pn**	**07 31 45.9**	**-0.5**
FDF	**Fort de France**	**13.55**	**266**			P	**Pn**	**07 31 45.9**	**-0.5**
SVN	**Savane Anatole**	**13.55**	**266**			Pn	**Pn**	**07 31 45.7**	**-0.7**
ABD	**La Joyeuse, An**	**13.75**	**273**			Pn	**Pn**	**07 31 48.1**	**-0.9**
CBE	**Pf, Capester**	**13.87**	**272**			Pn	**Pn**	**07 31 49.2**	**-1.6**
GDHS	**Morne Mazeau,**	**14.02**	**273**			Pn	**Pn**	**07 31 50.4**	**-2.4**
GRGR	**Grenville**	**14.60**	**256**			Pn	**Pn**	**07 31 59.1**	**-1.6**
HUMP	**Col San Antoni**	**17.96**	**279**			P	**Pn**	**07 32 44.2**	**+0.3**
PCRV	**Puerto La Cruz**	**18.00**	**253**			P	**P**	**07 32 47.0**	**+2.0**
	13nm,0.6s,baz=139,slow=2.0,SNR=10								
IGPR	**InterUniversit**	**18.19**	**278**			P	**P**	**07 32 47.4**	**+0.3**
SJG	**San Juan**	**18.24**	**279**			P	**Pn**	**07 32 47.0**	**-0.4**
SJG						IAmb	IAmb	07 32 51.9	
	comp=Z,160nm,1.5s								
SJG	**San Juan**	**18.24**	**279**			P	**Pn**	**07 32 47.4**	**0.0**
	comp=Z,2.0nm,0.3s,baz=99,slow=9.7,SNR=7.4								
SJG						LR	LR	07 38 33.9	
	comp=Z,388nm,21.4s,baz=90,slow=33								
	comp=Z,29nm,0.7s								
CELP	**Cerrillos**	**18.65**	**279**			P	**Pn**	**07 32 53.3**	**+1.0**
OBIP	**Obispado Ponce**	**18.67**	**279**			P	**Pn**	**07 32 53.5**	**+0.8**
BOAV	**Boa Vista**	**18.96**	**225**			P	**P**	**07 32 55.6**	**+0.2**
BOAV	**Boa Vista**	**18.96**	**225**			*e*P	**Pn**	**07 32 55.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**19.15**	**278**				**Pn**	**07 32 58.4**	**0.0**
MALB	**Monte Alegre**	**19.20**	**202**			*e*P	**Pn**	**07 32 59.0**	**-0.1**
BAUV	**El Baul**	**21.58**	**253**				**P**	**07 33 24.2**	**+0.3**
BAUV						IAmb	IAmb	07 33 29.9	
	comp=Z,123nm,1.0s								
ITTB	**Itaituba**	**22.07**	**203**			*e*P	**P**	**07 33 29.4**	**+0.2**
SACV	**Santiago Islan**	**22.73**	**90**			P	**P**	**07 33 36.6**	**+0.2**
SACV						IAmb	IAmb	07 33 57.7	
	comp=Z,47nm,1.0s								
SDDR	**Presa de Saban**	**23.16**	**281**			P	**P**	**07 33 41.0**	**+0.2**
SDDR						IAmb	IAmb	07 33 45.1	
	comp=Z,57nm,1.1s								
SDDR	**Presa de Saban**	**23.16**	**281**			*e*P	**P**	**07 33 39.4**	**-1.5**
MACA	**Manacapuru-AM**	**23.38**	**216**			P	**P**	**07 33 44.1**	**+1.2**
MACA	**Manacapuru-AM**	**23.38**	**216**			*e*P	**P**	**07 33 44.0**	**+1.0**
SDV	**Santo Domingo**	**23.99**	**255**			P	**P**	**07 33 49.5**	**+0.3**
SDV	**Santo Domingo**	**23.99**	**255**			*e*P	**P**	**07 33 48.3**	**-1.0**
SDV	**Santo Domingo**	**23.99**	**255**			*e*P	**P**	**07 33 49.6**	**+0.4**
NPGB	**Novo Progresso**	**24.42**	**200**			*e*P	**P**	**07 33 52.9**	**0.0**
RCBR	**Riachuelo**	**24.52**	**152**			LR	LR	07 41 05.9	
	comp=Z,228nm,19.7s,baz=339,slow=31								
RCBR	**Riachuelo**	**24.52**	**152**			*e*P	**P**	**07 33 53.5**	**-0.3**
TAMC	**Tame, Arauca**	**25.97**	**251**			*e*P	**P**	**07 34 07.6**	**+0.6**
TEFE	**Tefe**	**26.07**	**223**			*e*P	**P**	**07 34 09.1**	**+1.3**
PAMC	**Pamplona, Colo**	**26.45**	**254**			*e*P	**P**	**07 34 08.6**	**-3.3**
OCAC	**Ocana**	**26.71**	**256**			*e*P	**P**	**07 34 14.3**	**+0.4**
ARGC	**Ariguani, Magd**	**27.09**	**260**			*e*P	**P**	**07 34 15.4**	**-1.7**
BARC	**Barichara**	**27.18**	**253**			*e*P	**P**	**07 34 19.1**	**+0.9**
PTGC	**Puerto Gaitan,**	**27.24**	**247**			*e*P	**P**	**07 34 18.2**	**-0.3**
ROSA	**Rosais**	**27.96**	**33**			P	**P**	**07 34 24.6**	**-0.1**
CLDB	**Colider**	**28.17**	**198**			*e*P	**P**	**07 34 29.6**	**+2.9**
SNDB	**Serra Nova Dou**	**28.23**	**189**			*e*P	**P**	**07 34 26.9**	**-0.3**
SPBC	**San Pablo de B**	**28.36**	**251**			*e*P	**P**	**07 34 29.5**	**+1.0**
SDBA	**SAO DESIDERIO**	**28.46**	**175**			*e*P	**P**	**07 34 28.0**	**-1.4**
CMLA	**Cha da Macela**	**28.78**	**37**			P	**P**	**07 34 34.2**	**+2.2**
CMLA	**Cha da Macela**	**28.78**	**37**			P	**P**	**07 34 34.2**	**+2.2**
CMLA						pmax	pmax		
	comp=Z,123nm,1.0s								
ROSC	**El Rosal**	**28.91**	**250**			LR	LR	07 48 03.0	
	comp=Z,238nm,18.4s,baz=70,slow=40								
MTDJ	**Mount Denham**	**29.06**	**279**			*e*P	**P**	**07 34 34.5**	**-0.3**
MBO	**M'Bour**	**29.19**	**89**			P	**P**	**07 34 36.4**	**+0.5**
SAML	**Samuel**	**29.54**	**214**			P	**P**	**07 34 39.9**	**+0.9**
SAML	**Samuel**	**29.54**	**214**			P	**P**	**07 34 39.9**	**+0.9**
SAML						pmax	pmax		
	comp=Z,13nm,1.1s								
SAML	**Samuel**	**29.54**	**214**			*e*P	**P**	**07 34 40.4**	**+1.5**
SAML	**Samuel**	**29.54**	**214**			*e*P	**P**	**07 34 40.1**	**+1.2**
GUY2C	**Guyana, Caldas**	**29.71**	**252**			*e*P	**P**	**07 34 39.3**	**-1.7**
APAC	**Apartado, Choc**	**29.87**	**258**			*e*P	**P**	**07 34 41.3**	**-0.7**
CBOC	**Ciudad Bolivar**	**30.05**	**253**			*e*P	**P**	**07 34 40.8**	**-3.0**
ORTC	**Ortega, Tolima**	**30.14**	**249**			*e*P	**P**	**07 34 44.8**	**+0.4**
PLMC	**San Jos del P**	**30.67**	**252**			*e*P	**P**	**07 34 49.6**	**+0.5**
MACI	**Morro de la Ar**	**30.75**	**62**			P	**P**	**07 34 50.5**	**+0.7**
YOTC	**Yotoco, Valle**	**31.10**	**250**			*e*P	**P**	**07 34 49.1**	**-3.9**
BDFB	**Brasilia**	**31.59**	**182**			P	**P**	**07 34 57.8**	**+0.6**
BDFB	**Brasilia**	**31.59**	**182**			P	**P**	**07 34 57.8**	**+0.6**
	comp=Z,18nm,1.0s,baz=358,slow=12,SNR=16								
BDFB						LR	LR	07 47 58.7	
	comp=Z,298nm,18.6s,baz=346,slow=37								
	comp=Z,18nm,1.0s								
VILB	**Vilhena**	**31.65**	**205**			P	**P**	**07 34 59.2**	**+1.6**
VILB						IAmb	IAmb	07 36 00.8	
	comp=Z,31nm,0.8s								
VILB	**Vilhena**	**31.65**	**205**			*e*P	**P**	**07 34 59.4**	**+1.8**
ETMB	**Extrema**	**31.95**	**217**			P	**P**	**07 35 00.7**	**+0.5**
ETMB	**Extrema**	**31.95**	**217**			*e*P	**P**	**07 35 00.6**	**+0.5**
060A	**Indiantown**	**32.61**	**295**			P	**P**	**07 35 06.7**	**+0.7**
SALV	**Santo Antonio**	**32.93**	**195**			*e*P	**P**	**07 35 09.7**	**+0.9**
GUA01	**Guaratinga, BA**	**33.32**	**167**			*e*P	**P**	**07 35 10.9**	**-1.2**
T60A	**Surry**	**33.47**	**314**			P	**P**	**07 35 14.9**	**+1.5**
PTLB	**Pontes e Lacer**	**33.54**	**201**			P	**P**	**07 35 14.2**	**+0.2**
PTLB	**Pontes e Lacer**	**33.54**	**201**			*e*P	**P**	**07 35 15.2**	**+1.1**
W59A	**Clinton**	**33.75**	**310**			P	**P**	**07 35 16.3**	**+0.5**
W59A						IAmb	IAmb	07 35 17.9	
	comp=Z,21nm,0.8s								
U59A	**Littleton**	**33.82**	**312**			P	**P**	**07 35 17.6**	**+1.2**
	baz=118,SNR=7.3								
U59A						P	**P**	**07 35 17.6**	**+1.2**
	baz=118,SNR=7.3								
PAL	**Palisades**	**33.88**	**322**			P	**P**	**07 35 17.5**	**+0.7**
PAL						IAmb	IAmb	07 35 18.7	
	comp=Z,36nm,0.8s								
PAL	**Palisades**	**33.88**	**322**			P	**P**	**07 35 17.4**	**+0.7**
	baz=129,SNR=6.4								
PAL	**Palisades**	**33.88**	**322**			P	**P**	**07 35 17.6**	**+0.7**
	baz=129,SNR=6.4								
PAL	**Palisades**	**33.88**	**322**			P	**P**	**07 35 17.5**	**+0.7**
PAL						pmax	pmax		
	comp=Z,36nm,0.9s								
IPMB	**Ipameri, GO**	**33.93**	**182**			*e*P	**P**	**07 35 17.4**	**-0.1**
L61B	**Northampton**	**34.13**	**325**			P	**P**	**07 35 19.7**	**+0.7**
	baz=132								
TRNY	**Table Rock, Ra**	**34.15**	**322**			P	**P**	**07 35 20.0**	**+0.8**
TRNY						IAmb	IAmb	07 35 21.3	
	comp=Z,26nm,0.9s								
BRNY	**Black Rk. Fore**	**34.20**	**323**			P	**P**	**07 35 20.6**	**+0.9**
	baz=130,SNR=9.5								
WUPA	**West Chester U**	**34.26**	**319**			P	**P**	**07 35 20.3**	**+0.2**
ODNJ	**Ogdensburg**	**34.34**	**322**			P	**P**	**07 35 21.5**	**+0.6**
ODNJ						IAmb	IAmb	07 35 22.2	
	comp=Z,18nm,0.9s								
PP1B	**Ponte de Pedra**	**34.38**	**193**			*e*P	**P**	**07 35 22.7**	**+1.3**
DIAM	**Diamantina, MG**	**34.40**	**174**			*e*P	**P**	**07 35 21.9**	**+0.2**
CBN	**Corbin Frederi**	**34.45**	**316**			P	**P**	**07 35 22.3**	**+0.4**
	baz=121								
PMNB	**Patos De Minas**	**34.47**	**179**			*e*P	**P**	**07 35 22.9**	**+0.7**
PKME	**Peaks-Kenny Pk**	**34.47**	**332**			P	**P**	**07 35 22.8**	**+0.9**
	baz=140								
NPNY	**Mohonk Preserv**	**34.49**	**323**			P	**P**	**07 35 23.4**	**+1.3**
	baz=130,SNR=12								
LUPA	**Lehigh Univers**	**34.51**	**321**			P	**P**	**07 35 23.0**	**+0.7**
LUPA						IAmb	IAmb	07 35 24.8	
	comp=Z,40nm,1.1s								
CZSB	**Cruzeiro do Su**	**34.66**	**229**			*e*P	**P**	**07 35 24.1**	**+0.2**
OTAV	**Otavalo**	**34.66**	**246**			P	**P**	**07 35 25.1**	**+0.6**
OTAV						IAmb	IAmb	07 35 34.2	
	comp=Z,34nm,1.6s								
OTAV	**Otavalo**	**34.66**	**246**			P	**P**	**07 35 25.1**	**+0.6**
OTAV						pmax	pmax		
	comp=Z,34nm,1.6s								
OTAV	**Otavalo**	**34.66**	**246**			*e*P	**P**	**07 35 24.3**	**-0.2**
OTAV	**Otavalo**	**34.66**	**246**			*e*P	**P**	**07 35 25.9**	**+1.5**
R58B	**Mineral**	**34.67**	**315**			P	**P**	**07 35 24.6**	**+0.8**
	baz=120,SNR=9.4								
R58B						P	**P**	**07 35 24.6**	**+0.8**
	baz=120,SNR=9.4								
Y57A	**Sumter**	**34.74**	**307**			P	**P**	**07 35 24.2**	**-0.2**
Y57A						IAmb	IAmb	07 35 26.5	
	comp=Z,42nm,1.2s								
SIV	**San Ignacio**	**34.75**	**204**			LR	LR	07 49 19.2	
	comp=Z,575nm,19.8s,baz=58,slow=36								
ABR01	**Abrolhos, BA**	**34.91**	**166**			*e*P	**P**	**07 35 27.2**	**+1.3**
LBNH	**Lisbon**	**34.97**	**328**			P	**P**	**07 35 27.6**	**+1.3**
	baz=136								
BIRD	**Birdtown, Kers**	**35.04**	**308**			P	**P**	**07 35 27.4**	**+0.4**
BIRD						IAmb	IAmb	07 35 37.3	
	comp=Z,33nm,1.2s								
SJMB	**Sao Joao De Ma**	**35.13**	**170**			*e*P	**P**	**07 35 27.6**	**-0.2**
HCNY	**Howe Caverns**	**35.24**	**324**			P	**P**	**07 35 29.6**	**+1.0**
	baz=130,SNR=5.3								
S57A	**Dark Hollow, R**	**35.31**	**314**			P	**P**	**07 35 29.7**	**+0.4**
S57A						IAmb	IAmb	07 35 31.6	
	comp=Z,36nm,0.9s								
S57A	**Dark Hollow, R**	**35.31**	**314**			P	**P**	**07 35 30.4**	**+1.1**
	baz=119,SNR=9.9								
S57A						P	**P**	**07 35 30.4**	**+1.1**
	baz=119,SNR=9.9								
P57A	**Homestead Farm**	**35.55**	**317**			P	**P**	**07 35 32.0**	**+0.6**
P57A						IAmb	IAmb	07 35 33.7	
	comp=Z,33nm,1.0s								
P57A	**Homestead Farm**	**35.55**	**317**			P	**P**	**07 35 32.7**	**+1.4**
	baz=122,SNR=7.0								
P57A						P	**P**	**07 35 32.7**	**+1.4**
	baz=122,SNR=7.0								
BBSD	**Serra de San D**	**35.67**	**202**			*e*P	**P**	**07 35 33.5**	**+0.9**
ITRB	**Iturama**	**35.76**	**185**			*e*P	**P**	**07 35 34.9**	**+1.6**
RVDE	**Rio Verde (Bra**	**35.78**	**193**			*e*P	**P**	**07 35 34.9**	**+1.4**
BINY	**Binghamton**	**35.84**	**322**			P	**P**	**07 35 34.9**	**+1.1**
	baz=128								
RIB01	**Linhares ES**	**35.86**	**169**			*e*P	**P**	**07 35 33.5**	**-0.7**
M57A	**Sunshine Farm,**	**36.02**	**320**			P	**P**	**07 35 36.5**	**+1.2**
	baz=125,SNR=5.9								
M57A						P	**P**	**07 35 36.5**	**+1.2**
	baz=125,SNR=5.9								
BLA	**Blacksburg**	**36.09**	**312**			P	**P**	**07 35 37.4**	**+1.3**
	baz=117,SNR=7.6								
BLA	**Blacksburg**	**36.09**	**312**			P	**P**	**07 35 37.7**	**+1.6**
	baz=117,SNR=7.6								
SSPA	**Standing Stone**	**36.09**	**319**			P	**P**	**07 35 37.1**	**+1.1**
	baz=124								
HODGE	**Hodges**	**36.26**	**306**			P	**P**	**07 35 38.6**	**+1.1**
	baz=111,SNR=7.4								
R55A	**Marlinton**	**36.37**	**314**			P	**P**	**07 35 40.8**	**+2.3**
	baz=118,SNR=9.6								
R55A						P	**P**	**07 35 40.8**	**+2.3**
	baz=118,SNR=9.6								
154A	**Montrose**	**36.39**	**303**			P	**P**	**07 35 40.4**	**+1.7**
	baz=108,SNR=7.2								
BBRB	**Robore, Bolivi**	**36.40**	**201**			*e*P	**P**	**07 35 39.3**	**+0.6**
TIGA	**Tifton**	**36.44**	**301**			P	**P**	**07 35 40.2**	**+1.2**
	baz=106								
LONY	**Lake Ozonia**	**36.61**	**327**			P	**P**	**07 35 41.3**	**+0.9**
	baz=132								
L56A	**Greenwood**	**36.74**	**321**			P	**P**	**07 35 42.7**	**+1.2**
	baz=126,SNR=5.4								
L56A						P	**P**	**07 35 42.7**	**+1.2**
	baz=126,SNR=5.4								
MCWV	**Mont Chateau**	**36.85**	**316**			P	**P**	**07 35 43.8**	**+1.3**
	baz=120,SNR=6.8								
MCWV	**Mont Chateau**	**36.85**	**316**			P	**P**	**07 35 44.0**	**+1.5**
	baz=120,SNR=6.8								
GOGA	**Godfrey**	**36.93**	**305**			P	**P**	**07 35 44.5**	**+1.3**
	baz=109,SNR=6.9								
GOGA	**Godfrey**	**36.93**	**305**			P	**P**	**07 35 44.4**	**+1.2**
	baz=109,SNR=6.9								
RPRD	**Ribas do Rio P**	**36.96**	**190**			*e*P	**P**	**07 35 44.4**	**+0.9**
BSCB	**Bom Sucesso**	**36.98**	**176**			*e*P	**P**	**07 35 43.6**	**-0.2**
S54A	**Dingess, Beckl**	**36.99**	**312**			P	**P**	**07 35 44.9**	**+1.1**
S54A						IAmb	IAmb	07 35 46.0	
	comp=Z,46nm,0.8s								
S54A	**Dingess, Beckl**	**36.99**	**312**			P	**P**	**07 35 44.3**	**+0.6**
	baz=116,SNR=7.4								
S54A						P	**P**	**07 35 44.3**	**+0.6**
	baz=116,SNR=7.4								
BB19B	**Bebedouro**	**37.00**	**182**			*e*P	**P**	**07 35 44.6**	**+0.7**
BG3	**Lake Jocassee**	**37.05**	**307**			P	**P**	**07 35 45.7**	**+1.4**
BG3						I

M50A P P 07 36 08.7 +1.2
baz=118,SNR=6.5
R49A Shelbyville 39.96 311 P P 07 36 09.8 +1.1
R49A IAmb IAmb 07 36 11.0
comp=Z,32nm,1.0s
R49A Shelbyville 39.96 311 P P 07 36 10.1 +1.4
baz=113,SNR=8.1
R49A P P 07 36 10.1 +1.4
baz=113,SNR=8.1
MORF Marmelete 39.98 51 *e*P P 07 36 10.7 +1.8
comp=Z,96nm,1.6s
X48A Hartselle 40.08 305 P P 07 36 11.1 +1.4
baz=107,SNR=6.3
P49A Miami Univ. Ec 40.14 313 P P 07 36 10.8 +0.7
baz=115,SNR=14
P49A Miami Univ. Ec 40.14 313 P P 07 36 10.8 +0.7
baz=115,SNR=14
O49A Covington 40.15 314 P P 07 36 10.5 +0.3
baz=116,SNR=8.6
O49A P P 07 36 10.5 +0.3
baz=116,SNR=8.6
H10N3 ASCENSION HYDR 40.17 124 T T 08 18 50.6
baz=306,slow=75,SNR=137
H10N2 ASCENSION HYDR 40.18 124 T T 08 18 35.1
baz=306,slow=75,SNR=185
H10N1 ASCENSION HYDR 40.20 124 T T 08 18 36.4
baz=306,slow=75,SNR=207
K50A Casco 40.23 319 P P 07 36 11.4 +0.6
K50A IAmb IAmb 07 36 12.6
comp=Z,70nm,1.1s
K50A Casco 40.23 319 P P 07 36 11.8 +1.0
baz=120,SNR=5.3
K50A P P 07 36 11.8 +1.0
baz=120,SNR=5.3
V48A Smith Brothers 40.30 307 P P 07 36 12.5 +1.0
baz=109,SNR=8.6
PNCL Nicolau / Gran 40.37 50 *e*P P 07 36 12.3 +0.3
comp=Z,62nm,1.8s
N49A Columbus Grove 40.37 315 P P 07 36 12.9 +0.9
baz=117,SNR=11
N49A P P 07 36 12.9 +0.9
baz=117,SNR=11
VLDQ Val d'Or 40.42 329 P P 07 36 14.4 +2.1
MESJ Messejana 40.49 50 *e*P P 07 36 19.4 +6.3
comp=Z,43nm,1.7s
NNA Nana 40.53 228 LR LR 07 52 37.0
comp=Z,148nm,21.1s,baz=37,slow=36
PCVE Castro Verde 40.55 50 *e*P P 07 36 14.2 +0.6
comp=Z,46nm,1.6s
P48A Milroy 40.61 313 P P 07 36 14.3 +0.2
baz=114,SNR=10
P48A P P 07 36 14.3 +0.2
baz=114,SNR=10
AAM Ann Arbor 40.66 317 P P 07 36 15.5 +1.1
baz=119,SNR=10
AAM Ann Arbor 40.66 317 P P 07 36 15.7 +1.3
baz=119,SNR=10
PVAQ Vaqueiros 40.71 51 P P 07 36 15.7 +0.8
H10S3 ASCENSION HYDR 40.71 126 T T 08 19 17.9
baz=305,slow=74,SNR=249
H10S2 ASCENSION HYDR 40.73 125 T T 08 19 28.9
baz=275,slow=74,SNR=97
O48B Farmland 40.75 314 P P 07 36 15.5 +0.4
baz=115
WCI Wyandotte Cave 40.76 310 P P 07 36 16.5 +1.2
baz=112
PTGB Pitanga 40.89 187 *e*P P 07 36 17.9 +1.3
EVO Evora 40.90 49 *e*P P 07 36 16.8 +0.4
comp=Z,16nm,1.5s
T47A Sharon Grove 40.92 308 P P 07 36 17.9 +1.2
baz=110
PMTG Montargil 40.95 48 *e*P P 07 36 17.2 +0.4
comp=Z,66nm,1.9s
L48A N Adams 41.00 316 P P 07 36 18.2 +0.9
L48A N Adams 41.00 316 P P 07 36 18.0 +0.7
baz=118,SNR=13
L48A P P 07 36 18.0 +0.7
baz=118,SNR=13
WVT Waverly 41.20 307 P P 07 36 19.8 +0.9
baz=108
WVT Waverly 41.20 307 P P 07 36 19.5 +0.6
baz=108,SNR=12
PESTR Estremoz 41.33 49 *e*P P 07 36 19.8 -0.2
comp=Z,21nm,1.3s
N47A Urbana 41.38 314 P P 07 36 20.6 +0.2
baz=115,SNR=8.9
N47A P P 07 36 20.6 +0.2
baz=115,SNR=8.9
PBAR Barrancos 41.48 50 *e*P P 07 36 20.4 -0.8
comp=Z,29nm,1.4s
SCHQ Schefferville 41.50 343 P P 07 36 21.1 -0.1
SCHQ IAmb IAmb 07 36 22.9
comp=Z,64nm,1.0s
SCHQ Schefferville 41.50 343 P P 07 36 22.1 +0.9
comp=Z,46nm,0.9s,baz=152,slow=8.0,SNR=32
SCHQ PcP PcP 07 38 18.1 -0.5
comp=Z,8.2nm,0.8s,baz=144,slow=4.0,SNR=5.9
SCHQ LR LR 07 49 18.6
comp=Z,357nm,20.9s,baz=126,slow=30
comp=Z,46nm,0.9s
PMRV Marv??o 41.69 48 *e*P P 07 36 23.5 +0.6
comp=Z,35nm,2.0s
PCBR Castelo Branco 41.78 48 *e*P P 07 36 23.4 -0.3
comp=Z,32nm,1.1s
MDT Midelt 41.84 59 LR LR 07 51 05.3
comp=Z,220nm,18.4s,baz=319,slow=32
PVIS Viseu 41.84 46 *e*P P 07 36 24.5 +0.3
J47A Sunmer 41.86 318 P P 07 36 25.2 +0.9
baz=118,SNR=12
J47A P P 07 36 25.2 +0.9
baz=118,SNR=12
P46A Rosedale 41.94 312 P P 07 36 26.1 +1.2
baz=112,SNR=5.2
MTE Manteigas 41.95 47 *e*P P 07 36 25.1 -0.1
comp=Z,79nm,1.4s
MTE Manteigas 41.95 47 P P 07 36 25.0 -0.2
MTE IAmb IAmb 07 36 29.1
comp=Z,38nm,1.1s
OXF Oxford 41.97 304 P P 07 36 25.7 +0.4
baz=105,SNR=5.2
OXF Oxford 41.97 304 P P 07 36 25.8 +0.4
baz=105,SNR=5.2
PGAV Gavieira, Arco 42.11 44 *e*P P 07 36 26.4 -0.1
comp=Z,61nm,1.6s
SFIN Lafayette 42.15 313 P P 07 36 27.5 +0.9
baz=113,SNR=8.9
SFIN Lafayette 42.15 313 P P 07 36 27.6 +0.9
baz=113,SNR=8.9
OLIL Olney 42.26 310 P P 07 36 28.7 +1.2
baz=111,SNR=6.5
DBIC Dimbokro 42.46 98 P P 07 36 29.4 -0.1
DBIC IAmb IAmb 07 36 32.1
comp=Z,59nm,1.9s
DBIC Dimbokro 42.46 98 P P 07 36 29.4 -0.1
DBIC pmax pmax
comp=Z,59nm,1.9s
DBIC Dimbokro 42.46 98 P P 07 36 28.5 -1.0
comp=Z,3.8nm,0.7s,baz=270,slow=12,SNR=5.7
DBIC LR LR 07 50 42.6
comp=Z,246nm,20.8s,baz=263,slow=31
comp=Z,3.8nm,0.7s
GLMI Grayling 42.51 320 P P 07 36 30.7 +1.2
baz=120
S44A Carbondale 42.77 308 P P 07 36 32.7 +0.9
S44A IAmb IAmb 07 36 34.0
comp=Z,37nm,0.9s
S44A Carbondale 42.77 308 P P 07 36 33.0 +1.3
baz=108,SNR=7.7
Q44A Meyer Farm, Va 42.99 310 P P 07 36 34.5 +0.9
baz=110,SNR=13
O44A Mansfield 43.03 312 P P 07 36 34.9 +1.1
baz=112,SNR=6.9
CPUP Villa Florida 43.36 193 P P 07 36 36.4 -0.1
CPUP Villa Florida 43.36 193 P P 07 36 36.9 +0.3
comp=Z,6.2nm,0.7s,baz=23,slow=7.3,SNR=14
CPUP LR LR 07 55 39.6
comp=Z,247nm,19.2s,baz=24,slow=38
comp=Z,6.2nm,0.7s
CPUP Villa Florida 43.36 193 *e*P P 07 36 36.1 -0.4
PBMO Poplar Bluff 43.39 307 P P 07 36 37.0 +0.2
baz=107,SNR=8.2
L44A Lake County Fo 43.44 315 P P 07 36 37.8 +0.7
baz=114
P43A Skaggs, Pawnee 43.61 311 P P 07 36 38.3 -0.2
P43A IAmb IAmb 07 36 40.4
comp=Z,29nm,1.0s
CCAR Cane Creek 43.73 302 P P 07 36 40.7 +1.1
baz=103,SNR=5.2

FVM French Village 43.74 308 P P 07 36 40.2 +0.6
baz=108,SNR=13
LCAR Lake Charles 43.76 306 P P 07 36 39.4 -0.4
baz=105,SNR=6.4
HDIL Hopedale 43.77 312 P P 07 36 40.2 +0.4
HDIL IAmb IAmb 07 36 41.6
comp=Z,40nm,0.9s
HDIL Hopedale 43.77 312 P P 07 36 40.7 +0.9
baz=111
HDIL Hopedale 43.77 312 P P 07 36 41.0 +1.2
baz=111
LVC Limon Verde 44.00 210 LR LR 07 56 49.1
comp=Z,177nm,19.5s,baz=19,slow=38
ESDC Sonseca Array 44.25 49 P P 07 36 44.3 +0.6
ESDC Sonseca Array 44.25 49 P P 07 36 43.5 -0.3
comp=Z,3.0nm,0.9s,baz=248,slow=9.5,SNR=7.6
ESDC LR LR 07 51 10.6
comp=Z,349nm,20.7s,baz=236,slow=31
comp=Z,3.0nm,0.9s
CCM Cathedral Cave 44.38 308 P P 07 36 45.5 +0.7
baz=107
CCM Cathedral Cave 44.38 308 P P 07 36 44.8 +0.1
baz=107,SNR=13
L42A Oliver, Polo 44.57 314 P P 07 36 46.5 +0.3
L42A Oliver, Polo 44.57 314 P P 07 36 47.1 +0.9
baz=112,SNR=8.2
N41A Haen Midland 44.94 312 P P 07 36 49.4 +0.2
baz=110,SNR=9.2
U40A Yellville 45.16 305 P P 07 36 51.1 +0.1
baz=104,SNR=12
U40A P P 07 36 51.1 +0.1
baz=104,SNR=12
R40A Maddies Statio 45.22 308 P P 07 36 51.7 +0.3
baz=106,SNR=14
JFWS Jewell Farm 45.31 315 P P 07 36 52.6 +0.5
baz=113,SNR=6.6
JFWS Jewell Farm 45.31 315 P P 07 36 52.5 +0.3
baz=113,SNR=6.6
L40A Anamosa 45.67 314 P P 07 36 55.6 +0.6
baz=111,SNR=11
S39A Bolivar 45.86 307 P P 07 36 56.3 -0.2
baz=105,SNR=24
G40A Rib Lake 46.23 318 P P 07 37 00.5 +1.1
baz=115,SNR=7.8
Z38A Mt. Pleasant 46.24 301 P P 07 37 00.6 +1.0
baz=100,SNR=5.5
ITQB Itaqui 46.45 191 *e*P P 07 37 02.1 +1.0
HKT Hockley 46.51 296 *i* P P 07 37 02.1 +0.4
HKT pmax pmax
comp=Z,4.0nm,1.0s
P38A Dawn 46.54 310 P P 07 37 02.0 +0.2
baz=107,SNR=10
CPSB Cacapava Do Su 46.67 187 *e*P P 07 37 04.5 +1.6
N38A Joes South For 46.67 311 P P 07 37 03.0 +0.1
baz=108
SCIA State Center 47.01 313 P P 07 37 05.8 +0.3
baz=109
TOA0 Torodi Ar. Sit 47.29 87 P P 07 37 06.7 -1.3
TORD Torodi Ar. Bea 47.29 87 P P 07 37 06.7 -1.4
comp=Z,8.0nm,0.9s,baz=299,slow=6.6,SNR=32
TORD PcP PcP 07 38 37.9 -1.3
comp=Z,1.7nm,0.9s,baz=312,slow=5.9,SNR=2.8
TORD LR LR 07 54 23.6
comp=Z,249nm,20.4s,baz=296,slow=33
comp=Z,8.0nm,0.9s
TUL3 Leonard 47.38 304 P P 07 37 08.7 +0.2
baz=102,SNR=7.3
TUL3 Leonard 47.38 304 P P 07 37 08.6 +0.2
baz=102,SNR=7.3
SPMN Marine on St. 47.90 317 P P 07 37 11.7 -0.7
SPMN IAmb IAmb 07 37 13.8
comp=Z,32nm,1.1s
SPMN Marine on St. 47.90 317 P P 07 37 12.7 +0.4
baz=112,SNR=6.7
SPMN Marine on St. 47.90 317 P P 07 37 12.8 +0.4
baz=112,SNR=6.7
DEOK Depew 47.93 304 P P 07 37 13.2 +0.4
PLTB Pedras Altas 48.03 187 *e*P P 07 37 14.0 +0.6
NUUK Nuuk 48.09 357 *i* P P 07 37 14.1 +0.6
NUUK IAmb IAmb 07 37 16.4
comp=Z,25nm,0.9s
435B Jarrell 48.10 297 P P 07 37 14.2 0.0
baz=96
WHTX Lake Whitney, 48.12 299 P P 07 37 14.6 +0.3
baz=97
EYMN Ely 48.18 321 P P 07 37 15.7 +1.2
baz=116
FNO Franklin 48.55 303 P P 07 37 17.4 -0.2
FNO IAmb IAmb 07 37 20.4
comp=Z,29nm,1.1s
F36A Milaca 48.61 318 P P 07 37 17.8 0.0
baz=112,SNR=12
KSU1 Kansas State U 48.71 308 P P 07 37 18.2 -0.6
baz=104,SNR=9.5
KSU1 Kansas State U 48.71 308 P P 07 37 18.4 -0.3
baz=104,SNR=9.5
PLPT Palo Pinto 48.95 300 P P 07 37 20.8 +0.1
PLPT IAmb IAmb 07 37 22.1
comp=Z,30nm,1.2s
833A Chaparral WMA, 49.50 294 P P 07 37 25.1 +0.2
baz=93,SNR=11
833A Chaparral WMA, 49.50 294 P P 07 37 25.4 +0.5
baz=93,SNR=11
WMOK Wichita Mounta 49.59 302 P P 07 37 25.2 -0.3
baz=98
ISOG Isortoq, Green 49.67 4 *i* P P 07 37 25.1 -0.5
ISOG IAmb IAmb 07 37 27.1
comp=Z,25nm,0.9s
FRB Frobisher Bay 49.80 348 LR LR 07 55 51.6
comp=Z,227nm,21.9s,baz=174,slow=33
ANGG Ammassalik, Gr 49.84 5 *i* P P 07 37 26.1 -0.8
ANGG IAmb IAmb 07 37 28.3
comp=Z,24nm,1.0s
TAM Tamanrasset 49.91 74 P P 07 37 28.9 +0.6
TAM Tamanrasset 49.91 74 P P 07 37 29.0 +0.6
TAM pmax pmax
comp=Z,11nm,1.2s
MCH1 Michaelchurch 49.96 34 *e*P P 07 37 28.0 0.0
JCT Junction City 49.98 296 P P 07 37 28.1 -0.5
baz=94
MONM Monmouth 49.99 35 *e*P P 07 37 28.5 +0.3
MONM IAmb IAmb 07 37 29.3
comp=Z,47nm,1.0s
ABTX Abilene, Hawle 50.03 299 P P 07 37 28.5 -0.5
baz=96
R32A Long Quarter, 50.17 307 P P 07 37 30.2 +0.3
baz=102,SNR=5.4
FOEL Foel Wylfa 50.29 33 *e*P P 07 37 30.5 -0.1
FOEL IAmb IAmb 07 37 31.4
comp=Z,34nm,0.8s
DY2G Dye2 50.30 0 *i* P P 07 37 29.6 -1.1
DY2G IAmb IAmb 07 37 31.7
comp=Z,23nm,0.7s
IOMK Kirk Michael 50.30 31 *e*P P 07 37 30.6 0.0
F33A 5 Mile Ranch, 50.41 317 P P 07 37 31.5 0.0
F33A IAmb IAmb 07 37 32.6
comp=Z,38nm,1.2s
F33A 5 Mile Ranch, 50.41 317 P P 07 37 31.6 0.0
baz=110,SNR=5.8
BGNE Belgrade 50.41 311 P P 07 37 31.5 -0.2
baz=104
SFJD Kangerlussuaq 50.87 358 LR LR 07 55 24.8
comp=Z,276nm,19.3s,baz=170,slow=32
SFJD Kangerlussuaq 50.87 358 *i* P P 07 37 34.6 0.0
SFJD IAmb IAmb 07 37 36.1
comp=Z,19nm,1.0s
NEWG New Galloway 50.92 30 *e*P P 07 37 34.9 -0.3
NEWG IAmb IAmb 07 37 36.3
comp=Z,21nm,1.0s
AGMN Agassiz Nation 51.00 320 P P 07 37 35.5 -0.5
baz=112,SNR=6.2
AGMN Agassiz Nation 51.00 320 P P 07 37 35.5 -0.5
baz=112,SNR=6.2
CBKS Cedar Bluff 51.03 307 P P 07 37 36.4 -0.1
CBKS Cedar Bluff 51.03 307 P P 07 37 36.4 -0.1
baz=101
CBKS Cedar Bluff 51.03 307 P P 07 37 36.4 -0.1
CBKS pmax pmax
comp=Z,95nm,1.5s
KESW Keswick, Cumbr 51.20 31 *e*P P 07 37 37.3 -0.1
KESW IAmb IAmb 07 37 38.7
comp=Z,42nm,1.0s
LBWR Ladybower, Pea 51.32 33 *e*P P 07 37 38.3 0.0
LBWR IAmb IAmb 07 37 39.3
comp=Z,68nm,0.8s
KPL Plockton 51.51 27 *e*P P 07 37 38.6 -1.1
KPL IAmb IAmb 07 37 40.3
comp=Z,22nm,0.9s
ESK Eskdalemuir 51.53 30 *e*P P 07 37 39.3 -0.5
EKA Eskdalemuir Ar 51.56 30 P P 07 37 39.5 -0.5
comp=Z,9.3nm,1.1s,baz=229,slow=8.5,SNR=7.5
comp=Z,9.3nm,1.1s
BORG Borgarnes 51.64 14 P P 07 37 41.8 +1.3
BORG Borgarnes 51.64 14 P P 07 37 41.8 +1.3
BORG pmax pmax
comp=Z,77nm,1.2s
ULM Lac du Bonnet 51.75 322 P P 07 37 40.5 -1.1
comp=Z,24nm,0.8s,baz=110,slow=7.3,SNR=41
comp=Z,24nm,0.8s
SUSD Miller 51.78 314 P P 07 37 41.4 -0.5
baz=106
EDI Edinburgh 51.86 30 *e*P P 07 37 41.6 -0.6
AMTX Amarillo 51.97 302 P P 07 37 43.0 -0.6
baz=97
MSTX Muleshoe 52.77 301 P P 07 37 49.4 -0.2
baz=95,SNR=8.0
MSTX Muleshoe 52.77 301 P P 07 37 49.7 +0.1
baz=95,SNR=8.0
ICESG Greenland Ices 53.13 3 *i* P P 07 37 50.9 -1.1
ICESG IAmb IAmb 07 37 52.9
comp=Z,35nm,0.8s
OGNE Ogallala 53.17 309 P P 07 37 52.3 -0.1
baz=101
MDND Maddock 53.20 318 P P 07 37 51.8 -0.6
baz=108
TXAR Lajitas Array 53.28 295 P P 07 37 53.5 +0.1
comp=Z,3.9nm,0.9s,baz=109,slow=7.6,SNR=23
TXAR PcP PcP 07 39 01.0 -0.1
comp=Z,1.5nm,0.9s,baz=112,slow=5.6,SNR=3.7
TXAR LR LR 07 58 49.6
comp=Z,62nm,21.8s,baz=68,slow=34
comp=Z,3.9nm,0.9s
TX31 Lajitas Ar. Si 53.28 295 P P 07 37 53.5 +0.1
baz=91,SNR=8.3
KSCO Kaye Shedlock' 53.28 307 P P 07 37 53.7 +0.4
baz=99
KEST Kesra 53.70 57 P P 07 37 56.6 +0.2
KEST IAmb IAmb 07 37 57.8
comp=Z,29nm,0.9s
KEST Kesra 53.70 57 P P 07 37 56.3 -0.1
comp=Z,23nm,0.9s,baz=208,slow=2.0,SNR=14
KEST LR LR 07 57 26.4
comp=Z,208nm,21.8s,baz=288,slow=32
comp=Z,23nm,0.9s
T25A Trinidad 54.43 304 P P 07 38 02.5 +0.7
baz=96
VHRN Van Horn 54.46 296 P P 07 38 02.4 +0.4
VHRN IAmb IAmb 07 38 04.2
comp=Z,35nm,1.2s
UMMG Uummannaq 54.60 358 *i* P P 07 38 01.4 -0.8
UMMG IAmb IAmb 07 38 03.1
comp=Z,12nm,0.8s
MNTX Cornudas Mount 54.83 298 P P 07 38 04.4 -0.2
baz=92,SNR=15
MNTX Cornudas Mount 54.83 298 P P 07 38 04.6 0.0
baz=92,SNR=15
HPIG 55.05 292 P P 07 38 06.5 0.0
MSSA Maissana 55.16 47 P P 07 38 08.3 +1.5
Q24A Divide 55.22 306 P P 07 38 08.3 +0.6
Q24A Divide 55.22 306 P P 07 38 08.2 +0.6
baz=97
RSSD Black Hills 55.24 313 P P 07 38 07.6 0.0
baz=102
ISCO Idaho Springs 55.69 307 P P 07 38 11.8 +0.8
baz=98,SNR=20
ISCO Idaho Springs 55.69 307 P P 07 38 12.3 +1.3
baz=98,SNR=20
ANMO Albuquerque 55.89 301 P P 07 38 12.8 +0.4
baz=94
DAVOX Davos/Dischmat 55.95 44 LR LR 07 59 06.7
comp=Z,296nm,19.6s,baz=260,slow=33
DAVA Damuels 56.07 44 *e*P P 07 38 13.5 +0.1
comp=Z,6.7nm,0.8s
N23A Red Feather La 56.09 309 P P 07 38 14.6 +0.8
baz=98,SNR=6.1
DGMT Dagmar 56.33 318 P P 07 38 15.3 +0.2
baz=104,SNR=10
DGMT Dagmar 56.33 318 P P 07 38 15.1 0.0
baz=104,SNR=10
S22A 4UR Ranch, Cre 56.40 305 P P 07 38 16.9 +0.7
S22A IAmb IAmb 07 38 19.4
comp=Z,29nm,1.8s
S22A 4UR Ranch, Cre 56.40 305 P P 07 38 17.2 +1.0
baz=95,SNR=6.4
SCO Scoresbysund 56.47 10 *i* P P 07 38 15.2 -0.4
SCO IAmb IAmb 07 38 17.7
comp=Z,9.5nm,0.9s
FETA Feichten 56.57 44 *e*P P 07 38 16.9 -0.1
comp=Z,12nm,0.9s
SUMG Summit 56.66 3 P P 07 38 16.8 -0.7
SUMG Summit 56.66 3 P P 07 38 16.8 -0.7
SUMG pmax pmax
comp=Z,37nm,0.9s
SUMG Summit 56.66 3 *i* P P 07 38 17.0 -0.5
SUMG IAmb IAmb 07 38 19.3
comp=Z,22nm,0.8s
RETA Reutte 56.70 43 *e*P P 07 38 17.0 -0.8
comp=Z,12nm,1.5s
K22A Casper 56.77 311 P P 07 38 18.1 -0.4
baz=99
121A Cookes Peak, D 56.89 299 P P 07 38 20.2 +0.7
baz=91
MOTA Moosalm 56.89 44 *e*P P 07 38 19.0 -0.3
comp=Z,17nm,1.0s
SQTA Sankt Quirin 56.93 44 *e*P P 07 38 19.3 -0.2
comp=Z,15nm,0.9s
CLTB Caltabellotta 56.97 55 P P 07 38 20.6 +0.7
CTI Castel Tesino 56.99 45 P P 07 38 19.7 -0.2
CTI IAmb IAmb 07 38 20.3
comp=Z,14nm,0.9s
CTI Castel Tesino 56.99 45 P P 07 38 19.7 -0.2
CTI pmax pmax
comp=Z,14nm,0.9s
WATA Walderalm 57.20 44 *e*P P 07 38 21.1 -0.4
comp=Z,15nm,1.3s
WTTA Wattenberg 57.23 44 *e*P P 07 38 21.1 -0.6
comp=Z,5.4nm,0.6s
LAO LASA Array 57.27 315 P P 07 38 22.3 +0.5
baz=102
MVCO Mesa Verde 57.69 304 P P 07 38 25.5 +0.3
baz=94
ABTA Abfaltersbach 57.71 45 *e*P P 07 38 24.3 -0.7
comp=Z,6.1nm,0.9s
O20A White River Ci 57.73 307 P P 07 38 25.7 +0.2
baz=96
CLUD Cludinico 57.91 45 P P 07 38 25.7 -0.6
CLUD IAmb IAmb 07 38 29.8
comp=Z,20nm,1.1s
LESA Schwarzleotal 57.95 44 *e*P P 07 38 25.9 -0.8
comp=Z,12nm,1.3s
319A Douglas 58.15 297 P P 07 38 27.5 -0.9
KBA Koelnbreinsper 58.33 44 *e*P P 07 38 28.7 -0.7
comp=Z,8.3nm,1.2s
PRED Cave del Predi 58.37 45 P P 07 38 29.4 -0.2
PRED IAmb IAmb 07 38 30.1
comp=Z,17nm,1.0s
MYKA Terra Mystica 58.45 45 *e*P P 07 38 29.8 -0.4
comp=Z,12nm,1.2s
W18A Petrified Fore 58.58 302 P P 07 38 31.8 +0.4
baz=92
KHC Kasperske Hory 58.88 42 *i* P P 07 38 32.8 -0.3
KHC pmax pmax
comp=Z,25nm,1.8s
GERES GERESS Array B 58.91 42 P P 07 38 31.6 -1.7
comp=Z,1.1nm,0.7s,baz=294,slow=10.0,SNR=6.0
comp=Z,1.1nm,0.7s
CLL Collm 58.99 39 P P 07 38 33.5 -0.2
CLL IAmb IAmb 07 38 34.5
comp=Z,12nm,0.8s
CLL Collm 58.99 39 *i* P P 07 38 33.5 -0.2
CLL *e*S S 07 46 42.0 +1.8
CLL pmax pmax
comp=Z,13nm,0.9s
BW06 Boulder Array 59.00 310 P P 07 38 33.4 -0.9
BW06 IAmb IAmb 07 38 35.0
comp=Z,24nm,1.4s
BW06 Boulder Array 59.00 310 P P 07 38 33.7 -0.6
baz=97,SNR=10.0
PDAR Pinedale Array 59.00 310 P P 07 38 34.1 -0.2
PDAR Pinedale Array 59.00 310 P P 07 38 33.8 -0.5
comp=Z,3.2nm,0.9s,baz=101,slow=7.9,SNR=22
comp=Z,3.2nm,0.9s
OBKA Obir 59.05 45 *e*P P 07 38 33.7 -0.6
comp=Z,8.4nm,0.7s

MOA	**Molln**	59.09	44	*e*P		P		07 38 34.0	-0.6
	comp=Z,5.3nm,1.1s								
RLMT	**Red Lodge**	59.09	313	P		P		07 38 35.2	+0.4
	baz=98								
CUC	**Castrocucco**	59.19	53	P		P		07 38 36.2	+0.8
CUC				IAmb		IAmb		07 38 36.9	
	comp=Z,14nm,1.2s								
TUC	**Tucson**	59.42	298	P		P		07 38 37.8	+0.6
	baz=90								
JMIC	**Jan Mayen**	59.54	14	LR		LR		07 58 05.3	
	comp=Z,139nm,20.9s,baz=224,slow=30								
ARSA	**Arzberg**	59.83	44	*e*P		P		07 38 38.5	-1.2
	comp=Z,8.2nm,1.1s								
EGMT	**Eagleton**	59.87	316	P		P		07 38 39.8	-0.3
	baz=100,SNR=10.0								
H17A	**Grant Village**	59.93	312	P		P		07 38 41.0	+0.4
	baz=97								
CONA	**Conrad Observa**	60.16	44	*e*P		P		07 38 41.2	-0.8
	comp=Z,4.0nm,0.7s								
RONA	**Rosalia, Austr**	60.41	44	*e*P		P		07 38 43.1	-0.6
	comp=Z,9.9nm,1.1s								
PLCA	**Paso Flores**	60.61	200	P		P		07 38 45.6	+0.6
	comp=Z,2.9nm,0.9s,baz=32,slow=8.0,SNR=5.6								
	comp=Z,2.9nm,0.9s								
PLCA	**Paso Flores**	60.61	200	*e*P		P		07 38 46.3	+1.3
KRUC	**Moravsky**	60.69	42	*e*P		P		07 38 44.5	-1.0
NC204	**NORSAR Array S**	60.76	28	P		P		07 38 46.3	+0.5
VRAC	**Vranov**	60.86	42	*e*P		P		07 38 46.2	-0.5
NB2	**NORSAR Subarra**	60.88	28	P		P		07 38 46.6	0.0
	comp=Z,1.5nm,0.7s,baz=249,slow=6.9								
NOA	**NORSAR Array B**	60.88	28	P		P		07 38 46.9	+0.3
	comp=Z,6.1nm,1.0s,baz=249,slow=7.1,SNR=7.3								
NOA				LR		LR		08 00 31.9	
	comp=Z,139nm,18.8s,baz=255,slow=32								
	comp=Z,6.1nm,1.0s								
214A	**Organ Pipe Nat**	61.15	298	P		P		07 38 49.4	+0.5
	baz=88								
MODS	**Modra-Piesok**	61.16	43	*e*P		P		07 38 48.4	-0.3
MODS	**Modra-Piesok**	61.16	43	*e*P		P		07 38 48.4	-0.3
DUG	**Dugway, Tooele**	61.23	307	P		P		07 38 49.7	+0.1
	baz=93,SNR=5.6								
NEEM	**North Greenlan**	61.35	359	*i* P		P		07 38 49.5	-0.4
NEEM				IAmb		IAmb		07 38 52.8	
	comp=Z,8.2nm,0.9s								
HFS	**Hagfors**	61.75	30	P		P		07 38 52.4	0.0
	comp=Z,12nm,0.8s,baz=264,slow=5.8,SNR=12								
HFS				LR		LR		08 02 54.6	
	comp=Z,86nm,18.0s,baz=258,slow=33								
	comp=Z,12nm,0.8s								
PDMCI	**Parker Dam,Lak**	62.21	301	P		P		07 38 56.2	+0.2
	baz=89								
MSO	**Missoula**	62.53	315	P		P		07 38 58.4	+0.2
	baz=96								
HLID	**Hailey**	62.61	311	P		P		07 38 58.8	0.0
	baz=94,SNR=12								
IRM	**Iron Mountain**	63.04	300	P		P		07 39 02.5	+0.8
	baz=88								
BC3	**Big Chuckawall**	63.31	300	P		P		07 39 03.8	+0.3
	baz=88								
R11B	**Troy Canyon, C**	63.34	305	P		P		07 39 04.3	+0.6
	baz=90,SNR=8.9								
GMRC	**Granite Mounta**	63.45	301	P		P		07 39 05.0	+0.5
	baz=88								
SWSC	**Sam W. Stewart**	63.63	299	P		P		07 39 06.5	+1.0
	baz=87								
TUQ	**Turquoise Moun**	63.64	302	P		P		07 39 06.7	+1.0
	baz=88								
BELC	**Belle Mtn. Jos**	63.75	300	P		P		07 39 07.5	+1.0
	baz=88								
TPNV	**Topopah Spring**	63.87	304	P		P		07 39 08.5	+1.2
	baz=89								
IKP	**In-Ko-Pah, Jac**	63.91	299	P		P		07 39 07.9	+0.5
	baz=87								
SHOC	**Shoshone, Teco**	63.92	302	P		P		07 39 08.0	+0.6
	baz=88								
CRVS	**Cervenica-Dubn**	63.98	43	*e*P		P		07 39 08.2	+0.6
CRVS	**Cervenica-Dubn**	63.98	43	*e*P		P		07 39 08.2	+0.6
RES	**Resolute Bay**	64.01	347	LR		LR		08 03 36.7	
	comp=Z,246nm,21.9s,baz=128,slow=33								
MONP2	**Monument Peak**	64.16	299	P		P		07 39 09.6	+0.3
	baz=87								
GSC	**Goldstone, Bar**	64.37	302	P		P		07 39 11.2	+0.7
	baz=88								
FURC	**Furnace Creek,**	64.38	303	P		P		07 39 11.4	+1.0
	baz=88								
BBRC	**Big Bear Solar**	64.51	301	P		P		07 39 12.4	+0.8
	baz=87								
KOLS	**Kolonicke sedl**	64.52	43	*e*P		P		07 39 12.1	+1.0
KOLS	**Kolonicke sedl**	64.52	43	*e*P		P		07 39 12.1	+1.0
109C	**Camp Elliot, M**	64.73	299	P		P		07 39 13.5	+0.8
	baz=86								
GRAC	**Grapevine Rang**	64.77	304	P		P		07 39 13.8	+0.8
	baz=88								
MURC	**Murrieta**	64.77	300	P		P		07 39 13.9	+0.8
	baz=87								
NEW	**Newport**	64.80	316	P		P		07 39 12.5	-0.5
	baz=94,SNR=15								
MPMC	**Manual Prospec**	64.90	303	P		P		07 39 14.2	+0.1
	baz=88								
LRMC	**Laurel Mtn Rad**	65.08	302	P		P		07 39 15.8	+0.7
	baz=87								
BFSC	**Mount Baldy Ra**	65.12	301	P		P		07 39 15.9	+0.5
	baz=87								
CWC	**Cottonwood Cre**	65.36	303	P		P		07 39 17.6	+0.7
	baz=88								
EDW2	**Edwards Air Fo**	65.36	301	P		P		07 39 17.6	+0.7
	baz=87								
YKA	**Yellowknife Ar**	65.42	332	P		P		07 39 15.4	-1.2
	comp=Z,6.4nm,0.9s,baz=99,slow=7.8,SNR=80								
YKA				PcP		PcP		07 39 47.5	-1.1
	comp=Z,1.8nm,0.8s,baz=94,slow=5.0,SNR=7.3								
	comp=Z,6.4nm,0.9s								
NVAR	**Mina Array Bea**	65.47	305	P		P		07 39 18.0	+0.2
	comp=Z,1.0nm,0.8s,baz=88,slow=5.2,SNR=9.2								
NVAR				PcP		PcP		07 39 49.8	+0.2
	comp=Z,1.1nm,0.7s,baz=96,slow=5.0,SNR=6.4								
	comp=Z,1.0nm,0.8s								
ISA	**Isabella, Lake**	65.71	302	P		P		07 39 20.1	+0.9
	baz=87								
ARVC	**Arvin**	66.03	302	P		P		07 39 22.1	+0.9
	baz=87								
IDI	**Anoyia**	66.36	58	LR		LR		08 06 49.6	
	comp=Z,64nm,21.4s,baz=266,slow=35								
MLR	**Muntele Rosu**	66.88	47	P		P		07 39 26.0	-0.5
MLR				IAmb		IAmb		07 39 28.3	
	comp=Z,15nm,1.2s								
MLR	**Muntele Rosu**	66.88	47	P		P		07 39 26.0	-0.5
MLR				pmax		pmax			
	comp=Z,15nm,1.2s								
MLR	**Muntele Rosu**	66.88	47	LR		LR		08 05 57.5	
	comp=Z,150nm,20.4s,baz=263,slow=34								
FINES	**FINESS Array B**	67.95	30	P		P		07 39 32.7	-0.1
	comp=Z,11nm,1.0s,baz=264,slow=5.4,SNR=14								
FINES				LR		LR		08 04 17.8	
	comp=Z,213nm,21.0s,baz=262,slow=32								
	comp=Z,11nm,1.0s								
FIA1	**FINESS Array S**	67.95	30	P		P		07 39 32.5	-0.3
VSU	**Vasula**	67.97	33	*ce*P		P		07 39 31.9	-1.1
VSU				pmax		pmax			
	comp=Z,28nm,1.7s								
KBS	**Kingsbay**	68.50	10	*i* P		P		07 39 36.5	+0.5
KBS				pmax		pmax			
	comp=Z,20nm,0.8s								
KBS	**Kingsbay**	68.50	10	*i* P		P		07 39 36.9	+0.9
ARCES	**ARCESS Array B**	68.94	21	P		P		07 39 39.0	+0.1
ARCES	**ARCESS Array B**	68.94	21	P		P		07 39 39.0	+0.1
ARCES				pmax		pmax			
	comp=Z,41nm,1.2s								
ARCES	**ARCESS Array B**	68.94	21	P		P		07 39 38.9	-0.1
	comp=Z,15nm,0.9s,baz=254,slow=6.7,SNR=32								
ARCES				LR		LR		08 03 59.1	
	comp=Z,216nm,20.6s,baz=252,slow=31								
	comp=Z,15nm,0.9s								
SPB3	**Spitsbergen Ar**	68.98	11	P		P		07 39 39.3	+0.3
SPA0	**Spitsbergen Ar**	68.98	11	P		P		07 39 39.6	+0.5
SPITS	**Spitsbergen Ar**	68.98	11	P		P		07 39 39.8	+0.8
	comp=Z,23nm,0.9s,baz=0.0,slow=0.6,SNR=6.3								
SPITS				LR		LR		08 03 13.3	
	comp=Z,198nm,19.1s,baz=200,slow=30								
	comp=Z,23nm,0.9s								
SPB1	**Spitsbergen Ar**	68.99	11	P		P		07 39 39.5	+0.4
AKASG	**Malin Array Be**	69.08	41	P		P		07 39 39.2	-0.9
	comp=Z,2.2nm,0.7s,baz=264,slow=5.2,SNR=11								
AKASG				LR		LR		08 06 13.4	
	comp=Z,109nm,20.3s,baz=332,slow=33								
	comp=Z,2.2nm,0.7s								
FLDN	**Fort Liard**	69.33	329	P		P		07 39 41.8	+0.4
	baz=94								
KEV	**Kevo**	69.50	21	P		P		07 39 42.4	+0.1
KEV	**Kevo**	69.50	21	P		P		07 39 42.4	+0.1
KEV				pmax		pmax			
	comp=Z,126nm,1.6s								
WRGLY	**Wrigley**	69.54	332	P		P		07 39 42.0	-0.7
	baz=95,SNR=8.7								
KOTAN	**Kotaneelee Air**	69.61	329	P		P		07 39 43.1	-0.1
	baz=93,SNR=8.4								
ELL	**Elmali**	70.30	56	P		P		07 39 48.8	+0.8
ELL	**Elmali**	70.30	56	P		P		07 39 48.8	+0.8
ELL				pmax		pmax			
	comp=Z,123nm,0.8s								
A36M	**Sachs Harbour**	71.07	341	P		P		07 39 51.8	-0.1
A36M				IAmb		IAmb		07 39 53.6	
	comp=Z,10nm,0.8s								
A36M	**Sachs Harbour**	71.07	341	P		P		07 39 51.5	-0.4
	baz=96,SNR=12								
WTLY	**Watson Lake, Y**	71.98	329	P		P		07 39 57.8	+0.1
	baz=89								
DLBC	**Dease Lake**	72.67	327	P		P		07 40 02.6	+0.7
	baz=87								
TSUM	**Tsumeb**	72.72	116	LR		LR		08 05 12.9	
	comp=Z,127nm,21.0s,baz=331,slow=30								
T35M	**Bob Quinn**	72.86	325	P		P		07 40 04.2	+1.2
	baz=87								
BR131	**Keskin Array S**	72.89	53	*i* P		P		07 40 03.2	-0.4
BRTR	**Keskin Array B**	72.89	53	P		P		07 40 03.2	-0.5
BRTR	**Keskin Array B**	72.89	53	P		P		07 40 03.5	-0.1
	comp=Z,6.9nm,0.9s,baz=258,slow=4.7,SNR=22								
	comp=Z,6.9nm,0.9s								
R33M	**Jennings River**	73.11	328	P		P		07 40 04.9	+0.3
	baz=87								
S34M	**Telegraph Cree**	73.28	326	P		P		07 40 05.9	+0.5
	baz=86								
OBN	**Obninsk**	73.36	37	*e*P		P		07 40 05.3	-0.6
OBN				*e*				07 40 21.1	
OBN				*e*PPP		PPP		07 44 34.1	
OBN				pmax		pmax			
	comp=Z,8.0nm,0.7s								
OBN	**Obninsk**	73.36	37	LR		LR		08 10 15.6	
	comp=Z,176nm,18.6s,baz=165,slow=34								
INK	**Inuvik**	73.78	337	P		P		07 40 06.9	-1.3
INK				IAmb		IAmb		07 40 08.6	
	comp=Z,44nm,1.4s								
INK	**Inuvik**	73.78	337	P		P		07 40 07.5	-0.7
	baz=87,SNR=18								
INK	**Inuvik**	73.78	337	P		P		07 40 06.9	-1.3
INK				pmax		pmax			
	comp=Z,44nm,1.5s								
INK	**Inuvik**	73.78	337	LR		LR		08 11 01.6	
	comp=Z,158nm,18.6s,baz=4.0,slow=35								
Q32M	**Nakina River**	73.80	327	P		P		07 40 09.1	+0.3
	baz=86								
MOS	**Moscow**	73.91	36	*e*P		P		07 40 05.9	-3.2
F31M	**Tsiigehtchic**	73.91	336	P		P		07 40 08.3	-0.6
	baz=87,SNR=11								
P33M	**Teslin, Yukon**	73.99	329	P		P		07 40 09.7	+0.1
	baz=86,SNR=6.6								
N32M	**Quiet Lake**	74.04	330	P		P		07 40 09.8	-0.1
	baz=86								
FARO	**Faro, Yukon**	74.09	331	P		P		07 40 10.3	+0.1
	baz=86,SNR=7.9								
G31M	**Satah River**	74.15	336	P		P		07 40 09.9	-0.4
	baz=86,SNR=6.5								
KLMR	**Klimovskoe**	74.45	30	*e*P		P		07 40 08.8	-3.4
KLMR				pmax		pmax			
	comp=Z,53nm,1.4s								
P32M	**Atlin**	74.49	328	P		P		07 40 13.2	+0.7
	baz=85								
M31M	**Drury Creek, Y**	74.58	331	P		P		07 40 13.2	+0.3
	baz=85								
F30M	**Barrier River**	74.68	337	P		P		07 40 13.3	-0.2
	baz=85								
G30M	**tAoh Zraii Nji**	74.91	336	P		P		07 40 14.1	-0.7
	baz=84								
WHY	**Whitehorse**	74.96	329	P		P		07 40 15.8	+0.4
	baz=84								
LPSR	**Galich'ya Gora**	75.00	39	*e*P		P		07 40 12.5	-3.0
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MAYO	**Mayo, Yukon**	75.12	332	P		P		07 40 16.6	+0.6
	baz=84								
I30M	**Mount Dempster**	75.15	334	P		P		07 40 16.0	-0.3
	baz=84								
S32K	**Killisnoo**	75.16	326	P		P		07 40 16.6	+0.3
	baz=83								
EPYK	**Eagle Plains**	75.17	335	P		P		07 40 16.2	-0.2
	baz=84								
J30M	**Hart River**	75.20	333	P		P		07 40 16.8	+0.1
	baz=84,SNR=9.3								
VORR	**Voronezh**	75.29	40	*e*P		P		07 40 15.7	-1.5
VORR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
N31M	**Braeburn, Yuko**	75.31	330	P		P		07 40 17.2	0.0
	baz=83,SNR=8.9								
VSR	**Storozhevoye**	75.32	40	*e*P		P		07 40 14.9	-2.5
VSR				pmax		pmax			
	comp=Z,9.0nm,0.9s								
SKAG	**Skagway**	75.32	328	P		P		07 40 17.7	+0.5
	baz=83								
E29M	**Blow River**	75.39	337	P		P		07 40 18.2	+0.6
	baz=83								
VORD	**Divnogorie**	75.43	41	*e*P		P		07 40 15.8	-2.2
VORD				pmax		pmax			
	comp=Z,6.0nm,0.9s								
O30N	**Mendenhall**	75.54	330	P		P		07 40 18.8	+0.2
	baz=83,SNR=13								
D28M	**Stokes Point**	75.58	338	P		P		07 40 18.9	+0.4
	baz=84								
G29M	**Pine Creek**	75.62	336	P		P		07 40 18.7	-0.3
	baz=83								
M30M	**Minto, Yukon**	75.65	331	P		P		07 40 18.9	-0.3
	baz=83,SNR=7.3								
K29M	**Barlow Dome**	75.81	333	P		P		07 40 20.3	+0.2
	baz=82								
H29M	**Whitestone**	75.85	335	P		P		07 40 20.1	-0.2
	baz=82								
N30M	**Aishikik Lake**	75.93	330	P		P		07 40 20.9	+0.1
	baz=82								
E28M	**Babbage River**	75.96	338	P		P		07 40 20.4	-0.4
	baz=82								
P30M	**Million Dollar**	76.06	329	P		P		07 40 21.8	+0.2
	baz=82								
L29M	**L29M**	76.18	332	P		P		07 40 22.1	-0.1
	baz=82								
HYT	**Haines Junctio**	76.22	330	P		P		07 40 23.0	+0.4
	baz=82,SNR=5.1								
F28M	**Old Crow**	76.24	337	P		P		07 40 21.8	-0.6
	baz=81,SNR=7.9								
D27M	**Malcolm River**	76.38	339	P		P		07 40 23.4	+0.2
	baz=81								
M29M	**Somme Creek**	76.43	331	P		P		07 40 23.4	-0.3
	baz=81								
P29M	**Windy Craggy**	76.52	329	P		P		07 40 24.3	+0.1
	baz=81								
DAWY	**Dawson**	76.59	333	P		P		07 40 24.3	-0.2
	baz=81,SNR=9.8								
I28M	**Miner Creek**	76.60	335	P		P		07 40 24.0	-0.7
	baz=81								
YUK6	**Outpost Mounta**	76.62	330	P		P		07 40 24.7	-0.2
	baz=81								
YUK4	**Talbot Arm**	76.69	330	P		P		07 40 25.1	-0.3
	baz=81								
O29M	**Mount Kennedy**	76.83	329	P		P		07 40 26.7	+0.7
	baz=81								
SOC	**Sochi**	76.84	48	*e*P		P		07 40 25.4	-0.8
SOC				*i*				07 43 18.5	
SOC				*e*PPP		PPP		07 45 02.5	
SOC				*e*S		**S**		**07 50 15.4**	**+1.4**
SOC				*e*SS		**SS**		**07 55 09.2**	**-0.6**
SOC				*e*SSS		SSS		07 58 34.0	
SOC				pmax		pmax			
	comp=Z,7.0nm,0.4s								
VRH	**Novokhopyorsk**	76.91	40	*e*P		P		07 40 23.5	-3.0
VRH				pmax		pmax			
	comp=Z,8.0nm,0.9s								
H27K	**Steamboat Moun**	77.11	336	P		P		07 40 27.0	-0.4
	baz=79								
EGAK	**Eagle**	77.23	334	P		P		07 40 27.2	-0.8
	baz=79								
I27K	**Kandik River**	77.26	335	P		P		07 40 27.6	-0.7
	baz=79								
PNL	**Peninsula**	77.34	329	P		P		07 40 28.5	-0.3
	baz=80								
YUK3	**Moose Creek**	77.47	331	P		P		07 40 29.6	-0.1
	baz=79,SNR=5.2								
BVCY	**Beaver Creek**	77.54	332	P		P		07 40 29.6	-0.3
	baz=79,SNR=7.3								
K27K	**Chicken**	77.76	333	P		P		07 40 30.7	-0.3
	baz=78								
F26K	**Sheenjek River**	77.83	337	P		P		07 40 32.0	+0.6
	baz=77								
L27K	**Beaver Creek,**	77.85	332	P		P		07 40 31.5	-0.1
	baz=78								
G26K	**Porcupine Rive**	77.85	336	P		P		07 40 31.4	-0.1
	baz=78								
I26K	**Coal Creek Min**	77.95	335	P		P		07 40 31.6	-0.5
	baz=78								
M27K	**Edge Creek, AK**	78.01	332	P		P		07 40 32.7	0.0
	baz=78								
CTG	**Chitna Glacier**	78.04	330	P		P		07 40 32.8	0.0
	baz=78								
D25K	**Kavik River**	78.25	339	P		P		07 40 34.0	+0.3
	baz=76								
E25K	**Arctic Village**	78.25	338	P		P		07 40 34.3	+0.6
	baz=76,SNR=13								
J26L	**Joseph Creek**	78.30	334	P		P		07 40 33.6	-0.5
	baz=77								
F25K	**Christian Rive**	78.41	337	P		P		07 40 35.3	+0.6
	baz=76								
M26K	**Nabesna, AK**	78.51	332	P		P		07 40 35.1	-0.2
	baz=77								
L26K	**Log Cabin Wild**	78.53	332	P		P		07 40 35.4	0.0
	baz=77								
MBAR	**Mbarara**	78.56	94	*ce*P		P		07 40 37.7	+1.1
MBAR				pmax		pmax			
	comp=Z,10.0nm,1.7s								
MBAR	**Mbarara**	78.56	94	LR		LR		08 13 46.6	
	comp=Z,78nm,19.2s,baz=232,slow=35								
SCRK	**Sand Creek**	78.60	333	P		P		07 40 35.4	-0.4
	baz=77								
MCARA	**McCarthy VSAT**	78.75	331	P		P		07 40 37.0	+0.4
	baz=77,SNR=5.7								
G25K	**Bearman Lake**	78.79	336	P		P		07 40 37.4	+0.8
	baz=75								
PRP	**Porcupine Dome**	78.87	335	P		P		07 40 37.4	+0.1
	baz=76,SNR=9.5								
KIV	**Kislovodsk**	78.88	47	*e*P		P		07 40 37.7	0.0
KIV				pmax		pmax			
	comp=Z,12nm,1.1s								
KIV				MLR		MLR			
	comp=Z,61nm,19.0s								
C24K	**Franklin Bluff**	78.93	340	P		P		07 40 38.0	+0.7
	baz=74								
RIDG	**Independent Ri**	79.02	333	P		P		07 40 38.1	0.0
	baz=76								
J25K	**Salcha River,**	79.03	334	P		P		07 40 37.8	-0.3
	baz=76								
KBZ	**Khabaz**	79.08	48	*i* P		P		07 40 39.1	+0.4
KBZ				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KBZ	**Khabaz**	79.08	48	P		P		07 40 38.7	0.0
	comp=Z,3.9nm,1.0s,baz=281,slow=0.3,SNR=6.3								
KBZ				LR		LR		08 17 07.8	
	comp=Z,52nm,18.1s,baz=308,slow=37								
	comp=Z,3.9nm,1.0s								
D24K	**Happy Valley**	79.13	339	P		P		07 40 39.1	+0.6
	baz=73								
F24K	**Squaw Lake**	79.26	337	P		P		07 40 40.0	+0.7
	baz=74								
G24K	**Hadweenzic Riv**	79.33	337	P		P		07 40 40.1	+0.5
	baz=74								
K24K	**Donnelly Dome**	79.41	333	P		P		07 40 40.2	0.0
	baz=75								
N25K	**Chitina, Valde**	79.44	331	P		P		07 40 40.0	-0.4
	baz=76								
PAX	**Paxson**	79.49	333	P		P		07 40 40.0	-0.7
	baz=75,SNR=6.7								
HARP	**HAARP**	79.49	332	P		P		07 40 40.5	-0.1
	baz=75,SNR=6.3								
BMRM	**Bremner River**	79.60	331	P		P		07 40 41.1	-0.2
	baz=76								
ILAR	**Eielson Array**	79.62	335	P		P		07 40 40.9	-0.4
	comp=Z,24nm,0.9s,baz=73,slow=4.3,SNR=149								
ILAR				LR		LR		08 15 11.4	
	comp=Z,126nm,19.8s,baz=180,slow=35								
	comp=Z,24nm,0.9s								
H24K	**Noodor Dome**	79.73	336	P		P		07 40 41.9	0.0
	baz=74								
E23K	**Chandalar**	79.73	338	P		P		07 40 42.7	+0.8
	baz=72								
HDA	**Harding Lake**	79.74	334	P		P		07 40 41.5	-0.4
	baz=74								
POKR	**Poker Plat Res**	79.75	335	P		P		07 40 41.7	-0.3
	baz=74								
KIRV	**Kirov**	79.77	32	*i* P		P		07 40 42.0	-0.1
KIRV	**Kirov**	79.77	32	LR		LR		08 11 11.0	
	comp=Z,231nm,22.0s,baz=281,slow=32								
COLA	**College**	79.99	335	P		P		07 40 43.3	+0.1
	baz=74								
KLU	**Klutina**	80.08	331	P		P		07 40 43.9	+0.1
	baz=75,SNR=5.8								
COLD	**Coldfoot**	80.20	337	P		P		07 40 44.9	+0.6
	baz=72,SNR=9.1								
EYAK	**Cordova Ski Ar**	80.25	330	P		P		07 40 45.1	+0.4
	baz=75								
BELG	**Belogornoye**	80.27	38	*i* P		P		07 40 45.0	+0.1
BELG				pmax		pmax			
	comp=Z,6.0nm,1.0s								
BELG	**Belogornoye**	80.27	38	LR		LR		08 14 33.0	
	comp=Z,134nm,18.1s,baz=153,slow=34								
B22K	**Teshekpuk Lake**	80.27	341	P		P		07 40 45.5	+0.9
	baz=69								
G23K	**Bananza Creek**	80.30	337	P		P		07 40 45.4	+0.5
	baz=72								
DHY	**Denali Highway**	80.30	333	P		P		07 40 44.9	-0.2
	baz=74								
A22K	**Sinclair Lake**	80.51	342	P		P		07 40 46.8	+0.9
	baz=68								
I23K	**Minto, Yukon-K**	80.52	335	P		P		07 40 46.3	+0.2
	baz=72,SNR=17								
D22K	**Ayikyak River**	80.54	339	P		P		07 40

RC01	**Rabbit Creek A**	**81.96**	**331**	P		**P**	**07 40 53.8**	**0.0**
	baz=71							
E20K	**Nigu River**	**81.97**	**339**	P		**P**	**07 40 54.0**	**+0.2**
	baz=66							
SEW	**Seward**	**82.14**	**330**	P		**P**	**07 40 54.7**	**0.0**
	baz=71							
CHUM	**Lake Minchumin**	**82.14**	**334**	P		**P**	**07 40 54.2**	**-0.5**
	baz=69,SNR=9.5							
CAST	**Castle Rocks**	**82.21**	**334**	P		**P**	**07 40 54.5**	**-0.6**
	baz=70,SNR=5.1							
SUA	**Susitna One**	**82.30**	**332**	P		**P**	**07 40 55.5**	**-0.2**
	baz=70							
PPLA	**Purkeypile**	**82.44**	**333**	P		**P**	**07 40 56.2**	**-0.2**
	baz=69,SNR=5.4							
SKT	**Skwentna**	**82.47**	**333**	P		**P**	**07 40 56.3**	**-0.2**
	baz=70,SNR=7.2							
D19K	**Kuna River**	**82.52**	**340**	P		**P**	**07 40 56.9**	**+0.3**
	baz=65							
H20K	**Anotleneega Mo**	**82.58**	**336**	P		**P**	**07 40 57.1**	**+0.1**
	baz=67,SNR=10							
E19K	**Redstone River**	**82.65**	**339**	P		**P**	**07 40 57.7**	**+0.3**
	baz=66							
I20K	**Naaghedeneel**	**82.69**	**336**	P		**P**	**07 40 57.7**	**+0.2**
	baz=68							
A19K	**Wainwright**	**82.69**	**342**	P		**P**	**07 40 58.4**	**+1.0**
	baz=62							
C19K	**Lookout Ridge**	**82.73**	**340**	P		**P**	**07 40 58.7**	**+1.0**
	baz=64							
J20K	**Nowinta River**	**82.79**	**335**	P		**P**	**07 40 58.8**	**+0.7**
	baz=68							
BOSA	**Boshof**	**82.91**	**122**	P		**P**	**07 40 59.7**	**+0.2**
	comp=Z,8.4nm,1.1s,baz=258,slow=4.8,SNR=5.6							
BOSA				LR		LR	08 10 34.9	
	comp=Z,148nm,18.6s,baz=208,slow=30							
	comp=Z,8.4nm,1.1s							
N20K	**Mount Spurr**	**83.05**	**332**	P		**P**	**07 40 59.5**	**-0.1**
	baz=69,SNR=5.8							
K20K	**Telida**	**83.07**	**334**	P		**P**	**07 40 59.9**	**+0.3**
	baz=68							
F19K	**Shaleruckik Mo**	**83.11**	**338**	P		**P**	**07 40 59.6**	**-0.1**
	baz=65							
G19K	**Purcell Mounta**	**83.15**	**337**	P		**P**	**07 41 00.3**	**+0.3**
	baz=66							
H19K	**Roundabout Mou**	**83.16**	**337**	P		**P**	**07 40 59.9**	**-0.1**
	baz=66							
M20K	**Styx River**	**83.21**	**333**	P		**P**	**07 41 00.1**	**-0.3**
	baz=68							
B18K	**Kokolik River**	**83.31**	**341**	P		**P**	**07 41 01.8**	**+1.0**
	baz=62							
L20K	**Farewell, AK**	**83.32**	**333**	P		**P**	**07 41 00.4**	**-0.5**
	baz=68,SNR=7.8							
HOM	**Homer**	**83.33**	**330**	P		**P**	**07 41 01.4**	**+0.4**
	baz=70							
J19K	**Poorman**	**83.46**	**335**	P		**P**	**07 41 01.2**	**-0.4**
	baz=66							
C18K	**Utukok River**	**83.46**	**340**	P		**P**	**07 41 01.8**	**+0.2**
	baz=62							
GCSA	**Galena City Sc**	**83.65**	**336**	P		**P**	**07 41 02.8**	**+0.3**
	baz=66							
M19K	**Big River Lodg**	**83.76**	**333**	P		**P**	**07 41 03.0**	**-0.1**
	baz=67							
G18K	**Tagagawik**	**83.83**	**337**	P		**P**	**07 41 03.6**	**+0.1**
	baz=64							
L19K	**White Mountain**	**83.85**	**333**	P		**P**	**07 41 03.2**	**-0.5**
	baz=67							
H18K	**Honhosa River**	**84.05**	**337**	P		**P**	**07 41 04.6**	**0.0**
	baz=64,SNR=8.5							
P19K	**Oil Pt**	**84.08**	**331**	P		**P**	**07 41 04.8**	**-0.1**
	baz=68							
J18K	**Innoko River**	**84.12**	**335**	P		**P**	**07 41 05.4**	**+0.4**
	baz=66,SNR=7.2							
C17K	**DeLong Mountai**	**84.18**	**341**	P		**P**	**07 41 05.5**	**+0.3**
	baz=60							
N19K	**Bonanza Creek**	**84.22**	**332**	P		**P**	**07 41 05.3**	**-0.3**
	baz=67							
E17K	**Hotham Inlet**	**84.42**	**339**	P		**P**	**07 41 06.2**	**-0.1**
	baz=61,SNR=31							
KDAK	**Kodiak Island**	**84.46**	**329**	P		**P**	**07 41 06.7**	**0.0**
	baz=68							
F17K	**Baldwin Pennin**	**84.52**	**338**	P		**P**	**07 41 07.3**	**+0.4**
	baz=62							
M18K	**Stony River**	**84.55**	**333**	P		**P**	**07 41 07.7**	**+0.5**
	baz=66							
L18K	**Granite Mounta**	**84.62**	**334**	P		**P**	**07 41 08.2**	**+0.6**
	baz=65							
H17K	**Granite Mounta**	**84.73**	**337**	P		**P**	**07 41 08.9**	**+0.8**
	baz=63							
G17K	**Kiwalik Mounta**	**84.75**	**337**	P		**P**	**07 41 08.5**	**+0.4**
	baz=62							
N18K	**Kilae Creek**	**84.91**	**332**	P		**P**	**07 41 09.8**	**+0.8**
	baz=66							
O18K	**Koktuh Hills**	**84.93**	**331**	P		**P**	**07 41 09.3**	**+0.2**
	baz=66							
KMBO	**Kilima Mbogo**	**84.96**	**93** *i*	P		**P**	**07 41 09.8**	**-0.6**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KMBO	**Kilima Mbogo**	**84.96**	**93**	P		**P**	**07 41 09.1**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=286,slow=4.7,SNR=5.3							
KMBO				LR		LR	08 17 20.1	
	comp=Z,153nm,19.2s,baz=266,slow=34							
	comp=Z,1.4nm,0.4s							
C16K	**Lisburne Hills**	**84.98**	**341**	P		**P**	**07 41 09.4**	**+0.2**
	baz=58							
OHAK	**Old Harbor**	**85.02**	**328**	P		**P**	**07 41 09.9**	**+0.3**
	baz=68							
K17K	**Iditarod**	**85.09**	**334**	P		**P**	**07 41 10.1**	**+0.3**
	baz=64							
P18K	**Big Mountain,**	**85.12**	**331**	P		**P**	**07 41 10.2**	**0.0**
	baz=66							
ARU	**Arti**	**85.13**	**32** *c i*	P		**P**	**07 41 09.9**	**-0.3**
ARU				S		**SKSac**	**07 51 34.5**	**-0.5**
ARU				SS		**SS**	**07 57 10.5**	**-2.2**
ARU				pmax		pmax		
	comp=Z,19nm,1.4s							
ARU	**Arti**	**85.13**	**32**	LR		LR	08 15 43.2	
	comp=Z,217nm,19.9s,baz=287,slow=33							
L17K	**Donlin**	**85.34**	**334**	P		**P**	**07 41 11.5**	**+0.4**
	baz=64							
G16K	**Koyuk River**	**85.43**	**338**	P		**P**	**07 41 12.0**	**+0.5**
	baz=61,SNR=17							
I17K	**Unalakleet**	**85.52**	**336**	P		**P**	**07 41 12.6**	**+0.6**
	baz=62,SNR=5.7							
H16K	**Elim**	**85.75**	**337**	P		**P**	**07 41 13.6**	**+0.5**
	baz=61,SNR=9.3							
J16K	**Anvik River**	**85.77**	**335**	P		**P**	**07 41 14.0**	**+0.7**
	baz=62							
Q17K	**Contact Creek**	**85.89**	**330**	P		**P**	**07 41 14.6**	**+0.5**
	baz=66							
L16K	**Owhat River**	**86.03**	**334**	P		**P**	**07 41 15.7**	**+1.1**
	baz=63							
SVE	**Sverdlovsk**	**86.03**	**32** *e*	P		**P**	**07 41 15.2**	**+0.5**
SVE				pmax		pmax		
	comp=Z,22nm,1.0s							
F15K	**North Star Dit**	**86.09**	**338**	P		**P**	**07 41 15.5**	**+0.7**
	baz=59							
M16K	**Timber Creek**	**86.12**	**333**	P		**P**	**07 41 15.7**	**+0.7**
	baz=63							
G15K	**Niukluk**	**86.24**	**338**	P		**P**	**07 41 16.8**	**+1.3**
	baz=59							
N16K	**Nishlik Lake**	**86.28**	**333**	P		**P**	**07 41 16.5**	**+0.6**
	baz=64,SNR=5.0							
K15K	**Wolf Creek Mou**	**86.62**	**335**	P		**P**	**07 41 18.3**	**+0.9**
	baz=61							
F14K	**Arctic Creek**	**86.81**	**339**	P		**P**	**07 41 19.2**	**+0.9**
	baz=57							
L15K	**Ungalak Mounta**	**86.89**	**334**	P		**P**	**07 41 19.5**	**+0.7**
	baz=61							
ANM	**Nome**	**86.95**	**338**	P		**P**	**07 41 19.5**	**+0.5**
	baz=58							
M15K	**Kasigluk River**	**87.02**	**333**	P		**P**	**07 41 20.0**	**+0.6**
	baz=62							
AKTO	**Aktyubinsk**	**87.05**	**38**	P		**P**	**07 41 20.3**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=294,slow=5.4,SNR=16							
AKTO				LR		LR	08 19 15.8	
	comp=Z,167nm,18.1s,baz=4.0,slow=35							
	comp=Z,5.2nm,0.8s							
J14K	**Nanvaranak Lak**	**87.21**	**336**	P		**P**	**07 41 21.1**	**+0.8**
	baz=60							
TNA	**Tin City**	**87.31**	**339**	P		**P**	**07 41 21.7**	**+1.0**
	baz=56							
M14K	**Bethel**	**87.54**	**333**	P		**P**	**07 41 22.6**	**+0.7**
	baz=61							
L14K	**Kuka Creek**	**87.56**	**334**	P		**P**	**07 41 22.7**	**+0.7**
	baz=60							
N14K	**Kuskokwak Cree**	**87.83**	**333**	P		**P**	**07 41 24.0**	**+0.7**
	baz=61							
O14K	**Tigyukauivet M**	**87.96**	**332**	P		**P**	**07 41 25.0**	**+1.0**
	baz=61							
M13K	**Dall Lake**	**88.31**	**334**	P		**P**	**07 41 26.7**	**+1.1**
	baz=60							
ABKAR	**Akbulak array**	**88.66**	**39**	P		**P**	**07 41 27.4**	**-0.1**
NRIK	**Noril'sk**	**88.95**	**15** *ce*	P		**P**	**07 41 28.6**	**+0.1**
NRIK				pmax		pmax		
	comp=Z,10.0nm,1.2s							
NRIK	**Noril'sk**	**88.95**	**15**	P		**P**	**07 41 28.2**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=339,slow=8.3,SNR=5.3							
	comp=Z,1.0nm,0.3s							
M11K	**Mekoryuk**	**89.53**	**334**	P		**P**	**07 41 31.7**	**+0.4**
	baz=57							
GAMB	**Gambell**	**89.68**	**339**	P		**P**	**07 41 33.0**	**+1.0**
	baz=52							
TIXI	**Tiksi**	**92.38**	**1**	P		**P**	**07 41 43.5**	**-0.9**
TIXI				IAmb		IAmb	07 41 45.0	
	comp=Z,9.1nm,1.1s							
TIXI	**Tiksi**	**92.38**	**1** *ce*	P		**P**	**07 41 44.0**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,10.0nm,1.3s							
BRVK	**Borovoye**	**92.70**	**32** *ce*	P		**P**	**07 41 45.7**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,8.0nm,2.5s							
BVAR	**Borovoye Array**	**92.77**	**32**	P		**P**	**07 41 46.7**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=300,slow=3.2,SNR=6.9							
BVAR				LR		LR	08 20 59.4	
	comp=Z,118nm,18.6s,baz=314,slow=34							
	comp=Z,1.4nm,0.7s							
TAOE	**Nuku Hiva Isla**	**95.25**	**262**	*e* LR		LR	08 12 35.8	
	comp=Z,234nm,26.2s							
KURK	**Kurchatov**	**98.28**	**31**	P		**P**	**07 42 11.7**	**0.0**
KURBB	**Kurchatov Arra**	**98.29**	**32**	P		**P**	**07 42 11.7**	**-0.1**
KURBB				LR		LR	08 22 36.0	
	comp=Z,238nm,22.0s,baz=190,slow=33							
	comp=Z,2.2nm,0.2s							
ZALV	**Zalesovo Beam**	**99.04**	**26**	LR		LR	08 24 10.4	
	comp=Z,68nm,21.1s,baz=333,slow=34							
MKAR	**Makanchi Array**	**102.65**	**33**	PP		**PP**	**07 46 43.9**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=310,slow=6.2,SNR=5.3							
PPT2	**Papeete2**	**106.25**	**256**	*e* LR		LR	08 17 40.8	
	comp=Z,127nm,28.2s							
PPT2				*e* LR		LR	08 17 41.0	
	comp=Z,59nm,24.2s							
SONM	**Songino Array**	**112.06**	**19**	PKiKP		**PKiKP**	**07 47 08.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=179,slow=1.3,SNR=4.7							
MDJ	**Mudanjiang**	**119.46**	**3**	SS		SS	08 05 03.5	-2.8
MDJ				AMB		AMB		
	comp=Z,670nm,5.2s							
HHC	**Hu-ho-hao-te**	**119.96**	**19**	*e* P		**PKPdf**	**07 47 23.0**	**-2.3**
XAN	**Xi'an**	**125.14**	**24**	⇑P		**PKPdf**	**07 47 34.5**	**-0.8**
XAN				pP		pPKPdf	07 47 37.3	-0.4
XAN				pmax		pmax		
	comp=Z,16nm,1.3s							
LYN	**LuoYang**	**125.99**	**21**	*e* P		**PKiKP**	**07 47 37.3**	**0.0**
LYN				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MJAR	**Matsushiro Arr**	**127.36**	**355**	PKP		**PKPdf**	**07 47 38.4**	**-1.1**
	comp=Z,7.1nm,0.9s,baz=346,slow=1.3,SNR=9.9							
PZH	**PanZhiHua**	**127.94**	**36**	PKP		**PKPdf**	**07 47 40.5**	**-0.5**
NJ2	**Nanjing**	**130.24**	**16**	*e* P		**PKiKP**	**07 47 46.3**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,12nm,0.7s							
WHN	**Wuhan**	**130.29**	**21**	PKPbc		**PKiKP**	**07 47 48.5**	**+2.5**
CMAR	**Chiang Mai Arr**	**132.09**	**45** *c i*	PKIKP		**PKiKP**	**07 47 50.2**	**+0.3**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**132.09**	**45**	PKP		**PKPdf**	**07 47 48.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=289,slow=4.1,SNR=7.4							
DZM	**Mont Dzumac**	**147.74**	**254**	*e* LR		LR	08 36 51.5	
	comp=Z,80nm,24.1s							
STKA	**Stephens Creek**	**162.42**	**205**	PKP		**PKPdf**	**07 48 35.8**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=322,slow=2.5,SNR=5.5							
ASAR	**Alice Springs**	**172.45**	**188**	PKP		**PKPdf**	**07 48 42.8**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=96,slow=0.7,SNR=23							
ASAR				PKPab		**PKPab**	**07 50 06.8**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=159,slow=5.7,SNR=2.9							
WRA	**Warramunga Arr**	**175.96**	**201**	PKP		**PKPdf**	**07 48 43.8**	**-1.5**
	comp=Z,4.2nm,0.9s,baz=307,slow=0.4,SNR=18							

ROM 26 07:37:15.2±0.1, 42°.685N±0°.005×13°.143E±0°.005, h14km±1km, ML1.1/11, 1D, Error ellipse: s-maj=0.5km s-min=0.4km az=214.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.11**	**223**	P	Pg	07 37 18.8	+0.1
LNSS				S	Sg	07 37 21.4	+0.4
LNSS				AML	AML		
	comp=E,61μm,0.1s						
LNSS				AML	AML		
	comp=N,102μm,0.7s						
NRCA	**Norcia**	**0.15**	**352**	⇓P	Pg	07 37 19.4	+0.3
NRCA				S	Sg	07 37 22.0	+0.2
NRCA				AML	AML		
	comp=E,302μm,0.1s						
NRCA				AML	AML		
	comp=N,164μm,0.5s						
SMA1	**SAN MARTINO**	**0.15**	**111**	P	Pb	07 37 19.7	-0.2
SMA1				S	Sg	07 37 22.3	+0.5
SMA1				AML	AML		
	comp=E,84μm,0.4s						
SMA1				AML	AML		
	comp=N,77μm,0.4s						
SMA1				AML	AML		
	comp=E,84μm,1.6s						
SMA1				AML	AML		
	comp=N,77μm,1.6s						
GAVE	**Gavelli**	**0.18**	**272**	P	Pg	07 37 19.9	+0.2
GAVE				S	Sb	07 37 23.4	-0.6
GAVE				AML	AML		
	comp=E,79μm,0.2s						
GAVE				AML	AML		
	comp=N,94μm,0.2s						
GAVE				AML	AML		
	comp=N,94μm,0.2s						
GAVE				AML	AML		
	comp=E,94μm,2.0s						
RM33	**Pellescritta (**	**0.18**	**163**	P	Pg	07 37 19.8	+0.2
RM33				S	Sg	07 37 23.1	+0.5
RM33				AML	AML		
	comp=N,43μm,0.2s						
RM33				AML	AML		
	comp=E,36μm,0.3s						
MTRA	**Matera**	**0.20**	**69**	P	Pb	07 37 20.3	-0.4
MTRA				S	Sb	07 37 23.8	-0.6
TERO	**Teramo**	**0.34**	**100**	P	Pg	07 37 22.5	+0.2
TERO				S	Sg	07 37 27.6	+0.5

IDC 26 08:00:10.6±2.5, 6°.36S×129°.98E, h0km, mb3.3/1, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=144.4km s-min=33.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.15**	**163**	Pn	Pn	08 03 33.6	+1.1
	0.4nm,0.3s,baz=347,slow=13,SNR=20						
WRA				Sn	Sn	08 06 00.2	-10
	0.3nm,0.3s,baz=330,slow=23,SNR=6.2						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**17.62**	**168**	P	Pn	08 04 16.9	-0.7
	0.2nm,0.3s,baz=336,slow=10.0,SNR=15						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	08 11 09.7	0.0
	0.3nm,0.7s,baz=118,slow=6.4,SNR=1.5						
	0.3nm,0.7s						

*IDC **26** 08:01:11.2±0.6, 56°.50N×148°.60W, h0km, mb4.1/28, mbtmp4.1/33, ML3.7/5, MS3.9/56, Error ellipse: s-maj=17.5km s-min=11.1km az=29.0*

*MOS **26** 08:01:12.3±1.0, 56°.67N×148°.62W, h12km, mb4.8/27, Error ellipse: s-maj=16.5km s-min=6.2km az=97.9*

*NEIC **26** 08:01:13.9±1.8, 56°.57N±0°.07×148°.66W±0°.09, h17km±5km, mb4.5/29, ML4.2/54, ML4.0(AEIC), Error ellipse: s-maj=11.2km s-min=6.8km az=164.0*

*GCMT **26** 08:01:14.9±0.3, 56°.51N±0°.04×148°.51W±0°.04, h16km±1km, MW4.8/80, Moment Tensor Solution. s18,c21; s80,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.34±.15; Mθθ0.55±.10; Mφφ1.79±.10; Mrθ-0.27±.32; Mφθ0.08±.07; Mφr0.50±.28; Best double couple: Mo2.13900×10^16 NP1:φs177.00000°, δ52.00000°, λ-97.00000°. NP2: φs9.00000°, δ39.00000°, λ-81.00000°. Principal axes: T*

1.8520, Plg7.0000°, Azm272.0000°; N 0.5750, Plg6.0000°, Azm182.0000°; P -2.4260, Plg81.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*AEIC **26** 08:01:15.7±1.6, 56°.46N±0°.07×148°.56W±0°.06, h11km±4km Error ellipse: s-maj=10.5km s-min=4.6km az=181.0*

ISC 26 08:01:13.6±0.4, 56°.60N±0°.06×148°.65W±0°.04, h10km, n355, σ1↟09/298, mb4.5/57, MS3.9/55, 9C, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.44**	**301**	Pn	**Pn**	**08 01 52.6**	**-0.9**
KDAK				IAML		08 02 24.9	
	682nm,0.6s						
KDAK	**Kodiak Island**	**2.44**	**301**		**Sn**	**08 02 21.1**	**-2.3**
KDAK	**Kodiak Island**	**2.44**	**301**	S	**Sn**	**08 02 21.1**	**-2.3**
	baz=118						
KDAK	**Kodiak Island**	**2.44**	**301**	Pn	**Pn**	**08 01 52.6**	**-0.9**
	31nm,0.3s,baz=132,slow=4.8,SNR=106						
KDAK				Sn	**Sn**	**08 02 20.8**	**-2.6**
	52nm,0.3s,baz=101,slow=21,SNR=22						
KDAK				LR	LR	08 02 33.9	
	comp=Z,1μm,21.7s,baz=182,slow=33						
	60nm,0.3s						
OHAK	**Old Harbor**	**2.62**	**286**		Pn	08 01 54.2	-1.7
OHAK	**Old Harbor**	**2.62**	**286**		**Sn**	**08 02 23.5**	**-4.1**
OHAK	**Old Harbor**	**2.62**	**286**	P	Pn	08 01 54.2	-1.7
OHAK	**Old Harbor**	**2.62**	**286**	P	Pn	08 01 54.3	-1.6
	baz=103						
OHAK				S	**Sn**	**08 02 24.6**	**-3.1**
	baz=103						
SYI	**Shuyak Island**	**2.85**	**317**	Pn	**Pn**	**08 01 58.7**	**-0.3**
SYI	**Shuyak Island**	**2.85**	**317**		**Sn**	**08 02 31.6**	**-1.7**
Q20K	**Shuyak Island**	**2.85**	**317**	P	**Pn**	**08 01 58.3**	**-0.8**
	baz=134						
Q20K				S	**Sn**	**08 02 33.4**	**+0.1**
	baz=134						
SII	**Sitkinak Islan**	**3.06**	**271**		**Sn**	**08 02 34.4**	**-4.3**
Q23K	**Middleton Isla**	**3.09**	**22**		**Pn**	**08 02 01.0**	**-1.4**
Q23K					**Sn**	**08 02 36.5**	**-2.8**
Q23K	**Middleton Isla**	**3.09**	**22**	IAML		08 02 42.5	
	comp=N,560nm,2.2s						
Q23K				IAML		08 02 43.8	
	comp=E,632nm,2.3s						
Q23K	**Middleton Isla**	**3.09**	**22**	P	**Pn**	**08 02 01.3**	**-1.0**
	baz=204						
Q23K				S	**Sn**	**08 02 36.9**	**-2.4**
	baz=204						
MID	**Middleton Isla**	**3.09**	**23**	Pn	**Pn**	**08 02 01.3**	**-1.1**
MID				IAML		08 02 43.8	
	comp=E,683nm,2.3s						
MID				IAML		08 02 55.2	
	comp=N,539nm,2.4s						
MID	**Middleton Isla**	**3.09**	**23**	P	**Pn**	**08 02 01.3**	**-1.1**
MID	**Middleton Isla**	**3.09**	**23**	P	**Pn**	**08 02 01.3**	**-1.1**
MID						08 02 37.1	
CNPM	**China Poot**	**3.24**	**336**		**Pn**	**08 02 03.6**	**-0.9**
CNPM	**China Poot**	**3.24**	**336**		**Sn**	**08 02 42.0**	**-1.0**
BRSE	**Bradley Lake S**	**3.34**	**342**		**Pn**	**08 02 04.9**	**-1.0**
BRSE					**Sn**	**08 02 43.5**	**-2.0**
BRSE	**Bradley Lake S**	**3.34**	**342**	P	**Pn**	**08 02 05.5**	**-0.3**
	baz=160						
BRLK	**Bradley Lake**	**3.38**	**340**		**Pn**	**08 02 05.7**	**-0.8**
BRLK				IAML		08 02 48.0	
	comp=N,324nm,0.5s						
HOM	**Homer**	**3.45**	**334**		**Pn**	**08 02 07.3**	**0.0**
HOM				IAML		08 03 01.2	
	comp=N,823nm,2.0s						
HOM				IAML		08 03 18.7	
	comp=E,787nm,1.7s						
HOM	**Homer**	**3.45**	**334**	P	**Pn**	**08 02 06.7**	**-0.6**
	baz=152						
P23K	**Montague Islan**	**3.47**	**10**		**Pn**	**08 02 06.3**	**-1.3**
P23K	**Montague Islan**	**3.47**	**10**	P	**Pn**	**08 02 06.5**	**-1.1**
	baz=192						
SEW	**Seward**	**3.54**	**353**		**Pn**	**08 02 07.3**	**-1.2**
SEW	**Seward**	**3.54**	**353**	P	**Pn**	**08 02 07.5**	**-1.0**
	baz=173						
Q19K	**Cape Douglas,**	**3.55**	**313**		**Pn**	**08 02 09.3**	**+0.6**
Q19K				IAML		08 02 59.4	
	comp=N,768nm,1.2s						
Q19K	**Cape Douglas,**	**3.55**	**313**	P	**Pn**	**08 02 08.8**	**+0.1**
	baz=130						
KAHG	**Katmai Hook Gl**	**3.70**	**303**		**Pn**	**08 02 10.9**	**+0.1**
AU22	**Augustine Moun**	**3.74**	**320**		**Pn**	**08 02 11.4**	**+0.2**
P19K	**Oil Pt**	**3.91**	**323**		**Pn**	**08 02 13.4**	**-0.2**
P19K				IAML		08 03 06.9	
	comp=N,610nm,0.5s						
P19K	**Oil Pt**	**3.91**	**323**	P	**Pn**	**08 02 13.9**	**+0.3**
	baz=140						
O22K	**Cooper Landing**	**3.93**	**352**		**Pn**	**08 02 14.5**	**+0.6**
ACHA	**Angle Creek He**	**3.95**	**297**		**Pn**	**08 02 14.8**	**+0.5**
HIN	**Hinchinbrook I**	**3.97**	**16**	Pn	**Pn**	**08 02 14.0**	**-0.5**
KAHC	**Katmai Hardscr**	**3.98**	**304**		**Pn**	**08 02 15.0**	**+0.2**
KAHC	**Katmai Hardscr**	**3.98**	**304**	P	**Pn**	**08 02 15.0**	**+0.2**
	baz=119						
SLKM	**Skilak Lake**	**4.00**	**349**		**Pn**	**08 02 14.1**	**-0.9**
KVTA	**Katmai Vly 10**	**4.00**	**299**		**Pn**	**08 02 15.6**	**+0.6**
KAIM	**Kayak Island**	**4.01**	**32**		**Pn**	**08 02 14.5**	**-0.6**
ANCK	**Angle Creek**	**4.03**	**296**		**Pn**	**08 02 15.5**	**+0.1**
O20K	**Slope Mountain**	**4.07**	**331**		**Pn**	**08 02 15.6**	**-0.3**
O20K	**Slope Mountain**	**4.07**	**331**	P	**Pn**	**08 02 15.8**	**-0.2**
	baz=148						
IVE	**Iliamna Volcan**	**4.12**	**328**		Pn	08 02 15.5	-1.2
EYAK	**Cordova Ski Ar**	**4.24**	**20**		**Pn**	**08 02 17.4**	**-0.7**
EYAK	**Cordova Ski Ar**	**4.24**	**20**	P	**Pn**	**08 02 17.6**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.24**	**20**	P	**Pn**	**08 02 17.5**	**-0.6**
	baz=202						
CNTC	**Contact Creek**	**4.25**	**296**		**Pn**	**08 02 18.3**	**-0.2**
Q17K	**Contact Creek**	**4.25**	**296**	P	**Pn**	**08 02 18.8**	**+0.3**
	baz=110						
RAGM	**Ragged Mountai**	**4.33**	**27**		**Pn**	**08 02 19.1**	**-0.4**
RED	**Redoubt Volcan**	**4.39**	**332**		**Pn**	**08 02 19.3**	**-1.1**
RSO	**Redoubt South**	**4.43**	**333**		Pn	08 02 19.6	-1.3
RDT	**Redoubt**	**4.44**	**335**		**Pn**	**08 02 19.6**	**-1.4**
RDWB	**Redoubt West**	**4.47**	**332**		**Pn**	**08 02 20.3**	**-1.2**
P18K	**Big Mountain,**	**4.48**	**311**

baz=177
PMR Palmer 5.01 357 P **Pn** **08 02 28.4 -0.3**
KLU Klutina 5.10 15 Pn **Pn** **08 02 29.7 -0.4**
KLU IAML 08 03 34.1
comp=E,104nm,1.1s
KLU IAML 08 03 43.7
comp=N,109nm,0.8s
KLU Klutina 5.10 15 P **Pn** **08 02 29.7 -0.4**
baz=197
STLK Strandline Lak 5.18 343 **Pn** **08 02 30.3 -0.8**
GHO Glory Hole Cre 5.19 359 Pn **Pn** **08 02 31.8 +0.5**
GHO IAML 08 03 35.3
comp=N,189nm,0.6s
GHO IAML 08 03 38.0
comp=E,134nm,0.7s
N19K Bonanza Creek 5.20 327 **Pn** **08 02 30.5 -1.0**
N19K Bonanza Creek 5.20 327 IAML 08 03 36.2
comp=N,77nm,0.6s
SML Sawmill 5.22 2 **Pn** **08 02 31.6 -0.1**
SML IAML 08 03 37.9
comp=N,166nm,1.4s
SML IAML 08 03 39.9
comp=E,129nm,1.3s
SML Sawmill 5.22 2 P **Pn** **08 02 31.9 +0.1**
baz=182
M23K Glacier View 5.23 5 **Pn** **08 02 31.5 -0.3**
M23K Glacier View 5.23 5 P **Pn** **08 02 32.0 +0.2**
baz=186
SCM Sheep Creek Mo 5.29 7 **Pn** **08 02 32.6 -0.1**
SCM IAML 08 03 49.8
comp=E,222nm,1.8s
SCM Sheep Creek Mo 5.29 7 P **Pn** **08 02 33.6 +0.9**
baz=188
SCM Sheep Creek Mo 5.29 7 P **Pn** **08 02 32.6 -0.1**
VRDI Verde Repeater 5.36 28 Pn **Pn** **08 02 33.8 0.0**
VRDI IAML 08 03 40.8
comp=N,73nm,1.3s
CHGN Chignik 5.42 271 **Pn** **08 02 33.9 -0.5**
KIAG Kiagna River 5.43 34 **Pn** **08 02 33.5 -1.2**
N25K Chitina, Valde 5.43 21 **Pn** **08 02 34.6 -0.1**
N25K Chitina, Valde 5.43 21 P **Pn** **08 02 34.5 -0.1**
baz=204
SAMH Samovar Hills 5.45 46 **Pn** **08 02 33.9 -1.0**
GLB Gilahina Butte 5.46 25 **Pn** **08 02 34.3 -0.7**
O17K Koligansk Bris 5.48 309 **Pn** **08 02 34.7 -0.5**
P16K Nushagak River 5.55 300 **Pn** **08 02 35.9 -0.3**
N18K Kilae Creek 5.57 320 **Pn** **08 02 35.9 -0.5**
SKT Skwentna 5.59 346 **Pn** **08 02 37.3 +0.5**
PTPK Patty Peak 5.60 32 **Pn** **08 02 36.1 -1.0**
MCARA McCarthy VSAT 5.61 29 **Pn** **08 02 36.1 -0.9**
MCARA McCarthy VSAT 5.61 29 P **Pn** **08 02 37.0 0.0**
baz=214
PCA Pinnacle 5.64 48 **Pn** **08 02 35.9 -1.5**
PINM Pinnacle 5.64 48 P **Pn** **08 02 36.5 -1.0**
baz=235
M24K Tolsona, Glenn 5.66 12 **Pn** **08 02 38.2 +0.4**
M24K Tolsona, Glenn 5.66 12 P **Pn** **08 02 38.0 +0.2**
baz=194
BARN Barnard Glacie 5.76 36 **Pn** **08 02 37.9 -1.3**
M20K Styx River 5.77 338 **Pn** **08 02 38.3 -1.0**
PNL Peninsula 5.79 54 **Pn** **08 02 38.2 -1.2**
PNL Peninsula 5.79 54 P **Pn** **08 02 38.2 -1.2**
PNL Peninsula 5.79 54 P **Pn** **08 02 38.5 -0.9**
baz=242
CTG Chitna Glacier 5.79 38 P **Pn** **08 02 38.5 -1.2**
baz=224
CTGM Chitina Glacie 5.80 38 **Pn** **08 02 38.3 -1.4**
O16K Kokwok River B 5.83 305 **Pn** **08 02 39.4 -0.6**
WAZA Wrangell Mount 5.95 21 **Pn** **08 02 41.9 0.0**
WAT6 Susitna Watana 6.01 4 **Pn** **08 02 42.4 -0.3**
WAT6 Susitna Watana 6.01 4 P **Pn** **08 02 42.8 +0.1**
baz=185
M19K Big River Lodg 6.08 333 **Pn** **08 02 42.2 -1.2**
HARP HAARP 6.08 16 **Pn** **08 02 42.8 -0.6**
M18K Stony River 6.14 326 **Pn** **08 02 43.2 -1.1**
WAT7 Susitna Watana 6.25 359 **Pn** **08 02 45.7 -0.2**
O29M Mount Kennedy 6.46 51 **Pn** **08 02 47.5 -1.3**
M26K Nabesna, AK 6.49 24 **Pn** **08 02 48.8 -0.3**
O15K Ungalikthiuk R 6.49 298 **Pn** **08 02 48.7 -0.4**
DHY Denali Highway 6.53 5 **Pn** **08 02 50.2 +0.6**
P29M Windy Craggy 6.53 58 **Pn** **08 02 48.0 -1.6**
YUK2 White River 6.56 34 **Pn** **08 02 50.5 +0.4**
PAX Paxson 6.59 13 **Pn** **08 02 50.3 -0.2**
PAX Paxson 6.59 13 P **Pn** **08 02 50.3 -0.2**
YUK3 Moose Creek 6.68 36 **Pn** **08 02 51.6 -0.2**
YUK3 Moose Creek 6.68 36 P **Pn** **08 02 51.6 -0.2**
baz=222
SDPT Sand Point 6.76 264 P Pn 08 02 51.6 -1.1
YUK7 Dusty Glacier 6.76 50 **Pn** **08 02 52.0 -0.9**
RND Reindeer 6.83 359 **Pn** **08 02 54.0 +0.3**
RND Reindeer 6.83 359 P **Pn** **08 02 54.1 +0.3**
TRF Thorofare Moun 6.92 354 **Pn** **08 02 54.9 -0.2**
M16K Timber Creek 6.95 314 **Pn** **08 02 55.0 -0.3**
L18K Granite Mounta 6.96 327 **Pn** **08 02 54.8 -0.7**
L26K Log Cabin Wild 6.97 20 **Pn** **08 02 55.9 +0.1**
N15K Kwethluk River 6.99 305 **Pn** **08 02 56.2 +0.2**
BVCY Beaver Creek 7.04 31 **Pn** **08 02 56.3 -0.4**
CAST Castle Rocks 7.05 347 **Pn** **08 02 56.3 -0.4**
KTH Kantishna Hill 7.07 352 **Pn** **08 02 57.1 +0.1**
P30M Million Dollar 7.09 55 **Pn** **08 02 55.8 -1.5**
HYT Haines Junctio 7.18 49 **Pn** **08 02 58.2 -0.5**
O14K Tigyukauivet M 7.22 297 Pn **Pn** **08 02 58.9 -0.1**
K20K Telida 7.30 340 **Pn** **08 03 00.6 +0.5**
SIT Sitka 7.33 81 P Pn 08 02 55.7 -4.8
BCAR Beaver Creek A 7.34 25 Pn **Pn** **08 03 01.0 +0.2**
TTA Tatalina 7.35 333 **Pn** **08 02 59.9 -1.0**
TTA Tatalina 7.35 333 P **Pn** **08 03 00.3 -0.6**
TTA Tatalina 7.35 333 P **Pn** **08 02 59.9 -1.0**
RIDG Independent Ri 7.41 13 **Pn** **08 03 01.9 +0.2**
L17K Donlin 7.41 322 Pn 08 03 00.4 -1.3
L16K Owhat River 7.56 317 **Pn** **08 03 03.2 -0.4**
BPAW Bear Paw Mtn. 7.61 352 **Pn** **08 03 04.6 +0.2**
SKAG Skagway 7.63 62 **Pn** **08 03 04.5 -0.2**
SKAG Skagway 7.63 62 P Pn 08 03 01.9 -2.8
BESE Bessie Mountai 7.67 69 Pn 08 02 59.2 -2.4
N30M Aishikik Lake 7.69 46 **Pn** **08 03 04.4 -1.3**
M29M Somme Creek 7.81 37 **Pn** **08 03 06.6 -0.7**
K17K Iditarod 7.83 325 Pn 08 03 05.2 -2.3
HDA Harding Lake 7.88 5 **Pn** **08 03 09.1 +1.0**
JIS Juneau Island 7.88 72 Pn 08 03 05.6 -2.5
JIS Juneau Island 7.88 72 P Pn 08 03 05.7 -2.4
NEA2 Nenana 8.02 359 **Pn** **08 03 09.9 -0.2**
CCB Clear Creek Bu 8.08 3 **Pn** **08 03 12.3 +1.4**
K27K Chicken 8.13 21 **Pn** **08 03 11.4 -0.1**
J19K Poorman 8.18 338 **Pn** **08 03 11.3 -0.9**
N31M Braeburn, Yuko 8.24 48 **Pn** **08 03 12.1 -1.0**
IL31 8.24 5 **Pn** **08 03 13.1 +0.1**
ILAR Eielson Array 8.24 5 Pn **Pn** **08 03 11.8 -1.3**
comp=N,0.4nm,0.3s,baz=187,slow=12,SNR=18
ILAR Sn **Sn** **08 04 40.6 -5.6**
comp=N,1.0nm,0.3s,baz=193,slow=19,SNR=9.5
ILAR LR LR 08 06 51.1
comp=N,176nm,18.7s,baz=235,slow=41
comp=N,0.7nm,0.3s
WHY Whitehorse 8.25 55 **Pn** **08 03 12.2 -1.1**
J26L Joseph Creek 8.31 15 **Pn** **08 03 14.1 +0.1**
COLA College 8.31 2 P **Pn** **08 03 14.3 +0.3**
L29M L29M 8.39 35 **Pn** **08 03 14.7 -0.5**
M30M Minto, Yukon 8.48 40 **Pn** **08 03 15.6 -0.8**
I23K Minto, Yukon-K 8.58 358 **Pn** **08 03 17.9 +0.1**
L14K Kuka Creek 8.66 309 **Pn** **08 03 19.0 +0.2**
ISLZ Isanotski Laza 8.72 264 Pn 08 03 17.9 -1.8
CRAG Craig 8.77 91 P Pn 08 03 14.3 -6.0
EGAK Eagle 8.98 21 **Pn** **08 03 25.0 +1.9**
M31M Drury Creek, Y 9.17 46 **Pn** **08 03 25.5 -0.4**
I17K Unalakleet 9.43 326 **Pn** **08 03 28.5 -0.8**
FARO Faro, Yukon 9.61 48 **Pn** **08 03 31.8 -0.1**
IMAR Indian Mountai 9.72 348 **Pn** **08 03 33.8 +0.5**
J30M Hart River 10.01 32 **Pn** **08 03 38.6 +1.1**
DLBC Dease Lake 10.18 72 Pn **Pn** **08 03 37.8 -1.9**
comp=N,1.6nm,0.3s,baz=275,slow=6.8,SNR=35
DLBC Sn Sn 08 05 25.0 -8.9
baz=214,slow=11
DLBC LR LR 08 06 55.2
comp=N,1µm,20.9s,baz=274,slow=34
comp=N,3.3nm,0.3s
UNV Unalaska Valle 10.56 262 P Pn 08 03 42.8 -2.0
F19K Shaleruckik Mo 11.12 341 **Pn** **08 03 53.5 +1.0**
ANM Nome 11.42 321 **Pn** **08 03 56.4 -0.2**
ANM Nome 11.42 321 P **Pn** **08 03 56.4 -0.2**
G31M Satah River 12.35 27 **Pn** **08 04 09.9 +0.8**
BBB Bella Bella 12.74 102 LR LR 08 07 59.2
comp=N,1µm,19.9s,baz=308,slow=32

INK Inuvik 13.61 24 Pn **Pn** **08 04 27.3 +0.9**
comp=N,0.1nm,0.3s,baz=180,slow=8.2,SNR=8.3
comp=N,1.4nm,0.8s
FLDN Fort Liard 13.65 64 **Pn** **08 04 27.0 0.0**
C36M Paulatuk 16.79 31 **Pn** **08 05 06.6 -1.8**
BRLDA Berland Lookou 17.87 85 P **Pn** **08 05 21.7 -0.5**
BRLDA IAmb IAmb 08 05 28.6
comp=Z,51nm,1.5s
YKA Yellowknife Ar 18.07 57 P **Pn** **08 05 23.8 -0.6**
YKA Yellowknife Ar 18.07 57 P **Pn** **08 05 23.8 -0.6**
YKA Yellowknife Ar 18.07 57 P **Pn** **08 05 23.6 -0.9**
comp=Z,0.2nm,0.3s,baz=267,slow=11,SNR=34
YKA PcP **PcP** **08 09 56.3 -1.8**
comp=Z,0.4nm,0.7s,baz=241,slow=1.2,SNR=4.4
YKA LR LR 08 12 19.9
comp=Z,618nm,18.2s,baz=260,slow=37
comp=Z,4.7nm,0.9s
A36M Sachs Harbour 18.25 23 P **Pn** **08 05 26.2 -0.3**
A36M IAmb IAmb 08 05 35.9
comp=Z,84nm,1.5s
LTY Liberty 19.50 107 P **P** **08 05 40.9 +0.2**
LTY IAmb IAmb 08 05 49.8
comp=Z,32nm,1.4s
EDM Edmonton 20.43 85 P **P** **08 05 51.0 +0.2**
EDM IAmb IAmb 08 06 01.1
comp=Z,30nm,1.2s
EDM Edmonton 20.43 85 P **P** **08 05 51.0 +0.2**
EDM pmax pmax
comp=Z,30nm,1.2s
D08A Wollman Farm, 20.55 105 P **P** **08 05 53.4 +1.3**
NEW Newport 20.80 100 P **P** **08 05 55.2 +0.4**
NEW Newport 20.80 100 P **P** **08 05 55.2 +0.4**
NEW pmax pmax
comp=Z,17nm,1.2s
NEW Newport 20.80 100 P **P** **08 05 53.6 -1.2**
comp=Z,2.6nm,0.9s,baz=320,slow=9.0,SNR=5.5
NEW LR LR 08 12 31.6
comp=Z,656nm,21.7s,baz=305,slow=33
comp=Z,2.6nm,0.9s
HUMO Hull Mountain 21.58 120 P **P** **08 06 03.7 +0.5**
G08A Pilot Rock 21.68 109 P **P** **08 06 03.9 -0.5**
SHEM Shemya Is, Ala 21.70 276 LR LR 08 15 11.9
comp=Z,360nm,19.6s,baz=37,slow=39
J05D Fort Rock, OR 21.92 116 P **P** **08 06 07.1 0.0**
J05D IAmb IAmb 08 06 34.7
comp=Z,26nm,1.3s
F10A Beach Ranch, E 22.15 105 P **P** **08 06 09.7 +0.4**
F10A IAmb IAmb 08 06 21.7
comp=Z,30nm,1.4s
YBH Yreka Blue Hor 22.37 121 P **P** **08 06 11.9 +0.1**
YBH IAmb IAmb 08 06 26.0
comp=Z,37nm,1.5s
YBH Yreka Blue Hor 22.37 121 P **P** **08 06 11.9 +0.1**
YBH pmax pmax
comp=Z,37nm,1.5s
YBH Yreka Blue Hor 22.37 121 LR LR 08 12 40.4
comp=Z,490nm,21.2s,baz=333,slow=31
OVMT Ovando 23.76 98 P **P** **08 06 26.3 +0.2**
ELK Elko 26.82 112 LR LR 08 15 56.0
comp=Z,227nm,20.1s,baz=322,slow=33
NVAR Mina Array Bea 27.06 119 P **P** **08 06 54.9 -1.4**
comp=Z,1.9nm,0.8s,baz=299,slow=9.3,SNR=13
NVAR PcP **PcP** **08 10 16.3 -0.8**
comp=Z,0.8nm,0.7s,baz=299,slow=1.9,SNR=5.9
NVAR LR LR 08 15 47.1
comp=Z,351nm,18.7s,baz=332,slow=32
comp=Z,1.9nm,0.8s
RES Resolute Bay 27.11 28 LR LR 08 17 32.8
comp=Z,114nm,18.4s,baz=12,slow=36
PDAR Pinedale Array 28.39 102 P **P** **08 07 06.8 -1.3**
comp=Z,0.5nm,0.8s,baz=319,slow=4.3,SNR=3.9
PDAR LR LR 08 18 59.0
comp=Z,78nm,18.1s,baz=316,slow=38
comp=Z,0.5nm,0.8s
R11B Troy Canyon, C 28.45 116 P **P** **08 07 08.0 -0.6**
FCC Fort Churchill 28.58 63 P **P** **08 07 09.8 +0.5**
FCC IAmb IAmb 08 07 16.8
comp=Z,7.2nm,1.1s
FCC Fort Churchill 28.58 63 P **P** **08 07 09.8 +0.5**
FCC pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 29.22 118 P **P** **08 07 15.2 -0.3**
TPNV Topopah Spring 29.22 118 P **P** **08 07 15.2 -0.3**
TPNV pmax pmax
comp=Z,5.0nm,1.1s
SEY Seymchan 29.39 307 *i* P **P** **08 07 18.1 +1.6**
SEY pmax pmax
comp=Z,9.0nm,1.6s
SEY Seymchan 29.39 307 LR LR 08 20 08.7
comp=Z,540nm,19.0s,baz=66,slow=39
PETK Petropavlovsk- 30.42 286 PcP **PcP** **08 10 23.3 -1.6**
comp=Z,7.2nm,1.0s,baz=84,slow=1.3,SNR=2.0
PETK LR LR 08 20 27.7
comp=Z,148nm,19.2s,baz=56,slow=38
V12A Nelson 30.88 118 P **P** **08 07 30.5 +0.4**
V12A IAmb IAmb 08 07 32.5
comp=Z,8.7nm,1.1s
MA2 Magadan 31.19 301 LR LR 08 20 52.5
comp=Z,412nm,19.5s,baz=75,slow=38
ULM Lac du Bonnet 31.40 79 P **P** **08 07 33.3 -1.1**
comp=Z,1.2nm,0.7s,baz=157,slow=18,SNR=2.0
ULM LR LR 08 20 01.3
comp=Z,781nm,18.3s,baz=290,slow=36
comp=Z,1.2nm,0.7s
PFO Pinyon Flats O 31.83 123 LR LR 08 18 08.1
comp=Z,347nm,20.1s,baz=354,slow=32
TIXI Tiksi 35.59 327*ce*P **P** **08 08 12.7 +2.1**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 35.59 327 LR LR 08 24 50.4
comp=Z,129nm,19.3s,baz=44,slow=40
ANMO Albuquerque 35.74 109 LR LR 08 22 44.8
comp=Z,114nm,19.0s,baz=39,slow=36
FRB Frobisher Bay 37.95 45 LR LR 08 24 10.0
comp=Z,397nm,19.2s,baz=302,slow=36
YAK Yakutsk 39.42 313*ce*P **P** **08 08 44.1 +1.0**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 39.42 313 P **P** **08 08 43.1 +0.1**
comp=Z,19nm,0.4s,baz=205,slow=1.8,SNR=2.0
YAK LR LR 08 26 54.1
comp=Z,186nm,18.2s,baz=36,slow=39
VHRN Van Horn 39.77 112 P **P** **08 08 46.3 -0.3**
TXAR Lajitas Array 41.62 112 P **P** **08 09 01.4 -0.4**
comp=Z,0.8nm,0.8s,baz=318,slow=7.5,SNR=6.1
TXAR PcP **PcP** **08 10 57.6 -1.1**
comp=Z,0.6nm,0.9s,baz=298,slow=1.9,SNR=3.8
TXAR LR LR 08 25 24.9
comp=Z,138nm,19.2s,baz=326,slow=35
comp=Z,0.8nm,0.8s
SUMG Summit 42.53 25 *i* P **P** **08 09 09.0 -0.1**
SFJD Kangerlussuaq 42.63 35 LR LR 08 26 29.0
comp=Z,100nm,19.4s,baz=310,slow=36
LPIG La Paz 42.72 123 LR LR 08 24 34.6
comp=Z,140nm,19.6s,baz=324,slow=33
SCHQ Schefferville 43.52 56 LR LR 08 27 00.1
comp=Z,172nm,19.5s,baz=278,slow=36
SADO Sadowa 43.73 75 LR LR 08 26 54.0
comp=Z,235nm,19.1s,baz=69,slow=35
ASAJ Asahikawa 43.75 284 LR LR 08 25 00.8
comp=Z,198nm,21.2s,baz=24,slow=33
KLR Kul'dur 46.00 296*ce*P **P** **08 09 36.2 -0.5**
KLR pmax pmax
comp=Z,14nm,1.3s
KLR Kul'dur 46.00 296 P **P** **08 09 36.5 -0.2**
comp=Z,5.2nm,1.0s,baz=35,slow=9.4,SNR=9.9
KLR LR LR 08 29 51.1
comp=Z,125nm,21.5s,baz=26,slow=37
comp=Z,5.2nm,1.0s
TKL Tuckaleechee C 47.57 87 LR LR 08 29 43.1
comp=Z,684nm,19.1s,baz=328,slow=36
NRIK Noril'sk 47.95 337*ce*P **P** **08 09 52.0 +0.3**
NRIK pmax pmax
comp=Z,26nm,1.5s
NRIK Noril'sk 47.95 337 P **P** **08 09 51.8 +0.1**
comp=Z,5.7nm,0.8s,baz=69,slow=4.6,SNR=8.2
NRIK LR LR 08 34 08.1
comp=Z,198nm,18.4s,baz=18,slow=41
comp=Z,5.7nm,0.8s
BOD Bodaibo 48.24 315 *e*P P 08 09 52.7 -1.3
BOD pmax pmax
comp=Z,11nm,1.8s
USRK Ussuriysk Ar. 49.28 291 LR LR 08 30 33.7
comp=Z,154nm,21.1s,baz=42,slow=36
H11N2 WAKE ISLAND Hy 49.35 240 T T 09 03 12.5
baz=30,slow=76,SNR=48
H11N3 WAKE ISLAND Hy 49.35 240 T T 09 03 13.0
baz=30,slow=76,SNR=43
H11N1 WAKE ISLAND Hy 49.36 240 T T 09 03 15.5
baz=30,slow=76,SNR=40
H11S1 WAKE ISLAND Hy 50.49 240 T T 09 04 38.5
baz=30,slow=76,SNR=51
H11S2 WAKE ISLAND Hy 50.50 240 T T 09 04 42.0
baz=30,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 50.51 240 T T 09 04 42.8
baz=30,slow=76,SNR=47
MJAR Matsushiro Arr 51.46 280 LR LR 08 31 29.8
comp=Z,79nm,21.6s,baz=34,slow=35
CN2 Changchun 52.89 295 P **P** **08 10 30.0 +0.6**
CN2 pP sP 08 10 37.3 +5.4
CN2 pmax pmax
comp=Z,20nm,0.8s
ARCES ARCESS Array B 54.09 3 P **P** **08 10 36.6 -1.2**
comp=Z,2.7nm,0.8s,baz=2.8,slow=7.5,SNR=1.4
comp=Z,2.7nm,0.8s
CMIG Matias Romero 56.22 112 LR LR 08 34 09.1
comp=Z,154nm,19.7s,baz=356,slow=35
KSRS Korea Array 56.30 288 P **P** **08 10 53.1 -1.0**
comp=Z,2.7nm,1.1s,baz=46,slow=11,SNR=5.0
KSRS LR LR 08 37 08.5
comp=Z,55nm,18.4s,baz=40,slow=38
comp=Z,2.7nm,1.1s
JCJ Chichijima 56.44 269 LR LR 08 31 10.4
comp=Z,81nm,21.6s,baz=148,slow=32
TEIG Tepich 57.11 104 LR LR 08 37 10.6
comp=Z,784nm,20.4s,baz=76,slow=38
JNU Nakatsue 58.00 283 LR LR 08 38 10.1
comp=Z,71nm,19.5s,baz=21,slow=38
ULN Ulaanbaatar 58.40 310 *i* P **P** **08 11 09.9 +0.9**
ULN pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 58.70 310 P **P** **08 11 11.2 0.0**
comp=Z,7.0nm,1.1s,baz=44,slow=5.9,SNR=24
comp=Z,7.0nm,1.1s
ZALV Zalesovo Beam 61.48 327 *i* P **P** **08 11 30.3 +0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 61.48 327 P **P** **08 11 30.4 +0.5**
comp=Z,1.7nm,0.5s,baz=30,slow=8.0,SNR=14
ZALV LR LR 08 39 45.9
comp=Z,54nm,18.0s,baz=5.5,slow=38
comp=Z,1.7nm,0.5s
NB2 NORSAR Subarra 61.63 11 P P 08 11 38.1 +7.2
comp=Z,1.0nm,0.7s,baz=345,slow=6.9
NOA NORSAR Array B 61.63 11 P **P** **08 11 30.8 -0.1**
comp=Z,0.5nm,0.6s,baz=333,slow=7.1,SNR=2.5
comp=Z,0.5nm,0.6s
HHC Hu-ho-hao-te 61.86 302 *e*P **P** **08 11 36.5 +3.6**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,440nm,5.4s
FINES FINESS Array B 62.22 3 P **P** **08 11 34.6 -0.1**
comp=Z,2.2nm,0.8s,baz=3.8,slow=10,SNR=2.2
comp=Z,2.2nm,0.8s
KLMR Klimovskoe 62.71 356 *e*P P 08 11 36.0 -2.0
KLMR pmax pmax
comp=Z,38nm,1.5s
KIRV Kirov 64.26 350 LR LR 08 42 28.0
comp=Z,44nm,18.9s,baz=29,slow=38
EKA Eskdalemuir Ar 64.95 21 P **P** **08 11 52.6 -0.3**
comp=Z,0.2nm,0.4s,baz=340,slow=4.0,SNR=1.5
comp=Z,0.2nm,0.4s
ARU Arti 65.19 344 P **P** **08 11 53.9 -0.5**
ARU Arti 65.19 344*ce*P **P** **08 11 54.6 +0.2**
ARU pmax pmax
comp=Z,27nm,1.5s
ARU Arti 65.19 344 P **P** **08 11 53.9 -0.5**
comp=Z,4.1nm,0.5s,baz=18,slow=3.5,SNR=9.9
ARU LR LR 08 44 25.5
comp=Z,57nm,18.6s,baz=24,slow=40
comp=Z,4.1nm,0.5s
BRVK Borovoye 66.13 335 P **P** **08 11 60.0 -0.6**
BRVK Borovoye 66.13 335*ce*P **P** **08 12 01.1 +0.5**
BRVK pmax pmax
comp=Z,14nm,1.3s
KURK Kurchatov 66.13 329 P **P** **08 12 00.1 -0.5**
KURK Kurchatov 66.13 329 P **P** **08 12 00.1 -0.5**
KURK pmax pmax
comp=Z,14nm,1.4s
BVAR Borovoye Array 66.14 335 P **P** **08 11 59.8 -0.8**
comp=Z,3.1nm,0.6s,baz=38,slow=7.5,SNR=17
BVAR LR LR 08 45 09.0
comp=Z,101nm,19.6s,baz=31,slow=40
comp=Z,3.1nm,0.6s
KURBB Kurchatov Arra 66.24 329 P **P** **08 12 01.2 -0.1**
comp=Z,1.4nm,0.6s,baz=23,slow=5.7,SNR=9.1
comp=Z,1.4nm,0.6s
JTS Las Juntas de 67.11 107 LR LR 08 44 42.2
comp=Z,69nm,18.5s,baz=347,slow=39
GTA Gaotai 68.31 309 P **P** **08 12 15.5 +0.7**
GTA sP pwP 08 12 29.5 +7.3
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA LR LR
comp=N,220nm,17.1s
GTA LR LR
comp=E,200nm,19.6s
GTA LR LR
comp=Z,340nm,20.0s
MK31 Makanchi Array 68.53 325*ce*P **P** **08 12 15.3 -0.6**
MKAR Makanchi Array 68.53 325 P **P** **08 12 15.8 -0.2**
comp=Z,1.1nm,0.7s,baz=47,slow=7.0,SNR=8.1
MKAR LR LR 08 47 08.9
comp=Z,102nm,18.2s,baz=8.5,slow=40
comp=Z,1.1nm,0.7s
OBN Obninsk 68.56 357 *e*P **P** **08 12 15.0 -0.9**
OBN *e**PP **pP** **08 12 21.3 +3.6**
OBN *e* 08 12 42.0
OBN *e* 08 14 47.7
OBN *e*PPP PPP 08 16 27.8
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,61nm,16.0s
MAKZ Makanchi 68.62 325 P **P** **08 12 16.1 -0.4**
MAKZ IAmb IAmb 08 12 24.4
comp=Z,6.9nm,1.1s
MAKZ Makanchi 68.62 325 P **P** **08 12 16.1 -0.4**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 69.28 304 *e*P P 08 12 29.0 +8.1
LZH pP pwP 08 12 36.8 +8.5
LZH pmax pmax
comp=Z,18nm,1.3s
LZH LR LR
comp=N,300nm,16.2s
LZH LR LR
comp=E,560nm,16.5s
LZH LR LR
comp=Z,640nm,16.5s
WMQ Urumqi 69.33 320 *e*P **P** **08 12 22.5 +1.5**
WMQ pP pwP 08 12 29.8 +1.4
WMQ pmax pmax
comp=Z,11nm,1.3s
BELG Belogornoye 70.54 350 *i* P **P** **08 12 28.4 +0.3**
BELG pmax pmax
comp=Z,6.0nm,1.0s
BELG Belogornoye 70.54 350 P **P** **08 12 27.3 -0.9**
comp=Z,13nm,1.0s,baz=239,slow=23,SNR=6.3
BELG LR LR 08 47 40.9
comp=Z,62nm,19.1s,baz=156,slow=40
comp=Z,13nm,1.0s
SJG San Juan 70.97 86 LR LR 08 43 42.0
comp=Z,52nm,20.3s,baz=12,slow=36
AKTO Aktyubinsk 71.06 342 P **P** **08 12 30.2 -1.2**
comp=Z,2.6nm,0.7s,baz=2.4,slow=5.7,SNR=6.6
comp=Z,2.6nm,0.7s
ABKAR Akbulak array 71.86 341 P **P** **08 12 35.8 -0.4**
ABKAR Akbulak array 71.86 341 P **P** **08 12 36.4 +0.1**
ABKAR IAmb IAmb 08 12 38.6
comp=Z,18nm,1.4s
VORR Voronezh 71.89 355 P **P** **08 12 37.6 +1.2**
VORR pmax pmax
comp=Z,16nm,1.2s
VRH Novokhopyorsk 72.22 353 P P 08 12 36.3 -2.0
VRH pmax pmax
comp=Z,20nm,1.8s
AKASG Malin Array Be 73.05 1 P **P** **08 12 42.6 -0.7**
comp=Z,1.0nm,0.6s,baz=356,slow=5.5,SNR=9.1
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 73.05 1 *i* P **P** **08 12 43.6 +0.4**
AKBB pmax pmax
comp=Z,1.0nm,0.3s

GOMU GeErMu 73.14 311 P **P** 08 12 45.5 +1.0
GOMU pP sP 08 12 52.5 +5.4
GOMU pmax pmax
comp=Z,3.0nm,0.7s
VRAC Vranov 73.75 10 LR LR 08 46 32.5
comp=Z,36nm,18.2s,baz=336,slow=37
GERES GERESS Array B 73.90 12 P **P** **08 12 47.7 -0.7**
comp=Z,0.5nm,0.5s,baz=355,slow=6.9,SNR=2.8
GERES LR LR 08 49 39.9
comp=Z,20nm,18.0s,baz=306,slow=39
comp=Z,0.5nm,0.5s
STHS Stebnicka Huta 74.01 7 *e*P **P** **08 12 52.2 +3.2**
STHS Stebnicka Huta 74.01 7 *e*P **P** **08 12 52.2 +3.2**
AAK Ala-Archa 74.66 328 *i* P **P** **08 12 53.1 0.0**
AAK pmax pmax
comp=Z,15nm,1.9s
AAK Ala-Archa 74.66 328 P **P** **08 12 52.9 -0.2**
comp=Z,0.8nm,0.4s,baz=357,slow=4.6,SNR=4.0
AAK LR LR 08 49 29.0
comp=Z,118nm,19.2s,baz=22,slow=39
comp=Z,0.8nm,0.4s
VYHS Vyhne 74.75 9 *e*P **P** **08 12 54.1 +0.8**
VYHS Vyhne 74.75 9 *e*P **P** **08 12 54.1 +0.8**
KK31 Karatay Array 75.33 331 P **P** **08 12 56.9 +0.1**
KK31 IAmb IAmb 08 13 05.5
comp=Z,5.4nm,1.1s
KK31 Karatay Array 75.33 331 P **P** **08 12 56.9 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 75.33 331 P **P** **08 12 56.3 -0.5**
KKAR Karatay Array 75.33 331 P **P** **08 12 56.3 -0.5**
SDV Santo Domingo 76.04 95 LR LR 08 47 40.2
comp=Z,46nm,19.8s,baz=308,slow=37
KSH Kashi 77.08 326 P **P** **08 13 10.8 +3.9**
KSH sP pwP 08 13 17.8 +3.4
KSH pmax pmax
comp=Z,5.0nm,1.3s
ROSC El Rosal 77.37 101 LR LR 08 48 45.2
comp=Z,71nm,22.0s,baz=254,slow=37
HNR Honiara 78.18 232 LR LR 08 40 17.2
comp=Z,887nm,20.6s,baz=9,slow=30
PZH PanZhiHua 78.26 300 P **P** **08 13 13.0 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
PCRV Puerto La Cruz 78.29 89 LR LR 08 48 07.0
comp=Z,63nm,19.1s,slow=36
KIV Kislovodsk 79.36 352 *e*P **P** **08 13 19.4 0.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
ESDC Sonseca Array 79.54 27 P **P** **08 13 20.7 +0.3**
comp=Z,1.1nm,0.7s,baz=259,slow=32,SNR=5.3
comp=Z,1.1nm,0.7s
KBZ Khabaz 79.56 352 P **P** **08 13 21.4 +1.1**
comp=Z,2.1nm,0.9s,baz=317,slow=7.0,SNR=3.8
comp=Z,2.1nm,0.9s
SIMJ Simiganj 79.89 331 P **P** **08 13 21.9 -0.6**
SIMJ IAmb IAmb 08 13 24.6
comp=Z,11nm,1.1s
RDO Rodhopi 82.50 4 P **P** **08 13 35.8 -0.2**
GNI Garni 82.95 350 LR LR 08 56 48.6
comp=Z,28nm,18.4s,baz=298,slow=40
GEYT Alibeck 83.13 339 P **P** **08 13 39.4 -0.1**
GEYT Alibeck 83.13 339 P **P** **08 13 39.4 -0.1**
GEYT pmax pmax
comp=Z,11nm,1.2s
GEYT Alibeck 83.13 339 P **P** **08 13 40.5 +1.0**
comp=Z,1.6nm,0.5s,baz=52,slow=9.6,SNR=5.9
comp=Z,1.6nm,0.5s
BRTR Keskin Array B 84.02 358*ce*P **P** **08 13 44.7 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 84.02 358 P **P** **08 13 44.2 +0.1**
comp=Z,0.8nm,0.6s,baz=315,slow=0.2,SNR=4.9
comp=Z,0.8nm,0.6s
ATAH Atahualpa 85.26 110 LR LR 08 52 07.9
comp=Z,60nm,18.5s,baz=356,slow=36
CMAR Chiang Mai Arr 86.44 298 P **P** **08 13 55.8 -0.6**
CMAR Chiang Mai Arr 86.44 298*ce*P **P** **08 13 56.7 +0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 86.44 298 P **P** **08 13 56.8 +0.4**
comp=Z,2.1nm,0.7s,baz=18,slow=4.7,SNR=15
comp=Z,2.1nm,0.7s
MDP Montagnes des 89.09 82 LR LR 08 52 24.2
comp=Z,107nm,20.9s,baz=354,slow=34
RPN Rapa Nui 89.80 146 LR LR 08 45 28.2
comp=Z,54nm,18.9s,baz=259,slow=31
NNA Nana 90.17 112 LR LR 08 52 25.9
comp=Z,52nm,19.3s,baz=330,slow=34
ASAR Alice Springs 102.85 247 P **Pdif** **08 15 10.1 -1.3**
comp=Z,0.1nm,0.5s,baz=25,slow=5.4,SNR=1.4
QSPA South Pole Qui 146.40 180 PKPbc **PKPdf** **08 20 50.7 -1.1**
comp=Z,11nm,0.8s,baz=75,slow=0.7,SNR=29
BOSA Boshof 151.69 11 PKPbc **PKPdf** **08 21 06.4 +4.7**
comp=Z,4.9nm,0.9s,baz=351,slow=3.5,SNR=6.0

*LJU **26** 08:11:53.6, 46°.32N×13°.58E, h6km, ML1.1*
*ROM **26** 08:11:53.1±0.2, 46°.317N±0°.005×13°.56E±0°.01, h7km, ML1.3/10, Error ellipse: s-maj=0.6km s-min=0.6km az=88.0*
*VIE **26** 08:11:54.1±0.2, 46°.33N×13°.58E, h3km, mb1.3/1, ml1.2/2, Error ellipse: s-maj=2.2km s-min=1.4km az=95.0 2 km SE of Bovec*
ISC 26 08:11:53.3±1.0, 46°.32N±0°.02×13°.57E±0°.02, h10km±7km, n23, σ0§52/42, 6D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ROBS	**Robic**	**0.08**	**210**	⇓*i* Pg		**Pg**	**08 11 55.7**	**+0.1**
ROBS				*i* Sg		**Sg**	**08 11 57.3**	**-0.1**
ROBS				IAML			08 11 57.4	
	comp=Z,32nm,0.1s							
PRED	**Cave del Predi**	**0.13**	**359**	*e*Pg		**Pg**	**08 11 56.2**	**-0.2**
PRED				*e*Sg		**Sg**	**08 11 58.2**	**-0.3**
CADS	**Cadrg**	**0.15**	**126**	⇓*i* Pg		**Pg**	**08 11 56.6**	**0.0**
CADS				*i* Sg		**Sg**	**08 11 59.1**	**+0.2**
CADS				IAML			08 11 59.2	
	comp=Z,25nm,0.1s							
DRE	**Drenchia**	**0.15**	**160**	⇓*e*Pg		**Pg**	**08 11 56.8**	**+0.1**
DRE				*e*Sg		**Sg**	**08 11 59.4**	**+0.3**
LSR	**Lussari**	**0.16**	**350**	⇓*e*Pg		**Pg**	**08 11 57.1**	**+0.1**
LSR				*e*Sg		**Sg**	**08 11 60.0**	**+0.4**
PTCC	**Patocco-Chiusa**	**0.17**	**301**	P		**Pg**	**08 11 57.1**	**0.0**
PTCC				S		**Sg**	**08 11 59.8**	**+0.1**
PTCC				AML	AML			
	comp=E,70μm,0.7s							
PTCC				AML	AML			
	comp=N,68μm,0.2s							
PTCC				AML	AML			
	comp=E,70μm,1.3s							
VINO	**Villanova**	**0.21**	**254**	⇓*e*Pg		**Pg**	**08 11 58.0**	**+0.4**
VINO				*e*Sg		**Sg**	**08 12 01.4**	**+0.8**
VINO	**Villanova**	**0.21**	**254**	P		**Pg**	**08 11 58.0**	**+0.4**
VINO				S		**Sg**	**08 12 01.6**	**+1.1**
VINO				AML	AML			
	comp=N,172μm,0.5s							
VINO				AML	AML			
	comp=E,122μm,0.2s							
VINO				AML	AML			
	comp=N,172μm,1.5s							
COLI	**Coloredo**	**0.22**	**216**	*e*Pg		**Pg**	**08 11 58.0**	**+0.1**
COLI				*e*Sg		**Sg**	**08 12 01.9**	**+0.9**
ACOM	**Acomizza, Ital**	**0.24**	**351**	*e*Pg		**Pg**	**08 11 58.4**	**+0.1**
ACOM				*e*Sg		**Sg**	**08 12 02.1**	**+0.5**
ACOM	**Acomizza, Ital**	**0.24**	**351**	P		**Pg**	**08 11 58.4**	**+0.1**
ACOM				S		**Sg**	**08 12 02.6**	**+1.0**
ACOM				AML	AML			
	comp=E,116μm,0.2s							
ACOM				AML	AML			
	comp=N,77μm,1.2s							
BAD	**Bernadia**	**0.24**	**251**	*e*Pg		**Pg**	**08 11 58.5**	**+0.3**
BAD				*e*Sg		**Sg**	**08 12 02.1**	**+0.7**
GORS	**Gorjuse**	**0.30**	**89**	*i* Pg		**Pg**	**08 11 59.4**	**0.0**
GORS				*i* Sg		**Sg**	**08 12 04.1**	**+0.8**
GORS				IAML			08 12 04.9	
	comp=Z,15nm,0.1s							
GEPF	**Gemona**	**0.30**	**262**	P		**Pg**	**08 11 59.8**	**+0.5**
GEPF				S		**Sb**	**08 12 04.8**	**-1.0**
MYKA	**Terra Mystica**	**0.32**	**9**	*e*Pg		**Pg**	**08 12 00.3**	**+0.6**
MYKA	comp=Z,0.3nm,0.0s							
	comp=Z,1.9nm,0.1s			*e*Sg		**Sg**	**08 12 04.7**	**+0.7**

BOO	**Bordano**	**0.32**	**271**	*e*Pg		**Pg**	**08 11 59.7**	**-0.1**
SABO	**M.te Sabotino**	**0.34**	**176**	*e*Pg		**Pg**	**08 12 00.4**	**+0.5**
SABO	**M.te Sabotino**	**0.34**	**176**	P		**Pg**	**08 12 00.5**	**+0.5**
SABO				S		**Sb**	**08 12 06.7**	**-0.2**
SABO				AML	AML			
	comp=E,358μm,1.0s							
SABO				AML	AML			
	comp=N,398μm,1.6s							
SABO				AML	AML			
	comp=E,93μm,0.6s							
SABO				AML	AML			
	comp=N,80μm,1.6s							
SABO				AML	AML			
	comp=N,80μm,0.4s							
SABO				AML	AML			
	comp=N,398μm,0.4s							
SABO				AML	AML			
	comp=E,358μm,1.0s							
VOJS	**Vojsko**	**0.36**	**142**	⇓*i* Pg		**Pg**	**08 12 00.5**	**+0.1**
VOJS				*i*			08 12 00.6	
VOJS				*i* Sg		**Sb**	**08 12 06.5**	**-1.0**
VOJS				IAML			08 12 07.0	
	comp=Z,4.0nm,0.1s							
PLRO	**Paularo**	**0.37**	**309**	*e*Pg		**Pg**	**08 12 01.0**	**+0.3**
MPRI	**Monte Prat**	**0.41**	**260**	P		**Pg**	**08 12 01.4**	**+0.1**
MPRI				S		**Sb**	**08 12 08.1**	**-0.8**
ZOU	**Zoufplan**	**0.48**	**301**	P		**Pb**	**08 12 03.4**	**-0.5**
ZOU				S		**Sb**	**08 12 11.0**	**-0.1**
OBKA	**Obir**	**0.71**	**74**	Sg		**Sb**	**08 12 17.9**	**+0.3**
	comp=Z,2.2nm,0.3s							

*SNET **26** 08:14:38.2±0.8, 12°.54N×90°.77W, h89km±57km, ML3.6*
*CATAC **26** 08:14:39.8±0.6, 12°.65N×90°.68W, h120km, ML3.8*
*GCG **26** 08:14:57.6±0.5, 13°.90N×90°.91W, h50km±23km, MD3.6*
ISC 26 08:14:37.5±2.2, 12°.53N±0°.07×90°.70W±0°.06, h19km±5km, n59, σ1§54/63, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**1.63**	**33**	*e*P		**Pb**	**08 15 06.2**	**-0.8**
NUBE				*e*S		**Sb**	**08 15 27.7**	**+0.5**
NUBE	**Las Nubes**	**1.63**	**33**	*i* P		**Pb**	**08 15 06.3**	**-0.8**
NUBE				IAML			08 15 07.6	
	comp=Z,330nm,1.0s							
JAYA	**Jayaque - finc**	**1.65**	**47**	*e*P		**Pb**	**08 15 06.9**	**-0.5**
JAYA				*e*S		**Sb**	**08 15 28.8**	**+0.9**
JAYA	**Jayaque - finc**	**1.65**	**47**	*i* P		**Pb**	**08 15 06.7**	**-0.7**
JAYA				IAML			08 15 07.1	
	comp=Z,3μm,1.0s							
JAYA				*i* S		**Sb**	**08 15 28.6**	**+0.7**
CEVE	**Cerro Verde**	**1.66**	**39**	*e*P		**Pb**	**08 15 07.0**	**-0.6**
CEVE				*e*S		**Sg**	**08 15 30.3**	**-0.9**
CEVE				IAML			08 15 31.8	
	comp=Z,617nm,0.4s							
CEVE	**Cerro Verde**	**1.66**	**39**	*i* P		**Pb**	**08 15 07.3**	**-0.3**
CEVE				IAML			08 15 07.4	
	comp=Z,1μm,1.0s							
SNJE	**San Jose**	**1.70**	**39**	*e*P		**Pb**	**08 15 07.7**	**-0.6**
LOAL	**Lomas de Alarc**	**1.71**	**31**	*i* P		**Pb**	**08 15 07.7**	**-0.7**
LOAL				IAML			08 15 29.6	
	comp=Z,2μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.73**	**31**	*e*P		**Pb**	**08 15 08.0**	**-0.7**
PMON	**Piamonte**	**1.79**	**49**	*i* P		**Pb**	**08 15 08.7**	**-1.0**
PMON				IAML			08 15 10.6	
	comp=Z,840nm,1.0s							
UNIC	**Universidad Ca**	**1.82**	**38**	*i* P		**Pb**	**08 15 09.3**	**-1.0**
UNIC				IAML			08 15 10.3	
	comp=Z,330nm,1.0s							
PANCS	**Alcalda de**	**1.83**	**54**	*i* P		**Pb**	**08 15 08.8**	**-1.6**
PANCS				IAML			08 15 33.6	
	comp=Z,2μm,1.0s							
SNET	**Serv Nac Est T**	**1.83**	**51**	*i* P		**Pb**	**08 15 09.0**	**-1.5**
SNET				IAML			08 15 11.3	
	comp=Z,990nm,1.0s							
UEES	**Universidad Ev**	**1.84**	**50**	*e*P		**Pb**	**08 15 09.1**	**-1.6**
UEES	**Universidad Ev**	**1.84**	**50**	*i* P		**Pb**	**08 15 09.4**	**-1.3**
UEES				IAML			08 15 12.1	
	comp=Z,260nm,1.0s							
PCG	**Pacaya**	**1.85**	**3**	*e*P		**Pb**	**08 15 10.3**	**-0.5**
LOMA	**Loma Larga**	**1.85**	**53**	*e*P		**Pb**	**08 15 09.3**	**-1.5**
LOMA	**Loma Larga**	**1.85**	**53**	*i* P		**Pb**	**08 15 09.4**	**-1.5**
LOMA				IAML			08 15 09.6	
	comp=Z,430nm,1.0s							
LOMA				*i* S		**Sn**	**08 15 32.4**	**+1.0**
FUG	**Fuego 3**	**1.91**	**356**	*e*P		**Pb**	**08 15 10.9**	**-1.0**
SULM	**Suchitepequez,**	**1.95**	**334**	*e*P		**Pb**	**08 15 11.9**	**-0.6**
SJTE	**Alcalda de S**	**1.97**	**57**	*e*P		**Pb**	**08 15 10.9**	**-1.9**
SJTE	**Alcalda de S**	**1.97**	**57**	*i* P		**Pb**	**08 15 11.0**	**-1.8**
SJTE				IAML			08 15 11.9	
	comp=Z,300nm,1.0s							
SJTE				*i* S		**Sb**	**08 15 36.3**	**-0.7**
NBG	**Las Nubes**	**2.07**	**9**	*e*P		**Pb**	**08 15 14.5**	**-0.1**
COEG	**Centro de Oper**	**2.07**	**58**	*e*P		**Pn**	**08 15 12.3**	**+1.0**
COEG				*e*S		**Sb**	**08 15 39.4**	**-0.7**
COEG	**Centro de Oper**	**2.07**	**58**	*i* P		**Pb**	**08 15 12.5**	**-2.1**
COEG				IAML			08 15 13.0	
	comp=Z,500nm,1.0s							
PAVA	**Las Pavas**	**2.08**	**55**	*e*P		**Pb**	**08 15 13.3**	**-1.4**
PAVA				IAML			08 15 14.2	
	comp=Z,379nm,0.4s							
PAVA	**Las Pavas**	**2.08**	**55**	*i* P		**Pb**	**08 15 13.5**	**-1.2**
PAVA				IAML			08 15 13.7	
	comp=Z,970nm,1.0s							
GUNB	**GUNB**	**2.08**	**9**	*i* P		**Pb**	**08 15 13.0**	**-1.8**
GUNB				IAML			08 15 14.2	
	comp=Z,480nm,1.0s							
JAMO	**Monjas**	**2.10**	**22**	*i* P		**Pb**	**08 15 14.0**	**-1.2**
JAMO				IAML			08 15 14.8	
	comp=Z,1μm,1.0s							
JAMO				*i* S		**Sb**	**08 15 41.4**	**+0.4**
UESV	**Universidad de**	**2.16**	**59**	*i* P		**Pb**	**08 15 13.7**	**-2.4**
UESV				IAML			08 15 14.9	
	comp=Z,350nm,1.0s							
SCLA	**Alcaldia de Sa**	**2.24**	**59**	*e*P		**Pb**	**08 15 15.5**	**-2.0**
SCLA	**Alcaldia de Sa**	**2.24**	**59**	*i* P		**Pb**	**08 15 15.3**	**-2.2**
SCLA				IAML			08 15 16.0	
	comp=Z,150nm,1.0s							
SCLA				*i* S		**Sb**	**08 15 45.2**	**+0.3**
MTO3	**Montecristo**	**2.27**	**35**	*i* P		**Pb**	**08 15 15.9**	**-2.1**
MTO3				IAML			08 15 17.5	
	comp=Z,250nm,1.0s							
STG3	**Santiaguito 3,**	**2.32**	**339**	*e*P		**Pb**	**08 15 16.3**	**-2.7**
PQSS	**Presa 15 de Se**	**2.35**	**62**	*e*P		**Pn**	**08 15 16.2**	**+1.2**
PQSS				IAML			08 15 49.3	
	comp=Z,74nm,0.2s							
PQSS	**Presa 15 de Se**	**2.35**	**62**	*i* P		**Pn**	**08 15 16.5**	**+1.4**
PQSS				IAML			08 15 49.2	
	comp=Z,180nm,1.0s							
LLGN	**La Laguna**	**2.35**	**46**	*i* P		**Pb**	**08 15 16.8**	**-2.6**
LLGN				IAML			08 15 18.4	
	comp=Z,540nm,1.0s							
ESQI	**Esquipulas**	**2.41**	**33**	*i* P		**Pb**	**08 15 18.0**	**-2.3**
ESQI				IAML			08 15 23.6	
	comp=Z,240nm,1.0s							
JUCU	**Jucuarįn**	**2.49**	**73**	*e*P		**Pn**	**08 15 18.2**	**+1.0**
PACA	**Pacayal**	**2.49**	**68**	*i* P		**Pb**	**08 15 19.9**	**-1.9**
PACA				*i* S		**Sb**	**08 15 50.9**	**-1.3**
PACA				IAML			08 15 54.3	
	comp=Z,5μm,1.0s							
QUIS	**Sacapulas**	**2.77**	**352**	*i* P		**Pb**	**08 15 24.0**	**-2.5**
QUIS				IAML			08 15 25.1	
	comp=Z,580nm,1.0s							
LCND	**La Caada**	**2.84**	**74**	*e*P		**Pn**	**08 15 23.1**	**+1.2**
LCND				IAML			08 16 02.5	
	comp=Z,396nm,0.3s							
LCND	**La Caada**	**2.84**	**74**	*i* P		**Pn**	**08 15 22.9**	**+1.0**
LCND				*i* S		**Sn**	**08 15 57.4**	**+1.7**
LCND				IAML			08 16 01.5	
	comp=Z,350nm,1.0s							
CNCH	**Conchagua**	**2.89**	**75**	*i* P		**Pn**	**08 15 24.3**	**+1.7**
CNCH				IAML			08 15 25.9	
	comp=Z,1μm,1.0s							
CSGN	**Cosiguina Volc**	**3.09**	**81**	*i* P		**Pn**	**08 15 27.2**	**+1.8**
CSGN				IAML			08 16 16.0	
	comp=Z,81nm,1.0s							
POTN	**Potosi Cosigui**	**3.15**	**81**	*i* P		**Pn**	**08 15 28.2**	**+2.1**
POTN				IAML			08 16 32.1	
	comp=Z,98nm,1.0s							
CRIN	**San Cristobal**	**3.56**	**87**	*i* P		**Pn**	**08 15 34.4**	**+2.5**
CRIN				IAML			08 16 30.7	
	comp=Z,830nm,1.0s							
PACN	**Al O del Volca**	**3.81**	**90**	*i* PA			08 15 37.3	
PACN				IAML			08 15 38.1	
	comp=Z,220nm,1.0s							
MACN	**El Madrono**	**3.93**	**91**	*i* PA			08 15 38.8	
MACN				IAML			08 16 30.9	
	comp=Z,75nm,1.0s							
YUSH	**Yuscaran**	**4.01**	**69**	*e*P		**Pn**	**08 15 38.9**	**+0.8**
LIMN	**Finca el Limon**	**4.26**	**82**	*i* PA			08 15 42.6	
LIMN				IAML			08 15 43.7	
	comp=Z,78nm,1.0s							
RCPN	**Sur Rio San Ju**	**4.59**	**77**	*i* PA			08 15 48.1	
RCPN				IAML			08 15 50.5	
	comp=Z,0.2nm,1.0s							
BOAB	**BOACO BROADBAN**	**4.92**	**90**	*i* PA			08 15 52.0	
BOAB				IAML			08 16 58.7	
	comp=Z,39nm,1.0s							
HZTE	**Horizontes, Gu**	**5.32**	**109**	*i* P		Pn	08 16 00.8	+4.9
SAJU	**San Juanillo,**	**5.47**	**116**	*i* P		**Pn**	**08 16 00.3**	**+2.2**
ORTG	**Ortega, Santa**	**5.57**	**112**	*i* P		Pn	08 16 04.4	+4.9
INDI	**Punta indio, G**	**5.75**	**117**	*i* P		**Pn**	**08 16 04.1**	**+2.3**
COVE	**Coope Vega, Sa**	**6.43**	**106**	*i* P		**Pn**	**08 16 12.8**	**+1.6**
MRVA	**Moravia de Chi**	**7.61**	**110**	*i* P		**Pn**	**08 16 25.3**	**-2.3**

*CATAC **26** 08:19:28.1±0.9, 6°.23N×82°.42W, h30km, mb3.8, ML3.8*
ISC 26 08:19:25.7±1.6, 6°.1N±0°.1×82°.6W±0°.2, h14km, n21, σ1§42/25, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CDITO	**Canoas**	**2.45**	**354**	*i* P		**Pn**	**08 20 04.0**	**-1.3**
CDITO				IAML			08 20 38.0	
	comp=Z,150nm,1.0s							
BRU2	**Volcan**	**2.66**	**358**	*i* P		**Pn**	**08 20 07.8**	**-0.5**
BRU2				IAML			08 20 08.0	
	comp=Z,240nm,1.0s							
BRU2				*i* S		**Sn**	**08 20 38.5**	**-1.9**
POTG	**Potrero Grande**	**2.96**	**350**	*i* P		**Pn**	**08 20 12.0**	**-0.4**
POTG				IAML			08 20 12.1	
	comp=Z,300nm,1.0s							
OCHAL	**Ojochal**	**3.13**	**341**	*i* P		**Pn**	**08 20 13.6**	**-1.1**
OCHAL				IAML			08 20 14.8	
	comp=Z,3.6nm,1.0s							
PEZE	**Perez Zeledon,**	**3.41**	**342**	*i* P		**Pn**	**08 20 18.8**	**+0.2**
PEZE				IAML			08 20 19.9	
	comp=Z,90nm,1.0s							
PEZE				*i* S		**Sn**	**08 20 59.0**	**+0.1**
CDM	**Cerro de Muert**	**3.60**	**341**	*i* P		**Pn**	**08 20 21.8**	**+0.3**
CDM				IAML			08 20 22.2	
	comp=Z,110nm,1.0s							
CDM				*i* S		**Sn**	**08 21 02.9**	**-1.2**
MRVA	**Moravia de Chi**	**3.77**	**347**	*i* P		**Pn**	**08 20 24.2**	**+0.6**
MRVA				IAML			08 21 26.4	
	comp=Z,12nm,1.0s							
RIMA	**Rio Macho**	**3.83**	**341**	*i* P		**Pn**	**08 20 24.6**	**+0.1**
RIMA				IAML			08 20 33.6	
	comp=Z,57nm,1.0s							
LCR2	**La Lucha 2**	**3.85**	**339**	*i* P		**Pn**	**08 20 25.1**	**+0.2**
LCR2				IAML			08 20 25.2	
	comp=Z,61nm,1.0s							
LCR2				*i* S		**Sn**	**08 21 09.8**	**-0.3**
OCM	**Ochomogo**	**3.98**	**340**	*i* P		**Pn**	**08 20 27.0**	**+0.4**
OCM				IAML			08 20 28.4	
	comp=Z,120nm,1.0s							
HDC3	**Heredia 3**	**4.13**	**339**	*i* P		**Pn**	**08 20 29.5**	**+0.9**
HDC3				IAML			08 20 29.7	
	comp=Z,380nm,1.0s							
RIFO	**Rio Frio, Sara**	**4.37**	**343**	*i* P		**Pn**	**08 20 33.2**	**+1.5**
RIFO				IAML			08 20 35.4	
	comp=Z,73nm,1.0s							
ORTG	**Ortega, Santa**	**5.07**	**326**	*i* P		**Pn**	**08 20 42.2**	**+0.7**
ORTG				IAmb	IAmb		08 20 51.6	
	comp=Z,18nm,1.4s							
ORTG				IAML			08 22 17.5	
	comp=Z,34nm,1.0s							
JAMC	**Jamundi, Valle**	**6.58**	**116**	*e*P		**Pn**	**08 21 00.1**	**-2.3**
YOTC	**Yotoco, Valle**	**6.59**	**109**	*e*P		**Pn**	**08 20 58.1**	**-4.2**
BBAC	**Balboa, Cauca**	**6.72**	**127**	*e*P		**Pn**	**08 21 02.8**	**-1.5**
POPC	**Popayan, Colom**	**6.90**	**121**	*e*P		**Pn**	**08 21 08.4**	**+1.6**
GCUF	**Volcan Galeras**	**7.16**	**133**	*e*P		**Pn**	**08 21 11.1**	**+0.6**
GUY2C	**Guyana, Caldas**	**7.26**	**97**	*e*P		**Pn**	**08 21 13.3**	**+1.4**
PRAC	**Prado**	**8.05**	**107**	*e*P		**Pn**	**08 21 23.6**	**+1.2**
GARC	**Garzon, Huila**	**8.10**	**119**	*e*P		**Pn**	**08 21 22.7**	**-0.6**

IDC 26 08:34:37.1±2.5, 53°.99N×86°.51E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=22.0km s-min=12.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**268**	I		I	08 40 30.0	
	baz=87,slow=347,SNR=6.8							
ZALV	**Zalesovo Beam**	**1.00**	**268**	Pg		Pg	08 34 55.4	-0.9
	1.0nm,0.3s,baz=85,slow=16,SNR=12							
ZALV				Lg		Lg	08 35 10.4	
	1.5nm,0.3s,baz=84,slow=30,SNR=6.0							
KURBB	**Kurchatov Arra**	**5.94**	**239**	Pn		Pn	08 36 07.5	+1.2
	0.1nm,0.3s,baz=57,slow=13,SNR=11							
	0.2nm,0.2s							
MKAR	**Makanchi Array**	**7.69**	**202**	Pn		Pn	08 36 31.2	+0.8
	0.2nm,0.3s,baz=24,slow=14,SNR=11							
MKAR				Lg		Lg	08 38 37.3	
	0.1nm,0.3s,baz=28,slow=31,SNR=2.2							
	0.2nm,0.3s							

*NEIC **26** 08:40:00.4±1.4, 55°.9N±0°.1×150°.4W±0°.1, h6km±8km, ML3.4/28, ML3.4(AEIC), Error ellipse: s-maj=14.9km s-min=9.0km az=174.0*
*IDC **26** 08:40:05.7±3.5, 55°.97N×151°.16W, h0km, mb3.2/1, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=60.5km s-min=27.1km az=58.0*
*AEIC **26** 08:40:05.4±1.1, 55°.89N±0°.08×150°.3W±0°.1, h10km±8km, Error ellipse: s-maj=13.0km s-min=8.4km az=157.0*
ISC 26 08:40:06.0±1.3, 56°.21N±0°.09×150°.52W±0°.05, h10km, n99, σ1§95/98, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.83**	**305**			**Pn**	**08 40 35.9**	**-1.5**
OHAK						**Sn**	**08 40 59.4**	**-1.3**
OHAK	**Old Harbor**	**1.83**	**305**	IAML			08 41 00.2	
	comp=E,121nm,0.4s							
OHAK	**Old Harbor**	**1.83**	**305**	P		**Pn**	**08 40 35.9**	**-1.5**
	baz=129							
OHAK				S		**Sn**	**08 40 59.4**	**-1.3**
	baz=129							
KDAK	**Kodiak Island**	**1.94**	**325**			**Pn**	**08 40 38.1**	**-0.8**
KDAK	**Kodiak Island**	**1.94**	**325**			**Sn**	**08 41 04.2**	**+0.8**
KDAK	**Kodiak Island**	**1.94**	**325**	S		**Sn**	**08 41 04.2**	**+0.8**
	baz=147							
KDAK	**Kodiak Island**	**1.94**	**325**	Pn		**P

BRLK	**Bradley Lake**	**3.57**	**357**	IAML			08 41 51.6		
	comp=E,26nm,1.1s								
P19K	**Oil Pt**	**3.74**	**338**			**Pn**	**08 41 03.6**	**-0.2**	
P19K	**Oil Pt**	**3.74**	**338**	IAML			08 41 53.6		
	comp=E,174nm,1.4s								
P19K				IAML			08 41 59.0		
	comp=N,147nm,1.1s								
P19K	**Oil Pt**	**3.74**	**338**	P		**Pn**	**08 41 03.6**	**-0.2**	
	baz=157								
Q23K	**Middleton Isla**	**3.92**	**33**			**Pn**	**08 41 03.6**	**-2.5**	
Q23K	**Middleton Isla**	**3.92**	**33**	P		**Pn**	**08 41 03.6**	**-2.5**	
	baz=213								
MID	**Middleton Isla**	**3.93**	**33**			**Pn**	**08 41 03.7**	**-2.5**	
P18K	**Big Mountain,**	**4.07**	**324**			**Pn**	**08 41 07.6**	**-0.6**	
P18K	**Big Mountain,**	**4.07**	**324**	P		**Pn**	**08 41 07.6**	**-0.6**	
	baz=142								
P23K	**Montague Islan**	**4.14**	**22**			**Pn**	**08 41 07.5**	**-1.8**	
P23K	**Montague Islan**	**4.14**	**22**	P		**Pn**	**08 41 07.5**	**-1.8**	
	baz=202								
P17K	**Kvichak River**	**4.36**	**316**			**Pn**	**08 41 11.8**	**-0.4**	
P17K	**Kvichak River**	**4.36**	**316**	P		**Pn**	**08 41 11.8**	**-0.4**	
	baz=133								
RSO	**Redoubt South**	**4.42**	**346**	Pn		**Pn**	**08 41 14.3**	**+1.0**	
O19K	**Port Alsworth**	**4.47**	**335**	Pn		**Pn**	**08 41 13.0**	**-0.7**	
O19K				IAML			08 44 21.3		
	comp=N,79nm,0.5s								
RC01	**Rabbit Creek A**	**4.91**	**4**	Pn		**Pn**	**08 41 18.8**	**-1.0**	
RC01				IAML			08 42 23.1		
	comp=N,18nm,1.4s								
RC01				IAML			08 42 24.0		
	comp=E,12nm,0.5s								
KAIM	**Kayak Island**	**4.94**	**38**			**Pn**	**08 41 17.5**	**-2.6**	
KAIM	**Kayak Island**	**4.94**	**38**	P		**Pn**	**08 41 17.5**	**-2.6**	
	baz=221								
EYAK	**Cordova Ski Ar**	**5.02**	**28**			**Pn**	**08 41 19.6**	**-1.7**	
EYAK	**Cordova Ski Ar**	**5.02**	**28**	P		**Pn**	**08 41 19.6**	**-1.7**	
	baz=210								
N19K	**Bonanza Creek**	**5.06**	**337**	Pn		**Pn**	**08 41 20.1**	**-1.9**	
N19K				IAML			08 43 55.7		
	comp=E,9.6nm,1.4s								
SUA	**Susitna One**	**5.27**	**359**	Pn		**Pn**	**08 41 23.1**	**-1.7**	
O16K	**Kokwok River B**	**5.27**	**313**	Pn		**Pn**	**08 41 22.2**	**-2.6**	
N18K	**Kilae Creek**	**5.30**	**330**			**Pn**	**08 41 23.9**	**-1.1**	
N18K	**Kilae Creek**	**5.30**	**330**	P		**Pn**	**08 41 23.9**	**-1.1**	
	baz=146								
KNK	**Knik Glacier**	**5.33**	**11**	Pn		**Pn**	**08 41 23.2**	**-2.3**	
PMR	**Palmer**	**5.45**	**7**	Pn		**Pn**	**08 41 25.7**	**-1.4**	
BERG	**Berg Lake**	**5.52**	**38**			**Pn**	**08 41 26.0**	**-2.2**	
GHO	**Glory Hole Cre**	**5.64**	**8**			**Pn**	**08 41 29.4**	**-0.5**	
SNH	**Sunshine Point**	**5.69**	**42**	Pn		**Pn**	**08 41 27.9**	**-2.6**	
M23K	**Glacier View**	**5.78**	**13**			**Pn**	**08 41 31.1**	**-0.7**	
M23K	**Glacier View**	**5.78**	**13**	P		**Pn**	**08 41 31.1**	**-0.7**	
	baz=194								
O15K	**Ungalikthiuk R**	**5.81**	**305**			**Pn**	**08 41 31.2**	**-0.9**	
O15K	**Ungalikthiuk R**	**5.81**	**305**	P		**Pn**	**08 41 31.2**	**-0.9**	
	baz=119								
KLU	**Klutina**	**5.81**	**22**	Pn		**Pn**	**08 41 31.0**	**-1.2**	
SCM	**Sheep Creek Mo**	**5.88**	**15**	Pn		**Pn**	**08 41 32.0**	**-1.1**	
N25K	**Chitina, Valde**	**6.22**	**27**			**Pn**	**08 41 36.4**	**-1.4**	
N25K	**Chitina, Valde**	**6.22**	**27**	P		**Pn**	**08 41 36.4**	**-1.4**	
	baz=210								
VRDI	**Verde Repeater**	**6.23**	**33**	Pn		**Pn**	**08 41 36.2**	**-1.9**	
GLB	**Gilahina Butte**	**6.30**	**31**	Pn		**Pn**	**08 41 36.9**	**-1.9**	
N15K	**Kwethluk River**	**6.43**	**312**	Pn		**Pn**	**08 41 40.1**	**-0.6**	
MCARA	**McCarthy VSAT**	**6.49**	**34**	Pn		**Pn**	**08 41 39.9**	**-1.4**	
PTPK	**Patty Peak**	**6.52**	**37**			**Pn**	**08 41 39.8**	**-2.2**	
M16K	**Timber Creek**	**6.53**	**321**			**Pn**	**08 41 41.4**	**-0.6**	
M16K	**Timber Creek**	**6.53**	**321**	P		**Pn**	**08 41 41.4**	**-0.6**	
	baz=135								
PCA	**Pinnacle**	**6.68**	**50**			**Pn**	**08 41 41.0**	**-3.1**	
PINM	**Pinnacle**	**6.68**	**50**	P		**Pn**	**08 41 41.0**	**-3.1**	
	baz=236								
BARN	**Barnard Glacie**	**6.71**	**40**	Pn		**Pn**	**08 41 42.3**	**-2.3**	
CTG	**Chitna Glacier**	**6.76**	**41**	P		**Pn**	**08 41 42.6**	**-2.7**	
	baz=227								
CTGM	**Chitina Glacie**	**6.76**	**41**			**Pn**	**08 41 42.6**	**-2.7**	
L16K	**Owhat River**	**7.20**	**324**	Pn		**Pn**	**08 41 49.8**	**-1.3**	
CAST	**Castle Rocks**	**7.28**	**354**	Pn		**Pn**	**08 41 51.6**	**-0.6**	
O29M	**Mount Kennedy**	**7.51**	**52**			**Pn**	**08 41 52.3**	**-3.3**	
O29M	**Mount Kennedy**	**7.51**	**52**	P		**Pn**	**08 41 52.3**	**-3.3**	
	baz=240								
P29M	**Windy Craggy**	**7.62**	**58**			**Pn**	**08 41 53.3**	**-3.6**	
P29M	**Windy Craggy**	**7.62**	**58**	P		**Pn**	**08 41 53.3**	**-3.6**	
	baz=246								
S31K	**Pelican**	**7.98**	**71**	Pn		Pn	08 41 56.1	-5.7	
L14K	**Kuka Creek**	**8.14**	**314**	Pn		**Pn**	**08 42 03.6**	**-0.4**	
BCAR	**Beaver Creek A**	**8.17**	**29**	Pn		**Pn**	**08 42 02.2**	**-2.3**	
HYT	**Haines Junctio**	**8.23**	**50**	Pn		**Pn**	**08 42 03.2**	**-2.2**	
M29M	**Somme Creek**	**8.77**	**40**	Pn		**Pn**	**08 42 11.2**	**-1.6**	
ILAR	**Eielson Array**	**8.78**	**10**	Pn		**Pn**	**08 42 13.6**	**+0.9**	
	comp=E,0.1nm,0.3s,baz=194,slow=13,SNR=5.2								
ILAR				Sn		**Sn**	**08 43 47.7**	**-3.8**	
	comp=E,0.1nm,0.3s,baz=198,slow=23,SNR=1.9								
	comp=E,0.3nm,0.5s								
N31M	**Braeburn, Yuko**	**9.28**	**49**	Pn		**Pn**	**08 42 16.7**	**-3.0**	
WHY	**Whitehorse**	**9.33**	**55**	Pn		**Pn**	**08 42 17.1**	**-3.3**	
M30M	**Minto, Yukon**	**9.46**	**42**	Pn		**Pn**	**08 42 19.6**	**-2.5**	
H21K	**Melozitna Rive**	**9.54**	**354**	Pn		**Pn**	**08 42 22.5**	**-0.8**	
DAWY	**Dawson**	**9.62**	**31**	Pn		**Pn**	**08 42 23.0**	**-1.4**	
K29M	**Barlow Dome**	**10.03**	**35**	Pn		**Pn**	**08 42 27.7**	**-2.3**	
J30M	**Hart River**	**10.91**	**34**	Pn		**Pn**	**08 42 41.8**	**-0.3**	
I30M	**Mount Dempster**	**11.36**	**32**	Pn		**Pn**	**08 42 47.9**	**-0.3**	
F24K	**Squaw Lake**	**11.42**	**5**	Pn		**Pn**	**08 42 49.5**	**+0.6**	
G31M	**Satah River**	**13.18**	**29**	Pn		**Pn**	**08 43 12.2**	**-0.8**	
F31M	**Tsiigehtchic**	**13.71**	**28**	Pn		**Pn**	**08 43 17.9**	**-2.2**	
B22K	**Teshekpuk Lake**	**14.24**	**356**	Pn		**Pn**	**08 43 28.0**	**+0.6**	
INK	**Inuvik**	**14.41**	**26**	Pn		**P**	**08 43 35.4**	**-1.2**	
	comp=E,0.1nm,0.3s,baz=203,slow=7.2,SNR=4.3								
	comp=E,1.1nm,0.8s								
YKA	**Yellowknife Ar**	**19.16**	**56**	P		**Pn**	**08 44 35.0**	**+5.1**	
	baz=266,slow=9.6,SNR=11								
	comp=E,0.5nm,0.7s								
NVAR	**Mina Array Bea**	**27.79**	**116**	P		**P**	**08 45 58.6**	**+3.4**	
	comp=E,0.1nm,0.3s,baz=320,slow=8.3,SNR=1.8								
	comp=E,0.1nm,0.3s								

IDC 26 08:40:18.3±2.6, 54°.11N×86°.47E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=21.3km s-min=12.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**261**	I	I		08 45 58.6	
	0.2nm,1.0s,baz=80,slow=346,SNR=13							
ZALV	**Zalesovo Beam**	**0.99**	**261**	Pg	Pg		08 40 36.6	-0.6
	0.7nm,0.3s,baz=76,slow=16,SNR=8.2							
ZALV				Lg	Lg		08 40 51.3	
	1.6nm,0.3s,baz=78,slow=29,SNR=15							
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn		08 41 49.1	+1.0
	0.1nm,0.3s,baz=55,slow=14,SNR=5.3							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn		08 42 14.1	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=8.2							
MKAR				Sn	Sn		08 43 40.8	-1.1
	0.1nm,0.3s,baz=31,slow=26,SNR=2.9							
MKAR				Lg	Lg		08 44 25.2	
	baz=20,slow=29,SNR=1.9							
	0.2nm,0.3s							

*ATH **26** 08:40:45.7, 38°.93N×26°.04E, h14km±3km, ML3.5/5, Error ellipse: s-maj=4.3km s-min=1.0km az=102.0*
*AFAD **26** 08:40:45.4±0.0, 38°.92N×26°.06E, h7km±3km, ML3.0*
*ISK **26** 08:40:45.1, 38°.92N×26°.03E, h8km, ML3.0/43*
*THE **26** 08:40:46.1, 38°.92N×26°.06E, h9km±1km, ML2.8/6, Error ellipse: s-maj=1.9km s-min=0.9km az=57.0*

ISC 26 08:40:45.8±0.9, 38°.91N±0°.02×26°.05E±0°.02, h14km±7km, n85, σ0°.77/115, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
EAG1	**Polichnitos, L**	**0.22**	**38**	P	**Pg**		**08 40 50.1**	**-0.6**
EAG1				S	**Sg**		**08 40 54.0**	**0.0**
EAG1				AML	AML		08 40 54.1	
	comp=E,51150μm,0.5s							
EAG1				AML	AML		08 40 55.8	
	comp=N,31928μm,0.5s							
SIGR	**SIGRI**	**0.34**	**333**	Pg	**Pb**		**08 40 54.9**	**+1.3**
SIGR	**SIGRI**	**0.34**	**333**	P	**Pg**		**08 40 52.6**	**-0.1**
SIGR				S	**Sb**		**08 40 58.2**	**-0.6**
	comp=N,4μm,0.5s							
EAG2	**Marmaro, Chios**	**0.37**	**173**	P	**Pg**		**08 40 53.2**	**-0.1**
EAG2				S	**Sg**		**08 40 59.2**	**+0.8**
EAG2				AML	AML		08 40 59.6	
	comp=N,93119μm,0.4s							
EAG2				AML	AML		08 40 59.9	
	comp=E,63918μm,0.3s							
PRK	**Paraskevi**	**0.38**	**27**	P	**Pg**		**08 40 53.0**	**-0.4**
PRK				S	**Sg**		**08 40 59.1**	**+0.6**
	comp=E,3μm,0.4s							
PRK	**Paraskevi**	**0.38**	**27**	P	**Pg**		**08 40 53.0**	**-0.4**
PRK				S	**Sg**		**08 40 58.7**	**+0.2**
PRK				AML	AML		08 40 59.4	
	comp=E,6791μm,0.4s							
PRK				AML	AML		08 41 02.1	
	comp=N,6002μm,0.7s							
KARB	**zmir-Karabur**	**0.38**	**131**	P	**Pg**		**08 40 53.2**	**-0.2**
KARB				S	**Sg**		**08 40 58.1**	**-0.4**
KARB				*i* AML	AML		08 40 59.0	
	comp=N,1μm,0.2s							
KARB				*i* AML	AML		08 40 59.0	
	comp=N,2μm,0.4s							
EAG3	**Mitilini, Lesv**	**0.44**	**67**	P	**Pg**		**08 40 54.3**	**-0.3**
EAG3				AML	AML		08 41 02.2	
	comp=N,12049μm,0.9s							
EAG3				AML	AML		08 41 04.5	
	comp=E,10731μm,0.7s							
CHOS	**Chios island**	**0.53**	**180**	Pg	**Pg**		**08 40 55.9**	**-0.3**
CHOS	**Chios island**	**0.53**	**180**	P	**Pg**		**08 40 55.9**	**-0.3**
PSRA	**Psara**	**0.53**	**226**	P	**Pg**		**08 40 56.0**	**-0.3**
PSRA				AML	AML		08 41 03.7	
	comp=N,13608μm,0.3s							
PSRA				AML	AML		08 41 03.8	
	comp=E,16551μm,0.2s							
GPNR	**Gulpinar-Canak**	**0.55**	**7**	Pg	**Pg**		**08 40 55.9**	**-0.7**
GPNR				Sg	**Sg**		**08 41 04.1**	**+0.2**
FOCM	**Foa**	**0.57**	**110**	Pg	**Pg**		**08 40 56.9**	**0.0**
CAND	**Candarli**	**0.59**	**86**	Pg	**Pg**		**08 40 57.1**	**-0.2**
CAND				Sg	**Sb**		**08 41 06.3**	**+0.2**
KOCA	**Canakkale, Ayv**	**0.59**	**7**	P	**Pg**		**08 40 56.9**	**-0.5**
KOCA				S	**Sg**		**08 41 05.0**	**-0.3**
CESE	**eme**	**0.61**	**161**	Pg	**Pg**		**08 40 56.9**	**-0.9**
RFT7	**Candarli**	**0.68**	**86**	Pg	**Pb**		**08 40 59.2**	**-0.3**
DKL	**Dikili**	**0.69**	**76**	Pg	**Pb**		**08 40 59.5**	**-0.1**
URLA	**Izmir**	**0.70**	**142**	Pg	**Pg**		**08 40 59.2**	**-0.2**
URLA				Sg	**Sb**		**08 41 09.4**	**+0.1**
URLA	**Izmir**	**0.70**	**142**	P	**Pg**		**08 40 59.3**	**0.0**
URLA				S	**Sg**		**08 41 07.5**	**-1.1**
URLA				*i* AML	AML		08 41 15.0	
	comp=E,644nm,0.6s							
URLA				*i* AML	AML		08 41 15.0	
	comp=E,520nm,0.7s							
ZEYE	**Izmir, Urla-Ze**	**0.76**	**152**	P	**Pg**		**08 41 00.2**	**-0.4**
ZEYE				*i* AML	AML		08 41 12.0	
	comp=E,516nm,0.6s							
ZEYE				*i* AML	AML		08 41 14.0	
	comp=E,484nm,0.3s							
ZEDA	**zmir-Bergama**	**0.80**	**86**	P	**Pg**		**08 41 00.7**	**-0.7**
ZEDA				S	**Sb**		**08 41 12.6**	**+0.3**
ZEDA				*i* AML	AML		08 41 14.0	
	comp=E,702nm,0.4s							
BAYC	**CANAKKALE_Bayr**	**0.91**	**25**	P	**Pg**		**08 41 03.4**	**-0.1**
BAYC				S	**Sb**		**08 41 16.3**	**+0.8**
BAYC				*i* AML	AML		08 41 17.0	
	comp=E,506nm,0.5s							
BAYC				*i* AML	AML		08 41 21.0	
	comp=E,294nm,0.7s							
BUHA	**Balikesir, Bur**	**0.99**	**53**	P	**Pg**		**08 41 04.5**	**-0.4**
BUHA				S	**Sg**		**08 41 17.4**	**-0.6**
BUHA				*i* AML	AML		08 41 20.0	
	comp=E,616nm,0.8s							
BUHA				*i* AML	AML		08 41 21.0	
	comp=E,779nm,0.5s							
GMLD	**Gumuldur**	**1.08**	**141**	Pg	**Pg**		**08 41 06.1**	**-0.5**
DGB	**zmir**	**1.08**	**142**	P	**Pg**		**08 41 05.9**	**-0.7**
DGB				S	**Sg**		**08 41 19.4**	**-1.3**
DGB				*i* AML	AML		08 41 23.0	
	comp=E,205nm,0.4s							
DGB				*i* AML	AML		08 41 23.0	
	comp=E,191nm,0.4s							
ECEA	**Canakkale, Ece**	**1.14**	**5**	P	**Pb**		**08 41 06.5**	**-0.7**
ECEA				S	**Sn**		**08 41 23.2**	**+0.5**
ECEA				*i* AML	AML		08 41 25.0	
	comp=E,1μm,0.4s							
ECEA				*i* AML	AML		08 41 26.0	
	comp=E,580nm,0.5s							
CNKL	**anakkale-Mer**	**1.18**	**13**	P	**Pb**		**08 41 07.2**	**-0.8**
CNKL				S	**Sb**		**08 41 23.1**	**-0.1**
CNKL				*i* AML	AML		08 41 26.0	
	comp=E,536nm,0.4s							
CNKL				*i* AML	AML		08 41 26.0	
	comp=E,588nm,0.4s							
GOAD	**anakkale-G¶**	**1.25**	**355**	P	**Pn**		**08 41 08.6**	**-0.3**
GOAD				S	**Sb**		**08 41 25.4**	**+0.1**
GOAD				*i* AML	AML		08 41 29.0	
	comp=E,380nm,1.0s							
GOAD				*i* AML	AML		08 41 31.0	
	comp=E,402nm,0.5s							
GADA	**Gvkgeada**	**1.28**	**355**	Pn	**Pn**		**08 41 09.2**	**-0.2**
GADA				Sn	**Sn**		**08 41 27.1**	**+0.7**
GOKC	**Gokceada-Canak**	**1.29**	**356**	Pn	**Pn**		**08 41 09.7**	**+0.2**
SMG	**Samos**	**1.35**	**153**	P	**Pb**		**08 41 11.0**	**+0.1**
SMG				S	**Sb**		**08 41 28.4**	**+0.3**
	comp=E,538nm,0.4s							
STEP	**BALIKESIR_Sava**	**1.38**	**70**	P	**Pn**		**08 41 10.8**	**0.0**
STEP				S	**Sb**		**08 41 28.0**	**-0.9**
STEP				*i* AML	AML		08 41 32.0	
	comp=E,323nm,0.6s							
STEP				*i* AML	AML		08 41 35.0	
	comp=E,333nm,0.6s							
GELI	**Tayfur-Gelibol**	**1.52**	**12**	Pn	**Pn**		**08 41 12.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.53**	**142**	Pn	**Pn**		**08 41 13.6**	**+0.9**
KYMI	**Kymi, Euboea I**	**1.55**	**260**	P	**Pn**		**08 41 12.9**	**-0.1**
LPK	**Lapseki**	**1.56**	**20**	Pn	**Pn**		**08 41 13.9**	**+0.7**
BALB	**Balikesir**	**1.59**	**62**	Pn	**Pn**		**08 41 13.4**	**-0.3**
SMTH	**Samothraki Isl**	**1.61**	**346**	P	**Pn**		**08 41 13.4**	**-0.5**
SMTH				S	**Sn**		**08 41 35.4**	**+1.0**
	comp=E,138nm,0.5s							
SMTH	**Samothraki Isl**	**1.61**	**346**	P	**Pn**		**08 41 13.4**	**-0.5**
BKES	**Balkesir-Mer**	**1.67**	**60**	P	**Pn**		**08 41 14.6**	**-0.2**
BKES				S	**Sn**		**08 41 34.2**	**-1.8**
BKES				*i* AML	AML		08 41 41.0	
	comp=E,108nm,1.2s							
BKES				*i* AML	AML		08 41 47.0	
	comp=E,185nm,0.7s							
GONE	**Gonen-Balikesi**	**1.70**	**48**	Pn	**Pn**		**08 41 15.7**	**+0.6**
DDIM	**Aydin, Didim**	**1.73**	**147**	P	**Pn**		**08 41 15.7**	**+0.2**
DDIM				*i* AML	AML		08 41 49.0	
	comp=E,151nm,1.1s							
DDIM				*i* AML	AML		08 41 49.0	
	comp=E,286nm,3.3s							
KRBG	**Karabiga-Canak**	**1.77**	**33**	Pn	**Pn**		**08 41 16.2**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**1.78**	**3**	P	**Pn**		**08 41 16.0**	**-0.2**
CAVK				S	**Sb**		**08 41 40.2**	**-0.2**
CAVK				*i* AML	AML		08 41 51.0	
	comp=E,142nm,0.6s							
CAVK				*i* AML	AML		08 41 58.0	
	comp=E,117nm,0.8s							
ENEZ	**Enez**	**1.82**	**2**	Pn	**Pn**		**08 41 17.5**	**+0.7**
DION	**Dionisos Attik**	**1.86**	**244**	P	**Pn**		**08 41 18.0**	**+0.7**
APE	**Apeiranthos**	**1.89**	**193**	Pn	**Pn**		**08 41 18.4**	**+0.7**
APE	**Apeiranthos**	**1.89**	**193**	P	**Pn**		**08 41 16.8**	**-0.9**
APE	**Apeiranthos**	**1.89**	**193**	P	**Pn**		**08 41 16.7**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.97**	**26**	Pn	**Pn**		**08 41 19.7**	**+0.8**
KIRA	**zmir-Kiraz**	**1.98**	**110**	P	**Pb**		**08 41 21.9**	**+0.2**
KIRA				S	**Sg**		**08 41 48.4**	**-1.0**
KIRA				*i* AML	AML		08 41 53.0	
	comp=E,86nm,0.9s							
KIRA				*i* AML	AML		08 41 55.0	
	comp=E,70nm,0.6s							
THAS	**Thassos island**	**1.98**	**329**	P	**Pn**		**08 41 18.6**	**-0.3**
THAS				S	**Sn**		**08 41 42.4**	**-1.1**
	comp=E,75nm,0.5s							
ALN	**Alexandroupoli**	**1.98**	**360**	Pn	**Pn**		**08 41 19.5**	**+0.5**
ALN	**Alexandroupoli**	**1.98**	**360**	P	**Pn**		**08 41 18.8**	**-0.2**
EDC	**Edincik**	**2.00**	**44**	Pn	**Pn**		**08 41 19.8**	**+0.5**
KULA	**Kula-Manisa**	**2.08**	**100**	Pn	**Pn**		**08 41 21.1**	**+0.7**
KULA	**Kula-Manisa**	**2.08**	**100**	P	**Pn**		**08 41 21.7**	**+1.3**
PAIG	**Paliouri**	**2.10**	**300**	Pn	**Pn**		**08 41 21.3**	**+0.7**
BODT	**Bodrum**	**2.10**	**151**	Pn	**Pn**		**08 41 20.9**	**+0.3**
DST	**Dursunbey**	**2.11**	**70**	Pn	**Pn**		**08 41 21.7**	**+0.9**
MLSB	**Milas**	**2.11**	**139**	Pn	**Pn**		**08 41 21.9**	**+1.1**
ESEN	**Aydn-Nazilli**	**2.12**	**121**	P	**Pb**		**08 41 24.8**	**+0.7**
OUR	**Ouranopolis**	**2.14**	**312**	Pn	**Pn**		**08 41 21.6**	**+0.5**
BAND	**Balkesir-Ban**	**2.14**	**47**	P	**Pn**		**08 41 20.9**	**-0.2**
BAND				S	**Sn**		**08 41 47.6**	**0.0**
BAND				*i* AML	AML		08 41 53.0	
BAND				*i* AML	AML		08 42 00.0	
	comp=E,68nm,1.0s							
BDRM	**Kayabasi**	**2.15**	**149**	P	**Pg**		**08 41 26.4**	**-0.6**
KCTX	**Karacabey (Bur**	**2.24**	**52**	Pn	**Pn**		**08 41 23.3**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.26**	**11**	Pn	**Pn**		**08 41 23.4**	**+0.6**
RDO	**Rodhopi**	**2.27**	**350**	Pn	**Pn**		**08 41 23.7**	**+0.8**
RDO	**Rodhopi**	**2.27**	**350**	P	**Pn**		**08 41 23.2**	**+0.3**
SIMA	**Simav-Kutahya**	**2.29**	**85**	Pn	**Pn**		**08 41 23.8**	**+0.5**
USAK	**Uak-Merkez**	**2.33**	**94**	P	**Pb**		**08 41 28.7**	**+1.1**
USAK				*i* AML	AML		08 42 11.0	
	comp=E,47nm,1.6s							
RFTAA	**Mazikoy-Bodrum**	**2.33**	**144**	Pn	**Pn**		**08 41 25.2**	**+1.4**
YER	**Yerkesik**	**2.50**	**134**	Pn	**Pn**		**08 41 27.1**	**+0.9**
EMET	**Ktahya-Emet**	**2.58**	**79**	P	**Pb**		**08 41 33.3**	**+1.3**
EMET				S	**Sg**		**08 42 08.5**	**-0.4**
EMET				*i* AML	AML		08 42 17.0	
	comp=E,50nm,1.0s							
EMET				*i* AML	AML		08 42 20.0	
	comp=E,54nm,0.7s							
GEDZ	**Gediz**	**2.62**	**86**	Pn	**Pn**		**08 41 28.8**	**+0.9**
TVSB	**Tavsanli**	**2.71**	**77**	Pn	**Pn**		**08 41 30.9**	**+1.9**
ARMT	**Armutlu**	**2.73**	**52**	Pn	**Pn**		**08 41 30.5**	**+1.3**
KDZ	**Kurdzhali**	**2.77**	**349**	Pn	**Pn**		**08 41 30.3**	**+0.5**
HORT	**Hortiatis**	**2.83**	**307**	Pn	**Pn**		**08 41 31.4**	**+0.7**
SLVT	**Silivri**	**2.85**	**35**	Pn	**Pn**		**08 41 32.4**	**+1.5**
AGG	**Agios Georgios**	**2.90**	**273**	Pn	**Pn**		**08 41 32.1**	**+0.4**
KIRK	**Kirklareli**	**2.98**	**15**	P	**Pn**		**08 41 34.7**	**+2.1**
KIRK				S	**Sb**		**08 42 14.0**	**-0.8**
KIRK				*i* AML	AML		08 42 23.0	
	comp=E,26nm,1.0s							
EDRB	**Edirne**	**2.98**	**10**	Pn	**Pn**		**08 41 33.9**	**+1.2**
HISA	**Bilecik-Osmane**	**3.37**	**61**	P	**Pg**		**08 41 50.4**	**+0.1**
HISA				S	**Sg**		**08 42 31.2**	**-2.7**
HISA				*i* AML	AML		08 42 39.0	
	comp=E,49nm,0.8s							
HISA				*i* AML	AML		08 42 41.0	
	comp=E,59nm,0.9s							

KRSC 26 08:41:15.9±0.9, 55°.21N×166°.63E, h32km±4km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BKI	**Bering**	**0.37**	**269**	*e*P	Pn		08 41 25.1	0.0
BKI				*e*S	Sn		08 41 31.1	-0.2
TUMD	**Tumrok D**	**3.57**	**272**	*e*P	Pn		08 42 12.9	+3.9
TUMD				*e*S	Sn		08 42 54.9	+4.8
KMNR	**Kamenistaya**	**3.68**	**281**	*e*P	Pn		08 42 14.3	+3.7
KMNR				*e*S	Sn		08 42 57.9	+5.1
SMAR	**Somma**	**4.99**	**250**	*e*P	Pn		08 42 33.0	+4.3
UGLR	**Uglovaya**	**5.00**	**250**	*e*P	Pn		08 42 33.7	+5.0
AVH	**Avacha**	**5.02**	**250**	*e*P	Pn		08 42 33.6	+4.6
KRX	**Arik**	**5.03**	**252**	*e*P	Pn		08 42 33.5	+4.3
KOK	**Koryaka**	**5.06**	**251**	*e*P	Pn		08 42 34.2	+4.5
KRMR	**Karymshinskiy**	**5.55**	**248**	*e*S	Sn		08 43 44.9	+6.1
MTVR	**Mutnovka**	**5.70**	**245**	*e*P	Pn		08 42 43.2	+4.9
MTVR				*e*S	Sn		08 43 46.1	+3.5

*IDC **26** 08:44:16.4±1.8, 38°.43N×142°.41E, h0km, mb3.7/5, mbtmp3.6/7, ML2.7/2, Error ellipse: s-maj=44.5km s-min=22.2km az=68.0*
*JMA **26** 08:44:26.4±0.1, 38°.2N±0°.3×141°.7E±0°.6, h51km, MV3.5/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .

**ISC 26 08:44:25.5±1.4, 38°.23N±0°.06×141°.8E±0°.1, h51km±9km, n26, σ0°62/29, mb3

	0.2nm,0.9s,baz=87,slow=346,SNR=2.5							
ZAA0	**Zalesovo Array**	**3.35**	**278**	⇑Pg	**Pb**	**08 57 10.8**	**-0.7**
	0.9nm,0.8s							
ZAA0				⇑Lg	Lg	08 58 01.1		
	7.9nm,1.1s							
ZALV	**Zalesovo Beam**	**3.35**	**278**	Pn	**Pn**	**08 57 05.7**	**+0.8**
	0.9nm,0.3s,baz=97,slow=15,SNR=5.4							
ZALV				Lg	Lg	08 58 00.1		
	4.4nm,0.3s,baz=97,slow=29,SNR=11							
	0.7nm,0.3s							
KURK	**Kurchatov**	**7.84**	**253**	⇓Pn	**Pn**	**08 58 07.6**	**+1.2**
	4.0nm,1.3s							
KURK				⇓Sn	**Sn**	**08 59 35.1**	**-0.6**
	4.8nm,1.3s							
KURK				⇓Lg	Lg	09 00 22.6		
	15nm,1.3s							
KURBB	**Kurchatov Arra**	**7.93**	**252**	⇑Pn	**Pn**	**08 58 08.0**	**+0.3**
	1.0nm,0.5s							
KURBB				⇓Sn	**Sn**	**08 59 37.9**	**-0.2**
	9.5nm,0.6s							
KURBB				⇑Lg	Lg	09 00 22.1		
	21nm,0.9s							
KURBB	**Kurchatov Arra**	**7.93**	**252**	Pn	**Pn**	**08 58 07.5**	**-0.2**
	0.1nm,0.3s,baz=67,slow=15,SNR=9.5							
KURBB				Sn	**Sn**	**08 59 38.2**	**+0.1**
	baz=64,slow=23,SNR=4.0							
KURBB				Lg	Lg	09 00 22.1		
	baz=62,slow=34							
	0.4nm,0.3s							
MK31	**Makanchi Array**	**8.61**	**221**	⇑Pn	**Pn**	**08 58 16.9**	**-0.2**
	0.5nm,0.6s,baz=33,slow=12,SNR=17							
MK31				⇓Sn	**Sn**	**08 59 55.8**	**+0.9**
	2.3nm,1.1s							
MK31				⇓Lg	Lg	09 00 44.0		
	3.7nm,0.9s							
MKAR	**Makanchi Array**	**8.61**	**221**	Pn	**Pn**	**08 58 17.5**	**+0.4**
	0.3nm,0.3s,baz=30,slow=12,SNR=12							
MKAR				Sn	**Sn**	**08 59 53.3**	**-1.7**
	baz=32,slow=26							
MKAR				Lg	Lg	09 00 44.0		
	0.1nm,0.3s,baz=38,slow=24,SNR=2.1							
	0.4nm,0.3s							
MAKZ	**Makanchi**	**8.72**	**222**	⇑Pn	**Pn**	**08 58 18.1**	**-0.6**
	2.0nm,1.2s							
MAKZ				⇑Sn	**Sn**	**09 00 00.2**	**+2.5**
	2.0nm,1.2s							
MAKZ				⇓Lg	Lg	09 00 49.9		
	9.3nm,1.4s							

*IDC **26** 08:58:53.8±1.6,55°.62N×150°.20W,h0km,mb3.7/11, mbtmp3.7/16,ML3.3/5,MS3.5/21,Error ellipse: s-maj=35.9km s-min=21.7km az=10.0*
*NEIC **26** 08:58:56.0±1.4,55°.9N±0°.1×150°.4W±0°.1,h5km±8km, ML4.0/34,ML3.8(AEIC),Error ellipse: s-maj=15.6km s-min=9.1km az=177.0*
*AEIC **26** 08:59:01.2±1.5,55°.9N±0°.1×150°.3W±0°.1,h12km±8km, Error ellipse: s-maj=15.6km s-min=9.1km az=178.0*

ISC 26 08:58:57.7±1.0,56°.05N±0°.10×150°.36W±0°.06,h10km, n168,σ0885/156,mb3.9/11,MS3.5/16,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.00**	**307**		**Pn**	**08 59 30.9**	**-0.5**
OHAK	**Old Harbor**	**2.00**	**307**		**Sn**	**08 59 54.5**	**-2.0**
OHAK	**Old Harbor**	**2.00**	**307**	P	**Pn**	**08 59 31.0**	**-0.5**
	baz=127						
OHAK				S	**Sn**	**08 59 54.5**	**-2.0**
	baz=127						
KDAK	**Kodiak Island**	**2.12**	**326**		**Pn**	**08 59 33.0**	**-0.1**
KDAK	**Kodiak Island**	**2.12**	**326**		**Sn**	**08 59 59.3**	**-0.3**
KDAK	**Kodiak Island**	**2.12**	**326**	Pn	**Pn**	**08 59 33.0**	**-0.1**
	19nm,0.3s,baz=164,slow=5.9,SNR=111						
KDAK				Sn	**Sn**	**08 59 58.0**	**-1.6**
	8.7nm,0.3s,baz=125,slow=20,SNR=10						
KDAK				LR	LR	09 00 43.0	
	comp=Z,861nm,21.2s,baz=196,slow=43						
	79nm,0.5s						
SII	**Sitkinak Islan**	**2.19**	**285**	Pn	**Pn**	**08 59 33.7**	**-0.4**
SII				IAML		09 00 02.5	
	comp=N,531nm,0.8s						
SII				IAML		09 00 03.9	
	comp=E,560nm,0.8s						
SII	**Sitkinak Islan**	**2.19**	**285**	S	**Sn**	**08 59 58.6**	**-2.7**
	baz=105						
SYI	**Shuyak Island**	**2.79**	**338**		**Pn**	**08 59 42.7**	**+0.3**
SYI	**Shuyak Island**	**2.79**	**338**		**Sn**	**09 00 16.0**	**-0.1**
Q20K	**Shuyak Island**	**2.80**	**338**	P	**Pn**	**08 59 43.0**	**+0.6**
	baz=157						
Q20K				S	**Sn**	**09 00 16.0**	**-0.1**
	baz=157						
Q19K	**Cape Douglas,**	**3.39**	**330**		**Pn**	**08 59 51.5**	**+0.9**
Q19K				IAML		09 00 36.9	
	comp=N,701nm,0.7s						
Q19K	**Cape Douglas,**	**3.39**	**330**	P	**Pn**	**08 59 51.5**	**+0.9**
	baz=148						
CNPM	**China Poot**	**3.52**	**353**		**Pn**	**08 59 52.5**	**+0.1**
CNPM				IAML		09 00 35.1	
	comp=N,168nm,0.7s						
CNPM				IAML		09 00 35.3	
	comp=E,347nm,0.7s						
CNPM	**China Poot**	**3.52**	**353**		**Sn**	**09 00 34.0**	**0.0**
BRSE	**Bradley Lake S**	**3.71**	**357**		**Pn**	**08 59 54.5**	**-0.5**
BRSE	**Bradley Lake S**	**3.71**	**357**	P	**Pn**	**08 59 54.5**	**-0.5**
	baz=177						
BRLK	**Bradley Lake**	**3.74**	**356**		**Pn**	**08 59 55.2**	**-0.1**
BRLK				IAML		09 00 40.4	
	comp=E,191nm,0.7s						
BRLK				IAML		09 00 40.5	
	comp=N,152nm,0.8s						
CNTC	**Contact Creek**	**3.74**	**309**		**Pn**	**08 59 56.4**	**+0.9**
CNTC					**Sn**	**09 00 38.5**	**-1.0**
Q17K	**Contact Creek**	**3.74**	**309**	P	**Pn**	**08 59 56.4**	**+0.9**
	baz=126						
Q17K				S	**Sn**	**09 00 38.5**	**-1.1**
	baz=126						
Q23K	**Middleton Isla**	**4.02**	**31**		**Pn**	**08 59 58.7**	**-0.5**
Q23K	**Middleton Isla**	**4.02**	**31**	IAML		09 00 28.1	
	comp=N,519nm,3.7s						
Q23K	**Middleton Isla**	**4.02**	**31**	P	**Pn**	**08 59 58.7**	**-0.5**
	baz=213						
MID	**Middleton Isla**	**4.02**	**31**		**Pn**	**08 59 58.8**	**-0.3**
MID	**Middleton Isla**	**4.02**	**31**	IAML		09 00 28.0	
	comp=N,474nm,3.9s						
IVE	**Iliamna Volcan**	**4.22**	**342**		**Pn**	**09 00 02.5**	**+0.3**
P18K	**Big Mountain,**	**4.25**	**324**	Pn	**Pn**	**09 00 02.5**	**+0.1**
P18K	**Big Mountain,**	**4.25**	**324**	P	**Pn**	**09 00 02.9**	**+0.5**
	baz=141						
P23K	**Montague Islan**	**4.26**	**20**		**Pn**	**09 00 02.4**	**-0.1**
P23K	**Montague Islan**	**4.26**	**20**	P	**Pn**	**09 00 02.4**	**-0.1**
	baz=202						
P17K	**Kvichak River**	**4.54**	**317**		**Pn**	**09 00 07.3**	**+0.9**
P17K	**Kvichak River**	**4.54**	**317**	P	**Pn**	**09 00 07.3**	**+0.9**
	baz=132						
RSO	**Redoubt South**	**4.60**	**345**		**Pn**	**09 00 07.9**	**+0.5**
O18K	**Koktuh Hills**	**4.61**	**328**		**Pn**	**09 00 07.8**	**+0.5**
O18K				IAML		09 00 42.2	
	comp=E,68nm,3.8s						
O18K				IAML		09 01 17.4	
	comp=N,89nm,1.9s						
O18K	**Koktuh Hills**	**4.61**	**328**	P	**Pn**	**09 00 07.1**	**-0.3**
	baz=145						
RDWB	**Redoubt West**	**4.64**	**345**		**Pn**	**09 00 07.3**	**-0.6**
O19K	**Port Alsworth**	**4.66**	**335**		**Pn**	**09 00 08.6**	**+0.7**
O19K	**Port Alsworth**	**4.66**	**335**	P	**Pn**	**09 00 07.4**	**-0.6**
	baz=152						
RDT	**Redoubt**	**4.67**	**347**		**Pn**	**09 00 08.0**	**-0.2**
DFR	**Drift River**	**4.72**	**346**		**Pn**	**09 00 08.7**	**-0.2**
NCT	**North Crescent**	**4.73**	**344**		**Pn**	**09 00 08.7**	**-0.3**
HIN	**Hinchinbrook I**	**4.81**	**23**		**Pn**	**09 00 10.0**	**-0.2**
HIN	**Hinchinbrook I**	**4.81**	**23**	IAML		09 01 04.6	
	comp=E,252nm,1.3s						
HIN				IAML		09 01 19.5	
	comp=N,193nm,3.5s						
KAIM	**Kayak Island**	**5.01**	**37**	Pn	**Pn**	**09 00 13.0**	**+0.1**
KAIM	**Kayak Island**	**5.01**	**37**	P	**Pn**	**09 00 12.6**	**-0.2**
	baz=221						
RC01	**Rabbit Creek A**	**5.07**	**3**		**Pn**	**09 00 13.3**	**-0.3**
RC01				IAML		09 01 15.8	
	comp=N,70nm,0.7s						
RC01				IAML		09 03 33.4	
	comp=E,78nm,4.5s						
EYAK	**Cordova Ski Ar**	**5.13**	**26**		**Pn**	**09 00 14.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.13**	**26**	P	**Pn**	**09 00 14.3**	**-0.1**
	baz=210						
N19K	**Bonanza Creek**	**5.25**	**337**		**Pn**	**09 00 16.5**	**+0.3**
N19K				IAML		09 01 45.8	
	comp=N,60nm,3.5s						
N19K				IAML		09 01 51.3	
	comp=E,45nm,3.8s						
N19K	**Bonanza Creek**	**5.25**	**337**	P	**Pn**	**09 00 16.0**	**-0.1**
	baz=154						
N20K	**Mount Spurr**	**5.26**	**350**	P	**Pn**	**09 00 16.7**	**+0.4**
	baz=169						
SPCR	**Spurr Chakacha**	**5.26**	**350**		**Pn**	**09 00 16.7**	**+0.4**
RAGM	**Ragged Mountai**	**5.29**	**32**	Pn	**Pn**	**09 00 16.6**	**-0.1**
RAGM				IAML		09 01 29.2	
	comp=E,149nm,2.9s						
SPCG	**Spurr Capps Gl**	**5.33**	**351**		**Pn**	**09 00 17.1**	**-0.2**
GOAT	**Goat Mountain**	**5.43**	**31**		**Pn**	**09 00 19.0**	**+0.4**
SUA	**Susitna One**	**5.44**	**358**		**Pn**	**09 00 17.7**	**-1.1**
O16K	**Kokwok River B**	**5.45**	**314**		**Pn**	**09 00 18.7**	**-0.2**
N18K	**Kilae Creek**	**5.48**	**330**		**Pn**	**09 00 18.9**	**-0.4**
N18K	**Kilae Creek**	**5.48**	**330**	P	**Pn**	**09 00 19.6**	**+0.3**
	baz=146						
STLK	**Strandline Lak**	**5.52**	**353**		**Pn**	**09 00 20.1**	**+0.2**
BERG	**Berg Lake**	**5.60**	**36**	Pn	**Pn**	**09 00 20.8**	**-0.1**
SNH	**Sunshine Point**	**5.75**	**41**		**Pn**	**09 00 23.1**	**+0.1**
N17K	**Nushagak Hills**	**5.75**	**324**		**Pn**	**09 00 23.0**	**0.0**
BMRM	**Bremner River**	**5.78**	**29**		**Pn**	**09 00 24.1**	**+0.6**
BMRM	**Bremner River**	**5.78**	**29**	P	**Pn**	**09 00 24.1**	**+0.6**
	baz=213						
GHO	**Glory Hole Cre**	**5.79**	**7**		**Pn**	**09 00 23.9**	**+0.3**
SML	**Sawmill**	**5.87**	**9**		**Pn**	**09 00 25.2**	**+0.5**
KLU	**Klutina**	**5.93**	**21**		**Pn**	**09 00 26.5**	**+1.0**
KLU	**Klutina**	**5.93**	**21**	P	**Pn**	**09 00 26.3**	**+0.8**
	baz=204						
O15K	**Ungalikthiuk R**	**5.97**	**306**		**Pn**	**09 00 26.1**	**0.0**
O15K	**Ungalikthiuk R**	**5.97**	**306**	P	**Pn**	**09 00 26.1**	**0.0**
	baz=118						
SKT	**Skwentna**	**5.98**	**355**		**Pn**	**09 00 26.1**	**-0.1**
SKT	**Skwentna**	**5.98**	**355**	P	**Pn**	**09 00 25.9**	**-0.3**
	baz=174						
M18K	**Stony River**	**6.15**	**335**		**Pn**	**09 00 28.5**	**+0.1**
M18K	**Stony River**	**6.15**	**335**	P	**Pn**	**09 00 28.5**	**+0.1**
	baz=151						
M19K	**Big River Lodg**	**6.23**	**342**		**Pn**	**09 00 29.4**	**-0.2**
VRDI	**Verde Repeater**	**6.32**	**32**		**Pn**	**09 00 30.9**	**-0.1**
N25K	**Chitina, Valde**	**6.33**	**26**		**Pn**	**09 00 31.5**	**+0.5**
N25K	**Chitina, Valde**	**6.33**	**26**	P	**Pn**	**09 00 31.9**	**+1.0**
	baz=210						
GLB	**Gilahina Butte**	**6.39**	**30**		**Pn**	**09 00 32.3**	**+0.5**
KIAG	**Kiagna River**	**6.44**	**37**		**Pn**	**09 00 32.7**	**+0.1**
M17K	**Holitna River**	**6.51**	**328**		**Pn**	**09 00 34.3**	**+0.9**
SAMH	**Samovar Hills**	**6.52**	**47**		**Pn**	**09 00 33.7**	**+0.1**
L19K	**White Mountain**	**6.57**	**341**		**Pn**	**09 00 34.9**	**+0.6**
MCARA	**McCarthy VSAT**	**6.57**	**32**		**Pn**	**09 00 34.6**	**+0.4**
MCARA	**McCarthy VSAT**	**6.57**	**32**	P	**Pn**	**09 00 34.5**	**+0.2**
	baz=218						
PTPK	**Patty Peak**	**6.60**	**35**		**Pn**	**09 00 34.9**	**+0.1**
N15K	**Kwethluk River**	**6.61**	**313**		**Pn**	**09 00 35.9**	**+1.2**
M16K	**Timber Creek**	**6.71**	**322**		**Pn**	**09 00 37.0**	**+0.8**
PCA	**Pinnacle**	**6.72**	**49**		**Pn**	**09 00 36.4**	**0.0**
PINM	**Pinnacle**	**6.72**	**49**	P	**Pn**	**09 00 36.4**	**0.0**
	baz=236						
BARN	**Barnard Glacie**	**6.78**	**39**		**Pn**	**09 00 37.3**	**0.0**
CTG	**Chitna Glacier**	**6.83**	**40**	P	**Pn**	**09 00 38.1**	**+0.3**
	baz=227						
CTGM	**Chitina Glacie**	**6.83**	**40**		**Pn**	**09 00 38.2**	**+0.3**
LOGN	**Logan Glacier**	**6.86**	**42**		**Pn**	**09 00 37.9**	**-0.4**
L18K	**Granite Mounta**	**6.99**	**335**		**Pn**	**09 00 40.3**	**+0.3**
L18K	**Granite Mounta**	**6.99**	**335**	P	**Pn**	**09 00 40.3**	**+0.3**
	baz=150						
DHY	**Denali Highway**	**7.21**	**11**		**Pn**	**09 00 43.5**	**+0.4**
L17K	**Donlin**	**7.34**	**329**		**Pn**	**09 00 45.1**	**+0.4**
L17K	**Donlin**	**7.34**	**329**	P	**Pn**	**09 00 45.1**	**+0.4**
	baz=143						
L16K	**Owhat River**	**7.38**	**324**	Pn	**Pn**	**09 00 46.0**	**+0.7**
L16K	**Owhat River**	**7.38**	**324**	P	**Pn**	**09 00 46.3**	**+1.0**
	baz=137						
KTH	**Kantishna Hill**	**7.54**	**358**		**Pn**	**09 00 47.3**	**-0.2**
K20K	**Telida**	**7.57**	**347**		**Pn**	**09 00 47.5**	**-0.4**
P29M	**Windy Craggy**	**7.63**	**57**	P	**Pn**	**09 00 48.7**	**-0.2**
	baz=247						
M27K	**Edge Creek, AK**	**7.68**	**31**		**Pn**	**09 00 50.4**	**+0.8**
M14K	**Bethel**	**7.70**	**313**		**Pn**	**09 00 50.2**	**+0.5**
M14K	**Bethel**	**7.70**	**313**	P	**Pn**	**09 00 49.5**	**-0.2**
	baz=123						
K17K	**Iditarod**	**7.81**	**332**		**Pn**	**09 00 51.4**	**+0.1**
K17K	**Iditarod**	**7.81**	**332**	P	**Pn**	**09 00 51.9**	**+0.6**
	baz=146						
S31K	**Pelican**	**7.95**	**70**		**Pn**	**09 00 51.4**	**-1.8**
S31K	**Pelican**	**7.95**	**70**	P	**Pn**	**09 00 51.3**	**-1.8**
	baz=261						
BVCY	**Beaver Creek**	**8.02**	**33**		**Pn**	**09 00 54.0**	**-0.2**
BVCY	**Beaver Creek**	**8.02**	**33**	P	**Pn**	**09 00 54.0**	**-0.2**
	baz=221						
M13K	**Dall Lake**	**8.13**	**308**	Pn	**Pn**	**09 00 56.6**	**+1.1**
L27K	**Beaver Creek,**	**8.26**	**28**	Pn	**Pn**	**09 00 57.8**	**+0.4**
L14K	**Kuka Creek**	**8.32**	**315**	Pn	**Pn**	**09 00 58.8**	**+0.6**
L14K	**Kuka Creek**	**8.32**	**315**	P	**Pn**	**09 00 58.7**	**+0.5**
	baz=125						
J20K	**Nowinta River**	**8.37**	**349**	Pn	**Pn**	**09 00 59.1**	**+0.2**
HDA	**Harding Lake**	**8.56**	**10**		**Pn**	**09 01 03.2**	**+1.7**
NEA2	**Nenana**	**8.60**	**4**		**Pn**	**09 01 03.6**	**+1.6**
M29M	**Somme Creek**	**8.84**	**39**		**Pn**	**09 01 06.2**	**+0.8**
J16K	**Anvik River**	**8.91**	**329**		**Pn**	**09 01 06.5**	**+0.3**
ILAR	**Eielson Array**	**8.92**	**10**	Pn	**Pn**	**09 01 06.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=194,slow=13,SNR=18						
ILAR				Sn	**Sn**	**09 02 42.1**	**-4.7**
	comp=E,0.6nm,0.3s,baz=215,slow=5.1,SNR=8.8						
ILAR				LR	LR	09 04 27.0	
	comp=E,80nm,20.1s,baz=262,slow=36						
	comp=E,1.1nm,0.7s						
MDM	**Murphy Dome**	**9.00**	**6**		**Pn**	**09 01 07.5**	**-0.1**
J26L	**Joseph Creek**	**9.12**	**19**		**Pn**	**09 01 10.5**	**+1.2**
I23K	**Minto, Yukon-K**	**9.14**	**3**	Pn	**Pn**	**09 01 09.5**	**+0.1**
L29M	**L29M**	**9.40**	**36**	Pn	**Pn**	**09 01 14.0**	**+1.0**
M30M	**Minto, Yukon**	**9.52**	**41**		**Pn**	**09 01 15.6**	**+0.9**
P32M	**Atlin**	**9.56**	**61**		**Pn**	**09 01 14.1**	**-1.1**
P32M	**Atlin**	**9.56**	**61**	P	**Pn**	**09 01 14.1**	**-1.1**
	baz=255						
H21K	**Melozitna Rive**	**9.72**	**354**		**Pn**	**09 01 17.7**	**+0.4**
DAWY	**Dawson**	**9.72**	**30**		**Pn**	**09 01 18.2**	**+0.8**
H24K	**Woodor Dome**	**9.90**	**6**		**Pn**	**09 01 21.6**	**+1.8**
K29M	**Barlow Dome**	**10.11**	**34**		**Pn**	**09 01 24.2**	**+1.4**
G21K	**Allakaket**	**10.61**	**353**	Pn	**Pn**	**09 01 30.5**	**+1.0**
DLBC	**Dease Lake**	**11.27**	**69**	Pn	**Pn**	**09 01 36.6**	**-2.0**
	comp=E,0.1nm,0.3s,baz=170,slow=17,SNR=1.7						
DLBC				LR	LR	09 05 21.1	
	comp=E,376nm,18.5s,baz=286,slow=34						
	comp=E,1.8nm,0.8s						
ANM	**Nome**	**11.30**	**325**	Pn	**Pn**	**09 01 40.4**	**+1.5**
E25K	**Arctic Village**	**12.32**	**8**	Pn	**Pn**	**09 01 54.0**	**+1.1**
D25K	**Kavik River**	**13.45**	**6**		**Pn**	**09 02 09.6**	**+1.3**
INK	**Inuvik**	**14.52**	**25**		**Pn**	**09 02 24.1**	**+1.3**
INK	**Inuvik**	**14.52**	**25**	Pn	**Pn**	**09 02 24.7**	**+1.9**
	baz=203,slow=15,SNR=9.4						
INK				LR	LR	09 07 55.6	
	comp=E,143nm,19.3s,baz=358,slow=36						
	comp=E,3.2nm,0.9s						
YKA	**Yellowknife Ar**	**19.17**	**56**	P	**P**	**09 03 20.6**	**-0.3**
	comp=E,0.1nm,0.3s,baz=265,slow=10,SNR=16						
YKA				LR	LR	09 10 28.9	
	comp=E,99nm,20.7s,baz=236,slow=36						
	comp=E,2.3nm,1.0s						
YBH	**Yreka Blue Hor**	**22.94**	**117**	LR	LR	09 10 28.3	
	comp=E,102nm,19.5s,baz=301,slow=31						
NVAR	**Mina Array Bea**	**27.64**	**116**	LR	LR	09 13 16.4	
	comp=E,89nm,20.1s,baz=308,slow=31						
RES	**Resolute Bay**	**28.05**	**28**	LR	LR	09 16 51.2	
	comp=E,72nm,18.7s,baz=20,slow=38						
SEY	**Seymchan**	**28.97**	**307**	LR	LR	09 18 08.0	
	comp=E,186nm,19.3s,baz=306,slow=39						
PDAR	**Pinedale Array**	**29.22**	**100**	P	P	09 04 55.8	-3.7
	comp=E,0.2nm,0.6s,baz=357,slow=4.8,SNR=1.8						
	comp=E,0.2nm,0.6s						
MA2	**Magadan**	**30.66**	**301**	LR	LR	09 19 13.9	
	comp=E,82nm,18.0s,baz=74,slow=39						
PFO	**Pinyon Flats O**	**32.36**	**120**	LR	LR	09 15 43.0	
	comp=E,73nm,19.1s,baz=329,slow=32						
ULM	**Lac du Bonnet**	**32.45**	**77**	LR	LR	09 18 04.1	
	comp=E,70nm,18.7s,baz=290,slow=35						
ANMO	**Albuquerque**	**36.48**	**107**	LR	LR	09 18 06.1	
	comp=E,49nm,20.5s,baz=74,slow=32						
FRB	**Frobisher Bay**	**39.02**	**44**	LR	LR	09 22 34.8	
	comp=E,148nm,18.1s,baz=205,slow=36						
SFJD	**Kangerlussuaq**	**43.63**	**34**	LR	LR	09 23 55.8	
	comp=E,82nm,19.3s,baz=206,slow=34						
SONM	**Songino Array**	**58.33**	**310**	P	**P**	**09 08 52.5**	**-0.1**
	comp=E,0.6nm,0.5s,baz=48,slow=7.8,SNR=3.5						
	comp=E,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**61.43**	**326**	P	**P**	**09 09 14.1**	**+0.6**
	comp=E,0.7nm,0.6s,baz=55,slow=7.8,SNR=2.8						
ZALV				LR	LR	09 36 53.6	
	comp=E,20nm,20.1s,baz=53,slow=37						
	comp=E,0.7nm,0.6s						
FINES	**FINESS Array B**	**62.82**	**2**	P	**P**	**09 09 24.0**	**+1.3**
	comp=E,2.3nm,1.0s,baz=34,slow=8.4,SNR=1.5						
	comp=E,2.3nm,1.0s						
ARU	**Arti**	**65.45**	**343**	LR	LR	09 41 55.7	
	comp=E,40nm,18.1s,baz=268,slow=39						
EKA	**Eskdalemuir Ar**	**65.81**	**20**	P	**P**	**09 09 42.3**	**-0.2**
	comp=E,0.6nm,0.7s,baz=0.0,slow=5.0,SNR=1.7						
	comp=E,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**66.23**	**328**	P	**P**	**09 09 45.8**	**+0.5**
	comp=E,0.2nm,0.6s,baz=55,slow=8.0,SNR=1.9						
	comp=E,0.2nm,0.6s						
BVAR	**Borovoye Array**	**66.24**	**334**	P	**P**	**09 09 45.4**	**0.0**
	comp=E,0.5nm,0.5s,baz=14,slow=3.0,SNR=1.8						
	comp=E,0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.43**	**324**	P	**P**	**09 09 59.8**	**+0.5**
	comp=E,0.3nm,0.4s,baz=35,slow=6.3,SNR=4.7						
MKAR				LR	LR	09 45 39.2	
	comp=E,33nm,18.5s,baz=180,slow=41						
	comp=E,0.3nm,0.4s						
AKASG	**Malin Array Be**	**73.62**	**0**	P	**P**	**09 10 31.0**	**+0.3**
	comp=E,0.3nm,0.4s,baz=359,slow=6.4,SNR=1.2						
	comp=E,0.3nm,0.4s						
AAK	**Ala-Archa**	**74.62**	**327**	LR	LR	09 45 54.6	
	comp=E,36nm,19.4s,baz=32,slow=38						
GERES	**GERESS Array B**	**74.63**	**11**	P	**P**	**09 10 37.6**	**+0.8**
	comp=E,0.4nm,0.5s,baz=17,slow=7.2,SNR=4.4						
	comp=E,0.4nm,0.5s						
KBZ	**Khabaz**	**79.97**	**350**	P	**P**	**09 11 05.9**	**-0.7**
	comp=E,1.9nm,1.0s,baz=8.2,slow=13,SNR=2.2						
	comp=E,1.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**85.86**	**297**	LR	LR	09 55 10.6	
	comp=E,17nm,18.3s,baz=95,slow=39						
EIL	**Elat**	**94.51**	**355**	LR	LR	10 02 42.5	
	comp=E,23nm,18.0s,baz=246,slow=40						

IDC 26 09:17:36.4±1.6,54°.68N×83°.85E,h0km,mbtmp3.0/3, ML2.4/3,Error ellipse: s-maj=14.9km s-min=9.9km az=18.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**142**	I	I	09 24 16.6	
	0.1nm,1.3s,baz=327,slow=223,SNR=0.9						
ZALV	**Zalesovo Beam**	**0.93**	**142**	Pg	Pg	09 17 53.9	-0.2
	2.4nm,0.3s,baz=326,slow=15,SNR=24						
ZALV				Lg	Lg	09 18 08.1	
	10nm,0.3s,baz=323,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**5.20**	**221**	Pn	Pn	09 18 56.3	+1.0
	baz=42,slow=13,SNR=4.1						
KURBB				Lg	Lg	09 20 19.1	
	0.1nm,0.3s,baz=43,slow=30,SNR=5.7						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.96**	**188**	Pn	Pn	09 19 33.5	+0.3
	0.1nm,0.3s,baz=11,slow=12,SNR=7.1						
MKAR				Sn	Sn	09 21 00.6	-3.4
	baz=13,slow=22,SNR=1.6						
MKAR				Lg	Lg	09 21 47.5	
	baz=8.7,slow=30,SNR=2.4						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**8.13**	**264**	Pn	Pn	09 19 34.3	-1.3
	0.1nm,0.3s,baz=66,slow=14,SNR=6.2						
	0.8nm,0.4s						

*IDC **26** 09:19:18.1±1.2,3°.26S×130°.64E,h0km,mb3.9/7, mbtmp3.8/8,ML3.8/1,MS3.8/4,Error ellipse: s-maj=73.1km s-min=19.2km az=70.0*
*DJA **26** 09:19:22.9±0.4,3°.5S±5°×13°.1E±°,h10km,M3.6/7,MLv3.6/7*
*NEIC **26** 09:19:28.2±2.9,3°.23S±0°.05×130°.79E±0°.09,h75km±10km, mb4.2/12,Error ellipse: s-maj=14.0km s-min=6.4km az=103.0*

ISC 26 09:19:25.1±0.7,3°.27S±0°.07×130°.75E±0°.09,h50km,n39, σ1°44/31,mb4.0/10,MS4.1/3,2C,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.50**	**214**	P	**Pn**	**09 19 50.3**	**+0.7**
FAKI	**Fak Fak**	**1.54**	**77**		**Pn**	**09 19 51.7**	**+1.6**
FAKI	**Fak Fak**	**1.54**	**77**	P	**Pn**	**09 19 52.5**	**+2.4**
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.71**	**2**	Pg	Pb	09 23 27.2	-0.2
	15μm,0.3s,baz=216,slow=8.1,SNR=182						
HNR				Lg	Lg	09 23 34.7	
	58μm,0.3s,baz=242,slow=22,SNR=28						
WRA	**Warramunga Arr**	**26.52**	**245**	P	P	09 28 51.6	-0.1
	0.8nm,0.7s,baz=73,slow=10,SNR=4.9						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**28.22**	**238**	P	P	09 29 07.0	-0.1
	0.4nm,0.7s,baz=60,slow=11,SNR=2.8						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**84.56**	**20**	P	P	09 35 46.2	-0.8
	0.3nm,0.4s,baz=241,slow=4.9,SNR=6.4						
	0.3nm,0.4s						

IDC 26 09:23:21.4±2.9, 53°.68N×86°.95E, h0km, mbtmp2.4/2, ML2.3/1, Error ellipse: s-maj=26.5km s-min=15.7km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**283**	I	I	09 30 30.0	
	baz=99,slow=350,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.29**	**283**	Pg	Pg	09 23 45.2	-0.9
	0.5nm,0.3s,baz=102,slow=17,SNR=8.1						
ZALV				Lg	Lg	09 24 03.3	
	0.6nm,0.3s,baz=106,slow=29,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.02**	**243**	Pn	Pn	09 24 52.6	+1.0
	0.1nm,0.3s,baz=57,slow=13,SNR=1.2						
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn	09 25 13.3	+1.2
	0.1nm,0.3s,baz=24,slow=14,SNR=1.8						
	0.1nm,0.4s						

*DJA **26** 09:32:54.0±0.6, 3°.S±4°.×13°.0E±°, h24km±6km, M3.2/6, MLv3.2/6*
*IDC **26** 09:32:59.0±2.1, 3°.33S×130°.20E, h0km, mb3.4/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=111.7km s-min=28.2km az=70.0*

ISC 26 09:32:55.4±1.4, 3°.2S±0°.1×130°.23E±0°.06, h25km, n9, σ3°.36/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.36**	**194**	P	**Pn**	**09 33 19.8**	**+0.9**
KRAI	**Karang Ratu**	**1.83**	**266**	P	**Pn**	**09 33 24.9**	**-0.4**
FAKI	**Fak Fak**	**2.04**	**83**	P	**Pn**	**09 33 27.5**	**-0.7**
FAKI				S	**Sn**	**09 33 53.5**	**+0.6**
SUI	**Sorong**	**2.53**	**24**	P	Pn	09 33 29.7	-5.2
SWI	**Sorong**	**2.53**	**24**	P	Pn	09 33 29.5	-5.4
NLAI	**Namlea**	**3.12**	**269**	P	**Pn**	**09 33 42.4**	**-0.7**
WRA	**Warramunga Arr**	**17.13**	**167**	Pn	**P**	**09 36 58.2**	**+3.4**
	0.1nm,0.3s,baz=347,slow=11,SNR=7.2						
WRA				Sn	**Sn**	**09 39 57.6**	**-5.6**
	0.1nm,0.3s,baz=350,slow=20,SNR=2.0						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**20.67**	**170**	P	Pn	09 37 39.2	+3.2
	0.6nm,0.4s,baz=355,slow=8.1,SNR=22						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**65.20**	**326**	P	P	09 43 43.0	+8.3
	0.3nm,0.4s,baz=109,slow=7.4,SNR=6.5						
	0.3nm,0.4s						

IDC 26 09:43:51.8±2.9, 53°.92N×86°.79E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=24.7km s-min=14.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**272**	I	I	09 50 09.1	
	0.1nm,1.0s,baz=90,slow=346,SNR=25						
ZALV	**Zalesovo Beam**	**1.17**	**272**	Pg	Pg	09 44 13.6	-0.5
	0.8nm,0.3s,baz=92,slow=16,SNR=11						
ZALV				Lg	Lg	09 44 29.9	
	1.2nm,0.3s,baz=92,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**6.05**	**240**	Pn	Pn	09 45 24.0	+1.6
	0.1nm,0.3s,baz=55,slow=14,SNR=2.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**204**	Pn	Pn	09 45 45.7	+0.7
	0.1nm,0.3s,baz=24,slow=14,SNR=5.7						
	0.1nm,0.2s						

IDC 26 09:45:33.9±3.4, 54°.17N×87°.10E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=31.8km s-min=19.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**262**	I	I	09 53 26.9	
	0.1nm,1.2s,baz=79,slow=347,SNR=6.3						
ZALV	**Zalesovo Beam**	**1.36**	**262**	Pg	Pg	09 45 59.6	-0.5
	0.5nm,0.3s,baz=81,slow=12,SNR=5.2						
ZALV				Lg	Lg	09 46 17.8	
	0.3nm,0.3s,baz=82,slow=26,SNR=2.0						
KURBB	**Kurchatov Arra**	**6.33**	**239**	Pn	Pn	09 47 08.7	+0.3
	baz=57,slow=13,SNR=5.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.99**	**204**	Pn	Pn	09 47 32.6	+1.3
	baz=23,slow=14,SNR=2.6						
	0.1nm,0.6s						

IDC 26 09:45:58.3±1.6, 5°.31S×128°.39E, h0km, mb4.0/3, mbtmp3.9/5, ML3.6/2, Error ellipse: s-maj=127.9km s-min=26.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.65**	**159**	Pn	Pn	09 49 40.3	-0.1
	0.2nm,0.3s,baz=338,slow=12,SNR=6.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.01**	**164**	P	P	09 50 21.7	-0.1
	0.5nm,0.3s,baz=350,slow=11,SNR=19						
	2.4nm,0.6s						
MKAR	**Makanchi Array**	**65.95**	**327**	P	P	09 56 45.3	-1.1
	0.9nm,0.4s,baz=114,slow=7.9,SNR=25						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**70.25**	**329**	P	P	09 57 13.3	0.0
	0.9nm,0.5s,baz=123,slow=6.9,SNR=6.2						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**75.79**	**328**	P	P	09 57 48.1	+2.0
	0.5nm,0.5s,baz=113,slow=9.8,SNR=3.8						
	0.5nm,0.5s						

IDC 26 09:46:13.7±3.6, 54°.37N×86°.97E, h0km, mbtmp2.6/2, ML2.4/1, Error ellipse: s-maj=32.5km s-min=19.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**252**	I	I	09 53 44.4	
	0.1nm,0.8s,baz=71,slow=346,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.33**	**252**	Pg	Pg	09 46 39.3	+0.1
	0.8nm,0.3s,baz=68,slow=19,SNR=4.1						
ZALV				Lg	Lg	09 46 56.2	
	0.4nm,0.3s,baz=69,slow=32,SNR=1.6						
KURBB	**Kurchatov Arra**	**6.37**	**237**	Pn	Pn	09 47 49.7	+1.0
	0.4nm,0.6s,baz=55,slow=14,SNR=2.5						
MKAR	**Makanchi Array**	**8.15**	**203**	Pn	Pn	09 48 13.5	+0.4
	baz=20,slow=12,SNR=2.1						
	0.3nm,0.8s						

*MEX **26** 09:46:39.6±0.7, 17°.18N×94°.36W, h146km±5km, MD4.2*
*IDC **26** 09:46:39.5±1.6, 17°.41N×95°.02W, h138km±25km, mb2.9/2, mbtmp3.2/3, Error ellipse: s-maj=73.6km s-min=14.9km az=159.0*

ISC 26 09:46:36.5±0.9, 17°.16N±0°.05×94°.38W±0°.04, h155km±6km, n29, σ2°.00/54, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UXUV	**UXUV**	**0.27**	**55**	*i* P	**Pn**	**09 46 58.6**	**+0.9**
UXUV				*i* S	**Sn**	**09 47 12.3**	**-1.4**
CMIG	**Matias Romero**	**0.49**	**262**	P	**Pn**	**09 46 59.4**	**+1.0**
	287nm,0.4s,baz=21,slow=0.9,SNR=1564						
CMIG				S	**Sn**	**09 47 14.7**	**-0.3**
	281nm,0.5s,baz=338,slow=22,SNR=20						
CMIG	**Matias Romero**	**0.49**	**262**	*i* P	**Pn**	**09 46 59.6**	**+1.1**
CMIG				*i* S	**Sn**	**09 47 14.7**	**-0.3**
NILT	**Santiago Nilte**	**0.63**	**201**	*i* P	**Pn**	**09 47 00.5**	**+1.3**
NILT				*e*S	**Sn**	**09 47 17.2**	**+0.7**
TUIG	**Tuzandepetl**	**0.87**	**357**	*e*P	**Pn**	**09 47 01.9**	**+1.1**
TUIG				*e*S	**Sn**	**09 47 17.6**	**-1.8**
CARR	**Arriaga**	**1.01**	**154**	*e*P	**Pn**	**09 47 03.3**	**+1.4**
CARR				*e*S	**Sn**	**09 47 21.1**	**-0.2**
TGIG		**1.26**	**107**	*e*P	**Pn**	**09 47 04.9**	**+0.7**
TGIG				*e*S	**Sn**	**09 47 23.8**	**-1.5**
NEUV	**Arroyo Zacate**	**1.47**	**292**	*e*P	**Pn**	**09 47 07.3**	**+1.2**
NEUV				*i* S	**Sn**	**09 47 28.5**	**-0.4**
PMUV	**Sontecomapan**	**1.55**	**333**	*e*P	**Pn**	**09 47 08.0**	**+0.9**
PMUV				*e*S	**Sn**	**09 47 27.8**	**-2.8**
PCIG		**1.82**	**142**	*e*P	**Pn**	**09 47 11.3**	**+1.3**
PCIG				*i* S	**Sn**	**09 47 35.1**	**-0.6**
HUIG	**Huatulco**	**2.16**	**230**	*i* P	**Pn**	**09 47 13.4**	**-0.4**
HUIG				*e*S	**Sn**	**09 47 42.6**	**0.0**
VHO	**Vista Hermosa**	**2.25**	**268**	*e*P	**Pn**	**09 47 17.5**	**+2.4**
VHO				*e*S	**Sn**	**09 47 47.1**	**+2.2**
CCIG	**Comitan**	**2.32**	**112**	*e*P	**Pn**	**09 47 16.8**	**+0.9**
CCIG				*e*S	**Sn**	**09 47 44.6**	**-1.6**
TOIG	**Toxpalan**	**2.73**	**290**	*e*P	**Pn**	**09 47 23.3**	**+2.5**
TOIG				*i* S	**Sn**	**09 47 55.9**	**+0.9**
PEIG	**Puerto Escondi**	**2.89**	**247**	*e*P	**Pn**	**09 47 22.6**	**-0.2**
PEIG				*e*S	**Sn**	**09 47 52.6**	**-6.0**
YOIG	**Yosondua**	**3.04**	**265**	*e*P	**Pn**	**09 47 26.6**	**+1.7**
YOIG				*e*S	**Sn**	**09 47 59.6**	**-2.8**
TPIG	**Tehuac#an**	**3.11**	**294**	*e*P	**Pn**	**09 47 26.9**	**+1.2**
TPIG				*e*S	**Sn**	**09 48 04.6**	**+1.0**
JAUV	**Jalcomulco**	**3.18**	**314**	*i* P	**Pn**	**09 47 27.5**	**+1.0**
JAUV				*e*S	**Sn**	**09 48 04.4**	**-0.8**
TXIG	**Tlaxiaco**	**3.24**	**272**	*e*P	**Pn**	**09 47 29.8**	**+2.4**
TXIG				*e*S	**Sn**	**09 48 04.6**	**-2.2**
HLIG	**Huajuapan de L**	**3.33**	**282**	*e*P	**Pn**	**09 47 31.4**	**+2.8**
HLIG				*e*S	**Sn**	**09 48 08.5**	**-0.3**
FTIG	**Fresnillo de T**	**3.66**	**282**	*e*P	**Pn**	**09 47 35.8**	**+3.1**
FTIG				*e*S	**Sn**	**09 48 16.2**	**+0.1**
PNIG	**Pinotepa**	**3.67**	**259**	*e*P	**Pn**	**09 47 33.2**	**+0.5**
PNIG				*e*S	**Sn**	**09 48 15.7**	**-0.6**
TLIG	**Tlapa**	**4.02**	**276**	*e*P	**Pn**	**09 47 39.9**	**+2.6**
TLIG				*e*S	**Sn**	**09 48 23.8**	**-0.8**
MGIG	**Malinaltepec**	**4.07**	**272**	*e*P	**Pn**	**09 47 38.9**	**+0.9**
MGIG				*e*S	**Sn**	**09 48 23.7**	**-2.1**
PPM	**Popocatepetl**	**4.46**	**296**	*e*P	Pn	09 47 48.3	+4.9
PPM				*e*S	**Sn**	**09 48 29.2**	**-6.3**
CRIG	**Cruz Grande**	**4.57**	**265**	*e*P	**Pn**	**09 47 45.0**	**+0.7**
CRIG				*e*S	**Sn**	**09 48 35.9**	**-1.3**
TXAR	**Lajitas Array**	**14.81**	**327**	P	**Pn**	**09 49 55.4**	**-3.1**
	0.2nm,0.9s,baz=147,slow=15,SNR=1.7						
YKA	**Yellowknife Ar**	**47.45**	**347**	P	**P**	**09 54 57.0**	**+1.7**
	0.8nm,0.8s,baz=151,slow=7.4,SNR=10						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**59.05**	**337**	P	**P**	**09 56 21.2**	**+1.3**
	0.2nm,0.8s,baz=130,slow=8.3,SNR=2.2						
	0.2nm,0.8s						

*HEL **26** 09:49:36.7±0.3, 67°.78N×20°.06E, h0km, ML1.5, Explosion*
*UPP **26** 09:49:37.3±0.4, 67°.82N×20°.22E, h1km±4km, ML2.6, Confirmed Induced event*

ISC 26 09:49:36.5±0.8, 67°.74N±0°.03×20°.27E±0°.03, h0km, n28, σ1°.05/43, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.21**	**7**	P	**Pg**	**09 49 40.1**	**-0.5**
KUA				S	**Sg**	**09 49 42.2**	**-1.2**
RATU	**Laukkuluspa**	**0.27**	**288**	P	**Pg**	**09 49 41.8**	**+0.2**
RATU				S	**Sg**	**09 49 45.2**	**+0.1**
DUNU	**Dundret**	**0.63**	**169**	P	**Pb**	**09 49 50.5**	**+0.1**
LANU	**Lannavaara**	**0.72**	**64**	PG	**Pg**	**09 49 50.4**	**+0.1**
LANU				SG	**Sg**	**09 50 00.3**	**+0.6**
LANU	**Lannavaara**	**0.72**	**64**	P	**Pg**	**09 49 50.6**	**+0.3**
MASU	**Masugnsbyn**	**0.72**	**113**	P	**Pb**	**09 49 51.8**	**-0.2**
SALU	**Saltoluokta**	**0.77**	**243**	P	**Pb**	**09 49 52.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.28**	**9**	PN	**Pg**	**09 50 01.0**	**0.0**
KIF				MSG		09 50 16.1	
	comp=Z,8.5nm,0.2s						
KIF				SN	**Sn**	**09 50 21.0**	**+1.5**
PAJU	**Pajala**	**1.32**	**122**	PG	**Pn**	**09 50 02.1**	**0.0**
	baz=303						
PAJU				SG	**Sn**	**09 50 20.8**	**+0.5**
PAJU	**Pajala**	**1.32**	**122**	P	**Pn**	**09 50 02.4**	**+0.3**
HEF	**Hetta**	**1.44**	**61**	*e*P	**Pn**	**09 50 03.1**	**-0.7**
HEF	**Hetta**	**1.44**	**61**	PG	**Pn**	**09 50 03.1**	**-0.7**
HEF				MSG		09 50 21.5	
	comp=Z,2.8nm,0.2s						
HEF				SG	**Sg**	**09 50 22.2**	**-0.5**
KLF	**Kolari**	**1.51**	**108**	PG	**Pg**	**09 50 05.5**	**+0.1**
KLF				MSG		09 50 24.6	
	comp=Z,3.3nm,0.2s						
KLF				SG	**Sn**	**09 50 26.9**	**+1.8**
KTK1	**Kautokeino**	**1.69**	**39**	*e*P	**Pn**	**09 50 06.8**	**-0.4**
KTK1	**Kautokeino**	**1.69**	**39**	PG	**Pb**	**09 50 07.9**	**-0.4**
KTK1				SN	**Sb**	**09 50 30.0**	**-0.1**
TRO	**Tromso**	**1.96**	**346**	PG	**Pn**	**09 50 11.3**	**+0.4**
KALU	**Kalix**	**2.25**	**146**	PG	**Pb**	**09 50 17.5**	**-0.4**
	baz=327						
KALU				SG	**Sg**	**09 50 48.3**	**-0.4**
TOF	**Tornio**	**2.31**	**134**	PB	**Pb**	**09 50 18.7**	**-0.3**
TOF				MSG		09 50 47.4	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sg**	**09 50 50.7**	**+0.1**
SGF	**Sodankyl**	**2.42**	**94**	PB	**Pb**	**09 50 20.3**	**-0.4**
SGF				SB	**Sb**	**09 50 52.2**	**+1.2**
RNF	**Rovaniemi**	**2.51**	**114**	PB	**Pb**	**09 50 21.8**	**-0.6**
RNF				SG	**Sg**	**09 50 55.9**	**-1.1**
KMNF	**Kaamanen**	**2.86**	**57**	PB	**Pb**	**09 50 26.4**	**-1.8**
KMNF				SB	**Sn**	**09 51 00.0**	**+1.8**
RAJF	**Raja-Jooseppi**	**3.10**	**73**	SB	**Sb**	**09 51 10.8**	**0.0**
RANF	**Ranua**	**3.10**	**121**	PG	**Pg**	**09 50 34.9**	**-1.0**
KEV	**Kevo**	**3.18**	**47**	SN	**Sn**	**09 51 07.6**	**+1.4**
BURU	**Burvik**	**3.20**	**171**	PB	**Pb**	**09 50 31.7**	**-2.5**
	baz=354						
BURU				SB	**Sb**	**09 51 12.7**	**-1.0**
OLKF	**Oulanka, Finla**	**3.85**	**107**	PB	**Pb**	**09 50 43.0**	**-2.3**
MSF	**Maaselka**	**3.92**	**114**	PG	**Pb**	**09 50 46.2**	**-0.3**
KU6	**Riekki**	**4.17**	**110**	PN	**Pn**	**09 50 43.9**	**+2.7**
KU6				SG	**Sg**	**09 51 49.0**	**-1.2**

*IDC **26** 10:02:47.2±2.4, 54°.53N×167°.02E, h0km, mb3.1/3, mbtmp3.2/4, ML2.6/1, Error ellipse: s-maj=113.8km s-min=25.9km az=161.0*
*KRSC **26** 10:02:49.2±1.1, 55°.39N×166°.35E, h36km±5km, Ml3.5*

ISC 26 10:02:51.5±1.2, 55°.44N±0°.08×166°.36E±0°.09, h20km, n15, σ1°.08/21, mb3.2/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**224**	*e*P	**Pb**	**10 02 57.0**	**-1.5**
BKI				*e*S	**Sb**	**10 03 03.2**	**0.0**
SMKR	**Semkarok**	**2.98**	**295**	*e*P	**Pn**	**10 03 36.8**	**-0.9**
SMKR				*e*S	**Sn**	**10 04 13.3**	**+0.6**
TUMD	**Tumrok D**	**3.42**	**269**	*e*P	**Pn**	**10 03 43.7**	**+0.1**
TUMD				*e*S	**Sn**	**10 04 23.7**	**+0.3**
KMNR	**Kamenistaya**	**3.49**	**278**	*e*P	**Pn**	**10 03 45.1**	**+0.4**
KMNR				*e*S	**Sn**	**10 04 26.0**	**+0.6**
SMAR	**Somma**	**4.93**	**247**	*e*P	**Pn**	**10 04 04.9**	**+0.3**
AVH	**Avacha**	**4.96**	**247**	*e*P	**Pn**	**10 04 05.9**	**+1.0**
KRX	**Arik**	**4.96**	**248**	*e*P	**Pn**	**10 04 05.4**	**+0.4**
KRX				*e*S	**Sn**	**10 05 02.8**	**+1.0**
KOK	**Koryaka**	**5.00**	**248**	*e*P	**Pn**	**10 04 06.6**	**+1.1**
PETK	**Petropavlovsk-**	**5.58**	**249**	Pn	**Pn**	**10 04 13.4**	**0.0**
	0.9nm,0.3s,baz=95,slow=18,SNR=12						
PETK				Sn	**Sn**	**10 05 18.5**	**+1.6**
	0.4nm,0.3s,baz=90,slow=22,SNR=1.6						
	4.9nm,0.6s						
MTVR	**Mutnovka**	**5.66**	**242**	*e*P	**Pn**	**10 04 14.7**	**+0.1**
MTVR				*e*S	**Sn**	**10 05 17.2**	**-1.7**
GRL	**Gorelyy**	**5.68**	**243**	*e*P	**Pn**	**10 04 16.3**	**+1.6**
ASAK	**Asacha**	**5.86**	**242**	*e*P	**Pn**	**10 04 18.4**	**+1.2**
ILAR	**Eielson Array**	**24.53**	**49**	P	**P**	**10 08 11.1**	**+1.8**
	0.6nm,0.9s,baz=243,slow=8.0,SNR=3.6						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**38.91**	**47**	P	P	10 10 15.8	+0.6
	0.1nm,0.5s,baz=294,slow=8.5,SNR=2.2						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**66.38**	**72**	P	**P**	**10 13 38.1**	**-0.8**
	0.2nm,0.7s,baz=297,slow=4.0,SNR=2.0						
	0.2nm,0.7s						

*NNC **26** 10:03:28.6±1.4, 51°.63N×75°.39E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=22.4km s-min=9.5km az=23.0, Suspected Mining explosion.*
*IDC **26** 10:03:30.5±0.9, 51°.63N×75°.37E, h0km, mbtmp2.6/4, ML1.9/4, Error ellipse: s-maj=35.0km s-min=7.4km az=30.0*

ISC 26 10:03:29.7±1.1, 51°.56N±0°.09×75°.31E±0°.07, h0km, n12, σ1°.04/13, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.24**	**114**	⇓Pg	**Pb**	**10 04 09.8**	**-1.2**
	3.2nm,0.5s						
KURBB				⇑Lg	Lg	10 04 39.8	
	25nm,0.6s						
KURBB	**Kurchatov Arra**	**2.24**	**114**	Pn	**Pn**	**10 04 08.3**	**+0.4**
	0.4nm,0.3s,baz=282,slow=17,SNR=40						
KURBB				Lg	Lg	10 04 39.6	
	0.7nm,0.3s,baz=311,slow=34,SNR=16						
	1.8nm,0.5s						
KURK	**Kurchatov**	**2.25**	**111**	⇑Pg	**Pn**	**10 04 08.2**	**+0.1**
	2.0nm,0.5s						
KURK				⇑Lg	Lg	10 04 36.6	
	9.1nm,0.5s						
BVA0	**Borovoye Array**	**3.36**	**298**	⇑Pg	**Pb**	**10 04 29.6**	**-0.5**
	1.9nm,0.7s,baz=113,slow=16,SNR=8.7						
BVA0				Lg	Lg	10 05 14.8	
	6.1nm,0.5s,baz=119,slow=27,SNR=12						
BVAR	**Borovoye Array**	**3.36**	**298**	Pn	**Pn**	**10 04 25.1**	**+1.7**
	baz=102,slow=13,SNR=4.2						
BVAR				Pg	**Pb**	**10 04 29.3**	**-0.8**
	0.1nm,0.3s,baz=120,slow=15,SNR=8.4						
BVAR				Lg	Lg	10 05 15.4	
	0.4nm,0.3s,baz=117,slow=25,SNR=18						
	1.5nm,0.6s						
BRVK	**Borovoye**	**3.43**	**298**	⇑Pg	**Pb**	**10 04 30.9**	**-0.4**
	2.8nm,0.7s						
BRVK				⇓Lg	Lg	10 05 15.5	
	9.6nm,0.7s						
OTUK	**Ortayu**	**3.84**	**211**	⇑Pg	**Pg**	**10 04 42.9**	**-0.4**
	3.5nm,1.2s						
OTUK				⇓Lg	Lg	10 05 35.3	
	7.1nm,1.4s						
I46RU	**ZALESOVO INFRA**	**6.25**	**64**	I	I	10 44 40.0	
	baz=248,slow=347,SNR=3.0						
ZALV	**Zalesovo Beam**	**6.25**	**64**	Pn	**Pn**	**10 05 02.7**	**-0.3**
	0.2nm,0.3s,baz=259,slow=13,SNR=6.3						
	0.8nm,0.4s						
MAKZ	**Makanchi**	**6.46**	**135**	⇑Lg	Lg	10 06 52.3	
	5.5nm,1.1s						
MK31	**Makanchi Array**	**6.61**	**134**	Pn	**Pn**	**10 05 09.3**	**+1.3**
	0.5nm,0.7s,baz=309,slow=12,SNR=4.3						
MK31				⇑Sn	**Sn**	**10 06 24.1**	**0.0**
	0.6nm,0.6s						
MK31				⇓Lg	Lg	10 06 57.7	
	1.8nm,0.6s,baz=322,slow=26,SNR=7.3						
MKAR	**Makanchi Array**	**6.61**	**134**	Pn	**Pn**	**10 05 08.1**	**0.0**
	0.1nm,0.3s,baz=302,slow=13,SNR=2.8						
MKAR				Sn	**Sn**	**10 06 26.0**	**+1.9**
	0.2nm,0.3s,baz=314,slow=23,SNR=5.8						
MKAR				Lg	Lg	10 06 58.5	
	0.3nm,0.3s,baz=321,slow=27,SNR=11						
	0.2nm,0.4s						

*TEH **26** 10:04:08.8, 33°.57N×46°.20E, h17km, ML2.5*
*ISN **26** 10:04:08.5±0.3, 33°.55N×46°.12E, h25km, ML2.5*

ISC 26 10:04:08.2±1.5, 33°.57N±0°.07×46°.1E±0°.1, h19km±4km, n5, σ0°.13/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.09**	**54**	Pg	**Pg**	**10 04 12.2**	**+0.1**
ILBA				Sg	**Sg**	**10 04 14.7**	**0.0**
IBDR	**Badra**	**0.49**	**199**	*e*Pg	**Pg**	**10 04 18.0**	**-0.1**
	baz=20						
IBDR				*e*Sg	**Sb**	**10 04 25.0**	**+0.2**
IBDR				AML	AML	10 04 38.7	
	comp=N,97nm,0.4s						
IBDR				AML	AML	10 04 40.0	
	comp=E,101nm,0.5s						
IGHG	**Ghaleghazi**	**0.84**	**26**	Pg	**Pg**	**10 04 24.7**	**0.0**
IDHR	**Dehrash**	**1.15**	**11**	Pg	**Pg**	**10 04 30.5**	**0.0**
IKFM	**Kafar-mosalman**	**1.44**	**91**	Pg	**Pb**	**10 04 34.3**	**-0.1**

*NEIC **26** 10:12:48.6±1.6, 7°.09S±0°.06×105°.80E±0°.06, h41km±7km, mb4.7/45, Error ellipse: s-maj=9.7km s-min=8.4km az=143.0*
*DJA **26** 10:12:50.1±0.5, 7°.S±2°.×10°.6E±°, h30km±4km, M5.1/20, mB6.1/4, mb5.0/12, MLv5.0/20, Mw(mB)5.7/4, MwMwp6.1/1, Mwp6.1/1*
*IDC **26** 10:12:52.9±1.9, 6°.78S×106°.08E, h76km±15km, mb4.4/25, mbtmp4.7/25, MS3.4/5, Error ellipse: s-maj=22.8km s-min=10.3km az=45.0*

ISC 26 10:12:49.1±0.7, 7°.15S±0°.04×105°.89E±0°.04, h51km±6km, n179, σ1°.59/177, mb4.7/46, MS3.3/4, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.68**	**78**	P	**Pn**	**10 13 01.9**	**-0.7**
SKJI				S	**Sn**	**10 13 10.1**	**-2.3**
DBJI	**Dramaga**	**1.04**	**55**	P	**Pn**	**10 13 07.2**	**-0.2**
DBJI				S	**Sn**	**10 13 19.9**	**-1.1**
SBJI	**Serang**	**1.05**	**13**	P	**Pn**	**10 13 08.6**	**+1.0**
SBJI				S	**Sn**	**10 13 21.4**	**+0.2**
CBJI	**Citeko**	**1.20**	**53**	P	**Pn**	**10 13 08.6**	**-1.0**
TNG	**Tangerang**	**1.23**	**38**	P	**Pn**	**10 13 10.3**	**+0.3**
TNG				S	**Sn**	**10 13 25.2**	**-0.3**
CNJI	**Cibinong**	**1.24**	**97**	P	**Pn**	**10 13 09.2**	**-0.9**
CNJI				S	**Sn**	**10 13 22.3**	**-3.5**
LEM	**Lembang**	**1.75**	**79**	P	**Pn**	**10 13 17.1**	**0.0**
	2μm,0.5s,baz=263,slow=3.6,SNR=118						
LEM				S	**Sn**	**10 13 38.3**	**0.0**
	4μm,0.5s,baz=352,slow=21

comp=Z,180nm,19.3s,baz=253,slow=40
KKM Kota Kinabalu 16.67 38 P 10 16 40.5 -0.7
GIRL Giralia 17.38 153 P **Pn** **10 16 48.6 +0.5**
baz=17,SNR=7.6
GIRL Giralia 17.38 153 P **P** **10 16 49.0 +0.2**
LUWI Luwuk 17.89 71 P **P** **10 16 59.9 +5.3**
SOEI Soe 18.36 99 P **Pn** **10 17 00.4 +0.1**
SOEI IAmb IAmb 10 17 21.7
comp=Z,62nm,1.0s
SOEI Soe 18.36 99 P **Pn** **10 17 00.5 +0.1**
PSA00 Pilbara Seismi 19.68 138 P **Pn** **10 17 16.7 +0.7**
PSA00 IAmb IAmb 10 17 17.6
comp=Z,21nm,0.8s
PSA00 Pilbara Seismi 19.68 138 P **Pn** **10 17 17.0 +1.0**
FITZ Fitzroy Crossi 22.11 121 P **P** **10 17 41.2 +0.9**
baz=22,SNR=8.7
FITZ Fitzroy Crossi 22.11 121 P **P** **10 17 41.3 +0.9**
FITZ Fitzroy Crossi 22.11 121 P **P** **10 17 41.2 +0.9**
MEEK Meekatharra 22.85 149 P **P** **10 17 49.2 +0.9**
baz=23,SNR=4.4
MEEK Meekatharra 22.85 149 P **P** **10 17 51.9 +3.6**
KNRA Kununurra 23.95 113 P **P** **10 17 59.1 +0.2**
baz=24,SNR=22
KNRA Kununurra 23.95 113 P **P** **10 17 59.2 +0.4**
KNRA Kununurra 23.95 113 P **P** **10 17 59.1 +0.2**
MTN Manton Dam 25.48 105 P **P** **10 18 13.2 +0.3**
baz=25,SNR=3.5
MTN Manton Dam 25.48 105 P **P** **10 18 13.1 +0.2**
SWI Sorong 26.06 77 P **P** **10 18 18.1 0.0**
SIJI Sorong 26.06 77 P **P** **10 18 17.6 -0.5**
CMAR Chiang Mai Arr 26.35 345 P **P** **10 18 18.1 -2.5**
comp=Z,1.9nm,0.4s,baz=179,slow=8.8,SNR=7.5
CMAR LR LR 10 28 49.1
comp=Z,74nm,19.9s,baz=175,slow=37
comp=Z,1.9nm,0.4s
KDU Kakadu 26.75 104 P **P** **10 18 23.2 -1.1**
baz=27,SNR=4.7
NWAO Narrogin (SRO) 27.73 159 P **P** **10 18 31.1 -1.8**
NWAO IAmb IAmb 10 18 59.0
comp=Z,39nm,1.4s
NWAO Narrogin (SRO) 27.73 159 P **P** **10 18 34.9 +2.0**
NWAO Narrogin (SRO) 27.73 159 LR LR 10 28 22.2
comp=Z,84nm,20.8s,baz=18,slow=33
WRKA Warakurna 27.84 132 P **P** **10 18 34.5 +0.4**
baz=28,SNR=14
WRKA Warakurna 27.84 132 P **P** **10 18 35.5 +1.4**
KMBL Kambalda 28.35 150 P **P** **10 18 39.5 +1.0**
baz=28,SNR=17
KMBL Kambalda 28.35 150 P **P** **10 18 40.3 +1.8**
H01W3 Cape Leeuwin H 28.62 166 T T 10 49 12.7
baz=345,slow=76,SNR=47
H01W1 Cape Leeuwin H 28.64 166 T T 10 49 12.2
baz=345,slow=76,SNR=30
H01W2 Cape Leeuwin H 28.64 166 T T 10 49 11.6
baz=345,slow=76,SNR=25
WB0 Warramunga Arr 30.36 117 P **P** **10 18 57.2 +0.8**
WB0 IAmb IAmb 10 18 57.9
comp=Z,18nm,0.8s
WRA Warramunga Arr 30.38 118 P **P** **10 18 57.0 +0.5**
WRA Warramunga Arr 30.38 118 P **P** **10 18 57.1 +0.5**
comp=Z,16nm,0.8s,baz=292,slow=11,SNR=112
WRA ScP **ScP** **10 25 30.9 -3.2**
comp=Z,1.0nm,1.0s,baz=288,slow=2.4,SNR=3.2
comp=Z,16nm,0.8s
WRAB Tennant Creek 30.38 118 P **P** **10 18 57.4 +0.8**
WB2 Warramunga Arr 30.39 118 P **P** **10 18 57.3 +0.6**
WR0 Warramunga Arr 30.56 117 P **P** **10 18 59.0 +0.8**
ASAR Alice Springs 31.50 124 P **P** **10 19 07.5 +1.0**
comp=Z,2.4nm,0.3s,baz=303,slow=8.1,SNR=174
ASAR ScP **ScP** **10 25 35.7 -2.1**
comp=Z,1.4nm,0.8s,baz=304,slow=2.9,SNR=9.4
ASAR LR LR 10 31 30.3
comp=Z,45nm,21.4s,baz=286,slow=35
comp=Z,2.4nm,0.3s
AS31 Alice Springs 31.51 124 P **P** **10 19 07.5 +1.0**
AS01 Alice Springs 31.54 124 P **P** **10 19 07.9 +1.0**
BRDH Bariadhala 32.76 335 LR LR 10 35 35.0
comp=Z,80nm,18.6s,baz=262,slow=42
H08S2 Diego Garcia H 33.12 267 T T 10 54 55.6
baz=91,slow=76,SNR=97
H08S3 Diego Garcia H 33.13 267 T T 10 54 54.0
baz=91,slow=76,SNR=91
H08S1 Diego Garcia H 33.13 267 T T 10 54 58.2
baz=91,slow=76,SNR=88
PZH PanZhiHua 33.69 353 P P 10 19 30.5 +4.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,170nm,5.0s
OOD Oodnadatta 34.89 130 P **P** **10 19 37.4 +1.4**
MULG Mulgathing 35.04 135 P **P** **10 19 38.9 +1.7**
QIS Mount Isa 35.25 116 P **P** **10 19 40.0 +0.8**
baz=35,SNR=20
QIS Mount Isa 35.25 116 P **P** **10 19 40.1 +0.9**
COEN Coen 37.24 104 P **P** **10 19 55.5 -0.7**
COEN IAmb IAmb 10 19 56.6
comp=Z,7.1nm,0.8s
BBOO Buckleboo 37.89 136 P **P** **10 20 00.2 -1.3**
BBOO IAmb IAmb 10 20 25.4
comp=Z,12nm,1.2s
BBOO Buckleboo 37.89 136 P **P** **10 20 02.7 +1.2**
LCRK Leigh Creek 38.14 132 P **P** **10 20 05.4 +1.8**
WHN Wuhan 38.35 12 ⇓P P 10 20 12.3 +7.0
INKA Innaminka 38.83 126 P **P** **10 20 11.4 +1.9**
MTSU Mount Surprise 38.97 110 P **P** **10 20 11.8 +1.0**
baz=39,SNR=6.0
LSA Lhasa 39.28 340 P **P** **10 20 11.6 -2.1**
AIS Amsterdam Isla 39.87 216 P **P** **10 20 16.1 -1.9**
HTT Hallett 40.23 135 P **P** **10 20 21.9 +0.9**
baz=40,SNR=5.9
HTT Hallett 40.23 135 P **P** **10 20 22.9 +1.8**
PMG Port Moresby 40.89 96 P **P** **10 20 27.3 +0.6**
NJ2 Nanjing 40.90 17 *e*P **P** **10 20 30.3 +3.8**
NJ2 pP **sP** **10 20 45.3 -0.5**
NJ2 sP pP 10 20 52.3 +12
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,710nm,5.0s
CTAO Charters Tower 41.16 112 P **P** **10 20 28.7 -0.2**
CTAO IAmb IAmb 10 20 30.9
comp=Z,15nm,1.0s
STKA Stephens Creek 41.36 131 P **P** **10 20 31.2 +0.7**
baz=41,SNR=24
STKA Stephens Creek 41.36 131 P **P** **10 20 32.0 +1.6**
STKA IAmb IAmb 10 20 33.1
comp=Z,5.3nm,0.5s
STKA Stephens Creek 41.36 131 P **P** **10 20 32.4 +2.0**
STKA Stephens Creek 41.36 131 P **P** **10 20 32.4 +2.0**
comp=Z,22nm,0.4s,baz=308,slow=7.9,SNR=56
comp=Z,22nm,0.4s
ARPS Mount Arapiles 44.05 137 P **P** **10 20 55.1 +3.0**
CMSA Cobar Meteorol 44.33 129 P **P** **10 20 55.6 +1.1**
baz=44,SNR=18
CMSA Cobar Meteorol 44.33 129 P **P** **10 20 57.0 +2.5**
GTA Gaotai 46.67 354 P **P** **10 21 12.0 -0.9**
GTA PcP **PcP** **10 22 47.3 +1.3**
GTA pmax pmax
comp=Z,5.0nm,1.0s
HHC Hu-ho-hao-te 48.05 6 *e*P P 10 21 28.3 +4.7
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,500nm,5.4s
ARMA Armidale 48.66 125 P **P** **10 21 29.2 +0.7**
baz=48,SNR=4.7
ARMA Armidale 48.66 125 P **P** **10 21 29.3 +0.7**
ARMA IAmb IAmb 10 21 33.4
comp=Z,5.6nm,1.1s
ARMA Armidale 48.66 125 P **P** **10 21 30.5 +2.0**
WMQ Urumqi 53.34 344 *e*P **P** **10 22 06.3 +2.9**
KBL Kabul 54.14 322 P **P** **10 22 09.1 -0.5**
KBL IAmb IAmb 10 22 10.3
comp=Z,7.1nm,0.9s
SONM Songino Array 54.75 0 P **P** **10 22 12.7 -0.9**
SONM PcP **PcP** **10 23 15.8 +0.1**
SONM Songino Array 54.75 0 P **P** **10 22 12.3 -1.3**
comp=Z,3.3nm,0.8s,baz=174,slow=8.7,SNR=12
SONM PcP **PcP** **10 23 15.4 -0.3**
comp=Z,2.6nm,0.4s,baz=181,slow=3.6,SNR=12
comp=Z,3.3nm,0.8s
ULN Ulaanbaatar 54.79 1 P **P** **10 22 12.4 -1.5**
ULN PcP **PcP** **10 23 16.0 +0.2**
MDJ Mudanjiang 55.78 20 SS **SS** **10 33 50.5 -0.1**
MDJ pmax pmax
comp=Z,20nm,2.1s
MDJ pmax pmax
comp=Z,450nm,5.2s
ARSB Arslanbob 56.90 331 P **P** **10 22 27.2 -1.9**
ARSB PcP **PcP** **10 23 22.9 -1.2**
MK31 Makanchi Array 57.66 341 P **P** **10 22 32.7 -1.6**
MK31 IAmb IAmb 10 22 33.1
comp=Z,2.3nm,0.5s
MKAR Makanchi Array 57.66 341 P **P** **10 22 32.6 -1.7**
comp=Z,3.5nm,0.4s,baz=150,slow=8.7,SNR=89
comp=Z,3.5nm,0.4s
KK31 Karatay Array 59.44 331 P **P** **10 22 45.4 -1.4**
KKAR Karatay Array 59.44 331 P **P** **10 22 45.2 -1.6**
H04N2 CROZET ISLANDS 60.43 220 T T 11 28 59.9
baz=68,slow=75,SNR=187
H04N1 CROZET ISLANDS 60.45 220 T T 11 29 01.6
baz=68,slow=75,SNR=165
H04N3 CROZET ISLANDS 60.45 220 T T 11 29 01.0
baz=68,slow=75,SNR=148
H04S1 CROZET ISLANDS 60.62 220 T T 11 29 15.4
baz=67,slow=76,SNR=77
H04S3 CROZET ISLANDS 60.64 220 T T 11 29 14.3
baz=67,slow=76,SNR=33
H04S2 CROZET ISLANDS 60.64 220 T T 11 29 15.3
baz=67,slow=76,SNR=40
KURBB Kurchatov Arra 62.22 341 P **P** **10 23 04.2 -1.3**
comp=Z,1.4nm,0.2s,baz=152,slow=6.3,SNR=8.0
KURBB PcP **PcP** **10 23 44.5 -0.5**
comp=Z,0.7nm,0.2s,baz=160,slow=3.8,SNR=6.8
comp=Z,1.4nm,0.2s
KURK Kurchatov 62.27 341 P **P** **10 23 04.5 -1.2**
KURK IAmb IAmb 10 23 05.6
comp=Z,3.1nm,0.8s
GEYT Alibeck 63.15 319 P **P** **10 23 11.6 -0.4**
GEYT Alibeck 63.15 319 P **P** **10 23 12.1 +0.1**
comp=Z,10nm,0.8s,baz=155,slow=7.7,SNR=16
comp=Z,10nm,0.8s
GYA0B ALIBECK ARRAY 63.15 319 P **P** **10 23 11.6 -0.4**
GYA0B IAmb IAmb 10 23 13.6
comp=Z,13nm,0.9s
ZAA0 Zalesovo Array 63.41 346 P **P** **10 23 12.5 -0.8**
ZALV Zalesovo Beam 63.41 346 P **P** **10 23 12.3 -1.0**
ZALV Zalesovo Beam 63.41 346 P **P** **10 23 11.2 -2.0**
comp=Z,2.0nm,0.4s,baz=157,slow=5.0,SNR=11
ZALV PcP **PcP** **10 23 48.7 -1.0**
comp=Z,0.6nm,0.4s,baz=141,slow=5.0,SNR=3.6
comp=Z,2.0nm,0.4s
JCZ Jackson Bay 65.70 135 P **P** **10 23 30.6 +2.0**
BVAR Borovoye Array 67.08 338 P **P** **10 23 35.9 -1.2**
comp=Z,4.0nm,0.4s,baz=138,slow=8.4,SNR=26
comp=Z,4.0nm,0.4s
BRVK Borovoye 67.15 338 P **P** **10 23 36.7 -0.8**
BRVK IAmb IAmb 10 23 37.4
comp=Z,3.5nm,0.3s
RPZ Rata Peaks 67.21 134 P **P** **10 23 40.4 +2.2**
LTZ Lake Taylor 67.89 133 P **P** **10 23 44.1 +1.5**
LTZ IAmb IAmb 10 23 52.3
comp=Z,8.8nm,1.1s
KMBO Kilima Mbogo 68.66 272 P **P** **10 23 49.4 +1.2**
comp=Z,0.8nm,0.3s,baz=158,slow=7.2,SNR=3.4
comp=Z,0.8nm,0.3s
ABKAR Akbulak array 68.98 330 P **P** **10 23 48.7 -0.4**
AKTO Aktyubinsk 70.69 330 P **P** **10 23 59.5 -0.1**
comp=Z,1.9nm,0.4s,baz=130,slow=3.1,SNR=9.5
comp=Z,1.9nm,0.4s
ARU Arti 74.29 335 P **P** **10 24 21.1 +0.2**
ARU IAmb IAmb 10 24 21.3
comp=Z,5.6nm,0.5s
ARU Arti 74.29 335 P **P** **10 24 21.0 +0.2**
comp=Z,5.2nm,0.4s,baz=99,slow=4.6,SNR=8.4
comp=Z,5.2nm,0.4s
KBZ Khabaz 76.02 318 P **P** **10 24 31.8 +0.6**
comp=Z,3.1nm,0.8s,baz=122,slow=5.9,SNR=8.9
comp=Z,3.1nm,0.8s
VNDA Vanda 76.02 169 P **P** **10 24 33.2 +2.7**
comp=Z,3.6nm,1.0s,baz=151,slow=6.1,SNR=3.6
comp=Z,3.6nm,1.0s
BELG Belogornoye 77.17 328 P **P** **10 24 37.5 +0.1**
comp=Z,16nm,0.7s,baz=135,slow=5.1,SNR=7.7
comp=Z,16nm,0.7s
NRIK Noril'sk 77.37 353 P **P** **10 24 35.4 -2.8**
comp=Z,1.7nm,0.3s,baz=72,slow=2.5,SNR=4.6
comp=Z,1.7nm,0.3s
MMAI Mount Meron Ar 77.79 306 P **P** **10 24 43.2 +1.7**
comp=Z,2.5nm,0.5s,baz=75,slow=9.6,SNR=5.8
comp=Z,2.5nm,0.5s
BOSA Boshof 78.41 242 P **P** **10 24 42.6 -2.5**
BOSA IAmb IAmb 10 24 54.2
comp=Z,10nm,1.4s
KIRV Kirov 79.53 334 P **P** **10 24 50.8 +0.5**
comp=Z,19nm,0.7s,baz=170,slow=4.5,SNR=5.5
comp=Z,19nm,0.7s
BR131 Keskin Array S 81.11 312 P **P** **10 24 59.1 -0.3**
BR131 IAmb IAmb 10 25 01.1
comp=Z,6.1nm,0.8s
BRTR Keskin Array B 81.11 312 P **P** **10 25 00.2 +0.8**
comp=Z,3.5nm,0.6s,baz=136,slow=6.9,SNR=20
comp=Z,3.5nm,0.6s
QSPA South Pole Qui 82.84 180 P **P** **10 25 10.9 +2.9**
comp=Z,0.7nm,0.3s,baz=342,slow=3.8,SNR=4.2
comp=Z,0.7nm,0.3s
AKASG Malin Array Be 87.13 322 P **P** **10 25 29.2 -0.3**
comp=Z,1.7nm,0.7s,baz=87,slow=4.7,SNR=7.7
comp=Z,1.7nm,0.7s
AKBB Malin Array Si 87.13 322 P **P** **10 25 29.6 0.0**
AKBB IAmb IAmb 10 25 30.9
comp=Z,5.1nm,0.8s
KIEV Kiev 87.14 322 P **P** **10 25 29.1 -0.5**
KIEV IAmb IAmb 10 25 30.9
comp=Z,4.3nm,0.8s
MLR Muntele Rosu 88.05 316 P **P** **10 25 32.6 -1.7**
MLR Muntele Rosu 88.05 316 P **P** **10 25 34.6 +0.3**
comp=Z,3.8nm,0.6s,baz=150,slow=12,SNR=5.4
comp=Z,3.8nm,0.6s
BURAR Bucovina Array 88.98 318 P **P** **10 25 37.3 -1.4**
BUR08 Bucovina Ar. S 89.00 318 P **P** **10 25 37.6 -1.1**
BUR08 IAmb IAmb 10 26 00.2
comp=Z,2.7nm,0.8s
FINES FINESS Array B 91.38 332 P **P** **10 25 49.6 +0.3**
comp=Z,2.7nm,0.9s,baz=122,slow=6.9,SNR=7.5
comp=Z,2.7nm,0.9s
SPITS Spitsbergen Ar 96.85 348 P **P** **10 26 12.7 -1.5**
comp=Z,8.1nm,0.8s,baz=104,slow=8.8,SNR=7.3
comp=Z,8.1nm,0.8s
NVAR Mina Array Bea 129.45 45 PKP **PKiKP** **10 31 54.8 +1.1**
comp=Z,0.7nm,0.9s,baz=225,slow=3.8,SNR=3.7
PDAR Pinedale Array 132.76 36 PKP **PKiKP** **10 31 59.7 -0.5**
comp=Z,0.2nm,0.6s,baz=282,slow=4.5,SNR=2.2
ULM Lac du Bonnet 133.35 19 PKP **PKPdf** **10 32 00.1 +0.5**
comp=Z,1.6nm,0.7s,baz=333,slow=0.2,SNR=3.2
TXAR Lajitas Array 144.49 48 PKP **PKPdf** **10 32 20.3 -0.5**
comp=Z,0.6nm,0.4s,baz=332,slow=0.9,SNR=22

*CATAC **26** 10:32:43.4±1.3, 14.66N×89.50W, h10km, ML2.8*
SNET 26 10:32:27.2±1.0, 13.65N×90.43W, h70km±15km, ML2.7,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.68**	**68**	*e*P	Pn	10 32 41.5	-0.5
NUBE				*e*S	Sn	10 32 52.4	-0.5
LOAL	**Lomas de Alarc**	**0.72**	**61**	*e*P	Pn	10 32 42.8	+0.4
LOAL				*e*S	Sn	10 32 54.6	+1.0
SLOZ	**Alcaldia de Sa**	**0.73**	**59**	*e*P	Pn	10 32 42.7	+0.2
SLOZ				*e*S	Sn	10 32 55.4	+1.5
SLOZ				IAML		10 32 59.0	
comp=Z,93nm,0.2s							
RTR	**El Retiro**	**0.80**	**72**	*e*P	Pn	10 32 43.8	+0.3
RTR				*e*S	Sn	10 32 56.9	+1.4
CEVE	**Cerro Verde**	**0.80**	**77**	IAML		10 32 58.3	
comp=Z,640nm,1.0s							
CEVE				*i* P	Sn	10 32 56.7	+1.1
UNIC	**Universidad Ca**	**0.92**	**69**	IAML		10 33 05.4	
comp=Z,190nm,1.0s							
UNIC				*i* P	Sn	10 33 00.4	+2.6
GUNB	**GUNB**	**0.95**	**5**	IAML		10 33 00.7	
comp=Z,210nm,1.0s							
GUNB				*i* P	Sn	10 32 59.6	+0.8
JAYA	**Jayaque - finc**	**0.95**	**89**	*e*P	Pn	10 32 45.0	-0.2
JAYA				*e*S	Sn	10 32 59.3	+0.6
JAYA				IAML		10 33 02.8	
comp=Z,452nm,0.2s							
PMON	**Piamonte**	**1.08**	**86**	*e*P	Pn	10 32 47.5	+0.6
PMON				*e*S	Sn	10 33 02.5	+0.9
PMON	**Piamonte**	**1.08**	**86**	IAML		10 33 05.6	
comp=Z,380nm,1.0s							
PMON				*i* P	Sn	10 33 03.4	+1.9
MTO3	**Montecristo**	**1.28**	**54**	*e*P	Pn	10 32 49.7	+0.2
ESQI	**Esquipulas**	**1.39**	**49**	*e*P	Pn	10 32 51.3	+0.4
ESQI	**Esquipulas**	**1.39**	**49**	*i* S	Pn	10 32 51.3	+0.4

*IDC **26** 10:38:19.5±1.0, 3.34S×146.41E, h0km, mb4.0/12, mbtmp4.0/14, ML2.1/2, MS4.3/4, Error ellipse: s-maj=34.4km s-min=17.1km az=94.0*
*NEIC **26** 10:38:20.8±2.8, 3.07S±0.07×145.88E±0.06, h10km±1km, mb4.6/25, Error ellipse: s-maj=14.8km s-min=5.5km az=142.0*
ISC 26 10:38:23.7±0.6, 3.17S±0.07×146.1E±0.1, h35km, n58, σ1°84/52, mb4.3/24, MS4.6/3, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.69**	**49**		**Pn**	**10 38 51.8**	**+1.1**
RABL	**Rabaul**	**6.13**	**100**	Pn	Pn	10 39 55.0	+3.1
PMG	**Port Moresby**	**6.29**	**170**	Pn	**Pn**	**10 39 53.4**	**-0.6**
PMG	**Port Moresby**	**6.29**	**170**	Pn	**Pn**	**10 39 52.6**	**-1.4**
2.9nm,0.3s,baz=125,slow=6.0,SNR=7.5							
PMG				LR	LR	10 42 01.4	
comp=Z,369nm,20.0s,baz=354,slow=36							
27nm,0.8s							
COEN	**Coen**	**11.10**	**195**		**Pn**	**10 41 00.1**	**0.0**
HNR	**Honiara**	**15.10**	**115**	LR	LR	10 47 46.3	
comp=Z,4μm,18.1s,baz=302,slow=38							
SAUI	**Saumlaki**	**15.49**	**251**	Pn	**Pn**	**10 41 58.7**	**-1.0**
GUMO	**Guam**	**16.69**	**356**	Pn	**Pn**	**10 42 10.7**	**-4.3**
CTA	**Charters Tower**	**16.82**	**180**	Pn	**Pn**	**10 42 15.6**	**-1.0**
baz=18,slow=13,SNR=1.7							
5.2nm,1.0s							
CTAO	**Charters Tower**	**16.82**	**180**	Pn	**Pn**	**10 42 15.7**	**-1.0**
MTN	**Manton Dam**	**17.65**	**236**		**Pn**	**10 42 25.2**	**-1.9**
MTN				IAmb	IAmb	10 42 57.1	
comp=Z,44nm,1.2s							
WB0	**Warramunga Arr**	**20.07**	**214**	P	**P**	**10 42 55.1**	**+0.9**
WB0				IAmb	IAmb	10 42 57.1	
comp=Z,51nm,1.1s							
WR0	**Warramunga Arr**	**20.15**	**213**	P	**P**	**10 42 55.5**	**+0.5**
WR0				IAmb	IAmb	10 42 57.3	
comp=Z,60nm,1.1s							
WRAB	**Tennant Creek**	**20.23**	**214**	P	**P**	**10 42 53.2**	**-2.8**
WRAB				IAmb	IAmb	10 42 58.3	
comp=Z,53nm,1.1s							
WB2	**Warramunga Arr**	**20.24**	**214**		**P**	**10 42 54.7**	**-1.3**
WB2				IAmb	IAmb	10 42 58.5	
comp=Z,52nm,1.0s							
WRA	**Warramunga Arr**	**20.24**	**214**	P	**P**	**10 42 55.2**	**-0.9**
WRA	**Warramunga Arr**	**20.24**	**214**	P	**P**	**10 42 56.1**	**-0.1**
comp=Z,41nm,1.0s,baz=39,slow=12,SNR=82							
KNRA	**Kununurra**	**21.12**	**233**	P	**P**	**10 43 04.1**	**-1.4**
AS31	**Alice Springs**	**23.54**	**209**	P	**P**	**10 43 31.2**	**+0.2**
ASAR	**Alice Springs**	**23.55**	**209**	P	**P**	**10 43 31.6**	**+0.5**
ASAR	**Alice Springs**	**23.55**	**209**	P	**P**	**10 43 31.3**	**+0.2**
comp=Z,13nm,0.9s,baz=40,slow=9.0,SNR=71							
comp=Z,13nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.94**	**232**	P	**P**	**10 43 43.6**	**-0.3**
FITZ				IAmb	IAmb	10 43 47.2	
comp=Z,13nm,1.4s							
KAPI	**Kappang**	**26.35**	**265**	P	**P**	**10 44 00.0**	**+3.3**
comp=Z,10nm,0.8s,baz=121,slow=7.4,SNR=1.7							
comp=Z,10nm,0.8s							
DZM	**Mont Dzumac**	**27.26**	**135**	P	**P**	**10 44 07.6**	**+2.6**
DZM				IAmb	IAmb	10 44 23.3	
comp=Z,25nm,1.3s							
STKA	**Stephens Creek**	**28.87**	**188**	P	**P**	**10 44 19.9**	**+0.8**
STKA	**Stephens Creek**	**28.87**	**188**	P	**P**	**10 44 18.7**	**-0.5**
comp=Z,0.8nm,0.6s,baz=342,slow=3.2,SNR=3.0							
comp=Z,0.8nm,0.6s							
BBOO	**Buckleboo**	**30.95**	**197**	P	**P**	**10 44 36.3**	**-1.3**
BBOO				IAmb	IAmb	10 44 51.9	
comp=Z,16nm,1.4s							
FORT	**Forrest**	**32.32**	**210**	P	**P**	**10 44 49.5**	**-0.1**
NACB	**Ninganchiao**	**36.15**	**320**	P	**P**	**10 45 21.7**	**-1.3**
NJ2	**Nanjing**	**43.55**	**326**	*e*P	**P**	**10 46 25.3**	**+1.0**
NJ2				pP	**pP**	**10 46 31.5**	**-2.5**
NJ2				sP	**pwP**	**10 46 34.5**	**-2.0**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.6s							
NJ2				pmax	pmax		
comp=Z,510nm,5.0s							
USRK	**Ussuriysk Ar.**	**48.83**	**347**	P	P	10 47 12.9	+7.3
comp=Z,2.2nm,0.7s,baz=191,slow=8.7,SNR=5.6							
CMAR	**Chiang Mai Arr**	**51.16**	**297**	P	**P**	**10 47 27.9**	**+4.2**
comp=Z,0.8nm,0.3s,baz=107,slow=5.0,SNR=5.5							
comp=Z,0.8nm,0.3s							
PZH	**PanZhiHua**	**52.02**	**307**	P	**P**	**10 47 32.0**	**+1.7**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,5.0s							
HHC	**Hu-ho-hao-te**	**53.97**	**328**	*e*P	**P**	**10 47 47.3**	**+2.9**
HHC				pmax	pmax		
comp=Z,11nm,0.5s							
HHC				pmax	pmax		
comp=Z,180nm,5.4s							
GTA	**Gaotai**	**60.01**	**320**	*e*P	P	10 48 31.8	+4.6
GTA				sP	sP	10 48 41.5	+0.3
GTA				pmax	pmax		
comp=Z,2.0nm,1.3s							
SONM	**Songino Array**	**61.51**	**331**	P	P	10 48 41.5	+4.3
comp=Z,0.5nm,0.6s,baz=143,slow=5.0,SNR=2.4							
comp=Z,0.5nm,0.6s							
WMQ	**Urumqi**	**70.08**	**319**	*e*P	**P**	**10 49 30.8**	**-1.7**
WMQ				pmax	pmax		
comp=Z,13nm,0.7s							
WMQ				LR	LR		
comp=N,670nm,16.3s							
WMQ				LR	LR		
comp=E,290nm,17.5s							
WMQ				LR	LR		
comp=Z,370nm,23.9s							
MK31	**Makanchi Array**	**74.76**	**320**	P	**P**	**10 49 59.1**	**-1.2**
MKAR	**Makanchi Array**	**74.76**	**320**	P	**P**	**10 49 59.9**	**-0.4**
MKAR	**Makanchi Array**	**74.76**	**320**	P	**P**	**10 50 04.2**	**+3.9**
comp=Z,2.0nm,1.0s,baz=113,slow=5.7,SNR=11							
comp=Z,2.0nm,1.0s							
ZAA0	**Zalesovo Array**	**76.16**	**328**	P	**P**	**10 50 06.5**	**-1.6**
ZAA0				IAmb	IAmb	10 50 34.5	
comp=Z,2.2nm,1.0s							
ZALV	**Zalesovo Beam**	**76.16**	**328**	P	**P**	**10 50 06.2**	**-1.9**
ZALV	**Zalesovo Beam**	**76.16**	**328**	P	**P**	**10 50 10.7**	**+2.6**
comp=Z,0.5nm,0.5s,baz=124,slow=12,SNR=1.9							
comp=Z,0.5nm,0.5s							
KURK	**Kurchatov**	**78.42**	**323**	P	**P**	**10 50 20.2**	**-0.6**
KURK				IAmb	IAmb	10 50 31.3	
comp=Z,4.0nm,1.1s							
KURBB	**Kurchatov Arra**	**78.44**	**323**	P	**P**	**10 50 23.6**	**+2.7**
comp=Z,0.9nm,1.0s,baz=109,slow=5.1,SNR=3.4							
comp=Z,0.9nm,1.0s							
H19K	**Roundabout Mou**	**79.99**	**21**	P	**P**	**10 50 28.2**	**-0.9**
D19K	**Kuna River**	**81.03**	**18**	P	**P**	**10 50 33.8**	**-0.9**
D19K				IAmb	IAmb	10 51 01.1	
comp=Z,4.8nm,1.1s							
NRIK	**Noril'sk**	**82.32**	**342**	P	**P**	**10 50 39.1**	**-2.3**
NRIK				IAmb	IAmb	10 50 52.3	
comp=Z,6.4nm,1.1s							
NRIK	**Noril'sk**	**82.32**	**342**	P	**P**	**10 50 43.1**	**+1.7**
comp=Z,0.8nm,0.3s,baz=44,slow=6.2,SNR=2.0							
comp=Z,0.8nm,0.3s							
IL31		**83.25**	**23**	P	**P**	**10 50 45.4**	**-0.9**
IL31				IAmb	IAmb	10 50 58.0	
comp=Z,2.1nm,0.9s							
ILAR	**Eielson Array**	**83.25**	**23**	P	**P**	**10 50 46.0**	**-0.4**
ILAR	**Eielson Array**	**83.25**	**23**	P	**P**	**10 50 46.7**	**+0.3**
comp=Z,0.3nm,0.7s,baz=251,slow=3.8,SNR=5.3							
comp=Z,0.3nm,0.7s							
BVAR	**Borovoye Array**	**83.97**	**324**	P	**P**	**10 50 53.0**	**+2.7**
comp=Z,0.7nm,0.6s,baz=108,slow=6.8,SNR=1.7							
comp=Z,0.7nm,0.6s							
GEYT	**Alibeck**	**90.33**	**308**	LR	LR	11 34 03.8	
comp=Z,254nm,21.4s,baz=112,slow=37							
ARU	**Arti**	**91.25**	**326**	P	**P**	**10 51 25.4**	**0.0**
KIRV	**Kirov**	**96.18**	**328**	LR	LR	11 36 14.3	
comp=Z,228nm,20.6s,baz=107,slow=36							
YKA	**Yellowknife Ar**	**97.09**	**27**	P	Pdif	10 51 54.5	+2.5
comp=Z,0.1nm,0.7s,baz=276,slow=4.7,SNR=1.2							
comp=Z,0.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**143.45**	**288**	PKP	**PKiKP**	**10 57 57.0**	**-2.1**
comp=Z,0.3nm,0.7s,baz=59,slow=2.7,SNR=2.0							

*MOS **26** 10:43:42.5±1.1, 1.07S×126.84E, h10km, mb5.3/36,*

MS4.7/10, Error ellipse: s-maj=9.4km s-min=5.4km az=113.8

NEIC ***26*** *10:43:45.4, 1.°13S×126.°85E, h30km, Moment Tensor Solution. Duration: 2.6 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.72; $M_{\theta\theta}$=0.25; $M_{\phi\phi}$=-0.97; $M_{r\theta}$=0.08; $M_{r\phi}$=0.90; $M_{\theta\phi}$=-0.81; Fault plane solution: M_0=1.43000×10^{17} NP1: ϕ_S=179.16000°, δ=69.77000°, λ=124.49000°. NP2: ϕ_S=295.88000°, δ=39.34000°, λ=33.06000°. Principal axes: T 1.1667, Plg=52.0000°, Azm=130.0000°; N 0.5252, Plg=32.0000°, Azm=346.0000°; P -1.6919, Plg=18.0000°, Azm=244.0000°;*

NEIC ***26*** *10:43:45.4, 1.°13S×126.°85E, h30km*

IDC ***26*** *10:43:46.6±2.0, 1.°09S×126.°96E, h29km±13km, mb4.6/27, mbtmp4.8/29, ML5.4/3, MS4.6/31, Error ellipse: s-maj=17.7km s-min=10.0km az=68.0*

NEIC ***26*** *10:43:47.1±2.1, 1.°10S±0.°05×126.°88E±0.°06, h27km±3km, mb5.2/151, Ms_20 5.0/39, Mww5.4/18, Error ellipse: s-maj=8.8km s-min=7.5km az=93.0*

DJA ***26*** *10:43:47.2±0.6, 1.°S±2.°×12.°7E±.°, h21km±5km, M5.3/49, mB5.7/32, mb5.5/49, MLv5.5/17, Mw(mB)5.3/32, MwMwp5.3/16, Mwp5.5/16*

GCMT ***26*** *10:43:49.1±0.1, 1.°05S±0.°01×126.°85E±0.°01, h15km, MW5.6/119, Moment Tensor Solution. s111,c167; s119,c172; Duration: 1.8 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.44±.02; $M_{\theta\theta}$=0.31±.02; $M_{\phi\phi}$=-0.74±.02; $M_{r\theta}$=-0.20±.07; $M_{r\phi}$=0.54±.02; $M_{\theta\phi}$=-3.57±.06; Best double couple: M_0=3.66800×10^{17} NP1:ϕ_S=183.00000°, δ=86.00000°, λ=99.00000°. NP2:ϕ_S=298.00000°, δ=10.00000°, λ=25.00000°. Principal axes: T 3.5430, Plg=49.0000°, Azm=103.0000°; N 0.2490, Plg=9.0000°, Azm=3.0000°; P -3.7930, Plg=40.0000°, Azm=265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 10:43:47.1±0.4, 1.°15S±0.°03×126.°88E±0.°03, h30km±2km, h31km:pP-P, n628, σ1§59/642, mb5.1/150, **MS4.8**/75, **10C-9D, Southern Moluccas Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.81**	**51**	P	**Pb**	**10 44 01.6**	**-1.0**
LBMI				S	**Sn**	**10 44 13.2**	**-0.2**
SANI	**Sanana**	**1.26**	**225**	P	**Pn**	**10 44 07.9**	**-0.8**
SANI	**Sanana**	**1.26**	**225**	P	**Pn**	**10 44 07.3**	**-1.4**
SANI				S	**Sb**	**10 44 26.2**	**+0.1**
TNTI	**Ternate**	**1.97**	**14**		**Pn**	**10 44 18.8**	**+0.3**
TNTI	**Ternate**	**1.97**	**14**	P	**Pn**	**10 44 19.5**	**+1.1**
TNTI	**Ternate**	**1.97**	**14**	P	**Pn**	**10 44 19.0**	**+0.6**
NLAI	**Namlea**	**2.09**	**174**	P	**Pn**	**10 44 20.2**	**+0.1**
KRAI	**Karang Ratu**	**2.64**	**145**	P	**Pn**	**10 44 29.8**	**+2.2**
KMSI	**Cibinong**	**3.36**	**301**	P	**Pn**	**10 44 37.7**	**+0.1**
LUWI	**Luwuk**	**4.10**	**271**		**Pn**	**10 44 47.4**	**-0.4**
LUWI	**Luwuk**	**4.10**	**271**	P	**Pn**	**10 44 48.2**	**+0.4**
LUWI	**Luwuk**	**4.10**	**271**	P	**Pn**	**10 44 47.4**	**-0.4**
SWI	**Sorong**	**4.39**	**86**	P	**Pn**	**10 44 54.1**	**+2.3**
SIJI	**Sorong**	**4.40**	**86**	P	**Pn**	**10 44 54.7**	**+2.8**
BNDI	**Bandanaira**	**4.51**	**138**	P	**Pn**	**10 44 54.4**	**+0.9**
SGSI	**Sangihe**	**4.99**	**344**	P	**Pn**	**10 45 01.8**	**+1.8**
MRSI	**Marisa**	**5.19**	**288**	P	**Pn**	**10 45 02.2**	**-0.6**
	530nm,0.5s,8μm16μm3.5nm						
FAKI	**Fak Fak**	**5.65**	**108**	Pn	**Pn**	**10 45 09.4**	**+0.2**
FAKI	**Fak Fak**	**5.65**	**108**	P	**Pn**	**10 45 09.3**	**+0.2**
FAKI	**Fak Fak**	**5.65**	**108**	P	**Pn**	**10 45 09.3**	**+0.2**
	763nm,0.8s,9μm16μm6.4nm						
TOLI2	**Tolitoli**	**6.49**	**290**	Pn	**Pn**	**10 45 20.4**	**-0.3**
TOLI2	**Tolitoli**	**6.49**	**290**	P	**Pn**	**10 45 21.9**	**+1.2**
MPSI	**Mapaga**	**7.13**	**282**	P	**Pn**	**10 45 30.5**	**+1.1**
	126nm,0.5s,4μm15μm0.8nm						
TTSI	**Tana Toraja**	**7.30**	**255**	P	**Pn**	**10 45 32.6**	**+0.9**
	661nm,0.7s,6μm13μm2.3nm						
BKSI	**Bulukumba**	**7.91**	**238**	P	**Pn**	**10 45 42.3**	**+2.1**
	549nm,0.9s,4μm9μm1.6nm						
KAPI	**Kappang**	**8.08**	**241**	Pn	**Pn**	**10 45 44.5**	**+2.0**
	15nm,0.3s,baz=54,slow=6.6,SNR=83						
KAPI				LR	LR	10 49 23.6	
	comp=Z,7μm,18.7s,baz=66,slow=41						
	252nm,0.7s						
SAUI	**Saumlaki**	**8.09**	**147**	Pn	**Pn**	**10 45 41.7**	**-1.0**
DAV	**Davao City (W)**	**8.27**	**351**	Pn	**Pn**	**10 45 44.6**	**-0.5**
	54nm,0.3s,baz=78,slow=4.2,SNR=2.2						
DAV				Sn	**Sn**	**10 47 12.7**	**-4.8**
	48nm,0.3s,baz=270,slow=1.2,SNR=1.9						
	131nm,0.4s						
PMSI	**Majene**	**8.29**	**253**	P	**Pn**	**10 45 46.6**	**+1.2**
	868nm,0.8s,6μm9μm						
MKS	**Makassar**	**8.43**	**241**	P	**Pn**	**10 45 50.0**	**+2.8**
	449nm,0.7s,4μm						
SOEI	**Soe**	**8.94**	**197**	Pn	**Pn**	**10 45 55.5**	**+1.1**
EDFI	**Ende, Flores**	**9.15**	**214**	P	**Pn**	**10 46 00.2**	**+3.0**
	156nm,0.8s,2μm7μm						
BKB	**Balikpapan**	**9.98**	**269**		**Pn**	**10 46 08.9**	**+0.4**
BKB	**Balikpapan**	**9.98**	**269**	P	**Pn**	**10 46 10.4**	**+1.9**
BKB	**Balikpapan**	**9.98**	**269**	P	**Pn**	**10 46 10.5**	**+1.9**
	409nm,0.7s,4μm10μm						
DBNI	**Kabupaten Domp**	**11.23**	**229**	P	Pn	10 46 41.5	+16
PLAI	**Plampang**	**11.84**	**230**	P	**Pn**	**10 46 36.6**	**+2.5**
MTKI	**Muara Teweh, K**	**11.98**	**271**	P	**Pn**	**10 46 38.7**	**+2.8**
	140nm,0.8s,7μm						
MTN	**Manton Dam**	**12.36**	**160**	P	**Pn**	**10 46 41.1**	**0.0**
	baz=12,SNR=53						
MTN	**Manton Dam**	**12.36**	**160**	Pn	**Pn**	**10 46 41.5**	**+0.4**
MTN	**Manton Dam**	**12.36**	**160**	P	**Pn**	**10 46 40.9**	**-0.3**
KDU	**Kakadu**	**12.74**	**154**	P	**Pn**	**10 46 44.7**	**-1.6**
	baz=13,SNR=76						
KDU	**Kakadu**	**12.74**	**154**	P	**Pn**	**10 46 44.7**	**-1.6**
KKM	**Kota Kinabalu**	**12.82**	**304**	Pn	**Pn**	**10 46 45.9**	**-1.7**
KKM	**Kota Kinabalu**	**12.82**	**304**	P	**Pn**	**10 46 50.6**	**+3.1**
GENI	**Genyem**	**13.36**	**96**	P	**P**	**10 46 59.6**	**-4.4**
	244nm,2.2s,6μm8μm						
ABJI	**Asem Bagus**	**14.22**	**242**	P	**P**	**10 47 17.3**	**+3.7**
KNRA	**Kununurra**	**14.56**	**173**	P	**Pn**	**10 47 10.3**	**-0.8**
	baz=15,SNR=20						
KNRA	**Kununurra**	**14.56**	**173**	Pn	**Pn**	**10 47 10.1**	**-1.0**
KNRA	**Kununurra**	**14.56**	**173**	P	**Pn**	**10 47 10.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**14.61**	**240**	Pn	**Pn**	**10 47 10.8**	**-1.0**
JAGI	**Jajag, Banyuwa**	**14.61**	**240**	P	**P**	**10 47 19.8**	**+1.9**
SBUM	**Sibu**	**15.08**	**284**	Pn	**Pn**	**10 47 17.6**	**-0.6**
SBUM	**Sibu**	**15.08**	**284**	P	**Pn**	**10 47 18.1**	**-0.1**
	13nm,0.9s,503nm2μm						
STKI	**Sintang**	**15.44**	**274**	P	**Pn**	**10 47 23.4**	**+0.4**
	90nm,0.8s,4μm						
TGY	**Tagaytay City**	**16.25**	**339**	Pn	**Pn**	**10 47 33.8**	**+0.4**
	31nm,0.3s,baz=246,slow=14,SNR=1.4						
SJI	**Sawahan**	**16.41**	**246**	P	**P**	**10 47 39.2**	**+1.1**
	94nm,1.4s						
NGJI	**Ngawi**	**16.56**	**248**	P	P	10 47 48.7	+9.1
KSM	**Kuching**	**16.77**	**279**		**Pn**	**10 47 38.6**	**-1.4**
KSM	**Kuching**	**16.77**	**279**	P	**Pn**	**10 47 38.7**	**-1.2**
	96nm,0.8s,2μm9μm						
FITZ	**Fitzroy Crossi**	**16.89**	**184**	P	**Pn**	**10 47 41.5**	**+0.1**
	baz=17,SNR=19						
FITZ	**Fitzroy Crossi**	**16.89**	**184**	Pn	**Pn**	**10 47 41.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**16.89**	**184**	P	**P**	**10 47 43.0**	**-0.2**
UGM	**Wanagama**	**17.62**	**247**		**Pn**	**10 47 50.1**	**-0.6**
KPJI	**Karang Pucung**	**18.91**	**251**	P	**Pn**	**10 48 08.6**	**+2.3**
	182nm,0.7s,4μm						
WB0	**Warramunga Arr**	**19.91**	**159**	P	**P**	**10 48 14.8**	**-1.7**
LEM	**Lembang**	**20.02**	**253**	P	Pn	10 48 19.2	-0.5
	72nm,0.7s,baz=41,slow=3.7,SNR=11						
LEM				LR	LR	10 57 44.1	
	comp=Z,5μm,19.8s,baz=64,slow=42						
	72nm,0.7s						
WRAB	**Tennant Creek**	**20.05**	**159**	P	**P**	**10 48 16.6**	**-1.4**
WRAB	**Tennant Creek**	**20.05**	**159**	P	**P**	**10 48 16.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,46nm,0.8s						
WRA	**Warramunga Arr**	**20.06**	**159**	P	**P**	**10 48 16.8**	**-1.3**
WRA	**Warramunga Arr**	**20.06**	**159**	P	**P**	**10 48 16.8**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**20.06**	**159**	P	**P**	**10 48 16.3**	**-1.8**
	comp=Z,37nm,0.8s,baz=332,slow=12,SNR=121						
WRA				S	S	10 51 51.0	-11
	comp=Z,4.6nm,0.7s,baz=334,slow=13,SNR=3.0						
	comp=Z,37nm,0.8s						
WB2	**Warramunga Arr**	**20.06**	**159**	P	**P**	**10 48 16.6**	**-1.5**
WB2				IAmb	IAmb	10 48 19.1	
	comp=Z,60nm,0.6s						
WR0	**Warramunga Arr**	**20.14**	**159**	P	**P**	**10 48 17.5**	**-1.5**
BBJI	**Bungbulang**	**20.16**	**251**	P	**P**	**10 48 19.8**	**+0.5**
BBJI	**Bungbulang**	**20.16**	**251**	P	**P**	**10 48 19.8**	**+0.5**
	comp=Z,439nm,0.9s,comp=Z,6μm						
MANU	**Manus Island**	**20.50**	**93**	P	**P**	**10 48 22.3**	**-0.7**
MANU				IAmb	IAmb	10 48 32.5	
	comp=Z,176nm,1.4s						
COEN	**Coen**	**20.54**	**129**	P	**P**	**10 48 23.4**	**+0.1**
COEN	**Coen**	**20.54**	**129**	P	**P**	**10 48 23.7**	**+0.3**
CNJI	**Cibinong**	**20.61**	**252**	P	Pn	10 48 35.8	+9.3
CBJI	**Citeko**	**20.65**	**255**	P	Pn	10 48 30.0	+3.0
PPBI	**Pangkal Pinang**	**20.75**	**267**	P	**P**	**10 48 26.4**	**+0.7**
	comp=Z,157nm,0.9s,comp=Z,5μm						
DBJI	**Dramaga**	**20.78**	**255**	P	Pn	10 48 30.9	+2.4
SBJI	**Serang**	**21.28**	**256**	P	**P**	**10 48 32.5**	**+1.2**
	comp=Z,365nm,1.3s,comp=Z,134μm						
PSA00	**Pilbara Seismi**	**21.43**	**198**	P	**P**	**10 48 32.6**	**-0.2**
PSA00				IAmb	IAmb	10 48 35.4	
	comp=Z,235nm,1.8s						
PSA00	**Pilbara Seismi**	**21.43**	**198**	P	**P**	**10 48 33.4**	**+0.6**
PMG	**Port Moresby**	**21.78**	**113**	P	**P**	**10 48 38.3**	**+1.6**
PMG	**Port Moresby**	**21.78**	**113**	IAMs_20	IAMs_20	10 58 06.9	
	comp=Z,5μm,22.0s						
PMG	**Port Moresby**	**21.78**	**113**	P	**P**	**10 48 38.3**	**+1.6**
PMG				pmax	pmax		
	comp=Z,138nm,0.7s						
PMG				MLR	MLR		
	comp=Z,5μm,22.0s						
PMG	**Port Moresby**	**21.78**	**113**	P	**P**	**10 48 35.8**	**-0.9**
	comp=Z,137nm,0.7s,baz=30,slow=8.0,SNR=50						
PMG				LR	LR	11 00 49.4	
	comp=Z,4μm,18.4s,baz=318,slow=47						
	comp=Z,137nm,0.7s						
DSRI	**Dabo**	**22.30**	**272**	P	**P**	**10 48 42.7**	**+0.3**
	comp=Z,55nm,1.0s,comp=Z,2μmcomp=Z,3μm						
DLV	**T Lat**	**22.42**	**306**	P	**P**	**10 48 43.0**	**-0.9**
TPRI	**Tanjung Pinang**	**22.44**	**275**	P	**P**	**10 48 47.7**	**+3.9**
KASI	**Kota Agung**	**22.75**	**258**	P	**P**	**10 48 48.3**	**+1.2**
	comp=Z,182nm,0.9s,comp=Z,3μm						
QIS	**Mount Isa**	**22.95**	**148**	P	**P**	**10 48 48.1**	**-1.1**
	baz=23,SNR=171						
QIS	**Mount Isa**	**22.95**	**148**	P	**P**	**10 48 48.6**	**-0.6**
GUMO	**Guam**	**23.08**	**50**	P	**P**	**10 48 50.5**	**+0.1**
GUMO	**Guam**	**23.08**	**50**	P	**P**	**10 48 50.5**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,424nm,1.3s						
GUMO	**Guam**	**23.08**	**50**	LR	LR	10 57 22.5	
	comp=Z,3μm,21.0s,baz=230,slow=36						
MYKOM	**Kota Tinggi**	**23.21**	**277**	P	**P**	**10 48 51.1**	**-0.7**
MYKOM				IAmb	IAmb	10 48 54.1	
	comp=Z,123nm,1.5s						
MYKOM	**Kota Tinggi**	**23.21**	**277**	P	**P**	**10 48 53.2**	**+1.4**
	comp=Z,48nm,1.6s,comp=Z,1μmcomp=Z,3μm						
AS31	**Alice Springs**	**23.40**	**164**	P	**P**	**10 48 52.2**	**-1.4**
ASAR	**Alice Springs**	**23.40**	**164**	P	**P**	**10 48 52.4**	**-1.3**
	comp=Z,56nm,0.8s,baz=344,slow=9.4,SNR=253						
ASAR				S	**S**	**10 53 01.1**	**-3.9**
	comp=Z,2.6nm,0.7s,baz=352,slow=12,SNR=1.1						
	comp=Z,56nm,0.8s						
AS01	**Alice Springs**	**23.41**	**163**	P	**P**	**10 48 52.8**	**-0.9**
WRKA	**Warakurna**	**23.79**	**177**	P	**P**	**10 48 56.7**	**-0.6**
	baz=24,SNR=36						
WRKA	**Warakurna**	**23.79**	**177**	P	**P**	**10 48 56.8**	**-0.6**
MTSU	**Mount Surprise**	**24.05**	**136**	P	**P**	**10 49 00.3**	**+0.4**
	baz=24,SNR=34						
TWG	**Pinlang**	**24.49**	**347**	P	**P**	**10 49 01.9**	**-1.9**
TWG				IAmb	IAmb	10 49 11.7	
	comp=Z,62nm,0.6s						
YULB	**Yu-li**	**24.99**	**348**	P	**P**	**10 49 07.6**	**-0.8**
YULB				IAmb	IAmb	10 49 33.0	
	comp=Z,56nm,1.1s						
TPUB	**Ta-pu**	**25.05**	**346**	P	**P**	**10 49 08.7**	**-0.2**
KRJI	**Kerinci**	**25.42**	**268**	P	**P**	**10 49 11.8**	**-0.7**
RABL	**Rabaul**	**25.44**	**97**	P	**P**	**10 49 12.8**	**+0.2**
RABL	**Rabaul**	**25.44**	**97**	P	**P**	**10 49 14.8**	**+2.2**
SSLB	**Suanglung**	**25.45**	**347**	P	**P**	**10 49 12.4**	**-0.1**
SSLB				IAmb	IAmb	10 49 30.9	
	comp=Z,61nm,0.8s						
SSLB	**Suanglung**	**25.45**	**347**	P	**P**	**10 49 14.3**	**+1.8**
NACB	**Ninganchiao**	**25.69**	**349**	P	**P**	**10 49 14.6**	**0.0**
BKNI	**Bangkinang**	**25.88**	**273**	P	**P**	**10 49 17.5**	**+1.0**
QIZ	**Qiongzhong**	**26.12**	**321**	P	**P**	**10 49 19.3**	**+0.7**
QIZ				S	**S**	**10 53 49.8**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,530nm,9.3s						
QIZ				LR	LR		
	comp=Z,890nm,20.2s						
QIZ				LR	LR		
	comp=Z,690nm,16.8s						
QIZ				LR	LR		
	comp=Z,1μm,24.4s						
YHNB	**Yeheng**	**26.21**	**349**	P	**P**	**10 49 19.4**	**-0.1**
YHNB	**Yeheng**	**26.21**	**349**	P	**P**	**10 49 19.4**	**-0.1**
PDSI	**Padang**	**26.41**	**270**	P	**P**	**10 49 21.3**	**-0.1**
	comp=Z,125nm,0.9s,comp=Z,9μm						
TV1H	**Townsville Har**	**26.55**	**134**	P	**P**	**10 49 24.0**	**+1.5**
MEEK	**Meekatharra**	**26.56**	**197**	P	**P**	**10 49 22.8**	**+0.2**
	baz=27,SNR=5.3						
MEEK	**Meekatharra**	**26.56**	**197**	P	**P**	**10 49 22.8**	**+0.2**
CTA	**Charters Tower**	**26.71**	**136**	P	**P**	**10 49 25.2**	**+1.2**
	comp=Z,35nm,0.8s,baz=318,slow=10,SNR=30						
CTA				LR	LR	11 03 14.0	
	comp=Z,4μm,18.4s,baz=318,slow=44						
	comp=Z,35nm,0.8s						
CTAO	**Charters Tower**	**26.71**	**136**	P	**P**	**10 49 24.3**	**+0.3**
CTAO				IAmb	IAmb	10 49 29.4	
	comp=Z,44nm,0.8s						
CTAO	**Charters Tower**	**26.71**	**136**	IAMs_20	IAMs_20	11 01 57.9	
	comp=Z,2μm,20.0s						
CTAO	**Charters Tower**	**26.71**	**136**	P	**P**	**10 49 25.8**	**+1.8**
CTAO	**Charters Tower**	**26.71**	**136**	P	**P**	**10 49 24.3**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,44nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,2μm,20.0s						
KULM	**Kulim**	**26.96**	**284**	P	**P**	**10 49 24.6**	**-1.7**
KULM				IAmb	IAmb	10 49 45.9	
	comp=Z,72nm,1.4s						
KULM				IAMs_20	IAMs_20	11 01 56.7	
	comp=Z,3μm,21.0s						
KULM	**Kulim**	**26.96**	**284**	P	**P**	**10 49 28.3**	**+1.9**
	comp=Z,30nm,0.8s,comp=Z,595nm						
SISI	**Saibi**	**27.78**	**269**	P	**P**	**10 49 33.8**	**+0.1**
	comp=Z,147nm,0.7s,comp=Z,2μm						
OOD	**Oodnadatta**	**27.81**	**163**	P	**P**	**10 49 32.8**	**-0.9**
	comp=Z,36nm,0.8s						
JOW	**Kunigami**	**27.85**	**3**	P	**P**	**10 49 33.7**	**-0.5**
RPSI	**Rantau Prapat**	**28.20**	**278**	P	**P**	**10 49 37.5**	**0.0**
RPSI				IAmb	IAmb	10 49 38.9	
	comp=Z,36nm,0.7s						
PSI	**Prapat**	**28.22**	**278**	P	**P**	**10 49 38.2**	**+0.5**
	comp=Z,53nm,1.0s						
PSI	**Prapat**	**28.22**	**278**	P	**P**	**10 49 37.5**	**-0.2**
PSI				pmax	pmax		
	comp=Z,36nm,0.7s						
SRIT	**Nakonsritamara**	**28.86**	**290**	P	**P**	**10 49 43.5**	**+0.2**
GSI	**Gunungsitoli**	**29.40**	**275**	P	**P**	**10 49 46.8**	**-1.3**
GSI				IAmb	IAmb	10 49 48.4	
	comp=Z,48nm,0.8s						
GSI	**Gunungsitoli**	**29.40**	**275**	P	**P**	**10 49 48.0**	**-0.1**
GSI	**Gunungsitoli**	**29.40**	**275**	P	**P**	**10 49 47.5**	**-0.6**
	comp=Z,76nm,0.9s,comp=Z,9μm						
KCSI	**Kotacane, Aceh**	**29.46**	**279**	P	**P**	**10 49 49.1**	**+0.5**
	comp=Z,41nm,0.6s						
FORT	**Forrest**	**29.49**	**178**	P	**P**	**10 49 48.1**	**-0.5**
	baz=30,SNR=10.0						
FORT	**Forrest**	**29.49**	**178**	P	**P**	**10 49 48.5**	**-0.1**
FORT				IAmb	IAmb	10 50 34.0	
	comp=Z,48nm,0.8s						
FORT	**Forrest**	**29.49**	**178**	P	**P**	**10 49 48.3**	**-0.4**
INKA	**Innaminka**	**29.59**	**155**	P	**P**	**10 49 50.6**	**+1.0**
MULG	**Mulgathing**	**29.77**	**167**	P	**P**	**10 49 51.1**	**0.0**
QLP	**Quilpie**	**30.30**	**148**	P	**P**	**10 49 56.2**	**+0.3**
	baz=30,SNR=4.4						
BLDU	**Ballidu**	**30.85**	**197**	P	**P**	**10 50 01.1**	**+0.4**
MLSI	**Meulaboh, Aceh**	**30.92**	**280**	P	**P**	**10 50 01.5**	**-0.1**
	comp=Z,122nm,0.6s						
LCRK	**Leigh Creek**	**31.06**	**161**	P	**P**	**10 50 02.3**	**-0.3**
SRDT	**SRDT**	**31.50**	**300**	P	**P**	**10 50 07.1**	**+0.5**
JCJ	**Chichijima**	**31.72**	**27**	LR	LR	11 02 13.2	
	comp=Z,1μm,20.1s,baz=184,slow=35						
RK1H	**Rockhampton Ha**	**31.84**	**136**	P	**P**	**10 50 11.2**	**+1.7**
BBOO	**Buckleboo**	**32.66**	**166**	P	**P**	**10 50 16.3**	**-0.3**
	baz=33,SNR=5.2						
BBOO	**Buckleboo**	**32.66**	**166**	P	**P**	**10 50 15.8**	**-0.8**
BBOO				IAmb	IAmb	10 50 31.1	
	comp=Z,28nm,0.6s						
BBOO	**Buckleboo**	**32.66**	**166**	P	**P**	**10 50 16.5**	**-0.1**
CRAI	**Chiangrai**	**33.55**	**311**	P	**P**	**10 50 23.7**	**-0.9**
STKA	**Stephens Creek**	**33.58**	**157**	P	**P**	**10 50 24.8**	**+0.2**
	baz=34,SNR=82						
STKA	**Stephens Creek**	**33.58**	**157**	P	**P**	**10 50 24.9**	**+0.2**
STKA	**Stephens Creek**	**33.58**	**157**	P	**P**	**10 50 24.9**	**+0.3**
STKA	**Stephens Creek**	**33.58**	**157**	*i* P	**P**	**10 50 25.4**	**+0.8**
STKA	**Stephens Creek**	**33.58**	**157**	P	**P**	**10 50 25.1**	**+0.4**
	comp=Z,39nm,0.8s,baz=330,slow=8.7,SNR=76						
STKA				S	**S**	**10 55 40.3**	**-4.9**
	comp=Z,1.1nm,0.6s,baz=255,slow=18,SNR=1.0						
STKA				LR	LR	11 05 45.7	
	comp=Z,2μm,18.0s,baz=330,slow=39						
	comp=Z,39nm,0.8s						
GYA	**Guiyang**	**33.67**	**326**	P	P	10 50 32.8	+7.2
GYA				S	**S**	**10 55 50.5**	**+3.5**
GYA				SS	**SnSn**	**10 57 57.3**	**+5.1**
GYA				pmax	pmax		
	comp=Z,300nm,11.0s						
GYA				LR	LR		
	comp=Z,1μm,17.7s						
CM31	**Chiang Mai Arr**	**33.68**	**307**	P	**P**	**10 50 25.9**	**+0.2**
CM31	**Chiang Mai Arr**	**33.68**	**307**	P	**P**	**10 50 25.9**	**+0.2**
	SNR=5.2						
CMAR	**Chiang Mai Arr**	**33.68**	**307**	P	**P**	**10 50 24.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**33.68**	**307**	P	**P**	**10 50 25.7**	**0.0**
	comp=Z,3.8nm,0.5s,baz=131,slow=7.7,SNR=18						
CMAR				PcP	**PcP**	**10 53 05.4**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=172,slow=2.5,SNR=6.7						
CMAR				ScP	**ScP**	**10 56 48.6**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=158,slow=2.6,SNR=11						
	comp=Z,3.8nm,0.5s						
WHN	**Wuhan**	**33.70**	**340**	⇑P	**P**	**10 50 28.3**	**+2.6**
WHN				pP	**sP**	**10 50 36.0**	**-0.3**
WHN				S	**S**	**10 55 49.8**	**+2.7**
WHN				sS	**sS**	**10 56 01.0**	**+1.2**
WHN				pmax	pmax		
	comp=Z,400nm,2.0s						
WHN				LR	LR		
	comp=Z,4μm,23.5s						
CMMT	**Chiang Mai**	**33.86**	**307**	P	**P**	**10 50 27.1**	**-0.2**
	comp=Z,45nm,0.7s,comp=Z,2μm						
CHTO	**Chiang Mai**	**33.87**	**307**	P	**P**	**10 50 26.7**	**-0.6**
CHTO	**Chiang Mai**	**33.87**	**307**	P	**P**	**10 50 27.2**	**-0.1**
CHTO	**Chiang Mai**	**33.87**	**307**	P	**P**	**10 50 26.7**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s						
CHTO				MLR	MLR		
	comp=Z,700nm,20.0s						
CHTO	**Chiang Mai**	**33.87**	**307**	P	**P**	**10 50 27.3**	**-0.1**
CHTO				P	**P**	**10 50 27.3**	**-0.1**
CHTO	**Chiang Mai**	**33.87**	**307**	P	**P**	**10 50 27.4**	**+0.1**
	comp=Z,16nm,0.8s						
NJ2	**Nanjing**	**33.88**	**348**	*e*P	**P**	**10 50 31.0**	**+3.8**
NJ2				pP	**pP**	**10 50 33.0**	**-1.7**
NJ2				sP	**sP**	**10 50 35.0**	**-2.9**
NJ2				pmax	pmax		
	comp=Z,17nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,420nm,5.4s						
HNR	**Honiara**	**33.91**	**105**	IAMs_20	IAMs_20	11 05 57.2	
	comp=Z,2μm,18.0s						
HNR	**Honiara**	**33.91**	**105**	LR	LR	11 06 08.9	
	comp=Z,20μm,19.4s,baz=270,slow=40						
HTT	**Hallett**	**34.05**	**162**	P	**P**	**10 50 29.6**	**+0.8**
	baz=34,SNR=18						
HTT	**Hallett**	**34.05**	**162**	P	**P**	**10 50 29.7**	**+0.9**
JNU	**Nakatsue**	**34.30**	**6**	P	**P**	**10 50 30.7**	**-0.2**
KMI	**Kunming**	**35.05**	**320**	⇑P	**P**	**10 50 40.0**	**+2.3**
KMI				S	**S**	**10 56 02.3**	**-6.2**
KMI				pmax	pmax		
	comp=Z,14nm,1.3s						
KMI				pmax	pmax		
	comp=Z,360nm,11.1s						
KMI				LR	LR		
	comp=Z,550nm,18.6s						
KMI				LR	LR		
	comp=Z,800nm,19.9s						
KMI				LR	LR		
	comp=Z,920nm,21.6s						
CMSA	**Cobar Meteorol**	**35.07**	**151**	P	**P**	**10 50 38.6**	**+1.0**
	baz=35,SNR=45						
CMSA	**Cobar Meteorol**	**35.07**	**151**	P	**P**	**10 50 38.2**	**

XAN LR LR
comp=Z,1µm,19.2s
MAJO Matsushiro 38.95 15 P **P 10 51 08.9 -1.6**
MAJO Matsushiro 38.95 15 P **P 10 51 08.7 -1.8**
MAJO Matsushiro 38.95 15 *i*P **P 10 51 12.8 +2.3**
MJAR Matsushiro Arr 38.95 15 P **P 10 51 08.3 -2.2**
comp=Z,3.4nm,0.4s,baz=183,slow=9.5,SNR=21
MJAR ScP **S 10 57 06.9 -0.5**
comp=Z,2.6nm,0.9s,baz=217,slow=7.0,SNR=3.4
comp=Z,3.4nm,0.4s
MJB9 Matsu-Tunnel 38.95 15 P **P 10 51 09.7 -0.8**
MJB9 IAmb IAmb 10 51 37.7
comp=Z,43nm,1.3s
MGCD Mangrove Creek 39.18 147 P **P 10 51 14.3 +1.9**
baz=39,SNR=14
MGCD Mangrove Creek 39.18 147 P **P 10 51 14.2 +1.7**
BRAT Ballarat 39.49 158 P **P 10 51 16.7 +1.8**
CAN Canberra 39.75 151 P **P 10 51 19.0 +1.7**
CAN IAmb IAmb 10 51 30.1
comp=Z,31nm,0.9s
CAN IAMs_20 IAMs_20 11 09 32.2
comp=Z,1µm,20.0s
CAN Canberra 39.75 151 P **P 10 51 18.6 +1.3**
CAN Canberra 39.75 151 P **P 10 51 19.0 +1.7**
CAN pmax pmax
comp=Z,31nm,0.9s
CAN MLR MLR
comp=Z,1µm,20.0s
CNB Canberra Magne 39.92 151 P **P 10 51 20.7 +2.0**
baz=40,SNR=7.6
CNB Canberra Magne 39.92 151 P **P 10 51 20.5 +1.8**
HNS HongShan 39.98 345 ⇓P **P 10 51 20.5 +1.5**
HNS pP **sP 10 51 27.5 -2.2**
HNS ScP **ScP 10 57 12.0 +1.0**
HNS S **S 10 57 21.0 -1.6**
HNS pmax pmax
comp=Z,21nm,0.9s
HNS LR LR
comp=Z,720nm,22.3s
HNS LR LR
comp=Z,690nm,24.7s
HNS LR LR
comp=Z,1µm,21.6s
TOO Toolangi 40.10 157 P **P 10 51 22.1 +2.1**
baz=40,SNR=15
TOO Toolangi 40.10 157 P **P 10 51 22.2 +2.1**
TOO Toolangi 40.10 157 P **P 10 51 21.9 +1.8**
TOO Toolangi 40.10 157 P **P 10 51 22.2 +2.1**
TOO pmax pmax
comp=Z,28nm,0.9s
JMM Marumori 40.90 17 P **P 10 51 25.7 -0.9**
JMM IAmb IAmb 10 52 12.5
comp=Z,110nm,1.4s
JMM Marumori 40.90 17 P **P 10 51 26.2 -0.4**
MILA Mila 41.23 153 P **P 10 51 30.4 +0.9**
baz=41,SNR=3.1
KOUNC Koumac, New Ca 41.31 120 P **P 10 51 31.2 +0.9**
KOUNC IAmb IAmb 10 52 39.8
comp=Z,96nm,1.7s
BJT Baijiatuau 42.12 348 P **P 10 51 39.5 +2.8**
BJI Beijing 42.14 348 P **P 10 51 37.5 +0.7**
BJI ScP **ScP 10 57 20.0 +0.5**
BJI S **S 10 57 59.3 +4.6**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI LR LR
comp=Z,250nm,25.0s
BJI LR LR
comp=Z,270nm,23.6s
BJI LR LR
comp=Z,440nm,20.7s
LZH Lanzhou 42.81 332 ⇓P **P 10 51 43.5 +1.0**
LZH pP sP 10 51 51.0 -2.2
LZH ScP **ScP 10 57 23.5 +0.9**
LZH S **S 10 58 04.5 -0.5**
LZH sS sS 10 58 17.5 -0.4
LZH pmax pmax
comp=Z,32nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.8s
LZH LR LR
comp=Z,1µm,16.8s
LZH LR LR
comp=Z,1µm,17.2s
LZH LR LR
comp=Z,1µm,17.9s
SNY Shenyang 42.88 356 ⇑P **P 10 51 43.3 +0.5**
SNY S **S 10 57 59.0 -6.5**
SNY pmax pmax
comp=Z,25nm,0.8s
SNY pmax pmax
comp=Z,360nm,4.9s
SNY LR LR
comp=Z,440nm,6.7s
SNY LR LR
comp=Z,420nm,6.5s
SNY LR LR
comp=Z,700nm,16.1s
SHL Shillong 43.01 311 P **P 10 51 43.8 -0.5**
SHL IAmb IAmb 10 52 14.1
comp=Z,23nm,0.6s
SHL Shillong 43.01 311 P **P 10 51 43.8 -0.5**
SHL pmax pmax
comp=Z,23nm,0.6s
SHL Shillong 43.01 311 P **P 10 51 44.3 0.0**
JTM Tenmabayashi 43.70 16 P **P 10 51 49.8 +0.4**
JTM Tenmabayashi 43.70 16 P **P 10 51 49.1 -0.3**
DZM Mont Dzumac 43.75 121 P **P 10 51 51.1 +0.8**
DZM Mont Dzumac 43.75 121 *eP* P 10 51 56.6 +6.3
comp=Z,500nm,23.1s
DZM *eS* **S 10 58 18.6 -0.5**
comp=Z,522nm,28.4s
GLAD Gladstone 44.03 157 P **P 10 51 53.0 +1.0**
HHC Hu-ho-hao-te 44.06 343 *eP* **P 10 51 54.5 +2.0**
HHC S **S 10 58 26.0 +2.8**
HHC sS sS 10 58 36.5 +0.2
HHC ScS **ScS 11 01 48.3 -1.0**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,370nm,4.6s
HHC LR LR
comp=Z,1µm,17.6s
HHC LR LR
comp=Z,620nm,18.3s
HHC LR LR
comp=Z,1µm,19.7s
BTO Baotou 44.31 342 *eP* **P 10 51 59.0 +4.6**
BTO pP **sP 10 52 05.0 -0.2**
BTO sP **pwP 10 52 07.8 -0.1**
BTO PP **PcP 10 53 44.3 +5.9**
BTO S **S 10 58 32.3 +5.6**
BTO sS **sS 10 58 44.0 +4.1**
BTO pmax pmax
comp=Z,14nm,0.8s
BTO pmax pmax
comp=Z,270nm,6.0s
BTO LR LR
comp=Z,1µm,17.9s
BTO LR LR
comp=Z,1µm,19.6s
BTO LR LR
comp=Z,1µm,19.6s
MOO Moorlands 44.97 159 P **P 10 52 01.3 +1.7**
baz=45,SNR=4.9
MOO Moorlands 44.97 159 P **P 10 52 01.1 +1.5**
USA0B Ussuriysk Arra 45.38 5 P **P 10 52 02.2 -0.5**
USA0B IAmb IAmb 10 52 16.9
comp=Z,21nm,0.8s
USA0B Ussuriysk Arra 45.38 5 *i*P **P 10 52 02.4 -0.4**
USRK Ussuriysk Ar. 45.38 5 P **P 10 52 02.4 -0.3**
comp=Z,6.2nm,0.5s,baz=187,slow=6.1,SNR=25
comp=Z,6.2nm,0.5s
TAU Tasmania Unive 45.43 159 P **P 10 52 03.1 -0.1**
TAU IAmb IAmb 10 52 16.8
comp=Z,38nm,1.1s
TAU Tasmania Unive 45.43 159 P **P 10 52 03.1 -0.1**
TAU pmax pmax
comp=Z,38nm,1.1s
MDJ Mudanjiang 45.63 3 P **P 10 52 04.8 +0.1**
MDJ pP pP 10 52 10.8 -1.6
MDJ ScP **ScP 10 57 34.3 +0.6**
MDJ S **S 10 58 46.5 +1.0**
MDJ sS sS 10 58 56.8 -2.0
MDJ ScS **ScS 11 01 59.8 +0.9**
MDJ pmax pmax
comp=Z,26nm,1.3s
MDJ pmax pmax
comp=Z,290nm,4.8s
MDJ LR LR
comp=Z,940nm,16.8s
MDJ LR LR
comp=Z,740nm,19.6s
MDJ LR LR
comp=Z,1µm,18.2s
MDJ Mudanjiang 45.63 3 IAmb IAmb 10 52 17.6
comp=Z,28nm,0.8s
LSA Lhasa 45.86 315 P **P 10 52 08.5 +1.1**
LSA IAmb IAmb 10 52 41.9
comp=Z,19nm,0.6s
LSA Lhasa 45.86 315 P **P 10 52 08.5 +1.1**
LSA Lhasa 45.86 315 P **P 10 52 08.5 +1.1**
LSA pmax pmax
comp=Z,19nm,0.6s
XLT XiLinHaoTe 45.88 349 *eP* **P 10 52 07.5 +0.7**
XLT S **S 10 58 47.5 -1.8**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,170nm,6.0s
TARA Tarawa 46.11 87 P **P 10 52 07.7 -1.4**
TARA Tarawa 46.11 87 IAMs_20 IAMs_20 11 08 28.1
comp=Z,2µm,20.0s
BNX BinXian 46.69 1 ⇓P **P 10 52 13.0 -0.1**
BNX pmax pmax
comp=Z,8.0nm,0.8s
BNX pmax pmax
comp=Z,290nm,4.3s
ASAJ Asahikawa 47.21 15 P **P 10 52 17.3 +0.2**
ASAJ pmax pmax
comp=Z,276nm,2.0s
ASAJ Asahikawa 47.21 15 LR LR 11 13 03.1
comp=Z,495nm,20.0s,baz=194,slow=37
JKA Kamikawa-asahi 47.21 15 P **P 10 52 17.3 +0.2**
GTA Gaotai 47.38 331 ⇓P **P 10 52 19.8 +1.1**
GTA pP sP 10 52 28.5 -1.0
GTA sP pwP 10 52 31.8 -0.5
GTA ScP **ScP 10 57 42.0 +0.7**
GTA S **S 10 59 11.0 0.0**
GTA sS sS 10 59 23.0 -0.7
GTA ScS **ScS 11 02 09.5 -1.3**
GTA SS **SS 11 02 35.3 -3.7**
GTA pmax pmax
comp=Z,15nm,1.8s
GTA LR LR
comp=Z,590nm,19.3s
GTA LR LR
comp=Z,440nm,18.9s
GTA LR LR
comp=Z,720nm,22.5s
GOMU GeErMu 47.65 324 P **P 10 52 23.3 +2.1**
GOMU S **S 10 59 19.0 +3.5**
GOMU pmax pmax
comp=Z,16nm,1.0s
GOMU LR LR
comp=Z,420nm,17.1s
GOMU LR LR
comp=Z,430nm,17.3s
GOMU LR LR
comp=Z,900nm,17.8s
YSS Yuzh-Sakhalins 49.89 14 *eP* **P 10 52 38.3 +0.6**
YSS *e* 10 54 03.0
YSS *eS* **S 10 59 47.3 +1.5**
YSS pmax pmax
comp=Z,30nm,1.6s
YSS MLR MLR
comp=Z,1µm,15.0s
KLR Kul'dur 50.36 4 *ceP* **P 10 52 40.0 -1.2**
KLR pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 50.59 354 IAMs_20 IAMs_20 11 17 12.0
comp=Z,1µm,22.0s
HYB Hyderabad 51.04 294 ⇓*eP* **P 10 52 46.9 -0.1**
HYB IVmB_BB 10 52 47.4
comp=Z,1µm,2.4s
HEH HeiHe 51.21 0 *eP* **P 10 52 46.5 -1.1**
HEH S **S 11 00 00.0 -4.0**
HEH pmax pmax
comp=Z,21nm,0.9s
HEH pmax pmax
comp=Z,710nm,4.7s
HEH LR LR
comp=Z,840nm,14.7s
HEH LR LR
comp=Z,580nm,15.8s
HEH LR LR
comp=Z,1µm,19.9s
ULN Ulaanbaatar 51.78 343 P **P 10 52 51.5 -0.7**
ULN IAmb IAmb 10 53 10.7
comp=Z,24nm,0.9s
ULN Ulaanbaatar 51.78 343 *i*P **P 10 52 52.2 0.0**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 51.78 343 P **P 10 52 54.1 +1.9**
ULN P **P 10 52 54.1 +1.9**
ULN Ulaanbaatar 51.78 343 P **P 10 52 53.4 +1.2**
comp=Z,106nm,1.2s
SONM Songino Array 51.95 343 P **P 10 52 54.6 +1.2**
SONM Songino Array 51.95 343 P **P 10 52 53.3 -0.1**
comp=Z,6.5nm,0.6s,baz=158,slow=8.6,SNR=21
SONM ScP **ScP 10 57 59.6 -1.0**
comp=Z,3.6nm,1.0s,baz=167,slow=4.5,SNR=5.7
SONM LR LR 11 18 36.3
comp=Z,447nm,19.8s,baz=160,slow=40
comp=Z,6.5nm,0.6s
YSA Yasawairara 52.23 110 P **P 10 52 57.8 +2.0**
GRNR Gornyy 52.36 8 *i*P **P 10 52 56.0 -0.3**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,340nm,16.0s
GRNR MLR MLR
comp=N,440nm,15.0s
GRNR MLR MLR
comp=Z,560nm,17.0s
TYV Tymovskoe 53.54 12 *eP* P 10 53 11.1 +6.2
TYV pmax pmax
comp=Z,700nm,3.1s
TYV pmax pmax
comp=Z,14nm,0.9s
DGTI Dogotuki 54.18 109 P **P 10 53 11.7 +1.4**
ZEA Zeya 54.70 0 *eP* **P 10 53 16.1 +2.8**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,400nm,18.0s
ZAK Zakamensk 55.16 342 *eP* **P 10 53 17.0 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
WMQ Urumqi 56.82 327 *eP* **P 10 53 30.3 +1.4**
WMQ sP sP 10 53 40.0 +0.3
WMQ PcP **PcP 10 54 25.0 +0.6**
WMQ S **S 11 01 18.3 -2.1**
WMQ sS sS 11 01 33.3 -0.2
WMQ pmax pmax
comp=Z,21nm,1.3s
WMQ pmax pmax
comp=Z,470nm,5.5s
WMQ LR LR
comp=Z,1µm,17.5s
WMQ LR LR
comp=Z,540nm,15.9s
WMQ LR LR
comp=Z,540nm,18.9s
TOZ Tahuroa Road 57.58 135 P **P 10 53 35.7 +1.4**
TOZ IAmb IAmb 10 53 51.4
comp=Z,16nm,0.9s
TOZ IAMs_20 IAMs_20 11 20 38.4
comp=Z,2µm,20.0s
RPZ Rata Peaks 57.75 143 P **P 10 53 36.5 +1.1**
RPZ Rata Peaks 57.75 143 LR LR 11 19 37.6
comp=Z,2µm,20.6s,baz=312,slow=37
LTZ Lake Taylor 57.97 142 P **P 10 53 38.3 +1.3**
LTZ IAmb IAmb 10 54 35.4
comp=Z,71nm,1.8s
OXZ Oxford 58.13 142 P **P 10 53 38.9 +0.9**
OXZ IAmb IAmb 10 53 56.8
comp=Z,15nm,0.7s
TUWZ Tuamarina 58.32 140 P **P 10 53 39.2 -0.1**
KHZ Kahutara 58.57 141 P **P 10 53 40.8 -0.3**
SNZO South Karori 58.75 139 IAMs_20 IAMs_20 11 19 47.3
comp=Z,2µm,22.0s
URZ Urewera 58.95 135 P **P 10 53 44.3 +0.5**
URZ Urewera 58.95 135 LR LR 11 22 11.5
comp=Z,1µm,18.9s,baz=35,slow=39
RTZ Ruatahuna 59.02 135 P **P 10 53 44.2 -0.2**
RAO Raoul Island 59.45 124 LR LR 11 19 54.2
comp=Z,482nm,21.2s,baz=316,slow=36
MXZ Matakaoa Point 59.51 134 IAMs_20 IAMs_20 11 19 49.4
comp=Z,2µm,20.0s
BOD Bodaibo 59.68 352 *eP* **P 10 53 49.0 +0.5**
BOD pmax pmax
comp=Z,17nm,1.8s
PETK Petropavlovsk- 59.88 21 P **P 10 53 49.7 -0.3**
comp=Z,5.4nm,0.6s,baz=204,slow=3.2,SNR=3.1
PETK LR LR 11 17 39.7
comp=Z,207nm,21.8s,baz=208,slow=34
comp=Z,5.4nm,0.6s
PET Petropavlovsk 60.16 22 *eP* P 10 53 57.0 +5.2
PET *eS* **S 11 02 11.3 +8.0**
NIL Nilore 61.08 310 P **P 10 53 58.6 0.0**
NIL IAmb IAmb 10 54 14.7
comp=Z,24nm,0.7s
NIL Nilore 61.08 310 P **P 10 53 58.6 0.0**
NIL pmax pmax
comp=Z,24nm,0.7s
NIL Nilore 61.08 310 P **P 10 53 58.8 +0.3**
KSH Kashi 61.63 317 P **P 10 54 04.0 +1.7**
KSH sP pwP 10 54 14.0 -2.2
KSH S **S 11 02 26.0 +3.1**
KSH SS **SS 11 06 31.5 +6.7**
KSH pmax pmax
comp=Z,16nm,1.0s
KSH LR LR
comp=Z,500nm,20.7s
KSH LR LR
comp=Z,240nm,25.3s
KSH LR LR
comp=Z,380nm,23.0s
MK31 Makanchi Array 61.66 327 P **P 10 54 02.4 +0.2**
MK31 IAmb IAmb 10 54 06.5
comp=Z,18nm,0.8s
MK31 Makanchi Array 61.66 327 P **P 10 54 02.4 +0.2**
MK31 pmax pmax
comp=Z,18nm,0.9s
MKAR Makanchi Array 61.66 327 P **P 10 54 02.3 +0.1**
comp=Z,11nm,0.5s,baz=116,slow=8.0,SNR=171
MKAR ScP **ScP 10 58 41.9 -1.4**
comp=Z,3.3nm,0.8s,baz=126,slow=5.1,SNR=4.5
MKAR S **S 11 02 19.8 -3.0**
comp=Z,2.1nm,1.2s,baz=126,slow=13,SNR=2.2
comp=Z,11nm,0.5s
MAKZ Makanchi 61.84 327 P **P 10 54 03.2 -0.2**
MAKZ IAmb IAmb 10 54 07.7
comp=Z,31nm,1.1s
MAKZ Makanchi 61.84 327 P **P 10 54 03.4 0.0**
NRN Naryn 62.53 319 P **P 10 54 08.7 +0.1**
NRN IAmb IAmb 10 54 32.2
comp=Z,15nm,1.0s
NRN Naryn 62.53 319 P **P 10 54 08.7 +0.1**
NRN pmax pmax
comp=Z,15nm,1.0s
MDOK Medeo 62.72 321 P **P 10 54 10.7 +1.1**
YAK Yakutsk 63.05 1 P **P 10 54 11.0 -0.1**
YAK Yakutsk 63.05 1 *eP* **P 10 54 10.6 -0.5**
YAK *e* 10 54 48.3
YAK *e*PPP PPP 10 57 56.9
YAK *eS* **S 11 02 38.7 -0.9**
YAK *e**SS sS 11 02 59.4 +6.2
YAK *e* 11 03 56.9
YAK *e*SS **SS 11 06 47.8 +2.0**
YAK pmax pmax
comp=Z,79nm,0.8s
YAK pmax pmax
comp=N,10.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,251nm,5.7s
YAK pmax pmax
comp=N,188nm,4.8s
YAK pmax pmax
comp=E,171nm,4.9s
YAK smax smax
comp=E,297nm,4.4s
YAK smax smax
comp=N,195nm,4.7s
YAK Yakutsk 63.05 1 LR LR 11 21 59.1
comp=N,128nm,21.8s,baz=162,slow=36
MA2 Magadan 63.38 13 P **P 10 54 12.8 -0.7**
MA2 Magadan 63.38 13 P **P 10 54 15.1 +1.7**
MA2 Magadan 63.38 13 *ce*P **P 10 54 14.4 +1.0**
MA2 pmax pmax
comp=Z,98nm,1.8s
MA2 Magadan 63.38 13 LR LR 11 20 24.7
comp=Z,172nm,21.6s,baz=223,slow=35
TKM2 Tokmak 2 63.52 320 P **P 10 54 14.8 -0.1**
SNR=11
TKM2 Tokmak 2 63.52 320 P **P 10 54 14.9 -0.1**
UCH Uchtor 63.89 319 P **P 10 54 18.9 +1.2**
SNR=13
AAK Ala-Archa 64.09 319 P **P 10 54 21.3 +2.6**
SNR=8.7
AAK Ala-Archa 64.09 319 P **P 10 54 20.1 +1.4**
AAK IAmb IAmb 10 54 23.7
comp=Z,21nm,1.1s
AAK Ala-Archa 64.09 319 *i*P **P 10 54 20.1 +1.4**
SNR=11
AAK Ala-Archa 64.09 319 *ce*P **P 10 54 20.2 +1.4**
AAK pmax pmax
comp=Z,23nm,1.1s
AAK Ala-Archa 64.09 319 P **P 10 54 20.6 +1.9**
AML Almayashu 64.38 319 P **P 10 54 23.4 +2.5**
SNR=20
AML Almayashu 64.38 319 P **P 10 54 21.2 +0.3**
USP Ospenovka 64.39 320 P **P 10 54 21.1 +0.6**
SNR=16
EKS2 Erkin-Say 64.57 319 P **P 10 54 23.2 +1.4**
SNR=6.5
KBL Kabul 64.65 309 P **P 10 54 22.6 0.0**
KBL IAmb IAmb 10 54 45.2
comp=Z,36nm,1.0s
KBL Kabul 64.65 309 P **P 10 54 22.6 0.0**
KBL pmax pmax
comp=Z,36nm,1.0s
KBL Kabul 64.65 309 P **P 10 54 23.2 +0.6**
SNR=13
ZAA0 Zalesovo Array 64.99 334 P **P 10 54 24.0 -0.1**
ZAA0 IAmb IAmb 10 54 41.0
comp=Z,25nm,1.1s
ZALV Zalesovo Beam 64.99 334 P **P 10 54 23.4 -0.7**
ZALV Zalesovo Beam 64.99 334 *i*P **P 10 54 26.7 +2.6**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV Zalesovo Beam 64.99 334 P **P 10 54 23.6 -0.5**
comp=Z,2.2nm,0.5s,baz=120,slow=5.1,SNR=13
comp=Z,2.2nm,0.5s
BTK Batken 65.44 316 P **P 10 54 28.6 +1.2**
BTK IAmb IAmb 10 54 48.5
comp=Z,35nm,1.2s
BTK Batken 65.44 316 P **P 10 54 28.6 +1.2**
BTK pmax pmax
comp=Z,35nm,1.2s
KURBB Kurchatov Arra 65.92 329 P **P 10 54 29.9 -0.3**
comp=Z,9.3nm,0.6s,baz=130,slow=6.1,SNR=80
KURBB S **S 11 03 12.7 -2.8**
comp=Z,0.1nm,0.5s,baz=138,slow=10.0,SNR=1.4
comp=Z,9.3nm,0.6s
KURK Kurchatov 65.93 329 P **P 10 54 29.9 -0.3**
KURK Kurchatov 65.93 329 P **P 10 54 29.9 -0.3**
CASY Casey 66.03 187 P **P 10 54 31.6 +1.1**
SIMJ Simiganj 66.17 314 P **P 10 54 31.2 -1.1**
SIMJ IAmb IAmb 10 54 34.5
comp=Z,19nm,0.8s
SHEM Shemya Is, Ala 66.60 29 LR LR 11 18 49.7
comp=Z,623nm,21.8s,baz=1.0,slow=32
SEY Seymchan 66.73 12 *i*P **P 10 54 36.0 +0.9**
SEY pmax pmax
comp=Z,44nm,1.0s
KK31 Karatay Array 66.92 318 P **P 10 54 36.9 +0.1**
KK31 IAmb IAmb 10 55 08.3
comp=Z,33nm,1.4s
KK31 Karatay Array 66.92 318 P **P 10 54 36.9 +0.1**
KK31 pmax pmax
comp=Z,33nm,1.5s
KKAR Karatay Array 66.92 318 P **P 10 54 36.9 +0.1**
KKAR Karatay Array 66.92 318 P **P 10 54 36.9 +0.1**

OTUK **Ortayu** 68.10 324 P **P** 10 54 43.7 -0.5
JLN **Jalan Bani Buh** 69.65 294 P **P** 10 54 55.0 +0.7
HRA **Herat** 69.94 307 P **P** 10 54 55.8 -0.3
WBK **Wadi Bani Khal** 70.13 294 ⇑P **P** 10 54 58.7 +1.4
WSAR **Wadi Sarin** 70.55 295 LR LR 11 27 15.1
comp=Z,339nm,21.6s,baz=125,slow=37
WSAR **Wadi Sarin** 70.55 295 P **P** 10 55 00.2 +0.4
MHTO **MHTO** 70.78 293 P **P** 10 55 01.2 -0.1
SNR=15
JMDO **Jabal Madar** 70.88 294 P **P** 10 55 01.9 +0.1
SNR=7.5
DQM **DQM** 71.02 291 P **P** 10 55 02.9 +0.2
SNR=14
SMDO **Samad** 71.04 295 P **P** 10 55 03.1 +0.2
BIDO **Bidbid** 71.05 295 P **P** 10 55 03.2 +0.4
SNR=7.5
BVA0 **Borovoye Array** 71.48 328 P **P** 10 55 01.9 -2.9
BVAR **Borovoye Array** 71.48 328 P **P** 10 55 02.7 -2.2
comp=Z,3.4nm,0.6s,baz=128,slow=9.5,SNR=6.2
comp=Z,3.4nm,0.6s
BRVK **Borovoye** 71.56 328 P **P** 10 55 05.1 -0.2
BRVK IAmb IAmb 10 55 23.9
comp=Z,25nm,1.0s
BRVK **Borovoye** 71.56 328 P **P** 10 55 05.1 -0.2
BRVK pmax pmax
comp=Z,25nm,1.0s
BRVK **Borovoye** 71.56 328 P **P** 10 55 08.2 +3.0
BSY **Bisya** 71.76 294 P **P** 10 55 07.5 +0.3
SNR=6.9
HOQ **Hoqain** 71.80 295 P **P** 10 55 07.7 +0.4
SNR=9.6
ATKA **Atka Island** 72.43 34 P **P** 10 55 10.3 -0.2
ATKA **Atka Island** 72.43 34 P **P** 10 55 10.0 -0.5
ARQ **Araqi** 72.47 295 P **P** 10 55 11.9 +0.4
SNR=8.7
SHAO **Shalim** 72.56 289 *i* P **P** 10 55 11.7 -0.3
SNR=9.1
SHAO **Shalim** 72.56 289 P **P** 10 55 12.0 0.0
SNR=6.4
SOHO **SOHO** 72.59 296 *i* P **P** 10 55 12.1 0.0
SNR=11
SOHO **SOHO** 72.59 296 P **P** 10 55 12.0 0.0
TIXI **Tiksi** 72.69 1 P **P** 10 55 10.8 -0.8
TIXI IAmb IAmb 10 55 18.6
comp=Z,19nm,0.6s
TIXI **Tiksi** 72.69 1 IAMs_20 IAMs_20 11 30 23.6
comp=Z,674nm,20.0s
TIXI **Tiksi** 72.69 1 P **P** 10 55 10.8 -0.8
TIXI pmax pmax
comp=Z,19nm,0.6s
TIXI MLR MLR
comp=Z,700nm,20.0s
MDH **Madha** 72.99 297 P **P** 10 55 13.2 -1.2
MDH **Madha** 72.99 297 P **P** 10 55 13.4 -1.0
UOSS **Minazif** 73.02 296 P **P** 10 55 14.2 -0.4
UOSS **Minazif** 73.02 296 P **P** 10 55 14.5 -0.1
UOSS **Minazif** 73.02 296 P **P** 10 55 14.6 -0.1
HATD **Hatta, Dubai** 73.06 296 *i* P **P** 10 55 15.3 +0.4
SNR=7.3
HATD **Hatta, Dubai** 73.06 296 P **P** 10 55 15.3 +0.4
ASHO **Ashiyiah** 73.11 296 *i* P **P** 10 55 15.4 +0.2
SNR=14
ASHO **Ashiyiah** 73.11 296 P **P** 10 55 15.6 +0.4
MSFE **Esma-Masafi** 73.13 297 *i* P **P** 10 55 16.1 +0.8
SNR=5.4
MASF **Masafi** 73.13 297 P **P** 10 55 16.4 +1.1
DMTO **DMTO** 73.17 289 P **P** 10 55 15.5 -0.1
SNR=5.2
SHME **Shamm** 73.26 298 P **P** 10 55 16.3 +0.3
SHME **Shamm** 73.26 298 P **P** 10 55 16.7 +0.8
ALNE **Al Ain** 73.28 295 *i* P **P** 10 55 16.7 +0.5
SNR=28
ALNE **Al Ain** 73.28 295 P **P** 10 55 16.9 +0.7
SNR=23
NAZ **Nazwa, Dubai** 73.51 296 *i* P **P** 10 55 18.0 +0.5
SNR=7.4
NAZ **Nazwa, Dubai** 73.51 296 P **P** 10 55 18.1 +0.5
FAQ **Al Faqa, Dubai** 73.53 296 *i* P **P** 10 55 18.0 +0.3
SNR=15
FAQ **Al Faqa, Dubai** 73.53 296 P **P** 10 55 17.9 +0.2
SNR=10
UMQ **Umm Al-Quwin** 73.60 297 P **P** 10 55 19.5 +1.5
UMZA **Um Al Zommool** 73.62 294 P **P** 10 55 18.1 -0.1
ASUD **Al Ashush, Dub** 73.75 296 *i* P **P** 10 55 20.0 +1.1
SNR=17
ASUD **Al Ashush, Dub** 73.75 296 P **P** 10 55 19.7 +0.8
SNR=12
RBK **Rabkut** 73.85 288 P **P** 10 55 19.6 -0.1
DOK **Doka** 74.04 290 P **P** 10 55 20.3 -0.4
SNR=9.5
AJN **Ajban** 74.05 296 *i* P **P** 10 55 22.6 +2.0
SNR=6.1
AJN **Ajban** 74.05 296 P **P** 10 55 21.2 +0.6
SNR=9.6
RAR **Rarotonga** 74.07 112 LR LR 11 28 25.7
comp=Z,193nm,19.7s,baz=272,slow=36
GEYT **Alibeck** 74.08 310 P **P** 10 55 19.1 -1.6
GEYT IAmb IAmb 10 55 35.0
comp=Z,20nm,1.1s
GEYT **Alibeck** 74.08 310 P **P** 10 55 20.8 +0.2
comp=Z,3.8nm,0.6s,baz=157,slow=5.8,SNR=7.6
comp=Z,3.8nm,0.6s
GYA0B **ALIBECK ARRAY** 74.08 310 P **P** 10 55 19.1 -1.6
GYA0B IAmb IAmb 10 55 35.0
comp=Z,29nm,1.3s
BILL **Bilibino** 74.21 14 *i* P **P** 10 55 19.3 -1.4
WHFO **Wadi Hawf** 74.30 289 P **P** 10 55 21.5 -0.8
SNR=5.1
ABTO **Aybut** 74.69 288 P **P** 10 55 24.1 -0.4
SNR=5.3
NRIK **Noril'sk** 75.17 347 P **P** 10 55 25.6 -0.6
NRIK IAmb IAmb 10 55 55.7
comp=Z,25nm,0.9s
NRIK **Noril'sk** 75.17 347 *ce*P **P** 10 55 27.2 +1.0
NRIK pmax pmax
comp=Z,41nm,1.6s
NRIK **Noril'sk** 75.17 347 P **P** 10 55 25.4 -0.8
comp=Z,7.4nm,0.6s,baz=137,slow=6.1,SNR=16
NRIK S **S** 11 04 58.6 -4.1
comp=Z,1.1nm,0.3s,baz=340,slow=20,SNR=2.0
NRIK LR LR 11 30 59.6
comp=Z,502nm,20.1s,baz=140,slow=38
comp=Z,7.4nm,0.6s
GHWR **Ruwais** 75.87 295 P **P** 10 55 32.5 +1.3
AB31 **Akbulak array** 76.02 322 *eP* **P** 10 55 30.8 -0.7
ABKAR **Akbulak array** 76.02 322 P **P** 10 55 30.6 -0.8
ABKAR IAmb IAmb 10 56 04.1
comp=Z,30nm,1.6s
JRN **Qarnain Island** 76.03 296 P **P** 10 55 31.9 -0.2
UNV **Unalaska Valle** 77.35 34 P **P** 10 55 40.8 +1.9
TRNA **Turayna** 77.48 296 P **P** 10 55 40.4 +0.1
AKTO **Aktyubinsk** 77.57 322 P **P** 10 55 39.3 -0.9
AKTO **Aktyubinsk** 77.57 322 S **S** 11 05 25.5 -4.2
comp=Z,0.5nm,0.4s,baz=212,slow=19,SNR=1.8
SMRA **Abu-Samra** 77.83 295 P **P** 10 55 42.0 -0.2
SHMA **Al-Shehemyia** 77.84 297 P **P** 10 55 42.0 -0.3
SVE **Sverdlovsk** 78.18 329 *eP* **P** 10 55 44.1 +0.6
SVE pmax pmax
comp=Z,27nm,1.1s
VNDA **Vanda** 78.60 173 P **P** 10 55 45.5 0.0
VNDA **Vanda** 78.60 173 P **P** 10 55 45.5 0.0
VNDA pmax pmax
comp=Z,21nm,1.4s
VNDA **Vanda** 78.60 173 P **P** 10 55 45.3 -0.1
comp=Z,3.4nm,0.7s,baz=313,slow=8.1,SNR=8.6
VNDA LR LR 11 28 19.2
comp=Z,436nm,22.0s,baz=338,slow=34
comp=Z,3.4nm,0.7s
GAMB **Gambell** 78.78 23 P **P** 10 55 47.0 +0.4
baz=244
ARU **Arti** 79.12 328 P **P** 10 55 48.8 +0.1
ARU IAmb IAmb 10 56 12.6
comp=Z,26nm,1.3s
ARU **Arti** 79.12 328 *d* iP P 10 55 53.8 +5.1
ARU 10 58 47.0
ARU S **SKSac** 11 05 59.3 -3.1
ARU SS **SS** 11 10 57.0 +4.4
ARU pmax pmax
comp=Z,11nm,0.8s
VOI **Vohitsoka** 80.37 248 P **P** 10 55 55.6 -0.7
VOI **Vohitsoka** 80.37 248 P **P** 10 55 57.1 +0.7
CNBA **Chernabura Isl** 81.50 34 P **P** 10 56 01.7 +0.2
F14K **Arctic Creek** 81.58 23 P **P** 10 56 03.7 +1.9
baz=248
ANM **Nome** 81.63 24 P **P** 10 56 03.7 +1.7
ANM pmax pmax
comp=Z,12nm,1.2s
L14K **Kuka Creek** 81.73 27 IAmb IAmb 10 56 13.1
comp=Z,18nm,0.9s
L14K **Kuka Creek** 81.73 27 P **P** 10 56 04.9 +2.4
baz=252
M14K **Bethel** 81.88 28 P **P** 10 56 02.2 -1.1
G15K **Niukluk** 82.32 24 P **P** 10 56 06.2 +0.6
baz=250
F15K **North Star Dit** 82.32 23 P **P** 10 56 06.5 +0.9
baz=250
M15K **Kasigluk River** 82.47 28 P **P** 10 56 07.2 +0.8
baz=254
K15K **Wolf Creek Mou** 82.53 27 P **P** 10 56 08.2 +1.4
baz=253
RAYN **Ar Rayn** 82.54 294 P **P** 10 56 07.7 -0.1
RAYN IAmb IAmb 10 56 21.7
comp=Z,24nm,1.2s
RAYN **Ar Rayn** 82.54 294 *i* P **P** 10 56 07.7 -0.1
SNR=12
RAYN **Ar Rayn** 82.54 294 P **P** 10 56 07.7 -0.1
RAYN pmax pmax
comp=Z,24nm,1.2s
H16K **Elim** 82.93 24 P **P** 10 56 09.2 +0.4
baz=252
C16K **Lisburne Hills** 82.98 20 IAmb IAmb 10 56 17.5
comp=Z,34nm,1.1s
C16K **Lisbne Hills** 82.98 20 P **P** 10 56 09.2 +0.3
baz=249
G16K **Koyuk River** 83.12 23 IAmb IAmb 10 56 17.8
comp=Z,25nm,0.9s
G16K **Koyuk River** 83.12 23 P **P** 10 56 10.4 +0.6
baz=252
J16K **Anvik River** 83.23 26 P **P** 10 56 11.6 +1.2
baz=254
L16K **Owhat River** 83.31 27 P **P** 10 56 09.9 -0.9
L16K IAmb IAmb 10 56 21.7
comp=Z,52nm,1.4s
L16K **Owhat River** 83.31 27 P **P** 10 56 11.1 +0.3
baz=255
I17K **Unalakleet** 83.36 25 P **P** 10 56 11.4 +0.4
I17K **Unalakleet** 83.36 25 P **P** 10 56 12.1 +1.2
baz=254
PPT **Papeete** 83.50 107 LR LR 11 29 52.1
comp=Z,352nm,21.2s,baz=258,slow=33
PPT2 **Papeete2** 83.50 107 *eP* **P** 10 56 08.2 -4.6
comp=Z,187nm,25.5s
PPT2 **Papeete2** 83.50 107 *eS* **S** 11 06 37.6 +4.4
comp=Z,169nm,24.0s
PPT2 *eSS* **SS** 11 12 05.1 +5.4
comp=Z,381nm,28.2s
PPT2 *eLQ* LQ 11 19 16.3
comp=Z,510nm,24.0s
PPT2 *eLR* LR 11 22 24.7
comp=Z,603nm,29.0s
PPT2 *eLR* LR 11 22 30.3
comp=Z,816nm,24.2s
D17K **Noatak River** 83.58 21 P **P** 10 56 13.1 +1.0
baz=251
TBI **Tubuai** 83.73 113 *eP* **P** 10 56 12.9 -0.9
comp=Z,519nm,26.5s
TBI **Tubuai** 83.73 113 *eS* **S** 11 06 39.7 +4.6
comp=Z,849nm,24.2s
TBI **Tubuai** 83.73 113 *eLQ* LQ 11 19 15.2
comp=Z,4μm,37.8s
TBI *eLR* LR 11 22 26.6
comp=Z,1μm,32.8s
TBI *eLR* LR 11 22 37.7
comp=Z,4μm,23.8s
C17K **DeLong Mountai** 83.80 20 P **P** 10 56 13.9 +0.7
baz=251
G17K **Kiwalik Mounta** 83.83 24 P **P** 10 56 14.1 +0.6
baz=254
E17K **Hotham Inlet** 83.84 22 P **P** 10 56 14.3 +0.8
baz=252
F17K **Baldwin Pennin** 83.87 23 IAmb IAmb 10 56 21.6
comp=Z,18nm,0.8s
F17K **Baldwin Pennin** 83.87 23 P **P** 10 56 14.6 +1.1
baz=253
L17K **Donlin** 83.95 27 P **P** 10 56 15.4 +1.3
baz=256
H17K **Granite Mounta** 83.97 24 P **P** 10 56 15.4 +1.2
baz=254
O17K **Koliganek Bris** 83.98 30 P **P** 10 56 16.3 +2.0
baz=257
K17K **Iditarod** 84.09 27 P **P** 10 56 16.0 +1.2
baz=256
C18K **Utukok River** 84.55 20 P **P** 10 56 17.1 0.0
C18K IAmb IAmb 10 56 24.9
comp=Z,15nm,0.8s
C18K **Utukok River** 84.55 20 P **P** 10 56 17.3 +0.2
baz=253
B18K **Kokolik River** 84.56 20 P **P** 10 56 18.1 +1.1
baz=252
H18K **Honhosa River** 84.66 24 P **P** 10 56 19.7 +2.0
baz=256
L18K **Granite Mounta** 84.71 27 P **P** 10 56 18.8 +0.8
baz=258
G18K **Tagagawik** 84.73 23 P **P** 10 56 17.8 -0.2
baz=255
M18K **Stony River** 84.95 28 P **P** 10 56 20.3 +1.2
baz=256
J18K **Innoko River** 84.97 26 P **P** 10 56 20.1 +0.8
baz=257
A19K **Wainwright** 85.05 19 P **P** 10 56 20.3 +0.8
baz=253
TTA **Tatalina** 85.16 27 P **P** 10 56 20.8 +0.5
GCSA **Galena City Sc** 85.18 25 P **P** 10 56 20.1 -0.1
baz=257
C19K **Lookout Ridge** 85.23 20 P **P** 10 56 20.8 +0.2
C19K **Lookout Ridge** 85.23 20 P **P** 10 56 21.1 +0.5
baz=254
F19K **Shaleruckik Mo** 85.31 23 P **P** 10 56 21.2 +0.3
baz=256
VAH **Vaihoa** 85.36 105 *eP* **P** 10 56 18.3 -3.8
comp=Z,18nm,0.8s
G19K **Purcell Mounta** 85.42 23 P **P** 10 56 21.1 -0.3
G19K **Purcell Mounta** 85.42 23 P **P** 10 56 21.3 -0.1
baz=257
N19K **Bonanza Creek** 85.46 29 P **P** 10 56 22.9 +1.0
H19K **Roundabout Mou** 85.53 24 P **P** 10 56 22.1 +0.1
H19K IAmb IAmb 10 56 31.8
comp=Z,42nm,1.9s
H19K **Roundabout Mou** 85.53 24 P **P** 10 56 22.0 +0.1
baz=257
D19K **Kuna River** 85.59 21 IAmb IAmb 10 56 30.5
comp=Z,13nm,0.8s
D19K **Kuna River** 85.59 21 P **P** 10 56 22.2 -0.1
baz=256
ZEI **Tsey** 85.61 313 *eP* **P** 10 56 20.6 -2.6
ZEI pmax pmax
comp=Z,23nm,0.9s
E19K **Redstone River** 85.67 22 IAmb IAmb 10 56 33.3
comp=Z,22nm,1.4s
E19K **Redstone River** 85.67 22 P **P** 10 56 22.8 +0.2
baz=256
KDAK **Kodiak Island** 85.92 32 LR LR 11 28 36.3
comp=Z,756nm,21.1s,baz=267,slow=31
F20K **Avaraart Lake** 86.15 23 P **P** 10 56 25.0 0.0
baz=258
H20K **Anotleneega Mo** 86.17 24 P **P** 10 56 25.9 +0.7
baz=259
D20K **Etivluk River** 86.18 21 P **P** 10 56 24.8 -0.4
baz=257
E20K **Nigu River** 86.23 21 P **P** 10 56 25.5 0.0
baz=257
B20K **Meade River** 86.29 20 IAmb IAmb 10 58 20.4
comp=Z,23nm,1.6s
B20K **Meade River** 86.29 20 P **P** 10 56 25.3 -0.4
baz=256
KBZ **Khabaz** 86.43 314 P **P** 10 56 26.8 -0.1
comp=Z,3.0nm,0.9s,baz=102,slow=2.6,SNR=5.3
comp=Z,3.0nm,0.9s
KIV **Kislovodsk** 86.60 314 *eP* **P** 10 56 28.2 +0.3
KIV *e* 11 06 52.9
KIV pmax pmax
comp=Z,6.0nm,1.0s
GURO **Guroymak-BITLI** 86.67 309 P **P** 10 56 29.4 +1.0
GURO IAmb IAmb 10 56 31.3
comp=Z,34nm,1.4s
IMAR **Indian Mountai** 86.72 24 P **P** 10 56 27.4 -0.4
C21K **Knifeblade Rid** 86.92 21 P **P** 10 56 28.7 -0.1
baz=259
SUA **Susitna One** 87.35 28 P **P** 10 56 30.1 -1.1
baz=263
B22K **Teshekpuk Lake** 87.61 19 P **P** 10 56 31.1 -0.9
baz=260
VRH **Novokhopyorsk** 87.84 321 *eP* **P** 10 56 31.0 -2.6
VRH pmax pmax
comp=Z,10.0nm,0.8s
COLD **Coldfoot** 88.30 23 P **P** 10 56 35.1 -0.4
baz=263
G23K **Bananza Creek** 88.31 23 P **P** 10 56 35.5 -0.1
G23K **Bananza Creek** 88.31 23 P **P** 10 56 35.2 -0.3
baz=263
D23K **Nanushuk River** 88.34 21 P **P** 10 56 35.4 -0.3
baz=263
FURI **Furi** 88.39 279 IAMs_20 IAMs_20 11 37 36.8
comp=Z,493nm,21.0s
I23K **Minto, Yukon-K** 88.40 25 P **P** 10 56 35.7 -0.2
I23K IAmb IAmb 10 56 43.5
comp=Z,13nm,1.1s
I23K **Minto, Yukon-K** 88.40 25 P **P** 10 56 35.0 -0.9
baz=264
KNK **Knik Glacier** 88.44 29 P **P** 10 56 35.6 -0.7
MCK **McKinley** 88.44 26 P **P** 10 56 34.8 -1.4
baz=264
SML **Sawmill** 88.53 28 P **P** 10 56 36.2 -0.5
E23K **Chandalar** 88.62 22 P **P** 10 56 36.9 -0.2
baz=264
SOC **Sochi** 88.72 313 *eP* **P** 10 56 34.2 -3.7
SOC *e* 11 00 04.9
SOC *e*PPP PPP 11 02 07.2
SOC *e*S **SKSac** 11 07 01.2 -4.1
SOC *e*SS **SS** 11 13 09.1 -5.9
SOC *e*SSS SSS 11 16 45.3
KIBK **Kibwezi** 88.78 268 P **P** 10 56 37.9 -1.1
KIBK IAmb IAmb 10 56 42.7
comp=Z,15nm,1.7s
KIBK IAMs_20 IAMs_20 11 40 24.6
comp=Z,317nm,20.0s
QSPA **South Pole Qui** 88.79 180 P **P** 10 56 38.0 0.0
QSPA IAmb IAmb 10 56 54.9
comp=Z,25nm,1.3s
QSPA **South Pole Qui** 88.79 180 IAMs_20 IAMs_20 11 41 59.8
comp=Z,669nm,19.0s
QSPA **South Pole Qui** 88.79 180 P **P** 10 56 37.2 -0.7
comp=Z,2.0nm,0.4s,baz=321,slow=2.1,SNR=13
comp=Z,2.0nm,0.4s
CCB **Clear Creek Bu** 89.02 25 P **P** 10 56 38.6 -0.3
CCB IAmb IAmb 10 56 45.6
comp=Z,9.3nm,1.1s
D24K **Happy Valley** 89.03 21 IAmb IAmb 10 56 47.3
comp=Z,23nm,1.5s
H24K **Noodor Dome** 89.09 24 IAmb IAmb 10 56 46.5
comp=Z,13nm,1.2s
IL31 89.42 25 P **P** 10 56 40.6 -0.1
IL31 IAmb IAmb 10 58 18.1
comp=Z,39nm,1.9s
ILAR **Eielson Array** 89.42 25 P **P** 10 56 37.7 -3.0
ILAR **Eielson Array** 89.42 25 P **P** 10 56 38.2 -2.5
comp=Z,1.2nm,0.8s,baz=238,slow=4.3,SNR=11
ILAR PP **PP** 11 00 07.7 -4.3
comp=Z,0.5nm,0.8s,baz=265,slow=6.6,SNR=2.4
ILAR LR LR 11 30 59.6
comp=Z,290nm,21.6s,baz=252,slow=32
comp=Z,1.2nm,0.8s
VSR **Storozhevoye** 89.45 321 *eP* **P** 10 56 38.4 -2.8
VSR pmax pmax
comp=Z,6.0nm,0.8s
KMBO **Kilima Mbogo** 89.60 269 P **P** 10 56 42.5 -0.5
KMBO IAmb IAmb 10 57 06.6
comp=Z,27nm,1.9s
KMBO **Kilima Mbogo** 89.60 269 IAMs_20 IAMs_20 11 36 26.2
comp=Z,556nm,21.0s
KMBO **Kilima Mbogo** 89.60 269 P **P** 10 56 42.5 -0.5
comp=Z,1.5nm,0.3s,baz=79,slow=5.2,SNR=5.5
comp=Z,1.5nm,0.3s
EYAK **Cordova Ski Ar** 89.69 30 P **P** 10 56 41.8 -0.3
KLMR **Klimovskoe** 89.70 331 *eP* **P** 10 56 42.4 +0.3
KLMR pmax pmax
comp=Z,21nm,1.4s
D25K **Kavik River** 89.91 21 P **P** 10 56 42.2 -0.9
baz=267
J25K **Salcha River,** 90.06 26 P **P** 10 56 41.4 -2.5
baz=268
E25K **Arctic Village** 90.14 22 P **P** 10 56 43.9 -0.2
baz=267
RAGM **Ragged Mountai** 90.22 30 P **P** 10 56 43.2 -1.4
RIDG **Independent Ri** 90.26 26 P **P** 10 56 43.3 -1.5
baz=268
N25K **Chitina, Valde** 90.30 29 P **P** 10 56 44.6 -0.4
baz=268
ASF **Jabal al Asfar** 90.59 302 LR LR 11 43 19.3
comp=Z,156nm,21.1s,baz=157,slow=39
J26L **Joseph Creek** 90.84 26 P **P** 10 56 46.6 -0.9
baz=269
I26K **Coal Creek Min** 91.02 25 P **P** 10 56 47.4 -0.8
baz=270
OBN **Obninsk** 91.11 325 *eP* **P** 10 56 47.7 -1.1
OBN *e**PP **pP** 10 56 56.5 -0.5
OBN *e* 11 00 26.1
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,346nm,25.0s
K27K **Chicken** 91.49 26 IAmb IAmb 10 56 58.4
comp=Z,12nm,1.0s
K27K **Chicken** 91.49 26 P **P** 10 56 50.6 +0.2
baz=270
L27K **Beaver Creek,** 91.61 27 P **P** 10 56 50.8 -0.2
baz=271
BCAR **Beaver Creek A** 91.63 27 P **P** 10 56 50.7 -0.4
I27K **Kandik River** 91.67 25 P **P** 10 56 51.3 +0.1
baz=271
D27M **Malcolm River** 91.84 21 IAmb IAmb 10 56 54.5
comp=Z,18nm,1.9s
MMAI **Mount Meron Ar** 91.86 303 LR LR 11 44 37.3
comp=Z,285nm,20.3s,baz=82,slow=40
CTGM **Chitina Glacie** 91.87 29 P **P** 10 56 51.6 -0.9
EGAK **Eagle** 91.87 25 P **P** 10 56 51.3 -0.9
EGAK IAmb IAmb 11 00 29.1
comp=Z,30nm,1.9s
LOGN **Logan Glacier** 92.03 29 P **P** 10 56 52.1 -1.1
EIL **Elat** 92.24 299 LR LR 11 41 28.5
comp=Z,403nm,22.0s,baz=68,slow=38
F28M **Old Crow** 92.30 23 P **P** 10 56 52.2 -1.9
F28M IAmb IAmb 10 57 13.2
comp=Z,16nm,1.6s
F28M **Old Crow** 92.30 23 P **P** 10 56 53.6 -0.6
baz=273
I28M **Miner Creek** 92.37 25 IAmb IAmb 10 57 02.0
comp=Z,10nm,1.0s
I28M **Miner Creek** 92.37 25 P **P** 10 56 54.4 -0.2
baz=272
APA **Apatity** 92.39 337 ||| *i*P **P** 10 56 58.3 +3.8
APA pmax pmax
comp=Z,14nm,0.6s
APA MLR MLR
comp=Z,1μm,20.0s
PINM **Pinnacle** 92.43 30 P **P** 10 56 53.6 -1.3
baz=272
DAWY **Dawson** 92.67 26 P **P** 10 56 55.8 -0.1
DAWY IAmb IAmb 10 57 03.7
comp=Z,9.1nm,1.0s
I29M **Ogilvie Camp,** 93.05 25 P **P** 10 56 57.0 -0.7
I29M **Ogilvie Camp,** 93.05 25 P **P** 10 56 57.2 -0.5
baz=274
G29M **Pine Creek** 93.06 23 P **P** 10 56 56.7 -0.9
baz=274
BRTR **Keskin Array B** 93.22 310 *i* P **P** 10 56 59.9 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR **Keskin Array B** 93.22 310 P **P** 10 56 58.3 -0.9
comp=Z,1.1nm,0.8s,baz=116,slow=5.7,SNR=4.5
BRTR PP **PP** 11 00 44.9 +2.0
comp=Z,0.6nm,0.8s,baz=101,slow=7.5,SNR=2.1
comp=Z,1.1nm,0.8s
L29M **L29M** 93.29 27 IAmb IAmb 10 57 07.4
comp=Z,18nm,1.1s
EPYK **Eagle Plains** 93.62 24 P **P** 10 56 59.8 -0.5
EPYK **Eagle Plains** 93.62 24 P **P** 10 56 58.9 -1.4
baz=275
I30M **Mount Dempster** 93.87 25 P **P** 10 57 00.5 -1.0
baz=276
G31M **Satah River** 94.53 23 P **P** 10 57 04.0 -0.4
G31M IAmb IAmb 10 57 11.1
comp=Z,21nm,1.4s
G31M **Satah River** 94.53 23 P **P** 10 57 02.0 -2.3
baz=278
F31M **Tsiigehtchic** 94.66 22 P **P** 10 57 03.1 -1.9
baz=278
ARCES **ARCESS Array B** 95.05 340 P **P** 10 57 04.9 -1.8
comp=Z,4.2nm,0.9s,baz=64,slow=5.5,SNR=5.1

ARCES					LR	LR	11 46 43.2		
	comp=Z,274nm,20.8s,baz=82,slow=40								
	comp=Z,4.2nm,0.9s								
SPITS	**Spitsbergen Ar**	**95.26**	**349**		P	**P**	**10 57 05.7**	**-1.8**	
	comp=Z,8.3nm,1.0s,baz=28,slow=6.5,SNR=1.7								
	comp=Z,8.3nm,1.0s								
FARO	**Faro, Yukon**	**95.57**	**28**		P	**P**	**10 57 08.8**	**-0.6**	
FARO					IAmb	IAmb	10 57 17.1		
	comp=Z,8.9nm,0.8s								
FARO	**Faro, Yukon**	**95.57**	**28**		P	**P**	**10 57 09.2**	**-0.1**	
	baz=278								
AKASG	**Malin Array Be**	**95.74**	**321**		P	**P**	**10 57 10.8**	**+0.6**	
	comp=Z,0.3nm,0.4s,baz=68,slow=5.1,SNR=1.6								
FINES	**FINESS Array B**	**96.17**	**332**	*i*	P	**P**	**10 57 10.5**	**-1.4**	
FINES					pmax	pmax			
	comp=Z,1.0nm,0.5s								
FINES	**FINESS Array B**	**96.17**	**332**		P	**P**	**10 57 10.0**	**-2.0**	
	comp=Z,0.7nm,0.5s,baz=90,slow=5.7,SNR=5.1								
	comp=Z,0.7nm,0.5s								
MILM	**Milestii Mici**	**96.35**	**317**	*e*	P	**P**	**10 57 12.0**	**-1.1**	
	comp=Z,10.0nm,0.4s								
A36M	**Sachs Harbour**	**96.57**	**17**		P	**P**	**10 57 12.4**	**-1.1**	
CRAG	**Craig**	**96.62**	**34**		P	**P**	**10 57 14.9**	**+0.8**	
C36M	**Paulatuk**	**97.72**	**20**		P	**P**	**10 57 16.3**	**-2.5**	
C36M					IAmb	IAmb	10 57 25.3		
	comp=Z,7.1nm,0.7s								
DLBC	**Dease Lake**	**97.82**	**31**		LR	LR	11 41 40.4		
	comp=Z,274nm,18.7s,baz=285,slow=36								
LSZ	**Lusaka**	**98.08**	**254**		IAMs_20	IAMs_20	11 40 37.8		
	comp=Z,808nm,21.0s								
LSZ	**Lusaka**	**98.08**	**254**		LR	LR	11 40 49.6		
	comp=Z,290nm,18.9s,baz=116,slow=35								
BURAR	**Bucovina Array**	**98.71**	**318**		P	**P**	**10 57 22.5**	**-1.4**	
BUR08	**Bucovina Ar. S**	**98.71**	**318**		P	**P**	**10 57 23.1**	**-0.8**	
TROLL	**Troll, Antarti**	**99.00**	**195**	⇓	PKiKP	**PKiKP**	**11 01 55.2**	**+0.1**	
	comp=Z,299nm,0.9s								
LBTB	**Lobatse**	**99.73**	**245**		LR	LR	11 37 48.8		
	comp=Z,168nm,21.4s,baz=116,slow=32								
BBB	**Bella Bella**	**100.09**	**37**		LR	LR	11 34 51.8		
	comp=Z,458nm,21.8s,baz=258,slow=31								
SNAA	**Sanae**	**100.56**	**194**		IAMs_20	IAMs_20	11 47 06.0		
	comp=Z,708nm,20.0s								
YKA	**Yellowknife Ar**	**103.84**	**25**		Pdiff	**Pdif**	**10 57 45.8**	**-0.5**	
	comp=Z,0.1nm,0.4s,baz=292,slow=4.5,SNR=3.8								
YKA					PKiKP	**PP**	**11 02 01.9**	**-1.1**	
	comp=Z,0.2nm,0.7s,baz=311,slow=2.8,SNR=1.8								
YKA					PKKPbc	**PKKPbc**	**11 13 36.2**	**-3.1**	
	comp=Z,0.2nm,0.6s,baz=110,slow=2.7,SNR=4.3								
CLL	**Collm**	**105.63**	**323**	*e*	P	**Pdif**	**10 57 53.0**	**-1.5**	
CLL				*e*			11 02 14.0		
CLL				*e*			11 08 30.0		
CLL				*e*	S	**Sdif**	**11 09 47.0**	**-2.1**	
CLL					pmax	pmax			
	comp=Z,150nm,3.0s								
CLL					MLR	MLR			
	comp=Z,300nm,19.5s								
MOD	**Modoc Plateau**	**107.62**	**46**		IAMs_20	IAMs_20	11 51 48.0		
	comp=Z,542nm,21.0s								
NVAR	**Mina Array Bea**	**110.00**	**49**		Pdiff	**Pdif**	**10 58 14.6**	**+0.1**	
	comp=Z,0.1nm,0.5s,baz=298,slow=3.9,SNR=1.7								
NVAR					PP	**PP**	**11 02 47.3**	**-2.1**	
	comp=Z,0.5nm,0.9s,baz=255,slow=7.2,SNR=2.0								
PDAR	**Pinedale Array**	**114.87**	**43**		PKP	PKPdf	11 02 25.6	+0.1	
	comp=Z,0.2nm,0.7s,baz=335,slow=4.0,SNR=2.2								
PDAR					PKKPbc	**PKKPbc**	**11 13 02.5**	**-1.2**	
	comp=Z,0.3nm,0.6s,baz=113,slow=5.6,SNR=4.0								
CART	**Cartagena**	**119.98**	**314**		IAMs_20	IAMs_20	11 44 40.4		
	comp=Z,700nm,22.0s								
ANMO	**Albuquerque**	**120.12**	**50**		PKP	**PKPdf**	**11 02 35.8**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=241,slow=10,SNR=1.3								
TXAR	**Lajitas Array**	**124.37**	**55**		PKP	**PKPdf**	**11 02 43.4**	**-0.7**	
	comp=Z,0.2nm,0.6s,baz=224,slow=2.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**124.45**	**285**			**PKPdf**	**11 02 43.9**	**-0.4**	
TORD	**Torodi Ar. Bea**	**124.45**	**285**		PKP	**PKPdf**	**11 02 44.0**	**-0.4**	
	comp=Z,3.9nm,0.8s,baz=51,slow=3.1,SNR=22								
TORD					PKKPbc	**PKKPbc**	**11 12 34.0**	**+6.7**	
	comp=Z,0.4nm,0.6s,baz=298,slow=2.9,SNR=3.9								
SCHQ	**Schefferville**	**125.33**	**10**		PKP	**PKPdf**	**11 02 44.0**	**-1.0**	
	comp=Z,3.3nm,1.0s,baz=29,slow=1.5,SNR=6.4								
S39A	**Bolivar**	**128.17**	**41**			**PKPdf**	**11 02 50.4**	**-0.5**	
X37A	**Clayton**	**128.45**	**45**		PKPdf	**PKPdf**	**11 02 50.6**	**-1.0**	
DBIC	**Dimbokro**	**131.56**	**278**		SKPbc	**SKPbc**	**11 06 21.7**	**+0.2**	
	comp=Z,3.7nm,0.8s,baz=101,slow=6.1,SNR=4.8								
PLCA	**Paso Flores**	**135.40**	**161**		PKP	**PKPdf**	**11 03 04.7**	**0.0**	
	comp=Z,1.3nm,0.8s,baz=14,slow=1.4,SNR=3.6								
CO03	**El Pedregal**	**144.07**	**154**			PKPbc	11 03 19.3	+0.7	
CO01	**Juntas del Tor**	**145.07**	**154**		PKPbc	**PKPdf**	**11 03 22.5**	**-0.1**	
LCO	**Las Campanas**	**145.61**	**152**		PKPbc	**PKPdf**	**11 03 23.3**	**-0.3**	
LCO	**Las Campanas**	**145.61**	**152**		PKP2	**PKPdf**	**11 03 23.3**	**-0.3**	
AC04	**Llanos de Chal**	**146.11**	**151**		PKPbc	**PKPab**	**11 03 25.5**	**-0.1**	
HZTE	**Horizontes, Gu**	**146.37**	**72**		PKPbc	**PKPdf**	**11 03 24.8**	**-0.1**	
ORTG	**Ortega, Santa**	**146.59**	**73**		PKPbc	**PKPbc**	**11 03 27.0**	**+0.1**	
HDC	**Heredia**	**147.96**	**73**		IAMs_20	IAMs_20	11 59 17.6		
	comp=Z,529nm,20.0s								
AC01	**Pan de Azucar**	**148.04**	**149**		PKPbc	**PKPbc**	**11 03 30.5**	**-0.1**	
GO02	**Mina Guanaco**	**149.37**	**150**		PKPbc	**PKPbc**	**11 03 34.1**	**-0.3**	
PB14	**IPOC Station P**	**149.38**	**148**		PKPbc	**PKPbc**	**11 03 34.5**	**0.0**	
LVC	**Limon Verde**	**151.81**	**148**		PKPbc	**PKPbc**	**11 03 40.2**	**-0.1**	
	comp=Z,4.2nm,0.7s,baz=268,slow=5.2,SNR=4.3								
PB07	**IPOC Station P**	**151.98**	**145**			**PKiKP**	**11 03 40.9**	**0.0**	
PB02	**IPOC Station P**	**152.29**	**145**		PKPbc	**PKiKP**	**11 03 41.6**	**+0.2**	
CPUP	**Villa Florida**	**152.38**	**172**		PKPbc	**PKPbc**	**11 03 40.6**	**-0.4**	
	comp=Z,4.8nm,0.8s,baz=216,slow=4.8,SNR=4.6								
MCRA	**Macar, Loja**	**152.64**	**102**		PKPbc	**PKPbc**	**11 03 41.5**	**-0.5**	
PB11	**IPOC Station P**	**153.64**	**143**		PKPbc	**PKiKP**	**11 03 44.4**	**+0.1**	

*IDC **26** 10:47:04.5±1.6, 1.°17S×127.°08E, h0km, mb4.1/5, mbtmp4.2/6, ML4.6/1, MS4.5/6, Error ellipse: s-maj=55.4km s-min=28.8km az=78.0*
*NEIC **26** 10:47:06.1±1.1, 1.°24S±0.°07×126.°97E±0.°08, h10km±1km, mb4.5/13, Error ellipse: s-maj=12.8km s-min=11.2km az=84.0*
ISC 26 10:47:05.8±0.7, **1.°24S**±0.°08×**126.°96E**±0.°07, **h10**km, **n32,**
σ0**93**/26, **mb4.3**/10, **MS4.5**/6, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
TNTI	**Ternate**	**2.04**	**12**			**Pn**	**10 47 40.3**		**0.0**
LUWI	**Luwuk**	**4.19**	**273**	Pn		**Pn**	**10 48 09.6**		**-0.2**
FAKI	**Fak Fak**	**5.54**	**108**	Pn		**Pn**	**10 48 27.8**		**-0.6**
TOLI2	**Tolitoli**	**6.60**	**291**	Pn		**Pn**	**10 48 42.4**		**-0.6**
KAPI	**Kappang**	**8.11**	**242**	Pn		**Pn**	**10 49 04.3**		**+0.6**
KAPI	**Kappang**	**8.11**	**242**	Pn		**Pn**	**10 49 05.7**		**+2.0**
	7.2nm,0.3s,baz=59,slow=9.2,SNR=10								
KAPI						Sn	**Sn**	**10 50 34.6**	**-0.9**
	5.7nm,0.3s,baz=38,slow=19,SNR=1.8								
	52nm,0.7s								
FITZ	**Fitzroy Crossi**	**16.80**	**184**	Pn		**Pn**	**10 51 01.6**		**+0.3**
KSM	**Kuching**	**16.87**	**279**	Pn		**Pn**	**10 51 02.4**		**+0.2**
KSM						IAmb	IAmb	10 51 25.9	
	comp=Z,24nm,1.2s								
WB0	**Warramunga Arr**	**19.80**	**159**	P		**P**	**10 51 36.0**		**-0.6**
WB0						IAmb	IAmb	10 52 01.4	
	comp=Z,36nm,1.2s								
WRA	**Warramunga Arr**	**19.94**	**159**	P		**P**	**10 51 36.8**		**-1.3**
WRA	**Warramunga Arr**	**19.94**	**159**	LR		LR	11 00 21.6		
	comp=Z,2μm,18.7s,baz=342,slow=40								
COEN	**Coen**	**20.42**	**129**	P		**P**	**10 51 43.4**		**+0.1**
PSA00	**Pilbara Seismi**	**21.36**	**198**	P		**P**	**10 51 52.4**		**-1.1**
PSA00						IAmb	IAmb	10 52 00.4	
	comp=Z,25nm,1.1s								
PMG	**Port Moresby**	**21.67**	**113**	P		**P**	**10 51 57.1**		**+0.2**
PMG						IAmb	IAmb	10 52 03.1	
	comp=Z,21nm,0.8s								
AS31	**Alice Springs**	**23.29**	**164**	P		**P**	**10 52 12.2**		**-1.8**
ASAR	**Alice Springs**	**23.29**	**164**	P		**P**	**10 52 13.8**		**-0.1**
ASAR	**Alice Springs**	**23.29**	**164**	P		**P**	**10 52 14.5**		**+0.6**
	comp=Z,9.2nm,1.2s,baz=344,slow=10,SNR=2.0								
	comp=Z,9.2nm,1.2s								
SONM	**Songino Array**	**52.07**	**343**	P		**P**	**10 56 15.3**		**-0.7**
SONM						IAmb	IAmb	10 56 40.2	
	comp=Z,4.2nm,1.1s								
MK31	**Makanchi Array**	**61.78**	**327**	P		**P**	**10 57 24.5**		**-0.3**
MK31						IAmb	IAmb	10 57 52.6	
	comp=Z,2.3nm,0.8s								
MKAR	**Makanchi Array**	**61.78**	**327**	P		**P**	**10 57 24.4**		**-0.4**
	comp=Z,0.6nm,0.4s,baz=118,slow=8.7,SNR=1.8								
	comp=Z,0.6nm,0.4s								
ZALV	**Zalesovo Beam**	**65.11**	**334**	P		**P**	**10 57 47.5**		**+0.9**
	comp=Z,0.6nm,0.4s,baz=138,slow=7.8,SNR=1.4								
	comp=Z,0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**66.05**	**329**	P		**P**	**10 57 53.0**		**+0.2**
	comp=Z,0.8nm,0.3s,baz=129,slow=6.1,SNR=2.6								
	comp=Z,0.8nm,0.3s								

SEY	**Seymchan**	**66.80**	**12**		LR	LR	11 24 54.0		
	comp=Z,189nm,21.6s,baz=194,slow=34								
BVAR	**Borovoye Array**	**71.61**	**328**		P	**P**	**10 58 28.0**	**+0.6**	
	comp=Z,1.3nm,0.7s,baz=121,slow=5.6,SNR=2.0								
	comp=Z,1.3nm,0.7s								
AKTO	**Aktyubinsk**	**77.69**	**322**		LR	LR	11 36 10.6		
	comp=Z,289nm,20.9s,baz=104,slow=38								
VNDA	**Vanda**	**78.50**	**173**		P	**P**	**10 59 06.9**	**+0.2**	
VNDA						IAmb	IAmb	10 59 30.6	
	comp=Z,12nm,1.5s								
ATD	**Arta Tunnel**	**84.48**	**282**		LR	LR	11 37 13.0		
	comp=Z,8.7nm,19.1s,baz=78,slow=36								
BCAR	**Beaver Creek A**	**91.67**	**27**		P	**P**	**11 00 15.5**	**+2.3**	
I28M	**Miner Creek**	**92.42**	**25**		P	**P**	**11 00 16.2**	**-0.5**	
AKASG	**Malin Array Be**	**95.86**	**321**		LR	LR	11 50 40.7		
	comp=Z,114nm,18.5s,baz=60,slow=40								
FINES	**FINESS Array B**	**96.29**	**332**		LR	LR	11 49 04.2		
	comp=Z,212nm,18.5s,baz=78,slow=39								
BOSA	**Boshof**	**99.67**	**241**		LR	LR	11 40 44.1		
	comp=Z,412nm,20.6s,baz=92,slow=32								

*IDC **26** 10:57:06.4±1.0, 53.°27S×24.°46E, h0km, mb4.0/6, mbtmp4.0/6, MS3.5/1, Error ellipse: s-maj=41.3km s-min=26.9km az=79.0*
*NEIC **26** 10:57:08.6±1.8, 53.°3S±0.°1×24.°6E±0.°1, h10km±1km, mb4.4/15, Error ellipse: s-maj=22.0km s-min=13.0km az=336.0*
ISC 26 10:57:08.2±0.6, **53.°29S**±0.°09×**24.°5E**±0.°1, **h10**km, **n30,**
σ0**69**/26, **mb4.3**/12, **1C, South of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
H04S2	**CROZET ISLANDS**	**18.64**	**81**		T	T	11 20 28.4		
	baz=240,slow=75,SNR=25								
H04S3	**CROZET ISLANDS**	**18.64**	**81**		T	T	11 20 26.6		
	baz=240,slow=75,SNR=26								
H04S1	**CROZET ISLANDS**	**18.66**	**81**		T	T	11 20 30.7		
	baz=240,slow=75,SNR=35								
CRZF	**Crozet Islands**	**18.84**	**80**			**P**	**11 01 26.8**		**-1.2**
SUR	**Sutherland**	**21.07**	**351**		P	**P**	**11 01 52.5**		**0.0**
SUR					IAmb	IAmb	11 01 55.9		
	comp=Z,28nm,1.1s								
SNAA	**Sanae**	**21.98**	**203**		P	**P**	**11 02 01.4**		**-0.5**
SNAA					IAmb	IAmb	11 02 04.6		
	comp=Z,17nm,0.9s								
SNAA	**Sanae**	**21.98**	**203**	⇑	PKiKP	**P**	**11 02 02.4**		**+0.4**
	comp=Z,330nm,0.9s								
SNAA	**Sanae**	**21.98**	**203**		P	**P**	**11 02 01.9**		**0.0**
	comp=Z,13nm,0.8s,baz=55,slow=8.9,SNR=14								
	comp=Z,13nm,0.8s								
POGA	**Pongola**	**26.46**	**14**		P	**P**	**11 02 44.1**		**-1.2**
POGA					IAmb	IAmb	11 03 05.9		
	comp=Z,12nm,1.3s								
LBTB	**Lobatse**	**28.25**	**2**		P	**P**	**11 03 01.8**		**+0.4**
LBTB	**Lobatse**	**28.25**	**2**		LR	LR	11 11 01.1		
	comp=Z,96nm,21.8s,baz=222,slow=30								
BELA	**Belgrano 2**	**32.14**	**200**		P	**P**	**11 03 34.3**		**-1.0**
BELA					IAmb	IAmb	11 03 50.2		
	comp=Z,5.2nm,1.1s								
QSPA	**South Pole Qui**	**36.94**	**180**		P	**P**	**11 04 17.0**		**-0.1**
QSPA					IAmb	IAmb	11 04 31.5		
	comp=Z,9.5nm,1.5s								
QSPA	**South Pole Qui**	**36.94**	**180**		P	**P**	**11 04 16.4**		**-0.7**
	comp=Z,3.3nm,1.0s,baz=273,slow=2.4,SNR=1.7								
	comp=Z,3.3nm,1.0s								
CASY	**Casey**	**41.56**	**143**		P	**P**	**11 04 55.9**		**+0.5**
CASY					IAmb	IAmb	11 04 57.4		
	comp=Z,6.1nm,1.0s								
VNDA	**Vanda**	**46.80**	**168**		P	**P**	**11 05 38.8**		**+1.5**
VNDA					IAmb	IAmb	11 05 58.9		
	comp=Z,9.3nm,1.4s								
VNDA	**Vanda**	**46.80**	**168**		P	**P**	**11 05 37.2**		**0.0**
	comp=Z,4.1nm,1.2s,baz=225,slow=5.7,SNR=4.3								
	comp=Z,4.1nm,1.2s								
LODK	**Lodwar**	**57.23**	**13**		P	**P**	**11 06 56.2**		**+0.6**
PLCA	**Paso Flores**	**61.35**	**240**		P	**P**	**11 07 23.6**		**-0.4**
PLCA					IAmb	IAmb	11 07 35.7		
	comp=Z,6.5nm,1.4s								
NWAO	**Narrogin (SRO)**	**65.87**	**113**		P	**P**	**11 07 54.5**		**+0.6**
TORD	**Torodi Ar. Bea**	**69.00**	**336**		P	**P**	**11 08 13.6**		**-0.1**
	comp=Z,0.6nm,0.8s,baz=166,slow=4.5,SNR=3.6								
	comp=Z,0.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**82.14**	**110**		P	**P**	**11 09 28.2**		**-0.9**
FITZ					IAmb	IAmb	11 09 57.5		
	comp=Z,3.3nm,1.3s								
ASAR	**Alice Springs**	**82.15**	**119**		P	**P**	**11 09 29.1**		**-0.1**
ASAR	**Alice Springs**	**82.15**	**119**		P	**P**	**11 09 29.4**		**+0.2**
	comp=Z,0.7nm,0.8s,baz=208,slow=4.7,SNR=6.6								
	comp=Z,0.7nm,0.8s								
WRA	**Warramunga Arr**	**85.43**	**117**		P	**P**	**11 09 45.8**		**-0.2**
WRA	**Warramunga Arr**	**85.43**	**117**		P	**P**	**11 09 46.1**		**+0.1**
	comp=Z,0.5nm,0.8s,baz=203,slow=3.4,SNR=2.6								
	comp=Z,0.5nm,0.8s								
WB2	**Warramunga Arr**	**85.44**	**117**		P	**P**	**11 09 45.8**		**-0.2**
RSSD	**Black Hills**	**145.52**	**276**			**PKPab**	**11 16 46.4**		**0.0**
PDAR	**Pinedale Array**	**148.06**	**270**		PKPbc	**PKPdf**	**11 16 51.7**		**+1.4**
	comp=Z,0.7nm,0.8s,baz=111,slow=3.7,SNR=6.2								
NVAR	**Mina Array Bea**	**150.54**	**255**		PKPbc	**PKPbc**	**11 16 59.9**		**+0.1**
	comp=Z,0.9nm,0.8s,baz=104,slow=2.2,SNR=6.2								

*IDC **26** 11:18:15.8±4.6, 36.°12N×70.°17E, h82km±28km, mb3.7/12, mbtmp4.1/18, Error ellipse: s-maj=56.1km s-min=18.1km az=165.0*
*NEIC **26** 11:18:17.9±1.7, 36.°16N±0.°04×69.°96E±0.°06, h109km±9km, mb4.4/14, Error ellipse: s-maj=8.6km s-min=4.4km az=56.0*
*NNC **26** 11:18:19.1±3.7, 36.°77N×69.°84E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=30.6km s-min=22.1km az=162.0*
ISC 26 11:18:17.7±0.6, **36.°24N**±0.°05×**70.°12E**±0.°05, **h100**km, **n81,**
σ1**89**/81, **mb4.3**/18, **10C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KBL	**Kabul**	**1.91**	**208**	Pn		Pn	11 18 48.7		-0.7
KBL				Sn		**Sn**	**11 19 11.9**		**-1.5**
SIMJ	**Simiganj**	**2.57**	**340**	Pn		**Pn**	**11 18 59.1**		**+1.2**
SIMJ				Sn		**Sn**	**11 19 28.8**		**+0.2**
NIL	**Nilore**	**3.65**	**134**	Pn		**Pn**	**11 19 13.0**		**+0.8**
BTK	**Batken**	**3.85**	**8**	Pn		**Pn**	**11 19 17.7**		**+2.7**
JMU	**Jammu**	**5.29**	**130**	*e*	P	Pn	11 19 33.8		-0.5
JMU				*e*	S	**Sn**	**11 20 30.8**		**-3.2**
ARSB	**Arslanbob**	**5.55**	**23**	Pn		**Pn**	**11 19 40.2**		**+2.3**
KSH	**Kashi**	**5.67**	**53**	Pn		**Pn**	**11 19 38.0**		**-1.6**
KSH				Sn		**Sn**	**11 20 38.3**		**-5.1**
KSH				pmax		pmax			
	comp=Z,61nm,0.7s								
KSH				smax		smax			
	comp=N,350nm,0.6s								
KSH				smax		smax			
	comp=E,200nm,0.9s								
THN	**Thein Dam**	**5.99**	**128**	*e*	P	**Pn**	**11 19 44.7**		**+0.9**
THN				*e*	S	**Sn**	**11 20 48.9**		**-2.2**
DHRM	**DHARAMSHALA**	**6.49**	**126**	*e*	P	Pn	11 19 50.4		-0.4
DHRM				*e*	S	**Sn**	**11 21 00.3**		**-3.2**
DHRM					IAML		11 21 02.1		
	comp=E,1μm,0.5s								
DHRM					IAML		11 21 02.2		
	comp=N,548nm,0.3s								
AML	**Almayashu**	**6.50**	**24**		P	**Pn**	**11 19 52.5**		**+1.3**
	SNR=96								
AML	**Almayashu**	**6.50**	**24**	⇓	P	**Pn**	**11 19 52.1**		**+1.0**
	comp=N,3.3nm,0.5s								
AML				⇑	S	**Sn**	**11 21 03.4**		**-0.7**
	comp=N,48nm,0.9s								
KK31	**Karatay Array**	**6.86**	**2**	⇑	P	**Pn**	**11 19 56.0**		**+0.3**
	comp=N,11nm,0.3s,baz=191,slow=15,SNR=284								
KK31				⇑	S	**Sn**	**11 21 10.4**		**-1.8**
	comp=N,9.6nm,0.4s,baz=194,slow=24,SNR=7.9								
KK31	**Karatay Array**	**6.86**	**2**	Pn		**Pn**	**11 19 56.5**		**+0.8**
KKAR	**Karatay Array**	**6.86**	**2**			**Pn**	**11 19 56.5**		**+0.8**
KKAR	**Karatay Array**	**6.86**	**2**	Pn		**Pn**	**11 19 56.3**		**+0.7**
UCH	**Uchtor**	**6.88**	**28**	P		**Pn**	**11 19 58.0**		**+1.7**
	SNR=27								
NRN	**Naryn**	**6.92**	**40**			**Pn**	**11 19 57.1**		**+0.3**
EKS2	**Erkin-Say**	**7.01**	**23**	P		**Pn**	**11 19 59.9**		**+2.1**
	SNR=18								
BHK	**Bhakra**	**7.11**	**131**	*e*	P	Pn	11 19 57.6		-1.5
BHK				*e*	S	Sn	11 21 14.2		-4.3
AAK	**Ala-Archa**	**7.23**	**27**	P		**Pn**	**11 20 02.2**		**+1.4**
	SNR=37								
AAK	**Ala-Archa**	**7.23**	**27**	Pn		**Pn**	**11 20 02.5**		**+1.7**
AAK	**Ala-Archa**	**7.23**	**27**	P		**Pn**	**11 20 02.1**		**+1.3**
	comp=N,37nm,0.5s,baz=202,slow=7.4,SNR=150								
KBK	**Karagaybulak**	**7.42**	**29**	P		**Pn**	**11 20 05.6**		**+2.3**
	SNR=14								
FRU1	**Bishkek**	**7.43**	**27**			**Pn**	**11 20 05.7**		**+2.3**
CHMS	**Chumysh**	**7.64**	**26**	P		**Pn**	**11 20 07.4**		**+1.2**
	SNR=25								
CHMS	**Chumysh**	**7.64**	**26**	⇑	P	**Pn**	**11 20 07.2**		**+1.0**
	comp=N,39nm,0.7s								
CHMS				⇑	S	**Sn**	**11 21 30.5**		**-0.6**
	comp=N,44nm,0.7s								
ULHL	**Ulahol**	**7.65**	**37**	P		**Pn**	**11 20 09.8**		**+3.2**
	SNR=8.8								
BOOM	**Boomskoye usch**	**7.70**	**34**	Pn		**Pn**	**11 20 08.8**		**+1.7**
SMLA	**Simla**	**7.78**	**129**	*e*	P	Pn	11 20 06.8		-1.3
SMLA				*e*	S	Sn	11 21 29.7		-4.9
SMLA					IAML		11 21 31.1		
	comp=N,221nm,0.3s								
SMLA					IAML		11 21 33.4		
	comp=E,217nm,0.2s								
USP	**Ospenovka**	**7.79**	**24**	P		**Pn**	**11 20 09.2**		**+0.9**
	SNR=17								
TKM2	**Tokmak 2**	**7.90**	**31**	P		**Pn**	**11 20 11.2**		**+1.3**
	SNR=12								
TKM2	**Tokmak 2**	**7.90**	**31**	⇑	P	**Pn**	**11 20 10.8**		**+0.9**
	comp=E,13nm,0.8s								
TKM2				⇑	S	**Sn**	**11 21 36.6**		**-1.1**
	comp=E,24nm,0.8s								
PRZ	**Przheval'sk**	**8.94**	**43**	Pn		**Pn**	**11 20 26.5**		**+2.4**
KUDL	**Kundal**	**9.71**	**144**	*e*	P	Pn	11 20 31.0		-3.4
KUDL				*e*	S	Sn	11 22 09.6		-12
GEYT	**Alibeck**	**9.74**	**284**			Pn	11 20 32.0		-2.8
GEYT	**Alibeck**	**9.74**	**284**	P		Pn	11 20 32.4		-2.4
	comp=E,4.5nm,0.3s,baz=123,slow=12,SNR=11								
GYA0B	**ALIBECK ARRAY**	**9.74**	**284**			Pn	11 20 31.2		-3.6
SONA	**Sohna**	**9.91**	**142**	*e*	P	Pn	11 20 33.8		-3.4
SONA				*e*	S	Sn	11 22 15.2		-11
AJM	**Ajmer**	**10.47**	**157**	*e*	P	Pn	11 20 41.0		-3.9
MAKZ	**Makanchi**	**13.78**	**36**		P	**Pn**	**11 21 30.1**		**+1.4**
MK31	**Makanchi Array**	**13.92**	**37**			**Pn**	**11 21 31.5**		**+1.0**
MKAR	**Makanchi Array**	**13.92**	**37**	Pn		**Pn**	**11 21 32.1**		**+1.6**
MKAR	**Makanchi Array**	**13.92**	**37**	P		**Pn**	**11 21 29.4**		**-1.1**
	comp=E,0.4nm,0.6s,baz=220,slow=11,SNR=5.9								
AB31	**Akbulak array**	**14.98**	**333**	⇑	P	**Pn**	**11 21 42.3**		**-1.7**
	comp=E,11nm,0.7s,baz=156,slow=12,SNR=155								
AB31					S	**Sn**	**11 24 24.9**		**-4.3**
	comp=E,2.8nm,0.6s,baz=148,slow=23,SNR=4.2								
ABKAR	**Akbulak array**	**14.98**	**333**		Pn	**Pn**	**11 21 42.7**		**-1.3**
ABKAR	**Akbulak array**	**14.98**	**333**		Pn	**Pn**	**11 21 42.8**		**-1.3**
ABKAR			

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBMI	Labuha	7.55	299	P	Pn	11 20 37.0	+0.2
SANI	Sanana	8.40	286	P	Pn	11 20 47.6	-0.9
	32nm,0.9s						
MTN	Manton Dam	8.90	199		Pn	11 20 56.6	+1.3
LUWI	Luwuk	11.77	286	Pn	Pn	11 21 35.0	+0.4
KNRA	Kununurra	12.39	205		Pn	11 21 42.3	-0.8
EDFI	Ende, Flores	13.05	250	P	Pn	11 21 53.5	+1.2
COEN	Coen	13.08	137	Pn	Pn	11 21 52.9	+0.3
WB0	Warramunga Arr	15.30	179		Pn	11 22 20.0	-2.8
WB0				IAmb	IAmb	11 22 30.0	
	comp=Z,10.0nm,0.8s						
WRAB	Tennant Creek	15.46	179	Pn	Pn	11 22 21.2	-3.7
WRAB				IAmb	IAmb	11 22 33.6	
	comp=Z,19nm,0.8s						
WB2	Warramunga Arr	15.47	179		Pn	11 22 23.6	-1.4
WB2				IAmb	IAmb	11 22 32.0	
	comp=Z,21nm,0.8s						
WRA	Warramunga Arr	15.47	179		Pn	11 22 22.9	-2.1
WRA	Warramunga Arr	15.47	179	Pn	Pn	11 22 21.1	-3.9
	comp=Z,0.5nm,0.3s,baz=353,slow=13,SNR=23						
WRA				Sn	Sn	11 25 04.4	-12
	comp=Z,0.3nm,0.3s,baz=358,slow=22,SNR=6.1						
WR0	Warramunga Arr	15.49	178		Pn	11 22 23.3	-2.0
WR0				IAmb	IAmb	11 22 32.3	
	comp=Z,26nm,0.9s						
FITZ	Fitzroy Crossi	15.94	211	Pn	Pn	11 22 29.0	-2.1
BKB	Balikpapan	17.44	280	Pn	Pn	11 22 47.6	-2.4
RABL	Rabaul	18.03	90		Pn	11 22 56.8	-0.6
AS31	Alice Springs	19.18	180		Pn	11 23 13.0	+1.8
ASAR	Alice Springs	19.18	180	P	Pn	11 23 11.1	-0.2
ASAR	Alice Springs	19.18	180	P	Pn	11 23 11.2	-0.1
	comp=Z,1.1nm,0.3s,baz=4.4,slow=8.7,SNR=123						
ASAR				S	Sn	11 26 33.2	-13
	comp=Z,1.1nm,0.8s,baz=0.4,slow=28,SNR=3.6						
	comp=Z,19nm,0.7s						
CTA	Charters Tower	19.61	144	P	P	11 23 14.6	-0.4
	comp=Z,0.3nm,0.3s,baz=340,slow=16,SNR=14						
	comp=Z,4.6nm,0.7s						
CTAO	Charters Tower	19.61	144	P	P	11 23 15.3	+0.3
CTAO				IAmb	IAmb	11 23 18.5	
	comp=Z,27nm,1.4s						
PSA00	Pilbara Seismi	21.98	218	P	P	11 23 42.5	+1.9
PSA00				IAmb	IAmb	11 23 43.6	
	comp=Z,9.4nm,0.9s						
PSA00	Pilbara Seismi	21.98	218	P	P	11 23 42.0	+1.4
PSA00				IAmb	IAmb	11 23 43.6	
	comp=Z,15nm,0.8s						
FORT	Forrest	26.87	192	P	P	11 24 28.2	+1.0
FORT				IAmb	IAmb	11 24 35.1	
	comp=Z,19nm,0.8s						
STKA	Stephens Creek	28.25	166	P	P	11 24 40.0	+0.4
	comp=Z,0.7nm,0.4s,baz=318,slow=15,SNR=1.4						
	comp=Z,0.7nm,0.4s						
BBOO	Buckleboo	28.35	176	P	P	11 24 40.2	-0.3
BBOO				IAmb	IAmb	11 24 48.5	
	comp=Z,15nm,1.4s						
CMAR	Chiang Mai Arr	41.40	304	P	P	11 26 34.4	+1.3
	comp=Z,0.5nm,0.3s,baz=127,slow=6.0,SNR=5.9						
	comp=Z,0.5nm,0.3s						
SONM	Songino Array	57.39	338	P	P	11 28 34.9	0.0
	comp=Z,0.2nm,0.5s,baz=141,slow=4.8,SNR=2.0						
	comp=Z,0.2nm,0.5s						
MK31	Makanchi Array	68.37	324	P	P	11 29 46.7	-1.2
MKAR	Makanchi Array	68.37	324	P	P	11 29 47.0	-0.9
MKAR	Makanchi Array	68.37	324	P	P	11 29 49.1	+1.2
	comp=Z,0.5nm,0.7s,baz=105,slow=6.9,SNR=4.4						
	comp=Z,0.5nm,0.7s						
MAKZ	Makanchi	68.56	324	P	P	11 29 48.4	-0.6
MAKZ				IAmb	IAmb	11 30 03.6	
	comp=Z,2.9nm,1.2s						
ZALV	Zalesovo Beam	71.12	332	P	P	11 30 06.0	+1.3
	comp=Z,0.2nm,0.3s,baz=146,slow=8.0,SNR=2.0						
	comp=Z,0.2nm,0.3s						
ATKA	Atka Island	71.31	31	P	P	11 30 06.1	+0.3
KURK	Kurchatov	72.49	327	P	P	11 30 12.2	-0.7
KURK				IAmb	IAmb	11 30 14.7	
	comp=Z,3.6nm,1.1s						
KURBB	Kurchatov Arra	72.49	327	P	P	11 30 14.1	+1.2
	comp=Z,0.5nm,0.2s,baz=126,slow=4.4,SNR=4.8						
	comp=Z,0.5nm,0.2s						
BVAR	Borovoye Array	78.08	326	P	P	11 30 46.4	+1.3
	comp=Z,0.4nm,0.5s,baz=131,slow=4.0,SNR=2.1						
	comp=Z,0.4nm,0.5s						
L16K	Owhat River	82.92	26	P	P	11 31 09.8	-1.1
ILAR	Eielson Array	89.27	25	P	P	11 31 42.9	+0.7
	comp=Z,0.3nm,0.9s,baz=268,slow=5.4,SNR=1.8						
	comp=Z,0.3nm,0.9s						

IDC 26 11:22:40.7±3.1, 53°.09N×63°.12E, h0^{km}, mb3.3/1, mbtmp3.2/2, ML1.8/1, MS4.0/1, Error ellipse: s-maj=72.9km s-min=18.2km az=11.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	4.14	232	Lg	Lg	11 24 54.6	
	0.6nm,0.3s,baz=351,slow=20,SNR=3.1						
I31KZ	AKTYUBINSK INF	4.15	232	I	I	11 47 10.0	
	0.2nm,0.8s,baz=44,slow=341,SNR=10						
BVAR	Borovoye Array	4.39	88	Pn	Pn	11 23 47.7	-0.8
	baz=291,slow=14,SNR=2.3						
BVAR				Sn	Sn	11 24 42.0	+1.8
	0.1nm,0.3s,baz=274,slow=26,SNR=4.0						
BVAR				Lg	Lg	11 24 59.6	
	0.1nm,0.3s,baz=280,slow=26,SNR=2.3						
	1.0nm,0.5s						
I46RU	ZALESOVO INFRA	12.94	78	I	I	12 45 40.0	
	0.1nm,0.8s,baz=273,slow=338,SNR=1.4						
FINES	FINESS Array B	21.43	308	P	P	11 27 31.3	+1.3
	1.1nm,0.7s,baz=110,slow=12,SNR=1.2						
	1.1nm,0.7s						
JOW	Kunigami	54.23	92	LR	LR	11 54 58.1	
	comp=Z,155nm,20.3s,baz=64,slow=36						

MIRAS 26 11:40:23.8, 57°.02N×61°.50E, h0^{km}, ML2.7/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0

ISC 26 11:40:22.6±2.5, 57°.04N±0°.05×61°.5E±0°.1, h9^{km}±14^{km}, n6, σ1ˢ.20/12, 2C, Ural Mountains region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVE	Sverdlovsk	0.51	246	*i* P	Pg	11 40 32.3	-0.1
	38nm,0.2s						
SVE				*i* S	Sg	11 40 39.5	+0.5
	67nm,0.4s						
SVE				*i* AML	AML	11 40 42.4	
	182nm,1.0s						
ARU	Arti	1.72	250	*i* P	Pg	11 40 54.8	-0.7
	30nm,0.1s						
ARU				*i* S	Sg	11 41 18.2	+0.4
	7.6nm,0.5s						
ARU				*i* AML	AML	11 41 19.6	
	118nm,0.6s						
PR7R	Sarany	2.10	317	*i* P	Pg	11 41 02.2	-0.7
	39nm,0.2s						
PR7R				*i* S	Sg	11 41 30.3	+0.3
	54nm,0.2s						
PR7R				*i* AML	AML	11 41 31.9	
	88nm,0.3s						
PR3R	Kungur	2.46	281	*i* P	Pb	11 41 05.5	-1.4
	23nm,0.2s						
PR3R				*i* S	Sb	11 41 37.6	+0.3
	18nm,0.3s						
PR3R				*i* AML	AML	11 41 39.1	
	21nm,0.1s						
PR0R	Verkhnechusovs	2.61	298	*i* P	Pb	11 41 09.1	-0.3
	5.1nm,0.3s						
PR0R				*i* S	Sb	11 41 42.8	+1.4
	8.0nm,0.5s						
PR0R				*i* AML	AML	11 41 44.6	
	18nm,0.1s						
AB31	Akbulak array	7.85	187	Pn	Pn	11 42 18.4	+1.6
	0.8nm,0.8s,baz=3.2,slow=12,SNR=6.5						
AB31				⇑Sn	Sn	11 43 43.8	-1.9
	0.1nm,0.2s,baz=8.1,slow=22						
AB31				⇑Lg	Lg	11 44 23.8	
	0.7nm,0.4s						

KRSC 26 11:40:34.3±0.7, 53°.69N×159°.63E, h103^{km}±8^{km}, Ml3.5

IDC 26 11:40:35.2±1.1, 53°.61N×159°.24E, h120^{km}±19^{km}, mb3.0/4, mbtmp3.4/4, Error ellipse: s-maj=45.6km s-min=25.7km az=3.0

ISC 26 11:40:35.0±0.8, 53°.69N±0°.06×159°.54E±0°.07, h107^{km}±7^{km}, n30, σ1ˢ.07/36, mb3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRER	Koryakskii	0.61	232	*e*P	Pn	11 40 53.3	+0.7
SMAR	Somma	0.61	227	*e*P	Pn	11 40 52.7	+0.1
KRX	Arik	0.63	239	*e*P	Pn	11 40 53.1	+0.4
AVH	Avacha	0.64	229	*e*P	Pn	11 40 53.2	+0.4
AVH				*e*S	Sn	11 41 07.5	+1.4
UGLR	Uglovaya	0.64	222	*e*P	Pn	11 40 53.0	+0.2
UGLR				*e*S	Sn	11 41 07.3	+1.1
SPN	Mys Shipunski	0.65	154	*e*P	Pn	11 40 52.2	-0.6
SPN				*e*S	Sn	11 41 05.3	-0.7
KOK	Koryaka	0.67	234	*e*P	Pn	11 40 53.4	+0.4
DALK	Dalny	0.81	216	*e*P	Pn	11 40 54.2	+0.1
DALK				*e*S	Sn	11 41 08.9	+0.5
INSR	Institute	0.84	223	*e*P	Pn	11 40 54.8	+0.4
INSR				*e*S	Sn	11 41 10.0	+1.1
PET	Petropavlovsk	0.85	219	*e*P	Pn	11 40 54.7	+0.2
PET				*e*S	Sn	11 41 09.6	+0.5
KRMR	Karymshinskiy	1.21	225	*e*P	Pn	11 40 58.8	+0.6
KRMR				*e*S	Sn	11 41 16.7	+0.9
PETK	Petropavlovsk-	1.25	243	P	Pn	11 40 58.1	-0.6
	16nm,0.3s,baz=66,slow=18,SNR=154						
PETK				S	Sn	11 41 14.9	-1.7
	7.7nm,0.4s,baz=58,slow=16,SNR=6.3						
RUS	Russkaya	1.40	207	*e*P	Pn	11 41 00.7	+0.2
GRL	Gorelyy	1.44	219	*e*P	Pn	11 41 02.0	+0.9
MTVR	Mutnovka	1.46	215	*e*P	Pn	11 41 02.0	+0.7
TUMD	Tumrok D	1.60	18	*e*P	Pn	11 41 02.9	0.0
APC	Apacha	1.62	243	*e*P	Pn	11 41 03.6	+0.5
APC				*e*S	Sn	11 41 25.1	+0.7
ASAK	Asacha	1.64	218	*e*P	Pn	11 41 04.4	+1.0
KMNR	Kamenistaya	2.12	11	*e*P	Pn	11 41 10.2	+0.8
ESO	Esso	2.30	348	*e*P	Pn	11 41 12.4	+0.7
SRDR	Sredinnyy	2.64	2	*e*P	Pn	11 41 16.3	+0.1
PAU	Pauzhetka	2.78	218	*e*P	Pn	11 41 20.7	+2.7
SMKR	Semkarok	3.11	20	*e*P	Pn	11 41 25.2	+2.8
H11N2	WAKE ISLAND Hy	34.36	168	T	T	12 23 52.5	
	baz=351						
H11N3	WAKE ISLAND Hy	34.38	168	T	T	12 23 49.3	
	baz=351						
H11N1	WAKE ISLAND Hy	34.38	168	T	T	12 23 59.7	
	baz=351						
YKA	Yellowknife Ar	42.95	43	P	P	11 48 22.6	-0.1
	0.1nm,0.5s,baz=304,slow=10,SNR=2.3						
	0.1nm,0.5s						
MKAR	Makanchi Array	47.60	295	P	P	11 48 57.5	-2.2
	0.3nm,0.6s,baz=57,slow=7.9,SNR=4.4						
	0.3nm,0.6s						
PDAR	Pinedale Array	57.52	61	P	P	11 50 13.4	+0.3
	0.4nm,0.5s,baz=352,slow=2.1,SNR=5.1						
	0.4nm,0.5s						
TXAR	Lajitas Array	70.71	67	P	P	11 51 39.3	0.0
	0.3nm,0.5s,baz=294,slow=4.6,SNR=11						
	0.3nm,0.5s						

SOME 26 11:59:01.2, 40°.28N×76°.13E, h10^{km}

KRNET 26 11:59:01.9±0.1, 40°.26N×76°.35E, h20^{km}, mb3.5

NNC 26 11:59:10.4±2.3, 40°.55N×76°.11E, h0^{km}, mb4.1, mpv3.8, Error ellipse: s-maj=17.5km s-min=11.5km az=156.0

ISC 26 11:59:03.2±1.7, 40°.19N±0°.06×76°.30E±0°.03, h8^{km}±12^{km}, n64, σ1ˢ.27/99, 19C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.26	350	⇓*i*P	Pn	11 59 24.1	-3.3
	baz=46						
NRN				⇓*i*S	Sb	11 59 40.5	-3.5
	baz=46						
TARG	Taragay, Kyrgy	1.92	36	⇑*i*P	Pn	11 59 35.6	-0.9
	baz=36						
TARG				⇑*i*S	Sn	12 00 00.1	-0.9
	baz=36						
KDJ	Kajisay	2.05	19	⇑*i*P	Pn	11 59 37.6	-0.5
	baz=19						
KDJ				⇑*i*S	Sn	12 00 03.5	-0.5
	baz=19						
ULHL	Ulahol	2.06	359	P	Pn	11 59 38.4	+0.2
	SNR=92						
ULHL	Ulahol	2.06	359	⇓*i*P	Pn	11 59 37.9	-0.3
	baz=58						
ULHL				⇓*i*S	Sn	12 00 04.0	-0.1
	baz=58						
SFK	Sufi-Kurgan	2.15	266	⇑*i*P	Pb	11 59 40.6	-1.9
	baz=65						
SFK				⇑*i*S	Sb	12 00 09.0	-0.4
	baz=65						
ARLS	Aral	2.24	319	⇓*i*P	Pn	11 59 40.8	+0.1
	baz=17						
ARLS				⇓*i*S	Sn	12 00 09.3	+0.7
	baz=17						
BOOM	Boomskoye usch	2.31	353	⇑*i*P	Pn	11 59 41.4	-0.4
	baz=52						
BOOM				⇑*i*S	Sn	12 00 10.4	-0.1
	baz=52						
UCH	Uchtor	2.44	327	P	Pb	11 59 45.7	-1.9
	SNR=39						
UCH	Uchtor	2.44	327	⇑*i*P	Pn	11 59 43.6	-0.2
	baz=25						
UCH				⇑*i*S	Sn	12 00 14.4	+0.4
	baz=25						
KBK	Karagaybulak	2.67	338	P	Pb	11 59 50.2	-1.1
	SNR=40						
KBK	Karagaybulak	2.67	338	⇑*i*P	Pn	11 59 46.5	-0.1
	baz=37						
KBK				⇑*i*S	Sn	12 00 19.1	0.0
	baz=37						
AML	Almayashu	2.76	315	P	Pn	11 59 49.4	+1.3
	SNR=14						
AML	Almayashu	2.76	315	Pn	Pn	11 59 49.4	+1.3
	2.1nm,0.5s						
AML				Lg	Lg	12 00 27.8	
	5.4nm,0.7s						
AML	Almayashu	2.76	315	⇓*i*P	Pn	11 59 48.3	+0.2
	baz=14						
AML				⇓*i*S	Sn	12 00 22.2	+0.4
	baz=14						
ARSB	Arslanbob	2.76	295	⇓*e*P	Pn	11 59 48.7	+0.8
	baz=94						
ARSB				⇓*e*S	Sn	12 00 23.0	+1.5
	baz=94						
TKM2	Tokmak 2	2.78	349	P	Pb	11 59 50.0	-3.3
	SNR=25						
TKM2	Tokmak 2	2.78	349	⇓Pn	Pn	11 59 49.7	+1.5
	40nm,0.5s						
TKM2				⇓Lg	Lg	12 00 27.5	
	44nm,0.5s						
TKM2	Tokmak 2	2.78	349	⇓*i*P	Pn	11 59 48.1	-0.1
	baz=48						
TKM2				⇓*i*S	Sn	12 00 21.6	-0.4
	baz=48						
ANVS	Anan'yevo	2.79	21	⇑*e*P	Pn	11 59 47.9	-0.4
	baz=21						
ANVS				⇑*e*S	Sn	12 00 21.1	-1.1
	baz=21						
AAK	Ala-Archa	2.80	332	P	Pb	11 59 52.5	-1.0
	SNR=18						
AAK	Ala-Archa	2.80	332	⇓*e*P	Pn	11 59 48.4	0.0
	baz=30						
AAK				⇓*i*S	Sn	12 00 22.6	+0.2
	baz=30						
IZV	Izvestkoviy	2.85	5	Pg	Pg	11 59 59.3	+1.3
IZV				Lg	Lg	12 00 30.3	
	62nm,0.2s						
IZV	Izvestkoviy	2.85	5	*e*P	Pb	11 59 53.4	-1.1
IZV				*e*S	Sb	12 00 30.6	+1.0
	62nm,0.2s						
KST	Kastek	2.86	355	Pg	Pg	11 59 59.0	+0.9
	59nm,0.2s						
KST				Lg	Lg	12 00 30.1	
	125nm,0.2s						
KST	Kastek	2.86	355	*e*P	Pb	11 59 53.0	-1.6
	59nm,0.2s						
KST				*e*S	Sb	12 00 30.1	+0.3
	125nm,0.2s						
TNSS	Tian-Shan	2.89	9	Pg	Pg	11 59 59.4	+0.9
	12nm,0.2s						
TNSS				Lg	Lg	12 00 30.7	
	36nm,0.4s						
TNSS	Tian-Shan	2.89	9	*e*P	Pb	11 59 53.5	-1.7
	12nm,0.2s						
TNSS				*e*S	Sb	12 00 30.7	-0.1
	36nm,0.4s						
MTBS	Maitube	2.94	2	Pg	Pg	12 00 00.8	+1.3
	18nm,0.3s						
MTBS				Lg	Lg	12 00 33.0	
	93nm,0.5s						
MTBS	Maitube	2.94	2	*e*P	Pb	11 59 54.3	-1.5
	17nm,0.2s						
MTBS				*e*S	Sb	12 00 32.0	0.0
	93nm,0.5s						
MDOK	Medeo	3.02	10	Pg	Pb	11 59 55.1	-2.3
	18nm,0.6s						
MDOK				Pg	Pg	12 00 01.9	+0.7
	18nm,0.4s						
MDOK				Lg	Lg	12 00 34.8	
	79nm,0.7s						
MDOK				Lg	Lg	12 00 34.8	
	69nm,0.4s						
MDOK	Medeo	3.02	10	*e*P	Pb	11 59 55.5	-1.9
	18nm,0.4s						
MDOK				*e*S	Sb	12 00 34.4	-0.1
	69nm,0.4s						
CHMS	Chumysh	3.04	338	P	Pb	11 59 54.0	-3.5
	SNR=12						
CHMS	Chumysh	3.04	338	⇓Pn	Pn	11 59 53.4	+1.8
	19nm,0.7s						
CHMS				Lg	Lg	12 00 34.5	
	38nm,0.6s						
CHMS	Chumysh	3.04	338	⇓*e*P	Pn	11 59 51.5	-0.1
	baz=37						
CHMS				⇓*i*S	Sn	12 00 27.8	-0.3
	baz=37						
DGS	Degeres	3.08	353	Pg	Pg	12 00 02.9	+0.8
	68nm,0.3s						
DGS				Lg	Lg	12 00 36.7	
	59nm,0.4s						
DGS	Degeres	3.08	353	*e*P	Pb	11 59 57.3	-0.9
	68nm,0.3s						
DGS				*e*S	Sb	12 00 37.5	+1.6
	59nm,0.4s						
KOTS	Kotyrbulak	3.10	11	Pg	Pg	12 00 03.7	+1.0
	22nm,0.2s						
KOTS				Lg	Lg	12 00 38.0	
	162nm,0.4s						
KOTS	Kotyrbulak	3.10	11	*e*P	Pb	11 59 57.8	-0.9
	22nm,0.2s						
KOTS				*e*S	Sb	12 00 38.0	+1.3
	162nm,0.4s						
EKS2	Erkin-Say	3.11	323	⇑*i*P	Pn	11 59 52.8	+0.1
	baz=22						
EKS2				⇑*i*S	Sn	12 00 30.2	+0.1
	baz=22						
SATY	Saty	3.27	28	Pg	Pg	12 00 06.7	+0.7
	16nm,0.3s						
SATY				Lg	Lg	12 00 43.1	
	41nm,0.3s						
SATY	Saty	3.27	28	*e*P	Pb	12 00 01.0	-0.6
	16nm,0.3s						
SATY				*e*S	Sb	12 00 43.7	+2.1
	41nm,0.3s						
USP	Ospenovka	3.36	337	P	Pn	11 59 57.3	+1.4
	SNR=5.6						
USP	Ospenovka	3.36	337	⇑*i*P	Pn	11 59 55.8	-0.2
	baz=36						
USP				⇑*i*S	Sn	12 00 35.5	-0.5
	baz=36						
MRKS	Merke	3.44	319	Pg	Pg	12 00 09.7	+0.5
	10nm,0.3s						
MRKS				Lg	Lg	12 00 48.4	
	27nm,0.3s						
MRKS	Merke	3.44	319	*e*P	Pb	12 00 03.0	-1.4
	10nm,0.3s						
MRKS				*e*S	Sb	12 00 47.4	+0.9
	27nm,0.3s						
KTBS	Karatobe	3.53	5	Pg	Pg	12 00 10.7	-0.1
	20nm,0.3s						
KTBS				Lg	Lg	12 00 50.3	
	59nm,0.3s						
KTBS	Karatobe	3.53	5	*e*P	Pb	12 00 04.8	-1.1
	20nm,0.3s						
KTBS				*e*S	Sb	12 00 50.2	+1.2
	59nm,0.3s						
KRBS	Karabastau	3.53	353	Pg	Pg	12 00 11.2	+0.3
	38nm,0.3s						
KRBS				Lg	Lg	12 00 51.2	
	65nm,0.3s						
KRBS	Karabastau	3.53	353	*e*P	Pb	12 00 05.6	-0.4
	38nm,0.3s						
KRBS				*e*S	Sb	12 00 51.4	+2.3
	65nm,0.3s						
KURS	Kuram	3.58	22	Pg	Pg	12 00 12.2	+0.3
	8.7nm,0.4s						
KURS				Lg	Lg	12 00 52.4	
	19nm,0.6s						
KURS	Kuram	3.58	22	*e*P	Pb	12 00 06.0	-0.8
	8.7nm,0.4s						
KURS				*e*S	Sb	12 00 52.4	+2.0
	19nm,0.6s						
UZB	Uzynbulak	3.59	34	Pg	Pg	12 00 12.7	+0.7
	5.6nm,0.2s						
UZB				Lg	Lg	12 00 53.5	
	15nm,0.5s						
UZB	Uzynbulak	3.59	34	*e*P	Pb	12 00 06.9	-0.1
	5.6nm,0.2s						
UZB				*e*S	Sb	12 00 53.5	+2.8
	15nm,0.5s						
MNAS	Manas	3.66	310	⇓*e*P	Pn	12 00 01.1	+0.8
	baz=9.0						
MNAS				⇓*e*S	Sn	12 00 43.8	+0.1
	baz=9.0						
CHKK	Chushkaly	3.70	8	Pg	Pg	12 00 13.9	-0.1
	14nm,0.2s						
CHKK				Lg	Lg	12 00 55.7	
	21nm,0.3s						
CHKK	Chushkaly	3.70	8	*e*P	Pb	12 00 07.9	-0.9
	14nm,0.2s						
CHKK				*e*S	Sb	12 00 55.7	+1.9
	21nm,0.3s						
KPKS	Kokpek	3.73	28	Pg	Pg	12 00 14.2	-0.4
	5.1nm,0.2s						
KPKS				Lg	Lg	12 00 56.0	
	53nm,0.3s						
KPKS	Kokpek	3.73	28	*e*P	Pb	12 00 08.2	-1.1
	5.1nm,0.2s						
KPKS				*e*S	Sb	12 00 56.0	+1.4
	53nm,0.3s						
PDGK	Podgornoye	3.94	36	Pg	Pg	12 00 19.1	+0.4
	6.4nm,0.3s						
PDGK				Lg	Lg	12 01 04.4	
	13nm,0.7s						
ARXS	Arharly	4.18	15	Pg	Pg	12 00 22.5	-0.7
	5.2nm,0.2s						
ARXS				Lg	Lg	12 01 10.3	
	21nm,0.2s						
ARXS	Arharly	4.18	15	*e*P	Pb	12 00 16.6	-0.3
	5.2nm,0.2s						
ARXS				*e*S	Sb	12 01 10.3	+2.8
	21nm,0.2s						
BLB	Baldybastay	4.23	22	Pg	Pg	12 00 23.5	-0.7
	11nm,0.2s						
BLB				Lg	Lg	12 01 12.3	
	8.3nm,0.2s						
KK31	Karatay Array	5.22	306	⇑Pg	Pb	12 00 34.6	-0.2
	2.1nm,0.6s,baz=130,slow=17,SNR=13						
KK31				Lg	Lg	12 01 42.7	
	2.6nm,0.6s,baz=124,slow=27,SNR=5.6						

IDC 26 12:07:35.8±1.3, 38°.88N×109°.52E, h0^{km}, mb3.3/6, mbtmp3.4/7, ML3.2/1, Error ellipse: s-maj=45.8km s-min=18.0km az=65.0

ISC 26 12:07:40.8±1.3, 38°.9N±0°.1×109°.5E±0°.3, h35^{km}, n7, σ0ˢ.24/7, mb3.2/6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.19	347	Pn	Pn	12 09 50.7	-0.1
	0.3nm,0.3s,baz=164,slow=14,SNR=6.4						
SONM				Lg	Lg	12 12 29.9	
	0.1nm,0.3s,baz=161,slow=36,SNR=2.5						
	0.8nm,0.4s						
MKAR	Makanchi Array	21.36	300	P	P	12 12 25.1	+0.2
	0.6nm,0.7s,baz=102,slow=12,SNR=6.5						
	0.6nm,0.7s						
CMAR	Chiang Mai Arr	22.36	207	P	P	12 12 35.5	-0.2
	0.7nm,0.6s,baz=16,slow=8.8,SNR=6.1						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	22.53	320	P	P	12 12 37.3	0.0
	0.5nm,0.6s,baz=183,slow=14,SNR=2.4						
	0.5nm,0.6s						

KURBB	**Kurchatov Arra**	**24.71**	**308**	P		**P**	**12 12 58.7**	**+0.3**
	0.3nm,0.6s,baz=112,slow=10,SNR=2.0							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**63.01**	**154**	P		**P**	**12 18 04.4**	**+0.2**
	0.5nm,0.7s,baz=341,slow=7.4,SNR=2.3							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**66.33**	**156**	P		**P**	**12 18 25.8**	**0.0**
	0.4nm,0.6s,baz=346,slow=6.2,SNR=5.2							
	0.4nm,0.6s							

*IDC **26** 12:16:33.5±0.9,4°.13S×77°.33W,h0km,mb3.5/7, mbtmp3.5/10,ML3.0/3,MS3.6/2,Error ellipse: s-maj=27.8km s-min=15.4km az=89.0*
*IGQ **26** 12:16:41±0.4,4°.3S×7°.8W, h10km*
ISC 26 12:16:33.9±0.7,**4°.06S**±0°.03×**77°.82W**±0°.04,**h10**km,**n66, σ1s50/69,mb3.5/7,Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSC	**San Juan Bosco**	**1.13**	**324**	P	**Pb**	**12 16 54.0**	**-1.6**
BOSC				S	**Sg**	**12 17 08.0**	**-2.3**
ZUMB	**Zumba**	**1.54**	**239**	P	**Pg**	**12 17 03.0**	**-0.4**
ZUMB				S	**Sb**	**12 17 22.0**	**-0.2**
ACUE	**Ecuador-Cuenca**	**1.61**	**315**	P	**Pb**	**12 17 03.0**	**-0.9**
TAIS	**Taisha**	**1.70**	**11**	P	**Pg**	**12 17 07.0**	**+0.4**
SANGA	**Volcan Sangay**	**2.07**	**345**	P	**Pg**	**12 17 14.0**	**+0.3**
ACH2	**Ecuador-Machal**	**2.13**	**292**	P	**Pb**	**12 17 13.0**	**+0.3**
COHC	**Cochancay**	**2.13**	**318**	P	**Pg**	**12 17 14.0**	**-0.8**
COHC				S	**Sg**	**12 17 41.0**	**-1.6**
AMCR	**Ecuador-Macara**	**2.15**	**262**	P	**Pb**	**12 17 13.0**	**+0.1**
MCRA	**Macar, Loja**	**2.15**	**262**	P	**Pb**	**12 17 13.0**	**+0.1**
MCRA				S	**Sb**	**12 17 39.0**	**-0.6**
ARNL	**Arenillas**	**2.30**	**283**	P	**Pb**	**12 17 15.0**	**-0.4**
ARNL				S	**Sb**	**12 17 45.0**	**+1.1**
MILO	**Milagro-Astudi**	**2.48**	**316**	P	**Pb**	**12 17 19.0**	**+0.5**
PUYO	**Puyo, Santa Ro**	**2.56**	**356**	P	**Pg**	**12 17 21.0**	**-2.0**
ISPG	**Isla Puna-Puer**	**2.58**	**295**	P	**Pn**	**12 17 14.0**	**-1.8**
BMAS	**Trigal station**	**2.63**	**346**	P	**Pg**	**12 17 22.0**	**-2.3**
TUYU	**Q. Yuibug Volc**	**2.65**	**346**	P	**Pb**	**12 17 22.0**	**+0.4**
BULB	**Ulba Tungurahu**	**2.67**	**347**	P	**Pb**	**12 17 22.0**	**-0.1**
BBIL	**Ulba Tungurahu**	**2.68**	**346**	P	**Pg**	**12 17 24.0**	**-1.3**
TAMH	**Tambohuasha Ch**	**2.68**	**339**	P	**Pg**	**12 17 25.0**	**-0.3**
TAMH				S	**Sg**	**12 18 01.0**	**+0.9**
BRUN	**Tungurahua Vol**	**2.69**	**347**	P	**Pb**	**12 17 23.0**	**+0.6**
POND	**Pondoa**	**2.70**	**347**	P	**Pb**	**12 17 23.0**	**+0.5**
PORT	**Chimborazo Vol**	**2.75**	**340**	P	**Pb**	**12 17 24.0**	**+0.5**
CHSH	**Refugio Sur-Vo**	**2.76**	**338**	P	**Pb**	**12 17 24.0**	**+0.3**
PIAT	**Ana Tenorio**	**3.08**	**352**	P	**Pb**	**12 17 27.0**	**-2.0**
ATAH	**Atahualpa**	**3.10**	**191**	Pn	**Pn**	**12 17 24.4**	**+1.0**
	0.2nm,0.3s,baz=43,slow=13,SNR=2.2						
ATAH				Sn	**Sb**	**12 18 07.5**	**-0.1**
	8.0nm,0.3s,baz=355,slow=10,SNR=2.1						
ATAH				Lg	Lg	12 18 15.0	
	11nm,0.3s,baz=16,slow=20,SNR=9.0						
	3.1nm,0.3s						
VCES	**Cotopaxi**	**3.29**	**350**	P	**Pb**	**12 17 31.0**	**-1.7**
BRRN	**Barrancas-Volc**	**3.32**	**349**	P	**Pb**	**12 17 31.0**	**-2.2**
SLOR	**San Lorenzo -**	**3.38**	**349**	P	**Pb**	**12 17 33.0**	**-1.2**
TAMB	**Tambo**	**3.39**	**351**	P	**Pb**	**12 17 33.0**	**-1.4**
BTAM	**Cotopaxi Volca**	**3.41**	**350**	P	**Pb**	**12 17 35.0**	**+0.2**
BREF	**Cotopaxi Volca**	**3.43**	**350**	P	**Pb**	**12 17 36.0**	**+0.9**
CAMI	**Rancho Maria**	**3.43**	**349**	P	**Pb**	**12 17 34.0**	**-1.1**
BNAS	**Cotopaxi Volca**	**3.43**	**349**	P	**Pb**	**12 17 33.0**	**-2.1**
BVC2	**Cotopaxi Volca**	**3.43**	**350**	P	**Pb**	**12 17 36.0**	**+0.8**
PAST	**Pastocalle**	**3.44**	**346**	P	**Pg**	**12 17 38.0**	**-2.0**
VC1	**Cotopaxi 1**	**3.45**	**350**	P	**Pb**	**12 17 35.0**	**-0.4**
SUCR	**Mariscal Sucre**	**3.47**	**349**	P	**Pb**	**12 17 34.0**	**-1.7**
ANTM	**Antisana-La Mi**	**3.53**	**354**	P	**Pb**	**12 17 38.0**	**+1.3**
PITA	**Cotopaxi Volc**	**3.53**	**350**	P	**Pb**	**12 17 35.0**	**-1.8**
ANTS	**Antisana-Sarah**	**3.56**	**354**	P	**Pb**	**12 17 36.0**	**-1.3**
ANTG	**Antisana-Guama**	**3.56**	**353**	P	**Pb**	**12 17 36.0**	**-1.4**
HPAL	**Hacienda Las P**	**3.91**	**348**	P	**Pg**	**12 17 49.0**	**+0.1**
TERV	**Terraza Guagua**	**3.94**	**349**	P	**Pb**	**12 17 45.0**	**+1.2**
PINO	**Pino**	**3.96**	**349**	P	**Pb**	**12 17 45.0**	**+0.9**
ANGU	**Angureal**	**4.09**	**357**	P	**Pb**	**12 17 47.0**	**+0.6**
CAYA	**Cayambe**	**4.11**	**358**	P	**Pb**	**12 17 46.0**	**-0.7**
OTAV	**Otavalo**	**4.32**	**352**	P	**Pb**	**12 17 49.0**	**-1.2**
PAC1	**Pacto, Paraso**	**4.41**	**347**	P	**Pb**	**12 17 48.0**	**-3.6**
MAG1	**Magdalena**	**4.42**	**334**	P	**Pn**	**12 17 45.0**	**+3.9**
URCU	**Urcuqui**	**4.49**	**354**	P	**Pb**	**12 17 54.0**	**+0.8**
BONI	**La Bonita**	**4.50**	**4**	P	**Pg**	**12 17 54.0**	**+0.9**
TULM	**Tulcn-Chalpat**	**4.75**	**0**	P	**Pg**	**12 18 02.0**	**-2.9**
LNGL	**El Angel-Carch**	**4.78**	**358**	P	**Pg**	**12 18 04.0**	**-1.5**
CHL1	**Volcn Chiles**	**4.83**	**359**	P	**Pg**	**12 18 06.0**	**-0.4**
ECEN	**Cerro Negro**	**4.86**	**358**	P	**Pg**	**12 18 05.0**	**-2.0**
BBAC	**Balboa, Cauca**	**6.07**	**5**	P	Pn	12 18 10.0	+6.0
NNA	**Nana**	**7.93**	**173**	Pn	**Pn**	**12 18 28.6**	**-0.8**
	1.9nm,0.3s,baz=88,slow=8.7,SNR=1.9						
NNA				Sn	**Sn**	**12 19 58.7**	**-0.6**
	2.7nm,0.3s,baz=65,slow=17,SNR=2.2						
	6.1nm,0.3s						
ROSC	**El Rosal**	**9.51**	**22**	LR	LR	12 22 12.7	
	comp=Z,95nm,18.3s,baz=101,slow=36						
SIV	**San Ignacio**	**20.29**	**127**	Pn	**P**	**12 21 06.9**	**-3.1**
	baz=20,slow=22,SNR=1.1						
SIV				Lg	Lg	12 27 05.1	
	baz=298,slow=17,SNR=2.9						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**41.44**	**325**	P	**P**	**12 24 24.3**	**+3.2**
	0.6nm,0.9s,baz=130,slow=14,SNR=2.1						
	0.6nm,0.9s						
ANMO	**Albuquerque**	**47.23**	**328**	P	P	12 25 11.4	+3.9
	0.9nm,0.7s,baz=236,slow=11,SNR=5.1						
	0.9nm,0.7s						
PDAR	**Pinedale Array**	**54.75**	**332**	P	P	12 26 09.3	+5.3
	0.5nm,0.8s,baz=106,slow=5.7,SNR=3.4						
	0.5nm,0.8s						
NEW	**Newport**	**62.39**	**331**	LR	LR	12 56 09.4	
	comp=Z,129nm,18.3s,baz=88,slow=38						
YKA	**Yellowknife Ar**	**72.03**	**343**	P	**P**	**12 27 59.7**	**+2.0**
	0.3nm,0.8s,baz=140,slow=5.3,SNR=4.4						
	0.3nm,0.8s						
ESDC	**Sonseca Array**	**80.26**	**49**	P	**P**	**12 28 43.8**	**-1.4**
	0.5nm,0.9s,baz=297,slow=3.7,SNR=1.8						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**80.74**	**76**	P	**P**	**12 28 48.4**	**+0.2**
	0.1nm,0.4s,baz=298,slow=3.1,SNR=1.3						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**84.88**	**336**	P	**P**	**12 29 10.1**	**+1.4**
	0.5nm,1.0s,baz=98,slow=2.7,SNR=3.5						
	0.5nm,1.0s						

IDC 26 12:28:30.9±2.1,**10°.47S**×**128°.02E,h0km,mb3.2/1, mbtmp3.2/3,ML2.8/2,Error ellipse: s-maj=241.6km s-min=33.0km az=61.0,Timor Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**11.22**	**148**	Pn	Pn	12 31 13.1	+0.4
	0.1nm,0.3s,baz=327,slow=12,SNR=5.8						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**14.28**	**158**	Pn	Pn	12 31 53.9	-0.6
	baz=336,slow=11,SNR=5.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**70.09**	**328**	P	P	12 39 45.0	0.0
	0.2nm,0.6s,baz=129,slow=5.8,SNR=1.8						
	0.2nm,0.6s						

IDC 26 12:33:36.0±4.2,**16°.08S**×**177°.74W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=315.6km s-min=33.4km az=152.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.62**	**258**	P	P	12 41 58.8	+0.2
	0.5nm,0.9s,baz=91,slow=7.8,SNR=5.8						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**45.93**	**252**	P	P	12 42 00.6	-0.4
	1.3nm,0.6s,baz=89,slow=8.0,SNR=34						
	1.3nm,0.6s						
NVAR	**Mina Array Bea**	**77.67**	**44**	P	P	12 45 34.9	+0.1
	0.2nm,0.6s,baz=220,slow=11,SNR=2.1						
	0.2nm,0.6s						

IDC 26 12:35:54.5±2.9,**20°.27S**×**179°.58W,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=72.6km s-min=42.9km az=41.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.13**	**257**	P	P	12 43 56.8	-0.3
	0.7nm,0.6s,baz=90,slow=7.7,SNR=10						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.16**	**262**	P	P	12 43 57.4	0.0
	0.5nm,0.8s,baz=97,slow=7.4,SNR=13						
	0.5nm,0.8s						
VNDA	**Vanda**	**58.02**	**185**	P	P	12 45 48.5	-0.2
	0.8nm,0.5s,baz=15,slow=1.3,SNR=6.0						
	0.8nm,0.5s						
BRTR	**Keskin Array B**	**145.58**	**312**	PKPbc	PKPdf	12 55 34.8	-0.5
	0.6nm,0.9s,baz=75,slow=3.1,SNR=2.1						

*IDC **26** 12:54:31.1±0.9,31°.05S×71°.21W,h0km,mb3.9/5, mbtmp3.8/9,ML3.5/4,Error ellipse: s-maj=35.5km s-min=19.0km az=104.0*
*SJA **26** 12:54:36.8±0.7,30°.93S×71°.50W,h31km±1km,ML4.1, MW4.0*
*GUC **26** 12:54:38.8±0.8,30°.99S×71°.32W,h55km±3km,ML4.1*
*NEIC **26** 12:54:38.8±2.6,31°.01S±0°.03×71°.39W±0°.08,h51km±7km, mb4.5/2,Error ellipse: s-maj=9.8km s-min=3.1km az=104.0*
ISC 26 12:54:37.7±0.8,**30°.99S**±0°.03×**71°.40W**±0°.04,**h46**km±7km, **n117,σ1s94/125,mb4.2/5,2C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.37**	**327**		**Pn**	**12 54 49.2**	**+2.0**
CO06				Sn	**Sn**	**12 54 57.2**	**+3.2**
CO06	**Fray Jorge**	**0.37**	**327**	*i* P	**Pn**	**12 54 49.3**	**+2.0**
CO06				*i* S	**Sn**	**12 54 57.2**	**+3.2**
CO06				IAML		12 54 59.8	
	comp=N,18μm,0.2s						
CO02	**Combarbal**	**0.41**	**122**	Pn	**Pn**	**12 54 48.7**	**+0.9**
CO02				Sn	**Sn**	**12 54 55.9**	**+1.0**
CO02	**Combarbal**	**0.41**	**122**	*e*P	**Pn**	**12 54 48.3**	**+0.5**
CO02				*e*S	**Sn**	**12 54 56.2**	**+1.3**
CO02	**Combarbal**	**0.41**	**122**	*e*P	**Pn**	**12 54 48.6**	**+0.8**
CO02				*i* S	**Sn**	**12 54 55.8**	**+0.9**
CO03	**El Pedregal**	**0.63**	**77**		**Pn**	**12 54 51.0**	**+0.5**
CO03				Sn	**Sn**	**12 55 00.1**	**+0.4**
CO03	**El Pedregal**	**0.63**	**77**	*e*P	**Pn**	**12 54 50.8**	**+0.2**
CO03				*e*S	**Sn**	**12 54 59.2**	**-0.5**
CO03				IAML		12 55 00.4	
	comp=Z,18μm,0.4s						
CO03	**El Pedregal**	**0.63**	**77**	*i* P	**Pn**	**12 54 51.0**	**+0.5**
CO03				*i* S	**Sn**	**12 55 00.1**	**+0.4**
GO04	**Tololo Observa**	**0.96**	**33**		**Pn**	**12 54 56.1**	**+1.0**
GO04				Sn	**Sn**	**12 55 09.1**	**+1.3**
GO04	**Tololo Observa**	**0.96**	**33**	*e*P	**Pn**	**12 54 55.9**	**+0.7**
GO04				*e*S	**Sn**	**12 55 08.4**	**+0.6**
GO04	**Tololo Observa**	**0.96**	**33**	*i* P	**Pn**	**12 54 56.1**	**+1.0**
GO04				*i* S	**Sn**	**12 55 09.1**	**+1.3**
GO04				IAML		12 55 10.7	
	comp=E,19μm,0.4s						
CO05	**La Serena**	**1.07**	**7**		**Pn**	**12 54 57.8**	**+1.4**
CO05				Sn	**Sn**	**12 55 11.9**	**+1.8**
CO05	**La Serena**	**1.07**	**7**	*i* P	**Pn**	**12 54 57.7**	**+1.4**
CO05				*i* S	**Sn**	**12 55 11.5**	**+1.4**
CO05				IAML		12 55 16.0	
	comp=E,4μm,0.4s						
CO01	**Juntas del Tor**	**1.51**	**49**		**Pn**	**12 55 04.2**	**+1.6**
CO01	**Juntas del Tor**	**1.51**	**49**	*i* P	**Pn**	**12 55 04.2**	**+1.6**
CO01				*i* S	**Sn**	**12 55 23.0**	**+1.8**
CO01				IAML		12 55 24.3	
	comp=N,4μm,0.4s						
VA06	**Catapilco**	**1.57**	**177**		**Pn**	**12 55 04.7**	**+1.5**
VA06	**Catapilco**	**1.57**	**177**	*e*P	**Pn**	**12 55 04.2**	**+1.0**
AROD	**Rodeo**	**1.85**	**64**	*e*P	**Pn**	**12 55 10.3**	**+3.0**
AROD				*e*S	**Sn**	**12 55 34.9**	**+5.2**
VA03	**San Esteban**	**1.91**	**158**		**Pn**	**12 55 09.5**	**+1.5**
VA03	**San Esteban**	**1.91**	**158**	*e*P	**Pn**	**12 55 10.7**	**+2.7**
VA03				*e*S	**Sn**	**12 55 35.8**	**+4.9**
VA03				IAML		12 55 38.2	
	comp=Z,909nm,0.7s						
VA03	**San Esteban**	**1.91**	**158**	*e*P	**Pn**	**12 55 09.5**	**+1.5**
VA03				*i* S	**Sn**	**12 55 32.6**	**+1.7**
VA03				IAML		12 55 35.9	
	comp=E,3μm,0.1s						
RTLS	**Leoncito**	**1.97**	**115**	*e*P	Pn	12 55 12.9	+4.0
RTLS				*e*S	**Sn**	**12 55 38.9**	**+6.2**
RTLS				IAML		12 55 47.6	
	comp=Z,1μm,0.9s						
ROC1	**El Roble**	**2.01**	**171**	*e*P	**Pn**	**12 55 11.2**	**+1.8**
ROC1				*e*S	**Sn**	**12 55 38.2**	**+4.7**
VA01	**Torpederas**	**2.04**	**186**	Pn	**Pn**	**12 55 10.5**	**+0.9**
ACCO	**Cerro Coronel**	**2.05**	**79**	*e*P	Pn	12 55 13.7	+3.7
ACCO				*e*S	Sn	12 55 43.8	+9.3
LCO	**Las Campanas**	**2.06**	**17**	Pn	**Pn**	**12 55 11.8**	**+1.7**
AUSP	**Uspallata**	**2.11**	**126**	*e*P	**Pn**	**12 55 13.5**	**+2.6**
ACDV	**Cuesta del Vie**	**2.13**	**68**	*e*P	Pn	12 55 14.9	+3.9
ACDV				*e*S	Sn	12 55 44.2	+7.9
PEL	**Peldehue**	**2.23**	**164**	Pn	**Pn**	**12 55 13.9**	**+1.6**
PEL	**Peldehue**	**2.23**	**164**	*e*P	**Pn**	**12 55 14.4**	**+2.1**
PEL				*e*S	Sn	12 55 29.3	-9.5
PEL	**Peldehue**	**2.23**	**164**	*e*P	**Pn**	**12 55 13.9**	**+1.6**
MT02	**Curacav**	**2.28**	**174**		**Pn**	**12 55 14.1**	**+1.3**
AC05	**El Transito**	**2.35**	**25**		**Pn**	**12 55 15.8**	**+1.8**
AC05	**El Transito**	**2.35**	**25**	*e*P	**Pn**	**12 55 16.1**	**+2.1**
AC05				*e*S	**Sn**	**12 55 43.4**	**+1.6**
AC05				IAML		12 55 47.5	
	comp=N,1μm,0.2s						
MT05	**Renca**	**2.46**	**167**	Pn	**Pn**	**12 55 16.9**	**+1.4**
MT05	**Renca**	**2.46**	**167**	*e*P	**Pn**	**12 55 18.5**	**+3.0**
MT05				*e*S	Sn	12 55 34.5	-10
MT05				IAML		12 56 02.3	
	comp=Z,565nm,0.2s						
MT16	**CCHEN**	**2.55**	**163**		**Pn**	**12 55 19.2**	**+2.6**
MT16	**CCHEN**	**2.55**	**163**	*e*P	**Pn**	**12 55 19.3**	**+2.7**
RTCV	**Cerro Valdivia**	**2.59**	**110**	*e*P	**Pn**	**12 55 20.6**	**+3.3**
RTCV				*e*S	Sn	12 55 58.9	+11
MT03	**Universidad Ad**	**2.61**	**163**	Pn	**Pn**	**12 55 20.0**	**+2.5**
MT03	**Universidad Ad**	**2.61**	**163**	*e*P	**Pn**	**12 55 20.5**	**+3.0**
MT03				*e*S	Sn	12 55 37.2	-11
MT03				IAML		12 56 03.3	
	comp=Z,781nm,0.2s						
VA05	**Santo Domingo**	**2.67**	**184**	Pn	**Pn**	**12 55 19.0**	**+0.8**
ASAL	**Salagasta**	**2.71**	**127**	*e*P	Pn	12 55 13.2	-5.6
ASAL				IAML		12 56 05.6	
	comp=Z,374nm,0.5s						
AC04	**Llanos de Chal**	**2.79**	**6**	Pn	**Pn**	**12 55 21.6**	**+1.7**
AC04	**Llanos de Chal**	**2.79**	**6**	*i* P	**Pn**	**12 55 21.6**	**+1.7**
ARCO	**CERRO ARCO**	**2.80**	**132**	*e*P	Pn	12 55 10.5	-10
ARCO				IAML		12 56 07.0	
	comp=Z,339nm,0.3s						
MT09	**Talagante**	**2.80**	**173**		**Pn**	**12 55 21.9**	**+1.6**
MT09	**Talagante**	**2.80**	**173**	*e*P	**Pn**	**12 55 22.3**	**+2.1**
MT01	**Popeta**	**2.87**	**178**		**Pn**	**12 55 22.2**	**+1.2**
MT13	**San Alfonso**	**2.91**	**161**		**Pn**	**12 55 23.9**	**+2.2**
LMEL	**Las Melosas**	**3.03**	**161**		**Pn**	**12 55 25.4**	**+2.1**
BO04	**La Punta**	**3.07**	**168**		**Pn**	**12 55 25.7**	**+1.9**
BO04	**La Punta**	**3.07**	**168**	*e*P	**Pn**	**12 55 26.1**	**+2.3**
BO01	**Tunca**	**3.41**	**176**	Pn	**Pn**	**12 55 29.8**	**+1.4**
BO01	**Tunca**	**3.41**	**176**	*e*P	Pn	12 55 32.0	+3.6
GO03	**Copiap**	**3.53**	**17**	Pn	**Pn**	**12 55 31.8**	**+1.6**
GO03	**Copiap**	**3.53**	**17**	*e*P	**Pn**	**12 55 32.1**	**+1.9**
GO03				*e*S	Sn	12 56 19.9	+9.2
VCA	**Vinchina**	**3.57**	**52**	*e*P	Pn	12 55 35.0	+4.3
VCA				*e*S	Sn	12 56 23.6	+12
VCA				IAML		12 56 31.2	
	comp=Z,676nm,0.3s						
VCA	**Vinchina**	**3.57**	**52**	*i* P	Pn	12 55 34.8	+4.1
VCA				*e*S	**Sn**	**12 56 18.4**	**+6.7**
AC06	**Mina Casimiro**	**3.73**	**14**	Pn	**Pn**	**12 55 34.3**	**+1.4**
AC06	**Mina Casimiro**	**3.73**	**14**	*e*P	**Pn**	**12 55 34.5**	**+1.6**
BO02	**Sierra Bellavi**	**3.83**	**172**	Pn	**Pn**	**12 55 36.2**	**+1.9**
BO02	**Sierra Bellavi**	**3.83**	**172**	*e*P	Pn	12 55 38.5	+4.2
BO02				IAML		12 56 41.5	
	comp=Z,182nm,0.8s						
GO05	**Huala**	**4.04**	**186**	Pn	**Pn**	**12 55 37.1**	**0.0**
ACLC	**CERRO LA CRUZ**	**4.15**	**69**	*e*P	**Pn**	**12 55 40.8**	**+2.0**
ACLC				*e*S	**Sn**	**12 56 28.8**	**+2.6**
ACLC				IAML		12 56 35.0	
	comp=Z,732nm,0.8s						
ML02	**Panimavida**	**4.76**	**180**	Pn	**Pn**	**12 55 48.5**	**+1.5**
AC01	**Pan de Azucar**	**4.87**	**9**	Pn	**Pn**	**12 55 48.2**	**-0.4**
CYA	**Choya**	**5.49**	**64**	*e*P	**Pn**	**12 55 58.3**	**+1.3**
CYA				*e*S	**Sn**	**12 57 02.6**	**+3.7**
CYA				IAML		12 57 06.9	
	comp=Z,90nm,2.3s						
TCA	**Tanti**	**5.84**	**95**	*e*P	**Pn**	**12 56 02.2**	**+0.3**
TCA				*e*S	**Sn**	**12 57 07.0**	**-0.7**
TCA				IAML		12 57 13.8	
	comp=Z,97nm,0.6s						
BI05	**Punta Hualpn**	**5.94**	**194**	Pn	**Pn**	**12 56 02.1**	**-1.0**
GO02	**Mina Guanaco**	**6.02**	**16**		**Pn**	**12 56 04.3**	**-0.3**
GO02	**Mina Guanaco**	**6.02**	**16**	*e*P	**Pn**	**12 56 04.3**	**-0.3**
PB14	**IPOC Station P**	**6.40**	**8**	Pn	**Pn**	**12 56 08.5**	**-1.3**
AHML	**Horco Molle**	**6.77**	**53**	*e*P	**Pn**	**12 56 15.8**	**+1.3**
AHML				IAML		12 57 41.1	
	comp=Z,28nm,0.7s						
H03N1	**Juan Fernandez**	**6.82**	**247**	Pn	**Pn**	**12 56 16.3**	**+1.3**
	baz=115,slow=19						
H03N1				T	T	13 03 07.9	
	baz=73,slow=72,SNR=1360						
VA04	**Juan Fernndez**	**6.83**	**245**	Pn	**Pn**	**12 56 15.6**	**+0.3**
H03N3	**Juan Fernandez**	**6.83**	**247**	Pn	**Pn**	**12 56 16.1**	**+0.9**
	baz=115,slow=19						
H03N3				T	T	13 03 05.0	
	baz=73,slow=72,SNR=1009						
H03N2	**Juan Fernandez**	**6.84**	**247**	Pn	**Pn**	**12 56 16.4**	**+1.3**
	baz=115,slow=19						
H03N2				T	T	13 03 19.0	
	baz=73,slow=72,SNR=943						
H03S3	**Juan Fernandez**	**6.95**	**244**	Pn	**Pn**	**12 56 17.1**	**+0.3**
	baz=11,slow=20						
H03S1	**Juan Fernandez**	**6.96**	**244**	Pn	**Pn**	**12 56 16.9**	**+0.1**
	baz=11,slow=20						
H03S2	**Juan Fernandez**	**6.97**	**244**	Pn	**Pn**	**12 56 17.2**	**+0.2**
	baz=11,slow=20						
PB15	**IPOC Station P**	**7.94**	**13**		**Pn**	**12 56 30.2**	**-0.6**
SLA	**San Lorenzo**	**8.13**	**41**	*e*P	**Pn**	**12 56 30.8**	**-2.6**
SLA				IAML		12 58 12.0	
	comp=Z,14nm,0.9s						
PB05	**IPOC Station P**	**8.17**	**8**	Pn	**Pn**	**12 56 32.5**	**-1.4**
PB06	**IPOC Station P**	**8.41**	**12**	Pn	**Pn**	**12 56 36.5**	**-0.6**
GO06	**Curarrehue**	**8.58**	**180**	Pn	**Pn**	**12 56 39.7**	**+0.3**
LVC	**Limon Verde**	**8.63**	**16**	Pn	**Pn**	**12 56 39.1**	**-1.3**
LVC	**Limon Verde**	**8.63**	**16**	Pn	**Pn**	**12 56 38.3**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=183,slow=11,SNR=7.1						
LVC				Sn	**Sn**	**12 58 18.6**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=199,slow=21,SNR=1.9						
	comp=Z,1.6nm,0.3s						
LR05	**Currie**	**9.24**	**183**	Pn	**Pn**	**12 56 48.2**	**-0.1**
PB07	**IPOC Station P**	**9.32**	**9**	Pn	**Pn**	**12 56 50.5**	**+0.8**
PB09	**IPOC Station P**	**9.35**	**12**	Pn	**Pn**	**12 56 51.0**	**+0.9**
PLCA	**Paso Flores**	**9.75**	**176**	Pn	**Pn**	**12 56 55.4**	**0.0**
PLCA	**Paso Flores**	**9.75**	**176**	Pn	**Pn**	**12 56 52.5**	**-2.9**
	baz=342,slow=14,SNR=1.7						
PLCA				Sn	Sn	12 58 51.7	+8.2
	baz=245,slow=7.6,SNR=1.6						
	comp=Z,1.1nm,1.0s						
PB01	**IPOC Station P**	**10.05**	**10**	Pn	**Pn**	**12 56 58.6**	**-1.0**
TRQA	**Tornquist**	**10.49**	**135**		**Pn**	**12 57 05.3**	**-0.1**
PB11	**IPOC Station P**	**11.29**	**8**	Pn	**Pn**	**12 57 15.3**	**-1.3**
GO01	**Chusmiza**	**11.44**	**11**	Pn	**Pn**	**12 57 18.4**	**-0.7**
CPUP	**Villa Florida**	**13.19**	**73**	Pn	Pn	12 57 36.1	-6.3
	comp=Z,0.2nm,0.3s,baz=249,slow=17,SNR=2.0						
CPUP				Sn	**Sn**	**13 00 08.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=321,slow=12,SNR=2.4						
	comp=Z,1.3nm,0.5s						
SIV	**San Ignacio**	**17.66**	**35**	P	**Pn**	**12 58 40.1**	**-0.4**
	baz=210,slow=9.7,SNR=11						
	comp=Z,2.2nm,0.6s						
BDFB	**Brasilia**	**26.27**	**60**	P	**P**	**13 00 07.3**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=198,slow=3.9,SNR=5.1						
	comp=Z,2.4nm,0.5s						
SNAA	**Sanae**	**54.18**	**159**	P	P	13 03 55.9	-2.1
SNAA				IAmb	IAmb	13 04 11.9	
	comp=Z,4.1nm,1.1s						
SNAA	**Sanae**	**54.18**	**159**	P	**P**	**13 03 57.0**	**-1.0**
	comp=

*IDC **26** 13:27:04.7±0.6,37˚.49S×73˚.89W, h0km, mb4.4/10, mbtmp4.4/13, ML4.2/3, MS4.4/13, Error ellipse: s-maj=22.1km s-min=15.0km az=72.0*

*GUC **26** 13:27:05.7±0.8,37˚.48S×74˚.32W, h26km±4km, ML5.1*

*NEIC **26** 13:27:06.4,37˚.45S×74˚.04W, h16km*

*NEIC **26** 13:27:06.8±1.5,37˚.45S±0˚.04×73˚.98W±0˚.05, h10km±1km, mb5.1/27, Mwr5.0/67, Mww5.0/17, Error ellipse: s-maj=7.6km s-min=6.4km az=204.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 0.68; Mθθ -0.45; Mϕϕ -0.23; Mrθ -0.64; Mθϕ -0.46; Mϕr -3.40; Fault plane solution: M0 3.54000×10^16 NP1: ϕs192.18000°, δ85.42000°, λ82.39000°. NP2: ϕs71.30000°, δ8.87000°, λ148.81000°. Principal axes: T 3.6635, Plg49.0000°, Azm94.0000°; N -0.2584, Plg8.0000°, Azm193.0000°; P -3.4051, Plg40.0000°, Azm289.0000°;*

*NEIC **26** 13:27:06.4,37˚.45S×73˚.28W, h16km, Moment Tensor Solution. Duration: 1ŝ6 Moment tensor: Scale 10^16 Nm; Mrr 2.37; Mθθ 0.21; Mϕϕ -2.58; Mrθ -0.53; Mθϕ -0.10; Mϕr -3.11; Fault plane solution: M0 4.02000×10^16 NP1: ϕs188.22000°, δ71.05000°, λ94.41000°. NP2: ϕs354.87000°, δ19.44000°, λ77.39000°. Principal axes: T 3.9270, Plg64.0000°, Azm105.0000°; N 0.1781, Plg4.0000°, Azm7.0000°; P -4.1050, Plg26.0000°, Azm275.0000°;*

*NEIC **26** 13:27:06.7,37˚.45S×73˚.98W, h10km*

*GCMT **26** 13:27:09.8±0.3,37˚.63S±0˚.02×74˚.27W±0˚.02, h23km±1km, MW5.0/83, Moment Tensor Solution. s29,c31; s83,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.67±.24; Mθθ -0.65±.12; Mϕϕ -3.02±.14; Mrθ 0.04±.16; Mθϕ -0.21±.07; Mϕr -2.22±.18; Best double couple: M0 4.02200×10^16 NP1: ϕs182.00000°, δ62.00000°, λ88.00000°. NP2: ϕs7.00000°, δ28.00000°, λ94.00000°. Principal axes: T 4.3420, Plg73.0000°, Azm86.0000°; N -0.6360, Plg2.0000°, Azm183.0000°; P -3.7020, Plg17.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*VAO **26** 13:27:09.7±0.5,37˚.39S×73˚.67W, h10km, mb4.9*

ISC 26 13:27:05.6±1.4,37˚.51S±0˚.03×73˚.97W±0˚.05, h8km±9km, n198, σ1ŝ28/211, mb5.0/24, MS4.4/11, 13C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.91**	**176**	⇑*iP*		**Pg**	**13 27 23.2**	**+0.1**
BI04				*i* S		**Sg**	**13 27 35.4**	**+0.5**
BI04				IAML			13 27 42.8	
	comp=N,70μm,0.5s							
BI05	**Punta Hualpn**	**0.98**	**40**	Pg		**Pb**	**13 27 24.9**	**0.0**
BI05	**Punta Hualpn**	**0.98**	**40**	⇑*iP*		**Pb**	**13 27 25.0**	**+0.1**
BI05				*i* S		**Sn**	**13 27 40.1**	**+0.3**
LC02	**Puerto Saavedr**	**1.36**	**160**			**Pn**	**13 27 31.2**	**+0.2**
LC02	**Puerto Saavedr**	**1.36**	**160**	*eP*		**Pn**	**13 27 30.8**	**-0.3**
LC02				*eS*		**Sn**	**13 27 49.3**	**0.0**
CANA	**Caviahue**	**2.34**	**100**	*eP*		**Pb**	**13 27 47.7**	**-0.5**
CANA				*eS*		**Sg**	**13 28 20.2**	**-0.6**
CANA				IAML			13 28 36.1	
	comp=Z,3μm,1.1s							
LR04	**Corral**	**2.41**	**170**	*eP*		**Pn**	**13 27 44.6**	**-0.8**
LR04				IAML			13 28 33.6	
	comp=N,5μm,0.3s							
LR03	**Panguipulli**	**2.48**	**150**	⇑*iP*		**Pn**	**13 27 47.6**	**+1.3**
LR03				*eS*		**Sb**	**13 28 18.9**	**-2.2**
ML02	**Panimavida**	**2.69**	**51**			**Pn**	**13 27 49.2**	**0.0**
ML02	**Panimavida**	**2.69**	**51**	⇑*iP*		**Pn**	**13 27 50.3**	**+1.0**
ML02				*i* S		**Sb**	**13 28 25.3**	**-2.0**
ML02				IAML			13 28 41.2	
	comp=E,10μm,0.6s							
GO06	**Curarrehue**	**2.85**	**137**	Pn		**Pn**	**13 27 52.6**	**+1.0**
GO06	**Curarrehue**	**2.85**	**137**	⇑*iP*		**Pn**	**13 27 52.8**	**+1.1**
GO06				*i* S		**Sb**	**13 28 29.8**	**-2.3**
GO05	**Huala**	**2.99**	**34**	Pn		**Pn**	**13 27 52.7**	**-0.7**
GO05	**Huala**	**2.99**	**34**	*eP*		**Pn**	**13 27 53.6**	**+0.3**
GO05	**Huala**	**2.99**	**34**	*eP*		**Pn**	**13 27 53.3**	**-0.1**
GO05				*i* S		**Sn**	**13 28 31.9**	**+2.5**
GO05				IAML			13 28 54.8	
	comp=E,3μm,0.6s							
LR05	**Currie**	**3.12**	**151**	Pn		**Pn**	**13 27 56.1**	**+0.9**
LR05	**Currie**	**3.12**	**151**	⇑*iP*		**Pn**	**13 27 56.5**	**+1.3**
LR05				*eS*		**Sn**	**13 28 32.9**	**+0.1**
LR05				IAML			13 28 53.4	
	comp=E,9μm,0.5s							
BO03	**Pichilemu**	**3.42**	**29**	⇑*iP*		**Pn**	**13 27 58.3**	**-0.9**
BO03				*i* S		**Sn**	**13 28 39.5**	**-0.5**
BO02	**Sierra Bellavi**	**3.74**	**45**			**Pn**	**13 28 03.6**	**-0.2**
BO02	**Sierra Bellavi**	**3.74**	**45**	*eP*		**Pn**	**13 28 04.6**	**+0.8**
BO02				*eS*		**Sn**	**13 28 52.3**	**+4.2**
BO02				IAML			13 29 12.5	
	comp=Z,2μm,0.8s							
BO02	**Sierra Bellavi**	**3.74**	**45**	⇑*iP*		**Pn**	**13 28 04.5**	**+0.7**
BO02				*i* S		**Sn**	**13 28 49.1**	**+1.0**
BO01	**Tunca**	**3.89**	**38**	Pn		**Pn**	**13 28 05.7**	**-0.1**
BO01	**Tunca**	**3.89**	**38**	*eP*		**Pn**	**13 28 06.3**	**+0.6**
BO01				IAML			13 29 23.1	
	comp=Z,1μm,1.1s							
BO01	**Tunca**	**3.89**	**38**	*eP*		**Pn**	**13 28 06.1**	**+0.3**
BO01				*i* S		**Sn**	**13 28 53.1**	**+1.5**
LL05	**Los Muermos**	**3.91**	**175**			**Pn**	**13 28 05.9**	**-0.2**
PLCA	**Paso Flores**	**4.18**	**142**			**Pn**	**13 28 11.1**	**+1.3**
PLCA	**Paso Flores**	**4.18**	**142**	*eP*		**Pn**	**13 28 11.8**	**+2.0**
PLCA				*eS*		**Sn**	**13 29 03.9**	**+5.0**
PLCA				IAML			13 29 27.9	
	comp=Z,819nm,1.1s							
PLCA	**Paso Flores**	**4.18**	**142**	Pn		**Pn**	**13 28 10.3**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=310,slow=9.2,SNR=76							
PLCA				Sn		**Sn**	**13 28 57.9**	**-1.0**
	comp=Z,11nm,0.3s,baz=321,slow=9.7,SNR=3.9							
PLCA				Lg		Lg	13 29 16.1	
	comp=Z,16nm,0.3s,baz=48,slow=22,SNR=4.9							
	comp=Z,28nm,0.8s							
PLCA	**Paso Flores**	**4.18**	**142**	*eP*		**Pn**	**13 28 11.6**	**+1.7**
PLCA				*eS*		**Sb**	**13 29 05.3**	**-4.8**
MT01	**Popeta**	**4.25**	**32**			**Pn**	**13 28 09.9**	**-0.9**
MT01	**Popeta**	**4.25**	**32**	*eP*		**Pn**	**13 28 10.6**	**-0.2**
MT01				*eS*		**Sn**	**13 29 01.3**	**+0.6**
MT01				IAML			13 29 30.5	
	comp=Z,1μm,0.8s							
MT01	**Popeta**	**4.25**	**32**	⇑*iP*		**Pn**	**13 28 10.2**	**-0.6**
VA05	**Santo Domingo**	**4.29**	**27**			**Pn**	**13 28 10.2**	**-1.0**
VA05	**Santo Domingo**	**4.29**	**27**	*eP*		**Pn**	**13 28 10.3**	**-1.0**
MT09	**Talagante**	**4.44**	**34**			**Pn**	**13 28 13.8**	**+0.3**
MT09	**Talagante**	**4.44**	**34**	*eP*		**Pn**	**13 28 13.5**	**0.0**
MT09				*i* S		**Sn**	**13 29 04.3**	**-1.2**
BO04	**La Punta**	**4.45**	**39**			**Pn**	**13 28 13.4**	**-0.1**
LL06	**Loncomilla**	**4.71**	**177**	Pn		**Pn**	**13 28 16.4**	**-0.6**
LMEL	**Las Melosas**	**4.77**	**41**			**Pn**	**13 28 18.5**	**+0.5**
MT13	**San Alfonso**	**4.81**	**40**			**Pn**	**13 28 18.7**	**+0.3**
MT02	**Curacav**	**4.83**	**29**			**Pn**	**13 28 18.0**	**-0.7**
MT02	**Curacav**	**4.83**	**29**	*eP*		**Pn**	**13 28 17.8**	**-0.9**
MT02				IAML			13 30 00.1	
	comp=Z,734nm,1.1s							
VA01	**Torpederas**	**4.86**	**24**	Pn		**Pn**	**13 28 17.8**	**-1.2**
MT05	**Renca**	**4.88**	**34**	Pn		**Pn**	**13 28 19.5**	**+0.1**
MT05	**Renca**	**4.88**	**34**	*eP*		**Pn**	**13 28 20.0**	**+0.6**
MT05				IAML			13 29 56.1	
	comp=Z,2μm,1.4s							
MT03	**Universidad Ad**	**4.90**	**36**			**Pn**	**13 28 19.8**	**+0.1**
MT03	**Universidad Ad**	**4.90**	**36**	*eP*		**Pn**	**13 28 19.9**	**+0.1**
MT03				IAML			13 29 53.3	
	comp=Z,2μm,1.2s							
MT16	**CCHEN**	**4.95**	**36**			**Pn**	**13 28 20.4**	**+0.1**
LL01	**San Ignacio de**	**5.01**	**167**			**Pn**	**13 28 21.8**	**+0.6**
LL01	**San Ignacio de**	**5.01**	**167**	*eP*		**Pn**	**13 28 22.0**	**+0.9**
LL01				IAML			13 30 08.1	
	comp=Z,471nm,1.8s							
PEL	**Peldehue**	**5.11**	**33**	Pn		**Pn**	**13 28 22.5**	**-0.2**
LL07	**Hotel Espejo d**	**5.33**	**176**			**Pn**	**13 28 28.0**	**+2.5**
VA06	**Catapilco**	**5.40**	**25**			**Pn**	**13 28 25.4**	**-1.1**
H03S1	**Juan Fernandez**	**5.43**	**311**	Pn		**Pn**	**13 28 25.8**	**-0.8**
	baz=98,slow=11							
H03S1				T		T	13 34 07.2	
	baz=130,slow=74,SNR=1743							
H03S3	**Juan Fernandez**	**5.44**	**311**	Pn		**Pn**	**13 28 25.9**	**-1.0**
	baz=98,slow=11							
H03S3				T		T	13 34 08.0	
	baz=130,slow=74,SNR=1069							
H03S2	**Juan Fernandez**	**5.45**	**311**	Pn		**Pn**	**13 28 26.4**	**-0.5**
	baz=98,slow=11							
H03S2				T		T	13 34 08.7	
	baz=130,slow=74,SNR=1151							
VA03	**San Esteban**	**5.50**	**32**			**Pn**	**13 28 28.1**	**+0.1**
VA04	**Juan Fernndez**	**5.52**	**313**	Pn		**Pn**	**13 28 26.8**	**-1.4**
GO07	**Milladeo Hill,**	**5.61**	**178**			**Pn**	**13 28 29.1**	**-0.2**
H03N1	**Juan Fernandez**	**5.72**	**314**	Pn		**Pn**	**13 28 30.3**	**-0.3**
LL02	**Futaleuf**	**5.91**	**165**			**Pn**	**13 28 34.5**	**+1.0**
CO02	**Combarbal**	**6.75**	**22**			**Pn**	**13 28 44.3**	**-0.9**
AY01	**Puyuhuapi**	**6.98**	**172**			**Pn**	**13 28 49.3**	**+1.1**
CO06	**Fray Jorge**	**7.08**	**17**			**Pn**	**13 28 47.7**	**-2.0**
GO04	**Tololo Observa**	**7.78**	**21**			**Pn**	**13 28 59.8**	**+0.5**
CO01	**Juntas del Tor**	**8.17**	**24**			**Pn**	**13 29 04.5**	**-0.3**
COYC	**Coyhaique**	**8.18**	**171**			**Pn**	**13 29 06.5**	**+1.8**
LCO	**Las Campanas**	**8.90**	**19**			**Pn**	**13 29 14.3**	**-0.6**
AY02	**Valle Explorad**	**8.99**	**177**			**Pn**	**13 29 17.8**	**+2.0**
AC05	**El Transito**	**9.18**	**21**			**Pn**	**13 29 17.3**	**-1.2**
TRQA	**Tornquist**	**9.51**	**97**			**Pn**	**13 29 24.7**	**+1.8**
AC04	**Llanos de Chal**	**9.59**	**16**			**Pn**	**13 29 23.2**	**-0.8**
AY03	**Cochrane**	**9.79**	**174**			**Pn**	**13 29 28.4**	**+1.6**
GO03	**Copiap**	**10.37**	**19**			**Pn**	**13 29 35.0**	**+0.2**
AC06	**Mina Casimiro**	**10.57**	**18**			**Pn**	**13 29 36.4**	**-1.1**
GO08	**Villa O'Higgin**	**11.00**	**175**			**Pn**	**13 29 45.2**	**+1.9**
GO02	**Mina Guanaco**	**12.86**	**18**			**Pn**	**13 30 10.1**	**+1.0**
PB14	**IPOC Station P**	**13.20**	**14**			**Pn**	**13 30 12.1**	**-1.6**
PB10	**IPOC Station P**	**14.25**	**13**			**Pn**	**13 30 25.1**	**-2.7**
PB15	**IPOC Station P**	**14.77**	**16**			**Pn**	**13 30 33.4**	**-1.6**
PB05	**IPOC Station P**	**14.96**	**14**			**Pn**	**13 30 37.3**	**-0.3**
LVC	**Limon Verde**	**15.47**	**18**	Pn		**Pn**	**13 30 43.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=189,slow=9.4,SNR=2.6							
LVC				LR		LR	13 36 46.0	
	comp=Z,878nm,20.4s,baz=200,slow=38							
	comp=Z,4.1nm,0.8s							
LVC	**Limon Verde**	**15.47**	**18**	*eP*		**P**	**13 30 51.8**	**+2.5**
ITQB	**Itaqui**	**16.42**	**67**	*eP*		**P**	**13 30 59.2**	**0.0**
RODS	**Rosario do Sul**	**17.12**	**71**	*eP*		**P**	**13 31 08.9**	**+1.8**
PLTB	**Pedras Altas**	**17.70**	**77**	*eP*		**Pn**	**13 31 11.2**	**-1.4**
UNIS	**Unistalda (Bra**	**17.88**	**67**	*eP*		**P**	**13 31 15.9**	**+0.4**
CPUP	**Villa Florida**	**17.96**	**56**	P		**Pn**	**13 31 14.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=225,slow=11,SNR=12							
CPUP				Lg		Lg	13 36 31.4	
	baz=260,slow=19							
CPUP				LR		LR	13 39 11.6	
	comp=Z,1μm,18.4s,baz=234,slow=41							
	comp=Z,6.7nm,0.6s							
PB11	**IPOC Station P**	**18.08**	**13**	P		**P**	**13 31 19.6**	**+1.8**
PB11				IAmb		IAmb	13 31 23.8	
	comp=Z,82nm,0.8s							
EFI	**East Falkland**	**18.08**	**147**	P		**P**	**13 31 17.6**	**+0.1**
EFI				IAmb		IAmb	13 31 26.5	
	comp=Z,79nm,0.7s							
GO01	**Chusmiza**	**18.25**	**15**	P		**P**	**13 31 20.6**	**+0.5**
PB16	**IPOC Station P**	**19.50**	**13**	P		**Pn**	**13 31 35.6**	**+0.6**
CRSM	**Crissiumal (Br**	**19.52**	**65**	*eP*		**P**	**13 31 33.9**	**+0.5**
ALGR	**Alto Alegre (B**	**19.54**	**70**	*eP*		**Pn**	**13 31 35.2**	**+0.2**
PB18	**Visviri**	**20.23**	**12**	P		**P**	**13 31 39.9**	**-1.9**
PB18				IAmb		IAmb	13 31 54.7	
	comp=Z,68nm,0.8s							
CNLB	**Canela**	**20.92**	**74**	*eP*		**P**	**13 31 48.4**	**-0.4**
ITAB	**Concordia**	**21.05**	**67**	P		**P**	**13 31 50.3**	**+0.1**
LPAZ	**La Paz**	**21.76**	**15**	P		**P**	**13 31 59.6**	**+1.2**
PTGB	**Pitanga**	**22.61**	**62**	*eP*		**P**	**13 32 07.4**	**+0.4**
BDQN	**Bodoquena, MS**	**22.65**	**46**	*eP*		**P**	**13 32 06.6**	**-0.7**
BBRB	**Robore, Bolivi**	**22.83**	**37**	*eP*		**P**	**13 32 08.8**	**-0.5**
AQDB	**Aquidauana**	**23.24**	**48**	P		**P**	**13 32 13.0**	**-0.5**
AQDB				IAmb		IAmb	13 32 27.6	
	comp=Z,52nm,0.8s							
AQDB	**Aquidauana**	**23.24**	**48**	*eP*		**P**	**13 32 12.9**	**-0.5**
RVDE	**Rio Verde (Bra**	**24.81**	**47**	*eP*		**P**	**13 32 29.3**	**+0.9**
PTLB	**Pontes e Lacer**	**25.60**	**35**	P		**P**	**13 32 35.7**	**+0.3**
PTLB	**Pontes e Lacer**	**25.60**	**35**	*eP*		**P**	**13 32 36.4**	**+0.9**
SPB	**Sao Paulo**	**26.62**	**66**	*eP*		**P**	**13 32 47.0**	**+2.3**
SALV	**Santo Antonio**	**26.91**	**42**	*eP*		**P**	**13 32 48.2**	**+0.9**
ITRB	**Iturama**	**27.16**	**56**	*eP*		**P**	**13 32 49.4**	**-0.2**
VILB	**Vilhena**	**27.37**	**30**	*eP*		**P**	**13 32 55.6**	**+4.1**
BB19B	**Bebedouro**	**27.46**	**60**	*eP*		**P**	**13 32 54.3**	**+2.0**
PMSA	**Palmer Station**	**27.94**	**171**	LR		LR	13 45 17.1	
	comp=Z,902nm,18.1s,baz=344,slow=39							
ETMB	**Extrema**	**28.44**	**16**	P		**P**	**13 33 01.6**	**+0.5**
ETMB				IAmb		IAmb	13 33 03.7	
	comp=Z,24nm,0.9s							
ETMB	**Extrema**	**28.44**	**16**	*eP*		**P**	**13 33 02.1**	**+1.0**
CZSB	**Cruzeiro do Su**	**29.66**	**3**	*eP*		P	13 33 17.7	+5.8
IPMB	**Ipameri, GO**	**29.81**	**56**	*eP*		**P**	**13 33 16.6**	**+3.3**
SAML	**Samuel**	**30.06**	**22**	P		**P**	**13 33 15.2**	**-0.2**
SAML	**Samuel**	**30.06**	**22**	*eP*		**P**	**13 33 15.8**	**+0.4**
PDRB	**Porto dos Gac**	**30.07**	**35**	*eP*		**P**	**13 33 16.3**	**+0.7**
BSCB	**Bom Sucesso**	**30.16**	**65**	*eP*		**P**	**13 33 16.3**	**-0.1**
PMNB	**Patos De Minas**	**30.61**	**59**	*eP*		**P**	**13 33 20.5**	**+0.1**
RPN	**Rapa Nui**	**31.46**	**279**	LR		LR	13 42 31.6	
	comp=Z,515nm,19.4s,baz=104,slow=29							
BDFB	**Brasilia**	**31.64**	**53**	P		**P**	**13 33 28.9**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=232,slow=11,SNR=5.8							
	comp=Z,4.9nm,0.8s							
SNDB	**Serra Nova Dou**	**32.54**	**45**	*eP*		**P**	**13 33 37.2**	**-0.1**
DIAM	**Diamantina, MG**	**32.70**	**63**	*eP*		**P**	**13 33 39.3**	**+0.4**
MCRA	**Macar, Loja**	**33.43**	**349**	P		**P**	**13 33 44.2**	**-0.9**
JANB	**Januaria**	**34.50**	**58**	*eP*		**P**	**13 33 54.0**	**-0.5**
NPGB	**Novo Progresso**	**34.72**	**34**	*eP*		**P**	**13 33 56.3**	**-0.1**
ITTB	**Itaituba**	**36.96**	**31**	*eP*		**P**	**13 34 15.3**	**-0.2**
OTAV	**Otavalo**	**37.78**	**353**	*eP*		P	13 34 28.7	+5.7
BOAV	**Boa Vista**	**41.62**	**20**	P		**P**	**13 34 54.4**	**0.0**
BOAV				IAmb		IAmb	13 35 01.3	
	comp=Z,72nm,1.9s							
BOAV	**Boa Vista**	**41.62**	**20**	*eP*		**P**	**13 34 54.5**	**+0.1**
BAUV	**El Baul**	**46.54**	**8**	P		**P**	**13 35 33.7**	**-0.1**
VNA3	**Neumayer Olymp**	**46.75**	**156**	⇓P		**P**	**13 35 36.8**	**+1.9**
	comp=Z,15nm,0.7s							
RCBR	**Riachuelo**	**46.84**	**57**	P		**P**	**13 35 36.6**	**+0.3**
	comp=Z,5.6nm,1.0s,baz=211,slow=9.8,SNR=2.1							
RCBR				LR		LR	13 57 06.8	
	comp=Z,471nm,20.9s,baz=221,slow=38							
	comp=Z,5.6nm,1.0s							
VNA2	**Neumayer--Watz**	**47.43**	**156**	⇑P		**P**	**13 35 41.9**	**+1.7**
	comp=Z,15nm,0.6s,baz=281,slow=9.0							
SNAA	**Sanae**	**48.97**	**157**	P		**P**	**13 35 53.8**	**+1.6**
SNAA				IAmb		IAmb	13 35 54.9	
	comp=Z,34nm,1.1s							
SNAA	**Sanae**	**48.97**	**157**	⇑P		**P**	**13 35 53.9**	**+1.7**
	comp=Z,375nm,0.7s							
SNAA	**Sanae**	**48.97**	**157**	P		**P**	**13 35 52.8**	**+0.6**
	comp=Z,18nm,0.8s,baz=282,slow=7.2,SNR=19							
	comp=Z,18nm,0.8s							
TROLL	**Troll, Antarti**	**50.66**	**157**	⇓P		**P**	**13 36 06.5**	**+1.4**
	comp=Z,747nm,0.7s							
QSPA	**South Pole Qui**	**52.74**	**180**	P		**P**	**13 36 22.3**	**+1.5**
QSPA				IAmb		IAmb	13 36 23.9	
	comp=Z,21nm,1.0s							
QSPA	**South Pole Qui**	**52.74**	**180**	P		**P**	**13 36 20.8**	**+0.1**
	comp=Z,13nm,0.8s,baz=178,slow=1.3,SNR=50							
	comp=Z,13nm,0.8s							
PPT	**Papeete**	**68.25**	**264**	LR		LR	14 00 24.9	
	comp=Z,322nm,18.5s,baz=88,slow=29							
LPIG	**La Paz**	**70.17**	**325**	LR		LR	14 02 16.2	
	comp=Z,170nm,18.8s,baz=116,slow=30							
MAW	**Mawson**	**70.27**	**164**	LR		LR	14 10 26.0	
	comp=Z,504nm,18.1s,baz=237,slow=37							
TXAR	**Lajitas Array**	**72.08**	**333**	P		**P**	**13 38 30.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=156,slow=9.5,SNR=5.0							
	comp=Z,0.3nm,0.6s							
W50A	**Signal Mountai**	**73.10**	**350**	P		**P**	**13 38 36.6**	**+0.2**
SWET	**Sewanee**	**73.20**	**350**	P		**P**	**13 38 37.1**	**+0.2**
SWET				IAmb		IAmb	13 38 45.9	
	comp=Z,15nm,0.7s							
CPCT	**Cooper Cave**	**73.25**	**351**	P		**P**	**13 38 37.4**	**+0.2**
V48A	**Smith Brothers**	**73.85**	**349**	P		**P**	**13 38 41.3**	**+0.6**
V48A				IAmb		IAmb	13 38 49.6	
	comp=Z,12nm,0.8s							
CCM	**Cathedral Cave**	**76.86**	**346**	P		**P**	**13 38 57.8**	**-0.1**
CCM				IAmb		IAmb	13 39 09.2	
	comp=Z,15nm,1.1s							
LIC	**Lamto**	**77.36**	**72**	⇑*iP*		**P**	**13 39 02.5**	**+1.1**
	comp=Z,42nm,0.9s							
WIN	**Windhoek**	**77.43**	**109**	P		**P**	**13 39 03.3**	**+1.3**
WIN				IAmb		IAmb	13 39 11.8	
	comp=Z,19nm,0.9s							
TIC	**Toumodi**	**77.64**	**72**	⇓*iP*		**P**	**13 39 04.1**	**+1.1**
	comp=Z,12nm,0.8s							
KIC	**Kosan Boka**	**77.67**	**72**	⇑*iP*		**P**	**13 39 04.3**	**+1.2**
	comp=Z,31nm,0.8s							
DBIC	**Dimbokro**	**77.78**	**72**	P		**P**	**13 39 04.2**	**+0.6**
DBIC	**Dimbokro**	**77.78**	**72**	P		**P**	**13 39 04.3**	**+0.6**
	comp=Z,13nm,0.8s,baz=202,slow=6.4,SNR=10							
DBIC				LR		LR	14 11 19.2	
	comp=Z,178nm,18.7s,baz=210,slow=34							
	comp=Z,13nm,0.8s							
P40A	**Paris**	**78.44**	**346**	P		**P**	**13 39 06.9**	**+0.2**
P40A				IAmb		IAmb	13 39 18.0	
	comp=Z,12nm,0.8s							
TSUM	**Tsumeb**	**79.76**	**106**	LR		LR	14 10 32.2	
	comp=Z,157nm,19.8s,baz=235,slow=33							
BOSA	**Boshof**	**79.82**	**118**	P		**P**	**13 39 15.7**	**+0.7**
	comp=Z,9.3nm,0.9s,baz=228,slow=6.0,SNR=7.3							
	comp=Z,9.3nm,0.9s							
LBTB	**Lobatse**	**82.24**	**115**	P		**P**	**13 39 27.9**	**0.0**
ECSD	**EROS Data Cent**	**83.43**	**344**	P		**P**	**13 39 33.8**	**+0.5**
ECSD				IAmb		IAmb	13 39 44.9	
	comp=Z,18nm,1.1s							
NVAR	**Mina Array Bea**	**85.90**	**327**	P		**P**	**13 39 47.2**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=151,slow=5.8,SNR=3.3							
	comp=Z,0.5nm,0.8s							
PDAR	**Pinedale Array**	**86.21**	**335**	P		**P**	**13 39 48.9**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=186,slow=7.3,SNR=3.8							
	comp=Z,0.7nm,1.0s							
TOA0	**Torodi Ar. Sit**	**86.86**	**71**	P		**P**	**13 39 50.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**86.86**	**71**	P		**P**	**13 39 50.7**	**-0.5**
TORD				IAmb		IAmb	13 40 00.8	
	comp=Z,12nm,1.1s							
TORD	**Torodi Ar. Bea**	**86.86**	**71**	P		**P**	**13 39 50.6**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=233,slow=2.7,SNR=12							
TORD				LR		LR	14 18 11.4	
	comp=Z,137nm,18.4s,baz=156,slow=35							
	comp=Z,3.2nm,0.6s							
LSZ	**Lusaka**	**90.17**	**109**	LR		LR	14 20 11.0	
	comp=Z,152nm,18.1s,baz=204,slow=35							
MDT	**Midelt**	**95.22**	**52**	LR		LR	14 23 11.5	
	comp=Z,272nm,20.4s,baz=194,slow=35							
ASAR	**Alice Springs**	**113.74**	**208**	PKKPbc		PKKPbc	13 56 26.9	-0.2
	comp=Z,0.5nm,1.0s,baz=343,slow=3.3,SNR=4.7							
GERES	**GERESS Array B**	**115.71**	**47**	PKP		**PKPdf**	**13 45 47.1**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=188,slow=3.0,SNR=2.2							
WRA	**Warramunga Arr**	**116.94**	**210**	PKP		**PKPdf**	**13 45 51.0**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=163,slow=1.6,SNR=1.2							
VYHS	**Vyhne**	**118.59**	**49**	*e*PKP		PKiKP	13 46 02.1	+8.4
BRTR	**Keskin Array B**	**124.85**	**64**	PKP		**PKPdf**	**13 46 06.5**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=205,slow=4.7,SNR=7.0							
AKASG	**Malin Array Be**	**125.69**	**50**	PKP		**PKPdf**	**13 46 06.0**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=256,slow=1.2,SNR=2.1							
AKASG				PP		**PP**	**13 47 56.4**	**-3.4**
	comp=Z,0.6nm,0.5s,baz=254,slow=6.8,SNR=4.9							
SPITS	**Spitsbergen Ar**	**126.46**	**15**	PKP		**PKPdf**	**13 46 06.5**	**-1.5**
	comp=Z,21nm,1.2s,baz=256,slow=13,SNR=2.8							
SPITS				PP		**PP**	**13 48 03.0**	**-1.3**
	comp=Z,29nm,1.2s,baz=322,slow=12,SNR=3.6							
GEYT	**Alibeck**	**142.43**	**74**			**PKPdf**	**13 46 37.5**	**-1.4**
GEYT	**Alibeck**	**142.43**	**74**	PKP		**PKPdf**	**13 46 36.4**

MDP	**Montagnes des**	**25.93**	**280**	LR	LR	13 43 40.4		
	comp=Z,240nm,19.2s,baz=122,slow=34							
BDFB	**Brasilia**	**26.25**	**231**	LR	LR	13 44 01.7		
	comp=Z,2μm,19.3s,baz=60,slow=34							
TOA0	**Torodi Ar. Sit**	**31.10**	**65**	P	**P**	**13 35 21.9**	**-0.6**	
TOA0				IAmb	IAmb	13 35 33.5		
	comp=Z,22nm,0.8s							
TORD	**Torodi Ar. Bea**	**31.10**	**65**	P	**P**	**13 35 21.9**	**-0.6**	
TORD				IAmb	IAmb	13 35 33.4		
	comp=Z,18nm,0.9s							
TORD	**Torodi Ar. Bea**	**31.10**	**65**	P	**P**	**13 35 22.4**	**-0.1**	
	comp=Z,6.8nm,0.6s,baz=261,slow=9.1,SNR=47							
TORD				LR	LR	13 46 29.3		
	comp=Z,710nm,18.2s,baz=244,slow=34							
	comp=Z,6.8nm,0.6s							
MDT	**Midelt**	**38.39**	**31**	LR	LR	13 51 13.4		
	comp=Z,577nm,18.9s,baz=252,slow=35							
TAM	**Tamanrasset**	**38.60**	**53**	P	**P**	**13 36 26.0**	**-1.3**	
CPUP	**Villa Florida**	**39.60**	**225**	LR	LR	13 52 46.0		
	comp=Z,1μm,18.6s,baz=58,slow=36							
H09N1	**TRISTAN DA CUN**	**39.89**	**161**	T	T	14 19 08.3		
	SNR=8.4							
H09W1	**TRISTAN DA CUN**	**39.91**	**162**	T	T	14 19 12.3		
	SNR=37							
SJG	**San Juan**	**42.16**	**297**	LR	LR	13 52 08.6		
	comp=Z,245nm,19.8s,baz=134,slow=33							
ESDC	**Sonseca Array**	**44.24**	**26**	P	**P**	**13 37 12.5**	**-0.8**	
	comp=Z,1.0nm,0.6s,baz=219,slow=9.4,SNR=6.5							
ESDC				LR	LR	13 53 16.0		
	comp=Z,289nm,21.3s,baz=250,slow=33							
	comp=Z,1.0nm,0.6s							
LVC	**Limon Verde**	**46.82**	**238**	LR	LR	13 57 57.8		
	comp=Z,268nm,18.9s,baz=69,slow=37							
TA01	**Diego Aracena**	**47.13**	**241**	P	P	13 37 56.0	+20	
ROSC	**El Rosal**	**47.38**	**276**	LR	LR	13 54 52.6		
	comp=Z,599nm,18.8s,baz=240,slow=33							
TSUM	**Tsumeb**	**48.01**	**117**	P	P	13 37 51.3	+7.8	
TSUM				IAmb	IAmb	13 39 17.4		
	comp=Z,14nm,1.2s							
TSUM	**Tsumeb**	**48.01**	**117**	LR	LR	13 53 19.0		
	comp=Z,295nm,21.8s,baz=318,slow=30							
KEST	**Kesra**	**48.64**	**40**	P	**P**	**13 37 50.0**	**+2.0**	
	comp=Z,4.8nm,0.5s,baz=287,slow=7.2,SNR=4.1							
KEST				LR	LR	13 58 05.1		
	comp=Z,705nm,20.7s,baz=184,slow=36							
ATAH	**Atahualpa**	**51.78**	**260**	LR	LR	14 01 19.1		
	comp=Z,245nm,18.5s,baz=81,slow=37							
VAE	**Valguarnera**	**52.96**	**41**	LR	LR	14 00 54.0		
	comp=Z,807nm,20.8s,baz=256,slow=36							
SUR	**Sutherland**	**55.80**	**131**	LR	LR	13 57 09.0		
	comp=Z,205nm,22.0s,baz=299,slow=30							
DAVOX	**Davos/Dischmat**	**56.17**	**30**	P	**P**	**13 38 42.5**	**-1.3**	
	comp=Z,3.5nm,0.7s,baz=324,slow=10,SNR=4.2							
DAVOX				LR	LR	14 01 27.4		
	comp=Z,213nm,18.6s,baz=261,slow=35							
	comp=Z,3.5nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**56.25**	**30**	P	**P**	**13 38 44.4**	**-0.1**	
DAVA	**Damuels**	**56.52**	**29**	*i* P	**P**	**13 38 45.7**	**-0.6**	
	comp=Z,8.9nm,1.1s							
FETA	**Feichten**	**56.76**	**30**	*e*P	**P**	**13 38 48.0**	**0.0**	
	comp=Z,11nm,1.4s							
LSZ	**Lusaka**	**56.81**	**109**	P	P	13 38 55.2	+6.3	
LSZ	**Lusaka**	**56.81**	**109**	LR	LR	13 58 19.5		
	comp=Z,389nm,21.9s,baz=292,slow=31							
LBTB	**Lobatse**	**56.91**	**121**	LR	LR	13 59 24.3		
	comp=Z,333nm,19.5s,baz=278,slow=32							
PLCA	**Paso Flores**	**57.01**	**219**	LR	LR	14 03 01.2		
	comp=Z,397nm,19.2s,baz=51,slow=36							
SQTA	**Sankt Quirin**	**57.13**	**30**	*e*P	**P**	**13 38 50.7**	**+0.1**	
	comp=Z,9.4nm,1.3s							
MOTA	**Moosalm**	**57.16**	**30**	*i* P	**P**	**13 38 52.5**	**+1.6**	
	comp=Z,8.7nm,1.1s							
STU	**Stuttgart**	**57.23**	**28**	P	**P**	**13 38 51.4**	**+0.2**	
ABTA	**Abfaltersbach**	**57.48**	**31**	*e*P	**P**	**13 38 53.9**	**+0.8**	
	comp=Z,6.7nm,1.0s							
MBAR	**Mbarara**	**57.81**	**91**	LR	LR	14 01 27.8		
	comp=Z,249nm,18.2s,baz=268,slow=34							
BOSA	**Boshof**	**57.82**	**125**	P	**P**	**13 38 56.9**	**+1.0**	
	comp=Z,3.7nm,0.9s,baz=335,slow=17,SNR=3.7							
BOSA				LR	LR	13 58 49.6		
	comp=Z,361nm,21.7s,baz=264,slow=31							
	comp=Z,3.7nm,0.9s							
EKA	**Eskdalemuir Ar**	**57.94**	**16**	P	**P**	**13 38 55.3**	**-0.6**	
	comp=Z,1.0nm,0.7s,baz=215,slow=7.1,SNR=4.1							
	comp=Z,1.0nm,0.7s							
LESA	**Schwarzleotal**	**58.01**	**31**	*i* P	**P**	**13 38 57.0**	**+0.2**	
	comp=Z,5.3nm,1.0s							
ACON	**Acoyapa**	**58.74**	**284**	P	P	13 39 15.7	+13	
IDI	**Anoyia**	**59.33**	**49**	LR	LR	14 05 37.7		
	comp=Z,282nm,21.5s,baz=264,slow=37							
GERES	**GERESS Array B**	**59.46**	**30**	P	**P**	**13 39 06.4**	**-0.4**	
GERES	**GERESS Array B**	**59.46**	**30**	P	**P**	**13 39 04.7**	**-2.2**	
	comp=Z,1.6nm,0.7s,baz=232,slow=6.6,SNR=6.8							
GERES				LR	LR	14 02 06.2		
	comp=Z,200nm,21.2s,baz=236,slow=33							
	comp=Z,1.6nm,0.7s							
CONA	**Conrad Observa**	**59.99**	**32**	*e*P	**P**	**13 39 12.8**	**+2.3**	
	comp=Z,3.8nm,1.4s							
RONA	**Rosalia, Austr**	**60.08**	**32**	*i* P	**P**	**13 39 11.1**	**0.0**	
	comp=Z,2.5nm,0.7s							
CLL	**Collm**	**60.76**	**28**	*e*S	**S**	**13 47 37.0**	**+4.3**	
	comp=N,200nm,24.6s							
CLL				*e*S	**S**	**13 47 37.0**	**+4.3**	
	comp=E,200nm,23.5s							
CLL				*e*SSSS		13 54 33.0		
CLL				AMS	AMS	14 02 00.0		
	comp=Z,200nm,19.8s							
VRAC	**Vranov**	**61.23**	**31**	LR	LR	14 05 26.6		
	comp=Z,116nm,19.1s,baz=234,slow=36							
PSZ	**Piszkesteto**	**62.17**	**34**	P	**P**	**13 39 25.8**	**+0.5**	
PSZ				IAmb	IAmb	13 39 45.5		
	comp=Z,9.6nm,1.1s							
ALN	**Alexandroupoli**	**62.49**	**43**	P	**P**	**13 39 27.4**	**-0.1**	
TEIG	**Tepich**	**62.89**	**292**	LR	LR	14 02 23.4		
	comp=Z,960nm,21.1s,baz=228,slow=32							
SCHQ	**Schefferville**	**63.06**	**335**	LR	LR	14 02 46.3		
	comp=Z,160nm,20.7s,baz=116,slow=32							
TKL	**Tuckaleechee C**	**63.07**	**310**	LR	LR	14 00 37.2		
	comp=Z,220nm,21.4s,baz=140,slow=30							
SADO	**Sadowa**	**63.58**	**321**	LR	LR	14 00 45.9		
	comp=Z,178nm,21.9s,baz=80,slow=30							
BORG	**Borgarnes**	**64.14**	**3**	LR	LR	13 59 09.0		
	comp=Z,215nm,22.0s,baz=176,slow=28							
KMBO	**Kilima Mbogo**	**64.33**	**92**	LR	LR	14 04 46.7		
	comp=Z,257nm,19.0s,baz=266,slow=33							
R50A	**Paris**	**64.41**	**313**	P	P	13 39 46.8	+6.5	
R50A				IAmb	IAmb	13 40 05.1		
	comp=Z,52nm,1.9s							
MLR	**Muntele Rosu**	**64.49**	**38**	LR	LR	14 08 31.4		
	comp=Z,485nm,20.7s,baz=248,slow=37							
BURAR	**Bucovina Array**	**65.05**	**36**	P	**P**	**13 39 46.1**	**+1.6**	
EIL	**Elat**	**65.57**	**58**	LR	LR	14 07 00.7		
	comp=Z,404nm,21.3s,baz=248,slow=35							
MMAI	**Mount Meron Ar**	**66.79**	**54**	LR	LR	14 10 35.3		
	comp=Z,216nm,19.2s,baz=254,slow=37							
NOA	**NORSAR Array B**	**66.98**	**19**	P	**P**	**13 39 56.6**	**+0.2**	
	comp=Z,0.7nm,0.7s,baz=270,slow=6.2,SNR=2.3							
NOA				LR	LR	14 04 22.5		
	comp=Z,125nm,21.6s,baz=220,slow=32							
	comp=Z,0.7nm,0.7s							
HFS	**Hagfors**	**67.17**	**21**	LR	LR	14 07 28.3		
	comp=Z,210nm,19.0s,baz=230,slow=34							
BRTR	**Keskin Array B**	**67.42**	**47**	P	**P**	**13 39 59.8**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=232,slow=5.7,SNR=2.7							
BRTR				LR	LR	14 10 27.6		
	comp=Z,374nm,21.2s,baz=222,slow=37							
	comp=Z,0.9nm,0.7s							
CMIG	**Matias Romero**	**68.66**	**288**	LR	LR	14 07 31.3		
	comp=Z,87nm,21.8s,baz=108,slow=34							
KIEV	**Kiev**	**68.83**	**35**	P	**P**	**13 40 07.7**	**-0.5**	
KIEV				IAmb	IAmb	13 40 23.7		
	comp=Z,13nm,1.2s							
AKASG	**Malin Array Be**	**68.84**	**35**	P	**P**	**13 40 07.2**	**-1.1**	
	comp=Z,3.7nm,0.6s,baz=242,slow=6.0,SNR=10							
AKASG				LR	LR	14 08 18.9		
	comp=Z,88nm,21.7s,baz=222,slow=34							
	comp=Z,3.7nm,0.6s							
AKBB	**Malin Array Si**	**68.84**	**35**	P	**P**	**13 40 07.9**	**-0.4**	
AKBB				IAmb	IAmb	13 40 23.7		
	comp=Z,14nm,1.2s							
FRB	**Frobisher Bay**	**69.98**	**342**	LR	LR	14 04 09.1		
	comp=Z,98nm,21.1s,baz=198,slow=30							
JMIC	**Jan Mayen**	**71.31**	**6**	LR	LR	14 05 18.4		
	comp=Z,110nm,18.4s,baz=192,slow=31							
SUMG	**Summit**	**72.23**	**356**	*i* P	P	13 40 37.0	+7.9	
SUMG				IAmb	IAmb	13 40 41.6		
	comp=Z,4.5nm,0.9s							
FINES	**FINESS Array B**	**72.70**	**24**	P	**P**	**13 40 31.6**	**+0.1**	
	comp=Z,2.6nm,0.8s,baz=279,slow=3.7,SNR=4.8							
FINES				LR	LR	14 08 31.2		
	comp=Z,270nm,21.7s,baz=240,slow=33							
	comp=Z,2.6nm,0.8s							
GURO	**Guroymak-BITLI**	**73.37**	**50**	P	**P**	**13 40 36.9**	**+0.7**	
RAYN	**Ar Rayn**	**73.79**	**66**	P	**P**	**13 40 40.6**	**+1.7**	
RAYN				IAmb	IAmb	13 40 50.3		
	comp=Z,7.7nm,1.1s							
BRDY	**Brady**	**74.29**	**302**	P	P	13 40 50.0	+8.4	
OBN	**Obninsk**	**74.71**	**32**	LR	LR	14 13 46.4		
	comp=Z,148nm,18.6s,baz=277,slow=36							
KBZ	**Khabaz**	**75.19**	**45**	P	**P**	**13 40 46.9**	**+0.4**	
	comp=Z,4.9nm,1.1s,baz=270,slow=7.1,SNR=5.5							
KBZ				LR	LR	14 15 03.1		
	comp=Z,120nm,21.4s,baz=224,slow=37							
	comp=Z,4.9nm,1.1s							
DRIO	**Del Rio**	**75.41**	**300**	P	P	13 40 57.1	+9.0	
GNI	**Garni**	**75.76**	**49**	LR	LR	14 16 27.0		
	comp=Z,78nm,18.2s,baz=262,slow=38							
ULM	**Lac du Bonnet**	**76.12**	**322**	LR	LR	14 08 31.8		
	comp=Z,228nm,21.3s,baz=98,slow=31							
SAND	**Sanderson**	**76.77**	**301**	P	P	13 41 04.0	+8.0	
SAND				IAmb	IAmb	13 41 05.9		
	comp=Z,8.3nm,1.1s							
ARCES	**ARCESS Array B**	**77.09**	**17**	LR	LR	14 09 19.0		
	comp=Z,214nm,21.7s,baz=244,slow=31							
NEEM	**North Greenlan**	**77.88**	**355**	*i* P	P	13 41 08.3	+6.8	
NEEM				IAmb	IAmb	13 41 14.6		
	comp=Z,10nm,0.8s							
TXAR	**Lajitas Array**	**78.04**	**300**	P	**P**	**13 41 03.7**	**+0.6**	
	comp=Z,0.5nm,0.8s,baz=139,slow=8.0,SNR=2.3							
	comp=Z,0.5nm,0.8s							
TX31	**Lajitas Ar. Si**	**78.04**	**300**	P	P	13 41 11.6	+8.5	
PECS	**Pecos**	**78.43**	**302**	P	P	13 41 13.6	+8.3	
PECS				IAmb	IAmb	13 41 16.1		
	comp=Z,10nm,1.0s							
BELG	**Belogornoye**	**80.21**	**37**	LR	LR	14 16 05.1		
	comp=Z,169nm,21.9s,baz=270,slow=35							
SPITS	**Spitsbergen Ar**	**80.80**	**8**	LR	LR	14 09 14.5		
	comp=Z,184nm,19.0s,baz=198,slow=30							
ANMO	**Albuquerque**	**80.97**	**305**	LR	LR	14 12 32.7		
	comp=Z,232nm,19.8s,baz=194,slow=32							
KIRV	**Kirov**	**82.46**	**31**	LR	LR	14 16 34.1		
	comp=Z,230nm,20.5s,baz=275,slow=35							
RPN	**Rapa Nui**	**83.39**	**243**	LR	LR	14 15 25.0		
	comp=Z,122nm,20.5s,baz=76,slow=33							
LPIG	**La Paz**	**83.59**	**294**	LR	LR	14 17 52.9		
	comp=Z,76nm,19.8s,baz=102,slow=35							
UOSS	**Minazif**	**83.64**	**65**	P	**P**	**13 41 35.5**	**+2.5**	
UOSS				IAmb	IAmb	13 41 43.5		
	comp=Z,22nm,1.3s							
PDAR	**Pinedale Array**	**84.08**	**313**	P	**P**	**13 41 35.6**	**+0.3**	
	comp=Z,0.2nm,0.6s,baz=97,slow=3.6,SNR=1.2							
	comp=Z,0.2nm,0.6s							
GEYT	**Alibeck**	**85.82**	**52**	LR	LR	14 21 49.1		
	comp=Z,78nm,21.8s,baz=293,slow=37							
AKTO	**Aktyubinsk**	**86.40**	**40**	LR	LR	14 23 40.7		
	comp=Z,80nm,18.5s,baz=292,slow=38							
ARU	**Arti**	**87.08**	**34**	LR	LR	14 20 26.6		
	comp=Z,129nm,21.3s,baz=265,slow=36							
ELK	**Elko**	**88.23**	**311**	LR	LR	14 16 49.6		
	comp=Z,58nm,18.8s,baz=96,slow=32							
YKA	**Yellowknife Ar**	**88.34**	**332**	P	**P**	**13 41 55.0**	**-0.4**	
	comp=Z,0.1nm,0.5s,baz=31,slow=20,SNR=1.9							
YKA				LR	LR	14 17 24.0		
	comp=Z,206nm,20.9s,baz=90,slow=33							
	comp=Z,0.1nm,0.5s							
PFO	**Pinyon Flats O**	**89.17**	**303**	LR	LR	14 19 03.2		
	comp=Z,109nm,21.5s,baz=104,slow=34							
NVAR	**Mina Array Bea**	**90.61**	**308**	LR	LR	14 16 42.6		
	comp=Z,160nm,20.0s,baz=94,slow=32							
QSPA	**South Pole Qui**	**90.66**	**180**	P	**P**	**13 42 07.8**	**+1.4**	
	comp=Z,1.8nm,1.1s,baz=182,slow=4.7,SNR=2.7							
	comp=Z,1.8nm,1.1s							
YBH	**Yreka Blue Hor**	**93.83**	**312**	LR	LR	14 20 54.7		
	comp=Z,95nm,21.8s,baz=88,slow=33							
INK	**Inuvik**	**95.50**	**339**	LR	LR	14 23 38.8		
	comp=Z,56nm,18.4s,baz=33,slow=34							
DLBC	**Dease Lake**	**96.27**	**329**	LR	LR	14 22 46.3		
	comp=Z,119nm,19.6s,baz=106,slow=34							
BBB	**Bella Bella**	**96.31**	**323**	LR	LR	14 21 54.1		
	comp=Z,164nm,20.3s,baz=52,slow=33							
NRIK	**Norilsk**	**97.59**	**19**	LR	LR	14 27 51.4		
	comp=Z,104nm,18.3s,baz=318,slow=36							
AAK	**Ala-Archa**	**98.09**	**47**	LR	LR	14 31 26.1		
	comp=Z,101nm,19.0s,baz=292,slow=38							
KURBB	**Kurchatov Arra**	**99.39**	**38**	LR	LR	14 32 18.7		
	comp=Z,74nm,18.6s,baz=165,slow=38							
STKA	**Stephens Creek**	**147.09**	**162**	PKPbc	**PKPbc**	**13 48 46.4**	**-1.1**	
	comp=Z,2.1nm,0.8s,baz=130,slow=9.0,SNR=2.0							
ASAR	**Alice Springs**	**150.55**	**143**	PKPbc	**PKPbc**	**13 48 55.0**	**-1.7**	
	comp=Z,0.2nm,0.9s,baz=204,slow=2.0,SNR=3.3							
WRA	**Warramunga Arr**	**153.52**	**138**	PKPbc	PKPbc	13 49 10.2	+6.7	
	comp=Z,0.6nm,0.9s,baz=203,slow=3.2,SNR=2.4							

*IDC **26** 13:32:29.8±1.1,34.95N×25.50E,h0km,mb4.0/13, mbtmp3.9/19,ML3.6/6,MS3.1/1,Error ellipse: s-maj=23.4km s-min=15.7km az=4.0*
*ISK **26** 13:32:29.4,34.82N×25.38E,h6km,ML3.5/20*
*THE **26** 13:32:30.9,34.83N×25.44E,h0km±1km,ML3.5/3,Error ellipse: s-maj=2.9km s-min=0.8km az=184.0*
*ATH **26** 13:32:31.5,34.90N×25.44E,h8km±1km,ML3.7/15, Manual Solution by N.Liadopoulou This location: 2020/05/05 15:29:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
ISC 26 13:32:31.1±1.2,**34.92N**±0.05×**25.43E**±0.02,**h9**km±7km,
n84,σ1**s34**/101,**mb3.9**/13,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.27**	**70**	P		**Pb**	**13 32 38.6**	**+0.5**
FRMA				S		**Sb**	**13 32 45.0**	**+2.3**
	8μm,0.2s							
FRMA	**Ierapetra Chan**	**0.27**	**70**	P		**Pb**	**13 32 38.6**	**+0.5**
FRMA				S		**Sb**	**13 32 44.0**	**+1.3**
KSTL	**Kastelli Herak**	**0.48**	**322**	P		**Pg**	**13 32 37.8**	**-2.7**
KSTL				S		**Sg**	**13 32 44.8**	**-2.1**
KSTL	**Kastelli Herak**	**0.48**	**322**	P		**Pg**	**13 32 37.9**	**-2.7**
KSTL				S		**Sg**	**13 32 42.4**	**-4.5**
IACM	**Heraklion**	**0.48**	**323**	P		**Pb**	**13 32 42.2**	**+0.4**
IACM				S		**Sb**	**13 32 50.7**	**+1.7**
IACM	**Heraklion**	**0.48**	**323**	P		**Pg**	**13 32 41.4**	**+0.8**
IACM				S		**Sg**	**13 32 48.4**	**+1.5**
TMBK	**Timbaki Herakl**	**0.56**	**286**	P		**Pg**	**13 32 42.7**	**+0.6**
TMBK				S		**Sb**	**13 32 52.3**	**+0.9**
TMBK	**Timbaki Herakl**	**0.56**	**286**	P		**Pb**	**13 32 42.9**	**-0.4**
TMBK				S		**Sg**	**13 32 50.3**	**+0.8**
IDI	**Anoyia**	**0.57**	**310**	Pg		**Pg**	**13 32 41.8**	**-0.5**
IDI				Sg		**Sg**	**13 32 50.7**	**+0.8**
IDI	**Anoyia**	**0.57**	**310**	P		**Pg**	**13 32 42.2**	**-0.1**
IDI				S		**Sb**	**13 32 53.0**	**+1.3**
	1μm,0.5s							
IDI	**Anoyia**	**0.57**	**310**	P		**Pg**	**13 32 42.0**	**-0.3**
IDI				S		**Sg**	**13 32 51.0**	**+1.2**
ZKR	**Zakros**	**0.67**	**73**	Pg		**Pg**	**13 32 44.1**	**-0.1**
ZKR				Sg		**Sb**	**13 32 55.1**	**+0.6**
ZKR	**Zakros**	**0.67**	**73**	P		**Pg**	**13 32 44.1**	**-0.1**
ZKR				S		**Sb**	**13 32 55.6**	**+1.1**
	25μm,0.3s							
ZKR	**Zakros**	**0.67**	**73**	P		**Pg**	**13 32 44.0**	**-0.1**
ZKR				S		**Sb**	**13 32 54.8**	**+0.2**
PRNS	**Prines Rethymn**	**0.88**	**300**	P		**Pb**	**13 32 48.9**	**+0.3**
GVD	**Gavdhos**	**1.11**	**266**	P		**Pb**	**13 32 52.5**	**0.0**
GVD	**Gavdhos**	**1.11**	**266**	P		**Pb**	**13 32 52.7**	**+0.2**
CHAN	**Chania**	**1.28**	**298**	P		**Pg**	**13 32 56.4**	**+0.7**
IMMV	**Iera Moni Meta**	**1.30**	**295**	P		**Pb**	**13 32 56.0**	**+0.2**
IMMV	**Iera Moni Meta**	**1.30**	**295**	P		**Pg**	**13 32 56.5**	**+0.3**
THR9	**Santorini-Faro**	**1.43**	**358**	P		**Pn**	**13 32 58.0**	**+0.7**
RODP	**Rodopos**	**1.51**	**295**	P		**Pn**	**13 32 58.6**	**+0.2**
CMBO	**Columbo, Santo**	**1.54**	**359**	P		**Pn**	**13 32 59.5**	**+0.6**
KARP	**Karpathos**	**1.55**	**66**	Pn		**Pb**	**13 32 59.6**	**-0.4**
KARP				Sn		**Sg**	**13 33 21.4**	**+0.4**
KARP	**Karpathos**	**1.55**	**66**	P		**Pb**	**13 32 59.8**	**-0.2**
MHLO	**Agia Marina, M**	**1.95**	**335**	P		**Pn**	**13 33 05.5**	**+1.1**
MHLO	**Agia Marina, M**	**1.95**	**335**	P		**Pn**	**13 33 05.0**	**+0.6**
MHLO				S		**Sn**	**13 33 30.1**	**+1.0**
ANKY	**Antikythira Is**	**1.98**	**299**	P		**Pn**	**13 33 05.7**	**+0.9**
ANKY	**Antikythira Is**	**1.98**	**299**	P		**Pn**	**13 33 05.5**	**+0.7**
APE	**Apeiranthos**	**2.14**	**2**	Pn		**Pn**	**13 33 08.3**	**+1.1**
APE	**Apeiranthos**	**2.14**	**2**	P		**Pn**	**13 33 08.2**	**+1.1**
DAT	**Datca**	**2.51**	**43**	Pn		**Pn**	**13 33 13.2**	**+1.0**
DAT	**Datca**	**2.51**	**43**	P		**Pn**	**13 33 12.7**	**+0.5**
ARG	**Arkhangelos**	**2.55**	**59**	Pn		**Pn**	**13 33 13.8**	**+1.1**
ARG	**Arkhangelos**	**2.55**	**59**	P		**Pn**	**13 33 13.0**	**+0.3**
ARG	**Arkhangelos**	**2.55**	**59**	P		**Pn**	**13 33 14.1**	**+1.5**
BODT	**Bodrum**	**2.62**	**35**	Pn		**Pn**	**13 33 14.9**	**+1.2**
VLI	**Veliai**	**2.71**	**312**	P		**Pn**	**13 33 15.7**	**+0.9**
VLI	**Veliai**	**2.71**	**312**	P		**Pn**	**13 33 15.5**	**+0.7**
RFTAA	**Mazikoy-Bodrum**	**2.80**	**42**	Pn		**Pn**	**13 33 17.4**	**+1.4**
TURN	**Turunc**	**2.94**	**50**	Pn		**Pn**	**13 33 19.4**	**+1.4**
SMG	**Samos**	**3.00**	**22**	P		**Pn**	**13 33 19.7**	**+0.8**
MLSB	**Milas**	**3.04**	**38**	Pn		**Pn**	**13 33 20.7**	**+1.3**
KRND	**KRANIDI**	**3.07**	**324**	P		**Pn**	**13 33 21.3**	**+1.5**
YER	**Yerkesik**	**3.20**	**45**	Pn		**Pn**	**13 33 23.3**	**+1.7**
VLY	**Voula,Athens**	**3.21**	**336**	P		**Pn**	**13 33 22.8**	**+1.1**
DALY	**Dalyan (Mula)**	**3.23**	**53**	Pn		**Pn**	**13 33 23.2**	**+1.2**
EPID	**Epidavros**	**3.27**	**326**	P		**Pn**	**13 33 23.6**	**+0.9**
ATHU	**Athens Univers**	**3.31**	**337**	P		**Pn**	**13 33 25.4**	**+2.2**
DION	**Dionisos Attik**	**3.37**	**339**	P		**Pn**	**13 33 25.8**	**+1.8**
FETY	**Fethiye**	**3.43**	**59**	Pn		**Pn**	**13 33 25.9**	**+1.1**
CHOS	**Chios island**	**3.49**	**8**	P		**Pn**	**13 33 26.7**	**+1.0**
URLA	**Izmir**	**3.56**	**15**	Pn		**Pn**	**13 33 27.9**	**+1.3**
CAME	**Cameli-Denizli**	**3.73**	**56**	Pn		**Pn**	**13 33 30.3**	**+1.2**
GUR	**Goura**	**3.90**	**321**	P		**Pn**	**13 33 33.3**	**+1.9**
APMY	**Acipayam-Deniz**	**4.03**	**50**	Pn		**Pn**	**13 33 35.3**	**+2.1**
ELL	**Elmalí**	**4.07**	**62**	Pn		**Pn**	**13 33 35.2**	**+1.5**
KLV	**Kalavryta, Ach**	**4.08**	**321**	P		**Pn**	**13 33 36.0**	**+2.1**
DRO	**Drossia**	**4.26**	**316**	P		**Pn**	**13 33 38.5**	**+2.3**
SIGR	**SIGRI**	**4.29**	**4**	Pn		**Pn**	**13 33 38.9**	**+2.3**
KULA	**Kula-Manisa**	**4.43**	**35**	Pn		**Pn**	**13 33 40.6**	**+2.1**
KORT	**Korkueli**	**4.50**	**61**	Pn		**Pn**	**13 33 41.6**	**+2.0**
SIMA	**Simav-Kutahya**	**5.03**	**33**	Pn		**Pn**	**13 33 49.3**	**+2.4**
TVSB	**Tavsanli**	**5.55**	**34**	Pn		**Pn**	**13 33 56.6**	**+2.6**
BRTR	**Keskin Array B**	**8.11**	**51**	Pn		**Pn**	**13 34 28.8**	**-0.3**
	0.2nm,0.3s,baz=222,slow=13,SNR=4.7							
	0.8nm,0.5s							
MMAI	**Mount Meron Ar**	**8.50**	**100**	Pn		**Pn**	**13 34 34.4**	**-0.1**
	2.7nm,0.3s,baz=287,slow=11,SNR=11							
MMAI				Sn		**Sn**	**13 36 08.9**	**-1.7**
	1.0nm,0.3s,baz=306,slow=17,SNR=1.2							
	3.6nm,0.4s							
EIL	**Elat**	**9.61**	**120**	Pn		**Pn**	**13 34 48.9**	**-0.7**
	0.3nm,0.3s,baz=330,slow=13,SNR=2.0							
EIL				Sn		**Sn**	**13 36 34.6**	**-3.1**
	0.5nm,0.3s,baz=282,slow=17,SNR=1.5							
	7.8nm,0.9s							
AKASG	**Malin Array Be**	**16.01**	**9**	Pn		**Pn**	**13 36 15.7**	**-0.7**
	0.2nm,0.3s,baz=200,slow=10,SNR=1.5							
	0.2nm,0.3s							
KBZ	**Khabaz**	**16.10**	**52**	Pn		**Pn**	**13 36 18.9**	**+1.3**
	0.2nm,0.3s,baz=301,slow=6.9,SNR=1.3							
	2.6nm,0.9s							
GNI	**Garni**	**16.18**	**65**	LR	LR	13 43 52.3		
	comp=Z,63nm,19.4s,baz=267,slow=42							

	comp=E,7.4nm,0.4s					
VAY			*e*Lg	Lg		13 35 09.8
	comp=N,13nm,0.6s					
BCI	**Bajram Curri**	**1.39 336**	P	**Pb**	**13 34 50.7**	**+0.4**
	baz=336					
BCI			S	**Sn**	**13 35 09.8**	**+1.2**
	baz=336					
ULC	**Ulcinj**	**1.47 307**	*i* Pg	**Pn**	**13 34 50.7**	**-0.2**
KNT	**Kendrikon**	**1.57 87**	*i* Pg	**Pn**	**13 34 52.1**	**-0.1**
KNT			*i* Sg	**Sb**	**13 35 13.3**	**0.0**
IGT	**Igoumenitsa**	**1.60 194**	P	**Pb**	**13 34 53.4**	**-0.5**

*NEIC **26** 13:53:54.2±1.6,55˚.70N±0˚.10×149˚.8W±0˚.1, h8km±8km, ML3.5/30,ML3.4(AEIC), Error ellipse: s-maj=14.0km s-min=9.0km az=170.0*
*AEIC **26** 13:53:58.8±1.7,55˚.70N±0˚.10×149˚.7W±0˚.1, h10km±8km, Error ellipse: s-maj=14.1km s-min=9.0km az=174.0*
ISC 26 13:53:54.6±2.0,55˚.8N±0˚.1×149˚.78W±0˚.06,h10km,n122,
σ1§13/128,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.42**	**308**		**Pn**	**13 54 34.8**	**+0.7**
OHAK	**Old Harbor**	**2.42**	**308**	P	**Pn**	**13 54 34.8**	**+0.7**
	baz=126						
OHAK				S	**Sn**	**13 55 02.4**	**-1.3**
	baz=126						
KDAK	**Kodiak Island**	**2.52**	**323**		**Pn**	**13 54 36.7**	**+1.1**
KDAK					**Sn**	**13 55 06.2**	**-0.2**
SII	**Sitkinak Islan**	**2.58**	**289**		**Pn**	**13 54 36.7**	**+0.3**
SII					**Sn**	**13 55 07.0**	**-0.9**
SII	**Sitkinak Islan**	**2.58**	**289**	IAML		13 55 53.9	
	comp=N,111nm,1.4s						
SII				IAML		13 56 08.3	
	comp=E,117nm,1.2s						
SII	**Sitkinak Islan**	**2.58**	**289**	P	**Pn**	**13 54 36.7**	**+0.3**
	baz=107						
SII				S	**Sn**	**13 55 07.0**	**-0.9**
	baz=107						
SYI	**Shuyak Island**	**3.17**	**334**		**Pn**	**13 54 45.3**	**+0.9**
SYI					**Sn**	**13 55 22.1**	**-0.1**
SYI	**Shuyak Island**	**3.17**	**334**	IAML		13 55 24.4	
	comp=N,57nm,1.0s						
Q20K	**Shuyak Island**	**3.17**	**334**	P	**Pn**	**13 54 45.3**	**+0.9**
	baz=153						
Q20K				S	**Sn**	**13 55 22.1**	**-0.1**
	baz=153						
CNPM	**China Poot**	**3.83**	**349**		**Pn**	**13 54 54.0**	**+0.4**
CNPM					**Sn**	**13 55 38.1**	**-0.5**
CNPM	**China Poot**	**3.83**	**349**	IAML		13 55 39.9	
	comp=E,36nm,1.5s						
CNPM				IAML		13 55 41.0	
	comp=N,45nm,1.4s						
BRSE	**Bradley Lake S**	**4.00**	**353**		**Pn**	**13 54 56.1**	**+0.2**
BRSE					**Sn**	**13 55 41.4**	**-1.3**
BRSE	**Bradley Lake S**	**4.00**	**353**	P	**Pn**	**13 54 56.1**	**+0.2**
	baz=172						
BRSE				S	**Sn**	**13 55 41.4**	**-1.3**
	baz=172						
HOM	**Homer**	**4.01**	**346**	Pn	**Pn**	**13 54 55.6**	**-0.3**
BRLK	**Bradley Lake**	**4.03**	**352**		**Pn**	**13 54 56.4**	**+0.1**
BRLK					**Sn**	**13 55 42.0**	**-1.5**
BRLK	**Bradley Lake**	**4.03**	**352**	IAML		13 55 46.7	
	comp=E,37nm,1.4s						
BRLK				IAML		13 55 59.7	
	comp=N,32nm,1.3s						
Q23K	**Middleton Isla**	**4.09**	**25**		**Pn**	**13 54 57.2**	**+0.2**
Q23K	**Middleton Isla**	**4.09**	**25**	P	**Pn**	**13 54 57.2**	**+0.2**
	baz=208						
MID	**Middleton Isla**	**4.09**	**25**		**Pn**	**13 54 57.1**	**0.0**
CNTC	**Contact Creek**	**4.16**	**309**		**Pn**	**13 54 59.8**	**+1.6**
Q17K	**Contact Creek**	**4.16**	**309**	P	**Pn**	**13 54 59.8**	**+1.6**
	baz=125						
P19K	**Oil Pt**	**4.29**	**336**	Pn	**Pn**	**13 55 00.7**	**+0.8**
P19K				IAML		13 55 54.8	
	comp=N,79nm,1.4s						
P19K				IAML		13 55 58.6	
	comp=E,117nm,1.5s						
SEW	**Seward**	**4.33**	**2**		**Pn**	**13 55 00.5**	**+0.1**
SEW	**Seward**	**4.33**	**2**	P	**Pn**	**13 55 00.5**	**+0.1**
	baz=182						
P18K	**Big Mountain,**	**4.65**	**323**		**Pn**	**13 55 06.0**	**+1.1**
P18K					**Sn**	**13 55 57.1**	**-1.8**
P18K	**Big Mountain,**	**4.65**	**323**	IAML		13 55 59.8	
	comp=N,18nm,1.0s						
P18K	**Big Mountain,**	**4.65**	**323**	P	**Pn**	**13 55 06.0**	**+1.1**
	baz=139						
P18K				S	**Sn**	**13 55 57.1**	**-1.8**
	baz=139						
SLKM	**Skilak Lake**	**4.74**	**357**		**Pn**	**13 55 06.9**	**+0.9**
SLKM					**Sn**	**13 55 59.3**	**-1.7**
CHGN	**Chignik**	**4.87**	**280**	Pn	**Pn**	**13 55 07.7**	**-0.1**
CHGN				IAML		13 56 07.1	
	comp=N,88nm,0.3s						
CHGN				IAML		13 56 07.6	
	comp=E,80nm,1.0s						
HIN	**Hinchinbrook I**	**4.93**	**19**		**Pn**	**13 55 09.4**	**+0.7**
HIN	**Hinchinbrook I**	**4.93**	**19**	IAML		13 56 39.0	
	comp=E,87nm,1.4s						
HIN				IAML		13 57 50.1	
	comp=N,84nm,1.5s						
O18K	**Koktuh Hills**	**5.00**	**327**	Pn	**Pn**	**13 55 09.2**	**-0.5**
O18K				IAML		13 56 21.7	
	comp=N,22nm,1.4s						
KAIM	**Kayak Island**	**5.04**	**32**		**Pn**	**13 55 10.0**	**-0.1**
KAIM	**Kayak Island**	**5.04**	**32**	IAML		13 56 55.5	
	comp=N,89nm,1.5s						
KAIM	**Kayak Island**	**5.04**	**32**	P	**Pn**	**13 55 10.0**	**-0.1**
	baz=216						
EYAK	**Cordova Ski Ar**	**5.22**	**22**		**Pn**	**13 55 13.3**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.22**	**22**	P	**Pn**	**13 55 13.3**	**+0.6**
	baz=205						
RC01	**Rabbit Creek A**	**5.32**	**0**		**Pn**	**13 55 14.2**	**+0.3**
RC01	**Rabbit Creek A**	**5.32**	**0**	P	**Pn**	**13 55 14.2**	**+0.3**
	baz=180						
RAGM	**Ragged Mountai**	**5.34**	**28**		**Pn**	**13 55 15.1**	**+0.8**
P16K	**Nushagak River**	**5.50**	**310**		**Pn**	**13 55 18.1**	**+1.6**
P16K	**Nushagak River**	**5.50**	**310**	P	**Pn**	**13 55 18.1**	**+1.6**
	baz=123						
BERG	**Berg Lake**	**5.63**	**32**		**Pn**	**13 55 19.0**	**+0.8**
KNK	**Knik Glacier**	**5.68**	**6**		**Pn**	**13 55 19.5**	**+0.5**
KNK	**Knik Glacier**	**5.68**	**6**	P	**Pn**	**13 55 19.5**	**+0.5**
	baz=187						
SUA	**Susitna One**	**5.71**	**355**		**Pn**	**13 55 19.6**	**+0.1**
SUA	**Susitna One**	**5.71**	**355**	P	**Pn**	**13 55 19.6**	**+0.1**
	baz=174						
SNH	**Sunshine Point**	**5.74**	**37**	Pn	**Pn**	**13 55 20.3**	**+0.5**
STLK	**Strandline Lak**	**5.83**	**350**		**Pn**	**13 55 21.8**	**+0.8**
PMR	**Palmer**	**5.83**	**3**	Pn	**Pn**	**13 55 21.0**	**0.0**
BMRM	**Bremner River**	**5.86**	**26**		**Pn**	**13 55 22.4**	**+1.0**
BMRM	**Bremner River**	**5.86**	**26**	P	**Pn**	**13 55 22.4**	**+1.0**
	baz=209						
N18K	**Kilae Creek**	**5.87**	**329**	Pn	**Pn**	**13 55 21.8**	**+0.2**
GHO	**Glory Hole Cre**	**6.02**	**4**	Pn	**Pn**	**13 55 24.8**	**+1.2**
KLU	**Klutina**	**6.06**	**18**		**Pn**	**13 55 25.6**	**+1.3**
KLU	**Klutina**	**6.06**	**18**	P	**Pn**	**13 55 25.5**	**+1.3**
	baz=201						
SML	**Sawmill**	**6.08**	**6**	Pn	**Pn**	**13 55 24.6**	**+0.1**
SCM	**Sheep Creek Mo**	**6.19**	**11**	Pn	**Pn**	**13 55 27.8**	**+1.8**
VRDI	**Verde Repeater**	**6.38**	**29**		**Pn**	**13 55 29.5**	**+0.8**
O15K	**Ungalikthiuk R**	**6.39**	**306**		**Pn**	**13 55 30.5**	**+1.8**
O15K	**Ungalikthiuk R**	**6.39**	**306**	P	**Pn**	**13 55 30.5**	**+1.8**
	baz=118						
N25K	**Chitina, Valde**	**6.42**	**23**		**Pn**	**13 55 30.4**	**+1.2**
N25K	**Chitina, Valde**	**6.42**	**23**	P	**Pn**	**13 55 30.4**	**+1.2**
	baz=207						
GLB	**Glahina Butte**	**6.46**	**26**		**Pn**	**13 55 30.7**	**+0.9**
M24K	**Tolsona, Glenn**	**6.60**	**15**	Pn	**Pn**	**13 55 33.2**	**+1.5**
MCARA	**McCarthy VSAT**	**6.62**	**29**		**Pn**	**13 55 33.4**	**+1.5**
MCARA	**McCarthy VSAT**	**6.62**	**29**	P	**Pn**	**13 55 33.3**	**+1.5**
	baz=215						
PTPK	**Patty Peak**	**6.63**	**32**		**Pn**	**13 55 33.0**	**+0.9**
PCA	**Pinnacle**	**6.65**	**46**		**Pn**	**13 55 32.7**	**+0.3**
PINM	**Pinnacle**	**6.66**	**46**	P	**Pn**	**13 55 32.7**	**+0.3**
	baz=233						
PNL	**Peninsula**	**6.78**	**51**		**Pn**	**13 55 34.6**	**+0.6**
PNL	**Peninsula**	**6.78**	**51**	P	**Pn**	**13 55 34.6**	**+0.6**
	baz=239						
BARN	**Barnard Glacie**	**6.78**	**36**		**Pn**	**13 55 35.3**	**+1.0**
WASW	**Wrangell South**	**6.80**	**23**		**Pn**	**13 55 36.2**	**+1.6**
CTG	**Chitna Glacier**	**6.82**	**37**	P	**Pn**	**13 55 35.4**	**+0.6**
	baz=224						
CTGM	**Chitina Glacie**	**6.82**	**37**		**Pn**	**13 55 35.4**	**+0.6**
LOGN	**Logan Glacier**	**6.84**	**39**		**Pn**	**13 55 35.8**	**+0.8**
WAT6	**Susitna Watana**	**6.89**	**8**		**Pn**	**13 55 36.8**	**+1.1**
WAT6	**Susitna Watana**	**6.89**	**8**	P	**Pn**	**13 55 36.8**	**+1.1**
	baz=189						
N15K	**Kwethluk River**	**7.02**	**313**		**Pn**	**13 55 39.6**	**+2.3**
N15K	**Kwethluk River**	**7.02**	**313**	P	**Pn**	**13 55 39.6**	**+2.3**
	baz=125						
WAT7	**Susitna Watana**	**7.08**	**3**		**Pn**	**13 55 39.6**	**+1.4**
M16K	**Timber Creek**	**7.12**	**321**		**Pn**	**13 55 40.8**	**+2.0**
M16K	**Timber Creek**	**7.12**	**321**	P	**Pn**	**13 55 40.7**	**+2.0**
	baz=134						
L18K	**Granite Mounta**	**7.37**	**334**	Pn	**Pn**	**13 55 41.4**	**-0.6**
DHY	**Denali Highway**	**7.41**	**8**		**Pn**	**13 55 44.4**	**+1.6**
DHY	**Denali Highway**	**7.41**	**8**	P	**Pn**	**13 55 44.4**	**+1.6**
	baz=190						
O29M	**Mount Kennedy**	**7.46**	**48**		**Pn**	**13 55 44.5**	**+1.0**
O29M	**Mount Kennedy**	**7.46**	**48**	P	**Pn**	**13 55 44.5**	**+1.0**
	baz=237						
P29M	**Windy Craggy**	**7.50**	**54**		**Pn**	**13 55 44.6**	**+0.6**
P29M	**Windy Craggy**	**7.50**	**54**	P	**Pn**	**13 55 44.6**	**+0.6**
	baz=244						
S31K	**Pelican**	**7.73**	**68**		**Pn**	**13 55 45.4**	**-1.7**
S31K	**Pelican**	**7.73**	**68**	P	**Pn**	**13 55 45.3**	**-1.7**
	baz=259						
M27K	**Edge Creek, AK**	**7.74**	**28**	Pn	**Pn**	**13 55 48.8**	**+1.6**
CAST	**Castle Rocks**	**7.74**	**352**	Pn	**Pn**	**13 55 49.4**	**+2.2**
KTH	**Kantishna Hill**	**7.81**	**356**	Pn	**Pn**	**13 55 49.0**	**+0.9**
L27K	**Beaver Creek,**	**8.34**	**26**	Pn	**Pn**	**13 55 56.6**	**+1.2**
BCAR	**Beaver Creek A**	**8.35**	**26**	Pn	**Pn**	**13 55 56.6**	**+1.0**
RIDG	**Independent Ri**	**8.35**	**15**	Pn	**Pn**	**13 55 57.0**	**+1.4**
S32K	**Killisnoo**	**8.55**	**72**		**Pn**	**13 55 56.8**	**-1.4**
S32K	**Killisnoo**	**8.55**	**72**	P	**Pn**	**13 55 56.8**	**-1.4**
	baz=264						
L14K	**Kuka Creek**	**8.73**	**315**	Pn	**Pn**	**13 56 02.2**	**+1.4**
O30N	**Mendenhall**	**8.76**	**50**	Pn	**Pn**	**13 56 01.8**	**+0.6**
M29M	**Sonman Creek**	**8.84**	**36**	Pn	**Pn**	**13 56 03.3**	**+0.9**
CCB	**Clear Creek Bu**	**8.94**	**5**	Pn	**Pn**	**13 56 05.3**	**+1.7**
J25K	**Salcha River,**	**9.12**	**12**	Pn	**Pn**	**13 56 06.6**	**+0.5**
IL31		**9.12**	**8**	Pn	**Pn**	**13 56 07.4**	**+1.3**
ILAR	**Eielson Array**	**9.12**	**8**	Pn	**Pn**	**13 56 07.6**	**+1.5**
MDM	**Murphy Dome**	**9.23**	**4**	Pn	**Pn**	**13 56 08.9**	**+1.3**
WHY	**Whitehorse**	**9.24**	**52**	Pn	**Pn**	**13 56 09.0**	**+1.2**
N31M	**Braeburn, Yuko**	**9.25**	**46**	Pn	**Pn**	**13 56 08.6**	**+0.7**
J26L	**Joseph Creek**	**9.27**	**17**	Pn	**Pn**	**13 56 09.3**	**+1.1**
I23K	**Minto, Yukon-K**	**9.39**	**1**	Pn	**Pn**	**13 56 10.7**	**+0.9**
P32M	**Atlin**	**9.40**	**60**	Pn	**Pn**	**13 56 09.9**	**-0.1**
L29M	**L29M**	**9.42**	**34**	Pn	**Pn**	**13 56 11.7**	**+1.4**
I21K	**Tanana**	**9.48**	**354**	Pn	**Pn**	**13 56 11.4**	**+0.3**
H21K	**Melozitna Rive**	**10.01**	**353**	Pn	**Pn**	**13 56 19.2**	**+1.0**
K29M	**Barlow Dome**	**10.14**	**32**	Pn	**Pn**	**13 56 21.8**	**+1.6**
M31M	**Drury Creek, Y**	**10.19**	**45**	Pn	**Pn**	**13 56 22.1**	**+1.4**
R33M	**Jennings River**	**10.71**	**63**	Pn	**Pn**	**13 56 27.6**	**-0.4**
FYU	**Fort Yukon**	**11.03**	**10**	Pn	**Pn**	**13 56 32.4**	**+0.2**
J30M	**Hart River**	**11.04**	**32**	Pn	**Pn**	**13 56 34.9**	**+2.5**

*DJA **26** 14:08:06.6±0.6, 1˚S±5˚×12˚7E±˚, h12km±8km, M3.3/4, MLv3.3/4*
*IDC **26** 14:08:06.6±2.0, 1˚.28S×126˚.97E, h0km, mb3.3/3, mbtmp3.2/4, Error ellipse: s-maj=209.0km s-min=24.6km az=66.0*
ISC 26 14:08:07.4±0.9,1˚.23S±0˚.06×127˚.0E±0˚.1,h10km,n8,
σ0§93/10,mb3.5/3,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.78**	**42**	P	**Pg**	**14 08 22.1**	**-0.4**
LBMI				S	**Sg**	**14 08 33.2**	**+0.5**
SANI	**Sanana**	**1.29**	**230**	P	Pn	14 08 28.9	-2.6
SANI				S	**Sb**	**14 08 47.8**	**-0.6**
NLAI	**Namlea**	**2.00**	**177**	P	**Pn**	**14 08 41.3**	**-0.1**
NLAI				S	**Sn**	**14 09 05.4**	**-1.1**
TNTI	**Ternate**	**2.02**	**11**	P	**Pn**	**14 08 40.6**	**-1.0**
WRA	**Warramunga Arr**	**19.95**	**159**	P	**P**	**14 12 40.8**	**+1.0**
	0.3nm,0.8s,baz=338,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**23.30**	**164**	P	**P**	**14 13 15.4**	**-0.3**
	0.4nm,0.9s,baz=338,slow=12,SNR=4.7						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**61.78**	**327**	P	**P**	**14 18 27.6**	**+1.2**
	0.2nm,0.4s,baz=120,slow=8.0,SNR=4.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**66.05**	**329**	P	**P**	**14 18 55.2**	**+0.8**
	0.2nm,0.6s,baz=132,slow=5.6,SNR=2.6						
	0.2nm,0.6s						

WEL 26 14:08:25.9±0.6,40˚S±3˚×17˚7E±˚,h16km±4km,M3.5/14, ML3.9/14,MLv3.5/14,Error ellipse: s-maj=0.0km s-min=0.0km az=117.9,confirmed,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRHZ	**Porangahau**	**0.06**	**309**	P	Pg	14 08 29.0	0.0
PRHZ				S	Sg	14 08 31.8	+0.9
ANWZ	**Angora Road**	**0.23**	**226**	P	Pb	14 08 31.9	+0.3
ANWZ				S	Sb	14 08 37.1	+1.6
PXZ	**Pawanui**	**0.30**	**26**	P	Pb	14 08 32.8	-0.1
PXZ				S	Sb	14 08 39.5	+1.9
WPHZ	**Waipukurau**	**0.30**	**321**	P	Pb	14 08 33.0	0.0
WPHZ				S	Sb	14 08 38.8	+1.1
DVHZ	**Dannevirke**	**0.40**	**270**	P	Pb	14 08 34.8	+0.1
DVHZ				S	Sb	14 08 42.0	+1.5
BFZ	**Birch Farm**	**0.51**	**222**	P	Pb	14 08 36.0	+0.3
BFZ				S	Sn	14 08 46.0	-0.9
KAHZ	**Kahuranaki**	**0.53**	**16**	P	Pb	14 08 37.2	+0.4
KAHZ				S	Sn	14 08 47.3	-0.1
PNHZ	**Pukenui**	**0.54**	**316**	P	Pb	14 08 37.1	+0.1
PNHZ				S	Sn	14 08 46.2	-1.5
PRWZ	**Pori Road**	**0.60**	**245**	P	Pb	14 08 38.7	+0.6
TSZ	**Takapari Road**	**0.61**	**293**	P	Pb	14 08 38.2	0.0
TSZ				S	Sn	14 08 48.0	-1.4
KRHZ	**Kereru**	**0.70**	**339**	P	Pb	14 08 39.8	0.0
KRHZ				S	Sn	14 08 51.1	-0.6
CKHZ	**Cape Kidnapper**	**0.71**	**25**	P	Pg	14 08 39.6	-0.2
POWZ	**Post Office Ro**	**0.71**	**262**	P	Pb	14 08 40.3	+0.4
CPWZ	**Castlepoint**	**0.71**	**211**	P	Pb	14 08 40.2	+0.3
TIWZ	**Tintock**	**0.78**	**232**	P	Pb	14 08 40.9	-0.1
TIWZ				S	Sn	14 08 53.3	-0.2
MCHZ	**McNeill Hill**	**0.86**	**0**	P	Pb	14 08 42.4	0.0
KWHZ	**Kaweka Forest**	**0.90**	**347**	P	Pb	14 08 42.9	-0.2
MRZ	**Mangatainoka R**	**0.92**	**247**	P	Pb	14 08 42.7	-0.7
BHHZ	**Black Hill Sta**	**0.94**	**329**	P	Pb	14 08 43.4	-0.5
TMWZ	**Te Maipa**	**1.01**	**217**	P	Pb	14 08 43.6	-1.4
OHWZ	**Ohakea**	**1.06**	**275**	P	Pg	14 08 46.5	+0.2
ARHZ	**Aropaoanui**	**1.06**	**13**	P	Pb	14 08 44.9	-1.0
HOWZ	**Holdsworth Sta**	**1.07**	**236**	P	Pb	14 08 44.7	-1.4
BKZ	**Black Stump Fm**	**1.14**	**352**	P	Pn	14 08 46.2	-1.1
MOVZ	**Moawhango**	**1.15**	**321**	P	Pn	14 08 47.0	-0.4
NMHZ	**Naumai**	**1.21**	**4**	P	Pn	14 08 47.5	-0.6
MTW	**Mount Morrison**	**1.24**	**226**	P	Pn	14 08 46.6	-2.0
OGWZ	**Otaki Gorge**	**1.27**	**246**	P	Pn	14 08 47.5	-1.4
WNVZ	**Wahianoa**	**1.29**	**319**	P	Pn	14 08 49.5	+0.2
WHHZ	**Waihua**	**1.29**	**19**	P	Pg	14 08 52.7	+1.8
TUVZ	**Tukino**	**1.30**	**322**	P	Pb	14 08 50.1	0.0
MTVZ	**Mangateitei**	**1.31**	**314**	P	Pn	14 08 49.8	+0.2
WHVZ	**Whangaehu Hut**	**1.32**	**320**	P	Pb	14 08 50.4	-0.1
TRVZ	**Turoa**	**1.33**	**318**	P	Pn	14 08 50.1	+0.1
TRWZ	**Traveller**	**1.33**	**214**	P	Pn	14 08 48.6	-1.2
MAVZ	**Mataroa**	**1.35**	**320**	P	Pb	14 08 50.8	-0.2
FWVZ	**Far West T-bar**	**1.36**	**320**	P	Pb	14 08 50.9	-0.2
SNVZ	**South Ngauruho**	**1.38**	**324**	P	Pn	14 08 50.8	+0.2
OTVZ	**Oturere**	**1.38**	**325**	P	Pn	14 08 50.8	+0.2
ETVZ	**East Tongariro**	**1.39**	**327**	P	Pn	14 08 50.9	+0.2
NGZ	**Ngauruhoe**	**1.40**	**323**	P	Pn	14 08 51.3	+0.3
TMVZ	**Te Maari**	**1.41**	**327**	P	Pn	14 08 51.2	+0.3
COVZ	**Chateau Observ**	**1.41**	**321**	P	Pb	14 08 51.7	-0.2
RAHZ	**Arahi**	**1.42**	**13**	P	Pn	14 08 49.6	-1.4
WAZ	**Wanganui**	**1.42**	**292**	P	Pb	14 08 51.7	-0.3
NNVZ	**North Ngauruho**	**1.43**	**324**	P	Pb	14 08 51.9	-0.4
NTVZ	**North Tongarir**	**1.43**	**327**	P	Pn	14 08 51.6	+0.3
PAWZ	**Paruwai Farm**	**1.44**	**221**	P	Pn	14 08 50.4	-1.0
PKVZ	**Pokaka**	**1.45**	**314**	P	Pb	14 08 52.3	-0.2
KRVZ	**Karewarewa**	**1.45**	**326**	P	Pb	14 08 52.2	-0.4
MTHZ	**Maungataniwha**	**1.45**	**5**	P	Pn	14 08 50.3	-1.2
WTVZ	**West Tongariro**	**1.46**	**324**	P	Pb	14 08 52.3	-0.4
KIW	**Kapiti Island**	**1.47**	**247**	P	Pn	14 08 50.5	-1.2
RITZ	**Rihia Road**	**1.47**	**334**	P	Pb	14 08 52.4	-0.5
CAW	**Cannon Point**	**1.47**	**236**	P	Pn	14 08 49.9	-1.9
MRHZ	**Matea Rd**	**1.48**	**352**	P	Pn	14 08 51.4	-0.5
HATZ	**Hinemaiaia**	**1.48**	**342**	P	Pb	14 08 53.6	+0.5
MHGZ	**Mahia Peninsul**	**1.48**	**40**	P	Pn	14 08 49.6	-2.3
KNZ	**Kokohu**	**1.49**	**31**	P	Pn	14 08 49.4	-2.5
KATZ	**Kakaramea**	**1.53**	**330**	P	Pb	14 08 54.1	+0.1
TWVZ	**Taurewa**	**1.56**	**321**	P	Pb	14 08 53.9	-0.6
RATZ	**Rangitukua**	**1.60**	**333**	P	Pb	14 08 55.6	+0.5
SNGZ	**Shannon Statio**	**1.60**	**19**	P	Pn	14 08 51.8	-1.7
PRGZ	**Paritu Road**	**1.66**	**34**	P	Pn	14 08 51.8	-2.5
PLWZ	**Palliser**	**1.67**	**220**	P	Pn	14 08 52.3	-2.2
RTZ	**Ruatahuna**	**1.70**	**8**	P	Pn	14 08 54.0	-0.9
WHTZ	**Whakaora**	**1.73**	**341**	P	Pg	14 08 58.2	-0.9
WATZ	**Wairara**	**1.75**	**335**	P	Pb	14 08 58.3	+0.6
WEL	**Wellington**	**1.76**	**235**	P	Pn	14 08 53.5	-2.1
RIGZ	**Rimuhau**	**1.80**	**28**	P	Pn	14 08 53.7	-2.5
PRRZ	**Plateau Road**	**1.81**	**353**	P	Pn	14 08 55.5	-0.9
MUGZ	**Murupara**	**1.82**	**2**	P	Pn	14 08 55.3	-1.3
WPRZ	**Whakapapatarin**	**1.83**	**347**	P	Pb	14 08 58.3	-0.6
RAGZ	**Rawiri**	**1.89**	**18**	P	Pn	14 08 55.8	-1.7
VRZ	**Vera Road**	**1.90**	**308**	P	Pb	14 08 58.9	-1.2
KUTZ	**Kaahu Road**	**1.93**	**339**	P	Pn	14 08 59.3	+1.2
HRRZ	**Handcock Road**	**1.93**	**350**	P	Pb	14 09 00.9	+0.2
LREZ	**Lake Rotokare**	**1.95**	**295**	P	Pb	14 09 01.4	+0.4
RRRZ	**Republican Roa**	**1.96**	**356**	P	Pn	14 08 58.5	0.0
TCW	**Tory Channel**	**2.05**	**243**	P	Pn	14 08 57.4	-2.2
TKGZ	**Te Karaka**	**2.06**	**26**	P	Pn	14 08 57.4	-2.5
URZ	**Urewera**	**2.06**	**9**	P	Pn	14 08 58.2	-1.7
MWZ	**Matawai**	**2.07**	**19**	P	Pn	14 08 57.4	-2.6
CNGZ	**Carnagh Statio**	**2.16**	**33**	P	Pn	14 08 58.7	-2.5
TLZ	**Tolley Road**	**2.16**	**335**	P	Pn	14 09 01.7	+0.4
DUWZ	**D'Urville Isla**	**2.17**	**256**	P	Pn	14 09 00.9	-0.4
PREZ	**Palmer Road**	**2.17**	**295**	P	Pb	14 09 04.5	-0.3
MHEZ	**Mangahewa**	**2.20**	**303**	P	Pg	14 09 06.8	-1.2
DREZ	**Durham Road**	**2.22**	**299**	P	Pb	14 09 06.6	+1.0
NEZ	**North Egmont**	**2.25**	**296**	P	Pn	14 09 04.9	-1.2
HIZ	**Hauiti**	**2.28**	**321**	P	Pn	14 09 04.2	+1.4
KHEZ	**Kahui Hut**	**2.29**	**295**	P	Pb	14 09 05.8	-1.1
TWGZ	**Tauwhareparae**	**2.35**	**26**	P	Pn	14 09 01.4	-2.4
PKE	**Pukeiti**	**2.36**	**297**	P	Pb	14 09 09.1	+1.1
TUWZ	**Tuamarina**	**2.37**	**241**	P	Pn	14 09 01.3	-2.7
RUGZ	**Raukumara Rang**	**2.46**	**19**	P	Pn	14 09 03.0	-2.3
PUZ	**Puketiti**	**2.54**	**29**	P	Pn	14 09 03.0	-3.4
BSWZ	**Blackbirch Sta**	**2.56**	**236**	P	Pn	14 09 03.9	-2.7
PKGZ	**Pakihiroa**	**2.64**	**25**	P	Pn	14 09 05.2	-2.6
NNZ	**Nelson**	**2.68**	**249**	P	Pn	14 09 07.1	-1.2
HAZ	**Te Kaha**	**2.68**	**19**	P	Pn	14 09 06.0	-2.3
WMGZ	**Waiomatatini S**	**2.82**	**29**	P	Pn	14 09 07.6	-2.6
TKNZ	**Takaka Hill**	**2.93**	**254**	P	Pb	14 09 15.4	-2.3
KHZ	**Kahutara**	**3.18**	**227**	P	Pn	14 09 11.5	-3.6
MRNZ	**Matariki Terra**	**3.18**	**249**	P	Pn	14 09 13.9	-1.3
THZ	**Tophouse**	**3.21**	**242**	P	Pn	14 09 12.8	-3.0
TMZ	**Timaru**	**5.86**	**224**	P	Pn	14 09 48.7	-3.4

*JMA **26** 14:09:17.9±0.2,28˚N±1˚×14˚1E±˚, h512km, MV3.9/19, W OFF OGASAWARA*
*IDC **26** 14:09:25.7±24.0,27˚.65N×139˚.71E, h592km±282km, mb2.9/7, mbtmp3.9/7, Error ellipse: s-maj=211.5km s-min=13.3km az=70.0*
**ISC 26 14:09:17.7±0.9,27˚.83N±0˚.09×140˚.2E±0˚.2,h500km,n14,

BRLK Sn 14 20 17.8 -0.7
BRLK Bradley Lake 3.73 351 IAML 14 20 18.7
comp=N,34nm,1.5s
BRLK IAML 14 20 20.4
comp=E,32nm,1.4s
ANCK Angle Creek 3.77 306 Pn Pn 14 19 36.4 +1.2
KAHC Katmai Hardscr 3.83 314 Pn Pn 14 19 37.4 +1.4
KAHC Katmai Hardscr 3.83 314 P **Pn 14 19 37.4 +1.4**
baz=130
CNTC Contact Creek 3.98 306 Pn Pn 14 19 38.9 +0.8
Q17K Contact Creek 3.99 306 P **Pn 14 19 39.5 +1.4**
baz=121
P19K Oil Pt 4.02 334 Pn 14 19 39.2 +0.6
P19K Oil Pt 4.02 334 IAML 14 20 31.2
comp=E,88nm,1.1s
P19K IAML 14 20 43.0
comp=N,92nm,1.5s
IVE Iliamna Volcan 4.30 338 Pn Pn 14 19 42.4 0.0
P18K Big Mountain, 4.42 321 Pn Pn 14 19 44.6 +0.5
P18K Big Mountain, 4.42 321 P **Pn 14 19 44.8 +0.7**
baz=136
HIN Hinchinbrook I 4.64 20 Pn **Pn 14 19 46.6 -0.5**
HIN IAML 14 22 22.1
comp=N,75nm,1.5s
RSO Redoubt South 4.66 341 Pn **Pn 14 19 48.3 +0.8**
P17K Kvichak River 4.75 314 Pn 14 19 49.5 +1.0
P17K Kvichak River 4.75 314 P **Pn 14 19 50.0 +1.5**
baz=128
O18K Koktuh Hills 4.76 325 Pn 14 19 48.6 0.0
O18K IAML 14 20 44.6
comp=E,28nm,1.4s
O18K IAML 14 21 00.2
comp=N,29nm,1.4s
O19K Port Alsworth 4.77 331 Pn Pn 14 19 46.3 -2.5
O19K IAML 14 21 01.0
comp=N,42nm,0.5s
RAGM Ragged Mountai 5.07 30 Pn Pn 14 19 50.7 -2.2
GOAT Goat Mountain 5.22 28 Pn 14 19 55.4 +0.4
P16K Nushagak River 5.32 307 Pn 14 19 56.8 +0.5
N19K Bonanza Creek 5.34 334 Pn **Pn 14 19 56.8 0.0**
N19K IAML 14 21 19.7
comp=E,12nm,1.0s
BERG Berg Lake 5.36 34 Pn **Pn 14 19 56.5 -0.4**
BERG IAML 14 21 13.8
comp=N,39nm,1.2s
N18K Kilae Creek 5.62 327 Pn Pn 14 19 58.7 -1.7
CNBA Chernabura Isl 5.74 261 Pn **Pn 14 20 02.2 +0.1**
BARK Barkley Ridge 5.77 39 Pn 14 20 03.2 +0.6
N17K Nushagak Hills 5.92 322 Pn Pn 14 20 02.9 -1.7
VRDI Verde Repeater 6.10 30 Pn **Pn 14 20 07.5 +0.3**
GLB Gilahina Butte 6.19 27 Pn 14 20 07.8 -0.5
O15K Ungalikthiuk R 6.23 304 Pn 14 20 09.3 +0.5
SAMH Samovar Hills 6.24 46 Pn 14 20 08.2 -0.8
M19K Big River Lodg 6.30 340 Pn Pn **14 20 10.6 +0.8**
MCARA McCarthy VSAT 6.35 31 Pn Pn **14 20 12.7 +2.2**
PTPK Patty Peak 6.36 34 Pn 14 20 11.8 +1.0
PCA Pinnacle 6.43 48 Pn 14 20 12.5 +0.8
BARN Barnard Glacie 6.53 37 Pn **Pn 14 20 12.9 -0.1**
CTGM Chitina Glacie 6.57 39 Pn 14 20 13.5 -0.1
PNL Peninsula 6.58 53 Pn 14 20 14.5 +0.9
PNL Peninsula 6.58 53 P **Pn 14 20 14.5 +0.9**
baz=242
N15K Kwethluk River 6.83 311 Pn 14 20 17.1 0.0
L18K Granite Mounta 7.10 333 Pn **Pn 14 20 20.4 -0.3**
O29M Mount Kennedy 7.25 50 Pn 14 20 23.9 +0.9
P29M Windy Craggy 7.32 56 Pn 14 20 23.8 0.0
P29M Windy Craggy 7.32 56 P **Pn 14 20 24.4 +0.6**
baz=246
M27K Edge Creek, AK 7.46 29 Pn **Pn 14 20 26.2 +0.3**
L16K Owhat River 7.55 322 Pn **Pn 14 20 26.5 -0.4**
S31K Pelican 7.61 70 Pn 14 20 26.3 -1.4
HYT Haines Junctio 7.97 48 Pn **Pn 14 20 33.6 +0.8**
N30M Aishikik Lake 8.49 45 Pn **Pn 14 20 39.6 -0.2**
M29M Somme Creek 8.59 38 Pn **Pn 14 20 41.4 +0.2**
JIS Juneau Island 8.63 69 Pn **Pn 14 20 40.7 -0.9**
K15K Wolf Creek Mou 8.66 321 Pn **Pn 14 20 42.1 0.0**
ILAR Eielson Array 8.82 8 Pn **Pn 14 20 45.2 +0.9**
comp=N,0.1nm,0.3s,baz=188,slow=14,SNR=5.0
ILAR Sn **Sn 14 22 18.8 -4.8**
baz=224,slow=12,SNR=4.1
comp=N,0.7nm,0.6s
N31M Braeburn, Yuko 9.03 48 Pn **Pn 14 20 48.1 +0.9**
WHY Whitehorse 9.04 54 Pn **Pn 14 20 47.8 +0.4**
L29M L29M 9.16 35 Pn **Pn 14 20 49.9 +0.9**
P32M Atlin 9.23 61 Pn **Pn 14 20 50.0 0.0**
Q32M Nakina River 9.82 66 Pn **Pn 14 20 58.0 -0.2**
P33M Teslin, Yukon 9.84 58 Pn **Pn 14 20 58.1 -0.3**
R33M Jennings River 10.56 64 Pn **Pn 14 21 08.8 +0.5**
DLBC Dease Lake 10.93 69 Pn **Pn 14 21 14.4 +1.2**
DLBC Dease Lake 10.93 69 Pn **Pn 14 21 12.8 -0.4**
comp=N,0.3nm,0.3s,baz=220,slow=9.2,SNR=7.1
comp=N,0.8nm,0.3s
INK Inuvik 14.32 25 Pn **Pn 14 22 01.4 +1.9**
baz=211,slow=13,SNR=2.4
comp=N,0.9nm,1.0s
YKA Yellowknife Ar 18.86 56 P **P 14 22 55.1 -1.8**
baz=255,slow=11,SNR=3.3
comp=N,0.3nm,0.7s
H11N2 WAKE ISLAND Hy 48.56 240 T T 15 19 40.9
baz=31,slow=76,SNR=4.4
H11N3 WAKE ISLAND Hy 48.57 240 T T 15 19 43.2
baz=31,slow=76,SNR=5.2
H11N1 WAKE ISLAND Hy 48.58 240 T T 15 19 43.9
baz=31,slow=76,SNR=4.2
H11S1 WAKE ISLAND Hy 49.70 239 T T 15 21 34.8
baz=29,slow=74
H11S2 WAKE ISLAND Hy 49.72 239 T T 15 21 39.1
baz=29
H11S3 WAKE ISLAND Hy 49.72 239 T T 15 21 33.4
baz=29,slow=74
SONM Songino Array 58.56 310 P **P 14 28 35.4 +1.9**
comp=N,1.5nm,0.8s,baz=39,slow=5.8,SNR=7.5
comp=N,1.5nm,0.8s
ZALV Zalesovo Beam 61.58 327 P **P 14 28 54.9 +1.1**
comp=N,0.7nm,0.7s,baz=27,slow=4.0,SNR=4.2
comp=N,0.7nm,0.7s
BVAR Borovoye Array 66.34 335 P **P 14 29 25.6 +0.4**
comp=N,0.7nm,0.7s,baz=44,slow=13,SNR=3.6
comp=N,0.7nm,0.7s
KURBB Kurchatov Arra 66.36 329 P **P 14 29 25.6 +0.2**
comp=N,0.5nm,0.6s,baz=27,slow=6.2,SNR=5.1
comp=N,0.5nm,0.6s
MKAR Makanchi Array 68.60 324 P **P 14 29 40.7 +1.0**
comp=N,0.4nm,0.6s,baz=31,slow=6.4,SNR=8.5
comp=N,0.4nm,0.6s
CMAR Chiang Mai Arr 86.14 298 P P 14 31 16.5 -1.7
comp=N,0.4nm,0.3s,baz=10,slow=6.3,SNR=4.7
comp=N,0.4nm,0.3s

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*IDC **26** 14:27:33.6±1.6, 17°.62S×178°.52W, h514km±16km, mb3.9/12, mbtmp4.7/13, Error ellipse: s-maj=20.8km s-min=11.4km az=155.0*
*NEIC **26** 14:27:35.9±1.8, 17°.8S±0°.1×178°.52W±0°.07, h533km±6km, mb4.7/57, Error ellipse: s-maj=17.2km s-min=8.8km az=188.0*
*NOU **26** 14:27:35.7, 17°.46S×178°.40W, h566km, mb4.8/11, Fiji Islands Region*

ISC 26 14:27:36.2±0.3, 17°.71S±0°.08×178°.50W±0°.06, h547km, n336, σ0°.79/340, mb4.7/50, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**1.67**	**306**	P	**P**	**14 28 45.6**	**+1.3**
DGTI	**Dogotuki**	**2.19**	**309**	P	**P**	**14 28 47.2**	**+0.6**
FUTU	**Fugatoga**	**3.40**	**6**	P	**P**	**14 28 54.1**	**+0.4**
YSA	**Yasawairara**	**3.88**	**284**	P	**P**	**14 28 57.9**	**+0.9**
AFI	**Afiamalu**	**7.50**	**61**	P	**P**	**14 29 25.9**	**-3.2**
AFI	**Afiamalu**	**7.50**	**61**	P	**P**	**14 29 26.6**	**-2.5**
NIUE	**Niue**	**8.25**	**101**	P	**P**	**14 29 36.1**	**-0.3**
NIUE	**Niue**	**8.25**	**101**	P	**P**	**14 29 36.7**	**+0.3**
LIFNC	**LIFOU**	**13.81**	**255**	P	**P**	**14 30 31.1**	**-2.3**
PINNC	**Pines Island,**	**14.06**	**247**	P	**P**	**14 30 35.8**	**-0.3**
OUENC	**Ouen Island, N**	**14.54**	**249**	P	**P**	**14 30 40.3**	**-0.8**
DZM	**Mont Dzumac**	**14.81**	**251**	P	**P**	**14 30 43.4**	**-0.5**
DZM	**Mont Dzumac**	**14.81**	**251**	P	**P**	**14 30 43.1**	**-0.8**
DZM	**Mont Dzumac**	**14.81**	**251**	P	**P**	**14 30 41.4**	**-2.5**
	9.3nm,0.7s,baz=78,slow=19,SNR=3.6						
ONTNC	**Ouen Toro**	**14.86**	**250**	P	**P**	**14 30 43.7**	**-0.6**
NOUC	**Port Laguerre**	**14.94**	**251**	P	**P**	**14 30 46.6**	**+1.4**
KOUNC	**Koumac, New Ca**	**16.51**	**257**	P	**P**	**14 31 01.0**	**+0.3**
KOUNC	**Koumac, New Ca**	**16.51**	**257**	P	**P**	**14 31 00.7**	**0.0**
TOZ	**Tahuroa Road**	**20.63**	**194**	P	**P**	**14 31 38.4**	**+0.4**
TOZ				IAmb	IAmb	14 31 50.3	
	comp=Z,15nm,1.2s						
URZ	**Urewera**	**20.83**	**190**	P	**P**	**14 31 36.3**	**-3.5**
	comp=Z,4.6nm,0.6s,baz=19,slow=7.5,SNR=9.2						
KHZ	**Kahutara**	**25.55**	**194**	P	**P**	**14 32 21.3**	**-0.4**
KHZ				IAmb	IAmb	14 32 29.8	
	comp=Z,15nm,1.1s						
GVZ	**Greta Valley S**	**26.18**	**194**	P	**P**	**14 32 27.1**	**-0.3**
GVZ				IAmb	IAmb	14 32 35.7	
	comp=Z,54nm,1.3s						
LTZ	**Lake Taylor**	**26.20**	**196**	P	**P**	**14 32 26.4**	**-1.2**
LTZ				IAmb	IAmb	14 32 28.5	
	comp=Z,9.4nm,0.7s						
PPT	**Papeete**	**27.56**	**94**	P	**P**	**14 32 38.3**	**-1.5**
	comp=Z,32nm,0.7s,baz=274,slow=2.2,SNR=6.2						
	comp=Z,32nm,0.7s						
PPTF	**Pamatai, Papee**	**27.57**	**94**	P	**P**	**14 32 39.8**	**-0.2**
FOZ	**Fox Glacier**	**27.58**	**199**	P	**P**	**14 32 39.6**	**0.0**
FOZ				IAmb	IAmb	14 32 41.0	
	comp=Z,56nm,1.3s						
LBZ	**Lake Benmore**	**28.25**	**197**	P	**P**	**14 32 43.5**	**-2.0**
LBZ				IAmb	IAmb	14 32 54.9	
	comp=Z,29nm,1.4s						
WKZ	**Wanaka**	**28.99**	**198**	P	**P**	**14 32 51.1**	**-0.9**
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**14 32 54.2**	**-0.3**
EIDS				IAmb	IAmb	14 32 55.1	
	comp=Z,27nm,0.8s						
MLZ	**Mavora Lakes**	**29.75**	**199**	P	**P**	**14 32 59.5**	**+0.9**
MLZ				IAmb	IAmb	14 32 59.8	
	comp=Z,23nm,0.8s						
ARMA	**Armidale**	**29.96**	**239**	P	**P**	**14 33 01.5**	**+0.8**
ARMA				IAmb	IAmb	14 33 02.5	
	comp=Z,26nm,0.7s						
WHZ	**Wether Hill Ro**	**30.28**	**199**	P	**P**	**14 33 02.8**	**-0.2**
WHZ				IAmb	IAmb	14 33 12.0	
	comp=Z,26nm,1.1s						
CTAO	**Charters Tower**	**33.39**	**260**	P	**P**	**14 33 29.4**	**-0.5**
CTAO				IAmb	IAmb	14 33 30.6	
	comp=Z,18nm,0.8s						
CAN	**Canberra**	**33.75**	**232**	P	**P**	**14 33 33.6**	**+0.8**
CAN				IAmb	IAmb	14 33 34.5	
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**34.34**	**279**	P	**P**	**14 33 38.4**	**+0.5**
PMG	**Port Moresby**	**34.34**	**279**	P	**P**	**14 33 39.1**	**+1.2**
COEN	**Coen**	**37.01**	**270**	P	**P**	**14 34 00.4**	**+0.3**
COEN				IAmb	IAmb	14 34 01.4	
	comp=Z,38nm,1.0s						
TOO	**Toolangi**	**37.23**	**231**	P	**P**	**14 34 02.6**	**+1.0**
TAU	**Tasmania Unive**	**38.33**	**222**	P	**P**	**14 34 10.7**	**+0.3**
TAU				IAmb	IAmb	14 34 12.3	
	comp=Z,34nm,1.4s						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**14 34 14.1**	**+0.9**
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**14 34 13.1**	**-0.1**
	comp=Z,19nm,0.5s,baz=93,slow=10,SNR=82						
	comp=Z,19nm,0.5s						
GENI	**Genyem**	**43.23**	**286**	P	**P**	**14 34 50.7**	**+0.9**
	comp=Z,117nm,0.7s,comp=Z,4μm						
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**14 34 51.3**	**+0.3**
WR0	**Warramunga Arr**	**44.39**	**259**	P	**P**	**14 34 58.0**	**-0.8**
WR0				IAmb	IAmb	14 34 58.7	
	comp=Z,19nm,1.3s						
WB0	**Warramunga Arr**	**44.55**	**260**	P	**P**	**14 34 59.1**	**-0.9**
WB0				IAmb	IAmb	14 35 00.0	
	comp=Z,18nm,0.9s						
WB2	**Warramunga Arr**	**44.57**	**259**	P	**P**	**14 34 59.2**	**-0.9**
WB2				IAmb	IAmb	14 35 00.2	
	comp=Z,22nm,0.7s						
WRAB	**Tennant Creek**	**44.57**	**259**	P	**P**	**14 34 59.2**	**-0.9**
WRAB				IAmb	IAmb	14 35 00.2	
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**14 34 59.1**	**-1.1**
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**14 34 59.2**	**-1.1**
	comp=Z,15nm,0.7s,baz=96,slow=6.9,SNR=169						
WRA				PcP	**PcP**	**14 36 31.7**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=92,slow=3.6,SNR=3.7						
WRA				ScP	**ScP**	**14 39 34.3**	**+2.6**
	comp=Z,1.8nm,0.7s,baz=86,slow=4.4,SNR=6.7						
	comp=Z,15nm,0.7s						
AS31	**Alice Springs**	**44.76**	**254**	P	**P**	**14 35 01.6**	**0.0**
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**14 35 01.4**	**-0.2**
	comp=Z,135nm,0.6s,baz=89,slow=7.9,SNR=3184						
ASAR				PcP	**PcP**	**14 36 32.4**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=106,slow=3.9,SNR=4.1						
ASAR				ScP	**ScP**	**14 39 35.4**	**+2.9**
	comp=Z,2.3nm,0.8s,baz=100,slow=3.9,SNR=8.3						
ASAR				S	**S**	**14 40 56.7**	**-2.4**
	comp=Z,1.4nm,1.0s,baz=88,slow=16,SNR=5.3						
GUMO	**Guam**	**47.68**	**308**	P	**P**	**14 35 23.4**	**-0.3**
MTN	**Manton Dam**	**48.72**	**268**	P	**P**	**14 35 31.1**	**-0.4**
FORT	**Forrest**	**50.01**	**244**	P	**P**	**14 35 40.5**	**-0.3**
KNRA	**Kununurra**	**50.42**	**264**	P	**P**	**14 35 43.9**	**-0.1**
SIJI	**Sorong**	**52.10**	**283**	P	**P**	**14 35 56.4**	**+0.1**
	comp=Z,84nm,0.7s,comp=Z,757nm						
SWI	**Sorong**	**52.11**	**283**	P		**14 35 56.6**	**+0.3**
	comp=Z,134nm,0.8s,comp=Z,952nm						
FITZ	**Fitzroy Crossi**	**52.97**	**260**	P	**P**	**14 36 02.0**	**-0.4**
SOEI	**Soe**	**55.98**	**270**	P	**P**	**14 36 23.9**	**+0.2**
SOEI				IAmb	IAmb	14 36 26.0	
	comp=Z,63nm,0.8s						
SOEI	**Soe**	**55.98**	**270**	P	**P**	**14 36 24.6**	**+0.9**
	comp=Z,95nm,0.8s						
SANI	**Sanana**	**56.62**	**279**	P	**P**	**14 36 27.4**	**-0.6**
	comp=Z,42nm,0.8s						
PSA00	**Pilbara Seismi**	**57.87**	**255**	P	**P**	**14 36 35.8**	**-0.6**
EDFI	**Ende, Flores**	**58.70**	**270**	P	**P**	**14 36 41.8**	**-0.4**
	comp=Z,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.23**	**242**	P	**P**	**14 36 44.9**	**-0.4**
NWAO				IAmb	IAmb	14 37 19.8	
	comp=Z,92nm,1.3s						
LUWI	**Luwuk**	**59.99**	**279**	P	**P**	**14 36 50.6**	**-0.1**
LUWI				IAmb	IAmb	14 36 52.3	
	comp=Z,58nm,1.2s						
LUWI	**Luwuk**	**59.99**	**279**	P	**P**	**14 36 50.8**	**+0.1**
	comp=Z,41nm,1.3s,comp=Z,1μm						
MORW	**Morawa**	**60.48**	**246**	P	**P**	**14 36 53.2**	**-0.5**
DBNI	**Kabupaten Domp**	**61.98**	**270**	P	**P**	**14 37 03.2**	**-0.6**
	comp=Z,138nm,0.7s						
PLAI	**Plampang**	**62.41**	**269**	P	**P**	**14 37 06.0**	**-0.6**
	comp=Z,50nm,0.8s						
TOLI2	**Tolitoli**	**62.59**	**281**	P	**P**	**14 37 08.1**	**+0.3**
TOLI2				IAmb	IAmb	14 37 08.3	
	comp=Z,12nm,0.9s						
GIRL	**Giralia**	**62.87**	**253**	P	**P**	**14 37 09.4**	**+0.1**
MPSI	**Mapaga**	**63.15**	**280**	P	**P**	**14 37 11.2**	**-0.2**
	comp=Z,26nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.96**	**268**	P	**P**	**14 37 27.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**65.96**	**268**	P	**P**	**14 37 27.6**	**-1.5**
	comp=Z,68nm,1.3s						
KKM	**Kota Kinabalu**	**68.61**	**284**	P	**P**	**14 37 45.4**	**0.0**
	comp=Z,22nm,1.4s						
UGM	**Wanagama**	**69.56**	**268**	P	**P**	**14 37 50.1**	**-1.0**
UGM	**Wanagama**	**69.56**	**268**	P	**P**	**14 37 50.7**	**-0.4**
KPJI	**Karang Pucung**	**71.24**	**268**	P	**P**	**14 38 01.0**	**0.0**
	comp=Z,32nm,1.2s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**14 38 07.4**	**+0.8**
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**14 38 07.4**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=345,slow=0.6,SNR=14						
	comp=Z,3.8nm,0.9s						
BBJI	**Bungbulang**	**72.42**	**268**	P	**P**	**14 38 07.2**	**-0.8**
KSM	**Kuching**	**72.57**	**277**	P	**P**	**14 38 09.2**	**+0.5**
P08K	**Saint George I**	**74.41**	**5**	P	**P**	**14 38 16.2**	**-1.9**
baz=189							
SBC	**Santa Barbara**	**76.23**	**47**	P	**P**	**14 38 29.0**	**+0.1**
baz=237							
PKM	**Mcpherson Peak**	**76.40**	**46**	P	**P**	**14 38 29.8**	**-0.3**
baz=237							
ARVC	**Arvin**	**77.21**	**47**	P	**P**	**14 38 34.7**	**+0.5**
baz=237							
VES	**Vestal, Richgr**	**77.42**	**46**	P	**P**	**14 38 36.1**	**+0.8**
baz=237							
BFSC	**Mount Baldy Ra**	**77.56**	**48**	P	**P**	**14 38 37.1**	**+0.8**
baz=238							
OHAK	**Old Harbor**	**77.56**	**14**	P	**P**	**14 38 34.4**	**-1.2**
baz=204							
EDW2	**Edwards Air Fo**	**77.66**	**47**	P	**P**	**14 38 37.5**	**+0.7**
baz=238							
ISA	**Isabella, Lake**	**77.74**	**46**	P	**P**	**14 38 37.9**	**+0.7**
baz=238,SNR=6.3							
MONP2	**Monument Peak**	**77.75**	**50**	P	**P**	**14 38 37.9**	**+0.5**
baz=239							
IKP	**In-Ko-Pah, Jac**	**77.86**	**50**	P	**P**	**14 38 38.6**	**+0.7**
baz=240							
Q17K	**Contact Creek**	**77.97**	**12**	P	**P**	**14 38 37.2**	**-0.7**
baz=202							
Q16K	**King Salmon**	**78.21**	**11**	P	**P**	**14 38 38.2**	**-0.7**
baz=201							
KDAK	**Kodiak Island**	**78.23**	**14**	P	**P**	**14 38 38.6**	**-0.6**
baz=205							
SWSC	**Sam W. Stewart**	**78.23**	**50**	P	**P**	**14 38 41.0**	**+1.2**
baz=240							
P16K	**Nushagak River**	**78.30**	**11**	P	**P**	**14 38 38.8**	**-0.7**
baz=200							
MDPB	**Devils Postpil**	**78.40**	**44**	P	**P**	**14 38 41.1**	**+0.2**
CWC	**Cottonwood Cre**	**78.43**	**46**	P	**P**	**14 38 41.5**	**+0.6**
baz=238							
M11K	**Mekoryuk**	**78.45**	**6**	P	**P**	**14 38 39.3**	**-1.0**
baz=192							
BELC	**Belle Mtn. Jos**	**78.62**	**49**	P	**P**	**14 38 43.2**	**+1.2**
baz=239							
MPMC	**Manual Prospec**	**78.63**	**46**	P	**P**	**14 38 42.9**	**+0.8**
baz=238							
GSC	**Goldstone, Bar**	**78.71**	**47**	P	**P**	**14 38 43.1**	**+0.7**
baz=239							
HEC	**Hector,Ludlow**	**78.80**	**48**	P	**P**	**14 38 43.7**	**+0.8**
baz=239							
BC3	**Big Chuckawall**	**78.84**	**49**	P	**P**	**14 38 43.6**	**+0.4**
baz=240							
Q20K	**Shuyak Island**	**79.02**	**14**	P	**P**	**14 38 42.7**	**-0.7**
baz=205							
N15K	**Kwethluk River**	**79.03**	**9**	P	**P**	**14 38 43.0**	**-0.4**
baz=198							
Q19K	**Cape Douglas,**	**79.04**	**13**	P	**P**	**14 38 42.8**	**-0.8**
baz=204							
P18K	**Big Mountain,**	**79.15**	**12**	P	**P**	**14 38 43.6**	**-0.5**
baz=202							
O17K	**Koliganek Bris**	**79.15**	**11**	P	**P**	**14 38 43.8**	**-0.2**
baz=201							
GRAC	**Grapevine Rang**	**79.21**	**46**	P	**P**	**14 38 45.4**	**+0.4**
baz=238							
GMRC	**Granite Mounta**	**79.26**	**48**	P	**P**	**14 38 45.9**	**+0.6**
baz=240							
FURC	**Furnace Creek,**	**79.28**	**46**	P	**P**	**14 38 46.1**	**+0.9**
baz=238							
IRM	**Iron Mountain**	**79.31**	**49**	P	**P**	**14 38 46.7**	**+1.2**
baz=240							
M14K	**Bethel**	**79.32**	**8**	P	**P**	**14 38 42.8**	**-2.0**
baz=196							
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**14 38 46.7**	**+0.8**
	comp=Z,6.5nm,0.8s,baz=224,slow=8.9,SNR=48						
	comp=Z,6.5nm,0.8s						
TUQ	**Turquoise Moun**	**79.40**	**48**	P	**P**	**14 38 46.6**	**+0.5**
baz=239							
M15K	**Kasigluk River**	**79.44**	**9**	P	**P**	**14 38 44.5**	**-1.0**
baz=197							
O18K	**Koktuh Hills**	**79.58**	**12**	P	**P**	**14 38 45.5**	**-0.8**
baz=202							
TPNV	**Topopah Spring**	**79.95**	**46**	P	**P**	**14 38 49.8**	**+0.8**
baz=239,SNR=5.7							
214A	**Organ Pipe Nat**	**79.96**	**52**	P	**P**	**14 38 50.6**	**+1.5**
baz=242							
O19K	**Port Alsworth**	**80.07**	**12**	P	**P**	**14 38 48.2**	**-0.6**
baz=203							
PDMCI	**Parker Dam,Lak**	**80.11**	**49**	P	**P**	**14 38 50.7**	**+1.0**
baz=241							
J05D	**Fort Rock, OR**	**80.22**	**39**	P	**P**	**14 38 51.5**	**+1.2**
J05D				IAmb	IAmb	14 38 52.2	
	comp=Z,18nm,0.7s						
L15K	**Ungalak Mounta**	**80.27**	**8**	P	**P**	**14 38 49.3**	**-0.5**
baz=196							
BRSE	**Bradley Lake S**	**80.42**	**14**	P	**P**	**14 38 50.9**	**+0.2**
baz=207							
L16K	**Owhat River**	**80.59**	**9**	P	**P**	**14 38 51.1**	**-0.5**
baz=198							
N19K	**Bonanza Creek**	**80.61**	**12**	P	**P**	**14 38 51.0**	**-0.8**
baz=203							
K15K	**Wolf Creek Mou**	**80.86**	**8**	P	**P**	**14 38 52.5**	**-0.4**
baz=196							
M18K	**Stony River**	**80.98**	**11**	P	**P**	**14 38 53.1**	**-0.5**
baz=202							
R11B	**Troy Canyon, C**	**81.12**	**45**	P	**P**	**14 38 56.0**	**+0.9**
baz=239,SNR=5.4							
L17K	**Donlin**	**81.17**	**9**	P	**P**	**14 38 54.2**	**-0.3**
baz=199							
GAMB	**Gambell**	**81.39**	**3**	P	**P**	**14 38 55.2**	**-0.4**
baz=187							
L18K	**Granite Mounta**	**81.52**	**10**	P	**P**	**14 38 56.4**	**+0.1**
baz=201							
TUC	**Tucson**	**81.65**	**52**	P	**P**	**14 38 59.1**	**+1.3**
baz=243							
J16K	**Anvik River**	**81.94**	**8**	P	**P**	**14 38 58.6**	**+0.2**
baz=197							
SUA	**Susitna One**	**81.96**	**13**	P	**P**	**14 38 58.1**	**-0.7**
baz=207							
KAIM	**Kayak Island**	**82.16**	**17**	P	**P**	**14 38 59.6**	**-0.1**
baz=213							
L20K	**Farewell, AK**	**82.25**	**11**	P	**P**	**14 38 59.5**	**-0.6**
baz=204							
SKT	**Skwentna**	**82.26**	**12**	P	**P**	**14 39 00.0**	**-0.1**
baz=206							
TTA	**Tatalina**	**82.30**	**10**	P	**P**	**14 39 00.1**	**-0.2**
baz=202							
BELA	**Belgrano 2**	**82.37**	**173**	P	**P**	**14 39 00.9**	**+0.3**
PMR	**Palmer**	**82.43**	**14**	P	**P**	**14 39 00.2**	**-0.7**
baz=208							
ANM	**Nome**	**82.64**	**6**	P	**P**	**14 39 01.2**	**-0.7**
baz=193							
J18K	**Innoko River**	**82.68**	**10**	P	**P**	**14 39 01.7**	**-0.5**
baz=201							
WUAZ	**Wupatki**	**82.68**	**49**	P	**P**	**14 39 03.9**	**+0.8**
baz=242							
CUT	**Chulitna**	**82.91**	**13**	P	**P**	**14 39 03.1**	**-0.2**
baz=207							
M23K	**Glacier View**	**82.93**	**14**	P	**P**	**14 39 03.1**	**-0.4**
baz=209							
PPLA	**Purkeypile**	**82.96**	**12**	P	**P**	**14 39 03.2**	**-0.5**
baz=205							
BMRM	**Bremner River**	**82.99**	**16**	P	**P**	**14 39 03.6**	**-0.3**
baz=212							
K20K	**Telida**	**83.03**	**11**	P	**P**	**14 39 03.9**	**0.0**
K20K	**Telida**	**83.03**	**11**	P	**P**	**14 39 03.8**	**-0.1**
baz=203							
H16K	**Elim**	**83.04**	**7**	P	**P**	**14 39 03.9**	**0.0**
baz=196							
SCM	**Sheep Creek Mo**	**83.06**	**14**	P	**P**	**14 39 04.0**	**-0.2**
baz=210							
S31K	**Pelican**	**83.10**	**21**	P	**P**	**14 39 05.0**	**+0.6**
baz=220							
KLU	**Klutina**	**83.10**	**15**	P	**P**	**14 39 04.6**	**+0.2**
baz=211							
G15K	**Niukluk**	**83.19**	**6**	P	**P**	**14 39 04.1**	**-0.6**
baz=194							
X18A	**Snowflake**	**83.27**	**51**	P	**P**	**14 39 07.0**	**+0.9**
TNA	**Tin City**	**83.40**	**4**	P	**P**	**14 39 05.5**	**-0.2**
baz=190							
F14K	**Arctic Creek**	**83.44**	**5**	P	**P**	**14 39 06.0**	**0.0**
baz

BPAW	**Bear Paw Mtn.** baz=206	**84.28**	**12**	P		**P**	**14 39 10.3**	**+0.2**
MCK	**McKinley** baz=208	**84.37**	**13**	P		**P**	**14 39 10.1**	**-0.5**
PAX	**Paxson** baz=211	**84.48**	**14**	P		**P**	**14 39 10.4**	**-0.8**
HLID	**Hailey** baz=239,SNR=8.5	**84.54**	**41**	P		**P**	**14 39 13.2**	**+1.1**
T35M	**Bob Quinn** baz=226	**84.58**	**24**	P		**P**	**14 39 12.3**	**+0.5**
YUK8	**Steele Glacier** baz=217	**84.59**	**18**	P		**P**	**14 39 11.7**	**-0.3**
H19K	**Roundabout Mou** baz=201	**84.66**	**9**	P		**P**	**14 39 11.0**	**-0.9**
G18K	**Tagagawik** baz=199	**84.69**	**8**	P		**P**	**14 39 11.5**	**-0.6**
YUK6	**Outpost Mounta** baz=218	**84.73**	**18**	P		**P**	**14 39 12.5**	**-0.1**
YUK3	**Moose Creek** baz=216	**84.78**	**17**	P		**P**	**14 39 12.9**	**0.0**
H20K	**Anotleneega Mo** baz=202	**84.86**	**10**	P		**P**	**14 39 12.9**	**-0.1**
M27K	**Edge Creek, AK**	**84.87**	**16**	P		**P**	**14 39 13.0**	**-0.2**
M27K	comp=Z,12nm,1.1s			IAmb		IAmb	14 39 14.4	
M27K	**Edge Creek, AK** baz=215	**84.87**	**16**	P		**P**	**14 39 13.4**	**+0.1**
F17K	**Baldwin Pennin** baz=196	**84.89**	**7**	P		**P**	**14 39 12.9**	**-0.1**
S34M	**Telegraph Cree** baz=225	**84.90**	**23**	P		**P**	**14 39 13.7**	**+0.5**
YUK4	**Talbot Arm** baz=218	**84.96**	**18**	P		**P**	**14 39 13.3**	**-0.5**
L26K	**Log Cabin Wild** baz=213	**85.05**	**15**	P		**P**	**14 39 13.4**	**-0.5**
I21K	**Tanana** baz=205	**85.07**	**11**	P		**P**	**14 39 13.4**	**-0.6**
NEA2	**Nenana** baz=208	**85.10**	**12**	P		**P**	**14 39 13.0**	**-1.1**
G19K	**Purcell Mounta** baz=200	**85.14**	**9**	P		**P**	**14 39 14.0**	**-0.3**
BVCY	**Beaver Creek** baz=216	**85.19**	**17**	P		**P**	**14 39 14.6**	**0.0**
Q32M	**Nakina River** baz=224	**85.23**	**22**	P		**P**	**14 39 15.2**	**+0.1**
RIDG	**Independent Ri** baz=212	**85.29**	**14**	P		**P**	**14 39 15.1**	**0.0**
O30N	**Mendenhall** baz=220	**85.30**	**19**	P		**P**	**14 39 15.0**	**-0.2**
H21K	**Melozitna Rive** baz=204	**85.36**	**10**	P		**P**	**14 39 14.7**	**-0.7**
HDA	**Harding Lake** baz=210	**85.39**	**13**	P		**P**	**14 39 14.9**	**-0.6**
NEW	**Newport** baz=237	**85.40**	**36**	P		**P**	**14 39 16.0**	**-0.1**
E17K	**Hotham Inlet** baz=196	**85.44**	**6**	P		**P**	**14 39 15.1**	**-0.6**
L27K	**Beaver Creek,** baz=215	**85.47**	**16**	P		**P**	**14 39 15.1**	**-0.9**
BCAR	**Beaver Creek A**	**85.48**	**16**	P		**P**	**14 39 16.0**	**-0.1**
N30M	**Aishikik Lake** baz=219	**85.52**	**19**	P		**P**	**14 39 16.6**	**+0.3**
MNTX	**Cornudas Mount** baz=246	**85.54**	**55**	P		**P**	**14 39 18.3**	**+1.3**
I23K	**Minto, Yukon-K** baz=208	**85.54**	**12**	P		**P**	**14 39 15.2**	**-1.0**
COLA	**College** baz=209	**85.60**	**13**	P		**P**	**14 39 16.2**	**-0.3**
WHY	**Whitehorse** baz=221	**85.60**	**20**	P		**P**	**14 39 17.1**	**+0.3**
DLBC	**Dease Lake** baz=226	**85.69**	**23**	P		**P**	**14 39 17.4**	**+0.3**
DLBC	**Dease Lake** comp=Z,2.5nm,0.8s,baz=173,slow=10,SNR=4.4 comp=Z,2.5nm,0.8s	**85.69**	**23**	P		**P**	**14 39 17.9**	**+0.8**
SCRK	**Sand Creek** baz=213	**85.69**	**15**	P		**P**	**14 39 17.1**	**-0.1**
F19K	**Shaleruckit Mo** baz=200	**85.70**	**8**	P		**P**	**14 39 16.2**	**-0.6**
IL31		**85.72**	**13**	P		**P**	**14 39 15.8**	**-1.2**
ILAR	**Eielson Array**	**85.72**	**13**	P		**P**	**14 39 16.0**	**-1.0**
ILAR	**Eielson Array** comp=Z,1.9nm,0.5s,baz=226,slow=5.3,SNR=40 comp=Z,1.9nm,0.5s	**85.72**	**13**	P		**P**	**14 39 15.6**	**-1.5**
POKR	**Poker Plat Res** baz=210	**85.90**	**13**	P		**P**	**14 39 17.4**	**-0.5**
J25K	**Salcha River,** baz=212	**85.91**	**14**	P		**P**	**14 39 17.9**	**-0.2**
D17K	**Noatak River** baz=195	**85.91**	**6**	P		**P**	**14 39 18.1**	**+0.2**
P33M	**Teslin, Yukon** baz=223	**85.95**	**21**	P		**P**	**14 39 18.5**	**+0.1**
TXAR	**Lajitas Array**	**85.97**	**58**	P		**P**	**14 39 20.4**	**+1.2**
TXAR	**Lajitas Array** comp=Z,7.0nm,0.8s,baz=218,slow=6.3,SNR=74	**85.97**	**58**	P		**P**	**14 39 20.9**	**+1.6**
TXAR	comp=Z,1.0nm,0.6s,baz=118,slow=5.9,SNR=7.8 comp=Z,7.0nm,0.8s			PKKPbc		**PKKPbc**	**14 57 15.8**	**-0.5**
R33M	**Jennings River** baz=225	**86.01**	**22**	P		**P**	**14 39 19.3**	**+0.6**
ANMO	**Albuquerque** baz=245	**86.04**	**52**	P		**P**	**14 39 21.1**	**+1.5**
K27K	**Chicken** baz=214	**86.20**	**15**	P		**P**	**14 39 20.0**	**+0.6**
J26L	**Joseph Creek** baz=213	**86.23**	**14**	P		**P**	**14 39 20.0**	**+0.3**
E19K	**Redstone River**	**86.36**	**8**	P		**P**	**14 39 19.3**	**-0.7**
E19K	**Redstone River** baz=200	**86.36**	**8**	P		**P**	**14 39 20.0**	**0.0**
M30M	**Minto, Yukon**	**86.47**	**18**	P		**P**	**14 39 20.7**	**0.0**
M30M	comp=Z,6.7nm,0.8s			IAmb		IAmb	14 39 21.5	
M30M	**Minto, Yukon** baz=219	**86.47**	**18**	P		**P**	**14 39 21.0**	**+0.3**
L29M	**L29M** baz=218	**86.51**	**17**	P		**P**	**14 39 21.0**	**+0.1**
BPMT	**Black Pine Rid**	**86.58**	**39**	P		**P**	**14 39 21.3**	**-0.6**
PRP	**Porcupine Dome** baz=211	**86.65**	**13**	P		**P**	**14 39 21.5**	**-0.2**
C17K	**DeLong Mountai** baz=195	**86.66**	**6**	P		**P**	**14 39 21.0**	**-0.4**
M31M	**Drury Creek, Y** baz=222	**86.92**	**19**	P		**P**	**14 39 22.5**	**-0.3**
DAWY	**Dawson**	**86.92**	**16**	P		**P**	**14 39 22.4**	**-0.4**
DAWY	**Dawson** baz=217	**86.92**	**16**	P		**P**	**14 39 22.9**	**+0.1**
S22A	**4UR Ranch, Cre** baz=245	**86.94**	**49**	P		**P**	**14 39 24.7**	**+0.8**
O20A	**White River Ci** baz=244	**86.98**	**46**	P		**P**	**14 39 24.9**	**+1.0**
C18K	**Utukok River** baz=196	**87.02**	**6**	P		**P**	**14 39 22.2**	**-1.1**
EGAK	**Eagle** baz=215	**87.05**	**15**	P		**P**	**14 39 22.8**	**-0.5**
D19K	**Kuna River** baz=199	**87.22**	**7**	P		**P**	**14 39 23.6**	**-0.5**
COLD	**Coldfoot** baz=207	**87.24**	**11**	P		**P**	**14 39 24.4**	**+0.3**
E20K	**Nigu River** baz=201	**87.25**	**8**	P		**P**	**14 39 24.3**	**0.0**
K29M	**Barlow Dome** baz=219	**87.25**	**17**	P		**P**	**14 39 24.3**	**-0.2**
BW06	**Boulder Array** baz=243	**87.27**	**43**	P		**P**	**14 39 25.9**	**+0.7**
PD31	**Pinedale Array**	**87.27**	**43**	P		**P**	**14 39 25.7**	**+0.5**
PD31	comp=Z,14nm,1.4s			IAmb		IAmb	14 39 26.6	
PDAR	**Pinedale Array** comp=Z,2.6nm,0.5s,baz=208,slow=3.2,SNR=48 comp=Z,2.6nm,0.5s	**87.27**	**43**	P		**P**	**14 39 25.4**	**+0.1**
WTLY	**Watson Lake, Y** baz=227	**87.31**	**22**	P		**P**	**14 39 23.6**	**-1.2**
H17A	**Grant Village** baz=242	**87.36**	**42**	P		**P**	**14 39 27.6**	**+1.9**
MAYO	**Mayo, Yukon** baz=220	**87.52**	**18**	P		**P**	**14 39 25.6**	**0.0**
I27K	**Kandik River** baz=215	**87.61**	**14**	P		**P**	**14 39 25.7**	**-0.4**
C19K	**Lookout Ridge** baz=198	**87.63**	**7**	P		**P**	**14 39 26.0**	**-0.1**
I28M	**Miner Creek** baz=216	**87.90**	**15**	P		**P**	**14 39 27.1**	**-0.3**
F24K	**Squaw Lake** baz=209	**87.91**	**11**	P		**P**	**14 39 27.2**	**-0.2**
H27K	**Steamboat Moun** baz=215	**88.15**	**14**	P		**P**	**14 39 28.4**	**-0.2**
J30M	**Hart River** baz=220	**88.15**	**17**	P		**P**	**14 39 28.3**	**-0.4**
C21K	**Knifeblade Rid** baz=203	**88.28**	**8**	P		**P**	**14 39 28.2**	**-0.8**
D22K	**Ayikyak River**	**88.33**	**9**	P		**P**	**14 39 29.3**	**0.0**
D22K	comp=Z,4.3nm,0.6s			IAmb		IAmb	14 39 29.8	
D22K	**Ayikyak River** baz=204	**88.33**	**9**	P		**P**	**14 39 29.1**	**-0.1**
F25K	**Christian Rive** baz=211	**88.41**	**12**	P		**P**	**14 39 29.7**	**0.0**
RLMT	**Red Lodge** baz=243	**88.53**	**41**	P		**P**	**14 39 32.0**	**+0.9**
Q24A	**Divide** baz=246	**88.65**	**48**	P		**P**	**14 39 32.9**	**+1.0**
ISCO	**Idaho Springs** baz=246	**88.67**	**47**	P		**P**	**14 39 33.1**	**+1.2**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.8s,baz=108,slow=2.6,SNR=13 comp=Z,1.6nm,0.8s	**88.73**	**290**	P		**P**	**14 39 33.7**	**+1.4**
E25K	**Arctic Village** baz=211	**88.88**	**12**	P		**P**	**14 39 31.9**	**0.0**
N23A	**Red Feather La** baz=245	**88.89**	**46**	P		**P**	**14 39 33.7**	**+0.8**
833A	**Chaparral WMA,** baz=249	**89.08**	**60**	P		**P**	**14 39 34.9**	**+1.2**
KOTAN	**Kotaneelee Air** baz=231	**89.10**	**24**	P		**P**	**14 39 33.2**	**+0.2**
K22A	**Casper** baz=245	**89.23**	**45**	P		**P**	**14 39 34.9**	**+0.6**
EPYK	**Eagle Plains** baz=219	**89.44**	**16**	P		**P**	**14 39 34.3**	**-0.2**
JCT	**Junction City** baz=249	**89.50**	**58**	P		**P**	**14 39 36.5**	**+0.8**
G29M	**Pine Creek** baz=218	**89.54**	**15**	P		**P**	**14 39 35.2**	**+0.2**
F28M	**Old Crow** baz=216	**89.66**	**14**	P		**P**	**14 39 35.7**	**+0.2**
G30M	**tAoh Zraii Nji** baz=220	**90.04**	**15**	P		**P**	**14 39 36.7**	**-0.6**
A21K	**Barrow** baz=201	**90.07**	**7**	P		**P**	**14 39 36.5**	**-0.7**
ABTX	**Abilene, Hawle** baz=249	**90.39**	**56**	P		**P**	**14 39 40.7**	**+0.9**
F31M	**Tsiigehtchic** baz=222	**91.02**	**16**	P		**P**	**14 39 42.0**	**+0.3**
LAO	**LASA Array** baz=245	**91.12**	**41**	P		**P**	**14 39 43.8**	**+1.0**
RSSD	**Black Hills** baz=247	**91.48**	**44**	P		**P**	**14 39 45.0**	**+0.2**
PLCA	**Paso Flores** comp=Z,2.5nm,0.9s,baz=216,slow=7.5,SNR=4.2 comp=Z,2.5nm,0.9s	**91.53**	**134**	P		**P**	**14 39 46.2**	**+1.2**
INK	**Inuvik** baz=222	**91.72**	**15**	P		**P**	**14 39 44.5**	**-0.4**
DGMT	**Dagmar** baz=247	**93.10**	**40**	P		**P**	**14 39 52.4**	**+0.6**
YKA	**Yellowknife Ar** comp=Z,1.7nm,0.9s,baz=246,slow=4.3,SNR=18 comp=Z,1.7nm,0.9s	**94.19**	**25**	P		**P**	**14 39 55.9**	**-0.5**
TUL3	**Leonard** baz=251	**94.50**	**54**	P		**P**	**14 39 59.2**	**+0.8**
C36M	**Paulatuk** baz=231	**94.93**	**17**	P		**P**	**14 39 58.7**	**-0.9**
A36M	**Sachs Harbour** baz=230	**96.31**	**15**	P		**P**	**14 40 05.8**	**0.0**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=180,slow=0.3,SNR=7.8	**108.93**	**314**	PKiKP		**PKiKP**	**14 45 02.8**	**-0.9**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.6s,baz=273,slow=4.1,SNR=4.4	**111.67**	**318**	PKKPbc		PKKPbc	14 56 03.1	-2.2
BVAR	**Borovoye Array** comp=Z,0.8nm,0.4s,baz=110,slow=3.3,SNR=9.9	**116.64**	**321**	PKP		**PKPdf**	**14 45 17.1**	**-1.1**
SPITS	**Spitsbergen Ar** comp=Z,3.1nm,0.8s,baz=64,slow=7.5,SNR=4.4	**119.06**	**357**	PKP		**PKPdf**	**14 45 21.5**	**-0.7**
ARCES	**ARCESS Array B** comp=Z,7.5nm,1.0s,baz=90,slow=0.1,SNR=4.6	**126.11**	**350**	PKP		**PKPdf**	**14 45 35.6**	**-0.3**
BOSA	**Boshof** comp=Z,1.5nm,0.5s,baz=60,slow=3.3,SNR=3.6	**128.54**	**207**	PKP		**PKiKP**	**14 45 43.2**	**+0.4**
FINES	**FINESS Array B** comp=Z,1.6nm,0.8s,baz=28,slow=4.5,SNR=3.7	**132.97**	**344**	PKP		**PKiKP**	**14 45 49.9**	**-0.5**
FINES	comp=Z,1.6nm,0.8s,baz=105,slow=4.3,SNR=5.6			SKPbc		**SKPab**	**14 48 27.9**	**-0.5**
EKA	**Eskdalemuir Ar** comp=Z,1.8nm,0.9s,baz=339,slow=2.1,SNR=3.9	**142.28**	**4**	PKhKP		PKPpre	14 46 02.1	
BUR08	**Bucovina Ar. S**	**144.38**	**332**			**PKPab**	**14 46 11.1**	**+0.3**
BRTR	**Keskin Array B** comp=Z,2.1nm,0.8s,baz=128,slow=2.0,SNR=9.6	**144.58**	**315**	PKP		PKPbc	14 46 11.3	+0.1
CLL	**Collm** comp=Z,10.0nm,0.7s	**145.25**	**347**	*i* PKPbc		**PKPbc**	**14 46 12.8**	**+0.1**
DPC	**Dobruska-Polom**	**145.33**	**343**	*e*PKP		**PKPbc**	**14 46 13.5**	**+0.4**
KRLC	**Kraliky**	**145.45**	**343**	*e*PKP		**PKPbc**	**14 46 14.0**	**+0.6**
BRG	**Berggiesshubel**	**145.45**	**346**	*e*P		**PKPbc**	**14 46 13.8**	**+0.5**
BRG	comp=Z,5.1nm,0.8s			Amp			14 46 14.6	
MORC	**Moravsky Berou**	**145.50**	**342**	*e*PKP		**PKPbc**	**14 46 13.5**	**-0.1**
PVCC	**Panska Ves**	**145.62**	**345**	*e*PKP		**PKPab**	**14 46 14.9**	**-0.4**
HSKC	**Hora Svate Kat**	**145.82**	**346**	*e*PKP		**PKPbc**	**14 46 14.5**	**+0.1**
MMAI	**Mount Meron Ar** comp=Z,3.0nm,0.7s,baz=77,slow=7.8,SNR=3.0	**145.96**	**303**	PKPbc		**PKPbc**	**14 46 15.6**	**+0.1**
PRU	**Pruhonice**	**146.13**	**345**	*e*PKP		**PKPbc**	**14 46 16.0**	**+0.7**
JAVC	**Velka Javorina**	**146.27**	**341**	*e*PKP		**PKPbc**	**14 46 16.1**	**+0.3**
KRUC	**Moravsky**	**146.47**	**342**	*e*PKP		**PKPbc**	**14 46 15.9**	**-0.3**
ZVC	**Zvikov**	**146.73**	**345**	*e*PKP		**PKPbc**	**14 46 17.6**	**+0.7**
ZVC				*ex*		x	14 46 22.4	
KHC	**Kasperske Hory**	**147.16**	**345**	*e*PKP		**PKPbc**	**14 46 18.8**	**+0.7**
CKRC	**Cesky Krumlov**	**147.27**	**344**	*e*PKP		**PKPbc**	**14 46 18.9**	**+0.5**
GEC2	**GERESS Array S**	**147.40**	**345**			**PKPbc**	**14 46 18.7**	**-0.1**
GERES	**GERESS Array B** comp=Z,3.7nm,0.6s,baz=31,slow=3.1,SNR=15	**147.40**	**345**	PKPbc		**PKPbc**	**14 46 18.9**	**0.0**
CONA	**Conrad Observa** comp=Z,6.4nm,0.7s	**147.65**	**342**	*i* PKP		**PKPbc**	**14 46 20.2**	**+0.7**
RONA	**Rosalia, Austr** comp=Z,6.3nm,0.6s,SNR=5.3	**147.72**	**341**	*i* PKP		**PKPbc**	**14 46 20.2**	**+0.5**
MOA	**Molln** comp=Z,3.0nm,0.8s	**148.17**	**344**	*i* PKP		**PKPbc**	**14 46 20.7**	**-0.1**
BIOA	**Bad Ischl, Aus** comp=Z,1.9nm,0.4s	**148.48**	**344**	*e*PKP		**PKiKP**	**14 46 22.2**	**-0.5**
LESA	**Schwarzleotal** comp=Z,2.6nm,0.4s	**148.97**	**345**	*i* PKP		**PKPbc**	**14 46 23.1**	**+0.2**
SOKA	**Soboth** comp=Z,1.7nm,0.5s	**149.02**	**342**	*i* PKP		**PKPbc**	**14 46 22.7**	**-0.3**
KBA	**Koelnbreinsper** comp=Z,4.5nm,0.5s	**149.12**	**344**	*i* PKP		**PKPbc**	**14 46 22.8**	**-0.6**
RETA	**Reutte** comp=Z,3.5nm,0.7s	**149.34**	**348**	*i* PKP		**PKPbc**	**14 46 23.6**	**-0.1**
WTTA	**Wattenberg** comp=Z,11nm,0.6s,SNR=8.0	**149.37**	**346**	*e*PKP		**PKPbc**	**14 46 24.1**	**+0.2**
MOTA	**Moosalm** comp=Z,11nm,1.2s	**149.41**	**347**	*i* PKP		**PKPbc**	**14 46 23.8**	**-0.2**
MYKA	**Terra Mystica** comp=Z,4.4nm,0.5s	**149.46**	**343**	*i* PKP		**PKPbc**	**14 46 23.4**	**-0.6**
SQTA	**Sankt Quirin** comp=Z,7.0nm,0.6s	**149.50**	**347**	*i* PKP		**PKPbc**	**14 46 24.4**	**+0.2**
ABTA	**Abfaltersbach** comp=Z,6.4nm,0.6s,SNR=6.7	**149.65**	**345**	*e*PKP		**PKPbc**	**14 46 24.0**	**-0.5**
DAVA	**Damuels** comp=Z,5.0nm,0.6s	**149.71**	**349**	*i* PKP		**PKiKP**	**14 46 25.6**	**+0.2**
FETA	**Feichten** comp=Z,12nm,1.4s	**149.79**	**347**	*i* PKP		**PKPbc**	**14 46 25.1**	**+0.2**
STAL	**STALIGIAL**	**150.05**	**344**			**PKPbc**	**14 46 24.7**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,1.8nm,1.0s,baz=263,slow=1.2,SNR=7.0	**175.46**	**182**	PKP		**PKPdf**	**14 46 43.3**	**-1.1**

*FUNV **26** 14:30:20.1, 10°.43N×62°.40W, h28km, MW3.5*
ISC 26 14:30:12.3±1.6, 9°.9N±0°.1×62°.11W±0°.07, h35km, n7, σ3°67/12, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.98**	**45**	*e*P		**Pn**	**14 30 29.9**	**+0.2**
TRN				*e*S		**Sn**	**14 30 42.1**	**-0.3**
CRUV	**Carupano**	**1.33**	**303**	*e*P		**Pn**	**14 30 36.0**	**+1.6**
CRUV				*e*S		**Sn**	**14 30 45.6**	**-5.3**
PCRV	**Puerto La Cruz**	**2.50**	**276**	*e*P		**Pn**	**14 30 53.0**	**+2.4**
PCRV				*e*S		**Sn**	**14 31 19.6**	**-0.4**
TACV	**Tcata**	**4.85**	**273**	*e*P		**Pn**	**14 31 25.8**	**+2.8**
CACV	**CAICARA DEL OR**	**4.98**	**242**	*e*P		**Pn**	**14 31 25.8**	**+1.2**
CACV				*e*S		**Sn**	**14 32 15.3**	**-5.7**
BENV	**Beln**	**5.41**	**271**	*e*P		**Pn**	**14 31 34.6**	**+4.0**
BAUV	**El Baul**	**5.94**	**261**	*e*P		**Pn**	**14 31 41.9**	**+4.0**
BAUV				*e*S		**Sn**	**14 32 41.5**	**-3.3**

NEIC 26 14:31:07.4±2.4, 15°.99S±0°.06×74°.45W±0°.10, h35km±2km, mb4.3/5, Error ellipse: s-maj=15.8km s-min=10.4km az=96.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.60**	**329**	Pn		Pn	14 32 14.5	-0.1
PB12	**IPOC Station P**	**4.73**	**124**	Pn		Pn	14 32 15.8	-0.5
PB18	**Visviri**	**5.02**	**109**			Pn	14 32 21.8	+1.0
PB16	**IPOC Station P**	**5.27**	**117**			Pn	14 32 25.1	+0.9
PB11	**IPOC Station P**	**5.91**	**130**	Pn		Pn	14 32 32.5	-0.2
LPAZ	**La Paz**	**6.08**	**94**	Pn		Pn	14 32 38.7	+3.3
TA01	**Diego Aracena**	**6.10**	**139**			Pn	14 32 34.9	-0.2
GO01	**Chusmiza**	**6.20**	**127**			Pn	14 32 37.8	+0.8
PATCX	**Punta Patache**	**6.30**	**140**	Pn		Pn	14 32 36.6	-1.4
PB08	**IPOC Station P**	**6.52**	**130**			Pn	14 32 41.7	+0.5
PB02	**IPOC Station P**	**6.84**	**142**			Pn	14 32 45.3	-0.1
PB01	**IPOC Station P**	**6.89**	**138**			Pn	14 32 46.0	-0.1
PB07	**IPOC Station P**	**7.16**	**144**			Pn	14 32 49.2	-0.7
PB09	**IPOC Station P**	**7.59**	**140**			Pn	14 32 56.6	+0.7
PB05	**IPOC Station P**	**7.92**	**150**	Pn		Pn	14 32 58.3	-1.9
PB06	**IPOC Station P**	**8.12**	**146**	Pn		Pn	14 33 01.4	-1.6
LVC	**Limon Verde**	**8.41**	**142**	Pn		Pn	14 33 08.4	+1.2
PB14	**IPOC Station P**	**9.39**	**157**			Pn	14 33 20.1	-0.6
ETMB	**Extrema**	**10.10**	**54**	Pn		Pn	14 33 29.6	-0.5
MCRA	**Macar, Loja**	**12.75**	**334**	Pn		Pn	14 34 07.1	+0.7
SAML	**Samuel**	**13.03**	**59**			Pn	14 34 08.8	-1.4
BOAV	**Boa Vista**	**22.87**	**38**	P		P	14 36 05.6	-2.5
BOAV	comp=Z,14nm,1.3s			IAmb		IAmb	14 36 23.6	
BAUV	**El Baul**	**25.57**	**15**	P		P	14 36 31.3	-2.0
QSPA	**South Pole Qui**	**74.17**	**180**	P		P	14 42 40.4	+0.1
TOA0	**Torodi Ar. Sit**	**80.65**	**73**	P		P	14 43 15.2	-2.1
TOA0	comp=Z,3.4nm,0.8s			IAmb		IAmb	14 43 16.1	
TORD	**Torodi Ar. Bea**	**80.65**	**73**	P		P	14 43 15.5	-1.9
TORD	comp=Z,2.8nm,0.8s			IAmb		IAmb	14 43 16.1	

*IDC **26** 14:40:15.0±0.7, 10°.23N×62°.04W, h0km, mb3.8/15, mbtmp4.0/20, ML3.8/4, MS3.9/40, Error ellipse: s-maj=20.8km s-min=16.0km az=179.0*
*NEIC **26** 14:40:22.0±2.7, 10°.27N±0°.06×62°.23W±0°.09, h10km±1km, mb4.6/22, Error ellipse: s-maj=16.2km s-min=9.1km az=115.0*
*TRN **26** 14:40:23.4, 10°.45N×62°.13W, h2km, MD5.0*
TRN Felt in Trinidad MMI III, IV.
*FUNV **26** 14:40:23.9, 10°.11N×62°.26W, h9km, MW4.8*
ISC 26 14:40:21.2±1.2, 10°.24N±0°.04×62°.23W±0°.03, h19km±5km, n179, σ1°90/165, mb4.2/25, MS3.9/36, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TPP	**Pointe-a-Pierr**	**0.77**	**85**	⇧*i*P		**Pg**	**14 40 36.1**	**-0.2**
TRN	**Trinidad (W)**	**0.91**	**64**	⇧*i*P		**Pg**	**14 40 37.1**	**-1.8**
TRN				*e*S		**Sg**	**14 40 49.1**	**-1.8**
CRUV	**Carupano**	**1.08**	**293**	*e*P		**Pg**	**14 40 42.1**	**0.0**
CRUV				*e*S		**Sg**	**14 40 55.9**	**-0.4**
GRFF	**Grenada Fort F**	**1.86**	**15**	*e*P		**Pn**	**14 40 53.0**	**+0.9**
GRFF				*e*S		**Sn**	**14 41 15.4**	**+0.3**
GRGR	**Grenville**	**1.96**	**17**	Pn		**Pn**	**14 40 54.4**	**+0.9**
GRGR	**Grenville**	**1.96**	**17**	*e*P		**Pn**	**14 40 54.7**	**+1.2**
GRGR				*e*S		**Sn**	**14 41 18.0**	**+0.4**
GRW	**Mount Saint Ca**	**1.98**	**16**	*e*P		**Pn**	**14 40 55.9**	**+2.0**
GRW				*e*S		**Sn**	**14 41 18.5**	**+0.2**
GRHS	**Sauteurs**	**2.05**	**16**	*e*P		**Pn**	**14 40 55.5**	**+0.8**
GRHS				*e*S		**Sn**	**14 41 18.8**	**-1.0**
GCMP	**Grenada, Carri**	**2.36**	**19**	*e*P		**Pn**	**14 41 00.3**	**+1.3**
GCMP				*e*S		**Sn**	**14 41 27.3**	**-0.2**
PCRV	**Puerto La Cruz**	**2.37**	**269**	*e*P		**Pn**	**14 41 01.6**	**+2.4**
PCRV				*e*S		**Sn**	**14 41 29.3**	**+1.6**
PCRV	**Puerto La Cruz** 21nm,0.4s,baz=122,slow=1.4,SNR=3.3	**2.37**	**269**	Pn		**Pn**	**14 40 57.5**	**-1.6**
PCRV	134nm,0.3s,baz=30,slow=17,SNR=6.2			Sn		**Sn**	**14 41 28.9**	**+1.1**
SVOC	**Richmond Hill,**	**3.06**	**19**	*e*P		**Pn**	**14 41 10.7**	**+2.1**
SVOC				*e*S		**Sn**	**14 41 43.9**	**-0.7**
SVB	**Belmont**	**3.16**	**18**	*e*P		**Pn**	**14 41 12.4**	**+2.4**
SVB				*e*S		**Sn**	**14 41 46.8**	**-0.4**
SLB	**Belfond**	**3.75**	**18**	*e*P		**Pn**	**14 41 19.9**	**+1.7**
BCHC	**Barbados, Cave**	**3.84**	**41**	*e*P		**Pn**	**14 41 21.9**	**+2.6**
BBGH	**Gun Hill**	**3.89**	**42**	Pn		**Pn**	**14 41 22.4**	**+2.4**
BBGH	**Gun Hill**	**3.89**	**42**	*e*P		**Pn**	**14 41 22.8**	**+2.7**
SLCP	**Castries, St.**	**3.93**	**18**	*e*S		**Sn**	**14 42 06.1**	**-0.2**
SLBI	**Saint Lucia, B**	**3.95**	**18**	*e*P		**Pn**	**14 41 22.6**	**+1.7**
SLBI				*e*S		**Sn**	**14 42 05.5**	**-1.2**
MERV	**Las Mercedes**	**4.13**	**257**	*e*P		**Pn**	**14 41 25.8**	**+2.5**
MERV				*e*S		**Sn**	**14 42 10.1**	**-1.1**
H05S1	**Guadeloupe/Mar**	**4.37**	**18**	Sn		**Sn**	**14 42 17.6**	**+0.4**
MPOM	**Morne Pois Mar**	**4.38**	**18**	Pn		**Pn**	**14 41 29.5**	**+2.6**
MPOM	**Morne Pois Mar**	**4.38**	**18**	*e*P		**Pn**	**14 41 29.0**	**+2.2**
MPOM	**Morne Pois Mar**	**4.38**	**18**	*e*S		**Sn**	**14 42 15.9**	**-1.6**
BIM	**Bigot**	**4.39**	**15**			**Pn**	**14 41 28.7**	**+1.7**
BIM	**Bigot**	**4.39**	**15**	*e*P		**Pn**	**14 41 28.7**	**+1.7**
BIM	**Bigot**	**4.39**	**15**	*e*S		**Sn**	**14 42 17.6**	**-0.2**
LUEV	**Luepa**	**4.44**	**170**	*e*P		**Pn**	**14 41 27.5**	**-0.3**
LUEV				*e*S		**Sn**	**14 42 15.6**	**-3.5**
FUNV	**FUNVISIS**	**4.51**	**273**	*e*P		**Pn**	**14 41 31.0**	**+2.3**
FUNV				*e*S		**Sn**	**14 42 20.9**	**+0.2**
FDF	**Fort de France**	**4.58**	**13**			**Pn**	**14 41 31.1**	**+1.5**
FDF	**Fort de France**	**4.58**	**13**	*e*P		**Pn**	**14 41 31.1**	**+1.5**
FDF	**Fort de France**	**4.58**	**13**	*e*S		**Sn**	**14 42 21.1**	**-1.3**
SVN	**Savane Anatole**	**4.69**	**13**			**Pn**	**14 41 32.9**	**+1.8**
SVN	**Savane Anatole**	**4.69**	**13**	*e*P		**Pn**	**14 41 33.0**	**+2.0**
SVN	**Savane Anatole**	**4.69**	**13**	*e*S		**Sn**	**14 42 23.9**	**-1.

6.7nm,0.3s
SOCV Socops 8.73 258 *e*P **Pn** **14 42 26.9 +0.3**
SOCV *e*S Sn 14 43 55.7 -9.0
GCPR Guaynabo City 8.84 335 **Pn** **14 42 29.1 +1.0**
CELP Cerrillos 8.85 332 Pn **Pn** **14 42 30.3 +2.0**
MLPR Magueyes Islan 8.99 329 Pn **Pn** **14 42 32.6 +2.6**
CRPR Cabo Rojo, PR 9.05 329 Pn **Pn** **14 42 32.6 +1.7**
AOPR Arecibo Observ 9.17 332 **Pn** **14 42 34.5 +1.9**
AOPR Arecibo Observ 9.17 332 *e*P **Pn** **14 42 35.6 +3.0**
MCQV Machiques 10.15 270 *e*P **Pn** **14 42 46.3 +0.3**
TAMC Tame, Arauca 10.19 249 *e*P **Pn** **14 42 50.0 +3.3**
CAPV Capacho 10.23 257 *e*P **Pn** **14 42 47.7 +0.3**
CRJC Cerrejon, Guaj 10.50 275 *e*P **Pn** **14 42 53.0 +2.1**
PAMC Pamplona, Colo 10.74 255 *e*P **Pn** **14 42 54.5 -0.1**
MDP Montagnes des 10.79 118 Pn Pn 14 42 46.4 -8.4
0.2nm,0.3s,baz=308,slow=16,SNR=2.0
MDP Sn Sn 14 44 44.6 -11
7.1nm,0.3s,baz=44,slow=16,SNR=9.3
MDP LR LR 14 47 37.6
comp=Z,542nm,20.5s,baz=297,slow=42
15nm,0.9s
BARC Barichara 11.43 252 *e*P **Pn** **14 43 03.7 -0.1**
SDDR Presa de Saban 12.34 316 Pn **Pn** **14 43 17.0 +1.0**
SPBC San Pablo de B 12.58 250 *e*P **Pn** **14 43 19.4 -0.1**
PTBC PUERTO BERRIO, 12.64 254 *e*P **Pn** **14 43 17.9 -2.3**
SJCC San Jacinto, C 12.76 270 *e*P **Pn** **14 43 21.4 -0.4**
VILC Villavicencio, 12.90 243 *e*P **Pn** **14 43 25.3 +1.5**
ROSC El Rosal 13.13 247 Pn **Pn** **14 43 29.4 +2.2**
ROSC El Rosal 13.13 247 Pn **Pn** **14 43 27.3 +0.1**
9.5nm,0.3s,baz=126,slow=12,SNR=11
ROSC LR LR 14 49 34.1
comp=Z,2µm,20.2s,baz=34,slow=42
28nm,0.4s
ROSC El Rosal 13.13 247 *e*P **Pn** **14 43 30.1 +3.0**
UREC San Jos de Ur 13.37 260 *e*P **Pn** **14 43 31.2 +1.1**
GUY2C Guyana, Caldas 13.94 250 *e*P **Pn** **14 43 39.5 +1.2**
PRAC Prado 14.13 244 *e*P **Pn** **14 43 42.1 +1.5**
CBOC Ciudad Bolivar 14.32 253 *e*P **Pn** **14 43 46.0 +2.7**
PLMC San Jos del P 14.90 250 *e*P **P** **14 43 57.0 +0.3**
BETC Betania 15.12 241 *e*P **Pn** **14 43 55.2 +1.2**
YOTC Yotoco, Valle 15.32 247 *e*P **Pn** **14 43 58.5 +1.8**
GARC Garzon, Huila 15.42 240 *e*P **Pn** **14 43 56.1 -2.0**
JAMC Jamundi, Valle 15.95 245 *e*P **Pn** **14 44 07.7 +2.7**
POPC Popayan, Colom 16.26 243 *e*P **Pn** **14 44 11.0 +2.0**
SAML Samuel 19.09 183 P **P** **14 44 44.3 +1.4**
ETMB Extrema 20.32 191 P **P** **14 44 57.7 +1.3**
CZSB Cruzeiro do Su 20.68 211 *e*P **P** **14 45 02.7 +2.4**
MCRA Macar, Loja 22.86 231 P **P** **14 45 25.1 +1.3**
MCRA Macar, Loja 22.86 231 *e*P **P** **14 45 24.9 +1.1**
ATAH Atahualpa 23.61 224 LR LR 14 56 19.8
comp=Z,656nm,18.1s,baz=42,slow=41
SIV San Ignacio 26.09 177 LR LR 14 56 56.0
comp=Z,380nm,18.7s,baz=15,slow=38
NNA Nana 26.43 214 LR LR 14 57 27.9
comp=Z,409nm,19.4s,baz=30,slow=39
TEIG Tepich 26.98 295 LR LR 14 56 18.7
comp=Z,1µm,21.1s,baz=200,slow=36
BDFB Brasilia 29.32 151 LR LR 14 58 12.2
comp=Z,380nm,18.3s,baz=320,slow=37
RCBR Riachuelo 30.70 120 LR LR 14 59 44.3
comp=Z,140nm,21.1s,baz=299,slow=38
CMIG Matias Romero 32.42 286 LR LR 15 02 06.3
comp=Z,99nm,19.5s,baz=95,slow=40
LVC Limon Verde 33.30 191 LR LR 15 01 29.4
comp=Z,248nm,18.3s,baz=350,slow=38
WVT Waverly 34.68 322 P **P** **14 47 10.0 +0.2**
WVT IAmb IAmb 14 47 20.2
comp=Z,7.9nm,1.1s
S44A Carbondale 36.57 323 P **P** **14 47 25.8 -0.2**
S44A IAmb IAmb 14 47 31.9
comp=Z,14nm,0.7s
CPUP Villa Florida 36.67 173 LR LR 15 03 35.4
comp=Z,128nm,19.1s,baz=353,slow=38
WHAR Wooly Hollow 37.01 317 P **P** **14 47 30.9 +1.1**
WHAR IAmb IAmb 14 47 41.1
comp=Z,8.8nm,1.0s
SADO Sadowa 37.36 340 LR LR 15 04 50.8
comp=Z,107nm,18.6s,baz=154,slow=39
P43A Skaggs, Pawnee 38.03 325 P **P** **14 47 39.2 +0.9**
HBVL Hebbronville 38.18 301 P **P** **14 47 40.0 +0.2**
S39A Bolivar 39.08 319 P **P** **14 47 47.1 -0.2**
S39A IAmb IAmb 14 47 52.7
comp=Z,14nm,0.8s
P40A Paris 39.43 323 P **P** **14 47 49.9 -0.2**
P40A IAmb IAmb 14 47 57.4
comp=Z,14nm,1.0s
JCT Junction City 40.30 306 P **P** **14 47 58.8 +1.2**
JCT IAmb IAmb 14 48 06.5
comp=Z,8.0nm,0.8s
TX31 Lajitas Ar. Si 43.08 302 P **P** **14 48 21.8 +1.3**
TXAR Lajitas Array 43.08 302 P **P** **14 48 22.4 +2.0**
TXAR Lajitas Array 43.08 302 P P 14 48 17.7 -2.8
comp=Z,0.4nm,0.5s,baz=126,slow=25,SNR=2.9
TXAR PcP **PcP** **14 50 09.2 -1.1**
comp=Z,1.4nm,0.5s,baz=121,slow=5.4,SNR=12
comp=Z,0.4nm,0.5s
MT02 Curacav 44.09 191 P **P** **14 48 28.6 +0.4**
MT02 IAmb IAmb 14 48 29.7
comp=Z,12nm,0.9s
SCHQ Schefferville 44.62 356 P **P** **14 48 32.5 +0.2**
SCHQ IAmb IAmb 14 48 46.6
comp=Z,17nm,1.5s
SCHQ Schefferville 44.62 356 P P 14 48 28.3 -4.0
comp=Z,2.4nm,0.5s,baz=163,slow=19,SNR=1.4
SCHQ LR LR 15 04 55.7
comp=Z,171nm,21.4s,baz=238,slow=33
comp=Z,2.4nm,0.5s
RTBA Rita Blanca 44.93 312 P **P** **14 48 35.0 -0.2**
ANMO Albuquerque 47.14 309 LR LR 15 12 25.3
comp=Z,78nm,18.1s,baz=197,slow=41
ULM Lac du Bonnet 48.59 332 P **P** **14 49 03.5 0.0**
ULM IAmb IAmb 14 49 39.6
comp=Z,11nm,1.4s
ULM Lac du Bonnet 48.59 332 P P 14 48 59.8 -3.7
comp=Z,1.1nm,0.4s,baz=186,slow=1.0,SNR=1.6
ULM PcP **PcP** **14 50 27.6 -1.4**
comp=Z,1.5nm,0.6s,baz=90,slow=7.1,SNR=1.4
ULM LR LR 15 09 56.4
comp=Z,103nm,20.9s,baz=108,slow=37
comp=Z,1.1nm,0.4s
PLCA Paso Flores 51.30 188 P **P** **14 49 25.2 +1.0**
PLCA IAmb IAmb 14 49 26.4
comp=Z,3.4nm,0.9s
PLCA Paso Flores 51.30 188 P P 14 49 20.3 -4.0
comp=Z,1.0nm,0.8s,baz=360,slow=7.8,SNR=6.6
comp=Z,1.0nm,0.8s
DGMT Dagmar 51.76 325 P **P** **14 49 27.9 +0.3**
PD31 Pinedale Array 52.35 317 P **P** **14 49 32.5 +0.1**
PDAR Pinedale Array 52.35 317 P **P** **14 49 32.7 +0.3**
PDAR Pinedale Array 52.35 317 P **P** **14 49 30.5 -1.9**
comp=Z,2.4nm,0.7s,baz=118,slow=11,SNR=15
PDAR LR LR 15 12 57.7
comp=Z,93nm,19.6s,baz=96,slow=37
comp=Z,2.4nm,0.7s
BW06 Boulder Array 52.35 317 P **P** **14 49 32.5 +0.1**
BW06 IAmb IAmb 14 49 34.8
comp=Z,4.8nm,1.1s
FRB Frobisher Bay 53.61 357 LR LR 15 11 07.5
comp=Z,68nm,21.8s,baz=206,slow=34
YHL Hebgen Lake 54.27 319 P **P** **14 49 47.2 +0.7**
YHL IAmb IAmb 14 49 50.6
comp=Z,16nm,1.2s
ELK Elko 55.61 313 LR LR 15 15 47.1
comp=Z,44nm,20.4s,baz=100,slow=38
SFJD Kangerlussuaq 57.22 5 LR LR 15 16 14.5
comp=Z,39nm,18.2s,baz=167,slow=38
NVAR Mina Array Bea 57.26 309 P **P** **14 50 06.2 -1.8**
comp=Z,0.9nm,0.8s,baz=89,slow=10,SNR=2.6
NVAR LR LR 15 17 46.6
comp=Z,58nm,18.4s,baz=116,slow=39
comp=Z,0.9nm,0.8s
MDT Midelt 57.38 58 LR LR 15 12 17.0
comp=Z,65nm,19.6s,baz=337,slow=34
RPN Rapa Nui 58.87 230 LR LR 15 13 54.9
comp=Z,56nm,18.1s,baz=89,slow=34
EDM Edmonton 59.16 327 P **P** **14 50 19.9 -0.9**
ESDC Sonseca Array 59.21 50 P P 14 50 16.9 -4.5
comp=Z,0.7nm,1.0s,baz=267,slow=7.7,SNR=1.7
comp=Z,0.7nm,1.0s
NEW Newport 59.36 321 LR LR 15 15 50.5
comp=Z,79nm,20.2s,baz=104,slow=36
YBH Yreka Blue Hor 61.30 312 LR LR 15 21 05.8
comp=Z,54nm,18.4s,baz=120,slow=40
BORG Borgarnes 61.40 19 LR LR 15 15 10.4
comp=Z,25nm,18.6s,baz=229,slow=34
TORD Torodi Ar. Bea 62.52 80 P P 14 50 41.1 -3.3
comp=Z,0.5nm,1.1s,baz=287,slow=6.1,SNR=3.3
comp=Z,0.5nm,1.1s
SUMG Summit 63.91 8 *i* P **P** **14 50 54.7 +1.7**
YKA Yellowknife Ar 64.18 336 P P 14 50 50.6 -3.9
comp=Z,0.2nm,0.5s,baz=109,slow=7.3,SNR=10
YKA LR LR 15 21 00.9
comp=Z,75nm,18.5s,baz=46,slow=38
comp=Z,0.2nm,0.5s
RES Resolute Bay 67.01 351 LR LR 15 20 38.9
comp=Z,82nm,19.8s,baz=158,slow=36
DLBC Dease Lake 69.76 329 LR LR 15 23 06.7
comp=Z,111nm,20.8s,baz=108,slow=37
NB2 NORSAR Subarra 73.09 29 P **P** **14 51 54.1 +3.9**
comp=Z,12nm,1.4s,baz=263,slow=6.5
NOA NORSAR Array B 73.09 29 P **P** **14 51 47.7 -2.5**
comp=Z,0.2nm,0.6s,baz=262,slow=5.8,SNR=3.4
comp=Z,0.2nm,0.6s
GERES GERESS Array B 73.10 42 P **P** **14 51 48.4 -2.1**
comp=Z,0.3nm,0.5s,baz=265,slow=6.8,SNR=2.4
comp=Z,0.3nm,0.5s
INK Inuvik 73.66 338 LR LR 15 23 31.4
comp=Z,71nm,22.0s,baz=198,slow=35
HFS Hagfors 74.17 30 P **P** **14 51 56.5 0.0**
comp=Z,2.4nm,0.9s,baz=297,slow=13,SNR=1.6
SPITS Spitsbergen Ar 77.70 12 P P 14 52 11.7 -4.6
comp=Z,4.0nm,0.9s,baz=220,slow=3.8,SNR=1.3
comp=Z,4.0nm,0.9s
ILAR Eielson Array 78.53 334 P **P** **14 52 18.7 -2.4**
comp=Z,0.4nm,0.5s,baz=86,slow=4.8,SNR=11
ILAR LR LR 15 27 12.1
comp=Z,91nm,21.9s,baz=94,slow=36
comp=Z,0.4nm,0.5s
FINES FINESS Array B 80.28 29 P P 14 52 26.4 -4.3
comp=Z,2.8nm,1.1s,baz=264,slow=3.9,SNR=1.6
comp=Z,2.8nm,1.1s
KDAK Kodiak Island 81.61 327 LR LR 15 29 44.1
comp=Z,70nm,20.4s,baz=103,slow=36
TSUM Tsumeb 83.87 111 LR LR 15 27 47.5
comp=Z,82nm,18.3s,baz=148,slow=34
BRTR Keskin Array B 88.00 50 P P 14 53 06.3 -4.4
comp=Z,0.6nm,0.9s,baz=329,slow=14,SNR=2.6
comp=Z,0.6nm,0.9s
SUR Sutherland 89.61 123 LR LR 15 30 03.2
comp=Z,59nm,19.7s,baz=194,slow=33
LBTB Lobatse 92.32 115 LR LR 15 35 36.9
comp=Z,46nm,18.6s,baz=216,slow=36
BOSA Boshof 92.65 118 LR LR 15 30 09.2
comp=Z,78nm,18.4s,baz=200,slow=32
MBAR Mbarara 93.03 90 LR LR 15 30 17.4
comp=Z,63nm,21.3s,baz=173,slow=32
LSZ Lusaka 93.05 105 LR LR 15 28 27.7
comp=Z,65nm,21.2s,baz=181,slow=31
NRIK Noril'sk 97.86 10 LR LR 15 38 22.3
comp=Z,41nm,20.7s,baz=321,slow=36
CMAR Chiang Mai Arr 145.96 33 PKPbc **PKPdf** **14 59 57.9 -2.1**
comp=Z,0.4nm,0.3s,baz=308,slow=4.4,SNR=1.6
STKA Stephens Creek 149.19 222 PKPbc **PKPdf** **15 00 04.9 0.0**
comp=Z,1.8nm,1.1s,baz=124,slow=2.4,SNR=2.3

*IDC **26** 14:47:17.8±1.3, 10.°03N×61.°97W, h0km, mb3.9/13, mbtmp4.0/16, ML3.5/3, Error ellipse: s-maj=34.7km s-min=17.9km az=170.0*
*NEIC **26** 14:47:25.3±2.0, 10.°06N±0.°04×62.°07W±0.°08, h28km±8km, mb4.9/11, Error ellipse: s-maj=11.6km s-min=4.4km az=69.0*
*FUNV **26** 14:47:26.7, 10.°16N×62.°23W, h9km, MW4.5*
*TRN **26** 14:47:26.8, 10.°38N×62.°15W, h13km, MD4.7*
ISC 26 14:47:25.4±1.1, 10.°21N±0.°04×62.°21W±0.°05, h42km±11km, n99, σ1°86/120, mb4.1/20, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.75**	**82**	*e*P		**Pn**	**14 47 40.6**	**+1.0**
TRN	**Trinidad (W)**	**0.90**	**61**	*i*P		**Pn**	**14 47 41.0**	**-0.6**
TRN				*e*S		**Sn**	**14 47 53.5**	**-0.1**
CRUV	**Carupano**	**1.11**	**295**	*e*P		**Pn**	**14 47 45.5**	**+1.0**
CRUV				*e*S		**Sn**	**14 47 59.3**	**+0.6**
GRFF	**Grenada Fort F**	**1.89**	**14**	*e*P		**Pn**	**14 47 56.9**	**+1.7**
GRFF				*e*S		**Sn**	**14 48 17.4**	**-0.4**
GRGR	**Grenville**	**1.99**	**16**	P		**Pn**	**14 47 56.5**	**-0.1**
GRGR	**Grenville**	**1.99**	**16**	*e*P		**Pn**	**14 47 58.3**	**+1.8**
GRGR				*e*S		**Sn**	**14 48 20.3**	**0.0**
GRW	**Mount Saint Ca**	**2.01**	**15**	*e*P		**Pn**	**14 47 58.7**	**+1.8**
GRW				*e*S		**Sn**	**14 48 22.1**	**+1.2**
GRHS	**Sauteurs**	**2.08**	**15**	*e*P		**Pn**	**14 47 60.0**	**+2.2**
GRHS				*e*S		**Sn**	**14 48 22.2**	**-0.3**
GCMP	**Grenada, Carri**	**2.39**	**19**	*e*P		**Pn**	**14 48 03.6**	**+1.6**
GCMP				*e*S		**Sn**	**14 48 31.2**	**+1.1**
PCRV	**Puerto La Cruz**	**2.39**	**269**	*e*P		**Pn**	**14 48 04.6**	**+2.5**
PCRV				*e*S		**Sn**	**14 48 33.4**	**+3.2**
PCRV	**Puerto La Cruz** 23nm,0.3s,baz=73,slow=3.5,SNR=59	**2.39**	**269**	Pn		**Pn**	**14 48 01.4**	**-0.7**
	28nm,0.3s							
SVOC	**Richmond Hill,**	**3.08**	**18**	*e*P		**Pn**	**14 48 13.1**	**+1.6**
SVOC				*e*S		**Sn**	**14 48 48.0**	**+0.8**
SVB	**Belmont**	**3.19**	**17**	*e*P		**Pn**	**14 48 14.4**	**+1.4**
SVB				*e*S		**Sn**	**14 48 49.3**	**-0.5**
SSV	**Crater Summit**	**3.25**	**18**	*e*P		**Pn**	**14 48 15.0**	**+0.9**
SSV				*e*S		**Sn**	**14 48 53.1**	**+1.5**
SLB	**Belfond**	**3.77**	**17**	*e*P		**Pn**	**14 48 22.7**	**+1.6**
SLBI	**Saint Lucia, B**	**3.98**	**18**	*e*P		**Pn**	**14 48 25.8**	**+1.9**
SLBI				*e*S		**Sn**	**14 49 08.4**	**-0.9**
MERV	**Las Mercedes**	**4.14**	**257**	*e*P		**Pn**	**14 48 28.2**	**+2.1**
MERV				*e*S		**Sn**	**14 49 13.6**	**+0.3**
LUEV	**Luepa**	**4.40**	**170**	*e*P		**Pn**	**14 48 31.9**	**+2.0**
LUEV				*e*S		**Sn**	**14 49 19.5**	**-0.4**
H05S1	**Guadeloupe/Mar**	**4.40**	**18**	Pn		**Pn**	**14 48 26.9**	**-2.8**
H05S1				Sn		**Sn**	**14 49 18.3**	**-1.4**
MPOM	**Morne Pois Mar**	**4.41**	**17**			**Pn**	**14 48 32.6**	**+2.8**
MPOM	**Morne Pois Mar**	**4.41**	**17**	*e*P		**Pn**	**14 48 32.0**	**+2.2**
MPOM	**Morne Pois Mar**	**4.41**	**17**	*e*S		**Sn**	**14 49 19.5**	**-0.5**
BIM	**Bigot**	**4.42**	**14**			**Pn**	**14 48 31.7**	**+1.7**
BIM	**Bigot**	**4.42**	**14**	*i*P		**Pn**	**14 48 31.8**	**+1.8**
BIM	**Bigot**	**4.42**	**14**	*e*S		**Sn**	**14 49 19.1**	**-1.2**
FUNV	**FUNVISIS**	**4.54**	**274**	*e*P		**Pn**	**14 48 33.7**	**+2.1**
FUNV				*e*S		**Sn**	**14 49 23.5**	**+0.3**
FDF	**Fort de France**	**4.62**	**13**			**Pn**	**14 48 34.7**	**+2.0**
FDF	**Fort de France**	**4.62**	**13**	*i*P		**Pn**	**14 48 34.7**	**+2.0**
FDF	**Fort de France**	**4.62**	**13**	*e*S		**Sn**	**14 49 23.6**	**-1.5**
SVN	**Savane Anatole**	**4.72**	**12**			**Pn**	**14 48 35.9**	**+1.8**
SVN	**Savane Anatole**	**4.72**	**12**	*e*P		**Pn**	**14 48 35.3**	**+1.2**
SVN	**Savane Anatole**	**4.72**	**12**	*e*S		**Sn**	**14 49 27.2**	**-0.4**
ILAM	**Ilet Lapin Mar**	**4.72**	**16**	Pn		**Pn**	**14 48 36.2**	**+2.1**
ILAM	**Ilet Lapin Mar**	**4.72**	**16**	*e*P		**Pn**	**14 48 35.8**	**+1.7**
ILAM	**Ilet Lapin Mar**	**4.72**	**16**	*e*S		**Sn**	**14 49 26.7**	**-0.9**
TACV	**Tcata**	**4.75**	**270**	*e*P		**Pn**	**14 48 36.7**	**+2.2**
TACV				*e*S		**Sn**	**14 49 28.3**	**0.0**
BENV	**Beln**	**5.31**	**268**	*e*P		**Pn**	**14 48 44.3**	**+2.0**
BENV				*e*S		**Sn**	**14 49 42.0**	**-0.4**
TURV	**Turiamo**	**5.55**	**273**	*e*P		**Pn**	**14 48 47.1**	**+1.7**
TURV				*e*S		**Sn**	**14 49 46.9**	**-1.0**
CBE	**Ff, Capester**	**5.86**	**6**			**Pn**	**14 48 51.5**	**+1.8**
CBE	**Ff, Capester**	**5.86**	**6**	*e*P		**Pn**	**14 48 51.7**	**+2.0**
CBE	**Ff, Capester**	**5.86**	**6**	*e*S		**Sn**	**14 49 54.5**	**-1.1**
BAUV	**El Baul**	**5.89**	**258**	Pn		**Pn**	**14 48 51.9**	**+1.8**
BAUV	**El Baul**	**5.89**	**258**	*e*P		**Pn**	**14 48 51.9**	**+1.8**
BAUV				*e*S		**Sn**	**14 49 54.5**	**-1.9**
BAUV	**El Baul**	**5.89**	**258**	*e*P		**Pn**	**14 48 52.5**	**+2.4**
GDHS	**Morne Mazeau,**	**6.04**	**4**			**Pn**	**14 48 50.9**	**-1.5**
GDSD	**La Dsirade Is**	**6.17**	**10**	Pn		**Pn**	**14 48 55.7**	**+1.7**
H05N1	**Guadeloupe/Mar**	**6.17**	**10**	Pn		**Pn**	**14 48 53.0**	**-1.0**
H05N1				Sn		**Sn**	**14 50 02.3**	**-1.1**
ABD	**La Joyeuse, An**	**6.27**	**6**	Pn		**Pn**	**14 48 57.7**	**+2.3**
ABD	**La Joyeuse, An**	**6.27**	**6**	*e*P		**Pn**	**14 48 58.2**	**+2.8**
ABD	**La Joyeuse, An**	**6.27**	**6**	*e*S		**Sn**	**14 50 03.5**	**-2.3**
MBFL	**Flemmings, Mon**	**6.50**	**360**	*e*P		**Pn**	**14 49 01.0**	**+2.4**
MBFL	**Flemmings, Mon**	**6.50**	**360**	*e*S		**Sn**	**14 50 10.3**	**-1.2**
ANBD	**Bethesda, Anti**	**6.81**	**4**	*e*P		**Pn**	**14 49 05.1**	**+2.3**
ANBD	**Bethesda, Anti**	**6.81**	**4**	*e*S		**Sn**	**14 50 19.3**	**+0.2**
ANBD	**Bethesda, Anti**	**6.81**	**4**	*e*S		**Sn**	**14 50 20.3**	**+1.2**
TEPV	**Terepaima**	**6.88**	**269**	*e*P		**Pn**	**14 49 05.5**	**+1.6**
TEPV				*e*S		**Sn**	**14 50 17.8**	**-3.1**
SANV	**Sanarito**	**7.25**	**265**	*e*P		**Pn**	**14 49 10.1**	**+1.1**
SANV				*e*S		**Sn**	**14 50 25.8**	**-4.4**
CURV	**Curarigua**	**7.64**	**269**	*e*P		**Pn**	**14 49 15.4**	**+1.2**
CURV				*e*S		**Sn**	**14 50 35.8**	**-3.8**
SMRT	**St. Maarten**	**7.84**	**354**	Pn		**Pn**	**14 49 18.8**	**+1.9**
AUA1	**Aruba**	**7.99**	**287**	Pn		**Pn**	**14 49 20.9**	**+2.0**
SDV	**Santo Domingo**	**8.41**	**262**	Pn		**Pn**	**14 49 25.5**	**+0.5**
SDV	**Santo Domingo** 16nm,0.3s,baz=99,slow=9.4,SNR=16	**8.41**	**262**	Pn		**Pn**	**14 49 24.9**	**0.0**
SDV				Sn		**Sn**	**14 50 56.0**	**-2.9**
HUMP	**Col San Antoni**	**8.64**	**336**	Pn		**Pn**	**14 49 28.1**	**+0.2**
SJG	**San Juan**	**8.74**	**335**	Sn		**Sn**	**14 51 03.7**	**-2.7**
	3.4nm,0.3s,baz=293,slow=22,SNR=1.5							
SOCV	**Socops**	**8.75**	**258**	*e*P		**Pn**	**14 49 30.6**	**+1.1**
SOCV				*e*S		**Sn**	**14 51 01.7**	**-5.1**
AOPR	**Arecibo Observ**	**9.21**	**332**	Pn		**Pn**	**14 49 39.2**	**+3.5**
AOPR	**Arecibo Observ**	**9.21**	**332**	*e*P		**Pn**	**14 49 38.5**	**+2.8**
AGPR	**Aguadilla, PR**	**9.48**	**331**	Pn		**Pn**	**14 49 43.8**	**+4.3**
MDP	**Montagnes des** 0.9nm,0.3s,baz=313,slow=18,SNR=1.0	**10.75**	**117**	Sn		**Sn**	**14 51 38.5**	**-17**
SDDR	**Presa de Saban**	**12.38**	**316**	Pn		**Pn**	**14 50 24.3**	**+5.2**
ROSC	**El Rosal**	**13.14**	**247**	Pn		**Pn**	**14 50 33.4**	**+3.6**
ROSC	**El Rosal** 1.5nm,0.3s,baz=45,slow=22,SNR=1.7	**13.14**	**247**	Pn		**Pn**	**14 50 27.4**	**-2.4**
	20nm,0.8s							
MCRA	**Macar, Loja**	**22.85**	**232**	P		**P**	**14 52 25.9**	**+0.6**
VILB	**Vilhena**	**23.10**	**175**	P		**P**	**14 52 27.2**	**-0.5**
VILB				IAmb	IAmb		14 52 46.7	
	comp=Z,92nm,1.0s							
CNGN	**Cerro Negro**	**24.12**	**278**	P		**P**	**14 52 40.4**	**+2.8**
LPAZ	**La Paz**	**26.97**	**193**	P		**P**	**14 53 03.0**	**-1.0**
PB07	**IPOC Station P**	**32.62**	**193**	P		**P**	**14 53 55.5**	**+2.1**
PB07				IAmb	IAmb		14 54 33.2	
	comp=Z,43nm,1.7s							
BRDY	**Brady**	**40.02**	**307**	P		**P**	**14 54 57.6**	**+1.2**
BRDY				IAmb	IAmb		14 55 01.3	
	comp=Z,12nm,0.9s							
X34A	**Smith Ranch, M**	**40.57**	**312**	P		**P**	**14 55 04.0**	**+3.0**
X34A				IAmb	IAmb		14 55 04.6	
	comp=Z,13nm,0.6s							
TXAR	**Lajitas Array**	**43.12**	**302**	P		**P**	**14 55 22.4**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=121,slow=6.6,SNR=9.0							
	comp=Z,0.9nm,0.8s							
TX31	**Lajitas Ar. Si**	**43.12**	**302**	P		**P**	**14 55 25.1**	**+3.1**
SCHQ	**Schefferville**	**44.66**	**356**	P		**P**	**14 55 34.8**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=132,slow=5.6,SNR=2.2							
	comp=Z,2.5nm,0.7s							
RTBA	**Rita Blanca**	**44.97**	**312**	P		**P**	**14 55 38.9**	**+2.1**
RTBA				IAmb	IAmb		14 55 41.2	
	comp=Z,8.3nm,0.6s							
GO05	**Huala**	**45.90**	**191**	P		**P**	**14 55 42.4**	**-1.6**
ULM	**Lac du Bonnet**	**48.63**	**332**	P		**P**	**14 56 04.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=180,slow=11,SNR=1.6							
	comp=Z,0.8nm,0.4s							
PLCA	**Paso Flores**	**51.27**	**188**	P		**P**	**14 56 24.3**	**-0.8**
PLCA				IAmb	IAmb		14 57 08.1	
	comp=Z,23nm,1.9s							
DGMT	**Dagmar**	**51.80**	**325**	P		**P**	**14 56 32.1**	**+3.0**
DGMT				IAmb	IAmb		14 56 33.5	
	comp=Z,15nm,0.7s							
PDAR	**Pinedale Array**	**52.39**	**317**	P		**P**	**14 56 34.3**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=113,slow=9.6,SNR=13							
	comp=Z,1.4nm,0.7s							
ESDC	**Sonseca Array**	**59.22**	**50**	P		**P**	**14 57 20.5**	**-2.1**
	comp=Z,0.9nm,1.0s,baz=243,slow=8.2,SNR=1.9							
	comp=Z,0.9nm,1.0s							
TORD	**Torodi Ar. Bea**	**62.51**	**80**	P		P	14 57 42.3	-3.0
	comp=Z,0.5nm,1.0s,baz=282,slow=6.0,SNR=1.9							
	comp=Z,0.5nm,1.0s							
YKA	**Yellowknife Ar**	**64.23**	**336**	P		**P**	**14 57 55.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=106,slow=7.7,SNR=5.4							
	comp=Z,0.3nm,0.6s							
GERES	**GERESS Array B**	**73.11**	**42**	P		**P**	**14 58 49.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=240,slow=3.3,SNR=1.7							
	comp=Z,0.3nm,0.3s							
NB2	**NORSAR Subarra**	**73.11**	**29**	P		P	14 58 57.5	+6.2
	comp=Z,2.2nm,0.8s,baz=261,slow=6.2							
NOA	**NORSAR Array B**	**73.11**	**29**	P		**P**	**14 58 50.1**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=247,slow=14,SNR=2.0							
	comp=Z,0.7nm,0.9s							
HFS	**Hagfors**	**74.19**	**30**	P		**P**	**14 58 56.2**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=262,slow=5.7,SNR=2.1							
	comp=Z,2.3nm,0.9s							
SPITS	**Spitsbergen Ar**	**77.73**	**12**	P		**P**	**14 59 17.2**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=272,slow=5.1,SNR=1.5							
	comp=Z,4.5nm,0.8s							
ILAR	**Eielson Array**	**78.57**	**334**	P		**P**	**14 59 22.6**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=94,slow=4.6,SNR=7.3							
	comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**80.30**	**29**	P		**P**	**14 59 30.5**	**-1.3**
	comp=Z,5.4nm,1.1s,baz=270,slow=4.2,SNR=2.5							
	comp=Z,5.4nm,1.1s							
CMAR	**Chiang Mai Arr**	**145.98**	**33**	PKPbc		**PKPdf**	**15 07 00.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=322,slow=4.8,SNR=1.4							

*IDC **26** 14:53:57.8±1.4, 3.°30S×130.°34E, h0km, mb3.8/6, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=101.3km s-min=23.0km az=76.0*
*DJA **26** 14:53:59.4±0.5, 3.°5S±5.°×13.°1E±.°, h13km±4km, M3.6/8, MLv3.6/8*
ISC 26 14:53:59.3±0.9, 3.°14S±0.°07×130.°53E±0.°06, h10km, n15, σ1°10/15, mb3.8/5, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.51**	**204**	P		**Pn**	**14 54 27.1**	**+0.7**
FAKI	**Fak Fak**	**1.73**	**83**	P		**Pn**	**14 54 28.5**	**-1.0**
KRAI	**Karang Ratu**	**2.14**	**265**	P		**Pn**	**14 54 34.1**	**-1.0**
SIJI	**Sorong**	**2.37**	**18**	P		**Pn**	**14 54 38.2**	**-0.2**
SWI	**Sorong**	**2.38**	**18**	P		**Pn**	**14 54 38.1**	**-0.3**
NLAI	**Namlea**	**3.43**	**268**	P		**Pn**	**14 54 53.3**	**+0.5**
LBMI	**Labuha**	**3.92**	**309**	P		**Pn**	**14 54 58.2**	**-1.4**
SANI

Q19K	Cape Douglas, baz=144	3.47	327	P		Pn	14 56 57.6	+1.7	
CNPM	China Poot	3.52	350			Pn	14 56 57.0	+0.4	
CNPM	China Poot	3.52	350			Sn	14 57 37.2	-1.1	
CNPM	China Poot comp=N,77nm,3.0s	3.52	350	IAML			14 57 29.5		
CNPM	China Poot comp=E,138nm,2.9s	3.52	350	IAML			14 57 55.6		
BRSE	Bradley Lake S	3.70	354			Pn	14 56 58.9	-0.2	
BRSE						Sn	14 57 42.0	-0.6	
BRSE	Bradley Lake S baz=173	3.70	354	P		Pn	14 56 58.9	-0.2	
BRSE	baz=173			S		Sn	14 57 42.0	-0.6	
BRLK	Bradley Lake	3.73	353			Pn	14 56 59.5	0.0	
BRLK						Sn	14 57 42.1	-1.3	
BRLK	Bradley Lake comp=N,74nm,3.5s	3.73	353	IAML			14 57 54.0		
BRLK	comp=E,79nm,3.3s			IAML			14 58 50.5		
CNTC	Contact Creek	3.88	307			Pn	14 57 03.1	+1.5	
Q17K	Contact Creek baz=122	3.88	307	P		Pn	14 57 03.1	+1.4	
P19K	Oil Pt	3.98	336	Pn		Pn	14 57 03.3	+0.4	
P19K				IAML			14 57 52.0		
P19K	comp=E,140nm,2.9s			IAML			14 58 37.2		
P18K	comp=N,149nm,2.8s Big Mountain,	4.35	322			Pn	14 57 08.7	+0.7	
P18K	Big Mountain, comp=N,39nm,3.1s	4.35	322	IAML			14 58 52.5		
P18K				IAML			15 00 04.2		
P18K	comp=E,47nm,3.5s Big Mountain, baz=137	4.35	322	P		Pn	14 57 08.7	+0.7	
RSO	Redoubt South	4.63	343	Pn		Pn	14 57 13.3	+1.3	
O18K	Koktuh Hills	4.69	326			Pn	14 57 13.0	+0.3	
O18K	Koktuh Hills comp=N,38nm,3.0s	4.69	326	IAML			14 59 11.5		
O18K	comp=E,50nm,3.7s			IAML			14 59 27.4		
O18K	Koktuh Hills baz=141	4.69	326	P		Pn	14 57 13.0	+0.3	
HIN	Hinchinbrook I	4.71	22			Pn	14 57 13.2	+0.3	
KAIM	Kayak Island	4.87	35	Pn		Pn	14 57 14.6	-0.5	
RAGM	Ragged Mountai	5.15	31	Pn		Pn	14 57 19.0	-0.1	
SUA	Susitna One	5.42	356	Pn		Pn	14 57 23.0	+0.3	
BERG	Berg Lake	5.46	35			Pn	14 57 23.5	+0.3	
N18K	Kilae Creek	5.56	329			Pn	14 57 25.4	+0.9	
N18K	Kilae Creek baz=143	5.56	329	P		Pn	14 57 25.4	+0.9	
BMRM	Bremner River	5.66	28			Pn	14 57 26.3	+0.3	
BMRM	Bremner River baz=212	5.66	28	P		Pn	14 57 26.3	+0.3	
GHO	Glory Hole Cre	5.74	5	Pn		Pn	14 57 28.6	+1.5	
KLU	Klutina	5.83	20	Pn		Pn	14 57 29.0	+0.6	
BARK	Barkley Ridge	5.87	39			Pn	14 57 29.1	+0.1	
SCM	Sheep Creek Mo	5.94	12	Pn		Pn	14 57 31.5	+1.7	
O15K	Ungalikthiuk R	6.12	305			Pn	14 57 33.8	+1.5	
O15K	Ungalikthiuk R baz=116	6.12	305	P		Pn	14 57 33.8	+1.5	
VRDI	Verde Repeater	6.19	31	Pn		Pn	14 57 33.4	0.0	
N25K	Chitina, Valde	6.21	25	Pn		Pn	14 57 34.6	+1.0	
M18K	Stony River	6.21	333			Pn	14 57 33.8	+0.3	
M18K	Stony River baz=148	6.21	333	P		Pn	14 57 33.8	+0.3	
GLB	Gilahina Butte	6.27	28	Pn		Pn	14 57 35.1	+0.8	
KIAG	Kiagna River	6.29	36			Pn	14 57 34.5	-0.3	
M24K	Tolsona, Glenn	6.36	16	Pn		Pn	14 57 36.3	+0.7	
MCARA	McCarthy VSAT	6.44	31	Pn		Pn	14 57 36.2	-0.4	
PCA	Pinnacle	6.55	48			Pn	14 57 38.5	+0.3	
PINM	Pinnacle baz=236	6.55	48	P		Pn	14 57 38.5	+0.3	
BARN	Barnard Glacie	6.63	38			Pn	14 57 39.7	+0.3	
LOGN	Logan Glacier	6.70	41			Pn	14 57 40.7	+0.3	
PNL	Peninsula	6.70	53			Pn	14 57 40.7	+0.4	
PNL	Peninsula baz=242	6.70	53	P		Pn	14 57 40.7	+0.4	
N15K	Kwethluk River	6.74	312			Pn	14 57 42.7	+2.0	
N15K	Kwethluk River baz=123	6.74	312	P		Pn	14 57 42.7	+2.0	
M16K	Timber Creek	6.82	320			Pn	14 57 43.3	+1.4	
M16K	Timber Creek baz=133	6.82	320	P		Pn	14 57 43.3	+1.4	
DHY	Denali Highway	7.14	10	Pn		Pn	14 57 48.8	+2.3	
TRF	Thorofare Moun	7.40	359	Pn		Pn	14 57 51.0	+1.1	
CAST	Castle Rocks	7.44	353	Pn		Pn	14 57 52.5	+2.1	
P29M	Windy Craggy	7.44	56			Pn	14 57 50.7	+0.3	
P29M	Windy Craggy baz=246	7.44	56	P		Pn	14 57 50.7	+0.3	
L16K	Owhat River	7.48	323	Pn		Pn	14 57 51.8	+1.0	
M27K	Edge Creek, AK	7.54	30	Pn		Pn	14 57 52.5	+0.5	
ISLZ	Isanotski Laza	7.93	266			Pn	14 57 58.0	+1.0	
BCAR	Beaver Creek A	8.15	27	Pn		Pn	14 58 01.0	+0.9	
L14K	Kuka Creek	8.45	314	Pn		Pn	14 58 05.5	+1.4	
N30M	Aishikik Lake	8.60	46			Pn	14 58 06.9	+0.6	
N30M	Aishikik Lake baz=237	8.60	46	P		Pn	14 58 06.9	+0.6	
O30N	Mendenhall	8.67	51	Pn		Pn	14 58 05.9	-1.4	
N31M	Braeburn, Yuko	9.15	48	Pn		Pn	14 58 14.6	+0.8	
P32M	Atlin	9.36	61			Pn	14 58 17.1	+0.3	
P32M	Atlin baz=255	9.36	61	P		Pn	14 58 17.1	+0.3	
H21K	Melozitna Rive	9.71	353	Pn		Pn	14 58 21.7	+0.2	
K29M	Barlow Dome	9.97	34	Pn		Pn	14 58 25.9	+0.8	
M31M	Drury Creek, Y	10.08	46	Pn		Pn	14 58 26.9	+0.4	
J30M	Hart River	10.86	33	Pn		Pn	14 58 38.7	+1.5	
DLBC	Dease Lake	11.06	69	Pn		Pn	14 58 39.6	-0.4	

NEIC ***26*** *15:03:15.9±2.6,9.°32N±0.°07×74.°95W±0.°07,h16km±5km, mb4.4/19,Error ellipse: s-maj=10.7km s-min=9.4km az=208.0*
IDC ***26*** *15:03:19.9±1.9,9.°31N×74.°95W,h48km±19km,mb3.7/11, mbtmp4.0/13,ML3.7/3,MS3.3/7,Error ellipse: s-maj=15.8km s-min=12.9km az=124.0*
UPA ***26*** *15:03:20.5±0.6,9.°32N×75.°05W,h60km,MW4.2*
RSNC ***26*** *15:03:20.3±1.1,9.°35N×75.°04W,h68km±8km,ML4.1, Mw4.1*

ISC 26 15:03:19.9±0.8,9.°31N±0.°03×75.°05W±0.°03,h55km±8km, n108,σ1§32/139,mb4.2/23,MS3.2/3,11C-8D,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SJCC	San Jacinto, C	0.59	347	⇑*i*	P	Pn	15 03 33.2	+0.6
SJCC				*eS*		Sn	15 03 43.4	+1.4
SJCC	San Jacinto, C	0.59	347	⇑*i*	P	Pn	15 03 33.2	+0.6
SJCC				*eS*		Sn	15 03 43.4	+1.4
SJCC	comp=Z,5μm,0.3s			*i*			15 03 44.9	
ARGC	Ariguani, Magd	0.96	56	⇑*i*	P	Pn	15 03 37.0	-0.2
ARGC				*eS*		Sn	15 03 50.1	+0.2
ARGC	comp=Z,3μm,0.4s			*i*			15 03 55.5	
UREC	San Jos de Ur	1.62	197	*eP*		Pn	15 03 46.4	+0.2
UREC				*eS*		Sn	15 04 07.8	+1.7
UREC	San Jos de Ur	1.62	197	⇓*i*	P	Pn	15 03 46.2	-0.1
UREC				*eS*		Sn	15 04 08.0	+2.0
UREC	comp=Z,832nm,0.2s			*i*			15 04 17.7	
LL6C	La Loma 6 Bece	1.80	76	⇑*i*	P	Pn	15 03 49.1	+0.5
LL6C				*eS*		Sn	15 04 11.6	+1.3
LL6C	comp=Z,1μm,0.6s			*i*			15 04 18.2	
SMRC	Santa Marta, M	2.01	24	*eP*		Pn	15 03 54.0	+2.5
SMRC				*eS*		Sn	15 04 19.0	+3.6
OCAC	Ocana	2.01	122	⇑*eP*		Pn	15 03 51.1	-0.5
OCAC				*eS*		Sn	15 04 16.5	+0.7
APAC	Apartado, Choc	2.07	227	⇓*eP*		Pn	15 03 53.0	+0.8
APAC	comp=Z,641nm,0.7s			*i*			15 04 22.4	
CAPC	Capurgana	2.38	254	⇑*eP*		Pn	15 03 55.9	-0.5
CAPC				*eS*		Sn	15 04 24.0	-0.4
CAPC	comp=Z,343nm,0.2s			*i*			15 04 25.6	
CAP2	Capurgana	2.38	254	⇑*eP*		Pn	15 03 55.9	-0.6
CAP2				*eS*		Sn	15 04 24.0	-0.5
DBBC	Dabeiba	2.56	207	*eP*		Pn	15 03 58.2	-0.8
DBBC	comp=Z,227nm,0.3s			*i*			15 04 45.0	
CRJC	Cerrejon, Guaj	2.72	51	⇑*i*	P	Pn	15 04 00.6	-0.7
CRJC				*eS*		Sn	15 04 31.3	-1.7
CRJC	comp=Z,1μm,0.2s			*i*			15 04 34.2	
PTBC	PUERTO BERRIO,	2.82	168	⇓*i*	P	Pn	15 04 02.9	+0.4
PTBC				*eS*		Sn	15 04 35.8	+0.5
PTBC	comp=Z,529nm,0.6s			*i*			15 04 50.8	
UPD2	Meteti	3.03	256	*eP*		Pn	15 04 05.7	+0.3
UPD2				*eS*		Sn	15 04 40.5	+0.1
UPD2	Meteti	3.03	256	*eP*		Pn	15 04 05.6	+0.2
UPD2				*eS*		Sn	15 04 40.8	+0.3
PAMC	Pamplona, Colo	3.04	130	*eP*		Pn	15 04 06.7	+0.8
PAMC				*eS*		Sn	15 04 43.0	+1.6
TOTI	Torti	3.25	264	*eP*		Pn	15 04 09.4	+1.0
TOTI				*eS*		Sn	15 04 44.8	-1.0
BARC	Barichara	3.27	146	⇑*i*	P	Pn	15 04 09.8	+0.9
BARC				*eS*		Sn	15 04 47.5	+0.6
BARC	comp=Z,1μm,0.5s			*i*			15 05 05.9	
PTAC	Punta Ardita,	3.48	232	*eP*		Pn	15 04 12.4	+0.8
PTAC				*eS*		Sn	15 04 51.0	-0.5
PTAC	comp=Z,178nm,0.4s			*i*			15 04 53.6	
CBOC	Ciudad Bolivar	3.56	196	*eP*		Pn	15 04 13.6	+0.8
CBOC	Ciudad Bolivar	3.56	196	*eP*		Pn	15 04 13.6	+0.8
CBOC	comp=Z,196nm,0.7s			*i*			15 05 13.9	
SPBC	San Pablo de B	3.76	165	⇓*eP*		Pn	15 04 15.5	0.0
SPBC				*eS*		Sn	15 04 56.7	-2.0
SPBC	comp=Z,411nm,0.4s			*i*			15 05 18.6	
URIC	Uribia, Colomb	3.83	51	*eP*		Pn	15 04 15.4	-0.9
URIC				*eS*		Sn	15 04 58.7	-1.3
CHPO	Chepo, Panama	4.02	268	*eP*		Pn	15 04 19.3	+0.4
CHPO				*eS*		Sn	15 05 02.9	-1.9
GUY2C	Guyana, Caldas	4.08	184	⇓*eP*		Pn	15 04 20.9	+0.7
GUY2C	comp=Z,533nm,0.6s			*i*			15 05 37.5	
TAMC	Tame, Arauca	4.31	131	*eP*		Pn	15 04 23.9	+0.8
TAMC				*eS*		Sn	15 05 13.0	+1.0
TAMC	comp=Z,298nm,0.6s			*i*			15 05 35.5	
RECRC	Villamaria, Ca	4.34	184	*eP*		Pn	15 04 24.0	+0.2
SDV	Santo Domingo	4.38	95	Pn	Pn	Pn	15 04 20.5	-3.6
SDV				Sn		Sn	15 05 13.4	-0.5
SDV	Santo Domingo comp=Z,309nm,0.3s,baz=293,slow=6.8,SNR=705	4.38	95	P		Pn	15 04 24.6	+0.5
SDV	comp=Z,676nm,0.3s,baz=12,slow=15,SNR=9.3			S		Sn	15 05 12.0	-1.9
SDV	comp=Z,568nm,21.8s,baz=262,slow=45			LR		LR	15 06 34.4	
SDV	Santo Domingo	4.38	95	⇑*iP*		Pn	15 04 24.9	+0.9
SDV				*eS*		Sn	15 05 12.4	-1.6
UPA	Univ. de Panam	4.44	266	*eP*		Pn	15 04 25.2	+0.4
UPA				*eS*		Sn	15 05 14.5	-0.8
UPA	Univ. de Panam	4.44	266	*eP*		Pn	15 04 25.6	+0.8
UPA				*eS*		Sn	15 05 13.4	-1.8
ROSC	El Rosal	4.50	171	Pn		Pn	15 04 22.0	-3.9
ROSC	El Rosal comp=Z,20nm,0.3s,baz=36,slow=19,SNR=12	4.50	171	P		Pn	15 04 26.4	+0.5
ROSC	comp=Z,122nm,0.4s,baz=318,slow=22,SNR=4.6			S		Sn	15 05 16.9	-0.4
ROSC	comp=Z,40nm,0.3s El Rosal	4.50	171	⇓*eP*		Pn	15 04 26.6	+0.7
ROSC				*eS*		Sn	15 05 20.2	+2.9
ROSC	comp=Z,290nm,0.6s			*i*			15 05 42.5	
PLMC	San Jos del P	4.55	196	*eP*		Pn	15 04 27.0	+0.7
PLMC	comp=Z,110nm,0.5s			*i*			15 05 48.9	
BCIP	Isla Barro Col	4.73	269	Pn		Pn	15 04 28.3	-0.4
BCIP	Isla Barro Col	4.73	269	*eP*		Pn	15 04 29.5	+0.8
BCIP				*eS*		Sn	15 05 21.7	-0.6
BCIP	Isla Barro Col	4.73	269	*eP*		Pn	15 04 29.5	+0.8
BCIP				*eS*		Sn	15 05 21.7	-0.6
BCIP	comp=Z,106nm,0.7s			*i*			15 05 28.6	
ZANG	Zanguenga, Cho	4.77	266	*eS*		Sn	15 05 24.2	+0.8
ANIL	Santa Ana	4.80	184	*eP*		Pn	15 04 31.9	+1.9
VILC	Villavicencio,	5.34	165	*eP*		Pn	15 04 37.5	+0.2
VILC				*eS*		Sn	15 05 36.6	-0.9
ORTC	Ortega, Tolima	5.37	182	*eP*		Pn	15 04 39.1	+1.5
ORTC	comp=Z,210nm,0.6s			*i*			15 06 12.1	
YOTC	Yotoco, Valle	5.45	194	*eP*		Pn	15 04 40.0	+1.3
CHIT3	Chitre	5.48	256	*eP*		Pn	15 04 38.3	-0.7
PRAC	Prado	5.57	178	*eP*		Pn	15 04 39.9	-0.3
PRAC	comp=Z,253nm,0.7s			*i*			15 06 14.6	
PTGC	Puerto Gaitan,	5.85	150	*eP*		Pn	15 04 44.2	+0.1
PTGC				*eS*		Sn	15 05 47.2	-2.6
PTGC	comp=Z,142nm,0.3s			*i*			15 06 01.8	
JAMC	Jamundi, Valle	6.27	195	*eP*		Pn	15 04 51.5	+1.5
GMAL	Guarumal, Vera	6.31	256	*eP*		Pn	15 04 52.1	+1.7
BETC	Betania	6.60	183	*eP*		Pn	15 04 55.3	+0.8
HATO	Hato, Curacao	6.63	64	Pn		Pn	15 04 53.5	-1.2
POPC	Popayan, Colom	6.92	194	*eP*		Pn	15 05 00.6	+1.6
BAUV	El Baul	6.93	92	Pn		Pn	15 04 56.9	-1.9
GARC	Garzon, Huila	7.09	184	*eP*		Pn	15 05 01.5	+0.1
BBAC	Balboa, Cauca	7.57	197	*eP*		Pn	15 05 09.9	+2.1
BBAC				*eS*		Sn	15 06 34.5	+2.1
SRBA	San Rafael, Bu	8.21	270	Pn		Pn	15 05 16.9	+0.4
LCR2	La Lucha 2	8.85	273	Pn		Pn	15 05 23.9	-1.4
PTLC	Puerto Leguiza	9.09	178	*eP*		Pn	15 05 34.3	+5.8
MTDJ	Mount Denham	9.18	345	Pn		Pn	15 05 31.6	+1.8
OTAV	Otavalo	9.63	201	Pn		Pn	15 05 35.9	-0.4
JTS	Las Juntas de comp=Z,43nm,19.8s,baz=63,slow=42	9.81	277	LR		LR	15 10 12.3	
PCRV	Puerto La Cruz comp=Z,55nm,0.6s,baz=313,slow=1.1,SNR=44	10.30	84	P		Pn	15 05 43.5	-1.5
PCRV	comp=Z,513nm,20.2s,slow=44			LR		LR	15 10 54.4	
SJG	San Juan comp=Z,5.0nm,0.2s,baz=270,slow=20,SNR=0.9	12.29	44	S		Sn	15 08 17.4	-10
SJG	comp=Z,61nm,19.8s,baz=86,slow=39			LR		LR	15 11 16.0	
SALI	Salinas	12.87	208	Pn		Pn	15 06 18.4	-1.8
MCRA	Macar, Loja	14.45	200	Pn		Pn	15 06 40.9	-0.6
FDF	Fort de France	14.62	67	Pn		Pn	15 06 40.2	-3.5
MPOM	Morne Pois Mar	14.79	68	Pn		Pn	15 06 41.4	-4.5
BOAV	Boa Vista	15.99	115	P		Pn	15 07 01.2	-0.2
BOAV	comp=Z,11nm,0.6s			IAmb		IAmb	15 07 22.2	
ATAH	Atahualpa comp=Z,0.2nm,0.3s,baz=12,slow=7.1,SNR=4.6	16.68	192	P		Pn	15 07 09.3	-1.1
ETMB	comp=Z,9.5nm,0.8s Extrema	20.94	155			P	15 07 55.5	-2.7
ETMB				IAmb		IAmb	15 08 00.9	
NNA	comp=Z,11nm,0.6s Nana	21.24	185	P		P	15 08 03.5	+2.0
NNA	comp=Z,9.0nm,0.5s,baz=8.6,slow=12,SNR=4.3			LR		LR	15 17 39.3	
SAML	comp=Z,93nm,18.4s,baz=3.0,slow=40 Samuel	21.65	147			P	15 08 03.1	-2.7
SAML	comp=Z,9.0nm,0.5s			IAmb		IAmb	15 08 27.3	
LPAZ	comp=Z,26nm,1.4s La Paz	26.34	165	P		P	15 08 50.6	-1.0
BG3	Lake Jocassee	26.56	345	P		P	15 08 51.2	-1.5
BG3	comp=Z,8.3nm,1.1s			IAmb		IAmb	15 08 54.3	
PTLB	Pontes e Lacer	29.22	147	P		P	15 09 15.2	-1.3
PTLB	comp=Z,3.3nm,0.6s			IAmb		IAmb	15 09 16.2	
GO01	Chusmiza	29.37	169	P		P	15 09 19.9	+1.4
GO01	comp=Z,4.5nm,0.7s			IAmb		IAmb	15 09 34.1	
PB11	IPOC Station P	29.38	170	P		P	15 09 19.5	+1.4
TXAR	Lajitas Array comp=Z,0.4nm,0.5s,baz=130,slow=9.5,SNR=6.1	33.40	311	P		P	15 09 55.3	+1.8
TXAR	comp=Z,0.2nm,0.6s,baz=115,slow=4.1,SNR=2.6			PcP		PcP	15 12 34.8	+0.7
AQDB	comp=Z,0.4nm,0.5s Aquidauana	35.19	147	P		P	15 10 07.8	-1.1
LPIG	La Paz comp=Z,45nm,20.4s,baz=111,slow=36	36.70	298	LR		LR	15 25 05.0	
ANMO	Albuquerque comp=Z,30nm,18.2s,baz=188,slow=40	38.40	316	LR		LR	15 29 06.2	
PDAR	Pinedale Array comp=Z,0.6nm,0.8s,baz=111,slow=8.3,SNR=3.3	44.95	324	P		P	15 11 31.6	+1.7
SCHQ	comp=Z,0.6nm,0.8s Schefferville comp=Z,1.8nm,0.6s,baz=218,slow=15,SNR=4.2	45.87	7	P		P	15 11 36.1	-0.5
	comp=Z,1.8nm,0.6s							
NVAR	Mina Array Bea comp=Z,0.5nm,0.6s,baz=119,slow=6.8,SNR=3.6	48.39	314	P		P	15 11 55.9	-0.9
	comp=Z,0.5nm,0.6s							
PLCA	Paso Flores comp=Z,0.9nm,0.5s,baz=1.9,slow=10,SNR=4.5	49.97	176	P		P	15 12 07.8	-0.7
	comp=Z,0.9nm,0.5s							
YKA	Yellowknife Ar comp=Z,1.2nm,0.8s,baz=130,slow=7.2,SNR=16	60.28	340	P		P	15 13 23.9	+1.4
	comp=Z,1.2nm,0.8s							
TIC	Toumodi comp=Z,6.9nm,0.6s	69.31	86	⇓*i*	P	P	15 14 22.1	0.0
LIC	Lamto comp=Z,26nm,0.9s	69.35	87	⇓*eP*		P	15 14 22.5	+0.1
DBIC	Dimbokro comp=Z,3.6nm,0.3s,baz=283,slow=4.6,SNR=9.4	69.46	86	P		P	15 14 23.2	+0.1
	comp=Z,3.6nm,0.3s							
A36M	Sachs Harbour	69.55	345	P		P	15 14 22.3	-0.3
ESDC	Sonseca Array comp=Z,0.7nm,0.6s,baz=270,slow=9.0,SNR=2.9	69.56	51	P		P	15 14 23.6	+0.3
	comp=Z,0.7nm,0.6s							
KIC	Kosan Boka comp=Z,21nm,0.7s	69.62	87	⇑*eP*		P	15 14 23.9	-0.1
G31M	Satah River	69.70	339	P		P	15 14 25.3	+1.8
G31M				IAmb		IAmb	15 14 40.1	
	comp=Z,8.5nm,1.5s							
L29M	L29M	69.73	334	P		P	15 14 24.0	+0.1
I30M	Mount Dempster	69.80	337	P		P	15 14 25.3	+0.9
INK	Inuvik	70.06	340	P		P	15 14 26.8	+1.2
INK				IAmb		IAmb	15 14 29.4	
	comp=Z,5.2nm,1.4s							
G29M	Pine Creek	71.06	338	P		P	15 14 32.9	+1.1
G29M				IAmb		IAmb	15 15 04.4	
	comp=Z,3.3nm,1.2s							
I28M	Miner Creek	71.27	336	P		P	15 14 33.8	+0.5
BCAR	Beaver Creek A	71.30	334	P		P	15 14 33.9	+0.5
E29M	Blow River	71.57	340	P		P	15 14 36.2	+1.4
E29M				IAmb		IAmb	15 14 37.6	
	comp=Z,4.7nm,1.1s							
E28M	Babbage River	72.21	340	P		P	15 14 39.2	+0.5
ILAR	Eielson Array comp=Z,0.3nm,0.6s,baz=105,slow=4.3,SNR=7.3	73.91	335	P		P	15 14 49.2	+0.3
	comp=Z,0.3nm,0.6s							
TOA0	Torodi Ar. Sit	75.12	79	P		P	15 14 57.5	+0.7
TOA0				IAmb		IAmb	15 14 57.6	
	comp=Z,8.2nm,1.4s							
TORD	Torodi Ar. Bea	75.12	79	P		P	15 14 56.6	-0.2
TORD	Torodi Ar. Bea comp=Z,2.3nm,0.5s,baz=287,slow=6.6,SNR=30	75.12	79	P		P	15 14 57.1	+0.3
	comp=Z,2.3nm,0.5s							
ASAR	Alice Springs	148.88	239	PKP		PKPdf	15 22 59.8	+1.4
	comp=Z,4.2nm,0.6s,baz=113,slow=2.4,SNR=25							
ASAR				PKPbc		PKPbc	15 23 02.9	+0.5
	comp=Z,4.5nm,0.6s,baz=116,slow=3.7,SNR=68							
WRA	Warramunga Arr	149.72	246	PKPbc		PKPbc	15 23 05.4	+0.9
	comp=Z,1.8nm,0.5s,baz=103,slow=2.8,SNR=24							
WRA				PKPab		PKPab	15 23 11.1	+1.2
	comp=Z,0.5nm,0.4s,baz=97,slow=3.8,SNR=5.4							

NEIC ***26*** *15:05:54.8±0.8,19.°40N±0.°01×155.°279W±0.°008, h1km±2km,Error ellipse: s-maj=1.7km s-min=0.8km az=205.0*

HVO 26 15:05:54.1±0.7,19.°39N±0.°01×155.°277W±0.°007, h2km±3km,ML2.5/23,ML1.8/41(NEIC),Error ellipse: s-maj=2.0km s-min=0.5km az=203.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RIM	Rim	0.00	50			Pg	15 05 55.0	+0.3
KKO	Keanakako`i	0.01	65			Pg	15 05 55.1	+0.4
KKO	comp=E,2μm,0.2s			IAML			15 05 55.3	
SDHHI	Sand Hill	0.02	259			Pg	15 05 54.7	0.0
SDHHI	comp=E,2μm,0.8s			IAML			15 05 55.3	
NPH	North Pit	0.02	350			Pg	15 05 54.9	+0.1
NPH	comp=E,1μm,0.9s			IAML			15 05 55.2	
BYL	Byron's Ledge	0.03	40			Pg	15 05 54.9	+0.1
BYL	comp=E,1μm,0.3s			IAML			15 05 55.6	
BYL	comp=N,1μm,0.1s			IAML			15 05 55.7	
OBL	Observatory Le comp=E,919nm,1.1s	0.03	346	IAML			15 05 54.9	
OBL						Pg	15 05 55.0	+0.2
WRMHI	West Rim	0.03	303			Pg	15 05 54.8	0.0
WRMHI	comp=N,3μm,0.1s			IAML			15 05 55.5	
UWB	Uwekahuna B	0.03	359			Pg	15 05 55.2	+0.3
UWE	Uwekahuna	0.03	332			Pg	15 05 55.0	+0.1
UWE	comp=E,747nm,0.8s			IAML			15 05 55.4	
UWE	comp=N,1μm,0.5s			IAML			15 05 55.9	
HATHI	Halema'uma'u T	0.03	27	IAML			15 05 56.1	
HATHI	comp=N,1μm,0.7s Halema'uma'u T	0.03	27			Pg	15 05 55.6	+0.7
SBLHI	Steaming Bluff	0.04	14			Pg	15 05 55.5	+0.6
SBLHI	comp=N,1μm,0.5s			IAML			15 05 56.0	
PUH	Pauahi	0.06	108			Pg	15 05 56.1	+0.7
PUH	comp=N,587nm,0.4s			IAML			15 05 57.4	
RSD	Rainshed	0.07	359			Pg	15 05 56.3	+0.7
HLP	Hilina Pali	0.10	197			Pg	15 05 56.9	+0.8
KNHH	Kane Nui o Ham	0.10	97			Pg	15 05 56.9	+0.7
MLH	Mauna Loa	0.14	315			Pg	15 05 57.9	+0.9
STCH	Steam Cracks	0.14	93	Pg	Pg	Pg	15 05 57.6	+0.6
STCH	comp=N,440nm,0.6s			IAML			15 06 00.4	
STCH	comp=E,516nm,0.5s			IAML			15 06 00.5	
NPOC	North of Pu'u	0.16	90	Pg	Pg	Pg	15 05 57.4	+0.2
NPOC	comp=E,370nm,0.3s			IAML			15 06 00.9	
JCUZ	Jacuzzi	0.17	93			Pg	15 05 58.0	+0.7
JCUZ						Sg	15 06 00.8	+1.2
JCUZ	Jacuzzi comp=E,640nm,0.4s	0.17	93	IAML			15 06 01.0	
JCUZ	comp=N,346nm,0.4s			IAML			15 06 01.1	
HTC	Hot Caves	0.19	216			Pg	15 05 58.5	+0.7

KDAK	Kodiak Island	2.56	317		Sn	15 24 57.6	-1.6
KDAK	Kodiak Island baz=135	2.56	317	S	Sn	15 24 57.6	-1.6
SII	Sitkinak Islan	2.77	285		Pn	15 24 31.4	+0.2
SII					Sn	15 25 03.4	-1.3
SII	Sitkinak Islan comp=E,122nm,1.0s	2.77	285	IAML		15 25 04.4	
SII				IAML		15 25 14.9	
	comp=N,188nm,1.2s						
SII	Sitkinak Islan	2.77	285	P	Pn	15 24 31.3	+0.2
SII	Sitkinak Islan baz=101	2.77	285	P	Pn	15 24 31.4	+0.2
SII				S	Sn	15 25 03.4	-1.3
	baz=101						
SYI	Shuyak Island	3.13	329		Pn	15 24 36.8	+0.7
SYI					Sn	15 25 13.9	+0.4
Q20K	Shuyak Island baz=147	3.14	329	P	Pn	15 24 36.8	+0.7
Q20K				S	Sn	15 25 13.9	+0.4
	baz=147						
CNPM	China Poot	3.72	345		Pn	15 24 44.8	+0.6
CNPM	China Poot comp=E,62nm,0.9s	3.72	345	IAML		15 25 29.7	
CNPM				IAML		15 25 31.7	
	comp=N,49nm,0.4s						
Q19K	Cape Douglas,	3.78	324		Pn	15 24 46.2	+1.2
Q19K	Cape Douglas, comp=N,175nm,1.1s	3.78	324	IAML		15 25 38.9	
Q19K	Cape Douglas, baz=140	3.78	324	P	Pn	15 24 46.2	+1.2
Q23K	Middleton Isla	3.83	23		Pn	15 24 45.9	+0.3
Q23K	Middleton Isla baz=206	3.83	23	P	Pn	15 24 45.9	+0.3
MID	Middleton Isla	3.83	24		Pn	15 24 46.0	+0.4
MID	Middleton Isla	3.83	24	P	Pn	15 24 45.9	+0.3
BRSE	Bradley Lake S	3.87	349		Pn	15 24 46.3	+0.1
BRSE					Sn	15 25 30.9	-0.8
BRSE	Bradley Lake S baz=168	3.87	349	P	Pn	15 24 46.3	+0.1
BRSE				S	Sn	15 25 30.8	-0.8
	baz=168						
BRLK	Bradley Lake	3.91	348		Pn	15 24 46.7	0.0
BRLK	Bradley Lake	3.91	348		Pn	15 24 47.2	+0.5
BRLK	comp=N,39nm,0.9s			IAML		15 25 32.1	
BRLK				IAML		15 25 34.4	
	comp=E,51nm,0.5s						
SEW	Seward	4.16	359		Pn	15 24 50.2	+0.1
SEW					Sn	15 25 35.7	-3.1
SEW	Seward baz=179	4.16	359	P	Pn	15 24 50.2	+0.1
SEW				S	Sn	15 25 35.7	-3.1
	baz=179						
P19K	Oil Pt	4.25	332	Pn	Pn	15 24 52.1	+0.6
P19K	comp=E,127nm,0.5s			IAML		15 25 46.1	
P19K				IAML		15 25 46.3	
	comp=N,108nm,0.9s						
CNTC	Contact Creek	4.26	306		Pn	15 24 52.9	+1.3
Q17K	Contact Creek baz=120	4.26	306	P	Pn	15 24 52.9	+1.3
IVE	Iliamna Volcan	4.52	336		Pn	15 24 55.7	+0.5
SLKM	Skilak Lake	4.59	354		Pn	15 24 56.3	+0.2
P18K	Big Mountain, baz=135	4.68	320	P	Pn	15 24 58.1	+0.8
HIN	Hinchinbrook I	4.70	17		Pn	15 24 57.8	+0.2
HIN	Hinchinbrook I comp=N,64nm,1.2s	4.70	17	IAML		15 25 53.4	
HIN				IAML		15 26 44.1	
	comp=E,51nm,1.4s						
KAIM	Kayak Island	4.76	31		Pn	15 24 58.6	+0.2
KAIM	Kayak Island comp=N,87nm,1.4s	4.76	31	IAML		15 26 37.1	
KAIM	Kayak Island baz=215	4.76	31	P	Pn	15 24 58.6	+0.2
RSO	Redoubt South	4.87	340	Pn	Pn	15 25 00.9	+0.8
EYAK	Cordova Ski Ar	4.97	21		Pn	15 25 01.6	+0.2
EYAK	Cordova Ski Ar	4.97	21	P	Pn	15 25 01.9	+0.6
EYAK	Cordova Ski Ar baz=204	4.97	21	P	Pn	15 25 01.6	+0.2
O19K	Port Alsworth	5.01	330	Pn	Pn	15 25 01.4	-0.3
O18K	Koktuh Hills	5.01	324		Pn	15 25 01.8	-0.1
O18K	Koktuh Hills comp=N,19nm,1.5s	5.01	324	IAML		15 25 59.6	
O18K	Koktuh Hills baz=139	5.01	324	P	Pn	15 25 01.8	-0.1
P17K	Kvichak River	5.02	313		Pn	15 25 02.6	+0.7
P17K	Kvichak River baz=128	5.02	313	P	Pn	15 25 02.6	+0.7
RAGM	Ragged Mountai	5.08	27		Pn	15 25 03.4	+0.5
RAGM	Ragged Mountai comp=E,54nm,1.1s	5.08	27	IAML		15 26 17.1	
CHGN	Chignik	5.09	278	Pn	Pn	15 25 04.2	+1.3
CHGN	comp=E,50nm,1.2s			IAML		15 26 04.8	
CHGN				IAML		15 26 19.4	
	comp=N,58nm,1.5s						
RC01	Rabbit Creek A	5.15	358	Pn	Pn	15 25 03.8	0.0
RC01	comp=N,24nm,0.5s			IAML		15 26 02.6	
RC01				IAML		15 26 03.4	
	comp=E,28nm,0.8s						
GOAT	Goat Mountain	5.23	26		Pn	15 25 05.5	+0.5
BERG	Berg Lake	5.35	31		Pn	15 25 06.7	+0.2
BERG	Berg Lake comp=E,38nm,1.5s	5.35	31	IAML		15 26 02.8	
BERG				IAML		15 26 08.8	
	comp=N,48nm,1.2s						
SNH	Sunshine Point	5.46	36		Pn	15 25 08.3	+0.3
KNK	Knik Glacier	5.49	4	Pn	Pn	15 25 08.6	+0.2
N19K	Bonanza Creek	5.57	333	Pn	Pn	15 25 11.7	+2.1
SUA	Susitna One	5.57	353	Pn	Pn	15 25 09.8	+0.1
BMRM	Bremner River	5.60	24		Pn	15 25 10.5	+0.5
BMRM	Bremner River baz=208	5.60	24	P	Pn	15 25 10.5	+0.5
PMR	Palmer	5.65	1	Pn	Pn	15 25 10.8	+0.2
PMR	Palmer	5.65	1	P	Pn	15 25 11.1	+0.5
BARK	Barkley Ridge	5.74	36		Pn	15 25 12.2	+0.3
KLU	Klutina	5.83	16		Pn	15 25 13.7	+0.6
KLU	Klutina baz=199	5.83	16	P	Pn	15 25 13.7	+0.6
GHO	Glory Hole Cre	5.83	2		Pn	15 25 14.1	+0.9
N18K	Kilae Creek	5.86	327		Pn	15 25 13.8	+0.3
N18K	Kilae Creek baz=141	5.86	327	P	Pn	15 25 13.8	+0.3
SML	Sawmill	5.89	5	Pn	Pn	15 25 14.6	+0.6
SCM	Sheep Creek Mo	5.98	9	Pn	Pn	15 25 16.3	+1.0
VRDI	Verde Repeater	6.11	28	Pn	Pn	15 25 17.8	+0.7
SKT	Skwentna	6.15	350	Pn	Pn	15 25 17.9	+0.4
SAMH	Samovar Hills	6.17	44		Pn	15 25 18.2	+0.4
N25K	Chitina, Valde	6.17	22		Pn	15 25 17.9	0.0
N25K	Chitina, Valde baz=205	6.17	22	P	Pn	15 25 17.9	0.0
KIAG	Kiagna River	6.18	33		Pn	15 25 18.1	+0.1
GLB	Gilahina Butte	6.20	25	Pn	Pn	15 25 19.0	+0.7
M20K	Styx River	6.26	343	Pn	Pn	15 25 22.0	+3.0
SDPT	Sand Point	6.34	269	Pn	Pn	15 25 18.9	-1.2
MCARA	McCarthy VSAT	6.35	29		Pn	15 25 21.0	+0.7
MCARA	McCarthy VSAT baz=214	6.35	29	P	Pn	15 25 21.0	+0.7
PCA	Pinnacle	6.36	46		Pn	15 25 20.7	+0.3
PINM	Pinnacle baz=233	6.36	46	P	Pn	15 25 20.7	+0.3
M24K	Tolsona, Glenn	6.38	13	Pn	Pn	15 25 20.9	+0.2
PNL	Peninsula baz=239	6.48	51	P	Pn	15 25 22.6	+0.6
M18K	Stony River	6.50	331		Pn	15 25 22.4	+0.1
M18K	Stony River baz=146	6.50	331	P	Pn	15 25 22.3	+0.1
BARN	Barnard Glacie	6.50	35		Pn	15 25 23.0	+0.5
O15K	Ungalikthiuk R	6.50	304		Pn	15 25 23.5	+1.2
O15K	Ungalikthiuk R baz=116	6.50	304	P	Pn	15 25 23.5	+1.2
BCPM	Bancas Point	6.53	48	Pn	Pn	15 25 23.3	+0.7
CTG	Chitna Glacier baz=223	6.54	37	P	Pn	15 25 23.1	+0.2
CTGM	Chitina Glacie	6.54	37		Pn	15 25 23.1	+0.1
LOGN	Logan Glacier	6.55	38		Pn	15 25 23.2	+0.1
N15K	Kwethluk River	7.10	311	Pn	Pn	15 25 32.2	+1.8
M16K	Timber Creek	7.16	319	Pn	Pn	15 25 33.0	+1.7
O29M	Mount Kennedy	7.16	48		Pn	15 25 32.2	+0.7
O29M	Mount Kennedy baz=237	7.16	48	P	Pn	15 25 32.2	+0.7
PN7A	Pavlof North-7	7.18	271		Pn	15 25 31.8	+0.1
P29M	Windy Craggy	7.20	55		Pn	15 25 32.4	+0.4
P29M	Windy Craggy baz=244	7.20	55	P	Pn	15 25 32.3	+0.4
DHY	Denali Highway	7.21	7	Pn	Pn	15 25 34.1	+2.0
O14K	Tigyukauivet M	7.21	302	Pn	Pn	15 25 32.6	+0.6
M26K	Nabesna, AK	7.23	24	Pn	Pn	15 25 33.2	+0.9
S31K	Pelican	7.44	69		Pn	15 25 33.7	-1.4
S31K	Pelican baz=260	7.44	69	P	Pn	15 25 33.7	-1.4
M27K	Edge Creek, AK	7.47	28		Pn	15 25 36.3	+0.6
M27K	Edge Creek, AK baz=214	7.47	28	P	Pn	15 25 36.3	+0.6
TRF	Thorofare Moun	7.53	357	Pn	Pn	15 25 38.6	+2.1
CAST	Castle Rocks	7.61	351	Pn	Pn	15 25 38.6	+1.1
L16K	Owhat River	7.80	322	Pn	Pn	15 25 41.0	+0.9
SIT	Sitka	7.83	76	P	Pn	15 25 38.1	-2.4
HYT	Haines Junctio	7.89	47	Pn	Pn	15 25 42.4	+0.9
L27K	Beaver Creek,	8.08	25	Pn	Pn	15 25 44.8	+0.8
BCAR	Beaver Creek A	8.09	25	Pn	Pn	15 25 45.5	+1.4
RIDG	Independent Ri	8.12	14	Pn	Pn	15 25 46.6	+2.0
K17K	Iditarod	8.18	330	Pn	Pn	15 25 43.8	-1.5
S32K	Killisnoo	8.26	73		Pn	15 25 45.1	-1.2
S32K	Killisnoo baz=265	8.26	73	P	Pn	15 25 45.1	-1.2
SKAG	Skagway	8.27	59	P	Pn	15 25 47.9	+1.3
N30M	Aishikik Lake	8.42	44	Pn	Pn	15 25 49.7	+1.1
JIS	Juneau Island	8.46	68	Pn	Pn	15 25 49.0	-0.1
JIS	Juneau Island	8.46	68	P	Pn	15 25 48.9	-0.2
O30N	Mendenhall	8.46	50	Pn	Pn	15 25 50.0	+0.8
SCRK	Sand Creek	8.47	16	Pn	Pn	15 25 50.3	+0.9
M29M	Somme Creek	8.56	36	Pn	Pn	15 25 52.1	+1.6
HDA	Harding Lake	8.56	7	Pn	Pn	15 25 52.2	+1.6
M13K	Dall Lake	8.64	307	Pn	Pn	15 25 53.6	+2.0
J19K	Poorman	8.65	341	Pn	Pn	15 25 53.8	+2.1
NEA2	Nenana	8.66	1	Pn	Pn	15 25 52.9	+1.0
CCB	Clear Creek Bu	8.75	4	Pn	Pn	15 25 54.8	+1.7
L14K	Kuka Creek	8.80	313	Pn	Pn	15 25 54.3	+0.6
K27K	Chicken	8.87	21	Pn	Pn	15 25 56.7	+2.0
K15K	Wolf Creek Mou	8.92	320	Pn	Pn	15 25 56.8	+1.4
IL31		8.92	7	Pn	Pn	15 25 56.9	+1.5
ILAR	Eielson Array	8.92	7	Pn	Pn	15 25 56.2	+0.7
WHY	Whitehorse	8.94	52	Pn	Pn	15 25 56.1	+0.3
N31M	Braeburn, Yuko	8.96	46	Pn	Pn	15 25 56.9	+1.0
J26L	Joseph Creek	9.03	16	Pn	Pn	15 25 58.0	+0.9
P32M	Atlin	9.10	60	Pn	Pn	15 25 58.2	+0.2
L29M	L29M	9.14	34	Pn	Pn	15 25 59.6	+1.1
L29M	L29M baz=223	9.14	34	P	Pn	15 25 59.9	+1.3
M30M	Minto, Yukon	9.22	39	Pn	Pn	15 26 00.3	+0.7
I23K	Minto, Yukon-K	9.22	360	Pn	Pn	15 26 01.5	+2.0
DAWY	Dawson	9.52	27	Pn	Pn	15 26 04.8	+1.1
P33M	Teslin, Yukon	9.72	57	Pn	Pn	15 26 06.6	+0.1
I26K	Coal Creek Min	9.85	15	Pn	Pn	15 26 08.1	-0.1
K29M	Barlow Dome	9.87	32	Pn	Pn	15 26 09.5	+0.9
H21K	Melozitna Rive	9.88	352	Pn	Pn	15 26 08.8	+0.3
M31M	Drury Creek, Y	9.90	45	Pn	Pn	15 26 10.3	+1.5
N32M	Quiet Lake	9.94	52	Pn	Pn	15 26 10.8	+1.3
IMAR	Indian Mountai	10.28	350	Pn	Pn	15 26 15.8	+1.7
FARO	Faro, Yukon	10.33	46	Pn	Pn	15 26 15.8	+1.1
R33M	Jennings River	10.41	63	Pn	Pn	15 26 16.1	+0.1
I28M	Miner Creek	10.56	22	Pn	Pn	15 26 17.2	-0.8
DLBC	Dease Lake	10.76	69	Pn	Pn	15 26 21.3	+0.7
I30M	Mount Dempster	11.23	29	Pn	Pn	15 26 28.3	+1.1
E19K	Redstone River	12.12	345	Pn	Pn	15 26 38.3	-0.8
G31M	Satah River	13.09	27	Pn	Pn	15 26 50.8	-1.6
INK	Inuvik	14.35	24	Pn	Pn	15 27 11.5	+1.9
C36M	Paulatuk	17.53	30	Pn	Pn	15 27 49.2	-1.6
C36M	comp=Z,7.9nm,1.5s			IAmb	IAmb	15 27 56.0	
A36M	Sachs Harbour	18.99	23	P	P	15 28 09.4	+1.5
A36M	comp=Z,2.2nm,0.8s			IAmb	IAmb	15 28 10.7	

*TRN **26** 15:23:53.3, 10˚.38N×62˚.20W, h8km, MD3.9*
*FUNV **26** 15:23:54.6, 10˚.13N×62˚.31W, h11km, MW3.7*

ISC 26 15:23:51.9±1.3, 10˚.27N±0˚.05×62˚.27W±0˚.03, h17km±10km, n33, σ1°±54˚/47, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPP	Pointe-a-Pierr	0.81	86	eP	Pb	15 24 08.2	+0.7
TPP				eS	Sb	15 24 18.2	0.0
TRN	Trinidad (W)	0.93	66	eP	Pg	15 24 08.6	-1.5
TRN				eS	Sb	15 24 21.3	-0.5
CRUV	Carupano	1.03	293	eP	Pg	15 24 12.4	+0.5
CRUV				eS	Sg	15 24 25.6	+0.1
GRFF	Grenada Fort F	1.85	16	eP	Pn	15 24 23.6	+0.7
GRFF				eS	Sb	15 24 46.8	-1.4
GRGR	Grenville	1.95	18	eP	Pn	15 24 25.4	+1.1
GRGR				eS	Sn	15 24 48.5	0.0
GRW	Mount Saint Ca	1.98	18	eP	Pn	15 24 26.2	+1.5
GRW				eS	Sn	15 24 49.5	+0.4
GRHS	Sauteurs	2.04	18	eP	Pn	15 24 26.9	+1.4
GRHS				eS	Sn	15 24 51.4	+0.7
PCRV	Puerto La Cruz	2.33	268	eP	Pn	15 24 31.1	+1.5
PCRV				eS	Sn	15 24 58.4	+0.5
GCMP	Grenada, Carri	2.36	20	eP	Pn	15 24 30.5	+0.6
GCMP				eS	Sn	15 24 59.5	+1.1
SVOC	Richmond Hill,	3.05	20	eS	Sn	15 25 14.8	-0.7
SVB	Belmont	3.15	18	e	Pn	15 24 46.7	-0.8
SVB				eS	Sn	15 25 17.9	-0.2
SLBI	Saint Lucia, B	3.94	19	eP	Pn	15 24 53.2	+1.5
SLBI				eS	Sn	15 25 36.6	-1.0
MERV	Las Mercedes	4.09	256	eP	Pn	15 24 55.4	+1.6
MERV				eS	Sn	15 25 39.6	-1.8
MPOM	Morne Pois Mar	4.38	18	eP	Pn	15 24 59.4	+1.7
MPOM	Morne Pois Mar	4.38	18	eS	Sn	15 25 47.0	-1.3
BIM	Bigot	4.38	15	eP	Pn	15 24 59.2	+1.4
BIM	Bigot	4.38	15	eS	Sn	15 25 47.9	-0.7
LUEV	Luepa	4.47	170	eP	Pn	15 24 58.9	-0.2
LUEV				eS	Sn	15 25 46.4	-4.4
FDF	Fort de France	4.57	14	eP	Pn	15 25 02.6	+2.1
FDF	Fort de France	4.57	14	eS	Sn	15 25 52.4	-0.9
TACV	Tcata	4.68	269	eP	Pn	15 25 03.8	+1.8
TACV				eS	Sn	15 25 54.0	-2.0
CACV	CAICARA DEL OR	5.00	238	eP	Pn	15 25 02.1	-4.1
CACV				eS	Sn	15 25 50.4	-13
BENV	Beln	5.26	267	eP	Pn	15 25 11.4	+1.6
BENV				eS	Sn	15 26 07.6	-2.6
TURV	Turiamo	5.48	272	eP	Pn	15 25 14.2	+1.3
TURV				eS	Sn	15 26 12.3	-3.4
CBE	Ff, Capester	5.80	6	eP	Pn	15 25 20.2	+2.8
CBE	Ff, Capester	5.80	6	eS	Sn	15 26 21.3	-2.4
BAUV	El Baul	5.84	257	eP	Pn	15 25 18.7	+0.9
BAUV				eS	Sn	15 26 19.6	-4.9
BAUV	El Baul	5.84	257	eP	Pn	15 25 19.8	+2.0
BAUV	El Baul	5.84	257	eS	Sn	15 26 28.0	+3.5
ANBD	Bethesda, Anti	6.76	4	eP	Pn	15 25 31.9	+1.5
SANV	Sanarito	7.20	265	eP	Pn	15 25 37.0	+0.4
CURV	Curarigua	7.58	269	eP	Pn	15 25 42.1	+0.4
SOCV	Socops	8.70	258	eP	Pn	15 25 56.2	-0.9
SOCV				eS	Sn	15 27 26.7	-8.2

*IDC **26** 15:26:19.9±0.7, 37˚.40S×73˚.92W, h0km, mb4.4/9, mbtmp4.4/13, ML4.1/4, MS4.1/26, Error ellipse: s-maj=26.5km s-min=15.1km az=75.0*

*NEIC **26** 15:26:21.0±1.9, 37˚.44S±0˚.03×74˚.12W±0˚.10, h10km±1km, mb4.8/33, Mwr4.9/33, Error ellipse: s-maj=12.8km s-min=5.1km az=271.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr 1.75; Mθθ-0.33; Mφφ-1.42; Mrθ-0.37; Mθφ-1.31; Mφr-1.65; Fault plane solution: M₀2.67000×10¹⁶ NP1:φs53.34000°, δ28.73000°, λ121.75000°. NP2:φs198.13000°, δ65.88000°, λ73.91000°. Principal axes: T 2.4602, Plg65.0000°, Azm80.0000°; N 0.3842, Plg15.0000°, Azm205.0000°; P -2.8444, Plg19.0000°, Azm300.0000°;*

*NEIC **26** 15:26:21, 37˚.44S×74˚.12W, h10km*

*GUC **26** 15:26:24.1±0.7, 37˚.58S×73˚.90W, h19km±6km, ML4.7*

*GCMT **26** 15:26:26.0±0.4, 37˚.64S±0˚.03×74˚.27W±0˚.03, h20km±1km, MW5.0/76, Moment Tensor Solution. s31,c32; s76,c91; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.90±.20; Mθθ-0.31±.11; Mφφ-2.59±.13; Mrθ0.30±.24; Mφφ-0.29±.08; Mφr-2.28±.25; Best double couple: M₀3.59100×10¹⁶ NP1:φs178.00000°, δ65.00000°, λ83.00000°. NP2: φs14.00000°, δ26.00000°, λ104.00000°. Principal axes: T 3.7590, Plg69.0000°, Azm75.0000°; N -0.3330, Plg6.0000°, Azm181.0000°; P -3.4230, Plg20.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 15:26:19.0±0.9, 37.49S±0˚.03×74˚.21W±0˚.05, h2km±5km, n148, σ2°06/135, mb4.8/17, MS4.2/24, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI04	Isla Mocha	0.95	164	eP	Pn	15 26 38.6	-0.9
BI04				eS	Sg	15 26 49.5	-0.3
BI04	comp=N,34μm,0.3s			IAML		15 26 58.4	
BI05	Punta Hualpn	1.10	48		Pg	15 26 40.6	+0.4
BI05	Punta Hualpn	1.10	48	↑iP	Pg	15 26 40.6	+0.4
BI05				eS	Sg	15 26 54.6	+0.1
BI05	comp=E,28μm,0.5s			IAML		15 27 01.3	
LC02	Puerto Saavedr	1.45	154		Pn	15 26 45.9	-0.5
LC02	Puerto Saavedr	1.45	154	eP	Pn	15 26 45.9	-0.5
LC02				eS	Sg	15 27 01.6	-4.1
LC02	comp=N,59μm,0.5s			IAML		15 27 20.1	
LR04	Corral	2.46	166	eP	Pn	15 27 00.3	0.0
LR04	comp=N,4μm,0.4s			IAML		15 27 29.8	
LR03	Panguipulli	2.59	146	eP	Pn	15 27 02.8	+0.8
LR03				eS	Sn	15 27 31.8	-2.3
LR03	comp=N,11μm,0.8s			IAML		15 27 53.1	
ML02	Panimavida	2.83	53		Pn	15 27 05.5	+0.2
ML02	Panimavida	2.83	53	eP	Pn	15 27 05.6	+0.2
ML02				i S	Sn	15 27 40.7	+0.6
ML02	comp=N,8μm,0.5s			IAML		15 28 00.0	
GO06	Curarrehue	3.00	135		Pn	15 27 08.4	+0.7
GO06	Curarrehue	3.00	135	↑iP	Pn	15 27 08.4	+0.7
GO06				eS	Sn	15 27 41.7	-2.6
GO06	comp=N,909nm,0.5s			IAML		15 28 01.2	
GO05	Huala	3.09	37		Pn	15 27 09.4	+0.5
LR05	Currie	3.23	148	Pn	Pn	15 27 12.0	+1.1
LR05	Currie	3.23	148	eP	Pn	15 27 11.2	+0.3
BO02	Sierra Bellavi	3.87	47		Pn	15 27 19.4	-0.3
BO01	Tunca	4.00	40		Pn	15 27 22.0	+0.6
PLCA	Paso Flores	4.31	140		Pn	15 27 26.9	+1.1
PLCA	Paso Flores comp=N,1.0nm,0.3s,baz=312,slow=11,SNR=45	4.31	140	Pn	Pn	15 27 26.4	+0.6
PLCA				Lg	Lg	15 28 34.1	
	comp=N,7.9nm,0.3s,baz=209,slow=9.1,SNR=5.3 comp=N,22nm,1.1s						
PLCA	Paso Flores	4.31	140	eP	Pn	15 27 26.6	+0.9
MT01	Popeta	4.35	35		Pn	15 27 25.8	-0.4
VA05	Santo Domingo	4.37	30		Pn	15 27 26.2	-0.3
MT09	Talagante	4.54	36		Pn	15 27 28.9	-0.1
MT09	Talagante	4.54	36	eP	Pn	15 27 29.3	+0.3
BO04	La Punta	4.56	41		Pn	15 27 29.2	0.0
LL06	Loncomilla	4.74	175	Pn	Pn	15 27 32.2	+0.6
LMEL	Las Melosas	4.88	43		Pn	15 27 34.6	+0.8
LMEL	Las Melosas	4.88	43	eP	Pn	15 27 34.8	+1.0
MT02	Curacav	4.91	32		Pn	15 27 33.3	-0.7
MT13	San Alfonso	4.92	42		Pn	15 27 34.2	+0.1
VA01	Torpederas	4.93	26	Pn	Pn	15 27 33.0	-0.3
MT05	Renca	4.98	36		Pn	15 27 35.3	+0.4
MT03	Universidad Ad	5.00	38		Pn	15 27 35.3	0.0
MT16	CCHEN	5.05	38		Pn	15 27 36.2	+0.3
LL01	San Ignacio de	5.07	165		Pn	15 27 37.5	+1.4
MT10	Hacienda Santa	5.17	37	eP	Pn	15 27 37.6	0.0
PEL	Peldehue	5.21	35	Pn	Pn	15 27 38.5	+0.4
H03S1	Juan Fernandez baz=130,slow=74,SNR=3335	5.28	312	T	T	15 33 18.3	
H03S3	Juan Fernandez baz=130,slow=74,SNR=1976	5.29	312	T	T	15 33 19.6	
H03S2	Juan Fernandez baz=130,slow=74,SNR=2275	5.29	312	T	T	15 33 17.6	
VA04	Juan Fernndez	5.38	314		Pn	15 27 42.6	+2.2
VA04	Juan Fernndez	5.38	314	eP	Pn	15 27 42.1	+1.8
VA06	Catapilco	5.47	27		Pn	15 27 41.3	-0.3
VA06	Catapilco	5.47	27	eP	Pn	15 27 41.4	-0.2
VA03	San Esteban	5.59	34		Pn	15 27 43.3	-0.1
GO07	Milladeo Hill,	5.63	176		Pn	15 27 44.7	+0.8
LL02	Futaleuf	5.97	163		Pn	15 27 52.1	+3.6
CO02	Combarbal	6.81	24		Pn	15 27 60.0	-0.2
CO03	El Pedregal	7.25	25	Pn	Pn	15 28 06.0	-0.1
GO04	Tololo Observa	7.83	22	Pn	Pn	15 28 13.4	-0.9
CO01	Juntas del Tor	8.24	26	Pn	Pn	15 28 20.8	+0.9
LCO	Las Campanas	8.95	20	Pn	Pn	15 28 29.2	-0.5
AY02	Valle Explorad	9.02	176	Pn	Pn	15 28 31.3	+1.0
AC05	El Transito	9.24	22	Pn	Pn	15 28 33.1	-0.4
TRQA	Tornquist	9.70	97		Pn	15 28 39.8	0.0
GO03	Copiap	10.42	20		Pn	15 28 48.5	-1.2
AC06	Mina Casimiro	10.62	19		Pn	15 28 49.7	-2.6
GO08	Villa O'Higgin	11.04	174		Pn	15 28 57.2	-0.7
AC01	Pan de Azucar	11.72	16	Pn	Pn	15 29 04.8	-2.6
PB14	IPOC Station P	13.23	15		Pn	15 29 26.2	-2.1
LPA	La Plata	13.40	84	eP	Pn	15 29 22.3	-8.0
LPA	La Plata	13.40	84	PN	Pn	15 29 27.0	-3.3
LPA				pP	P	15 29 32.4	-7.6
LPA				sP		15 29 39.5	
LPA				PP	PnPn	15 29 47.4	+9.4
LPA				pPP		15 29 57.9	
LPA				PPP	PPP	15 30 30.2	
LPA				S	Sn	15 31 56.9	-2.9
LPA	La Plata	13.40	84	SN	Sn	15 32 02.4	+2.6
LPA				sS	S	15 32 09.1	-15
LPA				SS	SnSn	15 32 19.9	+8.0
LPA				SSS	SSS	15 32 31.1	

SIV	**San Ignacio**	**24.37**	**32**	LR		LR	15 43 02.6	
	comp=Z,1μm,19.8s,baz=230,slow=42							
PTLB	**Pontes e Lacer**	**25.70**	**35**	P		**P**	**15 31 47.6**	**-3.1**
PTLB				IAmb		IAmb	15 31 53.5	
	comp=Z,30nm,1.2s							
SPB	**Sao Paulo**	**26.79**	**66**	P		**P**	**15 31 57.9**	**-2.7**
PMSA	**Palmer Station**	**27.98**	**171**	LR		LR	15 44 06.6	
	comp=Z,632nm,18.0s,baz=348,slow=38							
ETMB	**Extrema**	**28.48**	**17**	P		**P**	**15 32 15.2**	**-0.6**
ETMB				IAmb		IAmb	15 32 19.1	
	comp=Z,28nm,1.0s							
SAML	**Samuel**	**30.12**	**22**	P		**P**	**15 32 29.2**	**-1.1**
SAML				IAmb		IAmb	15 32 32.8	
	comp=Z,22nm,1.3s							
ATAH	**Atahualpa**	**30.46**	**352**	LR		LR	15 43 15.9	
	comp=Z,151nm,19.3s,baz=172,slow=33							
HOPE	**Hope Point**	**30.70**	**135**	P		**P**	**15 32 37.3**	**+2.2**
SMAI	**San Martin Ant**	**30.95**	**175**	P		**P**	**15 32 40.4**	**+3.3**
RPN	**Rapa Nui**	**31.27**	**279**	LR		LR	15 41 48.1	
	comp=Z,415nm,18.8s,baz=84,slow=30							
BDFB	**Brasilia**	**31.79**	**54**	P		**P**	**15 32 43.0**	**-2.2**
BDFB				IAmb		IAmb	15 32 52.9	
	comp=Z,16nm,1.1s							
BDFB	**Brasilia**	**31.79**	**54**	P		**P**	**15 32 44.3**	**-0.9**
	comp=Z,5.1nm,0.8s,baz=232,slow=10.0,SNR=6.0							
BDFB				LR		LR	15 46 45.5	
	comp=Z,800nm,18.2s,baz=222,slow=39							
	comp=Z,5.1nm,0.8s							
MCRA	**Macar, Loja**	**33.38**	**350**	P		**P**	**15 32 59.0**	**0.0**
COHC	**Cochancay**	**35.16**	**351**	P		**P**	**15 33 15.0**	**+0.6**
OTAV	**Otavalo**	**37.74**	**353**	P		**P**	**15 33 35.0**	**-2.0**
BOAV	**Boa Vista**	**41.67**	**21**	P		**P**	**15 34 09.9**	**+0.8**
BOAV				IAmb		IAmb	15 34 17.6	
	comp=Z,33nm,1.6s							
BELA	**Belgrano 2**	**43.78**	**169**	P		**P**	**15 34 24.3**	**-1.4**
BELA				IAmb		IAmb	15 34 28.8	
	comp=Z,19nm,1.5s							
BAUV	**El Baul**	**46.55**	**8**	P		**P**	**15 34 48.1**	**-0.2**
MDP	**Montagnes des**	**46.90**	**30**	LR		LR	15 55 51.1	
	comp=Z,449nm,18.5s,baz=199,slow=38							
RCBR	**Riachuelo**	**46.99**	**58**	P		**P**	**15 34 50.7**	**-1.3**
RCBR	**Riachuelo**	**46.99**	**58**	LR		LR	15 56 21.5	
	comp=Z,432nm,18.5s,baz=219,slow=38							
VNA2	**Neumayer--Watz**	**47.52**	**156**	⇓P		**P**	**15 34 57.6**	**+2.3**
	comp=Z,7.9nm,0.7s,baz=292,slow=6.8							
SNAA	**Sanae**	**49.06**	**157**	P		**P**	**15 35 07.3**	**+0.1**
SNAA	**Sanae**	**49.06**	**157**	⇓P		**P**	**15 35 09.3**	**+2.0**
	comp=Z,311nm,1.2s							
SNAA	**Sanae**	**49.06**	**157**	P		**P**	**15 35 07.0**	**-0.3**
	comp=Z,13nm,1.0s,baz=293,slow=6.2,SNR=9.4							
SNAA				LR		LR	15 56 35.4	
	comp=Z,230nm,18.1s,baz=298,slow=37							
	comp=Z,13nm,1.0s							
HATO	**Hato, Curacao**	**49.65**	**7**	P		**P**	**15 35 11.1**	**-1.1**
TROLL	**Troll, Antarti**	**50.75**	**157**	⇓P		**P**	**15 35 22.2**	**+2.0**
	comp=Z,446nm,0.9s							
QSPA	**South Pole Qui**	**52.75**	**180**	P		**P**	**15 35 37.5**	**+2.2**
QSPA				IAmb		IAmb	15 35 46.8	
	comp=Z,16nm,1.1s							
QSPA	**South Pole Qui**	**52.75**	**180**	P		**P**	**15 35 37.7**	**+2.5**
	comp=Z,11nm,1.0s,baz=139,slow=3.8,SNR=22							
	comp=Z,11nm,1.0s							
MPOM	**Morne Pois Mar**	**53.16**	**16**	P		**P**	**15 35 37.4**	**-1.2**
BIM	**Bigot**	**53.19**	**16**	P		**P**	**15 35 39.0**	**+0.2**
TBI	**Tubuai**	**64.85**	**259**	*e*S		S	15 46 01.2	+19
	comp=Z,360nm,30.5s							
TBI	**Tubuai**	**64.85**	**259**	*e*LR		LR	15 56 23.3	
	comp=Z,2μm,26.8s							
TBI				*e*LR		LR	15 56 25.9	
	comp=Z,981nm,31.2s							
PPT2	**Papeete2**	**68.05**	**264**	*e*S		S	15 46 37.6	+16
	comp=Z,124nm,22.8s							
PPT2	**Papeete2**	**68.05**	**264**	*e*LR		LR	15 57 55.7	
	comp=Z,200nm,29.0s							
PPT2				*e*LR		LR	15 58 07.5	
	comp=Z,329nm,26.5s							
PPT	**Papeete**	**68.06**	**264**	LR		LR	16 00 16.1	
	comp=Z,158nm,19.2s,baz=94,slow=30							
LPIG	**La Paz**	**70.05**	**325**	LR		LR	16 01 30.6	
	comp=Z,131nm,18.7s,baz=156,slow=30							
MAW	**Mawson**	**70.33**	**164**	LR		LR	16 08 39.3	
	comp=Z,264nm,18.5s,baz=230,slow=36							
TXAR	**Lajitas Array**	**71.98**	**333**	P		**P**	**15 37 45.5**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=140,slow=9.9,SNR=3.9							
TXAR				LR		LR	16 03 43.2	
	comp=Z,46nm,21.3s,baz=142,slow=31							
	comp=Z,0.4nm,0.8s							
SUR	**Sutherland**	**74.69**	**119**	LR		LR	16 07 44.1	
	comp=Z,105nm,18.4s,baz=192,slow=33							
DBIC	**Dimbokro**	**77.96**	**72**	P		**P**	**15 38 19.2**	**+0.1**
	comp=Z,8.7nm,0.9s,baz=221,slow=6.4,SNR=9.9							
	comp=Z,8.7nm,0.9s							
ANMO	**Albuquerque**	**78.05**	**333**	LR		LR	16 09 14.1	
	comp=Z,41nm,18.6s,baz=231,slow=33							
RPZ	**Rata Peaks**	**79.86**	**222**	LR		LR	16 06 12.9	
	comp=Z,118nm,19.2s,baz=159,slow=30							
TSUM	**Tsumeb**	**79.95**	**106**	LR		LR	16 09 27.7	
	comp=Z,105nm,19.2s,baz=181,slow=32							
BOSA	**Boshof**	**80.00**	**118**	P		**P**	**15 38 31.4**	**+1.1**
	comp=Z,6.6nm,0.9s,baz=248,slow=5.3,SNR=6.3							
BOSA				LR		LR	16 11 08.5	
	comp=Z,74nm,18.8s,baz=200,slow=34							
	comp=Z,6.6nm,0.9s							
URZ	**Urewera**	**80.03**	**229**	LR		LR	16 06 55.6	
	comp=Z,98nm,19.4s,baz=300,slow=30							
PFO	**Pinyon Flats O**	**80.94**	**325**	LR		LR	16 07 56.4	
	comp=Z,70nm,18.4s,baz=116,slow=31							
SADO	**Sadowa**	**82.00**	**356**	LR		LR	16 19 03.7	
	comp=Z,66nm,18.6s,baz=80,slow=39							
LBTB	**Lobatse**	**82.42**	**116**	LR		LR	16 14 02.5	
	comp=Z,106nm,18.1s,baz=211,slow=35							
NVAR	**Mina Array Bea**	**85.78**	**327**	LR		LR	16 13 01.8	
	comp=Z,38nm,18.4s,baz=156,slow=33							
PDAR	**Pinedale Array**	**86.12**	**335**	P		**P**	**15 39 03.6**	**+2.1**
	comp=Z,0.9nm,1.1s,baz=114,slow=5.5,SNR=3.7							
	comp=Z,0.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**87.04**	**71**	P		**P**	**15 39 06.5**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=249,slow=2.7,SNR=16							
	comp=Z,4.4nm,1.0s							
ULM	**Lac du Bonnet**	**89.43**	**346**	P		**P**	**15 39 16.2**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=134,slow=7.6,SNR=3.1							
	comp=Z,2.5nm,0.9s							
LSZ	**Lusaka**	**90.35**	**110**	LR		LR	16 12 25.0	
	comp=Z,84nm,20.7s,baz=222,slow=31							
DZM	**Mont Dzumac**	**97.77**	**235**	LR		LR	16 14 09.3	
	comp=Z,79nm,21.6s,baz=254,slow=29							
BRTR	**Keskin Array B**	**125.02**	**64**	PKP		**PKPdf**	**15 45 20.9**	**0.0**
	comp=Z,1.3nm,0.9s,baz=198,slow=3.6,SNR=6.4							
GEYT	**Alibeck**	**142.61**	**74**	PKhKP		PKPpre	15 45 50.3	
	comp=Z,2.6nm,1.0s,baz=224,slow=4.1,SNR=4.2							
NRIK	**Noril'sk**	**146.59**	**12**	PKPbc		**PKPbc**	**15 46 01.4**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=33,slow=1.3,SNR=4.9							
BVAR	**Borovoye Array**	**151.00**	**46**	PKP		**PKPdf**	**15 46 06.0**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=236,slow=1.6,SNR=3.8							
BVAR				PKPbc		**PKiKP**	**15 46 15.0**	**+1.4**
	comp=Z,8.9nm,1.0s,baz=299,slow=3.1,SNR=22							
KURBB	**Kurchatov Arra**	**156.58**	**47**	PKP		**PKPdf**	**15 46 16.0**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=301,slow=2.7,SNR=5.0							
KURBB				PKPab		**sPKPab**	**15 46 42.8**	**-1.0**
	comp=Z,3.4nm,1.1s,baz=291,slow=3.7,SNR=7.3							
ZALV	**Zalesovo Beam**	**158.11**	**35**	PKP		**PKPdf**	**15 46 17.5**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=270,slow=3.0,SNR=8.9							
ZALV				PKPab		**PKPab**	**15 46 51.4**	**+0.7**
	comp=Z,6.7nm,1.0s,baz=305,slow=5.2,SNR=12							
CMAR	**Chiang Mai Arr**	**160.11**	**161**	PKP		**PKPdf**	**15 46 20.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=52,slow=36,SNR=1.7							
CMAR				PKPab		**PKPab**	**15 47 00.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=214,slow=4.4,SNR=4.5							
MKAR	**Makanchi Array**	**160.31**	**54**	PKP		**PKPdf**	**15 46 18.4**	**-1.5**
	comp=Z,1.8nm,1.1s,baz=292,slow=3.8,SNR=7.7							
MKAR				PKPab		**sPKPab**	**15 46 58.7**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=289,slow=3.7,SNR=7.5							
WMQ	**Urumqi**	**164.89**	**60**	*e*P		**PKPdf**	**15 46 25.0**	**+0.4**
NJ2	**Nanjing**	**167.97**	**247**	*e*P		**PKPdf**	**15 46 27.3**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,11nm,0.6s							
PZH	**PanZhiHua**	**168.52**	**161**	PKP		**PKPdf**	**15 46 27.8**	**-0.1**
SONM	**Songino Array**	**169.65**	**358**	PKPab		**PKPab**	**15 47 40.4**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=315,slow=29,SNR=2.4							
HHC	**Hu-ho-hao-te**	**174.40**	**309**	*e*P		**PKPdf**	**15 46 27.0**	**-3.4**

*NEIC **26** 15:29:11.2±2.0,55°.82N±0°.08×149°.3W±0°.1, h13km±7km, ML3.6/22, ML3.4(AEIC), Error ellipse: s-maj=13.5km s-min=7.6km az=147.0*
*AEIC **26** 15:29:15.3±2.1,55°.8N±0°.1×149°.3W±0°.1, h10km±7km,*

Error ellipse: s-maj=16.2km s-min=8.9km az=164.0
ISC 26 15:29:10.6±1.5,55°.89N±0°.09×149°.31W±0°.06, h10km, n81, σ1$41/81, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.58**	**303**		**Pn**	**15 29 52.6**	**+0.3**
OHAK					**Sn**	**15 30 21.8**	**-1.9**
OHAK	**Old Harbor**	**2.58**	**303**	P	**Pn**	**15 29 52.6**	**+0.3**
	baz=121						
OHAK				S	**Sn**	**15 30 21.8**	**-1.9**
	baz=121						
KDAK	**Kodiak Island**	**2.62**	**318**		**Pn**	**15 29 53.7**	**+0.8**
KDAK	**Kodiak Island**	**2.62**	**318**		**Sn**	**15 30 23.4**	**-1.3**
KDAK	**Kodiak Island**	**2.62**	**318**	S	**Sn**	**15 30 23.4**	**-1.3**
	baz=136						
SII	**Sitkinak Islan**	**2.81**	**286**		**Pn**	**15 29 55.6**	**+0.1**
SII					**Sn**	**15 30 27.9**	**-1.4**
SII	**Sitkinak Islan**	**2.81**	**286**	IAML		15 31 03.1	
	comp=N,185nm,2.5s						
SII	**Sitkinak Islan**	**2.81**	**286**	P	**Pn**	**15 29 55.6**	**+0.1**
	baz=103						
SII				S	**Sn**	**15 30 28.0**	**-1.4**
	baz=103						
SYI	**Shuyak Island**	**3.20**	**330**		**Pn**	**15 30 02.2**	**+1.2**
SYI	**Shuyak Island**	**3.20**	**330**	IAML		15 31 49.2	
	comp=N,85nm,3.0s						
SYI				IAML		15 31 55.9	
	comp=E,87nm,3.0s						
Q20K	**Shuyak Island**	**3.21**	**330**	P	**Pn**	**15 30 02.2**	**+1.2**
	baz=148						
CNPM	**China Poot**	**3.79**	**345**		**Pn**	**15 30 09.6**	**+0.5**
CNPM					**Sn**	**15 30 53.9**	**+0.2**
CNPM	**China Poot**	**3.79**	**345**	IAML		15 31 01.9	
	comp=N,106nm,3.1s						
CNPM				IAML		15 31 50.8	
	comp=E,110nm,3.5s						
Q19K	**Cape Douglas,**	**3.85**	**324**		**Pn**	**15 30 11.2**	**+1.3**
Q19K	**Cape Douglas,**	**3.85**	**324**	IAML		15 32 26.3	
	comp=N,152nm,2.1s						
Q19K	**Cape Douglas,**	**3.85**	**324**	P	**Pn**	**15 30 11.2**	**+1.3**
	baz=141						
BRSE	**Bradley Lake S**	**3.94**	**349**		**Pn**	**15 30 11.6**	**+0.5**
BRSE					**Sn**	**15 30 56.1**	**-1.3**
BRSE	**Bradley Lake S**	**3.94**	**349**	P	**Pn**	**15 30 11.6**	**+0.5**
	baz=168						
BRSE				S	**Sn**	**15 30 56.1**	**-1.3**
	baz=168						
BRLK	**Bradley Lake**	**3.98**	**348**		**Pn**	**15 30 11.9**	**+0.3**
BRLK	**Bradley Lake**	**3.98**	**348**	IAML		15 31 20.9	
	comp=N,66nm,3.9s						
BRLK				IAML		15 32 41.2	
	comp=E,85nm,2.9s						
SEW	**Seward**	**4.23**	**359**		**Sn**	**15 31 01.8**	**-2.6**
SEW	**Seward**	**4.23**	**359**	S	**Sn**	**15 31 01.8**	**-2.6**
	baz=179						
CNTC	**Contact Creek**	**4.31**	**306**		**Pn**	**15 30 17.6**	**+1.4**
Q17K	**Contact Creek**	**4.31**	**306**	P	**Pn**	**15 30 17.6**	**+1.4**
	baz=122						
P19K	**Oil Pt**	**4.32**	**333**		**Pn**	**15 30 17.7**	**+1.3**
P19K	**Oil Pt**	**4.32**	**333**	IAML		15 31 43.7	
	comp=E,137nm,2.5s						
P19K				IAML		15 31 51.1	
	comp=N,148nm,3.1s						
P19K	**Oil Pt**	**4.32**	**333**	P	**Pn**	**15 30 17.7**	**+1.3**
	baz=150						
SLKM	**Skilak Lake**	**4.66**	**354**		**Sn**	**15 31 13.0**	**-2.0**
P18K	**Big Mountain,**	**4.74**	**320**		**Pn**	**15 30 22.9**	**+0.8**
P18K	**Big Mountain,**	**4.74**	**320**	IAML		15 31 54.8	
	comp=N,41nm,3.0s						
P18K				IAML		15 33 11.7	
	comp=E,51nm,3.4s						
P18K	**Big Mountain,**	**4.74**	**320**	P	**Pn**	**15 30 22.9**	**+0.8**
	baz=136						
HIN	**Hinchinbrook I**	**4.76**	**17**		**Pn**	**15 30 23.2**	**+0.8**
RAGM	**Ragged Mountai**	**5.14**	**27**	Pn	**Pn**	**15 30 25.5**	**-2.0**
BERG	**Berg Lake**	**5.41**	**31**		**Pn**	**15 30 31.9**	**+0.7**
SUA	**Susitna One**	**5.64**	**353**	Pn	**Pn**	**15 30 35.7**	**+1.1**
BMRM	**Bremner River**	**5.66**	**24**		**Pn**	**15 30 35.8**	**+1.1**
BMRM	**Bremner River**	**5.66**	**24**	P	**Pn**	**15 30 35.8**	**+1.1**
	baz=208						
BARK	**Barkley Ridge**	**5.79**	**36**		**Pn**	**15 30 37.2**	**+0.7**
KLU	**Klutina**	**5.89**	**16**		**Pn**	**15 30 39.2**	**+1.3**
KLU	**Klutina**	**5.89**	**16**	P	**Pn**	**15 30 39.3**	**+1.3**
	baz=199						
VRDI	**Verde Repeater**	**6.17**	**27**		**Pn**	**15 30 42.8**	**+0.9**
SAMH	**Samovar Hills**	**6.21**	**43**		**Pn**	**15 30 43.8**	**+1.5**
KIAG	**Kiagna River**	**6.23**	**33**		**Pn**	**15 30 43.4**	**+0.8**
N25K	**Chitina, Valde**	**6.24**	**21**	Pn	**Pn**	**15 30 44.3**	**+1.6**
N17K	**Nushagak Hills**	**6.24**	**321**	Pn	**Pn**	**15 30 44.4**	**+1.8**
GLB	**Gilahina Butte**	**6.26**	**25**	Pn	**Pn**	**15 30 44.4**	**+1.4**
PCA	**Pinnacle**	**6.40**	**45**		**Pn**	**15 30 46.0**	**+1.1**
PINM	**Pinnacle**	**6.40**	**45**	P	**Pn**	**15 30 46.0**	**+1.1**
	baz=232						
PTPK	**Patty Peak**	**6.41**	**31**		**Pn**	**15 30 46.2**	**+1.1**
MCARA	**McCarthy VSAT**	**6.41**	**28**		**Pn**	**15 30 46.4**	**+1.4**
MCARA	**McCarthy VSAT**	**6.41**	**28**	P	**Pn**	**15 30 46.4**	**+1.4**
	baz=213						
M24K	**Tolsona, Glenn**	**6.45**	**13**	Pn	**Pn**	**15 30 48.1**	**+2.7**
PNL	**Peninsula**	**6.51**	**50**		**Pn**	**15 30 47.6**	**+1.2**
PNL	**Peninsula**	**6.51**	**50**	P	**Pn**	**15 30 47.6**	**+1.2**
	baz=238						
O15K	**Ungalikthiuk R**	**6.55**	**305**		**Pn**	**15 30 48.4**	**+1.5**
O15K	**Ungalikthiuk R**	**6.55**	**305**	P	**Pn**	**15 30 48.4**	**+1.5**
	baz=116						
BARN	**Barnard Glacie**	**6.55**	**35**		**Pn**	**15 30 48.4**	**+1.2**
BCPM	**Bancas Point**	**6.57**	**48**	Pn	**Pn**	**15 30 44.5**	**-2.6**
CTGM	**Chitina Glacie**	**6.59**	**36**	Pn	**Pn**	**15 30 48.6**	**+1.0**
LOGN	**Logan Glacier**	**6.60**	**38**		**Pn**	**15 30 48.5**	**+0.8**
N15K	**Kwethluk River**	**7.15**	**311**	Pn	**Pn**	**15 30 57.5**	**+2.3**
O29M	**Mount Kennedy**	**7.20**	**48**		**Pn**	**15 30 57.3**	**+1.3**
O29M	**Mount Kennedy**	**7.20**	**48**	P	**Pn**	**15 30 57.3**	**+1.3**
	baz=236						
M16K	**Timber Creek**	**7.22**	**319**	Pn	**Pn**	**15 30 58.4**	**+2.4**
P29M	**Windy Craggy**	**7.24**	**54**		**Pn**	**15 30 57.2**	**+0.9**
P29M	**Windy Craggy**	**7.24**	**54**	P	**Pn**	**15 30 57.2**	**+0.9**
	baz=243						
S31K	**Pelican**	**7.45**	**68**		**Pn**	**15 30 58.0**	**-1.2**
S31K	**Pelican**	**7.45**	**68**	P	**Pn**	**15 30 58.0**	**-1.2**
	baz=259						
M27K	**Edge Creek, AK**	**7.53**	**27**	Pn	**Pn**	**15 31 02.2**	**+1.8**
HYT	**Haines Junctio**	**7.93**	**47**	Pn	**Pn**	**15 31 07.5**	**+1.5**
N30M	**Aishikik Lake**	**8.46**	**44**	Pn	**Pn**	**15 31 14.5**	**+1.4**
M29M	**Somme Creek**	**8.61**	**36**	Pn	**Pn**	**15 31 17.1**	**+1.9**
WHY	**Whitehorse**	**8.97**	**52**	Pn	**Pn**	**15 31 19.5**	**-0.7**
P32M	**Atlin**	**9.12**	**60**	Pn	**Pn**	**15 31 23.4**	**+1.2**
L29M	**L29M**	**9.19**	**33**	Pn	**Pn**	**15 31 25.2**	**+2.1**
AKUT	**Akutan**	**9.62**	**266**	Pn	**Pn**	**15 31 29.0**	**0.0**
P33M	**Teslin, Yukon**	**9.75**	**57**	Pn	**Pn**	**15 31 30.6**	**-0.1**
EGAK	**Eagle**	**9.78**	**21**	Pn	**Pn**	**15 31 33.3**	**+2.2**
K29M	**Barlow Dome**	**9.92**	**32**	Pn	**Pn**	**15 31 33.4**	**+0.3**
M31M	**Drury Creek, Y**	**9.94**	**44**	Pn	**Pn**	**15 31 35.0**	**+1.7**
H21K	**Melozitna Rive**	**9.95**	**352**	Pn	**Pn**	**15 31 34.6**	**+1.1**

*IDC **26** 15:37:15.1±1.9,55°.40N×166°.42E, h0km, mb3.3/2, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=135.1km s-min=27.0km az=156.0*
*KRSC **26** 15:37:15.7±1.1,55°.23N×166°.50E, h36km±5km, Ml3.8*
ISC 26 15:37:18.1±1.3,55°.3N±0°.1×166°.52E±0°.08, h20^{K}m, n17, σ0$80/24, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.32**	**261**	*e*P	**Pb**	**15 37 24.2**	**-0.9**
BKI				*e*S	**Sb**	**15 37 30.1**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**3.38**	**284**	*e*P	**Pn**	**15 38 10.1**	**+0.4**
TUMD	**Tumrok D**	**3.51**	**272**	*e*P	**Pn**	**15 38 10.8**	**-0.6**
TUMD				*e*S	**Sn**	**15 38 51.8**	**-0.5**
KMNR	**Kamenistaya**	**3.61**	**281**	*e*P	**Pn**	**15 38 12.9**	**0.0**
KMNR				*e*S	**Sn**	**15 38 56.5**	**+1.6**
KPT	**Kopyto**	**3.64**	**284**	*e*P	**Pn**	**15 38 14.1**	**+0.7**
SRDR	**Sredinnyy**	**3.99**	**288**	*e*P	**Pn**	**15 38 18.3**	**+0.2**
SMAR	**Somma**	**4.95**	**249**	*e*P	**Pn**	**15 38 32.0**	**+0.6**
UGLR	**Uglovaya**	**4.96**	**249**	*e*P	**Pn**	**15 38 32.4**	**+0.9**
AVH	**Avacha**	**4.98**	**250**	*e*P	**Pn**	**15 38 32.7**	**+1.0**
AVH				*e*S	**Sn**	**15 39 28.6**	**-0.1**
KRX	**Arik**	**4.99**	**251**	*e*P	**Pn**	**15 38 32.6**	**+0.7**
KRX				*e*S	**Sn**	**15 39 29.2**	**+0.2**
KOK	**Koryaka**	**5.02**	**250**	*e*P	**Pn**	**15 38 33.0**	**+0.7**
DALK	**Dalny**	**5.08**	**247**	*e*P	**Pn**	**15 38 33.4**	**+0.4**
KRMR	**Karymshinskiy**	**5.51**	**247**	*e*S	**Sn**	**15 39 41.5**	**-0.1**
PETK	**Petropavlovsk-**	**5.61**	**251**	Pn	**Pn**	**15 38 40.0**	**-0.3**
	1.0nm,0.3s,baz=70,slow=18,SNR=2.9						
PETK				Sn	**Sn**	**15 39 44.6**	**+0.5**
	0.7nm,0.3s,baz=93,slow=25,SNR=6.3						
	1.2nm,0.3s						
MTVR	**Mutnovka**	**5.66**	**244**	*e*P	**Pn**	**15 38 42.3**	**+1.2**
MTVR				*e*S	**Sn**	**15 39 44.1**	**-1.5**
ILAR	**Eielson Array**	**24.58**	**48**	P	**P**	**15 42 35.4**	**-1.0**
	0.4nm,0.9s,baz=261,slow=11,SNR=4.7						
	0.4nm,0.9s						
TXAR	**Lajitas Array**	**66.34**	**72**	P	**P**	**15 48 06.0**	**+0.7**
	0.3nm,0.6s,baz=318,slow=3.9,SNR=4.3						
	0.3nm,0.6s						

IDC 26 15:43:20.4±2.2,3°.34S×130°.05E, h0km, mb3.5/3, mbtmp3.5/4, ML3.6/1, MS3.5/1, Error ellipse: s-maj=161.1km s-min=25.6km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.03**	**166**	P	Pn	15 47 20.6	+0.5
	0.2nm,0.3s,baz=349,slow=13,SNR=11						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**20.55**	**170**	P	P	15 48 00.6	-0.2
	0.8nm,0.4s,baz=350,slow=9.9,SNR=21						
	0.8nm,0.4s						
LEM	**Lembang**	**22.61**	**260**	LR	LR	15 58 08.4	
	comp=Z,124nm,18.6s,baz=146,slow=39						
MKAR	**Makanchi Array**	**65.22**	**326**	P	P	15 54 04.2	+0.3
	0.4nm,0.5s,baz=120,slow=8.1,SNR=5.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**69.45**	**328**	P	P	15 54 30.2	-0.3
	0.2nm,0.5s,baz=130,slow=6.1,SNR=5.9						
	0.2nm,0.5s						

IDC 26 15:48:10.1±29.0,19°.09S×178°.32W, h640km±277km, mb2.8/3, mbtmp3.8/3, Error ellipse: s-maj=233.4km s-min=110.9km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.15**	**242**	P	P	15 54 37.6	+0.2
	0.5nm,0.3s,baz=78,slow=8.3,SNR=2.9						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**44.51**	**261**	P	P	15 55 27.5	+0.1
	0.5nm,0.3s,baz=98,slow=7.6,SNR=20						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**44.56**	**255**	P	P	15 55 27.9	0.0
	1.4nm,0.9s,baz=87,slow=8.1,SNR=27						
ASAR				PcP	PcP	15 56 55.9	-0.5
	0.3nm,0.7s,baz=106,slow=4.1,SNR=1.8						
	1.4nm,0.9s						
BRTR	**Keskin Array B**	**145.66**	**314**	PKPbc	PKPbc	16 06 38.8	-0.6
	0.3nm,0.5s,baz=41,slow=2.7,SNR=1.5						

*NEIC **26** 16:10:46.1±1.1,36°.55N±0°.02×98°.96W±0°.05, h16km±6km, Error ellipse: s-maj=5.4km s-min=2.2km az=90.0*
TUL 26 16:10:46.5±1.4,36°.54N±0°.03×98°.97W±0°.04, h6km±3km, ML2.5, mb_Lg2.6/4(NEIC), ML2.4/6(NEIC), Error ellipse: s-maj=4.1km s-min=3.9km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.16**	**190**	Pg	Pg	16 10 50.2	+0.5
U32A				IAML		16 10 53.2	
	comp=N,336nm,0.1s						
OK038	**West end E0370**	**0.19**	**108**	Pg	Pg	16 10 50.9	+0.5
OK038				Sg	Sg	16 10 53.9	+1.0
OK038				IAML		16 10 56.2	
	comp=N,873nm,0.1s						
OK038				IAML		16 10 57.2	
	comp=N,1μm,0.3s						
**O

DBIC					IAmb	IAmb	16 24 10.4		
	comp=Z,25nm,1.1s								
DBIC	**Dimbokro**	**23.03**	**75**	P		**P**	**16 24 08.1**	**-1.1**	
	comp=Z,15nm,1.0s,baz=244,slow=11,SNR=12								
DBIC					LR	LR	16 30 49.6		
	comp=Z,132nm,21.3s,baz=218,slow=31								
	comp=Z,15nm,1.0s								
KIC	**Kosan Boka**	**23.07**	**76**	*eP*		**P**	**16 24 08.4**	**-1.3**	
	comp=Z,6.4nm,0.7s								
MDP	**Montagnes des**	**25.76**	**280**	LR		LR	16 31 56.6		
	comp=Z,89nm,21.8s,baz=128,slow=30								
BDFB	**Brasilia**	**26.27**	**231**	P		**P**	**16 24 40.7**	**+1.1**	
	comp=Z,5.6nm,0.9s,baz=36,slow=7.7,SNR=5.2								
BDFB					LR	LR	16 33 50.2		
	comp=Z,425nm,19.9s,baz=45,slow=34								
	comp=Z,5.6nm,0.9s								
TOA0	**Torodi Ar. Sit**	**31.13**	**66**	P		**P**	**16 25 22.8**	**-0.1**	
TOA0					IAmb	IAmb	16 25 23.1		
	comp=Z,8.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**31.13**	**66**	P		**P**	**16 25 22.6**	**-0.2**	
TORD					IAmb	IAmb	16 25 23.6		
	comp=Z,13nm,1.1s								
TORD	**Torodi Ar. Bea**	**31.13**	**66**	P		**P**	**16 25 22.4**	**-0.4**	
	comp=Z,7.1nm,0.8s,baz=261,slow=9.0,SNR=39								
TORD					LR	LR	16 35 39.8		
	comp=Z,158nm,21.7s,baz=258,slow=32								
	comp=Z,7.1nm,0.8s								
VILB	**Vilhena**	**35.48**	**246**	P		**P**	**16 25 59.4**	**-1.4**	
VILB					IAmb	IAmb	16 26 22.2		
	comp=Z,5.3nm,0.6s								
SIV	**San Ignacio**	**37.38**	**242**	LR		LR	16 40 38.2		
	comp=Z,130nm,19.3s,baz=102,slow=35								
MDT	**Midelt**	**38.28**	**31**	LR		LR	16 39 53.0		
	comp=Z,99nm,18.5s,baz=300,slow=33								
PCRV	**Puerto La Cruz**	**38.37**	**285**	LR		LR	16 40 12.5		
	comp=Z,52nm,19.6s,slow=33								
CPUP	**Villa Florida**	**39.65**	**225**	LR		LR	16 42 44.4		
	comp=Z,260nm,18.9s,baz=70,slow=36								
BAUV	**El Baul**	**41.45**	**283**	P		**P**	**16 26 51.0**	**-0.1**	
BAUV					IAmb	IAmb	16 26 51.9		
	comp=Z,8.7nm,1.0s								
SJG	**San Juan**	**41.94**	**297**	LR		LR	16 40 49.7		
	comp=Z,36nm,19.0s,baz=79,slow=31								
GCPR	**Guaynabo City**	**41.95**	**297**	P		**P**	**16 26 54.3**	**-0.7**	
LPAZ	**La Paz**	**43.82**	**245**	P		**P**	**16 27 11.3**	**+0.4**	
PAB	**San Pablo**	**43.84**	**26**	P		**P**	**16 27 09.3**	**-0.8**	
SDV	**Santo Domingo**	**43.98**	**282**	LR		LR	16 45 20.7		
	comp=Z,39nm,18.4s,baz=106,slow=36								
ESDC	**Sonseca Array**	**44.11**	**26**	P		**P**	**16 27 12.7**	**+0.4**	
	comp=Z,1.0nm,0.7s,baz=273,slow=31,SNR=5.7								
	comp=Z,1.0nm,0.7s								
TSUM	**Tsumeb**	**48.23**	**117**	LR		LR	16 43 18.3		
	comp=Z,87nm,20.7s,baz=242,slow=30								
GO02	**Mina Guanaco**	**48.45**	**235**	P		**P**	**16 27 46.1**	**-0.9**	
KEST	**Kesra**	**48.57**	**40**	LR		LR	16 47 43.9		
	comp=Z,130nm,20.6s,baz=136,slow=35								
GO03	**Copiap**	**50.05**	**232**	P		**P**	**16 28 01.6**	**+2.8**	
GO03					IAmb	IAmb	16 28 30.9		
	comp=Z,11nm,1.0s								
BOSC	**San Juan Bosco**	**51.43**	**265**	P		**P**	**16 28 11.2**	**+1.6**	
ATAH	**Atahualpa**	**51.68**	**260**	LR		LR	16 49 19.7		
	comp=Z,54nm,18.2s,baz=86,slow=35								
VAE	**Valguarnera**	**52.90**	**41**	LR		LR	16 50 31.1		
	comp=Z,151nm,20.3s,baz=236,slow=36								
SUR	**Sutherland**	**56.04**	**131**	LR		LR	16 47 53.9		
	comp=Z,43nm,21.3s,baz=180,slow=31								
DAVOX	**Davos/Dischmat**	**56.05**	**30**	LR		LR	16 50 19.0		
	comp=Z,51nm,18.4s,baz=256,slow=34								
LSZ	**Lusaka**	**57.01**	**109**	LR		LR	16 48 20.1		
	comp=Z,83nm,21.1s,baz=274,slow=31								
PLCA	**Paso Flores**	**57.08**	**218**	LR		LR	16 51 59.8		
	comp=Z,75nm,18.2s,baz=96,slow=35								
LBTB	**Lobatse**	**57.13**	**121**	LR		LR	16 49 34.0		
	comp=Z,84nm,19.5s,baz=230,slow=32								
BOSA	**Boshof**	**58.05**	**125**	P		**P**	**16 28 57.0**	**-0.5**	
	comp=Z,3.5nm,0.8s,baz=329,slow=7.4,SNR=5.9								
BOSA					LR	LR	16 48 59.8		
	comp=Z,89nm,20.6s,baz=206,slow=31								
	comp=Z,3.5nm,0.8s								
GERES	**GERESS Array B**	**59.35**	**30**	P		**P**	**16 29 05.8**	**-0.3**	
	comp=Z,2.2nm,0.8s,baz=247,slow=6.9,SNR=9.0								
GERES					LR	LR	16 51 43.8		
	comp=Z,50nm,21.3s,baz=228,slow=33								
	comp=Z,2.2nm,0.8s								
BRG	**Berggiesshubel**	**60.80**	**29**	*eP*		**P**	**16 29 16.2**	**+0.4**	
BRG					Amp		16 29 17.3		
	comp=Z,15nm,1.6s								
MLR	**Muntele Rosu**	**64.42**	**39**	LR		LR	16 58 31.7		
	comp=Z,83nm,21.0s,baz=214,slow=37								
KMBO	**Kilima Mbogo**	**64.47**	**92**	LR		LR	16 54 38.7		
	comp=Z,59nm,18.9s,baz=87,slow=33								
EIL	**Elat**	**65.58**	**58**	LR		LR	16 57 54.8		
	comp=Z,62nm,18.3s,baz=248,slow=36								
MMAI	**Mount Meron Ar**	**66.78**	**54**	LR		LR	17 00 34.8		
	comp=Z,71nm,18.7s,baz=222,slow=37								
HFS	**Hagfors**	**67.02**	**21**	P		**P**	**16 29 57.1**	**+0.5**	
	comp=Z,2.5nm,0.9s,baz=304,slow=10,SNR=2.1								
	comp=Z,2.5nm,0.9s								
BRTR	**Keskin Array B**	**67.38**	**47**	P		**P**	**16 29 59.9**	**+0.4**	
	comp=Z,2.0nm,0.9s,baz=225,slow=5.6,SNR=7.9								
	comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**68.75**	**35**	P		**P**	**16 30 08.0**	**+0.3**	
	comp=Z,3.8nm,0.6s,baz=243,slow=6.3,SNR=12								
	comp=Z,3.8nm,0.6s								
FINES	**FINESS Array B**	**72.57**	**24**	P		**P**	**16 30 31.7**	**+1.0**	
	comp=Z,2.8nm,0.9s,baz=204,slow=4.2,SNR=4.4								
	comp=Z,2.8nm,0.9s								
KBZ	**Khabaz**	**75.14**	**45**	P		**P**	**16 30 47.5**	**+1.4**	
	comp=Z,2.5nm,0.8s,baz=226,slow=5.7,SNR=5.5								
	comp=Z,2.5nm,0.8s								
TXAR	**Lajitas Array**	**77.82**	**300**	P		**P**	**16 31 01.6**	**-0.2**	
	comp=Z,0.5nm,0.8s,baz=126,slow=6.5,SNR=3.9								
	comp=Z,0.5nm,0.8s								
GEYT	**Alibeck**	**85.80**	**52**	P		**P**	**16 31 44.4**	**+0.7**	
	comp=Z,1.0nm,0.6s,baz=284,slow=5.8,SNR=2.5								
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**88.09**	**332**	P		**P**	**16 31 53.9**	**-0.2**	
	comp=Z,0.1nm,0.4s,baz=70,slow=7.3,SNR=1.8								
	comp=Z,0.1nm,0.4s								
QSPA	**South Pole Qui**	**90.87**	**180**	P		**P**	**16 32 07.2**	**-0.1**	

*IDC **26** 16:24:57.1±1.9,54˚.97N×168˚.16E, h0km, mb3.5/5, mbtmp3.5/6, ML2.6/1, Error ellipse: s-maj=64.2km s-min=20.6km az=173.0*

*KRSC **26** 16:24:58.5±1.4,54˚.46N×167˚.92E, h21km±15km, Ml3.9*

ISC 26 16:24:59.3±1.1,54˚6N±0˚.1×168˚20E±0˚.07, h23km, n23, σ2§01/24, mb3.3/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**1.43**	**297**	*eP*		**Pb**	**16 25 22.4**	**-2.8**
BKI				*eS*		**Sb**	**16 25 40.1**	**-2.8**
BZGR	**Bezymyannyi-Gr**	**4.50**	**291**	*eP*		**Pn**	**16 26 08.2**	**+2.1**
BZGR				*eS*		**Sn**	**16 27 00.9**	**+3.2**
TUMD	**Tumrok D**	**4.54**	**281**	*eP*		**Pn**	**16 26 08.3**	**+1.7**
TUMD				*eS*		**Sn**	**16 27 00.5**	**+1.8**
KMNR	**Kamenistaya**	**4.71**	**288**	*eP*		**Pn**	**16 26 11.7**	**+2.7**
KMNR				*eS*		**Sn**	**16 27 05.5**	**+2.6**
SRDR	**Sredinnyy**	**5.13**	**293**	*eP*		**Pn**	**16 26 16.9**	**+2.3**
SRDR				*eS*		**Sn**	**16 27 14.0**	**+0.8**
SMAR	**Somma**	**5.71**	**260**	*eP*		**Pn**	**16 26 24.3**	**+1.6**
AVH	**Avacha**	**5.74**	**261**	*eP*		**Pn**	**16 26 24.7**	**+1.6**
KRX	**Arik**	**5.77**	**262**	*eP*		**Pn**	**16 26 24.7**	**+1.2**
KOK	**Koryaka**	**5.79**	**261**	*eP*		**Pn**	**16 26 25.2**	**+1.4**
MTVR	**Mutnovka**	**6.33**	**255**	*eP*		**Pn**	**16 26 32.4**	**+1.2**
MTVR				*eS*		**Sn**	**16 27 41.1**	**-1.7**
GRL	**Gorelyy**	**6.37**	**255**	*eP*		**Pn**	**16 26 33.5**	**+1.8**
PETK	**Petropavlovsk-**	**6.39**	**261**	Pn		**Pn**	**16 26 34.1**	**+2.3**
	0.6nm,0.3s,baz=296,slow=9.9,SNR=9.1							
PETK				Sn		**Sn**	**16 27 46.0**	**+2.0**
	0.3nm,0.3s,baz=62,slow=19,SNR=1.1							
	2.3nm,0.5s							
ILAR	**Eielson Array**	**24.31**	**47**	P		**P**	**16 30 13.6**	**-1.2**
	0.5nm,0.6s,baz=254,slow=7.7,SNR=12							
	0.5nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**34.81**	**182**	T		T	17 08 30.8	
	baz=1.5,slow=76,SNR=381							
H11N3	**WAKE ISLAND Hy**	**34.82**	**182**	T		T	17 08 33.6	
	baz=1.5,slow=76,SNR=277							
H11N1	**WAKE ISLAND Hy**	**34.82**	**182**	T		T	17 08 36.6	
	baz=1.5,slow=76,SNR=318							
H11S1	**WAKE ISLAND Hy**	**36.03**	**182**	T		T	17 10 01.4	
	baz=1.6,slow=76,SNR=92							
H11S3	**WAKE ISLAND Hy**	**36.04**	**182**	T		T	17 10 02.4	
	baz=1.6,slow=76,SNR=43							
H11S2	**WAKE ISLAND Hy**	**36.05**	**182**	T		T	17 10 07.0	
	baz=1.6,slow=76,SNR=101							
KURBB	**Kurchatov Arra**	**51.02**	**305**	P		**P**	**16 33 59.3**	**+0.3**
	0.3nm,0.8s,baz=51,slow=7.5,SNR=2.2							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	**51.73**	**299**	P		**P**	**16 34 04.0**	**-0.5**
	0.2nm,0.7s,baz=50,slow=10.0,SNR=2.2							
	0.2nm,0.7s							
BVAR	**Borovoye Array**	**53.11**	**312**	P		**P**	**16 34 13.6**	**-0.9**
	0.7nm,0.5s,baz=58,slow=9.2,SNR=6.5							
	0.7nm,0.5s							
TXAR	**Lajitas Array**	**65.62**	**73**	P		**P**	**16 35 42.3**	**+0.9**
	0.5nm,0.5s,baz=304,slow=5.1,SNR=7.6							
	0.5nm,0.5s							

*NEIC **26** 16:30:57.7±1.3,6˚.14S±0˚.08×150˚.17E±0˚.07, h62km±14km, mb4.1/10, Error ellipse: s-maj=11.6km s-min=9.1km az=210.0*

*IDC **26** 16:31:03.6±6.8,6˚.29S×150˚.04E, h94km±49km, mb3.4/4, mbtmp3.8/5, MS3.2/5, Error ellipse: s-maj=70.8km s-min=32.7km az=96.0*

ISC 26 16:30:56.6±0.8,6˚16S±0˚.08×150˚.24E±0˚.10, h50km, n23, σ1§96/21, mb3.6/5, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.73**	**44**	Pn		**Pn**	**16 31 39.7**	**+1.6**
PMG	**Port Moresby**	**4.44**	**223**	Pn		**Pn**	**16 32 02.0**	**+0.5**
PMG				Sn		**Sn**	**16 32 52.1**	**+0.2**
PMG	**Port Moresby**	**4.44**	**223**	P		**Pn**	**16 32 04.3**	**+2.8**
	16nm,0.4s,baz=38,slow=7.2,SNR=18							
PMG				S		**Sn**	**16 32 55.3**	**+3.4**
	72nm,0.7s,baz=24,slow=17,SNR=6.9							
PMG				LR		LR	16 33 44.4	
	comp=Z,142nm,22.0s,baz=20,slow=38							
MANU	**Manus Island**	**5.00**	**325**	Pn		**Pn**	**16 32 09.3**	**+0.2**
CTA	**Charters Tower**	**14.38**	**195**	LR		LR	16 39 28.1	
	comp=Z,89nm,18.6s,baz=86,slow=36							
SAUI	**Saumlaki**	**18.89**	**263**	P		**P**	**16 35 08.7**	**-4.4**
EIDS	**Eidsvold**	**19.12**	**178**	P		**P**	**16 35 12.4**	**-3.1**
EIDS					IAmb	IAmb	16 35 18.1	
	comp=Z,10nm,0.9s							
WB0	**Warramunga Arr**	**20.50**	**227**	P		**P**	**16 35 29.6**	**-1.1**
WB0					IAmb	IAmb	16 35 45.4	
	comp=Z,14nm,1.1s							
WR0	**Warramunga Arr**	**20.52**	**227**	P		**P**	**16 35 29.8**	**-1.0**
WR0					IAmb	IAmb	16 35 44.4	
	comp=Z,12nm,1.2s							
WRAB	**Tennant Creek**	**20.64**	**227**	P		**P**	**16 35 32.3**	**+0.2**
WRAB					IAmb	IAmb	16 35 42.7	
	comp=Z,8.7nm,0.9s							
WB2	**Warramunga Arr**	**20.64**	**227**	P		**P**	**16 35 33.0**	**+0.8**
WRA	**Warramunga Arr**	**20.65**	**227**	P		**P**	**16 35 31.9**	**-0.4**
WRA	**Warramunga Arr**	**20.65**	**227**	P		**P**	**16 35 33.6**	**+1.3**
	comp=Z,3.3nm,0.6s,baz=51,slow=10,SNR=13							
	comp=Z,3.3nm,0.6s							
DZM	**Mont Dzumac**	**22.25**	**137**	LR		LR	16 42 36.9	
	comp=Z,92nm,18.6s,baz=293,slow=31							
ASAR	**Alice Springs**	**23.45**	**220**	P		**P**	**16 36 01.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=52,slow=8.3,SNR=4.3							
	comp=Z,0.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**26.78**	**242**	P		**P**	**16 36 33.0**	**+0.9**
STKA	**Stephens Creek**	**26.83**	**196**	P		**P**	**16 36 33.5**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=27,slow=6.8,SNR=3.0							
	comp=Z,1.3nm,0.8s							
KAPI	**Kappang**	**30.37**	**271**	LR		LR	16 50 24.8	
	comp=Z,47nm,20.5s,baz=107,slow=38							
URZ	**Urewera**	**40.18**	**147**	LR		LR	16 54 50.4	
	comp=Z,35nm,19.4s,baz=300,slow=36							
SONM	**Songino Array**	**66.15**	**329**	P		**P**	**16 41 41.8**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=116,slow=3.4,SNR=2.3							
	comp=Z,0.5nm,0.8s							
VNDA	**Vanda**	**71.58**	**177**	P		**P**	**16 42 11.7**	**-0.4**
VNDA					IAmb	IAmb	16 42 12.4	
	comp=Z,3.4nm,1.1s							
QSPA	**South Pole Qui**	**83.81**	**180**	P		**P**	**16 43 18.9**	**-1.7**
QSPA					IAmb	IAmb	16 43 36.3	
	comp=Z,1.9nm,1.0s							
TORD	**Torodi Ar. Bea**	**148.25**	**285**	PKPbc		**PKPbc**	**16 50 38.8**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=67,slow=3.0,SNR=8.2							

*IDC **26** 16:31:27.9±0.6,22˚.90N×121˚.07E, h0km, mb4.2/25, mbtmp4.2/26, ML3.4/1, MS3.6/11, Error ellipse: s-maj=21.7km s-min=13.4km az=66.0*

*JMA **26** 16:31:28.9±0.1,22˚.9N±0˚.2×121˚.2E±0˚.3, h0km, MV4.0/15, TAIWAN REGION*

*NIED **26** 16:31:28.9,22˚.93N×121˚.23E, h0km, MW4.5, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=4.28; Mθθ=1.34; Mϕϕ=2.94; Mrθ=4.39; Mθϕ=0.68; Mϕr=1.86; Fault plane solution: M₀5.90000×10¹⁵ NP1: ϕs=304.00000°, δ72.00000°, λ=102.00000°. NP2: ϕs=159.00000°, δ22.00000°, λ=58.00000°.*

*TAP **26** 16:31:28.7,22˚.97N×120˚.99E, h6km, ML4.6, C*

*BJI **26** 16:31:28.2±0.0,22˚.97N×121˚.03E, h7km, mb4.2/44, mB4.8/23, ML4.4/6, Ms4.4/20, Ms7 4.1/22*

*ASIES **26** 16:31:28.7,22˚.97N×120˚.99E, h6km, ML4.6, Mw4.3, Moment Tensor Solution. Moment tensor: Scale 10²²Nm; Mrr=2.55; Mθθ=0.32; Mϕϕ=2.23; Mrθ=1.27; Mθϕ=-1.10; Mϕr=-1.19; Fault plane solution: M₀3.16884×10²² NP1: ϕs=323.13000°, δ61.86000°, λ=102.44000°. NP2: ϕs=168.21000°, δ30.56000°, λ=68.06000°. Principal axes: T Plg15.9860°, Azm62.2580°; N Plg10.9510°, Azm329.0810°; P Plg70.4540°, Azm206.0550°;*

*NEIC **26** 16:31:30.2±2.2,23˚.05N±0˚.04×121˚.08E±0˚.07, h10km±1km, mb4.5/27 Error ellipse: s-maj=10.6km s-min=7.0km az=258.0*

ISC 26 16:31:30.2±0.5,22˚96N±0˚.01×121˚01E±0˚.01, h12km±3km, n275, σ1§76/388, mb4.4/47, MS3.4/8, 40C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LONT	**Longtian**	**0.12**	**118**	⇑*iP*		**Pg**	**16 31 32.4**	**-1.0**
	baz=115							
LONT				S		**Sg**	**16 31 34.6**	**-1.0**
	baz=115							
TWG	**Pinlang**	**0.15**	**159**	Pg		**Pg**	**16 31 32.9**	**-0.9**
TWG	**Pinlang**	**0.15**	**159**	⇑*iP*		**Pg**	**16 31 32.9**	**-0.9**
	baz=142							
TWG				S		**Sg**	**16 31 35.4**	**-0.9**
	baz=142							
TWGBT	**Beinan**	**0.16**	**157**	P		**Pg**	**16 31 32.9**	**-1.0**
TWGBT	**Beinan**	**0.16**	**157**	⇑*iP*		**Pg**	**16 31 32.9**	**-1.0**
	baz=142							
TWGBT				S		**Sg**	**16 31 35.4**	**-1.0**
	baz=142							
ELDTW	**Lidau**	**0.23**	**1**	⇓*iP*		**Pg**	**16 31 33.3**	**-1.8**
	baz=8.0							
ELDTW				S		**Sg**	**16 31 36.2**	**-2.1**
	baz=8.0							
ECS	**Chishang**	**0.23**	**55**	⇑*iP*		**Pg**	**16 31 34.3**	**-0.8**
	baz=59							
ECS				*eS*		**Sg**	**16 31 37.3**	**-1.2**
	baz=59							
TTN	**Taitung**	**0.24**	**149**	P		**Pb**	**16 31 35.6**	**-1.0**
	baz=143							
TTN				S		**Sb**	**16 31 40.6**	**+1.9**
	baz=143							
EHD	**Haiduan**	**0.26**	**44**	⇑*iP*		**Pg**	**16 31 34.2**	**-1.4**
	baz=48							
EHD				*eS*		**Sg**	**16 31 37.7**	**-1.5**
	baz=48							
EDH	**Donghe**	**0.27**	**88**	⇑*iP*		**Pb**	**16 31 35.5**	**-1.5**
	baz=84							
EDH				*eS*		**Sg**	**16 31 38.8**	**-0.7**
	baz=84							
STYH	**Taoyuan**	**0.30**	**313**	⇑*iP*		**Pg**	**16 31 34.9**	**-1.5**
	baz=307							
STYH				*eS*		**Sg**	**16 31 38.8**	**-1.7**
	baz=307							
SLGT	**Liugui**	**0.34**	**275**	⇑*iP*		**Pg**	**16 31 35.7**	**-1.4**
	baz=275							
SLGT				S		**Sg**	**16 31 39.9**	**-1.8**
	baz=275							
FULB	**Fuli**	**0.35**	**48**	⇑*iP*		**Pb**	**16 31 36.7**	**-1.8**
	baz=40							
FULB				*i* S		**Sb**	**16 31 42.4**	**-1.6**
	baz=40							
CHKT	**Chengkung**	**0.35**	**67**	⇑*iP*		**Pb**	**16 31 37.3**	**-1.2**
	baz=70							
CHKT				*eS*		**Sb**	**16 31 44.4**	**+0.3**
	baz=70							
ECL	**Taimali**	**0.37**	**189**	⇓*iP*		**Pg**	**16 31 36.2**	**-1.4**
	baz=184							
SGST	**Jiashian**	**0.41**	**287**	⇑*iP*		**Pg**	**16 31 36.5**	**-2.0**
	baz=291							
SGST				*eS*		**Sg**	**16 31 42.5**	**-1.5**
	baz=291							
CHKH	**Chenggong**	**0.42**	**57**	⇑*iP*		**Pb**	**16 31 38.0**	**-1.7**
	baz=80							
CHKH				*eS*		**Sb**	**16 31 47.2**	**+1.2**
	baz=80							
TSMG	**Majia**	**0.43**	**233**	⇑*iP*		**Pg**	**16 31 36.7**	**-2.0**
	baz=226							
TSMG				*eS*		**Sg**	**16 31 42.0**	**-2.4**
	baz=226							
WTP	**Ta-pu**	**0.46**	**308**	⇑*iP*		**Pb**	**16 31 38.4**	**-2.0**
	baz=313							
WTP				S		**Sb**	**16 31 45.2**	**-2.1**
	baz=313							
TWF1	**Yuli**	**0.47**	**34**	⇑*iP*		**Pg**	**16 31 38.0**	**-1.4**
	baz=38							
TWF1				*eS*		**Sg**	**16 31 43.7**	**-2.0**
	baz=38							
EYUL	**Yuli**	**0.47**	**36**	⇑*iP*		**Pg**	**16 31 38.3**	**-1.3**
	baz=40							
EYUL				*eS*		**Sg**	**16 31 44.1**	**-1.8**
	baz=40							
SCST	**Cishan**	**0.48**	**261**	⇑*iP*		**Pb**	**16 31 38.9**	**-1.9**
	baz=256							
SCST				*eS*		**Sb**	**16 31 45.2**	**-2.6**
	baz=256							
TPUB	**Ta-pu**	**0.49**	**314**	Pg		**Pb**	**16 31 38.9**	**-1.9**
TPUB	**Ta-pu**	**0.49**	**314**	P		**Pb**	**16 31 38.9**	**-1.9**
TPUB	**Ta-pu**	**0.49**	**314**	⇑*iP*		**Pb**	**16 31 38.9**	**-1.9**
	baz=315							
TPUB				S		**Sb**	**16 31 45.7**	**-2.3**
	baz=315							
MASBT	**Mashibuluo**	**0.50**	**225**	⇑*iP*		**Pg**	**16 31 38.1**	**-1.8**
	baz=220							
MASBT				*i* S		**Sg**	**16 31 44.5**	**-2.0**
	baz=220							
CHN1	**Nanshi**	**0.50**	**296**	⇑*eP*		**Pb**	**16 31 39.5**	**-1.5**
	baz=303							
CHN1				*eS*		**Sb**	**16 31 47.2**	**-1.1**
	baz=303							
YULB	**Yu-li**	**0.50**	**31**	Pg		**Pg**	**16 31 35.7**	**-4.4**
YULB	**Yu-li**	**0.50**	**31**	P		**Pg**	**16 31 38.3**	**-1.7**
YULB	**Yu-li**	**0.50**	**31**	⇑*iP*		**Pg**	**16 31 38.4**	**-1.7**
	baz=35							
YULB				*eS*		**Sg**	**16 31 44.7**	**-2.0**
	baz=35							
LDUT	**Ludao**	**0.51**	**124**	⇑*eP*		**Pb**	**16 31 40.1**	**-1.1**
	baz=122							
LDUT				*eS*		**Sb**	**16 31 48.6**	**+0.1**
	baz=122							
ECBN	**Changbin**	**0.54**	**49**	⇑*eP*		**Pb**	**16 31 40.2**	**-1.4**
	baz=68							
ECBN				*eS*		**Sb**	**16 31 49.5**	**+0.2**
	baz=68							
SGLT	**Jiouru**	**0.54**	**244**	⇑*eP*		**Pb**	**16 31 40.1**	**-1.6**
	baz=242							
SGLT				S		**Sb**	**16 31 48.2**	**-1.1**
	baz=242							
SNST	**Tainan City**	**0.54**	**298**	⇑*iP*		**Pb**	**16 31 40.4**	**-1.3**
	baz=305							
SNST				S		**Sb**	**16 31 49.0**	**-0.4**
	baz=305							
CHN4	**Tsaushan**	**0.55**	**315**	⇑*iP*		**Pb**	**16 31 40.2**	**-1.6**
	baz=329							
TWM1	**Shoushan**	**0.56**	**256**	⇑*iP*		**Pb**	**16 31 40.9**	**-1.2**
	baz=248							
TWM1				*eS*		**Sb**	**16 31 49.1**	**-1.0**
	baz=248							
TWK	**Hsinying**	**0.57**	**302**	⇑*iP*		**Pb**	**16 31 40.8**	**-1.4**
	baz=309							
TWK				*eS*		**Sb**	**16 31 49.6**	**-0.8**
	baz=309							
ALS	**Alishan**	**0.58**	**341**	⇓P		**Pg**	**16 31 40.2**	**-1.4**
	baz=343							
ALS				*eS*		**Sb**	**16 31 48.6**	**-2.2**
	baz=343							
EAST	**Anshuo**	**0.60**	**195**	⇓*iP*		**Pg**	**16 31 40.6**	**-1.3**
	baz=191							
EAST				*eS*		**Sg**	**16 31 47.5**	**-2.3**
	baz=191							
WCKO	**Fanlu**	**0.60**	**322**	*eP*		**Pb**	**16 31 41.3**	**-1.6**
	baz=323							
WCKO				*eS*		**Sb**	**16 31 50.0**	**-1.4**
	baz=323							
CHN3	**Shinhua**	**0.61**	**281**	⇑*iP*		**Pn**	**16 31 43.0**	**-1.8**
	baz=282							
CHN3				*eS*		**Sn**	**16 31 54.0**	**-0.6**
	baz=282							
EHY	**Hungye**	**0.61**	**28**	⇑*iP*		**Pg**	**16 31 40.3**	**-1.9**
	baz=31							
EHY				*eS*		**Sg**	**16 31 48.2**	**-2.0**
	baz=31							
TAW	**Tawu**	**0.61**	**190**	*eP*		**Pg**	**16

WARBT	**Fenglin Townsh**	0.83	24	⇑*i*	P	**Pg**	16 31 43.9	-2.4	
	baz=27								
WARBT					*e*S	**Sg**	16 31 54.0	-3.1	
	baz=27								
WGK	**Gukeng**	0.83	330		*e*P	**Pn**	16 31 46.2	-1.7	
WGK	baz=332				*e*S	**Sn**	16 31 59.3	-0.8	
	baz=332								
CHN8	**Yiju**	0.83	297		*e*P	**Pn**	16 31 46.3	-1.5	
CHN8	baz=298				*e*S	**Sn**	16 32 00.1	+0.1	
	baz=298								
WDLH	**Douliu**	0.84	329		*e*P	**Pn**	16 31 46.4	-1.6	
WDLH	baz=330				*e*S	**Sn**	16 31 59.6	-0.8	
	baz=330								
TSCK	**Chigu Township**	0.87	282		*e*P	**Pn**	16 31 47.3	-1.1	
TSCK	baz=282				*e*S	**Sn**	16 32 02.8	+1.7	
	baz=282								
TEGC	**Jichi Village**	0.89	33		*e*P	**Pg**	16 31 46.2	-1.2	
	baz=21								
WJS	**Zhushan**	0.89	343		*e*P	**Pn**	16 31 47.4	-1.3	
WJS	baz=344				*e*S	**Sn**	16 32 02.0	+0.3	
	baz=344								
WSL	**Shuilin Townsh**	0.91	308		*i* P	**Pn**	16 31 47.6	-1.4	
WSL	baz=308				*i* S	**Sn**	16 32 02.1	0.0	
	baz=308								
SMLT	**Sun Moon Lake**	0.92	354		P	**Pg**	16 31 46.6	-1.5	
	baz=3.0								
SMLT					*e*S	**Sb**	16 32 00.4	-0.2	
	baz=3.0								
WTK	**Tuku**	0.92	322		*e*P	**Pn**	16 31 47.6	-1.5	
WTK	baz=322				*e*S	**Sn**	16 32 01.8	-0.5	
	baz=322								
ESL	**Shilin**	0.93	24		*e*P	**Pg**	16 31 45.6	-2.6	
	baz=37								
SMST	**Manzhou Townsh**	0.95	190		*e*P	**Pg**	16 31 46.7	-1.9	
	baz=177								
WNT	**Mingjian**	0.96	342		*e*P	**Pn**	16 31 48.5	-1.1	
WNT	baz=344				*e*S	**Sn**	16 32 03.2	-0.1	
	baz=344								
SHUL	**Shoufeng**	0.96	31		*e*P	**Pg**	16 31 47.6	-1.3	
	baz=34								
SHUL					*e*S	**Sb**	16 32 00.7	-0.9	
	baz=34								
HEN	**Hengchun**	0.99	195		*e*P	**Pn**	16 31 49.0	-1.0	
	baz=192								
HEN					*e*S	**Sb**	16 32 01.9	-0.4	
	baz=192								
WSF	**Szhu**	0.99	313		*e*P	**Pn**	16 31 48.6	-1.4	
	baz=314								
WSF					*e*S	**Sn**	16 32 03.7	-0.3	
	baz=314								
OWD	**Renai**	1.00	9		*e*P	**Pg**	16 31 47.2	-2.4	
	baz=19								
OWD					*e*S	**Sg**	16 32 00.9	-1.7	
	baz=19								
WUSB	**Renai**	1.03	5		*e*P	**Pg**	16 31 47.7	-2.4	
	baz=17								
WUSB					*e*S	**Sg**	16 32 01.7	-1.9	
	baz=17								
TWK1	**Hengchun**	1.03	191		*e*P	**Pn**	16 31 50.0	-0.6	
	baz=180								
TWKBT	**Hengchun**	1.03	190		*e*P	**Pb**	16 31 48.8	-1.3	
	baz=188								
TWKBT					*e*S	**Sn**	16 32 04.3	-0.8	
	baz=188								
LAY	**Lan-yu**	1.05	152		*e*P	**Pg**	16 31 48.0	-2.4	
	baz=151								
ETM	**Tongmen**	1.09	24		P	**Pg**	16 31 49.0	-2.2	
	baz=34								
LYUB	**Lan-yu**	1.09	151		P	**Pg**	16 31 46.8	-4.5	
	baz=151								
WCS	**Beigang Elemen**	1.09	355		P	**Pn**	16 31 50.6	-0.8	
	baz=3.0								
WCS					*e*S	**Sn**	16 32 06.7	+0.2	
	baz=3.0								
WRL	**Guolierlin Hig**	1.10	328		*e*P	**Pn**	16 31 50.9	-0.6	
	baz=329								
WRL					S	**Sn**	16 32 07.1	+0.4	
	baz=329								
CHGB	**Renai**	1.10	8		*e*P	**Pg**	16 31 49.2	-2.4	
	baz=17								
CHGB					*e*S	**Sb**	16 32 04.7	-1.2	
	baz=17								
LXIB	**Xiulin Townshi**	1.11	19		*e*P	**Pg**	16 31 49.6	-2.2	
	baz=21								
WTCT	**Ta-ch'eng**	1.12	323		*e*P	**Pn**	16 31 50.6	-1.2	
	baz=324								
WTCT					*i* S	**Sn**	16 32 07.1	-0.1	
	baz=324								
HWA	**Hwalien**	1.15	28		*e*P	**Pg**	16 31 50.5	-1.8	
	baz=27								
WCHH	**Zhanghua**	1.19	339		*e*P	**Pn**	16 31 53.0	+0.2	
	baz=340								
WCHH					*e*S	**Sn**	16 32 10.8	+2.0	
	baz=340								
WHF	**Hehuan Shan**	1.20	11		*e*P	**Pg**	16 31 51.2	-2.2	
	baz=22								
TCU	**Taichung**	1.22	345		P	**Pn**	16 31 53.3	+0.1	
	baz=347								
TCU					*e*S	**Sn**	16 32 12.2	+2.5	
	baz=347								
TWD	**Chiawan**	1.23	26		*e*P	**Pg**	16 31 52.1	-1.9	
	baz=37								
TWD					*e*S	**Sg**	16 32 07.6	-2.4	
	baz=37								
WDGT	**Dungji**	1.28	284		*i* P	**Pn**	16 31 52.9	-1.1	
	baz=283								
WDGT					*i* S	**Sn**	16 32 10.2	-0.9	
	baz=283								
TDCB	**Techi**	1.29	6		*e*P	**Pn**	16 31 53.3	-1.1	
	baz=18								
TDCB					*e*S	**Sn**	16 32 10.9	-0.8	
	baz=18								
TWT	**Tachien**	1.29	7		P	**Pg**	16 31 53.3	-1.8	
	baz=18								
TWT					*e*S	**Sn**	16 32 11.0	-0.8	
	baz=18								
FUSS	**Fushou**	1.30	9		*e*P	**Pg**	16 31 52.7	-2.5	
	baz=24								
ETLH	**Xiulin Townshi**	1.31	19		*e*P	**Pn**	16 31 52.9	-1.6	
	baz=34								
WHP	**Taichung City**	1.31	357		*e*P	**Pg**	16 31 54.6	-0.8	
	baz=11								
WHP					*e*S	**Sn**	16 32 12.8	+0.8	
	baz=11								
ETL	**Fush Village**	1.31	25		*e*P	**Pn**	16 31 53.6	-1.0	
	baz=37								
ETL					*e*S	**Sn**	16 32 11.8	-0.2	
	baz=37								
NACB	**Ninganchiao**	1.32	24			**Pn**	16 31 51.3	-3.2	
NACB	**Ninganchiao**	1.32	24		P	**Pn**	16 31 52.5	-2.0	
NACB	**Ninganchiao**	1.32	24		*e*P	**Pn**	16 31 51.9	-2.7	
	baz=37								
NACB					*e*S	**Sb**	16 32 09.5	-2.4	
	baz=37								
TWQ1	**Liyutan**	1.40	351		*e*P	**Pg**	16 31 56.5	-0.6	
	baz=353								
TWQ1					*e*S	**Sn**	16 32 15.0	+1.0	
	baz=353								
WDJ	**Dajia District**	1.42	346		*e*P	**Pg**	16 31 56.8	-0.8	
	baz=348								
WDJ					S	**Sg**	16 32 17.7	+1.7	
	baz=348								
PHUB	**P'eng-hu**	1.43	293		P	**Pn**	16 31 54.7	-1.4	
	baz=292								
PHUB					*e*S	**Sn**	16 32 13.9	-1.0	
	baz=292								
NSY	**Sanyi**	1.47	351		*e*P	**Pg**	16 31 57.7	-0.7	
	baz=335								
PNG	**Penghu**	1.47	294		*e*P	**Pn**	16 31 55.6	-1.0	
	baz=294								
PNG					*e*S	**Sg**	16 32 15.7	-1.9	
	baz=294								
VCHM	**Qimei**	1.48	280		*e*P	**Pn**	16 31 54.9	-1.9	
	baz=293								
VCHM					*i* S	**Sg**	16 32 15.4	-2.5	
	baz=293								
NNSB	**Datong**	1.50	13		P	**Pb**	16 31 56.7	-1.5	
	baz=25								
NNSB					S	**Sg**	16 32 16.7	-1.8	
	baz=25								
NNS	**Nan Shan**	1.51	13		P	**Pb**	16 31 56.8	-1.5	
	baz=21								
EAHA	**Aohua**	1.51	26		*e*P	**Pn**	16 31 56.6	-0.7	
	baz=42								
EAHA					*e*S	**Sb**	16 32 16.9	-0.7	
	baz=42								
NMLH	**Miaoli**	1.58	353		*e*P	**Pg**	16 31 59.4	-1.3	
	baz=354								
NMLH					*e*S	**Sg**	16 32 22.5	+1.4	
	baz=354								
ENA	**Nanau**	1.60	24		*e*P	**Pn**	16 31 57.5	-1.0	
	baz=22								
EWUT	**Wuta**	1.63	25		*e*P	**Pn**	16 31 58.0	-0.9	
	baz=28								
EWUT					*e*S	**Sb**	16 32 19.9	-1.1	
	baz=28								
LATG	**Datong**	1.63	17		*e*P	**Pb**	16 31 59.2	-1.2	
	baz=28								
NSTT	**Nanjuang**	1.66	360		*e*P	**Pg**	16 32 00.5	-1.7	
	baz=339								
NSTT					S	**Sg**	16 32 23.2	-0.5	
	baz=339								
EOS4	**EOS4**	1.66	46		*e*P	**Pn**	16 31 56.9	-2.1	
	baz=58								
NFF	**Wufeng Townshi**	1.66	3		*e*P	**Pg**	16 32 00.5	-1.7	
	baz=344								
NFF					*e*S	**Sg**	16 32 23.3	-0.5	
	baz=344								
LIOB	**Emei**	1.68	0		P	**Pb**	16 32 00.1	-1.0	
	baz=340								
LIOB					*e*S	**Sg**	16 32 24.0	-0.1	
	baz=340								
NDT	**Datong Townshi**	1.69	16		*e*P	**Pb**	16 32 00.3	-1.1	
	baz=29								
NDT					*e*S	**Sb**	16 32 22.6	-0.2	
	baz=29								
YHNB	**Yeheng**	1.73	11			**Pb**	16 32 00.6	-1.5	
YHNB	**Yeheng**	1.73	11		P	**Pb**	16 32 00.8	-1.3	
YHNB	**Yeheng**	1.73	11		*i* P	**Pb**	16 32 01.1	-1.0	
	baz=13								
YHNB					*e*S	**Sg**	16 32 24.4	-1.6	
	baz=13								
NSK	**Sanguang**	1.73	10		*i* P	**Pb**	16 32 01.3	-0.9	
	baz=13								
NSK					S	**Sg**	16 32 25.4	-0.7	
	baz=13								
ENTT	**Nioudou**	1.74	17		*e*P	**Pn**	16 32 00.4	-0.1	
	baz=33								
ENTT					*e*S	**Sb**	16 32 23.8	-0.4	
	baz=33								
ESAO	**Su ao**	1.78	25		*e*P	**Pb**	16 32 01.5	-1.3	
	baz=22								
EOS3	**EOS3**	1.78	42		*e*P	**Pn**	16 31 59.4	-1.3	
	baz=54								
NDS	**Dongshan**	1.78	21		*e*P	**Pb**	16 32 02.2	-0.7	
	baz=39								
NDS					*e*S	**Sb**	16 32 24.4	-0.9	
	baz=39								
TWC	**Suao**	1.81	25		*e*P	**Pb**	16 32 01.6	-1.7	
	baz=29								
TWC					*e*S	**Sn**	16 32 23.5	-0.7	
	baz=29								
SBCB	**Hsinchu**	1.82	359		*e*P	**Pg**	16 32 03.1	-2.1	
	baz=341								
EOS2	**EOS2**	1.83	37		*e*P	**Pn**	16 32 00.4	-1.0	
	baz=47								
HSN	**Hsinchu**	1.83	359		*e*P	**Pg**	16 32 03.2	-2.2	
	baz=342								
TWE	**Neicheng**	1.85	19		*e*P	**Pb**	16 32 03.0	-1.0	
	baz=39								
TWE					*e*S	**Sn**	16 32 24.9	-0.3	
	baz=39								
NWLT	**Wulai**	1.86	14		*e*P	**Pb**	16 32 03.7	-0.5	
	baz=31								
FUSB	**Fushanzhiwuyua**	1.86	16		*e*P	**Pb**	16 32 03.2	-1.2	
	baz=32								
FUSB					*e*S	**Sb**	16 32 27.3	-0.3	
	baz=32								
NCUH	**Zhongli**	2.00	4		*e*P	**Pg**	16 32 07.1	-1.6	
	baz=6.0								
NHDH	**Xindian Distri**	2.04	13		*e*P	**Pb**	16 32 06.8	-0.6	
	baz=23								
TATO	**Taipei**	2.05	12			**Pg**	16 32 07.2	-2.4	
TAP	**Taipei**	2.12	12		*e*P	**Pb**	16 32 07.7	-0.9	
	baz=355								
TIPB	**Shuangxi**	2.13	20		*e*P	**Pn**	16 32 06.1	+0.3	
	baz=30								
TWS1	**Kuangyinshan**	2.16	10		*e*P	**Pb**	16 32 08.4	-1.0	
	baz=356								
NWF	**Wu-fen Shan**	2.21	18		*e*P	**Pb**	16 32 08.2	-2.1	
	baz=27								
WFSB	**Wu-fen Shan**	2.21	18		*e*P	**Pb**	16 32 08.0	-2.3	
	baz=30								
TWB1	**Santiao Chiao**	2.22	23		*e*P	**Pb**	16 32 08.8	-1.6	
	baz=32								
NTST	**Danshui**	2.23	10		*e*P	**Pb**	16 32 08.4	-2.1	
	baz=355								
YM01	**YM01**	2.23	13		*e*P	**Pb**	16 32 08.7	-1.9	
	baz=31								
ANP	**Anpu**	2.26	12		*e*P	**Pb**	16 32 10.4	-0.7	
	baz=29								
SXI1	**Grass Mountain**	2.26	20		*e*P	**Pn**	16 32 08.4	+0.8	
	baz=29								
YM08	**YM08**	2.28	13		*e*P	**Pb**	16 32 09.2	-2.2	
	baz=30								
JYNG	**Yonagunijimaku**	2.31	50		*e*P	**Pn**	16 32 07.3	-0.9	
JYNG					S	**Sn**	16 32 35.5	-1.0	
YOJ	**Yonaguni jima**	2.36	50		*e*P	**Pn**	16 32 07.9	-1.0	
YOJ					*e*S	**Sn**	16 32 36.8	-1.0	
VWUC	**VWUC**	2.47	325		*e*P	**Pn**	16 32 09.1	-1.4	
	baz=328								
PTMZ	**Houxiangcun**	2.70	320		*e*P	**Pn**	16 32 12.4	-1.0	
	baz=324								
KNM	**Kinmen**	2.77	302		*e*P	**Pn**	16 32 14.4	-0.1	
	baz=303								
HATJ	**Hateruma jima**	2.78	66		P	**Pn**	16 32 13.6	-1.1	
HATJ					S	**Sn**	16 32 46.4	-1.8	
KNMB	**Chin-men Tao**	2.83	302		Pn	**Pn**	16 32 13.6	-1.8	
KNMB	**Chin-men Tao**	2.83	302		*e*P	**Pn**	16 32 12.6	-2.8	
	baz=305								
IRIF	**Iriomote-Funau**	2.84	61		*e*P	**Pn**	16 32 14.4	-1.1	
IRIF					S	**Sn**	16 32 48.5	-1.2	
QZH	**Quanzhou**	2.96	312		*e*Pn	**Pn**	16 32 16.0	-1.2	
QZH					Pg	**Pg**	16 32 24.8	-2.3	
QZH					Sn	**Sn**	16 32 50.5	-2.2	
QZH					Sg	**Sg**	16 33 02.0	-3.6	
QZH					smax	smax			
	comp=N,600nm,0.9s								
QZH					smax	smax			
	comp=E,760nm,1.1s								
JKRS	**Kuro-shima**	3.03	65		P	**Pn**	16 32 17.4	-0.6	
JKRS					*e*S	**Sn**	16 32 52.4	-1.9	
ZPLA	**Ao Xicun**	3.15	288		*e*P	**Pn**	16 32 17.9	-1.8	
	baz=291								
JIJ	**Ishigaki jima**	3.19	63		P	**Pn**	16 32 19.4	-0.9	
JIJ					S	**Sn**	16 32 56.4	-1.9	
MATB	**Ma-tsu**	3.32	343		*e*P	**Pn**	16 32 20.5	-1.6	
	baz=345								
AXDP	**Jialang**	3.39	305		*e*P	**Pn**	16 32 21.5	-1.5	
	baz=309								
JISG	**Ishigakijimahi**	3.43	61		*e*P	**Pn**	16 32 22.5	-1.0	
JISG					S	**Sn**	16 33 02.5	-1.6	
MHZQ	**Yeshan**	3.61	330		*e*P	**Pn**	16 32 25.4	-0.7	
	baz=334								
LYJJ	**Jianjiangzhen**	3.75	343		*e*P	**Pn**	16 32 27.1	-0.8	
	baz=344								
JTJ	**Tarama**	3.77	63		P	**Pn**	16 32 27.5	-0.8	
JTJ					S	**Sn**	16 33 11.6	-1.0	
XPSS	**Dashiqiu**	4.02	349		*e*P	**Pn**	16 32 30.1	-1.6	
	baz=351								
SXFK	**Yanhouchang**	4.59	319		*e*P	**Pn**	16 32 37.9	-1.8	
	baz=325								
HKPS	**Hong Kong Po S**	6.38	265		Pn	**Pn**	16 33 04.4	+0.1	
TGY	**Tagaytay City**	8.81	180		LR	LR	16 38 01.7		
	comp=Z,201nm,18.3s,baz=116,slow=45								
NJ2	**Nanjing**	9.25	349		⇑P	**Pn**	16 33 42.8	-0.8	
NJ2					pmax	pmax			
	comp=Z,17nm,0.5s								
NJ2					pmax	pmax			
	comp=Z,210nm,5.7s								
NJ2					smax	smax			
	comp=N,80nm,1.0s								
NJ2					smax	smax			
	comp=E,66nm,1.3s								
NJ2					LR	LR			
	comp=N,1μm,10.4s								
NJ2					LR	LR			
	comp=E,1μm,9.5s								
NJ2					LR	LR			
	comp=Z,1μm,9.5s								
QIZ	**Qiongzhong**	11.14	252		P	**Pn**	16 34 10.5	+1.0	
QIZ					S	**Sn**	16 36 18.5	+4.3	
QIZ					pmax	pmax			
	comp=Z,31nm,1.5s								
QIZ					LR	LR			
	comp=N,820nm,14.3s								
QIZ					LR	LR			
	comp=E,820nm,16.0s								
QIZ					LR	LR			
	comp=Z,960nm,14.2s								
JNU	**Nakatsue**	13.34	39		LR	LR	16 40 51.8		
	comp=Z,211nm,19.6s,baz=194,slow=42								
TIA	**Tai'an**	13.63	347		*e*P	**P**	16 34 48.0	-4.4	
TIA					S	Sn	16 37 05.3	-10	
TIA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TIA					pmax	pmax			
	comp=Z,130nm,4.5s								
TIA					LR	LR			
	comp=N,330nm,11.5s								
TIA					LR	LR			
	comp=E,190nm,8.6s								
TIA					LR	LR			
	comp=Z,520nm,7.9s								
LYN	**LuoYang**	13.76	329		*e*P	**Pn**	16 34 43.8	-1.4	
LYN					PP	**P**	16 34 56.0	+2.2	
LYN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
HNS	**HongShan**	15.38	341		⇑P	**P**	16 35 12.3	+0.5	
HNS					PP	**PnPn**	16 35 23.3	+7.8	
HNS					*e*S	**Sn**	16 38 04.3	+6.8	
HNS					pmax	pmax			
	comp=Z,18nm,0.9s								
HNS					LR	LR			
	comp=N,640nm,13.1s								
HNS					LR	LR			
	comp=E,580nm,10.8s								
HNS					LR	LR			
	comp=Z,620nm,13.1s								
KSRS	**Korea Array**	15.62	21		Pn	**Pn**	16 35 11.3	+1.0	
	0.1nm,0.3s,baz=200,slow=11,SNR=7.7								
KSRS					LR	LR	16 41 13.5		
	comp=Z,80nm,19.3s,baz=210,slow=38 1.9nm,0.7s								
DAV	**Davao City (W)**	16.40	164		LR	LR	16 41 40.0		
	comp=Z,172nm,20.1s,baz=5.0,slow=38								
CD2	**Chengdu**	17.29	301		P	**P**	16 35 35.5	+2.4	
CD2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
CD2					LR	LR			
	comp=N,1μm,8.7s								
CD2					LR	LR			
	comp=E,910nm,9.3s								
CD2					LR	LR			
	comp=Z,490nm,8.1s								
KKM	**Kota Kinabalu**	17.45	196		P	**P**	16 35 35.8	+0.8	
	24nm,1.1s								
BJI	**Beijing**	17.51	348		P	**P**	16 35 36.5	+1.1	
BJI					pmax	pmax			
	comp=Z,6.0nm,1.1s								
PZH	**PanZhiHua**	17.86	285		P	**P**	16 35 39.0	-0.5	
PZH					S	**Sn**	16 38 56.3	-1.7	
PZH					pmax	pmax			
	comp=Z,10.0nm,2.0s								
PZH					pmax	pmax			
	comp=Z,150nm,3.5s								
PZH					LR	LR			
	comp=N,480nm,14.2s								
PZH					LR	LR			
	comp=E,250nm,13.1s								
PZH					LR	LR			
	comp=Z,230nm,12.0s								
CRAI	**Chiangrai**	19.38	266		P	**Pn**	16 36 01.2	+3.8	
HHC	**Hu-ho-hao-te**	19.53	338		*e*P	**Pn**	16 35 58.5	-0.5	
HHC					pmax	pmax			
	comp=Z,16nm,0.5s								
HHC					pmax	pmax			
	comp=Z,320nm,3.8s								
HHC					LR	LR			
	comp=N,480nm,11.5s								
HHC					LR	LR			
	comp=E,1μm,13.0s								
HHC					LR	LR			
	comp=Z,810nm,11.7s								
LZH	**Lanzhou**	19.82	315		*e*P	Pn	16 36 08.8	+6.3	
LZH					pP	sP	16 36 16.5	+10	
LZH					pmax	pmax			
	comp=Z,18nm,1.6s								
BTO	**Baotou**	19.89	335		*e*P	**Pn**	16 36 04.0	+0.7	
BTO					pP	**sP**	16 36 08.0	+0.9	
BTO					sP	pP	16 36 11.0	+5.4	
BTO					PP	**PnPn**	16 36 23.3	+5.9	
BTO					S	**Sn**	16 39 49.0	+2.2	
BTO					sS	**sS**	16 39 51.0	-0.7	
BTO					SS	**SnSn**	16 40 12.8	+11	
BTO					pmax	pmax			
	comp=Z,18nm,0.9s								
BTO					pmax	pmax			
	comp=Z,170nm,4.6s								
BTO					LR	LR			
	comp=Z,770nm,6.8s								
BTO					LR	LR			
	comp=Z,930nm,11.0s								
BTO					LR	LR			
	comp=Z,1μm,10.0s								
MJAR	**Matsushiro Arr**	20.11	44		P	Pn	16 36 06.8	+1.0	
	comp=Z,25nm,1.2s,baz=223,slow=8.0,SNR=12								
MJAR					LR	LR	16 45 04.3		
	comp=Z,139nm,18.6s,baz=197,slow=41								
CMMT	**Chiang Mai**	21.02	263		P		16 36 17.0		
	comp=Z,26nm,0.8s								
CHTO	**Chiang Mai**	21.02	263		P	**P**	16 36 13.4	-0.6	
CHTO	**Chiang Mai**	21.02	263		P	**P**	16 36 17.1	+3.0	
	comp=Z,9.7nm,1.1s								
CMAR	**Chiang Mai Arr**	21.12	262		P	**P**	16 36 16.2	+1.1	
	comp=Z,2.5nm,0.8s,baz=63,slow=8.5,SNR=22								
CMAR					PcP	**PcP**	16 40 21.9	+0.6	
	comp=Z,1.3nm,0.7s,baz=78,slow=0.6,SNR=6.7								
CMAR					LR	LR	16 45 13.3		
	comp=Z,186nm,18.8s,baz=75,slow=39 comp=Z,2.5nm,0.8s								
XLT	**XiLinHaoTe**	21.27	350	⇓	*i*P	**P**	16 36 19.3	+2.6	
XLT					sP	sP	16 36 26.0	+4.3	
XLT					PP	**PnPn**	16 36 43.3	+7.0	
XLT					pmax	pmax			
	comp=Z,17nm,1.4s								
XLT					pmax	pmax			
	comp=Z,180nm,4.8s								
TOLI2	**Tolitoli**	21.72	181		P	**P**	16 36 21.8	+0.3	
TOLI2					IAmb	IAmb	16 36 24.5		
	comp=Z,15nm,0.7s								
SBUM	**Sibu**	22.10	204		P	**P**	16 36 26.2	+0.5	
SBUM					IAmb	IAmb	16 36 28.8		
	comp=Z,12nm,0.8s								
SBUM	**Sibu**	22.10	204		P	**P**	16 36 25.4	-0.2	
	comp=Z,18nm,0.9s,comp=Z,259nm								
MRSI	**Marisa**	22.37	178		P	**P**	16 36 31.0	+2.5	
	comp=Z,34nm,0.6s								
MDJ	**Mudanjiang**	22.72	16		P	**P**	16 36 30.0	-2.0	
MDJ					PcP	**PcP**	16 40 23.5	-0.5	
MDJ					S	**S**	16 40 36.

GTA pmax pmax
comp=Z,5.0nm,1.5s
GUMO Guam 24.46 108 LR LR 16 45 29.3
comp=Z,69nm,18.6s,baz=203,slow=34
STKI Sintang 24.58 203 P **P** **16 36 52.2 +1.8**
comp=Z,18nm,0.7s,comp=Z,7µm
ULN Ulaanbaatar 27.24 339 P **P** **16 37 12.4 -1.9**
ULN Ulaanbaatar 27.24 339 P **P** **16 37 16.9 +2.5**
comp=Z,24nm,1.1s
SONM Songino Array 27.43 338 P **P** **16 37 15.9 -0.2**
SONM Songino Array 27.43 338 P **P** **16 37 16.4 +0.3**
comp=Z,2.5nm,0.7s,baz=167,slow=9.8,SNR=13
comp=Z,2.5nm,0.7s
ASAJ Asahikawa 27.57 35 LR LR 16 49 09.3
comp=Z,74nm,19.9s,baz=222,slow=38
WMQ Urumqi 34.40 315 *eP* **P** **16 38 18.5 +1.0**
MK31 Makanchi Array 39.11 317 P **P** **16 38 57.1 -0.4**
MKAR Makanchi Array 39.11 317 P **P** **16 38 57.1 -0.5**
MKAR Makanchi Array 39.11 317 P **P** **16 38 58.0 +0.4**
comp=Z,3.6nm,0.8s,baz=113,slow=9.4,SNR=23
MKAR PcP **PcP** **16 41 06.8 -0.4**
comp=Z,1.6nm,0.8s,baz=100,slow=5.0,SNR=6.3
comp=Z,3.6nm,0.8s
MAKZ Makanchi 39.31 317 P **P** **16 38 60.0 +0.7**
MAKZ IAmb IAmb 16 39 06.0
comp=Z,14nm,1.2s
PETK Petropavlovsk- 40.97 33 P **P** **16 39 12.7 -0.1**
comp=Z,4.2nm,0.9s,baz=219,slow=12,SNR=2.0
comp=Z,4.2nm,0.9s
ZAA0 Zalesovo Array 41.19 328 P **P** **16 39 13.6 -1.0**
ZAA0 IAmb IAmb 16 39 19.9
comp=Z,6.5nm,0.8s
ZALV Zalesovo Beam 41.19 328 P **P** **16 39 13.3 -1.3**
ZALV Zalesovo Beam 41.19 328 P **P** **16 39 14.5 -0.1**
comp=Z,5.8nm,0.7s,baz=112,slow=8.2,SNR=28
comp=Z,5.8nm,0.7s
COEN Coen 42.63 147 P **P** **16 39 25.4 -1.4**
H11N1 WAKE ISLAND Hy 42.73 85 T T 17 24 41.5
baz=282,slow=74,SNR=12
H11N2 WAKE ISLAND Hy 42.73 85 T T 17 24 44.1
baz=282,slow=74,SNR=18
H11N3 WAKE ISLAND Hy 42.74 85 T T 17 24 41.0
baz=282,slow=74,SNR=16
H11S3 WAKE ISLAND Hy 42.82 87 T T 17 24 46.7
baz=284,slow=75,SNR=25
H11S1 WAKE ISLAND Hy 42.83 87 T T 17 24 49.2
baz=284,slow=75,SNR=22
H11S2 WAKE ISLAND Hy 42.84 87 T T 17 24 48.1
baz=284,slow=75,SNR=19
KURK Kurchatov 42.93 321 P **P** **16 39 29.1 +0.2**
KURK IAmb IAmb 16 39 36.3
comp=Z,8.3nm,1.2s
KURBB Kurchatov Arra 42.95 321 P **P** **16 39 28.9 -0.1**
comp=Z,2.3nm,0.8s,baz=117,slow=7.4,SNR=12
comp=Z,2.3nm,0.8s
NIL Nilore 43.05 295 P **P** **16 39 29.5 -0.7**
NIL IAmb IAmb 16 39 35.3
comp=Z,10nm,1.0s
WB0 Warramunga Arr 44.43 162 P **P** **16 39 40.4 -0.9**
WB0 IAmb IAmb 16 39 47.5
comp=Z,6.7nm,1.1s
WRA Warramunga Arr 44.58 162 P **P** **16 39 41.0 -1.6**
comp=Z,2.5nm,0.7s,baz=344,slow=8.8,SNR=8.6
comp=Z,2.5nm,0.7s
WB2 Warramunga Arr 44.59 162 P **P** **16 39 40.5 -2.0**
WB2 IAmb IAmb 16 39 48.7
comp=Z,9.8nm,0.9s
KBL Kabul 46.55 296 P **P** **16 39 58.7 +0.4**
ASAR Alice Springs 48.01 164 P **P** **16 40 08.3 -1.2**
comp=Z,1.1nm,0.6s,baz=328,slow=6.0,SNR=17
ASAR PcP **PcP** **16 41 36.9 -0.6**
comp=Z,0.4nm,0.8s,baz=360,slow=4.0,SNR=1.4
comp=Z,1.1nm,0.6s
BVAR Borovoye Array 48.52 321 P **P** **16 40 13.8 +0.7**
comp=Z,3.6nm,0.7s,baz=100,slow=8.3,SNR=15
BVAR PcP **PcP** **16 41 38.8 -0.2**
comp=Z,1.0nm,0.7s,baz=145,slow=2.2,SNR=2.6
comp=Z,3.6nm,0.7s
BRVK Borovoye 48.59 321 P **P** **16 40 13.6 0.0**
BRVK IAmb IAmb 16 40 19.5
comp=Z,8.1nm,1.1s
NRIK Noril'sk 50.54 345 P **P** **16 40 27.3 -0.9**
comp=Z,2.7nm,0.5s,baz=114,slow=7.5,SNR=5.5
comp=Z,2.7nm,0.5s
ABKAR Akbulak array 54.18 315 P **P** **16 40 55.5 0.0**
GEYT Alibeck 55.28 301 P **P** **16 41 03.5 -0.3**
GEYT IAmb IAmb 16 41 08.2
comp=Z,6.1nm,0.9s
GEYT Alibeck 55.28 301 P **P** **16 41 03.0 -0.9**
comp=Z,4.6nm,0.8s,baz=104,slow=6.3,SNR=10
comp=Z,4.6nm,0.8s
GYA0B ALIBECK ARRAY 55.28 301 P **P** **16 41 03.6 -0.2**
GYA0B IAmb IAmb 16 41 06.4
comp=Z,5.2nm,0.8s
ARU Arti 55.99 324 P **P** **16 41 08.8 +0.3**
WSAR Wadi Sarin 56.96 284 LR LR 17 08 09.2
comp=Z,77nm,20.5s,baz=52,slow=39
STKA Stephens Creek 57.98 159 P **P** **16 41 21.4 -1.4**
comp=Z,2.6nm,0.7s,baz=333,slow=7.8,SNR=7.5
comp=Z,2.6nm,0.7s
TOO Toolangi 64.47 159 P **P** **16 42 06.3 -0.4**
KBZ Khabaz 66.12 309 P **P** **16 42 17.9 +0.3**
comp=Z,4.2nm,0.8s,baz=45,slow=2.1,SNR=7.2
comp=Z,4.2nm,0.8s
F24K Squaw Lake 69.43 24 P **P** **16 42 38.0 0.0**
F24K IAmb IAmb 16 42 41.2
comp=Z,1.9nm,0.8s
D25K Kavik River 69.65 22 P **P** **16 42 39.5 +0.1**
D25K IAmb IAmb 16 42 46.4
comp=Z,3.2nm,0.8s
ILAR Eielson Array 70.37 27 P **P** **16 42 44.5 +0.7**
comp=Z,0.3nm,0.5s,baz=286,slow=7.1,SNR=5.0
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 70.61 338 P **P** **16 42 47.1 +1.9**
comp=Z,5.9nm,1.1s,baz=54,slow=6.2,SNR=4.1
comp=Z,5.9nm,1.1s
SPITS Spitsbergen Ar 70.64 348 P **P** **16 42 45.4 +0.2**
comp=Z,3.2nm,0.6s,baz=90,slow=10,SNR=7.9
comp=Z,3.2nm,0.6s
FINES FINESS Array B 72.42 330 P **P** **16 42 55.8 -0.4**
comp=Z,3.1nm,0.8s,baz=97,slow=7.7,SNR=5.2
comp=Z,3.1nm,0.8s
AKASG Malin Array Be 73.67 319 P **P** **16 43 03.0 -0.9**
comp=Z,1.5nm,0.7s,baz=60,slow=6.2,SNR=5.0
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 73.77 307 P **P** **16 43 04.2 -0.7**
comp=Z,1.1nm,0.8s,baz=114,slow=5.9,SNR=6.3
comp=Z,1.1nm,0.8s
INK Inuvik 74.41 22 P **P** **16 43 07.0 -0.8**
comp=Z,1.8nm,0.8s,baz=268,slow=6.5,SNR=6.2
comp=Z,1.8nm,0.8s
KWP Kalwaria Pacla 77.99 319 P **P** **16 43 28.5 -0.1**
HFS Hagfors 78.55 331 P **P** **16 43 30.9 -0.6**
comp=Z,2.4nm,0.7s,baz=108,slow=4.8,SNR=3.1
comp=Z,2.4nm,0.7s
CRVS Cervenica-Dubn 79.01 318 *eP* **P** **16 43 36.3 +2.0**
NB2 NORSAR Subarra 79.23 332 P **P** **16 43 34.3 -0.9**
comp=Z,4.1nm,1.1s,baz=63,slow=5.6
NOA NORSAR Array B 79.23 332 P **P** **16 43 34.3 -0.9**
comp=Z,1.3nm,0.8s,baz=62,slow=5.4,SNR=5.1
comp=Z,1.3nm,0.8s
OJC Ojcow 79.50 320 *eP* **P** **16 43 37.1 +0.2**
LANS Liptovska Anna 80.13 319 *eP* **P** **16 43 41.2 +0.8**
VYHS Vyhne 80.77 319 *eP* **P** **16 43 44.5 +0.7**
CLL Collm 82.93 323 *eP* **P** **16 43 55.0 -0.1**
GERES GERESS Array B 83.68 321 P **P** **16 43 59.0 -0.1**
comp=Z,2.0nm,0.9s,baz=46,slow=5.8,SNR=6.1
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 84.15 23 P **P** **16 44 00.5 -0.6**
comp=Z,0.6nm,0.9s,baz=314,slow=4.6,SNR=7.4
comp=Z,0.6nm,0.9s
DAVOX Davos/Dischmat 86.94 320 LR LR 17 25 09.1
comp=Z,193nm,19.6s,baz=356,slow=37
EKA Eskdalemuir Ar 88.71 332 P **P** **16 44 23.4 -0.2**
comp=Z,0.8nm,0.7s,baz=40,slow=2.7,SNR=4.0
comp=Z,0.8nm,0.7s

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*NEIC **26** 16:42:03.5,55.˙88N×150.˙09W,h12km,Moment Tensor Solution. Duration:1ŝ7 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.24; $M_{\theta\theta}$-0.71; $M_{\phi\phi}$0.95; $M_{r\theta}$0.27; $M_{\theta\phi}$4.41; $M_{\phi r}$-0.17; Fault plane solution: $M_0$4.50000×10^{16} NP1: ϕ_s264.58000°,δ87.25000°,λ-3.39000°. NP2:ϕ_s354.74000°, δ86.61000°,λ-177.24000°. Principal axes: T 4.6133, Plg0.0000°, Azm310.0000°; N -0.2206, Plg86.0000°, Azm46.0000°; P -4.3928, Plg4.0000°, Azm220.0000°;*

*IDC **26** 16:42:03.7±0.6,55.˙89N×150.˙23W,h0km,mb4.1/29, mbtmp4.1/35,ML4.2/6,MS4.3/78 Error ellipse: s-maj=17.2km s-min=10.3km az=31.0*
*MOS **26** 16:42:03.6±1.0,56.˙10N×149.˙95W,h10km,mb4.8/20, Error ellipse: s-maj=13.8km s-min=5.2km az=93.3*
*NEIC **26** 16:42:03.5,55.˙88N×150.˙09W,h12km*
*NEIC **26** 16:42:04.4±2.4,55.˙98N±0.˙08×150.˙15W±0.˙10,h9km±4km, mb4.8/40,ML4.8/44,Mww5.0/55,ML4.7(AEIC),Error ellipse: s-maj=11.3km s-min=7.9km az=167.0*
*GCMT **26** 16:42:06.4±0.2,55.˙96N±0.˙01×150.˙04W±0.˙02,h15km, MW5.1/120,Moment Tensor Solution. s57,c74; s120,c213; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60±.12; $M_{\theta\theta}$-0.78±.11; $M_{\phi\phi}$1.37±.12; $M_{r\theta}$2.29±.35; $M_{\theta\phi}$5.28±.11; $M_{\phi r}$0.14±.36; Best double couple: $M_0$5.86900×10^{16} NP1:ϕ_s263.00000°,δ86.00000°, λ-24.00000°. NP2:ϕ_s355.00000°,δ67.00000°, λ-176.00000°. Principal axes: T 6.0610, Plg14.0000°, Azm311.0000°; N -0.3890, Plg66.0000°, Azm75.0000°; P -5.6770, Plg19.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **26** 16:42:07.7±3.1,55.˙91N±0.˙06×150.˙0W±0.˙1,h12km±4km Error ellipse: s-maj=10.0km s-min=8.7km az=71.0*
ISC 26 16:42:05.7±0.4,56.˙03N±0.˙06×150.˙07W±0.˙04,h10km, n700,σ1s27/646,mb4.6/73,MS4.5/82,6C-1D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.14**	**305**		**Pn**	**16 42 39.2**	**-2.1**
OHAK	**Old Harbor**	**2.14**	**305**		**Sn**	**16 43 04.3**	**-3.6**
OHAK	**Old Harbor**	**2.14**	**305**	P	**Pn**	**16 42 39.7**	**-1.6**
OHAK	**Old Harbor**	**2.14**	**305**	P	**Pn**	**16 42 39.4**	**-2.0**
baz=125,SNR=40							
KDAK	**Kodiak Island**	**2.23**	**323**		**Pn**	**16 42 41.3**	**-1.3**
KDAK	**Kodiak Island**	**2.23**	**323**	P	**Pn**	**16 42 41.6**	**-1.0**
baz=142							
KDAK	**Kodiak Island**	**2.23**	**323**	P	**Pn**	**16 42 41.3**	**-1.3**
KDAK						16 43 07.1	
KDAK	**Kodiak Island**	**2.23**	**323**	Pn	**Pn**	**16 42 41.4**	**-1.3**
96nm,0.3s,baz=140,slow=4.6,SNR=305							
KDAK				Sn	**Sn**	**16 43 08.1**	**-2.1**
81nm,0.3s,baz=54,slow=22,SNR=24							
KDAK				LR	LR	16 43 32.1	
comp=Z,6µm,18.4s,baz=183,slow=38 214nm,0.3s							
SII	**Sitkinak Islan**	**2.35**	**285**		**Pn**	**16 42 41.8**	**-2.6**
SII	**Sitkinak Islan**	**2.35**	**285**		**Sn**	**16 43 09.2**	**-4.0**
SII	**Sitkinak Islan**	**2.35**	**285**	P	**Pn**	**16 42 42.1**	**-2.2**
SYI	**Shuyak Island**	**2.87**	**335**	Pn	**Pn**	**16 42 50.5**	**-1.0**
SYI				IAML		16 43 27.5	
comp=E,2µm,0.8s							
SYI	**Shuyak Island**	**2.87**	**335**		**Sn**	**16 43 24.9**	**-1.1**
Q20K	**Shuyak Island**	**2.87**	**335**	P	**Pn**	**16 42 50.3**	**-1.1**
baz=154,SNR=21							
KAHG	**Katmai Hook Gl**	**3.46**	**317**		**Pn**	**16 42 59.8**	**+0.2**
Q19K	**Cape Douglas,**	**3.48**	**328**		**Pn**	**16 43 00.1**	**+0.1**
Q19K	**Cape Douglas,**	**3.48**	**328**		**Sn**	**16 43 40.8**	**-0.4**
Q19K	**Cape Douglas,**	**3.48**	**328**	P	**Pn**	**16 43 00.0**	**+0.1**
baz=146,SNR=65							
CNPM	**China Poot**	**3.56**	**350**	Pn	**Pn**	**16 42 59.7**	**-1.2**
CNPM				IAML		16 43 43.5	
comp=E,2µm,0.9s							
CNPM				IAML		16 43 46.8	
comp=N,1µm,0.6s							
CNPM	**China Poot**	**3.56**	**350**		**Sn**	**16 43 40.7**	**-2.3**
KCE	**Katmai Mt Cerb**	**3.56**	**311**		**Pn**	**16 43 01.4**	**+0.5**
ACHA	**Angle Creek He**	**3.60**	**310**		**Pn**	**16 43 01.0**	**-0.6**
ANCK	**Angle Creek**	**3.67**	**309**		**Pn**	**16 43 01.9**	**-0.5**
HOM	**Homer**	**3.73**	**348**		**Pn**	**16 43 02.5**	**-0.7**
HOM	**Homer**	**3.73**	**348**	P	**Pn**	**16 43 02.9**	**-0.3**
baz=166							
BRSE	**Bradley Lake S**	**3.74**	**355**		**Pn**	**16 43 02.0**	**-1.3**
BRSE					**Sn**	**16 43 44.9**	**-2.5**
BRSE	**Bradley Lake S**	**3.74**	**355**	P	**Pn**	**16 43 02.1**	**-1.3**
baz=174,SNR=16							
BRLK	**Bradley Lake**	**3.77**	**354**		**Pn**	**16 43 02.2**	**-1.6**
BRLK				IAML		16 43 50.2	
comp=N,1µm,0.8s							
BRLK				IAML		16 43 50.2	
comp=E,1µm,0.8s							
BRLK	**Bradley Lake**	**3.77**	**354**		**Sn**	**16 43 46.0**	**-2.1**
PLK3	**Peulik 3**	**3.78**	**299**		**Pn**	**16 43 03.1**	**-0.8**
AUCH	**Augustine Cone**	**3.80**	**333**		**Pn**	**16 43 04.4**	**+0.2**
AUL	**Augustine Lava**	**3.81**	**333**		**Pn**	**16 43 04.5**	**+0.1**
CNTC	**Contact Creek**	**3.88**	**308**		**Pn**	**16 43 04.5**	**-0.9**
Q17K	**Contact Creek**	**3.88**	**308**	P	**Pn**	**16 43 04.7**	**-0.6**
baz=154,SNR=76							
Q23K	**Middleton Isla**	**3.95**	**29**		**Pn**	**16 43 04.6**	**-1.6**
Q23K					**Sn**	**16 43 48.6**	**-3.9**
Q23K	**Middleton Isla**	**3.95**	**29**	IAML		16 43 50.5	
comp=N,760nm,1.6s							
Q23K				IAML		16 44 05.7	
comp=E,674nm,1.5s							
Q23K	**Middleton Isla**	**3.95**	**29**	P	**Pn**	**16 43 05.1**	**-1.1**
baz=211							
MID	**Middleton Isla**	**3.95**	**29**		**Pn**	**16 43 04.8**	**-1.4**
MID	**Middleton Isla**	**3.95**	**29**	IAML		16 43 49.4	
comp=N,813nm,2.8s							
MID				IAML		16 44 01.9	
comp=E,666nm,1.0s							
MID	**Middleton Isla**	**3.95**	**29**	P	**Pn**	**16 43 05.0**	**-1.2**
MID	**Middleton Isla**	**3.95**	**29**	P	**Pn**	**16 43 04.8**	**-1.4**
P19K	**Oil Pt**	**4.00**	**336**		**Pn**	**16 43 07.4**	**+0.4**
P19K	**Oil Pt**	**4.00**	**336**	P	**Pn**	**16 43 07.2**	**+0.2**
baz=154,SNR=12							
SEW	**Seward**	**4.10**	**4**		**Sn**	**16 43 52.2**	**-3.9**
SEW	**Seward**	**4.10**	**4**	P	**Pn**	**16 43 06.8**	**-1.4**
baz=184							
O20K	**Slope Mountain**	**4.28**	**343**		**Pn**	**16 43 09.7**	**-1.1**
O20K	**Slope Mountain**	**4.28**	**343**	P	**Pn**	**16 43 11.1**	**+0.2**
baz=161,SNR=6.7							
IVE	**Iliamna Volcan**	**4.29**	**340**		**Pn**	**16 43 09.7**	**-1.3**
P18K	**Big Mountain,**	**4.36**	**323**	Pn	**Pn**	**16 43 11.0**	**-0.9**
P18K	**Big Mountain,**	**4.36**	**323**	P	**Pn**	**16 43 11.0**	**-0.9**
baz=139,SNR=21							
R16K	**Pilot Point**	**4.40**	**294**		**Pn**	**16 43 11.4**	**-1.0**
R16K	**Pilot Point**	**4.40**	**294**	IAML		16 43 58.6	
comp=E,877nm,2.8s							
R16K				IAML		16 45 48.1	
comp=N,834nm,2.1s							
R16K	**Pilot Point**	**4.40**	**294**	P	**Pn**	**16 43 12.2**	**-0.2**
baz=109							
Q16K	**King Salmon**	**4.44**	**309**		**Pn**	**16 43 12.2**	**-0.7**
Q16K	**King Salmon**	**4.44**	**309**	P	**Pn**	**16 43 12.5**	**-0.5**
baz=125,SNR=30							
O22K	**Cooper Landing**	**4.47**	**2**	P	**Pn**	**16 43 12.9**	**-0.4**
baz=182							
SLKM	**Skilak Lake**	**4.49**	**359**		**Pn**	**16 43 12.0**	**-1.7**
ANNW	**Aniakchak Nort**	**4.61**	**285**		**Pn**	**16 43 14.4**	**-0.9**
RED	**Redoubt Volcan**	**4.62**	**343**		**Pn**	**16 43 13.8**	**-1.8**
RDSO	**Redoubt South**	**4.65**	**343**		**Pn**	**16 43 14.6**	**-1.4**
RSO	**Redoubt South**	**4.66**	**343**		**Pn**	**16 43 16.1**	**-0.1**
P17K	**Kvichak River**	**4.67**	**315**		**Pn**	**16 43 15.4**	**-0.7**
P17K	**Kvichak River**	**4.67**	**315**	P	**Pn**	**16 43 15.9**	**-0.1**
baz=131,SNR=69							
CHGN	**Chignik**	**4.67**	**277**		**Pn**	**16 43 14.8**	**-1.3**
CHGN	**Chignik**	**4.67**	**277**	P	**Pn**	**16 43 15.1**	**-1.0**
baz=91,SNR=6.7							
RDWB	**Redoubt West**	**4.70**	**343**		**Pn**	**16 43 14.9**	**-1.8**
O18K	**Koktuh Hills**	**4.71**	**327**		**Pn**	**16 43 16.0**	**-0.7**
O18K				IAML		16 44 11.9	
comp=N,885nm,1.1s							
O18K				IAML		16 44 25.5	
comp=E,826nm,0.9s							
O18K	**Koktuh Hills**	**4.71**	**327**	P	**Pn**	**16 43 15.8**	**-0.9**
baz=143,SNR=27							
RDT	**Redoubt**	**4.72**	**346**		**Pn**	**16 43 15.0**	**-1.9**
O19K	**Port Alsworth**	**4.74**	**333**		**Pn**	**16 43 16.3**	**-0.7**
O19K	**Port Alsworth**	**4.74**	**333**	P	**Pn**	**16 43 16.7**	**-0.4**
baz=150,SNR=27							
HIN	**Hinchinbrook I**	**4.77**	**22**	Pn	**Pn**	**16 43 16.3**	**-1.2**
HIN				IAML		16 44 12.4	
comp=E,1µm,1.2s							
HIN				IAML		16 44 12.6	
comp=N,963nm,0.8s							
DFR	**Drift River**	**4.78**	**344**		**Pn**	**16 43 15.7**	**-2.0**
CAPN	**Captain Cook N**	**4.78**	**354**	P	**Pn**	**16 43 18.1**	**+0.5**
baz=173							
NCT	**North Crescent**	**4.79**	**343**		**Pn**	**16 43 15.9**	**-1.9**
RDJH	**Redoubt Jeurge**	**4.79**	**344**		**Pn**	**16 43 16.0**	**-2.0**
KAIM	**Kayak Island**	**4.93**	**35**	Pn	**Pn**	**16 43 19.4**	**-0.3**
KAIM				IAML		16 44 19.6	
comp=E,735nm,1.5s							
KAIM				IAML		16 44 35.5	
comp=N,815nm,1.4s							
KAIM	**Kayak Island**	**4.93**	**35**	P	**Pn**	**16 43 19.5**	**-0.2**
baz=219,SNR=8.2							
EYAK	**Cordova Ski Ar**	**5.07**	**25**		**Pn**	**16 43 20.6**	**-1.0**
EYAK	**Cordova Ski Ar**	**5.07**	**25**	P	**Pn**	**16 43 19.7**	**-1.9**
EYAK	**Cordova Ski Ar**	**5.07**	**25**	P	**Pn**	**16 43 21.0**	**-0.6**
baz=208,SNR=55							
RC01	**Rabbit Creek A**	**5.08**	**2**		**Pn**	**16 43 22.3**	**+0.6**
RC01				IAML		16 44 25.2	
comp=E,823nm,0.7s							
RC01				IAML		16 44 26.3	
comp=N,529nm,0.7s							
RC01	**Rabbit Creek A**	**5.08**	**2**	P	**Pn**	**16 43 20.7**	**-1.0**
baz=182							
RAGM	**Ragged Mountai**	**5.22**	**31**		**Pn**	**16 43 22.9**	**-0.7**
P16K	**Nushagak River**	**5.22**	**308**		**Pn**	**16 43 23.0**	**-0.6**
P16K	**Nushagak River**	**5.22**	**308**	P	**Pn**	**16 43 22.6**	**-1.0**
baz=123,SNR=21							
O17K	**Koliganek Bris**	**5.30**	**318**		**Pn**	**16 43 23.8**	**-0.9**
O17K	**Koliganek Bris**	**5.30**	**318**	P	**Pn**	**16 43 23.9**	**-0.8**
baz=133,SNR=32							
N20K	**Mount Spurr**	**5.30**	**349**	P	**Pn**	**16 43 24.0**	**-0.9**
baz=167							
SPCR	**Spurr Chakacha**	**5.30**	**349**		**Pn**	**16 43 23.5**	**-1.4**
S14K	**Fog Glacier**	**5.30**	**277**	P	**Pn**	**16 43 23.9**	**-1.1**
baz=90							
VNFG	**Fog Glacier, M**	**5.30**	**277**		**Pn**	**16 43 24.2**	**-0.8**
VNFG	**Fog Glacier, M**	**5.30**	**277**	IAML		16 44 53.8	
comp=N,825nm,0.9s							
N19K	**Bonanza Creek**	**5.32**	**336**		**Pn**	**16 43 23.7**	**-1.5**
N19K	**Bonanza Creek**	**5.32**	**336**	IAML		16 44 40.3	
comp=E,389nm,1.0s							
N19K				IAML		16 44 43.9	
comp=N,357nm,0.9s							
N19K	**Bonanza Creek**	**5.32**	**336**	P	**Pn**	**16 43 24.4**	**-0.8**
baz=153							
SPCP	**Crater Peak Br**	**5.36**	**349**		**Pn**	**16 43 24.3**	**-1.5**
SPCG	**Spurr Capps Gl**	**5.37**	**350**		**Pn**	**16 43 24.4**	**-1.5**
SUA	**Susitna One**	**5.46**	**357**	Pn	**Pn**	**16 43 25.9**	**-1.2**
SUA	**Susitna One**	**5.46**	**357**	P	**Pn**	**16 43 25.7**	**-1.3**
baz=176							
KNK	**Knik Glacier**	**5.46**	**8**		**Pn**	**16 43 26.5**	**-0.6**
KNK	**Knik Glacier**	**5.46**	**8**	P	**Pn**	**16 43 26.4**	**-0.6**
baz=189							
BERG	**Berg Lake**	**5.52**	**35**		**Pn**	**16 43 27.0**	**-0.8**
CHNA	**Chernabura Isl**	**5.55**	**261**	P	**Pn**	**16 43 25.1**	**-3.1**
baz=75							
CNBA	**Chernabura Isl**	**5.55**	**261**	Pn	**Pn**	**16 43 25.6**	**-2.6**
STLK	**Strandline Lak**	**5.56**	**351**		**Pn**	**16 43 27.0**	**-1.4**
N18K	**Kilae Creek**	**5.58**	**329**	Pn	**Pn**	**16 43 27.8**	**-0.8**
N18K	**Kilae Creek**	**5.58**	**329**	P	**Pn**	**16 43 27.7**	**-0.9**
baz=145,SNR=23							
O16K	**Kokwok River B**	**5.58**	**313**	Pn	**Pn**	**16 43 28.1**	**-0.5**
O16K	**Kokwok River B**	**5.58**	**313**	P	**Pn**	**16 43 27.8**	**-0.7**
baz=127							
DIV	**Divide**	**5.58**	**22**		**Pn**	**16 43 27.7**	**-1.1**
PMR	**Palmer**	**5.60**	**5**	Pn	**Pn**	**16 43 28.9**	**+0.1**
PMR	**Palmer**	**5.60**	**5**	P	**Pn**	**16 43 29.3**	**+0.5**
PMR	**Palmer**	**5.60**	**5**	P	**Pn**	**16 43 28.7**	**-0.1**
baz=185							
PMR	**Palmer**	**5.60**	**5**	P	**Pn**	**16 43 28.9**	**+0.1**
SNH	**Unshine Point**	**5.66**	**40**		**Pn**	**16 43 29.0**	**-0.7**
BMRM	**Bremner River**	**5.72**	**28**		**Pn**	**16 43 29.6**	**-0.9**
BMRM	**Bremner River**	**5.72**	**28**	P	**Pn**	**16 43 30.0**	**-0.5**
baz=212,SNR=26							
GHO	**Glory Hole Cre**	**5.79**	**5**	Pn	**Pn**	**16 43 31.5**	**-0.1**
SVW2	**Sparrevohn**	**5.84**	**333**	Pn	**Pn**	**16 43 31.6**	**-0.6**
N17K	**Nushagak Hills**	**5.86**	**323**		**Pn**	**16 43 31.3**	**-1.2**
N17K	**Nushagak Hills**	**5.86**	**323**	P	**Pn**	**16 43 32.1**	**-0.4**
baz=138							
SML	**Sawmill**	**5.86**	**8**		**Pn**	**16 43 31.4**	**-1.2**
SML	**Sawmill**	**5.86**	**8**	P	**Pn**	**16 43 32.0**	**-0.6**
baz=189,SNR=15							
KLU	**Klutina**	**5.89**	**20**	Pn	**Pn**	**16 43 32.6**	**-0.3**
KLU	**Klutina**	**5.89**	**20**	P	**Pn**	**16 43 32.6**	**-0.3**
baz=203,SNR=28							
M23K	**Glacier View**	**5.90**	**11**		**Pn**	**16 43 31.8**	**-1.3**
M23K	**Glacier View**	**5.90**	**11**	P	**Pn**	**16 43 32.4**	**-0.7**
baz=192,SNR=15							
SDPT	**Sand Point**	**5.92**	**268**	Pn	**Pn**	**16 43 31.3**	**-2.0**
SDPT	**Sand Point**	**5.92**	**268**	P	**Pn**	**16 43 31.6**	**-1.7**
baz=80							
BARK	**Barkley Ridge**	**5.94**	**39**		**Pn**	**16 43 32.1**	**-1.5**
SCM	**Sheep Creek Mo**	**5.99**	**13**		**Pn**	**16 43 32.4**	**-1.9**
SCM	**Sheep Creek Mo**	**5.99**	**13**	P	**Pn**	**16 43 34.0**	**-0.3**
baz=194,SNR=8.5							
SCM	**Sheep Creek Mo**	**5.99**	**13**	P	**Pn**	**16 43 32.4**	**-1.9**
SKT	**Skwentna**	**6.01**	**353**		**Pn**	**16 43 33.4**	**-1.2**
SKT	**Skwentna**	**6.01**	**353**	P	**Pn**	**16 43 34.3**	**-0.3**
baz=172,SNR=7.7							
M20K	**Styx River**	**6.08**	**346**	Pn	**Pn**	**16 43 34.9**	**-0.7**
M20K	**Styx River**	**6.08**	**346**	P	**Pn**	**16 43 34.6**	**-0.9**
baz=164							
O15K	**Ungalikthiuk R**	**6.11**	**305**		**Pn**	**16 43 35.2**	**-0.8**
O15K	**Ungalikthiuk R**	**6.11**	**305**	P	**Pn**	**16 43 35.2**	**-0.8**
baz=118							
M18K	**Stony River**	**6.24**	**334**		**Pn**	**16 43 35.9**	**-1.7**
M18K	**Stony River**	**6.24**	**334**	P	**Pn**	**16 43 36.3**	**-1.3**
baz=149							
VRDI	**Verde Repeater**	**6.25**	**31**	Pn	**Pn**	**16 43 37.2**	**-0.8**
N25K	**Chitina, Valde**	**6.27**	**25**		**Pn**	**16 43 37.5**	**-0.6**
N25K	**Chitina, Valde**	**6.27**	**25**	P	**Pn**	**16 43 37.5**	**-0.6**
baz=209,SNR=49							
M19K	**Big River Lodg**	**6.30**	**341**		**Pn**	**16 43 37.0**	**-1.5**
M19K	**Big River Lodg**	**6.30**	**341**	P	**Pn**	**16 43 37.5**	**-0.9**
baz=158							
GLB	**Gilahina Butte**	**6.33**	**28**		**Pn**	**16 43 38.0**	**-0.9**
KIAG	**Kiagna River**	**6.36**	**36**		**Pn**	**16 43 37.9**	**-1.5**
N16K	**Nishlik Lake**	**6.39**	**318**		**Pn**	**16 43 38.1**	**-1.7**
N16K	**Nishlik Lake**	**6.39**	**318**	P	**Pn**	**

L18K Granite Mounta 7.07 334 Pn 16 43 47.7 -1.4
baz=170
L18K Granite Mounta 7.07 334 P Pn 16 43 48.5 -0.6
baz=149
DHY Denali Highway 7.20 10 Pn 16 43 50.1 -0.8
DHY Denali Highway 7.20 10 P Pn 16 43 50.5 -0.5
baz=192,SNR=12
M15K Kasigluk River 7.28 314 P Pn 16 43 51.4 -0.4
baz=126
N14K Kuskokwak Cree 7.30 307 P Pn 16 43 50.7 -1.5
baz=118
PAX Paxson 7.34 17 Pn 16 43 50.7 -2.1
PAX Paxson 7.34 17 P Pn 16 43 53.0 +0.2
baz=200,SNR=11
PAX Paxson 7.34 17 P Pn 16 43 50.7 -2.1
M26K Nabesna, AK 7.34 27 Pn Pn 16 43 53.0 +0.2
M26K Nabesna, AK 7.34 27 P Pn 16 43 53.5 +0.6
baz=212
RND Reindeer 7.42 4 Pn 16 43 52.6 -1.4
RND Reindeer 7.42 4 P Pn 16 43 52.6 -1.4
O29M Mount Kennedy 7.43 50 Pn 16 43 53.6 -0.5
O29M Mount Kennedy 7.43 50 P Pn 16 43 54.1 0.0
baz=239,SNR=20
L17K Donlin 7.44 329 Pn 16 43 53.1 -1.0
L17K Donlin 7.44 329 P Pn 16 43 53.3 -0.7
baz=142,SNR=12
TRF Thorofare Moun 7.44 359 Pn 16 43 57.1 +2.8
TRF Thorofare Moun 7.44 359 P Pn 16 43 54.1 -0.3
baz=179
CAST Castle Rocks 7.48 353 Pn 16 43 53.9 -0.8
CAST Castle Rocks 7.48 353 P Pn 16 43 54.7 +0.1
baz=171,SNR=8.8
L16K Owhat River 7.49 323 Pn Pn 16 43 54.5 -0.2
L16K Owhat River 7.49 323 P Pn 16 43 54.2 -0.6
baz=136,SNR=26
P29M Windy Craggy 7.50 56 Pn Pn 16 43 54.1 -0.9
P29M Windy Craggy 7.50 56 P Pn 16 43 54.0 -1.1
baz=246
YUK8 Steele Glacier 7.52 41 P Pn 16 43 56.6 +1.1
baz=229,SNR=32
TTA Tatalina 7.55 339 Pn Pn 16 43 55.9 +0.2
TTA Tatalina 7.55 339 P Pn 16 43 54.8 -0.9
baz=154
TTA Tatalina 7.55 339 P Pn 16 43 55.9 +0.2
KTH Kantishna Hill 7.56 357 Pn 16 43 55.2 -0.6
YUK3 Moose Creek 7.61 37 P Pn 16 43 57.2 +0.6
baz=224
M27K Edge Creek, AK 7.61 30 Pn Pn 16 43 56.8 +0.2
M27K Edge Creek, AK 7.61 30 P Pn 16 43 56.8 +0.2
baz=216
K20K Telida 7.62 346 Pn Pn 16 43 56.2 -0.4
K20K Telida 7.62 346 P Pn 16 43 56.4 -0.2
baz=163
MENT Mentasta 7.64 22 Pn 16 43 57.1 +0.2
MENT Mentasta 7.64 22 P Pn 16 43 58.0 +1.1
FALS False Pass 7.68 267 P Pn 16 43 56.3 -1.1
baz=77
MCK McKinley 7.75 4 Pn 16 43 57.7 -0.7
MCK McKinley 7.75 4 P Pn 16 43 59.0 +0.6
baz=185
MCK McKinley 7.75 4 P Pn 16 43 57.7 -0.7
L26K Log Cabin Wild 7.80 23 Pn 16 44 00.8 +1.7
L26K Log Cabin Wild 7.80 23 P Pn 16 43 59.9 +0.8
baz=208,SNR=21
S31K Pelican 7.80 70 P Pn 16 43 57.0 -2.1
baz=261
M14K Bethel 7.83 312 Pn 16 43 57.7 -1.7
M14K Bethel 7.83 312 P Pn 16 43 59.0 -0.4
baz=123,SNR=7.9
YUK6 Outpost Mounta 7.86 46 P Pn 16 44 00.4 +0.3
baz=236,SNR=22
K17K Iditarod 7.90 331 Pn Pn 16 44 01.4 +0.9
K17K Iditarod 7.90 331 P Pn 16 44 00.5 0.0
baz=145
BVCY Beaver Creek 7.95 33 Pn 16 44 00.4 -0.8
BVCY Beaver Creek 7.95 33 P Pn 16 44 01.6 +0.5
baz=220,SNR=28
CHUM Lake Minchumin 7.96 353 P Pn 16 44 01.6 +0.5
baz=171
YUK4 Talbot Arm 7.98 43 P Pn 16 44 03.7 +1.9
baz=232
P30M Million Dollar 8.06 54 P Pn 16 44 03.7 +0.9
baz=244
K24K Donnelly Dome 8.09 14 P Pn 16 44 03.2 +0.2
baz=197
PLBC Pleasant Camp 8.09 59 Pn 16 44 01.2 -1.9
PLBC Pleasant Camp 8.09 59 P Pn 16 44 02.8 -0.3
baz=250,SNR=7.6
BPAW Bear Paw Mtn. 8.11 357 Pn Pn 16 44 01.4 -1.8
BPAW Bear Paw Mtn. 8.11 357 P Pn 16 44 03.2 -0.1
baz=176
R31K City Hall, Gus 8.14 67 P Pn 16 44 03.3 -0.4
baz=258
HYT Haines Junctio 8.15 49 Pn 16 44 02.8 -1.2
HYT Haines Junctio 8.15 49 P Pn 16 44 03.9 -0.2
baz=239
RIDG Independent Ri 8.16 17 Pn 16 44 03.2 -0.9
RIDG Independent Ri 8.16 17 P Pn 16 44 04.7 +0.6
baz=201,SNR=14
J18K Innoko River 8.17 339 Pn Pn 16 44 05.9 +1.8
J18K Innoko River 8.17 339 P Pn 16 44 03.7 -0.4
baz=153
L15K Ungalak Mounta 8.18 318 Pn 16 44 03.2 -1.0
L15K Ungalak Mounta 8.18 318 P Pn 16 44 04.1 -0.1
baz=129,SNR=26
L27K Beaver Creek, 8.19 27 Pn Pn 16 44 04.8 +0.3
L27K Beaver Creek, 8.19 27 P Pn 16 44 05.2 +0.7
baz=214
BCAR Beaver Creek A 8.21 27 Pn Pn 16 44 04.3 -0.4
SIT Sitka 8.22 77 Pn Pn 16 44 04.3 -0.5
SIT Sitka 8.22 77 P Pn 16 44 02.3 -2.5
baz=268
SIT Sitka 8.22 77 P Pn 16 44 04.3 -0.5
M13K Dall Lake 8.26 308 Pn Pn 16 44 05.3 -0.1
M13K Dall Lake 8.26 308 P Pn 16 44 04.3 -1.1
baz=117
J20K Nowinta River 8.42 348 Pn Pn 16 44 08.3 +0.8
J20K Nowinta River 8.42 348 P Pn 16 44 06.7 -0.8
baz=164
L14K Kuka Creek 8.44 314 Pn Pn 16 44 08.2 +0.3
L14K Kuka Creek 8.44 314 P Pn 16 44 07.5 -0.4
baz=124
J19K Poorman 8.45 343 Pn Pn 16 44 08.5 +0.5
J19K Poorman 8.45 343 P Pn 16 44 07.3 -0.7
baz=158
SCRK Sand Creek 8.53 18 Pn 16 44 08.5 -0.6
SCRK Sand Creek 8.53 18 P Pn 16 44 09.3 +0.1
baz=203
HDA Harding Lake 8.55 9 Pn 16 44 08.7 -0.5
HDA Harding Lake 8.55 9 P Pn 16 44 10.4 +1.2
baz=192,SNR=16
K15K Wolf Creek Mou 8.60 322 Pn Pn 16 44 10.1 +0.2
K15K Wolf Creek Mou 8.60 322 P Pn 16 44 09.5 -0.4
baz=132
SKAG Skagway 8.60 60 Pn Pn 16 44 09.8 -0.2
SKAG Skagway 8.60 60 P Pn 16 44 10.1 +0.1
baz=252
NEA2 Nenana 8.60 3 Pn 16 44 09.7 -0.4
NEA2 Nenana 8.60 3 P Pn 16 44 10.3 +0.3
baz=184
S32K Killisnoo 8.64 74 P Pn 16 44 09.1 -1.4
baz=266
N30M Aishikik Lake 8.66 46 Pn Pn 16 44 10.3 -0.7
CCB Clear Creek Bu 8.71 6 Pn 16 44 11.0 -0.6
O30N Mendenhall 8.74 51 Pn Pn 16 44 12.4 +0.5
O30N Mendenhall 8.74 51 P Pn 16 44 11.7 -0.2
baz=242
M29M Somme Creek 8.75 38 Pn Pn 16 44 12.6 +0.5
M29M Somme Creek 8.75 38 P Pn 16 44 12.9 +0.7
baz=227
R32K Eaglecrest 8.75 69 P Pn 16 44 11.4 -0.7
baz=261
JIS Juneau Island 8.82 69 Pn Pn 16 44 12.0 -1.0
JIS Juneau Island 8.82 69 P Pn 16 44 07.5 -5.5
IL31 8.91 9 Pn 16 44 12.5 -1.7
ILAR Eielson Array 8.91 9 Pn Pn 16 44 14.4 +0.2
ILAR Eielson Array 8.91 9 P Pn 16 44 14.4 +0.2
ILAR Eielson Array 8.91 9 Pn Pn 16 44 13.7 -0.5
comp=N,1.3nm,0.3s,baz=189,slow=13,SNR=34
ILAR Sn Sn 16 45 51.0 -3.5
comp=N,5.3nm,0.3s,baz=193,slow=20,SNR=10.0
ILAR LR LR 16 47 52.5
comp=N,2µm,20.8s,baz=208,slow=38
comp=N,3.0nm,0.4s
J25K Salcha River, 8.92 13 Pn 16 44 12.9 -1.5

J25K Salcha River, 8.92 13 P Pn 16 44 14.6 +0.2
baz=197
COLA College 8.94 6 Pn 16 44 13.9 -0.7
COLA College 8.94 6 P Pn 16 44 15.3 +0.7
COLA College 8.94 6 P Pn 16 44 15.1 +0.5
baz=188
COLA College 8.94 6 P Pn 16 44 13.9 -0.7
K27K Chicken 8.96 23 Pn 16 44 13.6 -1.3
K27K Chicken 8.96 23 P Pn 16 44 15.0 +0.1
baz=210
MDM Murphy Dome 9.00 5 Pn 16 44 14.9 -0.6
J16K Anvik River 9.00 328 Pn 16 44 14.5 -1.0
J16K Anvik River 9.00 328 P Pn 16 44 14.8 -0.7
baz=139,SNR=12
I20K Naaghedeneel 9.06 348 P Pn 16 44 15.7 -0.5
baz=164
J26L Joseph Creek 9.09 18 Pn Pn 16 44 15.1 -1.7
J26L Joseph Creek 9.09 18 P Pn 16 44 17.4 +0.6
baz=203
I23K Minto, Yukon-K 9.15 2 Pn 16 44 17.0 -0.5
I23K Minto, Yukon-K 9.15 2 P Pn 16 44 17.3 -0.3
baz=182,SNR=8.2
POKR Poker Plat Res 9.21 7 Pn 16 44 17.7 -0.6
POKR Poker Plat Res 9.21 7 P Pn 16 44 19.0 +0.6
baz=189,SNR=14
N31M Braeburn, Yuko 9.21 48 Pn 16 44 17.9 -0.5
N31M Braeburn, Yuko 9.21 48 P Pn 16 44 18.4 0.0
baz=239,SNR=11
I21K Tanana 9.23 355 Pn Pn 16 44 18.8 +0.3
I21K Tanana 9.23 355 P Pn 16 44 18.9 +0.3
baz=173
WHY Whitehorse 9.23 54 Pn Pn 16 44 18.8 +0.1
WHY Whitehorse 9.23 54 P Pn 16 44 18.6 -0.1
baz=246
L29M L29M 9.32 36 Pn Pn 16 44 20.2 +0.3
L29M L29M 9.32 36 P Pn 16 44 20.1 +0.3
baz=225
GCSA Galena City Sc 9.36 342 P Pn 16 44 19.9 -0.5
baz=156
P32M Atlin 9.43 61 Pn 16 44 19.7 -1.7
P32M Atlin 9.43 61 P Pn 16 44 20.1 -1.2
baz=254,SNR=6.1
M30M Minto, Yukon 9.43 40 Pn 16 44 20.6 -0.8
M30M Minto, Yukon 9.43 40 P Pn 16 44 21.9 +0.5
baz=231,SNR=6.6
I17K Unalakleet 9.49 330 Pn Pn 16 44 21.5 -0.7
I17K Unalakleet 9.49 330 P Pn 16 44 21.7 -0.5
baz=142
M11K Mekoryuk 9.55 304 P Pn 16 44 22.1 -1.0
baz=111
K13K Kusilvak Mount 9.56 314 Pn Pn 16 44 24.0 +0.9
K13K Kusilvak Mount 9.56 314 P Pn 16 44 22.2 -0.9
baz=122
J14K Nanvaranak Lak 9.61 320 Pn 16 44 23.3 -0.4
J14K Nanvaranak Lak 9.61 320 P Pn 16 44 24.4 +0.6
baz=129,SNR=5.7
DAWY Dawson 9.65 29 Pn Pn 16 44 24.5 +0.1
DAWY Dawson 9.65 29 P Pn 16 44 24.6 +0.1
baz=218
H21K Melozitna Rive 9.75 353 Pn Pn 16 44 24.5 -1.3
H21K Melozitna Rive 9.75 353 P Pn 16 44 25.5 -0.2
baz=171
PRP Porcupine Dome 9.77 11 Pn 16 44 25.3 -0.9
PRP Porcupine Dome 9.77 11 P Pn 16 44 26.2 +0.1
baz=195,SNR=8.5
H20K Anotleneega Mo 9.78 348 Pn 16 44 24.9 -1.2
H20K Anotleneega Mo 9.78 348 P Pn 16 44 27.0 +0.9
baz=164
EGAK Eagle 9.81 23 Pn 16 44 26.6 +0.1
EGAK Eagle 9.81 23 P Pn 16 44 27.1 +0.5
baz=210,SNR=12
WRAK Wrangell Islan 9.88 80 P Pn 16 44 28.6 +1.1
baz=274
H24K Noodor Dome 9.90 5 Pn 16 44 30.6 +2.8
H24K Noodor Dome 9.90 5 P Pn 16 44 29.0 +1.2
baz=187
I26K Coal Creek Min 9.90 17 Pn Pn 16 44 29.1 +1.4
I26K Coal Creek Min 9.90 17 P Pn 16 44 29.0 +1.2
baz=203
H22K Ishtalitna Cre 9.92 357 P Pn 16 44 28.7 +0.7
baz=176
H18K Honhosa River 10.01 339 Pn Pn 16 44 30.1 +0.9
H18K Honhosa River 10.01 339 P Pn 16 44 29.5 +0.2
baz=152
H19K Roundabout Mou 10.02 345 Pn Pn 16 44 30.8 +1.4
H19K Roundabout Mou 10.02 345 P Pn 16 44 29.7 +0.3
baz=159
Q32M Nakina River 10.02 66 P Pn 16 44 31.0 +1.3
baz=260
K29M Barlow Dome 10.03 34 P Pn 16 44 29.9 +0.2
baz=224
P33M Teslin, Yukon 10.03 58 Pn Pn 16 44 28.6 -1.2
P33M Teslin, Yukon 10.03 58 P Pn 16 44 28.4 -1.3
baz=252,SNR=9.7
IMAR Indian Mountai 10.14 351 Pn 16 44 31.9 +0.8
M31M Drury Creek, Y 10.14 46 Pn 16 44 31.2 0.0
M31M Drury Creek, Y 10.14 46 P Pn 16 44 31.4 +0.2
baz=239,SNR=11
H17K Granite Mounta 10.15 336 Pn Pn 16 44 30.8 -0.4
H17K Granite Mounta 10.15 336 P Pn 16 44 30.8 -0.4
baz=147
N32M Quiet Lake 10.23 53 Pn Pn 16 44 32.0 -0.4
N32M Quiet Lake 10.23 53 P Pn 16 44 33.3 +0.9
baz=247
J29N Klondike Camp 10.28 30 P Pn 16 44 34.1 +1.0
baz=220
MAYO Mayo, Yukon 10.39 37 P Pn 16 44 35.6 +1.0
baz=229
I27K Kandik River 10.44 20 P Pn 16 44 35.6 +0.4
baz=207
H16K Elim 10.51 330 P Pn 16 44 35.5 -0.6
baz=140,SNR=12
S34M Telegraph Cree 10.51 72 Pn Pn 16 44 36.6 +0.5
S34M Telegraph Cree 10.51 72 P Pn 16 44 36.3 +0.2
baz=267
FARO Faro, Yukon 10.58 47 Pn 16 44 37.0 -0.2
FARO Faro, Yukon 10.58 47 P Pn 16 44 37.9 +0.7
baz=241,SNR=5.1
G21K Allakaket 10.65 353 Pn Pn 16 44 38.0 0.0
G21K Allakaket 10.65 353 P Pn 16 44 38.2 +0.2
baz=170
I28M Miner Creek 10.65 23 Pn Pn 16 44 39.5 +1.3
I28M Miner Creek 10.65 23 P Pn 16 44 38.3 +0.1
baz=212
G19K Purcell Mounta 10.69 344 Pn Pn 16 44 41.2 +2.6
G19K Purcell Mounta 10.69 344 P Pn 16 44 38.9 -0.4
baz=158
G23K Bananza Creek 10.72 0 Pn Pn 16 44 39.9 +0.9
G23K Bananza Creek 10.72 0 P Pn 16 44 39.6 +0.6
baz=180
G18K Tagagawik 10.72 341 Pn Pn 16 44 39.8 +0.8
G18K Tagagawik 10.72 341 P Pn 16 44 38.1 -1.0
baz=153
R33M Jennings River 10.75 64 Pn Pn 16 44 39.5 -0.1
R33M Jennings River 10.75 64 P Pn 16 44 39.4 -0.2
baz=259
G24K Hadweenzic Riv 10.78 6 Pn Pn 16 44 38.8 -1.1
G24K Hadweenzic Riv 10.78 6 P Pn 16 44 40.4 +0.6
baz=188
G17K Kiwalik Mounta 10.79 336 P Pn 16 44 40.1 0.0
baz=147
FYU Fort Yukon 10.82 10 Pn 16 44 40.3 0.0
J30M Hart River 10.92 33 Pn Pn 16 44 43.1 +1.2
J30M Hart River 10.92 33 P Pn 16 44 42.9 +1.0
baz=224
G25K Bearman Lake 10.93 8 P Pn 16 44 42.4 +0.5
baz=192
G22K Bettles 10.95 357 P Pn 16 44 41.7 -0.5
baz=176
I29M Ogilvie Camp, 10.97 27 Pn 16 44 44.3 +1.9
I29M Ogilvie Camp, 10.97 27 P Pn 16 44 43.5 +1.1
baz=217
T35M Bob Quinn 10.99 77 P Pn 16 44 43.1 +0.2
baz=273
H27K Steamboat Moun 11.02 18 P Pn 16 44 44.0 +0.8
baz=206
DLBC Dease Lake 11.12 69 Pn Pn 16 44 45.6 +1.0
DLBC Dease Lake 11.12 69 P Pn 16 44 45.2 +0.6
baz=265
DLBC Dease Lake 11.12 69 Pn Pn 16 44 45.7 +1.1
comp=N,1.5nm,0.3s,baz=239,slow=12,SNR=8.2
DLBC Sn Sn 16 46 47.1 -1.7
comp=N,0.5nm,0.3s,baz=165,slow=14,SNR=1.3
DLBC LR LR 16 48 15.7
comp=N,2µm,18.6s,baz=270,slow=33
comp=N,3.2nm,0.3s

G16K Koyuk River 11.12 333 Pn Pn 16 44 46.0 +1.5
G16K Koyuk River 11.12 333 P Pn 16 44 44.6 +0.1
baz=142
COLD Coldfoot 11.24 360 P Pn 16 44 45.4 -0.7
baz=180,SNR=6.4
G15K Niukluk 11.29 328 P Pn 16 44 46.1 -0.7
baz=136
F21K Alatna River 11.34 353 Pn Pn 16 44 46.3 -1.3
G26K Porcupine Rive 11.35 13 P Pn 16 44 48.4 +0.8
baz=198
F20K Avaraart Lake 11.37 349 Pn Pn 16 44 47.2 -0.7
F20K Avaraart Lake 11.37 349 P Pn 16 44 48.0 +0.1
baz=164
I30M Mount Dempster 11.38 30 Pn Pn 16 44 49.6 +1.5
I30M Mount Dempster 11.38 30 P Pn 16 44 49.4 +1.3
baz=222
ANM Nome 11.40 325 Pn Pn 16 44 49.0 +0.7
ANM Nome 11.40 325 P Pn 16 44 48.3 -0.1
baz=132,SNR=15
ANM Nome 11.40 325 P Pn 16 44 49.0 +0.7
F19K Shaleruckik Mo 11.43 344 Pn Pn 16 44 49.5 +0.7
F19K Shaleruckik Mo 11.43 344 P Pn 16 44 48.1 -0.7
baz=158
F24K Squaw Lake 11.57 4 Pn Pn 16 44 53.0 +2.3
F24K Squaw Lake 11.57 4 P Pn 16 44 51.3 +0.6
baz=186
H29M Whitestone 11.65 24 Pn Pn 16 44 55.0 +3.3
H29M Whitestone 11.65 24 P Pn 16 44 52.9 +1.1
baz=214
F17K Baldwin Pennin 11.72 337 Pn Pn 16 44 54.1 +1.5
F17K Baldwin Pennin 11.72 337 P Pn 16 44 52.4 -0.3
baz=192
F25K Christian Rive 11.79 8 P Pn 16 44 54.1 +0.4
E19K Redstone River 11.94 347 Pn Pn 16 44 56.5 +0.7
E19K Redstone River 11.94 347 P Pn 16 44 55.6 -0.1
baz=160
F15K North Star Dit 11.98 330 Pn Pn 16 44 57.7 +1.4
F15K North Star Dit 11.98 330 P Pn 16 44 55.9 -0.4
baz=137
F26K Sheenjek River 12.02 11 P Pn 16 44 57.9 +1.0
baz=196
E23K Chandalar 12.07 1 P Pn 16 44 58.9 +1.3
baz=181
EPYK Eagle Plains 12.17 26 P Pn 16 44 60.0 +1.1
baz=218
E22K Anaktuvuk Pass 12.17 357 Pn Pn 16 45 00.1 +1.2
E22K Anaktuvuk Pass 12.17 357 P Pn 16 44 59.7 +0.8
baz=175
G29M Pine Creek 12.31 23 P Pn 16 45 01.4 +0.6
baz=213,SNR=16
E25K Arctic Village 12.31 8 P Pn 16 45 01.0 +0.3
baz=192
F14K Arctic Creek 12.31 327 P Pn 16 45 00.1 -0.7
baz=133
E17K Hotham Inlet 12.39 338 P Pn 16 45 01.2 -0.6
baz=148
F28M Old Crow 12.55 18 Pn Pn 16 45 05.9 +1.8
F28M Old Crow 12.55 18 P Pn 16 45 05.1 +1.0
baz=207,SNR=6.1
E20K Nigu River 12.59 350 P Pn 16 45 05.0 +0.5
baz=164
G30M tAoh Zraii Nji 12.78 25 P Pn 16 45 08.5 +1.4
baz=217
TNA Tin City 12.87 325 Pn Pn 16 45 07.9 -0.5
TNA Tin City 12.87 325 P Pn 16 45 07.9 -0.5
baz=130,SNR=7.6
D22K Ayikyak River 12.95 356 Pn Pn 16 45 11.2 +1.7
D22K Ayikyak River 12.95 356 P Pn 16 45 09.5 0.0
baz=173
D23K Nanuskuk River 12.98 359 P Pn 16 45 10.6 +0.6
baz=178
D24K Happy Valley 13.18 2 P Pn 16 45 13.3 +0.7
baz=183
G31M Satah River 13.22 28 Pn Pn 16 45 14.2 +1.1
G31M Satah River 13.22 28 P Pn 16 45 14.8 +1.6
baz=222
GAMB Gambell 13.28 315 Pn Pn 16 45 12.4 -1.5
GAMB Gambell 13.28 315 P Pn 16 45 13.6 -0.3
baz=116
C21K Knifeblade Rid 13.34 353 P Pn 16 45 15.2 +0.4
baz=168
F30M Barrier River 13.38 24 P Pn 16 45 16.4 +1.1
baz=216
BBB Bella Bella 13.43 97 Pn Pn 16 45 18.3 +2.2
comp=N,0.3nm,0.3s,baz=46,slow=6.2,SNR=1.4
BBB LR LR 16 49 11.0
comp=N,2µm,20.5s,baz=305,slow=32
comp=N,13nm,0.9s
D25K Kavik River 13.44 6 Pn Pn 16 45 18.0 +1.8
D25K Kavik River 13.44 6 P Pn 16 45 16.9 +0.7
baz=189
E28M Babbage River 13.50 17 P Pn 16 45 17.6 +0.6
baz=206
E29M Blow River 13.59 19 Pn Pn 16 45 18.2 0.0
E29M Blow River 13.59 19 P Pn 16 45 19.4 +1.1
baz=210
C18K Utukok River 13.63 343 Pn Pn 16 45 19.2 +0.3
C18K Utukok River 13.63 343 P Pn 16 45 18.3 -0.5
baz=153
F31M Tsiigehtchic 13.75 27 Pn Pn 16 45 21.0 +0.7
F31M Tsiigehtchic 13.75 27 P Pn 16 45 21.4 +1.1
baz=221,SNR=6.6
C24K Franklin Bluff 13.75 2 P Pn 16 45 21.3 +0.9
baz=183
C19K Lookout Ridge 13.80 346 Pn Pn 16 45 21.7 +0.5
C19K Lookout Ridge 13.80 346 P Pn 16 45 20.8 -0.4
baz=157
C17K DeLong Mountai 13.85 340 P Pn 16 45 22.2 +0.5
baz=148
D27M Malcolm River 13.88 14 Pn Pn 16 45 22.5 +0.3
D27M Malcolm River 13.88 14 P Pn 16 45 23.3 +1.2
baz=202
C16K Lisburne Hills 14.14 336 Pn Pn 16 45 22.0 -3.6
C16K Lisburne Hills 14.14 336 P Pn 16 45 26.3 +0.7
baz=143
D28M Stokes Point 14.28 16 P Pn 16 45 29.8 +2.2
baz=206
KOTAN Kotaneelee Air 14.32 63 P Pn 16 45 28.3 +0.1
baz=264,SNR=6.8
B20K Meade River 14.37 350 Pn Pn 16 45 25.4 -3.5
B20K Meade River 14.37 350 P Pn 16 45 28.4 -0.4
baz=164
B18K Kokolik River 14.38 343 P Pn 16 45 28.0 -0.9
baz=153
B22K Teshekpuk Lake 14.44 355 Pn Pn 16 45 28.2 -1.6
B22K Teshekpuk Lake 14.44 355 P Pn 16 45 29.7 0.0
baz=172
INK Inuvik 14.46 25 Pn Pn 16 45 30.5 +0.5
INK Inuvik 14.46 25 P Pn 16 45 30.1 +0.1
baz=220,SNR=23
INK Inuvik 14.46 25 P Pn 16 45 30.5 +0.5
INK Inuvik 14.46 25 Pn Pn 16 45 30.6 +0.6
comp=N,0.6nm,0.3s,baz=204,slow=15,SNR=40
INK LR LR 16 51 23.2
comp=N,2µm,20.0s,baz=184,slow=38
comp=N,15nm,0.9s
ATKA Atka Island 14.63 265 Pn Pn 16 45 28.2 -4.2
A19K Wainwright 15.02 345 P Pn 16 45 37.7 0.0
baz=156
WRGLY Wrigley 15.17 51 P Pn 16 45 40.4 +0.7
baz=253
A22K Sinclair Lake 15.18 354 P Pn 16 45 39.5 -0.2
baz=169
A21K Barrow 15.60 352 P Pn 16 45 44.7 -0.6
baz=166
ADK Adak 16.15 266 Pn Pn 16 45 49.3 -3.2
ADK IAmb IAmb 16 45 57.5
comp=Z,87nm,1.6s
ADK Adak 16.15 266 P Pn 16 45 49.3 -3.2
ADK pmax pmax
comp=Z,87nm,1.6s
KIWB Kanaga Island 16.43 267 Pn Pn 16 45 52.4 -3.6
C36M Paulatuk 17.68 31 P Pn 16 46 10.8 -0.8
baz=234,SNR=13
YKAB2 New Yellowknif 19.04 56 P P 16 46 26.0 -1.5
YKA Yellowknife Ar 19.05 56 P P 16 46 27.9 +0.3
YKA Yellowknife Ar 19.05 56 P P 16 46 27.9 +0.3
YKA Yellowknife Ar 19.05 56 P P 16 46 28.2 +0.6
comp=Z,0.9nm,0.3s,baz=264,slow=9.8,SNR=60
YKA LR LR 16 53 40.8
comp=Z,1µm,18.2s,baz=268,slow=36
comp=Z,7.2nm,0.9s
A36M Sachs Harbour 19.09 24 P Pn 16 46 28.9 +0.2
A36M IAmb IAmb 16 46 39.4
comp=Z,44nm,0.7s

A36M Sachs Harbour 19.09 24 P **Pn** **16 46 28.7 0.0**
baz=226,SNR=67
SHEM Shemya Is, Ala 20.97 276 LR LR 16 55 12.4
comp=Z,344nm,19.2s,baz=308,slow=38
NEW Newport 21.49 97 P **P** **16 46 56.2 +1.9**
comp=Z,2.8nm,0.5s,baz=307,slow=5.9,SNR=4.0
NEW LR LR 16 53 54.8
comp=Z,935nm,21.5s,baz=297,slow=33
comp=Z,2.8nm,0.5s
DBO Dodson Butte 21.50 116 P **P** **16 46 53.1 -1.4**
DBO IAmb IAmb 16 46 57.5
comp=Z,82nm,1.6s
HUMO Hull Mountain 22.02 116 P **P** **16 46 58.6 -1.3**
HUMO IAmb IAmb 16 47 15.4
comp=Z,39nm,1.6s
J05D Fort Rock, OR 22.41 113 P **P** **16 47 02.6 -1.8**
J05D IAmb IAmb 16 47 25.7
comp=Z,38nm,1.4s
YBH Yreka Blue Hor 22.79 117 P **P** **16 47 07.4 -0.9**
YBH Yreka Blue Hor 22.79 117 P **P** **16 47 07.4 -0.9**
YBH pmax pmax
comp=Z,16nm,1.3s
YBH Yreka Blue Hor 22.79 117 P **P** **16 47 07.9 -0.3**
comp=Z,4.2nm,0.9s,baz=353,slow=4.5,SNR=5.2
YBH LR LR 16 53 44.7
comp=Z,2µm,21.3s,baz=321,slow=31
comp=Z,4.2nm,0.9s
K05A Summer Lake 22.98 113 P **P** **16 47 10.9 +0.5**
BILL Bilibino 23.13 319 *i* P **P** **16 47 11.1 -0.4**
HLID Hailey 25.86 104 P **P** **16 47 37.6 +0.2**
baz=311
BMN Battle Mountai 26.55 112 P **P** **16 47 39.7 -3.9**
BMN Battle Mountai 26.55 112 P **P** **16 47 39.7 -3.9**
BMN pmax pmax
comp=Z,17nm,1.8s
ELK Elko 27.36 109 P **P** **16 47 47.9 -3.1**
ELK Elko 27.36 109 P **P** **16 47 47.9 -3.1**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 27.36 109 P **P** **16 47 50.6 -0.4**
comp=Z,2.7nm,0.8s,baz=302,slow=10,SNR=9.5
ELK LR LR 16 56 41.5
comp=Z,849nm,21.9s,baz=314,slow=32
comp=Z,2.7nm,0.8s
NVAR Mina Array Bea 27.49 116 P **P** **16 47 51.6 -0.5**
comp=Z,3.0nm,0.9s,baz=310,slow=8.0,SNR=12
NVAR LR LR 16 57 01.0
comp=Z,2µm,18.3s,baz=312,slow=32
comp=Z,3.0nm,0.9s
RES Resolute Bay 27.99 28 P **P** **16 47 53.9 -2.1**
RES IAmb IAmb 16 48 35.1
comp=Z,21nm,1.6s
RES Resolute Bay 27.99 28 P **P** **16 47 53.9 -2.1**
RES pmax pmax
comp=Z,21nm,1.6s
RES Resolute Bay 27.99 28 LR LR 16 59 54.2
comp=Z,1µm,18.3s,baz=232,slow=38
R11B Troy Canyon, C 28.94 113 P **P** **16 48 03.7 -1.3**
R11B Troy Canyon, C 28.94 113 P **P** **16 48 05.0 0.0**
baz=319,SNR=9.0
DUG Dugway, Tooele 29.05 107 P **P** **16 48 06.3 +0.4**
baz=315
BW06 Boulder Array 29.05 100 P **P** **16 48 05.4 -0.7**
baz=311
PDAR Pinedale Array 29.05 100 P **P** **16 48 05.5 -0.5**
comp=Z,0.6nm,0.6s,baz=313,slow=5.5,SNR=7.0
PDAR LR LR 16 58 52.0
comp=Z,320nm,19.0s,baz=316,slow=35
comp=Z,0.6nm,0.6s
SEY Seymchan 29.10 307 LR LR 17 01 09.3
comp=Z,2µm,18.1s,baz=99,slow=39
FCC Fort Churchill 29.55 61 P **P** **16 48 09.7 -0.2**
FCC IAmb IAmb 16 48 48.0
comp=Z,34nm,1.9s
FCC Fort Churchill 29.55 61 P **P** **16 48 09.7 -0.2**
FCC pmax pmax
comp=Z,34nm,1.9s
TPNV Topopah Spring 29.67 116 P **P** **16 48 12.2 +0.7**
baz=321
PEA0B Petropavlovsk- 29.82 287 P **P** **16 48 12.1 -0.4**
PEA0B Petropavlovsk- 29.82 287 P **P** **16 48 12.1 -0.4**
PEA0B pmax pmax
comp=Z,118nm,1.4s
PETK Petropavlovsk- 29.82 287 P **P** **16 48 10.0 -2.5**
PETK Petropavlovsk- 29.82 287 P **P** **16 48 10.0 -2.5**
PETK Petropavlovsk- 29.82 287 P **P** **16 48 11.7 -0.8**
comp=Z,1.6nm,0.6s,baz=66,slow=13,SNR=7.2
comp=Z,1.6nm,0.6s
PRN Pahroc Range 29.93 114 P **P** **16 48 11.5 -2.3**
TCRU Three Creeks R 30.39 109 P P 16 48 13.8 -4.2
TCRU IAmb IAmb 16 48 29.7
comp=Z,11nm,1.3s
MVU Marysvale 30.59 109 P P 16 48 15.2 -4.6
MVU IAmb IAmb 16 48 38.0
comp=Z,21nm,1.1s
MSU Marysvale 30.61 109 P **P** **16 48 19.3 -0.5**
MSU Marysvale 30.61 109 P **P** **16 48 19.3 -0.5**
MA2 Magadan 30.81 301 LR LR 17 02 09.5
comp=Z,1µm,19.9s,baz=86,slow=39
RSSD Black Hills 31.26 93 P **P** **16 48 25.1 -0.5**
baz=309
O20A White River Ci 31.57 102 P **P** **16 48 25.5 -2.8**
O20A IAmb IAmb 16 48 30.2
comp=Z,5.7nm,0.7s
O20A White River Ci 31.57 102 P **P** **16 48 28.3 0.0**
baz=314
PFO Pinyon Flats O 32.21 120 LR LR 16 59 57.2
comp=Z,1µm,18.7s,baz=333,slow=33
ULM Lac du Bonnet 32.29 77 P **P** **16 48 35.2 +0.9**
comp=Z,1.4nm,0.7s,baz=303,slow=9.4,SNR=1.9
comp=Z,1.4nm,0.7s
WUAZ Wupatki 33.28 112 P **P** **16 48 40.6 -2.7**
WUAZ Wupatki 33.28 112 P **P** **16 48 43.9 +0.6**
baz=320
AGMN Agassiz Nation 33.36 80 P **P** **16 48 42.6 -1.0**
AGMN Agassiz Nation 33.36 80 P **P** **16 48 44.3 +0.6**
baz=304
X16A Lo Mia Camp, P 34.09 113 P **P** **16 48 51.0 +0.6**
TIXI Tiksi 35.65 328 P **P** **16 49 03.8 +0.7**
TIXI IAmb IAmb 16 49 04.8
comp=Z,25nm,1.8s
TIXI Tiksi 35.65 328 P **P** **16 49 03.8 +0.7**
TIXI pmax pmax
comp=Z,25nm,1.8s
TIXI Tiksi 35.65 328 LR LR 17 05 32.4
comp=Z,374nm,20.1s,baz=79,slow=39
EYMN Ely 35.96 78 P **P** **16 49 05.1 -1.0**
EYMN IAmb IAmb 16 49 34.5
comp=Z,28nm,1.4s
ANMO Albuquerque 36.32 107 *i* P **P** **16 49 10.7 +1.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
NEEM North Greenlan 37.97 21 *i* P **P** **16 49 24.1 +0.9**
NEEM IAmb IAmb 16 49 34.6
comp=Z,8.3nm,0.8s
UPNV Upernavik 38.87 28 *i* P **P** **16 49 33.2 +2.8**
UPNV IAmb IAmb 16 49 40.2
comp=Z,8.9nm,0.6s
FRB Frobisher Bay 38.92 44 LR LR 17 05 40.7
comp=Z,2µm,19.6s,baz=302,slow=36
YAK Yakutsk 39.22 313 P **P** **16 49 32.9 -0.6**
YAK IAmb IAmb 16 49 43.1
comp=Z,18nm,0.7s
YAK Yakutsk 39.22 313 *e*P **P** **16 49 33.0 -0.6**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 39.22 313 LR LR 17 08 17.0
comp=E,575nm,18.8s,baz=84,slow=40
MNTX Cornudas Mount 39.39 109 P **P** **16 49 35.6 +0.3**
baz=322
OK038 West end E0370 39.42 98 P **P** **16 49 34.8 -0.7**
WMOK Wichita Mounta 40.67 100 P **P** **16 49 46.6 +0.7**
baz=318
UMMG Uummannaq 41.01 30 *i* P **P** **16 49 49.2 +1.0**
HDIL Hopedale 41.86 85 P **P** **16 49 55.1 -0.5**
HDIL IAmb IAmb 16 50 04.7
comp=Z,20nm,0.8s
HDIL Hopedale 41.86 85 P **P** **16 49 55.1 -0.5**
baz=313
TX31 Lajitas Ar. Si 42.16 110 P **P** **16 49 57.3 -1.0**
TX31 IAmb IAmb 16 50 15.5
comp=Z,26nm,1.9s

TXAR Lajitas Array 42.16 110 P **P** **16 49 57.4 -0.8**
TXAR Lajitas Array 42.16 110 P **P** **16 49 57.4 -0.8**
TXAR Lajitas Array 42.16 110 P **P** **16 49 58.4 +0.2**
comp=Z,1.3nm,0.8s,baz=320,slow=7.5,SNR=12
TXAR LR LR 17 06 41.5
comp=Z,566nm,18.4s,baz=312,slow=35
comp=Z,1.3nm,0.8s
ASAJ Asahikawa 43.12 284 LR LR 17 08 24.5
comp=Z,152nm,18.2s,baz=58,slow=37
JCT Junction City 43.33 105 P **P** **16 50 05.2 -2.5**
JCT IAmb IAmb 16 50 25.7
comp=Z,11nm,1.0s
JCT Junction City 43.33 105 P **P** **16 50 05.2 -2.5**
JCT pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 43.38 24 P **P** **16 50 05.6 -2.4**
SUMG Summit 43.38 24 P **P** **16 50 05.6 -2.4**
SUMG pmax pmax
comp=Z,98nm,2.0s
SUMG Summit 43.38 24 *i* P **P** **16 50 09.0 +1.0**
SUMG IAmb IAmb 16 50 17.6
comp=Z,7.5nm,0.6s
SFJD Kangerlussuaq 43.55 34 LR LR 17 08 00.6
comp=Z,768nm,20.5s,baz=322,slow=36
SCHQ Schefferville 44.50 55 LR LR 17 08 52.7
comp=Z,688nm,18.4s,baz=290,slow=36
SADO Sadowa 44.64 73 LR LR 17 09 29.9
comp=Z,148nm,19.1s,baz=50,slow=37
ICESG Greenland Ices 45.40 28 *i* P **P** **16 50 25.0 +0.9**
ICESG IAmb IAmb 16 50 37.0
comp=Z,5.3nm,0.8s
KLR Kul'dur 45.54 296 *ce*P **P** **16 50 24.6 -0.5**
KLR pmax pmax
comp=Z,24nm,1.8s
KLR Kul'dur 45.54 296 LR LR 17 11 16.5
comp=Z,342nm,19.8s,baz=38,slow=38
SPITS Spitsbergen Ar 45.79 4 P **P** **16 50 26.9 +0.1**
comp=Z,7.9nm,1.0s,baz=346,slow=3.0,SNR=1.9
SPITS LR LR 17 09 12.5
comp=Z,385nm,18.4s,baz=320,slow=36
comp=Z,7.9nm,1.0s
HEH HeiHe 47.04 300 *e*P **P** **16 50 35.5 -1.3**
HEH pmax pmax
comp=Z,9.0nm,1.6s
HEH pmax pmax
comp=Z,510nm,5.4s
HEH LR LR
comp=N,520nm,13.0s
HEH LR LR
comp=E,780nm,13.4s
HEH LR LR
comp=Z,1µm,14.0s
BOD Bodaibo 48.08 314 *e*P **P** **16 50 45.0 +0.2**
BOD pmax pmax
comp=Z,14nm,1.7s
NRIK Noril'sk 48.16 336 P **P** **16 50 45.6 +0.3**
NRIK Noril'sk 48.16 336 P **P** **16 50 45.6 +0.3**
NRIK pmax pmax
comp=Z,14nm,1.1s
NRIK Noril'sk 48.16 336 P **P** **16 50 46.3 +1.0**
comp=Z,7.2nm,0.8s,baz=49,slow=5.8,SNR=10
comp=Z,7.2nm,0.8s
H11N2 WAKE ISLAND Hy 48.37 239 T T 17 42 52.0
baz=31,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 48.38 239 T T 17 42 46.5
baz=31,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 48.39 239 T T 17 42 49.7
baz=31,slow=76,SNR=28
TKL Tuckaleechee C 48.39 86 LR LR 17 11 06.2
comp=Z,1µm,19.1s,baz=323,slow=36
USRK Ussuriysk Ar. 48.75 291 P **P** **16 50 49.3 -0.9**
comp=Z,0.7nm,0.6s,baz=136,slow=49,SNR=1.7
USRK LR LR 17 11 05.8
comp=Z,422nm,21.8s,baz=60,slow=36
comp=Z,0.7nm,0.6s
H11S1 WAKE ISLAND Hy 49.52 239 T T 17 44 55.2
baz=29,slow=74
H11S2 WAKE ISLAND Hy 49.53 239 T T 17 44 33.3
baz=29
H11S3 WAKE ISLAND Hy 49.53 239 T T 17 44 54.4
baz=29,slow=74
MDJ Mudanjiang 49.71 293 P **P** **16 51 00.5 +2.9**
MDJ sP pwP 16 51 05.0 -0.6
MDJ PcP **PcP** **16 52 23.5 +5.0**
MDJ PP **PP** **16 52 55.3 +3.5**
MDJ S **S** **16 58 07.5 +1.3**
MDJ ScS **ScS** **17 00 52.8 +3.9**
MDJ Mudanjiang 49.71 293 SS **SS** **17 01 40.5 +2.6**
MDJ pmax pmax
comp=Z,20nm,1.7s
MDJ pmax pmax
comp=Z,510nm,4.5s
MDJ LR LR
comp=N,610nm,23.0s
MDJ LR LR
comp=E,770nm,23.7s
MDJ LR LR
comp=Z,860nm,22.0s
BNX BinXian 50.06 295 ⇓P P 16 51 08.3 +8.1
BNX pmax pmax
comp=Z,14nm,1.0s
BNX pmax pmax
comp=Z,430nm,4.4s
MJAR Matsushiro Arr 50.77 279 LR LR 17 10 40.1
comp=Z,89nm,21.2s,baz=54,slow=34
CN2 Changchun 52.41 295 P **P** **16 51 18.0 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,500nm,18.0s
CN2 LR LR
comp=E,400nm,18.0s
CN2 LR LR
comp=Z,500nm,19.0s
BORG Borgarnes 53.35 25 LR LR 17 15 24.6
comp=Z,490nm,19.2s,baz=328,slow=37
ARCES ARCESS Array B 54.70 2 P **P** **16 51 35.3 +1.0**
comp=Z,6.0nm,1.0s,baz=356,slow=7.3,SNR=1.7
comp=Z,6.0nm,1.0s
JCJ Chichijima 55.63 268 LR LR 17 12 04.1
comp=Z,125nm,21.2s,baz=163,slow=32
KSRS Korea Array 55.72 287 P **P** **16 51 42.8 +0.8**
comp=Z,1.4nm,0.7s,baz=58,slow=6.5,SNR=4.2
KSRS LR LR 17 15 37.1
comp=Z,125nm,20.0s,baz=35,slow=36
comp=Z,1.4nm,0.7s
CMIG Matias Romero 56.76 110 LR LR 17 15 01.7
comp=Z,398nm,20.2s,baz=342,slow=35
JNU Nakatsue 57.34 282 LR LR 17 17 49.1
comp=Z,100nm,19.1s,baz=53,slow=37
TEIG Tepich 57.76 102 LR LR 17 18 36.6
comp=Z,1µm,19.2s,baz=126,slow=38
ULN Ulaanbaatar 58.15 309 *i* P **P** **16 51 59.6 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 58.46 310 P **P** **16 52 00.8 -0.7**
SONM Songino Array 58.46 310 P **P** **16 52 00.8 -0.7**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 58.46 310 P **P** **16 52 01.6 +0.1**
comp=Z,1.7nm,0.7s,baz=42,slow=5.8,SNR=9.3
SONM LR LR 17 19 55.6
comp=Z,814nm,18.3s,baz=26,slow=39
comp=Z,1.7nm,0.7s
HHC Hu-ho-hao-te 61.49 301 *e*P **P** **16 52 25.5 +3.1**
HHC pmax pmax
comp=Z,19nm,0.5s
HHC pmax pmax
comp=Z,390nm,4.3s
HHC LR LR
comp=N,1µm,13.8s
HHC LR LR
comp=E,940nm,15.3s
HHC LR LR
comp=Z,2µm,14.5s
ZAA0 Zalesovo Array 61.53 327 P **P** **16 52 22.0 -0.3**
ZALV Zalesovo Beam 61.53 327 P **P** **16 52 22.0 -0.3**
ZALV Zalesovo Beam 61.53 327 *i* P **P** **16 52 22.3 0.0**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 61.53 327 P **P** **16 52 22.4 +0.2**
comp=Z,2.0nm,0.5s,baz=28,slow=7.8,SNR=13
ZALV LR LR 17 20 15.0
comp=Z,211nm,19.2s,baz=24,slow=37
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 62.34 10 P **P** **16 52 27.5 -0.2**
comp=Z,2.6nm,0.7s,baz=348,slow=6.9

NOA NORSAR Array B 62.34 10 P **P** **16 52 27.9 +0.3**
comp=Z,1.0nm,0.6s,baz=347,slow=9.1,SNR=5.4
comp=Z,1.0nm,0.6s
HNS HongShan 62.62 297 *e*P **P** **16 52 33.3 +3.5**
HNS *e*S **S** **17 00 57.3 -0.4**
HNS LR LR
comp=N,350nm,11.2s
HNS LR LR
comp=E,490nm,15.1s
HNS LR LR
comp=Z,700nm,16.9s
FINES FINESS Array B 62.83 2 P **P** **16 52 30.1 -0.7**
FINES FINESS Array B 62.83 2 *i* P **P** **16 52 31.7 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 62.83 2 P **P** **16 52 30.6 -0.2**
comp=Z,2.3nm,0.7s,baz=2.9,slow=7.6,SNR=8.7
FINES LR LR 17 21 20.5
comp=Z,97nm,18.5s,baz=10,slow=37
comp=Z,2.3nm,0.7s
KLMR Klimovskoe 63.21 355 *e*P **P** **16 52 34.7 +1.3**
KLMR pmax pmax
comp=Z,30nm,1.9s
HFS Hagfors 63.46 9 P **P** **16 52 37.2 +2.1**
comp=Z,1.0nm,0.5s,baz=132,slow=2.2,SNR=8.9
comp=Z,1.0nm,0.5s
JOW Kunigami 63.62 279 LR LR 17 20 05.5
comp=Z,62nm,21.6s,baz=88,slow=36
DGZ Jazzator, Alta 64.30 323 ⇑*i* P **P** **16 52 41.3 +0.3**
DGZ pmax pmax
comp=Z,16nm,1.9s
NJ2 Nanjing 64.65 290 *e*P **P** **16 52 44.8 +1.5**
NJ2 pP **sP** **16 52 48.5 +2.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,450nm,5.9s
KIRV Kirov 64.67 349 *i* P **P** **16 52 43.0 0.0**
KIRV Kirov 64.67 349 LR LR 17 25 32.4
comp=Z,297nm,18.3s,baz=24,slow=40
SVE Sverdlovsk 64.78 342 *e*P **P** **16 52 43.7 -0.1**
GUMO Guam 64.95 257 LR LR 17 16 15.6
comp=Z,76nm,21.8s,baz=48,slow=32
TAOE Nuku Hiva Isla 65.18 169 *e*LR LR 17 12 14.5
comp=Z,305nm,23.8s
ARU Arti 65.52 343 *c i*P **P** **16 52 48.4 -0.2**
ARU 16 55 14.1
ARU S **S** **17 01 35.4 +2.4**
ARU SS **SS** **17 05 45.4 0.0**
ARU pmax pmax
comp=Z,29nm,1.8s
ARU MLR MLR
comp=Z,326nm,16.0s
ARU Arti 65.52 343 LR LR 17 24 52.2
comp=Z,329nm,18.4s,baz=359,slow=39
EKA Eskdalemuir Ar 65.77 20 P **P** **16 52 50.9 +0.7**
comp=Z,1.9nm,0.7s,baz=313,slow=4.8,SNR=7.0
comp=Z,1.9nm,0.7s
BRVK Borovoye 66.32 335 P **P** **16 52 52.5 -1.3**
BRVK Borovoye 66.32 335 *ce*P **P** **16 52 54.4 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BVAR Borovoye Array 66.32 335 P **P** **16 52 53.8 -0.1**
comp=Z,2.0nm,0.8s,baz=27,slow=5.8,SNR=8.5
BVAR LR LR 17 28 29.2
comp=Z,404nm,18.7s,baz=24,slow=42
comp=Z,2.0nm,0.8s
KURBB Kurchatov Arra 66.32 329 P **P** **16 52 53.7 -0.2**
comp=Z,1.1nm,0.7s,baz=31,slow=6.6,SNR=8.1
KURBB LR LR 17 26 27.3
comp=Z,572nm,18.7s,baz=240,slow=40
comp=Z,1.1nm,0.7s
JTS Las Juntas de 67.71 105 LR LR 17 24 16.5
comp=Z,131nm,18.3s,baz=317,slow=37
GTA Gaotai 68.05 308 P **P** **16 53 06.8 +1.6**
GTA pP pwP 16 53 14.8 +1.5
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=N,570nm,16.4s
GTA LR LR
comp=E,730nm,16.0s
GTA LR LR
comp=Z,1µm,17.1s
MK31 Makanchi Array 68.54 324 P **P** **16 53 07.3 -0.6**
MK31 IAmb IAmb 16 53 24.0
comp=Z,12nm,1.9s
MK31 Makanchi Array 68.54 324 *ce*P **P** **16 53 07.4 -0.6**
MKAR Makanchi Array 68.54 324 P **P** **16 53 07.1 -0.9**
MKAR Makanchi Array 68.54 324 P **P** **16 53 07.1 -0.9**
MKAR Makanchi Array 68.54 324 P **P** **16 53 07.6 -0.4**
comp=Z,1.1nm,0.5s,baz=34,slow=6.4,SNR=24
MKAR LR LR 17 27 38.5
comp=Z,529nm,18.0s,baz=10,slow=40
comp=Z,1.1nm,0.5s
MAKZ Makanchi 68.63 324 P **P** **16 53 07.9 -0.7**
MAKZ IAmb IAmb 16 53 10.8
comp=Z,7.1nm,1.2s
MAKZ Makanchi 68.63 324 P **P** **16 53 07.9 -0.7**
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
OBN Obninsk 69.08 356 *e*P **P** **16 53 11.7 +0.6**
OBN *e**PP **sP** **16 53 15.4 +2.0**
OBN *e* 16 53 36.7
OBN *e* 16 55 46.4
OBN *e*PPP PPP 16 57 22.5
OBN pmax pmax
comp=Z,32nm,2.5s
OBN MLR MLR
comp=Z,204nm,21.0s
WMQ Urumqi 69.25 319 *e*P P 16 53 20.5 +8.0
WMQ pP pwP 16 53 22.3 +1.7
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ LR LR
comp=N,370nm,13.1s
WMQ LR LR
comp=E,430nm,15.1s
WMQ LR LR
comp=Z,160nm,19.1s
BELG Belogornoye 70.95 349 *i* P **P** **16 53 22.1 -0.6**
BELG pmax pmax
comp=Z,4.0nm,1.1s
BELG Belogornoye 70.95 349 LR LR 17 28 45.0
comp=Z,265nm,19.2s,baz=297,slow=39
AKTO Aktyubinsk 71.36 341 LR LR 17 29 15.5
comp=Z,242nm,18.9s,baz=43,slow=40
SJG San Juan 71.81 85 LR LR 17 25 31.8
comp=Z,132nm,19.2s,baz=318,slow=36
CLL Collm 72.11 11 *e*P **P** **16 53 31.0 +1.3**
CLL *e*S **S** **17 02 53.0 +1.7**
CLL Collm 72.11 11 *e*P **P** **16 53 31.0 +1.3**
CLL *i* x x 16 53 38.2
CLL *e*S **S** **17 02 53.0 +1.7**
CLL *e*PS **PnS** **17 03 20.0 -0.4**
ABKAR Akbulak array 72.13 340 P **P** **16 53 29.2 -0.7**
PPT2 Papeete2 73.33 180 *e*LR LR 17 15 54.7
comp=Z,184nm,22.0s
PPT2 *e*LR LR 17 15 57.2
comp=Z,183nm,28.8s
AKASG Malin Array Be 73.63 0 P **P** **16 53 38.5 -0.3**
comp=Z,1.0nm,0.5s,baz=2.2,slow=5.9,SNR=6.2
AKASG LR LR 17 30 38.7
comp=Z,131nm,18.1s,baz=16,slow=40
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 73.63 0 P **P** **16 53 37.0 -1.7**
AKBB IAmb IAmb 16 54 59.7
comp=Z,16nm,1.3s
AKBB Malin Array Si 73.63 0 *i* P **P** **16 53 37.1 -1.7**
AKBB pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 73.64 0 P **P** **16 53 37.1 -1.7**
KIEV IAmb IAmb 16 54 59.7
comp=Z,14nm,1.3s
KIEV Kiev 73.64 0 P **P** **16 53 37.1 -1.7**
KIEV pmax pmax
comp=Z,14nm,1.3s
VRAC Vranov 74.44 9 LR LR 17 26 40.8
comp=Z,88nm,21.7s,baz=354,slow=36
GERES GERESS Array B 74.62 11 P **P** **16 53 45.1 +0.5**
comp=Z,1.1nm,0.7s,baz=358,slow=4.3,SNR=4.7
GERES LR LR 17 30 08.4
comp=Z,101nm,18.4s,baz=341,slow=39
comp=Z,1.1nm,0.7s
AAK Ala-Archa 74.72 328 LR LR 17 30 01.1
comp=Z,410nm,18.3s,baz=26,slow=38

VYHS	Vyhne	75.43	8	*eP*		P	16 53 50.7	+1.4
VYHS	Vyhne	75.43	8	*eP*		P	16 53 50.7	+1.4
BUR08	Bucovina Ar. S	76.62	3	P		P	16 53 55.3	-0.8
BURAR	Bucovina Array	76.65	3	P		P	16 53 54.5	-1.8
SDV	Santo Domingo	76.78	94	LR	LR		17 29 25.8	
	comp=Z,110nm,19.4s,baz=298,slow=37							
HNR	Honiara	77.21	231	LR	LR		17 20 53.2	
	comp=Z,3μm,19.3s,baz=0.5,slow=30							
RAR	Rarotonga	77.38	189	LR	LR		17 19 20.5	
	comp=Z,206nm,19.5s,baz=354,slow=29							
PZH	PanZhiHua	77.86	299	P		P	16 54 02.8	-0.7
PZH				pmax	pmax			
	comp=Z,10.0nm,1.5s							
PZH				pmax	pmax			
	comp=Z,170nm,4.7s							
ROSC	El Rosal	78.05	99	LR	LR		17 30 42.7	
	comp=Z,84nm,21.9s,baz=44,slow=37							
TBI	Tubuai	79.06	179	*e*LR	LR		17 18 33.5	
	comp=Z,863nm,29.0s							
TBI				*e*LR	LR		17 18 41.1	
	comp=Z,1μm,29.5s							
PCRV	Puerto La Cruz	79.09	88	LR	LR		17 30 30.8	
	comp=Z,117nm,18.8s,slow=37							
KIV	Kislovodsk	79.80	351	*eP*		P	16 54 12.2	-1.6
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KBZ	Khabaz	80.01	350	P		P	16 54 16.1	+1.3
	comp=Z,2.3nm,0.9s,baz=215,slow=21,SNR=4.9							
KBZ				LR	LR		17 35 14.1	
	comp=Z,102nm,18.4s,baz=6.0,slow=40							
	comp=Z,2.3nm,0.9s							
ESDC	Sonseca Array	80.41	26	P		P	16 54 18.6	+1.5
	comp=Z,1.5nm,0.8s,baz=341,slow=5.6,SNR=6.4							
ESDC				LR	LR		17 29 40.5	
	comp=Z,271nm,19.9s,baz=332,slow=36							
	comp=Z,1.5nm,0.8s							
TNCH	TengChong	80.66	301	*eP*		P	16 54 17.0	-1.9
TNCH				pP	pP		16 54 20.3	-0.3
TNCH	TengChong	80.66	301	S		S	17 04 19.0	-7.3
TNCH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
TNCH				pmax	pmax			
	comp=Z,120nm,7.0s							
TNCH				LR	LR			
	comp=N,180nm,14.6s							
TNCH				LR	LR			
	comp=E,230nm,19.2s							
TNCH				LR	LR			
	comp=Z,380nm,19.0s							
PMG	Port Moresby	83.16	242	LR	LR		17 25 53.3	
	comp=Z,133nm,21.4s,baz=58,slow=32							
GEYT	Alibeck	83.37	338	P		P	16 54 33.5	+0.8
	comp=Z,1.0nm,0.6s,baz=91,slow=7.4,SNR=2.9							
GEYT				LR	LR		17 38 05.8	
	comp=Z,173nm,18.8s,baz=26,slow=40							
	comp=Z,1.0nm,0.6s							
BRTR	Keskin Array B	84.56	357	*ce*P		P	16 54 40.7	+1.8
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR	Keskin Array B	84.56	357	P		P	16 54 39.7	+0.8
	comp=Z,0.9nm,0.8s,baz=19,slow=4.2,SNR=4.5							
BRTR				LR	LR		17 33 50.0	
	comp=Z,130nm,21.9s,baz=16,slow=37							
	comp=Z,0.9nm,0.8s							
ATAH	Atahuaipa	85.82	109	LR	LR		17 33 18.8	
	comp=Z,109nm,18.2s,baz=338,slow=36							
BRDH	Bariadhala	85.89	305	LR	LR		17 36 06.7	
	comp=Z,251nm,19.5s,baz=179,slow=38							
VAE	Valguarnera	85.92	12	LR	LR		17 35 52.9	
	comp=Z,172nm,19.5s,baz=334,slow=38							
CMAR	Chiang Mai Arr	86.00	297	P		P	16 54 45.9	-0.4
CMAR				LR	LR		17 38 13.0	
	comp=Z,183nm,18.6s,baz=35,slow=39							
	comp=Z,0.6nm,0.7s							
DZM	Mont Dzumac	86.07	220	*e*LR	LR		17 21 52.4	
	comp=Z,428nm,22.0s							
DZM	Mont Dzumac	86.07	220	LR	LR		17 25 30.5	
	comp=Z,253nm,21.9s,baz=37,slow=30							
MDT	Midelt	86.73	29	LR	LR		17 34 06.1	
	comp=Z,247nm,18.5s,baz=344,slow=36							
RAO	Raoul Island	88.20	204	LR	LR		17 29 12.6	
	comp=Z,204nm,18.6s,baz=18,slow=32							
IDI	Anoyia	88.94	4	LR	LR		17 35 34.9	
	comp=Z,71nm,21.4s,baz=348,slow=36							
RPN	Rapa Nui	89.79	144	LR	LR		17 26 39.6	
	comp=Z,151nm,18.1s,baz=62,slow=30							
MDP	Montagnes des	89.96	81	LR	LR		17 33 24.9	
	comp=Z,100nm,21.1s,baz=310,slow=34							
NNA	Nana	90.71	110	LR	LR		17 36 30.6	
	comp=Z,42nm,18.1s,baz=350,slow=36							
MMAI	Mount Meron Ar	91.18	355	LR	LR		17 42 36.2	
	comp=Z,49nm,20.1s,baz=353,slow=40							
CTA	Charters Tower	92.78	238	LR	LR		17 32 37.0	
	comp=Z,96nm,19.7s,baz=37,slow=33							
EIL	Elat	94.53	356	LR	LR		17 44 12.4	
	comp=Z,35nm,20.3s,baz=64,slow=39							
WSAR	Wadi Sarin	97.36	334	LR	LR		17 45 32.4	
	comp=Z,113nm,19.1s,baz=44,slow=39							
URZ	Urewera	97.99	206	LR	LR		17 32 57.9	
	comp=Z,162nm,20.1s,baz=272,slow=31							
QSPA	South Pole Qui	145.82	180	PKPdf	PKPdf		17 01 41.7	-1.3
QSPA	South Pole Qui	145.82	180	PKPbc	PKPdf		17 01 42.3	-0.6
	comp=Z,2.7nm,0.7s,baz=201,slow=1.5,SNR=9.3							
BOSA	Boshof	152.40	9	PKPbc	PKPbc		17 02 00.4	-1.2
	comp=Z,0.9nm,0.5s,baz=44,slow=12,SNR=1.4							
BOSA				PKPab	PKPab		17 02 09.9	-1.8
	comp=Z,4.4nm,1.1s,baz=351,slow=6.3,SNR=3.6							

*IDC **26** 16:56:41.8±2.3,4.67S×102.42E,h0km,mb3.6/8, mbtmp3.7/8,Error ellipse: s-maj=108.2km s-min=18.9km az=55.0*

*DJA **26** 16:56:50.3±0.8,5.5S×3.3×10.3E±°,h27km±9km,M3.7/6, MLv3.7/6*

ISC 26 16:56:50.3±0.9,4.68S±0.05×102.68E±0.05,h63km±10km, n16,σ1§34/22,mb3.8/8,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGSI	Enggano, Bengk	0.78	211	P	Pn	16 57 05.0	-0.8
EGSI				S	Sn	16 57 18.4	+1.3
UBSI	University, Be	0.99	336	P	Pn	16 57 07.8	-0.7
LHSI	Lahat	1.20	45	P	Pn	16 57 12.3	+1.2
LHSI				S	Sn	16 57 24.3	-2.2
LWLI	Liwa	1.42	104	P	Pn	16 57 14.5	+0.4
LWLI				S	Sn	16 57 32.9	+0.9
KASI	Kota Agung	2.00	115	P	Pn	16 57 22.3	+0.4
KASI				S	Sn	16 57 45.8	-0.1
KRJI	Kerinci	2.84	335	P	Pn	16 57 34.6	+1.2
KRJI				S	Sn	16 58 09.4	+2.9
PPSI	Pulau Pagai	3.27	305	P	Pn	16 57 39.4	+0.2
CMAR	Chiang Mai Arr	23.28	351	P	P	17 01 50.4	-2.4
	0.4nm,0.4s,baz=184,slow=9.2,SNR=8.2						
	0.4nm,0.4s						
WRA	Warramunga Arr	34.35	119	P	P	17 03 32.3	+0.8
	0.8nm,0.9s,baz=308,slow=9.3,SNR=5.3						
	0.8nm,0.9s						
ASAR	Alice Springs	35.53	125	P	P	17 03 42.5	+0.9
	0.3nm,0.6s,baz=300,slow=8.0,SNR=7.4						
ASAR				PcP	PcP	17 06 10.8	+1.0
	0.1nm,0.8s,baz=288,slow=2.8,SNR=2.6						
	0.3nm,0.6s						
SONM	Songino Array	52.39	3	P	P	17 05 56.3	0.0
	0.8nm,0.7s,baz=187,slow=7.3,SNR=3.7						
	0.8nm,0.7s						
MKAR	Makanchi Array	54.33	343	P	P	17 06 10.0	-0.4
	0.7nm,0.6s,baz=148,slow=8.7,SNR=8.3						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	58.88	342	P	P	17 06 41.9	-0.6
	0.5nm,0.8s,baz=169,slow=5.5,SNR=1.9						
	0.5nm,0.8s						
ZALV	Zalesovo Beam	60.30	348	P	P	17 06 51.5	-0.8
	1.3nm,0.4s,baz=164,slow=6.3,SNR=9.4						
	1.3nm,0.4s						
BVAR	Borovoye Array	63.61	339	P	P	17 07 13.0	-1.6
	0.4nm,0.4s,baz=157,slow=10,SNR=2.5						
	0.4nm,0.4s						
TXAR	Lajitas Array	145.03	43	PKPbc	PKPdf	17 16 21.5	+0.1
	0.1nm,0.3s,baz=328,slow=3.2,SNR=2.3						

*NEIC **26** 17:05:27.3±1.5,55.98N±0.08×150.11W±0.10,h5km±7km, mb3.7/1,ML3.6/40,ML3.5(AEIC),Error ellipse: s-maj=12.3km s-min=7.8km az=165.0*

*AEIC **26** 17:05:32.3±1.8,55.91N±0.09×150.11W±0.05,h12km±7km,*

Error ellipse: s-maj=13.1km s-min=3.1km az=169.0

ISC 26 17:05:27.6±1.5,56.00N±0.09×150.12W±0.06,h10km, n157,σ1§08/166,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.14	306		Pn	17 06 03.6	+0.4
OHAK				Sn	Sn	17 06 28.0	-1.8
OHAK	Old Harbor	2.14	306	P	Pn	17 06 03.7	+0.4
	baz=124						
OHAK				S	Sn	17 06 28.4	-1.4
	baz=124						
KDAK	Kodiak Island	2.24	324		Pn	17 06 05.6	+1.0
KDAK	Kodiak Island	2.24	324		Sn	17 06 31.7	-0.7
KDAK	Kodiak Island	2.24	324	P	Pn	17 06 05.7	+1.0
	baz=142						
KDAK				S	Sn	17 06 31.7	-0.7
	baz=142						
SII	Sitkinak Islan	2.33	286		Sn	17 06 32.8	-2.0
SII	Sitkinak Islan	2.33	286		Pn	17 06 06.4	+0.4
SII				IAML		17 06 39.1	
	comp=N,204nm,1.0s						
SII	Sitkinak Islan	2.33	286	P	Pn	17 06 06.3	+0.4
	baz=103						
SII				S	Sn	17 06 32.6	-2.1
	baz=103						
Q20K	Shuyak Island	2.89	336	P	Pn	17 06 14.7	+1.1
	baz=154						
Q20K				S	Sn	17 06 48.3	-0.1
	baz=154						
SYI	Shuyak Island	2.89	336		Pn	17 06 14.5	+0.9
SYI	Shuyak Island	2.89	336		Sn	17 06 48.3	-0.1
SYI	Shuyak Island	2.89	336	IAML		17 06 50.5	
	comp=E,94nm,0.8s						
SYI				IAML		17 06 50.7	
	comp=N,94nm,1.7s						
KAHG	Katmai Hook Gl	3.47	318		Pn	17 06 23.4	+1.8
Q19K	Cape Douglas,	3.50	328		Pn	17 06 23.6	+1.7
Q19K					Sn	17 07 03.5	0.0
Q19K				IAML		17 07 08.6	
	comp=E,373nm,1.1s						
Q19K				IAML		17 07 08.7	
	comp=N,272nm,0.8s						
Q19K	Cape Douglas,	3.50	328	P	Pn	17 06 23.8	+1.8
	baz=146						
Q19K				S	Sn	17 07 04.5	+1.1
	baz=146						
CNPM	China Poot	3.58	351	Pn	Pn	17 06 23.4	+0.3
CNPM				Sn	Sn	17 07 03.9	-1.6
CNPM				IAML		17 07 06.0	
	comp=E,76nm,0.6s						
ACHA	Angle Creek He	3.60	310		Pn	17 06 25.5	+2.0
ANCK	Angle Creek	3.67	309		Pn	17 06 26.3	+2.0
KAHC	Katmai Hardscr	3.75	317		Pn	17 06 27.8	+2.3
KAHC	Katmai Hardscr	3.75	317	P	Pn	17 06 27.8	+2.3
	baz=133						
BRSE	Bradley Lake S	3.77	355		Pn	17 06 25.8	+0.1
BRSE					Sn	17 07 08.1	-1.9
BRLK	Bradley Lake	3.80	354	Pn	Pn	17 06 25.6	-0.5
BRLK				Sn	Sn	17 07 08.0	-2.7
BRLK				IAML		17 07 12.8	
	comp=E,45nm,1.1s						
BRLK				IAML		17 07 13.0	
	comp=N,56nm,1.6s						
CNTC	Contact Creek	3.88	308		Pn	17 06 28.8	+1.6
Q17K	Contact Creek	3.88	308	P	Pn	17 06 28.8	+1.6
	baz=124						
Q23K	Middleton Isla	3.99	29	Pn	Pn	17 06 28.5	-0.1
Q23K				IAML		17 07 22.4	
	comp=N,265nm,2.0s						
MID	Middleton Isla	3.99	29	Pn	Pn	17 06 28.3	-0.3
P19K	Oil Pt	4.02	337	Pn	Pn	17 06 30.3	+1.1
P19K				IAML		17 07 20.2	
	comp=E,157nm,0.4s						
P19K				IAML		17 07 21.7	
	comp=N,138nm,0.6s						
O20K	Slope Mountain	4.30	343		Pn	17 06 34.6	+1.6
IVE	Iliamna Volcan	4.31	340		Pn	17 06 34.5	+1.3
P18K	Big Mountain,	4.37	323		Pn	17 06 35.0	+1.1
P18K	Big Mountain,	4.37	323	P	Pn	17 06 35.2	+1.3
	baz=139						
CHGN	Chignik	4.65	277	Pn	Pn	17 06 38.5	+0.8
CHGN				IAML		17 07 15.6	
	comp=E,72nm,1.8s						
CHGN				IAML		17 08 19.3	
	comp=N,52nm,1.5s						
P17K	Kvichak River	4.67	316		Pn	17 06 39.4	+1.3
RSO	Redoubt South	4.69	344		Pn	17 06 39.9	+1.4
O18K	Koktuh Hills	4.72	327		Pn	17 06 39.8	+1.1
O18K				IAML		17 07 34.2	
	comp=N,34nm,2.0s						
O18K				IAML		17 07 48.9	
	comp=E,28nm,1.9s						
O18K	Koktuh Hills	4.72	327	P	Pn	17 06 40.5	+1.7
	baz=143						
Q19K	Port Alsworth	4.76	334		Pn	17 06 40.4	+1.2
HIN	Hinchinbrook I	4.80	22	Pn	Pn	17 06 40.3	+0.4
HIN				IAML		17 07 24.8	
	comp=E,85nm,1.8s						
HIN				IAML		17 09 08.8	
	comp=N,79nm,2.0s						
CAPN	Captain Cook N	4.81	354	Pn	Pn	17 06 39.6	-0.3
CAPN				IAML		17 07 41.7	
	comp=E,164nm,1.7s						
KAIM	Kayak Island	4.97	35	Pn	Pn	17 06 42.4	+0.2
RC01	Rabbit Creek A	5.11	2		Pn	17 06 44.2	+0.2
RC01				IAML		17 07 41.1	
	comp=N,23nm,1.7s						
RC01				IAML		17 07 46.7	
	comp=E,24nm,1.2s						
EYAK	Cordova Ski Ar	5.11	25		Pn	17 06 44.4	+0.3
RAGM	Ragged Mountai	5.26	31	Pn	Pn	17 06 46.6	+0.5
N19K	Bonanza Creek	5.34	336	Pn	Pn	17 06 47.9	+0.5
GOAT	Goat Mountain	5.40	30		Pn	17 06 48.9	+0.8
SUA	Susitna One	5.49	357	Pn	Pn	17 06 49.1	-0.3
KNK	Knik Glacier	5.50	8	Pn	Pn	17 06 50.9	+1.5
CNBA	Chernabura Isl	5.52	262	Pn	Pn	17 06 49.9	+0.2
BERG	Berg Lake	5.56	35		Pn	17 06 50.4	+0.2
O16K	Kokwok River B	5.58	313	Pn	Pn	17 06 52.5	+2.0
N18K	Kilae Creek	5.59	329	Pn	Pn	17 06 50.6	-0.1
PMR	Palmer	5.63	5	Pn	Pn	17 06 52.0	+0.8
SNH	Sunshine Point	5.70	40	Pn	Pn	17 06 52.6	+0.4
BMRM	Bremner River	5.76	28		Pn	17 06 53.7	+0.7
GHO	Glory Hole Cre	5.82	6	Pn	Pn	17 06 55.2	+1.2
N17K	Nushagak Hills	5.87	324	Pn	Pn	17 06 54.3	-0.3
SML	Sawmill	5.90	8	Pn	Pn	17 06 55.8	+0.9
KLU	Klutina	5.92	20		Pn	17 06 56.1	+0.7
SCM	Sheep Creek Mo	6.03	13	Pn	Pn	17 06 58.0	+1.3
SKT	Skwentna	6.04	354		Pn	17 06 56.7	-0.2
M20K	Styx River	6.10	346	Pn	Pn	17 06 57.6	-0.1
M18K	Stony River	6.25	334		Pn	17 06 59.9	+0.1
VRDI	Verde Repeater	6.29	31	Pn	Pn	17 07 00.8	+0.4
N25K	Chitina, Valde	6.31	25		Pn	17 07 01.3	+0.7
M19K	Big River Lodg	6.32	341	Pn	Pn	17 07 01.2	+0.5
GLB	Gilahina Butte	6.37	28	Pn	Pn	17 07 02.2	+0.9
KIAG	Kiagna River	6.40	36		Pn	17 07 02.3	+0.4
CUT	Chulitna	6.42	359	Pn	Pn	17 07 02.5	+0.5
M24K	Tolsona, Glenn	6.45	17	Pn	Pn	17 07 03.5	+1.0
SAMH	Samovar Hills	6.45	46		Pn	17 07 04.2	+1.6
PTPK	Patty Peak	6.56	34		Pn	17 07 04.7	+0.6
M17K	Holitna River	6.62	328	Pn	Pn	17 07 05.7	+0.9
PCA	Pinnacle	6.65	48		Pn	17 07 06.5	+1.2
WASW	Wrangell South	6.69	25		Pn	17 07 07.4	+1.4
WACK	Wrangell Chich	6.71	24		Pn	17 07 07.5	+1.3
BARN	Barnard Glacie	6.73	38		Pn	17 07 06.9	+0.5
N15K	Kwethluk River	6.74	312		Pn	17 07 07.9	+1.5
CTGM	Chitina Glacie	6.78	39	Pn	Pn	17 07 06.6	-0.5
PNL	Peninsula	6.80	53		Pn	17 07 08.3	+1.0
LOGN	Logan Glacier	6.80	41	Pn	Pn	17 07 07.9	+0.5
O14K	Tigyukauivet M	6.81	303	Pn	Pn	17 07 07.9	+0.5
M16K	Timber Creek	6.84	321	Pn	Pn	17 07 09.1	+1.4
HARP	HAARP	6.90	20		Pn	17 07 10.4	+1.7
HARP	HAARP	6.90	20	P	Pn	17 07 11.2	+2.6
	baz=204						
L18K	Granite Mounta	7.09	334	Pn	Pn	17 07 11.4	+0.1
DHY	Denali Highway	7.23	10	Pn	Pn	17 07 14.2	+0.8
M26K	Nabesna, AK	7.38	27	Pn	Pn	17 07 16.5	+1.2
O29M	Mount Kennedy	7.47	50	Pn	Pn	17 07 17.7	+1.1
TRF	Thorofare Moun	7.47	359	Pn	Pn	17 07 17.6	+0.9
L16K	Owhat River	7.50	324	Pn	Pn	17 07 17.0	+0.2
CAST	Castle Rocks	7.51	353	Pn	Pn	17 07 17.3	+0.3
YUK2	White River	7.53	36		Pn	17 07 18.5	+1.2
P29M	Windy Craggy	7.54	56		Pn	17 07 17.8	+0.3
KTH	Kantishna Hill	7.59	357	Pn	Pn	17 07 20.5	+2.4
K20K	Telida	7.64	346	Pn	Pn	17 07 18.9	+0.1
YUK3	Moose Creek	7.65	37		Pn	17 07 20.6	+1.6
M27K	Edge Creek, AK	7.65	30	Pn	Pn	17 07 20.0	+1.0
YUK7	Dusty Glacier	7.77	49		Pn	17 07 22.4	+1.6
S31K	Pelican	7.84	70	Pn	Pn	17 07 20.3	-1.1
K17K	Iditarod	7.92	332	Pn	Pn	17 07 22.8	+0.2
BVCY	Beaver Creek	7.99	33	P	Pn	17 07 26.1	+2.6
	baz=220						
BPAW	Bear Paw Mtn.	8.14	357	Pn	Pn	17 07 26.3	+0.7
J18K	Innoko River	8.19	339	Pn	Pn	17 07 27.3	+1.0
HYT	Haines Junctio	8.19	49	Pn	Pn	17 07 26.9	+0.5
RIDG	Independent Ri	8.20	17	Pn	Pn	17 07 27.1	+0.6
YUK5	Granite Creek	8.21	46		Pn	17 07 28.8	+2.1
L27K	Beaver Creek,	8.23	27	Pn	Pn	17 07 27.6	+0.6
BCAR	Beaver Creek A	8.25	27	Pn	Pn	17 07 28.4	+1.2
J20K	Nowinta River	8.44	348	Pn	Pn	17 07 30.1	+0.3
L14K	Kuka Creek	8.45	314	Pn	Pn	17 07 31.8	+2.0
J19K	Poorman	8.48	343	Pn	Pn	17 07 30.3	0.0
SCRK	Sand Creek	8.57	18	Pn	Pn	17 07 31.6	0.0
HDA	Harding Lake	8.58	9	Pn	Pn	17 07 31.1	-0.6
K15K	Wolf Creek Mou	8.60	322	Pn	Pn	17 07 32.8	+0.8
SKAG	Skagway	8.64	60	Pn	Pn	17 07 32.8	+0.4
NEA2	Nenana	8.64	3	Pn	Pn	17 07 32.8	+0.3
N30M	Aishikik Lake	8.70	46	Pn	Pn	17 07 34.2	+0.8
CCB	Clear Creek Bu	8.75	7	Pn	Pn	17 07 35.1	+1.1
O30N	Mendenhall	8.78	51	Pn	Pn	17 07 35.2	+0.8
R32K	Eaglecrest	8.78	69	Pn	Pn	17 07 34.8	+0.3
M29M	Somme Creek	8.79	38		Pn	17 07 36.2	+1.6
JIS	Juneau Island	8.85	69	Pn	Pn	17 07 36.0	+0.6
IL31		8.94	9	Pn	Pn	17 07 36.6	0.0
ILAR	Eielson Array	8.94	9	Pn	Pn	17 07 36.9	+0.3
IL03	Eielson Array	8.95	9	Pn	Pn	17 07 36.8	+0.1
J25K	Salcha River,	8.95	13	Pn	Pn	17 07 36.6	-0.3
K27K	Chicken	8.99	23	Pn	Pn	17 07 36.4	-0.9
J16K	Anvik River	9.02	328	Pn	Pn	17 07 37.7	0.0
MDM	Murphy Dome	9.04	5	Pn	Pn	17 07 38.1	+0.2
J26L	Joseph Creek	9.12	18	Pn	Pn	17 07 39.7	+0.6
POKR	Poker Plat Res	9.24	7	Pn	Pn	17 07 40.9	+0.1
N31M	Braeburn, Yuko	9.25	48	Pn	Pn	17 07 41.8	+0.9
I21K	Tanana	9.26	355	Pn	Pn	17 07 41.0	+0.1
WHY	Whitehorse	9.27	53	Pn	Pn	17 07 40.5	-0.7
L29M	L29M	9.36	36	Pn	Pn	17 07 43.3	+1.0
P32M	Atlin	9.46	61	Pn	Pn	17 07 44.2	+0.4
M30M	Minto, Yukon	9.47	40	Pn	Pn	17 07 44.9	+1.0
U33K	Whale Pass	9.51	82	Pn	Pn	17 07 44.7	+0.4
H21K	Melozitna Rive	9.78	353	Pn	Pn	17 07 47.8	-0.2
PRP	Porcupine Dome	9.81	11	Pn	Pn	17 07 49.4	+0.9
H24K	Noodor Dome	9.93	5	Pn	Pn	17 07 49.4	-0.8
I26K	Coal Creek Min	9.93	17	Pn	Pn	17 07 49.5	-0.7
P33M	Teslin, Yukon	10.07	58	Pn	Pn	17 07 52.4	+0.3
K29M	Barlow Dome	10.07	34	Pn	Pn	17 07 53.4	+1.2
IMAR	Indian Mountai	10.17	352	Pn	Pn	17 07 54.3	+0.9
M31M	Drury Creek, Y	10.18	46	Pn	Pn	17 07 54.6	+1.0
N32M	Quiet Lake	10.27	53	Pn	Pn	17 07 56.4	+1.6
G21K	Allakaket	10.68	353	Pn	Pn	17 07 59.9	-0.4
I28M	Miner Creek	10.69	23	Pn	Pn	17 08 01.0	+0.3
G23K	Bananza Creek	10.75	0	Pn	Pn	17 08 00.5	-0.9
R33M	Jennings River	10.79	64	Pn	Pn	17 08 02.3	+0.3
FYU	Fort Yukon	10.85	10	Pn	Pn	17 08 02.5	-0.2
J30M	Hart River	10.96	33	Pn	Pn	17 08 05.5	+1.2
ANM	Nome	11.41	325	Pn	Pn	17 08 09.2	-1.2
F15K	North Star Dit	12.00	330	Pn	Pn	17 08 17.6	-0.8
G31M	Satah River	13.26	28	Pn	Pn	17 08 35.0	-0.6
A36M	Sachs Harbour	19.12	24	P	P	17 09 51.1	+0.8
A36M					IAmb	IAmb	17 10 02.7
	comp=Z,4.8nm,1.0s						

*NEIC **26** 17:08:17.6±2.1,56.36N±0.08×147.8W±0.1,h21km±8km, ML3.7/52,ML3.4(AEIC),Error ellipse: s-maj=11.9km s-min=7.9km az=164.0*

*AEIC **26** 17:08:22.4±1.7,56.46N±0.08×147.9W±0.1,h7km±7km, Error ellipse: s-maj=12.0km s-min=7.7km az=157.0*

ISC 26 17:08:15.6±1.3,56.42N±0.08×147.83W±0.05,h10km, n194,σ1§73/202,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.93	300		Pn	17 09 03.4	+1.2
KDAK				IAML		17 09 38.6	
	107nm,0.3s						
KDAK	Kodiak Island	2.93	300		Sn	17 09 36.0	-1.4
KDAK	Kodiak Island	2.93	300	P	Pn	17 09 03.9	+1.7
	baz=117						
OHAK	Old Harbor	3.11	287		Sn	17 09 39.4	-2.3
OHAK	Old Harbor	3.11	287		Pn	17 09 05.5	+0.9
OHAK	Old Harbor	3.11	287	P	Pn	17 09 05.8	+1.2
	baz=104						
OHAK				S	Sn	17 09 39.4	-2.3
	baz=104						
MID	Middleton Isla	3.12	14		Sn	17 09 40.0	-2.0
MID	Middleton Isla	3.12	14	Pn	Pn	17 09 06.1	+1.4
MID				IAML		17 09 47.6	
	comp=E,337nm,1.8s						
MID				IAML		17 10 33.7	
	comp=N,327nm,1.7s						
Q23K	Middleton Isla	3.12	14		Sn	17 09 40.5	-1.5
Q23K	Middleton Isla	3.12	14	Pn	Pn	17 09 06.0	+1.

RC01	Rabbit Creek A	4.79	349	P	Pn	17 09 29.6 +1.9
	baz=167					
RSO	Redoubt South	4.81	329		Pn	17 09 29.5 +1.3
RSO					Sn	17 10 24.6 +0.7
BMRM	Bremner River	4.86	19		Pn	17 09 30.6 +1.8
BARK	Barkley Ridge	4.88	33		Pn	17 09 31.3 +2.3
DFR	Drift River	4.89	331		Pn	17 09 30.4 +1.1
P18K	Big Mountain,	4.94	310		Pn	17 09 31.3 +1.4
P18K	Big Mountain,	4.94	310	P	Pn	17 09 31.5 +1.6
	baz=124					
KNK	Knik Glacier	5.02	357		Pn	17 09 32.9 +2.0
KNK				IAML		17 10 27.8
	comp=E,44nm,0.7s					
KNK				IAML		17 10 35.5
	comp=N,30nm,1.1s					
KNK	Knik Glacier	5.02	357	P	Pn	17 09 33.5 +2.6
	baz=176					
O19K	Port Alsworth	5.10	321		Pn	17 09 33.3 +1.3
O19K				IAML		17 10 35.1
	comp=N,60nm,0.4s					
O19K	Port Alsworth	5.10	321	P	Pn	17 09 33.5 +1.5
	baz=135					
KLU	Klutina	5.18	10		Pn	17 09 35.2 +2.0
KLU				IAML		17 10 34.9
	comp=E,33nm,0.8s					
KLU				IAML		17 10 35.1
	comp=N,37nm,0.4s					
KLU	Klutina	5.18	10	P	Pn	17 09 35.7 +2.5
	baz=192					
O18K	Koktuh Hills	5.21	314	IAML		17 10 14.7
	comp=E,21nm,2.0s					
O18K				IAML		17 10 47.3
	comp=N,22nm,1.4s					
O18K	Koktuh Hills	5.21	314	P	Pn	17 09 34.9 +1.3
	baz=129					
PMR	Palmer	5.23	353		Pn	17 09 35.5 +1.7
PMR				IAML		17 10 35.4
	comp=E,21nm,1.7s					
PMR	Palmer	5.23	353	P	Pn	17 09 35.9 +2.1
	baz=172					
SUA	Susitna One	5.28	345		Pn	17 09 35.9 +1.3
SUA				IAML		17 10 37.4
	comp=N,18nm,1.7s					
SUA				IAML		17 10 48.5
	comp=E,18nm,1.6s					
SUA	Susitna One	5.28	345	P	Pn	17 09 36.1 +1.6
	baz=162					
SPCR	Spurr Chakacha	5.30	336		Pn	17 09 36.3 +1.4
VRDI	Verde Repeater	5.33	23	Pn	Pn	17 09 37.0 +1.6
VRDI				IAML		17 10 36.2
	comp=N,25nm,0.4s					
VRDI				IAML		17 10 36.8
	comp=E,18nm,1.5s					
SPCG	Spurr Capps Gl	5.34	338		Pn	17 09 37.0 +1.5
SPCP	Crater Peak Br	5.35	337		Pn	17 09 37.1 +1.4
GHO	Glory Hole Cre	5.40	354		Pn	17 09 38.4 +2.2
SML	Sawmill	5.41	357		Pn	17 09 38.9 +2.6
SML	Sawmill	5.41	357	P	Pn	17 09 38.9 +2.6
	baz=177					
SCM	Sheep Creek Mo	5.43	3		Pn	17 09 39.2 +2.6
SCM	Sheep Creek Mo	5.43	3	P	Pn	17 09 39.6 +2.9
	baz=183					
PCA	Pinnacle	5.43	44		Pn	17 09 39.2 +2.5
PINM	Pinnacle	5.43	44	P	Pn	17 09 39.6 +2.9
	baz=230					
GLB	Gilahina Butte	5.45	21		Pn	17 09 38.5 +1.6
N25K	Chitina, Valde	5.46	16		Pn	17 09 39.4 +2.4
STLK	Strandline Lak	5.50	340		Pn	17 09 39.5 +2.0
PTPK	Patty Peak	5.53	28		Pn	17 09 40.3 +2.2
PNL	Península	5.53	50	P	Pn	17 09 40.5 +2.5
	baz=237					
BCPM	Bancas Point	5.59	47	Pn	Pn	17 09 41.8 +2.9
N19K	Bonanza Creek	5.61	324	Pn	Pn	17 09 40.1 +1.0
BARN	Barnard Glacie	5.65	32		Pn	17 09 42.1 +2.4
CTG	Chitna Glacier	5.67	34	P	Pn	17 09 42.5 +2.5
	baz=219					
LOGN	Logan Glacier	5.67	36		Pn	17 09 42.3 +2.3
CTGM	Chitina Glacie	5.67	34		Pn	17 09 42.4 +2.3
M24K	Tolsona, Glenn	5.76	8		Pn	17 09 44.1 +2.9
WASW	Wrangell South	5.83	17		Pn	17 09 44.4 +2.1
CHGN	Chignik	5.89	273	Pn	Pn	17 09 45.5 +2.7
SKT	Skwentna	5.89	343	Pn	Pn	17 09 44.7 +1.9
O17K	Koliganek Bris	5.95	308		Pn	17 09 45.3 +1.6
N18K	Kilae Creek	6.00	319	Pn	Pn	17 09 45.4 +1.0
M20K	Styx River	6.12	336	Pn	Pn	17 09 47.6 +1.6
WAT6	Susitna Watana	6.18	0		Pn	17 09 49.3 +2.3
WAT6	Susitna Watana	6.18	0	P	Pn	17 09 49.5 +2.5
	baz=180					
SVW2	Sparrevohn	6.18	323	Pn	Pn	17 09 47.4 +0.5
O29M	Mount Kennedy	6.23	48		Pn	17 09 50.5 +2.8
P29M	Windy Craggy	6.25	55		Pn	17 09 49.6 +1.7
O16K	Kokwok River B	6.31	304	Pn	Pn	17 09 50.8 +2.1
N17K	Nushagak Hills	6.40	314	Pn	Pn	17 09 49.9 0.0
M19K	Big River Lodg	6.45	331		Pn	17 09 51.1 +0.5
WAT7	Susitna Watana	6.45	356		Pn	17 09 52.6 +1.9
M26K	Nabesna, AK	6.48	20	Pn	Pn	17 09 54.9 +3.8
S31K	Pelican	6.49	71	Pn	Pn	17 09 50.8 -0.3
M18K	Stony River	6.55	324		Pn	17 09 52.8 +0.9
PAX	Paxson	6.67	9	Pn	Pn	17 09 56.4 +2.6
DHY	Denali Highway	6.68	2		Pn	17 09 56.9 +3.1
M27K	Edge Creek, AK	6.68	25	Pn	Pn	17 09 54.8 +1.0
L19K	White Mountain	6.80	331	Pn	Pn	17 09 56.2 +0.8
L20K	Farewell, AK	6.81	336		Pn	17 09 56.8 +1.3
CNBA	Chernabura Isl	6.85	261	Pn	Pn	17 09 57.3 +1.3
PPLA	Purkeypile	6.86	343	Pn	Pn	17 09 58.0 +1.8
SIT	Sitka	6.91	80	Pn	Pn	17 09 56.2 -0.6
HYT	Haines Junctio	6.96	46		Pn	17 09 58.0 +0.3
RND	Reindeer	7.03	356	Pn	Pn	17 09 59.5 +1.0
M17K	Holitna River	7.04	319	Pn	Pn	17 09 60.0 +1.3
TRF	Thorofare Moun	7.16	351	Pn	Pn	17 10 02.5 +2.1
SDPT	Sand Point	7.20	267	Pn	Pn	17 10 02.6 +1.8
L27K	Beaver Creek,	7.31	22	Pn	Pn	17 10 04.0 +1.6
SKAG	Skagway	7.31	60	Pn	Pn	17 10 03.1 +0.8
BESE	Bessie Mountai	7.32	67	Pn	Pn	17 10 03.7 +1.2
KTH	Kantishna Hill	7.32	349		Pn	17 10 05.0 +2.5
S32K	Killisnoo	7.33	76	Pn	Pn	17 10 02.7 +0.1
BCAR	Beaver Creek A	7.33	22	Pn	Pn	17 10 03.1 +0.5
CAST	Castle Rocks	7.33	345	Pn	Pn	17 10 04.3 +1.6
MCK	McKinley	7.36	356	Pn	Pn	17 10 04.9 +1.9
L18K	Granite Mounta	7.37	326	Pn	Pn	17 10 03.9 +0.8
M16K	Timber Creek	7.40	313	Pn	Pn	17 10 05.4 +1.8
R32K	Eaglecrest	7.44	70	Pn	Pn	17 10 05.4 +1.3
N15K	Kwethluk River	7.47	305	Pn	Pn	17 10 06.5 +2.0
RIDG	Independent Ri	7.49	10	Pn	Pn	17 10 07.0 +2.2
N30M	Aishikik Lake	7.50	43	Pn	Pn	17 10 07.9 +2.9
JIS	Juneau Island	7.51	70	Pn	Pn	17 10 08.5 +1.5
O30N	Mendenhall	7.52	50	Pn	Pn	17 10 08.0 +2.7
K20K	Telida	7.63	338	Pn	Pn	17 10 08.9 +2.2
M29M	Somme Creek	7.69	34		Pn	17 10 10.1 +2.4
O14K	Tigyukauivet M	7.71	297	Pn	Pn	17 10 10.1 +2.3
TTA	Tatalina	7.72	331	Pn	Pn	17 10 08.8 +0.7
CHUM	Lake Minchumin	7.81	345		Pn	17 10 10.7 +1.5
SCRK	Sand Creek	7.81	13	Pn	Pn	17 10 09.7 +0.3
L17K	Donlin	7.84	321		Pn	17 10 10.8 +1.2
BPAW	Bear Paw Mtn.	7.86	350	Pn	Pn	17 10 11.1 +1.2
WHY	Whitehorse	7.99	53	Pn	Pn	17 10 13.3 +1.5
L16K	Owhat River	8.00	316	Pn	Pn	17 10 11.9 +0.1
PN7A	Pavlof North-7	8.02	269		Pn	17 10 14.2 +2.0
HDA	Harding Lake	8.03	3	Pn	Pn	17 10 14.6 +2.4
N31M	Braeburn, Yuko	8.03	46	Pn	Pn	17 10 14.8 +2.6
P32M	Atlin	8.14	61	Pn	Pn	17 10 16.0 +2.3
U33K	Whale Pass	8.20	86	Pn	Pn	17 10 13.8 -0.6
NEA2	Nenana	8.22	356	Pn	Pn	17 10 16.3 +1.5
K17K	Iditarod	8.24	324	Pn	Pn	17 10 16.1 +1.0
CCB	Clear Creek Bu	8.25	0	Pn	Pn	17 10 15.6 +0.4
L29M	L29M	8.29	32	Pn	Pn	17 10 18.9 +3.0
J25K	Salcha River,	8.31	7	Pn	Pn	17 10 17.8 +1.8
CRAG	Craig	8.31	90	Pn	Pn	17 10 15.2 -0.9
M30M	Minto, Yukon	8.33	38	Pn	Pn	17 10 19.1 +2.7
J18K	Innoko River	8.35	331	Pn	Pn	17 10 18.0 +1.5
J26L	Joseph Creek	8.37	13	Pn	Pn	17 10 18.4 +1.4
J20K	Nowinta River	8.38	341	Pn	Pn	17 10 18.6 +1.6
IL31		8.39	3	Pn	Pn	17 10 18.1 +1.0
ILAR	Eielson Array	8.39	3	Pn	Pn	17 10 18.4 +1.3
IL03	Eielson Array	8.39	3	Pn	Pn	17 10 18.2 +1.1
J19K	Poorman	8.52	336	Pn	Pn	17 10 19.9 +0.9
M14K	Bethel	8.56	306	Pn	Pn	17 10 20.7 +1.3
MDM	Murphy Dome	8.57	359	Pn	Pn	17 10 20.5 +0.9
Q32M	Nakina River	8.71	67	Pn	Pn	17 10 22.2 +0.5
DAWY	Dawson	8.73	25	Pn	Pn	17 10 21.7 -0.1
P33M	Teslin, Yukon	8.76	58	Pn	Pn	17 10 21.8 -0.5
I23K	Minto, Yukon-K	8.79	356	Pn	Pn	17 10 23.3 +0.8
N32M	Quiet Lake	9.00	52	Pn	Pn	17 10 25.8 +0.3
I21K	Tanana	9.02	349	Pn	Pn	17 10 27.1 +1.4
K29M	Barlow Dome	9.03	30	Pn	Pn	17 10 27.4 +1.3
K15K	Wolf Creek Mou	9.13	316	Pn	Pn	17 10 28.9 +1.6
ISLZ	Isanotski Laza	9.16	266		Pn	17 10 29.3 +1.6
PRP	Porcupine Dome	9.19	6	Pn	Pn	17 10 30.1 +1.8
J16K	Anvik River	9.40	322	Pn	Pn	17 10 31.8 +0.9
FARO	Faro, Yukon	9.40	46	Pn	Pn	17 10 33.6 +2.6
H24K	Noodor Dome	9.45	360	Pn	Pn	17 10 33.4 +1.7
R33M	Jennings River	9.45	65	Pn	Pn	17 10 32.9 +1.1
H21K	Melozitna Rive	9.57	348		Pn	17 10 34.9 +1.5
T35M	Bob Quinn	9.69	79	Pn	Pn	17 10 34.6 -0.4
DLBC	Dease Lake	9.81	71	Pn	Pn	17 10 36.1 -0.5
I28M	Miner Creek	9.82	20	Pn	Pn	17 10 37.0 +0.1
I17K	Unalakleet	9.84	325	Pn	Pn	17 10 36.2 -0.7
J30M	Hart River	9.93	30	Pn	Pn	17 10 38.4 0.0
IMAR	Indian Mountai	10.00	346	Pn	Pn	17 10 39.6 +0.4
H19K	Roundabout Mou	10.04	339	Pn	Pn	17 10 40.3 +0.7
H18K	Honhosa River	10.14	334	Pn	Pn	17 10 42.1 +1.0
FYU	Fort Yukon	10.25	6	Pn	Pn	17 10 44.2 +1.6
H17K	Granite Mounta	10.37	330	Pn	Pn	17 10 44.9 +0.6
G23K	Bananza Creek	10.38	355	Pn	Pn	17 10 44.9 +0.5
I30M	Mount Dempster	10.43	28	Pn	Pn	17 10 45.8 +0.7
G21K	Allakaket	10.48	347	Pn	Pn	17 10 46.8 +1.1
G19K	Purcell Mounta	10.71	339	Pn	Pn	17 10 50.2 +1.4
G18K	Tagagawik	10.82	336	Pn	Pn	17 10 50.1 -0.3
COLD	Coldfoot	10.90	355	Pn	Pn	17 10 52.2 +0.8
F20K	Avaraart Lake	11.29	344	Pn	Pn	17 10 57.9 +1.2
F19K	Shaleruckik Mo	11.45	340	Pn	Pn	17 10 60.0 +1.1
F17K	Baldwin Pennin	11.89	333	Pn	Pn	17 11 04.6 -0.4
E19K	Redstone River	11.90	342	Pn	Pn	17 11 04.5 -0.7
B20K	Meade River	14.24	347	Pn	Pn	17 11 37.7 +0.7

IDC ***26*** *17:08:52.0±1.2, 1°.02N×124°.93E, h0km, mb3.6/5, mbtmp3.7/5, Error ellipse: s-maj=185.7km s-min=18.9km az=64.0*

DJA ***26*** *17:09:08.0±0.5, 0°N±5°×12°4E±°, h96km±12km, M4.1/13, mb4.4/3, mB5.3/1, MLv3.9/13, Mw(mB)4.7/1*

ISC 26 17:09:06.6±0.9, 0°.51N±0°.09×124°.47E±0°.05, h116km, n15, σ1§11/18, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	0.49	277	P	Pn	17 09 24.6	+0.6
LUWI	Luwuk	2.29	228	P	Pn	17 09 44.6	+1.0
MRSI	Marisa	2.53	269	P	Pn	17 09 46.2	-0.4
TNTI	Ternate	2.91	85	P	Pn	17 09 52.6	+1.0
TNTI				S	Sn	17 10 27.0	+0.7
SANI	Sanana	2.97	149	P	Pn	17 09 50.6	-1.8
LBMI	Labuha	3.24	111	P	Pn	17 09 56.4	+0.4
NLAI	Namlea	4.56	145	P	Pn	17 10 13.4	-0.3
MPSI	Mapaga	4.57	268	P	Pn	17 10 14.7	+0.9
KRAI	Karang Ratu	5.47	134	P	Pn	17 10 26.5	+0.6
	43nm,0.4s,3µm0.5nm						
TTSI	Tana Toraja	5.84	233	P	Pn	17 10 31.7	+0.8
	24nm,0.6s,0.1nm						
WRA	Warramunga Arr	22.52	155	P	P	17 13 56.4	-0.5
	1.4nm,0.5s,baz=334,slow=10,SNR=21						
	1.4nm,0.5s						
ASAR	Alice Springs	25.73	160	P	P	17 14 27.1	+0.7
	0.5nm,0.6s,baz=344,slow=8.5,SNR=14						
ASAR				PcP	PcP	17 17 54.5	+0.7
	0.2nm,0.5s,baz=352,slow=2.0,SNR=4.4						
	0.5nm,0.6s						
STKA	Stephens Creek	36.07	155	P	P	17 15 58.2	+1.1
	0.5nm,0.4s,baz=343,slow=14,SNR=2.8						
	0.5nm,0.4s						
MKAR	Makanchi Array	58.96	327	P	P	17 18 53.5	-0.5
	0.2nm,0.4s,baz=123,slow=8.1,SNR=6.1						
MKAR				PcP	PcP	17 19 41.2	-0.7
	0.2nm,0.4s,baz=143,slow=3.5,SNR=6.1						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	63.27	329	P	P	17 19 20.1	-2.7
	0.4nm,0.3s,baz=144,slow=3.4,SNR=4.5						
	0.4nm,0.3s						

TAP 26 17:12:10.1, 22°.97N×120°.99E, h9km±2km, ML2.1, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LONT	Longtian	0.14	115	*i* P	Pg	17 12 13.9	+0.6
	baz=115						
TWG	Pinlang	0.17	152	P	Pg	17 12 14.5	+0.9
	baz=151						
TWGBT	Beinan	0.17	150	P	Pg	17 12 14.4	+0.7
	baz=151						
TWGBT				*i* S	Sg	17 12 17.0	+0.8
	baz=151						
ELDTW	Lidau	0.22	7	P	Pg	17 12 15.0	+0.3
	baz=15						
ECS	Chishang	0.25	59	P	Pg	17 12 15.8	+0.7
	baz=57						
EHD	Haiduan	0.27	48	⇑P	Pg	17 12 15.8	+0.2
	baz=49						
EHD				*e*S	Sg	17 12 19.1	-0.2
	baz=49						
STYH	Taoyuan	0.28	316	*e*P	Pg	17 12 16.4	+0.7
	baz=317						
STYT	Tauyuan	0.29	312	*e*P	Pg	17 12 16.5	+0.6
	baz=314						
EDH	Donghe	0.29	89	*e*P	Pg	17 12 16.0	+0.1
	baz=84						
SLGT	Liugui	0.32	275	*e*P	Pb	17 12 17.2	-0.8
	baz=270						
FULB	Fuli	0.36	51	*e*P	Pb	17 12 18.1	-0.7
	baz=38						
ECL	Taimali	0.37	185	*e*P	Pg	17 12 18.1	+0.7
	baz=184						
SGST	Jiashian	0.39	287	*e*P	Pg	17 12 18.1	+0.3
	baz=287						
SSD	Sandimen	0.40	236	P	Pg	17 12 16.9	-1.0
	baz=235						
TSMG	Majia	0.41	231	*e*P	Pg	17 12 18.4	+0.2
	baz=230						
WTP	Ta-pu	0.44	309	P	Pb	17 12 20.1	-0.1
	baz=317						
SCST	Cishan	0.46	260	*e*P	Pb	17 12 20.5	0.0
	baz=254						
TPUB	Ta-pu	0.47	315	*e*P	Pb	17 12 20.5	-0.1
	baz=316						
CHN1	Nanshi	0.48	297	*e*P	Pb	17 12 21.6	+0.9
	baz=307						
TWF1	Yuli	0.48	37	⇑*i*P	Pg	17 12 19.6	+0.2
	baz=45						
MASBT	Mashibuluo	0.48	223	P	Pg	17 12 19.8	+0.2
	baz=229						
EYUL	Yuli	0.48	39	P	Pg	17 12 19.9	+0.3
	baz=37						
YULB	Yu-li	0.51	34	P	Pg	17 12 19.9	-0.2
	baz=43						
SNST	Tainan City	0.52	299	*e*P	Pb	17 12 22.4	+0.9
	baz=308						
CHN4	Tsaushan	0.53	316	*e*P	Pb	17 12 22.0	+0.4
	baz=325						
TWK	Hsinying	0.55	303	*e*P	Pb	17 12 22.6	+0.6
	baz=304						
ALS	Alishan	0.57	343	*e*P	Pb	17 12 22.1	-0.3
	baz=344						
WCKO	Fanlu	0.59	323	*e*P	Pb	17 12 23.0	+0.4
	baz=324						
EAST	Anshuo	0.60	193	*e*P	Pb	17 12 22.5	-0.3
	baz=192						
EHY	Hungye	0.62	30	*e*P	Pg	17 12 22.1	0.0
	baz=29						
HGSD	Ruisui	0.66	37	P	Pb	17 12 23.7	-0.1
	baz=36						
SCZT	Fangliau	0.68	210	*e*P	Pg	17 12 23.7	+0.3
	baz=209						
CHN5	Tsauling	0.69	336	*e*P	Pb	17 12 24.0	-0.4
	baz=336						
WHYT	Xinyi Township	0.73	350	*e*P	Pb	17 12 25.3	+0.1
	baz=351						
VWDT	VWDT	0.80	10	*e*P	Pg	17 12 25.5	+0.1
	baz=15						
SSLB	Suanglung	0.82	358	*e*P	Pb	17 12 26.4	-0.2
	baz=359						

NEIC ***26*** *17:28:28.7±1.4, 56°.0N±0°.1×150°.0W±0°.1, h26km±16km, ML3.5/26, ML3.2(AEIC), Error ellipse: s-maj=18.3km s-min=9.2km az=162.0*

AEIC ***26*** *17:28:30.8±1.8, 55°.9N±0°.1×150°.0W±0°.1, h10km±9km, Error ellipse: s-maj=19.2km s-min=10.9km az=173.0*

ISC 26 17:28:27.0±2.1, 56°.1N±0°.1×150°.10W±0°.06, h10km, n72, σ0§97/72, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.12	305		Pn	17 29 02.9	+0.4
OHAK					Sn	17 29 27.7	-1.1
OHAK	Old Harbor	2.12	305	P	Pn	17 29 02.9	+0.4
	baz=123						
OHAK				S	Sn	17 29 27.7	-1.1
	baz=123						
KDAK	Kodiak Island	2.21	323		Pn	17 29 04.6	+1.0
KDAK					Sn	17 29 30.1	-0.8
SII	Sitkinak Islan	2.33	284		Pn	17 29 05.4	0.0
SII					Sn	17 29 32.8	-1.4
SII	Sitkinak Islan	2.33	284	IAML		17 29 50.4	
	comp=N,172nm,2.9s						
SII	Sitkinak Islan	2.33	284	P	Pn	17 29 05.4	0.0
	baz=102						
SII				S	Sn	17 29 32.8	-1.4
	baz=102						
Q20K	Shuyak Island	2.85	335	P	Pn	17 29 12.9	+0.4
	baz=153						
SYI	Shuyak Island	2.85	335		Pn	17 29 12.9	+0.4
SYI	Shuyak Island	2.85	335	IAML		17 29 50.5	
	comp=E,110nm,3.5s						
KAHG	Katmai Hook Gl	3.44	317		Pn	17 29 22.4	+1.7
Q19K	Cape Douglas,	3.46	328		Pn	17 29 22.6	+1.6
Q19K	Cape Douglas,	3.46	328	P	Pn	17 29 22.6	+1.6
	baz=145						
CNPM	China Poot	3.53	351		Pn	17 29 22.2	+0.2
CNPM					Sn	17 30 03.6	-0.2
CNPM	China Poot	3.53	351	IAML		17 31 03.6	
	comp=N,80nm,3.1s						
CNPM				IAML		17 31 25.0	
	comp=E,82nm,3.1s						
BRSE	Bradley Lake S	3.71	355		Pn	17 29 24.5	+0.1
BRSE	Bradley Lake S	3.71	355	P	Pn	17 29 24.5	+0.1
	baz=174						
BRLK	Bradley Lake	3.74	354		Pn	17 29 24.4	-0.4
BRLK					Sn	17 30 08.4	-0.5
BRLK	Bradley Lake	3.74	354	IAML		17 31 43.6	
	comp=E,68nm,3.6s						
BRLK				IAML		17 31 46.1	
	comp=N,68nm,2.9s						
CNTC	Contact Creek	3.85	307		Pn	17 29 26.7	+0.3
Q17K	Contact Creek	3.85	307	P	Pn	17 29 26.7	+0.3
	baz=123						
P19K	Oil Pt	3.98	336		Pn	17 29 29.1	+1.1
P19K	Oil Pt	3.98	336	P	Pn	17 29 29.1	+1.1
	baz=154						
P18K	Big Mountain,	4.33	323		Pn	17 29 34.0	+1.1
P18K	Big Mountain,	4.33	323	IAML		17 32 08.6	
	comp=E,40nm,3.0s						
P18K				IAML		17 32 20.9	
	comp=N,48nm,3.7s						
P18K	Big Mountain,	4.33	323	P	Pn	17 29 34.0	+1.1
	baz=138						
RSO	Redoubt South	4.64	343	Pn	Pn	17 29 36.3	-1.0
O18K	Koktuh Hills	4.68	327	Pn	Pn	17 29 38.1	+0.4
O18K				IAML		17 30 59.4	
	comp=N,38nm,3.6s						
O18K				IAML		17 32 03.2	
	comp=E,42nm,3.3s						
HIN	Hinchinbrook I	4.75	22		Pn	17 29 38.9	+0.3
RC01	Rabbit Creek A	5.05	2	Pn	Pn	17 29 41.8	-0.9
RC01				IAML		17 30 23.9	
	comp=N,35nm,3.8s						
RC01				IAML		17 31 38.0	
	comp=E,37nm,3.8s						
N19K	Bonanza Creek	5.30	336		Pn	17 29 46.5	+0.2
N19K	Bonanza Creek	5.30	336	IAML		17 31 29.9	
	comp=E,26nm,4.0s						
N19K				IAML		17 32 22.7	
	comp=N,24nm,3.6s						
N19K	Bonanza Creek	5.30	336	P	Pn	17 29 46.5	+0.2
	baz=152						
SUA	Susitna One	5.43	357	Pn	Pn	17 29 48.1	0.0
KNK	Knik Glacier	5.44	8	Pn	Pn	17 29 49.5	+1.4
BERG	Berg Lake	5.50	35	Pn	Pn	17 29 49.2	+0.2
N18K	Kilae Creek	5.55	329	Pn	Pn	17 29 50.5	+0.9
GHO	Glory Hole Cre	5.77	6	Pn	Pn	17 29 53.6	+1.0
SML	Sawmill	5.84	8	Pn	Pn	17 29 51.2	-2.4
KLU	Klutina	5.87	20	Pn	Pn	17 29 54.1	+0.1
SKT	Skwentna	5.99	353	Pn	Pn	17 29 56.4	+0.7
M20K	Styx River	6.05	346	Pn	Pn	17 29 56.9	+0.3
O15K	Ungalikthiuk R	6.09	305		Pn	17 29 58.4	+1.4
O15K	Ungalikthiuk R	6.09	305	P	Pn	17 29 58.4	+1.4
	baz=117						
VRDI	Verde Repeater	6.24	31	Pn	Pn	17 29 59.1	-0.1
N25K	Chitina, Valde	6.25	25		Pn	17 30 00.1	+0.8
N25K	Chitina, Valde	6.25	25	P	Pn	17 30 00.1	+0.8
	baz=209						
GLB	Gilahina Butte	6.31	29	Pn	Pn	17 29 59.9	-0.2
KIAG	Kiagna River	6.34	37		Pn	17 30 00.8	+0.2
M24K	Tolsona, Glenn	6.40	17	Pn	Pn	17 30 03.1	+1.8
PTPK	Patty Peak	6.50	35		Pn	17 30 03.2	+0.3
M17K	Holitna River	6.58	328	Pn	Pn	17 30 03.1	-0.6
PCA	Pinnacle	6.60	48		Pn	17 30 04.5	+0.4
PINM	Pinnacle	6.61	48	P	Pn	17 30 04.5	+0.4
	baz=236						
BARN	Barnard Glacie	6.68	38	Pn	Pn	17 30 05.8	+0.6
N15K	Kwethluk River	6.71	312		Pn	17 30 07.0	+1.5
N15K	Kwethluk River	6.71	312	P	Pn	17 30 07.0	+1.5
	baz=124						
CTG	Chitna Glacier	6.72	39	P	Pn	17 30 06.0	+0.1
	baz=226						
CTGM	Chitina Glacie	6.73	39		Pn	17 30 06.0	+0.1
LOGN	Logan Glacier	6.75	41		Pn	17 30 06.4	+0.2
M16K	Timber Creek	6.80	321

CNPM						Sn	17 36 13.3	-0.4
CNPM	**China Poot**	**3.56**	**351**	IAML			17 36 14.5	
	comp=N,44nm,0.8s							
CNPM				IAML			17 36 14.9	
	comp=E,55nm,1.0s							
BRSE	**Bradley Lake S**	**3.74**	**355**			**Pn**	**17 35 33.8**	**-0.3**
BRSE						**Sn**	**17 36 17.6**	**-0.4**
BRSE	**Bradley Lake S**	**3.74**	**355**	P		**Pn**	**17 35 33.8**	**-0.3**
	baz=174							
BRSE				S		**Sn**	**17 36 17.6**	**-0.4**
	baz=174							
BRLK	**Bradley Lake**	**3.77**	**354**			**Pn**	**17 35 34.2**	**-0.3**
BRLK	**Bradley Lake**	**3.77**	**354**	IAML			17 36 23.2	
	comp=N,37nm,1.5s							
BRLK				IAML			17 36 24.9	
	comp=E,42nm,1.4s							
CNTC	**Contact Creek**	**3.87**	**308**			**Pn**	**17 35 37.1**	**+1.2**
Q17K	**Contact Creek**	**3.87**	**308**	P		**Pn**	**17 35 37.1**	**+1.2**
	baz=123							
Q23K	**Middleton Isla**	**3.95**	**29**			**Pn**	**17 35 36.6**	**-0.3**
Q23K	**Middleton Isla**	**3.95**	**29**	P		**Pn**	**17 35 36.6**	**-0.3**
	baz=212							
MID	**Middleton Isla**	**3.96**	**29**			**Pn**	**17 35 36.6**	**-0.4**
MID	**Middleton Isla**	**3.96**	**29**	IAML			17 37 25.6	
	comp=N,194nm,1.4s							
P19K	**Oil Pt**	**4.00**	**336**			**Pn**	**17 35 39.1**	**+1.4**
P19K	**Oil Pt**	**4.00**	**336**	IAML			17 36 28.7	
	comp=E,151nm,0.5s							
P19K				IAML			17 36 28.9	
	comp=N,145nm,0.5s							
P19K	**Oil Pt**	**4.00**	**336**	P		**Pn**	**17 35 39.1**	**+1.4**
	baz=154							
P18K	**Big Mountain,**	**4.35**	**323**			**Pn**	**17 35 43.4**	**+0.9**
P18K	**Big Mountain,**	**4.35**	**323**	P		**Pn**	**17 35 43.4**	**+0.9**
	baz=138							
O22K	**Cooper Landing**	**4.47**	**2**	Pn		**Pn**	**17 35 44.2**	**+0.2**
O22K				IAML			17 36 45.0	
	comp=N,138nm,0.9s							
O22K				IAML			17 36 47.3	
	comp=E,125nm,0.9s							
SLKM	**Skilak Lake**	**4.49**	**359**			**Pn**	**17 35 44.7**	**+0.3**
CHGN	**Chignik**	**4.66**	**277**	Pn		**Pn**	**17 35 48.5**	**+1.8**
CHGN				IAML			17 36 29.6	
	comp=E,46nm,1.4s							
CHGN				IAML			17 36 29.9	
	comp=N,56nm,1.4s							
RSO	**Redoubt South**	**4.66**	**344**			**Pn**	**17 35 47.9**	**+1.0**
O18K	**Koktuh Hills**	**4.70**	**327**			**Pn**	**17 35 48.0**	**+0.7**
O18K	**Koktuh Hills**	**4.70**	**327**	IAML			17 36 44.2	
	comp=N,30nm,0.7s							
O18K				IAML			17 36 57.6	
	comp=E,25nm,0.9s							
O18K	**Koktuh Hills**	**4.70**	**327**	P		**Pn**	**17 35 48.0**	**+0.7**
	baz=142							
O19K	**Port Alsworth**	**4.74**	**334**			**Pn**	**17 35 48.6**	**+0.9**
HIN	**Hinchinbrook I**	**4.77**	**22**			**Pn**	**17 35 48.0**	**-0.3**
HIN	**Hinchinbrook I**	**4.77**	**22**	IAML			17 36 36.9	
	comp=N,55nm,1.5s							
HIN				IAML			17 36 47.9	
	comp=E,67nm,1.4s							
KAIM	**Kayak Island**	**4.94**	**35**			**Pn**	**17 35 49.8**	**-0.6**
KAIM	**Kayak Island**	**4.94**	**35**	P		**Pn**	**17 35 49.8**	**-0.6**
	baz=220							
EYAK	**Cordova Ski Ar**	**5.08**	**25**			**Pn**	**17 35 51.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.08**	**25**	P		**Pn**	**17 35 51.8**	**-0.5**
	baz=208							
RC01	**Rabbit Creek A**	**5.08**	**2**			**Pn**	**17 35 52.8**	**+0.4**
RC01				IAML			17 36 54.1	
	comp=E,26nm,1.5s							
RC01				IAML			17 36 55.9	
	comp=N,18nm,0.9s							
RAGM	**Ragged Mountai**	**5.22**	**31**			**Pn**	**17 35 54.3**	**-0.1**
RAGM	**Ragged Mountai**	**5.22**	**31**	IAML			17 38 13.6	
	comp=E,54nm,1.4s							
N19K	**Bonanza Creek**	**5.32**	**336**			**Pn**	**17 35 56.2**	**+0.4**
N19K	**Bonanza Creek**	**5.32**	**336**	IAML			17 37 18.9	
	comp=E,12nm,1.1s							
N19K	**Bonanza Creek**	**5.32**	**336**	P		**Pn**	**17 35 56.2**	**+0.4**
	baz=152							
GOAT	**Goat Mountain**	**5.37**	**30**			**Pn**	**17 35 56.4**	**-0.1**
SUA	**Susitna One**	**5.46**	**357**	Pn		**Pn**	**17 35 57.2**	**-0.5**
KNK	**Knik Glacier**	**5.46**	**8**			**Pn**	**17 35 58.2**	**+0.5**
KNK	**Knik Glacier**	**5.46**	**8**	P		**Pn**	**17 35 58.3**	**+0.5**
	baz=189							
BERG	**Berg Lake**	**5.52**	**35**			**Pn**	**17 35 58.3**	**-0.2**
CNBA	**Chernabura Isl**	**5.54**	**261**	Pn		**Pn**	**17 35 57.5**	**-1.2**
STLK	**Strandline Lak**	**5.56**	**351**			**Pn**	**17 35 59.7**	**+0.7**
N18K	**Kilae Creek**	**5.57**	**329**			**Pn**	**17 35 59.8**	**+0.6**
N18K	**Kilae Creek**	**5.57**	**329**	P		**Pn**	**17 35 59.8**	**+0.6**
	baz=144							
O16K	**Kokwok River B**	**5.57**	**313**	Pn		**Pn**	**17 36 00.6**	**+1.4**
PMR	**Palmer**	**5.60**	**5**	Pn		**Pn**	**17 36 00.9**	**+1.4**
SNH	**Sunshine Point**	**5.66**	**40**			**Pn**	**17 36 00.1**	**-0.4**
BMRM	**Bremner River**	**5.72**	**28**			**Pn**	**17 36 01.0**	**-0.4**
BMRM	**Bremner River**	**5.72**	**28**	P		**Pn**	**17 36 01.0**	**-0.4**
	baz=212							
GHO	**Glory Hole Cre**	**5.79**	**6**	Pn		**Pn**	**17 36 03.1**	**+0.8**
SML	**Sawmill**	**5.87**	**8**	Pn		**Pn**	**17 36 02.7**	**-0.5**
KLU	**Klutina**	**5.89**	**20**			**Pn**	**17 36 03.8**	**+0.2**
KLU	**Klutina**	**5.89**	**20**	P		**Pn**	**17 36 03.8**	**+0.2**
	baz=203							
BARK	**Barkley Ridge**	**5.94**	**39**			**Pn**	**17 36 03.9**	**-0.4**
SCM	**Sheep Creek Mo**	**5.99**	**13**	Pn		**Pn**	**17 36 04.6**	**-0.4**
SKT	**Skwentna**	**6.01**	**353**	Pn		**Pn**	**17 36 05.1**	**-0.2**
M20K	**Styx River**	**6.08**	**346**	Pn		**Pn**	**17 36 06.0**	**-0.2**
O15K	**Ungalikthiuk R**	**6.11**	**305**			**Pn**	**17 36 07.9**	**+1.3**
O15K	**Ungalikthiuk R**	**6.11**	**305**	P		**Pn**	**17 36 07.9**	**+1.3**
	baz=117							
VRDI	**Verde Repeater**	**6.26**	**31**	Pn		**Pn**	**17 36 08.6**	**-0.2**
N25K	**Chitina, Valde**	**6.28**	**25**			**Pn**	**17 36 09.2**	**+0.3**
N25K	**Chitina, Valde**	**6.28**	**25**	P		**Pn**	**17 36 09.3**	**+0.4**
	baz=209							
M19K	**Big River Lodg**	**6.30**	**341**	Pn		**Pn**	**17 36 10.5**	**+1.4**
GLB	**Gilahina Butte**	**6.33**	**28**			**Pn**	**17 36 08.3**	**-1.4**
KIAG	**Kiagna River**	**6.36**	**36**			**Pn**	**17 36 10.1**	**-0.1**
M24K	**Tolsona, Glenn**	**6.42**	**17**	Pn		**Pn**	**17 36 12.4**	**+1.5**
SAMH	**Samovar Hills**	**6.42**	**46**			**Pn**	**17 36 11.4**	**+0.5**
PTPK	**Patty Peak**	**6.53**	**34**			**Pn**	**17 36 12.7**	**+0.3**
M17K	**Holitna River**	**6.60**	**328**			**Pn**	**17 36 14.0**	**+0.7**
PCA	**Pinnacle**	**6.62**	**48**			**Pn**	**17 36 13.6**	**0.0**
PINM	**Pinnacle**	**6.62**	**48**	P		**Pn**	**17 36 13.6**	**0.0**
	baz=236							
BARN	**Barnard Glacie**	**6.70**	**38**			**Pn**	**17 36 14.9**	**+0.1**
N15K	**Kwethluk River**	**6.73**	**312**			**Pn**	**17 36 16.6**	**+1.5**
N15K	**Kwethluk River**	**6.73**	**312**	P		**Pn**	**17 36 16.6**	**+1.5**
	baz=124							
CTG	**Chitna Glacier**	**6.74**	**39**	P		**Pn**	**17 36 15.5**	**+0.1**
	baz=226							
CTGM	**Chitina Glacie**	**6.75**	**39**			**Pn**	**17 36 15.5**	**+0.1**
LOGN	**Logan Glacier**	**6.77**	**41**	Pn		**Pn**	**17 36 15.5**	**-0.2**
PNL	**Peninsula**	**6.77**	**53**			**Pn**	**17 36 15.6**	**0.0**
PNL	**Peninsula**	**6.77**	**53**	P		**Pn**	**17 36 15.6**	**0.0**
	baz=242							
O14K	**Tigyukauivet M**	**6.81**	**303**	Pn		**Pn**	**17 36 17.4**	**+1.3**
M16K	**Timber Creek**	**6.82**	**321**			**Pn**	**17 36 17.4**	**+1.1**
M16K	**Timber Creek**	**6.82**	**321**	P		**Pn**	**17 36 17.4**	**+1.1**
	baz=133							
HARP	**HAARP**	**6.87**	**20**			**Pn**	**17 36 17.6**	**+0.6**
HARP	**HAARP**	**6.87**	**20**	P		**Pn**	**17 36 17.6**	**+0.6**
	baz=204							
L18K	**Granite Mounta**	**7.07**	**334**	Pn		**Pn**	**17 36 20.9**	**+1.1**
DHY	**Denali Highway**	**7.20**	**10**	Pn		**Pn**	**17 36 22.1**	**+0.4**
M26K	**Nabesna, AK**	**7.35**	**27**	Pn		**Pn**	**17 36 23.4**	**-0.2**
RND	**Reindeer**	**7.43**	**4**	Pn		**Pn**	**17 36 25.5**	**+0.8**
O29M	**Mount Kennedy**	**7.44**	**50**			**Pn**	**17 36 25.3**	**+0.3**
O29M	**Mount Kennedy**	**7.44**	**50**	P		**Pn**	**17 36 25.3**	**+0.3**
	baz=240							
TRF	**Thorofare Moun**	**7.45**	**359**	Pn		**Pn**	**17 36 23.8**	**-1.2**
CAST	**Castle Rocks**	**7.48**	**353**	Pn		**Pn**	**17 36 24.4**	**-0.9**
L16K	**Owhat River**	**7.48**	**323**	Pn		**Pn**	**17 36 24.9**	**-0.5**
P29M	**Windy Craggy**	**7.51**	**56**			**Pn**	**17 36 25.5**	**-0.4**
P29M	**Windy Craggy**	**7.51**	**56**	P		**Pn**	**17 36 25.5**	**-0.4**
	baz=246							
TTA	**Tatalina**	**7.55**	**339**	Pn		**Pn**	**17 36 25.7**	**-0.6**
KTH	**Kantishna Hill**	**7.56**	**357**	Pn		**Pn**	**17 36 26.5**	**0.0**
M27K	**Edge Creek, AK**	**7.61**	**30**	Pn		**Pn**	**17 36 27.1**	**-0.2**
K20K	**Telida**	**7.62**	**346**	Pn		**Pn**	**17 36 27.2**	**-0.1**
S31K	**Pelican**	**7.81**	**70**			**Pn**	**17 36 27.6**	**-2.3**
S31K	**Pelican**	**7.81**	**70**	P		**Pn**	**17 36 27.6**	**-2.3**
	baz=261							
K17K	**Iditarod**	**7.90**	**331**	Pn		**Pn**	**17 36 30.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**8.11**	**357**	Pn		**Pn**	**17 36 33.3**	**-0.7**
HYT	**Haines Junctio**	**8.16**	**49**	Pn		**Pn**	**17 36 35.0**	**+0.2**
RIDG	**Independent Ri**	**8.17**	**17**	Pn		**Pn**	**17 36 34.9**	**+0.1**
L27K	**Beaver Creek,**	**8.20**	**27**	Pn		**Pn**	**17 36 34.4**	**-0.8**
BCAR	**Beaver Creek A**	**8.21**	**27**	Pn		**Pn**	**17 36 34.9**	**-0.6**
M13K	**Dall Lake**	**8.26**	**308**	Pn		**Pn**	**17 36 36.7**	**+0.7**
J20K	**Nowinta River**	**8.42**	**348**	Pn		**Pn**	**17 36 37.3**	**-0.9**
L14K	**Kuka Creek**	**8.44**	**314**	Pn		**Pn**	**17 36 37.0**	**-1.5**
J19K	**Poorman**	**8.45**	**343**	Pn		**Pn**	**17 36 37.8**	**-0.9**
HDA	**Harding Lake**	**8.55**	**9**	Pn		**Pn**	**17 36 42.2**	**+2.2**
K15K	**Wolf Creek Mou**	**8.59**	**322**	Pn		**Pn**	**17 36 42.0**	**+1.4**
S32K	**Killisnoo**	**8.65**	**74**	Pn		**Pn**	**17 36 39.1**	**-2.2**
N30M	**Aishikik Lake**	**8.67**	**46**			**Pn**	**17 36 42.0**	**+0.3**
N30M	**Aishikik Lake**	**8.67**	**46**	P		**Pn**	**17 36 42.0**	**+0.3**
	baz=237							
CCB	**Clear Creek Bu**	**8.72**	**7**	Pn		**Pn**	**17 36 43.8**	**+1.5**
O30N	**Mendenhall**	**8.74**	**51**	Pn		**Pn**	**17 36 42.3**	**-0.4**
M29M	**Somme Creek**	**8.76**	**38**	Pn		**Pn**	**17 36 43.6**	**+0.6**
IL31		**8.91**	**9**	Pn		**Pn**	**17 36 44.1**	**-0.8**
ILAR	**Eielson Array**	**8.91**	**9**	Pn		**Pn**	**17 36 44.0**	**-0.9**
J25K	**Salcha River,**	**8.92**	**13**	Pn		**Pn**	**17 36 45.0**	**-0.1**
K27K	**Chicken**	**8.96**	**23**	Pn		**Pn**	**17 36 45.2**	**-0.4**
J16K	**Anvik River**	**9.00**	**328**	Pn		**Pn**	**17 36 46.7**	**+0.5**
J26L	**Joseph Creek**	**9.09**	**18**			**Pn**	**17 36 47.9**	**+0.4**
N31M	**Braeburn, Yuko**	**9.22**	**48**	Pn		**Pn**	**17 36 49.6**	**+0.4**
I21K	**Tanana**	**9.23**	**355**	Pn		**Pn**	**17 36 50.5**	**+1.2**
WHY	**Whitehorse**	**9.24**	**54**	Pn		**Pn**	**17 36 49.1**	**-0.4**
L29M	**L29M**	**9.32**	**36**	Pn		**Pn**	**17 36 50.4**	**-0.2**
P32M	**Atlin**	**9.43**	**61**	Pn		**Pn**	**17 36 51.2**	**-1.0**
M30M	**Minto, Yukon**	**9.44**	**41**	Pn		**Pn**	**17 36 52.2**	**0.0**
H21K	**Melozitna Rive**	**9.75**	**353**	Pn		**Pn**	**17 36 55.5**	**-1.0**
PRP	**Porcupine Dome**	**9.77**	**11**	Pn		**Pn**	**17 36 57.2**	**+0.4**
H24K	**Nodor Dome**	**9.90**	**5**	Pn		**Pn**	**17 36 57.8**	**-0.7**
I26K	**Coal Creek Min**	**9.90**	**17**	Pn		**Pn**	**17 36 57.5**	**-0.9**
K29M	**Barlow Dome**	**10.04**	**34**	Pn		**Pn**	**17 37 00.8**	**+0.4**
P33M	**Teslin, Yukon**	**10.04**	**58**	Pn		**Pn**	**17 36 59.7**	**-0.8**
IMAR	**Indian Mountai**	**10.14**	**351**	Pn		**Pn**	**17 37 02.8**	**+1.0**
M31M	**Drury Creek, Y**	**10.15**	**46**	Pn		**Pn**	**17 37 02.9**	**+0.9**
N32M	**Quiet Lake**	**10.24**	**53**	Pn		**Pn**	**17 37 03.0**	**-0.2**
FARO	**Faro, Yukon**	**10.59**	**47**	Pn		**Pn**	**17 37 09.0**	**+1.0**
I28M	**Miner Creek**	**10.66**	**23**	Pn		**Pn**	**17 37 10.8**	**+1.9**
R33M	**Jennings River**	**10.76**	**64**	Pn		**Pn**	**17 37 10.5**	**+0.1**
FYU	**Fort Yukon**	**10.82**	**10**	Pn		**Pn**	**17 37 11.4**	**+0.4**
J30M	**Hart River**	**10.93**	**33**	Pn		**Pn**	**17 37 14.0**	**+1.4**
ANM	**Nome**	**11.40**	**325**	Pn		**Pn**	**17 37 21.9**	**+2.9**

TAP 26 17:50:24.5,22.98N×121.01E,h6$^{km\pm2km}$,ML2.0,4C-2D, C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.13**	**124**	*i* P	Pg	17 50 27.5	+0.3
	baz=123						
TWG	**Pinlang**	**0.17**	**161**	*i* P	Pg	17 50 28.0	+0.1
	baz=159						
TWG				*e* S	Sg	17 50 30.6	+0.6
	baz=159						
TWGBT	**Beinan**	**0.17**	**159**	*i* P	Pg	17 50 27.9	0.0
	baz=159						
TWGBT				S	Sg	17 50 30.3	+0.1
	baz=159						
ELDTW	**Lidau**	**0.21**	**1**⇓	*i* P	Pg	17 50 28.5	-0.2
	baz=3.0						
ELDTW				S	Sg	17 50 31.4	-0.1
	baz=3.0						
ECS	**Chishang**	**0.22**	**59**	*i* P	Pg	17 50 29.4	+0.5
	baz=58						
ECS				*e* S	Sg	17 50 33.1	+1.3
	baz=58						
EHD	**Haiduan**	**0.24**	**46**⇑	*i* P	Pg	17 50 29.3	0.0
	baz=46						
EHD				*i* S	Sg	17 50 32.6	0.0
	baz=46						
EDH	**Donghe**	**0.27**	**91**	*e* P	Pg	17 50 29.5	-0.2
	baz=91						
STYH	**Taoyuan**	**0.29**	**311**	P	Pg	17 50 29.9	-0.2
	baz=313						
STYH				*e* S	Sg	17 50 33.9	-0.1
	baz=313						
STYT	**Tauyuan**	**0.30**	**308**⇑	*i* P	Pg	17 50 30.0	-0.3
	baz=308						
SLGT	**Liugui**	**0.34**	**272**	*e* P	Pg	17 50 30.7	-0.3
	baz=272						
FULB	**Fuli**	**0.34**	**50**	*e* P	Pg	17 50 31.6	+0.5
	baz=49						
CHKT	**Chengkung**	**0.35**	**70**	*e* P	Pb	17 50 32.4	-0.6
	baz=70						
ECL	**Taimali**	**0.38**	**188**	P	Pg	17 50 31.3	-0.6
	baz=187						
SGST	**Jiashian**	**0.41**	**285**⇑	P	Pg	17 50 31.7	-0.7
	baz=284						
SSD	**Sandimen**	**0.42**	**237**	*e* P	Pg	17 50 30.6	-2.0
	baz=235						
TSMG	**Majia**	**0.43**	**231**	*e* P	Pg	17 50 31.8	-1.1
	baz=231						
WTP	**Ta-pu**	**0.45**	**306**	P	Pg	17 50 33.6	+0.4
	baz=306						
TWF1	**Yuli**	**0.45**	**35**	P	Pg	17 50 33.1	-0.2
	baz=35						
EYUL	**Yuli**	**0.46**	**37**	*e* P	Pg	17 50 33.3	-0.1
	baz=37						
TPUB	**Ta-pu**	**0.48**	**312**	⇓P	Pg	17 50 34.1	+0.5
	baz=312						
YULB	**Yu-li**	**0.49**	**32**	P	Pg	17 50 33.6	-0.3
	baz=32						
CHN1	**Nanshi**	**0.49**	**295**	*e* P	Pg	17 50 34.8	+0.8
	baz=294						
MASBT	**Mashibuluo**	**0.51**	**224**	*e* P	Pg	17 50 33.2	-1.0
	baz=223						
ECBN	**Changbin**	**0.53**	**50**	*e* P	Pg	17 50 33.9	-0.7
	baz=50						
SNST	**Tainan City**	**0.53**	**297**	*e* P	Pb	17 50 35.8	-0.5
	baz=296						
CHN4	**Tsaushan**	**0.54**	**314**	P	Pg	17 50 35.4	+0.6
	baz=313						
ALS	**Alishan**	**0.56**	**340**	*e* P	Pg	17 50 35.4	0.0
	baz=340						
ALS				*e* S	Sg	17 50 43.4	+0.7
	baz=340						
TWK	**Hsinying**	**0.56**	**301**	P	Pg	17 50 36.0	+0.7
	baz=301						
TWM1	**Shoushan**	**0.57**	**254**	*e* P	Pg	17 50 35.6	+0.3
	baz=253						
WCKO	**Fanlu**	**0.59**	**321**	*e* P	Pg	17 50 36.1	+0.3
	baz=320						
EHY	**Hungye**	**0.60**	**28**	*e* P	Pg	17 50 35.7	-0.3
	baz=29						
EAST	**Anshuo**	**0.61**	**194**	*e* P	Pg	17 50 36.1	-0.1
	baz=193						
TAWH	**Dawu Township**	**0.65**	**190**	*e* P	Pg	17 50 37.2	+0.3
	baz=190						
SCZT	**Fangliau**	**0.70**	**211**	*e* P	Pg	17 50 37.4	-0.6
	baz=210						
WHYT	**Xinyi Township**	**0.73**	**348**	*e* P	Pg	17 50 38.5	0.0
	baz=348						
WARBT	**Fenglin Townsh**	**0.81**	**25**	*e* P	Pg	17 50 39.4	-0.6
	baz=24						

TAP 26 17:50:26.1,22.98N×121.00E,h6$^{km\pm1km}$,ML2.1,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.14**	**119**	*i* P	Pg	17 50 29.0	+0.1
	baz=119						
LONT				*i* S	Sg	17 50 31.3	+0.5
	baz=119						
TWG	**Pinlang**	**0.17**	**156**	*e* P	Pg	17 50 29.5	+0.1
	baz=154						
TWG				*e* S	Sg	17 50 31.8	+0.1
	baz=154						
TWGBT	**Beinan**	**0.17**	**155**	P	Pg	17 50 29.5	-0.1
	baz=154						
TWGBT				S	Sg	17 50 31.9	0.0
	baz=154						
ELDTW	**Lidau**	**0.21**	**4**	*i* P	Pg	17 50 29.9	-0.4
	baz=6.0						
ELDTW				*i* S	Sg	17 50 32.8	-0.4
	baz=6.0						
ECS	**Chishang**	**0.24**	**59**	*i* P	Pg	17 50 30.9	+0.2
	baz=59						
ECS				S	Sg	17 50 34.6	+0.7
	baz=59						
EHD	**Haiduan**	**0.26**	**48**	*i* P	Pg	17 50 30.8	-0.3
	baz=47						
EHD				*e* S	Sg	17 50 34.0	-0.5
	baz=47						

EDH	**Donghe**	**0.28**	**90**	*e* P		Pg	17 50 31.7	+0.1
	baz=90							
EDH				*e* S		Sg	17 50 36.6	+1.4
	baz=90							
STYH	**Taoyuan**	**0.28**	**313**	P		Pg	17 50 31.6	0.0
	baz=315							
STYH				*i* S		Sg	17 50 35.6	+0.3
	baz=315							
STYT	**Tauyuan**	**0.29**	**310**	*i* P		Pg	17 50 31.6	-0.2
	baz=310							
STYT				S		Sg	17 50 35.6	0.0
	baz=310							
SLGT	**Liugui**	**0.33**	**273**	*e* P		Pg	17 50 32.4	-0.1
	baz=273							
FULB	**Fuli**	**0.35**	**51**	*e* P		Pg	17 50 33.6	+0.7
	baz=50							
CHKT	**Chengkung**	**0.36**	**70**	P		Pg	17 50 33.9	+0.9
	baz=70							
ECL	**Taimali**	**0.38**	**186**	P		Pg	17 50 32.9	-0.6
	baz=185							
SGST	**Jiashian**	**0.40**	**286**	*e* P		Pg	17 50 33.0	-0.7
	baz=285							
TSMG	**Majia**	**0.42**	**231**	*e* P		Pg	17 50 33.5	-0.8
	baz=230							
WTP	**Ta-pu**	**0.45**	**307**	P		Pg	17 50 35.3	+0.6
	baz=307							
WTP				*e* S		Sg	17 50 41.6	+1.0
	baz=307							
TWF1	**Yuli**	**0.47**	**36**	*i* P		Pg	17 50 34.7	-0.4
	baz=36							
TWF1				*e* S		Sg	17 50 40.0	-1.2
	baz=36							
TPUB	**Ta-pu**	**0.47**	**314**	*e* P		Pg	17 50 35.5	+0.4
	baz=313							
EYUL	**Yuli**	**0.47**	**38**	P		Pg	17 50 34.8	-0.4
	baz=38							
SCST	**Cishan**	**0.47**	**259**	*e* P		Pg	17 50 35.1	-0.1
	baz=259							
CHN1	**Nanshi**	**0.48**	**296**	*e* P		Pg	17 50 35.8	+0.4
	baz=295							
MASBT	**Mashibuluo**	**0.49**	**223**	*e* P		Pg	17 50 34.8	-0.8
	baz=223							
YULB	**Yu-li**	**0.50**	**33**	*e* P		Pg	17 50 35.0	-0.7
	baz=33							
SNST	**Tainan City**	**0.52**	**298**	*e* P		Pb	17 50 37.5	-0.2
	baz=297							
CHN4	**Tsaushan**	**0.53**	**315**	P		Pg	17 50 37.0	+0.7
	baz=315							
TWK	**Hsinying**	**0.55**	**302**	P		Pb	17 50 37.8	-0.5
	baz=302							
TWM1	**Shoushan**	**0.55**	**254**	*e* P		Pb	17 50 37.7	-0.5
	baz=253							
ALS	**Alishan**	**0.56**	**342**	*e* P		Pg	17 50 37.0	0.0
	baz=342							
WCKO	**Fanlu**	**0.59**	**322**	*e* P		Pb	17 50 38.1	-0.7
	baz=321							
CHN3	**Shinhua**	**0.59**	**280**	*e* P		Pb	17 50 38.9	0.0
	baz=279							
EAST	**Anshuo**	**0.60**	**193**	*e* P		Pg	17 50 37.8	0.0
	baz=192							
EHY	**Hungye**	**0.61**	**29**	*e* P		Pg	17 50 37.5	-0.3
	baz=30							
TAW	**Tawu**	**0.62**	**189**	*e* P		Pg	17 50 38.4	+0.4
	baz=188							
HGSD	**Ruisui**	**0.65**	**37**	*e* P		Pg	17 50 38.5	-0.1
	baz=37							
HGSD				*e* S		Sg	17 50 47.9	+0.9
	baz=37							
CHN5	**Tsauling**	**0.69**	**335**	*e* P		Pg	17 50 39.7	+0.4
	baz=334							
SCZT	**Fangliau**	**0.69**	**210**	*e* P		Pg	17 50 39.3	-0.2
	baz=209							
WHYT	**Xinyi Township**	**0.73**	**349**	*e* P		Pg	17 50 40.2	+0.1
	baz=349							
VWDT	**VWDT**	**0.79**	**10**	*e* P		Pg	17 50 40.7	-0.5
	baz=9.0							
SSLB	**Suanglung**	**0.81**	**357**	*e* P		Pb	17 50 42.3	-0.4
	baz=357							
WARBT	**Fenglin Townsh**	**0.82**	**26**	*e* P		Pg	17 50 41.1	-0.7
	baz=25							
WARBT				*e* S		Sg	17 50 50.5	-2.0
	baz=25							
WJS	**Zhushan**	**0.88**	**344**	*e* P		Pb	17 50 44.4	+0.6
	baz=343							
SMLT	**Sun Moon Lake**	**0.91**	**354**	*e* P		Pb	17 50 44.0	-0.4
	baz=354							
ESL	**Shilin**	**0.93**	**25**	*e* P		Pg	17 50 43.4	-0.4
	baz=25							
TYC	**Yuchr**	**0.93**	**352**	*e* P		Pg	17 50 43.5	-0.5
	baz=352							
WNT	**Mingjian**	**0.94**	**342**	*e* P		Pn	17 50 45.5	-0.4
	baz=342							
WSF

KS21	**Milan North St**	**1.36**	**37**		Pn		17 52 25.8	-0.6
FNO	**Franklin**	**1.41**	**132**		Pn		17 52 26.9	-0.3
OK048	**Pawnee Station**	**1.43**	**81**		Pn		17 52 27.1	-0.2
OK033	**Mehan**	**1.43**	**96**	Pg	Pn		17 52 27.4	-0.1
WMOK	**Wichita Mounta**	**1.47**	**183**		Pn		17 52 27.1	-0.8
OK052	**Battle Ridge R**	**1.54**	**97**		Pn		17 52 28.6	-0.4
QUOK	**Quay**	**1.60**	**91**		Pn		17 52 29.6	-0.3
SMWD	**Samnorwood**	**1.67**	**229**		Pn		17 52 30.6	-0.2
X34A	**Smith Ranch, M**	**1.75**	**156**		Pn		17 52 31.8	0.0
X34A				IAmb_Lg			17 52 57.5	
	comp=Z,27nm,1.0s							
DEOK	**Depew**	**1.81**	**101**		Pn		17 52 32.6	-0.1
W35A	**Tecumseh**	**1.81**	**125**		Pn		17 52 32.8	+0.1
T35A	**Sooner Cattle**	**1.89**	**67**		Pn		17 52 33.5	-0.3
R32A	**Long Quarter,**	**2.21**	**360**		Pn		17 52 38.2	0.0
TUL3	**Leonard**	**2.37**	**96**	Pn	Pn		17 52 40.2	-0.2
WTFS	**Witchita Falls**	**2.44**	**176**		Pn		17 52 40.9	-0.4
LOOK	**Love County**	**2.53**	**150**		Pn		17 52 42.4	-0.2
CBKS	**Cedar Bluff**	**2.73**	**343**	Pn	Pn		17 52 44.1	-1.3
AMTX	**Amarillo**	**2.77**	**242**		Pn		17 52 44.2	-1.8
AMTX				IAmb_Lg			17 53 28.7	
	comp=Z,10nm,0.8s							
RLO	**Rose Lookout**	**2.97**	**90**	Pn	Pn		17 52 47.2	-1.3
DKNS	**Dickens**	**3.13**	**217**	Pn	Pn		17 52 49.1	-1.8
RTBA	**Rita Blanca**	**3.27**	**275**		Pn		17 52 53.8	+0.9
KSU1	**Kansas State U**	**3.33**	**29**	Pn	Pn		17 52 53.6	0.0
FW06	**Azle**	**3.36**	**163**	Pn	Pn		17 52 54.1	+0.2
PLPT	**Palo Pinto**	**3.40**	**175**	Pn	Pn		17 52 54.3	-0.2
U38A	**Gravette**	**3.48**	**85**		Pn		17 52 54.6	-1.1
ABTX	**Abilene, Hawle**	**3.66**	**193**	Pn	Pn		17 52 58.1	0.0
SN01	**Snyder 1**	**3.80**	**209**	IAmb_Lg			17 54 08.2	
	comp=Z,11nm,0.8s							
HHAR	**Hobbs**	**3.84**	**87**		Pn		17 52 59.8	-0.8
HHAR				IAmb_Lg			17 54 05.1	
	comp=Z,13nm,0.8s							
POST	**Post**	**3.89**	**217**	Pn	Pn		17 53 02.1	+0.7
POST				IAmb_Lg			17 54 08.6	
	comp=Z,15nm,0.9s							
MSTX	**Muleshoe**	**4.02**	**238**		Pn		17 53 02.5	-0.7
S39A	**Bolivar**	**4.55**	**69**	Pn	Pn		17 53 11.2	+0.9
T25A	**Trinidad**	**4.69**	**283**	Pn	Pn		17 53 11.4	-1.0
T25A				IAmb_Lg			17 54 30.1	
	comp=Z,9.4nm,0.7s							
BRDY	**Brady**	**4.91**	**183**	Pn	Pn		17 53 14.0	-1.3
MGMO	**Mountain Grove**	**5.25**	**78**	Pn	Pn		17 53 19.1	-0.8
WHAR	**Wooly Hollow**	**5.29**	**98**	Pn	Pn		17 53 19.1	-1.3
WHAR				IAmb_Lg			17 54 51.7	
	comp=Z,9.0nm,1.0s							
P38A	**Dawn**	**5.32**	**49**	Pn	Pn		17 53 19.4	-1.5
OGNE	**Ogallala**	**5.41**	**332**	Pn	Pn		17 53 21.1	-1.1
R40A	**Maddies Statio**	**5.53**	**66**	Pn	Pn		17 53 22.5	-1.3
OZNA	**Ozona**	**5.65**	**202**	Pn	Pn		17 53 23.5	-2.0
SDCO	**Great Sand Dun**	**5.66**	**288**	Pn	Pn		17 53 24.3	-1.6
MNHN	**Monahans**	**5.92**	**216**	Pn	Pn		17 53 28.3	-0.9
LCAR	**Lake Charles**	**6.10**	**89**	Pn	Pn		17 53 30.4	-1.3
CCM	**Cathedral Cave**	**6.23**	**71**	Pn	Pn		17 53 30.9	-2.5
ISCO	**Idaho Springs**	**6.54**	**305**	Pn	Pn		17 53 34.6	-3.3

FUNV ***26*** *17:56:00.8, 10″.26N×62″.30W, h12km, MW3.1*
TRN ***26*** *17:56:00.2, 10″.42N×62″.11W, h3km, MD3.2*

ISC 26 17:55:54.7±1.3, 10°.06N±0°.09×62°.18W±0°.05, h10km, n10, σ2§19/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.76**	**70**	*eP*	**Pn**	**17 56 13.8**	**+2.2**
TRN	**Trinidad (W)**	**0.96**	**53**	*eP*	**Pg**	**17 56 13.1**	**-0.2**
TRN				*eS*	**Sg**	**17 56 24.8**	**-1.0**
CRUV	**Carupano**	**1.20**	**301**	*eP*	**Pb**	**17 56 18.3**	**+0.7**
CRUV				*eS*	**Sb**	**17 56 30.8**	**-2.5**
GRGR	**Grenville**	**2.12**	**14**	*eS*	**Sn**	**17 56 55.7**	**-1.1**
PCRV	**Puerto La Cruz**	**2.42**	**273**	*eP*	**Pn**	**17 56 37.3**	**+2.9**
PCRV				*eS*	**Sn**	**17 57 04.1**	**0.0**
GCMP	**Grenada, Carri**	**2.52**	**17**	*eP*	**Pn**	**17 56 37.1**	**+1.3**
GCMP				*eS*	**Sn**	**17 57 05.2**	**-1.4**
TACV	**Tcata**	**4.77**	**271**	*eP*	**Pn**	**17 57 09.6**	**+2.8**
CACV	**CAICARA DEL OR**	**4.97**	**240**	*eP*	**Pn**	**17 57 08.0**	**-1.5**
CACV				*eS*	Sn	17 57 58.4	-8.7
BENV	**Beln**	**5.34**	**269**	*eP*	**Pn**	**17 57 17.0**	**+2.4**
BENV				*eS*	**Sn**	**17 58 14.1**	**-2.1**
BAUV	**El Baul**	**5.89**	**260**	*eP*	**Pn**	**17 57 25.4**	**+3.3**
BAUV				*eS*	**Sn**	**17 58 27.3**	**-2.4**

HEL ***26*** *18:01:56.6±0.5, 67°.17N×20°.42E, h0km, ML2.1, Explosion*
UPP ***26*** *18:02:00.7±0.1, 67°.05N×20°.96E, h0km, ML2.1, Suspected explosion*
IDC ***26*** *18:02:01.7±0.9, 67°.00N×21°.40E, h0km, mbtmp3.3/5, ML1.9/4, Error ellipse: s-maj=16.9km s-min=8.0km az=106.0*

ISC 26 18:02:00.3±0.7, 67°.05N±0°.02×20°.88E±0°.03, h0km, n40, σ1§38/60, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**302**	P	**Pg**	**18 02 04.2**	**+1.2**
MASU	**Masugnsbyn**	**0.60**	**46**	P	**Pg**	**18 02 11.7**	**0.0**
PAJU	**Pajala**	**0.88**	**90**	PG	**Pg**	**18 02 16.1**	**-0.9**
	baz=284						
PAJU				SG	**Sg**	**18 02 28.4**	**0.0**
PAJU	**Pajala**	**0.88**	**90**	P	**Pg**	**18 02 16.5**	**-0.6**
HARU	**Harads**	**0.89**	**178**	P	**Pg**	**18 02 17.3**	**+0.1**
RATU	**Laukkuluspa**	**0.93**	**328**	P	**Pg**	**18 02 18.1**	**+0.1**
KUA	**Kurravaara**	**0.94**	**347**	P	**Pg**	**18 02 18.1**	**-0.1**
SALU	**Saltoluokta**	**0.98**	**291**	P	**Pg**	**18 02 19.6**	**+0.5**
LANU	**Lannavaara**	**1.09**	**23**	P	**Pg**	**18 02 20.4**	**-0.8**
KLF	**Kolari**	**1.22**	**80**	PN	**Pg**	**18 02 22.7**	**-0.9**
KLF				MSG		18 02 38.3	
	comp=Z,23nm,0.2s						
KLF				SG	**Sb**	**18 02 40.6**	**+0.2**
KALU	**Kalix**	**1.55**	**139**	PG	**Pn**	**18 02 28.7**	**-0.4**
	baz=319						
KALU				SG	**Sn**	**18 02 50.6**	**+0.7**
KALU	**Kalix**	**1.55**	**139**	P	**Pn**	**18 02 28.6**	**-0.5**
TOF	**Tornio**	**1.69**	**124**	PG	**Pn**	**18 02 31.1**	**+0.1**
TOF				SB	**Sn**	**18 02 53.1**	**-0.1**
TOF				MSG		18 02 53.4	
	comp=Z,15nm,0.2s						
HEF	**Hetta**	**1.73**	**36**	*eP*	**Pn**	**18 02 31.9**	**+0.3**
RNF	**Rovaniemi**	**2.08**	**100**	PG	**Pn**	**18 02 37.3**	**+1.0**
RNF				SB	**Sb**	**18 03 05.8**	**+0.7**
KTK1	**Kautokeino**	**2.16**	**23**	*eP*	**Pb**	**18 02 39.5**	**-0.8**
I37NO	**I37NO**	**2.21**	**338**	I	I	18 17 10.0	
	baz=147,slow=332,SNR=1.5						
SGF	**Sodankyl**	**2.23**	**77**	PG	**Pn**	**18 02 39.5**	**+1.0**
	baz=263						
SGF				SG	**Sb**	**18 03 11.0**	**+1.5**
BURU	**Burvik**	**2.48**	**175**	PG	**Pn**	**18 02 43.4**	**+1.5**
	baz=356						
BURU				SG	**Sb**	**18 03 16.2**	**-0.5**
RANF	**Ranua**	**2.58**	**111**	PB	**Pn**	**18 02 44.2**	**+0.9**
RANF				SB	**Sb**	**18 03 19.7**	**+0.1**
OBF4	**Vikkela, Lumij**	**2.83**	**140**	PB	**Pn**	**18 02 47.9**	**+1.2**
	baz=320						
OBF4				MSG		18 03 26.0	
	comp=Z,3.7nm,0.2s						
OUL	**Oulu**	**2.84**	**132**	PB	**Pn**	**18 02 48.4**	**+1.6**
OUL				SB	**Sb**	**18 03 28.6**	**+1.7**
ARA0	**ARCESS Array S**	**3.03**	**32**	PG	**Pn**	**18 02 50.1**	**+0.6**
ARCES	**ARCESS Array B**	**3.03**	**32**	Pn	**Pn**	**18 02 50.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=211,slow=14,SNR=47						
ARCES				Sn	**Sn**	**18 03 26.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=210,slow=27,SNR=7.9						
	comp=Z,4.1nm,0.9s						
KMNF	**Kaamanen**	**3.12**	**45**	PG	**Pn**	**18 02 51.1**	**+0.5**
KMNF				SG	**Sb**	**18 03 33.1**	**-1.9**
OUF	**Merijarvi**	**3.13**	**148**	PB	**Pn**	**18 02 52.2**	**+1.5**
RAJF	**Raja-Jooseppi**	**3.17**	**60**	PG	**Pn**	**18 02 53.5**	**+2.2**
RAJF				SG	**Sb**	**18 03 38.8**	**+2.3**
UMAU	**Umeaa**	**3.18**	**182**	PB	**Pn**	**18 02 52.6**	**+1.2**
	baz=2.0						
UMAU				SB	**Sb**	**18 03 35.0**	**-1.7**
VRF	**Varrio**	**3.44**	**74**	SG	**Sb**	**18 03 45.6**	**+1.2**
MSF	**Maaselka**	**3.46**	**105**	PG	**Pb**	**18 03 03.9**	**+1.5**
MSF				SG	**Sg**	**18 03 52.8**	**+1.4**
OLKF	**Oulanka, Finla**	**3.46**	**98**	PB	**Pn**	**18 02 58.0**	**+2.6**
OLKF				SB	**Sb**	**18 03 45.4**	**+0.4**
KEV	**Kevo**	**3.54**	**37**	PG	**Pn**	**18 02 58.3**	**+1.9**
KU6	**Riekki**	**3.75**	**102**	PB	**Pb**	**18 03 04.7**	**-2.5**
KU6				SN	**Sn**	**18 03 45.9**	**+1.9**
HUSU	**Husum**	**3.79**	**191**	PB	**Pn**	**18 03 01.3**	**+1.5**
HUSU				SB	**Sn**	**18 03 48.1**	**+3.1**
VAF	**Ylistaro**	**4.09**	**168**	PG	**Pb**	**18 03 11.4**	**-1.7**
HEMU	**Hemsoen**	**4.55**	**197**	PB	**Pn**	**18 03 12.2**	**+1.9**
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 03 32.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=9.8						
FINES				Sn	**Sn**	**18 04 39.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=348,slow=20,SNR=5.5						
	comp=Z,1.8nm,0.9s						
NOA	**NORSAR Array B**	**7.36**	**220**	Pn	**Pn**	**18 03 48.5**	**-0.4**
	baz=39,slow=25,SNR=1.0						
NOA				Sn	**Sn**	**18 05 09.0**	**-4.1**
	baz=20,slow=20,SNR=1.0						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**7.64**	**208**	Pn	**Pn**	**18 03 52.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=1.6						
HFS				Sn	**Sn**	**18 05 18.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=28,slow=25,SNR=2.1						
	comp=Z,1.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**18 04 41.8**	**-0.4**
	comp=Z,15nm,1.2s,baz=168,slow=15,SNR=1.3						
SPITS				Sn	**Sn**	**18 06 47.9**	**-0.8**
	baz=145,slow=28						

TAP 26 18:09:29.9, 22°.97N×120°.99E, h10km, ML1.9, 8C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.14**	**115**	P	Pg	18 09 33.7	+0.5
	baz=116						
LONT				*i* S	Sg	18 09 36.0	+0.6
	baz=116						
TWG	**Pinlang**	**0.16**	**154**	*i* P	Pg	18 09 34.2	+0.7
	baz=152						
TWG				S	Sg	18 09 36.8	+0.8
	baz=152						
TWGBT	**Beinan**	**0.17**	**152**	⇑P	Pb	18 09 34.4	-0.8
	baz=152						
TWGBT				*i* S	Sg	18 09 36.8	+0.6
	baz=152						
ELDTW	**Lidau**	**0.22**	**5**	⇑*i* P	Pg	18 09 34.9	+0.2
	baz=14						
ELDTW				S	Sg	18 09 37.7	-0.1
	baz=14						
ECS	**Chishang**	**0.24**	**58**	⇑P	Pb	18 09 35.7	-0.7
	baz=59						
ECS				*e*S	Sg	18 09 41.3	+3.0
	baz=59						
TTN	**Taitung**	**0.25**	**146**	*e*P	Pg	18 09 35.2	+0.1
	baz=150						
EHD	**Haiduan**	**0.27**	**47**	⇑P	Pg	18 09 35.5	+0.1
	baz=49						
EHD				*e*S	Sg	18 09 38.9	-0.2
	baz=49						
EDH	**Donghe**	**0.29**	**89**	⇓P	Pg	18 09 35.8	+0.1
	baz=89						
EDH				*i* S	Sb	18 09 41.2	-0.7
	baz=89						
STYH	**Taoyuan**	**0.29**	**315**	⇑P	Pg	18 09 36.3	+0.6
	baz=315						
STYH				*i* S	Sg	18 09 40.5	+0.9
	baz=315						
STYT	**Tauyuan**	**0.29**	**312**	P	Pg	18 09 36.4	+0.5
	baz=312						
SLGT	**Liugui**	**0.32**	**275**	*i* P	Pg	18 09 37.0	+0.6
	baz=274						
FULB	**Fuli**	**0.36**	**50**	⇓P	Pb	18 09 38.0	-0.4
	baz=44						
FULB				*e*S	Sb	18 09 43.9	-0.2
	baz=44						
CHKT	**Chengkung**	**0.37**	**69**	P	Pg	18 09 37.7	+0.5
	baz=87						
ECL	**Taimali**	**0.37**	**186**	*e*P	Pg	18 09 37.8	+0.5
	baz=184						
ECL				*e*S	Sg	18 09 42.5	+0.4
	baz=184						
SGST	**Jiashian**	**0.40**	**287**	P	Pg	18 09 38.1	+0.4
	baz=287						
SSD	**Sandimen**	**0.40**	**237**	P	Pg	18 09 37.0	-0.8
	baz=231						
SSD				*e*S	Sg	18 09 42.2	-0.9
	baz=231						
TSMG	**Majia**	**0.41**	**231**	*i* P	Pg	18 09 38.3	+0.2
	baz=226						
WTP	**Ta-pu**	**0.45**	**309**	P	Pb	18 09 40.1	+0.2
	baz=309						
SCST	**Cishan**	**0.47**	**260**	P	Pb	18 09 40.7	+0.5
	baz=255						
TPUB	**Ta-pu**	**0.47**	**315**	P	Pb	18 09 40.5	+0.1
	baz=314						
TPUB				*i* S	Sb	18 09 47.4	+0.1
	baz=314						
TWF1	**Yuli**	**0.47**	**36**	⇑P	Pg	18 09 39.5	+0.3
	baz=37						
CHN1	**Nanshi**	**0.48**	**297**	*e*P	Pb	18 09 41.6	+1.1
	baz=299						
CHN1				*e*S	Sb	18 09 49.2	+1.5
	baz=299						
EYUL	**Yuli**	**0.48**	**38**	⇑*i*P	Pg	18 09 39.5	+0.1
	baz=33						
MASBT	**Mashibuluo**	**0.48**	**223**	P	Pg	18 09 39.7	+0.3
	baz=219						
MASBT				S	Sg	18 09 46.4	+0.5
	baz=219						
YULB	**Yu-li**	**0.51**	**33**	⇑P	Pg	18 09 39.9	+0.1
	baz=35						
YULB				S	Sg	18 09 47.2	+0.7
	baz=35						
SNST	**Tainan City**	**0.52**	**299**	*e*P	Pb	18 09 42.2	+1.0
	baz=301						
SNST				*e*S	Sn	18 09 52.0	-0.3
	baz=301						
CHN4	**Tsaushan**	**0.53**	**316**	*e*P	Pb	18 09 41.7	+0.4
	baz=324						
CHN4				*e*S	Sb	18 09 50.6	+1.6
	baz=324						
TSPT	**Pingtung City**	**0.54**	**238**	P	Pg	18 09 40.9	+0.4
	baz=236						
TSPT				*e*S	Sb	18 09 48.6	-0.7
	baz=236						
TWM1	**Shoushan**	**0.55**	**255**	*e*P	Pn	18 09 43.1	-0.7
	baz=250						
TWK	**Hsinying**	**0.55**	**303**	P	Pb	18 09 42.5	+0.8
	baz=302						
TWK				*e*S	Sn	18 09 51.5	-1.7
	baz=302						
ALS	**Alishan**	**0.57**	**342**	P	Pb	18 09 41.8	-0.3
	baz=343						
ALS				*e*S	Sb	18 09 49.8	-0.7
	baz=343						
WCKO	**Fanlu**	**0.59**	**323**	*e*P	Pn	18 09 43.5	-0.9
	baz=333						
WCKO				S	Sb	18 09 51.8	+1.0
	baz=333						
EAST	**Anshuo**	**0.60**	**193**	*e*P	Pb	18 09 42.1	-0.3
	baz=192						
EAST				*e*S	Sb	18 09 50.4	-0.5
	baz=192						
EHY	**Hungye**	**0.62**	**29**	P	Pg	18 09 42.0	+0.1
	baz=31						
EHY				S	Sg	18 09 50.4	+0.3
	baz=31						
TAWH	**Dawu Township**	**0.63**	**189**	P	Pg	18 09 42.5	+0.4
	baz=189						
TAWH				S	Sb	18 09 51.4	-0.5
	baz=189						
HGSD	**Ruisui**	**0.66**	**37**	*e*P	Pb	18 09 44.0	+0.5
	baz=31						
HGSD				*e*S	Sb	18 09 53.5	+0.8
	baz=31						
SCZT	**Fangliau**	**0.69**	**210**	*e*P	Pb	18 09 43.7	-0.2
	baz=209						
SCZT				*e*S	Sb	18 09 53.6	+0.2
	baz=209						
CHN5	**Tsauling**	**0.69**	**335**	*e*P	Pn	18 09 45.6	-0.2
	baz=335						
CHN5				*e*S	Sg	18 09 52.5	+0.1
	baz=335						
WHYT	**Xinyi Township**	**0.74**	**350**	P	Pg	18 09 44.5	+0.3
	baz=350						
WHYT				*e*S	Sb	18 09 55.2	+0.1
	baz=350						
SLIU	**Shizi**	**0.77**	**194**	*e*P	Pg	18 09 45.0	+0.2
	baz=202						
VWDT	**VWDT**	**0.80**	**10**	P	Pb	18 09 45.7	-0.1
	baz=17						
VWDT				*e*S	Sb	18 09 57.3	+0.7
	baz=17						

EGFH	**Guangfu**	**0.81**	**30**	P	Pg		18 09 45.1	-0.4
	baz=41							
EGFH				*e*S	Sg		18 09 55.3	-0.7
	baz=41							
SSLB	**Suanglung**	**0.82**	**357**	*e*P	Pb		18 09 46.6	+0.3
	baz=350							
SSLB				S	Sb		18 09 58.0	+0.7
	baz=350							
WARBT	**Fenglin Townsh**	**0.83**	**26**	P	Pg		18 09 45.9	-0.1
	baz=27							
WARBT				*e*S	Sg		18 09 56.2	-0.7
	baz=27							
SMLT	**Sun Moon Lake**	**0.92**	**355**	*e*P	Pn		18 09 49.5	+0.6
	baz=355							
TYC	**Yuchr**	**0.94**	**352**	*e*P	Pn		18 09 50.2	+1.0
	baz=356							
WUSB	**Renai**	**1.03**	**6**	*e*P	Pn		18 09 50.5	0.0
	baz=18							
WUSB				S	Sn		18 10 04.3	-0.7
	baz=18							
DPDB	**Guoxing**	**1.06**	**357**	*i* P	Pn		18 09 51.5	+0.5
	baz=356							
WCS	**Beigang Elemen**	**1.09**	**356**	P	Pn		18 09 52.0	+0.8
	baz=355							
CHGB	**Renai**	**1.10**	**9**	*e*P	Pb		18 09 51.3	+0.1
	baz=25							
CHGB				*e*S	Sn		18 10 07.9	+1.0
	baz=25							
LXIB	**Xiulin Townshi**	**1.12**	**20**	*i* P	Pn		18 09 51.8	+0.1
	baz=24							
LXIB				*e*S	Sn		18 10 08.2	+0.9
	baz=24							
FUSS	**Fushou**	**1.30**	**10**	*e*P	Pb		18 09 54.5	-0.1
	baz=29							
WHP	**Taichung City**	**1.31**	**358**	*e*P	Pg		18 09 56.9	+1.8
	baz=357							
NNSB	**Datong**	**1.50**	**14**	*e*P	Pg		18 09 58.5	-0.2
	baz=23							
NDT	**Datong Townshi**	**1.70**	**16**	*e*P	Pg		18 10 02.4	-0.1
	baz=32							
YHNB	**Yeheng**	**1.73**	**12**	*e*P	Pg		18 10 03.0	-0.2
	baz=12							
YHNB				*e*S	Sg		18 10 27.0	+1.4
	baz=12							
NSK	**Sanguang**	**1.73**	**11**	*e*P	Pg		18 10 05.5	+2.2
	baz=11							

MOS ***26*** *18:10:57.4±1.1, 38°.31N×141°.72E, h57km, mb4.7/20, Error ellipse: s-maj=7.8km s-min=5.6km az=88.1*
IDC ***26*** *18:10:59.5±0.5, 38°.26N×141°.65E, h61km±3km, mb3.9/28, mbtmp4.2/33, MS3.4/24, Error ellipse: s-maj=11.4km s-min=8.1km az=136.0*
NEIC ***26*** *18:10:59.4±1.7, 38°.25N±0°.04×141°.69E±0°.09, h58km±6km, mb4.5/58, Mwr4.4/12, Error ellipse: s-maj=10.1km s-min=5.6km az=92.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr4.10; Mθθ0.46; Mϕϕ-4.55; Mrθ-1.96; Mθϕ0.87; Mϕr-1.14; Fault plane solution: M₀4.98000×10¹⁵ NP1:ϕs327.87000°, δ44.82000°, λ53.81000°. NP2:ϕs193.76000°, δ55.33000°, λ120.40000°. Principal axes: T 5.1506, Plg65.0000°, Azm161.0000°; N -0.3719, Plg25.0000°, Azm355.0000°; P -4.7787, Plg6.0000°, Azm263.0000°;*
NIED ***26*** *18:11:00.1, 38°.24N×141°.61E, h63km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.98; Mθθ0.45; Mϕϕ-4.43; Mrθ-1.90; Mθϕ-0.30; Mϕr0.12; Fault plane solution: M₀4.63000×10¹⁵ NP1: ϕs342.00000°, δ50.00000°, λ58.00000°. NP2: ϕs205.00000°, δ50.00000°, λ122.00000°.*
NEIC ***26*** *18:11:00, 38°.24N×141°.61E, h62km*
JMA ***26*** *18:11:00.1±0.1, 38°.2N±0°.3×141°.6E±0°.5, h63km, MD4.5/40, MW4.5/40, KINKAZAN REGION*
JMA Felt III J1 at KINKAZAN REGION .

ISC 26 18:10:59.2±0.4, 38°.23N±0°.04×141°.79E±0°.04, h62km±2km, h62km:pP-P, n251, σ1§45/272, mb4.4/90, 2C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.27**	**288**	*i* P	**Pn**	**18 11 09.7**	**+0.5**
JIKH				S	**Sn**	**18 11 16.6**	**0.0**
JIKH	**Ishinomakikobu**	**0.27**	**288**	A	A	18 11 09.7	
	comp=E,150nm,0.2s,comp=N,61nm,0.8s						
JIO	**Ouri**	**0.42**	**303**	*i* P	**Pn**	**18 11 10.7**	**+0.2**
JIO				S	**Sn**	**18 11 18.1**	**-0.5**
JIO	**Ouri**	**0.42**	**303**	A	A	18 11 10.7	
	comp=E,100nm,0.4s,comp=N,29nm,0.2s						
JKMT	**Kesennumamotoy**	**0.64**	**337**	*i* P	**Pn**	**18 11 13.3**	**+0.5**
JKMT				S	**Sn**	**18 11 22.6**	**-0.1**
JKMT	**Kesennumamotoy**	**0.64**	**337**	A	A	18 11 13.3	
	comp=E,24nm,1.2s,comp=N,38nm,0.7s						
JOFO	**Osakifurukawao**	**0.79**	**299**	A	A	18 11 14.1	
	comp=E,82nm,0.6s,comp=N,78nm,1.3s						
JMK	**Ichinoseki**	**0.85**	**328**	*i* P	**Pn**	**18 11 15.6**	**+0.3**
JMK				S	**Sn**	**18 11 26.9**	**-0.5**
JMK	**Ichinoseki**	**0.85**	**328**	A	A	18 11 15.6	
	comp=E,64nm,0.8s,comp=N,55nm,0.7s						
OFUJ	**Ofunato**	**0.86**	**354**	A	A	18 11 16.4	
	comp=E,26nm,0.4s,comp=N,50nm,1.3s						
JMM	**Marumori**	**0.87**	**246**		**Pn**	**18 11 14.8**	**-0.8**
JMM				Sn	**Sn**	**18 11 25.5**	**-2.2**
JMM	**Marumori**	**0.87**	**246**	P	**Pn**	**18 11 14.8**	**-0.8**
JMM	**Marumori**	**0.87**	**246**	⇓*i*P	**Pn**	**18 11 14.9**	**-0.7**
JMM				⇓S	**Sn**	**18 11 25.8**	**-1.9**
JMM	**Marumori**	**0.87**	**246**	A	A	18 11 14.9	
	comp=E,37nm,0.7s,comp=N,29nm,0.5s						
JMST	**Minamisoumatoc**	**0.87**	**235**	A	A	18 11 15.5	
	comp=E,51nm,0.6s,comp=N,29nm,1.3s						
JOU	**Okura**	**0.90**	**279**	⇓*i*P	**Pn**	**18 11 15.4**	**-0.6**
JOU				⇓S	**Sn**	**18 11 26.7**	**-1.8**
JOU	**Okura**	**0.90**	**279**	A	A	18 11 15.4	
	comp=E,89nm,0.8s,comp=N,43nm,0.6s						
JFK	**Kawauchi**	**1.13**	**221**	⇓*i*P	**Pn**	**18 11 18.9**	**-0.1**
JFK				⇓S	**Sn**	**18 11 33.0**	**-0.6**
JFK	**Kawauchi**	**1.13**	**221**	A	A	18 11 18.9	
	comp=E,13n

comp=E,4.0nm,1.7s,comp=N,4.0nm,1.0s
JAH Hinai 2.15 336 A A 18 11 33.6
comp=E,6.0nm,2.4s,comp=N,5.0nm,4.9s
JYT Yasato 2.37 213 A A 18 11 36.5
comp=E,6.0nm,0.4s,comp=N,5.0nm,6.9s
JTM Tenmabayashi 2.62 348 Pn **Pn** **18 11 39.9 +0.9**
JTM Tenmabayashi 2.62 348 P **Pn** **18 11 40.2 +1.2**
JSI2 Shiura 2 3.02 340 A A 18 11 45.9
comp=E,4.0nm,1.0s,comp=N,3.0nm,0.9s
JAHD Aomorihigashid 3.06 354 A A 18 11 46.7
comp=E,11nm,1.2s,comp=N,10.0nm,1.0s
MJAR Matsushiro Arr 3.31 241 P **Pn** **18 11 49.5 +0.9**
comp=N,28nm,0.4s,baz=45,slow=14,SNR=161
MJAR S **Sn** **18 12 26.8 0.0**
comp=N,13nm,0.4s,baz=336,slow=26,SNR=4.1
MJAR LR LR 18 13 28.5
comp=N,535nm,20.5s,baz=42,slow=46
MAJO Matsushiro 3.31 241 **Pn** **18 11 49.7 +1.1**
MAJO Matsushiro 3.31 241 P **Pn** **18 11 50.0 +1.4**
MAJO Matsushiro 3.31 241 P **Pn** **18 11 49.7 +1.1**
MJB9 Matsu-Tunnel 3.31 241 Pn **Pn** **18 11 50.7 +2.1**
ERM Erimo 3.92 15 **Pn** **18 11 57.0 +0.1**
ERM Erimo 3.92 15 P **Pn** **18 11 56.9 +0.1**
ERM Erimo 3.92 15 P **Pn** **18 11 57.0 +0.1**
JEM Erimo 3.93 15 P **Pn** **18 11 57.1 +0.2**
JSG Sagara 4.58 220 Pn **Pn** **18 12 06.9 +1.0**
JHJ2 Mitsune 5.35 198 Pn **Pn** **18 12 16.2 -0.3**
JHJ2 Mitsune 5.35 198 P **Pn** **18 12 17.9 +1.5**
JHJ Hachijo jima 2 5.35 198 P **Pn** **18 12 15.9 -0.6**
comp=N,75nm,0.3s,baz=292,slow=19,SNR=7.0
JHJ S **Sn** **18 13 12.9 -3.9**
comp=N,189nm,0.3s,baz=113,slow=23,SNR=5.5
ASAJ Asahikawa 5.92 6 P **Pn** **18 12 23.9 -0.3**
comp=N,5.9nm,0.3s,baz=217,slow=15,SNR=36
ASAJ S **Sn** **18 13 31.7 +1.2**
comp=N,30nm,0.4s,baz=230,slow=17,SNR=4.1
ASAJ LR LR 18 14 45.9
comp=N,189nm,21.6s,baz=175,slow=38
JKA Kamikawa-asahi 5.92 6 Pn **Pn** **18 12 23.6 -0.5**
NMR Nemuro--Hokkai 5.94 29 *e*P **Pn** **18 12 22.9 -1.5**
NMR *e*S **Sn** **18 13 25.5 -5.6**
RUSJ Misakicho 6.42 23 *e*P **Pn** **18 12 29.5 -1.5**
RUSJ *e*S **Sn** **18 13 38.2 -4.7**
YUK Yuzh-Kuril'sk 6.56 27 P **Pn** **18 12 32.0 -1.0**
YUK *e*S **Sn** **18 13 40.9 -5.4**
YUK pmax pmax
comp=Z,170nm,0.2s
YUK pmax pmax
comp=N,85nm,0.3s
YUK smax smax
comp=N,2µm,0.5s
YUK smax smax
comp=E,916nm,0.4s
SHO Shikotan 6.80 32 *e*P **Pn** **18 12 34.6 -1.6**
SHO *e*S **Sn** **18 13 45.0 -7.2**
SHO pmax pmax
comp=Z,19nm,0.2s
SHO pmax pmax
comp=N,9.0nm,0.1s
JMN Monobe 7.83 237 Pn **Pn** **18 12 49.6 -0.8**
JMN Monobe 7.83 237 P **Pn** **18 12 51.5 +1.1**
comp=N,58nm,1.4s
KUR Kuril'sk 8.34 31 *e*P **Pn** **18 12 56.7 -0.6**
KUR *e*S **Sn** **18 14 26.5 -3.4**
KUR smax smax
comp=N,202nm,0.6s
KUR smax smax
comp=E,362nm,0.6s
YSS Yuzh-Sakhalins 8.75 4 *e*P Pn 18 12 58.0 -4.9
YSS *e*S **Sn** **18 14 31.3 -8.6**
YSS pmax pmax
comp=Z,30nm,1.3s
USA0B Ussuriysk Arra 9.49 312 **Pn** **18 13 13.3 +0.2**
USA0B Ussuriysk Arra 9.49 312 *i* P **Pn** **18 13 13.8 +0.8**
USRK Ussuriysk Ar. 9.49 312 P **Pn** **18 13 12.3 -0.7**
USRK Ussuriysk Ar. 9.49 312 P **Pn** **18 13 13.8 +0.7**
comp=Z,5.6nm,0.3s,baz=118,slow=14,SNR=30
USRK LR LR 18 16 35.6
comp=Z,222nm,21.0s,baz=151,slow=36
JNU Nakatsue 10.23 243 Pn **Pn** **18 13 22.8 -0.4**
JNU Nakatsue 10.23 243 P **Pn** **18 13 24.1 +0.8**
comp=Z,7.0nm,0.8s,baz=119,slow=13,SNR=2.2
JNU LR LR 18 17 38.0
comp=Z,254nm,21.2s,baz=55,slow=39
KSRS Korea Array 11.00 270 *e*P **Pn** **18 13 36.0 +2.4**
KSRS pmax pmax
comp=Z,8.0nm,0.8s
KSRS Korea Array 11.00 270 P **Pn** **18 13 35.4 +1.8**
comp=Z,8.0nm,0.8s,baz=83,slow=14,SNR=14
KSRS LR LR 18 17 09.9
comp=Z,207nm,20.9s,baz=80,slow=34
KSAR Wonju Array Be 11.03 270 Pn **Pn** **18 13 32.7 -1.4**
KSAR Wonju Array Be 11.03 270 P **Pn** **18 13 32.7 -1.4**
KS19 Wonju Array Si 11.04 271 **Pn** **18 13 32.9 -1.3**
MDJ Mudanjiang 11.16 309 P **Pn** **18 13 39.8 +4.0**
MDJ sP 18 13 58.5
MDJ S Sn 18 15 26.8 -12
MDJ PcP PcP 18 19 39.3 +12
MDJ ScP ScP 18 23 16.3 +22
MDJ PcS PcS 18 23 20.3 +19
MDJ pmax pmax
comp=Z,18nm,1.7s
MDJ pmax pmax
comp=Z,210nm,5.2s
MDJ Mudanjiang 11.16 309 Pn **Pn** **18 13 36.4 +0.6**
KLR Kul'dur 13.16 330 *i* P **Pn** **18 14 06.1 +3.0**
KLR Kul'dur 13.16 330 P **Pn** **18 14 05.1 +2.0**
comp=Z,0.7nm,0.6s,baz=145,slow=9.6,SNR=1.6
KLR LR LR 18 18 54.4
comp=Z,119nm,20.4s,baz=152,slow=36
HEH HeiHe 15.80 324 *e*P **P** **18 14 40.3 0.0**
HEH pmax pmax
comp=Z,4.0nm,1.0s
HEH pmax pmax
comp=Z,610nm,5.2s
ZEA Zeya 18.45 332 *e*P **P** **18 15 07.7 -1.9**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
PETK Petropavlovsk- 18.51 31 LR LR 18 22 51.5
comp=Z,75nm,18.3s,baz=212,slow=38
NJ2 Nanjing 19.72 259 *e*P **P** **18 15 23.8 +0.2**
NJ2 pP **pP** **18 15 35.0 -1.9**
NJ2 sP **sP** **18 15 43.3 -1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
NJ2 pmax pmax
comp=Z,330nm,4.3s
TIA Tai'an 19.74 272 *e*P **P** **18 15 22.0 -1.8**
TIA pmax pmax
comp=Z,6.0nm,1.0s
BJI Beijing 19.94 283 P **P** **18 15 22.8 -3.1**
BJI pmax pmax
comp=Z,6.0nm,0.7s
HNS HongShan 21.39 276 ⇑P **P** **18 15 40.3 -1.3**
HNS pmax pmax
comp=Z,10.0nm,1.2s
MA2 Magadan 22.13 12 LR LR 18 23 49.1
comp=Z,64nm,20.3s,baz=208,slow=35
NACB Ninganchiao 22.18 237 P **P** **18 15 49.2 -0.9**
NACB IAmb IAmb 18 15 51.5
comp=Z,40nm,1.1s
SSLB Suanglung 22.87 237 P **P** **18 15 54.7 -2.8**
SSLB IAmb IAmb 18 16 22.1
comp=Z,42nm,1.2s
YULB Yu-li 22.92 236 P **P** **18 15 55.8 -2.1**
YULB IAmb IAmb 18 16 08.0
comp=Z,35nm,1.2s
HHC Hu-ho-hao-te 23.41 286 *e*P **P** **18 16 02.5 -0.2**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,410nm,4.4s
TPUB Ta-pu 23.42 237 P **P** **18 16 00.6 -2.3**
LYN LuoYang 23.84 270 ⇑P **P** **18 16 05.0 -1.6**
LYN pP pP 18 16 16.8 -4.5
LYN pmax pmax
comp=Z,26nm,0.9s
BTO Baotou 24.59 286 *e*P **P** **18 16 13.8 +0.3**
BTO pP **pP** **18 16 28.0 -0.5**
BTO sP **sP** **18 16 35.5 -0.4**
BTO PP **PnPn** **18 16 51.5 +3.8**
BTO pmax pmax
comp=Z,11nm,0.9s
BTO pmax pmax
comp=Z,460nm,5.9s

YAK Yakutsk 24.98 346 **P** **18 16 14.7 -1.9**
YAK IAmb IAmb 18 16 33.0
comp=Z,25nm,0.8s
YAK Yakutsk 24.98 346 *e*P **P** **18 16 16.1 -0.5**
YAK *e**PP **pP** **18 16 34.7 +3.1**
YAK *e*S **S** **18 20 34.6 -1.1**
YAK *e*SS **SnSn** **18 21 30.5 +0.8**
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=N,603nm,5.3s
YAK smax smax
comp=E,596nm,5.6s
YAK Yakutsk 24.98 346 LR LR 18 26 51.0
comp=E,56nm,21.6s,baz=136,slow=38
XAN Xi'an 26.80 271 ⇓P **P** **18 16 33.8 +0.4**
XAN pP pP 18 16 38.3 -10
XAN pmax pmax
comp=Z,19nm,1.2s
ULN Ulaanbaatar 26.95 302 *i* P **P** **18 16 34.1 -0.8**
ULN pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 27.39 302 **P** **18 16 36.3 -2.4**
SONM Songino Array 27.39 302 *e*P **P** **18 16 38.7 0.0**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 27.39 302 P **P** **18 16 38.4 -0.3**
comp=Z,1.3nm,0.7s,baz=97,slow=10.0,SNR=9.4
SONM LR LR 18 27 40.7
comp=Z,73nm,18.9s,baz=130,slow=37
comp=Z,1.3nm,0.7s
ENH Enshi 27.75 263 P **P** **18 16 40.0 -2.0**
H11N2 WAKE ISLAND Hy 28.52 123 T T 18 47 07.5
baz=316,slow=75,SNR=2308
H11N1 WAKE ISLAND Hy 28.53 123 T T 18 47 12.7
baz=316,slow=75,SNR=831
H11N3 WAKE ISLAND Hy 28.54 123 T T 18 47 09.0
baz=316,slow=75,SNR=4231
H11S1 WAKE ISLAND Hy 29.28 125 T T 18 48 05.1
baz=318,slow=76,SNR=2037
H11S3 WAKE ISLAND Hy 29.28 125 T T 18 48 05.3
baz=318,slow=76,SNR=2965
H11S2 WAKE ISLAND Hy 29.29 125 T T 18 48 06.8
baz=318,slow=76,SNR=1720
LZH Lanzhou 30.18 278 *e*P **P** **18 17 05.8 +2.1**
LZH pP pP 18 17 19.0 +0.1
LZH pmax pmax
comp=Z,14nm,1.4s
GTA Gaotai 32.52 285 *e*P **P** **18 17 23.8 -0.4**
GTA sP sP 18 17 48.3 +1.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 32.80 17 *i* P **P** **18 17 27.3 +1.2**
TIXI Tiksi 34.14 353 LR LR 18 33 07.0
comp=Z,52nm,19.4s,baz=200,slow=39
PZH PanZhiHua 35.54 263 P **P** **18 17 49.5 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,160nm,5.3s
GOMU GeErMu 37.16 282 P **P** **18 18 05.0 +0.6**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
DGZ Jazzator, Alta 39.95 305 *d* iP **P** **18 18 27.8 +0.4**
DGZ pmax pmax
comp=Z,12nm,0.7s
CRAI Chiangrai 39.97 255 P **P** **18 18 26.9 -0.8**
CRAI IAmb IAmb 18 18 35.2
comp=Z,6.4nm,0.8s
WMQ Urumqi 40.58 296 *e*P **P** **18 18 33.0 +0.4**
WMQ pP pP 18 18 50.5 +2.2
WMQ pmax pmax
comp=Z,18nm,0.9s
F15K North Star Dit 41.01 30 P **P** **18 18 38.5 +2.7**
ZAA0 Zalesovo Array 41.34 311 P **P** **18 18 37.9 -0.7**
ZAA0 IAmb IAmb 18 19 02.3
comp=Z,5.2nm,0.8s
ZALV Zalesovo Beam 41.34 311 P **P** **18 18 38.0 -0.7**
ZALV Zalesovo Beam 41.34 311 P **P** **18 18 37.9 -0.8**
comp=Z,2.9nm,0.5s,baz=80,slow=7.6,SNR=16
ZALV pP **pP** **18 18 54.9 +0.5**
comp=Z,2.4nm,0.6s,baz=85,slow=8.9,SNR=5.4
ZALV PcP **PcP** **18 20 35.1 -0.7**
comp=Z,1.6nm,0.8s,baz=90,slow=5.9,SNR=2.9
ZALV LR LR 18 36 26.5
comp=Z,45nm,22.0s,baz=63,slow=37
comp=Z,2.9nm,0.5s
FAKI Fak Fak 41.88 194 P **P** **18 18 43.5 +0.1**
CHTO Chiang Mai 41.89 255 P **P** **18 18 43.2 -0.2**
CHTO Chiang Mai 41.89 255 P **P** **18 18 43.3 -0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 42.10 254 P **P** **18 18 44.7 -0.5**
comp=Z,0.2nm,0.4s,baz=65,slow=4.5,SNR=5.8
CMAR PcP **PcP** **18 20 39.2 +0.2**
comp=Z,0.9nm,0.8s,baz=14,slow=2.9,SNR=5.7
CMAR ScP **ScP** **18 24 23.2 -0.8**
comp=Z,0.3nm,0.7s,baz=42,slow=2.8,SNR=2.4
CMAR LR LR 18 38 47.1
comp=Z,6.0nm,20.5s,baz=175,slow=40
comp=Z,0.2nm,0.4s
C18K Utukok River 43.08 27 P **P** **18 18 53.3 +0.6**
G18K Tagagawik 43.47 31 P **P** **18 18 57.1 +1.3**
G18K IAmb IAmb 18 19 29.8
comp=Z,7.3nm,1.1s
MK31 Makanchi Array 43.75 301 P **P** **18 18 57.6 -0.7**
MK31 Makanchi Array 43.75 301 P **P** **18 18 57.6 -0.7**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 43.75 301 P **P** **18 18 57.8 -0.5**
MKAR Makanchi Array 43.75 301 P **P** **18 18 57.5 -0.8**
comp=Z,3.9nm,0.6s,baz=87,slow=9.8,SNR=54
MKAR pP **pP** **18 19 13.8 -0.3**
comp=Z,2.5nm,0.7s,baz=86,slow=10,SNR=6.6
MKAR LR LR 18 38 31.9
comp=Z,39nm,18.4s,baz=52,slow=38
comp=Z,3.9nm,0.6s
MAKZ Makanchi 43.96 301 P **P** **18 18 59.1 -0.9**
MAKZ IAmb IAmb 18 19 00.4
comp=Z,4.8nm,0.8s
MAKZ Makanchi 43.96 301 P **P** **18 18 59.1 -0.9**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
E19K Redstone River 44.28 29 P **P** **18 19 03.5 +1.2**
P18K Big Mountain, 44.56 41 P **P** **18 19 07.0 +2.3**
KURK Kurchatov 45.44 307 P **P** **18 19 10.8 -0.9**
KURK Kurchatov 45.44 307 P **P** **18 19 11.4 -0.3**
KURK *PP **pP** **18 19 28.0 +0.4**
KURK 18 20 49.7
KURBB Kurchatov Arra 45.51 307 P **P** **18 19 11.4 -0.9**
comp=Z,5.1nm,0.6s,baz=80,slow=8.3,SNR=68
KURBB pP **pP** **18 19 28.0 -0.2**
comp=Z,9.5nm,0.8s,baz=80,slow=8.0,SNR=12
KURBB PcP **PcP** **18 20 49.7 -0.3**
comp=Z,1.0nm,0.8s,baz=78,slow=4.8,SNR=1.6
KURBB LR LR 18 38 28.6
comp=Z,64nm,21.4s,baz=188,slow=36
comp=Z,5.1nm,0.6s
B22K Teshekpuk Lake 46.10 25 P **P** **18 19 18.1 +1.6**
D22K Ayikyak River 46.17 27 P **P** **18 19 18.1 +0.9**
D22K IAmb IAmb 18 19 20.4
comp=Z,6.8nm,0.7s
PMR Palmer 47.49 37 P **P** **18 19 28.2 +0.6**
PMR Palmer 47.49 37 P **P** **18 19 28.2 +0.6**
PMR pmax pmax
comp=Z,35nm,1.5s
D24K Happy Valley 47.57 27 P **P** **18 19 29.4 +1.3**
D24K IAmb IAmb 18 19 31.3
comp=Z,7.2nm,0.7s
ILAR Eielson Array 48.33 33 P **P** **18 19 35.3 +1.3**
comp=Z,1.3nm,0.7s,baz=269,slow=6.7,SNR=9.2
ILAR pP **pP** **18 19 51.3 +1.5**
comp=Z,1.3nm,0.8s,baz=270,slow=6.3,SNR=5.9
comp=Z,1.3nm,0.7s
BVAR Borovoye Array 50.00 312 P **P** **18 19 46.5 -0.4**
comp=Z,1.4nm,0.5s,baz=73,slow=9.0,SNR=12
BVAR pP **pP** **18 20 02.2 -0.8**
comp=Z,2.9nm,0.7s,baz=79,slow=10.0,SNR=9.6
BVAR PcP **PcP** **18 21 05.9 -0.2**
comp=Z,2.3nm,0.7s,baz=54,slow=2.6,SNR=5.3
BVAR LR LR 18 41 09.1
comp=Z,46nm,18.0s,baz=65,slow=36

comp=Z,1.4nm,0.5s
BRVK Borovoye 50.05 312 **P** **18 19 47.4 0.0**
BRVK IAmb IAmb 18 20 10.6
comp=Z,6.8nm,0.9s
BRVK Borovoye 50.05 312 P **P** **18 19 47.4 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 50.20 298 *i* P **P** **18 19 48.3 -0.5**
AAK pmax pmax
comp=Z,7.0nm,2.2s
AAK Ala-Archa 50.20 298 LR LR 18 43 15.1
comp=Z,25nm,19.6s,baz=81,slow=39
HNR Honiara 50.35 156 LR LR 18 40 11.5
comp=Z,293nm,20.4s,baz=270,slow=35
KK31 Karatay Array 52.80 299 **P** **18 20 07.6 -0.4**
KK31 IAmb IAmb 18 20 25.8
comp=Z,3.4nm,0.8s
KK31 Karatay Array 52.80 299 P **P** **18 20 07.6 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 52.80 299 P **P** **18 20 07.5 -0.5**
KKAR IAmb IAmb 18 20 25.8
comp=Z,3.4nm,0.8s
KKAR Karatay Array 52.80 299 P **P** **18 20 07.5 -0.5**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 53.19 28 P **P** **18 20 11.7 +1.2**
comp=Z,2.6nm,0.9s,baz=294,slow=4.9,SNR=5.5
comp=Z,2.6nm,0.9s
NIL Nilore 54.53 288 P **P** **18 20 20.4 -0.5**
NIL IAmb IAmb 18 20 25.8
comp=Z,6.7nm,0.8s
NIL Nilore 54.53 288 P **P** **18 20 20.4 -0.5**
NIL pmax pmax
comp=Z,7.0nm,0.9s
GSI Gunungsitoli 54.67 239 P **P** **18 20 21.8 -0.2**
SIMJ Simiganj 55.54 295 P **P** **18 20 28.7 +0.6**
SIMJ IAmb IAmb 18 20 51.8
comp=Z,5.5nm,0.8s
ARU Arti 55.67 318 P **P** **18 20 27.8 -0.9**
ARU Arti 55.67 318 *d* iP **P** **18 20 29.3 +0.7**
ARU *PP **pP** **18 20 44.1 -0.8**
ARU 18 21 26.4
ARU 18 22 32.1
ARU S **S** **18 28 12.3 +2.3**
ARU SS **SS** **18 31 55.8 +0.4**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 55.67 318 LR LR 18 45 35.6
comp=Z,44nm,18.4s,baz=123,slow=37
ABKAR Akbulak array 57.41 310 P **P** **18 20 40.8 -0.3**
ABKAR Akbulak array 57.41 310 P **P** **18 20 40.2 -0.9**
ABKAR IAmb IAmb 18 21 04.8
comp=Z,5.0nm,0.8s
WB0 Warramunga Arr 58.10 188 P **P** **18 20 45.6 -0.6**
WR0 Warramunga Arr 58.28 188 P **P** **18 20 46.8 -0.6**
WB2 Warramunga Arr 58.28 188 P **P** **18 20 46.5 -1.0**
WRA Warramunga Arr 58.28 188 P **P** **18 20 46.7 -0.7**
WRA PcP **PcP** **18 21 36.5 -1.5**
WRA Warramunga Arr 58.28 188 *e*P **P** **18 20 47.2 -0.3**
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 58.28 188 P **P** **18 20 47.1 -0.4**
comp=Z,8.0nm,0.7s,baz=3.8,slow=7.2,SNR=76
WRA pP **pP** **18 21 04.2 +0.3**
comp=Z,1.8nm,0.6s,baz=5.6,slow=7.2,SNR=3.2
comp=Z,8.0nm,0.7s
SPITS Spitsbergen Ar 59.41 349 P **P** **18 20 55.1 +0.4**
comp=Z,7.9nm,1.1s,baz=82,slow=13,SNR=1.6
comp=Z,7.9nm,1.1s
KIRV Kirov 59.48 323 LR LR 18 46 16.9
comp=Z,28nm,20.6s,baz=48,slow=36
AS31 Alice Springs 62.01 188 P **P** **18 21 12.7 -0.2**
AS31 IAmb IAmb 18 21 13.9
comp=Z,2.4nm,0.8s
ASAR Alice Springs 62.01 188 P **P** **18 21 13.0 +0.1**
ASAR Alice Springs 62.01 188 P **P** **18 21 13.0 +0.1**
comp=Z,8.5nm,0.8s,baz=358,slow=4.3,SNR=78
comp=Z,8.5nm,0.8s
YKA Yellowknife Ar 62.63 31 *e*P **P** **18 21 16.7 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 62.63 31 P **P** **18 21 16.5 -0.1**
comp=Z,0.7nm,0.8s,baz=298,slow=7.0,SNR=7.3
YKA pP **pP** **18 21 33.1 0.0**
comp=Z,0.6nm,0.9s,baz=294,slow=6.7,SNR=4.1
comp=Z,0.7nm,0.8s
ARCES ARCESS Array B 62.99 339 P **P** **18 21 20.8 +1.9**
comp=Z,4.7nm,0.9s,baz=32,slow=5.8,SNR=1.6
ARCES pP **pP** **18 21 35.3 -0.2**
comp=Z,5.8nm,0.8s,baz=34,slow=5.0,SNR=2.2
comp=Z,4.7nm,0.9s
GEYT Alibeck 63.53 299 P **P** **18 21 24.1 +1.1**
comp=Z,0.5nm,0.5s,baz=46,slow=4.2,SNR=2.0
GEYT pP **pP** **18 21 38.7 -0.9**
comp=Z,1.3nm,0.8s,baz=69,slow=8.1,SNR=3.5
comp=Z,0.5nm,0.5s
FINES FINESS Array B 67.90 332 *e*P **P** **18 21 50.7 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 67.90 332 P **P** **18 21 50.3 -0.4**
comp=Z,1.9nm,0.7s,baz=349,slow=5.8,SNR=4.0
FINES pP **pP** **18 22 06.8 -0.7**
comp=Z,5.1nm,0.7s,baz=41,slow=7.5,SNR=7.3
comp=Z,1.9nm,0.7s
KIV Kislovodsk 70.36 311 **P** **18 22 05.0 -1.3**
KIV **pP** **18 22 23.0 -0.2**
KIV Kislovodsk 70.36 311 *e*P **P** **18 22 04.4 -2.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,25nm,18.0s
KBZ Khabaz 70.36 310 P **P** **18 22 06.3 +0.1**
comp=Z,1.5nm,0.8s,baz=105,slow=13,SNR=2.7
KBZ pP **pP** **18 22 22.8 -0.3**
comp=Z,4.0nm,0.9s,baz=29,slow=3.0,SNR=6.1
comp=Z,1.5nm,0.8s
HFS Hagfors 73.13 336 P **P** **18 22 22.0 -0.6**
comp=Z,1.7nm,0.6s,baz=72,slow=9.5,SNR=7.0
HFS pP **PcP** **18 22 38.8 -0.2**
comp=Z,6.4nm,0.8s,baz=46,slow=8.5,SNR=7.0
HFS LR LR 18 55 47.1
comp=Z,29nm,21.5s,baz=60,slow=37
comp=Z,1.7nm,0.6s
NC204 NORSAR Array S 73.16 338 P **P** **18 22 23.2 +0.4**
NC204 **PcP** **18 22 39.2 0.0**
NB2 NORSAR Subarra 73.20 337 P **P** **18 22 23.0 -0.1**
comp=Z,8.9nm,0.9s,baz=39,slow=6.2
NOA NORSAR Array B 73.20 337 P **P** **18 22 22.8 -0.3**
comp=Z,2.0nm,0.9s,baz=38,slow=5.9,SNR=5.1
NOA pP **PcP** **18 22 39.5 +0.2**
comp=Z,5.2nm,0.8s,baz=38,slow=6.0,SNR=12
NOA LR LR 18 58 33.9
comp=Z,28nm,18.5s,baz=275,slow=39
comp=Z,2.0nm,0.9s
BMN Battle Mountai 73.53 51 P **P** **18 22 25.6 +0.1**
BMN IAmb IAmb 18 22 29.1
comp=Z,5.2nm,0.9s
BMN Battle Mountai 73.53 51 P **P** **18 22 25.6 +0.1**
BMN pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 73.54 322 P **P** **18 22 24.1 -1.0**
comp=Z,0.6nm,0.5s,baz=47,slow=5.7,SNR=6.2
AKASG pP **PcP** **18 22 40.8 -0.1**
comp=Z,3.9nm,0.7s,baz=46,slow=5.8,SNR=9.3
AKASG LR LR 18 55 06.6
comp=Z,45nm,18.8s,baz=36,slow=36
comp=Z,0.6nm,0.5s
AKBB Malin Array Si 73.54 322 **P** **18 22 24.7 -0.5**
AKBB PcP **PcP** **18 22 40.5 -0.4**
AKBB IAmb IAmb 18 22 41.8
comp=Z,7.3nm,0.8s
AKBB Malin Array Si 73.54 322 P **P** **18 22 24.7 -0.5**
AKBB 18 22 40.5
AKBB pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 73.55 322 **P** **18 22 24.6 -0.6**
KIEV **PcP** **18 22 40.5 -0.5**
KIEV IAmb IAmb 18 22 41.8
comp=Z,6.6nm,0.8s
KIEV Kiev 73.55 322 P **P** **18 22 24.6 -0.6**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KVN Kaiserville 73.80 53 P **P** **18 22 27.9 +0.7**
KVN Kaiserville 73.80 53 P **P** **18 22 27.9 +0.7**
KVN pmax pmax
comp=Z,4.0nm,0.9s

NVAR	**Mina Array Bea**	**74.03**	**54**	P		**P**		**18 22 30.4**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=287,slow=6.0,SNR=12								
NVAR				pP		**pP**		**18 22 47.5**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=282,slow=6.9,SNR=3.3								
	comp=Z,1.7nm,0.8s								
ELK	**Elko**	**74.55**	**50**	P		**P**		**18 22 31.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=278,slow=7.2,SNR=4.0								
	comp=Z,1.2nm,0.6s								
H17A	**Grant Village**	**75.01**	**45**	P		**P**		**18 22 36.3**	**+2.1**
H17A				IAmb		IAmb		18 22 39.1	
	comp=Z,5.4nm,0.9s								
HVU	**Hansel Valley**	**75.39**	**48**	P		**P**		**18 22 38.2**	**+1.9**
HVU	**Hansel Valley**	**75.39**	**48**	P		**P**		**18 22 38.2**	**+1.9**
HVU				pmax		pmax			
	comp=Z,3.0nm,0.9s								
FRB	**Frobisher Bay**	**75.55**	**13**	P		**P**		**18 22 37.5**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=325,slow=8.6,SNR=4.8								
	comp=Z,2.8nm,0.6s								
R11B	**Troy Canyon, C**	**75.79**	**52**	P		**P**		**18 22 39.8**	**+1.1**
TPNV	**Topopah Spring**	**76.23**	**54**	P		**P**		**18 22 42.4**	**+1.2**
TPNV				IAmb		IAmb		18 22 43.8	
	comp=Z,4.0nm,0.9s								
TPNV	**Topopah Spring**	**76.23**	**54**	P		**P**		**18 22 42.4**	**+1.2**
TPNV				pmax		pmax			
	comp=Z,4.0nm,0.9s								
DUG	**Dugway, Tooele**	**76.35**	**49**	P		**P**		**18 22 43.6**	**+1.8**
DUG				IAmb		IAmb		18 22 45.5	
	comp=Z,6.9nm,1.2s								
DUG	**Dugway, Tooele**	**76.35**	**49**	P		**P**		**18 22 43.6**	**+1.8**
DUG				pmax		pmax			
	comp=Z,7.0nm,1.2s								
QSM	**Queen of Sheba**	**76.43**	**55**	P		**P**		**18 22 43.0**	**+0.8**
QSM				IAmb		IAmb		18 22 45.0	
	comp=Z,4.8nm,0.8s								
PDAR	**Pinedale Array**	**76.62**	**46**	P		**P**		**18 22 44.5**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=267,slow=2.3,SNR=12								
PDAR				pP		**pP**		**18 23 01.3**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=290,slow=1.9,SNR=7.5								
	comp=Z,1.7nm,0.8s								
BUR08	**Bucovina Ar. S**	**77.55**	**322**			**P**		**18 22 48.0**	**-0.3**
BUR08				IAmb		IAmb		18 23 07.3	
	comp=Z,2.7nm,0.7s								
MTPU	**Mount Pierson**	**78.08**	**51**	P		**P**		**18 22 53.3**	**+1.5**
MTPU				IAmb		IAmb		18 22 55.4	
	comp=Z,3.7nm,0.9s								
BRTR	**Keskin Array B**	**78.29**	**312**	P		**P**		**18 22 50.8**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=100,slow=5.0,SNR=2.8								
BRTR				pP		**pP**		**18 23 09.1**	**-0.6**
	comp=Z,1.9nm,1.0s,baz=56,slow=3.6,SNR=5.5								
	comp=Z,0.4nm,0.5s								
SRU	**San Rafael Swe**	**78.40**	**49**	P		**P**		**18 22 54.7**	**+1.4**
SRU				IAmb		IAmb		18 22 56.2	
	comp=Z,5.7nm,0.9s								
SRU	**San Rafael Swe**	**78.40**	**49**	P		**P**		**18 22 54.7**	**+1.4**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.9s								
HMU	**Henry Mountain**	**79.03**	**50**	P		**P**		**18 22 58.1**	**+1.2**
HMU				IAmb		IAmb		18 22 59.9	
	comp=Z,4.5nm,0.8s								
LANS	**Liptovska Anna**	**79.15**	**326**	*e*P		**P**		**18 22 58.5**	**+1.5**
LANS				*e*				18 23 15.4	
LANS	**Liptovska Anna**	**79.15**	**326**	*e*P		**P**		**18 22 58.5**	**+1.5**
LANS				*e*pP		**pP**		**18 23 15.4**	**+1.2**
VYHS	**Vyhne**	**79.92**	**325**	*e*pP		pP		18 23 18.5	+0.2
CLL	**Collm**	**80.21**	**330**	*e*P		**P**		**18 23 02.0**	**-0.7**
CLL				*i* *PP		**pP**		**18 23 19.0**	**-0.8**
CLL	**Collm**	**80.21**	**330**	*e*P		**P**		**18 23 02.0**	**-0.7**
CLL				*i* pP		**pP**		**18 23 19.0**	**-0.8**
	comp=Z,8.0nm,0.9s								
CLL				*e*sP		**sP**		**18 23 26.0**	**-0.7**
MODS	**Modra-Piesok**	**80.69**	**326**	*e*pP		pP		18 23 23.1	+0.6
X16A	**Lo Mia Camp, P**	**80.86**	**53**	P		**P**		**18 23 08.8**	**+2.1**
MMAI	**Mount Meron Ar**	**81.52**	**305**	LR		LR		19 03 05.4	
	comp=Z,40nm,21.9s,baz=168,slow=38								
RONA	**Rosalia, Austr**	**81.64**	**326**	*e*P		**P**		**18 23 10.5**	**+0.1**
RONA				*i* pP		**pP**		**18 23 27.9**	**+0.3**
	comp=Z,3.2nm,0.6s								
CONA	**Conrad Observa**	**81.65**	**327**	*i* P		**P**		**18 23 09.8**	**-0.7**
	comp=Z,4.4nm,1.4s								
CONA				*i* pP		**pP**		**18 23 28.0**	**+0.3**
	comp=Z,1.7nm,0.6s								
GERES	**GERESS Array B**	**81.86**	**328**	P		**P**		**18 23 10.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=17,slow=7.2,SNR=3.2								
GERES				pP		**pP**		**18 23 27.9**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=22,slow=7.4,SNR=6.5								
	comp=Z,0.6nm,0.6s								
EKA	**Eskdalemuir Ar**	**82.11**	**341**	P		**P**		**18 23 12.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=357,slow=5.7,SNR=3.4								
	comp=Z,0.5nm,0.6s								
GRF	**Grafenberg Arr**	**82.19**	**330**	*e*P		P		18 23 30.3	+17
	comp=Z,7.2nm,0.9s,baz=37,slow=4.6								
BIOA	**Bad Ischl, Aus**	**82.78**	**328**	*i* P		**P**		**18 23 17.4**	**+0.9**
BIOA				*i* pP		**pP**		**18 23 33.5**	**-0.2**
	comp=Z,2.2nm,0.4s								
SOKA	**Soboth**	**82.97**	**326**	*e*P		**P**		**18 23 18.2**	**+0.7**
	comp=Z,4.4nm,1.4s								
SOKA				*i* pP		**pP**		**18 23 34.3**	**-0.4**
	comp=Z,2.0nm,0.6s								
KBA	**Koelnbreinsper**	**83.39**	**327**	*i* pP		pP		18 23 36.7	-0.2
	comp=Z,1.4nm,0.5s								
LESA	**Schwarzleotal**	**83.40**	**328**	*i* pP		pP		18 23 36.8	-0.1
	comp=Z,3.8nm,0.6s								
ANMO	**Albuquerque**	**83.59**	**50**	P		**P**		**18 23 23.2**	**+2.2**
	comp=Z,1.5nm,0.7s,baz=45,slow=5.7,SNR=3.2								
	comp=Z,1.5nm,0.7s								
ABTA	**Abfaltersbach**	**84.00**	**328**	*i* pP		pP		18 23 39.6	-0.4
	comp=Z,0.9nm,0.5s								
MOTA	**Moosalm**	**84.11**	**329**	*i* P		**P**		**18 23 23.8**	**+0.4**
MOTA	comp=Z,4.2nm,1.0s			*i* pP		**pP**		**18 23 40.3**	**-0.3**
	comp=Z,2.5nm,0.7s								
RETA	**Reutte**	**84.14**	**329**	*e*PcP		**P**		**18 23 24.1**	**+0.7**
	comp=Z,6.3nm,0.9s								
RETA				*i* pP		**pP**		**18 23 40.6**	**0.0**
	comp=Z,10nm,0.9s								
SQTA	**Sankt Quirin**	**84.17**	**329**	*i* pP		pP		18 23 40.6	-0.3
	comp=Z,1.8nm,0.4s								
FETA	**Feichten**	**84.52**	**329**	*i* pP		pP		18 23 42.3	-0.5
	comp=Z,3.3nm,0.8s								
DAVA	**Damuels**	**84.65**	**329**	*i* PcP		**P**		**18 23 26.8**	**+0.6**
	comp=Z,10nm,1.1s								
DAVA				*i* pP		**pP**		**18 23 43.1**	**-0.3**
	comp=Z,12nm,1.0s								
TXAR	**Lajitas Array**	**89.16**	**53**	P		**P**		**18 23 49.7**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=254,slow=2.9,SNR=12								
TXAR				pP		**pP**		**18 24 07.3**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=281,slow=3.3,SNR=2.5								
	comp=Z,1.4nm,0.6s								
SIV	**San Ignacio**	**150.07**	**49**	PKP		**PKPdf**		**18 30 38.5**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=25,slow=2.9,SNR=3.6								
SIV				PKPbc		**PKPbc**		**18 30 43.4**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=316,slow=2.1,SNR=9.5								

*WEL **26** 18:13:12.0±0.3,42°S±2°×17°4E±°, h5km, M3.3/12, ML3.5/12, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=100.2, confirmed*
*NOU **26** 18:13:12.2, 42°.34S×173°.60E, h18km, MLv3.8/10, South Island, New Zealand*
ISC 26 18:13:12.3±1.0, 42°27'S±0°.03×173°59'E±0°.03, h20km±1km, n76, σ1s22/84, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.15**	**194**	P	**Pb**	**18 13 16.7**	**-0.8**
KHZ	**Kahutara**	**0.15**	**194**	P	**Pb**	**18 13 16.8**	**-0.7**
KHZ				S	**Sb**	**18 13 20.2**	**-0.9**
KIKS	**Kaikoura**	**0.17**	**156**	P	**Pb**	**18 13 17.7**	**+0.1**
KIKS				S	**Sb**	**18 13 21.9**	**+0.6**
MOLW	**Molesworth Sta**	**0.30**	**306**	P	**Pb**	**18 13 17.2**	**-1.9**
MOLW				S	**Sb**	**18 13 21.1**	**-2.6**
KEKS	**Kekerengu Vall**	**0.43**	**43**	P	**Pb**	**18 13 20.4**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.59**	**21**	P	**Pb**	**18 13 22.8**	**-1.2**
BSWZ				S	**Sb**	**18 13 31.0**	**-1.0**
CMWZ	**Cape Campbell**	**0.70**	**42**	P	**Pb**	**18 13 26.0**	**+0.1**
THZ	**Tophouse**	**0.72**	**315**	P	**Pb**	**18 13 24.8**	**-1.3**
THZ				S	**Sb**	**18 13 33.9**	**-1.7**
GVZ	**Greta Valley S**	**0.81**	**210**	P	**Pn**	**18 13 28.9**	**+0.3**
GVZ				S	**Sn**	**18 13 41.9**	**+1.9**
TUWZ	**Tuamarina**	**0.88**	**18**	P	**Pb**	**18 13 28.0**	**-0.9**
TUWZ				S	**Sb**	**18 13 40.1**	**-0.1**
NNZ	**Nelson**	**1.06**	**352**	P	**Pn**	**18 13 30.8**	**-1.2**
MRNZ	**Matariki Terra**	**1.07**	**324**	P	**Pn**	**18 13 31.2**	**-0.9**
MRNZ				S	**Sb**	**18 13 45.7**	**+0.1**
LTZ	**Lake Taylor**	**1.10**	**242**	P	**Pn**	**18 13 32.4**	**-0.2**
LTZ				S	**Sn**	**18 13 47.0**	**-0.2**
AMCZ	**Amberley**	**1.14**	**217**	P	**Pb**	**18 13 33.2**	**-0.1**
TCW	**Tory Channel**	**1.18**	**26**	P	**Pn**	**18 13 33.1**	**-0.5**
SNZO	**South Karori**	**1.27**	**41**	P	**Pn**	**18 13 34.8**	**-0.1**
BHW	**Baring Head**	**1.29**	**49**	P	**Pn**	**18 13 34.6**	**-0.5**
TKNZ	**Takaka Hill**	**1.32**	**339**	P	**Pn**	**18 13 35.7**	**0.0**
WEL	**Wellington**	**1.32**	**42**	P	**Pn**	**18 13 34.3**	**-1.3**
DSZ	**Denniston Nort**	**1.43**	**291**	P	**Pb**	**18 13 37.9**	**-0.3**
PLWZ	**Palliser**	**1.43**	**61**	P	**Pn**	**18 13 36.1**	**-1.0**
DUWZ	**D'Urville Isla**	**1.49**	**10**	P	**Pn**	**18 13 37.8**	**-0.1**
OKCZ	**Okains Bay**	**1.50**	**195**	P	**Pn**	**18 13 38.1**	**0.0**
OXZ	**Oxford**	**1.55**	**227**	P	**Pn**	**18 13 38.0**	**-0.8**
MOZ	**McQueen's Vall**	**1.59**	**205**	P	**Pn**	**18 13 38.2**	**-1.1**
CAW	**Cannon Point**	**1.60**	**44**	P	**Pn**	**18 13 39.0**	**-0.6**
PAWZ	**Paruwai Farm**	**1.64**	**58**	P	**Pn**	**18 13 38.8**	**-1.2**
QRZ	**Quartz Range**	**1.65**	**331**	P	**Pb**	**18 13 41.1**	**-0.9**
QRZ	**Quartz Range**	**1.65**	**331**	P	**Pn**	**18 13 40.9**	**+0.8**
INZ	**Inchbonnie**	**1.65**	**253**	P	**Pn**	**18 13 40.7**	**+0.6**
AKCZ	**Akaroa Harbour**	**1.68**	**197**	P	**Pn**	**18 13 40.0**	**-0.6**
KIW	**Kapiti Island**	**1.72**	**36**	P	**Pn**	**18 13 41.4**	**+0.3**
TRWZ	**Traveller**	**1.79**	**62**	P	**Pn**	**18 13 40.7**	**-1.4**
RACZ	**Rakaia**	**1.80**	**216**	P	**Pn**	**18 13 41.3**	**-0.9**
MTW	**Mount Morrison**	**1.81**	**53**	P	**Pn**	**18 13 41.1**	**-1.3**
OGWZ	**Otaki Gorge**	**1.88**	**40**	P	**Pn**	**18 13 42.7**	**-0.5**
MHCZ	**Mount Hutt**	**1.95**	**229**	P	**Pn**	**18 13 43.4**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.99**	**47**	P	**Pb**	**18 13 47.1**	**-0.7**
TMWZ	**Te Maipa**	**2.08**	**57**	P	**Pn**	**18 13 44.5**	**-1.6**
WACZ	**Wakanui South**	**2.11**	**217**	P	**Pn**	**18 13 45.5**	**-0.9**
MRZ	**Mangatainoka R**	**2.20**	**44**	P	**Pn**	**18 13 46.5**	**-1.1**
WVZ	**Waitaha Valley**	**2.25**	**248**	P	**Pn**	**18 13 48.9**	**+0.6**
RPZ	**Rata Peaks**	**2.35**	**231**	P	**Pn**	**18 13 49.5**	**-0.3**
RPZ	**Rata Peaks**	**2.35**	**231**	P	**Pn**	**18 13 49.2**	**-0.6**
ARCZ	**Arundel**	**2.44**	**226**	P	**Pn**	**18 13 50.2**	**-0.7**
PRWZ	**Pori Road**	**2.48**	**47**	P	**Pb**	**18 13 54.1**	**-2.0**
POWZ	**Post Office Ro**	**2.49**	**42**	P	**Pb**	**18 13 58.1**	**+1.7**
BFZ	**Birch Farm**	**2.55**	**52**	P	**Pn**	**18 13 53.6**	**+1.1**
BFZ	**Birch Farm**	**2.55**	**52**	P	**Pn**	**18 13 50.8**	**-1.8**
GCSZ	**Gaunt Creek Bo**	**2.62**	**245**	P	**Pn**	**18 13 54.1**	**+0.6**
TMZ	**Timaru**	**2.83**	**221**	P	**Pn**	**18 13 55.7**	**-0.7**
TSZ	**Takapari Road**	**2.84**	**40**	P	**Pn**	**18 13 58.6**	**+2.0**
PREZ	**Palmer Road**	**2.96**	**9**	P	**Pb**	**18 14 04.2**	**-0.1**
KHEZ	**Kahui Hut**	**2.99**	**6**	P	**Pn**	**18 13 59.6**	**+1.0**
KHEZ	**Kahui Hut**	**2.99**	**6**	P	**Pb**	**18 14 04.4**	**-0.5**
FOZ	**Fox Glacier**	**3.04**	**244**	P	**Pn**	**18 13 59.9**	**+0.6**
PKE	**Pukeiti**	**3.09**	**6**	P	**Pb**	**18 14 04.6**	**-2.0**
LBZ	**Lake Benmore**	**3.26**	**228**	P	**Pn**	**18 14 02.1**	**-0.3**
VRZ	**Vera Road**	**3.27**	**16**	P	**Pb**	**18 14 06.3**	**-3.3**
MOVZ	**Moawhango**	**3.30**	**31**	P	**Pb**	**18 14 09.4**	**-0.8**
WNVZ	**Wahianoa**	**3.31**	**28**	P	**Pn**	**18 14 04.7**	**+1.5**
BHHZ	**Black Hill Sta**	**3.35**	**35**	P	**Pb**	**18 14 10.1**	**-0.9**
OTVZ	**Oturere**	**3.48**	**28**	P	**Pn**	**18 14 07.5**	**+2.0**
ODZ	**Otahua Downs**	**3.50**	**217**	P	**Pn**	**18 14 04.9**	**-0.7**
ODZ	**Otahua Downs**	**3.50**	**217**	P	**Pn**	**18 14 04.3**	**-1.3**
HIZ	**Hauiti**	**3.88**	**15**	P	**Pn**	**18 14 12.3**	**+1.6**
HIZ	**Hauiti**	**3.88**	**15**	P	**Pn**	**18 14 14.4**	**+3.6**
JCZ	**Jackson Bay**	**3.95**	**241**	P	**Pn**	**18 14 11.3**	**-0.5**
JCZ	**Jackson Bay**	**3.95**	**241**	P	**Pn**	**18 14 11.0**	**-0.8**
HHSZ	**Highcliff Hill**	**4.21**	**210**	P	**Pn**	**18 14 14.4**	**-0.8**
EAZ	**Earnscleugh**	**4.29**	**225**	P	**Pn**	**18 14 15.8**	**-0.6**
TUZ	**Tuapeka**	**4.66**	**216**	P	**Pn**	**18 14 20.6**	**-0.8**
AWAZ	**Awhitu Peninsu**	**5.26**	**9**	P	Pn	18 14 34.9	+5.1
MKAZ	**Moumakai**	**5.30**	**14**	P	**Pn**	**18 14 33.4**	**+3.1**
SYZ	**Scrubby Hill**	**5.33**	**215**	P	**Pn**	**18 14 30.1**	**-0.5**
SYZ	**Scrubby Hill**	**5.33**	**215**	P	**Pn**	**18 14 30.5**	**-0.1**

*IDC **26** 18:13:56.7±2.5, 55°.33N×149°.72W, h0km, mb3.5/4, mbtmp3.4/9, ML3.3/5, MS3.0/4, Error ellipse: s-maj=50.0km s-min=27.0km az=170.0*
*NEIC **26** 18:14:05.5±1.5, 56°.21N±0°.08×149°.37W±0°.05, h20km±8km, ML3.6/46, ML3.4(AEIC), Error ellipse: s-maj=11.8km s-min=3.7km az=178.0*
*AEIC **26** 18:14:08.7±1.7, 56°.22N±0°.07×149°.3W±0°.1, h6km±6km, Error ellipse: s-maj=10.5km s-min=8.3km az=160.0*
ISC 26 18:14:06.9±1.3, 56°24'N±0°.08×149°32'W±0°.05, h38km±3km, n161, σ1s10/165, mb3.4/4, MS3.6/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.36**	**312**		**Pn**	**18 14 43.1**	**+0.1**
KDAK	**Kodiak Island**	**2.36**	**312**	S	**Sn**	**18 15 10.3**	**-0.4**
	baz=131						
KDAK	**Kodiak Island**	**2.36**	**312**	Pn	**Pn**	**18 14 43.5**	**+0.6**
	3.2nm,0.3s,baz=142,slow=19,SNR=17						
KDAK				Sn	**Sn**	**18 15 10.2**	**-0.4**
	11nm,0.3s,baz=53,slow=20,SNR=20						
KDAK				LR	LR	18 15 42.7	
	comp=Z,91nm,21.8s,baz=157,slow=36						
	9.6nm,0.4s						
OHAK	**Old Harbor**	**2.40**	**296**		**Pn**	**18 14 43.4**	**0.0**
OHAK					**Sn**	**18 15 10.4**	**-1.1**
OHAK	**Old Harbor**	**2.40**	**296**	P	**Pn**	**18 14 43.4**	**0.0**
	baz=114						
OHAK				S	**Sn**	**18 15 10.4**	**-1.1**
	baz=114						
SII	**Sitkinak Islan**	**2.72**	**279**		**Pn**	**18 14 48.2**	**+0.2**
SII				IAML		18 15 25.4	
	comp=N,136nm,1.1s						
SII	**Sitkinak Islan**	**2.72**	**279**		**Sn**	**18 15 18.9**	**-0.7**
SII	**Sitkinak Islan**	**2.72**	**279**	P	**Pn**	**18 14 48.9**	**+1.0**
	baz=96						
SII				S	**Sn**	**18 15 18.9**	**-0.7**
	baz=96						
SYI	**Shuyak Island**	**2.90**	**326**		**Pn**	**18 14 51.0**	**+0.6**
SYI					**Sn**	**18 15 24.0**	**+0.1**
SYI	**Shuyak Island**	**2.90**	**326**	IAML		18 15 25.8	
	comp=E,86nm,1.1s						
Q20K	**Shuyak Island**	**2.90**	**326**	P	**Pn**	**18 14 51.0**	**+0.6**
	baz=144						
Q20K				S	**Sn**	**18 15 24.0**	**+0.1**
	baz=144						
CNPM	**China Poot**	**3.45**	**344**		**Pn**	**18 14 58.4**	**+0.4**
CNPM				IAML		18 15 39.8	
	comp=E,68nm,0.8s						
CNPM				IAML		18 15 42.7	
	comp=N,68nm,0.9s						
CNPM	**China Poot**	**3.45**	**344**		**Sn**	**18 15 37.6**	**0.0**
Q19K	**Cape Douglas,**	**3.56**	**321**		**Pn**	**18 15 00.5**	**+1.0**
Q19K	**Cape Douglas,**	**3.56**	**321**	P	**Pn**	**18 15 00.9**	**+1.4**
	baz=138						
Q23K	**Middleton Isla**	**3.57**	**25**	Pn	**Pn**	**18 14 59.8**	**+0.2**
Q23K				IAML		18 16 08.5	
	comp=N,195nm,1.4s						
MID	**Middleton Isla**	**3.57**	**25**	Pn	**Pn**	**18 14 59.7**	**+0.1**
MID				IAML		18 16 21.2	
	comp=N,186nm,1.5s						
BRSE	**Bradley Lake S**	**3.59**	**348**		**Pn**	**18 15 00.1**	**+0.2**
BRSE					**Sn**	**18 15 41.5**	**+0.5**
BRSE	**Bradley Lake S**	**3.59**	**348**	P	**Pn**	**18 15 00.5**	**+0.6**
	baz=168						
BRLK	**Bradley Lake**	**3.63**	**347**		**Pn**	**18 15 00.4**	**-0.1**
BRLK					**Sn**	**18 15 41.2**	**-0.9**
BRLK				IAML		18 15 47.7	
	comp=E,60nm,0.6s						
BRLK				IAML		18 15 52.6	
	comp=N,54nm,0.9s						
HOM	**Homer**	**3.65**	**341**		**Sn**	**18 15 43.6**	**+1.3**
SEW	**Seward**	**3.88**	**359**		**Pn**	**18 15 03.7**	**-0.1**
KAHC	**Katmai Hardscr**	**3.91**	**311**		**Pn**	**18 15 06.2**	**+1.8**
KAHC	**Katmai Hardscr**	**3.91**	**311**	P	**Pn**	**18 15 06.2**	**+1.8**
	baz=126						
P19K	**Oil Pt**	**4.01**	**330**	Pn	**Pn**	**18 15 06.5**	**+0.9**
P19K				IAML		18 15 57.2	
	comp=N,132nm,1.3s						
P19K				IAML		18 15 57.2	
	comp=E,125nm,0.4s						
CNTC	**Contact Creek**	**4.10**	**302**		**Pn**	**18 15 08.1**	**+1.1**
Q17K	**Contact Creek**	**4.10**	**302**	P	**Pn**	**18 15 08.9**	**+1.9**
	baz=117						
O20K	**Slope Mountain**	**4.23**	**337**		**Pn**	**18 15 09.3**	**+0.5**
IVE	**Iliamna Volcan**	**4.26**	**334**		**Pn**	**18 15 09.6**	**+0.4**
SLKM	**Skilak Lake**	**4.31**	**354**		**Pn**	**18 15 10.0**	**+0.3**
HIN	**Hinchinbrook I**	**4.43**	**18**		**Pn**	**18 15 11.8**	**+0.4**
HIN				IAML		18 16 02.5	
	comp=N,90nm,1.0s						
HIN				IAML		18 16 09.8	
	comp=E,76nm,1.3s						
P18K	**Big Mountain,**	**4.47**	**317**		**Pn**	**18 15 11.9**	**-0.1**
P18K	**Big Mountain,**	**4.47**	**317**	P	**Pn**	**18 15 12.6**	**+0.6**
	baz=133						
KAIM	**Kayak Island**	**4.52**	**33**	Pn	**Pn**	**18 15 13.4**	**+0.7**
RED	**Redoubt Volcan**	**4.57**	**338**		**Pn**	**18 15 13.4**	**+0.1**
RDWB	**Redoubt West**	**4.65**	**338**		**Pn**	**18 15 14.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.71**	**22**		**Pn**	**18 15 16.0**	**+0.7**
O19K	**Port Alsworth**	**4.76**	**328**	Pn	**Pn**	**18 15 16.1**	**+0.2**
O18K	**Koktuh Hills**	**4.79**	**322**	Pn	**Pn**	**18 15 16.5**	**+0.2**
O18K				IAML		18 16 14.5	
	comp=E,24nm,1.1s						
O18K				IAML		18 16 16.1	
	comp=N,35nm,1.4s						
RAGM	**Ragged Mountai**	**4.83**	**29**	Pn	**Pn**	**18 15 17.4**	**+0.5**
P17K	**Kvichak River**	**4.83**	**311**		**Pn**	**18 15 17.3**	**+0.5**
P17K	**Kvichak River**	**4.83**	**311**	P	**Pn**	**18 15 18.6**	**+1.8**
	baz=125						
RC01	**Rabbit Creek A**	**4.87**	**358**	Pn	**Pn**	**18 15 17.1**	**-0.4**
RC01				IAML		18 16 16.4	
	comp=E,40nm,0.9s						
RC01				IAML		18 16 16.5	
	comp=N,42nm,0.6s						
GOAT	**Goat Mountain**	**4.98**	**27**		**Pn**	**18 15 19.7**	**+0.7**
CHGN	**Chignik**	**5.07**	**274**	Pn	**Pn**	**18 15 18.0**	**-2.1**
CHGN				IAML		18 16 56.9	
	comp=N,58nm,0.2s						
BERG	**Berg Lake**	**5.11**	**33**		**Pn**	**18 15 21.1**	**+0.4**
BERG				IAML		18 16 26.1	
	comp=E,66nm,1.3s						
BERG				IAML		18 16 37.5	
	comp=N,49nm,1.4s						
KNK	**Knik Glacier**	**5.21**	**5**		**Pn**	**18 15 22.1**	**0.0**
KNK				IAML		18 16 26.1	
	comp=E,25nm,1.0s						
KNK				IAML		18 16 27.7	
	comp=N,18nm,1.3s						
SNH	**Sunshine Point**	**5.23**	**38**	Pn	**Pn**	**18 15 21.8**	**-0.7**
SNH				IAML		18 17 09.6	
	comp=N,55nm,1.5s						
SNH				IAML		18 17 39.4	
	comp=E,31nm,1.1s						
SUA	**Susitna One**	**5.29**	**353**	Pn	**Pn**	**18 15 22.9**	**-0.4**
SUA				IAML		18 16 21.2	
	comp=E,20nm,1.5s						
N19K	**Bonanza Creek**	**5.32**	**332**	Pn	**Pn**	**18 15 23.5**	**-0.2**
BMRM	**Bremner River**	**5.34**	**26**		**Pn**	**18 15 24.2**	**+0.2**
BMRM	**Bremner River**	**5.34**	**26**	P	**Pn**	**18 15 25.5**	**+1.5**
	baz=210						
PMR	**Palmer**	**5.37**	**1**	Pn	**Pn**	**18 15 23.5**	**-0.8**
BARK	**Barkley Ridge**	**5.51**	**38**		**Pn**	**18 15 27.6**	**+1.2**
GHO	**Glory Hole Cre**	**5.55**	**2**	Pn	**Pn**	**18 15 26.2**	**-0.7**
KLU	**Klutina**	**5.56**	**17**		**Pn**	**18 15 26.4**	**-0.5**
KLU	**Klutina**	**5.56**	**17**	P	**Pn**	**18 15 28.5**	**+1.6**
	baz=200						
SML	**Sawmill**	**5.61**	**5**		**Pn**	**18 15 26.2**	**-1.4**
N18K	**Kilae Creek**	**5.63**	**325**	Pn	**Pn**	**18 15 26.1**	**-1.7**
SCM	**Sheep Creek Mo**	**5.71**	**10**	Pn	**Pn**	**18 15 27.5**	**-1.5**
SCM					**Sn**	**18 16 31.9**	**-1.3**
O16K	**Kokwok River B**	**5.76**	**309**		**Pn**	**18 15 30.5**	**+0.9**
VRDI	**Verde Repeater**	**5.86**	**29**	Pn	**Pn**	**18 15 30.5**	**-0.8**
SKCT	**Skwentna**	**5.87**	**350**	Pn	**Pn**	**18 15 29.2**	**-2.0**
N25K	**Chitina, Valde**	**5.91**	**22**		**Pn**	**18 15 32.3**	**+0.5**
N25K	**Chitina, Valde**	**5.91**	**22**	P	**Pn**	**18 15 33.4**	**+1.6**
	baz=207						
KIAG	**Kiagna River**	**5.94**	**35**		**Pn**	**18 15 33.0**	**+0.6**
GLB	**Gilahina Butte**	**5.95**	**26**	Pn	**Pn**	**18 15 33.2**	**

comp=E,45nm,18.5s,baz=357,slow=35
H11N2 WAKE ISLAND Hy 48.84 240 T T 19 15 16.2
baz=30,slow=76,SNR=3.6
H11N3 WAKE ISLAND Hy 48.85 240 T T 19 15 18.6
baz=30,slow=76,SNR=4.2
H11N1 WAKE ISLAND Hy 48.86 240 T T 19 15 18.1
baz=30,slow=76,SNR=5.0
JHJ Hachijo jima 2 52.80 275 LR LR 18 42 43.2
comp=E,378nm,21.5s,baz=27,slow=33
SONM Songino Array 58.65 310 P **P** **18 23 57.2 -2.7**
comp=E,0.2nm,0.6s,baz=56,slow=2.6,SNR=1.7
comp=E,0.2nm,0.6s
FINES FINESS Array B 62.60 2 LR LR 18 52 47.9
comp=E,39nm,19.0s,baz=2.0,slow=37
BVAR Borovoye Array 66.31 335 P **P** **18 24 49.5 -1.4**
comp=E,1.8nm,0.8s,baz=50,slow=9.5,SNR=8.2
comp=E,1.8nm,0.8s
KURBB Kurchatov Arra 66.36 329 P **P** **18 24 51.4 +0.2**
comp=E,0.1nm,0.3s,baz=42,slow=4.6,SNR=2.3
comp=E,0.1nm,0.3s
MKAR Makanchi Array 68.62 325 P **P** **18 25 07.0 +1.5**
comp=E,0.1nm,0.4s,baz=17,slow=5.4,SNR=6.0
comp=E,0.1nm,0.4s

IDC 26 18:14:57.2±999.0, 50°78N×52°49E, h0km, Error ellipse: s-maj=816.5km s-min=73.4km az=93.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**3.55**	**94**	I	I	18 36 10.0	
	0.5nm,0.6s,baz=278,slow=345,SNR=2.2						
I46RU	**ZALESOVO INFRA**	**19.89**	**68**	I	I	20 17 20.0	
	baz=277,slow=350,SNR=2.3						
I34MN	**SONGINO INFRAS**	**34.64**	**73**	I	I	21 56 50.0	
	baz=291,slow=338,SNR=1.3						

*IDC **26** 18:26:56.7±3.4, 56°.14N×148°.79W, h0km, mb3.5/1, mbtmp3.2/6, ML2.9/5, MS2.8/2, Error ellipse: s-maj=58.8km s-min=26.6km az=178.0*

*NEIC **26** 18:27:00.3±2.9, 56°.69N±0°.04×149°.21W±0°.06, h20km±9km, ML3.3/52, ML3.2(AEIC), Error ellipse: s-maj=5.2km s-min=4.8km az=165.0*

*AEIC **26** 18:27:02.4±2.7, 56°.36N±0°.09×148°.8W±0°.1, h10km±7km, Error ellipse: s-maj=13.5km s-min=8.5km az=158.0*

ISC 26 18:26:58.6±1.2, 56°.49N±0°.07×148°.95W±0°.06, h10km, n142, σ1§27/119, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.37**	**305**		**Pn**	**18 27 36.1**	**-1.3**
KDAK	**Kodiak Island**	**2.37**	**305**		**Sn**	**18 28 05.6**	**-0.9**
KDAK	**Kodiak Island**	**2.37**	**305**	S	**Sn**	**18 28 05.6**	**-0.9**
	baz=120						
KDAK	**Kodiak Island**	**2.37**	**305**	Pn	**Pn**	**18 27 37.9**	**+0.4**
	3.2nm,0.3s,baz=130,slow=6.8,SNR=20						
KDAK				Sn	**Sn**	**18 28 05.1**	**-1.4**
	5.1nm,0.3s,baz=157,slow=17,SNR=13						
KDAK				LR	LR	18 28 51.1	
	comp=Z,230nm,20.3s,baz=114,slow=43						
	6.5nm,0.3s						
OHAK	**Old Harbor**	**2.49**	**289**		**Pn**	**18 27 38.0**	**-1.2**
OHAK	**Old Harbor**	**2.49**	**289**		**Sn**	**18 28 07.7**	**-1.9**
OHAK	**Old Harbor**	**2.49**	**289**	P	**Pn**	**18 27 39.4**	**+0.3**
	baz=102						
OHAK				S	**Sn**	**18 28 07.7**	**-1.9**
	baz=102						
SYI	**Shuyak Island**	**2.82**	**320**		Pn	18 27 40.3	-3.4
SYI				IAML		18 28 20.1	
	comp=N,68nm,1.3s						
SYI				IAML		18 28 25.6	
	comp=E,87nm,1.2s						
SYI	**Shuyak Island**	**2.82**	**320**		**Sn**	**18 28 18.8**	**+1.0**
Q20K	**Shuyak Island**	**2.83**	**320**	P	**Pn**	**18 27 44.9**	**+1.2**
	baz=137						
Q20K				S	**Sn**	**18 28 18.8**	**+1.0**
	baz=137						
SII	**Sitkinak Islan**	**2.90**	**274**		**Sn**	**18 28 18.2**	**-1.5**
SII	**Sitkinak Islan**	**2.90**	**274**	Pn	**Pn**	**18 27 44.6**	**-0.1**
SII				IAML		18 28 24.5	
	comp=N,165nm,1.4s						
SII	**Sitkinak Islan**	**2.90**	**274**	S	**Sn**	**18 28 18.2**	**-1.5**
	baz=86						
CNPM	**China Poot**	**3.28**	**339**		**Pn**	**18 27 50.3**	**+0.3**
CNPM				IAML		18 28 35.1	
	comp=N,46nm,1.5s						
CNPM	**China Poot**	**3.28**	**339**		**Sn**	**18 28 28.7**	**-0.4**
BRSE	**Bradley Lake S**	**3.40**	**345**		**Pn**	**18 27 52.2**	**+0.5**
BRSE					**Sn**	**18 28 32.3**	**+0.3**
BRSE	**Bradley Lake S**	**3.40**	**345**	P	**Pn**	**18 27 52.2**	**+0.5**
	baz=164						
BRSE				S	**Sn**	**18 28 32.3**	**+0.3**
	baz=164						
BRLK	**Bradley Lake**	**3.44**	**343**		Pn	18 27 49.6	-2.7
BRLK	**Bradley Lake**	**3.44**	**343**		**Sn**	**18 28 33.8**	**+0.7**
HOM	**Homer**	**3.49**	**337**	Pn	Pn	18 27 50.0	-2.8
Q19K	**Cape Douglas,**	**3.51**	**316**		Pn	18 27 50.3	-2.9
Q19K				IAML		18 30 01.4	
	comp=N,148nm,1.4s						
Q19K	**Cape Douglas,**	**3.51**	**316**	P	**Pn**	**18 27 54.2**	**+1.0**
	baz=132						
KAHG	**Katmai Hook Gl**	**3.63**	**306**		**Pn**	**18 27 56.2**	**+1.4**
SEW	**Seward**	**3.64**	**356**		**Sn**	**18 28 37.1**	**-0.7**
SEW	**Seward**	**3.64**	**356**	Pn	**Pn**	**18 27 52.9**	**-2.0**
SEW	**Seward**	**3.64**	**356**	S	**Sn**	**18 28 37.1**	**-0.7**
	baz=178						
P19K	**Oil Pt**	**3.91**	**326**		**Pn**	**18 27 56.8**	**-1.8**
P19K				IAML		18 28 49.2	
	comp=E,79nm,1.2s						
P19K				IAML		18 28 51.5	
	comp=N,76nm,1.3s						
P19K	**Oil Pt**	**3.91**	**326**		**Sn**	**18 28 45.0**	**+0.5**
P19K	**Oil Pt**	**3.91**	**326**	P	**Pn**	**18 28 00.1**	**+1.6**
	baz=143						
P19K				S	**Sn**	**18 28 45.0**	**+0.5**
	baz=143						
SLKM	**Skilak Lake**	**4.09**	**351**		**Pn**	**18 28 02.2**	**+1.1**
SLKM					**Sn**	**18 28 47.6**	**-1.3**
O20K	**Slope Mountain**	**4.09**	**333**		**Pn**	**18 28 02.5**	**+1.3**
O20K	**Slope Mountain**	**4.09**	**333**	P	**Pn**	**18 28 02.6**	**+1.3**
	baz=151						
HIN	**Hinchinbrook I**	**4.13**	**17**	Pn	**Pn**	**18 28 00.5**	**-1.1**
HIN				IAML		18 29 13.2	
	comp=N,53nm,1.5s						
IVE	**Iliamna Volcan**	**4.14**	**330**		**Pn**	**18 28 02.2**	**+0.3**
KAIM	**Kayak Island**	**4.20**	**33**		**Pn**	**18 28 02.3**	**-0.3**
KAIM	**Kayak Island**	**4.20**	**33**	P	**Pn**	**18 28 02.3**	**-0.3**
	baz=220						
EYAK	**Cordova Ski Ar**	**4.41**	**21**	Pn	**Pn**	**18 28 04.0**	**-1.4**
RED	**Redoubt Volcan**	**4.43**	**335**		**Pn**	**18 28 06.4**	**+0.7**
P18K	**Big Mountain,**	**4.44**	**314**		**Pn**	**18 28 05.9**	**0.0**
P18K	**Big Mountain,**	**4.44**	**314**	P	**Pn**	**18 28 06.6**	**+0.7**
	baz=128						
CAPN	**Captain Cook N**	**4.45**	**346**	Pn	Pn	18 28 02.7	-3.3
RSO	**Redoubt South**	**4.46**	**335**	Pn	Pn	18 28 02.3	-4.1
RDT	**Redoubt**	**4.48**	**338**		**Pn**	**18 28 06.7**	**+0.1**
RAGM	**Ragged Mountai**	**4.51**	**28**	Pn	**Pn**	**18 28 05.7**	**-1.2**
RC01	**Rabbit Creek A**	**4.64**	**355**	Pn	**Pn**	**18 28 07.0**	**-1.6**
RC01				IAML		18 29 02.3	
	comp=N,24nm,1.3s						
RC01				IAML		18 29 04.9	
	comp=E,24nm,1.2s						
GOAT	**Goat Mountain**	**4.67**	**27**		**Pn**	**18 28 09.8**	**+0.8**
O18K	**Koktuh Hills**	**4.73**	**318**	Pn	Pn	18 28 06.8	-3.1
O18K				IAML		18 29 18.6	
	comp=N,23nm,0.9s						
BERG	**Berg Lake**	**4.79**	**33**	Pn	**Pn**	**18 28 09.5**	**-1.2**
BERG				IAML		18 29 15.2	
	comp=N,52nm,1.5s						
SNH	**Sunshine Point**	**4.91**	**38**	Pn	**Pn**	**18 28 12.1**	**-0.3**
DIV	**Divide**	**4.94**	**18**	Pn	**Pn**	**18 28 13.2**	**+0.4**
KNK	**Knik Glacier**	**4.95**	**3**	Pn	**Pn**	**18 28 13.7**	**+0.8**
KNK				IAML		18 29 11.4	
	comp=N,17nm,1.3s						
KNK				IAML		18 29 15.2	
	comp=E,14nm,0.9s						
BMRM	**Bremner River**	**5.03**	**25**		**Pn**	**18 28 13.8**	**-0.3**
BMRM	**Bremner River**	**5.03**	**25**	P	**Pn**	**18 28 14.0**	**-0.1**
	baz=211						
SUA	**Susitna One**	**5.08**	**350**	Pn	**Pn**	**18 28 13.9**	**-0.8**
SUA				IAML		18 29 18.8	
	comp=N,14nm,1.4s						
N19K	**Bonanza Creek**	**5.21**	**329**		Pn	18 28 13.5	-3.1
N19K	**Bonanza Creek**	**5.21**	**329**	P	**Pn**	**18 28 17.6**	**+1.0**
	baz=144						
KLU	**Klutina**	**5.26**	**16**		**Pn**	**18 28 15.3**	**-1.9**
KLU				IAML		18 29 17.8	
	comp=E,14nm,1.4s						
KLU				IAML		18 30 18.6	
	comp=N,16nm,1.2s						
KLU	**Klutina**	**5.26**	**16**	P	**Pn**	**18 28 18.1**	**+0.9**
	baz=201						
GHO	**Glory Hole Cre**	**5.30**	**0**		Pn	18 28 14.7	-3.1
GHO				IAML		18 29 21.0	
	comp=E,20nm,0.6s						
GHO				IAML		18 29 23.4	
	comp=N,23nm,1.1s						
SML	**Sawmill**	**5.35**	**3**	Pn	**Pn**	**18 28 17.0**	**-1.4**
SML				IAML		18 29 32.4	
	comp=E,21nm,1.3s						
SML				IAML		18 29 41.1	
	comp=N,15nm,1.5s						
SCM	**Sheep Creek Mo**	**5.43**	**8**	Pn	**Pn**	**18 28 18.7**	**-0.9**
SCM				IAML		18 29 29.3	
	comp=E,23nm,1.1s						
SCM				IAML		18 29 35.8	
	comp=N,16nm,1.1s						
VRDI	**Verde Repeater**	**5.54**	**29**	Pn	**Pn**	**18 28 19.1**	**-2.2**
N18K	**Kilae Creek**	**5.55**	**322**		Pn	18 28 17.5	-3.7
N18K				IAML		18 31 30.5	
	comp=E,9.1nm,1.4s						
N18K				IAML		18 31 37.1	
	comp=N,8.3nm,1.0s						
N18K	**Kilae Creek**	**5.55**	**322**	P	**Pn**	**18 28 22.1**	**+0.8**
	baz=136						
N25K	**Chitina, Valde**	**5.61**	**22**		**Pn**	**18 28 20.9**	**-1.1**
N25K	**Chitina, Valde**	**5.61**	**22**	P	**Pn**	**18 28 22.7**	**+0.7**
	baz=208						
GLB	**Gilahina Butte**	**5.64**	**26**		**Pn**	**18 28 21.4**	**-1.0**
SAMH	**Samovar Hills**	**5.65**	**46**		**Pn**	**18 28 22.4**	**-0.1**
SKT	**Skwentna**	**5.67**	**348**	Pn	**Pn**	**18 28 21.0**	**-1.7**
O16K	**Kokwok River B**	**5.77**	**306**	Pn	**Pn**	**18 28 22.6**	**-1.5**
PTPK	**Patty Peak**	**5.79**	**33**		**Pn**	**18 28 24.8**	**+0.2**
M24K	**Tolsona, Glenn**	**5.81**	**13**	Pn	**Pn**	**18 28 23.1**	**-1.6**
M20K	**Styx River**	**5.82**	**340**	Pn	**Pn**	**18 28 23.3**	**-1.7**
PCA	**Pinnacle**	**5.84**	**48**		**Pn**	**18 28 24.5**	**-0.6**
PINM	**Pinnacle**	**5.84**	**48**	P	**Pn**	**18 28 25.2**	**0.0**
	baz=238						
N17K	**Nushagak Hills**	**5.92**	**317**	Pn	Pn	18 28 23.2	-3.0
BARN	**Barnard Glacie**	**5.95**	**37**		**Pn**	**18 28 24.5**	**-2.2**
CUT	**Chulitna**	**5.98**	**354**	Pn	Pn	18 28 23.3	-3.7
PNL	**Peninsula**	**5.99**	**54**		**Pn**	**18 28 27.1**	**-0.1**
PNL	**Peninsula**	**5.99**	**54**	P	**Pn**	**18 28 27.1**	**-0.1**
	baz=244						
CTG	**Chitna Glacier**	**5.99**	**38**	P	**Pn**	**18 28 27.1**	**-0.1**
	baz=227						
CTGM	**Chitina Glacie**	**5.99**	**38**		**Pn**	**18 28 25.1**	**-2.2**
LOGN	**Logan Glacier**	**6.01**	**40**	Pn	**Pn**	**18 28 26.1**	**-1.5**
M19K	**Big River Lodg**	**6.11**	**335**	Pn	**Pn**	**18 28 25.5**	**-3.3**
M18K	**Stony River**	**6.15**	**328**		**Pn**	**18 28 29.6**	**+0.3**
M18K	**Stony River**	**6.15**	**328**	P	**Pn**	**18 28 29.6**	**+0.3**
	baz=142						
HARP	**HAARP**	**6.24**	**16**		**Pn**	**18 28 31.3**	**+0.7**
HARP	**HAARP**	**6.24**	**16**	P	**Pn**	**18 28 31.3**	**+0.7**
	baz=201						
CNBA	**Chernabura Isl**	**6.25**	**259**	Pn	**Pn**	**18 28 28.6**	**-2.1**
M17K	**Holitna River**	**6.60**	**322**		**Pn**	**18 28 33.4**	**-2.1**
PPLA	**Purkeypile**	**6.64**	**347**	Pn	Pn	18 28 32.5	-3.7
DHY	**Denali Highway**	**6.66**	**6**	Pn	**Pn**	**18 28 34.5**	**-2.0**
O29M	**Mount Kennedy**	**6.66**	**51**		**Pn**	**18 28 35.3**	**-1.2**
O29M	**Mount Kennedy**	**6.66**	**51**	P	**Pn**	**18 28 36.3**	**-0.2**
	baz=241						
M26K	**Nabesna, AK**	**6.66**	**25**	Pn	**Pn**	**18 28 35.4**	**-1.0**
P29M	**Windy Craggy**	**6.73**	**57**	Pn	**Pn**	**18 28 35.8**	**-1.5**
M27K	**Edge Creek, AK**	**6.90**	**29**		**Pn**	**18 28 39.6**	**-0.2**
M27K	**Edge Creek, AK**	**6.90**	**29**	P	**Pn**	**18 28 40.4**	**+0.5**
	baz=216						
M16K	**Timber Creek**	**6.91**	**315**	Pn	Pn	18 28 36.0	-3.8
N15K	**Kwethluk River**	**6.93**	**307**	Pn	Pn	18 28 36.3	-3.8
L18K	**Granite Mounta**	**6.98**	**329**	Pn	Pn	18 28 36.6	-4.1
TRF	**Thorofare Moun**	**7.02**	**355**	Pn	Pn	18 28 38.2	-3.2
S31K	**Pelican**	**7.06**	**73**	Pn	Pn	18 28 39.0	-2.9
O14K	**Tigyukauivet M**	**7.13**	**298**	Pn	**Pn**	**18 28 41.3**	**-1.4**
CAST	**Castle Rocks**	**7.13**	**349**	Pn	**Pn**	**18 28 40.9**	**-2.0**
KTH	**Kantishna Hill**	**7.16**	**353**	Pn	**Pn**	**18 28 42.0**	**-1.3**
K20K	**Telida**	**7.36**	**342**	Pn	Pn	18 28 43.4	-2.5
SIT	**Sitka**	**7.51**	**80**	Pn	**Pn**	**18 28 49.0**	**+1.0**
BCAR	**Beaver Creek A**	**7.52**	**26**	Pn	Pn	18 28 45.7	-2.5
L16K	**Owhat River**	**7.53**	**318**	Pn	Pn	18 28 42.7	-5.6
RIDG	**Independent Ri**	**7.56**	**14**	Pn	**Pn**	**18 28 47.2**	**-1.6**
K17K	**Iditarod**	**7.84**	**327**	Pn	**Pn**	**18 28 50.6**	**-1.9**
N30M	**Aishikik Lake**	**7.89**	**46**	Pn	**Pn**	**18 28 51.9**	**-1.5**
O30N	**Mendenhall**	**7.96**	**52**	Pn	**Pn**	**18 28 53.8**	**-0.4**
M29M	**Somme Creek**	**8.01**	**37**	Pn	**Pn**	**18 28 53.9**	**-1.0**
M14K	**Bethel**	**8.02**	**308**	Pn	Pn	18 28 51.9	-3.1
J19K	**Poorman**	**8.23**	**339**	Pn	Pn	18 28 54.9	-2.9
ILAR	**Eielson Array**	**8.38**	**6**	Pn	Pn	18 28 57.0	-2.8
ILAR	**Eielson Array**	**8.38**	**6**	Pn	**Pn**	**18 29 01.6**	**+1.7**
	comp=N,0.1nm,0.3s,baz=189,slow=13,SNR=2.8						
ILAR				Sn	**Sn**	**18 30 31.5**	**-2.8**
	comp=N,0.1nm,0.3s,baz=198,slow=19,SNR=5.7						
	comp=N,0.4nm,0.7s						
IL03	**Eielson Array**	**8.38**	**6**	Pn	**Pn**	**18 28 57.8**	**-2.1**
N31M	**Braeburn, Yuko**	**8.44**	**48**	Pn	**Pn**	**18 28 59.1**	**-1.7**
WHY	**Whitehorse**	**8.45**	**55**	Pn	**Pn**	**18 28 59.6**	**-1.5**
L29M	**L29M**	**8.59**	**35**	Pn	**Pn**	**18 29 01.2**	**-1.6**
P32M	**Atlin**	**8.66**	**63**	Pn	**Pn**	**18 29 02.8**	**-1.0**
M30M	**Minto, Yukon**	**8.68**	**40**	Pn	**Pn**	**18 29 03.8**	**-0.2**
I21K	**Tanana**	**8.85**	**352**	Pn	Pn	18 29 03.6	-2.7
DAWY	**Dawson**	**8.95**	**28**	Pn	**Pn**	**18 29 05.9**	**-2.0**
P33M	**Teslin, Yukon**	**9.26**	**60**	Pn	**Pn**	**18 29 11.3**	**-0.8**
K29M	**Barlow Dome**	**9.31**	**33**	Pn	**Pn**	**18 29 11.0**	**-1.7**
M31M	**Drury Creek, Y**	**9.38**	**46**	Pn	**Pn**	**18 29 13.1**	**-0.5**
H21K	**Melozitna Rive**	**9.39**	**350**	Pn	**Pn**	**18 29 11.2**	**-2.5**
R33M	**Jennings River**	**9.99**	**66**	Pn	**Pn**	**18 29 21.3**	**-0.8**
J30M	**Hart River**	**10.20**	**32**	Pn	**Pn**	**18 29 23.5**	**-1.5**
DLBC	**Dease Lake**	**10.38**	**71**	Pn	**Pn**	**18 29 27.1**	**-0.2**
	comp=N,0.1nm,0.3s,baz=234,slow=8.7,SNR=1.1						
	comp=N,1.5nm,0.6s						
I30M	**Mount Dempster**	**10.67**	**30**	Pn	**Pn**	**18 29 28.9**	**-2.4**
INK	**Inuvik**	**13.78**	**25**	Pn	**Pn**	**18 30 16.6**	**+2.9**
	baz=211,slow=5.9,SNR=1.9						
	comp=N,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**18.27**	**57**	P	**Pn**	**18 31 12.2**	**+0.4**
	baz=263,slow=9.9,SNR=2.4						
	comp=N,0.1nm,0.3s						
YBH	**Yreka Blue Hor**	**22.45**	**120**	LR	LR	18 38 55.6	
	comp=N,22nm,19.2s,baz=265,slow=32						
H11S1	**WAKE ISLAND Hy**	**50.29**	**240**	T	T	19 30 57.2	
	baz=29						
H11S2	**WAKE ISLAND Hy**	**50.30**	**240**	T	T	19 31 03.4	
	baz=29						
H11S3	**WAKE ISLAND Hy**	**50.30**	**240**	T	T	19 31 16.2	
	baz=29						
SONM	**Songino Array**	**58.65**	**310**	P	**P**	**18 36 58.0**	**+2.3**
	comp=N,0.6nm,0.9s,baz=35,slow=5.8,SNR=3.8						
	comp=N,0.6nm,0.9s						

WEL 26 18:28:34.2±0.6, 32°S±6°×18°0E±1°, h341km±11km, M3.9/24, mB4.6/22, ML4.7/36, MLv4.6/24, Mw(mB)3.8/22, Error ellipse: s-maj=0.0km s-min=0.0km az=107.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.58**	**31**	S	S	18 30 29.1	-1.0
MXZ	**Matakaoa Point**	**5.37**	**194**	P	Pn	18 29 59.7	+2.2
MXZ				S	S	18 31 07.0	+2.2
WMGZ	**Waiomatatini S**	**5.60**	**193**	P	Pn	18 30 01.7	+1.6
WMGZ				S	S	18 31 12.0	+2.5
HAZ	**Te Kaha**	**5.68**	**198**	P	Pn	18 30 00.0	-0.9
HAZ				S	S	18 31 13.0	+1.8
PKGZ	**Pakihiroa**	**5.74**	**195**	P	Pn	18 30 02.0	+0.3
WCZ	**Waipu Caves**	**5.87**	**231**	P	Pn	18 30 03.8	+0.7
PUZ	**Puketiti**	**5.88**	**193**	P	Pn	18 30 03.6	+0.4
PUZ				S	S	18 31 16.4	+1.1
RUGZ	**Raukumara Rang**	**5.91**	**198**	P	Pn	18 30 03.1	-0.6
RUGZ				S	S	18 31 15.1	-1.0
OUZ	**Omahuta**	**6.02**	**240**	P	Pn	18 30 04.9	0.0
TWGZ	**Tauwhareparae**	**6.03**	**195**	P	Pn	18 30 05.6	+0.5
TWGZ				S	S	18 31 20.3	+1.6
OPRZ	**Ohinepanea**	**6.15**	**206**	P	Pn	18 30 08.7	+2.3
CNGZ	**Carnagh Statio**	**6.29**	**193**	P	Pn	18 30 08.5	+0.6
MWZ	**Matawai**	**6.29**	**198**	P	Pn	18 30 07.2	-0.8
MWZ				S	S	18 31 24.3	+0.2
TKGZ	**Te Karaka**	**6.32**	**195**	P	Pn	18 30 08.9	+0.6
TKGZ				S	S	18 31 24.0	-0.5
URZ	**Urewera**	**6.34**	**201**	P	Pn	18 30 06.9	-1.6
URZ				S	S	18 31 24.1	-0.9
KARZ	**Kaharoa**	**6.42**	**207**	P	Pn	18 30 11.7	+2.2
RAGZ	**Rawiri**	**6.47**	**198**	P	Pn	18 30 09.3	-0.9
RAGZ				S	S	18 31 28.5	+0.5
TOZ	**Tahuroa Road**	**6.49**	**213**	P	Pn	18 30 14.0	+3.6
TARZ	**Mount Tarawera**	**6.51**	**205**	P	Pn	18 30 12.6	+2.0
RIGZ	**Rimuhau**	**6.59**	**195**	P	Pn	18 30 11.4	-0.1
RIGZ				S	S	18 31 30.2	-0.2
MUGZ	**Murupara**	**6.64**	**202**	P	Pn	18 30 12.0	-0.1
RTZ	**Ruatahuna**	**6.71**	**200**	P	Pn	18 30 12.1	-0.8
RTZ				S	S	18 31 32.5	-0.5
HRRZ	**Handcock Road**	**6.73**	**205**	P	Pn	18 30 13.0	-0.1
PRGZ	**Paritu Road**	**6.77**	**194**	P	Pn	18 30 15.9	+2.3
PRGZ				S	S	18 31 35.0	+0.6
PRRZ	**Plateau Road**	**6.79**	**204**	P	Pn	18 30 14.8	+1.0
ALRZ	**Allen Road**	**6.86**	**204**	P	Pn	18 30 15.4	+0.7
KNZ	**Kokohu**	**6.91**	**195**	P	Pn	18 30 15.6	+0.4
KNZ				S	S	18 31 37.1	-0.2
RAHZ	**Arahi**	**6.96**	**199**	P	Pn	18 30 16.1	+0.3
MTHZ	**Maungataniwha**	**6.97**	**201**	P	Pn	18 30 15.5	-0.4
MTHZ				S	S	18 31 34.9	-3.6
TLZ	**Tolley Road**	**6.97**	**210**	P	Pn	18 30 18.4	+2.4
MHGZ	**Mahia Peninsul**	**6.99**	**193**	P	Pn	18 30 18.1	+1.9
MHGZ				S	S	18 31 40.4	+1.4
MRHZ	**Matea Rd**	**7.08**	**203**	P	Pn	18 30 17.1	-0.2
NMHZ	**Naumai**	**7.20**	**200**	P	Pn	18 30 19.0	+0.3
ARHZ	**Aropaoanui**	**7.31**	**198**	P	Pn	18 30 19.9	+0.1
RATZ	**Rangitukua**	**7.34**	**206**	P	Pn	18 30 20.8	+0.4
BKZ	**Black Stump Fm**	**7.36**	**202**	P	Pn	18 30 19.4	-1.2
KATZ	**Kakaramea**	**7.46**	**207**	P	Pn	18 30 21.6	-0.3
MCHZ	**McNeill Hill**	**7.56**	**200**	P	Pn	18 30 21.8	-1.0
NTVZ	**North Tongarir**	**7.58**	**206**	P	Pn	18 30 22.8	-0.5
TMVZ	**Te Maari**	**7.58**	**206**	P	Pn	18 30 22.8	-0.5
ETVZ	**East Tongariro**	**7.60**	**206**	P	Pn	18 30 23.3	-0.2
KWHZ	**Kaweka Forest**	**7.62**	**201**	P	Pn	18 30 22.5	-1.2
WTVZ	**West Tongariro**	**7.63**	**207**	P	Pn	18 30 23.0	-0.8
OTVZ	**Oturere**	**7.64**	**206**	P	Pn	18 30 22.2	-1.8
TWVZ	**Taurewa**	**7.65**	**207**	P	Pn	18 30 23.4	-0.6
CKHZ	**Cape Kidnapper**	**7.66**	**197**	P	Pn	18 30 23.8	-0.2
SNVZ	**South Ngauruho**	**7.67**	**206**	P	Pn	18 30 23.9	-0.5
FWVZ	**Far West T-bar**	**7.76**	**206**	P	Pn	18 30 24.6	-1.0
TRVZ	**Turoa**	**7.80**	**206**	P	Pn	18 30 24.9	-1.1
KAHZ	**Kahuranaki**	**7.84**	**198**	P	Pn	18 30 24.9	-1.3
PKVZ	**Pokaka**	**7.87**	**207**	P	Pn	18 30 25.6	-1.1

*NEIC **26** 18:28:49.2±1.6, 55°.96N±0°.10×150°.1W±0°.1, h13km±8km, ML3.4/32, ML3.2(AEIC), Error ellipse: s-maj=14.5km s-min=8.8km az=161.0*

*AEIC **26** 18:28:53.4±1.4, 55°.94N±0°.07×150°.1W±0°.1, h10km±7km, Error ellipse: s-maj=13.2km s-min=3.9km az=143.0*

ISC 26 18:28:48.6±1.8, 56°.03N±0°.10×150°.07W±0°.06, h10km, n77, σ1§18/82, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.14**	**305**		**Pn**	**18 29 24.9**	**+0.6**
OHAK					**Sn**	**18 29 49.3**	**-1.6**
OHAK	**Old Harbor**	**2.14**	**305**	P	**Pn**	**18 29 24.9**	**+0.6**
	baz=124						
OHAK				S	**Sn**	**18 29 49.3**	**-1.6**
	baz=124						
KDAK	**Kodiak Island**	**2.24**	**323**		**Pn**	**18 29 26.4**	**+0.8**
KDAK	**Kodiak Island**	**2.24**	**323**		**Sn**	**18 29 52.6**	**-0.6**
KDAK	**Kodiak Island**	**2.24**	**323**	S	**Sn**	**18 29 52.6**	**-0.6**
	baz=142						
SII	**Sitkinak Islan**	**2.35**	**285**		**Pn**	**18 29 26.9**	**-0.4**
SII				IAML		18 30 04.2	
	comp=N,129nm,1.2s						
SII	**Sitkinak Islan**	**2.35**	**285**		**Sn**	**18 29 55.3**	**-0.9**
SII	**Sitkinak Islan**	**2.35**	**285**	P	**Pn**	**18 29 27.6**	**+0.3**
	baz=103						
SII				S	**Sn**	**18 29 55.3**	**-0.9**
	baz=103						
SYI	**Shuyak Island**	**2.88**	**335**		**Pn**	**18 29 35.4**	**+1.0**
SYI				IAML		18 30 10.8	
	comp=N,53nm,1.2s						
SYI				IAML		18 30 11.9	
	comp=E,62nm,0.6s						
SYI	**Shuyak Island**	**2.88**	**335**		**Sn**	**18 30 09.0**	**-0.1**
Q20K	**Shuyak Island**	**2.88**	**335**	P	**Pn**	**18 29 35.9**	**+1.5**
	baz=154				

SKT	Skwentna	6.02	353	Pn		Pn	18 30 17.5	-0.1
VRDI	Verde Repeater	6.25	31			Pn	18 30 22.0	+1.1
N25K	Chitina, Valde	6.27	25	Pn		Pn	18 30 21.7	+0.5
M19K	Big River Lodg	6.30	341	Pn		Pn	18 30 21.9	+0.4
GLB	Gilahina Butte	6.33	28	Pn		Pn	18 30 21.2	-0.7
KIAG	Kiagna River	6.36	36			Pn	18 30 23.5	+1.1
M24K	Tolsona, Glenn	6.42	17	Pn		Pn	18 30 25.1	+2.0
PTPK	Patty Peak	6.52	34			Pn	18 30 26.1	+1.4
BARN	Barnard Glacie	6.69	38			Pn	18 30 28.2	+1.3
N15K	Kwethluk River	6.74	312	Pn		Pn	18 30 28.8	+1.3
CTGM	Chitina Glacie	6.74	39	Pn		Pn	18 30 28.7	+1.1
LOGN	Logan Glacier	6.76	41			Pn	18 30 29.0	+1.0
M16K	Timber Creek	6.83	321	Pn		Pn	18 30 29.8	+1.0
DHY	Denali Highway	7.20	10	Pn		Pn	18 30 33.3	-0.6
O29M	Mount Kennedy	7.43	50	Pn		Pn	18 30 37.5	+0.4
TRF	Thorofare Moun	7.45	359	Pn		Pn	18 30 37.6	+0.3
P29M	Windy Craggy	7.51	56	Pn		Pn	18 30 37.6	-0.4
M27K	Edge Creek, AK	7.61	30	Pn		Pn	18 30 41.2	+1.7
S31K	Pelican	7.80	70			Pn	18 30 42.1	+0.1
S31K	Pelican baz=261	7.80	70	P		Pn	18 30 42.1	+0.1
K17K	Iditarod	7.91	331	Pn		Pn	18 30 44.8	+1.3
L27K	Beaver Creek,	8.20	27	Pn		Pn	18 30 49.2	+1.7
BCAR	Beaver Creek A	8.21	27	Pn		Pn	18 30 47.4	-0.2
M29M	Somme Creek	8.75	38	Pn		Pn	18 30 55.5	+0.4
L29M	L29M	9.32	36	Pn		Pn	18 31 05.0	+2.2
P32M	Atlin	9.43	61	Pn		Pn	18 31 05.0	+0.7

*IDC **26** 18:37:23.9±5.2,4°.16S×132°.33E, h0km, mb3.3/2, mbtmp3.4/4, ML3.7/2, Error ellipse: s-maj=364.0km s-min=28.6km az=75.0*

ISC 26 18:37:27.4±1.6, 4°.4S±0°.1×131°.9E±0°.3, h10km, n10, σ3§54/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	Kakadu	8.23	176	P	Pn	18 39 29.2	+2.2
MTN	Manton Dam	8.40	185	P	Pn	18 39 32.6	+3.3
KNRA	Kununurra	11.59	195	P	Pn	18 40 14.1	+1.0
FITZ	Fitzroy Crossi	14.90	204	P	Pn	18 40 57.1	-1.1
WRA	Warramunga Arr 0.3nm,0.3s,baz=351,slow=13,SNR=13	15.61	171	Pn	Pn	18 41 05.9	-1.8
WRA				Sn	Sn	18 43 53.1	-7.7
	0.2nm,0.3s,baz=359,slow=23,SNR=2.0 0.5nm,0.4s						
ASAR	Alice Springs 0.3nm,0.3s,baz=358,slow=10,SNR=25	19.23	174	P	Pn	18 41 53.2	+0.3
ASAR				S	Sn	18 45 17.7	-11
	0.2nm,0.7s,baz=332,slow=16,SNR=1.3 0.6nm,0.5s						
WRKA	Warakurna	20.78	189	P	P	18 42 10.1	+1.2
OOD	Oodnadatta	23.52	172	P	P	18 42 41.2	+3.4
MKAR	Makanchi Array 0.2nm,0.6s,baz=122,slow=6.9,SNR=1.9 0.2nm,0.6s	67.14	325	P	P	18 48 20.5	-1.0
KURBB	Kurchatov Arra 0.2nm,0.7s,baz=127,slow=5.7,SNR=1.6 0.2nm,0.7s	71.33	327	P	P	18 48 45.1	-2.2

*IDC **26** 18:46:02.1±1.6, 56°.03N×166°.03E, h0km, mb3.2/4, mbtmp3.3/5, ML2.6/1, Error ellipse: s-maj=70.5km s-min=22.1km az=157.0*

*KRSC **26** 18:46:04.0±0.9, 55°.14N×166°.56E, h29km±6km, Ml3.8*

ISC 26 18:46:03.0±1.1, 55°.3N±0°.1×166°.79E±0°.07, h10km, n18, σ1§44/19, mb3.2/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.47	263	eP	Pg	18 46 12.4	+0.3
BKI				eS	Sg	18 46 18.1	-0.2
TUMD	Tumrok D	3.66	272	eP	Pn	18 46 59.9	+0.3
TUMD				eS	Sn	18 47 41.8	-1.0
KMNR	Kamenistaya	3.76	280	eP	Pn	18 47 02.3	+1.2
KMNR				eS	Sn	18 47 46.0	+0.7
SMAR	Somma	5.09	250	eP	Pn	18 47 20.4	+0.9
AVH	Avacha	5.12	250	eP	Pn	18 47 21.5	+1.7
KRX	Arik	5.13	252	eP	Pn	18 47 20.7	+0.7
KOK	Koryaka	5.17	251	eP	Pn	18 47 21.6	+1.2
KRMR	Karymshinskiy	5.65	248	eS	Sn	18 48 31.1	-0.7
PETK	Petropavlovsk- 0.8nm,0.3s,baz=70,slow=17,SNR=18	5.75	252	Pn	Pn	18 47 28.4	0.0
PETK				Sn	Sn	18 48 33.2	-1.2
	0.5nm,0.3s,baz=134,slow=21,SNR=2.2 6.5nm,1.0s						
MTVR	Mutnovka	5.80	245	eP	Pn	18 47 30.3	+1.1
MTVR				eS	Sn	18 48 33.2	-2.5
ASAK	Asacha	6.00	245	eP	Pn	18 47 33.8	+2.0
ILAR	Eielson Array 0.7nm,0.9s,baz=258,slow=8.6,SNR=6.2 0.7nm,0.9s	24.46	48	P	P	18 51 22.4	+0.7
H11N2	WAKE ISLAND Hy baz=360	35.47	180	T	T	19 30 36.0	
H11N3	WAKE ISLAND Hy baz=360	35.48	180	T	T	19 30 24.6	
H11N1	WAKE ISLAND Hy baz=360	35.49	180	T	T	19 30 27.7	
YKA	Yellowknife Ar 0.2nm,0.6s,baz=301,slow=7.2,SNR=2.2 0.2nm,0.6s	38.86	47	P	P	18 53 25.1	-2.8
MKAR	Makanchi Array 0.1nm,0.4s,baz=54,slow=6.6,SNR=1.6 0.1nm,0.4s	50.69	298	P	P	18 54 57.2	-5.2
TXAR	Lajitas Array 0.3nm,0.6s,baz=298,slow=5.7,SNR=4.3 0.3nm,0.6s	66.20	73	P	P	18 56 52.5	+1.7

IDC 26 18:51:27.6±2.8, 29°.80S×177°.78W, h60km±18km, mb3.0/2, mbtmp3.4/3, Error ellipse: s-maj=64.1km s-min=33.5km az=94.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island 571nm,0.3s,baz=254,slow=20,SNR=8.1	0.56	348	P	Pn	18 51 41.4	+1.2
RAO				S	Sn	18 51 51.3	+1.9
	488nm,0.3s,baz=242,slow=24,SNR=3.2						
URZ	Urewera 1.0nm,0.3s,baz=27,slow=8.2,SNR=1.1	9.44	205	P	Pn	18 53 40.5	-0.3
URZ				S	Sn	18 55 09.0	-16
	3.6nm,0.7s,baz=24,slow=20,SNR=6.0						
ASAR	Alice Springs 0.2nm,0.8s,baz=109,slow=7.4,SNR=5.0 0.2nm,0.8s	43.33	266	P	P	18 59 24.0	0.0
WRA	Warramunga Arr 0.2nm,0.3s,baz=110,slow=8.1,SNR=13 0.2nm,0.3s	44.27	271	P	P	18 59 31.3	-0.2
FINES	FINESS Array B 2.3nm,1.0s,baz=64,slow=3.2,SNR=1.6	144.65	340	PKP	PKPbc	19 10 55.7	+0.2

*IDC **26** 19:05:33.4±1.8, 0°.99S×127°.50E, h0km, mb3.4/3, mbtmp3.3/4, ML3.3/1, MS2.7/1, Error ellipse: s-maj=160.2km s-min=23.7km az=67.0*

*DJA **26** 19:05:37.3±0.2, 1°.3S×127°.7E±°, h10km, M4.0/15, mb4.2/7, mB4.3/1, MLv3.9/15, Mw(mB)3.4/1*

ISC 26 19:05:35.8±1.0, 1°.19S±0°.06×126°.87E±0°.06, h10km, n19, σ1§48/18, mb3.5/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.84	49	P	Pn	19 05 52.6	-1.0
SANI	Sanana	1.23	226	P	Pn	19 05 58.4	-0.6
TNTI	Ternate	2.01	14	P	Pn	19 06 11.2	+1.4
NLAI	Namlea	2.05	174	P	Pn	19 06 11.9	+1.6
KRAI	Karang Ratu	2.61	144	P	Pb	19 06 21.1	-1.5
KMSI	Cibinong	3.38	301	P	Pn	19 06 29.1	+0.5
LUWI	Luwuk	4.10	272	P	Pn	19 06 38.5	0.0
SWI	Sorong	4.40	86	P	Pn	19 06 45.9	+3.2
SIJI	Sorong	4.41	86	P	Pn	19 06 46.0	+3.2
MRSI	Marisa 17nm,0.8s,0.1nm	5.20	289	P	Pn	19 06 54.0	+0.3
BBSI	Bau Bau 26nm,1.0s,0.2nm	6.05	225	P	Pn	19 07 05.6	+0.2
MPSI	Mapaga 8.0nm,2.1s,0.1nm	7.13	282	P	Pn	19 07 21.0	+0.7
TTSI	Tana Toraja 16nm,0.6s,0.1nm	7.28	255	P	Pn	19 07 22.8	+0.5
BKSI	Bulukumba	7.89	238	P	Pn	19 07 31.5	+0.9
KAPI	Kappang comp=Z,47nm,18.6s,baz=96,slow=39	8.06	242	LR	LR	19 11 13.3	
WRA	Warramunga Arr	20.02	159	P	P	19 10 07.9	-1.0
	0.1nm,0.3s,baz=340,slow=11,SNR=6.0 0.7nm,0.8s						
ASAR	Alice Springs 0.8nm,0.8s,baz=350,slow=11,SNR=7.3 0.8nm,0.8s	23.36	164	P	P	19 10 43.8	-0.8
MKAR	Makanchi Array 0.2nm,0.5s,baz=126,slow=8.0,SNR=5.0 0.2nm,0.5s	61.69	327	P	P	19 15 54.6	+0.5
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=117,slow=6.9,SNR=1.8 0.1nm,0.3s	65.96	329	P	P	19 16 22.5	+0.4

*SJA **26** 19:07:14.0±0.7, 21°.38S×66°.73W, h226km±6km, ML3.9, MW3.6*

*SCB **26** 19:07:15.0±1.6, 21°.47S×66°.82W, h215km±9km, ML3.8/7, MW3.8, Error ellipse: s-maj=5.6km s-min=3.7km az=0.0*

ISC 26 19:07:14.0±1.7, 21°.45S±0°.04×66°.82W±0°.04, h229km±13km, n48, σ1§26/74, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.12	80	Pg	Pn	19 07 48.2	+0.1
MOCB				Sg	S	19 08 12.5	-2.1
MOCB				IAML		19 08 15.6	
	391nm,0.4s						
YJA	Yavi	1.41	121	eP	Pn	19 07 50.5	+0.3
YJA				eS	S	19 08 17.4	-0.8
LVC	Limon Verde	2.26	239	eP	Pn	19 07 58.9	+1.2
LVC				eS	S	19 08 32.9	+1.1
LVC	Limon Verde	2.26	239	Pg	Pn	19 07 58.9	+1.2
PB09	IPOC Station P	2.28	261	eP	Pn	19 07 59.1	+1.4
PB09				eS	S	19 08 34.7	+2.9
PB09	IPOC Station P	2.28	261	Pg	Pn	19 07 58.9	+1.2
PB01	IPOC Station P	2.52	279	eP	Pn	19 08 00.4	+0.3
PB01	IPOC Station P	2.52	279	Pg	Pn	19 08 01.1	+1.0
PB01				Sg	S	19 08 35.5	-0.7
PB01				IAML		19 08 38.4	
	128nm,0.4s						
PB08	IPOC Station P	2.54	300	eP	Pn	19 08 01.4	+0.7
PB08	IPOC Station P	2.54	300	Pg	Pn	19 08 02.0	+1.3
PB08				Sg	S	19 08 36.7	-0.4
PB06	IPOC Station P	2.84	243	eP	Pn	19 08 05.0	+1.3
PB06				eS	S	19 08 43.2	+0.7
PB06				IAML		19 08 47.9	
	comp=Z,101nm,0.4s						
PB06	IPOC Station P	2.84	243	Pg	Pn	19 08 04.9	+1.3
GO01	Chusmiza	2.85	308	eP	Pn	19 08 04.9	+0.9
GO01	Chusmiza	2.85	308	Pg	Pn	19 08 04.8	+0.7
PB07	IPOC Station P	2.87	264	eP	Pn	19 08 04.5	+0.6
PB07				eS	S	19 08 42.0	-1.1
PB07				IAML		19 08 43.1	
	comp=Z,250nm,0.3s						
PB07	IPOC Station P	2.87	264	Pg	Pn	19 08 04.8	+0.9
PB07				Sg	S	19 08 41.9	-1.1
PB07				IAML		19 08 42.6	
	comp=Z,292nm,0.2s						
PB02	IPOC Station P	2.87	272	eP	Pn	19 08 04.0	+0.1
PB02				eS	S	19 08 41.8	-1.2
PB02				IAML		19 08 44.1	
	comp=Z,581nm,0.2s						
PB02	IPOC Station P	2.87	272	Pg	Pn	19 08 04.6	+0.7
PB02				Sg	S	19 08 42.0	-1.0
PB02				IAML		19 08 43.9	
	comp=Z,392nm,0.5s						
PB15	IPOC Station P	3.01	234	eP	Pn	19 08 07.6	+2.0
PB15				eS	S	19 08 46.4	+0.3
PB15				IAML		19 08 51.8	
	comp=Z,576nm,0.2s						
PB15	IPOC Station P	3.01	234	Pg	Pn	19 08 06.8	+1.2
SOEO	Opoqueri	3.04	341	Pg	Pn	19 08 08.0	+1.7
HMBC	Humberstone	3.10	292	eP	Pn	19 08 05.9	-0.6
HMBC				eS	S	19 08 46.5	-1.2
HMBC	Humberstone	3.10	292	Pg	Pn	19 08 06.3	-0.2
HMBC				Sg	S	19 08 45.8	-1.8
HMBC				IAML		19 08 48.2	
	comp=Z,140nm,0.2s						
PB11	IPOC Station P	3.15	302	eP	Pn	19 08 08.4	+1.4
PB11				eS	S	19 08 47.8	-0.9
PB11				IAML		19 08 50.3	
	comp=Z,114nm,0.3s						
PB11	IPOC Station P	3.15	302	Pg	Pn	19 08 07.4	+0.3
PATCX	Punta Patache	3.18	281	eP	Pn	19 08 07.2	-0.1
PATCX				eS	S	19 08 48.1	-1.0
PB04	IPOC Station P	3.22	254	eP	Pn	19 08 08.7	+0.7
PB04				eS	S	19 08 48.7	-1.4
PB04				IAML		19 08 51.0	
	comp=Z,163nm,0.2s						
PB04	IPOC Station P	3.22	254	Pg	Pn	19 08 08.5	+0.7
PB04				Sg	S	19 08 48.3	-1.8
PB04				IAML		19 08 52.0	
	comp=Z,183nm,0.3s						
TA01	Diego Aracena	3.26	285	eP	Pn	19 08 08.0	-0.2
TA01				eS	S	19 08 49.0	-1.8
TA01	Diego Aracena	3.26	285	Pg	Pn	19 08 08.2	0.0
TA02	Huaiquique	3.31	290	eP	Pn	19 08 09.1	+0.3
TA02				eS	S	19 08 50.5	-1.3
TA02				IAML		19 08 53.5	
	comp=Z,156nm,0.1s						
TA02	Huaiquique	3.31	290	Pg	Pn	19 08 09.1	+0.3
SOTI	Planta Incahua	3.37	62	Pg	Pn	19 08 09.7	+0.1
PB05	IPOC Station P	3.43	245	eP	Pn	19 08 11.1	+0.8
PB05				eS	S	19 08 53.3	-1.2
PB05	IPOC Station P	3.43	245	Pg	Pn	19 08 11.3	+1.0
PB05				Sg	S	19 08 52.4	-2.1
PB05				IAML		19 08 54.7	
	comp=Z,98nm,0.2s						
SOET	ToroToro	3.45	16	Pg	Pn	19 08 11.1	+0.3
SLA	San Lorenzo	3.47	160	eP	Pn	19 08 12.6	+1.8
PB16	IPOC Station P	4.00	320	eP	Pn	19 08 18.7	+1.2
PB16				eS	S	19 09 08.8	+1.2
PB16	IPOC Station P	4.00	320	Pg	Pn	19 08 18.9	+1.4
PB12	IPOC Station P	4.34	310	eP	Pn	19 08 21.1	-1.1
PB12				eS	S	19 09 12.5	-1.7
GO02	Mina Guanaco	4.49	214	eP	Pn	19 08 24.0	+0.9
GO02				eS	S	19 09 15.4	-2.3
GO02	Mina Guanaco	4.49	214	Pg	Pn	19 08 24.0	+0.9
AP01	Chacalluta	4.52	312	eP	Pn	19 08 22.8	-0.4
AP01				IAML		19 09 54.5	
	comp=Z,133nm,0.2s						
PB14	IPOC Station P	4.57	226	eP	Pn	19 08 24.7	+0.6
PB14				eS	S	19 09 17.0	-2.5
PB14				IAML		19 09 19.4	
	comp=Z,48nm,0.2s						
BBOE	La Paz, Chanca	4.75	346	Pg	Pn	19 08 28.5	+1.9
BBOD	La Paz, Gloria	5.08	340	Pg	Pn	19 08 32.4	+1.7
LPAZ	La Paz	5.29	346	eP	Pn	19 08 35.2	+1.9
LPAZ	La Paz	5.29	346	Pg	Pn	19 08 34.6	+1.2

*NEIC **26** 19:40:03.6±1.7, 55°.90N±0°.08×150°.03W±0°.07, h8km±8km, ML3.5/38, ML3.3(AEIC), Error ellipse: s-maj=13.6km s-min=1.6km az=155.0*

*AEIC **26** 19:40:08.4±1.6, 55°.88N±0°.09×150°.0W±0°.1, h10km±8km, Error ellipse: s-maj=12.8km s-min=9.1km az=178.0*

ISC 26 19:40:04.2±1.9, 56°.0N±0°.1×150°.12W±0°.07, h10km, n145, σ1§07/152, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.16	307		Pn	19 40 40.5	+0.4
OHAK					Sn	19 41 05.5	-1.5
OHAK	Old Harbor baz=125	2.16	307	P	Pn	19 40 40.5	+0.4
OHAK				S	Sn	19 41 05.4	-1.5
	baz=125						
KDAK	Kodiak Island	2.27	324		Pn	19 40 42.5	+0.8
KDAK					Sn	19 41 09.1	-0.6
SII	Sitkinak Islan	2.34	286		Pn	19 40 42.9	+0.1
SII					Sn	19 41 10.8	-0.9
SII	Sitkinak Islan comp=N,120nm,1.4s	2.34	286	IAML		19 41 26.3	
SII	Sitkinak Islan baz=104	2.34	286	P	Pn	19 40 42.9	+0.1
SII				S	Sn	19 41 10.8	-0.9
	baz=104						
SYI	Shuyak Island	2.92	336		Pn	19 40 51.4	+0.7
SYI					Sn	19 41 25.2	-0.5
Q20K	Shuyak Island baz=154	2.92	336	P	Pn	19 40 51.4	+0.7
Q20K				S	Sn	19 41 25.2	-0.6
	baz=154						
KAHG	Katmai Hook Gl	3.49	318		Pn	19 41 00.6	+2.0

Q19K	Cape Douglas,	3.53	329			Pn	19 41 00.9	+1.8
Q19K	Cape Douglas, comp=N,126nm,0.9s	3.53	329	IAML			19 41 46.1	
Q19K	Cape Douglas, baz=146	3.53	329	P		Pn	19 41 00.9	+1.8
CNPM	China Poot	3.62	351			Pn	19 41 00.4	+0.2
CNPM						Sn	19 41 41.3	-1.7
CNPM	China Poot comp=N,42nm,1.5s	3.62	351	IAML			19 41 43.5	
CNPM				IAML			19 41 46.4	
	comp=E,45nm,1.2s							
HOM	Homer	3.79	348	Pn		Pn	19 41 03.5	+0.9
HOM				IAML			19 43 34.1	
	comp=E,205nm,1.3s							
BRSE	Bradley Lake S	3.80	355			Pn	19 41 02.8	0.0
BRSE						Sn	19 41 45.8	-1.6
BRSE	Bradley Lake S baz=174	3.80	355	P		Pn	19 41 02.8	0.0
BRSE				S		Sn	19 41 45.8	-1.6
	baz=174							
BRLK	Bradley Lake	3.83	354			Pn	19 41 03.0	-0.2
BRLK						Sn	19 41 47.2	-1.0
BRLK	Bradley Lake comp=E,34nm,1.4s	3.83	354	IAML			19 41 53.1	
CNTC	Contact Creek	3.90	309			Pn	19 41 05.5	+1.3
Q17K	Contact Creek baz=124	3.90	309	P		Pn	19 41 05.5	+1.3
Q23K	Middleton Isla	4.01	29	Pn		Pn	19 41 05.6	-0.1
MID	Middleton Isla	4.02	29	Pn		Pn	19 41 05.9	+0.2
P19K	Oil Pt	4.05	337	Pn		Pn	19 41 08.9	+2.6
P19K				IAML			19 41 59.1	
	comp=N,108nm,1.2s							
P19K				IAML			19 42 00.4	
	comp=E,110nm,1.1s							
IVE	Iliamna Volcan	4.34	340			Pn	19 41 10.9	+0.6
P18K	Big Mountain, comp=N,21nm,1.0s	4.39	323			Sn	19 42 00.5	-1.6
P18K				IAML			19 42 03.4	
P18K	Big Mountain,	4.39	323			Pn	19 41 12.1	+1.1
P18K	Big Mountain, baz=139	4.39	323	P		Pn	19 41 12.1	+1.1
CHGN	Chignik	4.65	278	Pn		Pn	19 41 15.4	+1.0
CHGN				IAML			19 42 57.9	
	comp=E,45nm,1.3s							
CHGN				IAML			19 44 24.4	
	comp=N,53nm,1.0s							
RSO	Redoubt South	4.72	344	Pn		Pn	19 41 15.9	+0.4
RSO						Sn	19 42 11.6	+1.3
O18K	Koktuh Hills	4.75	327			Pn	19 41 16.3	+0.5
O18K				IAML			19 42 12.8	
	comp=N,19nm,1.0s							
O18K				IAML			19 42 12.9	
	comp=E,23nm,0.5s							
O18K	Koktuh Hills baz=143	4.75	327	P		Pn	19 41 17.2	+1.4
Q19K	Port Alsworth	4.79	334	Pn		Pn	19 41 17.0	+0.7
O19K						Sn	19 42 11.0	-0.8
O19K				IAML			19 42 14.3	
	comp=N,103nm,0.4s							
HIN	Hinchinbrook I	4.83	22			Pn	19 41 16.8	-0.2
HIN				IAML			19 42 11.4	
	comp=N,52nm,1.3s							
HIN				IAML			19 43 39.5	
	comp=E,60nm,1.4s							
KAIM	Kayak Island	5.00	35			Pn	19 41 19.0	-0.1
KAIM	Kayak Island comp=E,100nm,1.2s	5.00	35	IAML			19 42 16.9	
KAIM	Kayak Island baz=219	5.00	35	P		Pn	19 41 19.0	-0.1
EYAK	Cordova Ski Ar	5.14	25			Pn	19 41 21.5	+0.4
EYAK	Cordova Ski Ar baz=208	5.14	25	P		Pn	19 41 21.5	+0.4
RC01	Rabbit Creek A	5.14	2	Pn		Pn	19 41 20.6	-0.6
RC01				IAML			19 42 24.2	
	comp=E,23nm,1.5s							
RC01				IAML			19 42 28.1	
	comp=N,18nm,1.4s							
RAGM	Ragged Mountai	5.28	31	Pn		Pn	19 41 23.0	-0.2
RAGM				IAML			19 42 26.6	
	comp=E,64nm,1.4s							
N19K	Bonanza Creek	5.37	337			Pn	19 41 25.0	+0.5
N19K	Bonanza Creek baz=153	5.37	337	P		Pn	19 41 25.0	+0.5
GOAT	Goat Mountain	5.43	29			Pn	19 41 24.7	-0.5
CNBA	Chernabura Isl	5.52	262	Pn		Pn	19 41 26.4	0.0
SUA	Susitna One	5.52	357	Pn		Pn	19 41 26.0	-0.5
KNK	Knik Glacier	5.53	8	Pn		Pn	19 41 26.4	-0.1
BERG	Berg Lake	5.58	35			Pn	19 41 27.2	-0.1
O16K	Kokwok River B	5.60	314	Pn		Pn	19 41 28.1	+0.5
N18K	Kilae Creek	5.62	330			Pn	19 41 28.2	+0.4
N18K	Kilae Creek baz=145	5.62	330	P		Pn	19 41 28.7	+0.9
SNH	Sunshine Point	5.72	39	Pn		Pn	19 41 28.9	-0.2
BMRM	Bremner River	5.79	28			Pn	19 41 30.2	+0.1
BMRM	Bremner River baz=212	5.79	28	P		Pn	19 41 30.4	+0.3
GHO	Glory Hole Cre	5.85	6	Pn		Pn	19 41 31.8	+0.7
N17K	Nushagak Hills	5.90	324	Pn		Pn	19 41 32.5	+1.0
SML	Sawmill	5.93	8	Pn		Pn	19 41 32.4	+0.3
KLU	Klutina	5.95	20			Pn	19 41 32.9	+0.5
KLU	Klutina baz=203	5.95	20	P		Pn	19 41 33.1	+0.7
SCM	Sheep Creek Mo	6.06	13	Pn		Pn	19 41 34.0	+0.2
SKT	Skwentna	6.07	354	Pn		Pn	19 41 34.4	+0.4
O15K	Ungalikthiuk R	6.13	306			Pn	19 41 36.2	+1.5
O15K	Ungalikthiuk R baz=118	6.13	306	P		Pn	19 41 36.2	+1.5
M20K	Styx River	6.13	347	Pn		Pn	19 41 35.1	+0.2
M18K	Stony River	6.28	334			Pn	19 41 37.3	+0.5
M18K	Stony River baz=149	6.28	334	P		Pn	19 41 37.3	+0.5
VRDI	Verde Repeater	6.32	31			Pn	19 41 37.6	+0.1
N25K	Chitina, Valde	6.34	25			Pn	19 41 38.4	+0.7
N25K	Chitina, Valde baz=209	6.34	25	P		Pn	19 41 38.4	+0.7
M19K	Big River Lodg	6.35	341	Pn		Pn	19 41 37.6	-0.2
GLB	Gilahina Butte	6.39	28	Pn		Pn	19 41 38.5	0.0
KIAG	Kiagna River	6.42	36			Pn	19 41 39.2	+0.3
CUT	Chulitna	6.46	359	Pn		Pn	19 41 38.9	-0.3
M24K	Tolsona, Glenn	6.48	17	Pn		Pn	19 41 41.0	+1.3
MCARA	McCarthy VSAT	6.57	31	Pn		Pn	19 41 41.2	+0.5
M17K	Holitna River	6.65	328	Pn		Pn	19 41 43.4	+1.5
PCA	Pinnacle	6.67	48			Pn	19 41 42.4	+0.1
PINM	Pinnacle baz=235	6.67	48	P		Pn	19 41 42.4	+0.1
BARN	Barnard Glacie	6.75	37			Pn	19 41 44.1	+0.6
N15K	Kwethluk River	6.76	313			Pn	19 41 45.5	+2.1
N15K	Kwethluk River baz=124	6.76	313	P		Pn	19 41 45.5	+2.1
CTG	Chitna Glacier baz=226	6.80	39	P		Pn	19 41 44.8	+0.7
CTGM	Chitina Glacie	6.80	39			Pn	19 41 44.8	+0.6
PNL	Peninsula	6.82	53			Pn	19 41 43.4	-0.8

M14K	Bethel	7.85	312	Pn		Pn	19 41 57.9	-0.4	
K17K	Iditarod	7.95	332	Pn		Pn	19 41 59.6	0.0	
BPAW	Bear Paw Mtn.	8.17	357	Pn		Pn	19 42 03.0	+0.3	
HYT	Haines Junctio	8.21	48	Pn		Pn	19 42 02.7	-0.8	
RIDG	Independent Ri	8.23	17	Pn		Pn	19 42 04.0	+0.4	
L27K	Beaver Creek,	8.26	27	Pn		Pn	19 42 04.1	+0.1	
BCAR	Beaver Creek A	8.28	27	Pn		Pn	19 42 04.5	+0.3	
M13K	Dall Lake	8.28	308	Pn		Pn	19 42 05.7	+1.5	
J20K	Nowinta River	8.47	348	Pn		Pn	19 42 07.0	+0.1	
HDA	Harding Lake	8.61	9	Pn		Pn	19 42 09.7	+1.0	
N30M	Aishikik Lake	8.72	46	Pn		Pn	19 42 10.2	-0.2	
CCB	Clear Creek Bu	8.78	7	Pn		Pn	19 42 11.9	+0.9	
O30N	Mendenhall	8.79	51	Pn		Pn	19 42 09.9	-1.5	
M29M	Somme Creek	8.81	38	Pn		Pn	19 42 12.3	+0.6	
IL31		8.97	9	Pn		Pn	19 42 14.7	+1.0	
ILAR	Eielson Array	8.97	9	Pn		Pn	19 42 14.1	+0.4	
J25K	Salcha River,	8.98	13	Pn		Pn	19 42 15.0	+1.1	
J16K	Anvik River	9.04	328	Pn		Pn	19 42 16.4	+1.7	
MDM	Murphy Dome	9.07	5	Pn		Pn	19 42 15.9	+0.9	
J26L	Joseph Creek	9.15	18	Pn		Pn	19 42 16.5	+0.2	
I23K	Minto, Yukon-K	9.22	2	Pn		Pn	19 42 18.5	+1.5	
N31M	Braeburn, Yuko	9.27	48	Pn		Pn	19 42 18.6	+0.7	
I21K	Tanana	9.29	355	Pn		Pn	19 42 19.6	+1.6	
L29M	L29M	9.38	35	Pn		Pn	19 42 20.5	+1.1	
P32M	Atlin	9.48	61	Pn		Pn	19 42 20.6	-0.1	
M30M	Minto, Yukon	9.49	40	Pn		Pn	19 42 21.6	+0.8	
H21K	Melozitna Rive	9.81	353	Pn		Pn	19 42 24.3	-0.9	
PRP	Porcupine Dome	9.84	11	Pn		Pn	19 42 25.4	-0.3	
I26K	Coal Creek Min	9.96	17	Pn		Pn	19 42 27.5	+0.2	
P33M	Teslin, Yukon	10.09	58	Pn		Pn	19 42 28.4	-0.7	
K29M	Barlow Dome	10.10	33	Pn		Pn	19 42 29.1	-0.1	
IMAR	Indian Mountai	10.20	352	Pn		Pn	19 42 31.8	+1.3	
M31M	Drury Creek, Y	10.20	46	Pn		Pn	19 42 32.4	+1.8	
I28M	Miner Creek	10.72	23	Pn		Pn	19 42 39.7	+2.0	
J30M	Hart River	10.99	33	Pn		Pn	19 42 43.1	+1.8	
F15K	North Star Dit	12.03	330	Pn		Pn	19 42 59.3	+3.9	

*IDC **26** 19:54:16.4±1.0,26°.73N×110°.98W,h0km,mb4.1/6, mbtmp4.0/15,ML3.5/9,MS3.9/28,Error ellipse: s-maj=16.6km s-min=11.8km az=62.0*
*NEIC **26** 19:54:18.1±2.4,26°.71N±0°.05×111°.01W±0°.03,h15km±5km, mb4.4/58,Md4.4/27(MEX),Error ellipse: s-maj=7.2km s-min=2.5km az=199.0*
*MEX **26** 19:54:19.0±0.5,26°.78N×111°.05W,h10km,MD4.4*

ISC 26 19:54:15.7±2.4,26°.72N±0°.03×110°.99W±0°.04,h2km±16km, n181,σ2§00/165,mb4.4/20,MS3.9/22,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUYB	Guaymas	1.17	5	*i* P		Pb		19 54 37.0	-1.7
GUYB				*i* S		Sb		19 54 51.2	-3.3
SRIG	Santa Rosalia	1.27	298			Pn		19 54 36.4	-4.1
SRIG					Sn	Sb		19 54 55.1	-2.0
SRIG	Santa Rosalia	1.27	298	*e*P		Pn		19 54 37.5	-3.0
SRIG				*e*S		Sb		19 54 53.0	-4.1
TSIG	Topolobambo	2.08	122			Pn		19 54 52.2	+0.6
TSIG					Sn	Sn		19 55 13.7	-4.3
TSIG	Topolobambo	2.08	122	*e*P		Pn		19 54 52.2	+0.6
TSIG				*i* S		Sn		19 55 13.7	-4.3
HSIG		2.29	1	Pn		Pn		19 54 53.0	-1.6
HSIG		2.29	1	*e*P		Pn		19 54 52.6	-1.9
HSIG				*i* S		Sn		19 55 21.1	-2.2
CSIG	Choix	2.34	87			Pb		19 54 58.8	+0.1
CSIG	Choix	2.34	87	*e*P		Pb		19 54 58.8	+0.1
LPIG	La Paz	2.68	167			Pn		19 54 58.8	-1.2
LPIG						Sn		19 55 31.6	-1.4
LPIG	La Paz 23nm,0.3s,baz=309,slow=13,SNR=9.9	2.68	167	Pn		Pn		19 54 59.7	-0.2
LPIG					Lg	Lg		19 55 41.8	
	71nm,0.3s,baz=335,slow=21,SNR=7.7								
LPIG					LR	LR		19 56 01.5	
	comp=Z,2μm,20.0s,baz=338,slow=39 42nm,0.3s								
LPIG	La Paz	2.68	167	*e*P		Pn		19 54 58.8	-1.2
LPIG				*e*S		Sn		19 55 31.6	-1.4
SLBS	Sierra La Lagu	3.17	162	Pn		Pn		19 55 06.2	-0.5
SLBS				Sn		Sn		19 55 45.5	+0.3
BAHB	Baha de los	3.18	315	*e*P		Pn		19 55 09.3	+2.5
BAHB				*e*S		Sn		19 55 46.5	+1.3
NZIG	Nacozari, Sono	3.85	19			Pn		19 55 17.4	+1.2
NZIG						Sn		19 56 02.9	+0.8
NZIG						Sb		19 56 06.8	-4.8
NZIG	Nacozari, Sono	3.85	19	*i* P		Pn		19 55 16.6	+0.5
NZIG				*e*P		Pn		19 55 17.4	+1.2
NZIG				*i* S		Sn		19 56 02.9	+0.8
NZIG				*e*S		Sb		19 56 06.8	-4.8
LAPR	La Primavera	3.94	343	*i* P		Pn		19 55 17.2	-0.1
LAPR				*i* S		Sn		19 56 08.6	+4.5
SSIG	Sanalona	3.95	118			Pb		19 55 26.5	+0.4
SSIG						Sn		19 56 02.4	-2.0
SSIG	Sanalona	3.95	118	*e*P		Pb		19 55 26.5	+0.4
SSIG				*e*S		Sn		19 56 02.4	-2.0
CGIG		4.49	35			Pn		19 55 28.9	+3.9
CGIG						Sn		19 56 09.7	-8.2
CGIG		4.49	35	*e*P		Pn		19 55 28.9	+3.9
CGIG				*e*S		Sn		19 56 09.7	-8.2
HPIG		4.76	86	Pn		Pn		19 55 28.8	+0.1
319A	Douglas	4.87	17	Pn		Pn		19 55 30.3	+0.1
BCIG	La Boquilla	5.03	79			Sn		19 56 36.4	+4.0
BCIG						Sn		19 56 36.0	+4.7
BCIG	La Boquilla	5.03	79	*e*P		Pn		19 55 36.4	+4.0
BCIG				*e*S		Sn		19 56 36.0	+4.7
PIX	Pinacate	5.28	336			Pn		19 55 35.8	+0.1
214A	Organ Pipe Nat	5.45	343	Pn		Pn		19 55 38.1	0.0
TUC	Tucson	5.57	2			Pn		19 55 39.5	-0.2
DUN6	Lazy B Ranch	6.04	15			Pn		19 55 45.9	-0.4
VTX	Valle De La Tr	6.27	319			Pn		19 55 49.7	+0.4
121A	Cookes Peak, D	6.42	25	Pn		Pn		19 55 52.2	+0.7
113A	Mohawk Valley,	6.49	339	Pn		Pn		19 55 52.7	+0.4
VHRN	Van Horn	6.64	51	Pn		Pn		19 55 56.0	+1.4
CPBX	Cerro Prieto	6.81	327	Pn		Pn		19 55 59.4	+2.7
ESJX	Sierra Juarez	6.81	322	Pn		Pn		19 55 59.7	+2.7
MNTX	Cornudas Mount	6.97	43	Pn		Pn		19 56 00.3	+1.4
TX31	Lajitas Ar. Si	6.97	66	Pn		Pn		19 55 59.6	+0.6
TXAR	Lajitas Array	6.97	66	Pn		Pn		19 56 00.9	+1.9
TXAR	Lajitas Array 0.7nm,0.3s,baz=244,slow=13,SNR=50	6.97	66	Pn		Pn		19 55 59.9	+0.9
TXAR					Sn	Sn		19 57 19.2	+0.2
	1.4nm,0.3s,baz=234,slow=15,SNR=3.9								
TXAR					Lg	Lg		19 57 57.2	
	2.2nm,0.3s,baz=227,slow=26,SNR=1.8 3.9nm,0.7s								
YUH	Yuha Desert	7.30	325	Pn		Pn		19 56 07.2	+3.8
Y14A	Wickenburg	7.40	347	Pn		Pn		19 56 05.8	+0.9
ALPN	Alpine	7.41	59	Pn		Pn		19 56 06.9	+1.7
BLYC	Blythe	7.64	337	Pn		Pn		19 55 59.8	+0.8
X16A	Lo Mia Camp, P	7.68	357	Pn		Pn		19 56 08.6	-0.2
PECS	Pecos	7.76	52	Pn		Pn		19 56 10.3	+0.5
X18A	Snowflake	7.83	6			Pn		19 56 11.4	+0.5
GDL2	Guadalupe Moun	7.94	45	Pn		Pn		19 56 12.4	0.0
CRNM	Carthage	8.09	26	Pn		Pn		19 56 15.6	+1.2
LENM	Lemitar	8.18	24	Pn		Pn		19 56 14.8	-1.0
BNM	Barren Site	8.30	26	Pn		Pn		19 56 16.1	-1.3
PFO	Pinyon Flats O 0.2nm,0.3s,baz=120,slow=16,SNR=1.5	8.34	327	Pn		Pn		19 56 18.3	+0.5
PFO					Lg	Lg		19 58 39.6	
	0.1nm,0.3s,baz=220,slow=11,SNR=2.1								
PFO					LR	LR		19 59 14.3	
	comp=Z,498nm,20.0s,baz=152,slow=36 1.3nm,0.5s								
CLN7	Carlsbad 7	8.44	46	Pn		Pn		19 56 19.4	+0.2
W18A	Petrified Fore	8.44	7	Pn		Pn		19 56 18.7	-0.5
SAND	Sanderson	8.45	66	Pn		Pn		19 56 20.6	+1.4
MNHN	Monahans	8.54	55			Pn		19 56 21.4	+0.9
W13A	Hualapai Mount	8.71	344			Pn		19 56 20.6	-2.5
WUAZ	Wupatki	8.77	358	Pn		Pn		19 56 22.6	-1.2
ANMO	Albuquerque	9.07	24	Pn		Pn		19 56 27.8	-0.1
ANMO	Albuquerque 0.1nm,0.3s,baz=169,slow=5.0,SNR=3.1	9.07	24	Pn		Pn		19 56 29.4	+1.5
ANMO					Lg	Lg		19 59 05.6	
	0.4nm,0.3s,baz=259,slow=16,SNR=3.5								
ANMO					LR	LR		19 59 33.1	
	comp=Z,397nm,19.4s,baz=292,slow=35 2.8nm,0.8s								
ODSA	Odessa	9.11	52	Pn		Pn		19 56 28.9	+0.5
DRIO	Del Rio	9.54	71	Pn		Pn		19 56 36.4	+2.1
V12A	Nelson	9.56	341	Pn		Pn		19 56 33.7	-0.9
OZNA	Ozona	9.60	62	Pn		Pn		19 56 37.3	+2.2
PASC	Pasadena Art C	9.68	322	Pn		Pn		19 56 35.1	-0.9
U15A	North Rim	9.74	354			Pn		19 56 37.7	+0.6
SGCY	Sterling City	10.04	57	Pn		Pn		19 56 42.2	+1.1
MSTX	Muleshoe	10.12	43	Pn		Pn		19 56 42.8	+0.6
POST	Post	10.37	50	Pn		Pn		19 56 46.6	+0.9
KNB	Kanab	10.38	352	Pn		Pn		19 56 47.9	+2.1
SHPR	Sheep Range	10.38	341			Pn		19 56 44.1	-1.7
LCMT	Little Creek M	10.43	350			Pn		19 56 46.7	+0.1
QSM	Queen of Sheba	10.49	333			Pn		19 56 46.6	-0.7
JCT	Junction City	10.52	67	Pn		Pn		19 56 49.0	+1.4
GWY	Greenwater Val	10.60	334			Pn		19 56 49.5	+0.6
MVCO	Mesa Verde	10.66	11	Pn		Pn		19 56 50.1	+0.3
PKCU	Pink Cliffs	10.75	354	Pn		Pn		19 56 51.3	+0.3
BCW	Bitter Crk WRg	10.93	321			Pn		19 56 53.1	-0.2
ISA	Isabella, Lake	10.97	326	Pn		Pn		19 56 55.1	+1.3
SZCU	Shurtz Canyon	10.98	351	Pn		Pn		19 56 56.2	+2.0
WCT	Wildcat Mounta	11.12	336	Pn		Pn		19 56 56.8	+0.9
TPNV	Topopah Spring	11.13	338	Pn		Pn		19 56 57.2	+1.1
HMU	Henry Mountain	11.18	1	Pn		Pn		19 56 57.8	+0.8
PRN	Pahroc Range	11.19	343	Pn		Pn		19 56 57.5	+0.6
MTPU	Mount Pierson	11.33	355	Pn		Pn		19 57 02.6	+3.6
BRDY	Brady	11.43	64	Pn		Pn		19 57 01.8	+1.7
ABTX	Abilene, Hawle	11.48	57			Pn		19 57 02.2	+1.5
S22A	4UR Ranch, Cre	11.54	17	Pn		Pn		19 57 03.1	+1.3
GMN	Gold Mountain	11.81	335			Pn		19 57 06.5	+1.0
Q16A	Castle Valley	12.16	359			Pn		19 57 12.7	+2.5
R11B	Troy Canyon, C	12.22	343			Pn		19 57 12.7	+1.6
SPR3	Spring Creek 3	12.56	348	Pn		Pn		19 57 16.9	+1.1
PLPT	Palo Pinto	12.56	58	Pn		Pn		19 57 16.9	+1.3
Q12A	Willow Creek R	12.70	346			Pn		19 57 17.5	0.0
WTFS	Witchita Falls	12.89	54	Pn		Pn		19 57 20.8	+0.8
LHV	Little Huntoon	13.12	333			Pn		19 57 23.2	+0.1
WMOK	Wichita Mounta	13.18	50	Pn		Pn		19 57 25.7	+1.6
NVAR	Mina Array Bea 0.1nm,0.3s,baz=151,slow=12,SNR=15	13.20	330	Pn		Pn		19 57 28.9	+4.5
NVAR					LR	LR		20 02 08.3	
	comp=Z,208nm,20.9s,baz=146,slow=36 5.1nm,1.2s								
BSUT	Blindstream Ca	13.78	1			Pn		19 57 32.7	+0.3
LOOK	Love County	13.94	55			Pn		19 57 34.4	+0.1
BGU	Big Grassy Mou	14.27	354	Pn		Pn		19 57 36.8	-2.2
PNTR	Pine Nut	14.29	332	Pn		Pn		19 57 35.9	-3.4
TCUT	Toone Canyon	14.36	359			Pn		19 57 38.2	-2.1
ELK	Elko 0.1nm,0.3s,baz=181,slow=9.1,SNR=5.9	14.42	347	Pn		Pn		19 57 44.8	+3.6
ELK					LR	LR		20 03 30.8	
	comp=Z,734nm,19.1s,baz=168,slow=38 1.5nm,0.7s								
PAHR	Pah Rah Range	14.72	334	Pn		Pn		19 57 42.1	-3.1
HVU	Hansel Valley comp=Z,25nm,1.3s	15.09	355	IAmb		IAmb		19 58 00.5	
KAN05	Bluff City Nor	15.19	44			Pn		19 57 50.9	-0.4
ORV	Oroville	15.52	328	Pn		Pn		19 57 54.4	-1.3
BW06	Boulder Array comp=Z,18nm,1.3s	16.05	4	IAmb		IAmb		19 58 19.5	
PDAR	Pinedale Array	16.05	4			Pn		19 58 03.8	+1.0
PDAR	Pinedale Array baz=171,slow=12,SNR=15	16.05	4	Pn		P		19 58 05.2	-1.1
PDAR					LR	LR		20 04 11.7	
	comp=Z,325nm,21.0s,baz=179,slow=37 comp=Z,3.6nm,1.0s								
K22A	Casper	16.30	12	P		Pn		19 58 07.1	+1.1
K22A				IAmb		IAmb		19 58 35.1	
	comp=Z,58nm,1.4s								
TPAW	Teton Pass	16.73	0	P		Pn		19 58 12.2	+0.7
LOHW	Long Hollow	16.85	1	P		P		19 58 16.6	+1.3
WVOR	Wild Horse Val comp=Z,26nm,1.4s	16.88	340	IAmb		IAmb		19 58 18.7	
U38A	Gravette	17.12	51			Pn		19 58 16.6	+0.4
IMW	Indian Meadow	17.14	0			Pn		19 58 16.4	-0.2
FLWY	Flagg Ranch comp=Z,36nm,1.4s	17.32	1	IAmb		IAmb		19 58 26.4	
HHAR	Hobbs comp=Z,22nm,1.2s	17.36	53	IAmb		IAmb		19 58 21.3	
CMIG	Matias Romero comp=Z,0.2nm,0.3s,baz=346,slow=9.8,SNR=4.3 comp=Z,19nm,1.2s	17.73	119	P		P		19 58 26.1	+1.2
YBH	Yreka Blue Hor comp=Z,0.1nm,0.3s,baz=165,slow=16,SNR=3.2	17.81	330	P		P		19 58 27.1	+1.5
YBH					LR	LR		20 04 45.8	
	comp=Z,227nm,19.8s,baz=160,slow=35 comp=Z,4.4nm,1.1s								
K05A	Summer Lake comp=Z,55nm,1.4s	17.90	336	IAmb		IAmb		19 58 40.7	
YHH	Hines Hill	18.03	0	P		Pn		19 58 26.7	-1.0
WHAR	Wooly Hollow comp=Z,46nm,1.5s	18.14	57	IAmb		IAmb		19 58 32.1	
RSSD	Black Hills	18.25	16	P		Pn		19 58 29.8	-0.6
RSSD				IAmb		IAmb		19 58 34.4	
	comp=Z,31nm,1.4s								
J05D	Fort Rock, OR	18.51	336			P		19 58 32.2	-1.2
J05D				IAmb		IAmb		19 58 47.9	
	comp=Z,26nm,1.2s								
MGMO	Mountain Grove	18.95	52	P		P		19 58 37.5	-0.7
MGMO				IAmb		IAmb		19 58 52.6	
	comp=Z,30nm,1.5s								
F10A	Beach Ranch, E comp=Z,16nm,1.1s	19.84	347	IAmb		IAmb		19 59 01.4	
MSO	Missoula	20.20	354	P		P		19 58 50.8	-1.1
MSO				IAmb		IAmb		19 58 59.8	
	comp=Z,13nm,1.1s								
E09A	Wood Farm, Sta comp=Z,19nm,1.0s	20.55	346	IAmb		IAmb		19 58 59.0	
ECSD	EROS Data Cent	20.58	31			P		19 58 54.9	-1.1
ECSD				IAmb		IAmb		19 59 08.2	
	comp=Z,6.8nm,0.8s								
E07A	Sunnyside	21.01	343	P		P		19 58 59.5	-1.1
E07A				IAmb		IAmb		19 59 03.4	
	comp=Z,23nm,1.2s								
D08A	Wollman Farm,	21.24	345	P		P		19 59 02.8	-0.3
D08A				IAmb		IAmb		19 59 09.6	
	comp=Z,13nm,0.9s								
EGMT	Eagleton	21.29	2	P		P		19 59 04.2	+0.7
LON	Longmire comp=Z,24nm,1.1s	21.75	340	IAmb		IAmb		19 59 12.8	
TEIG	Tepich comp=Z,2μm,19.6s,baz=60,slow=40	21.79	102	LR		LR		20 08 43.2	
NEW	Newport	22.03	349	P		P		19 59 11.6	0.0
NEW				IAmb		IAmb		19 59 25.1	
	comp=Z,18nm,1.3s								
NEW	Newport comp=Z,6.0nm,0.8s,baz=187,slow=11,SNR=6.4	22.03	349	P		P		19 59 12.9	+1.3
NEW					LR	LR		20 08 11.3	
	comp=Z,336nm,20.0s,baz=186,slow=38 comp=Z,6.0nm,0.8s								
F33A	5 Mile Ranch, comp=Z,13nm,1.1s	22.39	28	IAmb		IAmb		19 59 15.8	
AGMN	Agassiz Nation	24.56	25	P		P		19 59 37.9	+1.0
AGMN				IAmb		IAmb		19 59 42.0	
	comp=Z,11nm,1.2s								
TKL	Tuckaleechee C comp=Z,186nm,19.9s,baz=238,slow=38	24.86	62	LR		LR		20 10 05.7	
ULM	Lac du Bonnet comp=Z,3.4nm,1.0s,baz=218,slow=12,SNR=2.9	26.20	22	P		P		19 59 52.0	+0.3
ULM					LR	LR		20 09 32.8	
	comp=Z,172nm,18.4s,baz=240,slow=35 comp=Z,3.4nm,1.0s								
JSC	Jenkinsville	26.63	66	P		P		19 59 58.1	+2.3
BBB	Bella Bella comp=Z,204nm,19.4s,baz=185,slow=36	28.51	338	LR		LR		20 11 11.4	
SADO	Sadowa comp=Z,292nm,18.1s,baz=27,slow=38	31.23	46	LR		LR		20 13 52.0	
J57A	Williamstown	32.83	50	P		P		20 00 47.9	-2.8
FCC	Fort Churchill comp=Z,4.7nm,0.8s	34.13	16	IAmb		IAmb		20 01 07.8	
YKA	Yellowknife Ar comp=Z,0.9nm,0.9s,baz=180,slow=8.0,SNR=5.6	35.85	357	P		P		20 01 16.8	+0.2
YKA					LR	LR		20 15 56.9	
	comp=Z,225nm,20.2s,baz=172,slow=36 comp=Z,0.9nm,0.9s								
ROSC	El Rosal	41.20	115	LR		LR		20 21 09.2	
	comp=Z,59nm,19.1s,baz=242,slow=39								
SCHQ	Schefferville comp=Z,160nm,18.1s,baz=290,slow=39	42.60	37	LR		LR		20 21 52.9	
INK	Inuvik comp=Z,209nm,20.7s,baz=179,slow=39	43.75	348	LR		LR		20 22 35.2	
BAUV	El Baul	44.28	105	P		P		20 02 27.2	0.0
IL31		44.39	339	P		P		20 02 26.9	-0.4
ILAR	Eielson Array comp=Z,2.9nm,1.0s,baz=148,slow=5.6,SNR=12	44.39	339	P		P		20 02 29.2	+1.8
ILAR					LR	LR		20 23 10.2	
	comp=Z,116nm,18.3s,baz=154,slow=39 comp=Z,2.9nm,1.0s								
F28M	Old Crow	44.51	345	P		P		20 02 29.1	+0.7
F28M				IAmb		IAmb		20 02 39.0	
	comp=Z,3.6nm,0.8s								
E29M	Blow River	44.69	346	IAmb		IAmb		20 02 38.9	
E28M	Babbage River comp=Z,5.3nm,1.1s	45.22	346	IAmb		IAmb		20 02 41.4	
A36M	Sachs Harbour A36M	45.99	354	P		P		20 02 40.7	+0.7
	comp=Z,5.2nm,1.0s				IAmb	IAmb		20 02 46.4	
FRB	Frobisher Bay comp=Z,148nm,18.2s,baz=222,slow=35	46.04	25	LR		LR		20 21 14.0	
D27M	Malcolm River comp=Z,6.7nm,1.1s	46.05	346	IAmb		IAmb		20 02 48.2	
ATAH	Atahualpa comp=Z,60nm,18.1s,baz=357,slow=34	46.16	132	LR		LR		20 20 02.4	
ABD	La Joyeuse, An	46.89	92	P		P		20 02 50.1	+2.3
RES	Resolute Bay comp=Z,134nm,20.0s,baz=12,slow=36	48.73	6	LR		LR		20 23 51.1	
H17K	Granite Mounta	49.08	335	P		P		20 03 04.7	+0.5
E19K	Redstone River E19K	49.37	338	P IAmb		P IAmb		20 03 08.2 20 03 12.9	+1.9
	comp=Z,6.9nm,1.2s								
B22K	Teshekpuk Lake	49.89	343	P		P		20 03 11.7	+1.5
D19K	Kuna River D19K	50.20	339	P IAmb		P IAmb		20 03 13.8 20 03 19.7	+1.1
	comp=Z,5.7nm,1.1s								
C18K	Utukok River C18K	51.26	339	P IAmb		P IAmb		20 03 21.3 20 03 27.0	+0.6
	comp=Z,4.4nm,1.1s								
RPN	Rapa Nui comp=Z,32nm,21.3s,baz=92,slow=28	53.56	178	LR		LR		20 19 42.0	
BOAV	Boa Vista	54.02	108	P		P		20 03 42.1	+0.2
SFJD	Kangerlussuaq comp=Z,286nm,18.7s,baz=225,slow=36	54.19	25	LR		LR		20 26 19.1	
RAR	Rarotonga comp=Z,84nm,21.9s,baz=330,slow=29	67.11	230	LR		LR		20 26 17.4	
H03N2	Juan Fernandez baz=331,slow=77,SNR=7.9	67.14	151	T		T		21 18 18.3	
H03N1	Juan Fernandez baz=331,slow=77,SNR=8.7	67.15	151	T		T		21 18 19.4	
H03N3	Juan Fernandez baz=331,slow=77,SNR=9.5	67.16	151	T		T		21 18 20.3	
JMIC	Jan Mayen comp=Z,58nm,18.6s,baz=312,slow=35	68.95	20	LR		LR		20 34 36.3	
PETK	Petropavlovsk- comp=Z,7.1nm,1.1s,baz=82,slow=13,SNR=2.3 comp=Z,7.1nm,1.1s	69.85	320	P		P		20 05 29.2	+1.4
FINES	FINESS Array B comp=Z,1.3nm,0.9s,baz=344,slow=4.5,SNR=1.7 comp=Z,1.3nm,0.9s	85.55	19	P		P		20 06 56.8	+1.6
GERES	GERESS Array B comp=Z,88nm,18.5s,baz=286,slow=36	90.03	33	LR		LR		20 48 24.2	
URZ	Urewera comp=Z,34nm,19.2s,baz=301,slow=31	93.28	229	LR		LR		20 42 25.2	
HNR	Honiara comp=Z,1μm,21.4s,baz=28,slow=30	93.35	261	LR		LR		20 40 28.1	
DZM	Mont Dzumac comp=Z,45nm,19.7s,baz=228,slow=31	93.43	247	LR		LR		20 42 03.6	

*IDC **26** 20:03:40.2±2.9, 43°.06N×105°.08W, h0km, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=59.0km s-min=9.7km az=157.0*
*NEIC **26** 20:03:42.7±1.9, 43°.60N±0°.06×105°.38W±0°.10, h0km±1km, ML3.0/58, Error ellipse: s-maj=13.1km s-min=9.1km az=240.0*

ISC 26 20:03:42.0±1.2, 43°.61N±0°.06×105°.26W±0°.05, h0km, n34, σ1§62/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.02	60			Pn		20 04 04.1	+0.3
K22A	Casper	1.33	224			Pb		20 04 07.6	-0.3
PHWY	Pilot Hill	2.31	184			Pb		20 04 23.4	-1.3
RWWY	Rawlins	2.40	217			Pb		20 04 26.1	-0.1
RWWY					IAML			20 05 04.6	
	83nm,1.0s								
RWWY					IAML			20 05 06.3	
	121nm,1.0s								
N23A	Red Feather La	2.76	191			Pb		20 04 30.3	-2.1
N23A					IAML			20 05 11.4	
	comp=E,61nm,0.4s								
BRIGG	Briggsdale	3.11	167	Pn		Pb		20 04 35.4	-2.8
LAO	LASA Array	3.15	348	Pn		Pn		20 04 35.6	+2.7
RLMT	Red Lodge	3.25	299			Pn		20 04 35.0	+0.7
RLMT

Error ellipse: s-maj=10.4km s-min=4.6km az=203.0
ISC 26 20:09:17.1±1.0,**56°00N**±0°09›**149°39W**±0°06,**h10**km,
n185,σ1§**26**/192,**mb3.8**/5,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.48**	**301**		**Pn**	**20 09 57.5**	**+0.1**
OHAK					**Sn**	**20 10 24.0**	**-3.7**
OHAK				IAML		20 10 28.4	
	comp=N,163nm,0.8s						
OHAK	**Old Harbor** baz=120	**2.48**	**301**	P	**Pn**	**20 09 57.9**	**+0.5**
OHAK				S	**Sn**	**20 10 27.2**	**-0.5**
	baz=120						
KDAK	**Kodiak Island**	**2.50**	**317**		**Sn**	**20 10 22.4**	**-5.9**
KDAK	**Kodiak Island**	**2.50**	**317**		**Pn**	**20 09 58.5**	**+0.7**
KDAK	**Kodiak Island**	**2.50**	**317**	Pn	**Pn**	**20 09 58.7**	**+1.0**
	comp=N,2.7nm,0.3s,baz=175,slow=6.0,SNR=12						
KDAK				Sn	**Sn**	**20 10 28.1**	**-0.2**
	comp=N,26nm,0.3s,baz=110,slow=18,SNR=28						
	comp=N,8.4nm,0.3s						
SII	**Sitkinak Islan**	**2.73**	**284**		**Pn**	**20 10 00.7**	**-0.3**
SII					**Sn**	**20 10 30.5**	**-3.4**
SII				IAML		20 10 36.2	
	comp=N,149nm,0.8s						
SII	**Sitkinak Islan** baz=102	**2.73**	**284**	P	**Pn**	**20 10 00.8**	**-0.1**
SII				S	**Sn**	**20 10 32.8**	**-1.2**
	baz=102						
Q20K	**Shuyak Island** baz=147	**3.08**	**329**	P	**Pn**	**20 10 05.9**	**+0.1**
Q20K				S	**Sn**	**20 10 44.4**	**+1.8**
	baz=147						
SYI	**Shuyak Island**	**3.08**	**329**		**Pn**	**20 10 05.3**	**-0.4**
SYI	**Shuyak Island**	**3.08**	**329**		**Sn**	**20 10 44.4**	**+1.8**
CNPM	**China Poot**	**3.67**	**345**		**Pn**	**20 10 13.7**	**-0.2**
CNPM					**Pn**	**20 10 13.9**	**0.0**
CNPM				IAML		20 11 00.4	
	comp=E,72nm,1.1s						
Q19K	**Cape Douglas,**	**3.73**	**324**		**Pn**	**20 10 14.4**	**-0.2**
Q19K	**Cape Douglas,** baz=140	**3.73**	**324**	P	**Pn**	**20 10 15.4**	**+0.7**
MID	**Middleton Isla**	**3.81**	**24**	Pn	**Pn**	**20 10 14.6**	**-1.1**
MID				IAML		20 11 12.5	
	comp=N,234nm,1.5s						
Q23K	**Middleton Isla**	**3.81**	**24**	Pn	**Pn**	**20 10 14.8**	**-0.9**
BRSE	**Bradley Lake S**	**3.82**	**350**		**Pn**	**20 10 16.2**	**+0.2**
BRSE					**Sn**	**20 11 00.4**	**-0.5**
BRSE	**Bradley Lake S** baz=168	**3.82**	**350**	P	**Pn**	**20 10 16.2**	**+0.2**
BRSE				S	**Sn**	**20 11 00.4**	**-0.5**
	baz=168						
BRLK	**Bradley Lake**	**3.86**	**349**		**Pn**	**20 10 16.5**	**0.0**
BRLK				IAML		20 11 05.4	
	comp=E,66nm,0.5s						
HOM	**Homer**	**3.86**	**343**	Pn	**Pn**	**20 10 13.6**	**-2.9**
P19K	**Oil Pt**	**4.20**	**332**	Pn	**Pn**	**20 10 19.4**	**-1.7**
P19K				IAML		20 11 17.5	
	comp=E,157nm,0.6s						
P19K				IAML		20 11 17.5	
	comp=N,113nm,0.5s						
IVE	**Iliamna Volcan**	**4.47**	**336**		**Pn**	**20 10 25.4**	**+0.6**
SLKM	**Skilak Lake**	**4.54**	**355**		**Pn**	**20 10 25.9**	**0.0**
P18K	**Big Mountain,**	**4.62**	**320**		**Pn**	**20 10 27.7**	**+0.8**
P18K	**Big Mountain,** comp=E,28nm,0.9s	**4.62**	**320**	IAML		20 11 25.1	
P18K	**Big Mountain,** baz=135	**4.62**	**320**	P	**Pn**	**20 10 27.7**	**+0.8**
HIN	**Hinchinbrook I**	**4.67**	**18**		**Pn**	**20 10 27.4**	**-0.2**
HIN	**Hinchinbrook I** comp=E,72nm,1.4s	**4.67**	**18**	IAML		20 11 05.8	
HIN				IAML		20 11 23.6	
	comp=N,77nm,1.5s						
KAIM	**Kayak Island**	**4.75**	**32**		**Pn**	**20 10 27.9**	**-0.7**
KAIM				IAML		20 11 28.1	
	comp=E,114nm,1.5s						
KAIM				IAML		20 11 51.0	
	comp=N,93nm,1.4s						
KAIM	**Kayak Island** baz=215	**4.75**	**32**	P	**Pn**	**20 10 28.1**	**-0.5**
RSO	**Redoubt South**	**4.81**	**340**	Pn	**Pn**	**20 10 29.9**	**+0.1**
RDT	**Redoubt**	**4.86**	**342**		**Pn**	**20 10 30.3**	**+0.1**
RDWB	**Redoubt West**	**4.86**	**339**			**20 10 30.4**	**+0.2**
CAPN	**Captain Cook N**	**4.87**	**350**	Pn	**Pn**	**20 10 29.7**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.95**	**21**			**20 10 31.2**	**-0.2**
EYAK	**Cordova Ski Ar** baz=203	**4.95**	**21**	P	**Pn**	**20 10 31.2**	**-0.2**
O18K	**Koktuh Hills**	**4.95**	**324**	Pn	**Pn**	**20 10 29.1**	**-2.4**
O18K				IAML		20 11 32.8	
	comp=N,45nm,0.7s						
O18K				IAML		20 11 33.3	
	comp=E,37nm,0.7s						
CHGN	**Chignik**	**5.05**	**277**	Pn	**Pn**	**20 10 32.6**	**-0.2**
CHGN				IAML		20 11 47.3	
	comp=E,59nm,1.0s						
CHGN				IAML		20 11 48.6	
	comp=N,60nm,1.3s						
RAGM	**Ragged Mountai**	**5.06**	**28**		**Pn**	**20 10 32.5**	**-0.4**
RAGM	**Ragged Mountai** comp=E,64nm,1.0s	**5.06**	**28**	IAML		20 11 31.5	
RC01	**Rabbit Creek A**	**5.11**	**358**	Pn	**Pn**	**20 10 33.1**	**-0.5**
RC01				IAML		20 11 44.0	
	comp=E,26nm,1.4s						
GOAT	**Goat Mountain**	**5.21**	**26**		**Pn**	**20 10 34.6**	**-0.5**
BERG	**Berg Lake**	**5.33**	**32**		**Pn**	**20 10 36.3**	**-0.4**
BERG				IAML		20 11 42.0	
	comp=N,65nm,1.5s						
BERG				IAML		20 11 50.4	
	comp=E,63nm,1.5s						
SNH	**Sunshine Point**	**5.45**	**37**		**Pn**	**20 10 37.5**	**-0.8**
KNK	**Knik Glacier**	**5.45**	**5**		**Pn**	**20 10 38.4**	**+0.1**
KNK	**Knik Glacier** baz=185	**5.45**	**5**	P	**Pn**	**20 10 38.4**	**+0.1**
N19K	**Bonanza Creek**	**5.52**	**333**		**Pn**	**20 10 39.1**	**-0.2**
N19K	**Bonanza Creek** baz=149	**5.52**	**333**	P	**Pn**	**20 10 39.5**	**+0.2**
SUA	**Susitna One**	**5.53**	**353**	Pn	**Pn**	**20 10 39.5**	**+0.1**
BMRM	**Bremner River**	**5.58**	**25**			**20 10 39.7**	**-0.4**
BMRM	**Bremner River** baz=208	**5.58**	**25**	P	**Pn**	**20 10 39.7**	**-0.4**
PMR	**Palmer**	**5.61**	**1**	Pn	**Pn**	**20 10 41.3**	**+0.9**
STLK	**Strandline Lak**	**5.66**	**348**		**Pn**	**20 10 42.1**	**+0.8**
S14K	**Fog Glacier** baz=90	**5.69**	**277**	P	**Pn**	**20 10 42.6**	**+1.0**
VNFG	**Fog Glacier, M**	**5.69**	**277**		**Pn**	**20 10 42.6**	**+1.0**
GHO	**Glory Hole Cre**	**5.80**	**2**		**Pn**	**20 10 43.3**	**+0.2**
KLU	**Klutina**	**5.80**	**17**		**Pn**	**20 10 43.5**	**+0.4**
KLU	**Klutina** baz=199	**5.80**	**17**	P	**Pn**	**20 10 43.6**	**+0.4**
N18K	**Kilae Creek**	**5.81**	**327**	Pn	**Pn**	**20 10 43.1**	**-0.1**
SML	**Sawmill**	**5.85**	**5**		**Pn**	**20 10 44.0**	**+0.2**
SML	**Sawmill** baz=185	**5.85**	**5**	P	**Pn**	**20 10 44.0**	**+0.2**
O16K	**Kokwok River B**	**5.88**	**311**		**Pn**	**20 10 44.9**	**+0.7**
O16K	**Kokwok River B** baz=124	**5.88**	**311**	P	**Pn**	**20 10 44.9**	**+0.7**
CHNA	**Chernabura Isl** baz=76	**5.92**	**263**	P	**Pn**	**20 10 43.9**	**-0.9**
CNBA	**Chernabura Isl**	**5.93**	**263**		**Pn**	**20 10 43.7**	**-1.1**
SCM	**Sheep Creek Mo**	**5.95**	**10**	Pn	**Pn**	**20 10 45.9**	**+0.7**
VRDI	**Verde Repeater**	**6.09**	**28**		**Pn**	**20 10 46.5**	**-0.7**
SKT	**Skwentna**	**6.10**	**350**		**Pn**	**20 10 46.0**	**-1.3**
N25K	**Chitina, Valde**	**6.15**	**22**		**Pn**	**20 10 48.2**	**+0.2**
N25K	**Chitina, Valde** baz=205	**6.15**	**22**	P	**Pn**	**20 10 48.2**	**+0.2**
KIAG	**Kiagna River**	**6.16**	**34**		**Pn**	**20 10 47.5**	**-0.7**
SAMH	**Samovar Hills**	**6.17**	**44**		**Pn**	**20 10 47.8**	**-0.3**
GLB	**Gilahina Butte**	**6.18**	**26**		**Pn**	**20 10 48.0**	**-0.4**
M20K	**Styx River**	**6.21**	**343**	Pn	**Pn**	**20 10 47.3**	**-1.5**
SDPT	**Sand Point**	**6.30**	**269**	Pn	**Pn**	**20 10 49.5**	**-0.5**
MCARA	**McCarthy VSAT**	**6.34**	**29**		**Pn**	**20 10 50.7**	**+0.3**
PTPK	**Patty Peak**	**6.34**	**32**		**Pn**	**20 10 50.6**	**0.0**
M24K	**Tolsona, Glenn**	**6.35**	**14**	Pn	**Pn**	**20 10 50.3**	**-0.4**
PCA	**Pinnacle**	**6.35**	**46**		**Pn**	**20 10 50.1**	**-0.7**
PINM	**Pinnacle** baz=233	**6.36**	**46**	P	**Pn**	**20 10 50.1**	**-0.7**
CUT	**Chulitna**	**6.44**	**356**	Pn	**Pn**	**20 10 51.5**	**-0.4**
M19K	**Big River Lodg**	**6.46**	**338**	Pn	**Pn**	**20 10 50.8**	**-1.4**
PNL	**Peninsula**	**6.48**	**51**		**Pn**	**20 10 51.6**	**-0.9**
PNL	**Peninsula** baz=239	**6.48**	**51**	P	**Pn**	**20 10 51.6**	**-0.9**
BARN	**Barnard Glacie**	**6.49**	**35**		**Pn**	**20 10 52.3**	**-0.4**
CTGM	**Chitina Glacie**	**6.53**	**37**	Pn	**Pn**	**20 10 52.5**	**-0.7**
BCPM	**Bancas Point**	**6.53**	**49**	Pn	**Pn**	**20 10 52.7**	**-0.4**
LOGN	**Logan Glacier**	**6.54**	**39**		**Pn**	**20 10 52.7**	**-0.7**
M17K	**Holitna River**	**6.84**	**326**	Pn	**Pn**	**20 10 57.1**	**-0.3**
N15K	**Kwethluk River**	**7.04**	**311**	Pn	**Pn**	**20 11 01.0**	**+0.9**
M16K	**Timber Creek**	**7.10**	**319**	Pn	**Pn**	**20 10 59.7**	**-1.2**
PN7A	**Pavlof North-7**	**7.14**	**271**		**Pn**	**20 11 01.6**	**+0.1**
O14K	**Tigyukauivet M**	**7.16**	**302**	Pn	**Pn**	**20 11 00.8**	**-0.8**
O29M	**Mount Kennedy**	**7.16**	**49**		**Pn**	**20 11 01.4**	**-0.5**
O29M	**Mount Kennedy** baz=237	**7.16**	**49**	P	**Pn**	**20 11 01.4**	**-0.5**
DHY	**Denali Highway**	**7.17**	**7**	Pn	**Pn**	**20 11 02.8**	**+0.7**
M26K	**Nabesna, AK**	**7.21**	**24**	Pn	**Pn**	**20 11 02.7**	**+0.3**
P29M	**Windy Craggy**	**7.21**	**55**		**Pn**	**20 11 01.1**	**-1.4**
P29M	**Windy Craggy** baz=244	**7.21**	**55**	P	**Pn**	**20 11 01.1**	**-1.4**
L18K	**Granite Mounta**	**7.28**	**332**	Pn	**Pn**	**20 11 02.9**	**-0.5**
RND	**Reindeer**	**7.44**	**2**	Pn	**Pn**	**20 11 05.4**	**-0.2**
M27K	**Edge Creek, AK**	**7.45**	**28**	Pn	**Pn**	**20 11 04.4**	**-1.5**
S31K	**Pelican**	**7.46**	**69**		**Pn**	**20 11 01.8**	**-4.0**
S31K	**Pelican** baz=259	**7.46**	**69**	P	**Pn**	**20 11 01.8**	**-4.0**
TRF	**Thorofare Moun**	**7.49**	**357**	Pn	**Pn**	**20 11 06.0**	**-0.4**
CAST	**Castle Rocks**	**7.57**	**351**		**Pn**	**20 11 06.3**	**-1.0**
KTH	**Kantishna Hill**	**7.62**	**355**	Pn	**Pn**	**20 11 06.2**	**-1.8**
N14K	**Kuskokwak Cree**	**7.63**	**306**		**Pn**	**20 11 08.4**	**+0.3**
N14K	**Kuskokwak Cree** baz=116	**7.63**	**306**	P	**Pn**	**20 11 08.4**	**+0.3**
L26K	**Log Cabin Wild**	**7.69**	**21**		**Pn**	**20 11 06.1**	**-2.9**
L16K	**Owhat River**	**7.75**	**322**	Pn	**Pn**	**20 11 09.4**	**-0.4**
K20K	**Telida**	**7.75**	**344**	Pn	**Pn**	**20 11 07.9**	**-1.9**
HYT	**Haines Junctio**	**7.89**	**47**	Pn	**Pn**	**20 11 09.9**	**-2.0**
L27K	**Beaver Creek,**	**8.05**	**25**	Pn	**Pn**	**20 11 12.7**	**-1.4**
BCAR	**Beaver Creek A**	**8.07**	**25**	Pn	**Pn**	**20 11 12.6**	**-1.6**
RIDG	**Independent Ri**	**8.09**	**15**		**Pn**	**20 11 14.9**	**+0.4**
K17K	**Iditarod**	**8.12**	**330**	Pn	**Pn**	**20 11 14.4**	**-0.5**
BPAW	**Bear Paw Mtn.**	**8.17**	**355**	Pn	**Pn**	**20 11 15.2**	**-0.3**
SKAG	**Skagway**	**8.28**	**59**	Pn	**Pn**	**20 11 15.0**	**-2.2**
N30M	**Aishikik Lake**	**8.41**	**44**	Pn	**Pn**	**20 11 18.1**	**-0.9**
SCRK	**Sand Creek**	**8.45**	**16**	Pn	**Pn**	**20 11 20.2**	**+0.7**
O30N	**Mendenhall**	**8.46**	**50**	Pn	**Pn**	**20 11 18.6**	**-1.0**
HDA	**Harding Lake**	**8.53**	**7**	Pn	**Pn**	**20 11 20.1**	**-0.4**
J20K	**Nowinta River**	**8.54**	**346**	Pn	**Pn**	**20 11 19.6**	**-1.0**
M29M	**Somme Creek**	**8.54**	**36**	Pn	**Pn**	**20 11 20.1**	**-0.7**
J19K	**Poorman**	**8.60**	**341**	Pn	**Pn**	**20 11 22.3**	**+0.8**
NEA2	**Nenana**	**8.62**	**1**	Pn	**Pn**	**20 11 22.2**	**+0.4**
CCB	**Clear Creek Bu**	**8.71**	**5**	Pn	**Pn**	**20 11 23.2**	**+0.3**
K27K	**Chicken**	**8.84**	**21**	Pn	**Pn**	**20 11 24.1**	**-0.6**
J25K	**Salcha River,**	**8.87**	**11**	Pn	**Pn**	**20 11 24.8**	**-0.3**
IL31		**8.89**	**7**	Pn	**Pn**	**20 11 24.9**	**-0.4**
ILAR	**Eielson Array**	**8.89**	**7**	Pn	**Pn**	**20 11 25.5**	**+0.1**
ILAR	**Eielson Array**	**8.89**	**7**	Pn	**Pn**	**20 11 26.9**	**+1.5**
	comp=E,0.3nm,0.3s,baz=191,slow=13,SNR=8.3						
ILAR				Sn	**Sn**	**20 13 01.7**	**-3.8**
	comp=E,0.2nm,0.3s,baz=201,slow=22,SNR=5.0						
	comp=E,0.8nm,0.5s						
WHY	**Whitehorse**	**8.94**	**53**	Pn	**Pn**	**20 11 25.3**	**-1.0**
N31M	**Braeburn, Yuko**	**8.95**	**47**	Pn	**Pn**	**20 11 26.2**	**-0.2**
J26L	**Joseph Creek**	**9.00**	**16**		**Pn**	**20 11 27.4**	**+0.3**
MDM	**Murphy Dome**	**9.01**	**3**	Pn	**Pn**	**20 11 27.6**	**+0.5**
MLY	**Manley**	**9.09**	**356**	Pn	**Pn**	**20 11 28.2**	**+0.1**
P32M	**Atlin**	**9.11**	**60**	Pn	**Pn**	**20 11 26.7**	**-1.7**
L29M	**L29M**	**9.13**	**34**	Pn	**Pn**	**20 11 28.6**	**-0.1**
I23K	**Minto, Yukon-K**	**9.18**	**0**	Pn	**Pn**	**20 11 30.3**	**+1.0**
M30M	**Minto, Yukon**	**9.21**	**39**	Pn	**Pn**	**20 11 29.0**	**-0.8**
J16K	**Anvik River**	**9.24**	**327**	Pn	**Pn**	**20 11 30.4**	**+0.2**
I21K	**Tanana**	**9.30**	**353**	Pn	**Pn**	**20 11 32.2**	**+1.3**
DAWY	**Dawson**	**9.50**	**28**	Pn	**Pn**	**20 11 34.6**	**+0.8**
Q32M	**Nakina River**	**9.68**	**65**	Pn	**Pn**	**20 11 34.4**	**-2.1**
EGAK	**Eagle**	**9.69**	**21**	Pn	**Pn**	**20 11 36.6**	**+0.2**
P33M	**Teslin, Yukon**	**9.73**	**57**	Pn	**Pn**	**20 11 35.5**	**-1.5**
PRP	**Porcupine Dome**	**9.73**	**10**	Pn	**Pn**	**20 11 37.7**	**+0.6**
I26K	**Coal Creek Min**	**9.82**	**16**	Pn	**Pn**	**20 11 39.4**	**+1.3**
H21K	**Melozitna Rive**	**9.83**	**352**		**Pn**	**20 11 38.6**	**+0.3**
H21K	**Melozitna Rive** baz=168	**9.83**	**352**	P	**Pn**	**20 11 38.8**	**+0.5**
K29M	**Barlow Dome**	**9.85**	**32**		**Pn**	**20 11 38.5**	**-0.2**
M31M	**Drury Creek, Y**	**9.89**	**45**	Pn	**Pn**	**20 11 39.4**	**+0.2**
H24K	**Noodor Dome**	**9.90**	**4**	Pn	**Pn**	**20 11 39.7**	**+0.4**
N32M	**Quiet Lake**	**9.95**	**52**	Pn	**Pn**	**20 11 39.7**	**-0.3**
IMAR	**Indian Mountai**	**10.24**	**350**	Pn	**Pn**	**20 11 44.1**	**+0.3**
FARO	**Faro, Yukon**	**10.33**	**46**	Pn	**Pn**	**20 11 44.0**	**-1.1**
H17K	**Granite Mounta**	**10.34**	**334**	Pn	**Pn**	**20 11 43.1**	**-2.2**
R33M	**Jennings River**	**10.42**	**63**	Pn	**Pn**	**20 11 44.6**	**-2.0**
I28M	**Miner Creek**	**10.53**	**22**	Pn	**Pn**	**20 11 47.2**	**-0.8**
G21K	**Allakaket**	**10.73**	**351**	Pn	**Pn**	**20 11 48.0**	**-2.7**
J30M	**Hart River**	**10.74**	**32**	Pn	**Pn**	**20 11 49.1**	**-1.9**
G23K	**Bananza Creek**	**10.75**	**359**	Pn	**Pn**	**20 11 48.8**	**-2.1**
DLBC	**Dease Lake**	**10.78**	**69**	Pn	**Pn**	**20 11 48.5**	**-2.9**
DLBC	**Dease Lake**	**10.78**	**69**	Pn	**Pn**	**20 11 50.3**	**-1.0**
	comp=E,0.3nm,0.3s,baz=243,slow=9.0,SNR=2.8						
	comp=E,3.0nm,0.8s						
I30M	**Mount Dempster**	**11.22**	**29**	Pn	**Pn**	**20 11 54.5**	**-2.9**
F20K	**Avaraart Lake**	**11.48**	**347**	Pn	**Pn**	**20 12 00.5**	**-0.4**
H29M	**Whitestone**	**11.53**	**23**	Pn	**Pn**	**20 12 00.6**	**-1.0**
F24K	**Squaw Lake**	**11.58**	**3**	Pn	**Pn**	**20 12 02.5**	**+0.2**
E19K	**Redstone River**	**12.07**	**345**	Pn	**Pn**	**20 12 07.5**	**-1.4**
D22K	**Ayikyak River**	**13.02**	**355**	Pn	**Pn**	**20 12 20.6**	**-1.2**
G31M	**Satah River**	**13.07**	**27**	Pn	**Pn**	**20 12 20.6**	**-1.9**
E28M	**Babbage River**	**13.43**	**16**	Pn	**Pn**	**20 12 25.1**	**-2.3**
D25K	**Kavik River**	**13.44**	**5**	Pn	**Pn**	**20 12 25.2**	**-2.5**
E29M	**Blow River**	**13.50**	**18**	Pn	**Pn**	**20 12 27.3**	**-1.1**
INK	**Inuvik**	**14.33**	**24**	Pn	**Pn**	**20 12 40.4**	**+0.7**
INK	**Inuvik**	**14.33**	**24**	Pn	**Pn**	**20 12 41.4**	**+1.7**
	comp=E,0.1nm,0.3s,baz=200,slow=15,SNR=7.5						
	comp=E,2.8nm,0.9s						
B20K	**Meade River**	**14.47**	**349**	Pn	**Pn**	**20 12 41.1**	**-0.6**
B22K	**Teshekpuk Lake**	**14.51**	**355**	Pn	**Pn**	**20 12 43.1**	**+1.0**
YKA	**Yellowknife Ar** baz=264,slow=9.9,SNR=1.8	**18.75**	**55**	P	**Pn**	**20 13 36.2**	**0.0**
	comp=E,0.2nm,0.7s						
SONM	**Songino Array**	**58.77**	**310**	P	**P**	**20 19 16.1**	**+1.0**
	comp=E,0.3nm,0.5s,baz=62,slow=7.2,SNR=2.7						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**61.77**	**327**	P	**P**	**20 19 36.6**	**+1.3**
	comp=E,0.2nm,0.3s,baz=34,slow=8.7,SNR=1.8						
	comp=E,0.2nm,0.3s						
BVAR	**Borovoye Array**	**66.51**	**335**	P	**P**	**20 20 08.1**	**+1.6**
	comp=E,0.6nm,0.9s,baz=46,slow=6.2,SNR=2.0						
	comp=E,0.6nm,0.9s						
MKAR	**Makanchi Array**	**68.79**	**325**	P	**P**	**20 20 21.8**	**+0.8**
	comp=E,0.7nm,1.0s,baz=25,slow=7.5,SNR=4.7						
	comp=E,0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**86.36**	**298**	P	**P**	**20 21 59.7**	**+0.3**
	comp=E,0.6nm,0.7s,baz=9.5,slow=5.3,SNR=5.0						
	comp=E,0.6nm,0.7s						

MOS **26** *20:17:33.8±1.1,33.68N×45.68E,h12km,mb4.6/34,Error ellipse: s-maj=5.9km s-min=3.8km az=113.9*
TEH **26** *20:17:34.4,33.68N×45.61E,h8km±42km,ML4.4*
IDC **26** *20:17:34.4±0.5,33.82N×45.65E,h0km,mb4.2/31, mbtmp4.2/42,ML3.5/10,MS3.4/25,Error ellipse: s-maj=10.7km s-min=8.8km az=156.0*
ISN **26** *20:17:34.7±0.6,33.79N×45.71E,h8km±3km,ML4.3*
DSN **26** *20:17:35.3±2.4,33.54N×45.60E,h10km,mb4.9/2,Error ellipse: s-maj=27.3km s-min=15.4km az=129.0*
NEIC **26** *20:17:35.2±1.8,33.58N±0.05×45.66E±0.08,h10km±1km, mb4.6/91,Error ellipse: s-maj=11.1km s-min=8.7km az=101.0*
GII **26** *20:17:36.5±0.4,33.56N×45.68E,h10km,Mws4.7, confirmed*
OMAN **26** *20:17:45.7±1.3,33.24N×46.51E,h8km,mb4.2/37,Error ellipse: s-maj=17.3km s-min=12.4km az=29.0*
NAO **26** *20:18:22.2,39.31N×45.02E,h33km,mb3.9*

ISC 26 20:17:36.4±0.6,**33.67N**±0.03×**45.77E**±0.03,**h20**km±2km,
n464,σ1§**85**/485,**mb4.5**/116,**MS3.4**/18,**16C-14D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.37**	**97**	Pg	**Pb**	**20 17 44.9**	**+0.5**
ILBA				Sg	**Sn**	**20 17 52.0**	**-1.4**
IBDR	**Badra**	**0.58**	**166**	*e*Pg	**Pb**	**20 17 48.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**20 17 58.5**	**+0.1**
IBDR				AML	AML	20 18 05.4	
	comp=N,7μm,0.7s						
IBDR				AML	AML	20 18 10.2	
	comp=E,5μm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.84**	**350**	Pg	**Pb**	**20 17 50.7**	**-1.7**
IGHG	**Ghaleghazi**	**0.93**	**45**	Pg	**Pn**	**20 17 54.7**	**+0.1**
IGHG				Sg	**Sn**	**20 18 09.5**	**+2.0**
IDHR	**Dehrash**	**1.15**	**26**	Pg	**Pn**	**20 17 57.4**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.22**	**60**	Pg	**Pg**	**20 17 59.7**	**-0.3**
BHD	**Baghdad**	**1.23**	**251**	*e*Pn	**Pg**	**20 18 00.0**	**-0.1**
BHD				*e*Sn	**Sg**	**20 18 18.0**	**+1.8**
BHD				AML	AML	20 18 25.5	
	comp=E,28μm,0.4s						
ILIN	**Lien**	**1.59**	**38**	Pg	**Pb**	**20 18 06.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.74**	**94**	Pn	**Pg**	**20 18 09.3**	**-0.6**
IBZA	**Bozab**	**1.91**	**65**	Pn	**Pb**	**20 18 11.6**	**+0.9**
SLY	**Sulaymaniyah**	**1.94**	**354**	Pn	**Pb**	**20 18 10.4**	**-0.6**
RAFI	**Al-Rafai**	**1.97**	**171**	*e*Pn	**Pb**	**20 18 12.0**	**+0.5**
RAFI				*e*Sn	**Sg**	**20 18 39.0**	**-0.7**
IALM	**Almabolaq**	**2.31**	**59**	Pn	**Pb**	**20 18 17.2**	**-0.4**
HSAM	**Samen**	**2.42**	**76**	Pn	**Pb**	**20 18 18.7**	**-1.1**
SDS1	**Sardasht. Az.**	**2.48**	**355**	Pn	**Pn**	**20 18 17.7**	**+1.8**
HAGD	**Aghdareh**	**3.02**	**67**	Pn	**Pn**	**20 18 26.4**	**+3.1**
MAHB	**Mahabad**	**3.09**	**359**	Pn	**Pn**	**20 18 25.8**	**+1.7**
IHSH	**Hashtrud**	**3.82**	**18**	Pn	**Pn**	**20 18 36.5**	**+2.1**
IRAZ	**Razeghan**	**3.84**	**62**	Pn	**Pn**	**20 18 38.4**	**+3.8**
QSDN	**Sirdan**	**3.97**	**44**	Pn	**Pn**	**20 18 38.9**	**+2.5**
IAZR	**Azarshahr**	**4.00**	**2**	Pn	**Pn**	**20 18 38.5**	**+1.7**
YOVA	**Hakkari_Yksek**	**4.09**	**343**	Pn	**Pn**	**20 18 39.1**	**+1.1**
HAKT	**HAKKARI**	**4.22**	**337**	Pn	**Pn**	**20 18 40.8**	**+0.9**
JHBN	**Jahan bin**	**4.36**	**108**	Pn	**Pn**	**20 18 44.6**	**+2.8**
IPIR	**Pirpir**	**4.41**	**102**	Pn	**Pn**	**20 18 45.5**	**+3.1**
ISRB	**Sarab**	**4.42**	**20**	Pn	**Pn**	**20 18 45.1**	**+2.6**
IMHD	**Mahdasht**	**4.51**	**62**	Pn	**Pn**	**20 18 47.3**	**+3.7**
IQOM	**Qom**	**4.54**	**74**	Pn	**Pn**	**20 18 46.8**	**+2.5**
ZNGN	**Zangian**	**4.55**	**109**	Pn	**Pn**	**20 18 47.0**	**+2.5**
ISHB	**Shabestar**	**4.60**	**359**	Pn	**Pn**	**20 18 45.5**	**+0.4**
QAMS	**Qamsar**	**4.69**	**88**	Pn	**Pn**	**20 18 49.7**	**+3.4**
IKLH	**Kolahrood**	**4.87**	**93**	Pn	**Pn**	**20 18 52.5**	**+3.7**
IHSB	**Hasanabad**	**4.87**	**67**	Pn	**Pn**	**20 18 51.5**	**+2.8**
IBRJ	**Brojen**	**4.95**	**109**	Pn	**Pn**	**20 18 53.1**	**+3.2**
IMRD	**Marand**	**5.03**	**359**	Pn	**Pn**	**20 18 52.6**	**+1.7**
IVRN	**Varamin**	**5.10**	**73**	Pn	**Pn**	**20 18 55.0**	**+3.2**
KLST	**Kelardasht - M**	**5.18**	**55**	Pn	**Pn**	**20 18 56.0**	**+2.9**
KRSH	**Karshahi**	**5.31**	**85**	Pn	**Pn**	**20 18 58.0**	**+3.3**
GRMI	**Germi**	**5.41**	**18**	Pn	**Pn**	**20 18 58.3**	**+2.3**
ISFB	**Sefidab**	**5.42**	**81**	Pn	**Pn**	**20 18 58.9**	**+2.8**
IGAR	**Gharneh**	**5.42**	**102**	Pn	**Pn**	**20 18 59.5**	**+3.2**
MZPU	**Pul - Mazandar**	**5.50**	**58**	Pn	**Pn**	**20 19 00.4**	**+3.1**
IDMV	**Damavand**	**5.50**	**68**	Pn	**Pn**	**20 19 00.5**	**+3.0**
IZEF	**Zefreh**	**5.55**	**96**	Pn	**Pn**	**20 19 01.1**	**+3.0**
KLNJ	**Kolanjah**	**5.60**	**117**	Pn	**Pn**	**20 19 00.5**	**+1.6**
GURO	**Guroymak-BITLI**	**5.73**	**329**	Pn	**Pn**	**20 19 00.7**	**+0.2**
GURO				Sn	**Sn**	**20 20 04.2**	**-1.6**
GURO	**Guroymak-BITLI**	**5.73**	**329**	Pn	**Pn**	**20 19 00.7**	**+0.2**
MAKU	**Maku**	**5.74**	**352**	P

SLWR Sila 10.88 150 P Pn 20 20 12.1 +1.1
SLWR S Sn 20 22 08.8 -3.5
GEYT Alibeck 10.89 64 Pn Pn 20 20 13.4 +2.3
comp=Z,0.2nm,0.3s,baz=287,slow=21,SNR=1.7
GEYT Lg Lg 20 23 20.4
comp=Z,0.1nm,0.3s,baz=264,slow=39,SNR=1.3
comp=Z,0.6nm,0.4s
GYA0B ALIBECK ARRAY 10.89 64 Pn Pn 20 20 12.9 +1.8
SOC Sochi 10.96 336 eP Pn 20 20 08.0 -4.1
SOC eSS Sn 20 22 20.6 +6.5
SOC MLR MLR
comp=Z,103nm,11.0s
AFRZ Afriz 11.06 88 Pn Pn 20 20 16.2 +2.6
BR131 Keskin Array S 11.45 305 Pn Pn 20 20 19.1 +0.2
BR131 Keskin Array S 11.45 305 P Pn 20 20 19.1 +0.2
BRTR Keskin Array B 11.45 305 Pn Pn 20 20 19.8 +0.9
BRTR Keskin Array B 11.45 305 P Pn 20 20 19.8 +0.9
BRTR Keskin Array B 11.45 305 Pn Pn 20 20 19.6 +0.6
comp=Z,0.1nm,0.3s,baz=126,slow=17,SNR=7.2
BRTR Lg Lg 20 23 31.4
comp=Z,0.1nm,0.3s,baz=289,slow=19,SNR=1.6
comp=Z,1.4nm,0.8s
GHWR Ruwais 11.50 145 P Pn 20 20 22.0 +2.5
SHME Shamm 11.77 127 *i* P Pn 20 20 24.2 +0.9
SNR=7.5
SHME Shamm 11.77 127 P Pn 20 20 24.3 +1.1
SNR=7.5
SHME S Sn 20 22 27.9 -6.3
BANOM Banah 11.96 127 P Pn 20 20 26.0 +0.1
BANOM S Sn 20 22 33.7 -5.2
ANTO Ankara 12.10 304 Pn Pn 20 20 28.8 +1.1
ANTO Ankara 12.10 304 P Pn 20 20 28.8 +1.1
TBJM Torbat-e-JAM 12.12 78 Pn Pn 20 20 31.2 +3.1
AJN Ajban 12.13 136 *i* P Pn 20 20 29.8 +1.7
SNR=6.7
AJN Ajban 12.13 136 P Pn 20 20 30.0 +1.9
SNR=6.7
AJN S Sn 20 22 39.4 -3.5
MZWR Madinat Zayed 12.17 142 P Pn 20 20 30.2 +1.6
NAZ Nazwa, Dubai 12.21 133 P Pn 20 20 30.4 +1.1
NAZ Nazwa, Dubai 12.21 133 P Pn 20 20 31.1 +1.8
NAZ S Sn 20 22 41.8 -3.1
MASF Masafi 12.25 130 P Pn 20 20 31.0 +1.1
SNR=12
MSFE Esma-Masafi 12.26 130 *i* P Pn 20 20 30.7 +0.7
SNR=11
ASUD Al Ashush, Dub 12.28 135 *i* P Pn 20 20 31.1 +0.9
SNR=6.3
ASUD Al Ashush, Dub 12.28 135 P Pn 20 20 32.1 +1.9
SNR=15
ASUD S Sn 20 22 42.5 -4.1
FAQ Al Faqa, Dubai 12.35 134 P Pn 20 20 32.7 +1.5
FAQ S Sn 20 22 43.9 -4.4
MDH Madha 12.39 130 *i* P Pn 20 20 32.3 +0.6
SNR=5.7
MDH Madha 12.39 130 P Pn 20 20 32.4 +0.7
SNR=5.7
MDH S Sn 20 22 46.0 -3.3
SNR=7.2
UOSS Minazif 12.58 131 Pn Pn 20 20 33.7 -0.7
UOSS Minazif 12.58 131 *i* P Pn 20 20 34.5 +0.1
SNR=6.6
UOSS Minazif 12.58 131 P Pn 20 20 34.2 -0.2
UOSS S Sn 20 22 49.6 -4.3
MZR Muzera 12.61 145 P Pn 20 20 36.1 +1.4
HATD Hatta, Dubai 12.62 132 P Pn 20 20 35.1 +0.2
HATD Hatta, Dubai 12.62 132 P Pn 20 20 35.7 +0.8
HATD S Sn 20 22 51.5 -3.4
ASHO Ashiyiah 12.68 132 *i* P Pn 20 20 35.8 0.0
SNR=12
ASHO Ashiyiah 12.68 132 P Pn 20 20 36.2 +0.5
SNR=12
ASHO S Sn 20 22 51.3 -5.1
ALNE Al Ain 12.96 135 P Pn 20 20 40.6 +1.0
JASK Jask - Hormozg 13.07 123 P Pn 20 20 41.3 +0.4
SOHO SOHO 13.38 132 *i* P Pn 20 20 44.8 -0.3
SNR=7.6
SOHO SOHO 13.38 132 P Pn 20 20 45.2 +0.1
HRA Herat 13.69 82 Pn Pn 20 20 49.9 +0.4
UMZA Um Al Zommool 13.69 140 P Pn 20 20 49.6 +0.1
UMZA S Sn 20 23 14.6 -6.5
ARQ Araqi 13.97 135 P Pn 20 20 53.8 +0.5
SNR=12
ARQ S Sn 20 23 24.3 -3.6
BSY Bisya 14.82 134 P Pn 20 21 03.9 -1.0
SNR=12
BSY S Sn 20 23 40.5 -8.2
BIDO Bidbid 14.82 130 P Pn 20 21 05.0 +0.1
BIDO S Sn 20 23 40.9 -7.7
SMDO Samad 15.11 131 P Pn 20 21 07.9 -1.0
SNR=7.3
WSAR Wadi Sarin 15.35 129 Pn Pn 20 21 10.4 -1.5
comp=Z,0.9nm,0.3s,baz=327,slow=8.9,SNR=19
WSAR Sn Sn 20 23 52.3 -9.1
baz=23,slow=14
WSAR LR LR 20 28 16.3
comp=Z,219nm,18.7s,baz=295,slow=41
WSAR Wadi Sarin 15.35 129 P Pn 20 21 10.5 -1.4
SNR=6.0
JMDO Jabal Madar 15.65 133 P Pn 20 21 15.4 -0.5
NGCH Negor - Chabah 15.72 118 P Pn 20 21 16.3 -0.5
WBK Wadi Bani Khal 16.02 130 P Pn 20 21 19.7 -0.9
SNR=14
JLN Jalan Bani Buh 16.63 130 P Pn 20 21 27.8 -0.5
SNR=16
MHTO MHTO 16.63 136 P Pn 20 21 27.2 -1.2
SNR=9.9
DOK Doka 16.75 151 P Pn 20 21 28.0 -2.0
SNR=23
TIRR Tirgusor 17.22 314 P 20 21 36.5 -0.5
TIRR Tirgusor 17.22 314 P P 20 21 36.6 -0.5
TIRR pmax pmax
comp=Z,123nm,1.4s
DQM DQM 17.24 140 P Pn 20 21 35.0 -1.1
SNR=5.8
WHFO Wadi Hawf 17.25 153 P Pn 20 21 34.2 -2.0
SNR=34
ALN Alexandroupoli 17.25 300 Pn 20 21 35.9 -0.2
ALN Alexandroupoli 17.25 300 P Pn 20 21 35.9 -0.2
ALN pmax pmax
comp=Z,13nm,1.0s
IDI Anoyia 17.29 281 LR LR 20 30 32.4
comp=Z,55nm,20.9s,baz=88,slow=45
ABTO Aybut 17.60 156 P Pn 20 21 38.1 -2.6
SNR=9.4
HARR Harsova 17.63 314 ⇓P P 20 21 42.5 +0.8
HARR Harsova 17.63 314 P P 20 21 42.4 +0.8
RDO Rodhopi 17.70 301 P P 20 21 42.7 +0.3
VRH Novokhopyorsk 17.77 352 P Pn 20 21 41.8 -0.6
VRH pmax pmax
comp=Z,18nm,1.8s
RBK Rabkut 17.79 153 P Pn 20 21 41.3 -1.7
SNR=12
DMTO DMTO 17.90 150 P Pn 20 21 42.0 -2.2
SNR=26
SHAO Shalim 17.91 148 *i* P Pn 20 21 42.0 -2.4
SNR=21
SHAO Shalim 17.91 148 P Pn 20 21 42.3 -2.2
SNR=21
VORD Divnogorie 17.92 347 *e*P Pn 20 21 44.1 -0.2
VORD pmax pmax
comp=Z,5.0nm,0.4s
VSR Storozhevoye 18.18 347 *e*P Pn 20 21 46.0 -1.5
VSR pmax pmax
comp=Z,7.0nm,0.4s
VORR Voronezh 18.61 347 *e*P P 20 21 51.1 -1.3
VORR pmax pmax
comp=Z,19nm,1.3s
BELG Belogornoye 18.76 4 P P 20 21 52.8 -1.2
comp=Z,10nm,0.4s,baz=88,slow=0.5,SNR=19
BELG S Sn 20 25 20.9 -2.7
comp=Z,4.0nm,0.7s,baz=139,slow=20,SNR=1.6
BELG LR LR 20 30 20.8
comp=Z,125nm,18.9s,baz=149,slow=41
ABKAR Akbulak array 18.80 30 P Pn 20 21 55.4 +0.4
ABKAR Akbulak array 18.80 30 P P 20 21 54.8 +0.3
ABKAR IAmb IAmb 20 22 05.8
comp=Z,6.6nm,0.9s
VRI Vrincioaia 18.98 316 ⇑P P 20 21 56.4 -0.1
VRI Vrincioaia 18.98 316 P P 20 21 56.4 -0.1
AKTO Aktyubinsk 19.02 25 P P 20 21 56.5 -0.3
comp=Z,0.3nm,0.3s,baz=204,slow=15,SNR=5.1
AKTO S Sn 20 25 23.4 -6.5
comp=Z,1.1nm,0.7s,baz=281,slow=21,SNR=1.6
AKTO LR LR 20 31 28.9
comp=Z,62nm,18.1s,baz=263,slow=44
comp=Z,2.8nm,0.5s
PLOR Plostina 19.02 315 ⇓P Pn 20 21 57.6 -0.2
PLOR Plostina 19.02 315 P Pn 20 21 57.6 -0.2
MLR Muntele Rosu 19.25 314 Pn 20 22 00.6 0.0
MLR Muntele Rosu 19.25 314 P Pn 20 22 00.6 0.0
MLR pmax pmax
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 19.25 314 P P 20 21 58.0 -1.6
comp=Z,0.2nm,0.3s,baz=113,slow=19,SNR=2.3
comp=Z,1.4nm,0.5s
COVR Voineasa-Covas 19.28 315 ⇓P Pn 20 22 00.7 -0.2
KBL Kabul 19.29 81 P Pn 20 22 02.1 +0.8
KBL Kabul 19.29 81 P Pn 20 22 02.1 +0.8
KBL pmax pmax
comp=Z,23nm,1.1s
KBL Kabul 19.29 81 P Pn 20 22 03.9 +2.6
SNR=10
SIMJ Simiganj 19.39 68 P Pn 20 22 04.3 +1.9
SORM Soroca 19.48 323 ⇑P P 20 22 01.1 -0.8
SORM Soroca 19.48 323 P P 20 22 01.1 -0.8
TURR Turia 19.50 315 ⇓P Pn 20 22 03.0 -0.6
LPSR Galich'ya Gora 19.55 347 *e*P P 20 22 00.4 -2.2
LPSR pmax pmax
comp=Z,40nm,0.8s
AGG Agios Georgios 19.60 293 Pn 20 22 04.1 -0.7
AGG IAmb IAmb 20 22 05.7
comp=Z,38nm,1.4s
AGG Agios Georgios 19.60 293 P Pn 20 22 04.1 -0.7
AGG pmax pmax
comp=Z,38nm,1.4s
OZUR 19.66 315 ⇑P Pn 20 22 04.8 -0.6
VOIR 19.77 313 ⇓P Pn 20 22 06.7 -0.1
VOIR 19.77 313 P Pn 20 22 06.7 -0.1
DOPR Dopca 19.83 314 ⇑P Pn 20 22 06.8 -0.7
ARR Arges 19.99 312 ⇓P Pn 20 22 09.1 -0.3
PRAR RASCA 20.11 319 ⇑P P 20 22 08.2 -0.8
BLKB Belogradchik 20.53 306 ⇑P P 20 22 13.9 +0.4
LOT Lotru 20.57 311 ⇑P P 20 22 14.1 +0.1
FNA Florina 20.64 297 P P 20 22 15.1 +0.4
FNA Florina 20.64 297 P P 20 22 15.1 +0.4
FNA pmax pmax
comp=Z,10.0nm,0.8s
BURAR Bucovina Array 20.82 318 ⇓P P 20 22 16.9 +0.2
BURAR Bucovina Array 20.82 318 P P 20 22 16.8 +0.2
BURAR Bucovina Array 20.82 318 P P 20 22 16.9 +0.2
BUR08 Bucovina Ar. S 20.85 318 P P 20 22 16.9 0.0
AKASG Malin Array Be 20.89 329 P P 20 22 16.1 -1.1
AKASG IAmb IAmb 20 22 17.0
comp=Z,19nm,0.9s
AKASG Malin Array Be 20.89 329 P P 20 22 16.1 -1.1
comp=Z,2.3nm,0.3s,baz=140,slow=9.7,SNR=57
AKASG LR LR 20 31 20.8
comp=Z,73nm,18.2s,baz=51,slow=40
comp=Z,2.3nm,0.3s
AKBB Malin Array Si 20.89 329 P P 20 22 15.6 -1.6
AKBB IAmb IAmb 20 22 17.1
comp=Z,18nm,0.8s
AKBB Malin Array Si 20.89 329 P P 20 22 15.6 -1.6
AKBB pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 20.89 329 ⇓P P 20 22 16.1 -1.1
KIEV Kiev 20.89 329 P P 20 22 15.9 -1.4
KIEV IAmb IAmb 20 22 17.1
comp=Z,16nm,0.8s
KIEV Kiev 20.89 329 P P 20 22 16.1 -1.1
BTK Batken 20.99 65 P Pn 20 22 20.3 -0.9
BTK IAmb IAmb 20 22 32.5
comp=Z,32nm,1.3s
BTK Batken 20.99 65 P Pn 20 22 20.3 -0.9
BTK pmax pmax
comp=Z,32nm,1.3s
ARCR ARCALIA 21.02 316 ⇓P P 20 22 19.8 +1.1
DJES Djerdap 21.03 308 P P 20 22 18.0 -0.9
KBN Korca 21.05 296 P P 20 22 18.6 -0.5
KBN IAmb IAmb 20 22 27.5
comp=Z,46nm,1.2s
KBN Korca 21.05 296 P P 20 22 18.6 -0.5
KBN pmax pmax
comp=Z,46nm,1.2s
GZR Gura Zlata 21.17 310 ⇓P P 20 22 19.9 -0.4
HERR Herculane 21.19 309 ⇑P P 20 22 21.1 +0.6
KK31 Karatay Array 21.50 57 P P 20 22 24.4 +0.5
KK31 IAmb IAmb 20 22 35.4
comp=Z,14nm,0.8s
KK31 Karatay Array 21.50 57 P P 20 22 24.4 +0.5
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 21.50 57 P P 20 22 25.5 +1.7
KKAR Karatay Array 21.50 57 P P 20 22 25.6 +1.7
KKAR IAmb IAmb 20 22 35.4
comp=Z,14nm,0.8s
KKAR Karatay Array 21.50 57 P P 20 22 25.6 +1.7
KKAR pmax pmax
comp=Z,14nm,0.9s
MARR Marisel-Cluj 21.55 314 ⇓P P 20 22 24.6 +0.1
KEK Kerkira 21.64 294 P P 20 22 22.7 -2.7
DRGR 21.85 314 ⇓P P 20 22 27.5 -0.2
DRGR 21.85 314 P P 20 22 27.4 -0.2
TIR Tirane 21.88 298 P P 20 22 27.4 -0.5
TIR IAmb IAmb 20 22 37.7
comp=Z,21nm,0.7s
TIR Tirane 21.88 298 P P 20 22 27.4 -0.5
TIR pmax pmax
comp=Z,21nm,0.7s
BZS Buzias 22.00 310 ⇑P P 20 22 29.0 -0.3
BZS Buzias 22.00 310 P P 20 22 28.9 -0.3
PUK Puka 22.01 300 P P 20 22 30.3 +0.8
PUK IAmb IAmb 20 22 34.0
comp=Z,17nm,0.8s
ATD Arta Tunnel 22.20 188 P P 20 22 28.4 -3.2
ATD Arta Tunnel 22.20 188 LR LR 20 31 40.2
comp=Z,5.3nm,18.6s,baz=38,slow=38
OBN Obninsk 22.38 346 *e*P P 20 22 31.0 -2.2
OBN *e* 20 22 54.4
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 22.38 346 P P 20 22 32.0 -1.2
comp=Z,11nm,0.5s,baz=225,slow=8.6,SNR=2.5
comp=Z,11nm,0.5s
SCTE Santa Cesarea 22.70 294 P P 20 22 34.5 -2.3
SCTE IAmb IAmb 20 22 36.9
comp=Z,16nm,0.8s
LVV L'vov 22.75 322 *e*P P 20 22 35.2 -2.0
MOS Moscow 22.78 348 *e*P P 20 22 31.5 -5.9
MOS *e*S S 20 26 39.9 -5.3
ARSB Arslanbob 22.84 63 P P 20 22 39.1 +0.7
ARSB Arslanbob 22.84 63 P P 20 22 39.1 +0.7
ARSB pmax pmax
comp=Z,8.0nm,1.2s
NIL Nilore 22.86 82 P P 20 22 39.1 +0.7
NIL IAmb IAmb 20 22 42.0
comp=Z,25nm,1.1s
NIL Nilore 22.86 82 P P 20 22 39.2 +0.7
NIL pmax pmax
comp=Z,25nm,1.1s
KOLS Kolonicke sedl 23.19 318 *e*P P 20 22 42.9 +1.1
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 23.19 318 *e*P P 20 22 42.9 +1.1
KWP Kalwaria Pacla 23.34 320 P P 20 22 43.7 +0.5
KWP IAmb IAmb 20 22 48.5
comp=Z,24nm,1.2s
KWP Kalwaria Pacla 23.34 320 P P 20 22 43.7 +0.5
KWP pmax pmax
comp=Z,24nm,1.2s
CRVS Cervenica-Dubn 23.63 317 *e*P P 20 22 47.0 +0.9
CRVS pmax pmax
comp=Z,24nm,1.6s
CRVS Cervenica-Dubn 23.63 317 *e*P P 20 22 47.0 +0.9
TIP Timpagrande 23.92 292 ⇑P P 20 22 47.7 -1.5
TIP Timpagrande 23.92 292 P P 20 22 47.8 -1.3
PSZ Piszkesteto 24.07 314 P P 20 22 49.6 -0.8
PSZ Piszkesteto 24.07 314 P P 20 22 49.6 -0.8
PSZ pmax pmax
comp=Z,8.0nm,0.9s
MORH Mrgy, Hungar 24.15 309 ⇑P P 20 22 50.9 -0.1
AAK Ala-Archa 24.20 60 *i* P P 20 22 53.5 +1.7
AAK pmax pmax
comp=Z,2.0nm,1.2s
AAK Ala-Archa 24.20 60 LR LR 20 33 43.3
comp=Z,133nm,20.9s,baz=278,slow=40
MNK Minsk 24.33 334 *i* P P 20 22 51.8 -0.8
comp=E,9.0nm,0.9s
MNK *i* P P 20 22 51.8 -0.8
comp=N,12nm,0.9s
MNK *i* P P 20 22 51.8 -0.8
comp=Z,23nm,0.9s,baz=142
MNK *i* PP PnPn 20 23 18.2 -4.7
MNK *i* S S 20 27 12.4 +1.7
MNK *i* SS SnSn 20 27 56.6 +2.4
MNK *i* LR LR 20 29 40.5
MNK *i* LRM MLR 20 31 46.8
comp=N,234nm,14.2s
MNK *i* LRM MLR 20 31 46.8
comp=Z,51nm,11.6s
MNK *i* LRM MLR 20 32 16.4
comp=E,76nm,16.8s
MNK Minsk 24.33 334 *i* P P 20 22 51.8 -0.8
MNK *i* S S 20 27 12.4 +1.7
MNK *i* SS SnSn 20 27 56.6 +2.4
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=Z,51nm,12.0s
MNK MLR MLR
comp=N,234nm,14.0s
MNK MLR MLR
comp=E,76nm,17.0s
ARU Arti 24.40 17 P P 20 22 53.7 +0.4
ARU IAmb IAmb 20 23 16.2
comp=Z,9.7nm,1.0s
ARU Arti 24.40 17 *i* P P 20 22 52.8 -0.5
ARU pmax pmax
comp=Z,6.0nm,0.9s
CEL Celeste 24.55 289 P P 20 22 54.7 -0.2
CUC Castrocucco 24.72 293 P P 20 22 56.0 -0.4
CUC IAmb IAmb 20 22 58.3
comp=Z,15nm,0.8s
KSH Kashi 24.87 68 P P 20 22 57.8 -0.1
KSH pP pP 20 23 01.3 -2.7
KSH pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 24.89 316 *e*P P 20 22 59.7 +1.9
LANS Liptovska Anna 24.89 316 *e*P P 20 22 59.7 +1.9
VYHS Vyhne 24.96 314 *e*P P 20 23 01.4 +3.0
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 24.96 314 *e*P P 20 23 01.4 +3.0
SRO Srobarova 24.98 313 *e*P P 20 23 00.2 +1.6
SRO Srobarova 24.98 313 *e*P P 20 23 00.2 +1.6
KIRV Kirov 25.04 5 ⇑*i*P P 20 22 59.0 +0.1
KIRV Kirov 25.04 5 LR LR 20 34 06.2
comp=Z,77nm,19.2s,baz=178,slow=40
NACGM Naroch 25.05 334 *e*P P 20 23 00.2 +1.1
comp=Z,26nm,0.8s,baz=141
NRN Naryn 25.10 63 P P 20 23 01.8 +1.7
NRN IAmb IAmb 20 23 13.2
comp=Z,16nm,1.0s
NRN Naryn 25.10 63 P P 20 23 01.8 +1.7
NRN pmax pmax
comp=Z,16nm,1.0s
OJC Ojcow 25.24 319 P P 20 23 00.6 -0.3
OJC IAmb IAmb 20 23 06.3
comp=Z,12nm,1.0s
OJC Ojcow 25.24 319 P P 20 23 00.6 -0.3
OJC pmax pmax
comp=Z,12nm,1.0s
SVE Sverdlovsk 25.30 19 *e*P P 20 23 03.0 +1.6
SVE pmax pmax
comp=Z,19nm,1.3s
VAE Valguarnera 25.72 287 P P 20 23 07.2 +1.8
comp=Z,12nm,1.0s,baz=170,slow=2.5,SNR=4.6
comp=Z,12nm,1.0s
PAOL Paolisi 25.77 296 P P 20 23 06.2 +0.3
KOGS Kog 25.78 308 *i* P P 20 23 06.6 +0.7
SMOL Smolenice 25.81 314 *e*P P 20 23 07.9 +1.8
JAVC Velka Javorina 25.81 314 *e*P P 20 23 08.1 +1.9
MODS Modra-Piesok 25.84 313 *e*P P 20 23 07.6 +1.2
MODS Modra-Piesok 25.84 313 *e*P P 20 23 07.6 +1.2
SUW Suwalki 25.85 329 P P 20 23 05.9 -0.5
SUW Suwalki 25.85 329 P P 20 23 05.9 -0.5
SUW pmax pmax
comp=Z,27nm,0.5s
ZST Bratislava 25.88 313 *e*P P 20 23 08.6 +1.9
ZST Bratislava 25.88 313 *e*P P 20 23 08.6 +1.9
MAUC Maruska 25.94 316 *e*P P 20 23 07.8 +0.5
BRVK Borovoye 26.11 35 P P 20 23 10.6 +1.8
BRVK Borovoye 26.11 35 *ce*P P 20 23 11.5 +2.8
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BVAR Borovoye Array 26.14 35 P P 20 23 09.8 +0.7
comp=Z,2.7nm,0.5s,baz=235,slow=8.5,SNR=16
BVAR PcP PcP 20 26 37.3 +1.4
comp=Z,2.0nm,0.7s,baz=244,slow=2.6,SNR=7.1
BVAR LR LR 20 35 26.4
comp=Z,60nm,18.5s,baz=226,slow=41
comp=Z,2.7nm,0.5s
RONA Rosalia, Austr 26.19 311 *e*P P 20 23 10.0 +0.4
comp=Z,8.1nm,0.8s,SNR=6.7
MORC Moravsky Berou 26.29 316 ⇓P P 20 23 09.9 -0.7
MORC Moravsky Berou 26.29 316 P P 20 23 09.8 -0.7
MORC Moravsky Berou 26.29 316 *e*P P 20 23 10.4 -0.1
MORC Moravsky Berou 26.29 316 P P 20 23 09.8 -0.7
INTR Introdacqua 26.39 298 P P 20 23 10.0 -1.5
INTR IAmb IAmb 20 23 17.4
comp=Z,6.7nm,0.7s
CONA Conrad Observa 26.55 311 *e*P P 20 23 12.4 -0.4
comp=Z,12nm,1.0s,SNR=7.2
PABE Paberze 26.57 332 P P 20 23 12.1 -0.8
PABE IAmb IAmb 20 23 15.6
comp=Z,13nm,0.7s
VRAC Vranov 26.64 315 *e*P P 20 23 13.3 -0.4
VRAC Vranov 26.64 315 P P 20 23 13.0 -0.7
VRAC Vranov 26.64 315 P P 20 23 13.0 -0.7
comp=Z,1.6nm,0.5s,baz=113,slow=11,SNR=3.3
comp=Z,1.6nm,0.5s
SOKA Soboth 26.65 308 *e*P P 20 23 13.9 0.0
comp=Z,2.7nm,0.7s
SOKA *i* PcP PcP 20 26 39.0 +1.6
comp=Z,2.2nm,0.8s
KRUC Moravsky 26.66 314 *e*P P 20 23 13.4 -0.4
OBKA Obir 26.92 308 *e*pP P 20 23 17.5 +1.2
comp=Z,10.0nm,1.0s
NRCA Norcia 27.09 299 P P 20 23 16.0 -1.8
NRCA IAmb IAmb 20 23 19.6
comp=Z,20nm,1.3s
FDMO Fiordimonte 27.14 300 P P 20 23 16.6 -1.6
FDMO IAmb IAmb 20 23 26.4
comp=Z,7.5nm,0.9s
GORS Gorjuse 27.23 307 *i* P P 20 23 19.9 +0.8
SABO M.te Sabotino 27.40 306 P P 20 23 20.3 -0.2
SABO IAmb IAmb 20 23 27.1
comp=Z,6.2nm,0.7s
KLMR Klimovskoe 27.50 353 *e*P P 20 23 18.2 -2.9
KLMR pmax pmax
comp=Z,21nm,1.6s
MOA Molln 27.52 310 *e*P P 20 23 21.0 -0.6
comp=Z,6.0nm,0.4s
PRED Cave del Predi 27.55 307 P P 20 23 22.1 +0.2
PRED IAmb IAmb 20 23 27.6
comp=Z,5.7nm,0.7s
MYKA Terra Mystica 27.55 308 *i* P P 20 23 20.8 -1.1
comp=Z,6.6nm,0.7s
MYKA *e*PcP PcP 20 26 41.7 +2.2
comp=Z,3.8nm,1.0s
MURB Monte Urbino 27.58 300 P P 20 23 21.9 -0.3
BIOA Bad Ischl, Aus 27.87 310 *e*P P 20 23 24.9 +0.1
comp=Z,2.5nm,0.4s,SNR=4.7
KBA Koelnbreinsper 27.88 308 *e*P P 20 23 24.4 -0.6
comp=Z,4.1nm,0.6s,SNR=4.3
KBA *e*PcP PcP 20 26 37.8 -2.6
comp=Z,7.3nm,2.1s
CLUD Cludinico 28.01 307 P P 20 23 25.3 -0.7
CLUD IAmb IAmb 20 23 29.8
comp=Z,14nm,1.1s
STAL STALIGIAL 28.07 306 P P 20 23 26.2 -0.3
STAL IAmb IAmb 20 23 49.5
comp=Z,13nm,1.5s
ZVC Zvikov 28.13 314 *e*P P 20 23 28.6 +1.6
GEC2 GERESS Array S 28.22 312 P P 20 23 26.9 -1.0
GERES GERESS Array B 28.22 312 P P 20 23 27.4 -0.5
comp=Z,0.4nm,0.4s,baz=115,slow=10,SNR=5.8
GERES PcP PcP 20 26 42.1 +1.0
comp=Z,0.1nm,0.3s,baz=132,slow=1.5,SNR=2.4

comp=Z,0.4nm,0.4s
ABTA Abfaltersbach 28.33 307 *e*PcP **PcP** **20 26 43.0 +1.6**
comp=Z,4.7nm,1.2s
KHC Kasperske Hory 28.39 313 *e*pP pP 20 23 36.0 +0.6
KHC Kasperske Hory 28.39 313 *e*P P 20 23 36.0 +6.6
LESA Schwarzleotal 28.41 309 *e*P **P** **20 23 29.3 -0.3**
comp=Z,1.6nm,0.5s
WTTA Wattenberg 29.05 308 *i* P **P** **20 23 34.8 -0.5**
comp=Z,2.6nm,0.4s
WATA Walderalm 29.11 308 *i* P **P** **20 23 35.8 -0.1**
comp=Z,1.7nm,0.4s
KURBB Kurchatov Arra 29.29 45 P **P** **20 23 39.5 +2.3**
comp=Z,1.9nm,0.7s,baz=252,slow=9.0,SNR=12
KURBB PcP **PcP** **20 26 44.2 +0.6**
comp=Z,0.6nm,0.7s,baz=242,slow=2.2,SNR=6.4
KURBB LR LR 20 37 01.1
comp=Z,111nm,18.1s,baz=202,slow=40
comp=Z,1.9nm,0.7s
SQTA Sankt Quirin 29.32 308 *e*P **P** **20 23 37.2 -0.4**
comp=Z,3.9nm,0.4s
KURK Kurchatov 29.38 45 P **P** **20 23 39.6 +1.5**
KURK 20 26 44.2
MOTA Moosalm 29.42 308 *e*P **P** **20 23 37.8 -0.8**
comp=Z,3.5nm,0.5s
CLL Collm 29.57 316 *e*P **P** **20 23 39.0 -0.7**
CLL Collm 29.57 316 *e*P **P** **20 23 39.0 -0.7**
CLL *ex* x 20 24 05.0
CLL *e*PPP PPP 20 24 42.0
FETA Feichten 29.58 307 *e*P **P** **20 23 39.9 -0.3**
comp=Z,3.9nm,1.1s
FETA *i* PcP **PcP** **20 26 40.2 -4.4**
comp=Z,7.7nm,1.4s
RETA Reutte 29.68 308 *i* P **P** **20 23 39.7 -1.2**
comp=Z,2.1nm,0.4s
DAVOX Davos/Dischmat 30.09 307 P **P** **20 23 42.9 -1.8**
comp=Z,1.0nm,0.4s,baz=165,slow=5.5,SNR=2.7
comp=Z,1.0nm,0.4s
DAVA Damuels 30.21 308 *e*P **P** **20 23 45.0 -0.6**
comp=Z,5.3nm,0.4s
MAKZ Makanchi 30.32 54 P **P** **20 23 48.4 +2.0**
MAKZ IAmb IAmb 20 23 49.8
comp=Z,3.5nm,0.5s
MAKZ Makanchi 30.32 54 P **P** **20 23 48.4 +2.0**
MAKZ pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 30.52 54 P **P** **20 23 50.1 +1.9**
MK31 IAmb IAmb 20 23 52.0
comp=Z,5.9nm,0.8s
MK31 Makanchi Array 30.52 54*ce*P **P** **20 23 50.3 +2.0**
MKAR Makanchi Array 30.52 54 P **P** **20 23 50.4 +2.1**
MKAR Makanchi Array 30.52 54 P **P** **20 23 50.4 +2.1**
MKAR Makanchi Array 30.52 54 P **P** **20 23 49.9 +1.6**
comp=Z,3.1nm,0.3s,baz=257,slow=9.1,SNR=145
MKAR LR LR 20 38 25.7
comp=Z,83nm,18.8s,baz=227,slow=41
comp=Z,3.1nm,0.3s
FINES FINESS Array B 30.54 341 *i* P **P** **20 23 48.0 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 30.54 341 P **P** **20 23 47.7 -0.5**
comp=Z,0.6nm,0.4s,baz=145,slow=10.0,SNR=14
comp=Z,0.6nm,0.4s
BNI Bardonecchia 32.00 302 P **P** **20 24 01.0 -0.4**
BNI Bardonecchia 32.00 302 P **P** **20 24 01.0 -0.4**
BNI pmax pmax
comp=Z,29nm,1.0s
HFS Hagfors 33.75 331 P **P** **20 24 16.3 -0.1**
comp=Z,8.9nm,0.4s,baz=132,slow=10,SNR=122
comp=Z,8.9nm,0.4s
WMQ Urumqi 33.91 60 *e*P **P** **20 24 21.5 +3.4**
WMQ pmax pmax
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 34.11 42 P **P** **20 24 20.5 +1.0**
ZALV Zalesovo Beam 34.11 42 *i* P **P** **20 24 20.7 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 34.11 42 P **P** **20 24 20.5 +0.9**
comp=Z,1.8nm,0.4s,baz=256,slow=8.0,SNR=12
comp=Z,1.8nm,0.4s
DGZ Jazzator, Alta 34.49 50 *i* P **P** **20 24 23.8 +0.7**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
NB2 NORSAR Subarra 35.28 331 P **P** **20 24 28.5 -1.1**
comp=Z,1.1nm,0.6s,baz=121,slow=9.3
NOA NORSAR Array B 35.28 331 P **P** **20 24 29.0 -0.6**
NOA NORSAR Array B 35.28 331 P **P** **20 24 29.0 -0.6**
comp=Z,0.4nm,0.4s,baz=175,slow=16,SNR=8.9
NOA LR LR 20 40 27.9
comp=Z,40nm,21.1s,baz=290,slow=39
comp=Z,0.4nm,0.4s
KMBO Kilima Mbogo 35.53 195 LR LR 20 38 53.6
comp=Z,64nm,19.1s,baz=91,slow=36
TAM Tamanrasset 36.87 264 P **P** **20 24 43.5 -0.3**
TAM Tamanrasset 36.87 264 P **P** **20 24 43.5 -0.3**
TAM pmax pmax
comp=Z,7.0nm,1.2s
MBAR Mbarara 36.91 206 LR LR 20 40 27.5
comp=Z,41nm,18.6s,baz=154,slow=37
ARCES ARCESS Array B 37.65 348 P **P** **20 24 49.7 0.0**
comp=Z,5.4nm,1.0s,baz=166,slow=7.9,SNR=6.1
comp=Z,5.4nm,1.0s
LSA Lhasa 38.59 83 P **P** **20 24 57.9 -0.8**
LSA Lhasa 38.59 83 P **P** **20 24 57.9 -0.8**
LSA pmax pmax
comp=Z,10.0nm,1.2s
ESDC Sonseca Array 39.92 293 P **P** **20 25 09.2 0.0**
comp=Z,2.6nm,1.0s,baz=76,slow=8.4,SNR=8.3
ESDC PcP **PcP** **20 27 15.1 +0.5**
comp=Z,0.7nm,0.8s,baz=102,slow=1.9,SNR=2.7
comp=Z,2.6nm,1.0s
GOMU GeErMu 39.95 72 P **P** **20 25 13.5 +3.6**
GOMU pP sP 20 25 21.0 +2.6
GOMU pmax pmax
comp=Z,6.0nm,0.6s
EKA Eskdalemuir Ar 40.01 318 P **P** **20 25 09.4 -0.2**
comp=Z,4.6nm,0.9s,baz=104,slow=7.9,SNR=10
comp=Z,4.6nm,0.9s
MDT Midelt 41.80 283 P **P** **20 25 25.6 +0.8**
comp=Z,3.8nm,0.8s,baz=61,slow=11,SNR=4.3
comp=Z,3.8nm,0.8s
NRIK Noril'sk 42.55 20 P **P** **20 25 30.2 -0.1**
NRIK IAmb IAmb 20 25 33.9
comp=Z,13nm,1.2s
NRIK Noril'sk 42.55 20*ce*P **P** **20 25 31.4 +1.0**
NRIK pmax pmax
comp=Z,15nm,1.4s
NRIK Noril'sk 42.55 20 P **P** **20 25 31.3 +0.9**
comp=Z,5.9nm,0.9s,baz=226,slow=5.9,SNR=7.6
comp=Z,5.9nm,0.9s
GTA Gaotai 43.26 66 P **P** **20 25 39.0 +2.3**
GTA sP sP 20 25 48.5 +3.2
GTA pmax pmax
comp=Z,6.0nm,1.3s
ZAK Zakamensk 44.71 50 *e*P **P** **20 25 48.8 +0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TOA0 Torodi Ar. Sit 44.90 254 P **P** **20 25 48.5 -1.4**
TOA0 IAmb IAmb 20 25 51.9
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 44.90 254 P **P** **20 25 48.6 -1.3**
TORD Torodi Ar. Bea 44.90 254 P **P** **20 25 50.2 +0.3**
comp=Z,2.7nm,0.7s,baz=64,slow=6.6,SNR=27
comp=Z,2.7nm,0.7s
SPB2 Spitsbergen Ar 46.38 352 P **P** **20 26 00.6 -0.2**
SPITS Spitsbergen Ar 46.38 352 P **P** **20 26 01.6 +0.7**
comp=Z,2.8nm,0.4s,baz=125,slow=10,SNR=28
comp=Z,2.8nm,0.4s
SONM Songino Array 46.89 54 P **P** **20 26 07.3 +1.8**
comp=Z,0.7nm,0.5s,baz=281,slow=9.1,SNR=4.8
SONM PcP **PcP** **20 27 38.0 +0.1**
comp=Z,0.5nm,0.6s,baz=251,slow=4.4,SNR=2.7
comp=Z,0.7nm,0.5s
LZH Lanzhou 47.09 70 *e*P P 20 26 17.8 +11
LZH pP sP 20 26 24.5 +8.7
LZH pmax pmax
comp=Z,19nm,1.5s
ULN Ulaanbaatar 47.33 53 P **P** **20 26 09.3 +0.4**
ULN Ulaanbaatar 47.33 53 *i* P **P** **20 26 10.7 +1.8**
ULN pmax pmax
comp=Z,10.0nm,1.2s
PZH PanZhiHua 48.46 83 P **P** **20 26 19.0 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.0s
CHTO Chiang Mai 49.43 93 P **P** **20 26 25.4 +0.1**
CHTO IAmb IAmb 20 26 26.9
comp=Z,5.3nm,0.9s
CHTO Chiang Mai 49.43 93 P **P** **20 26 25.4 +0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 49.60 94 P **P** **20 26 27.3 +0.8**
comp=Z,2.0nm,0.7s,baz=293,slow=8.2,SNR=21
CMAR PcP **PcP** **20 27 49.4 +1.4**
comp=Z,0.9nm,0.7s,baz=294,slow=5.4,SNR=4.2
CMAR LR LR 20 51 49.6
comp=Z,19nm,20.5s,baz=50,slow=41
comp=Z,2.0nm,0.7s
BTO Baotou 50.68 62 *e*P **P** **20 26 35.5 +0.9**
BTO pP **pP** **20 26 40.3 -0.7**
BTO sP **sP** **20 26 42.5 -0.8**
BTO PP **PP** **20 28 32.5 +2.0**
BTO pmax pmax
comp=Z,17nm,0.9s
BTO pmax pmax
comp=Z,480nm,5.9s
LSZ Lusaka 51.48 202 LR LR 20 51 36.5
comp=Z,69nm,18.6s,baz=179,slow=40
XAN Xi'an 51.67 71 ||P **P** **20 26 43.3 +1.3**
XAN pP pP 20 26 47.0 -1.5
XAN pmax pmax
comp=Z,16nm,0.9s
HHC Hu-ho-hao-te 51.76 62 *e*P **P** **20 26 43.5 +0.8**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,260nm,4.7s
DBIC Dimbokro 53.90 252 P **P** **20 26 58.7 0.0**
comp=Z,2.0nm,0.5s,baz=31,slow=8.4,SNR=5.6
DBIC LR LR 20 52 51.6
comp=Z,103nm,18.6s,baz=258,slow=39
comp=Z,2.0nm,0.5s
LYN LuoYang 54.28 69 *e*P **P** **20 27 02.8 +1.6**
LYN pmax pmax
comp=Z,12nm,0.8s
TIXI Tiksi 56.28 22 P **P** **20 27 15.5 +0.5**
TIXI IAmb IAmb 20 27 27.7
comp=Z,6.9nm,1.1s
TIXI PcP **PcP** **20 28 13.5 +1.2**
TIXI Tiksi 56.28 22 P **P** **20 27 15.5 +0.5**
TIXI 20 28 13.5
TIXI pmax pmax
comp=Z,7.0nm,1.1s
TIXI Tiksi 56.28 22 LR LR 20 55 11.3
comp=Z,49nm,19.9s,baz=28,slow=40
NJ2 Nanjing 60.17 69 *e*P **P** **20 27 41.8 -1.1**
NJ2 sP **pP** **20 27 47.5 -1.9**
NJ2 pmax pmax
comp=Z,3.0nm,0.6s
NJ2 pmax pmax
comp=Z,480nm,5.0s
KLR Kul'dur 62.93 47*ce*P **P** **20 28 01.6 +0.3**
KLR pmax pmax
comp=Z,5.0nm,1.3s
MDJ Mudanjiang 63.23 53 sP sP 20 28 18.3 +6.2
MDJ Mudanjiang 63.23 53 P P 20 28 13.8 +10
MDJ Mudanjiang 63.23 53 S **S** **20 36 31.0 -3.0**
KSRS Korea Array 64.86 61 P **P** **20 28 14.6 +0.4**
comp=Z,0.9nm,0.6s,baz=285,slow=6.9,SNR=2.2
KSRS LR LR 20 58 23.3
comp=Z,18nm,18.7s,baz=55,slow=38
comp=Z,0.9nm,0.6s
BOSA Boshof 64.93 200 P **P** **20 28 16.1 +1.4**
comp=Z,4.7nm,0.8s,baz=17,slow=3.3,SNR=9.0
comp=Z,4.7nm,0.8s
USRK Ussuriysk Ar. 64.98 52 P **P** **20 28 14.6 -0.3**
comp=Z,0.8nm,0.5s,baz=277,slow=5.9,SNR=4.3
comp=Z,0.8nm,0.5s
JNU Nakatsue 68.91 64 LR LR 21 01 14.8
comp=Z,43nm,21.0s,baz=269,slow=38
ASAJ Asahikawa 71.86 49 LR LR 21 05 26.3
comp=Z,90nm,18.6s,baz=312,slow=40
A36M Sachs Harbour 74.44 357 P **P** **20 29 12.5 -0.1**
SCHQ Schefferville 74.65 326 P **P** **20 29 14.2 0.0**
comp=Z,3.5nm,0.7s,baz=36,slow=13,SNR=5.8
comp=Z,3.5nm,0.7s
B20K Meade River 75.28 8 P **P** **20 29 18.9 +1.4**
B20K IAmb IAmb 20 29 26.6
comp=Z,6.1nm,0.8s
C18K Utukok River 76.03 10 P **P** **20 29 23.5 +1.5**
D22K Ayikyak River 76.84 7 P **P** **20 29 27.3 +0.8**
D22K IAmb IAmb 20 29 40.9
comp=Z,5.5nm,1.0s
D25K Kavik River 76.92 4 P **P** **20 29 28.0 +1.1**
D25K IAmb IAmb 20 29 39.2
comp=Z,5.3nm,0.8s
C36M Paulatuk 77.01 356 P **P** **20 29 26.7 -0.7**
C36M IAmb IAmb 20 29 32.4
comp=Z,5.4nm,0.8s
D27M Malcolm River 77.27 2 P **P** **20 29 29.6 +0.7**
D27M IAmb IAmb 20 29 39.5
comp=Z,3.1nm,0.8s
E19K Redstone River 77.69 9 P **P** **20 29 31.9 +0.7**
F17K Baldwin Pennin 78.07 11 P **P** **20 29 34.3 +1.0**
E25K Arctic Village 78.16 4 P **P** **20 29 34.5 +0.6**
E25K IAmb IAmb 20 29 46.1
comp=Z,4.4nm,0.8s
F19K Shaleruckik Mo 78.21 9 P **P** **20 29 34.8 +0.7**
F19K IAmb IAmb 20 29 39.3
comp=Z,8.6nm,1.1s
E29M Blow River 78.21 1 P **P** **20 29 35.4 +1.3**
INK Inuvik 78.33 360 P **P** **20 29 35.2 +0.5**
comp=Z,1.7nm,0.8s,baz=355,slow=8.6,SNR=5.0
comp=Z,1.7nm,0.8s
F21K Alatna River 78.36 8 P **P** **20 29 35.3 +0.3**
F21K IAmb IAmb 20 29 44.7
comp=Z,4.8nm,0.7s
G19K Purcell Mounta 78.95 9 P **P** **20 29 39.4 +1.2**
G18K Tagagawik 78.97 10 P **P** **20 29 38.6 +0.3**
G18K IAmb IAmb 20 29 44.2
comp=Z,7.5nm,1.1s
G21K Allakaket 79.04 8 P **P** **20 29 39.9 +1.2**
G21K IAmb IAmb 20 29 53.0
comp=Z,6.0nm,0.9s
ANM Nome 79.08 13 P **P** **20 29 39.8 +0.9**
ANM Nome 79.08 13 P **P** **20 29 39.8 +0.9**
ANM pmax pmax
comp=Z,11nm,1.2s
F31M Tsiigehtchic 79.20 360 P **P** **20 29 39.5 -0.1**
F31M IAmb IAmb 20 29 47.7
comp=Z,7.0nm,1.1s
H17K Granite Mounta 79.68 11 P **P** **20 29 42.8 +0.6**
H17K IAmb IAmb 20 29 50.6
comp=Z,6.6nm,0.9s
H18K Honhosa River 79.71 10 P **P** **20 29 43.1 +0.7**
G31M Satah River 79.72 0 P **P** **20 29 42.5 +0.2**
G31M IAmb IAmb 20 29 54.3
comp=Z,8.7nm,1.1s
H21K Melozitna Rive 79.95 8 P **P** **20 29 43.5 -0.1**
H21K IAmb IAmb 20 29 52.2
comp=Z,8.9nm,1.0s
MLY Manley 80.78 7 P **P** **20 29 50.0 +1.8**
MLY IAmb IAmb 20 30 00.6
comp=Z,6.1nm,0.9s
MDM Murphy Dome 81.08 6 P **P** **20 29 50.4 +0.6**
ILAR Eielson Array 81.38 5 P **P** **20 29 52.9 +1.5**
comp=Z,1.4nm,0.9s,baz=325,slow=3.9,SNR=10.0
comp=Z,1.4nm,0.9s
J30M Hart River 82.06 1 P **P** **20 29 56.0 +0.9**
CAST Castle Rocks 82.20 8 P **P** **20 29 56.2 +0.5**
SCRK Sand Creek 82.37 4 P **P** **20 29 57.9 +1.2**
YKA Yellowknife Ar 82.87 351 P **P** **20 29 59.8 +0.7**
comp=Z,0.6nm,0.6s,baz=14,slow=5.0,SNR=12
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 99.64 107 P **Pdif** **20 31 19.0 +0.1**
comp=Z,0.7nm,0.8s,baz=317,slow=4.0,SNR=3.0
comp=Z,0.7nm,0.8s
ASAR Alice Springs 101.27 111 P **Pdif** **20 31 26.4 +0.3**
comp=Z,0.6nm,1.0s,baz=303,slow=5.4,SNR=4.2

*NEIC **26** 20:20:09.1±1.8,56°.38N±0°.08×148°.5W±0°.1,h21km±9km, ML3.6/50,ML3.4(AEIC), Error ellipse: s-maj=11.9km s-min=7.6km az=160.0*
*IDC **26** 20:20:10.1±2.2,56°.43N×148°.66W,h0km,mb3.3/1, mbtmp3.5/6,ML3.2/5,MS3.0/2, Error ellipse: s-maj=30.1km s-min=22.1km az=39.0*
*AEIC **26** 20:20:12.7±1.6,56°.39N±0°.09×148°.6W±0°.1,h8km±7km, Error ellipse: s-maj=13.0km s-min=7.6km az=158.0*
ISC 26 20:20:10.0±1.1,56°.58N±0°.07×148°.66W±0°.05,h10km, n199,σ0s98/194,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**301**	Pn	**Pn**	**20 20 49.9**	**-0.1**
	5.7nm,0.3s,baz=131,slow=6.5,SNR=25						
KDAK				Sn	**Sn**	**20 21 18.4**	**-1.7**
	5.1nm,0.3s,baz=83,slow=23,SNR=13						
	11nm,0.3s						
OHAK	**Old Harbor**	**2.62**	**286**		**Pn**	**20 20 51.7**	**-0.6**
OHAK					**Sn**	**20 21 23.0**	**-1.2**
OHAK	**Old Harbor**	**2.62**	**286**	P	**Pn**	**20 20 51.7**	**-0.6**
	baz=106						
OHAK				S	**Sn**	**20 21 23.0**	**-1.2**
	baz=106						
SYI	**Shuyak Island**	**2.86**	**317**		**Sn**	**20 21 30.2**	**+0.2**
SYI	**Shuyak Island**	**2.86**	**317**	Pn	**Pn**	**20 20 56.0**	**+0.4**
SYI				IAML		20 21 36.0	
	comp=E,96nm,0.8s						
Q20K	**Shuyak Island**	**2.86**	**317**	S	**Sn**	**20 21 30.2**	**+0.1**
	baz=135						
SII	**Sitkinak Islan**	**3.06**	**272**		**Sn**	**20 21 32.1**	**-2.9**
SII	**Sitkinak Islan**	**3.06**	**272**	Pn	**Pn**	**20 20 57.5**	**-0.9**
SII				IAML		20 21 20.3	
	comp=N,155nm,1.4s						
SII	**Sitkinak Islan**	**3.06**	**272**	S	**Sn**	**20 21 32.1**	**-2.9**
	baz=91						
Q23K	**Middleton Isla**	**3.11**	**22**	Pn	**Pn**	**20 20 58.7**	**-0.3**
Q23K				IAML		20 22 52.6	
	comp=N,292nm,1.5s						
Q23K				IAML		20 22 59.6	
	comp=E,221nm,1.4s						
MID	**Middleton Isla**	**3.11**	**22**	Pn	**Pn**	**20 20 59.0**	**-0.1**
MID				IAML		20 21 40.9	
	comp=N,262nm,1.3s						
MID				IAML		20 22 00.4	
	comp=E,293nm,1.5s						
CNPM	**China Poot**	**3.25**	**336**		**Pn**	**20 21 01.9**	**+0.8**
CNPM				IAML		20 21 45.9	
	comp=E,81nm,1.0s						
CNPM	**China Poot**	**3.25**	**336**		**Sn**	**20 21 39.1**	**-0.7**
BRSE	**Bradley Lake S**	**3.36**	**342**		**Pn**	**20 21 03.2**	**+0.8**
BRSE					**Sn**	**20 21 41.6**	**-0.7**
BRSE	**Bradley Lake S**	**3.36**	**342**	P	**Pn**	**20 21 03.2**	**+0.8**
	baz=160						
BRSE				S	**Sn**	**20 21 41.6**	**-0.7**
	baz=160						
BRLK	**Bradley Lake**	**3.40**	**341**		**Pn**	**20 21 03.8**	**+0.6**
BRLK					**Sn**	**20 21 43.4**	**-0.2**
BRLK	**Bradley Lake**	**3.40**	**341**	IAML		20 21 49.2	
	comp=E,58nm,0.7s						
BRLK				IAML		20 21 49.3	
	comp=N,76nm,1.3s						
HOM	**Homer**	**3.47**	**334**	Pn	**Pn**	**20 21 04.7**	**+0.8**
P23K	**Montague Islan**	**3.49**	**10**		**Pn**	**20 21 04.1**	**-0.2**
P23K					**Sn**	**20 21 43.8**	**-1.8**
P23K	**Montague Islan**	**3.49**	**10**	P	**Pn**	**20 21 04.1**	**-0.2**
	baz=190						
P23K				S	**Sn**	**20 21 43.8**	**-1.8**
	baz=190						
SEW	**Seward**	**3.56**	**354**		**Pn**	**20 21 05.5**	**+0.3**
SEW	**Seward**	**3.56**	**354**	P	**Pn**	**20 21 06.1**	**+0.9**
	baz=172						
Q19K	**Cape Douglas,**	**3.56**	**313**		**Pn**	**20 21 05.7**	**+0.3**
Q19K				IAML		20 23 10.4	
	comp=N,149nm,1.4s						
Q19K	**Cape Douglas,**	**3.56**	**313**	P	**Pn**	**20 21 06.1**	**+0.8**
	baz=131						
P19K	**Oil Pt**	**3.92**	**324**	Pn	**Pn**	**20 21 10.6**	**+0.3**
P19K				IAML		20 22 02.7	
	comp=E,123nm,0.7s						
P19K				IAML		20 22 03.1	
	comp=N,138nm,0.7s						
O22K	**Cooper Landing**	**3.95**	**352**		**Pn**	**20 21 10.7**	**+0.1**
O22K	**Cooper Landing**	**3.95**	**352**	P	**Pn**	**20 21 12.1**	**+1.5**
	baz=171						
HIN	**Hinchinbrook I**	**3.99**	**16**		**Pn**	**20 21 11.4**	**+0.2**
HIN	**Hinchinbrook I**	**3.99**	**16**	IAML		20 21 57.9	
	comp=N,88nm,1.1s						
HIN				IAML		20 22 13.3	
	comp=E,96nm,1.4s						
SLKM	**Skilak Lake**	**4.02**	**349**		**Pn**	**20 21 11.8**	**+0.1**
KAIM	**Kayak Island**	**4.03**	**32**		**Pn**	**20 21 12.1**	**+0.4**
KAIM	**Kayak Island**	**4.03**	**32**	IAML		20 22 52.9	
	comp=E,130nm,1.3s						
KAIM	**Kayak Island**	**4.03**	**32**	P	**Pn**	**20 21 12.1**	**+0.4**
	baz=213						
IVE	**Iliamna Volcan**	**4.14**	**328**		**Pn**	**20 21 13.8**	**+0.4**
CNTC	**Contact Creek**	**4.26**	**296**		**Pn**	**20 21 15.4**	**+0.4**
Q17K	**Contact Creek**	**4.26**	**296**	P	**Pn**	**20 21 15.4**	**+0.4**
	baz=112						
EYAK	**Cordova Ski Ar**	**4.26**	**20**		**Pn**	**20 21 15.3**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.26**	**20**	P	**Pn**	**20 21 15.5**	**+0.7**
	baz=201						
RAGM	**Ragged Mountai**	**4.35**	**27**		**Pn**	**20 21 16.9**	**+0.8**
RSO	**Redoubt South**	**4.45**	**333**	Pn	**Pn**	**20 21 18.2**	**+0.6**
RDWB	**Redoubt West**	**4.49**	**333**		**Pn**	**20 21 18.3**	**+0.1**
P18K	**Big Mountain,**	**4.49**	**312**		**Pn**	**20 21 18.0**	**-0.1**
P18K	**Big Mountain,**	**4.49**	**312**	P	**Pn**	**20 21 18.0**	**-0.1**
	baz=127						
GOAT	**Goat Mountain**	**4.51**	**25**		**Pn**	**20 21 18.6**	**+0.3**
RC01	**Rabbit Creek A**	**4.56**	**353**		**Pn**	**20 21 19.5**	**+0.6**
RC01				IAML		20 22 14.0	
	comp=E,58nm,0.5s						
RC01				IAML		20 22 14.9	
	comp=N,38nm,1.2s						
NCT	**North Crescent**	**4.58**	**333**		**Pn**	**20 21 20.2**	**+0.9**
BERG	**Berg Lake**	**4.62**	**32**		**Pn**	**20 21 19.7**	**-0.1**
O19K	**Port Alsworth**	**4.69**	**323**	Pn	**Pn**	**20 21 22.1**	**+1.3**
SNH	**Sunshine Point**	**4.73**	**38**		**Pn**	**20 21 20.9**	**-0.5**
SNH	**Sunshine Point**	**4.73**	**38**	IAML		20 23 15.7	
	comp=E,48nm,1.2s						
SNH				IAML		20 24 12.4	
	comp=N,66nm,1.5s						
O18K	**Koktuh Hills**	**4.77**	**316**		**Pn**	**20 21 22.5**	**+0.6**
O18K	**Koktuh Hills**	**4.77**	**316**	IAML		20 22 25.2	
	comp=E,25nm,1.4s						
O18K	**Koktuh Hills**	**4.77**	**316**	P	**Pn**	**20 21 22.5**	**+0.6**
	baz=132						
KNK	**Knik Glacier**	**4.85**	**1**		**Pn**	**20 21 23.8**	**+0.9**
KNK	**Knik Glacier**	**4.85**	**1**	IAML		20 22 21.8	
	comp=E,32nm,0.6s						
KNK				IAML		20 22 21.9	
	comp=N,24nm,1.4s						
KNK	**Knik Glacier**	**4.85**	**1**	P	**Pn**	**20 21 23.8**	**+0.9**
	baz=181						
BMRM	**Bremner River**	**4.88**	**24**		**Pn**	**20 21 24.0**	**+0.6**
BMRM	**Bremner River**	**4.88**	**24**	P	**Pn**	**20 21 24.0**	**+0.6**
	baz=206						
N20K	**Mount Spurr**	**4.99**	**340**	P	**Pn**	**20 21 26.0**	**+1.1**
	baz=157						
SPCR	**Spurr Chakacha**	**4.99**	**340**		**Pn**	**20 21 26.0**	**+1.1**
SUA	**Susitna One**	**5.01**	**348**		**Pn**	**20 21 25.4**	**+0.1**
SUA				IAML		20 22 56.5	
	comp=E,18nm,1.4s						
SUA	**Susitna One**	**5.01**	**348**	P	**Pn**	**20 21 26.2**	**+0.8**
	baz=166						
PMR	**Palmer**	**5.03**	**357**		**Pn**	**20 21 25.8**	**+0.4**
PMR				IAML		20 22 35.4	
	comp=N,23nm,1.5s						
SPCP	**Crater Peak Br**	**5.04**	**340**		**Pn**	**20 21 27.1**	**+1.4**
KLU	**Klutina**	**5.12**	**15**		**Pn**	**20 21 27.4**	**+0.6**
KLU				IAML		20 22 26.2	
	comp=N,29nm,1.3s						
KLU				IAML		20 22 34.7	
	comp=E,26nm,1.2s						
KLU	**Klutina**	**5.12**	**15**	P	**Pn**	**20 21 27.7**	**+0.9**
	baz=196						
STLK	**Strandline Lak**	**5.20**	**343**		**Pn**	**20 21 29.2**	**+1.4**
GHO	**Glory Hole Cre**	**5.21**	**359**		**Pn**	**20 21 29.0**	**+1.1**
N19K	**Bonanza Creek**	**5.22**	**327**		**Pn**	**20 21 28.1**	**-0.1**
N19K	**Bonanza Creek**	**5.22**	**327**	P	**Pn**	**20 21 29.3**	**+1.2**
	baz=142						
SML	**Sawmill**	**5.24**	**2**		**Pn**	**20 21 28.5**	**+0.1**
SML	**Sawmill**	**5.24**	**2**	P	**Pn**	**20 21 30.0**	**+1.6**
	baz=181						
SCM	**Sheep Creek Mo**	**5.31**	**7**		**Pn**	**20 21 29.4**	**0.0**
SCM	**Sheep Creek Mo**	**5.31**	**7**	P	**Pn**	**20 21 30.5**	**+1.1**
	baz=187						
VRDI	**Verde Repeater**	**5.38**	**28**	Pn	**Pn**	**20 21 30.3**	**-0.2**
CHGN	**Chignik**	**5.42**	**271**	Pn	**Pn**	**20 21 30.0**	**-0.8**
KIAG	**Kiagna River**	**5.45**	**34**		**Pn**	**20 21 31.8**	**+0.4**
N25K	**Chitina, Valde**	**5.46**	**21**		**Pn**	**20 21 31.7**	**+0.4**
N25K					**Sn**	**20 22 30.8**	**-3.3**
N25K	**Chitina, Valde**	**5.46**	**21**	P	**Pn**	**20 21 32.9**	**+1.5**
	baz=203						
SAMH	**Samovar Hills**	**5.46**	**46**		**Pn**	**20 21 31.1**	**-0.3**

GLB	Gilahina Butte	5.48	25			Pn	20 21 32.0 +0.3
GLB						Sn	20 22 31.8 -2.9
N18K	Kilae Creek	5.58	320			Pn	20 21 33.1 0.0
N18K	Kilae Creek baz=135	5.58	320		P	Pn	20 21 33.8 +0.8
SKT	Skwentna	5.61	346		Pn	Pn	20 21 33.7 +0.2
PTPK	Patty Peak	5.62	32			Pn	20 21 34.5 +0.8
MCARA	McCarthy VSAT	5.63	29			Pn	20 21 32.9 -0.7
PCA	Pinnacle	5.65	48			Pn	20 21 33.1 -1.0
PINM	Pinnacle baz=233	5.66	48		P	Pn	20 21 33.7 -0.4
M24K	Tolsona, Glenn	5.69	12			Pn	20 21 34.5 0.0
M24K	Tolsona, Glenn baz=193	5.69	12		P	Pn	20 21 35.2 +0.7
BARN	Barnard Glacie	5.78	36			Pn	20 21 35.3 -0.5
M20K	Styx River	5.79	339		Pn	Pn	20 21 35.7 -0.3
PNL	Peninsula	5.80	54			Pn	20 21 35.5 -0.5
PNL	Peninsula baz=240	5.80	54		P	Pn	20 21 35.5 -0.5
CTG	Chitna Glacier baz=222	5.81	38		P	Pn	20 21 36.5 +0.2
CTGM	Chitina Glacie	5.81	38			Pn	20 21 35.0 -1.3
LOGN	Logan Glacier	5.83	40			Pn	20 21 35.9 -0.7
WACK	Wrangell Chich	5.86	20			Pn	20 22 37.4 +0.4
N17K	Nushagak Hills	5.96	315		Pn	Pn	20 21 37.8 -0.4
WAT6	Susitna Watana	6.04	4			Pn	20 21 40.4 +1.0
WAT6	Susitna Watana baz=184	6.04	4		P	Pn	20 21 40.4 +1.0
M19K	Big River Lodg	6.09	334		Pn	Pn	20 21 37.7 -2.4
HARP	HAARP	6.10	16			Pn	20 21 41.4 +1.3
HARP	HAARP baz=198	6.10	16		P	Pn	20 21 41.4 +1.3
M18K	Stony River	6.16	326			Pn	20 21 41.5 +0.6
M18K	Stony River baz=140	6.16	326		P	Pn	20 21 41.5 +0.6
CNBA	Chernabura Isl	6.43	259		Pn	Pn	20 21 43.1 -1.5
L19K	White Mountain	6.45	333		Pn	Pn	20 21 44.7 -0.2
O29M	Mount Kennedy	6.47	51			Pn	20 21 43.4 -2.0
O29M	Mount Kennedy baz=238	6.47	51		P	Pn	20 21 45.0 -0.4
O15K	Ungalikthiuk R	6.50	298			Pn	20 21 46.3 +0.7
O15K	Ungalikthiuk R baz=110	6.50	298		P	Pn	20 21 46.3 +0.7
M26K	Nabesna, AK	6.51	24		Pn	Pn	20 21 45.4 -0.3
P29M	Windy Craggy	6.54	58			Pn	20 21 45.5 -0.7
P29M	Windy Craggy baz=245	6.54	58		P	Pn	20 21 45.5 -0.7
DHY	Denali Highway	6.55	5		Pn	Pn	20 21 46.4 +0.1
M17K	Holitna River	6.62	320		Pn	Pn	20 21 47.1 -0.2
M27K	Edge Creek, AK	6.74	28		Pn	Pn	20 21 48.9 -0.1
MENT	Mentasta	6.84	19		Pn	Pn	20 21 52.1 +1.7
RND	Reindeer	6.85	359		Pn	Pn	20 21 48.6 -1.8
S31K	Pelican	6.88	73			Pn	20 21 49.5 -1.2
S31K	Pelican baz=262	6.88	73		P	Pn	20 21 49.5 -1.2
TRF	Thorofare Moun	6.94	354		Pn	Pn	20 21 53.9 +2.1
M16K	Timber Creek	6.96	314			Pn	20 21 52.9 +1.0
M16K	Timber Creek baz=126	6.96	314		P	Pn	20 21 52.9 +1.0
L18K	Granite Mounta	6.98	327		Pn	Pn	20 21 53.3 +1.1
N15K	Kwethluk River	7.00	306		Pn	Pn	20 21 54.0 +1.5
CAST	Castle Rocks	7.07	347			Pn	20 21 54.3 +0.9
KTH	Kantishna Hill	7.08	352		Pn	Pn	20 21 54.0 +0.3
HYT	Haines Junctio	7.20	49		Pn	Pn	20 21 54.9 -0.3
O14K	Tigyukauivet M	7.23	297		Pn	Pn	20 21 54.8 -0.7
K20K	Telida	7.32	340		Pn	Pn	20 21 54.5 -2.3
SIT	Sitka	7.33	81		Pn	Pn	20 21 49.7 -7.4
L27K	Beaver Creek,	7.35	25		Pn	Pn	20 21 55.4 -1.9
BCAR	Beaver Creek A	7.36	25		Pn	Pn	20 21 57.3 -0.2
TTA	Tatalina	7.37	333		Pn	Pn	20 21 56.6 -1.0
RIDG	Independent Ri	7.43	13			Pn	20 21 56.6 -1.8
L16K	Owhat River	7.57	317		Pn	Pn	20 21 57.4 -2.9
SKAG	Skagway	7.64	62		Pn	Pn	20 21 57.7 -3.5
N30M	Aishikik Lake	7.71	46		Pn	Pn	20 22 03.3 +1.0
S32K	Killisnoo	7.74	78		Pn	Pn	20 22 00.8 -1.7
SCRK	Sand Creek	7.77	15		Pn	Pn	20 22 03.7 +0.6
O30N	Mendenhall	7.77	52		Pn	Pn	20 22 03.3 +0.1
M29M	Somme Creek	7.83	37			Pn	20 22 03.7 -0.3
JIS	Juneau Island	7.89	72		Pn	Pn	20 22 04.3 -0.4
J18K	Innoko River	7.99	333		Pn	Pn	20 22 06.3 +0.2
J20K	Nowinta River	8.09	343		Pn	Pn	20 22 07.3 -0.1
CCB	Clear Creek Bu	8.10	3		Pn	Pn	20 22 07.3 -0.2
K27K	Chicken	8.15	21		Pn	Pn	20 22 07.6 -0.6
J19K	Poorman	8.20	338		Pn	Pn	20 22 08.5 -0.3
J25K	Salcha River,	8.22	10		Pn	Pn	20 22 09.0 -0.2
N31M	Braeburn, Yuko	8.26	48		Pn	Pn	20 22 10.7 +1.0
IL31		8.26	5		Pn	Pn	20 22 10.0 +0.3
ILAR	Eielson Array	8.26	5		Pn	Pn	20 22 11.7 +1.9
ILAR	Eielson Array comp=E,0.2nm,0.3s,baz=186,slow=13,SNR=9.6	8.26	5		Pn	Pn	20 22 11.4 +1.6
ILAR					Sn	Sn	20 23 41.0 -2.1
	comp=E,0.3nm,0.3s,baz=190,slow=23,SNR=7.4 comp=E,0.5nm,0.5s						
WHY	Whitehorse	8.27	55		Pn	Pn	20 22 09.8 -0.1
J26L	Joseph Creek	8.33	15			Pn	20 22 11.0 +0.3
MDM	Murphy Dome	8.41	1		Pn	Pn	20 22 12.3 +0.5
L29M	L29M	8.41	35		Pn	Pn	20 22 12.3 +0.5
P32M	Atlin	8.47	63		Pn	Pn	20 22 12.0 -0.7
M30M	Minto, Yukon	8.50	40		Pn	Pn	20 22 13.2 +0.2
POKR	Poker Plat Res	8.59	3		Pn	Pn	20 22 15.0 +0.8
I23K	Minto, Yukon-K	8.60	358		Pn	Pn	20 22 15.6 +1.2
U33K	Whale Pass	8.64	87		Pn	Pn	20 22 11.6 -3.4
K15K	Wolf Creek Mou	8.70	316		Pn	Pn	20 22 14.9 -0.8
DAWY	Dawson	8.79	28		Pn	Pn	20 22 16.4 -0.6
J16K	Anvik River	8.99	323		Pn	Pn	20 22 18.7 -1.1
P33M	Teslin, Yukon	9.07	60		Pn	Pn	20 22 20.3 -0.6
Q32M	Nakina River	9.07	68		Pn	Pn	20 22 18.2 -2.9
PRP	Porcupine Dome	9.09	8			Pn	20 22 21.2 -0.1
K29M	Barlow Dome	9.14	33		Pn	Pn	20 22 21.2 -0.7
I26K	Coal Creek Min	9.15	15		Pn	Pn	20 22 22.4 +0.5
M31M	Drury Creek, Y	9.19	46		Pn	Pn	20 22 23.4 +0.9
N32M	Quiet Lake	9.27	54		Pn	Pn	20 22 23.7 +0.1
H24K	Noodor Dome	9.30	2		Pn	Pn	20 22 24.1 +0.1
H21K	Melozitna Rive	9.32	349		Pn	Pn	20 22 24.7 +0.4
FARO	Faro, Yukon	9.63	48		Pn	Pn	20 22 29.5 +1.0
IMAR	Indian Mountai	9.74	348		Pn	Pn	20 22 29.7 -0.3
H18K	Honhosa River	9.80	335		Pn	Pn	20 22 30.1 -0.7
R33M	Jennings River	9.80	66		Pn	Pn	20 22 30.6 -0.3
I28M	Miner Creek	9.84	22		Pn	Pn	20 22 30.9 -0.6
H17K	Granite Mounta	10.01	331		Pn	Pn	20 22 33.5 -0.1
J30M	Hart River	10.03	32		Pn	Pn	20 22 34.3 +0.2
G23K	Bananza Creek	10.19	357		Pn	Pn	20 22 36.6 +0.5
DLBC	Dease Lake	10.19	72		Pn	Pn	20 22 37.7 +1.5
DLBC	comp=E,0.2nm,0.3s,baz=322,slow=21,SNR=1.3				Sn	Sn	20 24 31.1 +0.6
	comp=E,0.3nm,0.3s,baz=189,slow=19,SNR=1.9 comp=E,0.8nm,0.4s						
G21K	Allakaket	10.23	349		Pn	Pn	20 22 36.6 -0.1
F20K	Avaraart Lake	11.01	345		Pn	Pn	20 22 46.6 -0.7
ANM	Nome	11.44	321		Pn	Pn	20 22 53.3 +0.1
F17K	Baldwin Pennin	11.54	334		Pn	Pn	20 22 55.2 +0.6
G31M	Satah River	12.37	27		Pn	Pn	20 23 06.3 +0.5
INK	Inuvik comp=E,0.1nm,0.3s,baz=192,slow=14,SNR=4.7 comp=E,1.7nm,0.8s	13.63	24		Pn	Pn	20 23 26.0 +3.0
B22K	Teshekpuk Lake	13.97	353		Pn	Pn	20 23 29.3 +1.7
B20K	Meade River	13.98	348		Pn	Pn	20 23 27.9 0.0
YKA	Yellowknife Ar baz=264,slow=11,SNR=10	18.08	57		P	Pn	20 24 22.9 +1.9
YKA					LR	LR	20 31 01.2
	comp=E,36nm,18.3s,baz=4.5,slow=36 comp=E,1.5nm,0.9s						
ELK	Elko comp=E,43nm,19.3s,baz=342,slow=31	26.81	112		LR	LR	20 34 04.0
NVAR	Mina Array Bea comp=E,0.3nm,0.6s,baz=319,slow=6.6,SNR=3.6 comp=E,0.3nm,0.6s	27.05	119		P	P	20 25 53.9 +1.4
H11S1	WAKE ISLAND Hy baz=25	50.48	240		T	T	21 24 00.7
H11S2	WAKE ISLAND Hy baz=25	50.49	240		T	T	21 24 03.0
H11S3	WAKE ISLAND Hy baz=25	50.49	240		T	T	21 24 02.7

IDC ***26*** *20:24:42.0±0.6,32.°60N×140.°17E,h115km±3km,mb3.6/16, mbtmp3.9/20,MS3.8/1,Error ellipse: s-maj=14.6km s-min=11.0km az=72.0*

NEIC ***26*** *20:24:42.1±2.4,32.°61N±0.°04×140.°3E±0.°1,h116km±5km, mb4.2/31,Error ellipse: s-maj=13.2km s-min=6.2km az=81.0*

JMA ***26*** *20:24:42.6±0.1,32.°7N±0.°4×14.°0E±°,h116km±1km, MV3.9/36,E OFF HACHIJOJIMA ISLAND*

NIED ***26*** *20:24:42.6,32.°71N×140.°37E,h116km,MW4.0,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}1.00; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-0.82; $M_{r\theta}$-0.28; $M_{\theta\phi}$0.30; $M_{\phi r}$-0.28; Fault plane solution: $M_0$1.04000×10^{15} NP1: ϕ_s175.00000°,δ52.00000°,λ111.00000°. NP2: ϕ_s323.00000°,δ42.00000°,λ65.00000°.*

ISC 26 20:24:42.1±0.7,32.°65N±0.°05×140.°24E±0.°06,h119km±5km, n95,σ1§46/108,mb4.1/33,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	0.44	245	P		Pn	20 25 00.9	+1.3
JAOM				eS		Sn	20 25 14.7	+1.9
JHCJ	Hachijojimakas	0.56	319	P		Pn	20 25 01.0	+0.7
JHCJ				eS		Sn	20 25 14.7	+0.6
JHJ2	Mitsune	0.58	323	Pn		Pn	20 25 01.2	+0.8
JHJ2				Sn		Sn	20 25 14.3	0.0
JHJ2	Mitsune	0.58	323	P		Pn	20 25 01.2	+0.8
JHJ2				eS		Sn	20 25 15.2	+1.0
JHJ	Hachijo jima 2 3μm,0.3s,baz=88,slow=22,SNR=584	0.60	321	P		Pn	20 25 01.3	+0.7
JHJ				S		Sn	20 25 14.9	+0.3
	4μm,0.4s,baz=89,slow=22,SNR=15							
JMKN	Mikurajimanish	1.35	337	P		Pn	20 25 08.2	+0.4
JMKN				eS		Sn	20 25 26.9	-0.4
JMYK	Miyake Tsubota	1.52	338	P		Pn	20 25 10.4	+0.7
JMYK				eS		Sn	20 25 30.6	-0.1
BSO1	Boso 1	2.09	17	P		Pn	20 25 16.3	+0.2
BSO1				eS		Sn	20 25 41.8	-0.5
BSO3	Boso 3	2.16	6	P		Pn	20 25 17.5	+0.3
JIM2	Oshima 3	2.17	342	P		Pn	20 25 18.1	+0.4
JIM2				eS		Sn	20 25 43.6	-1.2
JIZS	Izushimoda	2.35	332	eP		Pn	20 25 21.1	+1.1
TK02	Tokai 2	2.44	303	P		Pn	20 25 22.9	+2.0
TK04	Tokai 4	2.62	312	eP		Pn	20 25 25.3	+2.0
JSG	Sagara	2.65	320	Pn		Pn	20 25 25.1	+1.4
JSG				Sn		Sn	20 25 58.2	+2.5
JOD2	Odawara 2	2.77	340	P		Pn	20 25 26.3	+0.9
JOD2				eS		Sn	20 25 58.5	-0.3
TTO2	TONANKAI O.B.S	2.90	293	eP		Pn	20 25 28.8	+2.0
SHZ3	Shizuoka 3	2.94	326	P		Pn	20 25 29.5	+1.9
SHZ3				eS		Sn	20 26 04.7	+2.0
JYN	Shimob	3.17	334	P		Pn	20 25 32.2	+1.6
JIE	Ise	3.42	301	P		Pn	20 25 35.4	+1.5
JIE				eS		Sn	20 26 14.9	+1.0
JRY	Ryogami san	3.53	342	P		Pn	20 25 36.3	+0.8
JRY				eS		Sn	20 26 17.5	+0.8
MJAR	Matsushiro Arr 6.5nm,0.5s,baz=165,slow=12,SNR=46	4.23	337	P		Pn	20 25 45.3	+0.6
MJAR				S		Sn	20 26 34.5	+1.3
	9.5nm,0.7s,baz=97,slow=18,SNR=6.9							
MJAR				LR		LR	20 27 37.0	
	comp=Z,35nm,19.9s,baz=168,slow=41							
MAJO	Matsushiro	4.23	337			Pn	20 25 45.0	+0.3
MJB9	Matsu-Tunnel	4.23	337			Pn	20 25 45.8	+1.0
JMM	Marumori	5.22	5			Pn	20 25 55.9	-2.1
JMN	Monobe	5.44	263	Pn		Pn	20 26 02.9	+2.0
JCJ	Chichijima	5.79	163	Pn		Pn	20 26 04.6	-1.1
JNU	Nakatsue	7.88	276	Pn		Pn	20 26 34.0	-0.1
JNU	Nakatsue 7.5nm,0.8s,baz=90,slow=8.1,SNR=4.7	7.88	276	P		Pn	20 26 34.6	+0.6
JNU				S		Sn	20 27 58.3	-3.4
	13nm,1.1s,baz=80,slow=17,SNR=2.0							
JTM	Tenmabayashi	8.15	4	Pn		Pn	20 26 35.0	-2.5
ERM	Erimo	9.63	13	Pn		Pn	20 26 55.6	-1.9
KSRS	Korea Array 0.9nm,0.4s,baz=103,slow=16,SNR=2.8	11.17	299	P		Pn	20 27 19.5	+1.2
ASAJ	Asahikawa 2.6nm,0.4s,baz=210,slow=11,SNR=9.1	11.60	8	P		Pn	20 27 20.6	-3.3
JKA	Kamikawa-asahi	11.60	9	Pn		Pn	20 27 20.5	-3.3
USRK	Ussuriysk Ar. 1.8nm,0.7s,baz=154,slow=40,SNR=2.2	13.21	333	P		Pn	20 27 42.3	-2.6
KLR	Kul'dur 1.8nm,0.5s,baz=163,slow=9.3,SNR=8.6	17.74	341	P		P	20 28 39.1	-1.4
YHNB	Yeheng	18.34	249	P		Pn	20 28 48.5	-0.5
SSLB	Suanglung	19.13	247	P		P	20 28 56.4	+0.4
TPUB	Ta-pu	19.64	247	P		P	20 29 01.9	+0.4
HIA	Hailar	22.58	323	P		P	20 29 29.5	-2.9
HIA	comp=Z,8.9nm,0.6s			IAmb		IAmb	20 29 31.5	
LYN	LuoYang	23.18	282	eP		P	20 29 32.0	-6.3
LYN	comp=Z,12nm,2.4s			pmax	pmax			
HHC	Hu-ho-hao-te	24.31	298	eP		P	20 29 49.5	+0.9
HHC	comp=Z,16nm,0.7s			pmax	pmax			
HHC	comp=Z,280nm,4.5s			pmax	pmax			
H11N2	WAKE ISLAND Hy baz=305,slow=75,SNR=39	27.08	112	T		T	20 59 09.1	
H11N1	WAKE ISLAND Hy baz=305,slow=75,SNR=41	27.08	112	T		T	20 59 34.1	
H11N3	WAKE ISLAND Hy baz=305,slow=75,SNR=12	27.09	112	T		T	20 59 20.6	
H11S3	WAKE ISLAND Hy baz=306,slow=75,SNR=15	27.62	114	T		T	20 59 47.9	
H11S1	WAKE ISLAND Hy baz=306,slow=75,SNR=13	27.62	114	T		T	20 59 53.2	
H11S2	WAKE ISLAND Hy baz=306,slow=75,SNR=11	27.63	114	T		T	20 59 46.2	
ULN	Ulaanbaatar	29.26	311	P		P	20 30 34.2	+1.2
SONM	Songino Array	29.67	311	P		P	20 30 37.6	+1.0
SONM	Songino Array comp=Z,1.4nm,0.7s,baz=109,slow=8.0,SNR=8.4 comp=Z,1.4nm,0.7s	29.67	311	P		P	20 30 37.5	+0.9
PZH	PanZhiHua	33.90	270	P		P	20 31 16.0	+2.1
PZH	comp=Z,10.0nm,0.5s			pmax	pmax			
PZH	comp=Z,100nm,4.8s			pmax	pmax			
CHTO	Chiang Mai	39.42	260	P		P	20 31 59.9	-0.7
CHTO				IAmb		IAmb	20 32 00.8	
	comp=Z,2.9nm,0.8s							
TIXI	Tiksi	39.53	354	P		P	20 32 00.2	-0.6
TIXI				IAmb		IAmb	20 32 29.8	
	comp=Z,5.4nm,1.4s							
CMAR	Chiang Mai Arr comp=Z,0.8nm,0.7s,baz=46,slow=7.8,SNR=9.3 comp=Z,0.8nm,0.7s	39.59	259	P		P	20 32 01.5	-0.5
LSA	Lhasa	41.81	279	P		P	20 32 20.1	-0.6
ZAA0	Zalesovo Array	44.26	316	P		P	20 32 39.1	-0.4
ZAA0				IAmb		IAmb	20 32 41.7	
	comp=Z,4.8nm,1.4s							
ZALV	Zalesovo Beam	44.26	316	P		P	20 32 39.5	-0.1
ZALV	Zalesovo Beam comp=Z,0.8nm,0.4s,baz=98,slow=8.4,SNR=5.5	44.26	316	P		P	20 32 38.8	-0.8
ZALV				PcP		PcP	20 34 21.9	0.0
	comp=Z,0.4nm,0.6s,baz=114,slow=1.7,SNR=4.3 comp=Z,0.8nm,0.4s							
MK31	Makanchi Array	45.75	306	P		P	20 32 51.8	+0.3
MK31				IAmb		IAmb	20 32 52.5	
	comp=Z,3.1nm,0.8s							
MKAR	Makanchi Array	45.75	306	P		P	20 32 51.6	+0.1
MKAR	Makanchi Array comp=Z,2.5nm,0.6s,baz=84,slow=9.4,SNR=40 comp=Z,2.5nm,0.6s	45.75	306	P		P	20 32 51.8	+0.3
MAKZ	Makanchi	45.97	306	P		P	20 32 53.3	+0.2
MAKZ				IAmb		IAmb	20 32 54.1	
	comp=Z,2.9nm,0.8s							
COEN	Coen	46.43	176	P		P	20 32 57.4	+0.4
F15K	North Star Dit	46.49	28	P		P	20 32 58.6	+1.7
N15K	Kwethluk River	47.31	36	P		P	20 33 04.2	+0.8
KURK	Kurchatov	47.98	311	P		P	20 33 09.0	+0.3
KURK				IAmb		IAmb	20 33 09.5	
	comp=Z,5.1nm,0.7s							
F17K	Baldwin Pennin	48.03	27	P		P	20 33 10.7	+1.9
F17K				IAmb		IAmb	20 33 11.6	
	comp=Z,4.6nm,0.8s							
KURBB	Kurchatov Arra comp=Z,2.3nm,0.6s,baz=85,slow=6.8,SNR=27 comp=Z,2.3nm,0.6s	48.04	311	P		P	20 33 09.1	0.0
G18K	Tagagawik	48.93	28	P		P	20 33 16.8	+1.1
C19K	Lookout Ridge	49.33	24	P		P	20 33 20.6	+1.8
C19K				IAmb		IAmb	20 33 21.4	
	comp=Z,2.3nm,0.7s							
E19K	Redstone River	49.80	27	P		P	20 33 23.9	+1.5
E19K				IAmb		IAmb	20 33 24.9	
	comp=Z,4.8nm,0.8s							
IMAR	Indian Mountai	50.93	29	P		P	20 33 31.2	+0.4
IMAR				PcP		PcP	20 34 47.1	+1.6
D22K	Ayikyak River	51.72	25	P		P	20 33 38.2	+1.4
D22K				IAmb		IAmb	20 33 39.4	
	comp=Z,1.7nm,0.8s							
WB0	Warramunga Arr	52.42	187	P		P	20 33 41.9	-0.5
WR0	Warramunga Arr	52.60	187	P		P	20 33 43.0	-0.7
WR0				PcP		PcP	20 34 52.4	+0.1
WRA	Warramunga Arr	52.60	187	P		P	20 33 43.1	-0.6
WRA	Warramunga Arr comp=Z,1.3nm,0.4s,baz=3.9,slow=7.7,SNR=44 comp=Z,1.3nm,0.4s	52.60	187	P		P	20 33 43.5	-0.3
BVAR	Borovoye Array comp=Z,1.2nm,0.4s,baz=105,slow=9.0,SNR=13	52.88	315	P		P	20 33 46.3	+0.7
BVAR				PcP		PcP	20 34 53.1	+0.1
	comp=Z,0.7nm,0.5s,baz=122,slow=4.8,SNR=4.1 comp=Z,1.2nm,0.4s							
ILAR	Eielson Array comp=Z,0.7nm,0.7s,baz=262,slow=6.4,SNR=8.7 comp=Z,0.7nm,0.7s	53.73	31	P		P	20 33 51.5	-0.1
D25K	Kavik River	54.01	25	P		P	20 33 54.7	+1.1
KK31	Karatay Array	54.57	303	P		P	20 33 57.8	-0.2
ASAR	Alice Springs comp=Z,0.9nm,0.5s,baz=0.1,slow=5.4,SNR=24 comp=Z,0.9nm,0.5s	56.33	187	P		P	20 34 10.6	-0.1
SIMJ	Simiganj	56.87	298	P		P	20 34 13.7	-1.0
ABKAR	Akbulak array	60.08	312	P		P	20 34 36.0	-0.5
ABKAR	comp=Z,1.3nm,0.6s			IAmb		IAmb	20 34 38.5	
HRA	Herat comp=Z,2.2nm,0.7s	63.45	295	P		P	20 34 58.8	-0.9
HRA				IAmb		IAmb	20 35 00.4	
STKA	Stephens Creek comp=Z,1.3nm,0.7s,baz=329,slow=7.2,SNR=3.6 comp=Z,1.3nm,0.7s	64.19	179	P		P	20 35 04.1	+0.1
GEYT	Alibeck comp=Z,61nm,18.6s,baz=352,slow=37	65.16	300	LR		LR	21 04 57.1	
FINES	FINESS Array B comp=Z,0.5nm,0.4s,baz=48,slow=6.0,SNR=11 comp=Z,0.5nm,0.4s	72.24	333	P		P	20 35 53.9	-0.1
AKASG	Malin Array Be comp=Z,0.6nm,0.6s,baz=50,slow=5.2,SNR=2.6 comp=Z,0.6nm,0.6s	77.17	322	P		P	20 36 22.2	-0.3
HFS	Hagfors comp=Z,0.9nm,0.5s,baz=178,slow=40,SNR=1.5 comp=Z,0.9nm,0.5s	77.67	336	P		P	20 36 25.3	+0.1
NOA	NORSAR Array B comp=Z,0.2nm,0.5s,baz=339,slow=16,SNR=1.5 comp=Z,0.2nm,0.5s	77.84	337	P		P	20 36 26.5	+0.3
NVAR	Mina Array Bea comp=Z,1.2nm,0.6s,baz=289,slow=5.8,SNR=8.8 comp=Z,1.2nm,0.6s	78.42	52	P		P	20 36 31.1	+1.0
PDAR	Pinedale Array comp=Z,0.5nm,0.7s,baz=278,slow=1.0,SNR=3.8 comp=Z,0.5nm,0.7s	81.45	44	P		P	20 36 46.8	+0.4
MODS	Modra-Piesok	84.60	326	eP		P	20 37 06.7	+4.6
TXAR	Lajitas Array comp=Z,1.4nm,0.7s,baz=299,slow=3.3,SNR=19	93.57	52	P		P	20 37 46.6	+1.4

TRN ***26*** *20:30:29.6,10.°18N×62.°10W,h20km,MD5.3 TRN Felt in Trinidad, MMI IV, V.*

FUNV ***26*** *20:30:30.9,10.°28N×62.°03W,h25km,MW5.1*

VAO ***26*** *20:30:31.5±1.2,9.°50N×62.°30W,h0km,mb4.9*

GCMT ***26*** *20:30:31.6±0.3,10.°21N±0.°02×62.°09W±0.°02,h20km±1km, MW4.8/75,Moment Tensor Solution. s20,c22; s75,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.63±.11; $M_{\theta\theta}$-0.27±.08; $M_{\phi\phi}$0.89±.10; $M_{r\theta}$-0.60±.18; $M_{\theta\phi}$-1.89±.08; $M_{\phi r}$0.35±.15; Best double couple: $M_0$2.08300×10^{16} NP1:ϕ_s100.00000°,δ88.00000°,λ-161.00000°. NP2: ϕ_s9.00000°,δ71.00000°,λ-2.00000°. Principal axes: T 2.4280, Plg12.0000°, Azm233.0000°; N -0.6910, Plg70.0000°, Azm106.0000°; P -1.7370, Plg15.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***26*** *20:30:32.6±1.5,10.°24N±0.°06×62.°26W±0.°06,h42km±4km, mb4.8/172 Error ellipse: s-maj=8.5km s-min=8.0km az=155.0*

IDC ***26*** *20:30:33.8±2.2,10.°25N×62.°44W,h56km±20km,mb4.0/26, mbtmp4.4/29,ML4.0/4,MS3.8/33,Error ellipse: s-maj=13.6km s-min=13.0km az=63.0*

ISC 26 20:30:30.2±1.8,10.°20N±0.°03×62.°22W±0.°04,h27km±13km, n354,σ1§47/311,mb4.8/117,MS3.8/30,5C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.77	81	iP		Pn	20 30 45.4	+0.2
TRN	Trinidad (W)	0.92	61	iP		Pn	20 30 45.1	-2.2
TRN				eS		Sn	20 30 56.1	-3.6
CRUV	Carupano	1.10	295	eP		Pn	20 30 50.4	+0.5
CRUV				eS		Sb	20 31 06.4	+1.8
GRFF	Grenada Fort F	1.90	14	eP		Pn	20 31 00.7	-0.1
GRFF				eS		Sn	20 31 23.2	-0.6
GRGR	Grenville	2.00	16			Pn	20 31 01.8	-0.4
GRGR				Sn		Sn	20 31 24.8	-1.6
GRGR	Grenville	2.00	16	eP		Pn	20 31 01.7	-0.6
GRGR				eS		Sn	20 31 26.2	-0.2
GRW	Mount Saint Ca	2.02	16	eP

ABD La Joyeuse, An 6.28 6 Pn 20 32 02.7 +1.7
ABD La Joyeuse, An 6.28 6 eP Pn 20 32 02.0 +1.0
ABD La Joyeuse, An 6.28 6 eS Sn 20 33 10.7 -1.2
MBFL Flemmings, Mon 6.51 0 eP Pn 20 32 05.6 +1.3
MBFL Flemmings, Mon 6.51 0 eS Sn 20 33 17.3 -0.3
ANBD Bethesda, Anti 6.82 4 eP Pn 20 32 09.8 +1.3
ANBD Bethesda, Anti 6.82 4 eS Sn 20 33 23.1 -2.2
TEPV Terepaima 6.87 269 eP Pn 20 32 10.1 +0.9
TEPV eS Sn 20 33 24.3 -2.3
HATO Hato, Curacao 6.89 287 Pn Pn 20 32 10.6 +1.0
SANV Sanarito 7.24 265 eP Pn 20 32 15.2 +0.7
SEUS St. Eustatius 7.29 354 Pn 20 32 16.8 +1.9
SIQV Siquisique 7.47 274 eP Pn 20 32 18.4 +0.9
CURV Curarigua 7.62 269 eP Pn 20 32 20.4 +0.8
SMRT St. Maarten 7.85 354 Pn Pn 20 32 23.4 +0.7
BOAV Boa Vista 7.94 168 Pn Pn 20 32 23.4 -0.4
AUA1 Aruba 7.97 287 Pn Pn 20 32 25.5 +1.2
SDV Santo Domingo 8.40 262 Pn Pn 20 32 30.8 +0.4
SDV Santo Domingo 8.40 262 P Pn 20 32 29.3 -1.1
43nm,0.3s,baz=79,slow=8.6,SNR=110
SDV S Sn 20 34 01.3 -3.1
101nm,0.5s,baz=359,slow=15,SNR=2.3
SDV LR LR 20 36 04.5
comp=Z,990nm,18.8s,baz=76,slow=40
SDV Santo Domingo 8.40 262 eP Pn 20 32 29.9 -0.5
SDV Santo Domingo 8.40 262 eP Pn 20 32 30.4 0.0
SDV eS Sn 20 34 02.1 -2.4
IGPR InterUniversit 8.59 334 Pn Pn 20 32 33.1 +0.3
HUMP Col San Antoni 8.64 336 Pn Pn 20 32 32.9 -0.6
SOCV Socops 8.73 258 eP Pn 20 32 35.6 +0.8
SOCV eS Sn 20 34 08.4 -4.1
SJG San Juan 8.74 335 P Pn 20 32 35.4 +0.5
3.3nm,0.3s,baz=139,slow=20,SNR=1.8
SJG S Sn 20 34 07.1 -5.4
14nm,0.3s,baz=338,slow=19,SNR=1.6
SJG LR LR 20 36 26.9
comp=Z,886nm,18.6s,baz=139,slow=41
7.8nm,0.3s
OBIP Obispado Ponce 8.88 332 Pn Pn 20 32 36.9 +0.1
GCPR Guaynabo City 8.89 336 Pn 20 32 37.9 +1.1
CELP Cerrillos 8.89 332 Pn Pn 20 32 37.3 +0.3
MLPR Magueyes Islan 9.03 329 Pn Pn 20 32 38.8 0.0
CRPR Cabo Rojo, PR 9.09 329 Pn Pn 20 32 41.2 +1.5
AOPR Arecibo Observ 9.21 332 Pn 20 32 42.1 +0.7
AOPR Arecibo Observ 9.21 332 eP Pn 20 32 43.5 +2.1
AGPR Aguadilla, PR 9.48 331 Pn Pn 20 32 45.2 +0.1
MCQV Machiques 10.15 270 eP Pn 20 32 54.7 +0.4
TAMC Tame, Arauca 10.18 249 eP Pn 20 32 53.9 -0.8
PCDR Punta Cana, DR 10.19 325 Pn Pn 20 32 55.7 +0.9
CAPV Capacho 10.23 258 eP Pn 20 32 56.1 +0.5
CRJC Cerrejon, Guaj 10.51 275 eP Pn 20 33 00.4 +1.1
PAMC Pamplona, Colo 10.74 255 eP Pn 20 33 01.6 -1.1
MDP Montagnes des 10.76 117 P Pn 20 32 59.1 -3.5
60nm,0.5s,baz=303,slow=14,SNR=57
MDP S Sn 20 34 50.6 -12
48nm,0.3s,baz=9.3,slow=18,SNR=3.8
MDP LR LR 20 37 36.2
comp=Z,420nm,21.5s,baz=295,slow=38
LL6C La Loma 6 Bece 10.89 269 eP Pn 20 33 05.5 +1.1
BARC Barichara 11.42 253 eP Pn 20 33 11.8 -0.1
ARGC Ariguani, Magd 11.85 269 eP Pn 20 33 16.0 -1.5
SDDR Presa de Saban 12.37 316 Pn Pn 20 33 26.1 +1.4
SDDR Presa de Saban 12.37 316 eP Pn 20 33 27.1 +2.4
SDDR Presa de Saban 12.37 316 eP Pn 20 33 27.8 +3.1
SPBC San Pablo de B 12.57 250 eP Pn 20 33 27.3 -0.2
PTRC PUERTO BERRIO, 12.64 254 eP Pn 20 33 26.7 -2.6
SJCC San Jacinto, C 12.76 270 eP Pn 20 33 29.6 -0.5
PAPH Port-au-Prince 12.79 311 Pn Pn 20 33 32.6 +2.2
VILC Villavicencio, 12.88 243 eP Pn 20 33 32.7 +0.9
CVER Cruz Verde, Cu 13.03 245 eP Pn 20 33 36.2 +2.0
ROSC El Rosal 13.12 247 Pn Pn 20 33 36.6 +1.3
ROSC El Rosal 13.12 247 P Pn 20 33 36.9 +1.6
7.5nm,0.3s,baz=118,slow=9.7,SNR=18
ROSC S Sn 20 35 56.0 -4.6
44nm,0.8s,baz=67,slow=20,SNR=1.3
63nm,0.6s
ROSC El Rosal 13.12 247 eP Pn 20 33 38.1 +2.9
MACA Manacapuru-AM 13.36 173 Pn Pn 20 33 37.3 -0.9
URFC San Jos de Ur 13.37 261 eP Pn 20 33 36.6 -1.7
GUY2C Guyana, Caldas 13.93 250 eP Pn 20 33 45.4 -1.0
PRAC Prado 14.12 244 eP Pn 20 33 49.1 +0.5
DBBC Dabeiba 14.19 258 eP Pn 20 33 52.7 +3.2
CBOC Ciudad Bolivar 14.32 254 eP Pn 20 33 50.4 -1.0
ORTC Ortega, Tolima 14.35 245 eP Pn 20 33 52.7 +0.9
MALB Monte Alegre 14.36 146 eP Pn 20 33 47.9 -3.9
MALB eS Sn 20 36 18.8 -11
MCPB Macapa, AP 14.57 135 eP Pn 20 33 50.0 -4.7
BETC Betania 15.10 241 eP Pn 20 34 00.7 -1.3
YOTC Yotoco, Valle 15.31 247 eP Pn 20 34 06.6 +1.9
GARC Garzon, Huila 15.40 240 eP Pn 20 34 06.2 +0.2
PTAC Punta Ardita, 15.70 260 eP Pn 20 34 07.6 -2.2
ITTB Itaituba 15.85 156 eP Pn 20 34 07.7 -3.9
JAMC Jamundi, Valle 15.94 245 eP Pn 20 34 14.6 +1.7
POPC Popayan, Colom 16.25 243 eP Pn 20 34 16.2 -0.8
BBAC Balboa, Cauca 17.00 242 eP P 20 34 28.1 0.0
GR1C Gorgona, Isla 17.37 247 eP Pn 20 34 25.1 -5.8
BCIP Isla Barro Col 17.39 268 Pn Pn 20 34 29.2 -2.0
BONI La Bonita 18.04 238 eP Pn 20 34 39.5 +0.1
TULM Tulcn-Chalpat 18.12 240 P Pn 20 34 39.9 -0.7
TULM IAmb IAmb 20 34 46.4
comp=Z,117nm,1.8s
TULM Tulcn-Chalpat 18.12 240 eP P 20 34 42.1 +1.3
NPGB Novo Progresso 18.45 158 eP P 20 34 40.9 -3.0
IMBA Imbabura, San 18.70 239 P Pn 20 34 48.3 +0.6
IMBA IAmb IAmb 20 34 57.7
comp=Z,62nm,0.9s
OTAV Otavalo 18.93 239 Pn 20 34 50.7 +0.2
OTAV Otavalo 18.93 239 eP Pn 20 34 53.3 +2.8
OTAV Otavalo 18.93 239 eP Pn 20 34 52.8 +2.4
SAML Samuel 19.05 183 Pn 20 34 51.9 +0.5
SAML Samuel 19.05 183 eP Pn 20 34 52.1 +0.7
PULU Pululahua 19.09 239 P Pn 20 34 52.8 +0.5
SLOR San Lorenzo - 19.50 237 P P 20 34 55.4 -0.5
BRU2 Volcan 20.24 268 P P 20 35 04.7 +1.0
BRU2 IAmb IAmb 20 35 20.8
comp=Z,40nm,0.5s
CHSH Refugio Sur-Vo 20.24 236 P P 20 35 03.5 -0.6
ETMB Extrema 20.28 191 P 20 35 05.0 +1.1
ETMB Extrema 20.28 191 eP P 20 35 05.1 +1.2
FSCY Frank Sound, G 20.43 298 P P 20 34 04.1 -1.5
CDITO Canoas 20.44 267 P P 20 35 03.9 -1.8
CDITO IAmb IAmb 20 35 16.4
comp=Z,88nm,1.2s
CZSB Cruzeiro do Su 20.64 211 P P 20 35 08.0 +0.1
CZSB Cruzeiro do Su 20.64 211 eP P 20 35 07.8 -0.1
CZSB Cruzeiro do Su 20.64 211 eP P 20 35 05.7 -2.2
DRK0 Durika 20.74 269 P P 20 35 08.6 -0.6
DRK0 IAmb IAmb 20 35 26.0
comp=Z,61nm,0.7s
SRBA San Rafael, Bu 20.86 269 P 20 35 10.6 +0.2
BOSC San Juan Bosco 20.94 232 P 20 35 11.5 +0.2
COHC Cochancay 21.12 234 P P 20 35 13.3 +0.2
PEZE Perez Zeledon, 21.16 270 P P 20 35 13.1 -0.5
PEZE IAmb IAmb 20 35 32.8
comp=Z,66nm,1.6s
RIMA Rio Macho 21.32 271 P P 20 35 15.0 -0.4
RIMA IAmb IAmb 20 35 33.4
comp=Z,39nm,1.0s
LCR2 La Lucha 2 21.46 271 P P 20 35 16.4 -0.5
JACO JACO, Garabito 22.11 271 P P 20 35 23.6 -0.1
JTS Las Juntas de 22.37 272 LR LR 20 45 26.3
comp=Z,185nm,19.0s,baz=92,slow=40
ARNL Arenillas 22.41 233 P P 20 35 27.2 +0.3
ACON Acoyapa 22.59 277 P P 20 35 27.4 -1.5
ACON IAmb IAmb 20 35 51.6
comp=Z,25nm,1.0s
MCRA Macar, Loja 22.84 231 P P 20 35 30.5 -1.0
VILB Vilhena 23.09 175 P P 20 35 34.9 +0.9
ATAH Atahualpa 23.58 224 LR LR 20 46 26.4
comp=Z,782nm,18.8s,baz=46,slow=41
CRIN San Cristobal 24.46 278 P P 20 35 46.2 -1.0
PTLB Pontes e Lacer 25.67 173 P P 20 35 58.4 +0.4
PTLB Pontes e Lacer 25.67 173 eP P 20 36 00.5 +2.5
SIV San Ignacio 26.05 177 LR LR 20 47 03.5
comp=Z,361nm,18.1s,baz=10,slow=38
NNA Nana 26.40 214 LR LR 20 47 25.3
comp=Z,474nm,18.4s,baz=28,slow=38
LPAZ La Paz 26.96 193 P P 20 36 10.7 +0.3
TEIG Tepich 27.00 295 LR LR 20 46 46.2
comp=Z,2µm,19.8s,baz=245,slow=36
BBSD Serra de San D 27.26 177 eP P 20 36 14.1 +1.7
PB16 IPOC Station P 29.25 194 P P 20 36 31.4 +0.6

PB16 IAmb IAmb 20 36 54.7
comp=Z,12nm,0.8s
BDFB Brasilia 29.28 151 P P 20 36 31.1 +0.6
BDFB IAmb IAmb 20 37 00.9
comp=Z,43nm,2.0s
BDFB Brasilia 29.28 151 P P 20 36 31.9 +1.3
comp=Z,1.6nm,0.4s,baz=322,slow=11,SNR=3.7
BDFB LR LR 20 49 08.6
comp=Z,356nm,18.1s,baz=324,slow=38
comp=Z,1.6nm,0.4s
154A Montrose 29.47 322 P P 20 36 32.5 +0.5
GOGA Godfrey 30.25 323 P P 20 36 39.0 +0.1
GOGA IAmb IAmb 20 36 41.2
comp=Z,16nm,1.0s
152A Waverly Hall 30.50 321 P P 20 36 41.2 +0.1
152A IAmb IAmb 20 37 02.5
comp=Z,14nm,0.8s
PB11 IPOC Station P 30.66 194 P P 20 36 42.3 -0.4
PB11 IAmb IAmb 20 36 59.0
comp=Z,22nm,1.1s
RCBR Riachuelo 30.67 120 LR LR 20 50 03.6
comp=Z,153nm,20.8s,baz=288,slow=38
U56A King 30.80 331 P P 20 36 43.5 -0.2
U56A IAmb IAmb 20 36 54.7
comp=Z,34nm,1.4s
T57A Hurt 30.80 333 P P 20 36 43.6 -0.1
T57A IAmb IAmb 20 36 45.1
comp=Z,19nm,1.3s
PB08 IPOC Station P 30.91 193 P P 20 36 44.8 -0.5
Y52A Lilburn 30.92 323 P P 20 36 44.5 -0.3
Y52A IAmb IAmb 20 36 57.3
comp=Z,36nm,1.4s
250A Grady 31.05 318 P P 20 36 46.8 +0.8
BG3 Lake Jocassee 31.08 326 P P 20 36 45.3 -0.9
BG3 IAmb IAmb 20 36 53.0
comp=Z,31nm,1.5s
V53A Saluda 31.52 327 P P 20 36 50.1 0.0
V53A IAmb IAmb 20 37 03.0
comp=Z,18nm,1.1s
U54A Nelsons Funny 31.65 329 P P 20 36 51.0 -0.2
W52A Murphy 31.71 325 P P 20 36 51.5 -0.3
W52A IAmb IAmb 20 37 53.8
comp=Z,48nm,1.6s
PATCX Punta Patache 31.80 194 P P 20 36 52.7 0.0
TKL Tuckaleechee C 32.03 326 P P 20 36 54.4 -0.2
comp=Z,1.3nm,0.3s,baz=223,slow=7.9,SNR=1.9
comp=Z,1.3nm,0.3s
LRAL Lakeview Retre 32.19 319 P P 20 36 56.2 +0.2
LRAL IAmb IAmb 20 37 05.2
comp=Z,13nm,0.7s
CMIG Matias Romero 32.44 286 LR LR 20 51 09.4
comp=Z,144nm,20.4s,baz=96,slow=38
W50A Signal Mountai 32.59 323 P P 20 36 59.0 -0.5
W50A IAmb IAmb 20 37 01.8
comp=Z,19nm,0.9s
PB07 IPOC Station P 32.61 193 P P 20 36 59.6 -0.3
PB07 IAmb IAmb 20 37 14.3
comp=Z,17nm,0.9s
SWET Sewanee 32.97 323 P P 20 37 03.1 +0.3
SWET IAmb IAmb 20 37 05.4
comp=Z,12nm,0.8s
X48A Hartselle 33.13 321 P P 20 37 04.4 +0.2
X48A IAmb IAmb 20 37 12.9
comp=Z,12nm,0.8s
LVC Limon Verde 33.26 191 LR LR 20 50 51.4
comp=Z,411nm,21.9s,baz=352,slow=37
S51A Beattyville 33.41 328 P P 20 37 06.3 -0.4
S51A IAmb IAmb 20 37 16.6
comp=Z,21nm,1.1s
T50A Nancy 33.62 326 P P 20 37 07.9 -0.5
T50A IAmb IAmb 20 37 18.2
comp=Z,14nm,0.9s
U49A Red Boiling Sp 33.78 325 P P 20 37 09.1 -0.8
U49A IAmb IAmb 20 37 30.0
comp=Z,13nm,0.8s
CLTN Cedars of Leba 33.80 324 P P 20 37 07.0 -3.1
PLAL Pickwick Lake 34.12 320 P P 20 37 12.2 -0.7
PLAL IAmb IAmb 20 37 21.6
comp=Z,16nm,0.8s
R50A Paris 34.28 328 IAmb IAmb 20 37 24.8
comp=Z,24nm,1.1s
WVT Waverly 34.72 322 P P 20 37 17.3 -0.7
WVT IAmb IAmb 20 37 26.3
comp=Z,15nm,0.8s
WVT Waverly 34.72 322 P P 20 37 17.7 -0.3
P49A Miami Univ. Ec 35.42 329 P P 20 37 22.9 -1.1
O49A Covington 35.73 330 IAmb IAmb 20 37 33.2
comp=Z,22nm,1.1s
CPUP Villa Florida 36.62 173 P P 20 37 35.1 +0.8
comp=Z,4.4nm,1.0s,baz=333,slow=9.0,SNR=2.8
comp=Z,4.4nm,1.0s
PBMO Poplar Bluff 36.74 321 P P 20 37 34.0 -1.4
N47A Urbana 36.93 330 IAmb IAmb 20 37 43.7
comp=Z,21nm,1.0s
X40A Basin Creek Fa 36.97 316 P P 20 37 36.5 -0.8
WHAR Wooly Hollow 37.05 317 P P 20 37 37.9 -0.1
WHAR IAmb IAmb 20 37 46.0
comp=Z,10nm,0.9s
Q44A Meyer Farm, Va 37.28 325 P P 20 37 39.2 -0.7
SADO Sadowa 37.41 340 LR LR 20 55 00.4
comp=Z,92nm,18.3s,baz=210,slow=39
FVM French Village 37.50 322 IAmb IAmb 20 37 51.4
comp=Z,9.7nm,0.7s
O44A Mansfield 37.84 326 P P 20 37 44.0 -0.6
237A Washetta, Mont 37.86 310 P P 20 37 44.3 -0.6
CCM Cathedral Cave 38.05 322 P P 20 37 45.8 -0.6
CCM IAmb IAmb 20 37 55.6
comp=Z,9.2nm,0.8s
WHTX Lake Whitney, 39.10 309 IAmb IAmb 20 37 59.0
comp=Z,23nm,1.1s
833A Chaparral WMA, 39.23 303 IAmb IAmb 20 38 09.9
comp=Z,14nm,0.7s
P40A Paris 39.47 323 P P 20 37 56.8 -1.4
HNDO Hondo 39.56 304 IAmb IAmb 20 38 02.4
comp=Z,9.0nm,0.8s
TUL3 Leonard 39.77 315 IAmb IAmb 20 38 01.3
comp=Z,24nm,0.9s
LOOK Love County 39.80 312 IAmb IAmb 20 38 09.1
comp=Z,18nm,0.9s
PLPT Palo Pinto 40.12 310 P P 20 38 02.9 -0.9
PLPT IAmb IAmb 20 38 07.3
comp=Z,14nm,0.8s
JCT Junction City 40.33 306 IAmb IAmb 20 38 19.1
comp=Z,12nm,0.6s
L40A Anamosa 40.66 326 IAmb IAmb 20 38 16.7
comp=Z,32nm,0.9s
N38A Joes South For 40.97 323 P P 20 38 09.4 -1.3
KAN01 Argonia South 41.77 316 P 20 38 15.8 -1.6
KAN14 Manchester OK 41.81 315 P 20 38 16.2 -1.5
KAN14 IAmb IAmb 20 38 18.3
comp=Z,30nm,0.9s
KSU1 Kansas State U 42.04 319 IAmb IAmb 20 38 37.6
comp=Z,14nm,0.6s
DKNS Dickens 42.46 309 IAmb IAmb 20 38 27.9
comp=Z,12nm,0.6s
POST Post 42.66 308 P P 20 38 23.2 -1.6
TXAR Lajitas Array 43.11 302 P P 20 38 27.7 -0.8
comp=Z,3.1nm,0.8s,baz=122,slow=6.6,SNR=21
TXAR PcP PcP 20 40 17.3 -0.8
comp=Z,1.0nm,0.5s,baz=127,slow=5.6,SNR=5.9
comp=Z,3.1nm,0.8s
I37A Lemond, Waseca 43.16 327 P P 20 38 26.6 -2.0
PECS Pecos 43.91 305 P P 20 38 34.0 -1.0
MSTX Muleshoe 43.99 309 IAmb IAmb 20 38 41.6
comp=Z,16nm,0.6s
SCHQ Schefferville 44.67 356 P P 20 38 40.4 -0.1
comp=Z,4.0nm,0.5s,baz=178,slow=6.1,SNR=13
SCHQ LR LR 20 55 58.9
comp=Z,133nm,18.9s,baz=173,slow=34
comp=Z,4.0nm,0.5s
ECSD EROS Data Cent 44.76 324 P P 20 38 40.9 -0.6
RTBA Rita Blanca 44.97 312 P P 20 38 41.5 -1.8
ANMO Albuquerque 47.18 309 P P 20 39 00.3 -0.6
ANMO IAmb IAmb 20 39 21.6
comp=Z,15nm,1.3s
ANMO Albuquerque 47.18 309 LR LR 21 01 32.4
comp=Z,75nm,18.6s,baz=196,slow=40
ANMO Albuquerque 47.18 309 P P 20 39 01.7 +0.8
AGMN Agassiz Nation 47.30 330 IAmb IAmb 20 39 23.7
comp=Z,22nm,1.4s
LPIG La Paz 47.75 293 LR LR 21 01 56.7
comp=Z,71nm,19.4s,baz=346,slow=40
S22A 4UR Ranch, Cre 48.48 312 P P 20 39 10.5 -0.6
S22A IAmb IAmb 20 39 19.6
comp=Z,6.3nm,1.0s
ULM Lac du Bonnet 48.63 332 P P 20 39 10.8 -0.8
comp=Z,3.5nm,0.6s,baz=133,slow=7.3,SNR=7.8
ULM LR LR 20 59 53.9
comp=Z,87nm,21.8s,baz=118,slow=36
comp=Z,3.5nm,0.6s
PLCA Paso Flores 51.26 188 P P 20 39 32.9 +1.2
PLCA IAmb IAmb 20 39 42.2
comp=Z,6.7nm,0.8s
PLCA Paso Flores 51.26 188 P P 20 39 32.8 +1.0
comp=Z,5.7nm,1.0s,baz=2.2,slow=7.7,SNR=7.4
PLCA LR LR 21 01 00.1
comp=Z,172nm,19.6s,baz=13,slow=36
comp=Z,5.7nm,1.0s
SRU San Rafael Swe 51.68 312 IAmb IAmb 20 39 38.8
comp=Z,5.7nm,0.7s
DGMT Dagmar 51.80 326 P P 20 39 35.0 -0.8
P17A Butcher Ranch, 51.97 313 IAmb IAmb 20 39 45.3
comp=Z,34nm,1.9s
U15A North Rim 52.15 308 P P 20 39 38.4 -0.5
TMUT Trail Mountain 52.25 312 IAmb IAmb 20 39 42.7
comp=Z,5.7nm,0.8s
BSUT Blindstream Ca 52.36 314 IAmb IAmb 20 40 06.0
comp=Z,19nm,1.7s
BW06 Boulder Array 52.39 317 IAmb IAmb 20 39 49.7
comp=Z,6.4nm,0.8s
PD31 Pinedale Array 52.39 317 IAmb IAmb 20 39 49.7
comp=Z,5.7nm,0.8s
PDAR Pinedale Array 52.39 317 P P 20 39 38.2 -2.2
PDAR Pinedale Array 52.39 317 P P 20 39 39.4 -1.1
comp=Z,5.0nm,0.7s,baz=118,slow=9.5,SNR=26
PDAR LR LR 21 03 37.8
comp=Z,79nm,21.2s,baz=97,slow=38
comp=Z,5.0nm,0.7s
KNB Kanab 52.73 309 P P 20 39 42.1 -0.9
HWUT Hardware Ranch 53.32 315 IAmb IAmb 20 39 49.6
comp=Z,6.6nm,0.9s
LOHW Long Hollow 53.43 317 IAmb IAmb 20 39 55.7
comp=Z,13nm,1.6s
AHID Auburn Hatcher 53.43 316 P P 20 39 46.4 -1.7
AHID IAmb IAmb 20 39 55.4
comp=Z,7.4nm,1.0s
DUG Dugway, Tooele 53.71 313 IAmb IAmb 20 39 53.7
comp=Z,6.1nm,0.8s
BGU Big Grassy Mou 54.11 314 P P 20 39 51.5 -1.6
BGU IAmb IAmb 20 39 56.3
comp=Z,7.3nm,0.7s
SPR3 Spring Creek 3 54.45 311 P 20 39 55.3 -0.5
WCT Wildcat Mounta 55.61 308 P P 20 40 03.5 -0.3
ELK Elko 55.64 313 LR LR 21 05 31.1
comp=Z,42nm,19.4s,baz=100,slow=38
TIC Toumodi 56.64 89⇑ iP P 20 40 13.9 +2.4
comp=Z,79nm,0.4s
LIC Lamto 56.69 89⇑ iP P 20 40 12.6 +0.7
comp=Z,7.4nm,0.5s
DBIC Dimbokro 56.80 89 P P 20 40 12.8 +0.2
DBIC IAmb IAmb 20 40 22.8
comp=Z,6.8nm,0.9s
DBIC Dimbokro 56.80 89 P P 20 40 13.6 +0.9
comp=Z,5.1nm,0.7s,baz=261,slow=7.5,SNR=8.5
comp=Z,5.1nm,0.7s
DBIC Dimbokro 56.80 89 P P 20 40 13.3 +0.7
KIC Kosan Boka 56.95 89⇑ iP P 20 40 14.7 +1.0
comp=Z,18nm,0.9s
DY2G Dye2 57.24 8 i P P 20 40 16.9 +1.8
DY2G IAmb IAmb 20 40 25.9
comp=Z,25nm,0.7s
SFJD Kangerlussuaq 57.26 5 LR LR 21 02 39.4
comp=Z,53nm,21.7s,baz=182,slow=34
NVAR Mina Array Bea 57.29 309 P P 20 40 14.8 -1.3
comp=Z,0.9nm,0.8s,baz=104,slow=8.4,SNR=2.4
NVAR LR LR 21 07 57.8
comp=Z,116nm,18.2s,baz=100,slow=39
comp=Z,0.9nm,0.8s
MDT Midelt 57.39 58 LR LR 21 04 12.9
comp=Z,60nm,18.6s,baz=311,slow=35
RPN Rapa Nui 58.85 230 LR LR 21 04 33.4
comp=Z,19nm,18.4s,baz=93,slow=35
ESDC Sonseca Array 59.23 50 P P 20 40 29.1 -0.3
ESDC IAmb IAmb 20 40 41.3
comp=Z,20nm,1.4s
ESDC Sonseca Array 59.23 50 P P 20 40 30.5 +1.1
comp=Z,2.5nm,0.9s,baz=264,slow=7.2,SNR=12
comp=Z,2.5nm,0.9s
ICESG Greenland Ices 60.62 9 i P P 20 40 42.4 +3.7
ICESG IAmb IAmb 20 40 49.2
comp=Z,16nm,0.8s
BORG Borgarnes 61.44 19 LR LR 21 05 36.8
comp=Z,20nm,19.4s,baz=232,slow=34
TOA0 Torodi Ar. Sit 62.52 80 P P 20 40 51.5 -0.5
TORD Torodi Ar. Bea 62.52 80 P P 20 40 51.5 -0.6
TORD IAmb IAmb 20 41 59.8
comp=Z,8.0nm,0.8s
TORD Torodi Ar. Bea 62.52 80 P P 20 40 52.7 +0.6
comp=Z,2.4nm,0.7s,baz=293,slow=5.6,SNR=16
comp=Z,2.4nm,0.7s
SUMG Summit 63.95 8 P P 20 41 02.5 +1.4
SUMG Summit 63.95 8 i P P 20 41 03.1 +2.1
SUMG IAmb IAmb 20 41 12.2
comp=Z,16nm,0.8s
YKA Yellowknife Ar 64.23 336 P P 20 41 00.4 -2.1
comp=Z,0.4nm,0.5s,baz=107,slow=7.3,SNR=13
comp=Z,0.4nm,0.5s
EKA Eskdalemuir Ar 64.31 33 P P 20 41 04.2 +1.0
comp=Z,1.4nm,0.9s,baz=219,slow=25,SNR=1.5
comp=Z,1.4nm,0.9s
TAM Tamanrasset 65.68 70 P P 20 41 14.1 +1.2
JMIC Jan Mayen 69.07 16 LR LR 21 12 02.8
comp=Z,19nm,18.0s,baz=324,slow=36
KEST Kesra 69.17 56 P P 20 41 36.6 +1.9
KEST IAmb IAmb 20 42 01.8
comp=Z,21nm,1.4s
KEST Kesra 69.17 56 P P 20 41 36.8 +2.1
comp=Z,4.2nm,0.9s,baz=317,slow=8.4,SNR=2.4
KEST LR LR 21 11 40.0
comp=Z,43nm,19.3s,baz=233,slow=36
comp=Z,4.2nm,0.9s
DLBC Dease Lake 69.80 329 P P 20 41 37.7 -0.4
comp=Z,2.2nm,0.7s,baz=49,slow=20,SNR=2.9
comp=Z,2.2nm,0.7s
DAVA Damuels 70.44 43 i pP P 20 41 50.2 +7.9
comp=Z,11nm,0.9s
FETA Feichten 70.99 44 epP P 20 41 52.2 +6.5
comp=Z,14nm,1.5s
RETA Reutte 71.06 43 i pP P 20 41 52.3 +6.3
comp=Z,2.5nm,0.8s
MOTA Moosalm 71.27 43 i P P 20 41 53.4 +6.0
comp=Z,6.5nm,1.0s
SQTA Sankt Quirin 71.33 44 i pP P 20 41 54.5 +6.7
comp=Z,6.7nm,0.7s
WTTA Wattenberg 71.63 44 epP P 20 41 57.1 +7.5
comp=Z,3.9nm,0.7s
ABTA Abfaltersbach 72.18 44 epP P 20 42 01.0 +8.1
comp=Z,10nm,1.5s
LESA Schwarzleotal 72.34 43 i pP P 20 42 00.4 +6.6
comp=Z,6.1nm,0.5s
CLUD Cludinico 72.42 44 P P 20 41 54.2 0.0
CLUD IAmb IAmb 20 42 03.8
comp=Z,8.9nm,0.8s
KBA Koelnbreinsper 72.78 44 epP P 20 42 02.7 +6.2
comp=Z,8.5nm,1.0s
CLL Collm 72.87 39 ePx Px 20 42 00.0
CLL ex x 20 42 06.0
CLL esP PcP 20 42 15.0 +1.3
BIOA Bad Ischl, Aus 73.01 43 epP P 20 42 04.7 +7.0
comp=Z,4.5nm,0.7s
NB2 NORSAR Subarra 73.12 29 P P 20 42 00.1 +2.0
comp=Z,22nm,1.4s,baz=261,slow=6.5
NOA NORSAR Array B 73.12 29 P P 20 41 59.1 +1.0
comp=Z,3.2nm,1.0s,baz=267,slow=8.8,SNR=4.8
comp=Z,3.2nm,1.0s
GERES GERESS Array B 73.13 42 P P 20 41 58.8 +0.4
comp=Z,1.3nm,1.0s,baz=297,slow=4.4,SNR=4.2
comp=Z,1.3nm,1.0s
OBKA Obir 73.57 45 epP P 20 42 07.8 +6.7
comp=Z,4.4nm,0.9s
INK Inuvik 73.70 338 IAmb IAmb 20 42 05.0
comp=Z,22nm,1.8s
SOKA Soboth 73.91 44 epP P 20 42 09.4 +6.3
comp=Z,2.0nm,0.8s
I30M Mount Dempster 74.17 335 IAmb IAmb 20 42 39.4
comp=Z,26nm,1.7s
HFS Hagfors 74.20 30 P P 20 42 05.1 +0.7
comp=Z,2.8nm,0.6s,baz=245,slow=2.8,SNR=11
comp=Z,2.8nm,0.6s
CONA Conrad Observa 74.52 43 epP P 20 42 13.0 +6.4
comp=Z,5.0nm,1.3s
PMSA Palmer Station 74.77 181 LR LR 21 15 48.1
comp=Z,156nm,19.0s,baz=324,slow=36
RONA Rosalia, Austr 74.81 43 eP P 20 42 14.3 +6.0

	comp=Z,6.7nm,1.6s							
KRUC	**Moravsky**	**74.91**	**42**	*eP*	P	20 42 18.2	+9.5	
VRAC	**Vranov**	**75.05**	**42**	*eP*	P	20 42 19.0	+9.5	
I28M	**Miner Creek**	**75.68**	**335**	IAmb	IAmb	20 44 40.1		
	comp=Z,20nm,1.7s							
EGAK	**Eagle**	**76.12**	**334**	P	**P**	**20 42 13.9**	**-1.4**	
EGAK				IAmb	IAmb	20 42 25.0		
	comp=Z,20nm,1.3s							
SCRK	**Sand Creek**	**77.28**	**333**	IAmb	IAmb	20 42 41.5		
	comp=Z,26nm,1.9s							
SPITS	**Spitsbergen Ar**	**77.74**	**12**	P	**P**	**20 42 24.5**	**+0.2**	
	comp=Z,6.4nm,0.9s,baz=177,slow=3.3,SNR=6.9							
	comp=Z,6.4nm,0.9s							
PRP	**Porcupine Dome**	**78.01**	**335**	P	**P**	**20 42 25.5**	**-0.6**	
PRP				IAmb	IAmb	20 42 39.3		
	comp=Z,6.2nm,1.0s							
IL31		**78.57**	**334**	IAmb	IAmb	20 45 04.0		
	comp=Z,33nm,1.9s							
ILAR	**Eielson Array**	**78.57**	**334**	P	**P**	**20 42 27.2**	**-1.8**	
	comp=Z,1.1nm,0.6s,baz=91,slow=4.8,SNR=19							
	comp=Z,1.1nm,0.6s							
MDM	**Murphy Dome**	**79.14**	**334**	IAmb	IAmb	20 42 37.8		
	comp=Z,12nm,1.1s							
NEA2	**Nenana**	**79.51**	**334**	IAmb	IAmb	20 42 39.7		
	comp=Z,14nm,1.0s							
ARCES	**ARCESS Array B**	**79.72**	**21**	P	**P**	**20 42 35.0**	**-0.2**	
	comp=Z,3.7nm,0.8s,baz=252,slow=4.6,SNR=5.8							
	comp=Z,3.7nm,0.8s							
TRF	**Thorofare Moun**	**80.09**	**333**	P	**P**	**20 42 36.3**	**-1.3**	
TRF				IAmb	IAmb	20 42 52.5		
	comp=Z,16nm,1.0s							
FINES	**FINESS Array B**	**80.31**	**29**	P	**P**	**20 42 39.8**	**+1.2**	
	comp=Z,2.0nm,0.4s,baz=263,slow=4.0,SNR=36							
	comp=Z,2.0nm,0.4s							
B20K	**Meade River**	**82.18**	**340**	IAmb	IAmb	20 43 25.3		
	comp=Z,8.5nm,0.6s							
F19K	**Shaleruckik Mo**	**82.88**	**337**	IAmb	IAmb	20 42 57.7		
	comp=Z,25nm,1.9s							
AKASG	**Malin Array Be**	**83.11**	**40**	P	**P**	**20 42 54.9**	**+1.3**	
	comp=Z,0.4nm,0.5s,baz=287,slow=4.3,SNR=1.6							
	comp=Z,0.4nm,0.5s							
C19K	**Lookout Ridge**	**83.17**	**339**	P	**P**	**20 42 52.7**	**-0.9**	
C19K				IAmb	IAmb	20 43 03.9		
	comp=Z,4.8nm,0.8s							
G18K	**Tagagawik**	**83.39**	**336**	IAmb	IAmb	20 43 05.2		
	comp=Z,8.2nm,0.8s							
C16K	**Lisburne Hills**	**85.41**	**339**	IAmb	IAmb	20 43 12.3		
	comp=Z,6.8nm,1.1s							
L14K	**Kuka Creek**	**86.10**	**332**		sP	20 43 40.1	+20	
OBN	**Obninsk**	**86.70**	**35**	P	**P**	**20 43 13.0**	**+1.5**	
	comp=Z,4.3nm,0.3s,baz=184,slow=22,SNR=1.2							
	comp=Z,4.3nm,0.3s							
BR131	**Keskin Array S**	**88.03**	**50**	P	**P**	**20 43 18.4**	**-0.1**	
BR131				IAmb	IAmb	20 43 29.7		
	comp=Z,9.6nm,1.4s							
BRTR	**Keskin Array B**	**88.03**	**50**	P	**P**	**20 43 18.6**	**+0.1**	
BRTR	**Keskin Array B**	**88.03**	**50**	P	**P**	**20 43 19.4**	**+0.8**	
	comp=Z,2.1nm,0.8s,baz=258,slow=4.3,SNR=11							
	comp=Z,2.1nm,0.8s							
PPT	**Papeete**	**90.54**	**252**	LR	LR	21 18 59.8		
	comp=Z,55nm,19.8s,baz=116,slow=32							
EIL	**Elat**	**91.17**	**60**	LR	LR	21 22 29.2		
	comp=Z,51nm,20.8s,baz=255,slow=34							
GURO	**Guroymak-BITLI**	**94.64**	**50**	P	**P**	**20 43 50.8**	**+1.6**	
GURO				IAmb	IAmb	20 44 02.3		
	comp=Z,3.5nm,0.7s							
ARU	**Arti**	**97.68**	**29**	LR	LR	21 22 49.3		
	comp=Z,37nm,21.6s,baz=182,slow=32							
NRIK	**Noril'sk**	**97.90**	**10**	LR	LR	21 28 18.7		
	comp=Z,59nm,21.1s,baz=356,slow=35							
TIXI	**Tiksi**	**98.00**	**356**	LR	LR	21 30 26.1		
	comp=Z,30nm,18.9s,baz=24,slow=37							
MKAR	**Makanchi Array**	**115.02**	**26**	PKP	**PKPdf**	**20 49 09.8**	**+0.8**	
	comp=Z,0.2nm,0.8s,baz=306,slow=1.2,SNR=2.3							
WMQ	**Urumqi**	**119.68**	**25**	*eP*	**PKPdf**	**20 49 18.3**	**+0.2**	
SONM	**Songino Array**	**121.34**	**9**	PKP	**PKPdf**	**20 49 20.1**	**-1.2**	
	comp=Z,0.2nm,0.4s,baz=34,slow=0.5,SNR=1.8							
MDJ	**Mudanjiang**	**124.40**	**350**	PKP	**PKiKP**	**20 49 31.5**	**+4.1**	
MDJ				PP	PP	20 51 33.0	+21	
MDJ	**Mudanjiang**	**124.40**	**350**	SS	SS	21 07 49.5	-12	
MDJ				AMB	AMB			
	comp=Z,570nm,4.5s							
HHC	**Hu-ho-hao-te**	**128.88**	**6**	*eP*	**PKPdf**	**20 49 35.3**	**-0.6**	
NJ2	**Nanjing**	**137.97**	**359**	*eP*	**PKPdf**	**20 49 51.5**	**-1.5**	
NJ2				pmax	pmax			
	comp=Z,200nm,0.7s							
PZH	**PanZhiHua**	**140.33**	**23**	PKP	**PKPdf**	**20 49 56.0**	**-1.7**	
CMAR	**Chiang Mai Arr**	**146.00**	**33**	PKPbc	**PKPbc**	**20 50 08.5**	**+0.1**	
	comp=Z,4.5nm,0.9s,baz=313,slow=4.5,SNR=21							
STKA	**Stephens Creek**	**149.16**	**222**	PKPbc	**PKPbc**	**20 50 15.5**	**-1.3**	
	comp=Z,2.3nm,0.7s,baz=153,slow=0.3,SNR=6.7							
ASAR	**Alice Springs**	**159.60**	**227**	PKP	**PKPdf**	**20 50 27.0**	**-0.4**	
	comp=Z,0.4nm,0.9s,baz=64,slow=3.2,SNR=2.6							
ASAR				PKPab	**PKPab**	**20 51 05.6**	**0.0**	
	comp=Z,1.0nm,0.8s,baz=120,slow=3.3,SNR=6.5							
WRA	**Warramunga Arr**	**161.32**	**237**	PKP	**PKPdf**	**20 50 28.9**	**-0.4**	
	comp=Z,1.1nm,1.0s,baz=89,slow=1.5,SNR=3.7							
WRA				PKPab	**PKPab**	**20 51 10.8**	**-2.5**	
	comp=Z,2.6nm,0.9s,baz=112,slow=4.0,SNR=10							

*IDC **26** 20:36:15.5±53.0, 19.°58S×178.°36W, h0km, mb4.4/3, mbtmp4.4/3, Error ellipse: s-maj=960.8km s-min=142.2km az=81.0*

*NEIC **26** 20:37:07.7±0.7, 20.°7S±0.°2×178.°3W±0.°2, h550km±18km, mb4.4/13, Error ellipse: s-maj=34.2km s-min=31.1km az=53.0*

ISC 26 20:37:08.5±3.4, **20.°7S**±0.°4×**178.°5W**±0.°4, **h550**km, **n18, σ0s82/20, mb4.3/10, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**13.21**	**259**	P	**P**	**20 40 00.1**	**+0.5**
WHZ	**Wether Hill Ro**	**27.45**	**201**	P	**P**	**20 42 10.9**	**+0.3**
EIDS	**Eidsvold**	**28.34**	**255**	P	**P**	**20 42 18.2**	**-0.6**
EIDS				IAmb	IAmb	20 42 53.5	
	comp=Z,18nm,1.4s						
ARMA	**Armidale**	**28.55**	**244**	P	**P**	**20 42 21.1**	**+0.5**
ARMA				IAmb	IAmb	20 43 04.9	
	comp=Z,15nm,1.5s						
CTAO	**Charters Tower**	**33.01**	**265**	P	**P**	**20 42 59.0**	**+0.1**
TOO	**Toolangi**	**35.39**	**234**	P	**P**	**20 43 18.4**	**-0.2**
TOO				IAmb	IAmb	20 43 19.0	
	comp=Z,7.7nm,1.1s						
STKA	**Stephens Creek**	**37.27**	**244**	P	**P**	**20 43 34.5**	**+0.3**
STKA	**Stephens Creek**	**37.27**	**244**	P	**P**	**20 43 34.6**	**+0.5**
	comp=Z,2.4nm,0.4s,baz=93,slow=11,SNR=17						
	comp=Z,2.4nm,0.4s						
BBOO	**Buckleboo**	**42.03**	**244**	P	**P**	**20 44 12.0**	**-0.3**
BBOO				IAmb	IAmb	20 44 12.7	
	comp=Z,7.4nm,0.7s						
AS31	**Alice Springs**	**44.02**	**257**	P	**P**	**20 44 27.8**	**-0.2**
ASAR	**Alice Springs**	**44.02**	**257**	P	**P**	**20 44 27.5**	**-0.5**
ASAR				PcP	**PcP**	**20 45 59.8**	**-1.7**
ASAR	**Alice Springs**	**44.02**	**257**	P	**P**	**20 44 27.9**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=95,slow=7.9,SNR=55						
	comp=Z,3.5nm,0.5s						
WB0	**Warramunga Arr**	**44.09**	**263**	P	**P**	**20 44 28.0**	**-0.6**
WB0				IAmb	IAmb	20 44 46.1	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**44.10**	**262**	P	**P**	**20 44 28.0**	**-0.6**
WB2				IAmb	IAmb	20 45 12.0	
	comp=Z,13nm,1.4s						
WB2				PcP	**PcP**	**20 46 04.1**	**+2.3**
WRA	**Warramunga Arr**	**44.12**	**262**	P	**P**	**20 44 28.3**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=97,slow=7.5,SNR=97						
	comp=Z,1.2nm,0.3s						
FORT	**Forrest**	**48.78**	**247**	P	**P**	**20 45 03.3**	**-0.6**
FORT				IAmb	IAmb	20 45 44.3	
	comp=Z,23nm,1.1s						
KNRA	**Kununurra**	**50.19**	**267**	P	**P**	**20 45 14.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.54**	**263**	P	**P**	**20 45 31.4**	**0.0**

*NEIC **26** 20:41:35.8±2.2, 56.°41N±0.°07×149.°41W±0.°09, h29km±4km, ML3.7/52, ML3.5(AEIC), Error ellipse: s-maj=11.1km s-min=7.3km az=162.0*

*AEIC **26** 20:41:38.1±2.6, 56.°39N±0.°06×149.°36W±0.°10, h12km±7km, Error ellipse: s-maj=10.0km s-min=6.5km az=144.0*

ISC 26 20:41:33.0±1.2, **56.°44N**±0.°07×**149.°43W**±0.°05, **h10**km, **n163, σ1s44/168, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.19**	**309**		**Pn**	**20 42 10.5**	**+1.1**
KDAK					**Sn**	**20 42 35.0**	**-1.5**
OHAK	**Old Harbor**	**2.26**	**292**		**Pn**	**20 42 11.0**	**+0.6**
OHAK				IAML		20 42 37.0	
	comp=N,277nm,0.2s						
OHAK	**Old Harbor**	**2.26**	**292**		**Sn**	**20 42 36.0**	**-2.4**
OHAK	**Old Harbor**	**2.26**	**292**	P	**Pn**	**20 42 11.0**	**+0.6**
OHAK	**Old Harbor**	**2.26**	**292**	P	**Pn**	**20 42 11.0**	**+0.6**
	baz=110						
OHAK				S	**Sn**	**20 42 36.0**	**-2.4**
	baz=110						
SII	**Sitkinak Islan**	**2.64**	**275**		**Pn**	**20 42 15.9**	**+0.2**
SII	**Sitkinak Islan**	**2.64**	**275**		**Sn**	**20 42 45.8**	**-2.0**
SII	**Sitkinak Islan**	**2.64**	**275**	IAML		20 42 39.0	
	comp=E,74nm,1.7s						
SII	**Sitkinak Islan**	**2.64**	**275**	P	**Pn**	**20 42 16.7**	**+1.0**
SII	**Sitkinak Islan**	**2.64**	**275**	P	**Pn**	**20 42 15.9**	**+0.2**
	baz=92						
SII				S	**Sn**	**20 42 45.8**	**-2.0**
	baz=92						
SYI	**Shuyak Island**	**2.70**	**325**		**Pn**	**20 42 17.4**	**+1.0**
SYI					**Sn**	**20 42 48.4**	**-0.8**
Q20K	**Shuyak Island**	**2.70**	**325**	P	**Pn**	**20 42 17.4**	**+1.0**
	baz=142						
Q20K				S	**Sn**	**20 42 48.4**	**-0.8**
	baz=142						
CNPM	**China Poot**	**3.24**	**343**		**Pn**	**20 42 24.7**	**+0.8**
CNPM					**Sn**	**20 43 01.2**	**-1.4**
Q19K	**Cape Douglas,**	**3.37**	**320**		**Pn**	**20 42 27.2**	**+1.5**
Q19K				IAML		20 43 13.4	
	comp=E,274nm,1.1s						
Q19K				IAML		20 43 21.3	
	comp=N,171nm,1.6s						
Q19K	**Cape Douglas,**	**3.37**	**320**	P	**Pn**	**20 42 27.5**	**+1.8**
	baz=136						
BRSE	**Bradley Lake S**	**3.39**	**349**		**Pn**	**20 42 26.6**	**+0.7**
BRSE					**Sn**	**20 43 04.1**	**-2.0**
BRSE	**Bradley Lake S**	**3.39**	**349**	P	**Pn**	**20 42 26.6**	**+0.7**
	baz=167						
BRSE				S	**Sn**	**20 43 04.1**	**-2.0**
	baz=167						
Q23K	**Middleton Isla**	**3.42**	**27**		**Sn**	**20 43 05.1**	**-1.7**
Q23K	**Middleton Isla**	**3.42**	**27**	Pn	**Pn**	**20 42 25.6**	**-0.7**
Q23K	**Middleton Isla**	**3.42**	**27**	S	**Sn**	**20 43 05.1**	**-1.7**
	baz=205						
MID	**Middleton Isla**	**3.42**	**27**	Pn	**Pn**	**20 42 25.7**	**-0.6**
BRLK	**Bradley Lake**	**3.43**	**348**		**Pn**	**20 42 27.0**	**+0.5**
BRLK					**Sn**	**20 43 06.2**	**-0.8**
HOM	**Homer**	**3.44**	**341**	Pn	**Pn**	**20 42 26.8**	**+0.2**
HOM				IAML		20 43 28.7	
	comp=E,287nm,3.1s						
HOM				IAML		20 43 39.6	
	comp=N,267nm,2.1s						
P23K	**Montague Islan**	**3.73**	**16**		**Pn**	**20 42 31.7**	**+1.2**
P23K					**Sn**	**20 43 12.0**	**-2.4**
P23K	**Montague Islan**	**3.73**	**16**	P	**Pn**	**20 42 31.7**	**+1.2**
	baz=197						
P23K				S	**Sn**	**20 43 12.0**	**-2.4**
	baz=197						
P19K	**Oil Pt**	**3.81**	**329**		**Pn**	**20 42 32.9**	**+1.2**
P19K					**Sn**	**20 43 15.8**	**-0.7**
P19K	**Oil Pt**	**3.81**	**329**	IAML		20 43 18.5	
	comp=E,124nm,1.6s						
P19K				IAML		20 43 21.6	
	comp=N,130nm,1.6s						
P19K	**Oil Pt**	**3.81**	**329**	P	**Pn**	**20 42 32.9**	**+1.2**
	baz=146						
P19K				S	**Sn**	**20 43 15.8**	**-0.7**
	baz=146						
CNTC	**Contact Creek**	**3.95**	**300**		**Pn**	**20 42 35.4**	**+1.6**
Q17K	**Contact Creek**	**3.95**	**300**	P	**Pn**	**20 42 35.3**	**+1.6**
	baz=115						
SLKM	**Skilak Lake**	**4.11**	**354**		**Pn**	**20 42 36.5**	**+0.7**
HIN	**Hinchinbrook I**	**4.26**	**20**		**Pn**	**20 42 39.4**	**+1.5**
HIN	**Hinchinbrook I**	**4.26**	**20**	IAML		20 43 25.7	
	comp=E,145nm,2.4s						
HIN				IAML		20 43 27.0	
	comp=N,152nm,0.4s						
P18K	**Big Mountain,**	**4.29**	**316**		**Pn**	**20 42 38.6**	**+0.4**
P18K	**Big Mountain,**	**4.29**	**316**	IAML		20 44 44.4	
	comp=N,50nm,3.2s						
P18K	**Big Mountain,**	**4.29**	**316**	P	**Pn**	**20 42 38.6**	**+0.4**
	baz=131						
KAIM	**Kayak Island**	**4.39**	**35**		**Pn**	**20 42 41.1**	**+1.4**
KAIM	**Kayak Island**	**4.39**	**35**	P	**Pn**	**20 42 41.1**	**+1.4**
	baz=219						
RSO	**Redoubt South**	**4.40**	**338**		**Pn**	**20 42 40.0**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.55**	**24**	P	**Pn**	**20 42 43.9**	**+2.0**
O19K	**Port Alsworth**	**4.57**	**328**		**Pn**	**20 42 41.4**	**-0.6**
O19K				IAML		20 43 38.5	
	comp=N,120nm,0.5s						
O18K	**Koktuh Hills**	**4.60**	**321**	Pn	Pn	20 42 40.3	-2.2
O18K				IAML		20 43 48.0	
	comp=E,40nm,3.9s						
O18K				IAML		20 45 39.7	
	comp=N,52nm,2.8s						
RC01	**Rabbit Creek A**	**4.67**	**358**	Pn	Pn	20 42 41.2	-2.3
RC01				IAML		20 43 37.7	
	comp=E,59nm,0.5s						
RC01				IAML		20 43 47.7	
	comp=N,54nm,3.0s						
RAGM	**Ragged Mountai**	**4.68**	**30**	Pn	**Pn**	**20 42 42.0**	**-1.7**
GOAT	**Goat Mountain**	**4.83**	**29**		**Pn**	**20 42 46.7**	**+0.9**
BERG	**Berg Lake**	**4.98**	**35**		**Pn**	**20 42 48.9**	**+1.1**
N20K	**Mount Spurr**	**4.99**	**344**	P	**Pn**	**20 42 48.4**	**+0.4**
	baz=162						
SPCR	**Spurr Chakacha**	**4.99**	**344**		**Pn**	**20 42 48.4**	**+0.4**
CHGN	**Chignik**	**5.00**	**272**	Pn	**Pn**	**20 42 49.0**	**+1.0**
CHGN				IAML		20 43 48.4	
	comp=N,58nm,0.1s						
CHGN				IAML		20 45 32.4	
	comp=E,89nm,2.3s						
KNK	**Knik Glacier**	**5.02**	**5**		**Pn**	**20 42 48.8**	**+0.5**
KNK				IAML		20 43 51.8	
	comp=E,47nm,0.9s						
KNK				IAML		20 43 55.2	
	comp=N,43nm,2.1s						
KNK	**Knik Glacier**	**5.02**	**5**	P	**Pn**	**20 42 49.7**	**+1.4**
	baz=186						
SUA	**Susitna One**	**5.09**	**353**		**Pn**	**20 42 49.8**	**+0.5**
SUA	**Susitna One**	**5.09**	**353**	IAML		20 44 06.0	
	comp=N,59nm,3.9s						
SUA				IAML		20 44 49.5	
	comp=E,74nm,3.2s						
SUA	**Susitna One**	**5.09**	**353**	P	**Pn**	**20 42 49.8**	**+0.5**
	baz=171						
SNH	**Sunshine Point**	**5.11**	**40**		**Pn**	**20 42 51.0**	**+1.4**
N19K	**Bonanza Creek**	**5.12**	**331**		**Pn**	**20 42 50.2**	**+0.4**
N19K	**Bonanza Creek**	**5.12**	**331**	IAML		20 44 03.8	
	comp=N,36nm,4.1s						
N19K	**Bonanza Creek**	**5.12**	**331**	P	**Pn**	**20 42 50.2**	**+0.4**
	baz=147						
PMR	**Palmer**	**5.17**	**2**	Pn	**Pn**	**20 42 51.8**	**+1.4**
PMR				IAML		20 43 30.9	
	comp=E,30nm,3.6s						
PMR				IAML		20 44 50.5	
	comp=N,29nm,3.9s						
BMRM	**Bremner River**	**5.19**	**27**		**Pn**	**20 42 52.0**	**+1.2**
BMRM	**Bremner River**	**5.19**	**27**	P	**Pn**	**20 42 52.0**	**+1.2**
	baz=210						
GHO	**Glory Hole Cre**	**5.36**	**3**	Pn	**Pn**	**20 42 54.5**	**+1.5**
GHO				IAML		20 43 53.6	
	comp=N,51nm,0.7s						
GHO				IAML		20 43 53.8	
	comp=E,40nm,0.5s						
KLU	**Klutina**	**5.38**	**18**		**Pn**	**20 42 54.5**	**+1.1**
KLU	**Klutina**	**5.38**	**18**	P	**Pn**	**20 42 54.5**	**+1.1**
	baz=201						
SML	**Sawmill**	**5.42**	**6**		**Pn**	**20 42 55.0**	**+1.2**
N18K	**Kilae Creek**	**5.43**	**324**	Pn	**Pn**	**20 42 53.1**	**-1.0**
SCM	**Sheep Creek Mo**	**5.52**	**10**		**Pn**	**20 42 56.0**	**+0.8**
O16K	**Kokwok River B**	**5.59**	**308**	Pn	**Pn**	**20 42 56.7**	**+0.6**
SKT	**Skwentna**	**5.67**	**350**		**Pn**	**20 42 57.8**	**+0.6**
VRDI	**Verde Repeater**	**5.72**	**30**		**Pn**	**20 42 59.1**	**+1.0**
N25K	**Chitina, Valde**	**5.75**	**24**		**Pn**	**20 43 00.0**	**+1.6**
N25K	**Chitina, Valde**	**5.75**	**24**	P	**Pn**	**20 43 00.5**	**+2.0**
	baz=207						
N17K	**Nushagak Hills**	**5.78**	**318**	Pn	**Pn**	**20 42 59.6**	**+1.0**
GLB	**Gilahina Butte**	**5.80**	**28**		**Pn**	**20 43 00.4**	**+1.3**
KIAG	**Kiagna River**	**5.81**	**36**		**Pn**	**20 43 00.8**	**+1.5**
M24K	**Tolsona, Glenn**	**5.93**	**15**	Pn	**Pn**	**20 43 02.5**	**+1.7**
MCARA	**McCarthy VSAT**	**5.96**	**31**		**Pn**	**20 43 03.1**	**+1.9**
MCARA	**McCarthy VSAT**	**5.96**	**31**	P	**Pn**	**20 43 03.1**	**+1.9**
	baz=216						
CHNA	**Chernabura Isl**	**5.98**	**259**	P	**Pn**	**20 43 01.9**	**+0.5**
	baz=71						
PTPK	**Patty Peak**	**5.98**	**34**		**Pn**	**20 43 03.3**	**+1.6**
CNBA	**Chernabura Isl**	**5.98**	**259**		**Pn**	**20 43 01.9**	**+0.5**
CUT	**Chulitna**	**6.00**	**356**	Pn	**Pn**	**20 43 01.8**	**+0.1**
M18K	**Stony River**	**6.05**	**330**		**Pn**	**20 43 02.9**	**+0.4**
M18K	**Stony River**	**6.05**	**330**	P	**Pn**	**20 43 02.9**	**+0.4**
	baz=144						
PCA	**Pinnacle**	**6.07**	**49**		**Pn**	**20 43 04.5**	**+1.7**
PINM	**Pinnacle**	**6.07**	**49**	P	**Pn**	**20 43 04.5**	**+1.7**
	baz=236						
BARN	**Barnard Glacie**	**6.15**	**38**		**Pn**	**20 43 06.1**	**+2.1**
CTG	**Chitna Glacier**	**6.19**	**40**	P	**Pn**	**20 43 06.5**	**+2.0**
	baz=226						
CTGM	**Chitina Glacie**	**6.19**	**40**		**Pn**	**20 43 06.2**	**+1.6**
LOGN	**Logan Glacier**	**6.22**	**41**		**Pn**	**20 43 06.4**	**+1.5**
PNL	**Peninsula**	**6.23**	**55**	P	**Pn**	**20 43 07.4**	**+2.5**
BCPM	**Bancas Point**	**6.26**	**52**	Pn	**Pn**	**20 43 07.1**	**+1.8**
SDPT	**Sand Point**	**6.31**	**265**	Pn	**Pn**	**20 43 07.0**	**+1.0**
SDPT	**Sand Point**	**6.31**	**265**	P	**Pn**	**20 43 07.5**	**+1.5**
L19K	**White Mountain**	**6.40**	**337**	Pn	**Pn**	**20 43 07.5**	**+0.3**
M17K	**Holitna River**	**6.48**	**324**	Pn	**Pn**	**20 43 07.8**	**-0.5**
DHY	**Denali Highway**	**6.74**	**8**	Pn	**Pn**	**20 43 11.2**	**-0.8**
M26K	**Nabesna, AK**	**6.82**	**26**		**Pn**	**20 43 15.0**	**+2.0**
M26K	**Nabesna, AK**	**6.82**	**26**	P	**Pn**	**20 43 15.0**	**+2.0**
	baz=211						
L18K	**Granite Mounta**	**6.88**	**330**	Pn	**Pn**	**20 43 13.8**	**-0.1**
O29M	**Mount Kennedy**	**6.89**	**51**		**Pn**	**20 43 16.6**	**+2.4**
O14K	**Tigyukauivet M**	**6.92**	**299**	Pn	**Pn**	**20 43 16.4**	**+2.1**
P29M	**Windy Craggy**	**6.98**	**58**		**Pn**	**20 43 16.9**	**+1.6**
P29M	**Windy Craggy**	**6.98**	**58**	P	**Pn**	**20 43 16.8**	**+1.6**
	baz=247						
RND	**Reindeer**	**7.00**	**2**	Pn	**Pn**	**20 43 16.2**	**+0.7**
TRF	**Thorofare Moun**	**7.05**	**357**	Pn	**Pn**	**20 43 16.3**	**0.0**
M27K	**Edge Creek, AK**	**7.08**	**30**		**Pn**	**20 43 19.6**	**+3.0**
MENT	**Mentasta**	**7.13**	**21**	Pn	**Pn**	**20 43 19.2**	**+1.9**
CAST	**Castle Rocks**	**7.13**	**350**	Pn	**Pn**	**20 43 20.1**	**+2.8**
KTH	**Kantishna Hill**	**7.18**	**355**	Pn	**Pn**	**20 43 19.1**	**+1.1**
S31K	**Pelican**	**7.33**	**72**		**Pn**	**20 43 20.0**	**+0.1**
S31K	**Pelican**	**7.33**	**72**	P	**Pn**	**20 43 20.0**	**+0.1**
	baz=263						
L16K	**Owhat River**	**7.40**	**320**	Pn	**Pn**	**20 43 23.1**	**+2.2**
HYT	**Haines Junctio**	**7.62**	**50**	Pn	**Pn**	**20 43 26.5**	**+2.4**
L27K	**Beaver Creek,**	**7.67**	**27**	Pn	**Pn**	**20 43 27.3**	**+2.6**
RIDG	**Independent Ri**	**7.67**	**15**	Pn	**Pn**	**20 43 27.2**	**+2.4**
BCAR	**Beaver Creek A**	**7.68**	**27**	Pn	**Pn**	**20 43 25.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**7.73**	**355**	Pn	**Pn**	**20 43 24.6**	**-0.8**
SIT	**Sitka**	**7.78**	**80**		**Pn**	**20 43 24.7**	**-1.4**
SIT	**Sitka**	**7.78**	**80**	P	**Pn**	**20 43 25.7**	**-0.4**
SIT	**Sitka**	**7.78**	**80**	P	**Pn**	**20 43 25.4**	**-0.7**
	baz=271						
M14K	**Bethel**	**7.84**	**309**	Pn	**Pn**	**20 43 26.8**	**-0.2**
SCRK	**Sand Creek**	**8.03**	**17**	Pn	**Pn**	**20 43 30.0**	**+0.3**
SKAG	**Skagway**	**8.09**	**62**	Pn	**Pn**	**20 43 30.6**	**+0.2**
SKAG	**Skagway**	**8.09**	**62**	P	**Pn**	**20 43 33.0**	**+2.7**
HDA	**Harding Lake**	**8.09**	**8**	Pn	**Pn**	**20 43 33.8**	**+3.4**
J20K	**Nowinta River**	**8.11**	**345**	Pn	**Pn**	**20 43 32.2**	**+1.6**
N30M	**Aishikik Lake**	**8.12**	**47**	Pn	**Pn**	**20 43 31.8**	**+1.0**
S32K	**Killisnoo**	**8.19**	**77**	Pn	**Pn**	**20 43 31.6**	**-0.1**
NEA2	**Nenana**	**8.19**	**1**	Pn	**Pn**	**20 43 32.9**	**+1.2**
O30N	**Mendenhall**	**8.20**	**53**	Pn	**Pn**	**20 43 32.4**	**+0.4**
M29M	**Somme Creek**	**8.21**	**38**	Pn	**Pn**	**20 43 34.5**	**+2.3**
R32K	**Eaglecrest**	**8.27**	**71**	Pn	**Pn**	**20 43 33.9**	**+1.0**
CCB	**Clear Creek Bu**	**8.28**	**5**	Pn	**Pn**	**20 43 35.1**	**+2.1**
JIS	**Juneau Island**	**8.34**	**71**	Pn	**Pn**	**20 43 34.8**	**+1.0**
K27K	**Chicken**	**8.44**	**23**	Pn	**Pn**	**20 43 36.5**	**+1.2**
IL31		**8.46**	**7**	Pn	**Pn**	**20 43 36.4**	**+1.1**
ILAR	**Eielson Array**	**8.46**	**7**	Pn	**Pn**	**20 43 34.7**	**-0.7**
MDM	**Murphy Dome**	**8.57**	**3**	Pn	**Pn**	**20 43 39.0**	**+2.0**
J26L	**Joseph Creek**	**8.59**	**17**	Pn	**Pn**	**20 43 38.5**	**+1.2**
MLY	**Manley**	**8.65**	**356**	Pn	**Pn**	**20 43 38.3**	**+0.2**
N31M	**

comp=Z,2.3nm,0.4s
COEN Coen 36.18 279 P **P** **20 52 40.5 -0.1**
BBOO Buckleboo 39.36 247 P **P** **20 53 06.0 -0.3**
BBOO IAmb IAmb 20 53 06.4
comp=Z,5.8nm,0.5s
AS31 Alice Springs 42.01 261 P **P** **20 53 27.1 -0.5**
ASAR Alice Springs 42.01 261 P **P** **20 53 27.1 -0.5**
ASAR Alice Springs 42.01 261 P **P** **20 53 27.6 0.0**
comp=Z,4.7nm,0.4s,baz=99,slow=7.0,SNR=63
comp=Z,4.7nm,0.4s
WB2 Warramunga Arr 42.40 266 P **P** **20 53 30.1 -0.5**
WB2 IAmb IAmb 20 53 30.5
comp=Z,16nm,0.5s
WRAB Tennant Creek 42.40 266 P **P** **20 53 30.0 -0.6**
WRAB IAmb IAmb 20 53 30.8
comp=Z,15nm,0.9s
WB0 Warramunga Arr 42.41 267 P **P** **20 53 30.1 -0.6**
WB0 IAmb IAmb 20 53 30.8
comp=Z,15nm,0.7s
WRA Warramunga Arr 42.41 266 P **P** **20 53 30.1 -0.6**
WRA Warramunga Arr 42.41 266 P **P** **20 53 30.1 -0.6**
comp=Z,12nm,0.5s,baz=97,slow=8.2,SNR=128
comp=Z,12nm,0.5s
FORT Forrest 46.24 250 P **P** **20 53 59.7 -0.3**
MTN Manton Dam 47.50 275 P **P** **20 54 08.8 -0.9**
KNRA Kununurra 48.71 270 P **P** **20 54 18.8 +0.1**
KNRA IAmb IAmb 20 54 44.6
comp=Z,38nm,1.2s
FAKI Fak Fak 50.68 287 P **P** **20 54 32.5 -0.7**
FAKI IAmb IAmb 20 55 13.0
comp=Z,55nm,1.1s
FITZ Fitzroy Crossi 50.83 266 P **P** **20 54 34.5 +0.3**
SOEI Soe 54.89 275 P **P** **20 55 04.2 +0.8**
SOEI IAmb IAmb 20 55 26.9
comp=Z,47nm,1.1s
PSA00 Pilbara Seismi 55.14 260 P **P** **20 55 04.5 -0.4**
PSA00 IAmb IAmb 20 55 09.6
comp=Z,18nm,1.2s
NWAO Narrogin (SRO) 55.15 246 P **P** **20 55 04.8 0.0**
MORW Morawa 56.80 250 P **P** **20 55 16.4 0.0**
TOLI2 Tolitoli 62.67 285 P **P** **20 55 55.1 -0.4**
TOLI2 IAmb IAmb 20 55 57.0
comp=Z,10nm,0.7s
QSPA South Pole Qui 65.91 180 P **P** **20 56 15.9 +0.6**
comp=Z,2.2nm,0.4s,baz=30,slow=1.3,SNR=6.0
comp=Z,2.2nm,0.4s
UGM Wanagama 68.13 271 P **P** **20 56 29.6 -0.2**
KKM Kota Kinabalu 69.00 287 P **P** **20 56 34.7 -0.4**
KKM IAmb IAmb 20 57 02.2
comp=Z,56nm,1.4s
BELA Belgrano 2 76.17 173 P **P** **20 57 15.8 +0.7**
OHAK Old Harbor 84.13 14 P **P** **20 57 54.1 -2.5**
OHAK IAmb IAmb 20 58 37.0
comp=Z,32nm,1.3s
SNAA Sanae 84.40 179 P **P** **20 57 58.3 +0.2**
NVAR Mina Array Bea 84.93 44 P **P** **20 58 00.1 -1.3**
comp=Z,0.4nm,0.5s,baz=251,slow=5.4,SNR=2.7
comp=Z,0.4nm,0.5s
N15K Kwethluk River 85.59 10 P **P** **20 58 05.1 +1.3**
O18K Koktuh Hills 86.15 12 P **P** **20 58 06.1 -0.4**
SUA Susitna One 88.53 14 P **P** **20 58 17.3 -0.4**
SUA IAmb IAmb 20 58 51.2
comp=Z,20nm,1.5s
CMAR Chiang Mai Arr 89.64 290 P **P** **20 58 24.7 +1.0**
comp=Z,0.4nm,0.3s,baz=135,slow=2.6,SNR=6.0
comp=Z,0.4nm,0.3s
TXAR Lajitas Array 90.55 58 P **P** **20 58 28.7 +0.8**
comp=Z,0.4nm,0.6s,baz=208,slow=2.4,SNR=3.5
comp=Z,0.4nm,0.6s
ILAR Eielson Array 92.29 14 P **P** **20 58 33.5 -1.4**
comp=Z,0.3nm,0.7s,baz=215,slow=7.7,SNR=2.2
comp=Z,0.3nm,0.7s
PDAR Pinedale Array 92.87 44 P **P** **20 58 37.1 -1.3**
comp=Z,0.3nm,0.6s,baz=222,slow=9.3,SNR=2.2
comp=Z,0.3nm,0.6s
SONM Songino Array 97.32 319 P Pdif 20 58 58.0 -0.3
comp=Z,0.1nm,0.3s,baz=116,slow=3.4,SNR=1.6
comp=Z,0.1nm,0.3s
KURBB Kurchatov Arra 115.45 316 PKP **PKiKP** **21 04 03.7 +0.6**
comp=Z,0.2nm,0.2s,baz=82,slow=3.3,SNR=1.9
BVAR Borovoye Array 120.66 319 PKP **PKPdf** **21 04 13.2 +0.1**
comp=Z,0.3nm,0.4s,baz=88,slow=3.0,SNR=2.5
HFS Hagfors 142.81 349 PKhKP PKPpre 21 04 51.4
comp=Z,2.5nm,0.9s,baz=8.6,slow=11,SNR=4.2
BRTR Keskin Array B 147.76 307 PKPbc **PKPbc** **21 05 06.8 -0.4**
comp=Z,0.3nm,0.6s,baz=56,slow=5.4,SNR=1.6
MMAI Mount Meron Ar 147.83 294 PKPbc **PKiKP** **21 05 09.3 +0.3**
comp=Z,4.5nm,0.9s,baz=81,slow=7.1,SNR=12
BURAR Bucovina Array 149.20 326 PKPbc **PKiKP** **21 05 12.0 +0.6**
TORD Torodi Ar. Bea 168.92 188 PKP **PKPdf** **21 05 28.3 -0.4**
comp=Z,0.1nm,0.4s,baz=187,slow=0.8,SNR=1.4

IDC 26 20:47:59.7±6.0, 4°83S×133°59E, h0km, mb3.4/1, mbtmp3.4/3, ML3.3/2, MS3.7/1, Error ellipse: s-maj=349.6km s-min=32.3km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.04**	**177**	Pn	Pn	20 51 32.8	-0.9
	0.1nm,0.3s,baz=359,slow=13,SNR=6.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**18.73**	**179**	P	Pn	20 52 20.6	0.0
	0.1nm,0.3s,baz=355,slow=12,SNR=8.4						
	0.8nm,0.7s						
RAO	**Raoul Island**	**51.84**	**124**	LR	LR	21 16 44.5	
	comp=Z,77nm,21.4s,baz=99,slow=33						
MKAR	**Makanchi Array**	**68.45**	**325**	P	P	20 59 03.7	0.0
	0.1nm,0.4s,baz=115,slow=6.8,SNR=4.6						
	0.1nm,0.4s						

*CATAC **26** 20:54:52.2±0.2, 13°15N×87°80W, h7km±2km, ML2.9*
*SNET **26** 20:54:53.5±1.0, 13°26N×87°76W, h10km±2km, ML2.8*
ISC 26 20:54:52.4±0.9, 13°12N±0°05×87°82W±0°03, h13km±7km, n27, σ1§17/48, 1C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.15**	**355**	*i* P	**Pg**	**20 54 56.5**	**+0.2**
CNCH				*e* S	**Sg**	**20 54 58.7**	**-0.3**
CNCH	**Conchagua**	**0.15**	**355**	*i* P	**Pg**	**20 54 55.8**	**-0.5**
CNCH				*i* S	**Sg**	**20 54 58.7**	**-0.3**
CNCH				IAML		20 55 00.1	
	comp=Z,12μm,1.0s						
LCND	**La Caada**	**0.20**	**340**	*i* P	**Pg**	**20 54 57.4**	**+0.5**
LCND				*e* S	**Sg**	**20 55 00.2**	**+0.3**
LCND				IAML		20 55 02.4	
	comp=Z,3μm,0.2s						
LCND	**La Caada**	**0.20**	**340**	*i* P	**Pg**	**20 54 56.8**	**-0.1**
LCND				*i* S	**Sg**	**20 54 59.7**	**-0.2**
LCND				IAML		20 55 00.6	
	comp=Z,3μm,1.0s						
AMPH	**Amapala**	**0.23**	**44**	*i* P	**Pg**	**20 54 56.2**	**-1.1**
AMPH				*e* S	**Sg**	**20 54 58.6**	**-2.1**
CSGN	**Cosiguina Volc**	**0.29**	**119**	*i* P	**Pg**	**20 54 57.8**	**-0.7**
CSGN				IAML		20 54 58.1	
	comp=Z,260nm,1.0s						
POTN	**Potosi Cosigui**	**0.33**	**111**	*i* P	**Pg**	**20 55 00.0**	**+0.9**
POTN				IAML		20 55 00.9	
	comp=Z,250nm,1.0s						
POTN				*i* S	**Sg**	**20 55 04.6**	**+1.0**
JUCU	**Jucuarįn**	**0.44**	**288**	*e* P	**Pb**	**20 55 03.1**	**+1.1**
JUCU				*e* S	**Sb**	**20 55 10.2**	**+1.7**
JUCU				IAML		20 55 11.4	
	comp=Z,732nm,0.4s						
CNRM	**Centro Naciona**	**0.49**	**316**	*i* P	**Pg**	**20 55 01.4**	**-0.7**
CNRM				*i* S	**Sg**	**20 55 07.9**	**-0.7**
CNRM				IAML		20 55 21.6	
	comp=Z,3μm,1.0s						
RANC	**El Ranchito**	**0.55**	**304**	*e* P	**Pb**	**20 55 05.3**	**+1.3**
PACA	**Pacayal**	**0.60**	**305**	*e* P	**Pb**	**20 55 05.8**	**+0.9**
PACA				*e* S	**Sb**	**20 55 14.1**	**+0.9**
PACA	**Pacayal**	**0.60**	**305**	*i* P	**Pb**	**20 55 05.4**	**+0.6**
PACA				*i* S	**Sb**	**20 55 13.4**	**+0.1**
PACA				IAML		20 55 22.6	
	comp=Z,1μm,1.0s						
CAHU	**Cacacuatique**	**0.75**	**330**	*e* P	**Pg**	**20 55 06.7**	**-0.3**
ALJI	**Alcalda de J**	**0.76**	**286**	*i* P	**Pg**	**20 55 06.6**	**-0.5**
ALJI				*i* S	**Sg**	**20 55 11.9**	**-5.2**
ALJI				IAML		20 55 54.0	
	comp=Z,560nm,1.0s						
CRIN	**San Cristobal**	**0.86**	**119**	*e* P	**Pb**	**20 55 10.4**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.05**	**303**	*i* P	**Pg**	**20 55 12.3**	**-0.5**
SCLA				*i* S	**Sg**	**20 55 24.3**	**-2.3**
SCLA				IAML		20 56 18.6	
	comp=Z,55nm,1.0s						
UESV	**Universidad de**	**1.07**	**299**	*i* P	**Pg**	**20 55 12.8**	**-0.3**
UESV				*i* S	**Sg**	**20 55 26.0**	**-1.1**
UESV				IAML		20 55 38.2	
	comp=Z,360nm,1.0s						
COEG	**Centro de Oper**	**1.14**	**296**	*i* P	**Pg**	**20 55 14.3**	**-0.2**
COEG				*i* S	**Sg**	**20 55 28.7**	**-0.7**
COEG				IAML		20 55 33.2	
	comp=Z,87nm,1.0s						
PAVA	**Las Pavas**	**1.23**	**299**	*i* P	**Pn**	**20 55 15.8**	**+0.3**
PAVA				*i* S	**Sb**	**20 55 30.5**	**-1.1**
PAVA				IAML		20 55 55.9	
	comp=Z,280nm,1.0s						
SJTE	**Alcalda de S**	**1.25**	**293**	*i* P	**Pn**	**20 55 16.5**	**+0.8**
SJTE				IAML		20 55 29.7	
	comp=Z,110nm,1.0s						
SJTE				*i* S	**Sb**	**20 55 33.3**	**+1.2**
MACN	**El Madrono**	**1.29**	**120**	*i* P	**Pn**	**20 55 16.2**	**0.0**
MACN				IAML		20 55 23.7	
	comp=Z,96nm,1.0s						
MACN				*i* S	**Sb**	**20 55 32.7**	**-0.5**
LOMA	**Loma Larga**	**1.41**	**292**	*i* P	**Pb**	**20 55 19.5**	**+0.8**
LOMA				*i* S	**Sb**	**20 55 36.6**	**-0.1**
LOMA				IAML		20 55 47.0	
	comp=Z,130nm,1.0s						
LIMN	**Finca el Limon**	**1.42**	**92**	*i* P	**Pn**	**20 55 17.2**	**-0.8**
LIMN				*i* S	**Sb**	**20 55 35.7**	**-1.1**
LIMN				IAML		20 55 37.4	
	comp=Z,220nm,1.0s						
UEES	**Universidad Ev**	**1.50**	**293**	*i* S	Sg	20 56 01.6	+21
LLGN	**La Laguna**	**1.50**	**314**	*i* P	**Pn**	**20 55 19.4**	**+0.2**
LLGN				*i* S	**Sn**	**20 55 38.9**	**+0.1**
LLGN				IAML		20 55 45.6	
	comp=Z,320nm,1.0s						
MTO3	**Montecristo**	**1.96**	**311**	*i* P	**Pn**	**20 55 26.3**	**+0.7**
MTO3				IAML		20 55 33.1	
	comp=Z,110nm,1.0s						
MTO3				*i* S	**Sb**	**20 55 53.0**	**+0.4**
BOAB	**BOACO BROADBAN**	**2.21**	**107**	*i* P	**Pn**	**20 55 28.3**	**-0.4**
BOAB				*i* S	**Sn**	**20 55 56.3**	**+0.4**
BOAB				IAML		20 56 03.0	
	comp=Z,53nm,1.0s						

*IDC **26** 21:10:03.6±0.5, 61°62N×148°48W, h0km, mb4.2/25, mbtmp4.2/29, ML3.8/4, MS3.5/17, Error ellipse: s-maj=12.1km s-min=10.2km az=37.0*
*AEIC **26** 21:10:04.7±2.2, 61°75N±0°01×148°14W±0°02, h4km±4km, ML4.3, mb4.6/21(NEIC), ML4.4/186(NEIC), Mwr4.3/107(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=225.0*
*MOS **26** 21:10:04.4±1.3, 61°73N×148°21W, h11km, mb4.6/14, Error ellipse: s-maj=17.3km s-min=7.1km az=92.6*
*NEIC **26** 21:10:04.7, 61°75N×148°14W, h4km*
*NEIC **26** 21:10:05.2±2.0, 61°75N±0°04×148°18W±0°04, h4km±4km, Error ellipse: s-maj=5.6km s-min=1.9km az=158.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=3.05; $M_{\theta\theta}$=0.92; $M_{\phi\phi}$=2.13; $M_{r\theta}$=-0.24; $M_{\theta\phi}$=-1.12; $M_{\phi r}$=0.55; Fault plane solution: M_0=2.99000×10^{15} NP1: ϕ_s=337.46000°, δ48.96000°, λ-79.18000°. NP2: ϕ_s=141.23000°, δ42.20000°, λ-102.16000°. Principal axes: T 2.8138, Plg3.0000°, Azm60.0000°; N 0.3227, Plg8.0000°, Azm150.0000°; P -3.1365, Plg81.0000°, Azm307.0000°;*
ISC 26 21:10:05.0±0.9, 61°74N±0°02×148°20W±0°02, h4km±5km, n365, σ1§34/341, mb4.5/67, MS3.5/13, 7C, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SML	**Sawmill**	**0.10**	**317**		**Sg**	**21 10 09.6**	**+1.3**
SML	**Sawmill**	**0.10**	**317**	Pg	**Pg**	**21 10 07.2**	**+0.2**
SML	**Sawmill**	**0.10**	**317**	IAML		21 10 09.9	
	comp=E,117μm,0.6s						
SML				IAML		21 10 10.0	
	comp=N,84μm,1.0s						
SML	**Sawmill**	**0.10**	**317**	P	**Pg**	**21 10 07.7**	**+0.7**
	baz=121						
SML				S	**Sg**	**21 10 09.7**	**+1.3**
	baz=121						
M23K	**Glacier View**	**0.23**	**76**		**Pg**	**21 10 09.7**	**+0.3**
M23K					**Sg**	**21 10 12.4**	**0.0**
M23K	**Glacier View**	**0.23**	**76**	P	**Pg**	**21 10 09.7**	**+0.3**
	baz=258						
M23K				S	**Sg**	**21 10 13.4**	**+1.0**
	baz=258						
GHO	**Glory Hole Cre**	**0.35**	**276**	Pg	**Pg**	**21 10 12.0**	**+0.3**
GHO					**Sg**	**21 10 17.2**	**+1.0**
GHO				IAML		21 10 19.9	
	comp=N,42μm,0.7s						
GHO				IAML		21 10 20.3	
	comp=E,40μm,0.6s						
KNK	**Knik Glacier**	**0.35**	**201**		**Pg**	**21 10 11.5**	**-0.2**
KNK					**Sg**	**21 10 16.6**	**+0.4**
KNK				IAML		21 10 17.1	
	comp=N,58μm,0.5s						
KNK	**Knik Glacier**	**0.35**	**201**	P	**Pg**	**21 10 11.8**	**+0.1**
	baz=24						
KNK				S	**Sg**	**21 10 16.7**	**+0.4**
	baz=24						
SCM	**Sheep Creek Mo**	**0.42**	**76**		**Pg**	**21 10 12.9**	**-0.2**
SCM					**Sg**	**21 10 19.1**	**+0.5**
SCM				IAML		21 10 20.6	
	comp=N,29μm,0.7s						
SCM				IAML		21 10 20.7	
	comp=E,30μm,0.9s						
SCM	**Sheep Creek Mo**	**0.42**	**76**	P	**Pg**	**21 10 13.2**	**+0.1**
	baz=258						
SCM				S	**Sg**	**21 10 19.4**	**+0.8**
	baz=258						
PMR	**Palmer**	**0.47**	**252**		**Sg**	**21 10 21.3**	**+1.3**
PMR	**Palmer**	**0.47**	**252**		**Pg**	**21 10 13.5**	**-0.5**
PMR	**Palmer**	**0.47**	**252**	IAML		21 10 24.3	
	comp=N,8μm,0.2s						
PMR				IAML		21 10 26.0	
	comp=E,12μm,0.8s						
PMR	**Palmer**	**0.47**	**252**	P	**Pg**	**21 10 13.5**	**-0.5**
PMR	**Palmer**	**0.47**	**252**	P	**Pg**	**21 10 13.6**	**-0.4**
	baz=71						
PMR				S	**Sg**	**21 10 20.0**	**-0.1**
	baz=71						
WAT6	**Susitna Watana**	**0.87**	**14**		**Pg**	**21 10 20.6**	**-1.1**
WAT6	**Susitna Watana**	**0.87**	**14**	P	**Pg**	**21 10 20.8**	**-0.9**
	baz=193						
RC01	**Rabbit Creek A**	**0.99**	**229**		**Pb**	**21 10 23.1**	**-1.5**
RC01	**Rabbit Creek A**	**0.99**	**229**	P	**Pb**	**21 10 23.2**	**-1.4**
	baz=48						
M24K	**Tolsona, Glenn**	**1.02**	**68**		**Pb**	**21 10 23.8**	**-1.6**
M24K					**Sb**	**21 10 38.2**	**-0.9**
M24K				IAML		21 10 39.1	
	comp=N,14μm,0.8s						
M24K	**Tolsona, Glenn**	**1.02**	**68**	P	**Pb**	**21 10 24.0**	**-1.3**
	baz=250						
M24K				S	**Sb**	**21 10 38.5**	**-0.7**
	baz=250						
WAT1	**Susitna Watana**	**1.11**	**352**		**Pb**	**21 10 25.1**	**-1.6**
WAT1	**Susitna Watana**	**1.11**	**352**	P	**Pb**	**21 10 25.4**	**-1.4**
	baz=170						
KLU	**Klutina**	**1.11**	**102**		**Pb**	**21 10 24.8**	**-2.0**
KLU				IAML		21 10 42.8	
	comp=E,8μm,0.7s						
KLU	**Klutina**	**1.11**	**102**	P	**Pb**	**21 10 24.9**	**-1.9**
	baz=285						
FIS	**Fire Island**	**1.14**	**239**		**Pn**	**21 10 26.5**	**-1.1**
CUT	**Chulitna**	**1.18**	**305**		**Pn**	**21 10 26.3**	**-2.0**
CUT	**Chulitna**	**1.18**	**305**	P	**Pn**	**21 10 26.7**	**-1.6**
	baz=122						
SUA	**Susitna One**	**1.25**	**258**	Pg	**Pn**	**21 10 26.9**	**-2.5**
DIV	**Divide**	**1.31**	**117**		**Pn**	**21 10 27.2**	**-2.9**
DHY	**Denali Highway**	**1.40**	**15**		**Pn**	**21 10 29.4**	**-2.0**
DHY				IAML		21 10 48.5	
	comp=E,7μm,0.8s						
O22K	**Cooper Landing**	**1.46**	**211**		**Pn**	**21 10 31.0**	**-1.1**
O22K	**Cooper Landing**	**1.46**	**211**	P	**Pn**	**21 10 31.1**	**-1.0**
	baz=30						
HARP	**HAARP**	**1.58**	**64**		**Pn**	**21 10 32.6**	**-1.1**
HARP					**Sn**	**21 10 54.2**	**-0.4**
HARP	**HAARP**	**1.58**	**64**	P	**Pn**	**21 10 32.6**	**-1.1**
	baz=246						
HIN	**Hinchinbrook I**	**1.58**	**148**	Pn	**Pn**	**21 10 34.2**	**+0.4**
HIN				IAML		21 11 00.3	
	comp=N,5μm,0.9s						
SKT	**Skwentna**	**1.60**	**280**		**Pn**	**21 10 32.9**	**-1.1**
SKT				IAML		21 10 54.9	
	comp=N,5μm,0.8s						
SKT				IAML		21 11 02.3	
	comp=E,3μm,0.6s						
EYAK	**Cordova Ski Ar**	**1.68**	**134**		**Pn**	**21 10 35.2**	**+0.1**
EYAK	**Cordova Ski Ar**	**1.68**	**134**	P	**Pb**	**21 10 37.2**	**+0.8**
EYAK	**Cordova Ski Ar**	**1.68**	**134**	P	**Pn**	**21 10 35.6**	**+0.5**
	baz=317						
RND	**Reindeer**	**1.70**	**350**		**Sn**	**21 10 57.6**	**-0.1**
RND	**Reindeer**	**1.70**	**350**		**Pn**	**21 10 34.8**	**-0.7**
RND	**Reindeer**	**1.70**	**350**	IAML		21 11 00.6	
	comp=N,3μm,0.9s						
RND				IAML		21 11 00.9	
	comp=E,5μm,0.9s						
N25K	**Chitina, Valde**	**1.72**	**93**		**Pn**	**21 10 33.8**	**-2.0**
N25K				IAML		21 11 02.8	
	comp=N,3μm,0.8s						
CAPN	**Captain Cook N**	**1.73**	**237**		**Pn**	**21 10 36.8**	**+1.1**
SEW	**Seward**	**1.75**	**201**		**Pn**	**21 10 36.3**	**+0.3**
SEW					**Sn**	**21 10 59.9**	**+1.1**
SEW	**Seward**	**1.75**	**201**	P	**Pn**	**21 10 36.1**	**0.0**
	baz=21						
STLK	**Strandline Lak**	**1.75**	**264**		**Pn**	**21 10 36.0**	**-0.3**
PAX	**Paxson**	**1.77**	**45**		**Pn**	**21 10 35.1**	**-1.3**
PAX	**Paxson**	**1.77**	**45**	P	**Pn**	**21 10 35.2**	**-1.3**
	baz=227						
PAX	**Paxson**	**1.77**	**45**	P	**Pn**	**21 10 35.2**	**-1.3**
P23K	**Montague Islan**	**1.79**	**167**		**Pn**	**21 10 37.1**	**+0.5**
WASW	**Wrangell South**	**1.92**	**82**		**Pn**	**21 10 37.3**	**-1.3**
WASW					**Sn**	**21 11 02.6**	**-0.7**
SPCP	**Crater Peak Br**	**1.96**	**258**		**Pn**	**21 10 39.4**	**+0.4**
TRF	**Thorofare Moun**	**1.97**	**332**		**Pn**	**21 10 39.1**	**-0.3**
TRF	**Thorofare Moun**	**1.97**	**332**	P	**Pn**	**21 10 39.0**	**-0.3**
	baz=149						
SPCN	**Chakachatna No**	**1.98**	**257**		**Pn**	**21 10 39.8**	**+0.5**
SPCR	**Spurr Chakacha**	**2.00**	**256**		**Pn**	**21 10 39.7**	**+0.1**
MCK	**McKinley**	**2.03**	**351**	P	**Pn**	**21 10 40.1**	**+0.1**
	baz=169						
GOAT	**Goat Mountain**	**2.04**	**123**		**Pn**	**21 10 40.9**	**+0.7**
GLB	**Gilahina Butte**	**2.12**	**96**	Pn	**Pn**	**21 10 39.7**	**-1.5**
GLB				IAML		21 11 13.5	
	comp=E,3μm,0.8s						
RAGM	**Ragged Mountai**	**2.18**	**127**	Pn	**Pn**	**21 10 42.8**	**+0.8**
PPLA	**Purkeypile**	**2.20**	**304**		**Pn**	**21 10 43.0**	**+0.7**
PPLA	**Purkeypile**	**2.20**	**304**	P	**Pn**	**21 10 43.1**	**+0.7**
	baz=120						
KTH	**Kantishna Hill**	**2.21**	**327**		**Pn**	**21 10 42.6**	**0.0**
KTH				IAML		21 11 17.6	
	comp=N,2μm,1.0s						
VRDI	**Verde Repeater**	**2.33**	**101**	Pn	**Pn**	**21 10 43.4**	**-0.8**
VRDI				IAML		21 11 19.1	
	comp=N,2μm,1.1s						
VRDI				IAML		21 11 20.1	
	comp=E,2μm,1.0s						
M20K	**Styx River**	**2.35**	**276**		**Pn**	**21 10 45.9**	**+1.5**
M20K	**Styx River**	**2.35**	**276**	IAML		21 11 20.4	
	comp=N,2μm,0.8s						
M20K	**Styx River**	**2.35**	**276**	P	**Pn**	**21 10 46.1**	**+1.8**
	baz=91						
RDT	**Redoubt**	**2.35**	**242**		**Pn**	**21 10 45.0**	**+0.6**
BRSE	**Bradley Lake S**	**2.36**	**213**		**Pn**	**21 10 45.1**	**+0.6**
BRSE	**Bradley Lake S**	**2.36**	**213**	P	**Pn**	**21 10 45.5**	**+1.0**
	baz=31						
BRLK	**Bradley Lake**	**2.38**	**215**	Pn	**Pn**	**21 10 45.6**	**+0.9**
BRLK				IAML		21 11 23.3	
	comp=E,2μm,0.8s						
BRLK				IAML		21 11 24.1	
	comp=N,3μm,0.7s						
MENT	**Mentasta**	**2.41**	**58**		**Pn**	**21 10 45.1**	**-0.1**
MENT				IAML		21 11 24.8	
	comp=N,2μm,0.8s						
MENT				IAML		21 11 32.9	
	comp=E,3μm,0.6s						
MENT	**Mentasta**	**2.41**	**58**	P	**Pn**	**21 10 47.0**	**+1.8**
CAST	**Castle Rocks**	**2.47**	**315**		**Pn**	**21 10 46.3**	**+0.3**
CAST	**Castle Rocks**	**2.47**	**315**	P	**Pn**	**21 10 46.5**	**+0.5**
	baz=131						
Q23K	**Middleton Isla**	**2.49**	**158**	IAML		21 11 47.1	
	comp=E,2μm,1.0s						
Q23K				IAML		21 11 49.4	
	comp=N,1μm,1.1s						
MID	**Middleton Isla**	**2.49**	**158**	Pn	**Pn**	**21 10 46.4**	**+0.2**
MID				IAML		21 11 35.3	
	comp=E,2μm,1.3s						
MID				IAML		21 11 49.4	
	comp=N,1μm,1.1s						
MID	**Middleton Isla**	**2.49**	**158**	P	**Pn**	**21 10 46.4**	**+0.2**
MCARA	**McCarthy VSAT**	**2.50**	**96**		**Pn**	**21 10 46.5**	**+0.1**
MCARA	**McCarthy VSAT**	**2.50**	**96**	P	**Pn**	**21 10 46.5**	**+0.1**
	baz=281						
BWN	**Browne**	**2.51**	**347**	Pn	**Pn**	**21 10 46.3**	**-0.2**
RDJH	**Redoubt Jeurge**	**2.51**	**245**		**Pn**	**21 10 47.8**	**+1.1**
RIDG	**Independent Ri**	**2.53**	**36**		**Pn**	**21 10 47.8**	**+0.9**
RIDG				IAML		21 11 27.9	
	comp=N,2μm,1.2s						
RIDG				IAML		21 11 28.2	
	comp=E,2μm,1.1s						
RIDG	**Independent Ri**	**2.53**	**36**	P	**Pn**	**21 10 48.3**	**+1.4**
	baz=219						
M26K	**Nabesna, AK**	**2.54**	**72**		**Pn**	**21 10 47.7**	**+0.7**
M26K	**Nabesna, AK**	**2.54**	**72**	IAML		21 11 22.2	
	comp=N,2μm,0.6s						
M26K				IAML		21 11 22.5	
	comp=E,1μm,0.6s						
RDSO	**Redoubt South**	**2.56**	**242**		**Pn**	**21 10 48.2**	**+0.9**
RSO	**Redoubt South**	**2.56**	**242**		**Pn**	**21 10 47.7**	**+0.4**
BERG	**Berg Lake**	**2.57**	**120**		**Pn**	**21 10 47.5**	**+0.2**
RDWB	**Redoubt West**	**2.58**	**243**		**Pn**	**21 10 48.9**	**+1.3**
KAIM	**Kayak Island**	**2.59**	**133**		**Pn**	**21 10 47.8**	**+0.1**
KAIM				IAML		21 11 30.9	
	comp=N,1μm,1.1s						
KAIM				IAML		21 11 42.2	
	comp=E,1μm,1.9s						
L26K	**Log Cabin Wild**	**2.60**	**58**		**Pn**	**21 10 49.0**	**+1.2**
L26K				IAML		21 11 29.9	
	comp=N,1μm,0.9s						
CNPM	**China Poot**	**2.68**	**215**	Pn	**Pn**	**21 10 49.6**	**+0.8**
CNPM				IAML		21 11 35.3	
	comp=N,2μm,0.9s						
HOM	**Homer**	**2.69**	**221**		**Pn**	**21 10 50.6**	**+1.6**
HOM	**Homer**	**2.69**	**221**	P	**Pn**	**21 10 50.7**	**+1.7**
	baz=38						
BPAW	**Bear Paw Mtn.**	**2.69**	**333**	Pn	**Pn**	**21 10 48.6**	**-0.4**
O20K	**Slope Mountain**	**2.73**	**234**		**Pn**	**21 10 51.2**	**+1.6**
HDA	**Harding Lake**	**2.74**	**11**		**Pn**	**21 10 50.6**	**+0.9**
HDA	**Harding Lake**	**2.74**	**11**	IAML		21 11 34.6	
	comp=N,2μm,0.9s						
HDA	**Harding Lake**	**2.74**	**11**	P	**Pn**	**21 10 51.2**	**+1.5**
	baz=192						
WRH	**Wood River Hil**	**2.75**	**1**		**Pn**	**21 10 48.7**	**-1.0**
WRH				IAML		21 11 33.2	
	comp=N,2μm,1.0s						
L20K	**Farewell, AK**	**2.77**	**288**		**Pn**	**21 10 51

comp=N,133nm,0.5s
COLA College 3.15 3 Pn 21 10 56.2 +0.9
COLA College 3.15 3 P Pn 21 10 57.1 +1.8
COLA College 3.15 3 *i* P Pn 21 10 56.9 +1.6
J25K Salcha River, 3.16 23 Pn 21 10 56.3 +0.8
J25K Salcha River, 3.16 23 IAML 21 11 45.8
comp=E,767nm,0.6s
K20K Telida 3.17 303 Pn 21 10 57.0 +1.4
K20K Telida 3.17 303 IAML 21 11 47.5
comp=E,2µm,0.8s
K20K IAML 21 11 51.5
comp=N,773nm,1.4s
N19K Bonanza Creek 3.17 256 Pn 21 10 57.1 +1.4
L19K White Mountain 3.18 281 IAML 21 11 50.1
comp=E,736nm,1.1s
BARN Barnard Glacie 3.22 99 Pn 21 10 57.3 +0.9
BARN Barnard Glacie 3.22 99 IAML 21 11 43.0
comp=N,1µm,0.8s
BARN IAML 21 11 50.0
comp=E,1µm,0.6s
MDM Murphy Dome 3.23 360 Pn 21 10 56.5 0.0
MDM IAML 21 11 41.6
comp=N,1µm,1.1s
MDM IAML 21 11 47.3
comp=E,1µm,1.0s
P19K Oil Pt 3.24 232 Pn 21 10 57.8 +1.2
O19K Port Alsworth 3.36 245 Pn 21 10 59.6 +1.4
O19K Port Alsworth 3.36 245 IAML 21 11 52.3
comp=E,1µm,0.5s
CTG Chitna Glacier 3.39 100 P Pn 21 10 60.0 +1.2
baz=286
CTGM Chitina Glacie 3.40 100 Pn 21 10 59.5 +0.7
CTGM Chitina Glacie 3.40 100 IAML 21 11 51.5
comp=N,806nm,0.7s
POKR Poker Plat Res 3.41 5 Pn 21 10 59.4 +0.4
POKR Poker Plat Res 3.41 5 IAML 21 11 54.7
comp=E,1µm,1.6s
POKR IAML 21 11 55.3
comp=N,1µm,1.0s
POKR Poker Plat Res 3.41 5 P Pn 21 11 00.6 +1.7
baz=186
I23K Minto, Yukon-K 3.46 352 IAML 21 11 54.9
comp=N,993nm,0.8s
I23K IAML 21 11 56.3
comp=E,757nm,1.1s
I23K Minto, Yukon-K 3.46 352 P Pn 21 10 59.5 0.0
baz=170
J26L Joseph Creek 3.48 35 Pn 21 11 01.1 +1.1
J26L Joseph Creek 3.48 35 IAML 21 11 54.2
comp=N,560nm,0.8s
J26L IAML 21 12 00.8
comp=E,566nm,0.9s
YUK2 White River 3.50 86 Pn 21 11 01.0 +0.8
MLY Manley 3.50 342 Pn 21 11 00.1 -0.1
MLY Manley 3.50 342 P Pn 21 11 00.1 -0.1
baz=159
BVCY Beaver Creek 3.52 76 Pn 21 11 01.5 +1.1
BVCY Beaver Creek 3.52 76 P Pn 21 11 02.0 +1.6
baz=262
AUCH Augustine Cone 3.52 230 Pn 21 11 01.6 +1.1
LOGN Logan Glacier 3.59 102 Pn 21 11 02.3 +0.8
LOGN Logan Glacier 3.59 102 IAML 21 12 01.4
comp=N,797nm,0.7s
LOGN IAML 21 12 05.7
comp=E,652nm,1.2s
SVW2 Sparrevohn 3.61 263 Pn Pn 21 11 01.6 -0.1
SVW2 Sparrevohn 3.61 263 P Pn 21 11 03.0 +1.4
M18K Stony River 3.65 269 Pn 21 11 03.5 +1.3
YUK3 Moose Creek 3.68 86 Pn 21 11 03.5 +0.7
YUK3 Moose Creek 3.68 86 P Pn 21 11 03.8 +1.1
baz=273
SYI Shuyak Island 3.77 216 IAML 21 12 05.4
comp=N,446nm,0.9s
SYI IAML 21 12 07.9
comp=E,688nm,1.4s
Q20K Shuyak Island 3.77 216 P Pn 21 11 05.3 +1.4
baz=32
TTA Tatalina 3.84 292 Pn Pn 21 11 05.8 +1.0
TTA IAML 21 12 08.3
comp=N,686nm,0.9s
TTA IAML 21 12 11.8
comp=E,538nm,1.1s
TTA Tatalina 3.84 292 P Pn 21 11 06.7 +1.9
TTA Tatalina 3.84 292 P Pn 21 11 05.9 +1.1
baz=104
TTA Tatalina 3.84 292 P Pn 21 11 05.8 +1.0
N18K Kilae Creek 3.87 257 Pn 21 11 06.3 +1.1
Q19K Cape Douglas, 3.91 226 Pn 21 11 07.2 +1.4
Q19K Cape Douglas, 3.91 226 P Pn 21 11 07.8 +2.0
baz=42
O18K Koktuh Hills 3.92 244 Pn 21 11 06.3 +0.4
O18K Koktuh Hills 3.92 244 IAML 21 12 10.1
comp=E,398nm,1.0s
O18K IAML 21 12 11.8
comp=N,442nm,0.8s
SAMH Samovar Hills 3.96 111 Pn 21 11 07.1 +0.6
PRP Porcupine Dome 3.98 16 Pn 21 11 07.9 +1.1
PRP Porcupine Dome 3.98 16 IAML 21 12 09.7
comp=E,513nm,0.9s
PRP Porcupine Dome 3.98 16 P Pn 21 11 08.2 +1.4
baz=198
L18K Granite Mounta 4.04 281 Pn 21 11 08.8 +1.3
L18K Granite Mounta 4.04 281 IAML 21 12 19.0
comp=E,373nm,1.0s
L18K IAML 21 12 20.9
comp=N,762nm,1.2s
YUK8 Steele Glacier 4.07 93 Pn 21 11 09.1 +1.0
J19K Poorman 4.09 307 Pn 21 11 08.8 +0.7
H24K Noodor Dome 4.12 2 IAML 21 12 30.4
comp=N,386nm,1.2s
H24K IAML 21 12 30.8
comp=E,444nm,1.1s
I20K Naaghedeneel 4.18 320 Pn 21 11 09.9 +0.5
P18K Big Mountain, 4.19 239 Pn 21 11 10.8 +1.1
P18K Big Mountain, 4.19 239 P Pn 21 11 11.3 +1.6
baz=53
PCA Pinnacle 4.21 110 Pn 21 11 10.9 +0.9
PINM Pinnacle 4.21 109 P Pn 21 11 11.6 +1.6
baz=297
H22K Ishtalitna Cre 4.40 343 Pn 21 11 12.8 +0.3
EGAK Eagle 4.41 43 Pn Pn 21 11 12.8 +0.3
EGAK Eagle 4.41 43 P Pn 21 11 14.2 +1.7
baz=229
N17K Nushagak Hills 4.53 258 IAML 21 12 30.0
comp=E,260nm,1.0s
N17K IAML 21 12 31.7
comp=N,419nm,0.8s
KDAK Kodiak Island 4.54 211 Pn Pn 21 11 14.2 -0.2
KDAK IAML 21 12 31.1
comp=N,506nm,0.9s
KDAK IAML 21 12 32.2
comp=N,403nm,1.0s
KDAK Kodiak Island 4.54 211 Pn Pn 21 11 14.4 0.0
comp=N,9.2nm,0.3s,baz=68,slow=5.5,SNR=15
KDAK Pg Pb 21 11 24.7 -0.5
comp=N,21nm,0.3s,baz=39,slow=13,SNR=11
KDAK Sn Sn 21 12 05.7 -1.9
comp=N,12nm,0.3s,baz=326,slow=21,SNR=11
KDAK Lg Lg 21 12 28.0
comp=N,16nm,0.3s,baz=287,slow=19,SNR=6.3
KDAK LR LR 21 13 04.8
comp=N,545nm,21.0s,baz=51,slow=41
KAHG Katmai Hook Gl 4.55 227 Pn 21 11 15.6 +1.1
BCPM Bancas Point 4.55 109 IAML 21 12 26.9
comp=E,491nm,0.6s
BCPM IAML 21 12 30.0
comp=N,476nm,0.9s
YUK4 Talbot Arm 4.59 91 P Pn 21 11 16.8 +1.6
baz=278
DAWY Dawson 4.66 56 Pn Pn 21 11 17.4 +1.4
DAWY IAML 21 12 38.5
comp=N,268nm,0.8s
DAWY IAML 21 12 46.5
comp=E,237nm,0.9s
L17K Donlin 4.79 279 Pn 21 11 19.0 +1.2
PNL Peninsula 4.79 112 Pn 21 11 18.0 +0.1
PNL Peninsula 4.79 112 P Pn 21 11 19.5 +1.6
YUK6 Outpost Mounta 4.80 95 Pn 21 11 19.0 +0.8
H20K Anotleneega Mo 4.80 325 Pn 21 11 18.4 +0.4
P17K Kvichak River 4.81 242 Pn 21 11 19.2 +1.2
K17K Iditarod 4.83 286 IAML 21 12 43.8
comp=N,361nm,1.4s
K17K IAML 21 12 58.1
comp=E,446nm,1.1s
L29M L29M 4.88 69 IAML 21 12 47.2
comp=E,313nm,1.1s
L29M IAML 21 12 51.4
comp=N,291nm,1.2s
GCSA Galena City Sc 4.95 311 Pn 21 11 21.9 +1.9
YUK5 Granite Creek 5.00 92 Pn 21 11 22.2 +1.3
FYU Fort Yukon 5.02 14 Pn 21 11 22.3 +1.4
ANCK Angle Creek 5.10 229 Pn 21 11 23.2 +1.1
CNTC Contact Creek 5.20 231 Pn 21 11 24.1 +0.6
Q16K King Salmon 5.22 238 Pn 21 11 24.9 +1.2
OHAK Old Harbor 5.22 212 IAML 21 12 54.0
comp=N,160nm,0.9s
OHAK IAML 21 13 02.9
comp=E,218nm,1.6s
OHAK Old Harbor 5.22 212 P Pn 21 11 24.7 +1.0
M16K Timber Creek 5.23 267 IAML 21 12 59.2
comp=N,265nm,1.2s
HYT Haines Junctio 5.24 95 IAML 21 12 57.3
comp=N,201nm,1.3s
I28M Miner Creek 5.24 41 IAML 21 12 52.2
comp=N,268nm,1.6s
N16K Nishlik Lake 5.28 261 Pn 21 11 25.3 +0.7
J29N Klondike Camp 5.29 55 Pn 21 11 26.6 +1.9
J29N Klonike Camp 5.29 55 IAML 21 13 03.0
comp=E,629nm,0.7s
J29N IAML 21 13 03.5
comp=N,759nm,0.6s
O16K Kokwok River B 5.32 251 IAML 21 12 59.9
comp=E,152nm,0.9s
O16K IAML 21 12 59.9
comp=N,195nm,1.0s
K29M Barlow Dome 5.33 62 IAML 21 12 54.3
comp=N,162nm,1.3s
L16K Owhat River 5.37 275 Pn Pn 21 11 26.5 +0.8
L16K IAML 21 13 02.4
comp=E,249nm,1.2s
L16K IAML 21 13 07.2
comp=N,170nm,1.5s
G22K Bettles 5.40 346 Pn 21 11 27.8 +1.7
P29M Windy Craggy 5.56 108 Pn 21 11 29.0 +0.6
P16K Nushagak River 5.56 245 Pn 21 11 29.3 +0.9
O30N Mendenhall 5.92 94 Pn 21 11 34.0 +0.6
I17K Unalakleet 6.12 296 Pn Pn 21 11 37.1 +1.0
O15K Ungalikthiuk R 6.30 251 Pn 21 11 39.7 +1.2
I30M Mount Dempster 6.34 51 Pn 21 11 40.3 +1.1
E25K Arctic Village 6.51 9 Pn 21 11 42.4 +1.0
M14K Bethel 6.72 268 Pn 21 11 45.5 +1.3
SKAG Skagway 6.73 104 P Pn 21 11 46.5 +2.0
EPYK Eagle Plains 6.85 42 Pn 21 11 46.6 +0.5
F28M Old Crow 6.89 28 Pn 21 11 47.6 +1.0
O14K Tigyukauivet M 6.92 255 Pn Pn 21 11 47.9 +0.9
H16K Elim 6.98 301 Pn 21 11 49.0 +1.1
S31K Pelican 7.11 117 Pn Pn 21 11 50.1 +0.5
G30M tAoh Zraii Nji 7.38 39 Pn 21 11 52.8 -0.6
P32M Atlin 7.43 100 Pn 21 11 54.8 +0.7
JIS Juneau Island 7.74 110 P Pn 21 11 59.3 +1.1
SIT Sitka 8.06 120 P Pn 21 12 03.1 +0.4
S32K Killisnoo 8.12 116 Pn 21 12 02.9 -0.6
ANM Nome 8.27 298 Pn 21 12 06.4 +0.9
ANM Nome 8.27 298 P Pn 21 12 06.4 +0.9
F31M Tsiigehtchic 8.43 41 Pn Pn 21 12 08.1 +0.4
INK Inuvik 9.03 37 Pn 21 12 15.5 -0.4
INK Inuvik 9.03 37 P Pn 21 12 15.5 -0.4
INK Inuvik 9.03 37 Pn Pn 21 12 16.6 +0.7
comp=N,0.4nm,0.3s,baz=212,slow=16,SNR=13
INK Sn Sn 21 13 58.6 +0.7
comp=N,0.5nm,0.3s,baz=223,slow=8.9,SNR=1.9
INK Lg Lg 21 14 51.3
comp=N,0.4nm,0.3s,baz=317,slow=29,SNR=5.5
INK LR LR 21 16 01.2
comp=N,390nm,18.1s,baz=354,slow=39
comp=N,6.1nm,0.7s
DLBC Dease Lake 9.65 102 Pn Pn 21 12 25.6 +1.1
comp=N,1.0nm,0.3s,baz=256,slow=8.0,SNR=8.8
DLBC Lg Lg 21 15 11.3
comp=N,0.6nm,0.3s,baz=272,slow=27,SNR=1.6
DLBC LR LR 21 15 50.2
comp=N,218nm,18.1s,baz=287,slow=36
comp=N,4.2nm,0.6s
C36M Paulatuk 12.48 42 Pn Pn 21 13 00.6 -2.4
A36M Sachs Harbour 13.55 31 Pn 21 13 17.3 -0.3
YKA Yellowknife Ar 15.63 72 Pn 21 13 43.3 -2.5
YKA Yellowknife Ar 15.63 72 *i* P Pn 21 13 46.4 +0.6
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 15.63 72 Pn Pn 21 13 45.4 -0.4
comp=Z,0.2nm,0.3s,baz=279,slow=12,SNR=16
YKA LR LR 21 19 25.4
comp=Z,177nm,19.7s,baz=100,slow=35
comp=Z,5.3nm,1.1s
ADK Adak 18.30 250 P P 21 14 21.0 +1.4
BILL Bilibino 19.90 308 *i* P P 21 14 36.8 -0.2
EDM Edmonton 20.35 99 IAmb IAmb 21 15 01.2
comp=Z,15nm,0.9s
NEW Newport 22.07 113 LR LR 21 23 59.0
comp=Z,146nm,18.4s,baz=53,slow=38
D08A Wollman Farm, 22.23 118 IAmb IAmb 21 15 11.2
comp=Z,27nm,1.5s
RES Resolute Bay 22.57 34 P P 21 15 04.7 -1.0
RES Resolute Bay 22.57 34 P P 21 15 04.7 -1.0
RES pmax pmax
comp=Z,7.0nm,0.8s
J05D Fort Rock, OR 24.41 127 P P 21 15 31.0 +6.6
J05D IAmb IAmb 21 15 31.3
comp=Z,13nm,1.1s
I07A Izee 24.41 123 P P 21 15 28.4 +4.0
I07A IAmb IAmb 21 15 30.4
comp=Z,12nm,1.2s
BMO Blue Mountains 24.67 119 P P 21 15 30.7 +4.0
BMO Blue Mountains 24.67 119 P P 21 15 30.7 +4.0
BMO pmax pmax
comp=Z,6.0nm,1.0s
PLID Pearl Lake 25.03 117 P P 21 15 30.3 +0.2
SEY Seymchan 26.77 299 *i* P P 21 15 44.6 -0.8
SEY pmax pmax
comp=Z,4.0nm,0.9s
RLMT Red Lodge 27.96 108 P P 21 15 53.0 -3.5
RLMT IAmb IAmb 21 15 53.6
comp=Z,22nm,1.1s
MA2 Magadan 29.03 293 LR LR 21 29 46.1
comp=Z,42nm,20.1s,baz=58,slow=41
PET Petropavlovsk 29.16 277 *i* P P 21 16 08.6 +1.8
PET pmax pmax
comp=Z,23nm,1.1s
PETK Petropavlovsk- 29.55 278 P P 21 16 09.1 -1.3
comp=Z,6.1nm,0.8s,baz=68,slow=13,SNR=4.9
comp=Z,6.1nm,0.8s
PDAR Pinedale Array 29.68 112 P P 21 16 12.1 +0.2
comp=Z,0.4nm,0.6s,baz=318,slow=4.6,SNR=8.1
PDAR PcP PcP 21 19 15.3 -0.5
comp=Z,0.7nm,0.6s,baz=131,slow=1.6,SNR=6.6
PDAR LR LR 21 27 08.3
comp=Z,74nm,20.8s,baz=350,slow=34
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 29.72 128 P P 21 16 13.6 +1.4
comp=Z,0.9nm,0.7s,baz=312,slow=8.8,SNR=6.7
NVAR PcP PcP 21 19 15.9 -0.1
comp=Z,1.0nm,0.6s,baz=302,slow=2.5,SNR=5.9
NVAR LR LR 21 29 14.6
comp=Z,37nm,18.4s,baz=96,slow=39
comp=Z,0.9nm,0.7s
ULM Lac du Bonnet 30.56 88 PcP PcP 21 19 16.6 -1.0
comp=Z,1.8nm,0.6s,baz=261,slow=4.4,SNR=4.0
ULM LR LR 21 28 51.6
comp=Z,205nm,18.6s,baz=312,slow=37
TIXI Tiksi 31.49 323 *i* P P 21 16 26.5 -0.7
TIXI pmax pmax
comp=Z,2.0nm,1.0s
FRB Frobisher Bay 34.34 51 LR LR 21 30 55.4
comp=Z,127nm,19.5s,baz=222,slow=36
WUAZ Wupatki 34.97 121 P P 21 17 03.8 +5.7
WUAZ IAmb IAmb 21 17 21.0
comp=Z,9.1nm,1.2s
YAK Yakutsk 36.26 308 *i* P P 21 17 08.2 -0.5
YAK pmax pmax
comp=Z,12nm,1.1s
ANMO Albuquerque 37.51 116 LR LR 21 33 24.5
comp=Z,72nm,21.8s,baz=73,slow=37
SFJD Kangerlussuaq 38.37 39 LR LR 21 32 48.3
comp=Z,79nm,18.8s,baz=279,slow=35
SPITS Spitsbergen Ar 40.01 5 P P 21 17 40.3 +0.2
comp=Z,6.2nm,1.0s,baz=321,slow=5.7,SNR=1.3
comp=Z,6.2nm,1.0s
SCHQ Schefferville 40.65 61 LR LR 21 34 48.8
comp=Z,146nm,18.5s,baz=232,slow=36
YSS Yuzh-Sakhalins 40.77 282 *e*P P 21 17 50.5 +3.7
YSS pmax pmax
comp=Z,20nm,0.9s
VHRN Van Horn 41.72 118 P P 21 17 58.1 +3.2
SADO Sadowa 42.40 81 LR LR 21 36 07.7
comp=Z,132nm,20.2s,baz=288,slow=37
BLO Bloomington 43.21 92 P P 21 18 05.2 -1.6
BLO Bloomington 43.21 92 P P 21 18 05.2 -1.6
BLO pmax pmax
comp=Z,29nm,0.6s
NRIK Noril'sk 43.35 335 P P 21 18 05.9 -1.7
NRIK IAmb IAmb 21 18 11.5
comp=Z,9.5nm,1.0s
NRIK Noril'sk 43.35 335 *ce*P P 21 18 07.3 -0.3
NRIK pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 43.35 335 P P 21 18 06.3 -1.3
comp=Z,5.6nm,0.8s,baz=58,slow=6.0,SNR=2.7
comp=Z,5.6nm,0.8s
TXAR Lajitas Array 43.54 117 P P 21 18 10.6 +1.0
comp=Z,0.7nm,0.6s,baz=330,slow=6.4,SNR=10
TXAR PcP PcP 21 19 57.0 -0.3
comp=Z,0.8nm,0.7s,baz=318,slow=1.7,SNR=5.2
TXAR LR LR 21 36 47.6
comp=Z,45nm,20.8s,baz=356,slow=37
comp=Z,0.7nm,0.6s
KLR Kul'dur 44.11 292 *i* P P 21 18 12.7 -1.2
KLR pmax pmax
comp=Z,5.0nm,0.9s
WVT Waverly 45.02 96 P P 21 18 18.1 -3.2
WVT Waverly 45.02 96 P P 21 18 18.1 -3.2
WVT pmax pmax
comp=Z,46nm,0.5s
HEH HeiHe 45.24 296 *e*P P 21 18 21.8 -1.1
HEH pmax pmax
comp=Z,9.0nm,0.7s
HEH pmax pmax
comp=Z,530nm,5.0s
ARCES ARCESS Array B 48.94 3 P P 21 18 49.9 -1.6
comp=Z,5.0nm,0.9s,baz=354,slow=7.5,SNR=1.7
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 50.98 276 P P 21 19 05.2 -2.2
comp=Z,4.2nm,1.1s,baz=358,slow=5.4,SNR=4.5
comp=Z,4.2nm,1.1s
CN2 Changchun 51.06 292 P P 21 19 07.5 -0.5
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KSRS Korea Array 55.05 285 P P 21 19 36.6 -0.8
comp=Z,3.2nm,1.0s,baz=41,slow=7.4,SNR=6.4
comp=Z,3.2nm,1.0s
ULN Ulaanbaatar 55.35 308 *i* P P 21 19 38.8 -0.9
ULN pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 55.62 308 P P 21 19 40.9 -0.7
comp=Z,4.9nm,0.8s,baz=28,slow=7.2,SNR=28
SONM LR LR 21 46 35.3
comp=Z,45nm,18.9s,baz=218,slow=39
comp=Z,4.9nm,0.8s
NOA NORSAR Array B 56.54 12 P P 21 19 46.8 -1.0
comp=Z,0.5nm,0.8s,baz=350,slow=7.0,SNR=1.8
comp=Z,0.5nm,0.8s
FINES FINESS Array B 57.06 3 *i* P P 21 19 55.0 +3.5
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 57.06 3 P P 21 19 52.1 +0.7
comp=Z,0.8nm,0.6s,baz=14,slow=8.5,SNR=7.3
comp=Z,0.8nm,0.6s
ZALV Zalesovo Beam 57.31 326 *i* P P 21 19 56.7 +3.3
ZALV pmax pmax
comp=Z,3.0nm,0.8s
HHC Hu-ho-hao-te 59.41 300 *e*P P 21 20 00.5 -7.9
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.6s
EKA Eskdalemuir Ar 60.08 22 P P 21 20 12.8 +0.2
comp=Z,1.8nm,0.6s,baz=343,slow=5.4,SNR=8.2
comp=Z,1.8nm,0.6s
ARU Arti 60.32 343 P P 21 20 13.3 -0.9
ARU IAmb IAmb 21 20 14.4
comp=Z,8.7nm,1.2s
ARU Arti 60.32 343 *c* P P 21 20 13.7 -0.5
ARU S S 21 28 30.6 +1.8
ARU SS SS 21 32 27.3 +2.2
ARU pmax pmax
comp=Z,8.0nm,1.2s
BVAR Borovoye Array 61.57 335 P P 21 20 21.8 -1.0
comp=Z,2.7nm,0.9s,baz=51,slow=7.6,SNR=6.7
comp=Z,2.7nm,0.9s
KURK Kurchatov 61.85 328 *ce*P P 21 20 25.2 +0.5
KURK pmax pmax
comp=Z,7.0nm,2.5s
KURBB Kurchatov Arra 61.96 328 P P 21 20 24.0 -1.4
comp=Z,1.9nm,0.2s,baz=30,slow=7.0,SNR=1.6
comp=Z,1.9nm,0.2s
OBN Obninsk 63.43 357 *e*P P 21 20 35.9 +0.8
OBN *e* 21 21 10.2
OBN *e* 21 22 55.3
OBN *e*PPP PPP 21 24 23.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,39nm,15.0s
MK31 Makanchi Array 64.47 324 *ce*P P 21 20 41.5 -0.7
MKAR Makanchi Array 64.47 324 *ce*P P 21 20 40.7 -1.6
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 64.47 324 P P 21 20 40.6 -1.6
comp=Z,2.7nm,0.9s,baz=41,slow=5.8,SNR=8.3
comp=Z,2.7nm,0.9s
MAKZ Makanchi 64.55 324 P P 21 20 45.4 +2.7
MAKZ IAmb IAmb 21 20 52.4
comp=Z,3.3nm,1.0s
MAKZ Makanchi 64.55 324 P P 21 20 45.4 +2.7
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
GTA Gaotai 65.29 308 P P 21 20 48.0 +0.2
GTA pP pP 21 20 52.5 +2.9
GTA pmax pmax
comp=Z,10.0nm,0.9s
AKTO Aktyubinsk 66.23 342 P P 21 20 52.5 -1.1
comp=Z,3.1nm,0.7s,baz=36,slow=4.6,SNR=4.5
comp=Z,3.1nm,0.7s
LZH Lanzhou 66.62 303 *e*P P 21 20 56.5 +0.1
LZH pP sP 21 21 03.3 +4.4
LZH pmax pmax
comp=Z,16nm,1.3s
ABKAR Akbulak array 67.08 340 IAmb IAmb 21 21 03.4
comp=Z,4.0nm,0.8s
DPC Dobruska-Polom 67.58 11 *e*P P 21 21 02.9 +0.7
DPC *ex* x 21 21 07.6
DPC Dobruska-Polom 67.58 11 *e*P P 21 21 02.9 +0.7
DPC *e* 21 21 07.6
KRLC Kraliky 67.89 10 *e*P P 21 21 04.6 +0.5
KRLC Kraliky 67.89 10 *e*P P 21 21 04.6 +0.5
AKASG Malin Array Be 67.89 2 P P 21 21 03.1 -0.9
comp=Z,0.6nm,0.5s,baz=359,slow=5.7,SNR=3.3
comp=Z,0.6nm,0.5s
MORC Moravsky Berou 68.25 10 *e*P P 21 21 06.2 -0.2
ZVC Zvikov 68.28 12 *e*P P 21 21 07.4 +0.9
ZVC *ex* x 21 21 11.6
KHC Kasperske Hory 68.52 13 *e*P P 21 21 09.2 +1.1
KHC *ex* x 21 21 13.1
KHC Kasperske Hory 68.52 13 *e*P P 21 21 09.2 +1.1
KHC *e* 21 21 13.1
VRAC Vranov 68.64 11 *e*P P 21 21 07.4 -1.4
GERES GERESS Array B 68.82 13 P P 21 21 10.0 0.0
comp=Z,0.7nm,0.5s,baz=334,slow=8.9,SNR=4.4
comp=Z,0.7nm,0.5s
KRUC Moravsky 68.86 11 *e*P P 21 21 08.0 -2.2
LANS Liptovska Anna 69.02 9 *e*P P 21 21 12.9 +1.7
LANS Liptovska Anna 69.02 9 *e*P P 21 21 12.9 +1.7
MODS Modra-Piesok 69.62 10 *e*P P 21 21 15.9 +1.0
MODS Modra-Piesok 69.62 10 *e*P P 21 21 15.9 +1.0
VYHS Vyhne 69.63 9 *e*P P 21 21 15.4 +0.5
VYHS Vyhne 69.63 9 *e*P P 21 21 15.4 +0.5
CONA Conrad Observa 69.94 11 *e*pP P 21 21 17.8 +0.8
comp=Z,4.2nm,1.5s
BIOA Bad Ischl, Aus 69.95 13 *i* pP P 21 21 17.4 +0.4
comp=Z,1.3nm,0.5s
GOMU GeErMu 69.98 310 P P 21 21 18.5 +0.8
GOMU pP sP 21 21 28.0 +7.8
GOMU pmax pmax
comp=Z,11nm,0.7s
MOTA Moosalm 70.00 15 *i* pP P 21 21 19.0 +1.6
comp=Z,9.5nm,1.4s
WATA Walderalm 70.07 14 *i* pP P 21 21 18.5 +0.7
comp=Z,5.6nm,1.0s
LESA Schwarzleotal 70.11 14 *i* pP P 21 21 18.6 +0.6

comp=Z,3.5nm,1.2s
SQTA Sankt Quirin 70.14 15 *i* pP **P 21 21 18.7 +0.5**
comp=Z,7.2nm,1.0s
WTTA Wattenberg 70.14 14 *i* pP **P 21 21 19.3 +0.9**
comp=Z,8.0nm,1.3s
RONA Rosalia, Austr 70.20 11 *ep* **P 21 21 19.4 +0.9**
comp=Z,3.3nm,1.2s
FETA Feichten 70.27 15 *i* pP **P 21 21 19.6 +0.5**
comp=Z,5.5nm,1.0s
AAK Ala-Archa 70.41 328 *ce* P **P 21 21 21.7 +1.7**
AAK pmax pmax
comp=Z,20nm,2.5s
AAK Ala-Archa 70.41 328 P **P 21 21 19.3 -0.7**
comp=Z,4.6nm,0.8s,baz=36,slow=18,SNR=5.0
comp=Z,4.6nm,0.8s
KBA Koelnbreinsper 70.52 13 *i* pP **P 21 21 21.8 +1.1**
comp=Z,7.6nm,0.8s
SOKA Soboth 71.09 12 *i* pP **P 21 21 23.9 -0.1**
comp=Z,5.4nm,1.2s
OBKA Obir 71.21 12 *ep* P **P 21 21 25.2 +0.5**
comp=Z,6.8nm,0.7s
KSH Kashi 72.95 326 P **P 21 21 38.3 +3.0**
KBZ Khabaz 74.50 352 P **P 21 21 43.8 -0.4**
comp=Z,3.1nm,0.9s,baz=292,slow=1.1,SNR=6.3
comp=Z,3.1nm,0.9s
ESDC Sonseca Array 74.86 28 P **P 21 21 46.7 +0.3**
comp=Z,1.2nm,0.8s,baz=344,slow=6.8,SNR=4.8
comp=Z,1.2nm,0.8s
SIMJ Simiganj 75.50 331 P **P 21 21 49.9 -0.4**
PZH PanZhiHua 75.88 300 P **P 21 21 54.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,5.3s
BAUV El Baul 77.51 94 P **P 21 22 02.0 +0.3**
GEYT Alibeck 78.41 339 P **P 21 22 06.5 0.0**
comp=Z,1.8nm,0.7s,baz=19,slow=6.1,SNR=4.3
comp=Z,1.8nm,0.7s
BRTR Keskin Array B 78.88 359 *ce* P **P 21 22 09.6 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.88 359 P **P 21 22 09.3 +0.1**
comp=Z,0.6nm,0.8s,baz=350,slow=7.3,SNR=3.9
comp=Z,0.6nm,0.8s
SLVN Son La 79.53 296 P **P 21 22 13.3 +0.4**
SLVN IAmb IAmb 21 22 14.0
comp=Z,10nm,0.9s
MCRA Macar, Loja 83.72 111 P **P 21 22 38.2 +3.2**
CMAR Chiang Mai Arr 84.19 298 P **P 21 22 37.3 -0.1**
CMAR Chiang Mai Arr 84.19 298 P **P 21 22 37.3 -0.1**
CMAR Chiang Mai Arr 84.19 298 P **P 21 22 36.6 -0.8**
comp=Z,4.1nm,0.9s,baz=3.8,slow=6.0,SNR=37
comp=Z,4.1nm,0.9s
PB12 IPOC Station P 100.61 109 Pdif **Pdif 21 23 48.0 -5.9**
BOSA Boshof 146.59 10 PKPbc **PKPdf 21 29 45.5 -0.2**
comp=Z,3.0nm,1.0s,baz=132,slow=3.8,SNR=4.1
QSPA South Pole Qui 151.55 180 PKPbc **PKPbc 21 29 56.9 -1.7**
comp=Z,5.4nm,0.6s,baz=103,slow=0.5,SNR=7.4

*IDC **26** 21:12:57.6±0.8, 33.°69N×45.°70E, h0km, mb4.1/20, mbtmp4.0/29, ML3.4/7, Error ellipse: s-maj=16.0km s-min=11.2km az=171.0*
*NEIC **26** 21:12:58.4±2.1, 33.°61N±0.°05×45.°76E±0.°10, h10km±1km, mb4.0/22, Error ellipse: s-maj=13.3km s-min=8.3km az=89.0*
*ISN **26** 21:12:58.7±1.0, 33.°86N×45.°76E, h32km±5km, ML4.0*
*TEH **26** 21:12:58.0, 33.°67N×45.°58E, h9km±53km, ML3.9*
*OMAN **26** 21:13:11.6±1.4, 32.°34N×45.°77E, h10km, mb3.8/24, Error ellipse: s-maj=28.7km s-min=6.6km az=23.0*
ISC 26 21:12:58.4±0.4, **33.°64N**±0.°03×**45.°71E**±0.°03, **h10km, n145,**
σ2s**12**/153, **mb4.0**/30, **10C-3D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.42**	**91**	Pg	**Pb**		**21 13 09.0**	**+1.0**
IBDR	**Badra**	**0.56**	**160**	*e*Pg	**Pn**		**21 13 13.0**	**+0.6**
IBDR				*e*Sg	**Sn**		**21 13 24.0**	**+2.3**
IBDR				AML	AML		21 13 28.1	
	comp=N,3μm,0.6s							
IBDR				AML	AML		21 13 33.5	
	comp=E,3μm,0.5s							
KGS1	**Ghasr-e-Shirin**	**0.87**	**354**	Pg	**Pb**		**21 13 14.4**	**-1.3**
IGHG	**Ghaleghazi**	**1.00**	**46**	Pg	**Pb**		**21 13 18.6**	**+0.7**
IGHG				Sg	**Sn**		**21 13 34.1**	**+1.1**
BHD	**Baghdad**	**1.17**	**252**	*e*Pn	**Pn**		**21 13 22.0**	**+1.2**
BHD				*e*Sn	**Sn**		**21 13 40.0**	**+3.2**
BHD				AML	AML		21 13 44.6	
	comp=E,9μm,0.6s							
IDHR	**Dehrash**	**1.20**	**28**	Pg	**Pb**		**21 13 21.2**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.28**	**60**	Pg	**Pb**		**21 13 23.6**	**+0.8**
ILIN	**Lien**	**1.65**	**39**	Pg	**Pb**		**21 13 30.1**	**0.0**
IKFM	**Kafar-mosalman**	**1.79**	**93**	Pn	**Pb**		**21 13 33.2**	**+1.9**
RAFI	**Al-Rafai**	**1.94**	**170**	*e*Pn	**Pb**		**21 13 35.0**	**+1.2**
RAFI				*e*Sn	**Sb**		**21 14 00.0**	**+1.9**
IBZA	**Bozab**	**1.97**	**64**	Pn	**Pb**		**21 13 35.4**	**+0.7**
IALM	**Almabolaq**	**2.38**	**58**	Pn	**Pb**		**21 13 41.2**	**-0.3**
HSAM	**Samen**	**2.48**	**76**	Pn	**Pb**		**21 13 42.1**	**+3.0**
SDS1	**Sardasht. Az.**	**2.51**	**356**	Pn	**Pb**		**21 13 41.6**	**-2.2**
HAGD	**Aghdareh**	**3.08**	**66**	Pn	**Pn**		**21 13 50.2**	**+2.8**
MAHB	**Mahabad**	**3.12**	**0**	Pn	**Pn**		**21 13 50.0**	**+2.1**
IHSH	**Hashtrud**	**3.88**	**19**	Pn	**Pn**		**21 13 60.0**	**+1.6**
IRAZ	**Razeghan**	**3.91**	**62**	Pn	**Pn**		**21 14 02.1**	**+3.3**
IAZR	**Azarshahr**	**4.04**	**3**	Pn	**Pn**		**21 14 02.1**	**+1.5**
JHBN	**Jahan bin**	**4.40**	**107**	Pn	**Pn**		**21 14 08.6**	**+3.0**
IPIR	**Pirpir**	**4.45**	**101**	Pn	**Pn**		**21 14 08.9**	**+2.6**
ISRB	**Sarab**	**4.47**	**20**	Pn	**Pn**		**21 14 08.8**	**+2.3**
IMHD	**Mahdasht**	**4.57**	**62**	Pn	**Pn**		**21 14 10.7**	**+2.9**
ZNGN	**Zangian**	**4.59**	**108**	Pn	**Pn**		**21 14 10.9**	**+2.7**
IQOM	**Qom**	**4.61**	**73**	Pn	**Pn**		**21 14 10.2**	**+1.8**
ISHB	**Shabestar**	**4.64**	**359**	Pn	**Pn**		**21 14 09.3**	**+0.5**
QAMS	**Qamsar**	**4.75**	**87**	Pn	**Pn**		**21 14 13.9**	**+3.6**
IKLH	**Kolahrood**	**4.92**	**92**	Pn	**Pn**		**21 14 16.0**	**+3.3**
IMRD	**Marand**	**5.07**	**360**	Pn	**Pn**		**21 14 15.8**	**+1.2**
IVRN	**Varamin**	**5.17**	**73**	Pn	**Pn**		**21 14 18.4**	**+2.5**
KLST	**Kelardasht - M**	**5.25**	**55**	Pn	**Pn**		**21 14 20.3**	**+3.1**
KRSH	**Karshahi**	**5.36**	**85**	Pn	**Pn**		**21 14 21.6**	**+2.9**
GRMI	**Germi**	**5.46**	**18**	Pn	**Pn**		**21 14 21.7**	**+1.8**
ISFB	**Sefidab**	**5.48**	**81**	Pn	**Pn**		**21 14 23.0**	**+2.8**
IDMV	**Damavand**	**5.57**	**68**	Pn	**Pn**		**21 14 24.0**	**+2.4**
IZEF	**Zefreh**	**5.60**	**96**	Pn	**Pn**		**21 14 24.5**	**+2.4**
GURO	**Guroymak-BITLI**	**5.74**	**330**		**Pn**		**21 14 24.1**	**+0.4**
MAKU	**Maku**	**5.77**	**352**	Pn	**Pn**		**21 14 26.7**	**+2.4**
IRAM	**Rameshesh**	**5.91**	**106**	Pn	**Pn**		**21 14 29.4**	**+3.1**
IFIR	**Firoozkooh**	**6.14**	**69**	Pn	**Pn**		**21 14 32.3**	**+2.7**
ILAS	**Lasjerd**	**6.24**	**72**	Pn	**Pn**		**21 14 33.4**	**+2.6**
GNI	**Garni**	**6.55**	**354**	Pn	**Pn**		**21 14 38.3**	**+3.4**
	comp=E,0.2nm,0.3s,baz=155,slow=21,SNR=2.1							
GNI				Pg	**Pb**		**21 14 55.3**	**+2.8**
	comp=E,0.5nm,0.3s,baz=193,slow=19,SNR=2.0							
GNI				Lg	Lg		21 16 25.6	
	comp=E,0.2nm,0.3s,baz=242,slow=17,SNR=1.2							
	comp=E,14nm,1.1s							
DSBU	**Dashti - Bushe**	**7.10**	**136**	Pn	**Pn**		**21 14 45.3**	**+2.9**
ASF	**Jabal al Asfar**	**7.55**	**261**	Pn	**Pn**		**21 14 48.3**	**-0.3**
	comp=E,0.3nm,0.3s,baz=60,slow=23,SNR=2.2							
ASF				Sn	**Sn**		**21 16 11.0**	**-3.3**
	comp=E,0.7nm,0.3s,baz=56,slow=6.2,SNR=3.3							
ASF				Lg	Lg		21 16 58.5	
	comp=E,1.6nm,0.3s,baz=193,slow=2.9,SNR=4.5							
	comp=E,1.7nm,0.4s							
BALJ	**Balqa**	**8.61**	**262**	Pn	**Pn**		**21 15 03.9**	**+0.8**
MMAI	**Mount Meron Ar**	**8.64**	**269**	Pn	**Pn**		**21 15 05.9**	**+2.3**
	comp=E,0.4nm,0.3s,baz=321,slow=47,SNR=1.8							
MMAI				Lg	Lg		21 17 32.9	
	comp=E,2.2nm,0.3s,baz=84,slow=39,SNR=2.5							
	comp=E,0.7nm,0.4s							
EIL	**Elat**	**9.98**	**250**	Pn	**Pn**		**21 15 23.6**	**+1.7**
	comp=E,0.4nm,0.3s,baz=63,slow=14,SNR=1.4							
EIL				Lg	Lg		21 18 17.0	
	comp=E,1.1nm,0.3s,baz=63,slow=9.2,SNR=5.2							
	comp=E,3.7nm,1.0s							
RAYN	**Ar Rayn**	**10.08**	**181**		**Pn**		**21 15 21.9**	**-1.4**
TRNA	**Turayna**	**10.09**	**150**	P	**Pn**		**21 15 24.8**	**+1.4**
KBZ	**Khabaz**	**10.31**	**349**	Pn	**Pn**		**21 15 28.2**	**+1.8**
	comp=E,1.4nm,0.9s,baz=189,slow=11,SNR=1.8							
JRN	**Qarnain Island**	**10.67**	**142**	P	**Pn**		**21 15 31.3**	**0.0**
BRTR	**Keskin Array B**	**11.43**	**306**	Pn	Pn		21 15 45.6	+3.7
	comp=E,0.1nm,0.3s,baz=116,slow=9.8,SNR=1.8							
	comp=E,0.3nm,0.4s							
SHME	**Shamm**	**11.79**	**127**	P	**Pn**		**21 15 48.8**	**+2.0**
AJN	**Ajban**	**12.14**	**136**	P	**Pn**		**21 15 53.6**	**+2.1**
MASF	**Masafi**	**12.27**	**129**	P	**Pn**		**21 15 53.5**	**+0.2**
MASF				S	**Sn**		**21 18 04.8**	**-5.4**
ASUD	**Al Ashush, Dub**	**12.30**	**134**	P	**Pn**		**21 15 55.8**	**+2.2**
	SNR=6.3							
ASUD				S	**Sn**		**21 18 04.5**	**-6.3**
FAQ	**Al Faqa, Dubai**	**12.37**	**133**	P	**Pn**		**21 15 56.6**	**+2.0**
MDH	**Madha**	**12.41**	**129**	P	**Pn**		**21 15 55.7**	**+0.5**
MDH				S	**Sn**		**21 18 08.4**	**-5.2**
UOSS	**Minazif**	**12.60**	**131**		**Pn**		**21 15 59.1**	**+1.3**
UOSS	**Minazif**	**12.60**	**131**	P	**Pn**		**21 15 58.7**	**+0.9**
UOSS				S	Sn		21 18 10.6	-7.6
HATD	**Hatta, Dubai**	**12.64**	**131**	P	**Pn**		**21 16 00.3**	**+1.9**
ASHO	**Ashiyiah**	**12.70**	**132**	P	**Pn**		**21 16 00.5**	**+1.3**
ASHO				S	**Sn**		**21 18 14.8**	**-5.9**
SOHO	**SOHO**	**13.39**	**132**	P	**Pn**		**21 16 09.2**	**+0.6**
UMZA	**Um Al Zommool**	**13.70**	**140**	P	**Pn**		**21 16 13.3**	**+0.5**
ARQ	**Araqi**	**13.98**	**134**	P	**Pn**		**21 16 17.6**	**+0.9**
ARQ				S	**Sn**		**21 18 48.0**	**-3.9**
BSY	**Bisya**	**14.83**	**134**	P	**Pn**		**21 16 27.7**	**-0.7**
BSY				S	Sn		21 19 04.9	-7.9
SMDO	**Samad**	**15.12**	**131**	P	**Pn**		**21 16 31.6**	**-0.7**
SMDO				⇑S	**Sn**		**21 19 13.5**	**-6.4**
WSAR	**Wadi Sarin**	**15.37**	**129**	Pn	**Pn**		**21 16 34.2**	**-1.2**
	comp=E,0.7nm,0.3s,baz=1.8,slow=13,SNR=11							
WSAR				Sn	Sn		21 19 13.6	-12
	comp=E,0.2nm,0.3s,baz=111,slow=17,SNR=2.3							
	comp=E,2.6nm,0.6s							
WSAR	**Wadi Sarin**	**15.37**	**129**	P	**Pn**		**21 16 33.9**	**-1.5**
WSAR				S	**Sn**		**21 19 19.4**	**-6.4**
JMDO	**Jabal Madar**	**15.66**	**133**	P	**Pn**		**21 16 37.5**	**-1.9**
WBK	**Wadi Bani Khal**	**16.03**	**130**	P	**Pn**		**21 16 43.5**	**-0.6**
MHTO	**MHTO**	**16.64**	**136**	P	**Pn**		**21 16 50.3**	**-1.5**
JLN	**Jalan Bani Buh**	**16.64**	**130**	P	**Pn**		**21 16 51.6**	**-0.3**
DOK	**Doka**	**16.75**	**151**	P	**Pn**		**21 16 52.2**	**-1.0**
DQM	**DQM**	**17.24**	**139**	P	**Pn**		**21 17 00.1**	**+0.6**
WHFO	**Wadi Hawf**	**17.24**	**153**	P	**Pn**		**21 16 58.0**	**-1.5**
	SNR=9.4							
ABTO	**Aybut**	**17.59**	**155**	P	**Pn**		**21 17 02.0**	**-1.9**
RBK	**Rabkut**	**17.79**	**153**	P	**P**		**21 17 07.6**	**+0.6**
	SNR=5.4							
DMTO	**DMTO**	**17.89**	**150**	P	**Pn**		**21 17 06.0**	**-1.5**
DMTO				S	Sn		21 20 15.0	-12
SHAO	**Shalim**	**17.91**	**148**	P	**Pn**		**21 17 06.3**	**-1.5**
BELG	**Belogornoye**	**18.80**	**4**	P	**P**		**21 17 16.8**	**-1.0**
	comp=E,5.6nm,0.4s,baz=174,slow=0.6,SNR=9.0							
ABKAR	**Akbulak array**	**18.86**	**30**	P	**Pn**		**21 17 19.4**	**+0.4**
VRI	**Vrincioaia**	**18.97**	**316**	⇑P	**Pn**		**21 17 21.4**	**+0.9**
PLOR	**Plostina**	**19.01**	**316**	⇑P	**Pn**		**21 17 25.8**	**+4.7**
AKTO	**Aktyubinsk**	**19.07**	**25**	P	**Pn**		**21 17 21.0**	**-0.7**
	comp=E,0.5nm,0.3s,baz=211,slow=11,SNR=5.3							
	comp=E,1.0nm,0.3s							
MLR	**Muntele Rosu**	**19.24**	**314**	⇑P	**Pn**		**21 17 25.6**	**+1.8**
KBL	**Kabul**	**19.35**	**81**	P	**P**		**21 17 24.6**	**+0.3**
KBL				IAmb	IAmb		21 17 28.9	
	comp=Z,7.2nm,1.1s							
SIMJ	**Simiganj**	**19.46**	**68**	P	**P**		**21 17 18.8**	**-6.6**
SIMJ				IAmb	IAmb		21 17 25.6	
	comp=Z,6.4nm,0.8s							
TURR	**Turia**	**19.49**	**315**	⇑P	**Pn**		**21 17 27.4**	**+0.6**
AGG	**Agios Georgios**	**19.56**	**293**	P	**Pn**		**21 17 26.4**	**-1.3**
AGG				IAmb	IAmb		21 17 32.2	
	comp=Z,8.8nm,1.1s							
VOIR		**19.75**	**313**	⇓P	**Pn**		**21 17 30.7**	**+0.7**
ARR	**Arges**	**19.98**	**312**	⇓P	**Pn**		**21 17 32.7**	**+0.1**
LOT	**Lotru**	**20.55**	**311**	⇑P	**Pn**		**21 17 37.8**	**-1.7**
FNA	**Florina**	**20.61**	**297**	P	**Pn**		**21 17 37.6**	**-2.5**
BURAR	**Bucovina Array**	**20.81**	**318**	⇑P	**Pn**		**21 17 40.0**	**-2.5**
BURAR	**Bucovina Array**	**20.81**	**318**	P	**P**		**21 17 39.3**	**-0.7**
BUR08	**Bucovina Ar. S**	**20.84**	**318**	P	**Pn**		**21 17 40.3**	**-2.5**
AKASG	**Malin Array Be**	**20.90**	**330**	P	**P**		**21 17 39.8**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=138,slow=9.9,SNR=29							
	comp=Z,2.8nm,0.6s							
AKBB	**Malin Array Si**	**20.90**	**330**	P	**P**		**21 17 39.9**	**-0.9**
AKBB				IAmb	IAmb		21 17 40.9	
	comp=Z,5.5nm,0.7s							
KIEV	**Kiev**	**20.90**	**330**	⇑P	**P**		**21 17 40.2**	**-0.5**
KIEV	**Kiev**	**20.90**	**330**	P	**P**		**21 17 39.9**	**-0.9**
KIEV				IAmb	IAmb		21 17 40.9	
	comp=Z,4.8nm,0.7s							
KBN	**Korca**	**21.02**	**297**	P	**P**		**21 17 41.6**	**-0.7**
KBN				IAmb	IAmb		21 17 51.5	
	comp=Z,8.8nm,0.9s							
BTK	**Batken**	**21.06**	**65**	P	**P**		**21 17 41.3**	**-1.5**
GZR	**Gura Zlata**	**21.15**	**310**	⇑P	**P**		**21 17 49.0**	**+5.3**
MARR	**Marisel-Cluj**	**21.53**	**314**	⇓P	**P**		**21 17 48.1**	**+0.3**
KK31	**Karatay Array**	**21.56**	**57**		**P**		**21 17 47.9**	**-0.1**
KKAR	**Karatay Array**	**21.56**	**57**		**P**		**21 17 47.8**	**-0.2**
DRGR		**21.83**	**314**	⇑P	**P**		**21 17 51.3**	**+0.3**
PUK	**Puka**	**21.98**	**300**	P	**P**		**21 17 52.4**	**-0.2**
PUK				IAmb	IAmb		21 18 00.8	
	comp=Z,4.5nm,0.8s							
RONA	**Rosalia, Austr**	**26.17**	**311**	*i* P	**P**		**21 18 33.9**	**+0.9**
	comp=Z,0.8nm,0.5s							
BVAR	**Borovoye Array**	**26.20**	**35**	P	**P**		**21 18 33.8**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=225,slow=8.6,SNR=8.9							
BVAR				PcP	**PcP**		**21 22 01.3**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=178,slow=3.6,SNR=4.3							
	comp=Z,1.7nm,0.5s							
CONA	**Conrad Observa**	**26.53**	**311**	*i* P	**P**		**21 18 37.0**	**+0.7**
	comp=Z,0.6nm,0.4s							
WTTA	**Wattenberg**	**29.03**	**308**	*i* P	**P**		**21 18 58.9**	**+0.2**
	comp=Z,1.5nm,0.5s							
WATA	**Walderalm**	**29.09**	**308**	*i* P	**P**		**21 18 59.2**	**0.0**
	comp=Z,0.7nm,0.3s							
SQTA	**Sankt Quirin**	**29.30**	**308**	*i* P	**P**		**21 19 01.1**	**+0.1**
	comp=Z,3.4nm,0.6s							
KURBB	**Kurchatov Arra**	**29.36**	**45**	P	**P**		**21 19 02.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=249,slow=9.3,SNR=5.8							
	comp=Z,0.7nm,0.3s							
MOTA	**Moosalm**	**29.40**	**308**	*i* P	**P**		**21 19 01.3**	**-0.7**
	comp=Z,0.9nm,0.3s							
GRA1	**Grafenberg Arr**	**30.02**	**313**	P	**P**		**21 19 06.3**	**-1.0**
GRFO	**Grafenberg**	**30.02**	**313**	P	**P**		**21 19 06.3**	**-1.0**
MAKZ	**Makanchi**	**30.38**	**53**	P	**P**		**21 19 10.7**	**+0.2**
MAKZ				IAmb	IAmb		21 19 13.5	
	comp=Z,1.9nm,0.6s							
FINES	**FINESS Array B**	**30.56**	**341**	P	**P**		**21 19 11.2**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=152,slow=8.6,SNR=6.9							
	comp=Z,2.1nm,0.9s							
MK31	**Makanchi Array**	**30.59**	**54**	P	**P**		**21 19 12.4**	**0.0**
MK31				IAmb	IAmb		21 19 14.7	
	comp=Z,2.4nm,0.5s							
MKAR	**Makanchi Array**	**30.59**	**54**	P	**P**		**21 19 12.1**	**-0.3**
MKAR	**Makanchi Array**	**30.59**	**54**	P	**P**		**21 19 14.0**	**+1.6**
	comp=Z,3.3nm,0.4s,baz=254,slow=9.9,SNR=137							
	comp=Z,3.3nm,0.4s							
HFS	**Hagfors**	**33.76**	**331**	P	**P**		**21 19 39.9**	**-0.1**
	comp=Z,3.4nm,0.4s,baz=128,slow=9.6,SNR=38							
	comp=Z,3.4nm,0.4s							
ZAA0	**Zalesovo Array**	**34.17**	**42**	P	**P**		**21 19 43.0**	**-0.6**
ZAA0				IAmb	IAmb		21 19 57.8	
	comp=Z,2.5nm,0.8s							
ZALV	**Zalesovo Beam**	**34.17**	**42**	P	**P**		**21 19 43.2**	**-0.5**
ZALV	**Zalesovo Beam**	**34.17**	**42**	P	**P**		**21 19 44.5**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=251,slow=9.1,SNR=13							
	comp=Z,1.6nm,0.3s							
NB201	**NORSAR Array S**	**35.26**	**332**	P	**P**		**21 19 52.7**	**-0.3**
CLF	**Chambon-Foret**	**35.39**	**307**	P	**P**		**21 19 52.8**	**-1.4**
TAM	**Tamanrasset**	**36.81**	**264**	P	**P**		**21 20 05.7**	**-1.2**
TAM				IAmb	IAmb		21 20 18.2	
	comp=Z,2.8nm,1.4s							
HMDM	**Hanimaadhoo**	**36.90**	**130**	P	P		21 20 02.9	-4.6
ARCES	**ARCESS Array B**	**37.68**	**349**	P	**P**		**21 20 13.8**	**+0.3**
	comp=Z,4.9nm,1.0s,baz=141,slow=7.8,SNR=1.8							
	comp=Z,4.9nm,1.0s							
ESDC	**Sonseca Array**	**39.89**	**293**	P	**P**		**21 20 32.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=76,slow=7.9,SNR=6.2							
	comp=Z,0.5nm,0.5s							
EKA	**Eskdalemuir Ar**	**40.00**	**318**	P	**P**		**21 20 32.7**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=104,slow=8.8,SNR=4.1							
	comp=Z,1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**44.84**	**254**	P	**P**		**21 21 13.8**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=62,slow=6.4,SNR=10							
	comp=Z,0.5nm,0.4s							
SPITS	**Spitsbergen Ar**	**46.41**	**352**	P	**P**		**21 21 25.5**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=141,slow=12,SNR=21							
	comp=Z,4.6nm,0.8s							
SONM	**Songino Array**	**46.95**	**54**	P	**P**		**21 21 29.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=279,slow=8.5,SNR=1.9							
	comp=Z,0.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**49.65**	**94**	P	**P**		**21 21 51.1**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=290,slow=8.8,SNR=12							
	comp=Z,0.7nm,0.5s							
KSRS	**Korea Array**	**64.93**	**61**	P	**P**		**21 23 38.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=282,slow=6.2,SNR=2.1							
	comp=Z,0.5nm,0.4s							
USRK	**Ussuriysk Ar.**	**65.04**	**52**	P	**P**		**21 23 38.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=322,slow=5.2,SNR=1.6							
	comp=Z,0.8nm,0.5s							
FRB	**Frobisher Bay**	**70.04**	**334**	P	**P**		**21 24 09.8**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=52,slow=12,SNR=2.4							
	comp=Z,1.9nm,0.6s							
SCHQ	**Schefferville**	**74.65**	**326**	P	**P**		**21 24 38.2**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=346,slow=4.2,SNR=3.6							
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**82.90**	**351**	P	**P**		**21 25 23.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=20,slow=5.5,SNR=4.8							
	comp=Z,0.2nm,0.6s							
WRA	**Warramunga Arr**	**99.69**	**107**	P	**Pdif**		**21 26 42.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=312,slow=4.2,SNR=2.1							
	comp=Z,0.4nm,0.8s							

*IDC **26** 21:24:00.8±1.4, 36.°57N×69.°82E, h0km, mb3.4/4, mbtmp3.5/9, ML3.1/5, Error ellipse: s-maj=25.4km s-min=20.7km az=108.0*
ISC 26 21:24:02.6±1.3, **36.°7N**±0.°1×**69.°56E**±0.°08, **h10km, n11,**
σ1s**77**/14, **mb3.6**/3, **4C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	Res ISC
AML	**Almayashu**	**6.30**	**29**	⇑Pn	**Pn**		**21 25 37.9**	**+1.8**
	0.1nm,0.3s							
AML				⇓Sn	**Sn**		**21 26 47.6**	**-0.7**
	0.3nm,0.4s							
AML				⇓Lg	Lg		21 27 16.5	
	2.0nm,0.8s							
KK31	**Karatay Array**	**6.45**	**6**	⇑Pn	**Pn**		**21 25 38.9**	**+1.3**
	2.1nm,0.5s,baz=187,slow=17,SNR=30							
KK31				⇑Sn	**Sn**		**21 26 48.6**	**-2.6**
	3.0nm,0.7s,baz=104,slow=38,SNR=4.5							
KK31				⇑Lg	Lg		21 27 22.4	
	0.9nm,0.3s,baz=194,slow=29,SNR=4.2							
AAK	**Ala-Archa**	**7.05**	**31**	Pn	**Pn**		**21 25 48.1**	**+2.0**
	1.3nm,0.3s,baz=208,slow=7.5,SNR=20							
AAK				Sn	**Sn**		**21 27 06.9**	**+0.5**
	0.5nm,0.3s,baz=228,slow=21,SNR=1.6							
AAK				Lg	Lg		21 27 41.5	
	0.2nm,0.3s,baz=81,slow=20,SNR=1.3							
	3.1nm,0.4s							
GEYT	**Alibeck**	**9.20**	**281**	Pn	**Pn**		**21 26 17.4**	**+2.0**
	0.3nm,0.3s,baz=107,slow=10,SNR=2.2							
GEYT				Sn	**Sn**		**21 27 56.6**	**-2.4**
	0.3nm,0.3s,baz=97,slow=12,SNR=2.3							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**13.85**	**39**	Pn	**Pn**		**21 27 18.8**	**-0.2**
	baz=230,slow=18,SNR=2.8							
	0.2nm,0.6s							
AKTO	**Aktyubinsk**	**16.05**	**332**	Pn	**Pn**		**21 27 48.8**	**+0.4**
	0.2nm,0.3s,baz=201,slow=11,SNR=2.0							
	0.9nm,0.4s							
BVAR	**Borovoye Array**	**16.34**	**2**	Pn	**Pn**		**21 27 50.1**	**-1.9**
	baz=171,slow=8.2,SNR=2.7							
	0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**20.24**	**27**	P	Pn		21 28 37.2	-2.6
	0.6nm,0.3s,baz=213,slow=11,SNR=6.2							
	0.6nm,0.3s							
NOA	**NORSAR Array B**	**43.53**	**323**	P	**P**		**21 32 06.8**	**+0.6**
	0.3nm,0

ETMB	Extrema	40.29	254	P	P	21 32 25.7	+1.1
PLTB	Pedras Altas	40.92	215	P	P	21 32 30.6	+0.9
HUMP	Col San Antoni	41.76	297	P	P	21 32 36.0	-0.6
HUMP				IAmb	IAmb	21 32 39.6	
	comp=Z,39nm,1.4s						
CRPR	Cabo Rojo, PR	42.84	296	P	P	21 32 46.1	+0.6
CRPR				IAmb	IAmb	21 33 12.3	
	comp=Z,36nm,1.1s						
LPAZ	La Paz	43.85	245	P	P	21 32 55.6	+1.1
ESDC	Sonseca Array	44.13	26	P	P	21 32 56.5	+0.8
	comp=Z,1.1nm,0.8s,baz=227,slow=8.5,SNR=6.0						
	comp=Z,1.1nm,0.8s						
TSUM	Tsumeb	48.15	117	LR	LR	21 49 22.3	
	comp=Z,84nm,20.4s,baz=244,slow=31						
KEST	Kesra	48.57	40	LR	LR	21 53 27.7	
	comp=Z,164nm,20.2s,baz=212,slow=35						
BOSC	San Juan Bosco	51.48	265	P	P	21 33 52.6	-0.7
GO04	Tololo Observa	51.70	230	P	P	21 33 54.6	-0.1
WDD	Wied Dalam	52.08	43	P	P	21 33 58.3	+1.2
COHC	Cochancay	52.20	266	P	P	21 33 58.3	-0.1
CUC	Castrocucco	55.21	40	P	P	21 34 20.6	+0.5
TEOL	Teolo	56.04	32	P	P	21 34 27.1	+1.2
TEOL				IAmb	IAmb	21 34 38.8	
	comp=Z,9.8nm,0.8s						
DAVOX	Davos/Dischmat	56.07	30	LR	LR	21 57 20.7	
	comp=Z,50nm,18.2s,baz=260,slow=35						
WLF	Walferdange	56.42	25	P	P	21 34 29.0	+0.5
WLF				IAmb	IAmb	21 34 33.1	
	comp=Z,7.4nm,1.0s						
G65A	Princeton	56.81	327	P	P	21 34 30.6	-0.8
LSZ	Lusaka	56.93	109	P	P	21 34 32.5	-0.5
LSZ	Lusaka	56.93	109	LR	LR	21 56 22.3	
	comp=Z,81nm,19.8s,baz=268,slow=33						
PLCA	Paso Flores	57.08	218	LR	LR	21 58 32.9	
	comp=Z,117nm,18.6s,baz=48,slow=36						
STAL	STALIGIAL	57.18	32	P	P	21 34 34.2	+0.2
STAL				IAmb	IAmb	21 34 35.3	
	comp=Z,8.3nm,1.2s						
PRED	Cave del Predi	57.75	32	P	P	21 34 39.4	+1.3
PRED				IAmb	IAmb	21 34 56.6	
	comp=Z,14nm,1.5s						
MBAR	Mbarara	57.89	91	LR	LR	21 57 29.2	
	comp=Z,70nm,18.6s,baz=226,slow=34						
EFI	East Falkland	58.41	202	P	P	21 34 43.5	+1.0
KBN	Korca	58.77	41	P	P	21 34 46.1	+0.7
KBN				IAmb	IAmb	21 35 07.2	
	comp=Z,13nm,1.5s						
GERES	GERESS Array B	59.36	30	P	P	21 34 49.8	+0.4
GERES	GERESS Array B	59.36	30	P	P	21 34 48.6	-0.8
	comp=Z,1.6nm,0.9s,baz=197,slow=4.2,SNR=7.9						
GERES				LR	LR	21 58 28.6	
	comp=Z,38nm,19.3s,baz=262,slow=34						
	comp=Z,1.6nm,0.9s						
S57A	Dark Hollow, R	60.14	314	P	P	21 34 53.0	-1.9
P57A	Homestead Farm	60.23	316	P	P	21 34 56.8	+1.4
P57A				IAmb	IAmb	21 35 08.6	
	comp=Z,14nm,1.3s						
M57A	Sunshine Farm,	60.48	318	P	P	21 34 56.0	-1.1
M57A				IAmb	IAmb	21 35 08.0	
	comp=Z,9.0nm,1.1s						
CLL	Collm	60.66	28	P	P	21 34 58.5	+0.4
CLL				IAmb	IAmb	21 35 10.6	
	comp=Z,5.9nm,1.3s						
PAULI	Pauline	61.11	310	P	P	21 34 59.8	-1.8
VRAC	Vranov	61.13	31	LR	LR	22 02 05.2	
	comp=Z,26nm,18.0s,baz=222,slow=37						
TRQ	Mont Tremblant	61.37	324	P	P	21 35 03.5	+0.4
TIGA	Tifton	61.37	306	P	P	21 35 03.1	-0.2
553A	Crawfordville	61.68	304	P	P	21 35 06.0	+0.6
PSZ	Piszkesteto	62.09	34	P	P	21 35 08.1	+0.2
PSZ				IAmb	IAmb	21 35 19.1	
	comp=Z,8.2nm,1.2s						
352A	Blakely	62.47	305	P	P	21 35 12.5	+1.7
Y52A	Lilburn	62.53	308	P	P	21 35 11.6	+0.5
Y52A				IAmb	IAmb	21 35 39.0	
	comp=Z,14nm,1.2s						
ERPA	Erie	62.74	318	P	P	21 35 13.3	+1.0
V52A	Sevierville	62.84	310	P	P	21 35 12.9	-0.2
V52A				IAmb	IAmb	21 35 15.8	
	comp=Z,15nm,1.2s						
TKL	Tuckaleechee C	62.91	310	P	P	21 35 13.5	-0.1
TKL				IAmb	IAmb	21 35 19.4	
	comp=Z,15nm,1.2s						
TKL	Tuckaleechee C	62.91	310	LR	LR	21 56 06.7	
	comp=Z,58nm,20.2s,baz=172,slow=30						
O52A	Adamsville	63.16	315	P	P	21 35 16.6	+1.4
BALB	Balikesir	63.19	45	P	P	21 35 17.2	+1.8
PETF	Flores	63.75	288	P	P	21 35 19.8	+0.4
KMBO	Kilima Mbogo	64.41	92	LR	LR	22 00 31.1	
	comp=Z,65nm,19.2s,baz=79,slow=33						
MLR	Muntele Rosu	64.42	39	LR	LR	22 04 25.4	
	comp=Z,119nm,20.3s,baz=232,slow=37						
CCIG	Comitan	65.83	287	P	P	21 35 32.3	-1.0
GHAJ	Ghor Haditha	66.47	56	P	P	21 35 36.1	-0.7
NAO01	NORSAR Array S	66.60	19	P	P	21 35 35.6	-1.6
MMAI	Mount Meron Ar	66.76	54	LR	LR	22 06 30.1	
	comp=Z,46nm,20.1s,baz=228,slow=38						
NOA	NORSAR Array B	66.85	19	LR	LR	22 00 05.5	
	comp=Z,29nm,21.4s,baz=225,slow=32						
NC204	NORSAR Array S	66.88	19	P	P	21 35 39.1	0.0
NC204				IAmb	IAmb	21 35 57.9	
	comp=Z,6.5nm,1.0s						
NB201	NORSAR Array S	66.89	19	P	P	21 35 39.9	+0.9
HFS	Hagfors	67.05	21	LR	LR	22 03 30.0	
	comp=Z,79nm,18.4s,baz=238,slow=35						
NC405	NORSAR Array S	67.07	19	P	P	21 35 41.5	+1.4
NC405				IAmb	IAmb	21 36 03.0	
	comp=Z,10nm,1.1s						
BRTR	Keskin Array B	67.37	47	P	P	21 35 43.1	+0.5
	comp=Z,0.9nm,0.7s,baz=243,slow=3.4,SNR=5.5						
BRTR				LR	LR	22 06 11.3	
	comp=Z,91nm,20.6s,baz=232,slow=37						
	comp=Z,0.9nm,0.7s						
FVM	French Village	68.70	311	P	P	21 35 52.0	+1.1
FVM				IAmb	IAmb	21 36 01.3	
	comp=Z,4.0nm,0.8s						
BNN	Bunyan	68.72	48	P	P	21 35 51.2	0.0
KIEV	Kiev	68.74	35	P	P	21 35 50.7	-0.1
KIEV				IAmb	IAmb	21 35 52.0	
	comp=Z,8.0nm,0.9s						
AKASG	Malin Array Be	68.75	35	P	P	21 35 50.6	-0.4
AKASG				IAmb	IAmb	21 35 52.3	
	comp=Z,4.2nm,1.1s						
AKASG	Malin Array Be	68.75	35	P	P	21 35 51.6	+0.7
	comp=Z,2.7nm,0.6s,baz=241,slow=6.5,SNR=9.2						
AKASG				LR	LR	22 07 26.6	
	comp=Z,30nm,18.3s,baz=232,slow=37						
	comp=Z,2.7nm,0.6s						
AKBB	Malin Array Si	68.75	35	P	P	21 35 50.9	-0.1
AKBB				IAmb	IAmb	21 35 52.0	
	comp=Z,8.4nm,0.8s						
UALR	University of	69.35	307	P	P	21 35 55.0	0.0
UALR				IAmb	IAmb	21 36 12.1	
	comp=Z,13nm,1.1s						
R40A	Maddies Statio	70.19	311	P	P	21 35 59.0	-1.0
R40A				IAmb	IAmb	21 36 20.1	
	comp=Z,11nm,0.8s						
JMIC	Jan Mayen	71.16	6	LR	LR	22 00 03.3	
	comp=Z,30nm,19.9s,baz=268,slow=30						
FINES	FINESS Array B	72.59	24	LR	LR	22 04 25.5	
	comp=Z,66nm,21.5s,baz=230,slow=33						
GURO	Guroymak-BITLI	73.33	50	P	P	21 36 18.8	-0.4
GURO				IAmb	IAmb	21 36 21.8	
	comp=Z,7.0nm,1.1s						
KBZ	Khabaz	75.14	45	P	P	21 36 30.9	+1.6
	comp=Z,3.2nm,0.8s,baz=214,slow=2.2,SNR=6.0						
	comp=Z,3.2nm,0.8s						
ONI	Oni	75.27	46	P	P	21 36 30.5	+0.2
ONI				IAmb	IAmb	21 36 32.5	
	comp=Z,6.9nm,0.9s						
GNI	Garni	75.71	49	LR	LR	22 12 12.5	
	comp=Z,41nm,18.1s,baz=242,slow=38						
ULM	Lac du Bonnet	75.95	322	P	P	21 36 33.6	-0.3
ULM	Lac du Bonnet	75.95	322	LR	LR	22 04 35.1	
	comp=Z,53nm,20.1s,baz=137,slow=31						
ARCES	ARCESS Array B	76.96	17	P	P	21 36 40.3	+1.0
ARCES	ARCESS Array B	76.96	17	LR	LR	22 06 12.5	
	comp=Z,55nm,18.9s,baz=260,slow=32						
TXAR	Lajitas Array	77.89	300	P	P	21 36 45.9	+0.4
	comp=Z,0.6nm,0.8s,baz=108,slow=5.8,SNR=5.2						
	comp=Z,0.6nm,0.8s						
VHRN	Van Horn	79.17	301	P	P	21 36 51.8	-0.8
BELG	Belogornoye	80.13	37	LR	LR	22 13 32.3	
	comp=Z,33nm,18.9s,baz=146,slow=36						
ANMO	Albuquerque	80.81	305	P	P	21 37 01.2	-0.3
ANMO	Albuquerque	80.81	305	LR	LR	22 06 44.5	
	comp=Z,79nm,21.2s,baz=225,slow=31						
MVCO	Mesa Verde	82.66	307	P	P	21 37 12.0	+0.8
MVCO				IAmb	IAmb	21 37 33.0	
	comp=Z,5.4nm,0.9s						
O20A	White River Ci	82.71	310	P	P	21 37 09.7	-1.6
O20A				IAmb	IAmb	21 37 25.9	
	comp=Z,16nm,1.5s						
UOSS	Minazif	83.64	65	P	P	21 37 14.6	-1.7
UOSS				IAmb	IAmb	21 37 17.7	
	comp=Z,6.0nm,0.9s						
X18A	Snowflake	83.65	304	P	P	21 37 17.7	+1.4
X18A				IAmb	IAmb	21 37 20.1	
	comp=Z,5.3nm,1.2s						
PDAR	Pinedale Array	83.92	313	LR	LR	22 12 45.2	
	comp=Z,13nm,18.2s,baz=138,slow=34						
LOHW	Long Hollow	84.74	314	P	P	21 37 21.1	-0.6
WUAZ	Wupatki	84.87	305	P	P	21 37 22.8	+0.3
WUAZ				IAmb	IAmb	21 37 42.2	
	comp=Z,11nm,1.4s						
X16A	Lo Mia Camp, P	84.87	304	P	P	21 37 22.5	0.0
FXWY	Fox Creek	85.05	314	P	P	21 37 23.4	+0.1
YHL	Hebgen Lake	85.24	315	P	P	21 37 24.1	-0.2
YHL				IAmb	IAmb	21 37 40.4	
	comp=Z,10.0nm,1.4s						
WSAR	Wadi Sarin	85.81	67	LR	LR	22 15 55.7	
	comp=Z,56nm,20.2s,baz=235,slow=36						
TCRU	Three Creeks R	85.86	308	P	P	21 37 29.3	+1.8
TCRU				IAmb	IAmb	21 37 58.7	
	comp=Z,5.2nm,1.2s						
Y14A	Wickenburg	86.15	304	P	P	21 37 29.0	+0.3
AKTO	Aktyubinsk	86.33	40	P	P	21 37 29.3	+0.1
	comp=Z,1.3nm,0.7s,baz=258,slow=7.2,SNR=4.3						
AKTO				LR	LR	22 18 52.3	
	comp=Z,29nm,18.9s,baz=132,slow=38						
	comp=Z,1.3nm,0.7s						
BGU	Big Grassy Mou	86.40	311	P	P	21 37 30.2	+0.3
ARU	Arti	86.99	34	LR	LR	22 15 47.1	
	comp=Z,42nm,20.0s,baz=186,slow=35						
ABKAR	Akbulak array	87.52	41	P	P	21 37 34.0	-1.0
ELK	Elko	88.07	311	LR	LR	22 14 10.2	
	comp=Z,39nm,18.8s,baz=116,slow=34						
YKA	Yellowknife Ar	88.16	332	LR	LR	22 13 37.1	
	comp=Z,51nm,20.4s,baz=1.0,slow=33						
R11B	Troy Canyon, C	88.32	308	P	P	21 37 41.1	+1.8
PFO	Pinyon Flats O	89.02	303	LR	LR	22 12 42.5	
	comp=Z,32nm,21.6s,baz=60,slow=32						
QSM	Queen of Sheba	89.34	306	P	P	21 37 43.7	-0.3
QSM				IAmb	IAmb	21 38 03.3	
	comp=Z,5.4nm,1.4s						
MZP	Montezuma Peak	89.74	308	P	P	21 37 46.8	+0.6
C09A	Chrisman Ranch	90.21	318	P	P	21 37 49.0	+1.2
C09A				IAmb	IAmb	21 38 00.8	
	comp=Z,7.6nm,1.2s						
NVAR	Mina Array Bea	90.45	308	LR	LR	22 12 24.2	
	comp=Z,41nm,20.3s,baz=94,slow=32						
ISA	Isabella, Lake	90.65	305	P	P	21 37 50.8	+0.6
ISA				IAmb	IAmb	21 38 03.2	
	comp=Z,7.9nm,1.4s						
D08A	Wollman Farm,	90.67	317	P	P	21 37 50.8	+0.9
D08A				IAmb	IAmb	21 37 56.2	
	comp=Z,2.0nm,0.7s						
YBH	Yreka Blue Hor	93.67	312	LR	LR	22 17 59.3	
	comp=Z,29nm,19.1s,baz=126,slow=34						
EGAK	Eagle	99.36	337	P	Pdif	21 38 28.7	-0.4
EGAK				IAmb	IAmb	21 38 41.1	
	comp=Z,1.9nm,1.2s						

*SJA **26** 21:27:57.7±0.7,20.17S×69.15W,h102km±4km, ML3.3, MW3.5*
*GUC **26** 21:27:59.8±0.8,20.18S×69.11W,h93km±3km, ML3.3*
ISC 26 21:28:01.2±1.4,**20.21S**±0.03×**69.22W**±0.06,**h84**km±8km, **n36**,σ0**94**/53,**4C-4D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.09	44	eP		Pn		21 28 12.7	-1.0
PB08				IAML				21 28 24.5	
	comp=Z,810nm,0.1s								
PB08	IPOC Station P	0.09	44	↓iP		Pn		21 28 13.0	-0.7
PB08				iS		Sn		21 28 23.4	+0.6
PB08				IAML				21 28 24.5	
	comp=N,3μm,0.1s								
GO01	Chusmiza	0.54	3	eP		Pn		21 28 15.1	-1.1
GO01				eS		Sn		21 28 28.2	+0.9
GO01	Chusmiza	0.54	3	↓iP		Pn		21 28 15.1	-1.1
GO01				iS		Sn		21 28 27.6	+0.4
GO01				IAML				21 28 29.6	
	comp=E,4μm,0.1s								
PB11	IPOC Station P	0.60	317	eP		Pn		21 28 15.7	-0.8
PB11				IAML				21 28 30.7	
	comp=Z,687nm,0.2s								
PB11	IPOC Station P	0.60	317	iP		Pn		21 28 15.6	-0.9
PB11				iS		Sn		21 28 28.4	+0.7
PB11				IAML				21 28 30.8	
	comp=N,2μm,0.3s								
HMBC	Humberstone	0.63	263	eP		Pn		21 28 15.9	-0.7
HMBC	Humberstone	0.63	263	iP		Pn		21 28 15.9	-0.7
HMBC				iS		Sn		21 28 29.2	+1.1
HMBC				IAML				21 28 30.1	
	comp=E,993nm,0.3s								
TA02	Huaiquique	0.86	266	eP		Pn		21 28 18.6	-0.3
TA02				eS		Sn		21 28 33.8	+1.8
TA02				IAML				21 28 34.4	
	comp=Z,1μm,0.1s								
TA02	Huaiquique	0.86	266	iP		Pn		21 28 18.4	-0.5
TA02				iS		Sn		21 28 33.2	+1.2
PB01	IPOC Station P	0.87	197	eP		Pn		21 28 18.2	-0.9
PB01				eS		Sn		21 28 33.7	+1.3
PB01				IAML				21 28 34.3	
	comp=Z,702nm,0.2s								
PB01	IPOC Station P	0.87	197	↓iP		Pn		21 28 18.2	-0.9
PB01				iS		Sn		21 28 33.0	+0.5
PB01				IAML				21 28 34.7	
	comp=N,1μm,0.2s								
TA01	Diego Aracena	0.97	248	eP		Pn		21 28 19.3	-0.9
TA01				IAML				21 28 40.7	
	comp=Z,258nm,0.5s								
TA01	Diego Aracena	0.97	248	↑iP		Pn		21 28 19.2	-0.9
PATCX	Punta Patache	1.07	235	eP		Pn		21 28 20.7	-0.7
PATCX	Punta Patache	1.07	235	↑iP		Pn		21 28 20.7	-0.7
PATCX				iS		Sn		21 28 37.4	+1.0
PATCX				IAML				21 28 42.2	
	comp=E,526nm,0.2s								
PB02	IPOC Station P	1.27	210	eP		Pn		21 28 23.4	-0.6
PB02				IAML				21 28 49.3	
	comp=Z,562nm,0.2s								
PB02	IPOC Station P	1.27	210	↑iP		Pn		21 28 23.3	-0.6
PB02				iS		Sn		21 28 41.7	+0.7
PB09	IPOC Station P	1.58	181	eP		Pn		21 28 27.1	-0.9
PB09				IAML				21 28 51.1	
	comp=Z,153nm,0.5s								
PB09	IPOC Station P	1.58	181	iP		Pn		21 28 26.7	-1.2
PB09				iS		Sn		21 28 48.4	+0.3
PB07	IPOC Station P	1.64	202	eP		Pn		21 28 27.8	-0.9
PB07				IAML				21 28 56.9	
	comp=Z,271nm,0.3s								
PB07	IPOC Station P	1.64	202	iP		Pn		21 28 27.7	-0.9
PB07				iS		Sn		21 28 50.2	+0.8
PB07				IAML				21 28 57.5	
	comp=N,266nm,0.2s								
PB07				IAML				21 28 57.7	
	comp=E,281nm,0.4s								
PB16	IPOC Station P	1.88	352	eP		Pn		21 28 31.9	-0.4
PB16	IPOC Station P	1.88	352	↓iP		Pn		21 28 31.8	-0.5
PB12	IPOC Station P	1.90	326	eP		Pn		21 28 30.4	-1.7
PB12				eS		Sn		21 28 57.0	+1.6
PB12				IAML				21 28 59.7	
	comp=Z,147nm,0.4s								
PB12	IPOC Station P	1.90	326	↑iP		Pn		21 28 30.5	-1.5
PB12				iS		Sn		21 28 55.1	-0.3
PB12				IAML				21 29 02.2	
	comp=N,297nm,0.1s								
PB04	IPOC Station P	2.29	202	eP		Pn		21 28 37.0	-0.2
PB04				IAML				21 29 16.9	
	comp=Z,116nm,0.2s								
PB04	IPOC Station P	2.29	202	eP		Pn		21 28 36.2	-1.0
PB04				iS		Sn		21 29 04.2	-0.5
PB04				IAML				21 29 17.2	
	comp=N,186nm,0.3s								
LVC	Limon Verde	2.41	173	eP		Pn		21 28 39.4	+0.4
LVC	Limon Verde	2.41	173	eP		Pn		21 28 38.8	-0.2
PB06	IPOC Station P	2.51	187	eP		Pn		21 28 39.3	-0.9
PB06				IAML				21 29 15.9	
	comp=Z,91nm,0.2s								
PB06	IPOC Station P	2.51	187	iP		Pn		21 28 39.2	-0.9
PB06				iS		Sn		21 29 09.9	-0.1
PB06				IAML				21 29 16.8	
	comp=E,142nm,0.5s								
PB05	IPOC Station P	2.79	199	eP		Pn		21 28 43.0	-1.0
PB05				IAML				21 29 26.1	
	comp=Z,72nm,0.5s								
PB15	IPOC Station P	3.00	184	eP		Pn		21 28 48.4	+1.5
PB15				IAML				21 29 32.1	
	comp=Z,288nm,0.2s								
PB15	IPOC Station P	3.00	184	eP		Pn		21 28 46.2	-0.6
LPAZ	La Paz	4.03	15	eP		Pn		21 29 01.6	+0.4

GCMT 26 21:30:00.0±0.2,**41.40S**±0.01×**86.04W**±0.02,**h17**km±1km, **MW5.0**/110,**Moment Tensor Solution. s34,c39; s110,c151; Duration: 0 Moment tensor: Scale** 10^{16} **Nm;** M_{rr}-0.38±.10; $M_{\theta\theta}$0.93±.10; $M_{\phi\phi}$-0.55±.10; $M_{r\theta}$-0.65±.24; $M_{r\phi}$-3.42±.09; $M_{\theta\phi}$0.50±.23; **Best double couple:** $M_0$3.57900×10^{16} **NP1:**ϕ_s263.00000°,δ83.00000°, λ172.00000°. **NP2:**ϕ_s354.00000°,δ82.00000°,λ8.00000°. **Principal axes:** T 3.8480, Plg11.0000°, Azm219.0000°; N -0.5380, Plg79.0000°, Azm41.0000°; P -3.3100, Plg0.0000°, Azm309.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function West Chile Rise**

*IDC **26** 21:30:47.4±4.2,56.08N×148.46W,h0km,mb3.6/1, mbtmp3.4/5,ML3.0/3,MS3.5/3 Error ellipse: s-maj=66.5km s-min=33.8km az=164.0*
*NEIC **26** 21:30:47.8±1.2,56.08N±0.09×148.6W±0.2,h21km±11km, ML3.5/34,ML3.3(AEIC),Error ellipse: s-maj=15.4km s-min=8.7km az=136.0*
*AEIC **26** 21:30:51.7±1.1,56.1N±0.1×148.6W±0.2,h10km±9km, Error ellipse: s-maj=17.8km s-min=9.9km az=149.0*
ISC 26 21:30:47.8±1.4,**56.20N**±0.09×**148.68W**±0.05,**h10**km, **n105**,σ0**90**/99,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.66	308			Pn		21 31 31.1	+0.4
KDAK	Kodiak Island	2.66	308			Sn		21 32 00.4	-2.5
KDAK	Kodiak Island	2.66	308	S		Sn		21 32 00.4	-2.5
	baz=126								
KDAK	Kodiak Island	2.66	308	Pn		Pn		21 31 30.7	0.0
	5.0nm,0.3s,baz=142,slow=4.4,SNR=54								
KDAK				Sn		Sn		21 32 00.6	-2.3
	3.4nm,0.3s,baz=299,slow=17,SNR=4.3								
KDAK				LR		LR		21 32 48.9	
	comp=Z,148nm,21.7s,baz=121,slow=43								
	9.2nm,0.3s								
OHAK	Old Harbor	2.74	294			Pn		21 31 31.3	-0.5
OHAK						Sn		21 32 02.5	-2.4
OHAK	Old Harbor	2.74	294	P		Pn		21 31 31.3	-0.5
	baz=111								
OHAK				S		Sn		21 32 02.5	-2.4
	baz=111								
SII	Sitkinak Islan	3.08	279	Pn		Pn		21 31 36.0	-0.5
SII						Sn		21 32 11.2	-2.2
SII				IAML				21 32 27.0	
	comp=N,114nm,1.4s								
SII	Sitkinak Islan	3.08	279	S		Sn		21 32 11.0	-2.4
	baz=96								
SYI	Shuyak Island	3.14	322			Pn		21 31 37.7	+0.4
SYI				IAML				21 32 22.1	
	comp=E,55nm,1.4s								
SYI	Shuyak Island	3.14	322			Sn		21 32 13.7	-1.0
Q20K	Shuyak Island	3.14	322	P		Pn		21 31 37.7	+0.4
	baz=139								
Q20K				S		Sn		21 32 13.7	-1.0
	baz=139								
R18K	Karluk	3.45	296			Pn		21 31 41.6	+0.1
R18K	Karluk	3.45	296	IAML				21 32 27.4	
	comp=E,98nm,0.4s								
R18K				IAML				21 32 37.4	
	comp=N,74nm,1.3s								
R18K	Karluk	3.45	296	P		Pn		21 31 41.6	+0.1
	baz=112								
CNPM	China Poot	3.60	339			Pn		21 31 44.1	+0.4
CNPM				IAML				21 32 30.8	
	comp=E,44nm,1.3s								
CNPM				IAML				21 32 33.6	
	comp=N,33nm,0.8s								
CNPM	China Poot	3.60	339			Sn		21 32 24.8	-1.4
BRSE	Bradley Lake S	3.71	344			Pn		21 31 45.3	+0.1
BRSE						Sn		21 32 27.1	-1.9
BRSE	Bradley Lake S	3.71	344	P		Pn		21 31 45.3	+0.1
	baz=162								
BRSE				S		Sn		21 32 27.1	-1.9
	baz=162								
BRLK	Bradley Lake	3.76	343			Pn		21 31 46.3	+0.4
BRLK				IAML				21 32 34.4	
	comp=E,45nm,1.4s								
BRLK				IAML				21 32 37.8	
	comp=N,48nm,1.3s								
Q19K	Cape Douglas,	3.82	318			Pn		21 31 47.4	+0.7
Q19K	Cape Douglas,	3.82	318	P		Pn		21 31 47.4	+0.7
	baz=134								
P23K	Montague Islan	3.87	10			Pn		21 31 46.8	-0.4
P23K	Montague Islan	3.87	10	P		Pn		21 31 46.8	-0.4
	baz=190								
KAHG	Katmai Hook Gl	3.92	308			Pn		21 31 48.7	+0.6
SEW	Seward	3.93	354			Pn		21 31 48.2	0.0
SEW	Seward	3.93	354	P		Pn		21 31 48.2	0.0
	baz=173								
KAHC	Katmai Hardscr	4.21	308			Pn		21 31 52.9	+0.8
Q18K	Katmai Hardscr	4.21	308	P		Pn		21 31 52.9	+0.8
	baz=123								
P19K	Oil Pt	4.22	327			Pn		21 31 53.3	+1.1
P19K	Oil Pt	4.22	327	IAML				21 32 44.8	
	comp=E,100nm,1.1s								
P19K				IAML				21 32 45.9	
	comp=N,90nm,0.8s								
P19K	Oil Pt	4.22	327	P		Pn		21 31 53.3	+1.1
	baz=143								
HIN	Hinchinbrook I	4

baz=181
BMRM Bremner River 5.23 22 Pn Pn 21 32 05.9 -0.1
BMRM Bremner River 5.23 22 P Pn 21 32 05.9 -0.1
baz=205
N20K Mount Spurr 5.34 341 P Pn 21 32 07.4 -0.1
baz=158
SPCR Spurr Chakacha 5.34 341 Pn 21 32 07.4 -0.1
SUA Susitna One 5.38 349 Pn 21 32 08.4 +0.2
SUA Susitna One 5.38 349 P Pn 21 32 08.4 +0.2
baz=167
PMR Palmer 5.41 358 Pn Pn 21 32 09.1 +0.7
CHGN Chignik 5.43 275 Pn Pn 21 32 06.9 -1.8
KLU Klutina 5.49 14 Pn 21 32 10.0 +0.3
KLU Klutina 5.49 14 P Pn 21 32 10.0 +0.3
baz=196
N19K Bonanza Creek 5.53 329 Pn 21 32 10.3 +0.1
N19K Bonanza Creek 5.53 329 P Pn 21 32 10.3 +0.1
baz=144
STLK Strandline Lak 5.56 344 Pn 21 32 10.6 +0.1
SPNN North Nagishla 5.58 340 Pn 21 32 11.3 +0.3
GHO Glory Hole Cre 5.59 359 Pn 21 32 11.3 +0.3
SML Sawmill 5.62 2 Pn Pn 21 32 12.4 +0.9
SCM Sheep Creek Mo 5.69 6 Pn Pn 21 32 13.7 +1.3
VRDI Verde Repeater 5.73 26 Pn 21 32 12.6 -0.4
KIAG Kiagna River 5.77 32 Pn 21 32 12.9 -0.7
N25K Chitina, Valde 5.82 20 Pn 21 32 14.2 0.0
N25K Chitina, Valde 5.82 20 P Pn 21 32 14.2 0.0
baz=202
GLB Gilahina Butte 5.83 24 Pn 21 32 13.9 -0.3
N18K Kilae Creek 5.87 323 Pn 21 32 14.9 +0.1
N18K Kilae Creek 5.87 323 P Pn 21 32 15.0 +0.1
baz=137
PTPK Patty Peak 5.95 30 Pn 21 32 15.5 -0.6
MCARA McCarthy VSAT 5.97 27 Pn Pn 21 32 16.0 -0.1
PNL Peninsula 6.04 51 P Pn 21 32 17.0 -0.2
baz=238
BARN Barnard Glacie 6.09 34 Pn 21 32 17.8 -0.2
LOGN Logan Glacier 6.13 38 Pn 21 32 17.9 -0.7
M20K Styx River 6.14 340 Pn 21 32 18.5 -0.1
M20K Styx River 6.14 340 P Pn 21 32 18.5 -0.1
baz=156
M19K Big River Lodg 6.43 335 Pn 21 32 22.3 -0.2
M19K Big River Lodg 6.43 335 P Pn 21 32 22.3 -0.2
baz=150
M18K Stony River 6.47 328 Pn 21 32 22.8 -0.2
M18K Stony River 6.47 328 P Pn 21 32 22.8 -0.2
baz=142
P29M Windy Craggy 6.76 55 Pn 21 32 26.2 -0.9
P29M Windy Craggy 6.76 55 P Pn 21 32 26.2 -0.9
baz=244
M17K Holitna River 6.91 323 P Pn 21 32 29.9 +0.8
baz=135
S31K Pelican 7.01 70 Pn 21 32 27.7 -2.7
S31K Pelican 7.01 70 P Pn 21 32 27.7 -2.7
baz=260
ILAR Eielson Array 8.64 5 Pn Pn 21 32 53.1 +0.3
comp=N,0.1nm,0.3s,baz=188,slow=13,SNR=8.1
ILAR Sn Sn 21 34 22.7 -7.4
baz=186,slow=16
comp=N,0.4nm,0.5s
INK Inuvik 13.98 24 Pn Pn 21 34 06.2 +0.6
comp=N,2.0nm,1.1s,baz=212,slow=8.8,SNR=4.2
YKA Yellowknife Ar 18.30 56 P Pn 21 35 01.4 -0.1
baz=262,slow=9.8,SNR=3.4
comp=N,0.5nm,0.9s
SADO Sadowa 43.84 74 LR LR 21 55 18.3
comp=N,101nm,18.1s,baz=280,slow=34
H11S1 WAKE ISLAND Hy 50.28 240 T T 22 34 55.1
baz=29
H11S2 WAKE ISLAND Hy 50.29 240 T T 22 34 56.3
baz=29
H11S3 WAKE ISLAND Hy 50.29 240 T T 22 34 55.7
baz=29
SONM Songino Array 58.95 311 P P 21 40 49.9 +2.9
comp=N,0.9nm,1.1s,baz=58,slow=5.4,SNR=2.9
comp=N,0.9nm,1.1s
DZM Mont Dzumac 86.70 221 LR LR 22 13 36.3
comp=N,83nm,21.0s,baz=206,slow=30

*IDC **26** 21:37:17.0±0.6,8.˙18N×127.˙28E,h0km,mb4.1/18, mbtmp4.1/19,ML3.8/1,MS3.3/1,Error ellipse: s-maj=25.0km s-min=13.1km az=76.0*
*NEIC **26** 21:37:19.3±1.2,8.˙28N±0.˙09×127.˙4E±0.˙1,h10km±1km, mb4.4/28,Error ellipse: s-maj=17.7km s-min=14.3km az=84.0*
ISC 26 21:37:18.9±0.5,**8.˙24N**±0.˙06×**127.˙34E**±0.˙08,**h10**km,**n53,** σ0**95**/53,**mb4.3**/29,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	Davao City (W)	2.10	236			Pn	21 37 57.1	+3.0
DAV	Davao City (W)	2.10	236	Pn		Pn	21 37 51.4	-2.7
	35nm,0.3s,baz=82,slow=17,SNR=1.8							
DAV				Sn		Sb	21 38 23.9	+0.7
	38nm,0.3s,baz=262,slow=21,SNR=9.1							
	126nm,0.4s							
TNTI	Ternate	7.42	180	Pn		Pn	21 39 08.1	+0.8
TOLI2	Tolitoli	9.63	223	Pn		Pn	21 39 38.5	+0.8
LUWI	Luwuk	10.28	206	Pn		Pn	21 39 46.4	-0.2
TPUB	Ta-pu	16.30	337			Pn	21 41 09.5	+1.4
JOW	Kunigami	18.51	3	LR		LR	21 47 35.0	
	comp=Z,82nm,19.6s,baz=302,slow=33							
MTN	Manton Dam	21.28	170	P		P	21 42 06.8	+1.1
UBPT	Khong Chiam	22.51	290	P		P	21 42 18.9	0.0
UBPT				IAmb		IAmb	21 42 23.6	
	comp=Z,8.9nm,1.1s							
KNRA	Kununurra	23.80	177	P		P	21 42 32.5	+0.5
JNU	Nakatsue	24.98	7	P		P	21 42 42.1	-0.7
WB0	Warramunga Arr	28.68	166	P		P	21 43 15.2	-1.0
WB0				IAmb		IAmb	21 43 58.4	
	comp=Z,20nm,1.4s							
JGF	Kuroka	28.73	17	P		P	21 43 14.6	-2.1
WRA	Warramunga Arr	28.84	166	P		P	21 43 17.5	-0.1
WRA	Warramunga Arr	28.84	166	P		P	21 43 16.5	-1.1
	comp=Z,0.7nm,0.4s,baz=349,slow=9.8,SNR=8.6							
	comp=Z,0.7nm,0.4s							
WB2	Warramunga Arr	28.84	166			P	21 43 17.2	-0.5
WB2				IAmb		IAmb	21 43 56.6	
	comp=Z,8.4nm,1.2s							
KSRS	Korea Array	29.09	1	P		P	21 43 19.4	-0.2
	comp=Z,1.0nm,0.6s,baz=180,slow=8.5,SNR=3.3							
	comp=Z,1.0nm,0.6s							
CM31	Chiang Mai Arr	29.39	293	P		P	21 43 22.1	-0.6
CM31				IAmb		IAmb	21 43 23.4	
	comp=Z,2.6nm,0.7s							
CMAR	Chiang Mai Arr	29.39	293	P		P	21 43 21.5	-1.1
CMAR	Chiang Mai Arr	29.39	293	P		P	21 43 22.2	-0.4
	comp=Z,1.0nm,0.7s,baz=118,slow=6.5,SNR=7.7							
	comp=Z,1.0nm,0.7s							
CHTO	Chiang Mai	29.50	294	P		P	21 43 22.7	-0.9
ASAR	Alice Springs	32.35	169	P		P	21 43 48.2	-0.5
	comp=Z,0.3nm,0.4s,baz=357,slow=7.3,SNR=14							
ASAR				PcP		PcP	21 46 36.8	+0.2
	comp=Z,0.8nm,0.5s,baz=345,slow=2.5,SNR=7.6							
	comp=Z,0.3nm,0.4s							
BJT	Baijiatuan	33.18	344	P		P	21 43 55.6	-0.2
BJT				IAmb		IAmb	21 44 02.4	
	comp=Z,4.7nm,1.0s							
USRK	Ussuriysk Ar.	36.05	6	P		P	21 44 16.8	-3.7
USRK	Ussuriysk Ar.	36.05	6	P		P	21 44 20.7	+0.3
	comp=Z,4.2nm,0.7s,baz=174,slow=6.6,SNR=8.2							
	comp=Z,4.2nm,0.7s							
JKA	Kamikawa-asahi	38.13	18	P		P	21 44 39.5	+1.3
MORW	Morawa	38.66	196	P		P	21 44 42.9	+0.1
MORW				IAmb		IAmb	21 45 01.5	
	comp=Z,19nm,1.4s							
FORT	Forrest	38.80	179	P		P	21 44 44.1	+0.2
BBOO	Buckleboo	41.66	169	P		P	21 45 07.5	-0.1
BBOO				IAmb		IAmb	21 45 08.5	
	comp=Z,8.5nm,1.1s							
STKA	Stephens Creek	42.15	162	P		P	21 45 11.5	-0.2
STKA	Stephens Creek	42.15	162	P		P	21 45 10.8	-0.9
	comp=Z,4.5nm,0.8s,baz=336,slow=6.4,SNR=9.7							
	comp=Z,4.5nm,0.8s							
SONM	Songino Array	43.28	339	P		P	21 45 22.1	+1.3
SONM	Songino Array	43.28	339	P		P	21 45 19.9	-0.9
	comp=Z,1.2nm,0.9s,baz=151,slow=8.3,SNR=6.7							
	comp=Z,1.2nm,0.9s							
TOO	Toolangi	48.63	161	P		P	21 46 02.6	-0.4
TOO				IAmb		IAmb	21 46 13.2	
	comp=Z,8.1nm,1.2s							
PETK	Petropavlovsk-	51.06	23	P		P	21 46 22.9	+1.6
	comp=Z,2.3nm,0.7s,baz=180,slow=4.3,SNR=1.8							
	comp=Z,2.3nm,0.7s							

MK31	Makanchi Array	54.27	323	P		P	21 46 45.6	+0.3
MKAR	Makanchi Array	54.27	323	P		P	21 46 45.6	+0.4
MKAR	Makanchi Array	54.27	323	P		P	21 46 45.4	+0.1
	comp=Z,0.8nm,0.5s,baz=112,slow=8.1,SNR=12							
MKAR				PcP		PcP	21 47 49.0	-0.4
	comp=Z,0.5nm,0.8s,baz=110,slow=5.8,SNR=1.6							
	comp=Z,0.8nm,0.5s							
MAKZ	Makanchi	54.47	323	P		P	21 46 46.7	0.0
MAKZ				IAmb		IAmb	21 47 11.2	
	comp=Z,4.3nm,1.4s							
NIL	Nilore	55.75	305	P		P	21 46 55.9	-0.3
ZAA0	Zalesovo Array	56.90	332	P		P	21 47 04.9	+0.9
ZAA0				IAmb		IAmb	21 47 06.5	
	comp=Z,2.4nm,0.9s							
ZALV	Zalesovo Beam	56.90	332	P		P	21 47 03.9	-0.1
ZALV	Zalesovo Beam	56.90	332	P		P	21 47 03.2	-0.8
	comp=Z,1.5nm,0.6s,baz=127,slow=6.5,SNR=9.1							
	comp=Z,1.5nm,0.6s							
KURK	Kurchatov	58.33	326	P		P	21 47 15.1	+1.0
KURK				IAmb		IAmb	21 47 17.0	
	comp=Z,6.0nm,0.9s							
KURBB	Kurchatov Arra	58.34	326	P		P	21 47 13.7	-0.4
	comp=Z,2.8nm,0.8s,baz=128,slow=5.9,SNR=22							
	comp=Z,2.8nm,0.8s							
BVAR	Borovoye Array	63.93	326	P		P	21 47 53.8	+1.7
	comp=Z,3.5nm,1.0s,baz=111,slow=7.0,SNR=5.5							
	comp=Z,3.5nm,1.0s							
GEYT	Alibeck	68.61	307	P		P	21 48 21.8	-0.7
	comp=Z,1.0nm,0.6s,baz=103,slow=10,SNR=2.7							
	comp=Z,1.0nm,0.6s							
ILAR	Eielson Array	80.80	26	P		P	21 49 31.8	-0.8
	comp=Z,0.5nm,0.8s,baz=241,slow=5.0,SNR=7.4							
	comp=Z,0.5nm,0.8s							
ARCES	ARCESS Array B	86.45	340	P		P	21 50 01.2	-0.3
	comp=Z,8.1nm,1.0s,baz=68,slow=7.3,SNR=2.7							
	comp=Z,8.1nm,1.0s							
VNDA	Vanda	87.80	173	P		P	21 50 07.9	+0.2
VNDA				IAmb		IAmb	21 50 09.0	
	comp=Z,5.2nm,1.3s							
VNDA	Vanda	87.80	173	P		P	21 50 07.5	-0.2
	comp=Z,1.7nm,0.8s,baz=324,slow=6.6,SNR=7.9							
	comp=Z,1.7nm,0.8s							
FINES	FINESS Array B	88.17	332	P		P	21 50 08.3	-1.6
	comp=Z,2.6nm,1.0s,baz=54,slow=7.1,SNR=2.5							
	comp=Z,2.6nm,1.0s							
YKA	Yellowknife Ar	95.17	24	P		P	21 50 42.0	-0.3
	comp=Z,0.3nm,0.8s,baz=298,slow=5.0,SNR=3.0							
	comp=Z,0.3nm,0.8s							

*IDC **26** 22:05:18.7±0.8,10.˙38N×62.˙06W,h0km,mb3.8/11, mbtmp4.1/16,ML3.9/5,MS3.3/7,Error ellipse: s-maj=21.3km s-min=14.8km az=171.0*
*FUNV **26** 22:05:22.6,10.˙27N×62.˙11W,h7km,MW4.5*
*NEIC **26** 22:05:22.1±2.2,10.˙19N±0.˙05×62.˙15W±0.˙05,h10km±1km, mb4.6/28,Error ellipse: s-maj=12.4km s-min=3.1km az=137.0*
*TRN **26** 22:05:22.1,10.˙30N×62.˙28W,h5km,MD4.9*
ISC 26 22:05:23.0±1.2,**10.˙24N**±0.˙04×**62.˙19W**±0.˙04,**h27**km±9km, **n132,**σ1§**62**/155,**mb4.3**/24,**MS3.1**/4,**1C**,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TPP	Pointe-a-Pierr	0.73	84	*i*	P	Pn	22 05 38.4	+0.8
TRN	Trinidad (W)	0.87	62	*i*	P	Pb	22 05 39.2	-0.3
TRN				*e*	S	Sn	22 05 53.0	+1.7
CRUV	Carupano	1.12	293	*e*	P	Pb	22 05 43.6	-0.1
CRUV				*e*	S	Sn	22 05 57.9	+0.4
GRFF	Grenada Fort F	1.85	14	*e*	P	Pn	22 05 54.1	+1.0
GRFF				*e*	S	Sb	22 06 18.3	-0.7
GRGR	Grenville	1.95	15			Pb	22 05 56.4	-1.6
GRGR					Sn	Sn	22 06 19.6	+1.4
GRGR	Grenville	1.95	15	*e*	P	Pn	22 05 55.5	+1.0
GRGR				*e*	S	Sn	22 06 19.6	+1.4
GRW	Mount Saint Ca	1.98	15	*e*	P	Pn	22 05 55.8	+1.0
GRW				*e*	S	Sb	22 06 21.8	-0.9
GRHS	Sauteurs	2.04	15	*e*	P	Pn	22 05 56.8	+1.1
GRHS				*e*	S	Sn	22 06 21.6	+1.2
GRSS	Sisters	2.12	15	*e*	P	Pb	22 05 59.6	-1.3
GRSS				*e*	S	Sb	22 06 25.2	-1.6
GCMP	Grenada, Carri	2.35	18	*e*	P	Pn	22 06 01.3	+1.4
GCMP				*e*	S	Sn	22 06 30.6	+2.6
PCRV	Puerto La Cruz	2.41	269	*e*	P	Pn	22 06 01.9	+1.0
PCRV				*e*	S	Sn	22 06 31.1	+1.6
PCRV	Puerto La Cruz	2.41	269	Pn		Pn	22 06 02.5	+1.6
	32nm,0.3s,baz=79,slow=3.3,SNR=146							
PCRV				Pg		Pb	22 06 08.7	+2.8
	177nm,0.3s,baz=119,slow=8.4,SNR=43							
PCRV				Lg		Lg	22 06 38.0	
	144nm,0.3s,baz=357,slow=20,SNR=6.7							
	95nm,0.3s							
SVOC	Richmond Hill,	3.05	18	*e*	P	Pn	22 06 10.5	+1.0
SVOC				*e*	S	Sn	22 06 46.4	+1.3
SVB	Belmont	3.15	17	*e*	P	Pn	22 06 13.0	+2.1
SVB				*e*	S	Sn	22 06 49.0	+1.3
SVV	Soufriere Volc	3.21	17	*e*	P	Pn	22 06 13.0	+1.4
SLB	Belfond	3.74	17	*e*	P	Pn	22 06 19.8	+0.8
SLB	Belfond	3.74	17	*e*	S	Sn	22 07 05.6	+3.4
BBGH	Gun Hill	3.87	41	Pn		Pn	22 06 23.9	+3.1
BBGH	Gun Hill	3.87	41	*e*	P	Pn	22 06 24.0	+3.3
SLCP	Castries, St.	3.93	17	*e*	P	Pn	22 06 23.1	+1.5
SLCP	Castries, St.	3.93	17	*e*	S	Sn	22 07 08.7	+1.9
SLBI	Saint Lucia, B	3.94	17	*e*	P	Pn	22 06 23.9	+2.1
SLBI	Saint Lucia, B	3.94	17	*e*	S	Sn	22 07 09.6	+2.4
MERV	Las Mercedes	4.17	257	*e*	P	Pn	22 06 26.3	+1.4
MERV				*e*	S	Sn	22 07 13.5	+0.7
MPOM	Morne Pois Mar	4.38	17	Pn		Pn	22 06 29.0	+1.2
MPOM	Morne Pois Mar	4.38	17	*e*	P	Pn	22 06 29.8	+2.2
MPOM	Morne Pois Mar	4.38	17	*e*	S	Sn	22 07 18.8	+0.9
BIM	Bigot	4.39	14	Pn		Pn	22 06 29.7	+1.7
BIM				Sn		Sn	22 07 20.0	+1.7
BIM	Bigot	4.39	14	*e*	P	Pn	22 06 29.5	+1.5
BIM	Bigot	4.39	14	*e*	S	Sn	22 07 18.7	+0.4
LUEV	Luepa	4.42	171	*e*	P	Pn	22 06 28.4	-0.2
LUEV				*e*	S	Sn	22 07 18.8	-0.6
FUNV	FUNVISIS	4.56	273	*e*	P	Pn	22 06 32.5	+2.2
FUNV				*e*	S	Sn	22 07 22.8	+0.3
FDF	Fort de France	4.58	13			Pn	22 06 31.8	+1.2
FDF				Sn		Sn	22 07 23.3	+0.2
FDF	Fort de France	4.58	13	*e*	P	Pn	22 06 32.1	+1.5
FDF	Fort de France	4.58	13	*e*	S	Sn	22 07 23.2	+0.2
SVN	Savane Anatole	4.68	12			Pn	22 06 33.2	+1.2
SVN	Savane Anatole	4.68	12	*e*	P	Pn	22 06 33.8	+1.8
SVN	Savane Anatole	4.68	12	*e*	S	Sn	22 07 26.1	+0.6
ILAM	Ilet Lapin Mar	4.69	16			Pn	22 06 33.9	+1.8
ILAM					Sn	Sn	22 07 27.5	+1.9
ILAM	Ilet Lapin Mar	4.69	16	*e*	P	Pn	22 06 34.5	+2.4
ILAM	Ilet Lapin Mar	4.69	16	*e*	S	Sn	22 07 26.4	+0.8
TACV	Tcata	4.77	269	*e*	P	Pn	22 06 34.1	+0.9
TACV				*e*	S	Sn	22 07 27.5	-0.1
CACV	CAICARA DEL OR	5.06	239	*e*	P	Pn	22 06 32.5	-4.6
CACV				*e*	S	Sn	22 07 24.7	-10
BENV	Beln	5.34	268	*e*	P	Pn	22 06 42.5	+1.4
BENV				*e*	S	Sn	22 07 40.3	-1.5
TURV	Turiamo	5.57	273	*e*	P	Pn	22 06 45.5	+1.3
TURV				*e*	S	Sn	22 07 46.2	-1.1
MAGL	Barre de l'ile	5.75	9	Pn		Pn	22 06 48.5	+1.9
CBE	Ff, Capester	5.83	5			Pn	22 06 49.7	+2.0
CBE	Ff, Capester	5.83	5	*e*	P	Pn	22 06 49.8	+2.0
CBE	Ff, Capester	5.83	5	*e*	S	Sn	22 07 53.4	-0.3
BAUV	El Baul	5.92	258	Pn		Pn	22 06 50.1	+1.1
BAUV	El Baul	5.92	258	*e*	P	Pn	22 06 49.5	+0.6
BAUV				*e*	S	Sn	22 07 54.7	-1.2
BAUV	El Baul	5.92	258	*e*	P	Pn	22 06 49.6	+0.6
GDHS	Morne Mazeau,	6.01	4			Pn	22 06 51.9	+1.6
GDHS					Sn	Sn	22 07 58.9	+0.6
GDSD	La Dsirade Is	6.14	10	Pn		Pn	22 06 54.0	+2.0
ABD	La Joyeuse, An	6.24	6	Pn		Pn	22 06 56.5	+3.1
ABD	La Joyeuse, An	6.24	6	*e*	P	Pn	22 06 56.0	+2.6
ABD	La Joyeuse, An	6.24	6	*e*	S	Sn	22 08 04.2	+0.4
MBFL	Flemmings, Mon	6.47	360	*e*	P	Pn	22 06 57.2	+0.6
MBFL	Flemmings, Mon	6.47	360	*e*	S	Sn	22 08 09.0	-0.7
ANBD	Bethesda, Anti	6.78	3	*e*	P	Pn	22 07 02.9	+2.0
ANBD	Bethesda, Anti	6.78	3	*e*	S	Sn	22 08 16.4	-0.8
TEPV	Terepaima	6.91	268	*e*	P	Pn	22 07 02.8	+0.2
SEUS	St. Eustatius	7.25	354	Pn		Pn	22 07 08.4	+1.1
SANV	Sanarito	7.28	265	*e*	P	Pn	22 07 08.4	+0.5
SANV				*e*	S	Sn	22 08 26.1	-3.6
SABA	Saba	7.41	352	Pn		Pn	22 07 11.9	+2.4
SIQV	Siquisique	7.51	274	*e*	P	Pn	22 07 10.8	0.0
CURV	Curarigua	7.66	269	*e*	P	Pn	22 07 13.8	+0.9

SMRT	St. Maarten	7.81	354	Pn		Pn	22 07 17.0	+1.9
AUA1	Aruba	8.00	287	Pn		Pn	22 07 19.7	+2.2
SDV	Santo Domingo	8.44	262	Pn		Pn	22 07 23.7	-0.1
	16nm,0.3s,baz=103,slow=9.6,SNR=48							
SDV				Sn		Sn	22 08 55.1	-3.2
	6.6nm,0.3s,baz=26,slow=16,SNR=1.7							
SDV				LR		LR	22 11 33.4	
	comp=Z,104nm,20.3s,baz=52,slow=44							
	37nm,0.3s							
HUMP	Col San Antoni	8.62	336	Pn		Pn	22 07 28.3	+2.2
SJG	San Juan	8.72	334	Pn		Pn	22 07 26.1	-1.4
	2.0nm,0.3s,baz=317,slow=22,SNR=1.4							
SJG				LR		LR	22 11 19.5	
	comp=Z,142nm,18.9s,baz=164,slow=42							
	6.6nm,0.3s							
SOCV	Socops	8.78	258	*e*	P	Pn	22 07 28.3	+0.1
SOCV				*e*	S	Sn	22 09 00.9	-5.5
OBIP	Obispado Ponce	8.86	332	Pn		Pn	22 07 31.3	+1.8
GCPR	Guaynabo City	8.87	335	Pn		Pn	22 07 31.3	+1.9
CELP	Cerrillos	8.88	332	Pn		Pn	22 07 30.6	+0.9
MLPR	Magueyes Islan	9.02	329	Pn		Pn	22 07 33.7	+2.2
CRPR	Cabo Rojo, PR	9.08	329	Pn		Pn	22 07 34.8	+2.4
AOPR	Arecibo Observ	9.20	332	Pn		Pn	22 07 36.0	+2.0
AOPR	Arecibo Observ	9.20	332	*e*	P	Pn	22 07 35.7	+1.7
CAPV	Capacho	10.28	258	*e*	P	Pn	22 07 48.3	-0.8
MDP	Montagnes des	10.74	118	Pn		Pn	22 07 53.1	-2.1
	1.6nm,0.3s,baz=301,slow=16,SNR=12							
MDP				Sn		Sn	22 09 44.2	-11
	3.0nm,0.3s,baz=43,slow=23,SNR=2.6							
	9.2nm,0.5s							
SDDR	Presa de Saban	12.37	316			Pn	22 08 19.4	+1.8
ROSC	El Rosal	13.17	247	Pn		Pn	22 08 31.0	+2.2
	6.4nm,0.3s,baz=116,slow=15,SNR=11							
ROSC				LR		LR	22 14 08.4	
	comp=Z,348nm,20.9s,baz=58,slow=40							
	32nm,0.6s							
MACA	Manacapuru-AM	13.39	174	Pn		Pn	22 08 32.4	+0.9
TULM	Tulcn-Chalpat	18.17	240	P		Pn	22 09 32.5	-1.5
OTAV	Otavalo	18.98	239	P		P	22 09 43.6	+0.5
SAML	Samuel	19.09	183	P		Pn	22 09 44.6	0.0
CHSH	Refugio Sur-Vo	20.29	236	P		P	22 09 58.2	+0.7
CHSH				IAmb		IAmb	22 10 15.1	
	comp=Z,27nm,0.8s							
ETMB	Extrema	20.32	192	P		P	22 09 57.9	+0.7
CZSB	Cruzeiro do Su	20.70	211	P		P	22 10 01.8	+0.5
CZSB				IAmb		IAmb	22 10 04.8	
	comp=Z,27nm,0.8s							
BOSC	San Juan Bosco	20.99	232	P		P	22 10 04.6	-0.2
COHC	Cochancay	21.17	234	P		P	22 10 07.6	+1.2
RIMA	Rio Macho	21.36	271	P		P	22 10 09.6	+0.9
RIMA				IAmb		IAmb	22 10 13.5	
	comp=Z,16nm,1.4s							
ACON	Acoyapa	22.62	277	P		P	22 10 21.4	-0.7
ACON				IAmb		IAmb	22 10 31.4	
	comp=Z,39nm,1.3s							
MCRA	Macar, Loja	22.89	231	P		P	22 10 24.9	0.0
VILB	Vilhena	23.12	175	P		P	22 10 28.1	+0.9
VILB				IAmb		IAmb	22 10 45.8	
	comp=Z,12nm,0.9s							
BOAB	BOACO BROADBAND	23.13	278	P		P	22 10 27.1	-0.2
ATAH	Atahualpa	23.63	224	LR		LR	22 21 10.2	
	comp=Z,106nm,19.9s,baz=40,slow=40							
SIV	San Ignacio	26.08	178	LR		LR	22 21 54.7	
	comp=Z,56nm,19.0s,baz=89,slow=38							
CMIG	Matias Romero	32.46	286	LR		LR	22 27 02.7	
	comp=Z,34nm,18.8s,baz=164,slow=40							
T50A	Nancy	33.61	326	P		P	22 12 03.5	+2.3
T50A				IAmb		IAmb	22 12 05.3	
	comp=Z,19nm,1.5s							
P49A	Miami Univ. Ec	35.41	329	P		P	22 12 17.7	+1.0
P49A				IAmb		IAmb	22 12 37.3	
	comp=Z,15nm,1.3s							
S44A	Carbondale	36.60	323	P		P	22 12 27.9	+0.9
S44A				IAmb		IAmb	22 12 31.0	
	comp=Z,7.3nm,0.7s							
P46A	Rosedale	36.77	327	P		P	22 12 29.1	+0.7
P46A				IAmb		IAmb	22 12 36.8	
	comp=Z,13nm,0.7s							
S39A	Bolivar	39.12	319	P		P	22 12 48.5	+0.3
S39A				IAmb		IAmb	22 12 56.7	
	comp=Z,5.6nm,0.7s							
BRDY	Brady	40.02	307	P		P	22 12 56.2	+0.4
BRDY				IAmb		IAmb	22 13 14.7	
	comp=Z,8.7nm,0.8s							
POST	Post	42.66	308	P		P	22 13 17.0	-0.7
POST				IAmb		IAmb	22 13 20.2	
	comp=Z,10.0nm,0.8s							
TXAR	Lajitas Array	43.12	302	P		P	22 13 22.4	+0.9
	comp=Z,0.3nm,0.5s,baz=122,slow=8.8,SNR=8.8							
TXAR				PcP		PcP	22 15 11.5	+0.4
	comp=Z,0.8nm,0.7s,baz=116,slow=5.4,SNR=6.0							
	comp=Z,0.3nm,0.5s							
SCHQ	Schefferville	44.63	356	P		P	22 13 32.6	-0.5
	comp=Z,2.5nm,0.9s,baz=352,slow=18,SNR=2.0							
	comp=Z,2.5nm,0.9s							
RTBA	Rita Blanca	44.97	312	P		P	22 13 35.7	-0.5
RTBA				IAmb		IAmb	22 13 40.8	
	comp=Z,6.3nm,0.8s							
LPIG	La Paz	47.77	293	LR		LR	22 35 53.8	
	comp=Z,22nm,18.8s,baz=30,slow=38			

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Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAN	**Chania**	**0.34**	**185**	P	**Pn**	**22 09 36.3**	**+0.7**
CHAN				S	**Sn**	**22 09 44.4**	**-0.4**
CHAN				AML	AML	22 09 44.8	
	comp=E,78910µm,0.2s						
CHAN				AML	AML	22 09 45.1	
	comp=N,67114µm,0.3s						
RODP	**Rodopos**	**0.40**	**222**	Pg	**Pn**	**22 09 37.4**	**+1.4**
RODP				Sg	**Sn**	**22 09 46.1**	**+0.5**
RODP	**Rodopos**	**0.40**	**222**	P	**Pn**	**22 09 37.4**	**+1.4**
RODP				S	**Sn**	**22 09 45.8**	**+0.2**
	comp=N,4µm,0.2s						
IMMV	**Iera Moni Meta**	**0.41**	**192**	Pg	**Pn**	**22 09 36.7**	**+0.6**
IMMV				Sg	**Sn**	**22 09 45.5**	**-0.2**
IMMV	**Iera Moni Meta**	**0.41**	**192**	P	**Pn**	**22 09 37.0**	**+1.0**
IMMV				S	**Sn**	**22 09 45.4**	**-0.2**
	comp=N,23µm,0.3s						
IMMV	**Iera Moni Meta**	**0.41**	**192**	P	**Pn**	**22 09 37.0**	**+1.0**
IMMV				S	**Sn**	**22 09 45.7**	**+0.1**
IMMV				AML	AML	22 09 48.5	
	comp=N,39203µm,0.2s						
IMMV				AML	AML	22 09 49.8	
	comp=E,51738µm,0.4s						
PRNS	**Prines Rethymn**	**0.60**	**145**	P	**Pn**	**22 09 38.5**	**+0.8**
PRNS				S	**Sn**	**22 09 47.5**	**-1.0**
	comp=E,6µm,0.3s						
ANKY	**Antikythira Is**	**0.63**	**271**	P	**Pn**	**22 09 39.1**	**+1.1**
ANKY				S	**Sn**	**22 09 49.1**	**0.0**
	comp=E,8µm,0.3s						
ANKY	**Antikythira Is**	**0.63**	**271**	P	**Pn**	**22 09 39.0**	**+1.1**
ANKY				S	**Sn**	**22 09 49.0**	**-0.2**
ANKY				AML	AML	22 09 50.8	
	comp=N,13374µm,0.2s						
ANKY				AML	AML	22 09 51.4	
	comp=E,17038µm,0.5s						
MHLO	**Agia Marina, M**	**0.87**	**17**	P	**Pn**	**22 09 41.0**	**+0.4**
MHLO				S	**Sn**	**22 09 52.5**	**-1.1**
	comp=E,20µm,0.3s						
MHLO	**Agia Marina, M**	**0.87**	**17**	P	**Pn**	**22 09 40.9**	**+0.4**
MHLO				S	**Sn**	**22 09 52.7**	**-0.9**
MHLO				AML	AML	22 09 53.5	
	comp=N,36129µm,0.4s						
MHLO				AML	AML	22 09 56.0	
	comp=E,45288µm,0.3s						
IDI	**Anoyia**	**0.87**	**131**	Pg	**Pn**	**22 09 40.7**	**+0.1**
IDI				Sg	**Sn**	**22 09 52.4**	**-1.4**
IDI	**Anoyia**	**0.87**	**131**	P	**Pn**	**22 09 40.8**	**+0.1**
IDI				S	**Sn**	**22 09 52.3**	**-1.5**
	comp=E,6µm,0.3s						
IDI	**Anoyia**	**0.87**	**131**	LR	LR	22 10 12.8	
	comp=E,173nm,20.4s,baz=37,slow=60						
IDI	**Anoyia**	**0.87**	**131**	P	**Pn**	**22 09 40.9**	**+0.2**
IDI				S	**Sn**	**22 09 52.8**	**-0.9**
IDI				AML	AML	22 09 53.2	
	comp=E,18028µm,0.3s						
IDI				AML	AML	22 09 54.0	
	comp=N,12868µm,0.2s						
TMBK	**Timbaki Herakl**	**0.96**	**144**	P	**Pn**	**22 09 43.4**	**+1.8**
TMBK	**Timbaki Herakl**	**0.96**	**144**	P	**Pn**	**22 09 42.9**	**+1.3**
IACM	**Heraklion**	**0.98**	**124**	P	**Pn**	**22 09 42.6**	**+0.8**
IACM	**Heraklion**	**0.98**	**124**	P	**Pn**	**22 09 42.6**	**+0.8**
KSTL	**Kastelli Herak**	**0.98**	**124**	P	**Pn**	**22 09 45.4**	**+3.6**
KSTL				AML	AML	22 10 02.2	
	comp=E,4223µm,0.3s						
KSTL				AML	AML	22 10 05.6	
	comp=N,10086µm,0.3s						
GVD	**Gavdhos**	**1.02**	**180**	Pg	**Pn**	**22 09 43.8**	**+1.5**
GVD	**Gavdhos**	**1.02**	**180**	P	**Pn**	**22 09 43.5**	**+1.2**
GVD	**Gavdhos**	**1.02**	**180**	P	**Pn**	**22 09 43.6**	**+1.3**
GVD				AML	AML	22 10 03.1	
	comp=N,12983µm,0.4s						
GVD				AML	AML	22 10 03.3	
	comp=E,8649µm,0.2s						
THR9	**Santorini-Faro**	**1.15**	**64**	P	**Pn**	**22 09 44.5**	**+0.6**
THR6	**Thira Island,**	**1.18**	**65**	P	**Pn**	**22 09 45.0**	**+0.8**
MNVA	**Monemvasia**	**1.18**	**315**	P	**Pn**	**22 09 45.8**	**+1.6**
MNVA				S	**Sn**	**22 10 00.7**	**+0.5**
MNVA				AML	AML	22 10 01.4	
	comp=N,12730µm,0.4s						
MNVA				AML	AML	22 10 01.4	
	comp=E,17876µm,0.4s						
THR3	**Thira Island,**	**1.20**	**62**	P	**Pn**	**22 09 45.0**	**+0.5**
CMBO	**Columbo, Santo**	**1.23**	**60**	P	**Pn**	**22 09 45.3**	**+0.4**
THR8	**Santorini-Mono**	**1.26**	**64**	P	**Pn**	**22 09 45.7**	**+0.5**
VLI	**Veliai**	**1.26**	**313**	P	**Pn**	**22 09 45.9**	**+0.6**
VLI				S	**Sn**	**22 10 01.1**	**-0.9**
	comp=E,9µm,0.4s						
VLI	**Veliai**	**1.26**	**313**	P	**Pn**	**22 09 45.9**	**+0.6**
VLI				S	**Sn**	**22 10 01.1**	**-0.9**
VLI				AML	AML	22 10 02.1	
	comp=N,18158µm,0.4s						
VLI				AML	AML	22 10 02.4	
	comp=E,16666µm,0.5s						
YDRA	**Hydra**	**1.57**	**342**	P	**Pn**	**22 09 49.5**	**+0.3**
YDRA				AML	AML	22 10 10.1	
	comp=E,10042µm,0.6s						
YDRA				AML	AML	22 10 10.7	
	comp=N,6385µm,0.3s						
FRMA	**Ierapetra Chan**	**1.59**	**122**	P	**Pn**	**22 09 52.4**	**+2.9**
FRMA	**Ierapetra Chan**	**1.59**	**122**	P	**Pn**	**22 09 52.6**	**+3.1**
FRMA				AML	AML	22 10 17.7	
	comp=E,3511µm,0.3s						
FRMA				AML	AML	22 10 20.6	
	comp=N,3230µm,0.4s						
APE	**Apeiranthos**	**1.68**	**44**	Pn	**Pn**	**22 09 51.4**	**+0.7**
APE				Sn	**Sn**	**22 10 10.6**	**-1.1**
APE	**Apeiranthos**	**1.68**	**44**	P	**Pn**	**22 09 50.6**	**-0.1**
APE				AML	AML	22 10 11.8	
	comp=N,2408µm,0.3s						
APE				AML	AML	22 10 12.3	
	comp=E,1707µm,0.4s						
KRND	**KRANIDI**	**1.69**	**334**	P	**Pn**	**22 09 51.5**	**+0.6**
KRND				S	**Sn**	**22 10 13.4**	**+1.4**
	comp=E,3µm,0.4s						
KRND	**KRANIDI**	**1.69**	**334**	P	**Pn**	**22 09 51.6**	**+0.7**
KRND				S	**Sn**	**22 10 10.8**	**-1.2**
KRND				AML	AML	22 10 15.6	
	comp=N,5128µm,0.3s						
KRND				AML	AML	22 10 16.7	
	comp=E,6065µm,0.3s						
TNSA	**Tinos**	**1.89**	**27**	P	**Pn**	**22 09 53.0**	**-0.4**
ZKR	**Zakros**	**1.90**	**112**	Pn	**Pn**	**22 09 54.7**	**+1.2**
ZKR	**Zakros**	**1.90**	**112**	P	**Pn**	**22 09 54.9**	**+1.4**
ZKR	**Zakros**	**1.90**	**112**	⇓Pd1		22 09 55.0	
ZKR				AML	AML	22 10 18.8	
	comp=E,2769µm,0.3s						
ZKR				AML	AML	22 10 21.9	
	comp=N,955µm,0.5s						
EPID	**Epidavros**	**1.92**	**336**	P	**Pn**	**22 09 54.5**	**+0.7**
VLY	**Voula,Athens**	**2.00**	**353**	P	**Pn**	**22 09 55.3**	**+0.4**
VLY	**Voula,Athens**	**2.00**	**353**	P	**Pn**	**22 09 55.5**	**+0.6**
VLY				AML	AML	22 10 22.0	
	comp=E,2224µm,0.3s						
VLY				AML	AML	22 10 23.7	
	comp=N,2650µm,0.4s						
ATHU	**Athens Univers**	**2.12**	**354**	P	**Pn**	**22 09 57.1**	**+0.6**
ATH	**Athens Observa**	**2.13**	**352**	P	**Pn**	**22 09 57.2**	**+0.6**
ATH	**Athens Observa**	**2.13**	**352**	P	**Pn**	**22 09 57.2**	**+0.6**
ATH				AML	AML	22 10 22.8	
	comp=E,1920µm,0.3s						
ATH				AML	AML	22 10 24.2	
	comp=N,1516µm,0.3s						
PYL	**PYLOS**	**2.15**	**299**	P	**Pn**	**22 09 57.4**	**+0.5**
PYL	**PYLOS**	**2.15**	**299**	P	**Pn**	**22 09 57.4**	**+0.5**
PYL				AML	AML	22 10 35.9	
	comp=E,1284µm,0.4s						
PYL				AML	AML	22 10 36.1	
	comp=N,910µm,0.7s						
PTL	**Penteli**	**2.19**	**356**	P	**Pn**	**22 09 59.0**	**+1.5**
PTL	**Penteli**	**2.19**	**356**	P	**Pn**	**22 09 59.2**	**+1.7**
PTL				AML	AML	22 10 24.5	
	comp=E,2472µm,0.5s						
PTL				AML	AML	22 10 24.9	
	comp=N,3028µm,0.4s						
DION	**Dionisos Attik**	**2.22**	**357**	P	**Pn**	**22 09 59.8**	**+2.0**
DION	**Dionisos Attik**	**2.22**	**357**	P	**Pn**	**22 09 59.8**	**+2.0**
DION				AML	AML	22 10 25.6	
	comp=N,3284µm,0.7s						
DION				AML	AML	22 10 26.2	
	comp=E,5562µm,0.4s						
VILL	**Villia**	**2.38**	**345**	P	**Pn**	**22 10 00.6**	**+0.5**
VIL2	**Platees**	**2.44**	**345**	P	**Pn**	**22 10 00.6**	**-0.1**
VIL2				AML	AML	22 10 31.4	
	comp=E,3276µm,0.7s						
VIL2				AML	AML	22 10 31.5	
	comp=N,1306µm,0.4s						
THAL	**Thalero**	**2.45**	**333**	P	**Pn**	**22 10 01.8**	**+0.9**
GUR	**Goura**	**2.50**	**327**	P	**Pn**	**22 10 02.4**	**+0.7**
GUR	**Goura**	**2.50**	**327**	P	**Pn**	**22 10 02.4**	**+0.7**
GUR				AML	AML	22 10 36.7	
	comp=E,5044µm,0.3s						
GUR				AML	AML	22 10 37.7	
	comp=N,3965µm,0.4s						
KARP	**Karpathos**	**2.53**	**96**	Pn	**Pn**	**22 10 02.7**	**+0.7**
KARP	**Karpathos**	**2.53**	**96**	Pn	**Pn**	**22 10 02.2**	**+0.3**
KARP				Sn	**Sn**	**22 10 31.4**	**-0.4**
KARP	**Karpathos**	**2.53**	**96**	P	**Pn**	**22 10 02.7**	**+0.7**
KARP				AML	AML	22 10 35.3	
	comp=N,2454µm,0.2s						
KARP				AML	AML	22 10 35.9	
	comp=E,2662µm,0.3s						
KLV	**Kalavryta, Ach**	**2.67**	**325**	P	**Pn**	**22 10 04.8**	**+0.9**
KLV	**Kalavryta, Ach**	**2.67**	**325**	P	**Pn**	**22 10 04.9**	**+0.9**
KLV				AML	AML	22 10 38.6	
	comp=E,912µm,0.5s						
KLV				AML	AML	22 10 42.8	
	comp=N,954µm,0.4s						
KYMI	**Kymi, Euboea I**	**2.77**	**0**	P	**Pn**	**22 10 05.9**	**+0.7**
DRO	**Drossia**	**2.82**	**318**	P	**Pn**	**22 10 08.0**	**+2.0**
DRO	**Drossia**	**2.82**	**318**	P	**Pn**	**22 10 07.4**	**+1.4**
BODT	**Bodrum**	**2.87**	**64**	Pn	**Pn**	**22 10 07.7**	**+1.1**
SMG	**Samos**	**2.88**	**49**	P	**Pn**	**22 10 07.2**	**+0.5**
DAT	**Datca**	**2.96**	**72**	Pn	**Pn**	**22 10 08.9**	**+1.1**
RLS	**Riolos of Patr**	**3.03**	**317**	P	**Pn**	**22 10 10.6**	**+1.9**
EFP	**Efpalio**	**3.10**	**327**	P	**Pn**	**22 10 10.2**	**+0.6**
EFP	**Efpalio**	**3.10**	**327**	P	**Pn**	**22 10 09.9**	**+0.3**
AXAR	**Agios Charalam**	**3.12**	**339**	P	**Pn**	**22 10 09.6**	**+0.7**
GCAM	**G?zelcami?**	**3.13**	**53**	Pn	**Pn**	**22 10 11.7**	**+1.7**
RFTAA	**Mazikoy-Bodrum**	**3.17**	**68**	Pn	**Pn**	**22 10 11.8**	**+1.2**
LTHK	**Lithakia**	**3.19**	**306**	P	**Pn**	**22 10 10.2**	**-0.7**
ANX	**Ano Chora**	**3.23**	**328**	P	**Pn**	**22 10 11.6**	**+0.1**
ARG	**Arkhangelos**	**3.30**	**83**		**Sn**	**22 10 13.3**	**+0.9**
ARG	**Arkhangelos**	**3.30**	**83**	P	**Pn**	**22 10 13.8**	**+1.4**
ARG				AML	AML	22 10 53.5	
	comp=N,1154µm,0.4s						
ARG				AML	AML	22 10 54.0	
	comp=E,1524µm,0.4s						
AGG	**Agios Georgios**	**3.45**	**337**	Pn	**Pn**	**22 10 14.3**	**-0.1**
AGG	**Agios Georgios**	**3.45**	**337**	P	**Pn**	**22 10 15.2**	**+0.7**
MAKR	**Makrakomi, Fth**	**3.51**	**334**	P	**Pn**	**22 10 16.2**	**+0.9**
EVR	**Evrytania**	**3.55**	**330**	P	**Pn**	**22 10 17.9**	**+2.0**
KEF3	**Kipouria, Keph**	**3.79**	**309**	P	**Pn**	**22 10 18.6**	**-0.5**
DMLN	**Damoulianata-K**	**3.80**	**310**	P	**Pn**	**22 10 18.7**	**-0.5**
FSK	**Fiskardo**	**3.83**	**314**	P	**Pn**	**22 10 19.2**	**-0.3**
NYDR	**Nydri-Lefkada**	**3.92**	**318**	P	**Pn**	**22 10 21.2**	**+0.4**
KSL	**Kastellorizon**	**4.47**	**85**	P	**Pn**	**22 10 29.2**	**+0.9**
KPRO	**Kipourio**	**4.62**	**333**	P	**Pn**	**22 10 31.3**	**+0.9**
IGT	**Igoumenitsa**	**4.72**	**322**	P	**Pn**	**22 10 31.2**	**-0.5**
ELL	**Elmali**	**4.79**	**78**	Pn	**Pn**	**22 10 34.0**	**+1.2**
KEK	**Kerkira**	**5.13**	**320**	Pn	**Pn**	**22 10 34.7**	**-2.6**
KEK	**Kerkira**	**5.13**	**320**	P	**Pn**	**22 10 34.5**	**-2.8**
ALN	**Alexandroupoli**	**5.26**	**16**	Pn	**Pn**	**22 10 39.3**	**+0.2**
SRS	**Serrai**	**5.26**	**356**	*e*Pn	**Pn**	**22 10 40.0**	**+0.9**
FNA	**Florina**	**5.36**	**337**	Pn	**Pn**	**22 10 40.2**	**-0.2**
FNA	**Florina**	**5.36**	**337**	*e*Pn	**Pn**	**22 10 40.2**	**-0.2**
FNA				*e*Sn	Sn	22 11 25.0	-16
RDO	**Rodhopi**	**5.40**	**12**	Pn	**Pn**	**22 10 41.1**	**+0.1**
KBN	**Korca**	**5.42**	**332**		**Pn**	**22 10 41.3**	**0.0**
ISP	**Isparta**	**5.53**	**67**	Pn	**Pn**	**22 10 43.6**	**+0.8**
VAY	**Valandovo**	**5.58**	**348**	*i* Pn	**Pn**	**22 10 45.8**	**+2.3**
OHR	**Ohrid**	**5.84**	**335**	*e*Pn	**Pn**	**22 10 47.2**	**+0.1**
OHR				*e*Sn	Sn	22 11 35.5	-17
OHR	**Ohrid**	**5.84**	**335**	*i* Pn	**Pn**	**22 10 47.0**	**-0.1**
VLO	**Vlora**	**5.85**	**323**		**Pn**	**22 10 46.8**	**-0.3**
STIP	**Stip**	**6.01**	**346**	*i* Pn	**Pn**	**22 10 50.4**	**+1.1**
SCTE	**Santa Cesarea**	**6.11**	**315**		**Pn**	**22 10 49.5**	**-1.2**
PLD	**Plovdiv**	**6.30**	**5**	*e*Pn	**Pn**	**22 10 54.4**	**+1.2**
TIR	**Tirane**	**6.40**	**330**	Pn	**Pn**	**22 10 54.6**	**0.0**
TIP	**Timpagrande**	**6.70**	**302**	⇓P	**Pn**	**22 10 57.9**	**-0.8**
TIP	**Timpagrande**	**6.70**	**302**	Pn	**Pn**	**22 10 58.2**	**-0.6**
VTS	**Vitosha**	**6.78**	**355**	*e*Pn	**Pn**	**22 11 00.5**	**+0.5**
VTS				*e*Sn	Sn	22 12 00.2	-16
PRVS	**Prvonek**	**6.82**	**347**	*e*Pn	**Pn**	**22 11 01.6**	**+1.2**
CEL	**Celeste**	**6.97**	**293**		**Pn**	**22 11 01.1**	**-1.4**
PUK	**Puka**	**6.98**	**333**	Pn	**Pn**	**22 11 01.8**	**-0.8**
BARS	**Barje**	**7.17**	**347**	*e*Pn	**Pn**	**22 11 05.2**	**+0.1**
ULC	**Ulcinj**	**7.17**	**330**	⇓*i*Pn	**Pn**	**22 11 02.4**	**-2.7**
ULC				*e*Sn	**Sn**	**22 12 18.9**	**-6.1**
ELND	**Elena**	**7.20**	**11**	⇑P	**Pn**	**22 11 06.9**	**+1.4**
DRME	**Dracevica, Mon**	**7.38**	**330**	*e*Pn	**Pn**	**22 11 05.6**	**-2.4**
DRME				*i* Sn	**Sn**	**22 12 24.2**	**-5.9**
DRME	**Dracevica, Mon**	**7.38**	**330**	⇑*i*Pn	**Pn**	**22 11 05.6**	**-2.4**
PVY	**Plav**	**7.45**	**336**	⇓*i*Pn	**Pn**	**22 11 07.1**	**-1.9**
PVY				*i* Sn	**Sn**	**22 12 27.3**	**-4.7**
ZAPS	**Zavoj**	**7.49**	**352**	*e*Pn	**Pn**	**22 11 11.1**	**+1.6**
MATE	**Matera**	**7.52**	**312**	⇑P	**Pn**	**22 11 08.6**	**-1.2**
PLVB	**Pleven**	**7.53**	**3**	⇑P	**Pn**	**22 11 11.0**	**+1.0**
BUM	**Brajici-Budva**	**7.59**	**329**	*e*Pn	**Pn**	**22 11 08.2**	**-2.7**
BUM				*i* Sn	**Sn**	**22 12 28.9**	**-6.5**
CSS	**Mathiatis**	**7.61**	**94**	Pn	**Pn**	**22 11 09.3**	**-1.9**
SELS	**Selova**	**7.70**	**344**	*e*Pn	**Pn**	**22 11 12.2**	**-0.1**
SELS				*e*Sn	Sn	22 12 22.1	-16
IVA	**Berane**	**7.72**	**336**	⇑*i*Pn	**Pn**	**22 11 11.1**	**-1.6**
IVA				*i* Sn	**Sn**	**22 12 33.2**	**-5.3**
CUC	**Castrocucco**	**7.72**	**305**	Pn	**Pn**	**22 11 12.4**	**-0.4**
LOZB	**Loznitsa**	**7.75**	**14**	⇑P	**Pn**	**22 11 14.6**	**+1.6**
WDD	**Wied Dalam**	**7.76**	**273**	Pn	**Pn**	**22 11 11.9**	**-1.3**
CEME	**Cevo**	**7.79**	**331**	⇓*i*Pn	**Pn**	**22 11 10.6**	**-3.0**
CEME				*i* Sn	**Sn**	**22 12 33.9**	**-6.3**
KOME	**Kolasin**	**7.83**	**335**	⇓*i*Pn	**Pn**	**22 11 12.3**	**-1.8**
KOME				*i* Sn	**Sn**	**22 12 35.9**	**-5.2**
BLKB	**Belogradchik**	**7.83**	**352**	⇑P	**Pn**	**22 11 14.8**	**+0.7**
HCY	**Herceg Novi**	**7.88**	**328**	⇓*i*Pn	**Pn**	**22 11 11.8**	**-3.0**
HCY				*e*Sn	**Sn**	**22 12 36.2**	**-6.2**
HCY	**Herceg Novi**	**7.88**	**328**	⇑*i*Pn	**Pn**	**22 11 11.4**	**-3.4**
VAE	**Valguarnera**	**7.94**	**285**	P	**Pn**	**22 11 16.4**	**+0.7**
	comp=E,5.0nm,0.3s,baz=150,slow=8.1,SNR=12						
VAE				S	**Sn**	**22 12 36.4**	**-7.5**
	comp=E,21nm,0.4s,baz=146,slow=7.6,SNR=9.6						
NKME	**Niksic**	**7.96**	**332**	⇑*i*Pn	**Pn**	**22 11 13.5**	**-2.4**
NKME				*e*Sn	**Sn**	**22 12 38.1**	**-6.3**
SJES	**Sjenica**	**8.04**	**338**	*e*Pn	**Pn**	**22 11 15.3**	**-1.8**
SJES				*e*Sn	Sn	22 12 28.0	-18
SJES	**Sjenica**	**8.04**	**338**	*e*Pn	**Pn**	**22 11 14.7**	**-2.4**
ZAGS	**Zajecar**	**8.07**	**350**	*e*Pn	**Pn**	**22 11 18.1**	**+0.7**
TREB	**Trebinje**	**8.16**	**329**	*e*Pn	**Pn**	**22 11 14.9**	**-3.7**
BRY	**Bratogost**	**8.24**	**330**	⇓*i*Pn	**Pn**	**22 11 17.2**	**-2.6**
BRY				*e*Sn	**Sn**	**22 12 44.7**	**-6.6**
BRY	**Bratogost**	**8.24**	**330**	*e*Pn	**Pn**	**22 11 16.5**	**-3.3**
IVAS	**Ivanjica**	**8.28**	**340**	*e*Pn	**Pn**	**22 11 17.5**	**-2.8**
IVAS				*e*Sn	Sn	22 12 33.9	-18
PLE	**Pljevlja**	**8.29**	**336**	⇓*i*Pn	**Pn**	**22 11 18.7**	**-1.8**
PLE				*i* Sn	**Sn**	**22 12 45.3**	**-7.3**
UPM	**Unac-Piva**	**8.35**	**333**	*e*Pn	**Pn**	**22 11 19.4**	**-2.0**
UPM				*e*Sn	**Sn**	**22 12 47.0**	**-7.1**
UPM	**Unac-Piva**	**8.35**	**333**	⇑*i*Pn	**Pn**	**22 11 19.6**	**-1.8**
GRUS	**Gruza**	**8.43**	**343**	*e*Pn	**Pn**	**22 11 21.3**	**-0.9**
GRUS				*e*Sn	Sn	22 12 37.6	-18
BRTR	**Keskin Array B**	**8.49**	**60**	Pn	**Pn**	**22 11 26.3**	**+3.0**
BRTR	**Keskin Array B**	**8.49**	**60**	P	Pn	22 11 27.6	+4.2
	comp=E,3.3nm,0.5s,baz=240,slow=16,SNR=26						
BR131	**Keskin Array S**	**8.49**	**60**	Pn	Pn	22 11 27.0	+3.7
RUDO	**Rudo**	**8.55**	**336**	*e*Pn	**Pn**	**22 11 20.3**	**-3.7**
STON	**Ston**	**8.57**	**327**	*e*Pn	**Pn**	**22 11 20.1**	**-4.1**
NEVS	**Nevesinje**	**8.74**	**330**	*e*Pn	**Pn**	**22 11 23.6**	**-3.1**
BBLS	**Lazići**	**8.77**	**337**	*e*Pn	**Pn**	**22 11 24.3**	**-2.7**
BBLS				*e*Sn	Sn	22 12 45.3	-19
BBLS	**Lazići**	**8.77**	**337**	⇑*i*Pn	**Pn**	**22 11 23.5**	**-3.5**
SGRT	**San Giovanni R**	**8.77**	**315**		**Pn**	**22 11 25.2**	**-1.8**
DIVS	**Divibare**	**8.81**	**340**	*e*Pn	**Pn**	**22 11 25.7**	**-1.8**
DIVS				*e*Sn	Sn	22 12 46.4	-19
PAOL	**Paolisi**	**9.07**	**308**		**Pn**	**22 11 29.9**	**-1.3**
HERR	**Herculane**	**9.10**	**352**	⇑P	**Pn**	**22 11 32.9**	**+1.4**
HAPS	**Han Pijesak,Bl**	**9.11**	**336**	*e*Pn	**Pn**	**22 11 28.2**	**-3.5**
HARR	**Harsova**	**9.30**	**17**	⇑P	**Pn**	**22 11 35.8**	**+1.7**
TEKS	**Tekeris**	**9.35**	**340**	*e*Pn	**Pn**	**22 11 32.8**	**-2.1**
TEKS	**Tekeris**	**9.35**	**340**	*e*Pn	**Pn**	**22 11 31.5**	**-3.4**
ARR	**Arges**	**9.51**	**2**	⇑P	**Pn**	**22 11 38.8**	**+1.7**
HNTI	**Hanita**	**9.57**	**104**	P	**Pn**	**22 11 34.4**	**-3.5**
HNTI	**Hanita**	**9.57**	**104**	S	Sn	22 13 13.6	-10
LOT	**Lotru**	**9.58**	**359**	⇑P	**Pn**	**22 11 39.3**	**+1.2**
VOIR		**9.60**	**4**	⇑P	**Pn**	**22 11 40.1**	**+1.8**
NEHR	**Nehoiu**	**9.71**	**9**	⇓P	**Pn**	**22 11 41.7**	**+2.0**
MLR	**Muntele Rosu**	**9.72**	**8**	P	**Pn**	**22 11 36.8**	**-3.3**
	comp=E,0.9nm,0.4s,baz=294,slow=15,SNR=2.0						
MMA0B	**Mount Meron ar**	**9.77**	**104**	P	**Pn**	**22 11 37.1**	**-3.6**
MMAI	**Mount Meron Ar**	**9.77**	**104**	P	**Pn**	**22 11 36.9**	**-3.9**
	comp=E,2.2nm,0.2s,baz=315,slow=12,SNR=39						
MMAI				S	Sn	22 13 17.9	-11
	comp=E,8.7nm,0.3s,baz=285,slow=25,SNR=16						
SLTI	**Sal'it**	**9.78**	**109**	P	**Pn**	**22 11 37.1**	**-3.7**
SLTI	**Sal'it**	**9.78**	**109**	S	Sn	22 13 18.9	-10
QRWL	**Qaraoun**	**9.83**	**100**	*e*P	**Pn**	**22 11 37.9**	**-3.6**
FRGS	**Fruska Gora**	**9.84**	**342**	*e*Pn	**Pn**	**22 11 39.9**	**-1.6**
ZAHL	**Zahle**	**9.90**	**98**	*e*P	**Pn**	**22 11 39.9**	**-2.7**
GEM	**Giv'at Ha'Em**	**9.91**	**102**	P	**Pn**	**22 11 39.1**	**-3.5**
GEM	**Giv'at Ha'Em**	**9.91**	**102**	S	Sn	22 13 22.1	-10
KZIT	**Kziot**	**9.94**	**117**	S	Sn	22 13 22.0	-11
KZIT	**Kziot**	**9.94**	**117**	P	Pn	22 11 38.4	-4.6
NATI	**Neve Ativ**	**9.96**	**102**	P	**Pn**	**22 11 39.7**	**-3.5**
NATI	**Neve Ativ**	**9.96**	**102**	S	Sn	22 13 23.2	-10
RCY	**Rachaya**	**9.96**	**100**	*e*P	**Pn**	**22 11 39.9**	**-3.5**
BEIL	**Beino**	**9.99**	**94**	*e*P	**Pn**	**22 11 40.8**	**-2.9**
MMLI	**Mount Malkishu**	**10.00**	**107**	P	**Pn**	**22 11 40.2**	**-3.6**
MMLI	**Mount Malkishu**	**10.00**	**107**	S	Sn	22 13 23.8	-10
AMAZ	**Amatzia**	**10.00**	**112**	P	**Pn**	**22 11 40.1**	**-3.7**
AMAZ	**Amatzia**	**10.00**	**112**	S	Sn	22 13 23.5	-11
INTR	**Introdacqua**	**10.03**	**311**	Pn	**Pn**	**22 11 44.0**	**-0.2**
MGRS	**Mrkonjic Grad**	**10.08**	**330**	*e*Pn	**Pn**	**22 11 42.9**	**-2.0**
HMDT	**Nahal Hemdat**	**10.15**	**107**	P	**Pn**	**22 11 42.2**	**-3.6**
QRNJ	**Al-Qirein**	**10.16**	**107**	P	**Pn**	**22 11 43.5**	**-2.4**
PLOR	**Plostina**	**10.17**	**10**	⇑P	**Pn**	**22 11 47.7**	**+1.7**
VRI	**Vrincioaia**	**10.20**	**11**	⇓P	**Pn**	**22 11 48.2**	**+1.8**
UJAP	**Al Uja**	**10.23**	**109**	P	**Pn**	**22 11 44.1**	**-2.8**
YTIR	**Yattir**	**10.23**	**113**	S	Sn	22 13 29.8	-10
YTIR	**Yattir**	**10.23**	**113**	P	**Pn**	**22 11 43.2**	**-3.8**
OZUR		**10.31**	**7**	⇑P	**Pn**	**22 11 50.0**	**+2.1**
BALJ	**Balqa**	**10.31**	**108**	Pn	**Pn**	**22 11 49.0**	**+1.0**
BLY	**Banja Luka**	**10.32**	**331**	*e*Pn	**Pn**	**22 11 44.2**	**-3.8**
DSI	**Dead Sea**	**10.34**	**111**	P	**Pn**	**22 11 45.1**	**-3.3**
DSI	**Dead Sea**	**10.34**	**111**	P	**Pn**	**22 11 44.5**	**-3.8**
DSI	**Dead Sea**	**10.34**	**111**	S	Sn	22 13 32.3	-10
A050A	**Klekovaca**	**10.37**	**328**	⇑*i*Pn	**Pn**	**22 11 46.3**	**-2.5**
MDBI	**Mazsada**	**10.44**	**113**	P	**Pn**	**22 11 46.5**	**-3.2**
MSBI	**Mazada**	**10.44**	**113**	S	Sn	22 13 34.6	-10
MSBI	**Mazada**	**10.44**	**113**	P	**Pn**	**22 11 46.0**	**-3.8**
GHAJ	**Ghor Haditha**	**10.60**	**112**		**Pn**	**22 11 51.5**	**-0.4**
GHRJ	**Ghor Haditha**	**10.60**	**112**	P	**Pn

KHC	**Kasperske Hory**	**15.34**	**333**	*eP*		**P**		**22 12 59.5**	**+1.7**
ZVC	**Zvikov**	**15.38**	**335**	*eP*		**P**		**22 12 58.9**	**+0.7**
DPC	**Dobruska-Polom**	**15.54**	**341**	*eP*		**P**		**22 13 00.6**	**+0.6**
GOPC	**GO Pecny, Ondr**	**15.59**	**337**	*eP*		**P**		**22 13 01.0**	**+0.4**
KARS	**Kars**	**15.66**	**67**	P		**P**		**22 13 03.5**	**+2.0**
KARS				IAmb		IAmb		22 13 04.2	
	comp=Z,16nm,0.7s								
PRU	**Pruhonice**	**15.73**	**337**	*eP*		**P**		**22 13 02.5**	**+0.4**
SENIN	**Lac Senin/Sane**	**16.40**	**315**	P		**P**		**22 13 10.0**	**+0.2**
SENIN				IAmb		IAmb		22 13 27.1	
	comp=Z,54nm,1.5s								
ONI	**Oni**	**16.43**	**60**	P		**P**		**22 13 10.6**	**+0.6**
KBZ	**Khabaz**	**16.44**	**56**	P		**Pn**		**22 13 07.4**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=247,slow=7.7,SNR=2.9								
BRG	**Berggiesshubel**	**16.69**	**337**	*eP*		**P**		**22 13 13.7**	**+1.0**
BRG				Amp				22 13 14.5	
	comp=Z,3.0nm,0.8s								
CLL	**Collm**	**17.37**	**336**			**P**		**22 13 20.9**	**+0.7**
CLL	**Collm**	**17.37**	**336**	*i* P		**Pn**		**22 13 19.9**	**-0.1**
CLL				*ex*		x		22 13 31.0	
SUW	**Suwalki**	**18.16**	**358**	P		**Pn**		**22 13 29.2**	**-0.4**
SUW				IAmb		IAmb		22 13 50.0	
	comp=Z,19nm,1.0s								
SUW	**Suwalki**	**18.16**	**358**	*eP*		**Pn**		**22 13 29.3**	**-0.3**
PABE	**Paberze**	**19.65**	**360**	P		**P**		**22 13 44.7**	**-0.3**
PABE	**Paberze**	**19.65**	**360**	*eP*		**P**		**22 13 45.1**	**0.0**
VSVD	**Vaisvydziai**	**20.13**	**360**	*eP*		**P**		**22 13 50.1**	**-0.1**
CLF	**Chambon-Foret**	**20.20**	**314**	Pn		Pn		22 13 53.0	-0.7
OBN	**Obninsk**	**21.09**	**20**	P		**P**		**22 14 00.8**	**+0.2**
OBN				IAmb		IAmb		22 14 35.5	
	comp=Z,29nm,1.5s								
DEL	**Delary**	**21.75**	**345**	*i* P		**P**		**22 14 05.0**	**-2.6**
ESBB	**Sonseca Array**	**22.45**	**288**	P		**P**		**22 14 15.4**	**-0.1**
ESBB				IAmb		IAmb		22 14 48.8	
	comp=Z,16nm,1.5s								
ESDC	**Sonseca Array**	**22.45**	**288**	P		**P**		**22 14 15.2**	**-0.3**
ESDC	**Sonseca Array**	**22.45**	**288**	P		**P**		**22 14 15.9**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=80,slow=10.0,SNR=12								
	comp=Z,0.5nm,0.4s								
VSU	**Vasula**	**22.68**	**4**	*eP*		**P**		**22 14 17.3**	**-0.3**
PAB	**San Pablo**	**22.75**	**288**	P		**P**		**22 14 18.8**	**+0.2**
PAB				IAmb		IAmb		22 14 44.4	
	comp=Z,16nm,1.4s								
HFS	**Hagfors**	**25.20**	**348**	P		**P**		**22 14 40.4**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=154,slow=9.0,SNR=9.6								
	comp=Z,0.7nm,0.3s								
PVAQ	**Vaqueiros**	**25.50**	**283**	P		**P**		**22 14 42.9**	**-1.0**
FINES	**FINESS Array B**	**25.64**	**2**	P		**P**		**22 14 43.7**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=173,slow=10,SNR=8.8								
FINES				PcP		**PcP**		**22 18 12.4**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=174,slow=1.4,SNR=1.3								
	comp=Z,0.5nm,0.4s								
FIA1	**FINESS Array S**	**25.64**	**2**	P		**P**		**22 14 43.5**	**-1.3**
NC602	**NORSAR Array S**	**26.16**	**346**	P		**P**		**22 14 49.3**	**-0.2**
NC602				IAmb		IAmb		22 15 22.1	
	comp=Z,7.8nm,1.2s								
NAO01	**NORSAR Array S**	**26.39**	**345**	P		**P**		**22 14 51.9**	**+0.2**
NC405	**NORSAR Array S**	**26.48**	**347**	P		**P**		**22 14 52.3**	**-0.1**
NC405				IAmb		IAmb		22 14 52.7	
	comp=Z,19nm,1.4s								
NB201	**NORSAR Array S**	**26.50**	**346**	P		**P**		**22 14 52.5**	**-0.1**
NOA	**NORSAR Array B**	**26.50**	**346**	P		**P**		**22 14 51.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=157,slow=3.4,SNR=8.2								
	comp=Z,0.4nm,0.7s								
NBO00	**NORSAR Array S**	**26.58**	**346**	P		**P**		**22 14 53.5**	**+0.2**
NC303	**NORSAR Array S**	**26.64**	**346**	P		**P**		**22 14 53.7**	**-0.2**
NC303				IAmb		IAmb		22 15 18.1	
	comp=Z,10nm,1.2s								
NC204	**NORSAR Array S**	**26.81**	**346**	P		**P**		**22 14 55.7**	**+0.3**
EKA	**Eskdalemuir Ar**	**26.96**	**325**	P		**P**		**22 14 57.1**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=119,slow=8.1,SNR=22								
	comp=Z,1.5nm,0.4s								
ESK	**Eskdalemuir**	**26.98**	**325**	P		**P**		**22 14 57.1**	**+0.2**
EKB	**Eskdalemuir**	**26.98**	**325**	P		**P**		**22 14 59.3**	**+2.4**
GEYT	**Alibeck**	**27.21**	**75**	P		**P**		**22 14 59.7**	**+0.4**
GEYT	**Alibeck**	**27.21**	**75**	P		**P**		**22 14 59.0**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=235,slow=5.2,SNR=4.4								
	comp=Z,1.4nm,0.6s								
GYA0B	**ALIBECK ARRAY**	**27.21**	**75**	P		**P**		**22 14 59.5**	**+0.2**
GYA0B				IAmb		IAmb		22 15 00.3	
	comp=Z,2.6nm,0.6s								
ABKAR	**Akbulak array**	**29.32**	**52**	P		**P**		**22 15 17.9**	**+0.1**
TOA0	**Torodi Ar. Sit**	**30.29**	**227**	P		**P**		**22 15 27.7**	**+0.9**
TOA0				IAmb		IAmb		22 15 28.7	
	comp=Z,1.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**30.29**	**227**	P		**P**		**22 15 27.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**30.29**	**227**	P		**P**		**22 15 28.2**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=33,slow=9.8,SNR=9.3								
	comp=Z,1.1nm,0.5s								
ARCES	**ARCESS Array B**	**33.74**	**1**	P		**P**		**22 15 54.9**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=181,slow=8.8,SNR=1.2								
ARCES				PcP		**PcP**		**22 18 34.3**	**+0.3**
	comp=Z,4.9nm,1.0s,baz=180,slow=3.6,SNR=5.1								
	comp=Z,1.3nm,0.7s								
KK31	**Karatay Array**	**36.18**	**64**	P		**P**		**22 16 18.6**	**+0.8**
KK31				IAmb		IAmb		22 16 20.1	
	comp=Z,3.3nm,0.6s								
KKAR	**Karatay Array**	**36.18**	**64**	P		**P**		**22 16 18.5**	**+0.8**
ARSB	**Arslanbob**	**38.20**	**67**	P		**P**		**22 16 35.7**	**+0.6**
ARSB				IAmb		IAmb		22 17 00.8	
	comp=Z,3.1nm,1.4s								
AAK	**Ala-Archa**	**39.14**	**64**	P		**P**		**22 16 44.5**	**+1.6**
AAK				IAmb		IAmb		22 17 17.3	
	comp=Z,4.5nm,1.1s								
NRN	**Naryn**	**40.43**	**66**	P		**P**		**22 16 55.2**	**+1.5**
KURBB	**Kurchatov Arra**	**41.37**	**52**	P		**P**		**22 17 00.7**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=275,slow=8.6,SNR=21								
KURBB				PcP		**PcP**		**22 18 58.6**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=274,slow=4.1,SNR=4.8								
	comp=Z,1.3nm,0.4s								
KURK	**Kurchatov**	**41.43**	**51**	P		**P**		**22 17 01.1**	**-0.4**
KURK				IAmb		IAmb		22 17 05.0	
	comp=Z,6.4nm,1.5s								
SPITS	**Spitsbergen Ar**	**42.55**	**358**	P		**P**		**22 17 10.3**	**+0.1**
	comp=Z,7.9nm,1.0s,baz=156,slow=13,SNR=5.7								
SPITS				PcP		**PcP**		**22 19 01.9**	**+0.7**
	comp=Z,7.6nm,0.9s,baz=134,slow=4.2,SNR=1.9								
	comp=Z,7.9nm,1.0s								
MAKZ	**Makanchi**	**43.91**	**57**	P		**P**		**22 17 21.5**	**-0.2**
MAKZ				IAmb		IAmb		22 17 46.9	
	comp=Z,2.8nm,1.4s								
MK31	**Makanchi Array**	**44.13**	**57**	P		**P**		**22 17 23.3**	**-0.1**
MK31				IAmb		IAmb		22 17 23.9	
	comp=Z,2.6nm,0.6s								
MKAR	**Makanchi Array**	**44.13**	**57**	P		**P**		**22 17 23.4**	**0.0**
MKAR	**Makanchi Array**	**44.13**	**57**	P		**P**		**22 17 23.3**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=271,slow=8.0,SNR=66								
MKAR				PcP		**PcP**		**22 19 07.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=270,slow=4.0,SNR=3.6								
	comp=Z,2.4nm,0.5s								
ZAA0	**Zalesovo Array**	**45.16**	**47**	P		**P**		**22 17 31.3**	**-0.1**
ZAA0				IAmb		IAmb		22 17 36.0	
	comp=Z,3.1nm,1.2s								
ZALV	**Zalesovo Beam**	**45.16**	**47**	P		**P**		**22 17 31.4**	**-0.1**
ZALV	**Zalesovo Beam**	**45.16**	**47**	P		**P**		**22 17 30.7**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=272,slow=7.8,SNR=20								
	comp=Z,2.3nm,0.3s								
WMQ	**Urumqi**	**48.42**	**60**	*eP*		P		22 18 02.0	+4.9
WMQ				pmax		pmax			
	comp=Z,23nm,0.9s								
SONM	**Songino Array**	**59.72**	**51**	P		**P**		**22 19 19.3**	**0.0**
SONM				IAmb		IAmb		22 19 39.0	
	comp=Z,0.9nm,0.9s								
SONM	**Songino Array**	**59.72**	**51**	P		**P**		**22 19 19.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=285,slow=8.0,SNR=5.6								
	comp=Z,0.7nm,0.6s								
SCHQ	**Schefferville**	**62.08**	**319**	P		**P**		**22 19 36.0**	**+0.9**
SCHQ	**Schefferville**	**62.08**	**319**	P		**P**		**22 19 35.8**	**+0.7**
	comp=Z,3.4nm,0.4s,baz=69,slow=5.4,SNR=21								
	comp=Z,3.4nm,0.4s								
RES	**Resolute Bay**	**62.77**	**345**	P		**P**		**22 19 40.0**	**+0.8**
RES				IAmb		IAmb		22 20 11.5	
	comp=Z,3.3nm,1.4s								
BATG	**Bathurst New B**	**64.80**	**311**	P		**P**		**22 19 54.0**	**+0.9**
PZH	**PanZhiHua**	**65.52**	**74**	P		**P**		**22 19 59.0**	**+0.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,110nm,5.1s								
HHC	**Hu-ho-hao-te**	**65.98**	**56**	*eP*		**P**		**22 20 01.8**	**+0.8**
HHC				pmax		pmax			
	comp=Z,13nm,0.6s								
HHC				pmax		pmax			
	comp=Z,340nm,4.7s								
D62A	**Allapoint, All**	**66.71**	**312**	P		**P**		**22 20 06.5**	**+1.2**
CHTO	**Chiang Mai**	**67.18**	**83**	P		**P**		**22 20 09.1**	**+0.3**
CHTO				IAmb		IAmb		22 20 17.1	
	comp=Z,4.9nm,1.4s								
CMAR	**Chiang Mai Arr**	**67.36**	**83**	P		**P**		**22 20 10.0**	**0.0**
	comp=Z,1.2nm,0.6s,baz=304,slow=7.8,SNR=9.2								
	comp=Z,1.2nm,0.6s								
YKA	**Yellowknife Ar**	**76.51**	**342**	P		**P**		**22 21 04.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=34,slow=5.6,SNR=7.4								
	comp=Z,0.4nm,0.6s								
USRK	**Ussuriysk Ar.**	**76.97**	**45**	P		**P**		**22 21 06.4**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=301,slow=4.2,SNR=9.5								
	comp=Z,1.3nm,0.5s								
KSRS	**Korea Array**	**78.55**	**52**	P		**P**		**22 21 15.9**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=311,slow=4.7,SNR=6.8								
	comp=Z,1.6nm,0.6s								
ULM	**Lac du Bonnet**	**79.24**	**326**	P		**P**		**22 21 19.7**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=45,slow=4.7,SNR=6.1								
	comp=Z,1.2nm,0.4s								
WRA	**Warramunga Arr**	**117.54**	**96**	PKP		**PKPdf**		**22 27 59.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=314,slow=1.5,SNR=4.9								
ASAR	**Alice Springs**	**119.04**	**99**	PKP		**PKPdf**		**22 28 03.0**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=306,slow=1.7,SNR=8.6								

NEIC ***26*** *22:16:30.5±0.8, 20.0S±0.2°×177.3W±0.1°, h447km±8km, mb4.0/20, Error ellipse: s-maj=31.6km s-min=13.3km az=149.0*
IDC ***26*** *22:16:31.5±2.9, 20.3OS×177.46W, h443km±34km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=29.5km s-min=18.1km az=95.0*
ISC 26 22:16:30.4±0.7, **20.2S**±0.1°×**177.21W**±0.08, **h450**km, **n32,**
σ1§**08**/35, **mb3.8**/13, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.96**	**82**	P	**P**	**22 18 14.3**	**-0.4**
NIUE				S	**S**	**22 19 38.1**	**-1.9**
PINNC	**Pines Island,**	**14.49**	**258**	P	**P**	**22 19 34.6**	**-1.4**
URZ	**Urewera**	**18.64**	**194**	P	**P**	**22 20 19.3**	**+0.2**
	5.5nm,0.5s,baz=5.0,slow=3.3,SNR=12						
URZ				S	**S**	**22 23 26.2**	**+0.1**
	6.4nm,0.8s,baz=85,slow=18,SNR=1.2						
RTZ	**Ruatahuna**	**19.01**	**194**	P		**22 20 24.0**	**+1.3**
RTZ				IAmb	IAmb	22 20 27.0	
	comp=Z,6.9nm,0.9s						
BKZ	**Black Stump Fm**	**19.65**	**195**	P	**P**	**22 20 29.5**	**+1.1**
BKZ				IAmb	IAmb	22 20 38.2	
	comp=Z,4.8nm,0.8s						
MRZ	**Mangatainoka R**	**21.29**	**195**	P	**P**	**22 20 43.1**	**-0.2**
MRZ				IAmb	IAmb	22 21 02.3	
	comp=Z,5.0nm,0.9s						
PLWZ	**Palliser**	**22.22**	**195**	P	**P**	**22 20 53.1**	**+1.3**
QRZ	**Quartz Range**	**22.33**	**201**	P	**P**	**22 20 54.6**	**+1.9**
NNZ	**Nelson**	**22.41**	**199**	P	**P**	**22 20 54.9**	**+1.5**
THZ	**Tophouse**	**23.05**	**199**	P	**P**	**22 21 01.0**	**+1.6**
THZ				IAmb	IAmb	22 21 16.6	
	comp=Z,7.3nm,1.1s						
DSZ	**Denniston Nort**	**23.39**	**201**	P	**P**	**22 21 03.2**	**+0.8**
INZ	**Inchbonnie**	**24.39**	**201**	P	**P**	**22 21 11.8**	**+0.7**
EIDS	**Eidsvold**	**29.64**	**254**	P	**P**	**22 21 57.5**	**-0.2**
EIDS				IAmb	IAmb	22 22 06.6	
	comp=Z,6.6nm,1.1s						
CTAO	**Charters Tower**	**34.26**	**264**	P	**P**	**22 22 36.1**	**-1.3**
CTAO				IAmb	IAmb	22 22 52.7	
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**36.66**	**234**	P	**P**	**22 22 58.3**	**+0.9**
TOO				IAmb	IAmb	22 23 00.6	
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**38.58**	**244**	P	**P**	**22 23 13.6**	**+0.4**
STKA	**Stephens Creek**	**38.58**	**244**	P	**P**	**22 23 13.4**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=84,slow=10,SNR=6.8						
	comp=Z,1.6nm,0.5s						
BBOO	**Buckleboo**	**43.33**	**243**	P	**P**	**22 23 51.9**	**+0.6**
	baz=49,SNR=9.2						
BBOO	**Buckleboo**	**43.33**	**243**	P	**P**	**22 23 51.4**	**+0.1**
BBOO				IAmb	IAmb	22 23 52.3	
	comp=Z,7.3nm,1.1s						
WR0	**Warramunga Arr**	**45.18**	**262**	P	**P**	**22 24 05.8**	**-0.2**
AS31	**Alice Springs**	**45.30**	**256**	P	**P**	**22 24 06.7**	**-0.1**
ASAR	**Alice Springs**	**45.30**	**256**	P	**P**	**22 24 06.5**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=99,slow=8.2,SNR=42						
ASAR				S	**S**	**22 30 13.1**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=91,slow=18,SNR=4.2						
	comp=Z,2.8nm,0.7s						
ASPA	**Alice Springs**	**45.31**	**256**	P	**P**	**22 24 06.0**	**-0.8**
	baz=51						
WB0	**Warramunga Arr**	**45.35**	**262**	P	**P**	**22 24 06.8**	**-0.4**
WB0				IAmb	IAmb	22 24 16.7	
	comp=Z,4.0nm,1.1s						
WB2	**Warramunga Arr**	**45.36**	**262**	P	**P**	**22 24 06.7**	**-0.6**
WRA	**Warramunga Arr**	**45.37**	**262**	P	**P**	**22 24 06.8**	**-0.5**
WRA	**Warramunga Arr**	**45.37**	**262**	P	**P**	**22 24 06.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=96,slow=6.9,SNR=24						
	comp=Z,0.4nm,0.3s						
FORT	**Forrest**	**50.09**	**246**	P	**P**	**22 24 41.1**	**-1.7**
	baz=56						
WRKA	**Warakurna**	**50.25**	**254**	P	**P**	**22 24 44.0**	**-0.1**
	baz=56,SNR=18						
MJAR	**Matsushiro Arr**	**70.43**	**323**	P	**P**	**22 26 59.3**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=155,slow=6.4,SNR=3.1						
	comp=Z,1.3nm,0.5s						
ILAR	**Eielson Array**	**87.88**	**13**	P	**P**	**22 28 33.1**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=224,slow=5.3,SNR=2.3						
	comp=Z,0.3nm,0.6s						
INK	**Inuvik**	**93.81**	**15**	P	**P**	**22 28 57.6**	**0.0**
INK				IAmb	IAmb	22 29 06.4	
	comp=Z,1.0nm,1.1s						

AEIC ***26*** *22:21:43.9±1.8, 55.9N±0.1°×150.2W±0.1, h10km±10km, Error ellipse: s-maj=19.4km s-min=5.0km az=154.0*
NEIC 26 22:21:42.7±2.1, **56.10N**±0.09°×**150.5W**±0.1, **h10**km±2km,
ML3.0/22, **ML2.9**(AEIC), **Error ellipse: s-maj=15.8km**
s-min=10.6km az=154.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.90**	**307**		Pn	22 22 14.5	-0.5
OHAK	**Old Harbor**	**1.90**	**307**		Sn	22 22 38.3	-0.7
KDAK	**Kodiak Island**	**2.03**	**327**		Pn	22 22 16.7	-0.2
SII	**Sitkinak Islan**	**2.10**	**284**		Sn	22 22 42.7	-1.2
SYI	**Shuyak Island**	**2.71**	**339**		Pn	22 22 26.2	0.0
SYI				IAML		22 22 52.9	
	comp=N,34nm,1.4s						
SYI				IAML		22 23 07.3	
	comp=E,29nm,1.5s						
SYI	**Shuyak Island**	**2.71**	**339**		Sn	22 23 00.4	+1.2
KAHG	**Katmai Hook Gl**	**3.25**	**319**		Pn	22 22 34.4	+0.7
Q19K	**Cape Douglas,**	**3.30**	**331**		Pn	22 22 35.0	+0.7
Q19K	**Cape Douglas,**	**3.30**	**331**	IAML		22 23 43.3	
	comp=N,83nm,1.2s						
KAHC	**Katmai Hardscr**	**3.53**	**318**		Pn	22 22 38.6	+1.0
CNTC	**Contact Creek**	**3.64**	**309**		Pn	22 22 39.7	+0.6
BRSE	**Bradley Lake S**	**3.65**	**358**		Pn	22 22 37.8	-1.4
BRSE					Sn	22 23 21.2	-1.2
BRLK	**Bradley Lake**	**3.68**	**357**		Pn	22 22 38.6	-1.0
BRLK	**Bradley Lake**	**3.68**	**357**	IAML		22 24 37.5	
	comp=E,20nm,1.5s						
BRLK				IAML		22 25 02.4	
	comp=N,16nm,1.3s						
P19K	**Oil Pt**	**3.84**	**339**	Pn	Pn	22 22 41.6	-0.3
P18K	**Big Mountain,**	**4.16**	**325**		Pn	22 22 46.1	0.0
P18K				IAML		22 25 30.2	
	comp=E,14nm,1.2s						
O18K	**Koktuh Hills**	**4.52**	**328**		Pn	22 22 51.4	+0.3
O18K				IAML		22 25 39.0	
	comp=N,36nm,0.9s						
O18K				IAML		22 25 40.5	
	comp=E,15nm,0.8s						
RSO	**Redoubt South**	**4.53**	**346**	Pn	Pn	22 22 49.9	-1.5
O19K	**Port Alsworth**	**4.57**	**335**	Pn	Pn	22 22 51.0	-0.8
N19K	**Bonanza Creek**	**5.16**	**338**	Pn	Pn	22 23 00.3	+0.2
N19K				IAML		22 24 20.7	
	comp=N,7.0nm,1.5s						
N19K				IAML		22 25 54.5	
	comp=E,6.3nm,1.3s						
N18K	**Kilae Creek**	**5.39**	**331**	Pn	Pn	22 23 03.1	+0.1
N18K				IAML		22 25 25.6	
	comp=N,5.9nm,0.9s						
N18K				IAML		22 26 29.1	
	comp=E,8.9nm,1.1s						
KNK	**Knik Glacier**	**5.43**	**10**		Pn	22 23 05.0	+1.4
PMR	**Palmer**	**5.55**	**7**		Pn	22 23 06.3	+1.0
BERG	**Berg Lake**	**5.61**	**37**	Pn	Pn	22 23 05.9	-0.1
SNH	**Sunshine Point**	**5.76**	**42**	Pn	Pn	22 23 06.3	-1.9

NEIC ***26*** *22:21:58.6±1.5, 9.05N±0.08°×123.30E±0.07, h70km±10km, mb4.3/29, Error ellipse: s-maj=15.1km s-min=4.8km az=220.0*
IDC ***26*** *22:22:02.6±7.4, 9.18N×123.26E, h95km±71km, mb3.7/15, mbtmp4.0/15, MS3.3/2, Error ellipse: s-maj=29.7km s-min=15.4km az=69.0*
ISC 26 22:21:57.1±0.7, **9.14N**±0.09×**123.3E**±0.1, **h50**km, **n51,**
σ1§**09**/51, **mb4.2**/28, **Negros**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**7.64**	**247**		**Pn**	**22 23 46.0**	**+0.1**
SBUM	**Sibu**	**12.84**	**239**	Pn	**Pn**	**22 24 57.8**	**+0.9**
TWG	**Pinlang**	**13.77**	**351**	Pn	**Pn**	**22 25 11.8**	**+2.2**
SSLB	**Suanglung**	**14.73**	**352**	Pn	**Pn**	**22 25 23.9**	**+1.3**
UBPT	**Khong Chiam**	**18.43**	**291**	P	**P**	**22 26 08.1**	**-0.4**
UBPT				IAmb	IAmb	22 26 14.1	
	comp=Z,17nm,1.0s						
KULM	**Kulim**	**22.76**	**262**	P	**P**	**22 26 55.4**	**0.0**
KULM				IAmb	IAmb	22 27 01.6	
	comp=Z,9.7nm,0.9s						
SRIT	**Nakonsritamara**	**23.39**	**271**	P	**P**	**22 27 01.5**	**-0.2**
SRIT				IAmb	IAmb	22 27 06.5	
	comp=Z,23nm,1.2s						
CRAI	**Chiangrai**	**24.70**	**299**	P	**P**	**22 27 13.6**	**-0.2**
RPSI	**Rantau Prapat**	**25.03**	**257**	P	**P**	**22 27 17.5**	**+0.8**
RPSI				IAmb	IAmb	22 27 22.6	
	comp=Z,8.4nm,0.9s						
JCJ	**Chichijima**	**25.28**	**43**	P	**P**	**22 27 19.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**25.34**	**294**	P	**P**	**22 27 20.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**25.34**	**294**	P	**P**	**22 27 21.0**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=116,slow=7.5,SNR=12						
CMAR				LR	LR	22 36 37.1	
	comp=Z,61nm,20.4s,baz=160,slow=34						
	comp=Z,1.1nm,0.4s						
CHTO	**Chiang Mai**	**25.45**	**295**	P	**P**	**22 27 20.3**	**-0.3**
GSI	**Gunungsitoli**	**26.72**	**255**	P	**P**	**22 27 33.3**	**+1.3**
GSI				IAmb	IAmb	22 27 37.8	
	comp=Z,13nm,1.0s						
KSRS	**Korea Array**	**28.50**	**8**	P	**P**	**22 27 49.8**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=162,slow=8.4,SNR=3.4						
	comp=Z,0.8nm,0.6s						
KS19	**Wonju Array Si**	**28.54**	**8**	P	**P**	**22 27 46.4**	**-1.7**
MJAR	**Matsushiro Arr**	**30.47**	**24**	LR	LR	22 39 18.6	
	comp=Z,70nm,21.7s,baz=209,slow=34						
WRA	**Warramunga Arr**	**30.89**	**159**	P	**P**	**22 28 10.5**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=338,slow=9.1,SNR=4.6						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**34.22**	**162**	P	**P**	**22 28 39.6**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=342,slow=6.8,SNR=22						
	comp=Z,2.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**35.74**	**11**	P	**P**	**22 28 51.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**35.74**	**11**	P	**P**	**22 28 52.1**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=202,slow=8.5,SNR=8.4						
	comp=Z,4.7nm,0.8s						
MDJ	**Mudanjiang**	**35.77**	**8**	P	**P**	**22 28 51.9**	**+0.7**
SONM	**Songino Array**	**41.13**	**343**	P	**P**	**22 29 35.9**	**-0.4**
SONM	**Songino Array**	**41.13**	**343**	P	**P**	**22 29 35.9**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=161,slow=9.2,SNR=8.3						
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**51.18**	**325**	P	**P**	**22 30 54.8**	**-0.5**
MKAR	**Makanchi Array**	**51.18**	**325**	P	**P**	**22 30 54.9**	**-0.4**
MKAR	**Makanchi Array**	**51.18**	**325**	P	**P**	**22 30 56.2**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=127,slow=8.0,SNR=13						
MKAR				PcP	**PcP**	**22 32 10.6**	**+0.4**
	com

SYI				IAML			22 24 55.3	
	comp=E,48nm,1.4s							
Q19K	Cape Douglas,	3.36	327		Pn	Pn	22 24 27.5	+0.8
Q19K	Cape Douglas,	3.36	327	P	Pn	Pn	22 24 27.6	+0.9
	baz=144							
CNPM	China Poot	3.42	350			Pn	22 24 27.4	-0.1
CNPM					IAML		22 25 07.7	
	comp=N,29nm,1.3s							
CNPM					IAML		22 25 08.7	
	comp=E,31nm,0.9s							
CNPM	China Poot	3.42	350			Sn	22 25 07.5	-0.6
BRSE	Bradley Lake S	3.60	355			Pn	22 24 29.2	-0.7
BRSE						Sn	22 25 11.5	-1.0
BRSE	Bradley Lake S	3.60	355	P		Pn	22 24 29.2	-0.7
	baz=174							
BRSE					S	Sn	22 25 11.5	-1.0
	baz=174							
BRLK	Bradley Lake	3.63	354			Pn	22 24 29.6	-0.8
BRLK						Sn	22 25 12.3	-1.0
BRLK	Bradley Lake	3.63	354	IAML			22 25 13.1	
	comp=N,17nm,1.1s							
BRLK					IAML		22 26 08.7	
	comp=E,16nm,1.5s							
KAHC	Katmai Hardscr	3.64	315			Pn	22 24 31.7	+1.2
Q18K	Katmai Hardscr	3.64	315	P		Pn	22 24 31.7	+1.2
	baz=132							
CNTC	Contact Creek	3.78	306			Pn	22 24 33.2	+0.7
Q17K	Contact Creek	3.79	306	P		Pn	22 24 33.2	+0.7
	baz=122							
P19K	Oil Pt	3.87	336			Pn	22 24 34.2	+0.5
P19K	Oil Pt	3.87	336	IAML			22 25 37.0	
	comp=E,63nm,1.1s							
P19K	Oil Pt	3.87	336	P		Pn	22 24 34.2	+0.5
	baz=153							
P23K	Montague Islan	4.10	19			Pn	22 24 36.1	-0.7
P23K	Montague Islan	4.10	19	P		Pn	22 24 36.1	-0.7
	baz=200							
IVE	Iliamna Volcan	4.16	339			Pn	22 24 37.9	+0.2
P18K	Big Mountain,	4.24	322			Pn	22 24 39.0	+0.2
P18K	Big Mountain,	4.24	322	P		Pn	22 24 39.0	+0.2
	baz=138							
R16K	Pilot Point	4.34	292			Pn	22 24 39.4	-0.6
R16K	Pilot Point	4.34	292	P		Pn	22 24 39.4	-0.6
	baz=107							
SLKM	Skilak Lake	4.35	359			Pn	22 24 39.7	-0.6
RED	Redoubt Volcan	4.49	343			Pn	22 24 42.0	-0.2
O18K	Koktuh Hills	4.59	326			Pn	22 24 43.7	+0.2
O18K	Koktuh Hills	4.59	326	P		Pn	22 24 43.7	+0.2
	baz=142							
HIN	Hinchinbrook I	4.64	23			Pn	22 24 43.8	-0.5
EYAK	Cordova Ski Ar	4.95	26			Pn	22 24 47.9	-0.6
EYAK	Cordova Ski Ar	4.95	26	P		Pn	22 24 47.9	-0.6
	baz=208							
O17K	Koliganek Bris	5.19	317			Pn	22 24 51.1	-0.6
O17K	Koliganek Bris	5.19	317	P		Pn	22 24 51.1	-0.6
	baz=132							
N19K	Bonanza Creek	5.20	336			Pn	22 24 51.6	-0.3
N19K	Bonanza Creek	5.20	336	IAML			22 27 05.8	
	comp=N,5.8nm,1.2s							
N19K					IAML		22 27 32.6	
	comp=E,7.7nm,1.5s							
N19K	Bonanza Creek	5.20	336	P		Pn	22 24 51.6	-0.3
	baz=152							
SUA	Susitna One	5.32	357	Pn		Pn	22 24 53.4	-0.3
SUA				IAML			22 26 27.3	
	comp=E,10nm,1.4s							
KNK	Knik Glacier	5.33	9			Pn	22 24 53.8	+0.1
KNK	Knik Glacier	5.33	9	P		Pn	22 24 53.8	+0.1
	baz=189							
BERG	Berg Lake	5.41	36	Pn		Pn	22 24 53.0	-1.8
STLK	Strandline Lak	5.42	351			Pn	22 24 54.9	-0.1
N18K	Kilae Creek	5.45	328	Pn		Pn	22 24 55.0	-0.3
O16K	Kokwok River B	5.48	312	Pn		Pn	22 24 56.5	+0.8
SNH	Sunshine Point	5.56	41	Pn		Pn	22 24 56.7	-0.2
CNBA	Chernabura Isl	5.56	260	Pn		Pn	22 24 53.8	-3.1
BMRM	Bremner River	5.60	29			Pn	22 24 57.0	-0.4
BMRM	Bremner River	5.60	29	P		Pn	22 24 57.0	-0.4
	baz=212							
GHO	Glory Hole Cre	5.65	6			Pn	22 24 58.0	-0.2
SML	Sawmill	5.73	8	Pn		Pn	22 24 58.3	-0.9
KLU	Klutina	5.76	20			Pn	22 24 59.6	0.0
KLU	Klutina	5.76	20	P		Pn	22 24 59.6	0.0
	baz=203							
SCM	Sheep Creek Mo	5.86	13			Pn	22 25 01.3	+0.3
SCM	Sheep Creek Mo	5.86	13	P		Pn	22 25 01.3	+0.3
	baz=195							
M18K	Stony River	6.11	333			Pn	22 25 03.6	-0.8
M18K	Stony River	6.11	333	P		Pn	22 25 03.6	-0.8
	baz=148							
N25K	Chitina, Valde	6.15	25	Pn		Pn	22 25 04.4	-0.6
KIAG	Kiagna River	6.25	37			Pn	22 25 06.0	-0.5
SAMH	Samovar Hills	6.33	47			Pn	22 25 07.2	-0.3
BARN	Barnard Glacie	6.59	38			Pn	22 25 10.8	-0.3
LOGN	Logan Glacier	6.67	42			Pn	22 25 11.6	-0.6
PNL	Peninsula	6.69	54			Pn	22 25 11.5	-0.9
PNL	Peninsula	6.69	54	P		Pn	22 25 11.5	-0.9
	baz=242							
P29M	Windy Craggy	7.44	57			Pn	22 25 21.7	-1.0
P29M	Windy Craggy	7.44	57	P		Pn	22 25 21.7	-1.0
	baz=247							
N30M	Aishikik Lake	8.57	46			Pn	22 25 37.8	-0.4
N30M	Aishikik Lake	8.57	46	P		Pn	22 25 37.8	-0.4
	baz=237							
S32K	Killisnoo	8.61	75			Pn	22 25 37.0	-1.7
S32K	Killisnoo	8.61	75	P		Pn	22 25 37.0	-1.7
	baz=267							
ILAR	Eielson Array	8.78	9	Pn		Pn	22 25 41.4	+0.5
	baz=192,slow=16,SNR=1.7							
ILAR					Sn	Sn	22 27 13.1	-6.7
	baz=202,slow=21,SNR=3.0							
	comp=E,0.3nm,0.5s							
YKA	Yellowknife Ar	18.98	56	P		P	22 27 56.5	+1.1
	comp=E,0.1nm,0.3s,baz=270,slow=11,SNR=2.0							
	comp=E,0.5nm,1.0s							
SONM	Songino Array	58.36	310	P		P	22 33 31.3	+2.0
	comp=E,0.2nm,0.4s,baz=34,slow=7.6,SNR=1.4							
	comp=E,0.2nm,0.4s							
QSPA	South Pole Qui	145.96	180	PKPbc		PKPdf	22 43 11.5	-0.1
	comp=E,2.1nm,1.1s,baz=296,slow=1.5,SNR=4.1							

IDC 26 22:23:44.3±2.0, 7.84S×122.68E, h0km, mb3.3/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=308.3km s-min=29.5km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.51	138	Pn	Pn	22 27 37.1	-0.3
	0.1nm,0.3s,baz=314,slow=12,SNR=6.9						
	0.4nm,0.5s						
ASAR	Alice Springs	19.07	147	P	P	22 28 08.7	+0.2
	0.2nm,0.3s,baz=324,slow=8.0,SNR=7.6						
	0.4nm,0.7s						
MKAR	Makanchi Array	65.16	331	P	P	22 34 27.2	0.0
	0.2nm,0.5s,baz=132,slow=6.5,SNR=5.5						
	0.2nm,0.5s						

*NEIC **26** 22:27:08.8±1.9, 15.84S±0.07×74.68W±0.09, h30km±5km, mb4.6/59, Error ellipse: s-maj=14.8km s-min=8.0km az=55.0*

*IDC **26** 22:27:10.0±2.3, 15.64S×74.53W, h40km±20km, mb3.9/8, mbtmp4.1/11, ML4.0/3, MS3.4/12, Error ellipse: s-maj=33.1km s-min=12.6km az=60.0*

ISC 26 22:27:08.9±0.5, 15.82S±0.07×74.64W±0.08, h35km, n129, σ1§21/117, mb4.6/37, MS3.4/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.37	330	Pn	Pn	22 28 12.6	-0.3
NNA				Sn	Sn	22 29 05.8	+3.2
NNA	Nana	4.37	330	P	Pn	22 28 12.2	-0.7
	37nm,0.3s,baz=144,slow=11,SNR=38						
NNA				S	Sn	22 29 02.1	-0.5
	92nm,0.3s,baz=88,slow=14,SNR=2.0						
NNA				LR	LR	22 30 00.1	
	comp=Z,288nm,21.9s,baz=109,slow=40						
	91nm,0.3s						
AP01	Chacaluta	4.83	122	Pn	Pn	22 28 20.1	+0.9
AP01					Sn	22 29 14.4	+0.4
PB12	IPOC Station P	4.97	125	Pn	Pn	22 28 22.3	+1.1
PB12					Sn	22 29 15.8	-1.8
PB18	Visviri	5.25	110		Pn	22 28 26.8	+1.4
PB16	IPOC Station P	5.51	118		Pn	22 28 31.3	+2.2
PB11	IPOC Station P	6.16	130	Pn	Pn	22 28 38.3	+0.7
TA02	Huaiquique	6.17	137		Pn	22 28 38.3	+0.7
TA02					Sn	22 29 44.8	-2.0
LPAZ	La Paz	6.27	95	Pn	Pn	22 28 41.5	+1.9
TA01	Diego Aracena	6.34	139	Pn	Pn	22 28 39.6	-0.4
TA01				Sn	Sn	22 29 47.6	-3.7
GO01	Chusmiza	6.45	127		Pn	22 28 42.2	+0.3
PATCX	Punta Patache	6.55	140		Pn	22 28 41.9	-1.1
PB08	IPOC Station P	6.76	130		Pn	22 28 45.6	-0.5
PB02	IPOC Station P	7.08	141		Pn	22 28 50.0	-0.3
PB01	IPOC Station P	7.14	138		Pn	22 28 52.3	+1.4
PB07	IPOC Station P	7.40	143		Pn	22 28 55.8	+1.0
PB04	IPOC Station P	7.75	147		Pn	22 29 00.2	+0.7
PB09	IPOC Station P	7.84	140		Pn	22 29 02.5	+1.8
PB05	IPOC Station P	8.16	150	Pn	Pn	22 29 06.0	+1.0
CZSB	Cruzeiro do Su	8.26	13	Pn	Pn	22 29 08.3	+2.0
PB06	IPOC Station P	8.36	146		Pn	22 29 08.8	+0.9
PB10	IPOC Station P	8.57	154	Pn	Pn	22 29 10.8	+0.2
LVC	Limon Verde	8.66	142	P	Pn	22 29 14.3	+2.2
	3.9nm,0.3s,baz=339,slow=8.8,SNR=48						
LVC				S	Sn	22 30 45.0	-3.7
	21nm,0.5s,baz=94,slow=19,SNR=12						
LVC				LR	LR	22 32 35.0	
	comp=Z,115nm,21.0s,baz=330,slow=37						
	14nm,0.4s						
PB15	IPOC Station P	8.82	147	Pn	Pn	22 29 15.1	+0.9
AF01	San Pedro de A	9.36	140	Pn	Pn	22 29 21.8	+0.1
ATAH	Atahualpa	9.38	336	P	Pn	22 29 26.2	+4.1
	4.2nm,0.3s,baz=330,slow=6.5,SNR=3.8						
ATAH				S	Sn	22 31 01.4	-5.1
	5.1nm,0.6s,baz=43,slow=12,SNR=0.9						
PB14	IPOC Station P	9.62	156	Pn	Pn	22 29 25.4	+0.1
ETMB	Extrema	10.15	55		Pn	22 29 33.8	+1.5
GO02	Mina Guanaco	10.43	154	Pn	Pn	22 29 32.2	-4.1
AC01	Pan de Azucar	10.95	161	Pn	Pn	22 29 43.4	+0.2
AC06	Mina Casimiro	12.15	162	Pn	Pn	22 30 00.5	+0.8
MCRA	Macar, Loja	12.52	335	Pn	Pn	22 30 03.1	-1.7
SIV	San Ignacio	13.05	93	P	Pn	22 30 10.5	-1.5
	baz=284,slow=9.3,SNR=5.3						
	0.9nm,0.6s						
SAML	Samuel	13.10	60	Pn	Pn	22 30 12.9	+0.2
BOSC	San Juan Bosco	13.14	343	Pn	Pn	22 30 12.5	-0.9
COHC	Cochancay	14.02	341		Pn	22 30 24.2	-1.1
CHSH	Refugio Sur-Vo	14.83	343	P	P	22 30 42.3	+0.1
SLOR	San Lorenzo -	15.47	345	P	P	22 30 49.0	-0.1
SLOR					IAmb	IAmb	22 31 03.7	
	comp=Z,25nm,0.9s							
OTAV	Otavalo	16.39	346		Pn	22 30 55.7	-1.2
H03N1	Juan Fernandez	17.97	192	T	T	22 50 02.1	
	baz=14,slow=74,SNR=1037							
H03N2	Juan Fernandez	17.97	192	T	T	22 49 58.8	
	baz=14,slow=74,SNR=897							
H03N3	Juan Fernandez	17.99	192	T	T	22 49 57.7	
	baz=14,slow=74,SNR=892							
CPUP	Villa Florida	19.22	126	LR	LR	22 38 41.1	
	comp=Z,57nm,20.3s,baz=304,slow=36							
ROSC	El Rosal	20.52	1	LR	LR	22 41 39.9	
	comp=Z,167nm,18.4s,baz=238,slow=43							
SDV	Santo Domingo	24.86	9	LR	LR	22 43 05.0	
	comp=Z,89nm,20.1s,baz=225,slow=39							
PLCA	Paso Flores	25.08	173	P	P	22 32 31.6	+1.3
	comp=Z,1.8nm,0.6s,baz=350,slow=7.6,SNR=6.6							
PLCA				LR	LR	22 40 00.7	
	comp=Z,110nm,21.8s,baz=357,slow=30							
	comp=Z,1.8nm,0.6s							
BAUV	El Baul	25.45	15	P	P	22 32 33.4	-0.3
PCRV	Puerto La Cruz	27.66	22	LR	LR	22 44 59.3	
	comp=Z,92nm,19.7s,slow=39							
JTS	Las Juntas de	27.88	338	LR	LR	22 42 51.5	
	comp=Z,85nm,20.9s,baz=86,slow=34							
MDP	Montagnes des	30.10	48	LR	LR	22 46 23.1	
	comp=Z,118nm,20.0s,baz=265,slow=39							
TEIG	Tepich	38.24	339	LR	LR	22 49 01.7	
	comp=Z,550nm,19.3s,baz=332,slow=34							
CMIG	Matias Romero	38.31	328	LR	LR	22 48 16.0	
	comp=Z,19nm,19.1s,baz=197,slow=33							
RCBR	Riachuelo	39.25	80	LR	LR	22 51 46.1	
	comp=Z,95nm,20.9s,baz=264,slow=38							
HODGE	Hodges	50.29	352	P	P	22 36 01.4	-0.7
HNDO	Hondo	50.97	332	P	P	22 36 07.1	-0.2
SAND	Sanderson	52.66	330		P	22 36 20.3	+0.4
SAND					IAmb	IAmb	22 36 21.1	
	comp=Z,7.8nm,1.2s							
TXAR	Lajitas Array	52.92	328	P	P	22 36 22.0	+0.1
	comp=Z,2.3nm,0.8s,baz=150,slow=9.1,SNR=19							
	comp=Z,2.3nm,0.8s							
TX31	Lajitas Ar. Si	52.92	328	P	P	22 36 21.4	-0.5
VHRN	Van Horn	54.76	328		P	22 36 35.0	-0.4
VHRN					IAmb	IAmb	22 36 35.6	
	comp=Z,4.7nm,1.0s							
WCI	Wyandotte Cave	54.86	349	P	P	22 36 34.3	-1.5
MGMO	Mountain Grove	55.24	343	P	P	22 36 37.9	-0.7
MGMO					IAmb	IAmb	22 36 38.7	
	comp=Z,10nm,1.1s							
S39A	Bolivar	56.05	342	P	P	22 36 43.1	-1.3
SMWD	Samnorwood	56.17	335	P	P	22 36 45.0	-0.4
R40A	Maddies Statio	56.30	343	P	P	22 36 46.0	-0.2
R40A					IAmb	IAmb	22 36 46.5	
	comp=Z,9.8nm,1.0s							
319A	Douglas	57.52	325	P	P	22 36 55.8	+0.7
319A					IAmb	IAmb	22 36 57.6	
	comp=Z,7.8nm,0.8s							
P38A	Dawn	57.90	343	P	P	22 36 56.9	-0.6
P38A					IAmb	IAmb	22 36 58.0	
	comp=Z,8.0nm,0.9s							
ANMO	Albuquerque	58.84	330	P	P	22 37 03.6	-0.7
X16A	Lo Mia Camp, P	61.00	326	P	P	22 37 19.3	+0.1
X16A					IAmb	IAmb	22 37 21.1	
	comp=Z,4.5nm,0.9s							
ECSD	EROS Data Cent	62.58	342	P	P	22 37 28.9	-0.5
D62A	Allapoint, All	62.81	4	P	P	22 37 31.2	+0.4
PFO	Pinyon Flats O	63.29	321	P	P	22 37 34.3	-0.3
PFO					IAmb	IAmb	22 37 35.9	
	comp=Z,11nm,1.4s							
HMU	Henry Mountain	63.31	329	P	P	22 37 34.1	-0.7
HMU					IAmb	IAmb	22 38 11.8	
	comp=Z,8.2nm,1.4s							
LDAQ	Lac Daran	63.56	3	P	P	22 37 36.5	+0.5
LDAQ					IAmb	IAmb	22 38 06.7	
	comp=Z,5.5nm,1.0s							
PHWY	Pilot Hill	63.59	334	P	P	22 37 37.6	+1.0
KNB	Kanab	63.69	326	P	P	22 37 37.3	+0.1
KNB					IAmb	IAmb	22 37 39.3	
	comp=Z,4.3nm,0.8s							
SRU	San Rafael Swe	64.11	330	P	P	22 37 39.4	-0.5
SRU					IAmb	IAmb	22 37 40.6	
	comp=Z,3.1nm,1.0s							
MTPU	Mount Pierson	64.12	328	P	P	22 37 40.5	+0.3
MTPU					IAmb	IAmb	22 38 03.9	
	comp=Z,5.0nm,1.4s							
F33A	5 Mile Ranch,	64.42	343	P	P	22 37 41.3	-0.3
F33A					IAmb	IAmb	22 37 41.6	
	comp=Z,6.4nm,0.8s							
MSU	Marysvale	64.48	328	P	P	22 37 42.5	+0.1
MVU	Marysvale	64.49	328	P	P	22 37 43.0	+0.5
P17A	Butcher Ranch,	64.50	330	P	P	22 37 41.7	-0.8
P17A					IAmb	IAmb	22 37 43.6	
	comp=Z,4.3nm,0.9s							
SHPR	Sheep Range	64.59	325	P	P	22 37 42.7	-0.3
RWWY	Rawlins	64.65	334	P	P	22 37 42.8	-0.7
GSC	Goldstone, Bar	64.67	323	P	P	22 37 44.2	+0.6
GSC					IAmb	IAmb	22 38 21.6	
	comp=Z,6.8nm,1.3s							
RDMU	Red Mountain	64.81	331	P	P	22 37 44.6	+0.2
RDMU					IAmb	IAmb	22 37 45.5	
	comp=Z,4.2nm,0.8s							
QSM	Queen of Sheba	65.17	323	P	P	22 37 47.2	+0.5
QSM					IAmb	IAmb	22 38 12.3	
	comp=Z,4.9nm,1.3s							
GWY	Greenwater Val	65.21	323	P	P	22 37 46.7	-0.5
GWY					IAmb	IAmb	22 37 48.8	
	comp=Z,3.9nm,1.1s							
BSUT	Blindstream Ca	65.34	330	P	P	22 37 48.1	0.0
BSUT					IAmb	IAmb	22 37 49.7	
	comp=Z,4.0nm,0.9s							
TPNV	Topopah Spring	65.51	324	P	P	22 37 48.6	-0.4
NLU	North Lily Min	65.53	329	P	P	22 37 48.6	-0.6
WCT	Wildcat Mounta	65.62	324	P	P	22 37 49.8	+0.2
WCT					IAmb	IAmb	22 37 52.4	
	comp=Z,5.9nm,1.2s							
DUG	Dugway, Tooele	66.08	329	P	P	22 37 53.0	+0.4
DUG					IAmb	IAmb	22 37 54.4	
	comp=Z,6.4nm,0.8s							
R11B	Troy Canyon, C	66.15	326	P	P	22 37 52.7	-0.5
GMN	Gold Mountain	66.33	324	P	P	22 37 55.0	+0.6
BW06	Boulder Array	66.55	333	P	P	22 37 55.0	-0.7
BW06				IAmb	IAmb	22 37 56.3	
	comp=Z,5.8nm,1.3s							
PDAR	Pinedale Array	66.55	333	P	P	22 37 54.7	-0.9
PDAR	Pinedale Array	66.55	333	P	P	22 37 54.9	-0.8
	comp=Z,0.9nm,0.8s,baz=159,slow=4.5,SNR=6.1							
	comp=Z,0.9nm,0.8s							
HWUT	Hardware Ranch	66.55	331	P	P	22 37 55.2	-0.5
HWUT					IAmb	IAmb	22 37 56.6	
	comp=Z,7.6nm,1.1s							
BGU	Big Grassy Mou	66.74	329	P	P	22 37 57.2	+0.4
HVU	Hansel Valley	67.26	330	P	P	22 37 59.9	-0.3
HVU					IAmb	IAmb	22 38 01.1	
	comp=Z,4.0nm,0.8s							
OMMB	Old Mammoth Mi	67.55	323	P	P	22 38 02.1	-0.1
OMMB					IAmb	IAmb	22 38 04.0	
	comp=Z,7.8nm,1.1s							
NVAR	Mina Array Bea	67.71	324	P	P	22 38 03.8	+0.6
	comp=Z,0.9nm,0.8s,baz=143,slow=7.1,SNR=6.5							
	comp=Z,0.9nm,0.8s							
FLWY	Flagg Ranch	68.10	333	P	P	22 38 05.3	-0.1
RLMT	Red Lodge	68.31	334	P	P	22 38 06.6	-0.2
ULM	Lac du Bonnet	68.39	346	P	P	22 38 06.1	-0.7
ULM	Lac du Bonnet	68.39	346	P	P	22 38 05.6	-1.2
	comp=Z,2.7nm,0.6s,baz=157,slow=6.0,SNR=5.9							
	comp=Z,2.7nm,0.6s							
YHL	Hebgen Lake	68.92	333	P	P	22 38 11.2	+0.5
YHL					IAmb	IAmb	22 38 12.8	
	comp=Z,6.9nm,0.9s							
PAHR	Pah Rah Range	69.20	324	P	P	22 38 12.1	-0.3
PAHR					IAmb	IAmb	22 38 14.7	
	comp=Z,7.0nm,1.0s							
MFID	Camas Ranch	69.98	329	P	P	22 38 17.5	+0.5
ORV	Oroville	70.30	323	P	P	22 38 19.6	+0.6
ORV					IAmb	IAmb	22 38 21.2	
	comp=Z,9.6nm,1.1s							
QSPA	South Pole Qui	74.34	180	P	P	22 38 44.9	+2.0
QSPA	South Pole Qui	74.34	180	P	P	22 38 44.8	+2.0
	comp=Z,1.9nm,0.6s,baz=168,slow=0.8,SNR=14							
	comp=Z,1.9nm,0.6s							
TOA0	Torodi Ar. Sit	80.77	74	P	P	22 39 19.8	+0.2
TORD	Torodi Ar. Bea	80.77	74	P	P	22 39 19.9	+0.4
TORD	Torodi Ar. Bea	80.77	74	P	P	22 39 20.1	+0.6
	comp=Z,1.2nm,0.7s,baz=266,slow=5.4,SNR=8.7							
	comp=Z,1.2nm,0.7s							
YKA	Yellowknife Ar	84.11	343	P	P	22 39 35.7	-0.1
YKA	Yellowknife Ar	84.11	343	P	P	22 39 35.1	-0.7
	comp=Z,1.2nm,0.8s,baz=140,slow=5.5,SNR=19							
	comp=Z,1.2nm,0.8s							
H11N3	WAKE ISLAND Hy	21.53	284	T	T	00 58 54.4		
	baz=97,slow=75,SNR=2.9							
H11N2	WAKE ISLAND Hy	21.54	284	T	T	00 59 04.0		
	baz=97,slow=75,SNR=3.4							
H11N1	WAKE ISLAND Hy	21.54	284	T	T	00 58 59.3		
	baz=97,slow=75,SNR=3.3							
H11S2	WAKE ISLAND Hy	21.57	282	T	T	00 59 20.6		
	baz=100,slow=74,SNR=8.7							
H11S1	WAKE ISLAND Hy	21.57	282	T	T	00 59 27.0		
	baz=100,slow=74,SNR=3.9							
H11S3	WAKE ISLAND Hy	21.58	282	T	T	00 59 21.4		
	baz=100,slow=74,SNR=5.6							
WRA	Warramunga Arr	134.46	220	PKP	PKPdf	22 46 24.6	+0.2	
	comp=Z,0.3nm,0.7s,baz=138,slow=1.5,SNR=4.7							
ZALV	Zalesovo Beam	138.70	18	PKP	PKPdf	22 46 31.7	+0.6	
	comp=Z,1.5nm,0.7s,baz=294,slow=1.5,SNR=7.5							
KURBB	Kurchatov Arra	139.11	26	PKP	PKPdf	22 46 32.7	+0.7	
	comp=Z,0.1nm,0.4s,baz=331,slow=2.7,SNR=3.6							
MKAR	Makanchi Array	143.64	27	PKPdf	PKPpre	22 46 36.2		
	comp=Z,0.5nm,0.8s,baz=310,slow=1.8,SNR=4.3							
SONM	Songino Array	148.06	359	PKPbc	PKPdf	22 46 49.1	+1.2	
	comp=Z,1.6nm,0.8s,baz=319,slow=1.9,SNR=8.4							
KSRS	Korea Array	150.63	322	PKPbc	PKPbc	22 46 57.5	-0.1	
	comp=Z,3.5nm,0.9s,baz=29,slow=1.5,SNR=9.2							

IDC 26 22:35:55.3±2.5, 24.97N×99.20E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=73.2km s-min=34.6km az=90.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.49	182	Pg	Pb	22 37 53.4	+4.4
	0.8nm,0.3s,baz=354,slow=17,SNR=17						
CMAR				Lg	Lg	22 39 15.4	
	baz=336,slow=17						
SONM	Songino Array	23.52	12	P	P	22 41 06.6	-0.5
	0.2nm,0.6s,baz=197,slow=8.8,SNR=1.2						
	0.2nm,0.6s						
MKAR	Makanchi Array	25.62	332	P	P	22 41 26.7	+0.3
	0.8nm,0.8s,baz=143,slow=9.5,SNR=8.6						
	0.8nm,0.8s						

*IDC **26** 22:42:48.1±0.7, 56.40N×148.72W, h0km, mb4.1/19, mbtmp4.2/24, ML4.2/5, MS3.5/4, Error ellipse: s-maj=20.6km s-min=12.0km az=39.0*

*NEIC **26** 22:42:50.9±1.6, 56.49N±0.05×148.75W±0.09, h21km±4km, mb4.5/141, ML4.6/64, Mwr4.3/24, ML4.4(AEIC), Error ellipse: s-maj=7.6km s-min=7.1km az=221.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr0.37; Mθθ-1.26; Mφφ0.88; Mrθ-1.36; Mθφ2.38; Mrφ-1.04; Fault plane solution: Mo3.14000×10^15 NP1: ϕs260.54000°, δ78.33000°, λ29.67000

BRSE **Bradley Lake S** 3.37 341 P Pn 22 43 41.8 -0.8
baz=161,SNR=27
BRLK **Bradley Lake** 3.42 340 Pn 22 43 42.3 -1.0
HOM **Homer** 3.49 334 Sn 22 44 23.6 -1.8
HOM **Homer** 3.49 334 Pn 22 43 44.1 -0.1
HOM **Homer** 3.49 334 IAML 22 44 26.2
comp=E,2µm,0.7s
HOM IAML 22 44 35.0
comp=N,1µm,0.7s
HOM **Homer** 3.49 334 P Pn 22 43 44.0 -0.2
baz=153,SNR=12
P23K **Montague Islan** 3.49 10 Pn 22 43 43.8 -0.4
P23K **Montague Islan** 3.49 10 P Pn 22 43 44.1 -0.1
baz=192
SEW **Seward** 3.57 353 Sn 22 44 24.0 -3.4
SEW **Seward** 3.57 353 P Pn 22 43 44.5 -0.7
baz=174,SNR=39
Q19K **Cape Douglas,** 3.59 313 Pn Pn 22 43 44.7 -0.8
Q19K **Cape Douglas,** 3.59 313 P Pn 22 43 44.8 -0.8
baz=131,SNR=31
AU22 **Augustine Moun** 3.78 320 Pn 22 43 47.5 -0.6
AUCH **Augustine Cone** 3.81 319 Pn 22 43 48.1 -0.5
AUL **Augustine Lava** 3.81 320 Pn 22 43 48.0 -0.6
P19K **Oil Pt** 3.94 323 Pn 22 43 49.9 -0.5
P19K **Oil Pt** 3.94 323 P Pn 22 43 50.1 -0.4
baz=141,SNR=8.0
O22K **Cooper Landing** 3.96 352 Pn 22 43 50.0 -0.7
O22K **Cooper Landing** 3.96 352 P Pn 22 43 50.0 -0.7
baz=172,SNR=26
HIN **Hinchinbrook I** 3.99 15 Pn Pn 22 43 51.1 +0.1
HIN IAML 22 44 37.3
comp=E,852nm,0.4s
HIN IAML 22 44 40.4
comp=N,1µm,0.5s
HIN **Hinchinbrook I** 3.99 15 Sn 22 44 35.5 -2.4
ACHA **Angle Creek He** 3.99 297 Pn 22 43 50.4 -0.8
KAIM **Kayak Island** 4.02 32 Pn Pn 22 43 51.6 +0.1
KAIM IAML 22 44 40.7
comp=N,1µm,1.1s
KAIM IAML 22 44 45.1
comp=E,1µm,0.5s
KAIM **Kayak Island** 4.02 32 P Pn 22 43 51.9 +0.4
baz=215,SNR=17
Q18K **Katmai Hardscr** 4.03 304 P Pn 22 43 50.5 -1.2
baz=120,SNR=35
SLKM **Skilak Lake** 4.04 349 Pn 22 43 50.9 -0.8
ANCK **Angle Creek** 4.07 296 Pn 22 43 51.4 -0.8
O20K **Slope Mountain** 4.11 331 P Pn 22 43 51.8 -0.9
baz=149,SNR=7.6
IVE **Iliamna Volcan** 4.17 328 Sn 22 44 39.4 -2.9
EYAK **Cordova Ski Ar** 4.26 19 Pn 22 43 54.7 0.0
EYAK **Cordova Ski Ar** 4.26 19 P Pn 22 43 54.9 +0.3
EYAK **Cordova Ski Ar** 4.26 19 P Pn 22 43 55.0 +0.3
baz=202,SNR=85
CNTC **Contact Creek** 4.29 296 Pn 22 43 54.0 -1.3
Q17K **Contact Creek** 4.29 296 P Pn 22 43 54.0 -1.3
baz=112,SNR=26
PLK3 **Peulik 3** 4.33 288 Pn 22 43 53.9 -1.7
RAGM **Ragged Mountai** 4.34 27 Pn 22 43 56.0 +0.1
RAGM IAML 22 44 57.1
comp=E,981nm,0.7s
CAPN **Captain Cook N** 4.41 343 Pn 22 43 56.8 0.0
CAPN **Captain Cook N** 4.41 343 P Pn 22 43 57.3 +0.4
baz=163,SNR=10
RDSO **Redoubt South** 4.46 333 Pn 22 43 56.1 -1.5
RSO **Redoubt South** 4.47 333 Pn 22 43 56.6 -1.2
P18K **Big Mountain,** 4.52 311 Pn Pn 22 43 56.5 -1.8
P18K **Big Mountain,** 4.52 311 P Pn 22 43 56.6 -1.8
baz=127,SNR=18
DFR **Drift River** 4.56 334 Pn 22 43 57.5 -1.5
RC01 **Rabbit Creek A** 4.57 353 Pn Pn 22 43 58.5 -0.5
RC01 IAML 22 44 51.4
comp=E,810nm,0.4s
RC01 IAML 22 44 56.4
comp=N,537nm,0.4s
RC01 **Rabbit Creek A** 4.57 353 P Pn 22 43 58.5 -0.5
baz=173,SNR=26
RDJH **Redoubt Jeurge** 4.59 333 Pn 22 43 58.1 -1.3
O19K **Port Alsworth** 4.72 323 Pn 22 43 59.5 -1.5
O19K **Port Alsworth** 4.72 323 P Pn 22 43 59.6 -1.4
baz=139,SNR=24
SNH **Sunshine Point** 4.72 38 Pn 22 44 01.7 +0.6
SNH IAML 22 44 57.9
comp=N,336nm,1.1s
SNH IAML 22 45 11.2
comp=E,341nm,1.1s
CYK **Cape Yakataga** 4.77 40 Pn 22 44 02.1 +0.4
DIV **Divide** 4.80 17 Pn 22 44 02.3 +0.1
O18K **Koktuh Hills** 4.80 316 IAML 22 44 54.8
comp=N,277nm,1.1s
O18K **Koktuh Hills** 4.80 316 P Pn 22 44 00.6 -1.6
baz=132,SNR=15
Q16K **King Salmon** 4.82 299 P Pn 22 44 00.6 -1.8
baz=114,SNR=17
KNK **Knik Glacier** 4.85 1 Pn 22 44 02.9 0.0
KNK IAML 22 45 06.3
comp=E,346nm,0.9s
KNK IAML 22 45 07.2
comp=N,262nm,0.9s
KNK **Knik Glacier** 4.85 1 P Pn 22 44 02.8 -0.1
baz=182,SNR=14
BMRM **Bremner River** 4.87 24 P Pn 22 44 03.5 +0.3
baz=207,SNR=30
P17K **Kvichak River** 4.94 305 Pn 22 44 03.1 -0.9
P17K **Kvichak River** 4.94 305 P Pn 22 44 03.2 -0.9
baz=120,SNR=46
R16K **Pilot Point** 5.00 285 Pn 22 44 02.8 -2.1
R16K **Pilot Point** 5.00 285 IAML 22 44 56.9
comp=E,276nm,1.1s
R16K IAML 22 45 56.2
comp=N,259nm,1.1s
N20K **Mount Spurr** 5.00 340 P Pn 22 44 04.3 -0.8
baz=158
SPCR **Spurr Chakacha** 5.00 340 Pn 22 44 03.8 -1.2
SPCN **Chakachatna No** 5.02 340 Pn 22 44 04.8 -0.5
SUA **Susitna One** 5.03 348 Pn 22 44 04.5 -1.0
SUA **Susitna One** 5.03 348 IAML 22 45 04.2
comp=E,304nm,1.0s
SUA IAML 22 45 05.3
comp=N,340nm,0.7s
SUA **Susitna One** 5.03 348 P Pn 22 44 04.8 -0.6
baz=167,SNR=14
PMR **Palmer** 5.04 357 Pn 22 44 05.2 -0.3
PMR **Palmer** 5.04 357 IAML 22 45 01.7
comp=N,362nm,0.8s
PMR IAML 22 45 02.2
comp=E,448nm,0.8s
PMR **Palmer** 5.04 357 P Pn 22 44 05.5 +0.1
PMR **Palmer** 5.04 357 P Pn 22 44 05.3 -0.1
baz=178,SNR=22
SPCG **Spurr Capps Gl** 5.05 341 Pn 22 44 04.9 -0.8
SPCP **Crater Peak Br** 5.05 340 Pn 22 44 05.2 -0.6
KLU **Klutina** 5.12 15 Pn 22 44 07.0 +0.3
KLU IAML 22 45 07.2
comp=E,311nm,0.5s
KLU IAML 22 45 07.5
comp=N,381nm,0.4s
KLU **Klutina** 5.12 15 P Pn 22 44 07.0 +0.3
baz=197,SNR=52
GHO **Glory Hole Cre** 5.22 358 Pn 22 44 08.1 +0.2
GHO **Glory Hole Cre** 5.22 358 IAML 22 45 10.0
comp=E,579nm,0.7s
N19K **Bonanza Creek** 5.24 327 Pn 22 44 07.0 -1.4
N19K **Bonanza Creek** 5.24 327 P Pn 22 44 07.1 -1.3
baz=143
SML **Sawmill** 5.25 1 Pn Pn 22 44 08.7 +0.3
SML IAML 22 45 11.9
comp=E,487nm,1.0s
SML IAML 22 45 13.5
comp=N,482nm,0.7s
SML **Sawmill** 5.25 1 P Pn 22 44 08.7 +0.3
baz=182,SNR=44
M23K **Glacier View** 5.25 5 Pn 22 44 08.8 +0.4
M23K **Glacier View** 5.25 5 P Pn 22 44 09.0 +0.6
baz=186,SNR=39
SCM **Sheep Creek Mo** 5.32 7 Pn 22 44 10.0 +0.6
SCM **Sheep Creek Mo** 5.32 7 P Pn 22 44 09.9 +0.6
baz=188,SNR=27
ANPB **Aniakchak Plen** 5.34 276 Pn 22 44 07.7 -1.9
SAMH **Samovar Hills** 5.44 46 Pn 22 44 11.9 +0.8
N25K **Chitina, Valde** 5.45 21 P Pn 22 44 11.7 +0.5
baz=204,SNR=91
CHGN **Chignik** 5.45 271 Pn 22 44 08.9 -2.2
CHGN IAML 22 45 10.0
comp=E,347nm,0.5s
CHGN IAML 22 45 10.0
comp=N,386nm,0.5s
CHGN **Chignik** 5.45 271 P Pn 22 44 08.2 -3.0
baz=84
O17K **Koliganek Bris** 5.52 309 Pn 22 44 10.6 -1.4
O17K **Koliganek Bris** 5.52 309 P Pn 22 44 10.6 -1.4
baz=123
YKU2 **Yakutat** 5.58 54 Pn Pn 22 44 14.1 +1.3
P16K **Nushagak River** 5.59 300 P Pn 22 44 11.9 -1.1
baz=113,SNR=17
N18K **Kilae Creek** 5.61 320 P Pn 22 44 11.7 -1.5
baz=135,SNR=9.3
MCARA **McCarthy VSAT** 5.62 29 P Pn 22 44 13.9 +0.5
baz=214,SNR=34
SKT **Skwentna** 5.63 346 Pn 22 44 13.3 -0.2
SKT **Skwentna** 5.63 346 P Pn 22 44 12.9 -0.6
baz=164,SNR=11
PCA **Pinnacle** 5.63 48 Pn 22 44 14.3 +0.5
PINM **Pinnacle** 5.64 48 P Pn 22 44 13.9 +0.2
baz=235,SNR=11
M24K **Tolsona, Glenn** 5.69 12 Pn Pn 22 44 14.8 +0.4
M24K **Tolsona, Glenn** 5.69 12 P Pn 22 44 15.1 +0.7
baz=194,SNR=27
PNL **Peninsula** 5.78 54 Pn 22 44 16.2 +0.6
PNL **Peninsula** 5.78 54 P Pn 22 44 16.3 +0.6
CTG **Chitna Glacier** 5.80 38 P Pn 22 44 16.6 +0.6
baz=224,SNR=50
CTGM **Chitina Glacie** 5.80 38 Pn Pn 22 44 16.6 +0.6
SVW2 **Sparrevohn** 5.80 324 Pn 22 44 13.7 -2.3
SVW2 **Sparrevohn** 5.80 324 P Pn 22 44 14.8 -1.2
M20K **Styx River** 5.81 338 Pn 22 44 14.8 -1.3
M20K **Styx River** 5.81 338 P Pn 22 44 15.3 -0.8
baz=156
BCPM **Bancas Point** 5.82 51 Pn Pn 22 44 17.3 +1.2
O16K **Kokwok River B** 5.88 305 Pn Pn 22 44 14.4 -2.5
O16K **Kokwok River B** 5.88 305 P Pn 22 44 15.7 -1.2
baz=118,SNR=24
CUT **Chulitna** 5.91 352 P Pn 22 44 17.1 -0.3
baz=172,SNR=9.3
N17K **Nushagak Hills** 5.99 315 Pn 22 44 16.8 -1.8
WAT6 **Susitna Watana** 6.04 4 P Pn 22 44 19.6 +0.2
baz=185,SNR=30
HARP **HAARP** 6.10 15 P Pn 22 44 20.3 +0.3
baz=199,SNR=45
M19K **Big River Lodg** 6.11 333 Pn 22 44 18.6 -1.6
M19K **Big River Lodg** 6.11 333 P Pn 22 44 19.0 -1.2
baz=150
M18K **Stony River** 6.18 326 Pn 22 44 19.5 -1.6
M18K **Stony River** 6.18 326 P Pn 22 44 19.5 -1.6
baz=141
WAT1 **Susitna Watana** 6.28 0 P Pn 22 44 22.9 +0.5
baz=181
O29M **Mount Kennedy** 6.45 50 P Pn 22 44 25.8 +0.8
baz=239,SNR=75
CHNA **Chernabura Isl** 6.46 259 P Pn 22 44 21.7 -3.1
baz=70
CNBA **Chernabura Isl** 6.46 259 Pn Pn 22 44 21.9 -3.0
L19K **White Mountain** 6.47 333 P Pn 22 44 23.8 -1.2
baz=149
L20K **Farewell, AK** 6.50 338 P Pn 22 44 24.2 -1.4
baz=154
M26K **Nabesna, AK** 6.50 24 Pn 22 44 25.8 +0.2
M26K **Nabesna, AK** 6.50 24 P Pn 22 44 26.1 +0.5
baz=209,SNR=14
P29M **Windy Craggy** 6.52 57 P Pn 22 44 26.3 +0.5
baz=246
O15K **Ungalikthiuk R** 6.53 298 P Pn 22 44 25.0 -0.9
baz=110
DHY **Denali Highway** 6.55 5 P Pn 22 44 26.8 +0.5
baz=187,SNR=42
YUK8 **Steele Glacier** 6.57 40 P Pn 22 44 28.3 +1.6
baz=228,SNR=44
PPLA **Purkeypile** 6.60 346 Pn 22 44 27.2 +0.3
PPLA **Purkeypile** 6.60 346 P Pn 22 44 27.1 +0.1
baz=163
N16K **Nishlik Lake** 6.61 310 P Pn 22 44 25.6 -1.4
baz=123
PAX **Paxson** 6.61 13 Pn 22 44 27.9 +0.8
PAX **Paxson** 6.61 13 P Pn 22 44 27.5 +0.5
baz=196,SNR=22
M17K **Holitna River** 6.65 320 P Pn 22 44 26.3 -1.3
baz=134
YUK3 **Moose Creek** 6.68 35 P Pn 22 44 29.7 +1.5
baz=222,SNR=78
M27K **Edge Creek, AK** 6.73 28 P Pn 22 44 29.4 +0.6
baz=214
SDPT **Sand Point** 6.78 265 Pn Pn 22 44 27.3 -2.1
SDPT **Sand Point** 6.78 265 P Pn 22 44 27.2 -2.1
SDPT **Sand Point** 6.78 265 P Pn 22 44 25.9 -3.4
baz=75
S31K **Pelican** 6.85 73 Pn 22 44 28.4 -1.8
S31K **Pelican** 6.85 73 P Pn 22 44 29.4 -0.9
baz=263,SNR=17
RND **Reindeer** 6.86 359 Pn 22 44 31.1 +0.6
YUK6 **Outpost Mounta** 6.89 46 P Pn 22 44 32.6 +1.6
baz=235,SNR=50
TRF **Thorofare Moun** 6.95 354 P Pn 22 44 32.1 +0.3
baz=173,SNR=12
M16K **Timber Creek** 6.99 314 Pn Pn 22 44 30.9 -1.2
M16K **Timber Creek** 6.99 314 P Pn 22 44 31.0 -1.2
baz=126,SNR=11
L26K **Log Cabin Wild** 6.99 20 Pn 22 44 33.4 +1.1
L26K **Log Cabin Wild** 6.99 20 P Pn 22 44 33.5 +1.2
baz=205,SNR=24
L18K **Granite Mounta** 7.00 327 P Pn 22 44 31.1 -1.3
baz=141
YUK4 **Talbot Arm** 7.02 43 P Pn 22 44 35.9 +3.0
baz=231,SNR=82
N15K **Kwethluk River** 7.04 306 P Pn 22 44 32.2 -0.7
baz=117
BVCY **Beaver Creek** 7.05 31 Pn 22 44 34.1 +1.0
BVCY **Beaver Creek** 7.05 31 P Pn 22 44 34.3 +1.2
baz=218,SNR=30
P30M **Million Dollar** 7.08 55 P Pn 22 44 34.4 +0.9
baz=245
CAST **Castle Rocks** 7.08 347 Pn 22 44 33.0 -0.5
CAST **Castle Rocks** 7.08 347 P Pn 22 44 33.4 -0.1
baz=165,SNR=20
KTH **Kantishna Hill** 7.10 352 Pn 22 44 33.7 0.0
PLBC **Pleasant Camp** 7.11 61 Pn 22 44 34.7 +0.9
PLBC **Pleasant Camp** 7.11 61 P Pn 22 44 34.5 +0.7
baz=251,SNR=9.6
R31K **City Hall, Gus** 7.17 70 P Pn 22 44 34.7 0.0
baz=260
HYT **Haines Junctio** 7.18 49 Pn 22 44 35.8 +0.9
HYT **Haines Junctio** 7.18 49 P Pn 22 44 35.8 +0.9
baz=238,SNR=14
MCK **McKinley** 7.18 359 Pn 22 44 35.5 +0.6
MCK **McKinley** 7.18 359 P Pn 22 44 35.5 +0.6
baz=179,SNR=20
O14K **Tigyukauivet M** 7.26 297 Pn Pn 22 44 35.1 -0.8
O14K **Tigyukauivet M** 7.26 297 P Pn 22 44 34.3 -1.6
baz=107
SIT **Sitka** 7.30 81 Pn 22 44 33.4 -3.1
SIT **Sitka** 7.30 81 P Pn 22 44 33.7 -2.8
K20K **Telida** 7.33 340 Pn 22 44 36.6 -0.3
K20K **Telida** 7.33 340 P Pn 22 44 36.1 -0.9
baz=156
L27K **Beaver Creek,** 7.34 25 P Pn 22 44 37.5 +0.4
baz=211
K24K **Donnelly Dome** 7.39 10 P Pn 22 44 38.8 +1.1
baz=193,SNR=41
TTA **Tatalina** 7.39 333 Pn Pn 22 44 36.4 -1.4
TTA **Tatalina** 7.39 333 P Pn 22 44 36.0 -1.7
TTA **Tatalina** 7.39 333 P Pn 22 44 36.4 -1.4
baz=147
RIDG **Independent Ri** 7.43 13 Pn 22 44 39.1 +0.9
RIDG **Independent Ri** 7.43 13 P Pn 22 44 38.9 +0.7
baz=197,SNR=44
L17K **Donlin** 7.45 322 Pn 22 44 36.8 -1.8
L17K **Donlin** 7.45 322 P Pn 22 44 37.0 -1.6
baz=135,SNR=6.3
M15K **Kasigluk River** 7.54 308 P Pn 22 44 38.5 -1.2
baz=119
CHUM **Lake Minchumin** 7.56 347 P Pn 22 44 39.6 -0.4
baz=165,SNR=32
L16K **Owhat River** 7.60 317 Pn 22 44 39.2 -1.3
L16K **Owhat River** 7.60 317 P Pn 22 44 39.1 -1.3
baz=129,SNR=10
SKAG **Skagway** 7.62 62 Pn 22 44 41.9 +1.1
SKAG **Skagway** 7.62 62 P Pn 22 44 41.7 +0.9
SKAG **Skagway** 7.62 62 P Pn 22 44 40.9 +0.1
baz=253,SNR=14
BWN **Browne** 7.63 357 Pn Pn 22 44 42.1 +1.1
BPAW **Bear Paw Mtn.** 7.64 352 Pn 22 44 40.5 -0.6
BPAW **Bear Paw Mtn.** 7.64 352 P Pn 22 44 40.8 -0.3
baz=171,SNR=30
N14K **Kuskokwak Cree** 7.67 301 P Pn 22 44 40.1 -1.5
baz=111
N30M **Aishikik Lake** 7.69 46 Pn 22 44 42.9 +0.9
N30M **Aishikik Lake** 7.69 46 P Pn 22 44 42.8 +0.9
baz=236
S32K **Killisnoo** 7.71 77 Pn 22 44 40.7 -1.3
S32K **Killisnoo** 7.71 77 P Pn 22 44 40.3 -1.7
baz=269
O30N **Mendenhall** 7.75 52 Pn 22 44 43.8 +1.1
O30N **Mendenhall** 7.75 52 P Pn 22 44 43.8 +1.1
baz=242,SNR=12
SCRK **Sand Creek** 7.77 15 Pn 22 44 42.6 -0.4
SCRK **Sand Creek** 7.77 15 P Pn 22 44 43.7 +0.6
baz=200,SNR=13
R32K **Eaglecrest** 7.79 72 Pn Pn 22 44 43.5 +0.3
R32K **Eaglecrest** 7.79 72 P Pn 22 44 43.2 0.0
baz=263
M29M **Somme Creek** 7.82 37 Pn 22 44 45.0 +1.4
M29M **Somme Creek** 7.82 37 P Pn 22 44 44.7 +1.0
baz=226,SNR=43
JIS **Juneau Island** 7.86 72 P Pn 22 44 44.2 +0.1
K17K **Iditarod** 7.87 325 P Pn 22 44 42.9 -1.4
baz=138
HDA **Harding Lake** 7.90 5 P Pn 22 44 45.4 +0.7
baz=187,SNR=25
J18K **Innoko River** 8.01 333 Pn 22 44 44.9 -1.3
J18K **Innoko River** 8.01 333 P Pn 22 44 45.4 -0.8
baz=147
NEA2 **Nenana** 8.05 359 Pn 22 44 46.6 -0.2
NEA2 **Nenana** 8.05 359 P Pn 22 44 46.3 -0.5
baz=179,SNR=28
J20K **Nowinta River** 8.10 343 Pn Pn 22 44 46.5 -0.9
J20K **Nowinta River** 8.10 343 P Pn 22 44 47.2 -0.2
baz=158
CCB **Clear Creek Bu** 8.11 2 Pn 22 44 47.3 -0.2
M14K **Bethel** 8.12 307 Pn Pn 22 44 47.4 -0.3
M14K **Bethel** 8.12 307 P Pn 22 44 46.5 -1.1
baz=116
K27K **Chicken** 8.14 21 P Pn 22 44 48.1 0.0
baz=207
J19K **Poorman** 8.21 338 Pn 22 44 47.6 -1.3
J19K **Poorman** 8.21 338 P Pn 22 44 47.7 -1.3
baz=152,SNR=5.8
J25K **Salcha River,** 8.22 10 P Pn 22 44 48.8 -0.3
baz=193,SNR=14
N31M **Braeburn, Yuko** 8.24 48 P Pn 22 44 50.4 +1.1
baz=239,SNR=31
WHY **Whitehorse** 8.24 55 Pn Pn 22 44 50.9 +1.4
WHY **Whitehorse** 8.24 55 P Pn 22 44 50.5 +1.0
baz=246,SNR=52
ILAR **Eielson Array** 8.27 5 Pn Pn 22 44 49.5 -0.2
comp=N,2.9nm,0.3s,baz=191,slow=13,SNR=48
ILAR Sn Sn 22 46 20.5 -2.5
comp=N,5.2nm,0.3s,baz=178,slow=15,SNR=2.9
ILAR LR LR 22 48 21.8
comp=N,315nm,19.4s,baz=242,slow=40
comp=N,9.9nm,0.6s
J26L **Joseph Creek** 8.33 15 P Pn 22 44 50.9 +0.2
baz=200
COLA **College** 8.34 2 Pn 22 44 51.1 +0.5
COLA **College** 8.34 2 P Pn 22 44 50.8 +0.2
COLA **College** 8.34 2 P Pn 22 44 51.0 +0.3
baz=183
L15K **Ungalak Mounta** 8.37 313 P Pn 22 44 49.9 -1.2
baz=123,SNR=8.3
L29M **L29M** 8.40 34 P Pn 22 44 52.6 +1.0
baz=224
MDM **Murphy Dome** 8.41 1 Pn 22 44 51.7 -0.1
P32M **Atlin** 8.44 63 P Pn 22 44 52.7 +0.5
baz=255,SNR=21
M30M **Minto, Yukon** 8.48 40 P Pn 22 44 53.5 +0.8
baz=230,SNR=14
FALS **False Pass** 8.54 265 P Pn 22 44 50.5 -3.0
baz=73
MLY **Manley** 8.55 354 Pn 22 44 53.0 -0.6
MLY **Manley** 8.55 354 P Pn 22 44 53.6 0.0
baz=173,SNR=13
POKR **Poker Plat Res** 8.59 3 Pn Pn 22 44 54.7 +0.5
POKR **Poker Plat Res** 8.59 3 P Pn 22 44 54.6 +0.4
baz=185,SNR=9.2
I23K **Minto, Yukon-K** 8.61 358 P Pn 22 44 54.4 0.0
baz=178,SNR=28
U33K **Whale Pass** 8.61 87 Pn 22 44 51.3 -3.1
U33K **Whale Pass** 8.61 87 P Pn 22 44 51.5 -3.0
baz=279
M13K **Dall Lake** 8.63 303 Pn 22 44 53.3 -1.3
M13K **Dall Lake** 8.63 303 P Pn 22 44 53.8 -0.8
baz=111
L14K **Kuka Creek** 8.70 309 P Pn 22 44 54.9 -0.7
baz=118
K15K **Wolf Creek Mou** 8.72 316 Pn 22 44 55.3 -0.7
K15K **Wolf Creek Mou** 8.72 316 P Pn 22 44 55.0 -1.0
baz=126
I20K **Naaghedeneel** 8.73 343 P Pn 22 44 56.2 +0.1
baz=159
CRAG **Craig** 8.74 91 Pn Pn 22 44 54.1 -2.1
CRAG **Craig** 8.74 91 P Pn 22 44 52.9 -3.3
ISLZ **Isanotski Laza** 8.75 264 Pn 22 44 53.3 -3.1
DAWY **Dawson** 8.78 27 P Pn 22 44 57.5 +0.6
baz=216,SNR=20
I21K **Tanana** 8.79 351 P Pn 22 44 57.3 +0.4
baz=168
WRAK **Wrangell Islan** 8.99 84 Pn Pn 22 44 59.5 -0.2
WRAK **Wrangell Islan** 8.99 84 P Pn 22 44 58.5 -1.1
baz=277
EGAK **Eagle** 8.99 21 P Pn 22 45 00.6 +1.0
baz=208,SNR=13
J16K **Anvik River** 9.02 323 Pn 22 44 58.1 -1.9
J16K **Anvik River** 9.02 323 P Pn 22 44 58.0 -2.0
baz=134,SNR=6.2
Q32M **Nakina River** 9.05 68 P Pn 22 45 00.9 +0.3
baz=261
P33M **Teslin, Yukon** 9.05 60 P Pn 22 45 00.9 +0.4
baz=253,SNR=43
PRP **Porcupine Dome** 9.10 8 Pn 22 45 01.2 +0.1
PRP **Porcupine Dome** 9.10 8 P Pn 22 45 01.3 +0.1
baz=191,SNR=14
K29M **Barlow Dome** 9.13 32 P Pn 22 45 02.9 +1.3
baz=222
GCSA **Galena City Sc** 9.14 337 P Pn 22 45 00.3 -1.4
baz=151
I26K **Coal Creek Min** 9.15 15 P Pn 22 45 02.6 +0.9
baz=200
M31M **Drury Creek, Y** 9.17 46 P Pn 22 45 03.8 +1.6
baz=238,SNR=22
N32M **Quiet Lake** 9.24 54 P Pn 22 45 04.0 +0.9
baz=247,SNR=13
H24K **Noodor Dome** 9.30 2 Pn 22 45 04.9 +1.0
H24K **Noodor Dome** 9.30 2 P Pn 22 45 05.6 +1.6
baz=183
H21K **Melozitna Rive** 9.34 349 P Pn 22 45 03.8 -0.6
baz=166
J29N **Klondike Camp** 9.40 29 Pn 22 45 06.6 +1.3
J29N **Klondike Camp** 9.40 29 P Pn 22 45 06.0 +0.7
baz=218,SNR=9.5
H20K **Anotleneega Mo** 9.45 344 Pn 22 45 05.5 -0.3
H20K **Anotleneega Mo** 9.45 344 P Pn 22 45 05.5 -0.3
baz=159
H22K **Ishtalitna Cre** 9.45 353 Pn 22 45 05.6 -0.3
H22K **Ishtalitna Cre** 9.45 353 P Pn 22 45 05.9 0.0
baz=171,SNR=11
I17K **Unalakleet** 9.47 326 Pn 22 45 04.8 -1.3
I17K **Unalakleet** 9.47 326 P Pn 22 45 05.0 -1.2
baz=136,SNR=6.5
S34M **Telegraph Cree** 9.56 75 Pn 22 45 07.8 +0.3
S34M **Telegraph Cree** 9.56 75 P Pn 22 45 07.5 +0.1
baz=269
FARO **Faro, Yukon** 9.61 48 Pn 22 45 09.9 +1.8
FARO **Faro, Yukon** 9.61 48 P Pn 22 45 09.3 +1.2
baz=241,SNR=16
V35K **Ketchikan** 9.61 90 Pn Pn 22 45 06.8 -1.3
V35K **Ketchikan** 9.61 90 P Pn 22 45 06.3 -1.8
baz=284
I27K **Kandik River** 9.66 18 Pn 22 45 09.5 +0.6
I27K **Kandik River** 9.66 18 P Pn 22 45 09.3 +0.4
baz=204,SNR=13
H19K **Roundabout Mou** 9.75 340 Pn 22 45 09.9 -0.1
H19K **Roundabout Mou** 9.75 340 P Pn 22 45 09.8 -0.1
baz=154
J14K **Nanvaranak Lak** 9.76 316 Pn Pn 22 45 08.2 -1.9
J14K **Nanvaranak Lak** 9.76 316 P Pn 22 45 08.2 -1.9
baz=123
R33M **Jennings River** 9.78 66 P Pn 22 45 11.0 +0.5
baz=260
H18K **Honhosa River** 9.82 335 P Pn 22 45 09.9 -1.1

baz=147
I28M Miner Creek 9.83 22 Pn 22 45 12.7 +1.5
I28M Miner Creek 9.83 22 P Pn 22 45 11.6 +0.3
baz=209,SNR=5.9
DIB Dawson Inlet, 9.88 103 Pn Pn 22 45 11.5 -0.3
M11K Mekoryuk 9.97 300 P Pn 22 45 10.8 -2.2
baz=106
J30M Hart River 10.02 32 P Pn 22 45 14.9 +1.1
baz=223
H17K Granite Mounta 10.03 331 P Pn 22 45 12.3 -1.5
baz=142
T35M Bob Quinn 10.08 80 Pn Pn 22 45 16.1 +1.5
T35M Bob Quinn 10.08 80 P Pn 22 45 15.0 +0.4
baz=275
I29M Ogilvie Camp, 10.12 25 Pn Pn 22 45 16.7 +1.7
FYU Fort Yukon 10.15 8 Pn Pn 22 45 16.1 +0.6
DLBC Dease Lake 10.16 72 Pn 22 45 16.4 +0.6
DLBC Dease Lake 10.16 72 P Pn 22 45 15.8 +0.1
baz=267,SNR=6.0
DLBC Dease Lake 10.16 72 Pn Pn 22 45 16.3 +0.5
comp=N,4.2nm,0.3s,baz=248,slow=9.9,SNR=18
DLBC Sn Sn 22 47 05.6 -4.1
comp=N,1.6nm,0.3s,baz=331,slow=22,SNR=1.7
comp=N,10.0nm,0.4s
G24K Hadweenzic Riv 10.18 3 P Pn 22 45 16.9 +1.1
baz=184
G23K Bananza Creek 10.20 357 Pn 22 45 16.3 +0.2
G23K Bananza Creek 10.20 357 P Pn 22 45 16.7 +0.6
baz=176
G21K Allakaket 10.24 349 P Pn 22 45 17.1 +0.3
baz=165
H27K Steamboat Moun 10.26 16 P Pn 22 45 18.0 +1.0
baz=203
G25K Bearman Lake 10.29 6 P Pn 22 45 18.3 +0.8
baz=188
U35K Hyder 10.36 86 Pn 22 45 19.2 +0.9
G19K Purcell Mounta 10.42 341 Pn 22 45 18.6 -0.5
H16K Elim 10.48 326 Pn 22 45 18.8 -1.2
H16K Elim 10.48 326 P Pn 22 45 19.2 -0.8
baz=135
I30M Mount Dempster 10.50 29 Pn 22 45 21.0 +0.6
I30M Mount Dempster 10.50 29 P Pn 22 45 21.5 +1.2
baz=220
G18K Tagagawik 10.51 337 Pn Pn 22 45 19.6 -0.8
G18K Tagagawik 10.51 337 P Pn 22 45 20.0 -0.5
baz=149
G26K Porcupine Rive 10.65 10 P Pn 22 45 22.7 +0.3
baz=195
G17K Kiwalik Mounta 10.67 332 P Pn 22 45 21.6 -1.0
baz=142
COLD Coldfoot 10.72 357 Pn 22 45 23.5 +0.3
COLD Coldfoot 10.72 357 P Pn 22 45 23.4 +0.1
baz=176,SNR=18
H29M Whitestone 10.83 23 Pn 22 45 24.9 +0.2
H29M Whitestone 10.83 23 P Pn 22 45 26.6 +1.9
baz=212
F21K Alatna River 10.93 350 Pn Pn 22 45 25.9 -0.1
F21K Alatna River 10.93 350 P Pn 22 45 26.0 -0.1
baz=166
WTLY Watson Lake, Y 10.98 63 Pn 22 45 27.3 +0.4
WTLY Watson Lake, Y 10.98 63 P Pn 22 45 27.8 +0.9
baz=260
F24K Squaw Lake 10.99 1 Pn 22 45 26.9 -0.1
F24K Squaw Lake 10.99 1 P Pn 22 45 27.4 +0.4
baz=182
HG4B Hotspring 10.99 106 Pn Pn 22 45 25.5 -1.6
F20K Avaraart Lake 11.03 345 Pn 22 45 26.9 -0.5
F20K Avaraart Lake 11.03 345 P Pn 22 45 27.5 +0.1
baz=160
G16K Koyuk River 11.05 329 Pn 22 45 26.7 -1.2
G16K Koyuk River 11.05 329 P Pn 22 45 27.3 -0.5
baz=137
F25K Christian Rive 11.14 6 P Pn 22 45 29.2 +0.1
baz=189
F19K Shaleruckik Mo 11.16 341 Pn 22 45 28.8 -0.5
F19K Shaleruckik Mo 11.16 341 P Pn 22 45 28.9 -0.3
baz=153
G15K Niukluk 11.29 325 P Pn 22 45 30.1 -0.9
baz=132
EPYK Eagle Plains 11.32 25 Pn Pn 22 45 33.7 +2.2
EPYK Eagle Plains 11.32 25 P Pn 22 45 32.5 +0.9
baz=216
F18K Selawik 11.33 337 P Pn 22 45 31.7 +0.1
baz=148
F26K Sheenjek River 11.35 9 P Pn 22 45 31.6 -0.2
baz=193
ANM Nome 11.46 321 Pn Pn 22 45 32.5 -0.9
ANM Nome 11.46 321 P Pn 22 45 32.4 -1.0
baz=127,SNR=7.5
G29M Pine Creek 11.49 21 Pn 22 45 35.0 +1.1
G29M Pine Creek 11.49 21 P Pn 22 45 34.3 +0.4
baz=211
E23K Chandalar 11.54 358 P Pn 22 45 34.7 +0.2
baz=178
F17K Baldwin Pennin 11.56 334 P Pn 22 45 34.0 -0.8
baz=143
E19K Redstone River 11.63 343 P Pn 22 45 36.4 +0.6
baz=156
E25K Arctic Village 11.67 6 P Pn 22 45 36.4 +0.1
baz=189,SNR=8.2
F28M Old Crow 11.79 17 Pn Pn 22 45 39.0 +1.0
F28M Old Crow 11.79 17 P Pn 22 45 38.7 +0.8
baz=204,SNR=8.7
G30M tAoh Zraii Nji 11.94 24 Pn 22 45 41.4 +1.5
G30M tAoh Zraii Nji 11.94 24 P Pn 22 45 40.7 +0.8
baz=215
F15K North Star Dit 11.96 326 Pn 22 45 39.3 -0.9
F15K North Star Dit 11.96 326 P Pn 22 45 39.7 -0.5
baz=133
E17K Hotham Inlet 12.22 335 P Pn 22 45 43.3 -0.4
baz=144
E18K Tukpahlearik C 12.22 338 Pn 22 45 43.8 0.0
E18K Tukpahlearik C 12.22 338 P Pn 22 45 43.4 -0.4
baz=148
E20K Nigu River 12.23 347 P Pn 22 45 43.6 -0.3
baz=160
F14K Arctic Creek 12.34 323 P Pn 22 45 44.1 -1.2
baz=128
G31M Satah River 12.36 27 Pn 22 45 46.6 +1.0
G31M Satah River 12.36 27 P Pn 22 45 46.4 +0.8
baz=220
D23K Nanushuk River 12.47 357 P Pn 22 45 48.0 +0.7
baz=175
D22K Ayikyak River 12.49 353 Pn Pn 22 45 48.4 +0.9
D22K Ayikyak River 12.49 353 P Pn 22 45 47.8 +0.4
baz=170
F30M Barrier River 12.55 23 P Pn 22 45 49.4 +1.1
baz=214
D24K Happy Valley 12.63 360 P Pn 22 45 49.6 +0.3
baz=180
BBB Bella Bella 12.71 102 Sn Sn 22 48 03.5 -8.3
comp=N,0.3nm,0.3s,baz=168,slow=22,SNR=1.1
BBB LR LR 22 49 42.2
comp=N,216nm,20.0s,baz=270,slow=32
D20K Etivluk River 12.71 347 P Pn 22 45 50.1 -0.4
baz=160
D19K Kuna River 12.72 344 P Pn 22 45 50.4 -0.2
baz=156
E28M Babbage River 12.75 15 Pn 22 45 52.2 +1.2
E28M Babbage River 12.75 15 P Pn 22 45 51.6 +0.6
baz=204
E29M Blow River 12.81 18 Pn 22 45 53.4 +1.5
E29M Blow River 12.81 18 P Pn 22 45 53.2 +1.3
baz=208
D25K Kavik River 12.84 4 Pn 22 45 53.6 +1.4
D25K Kavik River 12.84 4 P Pn 22 45 53.3 +1.1
baz=186,SNR=12
F31M Tsiigehtchic 12.89 26 Pn Pn 22 45 53.6 +0.8
F31M Tsiigehtchic 12.89 26 P Pn 22 45 54.2 +1.3
baz=220,SNR=6.4
TNA Tin City 12.93 322 P Pn 22 45 52.6 -0.7
baz=126
C21K Knifeblade Rid 12.93 350 P Pn 22 45 53.7 +0.2
baz=165
D27M Malcolm River 13.16 12 Pn Pn 22 45 58.4 +1.7
D27M Malcolm River 13.16 12 P Pn 22 45 59.0 +2.3
baz=199
C24K Franklin Bluff 13.20 360 P Pn 22 45 58.2 +1.2
baz=180
KOTAN Kotaneelee Air 13.34 64 P Pn 22 46 00.8 +1.8
baz=265,SNR=27
C18K Utukok River 13.39 340 Pn 22 46 00.5 +0.8
C19K Lookout Ridge 13.50 343 Pn 22 46 00.6 -0.7
C19K Lookout Ridge 13.50 343 P Pn 22 46 02.3 +1.0
baz=154
GAMB Gambell 13.51 312 P Pn 22 46 01.4 +0.1
baz=112
D28M Stokes Point 13.53 15 P Pn 22 46 05.3 +3.7
baz=204
INK Inuvik 13.62 24 Pn Pn 22 46 04.0 +1.2
INK Inuvik 13.62 24 P Pn 22 46 04.7 +1.9
baz=218,SNR=13
INK Inuvik 13.62 24 Pn Pn 22 46 04.5 +1.7
comp=N,0.6nm,0.3s,baz=207,slow=14,SNR=27
INK LR LR 22 51 48.8
comp=N,129nm,18.6s,baz=154,slow=39
comp=N,25nm,0.9s
FLDN Fort Liard 13.63 64 Pn 22 46 04.4 +1.4
FLDN Fort Liard 13.63 64 P Pn 22 46 04.7 +1.7
baz=265
C17K DeLong Mountai 13.65 337 P Pn 22 46 04.2 +1.0
baz=144
B22K Teshekpuk Lake 13.98 353 P Pn 22 46 08.0 +0.3
baz=169
C16K Lisburne Hills 13.99 334 Pn Pn 22 46 07.2 -0.7
C16K Lisburne Hills 13.99 334 P Pn 22 46 08.1 +0.2
baz=139
B20K Meade River 14.00 348 P Pn 22 46 07.9 -0.1
baz=160
B18K Kokolik River 14.12 341 P Pn 22 46 11.5 +1.9
baz=149
A19K Wainwright 14.72 343 P Pn 22 46 18.7 +0.8
baz=152
A22K Sinclair Lake 14.74 352 P Pn 22 46 16.7 -1.4
baz=166
A21K Barrow 15.19 350 P Pn 22 46 22.2 -1.9
baz=163
C36M Paulatuk 16.80 31 P Pn 22 46 43.6 -1.2
baz=233,SNR=19
HILA High Level 16.97 70 Pn Pn 22 46 48.0 +0.9
YKA Yellowknife Ar 18.06 57 Pn 22 47 00.5 -0.1
YKA Yellowknife Ar 18.06 57 P Pn 22 47 01.6 +1.0
comp=N,0.3nm,0.3s,baz=264,slow=12,SNR=28
comp=N,6.8nm,1.1s
A36M Sachs Harbour 18.26 23 Pn 22 47 02.9 -0.1
A36M IAmb IAmb 22 47 07.2
comp=Z,32nm,0.7s
A36M Sachs Harbour 18.26 23 P Pn 22 47 03.5 +0.5
baz=224,SNR=35
D05A Enumclaw 18.81 109 P P 22 47 09.3 0.0
D05A IAmb IAmb 22 47 12.6
comp=Z,29nm,1.1s
F04D Rainier, OR 19.01 113 P P 22 47 09.5 -2.1
F04A Amboy 19.42 112 P P 22 47 15.3 -0.7
LTY Liberty 19.46 107 P P 22 47 16.4 -0.2
LTY IAmb IAmb 22 47 19.9
comp=Z,18nm,1.1s
B08A Colville Reser 19.51 102 P P 22 47 17.5 +0.4
MXC Moxie City 20.09 108 P P 22 47 23.9 +0.5
MXC IAmb IAmb 22 47 28.0
comp=Z,18nm,1.1s
HOOD Mount Hood Mea 20.23 112 P P 22 47 25.8 +0.8
HOOD IAmb IAmb 22 47 31.0
comp=Z,27nm,1.1s
E07A Sunnyside 20.34 107 P P 22 47 26.3 +0.2
H04A Detroit Lake 20.40 114 P P 22 47 26.8 0.0
H04A IAmb IAmb 22 47 43.0
comp=Z,32nm,1.3s
D08A Wollman Farm, 20.52 105 P P 22 47 28.0 0.0
HAWA Hanford 20.61 107 P P 22 47 29.2 +0.1
F07A Phinny Hill Vi 20.73 109 P P 22 47 30.7 +0.4
F07A IAmb IAmb 22 47 36.2
comp=Z,29nm,1.3s
NEW Newport 20.76 100 P P 22 47 31.3 +0.6
NEW Newport 20.76 100 P P 22 47 29.4 -1.3
baz=305
NEW Newport 20.76 100 P P 22 47 31.0 +0.3
comp=Z,7.5nm,0.9s,baz=301,slow=8.8,SNR=7.7
comp=Z,7.5nm,0.9s
E08A Dider Farm, El 20.80 106 P P 22 47 31.1 0.0
E08A IAmb IAmb 22 47 32.7
comp=Z,18nm,1.2s
I04A Tendick Farm, 20.93 117 P P 22 47 32.5 0.0
DBO Dodson Butte 21.02 119 P P 22 47 34.0 +0.4
K02D Willamette Mer 21.14 120 P P 22 47 34.1 -0.7
E09A Wood Farm, Sta 21.27 105 P P 22 47 36.0 -0.1
E09A IAmb IAmb 22 47 40.5
comp=Z,16nm,0.9s
HUMO Hull Mountain 21.54 120 P P 22 47 38.2 -0.9
G08A Pilot Rock 21.64 109 P P 22 47 38.9 -1.3
G08A IAmb IAmb 22 47 43.9
comp=Z,17nm,1.2s
PINE Pine Mountain 21.66 114 P P 22 47 39.9 -0.7
PINE IAmb IAmb 22 47 43.0
comp=Z,30nm,1.1s
J05D Fort Rock, OR 21.88 116 P P 22 47 42.5 -0.4
F10A Beach Ranch, E 22.11 105 P P 22 47 44.7 -0.6
F10A IAmb IAmb 22 47 48.4
comp=Z,14nm,0.8s
K04D Chiloquin, OR 22.11 118 P P 22 47 44.5 -0.9
I07A Izee 22.19 112 P P 22 47 45.5 -0.6
I07A IAmb IAmb 22 47 48.0
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 22.33 121 P 22 47 47.4 -0.2
YBH IAmb IAmb 22 47 58.4
comp=Z,18nm,1.1s
YBH Yreka Blue Hor 22.33 121 P P 22 47 48.5 +0.8
comp=Z,6.3nm,0.8s,baz=322,slow=5.0,SNR=9.7
comp=Z,6.3nm,0.8s
K05A Summer Lake 22.46 116 P P 22 47 49.1 -0.1
K05A IAmb IAmb 22 47 53.0
comp=Z,26nm,1.0s
KMPM Mount Pierce 22.71 125 P P 22 47 50.5 -1.2
BMO Blue Mountains 22.80 108 P 22 47 52.7 0.0
J08A Circle Bar Ran 23.23 112 P P 22 47 57.3 +0.2
PLID Pearl Lake 23.34 106 P P 22 47 57.7 -0.6
MSO Missoula 23.35 100 P P 22 47 56.4 -1.9
baz=307
WVOR Wild Horse Val 23.81 114 P P 22 48 02.9 +0.1
WVOR IAmb IAmb 22 48 04.7
comp=Z,18nm,0.8s
MFID Camas Ranch 24.56 108 P P 22 48 09.2 -0.6
ORV Oroville 24.61 122 P P 22 48 08.9 -1.2
ORV IAmb IAmb 22 48 10.8
comp=Z,7.1nm,0.8s
PLTX Planet X, Gerl 24.68 118 P P 22 48 10.4 -0.5
LRM Limekiln Ridge 24.78 100 P P 22 48 11.8 -0.2
EGMT Eagleton 24.95 93 P P 22 48 12.2 -1.0
EGMT Eagleton 24.95 93 P P 22 48 11.3 -1.9
baz=304
MCMT McKenzie Canyo 25.20 103 P P 22 48 15.7 -0.1
HLID Hailey 25.21 106 P P 22 48 16.2 +0.5
HLID IAmb IAmb 22 48 18.7
comp=Z,6.7nm,0.8s
HLID Hailey 25.21 106 P P 22 48 15.3 -0.4
baz=313,SNR=10
AFDM Forest Hills D 25.34 122 P P 22 48 16.4 -0.3
AFDM IAmb IAmb 22 48 19.6
comp=Z,12nm,1.1s
PAHR Pah Rah Range 25.50 119 P P 22 48 18.3 0.0
PAHR IAmb IAmb 22 48 19.8
comp=Z,9.8nm,0.9s
MPK Martis Peak 25.51 120 IAmb IAmb 22 48 19.7
comp=Z,12nm,0.9s
EMB Emerald Bay 25.73 121 P P 22 48 20.2 -0.3
EMB IAmb IAmb 22 48 23.7
comp=Z,14nm,1.0s
PNTR Pine Nut 25.88 120 P P 22 48 21.3 -0.5
PNTR IAmb IAmb 22 48 23.7
comp=Z,12nm,0.8s
QLMT Earthquake Lak 25.97 101 P P 22 48 21.8 -0.9
BMN Battle Mountai 26.01 115 P P 22 48 23.2 +0.2
YHL Hebgen Lake 26.09 101 P P 22 48 23.9 0.0
YERR Yerington 26.13 120 P P 22 48 23.8 -0.4
YERR IAmb IAmb 22 48 28.0
comp=Z,16nm,1.4s
YHH Holmes Hill 26.31 100 P P 22 48 25.3 -0.5
CMB Columbia Colle 26.34 123 P P 22 48 25.5 -0.4
WAKR Walker 26.42 121 P P 22 48 25.6 -1.1
WAKR IAmb IAmb 22 48 31.3
comp=Z,10nm,1.1s
YNR Norris Junctio 26.45 100 P P 22 48 27.0 -0.1
KVN Kaiserville 26.63 118 P P 22 48 27.6 -1.0
KVN IAmb IAmb 22 48 33.2
comp=Z,9.9nm,1.1s
H17A Grant Village 26.72 101 P P 22 48 29.2 -0.2
H17A Grant Village 26.72 101 P P 22 48 29.4 0.0
baz=311
RYN Ryan 26.76 119 P P 22 48 29.3 -0.5
RYN IAmb IAmb 22 48 31.2
comp=Z,6.6nm,0.9s
ELK Elko 26.78 112 P P 22 48 29.8 -0.3
ELK IAmb IAmb 22 48 31.9
comp=Z,11nm,1.3s
NVAR Mina Array Bea 27.02 119 P P 22 48 31.8 -0.4
NVAR Mina Array Bea 27.02 119 P P 22 48 32.8 +0.7
comp=Z,5.2nm,0.8s,baz=305,slow=9.0,SNR=20
NVAR PcP PcP 22 51 52.8 -0.5
comp=Z,0.9nm,0.8s,baz=312,slow=1.2,SNR=4.1
comp=Z,5.2nm,0.8s
LHV Little Huntoon 27.06 120 P P 22 48 31.3 -1.0
NV11 Mina Array Sit 27.09 119 P P 22 48 32.2 -0.5
RES Resolute Bay 27.12 28 P P 22 48 32.9 +0.4
MDPB Devils Postpil 27.28 121 P P 22 48 33.9 -0.7
MDPB IAmb IAmb 22 48 36.6
comp=Z,7.7nm,0.9s
HVU Hansel Valley 27.32 107 P P 22 48 34.7 -0.1
OMMB Old Mammoth Mi 27.33 121 P P 22 48 34.3 -0.8
OMMB IAmb IAmb 22 48 37.1
comp=Z,9.3nm,0.9s
TPH Tonopah 27.82 118 P P 22 48 38.8 -0.5
MZP Montezuma Peak 28.04 119 P P 22 48 39.9 -1.5
HWUT Hardware Ranch 28.08 106 P P 22 48 41.4 -0.3
Q12A Willow Creek R 28.27 114 P P 22 48 42.9 -0.4
Q12A IAmb IAmb 22 48 44.6
comp=Z,7.6nm,0.8s
BW06 Boulder Array 28.35 102 P P 22 48 43.7 -0.4
baz=313
PD31 Pinedale Array 28.35 102 P P 22 48 43.6 -0.5
PDAR Pinedale Array 28.35 102 P P 22 48 43.4 -0.7
PDAR Pinedale Array 28.35 102 P P 22 48 44.0 -0.1
comp=Z,1.5nm,0.6s,baz=320,slow=4.9,SNR=15
comp=Z,1.5nm,0.6s
GMN Gold Mountain 28.41 119 P P 22 48 44.4 -0.3
R11B Troy Canyon, C 28.41 116 P P 22 48 44.3 -0.3
R11B IAmb IAmb 22 48 46.0
comp=Z,7.3nm,0.9s
R11B Troy Canyon, C 28.41 116 P P 22 48 44.7 +0.1
baz=321,SNR=12
DUG Dugway, Tooele 28.44 110 P P 22 48 44.5 -0.3
DUG Dugway, Tooele 28.44 110 P P 22 48 45.1 +0.3
baz=317
SPR3 Spring Creek 3 28.55 113 P P 22 48 46.8 +0.8
SPR3 IAmb IAmb 22 48 48.0
comp=Z,5.5nm,0.8s
GRAC Grapevine Rang 28.61 120 P P 22 48 46.2 0.0
GRAC IAmb IAmb 22 48 48.5
comp=Z,9.7nm,0.9s
GRAC Grapevine Rang 28.61 120 P P 22 48 46.6 +0.4
baz=323
CWC Cottonwood Cre 28.71 122 P P 22 48 47.4 +0.1
baz=324
S11A Rachel 28.88 117 P P 22 48 49.0 +0.3
WCT Wildcat Mounta 29.13 119 P P 22 48 51.1 +0.3
WCT IAmb IAmb 22 48 52.2
comp=Z,7.1nm,1.0s
ISA Isabella, Lake 29.16 123 P P 22 48 51.4 +0.2
ISA Isabella, Lake 29.16 123 P P 22 48 51.0 -0.1
baz=325
TPNV Topopah Spring 29.18 118 P P 22 48 51.9 +0.5
TPNV IAmb IAmb 22 48 53.2
comp=Z,6.7nm,1.0s
TPNV Topopah Spring 29.18 118 P P 22 48 52.5 +1.1
baz=322,SNR=5.2
PKM Mcpherson Peak 29.19 126 P P 22 48 51.7 +0.2
baz=327
BSUT Blindstream Ca 29.27 107 P P 22 48 52.3 -0.1
BSUT IAmb IAmb 22 48 53.9
comp=Z,4.7nm,0.8s
FURC Furnace Creek, 29.27 120 P P 22 48 52.9 +0.9
baz=323
MPMC Manual Prospec 29.30 121 P P 22 48 52.9 +0.3
baz=324
GWY Greenwater Val 29.59 120 IAmb IAmb 22 48 56.6
comp=Z,6.4nm,0.8s
QSM Queen of Sheba 29.67 120 P P 22 48 55.0 -0.6
QSM IAmb IAmb 22 48 57.5
comp=Z,9.2nm,1.0s
LRMC Laurel Mtn Rad 29.68 122 P P 22 48 56.5 +0.7
baz=325,SNR=6.0
MVU Marysvale 30.01 111 P P 22 48 58.5 -0.3
MSU Marysvale 30.02 111 P P 22 48 58.9 0.0
SHPR Sheep Range 30.07 118 P P 22 48 58.2 -1.0
GSC Goldstone, Bar 30.24 121 P P 22 48 59.5 -1.2
GSC Goldstone, Bar 30.24 121 P P 22 49 00.9 +0.2
baz=324
SZCU Shurtz Canyon 30.25 114 P P 22 49 00.6 -0.3
SZCU IAmb IAmb 22 49 02.4
comp=Z,5.2nm,1.0s
RWWY Rawlins 30.36 102 P P 22 49 00.5 -1.4
MTPU Mount Pierson 30.37 112 P P 22 49 01.6 -0.6
MTPU IAmb IAmb 22 49 03.8
comp=Z,7.9nm,1.2s
SRU San Rafael Swe 30.43 109 P P 22 49 03.0 +0.5
RSSD Black Hills 30.48 95 P P 22 49 03.0 +0.1
RSSD IAmb IAmb 22 49 04.6
comp=Z,5.4nm,0.8s
RSSD Black Hills 30.48 95 P P 22 49 03.5 +0.6
baz=310
TUQ Turquoise Moun 30.55 120 P P 22 49 03.7 +0.2
baz=324
LCMT Little Creek M 30.62 115 P P 22 49 04.2 0.0
SNCC San Nicolas Is 30.70 127 P P 22 49 04.9 +0.2
baz=328
BFSC Mount Baldy Ra 30.71 123 P P 22 49 05.8 +0.8
baz=326
PKCU Pink Cliffs 30.76 113 P P 22 49 05.3 -0.3
PKCU IAmb IAmb 22 49 07.4
comp=Z,14nm,1.3s
KNB Kanab 30.83 114 P P 22 49 05.9 -0.2
KNB IAmb IAmb 22 49 07.9
comp=Z,9.4nm,1.2s
V12A Nelson 30.84 118 P P 22 49 05.4 -0.6
V12A IAmb IAmb 22 49 08.1
comp=Z,9.8nm,0.9s
HEC Hector,Ludlow 30.85 121 P P 22 49 05.8 -0.3
baz=325
O20A White River Ci 30.90 105 P P 22 49 06.0 -0.6
O20A White River Ci 30.90 105 P P 22 49 06.9 +0.3
baz=316
CIS Catalina Islan 31.07 125 P P 22 49 07.6 -0.3
baz=327
HMU Henry Mountain 31.19 110 P P 22 49 09.1 -0.2
HMU IAmb IAmb 22 49 11.6
comp=Z,7.4nm,0.9s
GMRC Granite Mounta 31.21 120 P P 22 49 09.1 -0.2
baz=324
ULM Lac du Bonnet 31.37 79 P P 22 49 09.8 -0.7
comp=Z,3.0nm,0.8s,baz=329,slow=4.8,SNR=3.9
comp=Z,3.0nm,0.8s
U15A North Rim 31.56 114 P P 22 49 13.1 +0.5
PV21 Cone Mtn., Par 31.65 108 P P 22 49 12.5 -0.8
PV21 IAmb IAmb 22 49 14.1
comp=Z,6.6nm,0.7s
BELC Belle Mtn. Jos 31.69 122 P P 22 49 12.9 -0.7
baz=325
PV23 Carpenter Ridg 31.71 108 P P 22 49 13.3 -0.6
PV10 Paradox Valley 31.75 108 P P 22 49 14.8 +0.6
PV14 Lion Creek, Pa 31.77 108 P P 22 49 13.8 -0.6
PV14 IAmb IAmb 22 49 15.6
comp=Z,4.7nm,0.7s
W13A Hualapai Mount 31.81 118 P P 22 49 14.0 -0.7
W13A IAmb IAmb 22 49 16.6
comp=Z,5.4nm,0.8s
PV04 Paradox Valley 31.81 108 P P 22 49 14.8 +0.1
PV16 Nyswonger Mesa 31.87 108 P P 22 49 14.7 -0.5
PV16 IAmb IAmb 22 49 15.9
comp=Z,10nm,1.3s
PV17 East Wray Mesa 31.87 108 P P 22 49 15.1 -0.1
PV17 IAmb IAmb 22 49 17.6
comp=Z,5.7nm,0.8s
PV11 David Mesa, Pa 31.90 108 P P 22 49 15.4 -0.1
PV07 Paradox Valley 31.92 107 P P 22 49 15.6 0.0
PV18 Skein Mesa, Pa 31.92 108 P P 22 49 14.6 -1.1
PV18 IAmb IAmb 22 49 18.0
comp=Z,6.9nm,1.0s
PV12 Saucer Basin, 31.92 108 P P 22 49 14.0 -1.7
PV12 IAmb IAmb 22 49 16.9
comp=Z,8.1nm,0.9s
PV05 Paradox Valley 31.95 108 P P 22 49 14.2 -1.7
PV05 IAmb IAmb 22 49 17.1
comp=Z,6.7nm,0.7s
PV03 Paradox Valley 31.95 108 P P 22 49 14.7 -1.2
PV03 IAmb IAmb 22 49 17.0
comp=Z,7.9nm,1.0s
IRM Iron Mountain 31.96 120 P P 22 49 16.2 +0.4

baz=325,SNR=8.0
PV02 Paradox Valley 32.04 108 P **P** 22 49 16.2 -0.5
PV02 IAmb IAmb 22 49 18.0
comp=Z,8.1nm,0.9s
PV15 Paradox Valley 32.08 107 P **P** 22 49 16.7 -0.4
PV01 Paradox Valley 32.18 108 P **P** 22 49 18.5 +0.5
BC3 Big Chuckawall 32.23 121 P **P** 22 49 18.0 -0.2
baz=325
PDMCI Parker Dam,Lak 32.33 119 P **P** 22 49 19.0 0.0
baz=324
MONP2 Monument Peak 32.40 123 P **P** 22 49 18.0 -2.0
baz=326
AGMN Agassiz Nation 32.46 82 P **P** 22 49 19.0 -1.0
baz=305
ISCO Idaho Springs 32.55 103 P **P** 22 49 20.1 -1.1
baz=315
WUAZ Wupatki 32.73 114 P **P** 22 49 23.3 +0.6
baz=322,SNR=6.4
IKP In-Ko-Pah, Jac 32.75 123 P **P** 22 49 23.3 +0.5
baz=327
MVCO Mesa Verde 32.91 109 IAmb IAmb 22 49 25.2
comp=Z,5.1nm,0.8s
MVCO Mesa Verde 32.91 109 P **P** 22 49 24.6 +0.2
baz=319
Y14A Wickenburg 33.17 118 IAmb IAmb 22 49 28.2
comp=Z,8.5nm,1.0s
S22A 4UR Ranch, Cre 33.39 106 P **P** 22 49 28.9 +0.3
baz=318
Q24A Divide 33.40 103 P **P** 22 49 29.1 +0.4
baz=316
X16A Lo Mia Camp, P 33.56 115 IAmb IAmb 22 49 32.3
comp=Z,7.1nm,0.8s
OGNE Ogallala 33.70 98 P **P** 22 49 31.2 +0.2
baz=314
W18A Petrified Fore 33.88 113 P **P** 22 49 32.7 0.0
baz=321
SDCO Great Sand Dun 34.10 105 P **P** 22 49 34.6 -0.2
baz=318
KSCO Kaye Shedlock' 34.73 101 P **P** 22 49 40.6 +0.5
baz=316
214A Organ Pipe Nat 34.88 120 P **P** 22 49 41.6 +0.3
baz=326
EYMN Ely 35.05 79 P **P** 22 49 42.5 0.0
baz=306
T25A Trinidad 35.13 105 P **P** 22 49 43.3 -0.3
baz=318
TUC Tucson 35.58 117 P **P** 22 49 47.4 0.0
baz=324
ANMO Albuquerque 35.70 109 P **P** 22 49 48.0 -0.5
baz=320
CBKS Cedar Bluff 36.45 98 P **P** 22 49 54.7 0.0
baz=315
RTBA Rita Blanca 36.55 104 IAmb IAmb 22 49 57.1
comp=Z,13nm,1.2s
121A Cookes Peak, D 36.91 113 P **P** 22 49 59.1 +0.3
baz=323
MNTX Cornudas Mount 38.80 111 P **P** 22 50 15.3 +0.7
baz=323,SNR=5.3
WMOK Wichita Mounta 39.96 102 P **P** 22 50 25.1 +0.8
WMOK IAmb IAmb 22 50 25.3
comp=Z,7.0nm,0.9s
WMOK Wichita Mounta 39.96 102 P **P** 22 50 24.6 +0.4
baz=319
HDIL Hopedale 41.00 87 P **P** 22 50 31.8 -1.0
baz=314
ABTX Abilene, Hawle 41.10 104 P **P** 22 50 34.0 +0.2
baz=321
TX31 Lajitas Ar. Si 41.58 112 P **P** 22 50 38.7 +0.9
TX31 IAmb IAmb 22 50 39.6
comp=Z,9.4nm,1.2s
TXAR Lajitas Array 41.58 112 P **P** 22 50 38.7 +1.0
TXAR Lajitas Array 41.58 112 P **P** 22 50 37.0 -0.7
comp=Z,2.5nm,0.9s,baz=328,slow=5.8,SNR=18
comp=Z,2.5nm,0.9s
CCM Cathedral Cave 41.67 91 P P 22 50 36.3 -2.0
baz=316
JCT Junction City 42.69 107 P **P** 22 50 46.4 -0.3
baz=322
WCI Wyandotte Cave 44.29 87 P P 22 50 57.0 -2.5
baz=315
WVT Waverly 44.95 90 P **P** 22 51 03.7 -1.1
baz=317
ERPA Erie 45.03 78 P **P** 22 51 04.7 -0.7
baz=313
BINY Binghamton 47.13 75 P **P** 22 51 21.1 -0.9
baz=314
BLA Blacksburg 48.26 83 P **P** 22 51 29.5 -1.3
baz=316
KMSC Kings Mountain 49.27 86 P **P** 22 51 37.6 -0.9
baz=318
H11N2 WAKE ISLAND Hy 49.36 240 T T 23 44 46.1
baz=30,slow=76,SNR=6.4
H11N3 WAKE ISLAND Hy 49.36 240 T T 23 44 45.9
baz=30,slow=76,SNR=5.6
H11N1 WAKE ISLAND Hy 49.38 240 T T 23 44 45.2
baz=30,slow=76,SNR=5.2
H11S1 WAKE ISLAND Hy 50.50 240 T T 23 46 23.6
baz=30,slow=76,SNR=6.6
H11S2 WAKE ISLAND Hy 50.51 240 T T 23 46 21.8
baz=30,slow=76,SNR=6.9
H11S3 WAKE ISLAND Hy 50.52 240 T T 23 46 12.8
baz=30,slow=76,SNR=6.5
ARCES ARCESS Array B 54.12 3 P **P** 22 52 15.7 +1.3
comp=Z,4.7nm,1.0s,baz=6.9,slow=8.3,SNR=5.4
comp=Z,4.7nm,1.0s
SONM Songino Array 58.74 310 P **P** 22 52 48.6 +0.9
comp=Z,3.5nm,0.8s,baz=40,slow=6.9,SNR=8.1
comp=Z,3.5nm,0.8s
ZALV Zalesovo Beam 61.52 327 P **P** 22 53 07.3 +0.9
comp=Z,1.5nm,0.5s,baz=31,slow=7.1,SNR=6.3
comp=Z,1.5nm,0.5s
NOA NORSAR Array B 61.65 11 P **P** 22 53 07.8 +0.5
comp=Z,1.0nm,0.9s,baz=348,slow=6.7,SNR=2.6
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 61.90 302 *eP* **P** 22 53 12.3 +2.9
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,160nm,4.7s
FINES FINESS Array B 62.25 3 P **P** 22 53 11.6 +0.4
comp=Z,2.3nm,0.8s,baz=1.6,slow=6.7,SNR=8.1
comp=Z,2.3nm,0.8s
HFS Hagfors 62.79 10 P **P** 22 53 15.5 +0.6
comp=Z,0.9nm,0.7s,baz=359,slow=14,SNR=1.3
comp=Z,0.9nm,0.7s
ARU Arti 65.23 344 P **P** 22 53 33.1 +2.1
BRVK Borovoye 66.17 336 P **P** 22 53 37.1 0.0
MKAR Makanchi Array 68.57 325 P **P** 22 53 53.2 +0.8
comp=Z,1.2nm,0.6s,baz=23,slow=5.5,SNR=8.0
comp=Z,1.2nm,0.6s
WMQ Urumqi 69.37 320 *eP* P 22 54 03.3 +5.8
WMQ LR LR
comp=N,8μm,19.1s
WMQ LR LR
comp=E,5μm,20.3s
WMQ LR LR
comp=Z,7μm,24.1s
ABKAR Akbulak array 71.90 341 P **P** 22 54 13.8 +1.0
AKASG Malin Array Be 73.08 1 P **P** 22 54 19.5 -0.2
comp=Z,0.5nm,0.4s,baz=358,slow=5.6,SNR=5.8
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 73.08 1 P **P** 22 54 19.9 +0.2
AKBB IAmb IAmb 22 54 33.3
comp=Z,9.5nm,1.4s
KIEV Kiev 73.08 1 P **P** 22 54 20.2 +0.5
KIEV IAmb IAmb 22 54 33.3
comp=Z,7.8nm,1.4s
ESDC Sonseca Array 79.55 27 P **P** 22 54 59.2 +2.4
comp=Z,1.1nm,0.9s,baz=340,slow=5.5,SNR=3.4
comp=Z,1.1nm,0.9s
KBZ Khabaz 79.60 352 P **P** 22 54 59.6 +2.8
comp=Z,2.9nm,1.0s,baz=257,slow=8.0,SNR=4.0
comp=Z,2.9nm,1.0s
MCRA Macar, Loja 82.07 110 P **P** 22 55 09.2 -1.3
FNA Florina 82.64 8 P **P** 22 55 13.3 +0.1
GEYT Alibeck 83.17 339 P **P** 22 55 17.0 +1.0
comp=Z,0.9nm,0.5s,baz=58,slow=5.8,SNR=3.6
comp=Z,0.9nm,0.5s
BR131 Keskin Array S 84.05 358 P **P** 22 55 19.4 -1.1
BR131 IAmb IAmb 22 55 32.2
comp=Z,5.0nm,1.3s
BRTR Keskin Array B 84.05 358 P P 22 55 18.7 -1.8
BRTR Keskin Array B 84.05 358 P **P** 22 55 20.9 +0.3
comp=Z,1.1nm,0.9s,baz=342,slow=3.7,SNR=4.9
comp=Z,1.1nm,0.9s
CMAR Chiang Mai Arr 86.48 298 P **P** 22 55 31.2 -1.6
comp=Z,1.5nm,0.6s,baz=17,slow=5.1,SNR=1.4
comp=Z,1.5nm,0.6s

QSPA South Pole Qui 146.37 180 PKPbc **PKPdf** 23 02 26.8 -1.3
comp=Z,8.0nm,0.8s,baz=66,slow=2.3,SNR=2.1
BOSA Boshof 151.72 11 PKPbc **PKPdf** 23 02 43.0 +5.0
comp=Z,2.6nm,0.6s,baz=311,slow=2.8,SNR=9.7

*IDC **26** 22:44:16.1±0.8, 54.˚58N×168.˚89E, h0km, mb4.2/28, mbtmp4.2/29, ML4.1/1, MS3.6/3, Error ellipse: s-maj=23.8km s-min=12.1km az=168.0*
*NEIC **26** 22:44:16.7±1.4, 54.˚1N±0.˚1×168.˚8E±0.˚1, h10km±1km, mb4.6/186, Error ellipse: s-maj=17.9km s-min=9.4km az=194.0*
*KRSC **26** 22:44:16.7±2.6, 54.˚17N×168.˚93E, h60km±25km, Ml4.8*
*MOS **26** 22:44:18.3±1.0, 54.˚22N×168.˚90E, h35km, mb4.7/24, Error ellipse: s-maj=6.8km s-min=5.1km az=36.3*

ISC 26 22:44:18.9±0.4, **54.˚20N**±0.˚06×**168.˚91E**±0.˚04, **h25km**, **n362**, σ1=**17**/351, **mb4.6**/112, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.98**	**302**	PN	**Pn**	**22 44 48.3**	**-2.4**
BKI				S	**Sn**	**22 45 13.8**	**-0.9**
BKI	**Bering**	**1.98**	**302**	*e*P	**Pn**	**22 44 48.3**	**-2.4**
BKI				*e*S	**Sn**	**22 45 13.8**	**-0.9**
SHEM	**Shemya Is, Ala**	**3.43**	**113**	Pn	**Pn**	**22 45 09.7**	**-1.0**
	57nm,0.3s,baz=275,slow=3.9,SNR=23						
SHEM				Sn	**Sn**	**22 45 50.9**	**+0.3**
	166nm,0.3s,baz=276,slow=23,SNR=11						
SMKR	**Semkarok**	**4.87**	**302**	PN	**Pn**	**22 45 32.3**	**+1.8**
SMKR	**Semkarok**	**4.87**	**302**	*e*P	**Pn**	**22 45 32.3**	**+1.8**
BDR	**Baidarnaya**	**4.99**	**301**	PN	**Pn**	**22 45 34.5**	**+2.3**
BDR	**Baidarnaya**	**4.99**	**301**	*e*P	**Pn**	**22 45 34.5**	**+2.3**
ZLN	**Zelenaya**	**5.00**	**295**	PN	**Pn**	**22 45 34.3**	**+2.0**
ZLN	**Zelenaya**	**5.00**	**295**	*e*P	**Pn**	**22 45 34.3**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**5.03**	**294**	PN	**Pn**	**22 45 33.6**	**+0.8**
BZGR				S	**Sn**	**22 46 31.0**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**5.03**	**294**	*e*P	**Pn**	**22 45 33.6**	**+0.8**
BZGR				*e*S	**Sn**	**22 46 31.0**	**+0.9**
TUMD	**Tumrok D**	**5.04**	**285**	*e*P	**Pn**	**22 45 33.1**	**+0.3**
CIRR	**Tsirk**	**5.06**	**296**	PN	**Pn**	**22 45 35.8**	**+2.6**
CIRR	**Tsirk**	**5.06**	**296**	*e*P	**Pn**	**22 45 35.8**	**+2.6**
BZP	**Bezymyannyi-Pe**	**5.11**	**293**	*e*P	**Pn**	**22 45 35.0**	**+1.2**
BZMR	**Bezymyannaya**	**5.14**	**293**	PN	**Pn**	**22 45 35.7**	**+1.4**
BZMR	**Bezymyannaya**	**5.14**	**293**	*e*P	**Pn**	**22 45 35.7**	**+1.4**
BZWR	**Bezymyannyi-We**	**5.15**	**293**	PN	**Pn**	**22 45 36.1**	**+1.7**
BZWR	**Bezymyannyi-We**	**5.15**	**293**	*e*P	**Pn**	**22 45 36.1**	**+1.7**
KLY	**Klyuchi**	**5.18**	**297**	PN	**Pn**	**22 45 35.2**	**+0.6**
KLY	**Klyuchi**	**5.18**	**297**	*e*P	**Pn**	**22 45 35.2**	**+0.6**
TUMR	**Tumrok**	**5.19**	**286**	PN	**Pn**	**22 45 33.1**	**-1.9**
KIRR	**Kirishev**	**5.23**	**293**	PN	**Pn**	**22 45 37.1**	**+1.6**
KIRR	**Kirishev**	**5.23**	**293**	*e*P	**Pn**	**22 45 37.1**	**+1.6**
KIRR				*e*S	**Sn**	**22 46 35.0**	**0.0**
KMNR	**Kamenistaya**	**5.23**	**291**	PN	**Pn**	**22 45 36.9**	**+1.4**
KMNR	**Kamenistaya**	**5.23**	**291**	*e*P	**Pn**	**22 45 36.9**	**+1.4**
KPT	**Kopyto**	**5.29**	**293**	PN	**Pn**	**22 45 38.0**	**+1.6**
KPT	**Kopyto**	**5.29**	**293**	*e*P	**Pn**	**22 45 38.0**	**+1.6**
SPN	**Mys Shipunski**	**5.40**	**262**	PN	**Pn**	**22 45 37.6**	**-0.1**
SPN	**Mys Shipunski**	**5.40**	**262**	*e*P	**Pn**	**22 45 37.6**	**-0.1**
SPN				*e*S	**Sn**	**22 46 35.8**	**-3.3**
SRDR	**Sredinnyy**	**5.67**	**296**	PN	**Pn**	**22 45 42.9**	**+1.4**
SRDR	**Sredinnyy**	**5.67**	**296**	*e*P	**Pn**	**22 45 42.9**	**+1.4**
OSSR	**Ossora**	**6.00**	**330**	PN	**Pn**	**22 45 45.1**	**-0.8**
OSSR	**Ossora**	**6.00**	**330**	*e*P	**Pn**	**22 45 45.1**	**-0.8**
UGLR	**Uglovaya**	**6.07**	**265**	PN	**Pn**	**22 45 47.5**	**+0.4**
UGLR	**Uglovaya**	**6.07**	**265**	*e*P	**Pn**	**22 45 47.5**	**+0.4**
AVH	**Avacha**	**6.11**	**265**	PN	**Pn**	**22 45 48.3**	**+0.7**
AVH	**Avacha**	**6.11**	**265**	*e*P	**Pn**	**22 45 48.3**	**+0.7**
ESO	**Esso**	**6.12**	**291**	PN	**Pn**	**22 45 49.5**	**+1.9**
ESO	**Esso**	**6.12**	**291**	*e*P	**Pn**	**22 45 49.5**	**+1.9**
KRX	**Arik**	**6.14**	**266**	PN	**Pn**	**22 45 48.4**	**+0.3**
KRX	**Arik**	**6.14**	**266**	*e*P	**Pn**	**22 45 48.4**	**+0.3**
DALK	**Dalny**	**6.16**	**263**	PN	**Pn**	**22 45 48.2**	**+0.1**
DALK	**Dalny**	**6.16**	**263**	*e*P	**Pn**	**22 45 48.2**	**+0.1**
KOK	**Koryaka**	**6.17**	**266**	PN	**Pn**	**22 45 48.7**	**+0.4**
KOK	**Koryaka**	**6.17**	**266**	*e*P	**Pn**	**22 45 48.7**	**+0.4**
PET	**Petropavlovsk**	**6.22**	**263**		**Pn**	**22 45 48.8**	**-0.2**
PET	**Petropavlovsk**	**6.22**	**263**	*e*Pn	**Pn**	**22 45 48.6**	**-0.3**
PET				pmax	pmax		
	comp=Z,151nm,0.5s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	**Petropavlovsk**	**6.22**	**263**	*e*P	**Pn**	**22 45 49.8**	**+0.9**
TILK	**Tilichiki**	**6.44**	**348**	PN	**Pn**	**22 45 51.1**	**-0.8**
TILK	**Tilichiki**	**6.44**	**348**	*e*P	**Pn**	**22 45 51.1**	**-0.8**
KRMR	**Karymshinskiy**	**6.58**	**262**	PN	**Pn**	**22 45 54.5**	**+0.6**
KRMR	**Karymshinskiy**	**6.58**	**262**	*e*P	**Pn**	**22 45 54.5**	**+0.6**
MTVR	**Mutnovka**	**6.65**	**259**	PN	**Pn**	**22 45 55.5**	**+0.5**
MTVR	**Mutnovka**	**6.65**	**259**	*e*P	**Pn**	**22 45 55.5**	**+0.5**
GRL	**Gorelyy**	**6.69**	**260**	PN	**Pn**	**22 45 56.5**	**+0.9**
GRL	**Gorelyy**	**6.69**	**260**	*e*P	**Pn**	**22 45 56.5**	**+0.9**
PEA0B	**Petropavlovsk-**	**6.76**	**265**		**Pn**	**22 45 55.6**	**-0.7**
PEA0B	**Petropavlovsk-**	**6.76**	**265**	PN	**Pn**	**22 45 55.6**	**-0.7**
PETK	**Petropavlovsk-**	**6.76**	**265**		**Pn**	**22 45 56.1**	**-0.2**
PETK	**Petropavlovsk-**	**6.76**	**265**	PN	**Pn**	**22 45 56.1**	**-0.2**
PETK	**Petropavlovsk-**	**6.76**	**265**	Pn	**Pn**	**22 45 56.9**	**+0.5**
	comp=Z,19nm,0.3s,baz=82,slow=20,SNR=150						
PETK				Sn	**Sn**	**22 47 11.1**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=116,slow=13,SNR=1.7						
PETK				LR	LR	22 48 38.9	
	comp=Z,634nm,19.7s,baz=83,slow=39						
	comp=Z,36nm,0.5s						
ASAK	**Asacha**	**6.85**	**259**	PN	**Pn**	**22 45 58.5**	**+0.8**
ASAK	**Asacha**	**6.85**	**259**	*e*P	**Pn**	**22 45 58.5**	**+0.8**
KDTR	**Khodutka, Kamc**	**6.96**	**254**	PN	**Pn**	**22 46 00.2**	**+1.1**
KDTR	**Khodutka, Kamc**	**6.96**	**254**	*e*P	**Pn**	**22 46 00.2**	**+1.1**
APC	**Apacha**	**7.12**	**264**	PN	**Pn**	**22 46 02.7**	**+1.4**
APC	**Apacha**	**7.12**	**264**	*e*P	**Pn**	**22 46 02.7**	**+1.4**
PAU	**Pauzhetka**	**7.82**	**254**	PN	**Pn**	**22 46 12.7**	**+1.8**
PAU	**Pauzhetka**	**7.82**	**254**	*e*P	**Pn**	**22 46 12.7**	**+1.8**
KIWB	**Kanaga Island**	**8.72**	**100**		**Pn**	**22 46 22.3**	**-1.0**
ADK	**Adak**	**8.98**	**99**	Pn	**Pn**	**22 46 26.6**	**-0.3**
ADK	**Adak**	**8.98**	**99**	PN	**Pn**	**22 46 26.6**	**-0.3**
GSTR	**Great Sitkin T**	**9.28**	**97**	Pn	**Pn**	**22 46 30.7**	**-0.2**
ATKA	**Atka Island**	**10.33**	**94**		**Pn**	**22 46 45.7**	**+0.4**
MA2	**Magadan**	**11.27**	**306**	Pn	**Pn**	**22 46 57.7**	**-0.4**
MA2	**Magadan**	**11.27**	**306**	PN	**Pn**	**22 46 57.7**	**-0.4**
MA2	**Magadan**	**11.27**	**306**	LR	LR	22 51 01.3	
	comp=Z,246nm,22.0s,baz=92,slow=37						
SEY	**Seymchan**	**12.25**	**322**	PN	**Pn**	**22 47 12.0**	**+0.5**
SEY	**Seymchan**	**12.25**	**322**	Pn	**Pn**	**22 47 12.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=114,slow=14,SNR=6.3						
SEY				LR	LR	22 51 38.9	
	comp=Z,248nm,20.6s,baz=162,slow=37						
M13K	**Dall Lake**	**16.14**	**56**	P	**P**	**22 48 06.6**	**-0.1**
M13K				IAmb	IAmb	22 48 16.3	
	comp=Z,41nm,0.9s						
ANM	**Nome**	**16.57**	**41**	P	**P**	**22 48 12.0**	**+0.4**
ANM				IAmb	IAmb	22 48 24.2	
	comp=Z,59nm,1.4s						
ANM	**Nome**	**16.57**	**41**	P	**P**	**22 48 12.0**	**+0.4**
ANM				pmax	pmax		
	comp=Z,59nm,1.4s						
L14K	**Kuka Creek**	**16.64**	**53**		**P**	**22 48 13.4**	**+1.0**
L14K				IAmb	IAmb	22 48 14.5	
	comp=Z,48nm,1.2s						
M14K	**Bethel**	**16.87**	**55**	P	**P**	**22 48 16.0**	**+1.1**
O14K	**Tigyukauivet M**	**17.04**	**61**		**P**	**22 48 17.9**	**+1.2**
O14K				IAmb	IAmb	22 48 50.6	
	comp=Z,70nm,1.4s						
F15K	**North Star Dit**	**17.38**	**38**	P	**P**	**22 48 21.2**	**+0.7**
K15K	**Wolf Creek Mou**	**17.40**	**50**		**P**	**22 48 21.6**	**+0.9**
K15K				IAmb	IAmb	22 48 24.6	
	comp=Z,75nm,1.5s						
N15K	**Kwethluk River**	**17.71**	**58**		**P**	**22 48 25.2**	**+1.0**
N15K				IAmb	IAmb	22 48 51.3	
	comp=Z,52nm,1.4s						
YSS	**Yuzh-Sakhalins**	**18.05**	**257**	*e*P	**P**	**22 48 33.6**	**+5.6**
G16K	**Koyuk River**	**18.09**	**40**	P	**P**	**22 48 29.6**	**+1.3**
I17K	**Unalakleet**	**18.21**	**46**	P	**P**	**22 48 33.0**	**+3.4**
L16K	**Owhat River**	**18.23**	**53**		**P**	**22 48 32.1**	**+2.3**
M16K	**Timber Creek**	**18.37**	**55**	P	**Pn**	**22 48 32.8**	**+1.3**
M16K				IAmb	IAmb	22 48 54.7	
	comp=Z,50nm,1.4s						
C16K	**Lisburne Hills**	**18.55**	**31**	P	**Pn**	**22 48 34.5**	**+0.9**
H17K	**Granite Mounta**	**18.87**	**43**	P	**Pn**	**22 48 39.2**	**+1.6**
F17K	**Baldwin Pennin**	**18.95**	**38**	P	**Pn**	**22 48 39.1**	**+0.6**
K17K	**Iditarod**	**18.95**	**50**	P	**Pn**	**22 48 39.8**	**+1.2**
M17K	**Holitna River**	**19.14**	**54**	P	**Pn**	**22 48 41.3**	**+0.4**
M17K				IAmb	IAmb	22 48 42.4	
	comp=Z,78nm,1.4s						
N17K	**Nushagak Hills**	**19.18**	**57**	P	**P**	**22 48 41.4**	**+1.0**
N17K				IAmb	IAmb	22 48 44.3	
	comp=Z,49nm,1.4s						
H18K	**Honhosa River**	**19.57**	**43**	P	**Pn**	**22 48 46.9**	**+1.0**
L18K	**Granite Mounta**	**19.61**	**52**	P	**Pn**	**22 48 46.6**	**+0.2**
L18K				IAmb	IAmb	22 48 52.0	
	comp=Z,38nm,1.4s						
E18K	**Tukpahlearik C**	**19.62**	**36**	P	**Pn**	**22 48 47.5**	**+1.0**
G18K	**Tagagawik**	**19.70**	**41**	P	**Pn**	**22 48 47.8**	**+0.3**
G18K				IAmb	IAmb	22 48 58.2	
	comp=Z,20nm,0.8s						
J18K	**Innoko River**	**19.81**	**48**	P	**Pn**	**22 48 48.9**	**0.0**
J18K				IAmb	IAmb	22 49 06.4	
	comp=Z,23nm,0.8s						
N18K	**Kilae Creek**	**19.83**	**57**	P	**P**	**22 48 48.7**	**+1.3**
SVW2	**Sparrevohn**	**20.01**	**56**	P	**P**	**22 48 50.6**	**+1.2**
C18K	**Utukok River**	**20.03**	**32**	P	**P**	**22 48 50.7**	**+1.2**
TTA	**Tatalina**	**20.03**	**50**	P	Pn	22 48 51.3	-0.1
TTA				IAmb	IAmb	22 48 52.1	
	comp=Z,30nm,1.2s						
TTA	**Tatalina**	**20.03**	**50**	P	Pn	22 48 51.3	-0.2
TTA				pmax	pmax		
	comp=Z,30nm,1.2s						
P18K	**Big Mountain,**	**20.13**	**61**	P	**P**	**22 48 52.1**	**+1.3**
P18K				IAmb	IAmb	22 48 52.3	
	comp=Z,40nm,1.1s						
F19K	**Shaleruckik Mo**	**20.38**	**39**	P	Pn	22 48 55.0	-0.4
G19K	**Purcell Mounta**	**20.39**	**41**	P	Pn	22 48 55.3	-0.3
J19K	**Poorman**	**20.40**	**47**	P	**P**	**22 48 55.1**	**+1.5**
J19K				IAmb	IAmb	22 49 03.6	
	comp=Z,48nm,1.4s						
H19K	**Roundabout Mou**	**20.44**	**43**	P	Pn	22 48 56.1	-0.1
H19K				IAmb	IAmb	22 49 09.3	
	comp=Z,21nm,0.8s						
L19K	**White Mountain**	**20.45**	**53**	P	**P**	**22 48 55.3**	**+1.1**
N19K	**Bonanza Creek**	**20.53**	**56**	P	**P**	**22 48 56.3**	**+1.2**
N19K				IAmb	IAmb	22 48 57.2	
	comp=Z,32nm,1.1s						
O19K	**Port Alsworth**	**20.59**	**58**	P	**P**	**22 48 57.1**	**+1.4**
C19K	**Lookout Ridge**	**20.76**	**32**	P	**P**	**22 48 58.5**	**+1.0**
C19K				IAmb	IAmb	22 49 10.3	
	comp=Z,30nm,1.0s						
E19K	**Redstone River**	**20.81**	**37**	P	**P**	**22 48 59.6**	**+1.6**
E19K				IAmb	IAmb	22 49 09.9	
	comp=Z,25nm,1.1s						
D19K	**Kuna River**	**20.95**	**34**	P	Pn	22 49 01.4	-0.7
D19K				IAmb	IAmb	22 49 16.1	
	comp=Z,60nm,1.4s						
K20K	**Telida**	**20.97**	**49**	P	**P**	**22 48 59.7**	**0.0**
J20K	**Nowinta River**	**21.07**	**47**		**P**	**22 49 02.0**	**+1.2**
F20K	**Avaraart Lake**	**21.21**	**39**	P	**P**	**22 49 03.5**	**+1.3**
M20K	**Styx River**	**21.24**	**54**	P	**P**	**22 49 02.6**	**-0.2**
IMAR	**Indian Mountai**	**21.64**	**42**	P	**P**	**22 49 09.2**	**+2.2**
PPLA	**Purkeypile**	**21.76**	**51**	P	**P**	**22 49 10.1**	**+1.8**
YAK	**Yakutsk**	**21.84**	**307**	P	**P**	**22 49 08.2**	**-0.9**
YAK				IAmb	IAmb	22 49 35.0	
	comp=Z,18nm,0.8s						
YAK	**Yakutsk**	**21.84**	**307**	*e*P	**P**	**22 49 07.6**	**-1.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK	**Yakutsk**	**21.84**	**307**	P	**P**	**22 49 05.4**	**-3.7**
	comp=E,9.9nm,0.5s,baz=190,slow=1.2,SNR=2.1						
	comp=E,9.9nm,0.5s						
G21K	**Allakaket**	**21.88**	**41**	P	**P**	**22 49 11.1**	**+1.7**
H21K	**Melozitna Rive**	**21.94**	**43**	P	**P**	**22 49 11.5**	**+1.3**
H21K				IAmb	IAmb	22 49 22.6	
	comp=Z,47nm,1.4s						
HOM	**Homer**	**21.95**	**60**	P	**P**	**22 49 12.4**	**+2.2**
B20K	**Meade River**	**21.95**	**31**	IAmb	IAmb	22 49 23.9	
	comp=Z,25nm,0.7s						
SKT	**Skwentna**	**22.00**	**53**	P	**P**	**22 49 11.8**	**+1.0**
SKT				IAmb	IAmb	22 49 23.7	
	comp=Z,19nm,1.0s						
CNPM	**China Poot**	**22.17**	**60**	P	**P**	**22 49 14.5**	**+1.8**
KTH	**Kantishna Hill**	**22.39**	**49**	P	**P**	**22 49 16.2**	**+1.1**
KTH				IAmb	IAmb	22 49 50.3	
	comp=Z,44nm,1.3s						
MLY	**Manley**	**22.67**	**45**	P	**P**	**22 49 19.3**	**+1.3**
MLY				IAmb	IAmb	22 49 28.4	
	comp=Z,25nm,1.2s						
BWN	**Browne**	**23.10**	**48**	P	**P**	**22 49 23.3**	**+0.9**
B22K	**Teshekpuk Lake**	**23.24**	**32**	P	**P**	**22 49 25.3**	**+1.6**
B22K				IAmb	IAmb	22 49 41.9	
	comp=Z,22nm,0.9s						
G23K	**Bananza Creek**	**23.27**	**41**	P	**P**	**22 49 25.3**	**+1.1**
RND	**Reindeer**	**23.31**	**50**	P	**P**	**22 49 24.8**	**+0.2**
RND				IAmb	IAmb	22 49 50.2	
	comp=Z,15nm,1.0s						
RND	**Reindeer**	**23.31**	**50**	P	**P**	**22 49 24.8**	**+0.2**
RND				pmax	pmax		
	comp=Z,15nm,1.0s						
KLR	**Kul'dur**	**23.36**	**273**	*i* P	**P**	**22 49 25.5**	**+0.4**
MDM	**Murphy Dome**	**23.71**	**46**	P	**P**	**22 49 28.1**	**-0.4**
CCB	**Clear Creek Bu**	**23.86**	**47**	P	**P**	**22 49 30.6**	**+0.8**
CCB				IAmb	IAmb	22 49 48.6	
	comp=Z,11nm,0.8s						
H24K	**Noodor Dome**	**23.97**	**44**	P	**P**	**22 49 31.9**	**+1.0**
POKR	**Poker Plat Res**	**24.07**	**46**	P	**P**	**22 49 30.7**	**-1.1**
POKR				IAmb	IAmb	22 49 49.9	
	comp=Z,14nm,0.8s						
POKR	**Poker Plat Res**	**24.07**	**46**		**P**	**22 49 31.9**	**+0.1**
F24K	**Squaw Lake**	**24.26**	**40**	P	**P**	**22 49 34.3**	**+0.7**
IL31		**24.27**	**47**	P	**P**	**22 49 35.0**	**+1.4**
IL31				IAmb	IAmb	22 50 07.5	
	comp=Z,12nm,0.9s						
ILAR	**Eielson Array**	**24.27**	**47**	P	**P**	**22 49 34.0**	**+0.4**
ILAR	**Eielson Array**	**24.27**	**47**	*e*P	**P**	**22 49 34.2**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ILAR	**Eielson Array**	**24.27**	**47**	P	**P**	**22 49 31.3**	**-2.4**
	comp=Z,3.8nm,0.8s,baz=255,slow=8.9,SNR=7.3						
	comp=Z,3.8nm,0.8s						
IL03	**Eielson Array**	**24.28**	**47**	P	**P**	**22 49 33.9**	**+0.1**
TIXI	**Tiksi**	**24.49**	**331**	P	**P**	**22 49 34.6**	**-1.0**
TIXI				IAmb	IAmb	22 49 46.6	
	comp=Z,19nm,1.1s						
TIXI	**Tiksi**	**24.49**	**331**	P	**P**	**

J29N				IAmb	IAmb	22 50 38.9	
	comp=Z,9.2nm,0.8s						
G29M	Pine Creek	28.01	42	P	P	22 50 07.8	+0.4
G29M				IAmb	IAmb	22 50 17.7	
	comp=Z,15nm,0.9s						
A36M	Sachs Harbour	32.45	32		pwP	22 50 57.5	+0.8
KSRS	Korea Array	32.55	256	P	P	22 50 49.4	+1.7
	comp=Z,1.4nm,0.5s,baz=40,slow=9.0,SNR=5.1						
	comp=Z,1.4nm,0.5s						
C36M	Paulatuk	33.08	37	P	P	22 50 57.8	+5.9
T35M	Bob Quinn	33.50	60		pwP	22 51 05.8	-1.2
H11N2	WAKE ISLAND Hy	34.44	183	T	T	23 27 31.8	
	baz=2.1,slow=76,SNR=861						
H11N3	WAKE ISLAND Hy	34.46	183	T	T	23 27 30.7	
	baz=2.1,slow=76,SNR=944						
H11N1	WAKE ISLAND Hy	34.46	183	T	T	23 27 34.5	
	baz=2.1,slow=76,SNR=1497						
H11S1	WAKE ISLAND Hy	35.67	184	T	T	23 29 03.0	
	baz=2.3,slow=76,SNR=630						
H11S3	WAKE ISLAND Hy	35.68	184	T	T	23 29 03.5	
	baz=2.3,slow=76,SNR=162						
H11S2	WAKE ISLAND Hy	35.68	184	T	T	23 29 05.2	
	baz=2.3,slow=76,SNR=432						
NRIK	Noril'sk	38.01	325	P	P	22 51 33.5	-0.8
NRIK	Noril'sk	38.01	325	*i* P	P	22 51 34.2	-0.1
NRIK				pmax	pmax		
	comp=Z,20nm,1.5s						
NRIK	Noril'sk	38.01	325	P	P	22 51 32.7	-1.7
	comp=Z,1.4nm,0.4s,baz=80,slow=7.7,SNR=3.3						
	comp=Z,1.4nm,0.4s						
ULN	Ulaanbaatar	38.29	287	*i* P	P	22 51 37.8	+0.6
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	38.68	287	P	P	22 51 41.2	+0.8
SONM	Songino Array	38.68	287	P	P	22 51 41.1	+0.8
	comp=Z,1.8nm,0.6s,baz=61,slow=8.4,SNR=17						
	comp=Z,1.8nm,0.6s						
YKA	Yellowknife Ar	38.70	46	P	P	22 51 40.7	+0.5
YKA	Yellowknife Ar	38.70	46	*e*P	P	22 51 41.1	+0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	38.70	46	P	P	22 51 39.5	-0.6
	comp=Z,0.5nm,0.5s,baz=293,slow=8.6,SNR=5.5						
	comp=Z,0.5nm,0.5s						
LTY	Liberty	43.40	69	P	P	22 52 20.7	+1.6
HPAH	Hawaii Prepara	43.46	128	P	P	22 52 19.1	-0.7
KHLU	Kahalu`u	43.75	128	P	P	22 52 21.8	-0.5
MLOA	Mauna Loa Obse	43.94	128	P	P	22 52 22.3	-1.8
MLH	Mauna Loa	44.07	128	P	P	22 52 23.9	-1.0
BYL	Byron's Ledge	44.20	128	P	P	22 52 24.8	-1.0
D08A	Wollman Farm,	44.48	68	P	P	22 52 27.5	-0.2
HAWA	Hanford	44.54	69	P	P	22 52 28.5	+0.2
HAWA				IAmb	IAmb	22 52 40.1	
	comp=Z,14nm,1.4s						
ZALV	Zalesovo Beam	46.49	306	*e*P	P	22 52 46.0	+2.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	46.49	306	P	P	22 52 42.4	-1.1
	comp=Z,0.3nm,0.4s,baz=44,slow=4.5,SNR=3.6						
	comp=Z,0.3nm,0.4s						
SPITS	Spitsbergen Ar	46.82	353	P	P	22 52 44.6	-1.2
	comp=Z,5.5nm,0.9s,baz=37,slow=3.6,SNR=1.6						
	comp=Z,5.5nm,0.9s						
MSO	Missoula	47.31	66	P	P	22 52 50.2	+0.1
MSO				IAmb	IAmb	22 52 51.2	
	comp=Z,7.3nm,1.2s						
DGZ	Jazzator, Alta	47.78	300	*i* P	P	22 52 53.5	-0.4
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MPK	Martis Peak	48.82	77	P	P	22 53 02.1	-0.1
PAHR	Pah Rah Range	48.91	76	P	P	22 53 02.9	+0.2
PAHR				IAmb	IAmb	22 53 03.6	
	comp=Z,6.4nm,1.2s						
PNTR	Pine Nut	49.21	77	P	P	22 53 05.7	+0.7
FCC	Fort Churchill	49.21	43	P	P	22 53 05.9	+1.4
FCC				IAmb	IAmb	22 53 15.1	
	comp=Z,6.5nm,0.8s						
FCC	Fort Churchill	49.21	43	P	P	22 53 05.9	+1.4
FCC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YERR	Yerington	49.48	77	P	P	22 53 07.5	+0.4
YERR				IAmb	IAmb	22 53 21.2	
	comp=Z,5.9nm,1.0s						
BMN	Battle Mountai	49.66	74	P	P	22 53 08.9	+0.5
BMN				IAmb	IAmb	22 53 19.6	
	comp=Z,6.9nm,1.2s						
BMN	Battle Mountai	49.66	74	P	P	22 53 08.9	+0.5
BMN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WAKR	Walker	49.70	78	P	P	22 53 09.3	+0.6
WAKR				IAmb	IAmb	22 53 20.3	
	comp=Z,4.6nm,0.8s						
QLMT	Earthquake Lak	49.94	66	P	P	22 53 09.8	-0.7
YHL	Hebgen Lake	50.06	66	P	P	22 53 11.6	+0.1
YHL				IAmb	IAmb	22 53 28.5	
	comp=Z,8.7nm,1.2s						
KVN	Kaiserville	50.09	76	P	P	22 53 11.9	+0.2
KVN	Kaiserville	50.09	76	P	P	22 53 11.9	+0.2
KVN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BBGB	Big Mountain B	50.10	81	P	P	22 53 12.6	+0.9
RYN	Ryan	50.14	77	P	P	22 53 11.7	-0.4
YHH	Holmes Hill	50.28	66	P	P	22 53 12.8	-0.4
NVAR	Mina Array Bea	50.40	77	P	P	22 53 13.8	-0.3
NVAR	Mina Array Bea	50.40	77	P	P	22 53 14.5	+0.4
	comp=Z,2.3nm,0.9s,baz=293,slow=7.5,SNR=7.5						
	comp=Z,2.3nm,0.9s						
LHV	Little Huntoon	50.41	77	P	P	22 53 14.0	+0.1
LHV				IAmb	IAmb	22 53 16.6	
	comp=Z,13nm,1.3s						
NV11	Mina Array Sit	50.48	77	P	P	22 53 15.7	+1.0
H17A	Grant Village	50.68	66	P	P	22 53 16.3	+0.1
H17A				IAmb	IAmb	22 53 19.8	
	comp=Z,13nm,1.4s						
IMW	Indian Meadow	50.82	67	P	P	22 53 17.5	+0.2
IMW				IAmb	IAmb	22 53 19.1	
	comp=Z,7.7nm,1.1s						
FLWY	Flagg Ranch	50.83	66	P	P	22 53 17.2	0.0
FLWY				IAmb	IAmb	22 53 29.4	
	comp=Z,5.2nm,0.8s						
MOOW	Moose Ponds	51.02	67	P	P	22 53 18.6	-0.2
TPAW	Teton Pass	51.08	67	P	P	22 53 19.7	+0.4
TPH	Tonopah	51.26	76	P	P	22 53 20.6	0.0
TPH	Tonopah	51.26	76	P	P	22 53 20.6	0.0
TPH				pmax	pmax		
	comp=Z,34nm,1.1s						
MZP	Montezuma Peak	51.43	77	P	P	22 53 21.8	-0.1
KURK	Kurchatov	51.48	306	P	P	22 53 20.7	-1.1
KURK				IAmb	IAmb	22 53 30.7	
	comp=Z,5.3nm,0.7s						
KURK	Kurchatov	51.48	306	P	P	22 53 21.3	-0.5
AHID	Auburn Hatcher	51.49	68	P	P	22 53 22.9	+0.6
KURBB	Kurchatov Arra	51.59	306	P	P	22 53 21.3	-1.3
	comp=Z,2.6nm,0.3s,baz=56,slow=7.7,SNR=4.7						
	comp=Z,2.6nm,0.3s						
GMN	Gold Mountain	51.77	77	P	P	22 53 24.7	+0.2
ISA	Isabella, Lake	52.22	79	P	P	22 53 26.8	-0.8
ISA	Isabella, Lake	52.22	79	P	P	22 53 26.8	-0.8
ISA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SPR3	Spring Creek 3	52.26	74	P	P	22 53 28.4	+0.2
MK31	Makanchi Array	52.28	300	P	P	22 53 26.2	-1.6
MK31	Makanchi Array	52.28	300	*i* P	P	22 53 26.3	-1.6
MKAR	Makanchi Array	52.28	300	P	P	22 53 26.6	-1.3
MKAR	Makanchi Array	52.28	300	P	P	22 53 26.6	-1.3
MKAR	Makanchi Array	52.28	300	P	P	22 53 26.4	-1.4
	comp=Z,1.7nm,0.7s,baz=51,slow=7.1,SNR=24						
	comp=Z,1.7nm,0.7s						
DUG	Dugway, Tooele	52.29	71	P	P	22 53 28.6	+0.5
DUG	Dugway, Tooele	52.29	71	P	P	22 53 28.6	+0.5
DUG				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BW06	Boulder Array	52.32	67	P	P	22 53 28.8	+0.3
BW06				IAmb	IAmb	22 53 29.9	
	comp=Z,7.9nm,1.2s						
PD31	Pinedale Array	52.33	67	P	P	22 53 28.0	-0.5
PDAR	Pinedale Array	52.33	67	P	P	22 53 28.3	-0.2
PDAR	Pinedale Array	52.33	67	P	P	22 53 28.1	-0.4
	comp=Z,2.9nm,0.9s,baz=315,slow=5.2,SNR=13						
	comp=Z,2.9nm,0.9s						
MAKZ	Makanchi	52.43	300	P	P	22 53 27.8	-1.2
MAKZ				IAmb	IAmb	22 54 03.1	
	comp=Z,6.7nm,1.1s						
MAKZ	Makanchi	52.43	300	P	P	22 53 27.8	-1.2
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TPNV	Topopah Spring	52.60	77	P	P	22 53 29.5	-1.0
TPNV				IAmb	IAmb	22 53 54.7	
	comp=Z,5.9nm,0.9s						
TPNV	Topopah Spring	52.60	77	P	P	22 53 29.5	-1.0
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GWY	Greenwater Val	52.89	78	P	P	22 53 32.2	-0.5
KEV	Kevo	53.30	344	P	P	22 53 35.6	+0.6
KEV	Kevo	53.30	344	P	P	22 53 35.6	+0.6
KEV				pmax	pmax		
	comp=Z,60nm,1.5s						
GSC	Goldstone, Bar	53.44	79	P	P	22 53 36.5	-0.1
GSC				IAmb	IAmb	22 53 41.5	
	comp=Z,12nm,1.3s						
GSC	Goldstone, Bar	53.44	79	P	P	22 53 36.5	-0.1
GSC				pmax	pmax		
	comp=Z,12nm,1.3s						
BVAR	Borovoye Array	53.68	312	P	P	22 53 37.4	-0.7
	comp=Z,10.0nm,0.6s,baz=51,slow=7.8,SNR=84						
	comp=Z,10.0nm,0.6s						
BRVK	Borovoye	53.70	312	*i* P	P	22 53 37.7	-0.5
BRVK				pmax	pmax		
	comp=Z,12nm,0.6s						
ARCES	ARCESS Array B	53.73	345	P	P	22 53 36.6	-1.5
	comp=Z,4.8nm,1.0s,baz=26,slow=8.1,SNR=5.9						
	comp=Z,4.8nm,1.0s						
TMUT	Trail Mountain	53.80	71	P	P	22 53 39.8	+0.2
TMUT				IAmb	IAmb	22 53 43.1	
	comp=Z,5.5nm,0.6s						
MSU	Marysvale	53.81	73	P	P	22 53 39.4	-0.1
MSU	Marysvale	53.81	73	P	P	22 53 39.4	-0.1
RDMU	Red Mountain	53.83	69	P	P	22 53 39.0	-0.6
RDMU				IAmb	IAmb	22 53 41.5	
	comp=Z,10nm,1.2s						
P17A	Butcher Ranch,	53.94	71	P	P	22 53 41.0	+0.6
MTPU	Mount Pierson	54.14	73	P	P	22 53 42.9	+0.9
LCMT	Little Creek M	54.26	75	P	P	22 53 43.1	+0.4
LCMT				IAmb	IAmb	22 53 45.2	
	comp=Z,10nm,1.5s						
SRU	San Rafael Swe	54.31	71	P	P	22 53 43.2	+0.1
SRU	San Rafael Swe	54.31	71	P	P	22 53 43.2	+0.1
SRU				pmax	pmax		
	comp=Z,12nm,1.1s						
RSSD	Black Hills	54.33	62	P	P	22 53 43.5	+0.3
RSSD				IAmb	IAmb	22 54 01.0	
	comp=Z,4.4nm,0.8s						
RSSD	Black Hills	54.33	62	P	P	22 53 43.5	+0.3
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RWWY	Rawlins	54.33	66	P	P	22 53 43.3	0.0
KNB	Kanab	54.50	74	P	P	22 53 44.8	+0.3
KNB				IAmb	IAmb	22 53 50.3	
	comp=Z,9.8nm,1.2s						
KNB	Kanab	54.50	74	P	P	22 53 44.8	+0.3
KNB				pmax	pmax		
	comp=Z,10.0nm,1.2s						
O20A	White River Ci	54.86	68	P	P	22 53 46.6	-0.4
O20A				IAmb	IAmb	22 54 22.3	
	comp=Z,11nm,1.2s						
HMU	Henry Mountain	55.02	72	P	P	22 53 48.7	+0.4
U15A	North Rim	55.22	74	P	P	22 53 50.4	+0.6
U15A				IAmb	IAmb	22 53 52.8	
	comp=Z,7.8nm,1.4s						
W13A	Hualapai Mount	55.26	77	P	P	22 53 50.2	+0.2
W13A				IAmb	IAmb	22 53 52.1	
	comp=Z,6.3nm,1.3s						
PV23	Carpenter Ridg	55.62	70	P	P	22 53 52.9	+0.3
PV14	Lion Creek, Pa	55.67	71	P	P	22 53 52.6	-0.4
PV14				IAmb	IAmb	22 54 22.7	
	comp=Z,5.7nm,0.7s						
PV22	Blue Mesa, Par	55.68	70	P	P	22 53 53.5	+0.5
PV22				IAmb	IAmb	22 54 03.6	
	comp=Z,7.3nm,1.1s						
PV04	Paradox Valley	55.72	70	P	P	22 53 53.0	-0.3
PV04				IAmb	IAmb	22 54 05.3	
	comp=Z,7.0nm,0.9s						
PV20	West Nyswonger	55.72	71	P	P	22 53 53.5	+0.2
PV20				IAmb	IAmb	22 54 08.8	
	comp=Z,5.2nm,0.6s						
PV19	Morning Glory	55.73	71	P	P	22 53 53.5	+0.1
PV19				IAmb	IAmb	22 54 10.1	
	comp=Z,6.1nm,0.8s						
PV17	East Wray Mesa	55.77	71	P	P	22 53 53.7	+0.1
PV16	Nyswonger Mesa	55.77	70	P	P	22 53 53.2	-0.5
PV16				IAmb	IAmb	22 54 12.5	
	comp=Z,7.6nm,0.9s						
PV11	David Mesa, Pa	55.80	70	P	P	22 53 54.0	+0.1
PV18	Skein Mesa, Pa	55.82	71	P	P	22 53 53.5	-0.5
PV12	Saucer Basin,	55.83	70	P	P	22 53 54.0	-0.1
PV07	Paradox Valley	55.83	70	P	P	22 53 53.9	-0.2
PV07				IAmb	IAmb	22 53 59.0	
	comp=Z,7.9nm,1.2s						
PV05	Paradox Valley	55.83	71	P	P	22 53 54.4	+0.2
PV05				IAmb	IAmb	22 54 06.0	
	comp=Z,9.3nm,0.9s						
PV03	Paradox Valley	55.85	70	P	P	22 53 54.6	+0.4
PV03				IAmb	IAmb	22 53 56.0	
	comp=Z,11nm,1.2s						
PV02	Paradox Valley	55.94	70	P	P	22 53 55.0	+0.1
PV02				IAmb	IAmb	22 53 56.8	
	comp=Z,8.9nm,1.0s						
PV15	Paradox Valley	55.99	70	P	P	22 53 55.2	-0.1
PV15				IAmb	IAmb	22 54 14.9	
	comp=Z,6.4nm,0.9s						
SMCO	Snowmass	56.22	68	P	P	22 53 57.3	+0.2
SMCO				IAmb	IAmb	22 54 05.0	
	comp=Z,7.7nm,1.2s						
WUAZ	Wupatki	56.39	75	P	P	22 53 58.8	+0.7
WUAZ				IAmb	IAmb	22 54 25.5	
	comp=Z,12nm,1.4s						
ISCO	Idaho Springs	56.52	67	P	P	22 53 59.2	+0.1
ISCO				IAmb	IAmb	22 54 01.6	
	comp=Z,9.4nm,1.3s						
ISCO	Idaho Springs	56.52	67	P	P	22 53 59.2	+0.1
ISCO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
Y14A	Wickenburg	56.60	77	P	P	22 53 59.6	+0.2
Y14A				IAmb	IAmb	22 54 02.3	
	comp=Z,6.7nm,1.2s						
MVCO	Mesa Verde	56.79	71	P	P	22 54 01.5	+0.5
MVCO				IAmb	IAmb	22 54 32.1	
	comp=Z,6.7nm,1.2s						
X16A	Lo Mia Camp, P	57.14	75	P	P	22 54 03.9	+0.5
X16A				IAmb	IAmb	22 54 06.0	
	comp=Z,6.9nm,1.4s						
S22A	4UR Ranch, Cre	57.33	70	P	P	22 54 05.0	+0.1
S22A				IAmb	IAmb	22 54 07.5	
	comp=Z,7.2nm,1.2s						
214A	Organ Pipe Nat	58.15	78	P	P	22 54 11.4	+1.0
214A				IAmb	IAmb	22 54 22.0	
	comp=Z,5.0nm,0.8s						
KLMR	Klimovskoe	58.46	334	*e*P	P	22 54 10.2	-1.8
KLMR				pmax	pmax		
	comp=Z,26nm,2.0s						
AAK	Ala-Archa	59.15	301	*i* P	P	22 54 16.8	-0.6
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LSA	Lhasa	59.52	279	P	P	22 54 19.7	-0.7
LSA				IAmb	IAmb	22 54 22.5	
	comp=Z,3.6nm,0.6s						
LSA	Lhasa	59.52	279	P	P	22 54 19.7	-0.7
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
I37A	Lemond, Waseca	59.76	56	P	P	22 54 22.0	+0.7
KK31	Karatay Array	60.78	304	P	P	22 54 27.4	-1.0
KK31				IAmb	IAmb	22 54 47.2	
	comp=Z,8.2nm,1.4s						
KK31	Karatay Array	60.78	304	P	P	22 54 27.4	-1.0
KK31				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KKAR	Karatay Array	60.78	304	P	P	22 54 27.6	-0.8
KKAR				IAmb	IAmb	22 54 47.2	
	comp=Z,8.2nm,1.4s						
KKAR	Karatay Array	60.78	304	P	P	22 54 27.3	-1.1
KKAR	Karatay Array	60.78	304	P	P	22 54 27.6	-0.8
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
FINES	FINESS Array B	61.01	341	P	P	22 54 29.4	-0.1
FINES	FINESS Array B	61.01	341	P	P	22 54 29.5	-0.1
FINES	FINESS Array B	61.01	341	P	P	22 54 26.7	-2.8
	comp=Z,1.9nm,0.8s,baz=19,slow=8.8,SNR=1.8						
	comp=Z,1.9nm,0.8s						
SCHQ	Schefferville	62.05	33	P	P	22 54 34.8	-2.0
	comp=Z,2.6nm,0.9s,baz=295,slow=9.2,SNR=1.7						
	comp=Z,2.6nm,0.9s						
CMAR	Chiang Mai Arr	63.53	265	P	P	22 54 48.9	+1.8
	comp=Z,1.4nm,0.6s,baz=33,slow=6.7,SNR=11						
	comp=Z,1.4nm,0.6s						
POST	Post	63.71	69		pwP	22 54 59.7	+4.2
NB2	NORSAR Subarra	63.75	348	P	P	22 54 46.9	-1.0
	comp=Z,1.5nm,0.6s,baz=15,slow=6.9						
NOA	NORSAR Array B	63.75	348	P	P	22 54 47.3	-0.7
	comp=Z,1.8nm,0.6s,baz=16,slow=6.7,SNR=13						
	comp=Z,1.8nm,0.6s						
P40A	Paris	63.80	58		pwP	22 54 58.9	+2.9
WMOK	Wichita Mounta	63.93	66	P	P	22 54 50.1	+0.6
WMOK	Wichita Mounta	63.93	66	P	P	22 54 50.1	+0.6
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN	Obninsk	64.22	332	*e*P	P	22 54 51.6	+0.6
OBN				*e*		22 55 26.2	
OBN				*e*		22 57 11.5	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HFS	Hagfors	64.31	347	P	P	22 54 49.7	-1.9
	comp=Z,1.9nm,0.6s,baz=20,slow=4.7,SNR=6.1						
	comp=Z,1.9nm,0.6s						
SIMJ	Simiganj	64.89	302	P	P	22 54 55.6	-0.3
SIMJ				IAmb	IAmb	22 55 11.2	
	comp=Z,5.1nm,0.8s						
KONO	Kongsberg	65.29	349	P	P	22 54 58.1	+0.1
KONO	Kongsberg	65.29	349	P	P	22 54 58.1	+0.1
KONO				pmax	pmax		
	comp=Z,27nm,1.5s						
TX31	Lajitas Ar. Si	65.32	74	P	P	22 54 59.5	+0.7
TXAR	Lajitas Array	65.32	74	P	P	22 54 59.3	+0.5
TXAR	Lajitas Array	65.32	74	P	P	22 54 59.5	+0.7
	comp=Z,1.4nm,0.5s,baz=304,slow=4.9,SNR=17						
	comp=Z,1.4nm,0.5s						
NIL	Nilore	66.55	295	P	P	22 55 06.8	+0.3
NIL	Nilore	66.55	295	P	P	22 55 06.8	+0.3
NIL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKASG	Malin Array Be	70.15	334	P	P	22 55 27.7	-1.0
	comp=Z,1.4nm,0.6s,baz=26,slow=6.3,SNR=3.1						
	comp=Z,1.4nm,0.6s						
EKA	Eskdalemuir Ar	70.63	355	P	P	22 55 31.3	-0.3
	comp=Z,1.1nm,0.7s,baz=8.6,slow=5.2,SNR=4.1						
	comp=Z,1.1nm,0.7s						
GEYT	Alibeck	70.71	308	P	P	22 55 32.1	-0.3
	comp=Z,2.5nm,0.8s,baz=202,slow=0.8,SNR=4.7						
	comp=Z,2.5nm,0.8s						
KWP	Kalwaria Pacla	72.70	338		PcP	22 55 56.0	-5.5
CRVS	Cervenica-Dubn	73.67	338	*e*P	P	22 55 49.2	-0.7
CRVS	Cervenica-Dubn	73.67	338	*e*P	P	22 55 49.2	-0.7
BUR08	Bucovina Ar. S	73.98	335	P	P	22 55 52.2	+0.3
BUR08				IAmb	IAmb	22 56 08.0	
	comp=Z,12nm,1.4s						
BURAR	Bucovina Array	74.01	335	P	P	22 55 52.6	+0.6
VYHS	Vyhne	74.60	340	*e*P	P	22 55 56.1	+0.7
VYHS	Vyhne	74.60	340	*e*P	P	22 55 56.0	+0.7
MODS	Modra-Piesok	75.03	341	*e*P	P	22 56 01.8	+4.0
MODS	Modra-Piesok	75.03	341	*e*P	P	22 56 01.8	+4.0
GERES	GERESS Array B	75.22	343	*e*P	P	22 56 00.6	+1.6
GERES	GERESS Array B	75.22	343	P	P	22 55 58.5	-0.5
	comp=Z,0.7nm,0.7s,baz=26,slow=6.5,SNR=3.6						
	comp=Z,0.7nm,0.7s						
MLR	Muntele Rosu	75.80	334	P	P	22 56 02.1	-0.3
	comp=Z,2.4nm,0.6s,baz=306,slow=19						
	comp=Z,2.4nm,0.6s						
BRTR	Keskin Array B	78.86	326	P	P	22 56 20.1	+0.4
	comp=Z,1.2nm,0.8s,baz=65,slow=4.0,SNR=5.3						
	comp=Z,1.2nm,0.8s						
NRCA	Norcia	81.14	342	P	P	22 56 33.1	+1.2

*AFAD **26** 22:46:12.8±0.0, 35°.19N×29°.41E, h8km±2km, ML2.7*
*NIC **26** 22:46:16.2, 35°.30N×29°.26E, h15km±1km, Ml2.9/4*
*IDC **26** 22:46:16.2±1.7, 35°.55N×29°.50E, h0km, mb3.2/1, mbtmp3.4/6, ML3.2/5, Error ellipse: s-maj=29.0km s-min=21.3km az=20.0*
*ISK **26** 22:46:17.5, 35°.41N×29°.42E, h15km, ML2.7/16*
ISC 26 22:46:17.1±1.5**, 35°.35N**±0°.04×**29°.29E**±0°.04**, h15**km±11km**,**
n39, σ1§**10**/52**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.84	16	P	Pb	22 46 33.3	0.0
KSL				S	Sn	22 46 46.4	+0.1
KSL				AML	AML	22 46 50.1	
	1.4nm,0.5s						
KSL				AML	AML	22 46 55.0	
	1.6nm,0.7s						
DEMR	Demre-Antalya	1.02	29	Pg	Pb	22 46 35.7	-0.7
DEMR				Sg	Sb	22 46 48.7	-0.9
IZZE	Mula-Seydike	1.09	357	P	Pb	22 46 36.8	-0.7
IZZE				S	Sn	22 46 53.9	+1.3
IZZE				*i* AML	AML	22 46 57.0	
	comp=N,465nm,0.6s						
IZZE				*i* AML	AML	22 47 00.0	
	comp=E,396nm,0.4s						
ARG	Arkhangelos	1.28	313	Pn	Pg	22 46 41.9	+0.1
ARG	Arkhangelos	1.28	313	S	Sg	22 46 58.0	-0.5
ARG				AML	AML	22 47 16.6	
	0.5nm,1.0s						
AKUM	Antalya-Kumluc	1.30	41	P	Pn	22 46 39.1	-1.4
AKUM				*i* AML	AML	22 47 12.0	
	comp=E,125nm,0.4s						
AKUM				*i* AML	AML	22 47 17.0	
	comp=N,117nm,0.8s						
FETY	Fethiye	1.30	353	Pn	Pn	22 46 40.1	-0.5
FETY				Sn	Sb	22 46 58.2	+0.6
FETY	Fethiye	1.30	353	P	Pn	22 46 40.6	0.0
FETY				S	Sb	22 46 58.7	+1.1
ELL	Elmali	1.48	20	Pn	Pn	22 46 43.0	-0.3
ELL	Elmali	1.48	20	P	Pn	22 46 42.4	-0.9
ELL				S	Sb	22 47 03.9	+0.8
ELL				AML	AML	22 47 12.5	
	0.6nm,0.5s						
ELL				AML	AML	22 47 17.8	
	0.8nm,0.6s						
KNIK	Mula-Seydike	1.51	9	P	Pn	22 46 43.6	-0.1
KNIK				S	Sg	22 47 07.3	+1.4
KNIK				*i* AML	AML	22 47 08.0	
	comp=N,86nm,0.6s						
KNIK				*i* AML	AML	22 47 18.0	
	comp=E,88nm,0.6s						
DALY	Dalyan (Mula)	1.56	341	Pn	Pb	22 46 45.3	-0.2
CAME	Cameli-Denizli	1.59	0	Pn	Pn	22 46 44.9	+0.1
TURN	Turunc	1.66	330	Pn	Pb	22 46 46.9	-0.4
KORT	Korkueli	1.86	27	Pn	Pn	22 46 48.2	-0.3
KORT	Korkueli	1.86	27	P	Pn	22 46 48.7	+0.2
KORT				*i* AML	AML	22 47 30.0	
	comp=N,63nm,0.6s						
KORT				*i* AML	AML	22 47 46.0	
	comp=E,68nm,0.8s						
GOLH	Golhisar	1.90	7	P	Pn	22 46 49.9	+0.9
GOLH				*i* AML	AML	22 47 31.0	
	comp=N,113nm,1.1s						
GOLH				*i* AML	AML	22 47 38.0	
	comp=E,76nm,0.8s						
ANTB	Antalya	1.90	35	Pn	Pn	22 46 48.9	0.0
DAT	Datca	1.96	315	Pn	Pb	22 46 51.4	-1.0
YER	Yerkesik	1.96	336	Pn	Pb	22 46 51.0	-1.5
RFTAA	Mazikoy-Bodrum	2.07	323	Pn	Pb	22 46 52.8	-1.5
APMY	Acipayam-Deniz	2.12	0	Pn	Pn	22 46 52.4	+0.4
TAVA	DENIZLI_Tavas	2.14	352	P	Pb	22 46 54.3	-1.2
TAVA				S	Sb	22 47 20.6	-1.2
TAVA				*i* AML	AML	22 47 28.0	
	comp=E,36nm,0.8s						
TAVA				*i* AML	AML	22 47 36.0	
	comp=N,52nm,0.8s						
DNIZ	Denizli-Tavas-	2.28	355	P	Pb	22 46 58.1	+0.1
DNIZ				S	Sg	22 47 30.3	-0.2
MLSB	Milas	2.30	328	Pn	Pb	22 46 56.1	-2.1
BODT	Bodrum	2.34	317	Pn	Pb	22 46 56.8	-2.2
AKMS	Akamas	2.52	97	P	Pn	22 46 57.3	-0.1
AKMS				AML	AML	22 47 26.9	
	0.1nm,1.3s						
AKMS				S	Sn	22 47 28.9	+1.1
AKMS				AML	AML	22 47 31.4	
	0.2nm,1.0s						
BASM	Basmaki-Afyon	2.64	13	Pn	Pn	22 46 59.0	-0.1
ALFC	Alefka	2.71	93	P	Pn	22 46 59.7	-0.4
NATA	Nata	2.75	101	P	Pn	22 47 00.9	+0.3
TROD	Troodos	2.96	97	P	Pn	22 47 03.0	-0.6
CSS	Mathiatis	3.33	95	P	Pn	22 47 08.5	-0.1
MVOU	Mavrovouni	3.57	94	P	Pn	22 47 11.1	-0.7

BRTR Keskin Array B 5.57 37 Pn Pn 22 47 39.2 -0.3
0.3nm,0.3s,baz=218,slow=16,SNR=12
BRTR Sn Sn 22 48 40.0 -3.3
0.1nm,0.3s,baz=205,slow=25,SNR=1.2
1.2nm,0.8s
MMAI Mount Meron Ar 5.57 113 Pn Pn 22 47 39.6 +0.1
1.5nm,0.3s,baz=303,slow=14,SNR=9.3
MMAI Sn Sn 22 48 43.2 0.0
1.6nm,0.3s,baz=308,slow=22,SNR=1.7
1.0nm,0.3s
ASF Jabal al Asfar 7.08 114 Pn Pn 22 48 00.5 +0.3
0.2nm,0.3s,baz=56,slow=23,SNR=1.7
3.3nm,0.9s
EIL Elat 7.41 138 Pn Pn 22 48 06.8 +2.2
0.4nm,0.3s,baz=342,slow=20,SNR=2.0
EIL Sn Sn 22 49 26.4 -1.9
0.3nm,0.3s,baz=280,slow=18,SNR=1.9
4.3nm,0.8s
KEST Kesra 16.24 277 Pn P 22 50 09.6 +1.9
0.2nm,0.3s,baz=101,slow=10,SNR=5.7
2.7nm,0.8s
ESDC Sonseca Array 26.64 289 P P 22 51 56.6 +1.5
0.2nm,0.6s,baz=81,slow=9.3,SNR=1.4
0.2nm,0.6s

IDC ***26*** *22:47:53.7±0.4,3.˙44S×145.˙95E, h0km, mb5.1/24, mbtmp5.2/27, ML4.5/3, MS6.0/59, Error ellipse: s-maj=17.8km s-min=9.4km az=78.0*

MOS ***26*** *22:47:54.9±1.1,3.˙50S×145.˙74E, h10km, mb6.0/64, MS6.1/55, Error ellipse: s-maj=7.6km s-min=4.4km az=101.1*

BJI ***26*** *22:47:56.0±0.0,3.˙58S×145.˙81E, h10km, mb5.5/84, mB6.1/83, Ms6.2/98, Ms7 6.2/94*

NEIC ***26*** *22:47:57.9,3.˙54S×145.˙84E, h10km*

NEIC ***26*** *22:47:57.8±1.4,3.˙51S±0.˙06×145.˙85E±0.˙06, h10km±1km, mb5.9/440, Ms_20 6.3/632, Mwb6.1/47, Mww6.3/23, Error ellipse: s-maj=11.3km s-min=9.3km az=298.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.15; Mθθ0.27; Mϕϕ-0.42; Mrθ0.35; Mθϕ1.81; Mϕr0.07; Fault plane solution: M₀1.88000×10¹⁸ NP1:φ₁95.89000°, δ85.76000°, λ10.95000°. NP2:φ₂5.07000°, δ79.08000°, λ175.69000°. Principal axes: T 1.8294, Plg11.0000°, Azm321.0000°; N 0.1045, Plg78.0000°, Azm117.0000°; P -1.9339, Plg5.0000°, Azm230.0000°;*

NEIC ***26*** *22:47:57.9,3.˙74S×145.˙64E, h20km, Moment Tensor Solution. Duration: 6s8 Moment tensor: Scale 10¹⁸Nm; Mrr0.23; Mθθ0.33; Mϕϕ-0.56; Mrθ-1.54; Mθϕ3.19; Mϕr0.87; Fault plane solution: M₀3.62000×10¹⁸ NP1:φ₁93.38000°, δ83.93000°, λ-24.93000°. NP2:φ₂186.20000°, δ65.22000°, λ-173.32000°. Principal axes: T 3.2374, Plg13.0000°, Azm142.0000°; N 0.7634, Plg64.0000°, Azm261.0000°; P -4.0008, Plg22.0000°, Azm47.0000°;*

NEIC ***26*** *22:47:57.9,3.˙54S×145.˙84E, h20km*

DJA ***26*** *22:47:58.7±1.5,3.˙5s3.˙×14.˙6E±.˙, h23km±12km, M6.0/30, mB6.4/30, mb5.8/30, MLv6.0/2, Mw(mB)6.1/30, MwMwp5.9/25, Mwp6.0/25*

GCMT ***26*** *22:47:59.8±0.0,3.˙36S×145.˙90E, h12km, MW6.2/173, Moment Tensor Solution. s173,c393; s170,c691; Duration: 3s3 Moment tensor: Scale 10¹⁸Nm; Mrr-0.16±.01; Mθθ0.39±.01; Mϕϕ-0.22±.01; Mrθ0.34±.03; Mθϕ2.93±.01; Mϕr-0.47±.03; Best double couple: M₀3.00400×10¹⁸ NP1:φ₁4.00000°, δ83.00000°, λ-171.00000°. NP2:φ₂272.00000°, δ81.00000°, λ-7.00000°. Principal axes: T 3.0280, Plg1.0000°, Azm138.0000°; N -0.0480, Plg79.0000°, Azm42.0000°; P -2.9810, Plg11.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 26 22:47:58.8±0.4,3.˙56S±0.˙03×145.˙88E±0.˙03, h24km±2km, h24km:pP-P, n1660, σ1.983/1501, mb5.8/405, MS6.2/443, 32C-28D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.11**	**45**	Pn		**Pn**	**22 49 28.6**	**-4.1**
MANU	**Manus Island**	**2.11**	**45**	⇓P		Pn	22 48 26.4	-6.3
KAVG	**Kavieng**	**5.01**	**79**	P		**Pn**	**22 49 16.4**	**+3.9**
	39μm,1.2s							
GENI	**Genyem**	**5.79**	**279**	P		**Pn**	**22 49 23.7**	**+0.5**
	836nm,1.4s							
GENI	**Genyem**	**5.79**	**279**	P		**Pn**	**22 49 22.2**	**-1.0**
	842nm,1.4s,16μm109μm8.3nm							
PMG	**Port Moresby**	**5.95**	**168**	Pn		**Pn**	**22 49 26.3**	**+0.9**
PMG	**Port Moresby**	**5.95**	**168**	P		**Pn**	**22 49 26.3**	**+0.9**
PMG	**Port Moresby**	**5.95**	**168**	Pn		**Pn**	**22 49 25.5**	**+0.2**
	191nm,0.6s,baz=19,slow=4.5,SNR=70							
RABL	**Rabaul**	**6.30**	**96**	Pn		**Pn**	**22 49 31.2**	**+1.0**
RABL	**Rabaul**	**6.30**	**96**	P		**Pn**	**22 49 33.5**	**+3.2**
RABL	**Rabaul**	**6.30**	**96**	⇑P		**Pn**	**22 49 27.6**	**-2.6**
COEN	**Coen**	**10.67**	**194**	P		**Pn**	**22 50 31.3**	**+1.1**
	baz=11							
COEN	**Coen**	**10.67**	**194**	Pn		**Pn**	**22 50 30.2**	**-0.1**
COEN	**Coen**	**10.67**	**194**	P		**Pn**	**22 50 34.6**	**+4.3**
	216nm,0.9s							
COEN	**Coen**	**10.67**	**194**	⇓P		**Pn**	**22 50 32.0**	**+1.7**
FAKI	**Fak Fak**	**13.63**	**272**	Pn		**Pn**	**22 51 09.6**	**-1.1**
FAKI	**Fak Fak**	**13.63**	**272**	P		**Pn**	**22 51 13.9**	**+3.2**
	194nm,1.8s							
FAKI	**Fak Fak**	**13.63**	**272**	⇓P		**Pn**	**22 51 06.5**	**-4.2**
FAKI	**Fak Fak**	**13.63**	**272**	P		**Pn**	**22 51 13.5**	**+2.8**
	192nm,0.9s,7μm26μm							
MTSU	**Mount Surprise**	**14.57**	**186**	P		**P**	**22 51 27.7**	**-2.1**
	baz=15,SNR=15							
MTSU	**Mount Surprise**	**14.57**	**186**	P		**P**	**22 51 28.0**	**-1.8**
	137nm,0.9s							
SIJI	**Sorong**	**14.85**	**280**	P		**Pn**	**22 51 26.1**	**-1.3**
	366nm,1.3s,11μm27μm							
SWI	**Sorong**	**14.85**	**280**	P		**Pn**	**22 51 27.0**	**-0.4**
	511nm,1.3s,13μm32μm							
HNR	**Honiara**	**15.14**	**113**			**Pn**	**22 51 31.6**	**+0.3**
HNR	**Honiara**	**15.14**	**113**	P		**P**	**22 51 36.8**	**+0.6**
	2μm,1.1s							
HNR	**Honiara**	**15.14**	**113**	Pn		**Pn**	**22 51 29.5**	**-1.7**
	275nm,0.3s,baz=250,slow=7.0,SNR=1.1							
HNR				Sn		**Sn**	**22 54 17.2**	**-1.2**
	418nm,0.3s,baz=94,slow=2.3,SNR=2.8							
HNR				LR		LR	22 57 27.2	
	comp=Z,892μm,18.2s,baz=284,slow=38							
SAUI	**Saumlaki**	**15.16**	**253**	Pn		**Pn**	**22 51 31.3**	**-0.2**
SAUI				IAmb		IAmb	22 51 32.1	
	comp=Z,667nm,1.5s							
SAUI	**Saumlaki**	**15.16**	**253**	P		**Pn**	**22 51 32.5**	**+1.0**
	comp=Z,590nm,0.8s							
SAUI	**Saumlaki**	**15.16**	**253**	P		**P**	**22 51 39.2**	**+2.8**
	comp=Z,585nm,0.7s,comp=Z,20μm							
TV1H	**Townsville Har**	**15.63**	**177**	P		**P**	**22 51 42.5**	**+0.9**
	comp=Z,204nm,0.8s							
BNDI	**Bandanaira**	**15.97**	**266**	P		**Pn**	**22 51 43.5**	**+1.5**
BNDI	**Bandanaira**	**15.97**	**266**	P		P	22 51 56.1	+11
AUAYR	**Ayr State High**	**15.99**	**175**	P		**P**	**22 51 46.6**	**+1.0**
KDU	**Kakadu**	**16.07**	**235**	P		**Pn**	**22 51 39.9**	**-3.3**
	baz=16,SNR=48							
KDU	**Kakadu**	**16.07**	**235**	P		**Pn**	**22 51 41.1**	**-2.2**
	comp=Z,372nm,1.3s							
KDU	**Kakadu**	**16.07**	**235**	⇓P		**Pn**	**22 51 39.2**	**-4.1**
PATS	**Pohnpei**	**16.14**	**50**	P		**Pn**	**22 51 42.3**	**-1.9**
	baz=16,SNR=9.9							
PATS	**Pohnpei**	**16.14**	**50**			**Pn**	**22 51 43.7**	**-0.5**
PATS	**Pohnpei**	**16.14**	**50**	P		**Pn**	**22 51 44.3**	**0.0**
	comp=Z,1μm,1.7s							
CTA	**Charters Tower**	**16.43**	**179**	Pn		**Pn**	**22 51 47.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=178,slow=23,SNR=1.4							
CTA				Sn		**Sn**	**22 54 52.1**	**+2.3**
CTA				LR		LR	22 58 29.2	
	comp=Z,91μm,19.2s,baz=2.0,slow=38							
CTAO	**Charters Tower**	**16.43**	**179**			**Pn**	**22 51 47.3**	**-0.7**
CTAO	**Charters Tower**	**16.43**	**179**	P		**P**	**22 51 52.5**	**+1.9**
	comp=Z,268nm,1.9s							
CTAO	**Charters Tower**	**16.43**	**179**	⇑P		**Pn**	**22 51 49.2**	**+1.3**
CTAO	**Charters Tower**	**16.43**	**179**	P		**Pn**	**22 51 47.3**	**-0.7**
CTAO				pmax		pmax		
	comp=Z,489nm,1.9s							
GUMO	**Guam**	**17.07**	**357**			**Pn**	**22 51 55.5**	**-0.4**
GUMO				IAmb		IAmb	22 52 04.2	
	comp=Z,1μm,1.4s							
GUMO	**Guam**	**17.07**	**357**	P		**P**	**22 51 59.5**	**+1.9**
	comp=Z,305nm,1.3s							
GUMO	**Guam**	**17.07**	**357**	Pn		**Pn**	**22 51 52.7**	**-3.3**
	comp=Z,2.3nm,0.3s,baz=306,slow=8.8,SNR=1.9							
GUMO				Sn		**Sn**	**22 55 02.9**	**-2.2**
	comp=Z,3.3nm,0.3s,baz=26,slow=21,SNR=1.4							
GUMO				LR		LR	22 58 24.3	
	comp=Z,44μm,18.1s,baz=178,slow=37							
	comp=Z,67nm,0.9s							
MTN	**Manton Dam**	**17.26**	**237**	P		**Pn**	**22 51 57.6**	**-0.7**
	baz=17,SNR=28							
MTN	**Manton Dam**	**17.26**	**237**	Pn		**Pn**	**22 51 57.3**	**-1.1**
MTN	**Manton Dam**	**17.26**	**237**	P		**Pn**	**22 51 57.5**	**-0.8**
	comp=Z,544nm,1.3s							
MTN	**Manton Dam**	**17.26**	**237**	⇓P		**Pn**	**22 51 54.7**	**-3.6**
QIS	**Mount Isa**	**17.97**	**199**	P		**Pn**	**22 52 06.0**	**-1.2**
	baz=18,SNR=22							
QIS	**Mount Isa**	**17.97**	**199**	P		**P**	**22 52 07.7**	**+0.1**
	comp=Z,67nm,0.8s							
LBMI	**Labuha**	**18.59**	**279**	P		**Pn**	**22 52 15.9**	**+1.0**
	comp=Z,849nm,1.6s,comp=Z,21μm							
NLAI	**Namlea**	**18.75**	**270**	P		**Pn**	**22 52 16.9**	**+0.2**
	comp=Z,232nm,1.5s,comp=Z,12μm							
TNTI	**Ternate**	**19.00**	**283**	P		**Pn**	**22 52 19.4**	**-0.4**
TNTI	**Ternate**	**19.00**	**283**	P		**Pn**	**22 52 20.3**	**+0.6**
	comp=Z,324nm,1.4s							
TNTI	**Ternate**	**19.00**	**283**	P		**Pn**	**22 52 21.2**	**+1.5**
	comp=Z,325nm,1.4s,comp=Z,1.1μmcomp=Z,23μm							
WB0	**Warramunga Arr**	**19.63**	**214**	P		**P**	**22 52 25.5**	**-0.3**
WB0				IAmb		IAmb	22 52 29.8	
	comp=Z,1μm,1.5s							
WR0	**Warramunga Arr**	**19.70**	**213**	P		**P**	**22 52 25.7**	**-0.9**
WR0				IAmb		IAmb	22 52 37.3	
	comp=Z,615nm,1.1s							
WRAB	**Tennant Creek**	**19.79**	**214**	P		**P**	**22 52 27.1**	**-0.4**
WRAB	**Tennant Creek**	**19.79**	**214**	P		**P**	**22 52 27.1**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,2μm,1.7s							
WB2	**Warramunga Arr**	**19.79**	**214**	P		**P**	**22 52 26.8**	**-0.8**
	baz=20							
WB2	**Warramunga Arr**	**19.79**	**214**	P		**P**	**22 52 27.5**	**0.0**
WRA	**Warramunga Arr**	**19.80**	**214**	P		**P**	**22 52 26.8**	**-0.9**
WRA	**Warramunga Arr**	**19.80**	**214**	P		**P**	**22 52 26.8**	**-0.9**
	comp=Z,5.9nm,0.3s,baz=39,slow=12,SNR=78							
WRA				S		**S**	**22 56 00.1**	**-10**
	comp=Z,6.2nm,1.0s,baz=28,slow=34,SNR=1.4							
WRA				LR		LR	23 00 44.2	
	comp=Z,62μm,19.1s,baz=33,slow=39							
	comp=Z,325nm,1.1s							
SANI	**Sanana**	**19.93**	**274**	P		**P**	**22 52 28.2**	**-0.9**
	comp=Z,504nm,1.8s							
SANI	**Sanana**	**19.93**	**274**	P		**P**	**22 52 27.0**	**-2.1**
SANI				S		**S**	**22 56 08.7**	**-3.6**
SANI	**Sanana**	**19.93**	**274**	⇑P		**P**	**22 52 27.2**	**-1.9**
SANI	**Sanana**	**19.93**	**274**	P		**P**	**22 52 28.9**	**-0.2**
	comp=Z,507nm,1.8s,comp=Z,25μmcomp=Z,43μm							
RK1H	**Rockhampton Ha**	**20.21**	**168**	P		Pn	22 52 34.3	+0.2
	comp=Z,126nm,1.4s							
KNRA	**Kununurra**	**20.71**	**233**	P		**P**	**22 52 37.5**	**0.0**
	baz=21,SNR=19							
KNRA	**Kununurra**	**20.71**	**233**	P		**P**	**22 52 37.1**	**-0.5**
KNRA	**Kununurra**	**20.71**	**233**	P		**P**	**22 52 37.5**	**0.0**
	comp=Z,2μm,1.3s							
GD1S	**Gladstone Soft**	**20.80**	**166**	P		Pn	22 52 41.0	0.0
SGSI	**Sangihe**	**21.57**	**289**	P		P	22 52 55.5	+8.6
EIDS	**Eidsvold**	**22.25**	**167**	P		**P**	**22 52 55.3**	**+1.2**
	baz=22,SNR=15							
EIDS	**Eidsvold**	**22.25**	**167**	P		**P**	**22 52 54.1**	**0.0**
EIDS	**Eidsvold**	**22.25**	**167**	P		**P**	**22 52 55.7**	**+1.6**
	comp=Z,469nm,1.3s							
EIDS	**Eidsvold**	**22.25**	**167**	⇑P		**P**	**22 52 54.9**	**+0.8**
KMSI	**Cibinong**	**22.27**	**280**	P		**P**	**22 52 56.2**	**+1.8**
	comp=Z,2μm,1.2s,comp=Z,18μmcomp=Z,17μm							
SOEI	**Soe**	**22.32**	**253**	P		**P**	**22 52 54.9**	**-0.2**
SOEI	**Soe**	**22.32**	**253**	P		**P**	**22 52 57.5**	**+2.4**
	comp=Z,2μm,1.2s							
SOEI	**Soe**	**22.32**	**253**	P		**P**	**22 52 52.9**	**-2.2**
SOEI	**Soe**	**22.32**	**253**	⇓P		**P**	**22 52 53.6**	**-1.5**
SOEI	**Soe**	**22.32**	**253**	P		**P**	**22 52 56.0**	**+0.9**
	comp=Z,2μm,1.2s,comp=Z,28μmcomp=Z,47μm							
DAV	**Davao City (W)**	**22.85**	**298**	P		**P**	**22 53 00.8**	**+0.2**
DAV	**Davao City (W)**	**22.85**	**298**	P		**P**	**22 53 01.7**	**+1.1**
DAV	**Davao City (W)**	**22.85**	**298**	LR		LR	23 01 06.9	
	comp=Z,10μm,18.8s,baz=102,slow=35							
DAV	**Davao City (W)**	**22.85**	**298**	P		**P**	**22 53 01.7**	**+1.1**
DAV				P		**P**	**22 53 01.7**	**+1.1**
DAV	**Davao City (W)**	**22.85**	**298**	P		P	22 53 11.8	+11
QLP	**Quilpie**	**22.95**	**184**	P		**P**	**22 53 02.4**	**+0.9**
	baz=23,SNR=34							
QLP	**Quilpie**	**22.95**	**184**	P		**P**	**22 53 02.6**	**+1.2**
	comp=Z,836nm,1.5s							
QLP	**Quilpie**	**22.95**	**184**	⇓P		**P**	**22 53 02.3**	**+0.9**
RMQ	**Roma**	**22.96**	**173**	P		**P**	**22 53 04.0**	**+2.4**
	baz=23,SNR=6.7							
RMQ	**Roma**	**22.96**	**173**	P		**P**	**22 53 05.7**	**+4.1**
	comp=Z,120nm,1.1s							
AS01	**Alice Springs**	**23.07**	**209**	P		**P**	**22 53 02.9**	**+0.1**
	comp=Z,198nm,0.9s							
AS31	**Alice Springs**	**23.10**	**209**	P		**P**	**22 53 02.8**	**-0.3**
ASAR	**Alice Springs**	**23.10**	**209**	P		**P**	**22 53 02.6**	**-0.4**
ASAR	**Alice Springs**	**23.10**	**209**	P		**P**	**22 53 02.7**	**-0.4**
ASAR	**Alice Springs**	**23.10**	**209**	P		**P**	**22 53 02.9**	**-0.2**
	comp=Z,71nm,0.7s,baz=37,slow=7.8,SNR=98							
ASAR				S		**S**	**22 57 09.6**	**-3.5**
	comp=Z,2.1nm,0.6s,baz=30,slow=11,SNR=1.9							
ASAR				LR		LR	23 03 13.0	
	comp=Z,91μm,18.4s,baz=40,slow=40							
	comp=Z,71nm,0.7s							
ASPA	**Alice Springs**	**23.10**	**209**	P		**P**	**22 53 02.9**	**-0.2**
	baz=23							
LUWI	**Luwuk**	**23.23**	**276**	P		**P**	**22 53 04.5**	**+0.1**
LUWI	**Luwuk**	**23.23**	**276**	P		**P**	**22 53 05.7**	**+1.3**
	comp=Z,963nm,1.2s							
LUWI	**Luwuk**	**23.23**	**276**	P		**P**	**22 53 02.6**	**-1.9**
LUWI				S		**S**	**22 57 14.6**	**-0.7**
LUWI	**Luwuk**	**23.23**	**276**	⇓P		**P**	**22 53 03.6**	**-0.8**
LUWI	**Luwuk**	**23.23**	**276**	P		**P**	**22 53 05.7**	**+1.3**
	comp=Z,960nm,1.2s,comp=Z,23μmcomp=Z,20μm							
BBSI	**Bau Bau**	**23.32**	**264**	P		**P**	**22 53 08.0**	**+2.7**
	comp=Z,532nm,1.3s,comp=Z,14μmcomp=Z,17μm							
MMRI	**Maumere**	**24.04**	**257**	P		**P**	**22 53 11.3**	**-1.0**
MMRI				IAmb		IAmb	22 53 28.3	
	comp=Z,395nm,1.1s							
MMRI	**Maumere**	**24.04**	**257**	P		**P**	**22 53 14.5**	**+2.2**
MMRI	**Maumere**	**24.04**	**257**	P		**P**	**22 53 19.3**	**+7.0**
MRSI	**Marisa**	**24.26**	**279**	P		**P**	**22 53 14.2**	**-0.1**
	comp=Z,426nm,0.9s,comp=Z,11μmcomp=Z,16μm							
FITZ	**Fitzroy Crossi**	**24.53**	**232**	P		**P**	**22 53 15.4**	**-1.3**
	baz=24,SNR=94							
FITZ	**Fitzroy Crossi**	**24.53**	**232**	P		**P**	**22 53 14.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**24.53**	**232**	P		**P**	**22 53 15.6**	**-1.1**
	comp=Z,15nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.53**	**232**	⇓P		**P**	**22 53 15.2**	**-1.6**
INKA	**Innaminka**	**24.54**	**191**	P		**P**	**22 53 18.0**	**+1.3**
	comp=Z,736nm,1.1s							
EDFI	**Ende, Flores**	**24.59**	**257**	P		**P**	**22 53 16.0**	**-1.5**
	comp=Z,231nm,1.1s,comp=Z,5μmcomp=Z,25μm							
KOUNC	**Koumac, New Ca**	**24.63**	**135**	P		**P**	**22 53 18.1**	**+0.5**
KOUNC				IAmb		IAmb	22 53 22.6	
	comp=Z,492nm,1.4s							
KOUNC				IAMs_20		IAMs_20	23 00 48.8	
	comp=Z,83μm,22.0s							
KOUNC	**Koumac, New Ca**	**24.63**	**135**	P		**P**	**22 53 18.8**	**+1.2**
KOUNC	**Koumac, New Ca**	**24.63**	**135**	⇑P		**P**	**22 53 17.5**	**-0.1**
TOLI2	**Tolitoli**	**25.51**	**280**	P		**P**	**22 53 24.1**	**-1.6**
TOLI2				IAmb		IAmb	22 53 32.4	
	comp=Z,462nm,1.4s							
TOLI2	**Tolitoli**	**25.51**	**280**	P		**P**	**22 53 27.8**	**+2.1**
	comp=Z,275nm,1.2s							
GC1S	**Gold Coast 1 S**	**25.52**	**164**	P		**P**	**22 53 28.1**	**+2.5**
BKSI	**Bulukumba**	**25.74**	**265**	P		**P**	**22 53 29.2**	**+1.4**
	comp=Z,390nm,1.2s,comp=Z,10μmcomp=Z,17μm							
AULRC	**Lightning Ridg**	**25.81**	**176**	P		**P**	**22 53 30.5**	**+2.3**
	comp=Z,805nm,1.4s							
BASI	**Baing, Sumba**	**25.96**	**254**	P		**P**	**22 53 32.0**	**+2.2**
	comp=Z,1μm,1.2s,comp=Z,17μmcomp=Z,24μm							
OOD	**Oodnadatta**	**25.99**	**201**	P		**P**	**22 53 30.3**	**+0.4**
	comp=Z,283nm,0.9s							
TTSI	**Tana Toraja**	**26.02**	**270**	P		**P**	**22 53 33.4**	**+3.1**
	comp=Z,643nm,1.5s,comp=Z,13μmcomp=Z,18μm							
KAPI	**Kappang**	**26.10**	**266**	P		**P**	**22 53 31.4**	**+0.4**
KAPI				IAmb		IAmb	22 53 40.6	
	comp=Z,431nm,1.3s							
KAPI	**Kappang**	**26.10**	**266**	P		**P**	**22 53 31.4**	**+0.4**
KAPI				pmax		pmax		
	comp=Z,431nm,1.3s							
KAPI				MLR		MLR		
	comp=Z,18μm,22.0s							
KAPI	**Kappang**	**26.10**	**266**	LR		LR	23 05 29.4	
	comp=Z,18μm,21.0s,baz=88,slow=40							
MPSI	**Mapaga**	**26.25**	**278**	P		**P**	**22 53 32.6**	**+0.2**
	comp=Z,140nm,1.5s,comp=Z,5μmcomp=Z,9μm							
MKS	**Makassar**	**26.39**	**265**	P		**P**	**22 53 37.8**	**+4.2**
	comp=Z,215nm,1.7s,comp=Z,6μm							
PMSI	**Majene**	**26.92**	**269**	P		**P**	**22 53 43.5**	**+5.1**
LIFNC	**LIFOU**	**26.93**	**131**	P		**P**	**22 53 38.7**	**+0.3**
LIFNC	**LIFOU**	**26.93**	**131**	P		**P**	**22 53 40.3**	**+1.9**
	comp=Z,716nm,1.5s							
NOUC	**Port Laguerre**	**27.06**	**135**	P		**P**	**22 53 40.8**	**+1.2**
	comp=Z,199nm,2.0s							
DZM	**Mont Dzumac**	**27.14**	**134**	P		**P**	**22 53 40.8**	**+0.3**
DZM				IAmb		IAmb	22 53 47.6	
	comp=Z,464nm,1.4s							
DZM				IAMs_20		IAMs_20	23 03 29.5	
	comp=Z,84μm,20.0s							
DZM	**Mont Dzumac**	**27.14**	**134**	P		**P**	**22 53 42.1**	**+1.7**
	comp=Z,241nm,1.4s							
DZM	**Mont Dzumac**	**27.14**	**134**	*e*P		**P**	**22 53 38.0**	**-2.4**
	comp=Z,686nm,1.4s							
DZM				*e*S		**S**	**22 58 17.8**	**0.0**
DZM	comp=Z,26μm,25.4s			*e*LR		LR	23 00 31.5	
	comp=Z,148μm,25.6s							
DZM	**Mont Dzumac**	**27.14**	**134**	⇑P		**P**	**22 53 40.6**	**+0.2**
DZM	**Mont Dzumac**	**27.14**	**134**	LR		LR	23 03 12.0	
	comp=Z,77nm,19.0s,baz=314,slow=34							
WRKA	**Warakurna**	**27.25**	**217**	P		**P**	**22 53 40.4**	**-0.9**
	baz=27,SNR=208							
WRKA	**Warakurna**	**27.25**	**217**	P		**P**	**22 53 41.0**	**-0.3**
	comp=Z,329nm,1.4s							
WRKA	**Warakurna**	**27.25**	**217**	⇓P		**P**	**22 53 40.6**	**-0.7**
ARMA	**Armidale**	**27.26**	**169**	P		**P**	**22 53 42.9**	**+1.4**
	baz=27,SNR=22							
ARMA	**Armidale**	**27.26**	**169**	P		**P**	**22 53 42.1**	**+0.6**
ARMA				IAMs_20		IAMs_20	23 04 36.6	
	comp=Z,51μm,18.0s							
ARMA	**Armidale**	**27.26**	**169**	P		**P**	**22 53 42.8**	**+1.4**
	comp=Z,166nm,1.4s							
ARMA	**Armidale**	**27.26**	**169**	⇑P		**P**	**22 53 43.0**	**+1.6**
ONTNC	**Ouen Toro**	**27.30**	**135**	P		**P**	**22 53 42.5**	**+0.7**
ONTNC	**Ouen Toro**	**27.30**	**135**	P		**P**	**22 53 47.4**	**+5.7**
	comp=Z,0.4nm,0.9s							
YATNC	**Mamie plateau,**	**27.45**	**134**	P		**P**	**22 53 45.0**	**+1.8**
TARA	**Tarawa**	**27.46**	**80**	P		**P**	**22 53 44.9**	**+1.6**
TARA				IAmb		IAmb	22 54 10.3	
	comp=Z,335nm,1.0s							
TARA	**Tarawa**	**27.46**	**80**	IAMs_20		IAMs_20	23 03 30.7	
	comp=Z,55μm,19.0s							
OUENC	**Ouen Island, N**	**27.65**	**134**	P		**P**	**22 53 46.0**	**+1.1**
OUENC				IAmb		IAmb	22 54 10.0	
	comp=Z,500nm,2.0s							
OUENC				IAMs_20		IAMs_20	23 03 56.7	
	comp=Z,82μm,20.0s							
OUENC	**Ouen Island, N**	**27.65**	**134**	P		**P**	**22 53 50.2**	**+5.4**
	comp=Z,106nm,1.9s							
LCRK	**Leigh Creek**	**27.71**	**194**	P		**P**	**22 53 47.1**	**+1.8**
	comp=Z,217nm,1.5s							
AUPHS	**Peel High Scho**	**27.80**	**171**	P		**P**	**22 53 47.6**	**+1.5**
	comp=Z,220nm,1.4s							
CMSA	**Cobar Meteorol**	**27.83**	**180**	P		**P**	**22 53 47.3**	**+0.9**
	baz=28,SNR=16							
CMSA	**Cobar Meteorol**	**27.83**	**180**	P		**P**	**22 53 49.0**	**+2.6**
	comp=Z,69nm,1.7s							
PINNC	**Pines Island,**	**28.20**	**134**	P		**P**	**22 53 50.4**	**+0.6**
PINNC				IAmb		IAmb	22 54 14.2	
	comp=Z,456nm,1.8s							
PLAI	**Plampang**	**28.42**	**258**	P		**P**	**22 53 49.4**	**-2.4**
	comp=Z,117nm,1.6s							
PLAI	**Plampang**	**28.42**	**258**	P		**P**	**22 53 51.7**	**-0.1**
STKA	**Stephens Creek**	**28.46**	**188**	P		**P**	**22 53 53.7**	**+1.7**
	baz=28,SNR=37							
STKA	**Stephens Creek**	**28.46**	**188**	P		**P**	**22 53 53.4**	**+1.4**
STKA	**Stephens Creek**	**28.46**	**188**	P		**P**	**22 53 54.0**	**+2.0**
	comp=Z,24nm,1.3s							
STKA	**Stephens Creek**	**28.46**	**188**	P		**P**	**22 53 53.4**	**+1.4**
STKA				pmax		pmax		
	comp=Z,38nm,1.3s							
STKA	**Stephens Creek**	**28.46**	**188**	P		**P**	**22 53 53.0**	**+1.0**
	comp=Z,22nm,0.8s,baz=355,slow=8.9,SNR=34							
STKA				LR		LR	23 05 37.0

FUNA	**Funafuti**	**33.48 100**	IAMs_20	IAMs_20	23 07 09.2			
	comp=Z,39µm,19.0s							
TOO	**Toolangi**	**33.85 181**	P	**P**	**22 54 41.4 +1.9**			
	baz=34,SNR=11							
TOO	**Toolangi**	**33.85 181**	P	**P**	**22 54 40.1 +0.6**			
TOO	**Toolangi**	**33.85 181**	P	**P**	**22 54 41.0 +1.5**			
	comp=Z,67nm,1.7s							
TOO	**Toolangi**	**33.85 181**	⇓P	**P**	**22 54 41.5 +2.1**			
TOO	**Toolangi**	**33.85 181**	P	**P**	**22 54 40.1 +0.6**			
TOO			pmax	pmax				
	comp=Z,43nm,1.0s							
BRAT	**Ballarat**	**33.88 183**	P	**P**	**22 54 43.0 +3.4**			
	comp=Z,33nm,1.0s							
SBUM	**Sibu**	**34.17 280**	P	**P**	**22 54 42.4 -0.1**			
SBUM	**Sibu**	**34.17 280**	⇓P	**P**	**22 54 43.0 +0.5**			
GEXS	**Deakin Univers**	**34.51 182**	P	**P**	**22 54 48.4 +3.3**			
AUHPC	**Hawkesdale P12**	**34.54 185**	P	**P**	**22 54 48.9 +3.5**			
	comp=Z,451nm,2.1s							
JOW	**Kunigami**	**34.68 332**	P	**P**	**22 54 46.0 -0.8**			
JOW	**Kunigami**	**34.68 332**	LR	LR	23 05 47.8			
	comp=Z,63µm,21.7s,baz=156,slow=31							
MEEK	**Meekatharra**	**34.76 226**	P	**P**	**22 54 46.4 -1.1**			
	baz=35,SNR=13							
MEEK	**Meekatharra**	**34.76 226**	P	**P**	**22 54 46.4 -1.1**			
	comp=Z,128nm,1.6s							
SMRI	**Semarang**	**35.45 263**	P	**P**	**22 54 53.0 -0.6**			
DGTI	**Dogotuki**	**35.59 113**	P	**P**	**22 54 54.7 -0.1**			
	comp=Z,240nm,1.4s							
YOJ	**Yonaguni jima**	**35.64 323**	P	**P**	**22 54 54.3 -0.8**			
YOJ			IAmb	IAmb	22 54 59.1			
	comp=Z,222nm,1.1s							
YOJ			IAMs_20	IAMs_20	23 06 04.2			
	comp=Z,67µm,22.0s							
YOJ	**Yonaguni jima**	**35.64 323**	P	**P**	**22 54 54.3 -0.8**			
YOJ			pmax	pmax				
	comp=Z,222nm,1.1s							
YOJ			MLR	MLR				
	comp=Z,67µm,22.0s							
TWG	**Pinlang**	**35.70 318**	P	**P**	**22 54 54.9 -0.7**			
TWG			IAMs_20	IAMs_20	23 07 01.2			
	comp=Z,38µm,18.0s							
KMBL	**Kambalda**	**35.72 217**	P	**P**	**22 54 55.0 -0.7**			
	baz=36,SNR=30							
KMBL	**Kambalda**	**35.72 217**	P	**P**	**22 54 55.0 -0.7**			
	comp=Z,249nm,1.7s							
KSM	**Kuching**	**35.91 277**	P	**P**	**22 54 57.1 -0.4**			
KSM	**Kuching**	**35.91 277**	P	**P**	**22 54 58.1 +0.6**			
	comp=Z,116nm,1.1s							
YULB	**Yu-li**	**35.95 319**	P	**P**	**22 54 58.0 +0.3**			
YULB			IAmb	IAmb	22 55 03.4			
	comp=Z,327nm,1.6s							
YULB			IAMs_20	IAMs_20	23 06 38.1			
	comp=Z,50µm,19.0s							
YULB	**Yu-li**	**35.95 319**	P	**P**	**22 54 59.2 +1.5**			
	comp=Z,98nm,1.8s							
TAVE	**Taveuni**	**36.04 114**	P	**P**	**22 54 59.2 +0.6**			
	comp=Z,194nm,1.3s							
GIRL	**Giralia**	**36.05 235**	P	**P**	**22 54 57.8 -0.7**			
	baz=36,SNR=7.6							
GIRL	**Giralia**	**36.05 235**	P	**P**	**22 54 58.6 0.0**			
GIRL	**Giralia**	**36.05 235**	P	**P**	**22 54 58.7 +0.1**			
	comp=Z,606nm,1.7s							
GIRL	**Giralia**	**36.05 235**	⇓P	**P**	**22 54 59.0 +0.5**			
NACB	**Ninganchiao**	**36.31 321**	P	**P**	**22 55 00.5 -0.3**			
NACB			IAMs_20	IAMs_20	23 06 09.8			
	comp=Z,54µm,22.0s							
NACB	**Ninganchiao**	**36.31 321**	P	**P**	**22 55 03.5 +2.7**			
	comp=Z,225nm,2.4s							
TPUB	**Ta-pu**	**36.32 319**	P	**P**	**22 55 01.6 +0.6**			
TPUB			IAMs_20	IAMs_20	23 08 16.0			
	comp=Z,48µm,20.0s							
TPUB	**Ta-pu**	**36.32 319**	P	**P**	**22 55 02.1 +1.2**			
	comp=Z,146nm,1.1s							
SSLB	**Suanglung**	**36.45 319**	P	**P**	**22 55 01.8 -0.2**			
SSLB			IAMs_20	IAMs_20	23 07 03.4			
	comp=Z,64µm,20.0s							
SSLB	**Suanglung**	**36.45 319**	P	**P**	**22 55 04.2 +2.2**			
YHNB	**Yeheng**	**36.81 321**	P	**P**	**22 55 05.2 0.0**			
YHNB			IAMs_20	IAMs_20	23 06 38.9			
	comp=Z,50µm,22.0s							
YHNB	**Yeheng**	**36.81 321**	P	**P**	**22 55 07.5 +2.4**			
	comp=Z,326nm,1.3s							
JHJ	**Hachijo jima 2**	**36.93 351**	LR	LR	23 09 01.1			
	comp=Z,25µm,18.1s,baz=157,slow=34							
TATO	**Taipei**	**36.96 321**	P	**P**	**22 55 05.1 -1.2**			
TATO	**Taipei**	**36.96 321**	IAMs_20	IAMs_20	23 07 45.4			
	comp=Z,51µm,20.0s							
TATO	**Taipei**	**36.96 321**	P	**P**	**22 55 08.4 +2.1**			
	comp=Z,438nm,1.7s							
TATO	**Taipei**	**36.96 321**	P	**P**	**22 55 06.2 -0.1**			
LKBA	**Tubou, Lakemba**	**37.50 116**	P	**P**	**22 55 11.3 +0.3**			
	comp=Z,22nm,1.6s							
AULHS	**Lilydale High**	**37.54 178**	P	**P**	**22 55 14.2 +3.1**			
	comp=Z,57nm,2.5s							
MORW	**Morawa**	**38.03 225**	P	**P**	**22 55 14.8 -0.6**			
	baz=38,SNR=6.7							
MORW	**Morawa**	**38.03 225**	P	**P**	**22 55 14.3 -1.0**			
MORW			IAmb	IAmb	22 55 25.4			
	comp=Z,344nm,1.4s							
MORW	**Morawa**	**38.03 225**	P	**P**	**22 55 15.3 -0.1**			
	comp=Z,164nm,1.4s							
MORW	**Morawa**	**38.03 225**	⇓P	**P**	**22 55 14.7 -0.7**			
LEM	**Lembang**	**38.24 264**	LR	LR	23 13 47.7			
	comp=Z,6µm,19.7s,baz=86,slow=41							
BBJI	**Bungbulang**	**38.24 263**	P	**P**	**22 55 15.7 -1.7**			
	comp=Z,164nm,0.8s							
KLBR	**Kellerberrin**	**38.44 220**	P	**P**	**22 55 17.5 -1.3**			
	baz=38,SNR=30							
KLBR	**Kellerberrin**	**38.44 220**	P	**P**	**22 55 17.8 -1.0**			
	comp=Z,220nm,0.8s							
BLDU	**Ballidu**	**38.50 222**	P	**P**	**22 55 19.1 -0.3**			
	baz=38,SNR=14							
BLDU	**Ballidu**	**38.50 222**	P	**P**	**22 55 18.5 -0.9**			
	comp=Z,135nm,1.4s							
KNMB	**Chin-men Tao**	**38.61 318**	P	**P**	**22 55 18.7 -1.6**			
KNMB			IAmb	IAmb	22 55 26.3			
	comp=Z,375nm,1.3s							
JSG	**Sagara**	**38.71 350**	P	**P**	**22 55 20.6 -0.4**			
JSG	**Sagara**	**38.71 350**	P	**P**	**22 55 25.5 +4.5**			
	comp=Z,284nm,1.6s							
JMN	**Monobe**	**38.78 344**	P	**P**	**22 55 21.2 -0.4**			
JMN			IAmb	IAmb	22 55 27.1			
	comp=Z,239nm,1.2s							
JMN	**Monobe**	**38.78 344**	P	**P**	**22 55 19.8 -1.8**			
	comp=Z,203nm,1.4s							
JMN	**Monobe**	**38.78 344**	P	**P**	**22 55 21.2 -0.4**			
JMN	**Monobe**	**38.78 344**	⇑P	**P**	**22 55 22.0 +0.4**			
QZH	**Quanzhou**	**38.80 318**	⇑iP	**P**	**22 55 23.3 +1.5**			
QZH			PP	**PnPn**	**22 56 53.0 -0.3**			
QZH			S	**S**	**23 01 19.8 +1.6**			
QZH			SS	**SnSn**	**23 04 06.3 -2.4**			
QZH			pmax	pmax				
	comp=Z,130nm,1.3s							
QZH			pmax	pmax				
	comp=Z,4µm,9.9s							
QZH			LR	LR				
	comp=Z,13µm,18.6s							
QZH			LR	LR				
	comp=Z,31µm,18.2s							
QZH			LR	LR				
	comp=Z,35µm,17.9s							
JOD2	**Odawara 2**	**39.14 351**	P	**P**	**22 55 22.3 -2.3**			
JNU	**Nakatsue**	**39.15 340**	P	**P**	**22 55 23.9 -0.8**			
JNU	**Nakatsue**	**39.15 340**	P	**P**	**22 55 23.9 -0.8**			
	comp=Z,131nm,1.2s							
JNU	**Nakatsue**	**39.15 340**	P	**P**	**22 55 23.0 -1.7**			
JNU	**Nakatsue**	**39.15 340**	⇑P	**P**	**22 55 25.0 +0.3**			
JNU	**Nakatsue**	**39.15 340**	LR	LR	23 08 43.7			
	comp=Z,21µm,21.9s,baz=158,slow=32							
TAU	**Tasmania Unive**	**39.20 178**	P	**P**	**22 55 25.5 +0.5**			
TAU	**Tasmania Unive**	**39.20 178**	P	**P**	**22 55 25.5 +0.5**			
TAU			pmax	pmax				
	comp=Z,133nm,1.9s							
NWAO	**Narrogin (SRO)**	**39.64 219**	P	**P**	**22 55 30.0 +1.1**			
	baz=40,SNR=16							
NWAO			P	**P**	**22 55 30.0 +1.1**			
	baz=40,SNR=16							
NWAO	**Narrogin (SRO)**	**39.64 219**	P	**P**	**22 55 27.7 -1.2**			
NWAO	**Narrogin (SRO)**	**39.64 219**	P	**P**	**22 55 29.1 +0.2**			
NWAO			IAmb	IAmb	22 55 36.4			
	comp=Z,921nm,1.6s							
NWAO	**Narrogin (SRO)**	**39.64 219**	P	**P**	**22 55 30.6 +1.7**			
	comp=Z,138nm,1.5s							
NWAO	**Narrogin (SRO)**	**39.64 219**	P	**P**	**22 55 30.5 +1.7**			
	comp=Z,138nm,1.5s							
NWAO	**Narrogin (SRO)**	**39.64 219**	P	**P**	**22 55 29.1 +0.2**			
	comp=Z,921nm,1.6s							
NWAO	**Narrogin (SRO)**	**39.64 219**	LR	LR	23 12 41.2			
	comp=Z,73µm,21.9s,baz=40,slow=37							
MUN	**Mundaring**	**39.69 221**	P	**P**	**22 55 29.2 -0.1**			
	baz=40,SNR=8.1							
MUN	**Mundaring**	**39.69 221**	P	**P**	**22 55 30.7 +1.4**			
	comp=Z,128nm,1.4s							
JGF	**Kuroka**	**39.77 349**	P	**P**	**22 55 28.5 -1.4**			
JAD	**Aida**	**39.85 345**	P	**P**	**22 55 30.3 -0.2**			
JRY	**Ryogami san**	**39.91 351**	P	**P**	**22 55 28.9 -2.0**			
MTKN	**Mount Kenneth**	**39.95 222**	P	**P**	**22 55 32.6 +1.2**			
DLV	**T Lat**	**40.24 293**	P	**P**	**22 55 33.7 -0.6**			
DLV	**T Lat**	**40.24 293**	P	**P**	**22 55 33.3 -1.0**			
	comp=Z,83nm,1.4s							
HKPS	**Hong Kong Po S**	**40.27 311**	P	**P**	**22 55 32.2 -2.0**			
HKPS			IAmb	IAmb	22 55 41.3			
	comp=Z,398nm,1.8s							
JGN	**Niukaw**	**40.38 349**	P	**P**	**22 55 32.0 -3.0**			
XMI	**Christmas Isla**	**40.44 258**	P	**P**	**22 55 37.5 +1.7**			
	comp=Z,277nm,1.1s							
XMIS	**Christmas Isla**	**40.48 258**	P	**P**	**22 55 35.8 -0.3**			
XMIS			IAmb	IAmb	22 55 45.2			
	comp=Z,242nm,1.1s							
XMIS	**Christmas Isla**	**40.48 258**	P	**P**	**22 55 39.2 +3.1**			
	comp=Z,212nm,1.1s							
MJAR	**Matsushiro Arr**	**40.53 350**	P	**P**	**22 55 33.4 -2.8**			
	comp=Z,9.9nm,0.7s,baz=246,slow=0.3,SNR=25							
MJAR			LR	LR	23 12 11.0			
	comp=Z,9µm,18.2s,baz=142,slow=36							
	comp=Z,9.9nm,0.7s							
MAJO	**Matsushiro**	**40.53 350**	P	**P**	**22 55 35.4 -0.8**			
MAJO	**Matsushiro**	**40.53 350**	P	**P**	**22 55 35.0 -1.2**			
	comp=Z,125nm,1.2s							
MAJO	**Matsushiro**	**40.53 350**	⇓P	**P**	**22 55 35.3 -0.8**			
MAJO	**Matsushiro**	**40.53 350**	P	**P**	**22 55 35.4 -0.8**			
MAJO			pmax	pmax				
	comp=Z,176nm,1.2s							
MAJO			MLR	MLR				
	comp=Z,10µm,20.0s							
MAT	**Matsushiro**	**40.53 350**	P	**P**	**22 55 34.9 -1.3**			
MJB9	**Matsu-Tunnel**	**40.54 350**	P	**P**	**22 55 36.6 +0.4**			
OUZ	**Omahuta**	**40.64 144**	IAMs_20	IAMs_20	23 09 57.7			
	comp=Z,40µm,21.0s							
OUZ	**Omahuta**	**40.64 144**	⇑P	**P**	**22 55 39.2 +2.2**			
RKGY	**Rocky Gully**	**40.93 217**	P	**P**	**22 55 41.4 +1.9**			
	comp=Z,158nm,1.6s							
PMBI	**Palembang**	**41.05 270**	P	**P**	**22 55 42.4 +1.6**			
PMBI			IAmb	IAmb	22 55 49.2			
	comp=Z,414nm,1.2s							
JMM	**Marumori**	**41.48 354**	P	**P**	**22 55 44.3 +0.4**			
JMM			IAmb	IAmb	22 55 49.1			
	comp=Z,513nm,1.5s							
JMM	**Marumori**	**41.48 354**	P	**P**	**22 55 43.5 -0.4**			
	comp=Z,211nm,1.4s							
JMM	**Marumori**	**41.48 354**	P	**P**	**22 55 46.1 +2.1**			
JMM	**Marumori**	**41.48 354**	⇓P	**P**	**22 55 46.5 +2.6**			
SSE	**Sheshan**	**41.74 327**	P	**P**	**22 55 47.5 +1.4**			
SSE			S	**S**	**23 02 03.0 +1.0**			
SSE			pmax	pmax				
	comp=Z,26nm,1.5s							
SSE			pmax	pmax				
	comp=Z,1µm,9.0s							
SSE			LR	LR				
	comp=Z,3µm,21.1s							
SSE			LR	LR				
	comp=Z,550nm,21.7s							
QIZ	**Qiongzhong**	**41.97 304**	P	**P**	**22 55 48.5 +0.3**			
QIZ			PP	**PP**	**22 57 26.5 +0.9**			
QIZ			S	**S**	**23 02 08.5 +2.7**			
QIZ			pmax	pmax				
	comp=Z,130nm,1.5s							
QIZ			pmax	pmax				
	comp=Z,2µm,5.6s							
QIZ			LR	LR				
	comp=Z,8µm,18.5s							
QIZ			LR	LR				
	comp=Z,11µm,17.7s							
QIZ			LR	LR				
	comp=Z,21µm,30.0s							
QIZ	**Qiongzhong**	**41.97 304**	P	**P**	**22 55 47.2 -1.0**			
QIZ			IAmb	IAmb	22 55 55.3			
	comp=Z,289nm,1.4s							
MYKOM	**Kota Tinggi**	**42.35 277**	P	**P**	**22 55 51.1 -0.3**			
H01W1	**Cape Leeuwin H**	**42.87 219**	P	P	22 56 00.5 +5.5			
	baz=64,slow=7.1,SNR=2.7							
H01W3	**Cape Leeuwin H**	**42.87 219**	P	P	22 56 02.1 +7.0			
	baz=64,slow=7.1,SNR=3.3							
H01W2	**Cape Leeuwin H**	**42.88 219**	P	P	22 56 02.2 +7.1			
	baz=64,slow=7.1,SNR=3.5							
AFI	**Afiamalu**	**43.02 107**	P	**P**	**22 55 57.2 +0.3**			
AFI	**Afiamalu**	**43.02 107**	P	**P**	**22 56 00.7 +3.8**			
	comp=Z,109nm,2.1s							
AFI	**Afiamalu**	**43.02 107**	P	**P**	**22 55 57.2 +0.3**			
AFI			pmax	pmax				
	comp=Z,164nm,1.3s							
AFI			MLR	MLR				
	comp=Z,18µm,20.0s							
JOM	**Ohasama**	**43.03 355**	P	**P**	**22 55 54.3 -2.2**			
TJN	**Taejon**	**43.33 338**	P	**P**	**22 55 58.7 -0.3**			
TJN	**Taejon**	**43.33 338**	P	**P**	**22 55 59.0 0.0**			
	comp=Z,514nm,1.0s							
TJN	**Taejon**	**43.33 338**	P	**P**	**22 55 58.7 -0.3**			
TJN			pmax	pmax				
	comp=Z,475nm,1.0s							
TOZ	**Tahuroa Road**	**43.49 145**	P	**P**	**22 56 01.8 +1.5**			
TOZ			IAmb	IAmb	22 56 37.1			
	comp=Z,188nm,1.3s							
TOZ			IAMs_20	IAMs_20	23 11 58.1			
	comp=Z,32µm,21.0s							
HIZ	**Hauiti**	**43.68 147**	P	**P**	**22 56 01.9 +0.1**			
HIZ			IAmb	IAmb	22 56 42.9			
	comp=Z,229nm,1.4s							
NJ2	**Nanjing**	**43.74 326**	⇓P	**P**	**22 56 05.5 +3.1**			
NJ2			pP	**pP**	**22 56 07.8 -1.3**			
NJ2			S	**S**	**23 02 36.5 +5.0**			
NJ2			sS	**sS**	**23 02 45.8 +3.2**			
NJ2			pmax	pmax				
	comp=Z,40nm,0.9s							
NJ2			pmax	pmax				
	comp=Z,4µm,8.5s							
NJ2			LR	LR				
	comp=Z,32µm,18.9s							
NJ2			LR	LR				
	comp=Z,15µm,21.8s							
NJ2			LR	LR				
	comp=Z,38µm,18.9s							
KSRS	**Korea Array**	**44.09 339**	P	**P**	**22 56 03.3 -1.8**			
	comp=Z,30nm,0.7s,baz=158,slow=9.0,SNR=46							
KSRS			LR	LR	23 11 55.7			
	comp=Z,26µm,20.4s,baz=150,slow=33							
	comp=Z,30nm,0.7s							
KSAR	**Wonju Array Be**	**44.09 339**	P	**P**	**22 56 05.1 0.0**			
KSAR	**Wonju Array Be**	**44.09 339**	P	**P**	**22 56 05.1 0.0**			
KS19	**Wonju Array Si**	**44.15 339**	P	**P**	**22 56 04.8 -0.8**			
KS19			IAmb	IAmb	22 56 10.1			
	comp=Z,161nm,1.1s							
UBPT	**Khong Chiam**	**44.17 296**	P	**P**	**22 56 06.2 +0.1**			
UBPT			IAmb	IAmb	22 56 12.6			
	comp=Z,166nm,1.2s							
UBPT	**Khong Chiam**	**44.17 296**	P	**P**	**22 56 05.9 -0.2**			
	comp=Z,146nm,1.8s							
UBPT	**Khong Chiam**	**44.17 296**	⇑P	**P**	**22 56 05.2 -0.9**			
JTM	**Tenmabayashi**	**44.35 355**	P	**P**	**22 56 07.4 +0.3**			
JTM	**Tenmabayashi**	**44.35 355**	P	**P**	**22 56 06.7 -0.4**			
	comp=Z,543nm,1.3s							
JTM	**Tenmabayashi**	**44.35 355**	P	**P**	**22 56 05.6 -1.5**			
JTM	**Tenmabayashi**	**44.35 355**	⇓P	**P**	**22 56 05.9 -1.2**			
DSZ	**Denniston Nort**	**44.55 152**	P	**P**	**22 56 10.4 +1.6**			
DSZ			IAmb	IAmb	22 56 24.0			
	comp=Z,305nm,2.0s							
DSZ			IAMs_20	IAMs_20	23 14 34.6			
	comp=Z,23µm,19.0s							
TKNZ	**Takaka Hill**	**44.55 151**	P	**P**	**22 56 10.2 +1.4**			
INCN	**Inchon**	**44.58 338**	IAMs_20	IAMs_20	23 11 19.5			
	comp=Z,26µm,21.0s							
INCN	**Inchon**	**44.58 338**	P	**P**	**22 56 10.9 +1.8**			
	comp=Z,184nm,1.1s							
INCN	**Inchon**	**44.58 338**	P	**P**	**22 56 07.0 -2.1**			
INCN			P	**P**	**22 56 07.0 -2.1**			
MRNZ	**Matariki Terra**	**44.73 151**	P	**P**	**22 56 12.8 +2.5**			
CNSH	**ChangSha**	**44.73 317**	⇑P	**P**	**22 56 12.8 +2.4**			
CNSH			S	**S**	**23 02 54.0 +7.9**			
CNSH			pmax	pmax				
	comp=Z,70nm,1.8s							
CNSH			LR	LR				
	comp=Z,15µm,22.9s							
CNSH			LR	LR				
	comp=Z,20µm,21.9s							
CNSH			LR	LR				
	comp=Z,35µm,23.3s							
URZ	**Urewera**	**44.77 145**	P	**P**	**22 56 12.8 +2.2**			
URZ	**Urewera**	**44.77 145**	LR	LR	23 13 22.2			
	comp=Z,25µm,21.8s,baz=42,slow=34							
GULI	**GuiLin**	**44.83 312**	P	**P**	**22 56 07.0 -4.2**			
GULI			S	**S**	**23 02 46.0 -1.5**			
GULI			pmax	pmax				
	comp=Z,50nm,0.9s							
GULI			LR	LR				
	comp=N,16µm,21.7s							
GULI			LR	LR				
	comp=E,11µm,20.6s							
GULI			LR	LR				
	comp=Z,23µm,21.5s							
NNZ	**Nelson**	**44.90 150**	P	**P**	**22 56 10.4 -1.1**			
RTZ	**Ruatahuna**	**44.94 145**	P	**P**	**22 56 13.3 +1.3**			
RTZ			IAmb	IAmb	22 56 51.5			
	comp=Z,156nm,1.1s							
RTZ			IAMs_20	IAMs_20	23 12 55.3			
	comp=Z,32µm,21.0s							
JOT	**Ohata**	**44.94 355**	P	**P**	**22 56 11.7 -0.1**			
BKNI	**Bangkinang**	**44.98 274**	P	**P**	**22 56 12.6 0.0**			
BKNI	**Bangkinang**	**44.98 274**	P	**P**	**22 56 14.5 +1.9**			
BKNI	**Bangkinang**	**44.98 274**	P	**P**	**22 56 11.3 -1.3**			
BKNI			S	**S**	**23 02 47.1 -3.1**			
MXZ	**Matakaoa Point**	**45.02 143**	P	**P**	**22 56 12.9 +0.4**			
MXZ			IAMs_20	IAMs_20	23 12 20.4			
	comp=Z,26µm,21.0s							
BKZ	**Black Stump Fm**	**45.04 146**	P	**P**	**22 56 13.7 +0.9**			
BKZ	**Black Stump Fm**	**45.04 146**	P	**P**	**22 56 13.0 +0.2**			
	comp=Z,47nm,1.1s							
THZ	**Tophouse**	**45.08 151**	P	**P**	**22 56 13.9 +0.8**			
THZ			IAmb	IAmb	22 57 09.1			
	comp=Z,271nm,1.9s							
FOZ	**Fox Glacier**	**45.10 155**	P	**P**	**22 56 14.2 +1.0**			
JCZ	**Jackson Bay**	**45.14 157**	P	**P**	**22 56 15.3 +1.8**			
	comp=Z,212nm,1.3s							
TUWZ	**Tuamarina**	**45.34 150**	P	**P**	**22 56 15.3 +0.3**			
TCW	**Tory Channel**	**45.34 150**	P	**P**	**22 56 15.6 +0.6**			
WHN	**Wuhan**	**45.35 321**	⇑P	**P**	**22 56 17.5 +2.2**			
WHN			pP	**pP**	**22 56 20.8 -1.2**			
WHN			PP	**PP**	**22 58 06.5 +4.8**			
WHN			S	**S**	**23 02 59.0 +4.1**			
WHN			pmax	pmax				
	comp=Z,410nm,1.2s							
WHN			pmax	pmax				
	comp=Z,7µm,6.1s							
WHN			LR	LR				
	comp=Z,44µm,16.4s							
WHN			LR	LR				
	comp=Z,12µm,14.2s							
WHN			LR	LR				
	comp=Z,44µm,18.7s							
HJU	**Haeju**	**45.42 338**	P	**P**	**22 56 14.6 -1.0**			
HJU			S	**S**	**23 02 55.9 +0.2**			
HJU			AmB					
	comp=Z,782nm,1.5s							
HJU			AMS	AMS				
	comp=Z,22µm,21.8s							
ERM	**Erimo**	**45.43 357**	P	**P**	**22 56 15.7 0.0**			
ERM	**Erimo**	**45.43 357**	P	**P**	**22 56 18.9 +3.3**			
	comp=Z,214nm,1.4s							
ERM	**Erimo**	**45.43 357**	P	**P**	**22 56 15.7 0.0**			
ERM			pmax	pmax				
	comp=Z,330nm,1.5s							
JEM	**Erimo**	**45.43 357**	P	**P**	**22 56 16.7 +1.0**			
BSWZ	**Blackbirch Sta**	**45.52 150**	P	**P**	**22 56 17.0 +0.6**			
IPM	**Ipoh**	**45.52 280**	IAMs_20	IAMs_20	23 08 09.3			
	comp=Z,37µm,18.0s							
LTZ	**Lake Taylor**	**45.58 153**	P	**P**	**22 56 18.6 +1.6**			
LTZ			IAmb	IAmb	22 57 12.2			
	comp=Z,183nm,1.5s							
LTZ			IAMs_20	IAMs_20	23 15 34.8			
	comp=Z,37µm,18.0s							
MRZ	**Mangatainoka R**	**45.61 148**	P	**P**	**22 56 17.2 0.0**			
MRZ			IAmb	IAmb	22 57 11.0			
	comp=Z,284nm,1.5s							
MRZ			IAMs_20	IAMs_20	23 15 19.8			
	comp=Z,27µm,18.0s							
SNZO	**South Karori**	**45.63 149**	P	**P**	**22 56 18.9 +1.6**			
SNZO			IAmb	IAmb	22 56 52.7			
	comp=Z,310nm,1.6s							
SNZO	**South Karori**	**45.63 149**	IAMs_20	IAMs_20	23 15 36.3			
	comp=Z,27µm,19.0s							
DCZ	**Deep Cove**	**45.70 159**	P	**P**	**22 56 19.1 +1.2**			
DCZ			IAmb	IAmb	22 56 30.6			
	comp=Z,248nm,1.7s							
CMWZ	**Cape Campbell**	**45.71 150**	P	**P**	**22 56 19.3 +1.3**			
RPZ	**Rata Peaks**	**45.78 155**	P	**P**	**22 56 19.2 +0.7**			
RPZ			IAmb	IAmb	22 56 47.2			
	comp=Z,161nm,1.4s							
RPZ			IAMs_20	IAMs_20	23 12 53.0			
	comp=Z,44µm,22.0s							
RPZ	**Rata Peaks**	**45.78 155**	LR	LR	23 13 25.9			
	comp=Z,33µm,21.4s,baz=322,slow=33							
BHW	**Baring Head**	**45.79 149**	P	**P**	**22 56 19.7 +1.2**			
KHZ	**Kahutara**	**45.88 151**	IAmb	IAmb	22 56 52.2			
	comp=Z,166nm,1.7s							
KHZ			IAMs_20	IAMs_20	23 15 51.0			
	comp=Z,35µm,19.0s							
KHZ	**Kahutara**	**45.88 151**	⇓P	**P**	**22 56 19.4 +0.1**			
OXZ	**Oxford**	**45.90 153**	P	**P**	**22 56 20.9 +1.4**			
LBZ	**Lake Benmore**	**45.96 156**	P	**P**	**22 56 20.5 +0.6**			
LBZ			IAmb	IAmb	22 56 37.8			
	comp=Z,145nm,1.4s							
LBZ			IAMs_20	IAMs_20	23 15 34.8			
	comp=Z,23µm,20.0s							
MLZ	**Mavora Lakes**	**45.97 158**	P	**P**	**22 56 20.5 +0.4**			
MLZ			IAmb	IAmb	22 56 38.6			
	comp=Z,146nm,1.3s							
BFZ	**Birch Farm**	**45.98 148**	P	**P**	**22 56 19.1 -1.0**			
BFZ			IAmb	IAmb	22 56 43.5			
	comp=Z,174nm,1.3s							
BFZ			IAMs_20	IAMs_20	23 15 41.5			
	comp=Z,37µm,18.0s							
BFZ	**Birch Farm**	**45.98 148**	P	**P**	**22 56 21.1 +1.0**			
KULM	**Kulim**	**46.03 281**	P

YUK eS **S** **23 03 19.5 -4.0**
YUK eSSS SSS 23 07 53.2
YUK pmax pmax
comp=Z,613nm,1.3s
YUK pmax pmax
comp=E,388nm,1.2s
JMP Maruseppu 47.40 358 P **P** **22 56 31.0 -0.2**
MIDW Midway 47.41 46 P **P** **22 56 32.8 +1.4**
JKA Kamikawa-asahi 47.55 357 P **P** **22 56 32.8 +0.5**
ASAJ Asahikawa 47.55 357 P **P** **22 56 32.9 +0.5**
ASAJ Asahikawa 47.55 357 P **P** **22 56 32.8 +0.5**
ASAJ pmax pmax
comp=Z,336nm,1.3s
ASAJ Asahikawa 47.55 357 P **P** **22 56 30.1 -2.2**
comp=Z,14nm,0.8s,baz=204,slow=5.8,SNR=4.0
ASAJ LR LR 23 13 38.7
comp=Z,7μm,22.0s,baz=180,slow=33
comp=Z,14nm,0.8s
NAYO Nakonayok 47.61 293 P **P** **22 56 33.1 -0.1**
comp=Z,2μm,1.2s
SUJ Sinuiju 47.68 338 P **P** **22 56 32.2 -1.2**
SUJ S **S** **23 03 26.9 -1.1**
SUJ AmB
comp=Z,1μm,2.4s
SUJ AMS AMS
comp=Z,29μm,24.6s
SRIT Nakonsritamara 47.70 285 P **P** **22 56 34.0 0.0**
SRIT IAmb IAmb 22 56 40.3
comp=Z,144nm,1.2s
SRIT Nakonsritamara 47.70 285 P **P** **22 56 34.2 +0.2**
comp=Z,103nm,1.2s
SURA Surathani 47.80 286 P **P** **22 56 35.1 +0.3**
comp=Z,103nm,1.2s
DL2 Dalian 47.82 334 P **P** **22 56 30.0 -4.5**
DL2 PP **PP** **22 58 28.0 +1.4**
DL2 S **S** **23 03 26.3 -3.7**
DL2 Dalian 47.82 334 SS SS 23 06 49.0 -10
DL2 pmax pmax
comp=Z,78nm,1.3s
DL2 pmax pmax
comp=Z,3μm,7.1s
DL2 LR LR
comp=N,18μm,20.5s
DL2 LR LR
comp=E,16μm,17.8s
DL2 LR LR
comp=Z,29μm,20.1s
TIA Tai'an 47.83 328 P **P** **22 56 35.0 +0.4**
TIA PP **PP** **22 58 29.0 +2.3**
TIA S **S** **23 03 30.0 -0.3**
TIA pmax pmax
comp=Z,26nm,1.9s
TIA pmax pmax
comp=Z,880nm,5.2s
TIA LR LR
comp=Z,12μm,18.0s
TIA LR LR
comp=Z,12μm,19.4s
TIA LR LR
comp=Z,25μm,19.4s
SLVN Son La 47.97 303 P **P** **22 56 36.0 -0.1**
GYA Guiyang 48.25 311 ⇓*i*P **P** **22 56 38.0 -0.2**
GYA pP pP 22 56 43.0 -2.0
GYA SS SS 23 07 04.5 -2.1
GYA pmax pmax
comp=Z,52nm,1.5s
GYA pmax pmax
comp=Z,4μm,8.1s
GYA LR LR
comp=Z,10μm,17.9s
GYA LR LR
comp=Z,7μm,21.7s
GYA LR LR
comp=Z,19μm,22.4s
ENH Enshi 48.38 317 P **P** **22 56 38.2 -0.8**
ENH IAmb IAmb 22 56 45.0
comp=Z,190nm,1.2s
ENH IAMs_20 IAMs_20 23 13 37.4
comp=Z,39μm,22.0s
JOHN Johnston Islan 48.44 64 IAMs_20 IAMs_20 23 13 40.1
comp=Z,33μm,20.0s
GSI Gunungsitoli 48.52 275 P **P** **22 56 38.0 -2.4**
GSI IAmb IAmb 22 56 45.4
comp=Z,65nm,0.8s
GSI Gunungsitoli 48.52 275 P **P** **22 56 37.8 -2.6**
comp=Z,94nm,0.8s
GSI Gunungsitoli 48.52 275 ⇑P **P** **22 56 38.8 -1.6**
KUR Kuril'sk 48.61 2 *e*P **P** **22 56 42.1 +1.7**
KUR *e*S **S** **23 03 43.2 +2.3**
KUR *e*SSS SSS 23 08 19.9
KUR pmax pmax
comp=Z,1μm,1.1s
KUR MLR MLR
comp=Z,5μm,13.0s
TEY Ternei 49.08 351 ⇑*e*P **P** **22 56 45.3 +1.2**
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=Z,200nm,6.9s
TEY pmax pmax
comp=N,100nm,7.5s
USA0B Ussuriysk Arra 49.15 347 P **P** **22 56 44.7 0.0**
USA0B Ussuriysk Arra 49.15 347 P **P** **22 56 44.7 0.0**
USA0B pmax pmax
comp=Z,593nm,1.9s
USRK Ussuriysk Ar. 49.15 347 P **P** **22 56 44.5 -0.1**
USRK Ussuriysk Ar. 49.15 347 P **P** **22 56 42.7 -1.9**
comp=Z,41nm,0.8s,baz=175,slow=7.9,SNR=27
USRK S **S** **23 03 47.3 -1.3**
comp=Z,2.1nm,0.8s,baz=267,slow=34,SNR=2.3
USRK LR LR 23 16 02.4
comp=Z,10μm,18.3s,baz=157,slow=34
comp=Z,41nm,0.8s
LYN LuoYang 49.24 323 ⇑P **P** **22 56 43.5 -2.1**
LYN S **S** **23 03 47.0 -3.3**
LYN sS sS 23 04 02.5 +1.0
LYN SS **SS** **23 07 22.3 +0.2**
LYN pmax pmax
comp=Z,36nm,2.4s
LYN pmax pmax
comp=Z,4μm,9.7s
LYN LR LR
comp=Z,57μm,20.6s
LYN LR LR
comp=Z,28μm,21.2s
LYN LR LR
comp=Z,72μm,23.4s
SNY Shenyang 49.52 338 ⇑P **P** **22 56 45.0 -2.5**
SNY S **S** **23 03 53.5 -0.4**
SNY pmax pmax
comp=Z,2μm,5.1s
SNY LR LR
comp=Z,16μm,23.4s
SNY LR LR
comp=Z,8μm,21.9s
SNY LR LR
comp=Z,29μm,24.1s
SRDT SRDT 49.65 292 P **P** **22 56 49.1 +0.2**
comp=Z,256nm,1.4s
LHMI Lhok Sumawe 49.65 280 P **P** **22 56 48.6 -0.4**
LHMI Lhok Sumawe 49.65 280 P **P** **22 56 51.2 +2.1**
comp=Z,231nm,1.5s
HNS HongShan 50.00 327 ⇑P **P** **22 56 49.5 -1.7**
HNS PP **PP** **22 58 47.0 +0.5**
HNS S **S** **23 04 02.0 +1.3**
HNS pmax pmax
comp=Z,120nm,1.4s
HNS pmax pmax
comp=Z,3μm,8.8s
HNS LR LR
comp=Z,21μm,18.3s
HNS LR LR
comp=Z,15μm,19.9s
HNS LR LR
comp=Z,36μm,20.4s
MDJ Mudanjiang 50.13 345 P **P** **22 56 50.0 -2.1**
MDJ PcS **PcS** **23 02 04.8 -3.5**
MDJ S **S** **23 04 07.8 +5.4**
MDJ sS sS 23 04 15.5 +2.0
MDJ ScS **ScS** **23 06 40.5 -1.5**
MDJ pmax pmax
comp=Z,26nm,2.4s
MDJ pmax pmax
comp=Z,3μm,7.9s
MDJ LR LR
comp=Z,9μm,18.6s
MDJ LR LR
comp=Z,8μm,19.9s
MDJ LR LR
comp=Z,15μm,20.6s
MDJ Mudanjiang 50.13 345 P **P** **22 56 51.3 -0.8**
MDJ IAmb IAmb 22 57 01.6
comp=Z,137nm,1.4s
YSS Yuzh-Sakhalins 50.37 357 P **P** **22 56 55.6 +1.7**
YSS IAmb IAmb 22 57 01.4
comp=Z,160nm,1.4s
YSS Yuzh-Sakhalins 50.37 357 P **P** **22 56 56.8 +2.9**
YSS Yuzh-Sakhalins 50.37 357 *e*P **P** **22 56 53.2 -0.7**
YSS *e* 22 58 45.9
YSS *e*S **S** **23 04 02.9 -2.7**
YSS *e* 23 06 47.6
YSS *e*SS **SS** **23 07 35.0 -4.8**
YSS pmax pmax
comp=Z,3μm,7.0s
YSS pmax pmax
comp=Z,70nm,1.3s
YSS smax smax
comp=N,3μm,11.4s
YSS MLR MLR
comp=N,4μm,18.0s
YSS MLR MLR
comp=Z,7μm,18.0s
CRAI Chiangrai 50.53 300 P **P** **22 56 55.2 -0.4**
CN2 Changchun 50.60 341 P **P** **22 56 57.5 +1.8**
CN2 PP **PP** **22 58 54.8 +2.9**
CN2 S **S** **23 04 10.0 +1.0**
CN2 pmax pmax
comp=Z,60nm,1.2s
CN2 pmax pmax
comp=Z,2μm,6.0s
CN2 LR LR
comp=Z,16μm,18.0s
CN2 LR LR
comp=Z,13μm,18.0s
CN2 LR LR
comp=Z,25μm,18.0s
KMI Kunming 50.64 307 ⇑P **P** **22 56 56.8 +0.1**
KMI PP **PP** **22 58 54.3 +1.5**
KMI S **S** **23 04 14.8 +4.2**
KMI pmax pmax
comp=Z,210nm,1.2s
KMI pmax pmax
comp=Z,3μm,7.8s
KMI LR LR
comp=Z,10μm,20.6s
KMI LR LR
comp=Z,10μm,22.8s
KMI LR LR
comp=Z,9μm,21.3s
XAN Xi'an 51.10 320 ⇑P **P** **22 56 57.5 -2.3**
XAN pP pP 22 57 04.0 -2.5
XAN sP pwP 22 57 15.5 +6.1
XAN S **S** **23 04 21.3 +4.9**
XAN pmax pmax
comp=Z,63nm,1.1s
XAN pmax pmax
comp=Z,2μm,6.6s
XAN LR LR
comp=Z,16μm,23.4s
XAN LR LR
comp=Z,17μm,22.9s
XAN LR LR
comp=Z,31μm,17.9s
CM31 Chiang Mai Arr 51.14 297 P **P** **22 56 59.8 -0.4**
CM31 IAmb IAmb 22 57 07.6
comp=Z,328nm,1.4s
CM31 Chiang Mai Arr 51.14 297 P **P** **22 57 00.3 +0.1**
SNR=77
CMAR Chiang Mai Arr 51.14 297 P **P** **22 57 00.1 -0.1**
comp=Z,26nm,1.0s,baz=123,slow=6.1,SNR=47
CMAR S **S** **23 04 19.9 +2.7**
comp=Z,0.8nm,0.3s,baz=150,slow=43,SNR=1.4
CMAR LR LR 23 21 09.5
comp=Z,5μm,18.6s,baz=115,slow=39
comp=Z,26nm,1.0s
BJT Baijiatuau 51.23 331 P **P** **22 56 58.8 -1.7**
BJT Baijiatuau 51.23 331 IAMs_20 IAMs_20 23 16 11.4
comp=Z,27μm,21.0s
BJT Baijiatuau 51.23 331 P **P** **22 56 58.8 -1.7**
BJT pmax pmax
comp=Z,78nm,1.5s
BJT MLR MLR
comp=Z,27μm,21.0s
BJI Beijing 51.24 331 P **P** **22 56 58.5 -2.1**
BJI S **S** **23 04 25.0 +7.1**
BJI pmax pmax
comp=Z,18nm,1.5s
BJI pmax pmax
comp=Z,1μm,8.9s
BJI LR LR
comp=Z,9μm,19.1s
BJI LR LR
comp=Z,6μm,19.5s
BJI LR LR
comp=Z,15μm,21.2s
CHTO Chiang Mai 51.26 297 P **P** **22 57 00.6 -0.6**
CHTO IAmb IAmb 22 57 08.2
comp=Z,167nm,1.3s
CHTO Chiang Mai 51.26 297 P **P** **22 57 00.5 -0.6**
comp=Z,58nm,1.7s
CHTO Chiang Mai 51.26 297 ⇑P **P** **22 57 00.5 -0.6**
CHTO Chiang Mai 51.26 297 P **P** **22 57 00.6 -0.6**
CHTO pmax pmax
comp=Z,167nm,1.3s
CHTO MLR MLR
comp=Z,8μm,21.0s
CHTO Chiang Mai 51.26 297 P **P** **22 57 00.6 -0.6**
CHTO P **P** **22 57 00.6 -0.6**
TIY Taiyuan 51.47 326 *e*P **P** **22 57 05.3 +2.8**
TIY PP **PP** **22 59 02.5 +2.5**
TIY S **S** **23 04 25.3 +3.9**
TIY SS **SS** **23 07 59.8 +2.1**
TIY pmax pmax
comp=Z,27nm,0.7s
TIY pmax pmax
comp=Z,2μm,8.3s
TIY LR LR
comp=Z,11μm,22.7s
TIY LR LR
comp=Z,15μm,21.3s
TIY LR LR
comp=Z,24μm,22.0s
BNX BinXian 51.76 344 ⇓P **P** **22 57 02.8 -1.6**
BNX pP **sP** **22 57 13.0 -0.8**
BNX sP **pwP** **22 57 16.0 +2.0**
BNX PP **PP** **22 59 02.0 -0.3**
BNX S **S** **23 04 20.5 -4.4**
BNX sS **pS** **23 04 34.3 +1.1**
BNX pmax pmax
comp=Z,24nm,1.6s
BNX pmax pmax
comp=Z,590nm,3.9s
BNX LR LR
comp=Z,12μm,16.8s
BNX LR LR
comp=Z,7μm,18.7s
BNX LR LR
comp=Z,16μm,17.9s
MCQ Macquarie Isla 51.89 170 P **P** **22 57 06.7 +1.5**
MCQ IAMs_20 IAMs_20 23 19 06.2
comp=Z,18μm,19.0s
MCQ Macquarie Isla 51.89 170 P **P** **22 57 06.7 +1.5**
MCQ pmax pmax
comp=Z,638nm,1.9s
MCQ MLR MLR
comp=Z,18μm,19.0s
CTZ Chatham Island 51.94 146 IAMs_20 IAMs_20 23 15 47.6
comp=Z,31μm,22.0s
PZH PanZhiHua 52.09 308 P **P** **22 57 06.3 -1.0**
PZH sP **pP** **22 57 13.3 -0.8**
PZH S **S** **23 04 31.0 +0.7**
PZH pmax pmax
comp=Z,40nm,1.6s
PZH pmax pmax
comp=Z,3μm,9.2s
PZH LR LR
comp=Z,6μm,19.6s
PZH LR LR
comp=Z,6μm,19.6s
PZH LR LR
comp=Z,9μm,18.6s
UGL Uglegorsk 52.53 357 *e*P **P** **22 57 08.4 -1.6**
UGL *e*S **S** **23 04 35.5 +0.3**
UGL pmax pmax
comp=Z,130nm,1.1s
UGL pmax pmax
comp=Z,5μm,5.0s
UGL smax smax
comp=E,8μm,11.0s
UGL smax smax
comp=N,5μm,13.0s
CD2 Chengdu 52.79 314 P **P** **22 57 11.3 -1.1**
CD2 S **S** **23 04 39.0 -0.6**
CD2 SS **SS** **23 08 15.8 -2.9**
CD2 pmax pmax
comp=N,110nm,0.8s
CD2 pmax pmax
comp=N,2μm,6.8s
CD2 LR LR
comp=N,3μm,16.7s
CD2 LR LR
comp=N,4μm,16.2s
CD2 LR LR
comp=N,12μm,16.2s
KLR Kul'dur 53.99 349 *i*P **P** **22 57 20.4 -0.4**
KLR pmax pmax
comp=Z,212nm,1.6s
KLR Kul'dur 53.99 349 LR LR 23 19 01.3
comp=Z,10μm,19.2s,baz=159,slow=35
TNCH TengChong 54.03 304 P **P** **22 57 21.3 -0.5**
TNCH pP pP 22 57 24.3 -4.3
TNCH PP **PP** **22 59 24.0 +0.6**
TNCH S **S** **23 04 55.5 -1.4**
TNCH ScS **ScS** **23 07 07.8 -2.5**
TNCH SS **SKiKP** **23 08 36.0 +2.5**
TNCH pmax pmax
comp=Z,120nm,1.8s
TNCH pmax pmax
comp=Z,2μm,7.7s
TNCH LR LR
comp=Z,2μm,13.7s
TNCH LR LR
comp=Z,3μm,21.0s
TNCH LR LR
comp=Z,10μm,21.2s
HHC Hu-ho-hao-te 54.18 328 *e*P **P** **22 57 21.8 -0.7**
HHC S **S** **23 04 54.8 -3.6**
HHC sS pS 23 05 07.5 +0.9
HHC SS **SS** **23 08 41.3 +0.7**
HHC pmax pmax
comp=Z,55nm,1.3s
HHC pmax pmax
comp=Z,4μm,4.7s
HHC LR LR
comp=Z,33μm,19.1s
HHC LR LR
comp=Z,34μm,19.1s
HHC LR LR
comp=Z,63μm,18.3s
TYV Tymovskoe 54.28 357 *e*P **P** **22 57 23.6 +0.8**
TYV *e*S **S** **23 05 04.0 +5.0**
TYV pmax pmax
comp=Z,2μm,5.5s
TYV pmax pmax
comp=Z,73nm,1.7s
TYV smax smax
comp=N,3μm,7.0s
TYV smax smax
comp=E,7μm,7.0s
XLT XiLinHaoTe 54.30 334 SS **SKiKP** **23 08 38.0 +4.9**
XLT pmax pmax
comp=Z,42nm,1.6s
XLT pmax pmax
comp=Z,2μm,7.3s
XLT LR LR
comp=N,2μm,18.9s
XLT LR LR
comp=E,10μm,17.7s
XLT LR LR
comp=Z,24μm,18.7s
XLT XiLinHaoTe 54.30 334 ⇓*i*P **P** **22 57 21.8 -1.5**
XLT pP pwP 22 57 34.0 +1.0
XLT sP sP 22 57 39.0 +6.3
XLT PP **PP** **22 59 24.3 -1.2**
XLT S **S** **23 04 52.5 -7.3**
XLT ScS **ScS** **23 07 05.3 -6.0**
XLT SS **SS** **23 08 38.3 -4.0**
XLT pmax pmax
comp=Z,2μm,7.3s
XLT LR LR
comp=Z,2μm,17.9s
XLT LR LR
comp=Z,10μm,18.9s
XLT LR LR
comp=Z,23μm,19.9s
GRNR Gornyy 54.72 353 ⇑*i*P **P** **22 57 29.7 +3.6**
GRNR *e*S S 23 05 17.9 +13
GRNR pmax pmax
comp=E,3.0nm,1.1s
GRNR pmax pmax
comp=N,10.0nm,1.2s
GRNR pmax pmax
comp=Z,10.0nm,1.3s
BTO Baotou 54.84 327 *e*P **P** **22 57 27.5 +0.2**
BTO pP **pP** **22 57 33.5 -0.6**
BTO sP **sP** **22 57 36.5 -0.2**
BTO PP **PP** **22 59 32.5 +2.2**
BTO S **S** **23 05 08.8 +1.6**
BTO SS **SS** **23 08 52.3 +1.4**
BTO pmax pmax
comp=Z,6μm,9.8s
BTO LR LR
comp=Z,43μm,25.9s
BTO LR LR
comp=Z,37μm,21.8s
BTO LR LR
comp=Z,62μm,22.0s
MND Mandalay 54.88 300 P **P** **22 57 30.0 +2.2**
comp=Z,59nm,1.7s
RAR Rarotonga 55.60 113 LR LR 23 17 08.3
comp=Z,3μm,21.3s,baz=284,slow=32
LZH Lanzhou 55.65 319 ⇑P **P** **22 57 32.5 -0.8**
LZH pP pP 22 57 38.0 -2.1
LZH S **S** **23 05 16.5 -1.8**
LZH SS **SS** **23 09 04.8 +0.9**
LZH pmax pmax
comp=Z,66nm,1.2s
LZH LR LR
comp=Z,11μm,19.2s
LZH LR LR
comp=Z,15μm,18.3s
LZH LR LR
comp=Z,28μm,19.6s
HEH HeiHe 55.91 346 *e*P **P** **22 57 32.5 -2.2**
HEH S **S** **23 05 20.8 -0.2**
HEH SS **SS** **23 09 05.3 -1.9**
HEH pmax pmax
comp=Z,100nm,1.3s
HEH pmax pmax
comp=Z,3μm,6.0s
HEH LR LR
comp=Z,6μm,17.6s
HEH LR LR
comp=Z,14μm,19.4s
HEH LR LR
comp=Z,11μm,20.0s
NKL Nikolayevsk 56.67 356 *e*P **P** **22 57 37.4 -2.6**
NKL *e*S **S** **23 05 29.4 -1.4**
NKL pmax pmax
comp=N,252nm,1.4s
NKL pmax pmax
comp=E,79nm,1.4s
NKL pmax pmax
comp=Z,542nm,1.4s
NKL smax smax
comp=E,2μm,8.8s
NKL smax smax
comp=N,643nm,7.7s
NKL MLR MLR
comp=E,6μm,14.0s
NKL MLR MLR
comp=N,10μm,15.0s
NKL MLR MLR
comp=Z,15μm,15.0s
XMAS Kiritimati 56.92 85 P **P** **22 57 42.8 +0.3**
XMAS IAmb IAmb 22 58 23.2
comp=Z,217nm,1.4s
XMAS Kiritimati 56.92 85 IAMs_20 IAMs_20 23 18 09.4

comp=Z,17µm,20.0s
HIA Hailar 57.29 340 P **P** **22 57 44.9 +0.3**
HIA Hailar 57.29 340 IAMs_20 IAMs_20 23 21 07.0
comp=Z,18µm,19.0s
HIA Hailar 57.29 340 P **P** **22 57 44.9 +0.3**
HIA pmax pmax
comp=Z,441nm,1.9s
HIA MLR MLR
comp=Z,18µm,19.0s
PEA0B Petropavlovsk- 57.33 8 P **P** **22 57 46.0 +1.3**
PEA0B IAmb IAmb 22 57 50.9
comp=Z,223nm,1.2s
PEA0B Petropavlovsk- 57.33 8 P **P** **22 57 46.0 +1.3**
PEA0B pmax pmax
comp=Z,223nm,1.2s
PETK Petropavlovsk- 57.33 8 P **P** **22 57 44.6 -0.1**
PETK Petropavlovsk- 57.33 8 P **P** **22 57 44.6 -0.1**
PETK Petropavlovsk- 57.33 8 P **P** **22 57 43.7 -1.0**
comp=Z,33nm,1.0s,baz=188,slow=6.4,SNR=15
PETK LR LR 23 17 25.2
comp=Z,10µm,21.9s,baz=184,slow=31
comp=Z,33nm,1.0s
PET Petropavlovsk 57.39 9 P **P** **22 57 46.1 +1.0**
PET Petropavlovsk 57.39 9 P **P** **22 57 48.7 +3.6**
comp=Z,377nm,1.1s
PET Petropavlovsk 57.39 9 *e*P **P** **22 57 46.0 +0.9**
PET *e*S **S** **23 05 40.6 +0.2**
PET *e*SS **SS** **23 09 31.0 +0.6**
PET pmax pmax
comp=Z,94nm,1.1s
PET MLR MLR
comp=Z,7µm,18.0s
PET MLR MLR
comp=Z,7µm,16.0s
SAIH SAIHA 57.76 299 *e*P **P** **22 57 48.8 +0.3**
SAIH IAmb IAmb 22 57 55.8
comp=Z,182nm,0.9s
IMP Imphal 57.77 302 *e*P **P** **22 57 47.8 -0.6**
MOKO MOKOCHONG 57.85 304 *e*P **P** **22 57 47.4 -1.7**
MOKO IAmb IAmb 22 57 55.3
comp=Z,151nm,0.6s
KOHI KOHIMA 57.96 303 *e*P **P** **22 57 48.8 -1.1**
ITAN ITANAGAR 58.83 305 *e*P **P** **22 57 55.5 -0.2**
ITAN IAmb IAmb 22 58 02.1
comp=Z,224nm,0.9s
ZIRO ZIRO 58.87 305 *e*P **P** **22 57 56.5 +0.3**
ZIRO IAmb IAmb 22 58 02.1
comp=Z,90nm,0.9s
BRDH Bariadhala 59.00 299 LR LR 23 23 16.1
comp=Z,4µm,21.2s,baz=5.5,slow=36
ZEA Zeya 59.19 347 *e*P **P** **22 57 56.6 -1.1**
ZEA *e*S **S** **23 06 07.3 +3.5**
ZEA pmax pmax
comp=N,60nm,1.2s
ZEA pmax pmax
comp=Z,90nm,1.3s
ZEA pmax pmax
comp=Z,1µm,6.7s
ZEA smax smax
comp=E,1µm,9.9s
TEZP TEZPUR 59.39 304 *e*P **P** **22 57 58.2 -1.3**
AGT Agartala 59.73 300 *ex* **P** **22 58 04.7 +2.7**
GTA Gaotai 60.17 320 P **P** **22 58 04.0 -0.9**
GTA pP pP 22 58 10.8 -1.0
GTA sP sP 22 58 14.0 -0.4
GTA S **S** **23 06 18.8 +1.5**
GTA pmax pmax
comp=E,28nm,1.2s
GTA pmax pmax
comp=E,2µm,9.3s
GTA LR LR
comp=E,6µm,21.1s
GTA LR LR
comp=E,9µm,22.2s
GTA LR LR
comp=E,13µm,21.4s
HON Honolulu 60.23 63 P **P** **22 58 05.6 +0.1**
HON Honolulu 60.23 63 P **P** **22 58 05.6 +0.1**
HON pmax pmax
comp=Z,391nm,1.4s
KIP Kipapa 60.25 63 P **P** **22 58 06.6 +1.0**
KIP Kipapa 60.25 63 P **P** **22 58 09.3 +3.7**
comp=Z,103nm,1.7s
KIP Kipapa 60.25 63 P **P** **22 58 06.6 +1.0**
KIP pmax pmax
comp=Z,528nm,2.0s
TAWA Tawang 60.52 304 *e*P **P** **22 58 07.4 -0.5**
TAWA IAmb IAmb 22 58 15.7
comp=Z,200nm,0.9s
SHEM Shemya Is, Ala 60.93 19 LR LR 23 20 02.2
comp=Z,12µm,20.6s,baz=204,slow=32
ULN Ulaanbaatar 61.45 331 P **P** **22 58 14.0 +0.5**
ULN Ulaanbaatar 61.45 331 IAMs_20 IAMs_20 23 24 42.8
comp=Z,24µm,20.0s
ULN Ulaanbaatar 61.45 331 ⇑P **P** **22 58 12.3 -1.2**
ULN Ulaanbaatar 61.45 331 P **P** **22 58 14.0 +0.5**
ULN pmax pmax
comp=Z,411nm,1.9s
ULN MLR MLR
comp=Z,24µm,20.0s
ULN Ulaanbaatar 61.45 331 P **P** **22 58 12.6 -0.9**
ULN P **P** **22 58 12.6 -0.9**
KHLH Kahului Airpor 61.52 64 P **P** **22 58 15.7 +1.5**
KHLU Kahalu`u 61.64 66 P **P** **22 58 15.4 +0.1**
HUH Hualalai 61.72 66 P **P** **22 58 16.4 +0.5**
SONM Songino Array 61.74 331 P **P** **22 58 14.9 -0.6**
SONM IAmb IAmb 22 58 22.2
comp=Z,212nm,1.7s
SONM Songino Array 61.74 331 P **P** **22 58 14.9 -0.6**
SONM pmax pmax
comp=Z,212nm,1.7s
SONM Songino Array 61.74 331 P **P** **22 58 14.6 -0.8**
comp=Z,13nm,0.8s,baz=146,slow=7.6,SNR=32
SONM LR LR 23 24 35.8
comp=Z,25µm,19.4s,baz=137,slow=36
SONM PKP2bc **P'P'bc** **23 27 33.7 -0.2**
comp=Z,1.9nm,0.9s,baz=318,slow=3.9,SNR=5.4
comp=Z,13nm,0.8s
CIT Chita 61.79 338 *e*P **P** **22 58 15.5 -0.1**
CIT *e* 22 58 52.0
CIT pmax pmax
comp=Z,552nm,2.2s
GOMU GeErMu 61.90 314 P **P** **22 58 17.5 +0.5**
GOMU S **S** **23 06 39.3 -0.7**
GOMU SS **SS** **23 10 46.0 +3.5**
GOMU pmax pmax
comp=Z,16nm,1.0s
GOMU LR LR
comp=Z,11µm,20.0s
GOMU LR LR
comp=Z,22µm,20.6s
GOMU LR LR
comp=Z,35µm,20.1s
LSA Lhasa 61.90 306 P **P** **22 58 17.7 +0.4**
LSA IAmb IAmb 22 58 24.5
comp=Z,74nm,1.1s
LSA Lhasa 61.90 306 P **P** **22 58 17.7 +0.4**
LSA pmax pmax
comp=Z,74nm,1.1s
LSA MLR MLR
comp=Z,6µm,19.0s
HPAH Hawaii Prepara 61.94 65 P **P** **22 58 17.5 +0.3**
HPAH IAmb IAmb 22 58 36.6
comp=Z,69nm,0.8s
POHA Pohakuloa 62.01 66 P **P** **22 58 17.4 -0.5**
PUH Pauahi 62.20 66 P **P** **22 58 20.0 +0.9**
PUH IAmb IAmb 22 59 34.1
comp=Z,150nm,1.3s
MA2 Magadan 63.06 3 P **P** **22 58 24.8 +1.0**
MA2 IAmb IAmb 22 58 29.9
comp=Z,88nm,1.0s
MA2 Magadan 63.06 3 P **P** **22 58 26.1 +2.3**
comp=Z,123nm,1.3s
MA2 Magadan 63.06 3 ⇑P **P** **22 58 26.5 +2.7**
MA2 Magadan 63.06 3 P **P** **22 58 24.8 +1.0**
MA2 pmax pmax
comp=Z,88nm,1.0s
MA2 MLR MLR
comp=Z,8µm,22.0s
MA2 Magadan 63.06 3 LR LR 23 28 17.3
comp=Z,5µm,18.1s,baz=186,slow=38
SLGI Shiliguri 63.09 302 *e*P **P** **22 58 24.0 -0.7**
GTK Tadong 63.14 303 *e*P **P** **22 58 24.1 -1.1**
KIWB Kanaga Island 63.50 25 P **P** **22 58 27.8 +0.9**
ADK Adak 63.71 25 P **P** **22 58 28.6 +0.4**
ADK Adak 63.71 25 IAMs_20 IAMs_20 23 19 58.2
comp=Z,21µm,22.0s
ADK Adak 63.71 25 P **P** **22 58 33.0 +4.7**
comp=Z,168nm,1.4s
ADK Adak 63.71 25 P **P** **22 58 28.7 +0.4**
ADK pmax pmax
comp=Z,194nm,1.2s
ADK MLR MLR
comp=Z,21µm,22.0s
GSTR Great Sitkin T 64.13 25 P **P** **22 58 32.7 +1.6**
BOK Bokaro 64.38 298 *e*P **P** **22 58 35.6 +2.4**
PPT Papeete 64.67 108 P **P** **22 58 34.5 -0.8**
comp=Z,7.7nm,0.4s,baz=237,slow=23,SNR=1.4
PPT LR LR 23 23 09.2
comp=Z,5µm,19.7s,baz=271,slow=33
comp=Z,7.7nm,0.4s
PPT2 Papeete2 64.67 108 *e*P P 22 58 30.4 -5.0
comp=Z,792nm,28.0s
PPT2 Papeete2 64.67 108 *e*P **P** **22 58 36.1 +0.7**
PPT2 comp=Z,71nm,1.4s *e*pP **PP** **23 00 51.0 -6.9**
PPT2 comp=Z,496nm,23.8s *e*S **S** **23 07 11.5 -3.2**
PPT2 comp=Z,618nm,22.9s *e*S S 23 07 13.8 -0.9
PPT2 comp=Z,6µm,35.8s *e*SS **SS** **23 11 23.7 -2.2**
PPT2 comp=Z,982nm,24.4s *e*LQ LQ 23 15 14.4
PPT2 comp=Z,16µm,24.5s *e*LR LR 23 17 45.8
PPT2 comp=Z,17µm,32.5s *e*LR LR 23 17 57.0
PAE Paea 64.68 108 *e*P **P** **22 58 37.5 +2.2**
PAE comp=Z,40nm,1.5s *e*S **S** **23 07 11.7 -2.8**
PAE comp=Z,406nm,24.9s *e*SS **SS** **23 11 21.6 -4.2**
PAE comp=Z,508nm,24.5s *e*LR LR 23 17 56.0
PPTF Pamatai, Papee 64.69 108 P **P** **22 58 35.6 +0.1**
PPTF IAmb IAmb 22 59 03.4
comp=Z,99nm,1.2s
PPTF Pamatai, Papee 64.69 108 P P 22 58 40.6 +5.1
EVN Everest 64.84 303 ⇑P **P** **22 58 36.3 -0.7**
ZAK Zakamensk 64.98 331 *e*P **P** **22 58 35.5 -1.3**
ZAK pmax pmax
comp=Z,155nm,1.2s
TVO Taravao 65.00 108 *e*P **P** **22 58 39.6 +2.1**
comp=Z,15nm,0.9s
TVO *e*S S 23 07 09.5 -9.1
comp=Z,790nm,25.3s
TVO Taravao 65.00 108 *e*LR LR 23 18 04.2
comp=Z,1µm,23.5s
ATKA Atka Island 65.01 26 P **P** **22 58 37.9 +1.1**
ATKA IAMs_20 IAMs_20 23 21 39.5
comp=Z,15µm,22.0s
ATKA Atka Island 65.01 26 P **P** **22 58 39.6 +2.9**
comp=Z,105nm,1.6s
VIS Vishakhapatnam 65.18 291 *e*P **P** **22 58 40.4 +1.8**
TBI Tubuai 65.36 114 *e*P **P** **22 58 38.9 -0.7**
comp=Z,3µm,27.8s
TBI Tubuai 65.36 114 *e*PP **PP** **23 00 59.7 -4.0**
comp=Z,1µm,20.5s
TBI *e*S **S** **23 07 26.5 +3.8**
comp=Z,15µm,31.5s
TBI *e*SS **SS** **23 11 40.1 +3.9**
comp=Z,20µm,29.5s
TBI *e*LQ LQ 23 15 33.2
comp=Z,174µm,34.0s
TBI *e*LR LR 23 18 14.3
comp=Z,9µm,24.9s
TBI *e*LR LR 23 18 19.5
comp=Z,30µm,38.5s
TBI *e*LR LR 23 18 24.4
comp=Z,185µm,39.8s
JHSG JHARSUGUGA 65.71 296 *e*P **P** **22 58 42.1 +0.1**
IRK Irkutsk 65.78 333 *e*P **P** **22 58 41.8 0.0**
IRK pmax pmax
comp=Z,295nm,4.0s
PMOR Pomariorio Ree 66.13 105 *e*P **P** **22 58 45.3 +0.6**
comp=Z,145nm,1.2s
PMOR *e*S **S** **23 07 31.5 -0.8**
comp=Z,3µm,22.9s
PMOR *e*SS **SS** **23 11 47.3 -1.1**
comp=Z,2µm,24.1s
PMOR *e*LR LR 23 18 26.6
comp=Z,15µm,24.5s
MALK Mahakanadarawa 66.23 281 P **P** **22 58 45.3 -0.1**
MALK S **S** **23 07 30.9 -2.8**
MALK Mahakanadarawa 66.23 281 ⇓P **P** **22 58 46.6 +1.1**
BOD Bodaibo 66.33 342 *e*P **P** **22 58 47.0 +1.8**
BOD pmax pmax
comp=Z,154nm,1.7s
SEY Seymchan 66.50 3 *i* P **P** **22 58 45.4 -0.7**
SEY pmax pmax
comp=Z,27nm,0.8s
SEY MLR MLR
comp=Z,7µm,18.0s
SEY Seymchan 66.50 3 LR LR 23 30 44.9
comp=Z,3µm,18.4s,baz=184,slow=39
YAK Yakutsk 66.58 352 P **P** **22 58 47.7 +1.0**
YAK Yakutsk 66.58 352 *e*P **P** **22 58 49.4 +2.7**
YAK *e**PP **pwP** **22 58 57.0 +0.5**
YAK *e* 22 59 18.1
YAK *e* 23 01 17.1
YAK *e*PPP PPP 23 02 51.4
YAK *e*S **S** **23 07 38.5 +2.4**
YAK *e**SS sS 23 08 01.1 +13
YAK *e* 23 08 40.9
YAK *e*SS **SS** **23 11 55.0 +1.2**
YAK *e*SSS SSS 23 14 58.0
YAK pmax pmax
comp=Z,123nm,1.5s
YAK pmax pmax
comp=N,81nm,1.5s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=Z,856nm,6.1s
YAK pmax pmax
comp=N,893nm,5.8s
YAK pmax pmax
comp=E,233nm,4.1s
YAK smax smax
comp=E,4µm,8.6s
YAK smax smax
comp=N,2µm,6.2s
YAK MLR MLR
comp=Z,4µm,22.0s
YAK MLR MLR
comp=N,3µm,26.0s
YAK Yakutsk 66.58 352 P **P** **22 58 44.9 -1.7**
comp=N,7.9nm,0.3s,baz=28,slow=0.5,SNR=1.7
YAK LR LR 23 26 33.4
comp=N,7µm,21.1s,baz=152,slow=35
comp=N,7.9nm,0.3s
MDRS Chennai 67.21 286 *e*P **P** **22 58 53.3 +1.6**
VAR Varanasi 67.30 299 *e*P **P** **22 58 51.8 -0.3**
CASY Casey 67.31 195 P **P** **22 58 52.2 +0.9**
CASY IAmb IAmb 22 59 11.6
comp=Z,96nm,1.4s
CASY Casey 67.31 195 IAMs_20 IAMs_20 23 28 59.4
comp=Z,15µm,18.0s
CASY Casey 67.31 195 ⇓P **P** **22 58 52.4 +1.1**
VJD Vijayawada 67.44 289 *e*P **P** **22 58 52.9 -0.2**
NIKH Nikolski High 67.93 28 P **P** **22 58 52.7 -2.7**
baz=230
SALM Salem 68.96 284 *e*P **P** **22 59 03.0 +0.3**
BRCI Bahraich 69.15 301 *e*P **P** **22 59 04.8 +1.2**
KOD Kodaikanal 69.48 282 *e*P **P** **22 59 07.3 +1.0**
UNV Unalaska Valle 69.57 28 P **P** **22 59 08.0 +2.4**
comp=Z,127nm,1.8s
UNV Unalaska Valle 69.57 28 P **P** **22 59 02.5 -3.1**
baz=232
HYB Hyderabad 69.58 290 *e*P **P** **22 59 06.5 0.0**
HYB IVmB_BB 22 59 49.5
comp=Z,998nm,5.5s
HYB IVMs_BB IVMs_BB 23 22 08.9
comp=Z,1µm,31.8s
P08K Saint George I 70.01 24 P **P** **22 59 05.3 -3.0**
baz=228
AKUT Akutan 70.09 28 P **P** **22 59 10.2 +1.4**
SPIA Saint Paul Isl 70.11 24 P **P** **22 59 06.1 -2.8**
baz=227
WMQ Urumqi 70.23 319 *e*P **P** **22 59 07.5 -2.5**
WMQ sP pwP 22 59 20.0 +0.2
WMQ S **S** **23 08 23.8 +3.3**
WMQ SKS **SKSac** **23 09 06.0 -4.2**
WMQ pmax pmax
comp=Z,33nm,1.7s
WMQ pmax pmax
comp=Z,2µm,7.3s
WMQ LR LR
comp=Z,10µm,24.1s
WMQ LR LR
comp=Z,6µm,20.3s
WMQ LR LR
comp=Z,7µm,24.0s
LGTI Lohaghat 70.79 303 *e*P **P** **22 59 13.1 -0.6**
PTH Pithoragarh 70.85 303 *e*P **P** **22 59 13.4 -0.9**
AKL Akola 71.62 293 *e*P **P** **22 59 17.7 -1.3**
FALS False Pass 71.63 28 P **P** **22 59 14.2 -4.0**
baz=234
MNGI Mangalore 72.41 285 *e*P **P** **22 59 24.5 +0.8**
BILL Bilibino 72.86 8 *i* P **P** **22 59 24.3 -1.0**
DDI Dehra Dun 72.86 303 *e*P **P** **22 59 28.6 +2.4**
DGZ Jazzator, Alta 73.01 325 *i* P **P** **22 59 24.7 -2.1**
DGZ pmax pmax
comp=Z,159nm,1.6s
DGZ MLR MLR
comp=Z,24µm,19.0s
NDI New Delhi 73.17 301 *e*P **P** **22 59 24.0 -4.0**
SONA Sohna 73.18 301 *e*P **P** **22 59 26.8 -1.2**
SDPT Sand Point 73.30 29 P **P** **22 59 30.8 +2.6**
SDPT IAmb IAmb 22 59 37.2
comp=Z,158nm,1.0s
SDPT Sand Point 73.30 29 P **P** **22 59 24.7 -3.4**
baz=237
CNBA Chernabura Isl 73.45 29 IAMs_20 IAMs_20 23 26 15.0
comp=Z,14µm,20.0s
CHNA Chernabura Isl 73.45 29 P **P** **22 59 26.6 -2.5**
baz=238
ZSN Zaisan 73.56 322 *e*P **P** **22 59 28.9 -1.1**
comp=Z,127nm,1.8s,baz=322
ZSN Zaisan 73.56 322 *e*P **P** **22 59 28.8 -1.1**
ZSN pmax pmax
comp=Z,127nm,1.8s
TAOE Nuku Hiva Isla 73.63 98 IAMs_20 IAMs_20 23 30 32.3
comp=Z,13µm,18.0s
TAOE Nuku Hiva Isla 73.63 98 *e*P **P** **22 59 29.8 -1.3**
comp=Z,440nm,24.8s
TAOE *e*S **SKiKP** **23 08 59.2 -1.0**
comp=Z,3µm,27.7s
TAOE *e*SS **SS** **23 13 40.4 -4.0**
comp=Z,2µm,31.4s
TAOE *e*LQ LQ 23 18 58.5
comp=Z,22µm,27.7s
TAOE *e*LR LR 23 22 06.8
comp=Z,16µm,25.8s
KUDL Kundal 73.66 301 *e*P **P** **22 59 29.3 -1.6**
KAD Karad 73.67 289 *e*P **P** **22 59 30.3 -0.9**
GOA Goa 73.73 287 *e*P **P** **22 59 32.1 +0.7**
SMLA Simla 73.80 304 *e*P **P** **22 59 32.0 +0.4**
M11K Mekoryuk 73.81 23 P **P** **22 59 27.7 -3.4**
baz=230
POO Poona 74.18 290 *e*P **P** **22 59 34.4 +0.3**
GAMB Gambell 74.21 18 P **P** **22 59 31.2 -2.0**
baz=224
S14K Fog Glacier 74.25 28 P **P** **22 59 29.7 -4.1**
baz=238
VNDA Vanda 74.40 176 P **P** **22 59 35.1 +0.8**
VNDA IAMs_20 IAMs_20 23 31 21.0
comp=Z,18µm,18.0s
VNDA Vanda 74.40 176 P **P** **22 59 33.3 -1.0**
comp=Z,13nm,0.8s,baz=326,slow=5.9,SNR=42
VNDA S **S** **23 09 08.6 +1.5**
comp=Z,1.3nm,1.1s,baz=14,slow=9.4,SNR=1.8
VNDA LR LR 23 31 22.6
comp=Z,16µm,18.1s,baz=347,slow=35
comp=Z,13nm,0.8s
BHK Bhakra 74.49 304 *e*P **P** **22 59 36.9 +1.2**
BHK IAmb IAmb 22 59 38.4
comp=Z,30nm,0.9s
DHRM DHARAMSHALA 74.79 305 *e*P **P** **22 59 37.3 -0.4**
CHGN Chignik 74.79 29 P **P** **22 59 38.8 +2.0**
CHGN Chignik 74.79 29 P **P** **22 59 34.5 -2.4**
baz=239
AJM Ajmer 74.91 298 *e*P **P** **22 59 38.4 +0.2**
AJM IAmb IAmb 22 59 42.5
comp=Z,40nm,1.0s
MK31 Makanchi Array 74.92 320 P **P** **22 59 37.2 -0.6**
MK31 IAmb IAmb 22 59 44.4
comp=Z,171nm,1.5s
MK31 Makanchi Array 74.92 320 P **P** **22 59 37.2 -0.6**
MK31 pmax pmax
comp=Z,171nm,1.5s
MKAR Makanchi Array 74.92 320 P **P** **22 59 36.8 -1.0**
MKAR Makanchi Array 74.92 320 *i* P **P** **22 59 38.0 +0.1**
MKAR pmax pmax
comp=Z,44nm,1.0s
MKAR Makanchi Array 74.92 320 P **P** **22 59 36.4 -1.4**
comp=Z,12nm,0.9s,baz=103,slow=6.2,SNR=41
MKAR PKPPKP **P'P'df** **23 27 00.5 -3.5**
comp=Z,0.5nm,0.9s,baz=302,slow=2.7,SNR=3.5
MKAR LR LR 23 30 45.8
comp=Z,7µm,21.1s,baz=106,slow=34
comp=Z,12nm,0.9s
M13K Dall Lake 74.95 23 P **P** **22 59 38.4 +0.8**
M13K IAMs_20 IAMs_20 23 27 59.2
comp=Z,18µm,20.0s
M13K Dall Lake 74.95 23 P **P** **22 59 35.6 -2.0**
baz=233
SBA Scott Base 75.06 176 P **P** **22 59 39.8 +1.7**
SBA IAmb IAmb 23 00 44.0
comp=Z,231nm,2.0s
SBA Scott Base 75.06 176 IAMs_20 IAMs_20 23 30 35.4
comp=Z,11µm,19.0s
SBA Scott Base 75.06 176 P **P** **22 59 39.8 +1.7**
SBA pmax pmax
comp=Z,231nm,2.0s
SBA MLR MLR
comp=Z,11µm,19.0s
O14K Tigyukauivet M 75.12 25 P **P** **22 59 40.2 +1.6**
O14K IAmb IAmb 22 59 45.1
comp=Z,131nm,1.5s
O14K IAMs_20 IAMs_20 23 26 13.9
comp=Z,14µm,22.0s
O14K Tigyukauivet M 75.12 25 P **P** **22 59 37.0 -1.7**
baz=235
MAKZ Makanchi 75.12 320 P **P** **22 59 37.6 -1.4**
MAKZ Makanchi 75.12 320 P **P** **22 59 37.6 -1.4**
N14K Kuskokwak Cree 75.33 24 P **P** **22 59 38.3 -1.5**
baz=235
SHLS Shalkode 75.51 316 *e*P **P** **22 59 38.9 -2.6**
baz=316
SHLS Shalkode 75.51 316 *e*P **P** **22 59 38.9 -2.6**
O15K Ungalikthiuk R 75.69 26 P **P** **22 59 40.7 -1.3**
baz=237
M14K Bethel 75.70 24 P **P** **22 59 42.7 +0.8**
M14K IAmb IAmb 22 59 49.3
comp=Z,118nm,1.2s
M14K IAMs_20 IAMs_20 23 28 22.1
comp=Z,19µm,21.0s
M14K Bethel 75.70 24 P **P** **22 59 40.9 -1.0**
baz=234
L14K Kuka Creek 75.76 23 P **P** **22 59 43.2 +0.9**
L14K IAmb IAmb 22 59 52.7
comp=Z,258nm,1.8s
L14K IAMs_20 IAMs_20 23 27 31.8
comp=Z,15µm,21.0s
L14K Kuka Creek 75.76 23 P **P** **22 59 40.8 -1.5**
baz=234
UZB Uzynbulak 75.81 316 *e*P **P** **22 59 41.2 -2.1**
baz=316
UZB Uzynbulak 75.81 316 *e*P **P** **22 59 41.2 -2.1**
R16K Pilot Point 75.84 28 P **P** **22 59 42.2 -0.6**
baz=239
TIXI Tiksi 75.89 355 P **P** **22 59 42.7 -0.1**
TIXI Tiksi 75.89 355 ⇑P **P** **22 59 42.1 -0.7**
TIXI Tiksi 75.89 355 P **P** **22 59 42.7 -0.1**
TIXI pmax pmax
comp=Z,107nm,1.9s
TIXI MLR MLR
comp=Z,7µm,18.0s
TIXI Tiksi 75.89 355 LR LR 23 34 19.0
comp=Z,3µm,21.3s,baz=176,slow=37
N15K Kwethluk River 76.13 25 P **P** **22 59 46.1 +1.7**
N15K IAmb IAmb 22 59 54.9
comp=Z,95nm,1.2s

N15K IAMs_20 IAMs_20 23 26 43.5
comp=Z,16µm,22.0s
N15K Kwethluk River 76.13 25 P **P** **22 59 43.7 -0.8**
baz=236
KPKS Kokpek 76.15 316 *e*P **P** **22 59 43.6 -1.6**
baz=316
KPKS Kokpek 76.15 316 *e*P **P** **22 59 43.5 -1.6**
M15K Kasigluk River 76.18 24 P **P** **22 59 44.2 -0.5**
baz=236
SATY Saty 76.21 316 *e*P **P** **22 59 44.5 -1.0**
baz=316
SATY Saty 76.21 316 *e*P **P** **22 59 44.5 -1.0**
ZHN Zhinishke 76.23 316 *e*P **P** **22 59 44.5 -1.1**
baz=316
ZHN Zhinishke 76.23 316 *e*P **P** **22 59 44.5 -1.1**
J14K Nanvaranak Lak 76.28 21 P **P** **22 59 47.1 +1.9**
J14K IAmb IAmb 22 59 56.0
comp=Z,146nm,1.4s
J14K IAMs_20 IAMs_20 23 28 21.5
comp=Z,12µm,21.0s
J14K Nanvaranak Lak 76.28 21 P **P** **22 59 46.2 +1.0**
baz=232
ZAA0 Zalesovo Array 76.37 328 P **P** **22 59 45.0 -0.9**
ZALV Zalesovo Beam 76.37 328 P **P** **22 59 45.7 -0.2**
ZALV Zalesovo Beam 76.37 328 P **P** **22 59 45.7 -0.2**
ZALV Zalesovo Beam 76.37 328 P **P** **22 59 43.1 -2.8**
comp=Z,19nm,0.9s,baz=104,slow=5.5,SNR=22
ZALV PKPPKP **P'P'df** **23 27 02.0 +1.2**
comp=Z,1.2nm,0.9s,baz=260,slow=5.9,SNR=4.0
ZALV LR LR 23 32 10.7
comp=Z,21µm,20.6s,baz=114,slow=35
comp=Z,19nm,0.9s
P16K Nushagak River 76.42 26 P **P** **22 59 46.1 +0.1**
baz=238
L15K Ungalak Mounta 76.43 23 P **P** **22 59 44.8 -1.3**
baz=235
TNA Tin City 76.62 18 P **P** **22 59 46.9 -0.2**
baz=228,SNR=7.4
O16K Kokwok River B 76.67 26 P **P** **22 59 48.2 +0.7**
O16K Kokwok River B 76.67 26 P **P** **22 59 46.1 -1.3**
baz=238
K15K Wolf Creek Mou 76.77 22 P **P** **22 59 48.8 +0.7**
K15K IAmb IAmb 22 59 58.4
comp=Z,106nm,1.2s
K15K IAMs_20 IAMs_20 23 27 09.3
comp=Z,19µm,21.0s
K15K Wolf Creek Mou 76.77 22 P **P** **22 59 47.7 -0.3**
baz=234,SNR=5.1
ANM Nome 76.78 19 P **P** **22 59 48.9 +0.8**
ANM IAmb IAmb 22 59 58.4
comp=Z,152nm,1.6s
ANM Nome 76.78 19 P **P** **22 59 46.7 -1.4**
baz=230,SNR=28
ANM Nome 76.78 19 P **P** **22 59 48.9 +0.8**
ANM pmax pmax
comp=Z,152nm,1.6s
ANM MLR MLR
comp=Z,20µm,21.0s
Q16K King Salmon 76.83 27 P **P** **22 59 48.0 -0.4**
baz=240
TDK Taldyqorghan 76.83 318 *e*P **P** **22 59 47.7 -1.1**
comp=Z,206nm,2.0s,baz=318
TDK LR LR 23 34 02.1
comp=Z,5µm,18.4s,baz=318
TDK Taldyqorghan 76.83 318 *e*P **P** **22 59 47.7 -1.1**
TDK pmax pmax
comp=Z,205nm,2.0s
TDK MLR MLR
comp=Z,5µm,18.0s
N16K Nishlik Lake 76.85 25 P **P** **22 59 48.5 0.0**
baz=238
KSH Kashi 76.93 312 P **P** **22 59 52.0 +2.4**
KSH pP pP 22 59 56.3 -0.4
KSH PP **PP** **23 02 48.5 +5.5**
KSH S **S** **23 09 42.5 +5.9**
KSH SS **SS** **23 14 40.8 +7.1**
KSH pmax pmax
comp=Z,25nm,1.3s
KSH pmax pmax
comp=Z,2µm,7.3s
KSH LR LR
comp=Z,4µm,21.7s
KSH LR LR
comp=Z,7µm,23.2s
KSH LR LR
comp=Z,12µm,23.9s
SII Sitkinak Islan 76.97 29 P **P** **22 59 47.5 -1.8**
baz=242
Q17K Contact Creek 76.97 27 P **P** **22 59 48.4 -1.0**
baz=241
F14K Arctic Creek 77.06 18 P **P** **22 59 49.7 0.0**
baz=229,SNR=40
M16K Timber Creek 77.07 24 P **P** **22 59 50.6 +0.9**
M16K IAmb IAmb 22 59 59.4
comp=Z,276nm,1.9s
M16K IAMs_20 IAMs_20 23 28 31.3
comp=Z,10µm,21.0s
M16K Timber Creek 77.07 24 P **P** **22 59 49.7 0.0**
baz=237
P17K Kvichak River 77.19 26 P **P** **22 59 49.8 -0.6**
baz=240
O17K Koliganek Bris 77.19 26 P **P** **22 59 52.6 +2.2**
baz=239
MDOK Medeo 77.19 316 *e*P **P** **22 59 50.1 -1.0**
baz=316
MDOK LR LR 23 34 49.1
baz=316
MDOK Medeo 77.19 316 *e*P **P** **22 59 50.1 -1.0**
TNSS Tian-Shan 77.23 315 *e*P **P** **22 59 50.2 -1.4**
baz=315
TNSS Tian-Shan 77.23 315 *e*P **P** **22 59 50.2 -1.4**
L16K Owhat River 77.24 23 P **P** **22 59 51.5 +0.9**
L16K IAmb IAmb 23 00 09.8
comp=Z,216nm,2.0s
L16K IAMs_20 IAMs_20 23 29 18.7
comp=Z,15µm,21.0s
L16K Owhat River 77.24 23 P **P** **22 59 49.7 -1.0**
baz=237
R18K Karluk 77.31 28 P **P** **22 59 52.4 +1.3**
baz=242
NRN Naryn 77.44 314 P **P** **22 59 51.3 -1.4**
NRN Naryn 77.44 314 P **P** **22 59 51.3 -1.4**
NRN pmax pmax
comp=Z,40nm,1.2s
CHKK Chushkaly 77.44 316 *e*P **P** **22 59 50.7 -1.6**
baz=316
CHKK Chushkaly 77.44 316 *e*P **P** **22 59 50.7 -1.6**
G15K Niukluk 77.50 20 P **P** **22 59 51.7 -0.4**
baz=232
SEM Semipalatinsk 77.52 323 *e*P **P** **22 59 49.6 -3.3**
comp=Z,82nm,1.8s,baz=323
SEM LR LR 23 34 22.6
baz=323
SEM Semipalatinsk 77.52 323 *e*P **P** **22 59 49.5 -3.3**
SEM pmax pmax
comp=Z,82nm,1.8s
N17K Nushagak Hills 77.54 25 P **P** **22 59 53.0 +0.6**
N17K IAMs_20 IAMs_20 23 29 28.9
comp=Z,19µm,21.0s
N17K Nushagak Hills 77.54 25 P **P** **22 59 52.8 +0.4**
baz=239
Q18K Katmai Hardscr 77.56 27 P **P** **22 59 51.0 -1.8**
baz=241
NIL Nilore 77.61 305 P **P** **22 59 53.0 -0.4**
NIL Nilore 77.61 305 P **P** **22 59 53.0 -0.4**
NIL pmax pmax
comp=Z,211nm,1.0s
J16K Anvik River 77.69 22 P **P** **22 59 54.2 +1.0**
J16K IAmb IAmb 23 00 04.1
comp=Z,194nm,1.6s
J16K IAMs_20 IAMs_20 23 28 09.6
comp=Z,16µm,21.0s
J16K Anvik River 77.69 22 P **P** **22 59 53.2 0.0**
baz=235
OHAK Old Harbor 77.71 29 P **P** **22 59 53.8 +0.4**
OHAK Old Harbor 77.71 29 P **P** **22 59 54.0 +0.6**
OHAK Old Harbor 77.71 29 P **P** **22 59 52.1 -1.2**
baz=243
F15K North Star Dit 77.75 19 P **P** **22 59 53.8 +0.4**
F15K IAMs_20 IAMs_20 23 27 42.0
comp=Z,15µm,22.0s
F15K North Star Dit 77.75 19 P **P** **22 59 54.8 +1.4**
baz=231
P18K Big Mountain, 77.82 27 P **P** **22 59 56.1 +2.1**
P18K IAmb IAmb 23 01 04.0
comp=Z,164nm,1.9s
P18K IAMs_20 IAMs_20 23 28 50.5
comp=Z,15µm,21.0s
P18K Big Mountain, 77.82 27 P **P** **22 59 52.4 -1.7**
baz=241
M17K Holitna River 77.89 24 IAmb IAmb 23 00 18.7
comp=Z,102nm,1.2s
M17K IAMs_20 IAMs_20 23 27 51.1
comp=Z,12µm,22.0s
M17K Holitna River 77.89 24 P **P** **22 59 54.3 -0.1**
baz=239
H16K Elim 77.89 20 P **P** **22 59 52.7 -1.6**
baz=233,SNR=14
L17K Donlin 77.94 23 P **P** **22 59 55.0 +0.4**
baz=238
PAF Port-aux-Franc 77.98 220 P **P** **22 59 57.0 +2.0**
PAF IAMs_20 IAMs_20 23 31 13.1
comp=Z,17µm,21.0s
PAF Port-aux-Franc 77.98 220 P **P** **22 59 57.1 +2.0**
PAF pmax pmax
comp=Z,352nm,1.9s
PAF MLR MLR
comp=Z,17µm,21.0s
I17K Unalakleet 78.00 21 P **P** **22 59 56.0 +1.1**
I17K IAmb IAmb 23 00 05.8
comp=Z,258nm,1.9s
I17K IAMs_20 IAMs_20 23 29 02.8
comp=Z,13µm,21.0s
I17K Unalakleet 78.00 21 P **P** **22 59 50.7 -4.2**
baz=235,SNR=20
O18K Koktuh Hills 78.06 26 P **P** **22 59 56.0 +0.7**
O18K IAmb IAmb 23 01 20.9
comp=Z,184nm,2.0s
O18K IAMs_20 IAMs_20 23 28 35.6
comp=Z,15µm,22.0s
O18K Koktuh Hills 78.06 26 P **P** **22 59 54.4 -0.9**
baz=241
TKM2 Tokmak 2 78.14 315 P **P** **22 59 58.2 +1.8**
SNR=11
TKM2 Tokmak 2 78.14 315 *i* P **P** **22 59 57.3 +0.9**
TKM2 pmax pmax
comp=Z,49nm,1.3s
N18K Kilae Creek 78.17 25 P **P** **22 59 56.5 +0.5**
N18K IAmb IAmb 23 00 06.1
comp=Z,147nm,1.6s
N18K IAMs_20 IAMs_20 23 29 46.6
comp=Z,17µm,21.0s
N18K Kilae Creek 78.17 25 P **P** **22 59 56.3 +0.3**
baz=240
K17K Iditarod 78.25 23 P **P** **22 59 56.1 -0.2**
K17K IAmb IAmb 23 00 07.0
comp=Z,196nm,1.3s
K17K Iditarod 78.25 23 P **P** **22 59 56.0 -0.2**
baz=238
JASL Jaisalmer 78.28 298 *e*P **P** **22 59 58.8 +1.6**
KDAK Kodiak Island 78.30 29 P **P** **22 59 56.7 0.0**
KDAK IAmb IAmb 23 00 03.7
comp=Z,146nm,1.3s
KDAK Kodiak Island 78.30 29 P **P** **22 59 56.2 -0.5**
baz=244
KDAK Kodiak Island 78.30 29 P **P** **22 59 54.5 -2.2**
comp=Z,34nm,1.1s,baz=244,slow=4.3,SNR=5.4
KDAK LR LR 23 29 33.1
comp=Z,9µm,21.2s,baz=265,slow=32
comp=Z,34nm,1.1s
G16K Koyuk River 78.31 20 P **P** **22 59 57.2 +0.7**
G16K IAmb IAmb 23 00 06.8
comp=Z,175nm,1.6s
G16K IAMs_20 IAMs_20 23 31 01.1
comp=Z,18µm,20.0s
G16K Koyuk River 78.31 20 P **P** **22 59 58.4 +1.8**
baz=233
Q19K Cape Douglas, 78.32 27 P **P** **22 59 55.4 -1.5**
Q19K Cape Douglas, 78.32 27 P **P** **22 59 56.7 -0.1**
baz=242
SVW2 Sparrevohn 78.51 25 P **P** **22 59 58.0 +0.2**
SVW2 Sparrevohn 78.51 25 P **P** **23 00 01.0 +3.2**
comp=Z,64nm,1.3s
KURK Kurchatov 78.60 323 P **P** **22 59 58.3 -0.2**
KURK Kurchatov 78.60 323 IAMs_20 IAMs_20 23 36 15.1
comp=Z,10µm,19.0s
KURK Kurchatov 78.60 323 P **P** **22 59 58.3 -0.2**
KURK pmax pmax
comp=Z,305nm,1.5s
KURK MLR MLR
comp=Z,10µm,19.0s
KURK Kurchatov 78.60 323 P **P** **22 59 57.0 -1.5**
M18K Stony River 78.61 25 P **P** **22 59 58.2 0.0**
baz=240
O19K Port Alsworth 78.61 26 P **P** **22 59 58.7 +0.3**
O19K IAMs_20 IAMs_20 23 29 26.3
comp=Z,17µm,20.0s
O19K Port Alsworth 78.61 26 P **P** **22 59 57.8 -0.5**
baz=242
KURBB Kurchatov Arra 78.62 323 P **P** **22 59 56.8 -1.8**
comp=Z,18nm,1.0s,baz=110,slow=4.6,SNR=29
KURBB LR LR 23 36 30.1
comp=Z,9µm,18.4s,baz=106,slow=37
comp=Z,18nm,1.0s
L18K Granite Mounta 78.62 24 P **P** **22 59 59.8 +1.5**
L18K IAmb IAmb 23 00 06.2
comp=Z,122nm,1.3s
L18K IAMs_20 IAMs_20 23 30 13.4
comp=Z,12µm,20.0s
L18K Granite Mounta 78.62 24 P **P** **22 59 58.8 +0.4**
baz=239
UCH Uchtor 78.72 314 P **P** **23 00 02.5 +2.5**
SNR=21
Q20K Shuyak Island 78.76 28 P **P** **22 59 56.0 -3.2**
baz=244
CHMS Chumysh 78.76 315 P **P** **23 00 00.9 +1.3**
SNR=17
BHUJ Bhuj 78.79 294 *e*P **P** **23 00 01.8 +1.6**
FRU1 Bishkek 78.80 315 P **P** **22 59 59.6 -0.2**
FRU1 IAMs_20 IAMs_20 23 34 26.5
comp=Z,13µm,21.0s
FRU1 Bishkek 78.80 315 P **P** **22 59 59.7 -0.2**
FRU1 pmax pmax
comp=Z,78nm,1.4s
FRU1 MLR MLR
comp=Z,13µm,21.0s
N19K Bonanza Creek 78.84 26 P **P** **23 00 00.5 +0.7**
N19K IAmb IAmb 23 00 07.1
comp=Z,146nm,1.4s
N19K IAMs_20 IAMs_20 23 28 40.2
comp=Z,15µm,21.0s
N19K Bonanza Creek 78.84 26 P **P** **22 59 58.0 -1.7**
baz=241
AAK Ala-Archa 78.84 315 P **P** **23 00 00.8 +0.5**
AAK Ala-Archa 78.84 315 IAMs_20 IAMs_20 23 33 32.8
comp=Z,13µm,22.0s
AAK Ala-Archa 78.84 315 *i* P **P** **23 00 01.3 +1.0**
SNR=11
AAK Ala-Archa 78.84 315 P **P** **23 00 00.8 +0.5**
AAK pmax pmax
comp=Z,146nm,2.0s
AAK MLR MLR
comp=Z,13µm,22.0s
AAK Ala-Archa 78.84 315 P **P** **22 59 58.5 -1.7**
comp=Z,5.7nm,0.8s,baz=151,slow=7.1,SNR=10
AAK LR LR 23 34 20.2
comp=Z,10µm,21.8s,baz=97,slow=35
comp=Z,5.7nm,0.8s
AAK Ala-Archa 78.84 315 P **P** **23 00 00.9 +0.6**
P19K Oil Pt 78.84 27 P **P** **23 00 01.5 +1.8**
P19K IAMs_20 IAMs_20 23 29 09.5
comp=Z,11µm,22.0s
P19K Oil Pt 78.84 27 P **P** **22 59 58.3 -1.4**
baz=243
H17K Granite Mounta 78.88 21 P **P** **23 00 01.2 +1.5**
H17K IAmb IAmb 23 00 10.3
comp=Z,284nm,1.8s
H17K IAMs_20 IAMs_20 23 30 27.0
comp=Z,13µm,21.0s
H17K Granite Mounta 78.88 21 P **P** **22 59 58.7 -1.1**
baz=236
G17K Kiwalik Mounta 78.95 20 P **P** **23 00 01.0 +0.9**
baz=235
SGDS Sogindy 78.97 315 *e*P **P** **22 59 59.7 -1.2**
baz=315
SGDS Sogindy 78.97 315 *e*P **P** **22 59 59.6 -1.2**
USP Ospenovka 79.01 315 P **P** **23 00 01.9 +0.9**
SNR=18
C16K Lisburne Hills 79.18 17 P **P** **23 00 02.0 +0.7**
C16K IAmb IAmb 23 00 11.4
comp=Z,254nm,1.8s
C16K IAMs_20 IAMs_20 23 28 56.8
comp=Z,11µm,21.0s
C16K Lisburne Hills 79.18 17 P **P** **23 00 03.1 +1.8**
baz=230
TTA Tatalina 79.25 23 P **P** **23 00 02.2 +0.2**
TTA Tatalina 79.25 23 P **P** **23 00 03.0 +1.1**
comp=Z,58nm,1.4s
TTA Tatalina 79.25 23 P P 22 59 56.1 -5.8
baz=240,SNR=6.0
TTA Tatalina 79.25 23 P **P** **23 00 02.2 +0.2**
TTA pmax pmax
comp=Z,99nm,1.4s
J18K Innoko River 79.26 23 P **P** **23 00 02.5 +0.6**
J18K IAmb IAmb 23 00 11.9
comp=Z,183nm,1.8s
J18K Innoko River 79.26 23 P **P** **23 00 01.3 -0.5**
baz=239
AML Almayashu 79.29 314 P **P** **23 00 05.0 +2.0**
SNR=22
AML Almayashu 79.29 314 *i* P **P** **23 00 02.4 -0.6**
AML pmax pmax
comp=Z,22nm,1.1s
F17K Baldwin Pennin 79.30 19 P **P** **23 00 02.2 +0.3**
F17K IAMs_20 IAMs_20 23 30 08.0
comp=Z,13µm,22.0s
F17K Baldwin Pennin 79.30 19 P **P** **22 59 59.9 -2.1**
baz=234
O20K Slope Mountain 79.31 27 P **P** **23 00 00.3 -2.0**
baz=243
L19K White Mountain 79.35 24 IAmb IAmb 23 00 09.9
comp=Z,145nm,1.2s
L19K IAMs_20 IAMs_20 23 30 37.6
comp=Z,13µm,21.0s
L19K White Mountain 79.35 24 P **P** **23 00 02.3 -0.1**
baz=241
EKS2 Erkin-Say 79.36 314 P **P** **23 00 04.9 +1.9**
SNR=5.7
M19K Big River Lodg 79.40 25 P **P** **23 00 04.3 +1.6**
M19K IAmb IAmb 23 00 13.5
comp=Z,284nm,1.9s
M19K IAMs_20 IAMs_20 23 30 28.1
comp=Z,17µm,21.0s
M19K Big River Lodg 79.40 25 P **P** **23 00 03.0 +0.3**
baz=241
RSO Redoubt South 79.43 26 P **P** **23 00 04.0 +0.9**
E17K Hotham Inlet 79.49 18 P **P** **23 00 02.5 -0.5**
baz=233,SNR=81
H18K Honhosa River 79.55 21 P **P** **23 00 04.7 +1.3**
H18K IAMs_20 IAMs_20 23 30 57.9
comp=Z,10µm,21.0s
H18K Honhosa River 79.55 21 P **P** **23 00 03.8 +0.4**
baz=237
HOM Homer 79.57 27 IAMs_20 IAMs_20 23 31 53.5
comp=Z,11µm,20.0s
HOM Homer 79.57 27 P **P** **23 00 00.7 -2.9**
baz=244
ARSB Arslanbob 79.60 313 P **P** **23 00 05.3 +1.0**
ARSB Arslanbob 79.60 313 P **P** **23 00 05.4 +1.0**
ARSB pmax pmax
comp=Z,122nm,2.0s
ARSB MLR MLR
comp=Z,2µm,21.0s
CNPM China Poot 79.70 27 P **P** **23 00 05.3 +1.0**
CNPM IAmb IAmb 23 00 11.2
comp=Z,263nm,1.3s
CNPM IAMs_20 IAMs_20 23 30 47.0
comp=Z,14µm,21.0s
BTLS Baital 79.80 317 *e*P **P** **23 00 04.0 -1.2**
baz=317
BTLS Baital 79.80 317 *e*P **P** **23 00 04.0 -1.2**
G18K Tagagawik 79.85 20 P **P** **23 00 06.1 +1.1**
G18K IAmb IAmb 23 00 15.0
comp=Z,270nm,1.9s
G18K IAMs_20 IAMs_20 23 31 48.7
comp=Z,17µm,20.0s
G18K Tagagawik 79.85 20 P **P** **23 00 04.6 -0.5**
baz=237
GCSA Galena City Sc 79.86 21 P **P** **23 00 05.9 +0.9**
baz=238
L20K Farewell, AK 79.89 24 P **P** **23 00 07.0 +1.6**
baz=242
F18K Selawik 79.91 19 P **P** **23 00 04.4 -0.9**
baz=236
M20K Styx River 79.92 25 P **P** **23 00 06.6 +1.0**
M20K IAmb IAmb 23 00 15.9
comp=Z,262nm,1.4s
M20K IAMs_20 IAMs_20 23 30 53.7
comp=Z,17µm,21.0s
M20K Styx River 79.92 25 P **P** **23 00 04.9 -0.7**
baz=242
C17K DeLong Mountai 79.93 17 P **P** **23 00 07.2 +1.7**
baz=232
J19K Poorman 79.94 22 P **P** **23 00 06.2 +0.6**
J19K IAmb IAmb 23 00 16.1
comp=Z,206nm,1.6s
J19K IAMs_20 IAMs_20 23 30 45.3
comp=Z,17µm,21.0s
J19K Poorman 79.94 22 P **P** **23 00 05.9 +0.4**
baz=240
BRLK Bradley Lake 79.96 27 P **P** **23 00 06.1 +0.3**
BRLK IAmb IAmb 23 00 38.8
comp=Z,258nm,1.7s
N20K Mount Spurr 80.00 26 P **P** **23 00 08.0 +2.0**
baz=243
BRSE Bradley Lake S 80.02 27 P **P** **23 00 03.7 -2.4**
baz=245,SNR=6.1
E18K Tukpahlearik C 80.08 18 P **P** **23 00 06.9 +0.7**
E18K IAmb IAmb 23 00 21.8
comp=Z,142nm,1.4s
E18K IAMs_20 IAMs_20 23 30 08.8
comp=Z,12µm,22.0s
E18K Tukpahlearik C 80.08 18 P **P** **23 00 04.1 -2.1**
baz=235
K20K Telida 80.23 23 P **P** **23 00 08.5 +1.3**
K20K IAmb IAmb 23 00 17.8
comp=Z,252nm,1.8s
K20K IAMs_20 IAMs_20 23 30 20.0
comp=Z,13µm,21.0s
K20K Telida 80.23 23 P **P** **23 00 07.5 +0.3**
baz=241
CAPN Captain Cook N 80.27 26 P **P** **23 00 09.3 +1.9**
CAPN IAMs_20 IAMs_20 23 30 06.2
comp=Z,13µm,21.0s
CAPN Captain Cook N 80.27 26 P **P** **23 00 05.0 -2.3**
baz=244
H19K Roundabout Mou 80.43 21 P **P** **23 00 09.1 +1.0**
H19K IAmb IAmb 23 00 18.5
comp=Z,304nm,1.5s
H19K Roundabout Mou 80.43 21 P **P** **23 00 08.1 0.0**
baz=239
G19K Purcell Mounta 80.53 20 P **P** **23 00 09.2 +0.5**
G19K Purcell Mounta 80.53 20 P **P** **23 00 06.6 -2.0**
baz=238
J20K Nowinta River 80.60 23 P **P** **23 00 10.2 +1.1**
J20K IAmb IAmb 23 00 19.7
comp=Z,244nm,1.6s
J20K IAMs_20 IAMs_20 23 30 52.6
comp=Z,18µm,21.0s
J20K Nowinta River 80.60 23 P **P** **23 00 06.6 -2.5**
baz=241,SNR=40
C18K Utukok River 80.62 17 P **P** **23 00 09.5 +0.3**
C18K IAmb IAmb 23 00 19.2
comp=Z,286nm,1.9s
C18K IAMs_20 IAMs_20 23 30 47.8
comp=Z,13µm,21.0s
C18K Utukok River 80.62 17 P **P** **23 00 08.2 -1.0**
baz=234
SKT Skwentna 80.64 25 P **P** **23 00 10.0 +0.6**
SKT IAMs_20 IAMs_20 23 30 21.8
comp=Z,17µm,21.0s
SKT Skwentna 80.64 25 P **P** **23 00 07.5 -1.9**
baz=244
F19K Shaleruckik Mo 80.66 19 P **P** **23 00 09.6 +0.3**
F19K IAmb IAmb 23 00 43.8
comp=Z,175nm,1.6s
F19K IAMs_20 IAMs_20 23 31 00.1
comp=Z,18µm,22.0s
F19K Shaleruckik Mo 80.66 19 P **P** **23 00 07.3 -2.0**
baz=237
SUA Susitna One 80.75 26 P **P** **23 00 10.3 +0.2**
SUA IAMs_20 IAMs_20 23 30 54.8
comp=Z,13µm,20.0s
SUA Susitna One 80.75 26 P **P** **23 00 10.6 +0.4**
baz=245
SEW Seward 80.76 27 P **P** **23 00 10.1 +0.1**
baz=246
PPLA Purkeypile 80.78 24 P **P** **23 00 09.9 -0.3**
baz=243
I20K Naaghedeneel 80.78 22 P **P** **23 00 11.1 +1.1**
I20K IAmb IAmb 23 00 20.5

I20K	comp=Z,190nm,1.2s				IAMs_20	IAMs_20	23 30 39.2		
I20K	comp=Z,17µm,21.0s **Naaghedeneel** baz=241,SNR=6.8	**80.78**	**22**	P	**P**		**23 00 09.7**	**-0.3**	
O22K	**Cooper Landing**	**80.79**	**27**	P	**P**		**23 00 11.1**	**+0.9**	
O22K				IAmb	IAmb		23 00 29.6		
O22K	comp=Z,164nm,1.3s				IAMs_20	IAMs_20	23 30 44.9		
O22K	comp=Z,17µm,21.0s **Cooper Landing** baz=246	**80.79**	**27**	P	**P**		**23 00 07.8**	**-2.3**	
FIS	**Fire Island**	**80.84**	**26**	P	**P**		**23 00 10.9**	**+0.5**	
FIS				IAMs_20	IAMs_20		23 30 04.3		
B18K	comp=Z,14µm,22.0s **Kokolik River** baz=233	**80.87**	**17**	P	**P**		**23 00 12.2**	**+1.8**	
BTK	**Batken**	**80.91**	**311**	P	**P**		**23 00 11.6**	**+0.2**	
BTK				IAmb	IAmb		23 00 17.9		
BTK	comp=Z,232nm,1.9s **Batken**	**80.91**	**311**	P	**P**		**23 00 11.6**	**+0.2**	
BTK	comp=Z,232nm,1.9s			pmax	pmax				
H20K	**Anotleneega Mo** baz=240	**80.97**	**21**	P	**P**		**23 00 11.8**	**+0.8**	
RC01	**Rabbit Creek A**	**81.04**	**26**	P	**P**		**23 00 11.8**	**+0.3**	
RC01				IAmb	IAmb		23 00 17.9		
RC01	comp=Z,169nm,1.4s				IAMs_20	IAMs_20	23 31 15.3		
RC01	comp=Z,11µm,20.0s **Rabbit Creek A** baz=246	**81.04**	**26**	P	**P**		**23 00 09.1**	**-2.4**	
CAST	**Castle Rocks**	**81.05**	**24**	P	**P**		**23 00 11.6**	**0.0**	
CAST				IAmb	IAmb		23 00 18.1		
CAST	comp=Z,181nm,1.7s				IAMs_20	IAMs_20	23 30 46.7		
CAST	comp=Z,11µm,22.0s **Castle Rocks** baz=243,SNR=13	**81.05**	**24**	P	**P**		**23 00 09.6**	**-1.9**	
KBU	**Kabul Universi**	**81.13**	**306**	P	**P**		**23 00 13.0**	**+0.2**	
KBU				S	**S**		**23 10 18.1**	**-3.6**	
DZA	**Taraz**	**81.17**	**314**	*e*P	**P**		**23 00 11.7**	**-0.9**	
DZA	comp=Z,59nm,1.2s,baz=314 **Taraz**	**81.17**	**314**	*e*P	**P**		**23 00 11.6**	**-1.0**	
DZA	comp=Z,59nm,1.2s			pmax	pmax				
CHUM	**Lake Minchumin** baz=243,SNR=33	**81.17**	**23**	P	**P**		**23 00 11.3**	**-0.8**	
E19K	**Redstone River**	**81.18**	**19**	P	**P**		**23 00 13.1**	**+0.9**	
E19K				IAmb	IAmb		23 00 19.5		
E19K	comp=Z,107nm,0.9s				IAMs_20	IAMs_20	23 31 05.9		
E19K	comp=Z,18µm,22.0s **Redstone River** baz=238	**81.18**	**19**	P	**P**		**23 00 12.1**	**-0.1**	
KBL	**Kabul**	**81.21**	**306**	P	**P**		**23 00 12.7**	**-0.6**	
KBL	**Kabul**	**81.21**	**306**	P	**P**		**23 00 12.7**	**-0.6**	
KBL				pmax	pmax				
KBL	comp=Z,21nm,0.9s			MLR	MLR				
KBL	comp=Z,4µm,21.0s **Kabul** SNR=17	**81.21**	**306**	P	**P**		**23 00 13.2**	**-0.1**	
CUT	**Chulitna**	**81.36**	**25**	P	**P**		**23 00 13.1**	**0.0**	
CUT				IAmb	IAmb		23 00 18.9		
CUT	comp=Z,220nm,1.4s **Chulitna** baz=245	**81.36**	**25**	P	**P**		**23 00 10.8**	**-2.3**	
C19K	**Lookout Ridge**	**81.36**	**17**	P	**P**		**23 00 14.2**	**+1.1**	
C19K				IAMs_20	IAMs_20		23 33 35.4		
C19K	comp=Z,12µm,20.0s **Lookout Ridge** baz=235	**81.36**	**17**	P	**P**		**23 00 11.5**	**-1.6**	
D19K	**Kuna River**	**81.46**	**18**	P	**P**		**23 00 14.0**	**+0.4**	
D19K				IAMs_20	IAMs_20		23 34 35.1		
D19K	comp=Z,13µm,20.0s **Kuna River** baz=237	**81.46**	**18**	P	**P**		**23 00 14.4**	**+0.8**	
F20K	**Avaraart Lake**	**81.46**	**20**	P	**P**		**23 00 14.8**	**+1.1**	
F20K				IAmb	IAmb		23 00 23.4		
F20K	comp=Z,124nm,1.2s **Avaraart Lake** baz=239	**81.46**	**20**	P	**P**		**23 00 15.3**	**+1.7**	
PMR	**Palmer**	**81.51**	**26**	P	**P**		**23 00 14.6**	**+0.7**	
PMR				IAmb	IAmb		23 00 20.2		
PMR	comp=Z,115nm,1.3s **Palmer**	**81.51**	**26**	P	**P**		**23 00 14.0**	**+0.1**	
PMR	comp=Z,70nm,1.4s **Palmer** baz=246,SNR=13	**81.51**	**26**	P	**P**		**23 00 11.6**	**-2.3**	
PMR	**Palmer**	**81.51**	**26**	P	**P**		**23 00 14.6**	**+0.7**	
PMR				pmax	pmax				
A19K	comp=Z,115nm,1.3s **Wainwright** baz=234	**81.58**	**16**	P	**P**		**23 00 15.5**	**+1.3**	
KTH	**Kantishna Hill**	**81.58**	**24**	P	**P**		**23 00 13.8**	**-0.6**	
KTH				IAmb	IAmb		23 00 23.3		
KTH	comp=Z,154nm,1.4s				IAMs_20	IAMs_20	23 31 14.6		
IMAR	comp=Z,14µm,21.0s **Indian Mountai**	**81.62**	**21**	P	**P**		**23 00 14.8**	**+0.3**	
P23K	**Montague Islan** baz=248	**81.66**	**28**	P	**P**		**23 00 14.6**	**-0.2**	
GHO	**Glory Hole Cre**	**81.67**	**26**	P	**P**		**23 00 15.3**	**+0.4**	
GHO				IAmb	IAmb		23 00 48.6		
GHO	comp=Z,279nm,1.8s				IAMs_20	IAMs_20	23 30 41.1		
KNK	comp=Z,12µm,21.0s **Knik Glacier**	**81.73**	**26**	P	**P**		**23 00 15.5**	**+0.3**	
KNK				IAmb	IAmb		23 00 49.2		
KNK	comp=Z,263nm,1.6s				IAMs_20	IAMs_20	23 31 27.8		
KNK	comp=Z,14µm,20.0s **Knik Glacier** baz=247	**81.73**	**26**	P	**P**		**23 00 13.4**	**-1.8**	
ROCAM	**Rodrigues Isla**	**81.77**	**251**	P	**P**		**23 00 15.8**	**-0.4**	
TRF	**Thorofare Moun**	**81.79**	**24**	P	**P**		**23 00 16.0**	**+0.3**	
TRF				IAMs_20	IAMs_20		23 32 15.2		
TRF	comp=Z,15µm,21.0s **Thorofare Moun** baz=245	**81.79**	**24**	P	**P**		**23 00 13.6**	**-2.1**	
BPAW	**Bear Paw Mtn.**	**81.80**	**23**	P	**P**		**23 00 15.3**	**-0.2**	
BPAW				IAmb	IAmb		23 00 23.9		
BPAW	comp=Z,131nm,1.7s				IAMs_20	IAMs_20	23 30 26.2		
BPAW	comp=Z,11µm,21.0s **Bear Paw Mtn.** baz=244,SNR=6.8	**81.80**	**23**	P	**P**		**23 00 14.6**	**-0.9**	
KK31	**Karatay Array**	**81.80**	**314**	P	**P**		**23 00 15.3**	**-0.7**	
KK31	**Karatay Array**	**81.80**	**314**	P	**P**		**23 00 15.3**	**-0.7**	
KK31				pmax	pmax				
KKAR	comp=Z,74nm,1.3s **Karatay Array**	**81.80**	**314**	P	**P**		**23 00 15.1**	**-0.8**	
KKAR	**Karatay Array**	**81.80**	**314**	P	**P**		**23 00 15.6**	**-0.4**	
KKAR				IAmb	IAmb		23 00 21.6		
KKAR	comp=Z,73nm,1.2s **Karatay Array**	**81.80**	**314**	P	**P**		**23 00 15.6**	**-0.4**	
KKAR	comp=Z,73nm,1.3s			pmax	pmax				
H21K	**Melozitna Rive**	**81.81**	**22**	P	**P**		**23 00 15.8**	**+0.3**	
H21K				IAMs_20	IAMs_20		23 30 47.5		
H21K	comp=Z,13µm,21.0s **Melozitna Rive** baz=242	**81.81**	**22**	P	**P**		**23 00 15.1**	**-0.4**	
I21K	**Tanana**	**81.89**	**22**	IAmb	IAmb		23 00 26.4		
I21K	comp=Z,247nm,1.6s **Tanana** baz=243	**81.89**	**22**	P	**P**		**23 00 17.1**	**+1.2**	
E20K	**Nigu River**	**81.94**	**19**	P	**P**		**23 00 16.0**	**-0.2**	
SML	baz=239 **Sawmill**	**81.94**	**26**	IAMs_20	IAMs_20		23 29 45.3		
SML	comp=Z,10µm,22.0s **Sawmill** baz=247,SNR=13	**81.94**	**26**	P	**P**		**23 00 15.0**	**-1.4**	
Q23K	**Middleton Isla** baz=249	**81.95**	**29**	P	**P**		**23 00 14.7**	**-1.6**	
G21K	**Allakaket**	**81.96**	**21**	IAmb	IAmb		23 00 25.6		
G21K	comp=Z,112nm,1.4s				IAMs_20	IAMs_20	23 32 54.5		
G21K	comp=Z,13µm,21.0s **Allakaket** baz=242	**81.96**	**21**	P	**P**		**23 00 17.9**	**+1.6**	
BRZS	**Berezniki**	**82.00**	**321**	*e*P	**P**		**23 00 14.9**	**-2.0**	
BRZS	comp=Z,67nm,1.9s,baz=321 **Berezniki**	**82.00**	**321**	*e*P	**P**		**23 00 14.9**	**-2.0**	
BRZS	comp=Z,67nm,1.9s			pmax	pmax				
SIMJ	**Simiganj**	**82.00**	**310**	P	**P**		**23 00 15.7**	**-1.7**	
SIMJ				IAMs_20	IAMs_20		23 36 43.5		
D20K	comp=Z,11µm,22.0s **Etivluk River** baz=238	**82.05**	**18**	P	**P**		**23 00 18.8**	**+2.1**	
M23K	**Glacier View**	**82.20**	**26**	P	**P**		**23 00 15.3**	**-2.4**	
HIN	baz=247,SNR=5.3 **Hinchinbrook I**	**82.23**	**28**	IAMs_20	IAMs_20		23 32 36.0		
WAT1	comp=Z,11µm,21.0s **Susitna Watana** baz=246	**82.26**	**25**	P	**P**		**23 00 15.0**	**-2.9**	
MLY	**Manley**	**82.30**	**23**	IAmb	IAmb		23 00 27.1		
MLY	comp=Z,111nm,1.3s				IAMs_20	IAMs_20	23 31 34.5		
MLY	comp=Z,17µm,21.0s **Manley** baz=244,SNR=26	**82.30**	**23**	P	**P**		**23 00 16.2**	**-2.0**	
F21K	**Alatna River**	**82.31**	**20**	P	**P**		**23 00 19.0**	**+0.8**	
F21K	**Alatna River** baz=241	**82.31**	**20**	P	**P**		**23 00 17.2**	**-1.0**	
SCM	**Sheep Creek Mo**	**82.39**	**26**	P	**P**		**23 00 18.6**	**-0.1**	
SCM				IAMs_20	IAMs_20		23 31 49.2		
SCM	comp=Z,14µm,21.0s **Sheep Creek Mo** baz=248	**82.39**	**26**	P	**P**		**23 00 18.7**	**-0.1**	
SCM	**Sheep Creek Mo**	**82.39**	**26**	P	**P**		**23 00 18.6**	**-0.1**	
SCM				pmax	pmax				
SCM	comp=Z,337nm,1.7s			MLR	MLR				
BWN	comp=Z,14µm,21.0s **Browne**	**82.43**	**24**	IAMs_20	IAMs_20		23 31 51.8		
H22K	comp=Z,12µm,22.0s **Ishtalitna Cre** baz=244	**82.44**	**22**	P	**P**		**23 00 18.7**	**-0.2**	
MCK	**McKinley**	**82.46**	**24**	P	**P**		**23 00 19.0**	**0.0**	
MCK	**McKinley** baz=246,SNR=17	**82.46**	**24**	P	**P**		**23 00 16.6**	**-2.4**	
MCK	**McKinley**	**82.46**	**24**	P	**P**		**23 00 19.0**	**0.0**	
MCK	comp=Z,366nm,1.7s			pmax	pmax				
WAT6	**Susitna Watana** baz=247	**82.50**	**25**	P	**P**		**23 00 17.4**	**-2.0**	
B20K	**Meade River**	**82.57**	**17**	IAMs_20	IAMs_20		23 31 51.4		
B20K	comp=Z,10µm,22.0s **Meade River** baz=238	**82.57**	**17**	P	**P**		**23 00 19.8**	**+0.4**	
NRIK	**Noril'sk**	**82.62**	**342**	P	**P**		**23 00 18.4**	**-1.3**	
NRIK				IAmb	IAmb		23 00 32.3		
NRIK	comp=Z,97nm,1.1s **Noril'sk**	**82.62**	**342**	*ce*P	**P**		**23 00 18.8**	**-0.9**	
NRIK	comp=Z,166nm,1.6s			pmax	pmax				
NRIK	comp=Z,7µm,17.0s			MLR	MLR				
NRIK	**Noril'sk** comp=Z,22nm,0.8s,baz=117,slow=4.5,SNR=33	**82.62**	**342**	P	**P**		**23 00 17.6**	**-2.1**	
NRIK	comp=Z,9µm,21.7s,baz=120,slow=35 comp=Z,22nm,0.8s			LR	LR		23 35 32.1		
EYAK	**Cordova Ski Ar**	**82.63**	**28**	P	**P**		**23 00 20.5**	**+0.7**	
EYAK				IAmb	IAmb		23 00 53.9		
EYAK	comp=Z,225nm,1.8s **Cordova Ski Ar** baz=249	**82.63**	**28**	P	**P**		**23 00 20.9**	**+1.0**	
NEA2	**Nenana**	**82.76**	**23**	IAmb	IAmb		23 00 29.3		
NEA2	comp=Z,236nm,1.8s				IAMs_20	IAMs_20	23 31 04.8		
NEA2	comp=Z,11µm,21.0s **Nenana** baz=246	**82.76**	**23**	P	**P**		**23 00 20.8**	**+0.3**	
DIV	**Divide**	**82.83**	**27**	P	**P**		**23 00 21.1**	**+0.1**	
C21K	**Knifeblade Rid** baz=240,SNR=28	**82.84**	**18**	P	**P**		**23 00 21.7**	**+0.9**	
DHY	**Denali Highway**	**82.85**	**25**	IAMs_20	IAMs_20		23 32 14.1		
DHY	comp=Z,16µm,21.0s **Denali Highway** baz=248,SNR=20	**82.85**	**25**	P	**P**		**23 00 21.4**	**+0.2**	
G22K	**Bettles**	**82.86**	**21**	P	**P**		**23 00 23.0**	**+2.1**	
I23K	baz=243 **Minto, Yukon-K**	**82.88**	**23**	IAMs_20	IAMs_20		23 33 05.8		
I23K	comp=Z,14µm,20.0s **Minto, Yukon-K** baz=246,SNR=17	**82.88**	**23**	P	**P**		**23 00 21.8**	**+0.7**	
KLU	**Klutina**	**82.89**	**27**	P	**P**		**23 00 22.4**	**+1.1**	
KLU				IAmb	IAmb		23 00 55.8		
KLU	comp=Z,169nm,1.5s				IAMs_20	IAMs_20	23 31 38.4		
KLU	comp=Z,15µm,21.0s **Klutina** baz=249	**82.89**	**27**	P	**P**		**23 00 20.5**	**-0.8**	
M24K	**Tolsona, Glenn**	**83.00**	**26**	P	**P**		**23 00 23.0**	**+1.1**	
M24K				IAMs_20	IAMs_20		23 32 09.3		
M24K	comp=Z,17µm,21.0s **Tolsona, Glenn** baz=249	**83.00**	**26**	P	**P**		**23 00 22.0**	**+0.1**	
KAIM	**Kayak Island** baz=251	**83.04**	**28**	P	**P**		**23 00 24.0**	**+1.9**	
RAGM	**Ragged Mountai**	**83.08**	**28**	IAMs_20	IAMs_20		23 32 27.4		
WRH	comp=Z,15µm,20.0s **Wood River Hil**	**83.10**	**24**	P	**P**		**23 00 22.5**	**+0.3**	
MDM	**Murphy Dome**	**83.24**	**23**	IAmb	IAmb		23 00 31.8		
MDM	comp=Z,150nm,1.6s				IAMs_20	IAMs_20	23 31 53.4		
G23K	comp=Z,11µm,21.0s **Bananza Creek**	**83.29**	**21**	IAmb	IAmb		23 00 32.7		
G23K	comp=Z,91nm,1.3s				IAMs_20	IAMs_20	23 31 44.6		
G23K	comp=Z,13µm,22.0s **Bananza Creek** baz=245	**83.29**	**21**	P	**P**		**23 00 25.2**	**+2.0**	
BMRM	**Bremner River**	**83.31**	**27**	P	**P**		**23 00 23.6**	**+0.1**	
BMRM				IAmb	IAmb		23 00 33.3		
BMRM	comp=Z,182nm,1.5s **Bremner River** baz=250	**83.31**	**27**	P	**P**		**23 00 21.2**	**-2.3**	
COLA	**College**	**83.35**	**23**	P	**P**		**23 00 23.5**	**0.0**	
COLA	**College**	**83.35**	**23**	IAMs_20	IAMs_20		23 32 06.3		
COLA	comp=Z,10µm,21.0s **College**	**83.35**	**23**	P	**P**		**23 00 22.6**	**-0.9**	
COLA	comp=Z,41nm,1.7s **College** baz=247	**83.35**	**23**	P	**P**		**23 00 20.6**	**-2.9**	
COLA	**College**	**83.35**	**23**	P	**P**		**23 00 23.5**	**0.0**	
COLA	comp=Z,364nm,2.0s			pmax	pmax				
COLA	comp=Z,10µm,21.0s			MLR	MLR				
D22K	**Ayikyak River**	**83.37**	**19**	IAMs_20	IAMs_20		23 32 40.5		
D22K	comp=Z,14µm,21.0s **Ayikyak River** baz=242,SNR=46	**83.37**	**19**	P	**P**		**23 00 21.6**	**-2.0**	
A21K	**Barrow** baz=238	**83.43**	**16**	P	**P**		**23 00 24.7**	**+0.9**	
COLD	**Coldfoot**	**83.45**	**21**	P	**P**		**23 00 25.3**	**+1.3**	
COLD				IAmb	IAmb		23 00 33.7		
COLD	comp=Z,109nm,1.2s **Coldfoot** baz=244	**83.45**	**21**	P	**P**		**23 00 23.2**	**-0.9**	
N25K	**Chitina, Valde**	**83.53**	**27**	P	**P**		**23 00 24.3**	**-0.3**	
N25K				IAmb	IAmb		23 00 49.5		
N25K	comp=Z,196nm,1.9s				IAMs_20	IAMs_20	23 36 34.2		
N25K	comp=Z,9µm,20.0s **Chitina, Valde** baz=250	**83.53**	**27**	P	**P**		**23 00 24.7**	**+0.1**	
HDA	**Harding Lake**	**83.53**	**24**	IAMs_20	IAMs_20		23 32 25.2		
HDA	comp=Z,13µm,22.0s **Harding Lake** baz=248	**83.53**	**24**	P	**P**		**23 00 24.8**	**+0.3**	
BERG	**Berg Lake**	**83.53**	**28**	P	**P**		**23 00 26.1**	**+1.5**	
BERG				IAMs_20	IAMs_20		23 35 29.5		
HARP	comp=Z,13µm,19.0s **HAARP** baz=250	**83.55**	**26**	P	**P**		**23 00 25.4**	**+0.7**	
POKR	**Poker Plat Res**	**83.61**	**23**	P	**P**		**23 00 26.0**	**+1.1**	
POKR				IAmb	IAmb		23 00 33.4		
POKR	comp=Z,79nm,1.4s				IAMs_20	IAMs_20	23 32 15.2		
POKR	**Poker Plat Res** comp=Z,12µm,21.0s	**83.61**	**23**	IAMs_20	IAMs_20		23 32 15.2		
POKR	**Poker Plat Res** baz=247	**83.61**	**23**	P	**P**		**23 00 25.9**	**+1.1**	
PAX	**Paxson**	**83.62**	**25**	P	**P**		**23 00 27.2**	**+2.1**	
PAX				IAmb	IAmb		23 00 33.8		
PAX	comp=Z,85nm,1.5s **Paxson** baz=249	**83.62**	**25**	P	**P**		**23 00 24.2**	**-0.8**	
PAX	**Paxson**	**83.62**	**25**	P	**P**		**23 00 27.2**	**+2.1**	
PAX	comp=Z,85nm,1.5s			pmax	pmax				
IL31		**83.69**	**23**	P	**P**		**23 00 23.9**	**-1.4**	
IL31	comp=Z,62nm,1.1s			IAmb	IAmb		23 00 32.8		
ILAR	**Eielson Array**	**83.69**	**23**	P	**P**		**23 00 24.5**	**-0.8**	
ILAR	**Eielson Array**	**83.69**	**23**	P	**P**		**23 00 24.5**	**-0.8**	
ILAR	**Eielson Array**	**83.69**	**23**	P	**P**		**23 00 22.9**	**-2.4**	
ILAR	comp=Z,12nm,1.0s,baz=256,slow=5.1,SNR=39 comp=Z,8µm,21.6s,baz=248,slow=32 comp=Z,12nm,1.0s			LR	LR		23 32 19.1		
IL03	**Eielson Array**	**83.71**	**23**	P	**P**		**23 00 25.1**	**-0.3**	
A22K	**Sinclair Lake** baz=240	**83.72**	**16**	P	**P**		**23 00 27.4**	**+2.1**	
H24K	**Noodor Dome**	**83.72**	**22**	P	**P**		**23 00 26.0**	**+0.5**	
H24K	comp=Z,134nm,1.5s			IAmb	IAmb		23 00 35.3		
H24K	**Noodor Dome** baz=247	**83.72**	**22**	P	**P**		**23 00 28.3**	**+2.8**	
K24K	**Donnelly Dome** baz=249	**83.78**	**25**	P	**P**		**23 00 26.8**	**+0.9**	
GLB	**Gilahina Butte**	**83.83**	**27**	P	**P**		**23 00 26.3**	**+0.1**	
GLB	comp=Z,110nm,1.4s			IAmb	IAmb		23 00 35.1		
GLB	comp=Z,11µm,20.0s			IAMs_20	IAMs_20		23 33 51.1		
B22K	**Teshekpuk Lake**	**83.84**	**17**	IAmb	IAmb		23 00 35.8		
B22K	comp=Z,164nm,1.4s			IAMs_20	IAMs_20		23 36 35.2		
B22K	comp=Z,14µm,20.0s **Teshekpuk Lake** baz=241	**83.84**	**17**	P	**P**		**23 00 28.0**	**+2.1**	
SNH	**Sunshine Point**	**83.88**	**28**	IAMs_20	IAMs_20		23 32 18.5		
VRDI	comp=Z,11µm,21.0s **Verde Repeater**	**83.92**	**27**	P	**P**		**23 00 26.5**	**-0.3**	
VRDI				IAmb	IAmb		23 00 36.5		
VRDI	comp=Z,182nm,1.7s			IAMs_20	IAMs_20		23 33 29.6		
E23K	comp=Z,12µm,21.0s **Chandalar** baz=245	**84.01**	**20**	P	**P**		**23 00 28.9**	**+1.9**	
D23K	**Nanushuk River** baz=244	**84.05**	**19**	P	**P**		**23 00 30.0**	**+2.9**	
MAW	**Mawson**	**84.06**	**202**	LR	LR		23 34 58.1		
RIDG	comp=Z,7µm,21.4s,baz=78,slow=34 **Independent Ri** baz=250,SNR=15	**84.15**	**25**	P	**P**		**23 00 26.4**	**-1.3**	
BVAR	**Borovoye Array**	**84.15**	**324**	P	**P**		**23 00 26.5**	**-1.4**	
BVAR	comp=Z,14nm,0.7s,baz=104,slow=5.6,SNR=53 comp=Z,3µm,21.7s,baz=93,slow=36 comp=Z,14nm,0.7s			LR	LR		23 37 40.5		
MCARA	**McCarthy VSAT**	**84.17**	**27**	P	**P**		**23 00 27.2**	**-0.6**	
MCARA	comp=Z,82nm,1.3s			IAmb	IAmb		23 01 30.9		
MCARA	comp=Z,11µm,20.0s			IAMs_20	IAMs_20		23 34 09.2		
MCARA	**McCarthy VSAT** baz=252	**84.17**	**27**	P	**P**		**23 00 28.7**	**+0.9**	
G24K	**Hadweenzic Riv**	**84.21**	**22**	IAmb	IAmb		23 00 35.1		
G24K	comp=Z,62nm,1.1s			IAMs_20	IAMs_20		23 32 57.0		
G24K	comp=Z,16µm,22.0s **Hadweenzic Riv** baz=247	**84.21**	**22**	P	**P**		**23 00 29.9**	**+2.0**	
BRVK	**Borovoye**	**84.22**	**324**	P	**P**		**23 00 27.0**	**-1.3**	
BRVK	**Borovoye**	**84.22**	**324**	*ce*P	**P**		**23 00 28.1**	**-0.2**	
BRVK	comp=Z,200nm,1.6s			pmax	pmax				
BRVK	comp=Z,4µm,19.0s			MLR	MLR				
BRVK	**Borovoye**	**84.22**	**324**	P	**P**		**23 00 27.5**	**-0.8**	
J25K	**Salcha River,** comp=Z,10µm,20.0s	**84.24**	**24**	IAMs_20	IAMs_20		23 32 46.0		
J25K	**Salcha River,** baz=249	**84.24**	**24**	P	**P**		**23 00 30.1**	**+1.9**	
MENT	**Mentasta**	**84.36**	**26**	P	**P**		**23 00 29.7**	**+0.9**	
MENT				IAmb	IAmb		23 00 38.7		
MENT	comp=Z,128nm,1.7s **Mentasta**	**84.36**	**26**	P	**P**		**23 00 31.2**	**+2.4**	
F24K	comp=Z,41nm,1.2s **Squaw Lake**	**84.39**	**21**	IAMs_20	IAMs_20		23 33 49.6		
F24K	comp=Z,14µm,21.0s **Squaw Lake** baz=247	**84.39**	**21**	P	**P**		**23 00 30.8**	**+1.9**	
M26K	**Nabesna, AK**	**84.50**	**26**	P	**P**		**23 00 30.6**	**+1.0**	
M26K				IAMs_20	IAMs_20		23 32 32.9		
M26K	comp=Z,17µm,22.0s **Nabesna, AK** baz=252	**84.50**	**26**	P	**P**		**23 00 30.9**	**+1.4**	
PRP	**Porcupine Dome**	**84.50**	**23**	P	**P**		**23 00 30.3**	**+0.7**	
PRP	comp=Z,10µm,22.0s			IAMs_20	IAMs_20		23 32 51.8		
PRP	**Porcupine Dome** baz=249	**84.50**	**23**	P	**P**		**23 00 27.1**	**-2.5**	
L26K	**Log Cabin Wild**	**84.55**	**26**	P	**P**		**23 00 30.6**	**+0.9**	
L26K				IAmb	IAmb		23 00 39.6		
L26K	comp=Z,204nm,1.9s **Log Cabin Wild** baz=251	**84.55**	**26**	P	**P**		**23 00 28.0**	**-1.8**	
SCRK	**Sand Creek**	**84.59**	**25**	P	**P**		**23 00 31.0**	**+0.9**	
SCRK				IAmb	IAmb		23 00 39.6		
SCRK	comp=Z,129nm,1.7s **Sand Creek** baz=251,SNR=12	**84.59**	**25**	P	**P**		**23 00 30.5**	**+0.4**	
BARN	**Barnard Glacie**	**84.69**	**28**	P	**P**		**23 00 30.8**	**+0.1**	
BARN				IAmb	IAmb		23 00 38.0		
D24K	comp=Z,139nm,1.4s **Happy Valley**	**84.73**	**19**	IAMs_20	IAMs_20		23 33 33.7		
D24K	comp=Z,16µm,21.0s **Happy Valley** baz=246	**84.73**	**19**	P	**P**		**23 00 31.2**	**+0.7**	
G25K	**Bearman Lake** baz=248	**84.74**	**22**	P	**P**		**23 00 31.7**	**+1.1**	
CTG	**Chitna Glacier** baz=253	**84.82**	**28**	P	**P**		**23 00 31.2**	**0.0**	
CTGM	**Chitina Glacie**	**84.82**	**28**	P	**P**		**23 00 31.0**	**-0.3**	
CTGM				IAmb	IAmb		23 00 50.7		
LOGN	comp=Z,140nm,1.4s **Logan Glacier**	**84.93**	**28**	P	**P**		**23 00 31.3**	**-0.6**	
LOGN				IAmb	IAmb		23 00 39.0		
J26L	comp=Z,136nm,1.5s **Joseph Creek**	**84.94**	**24**	IAmb	IAmb		23 00 41.6		
J26L	comp=Z,201nm,1.7s **Joseph Creek** baz=251,SNR=28	**84.94**	**24**	P	**P**		**23 00 29.3**	**-2.4**	
M27K	**Edge Creek, AK**	**84.98**	**26**	P	**P**		**23 00 32.6**	**+0.5**	
M27K				IAmb	IAmb		23 00 39.4		
M27K	comp=Z,144nm,1.2s			IAMs_20	IAMs_20		23 34 22.7		
M27K	comp=Z,15µm,20.0s **Edge Creek, AK** baz=253,SNR=23	**84.98**	**26**	P	**P**		**23 00 31.8**	**-0.3**	
FYU	**Fort Yukon**	**84.99**	**22**	IAMs_20	IAMs_20		23 36 50.7		
C24K	comp=Z,13µm,20.0s **Franklin Bluff** baz=246,SNR=32	**85.01**	**19**	P	**P**		**23 00 30.5**	**-1.3**	
PCA	**Pinnacle**	**85.09**	**29**	P	**P**		**23 00 33.5**	**+1.0**	
PCA				IAmb	IAmb		23 01 21.5		
PINM	comp=Z,87nm,1.2s **Pinnacle** baz=254	**85.09**	**29**	P	**P**		**23 00 32.9**	**+0.3**	
F25K	**Christian Rive** baz=249	**85.21**	**21**	P	**P**		**23 00 32.7**	**-0.3**	
L27K	**Beaver Creek,**	**85.22**	**26**	P	**P**		**23 00 33.3**	**+0.2**	
L27K				IAmb	IAmb		23 00 43.3		
L27K	comp=Z,137nm,1.4s **Beaver Creek,** baz=253	**85.22**	**26**	P	**P**		**23 00 33.2**	**0.0**	
I26K	**Coal Creek Min**	**85.36**	**23**	IAmb	IAmb		23 01 30.6		
I26K	comp=Z,81nm,1.4s			IAMs_20	IAMs_20		23 42 02.6		
I26K	comp=Z,8µm,19.0s **Coal Creek Min** baz=251	**85.36**	**23**	P	**P**		**23 00 34.3**	**+0.6**	
PNL	**Peninsula** baz=255	**85.39**	**29**	P	**P**		**23 00 34.3**	**+0.3**	
K27K	**Chicken**	**85.40**	**25**	IAMs_20	IAMs_20		23 34 17.7		
K27K	comp=Z,11µm,21.0s **Chicken** baz=252	**85.40**	**25**	P	**P**		**23 00 35.9**	**+1.9**	
E25K	**Arctic Village**	**85.43**	**20**	IAmb	IAmb		23 00 43.9		
E25K	comp=Z,133nm,1.8s			IAMs_20	IAMs_20		23 35 07.2		
E25K	comp=Z,10µm,20.0s **Arctic Village**	**85.43**	**20**	P	**P**		**23 00 34.0**	**0.0**	

baz=249
BVCY Beaver Creek 85.45 27 P P 23 00 35.4 +1.1
baz=254
YUK3 Moose Creek 85.45 27 P P 23 00 35.7 +1.1
baz=254
D25K Kavik River 85.60 19 IAmb IAmb 23 00 45.0
comp=Z,85nm,1.2s
D25K IAMs_20 IAMs_20 23 35 14.7
comp=Z,9µm,21.0s
D25K Kavik River 85.60 19 P P 23 00 35.8 +0.8
baz=248,SNR=41
YUK8 Steele Glacier 85.64 28 P P 23 00 35.2 -0.4
baz=255,SNR=8.0
G26K Porcupine Rive 85.67 22 P P 23 00 38.0 +2.8
baz=250
F26K Sheenjek River 85.78 21 P P 23 00 38.2 +2.3
baz=250
O29M Mount Kennedy 85.95 29 P P 23 00 37.8 +0.9
O29M IAmb IAmb 23 00 46.7
comp=Z,110nm,1.2s
O29M Mount Kennedy 85.95 29 P P 23 00 39.0 +2.1
baz=256
EGAK Eagle 86.01 24 IAmb IAmb 23 00 43.9
comp=Z,89nm,1.2s
EGAK Eagle 86.01 24 P P 23 00 36.3 -0.6
baz=253,SNR=16
I27K Kandik River 86.07 23 P P 23 00 39.1 +1.8
baz=253
YUK4 Talbot Arm 86.18 28 P P 23 00 37.7 -0.5
baz=256
P29M Windy Craggy 86.20 30 P P 23 00 38.5 +0.4
P29M IAmb IAmb 23 00 45.5
comp=Z,125nm,1.4s
P29M Windy Craggy 86.20 30 P P 23 00 39.3 +1.3
baz=256
YUK6 Outpost Mounta 86.21 28 P P 23 00 37.0 -1.4
baz=256
H27K Steamboat Moun 86.29 23 P P 23 00 38.5 0.0
baz=253
QSPA South Pole Qui 86.39 180 P P 23 00 38.7 -0.3
QSPA South Pole Qui 86.39 180 IAMs_20 IAMs_20 23 37 22.2
comp=Z,14µm,22.0s
QSPA South Pole Qui 86.39 180 P P 23 00 37.6 -1.4
comp=Z,16nm,0.9s,baz=342,slow=2.3,SNR=31
QSPA LR LR 23 37 44.2
comp=Z,11µm,21.9s,baz=6.0,slow=35
comp=Z,16nm,0.9s
M29M Somme Creek 86.54 27 P P 23 00 40.4 +0.7
M29M IAmb IAmb 23 00 49.3
comp=Z,241nm,2.0s
M29M IAMs_20 IAMs_20 23 36 07.8
comp=Z,9µm,19.0s
M29M Somme Creek 86.54 27 P P 23 00 39.7 -0.1
baz=256
DAWY Dawson 86.55 25 IAmb IAmb 23 00 47.0
comp=Z,150nm,1.3s
DAWY Dawson 86.55 25 P P 23 00 39.0 -0.7
baz=255,SNR=47
S31K Pelican 86.59 31 P P 23 00 41.1 +1.2
S31K IAMs_20 IAMs_20 23 34 01.5
comp=Z,11µm,20.0s
S31K Pelican 86.59 31 P P 23 00 40.1 +0.2
baz=258
HYT Haines Junctio 86.59 29 IAmb IAmb 23 00 50.4
comp=Z,117nm,1.2s
HYT Haines Junctio 86.59 29 P P 23 00 38.9 -1.2
baz=257
P30M Million Dollar 86.69 29 P P 23 00 41.7 +1.2
baz=257
I28M Miner Creek 86.69 24 IAmb IAmb 23 01 14.0
comp=Z,97nm,1.4s
I28M Miner Creek 86.69 24 P P 23 00 41.3 +0.8
baz=254
HRA Herat 86.74 305 IAmb IAmb 23 00 47.4
HRA comp=Z,105nm,1.2s IAMs_20 IAMs_20 23 40 05.2
comp=Z,9µm,22.0s
NGCH Negor - Chabah 86.77 296 P P 23 00 42.5 +1.0
PLBC Pleasant Camp 86.84 30 P P 23 00 40.7 -0.4
baz=258
L29M L29M 86.85 26 IAmb IAmb 23 00 48.7
comp=Z,110nm,1.1s
L29M IAMs_20 IAMs_20 23 34 38.0
comp=Z,16µm,20.0s
L29M L29M 86.85 26 P P 23 00 40.6 -0.6
baz=256
SIT Sitka 86.89 32 P P 23 00 39.5 -1.9
baz=259
N30M Aishikik Lake 86.93 28 P P 23 00 42.1 +0.4
N30M IAmb IAmb 23 01 16.1
comp=Z,82nm,1.4s
N30M Aishikik Lake 86.93 28 P P 23 00 42.5 +0.8
baz=257
R31K City Hall, Gus 86.94 31 P P 23 00 42.2 +0.6
baz=258
J29N Klondike Camp 87.14 25 P P 23 00 44.2 +1.6
J29N IAmb IAmb 23 00 53.2
comp=Z,171nm,1.6s
J29N IAMs_20 IAMs_20 23 34 49.7
comp=Z,20µm,21.0s
J29N Klondike Camp 87.14 25 P P 23 00 43.9 +1.3
baz=256
O30N Mendenhall 87.25 29 P P 23 00 44.6 +1.4
O30N Mendenhall 87.25 29 P P 23 00 43.9 +0.7
baz=258
K29M Barlow Dome 87.29 26 IAmb IAmb 23 00 50.8
comp=Z,106nm,1.1s
K29M IAMs_20 IAMs_20 23 35 26.7
comp=Z,15µm,21.0s
K29M Barlow Dome 87.29 26 P P 23 00 44.6 +1.2
baz=256
F28M Old Crow 87.31 22 IAmb IAmb 23 00 51.9
comp=Z,85nm,1.4s
F28M IAMs_20 IAMs_20 23 35 02.0
comp=Z,10µm,20.0s
F28M Old Crow 87.31 22 P P 23 00 43.8 +0.5
baz=254,SNR=30
M30M Minto, Yukon 87.32 27 P P 23 00 43.7 +0.2
M30M IAmb IAmb 23 00 50.8
comp=Z,83nm,1.3s
M30M IAMs_20 IAMs_20 23 36 30.5
comp=Z,9µm,19.0s
M30M Minto, Yukon 87.32 27 P P 23 00 44.5 +1.0
baz=257
I29M Ogilvie Camp, 87.33 24 IAmb IAmb 23 00 53.3
comp=Z,198nm,1.8s
I29M IAMs_20 IAMs_20 23 34 41.6
comp=Z,16µm,22.0s
I29M Ogilvie Camp, 87.33 24 P P 23 00 45.0 +1.6
baz=256,SNR=5.7
SKAG Skagway 87.36 30 P P 23 00 44.7 +1.1
baz=259
S32K Killisnoo 87.36 32 P P 23 00 43.6 -0.1
S32K IAMs_20 IAMs_20 23 35 02.0
comp=Z,13µm,20.0s
S32K Killisnoo 87.36 32 P P 23 00 45.0 +1.3
baz=259
D27M Malcolm River 87.39 20 IAmb IAmb 23 01 03.8
comp=Z,131nm,1.4s
D27M Malcolm River 87.39 20 P P 23 00 45.2 +1.4
baz=253,SNR=42
BESE Bessie Mountai 87.43 31 P P 23 00 44.5 +0.4
BESE IAmb IAmb 23 00 51.5
comp=Z,108nm,1.2s
H29M Whitestone 87.52 23 P P 23 00 45.6 +1.3
H29M IAMs_20 IAMs_20 23 38 24.8
comp=Z,9µm,20.0s
H29M Whitestone 87.52 23 P P 23 00 46.1 +1.8
baz=256
R32K Eaglecrest 87.54 31 IAMs_20 IAMs_20 23 34 40.8
comp=Z,11µm,20.0s
R32K Eaglecrest 87.54 31 P P 23 00 44.8 +0.2
baz=259
N31M Braeburn, Yuko 87.55 28 P P 23 00 45.9 +1.3
N31M Braeburn, Yuko 87.55 28 P P 23 00 44.9 +0.2
baz=258
JIS Juneau Island 87.61 31 P P 23 00 45.2 +0.4
JIS IAmb IAmb 23 00 54.5
comp=Z,112nm,1.4s
JIS IAMs_20 IAMs_20 23 38 00.6
comp=Z,12µm,19.0s
E28M Babbage River 87.71 21 P P 23 00 48.8 +3.6
baz=254
CRAG Craig 87.81 34 P P 23 00 47.0 +1.2
CRAG Craig 87.81 34 P P 23 00 46.6 +0.7
baz=261
WHY Whitehorse 87.81 29 P P 23 00 47.6 +1.6
WHY Whitehorse 87.81 29 P P 23 00 46.6 +0.6
baz=259
DIB Dawson Inlet, 87.82 37 P P 23 00 46.6 +0.6
G29M Pine Creek 87.83 23 P P 23 00 48.9 +3.1
baz=256
U33K Whale Pass 87.91 34 P P 23 00 46.6 +0.2
baz=261
MAYO Mayo, Yukon 87.94 26 P P 23 00 47.9 +1.5
MAYO Mayo, Yukon 87.94 26 P P 23 00 46.2 -0.2
baz=258
J30M Hart River 87.96 25 P P 23 00 48.7 +2.0
baz=258
JLN Jalan Bani Buh 88.06 292 P P 23 00 48.7 +0.8
SNR=7.2
I30M Mount Dempster 88.09 24 IAMs_20 IAMs_20 23 36 10.6
comp=Z,10µm,20.0s
I30M Mount Dempster 88.09 24 P P 23 00 49.7 +2.5
baz=257
D28M Stokes Point 88.18 20 P P 23 00 47.9 +0.6
baz=255
P32M Atlin 88.19 30 P P 23 00 49.1 +1.4
P32M IAmb IAmb 23 00 57.1
comp=Z,87nm,1.4s
P32M Atlin 88.19 30 P P 23 00 46.4 -1.3
baz=260
EPYK Eagle Plains 88.20 23 IAMs_20 IAMs_20 23 37 25.6
comp=Z,13µm,20.0s
EPYK Eagle Plains 88.20 23 P P 23 00 45.9 -1.7
baz=257,SNR=17
E29M Blow River 88.23 21 IAmb IAmb 23 01 27.7
comp=Z,173nm,1.9s
E29M IAMs_20 IAMs_20 23 35 32.3
comp=Z,12µm,22.0s
E29M Blow River 88.23 21 P P 23 00 50.4 +2.7
baz=256
M31M Drury Creek, Y 88.34 27 IAmb IAmb 23 00 58.1
comp=Z,135nm,1.7s
M31M IAMs_20 IAMs_20 23 35 45.5
comp=Z,11µm,21.0s
M31M Drury Creek, Y 88.34 27 P P 23 00 48.3 0.0
baz=259
WRAK Wrangell Islan 88.39 33 P P 23 00 49.2 +0.6
WRAK Wrangell Islan 88.39 33 P P 23 00 49.1 +0.4
baz=261
HG4B Hotspring 88.46 38 P P 23 00 49.5 +0.4
WBK Wadi Bani Khal 88.50 293 P P 23 00 51.5 +1.5
SNR=5.1
G30M tAoh Zraii Nji 88.53 23 IAMs_20 IAMs_20 23 34 33.3
comp=Z,12µm,22.0s
G30M tAoh Zraii Nji 88.53 23 P P 23 00 49.7 +0.5
baz=258
V35K Ketchikan 88.64 35 P P 23 00 50.6 +0.8
V35K Ketchikan 88.64 35 P P 23 00 50.2 +0.4
baz=262
P33M Teslin, Yukon 88.74 30 P P 23 00 51.8 +1.4
P33M IAmb IAmb 23 00 57.3
comp=Z,110nm,1.7s
P33M Teslin, Yukon 88.74 30 P P 23 00 50.5 +0.1
baz=261
N32M Quiet Lake 88.77 29 IAmb IAmb 23 00 57.7
comp=Z,96nm,1.3s
N32M Quiet Lake 88.77 29 P P 23 00 49.8 -0.6
baz=260
Q32M Nakina River 88.82 31 P P 23 00 52.4 +1.5
Q32M IAmb IAmb 23 01 04.7
comp=Z,175nm,1.9s
Q32M IAMs_20 IAMs_20 23 36 03.5
comp=Z,9µm,20.0s
Q32M Nakina River 88.82 31 P P 23 00 50.1 -0.8
baz=261
FARO Faro, Yukon 88.83 28 IAmb IAmb 23 01 00.4
comp=Z,106nm,1.6s
FARO Faro, Yukon 88.83 28 P P 23 00 50.8 +0.2
baz=260
F30M Barrier River 88.83 22 P P 23 00 51.4 +0.9
baz=258
WSAR Wadi Sarin 88.86 293 LR LR 23 39 30.3
comp=Z,1µm,21.9s,baz=116,slow=35
WSAR Wadi Sarin 88.86 293 P P 23 00 52.6 +1.0
SNR=8.1
S34M Telegraph Cree 89.26 32 P P 23 00 53.8 +1.1
S34M IAmb IAmb 23 01 02.6
comp=Z,124nm,1.6s
S34M IAMs_20 IAMs_20 23 32 11.2
comp=Z,11µm,22.0s
S34M Telegraph Cree 89.26 32 P P 23 00 52.9 +0.2
baz=262
G31M Satah River 89.27 23 IAMs_20 IAMs_20 23 38 18.1
comp=Z,11µm,20.0s
G31M Satah River 89.27 23 P P 23 00 55.7 +3.1
baz=259
RUBB Prince Rupert 89.28 36 P P 23 00 53.2 +0.4
RUBB IAmb IAmb 23 01 08.4
comp=Z,77nm,1.3s
JMDO Jabal Madar 89.28 292 P P 23 00 54.7 +1.1
MHTO MHTO 89.31 291 P P 23 00 53.9 +0.1
SNR=8.7
BIDO Bidbid 89.35 293 P P 23 00 55.0 +1.1
SNR=11
SMDO Samad 89.38 293 P P 23 00 54.5 +0.3
GRNB Grenville Isla 89.40 36 P P 23 00 55.9 +2.4
GRNB IAmb IAmb 23 01 01.2
comp=Z,112nm,1.6s
R33M Jennings River 89.55 31 P P 23 00 55.7 +1.5
R33M IAMs_20 IAMs_20 23 37 43.6
comp=Z,9µm,19.0s
R33M Jennings River 89.55 31 P P 23 00 56.1 +1.9
baz=262
F31M Tsiigehtchic 89.57 22 IAMs_20 IAMs_20 23 35 37.7
comp=Z,9µm,22.0s
F31M Tsiigehtchic 89.57 22 P P 23 00 54.6 +0.7
baz=260,SNR=14
T35M Bob Quinn 89.61 33 P P 23 00 55.0 +0.6
T35M IAmb IAmb 23 01 02.2
comp=Z,120nm,1.5s
T35M Bob Quinn 89.61 33 P P 23 00 54.5 +0.1
baz=263
DQM DQM 89.64 290 P P 23 00 56.2 +0.8
JASK Jask - Hormozg 89.75 296 P P 23 00 57.2 +1.5
SNR=5.1
INK Inuvik 89.80 22 IAmb IAmb 23 01 04.2
comp=Z,113nm,1.4s
INK Inuvik 89.80 22 P P 23 00 55.6 +0.6
baz=260,SNR=15
INK Inuvik 89.80 22 LR LR 23 40 14.2
comp=Z,12µm,19.3s,baz=242,slow=35
DLBC Dease Lake 89.91 32 P P 23 00 57.1 +1.3
DLBC IAmb IAmb 23 01 03.4
comp=Z,122nm,1.6s
DLBC Dease Lake 89.91 32 P P 23 00 56.4 +0.5
baz=263
DLBC Dease Lake 89.91 32 LR LR 23 36 15.3
comp=Z,10µm,19.4s,baz=274,slow=32
MSEY Mahe Island 90.11 265 P P 23 00 58.7 +0.9
MSEY IAmb IAmb 23 01 04.6
comp=Z,168nm,1.5s
MSEY Mahe Island 90.11 265 P P 23 00 58.7 +0.9
MSEY pmax pmax
comp=Z,168nm,1.5s
MSEY MLR MLR
comp=Z,4µm,18.0s
BSY Bisya 90.14 293 P P 23 00 58.2 +0.5
SNR=6.6
BBB Bella Bella 90.33 38 LR LR 23 33 02.0
comp=Z,17µm,21.8s,baz=252,slow=30
SVE Sverdlovsk 90.34 327 eP P 23 00 58.6 +0.8
SVE eS **SKSac 23 11 30.4 +2.9**
SVE pmax pmax
comp=Z,37nm,2.0s
SVE MLR MLR
comp=Z,17µm,20.0s
SVE MLR MLR
comp=E,14µm,20.0s
GEYT Alibeck 90.40 308 P P 23 00 56.9 -1.6
comp=E,5.8nm,0.8s,baz=211,slow=8.0,SNR=14
GEYT PP **PP 23 04 34.4 +1.2**
comp=E,23nm,1.1s,baz=87,slow=7.6,SNR=11
GEYT LR LR 23 43 29.1
comp=E,11µm,21.0s,baz=99,slow=37
comp=E,5.8nm,0.8s
GYA0B ALIBECK ARRAY 90.40 308 P P 23 00 59.4 +0.8
GYA0B IAMs_20 IAMs_20 23 43 07.8
comp=Z,11µm,21.0s
WTLY Watson Lake, Y 90.72 30 P P 23 00 00.6 +1.0
WTLY **P 23 01 01.4 +1.9**
WTLY IAmb IAmb 23 01 09.8
comp=E,143nm,1.9s
WTLY Watson Lake, Y 90.72 30 P P 23 01 01.4 +1.9
baz=264
ARQ Araqi 90.80 293 P P 23 01 01.4 +0.7
SNR=11
SOHO SOHO 90.84 294 *i* P P 23 00 60.0 -0.9
SNR=24
SOHO SOHO 90.84 294 P P 23 01 00.9 0.0
MDH Madha 91.12 295 P P 23 01 03.8 +1.6
UOSS Minazif 91.19 295 P P 23 01 02.1 -0.4
UOSS Minazif 91.19 295 *i* P P **23 01 01.4 -1.1**
SNR=6.0
UOSS Minazif 91.19 295 P P 23 01 02.6 +0.1
HATD Hatta, Dubai 91.25 295 *i* P P **23 01 03.0 +0.2**
SNR=7.1
HATD Hatta, Dubai 91.25 295 P P 23 01 02.6 -0.2
SNR=10
MSFE Esma-Masafi 91.25 295 *i* P P **23 01 03.6 +0.8**
SNR=14
MASF Masafi 91.25 295 P P 23 01 03.2 +0.4
SNR=14
ASHO Ashiyiah 91.31 295 *i* P P **23 01 02.2 -0.9**
SNR=7.5
ASHO Ashiyiah 91.31 295 P P 23 01 03.6 +0.5
SNR=15
SHME Shamm 91.31 296 P P 23 01 03.4 +0.4
SHAO Shalim 91.33 288 P P 23 01 04.3 +1.0
SNR=6.4
AKTO Aktyubinsk 91.35 320 LR LR 23 41 09.9
comp=E,12µm,21.8s,baz=78,slow=35
ARU Arti 91.45 326 P P 23 01 02.7 -0.3
ARU IAMs_20 IAMs_20 23 40 57.9
comp=Z,13µm,21.0s
ARU Arti 91.45 326 *i* P P **23 01 01.9 -1.1**
ARU pmax pmax
comp=Z,33nm,1.5s
ARU MLR MLR
comp=Z,11µm,20.0s
ARU Arti 91.45 326 LR LR 23 41 22.8
comp=Z,13µm,21.9s,baz=92,slow=35
ALNE Al Ain 91.55 294 *i* P P **23 01 06.3 +2.2**
SNR=16
ALNE Al Ain 91.55 294 P P 23 01 05.3 +1.1
SNR=19
NAZ Nazwa, Dubai 91.68 295 P P 23 01 05.4 +0.7
SNR=10
UMQ Umm Al-Quwin 91.71 295 P P 23 01 06.3 +1.5
FAQ Al Faqa, Dubai 91.73 295 *i* P P **23 01 07.5 +2.5**
SNR=6.8
FAQ Al Faqa, Dubai 91.73 295 P P 23 01 05.2 +0.2
SNR=9.3
DMTO DMTO 91.96 288 P P 23 01 06.7 +0.6
SNR=7.2
ASUD Al Ashush, Dub 91.97 294 *i* P P **23 01 07.0 +0.9**
SNR=22
ASUD Al Ashush, Dub 91.97 294 P P 23 01 06.8 +0.7
SNR=19
UMZA Um Al Zommool 92.02 293 P P 23 01 05.9 -0.4
AJN Ajban 92.28 294 *i* P P **23 01 07.8 +0.3**
SNR=10
AJN Ajban 92.28 294 P P 23 01 07.6 +0.1
SNR=13
JCC Jacoby Creek, 92.37 49 IAMs_20 IAMs_20 23 35 58.7
comp=Z,12µm,19.0s
CLRS Cowichan Lake 92.64 41 P P 23 01 09.4 +0.8
CLRS IAmb IAmb 23 02 04.0
comp=Z,114nm,1.5s
RBK Rabkut 92.66 287 P P 23 01 08.9 -0.5
SNR=15
KCPM Cahto Peak 92.66 51 P P 23 01 10.0 +0.8
NLWA Neilton Lookou 92.76 43 P P 23 01 10.7 +1.4
NLWA IAmb IAmb 23 01 23.1
comp=Z,101nm,1.4s
NLWA IAMs_20 IAMs_20 23 34 06.7
comp=Z,8µm,22.0s
DOK Doka 92.78 288 P P 23 01 10.3 +0.3
SNR=16
F03A Seaside 92.92 44 IAMs_20 IAMs_20 23 37 10.1
comp=Z,13µm,19.0s
A36M Sachs Harbour 93.01 18 P P 23 01 10.4 +0.6
A36M IAmb IAmb 23 01 19.0
comp=Z,72nm,1.6s
A36M Sachs Harbour 93.01 18 P P 23 01 09.6 -0.2
baz=268
WHFO Wadi Hawf 93.09 288 P P 23 01 10.8 -0.6
SNR=7.9
KOTAN Kotaneelee Air 93.09 30 P P 23 01 11.8 +1.3
baz=268
MZWR Madinat Zayed 93.25 293 P P 23 01 11.7 -0.3
C36M Paulatuk 93.32 21 P P 23 01 11.1 -0.2
C36M IAmb IAmb 23 01 20.1
comp=Z,99nm,1.4s
C36M IAMs_20 IAMs_20 23 38 57.7
comp=Z,9µm,21.0s
C36M Paulatuk 93.32 21 P P 23 01 12.3 +1.0
baz=269
FLDN Fort Liard 93.38 30 P P 23 01 13.3 +1.5
FLDN IAmb IAmb 23 04 15.8
comp=Z,37nm,0.5s
YBH Yreka Blue Hor 93.40 49 P P 23 01 12.9 +0.5
YBH Yreka Blue Hor 93.40 49 P P 23 01 12.9 +0.5
YBH pmax pmax
comp=Z,44nm,1.6s
YBH MLR MLR
comp=Z,28µm,22.0s
YBH Yreka Blue Hor 93.40 49 LR LR 23 34 57.3
comp=Z,28µm,21.6s,baz=328,slow=30
GNW Green Mountain 93.47 43 P P 23 01 13.6 +1.0
GNW IAmb IAmb 23 01 22.4
comp=Z,107nm,1.6s
ABTO Aybut 93.51 287 P P 23 01 13.6 +0.1
SNR=12
I04A Tendick Farm, 93.67 46 P P 23 01 14.9 +1.3
D05A Enumclaw 94.04 43 P P 23 01 16.4 +1.3
LON Longmire 94.15 44 P P 23 01 16.8 +1.0
LON Longmire 94.15 44 P P 23 01 16.8 +1.0
LON pmax pmax
comp=Z,45nm,1.6s
GHWR Ruwais 94.17 294 P P 23 01 15.7 -0.6
JRN Qarnain Island 94.23 295 P P 23 01 16.1 -0.4
SAO San Andreas Ge 94.25 54 P P 23 01 17.6 +1.2
SAO San Andreas Ge 94.25 54 P P 23 01 17.6 +1.2
SAO pmax pmax
comp=Z,33nm,1.4s
SAO MLR MLR
comp=Z,22µm,22.0s
ORV Oroville 94.26 51 P P 23 01 17.1 +0.7
ORV IAMs_20 IAMs_20 23 35 06.0
comp=Z,9µm,21.0s
ORV Oroville 94.26 51 P P 23 01 17.1 +0.7
ORV pmax pmax
comp=Z,32nm,1.4s
ORV MLR MLR
comp=Z,9µm,21.0s
B06A Marblemount 94.39 42 P P 23 01 15.5 -1.2
B06A IAmb IAmb 23 01 23.7
comp=Z,57nm,1.2s
I05D Terrebonne, OR 94.45 46 IAmb IAmb 23 01 24.6
comp=Z,61nm,1.4s
J05D Fort Rock, OR 94.52 47 P P 23 01 18.5 +0.9
J05D IAmb IAmb 23 01 41.4
comp=Z,105nm,1.8s
BBGB Big Mountain B 94.57 54 P P 23 01 19.5 +1.5
BBGB IAmb IAmb 23 01 30.0
comp=Z,65nm,1.2s
AFDM Forest Hills D 94.66 51 P P 23 01 19.1 +0.8
PINE Pine Mountain 94.74 47 P P 23 01 18.9 +0.2
PINE IAmb IAmb 23 01 26.4
comp=Z,52nm,1.3s
K05A Summer Lake 94.76 48 P P 23 01 18.8 -0.1
K05A IAmb IAmb 23 01 40.4
comp=Z,133nm,1.9s
LTY Liberty 94.94 43 P P 23 01 21.2 +1.9
LTY IAmb IAmb 23 01 38.9
comp=Z,134nm,1.9s
CMB Columbia Colle 95.11 52 P P 23 01 22.4 +2.0
CMB Columbia Colle 95.11 52 P P 23 01 22.4 +2.0
CMB pmax pmax
comp=Z,22nm,1.5s
CMB MLR MLR
comp=Z,22µm,21.0s
MXC Moxie City 95.20 44 P P 23 01 21.3 +0.8
MXC IAmb IAmb 23 01 32.4
comp=Z,66nm,1.7s
SLWR Sila 95.26 294 P P 23 01 21.6 +0.3
MPK Martis Peak 95.40 51 P P 23 01 23.1 +1.2
MPK IAmb IAmb 23 02 08.8
comp=Z,48nm,1.5s

F07A	**Phinny Hill Vi**	**95.45**	**44**	P	**P**		23 01 22.5	**+0.8**	
F07A				IAmb	IAmb		23 02 03.4		
	comp=Z,42nm,1.2s								
E07A	**Sunnyside**	**95.50**	**44**	P	**P**		**23 01 23.5**	**+1.6**	
E07A				IAmb	IAmb		23 01 31.6		
	comp=Z,104nm,1.7s								
PKM	**Mcpherson Peak**	**95.55**	**55**	P	**P**		**23 01 24.8**	**+2.2**	
	baz=270								
PNT	**Penticton**	**95.62**	**41**	P	**P**		**23 01 25.5**	**+3.1**	
PNT				pmax	pmax				
	comp=Z,74nm,1.8s								
TRNA	**Turayna**	**95.71**	**294**	P	**P**		**23 01 23.0**	**-0.3**	
HAWA	**Hanford**	**95.72**	**44**	P	**P**		**23 01 23.7**	**+0.8**	
HAWA				IAmb	IAmb		23 01 30.4		
	comp=Z,44nm,1.2s								
PNTR	**Pine Nut**	**95.73**	**51**	P	**P**		**23 01 25.5**	**+2.1**	
PNTR				IAmb	IAmb		23 01 46.8		
	comp=Z,74nm,1.8s								
I07A	**Izee**	**95.77**	**46**	P	**P**		**23 01 23.5**	**+0.2**	
I07A				IAmb	IAmb		23 02 11.4		
	comp=Z,76nm,1.9s								
BCW	**Bitter Crk WRg**	**95.88**	**55**	P	**P**		**23 01 23.9**	**-0.1**	
BCW				IAmb	IAmb		23 01 29.5		
	comp=Z,91nm,1.6s								
E08A	**Dider Farm, El**	**96.05**	**44**	IAmb	IAmb		23 01 34.1		
	comp=Z,66nm,1.4s								
SMRA	**Abu-Samra**	**96.07**	**294**	P	**P**		**23 01 24.7**	**-0.2**	
D08A	**Wollman Farm,**	**96.13**	**43**	P	**P**		**23 01 25.7**	**+1.0**	
G08A	**Pilot Rock**	**96.14**	**45**	P	**P**		**23 01 25.8**	**+0.8**	
G08A				IAmb	IAmb		23 01 34.4		
	comp=Z,44nm,1.3s								
MDPB	**Devils Postpil**	**96.15**	**53**	P	**P**		**23 01 24.8**	**-0.5**	
OMMB	**Old Mammoth Mi**	**96.21**	**53**	P	**P**		**23 01 26.1**	**+0.4**	
SAKB	**Bahrain**	**96.35**	**296**	P	**P**		**23 01 26.2**	**+0.1**	
KIRV	**Kirov**	**96.40**	**328**	LR	LR		23 45 04.2		
	comp=Z,35µm,21.0s,baz=83,slow=36								
WVOR	**Wild Horse Val**	**96.43**	**48**	P	**P**		**23 01 25.8**	**-0.6**	
WVOR				IAmb	IAmb		23 02 07.0		
	comp=Z,48nm,1.8s								
WVOR	**Wild Horse Val**	**96.43**	**48**	P	**P**		**23 01 25.8**	**-0.6**	
WVOR				pmax	pmax				
	comp=Z,48nm,1.8s								
WVOR				MLR	MLR				
	comp=Z,17µm,21.0s								
J08A	**Circle Bar Ran**	**96.53**	**47**	P	**P**		**23 01 27.6**	**+0.9**	
J08A				IAmb	IAmb		23 01 54.0		
	comp=Z,52nm,1.8s								
C09A	**Chrisman Ranch**	**96.55**	**42**	P	**P**		**23 01 27.3**	**+0.7**	
C09A				IAmb	IAmb		23 01 33.8		
	comp=Z,39nm,1.4s								
ISA	**Isabella, Lake**	**96.64**	**55**	P	**P**		**23 01 27.9**	**+0.5**	
ISA	**Isabella, Lake**	**96.64**	**55**	P	**P**		**23 01 27.9**	**+0.5**	
	baz=270								
ISA	**Isabella, Lake**	**96.64**	**55**	P	**P**		**23 01 27.9**	**+0.5**	
E09A	**Wood Farm, Sta**	**96.68**	**44**	P	**P**		**23 01 28.2**	**+0.9**	
HILA	**High Level**	**96.73**	**32**	P	**P**		**23 01 28.2**	**+1.0**	
NVAR	**Mina Array Bea**	**96.75**	**52**	P	**P**		**23 01 28.9**	**+0.9**	
NVAR	**Mina Array Bea**	**96.75**	**52**	LR	LR		23 36 58.5		
	comp=Z,22µm,21.3s,baz=266,slow=30								
BRLDA	**Berland Lookou**	**96.81**	**36**	P	**P**		**23 01 28.3**	**+0.5**	
NV11	**Mina Array Sit**	**96.87**	**52**	P	**P**		**23 01 29.7**	**+1.3**	
PASC	**Pasadena Art C**	**96.89**	**56**	P	**P**		**23 01 28.9**	**+0.4**	
PASC				IAmb	IAmb		23 01 38.1		
	comp=Z,55nm,1.7s								
PASC	**Pasadena Art C**	**96.89**	**56**	IAMs_20	IAMs_20		23 36 55.1		
	comp=Z,8µm,22.0s								
KVN	**Kaiserville**	**96.90**	**51**	P	**P**		**23 01 29.1**	**+0.4**	
KVN	**Kaiserville**	**96.90**	**51**	P	**P**		**23 01 29.1**	**+0.4**	
KVN				pmax	pmax				
	comp=Z,8.0nm,0.8s								
CWC	**Cottonwood Cre**	**96.96**	**54**	P	**P**		**23 01 30.6**	**+1.7**	
	baz=271								
ABPO	**Ambohimpanom**	**97.02**	**250**	IAMs_20	IAMs_20		23 46 13.2		
	comp=Z,7µm,18.0s								
CCAC	**Calif City Air**	**97.02**	**55**	P	Pdif		23 01 31.7	+2.5	
EDW2	**Edwards Air Fo**	**97.05**	**55**	P	Pdif		23 01 30.8	+1.4	
	baz=271								
VOI	**Vohitsoka**	**97.10**	**248**	P	Pdif		23 01 30.1	+0.1	
VOI				IAmb	IAmb		23 02 12.9		
	comp=Z,49nm,1.3s								
LRMC	**Laurel Mtn Rad**	**97.29**	**55**	P	Pdif		23 01 32.1	+1.6	
	baz=271								
NEW	**Newport**	**97.30**	**42**	P	Pdif		23 01 30.7	+0.5	
NEW	**Newport**	**97.30**	**42**	IAMs_20	IAMs_20		23 40 26.8		
	comp=Z,8µm,20.0s								
NEW	**Newport**	**97.30**	**42**	P	Pdif		23 01 31.4	+1.2	
	baz=273								
NEW	**Newport**	**97.30**	**42**	P	Pdif		23 01 30.7	+0.6	
NEW				pmax	pmax				
	comp=Z,98nm,2.0s								
NEW				MLR	MLR				
	comp=Z,8µm,20.0s								
NEW	**Newport**	**97.30**	**42**	LR	LR		23 39 50.2		
	comp=Z,7µm,19.4s,baz=283,slow=32								
BFSC	**Mount Baldy Ra**	**97.33**	**56**	P	**P**		**23 01 28.9**	**-1.7**	
	baz=271								
BMO	**Blue Mountains**	**97.33**	**45**	P	Pdif		23 01 30.7	+0.3	
BMO				IAmb	IAmb		23 01 37.5		
	comp=Z,38nm,1.2s								
BMO	**Blue Mountains**	**97.33**	**45**	P	Pdif		23 01 30.7	+0.3	
BMO				pmax	pmax				
	comp=Z,38nm,1.3s								
BMO				MLR	MLR				
	comp=Z,14µm,20.0s								
F10A	**Beach Ranch, E**	**97.34**	**44**	P	Pdif		23 01 30.7	+0.3	
F10A				IAmb	IAmb		23 01 51.6		
	comp=Z,40nm,1.3s								
MPMC	**Manual Prospec**	**97.44**	**54**	P	Pdif		23 01 31.3	0.0	
	baz=271								
MZP	**Montezuma Peak**	**97.49**	**53**	P	Pdif		23 01 32.3	+0.8	
GRAC	**Grapevine Rang**	**97.52**	**53**	P	**P**		**23 01 30.1**	**-1.2**	
	baz=271								
YKA	**Yellowknife Ar**	**97.54**	**28**	*i* P	**P**		**23 01 30.3**	**-0.4**	
YKA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
YKA	**Yellowknife Ar**	**97.54**	**28**	P	**P**		**23 01 29.2**	**-1.5**	
	comp=Z,4.4nm,1.1s,baz=277,slow=4.5,SNR=23								
YKA				PP	**PP**		**23 05 26.6**	**-1.5**	
	comp=Z,4.4nm,1.2s,baz=279,slow=7.6,SNR=6.0								
YKA				PKKPbc	**PKKPbc**		**23 18 08.8**	**-1.3**	
	comp=Z,0.2nm,0.3s,baz=116,slow=2.8,SNR=4.3								
YKA				LR	LR		23 40 27.5		
	comp=Z,8µm,21.5s,baz=288,slow=32								
	comp=Z,4.4nm,1.1s								
GMN	**Gold Mountain**	**97.60**	**53**	P	Pdif		23 01 32.4	+0.4	
109C	**Camp Elliot, M**	**97.81**	**57**		Pdif		23 01 33.9	+1.2	
109C				IAmb	IAmb		23 01 37.8		
	comp=Z,50nm,1.5s								
109C				IAMs_20	IAMs_20		23 37 41.5		
	comp=Z,12µm,20.0s								
BELG	**Belogornoye**	**97.85**	**322**	P	**P**		**23 01 31.4**	**-0.9**	
	comp=Z,24nm,0.9s,baz=173,slow=2.7,SNR=7.8								
BELG				LR	LR		23 46 01.3		
	comp=Z,8µm,21.3s,baz=80,slow=36								
	comp=Z,24nm,0.9s								
FURC	**Furnace Creek,**	**97.94**	**54**	P	Pdif		23 01 33.7	+0.6	
	baz=272								
QSM	**Queen of Sheba**	**97.95**	**54**	P	Pdif		23 01 34.5	+1.2	
GSC	**Goldstone, Bar**	**98.01**	**55**	P	Pdif		23 01 35.3	+1.7	
GSC	**Goldstone, Bar**	**98.01**	**55**	P	**P**		**23 01 31.4**	**-2.3**	
	baz=271								
GSC	**Goldstone, Bar**	**98.01**	**55**	P	Pdif		23 01 35.3	+1.6	
GSC				pmax	pmax				
	comp=Z,7.0nm,1.1s								
GWY	**Greenwater Val**	**98.10**	**54**	P	Pdif		23 01 34.9	+0.8	
WCT	**Wildcat Mounta**	**98.12**	**54**	P	Pdif		23 01 34.6	+0.5	
PLID	**Pearl Lake**	**98.24**	**45**	P	Pdif		23 01 35.2	+0.6	
PFO	**Pinyon Flats O**	**98.34**	**57**	P	Pdif		23 01 36.0	+0.8	
	baz=271								
PFO	**Pinyon Flats O**	**98.34**	**57**	LR	LR		23 38 20.1		
	comp=Z,16µm,20.6s,baz=284,slow=31								
TPFO	**Pinon Flats**	**98.34**	**57**	P	Pdif		23 01 36.3	+1.1	
	baz=271								
MONP2	**Monument Peak**	**98.38**	**57**	P	Pdif		23 01 37.7	+2.2	
	baz=271								
PMD	**Palm Desert**	**98.40**	**57**	P	**P**		**23 01 34.6**	**-0.7**	
HEC	**Hector,Ludlow**	**98.41**	**55**	P	Pdif		23 01 37.1	+1.6	
	baz=272								
TPNV	**Topopah Spring**	**98.42**	**53**	P	**P**		**23 01 35.2**	**-0.3**	
TPNV	**Topopah Spring**	**98.42**	**53**	P	**P**		**23 01 34.1**	**-1.4**	
	baz=272								
TPNV	**Topopah Spring**	**98.42**	**53**	P	**P**		**23 01 35.2**	**-0.3**	
TPNV				pmax	pmax				
	comp=Z,11nm,1.1s								
TPNV				MLR	MLR				
	comp=Z,19µm,21.0s								

SHOC	**Shoshone, Teco**	**98.43**	**54**	P	Pdif		23 01 37.2	+1.7	
	baz=272								
MFID	**Camas Ranch**	**98.46**	**47**	P	**P**		**23 01 35.5**	**0.0**	
MFID				IAmb	IAmb		23 02 16.0		
	comp=Z,35nm,1.7s								
MFID				IAMs_20	IAMs_20		23 40 48.6		
	comp=Z,11µm,20.0s								
MAK	**Makhachkala**	**98.55**	**313**	*e*P	**P**		**23 01 32.8**	**-2.9**	
MAK				*e*			23 05 32.6		
MAK				*e*PPP	PPP		23 07 41.0		
MAK				*e*			23 12 08.0		
MAK				*e*SS	SS		23 19 50.3	+1.8	
MAK				*e*SSS	SSS		23 23 36.7		
MAK				pmax	pmax				
	comp=Z,313nm,1.5s								
IKP	**In-Ko-Pah, Jac**	**98.65**	**58**	P	Pdif		23 01 38.2	+1.6	
	baz=271								
RMX	**La Rumorosa**	**98.68**	**58**		**P**		**23 01 36.3**	**-0.5**	
BELC	**Belle Mtn. Jos**	**98.71**	**56**	P	Pdif		23 01 39.4	+2.5	
	baz=272								
TUQ	**Turquoise Moun**	**98.73**	**55**	P	Pdif		23 01 39.2	+2.3	
	baz=272								
YUH	**Yuha Desert**	**98.81**	**58**		**P**		**23 01 37.0**	**-0.2**	
YUH				IAmb	IAmb		23 05 10.8		
	comp=Z,42nm,1.9s								
R11B	**Troy Canyon, C**	**98.89**	**52**	P	Pdif		23 01 38.4	+0.8	
R11B	**Troy Canyon, C**	**98.89**	**52**	P	Pdif		23 01 39.9	+2.3	
	baz=273								
SWSC	**Sam W. Stewart**	**98.90**	**57**	P	Pdif		23 01 39.8	+2.2	
	baz=272								
GMRC	**Granite Mounta**	**98.97**	**56**	P	Pdif		23 01 40.0	+2.1	
	baz=272								
ELK	**Elko**	**99.04**	**49**	IAMs_20	IAMs_20		23 39 48.3		
	comp=Z,10µm,20.0s								
ELK	**Elko**	**99.04**	**49**	LR	LR		23 38 37.0		
	comp=Z,10µm,21.1s,baz=264,slow=31								
BC3	**Big Chuckawall**	**99.17**	**57**	P	**Pdif**		**23 01 41.2**	**+2.3**	
	baz=272								
SHPR	**Sheep Range**	**99.31**	**54**		**Pdif**		**23 01 40.0**	**+0.5**	
IRM	**Iron Mountain**	**99.41**	**56**	P	**Pdif**		**23 01 42.3**	**+2.4**	
	baz=272								
Q12A	**Willow Creek R**	**99.45**	**51**	P	**Pdif**		**23 01 42.3**	**+2.2**	
HLID	**Hailey**	**99.48**	**47**	P	**Pdif**		**23 01 42.7**	**+2.6**	
HLID	**Hailey**	**99.48**	**47**	P	**Pdif**		**23 01 40.4**	**+0.3**	
	baz=274								
MSO	**Missoula**	**99.55**	**43**	P	**Pdif**		**23 01 41.0**	**+0.8**	
MSO				IAMs_20	IAMs_20		23 41 01.4		
	comp=Z,11µm,20.0s								
V12A	**Nelson**	**99.59**	**55**	P	**Pdif**		**23 01 43.2**	**+2.5**	
EUNU	**Eureka**	**99.60**	**8**	P	**Pdif**		**23 01 40.5**	**+0.7**	
SPR3	**Spring Creek 3**	**99.84**	**51**	Pdif	**Pdif**		**23 01 42.4**	**+0.4**	
NVL	**N'lazarevskaya**	**99.89**	**194**	*e*P	**Pdif**		**23 01 40.1**	**-1.0**	
NVL				*e*S	**SKSac**		**23 12 15.8**	**-2.3**	
NVL				*e*SS	**SS**		**23 20 05.3**	**-0.1**	
NVL				pmax	pmax				
	comp=Z,18nm,1.5s								
NVL				smax	smax				
	comp=N,306nm,10.3s								
BLYC	**Blythe**	**99.94**	**57**	Pdif	**Pdif**		**23 01 43.6**	**+1.4**	
PDMCI	**Parker Dam,Lak**	**100.24**	**56**	P	**Pdif**		**23 01 46.6**	**+3.2**	
	baz=273								
W13A	**Hualapai Mount**	**100.41**	**55**	Pdif	**Pdif**		**23 01 44.5**	**0.0**	
MCMT	**McKenzie Canyo**	**100.49**	**45**	Pdif	**Pdif**		**23 01 46.2**	**+1.6**	
LRM	**Limekiln Ridge**	**100.67**	**44**	Pdif	**Pdif**		**23 01 47.0**	**+1.6**	
LCMT	**Little Creek M**	**100.82**	**53**	Pdif	**Pdif**		**23 01 47.6**	**+1.4**	
HVU	**Hansel Valley**	**100.82**	**48**	Pdif	**Pdif**		**23 01 46.4**	**+0.3**	
HVU	**Hansel Valley**	**100.82**	**48**	P	**Pdif**		**23 01 46.4**	**+0.3**	
RES	**Resolute Bay**	**100.89**	**14**	Pdif	**Pdif**		**23 01 46.6**	**+1.2**	
RES	**Resolute Bay**	**100.89**	**14**	P	**Pdif**		**23 01 46.6**	**+1.2**	
SZCU	**Shurtz Canyon**	**100.90**	**53**	Pdif	**Pdif**		**23 01 46.7**	**0.0**	
DUG	**Dugway, Tooele**	**100.92**	**50**	Pdif	**Pdif**		**23 01 47.5**	**+0.9**	
DUG				IAMs_20	IAMs_20		23 39 12.4		
	comp=Z,7µm,22.0s								
DUG	**Dugway, Tooele**	**100.92**	**50**	P	**Pdif**		**23 01 49.2**	**+2.6**	
	baz=275								
DUG	**Dugway, Tooele**	**100.92**	**50**	P	**Pdif**		**23 01 47.5**	**+0.9**	
DUG				MLR	MLR				
	comp=Z,7µm,22.0s								
RAYN	**Ar Rayn**	**100.92**	**293**	Pdif	**Pdif**		**23 01 47.0**	**+0.2**	
RAYN	**Ar Rayn**	**100.92**	**293**	P	**Pdif**		**23 01 47.0**	**+0.2**	
RAYN				MLR	MLR				
	comp=Z,4µm,20.0s								
KLMR	**Klimovskoe**	**101.03**	**331**	*e*P	**Pdif**		**23 01 41.8**	**-4.6**	
KLMR				S	**SKSac**		**23 12 21.2**	**-2.7**	
KLMR				SS	**SS**		**23 20 26.8**	**+4.6**	
KLMR				pmax	pmax				
	comp=Z,39nm,1.5s								
KLMR				MLR	MLR				
	comp=Z,7µm,18.0s								
KNB	**Kanab**	**101.15**	**53**	Pdif	**Pdif**		**23 01 47.8**	**+0.1**	
KNB	**Kanab**	**101.15**	**53**	P	**Pdif**		**23 01 47.8**	**+0.1**	
KBS	**Kingsbay**	**101.21**	**352**	Pdif	**Pdif**		**23 01 48.3**	**+1.5**	
KBS	**Kingsbay**	**101.21**	**352**	P	**Pdif**		**23 01 48.3**	**+1.5**	
KBS				MLR	MLR				
	comp=Z,5µm,19.0s								
QLMT	**Earthquake Lak**	**101.50**	**45**	Pdif	**Pdif**		**23 01 50.2**	**+1.1**	
NLU	**North Lily Min**	**101.51**	**50**	Pdif	**Pdif**		**23 01 49.4**	**+0.1**	
MVU	**Marysvale**	**101.52**	**52**	Pdif	**Pdif**		**23 01 48.0**	**-1.5**	
PKCU	**Pink Cliffs**	**101.53**	**53**	Pdif	**Pdif**		**23 01 50.1**	**+0.5**	
MTPU	**Mount Pierson**	**101.58**	**52**	Pdif	**Pdif**		**23 01 50.2**	**+0.3**	
U15A	**North Rim**	**101.62**	**54**	Pdif	**Pdif**		**23 01 49.8**	**-0.1**	
VRH	**Novokhopyorsk**	**101.63**	**321**	*e*P	**Pdif**		**23 01 48.8**	**-0.4**	
VRH				pmax	pmax				
	comp=Z,25nm,1.8s								
AKH	**Akhalkalaki**	**101.64**	**311**	Pdif	**Pdif**		**23 01 50.3**	**+0.5**	
AKH	**Akhalkalaki**	**101.64**	**311**	P	**Pdif**		**23 01 50.3**	**+0.5**	
AKH				MLR	MLR				
	comp=Z,16µm,20.0s								
YHL	**Hebgen Lake**	**101.67**	**45**	Pdif	**Pdif**		**23 01 51.9**	**+2.0**	
CTU	**Camp Tracy**	**101.69**	**49**	Pdif	**Pdif**		**23 01 51.2**	**+1.2**	
APA	**Apatity**	**101.73**	**339**	*i*P	**Pdif**		**23 01 43.6**	**-5.7**	
APA				*i*			23 06 05.0		
APA				*i*			23 12 30.0		
APA				*i* S	**Sdif**		**23 13 15.0**	**-14**	
APA				*i* PS	**PS**		**23 15 03.0**	**-1.4**	
APA				*i* SS	**SS**		**23 20 35.0**	**+3.5**	
APA				pmax	pmax				
	comp=Z,9.0nm,1.0s								
APA				MLR	MLR				
	comp=Z,12µm,20.0s								
KBZ	**Khabaz**	**101.83**	**314**	P	**Pdif**		**23 01 48.5**	**-1.8**	
	comp=Z,2.5nm,0.9s,baz=85,slow=3.2,SNR=3.1								
KBZ				PP	**PP**		**23 06 00.8**	**-0.5**	
	comp=Z,7.9nm,1.0s,baz=62,slow=8.3,SNR=8.7								
KIV	**Kislovodsk**	**101.96**	**314**	*e*P	**Pdif**		**23 01 47.8**	**-3.2**	
KIV				*e*			23 05 59.0		
KIV				*e*			23 12 27.9		
KIV				*e*SS	SS		23 20 33.9	-2.3	
KIV				*e*SSS	SSS		23 24 29.5		
KIV				pmax	pmax				
	comp=Z,31nm,1.1s								
AHID	**Auburn Hatcher**	**101.96**	**47**	IAMs_20	IAMs_20		23 46 54.6		
	comp=Z,7µm,19.0s								
FLWY	**Flagg Ranch**	**102.10**	**46**	IAMs_20	IAMs_20		23 41 20.2		
	comp=Z,10µm,20.0s								
H17A	**Grant Village**	**102.15**	**45**	Pdif	**Pdif**		**23 01 52.5**	**+0.5**	
EGMT	**Eagleton**	**102.23**	**42**	Pdif	**Pdif**		**23 01 53.2**	**+1.0**	
EGMT	**Eagleton**	**102.23**	**42**	P	**Pdif**		**23 01 51.8**	**-0.4**	
	baz=278								
WUAZ	**Wupatki**	**102.43**	**55**	IAMs_20	IAMs_20		23 41 31.8		
	comp=Z,8µm,20.0s								
WUAZ	**Wupatki**	**102.43**	**55**	P	**Pdif**		**23 01 53.6**	**+0.1**	
	baz=275								
RLMT	**Red Lodge**	**102.98**	**45**	IAMs_20	IAMs_20		23 44 09.3		
	comp=Z,9µm,20.0s								
RLMT	**Red Lodge**	**102.98**	**45**	P	**Pdif**		**23 01 55.3**	**-0.5**	
	baz=278								
KEV	**Kevo**	**103.04**	**342**	IAMs_20	IAMs_20		23 50 55.0		
	comp=Z,8µm,20.0s								
BW06	**Boulder Array**	**103.09**	**47**	IAMs_20	IAMs_20		23 42 59.4		
	comp=Z,10µm,20.0s								
VORR	**Voronezh**	**103.10**	**322**	P	**Pdif**		**23 01 58.4**	**+2.7**	
VORR				pmax	pmax				
	comp=Z,21nm,1.7s								
MOS	**Moscow**	**103.16**	**327**	*e*P	**Pdif**		**23 01 45.4**	**-11**	
TUC	**Tucson**	**103.16**	**58**	IAMs_20	IAMs_20		23 39 52.3		
	comp=Z,12µm,21.0s								
OBN	**Obninsk**	**103.89**	**326**	IAMs_20	IAMs_20		23 50 05.0		
	comp=Z,9µm,20.0s								
OBN	**Obninsk**	**103.89**	**326**	*e*P	**Pdif**		**23 02 00.0**	**+0.8**	
OBN				*e*			23 06 13.2		
OBN				*e*PPP	PPP		23 08 26.7		
OBN				*i*			23 12 38.2		
OBN				*i*			23 15 22.6		

OBN				*e*SS	SS		23 21 03.5	+1.6	
OBN				*e*SSS	SSS		23 24 56.6		
OBN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
OBN				MLR	MLR				
	comp=Z,8µm,20.0s								
MVCO	**Mesa Verde**	**104.58**	**53**	P	**Pdif**		**23 02 04.7**	**+1.6**	
	baz=277								
LAO	**LASA Array**	**104.82**	**43**	IAMs_20	IAMs_20		23 52 55.8		
	comp=Z,7µm,19.0s								
LAO	**LASA Array**	**104.82**	**43**	P	**Pdif**		**23 02 01.7**	**-2.0**	
	baz=281								
K22A	**Casper**	**105.32**	**47**	P	**PKiKP**		**23 06 17.9**	**-2.2**	
	baz=280								
SMCO	**Snowmass**	**105.51**	**50**	IAMs_20	IAMs_20		23 42 01.9		
	comp=Z,11µm,21.0s								
121A	**Cookes Peak, D**	**105.67**	**57**	P	**PKiKP**		**23 06 16.8**	**-4.3**	
	baz=276								
DGMT	**Dagmar**	**105.80**	**41**	IAMs_20	IAMs_20		23 44 59.5		
	comp=Z,9µm,21.0s								
Y22D	**IRIS PASSCAL I**	**106.22**	**56**	IAMs_20	IAMs_20		23 43 28.2		
	comp=Z,11µm,21.0s								
ISCO	**Idaho Springs**	**106.46**	**50**	IAMs_20	IAMs_20		23 48 05.9		
	comp=Z,8µm,20.0s								
ANMO	**Albuquerque**	**106.49**	**55**	IAMs_20	IAMs_20		23 42 44.3		
	comp=Z,7µm,21.0s								
EPT	**El Paso**	**106.83**	**58**	IAMs_20	IAMs_20		23 41 58.5		
	comp=Z,9µm,22.0s								
RSSD	**Black Hills**	**106.83**	**45**	IAMs_20	IAMs_20		23 48 28.3		
	comp=Z,7µm,19.0s								
BNN	**Bunyan**	**107.79**	**310**	IAMs_20	IAMs_20		23 57 24.8		
	comp=Z,9µm,21.0s								
MNK	**Minsk**	**108.87**	**327**	*i* P	**Pdif**		**23 02 16.2**	**-5.1**	
MNK				*i*			23 13 37.8		
MNK				*i* PS	**PS**		**23 16 14.6**	**-4.5**	
MNK				*i* SS	SS		23 22 08.9	-0.6	
MNK				pmax	pmax				
	comp=N,4.0nm,0.7s								
MNK				pmax	pmax				
	comp=E,5.0nm,0.7s								
MNK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MNK				MLR	MLR				
	comp=E,2µm,21.0s								
MNK				MLR	MLR				
	comp=Z,8µm,22.0s								
MNK				MLR	MLR				
	comp=N,5µm,21.0s								
BRTR	**Keskin Array B**	**109.31**	**311**	Pdiff	**Pdif**		**23 02 22.6**	**-1.3**	
	comp=N,0.7nm,0.8s,baz=59,slow=6.9,SNR=2.9								
BRTR				PP	**PP**		**23 06 56.8**	**0.0**	
	comp=N,3.2nm,1.0s,baz=89,slow=6.5,SNR=6.2								
AKASG	**Malin Array Be**	**109.41**	**323**	PP	**PP**		**23 06 58.8**	**+1.9**	
	comp=N,2.7nm,0.9s,baz=60,slow=7.3,SNR=4.8								
TXAR	**Lajitas Array**	**109.55**	**60**	PKKPab	PKKPab		23 17 44.8	+0.1	
	comp=N,1.1nm,0.8s,baz=50,slow=2.8,SNR=4.5								
ULM	**Lac du Bonnet**	**110.52**	**37**	PKKPbc	PKKPbc		23 17 27.6	-3.1	
	comp=N,1.6nm,0.9s,baz=195,slow=12,SNR=1.8								
KIS	**Kishinev**	**110.84**	**319**	*e*PS	PS		23 16 36.0	-2.7	
KIS				*e*L	L		23 49 40.0		
KIS				LQM			23 53 14.0		
	comp=N,2µm,20.0s								
KIS				LRM	MLR		23 56 07.0		
	comp=N,1µm,17.0s								
MILM	**Milestii Mici**	**110.87**	**319**	*e*PP	**PP**		**23 07 07.0**	**-0.6**	
MILM	**Milestii Mici**	**110.87**	**319**	*e*PS	PS		23 16 34.0	-4.9	
MILM				*e*L	L		23 41 49.0		
MILM				LRM	MLR		23 52 59.0		
	comp=N,2µm,22.5s								
WMOK	**Wichita Mounta**	**112.75**	**54**	IAMs_20	IAMs_20		23 47 58.9		
	comp=Z,8µm,20.0s								
ELL	**Elmali**	**112.82**	**308**	IAMs_20	IAMs_20		23 57 30.1		
	comp=Z,9µm,22.0s								
LVV	**L'vov**	**112.84**	**323**	*e*PKIKP	**PKiKP**		**23 06 38.7**	**

	comp=Z,9μm,19.8s							
RICC	**Richard**	**118.15**	**327**	AMS	AMS	00 02 50.0		
	comp=Z,16μm,17.6s							
PRU	**Pruhonice**	**118.20**	**327**	*e*PP	**PP**	**23 07 59.7**	**+0.5**	
PRU				*e*SP	SP	23 17 41.9	0.0	
PRU				AMS	AMS	23 59 30.0		
	comp=Z,8μm,19.8s							
PRA	**Prague**	**118.22**	**327**	*e*SP	SP	23 17 43.2	+1.2	
PRA				AMS	AMS	23 58 50.0		
	comp=Z,9μm,20.8s							
CLL	**Collm**	**118.31**	**329**	*e*PKIKP	**PKPdf**	**23 06 44.0**	**-0.2**	
CLL				*i*		23 07 58.2		
CLL				pmax	pmax			
	comp=Z,89nm,2.5s							
CLL				MLR	MLR			
	comp=Z,13μm,20.0s							
GO08	**Villa O'Higgin**	**118.31**	**152**	IAMs_20	IAMs_20	23 49 45.5		
	comp=Z,6μm,21.0s							
RONA	**Rosalia, Austr**	**118.36**	**324**	*e*pPKP	**PKiKP**	**23 06 47.0**	**+2.4**	
	comp=Z,5.8nm,1.0s							
RONA				*e*PKKP	**PKKPbc**	**23 17 02.1**	**-1.7**	
	comp=Z,5.6nm,1.5s							
RONA				*e*SKKP		23 21 00.2		
	comp=Z,5.3nm,1.4s							
HSKC	**Hora Svate Kat**	**118.47**	**328**	*e*PP	**PP**	**23 08 04.3**	**+3.3**	
HSKC				AMS	AMS	23 59 40.0		
	comp=Z,12μm,20.5s							
CONA	**Conrad Observa**	**118.51**	**324**	*e*pPKiKP	**PKiKP**	**23 06 49.0**	**+4.1**	
	comp=Z,5.0nm,1.4s							
CONA				*e*PKKP	**PKKPab**	**23 17 04.1**	**-0.6**	
	comp=Z,5.0nm,1.2s							
CONA				*e*SKKP		23 21 01.9		
	comp=Z,5.2nm,1.3s							
ZVC	**Zvikov**	**118.69**	**326**	*e*PKP	**PKiKP**	**23 06 50.3**	**+5.3**	
ZVC				*e*PP	**PP**	**23 08 04.3**	**+1.8**	
ZVC				AMS	AMS	00 00 00.0		
	comp=Z,9μm,19.9s							
TIR	**Tirane**	**118.85**	**316**	IAMs_20	IAMs_20	00 00 24.1		
	comp=Z,8μm,22.0s							
CKRC	**Cesky Krumlov**	**118.95**	**326**	*e*PKP	**PKPdf**	**23 06 44.6**	**-0.9**	
CKRC				AMS	AMS	23 59 50.0		
	comp=Z,11μm,20.3s							
CKRC	**Cesky Krumlov**	**118.95**	**326**	*e*PKIKP	**PKPdf**	**23 06 44.6**	**-0.9**	
CKRC				MLR	MLR			
	comp=Z,11μm,20.3s							
ARSA	**Arzberg**	**119.04**	**324**	*e*PKKP		23 17 01.0		
	comp=Z,7.3nm,1.6s							
AY03	**Cochrane**	**119.16**	**151**	IAMs_20	IAMs_20	23 49 37.8		
	comp=Z,5μm,20.0s							
KHC	**Kasperske Hory**	**119.19**	**326**	*e*PKP	**PKPdf**	**23 06 45.6**	**-0.4**	
KHC				*e*pPKP	**pPKPdf**	**23 06 50.5**	**-2.9**	
KHC				*e*PP	**PP**	**23 08 07.4**	**+1.3**	
KHC				*e*SP	SP	23 17 50.0	-0.9	
KHC				AMS	AMS	00 00 20.0		
	comp=Z,9μm,19.2s							
KHC	**Kasperske Hory**	**119.19**	**326**	*e*PKIKP	**PKPdf**	**23 06 45.6**	**-0.4**	
KHC				*e*		23 06 50.5		
KHC				*e*		23 08 07.4		
KHC				*e*SP	SP	23 17 50.0	-0.9	
KHC				MLR	MLR			
	comp=Z,9μm,19.2s							
NKC	**Novy Kostel**	**119.21**	**328**	*e*SP	SP	23 17 50.9	0.0	
NKC				AMS	AMS	00 01 10.0		
	comp=Z,12μm,18.4s							
GERES	**GERESS Array B**	**119.28**	**326**	PKP	**PKPdf**	**23 06 44.6**	**-1.7**	
	comp=Z,1.0nm,0.8s,baz=44,slow=4.1,SNR=4.0							
GERES				PKKPbc	**PKKPbc**	**23 16 59.5**	**-1.1**	
	comp=Z,0.9nm,0.8s,baz=225,slow=5.1,SNR=4.3							
MOX	**Moxa**	**119.41**	**328**	*e*L	L	23 55 56.9		
	comp=Z,9μm,21.7s							
MOA	**Molln**	**119.48**	**325**	*e*pPKP	**pPKPdf**	**23 06 50.4**	**-3.6**	
	comp=Z,7.2nm,1.3s							
MOA				*e*PKKP	**PKKPbc**	**23 16 59.0**	**-0.7**	
	comp=Z,17nm,1.6s							
SOKA	**Soboth**	**119.62**	**323**	*e*PKiKP	**PKiKP**	**23 06 48.3**	**+1.2**	
	comp=Z,7.1nm,1.2s							
SOKA				*i* PKKP	**PKKPab**	**23 17 00.3**	**+0.4**	
	comp=Z,4.4nm,0.9s							
SOKA				*e*SKKP		23 20 57.2		
	comp=Z,4.3nm,1.4s							
BIOA	**Bad Ischl, Aus**	**119.92**	**325**	*e*PKKP		23 16 59.6		
	comp=Z,7.1nm,1.1s							
OBKA	**Obir**	**119.99**	**323**	*e*PKiKP	**PKiKP**	**23 06 49.6**	**+1.8**	
	comp=Z,6.6nm,1.2s							
OBKA				*e*PKKP	**PKKPab**	**23 16 58.7**	**+0.4**	
	comp=Z,11nm,1.2s							
GRB3	**Grafenberg Arr**	**120.05**	**327**	*e*PP	**PP**	**23 08 11.7**	**-0.2**	
VBMS	**Vicksburg**	**120.06**	**55**	IAMs_20	IAMs_20	23 53 57.5		
	comp=Z,7μm,21.0s							
GRB1	**Grafenberg Arr**	**120.10**	**327**	*e*PP	**PP**	**23 08 12.2**	**0.0**	
GRB2	**Grafenberg Arr**	**120.16**	**327**	*e*PP	**PP**	**23 08 12.3**	**-0.4**	
GRF	**Grafenberg Arr**	**120.17**	**328**	*e*PKPdf	**PKiKP**	**23 06 54.5**	**+6.6**	
	baz=53,slow=6.4							
GRF				*e*PP	**PP**	**23 08 12.1**	**-0.6**	
GRF				*e*L	L	00 00 45.3		
	comp=Z,8μm,20.9s							
GRB5	**Grafenberg Arr**	**120.25**	**327**	*e*PP	**PP**	**23 08 12.4**	**-0.8**	
GRC1	**Grafenberg Arr**	**120.40**	**327**	*e*PP	**PP**	**23 08 13.7**	**-0.6**	
KBA	**Koelnbreinsper**	**120.41**	**324**	PKiKP	**PKiKP**	**23 06 49.4**	**+0.7**	
	comp=Z,4.9nm,1.0s							
KBA				*e*PKKP	**PKKPab**	**23 16 57.1**	**+0.5**	
	comp=Z,5.2nm,1.5s							
GRC3	**Grafenberg Arr**	**120.42**	**327**	*e*PP	**PP**	**23 08 14.2**	**-0.3**	
MYKA	**Terra Mystica**	**120.47**	**324**	*e*PKP	**PKPdf**	**23 06 47.1**	**-1.5**	
	comp=Z,6.2nm,1.2s							
GRC2	**Grafenberg Arr**	**120.55**	**327**	*e*PP	**PP**	**23 08 15.1**	**-0.3**	
COYC	**Coyhaique**	**120.59**	**150**	IAMs_20	IAMs_20	23 52 00.8		
	comp=Z,5μm,20.0s							
PRED	**Cave del Predi**	**120.61**	**324**	IAMs_20	IAMs_20	00 01 15.1		
	comp=Z,6μm,20.0s							
LESA	**Schwarzleotal**	**120.61**	**325**	*e*PKiKP	**PKiKP**	**23 06 49.9**	**+0.9**	
	comp=Z,11nm,1.2s							
LESA				*e*PKKP	**PKKPab**	**23 16 53.2**	**-2.4**	
	comp=Z,8.9nm,2.0s							
SABO	**M.te Sabotino**	**120.83**	**323**	IAMs_20	IAMs_20	00 02 58.3		
	comp=Z,8μm,19.0s							
WVT	**Waverly**	**120.96**	**50**	P	**PKiKP**	**23 06 50.7**	**+0.8**	
	baz=290							
ABTA	**Abfaltersbach**	**121.07**	**324**	*e*PKP	**PKPdf**	**23 06 48.3**	**-1.4**	
	comp=Z,12nm,1.0s							
ABTA				*e*PKKP	**PKKPbc**	**23 16 56.0**	**+2.1**	
	comp=Z,9.1nm,1.6s							
PLAL	**Pickwick Lake**	**121.16**	**51**	IAMs_20	IAMs_20	23 56 38.1		
	comp=Z,7μm,19.0s							
STAL	**STALIGIAL**	**121.21**	**324**		**PKPdf**	**23 06 49.1**	**-0.9**	
WATA	**Walderalm**	**121.29**	**325**	*e*PKP	**PKPdf**	**23 06 48.9**	**-1.4**	
	comp=Z,16nm,1.6s							
WATA				*e*PKKP	**PKKPbc**	**23 16 55.0**	**+1.8**	
	comp=Z,7.6nm,1.3s							
WATA				*i* SKKP		23 20 54.1		
	comp=Z,14nm,1.5s							
WTTA	**Wattenberg**	**121.30**	**325**	*e*PKP	**PKPdf**	**23 06 50.1**	**-0.2**	
	comp=Z,24nm,1.6s							
WTTA				*e*PKKP	**PKKPab**	**23 16 52.2**	**-0.5**	
	comp=Z,10.0nm,1.2s							
WTTA				*i* SKKP		23 20 55.4		
	comp=Z,10nm,1.5s							
GO07	**Milladeo Hill,**	**121.44**	**147**	IAMs_20	IAMs_20	23 52 38.8		
	comp=Z,5μm,18.0s							
SGRT	**San Giovanni R**	**121.49**	**318**	IAMs_20	IAMs_20	00 02 05.8		
	comp=Z,5μm,21.0s							
MOTA	**Moosalm**	**121.55**	**325**	*e*PKP	**PKPdf**	**23 06 48.1**	**-2.7**	
	comp=Z,8.6nm,1.0s							
MOTA				*e*PKKP	**PKKPbc**	**23 16 53.0**	**+0.8**	
	comp=Z,11nm,1.4s							
MOTA				*e*SKKP		23 20 54.1		
	comp=Z,10nm,1.4s							
SQTA	**Sankt Quirin**	**121.56**	**325**	*e*PKP	**PKiKP**	**23 06 51.2**	**+0.3**	
	comp=Z,8.3nm,1.0s							
SQTA				*i* PKKP	**PKKPbc**	**23 16 52.8**	**+0.7**	
	comp=Z,11nm,1.4s							
SQTA				*e*SKKP		23 20 54.1		
	comp=Z,8.5nm,1.4s							
STU	**Stuttgart**	**121.78**	**328**	IAMs_20	IAMs_20	00 01 59.8		
	comp=Z,5μm,20.0s							
P49A	**Miami Univ. Ec**	**121.94**	**45**	P	**PKiKP**	**23 06 54.3**	**+2.5**	
	baz=295							
FETA	**Feichten**	**121.95**	**325**	PKP	**PKPdf**	**23 06 51.4**	**-0.1**	
	comp=Z,11nm,1.0s							
FETA				*e*PKKP	**PKKPbc**	**23 16 51.8**	**+1.1**	
	comp=Z,9.8nm,1.4s							
FETA				*e*SKKP		23 20 52.7		
	comp=Z,14nm,1.4s							
CTI	**Castel Tesino**	**121.95**	**324**	IAMs_20	IAMs_20	00 02 24.5		
	comp=Z,9μm,20.0s							
LL06	**Loncomilla**	**122.06**	**146**	IAMs_20	IAMs_20	23 51 41.2		
	comp=Z,5μm,20.0s							
DAVA	**Damuels**	**122.27**	**326**	*i* PKKP		23 16 50.2		
	comp=Z,8.3nm,1.0s							
TEOL	**Teolo**	**122.31**	**323**	IAMs_20	IAMs_20	00 01 48.9		
	comp=Z,8μm,21.0s							
GUMA	**Gualdo di Mace**	**122.45**	**320**	IAMs_20	IAMs_20	00 06 16.1		
	comp=Z,4μm,18.0s							
BFO	**Black Forest**	**122.51**	**328**	IAMs_20	IAMs_20	00 02 31.0		
	comp=Z,7μm,20.0s							
INTR	**Introdacqua**	**122.59**	**319**	IAMs_20	IAMs_20	00 02 11.9		
	comp=Z,6μm,21.0s							
PAOL	**Paolisi**	**122.60**	**318**	IAMs_20	IAMs_20	00 02 28.4		
	comp=Z,5μm,22.0s							
FDMO	**Fiordimonte**	**122.62**	**320**	IAMs_20	IAMs_20	00 06 21.6		
	comp=Z,5μm,19.0s							
LRAL	**Lakeview Retre**	**122.64**	**53**	P	**PKiKP**	**23 06 55.9**	**+2.6**	
	baz=289							
EKA	**Eskdalemuir Ar**	**122.66**	**340**	PKP	**PKPdf**	**23 06 50.6**	**-1.8**	
	comp=Z,1.3nm,0.7s,baz=90,slow=0.7,SNR=2.1							
LL05	**Los Muermos**	**122.68**	**145**	IAMs_20	IAMs_20	23 49 36.8		
	comp=Z,5μm,21.0s							
NRCA	**Norcia**	**122.70**	**320**	IAMs_20	IAMs_20	00 06 36.8		
	comp=Z,5μm,18.0s							
SALO	**Salr**	**122.84**	**324**	IAMs_20	IAMs_20	00 02 51.2		
	comp=Z,5μm,20.0s							
ACSO	**Alum Creek Sta**	**122.84**	**43**	P	**PKiKP**	**23 06 56.2**	**+2.7**	
	baz=297							
MURB	**Monte Urbino**	**122.87**	**321**	IAMs_20	IAMs_20	00 04 13.0		
	comp=Z,7μm,20.0s							
CEL	**Celeste**	**122.89**	**314**	IAMs_20	IAMs_20	00 03 20.1		
	comp=Z,5μm,22.0s							
TUE	**Stuetta**	**123.04**	**325**	IAMs_20	IAMs_20	00 03 05.3		
	comp=Z,9μm,21.0s							
CESX	**Cesi**	**123.16**	**320**	IAMs_20	IAMs_20	00 06 57.7		
	comp=Z,6μm,18.0s							
ZCCA	**Zocca**	**123.26**	**323**	IAMs_20	IAMs_20	00 05 19.3		
	comp=Z,9μm,20.0s							
PRMA	**PARMA**	**123.44**	**323**	IAMs_20	IAMs_20	00 02 32.9		
	comp=Z,6μm,20.0s							
OSSC	**Osservatorio P**	**123.53**	**322**	IAMs_20	IAMs_20	00 05 05.6		
	comp=Z,5μm,20.0s							
WIN	**Windhoek**	**123.67**	**240**	IAMs_20	IAMs_20	23 55 50.6		
	comp=Z,8μm,22.0s							
P52A	**Corning**	**123.69**	**44**	P	**PKiKP**	**23 06 56.8**	**+1.7**	
	baz=297							
PAYG	**Puerto Ayora**	**123.71**	**93**	IAMs_20	IAMs_20	23 50 39.8		
	comp=Z,6μm,20.0s							
M53A	**WI Miller and**	**123.83**	**41**	IAMs_20	IAMs_20	23 53 13.5		
	comp=Z,9μm,22.0s							
VA04	**Juan Fernndez**	**123.90**	**135**	IAMs_20	IAMs_20	23 51 35.6		
	comp=Z,5μm,20.0s							
TZTN	**Tazewell**	**124.01**	**48**	P	**PKiKP**	**23 06 58.6**	**+2.7**	
	baz=294							
CASP	**Castiglione de**	**124.15**	**321**	IAMs_20	IAMs_20	00 03 01.1		
	comp=Z,5μm,21.0s							
MSSA	**Maissana**	**124.16**	**323**	IAMs_20	IAMs_20	00 06 49.0		
	comp=Z,5μm,20.0s							
LR05	**Currie**	**124.29**	**145**	IAMs_20	IAMs_20	23 52 57.5		
	comp=Z,7μm,21.0s							
TSUM	**Tsumeb**	**124.36**	**244**	IAMs_20	IAMs_20	00 04 28.1		
	comp=Z,6μm,19.0s							
TEIG	**Tepich**	**124.75**	**68**	IAMs_20	IAMs_20	23 53 03.2		
	comp=Z,5μm,21.0s							
PLCA	**Paso Flores**	**124.76**	**147**	PKPdf	**PKPdf**	**23 06 56.7**	**-0.4**	
PLCA				IAMs_20	IAMs_20	23 52 46.7		
	comp=Z,5μm,21.0s							
PLCA	**Paso Flores**	**124.76**	**147**	PKIKP	**PKPdf**	**23 06 56.7**	**-0.4**	
PLCA				MLR	MLR			
	comp=Z,5μm,21.0s							
PLCA	**Paso Flores**	**124.76**	**147**	PKP	**PKPdf**	**23 06 55.6**	**-1.5**	
	comp=Z,6.2nm,0.8s,baz=16,slow=4.5,SNR=4.7							
GO06	**Curarrehue**	**125.03**	**145**	IAMs_20	IAMs_20	23 52 35.0		
	comp=Z,4μm,20.0s							
MCWV	**Mont Chateau**	**125.24**	**43**	P	**PKiKP**	**23 07 01.0**	**+2.8**	
	baz=299							
GOGA	**Godfrey**	**125.29**	**51**	IAMs_20	IAMs_20	00 02 55.4		
	comp=Z,7μm,19.0s							
GOGA	**Godfrey**	**125.29**	**51**	P	**PKiKP**	**23 07 00.4**	**+1.9**	
	baz=292							
DSB	**Dublin**	**125.46**	**340**	IAMs_20	IAMs_20	00 06 17.9		
	comp=Z,5μm,20.0s							
LONY	**Lake Ozonia**	**125.83**	**35**	IAMs_20	IAMs_20	23 55 02.8		
	comp=Z,8μm,22.0s							
BLA	**Blacksburg**	**125.99**	**46**	IAMs_20	IAMs_20	23 58 37.3		
	comp=Z,8μm,20.0s							
BLA	**Blacksburg**	**125.99**	**46**	P	**PKiKP**	**23 07 01.5**	**+1.6**	
	baz=297							
SSPA	**Standing Stone**	**126.05**	**41**	IAMs_20	IAMs_20	23 57 12.3		
	comp=Z,8μm,20.0s							
SSPA	**Standing Stone**	**126.05**	**41**	P	**PKiKP**	**23 07 01.5**	**+1.7**	
	baz=302							
KMSC	**Kings Mountain**	**126.22**	**48**	P	**PKiKP**	**23 07 01.9**	**+1.6**	
BINY	**Binghamton**	**126.41**	**38**	P	**PKiKP**	**23 07 02.2**	**+1.7**	
	baz=304							
SSB	**Saint Sauveur**	**126.44**	**327**	IAMs_20	IAMs_20	00 04 41.1		
	comp=Z,6μm,20.0s							
TGUH	**Tegucigalpa,Un**	**126.56**	**75**	IAMs_20	IAMs_20	23 57 27.5		
	comp=Z,8μm,19.0s							
LBNH	**Lisbon**	**127.56**	**34**	P	**PKPdf**	**23 07 01.5**	**-0.7**	
	baz=310							
L61B	**Northampton**	**128.25**	**36**	P	**PKiKP**	**23 07 05.7**	**+1.5**	
	baz=308							
BO02	**Sierra Bellavi**	**128.60**	**141**	IAMs_20	IAMs_20	23 54 32.1		
	comp=Z,4μm,20.0s							
BO01	**Tunca**	**128.67**	**140**	IAMs_20	IAMs_20	23 54 40.9		
	comp=Z,5μm,21.0s							
DWPF	**Disney Wildern**	**128.80**	**56**	IAMs_20	IAMs_20	23 59 42.3		
	comp=Z,6μm,21.0s							
HRV	**Adam Dziewonsk**	**128.87**	**35**	IAMs_20	IAMs_20	00 00 41.1		
	comp=Z,8μm,20.0s							
HRV	**Adam Dziewonsk**	**128.87**	**35**	P	**PKiKP**	**23 07 07.1**	**+1.7**	
	baz=309							
MT02	**Curacav**	**129.35**	**139**	IAMs_20	IAMs_20	23 51 45.1		
	comp=Z,5μm,22.0s							
LMEL	**Las Melosas**	**129.58**	**141**	IAMs_20	IAMs_20	23 55 49.9		
	comp=Z,4μm,20.0s							
MT13	**San Alfonso**	**129.59**	**140**	IAMs_20	IAMs_20	23 56 28.3		
	comp=Z,4μm,20.0s							
HDC	**Heredia**	**129.99**	**80**	IAMs_20	IAMs_20	23 57 05.7		
	comp=Z,7μm,19.0s							
CO06	**Fray Jorge**	**130.60**	**136**	IAMs_20	IAMs_20	23 55 32.7		
	comp=Z,5μm,20.0s							
CO02	**Combarbal**	**130.72**	**137**	IAMs_20	IAMs_20	23 59 31.6		
	comp=Z,4μm,20.0s							
CO05	**La Serena**	**131.33**	**136**	IAMs_20	IAMs_20	23 52 54.0		
	comp=Z,5μm,22.0s							
CO01	**Juntas del Tor**	**132.08**	**137**	IAMs_20	IAMs_20	23 55 59.9		
	comp=Z,4μm,21.0s							
AC04	**Llanos de Chal**	**132.45**	**134**	IAMs_20	IAMs_20	23 58 55.0		
	comp=Z,4μm,19.0s							
AC05	**El Transito**	**132.65**	**135**	IAMs_20	IAMs_20	23 56 57.0		
	comp=Z,4μm,21.0s							
GO03	**Copiap**	**133.41**	**134**	IAMs_20	IAMs_20	23 59 32.4		
	comp=Z,4μm,19.0s							
MCRA	**Macar, Loja**	**133.53**	**99**	*e*P	PKiKP	23 07 24.6	+8.9	
ARNL	**Arenillas**	**133.54**	**98**	IAMs_20	IAMs_20	23 58 49.1		
	comp=Z,5μm,19.0s							
BCIP	**Isla Barro Col**	**134.25**	**81**	IAMs_20	IAMs_20	23 55 09.6		
	comp=Z,7μm,21.0s							
NNA	**Nana**	**134.81**	**111**	IAMs_20	IAMs_20	23 57 54.7		
	comp=Z,4μm,20.0s							
ESDC	**Sonseca Array**	**134.85**	**327**	PKP	**PKPdf**	**23 07 15.5**	**-0.7**	
	comp=Z,0.4nm,0.8s,baz=35,slow=3.3,SNR=1.6							
ESDC				PP	**PP**	**23 09 51.9**	**+2.3**	
	comp=Z,1.4nm,1.0s,baz=69,slow=7.0,SNR=1.7							
PB14	**IPOC Station P**	**134.96**	**130**	IAMs_20	IAMs_20	23 56 38.2		
	comp=Z,4μm,21.0s							
MTDJ	**Mount Denham**	**135.09**	**68**	IAMs_20	IAMs_20	00 05 52.1		
	comp=Z,4μm,19.0s							
BOSC	**San Juan Bosco**	**135.15**	**98**		**PKiKP**	**23 07 18.4**	**-0.7**	
OTAV	**Otavalo**	**135.58**	**93**	IAMs_20	IAMs_20	23 58 43.2		
	comp=Z,5μm,20.0s							
TULM	**Tulcn-Chalpat**	**136.28**	**93**	IAMs_20	IAMs_20	23 56 16.8		
	comp=Z,6μm,22.0s							
PB04	**IPOC Station P**	**136.39**	**128**	IAMs_20	IAMs_20	23 57 57.3		
	comp=Z,5μm,21.0s							
PB15	**IPOC Station P**	**136.45**	**129**	IAMs_20	IAMs_20	23 57 13.7		
	comp=Z,5μm,21.0s							
BONI	**La Bonita**	**136.51**	**93**	*e*P	**PKiKP**	**23 07 23.4**	**+1.4**	
PB06	**IPOC Station P**	**136.64**	**129**	IAMs_20	IAMs_20	23 56 33.9		
	comp=Z,4μm,21.0s							
GCUF	**Volcan Galeras**	**136.75**	**92**	*e*P	**PKiKP**	**23 07 24.6**	**+1.8**	
GTBY	**Guantanamo Bay**	**136.86**	**64**	IAMs_20	IAMs_20	00 09 21.7		
	comp=Z,5μm,20.0s							
PB02	**IPOC Station P**	**137.11**	**127**	IAMs_20	IAMs_20	23 58 27.7		
	comp=Z,5μm,20.0s							
LVC	**Limon Verde**	**137.21**	**129**	IAMs_20	IAMs_20	23 57 14.8		
	comp=Z,5μm,20.0s							
TA01	**Diego Aracena**	**137.27**	**126**	IAMs_20	IAMs_20	00 02 43.9		
	comp=Z,4μm,19.0s							
PB09	**IPOC Station P**	**137.39**	**128**	IAMs_20	IAMs_20	23 58 15.7		
	comp=Z,5μm,22.0s							
JAMC	**Jamundi, Valle**	**137.52**	**89**	*e*P	**PKiKP**	**23 07 25.7**	**+1.7**	
PB01	**IPOC Station P**	**137.58**	**127**	IAMs_20	IAMs_20	23 58 51.1		
	comp=Z,6μm,21.0s							
AF01	**San Pedro de A**	**137.58**	**130**	IAMs_20	IAMs_20	23 58 12.6		
	comp=Z,4μm,21.0s							
PB12	**IPOC Station P**	**138.09**	**123**	IAMs_20	IAMs_20	23 56 04.0		
	comp=Z,4μm,22.0s							
AP01	**Chacalluta**	**138.19**	**123**	IAMs_20	IAMs_20	23 55 55.7		
	comp=Z,4μm,21.0s							
CBOC	**Ciudad Bolivar**	**138.19**	**85**	*e*P	**PKiKP**	**23 07 28.1**	**+2.8**	
GARC	**Garzon, Huila**	**138.66**	**91**	*e*P	**PKiKP**	**23 07 26.9**	**+0.5**	
ANIL	**Santa Ana**	**138.81**	**87**	*e*P	**PKiKP**	**23 07 32.8**	**+6.0**	
GUY2C	**Guyana, Caldas**	**138.85**	**86**	*e*P	**PKiKP**	**23 07 28.1**	**+1.1**	
PB16	**IPOC Station P**	**138.90**	**123**	IAMs_20	IAMs_20	23 55 44.6		
	comp=Z,5μm,21.0s							
ORTC	**Ortega, Tolima**	**138.96**	**88**	*e*P	**PKPdf**	**23 07 24.6**	**0.0**	
PB18	**Visviri**	**139.28**	**122**	IAMs_20	IAMs_20	23 57 18.6		
	comp=Z,5μm,21.0s							
ROSC	**El Rosal**	**139.89**	**87**	IAMs_20	IAMs_20	00 00 03.6		
	comp=Z,5μm,20.0s							
ROSC	**El Rosal**	**139.89**	**87**	PKP	**PKPdf**	**23 07 23.9**	**-2.7**	
	comp=Z,16nm,0.9s,baz=180,slow=20,SNR=1.8							
CZSB	**Cruzeiro do Su**	**139.90**	**106**	*e*P	**PKPdf**	**23 07 25.7**	**-0.4**	
SPBC	**San Pablo de B**	**140.13**	**85**	*e*P	**PKiKP**	**23 07 30.4**	**+1.3**	
ITQB	**Itaqui**	**140.54**	**148**	PKPdf	**PKPdf**	**23 07 26.2**	**-0.7**	
SDDR	**Presa de Saban**	**140.58**	**64**	IAMs_20	IAMs_20	00 03 42.3		
	comp=Z,8μm,22.0s							
OCAC	**Ocana**	**140.75**	**81**	*e*P	**PKiKP**	**23 07 31.6**	**+1.1**	
CRJC	**Cerrejon, Guaj**	**140.88**	**77**	*e*P	**PKPdf**	**23 07 29.2**	**+1.2**	
PTGC	**Puerto Gaitan,**	**142.07**	**88**	*e*P	**PKPdf**	**23 07 26.9**	**-3.2**	
TAMC	**Tame, Arauca**	**142.37**	**84**	*e*P	**PKPdf**	**23 07 28.1**	**-2.6**	
CPUP	**Villa Florida**	**142.75**	**144**	IAMs_20	IAMs_20	00 03 33.2		
	comp=Z,5μm,21.0s							
CPUP	**Villa Florida**	**142.75**	**144**	PKhKP	PKPpre	23 07 26.2		
	comp=Z,3.1nm,0.8s,baz=186,slow=6.9,SNR=3.9							
SDV	**Santo Domingo**	**143.33**	**80**	PKPdf	PKPbc	23 07 30.3	+0.7	
SDV	**Santo Domingo**	**143.33**	**80**	*e*P	**PKPdf**	**23 07 31.6**	**-1.0**	
TOA0	**Torodi Ar. Sit**	**143.36**	**287**	PKPdf	PKPbc	23 07 29.8	+0.4	
TORD	**Torodi Ar. Bea**	**143.36**	**287**	PKhKP	PKPpre	23 07 27.8		
	comp=Z,6.0nm,0.8s,baz=60,slow=4.0,SNR=25							
TORD				PP	**PP**	**23 10 45.9**	**+2.3**	
	comp=Z,8.7nm,1.0s,baz=50,slow=7.2,SNR=5.1							
HATO	**Hato, Curacao**	**144.48**	**74**	IAMs_20	IAMs_20	00 02 12.2		
	comp=Z,5μm,22.0s							
MLPR	**Magueyes Islan**	**144.72**	**64**	PKPdf	**PKPdf**	**23 07 34.0**	**-0.5**	
SJG	**San Juan**	**145.47**	**63**	IAMs_20	IAMs_20	00 11 50.5		
	comp=Z,6μm,20.0s							
SJG	**San Juan**	**145.47**	**63**	*e*P	**PKPab**	**23 07 36.3**	**+0.2**	
SIV	**San Ignacio**	**147.01**	**127**	PKPbc	**PKPbc**	**23 07 40.2**	**-0.4**	
	comp=Z,4.5nm,0.8s,baz=227,slow=2.5,SNR=98							
SMRT	**St. Maarten**	**148.20**	**61**	IAMs_20	IAMs_20	00 07 44.6		
	comp=Z,5μm,22.0s							
SABA	**Saba**	**148.22**	**62**	IAMs_

SRIT					IAmb	IAmb	23 00 50.6	
	comp=Z,35nm,1.1s							
JOHN	**Johnston Islan**	**48.19**	**64**	P		**P**	**23 00 47.2**	**-2.0**
SLVN	**Son La**	**48.39**	**303**	P		**P**	**23 00 51.3**	**+0.5**
SLVN				IAmb		IAmb	23 00 54.0	
	comp=Z,21nm,1.0s							
ENH	**Enshi**	**48.78**	**316**	P		**P**	**23 00 54.5**	**+0.9**
ENH				IAmb		IAmb	23 00 56.0	
	comp=Z,31nm,1.2s							
GSI	**Gunungsitoli**	**48.91**	**275**	P		**P**	**23 00 53.5**	**-1.3**
USRK	**Ussuriysk Ar.**	**49.43**	**347**	P		**P**	**23 00 59.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**49.43**	**347**	P		**P**	**23 00 58.4**	**+0.1**
	comp=Z,8.0nm,0.8s,baz=167,slow=7.5,SNR=8.4							
	comp=Z,8.0nm,0.8s							
USA0B	**Ussuriysk Arra**	**49.43**	**347**	P		**P**	**23 00 58.4**	**+0.2**
USA0B				IAmb		IAmb	23 01 01.2	
	comp=Z,16nm,1.0s							
CRAI	**Chiangrai**	**50.95**	**300**	P		**P**	**23 01 09.8**	**-0.4**
CRAI				IAmb		IAmb	23 01 13.4	
	comp=Z,32nm,1.0s							
KMI	**Kunming**	**51.06**	**307**	⇑P		**P**	**23 01 10.5**	**-0.7**
KMI				pmax		pmax		
	comp=Z,39nm,1.3s							
CM31	**Chiang Mai Arr**	**51.55**	**297**	P		**P**	**23 01 15.1**	**+0.3**
CM31				IAmb		IAmb	23 01 18.1	
	comp=Z,32nm,0.9s							
CMAR	**Chiang Mai Arr**	**51.55**	**297**	P		**P**	**23 01 13.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**51.55**	**297**	P		P	23 01 12.7	-2.1
	comp=Z,13nm,0.8s,baz=118,slow=6.0,SNR=6.0							
	comp=Z,13nm,0.8s							
CHTO	**Chiang Mai**	**51.68**	**297**	P		**P**	**23 01 16.6**	**+0.8**
CHTO				IAmb		IAmb	23 01 19.2	
	comp=Z,35nm,1.3s							
PEA0B	**Petropavlovsk-**	**57.47**	**8**	P		**P**	**23 01 58.4**	**+1.2**
PETK	**Petropavlovsk-**	**57.47**	**8**	P		**P**	**23 01 57.5**	**+0.2**
PETK	**Petropavlovsk-**	**57.47**	**8**	P		**P**	**23 01 58.5**	**+1.3**
	comp=Z,6.5nm,1.1s,baz=169,slow=2.9,SNR=2.4							
	comp=Z,6.5nm,1.1s							
PET	**Petropavlovsk**	**57.53**	**9**	P		**P**	**23 01 57.7**	**+0.1**
HIA	**Hailar**	**57.60**	**340**	P		**P**	**23 01 58.5**	**+0.3**
HIA				IAmb		IAmb	23 02 02.5	
	comp=Z,30nm,1.4s							
KEKH	**Kekaha**	**58.69**	**62**	P		**P**	**23 02 05.5**	**-0.8**
SHL	**Shillong**	**60.19**	**302**	*e*P		P	23 02 14.8	-2.1
GTA	**Gaotai**	**60.55**	**320**	P		**P**	**23 02 21.3**	**+2.2**
GTA				pP		sP	23 02 26.0	+3.4
GTA				pmax		pmax		
	comp=Z,10.0nm,1.2s							
ULN	**Ulaanbaatar**	**61.80**	**331**	P		**P**	**23 02 28.2**	**+0.8**
ULN				IAmb		IAmb	23 02 30.7	
	comp=Z,17nm,1.1s							
SONM	**Songino Array**	**62.09**	**331**	P		**P**	**23 02 30.3**	**+0.9**
SONM	**Songino Array**	**62.09**	**331**	P		**P**	**23 02 30.0**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=164,slow=6.1,SNR=4.7							
	comp=Z,4.1nm,0.9s							
LSA	**Lhasa**	**62.31**	**306**	P		**P**	**23 02 31.8**	**+0.2**
LSA				IAmb		IAmb	23 02 34.9	
	comp=Z,15nm,1.1s							
ADK	**Adak**	**63.74**	**25**	P		**P**	**23 02 40.6**	**+0.6**
VNDA	**Vanda**	**74.18**	**177**	P		**P**	**23 03 48.0**	**+3.5**
	comp=Z,2.1nm,0.7s,baz=333,slow=5.7,SNR=5.7							
	comp=Z,2.1nm,0.7s							
DHRM	**DHARAMSHALA**	**75.21**	**305**	*e*P		**P**	**23 03 50.5**	**-1.1**
MK31	**Makanchi Array**	**75.30**	**320**	P		**P**	**23 03 53.4**	**+1.8**
MKAR	**Makanchi Array**	**75.30**	**320**	P		**P**	**23 03 52.9**	**+1.2**
MKAR	**Makanchi Array**	**75.30**	**320**	P		**P**	**23 03 51.2**	**-0.5**
	comp=Z,8.1nm,1.0s,baz=107,slow=6.7,SNR=6.0							
	comp=Z,8.1nm,1.0s							
MAKZ	**Makanchi**	**75.51**	**320**	P		**P**	**23 03 53.5**	**+0.7**
MAKZ				IAmb		IAmb	23 03 56.6	
	comp=Z,30nm,1.4s							
TIXI	**Tiksi**	**76.12**	**354**	P		**P**	**23 03 56.1**	**+0.4**
J14K	**Nanvaranak Lak**	**76.33**	**21**	P		**P**	**23 03 56.6**	**-0.5**
J14K				IAmb		IAmb	23 03 59.3	
	comp=Z,22nm,1.0s							
ZAA0	**Zalesovo Array**	**76.73**	**328**	P		**P**	**23 03 58.8**	**-0.7**
ZALV	**Zalesovo Beam**	**76.73**	**328**	P		**P**	**23 03 59.2**	**-0.3**
ZALV	**Zalesovo Beam**	**76.73**	**328**	P		**P**	**23 03 58.3**	**-1.2**
	comp=Z,6.6nm,0.8s,baz=109,slow=5.1,SNR=8.7							
	comp=Z,6.6nm,0.8s							
NIL	**Nilore**	**78.03**	**305**	P		**P**	**23 04 07.0**	**-0.3**
G16K	**Koyuk River**	**78.37**	**20**	P		**P**	**23 04 07.8**	**-0.7**
KURK	**Kurchatov**	**78.98**	**323**	P		**P**	**23 04 12.8**	**+0.6**
KURK				IAmb		IAmb	23 04 15.1	
	comp=Z,34nm,1.1s							
KURBB	**Kurchatov Arra**	**79.00**	**323**	P		**P**	**23 04 10.6**	**-1.7**
	comp=Z,11nm,1.1s,baz=100,slow=5.2,SNR=7.0							
	comp=Z,11nm,1.1s							
AAK	**Ala-Archa**	**79.25**	**314**	P		**P**	**23 04 13.7**	**-0.3**
AAK				IAmb		IAmb	23 04 17.3	
	comp=Z,20nm,1.4s							
TTA	**Tatalina**	**79.29**	**23**	P		**P**	**23 04 13.6**	**-0.1**
HOM	**Homer**	**79.58**	**27**	P		**P**	**23 04 15.2**	**0.0**
J19K	**Poorman**	**79.99**	**22**	P		**P**	**23 04 17.7**	**+0.3**
ARSB	**Arslanbob**	**80.00**	**313**	P		**P**	**23 04 18.2**	**+0.1**
CAPN	**Captain Cook N**	**80.29**	**26**	P		**P**	**23 04 19.0**	**0.0**
J20K	**Nowinta River**	**80.64**	**23**	P		**P**	**23 04 21.5**	**+0.6**
J20K				IAmb		IAmb	23 04 28.3	
	comp=Z,22nm,1.4s							
SKT	**Skwentna**	**80.66**	**25**	P		**P**	**23 04 21.3**	**+0.2**
C19K	**Lookout Ridge**	**81.44**	**17**	P		**P**	**23 04 25.8**	**+0.7**
C19K				IAmb		IAmb	23 04 32.8	
	comp=Z,30nm,1.4s							
IMAR	**Indian Mountai**	**81.67**	**21**	P		**P**	**23 04 27.7**	**+1.3**
SML	**Sawmill**	**81.96**	**26**	P		**P**	**23 04 27.9**	**-0.2**
SML				IAmb		IAmb	23 04 36.5	
	comp=Z,31nm,1.3s							
G21K	**Allakaket**	**82.02**	**21**	P		**P**	**23 04 29.1**	**+0.9**
KK31	**Karatay Array**	**82.20**	**314**	P		**P**	**23 04 29.6**	**-0.1**
KKAR	**Karatay Array**	**82.20**	**314**	P		**P**	**23 04 28.9**	**-0.8**
KKAR	**Karatay Array**	**82.20**	**314**	P		**P**	**23 04 28.8**	**-0.9**
KKAR				IAmb		IAmb	23 04 33.4	
	comp=Z,11nm,1.1s							
NEA2	**Nenana**	**82.80**	**23**	P		**P**	**23 04 31.7**	**-0.6**
NRIK	**Noril'sk**	**82.92**	**342**	P		**P**	**23 04 33.2**	**+0.4**
NRIK				IAmb		IAmb	23 04 36.3	
	comp=Z,14nm,0.9s							
NRIK	**Noril'sk**	**82.92**	**342**	P		**P**	**23 04 32.4**	**-0.4**
	comp=Z,12nm,0.9s,baz=107,slow=6.3,SNR=5.6							
	comp=Z,12nm,0.9s							
N25K	**Chitina, Valde**	**83.53**	**27**	P		**P**	**23 04 36.8**	**+0.5**
ILAR	**Eielson Array**	**83.73**	**23**	P		**P**	**23 04 35.9**	**-1.1**
BVAR	**Borovoye Array**	**84.53**	**324**	P		**P**	**23 04 40.8**	**-0.7**
	comp=Z,7.0nm,0.9s,baz=104,slow=6.1,SNR=4.9							
	comp=Z,7.0nm,0.9s							
HRA	**Herat**	**87.16**	**305**	P		**P**	**23 04 54.0**	**-1.2**
HRA				IAmb		IAmb	23 04 58.5	
	comp=Z,18nm,1.1s							
TORD	**Torodi Ar. Bea**	**143.77**	**287**	PKP		PKPbc	23 11 44.5	+2.3
	comp=Z,3.3nm,1.1s,baz=46,slow=4.2,SNR=2.3							
SIV	**San Ignacio**	**146.60**	**127**	PKPbc		**PKPdf**	**23 11 52.2**	**+2.6**
	comp=Z,6.0nm,1.0s,baz=274,slow=5.1,SNR=2.9							
KIC	**Kosan Boka**	**150.99**	**276**	⇑*e*P		**PKiKP**	**23 12 06.2**	**+3.1**
	comp=Z,41nm,0.8s							
DBIC	**Dimbokro**	**151.09**	**277**	PKPbc		**PKPdf**	**23 12 00.9**	**+4.0**
	comp=Z,7.1nm,1.1s,baz=162,slow=12,SNR=2.4							
TIC	**Toumodi**	**151.25**	**277**	*e*P		**PKPbc**	**23 12 03.2**	**+0.1**
	comp=Z,93nm,0.5s							
LIC	**Lamto**	**151.29**	**276**	⇑*i*P		**PKiKP**	**23 12 06.7**	**+3.0**
	comp=Z,59nm,0.8s							

NEIC ***26*** *22:59:47.7±2.8, 3.25S±0.10×145.7E±0.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=24.7km s-min=8.2km az=306.0*

IDC ***26*** *22:59:50.3±2.5, 3.66S×145.63E, h0km, mb3.8/3, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=64.3km s-min=26.8km az=81.0*

ISC 26 22:59:48.0±0.8, 3.42S±0.09×145.9E±0.1, h10km, n20, σ2s 21/20, mb4.1/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.99**	**47**	Pn	**Pb**	**23 00 23.7**	**-0.7**
PMG	**Port Moresby**	**6.07**	**168**		**Pn**	**23 01 19.4**	**+1.5**
PMG	**Port Moresby**	**6.07**	**168**	Pn	**Pn**	**23 01 18.7**	**+0.8**
	8.8nm,0.7s,baz=202,slow=12,SNR=0.9						
COEN	**Coen**	**10.81**	**194**	Pn	**Pn**	**23 02 24.9**	**+1.9**
WB0	**Warramunga Arr**	**19.76**	**214**		**P**	**23 04 19.4**	**+1.1**
WB0				IAmb	IAmb	23 04 58.9	
	comp=Z,32nm,1.4s						
WR0	**Warramunga Arr**	**19.84**	**213**		**P**	**23 04 20.6**	**+1.5**
WR0				IAmb	IAmb	23 04 38.5	
	comp=Z,21nm,1.4s						
WB2	**Warramunga Arr**	**19.93**	**214**	Pn	**P**	**23 04 20.9**	**+0.7**
WB2				IAmb	IAmb	23 04 26.8	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**19.93**	**214**	P	**P**	**23 04 20.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=34,slow=11,SNR=3.5						
	comp=Z,1.3nm,0.6s						
SOEI	**Soe**	**22.40**	**253**	P	**P**	**23 04 43.4**	**-3.6**
AS31	**Alice Springs**	**23.23**	**209**	P	**P**	**23 04 56.0**	**+0.3**
ASAR	**Alice Springs**	**23.24**	**209**		**P**	**23 04 54.9**	**-0.7**
ASAR	**Alice Springs**	**23.24**	**209**	P	**P**	**23 04 55.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=41,slow=8.1,SNR=20						
	comp=Z,1.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.64**	**232**	P	**P**	**23 05 07.6**	**-1.4**
BBOO	**Buckleboo**	**30.66**	**196**	P	**P**	**23 06 00.5**	**-2.3**
BBOO				IAmb	IAmb	23 06 06.0	
	comp=Z,16nm,1.5s						
OXZ	**Oxford**	**46.01**	**153**	P	**P**	**23 08 11.7**	**0.0**
CMAR	**Chiang Mai Arr**	**51.11**	**297**	P	**P**	**23 08 53.6**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=117,slow=5.7,SNR=5.7						
	comp=Z,0.6nm,0.3s						
KK31	**Karatay Array**	**81.73**	**314**	P	**P**	**23 12 04.6**	**-2.4**
KKAR	**Karatay Array**	**81.73**	**314**	P	**P**	**23 12 03.6**	**-3.5**
KKAR	**Karatay Array**	**81.73**	**314**	P	**P**	**23 12 04.5**	**-2.6**
KKAR				IAmb	IAmb	23 12 06.3	
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	**84.06**	**324**	P	**P**	**23 12 23.6**	**+4.6**
	comp=Z,1.0nm,0.8s,baz=86,slow=6.1,SNR=4.4						
	comp=Z,1.0nm,0.8s						

NEIC ***26*** *23:06:48.0±1.0, 13.2S±0.1×167.1E±0.1, h149km±13km, mb4.6/32, Error ellipse: s-maj=20.8km s-min=17.2km az=195.0*

IDC ***26*** *23:06:49.5±10.0, 13.21S×167.05E, h170km±90km, mb3.8/9, mbtmp4.3/9, Error ellipse: s-maj=41.2km s-min=20.8km az=78.0*

ISC 26 23:06:47.5±0.6, 13.22S±0.08×167.05E±0.09, h150km, n59, σ0s 89/59, mb4.5/23, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**7.51**	**179**	Pn	**Pn**	**23 08 33.6**	**-0.8**
KOUNC	**Koumac, New Ca**	**7.75**	**200**	Pn	**Pn**	**23 08 37.6**	**0.0**
HNR	**Honiara**	**7.92**	**298**	Pn	**Pn**	**23 08 39.3**	**-0.6**
DZM	**Mont Dzumac**	**8.82**	**184**	Pn	**Pn**	**23 08 52.1**	**+0.2**
OUENC	**Ouen Island, N**	**9.15**	**181**	Pn	**Pn**	**23 08 56.6**	**+0.4**
PINNC	**Pines Island,**	**9.35**	**178**	Pn	**Pn**	**23 08 59.5**	**+0.7**
FUNA	**Funafuti**	**12.81**	**70**		**Pn**	**23 09 44.7**	**+0.4**
EIDS	**Eidsvold**	**19.29**	**229**	P	P	**23 11 01.6**	**+0.7**
CTA	**Charters Tower**	**21.05**	**248**	P	P	**23 11 22.0**	**+2.2**
	4.9nm,0.8s,baz=74,slow=15,SNR=2.5						
	4.9nm,0.8s						
CTAO	**Charters Tower**	**21.05**	**248**	P	**P**	**23 11 20.9**	**+1.1**
CTAO				IAmb	IAmb	23 11 25.1	
	comp=Z,28nm,1.4s						
ARMA	**Armidale**	**22.27**	**217**	P	**P**	**23 11 31.2**	**-1.3**
MXZ	**Matakaoa Point**	**26.24**	**159**	P	**P**	**23 12 08.4**	**-0.1**
RTZ	**Ruatahuna**	**26.78**	**163**	P	**P**	**23 12 13.2**	**-0.3**
RTZ				IAmb	IAmb	23 12 44.3	
	comp=Z,31nm,1.4s						
BKZ	**Black Stump Fm**	**27.16**	**164**	P	**P**	**23 12 16.8**	**0.0**
BKZ				IAmb	IAmb	23 12 17.8	
	comp=Z,12nm,1.3s						
CAN	**Canberra**	**27.38**	**213**	P	**P**	**23 12 19.0**	**+0.1**
CAN				IAmb	IAmb	23 12 35.6	
	comp=Z,21nm,1.5s						
MRZ	**Mangatainoka R**	**28.34**	**166**	P	**P**	**23 12 27.1**	**-0.1**
MRZ				IAmb	IAmb	23 12 37.9	
	comp=Z,16nm,1.2s						
NNZ	**Nelson**	**28.43**	**170**	P	**P**	**23 12 28.1**	**0.0**
BFZ	**Birch Farm**	**28.52**	**165**	P	**P**	**23 12 28.2**	**-0.7**
TCW	**Tory Channel**	**28.59**	**169**	P	**P**	**23 12 29.5**	**+0.1**
TUWZ	**Tuamarina**	**28.74**	**169**	P	**P**	**23 12 31.2**	**+0.4**
THZ	**Tophouse**	**28.89**	**171**	P	**P**	**23 12 32.8**	**+0.7**
THZ				IAmb	IAmb	23 12 53.2	
	comp=Z,14nm,1.1s						
BHW	**Baring Head**	**28.90**	**168**	P	**P**	**23 12 31.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**29.00**	**169**	P	**P**	**23 12 33.0**	**-0.1**
PLWZ	**Palliser**	**29.13**	**167**	P	**P**	**23 12 34.0**	**-0.3**
LTZ	**Lake Taylor**	**29.80**	**172**	P	**P**	**23 12 40.6**	**+0.4**
LTZ				IAmb	IAmb	23 12 50.9	
	comp=Z,23nm,1.5s						
STKA	**Stephens Creek**	**29.83**	**227**	P	**P**	**23 12 41.0**	**+0.4**
STKA	**Stephens Creek**	**29.83**	**227**	P	**P**	**23 12 41.2**	**+0.7**
	comp=Z,8.4nm,0.4s,baz=50,slow=8.9,SNR=44						
	comp=Z,8.4nm,0.4s						
FOZ	**Fox Glacier**	**30.30**	**176**	P	**P**	**23 12 44.9**	**+0.4**
OXZ	**Oxford**	**30.30**	**173**	P	**P**	**23 12 44.6**	**0.0**
OXZ				IAmb	IAmb	23 12 47.5	
	comp=Z,22nm,1.3s						
RPZ	**Rata Peaks**	**30.58**	**174**	P	**P**	**23 12 47.2**	**+0.2**
RPZ				IAmb	IAmb	23 13 15.5	
	comp=Z,26nm,1.3s						
TOO	**Toolangi**	**30.95**	**215**	P	**P**	**23 12 50.9**	**+0.5**
LBZ	**Lake Benmore**	**31.17**	**176**	P	**P**	**23 12 52.4**	**+0.2**
LBZ				IAmb	IAmb	23 13 34.4	
	comp=Z,9.8nm,1.1s						
WKZ	**Wanaka**	**31.54**	**177**	P	**P**	**23 12 56.0**	**+0.5**
WR0	**Warramunga Arr**	**31.83**	**253**	P	**P**	**23 12 59.1**	**+0.8**
WB0	**Warramunga Arr**	**31.94**	**254**	P	**P**	**23 12 58.6**	**-0.7**
WB0				IAmb	IAmb	23 13 39.2	
	comp=Z,14nm,1.3s						
WB2	**Warramunga Arr**	**32.00**	**254**	P	**P**	**23 12 59.5**	**-0.4**
WRA	**Warramunga Arr**	**32.01**	**254**	P	**P**	**23 12 59.3**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=84,slow=8.8,SNR=7.6						
	comp=Z,0.7nm,0.6s						
WHZ	**Wether Hill Ro**	**32.57**	**179**	P	**P**	**23 13 04.2**	**-0.2**
WHZ				IAmb	IAmb	23 13 15.9	
	comp=Z,25nm,1.3s						
AS31	**Alice Springs**	**33.03**	**247**	P	**P**	**23 13 08.4**	**-0.5**
ASAR	**Alice Springs**	**33.04**	**247**	P	**P**	**23 13 08.2**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=75,slow=9.0,SNR=65						
	comp=Z,2.7nm,0.5s						
TAU	**Tasmania Unive**	**34.14**	**206**	P	**P**	**23 13 17.5**	**-0.5**
BBOO	**Buckleboo**	**34.35**	**230**	P	**P**	**23 13 20.2**	**+0.2**
BBOO				IAmb	IAmb	23 14 03.6	
	comp=Z,11nm,1.3s						
FORT	**Forrest**	**39.90**	**238**	P	**P**	**23 14 06.8**	**-0.2**
PSA00	**Pilbara Seismi**	**45.66**	**253**	P	**P**	**23 14 53.4**	**-0.1**
PSA00				IAmb	IAmb	23 15 03.9	
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**64.35**	**181**	P	**P**	**23 17 07.1**	**+0.4**
VNDA	**Vanda**	**64.35**	**181**	P	**P**	**23 17 07.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=348,slow=8.8,SNR=8.2						
	comp=Z,0.7nm,0.6s						
CASY	**Casey**	**64.83**	**202**	P	**P**	**23 17 08.9**	**-1.1**
CASY				IAmb	IAmb	23 17 13.0	
	comp=Z,13nm,1.4s						
SEY	**Seymchan**	**76.77**	**353**	P	**P**	**23 18 22.5**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=145,slow=16,SNR=3.1						
	comp=Z,1.9nm,0.4s						
QSPA	**South Pole Qui**	**76.80**	**180**	P	**P**	**23 18 22.0**	**-0.4**
QSPA				IAmb	IAmb	23 18 23.1	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**76.80**	**180**	P	**P**	**23 18 22.1**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=350,slow=6.3,SNR=32						
	comp=Z,2.3nm,0.4s						
ILAR	**Eielson Array**	**85.17**	**18**	P	**P**	**23 19 05.4**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=243,slow=5.2,SNR=19						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**95.97**	**317**	P	**P**	**23 19 57.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=91,slow=6.6,SNR=12						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**118.75**	**346**	PKP	**PKPdf**	**23 25 16.2**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=83,slow=2.2,SNR=26						
FINES	**FINESS Array B**	**124.25**	**339**	PKP	**PKPdf**	**23 25 27.1**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=50,slow=1.4,SNR=16						
NB2	**NORSAR Subarra**	**129.12**	**345**	PKPdf	**PKPdf**	**23 25 36.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=27,slow=1.8						
NOA	**NORSAR Array B**	**129.12**	**345**	PKP	**PKPdf**	**23 25 37.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=30,slow=2.0,SNR=3.6						
HFS	**Hagfors**	**129.23**	**343**	PKP	**PKPdf**	**23 25 37.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=219,slow=3.7,SNR=5.0						
KEST	**Kesra**	**149.91**	**322**	PKPbc	**PKPdf**	**23 26 20.3**	**+4.7**
	comp=Z,1.9nm,0.7s,baz=221,slow=5.5,SNR=6.2						
ESDC	**Sonseca Array**	**152.49**	**345**	PKPbc	**PKPbc**	**23 26 25.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=357,slow=4.2,SNR=6.9						

IDC ***26*** *23:08:12.0±2.4, 56.02N×148.80W, h0km, mb3.6/3, mbtmp3.5/6, ML3.2/3, Error ellipse: s-maj=38.5km s-min=30.2km az=171.0*

NEIC ***26*** *23:08:14.4±1.7, 56.12N±0.08×148.5W±0.1, h20km±9km, ML3.8/44, ML3.5(AEIC), Error ellipse: s-maj=11.8km s-min=8.3km az=159.0*

AEIC ***26*** *23:08:17.5±1.6, 56.13N±0.09×148.6W±0.1, h11km±7km, Error ellipse: s-maj=13.4km s-min=9.2km az=176.0*

ISC 26 23:08:14.6±1.3, 56.30N±0.10×148.69W±0.06, h10km, n191, σ0s 90/198, mb3.8/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.59**	**307**	Pn	**Pn**	**23 08 56.9**	**+0.3**
KDAK					**Sn**	**23 09 27.5**	**-0.5**
KDAK	**Kodiak Island**	**2.59**	**307**	S	**Sn**	**23 09 26.4**	**-1.6**
	baz=126						
KDAK	**Kodiak Island**	**2.59**	**307**	Pn	**Pn**	**23 08 56.3**	**-0.2**
	7.2nm,0.3s,baz=126,slow=5.2,SNR=52						
KDAK				Sn	**Sn**	**23 09 26.9**	**-1.1**
	6.3nm,0.3s,baz=179,slow=22,SNR=9.9						
	13nm,0.3s						
OHAK	**Old Harbor**	**2.69**	**292**		**Pn**	**23 08 57.5**	**-0.3**
OHAK					**Sn**	**23 09 29.1**	**-1.3**
OHAK	**Old Harbor**	**2.69**	**292**	P	**Pn**	**23 08 57.2**	**-0.6**
	baz=112						
OHAK				S	**Sn**	**23 09 28.7**	**-1.8**
	baz=112						
SYI	**Shuyak Island**	**3.06**	**321**	Pn	**Pn**	**23 09 03.7**	**+0.8**
SYI				IAML		23 09 42.5	
	comp=E,89nm,0.4s						
Q20K	**Shuyak Island**	**3.06**	**321**	P	**Pn**	**23 09 03.3**	**+0.4**
	baz=139						
SII	**Sitkinak Islan**	**3.06**	**277**	Pn	**Pn**	**23 09 02.8**	**-0.2**
SII				IAML		23 09 52.8	
	comp=N,187nm,0.8s						
SII	**Sitkinak Islan**	**3.06**	**277**	S	**Sn**	**23 09 37.2**	**-2.4**
	baz=97						
MID	**Middleton Isla**	**3.38**	**21**	Pn	**Pn**	**23 09 07.3**	**0.0**
MID				IAML		23 10 58.1	
	comp=E,371nm,1.5s						
Q23K	**Middleton Isla**	**3.38**	**21**	Pn	**Pn**	**23 09 07.3**	**+0.1**
Q23K				IAML		23 10 43.7	
	comp=E,338nm,1.5s						
Q23K	**Middleton Isla**	**3.38**	**21**	P	**Pn**	**23 09 07.1**	**-0.2**
	baz=200						
CNPM	**China Poot**	**3.50**	**338**	Pn	**Pn**	**23 09 09.8**	**+0.7**
BRSE	**Bradley Lake S**	**3.62**	**343**		**Pn**	**23 09 10.9**	**+0.3**
BRSE					**Sn**	**23 09 51.5**	**-1.8**
BRSE	**Bradley Lake S**	**3.62**	**343**	P	**Pn**	**23 09 10.9**	**+0.3**
	baz=161						
BRSE				S	**Sn**	**23 09 51.5**	**-1.8**
	baz=161						
BRLK	**Bradley Lake**	**3.66**	**342**		**Pn**	**23 09 11.7**	**+0.5**
BRLK				IAML		23 09 58.0	
	comp=N,57nm,1.0s						
BRLK				IAML		23 09 59.7	
	comp=E,66nm,1.1s						
HOM	**Homer**	**3.71**	**336**	Pn	**Pn**	**23 09 13.1**	**+1.1**
HOM				IAML		23 10 18.1	
	comp=N,170nm,1.4s						
HOM				IAML		23 11 14.9	
	comp=E,196nm,1.4s						
Q19K	**Cape Douglas,**	**3.74**	**317**	Pn	**Pn**	**23 09 13.6**	**+1.2**
Q19K				IAML		23 10 06.8	
	comp=N,160nm,0.8s						
Q19K				IAML		23 10 10.2	
	comp=E,179nm,1.4s						
Q19K	**Cape Douglas,**	**3.74**	**317**	P	**Pn**	**23 09 13.2**	**+0.8**
	baz=134						
P23K	**Montague Islan**	**3.77**	**10**		**Pn**	**23 09 12.6**	**-0.1**
P23K					**Sn**	**23 09 54.5**	**-2.5**
P23K	**Montague Islan**	**3.77**	**10**	P	**Pn**	**23 09 12.6**	**-0.1**
	baz=189						
P23K				S	**Sn**	**23 09 54.5**	**-2.5**
	baz=189						
SEW	**Seward**	**3.83**	**354**	P	**Pn**	**23 09 13.8**	**+0.3**
	baz=172						
KAHG	**Katmai Hook Gl**	**3.85**	**307**		**Pn**	**23 09 15.1**	**+1.2**
P19K	**Oil Pt**	**4.14**	**326**	Pn	**Pn**	**23 09 19.1**	**+1.3**
P19K				IAML		23 10 09.9	
	comp=N,129nm,1.5s						
P19K				IAML		23 10 13.6	
	comp=E,140nm,0.5s						
P19K	**Oil Pt**	**4.14**	**326**	P	**Pn**	**23 09 18.9**	**+1.2**
	baz=143		

SML	**Sawmill**	**5.52**	**2**	P		**Pn**	**23 09 37.8**	**+0.9**
	baz=181							
SCM	**Sheep Creek Mo**	**5.59**	**7**			**Pn**	**23 09 39.2**	**+1.4**
SCM	**Sheep Creek Mo**	**5.59**	**7**	P		**Pn**	**23 09 38.6**	**+0.8**
	baz=186							
VRDI	**Verde Repeater**	**5.64**	**27**	Pn		**Pn**	**23 09 38.2**	**-0.3**
O17K	**Koliganek Bris**	**5.66**	**311**			**Pn**	**23 09 39.2**	**+0.6**
O17K	**Koliganek Bris**	**5.66**	**311**	P		**Pn**	**23 09 39.2**	**+0.6**
	baz=125							
KIAG	**Kiagna River**	**5.69**	**33**			**Pn**	**23 09 38.8**	**-0.4**
N25K	**Chitina, Valde**	**5.72**	**20**			**Pn**	**23 09 40.1**	**+0.5**
N25K	**Chitina, Valde**	**5.72**	**20**	P		**Pn**	**23 09 39.7**	**+0.1**
	baz=202							
GLB	**Gilahina Butte**	**5.74**	**24**	Pn		**Pn**	**23 09 39.9**	**+0.1**
N18K	**Kilae Creek**	**5.79**	**322**			**Pn**	**23 09 40.8**	**+0.4**
N18K	**Kilae Creek**	**5.79**	**322**	P		**Pn**	**23 09 40.6**	**+0.2**
	baz=137							
PTPK	**Patty Peak**	**5.87**	**31**			**Pn**	**23 09 41.2**	**-0.5**
SKT	**Skwentna**	**5.88**	**347**			**Pn**	**23 09 42.1**	**+0.5**
SKT	**Skwentna**	**5.88**	**347**	P		**Pn**	**23 09 42.3**	**+0.6**
	baz=164							
MCARA	**McCarthy VSAT**	**5.88**	**28**			**Pn**	**23 09 42.9**	**+1.2**
M24K	**Tolsona, Glenn**	**5.96**	**11**			**Pn**	**23 09 43.7**	**+0.8**
M24K	**Tolsona, Glenn**	**5.96**	**11**	P		**Pn**	**23 09 43.1**	**+0.2**
	baz=192							
PNL	**Peninsula**	**5.98**	**52**			**Pn**	**23 09 42.1**	**-1.0**
PNL	**Peninsula**	**5.98**	**52**	P		**Pn**	**23 09 42.1**	**-1.0**
	baz=237							
SVW2	**Sparrevohn**	**6.00**	**326**	Pn		**Pn**	**23 09 42.1**	**-1.1**
BARN	**Barnard Glacie**	**6.01**	**35**			**Pn**	**23 09 43.5**	**-0.2**
BCPM	**Bancas Point**	**6.03**	**49**	Pn		**Pn**	**23 09 43.1**	**-0.7**
M20K	**Styx River**	**6.04**	**340**			**Pn**	**23 09 44.5**	**+0.5**
M20K	**Styx River**	**6.04**	**340**	P		**Pn**	**23 09 44.1**	**+0.1**
	baz=156							
CTGM	**Chitina Glacie**	**6.05**	**36**	Pn		**Pn**	**23 09 44.0**	**-0.1**
LOGN	**Logan Glacier**	**6.06**	**38**	Pn		**Pn**	**23 09 44.0**	**-0.3**
M19K	**Big River Lodg**	**6.34**	**335**			**Pn**	**23 09 47.9**	**0.0**
M19K	**Big River Lodg**	**6.34**	**335**	P		**Pn**	**23 09 47.9**	**0.0**
	baz=150							
HARP	**HAARP**	**6.38**	**15**			**Pn**	**23 09 49.6**	**+1.1**
HARP	**HAARP**	**6.38**	**15**	P		**Pn**	**23 09 49.6**	**+1.1**
	baz=197							
M18K	**Stony River**	**6.38**	**328**	P		**Pn**	**23 09 48.5**	**+0.1**
	baz=142							
WAT7	**Susitna Watana**	**6.55**	**359**			**Pn**	**23 09 51.2**	**+0.2**
O15K	**Ungalikthiuk R**	**6.62**	**300**			**Pn**	**23 09 50.9**	**-0.9**
O15K	**Ungalikthiuk R**	**6.62**	**300**	P		**Pn**	**23 09 50.9**	**-0.9**
	baz=112							
O29M	**Mount Kennedy**	**6.67**	**49**			**Pn**	**23 09 52.5**	**-0.1**
L19K	**White Mountain**	**6.69**	**334**			**Pn**	**23 09 52.9**	**+0.2**
SDPT	**Sand Point**	**6.71**	**267**	Pn		**Pn**	**23 09 51.7**	**-1.3**
P29M	**Windy Craggy**	**6.71**	**56**			**Pn**	**23 09 52.4**	**-0.8**
L20K	**Farewell, AK**	**6.74**	**339**			**Pn**	**23 09 53.5**	**+0.1**
L20K	**Farewell, AK**	**6.74**	**339**	P		**Pn**	**23 09 53.5**	**+0.1**
	baz=154							
M26K	**Nabesna, AK**	**6.77**	**23**	Pn		**Pn**	**23 09 55.1**	**+1.1**
DHY	**Denali Highway**	**6.83**	**5**	Pn		**Pn**	**23 09 55.8**	**+1.0**
DHY	**Denali Highway**	**6.83**	**5**	P		**Pn**	**23 09 55.9**	**+1.0**
	baz=185							
M17K	**Holitna River**	**6.83**	**322**	P		**Pn**	**23 09 55.4**	**+0.7**
	baz=135							
S31K	**Pelican**	**6.98**	**71**	Pn		Pn	23 09 53.9	-2.9
RND	**Reindeer**	**7.13**	**359**	Pn		**Pn**	**23 10 00.6**	**+1.8**
L18K	**Granite Mounta**	**7.21**	**329**			**Pn**	**23 10 00.0**	**+0.2**
L18K	**Granite Mounta**	**7.21**	**329**	P		**Pn**	**23 10 00.0**	**+0.2**
	baz=142							
TRF	**Thorofare Moun**	**7.21**	**354**			**Pn**	**23 10 01.6**	**+1.5**
CAST	**Castle Rocks**	**7.34**	**348**			**Pn**	**23 10 02.0**	**+0.3**
CAST	**Castle Rocks**	**7.34**	**348**	P		**Pn**	**23 10 02.1**	**+0.5**
	baz=165							
KTH	**Kantishna Hill**	**7.36**	**352**	Pn		**Pn**	**23 10 03.2**	**+1.2**
HYT	**Haines Junctio**	**7.40**	**48**	Pn		**Pn**	**23 10 02.4**	**-0.2**
K20K	**Telida**	**7.57**	**341**			**Pn**	**23 10 05.2**	**+0.3**
K20K	**Telida**	**7.57**	**341**	P		**Pn**	**23 10 05.2**	**+0.3**
	baz=156							
TTA	**Tatalina**	**7.61**	**334**	Pn		**Pn**	**23 10 05.5**	**+0.1**
BCAR	**Beaver Creek A**	**7.63**	**24**	Pn		**Pn**	**23 10 07.1**	**+1.5**
RIDG	**Independent Ri**	**7.70**	**13**			**Pn**	**23 10 07.6**	**+0.9**
L16K	**Owhat River**	**7.76**	**319**			**Pn**	**23 10 08.4**	**+0.9**
L16K	**Owhat River**	**7.76**	**319**	P		**Pn**	**23 10 07.9**	**+0.4**
	baz=130							
SKAG	**Skagway**	**7.79**	**61**	Pn		**Pn**	**23 10 08.6**	**+0.7**
BPAW	**Bear Paw Mtn.**	**7.91**	**353**			**Pn**	**23 10 10.4**	**+0.9**
BPAW	**Bear Paw Mtn.**	**7.91**	**353**	P		**Pn**	**23 10 09.8**	**+0.3**
	baz=170							
N30M	**Aishikik Lake**	**7.92**	**45**			**Pn**	**23 10 09.9**	**+0.1**
O30N	**Mendenhall**	**7.96**	**51**	Pn		**Pn**	**23 10 10.2**	**-0.2**
M29M	**Somme Creek**	**8.07**	**36**			**Pn**	**23 10 12.4**	**+0.6**
K17K	**Iditarod**	**8.07**	**327**			**Pn**	**23 10 11.7**	**0.0**
K17K	**Iditarod**	**8.07**	**327**	P		**Pn**	**23 10 11.7**	**0.0**
	baz=139							
HDA	**Harding Lake**	**8.18**	**5**			**Pn**	**23 10 14.2**	**+1.0**
M14K	**Bethel**	**8.24**	**308**	Pn		**Pn**	**23 10 15.2**	**+1.1**
J20K	**Nowinta River**	**8.35**	**343**			**Pn**	**23 10 16.4**	**+0.9**
CCB	**Clear Creek Bu**	**8.38**	**3**	Pn		**Pn**	**23 10 17.4**	**+1.5**
K27K	**Chicken**	**8.42**	**20**	Pn		**Pn**	**23 10 17.6**	**+1.2**
WHY	**Whitehorse**	**8.45**	**53**	Pn		**Pn**	**23 10 17.7**	**-0.2**
J19K	**Poorman**	**8.45**	**339**	Pn		**Pn**	**23 10 17.1**	**+0.2**
J19K	**Poorman**	**8.45**	**339**	P		**Pn**	**23 10 17.0**	**+0.2**
	baz=153							
N31M	**Braeburn, Yuko**	**8.46**	**47**			**Pn**	**23 10 17.4**	**+0.4**
J25K	**Salcha River,**	**8.50**	**10**	Pn		**Pn**	**23 10 18.9**	**+1.3**
IL31		**8.54**	**5**			**Pn**	**23 10 19.5**	**+1.4**
ILAR	**Eielson Array**	**8.54**	**5**	Pn		**Pn**	**23 10 19.5**	**+1.4**
ILAR	**Eielson Array**	**8.54**	**5**	Pn		**Pn**	**23 10 18.1**	**-0.1**
	comp=E,0.4nm,0.3s,baz=193,slow=13,SNR=15							
ILAR					Sn	**Sn**	**23 11 54.0**	**-0.5**
	comp=E,0.3nm,0.3s,baz=189,slow=22,SNR=8.4 comp=E,0.7nm,0.3s							
J26L	**Joseph Creek**	**8.60**	**15**			**Pn**	**23 10 20.1**	**+1.0**
P32M	**Atlin**	**8.62**	**61**	Pn		**Pn**	**23 10 18.1**	**-1.2**
L29M	**L29M**	**8.65**	**34**	Pn		**Pn**	**23 10 20.6**	**+0.8**
U33K	**Whale Pass**	**8.68**	**85**	Pn		Pn	23 10 17.5	-2.5
MDM	**Murphy Dome**	**8.69**	**1**	Pn		**Pn**	**23 10 22.1**	**+1.9**
M30M	**Minto, Yukon**	**8.72**	**39**	Pn		**Pn**	**23 10 21.0**	**+0.3**
M13K	**Dall Lake**	**8.73**	**304**	Pn		**Pn**	**23 10 21.9**	**+1.2**
MLY	**Manley**	**8.81**	**354**	Pn		**Pn**	**23 10 21.9**	**0.0**
I23K	**Minto, Yukon-K**	**8.88**	**358**			**Pn**	**23 10 23.6**	**+0.8**
DAWY	**Dawson**	**9.05**	**27**	Pn		**Pn**	**23 10 26.9**	**+1.7**
I21K	**Tanana**	**9.05**	**351**			**Pn**	**23 10 26.6**	**+1.5**
J16K	**Anvik River**	**9.21**	**324**	Pn		**Pn**	**23 10 27.7**	**+0.5**
J16K	**Anvik River**	**9.21**	**324**	P		**Pn**	**23 10 27.0**	**-0.2**
	baz=134							
P33M	**Teslin, Yukon**	**9.23**	**58**	Pn		**Pn**	**23 10 26.8**	**-0.9**
PRP	**Porcupine Dome**	**9.37**	**8**	Pn		**Pn**	**23 10 31.9**	**+2.2**
M31M	**Drury Creek, Y**	**9.40**	**45**			**Pn**	**23 10 30.9**	**+1.0**
N32M	**Quiet Lake**	**9.45**	**53**	Pn		**Pn**	**23 10 30.5**	**-0.2**
H21K	**Melozitna Rive**	**9.59**	**350**			**Pn**	**23 10 33.1**	**+0.5**
H21K	**Melozitna Rive**	**9.59**	**350**	P		**Pn**	**23 10 32.6**	**0.0**
	baz=166							
IMAR	**Indian Mountai**	**10.01**	**348**			**Pn**	**23 10 38.9**	**+0.7**
I28M	**Miner Creek**	**10.11**	**21**	Pn		**Pn**	**23 10 40.9**	**+1.3**
H17K	**Granite Mounta**	**10.25**	**332**	Pn		**Pn**	**23 10 41.5**	**0.0**
J30M	**Hart River**	**10.28**	**31**	Pn		**Pn**	**23 10 43.5**	**+1.5**
G21K	**Allakaket**	**10.50**	**349**			**Pn**	**23 10 46.2**	**+1.3**
G19K	**Purcell Mounta**	**10.66**	**341**	Pn		**Pn**	**23 10 49.7**	**+2.6**
G18K	**Tagagawik**	**10.74**	**338**	Pn		**Pn**	**23 10 49.1**	**+0.8**
F24K	**Squaw Lake**	**11.26**	**2**	Pn		**Pn**	**23 10 57.3**	**+1.9**
ANM	**Nome**	**11.64**	**322**	Pn		**Pn**	**23 11 01.1**	**+0.6**
E25K	**Arctic Village**	**11.95**	**6**	Pn		**Pn**	**23 11 06.3**	**+1.6**
B22K	**Teshekpuk Lake**	**14.24**	**353**	Pn		**Pn**	**23 11 36.7**	**+0.8**
YKA	**Yellowknife Ar**	**18.26**	**56**	P		**Pn**	**23 12 28.7**	**+1.0**
	comp=E,0.1nm,0.3s,baz=260,slow=9.7,SNR=6.9 comp=E,1.3nm,0.9s							
SONM	**Songino Array**	**58.88**	**310**	P		**P**	**23 18 13.1**	**-0.2**
	comp=E,0.6nm,0.8s,baz=47,slow=6.3,SNR=3.6 comp=E,0.6nm,0.8s							
FINES	**FINESS Array B**	**62.52**	**3**	P		**P**	**23 18 38.3**	**+0.6**
	comp=E,1.1nm,0.8s,baz=14,slow=8.5,SNR=3.9 comp=E,1.1nm,0.8s							
MKAR	**Makanchi Array**	**68.77**	**325**	P		**P**	**23 19 18.9**	**+0.6**
	comp=E,0.2nm,0.8s,baz=39,slow=7.3,SNR=5.0 comp=E,0.2nm,0.8s							

*IDC **26** 23:10:38.4±4.5, 4°.33S×147°.72E, h0km, mb3.7/2, mbtmp3.8/2, Error ellipse: s-maj=157.8km s-min=50.1km az=107.0*
*NEIC **26** 23:10:38.1±0.3, 4°.22S±0°.05×147°.79E±0°.09, h10km±2km, mb4.5/5, Error ellipse: s-maj=16.7km s-min=4.8km az=242.0*
ISC 26 23:10:37.5±0.9**, 4°.25S**±0°.08×**147°.8E**±0°.1**, h10**km**, n14,** σ1s**76**/14**, mb4.5/3, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.23**	**349**		**Pn**	**23 11 14.7**	**+0.2**
RABL	**Rabaul**	**4.38**	**89**		**Pn**	**23 11 44.3**	**+0.3**
PMG	**Port Moresby**	**5.16**	**187**	Pn	**Pn**	**23 11 55.6**	**+0.8**
WR0	**Warramunga Arr**	**20.25**	**218**	P	**P**	**23 15 14.0**	**+0.8**
WB2	**Warramunga Arr**	**20.36**	**219**	P	**P**	**23 15 15.4**	**+1.0**
WB2				IAmb	IAmb	23 15 16.3	
	comp=Z,6.5nm,0.8s						
WRA	**Warramunga Arr**	**20.37**	**219**	P	**P**	**23 15 15.6**	**+1.2**
	comp=Z,4.5nm,0.8s,baz=44,slow=11,SNR=17 comp=Z,4.5nm,0.8s						
ASAR	**Alice Springs**	**23.50**	**213**	P	**P**	**23 15 48.1**	**+0.4**
ASAR	**Alice Springs**	**23.50**	**213**	P	**P**	**23 15 49.1**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=41,slow=8.7,SNR=12 comp=Z,1.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.66**	**236**	P	**P**	**23 16 03.3**	**-4.4**
OUENC	**Ouen Island, N**	**25.83**	**136**	P	**P**	**23 16 07.3**	**-1.9**
OUENC				IAmb	IAmb	23 16 11.2	
	comp=Z,9.9nm,0.9s						
IMAR	**Indian Mountai**	**81.59**	**21**	P	**P**	**23 22 57.0**	**+1.7**
PRP	**Porcupine Dome**	**84.40**	**23**	P	**P**	**23 23 10.3**	**+0.3**
PRP				IAmb	IAmb	23 23 24.1	
	comp=Z,10nm,1.0s						
I26K	**Coal Creek Min**	**85.24**	**23**	P	**P**	**23 23 14.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**145.36**	**287**	PKPbc	**PKPab**	**23 30 18.2**	**+1.4**
	comp=Z,0.4nm,1.0s,baz=99,slow=0.7,SNR=1.8						

*IDC **26** 23:11:05.5±1.7, 56°.32N×149°.29W, h0km, mb3.6/4, mbtmp3.6/8, ML3.5/3, Error ellipse: s-maj=29.8km s-min=24.9km az=42.0*
*NEIC **26** 23:11:10.6±1.1, 56°.5N±0°.1×148°.6W±0°.1, h21km±11km, ML3.7/48, ML3.5(AEIC), Error ellipse: s-maj=16.2km s-min=8.0km az=155.0*
*AEIC **26** 23:11:14.8±1.1, 56°.5N±0°.1×148°.6W±0°.1, h12km±8km, Error ellipse: s-maj=16.4km s-min=8.7km az=155.0*
ISC 26 23:11:09.7±1.1**, 56°.59N**±0°.07×**148°.67W**±0°.05**, h10**km**, n92,** σ1s**24**/92**, mb3.6/4, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.44**	**301**		**Pn**	**23 11 50.5**	**+1.0**
KDAK	**Kodiak Island**	**2.44**	**301**		**Sn**	**23 12 18.7**	**-0.7**
KDAK	**Kodiak Island**	**2.44**	**301**	S	**Sn**	**23 12 18.7**	**-0.7**
	baz=118						
KDAK	**Kodiak Island**	**2.44**	**301**	Pn	Pn	23 11 39.2	-10
KDAK	1.5nm,0.3s,baz=121,slow=12,SNR=1.6				Sn	23 12 09.1	-10
	4.7nm,0.3s,baz=297,slow=14,SNR=2.5						
OHAK	**Old Harbor**	**2.61**	**286**		**Pn**	**23 11 51.6**	**-0.2**
OHAK	**Old Harbor**	**2.61**	**286**		**Sn**	**23 12 21.8**	**-1.8**
OHAK	**Old Harbor**	**2.61**	**286**	P	**Pn**	**23 11 52.5**	**+0.6**
	baz=103						
OHAK				S	**Sn**	**23 12 21.8**	**-1.8**
	baz=103						
SYI	**Shuyak Island**	**2.85**	**317**		**Pn**	**23 11 56.2**	**+1.0**
Q20K	**Shuyak Island**	**2.85**	**317**	P	**Pn**	**23 11 56.6**	**+1.4**
	baz=134						
SII	**Sitkinak Islan**	**3.05**	**272**		**Sn**	**23 12 32.1**	**-2.4**
SII	**Sitkinak Islan**	**3.05**	**272**	S	**Sn**	**23 12 32.1**	**-2.4**
	baz=88						
Q23K	**Middleton Isla**	**3.11**	**22**		**Pn**	**23 11 59.0**	**+0.4**
Q23K	**Middleton Isla**	**3.11**	**22**	IAML		23 13 51.0	
	comp=N,297nm,1.4s						
Q23K	**Middleton Isla**	**3.11**	**22**	P	**Pn**	**23 11 59.0**	**+0.4**
	baz=203						
MID	**Middleton Isla**	**3.11**	**23**		**Pn**	**23 11 58.8**	**+0.2**
MID	**Middleton Isla**	**3.11**	**23**	IAML		23 13 51.1	
	comp=N,313nm,1.4s						
CNPM	**China Poot**	**3.25**	**336**		**Pn**	**23 12 02.2**	**+1.6**
BRSE	**Bradley Lake S**	**3.35**	**342**		**Pn**	**23 12 03.2**	**+1.2**
BRSE	**Bradley Lake S**	**3.35**	**342**	P	**Pn**	**23 12 03.2**	**+1.2**
	baz=160						
BRLK	**Bradley Lake**	**3.39**	**341**		**Pn**	**23 12 03.9**	**+1.3**
HOM	**Homer**	**3.46**	**334**	Pn	**Pn**	**23 12 05.2**	**+1.6**
HOM				IAML		23 12 59.4	
	comp=E,235nm,1.1s						
HOM				IAML		23 13 07.3	
	comp=N,211nm,0.9s						
P23K	**Montague Islan**	**3.48**	**11**		**Pn**	**23 12 04.5**	**+0.6**
P23K					**Sn**	**23 12 43.4**	**-1.7**
P23K	**Montague Islan**	**3.48**	**11**	P	**Pn**	**23 12 04.5**	**+0.6**
	baz=191						
P23K				S	**Sn**	**23 12 43.4**	**-1.7**
	baz=191						
Q19K	**Cape Douglas,**	**3.55**	**313**	Pn	**Pn**	**23 12 06.2**	**+1.4**
SEW	**Seward**	**3.55**	**354**		**Pn**	**23 12 05.7**	**+0.9**
SEW	**Seward**	**3.55**	**354**		**Sn**	**23 12 44.5**	**-2.3**
SEW	**Seward**	**3.55**	**354**	P	**Pn**	**23 12 05.6**	**+0.9**
	baz=172						
SEW				S	**Sn**	**23 12 44.5**	**-2.3**
	baz=172						
P19K	**Oil Pt**	**3.91**	**324**	Pn	**Pn**	**23 12 10.2**	**+0.4**
P19K				IAML		23 13 01.1	
	comp=N,118nm,1.2s						
P19K				IAML		23 13 04.9	
	comp=E,139nm,0.5s						
Q22K	**Cooper Landing**	**3.94**	**352**	Pn	**Pn**	**23 12 10.0**	**-0.1**
HIN	**Hinchinbrook I**	**3.99**	**16**		**Pn**	**23 12 11.4**	**+0.6**
HIN				IAML		23 12 60.0	
	comp=N,109nm,0.7s						
HIN				IAML		23 13 08.5	
	comp=E,132nm,0.9s						
SLKM	**Skilak Lake**	**4.01**	**349**		**Pn**	**23 12 12.3**	**+1.1**
KAIM	**Kayak Island**	**4.03**	**32**		**Pn**	**23 12 11.8**	**+0.4**
KAIM	**Kayak Island**	**4.03**	**32**	P	**Pn**	**23 12 11.8**	**+0.4**
	baz=215						
EYAK	**Cordova Ski Ar**	**4.26**	**20**		**Pn**	**23 12 15.0**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.26**	**20**	P	**Pn**	**23 12 15.2**	**+0.7**
	baz=202						
RED	**Redoubt Volcan**	**4.40**	**332**		**Pn**	**23 12 17.3**	**+0.7**
RSO	**Redoubt South**	**4.43**	**333**	Pn	**Pn**	**23 12 19.8**	**+2.7**
RDWB	**Redoubt West**	**4.48**	**333**		**Pn**	**23 12 18.5**	**+0.8**
DFR	**Drift River**	**4.53**	**334**		**Pn**	**23 12 19.3**	**+0.9**
RC01	**Rabbit Creek A**	**4.55**	**353**	Pn	**Pn**	**23 12 19.8**	**+1.3**
RC01				IAML		23 13 13.6	
	comp=E,55nm,1.5s						
RC01				IAML		23 13 15.3	
	comp=N,45nm,0.7s						
BERG	**Berg Lake**	**4.62**	**32**		**Pn**	**23 12 20.0**	**+0.5**
SNH	**Sunshine Point**	**4.73**	**38**	Pn	**Pn**	**23 12 21.4**	**+0.4**
SNH				IAML		23 13 39.2	
	comp=E,84nm,1.4s						
DIV	**Divide**	**4.80**	**17**		**Pn**	**23 12 22.6**	**+0.6**
KNK	**Knik Glacier**	**4.84**	**1**	Pn	**Pn**	**23 12 24.2**	**+1.6**
KNK				IAML		23 13 29.6	
	comp=N,30nm,0.9s						
KNK				IAML		23 13 30.2	
	comp=E,33nm,1.0s						
BMRM	**Bremner River**	**4.88**	**24**		**Pn**	**23 12 23.7**	**+0.6**
BMRM	**Bremner River**	**4.88**	**24**	P	**Pn**	**23 12 23.4**	**+0.4**
	baz=207						
SUA	**Susitna One**	**5.01**	**349**	Pn	**Pn**	**23 12 25.8**	**+0.9**
SUA				IAML		23 13 26.9	
	comp=N,25nm,1.5s						
PMR	**Palmer**	**5.03**	**357**	Pn	**Pn**	**23 12 26.4**	**+1.4**
PMR				IAML		23 13 28.1	
	comp=E,26nm,1.2s						
PMR				IAML		23 13 36.6	
	comp=N,25nm,0.9s						
KLU	**Klutina**	**5.12**	**15**		**Pn**	**23 12 27.1**	**+0.6**
KLU				IAML		23 13 28.6	
	comp=N,34nm,1.4s						
KLU				IAML		23 13 34.5	
	comp=E,34nm,1.5s						
KLU	**Klutina**	**5.12**	**15**	P	**Pn**	**23 12 27.5**	**+1.1**
	baz=197						
GHO	**Glory Hole Cre**	**5.20**	**359**		**Pn**	**23 12 28.1**	**+0.6**
GHO				IAML		23 13 34.1	
	comp=E,44nm,1.2s						
GHO				IAML		23 13 39.5	
	comp=N,62nm,0.9s						
N19K	**Bonanza Creek**	**5.21**	**327**	Pn	**Pn**	**23 12 29.6**	**+2.0**
N19K				IAML		23 13 35.5	
	comp=E,24nm,1.3s						
SPNN	**North Nagishla**	**5.23**	**338**		**Pn**	**23 12 29.3**	**+1.3**
SML	**Sawmill**	**5.24**	**2**		**Pn**	**23 12 29.0**	**+1.0**
SML				IAML		23 13 30.3	
	comp=N,53nm,1.2s						
SML				IAML		23 13 33.9	
	comp=E,42nm,1.2s						
SCM	**Sheep Creek Mo**	**5.31**	**7**	Pn	**Pn**	**23 12 30.3**	**+1.3**
SCM				IAML		23 13 38.1	
	comp=N,56nm,1.4s						
VRDI	**Verde Repeater**	**5.38**	**28**		**Pn**	**23 12 30.7**	**+0.6**
CHGN	**Chignik**	**5.41**	**271**	Pn	**Pn**	**23 12 31.1**	**+0.8**
N25K	**Chitina, Valde**	**5.45**	**21**		**Pn**	**23 12 32.0**	**+1.0**
N25K	**Chitina, Valde**	**5.45**	**21**	P	**Pn**	**23 12 32.4**	**+1.4**
	baz=204						
GLB	**Gilahina Butte**	**5.48**	**25**		**Pn**	**23 12 32.0**	**+0.7**
N18K	**Kilae Creek**	**5.57**	**320**	Pn	**Pn**	**23 12 33.3**	**+0.7**
SKT	**Skwentna**	**5.60**	**346**	Pn	**Pn**	**23 12 34.3**	**+1.3**
PTPK	**Patty Peak**	**5.62**	**32**		**Pn**	**23 12 34.0**	**+0.6**
MCARA	**McCarthy VSAT**	**5.62**	**29**		**Pn**	**23 12 33.6**	**+0.3**
MCARA	**McCarthy VSAT**	**5.62**	**29**	P	**Pn**	**23 12 33.6**	**+0.3**
	baz=213						
M24K	**Tolsona, Glenn**	**5.68**	**12**		**Pn**	**23 12 35.1**	**+1.0**
M24K	**Tolsona, Glenn**	**5.68**	**12**	P	**Pn**	**23 12 35.1**	**+1.0**
	baz=194						
BARN	**Barnard Glacie**	**5.78**	**36**		**Pn**	**23 12 36.3**	**+0.8**
M20K	**Styx River**	**5.78**	**339**	Pn	**Pn**	**23 12 36.4**	**+0.8**
PNL	**Peninsula**	**5.80**	**54**		**Pn**	**23 12 36.5**	**+0.8**
PNL	**Peninsula**	**5.80**	**54**	P	**Pn**	**23 12 36.5**	**+0.8**
	baz=241						
CTG	**Chitna Glacier**	**5.81**	**38**	P	**Pn**	**23 12 36.6**	**+0.6**
	baz=224						
CTGM	**Chitina Glacie**	**5.81**	**38**		**Pn**	**23 12 36.2**	**+0.2**
LOGN	**Logan Glacier**	**5.83**	**40**		**Pn**	**23 12 36.0**	**-0.3**
O16K	**Kokwok River B**	**5.83**	**305**	Pn	**Pn**	**23 12 36.1**	**0.0**
BCPM	**Bancas Point**	**5.84**	**51**	Pn	**Pn**	**23 12 35.5**	**-0.8**
N17K	**Nushagak Hills**	**5.95**	**315**	Pn	**Pn**	**23 12 39.1**	**+1.3**
M19K	**Big River Lodg**	**6.08**	**334**	Pn	**Pn**	**23 12 40.2**	**+0.6**
CNBA	**Chernabura Isl**	**6.42**	**259**	Pn	**Pn**	**23 12 44.1**	**0.0**
P29M	**Windy Craggy**	**6.55**	**58**		**Pn**	**23 12 44.0**	**-1.9**
P29M	**Windy Craggy**	**6.55**	**58**	P	**Pn**	**23 12 44.0**	**-1.9**
	baz=246						
S31K	**Pelican**	**6.88**	**73**		**Pn**	**23 12 49.4**	**-1.1**
S31K	**Pelican**	**6.88**	**73**	P	**Pn**	**23 12 49.4**	**-1.1**
	baz=263						
YUK4	**Talbot Arm**	**7.04**	**43**	P	**Pn**	**23 12 53.9**	**+1.1**
	baz=231						
ILAR	**Eielson Array**	**8.26**	**5**	Pn	**Pn**	**23 13 07.6**	**-1.8**
	comp=N,0.3nm,0.4s,baz=196,slow=13,SNR=1.5						
ILAR					Sn	**Sn**	**23 14 40.7**	**-1.9**
	comp=N,0.2nm,0.3s,baz=186,slow=22,SNR=5.9						
DLBC	**Dease Lake**	**10.20**	**72**	Pn	**Pn**	**23 13 38.0**	**+2.0**
	comp=N,0.3nm,0.3s,baz=246,slow=10.0,SNR=1.9 comp=N,1.1nm,0.4s						
INK	**Inuvik**	**13.63**	**24**	Pn	**Pn**	**23 14 25.7**	**+3.0**
	comp=N,0.4nm,0.3s,baz=207,slow=12,SNR=3.8 comp=N,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**18.09**	**57**	P	**Pn**	**23 15 23.1**	**+2.4**
	baz=264,slow=11,SNR=15 comp=N,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**27.06**	**119**	P	**P**	**23 16 51.7**	**-0.6**
	comp=N,0.2nm,0.5s,baz=316,slow=6.3,SNR=1.5 comp=N,0.2nm,0.5s						
SONM	**Songino Array**	**58.70**	**310**	P	P	23 21 04.0	-3.2
	comp=N,0.4nm,0.7s,baz=58,slow=5.8,SNR=2.8 comp=N,0.4nm,0.7s						
FINES	**FINESS Array B**	**62.23**	**3**	P	**P**	**23 21 30.7**	**-0.2**
	comp=N,1.4nm,0.9s,baz=15,slow=5.8,SNR=1.6 comp=N,1.4nm,0.9s						
BVAR	**Borovoye Array**	**66.15**	**335**	P	P	23 21 54.1	-2.7
	comp=N,0.4nm,0.8s,baz=3.4,slow=7.2,SNR=2.6 comp=N,0.4nm,0.8s	

	comp=E,201nm,0.8s						
P19K	**Oil Pt**	4.27	326	P	Pn	23 19 48.2	+0.7
	baz=143						
O22K	**Cooper Landing**	4.35	353	Pn	Pn	23 19 50.0	+1.4
KAIM	**Kayak Island**	4.36	29	Pn	Pn	23 19 49.2	+0.5
KAIM				IAML		23 21 02.8	
	comp=E,168nm,1.5s						
KAIM	**Kayak Island**	4.36	29	P	Pn	23 19 49.1	+0.5
	baz=212						
HIN	**Hinchinbrook I**	4.37	14	Pn	Pn	23 19 49.2	+0.4
O20K	**Slope Mountain**	4.46	333		Pn	23 19 50.2	+0.1
O20K	**Slope Mountain**	4.46	333	P	Pn	23 19 50.2	+0.1
	baz=150						
CNTC	**Contact Creek**	4.48	301		Pn	23 19 51.0	+0.6
Q17K	**Contact Creek**	4.48	301	P	Pn	23 19 51.0	+0.6
	baz=115						
EYAK	**Cordova Ski Ar**	4.63	18		Pn	23 19 52.5	+0.2
EYAK	**Cordova Ski Ar**	4.63	18	P	Pn	23 19 52.6	+0.2
RED	**Redoubt Volcan**	4.79	334		Pn	23 19 54.1	-0.5
CAPN	**Captain Cook N**	4.79	345	Pn	Pn	23 19 54.6	0.0
P18K	**Big Mountain,**	4.79	315		Pn	23 19 54.2	-0.5
P18K	**Big Mountain,**	4.79	315	P	Pn	23 19 54.5	-0.2
	baz=130						
RSO	**Redoubt South**	4.82	335		Pn	23 19 55.1	-0.1
GOAT	**Goat Mountain**	4.86	23		Pn	23 19 55.9	+0.3
RDWB	**Redoubt West**	4.86	334		Pn	23 19 55.0	-0.8
DFR	**Drift River**	4.92	336		Pn	23 19 56.1	-0.3
BERG	**Berg Lake**	4.95	29		Pn	23 19 57.3	+0.5
RC01	**Rabbit Creek A**	4.96	354	Pn	Pn	23 19 57.2	+0.3
RC01				IAML		23 20 53.1	
	comp=E,60nm,1.0s						
RC01				IAML		23 21 07.2	
	comp=N,64nm,1.3s						
RC01	**Rabbit Creek A**	4.96	354	P	Pn	23 19 57.2	+0.3
	baz=172						
SNH	**Sunshine Point**	5.03	35		Pn	23 19 58.3	+0.4
SNH	**Sunshine Point**	5.03	35	IAML		23 20 54.1	
	comp=E,110nm,1.3s						
SNH				IAML		23 21 12.8	
	comp=N,114nm,1.5s						
O19K	**Port Alsworth**	5.04	325		Pn	23 19 57.9	0.0
O18K	**Koktuh Hills**	5.09	319		Pn	23 19 58.9	+0.1
O18K				IAML		23 21 02.5	
	comp=E,38nm,0.8s						
O18K	**Koktuh Hills**	5.09	319	P	Pn	23 19 58.9	+0.1
	baz=134						
R16K	**Pilot Point**	5.12	289		Pn	23 19 59.8	+0.7
R16K	**Pilot Point**	5.12	289	IAML		23 21 57.9	
	comp=E,126nm,1.3s						
R16K				IAML		23 22 35.3	
	comp=N,130nm,1.5s						
R16K	**Pilot Point**	5.12	289	P	Pn	23 19 59.8	+0.7
	baz=102						
P17K	**Kvichak River**	5.18	309		Pn	23 20 00.5	+0.5
P17K	**Kvichak River**	5.18	309	P	Pn	23 20 00.5	+0.5
	baz=122						
BMRM	**Bremner River**	5.23	22		Pn	23 20 01.0	+0.3
BMRM	**Bremner River**	5.23	22	P	Pn	23 20 01.0	+0.3
	baz=205						
KNK	**Knik Glacier**	5.25	1		Pn	23 20 01.9	+1.0
KNK				IAML		23 21 05.0	
	comp=E,55nm,0.8s						
KNK				IAML		23 21 16.5	
	comp=N,56nm,1.2s						
KNK	**Knik Glacier**	5.25	1	P	Pn	23 20 01.3	+0.4
	baz=181						
BARK	**Barkley Ridge**	5.32	35		Pn	23 20 02.4	+0.6
N20K	**Mount Spurr**	5.38	341	P	Pn	23 20 02.5	-0.2
	baz=158						
SPCR	**Spurr Chakacha**	5.38	341		Pn	23 20 02.5	-0.2
SPCN	**Chakachatna No**	5.39	341		Pn	23 20 03.3	+0.4
ANPB	**Aniakchak Plen**	5.41	281		Pn	23 20 03.6	+0.5
SUA	**Susitna One**	5.42	349		Pn	23 20 03.6	+0.3
SUA	**Susitna One**	5.42	349	P	Pn	23 20 03.4	+0.1
	baz=167						
SPCP	**Crater Peak Br**	5.43	341		Pn	23 20 03.7	+0.3
SPCG	**Spurr Capps Gl**	5.43	342		Pn	23 20 03.6	+0.1
PMR	**Palmer**	5.43	357	Pn	Pn	23 20 04.4	+1.0
PMR	**Palmer**	5.43	357	P	Pn	23 20 04.7	+1.3
PMR	**Palmer**	5.43	357	P	Pn	23 20 04.1	+0.7
	baz=177						
CHGN	**Chignik**	5.48	275	Pn	Pn	23 20 03.2	-0.9
KLU	**Klutina**	5.50	13		Pn	23 20 05.2	+0.7
KLU	**Klutina**	5.50	13	P	Pn	23 20 04.9	+0.4
	baz=196						
N19K	**Bonanza Creek**	5.58	329		Pn	23 20 05.4	-0.1
N19K	**Bonanza Creek**	5.58	329	P	Pn	23 20 05.4	-0.1
	baz=144						
GHO	**Glory Hole Cre**	5.61	358	Pn	Pn	23 20 07.0	+1.1
SML	**Sawmill**	5.64	1	Pn	Pn	23 20 07.0	+0.7
SML	**Sawmill**	5.64	1	P	Pn	23 20 07.1	+0.8
	baz=181						
SCM	**Sheep Creek Mo**	5.71	6		Pn	23 20 08.2	+1.0
SAMH	**Samovar Hills**	5.72	43		Pn	23 20 08.3	+0.9
VRDI	**Verde Repeater**	5.72	26	Pn	Pn	23 20 08.2	+0.6
P16K	**Nushagak River**	5.80	303		Pn	23 20 09.6	+1.1
P16K	**Nushagak River**	5.80	303	P	Pn	23 20 09.6	+1.1
	baz=116						
N25K	**Chitina, Valde**	5.82	19		Pn	23 20 09.7	+0.9
N25K	**Chitina, Valde**	5.82	19	P	Pn	23 20 09.5	+0.7
	baz=202						
GLB	**Gilahina Butte**	5.83	23	Pn	Pn	23 20 09.6	+0.7
PCA	**Pinnacle**	5.90	45		Pn	23 20 10.6	+0.6
PINM	**Pinnacle**	5.91	45	P	Pn	23 20 10.5	+0.6
	baz=232						
N18K	**Kilae Creek**	5.92	323		Pn	23 20 10.0	-0.1
N18K	**Kilae Creek**	5.92	323	P	Pn	23 20 10.0	-0.1
	baz=137						
PTPK	**Patty Peak**	5.95	30		Pn	23 20 10.9	+0.3
MCARA	**McCarthy VSAT**	5.96	27		Pn	23 20 11.7	+1.0
MCARA	**McCarthy VSAT**	5.96	27	P	Pn	23 20 11.2	+0.5
	baz=211						
SKT	**Skwentna**	6.01	347		Pn	23 20 12.1	+0.7
PNL	**Peninsula**	6.01	51	P	Pn	23 20 11.8	+0.4
PNL	**Peninsula**	6.01	51	P	Pn	23 20 11.9	+0.5
	baz=238						
BCPM	**Bancas Point**	6.07	48	Pn	Pn	23 20 13.2	+1.1
M24K	**Tolsona, Glenn**	6.07	11	Pn	Pn	23 20 13.6	+1.4
M24K	**Tolsona, Glenn**	6.07	11	P	Pn	23 20 13.0	+0.8
	baz=193						
BARN	**Barnard Glacie**	6.08	34		Pn	23 20 13.2	+0.6
CTG	**Chitna Glacier**	6.11	35	P	Pn	23 20 13.5	+0.6
	baz=221						
CTGM	**Chitina Glacie**	6.11	35	Pn	Pn	23 20 13.7	+0.8
O16K	**Kokwok River B**	6.11	308	Pn	Pn	23 20 13.9	+1.1
LOGN	**Logan Glacier**	6.12	37		Pn	23 20 13.4	+0.4
M20K	**Styx River**	6.18	340		Pn	23 20 13.8	0.0
M20K	**Styx River**	6.18	340	P	Pn	23 20 13.6	-0.1
	baz=156						
N17K	**Nushagak Hills**	6.28	317	Pn	Pn	23 20 15.3	+0.3
N17K	**Nushagak Hills**	6.28	317	P	Pn	23 20 15.1	+0.1
	baz=130						
CUT	**Chulitna**	6.30	353	Pn	Pn	23 20 16.7	+1.4
CHNA	**Chernabura Isl**	6.40	262	P	Pn	23 20 16.2	-0.4
	baz=74						
CNBA	**Chernabura Isl**	6.40	262	Pn	Pn	23 20 15.9	-0.8
WAT6	**Susitna Watana**	6.43	4		Pn	23 20 17.7	+0.4
WAT6	**Susitna Watana**	6.43	4	P	Pn	23 20 17.7	+0.4
	baz=184						
M19K	**Big River Lodg**	6.47	335		Pn	23 20 17.3	-0.4
M19K	**Big River Lodg**	6.47	335	P	Pn	23 20 17.2	-0.4
	baz=150						
M18K	**Stony River**	6.51	328		Pn	23 20 17.6	-0.6
M18K	**Stony River**	6.51	328	P	Pn	23 20 17.6	-0.6
	baz=142						
WAT7	**Susitna Watana**	6.67	359		Pn	23 20 21.2	+0.6
O29M	**Mount Kennedy**	6.71	48		Pn	23 20 22.1	+1.1
O29M	**Mount Kennedy**	6.71	48	P	Pn	23 20 22.1	+1.1
	baz=236						
O15K	**Ungalikthiuk R**	6.73	301		Pn	23 20 22.2	+1.0
O15K	**Ungalikthiuk R**	6.73	301	P	Pn	23 20 22.2	+1.0
	baz=112						
P29M	**Windy Craggy**	6.73	55		Pn	23 20 21.9	+0.6
P29M	**Windy Craggy**	6.73	55	P	Pn	23 20 21.4	+0.1
	baz=244						
SDPT	**Sand Point**	6.76	268	P	Pn	23 20 22.0	+0.4
L19K	**White Mountain**	6.82	334		Pn	23 20 22.1	-0.3
M26K	**Nabesna, AK**	6.86	22	Pn	Pn	23 20 23.7	+0.7
L20K	**Farewell, AK**	6.87	339		Pn	23 20 23.9	+0.8
L20K	**Farewell, AK**	6.87	339	P	Pn	23 20 23.9	+0.8
	baz=154						
DHY	**Denali Highway**	6.94	5		Pn	23 20 25.6	+1.4
DHY	**Denali Highway**	6.94	5	P	Pn	23 20 25.0	+0.7
	baz=186						
M17K	**Holitna River**	6.96	322		Pn	23 20 24.7	+0.3
M17K	**Holitna River**	6.96	322	P	Pn	23 20 24.9	+0.5
	baz=135						
S31K	**Pelican**	6.97	70	Pn	Pn	23 20 23.1	-1.3
S31K	**Pelican**	6.97	70	P	Pn	23 20 22.9	-1.5
	baz=260						
M27K	**Edge Creek, AK**	7.08	26	Pn	Pn	23 20 27.3	+1.1
MENT	**Mentasta**	7.21	18		Pn	23 20 29.6	+1.8
RND	**Reindeer**	7.25	359	Pn	Pn	23 20 29.5	+1.1
M16K	**Timber Creek**	7.27	316	Pn	Pn	23 20 29.2	+0.6
N15K	**Kwethluk River**	7.28	308	Pn	Pn	23 20 30.3	+1.6
N15K	**Kwethluk River**	7.28	308	P	Pn	23 20 29.6	+0.9
	baz=118						
L18K	**Granite Mounta**	7.34	329	Pn	Pn	23 20 29.5	-0.1
TRF	**Thorofare Moun**	7.34	354		Pn	23 20 31.2	+1.5
L26K	**Log Cabin Wild**	7.36	19		Pn	23 20 31.8	+2.0
SIT	**Sitka**	7.37	78	P	Pn	23 20 27.9	-2.1
HYT	**Haines Junctio**	7.44	47	Pn	Pn	23 20 32.4	+1.4
O14K	**Tigyukauivet M**	7.45	300	Pn	Pn	23 20 32.4	+1.3
CAST	**Castle Rocks**	7.47	348		Pn	23 20 31.8	+0.5
KTH	**Kantishna Hill**	7.49	352		Pn	23 20 33.0	+1.4
L27K	**Beaver Creek,**	7.70	24	Pn	Pn	23 20 35.6	+1.1
K20K	**Telida**	7.71	341		Pn	23 20 34.7	+0.1
BCAR	**Beaver Creek A**	7.71	24	Pn	Pn	23 20 35.8	+1.1
TTA	**Tatalina**	7.74	334	Pn	Pn	23 20 34.8	-0.3
TTA	**Tatalina**	7.74	334	P	Pn	23 20 34.9	-0.2
S32K	**Killisnoo**	7.80	75	Pn	Pn	23 20 35.0	-0.7
S32K	**Killisnoo**	7.80	75	P	Pn	23 20 35.8	0.0
	baz=266						
BESE	**Bessie Mountai**	7.80	66		Pn	23 20 36.0	0.0
SKAG	**Skagway**	7.80	60	Pn	Pn	23 20 36.6	+0.7
RIDG	**Independent Ri**	7.81	12		Pn	23 20 38.1	+2.0
L16K	**Owhat River**	7.89	319		Pn	23 20 37.5	+0.3
L16K	**Owhat River**	7.89	319	P	Pn	23 20 37.6	+0.5
	baz=130						
R32K	**Eaglecrest**	7.92	69	Pn	Pn	23 20 37.6	+0.2
N30M	**Aishikik Lake**	7.97	44		Pn	23 20 39.2	+0.9
JIS	**Juneau Island**	7.99	69	Pn	Pn	23 20 38.3	-0.1
JIS	**Juneau Island**	7.99	69	P	Pn	23 20 38.5	+0.1
O30N	**Mendenhall**	8.00	50	Pn	Pn	23 20 40.4	+1.7
BPAW	**Bear Paw Mtn.**	8.03	352	Pn	Pn	23 20 39.9	+0.8
M29M	**Somme Creek**	8.13	35		Pn	23 20 41.5	+1.0
SCRK	**Sand Creek**	8.15	14	Pn	Pn	23 20 41.9	+1.1
K17K	**Iditarod**	8.20	327	Pn	Pn	23 20 41.2	-0.1
HDA	**Harding Lake**	8.29	5		Pn	23 20 44.5	+1.8
M14K	**Bethel**	8.37	309	Pn	Pn	23 20 44.8	+1.2
NEA2	**Nenana**	8.44	359		Pn	23 20 46.5	+1.9
WHY	**Whitehorse**	8.47	52		Pn	23 20 45.8	+0.6
J20K	**Nowinta River**	8.48	343		Pn	23 20 45.7	+0.5
N31M	**Braeburn, Yuko**	8.50	46	Pn	Pn	23 20 46.8	+1.2
CCB	**Clear Creek Bu**	8.50	2	Pn	Pn	23 20 47.8	+2.4
K27K	**Chicken**	8.51	20		Pn	23 20 46.9	+1.2
J19K	**Poorman**	8.58	339	Pn	Pn	23 20 46.1	-0.4
J25K	**Salcha River,**	8.61	9	Pn	Pn	23 20 47.6	+0.6
P32M	**Atlin**	8.62	61	Pn	Pn	23 20 47.2	0.0
U33K	**Whale Pass**	8.64	84	Pn	Pn	23 20 45.1	-2.2
IL31		8.66	5		Pn	23 20 49.0	+1.5
ILAR	**Eielson Array**	8.66	5	Pn	Pn	23 20 49.5	+1.9
ILAR	**Eielson Array**	8.66	5	P	Pn	23 20 48.2	+0.5
	comp=N,0.5nm,0.3s,baz=192,slow=13,SNR=19						
ILAR				Sn	Sn	23 22 22.9	-2.4
	comp=N,0.3nm,0.3s,baz=188,slow=22,SNR=11						
	comp=N,1.2nm,0.4s						
J26L	**Joseph Creek**	8.71	15		Pn	23 20 50.0	+1.6
L29M	**L29M**	8.72	33		Pn	23 20 49.9	+1.3
L29M	**L29M**	8.72	33	P	Pn	23 20 49.0	+0.4
	baz=222						
COLA	**College**	8.73	2	P	Pn	23 20 49.9	+1.4
M30M	**Minto, Yukon**	8.78	38	Pn	Pn	23 20 50.5	+1.1
MDM	**Murphy Dome**	8.81	1		Pn	23 20 51.5	+1.8
M13K	**Dall Lake**	8.85	305		Pn	23 20 49.7	-0.5
MLY	**Manley**	8.94	354		Pn	23 20 52.0	+0.5
L14K	**Kuka Creek**	8.96	311	Pn	Pn	23 20 53.0	+1.4
I23K	**Minto, Yukon-K**	9.01	358		Pn	23 20 54.3	+2.0
K15K	**Wolf Creek Mou**	9.02	318	Pn	Pn	23 20 54.2	+1.7
DAWY	**Dawson**	9.13	26	Pn	Pn	23 20 55.6	+1.4
I21K	**Tanana**	9.18	351		Pn	23 20 55.8	+1.0
Q32M	**Nakina River**	9.20	66	Pn	Pn	23 20 56.1	+0.9
P33M	**Teslin, Yukon**	9.25	58	Pn	Pn	23 20 56.4	+0.6
J16K	**Anvik River**	9.34	325	Pn	Pn	23 20 56.8	-0.1
EGAK	**Eagle**	9.36	20	Pn	Pn	23 20 59.1	+1.9
M31M	**Drury Creek, Y**	9.45	44		Pn	23 21 00.3	+1.9
K29M	**Barlow Dome**	9.46	31		Pn	23 20 60.0	+1.3
N32M	**Quiet Lake**	9.48	52	Pn	Pn	23 21 00.2	+1.3
PRP	**Porcupine Dome**	9.48	8	Pn	Pn	23 21 01.3	+2.3
I26K	**Coal Creek Min**	9.53	14	Pn	Pn	23 21 00.7	+1.2
H24K	**Nowdor Dome**	9.70	2	Pn	Pn	23 21 04.0	+2.1
H21K	**Melozitna Rive**	9.72	350		Pn	23 21 02.5	+0.3
I17K	**Unalakleet**	9.80	327	Pn	Pn	23 21 03.5	+0.3
FARO	**Faro, Yukon**	9.87	46	Pn	Pn	23 21 05.6	+1.3
R33M	**Jennings River**	9.94	64	Pn	Pn	23 21 05.6	+0.4
J14K	**Nanvaranak Lak**	10.05	317	Pn	Pn	23 21 06.3	-0.3
H19K	**Roundabout Mou**	10.12	341	Pn	Pn	23 21 09.3	+1.8
IMAR	**Indian Mountai**	10.14	348		Pn	23 21 08.8	+0.9
DLBC	**Dease Lake**	10.29	70	Pn	Pn	23 21 08.6	-1.4
DLBC	**Dease Lake**	10.29	70	Pn	Pn	23 21 10.5	+0.5
	comp=N,0.4nm,0.3s,baz=256,slow=11,SNR=2.0						
DLBC				Sn	Sn	23 23 04.0	-1.3
	comp=N,0.2nm,0.3s,baz=248,slow=22,SNR=1.4						
	comp=N,0.8nm,0.3s						
G23K	**Bananza Creek**	10.59	357		Pn	23 21 15.4	+1.3
G21K	**Allakaket**	10.63	349		Pn	23 21 15.8	+1.2
G19K	**Purcell Mounta**	10.79	341	Pn	Pn	23 21 19.2	+2.5
G18K	**Tagagawik**	10.88	338	Pn	Pn	23 21 18.9	+0.9
H29M	**Whitestone**	11.19	22	Pn	Pn	23 21 24.3	+2.0
F21K	**Alatna River**	11.31	350	Pn	Pn	23 21 24.2	+0.2
G16K	**Koyuk River**	11.39	330	Pn	Pn	23 21 25.2	+0.2
F20K	**Avaraart Lake**	11.41	346		Pn	23 21 25.4	+0.2
F19K	**Shaleruckik Mo**	11.53	342	Pn	Pn	23 21 28.2	+1.3
ANM	**Nome**	11.78	322	Pn	Pn	23 21 30.8	+0.5
G29M	**Pine Creek**	11.86	21	Pn	Pn	23 21 34.6	+3.2
F17K	**Baldwin Pennin**	11.92	335		Pn	23 21 31.8	-0.4
E19K	**Redstone River**	12.01	344		Pn	23 21 34.7	+1.2
E25K	**Arctic Village**	12.06	5	Pn	Pn	23 21 35.9	+1.7
F15K	**North Star Dit**	12.29	327	Pn	Pn	23 21 38.0	+0.8
E18K	**Tukpahlearik C**	12.59	338	Pn	Pn	23 21 42.2	+0.9
D19K	**Kuna River**	13.10	344	Pn	Pn	23 21 49.1	+0.8
INK	**Inuvik**	13.98	24	Pn	Pn	23 22 03.1	+2.9
	comp=N,0.1nm,0.3s,baz=213,slow=15,SNR=3.2						
	comp=N,4.6nm,1.1s						
B22K	**Teshekpuk Lake**	14.37	353		Pn	23 22 06.7	+1.1
B20K	**Meade River**	14.38	348	Pn	Pn	23 22 05.7	-0.2
YKA	**Yellowknife Ar**	18.27	56	P	Pn	23 22 56.8	+1.0
	comp=N,0.1nm,0.3s,baz=263,slow=11,SNR=9.5						
	comp=N,1.5nm,1.0s						
NVAR	**Mina Array Bea**	26.82	119	P	**P**	23 24 21.8	-1.2
	comp=N,0.2nm,0.3s,baz=309,slow=8.0,SNR=1.7						
	comp=N,0.2nm,0.3s						
LOHW	**Long Hollow**	27.13	101	P	**P**	23 24 23.8	-2.0
LOHW				IAmb	IAmb	23 24 29.8	
	comp=Z,3.8nm,1.2s						
NRIK	**Noril'sk**	48.35	337	P	**P**	23 27 25.1	+1.6
	comp=Z,1.3nm,0.7s,baz=47,slow=3.0,SNR=3.8						
	comp=Z,1.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	49.17	241	T	T	00 20 35.0	
	baz=31,slow=76,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	49.17	241	T	T	00 20 33.8	
	baz=31,slow=76,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	49.19	241	T	T	00 20 34.4	
	baz=31,slow=76,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	50.31	240	T	T	00 22 42.3	
	baz=28,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	50.32	240	T	T	00 22 43.3	
	baz=28,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	50.33	240	T	T	00 22 43.6	
	baz=28,slow=76,SNR=11						
FINES	**FINESS Array B**	62.64	3	P	**P**	23 29 07.8	+1.4
	comp=Z,0.6nm,0.4s,baz=10,slow=9.9,SNR=6.1						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	68.90	325	P	**P**	23 29 48.0	+1.0
	comp=Z,0.4nm,0.9s,baz=23,slow=6.6,SNR=4.7						
	comp=Z,0.4nm,0.9s						

*IDC **26** 23:21:19.8±1.1,56°.01N×164°.26E,h0km,mb3.5/8, mbtmp3.5/9,ML2.4/1,Error ellipse: s-maj=42.0km s-min=17.8km az=162.0*
*KRSC **26** 23:21:20.4±1.1,55°.70N×164°.78E,h66km±25km,Ml4.3*
*MOS **26** 23:21:22.8±0.8,55°.63N×164°.57E,h69km,mb4.0/43,Error ellipse: s-maj=9.7km s-min=8.1km az=140.5*
ISC 26 23:21:23.4±1.1,**55°.69N**±0°.05×**164°.74E**±0°.04,**h55**km±15km,

n67,σ1s22/87,mb3.6/8,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	0.85	124	PN	Pn	23 21 38.4	-0.9
BKI				S	Sn	23 21 52.5	+1.5
BKI	**Bering**	0.85	124	eP	Pn	23 21 38.4	-0.9
BKI				eS	Sn	23 21 52.5	+1.5
KBG	**Krutoberegovo**	1.28	297	eS	Sn	23 21 58.5	-2.5
SMKR	**Semkarok**	2.04	297	eS	Sn	23 22 18.4	-1.3
BDR	**Baidarnaya**	2.16	296	PN	Pn	23 21 56.4	-0.7
BDR				S	Sn	23 22 23.0	+0.3
BDR	**Baidarnaya**	2.16	296	eP	Pn	23 21 56.4	-0.7
BDR				eS	Sn	23 22 23.0	+0.3
ZLN	**Zelenaya**	2.24	280	PN	Pn	23 21 57.9	-0.3
ZLN				S	Sn	23 22 26.7	+2.0
ZLN	**Zelenaya**	2.24	280	eP	Pn	23 21 57.9	-0.3
ZLN				eS	Sn	23 22 26.7	+2.0
CIRR	**Tsirk**	2.29	282	PN	Pn	23 21 58.7	-0.1
CIRR				S	Sn	23 22 26.0	+0.2
CIRR	**Tsirk**	2.29	282	eP	Pn	23 21 58.7	-0.1
CIRR				eS	Sn	23 22 26.0	+0.2
BZGR	**Bezymyannyi-Gr**	2.29	278	PN	Pn	23 21 58.0	-0.9
BZGR				S	Sn	23 22 27.1	+1.1
BZGR	**Bezymyannyi-Gr**	2.29	278	eP	Pn	23 21 58.0	-0.9
BZGR				eS	Sn	23 22 27.1	+1.1
KLY	**Klyuchi**	2.38	287	eS	Sn	23 22 25.7	-2.2
BZP	**Bezymyannyi-Pe**	2.38	277	eS	Sn	23 22 27.6	-0.6
BZWR	**Bezymyannyi-We**	2.41	278	PN	Pn	23 22 00.0	-0.5
BZWR				S	Sn	23 22 30.8	+1.9
BZWR	**Bezymyannyi-We**	2.41	278	eP	Pn	23 21 60.0	-0.5
BZWR				eS	Sn	23 22 30.8	+1.9
BZMR	**Bezymyannaya**	2.41	278	PN	Pn	23 22 00.0	-0.5
BZMR				S	Sn	23 22 31.3	+2.4
BZMR	**Bezymyannaya**	2.41	278	eP	Pn	23 21 60.0	-0.5
BZMR				eS	Sn	23 22 31.3	+2.4
KIRR	**Kirishev**	2.49	278	PN	Pn	23 22 00.9	-0.8
KIRR				S	Sn	23 22 30.7	-0.3
KIRR	**Kirishev**	2.49	278	eP	Pn	23 22 00.9	-0.8
KIRR				eS	Sn	23 22 30.7	-0.3
TUMD	**Tumrok D**	2.52	261	eP	Pn	23 22 01.3	-0.6
TUMD				eS	Sn	23 22 32.6	+1.3
KMNR	**Kamenistaya**	2.55	273	PN	Pn	23 22 02.1	-0.2
KMNR				S	Sn	23 22 33.6	+1.4
KMNR	**Kamenistaya**	2.55	273	eP	Pn	23 22 02.1	-0.2
KMNR				eS	Sn	23 22 33.6	+1.4
KPT	**Kopyto**	2.56	278	PN	Pn	23 22 01.8	-0.7
KPT				S	Sn	23 22 35.0	+2.4
KPT	**Kopyto**	2.56	278	eP	Pn	23 22 01.8	-0.7
KPT				eS	Sn	23 22 35.0	+2.4
TUMR	**Tumrok**	2.64	263	PN	Pn	23 22 01.3	-2.4
TUMR				S	Sn	23 22 32.6	-2.0
KOZ	**Kozyrevsk**	2.77	280	PN	Pn	23 22 05.2	-0.1
KOZ				S	Sn	23 22 40.0	+2.6
KOZ	**Kozyrevsk**	2.77	280	eP	Pn	23 22 05.2	-0.1
KOZ				eS	Sn	23 22 40.0	+2.6
SRDR	**Sredinnyy**	2.89	285	PN	Pn	23 22 07.2	+0.2
SRDR				S	Sn	23 22 40.1	-0.4
SRDR	**Sredinnyy**	2.89	285	eP	Pn	23 22 07.2	+0.2
SRDR				eS	Sn	23 22 40.1	-0.4
ESO	**Esso**	3.42	276	PN	Pn	23 22 15.8	+1.6
ESO	**Esso**	3.42	276	eP	Pn	23 22 15.8	+1.6
OSSR	**Ossora**	3.69	346	PN	Pn	23 22 17.1	-0.7
OSSR	**Ossora**	3.69	346	eP	Pn	23 22 17.1	-0.7
SMAR	**Somma**	4.23	237	PN	Pn	23 22 25.0	-0.5
SMAR	**Somma**	4.23	237	eP	Pn	23 22 25.0	-0.5
KRX	**Arik**	4

comp=E,5.8nm,0.3s,baz=79,slow=17,SNR=84
PDAR Lg Lg 23 32 09.6
comp=E,19nm,0.3s,baz=84,slow=33,SNR=17
comp=E,4.9nm,0.3s
BRIGG Briggsdale 3.29 164 Pn 23 31 25.2 +0.9
YMP Mirror Lake Pl 3.49 288 Pb 23 31 31.4 -2.8
LKWY Lake 3.62 285 Pn **Pb 23 31 34.2 -2.2**
LKWY IAML 23 32 49.4
comp=E,36nm,4.8s
LKWY IAML 23 32 56.1
comp=E,33nm,1.5s
LOHW Long Hollow 3.71 269 Pb 23 31 35.2 -2.7
H17A Grant Village 3.72 282 Pn 23 31 32.8 +2.5
H17A IAML 23 32 36.8
comp=N,25nm,0.8s
FLWY Flagg Ranch 3.78 277 Pn 23 31 33.4 +2.3
FLWY IAML 23 32 50.7
comp=N,26nm,1.4s
FLWY IAML 23 33 18.2
comp=N,32nm,4.4s
OGNE Ogallala 3.81 137 Pn 23 31 31.9 +0.6
MOOW Moose Ponds 3.81 272 Pn **Pn 23 31 34.9 +3.5**
SNOW Snow King Moun 3.83 267 Pn **Pn 23 31 34.7 +2.8**
SNOW IAML 23 32 42.1
comp=N,32nm,0.8s
SNOW IAML 23 32 59.0
comp=N,33nm,1.3s
YNR Norris Junctio 3.85 286 Pn 23 31 34.4 +2.3
YFT Old Faithful 3.91 282 Pn 23 31 35.1 +2.2
REDW Red Top Meadow 3.92 266 Pn **Pn 23 31 36.6 +3.6**
IMW Indian Meadow 3.94 274 IAML 23 32 08.7
comp=N,26nm,0.6s
IMW IAML 23 32 57.9
comp=N,24nm,0.7s
ISCO Idaho Springs 3.96 181 Pn **Pn 23 31 33.8 +0.2**
TPAW Teton Pass 3.97 268 IAML 23 32 56.5
comp=N,17nm,2.0s
TPAW IAML 23 32 58.7
comp=N,33nm,0.8s
O20A White River Ci 4.16 210 IAML 23 32 46.1
comp=E,39nm,2.2s
O20A IAML 23 33 08.1
comp=N,35nm,2.5s
AHID Auburn Hatcher 4.22 258 IAML 23 32 59.9
comp=N,31nm,1.4s
YHL Hebgen Lake 4.23 287 IAML 23 33 09.1
comp=E,26nm,0.9s
YHL IAML 23 33 28.8
comp=N,23nm,3.1s
RDMU Red Mountain 4.40 225 IAML 23 33 00.5
comp=N,25nm,0.9s
RDMU IAML 23 33 14.3
comp=E,24nm,0.9s
SMCO Snowmass 4.71 194 IAML 23 33 08.0
comp=E,21nm,0.8s
SMCO IAML 23 33 12.2
comp=E,19nm,3.8s
Q24A Divide 4.80 177 IAML 23 33 02.9
comp=N,15nm,0.3s
Q24A IAML 23 33 10.4
comp=E,27nm,0.7s
HWUT Hardware Ranch 4.97 246 IAML 23 33 25.6
comp=E,21nm,1.0s
BSUT Blindstream Ca 5.07 232 IAML 23 33 03.6
comp=N,14nm,5.0s
BSUT IAML 23 33 24.4
comp=E,15nm,0.9s
I10CA LAC DU BONNET 9.12 42 I I 00 28 50.0
baz=221,slow=330,SNR=1.3
ULM Lac du Bonnet 9.23 42 Pn **Pn 23 32 44.8 -0.8**
comp=E,2.2nm,0.3s,baz=230,slow=13,SNR=19
ULM Lg Lg 23 35 21.6
comp=E,0.2nm,0.3s,baz=127,slow=17,SNR=3.0
comp=E,4.9nm,0.3s
NVAR Mina Array Bea 11.04 246 Pn **Pn 23 33 12.1 +1.5**
comp=E,0.1nm,0.3s,baz=45,slow=13,SNR=1.9
comp=E,0.2nm,0.5s

*AEIC **26** 23:31:32.3±0.8,55°.9N±0°.2×150°.3W±0°.2,h10km±9km, Error ellipse: s-maj=24.3km s-min=13.3km az=148.0*
*NEIC **26** 23:31:35.9±1.1,56°.36N±0°.07×150°.73W±0°.09, h22km±13km,ML3.4/22,ML3.3(AEIC),Error ellipse: s-maj=10.8km s-min=5.5km az=210.0*
ISC 26 23:31:32.2±3.4,56°.3N±0°.2×150°.5W±0°.1,h10km,n27, σ1§01/30,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**1.80**	**303**			**Pn**	**23 32 02.5**	**-0.7**
OHAK	**Old Harbor**	**1.80**	**303**			**Sn**	**23 32 26.1**	**+0.1**
OHAK	**Old Harbor** baz=126	**1.80**	**303**	P		**Pn**	**23 32 02.2**	**-1.0**
OHAK				S		**Sn**	**23 32 26.1**	**+0.1**
KDAK	**Kodiak Island**	**1.89**	**324**	Pn		**Pn**	**23 32 04.6**	**+0.2**
SII	**Sitkinak Islan**	**2.06**	**280**			**Sn**	**23 32 30.5**	**-2.0**
SII	**Sitkinak Islan**	**2.06**	**280**	Pn		**Pn**	**23 32 09.0**	**+2.2**
SII	comp=N,108nm,1.5s			IAML			23 32 55.0	
SII	**Sitkinak Islan** baz=104	**2.06**	**280**	S		**Sn**	**23 32 30.5**	**-2.0**
Q20K	**Shuyak Island** baz=156	**2.55**	**337**	P		**Pn**	**23 32 14.2**	**+0.6**
SYI	**Shuyak Island**	**2.55**	**337**			**Pn**	**23 32 14.3**	**+0.7**
SYI	comp=E,136nm,0.3s			IAML			23 33 37.7	
SYI	comp=N,192nm,0.3s			IAML			23 33 38.3	
KAHG	**Katmai Hook Gl**	**3.12**	**317**			**Pn**	**23 32 22.2**	**+0.8**
Q19K	**Cape Douglas,**	**3.15**	**329**			**Pn**	**23 32 23.9**	**+2.1**
Q19K	**Cape Douglas,** baz=147	**3.15**	**329**	P		**Pn**	**23 32 23.0**	**+1.2**
CNPM	**China Poot**	**3.29**	**354**			**Pn**	**23 32 24.1**	**+0.4**
KAHC	**Katmai Hardscr**	**3.40**	**316**			**Pn**	**23 32 26.2**	**+0.8**
KAHC						**Sn**	**23 33 05.6**	**-0.1**
Q18K	**Katmai Hardscr** baz=134	**3.40**	**316**	P		**Pn**	**23 32 26.2**	**+0.8**
Q18K	baz=134			S		**Sn**	**23 33 05.6**	**-0.1**
HOM	**Homer**	**3.45**	**350**	Pn		**Pn**	**23 32 26.4**	**+0.5**
BRSE	**Bradley Lake S**	**3.48**	**358**			**Pn**	**23 32 25.6**	**-0.8**
BRSE	**Bradley Lake S** baz=176	**3.48**	**358**	P		**Pn**	**23 32 25.6**	**-0.8**
BRLK	**Bradley Lake**	**3.51**	**357**			**Pn**	**23 32 27.2**	**+0.4**
CNTC	**Contact Creek**	**3.53**	**307**			**Pn**	**23 32 27.5**	**+0.4**
Q17K	**Contact Creek** baz=125	**3.53**	**307**	P		**Pn**	**23 32 27.5**	**+0.3**
P19K	**Oil Pt**	**3.69**	**338**	Pn		**Pn**	**23 32 29.7**	**+0.5**
O20K	**Slope Mountain**	**3.98**	**345**			**Pn**	**23 32 33.9**	**+0.7**
O20K	**Slope Mountain** baz=162	**3.98**	**345**	P		**Pn**	**23 32 33.9**	**+0.7**
P18K	**Big Mountain,**	**4.02**	**323**			**Pn**	**23 32 34.1**	**+0.3**
P18K	comp=N,30nm,0.5s			IAML			23 34 18.6	
P18K	comp=E,34nm,1.2s			IAML			23 34 19.2	
P18K	**Big Mountain,** baz=140	**4.02**	**323**	P		**Pn**	**23 32 34.0**	**+0.3**
O18K	**Koktuh Hills**	**4.37**	**327**	Pn		**Pn**	**23 32 39.5**	**+0.9**
O18K	comp=E,33nm,0.8s			IAML			23 34 35.4	
O18K	comp=N,51nm,0.8s			IAML			23 34 40.7	

*IDC **26** 23:32:10.4±2.7,56°.06N×148°.53W,h0km,mb3.9/7, mbtmp3.8/11,ML3.7/4, Error ellipse: s-maj=58.0km s-min=25.3km az=179.0*
*NEIC **26** 23:32:14.6±1.6,56°.33N±0°.07×148°.6W±0°.1,h22km±9km, ML4.1/50,ML3.9(AEIC),Error ellipse: s-maj=10.4km s-min=8.5km az=161.0*
*AEIC **26** 23:32:17.9±1.4,56°.36N±0°.06×148°.6W±0°.1,h12km±7km, Error ellipse: s-maj=9.3km s-min=7.9km az=124.0*
ISC 26 23:32:13.6±0.9,56°.42N±0°.09×148°.57W±0°.05,h10km, n213,σ1§05/214,mb4.0/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.58**	**304**			**Pn**	**23 32 54.9**	**-0.5**
KDAK						**Sn**	**23 33 24.6**	**-2.2**
KDAK	128nm,0.3s			IAML			23 33 24.9	
KDAK	233nm,0.3s			IAML			23 33 25.1	
KDAK	**Kodiak Island** baz=121	**2.58**	**304**	P		**Pn**	**23 32 55.0**	**-0.4**
KDAK	baz=121			S		**Sn**	**23 33 24.7**	**-2.2**
KDAK	**Kodiak Island** 3.6nm,0.3s,baz=96,slow=5.9,SNR=5.3	**2.58**	**304**	Pn		**Pn**	**23 32 55.8**	**+0.4**
KDAK	21nm,0.3s,baz=254,slow=23,SNR=43 8.9nm,0.3s			Sn		**Sn**	**23 33 24.6**	**-2.2**
OHAK	**Old Harbor**	**2.72**	**289**	Pn		**Pn**	**23 32 56.7**	**-0.5**
OHAK	**Old Harbor** baz=106	**2.72**	**289**	P		**Pn**	**23 32 56.8**	**-0.4**
OHAK	baz=106			S		**Sn**	**23 33 26.9**	**-3.2**
SYI	**Shuyak Island**	**3.02**	**318**			**Pn**	**23 33 01.9**	**+0.6**
Q20K	**Shuyak Island** baz=136	**3.02**	**318**	P		**Pn**	**23 33 02.0**	**+0.7**
Q20K	baz=136			S		**Sn**	**23 33 36.7**	**-0.8**
SII	**Sitkinak Islan**	**3.12**	**275**			**Pn**	**23 33 02.8**	**+0.1**
SII						**Sn**	**23 33 36.5**	**-3.5**
SII	comp=N,336nm,0.9s			IAML			23 33 37.3	
SII	**Sitkinak Islan** baz=91	**3.12**	**275**	P		**Pn**	**23 33 02.1**	**-0.6**
SII	baz=91			S		**Sn**	**23 33 36.7**	**-3.3**
MID	**Middleton Isla**	**3.24**	**21**	Pn		**Pn**	**23 33 03.8**	**-0.6**
MID				Pb			23 33 04.0	-7.2
MID	comp=N,409nm,0.5s			IAML			23 33 41.0	
MID	comp=E,539nm,0.3s			IAML			23 33 41.0	
MID	**Middleton Isla**	**3.24**	**21**	P		**Pn**	**23 33 04.1**	**-0.3**
Q23K	**Middleton Isla**	**3.24**	**20**	Pn		**Pn**	**23 33 04.3**	**-0.1**
Q23K	comp=E,623nm,0.3s			IAML			23 33 41.0	
Q23K	comp=N,514nm,1.4s			IAML			23 33 44.4	
Q23K	**Middleton Isla** baz=202	**3.24**	**20**	P		**Pn**	**23 33 04.1**	**-0.3**
CNPM	**China Poot**	**3.43**	**337**	Pn		**Pn**	**23 33 07.5**	**+0.5**
CNPM	comp=E,139nm,0.5s			IAML			23 33 48.9	
BRSE	**Bradley Lake S**	**3.53**	**342**			**Pn**	**23 33 08.5**	**+0.1**
BRSE						**Sn**	**23 33 47.8**	**-2.3**
BRSE	**Bradley Lake S** baz=160	**3.53**	**342**	P		**Pn**	**23 33 08.5**	**+0.1**
BRSE	baz=160			S		**Sn**	**23 33 47.8**	**-2.3**
BRLK	**Bradley Lake**	**3.58**	**341**	Pn		**Pn**	**23 33 09.2**	**+0.2**
BRLK	comp=N,152nm,0.4s			IAML			23 33 51.5	
BRLK	comp=E,157nm,0.1s			IAML			23 33 52.7	
HOM	**Homer**	**3.64**	**335**	Pn		**Pn**	**23 33 10.8**	**+1.0**
HOM	comp=N,337nm,0.6s			IAML			23 33 57.1	
HOM	comp=E,361nm,0.6s			IAML			23 33 58.2	
HOM	**Homer** baz=152	**3.64**	**335**	P		**Pn**	**23 33 10.9**	**+1.1**
P23K	**Montague Islan** baz=190	**3.64**	**9**	P		**Pn**	**23 33 09.8**	**-0.1**
Q19K	**Cape Douglas,**	**3.71**	**315**			**Pn**	**23 33 10.1**	**-0.9**
Q19K	comp=N,263nm,0.7s			IAML			23 34 01.2	
Q19K	comp=E,359nm,0.8s			IAML			23 34 04.3	
KAHG	**Katmai Hook Gl**	**3.84**	**305**			**Pn**	**23 33 12.4**	**-0.3**
AUJK	**Augustine Jueg**	**3.92**	**321**			**Pn**	**23 33 15.0**	**+1.3**
AUL	**Augustine Lava**	**3.95**	**321**			**Pn**	**23 33 15.6**	**+1.4**
P19K	**Oil Pt**	**4.08**	**325**			**Pn**	**23 33 16.4**	**+0.4**
P19K	comp=N,393nm,0.6s			IAML			23 34 06.5	
P19K	**Oil Pt** baz=141	**4.08**	**325**	P		**Pn**	**23 33 17.2**	**+1.2**
O22K	**Cooper Landing**	**4.12**	**352**			**Pn**	**23 33 16.3**	**-0.2**
O22K	**Cooper Landing** baz=171	**4.12**	**352**	P		**Pn**	**23 33 16.3**	**-0.2**
HIN	**Hinchinbrook I**	**4.14**	**14**			**Pn**	**23 33 16.6**	**-0.1**
HIN	comp=E,314nm,0.4s			IAML			23 34 06.2	
KAIM	**Kayak Island**	**4.15**	**30**			**Pn**	**23 33 17.2**	**+0.3**
SLKM	**Skilak Lake**	**4.19**	**349**			**Pn**	**23 33 17.4**	**-0.1**
O20K	**Slope Mountain**	**4.25**	**331**			**Pn**	**23 33 19.4**	**+1.0**
O20K	**Slope Mountain** baz=148	**4.25**	**331**	P		**Pn**	**23 33 19.4**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.40**	**18**			**Pn**	**23 33 20.6**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.40**	**18**	P		Pn	23 33 18.0	-2.3
EYAK	**Cordova Ski Ar** baz=201	**4.40**	**18**	P		**Pn**	**23 33 20.5**	**+0.2**
CAPN	**Captain Cook N**	**4.57**	**344**	Pn		**Pn**	**23 33 23.0**	**+0.4**
RSO	**Redoubt South**	**4.61**	**333**	Pn		**Pn**	**23 33 23.6**	**+0.1**
P18K	**Big Mountain,**	**4.64**	**313**	Pn		Pn	23 33 21.5	-2.2
RC01	**Rabbit Creek A**	**4.73**	**353**			**Pn**	**23 33 25.5**	**+0.7**
RC01	comp=E,227nm,0.4s			IAML			23 34 19.0	
RC01	comp=N,121nm,0.3s			IAML			23 34 20.3	
RC01	**Rabbit Creek A** baz=172	**4.73**	**353**	P		**Pn**	**23 33 25.3**	**+0.5**
BERG	**Berg Lake**	**4.74**	**31**			**Pn**	**23 33 25.1**	**+0.1**
SNH	**Sunshine Point**	**4.83**	**36**	Pn		**Pn**	**23 33 26.6**	**+0.3**
SNH	comp=E,207nm,1.3s			IAML			23 34 23.0	
SNH	comp=N,176nm,1.4s			IAML			23 34 23.7	
Q19K	**Port Alsworth**	**4.85**	**324**			**Pn**	**23 33 27.5**	**+1.0**
O18K	**Koktuh Hills**	**4.92**	**317**	Pn		**Pn**	**23 33 28.2**	**+0.6**
DIV	**Divide**	**4.95**	**16**			**Pn**	**23 33 28.2**	**+0.3**
BMRM	**Bremner River**	**5.01**	**23**			**Pn**	**23 33 28.5**	**-0.3**
BMRM	**Bremner River** baz=206	**5.01**	**23**	P		**Pn**	**23 33 28.8**	**0.0**
KNK	**Knik Glacier**	**5.01**	**1**			**Pn**	**23 33 29.4**	**+0.7**
KNK	comp=N,85nm,0.6s			IAML			23 34 26.6	
KNK	comp=E,89nm,0.9s			IAML			23 34 30.5	
KNK	**Knik Glacier** baz=181	**5.01**	**1**	P		**Pn**	**23 33 29.1**	**+0.4**
N20K	**Mount Spurr** baz=157	**5.16**	**340**	P		**Pn**	**23 33 30.8**	**0.0**
SUA	**Susitna One** baz=167	**5.19**	**348**	P		**Pn**	**23 33 31.3**	**0.0**
PMR	**Palmer**	**5.20**	**357**	IAML			23 34 32.3	
PMR	comp=E,66nm,0.7s			IAML			23 34 32.6	
PMR	comp=N,84nm,0.4s **Palmer**	**5.20**	**357**	P		**Pn**	**23 33 31.7**	**+0.4**
PMR	**Palmer** baz=177	**5.20**	**357**	P		**Pn**	**23 33 31.6**	**+0.3**
KLU	**Klutina**	**5.27**	**14**			**Pn**	**23 33 32.5**	**+0.2**
KLU	comp=N,164nm,0.2s			IAML			23 34 31.8	
KLU	comp=E,144nm,0.3s			IAML			23 34 33.0	
KLU	**Klutina** baz=196	**5.27**	**14**	P		**Pn**	**23 33 32.7**	**+0.4**
GHO	**Glory Hole Cre**	**5.38**	**358**			**Pn**	**23 33 34.8**	**+1.0**
N19K	**Bonanza Creek**	**5.38**	**327**	Pn		**Pn**	**23 33 33.8**	**-0.1**
N19K	**Bonanza Creek** baz=143	**5.38**	**327**	P		**Pn**	**23 33 33.9**	**-0.1**
SML	**Sawmill**	**5.41**	**1**			**Pn**	**23 33 34.4**	**+0.2**
SML	**Sawmill** baz=181	**5.41**	**1**	P		**Pn**	**23 33 35.0**	**+0.8**
M23K	**Glacier View** baz=185	**5.41**	**4**	P		**Pn**	**23 33 35.3**	**+1.1**
SCM	**Sheep Creek Mo**	**5.47**	**6**			**Pn**	**23 33 35.0**	**-0.1**
SCM	**Sheep Creek Mo** baz=187	**5.47**	**6**	P		**Pn**	**23 33 36.5**	**+1.4**
CHGN	**Chignik**	**5.48**	**273**	Pn		**Pn**	**23 33 36.0**	**+0.9**
VRDI	**Verde Repeater**	**5.51**	**27**	Pn		**Pn**	**23 33 36.1**	**+0.4**
N25K	**Chitina, Valde**	**5.59**	**20**			**Pn**	**23 33 37.4**	**+0.6**
N25K	**Chitina, Valde** baz=203	**5.59**	**20**	P		**Pn**	**23 33 37.3**	**+0.6**
GLB	**Gilahina Butte**	**5.61**	**24**	Pn		**Pn**	**23 33 37.4**	**+0.5**
PCA	**Pinnacle**	**5.73**	**46**			**Pn**	**23 33 38.8**	**+0.2**
PINM	**Pinnacle** baz=233	**5.73**	**47**	P		**Pn**	**23 33 38.9**	**+0.3**
N18K	**Kilae Creek**	**5.74**	**321**	Pn		**Pn**	**23 33 39.0**	**+0.3**
N18K	**Kilae Creek** baz=135	**5.74**	**321**	P		**Pn**	**23 33 38.6**	**-0.1**
MCARA	**McCarthy VSAT** baz=212	**5.75**	**28**	P		**Pn**	**23 33 39.9**	**+1.1**
SKT	**Skwentna**	**5.78**	**346**			**Pn**	**23 33 40.4**	**+1.1**
M24K	**Tolsona, Glenn**	**5.84**	**11**			**Pn**	**23 33 40.7**	**+0.5**
PNL	**Peninsula**	**5.86**	**52**	P		**Pn**	**23 33 40.9**	**+0.5**
PNL	**Peninsula** baz=240	**5.86**	**52**	P		**Pn**	**23 33 40.7**	**+0.4**
BCPM	**Bancas Point**	**5.91**	**49**			**Pn**	**23 33 41.5**	**+0.5**
CTG	**Chitna Glacier** baz=222	**5.91**	**37**	P		**Pn**	**23 33 41.5**	**+0.3**
SVW2	**Sparrevohn**	**5.94**	**325**	Pn		**Pn**	**23 33 41.7**	**+0.2**
M20K	**Styx River** baz=155	**5.96**	**339**	P		**Pn**	**23 33 41.8**	**-0.1**
O16K	**Kokwok River B**	**5.98**	**306**	Pn		**Pn**	**23 33 42.9**	**+0.9**
N17K	**Nushagak Hills**	**6.12**	**316**	Pn		**Pn**	**23 33 44.4**	**+0.5**
N17K	**Nushagak Hills** baz=129	**6.12**	**316**	P		**Pn**	**23 33 44.2**	**+0.3**
WAT6	**Susitna Watana** baz=184	**6.20**	**4**	P		**Pn**	**23 33 45.8**	**+0.6**
HARP	**HAARP** baz=198	**6.25**	**15**	P		**Pn**	**23 33 46.9**	**+1.2**
M19K	**Big River Lodg** baz=149	**6.26**	**334**	P		**Pn**	**23 33 45.6**	**-0.3**
M18K	**Stony River** baz=141	**6.32**	**327**	P		**Pn**	**23 33 46.5**	**-0.2**
WAT1	**Susitna Watana** baz=180	**6.43**	**0**	P		**Pn**	**23 33 49.2**	**+0.9**
CHNA	**Chernabura Isl** baz=72	**6.44**	**260**	P		**Pn**	**23 33 48.5**	**+0.1**
CNBA	**Chernabura Isl**	**6.45**	**260**			**Pn**	**23 33 48.5**	**+0.1**
O29M	**Mount Kennedy**	**6.54**	**49**			**Pn**	**23 33 50.8**	**+0.9**
P29M	**Windy Craggy** baz=245	**6.59**	**56**	P		**Pn**	**23 33 50.3**	**-0.2**
L19K	**White Mountain**	**6.62**	**334**	Pn		**Pn**	**23 33 50.2**	**-0.5**
L20K	**Farewell, AK** baz=154	**6.65**	**338**	P		**Pn**	**23 33 51.1**	**-0.2**
DHY	**Denali Highway** baz=186	**6.71**	**5**	P		**Pn**	**23 33 53.3**	**+1.2**
M17K	**Holitna River**	**6.78**	**321**	Pn		**Pn**	**23 33 53.5**	**+0.5**
SDPT	**Sand Point**	**6.79**	**266**	Pn		**Pn**	**23 33 53.4**	**+0.3**
M27K	**Edge Creek, AK**	**6.87**	**27**	Pn		**Pn**	**23 33 54.9**	**+0.6**
S31K	**Pelican**	**6.88**	**72**	Pn		**Pn**	**23 33 53.1**	**-1.2**
S31K	**Pelican** baz=262	**6.88**	**72**	P		Pn	23 33 52.2	-2.2
MENT	**Mentasta**	**6.98**	**19**			**Pn**	**23 33 57.2**	**+1.4**
RND	**Reindeer**	**7.01**	**359**	Pn		**Pn**	**23 33 56.9**	**+0.6**
M16K	**Timber Creek**	**7.11**	**315**	Pn		**Pn**	**23 33 58.6**	**+1.1**
TRF	**Thorofare Moun**	**7.11**	**354**	Pn		**Pn**	**23 33 58.7**	**+1.0**
L26K	**Log Cabin Wild**	**7.13**	**20**	Pn		**Pn**	**23 34 00.1**	**+2.2**
N15K	**Kwethluk River**	**7.14**	**307**	Pn		**Pn**	**23 33 58.8**	**+0.8**
L18K	**Granite Mounta**	**7.15**	**328**	Pn		**Pn**	**23 33 58.7**	**+0.7**
L18K	**Granite Mounta** baz=141	**7.15**	**328**	P		**Pn**	**23 33 57.7**	**-0.2**
CAST	**Castle Rocks**	**7.24**	**347**	Pn		**Pn**	**23 34 00.3**	**+1.0**
KTH	**Kantishna Hill**	**7.25**	**352**	Pn		**Pn**	**23 34 00.3**	**+0.8**
HYT	**Haines Junctio**	**7.27**	**48**	Pn		**Pn**	**23 34 00.5**	**+0.7**
SIT	**Sitka**	**7.31**	**79**	Pn		Pn	23 33 57.5	-2.8
O14K	**Tigyukauivet M**	**7.35**	**298**	Pn		**Pn**	**23 34 01.5**	**+0.7**
L27K	**Beaver Creek,**	**7.48**	**24**			**Pn**	**23 34 02.7**	**0.0**
L27K	**Beaver Creek,** baz=210	**7.48**	**24**	P		**Pn**	**23 34 02.2**	**-0.4**
K20K	**Telida**	**7.49**	**341**	Pn		**Pn**	**23 34 03.5**	**+0.8**
BCAR	**Beaver Creek A**	**7.49**	**24**	Pn		**Pn**	**23 34 03.3**	**+0.5**
TTA	**Tatalina**	**7.54**	**333**	Pn		**Pn**	**23 34 03.2**	**-0.2**
RIDG	**Independent Ri**	**7.58**	**13**	Pn		**Pn**	**23 34 05.6**	**+1.6**
L17K	**Donlin** baz=135	**7.59**	**323**	P		**Pn**	**23 34 03.9**	**-0.2**
SKAG	**Skagway**	**7.67**	**61**			**Pn**	**23 34 05.5**	**+0.2**
L16K	**Owhat River**	**7.72**	**318**	Pn		**Pn**	**23 34 06.1**	**+0.2**
S32K	**Killisnoo**	**7.72**	**76**	Pn		**Pn**	**23 34 04.5**	**-1.4**
S32K	**Killisnoo** baz=268	**7.72**	**76**	P		**Pn**	**23 34 04.6**	**-1.4**
N30M	**Aishikik Lake**	**7.79**	**45**			**Pn**	**23 34 07.8**	**+0.9**
N30M	**Aishikik Lake** baz=234	**7.79**	**45**	P		**Pn**	**23 34 07.8**	**+0.9**
BWN	**Browne**	**7.79**	**357**			**Pn**	**23 34 07.7**	**+0.8**
BPAW	**Bear Paw Mtn.** baz=170	**7.80**	**352**	P		**Pn**	**23 34 07.5**	**+0.5**
R32K	**Eaglecrest**	**7.83**	**70**			**Pn**	**23 34 07.0**	**-0.3**
O30N	**Mendenhall** baz=241	**7.84**	**51**	P		**Pn**	**23 34 08.3**	**+0.8**
JIS	**Juneau Island**	**7.90**	**70**	Pn		**Pn**	**23 34 08.5**	**+0.3**
SCRK	**Sand Creek**	**7.92**	**15**	Pn		**Pn**	**23 34 08.6**	**-0.1**
M29M	**Somme Creek**	**7.93**	**36**			**Pn**	**23 34 10.1**	**+1.2**
K17K	**Iditarod**	**8.01**	**326**	Pn		**Pn**	**23 34 09.6**	**-0.3**
HDA	**Harding Lake**	**8.06**	**5**			**Pn**	**23 34 11.3**	**+0.8**
HDA	**Harding Lake** baz=186	**8.06**	**5**	P		**Pn**	**23 34 13.2**	**+2.7**
J18K	**Innoko River**	**8.16**	**333**	Pn		**Pn**	**23 34 11.4**	**-0.5**
NEA2	**Nenana**	**8.21**	**358**			**Pn**	**23 34 12.5**	**0.0**
NEA2	**Nenana** baz=178	**8.21**	**358**	P		**Pn**	**23 34 12.8**	**+0.3**
M14K	**Bethel**	**8.23**	**307**	Pn		**Pn**	**23 34 13.0**	**+0.2**
J20K	**Nowinta River**	**8.26**	**343**	Pn		**Pn**	**23 34 14.4**	**+1.1**
CCB	**Clear Creek Bu**	**8.27**	**2**	Pn		**Pn**	**23 34 14.3**	**+0.9**
WHY	**Whitehorse**	**8.32**	**54**	Pn		**Pn**	**23 34 14.9**	**+0.7**
N31M	**Braeburn, Yuko**	**8.33**	**47**	Pn		**Pn**	**23 34 15.3**	**+1.0**
J15K	**Poorman**	**8.37**	**338**	Pn		**Pn**	**23 34 14.7**	**-0.1**
J25K	**Salcha River,**	**8.37**	**10**			**Pn**	**23 34 14.9**	**+0.1**
IL31		**8.42**	**5**	Pn		**Pn**	**23 34 15.9**	**+0.5**
ILAR	**Eielson Array**	**8.42**	**5**	Pn		**Pn**	**23 34 16.2**	**+0.7**
ILAR	**Eielson Array** comp=E,0.7nm,0.3s,baz=187,slow=14,SNR=21	**8.42**	**5**	Pn		**Pn**	**23 34 15.9**	**+0.4**
ILAR	comp=E,1.3nm,0.3s,baz=187,slow=21,SNR=17 comp=E,1.5nm,0.3s			Sn		**Sn**	**23 35 47.1**	**-3.4**
J26L	**Joseph Creek**	**8.48**	**15**			**Pn**	**23 34 17.5**	**+1.2**
COLA	**College**	**8.49**	**2**	Pn		**Pn**	**23 34 17.4**	**+1.0**
P32M	**Atlin**	**8.50**	**62**	Pn		**Pn**	**23 34 16.8**	**+0.2**
P32M	**Atlin** baz=254	**8.50**	**62**	P		**Pn**	**23 34 16.7**	**+0.1**
MDM	**Murphy Dome**	**8.57**	**1**			**Pn**	**23 34 18.7**	**+1.2**
M30M	**Minto, Yukon**	**8.59**	**39**	Pn		**Pn**	**23 34 18.6**	**+0.7**
M30M	**Minto, Yukon** baz=229	**8.59**	**39**	P		**Pn**	**23 34 18.7**	**+0.8**
U33K	**Whale Pass**	**8.61**	**86**	Pn		Pn	23 34 15.5	-2.5
MLY	**Manley**	**8.71**	**354**			**Pn**	**23 34 20.4**	**+1.0**
MLY	**Manley** baz=172	**8.71**	**354**	P		**Pn**	**23 34 19.8**	**+0.4**
CRAG	**Craig**	**8.72**	**90**	Pn		**Pn**	**23 34 18.9**	**-0.7**
POKR	**Poker Plat Res**	**8.75**	**3**	Pn		**Pn**	**23 34 21.6**	**+1.7**
I23K	**Minto, Yukon-K**	**8.77**	**358**			**Pn**	**23 34 21.0**	**+0.8**
L14K	**Kuka Creek**	**8.81**	**310**	Pn		**Pn**	**23 34 22.4**	**+1.6**
K15K	**Wolf Creek Mou**	**8.85**	**317**	Pn		**Pn**	**23 34 23.6**	**+2.2**
I20K	**Naaghedeneel**	**8.89**	**343**	Pn		**Pn**	**23 34 23.0**	**+1.2**
DAWY	**Dawson**	**8.92**	**27**	Pn		**Pn**	**23 34 23.4**	**+1.1**
Q32M	**Nakina River**	**9.09**	**67**	Pn		**Pn**	**23 34 25.2**	**+0.3**
P33M	**Teslin, Yukon**	**9.11**	**59**	Pn		**Pn**	**23 34 25.5**	**+0.5**
P33M	**Teslin, Yukon** baz=252	**9.11**	**59**	P		**Pn**	**23 34 25.2**	**+0.2**
EGAK	**Eagle**	**9.14**	**20**			**Pn**	**23 34 26.4**	**+1.2**
J16K	**Anvik River**	**9.16**	**324**	Pn		**Pn**	**23 34 25.6**	**0.0**
PRP	**Porcupine Dome**	**9.25**	**8**	Pn		**Pn**	**23 34 27.4**	**+0.5**
PRP	**Porcupine Dome** baz=190	**9.25**	**8**	P		**Pn**	**23 34 28.3**	**+1.4**
K29M	**Barlow Dome**	**9.25**	**32**			**Pn**	**23 34 28.0**	**+1.0**
M31M	**Drury Creek, Y**	**9.27**	**45**			**Pn**	**23 34 28.5**	**+1.4**
M31M	**Drury Creek, Y** baz=237	**9.27**	**45**	P		**Pn**	**23 34 28.5**	**+1.4**
I26K	**Coal Creek Min**	**9.30**	**14**			**Pn**	**

D25K	**Kavik River**	**12.99**	**3**	Pn	**Pn**	**23 35 20.8**	**+2.8**	
YKA	**Yellowknife Ar**	**18.13**	**56**	P	**Pn**	**23 36 26.0**	**+0.9**	
	comp=E,0.2nm,0.3s,baz=264,slow=13,SNR=8.9							
	comp=E,0.7nm,0.6s							
NRIK	**Noril'sk**	**48.14**	**337**	P	**P**	**23 40 53.4**	**+0.3**	
	comp=E,1.6nm,0.5s,baz=42,slow=7.2,SNR=4.9							
	comp=E,1.6nm,0.5s							
H11S1	**WAKE ISLAND Hy**	**50.44**	**240**	T	T	00 35 58.2		
	baz=31							
H11S2	**WAKE ISLAND Hy**	**50.45**	**240**	T	T	00 36 31.5		
	baz=31							
H11S3	**WAKE ISLAND Hy**	**50.45**	**240**	T	T	00 36 01.5		
	baz=31							
SONM	**Songino Array**	**58.85**	**311**	P	**P**	**23 42 13.0**	**+0.9**	
	comp=E,0.9nm,0.8s,baz=46,slow=6.2,SNR=4.0							
	comp=E,0.9nm,0.8s							
FINES	**FINESS Array B**	**62.40**	**3**	P	**P**	**23 42 38.0**	**+2.1**	
	comp=E,0.6nm,0.8s,baz=2.3,slow=7.0,SNR=1.6							
	comp=E,0.6nm,0.8s							
ARU	**Arti**	**65.39**	**344**	P	**P**	**23 42 55.6**	**0.0**	
	comp=E,1.6nm,0.5s,baz=353,slow=8.1,SNR=4.8							
	comp=E,1.6nm,0.5s							
BVAR	**Borovoye Array**	**66.33**	**336**	P	**P**	**23 43 01.8**	**0.0**	
	comp=E,1.5nm,0.7s,baz=21,slow=9.5,SNR=5.7							
	comp=E,1.5nm,0.7s							
MKAR	**Makanchi Array**	**68.71**	**325**	P	**P**	**23 43 18.7**	**+1.7**	
	comp=E,0.2nm,0.6s,baz=36,slow=7.5,SNR=2.1							
	comp=E,0.2nm,0.6s							
AKASG	**Malin Array Be**	**73.23**	**1**	P	**P**	**23 43 43.5**	**-0.7**	
	comp=E,0.5nm,0.4s,baz=352,slow=5.1,SNR=4.8							
	comp=E,0.5nm,0.4s							

*HEL **26** 23:36:04.1±0.2, 67.74N×33.65E, h0km, ML1.9, Suspected explosion*
*KOLA **26** 23:36:04.4, 67.64N×33.78E, h0km, ML2.2, Error ellipse: s-maj=8.2km s-min=3.0km az=150.0, Khibiny, mines Kirovsk, Yukspor,Khibiny, mines Rasvumchorr, Central*
*IDC **26** 23:36:06.7±1.7, 67.68N×33.36E, h0km, mbtmp3.5/5, ML2.2/4, Error ellipse: s-maj=17.9km s-min=8.4km az=85.0*

ISC 26 23:36:03.2±0.8, 67.66N±0.03×33.80E±0.03, h0km, n34, σ1§48/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.18**	**238**	P	**Pg**	**23 36 07.5**	**+0.9**
APA				S	**Sg**	**23 36 09.9**	**+1.1**
APA0	**Apatity Array**	**0.32**	**260**	P	**Pg**	**23 36 09.7**	**+0.5**
APA0				S	**Sg**	**23 36 13.5**	**+0.3**
LVZ	**Lovozero**	**0.40**	**54**	P	**Pg**	**23 36 12.1**	**+1.2**
LVZ				S	**Sg**	**23 36 17.9**	**+1.9**
LVZ	**Lovozero**	**0.40**	**54**	PG	**Pg**	**23 36 11.6**	**+0.7**
LVZ				SG	**Sg**	**23 36 12.2**	**-3.8**
VRF	**Varrio**	**1.60**	**275**	PG	**Pn**	**23 36 32.5**	**-0.2**
	baz=84						
VRF				MSG		23 36 50.2	
	comp=Z,14nm,0.2s						
VRF				SN	**Sn**	**23 36 52.4**	**-1.7**
TERR	**Teriberka**	**1.62**	**17**	P	**Pn**	**23 36 33.4**	**+0.4**
TERR				S	**Sn**	**23 36 54.5**	**+0.1**
OLKF	**Oulanka, Finla**	**2.19**	**234**	PG	**Pb**	**23 36 43.0**	**-0.6**
OLKF				MSG		23 37 09.2	
	comp=Z,6.3nm,0.2s						
OLKF				SG	**Sb**	**23 37 12.0**	**+0.7**
RAJF	**Raja-Jooseppi**	**2.22**	**294**	PG	**Pn**	**23 36 41.6**	**+0.4**
RAJF				SG	**Sn**	**23 37 09.3**	**+0.1**
KU6	**Riekki**	**2.26**	**225**	PG	**Pn**	**23 36 43.8**	**+1.8**
KU6				MSG		23 37 11.5	
	comp=Z,5.1nm,0.2s						
KU6				SG	**Sb**	**23 37 13.8**	**+0.6**
MSF	**Maaselka**	**2.58**	**229**	PB	**Pn**	**23 36 48.9**	**+2.8**
	baz=47						
MSF				SG	**Sb**	**23 37 22.8**	**+0.3**
SGF	**Sodankyl**	**2.80**	**269**	PB	**Pn**	**23 36 50.6**	**+1.5**
SGF				SG	**Sb**	**23 37 28.7**	**-0.1**
KMNF	**Kaamanen**	**2.92**	**304**	PN	**Pn**	**23 36 51.6**	**+0.7**
KMNF				SB	**Sn**	**23 37 27.0**	**+0.4**
VADS	**Vadso**	**2.94**	**329**	P	**Pn**	**23 36 51.6**	**+0.5**
VADS				S	**Sn**	**23 37 29.1**	**+2.0**
RNF	**Rovaniemi**	**3.22**	**254**	PN	**Pn**	**23 36 55.6**	**+0.7**
RNF				SN	**Sn**	**23 37 34.8**	**+0.9**
RANF	**Ranua**	**3.23**	**242**	PB	**Pn**	**23 36 57.5**	**+2.5**
	baz=55						
RANF				SG	**Sb**	**23 37 41.8**	**+0.7**
KEV	**Kevo**	**3.25**	**313**	*eP*	**Pn**	**23 36 56.3**	**+1.0**
KEV	**Kevo**	**3.25**	**313**	PB	**Pn**	**23 36 56.6**	**+1.2**
	baz=128						
KEV				SN	**Sn**	**23 37 34.7**	**+0.1**
ARA0	**ARCESS Array S**	**3.57**	**306**	*eP*	**Pn**	**23 37 00.2**	**+0.4**
ARCES	**ARCESS Array B**	**3.57**	**306**	P	**Pn**	**23 37 00.3**	**+0.5**
ARCES				S	**Sn**	**23 37 41.5**	**-1.2**
ARCES	**ARCESS Array B**	**3.57**	**306**	Pn	**Pn**	**23 37 00.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=121,slow=14,SNR=60						
ARCES				Pg	**Pb**	**23 37 08.6**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=115,slow=15,SNR=18						
ARCES				Sn	**Sn**	**23 37 41.4**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=118,slow=25,SNR=11						
ARCES				Lg	Lg	23 37 53.1	
	comp=Z,2.0nm,0.3s,baz=119,slow=30,SNR=13						
	comp=Z,2.2nm,0.4s						
RMF	**Romuvaara**	**3.81**	**206**	PN	**Pn**	**23 37 04.3**	**+1.3**
RMF				SN	**Sn**	**23 37 48.8**	**+0.4**
KLF	**Kolari**	**3.81**	**268**	PG	**Pb**	**23 37 11.6**	**+0.3**
	baz=80						
HEF	**Hetta**	**3.88**	**286**	PN	**Pn**	**23 37 04.4**	**+0.3**
HEF				SN	**Sn**	**23 37 48.8**	**-1.4**
TOF	**Tornio**	**4.06**	**251**	PG	**Pb**	**23 37 17.0**	**+1.6**
TOF				SN	**Sn**	**23 37 54.8**	**+0.2**
OUL	**Oulu**	**4.10**	**235**	PB	**Pb**	**23 37 13.9**	**-2.2**
OUL				SB	**Sb**	**23 38 04.6**	**-1.6**
KTK1	**Kautokeino**	**4.14**	**294**	SN	**Sn**	**23 37 55.9**	**-0.8**
PAJU	**Pajala**	**4.18**	**266**	PN	**Pn**	**23 37 08.8**	**+0.6**
PAJU				SN	**Sn**	**23 37 57.4**	**-0.3**
LANU	**Lannavaara**	**4.49**	**280**	PG	**Pb**	**23 37 23.8**	**+1.1**
LANU				SN	**Sn**	**23 38 04.3**	**-0.9**
KALU	**Kalix**	**4.52**	**251**	PG	**Pb**	**23 37 24.3**	**+1.1**
KALU				SN	**Sn**	**23 38 03.8**	**-2.0**
FINES	**FINESS Array B**	**7.07**	**212**	Pn	**Pn**	**23 37 48.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=6.8						
FINES				Sn	**Sn**	**23 39 06.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=19,slow=26,SNR=1.7						
FINES				Lg	Lg	23 39 41.9	
	comp=Z,0.9nm,0.3s,baz=29,slow=24,SNR=11						
	comp=Z,2.6nm,1.0s						
FAUS	**Fauske**	**7.10**	**276**	S	**Sn**	**23 39 04.3**	**-5.0**
HFS	**Hagfors**	**11.58**	**239**	Pn	**Pn**	**23 38 47.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=51,slow=10,SNR=2.1						
HFS				Sn	Sn	23 40 50.4	-9.0
	comp=Z,0.1nm,0.3s,baz=50,slow=23,SNR=1.2						
HFS				Lg	Lg	23 42 02.0	
	comp=Z,0.2nm,0.3s,baz=54,slow=29,SNR=3.7						
	comp=Z,1.7nm,0.9s						
SPITS	**Spitsbergen Ar**	**11.65**	**342**	Pn	**Pn**	**23 38 48.7**	**-1.7**
	comp=Z,12nm,1.0s,baz=146,slow=15,SNR=7.4						
NOA	**NORSAR Array B**	**11.76**	**246**	Pn	**Pn**	**23 38 49.6**	**-2.5**
	baz=45,slow=11,SNR=4.3						
NOA				Lg	Lg	23 42 05.7	
	baz=40,slow=16,SNR=1.7						
	comp=Z,0.3nm,0.6s						

KRSC 26 23:38:08.4±0.6, 55.26N×166.29E, h34km±2km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.19**	**255**	*eP*	Pb	23 38 14.7	-0.4
BKI				*eS*	Sb	23 38 20.7	+1.2
TUMD	**Tumrok D**	**3.38**	**272**	*eS*	Sn	23 39 42.1	+4.6
KMNR	**Kamenistaya**	**3.48**	**281**	*eP*	Pn	23 39 04.0	+3.9
UGLR	**Uglovaya**	**4.84**	**248**	*eP*	Pn	23 39 23.4	+4.6
AVH	**Avacha**	**4.86**	**249**	*eP*	Pn	23 39 23.8	+4.7
KOK	**Koryaka**	**4.90**	**249**	*eP*	Pn	23 39 24.1	+4.4
MTVR	**Mutnovka**	**5.54**	**243**	*eP*	Pn	23 39 33.4	+4.9
MTVR				*eS*	Sn	23 40 35.5	+4.4

*TEH **26** 23:38:40.0, 33.70N×45.65E, h8km±60km, ML3.3*
*ISN **26** 23:38:41.6±0.7, 33.74N×45.74E, h21km±4km, ML3.0*

ISC 26 23:38:41.8±0.9, 33.74N±0.03×45.70E±0.04, h13km, n19, σ1§66/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.44**	**105**	Pg	**Pb**	**23 38 50.0**	**-1.5**
IBDR	**Badra**	**0.66**	**163**	*ePg*	**Pb**	**23 38 54.0**	**-1.1**
IBDR				*eSg*	**Sb**	**23 39 03.0**	**-1.2**
IBDR				AML	AML	23 39 22.4	
	comp=E,198nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.77**	**353**	Pg	**Pg**	**23 38 55.9**	**-0.8**
IGHG	**Ghaleghazi**	**0.93**	**51**	Pg	**Pb**	**23 38 59.1**	**-0.9**
IDHR	**Dehrash**	**1.11**	**31**	Pg	**Pb**	**23 39 02.2**	**-0.9**
BHD	**Baghdad**	**1.20**	**247**	*ePn*	**Pg**	**23 39 05.0**	**+0.2**
BHD				*eSn*	**Sg**	**23 39 23.0**	**+2.6**
BHD				AML	AML	23 39 25.2	
	comp=E,1μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.24**	**64**	Pg	**Pb**	**23 39 04.2**	**-0.9**
KCHF				Sg	**Sg**	**23 39 24.2**	**+2.4**
ILIN	**Lien**	**1.57**	**41**	Pg	**Pb**	**23 39 10.4**	**-0.5**
IKFM	**Kafar-mosalman**	**1.81**	**96**	Pn	**Pb**	**23 39 13.9**	**-0.8**
IBZA	**Bozab**	**1.94**	**67**	Pn	**Pb**	**23 39 15.6**	**-1.6**
RAFI	**Al-Rafai**	**2.04**	**170**	*ePn*	**Pb**	**23 39 17.0**	**-1.7**
RAFI				*eSn*	**Sb**	**23 39 42.0**	**-2.0**
IALM	**Almabolaq**	**2.33**	**61**	Pn	**Pb**	**23 39 21.3**	**-2.5**
SDS1	**Sardasht. Az.**	**2.41**	**356**	Pn	**Pb**	**23 39 22.6**	**-2.5**
HSAM	**Samen**	**2.46**	**78**	Pn	**Pn**	**23 39 22.3**	**+0.4**
MAHB	**Mahabad**	**3.02**	**0**	Pn	**Pn**	**23 39 30.7**	**+1.3**
IRAZ	**Razeghan**	**3.87**	**63**	Pn	**Pn**	**23 39 42.8**	**+1.6**
QAMS	**Qamsar**	**4.75**	**88**	Pn	**Pn**	**23 39 54.6**	**+1.3**
IKLH	**Kolahrood**	**4.93**	**93**	Pn	**Pn**	**23 39 57.3**	**+1.5**
IRAM	**Ramesheh**	**5.95**	**107**	Pn	**Pn**	**23 40 11.4**	**+1.6**

ISC 26 23:40:09.3±2.7, 55.8N±0.2×149.27W±0.08, h10km, n11, σ1§36/10, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.62**	**304**	P	Pn	23 40 51.8	+0.1
	baz=121						
OHAK				S	**Sn**	**23 41 21.7**	**-1.8**
	baz=121						
SII	**Sitkinak Islan**	**2.84**	**287**	S	**Sn**	**23 41 27.5**	**-1.5**
	baz=104						
Q20K	**Shuyak Island**	**3.26**	**330**	P	**Pn**	**23 41 01.1**	**+0.7**
	baz=147						
Q20K				S	**Sn**	**23 41 38.8**	**-0.5**
	baz=147						
Q19K	**Cape Douglas,**	**3.90**	**324**	P	**Pn**	**23 41 10.9**	**+1.5**
	baz=141						
BRSE	**Bradley Lake S**	**4.00**	**349**	P	Pn	23 41 10.9	+0.3
	baz=168						
BRSE				S	**Sn**	**23 41 56.6**	**-0.9**
	baz=168						
Q18K	**Katmai Hardscr**	**4.21**	**315**	P	**Pn**	**23 41 15.1**	**+1.5**
	baz=130						
Q17K	**Contact Creek**	**4.36**	**307**	P	**Pn**	**23 41 16.3**	**+0.7**
	baz=122						
P19K	**Oil Pt**	**4.38**	**333**	P	**Pn**	**23 41 16.6**	**+0.7**
	baz=149						
P18K	**Big Mountain,**	**4.79**	**321**	P	Pn	23 41 22.1	+0.5
	baz=136						
PNL	**Peninsula**	**6.53**	**50**	P	**Pn**	**23 41 45.6**	**+0.2**
	baz=237						
M18K	**Stony River**	**6.62**	**332**	P	Pn	23 41 46.8	+0.2
	baz=146						

*IDC **26** 23:57:14.4±0.9, 10.40N×62.00W, h0km, mb3.5/7, mbtmp3.8/11, ML3.5/4, Error ellipse: s-maj=25.7km s-min=14.9km az=176.0*
*FUNV **26** 23:57:17.4, 10.29N×62.08W, h5km, MW4.3*
*CAR **26** 23:57:17.5±3.6, 10.29N±0.10×62.1W±0.1, h5km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=217.0*
*TRN **26** 23:57:17.0, 10.08N×61.97W, h24km, MD4.4*
*NEIC **26** 23:57:18.3±1.0, 10.29N±0.09×62.3W±0.1, h10km±2km, mb4.1/6, Mwr4.3(CAR), Error ellipse: s-maj=19.6km s-min=12.2km az=127.0*

ISC 26 23:57:17.3±1.7, 10.15N±0.05×62.09W±0.04, h24km±14km, n95, σ1§79/114, mb3.7/10, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.84**	**54**	*eP*	**Pb**	**23 57 32.4**	**-0.8**
TRN				*eS*	**Sn**	**23 57 43.8**	**-1.4**
CRUV	**Carupano**	**1.24**	**295**	*eP*	**Pn**	**23 57 38.2**	**-1.0**
CRUV				*eS*	**Sn**	**23 57 52.9**	**-2.3**
GRFF	**Grenada Fort F**	**1.92**	**10**	*eP*	**Pn**	**23 57 48.5**	**0.0**
GRFF				*eS*	**Sn**	**23 58 12.4**	**+0.5**
GRGR	**Grenville**	**2.02**	**12**		**Pn**	**23 57 50.9**	**+1.0**
GRGR	**Grenville**	**2.02**	**12**	*eP*	**Pn**	**23 57 50.6**	**+0.8**
GRGR				*eS*	**Sn**	**23 58 14.7**	**+0.4**
GRW	**Mount Saint Ca**	**2.04**	**12**	*eP*	**Pn**	**23 57 51.7**	**+1.5**
GRW				*eS*	**Sn**	**23 58 16.6**	**+1.5**
GRHS	**Sauteurs**	**2.11**	**12**	*eP*	**Pn**	**23 57 51.0**	**-0.1**
GRHS				*eS*	**Sn**	**23 58 17.2**	**+0.6**
GCMP	**Grenada, Carri**	**2.41**	**16**	*eP*	**Pn**	**23 57 56.1**	**+0.8**
GCMP				*eS*	**Sn**	**23 58 24.9**	**+0.8**
PCRV	**Puerto La Cruz**	**2.51**	**271**	*eP*	**Pn**	**23 57 58.1**	**+1.4**
PCRV				*eS*	**Sn**	**23 58 28.0**	**+1.5**
PCRV	**Puerto La Cruz**	**2.51**	**271**	Pn	**Pn**	**23 57 57.6**	**+1.0**
	8.2nm,0.3s,baz=46,slow=4.8,SNR=50						
PCRV				Sn	**Sn**	**23 58 29.3**	**+2.7**
	31nm,0.3s,baz=30,slow=23,SNR=4.9						
PCRV				Lg	Lg	23 58 36.1	
	63nm,0.3s,baz=256,slow=19,SNR=7.7						
	23nm,0.3s						
SVOC	**Richmond Hill,**	**3.10**	**16**	*eP*	**Pn**	**23 58 06.3**	**+1.5**
SVOC				*eS*	**Sn**	**23 58 41.8**	**+0.6**
SVB	**Belmont**	**3.21**	**15**	*eP*	**Pn**	**23 58 08.2**	**+1.8**
SVB				*eS*	**Sn**	**23 58 45.0**	**+1.1**
SLB	**Belfond**	**3.79**	**16**	*eP*	**Pn**	**23 58 15.9**	**+1.5**
SLCP	**Castries, St.**	**3.98**	**16**	*eP*	**Pn**	**23 58 18.4**	**+1.4**
SLCP				*eS*	**Sn**	**23 59 01.9**	**-1.0**
SLBI	**Saint Lucia, B**	**4.00**	**16**	*eP*	**Pn**	**23 58 18.7**	**+1.5**
SLBI				*eS*	**Sn**	**23 59 03.0**	**-0.4**
LUEV	**Luepa**	**4.33**	**172**	*eP*	**Pn**	**23 58 24.2**	**+2.4**
H05S1	**Guadeloupe/Mar**	**4.42**	**16**	Pn	**Pn**	**23 58 26.4**	**+3.4**
H05S1				Sn	**Sn**	**23 59 13.2**	**-0.5**
MPOM	**Morne Pois Mar**	**4.43**	**16**	Pn	**Pn**	**23 58 25.2**	**+2.1**
MPOM	**Morne Pois Mar**	**4.43**	**16**	*eP*	**Pn**	**23 58 25.1**	**+1.9**
MPOM	**Morne Pois Mar**	**4.43**	**16**	*eS*	**Sn**	**23 59 13.8**	**-0.2**
BIM	**Bigot**	**4.45**	**13**	Pn	**Pn**	**23 58 24.9**	**+1.5**
BIM	**Bigot**	**4.45**	**13**	*eP*	**Pn**	**23 58 24.7**	**+1.2**
BIM	**Bigot**	**4.45**	**13**	*eS*	**Sn**	**23 59 13.6**	**-1.0**
FDF	**Fort de France**	**4.65**	**11**	Pn	**Pn**	**23 58 27.8**	**+1.6**
FDF	**Fort de France**	**4.65**	**11**	*eP*	**Pn**	**23 58 27.5**	**+1.4**
FDF	**Fort de France**	**4.65**	**11**	*eS*	**Sn**	**23 59 16.7**	**-2.7**
FUNV	**FUNVISIS**	**4.66**	**274**	*eP*	**Pn**	**23 58 27.5**	**+1.2**
FUNV				*eS*	**Sn**	**23 59 18.8**	**-0.8**
SVN	**Savane Anatole**	**4.75**	**11**	*eS*	**Sn**	**23 59 21.4**	**-0.4**
TACV	**Tcata**	**4.86**	**270**	*eP*	**Pn**	**23 58 30.0**	**+0.9**
TACV				*eS*	**Sn**	**23 59 23.8**	**-0.9**
CACV	**CAICARA DEL OR**	**5.09**	**240**	*eP*	Pn	23 58 27.9	-4.3
CACV				*eS*	Sn	23 59 20.3	-10
BENV	**Beln**	**5.43**	**269**	*eP*	**Pn**	**23 58 37.4**	**+0.5**
BENV				*eS*	**Sn**	**23 59 36.8**	**-1.9**
TURV	**Turiamo**	**5.67**	**274**	*eP*	**Pn**	**23 58 41.0**	**+0.9**
TURV				*eS*	**Sn**	**23 59 41.8**	**-2.7**
MAGL	**Barre de l'ile**	**5.82**	**8**	Pn	**Pn**	**23 58 43.8**	**+1.6**
CBE	**Ff, Capester**	**5.90**	**5**		**Pn**	**23 58 44.5**	**+1.2**
CBE	**Ff, Capester**	**5.90**	**5**	*eP*	**Pn**	**23 58 45.0**	**+1.7**
CBE	**Ff, Capester**	**5.90**	**5**	*eS*	**Sn**	**23 59 50.0**	**-0.3**
BAUV	**El Baul**	**5.99**	**259**	Pn	**Pn**	**23 58 45.2**	**+0.6**
BAUV	**El Baul**	**5.99**	**259**	*eP*	**Pn**	**23 58 44.5**	**0.0**
BAUV				*eS*	**Sn**	**23 59 50.7**	**-1.8**
BAUV	**El Baul**	**5.99**	**259**	*eP*	**Pn**	**23 58 45.5**	**+1.0**
BAUV	**El Baul**	**5.99**	**259**	*eS*	**Sn**	**23 59 52.8**	**+0.3**
GDHS	**Morne Mazeau,**	**6.09**	**3**	Pn	**Pn**	**23 58 47.1**	**+1.1**
GDSD	**La Dsirade Is**	**6.21**	**9**	Pn	**Pn**	**23 58 48.6**	**+1.1**
H05N1	**Guadeloupe/Mar**	**6.21**	**9**	Pn	**Pn**	**23 58 49.1**	**+1.5**
H05N1				Sn	**Sn**	**23 59 51.4**	**-6.5**
ABD	**La Joyeuse, An**	**6.31**	**5**	Pn	**Pn**	**23 58 49.6**	**+0.6**
ABD	**La Joyeuse, An**	**6.31**	**5**	*eP*	**Pn**	**23 58 49.9**	**+0.9**
ABD	**La Joyeuse, An**	**6.31**	**5**	*eS*	**Sn**	**23 59 58.0**	**-2.3**
MBFL	**Flemmings, Mon**	**6.56**	**359**	*eP*	**Pn**	**23 58 53.3**	**+1.0**
MBFL	**Flemmings, Mon**	**6.56**	**359**	*eS*	**Sn**	**00 00 05.0**	**-1.4**
ANBD	**Bethesda, Anti**	**6.86**	**3**	*eP*	**Pn**	**23 58 57.8**	**+1.3**
ANBD	**Bethesda, Anti**	**6.86**	**3**	*eS*	**Sn**	**00 00 13.0**	**-1.0**
TEPV	**Terepaima**	**7.00**	**269**	*eP*	**Pn**	**23 58 57.9**	**-0.5**
TEPV				*eS*	**Sn**	**00 00 13.9**	**-3.5**
SANV	**Sanarito**	**7.37**	**266**	*eP*	**Pn**	**23 59 03.4**	**-0.2**
SIQV	**Siquisique**	**7.61**	**274**	*eP*	**Pn**	**23 59 06.4**	**-0.5**
CURV	**Curarigua**	**7.75**	**270**	*eP*	**Pn**	**23 59 08.7**	**-0.2**
SDV	**Santo Domingo**	**8.52**	**262**	Pn	**Pn**	**23 59 19.1**	**-0.4**
SDV	**Santo Domingo**	**8.52**	**262**	Pn	**Pn**	**23 59 20.3**	**+0.8**
	4.3nm,0.3s,baz=79,slow=7.8,SNR=26						
SDV				Sn	Sn	00 00 48.1	-6.9
	1.8nm,0.3s,baz=16,slow=18,SNR=1.3						
	15nm,0.4s						
SDV	**Santo Domingo**	**8.52**	**262**	*eP*	**Pn**	**23 59 19.4**	**-0.1**
SJG	**San Juan**	**8.84**	**334**	Sn	Sn	00 00 55.9	-6.7
	1.3nm,0.3s,baz=323,slow=15,SNR=2.1						
SOCV	**Socops**	**8.85**	**259**	*eP*	**Pn**	**23 59 23.8**	**-0.1**
SOCV				*eS*	**Sn**	**00 00 56.5**	**-6.4**
GCPR	**Guaynabo City**	**8.99**	**335**	Pn	**Pn**	**23 59 24.9**	**-0.8**
CELP	**Cerrillos**	**9.00**	**332**	Pn	**Pn**	**23 59 26.5**	**+0.6**
AOPR	**Arecibo Observ**	**9.32**	**332**	*eP*	**Pn**	**23 59 33.5**	**+3.3**
CAPV	**Capacho**	**10.35**	**258**	*eP*	**Pn**	**23 59 43.3**	**-1.4**
MDP	**Montagnes des**	**10.62**	**117**	Pn	**Pn**	**23 59 47.3**	**-0.8**
	1.0nm,0.3s,baz=307,slow=14,SNR=16						
MDP				Sn	**Sn**	**00 01 39.3**	**-7.1**
	1.6nm,0.3s,baz=185,slow=21,SNR=2.3						
	7.6nm,0.4s						
PAMC	**Pamplona, Colo**	**10.85**	**256**	*eP*	**Pn**	**23 59 49.8**	**-2.0**
OCAC	**Ocana**	**11.25**	**261**	*eP*	**Pn**	**23 59 56.8**	**-0.1**
BARC	**Barichara**	**11.53**	**253**	*eP*	**Pn**	**23 59 60.0**	**-0.8**
SPBC	**San Pablo de B**	**12.68**	**250**	*eP*	**Pn**	**00 00 16.5**	**+0.1**
PTBC	**PUERTO BERRIO,**	**12.75**	**255**	*eP*	**Pn**	**00 00 15.0**	**-2.3**
VILC	**Villavicencio,**	**12.98**	**243**	*eP*	**Pn**	**00 00 21.6**	**+1.1**
ROSC	**El Rosal**	**13.22**	**247**	Pn	**Pn**	**00 00 24.4**	**+0.3**
ROSC	**El Rosal**	**13.22**	**247**	Pn	**Pn**	**00 00 26.1**	**+2.1**
	2.7nm,0.3s,baz=138,slow=22,SNR=5.8						
	7.3nm,0.3s						
UREC	**San Jos de Ur**	**13.49**	**261**	*eP*	Pn	00 00 21.1	-6.4
GUY2C	**Guyana, Caldas**	**14.04**	**251**	*eP*	**Pn**	**00 00 34.7**	**-0.6**
ORTC	**Ortega, Tolima**	**14.45**	**246**	*eP*	**Pn**	**00 00 40.8**	**+0.2**
PLMC	**San Jos del P**	**15.00**	**251**	*eP*	**Pn**	**00 00 46.2**	**-1.9**
YOTC	**Yotoco, Valle**	**15.41**	**248**	*eP*	**Pn**	**00 00 55.8**	**+2.3**
GARC	**Garzon, Huila**	**15.49**	**240**	*eP*	**Pn**	**00 00 55.2**	**+0.6**
JAMC	**Jamundi, Valle**	**16.03**	**246**	*eP*	**Pn**	**00 01 03.3**	**+1.7**
POPC	**Popayan, Colom**	**16.34**	**243**	*eP*	**Pn**	**00 01 06.4**	**+0.8**
SAML	**Samuel**	**19.00**	**183**	P	**Pn**	**00 01 41.0**	**+2.7**
SAML				IAmb	IAmb	00 01 42.1	
	comp=Z,5.5nm,0.9s						
SAML	**Samuel**	**19.00**	**183**	*eP*	**Pn**	**00 01 39.5**	**+1.1**
ETMB	**Extrema**	**20.26**	**192**	P	Pn	00 01 54.2	+1.0
CZSB	**Cruzeiro do Su**	**20.67**	**211**		Pn	00 01 56.9	-1.1
RIMA	**Rio Macho**	**21.45**	**271**	P	**P**	**00 02 04.2**	**-0.2**
RIMA				IAmb	IAmb	00 02 39.5	
	comp=Z,10nm,1.2s						
ATAH	**Atahualpa**	**23.63**	**224**	P	**P**	**00 02 30.4**	**+3.1**
	comp=Z,5.1nm,0.7s,baz=61,slow=6.1,SNR=4.1						
	comp=Z,5.1nm,0.7s						
S39A	**Bolivar**	**39.24**	**319**	P	**P**	**00 04 42.9**	**-1.2**
S39A				IAmb	IAmb	00 04 53.8	
	comp=Z,4.0nm,0.8s						
BRDY	**Brady**	**40.14**	**307**	P	**P**	**00 04 50.7**	**-1.0**
BRDY				IAmb	IAmb	00 05 01.3	
	comp=Z,10.0nm,1.4s						
TXAR	**Lajitas Array**	**43.24**	**302**	P	**P**	**00 05 17.0**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=110,slow=7.8,SNR=1.9						
TXAR				PcP	**PcP**	**00 07 08.0**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=115,slow=4.1,SNR=2.2						
	comp=Z,0.1nm,0.6s						
PLCA	**Paso Flores**	**51.23**	**188**	P	**P**	**00 06 21.5**	**+2.4**
	comp=Z,1.4nm,1.0s,baz=10,slow=12,SNR=3.5						
	comp=Z,1.4nm,1.0s						
PDAR	**Pinedale Array**	**52.51**	**317**	P	**P**	**00 06 28.0**	**-1.0**

PB04				*e*S		**Pn**	**23 58 36.9**	**+3.8**
PB04	**IPOC Station P**	**1.74**	**210**	*e*P		**Pn**	**23 58 32.9**	**-0.3**
PB04				*i* S		**Sn**	**23 58 55.0**	**-0.9**
LVC	**Limon Verde**	**1.80**	**171**	*e*P		**Pn**	**23 58 34.1**	**+0.1**
LVC				*e*S		**Sn**	**23 58 58.9**	**+1.4**
PB06	**IPOC Station P**	**1.90**	**190**	*e*P		**Pn**	**23 58 34.9**	**-0.3**
PB06				*e*S		**Sn**	**23 58 58.6**	**-0.9**
PB06	**IPOC Station P**	**1.90**	**190**	*e*P		**Pn**	**23 58 35.0**	**-0.1**
PB06				*i* S		**Sn**	**23 58 58.8**	**-0.7**
PB05	**IPOC Station P**	**2.22**	**204**	*e*P		**Pn**	**23 58 38.3**	**-0.9**
PB05	**IPOC Station P**	**2.22**	**204**	*i* P		**Pn**	**23 58 38.9**	**-0.3**
PB05				*i* S		**Sn**	**23 59 04.8**	**-1.8**
PB15	**IPOC Station P**	**2.38**	**186**	*e*P		**Pn**	**23 58 41.3**	**-0.1**
PB15				*e*S		**Sn**	**23 59 10.7**	**+0.2**
PB15				IAML			23 59 17.1	
	comp=Z,381nm,0.2s							
PB12	**IPOC Station P**	**2.44**	**334**	*e*P		**Pn**	**23 58 40.7**	**-1.3**
PB12				*e*S		**Sn**	**23 59 10.3**	**-1.4**
PB12				IAML			23 59 16.1	
	comp=Z,174nm,0.3s							
PB16	**IPOC Station P**	**2.49**	**353**	*e*P		**Pn**	**23 58 43.6**	**+0.5**
YJA	**Yavi**	**3.69**	**112**	*e*P		**Pn**	**23 58 59.2**	**+0.5**
PB14	**IPOC Station P**	**3.94**	**196**	*e*P		**Pn**	**23 59 00.5**	**-1.6**
GO02	**Mina Guanaco**	**4.33**	**185**	*e*P		**Pn**	**23 59 06.7**	**-0.6**
LPAZ	**La Paz**	**4.63**	**13**	*e*P		**Pn**	**23 59 13.8**	**+2.2**

*SJA **27** 00:15:45.8±0.9,20.°63S×66.°69W,h254km±10km,ML4.1, MW3.7*
*SCB **27** 00:15:47.5±1.4,20.°72S×66.°81W,h240km±10km,ML4.1/4, MW4.1,Error ellipse: s-maj=5.2km s-min=4.3km az=2.0*
ISC 27 00:15:46.7±1.9,20.°73S±0.°04×66.°81W±0.°05, h248km±15km,n44,σ1°24/67,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.21**	**116**	Pg	**Pn**	**00 16 23.9**	**+0.5**
MOCB				Sg	**S**	**00 16 50.4**	**-1.7**
MOCB				IAML		00 16 51.1	
	1μm,0.4s						
YJA	**Yavi**	**1.88**	**140**	*e*P	**Pn**	**00 16 29.0**	**+0.5**
YJA				*e*S	**S**	**00 16 59.8**	**-1.5**
PB08	**IPOC Station P**	**2.28**	**284**	*e*P	**Pn**	**00 16 33.1**	**+1.0**
PB08				*e*S	**S**	**00 17 09.2**	**+1.3**
PB08	**IPOC Station P**	**2.28**	**284**	Pg	**Pn**	**00 16 33.1**	**+1.0**
GO01	**Chusmiza**	**2.48**	**295**	*e*P	**Pn**	**00 16 34.6**	**+0.4**
GO01	**Chusmiza**	**2.48**	**295**	Pg	**Pn**	**00 16 34.9**	**+0.7**
PB09	**IPOC Station P**	**2.51**	**245**	*e*P	**Pn**	**00 16 36.0**	**+1.8**
PB09				*e*S	**S**	**00 17 12.7**	**+1.1**
PB09	**IPOC Station P**	**2.51**	**245**	Pg	**Pn**	**00 16 35.6**	**+1.4**
PB01	**IPOC Station P**	**2.53**	**262**	*e*P	**Pn**	**00 16 34.9**	**+0.6**
PB01				*e*S	**S**	**00 17 11.5**	**-0.2**
PB01				IAML		00 17 12.6	
	comp=Z,255nm,0.1s						
PB01	**IPOC Station P**	**2.53**	**262**	Pg	**Pn**	**00 16 35.1**	**+0.8**
PB01				Sg	**S**	**00 17 11.1**	**-0.6**
PB01				IAML		00 17 13.9	
	comp=Z,238nm,0.2s						
LVC	**Limon Verde**	**2.71**	**226**	*e*P	**Pn**	**00 16 38.0**	**+1.6**
LVC				*e*S	**S**	**00 17 16.5**	**+0.8**
LVC	**Limon Verde**	**2.71**	**226**	Pg	**Pn**	**00 16 37.8**	**+1.4**
SOET	**ToroToro**	**2.76**	**20**	Pg	**Pn**	**00 16 37.1**	**0.0**
PB11	**IPOC Station P**	**2.84**	**289**	*e*P	**Pn**	**00 16 37.9**	**+0.2**
PB11				*e*S	**S**	**00 17 17.6**	**-0.2**
PB11				IAML		00 17 19.0	
	comp=Z,245nm,0.1s						
PB11	**IPOC Station P**	**2.84**	**289**	Pg	**Pn**	**00 16 38.0**	**+0.3**
HMBC	**Humberstone**	**2.92**	**278**	*e*P	**Pn**	**00 16 38.3**	**-0.2**
HMBC				*e*S	**S**	**00 17 17.7**	**-1.6**
HMBC	**Humberstone**	**2.92**	**278**	Pg	**Pn**	**00 16 38.5**	**0.0**
PB02	**IPOC Station P**	**2.95**	**258**	*e*P	**Pn**	**00 16 39.6**	**+1.0**
PB02				*e*S	**S**	**00 17 18.3**	**-1.4**
PB02				IAML		00 17 19.8	
	comp=Z,507nm,0.4s						
PB02	**IPOC Station P**	**2.95**	**258**	Pg	**Pn**	**00 16 39.7**	**+1.0**
PB02				Sg	**S**	**00 17 17.9**	**-1.8**
PB02				IAML		00 17 18.8	
	comp=Z,457nm,0.3s						
PB07	**IPOC Station P**	**3.04**	**250**	*e*P	**Pn**	**00 16 40.5**	**+0.8**
PB07				*e*S	**S**	**00 17 20.3**	**-1.4**
PB07				IAML		00 17 21.3	
	comp=Z,154nm,0.3s						
PB07	**IPOC Station P**	**3.04**	**250**	Pg	**Pn**	**00 16 40.6**	**+0.8**
PATCX	**Punta Patache**	**3.13**	**268**	*e*P	**Pn**	**00 16 41.0**	**+0.3**
PATCX				*e*S	**S**	**00 17 22.0**	**-1.4**
TA02	**Huaiquique**	**3.15**	**278**	*e*P	**Pn**	**00 16 41.0**	**+0.2**
TA02				*e*S	**S**	**00 17 21.6**	**-2.0**
TA02				IAML		00 17 22.8	
	comp=Z,695nm,0.3s						
TA02	**Huaiquique**	**3.15**	**278**	Pg	**Pn**	**00 16 41.0**	**+0.2**
TA01	**Diego Aracena**	**3.17**	**272**	*e*P	**Pn**	**00 16 41.0**	**+0.1**
TA01				*e*S	**S**	**00 17 21.2**	**-2.6**
TA01	**Diego Aracena**	**3.17**	**272**	Pg	**Pn**	**00 16 40.9**	**0.0**
PB06	**IPOC Station P**	**3.24**	**232**	*e*P	**Pn**	**00 16 43.2**	**+1.3**
PB06				*e*S	**S**	**00 17 25.1**	**-0.5**
PB06	**IPOC Station P**	**3.24**	**232**	Pg	**Pn**	**00 16 43.4**	**+1.5**
PB16	**IPOC Station P**	**3.49**	**313**	*e*P	**Pn**	**00 16 46.6**	**+1.3**
PB16				*e*S	**S**	**00 17 33.9**	**+2.5**
PB16	**IPOC Station P**	**3.49**	**313**	Pg	**Pn**	**00 16 46.5**	**+1.3**
PB15	**IPOC Station P**	**3.49**	**225**	*e*P	**Pn**	**00 16 46.7**	**+1.9**
PB15				*e*S	**S**	**00 17 30.7**	**-0.1**
PB15				IAML		00 17 36.4	
	comp=Z,316nm,0.2s						
PB15	**IPOC Station P**	**3.49**	**225**	Pg	**Pn**	**00 16 46.6**	**+1.8**
PB15				Sg	**S**	**00 17 29.9**	**-1.0**
PB15				IAML		00 17 36.2	
	comp=Z,344nm,0.4s						
PB04	**IPOC Station P**	**3.50**	**242**	*e*P	**Pn**	**00 16 45.7**	**+0.8**
PB04				*e*S	**S**	**00 17 29.8**	**-1.1**
PB04				IAML		00 17 31.5	
	comp=Z,102nm,0.2s						
PB04	**IPOC Station P**	**3.50**	**242**	Pg	**Pn**	**00 16 45.4**	**+0.5**
PB05	**IPOC Station P**	**3.80**	**236**	*e*P	**Pn**	**00 16 49.0**	**+0.7**
PB05				*e*S	**S**	**00 17 36.0**	**-1.1**
PB05	**IPOC Station P**	**3.80**	**236**	Pg	**Pn**	**00 16 49.0**	**+0.7**
PB12	**IPOC Station P**	**3.93**	**302**	*e*P	**Pn**	**00 16 48.9**	**-0.9**
PB12				*e*S	**S**	**00 17 36.5**	**-3.3**
SOEJ	**Jacaque**	**3.96**	**340**	Pg	**Pn**	**00 16 52.0**	**+1.4**
AP01	**Chacalluta**	**4.08**	**305**	*e*P	**Pn**	**00 16 51.1**	**-0.3**
AP01				IAML		00 17 43.5	
	comp=Z,266nm,0.2s						
BBOD	**La Paz, Gloria**	**4.41**	**337**	Pg	**Pn**	**00 16 57.7**	**+1.7**
LPAZ	**La Paz**	**4.59**	**344**	*e*P	**Pn**	**00 16 59.5**	**+1.3**
LPAZ	**La Paz**	**4.59**	**344**	Pg	**Pn**	**00 16 59.2**	**+1.0**
GO02	**Mina Guanaco**	**5.11**	**210**	*e*P	**Pn**	**00 17 04.6**	**+0.5**
GO02				*e*S	**S**	**00 18 04.1**	**-1.6**
GO02	**Mina Guanaco**	**5.11**	**210**	Pg	**Pn**	**00 17 04.7**	**+0.6**

IDC 27 00:22:06.6±3.5,6.°27S×150.°57E,h0km,mb3.3/3, mbtmp3.5/4,ML2.1/1,Error ellipse: s-maj=115.2km s-min=30.7km az=112.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.60**	**227**	Pn	Pn	00 23 18.2	+0.8
	6.3nm,0.3s,baz=20,slow=6.2,SNR=12						
PMG					Sn	00 24 06.4	-5.1
	8.8nm,0.3s,baz=184,slow=18,SNR=7.5						
	15nm,0.3s						
WRA	**Warramunga Arr**	**20.82**	**228**	P	P	00 26 48.8	-1.0
	0.5nm,0.4s,baz=53,slow=11,SNR=5.8						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**23.58**	**221**	P	P	00 27 19.8	+0.6
	0.4nm,0.8s,baz=54,slow=9.0,SNR=1.6						
	0.4nm,0.8s						
SONM	**Songino Array**	**66.41**	**329**	P	P	00 32 58.5	+0.8
	0.3nm,0.5s,baz=125,slow=7.2,SNR=1.8						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.59**	**285**	PKPbc	PKPbc	00 41 55.3	-1.4
	0.3nm,0.3s,baz=84,slow=2.6,SNR=8.1						

*UPP **27** 00:45:14.3±0.0,67.°84N×20.°19E,h0km,ML2.5,Suspected explosion*
*HEL **27** 00:45:14.8±0.1,67.°82N×20.°20E,h0km,ML1.5,Explosion*
ISC 27 00:45:13.3±0.9,67.°79N±0.°03×20.°22E±0.°03,h0km,n18, σ0°46/26,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.17**	**14**	P	**Pg**	**00 45 17.0**	**+0.3**
KUA				S	**Sg**	**00 45 18.8**	**-0.2**
RATU	**Laukkuluspa**	**0.24**	**279**	P	**Pg**	**00 45 18.9**	**+0.9**
DUNU	**Dundret**	**0.68**	**168**	S	**Sb**	**00 45 37.7**	**-0.3**
LANU	**Lannavaara**	**0.72**	**68**	*e*P	**Pg**	**00 45 27.7**	**+0.5**
LANU				*e*S	**Sg**	**00 45 36.6**	**+0.2**
LANU	**Lannavaara**	**0.72**	**68**	P	**Pg**	**00 45 27.8**	**+0.7**
MASU	**Masugnsbyn**	**0.76**	**115**	P	**Pb**	**00 45 29.3**	**-0.1**
MASU				S	**Sb**	**00 45 39.9**	**-0.3**
SALU	**Saltoluokta**	**0.77**	**239**	P	**Pb**	**00 45 29.2**	**-0.4**
KIF	**Kilpisjarvi**	**1.24**	**10**	*e*P	**Pg**	**00 45 37.2**	**+0.1**
KIF				*e*S	**Sg**	**00 45 53.0**	**-0.3**
KIF				MSG		00 45 54.3	
	comp=Z,6.8nm,0.2s						
PAJU	**Pajala**	**1.35**	**123**	*e*PG	**Pb**	**00 45 39.7**	**+0.1**
PAJU				*e*SB	**Sn**	**00 45 58.2**	**+0.1**
PAJU	**Pajala**	**1.35**	**123**	P	**Pb**	**00 45 39.7**	**+0.1**
HEF	**Hetta**	**1.43**	**63**	*e*P	**Pn**	**00 45 40.3**	**-0.3**
HEF				MSG		00 45 54.3	
	comp=Z,4.6nm,0.2s						
HEF				*e*S	**Sg**	**00 45 58.7**	**-0.6**
KLF	**Kolari**	**1.54**	**109**	*e*PG	**Pb**	**00 45 42.8**	**+0.1**
KLF				MSG		00 45 59.0	
	comp=Z,2.5nm,0.2s						
KTK1	**Kautokeino**	**1.66**	**41**	*e*P	**Pn**	**00 45 43.9**	**+0.2**
TRO	**Tromso**	**1.92**	**346**	*e*SG	**Sb**	**00 46 13.1**	**-0.4**
KALU	**Kalix**	**2.30**	**146**	*e*SG	**Sg**	**00 46 26.4**	**-0.6**
TOF	**Tornio**	**2.35**	**135**	*e*PB	**Pb**	**00 45 56.2**	**-0.4**
TOF				MSG		00 46 24.9	
	comp=Z,1.3nm,0.2s						
TOF				*e*SB	**Sb**	**00 46 26.8**	**+0.7**
SGF	**Sodankyl**	**2.44**	**95**	*e*PG	**Pb**	**00 45 58.5**	**+0.5**
SGF				*e*SG	**Sg**	**00 46 30.9**	**-0.6**
RNF	**Rovaniemi**	**2.55**	**115**	*e*PB	**Pb**	**00 45 59.2**	**-0.6**

*IDC **27** 00:48:27.3±2.6,55.°92N×149.°25W,h0km,mb3.6/4, mbtmp3.5/9,ML3.2/5,Error ellipse: s-maj=50.6km s-min=25.4km az=175.0*
*NEIC **27** 00:48:30.1±0.7,56.°31N±0.°09×149.°6W±0.°1,h10km±2km, ML3.6/48,ML3.4(AEIC),Error ellipse: s-maj=15.6km s-min=9.7km az=153.0*
*AEIC **27** 00:48:33.3±1.2,56.°2N±0.°1×149.°5W±0.°1,h9km±8km,Error ellipse: s-maj=16.0km s-min=9.0km az=154.0*
ISC 27 00:48:30.7±1.1,56.°34N±0.°08×149.°55W±0.°06,h10km, n115,σ0°95/117,mb3.5/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.20**	**312**		**Pn**	**00 49 06.9**	**-0.4**
KDAK	**Kodiak Island**	**2.20**	**312**		**Sn**	**00 49 33.4**	**-1.1**
KDAK	**Kodiak Island**	**2.20**	**312**	S	**Sn**	**00 49 33.3**	**-1.2**
	baz=132						
KDAK	**Kodiak Island**	**2.20**	**312**	Pn	**Pn**	**00 49 07.2**	**0.0**
	2.2nm,0.3s,baz=145,slow=4.2,SNR=11						
KDAK					Sn	**Sn**	**00 49 32.7**	**-1.8**
	13nm,0.3s,baz=54,slow=23,SNR=6.6						
	5.4nm,0.3s						
OHAK	**Old Harbor**	**2.24**	**295**		**Pn**	**00 49 06.8**	**-1.0**
OHAK					Sn	**Sn**	**00 49 33.4**	**-2.1**
OHAK	**Old Harbor**	**2.24**	**295**	P	**Pn**	**00 49 07.0**	**-0.8**
	baz=114						
OHAK				S	**Sn**	**00 49 33.5**	**-2.0**
	baz=114						
SII	**Sitkinak Islan**	**2.58**	**277**		**Sn**	**00 49 41.1**	**-2.9**
SII	**Sitkinak Islan**	**2.58**	**277**		**Pn**	**00 49 11.5**	**-1.0**
SII				IAML		00 49 44.9	
	comp=N,201nm,1.5s						
SII	**Sitkinak Islan**	**2.58**	**277**	P	**Pn**	**00 49 11.6**	**-1.0**
	baz=96						
SII				S	**Sn**	**00 49 41.1**	**-2.9**
	baz=96						
Q20K	**Shuyak Island**	**2.75**	**327**	P	**Pn**	**00 49 14.4**	**-0.4**
	baz=145						
Q20K				S	**Sn**	**00 49 47.9**	**-0.1**
	baz=145						
SYI	**Shuyak Island**	**2.75**	**327**		**Pn**	**00 49 14.4**	**-0.4**
SYI					**Sn**	**00 49 47.9**	**-0.1**
CNPM	**China Poot**	**3.32**	**345**		**Pn**	**00 49 22.3**	**-0.4**
CNPM					**Sn**	**00 50 00.1**	**-2.1**
Q19K	**Cape Douglas,**	**3.41**	**321**		**Pn**	**00 49 23.9**	**+0.1**
Q19K				IAML		00 50 16.0	
	comp=N,274nm,0.8s						
Q19K	**Cape Douglas,**	**3.41**	**321**	P	**Pn**	**00 49 24.2**	**+0.3**
	baz=139						
KAHG	**Katmai Hook Gl**	**3.46**	**311**		**Pn**	**00 49 25.2**	**+0.6**
BRSE	**Bradley Lake S**	**3.47**	**350**		**Pn**	**00 49 24.1**	**-0.7**
BRSE					**Sn**	**00 50 04.2**	**-1.8**
BRSE	**Bradley Lake S**	**3.47**	**350**	P	**Pn**	**00 49 24.1**	**-0.7**
	baz=169						
BRSE				S	**Sn**	**00 50 04.2**	**-1.8**
	baz=169						
BRLK	**Bradley Lake**	**3.51**	**349**		**Pn**	**00 49 24.6**	**-0.8**
BRLK					**Sn**	**00 50 06.4**	**-0.5**
BRLK				IAML		00 50 17.6	
	comp=E,54nm,1.1s						
Q23K	**Middleton Isla**	**3.54**	**28**	Pn	**Pn**	**00 49 24.7**	**-1.0**
Q23K				IAML		00 51 44.1	
	comp=E,279nm,1.2s						
MID	**Middleton Isla**	**3.54**	**28**	Pn	**Pn**	**00 49 25.4**	**-0.3**
KAHC	**Katmai Hardscr**	**3.75**	**310**		**Pn**	**00 49 29.0**	**+0.4**
Q18K	**Katmai Hardscr**	**3.75**	**310**	P	**Pn**	**00 49 29.0**	**+0.4**
	baz=127						
P19K	**Oil Pt**	**3.86**	**331**		**Pn**	**00 49 29.7**	**-0.5**
P19K				IAML		00 50 20.5	
	comp=N,187nm,0.5s						
P19K				IAML		00 50 30.4	
	comp=E,150nm,0.5s						
P19K	**Oil Pt**	**3.86**	**331**	P	**Pn**	**00 49 29.6**	**-0.5**
	baz=148						
CNTC	**Contact Creek**	**3.94**	**302**		**Pn**	**00 49 31.7**	**+0.4**
Q17K	**Contact Creek**	**3.94**	**302**	P	**Pn**	**00 49 31.7**	**+0.4**
	baz=118						
O20K	**Slope Mountain**	**4.09**	**338**		**Pn**	**00 49 32.8**	**-0.6**
O20K	**Slope Mountain**	**4.09**	**338**	P	**Pn**	**00 49 32.7**	**-0.6**
	baz=155						
IVE	**Iliamna Volcan**	**4.12**	**335**		**Pn**	**00 49 33.3**	**-0.4**
P18K	**Big Mountain,**	**4.31**	**318**		**Pn**	**00 49 35.9**	**-0.4**
P18K				IAML		00 50 30.1	
	comp=N,33nm,0.5s						
P18K				IAML		00 50 32.1	
	comp=E,30nm,1.1s						
P18K	**Big Mountain,**	**4.31**	**318**	P	**Pn**	**00 49 35.9**	**-0.4**
	baz=134						
HIN	**Hinchinbrook I**	**4.38**	**20**		**Pn**	**00 49 36.5**	**-0.7**
HIN				IAML		00 50 26.6	
	comp=N,106nm,1.3s						
HIN				IAML		00 50 28.6	
	comp=E,133nm,0.7s						
RED	**Redoubt Volcan**	**4.43**	**339**		**Pn**	**00 49 37.1**	**-0.9**
RDSO	**Redoubt South**	**4.46**	**339**		**Pn**	**00 49 37.3**	**-1.2**
RSO	**Redoubt South**	**4.47**	**339**	Pn	**Pn**	**00 49 38.1**	**-0.5**
KAIM	**Kayak Island**	**4.51**	**35**	Pn	**Pn**	**00 49 38.6**	**-0.4**
CAPN	**Captain Cook N**	**4.52**	**350**	Pn	**Pn**	**00 49 38.6**	**-0.5**
O19K	**Port Alsworth**	**4.62**	**329**	Pn	**Pn**	**00 49 39.1**	**-1.3**
O19K				IAML		00 50 42.4	
	comp=N,118nm,0.4s						
O18K	**Koktuh Hills**	**4.63**	**322**		**Pn**	**00 49 40.8**	**+0.1**
O18K				IAML		00 50 36.0	
	comp=N,50nm,0.8s						
O18K				IAML		00 50 51.9	
	comp=E,34nm,0.8s						
RC01	**Rabbit Creek A**	**4.77**	**359**		**Pn**	**00 49 42.0**	**-0.6**
RC01				IAML		00 50 39.5	
	comp=N,35nm,1.5s						
RC01				IAML		00 50 44.0	
	comp=E,30nm,0.6s						
ANPB	**Aniakchak Plen**	**4.85**	**279**		**Pn**	**00 49 43.6**	**-0.1**
CHGN	**Chignik**	**4.94**	**273**	Pn	**Pn**	**00 49 45.3**	**+0.5**
CHGN				IAML		00 50 45.5	
	comp=N,71nm,1.0s						
CHGN				IAML		00 52 03.1	
	comp=E,56nm,1.1s						
GOAT	**Goat Mountain**	**4.95**	**29**		**Pn**	**00 49 44.6**	**-0.5**
N20K	**Mount Spurr**	**5.07**	**345**	P	**Pn**	**00 49 45.5**	**-1.2**
	baz=163						
SPCR	**Spurr Chakacha**	**5.07**	**345**		**Pn**	**00 49 45.5**	**-1.2**
BERG	**Berg Lake**	**5.10**	**35**	Pn	**Pn**	**00 49 47.8**	**+0.7**
BERG				IAML		00 51 17.5	
	comp=E,84nm,1.5s						
KNK	**Knik Glacier**	**5.12**	**6**	Pn	**Pn**	**00 49 47.6**	**+0.1**
KNK				IAML		00 50 58.2	
	comp=E,31nm,0.7s						
KNK				IAML		00 51 11.3	
	comp=N,27nm,1.3s						
N19K	**Bonanza Creek**	**5.18**	**332**		**Pn**	**00 49 47.5**	**-0.7**
N19K	**Bonanza Creek**	**5.18**	**332**	IAML		00 50 53.1	
	comp=E,17nm,1.3s						
N19K	**Bonanza Creek**	**5.18**	**332**	P	**Pn**	**00 49 47.5**	**-0.7**
	baz=148						
SUA	**Susitna One**	**5.18**	**354**		**Pn**	**00 49 47.4**	**-0.9**
SUA	**Susitna One**	**5.18**	**354**	IAML		00 50 49.2	
	comp=E,18nm,1.4s						
SUA	**Susitna One**	**5.18**	**354**	P	**Pn**	**00 49 47.4**	**-0.9**
	baz=172						
SNH	**Sunshine Point**	**5.24**	**40**	Pn	**Pn**	**00 49 48.4**	**-0.5**
PMR	**Palmer**	**5.28**	**2**	Pn	**Pn**	**00 49 48.9**	**-0.6**
PMR				IAML		00 50 53.2	
	comp=E,19nm,1.3s						
PMR				IAML		00 51 00.5	
	comp=N,16nm,1.3s						
STLK	**Strandline Lak**	**5.31**	**348**		**Pn**	**00 49 49.4**	**-0.6**
BMRM	**Bremner River**	**5.31**	**27**		**Pn**	**00 49 49.5**	**-0.5**
BMRM	**Bremner River**	**5.31**	**27**	P	**Pn**	**00 49 49.5**	**-0.5**
	baz=210						
GHO	**Glory Hole Cre**	**5.46**	**3**		**Pn**	**00 49 51.9**	**-0.2**
N18K	**Kilae Creek**	**5.48**	**325**		**Pn**	**00 49 51.7**	**-0.6**
N18K	**Kilae Creek**	**5.48**	**325**	P	**Pn**	**00 49 51.7**	**-0.6**
	baz=140						
KLU	**Klutina**	**5.50**	**18**		**Pn**	**00 49 52.4**	**-0.3**
KLU	**Klutina**	**5.50**	**18**	P	**Pn**	**00 49 52.4**	**-0.3**
	baz=201						
BARK	**Barkley Ridge**	**5.51**	**39**		**Pn**	**00 49 52.6**	**-0.3**
SML	**Sawmill**	**5.52**	**6**		**Pn**	**00 49 52.9**	**-0.1**
SML	**Sawmill**	**5.52**	**6**	P	**Pn**	**00 49 52.9**	**-0.1**
	baz=186						
O16K	**Kokwok River B**	**5.60**	**309**	Pn	**Pn**	**00 49 53.4**	**-0.5**
SCM	**Sheep Creek Mo**	**5.63**	**11**		**Pn**	**00 49 54.3**	**-0.1**
SCM	**Sheep Creek Mo**	**5.63**	**11**	P	**Pn**	**00 49 54.3**	**-0.1**
	baz=192						
SKT	**Skwentna**	**5.75**	**351**		**Pn**	**00 49 55.9**	**-0.2**
SKT	**Skwentna**	**5.75**	**351**	P	**Pn**	**00 49 55.9**	**-0.2**
	baz=169						
VRDI	**Verde Repeater**	**5.84**	**30**		**Pn**	**00 49 57.0**	**-0.5**
M20K	**Styx River**	**5.86**	**343**		**Pn**	**00 49 57.2**	**-0.4**
N25K	**Chitina, Valde**	**5.87**	**24**		**Pn**	**00 49 57.5**	**-0.2**
N25K	**Chitina, Valde**	**5.87**	**24**	P	**Pn**	**00 49 57.3**	**-0.5**
	baz=207						
CHNA	**Chernabura Isl**	**5.89**	**259**	P	**Pn**	**00 49 56.4**	**-1.5**
	baz=72						
CNBA	**Chernabura Isl**	**5.89**	**259**		**Pn**	**00 49 56.4**	**-1.5**
GLB	**Gilahina Butte**	**5.92**	**28**	Pn	**Pn**	**00 49 57.8**	**-0.7**
M24K	**Tolsona, Glenn**	**6.04**	**15**	Pn	**Pn**	**00 50 00.7**	**+0.7**
MCARA	**McCarthy VSAT**	**6.09**	**31**	Pn	**Pn**	**00 50 01.6**	**+1.0**
PTPK	**Patty Peak**	**6.10**	**34**		**Pn**	**00 50 00.6**	**-0.5**
M18K	**Stony River**	**6.10**	**330**		**Pn**	**00 49 60.0**	**-0.9**
M18K	**Stony River**	**6.10**	**330**	P	**Pn**	**00 49 60.0**	**-0.9**
	baz=145						
M19K	**Big River Lodg**	**6.11**	**338**	Pn	**Pn**	**00 50 00.5**	**-0.5**
O15K	**Ungalikthiuk R**	**6.19**	**302**		**Pn**	**00 50 02.5**	**+0.4**
O15K	**Ungalikthiuk R**	**6.19**	**302**	P	**Pn**	**00 50 02.5**	**+0.4**
	baz=114						
SDPT	**Sand Point**	**6.24**	**265**	Pn	**Pn**	**00 50 02.4**	**-0.2**
SDPT	**Sand Point**	**6.24**	**265**	P	**Pn**	**00 50 02.0**	**-0.7**
	baz=78						
WAT6	**Susitna Watana**	**6.33**	**8**		**Pn**	**00 50 03.4**	**-0.8**
WAT6	**Susitna Watana**	**6.33**	**8**	P	**Pn**	**00 50 03.4**	**-0.8**
	baz=189						
PNL	**Peninsula**	**6.35**	**54**		**Pn**	**00 50 03.4**	**-0.8**
PNL	**Peninsula**	**6.35**	**54**	P	**Pn**	**00 50 03.4**	**-0.8**
	baz=241						
HARP	**HAARP**	**6.48**	**18**		**Pn**	**00 50 06.2**	**+0.1**
HARP	**HAARP**	**6.48**	**18**	P	**Pn**	**00 50 06.2**	**+0.1**
	baz=201						
M17K	**Holitna River**	**6.52**	**324**		**Pn**	**00 50 06.1**	**-0.4**
M17K	**Holitna River**	**6.52**	**324**	P	**Pn**	**00 50 06.1**	**-0.4**
	baz=138						
O29M	**Mount Kennedy**	**7.01**	**51**		**Pn**	**00 50 12.8**	**-0.6**
O29M	**Mount Kennedy**	**7.01**	**51**	P	**Pn**	**00 50 12.9**	**-0.6**
	baz=239						
PN7A	**Pavlof North-7**	**7.06**	**268**		**Pn**	**00 50 13.2**	**-0.9**
ISLZ	**Isanotski Laza**	**8.20**	**265**		**Pn**	**00 50 28.4**	**-1.1**
ISNN	**Isanotski Nort**	**8.20**	**265**		**Pn**	**00 50 28.7**	**-1.0**
ILAR	**Eielson Array**	**8.56**	**8**	Pn	**Pn**	**00 50 35.9**	**+1.3**
	comp=N,0.3nm,0.3s,baz=190,slow=13,SNR=23						
ILAR					**Sn**	**00 52 07.7**	**-3.5**
	comp=N,0.2nm,0.3s,baz=212,slow=13,SNR=5.5						
	comp=N,0.7nm,0.4s						
DLBC	**Dease Lake**	**10.74**	**71**	Pn	Pn	00 51 01.9	-2.5
	comp=N,0.5nm,0.3s,baz=257,slow=10,SNR=4.8						
	comp=N,1.2nm,0.4s						
INK

IDC 27 01:10:06.2±4.3, 3°37S×145°03E, h0km, mb3.4/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=140.4km s-min=32.9km az=96.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.50**	**212**	P	P	01 14 35.5	+0.4
	0.1nm,0.3s,baz=33,slow=11,SNR=4.7						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**22.86**	**207**	P	P	01 15 11.2	-0.3
	0.6nm,0.7s,baz=33,slow=12,SNR=2.5						
	0.6nm,0.7s						
SONM	**Songino Array**	**61.17**	**331**	P	P	01 20 22.7	-0.1
	0.4nm,0.6s,baz=123,slow=5.3,SNR=2.5						
	0.4nm,0.6s						

FUNV 27 01:11:20.2, 8°35N×71°39W, h5km, MW3.0

ISC 27 01:11:18.4±1.3, 8°45N±0°04×71°41W±0°03, h6km±11km, n14, σ1§14/27, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.58**	**107**	*e*P	**Pb**	**01 11 30.8**	**-0.2**
SOCV				*e*S	**Sb**	**01 11 37.6**	**-1.8**
SDV	**Santo Domingo**	**0.88**	**61**	*e*P	**Pg**	**01 11 35.2**	**-0.2**
SDV				*e*S	**Sg**	**01 11 47.0**	**0.0**
SDV				*i*		01 11 48.0	
	comp=Z,34nm,0.2s						
CAPV	**Capacho**	**1.07**	**237**	*e*P	**Pg**	**01 11 38.7**	**-0.3**
CAPV				*e*S	**Sn**	**01 11 54.4**	**-1.0**
PAMC	**Pamplona, Colo**	**1.69**	**229**	*e*P	**Pb**	**01 11 50.2**	**0.0**
PAMC				*e*S	**Sg**	**01 12 13.9**	**+1.1**
PAMC				*i*		01 12 17.1	
	comp=Z,20nm,0.2s						
OCAC	**Ocana**	**1.90**	**264**	*e*P	**Pn**	**01 11 52.4**	**+0.8**
OCAC				*e*S	**Sb**	**01 12 17.1**	**-0.5**
TAMC	**Tame, Arauca**	**2.04**	**191**	*e*P	**Pb**	**01 11 55.5**	**-0.4**
TAMC				*e*S	**Sg**	**01 12 25.0**	**+1.0**
TAMC				*i*		01 12 31.6	
	comp=Z,6.7nm,0.2s						
CURV	**Curarigua**	**2.11**	**43**	*e*P	**Pb**	**01 11 56.4**	**-0.9**
CURV				*e*S	**Sb**	**01 12 23.2**	**-0.5**
LL6C	**La Loma 6 Bece**	**2.23**	**305**	*e*P	**Pb**	**01 11 58.9**	**-0.3**
LL6C				*e*S	**Sn**	**01 12 24.9**	**+0.9**
LL6C				*i*		01 12 26.9	
	comp=Z,7.4nm,0.7s						
BARC	**Barichara**	**2.55**	**224**	*e*P	**Pg**	**01 12 06.1**	**-1.3**
BARC				*e*S	**Sb**	**01 12 36.8**	**+0.3**
BARC				*i*		01 12 42.6	
	comp=Z,13nm,0.7s						
TEPV	**Terepaima**	**2.66**	**55**	*e*P	**Pn**	**01 12 03.1**	**+1.2**
TEPV				*e*S	**Sn**	**01 12 35.4**	**+0.9**
SIQV	**Siquisique**	**2.70**	**36**	*e*P	**Pn**	**01 12 03.7**	**+1.2**
SIQV				*e*S	**Sn**	**01 12 37.0**	**+1.5**
CRJC	**Cerrejon, Guaj**	**2.93**	**331**	*e*S	**Sn**	**01 12 39.0**	**-2.5**
CRJC				*i*		01 12 56.9	
	comp=Z,8.2nm,0.4s						
BAUV	**El Baul**	**3.37**	**81**	*e*P	**Pn**	**01 12 12.6**	**+0.9**
BAUV				*e*S	**Sn**	**01 12 51.4**	**-0.6**
BENV	**Beln**	**4.05**	**68**	*e*P	**Pn**	**01 12 23.0**	**+1.9**
BENV				*e*S	**Sn**	**01 13 07.8**	**-1.2**

NEIC 27 01:16:25.8±1.6, 55°97N±0°09×149°74W±0°04, h7km±7km, mb3.9/1, ML3.7/32, ML3.4(AEIC), Error ellipse: s-maj=12.9km s-min=3.3km az=183.0

AEIC 27 01:16:30.4±1.7, 55°94N±0°09×149°7W±0°1, h12km±7km, Error ellipse: s-maj=13.5km s-min=8.2km az=172.0

ISC 27 01:16:25.9±1.5, 56°03N±0°10×149°77W±0°06, h10km, n138, σ1§11/148, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.28**	**303**		**Pn**	**01 17 04.0**	**+0.4**
OHAK					**Sn**	**01 17 29.8**	**-2.0**
OHAK	**Old Harbor**	**2.28**	**303**	P	**Pn**	**01 17 03.8**	**+0.2**
OHAK	**Old Harbor**	**2.28**	**303**	P	**Pn**	**01 17 04.1**	**+0.4**
	baz=121						
OHAK				S	**Sn**	**01 17 29.8**	**-2.0**
	baz=121						
KDAK	**Kodiak Island**	**2.34**	**320**		**Pn**	**01 17 05.3**	**+0.9**
KDAK					**Sn**	**01 17 31.9**	**-1.3**
SII	**Sitkinak Islan**	**2.52**	**284**		**Pn**	**01 17 07.1**	**+0.2**
SII				IAML		01 17 38.1	
	comp=N,209nm,2.0s						
SII	**Sitkinak Islan**	**2.52**	**284**	P	**Pn**	**01 17 07.0**	**+0.2**
SII	**Sitkinak Islan**	**2.52**	**284**	P	**Pn**	**01 17 07.0**	**+0.2**
	baz=102						
SII				S	**Sn**	**01 17 36.7**	**-0.9**
	baz=102						
Q20K	**Shuyak Island**	**2.95**	**332**	P	**Pn**	**01 17 13.7**	**+0.9**
	baz=150						
Q20K				S	**Sn**	**01 17 48.2**	**-0.1**
	baz=150						
SYI	**Shuyak Island**	**2.95**	**332**		**Pn**	**01 17 13.8**	**+1.0**
SYI					**Sn**	**01 17 48.1**	**-0.2**
Q19K	**Cape Douglas,**	**3.58**	**326**		**Pn**	**01 17 23.1**	**+1.6**
Q19K				IAML		01 18 10.8	
	comp=N,344nm,0.8s						
Q19K	**Cape Douglas,**	**3.58**	**326**	P	**Pn**	**01 17 22.9**	**+1.4**
	baz=143						
KAHG	**Katmai Hook Gl**	**3.58**	**316**		**Pn**	**01 17 23.8**	**+2.2**
CNPM	**China Poot**	**3.59**	**348**		**Pn**	**01 17 22.0**	**+0.4**
CNPM					**Sn**	**01 18 03.1**	**-1.0**
CNPM				IAML		01 18 04.4	
	comp=E,61nm,0.7s						
CNPM				IAML		01 18 07.9	
	comp=N,66nm,2.7s						
BRSE	**Bradley Lake S**	**3.76**	**352**		**Pn**	**01 17 24.2**	**+0.3**
BRSE					**Sn**	**01 18 05.9**	**-2.3**
BRSE	**Bradley Lake S**	**3.76**	**352**	P	**Pn**	**01 17 24.2**	**+0.3**
	baz=172						
BRSE				S	**Sn**	**01 18 05.9**	**-2.3**
	baz=172						
BRLK	**Bradley Lake**	**3.79**	**351**		**Pn**	**01 17 24.3**	**0.0**
BRLK					**Sn**	**01 18 07.2**	**-1.8**
BRLK				IAML		01 19 41.4	
	comp=E,55nm,3.2s						
KAHC	**Katmai Hardscr**	**3.87**	**315**		**Pn**	**01 17 27.2**	**+1.7**
Q18K	**Katmai Hardscr**	**3.87**	**315**	P	**Pn**	**01 17 27.2**	**+1.7**
	baz=131						
Q23K	**Middleton Isla**	**3.87**	**27**		**Pn**	**01 17 25.5**	**+0.1**
Q23K	**Middleton Isla**	**3.87**	**27**	P	**Pn**	**01 17 25.7**	**+0.3**
	baz=209						
MID	**Middleton Isla**	**3.87**	**27**		**Pn**	**01 17 25.6**	**+0.2**
MID	**Middleton Isla**	**3.87**	**27**	P	**Pn**	**01 17 25.7**	**+0.3**
CNTC	**Contact Creek**	**4.01**	**306**		**Pn**	**01 17 29.0**	**+1.5**
Q17K	**Contact Creek**	**4.01**	**306**	P	**Pn**	**01 17 29.0**	**+1.5**
	baz=122						
P19K	**Oil Pt**	**4.08**	**334**		**Pn**	**01 17 29.6**	**+1.3**
P19K				IAML		01 18 21.8	
	comp=N,210nm,0.6s						
P19K				IAML		01 18 22.0	
	comp=E,167nm,0.5s						
P19K	**Oil Pt**	**4.08**	**334**	P	**Pn**	**01 17 29.5**	**+1.3**
	baz=152						
P23K	**Montague Islan**	**4.17**	**17**		**Pn**	**01 17 29.9**	**+0.4**
P23K	**Montague Islan**	**4.17**	**17**	P	**Pn**	**01 17 29.9**	**+0.4**
	baz=198						
IVE	**Iliamna Volcan**	**4.35**	**338**		**Pn**	**01 17 32.8**	**+0.6**
P18K	**Big Mountain,**	**4.46**	**321**		**Pn**	**01 17 34.5**	**+0.9**
P18K				IAML		01 18 27.1	
	comp=N,33nm,3.1s						
P18K				IAML		01 20 06.0	
	comp=E,42nm,3.0s						
P18K	**Big Mountain,**	**4.46**	**321**	P	**Pn**	**01 17 34.3**	**+0.7**
	baz=137						
HIN	**Hinchinbrook I**	**4.71**	**20**		**Pn**	**01 17 37.3**	**+0.4**
HIN				IAML		01 20 49.6	
	comp=N,161nm,2.9s						
RSO	**Redoubt South**	**4.72**	**342**	Pn	**Pn**	**01 17 36.9**	**-0.4**
RDT	**Redoubt**	**4.76**	**344**		**Pn**	**01 17 37.9**	**+0.2**
P17K	**Kvichak River**	**4.79**	**314**		**Pn**	**01 17 39.9**	**+1.8**
P17K	**Kvichak River**	**4.79**	**314**	P	**Pn**	**01 17 39.8**	**+1.8**
	baz=129						
O18K	**Koktuh Hills**	**4.80**	**325**		**Pn**	**01 17 38.7**	**+0.4**
O18K				IAML		01 18 35.9	
	comp=N,53nm,0.8s						
O18K				IAML		01 19 11.6	
	comp=E,43nm,2.6s						
O18K	**Koktuh Hills**	**4.80**	**325**	P	**Pn**	**01 17 38.9**	**+0.6**
	baz=141						
DFR	**Drift River**	**4.83**	**343**		**Pn**	**01 17 38.9**	**+0.3**
KAIM	**Kayak Island**	**4.83**	**34**		**Pn**	**01 17 39.2**	**+0.6**
KAIM	**Kayak Island**	**4.83**	**34**	P	**Pn**	**01 17 39.0**	**+0.4**
	baz=218						
CHGN	**Chignik**	**4.84**	**277**	Pn	**Pn**	**01 17 39.8**	**+1.1**
CHGN				IAML		01 18 25.3	
	comp=N,58nm,3.2s						
CHGN				IAML		01 18 55.4	
	comp=E,77nm,2.5s						
EYAK	**Cordova Ski Ar**	**5.00**	**23**		**Pn**	**01 17 41.5**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.00**	**23**	P	**Pn**	**01 17 41.8**	**+0.9**
EYAK	**Cordova Ski Ar**	**5.00**	**23**	P	**Pn**	**01 17 41.7**	**+0.7**
	baz=206						
RC01	**Rabbit Creek A**	**5.07**	**0**		**Pn**	**01 17 42.4**	**+0.5**
RC01				IAML		01 18 52.1	
	comp=E,40nm,3.0s						
RC01				IAML		01 19 03.7	
	comp=N,46nm,3.0s						
RC01	**Rabbit Creek A**	**5.07**	**0**	P	**Pn**	**01 17 42.2**	**+0.3**
	baz=180						
GOAT	**Goat Mountain**	**5.28**	**28**		**Pn**	**01 17 45.6**	**+0.8**
N20K	**Mount Spurr**	**5.34**	**347**	P	**Pn**	**01 17 45.8**	**+0.1**
	baz=165						
SPCR	**Spurr Chakacha**	**5.34**	**347**		**Pn**	**01 17 45.8**	**+0.1**
P16K	**Nushagak River**	**5.35**	**308**	P	**Pn**	**01 17 47.6**	**+1.8**
	baz=121						
N19K	**Bonanza Creek**	**5.40**	**335**		**Pn**	**01 17 46.8**	**+0.3**
N19K	**Bonanza Creek**	**5.40**	**335**	P	**Pn**	**01 17 46.8**	**+0.3**
	baz=151						
BERG	**Berg Lake**	**5.42**	**34**		**Pn**	**01 17 47.2**	**+0.4**
KNK	**Knik Glacier**	**5.44**	**7**		**Pn**	**01 17 47.3**	**+0.3**
KNK	**Knik Glacier**	**5.44**	**7**	P	**Pn**	**01 17 47.4**	**+0.3**
	baz=188						
SUA	**Susitna One**	**5.47**	**355**		**Pn**	**01 17 47.3**	**-0.2**
SUA	**Susitna One**	**5.47**	**355**	P	**Pn**	**01 17 47.5**	**0.0**
	baz=174						
SNH	**Sunshine Point**	**5.55**	**39**	Pn	**Pn**	**01 17 49.2**	**+0.7**
PMR	**Palmer**	**5.59**	**3**	P	**Pn**	**01 17 50.9**	**+1.9**
STLK	**Strandline Lak**	**5.59**	**350**		**Pn**	**01 17 49.6**	**+0.5**
BMRM	**Bremner River**	**5.64**	**27**		**Pn**	**01 17 50.5**	**+0.7**
BMRM	**Bremner River**	**5.64**	**27**	P	**Pn**	**01 17 50.4**	**+0.6**
	baz=210						
N18K	**Kilae Creek**	**5.67**	**328**		**Pn**	**01 17 50.9**	**+0.7**
N18K	**Kilae Creek**	**5.67**	**328**	P	**Pn**	**01 17 50.6**	**+0.5**
	baz=143						
CNBA	**Chernabura Isl**	**5.72**	**262**	Pn	**Pn**	**01 17 50.5**	**-0.3**
GHO	**Glory Hole Cre**	**5.78**	**4**		**Pn**	**01 17 52.4**	**+0.7**
KLU	**Klutina**	**5.83**	**18**		**Pn**	**01 17 53.2**	**+0.8**
KLU	**Klutina**	**5.83**	**18**	P	**Pn**	**01 17 53.5**	**+1.1**
	baz=201						
SML	**Sawmill**	**5.84**	**7**		**Pn**	**01 17 53.5**	**+0.9**
SML	**Sawmill**	**5.84**	**7**	P	**Pn**	**01 17 53.6**	**+1.0**
	baz=188						
M23K	**Glacier View**	**5.88**	**10**		**Pn**	**01 17 53.7**	**+0.7**
M23K	**Glacier View**	**5.88**	**10**	P	**Pn**	**01 17 53.7**	**+0.7**
	baz=191						
SCM	**Sheep Creek Mo**	**5.96**	**11**		**Pn**	**01 17 55.3**	**+1.2**
SCM	**Sheep Creek Mo**	**5.96**	**11**	P	**Pn**	**01 17 54.9**	**+0.8**
	baz=193						
SKT	**Skwentna**	**6.04**	**352**	Pn	**Pn**	**01 17 55.9**	**+0.8**
M20K	**Styx River**	**6.12**	**345**	Pn	**Pn**	**01 17 55.9**	**-0.5**
VRDI	**Verde Repeater**	**6.17**	**30**		**Pn**	**01 17 57.9**	**+0.8**
N25K	**Chitina, Valde**	**6.20**	**23**		**Pn**	**01 17 58.4**	**+0.8**
N25K	**Chitina, Valde**	**6.20**	**23**	P	**Pn**	**01 17 58.3**	**+0.8**
	baz=208						
GLB	**Gilahina Butte**	**6.25**	**27**		**Pn**	**01 17 58.9**	**+0.7**
KIAG	**Kiagna River**	**6.26**	**35**		**Pn**	**01 17 58.8**	**+0.5**
M18K	**Stony River**	**6.32**	**333**		**Pn**	**01 17 59.1**	**+0.2**
M18K	**Stony River**	**6.32**	**333**	P	**Pn**	**01 17 59.1**	**+0.2**
	baz=148						
M19K	**Big River Lodg**	**6.36**	**340**	Pn	**Pn**	**01 18 00.5**	**+0.9**
M24K	**Tolsona, Glenn**	**6.37**	**15**		**Pn**	**01 18 01.4**	**+1.6**
M24K	**Tolsona, Glenn**	**6.37**	**15**	P	**Pn**	**01 18 01.3**	**+1.5**
	baz=198						
MCARA	**McCarthy VSAT**	**6.41**	**30**		**Pn**	**01 18 01.1**	**+0.8**
MCARA	**McCarthy VSAT**	**6.41**	**30**	P	**Pn**	**01 18 01.5**	**+1.2**
	baz=216						
PCA	**Pinnacle**	**6.48**	**47**		**Pn**	**01 18 02.2**	**+0.9**
PINM	**Pinnacle**	**6.49**	**47**	P	**Pn**	**01 18 02.4**	**+1.0**
	baz=235						
BARN	**Barnard Glacie**	**6.59**	**37**		**Pn**	**01 18 03.9**	**+1.0**
PNL	**Peninsula**	**6.63**	**52**		**Pn**	**01 18 04.0**	**+0.7**
PNL	**Peninsula**	**6.63**	**52**	P	**Pn**	**01 18 04.4**	**+1.1**
PNL	**Peninsula**	**6.63**	**52**	P	**Pn**	**01 18 04.0**	**+0.7**
	baz=241						
CTG	**Chitna Glacier**	**6.63**	**38**	P	**Pn**	**01 18 04.2**	**+0.8**
	baz=225						
CTGM	**Chitina Glacie**	**6.63**	**38**		**Pn**	**01 18 04.3**	**+0.9**
LOGN	**Logan Glacier**	**6.65**	**40**		**Pn**	**01 18 04.4**	**+0.7**
WAT6	**Susitna Watana**	**6.65**	**8**		**Pn**	**01 18 04.9**	**+1.2**
WAT6	**Susitna Watana**	**6.65**	**8**	P	**Pn**	**01 18 04.9**	**+1.2**
	baz=190						
M17K	**Holitna River**	**6.70**	**327**	Pn	**Pn**	**01 18 05.5**	**+1.2**
N15K	**Kwethluk River**	**6.86**	**311**		**Pn**	**01 18 08.6**	**+2.1**
M16K	**Timber Creek**	**6.94**	**320**	Pn	**Pn**	**01 18 09.3**	**+1.7**
O14K	**Tigyukauivet M**	**6.96**	**302**	Pn	**Pn**	**01 18 09.4**	**+1.6**
O29M	**Mount Kennedy**	**7.30**	**50**		**Pn**	**01 18 13.9**	**+1.3**
P29M	**Windy Craggy**	**7.36**	**56**		**Pn**	**01 18 13.7**	**+0.3**
P29M	**Windy Craggy**	**7.36**	**56**	P	**Pn**	**01 18 13.6**	**+0.3**
	baz=245						
RND	**Reindeer**	**7.41**	**3**	Pn	**Pn**	**01 18 15.5**	**+1.4**
TRF	**Thorofare Moun**	**7.45**	**358**	Pn	**Pn**	**01 18 15.0**	**+0.4**
KTH	**Kantishna Hill**	**7.57**	**356**	Pn	**Pn**	**01 18 16.9**	**+0.7**
S31K	**Pelican**	**7.64**	**70**		**Pn**	**01 18 15.9**	**-1.3**
S31K	**Pelican**	**7.64**	**70**	P	**Pn**	**01 18 15.9**	**-1.3**
	baz=261						
YUK4	**Talbot Arm**	**7.86**	**43**	P	**Pn**	**01 18 24.1**	**+3.7**
	baz=232						
HYT	**Haines Junctio**	**8.03**	**48**	Pn	**Pn**	**01 18 23.6**	**+1.0**
BPAW	**Bear Paw Mtn.**	**8.12**	**356**	Pn	**Pn**	**01 18 23.7**	**-0.1**
BCAR	**Beaver Creek A**	**8.13**	**27**	Pn	**Pn**	**01 18 25.2**	**+1.3**
M13K	**Dall Lake**	**8.40**	**307**	Pn	**Pn**	**01 18 29.9**	**+2.3**
S32K	**Killisnoo**	**8.47**	**74**	Pn	**Pn**	**01 18 28.1**	**-0.5**
HDA	**Harding Lake**	**8.52**	**8**	Pn	**Pn**	**01 18 32.0**	**+2.8**
L14K	**Kuka Creek**	**8.57**	**314**		**Pn**	**01 18 31.5**	**+1.7**
O30N	**Mendenhall**	**8.60**	**51**	Pn	**Pn**	**01 18 30.7**	**+0.3**
M29M	**Somme Creek**	**8.64**	**37**	Pn	**Pn**	**01 18 32.8**	**+1.7**
JIS	**Juneau Island**	**8.66**	**69**	Pn	**Pn**	**01 18 32.3**	**+1.2**
ILAR	**Eielson Array**	**8.88**	**8**	Pn	**Pn**	**01 18 35.5**	**+1.3**
J16K	**Anvik River**	**9.10**	**327**	Pn	**Pn**	**01 18 38.6**	**+1.5**
I21K	**Tanana**	**9.24**	**354**	Pn	**Pn**	**01 18 40.2**	**+1.1**
P32M	**Atlin**	**9.28**	**61**	Pn	**Pn**	**01 18 40.3**	**+0.7**
U33K	**Whale Pass**	**9.31**	**83**	Pn	**Pn**	**01 18 38.4**	**-1.6**
DAWY	**Dawson**	**9.57**	**28**	Pn	**Pn**	**01 18 44.9**	**+1.2**
Q32M	**Nakina River**	**9.86**	**65**	Pn	**Pn**	**01 18 49.5**	**+1.7**
P33M	**Teslin, Yukon**	**9.89**	**58**	Pn	**Pn**	**01 18 48.5**	**+0.5**
IMAR	**Indian Mountai**	**10.17**	**351**	Pn	**Pn**	**01 18 52.1**	**+0.3**
F20K	**Avaraart Lake**	**11.41**	**348**	Pn	**Pn**	**01 19 08.9**	**+0.2**
E25K	**Arctic Village**	**12.29**	**7**	Pn	**Pn**	**01 19 22.3**	**+1.6**
F28M	**Old Crow**	**12.50**	**18**	Pn	**Pn**	**01 19 24.7**	**+1.1**
INK	**Inuvik**	**14.39**	**25**	Pn	**Pn**	**01 19 50.0**	**+0.7**
B20K	**Meade River**	**14.41**	**350**	Pn	**Pn**	**01 19 49.9**	**+0.3**
A36M	**Sachs Harbour**	**19.02**	**23**	P	**P**	**01 20 48.6**	**+1.1**
A36M				IAmb	IAmb	01 20 53.1	
	comp=Z,6.2nm,0.8s						

IDC 27 01:17:12.8±2.9, 6°63S×128°91E, h0km, mb3.9/1, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=315.7km s-min=30.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.25**	**159**	Pn	Pn	01 20 34.8	-1.3
	0.4nm,0.3s,baz=334,slow=13,SNR=13						
WRA				Sn	Sn	01 23 02.2	-13
	1.1nm,0.3s,baz=105,slow=15,SNR=9.1						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.61**	**165**	P	P	01 21 20.6	-0.3
	0.2nm,0.3s,baz=351,slow=11,SNR=17						
ASAR				S	Sn	01 24 21.4	-15
	1.0nm,0.8s,baz=344,slow=26,SNR=2.7						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**67.32**	**327**	P	P	01 28 09.7	0.0
	0.5nm,0.4s,baz=116,slow=7.4,SNR=17						
	0.5nm,0.4s						

SJA 27 01:36:12.6±0.6, 22°93S×66°62W, h242km±5km, ML4.7, MW4.3

IDC 27 01:36:13.3±0.9, 22°91S×66°50W, h212km±7km, mb3.8/14, mbtmp4.3/20, Error ellipse: s-maj=13.7km s-min=11.1km az=35.0

NEIC 27 01:36:13.1±1.7, 23°01S±0°04×66°49W±0°08, h213km±6km, mb4.5/62, Error ellipse: s-maj=10.7km s-min=6.2km az=104.0

VAO 27 01:36:13.8±0.3, 22°90S×66°55W, h218km±5km, mb4.2

GUC 27 01:36:14.5±0.6, 22°95S×67°01W, h245km±9km, ML4.6

ISC 27 01:36:13.4±0.6, 23°00S±0°04×66°61W±0°05, h221km±6km, n207, σ1§09/249, mb4.4/39, 15C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.30**	**51**	*e*P	**Pn**	**01 36 49.4**	**+1.4**
AF01	**San Pedro de A**	**1.45**	**271**		**Pn**	**01 36 50.9**	**+1.9**
AF01	**San Pedro de A**	**1.45**	**271**	*i*P	**Pn**	**01 36 51.0**	**+2.0**
SLA	**San Lorenzo**	**2.00**	**150**	*e*P	**Pn**	**01 36 55.7**	**+2.0**
LVC	**Limon Verde**	**2.15**	**280**	Pn	**Pn**	**01 36 56.5**	**+1.0**
LVC				Sn	**S**	**01 37 28.5**	**+0.4**
LVC	**Limon Verde**	**2.15**	**280**	*e*P	**Pn**	**01 36 56.5**	**+1.0**
LVC				*e*S	**S**	**01 37 29.1**	**+1.0**
LVC	**Limon Verde**	**2.15**	**280**	P	**Pn**	**01 36 56.6**	**+1.1**
	678nm,0.5s,baz=100,slow=5.9,SNR=970						
LVC				S	**S**	**01 37 28.7**	**+0.6**
	288nm,0.3s,baz=252,slow=20,SNR=21						
LVC	**Limon Verde**	**2.15**	**280**	*e*P	**Pn**	**01 36 56.2**	**+0.7**
LVC				*i* S	**S**	**01 37 27.3**	**-0.8**
LVC	**Limon Verde**	**2.15**	**280**	*e*P	**Pn**	**01 36 56.8**	**+1.3**
LVC				*e*S	**S**	**01 37 28.6**	**+0.4**
PB15	**IPOC Station P**	**2.64**	**265**		**Pn**	**01 37 01.5**	**+1.0**
PB15				Sn	**S**	**01 37 37.1**	**+0.1**
PB15	**IPOC Station P**	**2.64**	**265**	*e*P	**Pn**	**01 37 01.5**	**+1.0**
PB15				*e*S	**S**	**01 37 37.6**	**+0.6**
PB15				IAML		01 37 43.5	
	comp=Z,4μm,0.2s						
PB15	**IPOC Station P**	**2.64**	**265**	⇑*i*P	**Pn**	**01 37 01.4**	**+1.0**
PB15				*i* S	**S**	**01 37 36.9**	**-0.1**
PB09	**IPOC Station P**	**2.71**	**296**		**Pn**	**01 37 02.8**	**+1.6**
PB09				Sn	**S**	**01 37 38.4**	**+0.1**
PB09	**IPOC Station P**	**2.71**	**296**	*e*P	**Pn**	**01 37 02.0**	**+0.8**
PB09				*e*S	**S**	**01 37 39.3**	**+1.0**
PB09				IAML		01 37 41.3	
	comp=Z,834nm,0.4s						
PB09	**IPOC Station P**	**2.71**	**296**	⇑*i*P	**Pn**	**01 37 02.6**	**+1.5**
PB09				*i* S	**S**	**01 37 38.4**	**+0.1**
PB09				IAML		01 37 41.4	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**2.75**	**275**		**Pn**	**01 37 02.5**	**+0.9**
PB06	**IPOC Station P**	**2.75**	**275**	*e*P	**Pn**	**01 37 02.3**	**+0.7**
PB06				*e*S	**S**	**01 37 40.2**	**+1.3**
PB06				IAML		01 37 45.4	
	comp=Z,866nm,0.5s						
PB06	**IPOC Station P**	**2.75**	**275**	⇑*i*P	**Pn**	**01 37 02.3**	**+0.7**
PB06				*i* S	**S**	**01 37 38.6**	**-0.4**
PB07	**IPOC Station P**	**3.28**	**292**		**Pn**	**01 37 08.2**	**+0.5**
PB07	**IPOC Station P**	**3.28**	**292**	*e*P	**Pn**	**01 37 08.1**	**+0.5**
PB07				*e*S	**S**	**01 37 48.9**	**-1.1**
PB07				IAML		01 37 50.3	
	comp=Z,2μm,0.2s						
PB07	**IPOC Station P**	**3.28**	**292**	⇑*i*P	**Pn**	**01 37 08.3**	**+0.5**
PB07				*i* S	**S**	**01 37 48.4**	**-1.6**
PB01	**IPOC Station P**	**3.30**	**306**		**Pn**	**01 37 08.3**	**+0.5**
PB01	**IPOC Station P**	**3.30**	**306**	*e*P	**Pn**	**01 37 08.3**	**+0.5**
PB01				*e*S	**S**	**01 37 50.1**	**-0.2**
PB01				IAML		01 37 51.6	
	comp=Z,2μm,0.3s						
PB01	**IPOC Station P**	**3.30**	**306**	⇑*i*P	**Pn**	**01 37 08.3**	**+0.5**
PB01				*e*S	**S**	**01 37 49.7**	**-0.6**
PB05	**IPOC Station P**	**3.31**	**272**	Pn	**Pn**	**01 37 08.4**	**+0.4**
PB05	**IPOC Station P**	**3.31**	**272**	*e*P	**Pn**	**01 37 08.4**	**+0.4**
PB05				*e*S	**S**	**01 37 50.0**	**-0.5**
PB05	**IPOC Station P**	**3.31**	**272**	⇑*i*P	**Pn**	**01 37 08.3**	**+0.4**
PB05				*i* S	**S**	**01 37 48.0**	**-2.6**
PB04	**IPOC Station P**	**3.33**	**281**		**Pn**	**01 37 08.8**	**+0.5**
PB04	**IPOC Station P**	**3.33**	**281**	*e*P	**Pn**	**01 37 08.8**	**+0.5**
PB04				*e*S	**S**	**01 37 49.8**	**-1.3**
PB04				IAML		01 37 53.4	
	comp=Z,933nm,0.1s						
PB04	**IPOC Station P**	**3.33**	**281**	⇑*i*P	**Pn**	**01 37 08.8**	**+0.5**
PB04				*e*S	**S**	**01 37 49.5**	**-1.5**
PB02	**IPOC Station P**	**3.47**	**298**		**Pn**	**01 37 10.0**	**+0.2**
PB02	**IPOC Station P**	**3.47**	**298**	*e*P	**Pn**	**01 37 10.1**	**+0.3**
PB02				*e*S	**S**	**01 37 52.2**	**-1.7**
PB02				IAML		01 37 58.1	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**3.47**	**298**	⇑*i*P	**Pn**	**01 37 10.1**	**+0.3**
PB02				*e*S	**S**	**01 37 51.9**	**-2.0**
GO02	**Mina Guanaco**	**3.47**	**231**	Pn	**Pn**	**01 37 10.9**	**+0.8**
GO02	**Mina Guanaco**	**3.47**	**

ANTJ	Antonio Joao (	9.86	86	eP		Pn	01 38 30.3	-0.3	
PTLB	Pontes e Lacer	10.30	45			Pn	01 38 34.9	-1.4	
AQDB	Aquidauana	10.45	78			Pn	01 38 35.5	-2.7	
AQDB	Aquidauana	10.45	78	eP		Pn	01 38 37.4	-0.8	
MT02	Curacav	10.98	200	Pn		Pn	01 38 45.0	+0.2	
MT13	San Alfonso	11.19	196			Pn	01 38 47.7	+0.1	
BO04	La Punta	11.50	197	Pn		Pn	01 38 50.0	-1.5	
UNIS	Unistalda (Bra	12.01	123	eP		Pn	01 38 57.7	-0.1	
CRSM	Crissiumal (Br	12.22	114	eP		Pn	01 39 00.6	0.0	
PP1B	Ponte de Pedra	12.24	66	eP		Pn	01 38 59.5	-1.4	
SALV	Santo Antonio	12.48	58	eP		Pn	01 39 03.1	-0.8	
RODS	Rosario do Sul	12.55	128	eP		Pn	01 39 05.0	+0.4	
ETMB	Extrema	13.11	2			Pn	01 39 10.6	-1.1	
ETMB	Extrema	13.11	2	eP		Pn	01 39 11.4	-0.4	
ML02	Panimavida	13.39	197	Pn		Pn	01 39 14.8	-0.3	
PTGB	Pitanga	13.42	100	eP		Pn	01 39 16.1	+0.5	
ALGR	Alto Alegre (B	13.52	118	eP		Pn	01 39 16.5	-0.2	
ITAB	Concordia	13.78	111	Pn		Pn	01 39 17.8	-2.1	
ITAB	Concordia	13.78	111	eP		P	01 39 22.2	+0.7	
CPSB	Cacapava Do Su	13.89	125	eP		Pn	01 39 21.2	0.0	
LDASE	Londrina, Braz	14.26	95	eP		Pn	01 39 24.9	-1.0	
SAML	Samuel	14.35	14	Pn		Pn	01 39 25.2	-1.8	
SAML	Samuel	14.35	14	eP		Pn	01 39 26.5	-0.5	
PLTB	Pedras Altas	14.47	130			Pn	01 39 27.0	-1.4	
PLTB	Pedras Altas	14.47	130	eP		Pn	01 39 27.4	-1.0	
NNA	Nana	14.65	317	P		P	01 39 32.1	+0.7	
	comp=Z,16nm,0.7s,baz=165,slow=12,SNR=9.0								
ITRB	Iturama	15.49	81	eP		Pn	01 39 40.6	-0.2	
TRQA	Tornquist	15.53	166	P		P	01 39 39.8	-1.0	
TRQA				IAmb	IAmb		01 40 00.7		
	comp=Z,16nm,1.4s								
FRTB	Fartura	15.68	95	eP		Pn	01 39 43.5	+0.3	
CZSB	Cruzeiro do Su	16.27	338	P		P	01 39 46.7	-2.4	
CZSB				IAmb	IAmb		01 39 59.7		
	comp=Z,15nm,0.6s								
BB19B	Bebedouro	16.88	87	eP		Pn	01 39 56.2	-1.2	
GO06	Curarrehue	17.05	193			P	01 39 57.3	-0.3	
RCLB	Rio Claro- Sao	17.62	92	eP		P	01 40 03.8	-0.1	
SPB	Sao Paulo	17.63	96	P		P	01 40 02.8	-1.2	
SPB				IAmb	IAmb		01 40 05.3		
	comp=Z,17nm,0.7s								
PET01	Itanhaem-SP	17.77	98	eP		P	01 40 05.5	+0.1	
LR05	Currie	17.78	194	P		P	01 40 05.7	+0.4	
LR05				IAmb	IAmb		01 40 07.9		
	comp=Z,43nm,1.4s								
IPMB	Ipameri, GO	17.94	77	eP		P	01 40 07.7	+0.3	
PLCA	Paso Flores	18.00	190	P		P	01 40 07.3	-0.5	
PLCA	Paso Flores	18.00	190	P		P	01 40 08.7	+0.9	
	comp=Z,4.0nm,0.8s,baz=4.5,slow=10,SNR=8.8								
SNDB	Serra Nova Dou	18.25	56	eP		P	01 40 10.2	-0.5	
BDFB	Brasilia	19.00	71	P		P	01 40 17.4	-1.6	
BDFB	Brasilia	19.00	71	P		P	01 40 19.2	+0.2	
	comp=Z,21nm,0.8s,baz=240,slow=11,SNR=29								
NPGB	Novo Progresso	19.20	36	eP		P	01 40 19.0	-2.1	
TEFE	Tefe	19.46	6	eP		P	01 40 22.9	-0.9	
ITTB	Itaituba	21.30	31	eP		P	01 40 41.4	-1.8	
DIAM	Diamantina, MG	21.96	82	eP		P	01 40 49.8	0.0	
JANB	Januaria	22.49	73	eP		P	01 40 53.2	-1.4	
MCRA	Macar, Loja	22.57	323	P		P	01 40 55.6	+0.3	
BOSC	San Juan Bosco	22.84	328	P		P	01 40 58.6	+0.7	
COHC	Cochancay	23.81	327	P		P	01 41 07.9	+1.5	
COHC				IAmb	IAmb		01 41 11.4		
	comp=Z,6.7nm,0.6s								
MALB	Monte Alegre	24.19	31	eP		P	01 41 11.3	+1.3	
SLOR	San Lorenzo -	24.96	331	P		P	01 41 17.9	+0.5	
SLOR				IAmb	IAmb		01 41 27.3		
	comp=Z,9.3nm,0.8s								
OTAV	Otavalo	25.81	332	P		P	01 41 23.2	-1.8	
GUA01	Guaratinga, BA	25.99	81	eP		P	01 41 25.6	-0.7	
GRGR	Grenville	35.25	8	P		P	01 42 46.3	-0.9	
FDF	Fort de France	37.88	9	P		P	01 43 08.1	-1.3	
MTO3	Montecristo	43.33	327	P		P	01 43 55.3	+1.1	
MTO3				IAmb	IAmb		01 43 56.1		
	comp=Z,8.2nm,0.5s								
TEIG	Tepich	47.88	332	P		P	01 44 29.4	-0.1	
352A	Blakely	56.94	341	P		P	01 45 35.6	-0.1	
ZAIG	Zacatecas	57.38	320	P		P	01 45 39.4	0.0	
ZAIG				IAmb	IAmb		01 45 42.5		
	comp=Z,12nm,1.4s								
GOGA	Godfrey	58.35	343	P		P	01 45 44.8	-0.7	
GOGA				IAmb	IAmb		01 45 47.0		
	comp=Z,11nm,1.2s								
LRAL	Lakeview Retre	59.02	340	P		P	01 45 49.5	-0.6	
LRAL				IAmb	IAmb		01 45 52.0		
	comp=Z,7.7nm,1.1s								
KMSC	Kings Mountain	59.48	346	P		P	01 45 53.3	0.0	
KMSC				IAmb	IAmb		01 45 55.0		
	comp=Z,17nm,1.1s								
V58A	Windy Hill, Pi	59.66	348	P		P	01 45 53.6	-0.8	
V58A				IAmb	IAmb		01 45 54.9		
	comp=Z,8.4nm,0.9s								
X51A	Calhoun	59.81	343	P		P	01 45 55.4	-0.1	
FPAL	Fort Paine	60.00	342	P		P	01 45 56.3	-0.5	
FPAL				IAmb	IAmb		01 45 57.3		
	comp=Z,5.4nm,0.7s								
833A	Chaparral WMA,	60.02	327	P		P	01 45 57.7	+0.6	
TKL	Tuckaleechee C	60.56	344	P		P	01 45 59.9	-0.7	
TKL				IAmb	IAmb		01 46 01.2		
	comp=Z,16nm,1.1s								
TKL	Tuckaleechee C	60.56	344	P		P	01 45 59.9	-0.7	
	comp=Z,9.6nm,0.9s,baz=181,slow=8.3,SNR=5.9								
	comp=Z,9.6nm,0.9s								
HNDO	Hondo	60.95	327	P		P	01 46 03.7	+0.3	
HNDO				IAmb	IAmb		01 46 05.0		
	comp=Z,10nm,0.9s								
WVT	Waverly	62.13	341	P		P	01 46 10.3	-0.7	
TXAR	Lajitas Array	63.08	324	P		P	01 46 18.3	+0.7	
	comp=Z,1.3nm,0.7s,baz=147,slow=6.9,SNR=19								
	comp=Z,1.3nm,0.7s								
TX31	Lajitas Ar. Si	63.08	324	P		P	01 46 17.9	+0.2	
PBMO	Poplar Bluff	63.56	339	P		P	01 46 20.6	+0.2	
WTFS	Witchita Falls	64.08	331	P		P	01 46 24.4	+0.5	
SSPA	Standing Stone	64.17	350	P		P	01 46 24.9	+0.5	
SSPA				IAmb	IAmb		01 46 43.6		
	comp=Z,14nm,1.2s								
CCM	Cathedral Cave	64.99	339	P		P	01 46 29.6	-0.1	
OK052	Battle Ridge R	65.25	333	P		P	01 46 31.4	-0.1	
OK052				IAmb	IAmb		01 46 32.5		
	comp=Z,16nm,1.0s								
ERPA	Erie	65.95	349	P		P	01 46 35.4	-0.4	
WVNY	West Valley, N	66.01	350	P		P	01 46 36.4	+0.2	
WVNY				IAmb	IAmb		01 46 37.6		
	comp=Z,10nm,0.8s								
MSTX	Muleshoe	66.28	328			P	01 46 38.4	+0.2	
MSTX				IAmb	IAmb		01 46 40.0		
	comp=Z,14nm,0.8s								
J58A	Remsen	66.51	353	P		P	01 46 39.6	+0.3	
J58A				IAmb	IAmb		01 46 42.9		
	comp=Z,12nm,1.3s								
I63A	Otisfield	66.81	357	P		P	01 46 41.5	+0.3	
I63A				IAmb	IAmb		01 46 43.9		
	comp=Z,5.5nm,0.9s								
DBIC	Dimbokro	67.15	72	P		P	01 46 43.6	-0.4	
	comp=Z,3.4nm,0.9s,baz=232,slow=5.8,SNR=5.1								
	comp=Z,3.4nm,0.9s								
QSPA	South Pole Qui	67.20	180	P		P	01 46 44.9	+1.2	
QSPA	South Pole Qui	67.20	180	P		P	01 46 45.3	+1.6	
	comp=Z,3.6nm,0.7s,baz=183,slow=3.4,SNR=11								
	comp=Z,3.6nm,0.7s								
121A	Cookes Peak, D	67.79	323	P		P	01 46 49.0	+1.2	
121A				IAmb	IAmb		01 46 50.4		
	comp=Z,6.7nm,0.8s								
PKME	Peaks-Kenny Pk	67.97	358	P		P	01 46 48.7	+0.3	
ANMO	Albuquerque	68.92	326	P		P	01 46 56.1	+1.3	
ANMO				IAmb	IAmb		01 46 57.2		
	comp=Z,5.4nm,1.0s								
ANMO	Albuquerque	68.92	326	P		P	01 46 56.2	+1.4	
	comp=Z,3.1nm,0.6s,baz=223,slow=6.4,SNR=12								
	comp=Z,3.1nm,0.6s								
BATG	Bathurst New B	69.94	0	P		P	01 47 00.5	0.0	
BATG				IAmb	IAmb		01 47 01.8		
	comp=Z,5.7nm,0.9s								
SDCO	Great Sand Dun	70.62	328	P		P	01 47 06.8	+1.6	
ISCO	Idaho Springs	72.30	329	P		P	01 47 16.1	+0.8	
SMCO	Snowmass	72.46	328			P	01 47 17.6	+1.3	
SMCO				IAmb	IAmb		01 47 18.7		
	comp=Z,5.0nm,0.8s								
HMU	Henry Mountain	73.43	325	P		P	01 47 23.1	+1.3	
O20A	White River Ci	73.82	328	P		P	01 47 25.3	+1.3	
O20A				IAmb	IAmb		01 47 26.6		
	comp=Z,9.5nm,0.8s								
KNB	Kanab	73.89	323	P		P	01 47 26.0	+1.6	
KNB				IAmb	IAmb		01 47 27.9		
	comp=Z,9.9nm,1.0s								
SRU	San Rafael Swe	74.19	326	P		P	01 47 27.4	+1.3	
SRU				IAmb	IAmb		01 47 28.5		
	comp=Z,8.3nm,0.7s								
RSSD	Black Hills	75.07	333	P		P	01 47 31.7	+0.5	
GWY	Greenwater Val	75.51	320	P		P	01 47 35.1	+1.4	
GWY				IAmb	IAmb		01 47 36.4		
	comp=Z,5.0nm,0.8s								
VNDA	Vanda	75.75	190	P		P	01 47 36.2	+1.9	
	comp=Z,1.1nm,0.9s,baz=40,slow=3.1,SNR=3.6								
	comp=Z,1.1nm,0.9s								
TOA0	Torodi Ar. Sit	75.88	69	P		P	01 47 35.0	-1.0	
TORD	Torodi Ar. Bea	75.88	69	P		P	01 47 35.0	-1.0	
TORD	Torodi Ar. Bea	75.88	69	P		P	01 47 35.2	-0.8	
	comp=Z,2.0nm,0.6s,baz=260,slow=5.0,SNR=20								
	comp=Z,2.0nm,0.6s								
PD31	Pinedale Array	76.47	329	P		P	01 47 40.0	+0.9	
PDAR	Pinedale Array	76.47	329	P		P	01 47 39.8	+0.7	
PDAR	Pinedale Array	76.47	329	P		P	01 47 40.0	+0.9	
	comp=Z,1.5nm,0.6s,baz=129,slow=7.8,SNR=13								
	comp=Z,1.5nm,0.6s								
ULM	Lac du Bonnet	77.39	341	P		P	01 47 43.7	0.0	
	comp=Z,2.9nm,0.5s,baz=153,slow=6.4,SNR=13								
	comp=Z,2.9nm,0.5s								
SCHQ	Schefferville	77.51	360	P		P	01 47 44.5	+0.2	
	comp=Z,2.5nm,0.6s,baz=184,slow=5.0,SNR=5.1								
	comp=Z,2.5nm,0.6s								
ELK	Elko	77.86	324	P		P	01 47 48.2	+1.3	
ELK	Elko	77.86	324	P		P	01 47 48.1	+1.2	
	comp=Z,2.4nm,0.7s,baz=152,slow=3.2,SNR=12								
	comp=Z,2.4nm,0.7s								
NVAR	Mina Array Bea	77.98	321	P		P	01 47 48.9	+1.4	
NVAR	Mina Array Bea	77.98	321	P		P	01 47 49.4	+1.8	
	comp=Z,1.1nm,0.6s,baz=151,slow=5.8,SNR=11								
	comp=Z,1.1nm,0.6s								
HLID	Hailey	79.44	327	P		P	01 47 57.3	+1.9	
HLID				IAmb	IAmb		01 47 58.5		
	comp=Z,9.7nm,0.7s								
YBH	Yreka Blue Hor	82.70	321	P		P	01 48 12.4	0.0	
	comp=Z,2.4nm,0.8s,baz=117,slow=9.0,SNR=3.6								
	comp=Z,2.4nm,0.8s								
C09A	Chrisman Ranch	84.35	328	P		P	01 48 21.3	+0.7	
C09A				IAmb	IAmb		01 48 22.5		
	comp=Z,9.3nm,0.8s								
FCC	Fort Churchill	84.57	346	P		P	01 48 21.6	+0.2	
YKA	Yellowknife Ar	93.31	340	P		P	01 49 03.0	+0.5	
	comp=Z,1.1nm,0.7s,baz=130,slow=4.5,SNR=6.9								
	comp=Z,1.1nm,0.7s								
ASAR	Alice Springs	129.51	205	PKP		PKPdf	01 54 56.8	+0.2	
	comp=Z,0.8nm,0.7s,baz=150,slow=1.9,SNR=7.8								
WRA	Warramunga Arr	132.68	207	PKP		PKPdf	01 55 03.4	+0.7	
	comp=Z,0.5nm,0.6s,baz=162,slow=1.4,SNR=9.5								
BVAR	Borovoye Array	135.78	36	PKP		PKiKP	01 55 08.9	-0.1	
	comp=Z,0.6nm,0.6s,baz=29,slow=3.3,SNR=2.6								
KURBB	Kurchatov Arra	141.36	36	PKP		PKPdf	01 55 18.8	+1.2	
	comp=Z,0.5nm,0.5s,baz=313,slow=2.7,SNR=2.6								
ZALV	Zalesovo Beam	142.34	28	PKhKP		PKPpre	01 55 15.8		
	comp=Z,1.3nm,0.5s,baz=317,slow=4.2,SNR=3.9								
ZALV				PKP		PKPdf	01 55 20.3	+1.0	
	comp=Z,2.2nm,0.6s,baz=297,slow=3.4,SNR=6.8								
MAKZ	Makanchi	145.33	39	PKPbc		PKPab	01 55 25.8	+0.2	
MK31	Makanchi Array	145.52	39	PKPbc		PKPab	01 55 26.0	-0.3	
MKAR	Makanchi Array	145.52	39	PKPbc		PKPab	01 55 26.1	-0.1	
MKAR	Makanchi Array	145.52	39	PKPbc		PKPab	01 55 26.3	0.0	
	comp=Z,3.9nm,0.6s,baz=308,slow=3.1,SNR=31								
SONM	Songino Array	154.59	11	PKPbc		PKiKP	01 55 48.4	+0.4	
SONM	Songino Array	154.59	11	PKP		PKPdf	01 55 40.3	+0.9	
	comp=Z,1.0nm,1.1s,baz=119,slow=1.9,SNR=3.6								
SONM				PKPab		PKPab	01 56 04.5	+0.9	
	comp=Z,0.8nm,0.7s,baz=325,slow=3.4,SNR=4.0								

TRN ***27*** *01:38:37.2, 10.˚68N×62.˚73W, h6km, MD3.6*
FUNV ***27*** *01:38:40.5, 10.˚73N×62.˚65W, h5km, MW3.4*

ISC 27 01:38:38.9±1.0, **10.˚70N**±0.˚05×**62.˚68W**±0.˚04, **h10**km, **n13, s19 41/19, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.55	267	eP	Pg	01 38 50.0	+0.4
CRUV				eS	Sg	01 38 57.2	+0.4
TRN	Trinidad (W)	1.25	92	eP	Pn	01 39 02.8	+0.4
TRN				eS	Sn	01 39 20.2	+0.8
GRFF	Grenada Fort F	1.63	34	eP	Pn	01 39 06.7	-0.9
GRGR	Grenville	1.74	35	eP	Pn	01 39 08.8	-0.4
GRGR				eS	Sb	01 39 33.5	+0.6
PCRV	Puerto La Cruz	2.00	255	eP	Pn	01 39 14.1	+1.4
GCMP	Grenada, Carri	2.16	35	eP	Pn	01 39 14.7	-0.2
GCMP				eS	Sn	01 39 41.8	0.0
BENV	Beln	4.90	262	eP	Pn	01 39 54.0	+1.3
BENV				eS	Sn	01 40 49.7	+0.2
CACV	CAICARA DEL OR	4.92	231	eP	Pn	01 39 49.3	-3.7
CACV				eS	Sn	01 40 39.8	-.10
LUEV	Luepa	4.97	166	eP	Pn	01 39 54.2	+0.4
LUEV				eS	Sn	01 40 49.8	-1.8
BAUV	El Baul	5.57	252	eP	Pn	01 40 03.4	+1.5
BAUV				eS	Sn	01 41 04.2	-1.7
BAUV	El Baul	5.57	252	eP	Pn	01 40 01.4	-0.5
BAUV	El Baul	5.57	252	eS	Sn	01 41 01.9	-4.1
ANBD	Bethesda, Anti	6.37	8	eP	Pn	01 40 12.3	-0.5
ANBD				eS	Pb	01 40 25.0	-4.9

NEIC ***27*** *01:42:44.6±1.4, 55.˚94N±0.˚07×149.˚76W±0.˚09, h8km±5km, mb4.3/20, ML4.4/44, ML4.2(AEIC), Error ellipse: s-maj=10.2km s-min=7.6km az=176.0*
IDC ***27*** *01:42:46.3±0.8, 55.˚88N×149.˚38W, h0km, mb3.9/17, mbtmp4.0/22, ML4.1/5, Error ellipse: s-maj=24.7km s-min=12.2km az=38.0*
AEIC ***27*** *01:42:50.0±1.5, 56.˚00N±0.˚07×149.˚71W±0.˚09, h10km±5km, Error ellipse: s-maj=10.3km s-min=7.4km az=175.0*

ISC 27 01:42:45.2±3.3, **55.˚98N**±0.˚06×**149.˚60W**±0.˚04, **h5**km±21km, **n290, s19 82/299, mb4.2/29, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.39	303		Pn	01 43 22.9	-2.0
OHAK				Sn	Sn	01 43 49.0	-5.6
OHAK	Old Harbor	2.39	303	P	Pn	01 43 23.2	-1.8
OHAK	Old Harbor	2.39	303	P	Pn	01 43 23.0	-2.0
	baz=122						
OHAK				S	Sn	01 43 49.3	-5.3
	baz=122						
KDAK	Kodiak Island	2.44	319		Pn	01 43 24.2	-1.4
KDAK				Sn	Sn	01 43 51.1	-4.7
KDAK	Kodiak Island	2.44	319	S	Sn	01 43 50.8	-5.0
	baz=139						
KDAK	Kodiak Island	2.44	319	Pn	Pn	01 43 24.2	-1.4
	40nm,0.3s,baz=129,slow=5.6,SNR=163						
KDAK				Sn	Sn	01 43 50.8	-5.0
	49nm,0.3s,baz=11,slow=20,SNR=17						
SII	Sitkinak Islan	2.62	285	Pn	Pn	01 43 26.2	-2.0
SII					Sn	01 43 54.4	-6.0
SII				IAML		01 43 59.4	
	comp=N,2μm,0.7s						
SII	Sitkinak Islan	2.62	285	P	Pn	01 43 26.4	-1.8
SII	Sitkinak Islan	2.62	285	P	Pn	01 43 26.2	-2.0
	baz=102						
SII				S	Sn	01 43 54.6	-5.9
	baz=102						
SYI	Shuyak Island	3.04	331		Pn	01 43 32.7	-1.2
SYI					Sn	01 44 06.7	-4.0
Q20K	Shuyak Island	3.04	331	P	Pn	01 43 32.6	-1.3
	baz=151						
Q20K				S	Sn	01 44 07.2	-3.5
	baz=151						
CNPM	China Poot	3.66	347		Pn	01 43 41.3	-1.2
CNPM					Sn	01 44 22.3	-3.7
CNPM				IAML		01 44 23.9	
	comp=E,502nm,0.7s						
CNPM				IAML		01 44 24.5	
	comp=N,389nm,0.4s						
Q19K	Cape Douglas,	3.68	325		Pn	01 43 41.7	-1.0
Q19K				Sn	Sn	01 44 22.8	-3.6
Q19K				IAML		01 44 28.4	
	comp=N,1μm,0.8s						
Q19K	Cape Douglas,	3.68	325	P	Pn	01 43 42.5	-0.2
	baz=143						
Q19K				S	Sn	01 44 22.0	-4.4
	baz=143						
KAHG	Katmai Hook Gl	3.69	315		Pn	01 43 42.3	-0.6
KAHG					Sn	01 44 20.3	-6.4
KCE	Katmai Mt Cerb	3.80	309		Pn	01 43 44.3	-0.1
BRSE	Bradley Lake S	3.82	351		Pn	01 43 43.0	-1.7
BRSE					Sn	01 44 25.3	-4.7
BRSE	Bradley Lake S	3.82	351	P	Pn	01 43 43.6	-1.1
	baz=172						
ACHA	Angle Creek He	3.84	308		Pn	01 43 44.2	-0.8
HOM	Homer	3.85	344	Pn	Pn	01 43 43.7	-1.3
HOM				IAML		01 44 29.1	
	comp=E,895nm,0.9s						
HOM				IAML		01 44 33.2	
	comp=N,858nm,0.8s						
BRLK	Bradley Lake	3.86	350		Pn	01 43 43.2	-1.9
BRLK				IAML		01 44 29.0	
	comp=E,335nm,0.8s						
Q23K	Middleton Isla	3.87	25	Pn	Pn	01 43 44.6	-0.7
Q23K				IAML		01 44 30.9	
	comp=N,395nm,1.2s						
Q23K				IAML		01 44 32.8	
	comp=E,370nm,1.2s						
MID	Middleton Isla	3.87	25	Pn	Pn	01 43 44.5	-0.8
MID				IAML		01 44 27.6	
	comp=N,422nm,0.7s						
MID				IAML		01 44 45.0	
	comp=E,835nm,2.8s						
MID	Middleton Isla	3.87	25	P	Pn	01 43 44.6	-0.7
ANCK	Angle Creek	3.91	307		Pn	01 43 45.5	-0.5
KAHC	Katmai Hardscr	3.97	315	P	Pn	01 43 46.3	-0.5
	baz=131						
Q18K	Katmai Hardscr	3.97	315	P	Pn	01 43 46.2	-0.6
	baz=131						
AUCH	Augustine Cone	3.97	330		Pn	01 43 46.7	0.0
AUL	Augustine Lava	3.98	330		Pn	01 43 46.4	-0.5
PLK3	Peulik 3	4.04	298		Pn	01 43 47.1	-0.7
Q17K	Contact Creek	4.12	306	P	Pn	01 43 48.0	-0.9
	baz=122						
SEW	Seward	4.14	1		Pn	01 43 47.2	-1.7
SEW	Seward	4.14	1	P	Pn	01 43 47.5	-1.5
	baz=182						
KELA	Mount Kelaz	4.15	309		Pn	01 43 48.5	-0.7
P19K	Oil Pt	4.16	334		Pn	01 43 48.5	-0.9
P19K				IAML		01 44 38.4	
	comp=N,850nm,0.5s						
P19K				IAML		01 44 40.3	
	comp=E,662nm,0.6s						
P19K	Oil Pt	4.16	334	P	Pn	01 43 48.6	-0.8
	baz=152						
P23K	Montague Islan	4.20	15	P	Pn	01 43 48.9	-0.9
	baz=198						
PLK1	Peulik 1	4.25	298		Pn	01 43 49.9	-0.7
O20K	Slope Mountain	4.42	340		Pn	01 43 51.1	-1.8
IVE	Iliamna Volcan	4.44	337		Pn	01 43 51.2	-1.9
O22K	Cooper Landing	4.51	359		Pn	01 43 52.7	-1.5
SLKM	Skilak Lake	4.55	356		Pn	01 43 53.2	-1.5
P18K	Big Mountain,	4.56	321	Pn	Pn	01 43 53.4	-1.5
P18K	Big Mountain,	4.56	321	P	Pn	01 43 53.3	-1.5
	baz=137						
R16K	Pilot Point	4.67	293		Pn	01 43 54.6	-1.7
R16K				IAML		01 44 52.9	
	comp=E,192nm,1.4s						
R16K				IAML		01 45 31.7	
	comp=N,241nm,1.3s						
Q16K	King Salmon	4.68	308		Pn	01 43 55.5	-0.9
Q16K	King Salmon	4.68	308	P	Pn	01 43 55.8	-0.6
	baz=123						
HIN	Hinchinbrook I	4.72	19	Pn	Pn	01 43 56.2	-0.8
RED	Redoubt Volcan	4.76	341		Pn	01 43 55.1	-2.4
RSO	Redoubt South	4.79	341		Pn	01 43 55.9	-2.3
KAIM	Kayak Island	4.82	33	Pn	Pn	01 43 58.3	-0.1
KAIM				IAML		01 44 58.7	
	comp=E,426nm,1.4s						
RDWB	Redoubt West	4.83	341		Pn	01 43 56.4	-2.3
RDT	Redoubt	4.84	343		Pn	01 43 56.6	-2.1
CAPN	Captain Cook N	4.87	351	Pn	Pn	01 43 58.7	-0.3
P17K	Kvichak River	4.89	314	P	Pn	01 43 58.7	-0.6
	baz=129						
ANPB	Aniakchak Plen	4.89	283		Pn	01 43 58.0	-1.5
O18K	Koktuh Hills	4.90	325		Pn	01 43 58.0	-1.5
O18K				IAML		01 44 55.4	
	comp=N,149nm,0.9s						
O18K	Koktuh Hills	4.90	325	P	Pn	01 43 58.0	-1.5
	baz=141						
DFR	Drift River	4.90	342		Pn	01 43 57.5	-2.1
O19K	Port Alsworth	4.91	331		Pn	01 43 56.3	-3.3
CHGN	Chignik	4.94	277		Pn	01 43 58.0	-1.9
CHGN				IAML		01 44 57.4	
	comp=E,367nm,0.7s						
CHGN				IAML		01 44 57.0	
	comp=N,442nm,0.5s						
EYAK	Cordova Ski Ar	5.01	22		Pn	01 44 00.4	-0.5
EYAK	Cordova Ski Ar	5.01	22	P	Pn	01 44 00.7	-0.3
EYAK	Cordova Ski Ar

CUT	Chulitna	6.45	357	Pn		Pn	01 44 18.6	-2.2
BARN	Barnard Glacie	6.57	36			Pn	01 44 23.0	+0.4
PNL	Peninsula	6.58	52	P		Pn	01 44 23.7	+1.1
PNL	Peninsula	6.58	52	P		Pn	01 44 23.1	+0.5
	baz=240							
CTG	Chitna Glacier	6.61	37	P		Pn	01 44 23.5	+0.4
	baz=225							
N16K	Nishlik Lake	6.61	317	P		Pn	01 44 22.1	-0.9
	baz=130							
CTGM	Chitina Glacie	6.61	38	Pn		Pn	01 44 23.3	+0.2
BCPM	Bancas Point	6.63	49			Pn	01 44 23.8	+0.7
LOGN	Logan Glacier	6.63	39			Pn	01 44 23.4	+0.1
WAT6	Susitna Watana	6.69	7			Pn	01 44 23.7	-0.4
WAT6	Susitna Watana	6.69	7	P		Pn	01 44 23.9	-0.2
	baz=190							
HARP	HAARP	6.83	18	P		Pn	01 44 26.5	+0.5
	baz=202							
WAT7	Susitna Watana	6.89	3			Pn	01 44 26.5	-0.3
N15K	Kwethluk River	6.97	311	Pn		Pn	01 44 27.3	-0.5
M16K	Timber Creek	7.04	320			Pn	01 44 27.7	-1.1
M16K	Timber Creek	7.04	320	P		Pn	01 44 28.0	-0.8
	baz=133							
DHY	Denali Highway	7.21	8	Pn		Pn	01 44 31.4	+0.1
O29M	Mount Kennedy	7.26	49			Pn	01 44 33.0	+1.0
M26K	Nabesna, AK	7.28	25			Pn	01 44 32.5	+0.4
P29M	Windy Craggy	7.32	55	Pn		Pn	01 44 32.9	+0.3
PAX	Paxson	7.32	15			Pn	01 44 32.7	0.0
RND	Reindeer	7.46	3			Pn	01 44 34.3	-0.4
TRF	Thorofare Moun	7.50	358	Pn		Pn	01 44 34.8	-0.5
M27K	Edge Creek, AK	7.52	29			Pn	01 44 36.0	+0.5
CAST	Castle Rocks	7.57	351			Pn	01 44 35.4	-0.6
S31K	Pelican	7.57	69			Pn	01 44 34.3	-1.7
MENT	Mentasta	7.59	21			Pn	01 44 37.3	+0.9
KTH	Kantishna Hill	7.63	356			Pn	01 44 36.5	-0.4
TTA	Tatalina	7.70	338	Pn		Pn	01 44 35.9	-2.0
TTA	Tatalina	7.70	338	P		Pn	01 44 37.2	-0.7
K20K	Telida	7.74	345			Pn	01 44 37.1	-1.3
MCK	McKinley	7.79	2			Pn	01 44 39.3	+0.2
BVCY	Beaver Creek	7.85	31			Pn	01 44 40.8	+0.8
SIT	Sitka	7.97	76	Pn		Pn	01 44 39.1	-2.4
SIT	Sitka	7.97	76	P		Pn	01 44 39.3	-2.2
HYT	Haines Junctio	7.99	48	Pn		Pn	01 44 42.6	+0.7
M14K	Bethel	8.06	311	Pn		Pn	01 44 42.4	-0.3
K24K	Donnelly Dome	8.08	12			Pn	01 44 43.4	+0.3
K17K	Iditarod	8.08	330	Pn		Pn	01 44 41.3	-1.8
BCAR	Beaver Creek A	8.13	26			Pn	01 44 44.5	+0.6
RIDG	Independent Ri	8.14	15	Pn		Pn	01 44 43.8	-0.1
BPAW	Bear Paw Mtn.	8.18	356	Pn		Pn	01 44 43.3	-1.1
J18K	Innoko River	8.32	337	Pn		Pn	01 44 44.6	-1.8
SKAG	Skagway	8.39	60			Pn	01 44 48.0	+0.6
SKAG	Skagway	8.39	60	P		Pn	01 44 48.3	+1.0
L15K	Ungalak Mounta	8.40	318			Pn	01 44 46.5	-0.9
S32K	Killisnoo	8.40	74	Pn		Pn	01 44 46.1	-1.2
BESE	Bessie Mountai	8.40	66			Pn	01 44 47.5	-0.1
SCRK	Sand Creek	8.50	17	Pn		Pn	01 44 48.6	-0.3
N30M	Aishikik Lake	8.51	45	Pn		Pn	01 44 49.7	+0.7
R32K	Eaglecrest	8.52	68			Pn	01 44 49.1	0.0
J20K	Nowinta River	8.53	346			Pn	01 44 47.2	-2.0
HDA	Harding Lake	8.56	8			Pn	01 44 49.9	+0.3
O30N	Mendenhall	8.56	50			Pn	01 44 50.3	+0.6
J19K	Poorman	8.58	342	Pn		Pn	01 44 47.9	-2.0
JIS	Juneau Island	8.59	68			Pn	01 44 49.9	-0.1
JIS	Juneau Island	8.59	68	P		Pn	01 44 50.4	+0.4
M29M	Somme Creek	8.63	37	Pn		Pn	01 44 51.5	+0.8
NEA2	Nenana	8.65	2			Pn	01 44 49.1	-1.7
L14K	Kuka Creek	8.67	314	Pn		Pn	01 44 50.4	-0.8
CCB	Clear Creek Bu	8.74	5	Pn		Pn	01 44 52.0	-0.1
K15K	Wolf Creek Mou	8.80	321	Pn		Pn	01 44 51.9	-1.0
K27K	Chicken	8.90	22			Pn	01 44 54.7	+0.4
J25K	Salcha River,	8.91	12			Pn	01 44 54.2	-0.3
IL31		8.92	8			Pn	01 44 54.8	+0.2
ILAR	Eielson Array	8.92	8	Pn		Pn	01 44 54.6	0.0
	comp=E,0.9nm,0.3s,baz=188,slow=13,SNR=46							
ILAR				Sn		Sn	01 46 28.8	-6.5
	comp=E,2.5nm,0.3s,baz=194,slow=21,SNR=19							
	comp=E,2.6nm,0.4s							
COLA	College	8.96	5	P		Pn	01 44 56.6	+1.5
MDM	Murphy Dome	9.04	4			Pn	01 44 55.3	-0.8
WHY	Whitehorse	9.05	53	Pn		Pn	01 44 57.5	+1.1
N31M	Braeburn, Yuko	9.05	47	Pn		Pn	01 44 57.7	+1.3
J26L	Joseph Creek	9.05	17			Pn	01 44 56.2	-0.3
MLY	Manley	9.10	357			Pn	01 44 57.1	+0.1
J16K	Anvik River	9.19	327			Pn	01 44 56.5	-1.7
I23K	Minto, Yukon-K	9.20	1			Pn	01 44 57.9	-0.5
L29M	L29M	9.21	34	Pn		Pn	01 44 59.0	+0.4
P32M	Allin	9.22	60	Pn		Pn	01 44 59.2	+0.5
U33K	Whale Pass	9.22	82	Pn		Pn	01 44 56.8	-1.9
POKR	Poker Plat Res	9.23	6	Pn		Pn	01 44 58.4	-0.4
M30M	Minto, Yukon	9.30	39			Pn	01 45 00.0	+0.3
CRAG	Craig	9.31	86	Pn		Pn	01 44 57.5	-2.4
CRAG	Craig	9.31	86	P		Pn	01 44 58.1	-1.8
DAWY	Dawson	9.57	28	Pn		Pn	01 45 03.9	+0.4
WRAK	Wrangell Islan	9.63	80	Pn		Pn	01 45 02.6	-1.6
EGAK	Eagle	9.75	22	Pn		Pn	01 45 06.2	+0.3
Q32M	Nakina River	9.80	65	Pn		Pn	01 45 07.7	+1.0
J14K	Nanvaranak Lak	9.82	319			Pn	01 45 05.8	-1.0
P33M	Teslin, Yukon	9.83	58	Pn		Pn	01 45 07.7	+0.5
K29M	Barlow Dome	9.93	33	Pn		Pn	01 45 09.1	+0.6
UNV	Unalaska Valle	9.97	265	Pn		Pn	01 45 06.2	-2.7
UNV	Unalaska Valle	9.97	265	P		Pn	01 45 06.8	-2.1
M31M	Drury Creek, Y	9.99	45			Pn	01 45 10.5	+1.3
V35K	Ketchikan	10.19	86	Pn		Pn	01 45 11.2	-0.6
J29N	Klondike Camp	10.19	29			Pn	01 45 12.3	+0.2
IMAR	Indian Mountai	10.23	350	Pn		Pn	01 45 11.6	-1.0
S34M	Telegraph Cree	10.27	72	Pn		Pn	01 45 13.2	+0.1
MAYO	Mayo, Yukon	10.28	36	Pn		Pn	01 45 13.3	+0.2
DIB	Dawson Inlet,	10.32	99	Pn		Pn	01 45 13.2	-0.5
R33M	Jennings River	10.54	63	Pn		Pn	01 45 17.3	+0.5
T35M	Bob Quinn	10.75	77	Pn		Pn	01 45 20.8	+1.2
FYU	Fort Yukon	10.82	9			Pn	01 45 20.0	-0.6
DLBC	Dease Lake	10.89	69	Pn		Pn	01 45 22.2	+0.6
DLBC	Dease Lake	10.89	69	Pn		Pn	01 45 22.4	+0.8
	comp=E,2.7nm,0.3s,baz=246,slow=9.2,SNR=36							
DLBC				Sn		Sn	01 47 18.3	-5.4
	comp=E,0.3nm,0.3s,baz=149,slow=24,SNR=1.2							
	comp=E,7.3nm,0.3s							
HG4B	Hotspring	11.40	101	Pn		Pn	01 45 28.7	+0.1
F20K	Avaraart Lake	11.48	348			Pn	01 45 28.4	-1.1
F19K	Shaleruckik Mo	11.56	344	Pn		Pn	01 45 29.8	-0.8
ANM	Nome	11.60	324	Pn		Pn	01 45 30.4	-0.8
F15K	North Star Dit	12.16	329			Pn	01 45 38.4	-0.5
E25K	Arctic Village	12.33	7	Pn		Pn	01 45 41.2	+0.1
F28M	Old Crow	12.52	17			Pn	01 45 44.8	+1.0
G31M	Satah River	13.14	27			Pn	01 45 52.6	+0.3
BBB	Bella Bella	13.16	98	Pn		Pn	01 45 50.5	-2.0
	comp=E,0.3nm,0.3s,baz=270,slow=7.1,SNR=2.8							
BBB				Sn		Sn	01 48 10.7	-8.4
	comp=E,0.4nm,0.3s,baz=116,slow=17,SNR=6.1							
	comp=E,38nm,1.2s							
D25K	Kavik River	13.47	5			Pn	01 45 57.6	+0.8
D27M	Malcolm River	13.87	13			Pn	01 46 02.3	+0.1
INK	Inuvik	14.39	24	Pn		Pn	01 46 09.4	+0.1
INK	Inuvik	14.39	24	Pn		Pn	01 46 10.2	+0.9
	comp=E,0.6nm,0.3s,baz=209,slow=14,SNR=57							
	comp=E,19nm,1.0s							
B22K	Teshekpuk Lake	14.51	355			Pn	01 46 09.7	-1.2
ATKA	Atka Island	14.89	266	Pn		Pn	01 46 12.0	-4.1
ADK	Adak	16.42	267	Pn		Pn	01 46 32.9	-3.2
ADK				IAmb		IAmb	01 46 58.4	
	comp=Z,54nm,1.4s							
ADK	Adak	16.42	267	P		Pn	01 46 33.9	-2.2
C36M	Paulatuk	17.59	30	Pn		Pn	01 46 49.9	-0.9
YKA	Yellowknife Ar	18.86	55			P	01 47 05.4	-0.4
YKA	Yellowknife Ar	18.86	55	P		Pn	01 47 07.0	+0.7
	comp=Z,0.4nm,0.3s,baz=264,slow=11,SNR=42							
	comp=Z,3.5nm,0.8s							
A36M	Sachs Harbour	19.03	23	P		P	01 47 08.2	+0.6
NEW	Newport	21.22	98	P		P	01 47 31.2	-0.5
NEW	Newport	21.22	98	P		P	01 47 30.7	-1.0
	comp=Z,3.0nm,0.7s,baz=318,slow=10,SNR=7.8							
	comp=Z,3.0nm,0.7s							
DBO	Dodson Butte	21.24	116	P		P	01 47 30.3	-1.7
K02D	Willamette Mer	21.34	118	P		P	01 47 33.3	+0.3
K02D				IAmb		IAmb	01 47 37.5	
	comp=Z,16nm,1.0s							
HUMO	Hull Mountain	21.75	117	P		P	01 47 37.2	-0.2
HUMO				IAmb		IAmb	01 47 49.9	
	comp=Z,21nm,1.4s							
F10A	Beach Ranch, E	22.51	103	P		P	01 47 45.6	+0.1
F10A				IAmb		IAmb	01 47 51.4	
	comp=Z,12nm,1.2s							
YBH	Yreka Blue Hor	22.53	118	P		P	01 47 47.1	+1.3
	comp=Z,3.3nm,0.8s,baz=312,slow=7.2,SNR=6.6							
	comp=Z,3.3nm,0.8s							
OVMT	Ovando	24.20	96	P		P	01 48 02.3	-0.3
BPMT	Black Pine Rid	24.32	98	P		P	01 48 03.7	-0.1
ELK	Elko	27.09	110	P		P	01 48 29.0	+0.1
ELK	Elko	27.09	110	P		P	01 48 30.1	+1.2
	comp=Z,2.2nm,0.8s,baz=283,slow=9.4,SNR=7.9							
	comp=Z,2.2nm,0.8s							
NVAR	Mina Array Bea	27.23	117	P		P	01 48 30.0	-0.1
NVAR	Mina Array Bea	27.23	117	P		P	01 48 31.2	+1.0
	comp=Z,2.3nm,0.7s,baz=303,slow=9.1,SNR=14							
	comp=Z,2.3nm,0.7s							
R11B	Troy Canyon, C	28.67	114	P		P	01 48 43.0	0.0
R11B				IAmb		IAmb	01 48 44.9	
	comp=Z,4.0nm,0.9s							
PDAR	Pinedale Array	28.78	100	P		P	01 48 43.8	-0.2
PDAR	Pinedale Array	28.78	100	P		P	01 48 44.2	+0.2
	comp=Z,0.8nm,0.6s,baz=315,slow=4.3,SNR=7.3							
	comp=Z,0.8nm,0.6s							
BSUT	Blindstream Ca	29.64	105	P		P	01 48 51.1	-0.7
BSUT				IAmb		IAmb	01 49 13.9	
	comp=Z,6.0nm,1.4s							
O20A	White River Ci	31.30	103	P		P	01 49 06.1	-0.1
ECSD	EROS Data Cent	35.41	87	P		P	01 49 41.5	-0.3
ECSD				IAmb		IAmb	01 49 42.5	
	comp=Z,4.2nm,1.1s							
WMOK	Wichita Mounta	40.39	100	P		P	01 50 23.3	-0.7
R40A	Maddies Statio	41.48	90	P		P	01 50 31.7	-1.2
R40A				IAmb		IAmb	01 50 32.6	
	comp=Z,7.3nm,0.7s							
TX31	Lajitas Ar. Si	41.89	110	P		P	01 50 36.2	-0.2
TXAR	Lajitas Array	41.89	110	P		P	01 50 36.2	-0.2
TXAR	Lajitas Array	41.89	110	P		P	01 50 37.3	+0.9
	comp=Z,1.6nm,0.8s,baz=315,slow=6.3,SNR=17							
	comp=Z,1.6nm,0.8s							
JCT	Junction City	43.06	105	P		P	01 50 45.5	-0.4
435B	Jarrell	44.03	103	P		P	01 50 53.4	-0.3
H11N2	WAKE ISLAND Hy	48.58	240	T		T	02 43 00.1	
	baz=32,slow=76,SNR=17							
H11N3	WAKE ISLAND Hy	48.58	240	T		T	02 42 53.8	
	baz=32,slow=76,SNR=14							
H11N1	WAKE ISLAND Hy	48.59	240	T		T	02 43 04.3	
	baz=32,slow=76,SNR=12							
H11S1	WAKE ISLAND Hy	49.72	239	T		T	02 45 49.8	
	baz=29,slow=74							
H11S2	WAKE ISLAND Hy	49.73	239	T		T	02 45 51.1	
	baz=29							
H11S3	WAKE ISLAND Hy	49.73	239	T		T	02 45 46.3	
	baz=29,slow=74							
ARCES	ARCESS Array B	54.74	2	P		P	01 52 18.6	+3.6
	comp=Z,3.3nm,1.1s,baz=21,slow=7.9,SNR=0.9							
	comp=Z,3.3nm,1.1s							
SONM	Songino Array	58.70	310	P		P	01 52 46.8	+3.2
	comp=Z,0.9nm,0.7s,baz=51,slow=4.8,SNR=5.8							
	comp=Z,0.9nm,0.7s							
ZALV	Zalesovo Beam	61.72	327	P		P	01 53 06.8	+2.9
	comp=Z,0.8nm,0.5s,baz=23,slow=5.0,SNR=4.5							
	comp=Z,0.8nm,0.5s							
HHC	Hu-ho-hao-te	61.74	302	*e*P		P	01 53 08.3	+3.8
HHC				pmax		pmax		
	comp=E,15nm,0.5s							
HHC				pmax		pmax		
	comp=E,270nm,3.8s							
NOA	NORSAR Array B	62.34	10	P		P	01 53 10.9	+2.8
	comp=Z,0.2nm,0.6s,baz=335,slow=7.2,SNR=1.4							
	comp=Z,2.0nm,0.6s							
FINES	FINESS Array B	62.87	2	P		P	01 53 13.8	+2.3
	comp=Z,2.3nm,1.1s,baz=10,slow=8.8,SNR=1.4							
	comp=Z,2.3nm,1.1s							
HFS	Hagfors	63.47	9	P		P	01 53 18.5	+3.0
	comp=Z,2.0nm,1.0s,baz=317,slow=6.1,SNR=1.5							
	comp=Z,2.0nm,1.0s							
BVAR	Borovoye Array	66.48	335	P		P	01 53 36.5	+1.2
	comp=Z,1.2nm,0.7s,baz=35,slow=8.0,SNR=8.5							
	comp=Z,1.2nm,0.7s							
KURBB	Kurchatov Arra	66.51	329	P		P	01 53 38.3	+2.9
	comp=Z,0.5nm,0.4s,baz=29,slow=7.5,SNR=2.8							
MK31	Makanchi Array	68.74	325	P		P	01 53 47.9	-1.8
MK31				IAmb		IAmb	01 53 56.4	
	comp=Z,3.1nm,1.3s							
MKAR	Makanchi Array	68.74	325	P		P	01 53 53.1	+3.5
	comp=Z,0.5nm,0.5s,baz=29,slow=6.8,SNR=16							
	comp=Z,0.5nm,0.5s							
LZH	Lanzhou	69.19	304	*e*P		P	01 53 55.8	+3.0
LZH				pP		PcP	01 54 04.0	-13
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
ABKAR	Akbulak array	72.28	340	P		P	01 54 10.4	-0.8
AKASG	Malin Array Be	73.68	1	P		P	01 54 22.5	+3.1
	comp=Z,0.3nm,0.4s,baz=357,slow=5.0,SNR=2.2							
	comp=Z,0.3nm,0.4s							
PZH	PanZhiHua	78.11	300	P		P	01 54 49.5	+4.2
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,240nm,7.0s							
GEYT	Alibeck	83.52	338	P		P	01 55 16.4	+2.5
	comp=Z,1.1nm,0.7s,baz=356,slow=4.8,SNR=2.5							
	comp=Z,1.1nm,0.7s							
BRTR	Keskin Array B	84.62	357	P		P	01 55 23.2	+3.6
	comp=Z,0.3nm,0.8s,baz=359,slow=8.6,SNR=1.6							
	comp=Z,0.3nm,0.8s							
QSPA	South Pole Qui	145.77	180	PKPbc		PKPdf	02 02 22.6	-0.7
	comp=Z,0.8nm,0.4s,baz=61,slow=0.4,SNR=3.9							

IDC 27 01:52:16.4±5.4, 2.63N×100.75E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=303.2km s-min=23.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.88	126	P	P	01 59 52.5	+0.2
	0.4nm,0.3s,baz=304,slow=9.0,SNR=6.9						
	0.4nm,0.3s						
ASAR	Alice Springs	41.53	131	P	P	02 00 05.4	-0.5
	0.3nm,0.9s,baz=306,slow=8.8,SNR=0.9						
	0.3nm,0.9s						
MKAR	Makanchi Array	46.83	343	P	P	02 00 48.5	+0.3
	0.4nm,0.3s,baz=160,slow=8.5,SNR=15						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	52.80	348	P	P	02 01 32.6	-0.8
	0.4nm,0.4s,baz=152,slow=6.7,SNR=3.6						
	0.4nm,0.4s						

AEIC 27 02:01:40.4±1.9, 55.7N±0.1×149.4W±0.1, h12km±8km, Error ellipse: s-maj=18.5km s-min=10.3km az=176.0
NEIC 27 02:01:34.5±1.4, 55.7N±0.1×149.2W±0.1, h10km±8km, ML3.0/20, ML3.3(AEIC), **Error ellipse: s-maj=19.1km s-min=9.9km az=175.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.71	305		Pn	02 02 18.0	-0.1
OHAK					Sn	02 02 49.1	-1.9
OHAK	Old Harbor	2.71	305	P	Pn	02 02 18.1	-0.1
	baz=122						
OHAK				S	Sn	02 02 48.7	-2.2
	baz=122						
KDAK	Kodiak Island	2.78	320		Pn	02 02 19.3	+0.3
KDAK	Kodiak Island	2.78	320		Sn	02 02 50.6	-2.0
KDAK	Kodiak Island	2.78	320	S	Sn	02 02 50.6	-1.9
	baz=137						
SII	Sitkinak Islan	2.90	289		Pn	02 02 20.7	-0.1
SII				IAML		02 03 33.9	
	comp=N,108nm,1.4s						
SII				IAML		02 03 58.4	
	comp=E,49nm,1.3s						
SII	Sitkinak Islan	2.90	289	P	Pn	02 02 20.7	0.0
	baz=105						
SYI	Shuyak Island	3.37	331		Pn	02 02 27.6	+0.4
SYI					Sn	02 03 06.3	-1.0
SYI				IAML		02 03 28.8	
	comp=N,26nm,1.4s						
SYI				IAML		02 04 23.1	
	comp=E,40nm,1.5s						
Q20K	Shuyak Island	3.38	331	P	Pn	02 02 28.0	+0.7
	baz=148						
Q20K				S	Sn	02 03 05.0	-2.4
	baz=148						
CNPM	China Poot	3.97	345		Pn	02 02 35.1	-0.3
CNPM					Sn	02 03 19.8	-2.3
CNPM				IAML		02 05 06.1	
	comp=N,16nm,1.5s						
Q19K	Cape Douglas,	4.01	325	Pn	Pn	02 02 36.8	+0.8
Q19K				IAML		02 03 40.7	
	comp=N,60nm,1.4s						
KAHG	Katmai Hook Gl	4.02	316		Sn	02 03 19.2	-4.2
BRSE	Bradley Lake S	4.12	349		Pn	02 02 37.4	-0.1
BRSE					Sn	02 03 23.4	-2.3
BRSE	Bradley Lake S	4.12	349	P	Pn	02 02 37.4	-0.1
	baz=168						
BRSE				S	Sn	02 03 23.4	-2.3
	baz=168						
BRLK	Bradley Lake	4.16	348		Pn	02 02 37.4	-0.6
BRLK					Sn	02 03 24.4	-2.2
BRLK				IAML		02 03 29.8	
	comp=N,12nm,1.2s						
BRLK				IAML		02 04 00.1	
	comp=E,15nm,1.5s						
KAHC	Katmai Hardscr	4.30	315		Pn	02 02 41.2	+1.1
Q18K	Katmai Hardscr	4.30	315	P	Pn	02 02 41.2	+1.1
	baz=131						
CNTC	Contact Creek	4.45	308		Pn	02 02 43.1	+1.0
Q17K	Contact Creek	4.45	308	P	Pn	02 02 43.1	+1.0
	baz=122						
P19K	Oil Pt	4.49	333	Pn	Pn	02 02 42.8	+0.1
P18K	Big Mountain,	4.90	321		Pn	02 02 48.5	+0.2
P18K				IAML		02 03 54.0	
	comp=N,6.7nm,1.5s						
P18K	Big Mountain,	4.90	321	P	Pn	02 02 48.4	+0.2
	baz=136						
KAIM	Kayak Island	4.94	29	Pn	Pn	02 02 48.6	-0.2
BERG	Berg Lake	5.53	30		Pn	02 02 56.9	+0.1
SNH	Sunshine Point	5.62	35	Pn	Pn	02 02 57.4	-0.7
P16K	Nushagak River	5.79	309		Pn	02 03 01.0	+0.6
P16K	Nushagak River	5.79	309	P	Pn	02 03 01.0	+0.6
	baz=121						
N19K	Bonanza Creek	5.81	334		Pn	02 03 00.5	-0.3
N19K	Bonanza Creek	5.81	334	P	Pn	02 03 00.7	-0.2
	baz=149						
BARK	Barkley Ridge	5.90	34		Pn	02 03 02.4	+0.3
KLU	Klutina	6.04	15	Pn	Pn	02 03 05.2	+1.2
GHO	Glory Hole Cre	6.08	1	Pn	Pn	02 03 05.5	+1.0
VRDI	Verde Repeater	6.30	26	Pn	Pn	02 03 07.3	-0.2
KIAG	Kiagna River	6.35	32		Pn	02 03 08.6	+0.3
N25K	Chitina, Valde	6.38	20	Pn	Pn	02 03 09.0	+0.4
GLB	Gilahina Butte	6.40	24	Pn	Pn	02 03 08.3	-0.5
PCA	Pinnacle	6.49	44		Pn	02 03 10.7	+0.6
PINM	Pinnacle	6.49	44	P	Pn	02 03 10.8	+0.8
	baz=231						
MCARA	McCarthy VSAT	6.54	27	Pn	Pn	02 03 11.3	+0.6
PNL	Peninsula	6.59	49		Pn	02 03 11.9	+0.5
PNL	Peninsula	6.59	49	P	Pn	02 03 11.9	+0.5
	baz=237						
BARN	Barnard Glacie	6.67	33		Pn	02 03 12.9	+0.2
LOGN	Logan Glacier	6.71	37		Pn	02 03 13.4	+0.3
O29M	Mount Kennedy	7.29	47		Pn	02 03 21.7	+0.7
O29M	Mount Kennedy	7.29	47	P	Pn	02 03 22.1	+1.0
	baz=236						
P29M	Windy Craggy	7.30	53		Pn	02 03 21.4	+0.3
P29M	Windy Craggy	7.30	53	P	Pn	02 03 21.7	+0.6
	baz=242						
S31K	Pelican	7.47	67	Pn	Pn	02 03 21.6	-1.8

AEIC 27 02:05:51.4±1.6, 56.0N±0.1×149.8W±0.1, h10km±8km, Error ellipse: s-maj=15.0km s-min=9.0km az=169.0
NEIC 27 02:05:46.7±2.1, 56.0N±0.1×149.84W±0.08, h9km±6km, ML3.0/20, ML2.8(AEIC), **Error ellipse: s-maj=15.9km s-min=6.1km az=176.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.29	305		Pn	02 06 24.3	-0.2
OHAK					Sn	02 06 49.3	-3.5
KDAK	Kodiak Island	2.37	322		Pn	02 06 25.5	-0.1
KDAK	Kodiak Island	2.37	322		Sn	02 06 51.9	-2.9
SII	Sitkinak Islan	2.50	286		Pn	02 06 27.8	+0.3
SII				IAML		02 06 48.6	
	comp=E,44nm,1.3s						
SII				IAML		02 06 54.9	
	comp=N,113nm,1.4s						
SII					Sn	02 06 56.1	-2.0
SYI	Shuyak Island	2.99	333		Pn	02 06 33.9	-0.3
SYI					Sn	02 07 07.3	-2.9
SYI				IAML		02 07 09.5	
	comp=E,36nm,1.5s						
SYI				IAML		02 07 21.0	
	comp=N,41nm,1.2s						
Q19K	Cape Douglas,	3.61	327	Pn	Pn	02 06 43.5	+0.6
CNPM	China Poot	3.65	349		Pn	02 06 42.6	-0.7
CNPM					Sn	02 07 22.6	-3.8
CNPM				IAML

VADS			eS	Sn	02 16 33.9	-3.0
VADS			eS	Sn	02 16 33.9	-3.0
VADS			IAML		02 16 40.9	
	comp=Z,6.4nm,0.8s					
VADS			IAML		02 16 40.9	
	comp=Z,6.4nm,0.8s					
VADS	**Vadso**	**8.76 258**	*eP*	**Pn**	**02 15 02.6**	**+4.2**
VADS			eS	Sn	02 16 34.0	-3.0
LVZ	**Lovozero**	**8.90 239**	*eP*	**Pn**	**02 15 02.5**	**+2.0**
LVZ			eS	Sn	02 16 36.2	-4.5
APA	**Apatity**	**9.46 240**	eS	Sn	02 16 54.6	+0.3
APA0	**Apatity Array**	**9.54 241**	*eP*	**Pn**	**02 15 09.3**	**+0.2**
APA0			eS	Sn	02 16 52.8	-3.3
KEV	**Kevo**	**9.63 259**	Pn	**Pn**	**02 15 13.4**	**+3.1**
KEV			Sn	Sn	02 16 55.5	-2.8
KEV	**Kevo**	**9.63 259**	*eP*	**Pn**	**02 15 12.6**	**+2.3**
KEV			eP	Pn	02 15 12.6	+2.3
KEV			eS	Sn	02 16 57.2	-1.1
KEV			eS	Sn	02 16 57.2	-1.1
KEV	**Kevo**	**9.63 259**	*eP*	**Pn**	**02 15 12.8**	**+2.5**
KEV			MPN		02 15 14.9	
	comp=Z,1.2nm,0.1s					
KEV			eS	Sn	02 16 55.2	-3.1
KMNF	**Kaamanen**	**10.01 257**	*eP*	**Pn**	**02 15 18.4**	**+2.8**
KMNF			eS	Sn	02 17 05.0	-2.8
HAMF	**Hammerfest**	**10.05 268**	Pn	**Pn**	**02 15 19.0**	**+3.0**
HAMF			Sn	Sn	02 17 05.8	-2.7
HAMF	**Hammerfest**	**10.05 268**	*eP*	**Pn**	**02 15 19.4**	**+3.4**
HAMF			eP	Pn	02 15 19.4	+3.4
HAMF			*e*		02 15 21.6	
HAMF			*e*		02 15 21.6	
HAMF			eS	Sn	02 17 05.9	-2.7
HAMF			eS	Sn	02 17 05.9	-2.7
HAMF			IAML		02 17 12.4	
	comp=Z,7.0nm,1.0s					
HAMF			IAML		02 17 12.4	
	comp=Z,7.0nm,1.0s					
HAMF	**Hammerfest**	**10.05 268**	*eP*	**Pn**	**02 15 18.8**	**+2.7**
HAMF			eS	Sn	02 17 05.2	-3.4
RAJF	**Raja-Jooseppi**	**10.11 252**	*eP*	**Pn**	**02 15 18.6**	**+1.7**
RAJF			eS	Sn	02 17 06.4	-3.7
ARA0	**ARCESS Array S**	**10.18 260**	Pn	**Pn**	**02 15 19.9**	**+2.0**
	baz=51,slow=14					
ARA0			Sn	Sn	02 17 10.2	-1.6
	baz=63,slow=22					
ARA0	**ARCESS Array S**	**10.18 260**	*eP*	**Pn**	**02 15 19.9**	**+2.0**
ARA0			eP	Pn	02 15 19.9	+2.0
ARA0			Pn	Pn	02 15 19.9	+2.0
	baz=51,slow=14					
ARA0			eS	Sn	02 17 09.8	-2.1
ARA0			eS	Sn	02 17 09.8	-2.1
ARA0			Sn	Sn	02 17 10.2	-1.6
	baz=63,slow=22					
ARA0			IAML		02 17 16.9	
	comp=Z,3.6nm,0.8s					
ARA0			IAML		02 17 16.9	
	comp=Z,3.6nm,0.8s					
ARA0	**ARCESS Array S**	**10.18 260**	*eP*	**Pn**	**02 15 19.9**	**+2.0**
ARA0			eS	Sn	02 17 09.0	-2.9
ARCES	**ARCESS Array B**	**10.18 260**	*eP*	**Pn**	**02 15 19.9**	**+2.0**
ARCES			eS	Sn	02 17 07.0	-4.9
ARCES	**ARCESS Array B**	**10.18 260**	Pn	**Pn**	**02 15 20.1**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=49,slow=12,SNR=32					
ARCES			Sn	Sn	02 17 09.7	-2.1
	comp=Z,0.2nm,0.3s,baz=53,slow=32,SNR=1.7					
	comp=Z,0.7nm,0.3s					
SPA0	**Spitsbergen Ar**	**10.21 313**	Pn	**Pn**	**02 15 20.4**	**+2.1**
	baz=112,slow=16					
SPA0			Sn	Sn	02 17 08.6	-4.0
	baz=102,slow=28					
SPA0	**Spitsbergen Ar**	**10.21 313**	*eP*	**Pn**	**02 15 20.3**	**+2.1**
SPA0			Pn	Pn	02 15 20.4	+2.1
	baz=112,slow=16					
SPA0			eS	Sn	02 17 07.4	-5.1
SPA0			Sn	Sn	02 17 08.6	-4.0
	baz=102,slow=28					
SPA0			IAML		02 17 18.8	
	comp=Z,4.4nm,0.9s					
SPA0	**Spitsbergen Ar**	**10.21 313**	*eP*	**Pn**	**02 15 20.0**	**+1.7**
SPA0			eS	Sn	02 17 07.9	-4.7
SPITS	**Spitsbergen Ar**	**10.21 313**	P	**Pn**	**02 15 20.2**	**+2.0**
SPITS			S	Sn	02 17 07.3	-5.3
SPITS	**Spitsbergen Ar**	**10.21 313**	Pn	**Pn**	**02 15 20.1**	**+1.8**
	comp=Z,2.0nm,0.3s,baz=102,slow=15,SNR=96					
SPITS			Sn	Sn	02 17 08.3	-4.2
	baz=76,slow=24					
VRF	**Varrio**	**10.28 247**	*eP*	**Pn**	**02 15 21.4**	**+2.1**
VRF			MPN		02 15 22.6	
	comp=Z,0.8nm,0.1s					
VRF			eS	Sn	02 17 09.1	-5.4
HSPB	**Hornsund (broa**	**10.36 307**	P	Pn	02 15 28.3	+8.1
HSPB			S	Sn	02 17 25.7	+10
BRBA	**Barentsburg A**	**10.65 312**	*eP*	**Pn**	**02 15 26.4**	**+2.2**
BRBA			eP	Pn	02 15 26.4	+2.2
BRBA			eS	Sn	02 17 18.6	-4.6
BRBA			eS	Sn	02 17 18.6	-4.6
BRBB	**Barentsburg B**	**10.65 313**	P	**Pn**	**02 15 26.3**	**+2.0**
BRBB			S	Sn	02 17 19.6	-3.7
BRBB	**Barentsburg B**	**10.65 313**	*eP*	**Pn**	**02 15 26.2**	**+2.0**
BRBB			eP	Pn	02 15 26.2	+2.0
NRIK	**Noril'sk**	**11.04 97**	Sn	Sn	02 17 22.8	-10
	comp=Z,0.3nm,0.3s,baz=47,slow=21,SNR=1.8					
KTK1	**Kautokeino**	**11.14 261**	Pn	**Pn**	**02 15 32.3**	**+1.3**
KTK1	**Kautokeino**	**11.14 261**	*eP*	**Pn**	**02 15 32.4**	**+1.4**
KTK1			eP	Pn	02 15 32.4	+1.4
KTK1			eS	Sn	02 17 32.0	-3.3
KTK1			eS	Sn	02 17 32.0	-3.3
KTK1			IAML		02 17 56.6	
	comp=Z,2.2nm,1.1s					
KTK1			IAML		02 17 56.6	
	comp=Z,2.2nm,1.1s					
KBS	**Kingsbay**	**11.16 317**	P	**Pn**	**02 15 33.5**	**+2.3**
KBS			S	Sn	02 17 32.2	-3.5
KBS	**Kingsbay**	**11.16 317**	*eP*	**Pn**	**02 15 32.4**	**+1.2**
KBS			eP	Pn	02 15 32.4	+1.2
KBS	**Kingsbay**	**11.16 317**	*eP*	**Pn**	**02 15 31.6**	**+0.4**
KBS			S	Sn	02 17 27.3	-8.4
HEF	**Hetta**	**11.42 258**	Pn	**Pn**	**02 15 35.8**	**+1.0**
HEF	**Hetta**	**11.42 258**	*eP*	**Pn**	**02 15 36.1**	**+1.4**
HEF			eP	Pn	02 15 36.1	+1.4
HEF			eS	Sn	02 17 38.8	-3.4
HEF			eS	Sn	02 17 38.8	-3.4
HEF	**Hetta**	**11.42 258**	*eP*	**Pn**	**02 15 35.9**	**+1.2**
HEF			MPN		02 15 38.5	
	comp=Z,1.0nm,0.2s					
HEF			eS	Sn	02 17 37.7	-4.5
OLKF	**Oulanka, Finla**	**11.43 243**	*eP*	**Pn**	**02 15 36.4**	**+1.5**
OLKF			MPN		02 15 39.3	
	comp=Z,0.4nm,0.2s					
OLKF			eS	Sn	02 17 37.2	-5.2
KU6	**Riekki**	**11.54 241**	*eP*	**Pn**	**02 15 38.0**	**+1.5**
KU6			MPN		02 15 43.3	
	comp=Z,1.3nm,0.1s					
KU6			eS	Sn	02 17 41.1	-4.1
JETT	**Jettan, Norway**	**11.59 266**	Pn	**Pn**	**02 15 39.9**	**+2.7**
JETT			Sn	Sn	02 17 45.2	-1.2
JETT	**Jettan, Norway**	**11.59 266**	Pn	**Pn**	**02 15 39.9**	**+2.7**
JETT			eP	Pn	02 15 40.0	+2.7
JETT			eS	Sn	02 17 43.1	-3.3
JETT			Sn	Sn	02 17 45.2	-1.2
JETT			IAML		02 17 48.8	
	comp=Z,4.5nm,0.4s					
SVZ	**Severnaya Zeml**	**11.79 42**	*eP*	**Pn**	**02 15 41.6**	**+1.8**
	comp=Z,28nm,4.1s					
SVZ			S	Sn	02 17 46.9	-4.3
KIF	**Kilpisjarvi**	**11.82 264**	Pn	**Pn**	**02 15 41.5**	**+1.3**
KIF			Sn	Sn	02 17 49.8	-2.2
KIF	**Kilpisjarvi**	**11.82 264**	*eP*	**Pn**	**02 15 41.3**	**+1.1**
KIF			eP	Pn	02 15 41.3	+1.1
KIF	**Kilpisjarvi**	**11.82 264**	*eP*	**Pn**	**02 15 41.1**	**+0.8**
KIF			MPN		02 15 42.3	
	comp=Z,0.5nm,0.2s					
MSF	**Maaselka**	**11.84 242**	*eP*	**Pn**	**02 15 42.7**	**+2.1**
TRQ	**Tromso**	**11.96 268**	*eP*	**Pn**	**02 15 43.7**	**+1.6**
TRQ			eP	Pn	02 15 43.7	+1.6
PRGR	**Permogore**	**12.68 201**	S	**Sn**	**02 18 09.7**	**-3.3**
RMF	**Romuvaara**	**13.03 236**	*eP*	**Pn**	**02 15 55.5**	**-1.3**
RMF			MPN		02 15 57.1	
	comp=Z,0.3nm,0.2s					
JOF	**Joensuu**	**13.84 231**	*eP*	**Pn**	**02 16 06.0**	**-1.8**
JOF			MPN		02 16 08.6	
	comp=Z,0.5nm,0.2s					
STEI	**Steigen**	**14.08 266**	*eP*	**Pn**	**02 16 11.4**	**+0.3**
STEI			*eP*	**Pn**	**02 16 11.4**	**+0.3**
KLMR	**Klimovskoe**	**14.21 213**	*eP*	**Pn**	**02 16 11.4**	**-1.5**
	comp=Z,38nm,3.0s					
KLMR			eS	Sn	02 18 39.6	-11
FAUS	**Fauske**	**14.44 264**	*eP*	**Pn**	**02 16 18.0**	**+1.9**
FAUS			eP	Pn	02 16 18.0	+1.9
FAUS	**Fauske**	**14.44 264**	*eP*	**Pn**	**02 16 18.2**	**+2.2**
FAUS			eS	Sn	02 18 47.9	-8.1
KIRV	**Kirov**	**15.40 191**	Pn	**Pn**	**02 16 26.2**	**-2.7**
	comp=Z,6.2nm,0.6s,baz=353,slow=17,SNR=3.6					
FIA0	**FINESS Array S**	**16.32 236**	P	**P**	**02 16 46.5**	**+2.8**
	baz=28,slow=12					
FIA0	**FINESS Array S**	**16.32 236**	P	**P**	**02 16 46.5**	**+2.8**
	baz=28,slow=12					
FINES	**FINESS Array B**	**16.32 236**	*eP*	**P**	**02 16 46.9**	**+3.1**
FINES	**FINESS Array B**	**16.32 236**	Pn	**Pn**	**02 16 39.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=1.3					
	comp=Z,0.8nm,0.7s					
NB2	**NORSAR Subarra**	**20.48 255**	P	Pn	02 17 33.9	+2.3
	baz=31,slow=10					
NB2	**NORSAR Subarra**	**20.48 255**	P	Pn	02 17 33.9	+2.3
	baz=31,slow=10					
NOA	**NORSAR Array B**	**20.48 255**	*i* P	Pn	02 17 33.9	+2.3
NOA	**NORSAR Array B**	**20.48 255**	P	**P**	**02 17 32.6**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=27,slow=9.2,SNR=4.8					
	comp=Z,0.2nm,0.5s					
HFS	**Hagfors**	**20.57 251**	P	Pn	02 17 34.3	+1.7
	baz=38,slow=10					
HFS	**Hagfors**	**20.57 251**	P	Pn	02 17 34.3	+1.7
	baz=38,slow=10					
HFS	**Hagfors**	**20.57 251**	P	Pn	02 17 34.3	+1.7
	comp=Z,1.3nm,0.3s,baz=35,slow=9.0,SNR=18					
	comp=Z,1.3nm,0.3s					
NORES	**NORESS Array B**	**20.64 254**	*eP*	Pn	02 17 35.7	+2.3
NRA0	**NORESS Array S**	**20.64 254**	P	**P**	**02 17 35.1**	**+3.9**
	baz=32,slow=8.6					
NRA0	**NORESS Array S**	**20.64 254**	P	**P**	**02 17 35.1**	**+3.9**
	baz=32,slow=8.6					
BVAR	**Borovoye Array**	**21.75 155**	P	**P**	**02 17 44.9**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=340,slow=11,SNR=3.8					
	comp=Z,0.9nm,0.6s					

NNC ***27*** *02:15:52.8±2.6, 41.77N×83.52E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=18.1km s-min=13.6km az=151.0*
SOME ***27*** *02:15:52.4, 41.92N×83.52E, h0km*

ISC 27 02:15:51.4±2.5, 41.7N±0.1×83.49E±0.09, h10km, n33, σ2s48/41, 11C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.93**	**309**	Pg	**Pg**	**02 16 47.3**	**-0.3**
	23nm,0.4s						
KTMS				Lg	Lg	02 17 26.6	
	28nm,0.5s						
SHLS	**Shalkode**	**3.34**	**298**	Pg	**Pb**	**02 16 48.7**	**-2.1**
	46nm,0.6s						
SHLS				Lg	Lg	02 17 31.0	
	64nm,0.4s						
PDGK	**Podgornoye**	**3.40**	**301**	Pg	**Pb**	**02 16 54.1**	**+2.3**
	11nm,0.7s						
PDGK				Lg	Lg	02 17 38.3	
	26nm,0.5s						
PDGK	**Podgornoye**	**3.40**	**301**	⇑Pg	**Pb**	**02 16 54.9**	**+3.1**
	15nm,0.7s						
PDGK				⇑Sn	**Sn**	**02 17 27.7**	**+2.6**
	17nm,0.5s						
PDGK				⇓Lg	Lg	02 17 40.4	
	30nm,0.5s						
UZB	**Uzynbulak**	**3.63**	**296**	Pg	**Pg**	**02 17 00.8**	**-0.1**
	11nm,0.5s						
UZB				Lg	Lg	02 17 49.9	
	34nm,0.5s						
UZB	**Uzynbulak**	**3.63**	**296**	*eP*	**Pb**	**02 16 59.2**	**+3.5**
	7.4nm,0.2s						
UZB				eS	**Sg**	**02 17 46.7**	**-1.3**
	26nm,0.2s						
DJR	**Jarkent**	**3.82**	**316**	Pg	**Pb**	**02 16 59.4**	**+0.5**
	11nm,0.5s						
DJR				Lg	Lg	02 17 47.5	
	25nm,0.8s						
DJR	**Jarkent**	**3.82**	**316**	*eP*	**Pb**	**02 17 00.3**	**+1.5**
	9.2nm,0.2s						
DJR				eS	**Sb**	**02 17 48.6**	**+3.5**
	7.9nm,0.4s						
KPKS	**Kokpek**	**3.99**	**299**	Pg	**Pg**	**02 17 05.8**	**-2.0**
	16nm,0.3s						
KPKS				Lg	Lg	02 17 58.6	
	42nm,0.4s						
KPKS	**Kokpek**	**3.99**	**299**	*eP*	**Pg**	**02 17 05.8**	**-2.0**
	16nm,0.3s						
KPKS				eS	**Sg**	**02 17 58.0**	**-1.4**
	42nm,0.4s						
SATY	**Saty**	**4.02**	**292**	Pg	**Pg**	**02 17 08.2**	**-0.2**
	14nm,0.5s						
SATY				Lg	Lg	02 18 02.5	
	27nm,0.5s						
SATY	**Saty**	**4.02**	**292**	*eP*	**Pg**	**02 17 07.0**	**-1.4**
	8.1nm,0.2s						
SATY				eS	**Sg**	**02 18 00.2**	**-0.3**
	42nm,0.2s						
ZHN	**Zhinishke**	**4.04**	**294**	Pg	**Pb**	**02 17 06.6**	**+3.9**
	11nm,0.6s						
ZHN				Lg	Lg	02 17 59.9	
	39nm,0.3s						
ZHN	**Zhinishke**	**4.04**	**294**	*eP*	**Pb**	**02 17 06.4**	**+3.8**
	9.7nm,0.3s						
ZHN				eS	**Sg**	**02 17 59.1**	**-2.0**
	38nm,0.2s						
KNOS	**Konyrlen**	**4.16**	**312**	Pg	**Pb**	**02 17 06.5**	**+1.7**
	23nm,0.5s						
KNOS				Lg	Lg	02 17 59.4	
	9.0nm,0.4s						
BLB	**Balybastay**	**4.42**	**305**	Pg	**Pg**	**02 17 14.7**	**-1.4**
	17nm,0.5s						
KAPS	**Kapalarasan**	**4.72**	**322**	Pg	**Pb**	**02 17 12.6**	**-1.6**
	9.4nm,0.5s						
KAPS				Lg	Lg	02 18 09.8	
	8.7nm,0.6s						
KAPS	**Kapalarasan**	**4.72**	**322**	*eP*	**Pb**	**02 17 15.5**	**+1.3**
	5.2nm,0.2s						
KAPS				eS	**Sb**	**02 18 14.8**	**+3.7**
	11nm,0.3s						
ARXS	**Arharly**	**4.88**	**304**	Pg	**Pb**	**02 17 19.9**	**+2.9**
	11nm,0.8s						
ARXS				Lg	Lg	02 18 23.1	
	14nm,0.6s						
ARXS	**Arharly**	**4.88**	**304**	*eP*	**Pb**	**02 17 20.1**	**+3.1**
	4.6nm,0.4s						
ARXS				eS	**Sg**	**02 18 22.7**	**-5.5**
	9.5nm,0.3s						
KOTS	**Kotyrbulak**	**4.98**	**291**	Pg	**Pg**	**02 17 24.5**	**-2.2**
	19nm,0.6s						
KOTS				Lg	Lg	02 18 30.2	
	32nm,0.7s						
KOTS	**Kotyrbulak**	**4.98**	**291**	*eP*	**Pg**	**02 17 24.7**	**-2.0**
	13nm,0.3s						
KOTS				eS	**Sg**	**02 18 30.4**	**-0.8**
	44nm,0.3s						
MK31	**Makanchi Array**	**5.22**	**351**	⇓Pn	**Pn**	**02 17 06.9**	**-2.6**
	0.4nm,0.5s,baz=195,slow=14,SNR=5.1						
MK31				⇓Pg	**Pb**	**02 17 26.3**	**+3.6**
	1.4nm,0.5s,baz=169,slow=16,SNR=9.2						
MK31				⇑Sn	**Sn**	**02 18 11.1**	**+1.4**
	3.4nm,0.5s,baz=156,slow=26,SNR=4.9						
MK31				⇑Lg	Lg	02 18 40.8	
	19nm,0.6s,baz=167,slow=28,SNR=3.7						
CHKK	**Chushkaly**	**5.27**	**297**	Pg	**Pg**	**02 17 30.0**	**-2.3**
	5.0nm,0.5s						
CHKK				Lg	Lg	02 18 40.4	
	8.4nm,0.4s						
MAKZ	**Makanchi**	**5.27**	**349**	⇑Sn	**Sn**	**02 18 11.5**	**+0.4**
	4.3nm,0.6s						
MAKZ				⇓Lg	Lg	02 18 40.7	
	16nm,0.8s						
KTBS	**Karatobe**	**5.42**	**295**	Pg	Pb	02 17 31.6	+5.4
	6.9nm,1.0s						
KTBS				Lg	Lg	02 18 42.6	
	16nm,0.6s						
KTBS	**Karatobe**	**5.42**	**295**	*eP*	**Pg**	**02 17 31.9**	**-3.3**
	6.9nm,1.0s						
KTBS				eS	**Sg**	**02 18 43.0**	**-2.5**
	16nm,0.3s						
DGS	**Degeres**	**5.93**	**288**	Pg	**Pg**	**02 17 45.7**	**+0.8**
	6.0nm,0.5s						
TKM2	**Tokmak 2**	**5.99**	**285**	⇑Pn	**Pn**	**02 17 17.6**	**-2.6**
	1.7nm,0.3s						
TKM2				⇑Sn	**Sn**	**02 18 30.4**	**+1.4**
	13nm,0.8s						
TKM2				⇑Lg	Lg	02 19 01.5	
	18nm,0.7s						
KRBS	**Karabastau**	**6.11**	**292**	Pg	Pb	02 17 43.2	+5.3
	1.6nm,0.4s						
KRBS				Lg	Lg	02 19 02.4	
	5.4nm,0.5s						
KURBB	**Kurchatov Arra**	**9.61**	**341**	⇑Sn	Sn	02 20 11.3	+14
	4.6nm,0.6s						
KURBB				⇑Lg	Lg	02 21 03.3	
	13nm,0.8s						
KURK	**Kurchatov**	**9.68**	**341**	⇓Sn	Sn	02 20 12.2	+13
	2.0nm,0.6s						
KURK				⇑Lg	Lg	02 21 05.5	
	7.0nm,0.8s						
OTUK	**Ortayu**	**10.29**	**314**	⇓Lg	Lg	02 21 18.8	
	2.8nm,0.8s						

IDC 27 02:23:58.5±5.9, 39.04N×110.94E, h0km, mb3.5/2, mbtmp3.6/3, ML2.8/1, MS4.3/1, Error ellipse: s-maj=121.1km s-min=25.5km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.39**	**341**	Pn	Pn	02 26 16.3	+1.1
	0.1nm,0.3s,baz=160,slow=13,SNR=5.9						
SONM				Lg	Lg	02 28 56.4	
	0.1nm,0.3s,baz=154,slow=27,SNR=2.5						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**22.28**	**300**	P	P	02 28 56.8	-0.4
	1.0nm,1.1s,baz=81,slow=8.9,SNR=4.9						
	1.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**23.00**	**210**	P	P	02 29 05.0	0.0
	1.4nm,0.3s,baz=18,slow=9.4,SNR=11						
	1.4nm,0.3s						
JCJ	**Chichijima**	**28.63**	**105**	LR	LR	02 39 16.5	
	comp=Z,640nm,22.0s,baz=114,slow=32						

BJI ***27*** *02:23:55.0±0.0, 3.58S×146.42E, h21km, mb4.8/65, mB5.4/33, Ms5.1/52, Ms7 4.8/54*
MOS ***27*** *02:23:56.7±0.9, 3.37S×145.79E, h13km, mb5.1/27, Error ellipse: s-maj=12.0km s-min=6.1km az=101.6*
IDC ***27*** *02:23:56.4±0.6, 3.38S×146.08E, h0km, mb4.5/23, mbtmp4.6/25, ML3.5/2, MS4.5/46, Error ellipse: s-maj=26.2km s-min=11.7km az=89.0*
NEIC ***27*** *02:23:57.8, 3.18S×146.19E, h16km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr=0.01; Mθθ=0.22; Mϕϕ=0.23; Mrθ=0.70; Mθϕ=1.08; Mϕr=0.25; Fault plane solution: M0 1.32000×10^17 NP1: ϕs=264.36000°, δ86.69000°, λ32.66000°. NP2: ϕs=172.24000°, δ57.40000°, λ176.08000°. Principal axes: T 1.4017, Plg25.0000°, Azm133.0000°; N -0.1644, Plg57.0000°, Azm270.0000°; P -1.2373, Plg20.0000°, Azm34.0000°;*
NEIC ***27*** *02:23:57.9±1.4, 3.29S±0.07×145.98E±0.08, h10km±1km, mb5.1/80, Mww5.3/17 Error ellipse: s-maj=14.8km s-min=10.2km az=115.0*
NEIC ***27*** *02:23:57.8, 3.28S×145.99E, h16km*
DJA ***27*** *02:23:58.5±0.3, 3.3°S±3°×14°6E±°, h10km, M5.0/28, mb5.1/28, mB5.6/14, MLv5.0/2, Mw(mB)5.1/14, MwMwp5.0/1, Mwp5.3/1*
GCMT ***27*** *02:24:00.9±0.1, 3.33S±0.01×145.96E±0.01, h13km, MW5.3/143, Moment Tensor Solution. s74, c102; s143, c261; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.12±.02; Mθθ-0.19±.02; Mϕϕ0.31±.02; Mrθ0.04±.05; Mθϕ1.09±.02; Mϕr-0.01±.05; Best double couple: M0 1.11900×10^17 NP1:ϕs=264.00000°, δ89.00000°, λ-2.00000°. NP2:ϕs=354.00000°, δ88.00000°, λ-179.00000°. Principal axes: T 1.1780, Plg1.0000°, Azm309.0000°; N -0.1190, Plg88.0000°, Azm53.0000°; P -1.0600, Plg2.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 02:23:59.9±0.3, 3.43S±0.04×146.07E±0.05, h25km, n369, σ1s83/359, mb5.0/102, MS4.7/65, 5C-5D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.89**	**43**	Pn	**Pn**	**02 24 27.7**	**-2.9**
KAVG	**Kavieng**	**4.80**	**80**	P	Pb	02 25 20.3	-3.0
GENI	**Genyem**	**5.96**	**278**	P	**Pn**	**02 25 26.1**	**-0.5**
GENI	**Genyem**	**5.96**	**278**	P	**Pn**	**02 25 26.0**	**-0.5**
	186nm,0.9s,5μm8μm1.1nm						
PMG	**Port Moresby**	**6.03**	**170**	Pn	**Pn**	**02 25 27.6**	**+0.1**
PMG	**Port Moresby**	**6.03**	**170**	Pn	**Pn**	**02 25 28.7**	**+1.2**
	9.3nm,0.3s,baz=359,slow=6.2,SNR=29						
PMG				Sn	**Sn**	**02 26 36.4**	**+0.6**
	baz=296,slow=8.6						
	121nm,0.8s						
RABL	**Rabaul**	**6.12**	**97**	Pn	**Pn**	**02 25 28.7**	**-0.1**
COEN	**Coen**	**10.84**	**195**	P	**Pn**	**02 26 34.4**	**+0.8**
	baz=11						
COEN	**Coen**	**10.84**	**195**	Pn	**Pn**	**02 26 34.8**	**+1.2**
COEN	**Coen**	**10.84**	**195**	P	**Pn**	**02 26 35.9**	**+2.3**
MTSU	**Mount Surprise**	**14.71**	**187**	P	**Pn**	**02 27 28.9**	**+2.4**
	baz=15,SNR=9.4						
MTSU	**Mount Surprise**	**14.71**	**187**	P	**Pn**	**02 27 29.5**	**+3.0**
HNR	**Honiara**	**15.01**	**114**	LR	LR	02 33 26.5	
	comp=Z,31μm,18.2s,baz=293,slow=38						
SIJI	**Sorong**	**15.01**	**279**	P	**Pn**	**02 27 30.6**	**0.0**
	37nm,1.1s						
SWI	**Sorong**	**15.02**	**279**	P	**Pn**	**02 27 30.9**	**+0.2**
	73nm,1.2s,2μm						
TV1H	**Townsville Har**	**15.75**	**177**	P	**P**	**02 27 43.1**	**-0.8**
KDU	**Kakadu**	**16.30**	**235**	P	**Pn**	**02 27 44.9**	**-2.3**
	baz=16,SNR=13						
KDU	**Kakadu**	**16.30**	**235**	P	**Pn**	**02 27 44.4**	**-2.8**
CTA	**Charters Tower**	**16.55**	**179**	P	**P**	**02 27 53.1**	**+0.2**
CTA	**Charters Tower**	**16.55**	**179**	Pn	**P**	**02 27 52.6**	**-0.3**
	0.8nm,0.3s,baz=347,slow=12,SNR=14						
CTA				LR	LR	02 34 31.1	
	comp=Z,3μm,18.4s,baz=2.5,slow=38						
	32nm,1.0s						
CTAO	**Charters Tower**	**16.55**	**179**		**Pn**	**02 27 50.9**	**+0.4**
CTAO	**Charters Tower**	**16.55**	**179**	P	**P**	**02 27 53.2**	**+0.3**
CTAO	**Charters Tower**	**16.55**	**179**	P	**Pn**	**02 27 50.9**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,109nm,1.3s						
GUMO	**Guam**	**16.95**	**356**	LR	LR	02 33 45.6	
	comp=Z,613nm,18.3s,baz=174,slow=35						
MTN	**Manton Dam**	**17.48**	**237**	P	**Pn**	**02 28 00.4**	**-1.8**
	baz=17,SNR=4.0						
MTN	**Manton Dam**	**17.48**	**237**		**Pn**	**02 28 00.5**	**-1.6**
MTN				IAmb

DAV	**Davao City (W)**	**22.96 297**	LR	LR	02 37 40.8			
	comp=Z,545nm,19.2s,baz=104,slow=36							
QLP	**Quilpie**	**23.09 184**	P	**P**	**02 29 04.2 +0.4**			
	baz=23,SNR=16							
QLP	**Quilpie**	**23.09 184**	P	**P**	**02 29 04.5 +0.7**			
AS01	**Alice Springs**	**23.28 209**	P	**P**	**02 29 05.9 +0.1**			
AS31	**Alice Springs**	**23.30 209**	P	**P**	**02 29 05.3 -0.7**			
ASAR	**Alice Springs**	**23.30 209**	P	**P**	**02 29 05.3 -0.8**			
ASAR	**Alice Springs**	**23.30 209**	P	**P**	**02 29 05.5 -0.5**			
	comp=Z,48nm,1.0s,baz=38,slow=8.1,SNR=132							
ASAR			S	**S**	**02 33 15.9 -1.4**			
	comp=Z,5.7nm,1.0s,baz=27,slow=20,SNR=5.6							
ASAR			LR	LR	02 39 24.7			
	comp=Z,2µm,18.8s,baz=39,slow=40							
	comp=Z,48nm,1.0s							
LUWI	**Luwuk**	**23.40 275**		**P**	**02 29 06.5 -0.7**			
LUWI	**Luwuk**	**23.40 275**	P	**P**	**02 29 07.6 +0.4**			
LUWI	**Luwuk**	**23.40 275**	P	**P**	**02 29 08.7 +1.5**			
	comp=Z,161nm,1.4s,comp=Z,4µm							
BBSI	**Bau Bau**	**23.52 264**	P	**P**	**02 29 09.7 +1.4**			
	comp=Z,83nm,1.1s,comp=Z,2µm							
KOUNC	**Koumac, New Ca**	**24.58 135**	P	**P**	**02 29 19.1 +1.0**			
INKA	**Innaminka**	**24.70 191**	P	**P**	**02 29 19.8 +0.7**			
FITZ	**Fitzroy Crossi**	**24.76 232**	P	**P**	**02 29 18.8 -1.0**			
	baz=24,SNR=22							
FITZ	**Fitzroy Crossi**	**24.76 232**	P	**P**	**02 29 18.3 -1.5**			
FITZ			IAmb	IAmb	02 29 21.5			
	comp=Z,35nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.76 232**	P	**P**	**02 29 18.5 -1.3**			
EDFI	**Ende, Flores**	**24.81 257**	P	**P**	**02 29 22.0 +1.6**			
	comp=Z,35nm,1.4s,comp=Z,737nm							
TOLI2	**Tolitoli**	**25.68 280**	P	**P**	**02 29 25.8 -2.4**			
TOLI2			IAmb	IAmb	02 29 41.6			
	comp=Z,40nm,1.1s							
TOLI2	**Tolitoli**	**25.68 280**	P	**P**	**02 29 29.0 +0.8**			
AULRC	**Lightning Ridg**	**25.92 176**	P	**P**	**02 29 30.8 +0.7**			
BKSI	**Bulukumba**	**25.94 265**	P	**P**	**02 29 31.4 +0.8**			
	comp=Z,43nm,1.3s							
OOD	**Oodnadatta**	**26.18 201**	P	**P**	**02 29 32.8 +0.3**			
BASI	**Baing, Sumba**	**26.18 254**	P	**P**	**02 29 33.9 +1.2**			
	comp=Z,313nm,1.1s							
TTSI	**Tana Toraja**	**26.22 270**	P	**P**	**02 29 34.6 +1.6**			
	comp=Z,107nm,1.6s,comp=Z,2µm							
KAPI	**Kappang**	**26.30 266**	P	**P**	**02 29 30.6 -3.2**			
KAPI			IAmb	IAmb	02 29 45.4			
	comp=Z,59nm,1.2s							
KAPI	**Kappang**	**26.30 266**	P	**P**	**02 29 30.6 -3.2**			
KAPI			pmax	pmax				
	comp=Z,59nm,1.3s							
KAPI	**Kappang**	**26.30 266**	LR	LR	02 41 30.3			
	comp=Z,550nm,20.9s,baz=86,slow=40							
MKS	**Makassar**	**26.59 265**	P	**P**	**02 29 38.2 +1.8**			
	comp=Z,64nm,0.7s							
NOUC	**Port Laguerre**	**27.01 135**	P	**P**	**02 29 43.4 +3.3**			
DZM	**Mont Dzumac**	**27.09 135**	P	**P**	**02 29 42.1 +1.1**			
DZM	**Mont Dzumac**	**27.09 135**	P	**P**	**02 29 44.2 +3.2**			
DZM	**Mont Dzumac**	**27.09 135**	*e*P	**P**	**02 29 43.0 +2.0**			
	comp=Z,181nm,1.4s							
DZM			*e*S	**S**	**02 34 18.5 +0.6**			
	comp=Z,977nm,25.4s							
DZM			*e*LR	LR	02 36 23.5			
	comp=Z,5µm,25.9s							
DZM	**Mont Dzumac**	**27.09 135**	LR	LR	02 39 02.4			
	comp=Z,3µm,19.8s,baz=312,slow=33							
PMSI	**Majene**	**27.11 269**	P	**P**	**02 29 42.4 +1.3**			
	comp=Z,68nm,0.9s							
ARMA	**Armidale**	**27.35 170**	P	**P**	**02 29 44.7 +1.5**			
	baz=27,SNR=6.9							
ARMA	**Armidale**	**27.35 170**	P	**P**	**02 29 43.2 0.0**			
ARMA	**Armidale**	**27.35 170**	P	**P**	**02 29 44.6 +1.5**			
YATNC	**Mamie plateau,**	**27.40 134**	P	**P**	**02 29 47.7 +4.1**			
WRKA	**Warakurna**	**27.46 217**	P	**P**	**02 29 43.8 -0.4**			
	baz=27,SNR=22							
WRKA	**Warakurna**	**27.46 217**	P	**P**	**02 29 43.8 -0.4**			
LCRK	**Leigh Creek**	**27.88 195**	P	**P**	**02 29 47.8 0.0**			
AUPHS	**Peel High Scho**	**27.89 171**	P	**P**	**02 29 49.2 +1.3**			
CMSA	**Cobar Meteorol**	**27.96 181**	P	**P**	**02 29 49.1 +0.7**			
	baz=28,SNR=5.2							
CMSA	**Cobar Meteorol**	**27.96 181**	P	**P**	**02 29 50.6 +2.1**			
STKA	**Stephens Creek**	**28.61 188**	P	**P**	**02 29 56.4 +2.1**			
	baz=29,SNR=13							
STKA	**Stephens Creek**	**28.61 188**	P	**P**	**02 29 54.5 +0.3**			
STKA	**Stephens Creek**	**28.61 188**	P	**P**	**02 29 57.1 +2.8**			
STKA	**Stephens Creek**	**28.61 188**	*e*P	**P**	**02 29 57.1 +2.8**			
STKA			pmax	pmax				
	comp=Z,11nm,0.9s							
STKA	**Stephens Creek**	**28.61 188**	P	**P**	**02 29 56.5 +2.2**			
	comp=Z,11nm,0.8s,baz=354,slow=8.5,SNR=14							
STKA			ScP	**ScP**	**02 36 39.7 -5.3**			
	comp=Z,0.8nm,0.7s,baz=47,slow=8.4,SNR=3.5							
STKA			LR	LR	02 41 46.1			
	comp=Z,2µm,18.1s,baz=6.7,slow=37							
	comp=Z,11nm,0.8s							
MULG	**Mulgathing**	**29.02 202**	P	**P**	**02 29 57.7 -0.3**			
TGY	**Tagaytay City**	**30.41 305**	LR	LR	02 40 18.3			
	comp=Z,750nm,20.4s,baz=118,slow=32							
HTT	**Hallett**	**30.58 192**	P	**P**	**02 30 11.8 0.0**			
	baz=31,SNR=6.8							
HTT	**Hallett**	**30.58 192**	P	**P**	**02 30 12.1 +0.3**			
BBOO	**Buckleboo**	**30.69 197**	P	**P**	**02 30 12.5 -0.3**			
	baz=31,SNR=9.2							
BBOO	**Buckleboo**	**30.69 197**	P	**P**	**02 30 12.0 -0.7**			
BBOO			IAmb	IAmb	02 30 13.6			
	comp=Z,50nm,1.4s							
BBOO	**Buckleboo**	**30.69 197**	P	**P**	**02 30 12.1 -0.7**			
YNG	**Young**	**30.78 176**	P	**P**	**02 30 14.4 +0.8**			
PSA00	**Pilbara Seismi**	**31.21 233**	P	**P**	**02 30 16.6 -0.9**			
PSA00	**Pilbara Seismi**	**31.21 233**	P	**P**	**02 30 17.3 -0.2**			
FORT	**Forrest**	**32.08 210**	P	**P**	**02 30 24.2 -0.8**			
FORT	**Forrest**	**32.08 210**	P	**P**	**02 30 26.3 +1.3**			
ARPS	**Mount Arapiles**	**33.40 186**	P	**P**	**02 30 38.0 +1.5**			
TOO	**Toolangi**	**33.98 181**	P	**P**	**02 30 41.4 -0.2**			
TOO			IAmb	IAmb	02 31 03.4			
	comp=Z,28nm,1.8s							
TOO	**Toolangi**	**33.98 181**	P	**P**	**02 30 41.4 -0.2**			
TOO			pmax	pmax				
	comp=Z,28nm,1.8s							
SBUM	**Sibu**	**34.34 279**	P	**P**	**02 30 43.0 -2.0**			
SBUM	**Sibu**	**34.34 279**	P	P	02 30 52.3 +7.3			
JOW	**Kunigami**	**34.66 331**	P	**P**	**02 30 45.0 -2.5**			
JOW	**Kunigami**	**34.66 331**	LR	LR	02 41 48.7			
	comp=Z,2µm,21.5s,baz=135,slow=31							
MEEK	**Meekatharra**	**34.98 226**	P	**P**	**02 30 49.6 -0.8**			
DGTI	**Dogotuki**	**35.47 113**	P	**P**	**02 30 56.0 +1.4**			
KMBL	**Kambalda**	**35.93 217**	P	**P**	**02 30 58.3 -0.2**			
	baz=36,SNR=4.9							
KMBL	**Kambalda**	**35.93 217**	P	**P**	**02 30 57.8 -0.7**			
KSM	**Kuching**	**36.08 277**	P	**P**	**02 30 57.8 -2.1**			
KSM			IAmb	IAmb	02 31 14.9			
	comp=Z,34nm,1.4s							
LKBA	**Tubou, Lakemba**	**37.38 116**	P	**P**	**02 31 12.7 +1.7**			
MORW	**Morawa**	**38.25 225**	P	**P**	**02 31 18.6 +0.4**			
	baz=38,SNR=4.9							
MORW	**Morawa**	**38.25 225**	P	**P**	**02 31 17.2 -1.0**			
MORW			IAmb	IAmb	02 31 18.9			
	comp=Z,60nm,1.3s							
MORW	**Morawa**	**38.25 225**	P	**P**	**02 31 17.5 -0.7**			
LEM	**Lembang**	**38.44 263**	LR	LR	02 48 32.2			
	comp=Z,284nm,21.1s,baz=49,slow=38							
JMN	**Monobe**	**38.72 344**	P	**P**	**02 31 19.6 -2.5**			
JMN			IAmb	IAmb	02 31 36.6			
	comp=Z,50nm,1.1s							
BLDU	**Ballidu**	**38.73 223**	P	**P**	**02 31 21.4 -0.8**			
JNU	**Nakatsue**	**39.10 340**	P	**P**	**02 31 24.5 -0.8**			
	comp=Z,11nm,0.7s,baz=89,slow=8.5,SNR=5.8							
JNU			LR	LR	02 45 54.0			
	comp=Z,547nm,18.8s,baz=146,slow=34							
	comp=Z,11nm,0.7s							
NWAO	**Narrogin (SRO)**	**39.86 219**	P	**P**	**02 31 31.5 -0.1**			
NWAO			IAmb	IAmb	02 31 33.1			
	comp=Z,96nm,1.8s							
NWAO	**Narrogin (SRO)**	**39.86 219**	P	**P**	**02 31 31.5 -0.1**			
NWAO			pmax	pmax				
	comp=Z,96nm,1.8s							
NWAO	**Narrogin (SRO)**	**39.86 219**	LR	LR	02 48 42.1			
	comp=Z,2µm,20.2s,baz=50,slow=37							
MJA0	**Matsu Arr-Jizo**	**40.44 350**	*e*P	**P**	**02 31 36.0 -0.3**			
MJA0			pmax	pmax				
	comp=Z,8.0nm,0.9s							
MJAR	**Matsushiro Arr**	**40.44 350**	P	**P**	**02 31 35.6 -0.8**			
	comp=Z,7.7nm,0.9s,baz=170,slow=7.4,SNR=8.9							
	comp=Z,7.7nm,0.9s							
QIZ	**Qiongzhong**	**42.06 303**	P	**P**	**02 31 49.5 -0.4**			
QIZ			PP		02 33 29.8			
QIZ			S	**S**	**02 38 07.5 -0.5**			
QIZ			SS	**SS**	**02 41 19.0 +3.1**			
QIZ			LR	LR				
	comp=Z,620nm,17.7s							
QIZ			LR	LR				
	comp=Z,710nm,18.5s							
QIZ			LR	LR				
	comp=Z,960nm,20.2s							
KUZ	**Kuaotunu**	**42.92 144**	P	**P**	**02 31 58.8 +2.1**			
TJN	**Taejon**	**43.29 338**	P	**P**	**02 32 01.1 +1.5**			
TJN	**Taejon**	**43.29 338**	*i* P	**P**	**02 31 59.6 0.0**			
NJ2	**Nanjing**	**43.75 326**	*e*P	**P**	**02 32 01.5 -1.9**			
NJ2			pmax	pmax				
	comp=Z,9.0nm,0.5s							
NJ2			LR	LR				
	comp=Z,1µm,14.7s							
NJ2			LR	LR				
	comp=Z,610nm,13.7s							
NJ2			LR	LR				
	comp=Z,1µm,19.0s							
KSRS	**Korea Array**	**44.04 339**	P	**P**	**02 32 06.0 +0.3**			
KSRS	**Korea Array**	**44.04 339**	P	**P**	**02 32 06.0 +0.3**			
	comp=Z,19nm,0.9s,baz=156,slow=9.1,SNR=46							
KSRS			LR	LR	02 47 25.5			
	comp=Z,657nm,21.6s,baz=145,slow=32							
	comp=Z,19nm,0.9s							
KSAR	**Wonju Array Be**	**44.04 339**	P	**P**	**02 32 04.8 -0.9**			
KSAR	**Wonju Array Be**	**44.04 339**	P	**P**	**02 32 04.8 -0.9**			
KS19	**Wonju Array Si**	**44.10 339**	P	**P**	**02 32 04.4 -1.8**			
KS19			IAmb	IAmb	02 32 07.5			
	comp=Z,30nm,1.0s							
JTM	**Tenmabayashi**	**44.24 355**	P	**P**	**02 32 05.8 -1.4**			
INCN	**Inchon**	**44.54 338**	P	**P**	**02 32 08.4 -1.3**			
INCN	**Inchon**	**44.54 338**	P	**P**	**02 32 10.6 +0.9**			
INCN	**Inchon**	**44.54 338**	P	**P**	**02 32 08.4 -1.3**			
INCN			pmax	pmax				
	comp=Z,68nm,1.2s							
URZ	**Urewera**	**44.76 145**	LR	LR	02 50 58.1			
	comp=Z,433nm,18.9s,baz=72,slow=36							
GULI	**GuiLin**	**44.89 312**	⇑P	**P**	**02 32 10.3 -2.4**			
MXZ	**Matakaoa Point**	**45.00 143**	P	**P**	**02 32 16.1 +2.8**			
WHN	**Wuhan**	**45.38 320**	⇑P	P	02 32 21.3 +4.9			
WHN			S	**S**	**02 39 01.5 +5.3**			
WHN			LR	LR				
	comp=Z,2µm,17.7s							
RPZ	**Rata Peaks**	**45.81 155**	LR	LR	02 50 43.7			
	comp=Z,582nm,19.0s,baz=317,slow=35							
KULM	**Kulim**	**46.19 281**	P	**P**	**02 32 21.5 -1.7**			
ODZ	**Otahua Downs**	**46.72 156**	P	**P**	**02 32 29.9 +3.1**			
NONG	**Nongkai**	**47.39 298**	P	**P**	**02 32 34.8 +2.3**			
RPSI	**Rantau Prapat**	**47.52 277**	P	**P**	**02 32 31.6 -1.9**			
PSI	**Prapat**	**47.53 277**	P	**P**	**02 32 33.1 -0.7**			
PSI	**Prapat**	**47.53 277**	P	**P**	**02 32 31.6 -2.2**			
PSI			pmax	pmax				
	comp=Z,10.0nm,1.0s							
NAYO	**Nakonayok**	**47.74 293**	P	**P**	**02 32 36.1 +0.9**			
TIA	**Tai'an**	**47.82 328**	⇓P	**P**	**02 32 34.8 -0.8**			
TIA			S	**S**	**02 39 37.3 +6.2**			
TIA			pmax	pmax				
	comp=Z,7.0nm,1.2s							
TIA			LR	LR				
	comp=Z,450nm,19.6s							
TIA			LR	LR				
	comp=Z,380nm,16.7s							
TIA			LR	LR				
	comp=Z,900nm,18.6s							
SRIT	**Nakonsritamara**	**47.85 285**	P	**P**	**02 32 34.8 -1.4**			
SRIT	**Nakonsritamara**	**47.85 285**	P	**P**	**02 32 36.5 +0.4**			
SURA	**Surathani**	**47.95 286**	P	**P**	**02 32 36.6 -0.3**			
SLVN	**Son La**	**48.07 303**	P	**P**	**02 32 36.1 -1.7**			
SLVN			IAmb	IAmb	02 32 48.1			
	comp=Z,23nm,1.2s							
GYA	**Guiyang**	**48.32 310**	P	**P**	**02 32 40.5 +0.8**			
GYA			S	**S**	**02 39 37.8 -0.8**			
GYA			SS	**SS**	**02 43 08.5 0.0**			
GYA			pmax	pmax				
	comp=Z,13nm,1.0s							
GYA			LR	LR				
	comp=Z,730nm,18.6s							
ENH	**Enshi**	**48.43 316**	P	**P**	**02 32 38.3 -2.1**			
GSI	**Gunungsitoli**	**48.70 275**	P	**P**	**02 32 39.8 -2.9**			
GSI	**Gunungsitoli**	**48.70 275**	P	**P**	**02 32 40.9 -1.8**			
USA0B	**Ussuriysk Arra**	**49.08 347**	P	**P**	**02 32 43.6 -1.5**			
USA0B			IAmb	IAmb	02 32 46.7			
	comp=Z,19nm,0.9s							
USA0B	**Ussuriysk Arra**	**49.08 347**	*i* P	**P**	**02 32 44.8 -0.2**			
USRK	**Ussuriysk Ar.**	**49.08 347**	P	**P**	**02 32 44.1 -0.9**			
USRK	**Ussuriysk Ar.**	**49.08 347**	P	**P**	**02 32 45.7 +0.7**			
	comp=Z,11nm,0.7s,baz=172,slow=8.1,SNR=17							
	comp=Z,11nm,0.7s							
LYN	**LuoYang**	**49.26 323**	⇑P	**P**	**02 32 50.5 +3.9**			
LYN			pP	pP	02 32 53.5 -0.2			
LYN			pmax	pmax				
	comp=Z,22nm,1.6s							
LYN			pmax	pmax				
	comp=Z,260nm,5.3s							
LYN			LR	LR				
	comp=Z,2µm,19.9s							
LYN			LR	LR				
	comp=Z,1µm,22.0s							
LYN			LR	LR				
	comp=Z,3µm,19.6s							
SNY	**Shenyang**	**49.48 338**	⇓P	**P**	**02 32 48.5 +0.4**			
SNY			S	**S**	**02 40 02.3 +8.2**			
SNY			pmax	pmax				
	comp=Z,11nm,1.5s							
SNY			pmax	pmax				
	comp=Z,260nm,3.5s							
SNY			LR	LR				
	comp=Z,570nm,14.5s							
SNY			LR	LR				
	comp=Z,500nm,17.5s							
SNY			LR	LR				
	comp=Z,730nm,22.7s							
HNS	**HongShan**	**50.00 327**	⇓P	**P**	**02 32 52.5 +0.3**			
HNS			*e*S	**S**	**02 40 04.3 +2.7**			
HNS			pmax	pmax				
	comp=Z,28nm,1.2s							
HNS			LR	LR				
	comp=Z,510nm,18.3s							
HNS			LR	LR				
	comp=Z,740nm,20.7s							
HNS			LR	LR				
	comp=Z,1µm,19.9s							
MDJ	**Mudanjiang**	**50.06 345**	P	**P**	**02 32 51.5 -1.0**			
MDJ			PP	**PP**	**02 34 48.0 +0.1**			
MDJ			ScP	**ScP**	**02 38 00.3 -6.1**			
MDJ			PcS	**PcS**	**02 38 05.0 -3.9**			
MDJ			S	**S**	**02 40 10.0 +7.8**			
MDJ			sS	sS	02 40 12.8 -1.0			
MDJ			ScS	**ScS**	**02 42 37.8 -4.5**			
MDJ			pmax	pmax				
	comp=Z,15nm,1.3s							
MDJ			pmax	pmax				
	comp=Z,430nm,6.5s							
MDJ			LR	LR				
	comp=Z,580nm,19.8s							
MDJ			LR	LR				
	comp=Z,850nm,18.6s							
MDJ			LR	LR				
	comp=Z,810nm,22.9s							
MDJ	**Mudanjiang**	**50.06 345**	P	**P**	**02 32 50.4 -2.1**			
MDJ			IAmb	IAmb	02 33 16.2			
	comp=Z,56nm,1.8s							
YSS	**Yuzh-Sakhalins**	**50.26 357**	*e*P	**P**	**02 32 52.2 -1.8**			
CN2	**Changchun**	**50.55 341**	*e*P	**P**	**02 32 56.0 -0.3**			
CN2			*es*P	pP	02 33 03.0 -0.3			
CN2			*e*S	**S**	**02 40 08.8 -0.3**			
CN2			pmax	pmax				
	comp=Z,10.0nm,1.2s							
CN2			LR	LR				
	comp=Z,290nm,11.0s							
CN2			LR	LR				
	comp=Z,280nm,11.0s							
CRAI	**Chiangrai**	**50.64 300**	P	**P**	**02 32 55.5 -1.8**			
CRAI			IAmb	IAmb	02 33 08.0			
	comp=Z,21nm,1.0s							
KMI	**Kunming**	**50.72 307**	⇓P	**P**	**02 33 00.3 +2.1**			
KMI			pmax	pmax				
	comp=Z,33nm,1.1s							
KMI			LR	LR				
	comp=Z,380nm,19.0s							
KMI			LR	LR				
	comp=Z,430nm,30.3s							
KMI			LR	LR				
	comp=Z,800nm,29.3s							
XAN	**Xi'an**	**51.13 320**	⇑P	**P**	**02 33 00.5 -0.4**			
XAN			pP	pP	02 33 04.5 -3.5			
XAN			S	**S**	**02 40 23.8 +6.2**			
XAN			pmax	pmax				
	comp=Z,15nm,1.0s							
XAN			pmax	pmax				
	comp=Z,240nm,5.5s							
XAN			LR	LR				
	comp=Z,940nm,20.6s							
XAN			LR	LR				
	comp=Z,560nm,13.7s							
XAN			LR	LR				
	comp=Z,1µm,17.2s							
BJT	**Baijiatuau**	**51.21 331**	P	**P**	**02 32 59.9 -1.4**			
BJT			IAmb	IAmb	02 33 13.8			
	comp=Z,37nm,1.7s							
BJT	**Baijiatuau**	**51.21 331**	P	**P**	**02 33 01.4 +0.1**			
BJT	**Baijiatuau**	**51.21 331**	P	**P**	**02 32 59.9 -1.4**			
BJT			pmax	pmax				
	comp=Z,37nm,1.7s							
BJI	**Beijing**	**51.23 331**	P	**P**	**02 33 01.3 -0.1**			
BJI			pmax	pmax				
	comp=Z,6.0nm,1.6s							
BJI			LR	LR				
	comp=Z,360nm,20.3s							
BJI			LR	LR				
	comp=Z,210nm,20.5s							
BJI			LR	LR				
	comp=Z,500nm,23.7s							
CM31	**Chiang Mai Arr**	**51.25 297**	P	**P**	**02 32 59.4 -2.6**			
CM31			IAmb	IAmb	02 33 11.1			
	comp=Z,17nm,0.9s							
CMAR	**Chiang Mai Arr**	**51.25 297**	P	**P**	**02 33 00.7 -1.4**			
CMAR	**Chiang Mai Arr**	**51.25 297**	*e*P	**P**	**02 33 03.7 +1.7**			
CMAR			pmax	pmax				
	comp=Z,8.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**51.25 297**	P	**P**	**02 33 02.6 +0.6**			
	comp=Z,2.8nm,0.6s,baz=122,slow=5.7,SNR=17							
CMAR			LR	LR	02 51 57.0			
	comp=Z,196nm,22.0s,baz=120,slow=33							
	comp=Z,2.8nm,0.6s							
CHTO	**Chiang Mai**	**51.38 297**	P	**P**	**02 33 01.1 -1.8**			
CHTO			IAmb	IAmb	02 33 17.2			
	comp=Z,29nm,1.6s							
CHTO	**Chiang Mai**	**51.38 297**	P	**P**	**02 33 04.3 +1.4**			
CHTO	**Chiang Mai**	**51.38 297**	P	**P**	**02 33 01.1 -1.8**			
CHTO			pmax	pmax				
	comp=Z,29nm,1.7s							
BNX	**BinXian**	**51.70 343**	⇓P	**P**	**02 33 05.3 +0.5**			
BNX			pmax	pmax				
	comp=Z,27nm,1.4s							
BNX			pmax	pmax				
	comp=Z,430nm,5.3s							
PZH	**PanZhiHua**	**52.16 308**	P	**P**	**02 33 09.5 +0.7**			
PZH			S	**S**	**02 40 36.8 +4.6**			
PZH			pmax	pmax				
	comp=Z,10.0nm,1.0s							
PZH			pmax	pmax				
	comp=Z,250nm,5.6s							
PZH			LR	LR				
	comp=Z,340nm,18.2s							
PZH			LR	LR				
	comp=Z,340nm,19.0s							
PZH			LR	LR				
	comp=Z,660nm,20.8s							
CD2	**Chengdu**	**52.84 313**	P	**P**	**02 33 14.3 +0.6**			
CD2			pmax	pmax				
	comp=Z,20nm,0.6s							
CD2			LR	LR				
	comp=Z,660nm,17.0s							
KLR	**Kul'dur**	**53.91 348**	P	**P**	**02 33 21.0 -0.1**			
KLR	**Kul'dur**	**53.91 348**	P	**P**	**02 33 21.0 -0.1**			
	comp=Z,6.3nm,0.8s,baz=144,slow=5.3,SNR=13							
KLR			LR	LR	02 55 03.4			
	comp=Z,250nm,19.4s,baz=170,slow=35							
	comp=Z,6.3nm,0.8s							
TNCH	**TengChong**	**54.12 304**	*e*P	**P**	**02 33 24.0 +0.6**			
TNCH			pmax	pmax				
	comp=Z,230nm,2.5s							
HHC	**Hu-ho-hao-te**	**54.18 328**	⇑P	**P**	**02 33 23.8 +0.4**			
HHC			sP	sP	02 33 32.8 -0.5			
HHC			S	**S**	**02 41 03.0 +3.8**			
HHC			sS	sS	02 41 12.0 +1.2			
HHC			SS	**SS**	**02 44 43.5 +2.1**			
HHC			pmax	pmax				
	comp=Z,32nm,0.8s							
HHC			pmax	pmax				
	comp=Z,210nm,5.4s							
HHC			LR	LR				
	comp=Z,940nm,19.1s							
HHC			LR	LR				
	comp=Z,1µm,15.3s							
HHC			LR	LR				
	comp=Z,2µm,15.9s							
XLT	**XiLinHaoTe**	**54.28 334**	*e*P	**P**	**02 33 24.0 -0.1**			
XLT			pP	pP	02 33 27.5 -3.6			
XLT			sP	sP	02 33 31.5 -2.4			
XLT			PcP	**PcP**	**02 34 29.5 +1.4**			
XLT			pmax	pmax				
	comp=Z,6.0nm,0.9s							
XLT			pmax	pmax				
	comp=Z,340nm,5.2s							
BTO	**Baotou**	**54.84 327**	*e*P	**P**	**02 33 28.8 +0.6**			
BTO			pP	**pP**	**02 33 33.5 -1.8**			
BTO			sP	**sP**	**02 33 35.8 -2.3**			
BTO			PP	**PP**	**02 35 33.3 +2.0**			
BTO			S	**S**	**02 41 09.3 +1.3**			
BTO			SS	**SS**	**02 44 53.5 +1.7**			
BTO			pmax	pmax				
	comp=Z,31nm,0.4s							
BTO			pmax	pmax				
	comp=Z,350nm,5.5s							
BTO			LR	LR				
	comp=Z,2µm,17.7s							
BTO			LR	LR				
	comp=Z,2µm,18.7s							
BTO			LR	LR				
	comp=Z,2µm,23.5s							
RAR	**Rarotonga**	**55.47 113**	LR	LR	02 53 05.8			
	comp=Z,90nm,20.9s,baz=294,slow=32							
LZH	**Lanzhou**	**55.68 319**	*e*P	**P**	**02 33 35.8 +1.3**			
LZH			pP	pP	02 33 42.5 +0.9			
LZH			pmax	pmax				
	comp=Z,18nm,1.0s							
LZH			LR	LR				
	comp=Z,530nm,16.2s							
LZH			LR	LR				
	comp=Z,750nm,16.6s							
LZH			LR	LR				
	comp=Z,1µm,18.0s							
HEH	**HeiHe**	**55.84 346**	*e*P	**P**	**02 33 35.8 +0.7**			
HEH			pmax	pmax				
	comp=Z,17nm,1.1s							
HEH			pmax	pmax				
	comp=Z,380nm,4.5s							
PETK	**Petropavlovsk-**	**57.18 8**	P	**P**	**02 33 44.0 -0.5**			
	comp=Z,4.2nm,0.8s,baz=176,slow=5.9,SNR=4.6							
PETK			LR	LR	02 53 32.6			
	comp=Z,322nm,22.0s,baz=185,slow=31							
	comp=Z,4.2nm,0.8s							
HIA	**Hailar**	**57.24 340**	P	**P**	**02 33 44.5 -0.6**			
HIA			IAmb	IAmb	02 33 54.4			
	comp=Z,39nm,

comp=Z,510nm,20.0s
SHEM Shemya Is, Ala 60.75 19 LR LR 02 56 02.5
comp=Z,453nm,20.7s,baz=147,slow=32
ULN Ulaanbaatar 61.43 331 P **P**
ULN Ulaanbaatar 61.43 331 P **P** **02 34 12.8 -1.5**
ULN pmax pmax
comp=Z,55nm,1.8s
SONM Songino Array 61.73 331 P **P** **02 34 14.8 -1.5**
SONM Songino Array 61.73 331 *e*P **P** **02 34 17.3 +1.0**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 61.73 331 P **P** **02 34 16.3 0.0**
comp=Z,3.9nm,0.9s,baz=149,slow=5.6,SNR=15
comp=Z,3.9nm,0.9s
LSA Lhasa 61.98 306 P **P** **02 34 17.4 -1.3**
LSA IAmb IAmb 02 34 29.4
comp=Z,6.7nm,0.8s
LSA Lhasa 61.98 306 P **P** **02 34 17.4 -1.3**
LSA pmax pmax
comp=Z,7.0nm,0.8s
MA2 Magadan 62.93 3 P **P** **02 34 24.9 +1.0**
comp=Z,7.4nm,0.8s,baz=58,slow=4.9,SNR=3.6
MA2 LR LR 03 03 39.0
comp=Z,145nm,18.3s,baz=182,slow=38
comp=Z,7.4nm,0.8s
PPT2 Papeete2 64.53 108 *e*P **P** **02 34 32.1 -3.3**
comp=Z,134nm,22.8s
PPT2 *e*S **S** **02 43 12.1 -1.6**
comp=Z,805nm,28.5s
PPT2 *e*LQ LQ 02 51 03.4
comp=Z,604nm,24.8s
PPT2 *e*LR LR 02 53 47.3
comp=Z,654nm,32.5s
PPT2 *e*LR LR 02 53 54.4
comp=Z,388nm,34.2s
ZAK Zakamensk 64.96 331 *e*P **P** **02 34 37.9 +0.3**
ZAK pmax pmax
comp=Z,22nm,1.3s
TBI Tubuai 65.23 114 *e*S S 02 43 10.2 -12
comp=Z,4μm,32.2s
TBI *e*SS **SS** **02 47 26.2 -9.0**
comp=Z,936nm,28.5s
TBI *e*LQ LQ 02 51 26.9
comp=Z,4μm,34.8s
TBI *e*LR LR 02 54 10.0
comp=Z,1μm,36.2s
TBI *e*LR LR 02 54 24.1
comp=Z,7μm,40.0s
BOD Bodaibo 66.27 342 *e*P **P** **02 34 46.3 +0.6**
SEY Seymchan 66.36 3 P **P** **02 34 47.3 +1.1**
comp=Z,4.1nm,0.8s,baz=164,slow=7.8,SNR=6.8
SEY LR LR 02 58 51.3
comp=Z,144nm,21.1s,baz=212,slow=32
comp=Z,4.1nm,0.8s
YAK Yakutsk 66.48 352 P **P** **02 34 47.3 +0.3**
MOY Mondy 66.89 331 *e*P **P** **02 34 51.0 +1.0**
MOY pmax pmax
comp=Z,51nm,2.5s
CASY Casey 67.48 195 P **P** **02 34 56.0 +2.6**
CASY IAmb IAmb 02 35 00.5
comp=Z,20nm,1.5s
WMQ Urumqi 70.26 319 *e*P **P** **02 35 12.3 +1.1**
WMQ sP pP 02 35 19.0 +0.5
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=Z,1μm,18.5s
WMQ LR LR
comp=Z,890nm,23.1s
WMQ LR LR
comp=Z,260nm,23.1s
DGZ Jazzator, Alta 73.02 325 *i* P **P** **02 35 28.4 +0.6**
DGZ pmax pmax
comp=Z,11nm,1.1s
VNDA Vanda 74.51 176 P **P** **02 35 36.1 +0.3**
VNDA Vanda 74.51 176 P **P** **02 35 36.8 +0.9**
comp=Z,2.8nm,0.9s,baz=325,slow=7.2,SNR=5.8
VNDA LR LR 03 07 24.4
comp=Z,415nm,18.2s,baz=350,slow=35
comp=Z,2.8nm,0.9s
MK31 Makanchi Array 74.94 320 P **P** **02 35 38.0 -1.0**
MK31 Makanchi Array 74.94 320 P **P** **02 35 38.0 -1.0**
MK31 pmax pmax
comp=Z,9.0nm,1.1s
MKAR Makanchi Array 74.94 320 P **P** **02 35 37.8 -1.1**
MKAR Makanchi Array 74.94 320 *e*P **P** **02 35 39.6 +0.6**
MKAR pmax pmax
comp=Z,6.0nm,1.1s
MKAR Makanchi Array 74.94 320 P **P** **02 35 39.3 +0.3**
comp=Z,6.2nm,1.1s,baz=114,slow=5.7,SNR=20
comp=Z,6.2nm,1.1s
MAKZ Makanchi 75.15 320 P **P** **02 35 39.7 -0.4**
MAKZ IAmb IAmb 02 35 59.8
comp=Z,13nm,1.0s
MAKZ Makanchi 75.15 320 P **P** **02 35 39.7 -0.4**
MAKZ pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 75.78 354 P **P** **02 35 43.7 +0.5**
TIXI Tiksi 75.78 354 P **P** **02 35 43.7 +0.5**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 75.78 354 LR LR 03 14 22.4
comp=Z,66nm,18.7s,baz=188,slow=40
ZAA0 Zalesovo Array 76.36 328 P **P** **02 35 46.1 -0.7**
ZALV Zalesovo Beam 76.36 328 P **P** **02 35 45.4 -1.4**
ZALV Zalesovo Beam 76.36 328 P **P** **02 35 45.4 -1.4**
ZALV Zalesovo Beam 76.36 328 P **P** **02 35 46.6 -0.2**
comp=Z,3.4nm,0.8s,baz=106,slow=4.8,SNR=9.4
ZALV LR LR 03 07 51.1
comp=Z,750nm,21.6s,baz=116,slow=34
comp=Z,3.4nm,0.8s
TNA Tin City 76.44 18 P **P** **02 35 47.5 +0.5**
baz=226
K15K Wolf Creek Mou 76.58 22 P **P** **02 35 50.0 +2.1**
baz=234
ANM Nome 76.60 19 P **P** **02 35 47.7 -0.3**
ANM Nome 76.60 19 P **P** **02 35 47.7 -0.3**
ANM pmax pmax
comp=Z,12nm,1.4s
Q17K Contact Creek 76.77 27 P **P** **02 35 50.8 +1.6**
baz=241
O17K Koliganek Bris 77.00 26 P **P** **02 35 51.9 +1.6**
baz=239
NIL Nilore 77.70 305 P **P** **02 35 53.8 -1.1**
NIL IAmb IAmb 02 36 03.2
comp=Z,16nm,0.7s
NIL Nilore 77.70 305 P **P** **02 35 53.8 -1.1**
NIL pmax pmax
comp=Z,15nm,0.7s
KDAK Kodiak Island 78.10 29 LR LR 03 05 20.8
comp=Z,264nm,20.0s,baz=262,slow=32
KURK Kurchatov 78.62 323 P **P** **02 35 59.1 -0.5**
KURK IAmb IAmb 02 36 03.3
comp=Z,17nm,1.1s
KURK Kurchatov 78.62 323 P **P** **02 36 00.0 +0.5**
KURBB Kurchatov Arra 78.64 323 P **P** **02 35 60.0 +0.3**
comp=Z,7.6nm,1.2s,baz=113,slow=4.6,SNR=9.5
KURBB LR LR 03 12 30.7
comp=Z,268nm,18.3s,baz=144,slow=37
comp=Z,7.6nm,1.2s
H17K Granite Mounta 78.70 21 P **P** **02 36 01.8 +2.1**
baz=236
G17K Kiwalik Mounta 78.77 20 P **P** **02 36 02.1 +2.1**
baz=235
C16K Lisburne Hills 79.01 17 P **P** **02 36 01.2 -0.1**
F17K Baldwin Pennin 79.12 19 P **P** **02 36 04.0 +2.1**
baz=234
E17K Hotham Inlet 79.31 18 P **P** **02 36 05.1 +2.1**
baz=233
G18K Tagagawik 79.67 20 P **P** **02 36 06.5 +1.5**
baz=237
L20K Farewell, AK 79.70 24 P **P** **02 36 07.0 +1.8**
baz=242
C17K DeLong Mountai 79.76 17 P **P** **02 36 07.5 +2.1**
baz=232
E18K Tukpahlearik C 79.90 18 P **P** **02 36 08.2 +2.0**
baz=234
H19K Roundabout Mou 80.24 21 P **P** **02 36 08.0 -0.1**
H19K IAmb IAmb 02 36 21.8
comp=Z,35nm,1.4s
H19K Roundabout Mou 80.24 21 P **P** **02 36 09.9 +1.8**
baz=239
G19K Purcell Mounta 80.34 20 P **P** **02 36 10.5 +1.9**
baz=238
C18K Utukok River 80.44 17 P **P** **02 36 10.6 +1.4**
baz=234
F19K Shaleruckik Mo 80.48 19 P **P** **02 36 10.6 +1.2**
baz=237
B18K Kokolik River 80.70 16 P **P** **02 36 12.5 +2.0**
baz=233
H20K Anotleneega Mo 80.79 21 P **P** **02 36 12.6 +1.5**
baz=240
CAST Castle Rocks 80.86 24 P **P** **02 36 11.0 -0.5**
BTK Batken 80.98 311 P **P** **02 36 10.7 -2.0**
BTK IAmb IAmb 02 36 24.7
comp=Z,25nm,1.6s
BTK Batken 80.98 311 P **P** **02 36 10.7 -2.0**
BTK pmax pmax
comp=Z,25nm,1.7s
CHUM Lake Minchumin 80.98 23 P **P** **02 36 14.0 +1.9**
baz=243
E19K Redstone River 81.00 19 P **P** **02 36 12.5 +0.4**
E19K IAmb IAmb 02 36 28.1
comp=Z,16nm,0.8s
E19K Redstone River 81.00 19 P **P** **02 36 14.1 +1.9**
baz=238
C19K Lookout Ridge 81.19 17 P **P** **02 36 15.3 +2.1**
baz=235
F20K Avaraart Lake 81.28 20 P **P** **02 36 15.6 +2.0**
baz=239
D19K Kuna River 81.28 18 P **P** **02 36 15.2 +1.5**
baz=237
KBL Kabul 81.30 306 P **P** **02 36 13.5 -1.2**
KBL Kabul 81.30 306 P **P** **02 36 13.5 -1.2**
KBL pmax pmax
comp=Z,11nm,1.7s
A19K Wainwright 81.41 16 P **P** **02 36 16.2 +2.0**
baz=234
IMAR Indian Mountai 81.44 21 P **P** **02 36 14.5 +0.1**
H21K Melozitna Rive 81.62 22 P P 02 36 20.5 +5.0
baz=242
E20K Nigu River 81.76 19 P **P** **02 36 18.0 +1.7**
baz=239
KK31 Karatay Array 81.85 314 P **P** **02 36 15.3 -1.9**
KK31 Karatay Array 81.85 314 P **P** **02 36 15.3 -1.9**
KK31 pmax pmax
comp=Z,13nm,1.3s
KKAR Karatay Array 81.85 314 P **P** **02 36 15.6 -1.6**
KKAR Karatay Array 81.85 314 P **P** **02 36 15.6 -1.6**
D20K Etivluk River 81.87 18 P **P** **02 36 18.4 +1.6**
baz=238
SIMJ Simiganj 82.07 310 P **P** **02 36 17.3 -1.3**
MLY Manley 82.11 22 P **P** **02 36 17.6 -0.5**
MLY IAmb IAmb 02 36 30.6
comp=Z,11nm,1.0s
B20K Meade River 82.40 17 P **P** **02 36 19.5 +0.1**
NRIK Noril'sk 82.57 342 P **P** **02 36 18.6 -1.7**
NRIK IAmb IAmb 02 36 32.6
comp=Z,25nm,1.2s
NRIK Noril'sk 82.57 342 *e*P **P** **02 36 20.8 +0.5**
NRIK pmax pmax
comp=Z,27nm,1.3s
NRIK Noril'sk 82.57 342 P **P** **02 36 20.5 +0.2**
comp=Z,7.1nm,0.9s,baz=127,slow=5.8,SNR=8.1
NRIK LR LR 03 11 33.1
comp=Z,267nm,21.7s,baz=124,slow=35
comp=Z,7.1nm,0.9s
DHY Denali Highway 82.65 25 P **P** **02 36 20.6 -0.5**
DHY IAmb IAmb 02 36 45.9
comp=Z,19nm,1.2s
C21K Knifeblade Rid 82.66 18 P **P** **02 36 22.9 +2.1**
baz=240
CCB Clear Creek Bu 83.09 23 P **P** **02 36 23.2 +0.1**
G23K Bananza Creek 83.11 21 P **P** **02 36 25.0 +1.8**
baz=245
E22K Anaktuvuk Pass 83.12 19 P **P** **02 36 25.0 +1.7**
baz=243
D22K Ayikyak River 83.19 19 P **P** **02 36 25.9 +2.3**
baz=242
COLD Coldfoot 83.27 21 P **P** **02 36 25.9 +1.9**
baz=244
IL31 83.50 23 P **P** **02 36 24.4 -0.8**
IL31 IAmb IAmb 02 36 34.4
comp=Z,6.7nm,0.7s
ILAR Eielson Array 83.50 23 P **P** **02 36 23.7 -1.6**
ILAR Eielson Array 83.50 23 P **P** **02 36 25.1 -0.2**
comp=Z,1.5nm,0.8s,baz=256,slow=5.1,SNR=13
ILAR LR LR 03 07 55.5
comp=Z,370nm,22.0s,baz=253,slow=32
comp=Z,1.5nm,0.8s
E23K Chandalar 83.83 20 P **P** **02 36 29.4 +2.4**
baz=245
D23K Nanushuk River 83.87 19 P **P** **02 36 29.6 +2.5**
baz=244
J25K Salcha River, 84.05 24 P **P** **02 36 28.8 +0.6**
baz=249
BVAR Borovoye Array 84.17 324 P **P** **02 36 29.2 +0.3**
comp=Z,4.0nm,0.8s,baz=109,slow=6.9,SNR=15
comp=Z,4.0nm,0.8s
F24K Squaw Lake 84.20 21 P **P** **02 36 29.3 +0.4**
F24K IAmb IAmb 02 36 40.7
comp=Z,11nm,0.8s
F24K Squaw Lake 84.20 21 P **P** **02 36 30.7 +1.9**
baz=247
BRVK Borovoye 84.23 324 P **P** **02 36 28.4 -0.9**
BRVK IAmb IAmb 02 36 40.7
comp=Z,12nm,1.0s
BRVK Borovoye 84.23 324 P **P** **02 36 28.4 -0.9**
BRVK pmax pmax
comp=Z,13nm,1.0s
MAW Mawson 84.25 202 LR LR 03 11 10.1
comp=Z,306nm,20.4s,baz=76,slow=34
M27K Edge Creek, AK 84.79 26 P **P** **02 36 33.4 +1.4**
baz=253
C24K Franklin Bluff 84.83 19 P **P** **02 36 34.6 +2.7**
baz=246
BCAR Beaver Creek A 85.04 26 P **P** **02 36 33.1 -0.1**
D25K Kavik River 85.42 19 P **P** **02 36 34.7 -0.3**
D25K IAmb IAmb 02 36 48.9
comp=Z,11nm,0.9s
DAWY Dawson 86.35 25 P **P** **02 36 39.8 +0.1**
DAWY IAmb IAmb 02 36 54.1
comp=Z,16nm,1.2s
QSPA South Pole Qui 86.52 180 P **P** **02 36 41.2 +0.6**
comp=Z,2.1nm,0.8s,baz=7.2,slow=1.4,SNR=4.5
QSPA LR LR 03 14 52.1
comp=Z,359nm,19.1s,baz=4.5,slow=35
comp=Z,2.1nm,0.8s
HRA Herat 86.83 305 P **P** **02 36 42.1 -0.8**
HRA IAmb IAmb 02 36 55.1
comp=Z,14nm,1.2s
K29M Barlow Dome 87.10 26 P **P** **02 36 45.5 +2.1**
baz=256
F28M Old Crow 87.13 22 P **P** **02 36 43.9 +0.5**
F28M IAmb IAmb 02 36 57.2
comp=Z,17nm,1.5s
F28M Old Crow 87.13 22 P **P** **02 36 45.2 +1.8**
baz=254
D27M Malcolm River 87.21 20 P **P** **02 36 45.8 +2.0**
baz=253
E28M Babbage River 87.52 21 P **P** **02 36 45.8 +0.5**
E28M Babbage River 87.52 21 P P **02 36 47.3 +2.0**
baz=254
J30M Hart River 87.77 25 P **P** **02 36 48.3 +1.6**
baz=258
WSAR Wadi Sarin 88.99 293 LR LR 03 21 14.7
comp=Z,30nm,18.0s,baz=96,slow=39
INK Inuvik 89.62 22 P **P** **02 36 55.8 +0.7**
comp=Z,1.5nm,1.0s,baz=252,slow=3.6,SNR=3.4
INK LR LR 03 16 02.9
comp=Z,429nm,19.2s,baz=187,slow=35
comp=Z,1.5nm,1.0s
DLBC Dease Lake 89.70 32 LR LR 03 08 52.7
comp=Z,299nm,20.3s,baz=289,slow=30
ABKAR Akbulak array 90.05 319 P **P** **02 36 56.2 -1.3**
BBB Bella Bella 90.11 38 LR LR 03 11 11.0
comp=Z,396nm,19.4s,baz=264,slow=32
AKTO Aktyubinsk 91.38 320 LR LR 03 17 10.7
comp=Z,429nm,21.8s,baz=76,slow=35
ARU Arti 91.46 326 LR LR 03 17 35.0
comp=Z,386nm,21.9s,baz=90,slow=35
C36M Paulatuk 93.14 21 P **P** **02 37 11.8 +0.4**
baz=269
YBH Yreka Blue Hor 93.17 49 LR LR 03 10 44.8
comp=Z,727nm,21.9s,baz=310,slow=30
KIRV Kirov 96.39 328 LR LR 03 21 25.4
comp=Z,1μm,20.3s,baz=78,slow=36
NVAR Mina Array Bea 96.53 52 P **P** **02 37 27.3 -0.7**
comp=Z,0.3nm,0.7s,baz=264,slow=8.6,SNR=2.4
NVAR LR LR 03 12 35.4
comp=Z,552nm,21.9s,baz=271,slow=30
comp=Z,0.3nm,0.7s
NEW Newport 97.08 42 LR LR 03 15 38.2
comp=Z,231nm,19.2s,baz=294,slow=32
YKA Yellowknife Ar 97.34 28 *e*P Pdif 02 37 37.5 +6.7
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 97.34 28 P Pdif 02 37 31.6 +0.8
comp=Z,0.3nm,0.8s,baz=276,slow=4.6,SNR=3.0
YKA LR LR 03 20 55.2
comp=Z,264nm,18.8s,baz=288,slow=35
comp=Z,0.3nm,0.8s
BELG Belogornoye 97.87 322 LR LR 03 22 12.4
comp=Z,250nm,20.8s,baz=119,slow=36
PFO Pinyon Flats O 98.11 57 LR LR 03 14 07.6
comp=Z,406nm,20.7s,baz=261,slow=31
ELK Elko 98.81 49 LR LR 03 17 23.9
comp=Z,263nm,19.0s,baz=273,slow=32
NACGM Naroch 109.31 328 *e*Pdif **Pdif** **02 38 21.4 -2.8**
comp=Z,9.0nm,1.3s,baz=67
CLL Collm 118.31 329 *e*PKIKP **PKPdf** **02 42 43.0 -2.1**
CLL *e* 02 44 00.0
CLL MLR MLR
comp=Z,500nm,19.0s
GUY2C Guyana, Caldas 138.65 86 *e*P **PKiKP** **02 43 32.4 +4.8**
SDV Santo Domingo 143.12 80 PKPbc 02 43 31.6 +1.6
TORD Torodi Ar. Bea 143.50 287 PKPbc 02 43 30.4 -0.3
TORD Torodi Ar. Bea 143.50 287 PKhKP PKPpre 02 43 30.2
comp=Z,2.2nm,1.1s,baz=62,slow=4.2,SNR=8.0
TORD PKP **PKPdf** **02 43 34.8 +1.3**
comp=Z,2.6nm,1.1s,baz=61,slow=3.9,SNR=6.5
ETMB Extrema 145.25 113 PKPbc **PKPbc** **02 43 34.8 -1.4**
HUMP Col San Antoni 145.49 63 PKPbc **PKPdf** **02 43 36.2 -0.6**
SAML Samuel 148.35 113 PKPbc **PKPdf** **02 43 42.3 +0.5**
SAML Samuel 148.35 113 PKIKP **PKPdf** **02 43 42.3 +0.5**
PTLB Pontes e Lacer 148.78 128 PKPbc **PKPdf** **02 43 44.0 +1.6**
DBIC Dimbokro 150.87 277 **PKiKP** **02 43 51.8 -0.3**
DBIC Dimbokro 150.87 277 PKIKP **PKiKP** **02 43 51.8 -0.3**
DBIC Dimbokro 150.87 277 PKPbc **PKPbc** **02 43 51.5 +0.1**
comp=Z,6.7nm,0.7s,baz=81,slow=3.3,SNR=9.5
BDFB Brasilia 156.47 144 PKPab **PKPab** **02 44 21.1 -1.1**
comp=Z,4.1nm,1.0s,baz=166,slow=1.5,SNR=4.1

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*NEIC **27** 02:25:31.7±1.3,56.57N±0.07×148.6W±0.1,h20km±8km, ML3.6/50, ML3.2(AEIC), Error ellipse: s-maj=11.4km s-min=7.8km az=153.0*
*AEIC **27** 02:25:32.7±2.3,56.37N±0.09×148.5W±0.1,h12km±7km, Error ellipse: s-maj=13.4km s-min=9.0km az=168.0*
ISC 27 02:25:29.5±1.8,**56.5N**±0.1×**148.60W**±0.06,**h10**km,**n81,**
σ0=**84**/89,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.51**	**302**		**Pn**	**Pn**	**02 26 10.6**	**+0.3**
KDAK					**Sn**	**Sn**	**02 26 40.8**	**-0.1**
OHAK	**Old Harbor**	**2.66**	**287**		**Pn**	**Pn**	**02 26 12.0**	**-0.4**
OHAK	**Old Harbor**	**2.66**	**287**	P	**Pn**	**Pn**	**02 26 11.9**	**-0.5**
	baz=102							
OHAK				S	**Sn**	**Sn**	**02 26 42.2**	**-2.6**
	baz=102							
SYI	**Shuyak Island**	**2.92**	**317**		**Pn**	**Pn**	**02 26 16.9**	**+1.0**
SYI					**Sn**	**Sn**	**02 26 49.9**	**-1.1**
Q20K	**Shuyak Island**	**2.92**	**317**	P	**Pn**	**Pn**	**02 26 16.5**	**+0.5**
	baz=133							
Q20K				S	**Sn**	**Sn**	**02 26 50.0**	**-1.1**
	baz=133							
SII	**Sitkinak Islan**	**3.09**	**273**	Pn	**Pn**	**Pn**	**02 26 18.6**	**+0.3**
SII				IAML			02 27 07.5	
	comp=N,122nm,1.0s							
MID	**Middleton Isla**	**3.14**	**22**			**Pn**	**02 26 18.6**	**-0.4**
MID				IAML			02 27 06.2	
	comp=N,221nm,1.4s							
MID				IAML			02 27 37.3	
	comp=E,243nm,1.3s							
Q23K	**Middleton Isla**	**3.14**	**21**			**Pn**	**02 26 18.6**	**-0.5**
Q23K				IAML			02 27 37.4	
	comp=E,253nm,1.5s							
Q23K	**Middleton Isla**	**3.14**	**21**	P	**Pn**	**Pn**	**02 26 18.9**	**-0.1**
	baz=204							
CNPM	**China Poot**	**3.31**	**336**			**Pn**	**02 26 21.6**	**+0.2**
CNPM						**Sn**	**02 26 59.4**	**-1.4**
BRSE	**Bradley Lake S**	**3.41**	**341**			**Pn**	**02 26 23.2**	**+0.5**
BRSE	**Bradley Lake S**	**3.41**	**341**	P		**Pn**	**02 26 23.2**	**+0.5**
	baz=159							
BRLK	**Bradley Lake**	**3.46**	**340**			**Pn**	**02 26 23.7**	**+0.2**
BRLK				IAML			02 27 08.5	
	comp=N,75nm,1.1s							
HOM	**Homer**	**3.52**	**334**	P	**Pn**	**Pn**	**02 26 25.2**	**+0.9**
	baz=151							
HOM				S	**Sn**	**Sn**	**02 27 06.1**	**+0.1**
	baz=151							
P23K	**Montague Islan**	**3.53**	**10**			**Pn**	**02 26 24.4**	**0.0**
P23K						**Sn**	**02 27 04.5**	**-1.6**
P23K	**Montague Islan**	**3.53**	**10**	P		**Pn**	**02 26 24.4**	**0.0**
	baz=191							
P23K				S	**Sn**	**Sn**	**02 27 04.5**	**-1.6**
	baz=191							
SEW	**Seward**	**3.61**	**353**			**Pn**	**02 26 25.4**	**-0.1**
SEW	**Seward**	**3.61**	**353**	P		**Pn**	**02 26 25.5**	**0.0**
	baz=172							
Q19K	**Cape Douglas,**	**3.62**	**314**			**Pn**	**02 26 27.4**	**+1.8**
Q19K				IAML			02 27 22.1	
	comp=N,157nm,0.8s							
P19K	**Oil Pt**	**3.98**	**324**			**Pn**	**02 26 31.7**	**+1.1**
P19K				IAML			02 27 21.5	
	comp=N,131nm,1.1s							
P19K				IAML			02 27 23.6	
	comp=E,116nm,0.4s							
P19K	**Oil Pt**	**3.98**	**324**	P	**Pn**	**Pn**	**02 26 31.1**	**+0.6**
	baz=140							
HIN	**Hinchinbrook I**	**4.03**	**15**			**Pn**	**02 26 31.2**	**-0.1**
HIN				IAML			02 27 17.1	
	comp=N,118nm,1.4s							
HIN				IAML			02 27 35.2	
	comp=E,113nm,1.4s							
KAIM	**Kayak Island**	**4.06**	**31**	Pn	**Pn**	**Pn**	**02 26 31.5**	**-0.1**
O20K	**Slope Mountain**	**4.14**	**331**			**Pn**	**02 26 33.6**	**+0.7**
O20K	**Slope Mountain**	**4.14**	**331**	P		**Pn**	**02 26 33.6**	**+0.7**
	baz=147							
IVE	**Iliamna Volcan**	**4.20**	**328**			**Pn**	**02 26 34.1**	**+0.4**
RAGM	**Ragged Mountai**	**4.38**	**26**	Pn		**Pn**	**02 26 36.4**	**+0.4**
RED	**Redoubt Volcan**	**4.47**	**332**			**Pn**	**02 26 37.6**	**+0.2**
RDSO	**Redoubt South**	**4.49**	**333**			**Pn**	**02 26 38.0**	**+0.2**
RSO	**Redoubt South**	**4.50**	**333**			**Pn**	**02 26 38.4**	**+0.5**
RDWB	**Redoubt West**	**4.55**	**332**			**Pn**	**02 26 38.6**	**+0.1**
P18K	**Big Mountain,**	**4.55**	**312**			**Pn**	**02 26 38.6**	**+0.2**
P18K				IAML			02 27 31.4	
	comp=N,34nm,3.3s							
P18K	**Big Mountain,**	**4.55**	**312**	P		**Pn**	**02 26 38.8**	**+0.4**
	baz=126							
RC01	**Rabbit Creek A**	**4.61**	**353**	Pn	**Pn**	**Pn**	**02 26 39.7**	**+0.5**
RC01				IAML			02 27 33.2	
	comp=N,54nm,0.4s							
RC01				IAML			02 27 33.7	
	comp=E,55nm,0.5s							
NCT	**North Crescent**	**4.63**	**332**			**Pn**	**02 26 40.1**	**+0.5**
BERG	**Berg Lake**	**4.65**	**32**			**Pn**	**02 26 39.5**	**-0.2**
SNH	**Sunshine Point**	**4.75**	**37**	Pn		**Pn**	**02 26 41.8**	**+0.6**
O18K	**Koktuh Hills**	**4.83**	**316**			**Pn**	**02 26 42.8**	**+0.6**
O18K				IAML			02 27 41.1	
	comp=N,26nm,1.4s							
O18K				IAML			02 27 42.6	
	comp=E,21nm,1.5s							
SUA	**Susitna One**	**5.07**	**348**	Pn	**Pn**	**Pn**	**02 26 45.8**	**+0.2**
SUA				IAML			02 27 43.1	
	comp=N,42nm,2.9s							
SUA				IAML			02 27 47.7	
	comp=E,27nm,1.3s							
PMR	**Palmer**	**5.08**	**357**	Pn	**Pn**	**Pn**	**02 26 45.3**	**-0.4**
PMR				IAML			02 27 43.1	
	comp=N,25nm,1.1s							
PMR				IAML			02 27 44.3	
	comp=E,30nm,0.7s							
KLU	**Klutina**	**5.16**	**14**			**Pn**	**02 26 47.2**	**+0.4**
KLU				IAML			02 27 51.8	
	comp=N,35nm,1.3s							
KLU				IAML			02 27 57.4	
	comp=E,38nm,3.2s							
GHO	**Glory Hole Cre**	**5.26**	**358**	Pn	**Pn**	**Pn**	**02 26 49.2**	**+1.0**
GHO				IAML			02 27 50.6	
	comp=E,46nm,0.6s							
N19K	**Bonanza Creek**	**5.28**	**327**	Pn		**Pn**	**02 26 48.6**	**+0.1**
N19K				IAML			02 28 01.2	
	comp=E,25nm,2.9s							
SML	**Sawmill**	**5.29**	**1**	Pn	**Pn**	**Pn**	**02 26 49.5**	**+0.9**
SML				IAML			02 27 51.7	
	comp=N,41nm,1.1s							
SML				IAML			02 27 54.8	

comp=E,35nm,1.1s
VRDI **Verde Repeater** 5.41 27 Pn Pn 02 26 50.9 +0.6
VRDI IAML 02 27 47.2
comp=E,33nm,4.4s
N25K **Chitina, Valde** 5.49 20 Pn 02 26 52.5 +1.1
GLB **Gilahina Butte** 5.51 25 Pn 02 26 52.2 +0.6
N18K **Kilae Creek** 5.64 321 Pn Pn 02 26 53.7 +0.4
MCARA **McCarthy VSAT** 5.65 28 Pn 02 26 54.0 +0.5
M24K **Tolsona, Glenn** 5.73 12 Pn 02 26 55.8 +1.2
BARN **Barnard Glacie** 5.80 36 Pn 02 26 56.1 +0.5
M20K **Styx River** 5.85 338 Pn Pn 02 26 56.9 +0.6
O16K **Kokwok River B** 5.90 305 Pn Pn 02 26 57.5 +0.7
M19K **Big River Lodg** 6.15 334 Pn Pn 02 27 00.0 -0.3
CNBA **Chernabura Isl** 6.45 259 Pn Pn 02 27 05.1 +0.7
DHY **Denali Highway** 6.59 5 Pn 02 27 07.9 +1.3
M17K **Holitna River** 6.68 321 Pn Pn 02 27 08.7 +1.0
S31K **Pelican** 6.86 73 Pn Pn 02 27 09.2 -0.9
M16K **Timber Creek** 7.01 314 Pn Pn 02 27 13.3 +1.1
N15K **Kwethluk River** 7.06 306 Pn Pn 02 27 14.6 +1.8
HYT **Haines Junctio** 7.21 49 Pn Pn 02 27 15.2 +0.3
BCAR **Beaver Creek A** 7.39 25 Pn Pn 02 27 18.7 +1.3
TTA **Tatalina** 7.42 333 Pn Pn 02 27 18.0 +0.1
RIDG **Independent Ri** 7.47 13 Pn 02 27 19.6 +1.1
L16K **Owhat River** 7.63 317 Pn Pn 02 27 20.9 +0.3
SKAG **Skagway** 7.64 62 Pn Pn 02 27 22.1 +1.5
S32K **Killisnoo** 7.72 77 Pn Pn 02 27 21.6 -0.2
O30N **Mendenhall** 7.78 52 Pn Pn 02 27 23.5 +0.8
M29M **Somme Creek** 7.85 37 Pn 02 27 24.5 +0.8
JIS **Juneau Island** 7.88 71 Pn Pn 02 27 24.1 +0.1
K17K **Iditarod** 7.91 326 Pn Pn 02 27 24.6 +0.2
J18K **Innoko River** 8.05 333 Pn Pn 02 27 26.3 -0.1
L29M **L29M** 8.44 34 Pn 02 27 32.8 +1.1
L14K **Kuka Creek** 8.72 309 Pn Pn 02 27 37.6 +2.1
DAWY **Dawson** 8.82 27 Pn Pn 02 27 38.1 +1.1
P33M **Teslin, Yukon** 9.07 59 Pn Pn 02 27 41.1 +0.7
N32M **Quiet Lake** 9.27 54 Pn Pn 02 27 43.8 +0.6
H21K **Melozitna Rive** 9.38 349 Pn 02 27 44.9 +0.4
R33M **Jennings River** 9.79 66 Pn Pn 02 27 51.3 +0.9
IMAR **Indian Mountai** 9.80 348 Pn Pn 02 27 50.7 +0.4
DLBC **Dease Lake** 10.18 71 Pn Pn 02 27 57.1 +1.5

IDC ***27*** *02:29:49.3±2.2, 3°.65S×146°.87E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=80.1km s-min=24.1km az=105.0*

ISC 27 02:29:53.2±1.9, 3°.6S±0°.2×146°.8E±0°.5, h25km, n9, σ1§44/9, mb3.8/8, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.24**	**216**	P	**P**	**02 34 26.4**	**-0.4**
	5.6nm,0.8s,baz=39,slow=12,SNR=6.4 5.6nm,0.8s						
ASAR	**Alice Springs**	**23.47**	**211**	P	**P**	**02 35 00.8**	**-0.3**
	3.0nm,0.8s,baz=42,slow=8.8,SNR=5.1 3.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**49.42**	**346**	P	**P**	**02 38 40.2**	**-0.9**
	2.7nm,0.8s,baz=155,slow=11,SNR=4.9 2.7nm,0.8s						
SONM	**Songino Array**	**62.23**	**330**	P	**P**	**02 40 11.8**	**-1.2**
	0.5nm,0.8s,baz=128,slow=11,SNR=2.2 0.5nm,0.8s						
MKAR	**Makanchi Array**	**75.53**	**320**	P	**P**	**02 41 36.3**	**+0.7**
	0.5nm,0.9s,baz=92,slow=7.7,SNR=2.5 0.5nm,0.9s						
ZALV	**Zalesovo Beam**	**76.89**	**328**	P	**P**	**02 41 44.5**	**+1.3**
	0.2nm,0.3s,baz=98,slow=6.0,SNR=1.7 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**79.20**	**323**	P	**P**	**02 41 57.3**	**+1.2**
	0.4nm,0.4s,baz=107,slow=5.9,SNR=1.7 0.4nm,0.4s						
ILAR	**Eielson Array**	**83.41**	**23**	P	**P**	**02 42 18.1**	**-0.1**
	0.5nm,0.9s,baz=252,slow=6.4,SNR=0.8 0.5nm,0.9s						
BVAR	**Borovoye Array**	**84.72**	**324**	P	**P**	**02 42 27.6**	**+2.5**
	0.6nm,0.7s,baz=104,slow=6.1,SNR=2.9 0.6nm,0.7s						

NOU ***27*** *02:30:29.4, 40°.28S×173°.94E, h152km, MLv5.1/16, Cook Strait, New Zealand*

IDC ***27*** *02:30:30.6±0.5, 40°.12S×174°.05E, h140km±4km, mb4.1/10, mbtmp4.6/11, Error ellipse: s-maj=14.2km s-min=9.8km az=155.0*

WEL ***27*** *02:30:32.0±0.7, 40°S±3°×17°4E±°, h124km±7km, M5.1/36, MLv5.1/36, Error ellipse: s-maj=0.0km s-min=0.0km az=97.9, confirmed*

NEIC ***27*** *02:30:31.1±1.9, 40°.34S±0°.06×173°.97E±0°.06, h135km±4km, mb4.7/22, Error ellipse: s-maj=8.3km s-min=6.7km az=161.0*

ISC 27 02:30:30.9±0.4, 40°.35S±0°.03×173°.95E±0°.04, h142km±3km, n296, σ1§40/320, mb4.7/29, 4C-1D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.46**	**183**	P	**Pn**	**02 30 50.9**	**-0.2**
DUWZ				S	**Sn**	**02 31 04.9**	**-1.7**
KIW	**Kapiti Island**	**0.89**	**125**	P	**Pn**	**02 30 53.8**	**-0.2**
KIW				S	**Sn**	**02 31 09.2**	**-2.4**
TCW	**Tory Channel**	**0.90**	**164**		**Pn**	**02 30 54.3**	**+0.3**
TCW				Sn	**Sn**	**02 31 10.0**	**-1.7**
TCW	**Tory Channel**	**0.90**	**164**	P	**Pn**	**02 30 54.3**	**+0.3**
TCW				S	**Sn**	**02 31 09.8**	**-1.9**
NMEZ	**Namu Road**	**0.93**	**357**	P	**Pn**	**02 30 53.9**	**-0.4**
LREZ	**Lake Rotokare**	**0.95**	**22**	P	**Pn**	**02 30 54.3**	**-0.2**
LREZ				S	**Sn**	**02 31 11.8**	**-0.6**
NNZ	**Nelson**	**0.97**	**206**		**Pn**	**02 30 54.6**	**+0.1**
NNZ				Sn	**Sn**	**02 31 11.6**	**-1.1**
NNZ	**Nelson**	**0.97**	**206**	P	**Pn**	**02 30 54.7**	**+0.1**
WAZ	**Wanganui**	**0.99**	**54**	P	**Pn**	**02 30 55.0**	**+0.1**
WAZ				S	**Sn**	**02 31 13.0**	**0.0**
PREZ	**Palmer Road**	**1.02**	**9**	P	**Pn**	**02 30 54.7**	**-0.4**
TKNZ	**Takaka Hill**	**1.02**	**227**		**Pn**	**02 30 54.7**	**-0.4**
TKNZ				Sn	**Sn**	**02 31 12.0**	**-1.5**
TKNZ	**Takaka Hill**	**1.02**	**227**	P	**Pn**	**02 30 54.7**	**-0.4**
OGWZ	**Otaki Gorge**	**1.04**	**117**	P	**Pn**	**02 30 55.2**	**0.0**
OGWZ				S	**Sn**	**02 31 11.6**	**-2.3**
KHEZ	**Kahui Hut**	**1.05**	**3**	P	**Pn**	**02 30 54.9**	**-0.6**
KHEZ	**Kahui Hut**	**1.05**	**3**	P	**Pn**	**02 30 55.1**	**-0.5**
OHWZ	**Ohakea**	**1.05**	**83**	P	**Pn**	**02 30 55.5**	**+0.1**
OHWZ				S	**Sn**	**02 31 13.3**	**-0.7**
NBEZ	**Newall Road No**	**1.08**	**357**	P	**Pn**	**02 30 55.4**	**-0.3**
NEZ	**North Egmont**	**1.08**	**6**	P	**Pn**	**02 30 55.0**	**-0.7**
TUWZ	**Tuamarina**	**1.08**	**180**		**Pn**	**02 30 55.5**	**-0.1**
TUWZ				Sn	**Sn**	**02 31 12.2**	**-2.3**
TNWZ	**Tuamarina**	**1.08**	**180**	P	**Pn**	**02 30 55.6**	**-0.1**
SNZO	**South Karori**	**1.12**	**149**		**Pn**	**02 30 55.8**	**-0.2**
SNZO	**South Karori**	**1.12**	**149**	P	**Pn**	**02 30 55.8**	**-0.2**
WEL	**Wellington**	**1.12**	**147**	P	**Pn**	**02 30 56.1**	**+0.1**
CAW	**Cannon Point**	**1.14**	**132**	P	**Pn**	**02 30 56.1**	**0.0**
PKE	**Pukeiti**	**1.15**	**1**	P	**Pn**	**02 30 55.9**	**-0.5**
DREZ	**Durham Road**	**1.17**	**10**	P	**Pn**	**02 30 56.1**	**-0.4**
QRZ	**Quartz Range**	**1.18**	**246**		**Pn**	**02 30 56.0**	**-0.6**
QRZ	**Quartz Range**	**1.18**	**246**	P	**Pn**	**02 30 56.0**	**-0.6**
QRZ	**Quartz Range**	**1.18**	**246**	P	**Pn**	**02 30 56.0**	**-0.6**
BHW	**Baring Head**	**1.27**	**147**		**Pn**	**02 30 57.2**	**-0.2**
BHW	**Baring Head**	**1.27**	**147**	P	**Pn**	**02 30 57.3**	**-0.2**
MRZ	**Mangatainoka R**	**1.28**	**105**		**Pn**	**02 30 57.2**	**-0.3**
MRZ	**Mangatainoka R**	**1.28**	**105**	P	**Pn**	**02 30 57.3**	**-0.3**
MHEZ	**Mangahewa**	**1.30**	**13**	P	**Pn**	**02 30 57.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.31**	**115**	P	**Pn**	**02 30 57.6**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.37**	**182**		**Pn**	**02 30 58.7**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.37**	**182**	P	**Pn**	**02 30 58.8**	**+0.3**
VRZ	**Vera Road**	**1.37**	**27**	P	**Pn**	**02 30 57.9**	**-0.6**
MRNZ	**Matariki Terra**	**1.39**	**220**		**Pn**	**02 30 58.4**	**-0.2**
MRNZ	**Matariki Terra**	**1.39**	**220**	P	**Pn**	**02 30 58.5**	**-0.2**
POWZ	**Post Office Ro**	**1.39**	**92**	P	**Pn**	**02 30 58.2**	**-0.4**
CMWZ	**Cape Campbell**	**1.42**	**172**		**Pn**	**02 30 59.6**	**+0.7**
CMWZ	**Cape Campbell**	**1.42**	**172**	P	**Pn**	**02 30 59.7**	**+0.7**
MTW	**Mount Morrison**	**1.43**	**125**	P	**Pn**	**02 30 58.9**	**-0.2**
MSWZ	**Moikau Station**	**1.45**	**138**		**Pn**	**02 30 59.1**	**-0.2**
MSWZ	**Moikau Station**	**1.45**	**138**	P	**Pn**	**02 30 59.5**	**+0.1**
PKVZ	**Pokaka**	**1.51**	**46**	P	**Pn**	**02 30 59.4**	**-0.6**
MTVZ	**Mangateitei**	**1.52**	**51**	P	**Pn**	**02 30 59.5**	**-0.6**
PAWZ	**Paruwai Farm**	**1.52**	**133**	P	**Pn**	**02 30 60.0**	**-0.1**
TIWZ	**Tintock**	**1.54**	**107**	P	**Pn**	**02 31 00.0**	**-0.2**
PRWZ	**Pori Road**	**1.56**	**98**	P	**Pn**	**02 31 00.3**	**-0.1**
TSZ	**Takapari Road**	**1.57**	**80**	P	**Pn**	**02 31 00.0**	**-0.6**
PLWZ	**Palliser**	**1.57**	**141**		**Pn**	**02 31 00.4**	**-0.2**
PLWZ	**Palliser**	**1.57**	**141**	P	**Pn**	**02 31 00.4**	**-0.2**
TRVZ	**Turoa**	**1.62**	**50**	P	**Pn**	**02 31 00.5**	**-0.9**
THZ	**Tophouse**	**1.62**	**209**		**Pn**	**02 31 01.1**	**0.0**
THZ	**Tophouse**	**1.62**	**209**	P	**Pn**	**02 31 01.2**	**0.0**
WNVZ	**Wahianoa**	**1.63**	**52**	P	**Pn**	**02 31 00.6**	**-0.8**
MAVZ	**Matarangi**	**1.65**	**50**	P	**Pn**	**02 31 00.8**	**-1.0**
FWVZ	**Far West T-bar**	**1.65**	**49**	P	**Pn**	**02 31 00.8**	**-1.0**
WHVZ	**Whangaehu Hut**	**1.65**	**50**	P	**Pn**	**02 31 00.9**	**-0.9**
TMWZ	**Te Maipa**	**1.66**	**118**	P	**Pn**	**02 31 01.4**	**-0.2**
MOVZ	**Moawhango**	**1.68**	**57**	P	**Pn**	**02 31 00.8**	**-1.1**
COVZ	**Chateau Observ**	**1.68**	**48**	P	**Pn**	**02 31 01.0**	**-1.0**
TRWZ	**Traveller**	**1.69**	**129**	P	**Pn**	**02 31 01.7**	**-0.2**
DVHZ	**Dannevirke**	**1.70**	**89**	P	**Pn**	**02 31 01.3**	**-0.7**
TUVZ	**Tukino**	**1.70**	**51**	P	**Pn**	**02 31 01.4**	**-0.8**
TWVZ	**Taurewa**	**1.72**	**43**	P	**Pn**	**02 31 01.3**	**-1.1**
NGZ	**Ngauruhoe**	**1.73**	**49**	P	**Pn**	**02 31 01.7**	**-1.0**
SNVZ	**South Ngauruho**	**1.74**	**49**	P	**Pn**	**02 31 01.9**	**-0.9**
SNVZ					P	**Pn**	**02 31 01.9**	**-0.9**
WTVZ	**West Tongariro**	**1.77**	**46**	P	**Pn**	**02 31 02.0**	**-1.0**
NNVZ	**North Ngauruho**	**1.77**	**47**	P	**Pn**	**02 31 02.0**	**-1.0**
OTVZ	**Oturere**	**1.77**	**49**	P	**Pn**	**02 31 02.3**	**-0.8**
PNHZ	**Pukenui**	**1.78**	**77**	P	**Pn**	**02 31 02.1**	**-0.9**
BFZ	**Birch Farm**	**1.78**	**102**		**Pn**	**02 31 02.5**	**-0.5**
BFZ	**Birch Farm**	**1.78**	**102**	P	**Pn**	**02 31 02.4**	**-0.5**
BFZ	**Birch Farm**	**1.78**	**102**	P	**Pn**	**02 31 02.6**	**-0.5**
CPWZ	**Castlepoint**	**1.80**	**109**	P	**Pn**	**02 31 03.5**	**+0.3**
KRVZ	**Karewarewa**	**1.81**	**47**	P	**Pn**	**02 31 02.3**	**-1.1**
ETVZ	**East Tongariro**	**1.82**	**49**	P	**Pn**	**02 31 02.8**	**-0.8**
NTVZ	**North Tongarir**	**1.82**	**47**	P	**Pn**	**02 31 02.6**	**-1.0**
TMVZ	**Te Maari**	**1.83**	**48**	P	**Pn**	**02 31 02.8**	**-0.9**
BHHZ	**Black Hill Sta**	**1.84**	**63**	P	**Pn**	**02 31 02.5**	**-1.2**
KATZ	**Kakaramea**	**1.92**	**45**	P	**Pn**	**02 31 03.8**	**-1.0**
WPHZ	**Waipukurau**	**1.93**	**82**	P	**Pn**	**02 31 04.1**	**-0.6**
ANWZ	**Angora Road**	**1.93**	**94**	P	**Pn**	**02 31 04.3**	**-0.4**
HIZ	**Hauiti**	**1.96**	**21**		**Pn**	**02 31 04.0**	**-1.1**
HIZ	**Hauiti**	**1.96**	**21**	P	**Pn**	**02 31 04.0**	**-1.1**
HIZ	**Hauiti**	**1.96**	**21**	P	**Pn**	**02 31 04.1**	**-1.1**
KRHZ	**Kereru**	**1.99**	**70**	P	**Pn**	**02 31 04.4**	**-1.0**
RITZ	**Rihia Road**	**2.01**	**48**	P	**Pn**	**02 31 04.9**	**-0.8**
RATZ	**Rangitukua**	**2.04**	**44**	P	**Pn**	**02 31 05.1**	**-1.0**
PRHZ	**Porangahau**	**2.06**	**89**	P	**Pn**	**02 31 05.7**	**-0.5**
KHZ	**Kahutara**	**2.09**	**188**		**Pn**	**02 31 06.7**	**+0.2**
KHZ	**Kahutara**	**2.09**	**188**	P	**Pn**	**02 31 06.6**	**0.0**
KHZ	**Kahutara**	**2.09**	**188**	P	**Pn**	**02 31 06.8**	**+0.2**
KWHZ	**Kaweka Forest**	**2.12**	**65**	P	**Pn**	**02 31 06.0**	**-1.0**
DSZ	**Denniston Nort**	**2.14**	**229**		**Pn**	**02 31 06.9**	**-0.3**
DSZ	**Denniston Nort**	**2.14**	**229**	P	**Pn**	**02 31 06.9**	**-0.3**
WATZ	**Wairara**	**2.14**	**41**	P	**Pn**	**02 31 06.7**	**-0.6**
HATZ	**Hinemaiaia**	**2.20**	**49**	P	**Pn**	**02 31 06.4**	**-1.6**
PXZ	**Pawanui**	**2.25**	**83**	P	**Pn**	**02 31 07.7**	**-0.9**
WHTZ	**Whakaora**	**2.29**	**43**	P	**Pn**	**02 31 06.6**	**-2.5**
BKZ	**Black Stump Fm**	**2.29**	**60**	Pn	**Pn**	**02 31 07.5**	**-1.5**
BKZ	**Black Stump Fm**	**2.29**	**60**	P	**Pn**	**02 31 07.2**	**-1.9**
BKZ	**Black Stump Fm**	**2.29**	**60**	P	**Pn**	**02 31 07.6**	**-1.5**
MCHZ	**McNeill Hill**	**2.30**	**68**	P	**Pn**	**02 31 08.4**	**-0.7**
KAHZ	**Kahuranaki**	**2.31**	**77**	P	**Pn**	**02 31 08.4**	**-0.9**
POIZ	**Poihipi**	**2.35**	**44**	P	**Pn**	**02 31 09.1**	**-0.7**
KUTZ	**Kaahu Road**	**2.36**	**39**	P	**Pn**	**02 31 09.3**	**-0.6**
TLZ	**Tolley Road**	**2.36**	**32**	P	**Pn**	**02 31 08.8**	**-1.2**
THQ2	**Tauhara North**	**2.40**	**46**	P	**Pn**	**02 31 09.7**	**-0.7**
ARAZ	**Aratiatia Land**	**2.40**	**45**	P	**Pn**	**02 31 10.1**	**-0.3**
MRHZ	**Matea Rd**	**2.43**	**52**	P	**Pn**	**02 31 09.0**	**-1.9**
CKHZ	**Cape Kidnapper**	**2.50**	**75**	P	**Pn**	**02 31 10.7**	**-0.9**
WPRZ	**Whakapapataria**	**2.50**	**44**	P	**Pn**	**02 31 10.5**	**-1.2**
NMHZ	**Naumai**	**2.53**	**61**	P	**Pn**	**02 31 11.2**	**-0.9**
ALRZ	**Allen Road**	**2.57**	**47**	P	**Pn**	**02 31 11.0**	**-1.5**
ARHZ	**Aropaoanui**	**2.58**	**66**	P	**Pn**	**02 31 11.5**	**-1.1**
GRRZ	**Galatos Road**	**2.60**	**41**	P	**Pn**	**02 31 12.2**	**-0.8**
PRRZ	**Plateau Road**	**2.64**	**47**	P	**Pn**	**02 31 11.9**	**-1.5**
HRRZ	**Hancock Road**	**2.66**	**44**	P	**Pn**	**02 31 12.7**	**-1.0**
MTHZ	**Maungataniwha**	**2.69**	**57**	P	**Pn**	**02 31 12.2**	**-1.8**
GVZ	**Greta Valley S**	**2.71**	**194**		**Pn**	**02 31 13.7**	**-0.5**
GVZ	**Greta Valley S**	**2.71**	**194**	P	**Pn**	**02 31 13.7**	**-0.5**
LTZ	**Lake Taylor**	**2.74**	**207**	Pn	**Pn**	**02 31 13.9**	**-0.8**
LTZ	**Lake Taylor**	**2.74**	**207**	P	**Pn**	**02 31 14.0**	**-0.7**
UTU	**Utuhina**	**2.78**	**40**	P	**Pn**	**02 31 14.8**	**-0.4**
HLRZ	**Highlands Stat**	**2.80**	**42**	P	**Pn**	**02 31 14.9**	**-0.6**
RAHZ	**Arahi**	**2.81**	**60**	P	**Pn**	**02 31 14.1**	**-1.5**
RRRZ	**Republican Roa**	**2.82**	**46**	P	**Pn**	**02 31 14.3**	**-1.5**
WHHZ	**Waihua**	**2.83**	**64**	P	**Pn**	**02 31 14.5**	**-1.3**
NGRZ	**Ngongotaha**	**2.84**	**39**	P	**Pn**	**02 31 15.4**	**-0.6**
MUGZ	**Murupara**	**2.88**	**50**	P	**Pn**	**02 31 14.3**	**-2.1**
TOZ	**Tahuroa Road**	**2.88**	**25**	Pn	**Pn**	**02 31 14.6**	**-1.7**
TOZ	**Tahuroa Road**	**2.88**	**25**	P	**Pn**	**02 31 14.7**	**-1.7**
TARZ	**Mount Tarawera**	**2.90**	**44**	P	**Pn**	**02 31 15.6**	**-1.1**
RTZ	**Ruatahuna**	**2.91**	**55**	Pn	**Pn**	**02 31 14.7**	**-2.3**
RTZ	**Ruatahuna**	**2.91**	**55**	P	**Pn**	**02 31 14.7**	**-2.3**
OMRZ	**Omiania**	**2.92**	**41**	P	**Pn**	**02 31 15.9**	**-1.2**
KARZ	**Kaharoa**	**2.93**	**38**	P	**Pn**	**02 31 16.4**	**-0.7**
KMRZ	**Kaimai**	**2.94**	**32**	P	**Pn**	**02 31 16.4**	**-0.9**
MKRZ	**Makatiti**	**2.95**	**42**	P	**Pn**	**02 31 16.8**	**-0.6**
AMCZ	**Amberley**	**2.99**	**199**		**Pn**	**02 31 16.8**	**-0.9**
AMCZ	**Amberley**	**2.99**	**199**	P	**Pn**	**02 31 16.9**	**-0.9**
INZ	**Inchbonnie**	**3.03**	**218**	Pn	**Pn**	**02 31 17.5**	**-0.8**
INZ	**Inchbonnie**	**3.03**	**218**	P	**Pn**	**02 31 17.5**	**-0.8**
SNGZ	**Shannon Statio**	**3.05**	**60**	P	**Pn**	**02 31 17.1**	**-1.6**
EDRZ	**Edgecumbe**	**3.12**	**45**	P	**Pn**	**02 31 17.6**	**-1.9**
KNZ	**Kokohu**	**3.16**	**66**	P	**Pn**	**02 31 18.0**	**-2.0**
MARZ	**Manawahe**	**3.17**	**43**	P	**Pn**	**02 31 18.9**	**-1.3**
TGRZ	**Tauranga**	**3.17**	**35**	P	**Pn**	**02 31 19.1**	**-1.0**
OPRZ	**Ohinepanea**	**3.22**	**40**	P	**Pn**	**02 31 19.4**	**-1.3**
URZ	**Urewera**	**3.22**	**51**	P	**Pn**	**02 31 18.1**	**-2.6**
URZ	**Urewera**	**3.22**	**51**	P	**Pn**	**02 31 18.2**	**-2.6**
	170nm,0.5s,baz=324,slow=8.0,SNR=161						
URZ					S	**Sn**	**02 31 54.8**	**-4.5**
	1um,0.4s,baz=186,slow=7.9,SNR=18						
URZ	**Urewera**	**3.22**	**51**	P	**Pn**	**02 31 18.2**	**-2.6**
RAGZ	**Rawiri**	**3.26**	**57**	P	**Pn**	**02 31 19.1**	**-2.2**
MHGZ	**Mahia Peninsul**	**3.28**	**70**	P	**Pn**	**02 31 19.8**	**-1.7**
OXZ	**Oxford**	**3.30**	**205**		**Pn**	**02 31 20.0**	**-1.7**
OXZ	**Oxford**	**3.30**	**205**	P	**Pn**	**02 31 20.0**	**-1.7**
AWAZ	**Awhitu Peninsu**	**3.32**	**10**	P	**Pn**	**02 31 21.4**	**-0.7**
PRGZ	**Paritu Road**	**3.35**	**66**	P	**Pn**	**02 31 20.5**	**-2.0**
MKAZ	**Moumakai**	**3.37**	**17**	P	**Pn**	**02 31 21.7**	**-1.1**
RIGZ	**Rimuhau**	**3.37**	**62**	P	**Pn**	**02 31 20.7**	**-2.1**
MWZ	**Matawai**	**3.43**	**55**	P	**Pn**	**02 31 20.9**	**-2.5**
OKCZ	**Okains Bay**	**3.44**	**191**	P	**Pn**	**02 31 22.2**	**-1.4**
WTAZ	**Waiatarua**	**3.44**	**8**	P	**Pn**	**02 31 22.2**	**-0.5**
ETAZ	**East Tamaki Re**	**3.47**	**13**	P	**Pn**	**02 31 23.4**	**-0.7**
MQZ	**McQueen's Vall**	**3.49**	**196**		**Pn**	**02 31 22.2**	**-2.0**
MQZ	**McQueen's Vall**	**3.49**	**196**	P	**Pn**	**02 31 22.1**	**-2.0**
EPAZ	**Eden Park BICE**	**3.52**	**10**	P	**Pn**	**02 31 24.5**	**-0.2**
HBAZ	**Herne Bay Bore**	**3.54**	**10**	P	**Pn**	**02 31 24.7**	**-0.3**
TKGZ	**Te Karaka**	**3.57**	**59**	P	**Pn**	**02 31 23.1**	**-2.2**
RVAZ	**Riverhead Bore**	**3.60**	**8**	P	**Pn**	**02 31 25.1**	**-0.7**
AKCZ	**Akaroa Harbour**	**3.61**	**192**	P	**Pn**	**02 31 24.0**	**-1.7**
WVZ	**Waitaha Valley**	**3.63**	**220**	P	**Pn**	**02 31 24.8**	**-1.3**
RACZ	**Rakaia**	**3.64**	**201**	P	**Pn**	**02 31 24.8**	**-1.3**
MHCZ	**Mount Hutt**	**3.64**	**208**	P	**Pn**	**02 31 24.4**	**-1.9**
MBAZ	**Motutapu North**	**3.65**	**12**	P	**Pn**	**02 31 26.3**	**0.0**
WIAZ	**Waiheke Island**	**3.67**	**15**	P	**Pn**	**02 31 26.1**	**-0.5**
RUGZ	**Raukumara Rang**	**3.75**	**52**	P	**Pn**	**02 31 24.7**	**-3.1**
CNGZ	**Carnagh Statio**	**3.79**	**62**	P	**Pn**	**02 31 26.0**	**-2.2**
ABAZ	**Army Bay**	**3.80**	**11**	P	**Pn**	**02 31 27.9**	**-0.5**
TWGZ	**Tauwhareparae**	**3.81**	**57**	P	**Pn**	**02 31 26.3**	**-2.1**
KUZ	**Kuaotunu**	**3.85**	**22**	P	**Pn**	**02 31 27.6**	**-1.5**
KUZ	**Kuaotunu**	**3.85**	**22**	P	**Pn**	**02 31 27.6**	**-1.5**
WACZ	**Wakanui South**	**3.92**	**203**	P	**Pn**	**02 31 28.3**	**-1.5**
HAZ	**Te Kaha**	**3.95**	**50**	P	**Pn**	**02 31 26.9**	**-3.4**
RPZ	**Rata Peaks**	**4.00**	**212**	Pn	**Pn**	**02 31 28.6**	**-2.3**
RPZ	**Rata Peaks**	**4.00**	**212**	P	**Pn**	**02 31 30.0**	**-0.9**
RPZ	**Rata Peaks**	**4.00**	**212**	P	**Pn**	**02 31 29.5**	**-1.4**
	68nm,0.3s,baz=35,slow=1.6,SNR=112						
RPZ					S	**Sn**	**02 32 13.4**	**-4.0**
	225nm,0.5s,baz=121,slow=24,SNR=27						
RPZ	**Rata Peaks**	**4.00**	**212**	P	**Pn**	**02 31 28.9**	**-1.9**
GCSZ	**Gaunt Creek Bo**	**4.01**	**221**	P	**Pn**	**02 31 29.8**	**-1.2**
PKGZ	**Pakihiroa**	**4.04**	**54**	P	**Pn**	**02 31 28.9**	**-2.6**
PUZ	**Puketiti**	**4.04**	**57**	P	**Pn**	**02 31 28.6**	**-3.0**
ARCZ	**Arundel**	**4.15**	**209**	P	**Pn**	**02 31 30.7**	**-2.2**
GRZ	**Great Barrier**	**4.26**	**17**	P	**Pn**	**02 31 33.5**	**-0.8**
WMGZ	**Waiomatatini S**	**4.29**	**55**	P	**Pn**	**02 31 31.9**	**-2.9**
MXZ	**Matakaoa Point**	**4.39**	**52**	Pn	**Pn**	**02 31 33.4**	**-2.7**
MXZ	**Matakaoa Point**	**4.39**	**52**	P	**Pn**	**02 31 33.9**	**-2.2**
MXZ	**Matakaoa Point**	**4.39**	**52**	P	**Pn**	**02 31 33.4**	**-2.7**
WCZ	**Waipu Caves**	**4.41**	**4**	P	**Pn**	**02 31 36.0**	**-0.4**
FOZ	**Fox Glacier**	**4.43**	**223**	Pn	**Pn**	**02 31 34.5**	**-2.1**
FOZ	**Fox Glacier**	**4.43**	**223**	P	**Pn**	**02 31 34.6**	**-1.9**
TMZ	**Timaru**	**4.58**	**207**	P	**Pn**	**02 31 36.8**	**-1.8**
LBZ	**Lake Benmore**	**4.91**	**213**	P	**Pn**	**02 31 40.7**	**-2.2**
OUZ	**Omahuta**	**5.13**	**357**	P	**Pn**	**02 31 46.5**	**+0.6**
ODZ	**Otahua Downs**	**5.29**	**206**	P	**Pn**	**02 31 47.0**	**-0.9**
ODZ	**Otahua Downs**	**5.29**	**206**	P	**Pn**	**02 31 46.3**	**-1.6**
JCZ	**Jackson Bay**	**5.34**	**224**	P	**Pn**	**02 31 47.0**	**-1.8**
JCZ	**Jackson Bay**	**5.34**	**224**	P	**Pn**	**02 31 46.7**	**-2.1**
WKZ	**Wanaka**	**5.77**	**217**	P	**Pn**	**02 31 51.7**	**-2.7**
EAZ	**Earnscleugh**	**5.96**	**213**	P	**Pn**	**02 31 54.2**	**-2.7**
HHSZ	**Highcliff Hill**	**6.05**	**203**	P	**Pn**	**02 31 57.1**	**-1.0**
TUZ	**Tuapeka**	**6.43**	**208**	P	**Pn**	**02 32 02.2**	**-1.0**
MLZ	**Mavora Lakes**	**6.60**	**219**	P	**Pn**	**02 32 03.4**	**-2.0**
WHZ	**Wether Hill Ro**	**7.07**	**216**	P	**Pn**	**02 32 09.6**	**-2.2**
SYZ	**Scrubby Hill**	**7.11**	**208**	P	**Pn**	**02 32 11.8**	**-0.4**
SYZ	**Scrubby Hill**	**7.11**	**208**	P	**Pn**	**02 32 10.6**	**-1.6**
APZ	**The Paps**	**7.79**	**212**	P	**Pn**	**02 32 19.2**	**-2.3**
CTZ	**Chatham Island**	**7.79**	**119**		**Pn**	**02 32 20.3**	**-1.1**
CTZ	**Chatham Island**	**7.79**	**119**	P	**Pn**	**02 32 21.0**	**-0.5**
CTZ	**Chatham Island**	**7.79**	**119**	P	**Pn**	**02 32 20.7**	**-0.8**
PYZ	**Puysegur Point**	**7.87**	**220**	P	**Pn**	**02 32 22.0**	**-0.5**
PYZ	**Puysegur Point**	**7.87**	**220**	P	**Pn**	**02 32 20.8**	**-1.7**
DZM	**Mont Dzumac**	**19.30**	**338**	P	**Pn**	**02 34 46.6**	**-1.0**
DZM				IAmb	IAmb	02 34 58.4	
	comp=Z,14nm,1.1s						
TOO	**Toolangi**	**22.26**	**268**	P	**P**	**02 35

comp=Z,0.5nm,0.6s,baz=116,slow=1.9,SNR=4.4
KBZ Khabaz 143.91 292 PKP **PKPdf** 02 49 46.5 -2.3
comp=Z,3.6nm,0.8s,baz=120,slow=2.4,SNR=7.5
MMAI Mount Meron Ar 146.20 271 PKPbc **PKPab** 02 49 54.8 -0.8
comp=Z,1.0nm,0.4s,baz=96,slow=6.8,SNR=7.5
MMAI pPKPbc **pPKPdf** 02 50 30.5 -0.6
comp=Z,2.4nm,0.6s,baz=97,slow=4.3,SNR=2.3
ARCES ARCESS Array B 146.38 341 PKPbc **PKPab** 02 49 52.7 -2.4
comp=Z,4.8nm,0.8s,baz=45,slow=2.1,SNR=15
ARCES pPKPbc **pPKPdf** 02 50 29.8 -0.4
comp=Z,4.0nm,0.7s,baz=50,slow=2.7,SNR=3.2
DBIC Dimbokro 146.45 182 PKPbc **PKPab** 02 49 55.1 -1.7
DBIC Dimbokro 146.45 182 PKPbc **PKPab** 02 49 55.2 -1.6
comp=Z,16nm,0.5s,baz=164,slow=3.9,SNR=42
DBIC pPKPbc **pPKPdf** 02 50 31.1 -0.8
comp=Z,5.1nm,0.8s,baz=222,slow=7.4,SNR=2.6
BRTR Keskin Array B 149.78 282 PKPbc **PKPbc** 02 50 02.5 -1.5
BRTR Keskin Array B 149.78 282 PKPbc **PKiKP** 02 50 02.6 -2.3
comp=Z,1.3nm,0.8s,baz=127,slow=6.3,SNR=7.7
BRTR PKPab **PKPab** 02 50 09.6 -0.3
comp=Z,1.1nm,0.7s,baz=137,slow=4.5,SNR=5.3
BRTR pPKPbc **pPKPdf** 02 50 39.0 +2.2
comp=Z,0.9nm,0.8s,baz=158,slow=4.0,SNR=2.5
FINES FINESS Array B 151.23 328 PKPbc **PKiKP** 02 50 05.1 -1.8
comp=Z,2.5nm,1.0s,baz=58,slow=4.7,SNR=4.8
FINES PKPab **PKPab** 02 50 12.7 -2.2
comp=Z,1.7nm,0.6s,baz=38,slow=4.5,SNR=5.7
FINES pPKPbc **pPKPbc** 02 50 41.9 -2.1
comp=Z,2.2nm,0.6s,baz=58,slow=4.7,SNR=3.8
TOA0 Torodi Ar. Sit 152.06 196 PKPbc **PKiKP** 02 50 08.7 -1.4
TORD Torodi Ar. Bea 152.06 196 PKPdf **PKPdf** 02 50 02.9 -0.2
TORD PKPbc **PKiKP** 02 50 08.6 -1.5
TORD PKPab **PKPab** 02 50 19.2 -0.4
TORD Torodi Ar. Bea 152.06 196 PKPbc **PKiKP** 02 50 08.9 -1.1
comp=Z,1.8nm,0.5s,baz=160,slow=3.3,SNR=40
BURAR Bucovina Array 156.47 298 PKPab **PKPab** 02 50 38.2 +0.3
HFS Hagfors 156.68 335 PKPab **PKPab** 02 50 37.1 -1.1
comp=Z,0.9nm,0.5s,baz=106,slow=5.4,SNR=5.0
HFS pPKPab **pPKPab** 02 51 13.3 -1.3
comp=Z,0.7nm,0.4s,baz=74,slow=6.3,SNR=2.3
CLL Collm 162.84 316 *e*PKPab **PKPab** 02 51 06.0 +0.7

MOS ***27*** *02:34:50.9±0.9,55˚.47N×166˚.53E,h10km,mb4.9/46, MS4.0/6,Error ellipse: s-maj=5.6km s-min=4.7km az=47.4*
IDC ***27*** *02:34:51.2±0.5,55˚.49N×166˚.40E,h0km,mb4.3/37, mbtmp4.4/41,ML4.4/4,MS4.0/24,Error ellipse: s-maj=13.9km s-min=8.9km az=165.0*
KRSC ***27*** *02:34:52.4±1.6,55˚.30N×166˚.45E,h40km±9km,Ml4.9*
NEIC ***27*** *02:34:53.2±1.4,55˚.5N±0˚.1×166˚.5E±0˚.1,h10km±1km, mb4.9/121,Error ellipse: s-maj=17.6km s-min=10.4km az=167.0*
BJI ***27*** *02:34:54.2±0.0,55˚.64N×166˚.63E,h40km,mb4.6/51, mB5.2/30,Ms4.8/21,Ms7 4.5/19*
GCMT ***27*** *02:34:54.2±0.4,55˚.47N±0˚.02×166˚.43E±0˚.05,h27km±1km, MW5.1/83,Moment Tensor Solution. s14,c15; s83,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.93±.46; $M_{\theta\theta}$-5.06±.29; $M_{\phi\phi}$ 1.14±.24; $M_{r\theta}$ 1.20±.39; $M_{\theta\phi}$ 2.07±.21; $M_{r\phi}$~1.74±.46; Best double couple: M_o5.37000×10^{16} NP1:ϕ_s128.00000°,δ59.00000°,λ117.00000°. NP2: ϕ_s263.00000°,δ41.00000°,λ53.00000°. Principal axes: T 4.7690, Plg65.0000°, Azm87.0000°; N 1.2110, Plg23.0000°, Azm293.0000°; P -5.9700, Plg10.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 02:34:55.2±0.5,**55˚.39N**±0˚.04×**166˚.46E**±0˚.03,**h30**km±3km, **h30**km;**pP-P,n665,**σ1**$\ddagger$15**/697,**mb4.7**/135,**MS4.2**/31, **10C-8D,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.34**	**237**	PN	**Pb**	**02 35 01.4**	**-1.7**
BKI				S	**Sb**	**02 35 07.2**	**-1.3**
BKI	**Bering**	**0.34**	**237**	*e*P	**Pb**	**02 35 01.4**	**-1.7**
BKI				*e*S	**Sb**	**02 35 07.2**	**-1.3**
KBG	**Krutoberegovo**	**2.29**	**294**	PN	**Pn**	**02 35 29.3**	**-1.6**
KBG	**Krutoberegovo**	**2.29**	**294**	*e*P	**Pn**	**02 35 29.3**	**-1.6**
SMKR	**Semkarok**	**3.05**	**295**	PN	**Pn**	**02 35 41.3**	**-0.2**
SMKR	**Semkarok**	**3.05**	**295**	*e*P	**Pn**	**02 35 41.2**	**-0.2**
BDR	**Baidarnaya**	**3.18**	**294**	PN	**Pn**	**02 35 43.1**	**-0.1**
BDR				S	**Sn**	**02 36 20.7**	**+0.5**
BDR	**Baidarnaya**	**3.18**	**294**	*e*P	**Pn**	**02 35 43.1**	**-0.1**
BDR				*e*S	**Sn**	**02 36 20.7**	**+0.5**
SRKR	**Sorokina**	**3.23**	**295**	PN	**Pn**	**02 35 43.5**	**-0.4**
SRKR	**Sorokina**	**3.23**	**295**	*e*P	**Pn**	**02 35 43.5**	**-0.4**
ZLN	**Zelenaya**	**3.26**	**283**	PN	**Pn**	**02 35 45.1**	**+0.7**
ZLN	**Zelenaya**	**3.26**	**283**	*e*P	**Pn**	**02 35 45.1**	**+0.7**
CIRR	**Tsirk**	**3.31**	**285**	PN	**Pn**	**02 35 45.7**	**+0.6**
CIRR	**Tsirk**	**3.31**	**285**	*e*P	**Pn**	**02 35 45.7**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**3.31**	**282**	PN	**Pn**	**02 35 45.6**	**+0.5**
BZGR				S	**Sn**	**02 36 25.6**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**3.31**	**282**	*e*P	**Pn**	**02 35 45.6**	**+0.5**
BZGR				*e*S	**Sn**	**02 36 25.6**	**+2.1**
BZP	**Bezymyannyi-Pe**	**3.40**	**281**	*e*P	**Pn**	**02 35 47.6**	**+1.3**
KLY	**Klyuchi**	**3.40**	**288**	PN	**Pn**	**02 35 44.5**	**-1.7**
KLY				S	**Sn**	**02 36 22.7**	**-2.8**
KLY	**Klyuchi**	**3.40**	**288**	*e*P	**Pn**	**02 35 44.5**	**-1.7**
KLY				*e*S	**Sn**	**02 36 22.7**	**-2.8**
BZMR	**Bezymyannaya**	**3.43**	**282**	PN	**Pn**	**02 35 47.9**	**+1.2**
BZMR	**Bezymyannaya**	**3.43**	**282**	*e*P	**Pn**	**02 35 47.9**	**+1.2**
BZWR	**Bezymyannyi-We**	**3.43**	**282**	PN	**Pn**	**02 35 47.8**	**+1.1**
BZWR	**Bezymyannyi-We**	**3.43**	**282**	*e*P	**Pn**	**02 35 47.8**	**+1.1**
TUMD	**Tumrok D**	**3.47**	**269**	*e*P	**Pn**	**02 35 47.3**	**+0.1**
TUMD				*e*S	**Sn**	**02 36 28.8**	**+1.6**
KIRR	**Kirishev**	**3.51**	**282**	PN	**Pn**	**02 35 48.3**	**+0.4**
KIRR				S	**Sn**	**02 36 30.1**	**+1.7**
KIRR	**Kirishev**	**3.51**	**282**	*e*P	**Pn**	**02 35 48.3**	**+0.4**
KIRR				*e*S	**Sn**	**02 36 30.1**	**+1.7**
KMNR	**Kamenistaya**	**3.55**	**279**	PN	**Pn**	**02 35 49.4**	**+1.0**
KMNR				S	**Sn**	**02 36 31.8**	**+2.4**
KMNR	**Kamenistaya**	**3.55**	**279**	*e*P	**Pn**	**02 35 49.4**	**+1.0**
KMNR				*e*S	**Sn**	**02 36 31.8**	**+2.4**
KPT	**Kopyto**	**3.58**	**282**	PN	**Pn**	**02 35 50.0**	**+1.2**
KPT				S	**Sn**	**02 36 32.3**	**+2.2**
KPT	**Kopyto**	**3.58**	**282**	*e*P	**Pn**	**02 35 50.0**	**+1.2**
KPT				*e*S	**Sn**	**02 36 32.3**	**+2.2**
TUMR	**Tumrok**	**3.61**	**271**	PN	**Pn**	**02 35 50.3**	**+1.1**
TUMR				S	**Sn**	**02 36 34.0**	**+3.2**
TUMR	**Tumrok**	**3.61**	**271**	*e*P	**Pn**	**02 35 50.3**	**+1.1**
TUMR				*e*S	**Sn**	**02 36 34.0**	**+3.2**
KOZ	**Kozyrevsk**	**3.79**	**283**	PN	**Pn**	**02 35 52.6**	**+1.1**
KOZ	**Kozyrevsk**	**3.79**	**283**	*e*P	**Pn**	**02 35 52.6**	**+1.1**
SRDR	**Sredinnyy**	**3.91**	**287**	PN	**Pn**	**02 35 53.8**	**+0.5**
SRDR	**Sredinnyy**	**3.91**	**287**	*e*P	**Pn**	**02 35 53.8**	**+0.5**
SPN	**Mys Shipunski**	**4.42**	**241**	PN	**Pn**	**02 35 59.8**	**-0.4**
SPN	**Mys Shipunski**	**4.42**	**241**	*e*P	**Pn**	**02 35 59.8**	**-0.4**
SPN				*e*S	**Sn**	**02 36 49.7**	**-0.9**
ESO	**Esso**	**4.43**	**280**	PN	**Pn**	**02 36 02.5**	**+2.1**
ESO	**Esso**	**4.43**	**280**	*e*P	**Pn**	**02 36 02.5**	**+2.1**
SMAR	**Somma**	**4.96**	**248**	PN	**Pn**	**02 36 09.1**	**+1.2**
SMAR	**Somma**	**4.96**	**248**	*e*P	**Pn**	**02 36 09.1**	**+1.2**
SMAR				*e*S	**Sn**	**02 37 04.4**	**+0.1**
UGLR	**Uglovaya**	**4.98**	**247**	PN	**Pn**	**02 36 09.2**	**+1.2**
UGLR	**Uglovaya**	**4.98**	**247**	*e*P	**Pn**	**02 36 09.2**	**+1.2**
UGLR				*e*S	**Sn**	**02 37 03.9**	**-0.6**
AVH	**Avacha**	**5.00**	**248**	PN	**Pn**	**02 36 09.6**	**+1.4**
AVH	**Avacha**	**5.00**	**248**	*e*P	**Pn**	**02 36 09.6**	**+1.4**
AVH				*e*S	**Sn**	**02 37 05.8**	**+0.9**
KRX	**Arik**	**5.00**	**249**	PN	**Pn**	**02 36 09.4**	**+1.1**
KRX	**Arik**	**5.00**	**249**	*e*P	**Pn**	**02 36 09.4**	**+1.1**
KRX				*e*S	**Sn**	**02 37 04.8**	**-0.4**
KOK	**Koryaka**	**5.04**	**249**	PN	**Pn**	**02 36 09.9**	**+1.1**
KOK	**Koryaka**	**5.04**	**249**	*e*P	**Pn**	**02 36 09.9**	**+1.1**
DALK	**Dalny**	**5.10**	**246**	PN	**Pn**	**02 36 10.0**	**+0.4**
DALK	**Dalny**	**5.10**	**246**	*e*P	**Pn**	**02 36 10.0**	**+0.4**
DALK				*e*S	**Sn**	**02 37 07.3**	**-0.2**
PET	**Petropavlovsk**	**5.16**	**246**		**Pn**	**02 36 11.6**	**+1.2**
PET	**Petropavlovsk**	**5.16**	**246**	*e*PN	**Pn**	**02 36 10.8**	**+0.5**
PET				pmax	pmax		
	comp=Z,319nm,0.8s						
PET				MLR	MLR		
	comp=Z,3μm,17.0s						
PET	**Petropavlovsk**	**5.16**	**246**	*e*P	**Pn**	**02 36 11.8**	**+1.4**
PET				*e*S	**Sn**	**02 37 08.2**	**-0.6**
INSR	**Institute**	**5.16**	**246**	*e*P	**Pn**	**02 36 11.8**	**+1.4**
INSR				*e*S	**Sn**	**02 37 09.5**	**+0.6**
SHEM	**Shemya Is, Ala**	**5.23**	**117**	Pn	**Pn**	**02 36 10.3**	**-0.9**
	comp=Z,15nm,0.3s,baz=43,slow=1.8,SNR=8.2						
SHEM				Sn	**Sn**	**02 37 06.3**	**-4.2**
	comp=Z,3.3nm,0.3s,baz=234,slow=20,SNR=1.4						
	comp=Z,36nm,0.3s						
GNL	**Ganaly**	**5.24**	**255**	PN	**Pn**	**02 36 13.2**	**+1.6**
GNL	**Ganaly**	**5.24**	**255**	*e*P	**Pn**	**02 36 13.2**	**+1.6**
GNL				*e*S	**Sn**	**02 37 13.2**	**+2.1**
KRMR	**Karymshinskiy**	**5.53**	**246**	PN	**Pn**	**02 36 16.6**	**+1.1**
KRMR	**Karymshinskiy**	**5.53**	**246**	*e*P	**Pn**	**02 36 16.6**	**+1.1**
KRMR				*e*S	**Sn**	**02 37 17.4**	**-0.6**
RUS	**Russkaya**	**5.55**	**241**	PN	**Pn**	**02 36 15.8**	**+0.1**
RUS	**Russkaya**	**5.55**	**241**	*e*P	**Pn**	**02 36 15.8**	**+0.1**
RUS				*e*S	**Sn**	**02 37 16.4**	**-2.1**
PEA0B	**Petropavlovsk-**	**5.62**	**250**	Pn	**Pn**	**02 36 17.9**	**+1.2**
PEA0B	**Petropavlovsk-**	**5.62**	**250**	*ce*PN	**Pn**	**02 36 17.9**	**+1.2**
PETK	**Petropavlovsk-**	**5.62**	**250**	Pn	**Pn**	**02 36 17.0**	**+0.3**
PETK	**Petropavlovsk-**	**5.62**	**250**	Pn	**Pn**	**02 36 17.5**	**+0.7**
	comp=Z,27nm,0.3s,baz=69,slow=17,SNR=165						
PETK				Sn	**Sn**	**02 37 21.4**	**+1.1**
	comp=Z,5.0nm,0.3s,baz=60,slow=20,SNR=1.4						
	comp=Z,107nm,0.6s						
MTVR	**Mutnovka**	**5.69**	**243**	PN	**Pn**	**02 36 18.4**	**+0.6**
MTVR	**Mutnovka**	**5.69**	**243**	*e*P	**Pn**	**02 36 18.4**	**+0.6**
MTVR				*e*S	**Sn**	**02 37 21.6**	**-0.5**
GRL	**Gorelyy**	**5.71**	**244**	PN	**Pn**	**02 36 19.0**	**+1.0**
GRL	**Gorelyy**	**5.71**	**244**	*e*P	**Pn**	**02 36 19.0**	**+1.0**
GRL				*e*S	**Sn**	**02 37 22.5**	**0.0**
ASAK	**Asacha**	**5.89**	**243**	PN	**Pn**	**02 36 22.3**	**+1.8**
ASAK	**Asacha**	**5.89**	**243**	*e*P	**Pn**	**02 36 22.3**	**+1.8**
ASAK				*e*S	**Sn**	**02 37 26.7**	**-0.2**
APC	**Apacha**	**6.00**	**250**	PN	**Pn**	**02 36 23.5**	**+1.7**
APC	**Apacha**	**6.00**	**250**	*e*P	**Pn**	**02 36 23.5**	**+1.7**
APC				*e*S	**Sn**	**02 37 30.1**	**+0.7**
KDTR	**Khodutka, Kamc**	**6.14**	**238**	PN	**Pn**	**02 36 23.8**	**-0.1**
KDTR	**Khodutka, Kamc**	**6.14**	**238**	*e*P	**Pn**	**02 36 23.8**	**-0.1**
KDTR				*e*S	**Sn**	**02 37 31.2**	**-1.9**
PAU	**Pauzhetka**	**6.97**	**240**	PN	**Pn**	**02 36 37.0**	**+1.7**
PAU	**Pauzhetka**	**6.97**	**240**	*e*P	**Pn**	**02 36 37.0**	**+1.7**
SKR	**Severo-Kuril's**	**7.81**	**237**	PN	**Pn**	**02 36 47.0**	**+0.2**
SKR	**Severo-Kuril's**	**7.81**	**237**	*e*P	**Pn**	**02 36 47.0**	**+0.2**
MA2	**Magadan**	**9.43**	**303**	LR	LR	02 40 45.6	
	comp=Z,416nm,19.5s,baz=107,slow=38						
SEY	**Seymchan**	**10.44**	**322**	*i* PN	**Pn**	**02 37 20.0**	**-2.7**
SEY	**Seymchan**	**10.44**	**322**	LR	LR	02 41 30.8	
	comp=Z,708nm,19.1s,baz=135,slow=39						
ADK	**Adak**	**10.60**	**102**	Pn	**Pn**	**02 37 25.0**	**0.0**
ADK	**Adak**	**10.60**	**102**	PN	**Pn**	**02 37 25.0**	**0.0**
GSTR	**Great Sitkin T**	**10.86**	**100**	Pn	**Pn**	**02 37 27.8**	**-0.7**
ATKA	**Atka Island**	**11.87**	**98**	Pn	**Pn**	**02 37 40.5**	**-1.8**
BILL	**Bilibino**	**12.70**	**360**	*i* PN	**Pn**	**02 37 52.7**	**-0.8**
OKH	**Okha**	**13.79**	**272**	*de*P	Pn	02 37 58.3	-10
OKH				MLR	MLR		
	comp=E,3μm,18.0s						
OKH				MLR	MLR		
	comp=N,2μm,15.0s						
OKH				MLR	MLR		
	comp=Z,800nm,16.0s						
GAMB	**Gambell**	**13.82**	**44**	P	**Pn**	**02 38 07.2**	**-1.7**
	baz=243						
TYV	**Tymovskoe**	**14.96**	**262**	*e*P	**P**	**02 38 30.2**	**+0.6**
TYV				pmax	pmax		
	comp=Z,13nm,1.3s						
TYV				pmax	pmax		
	comp=Z,500nm,4.1s						
M11K	**Mekoryuk**	**15.31**	**60**	P	**Pn**	**02 38 27.9**	**-0.9**
	baz=263						
UNV	**Unalaska Valle**	**15.70**	**84**	P	**Pn**	**02 38 35.2**	**+1.2**
	baz=287						
TNA	**Tin City**	**16.09**	**40**	P	**Pn**	**02 38 38.6**	**-0.2**
	baz=243,SNR=12						
F14K	**Arctic Creek**	**16.65**	**42**	P	**Pn**	**02 38 45.8**	**-0.2**
	baz=246						
ANM	**Nome**	**16.68**	**45**	Pn	**Pn**	**02 38 45.1**	**-1.3**
ANM	**Nome**	**16.68**	**45**	P	**Pn**	**02 38 47.0**	**+0.6**
	baz=250,SNR=20						
ANM	**Nome**	**16.68**	**45**	P	**Pn**	**02 38 45.1**	**-1.3**
ANM				pmax	pmax		
	comp=Z,68nm,1.4s						
M13K	**Dall Lake**	**16.72**	**60**		**Pn**	**02 38 46.5**	**-0.5**
J14K	**Nanvaranak Lak**	**16.95**	**52**	P	**Pn**	**02 38 50.2**	**+0.4**
	baz=258						
YSS	**Yuzh-Sakhalins**	**17.03**	**250**	Pn	**Pn**	**02 38 49.6**	**-1.3**
YSS	**Yuzh-Sakhalins**	**17.03**	**250**	*e*P	**Pn**	**02 38 50.8**	**-0.1**
YSS				*e*S	**Sn**	**02 41 55.0**	**-4.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
L14K	**Kuka Creek**	**17.13**	**57**	P	**Pn**	**02 38 53.0**	**+1.0**
L14K	**Kuka Creek**	**17.13**	**57**	P	**Pn**	**02 38 53.0**	**+1.0**
	baz=264						
G15K	**Niukluk**	**17.36**	**45**	P	**P**	**02 38 55.6**	**-0.5**
	baz=250,SNR=9.1						
F15K	**North Star Dit**	**17.38**	**42**	P	**Pn**	**02 38 55.4**	**+0.2**
F15K	**North Star Dit**	**17.38**	**42**	P	**Pn**	**02 38 55.8**	**+0.5**
	baz=247						
M14K	**Bethel**	**17.43**	**59**		**Pn**	**02 38 55.9**	**+0.1**
M14K	**Bethel**	**17.43**	**59**	P	**Pn**	**02 38 56.6**	**+0.8**
	baz=266						
N14K	**Kuskokwak Cree**	**17.53**	**62**	P	**P**	**02 38 58.2**	**+0.2**
	baz=269						
L15K	**Ungalak Mounta**	**17.74**	**56**	P	**P**	**02 39 00.6**	**+0.4**
	baz=264						
O14K	**Tigyukauivet M**	**17.75**	**64**	P	**Pn**	**02 39 00.2**	**+0.5**
	baz=272						
K15K	**Wolf Creek Mou**	**17.79**	**54**	P	**P**	**02 39 01.5**	**+0.6**
	baz=262						
H16K	**Elim**	**17.98**	**46**	P	**P**	**02 39 03.3**	**+0.4**
	baz=254,SNR=21						
M15K	**Kasigluk River**	**18.05**	**59**	P	**P**	**02 39 03.9**	**+0.2**
	baz=268						
G16K	**Koyuk River**	**18.16**	**44**	P	**P**	**02 39 05.1**	**+0.2**
	baz=252						
C16K	**Lisburne Hills**	**18.30**	**34**	P	**Pn**	**02 39 06.0**	**-0.5**
C16K	**Lisburne Hills**	**18.30**	**34**	P	**P**	**02 39 06.9**	**+0.5**
	baz=239						
N15K	**Kwethluk River**	**18.33**	**61**	P	**P**	**02 39 07.8**	**+1.0**
	baz=270						
J16K	**Anvik River**	**18.38**	**51**	P	**Pn**	**02 39 07.9**	**+0.4**
	baz=260						
I17K	**Unalakleet**	**18.45**	**49**	P	**Pn**	**02 39 08.8**	**+0.4**
I17K	**Unalakleet**	**18.45**	**49**	P	**Pn**	**02 39 09.0**	**+0.6**
	baz=258,SNR=24						
O15K	**Ungalikthiuk R**	**18.49**	**64**	P	**Pn**	**02 39 09.3**	**+0.4**
	baz=273						
L16K	**Owhat River**	**18.70**	**56**	P	**P**	**02 39 10.9**	**+0.1**
	baz=266						
G17K	**Kiwalik Mounta**	**18.88**	**44**	P	**Pn**	**02 39 13.3**	**-0.1**
	baz=253						
M16K	**Timber Creek**	**18.91**	**59**	P	**Pn**	**02 39 14.1**	**+0.3**
M16K				IAmb	IAmb	02 39 25.1	
	comp=Z,110nm,1.8s						
M16K	**Timber Creek**	**18.91**	**59**	P	**Pn**	**02 39 14.2**	**+0.3**
	baz=268						
F17K	**Baldwin Pennin**	**18.94**	**41**	P	**P**	**02 39 13.7**	**+0.3**
	baz=250						
E17K	**Hotham Inlet**	**18.96**	**39**	P	**Pn**	**02 39 14.4**	**-0.1**
	baz=247,SNR=21						
N16K	**Nishlik Lake**	**18.99**	**60**	P	**P**	**02 39 14.6**	**+0.5**
	baz=270						
JKA	**Kamikawa-asahi**	**19.00**	**244**	P	**P**	**02 39 15.0**	**+0.8**
JKA				IAmb	IAmb	02 39 19.9	
	comp=Z,77nm,1.1s						
ASAJ	**Asahikawa**	**19.00**	**244**	P	**P**	**02 39 16.0**	**+1.7**
ASAJ	**Asahikawa**	**19.00**	**244**	P	**P**	**02 39 16.0**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=35,slow=7.9,SNR=12						
ASAJ				LR	LR	02 47 41.1	
	comp=Z,479nm,19.4s,baz=182,slow=40						
	comp=Z,59nm,1.1s						
H17K	**Granite Mounta**	**19.02**	**46**	P	**Pn**	**02 39 15.5**	**+0.2**
	baz=256						
C17K	**DeLong Mountai**	**19.10**	**35**	P	**P**	**02 39 15.6**	**+0.4**
	baz=242,SNR=14						
L17K	**Donlin**	**19.28**	**55**	P	**P**	**02 39 17.5**	**+0.3**
	baz=266,SNR=9.0						
K17K	**Iditarod**	**19.33**	**53**	P	**Pn**	**02 39 18.6**	**-0.4**
	baz=264						
O16K	**Kokwok River B**	**19.35**	**63**		**P**	**02 39 18.7**	**+0.7**
O16K	**Kokwok River B**	**19.35**	**63**	P	**P**	**02 39 18.7**	**+0.7**
	baz=273						
P16K	**Nushagak River**	**19.44**	**65**	P	**Pn**	**02 39 20.2**	**-0.1**
	baz=275						
E18K	**Tukpahlearik C**	**19.53**	**39**	P	**P**	**02 39 20.6**	**+0.7**
E18K				IAmb	IAmb	02 39 31.1	
	comp=Z,64nm,1.4s						
E18K	**Tukpahlearik C**	**19.53**	**39**	P	**Pn**	**02 39 20.9**	**-0.4**
	baz=248						
F18K	**Selawik**	**19.60**	**42**	P	**P**	**02 39 21.2**	**+0.6**
	baz=252						
CHGN	**Chignik**	**19.62**	**73**	P	**P**	**02 39 20.1**	**-0.8**
M17K	**Holitna River**	**19.65**	**57**	P	**P**	**02 39 22.3**	**+1.0**
	baz=269						
H18K	**Honhosa River**	**19.71**	**46**	P	**P**	**02 39 22.3**	**+0.4**
H18K				IAmb	IAmb	02 39 33.2	
	comp=Z,160nm,1.6s						
H18K	**Honhosa River**	**19.71**	**46**	P	**Pn**	**02 39 22.9**	**-0.7**
	baz=257						
N17K	**Nushagak Hills**	**19.77**	**60**		**Pn**	**02 39 23.9**	**-0.3**
N17K				IAmb	IAmb	02 39 35.7	
	comp=Z,88nm,1.2s						
N17K	**Nushagak Hills**	**19.77**	**60**	P	**Pn**	**02 39 24.2**	**-0.1**
	baz=271						
G18K	**Tagagawik**	**19.78**	**44**	P	**P**	**02 39 23.0**	**+0.4**
	baz=255						
C18K	**Utukok River**	**19.83**	**35**	P	**P**	**02 39 23.1**	**-0.1**
	baz=244						
O17K	**Koliganek Bris**	**19.85**	**62**	P	**Pn**	**02 39 24.9**	**-0.2**
	baz=274						
B18K	**Kokolik River**	**19.96**	**33**	P	**P**	**02 39 25.3**	**+0.7**
	baz=242						
YAK	**Yakutsk**	**20.00**	**304**	P	**P**	**02 39 22.4**	**-2.6**
YAK	**Yakutsk**	**20.00**	**304**	*e*P	**P**	**02 39 23.3**	**-1.7**
YAK				*e*S	**S**	**02 43 08.0**	**-0.1**
YAK				pmax	pmax		
	comp=Z,108nm,1.2s						
YAK				pmax	pmax		
	comp=E,79nm,1.3s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,75nm,1.0s						
YAK				pmax	pmax		
	comp=E,76nm,1.6s						
YAK				pmax	pmax		
	comp=N,41nm,1.6s						
YAK				smax	smax		
	comp=N,255nm,4.3s						
YAK				smax	smax		
	comp=E,357nm,4.5s						
YAK				MLR	MLR		
	comp=Z,554nm,14.0s						
YAK				MLR	MLR		
	comp=E,261nm,11.0s						
YAK				MLR	MLR		
	comp=N,163nm,12.0s						
YAK	**Yakutsk**	**20.00**	**304**	P	**P**	**02 39 22.5**	**-2.5**
	comp=N,2.7nm,0.3s,baz=16,slow=5.3,SNR=17						
	comp=N,60nm,0.8s						
L18K	**Granite Mounta**	**20.04**	**55**	P	**Pn**	**02 39 27.1**	**-0.3**
	baz=267						
J18K	**Innoko River**	**20.13**	**51**	P	**P**	**02 39 26.9**	**+0.4**
J18K				IAmb	IAmb	02 39 37.7	
	comp=Z,90nm,1.0s						
J18K	**Innoko River**	**20.13**	**51**	P	**P**	**02 39 27.5**	**+0.9**
	baz=264,SNR=18						
P17K	**Kvichak River**	**20.23**	**64**	P	Pn	02 39 29.5	0.0
	baz=276						
GCSA	**Galena City Sc**	**20.25**	**48**	P	Pn	02 39 29.4	-0.4
	baz=260						
ERM	**Erimo**	**20.26**	**238**	P	**P**	**02 39 27.9**	**-0.1**
ERM				IAmb	IAmb	02 39 41.8	
	comp=Z,97nm,1.3s						
ERM	**Erimo**	**20.26**	**238**	P	**P**	**02 39 27.9**	**-0.1**
ERM				pmax	pmax		
	comp=Z,97nm,1.3s						
F19K	**Shaleruckik Mo**	**20.38**	**42**	P	Pn	02 39 30.4	-0.9
	baz=253						
TTA	**Tatalina**	**20.40**	**53**	P	**P**	**02 39 29.1**	**-0.4**
TTA				IAmb	IAmb	02 39 45.3	
	comp=Z,40nm,1.2s						
TTA	**Tatalina**	**20.40**	**53**	P	Pn	02 39 31.0	-0.7
	baz=266,SNR=9.2						
TTA	**Tatalina**	**20.40**	**53**	P	**P**	**02 39 29.1**	**-0.4**
TTA				pmax	pmax		
	comp=Z,40nm,1.2s						
N18K	**Kilae Creek**	**20.41**	**60**	P	**P**	**02 39 30.3**	**+0.8**
	baz=272						
M18K	**Stony River**	**20.43**	**57**	P	**P**	**02 39 30.5**	**+0.8**
	baz=270						
G19K	**Purcell Mounta**	**20.46**	**44**	P	**P**	**02 39 31.1**	**+1.1**
	baz=256						
C19K	**Lookout Ridge**	**20.55**	**35**	P	**P**	**02 39 31.1**	**+0.1**
C19K				IAmb	IAmb

C21K **Knifeblade Rid** 22.17 36 P P 02 39 48.5 +0.1
baz=251
N20K **Mount Spurr** 22.18 58 P P 02 39 49.7 +1.1
baz=274
OHAK **Old Harbor** 22.18 69 P P 02 39 49.2 +0.7
OHAK **Old Harbor** 22.18 69 P P 02 39 49.3 +0.7
baz=283
CAST **Castle Rocks** 22.21 52 P P 02 39 50.0 +1.1
CAST IAmb IAmb 02 40 06.6
comp=Z,38nm,1.2s
CAST **Castle Rocks** 22.21 52 P P 02 39 49.7 +0.8
baz=268,SNR=6.9
JTM **Tenmabayashi** 22.21 239 P P 02 39 50.2 +1.1
I21K **Tanana** 22.37 47 P P 02 39 51.0 +0.4
baz=264
Q20K **Shuyak Island** 22.38 65 P P 02 39 50.8 +0.1
baz=280
A21K **Barrow** 22.42 30 P P 02 39 50.4 -0.6
baz=244
KDAK **Kodiak Island** 22.44 67 P P 02 39 50.4 -0.9
KDAK IAmb IAmb 02 40 01.1
comp=Z,67nm,1.6s
KDAK **Kodiak Island** 22.44 67 P P 02 39 51.8 +0.5
baz=282
KDAK **Kodiak Island** 22.44 67 P P 02 39 50.7 -0.6
comp=Z,4.3nm,0.5s,baz=282,slow=14,SNR=8.7
KDAK LR LR 02 48 44.0
comp=Z,381nm,18.7s,baz=277,slow=37
comp=Z,4.3nm,0.5s
SKT **Skwentna** 22.46 56 P P 02 39 52.4 +0.8
baz=272
ZEA **Zeya** 22.59 282 eP P 02 39 52.7 -0.3
ZEA pmax pmax
comp=Z,10.0nm,0.8s
HOM **Homer** 22.61 62 P P 02 39 53.6 +0.5
baz=278
H22K **Ishtalitna Cre** 22.71 46 P P 02 39 54.5 +0.3
baz=263
BPAW **Bear Paw Mtn.** 22.72 50 P P 02 39 54.4 +0.1
BPAW IAmb IAmb 02 40 12.0
comp=Z,41nm,1.1s
BPAW **Bear Paw Mtn.** 22.72 50 P P 02 39 54.4 +0.1
baz=268,SNR=10
CAPN **Captain Cook N** 22.73 59 P P 02 39 55.2 +0.9
baz=276
TIXI **Tiksi** 22.76 330 P P 02 39 53.7 -0.8
TIXI IAmb IAmb 02 40 03.4
comp=Z,69nm,2.0s
TIXI **Tiksi** 22.76 330 ceP P 02 39 54.3 -0.3
TIXI pmax pmax
comp=Z,12nm,0.9s
TIXI **Tiksi** 22.76 330 LR LR 02 49 18.1
comp=Z,365nm,18.5s,baz=151,slow=38
D22K **Ayikyak River** 22.81 38 P P 02 39 55.2 0.0
baz=254
G22K **Bettles** 22.81 43 P P 02 39 55.3 +0.1
baz=260
MLY **Manley** 22.89 48 P P 02 39 56.3 +0.2
baz=266,SNR=11
E22K **Anaktuvuk Pass** 22.93 40 P P 02 39 56.0 -0.5
E22K IAmb IAmb 02 40 16.1
comp=Z,65nm,1.2s
E22K **Anaktuvuk Pass** 22.93 40 P P 02 39 55.6 -0.9
baz=257
B22K **Teshekpuk Lake** 23.01 34 P P 02 39 56.6 -0.7
B22K **Teshekpuk Lake** 23.01 34 P P 02 39 56.5 -0.7
baz=250
TRF **Thorofare Moun** 23.01 52 P P 02 39 56.7 -0.8
baz=270
CUT **Chulitna** 23.04 55 P P 02 39 57.0 -0.6
baz=272
G23K **Bananza Creek** 23.36 44 P P 02 40 00.8 0.0
baz=262
COLD **Coldfoot** 23.36 42 P P 02 40 00.8 0.0
baz=261,SNR=7.1
RC01 **Rabbit Creek A** 23.38 58 P P 02 40 01.0 0.0
baz=276
I23K **Minto, Yukon-K** 23.48 48 P P 02 40 02.2 +0.4
baz=267,SNR=10
D23K **Nanushuk River** 23.53 38 P P 02 40 02.5 +0.1
baz=256
NEA2 **Nenana** 23.57 49 P P 02 40 03.3 +0.4
baz=268
MCK **McKinley** 23.62 51 P P 02 40 03.3 -0.1
baz=270
E23K **Chandalar** 23.73 40 P P 02 40 04.2 -0.2
baz=260
HEH **HeiHe** 23.91 274 eP P 02 40 06.3 +0.1
HEH pmax pmax
comp=Z,11nm,0.9s
HEH pmax pmax
comp=Z,310nm,5.6s
MDM **Murphy Dome** 23.95 48 P P 02 40 06.6 +0.2
MDM IAmb IAmb 02 40 25.6
comp=Z,81nm,1.7s
KNK **Knik Glacier** 23.96 57 P P 02 40 06.7 +0.1
baz=276
SML **Sawmill** 23.99 56 P P 02 40 06.7 -0.2
SML **Sawmill** 23.99 56 P P 02 40 06.9 0.0
baz=275
COLA **College** 24.10 48 P P 02 40 08.1 +0.3
COLA **College** 24.10 48 P P 02 40 08.1 +0.3
COLA pmax pmax
comp=Z,103nm,1.8s
CCB **Clear Creek Bu** 24.12 49 P P 02 40 08.3 +0.3
CCB IAmb IAmb 02 40 29.9
comp=Z,51nm,1.2s
H24K **Noodor Dome** 24.14 46 P P 02 40 07.9 -0.3
baz=266
D24K **Happy Valley** 24.22 38 P P 02 40 09.1 +0.2
baz=258
POKR **Poker Plat Res** 24.29 48 P P 02 40 10.1 +0.6
POKR IAmb IAmb 02 40 20.8
comp=Z,26nm,1.1s
POKR **Poker Plat Res** 24.29 48 P P 02 40 09.3 -0.3
baz=269
F24K **Squaw Lake** 24.29 42 P P 02 40 10.6 +1.0
baz=263
DHY **Denali Highway** 24.34 53 P P 02 40 10.2 0.0
baz=273
G24K **Hadweenzic Riv** 24.36 44 P P 02 40 10.9 +0.6
baz=265
C24K **Franklin Bluff** 24.39 37 P P 02 40 10.5 +0.2
baz=257
SCM **Sheep Creek Mo** 24.46 56 P P 02 40 11.4 +0.2
SCM **Sheep Creek Mo** 24.46 56 P P 02 40 11.8 +0.6
baz=276
SCM **Sheep Creek Mo** 24.46 56 P P 02 40 11.4 +0.2
SCM pmax pmax
comp=Z,60nm,1.1s
HDA **Harding Lake** 24.49 50 P P 02 40 12.2 +0.8
baz=271,SNR=9.7
IL31 24.52 49 P P 02 40 11.3 -0.2
IL31 IAmb IAmb 02 40 35.5
comp=Z,44nm,1.1s
ILAR **Eielson Array** 24.52 49 P P 02 40 11.7 +0.1
ILAR **Eielson Array** 24.52 49 P P 02 40 11.6 0.0
comp=Z,18nm,1.0s,baz=258,slow=8.4,SNR=36
ILAR LR LR 02 50 40.9
comp=Z,456nm,18.1s,baz=268,slow=39
comp=Z,18nm,1.0s
USRK **Ussuriysk Ar.** 24.65 257 P P 02 40 12.4 -0.5
comp=Z,3.1nm,1.1s,baz=40,slow=7.6,SNR=2.8
comp=Z,3.1nm,1.1s
G25K **Bearman Lake** 24.91 44 P P 02 40 16.3 +1.2
baz=266
M24K **Tolsona, Glenn** 24.97 55 P P 02 40 16.9 +1.1
baz=276,SNR=5.5
K24K **Donnelly Dome** 25.02 51 P P 02 40 17.1 +0.9
baz=273
D25K **Kavik River** 25.11 38 P P 02 40 17.3 +0.2
baz=260
F25K **Christian Rive** 25.16 42 P P 02 40 17.6 +0.2
baz=265
KLU **Klutina** 25.16 56 P P 02 40 18.7 +1.1
baz=278
J25K **Salcha River,** 25.17 49 P P 02 40 18.1 +0.5
baz=272,SNR=8.0
PAX **Paxson** 25.21 53 P P 02 40 18.7 +0.6
baz=275
E25K **Arctic Village** 25.24 41 P P 02 40 18.1 0.0
baz=264,SNR=17
HARP **HAARP** 25.41 54 P P 02 40 21.1 +1.3
baz=276
RIDG **Independent Ri** 25.44 51 P P 02 40 20.3 +0.2
baz=274,SNR=7.5
MDJ **Mudanjiang** 25.73 261 P P 02 40 24.3 +1.5

MDJ sS sS 02 45 09.8 +6.0
MDJ ScP **ScP** 02 47 25.3 -3.7
MDJ PcS **PcS** 02 47 33.5 +0.9
MDJ ScS **ScS** 02 51 18.8 +0.6
MDJ pmax pmax
comp=Z,15nm,1.6s
MDJ pmax pmax
comp=Z,690nm,7.4s
MDJ LR LR
comp=Z,760nm,12.8s
MDJ LR LR
comp=Z,670nm,18.9s
MDJ LR LR
comp=Z,850nm,22.9s
F26K **Sheenjek River** 25.73 42 P P 02 40 23.7 +1.0
baz=266
N25K **Chitina, Valde** 25.78 56 P P 02 40 24.2 +1.0
baz=278
SCRK **Sand Creek** 25.80 50 P P 02 40 23.5 +0.1
SCRK IAmb IAmb 02 40 44.7
comp=Z,32nm,1.2s
SCRK **Sand Creek** 25.80 50 P P 02 40 23.2 -0.2
baz=274,SNR=11
G26K **Porcupine Rive** 25.84 44 P P 02 40 24.2 +0.7
baz=268
BMRM **Bremner River** 25.88 57 P P 02 40 24.8 +0.8
baz=280
J26L **Joseph Creek** 25.95 49 P P 02 40 25.0 +0.3
baz=273
L26K **Log Cabin Wild** 26.17 53 P P 02 40 26.8 +0.1
baz=276
BNX **BinXian** 26.30 265 ⇓P P 02 40 27.8 -0.1
BNX pmax pmax
comp=Z,17nm,1.2s
BNX pmax pmax
comp=Z,280nm,6.8s
M26K **Nabesna, AK** 26.41 54 P P 02 40 29.8 +0.9
baz=278
MCARA **McCarthy VSAT** 26.56 56 P P 02 40 30.7 +0.5
baz=280
K27K **Chicken** 26.64 50 P P 02 40 30.6 -0.2
K27K **Chicken** 26.64 50 P P 02 40 30.9 +0.1
baz=276
I27K **Kandik River** 26.72 47 P P 02 40 32.3 +0.7
baz=273
H27K **Steamboat Moun** 26.73 45 P P 02 40 31.6 -0.1
baz=272,SNR=12
L27K **Beaver Creek,** 26.86 52 P P 02 40 33.2 +0.4
baz=278
BCAR **Beaver Creek A** 26.88 52 P P 02 40 33.0 -0.1
MJAR **Matsushiro Arr** 26.92 237 P P 02 40 34.8 +1.1
comp=Z,10.0nm,1.1s,baz=19,slow=8.6,SNR=7.2
comp=Z,10.0nm,1.1s
M27K **Edge Creek, AK** 26.93 54 P P 02 40 34.2 +0.6
baz=279
EGAK **Eagle** 26.97 48 P P 02 40 33.3 -0.4
EGAK IAmb IAmb 02 40 56.6
comp=Z,19nm,1.0s
EGAK **Eagle** 26.97 48 P P 02 40 33.5 -0.2
baz=275,SNR=6.9
D27M **Malcolm River** 27.01 39 P P 02 40 34.3 0.0
baz=266
F28M **Old Crow** 27.37 42 P P 02 40 37.5 +0.2
baz=270
BVCY **Beaver Creek** 27.39 54 P P 02 40 38.2 +0.5
baz=280
I28M **Miner Creek** 27.43 47 P P 02 40 38.2 +0.2
baz=274
CTG **Chitna Glacier** 27.44 57 P P 02 40 38.4 +0.1
baz=282
E28M **Babbage River** 27.50 40 P P 02 40 38.6 0.0
baz=269
YUK3 **Moose Creek** 27.69 55 P P 02 40 40.5 -0.1
baz=281
DAWY **Dawson** 27.81 50 P P 02 40 41.8 +0.4
DAWY **Dawson** 27.81 50 P P 02 40 42.0 +0.6
baz=278
D28M **Stokes Point** 27.81 38 P P 02 40 41.7 +0.5
baz=268
H29M **Whitestone** 28.01 45 P P 02 40 43.7 +0.6
baz=274
E29M **Blow River** 28.10 40 P P 02 40 44.5 +0.6
baz=271
G29M **Pine Creek** 28.11 44 P P 02 40 44.1 +0.2
baz=273
I29M **Ogilvie Camp,** 28.12 47 P P 02 40 44.3 +0.2
baz=276
YUK8 **Steele Glacier** 28.12 56 P P 02 40 44.6 +0.2
baz=282
L29M **L29M** 28.51 52 P P 02 40 47.5 -0.2
baz=280
CN2 **Changchun** 28.58 263 eP P 02 40 44.0 -4.3
CN2 eS S 02 45 26.0 -8.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YUK4 **Talbot Arm** 28.63 55 P P 02 40 49.5 +0.6
baz=283
K29M **Barlow Dome** 28.66 50 P P 02 40 48.6 -0.4
baz=280
EPYK **Eagle Plains** 28.67 45 P P 02 40 49.1 +0.2
baz=276,SNR=7.8
PNL **Peninsula** 28.69 59 P P 02 40 48.8 -0.4
baz=286
G30M **tAoh Zraii Nji** 28.81 43 P P 02 40 49.8 -0.4
G30M IAmb IAmb 02 41 02.2
comp=Z,30nm,1.4s
G30M **tAoh Zraii Nji** 28.81 43 P P 02 40 49.9 -0.4
baz=275
O29M **Mount Kennedy** 28.92 57 P P 02 40 51.2 -0.2
baz=285
F30M **Barrier River** 28.93 42 P P 02 40 50.5 -0.8
baz=274
I30M **Mount Dempster** 28.94 47 P P 02 40 51.3 -0.2
baz=278
M30M **Minto, Yukon** 29.22 52 P P 02 40 53.7 -0.3
baz=282
HYT **Haines Junctio** 29.30 56 P P 02 40 55.1 +0.3
HYT IAmb IAmb 02 41 10.4
comp=Z,52nm,1.7s
HYT **Haines Junctio** 29.30 56 P P 02 40 54.8 +0.1
baz=285
P29M **Windy Craggy** 29.51 59 P P 02 40 56.3 -0.2
baz=287
G31M **Satah River** 29.58 43 P P 02 40 56.9 0.0
baz=277
F31M **Tsiigehtchic** 29.73 42 P P 02 40 58.6 +0.3
baz=276
INK **Inuvik** 29.73 40 P P 02 40 58.4 +0.1
INK IAmb IAmb 02 41 34.1
comp=Z,19nm,1.2s
INK **Inuvik** 29.73 40 P P 02 40 58.3 +0.1
baz=275
INK **Inuvik** 29.73 40 P P 02 40 58.4 +0.1
INK pmax pmax
comp=Z,19nm,1.3s
M31M **Drury Creek, Y** 30.39 53 P P 02 41 04.8 +0.5
baz=285
N32M **Quiet Lake** 31.28 54 P P 02 41 13.1 +0.9
baz=287
KSRS **Korea Array** 31.52 252 P P 02 41 16.4 +2.1
comp=Z,3.7nm,1.0s,baz=45,slow=9.3,SNR=6.8
comp=Z,3.7nm,1.0s
KSAR **Wonju Array Be** 31.55 252 P P 02 41 15.9 +1.3
KSAR **Wonju Array Be** 31.55 252 P P 02 41 15.9 +1.3
P33M **Teslin, Yukon** 31.69 56 P P 02 41 17.0 +1.2
baz=289
A36M **Sachs Harbour** 32.21 33 P P 02 41 19.9 -0.1
A36M IAmb IAmb 02 42 31.8
comp=Z,11nm,1.1s
A36M **Sachs Harbour** 32.21 33 P P 02 41 19.9 -0.1
baz=276
Q32M **Nakina River** 32.38 58 P P 02 41 22.7 +0.7
baz=291
R33M **Jennings River** 32.85 57 P P 02 41 26.5 +0.4
baz=291
C36M **Paulatuk** 32.98 38 P P 02 41 26.9 0.0
C36M IAmb IAmb 02 41 29.9
comp=Z,19nm,1.1s
C36M **Paulatuk** 32.98 38 P P 02 41 26.9 0.0
baz=281,SNR=11
JCJ **Chichijima** 33.31 222 LR LR 02 52 24.5
comp=Z,228nm,21.5s,baz=275,slow=32
WTLY **Watson Lake, Y** 33.62 55 P P 02 41 33.0 +0.4
baz=291
DLBC **Dease Lake** 33.66 58 P P 02 41 32.7 -0.4
baz=293
XLT **XiLinHaoTe** 33.85 272 eP P 02 41 35.5 +0.6

XLT pP sP 02 41 47.3 +0.1
XLT sP pP 02 41 56.3 +13
XLT PcP **PcP** 02 44 13.8 +0.7
XLT pmax pmax
comp=Z,8.0nm,1.2s
XLT pmax pmax
comp=Z,250nm,5.1s
T35M **Bob Quinn** 34.14 61 P P 02 41 37.5 +0.3
baz=295
WRGLY **Wrigley** 34.89 48 P P 02 41 43.1 -0.4
baz=290
KOTAN **Kotaneelee Air** 35.80 53 P P 02 41 50.9 -0.5
baz=294
NRIK **Noril'sk** 36.22 324 P P 02 41 54.6 -0.3
NRIK **Noril'sk** 36.22 324 P P 02 41 54.7 -0.2
comp=Z,5.9nm,1.0s,baz=92,slow=12,SNR=5.8
comp=Z,5.9nm,1.0s
ULN **Ulaanbaatar** 36.61 284 P P 02 41 58.4 -0.3
ULN **Ulaanbaatar** 36.61 284 P P 02 41 58.4 -0.3
ULN pmax pmax
comp=Z,17nm,1.6s
SONM **Songino Array** 36.99 284 P P 02 42 01.9 0.0
SONM **Songino Array** 36.99 284 P P 02 42 02.6 +0.7
comp=Z,3.1nm,0.8s,baz=56,slow=8.3,SNR=12
comp=Z,3.1nm,0.8s
MOY **Mondy** 37.81 292 eP P 02 42 09.4 +0.7
MOY pmax pmax
comp=Z,42nm,2.5s
HHC **Hu-ho-hao-te** 38.37 271 eP P 02 42 14.5 +0.9
HHC pP sP 02 42 24.8 -1.1
HHC S **S** 02 48 04.0 -2.3
HHC sS sS 02 48 24.5 +3.8
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.7s
HHC LR LR
comp=Z,900nm,15.3s
HHC LR LR
comp=Z,880nm,14.7s
HHC LR LR
comp=Z,1μm,14.7s
YKA **Yellowknife Ar** 38.90 47 P P 02 42 18.2 +0.6
comp=Z,3.5nm,0.9s,baz=299,slow=8.2,SNR=23
YKA PcP **PcP** 02 44 28.5 +0.7
comp=Z,0.9nm,0.9s,baz=298,slow=3.3,SNR=4.0
comp=Z,3.5nm,0.9s
HNS **HongShan** 38.92 265 ⇓P P 02 42 19.5 +1.4
HNS pmax pmax
comp=Z,14nm,1.3s
BTO **Baotou** 39.41 272 eP P 02 42 22.8 +0.5
BTO pP **sP** 02 42 35.0 +0.4
BTO sP pP 02 42 40.5 +9.4
BTO PP **PnPn** 02 43 57.8 +2.0
BTO S **S** 02 48 19.5 -2.4
BTO sS **sS** 02 48 39.3 +2.9
BTO SS **SS** 02 51 07.0 -9.2
BTO pmax pmax
comp=Z,16nm,1.0s
BTO pmax pmax
comp=Z,340nm,4.8s
BTO LR LR
comp=Z,1μm,10.9s
BTO LR LR
comp=Z,2μm,15.9s
BTO LR LR
comp=Z,460nm,15.7s
JOW **Kunigami** 39.70 240 LR LR 03 00 13.9
comp=Z,155nm,19.8s,baz=4.5,slow=38
RES **Resolute Bay** 39.74 24 P P 02 42 24.3 -0.2
RES **Resolute Bay** 39.74 24 P P 02 42 25.2 +0.7
comp=Z,1.9nm,1.0s,baz=298,slow=5.8,SNR=4.3
RES LR LR 03 01 57.8
comp=Z,167nm,18.4s,baz=2.0,slow=41
comp=Z,1.9nm,1.0s
NJ2 **Nanjing** 40.50 255 eP P 02 42 31.0 -0.2
NJ2 pP **pP** 02 42 41.0 +1.0
NJ2 sP **sP** 02 42 45.3 +1.7
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
BRLDA **Berland Lookou** 41.91 59 P P 02 42 43.2 +0.4
BRLDA IAmb IAmb 02 42 46.5
comp=Z,31nm,1.0s
LYN **LuoYang** 42.23 263 ⇓P P 02 42 47.3 +1.9
LYN sP sP 02 43 02.8 +5.0
LYN S **S** 02 49 03.3 -0.3
LYN pmax pmax
comp=Z,16nm,0.8s
LYN LR LR
comp=Z,440nm,13.4s
LYN LR LR
comp=Z,420nm,15.5s
LYN LR LR
comp=Z,750nm,15.8s
B08A **Colville Reser** 44.32 67 P P 02 43 03.0 +0.9
EDM **Edmonton** 44.38 58 P P 02 43 03.4 +0.7
EDM **Edmonton** 44.38 58 P P 02 43 03.4 +0.7
EDM pmax pmax
comp=Z,46nm,1.2s
ZAA0 **Zalesovo Array** 44.65 304 P P 02 43 02.9 -1.7
ZALV **Zalesovo Beam** 44.65 304 P P 02 43 03.3 -1.3
ZALV **Zalesovo Beam** 44.65 304 P P 02 43 04.0 -0.7
comp=Z,1.0nm,0.7s,baz=46,slow=6.4,SNR=5.2
ZALV PcP **PcP** 02 44 47.1 +0.3
comp=Z,0.9nm,0.6s,baz=50,slow=2.3,SNR=4.7
comp=Z,1.0nm,0.7s
GUMO **Guam** 44.96 210 LR LR 03 02 03.7
comp=Z,150nm,18.9s,baz=20,slow=36
NEEM **North Greenlan** 45.38 11 eP P 02 43 10.7 +0.1
SPB5 **Spitsbergen Ar** 45.44 352 P P 02 43 09.6 -1.1
SPITS **Spitsbergen Ar** 45.45 352 P P 02 43 10.5 -0.2
comp=Z,30nm,0.9s,baz=61,slow=6.8,SNR=21
comp=Z,30nm,0.9s
NEW **Newport** 45.53 66 P P 02 43 11.6 -0.2
baz=309,SNR=5.1
NEW **Newport** 45.53 66 P P 02 43 12.2 +0.4
comp=Z,4.9nm,1.0s,baz=294,slow=4.6,SNR=6.5
comp=Z,4.9nm,1.0s
DGZ **Jazzator, Alta** 45.97 298 i P P 02 43 15.6 +0.2
DGZ pmax pmax
comp=Z,9.0nm,1.5s
GTA **Gaotai** 46.01 279 P P 02 43 16.8 +1.0
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=Z,470nm,16.0s
GTA LR LR
comp=Z,330nm,17.8s
GTA LR LR
comp=Z,500nm,17.1s
LZH **Lanzhou** 46.04 272 eP P 02 43 18.3 +2.2
LZH sP sP 02 43 32.5 +3.9
LZH pmax pmax
comp=Z,19nm,1.2s
LZH LR LR
comp=Z,890nm,13.7s
LZH LR LR
comp=Z,810nm,15.8s
LZH LR LR
comp=Z,470nm,14.1s
E09A **Wood Farm, Sta** 46.11 68 P P 02 43 15.9 -0.4
E09A IAmb IAmb 02 43 19.1
comp=Z,17nm,1.2s
J05D **Fort Rock, OR** 46.55 73 P P 02 43 20.9 +0.8
J05D IAmb IAmb 02 43 45.3
comp=Z,22nm,1.3s
YBH **Yreka Blue Hor** 46.77 76 P P 02 43 22.3 +0.6
comp=Z,4.4nm,0.9s,baz=260,slow=8.0,SNR=4.5
comp=Z,4.4nm,0.9s
ENH **Enshi** 47.08 262 P P 02 43 24.7 +0.5
MSO **Missoula** 48.10 65 P P 02 43 32.2 +0.2
MSO IAmb IAmb 02 43 49.2
comp=Z,19nm,1.6s
MSO **Missoula** 48.10 65 P P 02 43 32.2 +0.2
baz=311
BPMT **Black Pine Rid** 48.62 65 P P 02 43 36.4 +0.2
ORV **Oroville** 48.94 77 P P 02 43 38.9 +0.5
ORV **Oroville** 48.94 77 P P 02 43 38.9 +0.5
ORV pmax pmax
comp=Z,7.0nm,1.2s
FCC **Fort Churchill** 49.30 43 P P 02 43 41.4 +0.5
FCC IAmb IAmb 02 43 44.2
comp=Z,21nm,1.1s
FCC **Fort Churchill** 49.30 43 P P 02 43 41.4 +0.5
FCC pmax pmax
comp=Z,21nm,1.2s

EGMT	**Eagleton**	49.45	61	P		P	02 43 42.0	-0.3	
	baz=312								
KURK	**Kurchatov**	49.64	304	P		P	02 43 43.1	-0.5	
KURK	**Kurchatov**	49.64	304	P		P	02 43 43.8	+0.2	
WMQ	**Urumqi**	49.68	291	*e*P		P	02 43 45.8	+1.7	
WMQ				pmax		pmax			
	comp=Z,19nm,1.3s								
WMQ				LR		LR			
	comp=Z,1μm,18.3s								
WMQ				LR		LR			
	comp=Z,710nm,16.7s								
WMQ				LR		LR			
	comp=Z,250nm,18.3s								
KURBB	**Kurchatov Arra**	49.74	303	P		P	02 43 43.8	-0.6	
	comp=Z,9.9nm,0.8s,baz=53,slow=7.7,SNR=54								
	comp=Z,9.9nm,0.8s								
CD2	**Chengdu**	49.86	268	P		P	02 43 47.3	+1.7	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
HLID	**Hailey**	50.04	69	P		P	02 43 46.7	-0.3	
HLID	**Hailey**	50.04	69	P		P	02 43 47.0	-0.1	
	baz=313								
MK31	**Makanchi Array**	50.47	298	P		P	02 43 49.1	-0.9	
MK31	**Makanchi Array**	50.47	298	P		P	02 43 49.1	-0.9	
MK31				pmax		pmax			
	comp=Z,5.0nm,1.3s								
MKAR	**Makanchi Array**	50.47	298	P		P	02 43 49.1	-0.9	
MKAR	**Makanchi Array**	50.47	298	P		P	02 43 49.2	-0.8	
	comp=Z,2.4nm,0.6s,baz=53,slow=6.9,SNR=26								
	comp=Z,2.4nm,0.6s								
BMN	**Battle Mountai**	50.69	73	P		P	02 43 52.1	+0.2	
BMN	**Battle Mountai**	50.69	73	P		P	02 43 52.1	+0.2	
BMN				pmax		pmax			
	comp=Z,7.0nm,1.1s								
YHL	**Hebgen Lake**	50.86	65	P		P	02 43 53.7	+0.4	
SUMG	**Summit**	51.16	9	*i* P		P	02 43 54.0	-1.3	
H17A	**Grant Village**	51.49	65	P		P	02 43 56.9	-1.1	
	baz=314								
NVAR	**Mina Array Bea**	51.50	76	P		P	02 43 58.8	+0.7	
	comp=Z,3.4nm,0.9s,baz=294,slow=6.9,SNR=18								
	comp=Z,3.4nm,0.9s								
ELK	**Elko**	51.55	72	P		P	02 43 58.9	+0.5	
ELK				IAmb		IAmb	02 44 23.5		
	comp=Z,23nm,1.9s								
ELK	**Elko**	51.55	72	P		P	02 43 59.0	+0.5	
ELK	**Elko**	51.55	72	P		P	02 43 59.0	+0.5	
	comp=Z,2.1nm,0.9s,baz=302,slow=4.8,SNR=7.3								
	comp=Z,2.1nm,0.9s								
NV11	**Mina Array Sit**	51.58	76	P		P	02 43 59.1	+0.6	
NV11				IAmb		IAmb	02 44 02.6		
	comp=Z,24nm,1.9s								
IMW	**Indian Meadow**	51.64	66	P		P	02 43 59.8	+0.6	
RLMT	**Red Lodge**	51.66	64	P		P	02 43 59.8	+0.6	
RLMT				IAmb		IAmb	02 44 03.1		
	comp=Z,15nm,1.1s								
RLMT	**Red Lodge**	51.66	64	P		P	02 43 58.9	-0.3	
	baz=314,SNR=10								
BVAR	**Borovoye Array**	51.83	310	P		P	02 43 59.7	-0.4	
	comp=Z,8.3nm,0.8s,baz=54,slow=7.5,SNR=30								
	comp=Z,8.3nm,0.8s								
BRVK	**Borovoye**	51.85	310	P		P	02 43 60.0	-0.3	
BRVK				IAmb		IAmb	02 44 01.2		
	comp=Z,11nm,1.0s								
BRVK	**Borovoye**	51.85	310	*ce*P		P	02 44 00.0	-0.3	
BRVK				pmax		pmax			
	comp=Z,8.0nm,0.7s								
DGMT	**Dagmar**	51.88	58	P		P	02 44 02.1	+1.5	
	baz=314								
LAO	**LASA Array**	52.12	61	P		P	02 44 02.9	+0.5	
LAO				IAmb		IAmb	02 44 06.3		
	comp=Z,22nm,1.4s								
LAO	**LASA Array**	52.12	61	P		P	02 44 03.2	+0.8	
	baz=314								
VES	**Vestal, Richgr**	52.91	79	P		P	02 44 09.5	+1.1	
	baz=317								
GRAC	**Grapevine Rang**	53.04	77	P		P	02 44 10.4	+1.1	
	baz=316								
CWC	**Cottonwood Cre**	53.04	78	P		P	02 44 11.0	+1.5	
	baz=316								
R11B	**Troy Canyon, C**	53.05	74	P		P	02 44 10.5	+0.9	
	baz=316								
BW06	**Boulder Array**	53.15	66	P		P	02 44 10.9	+0.6	
	baz=315,SNR=5.4								
PD31	**Pinedale Array**	53.15	66	P		P	02 44 11.0	+0.7	
PDAR	**Pinedale Array**	53.15	66	P		P	02 44 10.9	+0.5	
PDAR	**Pinedale Array**	53.15	66	P		P	02 44 11.1	+0.8	
	comp=Z,4.3nm,1.1s,baz=316,slow=4.1,SNR=15								
	comp=Z,4.3nm,1.1s								
PKM	**Mcpherson Peak**	53.20	80	P		P	02 44 11.3	+0.6	
	baz=317								
DUG	**Dugway, Tooele**	53.25	71	P		P	02 44 12.2	+1.3	
	baz=316								
ISA	**Isabella, Lake**	53.39	79	P		P	02 44 12.7	+0.8	
	baz=317								
MPMC	**Manual Prospec**	53.65	78	P		P	02 44 14.8	+0.8	
	baz=317								
TPNV	**Topopah Spring**	53.69	76	P		P	02 44 14.8	+0.5	
TPNV				IAmb		IAmb	02 44 17.9		
	comp=Z,12nm,1.1s								
TPNV	**Topopah Spring**	53.69	76	P		P	02 44 15.0	+0.7	
	baz=316,SNR=9.6								
TPNV	**Topopah Spring**	53.69	76	P		P	02 44 14.8	+0.5	
TPNV				pmax		pmax			
	comp=Z,12nm,1.1s								
FURC	**Furnace Creek,**	53.70	77	P		P	02 44 15.4	+1.3	
	baz=317,SNR=9.0								
FRB	**Frobisher Bay**	53.84	27	P		P	02 44 14.0	-0.7	
	comp=Z,5.3nm,0.9s,baz=316,slow=7.7,SNR=10.0								
	comp=Z,5.3nm,0.9s								
JMIC	**Jan Mayen**	53.87	358	LR		LR	03 08 12.9		
	comp=Z,54nm,18.3s,baz=338,slow=37								
LRMC	**Laurel Mtn Rad**	53.96	78	P		P	02 44 17.5	+1.3	
	baz=317,SNR=5.3								
ARU	**Arti**	54.17	319	P		P	02 44 16.8	-0.4	
ARU				IAmb		IAmb	02 44 19.3		
	comp=Z,21nm,1.4s								
ARU	**Arti**	54.17	319	*d i*P		P	02 44 16.9	-0.4	
ARU							02 45 23.4		
ARU							02 46 17.6		
ARU				S		S	02 51 53.1	+1.3	
ARU				pmax		pmax			
	comp=Z,15nm,1.3s								
EDW2	**Edwards Air Fo**	54.22	79	P		P	02 44 19.4	+1.4	
	baz=317								
PZH	**PanZhiHua**	54.35	266	P		P	02 44 20.3	+1.2	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,80nm,4.6s								
SHOC	**Shoshone, Teco**	54.44	77	P		P	02 44 20.3	+0.8	
	baz=317								
ULM	**Lac du Bonnet**	54.49	51	P		P	02 44 19.0	-0.7	
ULM	**Lac du Bonnet**	54.49	51	P		P	02 44 18.9	-0.7	
	comp=Z,4.7nm,0.9s,baz=305,slow=6.4,SNR=5.8								
	comp=Z,4.7nm,0.9s								
MDND	**Maddock**	54.51	56	P		P	02 44 20.3	+0.4	
	baz=316								
SNCC	**San Nicolas Is**	54.56	81	P		P	02 44 21.8	+1.3	
	baz=318								
GSC	**Goldstone, Bar**	54.58	78	P		P	02 44 20.6	-0.1	
GSC				IAmb		IAmb	02 44 24.7		
	comp=Z,13nm,1.1s								
GSC	**Goldstone, Bar**	54.58	78	P		P	02 44 21.4	+0.7	
	baz=317,SNR=7.9								
GSC	**Goldstone, Bar**	54.58	78	P		P	02 44 20.6	-0.1	
GSC				pmax		pmax			
	comp=Z,13nm,1.1s								
RRX	**Edison Barstow**	54.78	78	P		P	02 44 23.8	+1.7	
	baz=317								
K22A	**Casper**	54.81	64	P		P	02 44 23.2	+0.8	
	baz=316								
SFJD	**Kangerlussuaq**	54.81	17	LR		LR	03 11 16.8		
	comp=Z,203nm,18.0s,baz=335,slow=40								
TUQ	**Turquoise Moun**	54.97	77	P		P	02 44 24.8	+1.3	
	baz=317								
RSSD	**Black Hills**	55.02	62	P		P	02 44 23.4	-0.5	
RSSD				IAmb		IAmb	02 44 26.8		
	comp=Z,8.0nm,1.1s								
RSSD	**Black Hills**	55.02	62	P		P	02 44 23.4	-0.5	
RSSD				pmax		pmax			
	comp=Z,8.0nm,1.2s								
HEC	**Hector,Ludlow**	55.19	78	P		P	02 44 25.9	+0.9	
	baz=318								
LCMT	**Little Creek M**	55.30	74	P		P	02 44 27.0	+1.1	
GMRC	**Granite Mounta**	55.60	77	P		P	02 44 28.9	+0.8	
	baz=318,SNR=6.8								
MURC	**Murrieta**	55.61	79	P		P	02 44 28.7	+0.7	
	baz=318								
KIRV	**Kirov**	55.69	326	*i* P		P	02 44 28.6	+0.4	
O20A	**White River Ci**	55.73	68	P		P	02 44 28.6	-0.5	
	baz=317								
AGMN	**Agassiz Nation**	55.91	53	P		P	02 44 29.8	-0.2	
	baz=317								
BELC	**Belle Mtn. Jos**	55.99	78	P		P	02 44 31.1	+0.3	
	baz=318								
PFO	**Pinyon Flats O**	56.02	79	P		P	02 44 31.6	+0.5	
	baz=318								
TPFO	**Pinon Flats**	56.02	79	P		P	02 44 31.3	+0.2	
	baz=318								
IRM	**Iron Mountain**	56.35	77	P		P	02 44 34.1	+0.8	
	baz=318,SNR=6.1								
W13A	**Hualapai Mount**	56.35	76	P		P	02 44 33.8	+0.3	
W13A				IAmb		IAmb	02 44 46.0		
	comp=Z,10.0nm,1.3s								
N23A	**Red Feather La**	56.38	65	P		P	02 44 33.8	+0.1	
	baz=317,SNR=8.9								
BC3	**Big Chuckawall**	56.55	78	P		P	02 44 35.6	+0.8	
	baz=318								
MONP2	**Monument Peak**	56.57	79	P		P	02 44 35.8	+0.7	
	baz=318								
KLMR	**Klimovskoe**	56.76	332	*e*P		P	02 44 34.0	-1.7	
KLMR				pmax		pmax			
	comp=Z,43nm,2.0s								
PDMCI	**Parker Dam,Lak**	56.80	77	P		P	02 44 36.8	+0.4	
	baz=318								
AAK	**Ala-Archa**	57.33	299	P		P	02 44 40.2	-0.2	
AAK				IAmb		IAmb	02 45 13.8		
	comp=Z,24nm,1.6s								
AAK	**Ala-Archa**	57.33	299	P		P	02 44 40.2	-0.2	
AAK				pmax		pmax			
	comp=Z,25nm,1.7s								
ISCO	**Idaho Springs**	57.35	66	P		P	02 44 41.5	+0.8	
ISCO				IAmb		IAmb	02 44 45.4		
	comp=Z,14nm,1.2s								
ISCO	**Idaho Springs**	57.35	66	P		P	02 44 41.3	+0.6	
	baz=318,SNR=12								
ISCO	**Idaho Springs**	57.35	66	P		P	02 44 41.5	+0.8	
ISCO				pmax		pmax			
	comp=Z,14nm,1.2s								
WUAZ	**Wupatki**	57.42	74	P		P	02 44 42.2	+1.1	
	baz=318								
MVCO	**Mesa Verde**	57.73	70	P		P	02 44 44.5	+1.2	
	baz=318								
LSA	**Lhasa**	57.95	277	P		P	02 44 45.3	+0.1	
LSA	**Lhasa**	57.95	277	P		P	02 44 45.3	+0.1	
LSA				pmax		pmax			
	comp=Z,7.0nm,1.1s								
EYMN	**Ely**	58.14	51	P		P	02 44 46.1	+0.4	
	baz=319								
Q24A	**Divide**	58.21	66	P		P	02 44 48.1	+1.3	
	baz=318								
S22A	**4UR Ranch, Cre**	58.23	69	P		P	02 44 48.4	+1.5	
	baz=318,SNR=10								
K30B	**Basset**	58.28	60	P		P	02 44 47.5	+0.7	
OGNE	**Ogallala**	58.35	63	P		P	02 44 47.7	+0.3	
	baz=318								
SDCO	**Great Sand Dun**	58.93	68	P		P	02 44 53.0	+1.3	
	baz=318,SNR=7.3								
ECSD	**EROS Data Cent**	58.95	57	P		P	02 44 51.6	+0.2	
ECSD				IAmb		IAmb	02 44 56.8		
	comp=Z,10nm,1.1s								
KK31	**Karatay Array**	58.95	302	P		P	02 44 50.8	-0.6	
KK31				IAmb		IAmb	02 44 53.5		
	comp=Z,14nm,1.4s								
KK31	**Karatay Array**	58.95	302	P		P	02 44 50.8	-0.6	
KK31				pmax		pmax			
	comp=Z,14nm,1.4s								
KKAR	**Karatay Array**	58.95	302	P		P	02 44 50.8	-0.7	
KKAR	**Karatay Array**	58.95	302	P		P	02 44 50.8	-0.7	
ABKAR	**Akbulak array**	59.06	313	P		P	02 44 51.5	-0.7	
ABKAR	**Akbulak array**	59.06	313	P		P	02 44 51.7	-0.5	
214A	**Organ Pipe Nat**	59.29	77	P		P	02 44 55.2	+1.2	
	baz=319								
FINES	**FINESS Array B**	59.40	339	*i* P		P	02 44 54.2	-0.1	
FINES				pmax		pmax			
	comp=Z,4.0nm,0.9s								
FINES	**FINESS Array B**	59.40	339	P		P	02 44 53.9	-0.4	
	comp=Z,4.4nm,0.9s,baz=41,slow=10,SNR=6.3								
	comp=Z,4.4nm,0.9s								
KSCO	**Kaye Shedlock'**	59.48	65	P		P	02 44 56.2	+0.8	
	baz=319								
SPMN	**Marine on St.**	59.61	54	P		P	02 44 56.7	+0.7	
	baz=320								
BGNE	**Belgrade**	59.95	60	P		P	02 44 58.9	+0.5	
	baz=319								
BORG	**Borgarnes**	60.04	4	LR		LR	03 13 00.5		
	comp=Z,100nm,18.2s,baz=355,slow=38								
TUC	**Tucson**	60.15	76	P		P	02 45 01.3	+1.3	
	baz=320								
ANMO	**Albuquerque**	60.52	70	P		P	02 45 03.2	+0.6	
ANMO				IAmb		IAmb	02 45 06.0		
	comp=Z,8.2nm,1.2s								
ANMO	**Albuquerque**	60.52	70	P		P	02 45 03.9	+1.3	
	baz=319								
ANMO	**Albuquerque**	60.52	70	*d i*P		P	02 45 04.3	+1.7	
ANMO				pmax		pmax			
	comp=Z,31nm,3.3s								
SHL	**Shillong**	60.69	273	P		P	02 45 03.2	-0.6	
SHL	**Shillong**	60.69	273	P		P	02 45 03.2	-0.6	
SHL				pmax		pmax			
	comp=Z,27nm,1.7s								
BTK	**Batken**	61.09	299	P		P	02 45 05.6	-0.7	
BTK				IAmb		IAmb	02 45 08.6		
	comp=Z,14nm,1.3s								
BTK	**Batken**	61.09	299	P		P	02 45 05.6	-0.7	
BTK				pmax		pmax			
	comp=Z,14nm,1.3s								
CBKS	**Cedar Bluff**	61.11	63	P		P	02 45 06.7	+0.3	
CBKS	**Cedar Bluff**	61.11	63	P		P	02 45 07.7	+1.3	
	baz=320								
CBKS	**Cedar Bluff**	61.11	63	P		P	02 45 06.7	+0.3	
CBKS				pmax		pmax			
	comp=Z,20nm,1.1s								
BELG	**Belogornoye**	61.29	322	*i* P		P	02 45 07.1	-0.2	
RTBA	**Rita Blanca**	61.37	67	P		P	02 45 08.6	+0.4	
RTBA				IAmb		IAmb	02 45 12.7		
	comp=Z,12nm,1.2s								
121A	**Cookes Peak, D**	61.63	73	P		P	02 45 11.1	+1.0	
	baz=320								
VSU	**Vasula**	61.98	337	*ce*P		P	02 45 12.4	+0.6	
VSU				pmax		pmax			
	comp=Z,22nm,1.3s								
NC303	**NORSAR Array S**	62.08	347	P		P	02 45 12.2	-0.3	
CMAR	**Chiang Mai Arr**	62.26	262	*ce*P		P	02 45 15.3	+1.0	
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	62.26	262	P		P	02 45 14.8	+0.5	
	comp=Z,0.9nm,0.3s,baz=30,slow=7.1,SNR=7.9								
CMAR				LR		LR	03 12 55.8		
	comp=Z,129nm,21.6s,baz=115,slow=37								
	comp=Z,0.9nm,0.3s								
NB2	**NORSAR Subarra**	62.28	347	P		P	02 45 13.2	-0.7	
	comp=Z,1.3nm,0.7s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	62.28	347	P		P	02 45 13.4	-0.5	
	comp=Z,2.0nm,0.8s,baz=16,slow=6.8,SNR=9.1								
	comp=Z,2.0nm,0.8s								
KSU1	**Kansas State U**	62.47	61	P		P	02 45 14.5	-0.9	
KSU1	**Kansas State U**	62.47	61	P		P	02 45 15.6	+0.2	
	baz=320								
HSIG		62.56	78	P		P	02 45 16.6	+0.3	
JFWS	**Jewell Farm**	62.56	54	P		P	02 45 16.4	+0.4	
	baz=321								
HFS	**Hagfors**	62.80	345	P		P	02 45 16.4	-0.9	
	comp=Z,1.8nm,0.6s,baz=46,slow=4.3,SNR=9.1								
	comp=Z,1.8nm,0.6s								
SIMJ	**Simiganj**	63.07	299	P		P	02 45 18.5	-1.1	
SIMJ				IAmb		IAmb	02 45 54.0		
	comp=Z,7.9nm,0.7s								
MSTX	**Muleshoe**	63.23	69	P		P	02 45 21.2	+0.5	
	baz=320,SNR=7.5								
MNTX	**Cornudas Mount**	63.57	72	P		P	02 45 23.4	+0.5	
MNTX				IAmb		IAmb	02 45 26.0		
	comp=Z,12nm,1.1s								
MNTX	**Cornudas Mount**	63.57	72	P		P	02 45 24.0	+1.1	
	baz=321,SNR=16								
LPSR	**Galich'ya Gora**	63.98	327	*e*P		P	02 45 23.9	-1.3	
LPSR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
VRH	**Novokhopyorsk**	64.29	325	*e*P		P	02 45 24.2	-3.1	
VRH				pmax		pmax			
	comp=Z,9.0nm,0.8s								
P40A	**Paris**	64.36	57	P		P	02 45 27.8	-0.2	
WMOK	**Wichita Mounta**	64.73	65	P		P	02 45 30.7	+0.2	
WMOK				IAmb		IAmb	02 45 32.7		
	comp=Z,10nm,0.9s								
WMOK	**Wichita Mounta**	64.73	65	P		P	02 45 31.8	+1.3	
	baz=321								
WMOK	**Wichita Mounta**	64.73	65	P		P	02 45 30.7	+0.2	
WMOK				pmax		pmax			
	comp=Z,10.0nm,1.0s								
NIL	**Nilore**	64.77	293	P		P	02 45 30.2	-0.5	
NIL	**Nilore**	64.77	293	P		P	02 45 30.2	-0.5	
NIL				pmax		pmax			
	comp=Z,13nm,0.6s								
HNR	**Honiara**	64.81	187	LR		LR	03 08 41.3		
	comp=Z,3μm,21.2s,baz=354,slow=31								
HDIL	**Hopedale**	64.86	55	P		P	02 45 31.8	+0.6	
	baz=322								
VSR	**Storozhevoye**	65.10	327	*e*P		P	02 45 30.7	-1.9	
VSR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
APMT	**Aspermont**	65.13	67	P		P	02 45 33.2	+0.1	
PABE	**Paberze**	65.30	338	P		P	02 45 33.7	0.0	
MNK	**Minsk**	65.32	335	*i* P		P	02 45 33.7	-0.2	
MNK				*i*			02 47 58.1		
MNK				*i* PPP		PPP	02 49 32.0		
MNK				*i* S		S	02 54 14.4	-1.0	
MNK				*i* SS		SS	02 58 28.5	+1.0	
MNK				pmax		pmax			
	comp=E,3.0nm,0.8s								
MNK				pmax		pmax			
	comp=Z,15nm,1.0s								
MNK				pmax		pmax			
	comp=N,12nm,1.0s								
MNK				MLR		MLR			
	comp=N,163nm,17.0s								
MNK				MLR		MLR			
	comp=Z,186nm,20.0s								
MNK				MLR		MLR			
	comp=E,78nm,17.0s								
TUL3	**Leonard**	65.35	62	P		P	02 45 35.3	+0.9	
	baz=322								
CCM	**Cathedral Cave**	65.91	58	P		P	02 45 38.6	+0.6	
	baz=322								
ABTX	**Abilene, Hawle**	65.92	67	P		P	02 45 39.0	+0.8	
	baz=322								
SFIN	**Lafayette**	66.01	53	P		P	02 45 39.0	+0.3	
	baz=323								
KBL	**Kabul**	66.25	297	P		P	02 45 38.3	-2.3	
KBL				IAmb		IAmb	02 45 42.2		
	comp=Z,5.3nm,0.6s								
KBL	**Kabul**	66.25	297	P		P	02 45 38.3	-2.3	
KBL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
TX31	**Lajitas Ar. Si**	66.33	72	P		P	02 45 41.6	+0.6	
TX31				IAmb		IAmb	02 45 44.8		
	comp=Z,13nm,1.1s								
TXAR	**Lajitas Array**	66.33	72	P		P	02 45 41.6	+0.6	
TXAR	**Lajitas Array**	66.33	72	P		P	02 45 42.1	+1.1	
	comp=Z,5.3nm,0.8s,baz=298,slow=4.7,SNR=54								
	comp=Z,5.3nm,0.8s								
PMG	**Port Moresby**	66.55	201	LR		LR	03 11 14.3		
	comp=Z,165nm,19.9s,baz=360,slow=33								
SUW	**Suwalki**	66.86	337	P		P	02 45 43.6	-0.1	
SUW	**Suwalki**	66.86	337	P		P	02 45 43.7	-0.1	
SUW				pmax		pmax			
	comp=Z,13nm,0.9s								
O48B	**Farmland**	66.99	52	P		P	02 45 44.7	-0.2	
	baz=324								
PBMO	**Poplar Bluff**	67.31	58	P		P	02 45 46.5	-0.5	
JCT	**Junction City**	67.52	69	P		P	02 45 48.6	+0.1	
JCT	**Junction City**	67.52	69	P		P	02 45 49.2	+0.7	
	baz=322,SNR=5.8								
JCT	**Junction City**	67.52	69	P		P	02 45 48.6	+0.1	
JCT				pmax		pmax			
	comp=Z,23nm,1.2s								
ERPA	**Erie**	67.72	47	P		P	02 45 49.7	+0.2	
	baz=326								
P49A	**Miami Univ. Ec**	67.77	52	P		P	02 45 50.0	+0.1	
	baz=324								
WCI	**Wyandotte Cave**	68.11	54	P		P	02 45 52.3	+0.3	
	baz=324								
AKASG	**Malin Array Be**	68.44	332	P		P	02 45 53.1	-0.7	
	comp=Z,1.5nm,0.6s,baz=26,slow=6.3,SNR=5.9								
	comp=Z,1.5nm,0.6s								
O53A	**New Philadelph**	68.74	49	P		P	02 45 56.5	+0.6	
	baz=326								
P52A	**Corning**	68.84	50	P		P	02 45 56.6	+0.1	
	baz=325								
GEYT	**Alibeck**	68.86	306	P		P	02 45 56.6	-0.1	
	comp=Z,2.2nm,0.7s,baz=52,slow=7.5,SNR=3.3								
	comp=Z,2.2nm,0.7s								
WVT	**Waverly**	69.08	57	P		P	02 45 58.1	0.0	
	baz=324								
LBNH	**Lisbon**	69.14	41	P		P	02 45 57.9	-0.5	
	baz=329								
MAK	**Makhachkala**	69.22	317	*c i*P		P	02 45 57.7	-1.1	
MAK				*e*			02 48 29.0		
MAK				*e*S		S	02 55 00.5	-2.0	
MAK				*e*SS		SS	02 59 26.7	-1.5	
MAK				pmax		pmax			
	comp=Z,585nm,1.6s								
PKME	**Peaks-Kenny Pk**	69.23	39	P		P	02 45 57.9	-0.9	
	baz=330								
EKA	**Eskdalemuir Ar**	69.31	354	P		P	02 46 00.1	+0.9	
	comp=Z,2.9nm,0.9s,baz=353,slow=5.9,SNR=3.9								
	comp=Z,2.9nm,0.9s								
833A	**Chaparral WMA,**	69.44	70	P		P	02 46 00.9	+0.5	
	baz=323								
OXF	**Oxford**	69.63	59	P		P	02 46 01.3	-0.2	
	baz=324								
HRA	**Herat**	69.77	301	P		P	02 46 02.3	-0.4	
HRA				IAmb		IAmb	02 46 05.1		
	comp=Z,9.4nm,1.4s								
SSPA	**Standing Stone**	69.83	47	P		P	02 46 01.2	-1.4	
	baz=327								
KIV	**Kislovodsk**	70.19	320	*e*P		P	02 46 04.2	-0.7	
KIV				pmax		pmax			
	comp=Z,4.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,138nm,17.0s								
KBZ	**Khabaz**	70.31	320	P	

VYHS	**Vyhne**	**72.98**	**338**	*e*P	**P**	**02 46 21.8**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,10.0nm,1.7s						
VYHS	**Vyhne**	**72.98**	**338**	*e*P	**P**	**02 46 21.8**	**+0.2**
KHC	**Kasperske Hory**	**73.40**	**342**	*e*P	**P**	**02 46 26.3**	**+2.2**
KHC	**Kasperske Hory**	**73.40**	**342**	*e*P	**P**	**02 46 26.3**	**+2.2**
MODS	**Modra-Piesok**	**73.42**	**339**	*e*P	**P**	**02 46 26.1**	**+1.9**
MODS				pmax	pmax		
	comp=Z,14nm,1.3s						
MODS	**Modra-Piesok**	**73.42**	**339**	*e*P	**P**	**02 46 26.1**	**+1.9**
GERES	**GERESS Array B**	**73.66**	**342**	P	**P**	**02 46 26.4**	**+0.8**
GERES	**GERESS Array B**	**73.66**	**342**	P	**P**	**02 46 26.4**	**+0.8**
GERES	**GERESS Array B**	**73.66**	**342**	P	**P**	**02 46 25.8**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=46,slow=3.9,SNR=5.9						
	comp=Z,0.9nm,0.7s						
CONA	**Conrad Observa**	**74.13**	**340**	*e*P	**P**	**02 46 30.2**	**+1.7**
	comp=Z,7.2nm,1.3s						
RONA	**Rosalia, Austr**	**74.26**	**340**	*e*P	**P**	**02 46 31.1**	**+2.0**
	comp=Z,5.3nm,1.2s						
ARSA	**Arzberg**	**74.85**	**340**	*e*P	**P**	**02 46 34.3**	**+1.8**
	comp=Z,1.7nm,0.7s						
TIGA	**Tifton**	**74.94**	**56**	P	**P**	**02 46 32.7**	**-0.5**
	baz=326						
PSI	**Prapat**	**75.07**	**253**	P	**P**	**02 46 35.0**	**+0.7**
PSI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
RPSI	**Rantau Prapat**	**75.16**	**253**	P	**P**	**02 46 35.0**	**+0.3**
KBA	**Koelnbreinsper**	**75.42**	**341**	*e*P	**P**	**02 46 38.0**	**+2.0**
	comp=Z,11nm,1.1s						
SOKA	**Soboth**	**75.49**	**340**	*i* P	**P**	**02 46 39.2**	**+2.9**
	comp=Z,8.7nm,1.5s						
MOTA	**Moosalm**	**75.56**	**343**	*i* P	**P**	**02 46 38.7**	**+2.0**
	comp=Z,7.0nm,1.4s						
SQTA	**Sankt Quirin**	**75.66**	**343**	*e*P	**P**	**02 46 39.5**	**+2.2**
	comp=Z,9.7nm,1.3s						
OBKA	**Obir**	**75.75**	**340**	*i* P	**P**	**02 46 38.5**	**+0.7**
	comp=Z,12nm,1.0s						
ABTA	**Abfaltersbach**	**75.89**	**342**	*e*P	**P**	**02 46 39.0**	**+0.4**
	comp=Z,8.0nm,1.2s						
BRTR	**Keskin Array B**	**77.08**	**325**	P	**P**	**02 46 45.0**	**-0.5**
BRTR	**Keskin Array B**	**77.08**	**325**	P	**P**	**02 46 45.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=31,slow=0.4,SNR=5.2						
	comp=Z,0.9nm,0.7s						
CTA	**Charters Tower**	**77.12**	**199**	LR	LR	03 16 43.6	
	comp=Z,68nm,20.2s,baz=82,slow=32						
DZM	**Mont Dzumac**	**77.15**	**180**	*e*LR	LR	03 10 35.5	
	comp=Z,162nm,22.4s						
DZM	**Mont Dzumac**	**77.15**	**180**	LR	LR	03 15 05.9	
	comp=Z,90nm,19.8s,baz=354,slow=31						
WB0	**Warramunga Arr**	**79.67**	**211**	P	**P**	**02 46 59.9**	**+0.2**
WRA	**Warramunga Arr**	**79.85**	**211**	*i* P	**P**	**02 47 01.3**	**+0.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**79.85**	**211**	P	**P**	**02 47 00.9**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=21,slow=5.8,SNR=7.0						
	comp=Z,3.8nm,1.0s						
RAR	**Rarotonga**	**81.54**	**148**	LR	LR	03 19 21.0	
	comp=Z,88nm,18.2s,baz=328,slow=33						
PPT	**Papeete**	**81.64**	**138**	LR	LR	03 16 28.5	
	comp=Z,69nm,21.8s,baz=320,slow=30						
PPT2	**Papeete2**	**81.66**	**138**	*e*LR	LR	03 12 44.0	
	comp=Z,191nm,23.5s						
PPT2				*e*LR	LR	03 12 50.0	
	comp=Z,225nm,26.8s						
ASAR	**Alice Springs**	**83.50**	**210**	P	**P**	**02 47 20.5**	**+0.6**
ASAR	**Alice Springs**	**83.50**	**210**	P	**P**	**02 47 20.8**	**+0.9**
	comp=Z,4.7nm,1.0s,baz=18,slow=4.1,SNR=18						
ASAR				LR	LR	03 21 20.3	
	comp=Z,72nm,21.6s,baz=60,slow=33						
	comp=Z,4.7nm,1.0s						
ESDC	**Sonseca Array**	**84.95**	**353**	P	**P**	**02 47 27.4**	**+0.1**
	comp=Z,4.0nm,1.1s,baz=357,slow=5.4,SNR=7.7						
	comp=Z,4.0nm,1.1s						
EIL	**Elat**	**85.68**	**319**	LR	LR	03 31 36.0	
	comp=Z,99nm,19.7s,baz=68,slow=40						
TBI	**Tubuai**	**86.96**	**140**	*e*LR	LR	03 15 11.7	
	comp=Z,630nm,26.5s						
STKA	**Stephens Creek**	**89.49**	**201**	P	**P**	**02 47 49.1**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=331,slow=7.0,SNR=7.6						
STKA				LR	LR	03 25 08.0	
	comp=Z,105nm,18.7s,baz=22,slow=34						
	comp=Z,3.2nm,0.9s						
JTS	**Las Juntas de**	**91.90**	**69**	LR	LR	03 30 34.1	
	comp=Z,197nm,20.1s,baz=266,slow=36						
RPZ	**Rata Peaks**	**98.81**	**177**	LR	LR	03 25 51.3	
	comp=Z,114nm,22.0s,baz=318,slow=31						
TIC	**Toumodi**	**117.78**	**350**↑	*e*PKP1	**Pdif**	**02 49 52.9**	**-3.8**
	comp=Z,24nm,0.9s						
KIC	**Kosan Boka**	**118.04**	**350**↑	*e*PKP1	**Pdif**	**02 49 54.1**	**-3.7**
	comp=Z,23nm,0.7s						
LIC	**Lamto**	**118.20**	**350**↑	*e*PKP1	**Pdif**	**02 49 53.7**	**-4.8**
	comp=Z,71nm,0.7s						
QSPA	**South Pole Qui**	**145.14**	**180**	PKPbc	**PKPbc**	**02 54 27.2**	**-0.7**
	comp=Z,29nm,1.0s,baz=358,slow=1.8,SNR=31						
ELIB	**Princess Elisa**	**157.31**	**209**	*d*PKP	**PKPab**	**02 55 19.2**	**+1.1**
ELIB				*dp*PKP	**sPKPab**	**02 55 28.8**	**-2.3**

KRSC 27 02:37:41.9±1.1,**55°25N**×**166°55E,h34**km±2km,**MI3.8,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.34**	**262**	*e*P	Pn	02 37 50.3	-0.1
BKI				*e*S	Sb	02 37 56.6	+0.9
TUMR	**Tumrok**	**3.67**	**273**	*e*P	Pn	02 38 40.8	+4.5
SMAR	**Somma**	**4.96**	**250**	*e*P	Pn	02 38 58.7	+4.5
UGLR	**Uglovaya**	**4.97**	**249**	*e*P	Pn	02 38 58.9	+4.6
AVH	**Avacha**	**5.00**	**250**	*e*P	Pn	02 38 59.1	+4.6
KRX	**Arik**	**5.00**	**251**	*e*P	Pn	02 38 58.9	+4.3
KOK	**Koryaka**	**5.04**	**250**	*e*P	Pn	02 38 59.3	+4.2
GNL	**Ganaly**	**5.26**	**256**	*e*P	Pn	02 39 02.8	+4.6
MTVR	**Mutnovka**	**5.67**	**244**	*e*P	Pn	02 39 08.7	+4.9
ASAK	**Asacha**	**5.88**	**244**	*e*P	Pn	02 39 11.9	+5.3

KRSC 27 02:39:11.1±1.1,**55°23N**×**166°45E,h35**km±6km,**MI4.2,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.28**	**266**	*e*P	Pn	02 39 19.0	+0.2
BKI				*e*S	Sn	02 39 24.8	+0.6
TUMD	**Tumrok D**	**3.47**	**272**	*e*P	Pn	02 40 06.0	+3.5
TUMD				*e*S	Sn	02 40 47.0	+4.7
TUMR	**Tumrok**	**3.61**	**274**	*e*P	Pn	02 40 09.0	+4.4
AVH	**Avacha**	**4.93**	**250**	*e*P	Pn	02 40 27.7	+5.0
KRX	**Arik**	**4.94**	**251**	*e*P	Pn	02 40 27.5	+4.7
KOK	**Koryaka**	**4.98**	**250**	*e*P	Pn	02 40 28.1	+4.9
KRMR	**Karymshinskiy**	**5.46**	**247**	*e*P	Pn	02 40 35.0	+5.1
KRMR				*e*S	Sn	02 41 36.6	+5.3
MTVR	**Mutnovka**	**5.61**	**244**	*e*P	Pn	02 40 36.7	+4.6
MTVR				*e*S	Sn	02 41 39.2	+3.9
ASAK	**Asacha**	**5.81**	**244**	*e*P	Pn	02 40 39.9	+5.2
ASAK				*e*S	Sn	02 41 45.0	+4.8

IDC ***27*** *02:44:21.8*±*23.0, 24°.76S*×*179°.95E, h253km*±*217km, mb3.4/3, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=173.0km s-min=48.1km az=13.0*

ISC 27 02:44:45.3±2.0,**26°1S**±0°.1×**179°.7E**±0°.3,**h500**km,**n21,**
σ1**82**/**27**,**mb3.7**/3,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**10.86**	**204**	P	**P**	**02 47 14.0**	**+2.5**
WIAZ	**Waiheke Island**	**11.38**	**199**	P	**P**	**02 47 19.3**	**+2.2**
MKAZ	**Moumakai**	**11.66**	**198**	P	**P**	**02 47 22.1**	**+2.0**
HAZ	**Te Kaha**	**11.77**	**187**	P	**P**	**02 47 22.2**	**+1.0**
HAZ				S	**S**	**02 49 29.2**	**-0.5**
WMGZ	**Waiomatatini S**	**11.77**	**185**	P	**P**	**02 47 23.8**	**+2.5**
AWAZ	**Awhitu Peninsu**	**11.78**	**200**	P	**P**	**02 47 23.2**	**+1.9**
PKGZ	**Pakihiroa**	**11.87**	**186**	P	**P**	**02 47 23.2**	**+0.8**
RUGZ	**Raukumara Rang**	**11.99**	**188**	P	**P**	**02 47 24.5**	**+0.9**
PUZ	**Puketiti**	**12.04**	**185**	P	**P**	**02 47 25.6**	**+1.5**
TWGZ	**Tauwhareparae**	**12.17**	**186**	P	**P**	**02 47 26.6**	**+1.2**
TWGZ				S	**S**	**02 49 39.5**	**+2.0**
URZ	**Urewera**	**12.36**	**189**	P	**P**	**02 47 25.9**	**-1.5**
	2.2nm,0.3s,baz=98,slow=2.2,SNR=16						
URZ				S	**S**	**02 49 37.8**	**-3.2**
	5.5nm,1.0s,baz=242,slow=23,SNR=1.6						
	12nm,0.5s						
URZ	**Urewera**	**12.36**	**189**	P	**P**	**02 47 25.9**	**-1.5**
URZ				S	**S**	**02 49 37.0**	**-4.1**
MWZ	**Matawai**	**12.37**	**188**	P	**P**	**02 47 27.0**	**-0.6**
MWZ				S	**S**	**02 49 40.4**	**-1.1**

CNGZ	**Carnagh Statio**	**12.45**	**185**	P	**P**	**02 47 29.2**	**+0.8**
RAGZ	**Rawiri**	**12.55**	**188**	P	**P**	**02 47 28.9**	**-0.6**
RIGZ	**Rimuhau**	**12.71**	**187**	P	**P**	**02 47 31.5**	**+0.2**
RTZ	**Ruatahuna**	**12.73**	**190**	P	**P**	**02 47 31.5**	**0.0**
RTZ				S	**S**	**02 49 51.2**	**+2.8**
STKA	**Stephens Creek**	**33.70**	**251**	P	**P**	**02 50 43.8**	**-0.5**
	0.5nm,0.3s,baz=96,slow=10,SNR=2.8						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**41.44**	**263**	P	**P**	**02 51 47.4**	**-0.5**
	1.2nm,0.4s,baz=95,slow=8.1,SNR=41						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**42.02**	**269**	P	**P**	**02 51 51.6**	**-0.9**
	1.9nm,0.6s,baz=101,slow=8.2,SNR=14						
	1.9nm,0.6s						
HFS	**Hagfors**	**144.59**	**348**	PKP	**PKPab**	**03 03 24.8**	**+0.4**
	1.3nm,0.9s,baz=357,slow=3.2,SNR=4.6						

KRSC 27 02:53:22.9±1.7,**55°.30N**×**166°.56E,h37**km±9km,**MI3.9,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.35**	**255**	*e*P	Pn	02 53 32.0	+0.7
BKI				*e*S	Sn	02 53 38.0	0.0
BZGR	**Bezymyannyi-Gr**	**3.39**	**283**	*e*P	Pn	02 54 15.4	+2.1
BZP	**Bezymyannyi-Pe**	**3.47**	**283**	*e*P	Pn	02 54 19.6	+5.2
BZWR	**Bezymyannyi-We**	**3.50**	**284**	*e*P	Pn	02 54 19.8	+4.9
TUMD	**Tumrok D**	**3.53**	**271**	*e*P	Pn	02 54 19.0	+3.9
TUMD				*e*S	Sn	02 55 01.4	+5.9
KIRR	**Kirishev**	**3.59**	**283**	*e*P	Pn	02 54 19.0	+3.0
KMNR	**Kamenistaya**	**3.63**	**280**	*e*P	Pn	02 54 20.8	+4.3
KPT	**Kopyto**	**3.66**	**283**	*e*P	Pn	02 54 20.8	+3.9
TUMR	**Tumrok**	**3.67**	**272**	*e*P	Pn	02 54 21.7	+4.6
TUMR				*e*S	Sn	02 55 05.9	+6.8
SMAR	**Somma**	**4.98**	**249**	*e*P	Pn	02 54 39.9	+4.7
UGLR	**Uglovaya**	**5.00**	**248**	*e*P	Pn	02 54 39.9	+4.6
AVH	**Avacha**	**5.02**	**249**	*e*P	Pn	02 54 40.3	+4.7
KRX	**Arik**	**5.02**	**251**	*e*P	Pn	02 54 40.5	+4.8
KOK	**Koryaka**	**5.06**	**250**	*e*P	Pn	02 54 41.0	+4.9
KRMR	**Karymshinskiy**	**5.55**	**247**	*e*P	Pn	02 54 48.0	+5.3
KRMR				*e*S	Sn	02 55 50.3	+5.2
MTVR	**Mutnovka**	**5.70**	**244**	*e*P	Pn	02 54 49.8	+4.8
MTVR				*e*S	Sn	02 55 52.0	+2.9
GRL	**Gorelyy**	**5.72**	**245**	*e*P	Pn	02 54 50.8	+5.5
ASAK	**Asacha**	**5.90**	**244**	*e*P	Pn	02 54 53.2	+5.5

IDC ***27*** *02:59:33.0*±*2.5, 3°.34S*×*130°.20E, h0km, mb3.6/2, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=167.2km s-min=27.9km az=70.0*
DJA ***27*** *02:59:35.1*±*0.3, 3°.5S*±*4°*×*13°.1E*±*°, h10km, M3.4/8, MLv3.4/8*

ISC 27 02:59:35.9±0.9,**3°.17S**±0°.08×**130°.52E**±0°.05,**h24**km,**n11,**
σ1**9**/**07**/**12**,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.48**	**205**	P	**Pb**	**03 00 02.7**	**0.0**
FAKI	**Fak Fak**	**1.74**	**82**	P	**Pn**	**03 00 04.4**	**-0.3**
FAKI				S	**Sn**	**03 00 27.9**	**+1.7**
KRAI	**Karang Ratu**	**2.13**	**266**	P	**Pn**	**03 00 12.2**	**-1.5**
SIJI	**Sorong**	**2.40**	**18**	P	**Pn**	**03 00 13.3**	**-0.5**
SWI	**Sorong**	**2.41**	**18**	P	**Pn**	**03 00 14.3**	**+0.5**
NLAI	**Namlea**	**3.42**	**269**	P	**Pn**	**03 00 28.8**	**+1.1**
LBMI	**Labuha**	**3.93**	**310**	P	**Pn**	**03 00 35.6**	**+0.8**
SANI	**Sanana**	**4.66**	**284**	P	**Pn**	**03 00 45.4**	**+0.5**
WRA	**Warramunga Arr**	**17.08**	**168**	Pn	**Pn**	**03 03 32.9**	**-0.4**
	0.2nm,0.3s,baz=350,slow=14,SNR=4.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**20.64**	**171**	P	**P**	**03 04 12.8**	**-1.2**
	2.0nm,0.5s,baz=350,slow=11,SNR=37						
	2.0nm,0.5s						
MKAR	**Makanchi Array**	**65.35**	**326**	P	**P**	**03 10 16.9**	**+0.6**
	0.2nm,0.4s,baz=108,slow=7.9,SNR=8.0						
	0.2nm,0.4s						

IDC ***27*** *03:20:50.2*±*0.9, 55°.97N*×*149°.38W, h0km, mb3.8/10, mbtmp3.8/15, ML3.6/4, MS3.5/4, Error ellipse: s-maj=20.6km s-min=14.3km az=34.0*
NEIC ***27*** *03:20:52.6*±*1.4, 56°.13N*±*0°.07*×*149°.26W*±*0°.10, h20km*±*6km, mb4.2/6, ML4.0/48, ML3.8(AEIC), Error ellipse: s-maj=10.8km s-min=7.8km az=169.0*
AEIC ***27*** *03:20:55.5*±*1.5, 56°.12N*±*0°.08*×*149°.19W*±*0°.10, h8km*±*5km, Error ellipse: s-maj=11.1km s-min=7.8km az=170.0*

ISC 27 03:20:51.6±0.6,**56°16N**±0°.06×**149°25W**±0°.05,**h10**km,
n229, σ0**86**/**230**,**mb4.0**/14,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**313**		**Pn**	**03 21 31.4**	**-0.1**
KDAK					**Sn**	**03 21 59.3**	**-2.2**
KDAK	**Kodiak Island**	**2.45**	**313**	S	**Sn**	**03 21 60.0**	**-1.5**
	baz=131						
KDAK	**Kodiak Island**	**2.45**	**313**	Pn	**Pn**	**03 21 31.0**	**-0.6**
	9.8nm,0.3s,baz=149,slow=4.5,SNR=42						
KDAK				Sn	**Sn**	**03 22 00.1**	**-1.4**
	22nm,0.3s,baz=333,slow=21,SNR=5.0						
KDAK				LR	LR	03 22 44.4	
	comp=Z,679nm,19.9s,baz=207,slow=45						
	28nm,0.3s						
OHAK	**Old Harbor**	**2.47**	**297**		**Pn**	**03 21 31.3**	**-0.6**
OHAK					**Sn**	**03 21 59.4**	**-2.6**
OHAK	**Old Harbor**	**2.47**	**297**	P	**Pn**	**03 21 31.1**	**-0.8**
OHAK	**Old Harbor**	**2.47**	**297**	P	**Pn**	**03 21 31.3**	**-0.6**
	baz=115						
OHAK				S	**Sn**	**03 21 59.7**	**-2.4**
	baz=115						
SII	**Sitkinak Islan**	**2.78**	**280**		**Pn**	**03 21 35.5**	**-0.6**
SII					**Sn**	**03 22 07.6**	**-2.1**
SII				IAML		03 22 19.0	
	comp=N,545nm,0.9s						
SII	**Sitkinak Islan**	**2.78**	**280**	P	**Pn**	**03 21 35.9**	**-0.2**
SII	**Sitkinak Islan**	**2.78**	**280**	P	**Pn**	**03 21 35.9**	**-0.2**
	baz=97						
SII				S	**Sn**	**03 22 08.0**	**-1.7**
	baz=97						
SYI	**Shuyak Island**	**2.99**	**327**		**Pn**	**03 21 39.0**	**-0.1**
SYI					**Sn**	**03 22 13.9**	**-0.9**
SYI				IAML		03 22 15.5	
	comp=E,357nm,0.5s						
Q20K	**Shuyak Island**	**2.99**	**327**	P	**Pn**	**03 21 39.0**	**0.0**
	baz=144						
Q20K				S	**Sn**	**03 22 14.0**	**-0.9**
	baz=144						
CNPM	**China Poot**	**3.54**	**343**		**Pn**	**03 21 46.2**	**-0.4**
CNPM					**Sn**	**03 22 27.0**	**-1.5**
CNPM				IAML		03 22 29.4	
	comp=E,210nm,0.6s						
CHIR	**Chirikof Islan**	**3.60**	**267**		**Pn**	**03 21 46.5**	**-0.8**
Q23K	**Middleton Isla**	**3.63**	**24**		**Pn**	**03 21 46.9**	**-0.9**
Q23K				IAML		03 22 33.6	
	comp=E,246nm,1.5s						
Q23K				IAML		03 22 52.7	
	comp=N,203nm,1.3s						
MID	**Middleton Isla**	**3.63**	**24**		**Pn**	**03 21 47.0**	**-0.8**
MID				IAML		03 22 27.6	
	comp=N,198nm,1.3s						
MID				IAML		03 22 35.1	
	comp=E,246nm,1.4s						
MID	**Middleton Isla**	**3.63**	**24**	P	**Pn**	**03 21 47.4**	**-0.4**
Q19K	**Cape Douglas,**	**3.65**	**321**	Pn	**Pn**	**03 21 48.6**	**+0.5**
Q19K				IAML		03 22 41.0	
	comp=N,458nm,0.7s						
Q19K	**Cape Douglas,**	**3.65**	**321**	P	**Pn**	**03 21 49.0**	**+0.9**
	baz=138						
BRSE	**Bradley Lake S**	**3.68**	**348**		**Pn**	**03 21 48.1**	**-0.5**
BRSE	**Bradley Lake S**	**3.68**	**348**	P	**Pn**	**03 21 48.1**	**-0.5**
	baz=167						
KAHG	**Katmai Hook Gl**	**3.71**	**311**		**Pn**	**03 21 50.3**	**+1.4**
BRLK	**Bradley Lake**	**3.72**	**347**	Pn	**Pn**	**03 21 48.4**	**-0.7**
BRLK					**Sn**	**03 22 30.6**	**-2.4**
BRLK				IAML		03 22 35.5	
	comp=E,231nm,0.6s						
ACHA	**Angle Creek He**	**3.90**	**304**		**Pn**	**03 21 52.4**	**+0.9**
SEW	**Seward**	**3.96**	**359**		**Pn**	**03 21 51.7**	**-0.6**
SEW	**Seward**	**3.96**	**359**		**Sn**	**03 22 36.4**	**-2.3**
SEW	**Seward**	**3.96**	**359**	P	**Pn**	**03 21 52.5**	**+0.2**
	baz=178						
ANCK	**Angle Creek**	**3.97**	**304**		**Pn**	**03 21 53.5**	**+1.0**
P23K	**Montague Islan**	**3.97**	**14**		**Pn**	**03 21 52.2**	**-0.3**
KAHC	**Katmai Hardscr**	**3.99**	**311**	P	**Pn**	**03 21 54.1**	**+1.2**
	baz=127						
P19K	**Oil Pt**	**4.10**	**330**	Pn	**Pn**	**03 21 54.6**	**+0.3**
P19K				IAML		03 22 43.9	
	comp=E,292nm,0.5s						
Q17K	**Contact Creek**	**4.18**	**303**	P	**Pn**	**03 21 56.2**	**+0.7**
	baz=118						
O20K	**Slope Mountain**	**4.32**	**337**		**Pn**	**03 21 56.8**	**-0.6**
O22K	**Cooper Landing**	**4.34**	**357**	Pn	**Pn**	**03 21 57.6**	**0.0**
IVE	**Iliamna Volcan**	**4.36**	**334**		**Pn**	**03 21 57.5**	**-0.4**
SLKM	**Skilak Lake**	**4.39**	**354**		**Pn**	**03 21 57.8**	**-0.6**
HIN	**Hinchinbrook I**	**4.49**	**18**	Pn	**Pn**	**03 21 59.6**	**0.0**
HIN				IAML		03 22 49.4	
	comp=N,210nm,1.1s						
HIN				IAML		03 23 00.2	
	comp=E,169nm,1.3s						
P18K	**Big Mountain,**	**4.56**	**318**		**Pn**	**03 22 00.5**	**-0.1**
P18K	**Big Mountain,**	**4.56**	**318**	P	**Pn**	**03 22 00.5**	**-0.1**
	baz=133						
KAIM	**Kayak Island**	**4.57**	**32**		**Pn**	**03 22 00.6**	**-0.1**
KAIM				IAML		03 23 20.6	
	comp=E,122nm,0.9s						
RED	**Redoubt Volcan**	**4.66**	**338**		**Pn**	**03 22 01.0**	**-1.0**
RSO	**Redoubt South**	**4.70**	**338**		**Pn**	**03 22 01.9**	**-0.8**
RDT	**Redoubt**	**4.73**	**341**		**Pn**	**03 22 02.5**	**-0.5**
CAPN	**Captain Cook N**	**4.73**	**349**	Pn	**Pn**	**03 22 03.4**	**+0.5**
RDWB	**Redoubt West**	**4.74**	**338**		**Pn**	**03 22 02.2**	**-1.0**
EYAK	**Cordova Ski Ar**	**4.77**	**21**		**Pn**	**03 22 03.7**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.77**	**21**	P	**Pn**	**03 22 03.6**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.77**	**21**	P	**Pn**	**03 22 03.7**	**+0.2**
	baz=204						
R16K	**Pilot Point**	**4.78**	**291**		**Pn**	**03 22 04.5**	**+0.9**
R16K				IAML		03 24 36.3	
	comp=E,112nm,1.4s						
R16K				IAML		03 25 11.6	
	comp=N,109nm,1.5s						
DFR	**Drift River**	**4.80**	**339**		**Pn**	**03 22 03.4**	**-0.5**
NCT	**North Crescent**	**4.82**	**338**		**Pn**	**03 22 03.4**	**-0.9**
O19K	**Port Alsworth**	**4.86**	**329**		**Pn**	**03 22 04.0**	**-0.7**
O19K	**Port Alsworth**	**4.86**	**329**	P	**Pn**	**03 22 04.2**	**-0.4**
	baz=144						
O18K	**Koktuh Hills**	**4.88**	**322**		**Pn**	**03 22 04.6**	**-0.3**
O18K				IAML		03 23 00.8	
	comp=N,68nm,0.8s						
O18K	**Koktuh Hills**	**4.88**	**322**	P	**Pn**	**03 22 04.8**	**-0.1**
	baz=137						
RAGM	**Ragged Mountai**	**4.88**	**28**	Pn	**Pn**	**03 22 05.5**	**+0.5**
P17K	**Kvichak River**	**4.92**	**311**	P	**Pn**	**03 22 06.4**	**+1.0**
	baz=126						
RC01	**Rabbit Creek A**	**4.95**	**357**	Pn	**Pn**	**03 22 05.7**	**-0.2**
RC01				IAML		03 23 04.2	
	comp=N,81nm,0.6s						
RC01				IAML		03 23 20.4	
	comp=E,68nm,1.2s						
GOAT	**Goat Mountain**	**5.03**	**26**		**Pn**	**03 22 07.1**	**0.0**
ANPB	**Aniakchak Plen**	**5.05**	**281**		**Pn**	**03 22 08.1**	**+0.8**
CHGN	**Chignik**	**5.12**	**275**		**Pn**	**03 22 08.2**	**0.0**
CHGN				IAML		03 23 14.1	
	comp=E,122nm,1.4s						
CHGN				IAML		03 23 14.0	
	comp=N,105nm,0.8s						
BERG	**Berg Lake**	**5.16**	**32**		**Pn**	**03 22 08.6**	**-0.2**
BERG				IAML		03 23 16.1	
	comp=N,122nm,1.2s						
SNH	**Sunshine Point**	**5.27**	**37**	Pn	**Pn**	**03 22 10.0**	**-0.3**
SNH				IAML		03 23 24.7	
	comp=E,79nm,1.4s						
SNH				IAML		03 23 46.0	
	comp=N,101nm,1.5s						
KNK	**Knik Glacier**	**5.29**	**4**		**Pn**	**03 22 11.0**	**+0.4**
KNK				IAML		03 23 25.4	
	comp=E,54nm,0.6s						
N20K	**Mount Spurr**	**5.29**	**344**	P	**Pn**	**03 22 10.3**	**-0.3**
	baz=162						
SPCP	**Crater Peak Br**	**5.34**	**345**		**Pn**	**03 22 11.4**	**-0.1**
SPCG	**Spurr Capps Gl**	**5.35**	**345**		**Pn**	**03 22 11.0**	**-0.5**
SUA	**Susitna One**	**5.38**	**352**		**Pn**	**03 22 11.3**	**-0.7**
SUA	**Susitna One**	**5.38**	**352**	P	**Pn**	**03 22 11.8**	**-0.1**
	baz=171						
BMRM	**Bremner River**	**5.40**	**25**		**Pn**	**03 22 12.3**	**+0.1**
BMRM	**Bremner River**	**5.40**	**25**	P	**Pn**	**03 22 12.5**	**+0.3**
	baz=209						
N19K	**Bonanza Creek**	**5.42**	**332**		**Pn**	**03 22 11.9**	**-0.5**
PMR	**Palmer**	**5.45**	**1**	Pn	**Pn**	**03 22 13.1**	**+0.3**
PMR	**Palmer**	**5.45**	**1**	P	**Pn**	**03 22 13.3**	**+0.5**
P16K	**Nushagak River**	**5.51**	**305**		**Pn**	**03 22 14.5**	**+0.9**
P16K	**Nushagak River**	**5.51**	**305**	P	**Pn

baz=250
L16K Owhat River 7.67 321 Pn Pn 03 22 43.2 0.0
HYT Haines Junctio 7.72 48 Pn Pn 03 22 44.2 +0.1
SIT Sitka 7.74 78 Pn Pn 03 22 42.0 -2.1
SIT Sitka 7.74 78 P Pn 03 22 42.3 -1.9
L27K Beaver Creek, 7.88 25 Pn 03 22 46.8 +0.7
BCAR Beaver Creek A 7.89 26 Pn Pn 03 22 46.0 -0.3
RIDG Independent Ri 7.92 14 Pn Pn 03 22 48.1 +1.4
BPAW Bear Paw Mtn. 8.02 355 Pn 03 22 48.5 +0.5
K17K Iditarod 8.03 329 Pn 03 22 47.1 -1.0
M14K Bethel 8.10 310 Pn Pn 03 22 49.7 +0.6
SKAG Skagway 8.13 60 Pn Pn 03 22 48.4 -1.2
SKAG Skagway 8.13 60 P Pn 03 22 49.7 +0.1
S32K Killisnoo 8.16 75 Pn Pn 03 22 48.9 -1.0
J18K Innoko River 8.23 336 Pn Pn 03 22 50.3 -0.7
N30M Aishikik Lake 8.24 45 Pn 03 22 51.2 0.0
R32K Eaglecrest 8.27 69 Pn Pn 03 22 50.6 -0.9
O30N Mendenhall 8.30 51 Pn 03 22 51.8 -0.1
JIS Juneau Island 8.34 69 Pn Pn 03 22 52.4 0.0
JIS Juneau Island 8.34 69 P Pn 03 22 52.1 -0.3
HDA Harding Lake 8.36 7 Pn 03 22 52.9 +0.3
J20K Nowinta River 8.40 345 Pn Pn 03 22 52.8 -0.5
CCB Clear Creek Bu 8.55 4 Pn 03 22 55.8 +0.6
M13K Dall Lake 8.56 306 Pn Pn 03 22 55.4 0.0
K27K Chicken 8.66 21 Pn 03 22 57.6 +0.8
L14K Kuka Creek 8.70 312 Pn 03 22 57.9 +0.6
IL31 8.72 7 Pn 03 22 58.3 +0.8
ILAR Eielson Array 8.72 7 Pn Pn 03 22 58.1 +0.5
ILAR Eielson Array 8.72 7 Pn Pn 03 22 58.5 +0.9
comp=E,0.5nm,0.3s,baz=188,slow=14,SNR=16
ILAR Sn Sn 03 24 34.9 -1.0
comp=E,0.5nm,0.3s,baz=207,slow=21,SNR=8.9
comp=E,1.4nm,0.5s
WHY Whitehorse 8.78 53 Pn Pn 03 22 58.6 0.0
K15K Wolf Creek Mou 8.79 319 Pn Pn 03 22 59.0 +0.4
J26L Joseph Creek 8.83 16 Pn 03 22 59.5 +0.3
MDM Murphy Dome 8.85 3 Pn 03 22 59.4 0.0
MLY Manley 8.93 356 Pn 03 23 01.0 +0.4
L29M L29M 8.95 34 Pn 03 23 01.1 +0.3
P32M Atlin 8.96 61 Pn 03 23 00.6 -0.4
I23K Minto, Yukon-K 9.02 360 Pn 03 23 02.1 +0.4
CRAG Craig 9.11 88 Pn Pn 03 23 00.8 -2.1
CRAG Craig 9.11 88 P Pn 03 23 01.7 -1.2
I21K Tanana 9.15 353 Pn 03 23 04.0 +0.5
DAWY Dawson 9.32 28 Pn 03 23 06.5 +0.6
EGAK Eagle 9.52 21 Pn Pn 03 23 09.5 +1.0
Q32M Nakina River 9.54 66 Pn Pn 03 23 08.0 -1.1
P33M Teslin, Yukon 9.57 58 Pn Pn 03 23 09.1 -0.3
N32M Quiet Lake 9.79 53 Pn 03 23 11.7 -0.6
J14K Nanvaranak Lak 9.82 318 Pn Pn 03 23 11.7 -0.9
S34M Telegraph Cree 10.03 72 Pn Pn 03 23 14.8 -0.7
IMAR Indian Mountai 10.09 349 Pn Pn 03 23 16.1 -0.3
R33M Jennings River 10.28 64 Pn Pn 03 23 18.5 -0.6
T35M Bob Quinn 10.51 78 Pn Pn 03 23 20.6 -1.7
J30M Hart River 10.57 32 Pn Pn 03 23 23.8 +0.8
DLBC Dease Lake 10.64 70 Pn Pn 03 23 24.4 +0.3
comp=E,0.3nm,0.3s,baz=208,slow=7.5,SNR=5.8
DLBC Sn Sn 03 25 17.7 -5.5
comp=E,0.2nm,0.3s,baz=180,slow=13,SNR=1.2
comp=E,0.7nm,0.3s
F24K Squaw Lake 11.42 3 Pn Pn 03 23 35.4 +0.8
E22K Anaktuvuk Pass 12.08 355 Pn 03 23 44.1 +0.5
G31M Satah River 12.89 27 Pn 03 23 55.0 +0.4
D25K Kavik River 13.28 4 Pn Pn 03 24 01.3 +1.4
C18K Utukok River 13.66 341 Pn Pn 03 24 05.0 -0.2
INK Inuvik 14.15 24 Pn Pn 03 24 12.3 +0.5
INK Inuvik 14.15 24 Pn Pn 03 24 13.8 +2.0
comp=E,0.2nm,0.3s,baz=205,slow=13,SNR=13
INK Sn Sn 03 26 50.6 +2.0
baz=124,slow=9.5
INK LR LR 03 29 49.7
comp=E,180nm,18.6s,baz=184,slow=38
comp=E,5.9nm,1.0s
ADK Adak 16.62 267 Pn Pn 03 24 43.7 -0.7
ADK Adak 16.62 267 P Pn 03 24 44.2 -0.3
C36M Paulatuk 17.34 30 Pn Pn 03 24 52.2 -1.1
YKA Yellowknife Ar 18.59 56 P P 03 25 08.8 +0.2
YKA Yellowknife Ar 18.59 56 P P 03 25 10.1 +1.5
comp=E,2.0nm,1.0s,baz=264,slow=12,SNR=16
A36M Sachs Harbour 18.79 23 P 03 25 10.5 -0.2
A36M IAmb IAmb 03 25 23.1
comp=Z,21nm,0.8s
I07A Izee 22.38 110 P P 03 25 49.9 0.0
I07A IAmb IAmb 03 25 53.2
comp=Z,8.5nm,1.1s
WVOR Wild Horse Val 23.98 112 P P 03 26 06.4 +0.2
WVOR IAmb IAmb 03 26 10.6
comp=Z,5.1nm,0.8s
NVAR Mina Array Bea 27.14 118 P P 03 26 34.6 -0.3
comp=Z,0.5nm,0.3s,baz=60,slow=15,SNR=7.5
comp=Z,0.5nm,0.3s
PDAR Pinedale Array 28.62 101 P P 03 26 48.4 +0.2
PDAR Pinedale Array 28.62 101 P P 03 26 49.7 +1.5
comp=Z,0.2nm,0.5s,baz=326,slow=3.0,SNR=3.0
comp=Z,0.2nm,0.5s
PETK Petropavlovsk- 30.23 287 P P 03 27 01.5 -0.6
comp=Z,1.3nm,0.4s,baz=351,slow=8.0,SNR=5.0
comp=Z,1.3nm,0.4s
MA2 Magadan 31.14 302 LR LR 03 39 56.5
comp=Z,100nm,18.3s,baz=65,slow=37
TXAR Lajitas Array 41.76 111 P P 03 28 41.0 0.0
comp=Z,0.5nm,0.9s,baz=322,slow=9.5,SNR=6.1
comp=Z,0.5nm,0.9s
SUMG Summit 43.07 24 *i* P P 03 29 01.0 +9.5
NRIK Noril'sk 48.23 337 LR LR 03 51 34.7
comp=Z,81nm,19.1s,baz=143,slow=38
H11S1 WAKE ISLAND Hy 49.98 239 T T 04 24 28.6
baz=28,slow=76,SNR=4.7
H11S2 WAKE ISLAND Hy 49.99 239 T T 04 24 13.9
baz=28,slow=76,SNR=5.0
H11S3 WAKE ISLAND Hy 49.99 239 T T 04 24 12.7
baz=28,slow=76,SNR=3.0
SONM Songino Array 58.73 310 P P 03 30 49.4 +0.1
comp=Z,1.3nm,0.8s,baz=64,slow=4.1,SNR=7.1
comp=Z,1.3nm,0.8s
ZALV Zalesovo Beam 61.68 327 P P 03 31 10.7 +1.4
comp=Z,1.0nm,0.5s,baz=39,slow=7.0,SNR=5.6
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 62.13 11 P P 03 31 21.6 +9.3
comp=Z,0.7nm,0.7s,baz=346,slow=6.9
FINES FINESS Array B 62.68 3 P P 03 31 17.5 +1.7
comp=Z,0.7nm,0.6s,baz=357,slow=9.5,SNR=5.8
comp=Z,0.7nm,0.6s
KURBB Kurchatov Arra 66.46 329 P P 03 31 41.2 +0.6
comp=Z,0.5nm,0.6s,baz=32,slow=6.6,SNR=5.2
comp=Z,0.5nm,0.6s
MK31 Makanchi Array 68.71 325 P P 03 31 55.4 +0.3
MK31 IAmb IAmb 03 32 17.7
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 68.71 325 P P 03 31 55.8 +0.8
MKAR Makanchi Array 68.71 325 P P 03 31 56.4 +1.3
comp=Z,0.7nm,0.6s,baz=28,slow=6.0,SNR=12
comp=Z,0.7nm,0.6s
AKASG Malin Array Be 73.50 1 P P 03 32 25.2 +1.3
comp=Z,0.7nm,0.6s,baz=318,slow=7.5,SNR=2.5
comp=Z,0.7nm,0.6s
QSPA South Pole Qui 145.95 180 PKPbc PKPdf 03 40 29.6 +0.5
comp=Z,0.7nm,0.8s,baz=49,slow=5.8,SNR=1.9

*IDC **27** 03:30:21.7±1.7,55.65N×166.24E,h0km,mb3.5/6, mbtmp3.5/7,ML3.2/1,Error ellipse: s-maj=54.4km s-min=18.9km az=167.0*

*KRSC **27** 03:30:23.0±1.2,55.30N×166.39E,h35km±5km,Ml3.9*

ISC 27 03:30:24.3±0.9,55.55N±0.07°×166.27E±0.07,h20km,n27, σ2936/27,mb3.7/6,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.39	206	eP	Pb	03 30 30.4	-1.9
BKI				eS	Sb	03 30 36.4	-1.4
BZP	Bezymyannyi-Pe	3.26	279	eP	Pb	03 31 17.8	-3.7
BZWR	Bezymyannyi-We	3.29	280	eP	Pn	03 31 17.7	+3.0
BZMR	Bezymyannaya	3.29	279	eP	Pb	03 31 18.2	-3.8
TUMD	Tumrok D	3.37	267	eP	Pn	03 31 17.7	+2.0
TUMD				eS	Sn	03 31 58.1	+3.0
KIRR	Kirishev	3.38	279	eP	Pn	03 31 17.9	+2.0
KMNR	Kamenistaya	3.42	276	eP	Pb	03 31 20.2	-4.1
KPT	Kopyto	3.44	279	eP	Pn	03 31 19.7	+2.9
TUMR	Tumrok	3.50	268	eP	Pn	03 31 20.3	+2.7
SRDR	Sredinnyy	3.77	284	eP	Pn	03 31 24.0	+2.8
SMAR	Somma	4.93	245	eP	Pn	03 31 38.9	+1.6
UGLR	Uglovaya	4.94	245	eP	Pn	03 31 39.8	+2.4
KRX	Arik	4.96	247	eP	Pn	03 31 38.9	+1.2
AVH	Avacha	4.96	246	eP	Pn	03 31 39.6	+2.0
KOK	Koryaka	5.00	246	eP	Pn	03 31 39.6	+1.4
PETK	Petropavlovsk-	5.58	248	Pn	Pn	03 31 47.1	+1.1
	3.2nm,0.3s,baz=74,slow=15,SNR=17						
PETK				Sn	Sn	03 32 52.9	+3.3
	3.5nm,0.3s,baz=12,slow=23,SNR=10						
	7.2nm,0.5s						
MTVR	Mutnovka	5.67	241	eP	Pn	03 31 48.0	+0.6
ASAK	Asacha	5.87	241	eP	Pn	03 31 51.6	+1.5
ILAR	Eielson Array	24.49	49	P	P	03 35 42.5	+0.8
	2.2nm,1.0s,baz=260,slow=8.5,SNR=13						
	2.2nm,1.0s						
H11N2	WAKE ISLAND Hy	35.76	179	T	T	04 14 37.6	
	baz=0.0,slow=76,SNR=28						
H11N3	WAKE ISLAND Hy	35.78	179	T	T	04 14 43.6	
	baz=0.0,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	35.78	179	T	T	04 14 41.1	
	baz=0.0,slow=76,SNR=16						
YKA	Yellowknife Ar	38.87	47	P	P	03 37 47.8	+0.2
	0.4nm,0.8s,baz=300,slow=7.8,SNR=4.0						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	49.56	303	P	P	03 39 14.0	+0.6
	0.5nm,0.7s,baz=52,slow=7.6,SNR=6.9						
	0.5nm,0.7s						
MKAR	Makanchi Array	50.30	297	P	P	03 39 18.8	-0.3
	0.2nm,0.6s,baz=49,slow=4.5,SNR=5.5						
	0.2nm,0.6s						
BVAR	Borovoye Array	51.64	310	P	P	03 39 28.0	-1.0
	0.6nm,0.6s,baz=62,slow=9.9,SNR=3.2						
	0.6nm,0.6s						
TXAR	Lajitas Array	66.39	72	P	P	03 41 11.7	0.0
	0.5nm,0.7s,baz=298,slow=4.4,SNR=6.1						
	0.5nm,0.7s						

*NEIC **27** 03:44:27.6±1.6,55.59N±0.09×149.23W±0.09,h7km±7km, mb3.5/1,ML3.9/36,ML3.6(AEIC),Error ellipse: s-maj=13.8km s-min=7.4km az=173.0*

*IDC **27** 03:44:28.2±2.4,55.65N×149.24W,h0km,mb3.8/2, mbtmp3.6/7,ML3.4/5,MS3.2/2,Error ellipse: s-maj=37.1km s-min=25.9km az=8.0*

*AEIC **27** 03:44:33.3±1.6,55.65N±0.08×149.2W±0.1,h12km±7km, Error ellipse: s-maj=12.4km s-min=8.2km az=162.0*

ISC 27 03:44:29.4±1.1,55.75N±0.09×149.28W±0.06,h10km, n188,σ0887/190,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.67	305		Pn	03 45 12.3	-0.1
OHAK					Sn	03 45 42.8	-1.9
OHAK	Old Harbor	2.67	305	P	Pn	03 45 12.3	-0.1
OHAK	Old Harbor	2.67	305	P	Pn	03 45 12.3	-0.1
	baz=124						
OHAK				S	Sn	03 45 42.8	-1.9
	baz=124						
KDAK	Kodiak Island	2.73	320	Pn	Pn	03 45 13.5	+0.3
KDAK					Sn	03 45 45.0	-1.3
KDAK	Kodiak Island	2.73	320	S	Sn	03 45 45.0	-1.3
	baz=139						
KDAK	Kodiak Island	2.73	320	Pn	Pn	03 45 13.3	+0.1
	16nm,0.3s,baz=149,slow=6.5,SNR=241						
KDAK				Sn	Sn	03 45 44.7	-1.5
	7.5nm,0.3s,baz=324,slow=22,SNR=8.6						
KDAK				LR	LR	03 46 20.7	
	comp=Z,123nm,19.2s,baz=126,slow=40						
	37nm,0.3s						
SII	Sitkinak Islan	2.86	288	Pn	Pn	03 45 15.0	-0.1
SII					IAML	03 45 48.6	
	comp=N,388nm,0.4s						
SII	Sitkinak Islan	2.86	288	P	Pn	03 45 15.0	-0.1
SII	Sitkinak Islan	2.86	288	P	Pn	03 45 14.9	-0.1
	baz=107						
SII				S	Sn	03 45 47.4	-2.2
	baz=107						
Q20K	Shuyak Island	3.33	331	P	Pn	03 45 21.8	+0.3
	baz=149						
Q20K				S	Sn	03 46 00.9	-0.2
	baz=149						
SYI	Shuyak Island	3.33	331		Pn	03 45 21.8	+0.3
CNPM	China Poot	3.93	345	Pn	Pn	03 45 29.6	-0.2
CNPM					IAML	03 46 16.8	
	comp=E,70nm,0.6s						
CNPM					IAML	03 46 18.7	
	comp=N,77nm,0.3s						
Q19K	Cape Douglas,	3.97	325	Pn	Pn	03 45 31.2	+0.9
Q19K					IAML	03 46 28.5	
	comp=N,121nm,0.9s						
Q19K					IAML	03 46 36.8	
	comp=E,130nm,1.3s						
Q19K	Cape Douglas,	3.97	325	P	Pn	03 45 31.1	+0.8
	baz=143						
KAHG	Katmai Hook Gl	3.98	316		Pn	03 45 31.7	+1.3
Q23K	Middleton Isla	4.01	22		Pn	03 45 30.7	-0.1
Q23K					IAML	03 48 01.1	
	comp=N,169nm,1.5s						
Q23K	Middleton Isla	4.01	22	P	Pn	03 45 30.8	-0.1
	baz=203						
MID	Middleton Isla	4.01	22		Pn	03 45 30.6	-0.2
MID					IAML	03 48 01.2	
	comp=N,192nm,1.5s						
MID	Middleton Isla	4.01	22	P	Pn	03 45 30.8	0.0
BRSE	Bradley Lake S	4.08	350		Pn	03 45 31.5	-0.3
BRSE	Bradley Lake S	4.08	350	P	Pn	03 45 31.5	-0.3
	baz=168						
BRSE				S	Sn	03 46 17.0	-2.5
	baz=168						
BRLK	Bradley Lake	4.12	349		Pn	03 45 31.9	-0.5
BRLK					IAML	03 46 20.2	
	comp=N,61nm,0.3s						
BRLK					IAML	03 46 21.5	
	comp=E,94nm,0.4s						
HOM	Homer	4.12	343	Pn	Pn	03 45 32.6	+0.3
HOM	Homer	4.12	343	S	Sn	03 46 20.1	-0.4
	baz=161						
ACHA	Angle Creek He	4.13	309		Pn	03 45 33.4	+0.9
ANCK	Angle Creek	4.19	308		Pn	03 45 34.5	+1.1
KAHC	Katmai Hardscr	4.26	315		Pn	03 45 35.6	+1.3
KAHC	Katmai Hardscr	4.26	315	P	Pn	03 45 35.7	+1.3
	baz=132						
AUL	Augustine Lava	4.27	330		Pn	03 45 35.8	+1.3
PLK3	Peulik 3	4.31	300		Pn	03 45 36.2	+1.2
SEW	Seward	4.37	359		Pn	03 45 35.1	-0.6
SEW	Seward	4.37	359	P	Pn	03 45 35.2	-0.5
	baz=178						
P23K	Montague Islan	4.38	12		Pn	03 45 35.5	-0.3
Q17K	Contact Creek	4.40	308	P	Pn	03 45 37.4	+1.1
	baz=124						
P19K	Oil Pt	4.45	333		Pn	03 45 37.5	+0.6
P19K					IAML	03 46 30.9	
	comp=N,103nm,1.1s						
P19K					IAML	03 46 32.0	
	comp=E,120nm,0.4s						
P19K	Oil Pt	4.45	333	P	Pn	03 45 37.4	+0.5
	baz=150						
O20K	Slope Mountain	4.70	339		Pn	03 45 40.6	+0.3
IVE	Iliamna Volcan	4.72	337		Pn	03 45 40.5	-0.2
P18K	Big Mountain,	4.86	321	Pn	Pn	03 45 42.6	+0.1
P18K	Big Mountain,	4.86	321	P	Pn	03 45 42.6	+0.1
	baz=137						
HIN	Hinchinbrook I	4.89	16	Pn	Pn	03 45 42.9	0.0
R16K	Pilot Point	4.92	295		Pn	03 45 43.8	+0.4
R16K					IAML	03 46 34.3	
	comp=E,106nm,1.4s						
R16K					IAML	03 47 53.9	
	comp=N,106nm,1.4s						
R16K	Pilot Point	4.92	295	P	Pn	03 45 44.1	+0.8
	baz=110						
KAIM	Kayak Island	4.93	30		Pn	03 45 43.4	-0.1
KAIM					IAML	03 46 43.2	
	comp=E,103nm,1.1s						
KAIM	Kayak Island	4.93	30	P	Pn	03 45 43.4	-0.1
	baz=213						
RED	Redoubt Volcan	5.04	340		Pn	03 45 44.3	-0.7
RDSO	Redoubt South	5.06	340		Pn	03 45 44.8	-0.6
RSO	Redoubt South	5.07	340		Pn	03 45 44.9	-0.7
RDT	Redoubt	5.11	342		Pn	03 45 45.2	-0.8
ANPB	Aniakchak Plen	5.13	286		Pn	03 45 46.5	+0.3
CHGN	Chignik	5.15	280		Pn	03 45 46.2	-0.3
CHGN					IAML	03 46 45.8	
	comp=E,101nm,0.3s						
CHGN	Chignik	5.15	280	P	Pn	03 45 46.3	-0.2
	baz=94						
EYAK	Cordova Ski Ar	5.16	20		Pn	03 45 46.8	+0.1
EYAK	Cordova Ski Ar	5.16	20	P	Pn	03 45 46.8	+0.1
EYAK	Cordova Ski Ar	5.16	20	P	Pn	03 45 46.7	+0.1
	baz=202						
P17K	Kvichak River	5.18	315	P	Pn	03 45 48.1	+1.2
	baz=130						
O18K	Koktuh Hills	5.19	325		Pn	03 45 47.2	+0.1
O18K					IAML	03 46 37.4	
	comp=N,30nm,2.8s						
O18K					IAML	03 48 00.1	
	comp=E,30nm,2.9s						
O18K	Koktuh Hills	5.19	325	P	Pn	03 45 47.3	+0.1
	baz=141						
O19K	Port Alsworth	5.20	331	Pn	Pn	03 45 48.0	+0.8
O19K					IAML	03 46 49.7	
	comp=E,92nm,0.5s						
RC01	Rabbit Creek A	5.36	358		Pn	03 45 49.2	-0.1
RC01	Rabbit Creek A	5.36	358	P	Pn	03 45 49.3	-0.1
	baz=177						
BERG	Berg Lake	5.52	30		Pn	03 45 51.5	0.0
SNH	Sunshine Point	5.61	35		Pn	03 45 53.0	+0.1
N20K	Mount Spurr	5.68	346	P	Pn	03 45 53.2	-0.6
	baz=163						
KNK	Knik Glacier	5.70	4	Pn	Pn	03 45 54.1	+0.1
SPCP	Crater Peak Br	5.73	346		Pn	03 45 54.8	+0.2
P16K	Nushagak River	5.74	309	P	Pn	03 45 55.8	+1.1
	baz=122						
N19K	Bonanza Creek	5.77	334		Pn	03 45 54.7	-0.4
N19K	Bonanza Creek	5.77	334	P	Pn	03 45 54.6	-0.4
	baz=150						
BMRM	Bremner River	5.78	23		Pn	03 45 55.5	+0.3
BMRM	Bremner River	5.78	23	P	Pn	03 45 55.5	+0.3
	baz=206						
SUA	Susitna One	5.78	353		Pn	03 45 54.8	-0.5
SUA	Susitna One	5.78	353	P	Pn	03 45 54.8	-0.5
	baz=172						
S14K	Fog Glacier	5.79	280	P	Pn	03 45 55.1	-0.2
	baz=93						
VNFG	Fog Glacier, M	5.79	280		Pn	03 45 55.6	+0.3
O17K	Koliganek Bris	5.81	317		Pn	03 45 56.2	+0.7
O17K	Koliganek Bris	5.81	317	P	Pn	03 45 56.2	+0.7
	baz=132						
PMR	Palmer	5.86	1	P	Pn	03 45 57.8	+1.6
CHNA	Chernabura Isl	5.96	265	P	Pn	03 45 56.4	-1.2
	baz=78						
CNBA	Chernabura Isl	5.96	265		Pn	03 45 56.1	-1.5
KLU	Klutina	6.02	16		Pn	03 45 58.9	+0.4
KLU	Klutina	6.02	16	P	Pn	03 45 58.9	+0.4
	baz=198						
GHO	Glory Hole Cre	6.04	2		Pn	03 45 59.6	+0.8
N18K	Kilae Creek	6.05	327		Pn	03 45 59.1	+0.2
N18K	Kilae Creek	6.05	327	P	Pn	03 45 58.6	-0.2
	baz=142						
SML	Sawmill	6.09	4	Pn	Pn	03 46 00.2	+0.7
O16K	Kokwok River B	6.10	313		Pn	03 46 00.4	+1.0
O16K	Kokwok River B	6.10	313	P	Pn	03 45 60.0	+0.5
	baz=126						
SCM	Sheep Creek Mo	6.18	9	Pn	Pn	03 46 01.9	+1.1
VRDI	Verde Repeater	6.28	27		Pn	03 46 02.3	+0.1
SAMH	Samovar Hills	6.30	42		Pn	03 46 03.0	+0.5
SKT	Skwentna	6.36	350	Pn	Pn	03 46 03.0	-0.1
N17K	Nushagak Hills	6.36	322	Pn	Pn	03 46 02.7	-0.3
N25K	Chitina, Valde	6.36	21		Pn	03 46 03.8	+0.6
N25K	Chitina, Valde	6.36	21	P	Pn	03 46 03.1	0.0
	baz=204						
SDPT	Sand Point	6.37	271	Pn	Pn	03 46 02.5	-0.7
GLB	Gilahina Butte	6.38	24	Pn	Pn	03 46 03.5	+0.1
YKU2	Yakutat	6.39	50	Pn	Pn	03 46 03.6	+0.1
M20K	Styx River	6.47	344		Pn	03 46 03.9	-0.7
M20K	Styx River	6.47	344	P	Pn	03 46 04.1	-0.6
	baz=160						
PCA	Pinnacle	6.49	44		Pn	03 46 05.2	+0.3
PINM	Pinnacle	6.49	44	P	Pn	03 46 05.2	+0.3
	baz=231						
MCARA	McCarthy VSAT	6.53	27		Pn	03 46 05.9	+0.6
MCARA	McCarthy VSAT	6.53	27	P	Pn	03 46 06.0	+0.6
	baz=212						
M24K	Tolsona, Glenn	6.58	13	Pn	Pn	03 46 07.3	+1.2
PNL	Peninsula	6.59	49	P	Pn	03 46 07.0	+0.7
PNL	Peninsula	6.59	49	P	Pn	03 46 06.5	+0.2
	baz=236						
O15K	Ungalikthiuk R	6.64	305		Pn	03 46 08.0	+1.1
O15K	Ungalikthiuk R	6.64	305	P	Pn	03 46 08.0	+1.1
	baz=118						
BCPM	Bancas Point	6.65	47		Pn	03 46 07.6	+0.6
BARN	Barnard Glacie	6.66	34		Pn	03 46 07.7	+0.3
CTG	Chitna Glacier	6.69	35	P	Pn	03 46 08.0	+0.2
	baz=221						
CTGM	Chitina Glacie	6.69	35		Pn	03 46 08.0	+0.2
M18K	Stony River	6.69	332		Pn	03 46 07.2	-0.5
M18K	Stony River	6.69	332	P	Pn	03 46 07.2	-0.5
	baz=147						
LOGN	Logan Glacier	6.70	37		Pn	03 46 08.0	+0.1
N16K	Nishlik Lake	6.90	317		Pn	03 46 11.5	+0.9
N16K	Nishlik Lake	6.90	317	P	Pn	03 46 11.5	+0.9
	baz=130						
M17K	Holitna River	7.09	326		Pn	03 46 13.2	+0.2
M17K	Holitna River	7.09	326	P	Pn	03 46 13.4	+0.3
	baz=140						
L20K	Farewell, AK	7.15	343		Pn	03 46 13.1	-0.9
L20K	Farewell, AK	7.15	343	P	Pn	03 46 13.1	-0.9
	baz=159						
PN7A	Pavlof North-7	7.22	273		Pn	03 46 15.3	+0.4
N15K	Kwethluk River	7.25	312		Pn	03 46 16.8	+1.4
O29M	Mount Kennedy	7.29	47		Pn	03 46 16.8	+0.9
O29M	Mount Kennedy	7.29	47	P	Pn	03 46 16.6	+0.7
	baz=235						
P29M	Windy Craggy	7.30	53	P	Pn	03 46 16.0	-0.1
	baz=242						
M16K	Timber Creek	7.33	320	Pn	Pn	03 46 16.8	+0.4
O14K	Tigyukauivet M	7.35	303	Pn	Pn	03 46 17.2	+0.6
DHY	Denali Highway	7.41	7	Pn	Pn	03 46 18.1	+0.5
M26K	Nabesna, AK	7.41	23	Pn	Pn	03 46 18.2	+0.7
S31K	Pelican	7.49	67		Pn	03 46 16.0	-2.6
S31K	Pelican	7.49	67	P	Pn	03 46 16.7	-1.8
	baz=257						
CAST	Castle Rocks	7.82	351		Pn	03 46 23.5	+0.4
SIT	Sitka	7.85	75	Pn	Pn	03 46 19.9	-3.7
PLBC	Pleasant Camp	7.87	57	P	Pn	03 46 24.1	+0.3
	baz=246						
KTH	Kantishna Hill	7.87	355	Pn	Pn	03 46 23.6	-0.3
YUK4	Talbot Arm	7.89	40	P	Pn	03 46 27.0	+2.7
	baz=228						
L16K	Owhat River	7.98	323		Pn	03 46 25.5	+0.2
L16K	Owhat River	7.98	323	P	Pn	03 46 26.8	+1.5
	baz=134						
HYT	Haines Junctio	8.02	46	Pn	Pn	03 46 26.7	+0.8
BCAR	Beaver Creek A	8.27	24	Pn	Pn	03 46 29.5	+0.2
S32K	Killisnoo	8.29	72	Pn	Pn	03 46 27.4	-2.1
SKAG	Skagway	8.36	58		Pn	03 46 31.0	+0.5
SKAG	Skagway	8.36	58	P	Pn	03 46 31.0	+0.5
K17K	Iditarod	8.37	330	Pn	Pn	03 46 29.8	-0.9
BPAW	Bear Paw Mtn.	8.42	355		Pn	03 46 31.2	-0.2
BPAW	Bear Paw Mtn.	8.42	355	P	Pn	03 46 32.8	+1.4
	baz=173						
R32K	Eaglecrest	8.44	66	Pn	Pn	03 46 30.3	-1.4
JIS	Juneau Island	8.51	67	Pn	Pn	03 46 30.9	-1.7
JIS	Juneau Island	8.51	67	P	Pn	03 46 31.5	-1.1
O30N	Mendenhall	8.58	49	P	Pn	03 46 34.0	+0.5
	baz=239						
M29M	Somme Creek	8.71	35		Pn	03 46 36.2	+0.8

baz=249
EGAK Eagle 9.90 21 Pn **Pn 03 46 52.6 +0.9**
DLBC Dease Lake 10.81 68 Pn **Pn 03 47 03.8 -0.3**
comp=E,0.6nm,0.3s,baz=242,slow=10.0,SNR=8.6
comp=E,1.1nm,0.3s
J30M Hart River 10.93 31 Pn 03 47 06.9 +1.1
G19K Purcell Mounta 11.08 343 Pn **Pn 03 47 08.9 +1.2**
E19K Redstone River 12.32 346 Pn **Pn 03 47 25.5 +0.8**
D22K Ayikyak River 13.27 355 Pn **Pn 03 47 38.6 +1.0**
INK Inuvik 14.53 24 Pn **Pn 03 47 55.6 +0.8**
INK Inuvik 14.53 24 Pn **Pn 03 47 56.5 +1.7**
baz=206,slow=16,SNR=4.9
comp=E,1.4nm,0.9s
B20K Meade River 14.73 349 Pn **Pn 03 47 56.4 -1.1**
YKA Yellowknife Ar 18.84 55 P **P 03 48 47.8 -1.3**
YKA Yellowknife Ar 18.84 55 P **P 03 48 49.8 +0.7**
comp=E,0.1nm,0.3s,baz=262,slow=11,SNR=6.3
comp=E,0.5nm,0.7s
A36M Sachs Harbour 19.17 23 P 03 48 53.0 +0.4
A36M IAmb IAmb 03 49 05.0
comp=Z,2.6nm,0.8s
FINES FINESS Array B 63.09 2 P **P 03 54 58.8 +2.4**
comp=Z,1.6nm,0.9s,baz=349,slow=5.7,SNR=5.3
comp=Z,1.6nm,0.9s
GUMO Guam 65.32 258 LR LR 04 19 13.7
comp=Z,48nm,20.5s,baz=54,slow=32
MKAR Makanchi Array 69.03 325 P **P 03 55 35.1 +0.3**
comp=Z,0.3nm,0.5s,baz=30,slow=6.4,SNR=7.6
comp=Z,0.3nm,0.5s

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*AEIC **27** 03:54:02.3ₙ3.7, 60.1N±0.1ₓ142.7W±0.2, h68ᵏᵐ±8ᵏᵐ, Error ellipse: s-maj=22.1km s-min=3.9km az=221.0*
NEIC 27 03:52:44.8±2.2, 55.97N±0.10ₓ149.7W±0.1, h7ᵏᵐ±6ᵏᵐ, mb3.5/1, ML2.4(AEIC), Error ellipse: s-maj=14.2km s-min=9.8km az=161.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.33**	**304**	Pn	Pn	03 53 23.7	+0.1
KDAK	**Kodiak Island**	**2.40**	**320**	Pn	Pn	03 53 24.4	0.0
SII	**Sitkinak Islan**	**2.56**	**285**	Pn	Pn	03 53 25.7	-0.9
SYI	**Shuyak Island**	**3.01**	**332**	Pn	Pn	03 53 32.9	0.0
Q19K	**Cape Douglas,**	**3.64**	**326**	Pn	Pn	03 53 42.3	+0.8
CNPM	**China Poot**	**3.65**	**348**	Pn	Pn	03 53 40.9	-0.8
BRLK	**Bradley Lake**	**3.85**	**351**	Pn	Pn	03 53 43.4	-1.1
Q23K	**Middleton Isla**	**3.91**	**26**		Pn	03 53 44.3	-0.9
MID	**Middleton Isla**	**3.91**	**26**		Pn	03 53 44.0	-1.2
P18K	**Big Mountain,**	**4.53**	**322**	Pn	Pn	03 53 53.5	-0.2
HIN	**Hinchinbrook I**	**4.75**	**20**	Pn	Pn	03 53 56.2	-0.6
KAIM	**Kayak Island**	**4.87**	**33**	Pn	Pn	03 53 57.8	-0.6
EYAK	**Cordova Ski Ar**	**5.04**	**23**		Pn	03 54 00.7	-0.1
RAGM	**Ragged Mountai**	**5.17**	**29**	Pn	Pn	03 54 02.4	-0.1
BERG	**Berg Lake**	**5.46**	**33**	Pn	Pn	03 54 06.4	0.0
N19K	**Bonanza Creek**	**5.46**	**335**	Pn	Pn	03 54 05.6	-1.0
KNK	**Knik Glacier**	**5.50**	**6**	Pn	Pn	03 54 06.3	-0.7
BMRM	**Bremner River**	**5.68**	**26**	Pn	Pn	03 54 09.4	-0.2
N18K	**Kilae Creek**	**5.73**	**328**	Pn	Pn	03 54 09.8	-0.4
GHO	**Glory Hole Cre**	**5.83**	**4**	Pn	Pn	03 54 10.9	-0.8
BARK	**Barkley Ridge**	**5.86**	**38**		Pn	03 54 13.5	+1.4
VRDI	**Verde Repeater**	**6.20**	**29**	Pn	Pn	03 54 16.3	-0.6
GLB	**Gilahina Butte**	**6.29**	**27**	Pn	Pn	03 54 17.8	-0.1
KIAG	**Kiagna River**	**6.29**	**35**		Pn	03 54 18.7	+0.7
M24K	**Tolsona, Glenn**	**6.42**	**15**	Pn	Pn	03 54 19.6	-0.1
MCARA	**McCarthy VSAT**	**6.45**	**30**	Pn	Pn	03 54 20.8	+0.7
PTPK	**Patty Peak**	**6.46**	**33**		Pn	03 54 21.5	+1.1
PCA	**Pinnacle**	**6.50**	**47**		Pn	03 54 22.3	+1.4
BARN	**Barnard Glacie**	**6.62**	**36**		Pn	03 54 22.5	0.0
CTGM	**Chitina Glacie**	**6.66**	**38**		Pn	03 54 23.2	+0.1
LOGN	**Logan Glacier**	**6.68**	**40**		Pn	03 54 23.3	0.0
BCPM	**Bancas Point**	**6.69**	**49**	Pn	Pn	03 54 24.4	+1.1
M16K	**Timber Creek**	**7.00**	**320**	Pn	Pn	03 54 28.4	+0.8
O29M	**Mount Kennedy**	**7.32**	**49**	Pn	Pn	03 54 32.8	+0.7
P29M	**Windy Craggy**	**7.38**	**55**		Pn	03 54 32.6	-0.2
TRF	**Thorofare Moun**	**7.51**	**358**	Pn	Pn	03 54 35.5	+0.8
M27K	**Edge Creek, AK**	**7.56**	**29**	Pn	Pn	03 54 36.3	+0.8
CAST	**Castle Rocks**	**7.56**	**352**	Pn	Pn	03 54 36.5	+1.1
KTH	**Kantishna Hill**	**7.63**	**356**	Pn	Pn	03 54 37.5	+1.2
S31K	**Pelican**	**7.64**	**69**	Pn	Pn	03 54 34.8	-1.5
F31M	**Tsiigehtchic**	**13.71**	**27**	Pn	Pn	03 55 58.1	-1.2
C16K	**Lisburne Hills**	**14.27**	**336**	Pn	Pn	03 56 06.8	-0.2
INK	**Inuvik**	**14.43**	**25**	Pn	Pn	03 56 07.8	-1.3
A36M	**Sachs Harbour**	**19.06**	**23**	P	P	03 57 06.9	-0.4
A36M				IAmb	IAmb	03 57 12.1	

comp=Z,3.3nm,0.9s

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*MOS **27** 03:52:56.6±1.1, 55.76Nₓ149.10W, h10ᵏᵐ, mb4.9/33, Error ellipse: s-maj=14.6km s-min=4.6km az=93.6*
*NEIC **27** 03:52:56.6±1.7, 55.63N±0.07ₓ149.19W±0.10, h10ᵏᵐ±1ᵏᵐ, mb4.6/49, ML4.5/42, ML4.3(AEIC), Error ellipse: s-maj=12.1km s-min=9.1km az=185.0*
*IDC **27** 03:52:57.1±0.7, 55.78Nₓ149.22W, h0ᵏᵐ, mb4.3/30, mbtmp4.4/34, ML4.0/4, MS3.8/21, Error ellipse: s-maj=19.4km s-min=11.6km az=26.0*
*AEIC **27** 03:53:00.1±1.9, 55.60N±0.08ₓ149.13W±0.10, h5ᵏᵐ±4ᵏᵐ, Error ellipse: s-maj=11.5km s-min=7.9km az=182.0*
*BGR **27** 03:53:15.3, 57.79Nₓ150.78W, h33ᵏᵐ, mb4.5*
ISC 27 03:52:57.8±0.5, 55.68N±0.06ₓ149.18W±0.05, h10ᵏᵐ, n533, σ1s03/461, mb4.6/108, MS3.9/20, 22C-13D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.75**	**306**		Pn	03 53 40.8	-1.1
OHAK					**Sn**	**03 54 12.0**	**-3.2**
OHAK	**Old Harbor**	**2.75**	**306**	P	Pn	03 53 40.8	-1.1
OHAK	baz=123			S	**Sn**	**03 54 12.1**	**-3.2**
KDAK	**Kodiak Island**	**2.82**	**320**		Pn	03 53 41.7	-1.1
KDAK					**Sn**	**03 54 14.6**	**-2.2**
KDAK	**Kodiak Island**	**2.82**	**320**	S	**Sn**	**03 54 14.6**	**-2.2**
KDAK	baz=138 **Kodiak Island**	**2.82**	**320**	P	Pn	03 53 41.7	-1.1
KDAK						03 54 14.6	
KDAK	**Kodiak Island**	**2.82**	**320**	Pn	**Pn**	**03 53 41.9**	**-0.9**
KDAK	27nm,0.3s,baz=160,slow=5.7,SNR=81				**Sn**	**03 54 12.7**	**-4.1**
	44nm,0.3s,baz=198,slow=6.7,SNR=5.1 164nm,0.6s						
SII	**Sitkinak Islan**	**2.94**	**289**		Pn	03 53 43.1	-1.3
SII					**Sn**	**03 54 17.0**	**-2.8**
SII	comp=N,2μm,0.7s			IAML		03 54 21.8	
SII	**Sitkinak Islan**	**2.94**	**289**	P	Pn	03 53 43.2	-1.3
SII	**Sitkinak Islan**	**2.94**	**289**	P	Pn	03 53 43.2	-1.3
SII	baz=106			S	**Sn**	**03 54 17.1**	**-2.8**
	baz=106						
SYI	**Shuyak Island**	**3.42**	**330**		**Pn**	**03 53 50.2**	**-0.8**
SYI					**Sn**	**03 54 30.1**	**-1.4**
Q20K	**Shuyak Island**	**3.42**	**330**	P	**Pn**	**03 53 50.5**	**-0.5**
Q20K	baz=148			S	**Sn**	**03 54 30.5**	**-1.1**
	baz=148						
CNPM	**China Poot**	**4.01**	**345**		Pn	03 53 57.9	-1.3
CNPM					**Sn**	**03 54 44.5**	**-1.7**
CNPM	comp=E,316nm,0.6s			IAML		03 54 48.4	
CNPM	comp=N,292nm,0.4s			IAML		03 54 52.7	
Q23K	**Middleton Isla**	**4.05**	**21**	Pn	**Pn**	**03 53 58.5**	**-1.2**
Q23K	comp=E,687nm,2.5s			IAML		03 55 40.4	
Q23K	comp=N,558nm,2.5s			IAML		03 56 09.9	
Q23K	**Middleton Isla**	**4.05**	**21**	P	**Pn**	**03 53 58.5**	**-1.2**
MID	baz=203 **Middleton Isla**	**4.05**	**21**	Pn	**Pn**	**03 53 58.7**	**-1.0**
MID	comp=E,684nm,2.5s			IAML		03 55 40.5	
MID	comp=N,562nm,2.4s			IAML		03 56 10.0	
MID	**Middleton Isla**	**4.05**	**21**	P	**Pn**	**03 53 58.7**	**-1.0**
MID	**Middleton Isla**	**4.05**	**21**	P	**Pn**	**03 53 58.7**	**-1.0**
Q19K	**Cape Douglas,**	**4.06**	**325**		**Pn**	**03 53 59.5**	**-0.3**
Q19K	**Cape Douglas,** baz=142	**4.06**	**325**	P	**Pn**	**03 53 59.4**	**-0.4**
KAHG	**Katmai Hook Gl**	**4.06**	**316**		**Pn**	**03 53 59.6**	**-0.4**
BRSE	**Bradley Lake S**	**4.16**	**349**		Pn	03 53 59.9	-1.3
BRSE					**Sn**	**03 54 47.4**	**-2.3**
BRSE	**Bradley Lake S** baz=168	**4.16**	**349**	P	Pn	03 53 59.9	-1.3
BRSE	baz=168			S	**Sn**	**03 54 47.4**	**-2.3**
BRLK	**Bradley Lake**	**4.19**	**348**		Pn	03 54 00.2	-1.5
BRLK	comp=E,378nm,0.6s			IAML		03 54 57.8	
HOM	**Homer**	**4.20**	**343**		**Pn**	**03 54 01.2**	**-0.5**
HOM	comp=N,909nm,0.7s			IAML		03 54 55.3	
HOM	comp=E,730nm,0.9s			IAML		03 55 00.4	
HOM	**Homer** baz=161	**4.20**	**343**	P	**Pn**	**03 54 01.4**	**-0.3**
ACHA	**Angle Creek He**	**4.21**	**309**		**Pn**	**03 54 02.0**	**0.0**
ANCK	**Angle Creek**	**4.28**	**309**		**Pn**	**03 54 02.8**	**-0.1**
AU22	**Augustine Moun**	**4.33**	**330**		**Pn**	**03 54 02.8**	**-0.7**
PLK3	**Peulik 3**	**4.40**	**300**		**Pn**	**03 54 04.3**	**-0.2**
P23K	**Montague Islan**	**4.43**	**12**		**Pn**	**03 54 03.8**	**-1.1**
P23K	**Montague Islan** baz=193	**4.43**	**12**	P	**Pn**	**03 54 03.8**	**-1.1**
SEW	**Seward**	**4.44**	**358**		Pn	03 54 03.6	-1.4
SEW	**Seward** baz=178	**4.44**	**358**	P	Pn	03 54 03.6	-1.4
Q17K	**Contact Creek** baz=123	**4.49**	**308**	P	**Pn**	**03 54 05.9**	**0.0**
P19K	**Oil Pt**	**4.54**	**333**		**Pn**	**03 54 05.9**	**-0.5**
P19K	comp=E,800nm,0.5s			IAML		03 55 04.5	
P19K	comp=N,700nm,0.5s			IAML		03 55 04.5	
P19K	**Oil Pt** baz=150	**4.54**	**333**	P	Pn	03 54 05.1	-1.3
PLK1	**Peulik 1**	**4.61**	**300**		**Pn**	**03 54 07.6**	**+0.2**
O20K	**Slope Mountain**	**4.78**	**339**		**Pn**	**03 54 08.7**	**-1.1**
O20K	**Slope Mountain** baz=156	**4.78**	**339**	P	**Pn**	**03 54 08.7**	**-1.1**
IVE	**Iliamna Volcan**	**4.80**	**336**		Pn	03 54 09.1	-1.1
O22K	**Cooper Landing**	**4.82**	**357**		**Pn**	**03 54 09.2**	**-1.1**
O22K	**Cooper Landing** baz=176	**4.82**	**357**	P	**Pn**	**03 54 09.4**	**-0.8**
HIN	**Hinchinbrook I**	**4.94**	**16**		**Pn**	**03 54 11.1**	**-0.8**
HIN	comp=E,445nm,1.0s			IAML		03 55 12.1	
HIN	comp=N,575nm,0.7s			IAML		03 55 14.4	
P18K	**Big Mountain,**	**4.95**	**321**		**Pn**	**03 54 11.0**	**-1.0**
P18K	**Big Mountain,** baz=137	**4.95**	**321**	P	**Pn**	**03 54 11.1**	**-1.0**
KAIM	**Kayak Island**	**4.96**	**29**		**Pn**	**03 54 11.9**	**-0.3**
KAIM	comp=N,524nm,1.8s			IAML		03 55 09.8	
KAIM	comp=E,461nm,2.8s			IAML		03 55 12.6	
KAIM	**Kayak Island** baz=213	**4.96**	**29**	P	**Pn**	**03 54 12.1**	**-0.1**
R16K	**Pilot Point**	**5.01**	**296**		**Pn**	**03 54 12.5**	**-0.3**
R16K	comp=E,480nm,2.6s			IAML		03 55 13.5	
R16K	comp=N,387nm,2.2s			IAML		03 55 22.1	
R16K	**Pilot Point** baz=109	**5.01**	**296**	P	**Pn**	**03 54 12.6**	**-0.3**
Q16K	**King Salmon**	**5.05**	**309**		**Pn**	**03 54 13.3**	**-0.2**
Q16K	**King Salmon** baz=124	**5.05**	**309**	P	**Pn**	**03 54 13.3**	**-0.2**
RSO	**Redoubt South**	**5.15**	**340**		Pn	03 54 13.6	-1.5
ANNW	**Aniakchak Nort**	**5.19**	**288**		**Pn**	**03 54 14.9**	**-0.5**
CAPN	**Captain Cook N**	**5.21**	**349**		**Pn**	**03 54 15.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.21**	**19**		**Pn**	**03 54 14.7**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.21**	**19**	P	**Pn**	**03 54 14.7**	**-0.8**
EYAK	**Cordova Ski Ar** baz=202	**5.21**	**19**	P	**Pn**	**03 54 14.8**	**-0.7**
CHGN	**Chignik**	**5.22**	**281**		**Pn**	**03 54 14.9**	**-0.9**
CHGN	comp=N,252nm,0.7s			IAML		03 55 14.8	
CHGN	comp=E,262nm,0.6s			IAML		03 55 16.7	
P17K	**Kvichak River**	**5.27**	**315**		**Pn**	**03 54 16.4**	**0.0**
P17K	**Kvichak River** baz=129	**5.27**	**315**	P	**Pn**	**03 54 16.4**	**0.0**
O18K	**Koktuh Hills**	**5.28**	**325**		**Pn**	**03 54 15.9**	**-0.7**
O18K	comp=N,123nm,0.6s			IAML		03 55 19.4	
O18K	comp=E,138nm,0.9s			IAML		03 55 39.4	
O18K	**Koktuh Hills** baz=140	**5.28**	**325**	P	**Pn**	**03 54 16.1**	**-0.6**
RAGM	**Ragged Mountai**	**5.29**	**25**		**Pn**	**03 54 16.1**	**-0.6**
O19K	**Port Alsworth**	**5.29**	**331**		Pn	03 54 15.4	-1.3
O19K	**Port Alsworth** baz=147	**5.29**	**331**	P	Pn	03 54 15.5	-1.2
RC01	**Rabbit Creek A**	**5.43**	**357**		Pn	03 54 17.5	-1.2
RC01	**Rabbit Creek A** baz=177	**5.43**	**357**	P	**Pn**	**03 54 17.6**	**-1.1**
GOAT	**Goat Mountain**	**5.45**	**24**		**Pn**	**03 54 18.3**	**-0.6**
BERG	**Berg Lake**	**5.54**	**29**		**Pn**	**03 54 19.4**	**-0.8**
SNH	**Sunshine Point**	**5.63**	**34**		**Pn**	**03 54 21.5**	**0.0**
N20K	**Mount Spurr** baz=163	**5.76**	**345**	P	Pn	03 54 21.6	-1.6
SPCR	**Spurr Chakacha**	**5.76**	**345**		Pn	03 54 21.6	-1.6
KNK	**Knik Glacier**	**5.76**	**3**		Pn	03 54 22.0	-1.2
KNK	**Knik Glacier** baz=184	**5.76**	**3**	P	**Pn**	**03 54 23.5**	**+0.3**
SPCP	**Crater Peak Br**	**5.81**	**346**		**Pn**	**03 54 23.2**	**-0.8**
BMRM	**Bremner River**	**5.82**	**23**		**Pn**	**03 54 23.3**	**-0.8**
BMRM	**Bremner River** baz=206	**5.82**	**23**	P	**Pn**	**03 54 23.5**	**-0.6**
SPCG	**Spurr Capps Gl**	**5.82**	**346**		**Pn**	**03 54 23.1**	**-1.0**
P16K	**Nushagak River**	**5.83**	**309**		**Pn**	**03 54 23.8**	**-0.4**
P16K	**Nushagak River** baz=122	**5.83**	**309**	P	**Pn**	**03 54 23.8**	**-0.4**
SUA	**Susitna One**	**5.86**	**353**		Pn	03 54 23.1	-1.5
SUA	**Susitna One** baz=171	**5.86**	**353**	P	Pn	03 54 23.3	-1.3
O17K	**Koliganek Bris** baz=131	**5.90**	**317**	P	**Pn**	**03 54 24.9**	**-0.2**
BARK	**Barkley Ridge**	**5.91**	**34**		**Pn**	**03 54 25.3**	**-0.1**
PMR	**Palmer**	**5.93**	**0**		**Pn**	**03 54 24.7**	**-0.7**
PMR	**Palmer**	**5.93**	**0**	P	**Pn**	**03 54 25.2**	**-0.2**
PMR	**Palmer** baz=180	**5.93**	**0**	P	**Pn**	**03 54 25.5**	**0.0**
PMR	**Palmer**	**5.93**	**0**	P	**Pn**	**03 54 24.7**	**-0.7**
CNBA	**Chernabura Isl**	**6.02**	**266**	Pn	Pn	03 54 24.9	-1.8
KLU	**Klutina**	**6.07**	**15**		**Pn**	**03 54 27.3**	**-0.2**
KLU	**Klutina** baz=198	**6.07**	**15**	P	**Pn**	**03 54 27.5**	**0.0**
GHO	**Glory Hole Cre**	**6.11**	**1**	Pn	**Pn**	**03 54 27.9**	**-0.1**
N18K	**Kilae Creek**	**6.14**	**327**	Pn	Pn	03 54 27.2	-1.2
N18K	**Kilae Creek** baz=142	**6.14**	**327**	P	Pn	03 54 27.3	-1.1
SML	**Sawmill**	**6.16**	**4**	Pn	**Pn**	**03 54 28.3**	**-0.4**
SML	**Sawmill** baz=184	**6.16**	**4**	P	**Pn**	**03 54 28.4**	**-0.3**
M23K	**Glacier View**	**6.17**	**6**		**Pn**	**03 54 28.4**	**-0.5**
M23K	**Glacier View** baz=188	**6.17**	**6**	P	**Pn**	**03 54 29.6**	**+0.7**
O16K	**Kokwok River B**	**6.19**	**313**	Pn	**Pn**	**03 54 28.8**	**-0.2**
SCM	**Sheep Creek Mo**	**6.24**	**8**		**Pn**	**03 54 29.7**	**-0.2**
SCM	**Sheep Creek Mo** baz=190	**6.24**	**8**	P	**Pn**	**03 54 30.5**	**+0.6**
SCM	**Sheep Creek Mo**	**6.24**	**8**	P	**Pn**	**03 54 29.7**	**-0.2**
SAMH	**Samovar Hills**	**6.31**	**42**		**Pn**	**03 54 30.9**	**+0.1**
VRDI	**Verde Repeater**	**6.32**	**26**	Pn	**Pn**	**03 54 31.0**	**0.0**
KIAG	**Kiagna River**	**6.36**	**32**		**Pn**	**03 54 31.1**	**-0.6**
SVW2	**Sparrevohn**	**6.39**	**331**		Pn	03 54 30.7	-1.1
N25K	**Chitina, Valde**	**6.40**	**20**		**Pn**	**03 54 32.0**	**-0.1**
N25K	**Chitina, Valde** baz=204	**6.40**	**20**	P	**Pn**	**03 54 32.2**	**+0.1**
GLB	**Gilahina Butte**	**6.42**	**24**	Pn	**Pn**	**03 54 31.4**	**-0.8**
SDPT	**Sand Point**	**6.43**	**272**	Pn	Pn	03 54 30.8	-1.5
SDPT	**Sand Point**	**6.43**	**272**	P	**Pn**	**03 54 32.4**	**0.0**
SKT	**Skwentna**	**6.43**	**350**		**Pn**	**03 54 31.8**	**-0.7**
SKT	**Skwentna** baz=168	**6.43**	**350**	P	**Pn**	**03 54 31.7**	**-0.7**
PINM	**Pinnacle** baz=231	**6.49**	**43**	P	**Pn**	**03 54 33.2**	**-0.1**
PTPK	**Patty Peak**	**6.54**	**30**		**Pn**	**03 54 33.9**	**-0.2**
M20K	**Styx River**	**6.55**	**343**		Pn	03 54 32.4	-1.7
MCARA	**McCarthy VSAT**	**6.56**	**27**		**Pn**	**03 54 34.4**	**+0.2**
MCARA	**McCarthy VSAT** baz=212	**6.56**	**27**	P	**Pn**	**03 54 34.0**	**-0.2**
PNL	**Peninsula** baz=237	**6.59**	**49**	P	**Pn**	**03 54 34.0**	**-0.6**
M24K	**Tolsona, Glenn**	**6.63**	**12**		**Pn**	**03 54 34.9**	**-0.2**
M24K	**Tolsona, Glenn** baz=195	**6.63**	**12**	P	**Pn**	**03 54 35.0**	**-0.2**
BCPM	**Bancas Point**	**6.65**	**46**		**Pn**	**03 54 34.7**	**-0.8**
BARN	**Barnard Glacie**	**6.68**	**33**		**Pn**	**03 54 35.1**	**-0.9**
CTG	**Chitna Glacier** baz=221	**6.71**	**35**	P	**Pn**	**03 54 35.2**	**-1.2**
CTGM	**Chitina Glacie**	**6.71**	**35**		**Pn**	**03 54 35.3**	**-1.1**
LOGN	**Logan Glacier**	**6.72**	**37**		**Pn**	**03 54 35.5**	**-1.0**
CUT	**Chulitna**	**6.76**	**356**		**Pn**	**03 54 37.3**	**+0.3**
M19K	**Big River Lodg**	**6.80**	**339**		Pn	03 54 35.9	-1.6
WAT6	**Susitna Watana** baz=187	**6.96**	**5**	P	**Pn**	**03 54 39.2**	**-0.6**
HARP	**HAARP**	**7.05**	**15**		**Pn**	**03 54 41.1**	**+0.3**
HARP	**HAARP** baz=199	**7.05**	**15**	P	**Pn**	**03 54 41.1**	**+0.3**
WAT1	**Susitna Watana** baz=183	**7.17**	**2**	P	**Pn**	**03 54 43.0**	**+0.3**
M17K	**Holitna River**	**7.18**	**326**		**Pn**	**03 54 41.9**	**-0.7**
PN7A	**Pavlof North-7**	**7.28**	**273**		**Pn**	**03 54 43.2**	**-0.9**
O29M	**Mount Kennedy**	**7.29**	**46**		**Pn**	**03 54 44.6**	**+0.3**
O29M	**Mount Kennedy** baz=235	**7.29**	**46**	P	**Pn**	**03 54 44.0**	**-0.3**
M16K	**Timber Creek**	**7.42**	**320**		**Pn**	**03 54 45.3**	**-0.7**
O14K	**Tigyukauivet M**	**7.43**	**304**		**Pn**	**03 54 46.0**	**-0.2**
M26K	**Nabesna, AK**	**7.45**	**23**		**Pn**	**03 54 46.5**	**+0.1**
S31K	**Pelican**	**7.46**	**67**	Pn	Pn	03 54 43.2	-3.3
YUK8	**Steele Glacier**	**7.47**	**37**		**Pn**	**03 54 47.2**	**+0.3**
YUK8	**Steele Glacier** baz=225	**7.47**	**37**	P	**Pn**	**03 54 47.2**	**+0.3**
DHY	**Denali Highway**	**7.47**	**6**		**Pn**	**03 54 46.4**	**-0.4**
DHY	**Denali Highway** baz=188	**7.47**	**6**	P	**Pn**	**03 54 47.8**	**+1.0**
PAX	**Paxson** baz=196	**7.55**	**13**	P	**Pn**	**03 54 48.4**	**+0.6**
L18K	**Granite Mounta**	**7.61**	**332**	Pn	Pn	03 54 47.0	-1.6
M27K	**Edge Creek, AK** baz=212	**7.67**	**26**	P	**Pn**	**03 54 50.0**	**+0.4**
MENT	**Mentasta**	**7.79**	**19**		**Pn**	**03 54 51.8**	**+0.7**
TRF	**Thorofare Moun**	**7.81**	**356**		**Pn**	**03 54 50.6**	**-0.9**
TRF	**Thorofare Moun** baz=176	**7.81**	**356**	P	**Pn**	**03 54 52.3**	**+0.8**
SIT	**Sitka**	**7.81**	**74**	Pn	Pn	03 54 47.1	-4.3
SIT	**Sitka**	**7.81**	**74**	P	Pn	03 54 47.4	-3.9
SIT	**Sitka**	**7.81**	**74**	P	Pn	03 54 47.1	-4.2
PLBC	**Pleasant Camp** baz=246	**7.85**	**56**	P	**Pn**	**03 54 51.2**	**-0.7**
CAST	**Castle Rocks**	**7.90**	**350**		**Pn**	**03 54 51.8**	**-0.8**
CAST	**Castle Rocks** baz=168	**7.90**	**350**	P	**Pn**	**03 54 52.3**	**-0.2**
L26K	**Log Cabin Wild**	**7.94**	**20**		**Pn**	**03 54 53.5**	**+0.4**
KTH	**Kantishna Hill**	**7.94**	**354**		**Pn**	**03 54 52.4**	**-0.8**
BVCY	**Beaver Creek**	**7.99**	**29**		**Pn**	**03 54 53.8**	**0.0**
BVCY	**Beaver Creek** baz=216	**7.99**	**29**	P	**Pn**	**03 54 53.8**	**0.0**
HYT	**Haines Junctio**	**8.02**	**45**		**Pn**	**03 54 55.0**	**+0.6**
HYT	**Haines Junctio** baz=235	**8.02**	**45**	P	**Pn**	**03 54 54.2**	**-0.1**
TTA	**Tatalina**	**8.06**	**337**	Pn	Pn	03 54 52.7	-2.1
TTA	**Tatalina**	**8.06**	**337**	P	Pn	03 54 53.7	-1.1
TTA	**Tatalina**	**8.06**	**337**	P	Pn	03 54 52.7	-2.1
L16K	**Owhat River**	**8.07**	**323**		**Pn**	**03 54 54.1**	**-0.7**
L16K	**Owhat River** baz=134	**8.07**	**323**	P	**Pn**	**03 54 54.7**	**-0.2**
MCK	**McKinley**	**8.08**	**1**		**Pn**	**03 54 55.0**	**0.0**
MCK	**McKinley** baz=181	**8.08**	**1**	P	**Pn**	**03 54 55.5**	**+0.6**
MCK	**McKinley**	**8.08**	**1**	P	**Pn**	**03 54 55.0**	**0.0**
K20K	**Telida**	**8.09**	**344**		Pn	03 54 53.6	-1.5
S32K	**Killisnoo**	**8.26**	**71**	Pn	Pn	03 54 53.8	-3.6
BCAR	**Beaver Creek A**	**8.30**	**24**	Pn	Pn	**03 54 58.2**	**+0.1**
K24K	**Donnelly Dome**	**8.32**	**10**		**Pn**	**03 54 58.6**	**+0.2**
K24K	**Donnelly Dome** baz=193	**8.32**	**10**	P	**Pn**	**03 54 58.6**	**+0.2**
SKAG	**Skagway**	**8.35**	**57**	Pn	**Pn**	**03 54 57.3**	**-1.3**
SKAG	**Skagway**	**8.35**	**57**	P	**Pn**	**03 54 58.2**	**-0.4**
RIDG	**Independent Ri**	**8.37**	**13**		**Pn**	**03 54 59.0**	**-0.1**
RIDG	**Independent Ri** baz=197	**8.37**	**13**	P	**Pn**	**03 54 59.4**	**+0.4**
R32K	**Eaglecrest**	**8.41**	**66**	Pn	Pn	03 54 57.6	-2.0
M14K	**Bethel**	**8.44**	**312**	Pn	**Pn**	**03 54 59.8**	**-0.1**
M14K	**Bethel** baz=122	**8.44**	**312**	P	**Pn**	**03 55 00.5**	**+0.6**
JIS	**Juneau Island**	**8.48**	**66**	Pn	Pn	03 54 58.6	-2.0
JIS	**Juneau Island**	**8.48**	**66**	P	**Pn**	**03 54 59.4**	**-1.1**
BPAW	**Bear Paw Mtn.**	**8.49**	**355**	Pn	Pn	03 54 58.9	-1.8
BPAW	**Bear Paw Mtn.** baz=173	**8.49**	**355**	P	**Pn**	**03 55 01.5**	**+0.8**
BWN	**Browne**	**8.52**	**359**		**Pn**	**03 54 60.0**	**-1.0**
O30N	**Mendenhall**	**8.57**	**48**		**Pn**	**03 55 01.9**	**+0.1**
O30N	**Mendenhall** baz=239	**8.57**	**48**	P	Pn	03 55 00.0	-1.8
J18K	**Innoko River**	**8.69**	**337**		Pn	03 55 01.2	-2.1
SCRK	**Sand Creek**	**8.72**	**15**	Pn	**Pn**	**03 55 03.0**	**-0.8**
L15K	**Ungalak Mounta**	**8.78**	**318**		**Pn**	**03 55 04.3**	**-0.2**
L15K	**Ungalak Mounta** baz=128	**8.78**	**318**	P	**Pn**	**03 55 04.7**	**+0.2**
HDA	**Harding Lake**	**8.82**	**6**		**Pn**	**03 54 05.6**	**-0.6**
HDA	**Harding Lake** baz=188	**8.82**	**6**	P	**Pn**	**03 55 05.0**	**-0.2**
J20K	**Nowinta River** baz=162	**8.88**	**346**	P	**Pn**	**03 55 06.6**	**+0.7**
M13K	**Dall

IMAR Indian Mountai 10.57 350 Pn Pn 03 55 27.6 -1.5
T35M Bob Quinn 10.59 75 Pn Pn 03 55 26.8 -2.6
H17K Granite Mounta 10.68 335 Pn 03 55 28.7 -1.9
DLBC Dease Lake 10.78 67 Pn **Pn 03 55 31.1 -0.9**
DLBC Dease Lake 10.78 67 Pn **Pn 03 55 31.4 -0.7**
comp=E,1.2nm,0.3s,baz=259,slow=8.6,SNR=18
comp=E,2.6nm,0.3s
I28M Miner Creek 10.78 21 **Pn 03 55 32.6 +0.6**
G21K Allakaket 11.06 351 Pn 03 55 34.4 -1.5
G23K Bananza Creek 11.07 358 Pn 03 55 34.5 -1.5
FYU Fort Yukon 11.08 8 **Pn 03 55 35.1 -0.9**
G19K Purcell Mounta 11.16 343 Pn 03 55 36.1 -1.2
COLD Coldfoot 11.60 358 Pn **Pn 03 55 42.5 -0.5**
G16K Koyuk River 11.67 332 Pn 03 55 42.8 -1.3
WTLY Watson Lake, Y 11.69 59 **Pn 03 55 43.4 -1.1**
F24K Squaw Lake 11.89 2 **Pn 03 55 47.2 +0.1**
F19K Shaleruckik Mo 11.91 343 Pn 03 55 45.7 -1.6
ANM Nome 11.98 325 Pn Pn 03 55 47.3 -1.1
ANM Nome 11.98 325 P **Pn 03 55 47.3 -1.0**
E19K Redstone River 12.40 345 **Pn 03 55 53.7 -0.5**
G29M Pine Creek 12.44 21 **Pn 03 55 54.9 +0.2**
E22K Anaktuvuk Pass 12.56 355 **Pn 03 55 56.4 +0.2**
E18K Tukpahlearik C 12.94 340 **Pn 03 56 00.7 -0.7**
D22K Ayikyak River 13.34 354 Pn **Pn 03 56 07.0 0.0**
D19K Kuna River 13.50 346 **Pn 03 56 08.0 -1.0**
F31M Tsiigehtchic 13.84 25 Pn **Pn 03 56 13.6 0.0**
GAMB Gambell 13.88 315 Pn Pn 03 56 12.3 -2.0
C19K Lookout Ridge 14.27 345 Pn 03 56 18.1 -1.6
INK Inuvik 14.57 23 Pn **Pn 03 56 23.6 0.0**
INK Inuvik 14.57 23 P **Pn 03 56 23.6 0.0**
INK Inuvik 14.57 23 Pn **Pn 03 56 24.1 +0.5**
comp=E,0.3nm,0.3s,baz=204,slow=15,SNR=65
INK LR LR 04 01 54.3
comp=E,234nm,20.5s,baz=184,slow=37
comp=E,30nm,1.0s
B20K Meade River 14.81 349 Pn 03 56 24.8 -2.0
B22K Teshekpuk Lake 14.83 354 Pn 03 56 25.8 -1.4
C36M Paulatuk 17.73 30 Pn **Pn 03 57 03.0 -1.4**
YKA Yellowknife Ar 18.83 55 P **P 03 57 17.0 -0.3**
YKA Yellowknife Ar 18.83 55 P **P 03 57 17.0 -0.3**
YKA Yellowknife Ar 18.83 55 P **P 03 57 18.9 +1.6**
comp=E,0.3nm,0.3s,baz=268,slow=10,SNR=42
YKA LR LR 04 04 14.5
comp=E,231nm,20.4s,baz=305,slow=36
comp=E,7.5nm,0.9s
A36M Sachs Harbour 19.21 23 P **P 03 57 21.1 -0.3**
A36M IAmb IAmb 03 57 25.1
comp=Z,47nm,0.9s
NEW Newport 20.95 97 P **P 03 57 39.4 -1.2**
NEW Newport 20.95 97 P **P 03 57 39.4 -1.2**
NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 20.95 97 P **P 03 57 43.6 +3.1**
comp=Z,5.0nm,0.9s,baz=311,slow=7.9,SNR=7.2
comp=Z,5.0nm,0.9s
HUMO Hull Mountain 21.41 117 P **P 03 57 42.5 -3.1**
HUMO IAmb IAmb 03 57 55.1
comp=Z,27nm,1.1s
PINE Pine Mountain 21.61 112 P **P 03 57 47.0 -0.9**
PINE IAmb IAmb 03 58 00.8
comp=Z,36nm,1.1s
J05D Fort Rock, OR 21.81 113 P **P 03 57 48.0 -2.0**
J05D IAmb IAmb 03 57 58.9
comp=Z,25nm,1.0s
K04D Chiloquin, OR 22.01 115 P **P 03 57 50.4 -1.7**
K04D IAmb IAmb 03 58 01.2
comp=Z,41nm,1.1s
YBH Yreka Blue Hor 22.18 118 P **P 03 57 55.9 +2.0**
comp=Z,3.7nm,1.0s,baz=349,slow=3.0,SNR=3.6
YBH LR LR 04 04 18.1
comp=Z,294nm,21.3s,baz=316,slow=31
comp=Z,3.7nm,1.0s
I07A Izee 22.18 109 P **P 03 57 52.7 -1.3**
F10A Beach Ranch, E 22.21 103 P **P 03 57 52.3 -1.9**
K05A Summer Lake 22.38 114 **P 03 57 56.1 -0.1**
K05A IAmb IAmb 03 58 12.9
comp=Z,25nm,1.1s
BILL Bilibino 23.73 319 *i* P **P 03 58 09.4 -0.2**
WVOR Wild Horse Val 23.77 111 P **P 03 58 09.5 -0.8**
WVOR Wild Horse Val 23.77 111 P **P 03 58 09.5 -0.8**
WVOR pmax pmax
comp=Z,15nm,1.3s
ORV Oroville 24.43 120 P **P 03 58 14.0 -2.3**
ORV Oroville 24.43 120 P **P 03 58 14.0 -2.3**
ORV pmax pmax
comp=Z,5.0nm,1.0s
MCMT McKenzie Canyo 25.35 100 **P 03 58 24.2 -0.7**
PAHR Pah Rah Range 25.37 117 P **P 03 58 22.4 -2.6**
PNTR Pine Nut 25.73 118 P **P 03 58 26.0 -2.3**
PNTR IAmb IAmb 03 58 37.0
comp=Z,11nm,0.9s
YERR Yerington 25.99 117 P **P 03 58 29.5 -1.1**
YERR IAmb IAmb 03 58 41.7
comp=Z,18nm,1.4s
QLMT Earthquake Lak 26.14 99 P **P 03 58 31.6 -0.4**
ELK Elko 26.77 110 LR LR 04 07 14.8
comp=Z,141nm,19.1s,baz=301,slow=32
NVAR Mina Array Bea 26.88 117 P **P 03 58 38.6 -0.2**
NVAR Mina Array Bea 26.88 117 P **P 03 58 40.1 +1.3**
comp=Z,2.2nm,0.9s,baz=302,slow=9.2,SNR=13
NVAR LR LR 04 07 34.1
comp=Z,329nm,18.1s,baz=302,slow=32
comp=Z,2.2nm,0.9s
RES Resolute Bay 28.07 27 P **P 03 58 48.4 -0.4**
comp=Z,2.4nm,0.7s,baz=256,slow=11,SNR=14
RES LR LR 04 10 16.0
comp=Z,186nm,19.4s,baz=210,slow=37
comp=Z,2.4nm,0.7s
R11B Troy Canyon, C 28.34 114 P **P 03 58 50.2 -1.5**
PDAR Pinedale Array 28.50 100 P P 03 58 51.1 -2.2
PDAR Pinedale Array 28.50 100 P **P 03 58 53.0 -0.3**
comp=Z,0.2nm,0.4s,baz=353,slow=4.6,SNR=4.1
PDAR LR LR 04 08 25.6
comp=Z,62nm,19.4s,baz=334,slow=32
comp=Z,0.2nm,0.4s
SPR3 Spring Creek 3 28.51 111 P **P 03 58 52.5 -1.0**
FCC Fort Churchill 29.27 61 P **P 03 58 58.6 -1.0**
FCC Fort Churchill 29.27 61 P **P 03 58 58.6 -1.0**
FCC pmax pmax
comp=Z,4.0nm,0.9s
SEY Seymchan 29.72 308 *i* P **P 03 59 03.7 +0.1**
SEY pmax pmax
comp=Z,26nm,2.4s
SEY Seymchan 29.72 308 LR LR 04 12 27.3
comp=Z,286nm,18.1s,baz=12,slow=40
PET Petropavlovsk 29.93 287 *i* P **P 03 59 06.4 +0.9**
MSU Marysvale 30.01 109 P **P 03 59 07.1 +0.4**
MSU Marysvale 30.01 109 P **P 03 59 07.1 +0.4**
PETK Petropavlovsk- 30.41 288 P **P 03 59 10.4 +0.6**
comp=Z,8.0nm,1.1s,baz=72,slow=16,SNR=2.4
PETK LR LR 04 12 41.3
comp=Z,50nm,18.8s,baz=76,slow=39
comp=Z,8.0nm,1.1s
MA2 Magadan 31.43 302 LR LR 04 13 17.1
comp=Z,214nm,18.1s,baz=79,slow=39
PFO Pinyon Flats O 31.60 121 LR LR 04 09 11.2
comp=Z,187nm,20.8s,baz=327,slow=31
WUAZ Wupatki 32.68 112 P **P 03 59 30.1 0.0**
WUAZ IAmb IAmb 03 59 39.0
comp=Z,8.2nm,1.0s
ANMO Albuquerque 35.73 107 LR LR 04 13 26.6
comp=Z,57nm,19.2s,baz=62,slow=34
TIXI Tiksi 36.21 328 P **P 03 59 59.9 -0.2**
TIXI IAmb IAmb 04 00 02.2
comp=Z,7.6nm,1.1s
TIXI Tiksi 36.21 328 *ce*P **P 04 00 00.9 +0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.1s
NEEM North Greenlan 38.12 21 *i* P **P 04 00 16.6 0.0**
NEEM IAmb IAmb 04 00 20.1
comp=Z,10.0nm,0.8s
FRB Frobisher Bay 38.81 44 LR LR 04 16 25.1
comp=Z,192nm,18.4s,baz=360,slow=36
UPNV Upernavik 38.94 28 *i* P **P 04 00 22.5 -0.6**
UPNV IAmb IAmb 04 00 26.3
comp=Z,6.0nm,0.8s
YAK Yakutsk 39.83 313 P **P 04 00 30.5 -0.2**
YAK IAmb IAmb 04 00 31.8
comp=Z,15nm,0.8s
YAK Yakutsk 39.83 313 *ce*P **P 04 00 31.1 +0.4**
YAK pmax pmax
comp=Z,10.0nm,0.7s
TXAR Lajitas Array 41.56 110 P **P 04 00 44.3 -1.2**
TXAR Lajitas Array 41.56 110 P **P 04 00 44.3 -1.2**
TXAR Lajitas Array 41.56 110 P **P 04 00 47.2 +1.8**
comp=Z,0.7nm,1.0s,baz=309,slow=6.0,SNR=4.6
comp=Z,0.7nm,1.0s
JCT Junction City 42.75 105 P **P 04 00 54.0 -1.1**
JCT IAmb IAmb 04 01 03.8
comp=Z,9.1nm,1.0s
JCT Junction City 42.75 105 P **P 04 00 54.0 -1.1**
JCT pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 43.49 24 P **P 04 01 01.0 0.0**
SUMG Summit 43.49 24 P **P 04 01 01.0 0.0**
SUMG pmax pmax
comp=Z,31nm,1.1s
SUMG Summit 43.49 24 *i* P **P 04 01 01.0 0.0**
SUMG IAmb IAmb 04 01 04.4
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 43.55 34 LR LR 04 18 39.1
comp=Z,146nm,20.2s,baz=294,slow=36
SCHQ Schefferville 44.28 55 P **P 04 01 06.2 -1.0**
SCHQ IAmb IAmb 04 01 17.4
comp=Z,18nm,1.4s
SCHQ Schefferville 44.28 55 P **P 04 01 08.2 +1.0**
comp=Z,7.1nm,0.9s,baz=285,slow=5.6,SNR=7.2
SCHQ LR LR 04 19 26.3
comp=Z,166nm,18.6s,baz=192,slow=36
comp=Z,7.1nm,0.9s
DY2G Dye2 45.25 33 *i* P P 04 01 12.4 -2.6
DY2G IAmb IAmb 04 01 17.1
comp=Z,3.9nm,0.7s
ICESG Greenland Ices 45.47 28 *i* P **P 04 01 16.4 -0.5**
ICESG IAmb IAmb 04 01 20.5
comp=Z,12nm,0.9s
SPB5 Spitsbergen Ar 46.10 4 P **P 04 01 21.0 -0.2**
SPITS Spitsbergen Ar 46.10 4 P **P 04 01 20.7 -0.6**
comp=Z,14nm,0.9s,baz=18,slow=6.1,SNR=7.4
comp=Z,14nm,0.9s
KLR Kul'dur 46.15 297 *ce*P **P 04 01 22.5 +0.5**
KLR pmax pmax
comp=Z,5.0nm,1.0s
D62A Allapoint, All 48.08 65 **P 04 01 37.5 +0.4**
D62A IAmb IAmb 04 01 57.5
comp=Z,6.5nm,1.1s
NRIK Noril'sk 48.68 337 P **P 04 01 40.8 -0.7**
NRIK IAmb IAmb 04 01 42.6
comp=Z,9.5nm,1.1s
NRIK Noril'sk 48.68 337 *ce*P **P 04 01 42.0 +0.6**
NRIK pmax pmax
comp=Z,10.0nm,1.1s
NRIK Noril'sk 48.68 337 P **P 04 01 42.1 +0.7**
comp=Z,4.1nm,0.5s,baz=50,slow=8.8,SNR=7.1
NRIK LR LR 04 24 56.5
comp=Z,121nm,18.4s,baz=27,slow=40
comp=Z,4.1nm,0.5s
BOD Bodaibo 48.68 315 *e*P **P 04 01 41.6 0.0**
BOD *e* 04 01 42.5
USRK Ussuriysk Ar. 49.35 292 LR LR 04 22 58.5
comp=Z,46nm,18.7s,baz=53,slow=36
H11S1 WAKE ISLAND Hy 49.77 240 T T 04 56 25.5
baz=28,slow=76,SNR=22
H11S2 WAKE ISLAND Hy 49.78 240 T T 04 56 49.4
baz=28,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 49.79 240 T T 04 56 27.4
baz=28,slow=76,SNR=15
LMN Caledonia Moun 51.08 63 **P 04 01 59.9 -0.1**
MJAR Matsushiro Arr 51.33 280 P **P 04 02 02.4 +0.4**
comp=Z,1.1nm,0.8s,baz=92,slow=8.6,SNR=2.1
comp=Z,1.1nm,0.8s
KEV Kevo 54.84 2 P **P 04 02 26.8 -0.5**
KEV Kevo 54.84 2 P **P 04 02 26.8 -0.5**
KEV pmax pmax
comp=Z,63nm,1.5s
ARCES ARCESS Array B 55.03 2 P **P 04 02 28.4 -0.4**
ARCES ARCESS Array B 55.03 2 P **P 04 02 28.4 -0.4**
ARCES pmax pmax
comp=Z,33nm,1.5s
ARCES ARCESS Array B 55.03 2 P **P 04 02 28.8 0.0**
comp=Z,4.6nm,0.6s,baz=6.1,slow=8.0,SNR=22
comp=Z,4.6nm,0.6s
SONM Songino Array 59.07 310 P **P 04 02 56.9 -1.0**
SONM IAmb IAmb 04 03 00.1
comp=Z,5.2nm,1.1s
SONM Songino Array 59.07 310 P **P 04 02 56.9 -1.0**
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 59.07 310 P **P 04 02 58.2 +0.3**
comp=Z,2.7nm,0.9s,baz=50,slow=7.0,SNR=13
SONM LR LR 04 28 55.2
comp=Z,116nm,21.3s,baz=348,slow=37
comp=Z,2.7nm,0.9s
ZAA0 Zalesovo Array 62.10 327 P **P 04 03 17.4 -0.8**
ZAA0 IAmb IAmb 04 03 19.7
comp=Z,5.5nm,1.0s
ZALV Zalesovo Beam 62.10 327 P **P 04 03 18.0 -0.2**
ZALV Zalesovo Beam 62.10 327 P **P 04 03 18.8 +0.5**
comp=Z,3.0nm,0.6s,baz=24,slow=6.1,SNR=16
ZALV LR LR 04 33 43.4
comp=Z,103nm,18.1s,baz=33,slow=40
comp=Z,3.0nm,0.6s
HHC Hu-ho-hao-te 62.10 302 *e*P **P 04 03 19.0 +0.4**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,170nm,4.9s
NC204 NORSAR Array S 62.31 11 P **P 04 03 19.5 -0.1**
NB2 NORSAR Subarra 62.59 11 P **P 04 03 21.5 0.0**
comp=Z,7.8nm,0.9s,baz=348,slow=6.9
NOA NORSAR Array B 62.59 11 P **P 04 03 21.8 +0.3**
comp=Z,3.4nm,0.9s,baz=348,slow=6.8,SNR=12
comp=Z,3.4nm,0.9s
FIA1 FINESS Array S 63.15 3 P **P 04 03 25.6 +0.5**
FINES FINESS Array B 63.15 3 P **P 04 03 25.3 +0.2**
FINES FINESS Array B 63.15 3 P **P 04 03 25.7 +0.6**
comp=Z,7.1nm,0.7s,baz=4.9,slow=7.4,SNR=42
comp=Z,7.1nm,0.7s
KLMR Klimovskoe 63.60 355 *e*P P 04 03 26.0 -2.1
KLMR pmax pmax
comp=Z,29nm,1.8s
HFS Hagfors 63.73 9 P **P 04 03 28.8 -0.2**
comp=Z,1.5nm,0.6s,baz=0.0,slow=3.0,SNR=11
comp=Z,1.5nm,0.6s
DGZ Jazzator, Alta 64.89 323 *i* P **P 04 03 38.5 +1.6**
DGZ pmax pmax
comp=Z,9.0nm,1.5s
EKA Eskdalemuir Ar 65.92 20 P **P 04 03 44.3 +1.0**
comp=Z,4.1nm,0.8s,baz=1.6,slow=6.1,SNR=5.4
comp=Z,4.1nm,0.8s
ARU Arti 66.00 344 *c* P **P 04 03 43.9 +0.1**
ARU S **S 04 12 31.1 +0.1**
ARU pmax pmax
comp=Z,9.0nm,1.3s
ARU Arti 66.00 344 P **P 04 03 43.9 +0.1**
comp=Z,4.7nm,0.6s,baz=303,slow=3.7,SNR=7.6
comp=Z,4.7nm,0.6s
VSU Vasula 66.16 2 *ce*P **P 04 03 46.3 +1.5**
VSU pmax pmax
comp=Z,41nm,1.0s
VSU Vasula 66.16 2 *e*P **P 04 03 46.0 +1.2**
KURK Kurchatov 66.78 329 *ce*P **P 04 03 50.0 +1.1**
KURK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 66.85 335 P **P 04 03 48.5 -0.8**
BRVK IAmb IAmb 04 03 50.1
comp=Z,4.1nm,0.8s
BRVK Borovoye 66.85 335 *ce*P **P 04 03 50.0 +0.7**
BRVK pmax pmax
comp=Z,16nm,2.5s
BVAR Borovoye Array 66.85 335 P **P 04 03 49.9 +0.5**
comp=Z,6.4nm,0.9s,baz=32,slow=5.8,SNR=19
comp=Z,6.4nm,0.9s
KURBB Kurchatov Arra 66.89 329 P **P 04 03 49.9 +0.3**
comp=Z,3.6nm,1.0s,baz=24,slow=5.8,SNR=14
comp=Z,3.6nm,1.0s
PABE Paberze 69.03 4 P **P 04 04 02.9 -0.1**
PABE Paberze 69.03 4 *e*P **P 04 04 03.6 +0.7**
MK31 Makanchi Array 69.12 325 P **P 04 04 02.9 -0.8**
MK31 IAmb IAmb 04 04 06.3
comp=Z,4.2nm,1.1s
MK31 Makanchi Array 69.12 325 *ce*P **P 04 04 04.2 +0.5**
MKAR Makanchi Array 69.12 325 P **P 04 04 03.2 -0.6**
MKAR Makanchi Array 69.12 325 P **P 04 04 03.2 -0.6**
MKAR Makanchi Array 69.12 325 P **P 04 04 03.9 +0.2**
comp=Z,2.7nm,0.7s,baz=36,slow=6.0,SNR=34
MKAR LR LR 04 38 54.8
comp=Z,67nm,18.1s,baz=44,slow=40
comp=Z,2.7nm,0.7s
MAKZ Makanchi 69.21 325 P **P 04 04 04.7 +0.4**
BSEG Bad Segeberg 69.45 13 *e*P **P 04 04 07.4 +1.8**
comp=Z,5.4nm,0.9s,baz=350,slow=6.0
OBN Obninsk 69.46 356 *de*P **P 04 04 06.3 +0.7**
OBN *e* 04 04 24.8
OBN *e* 04 06 38.9
OBN *e*S **SKiKP 04 13 52.2 -1.8**
OBN pmax pmax
comp=Z,19nm,1.3s
LZH Lanzhou 69.55 304 *e*P P 04 04 05.0 -1.8
LZH pP sP 04 04 13.5 +4.3
LZH pmax pmax
comp=Z,9.0nm,1.2s
KLNR Kaliningrad 69.73 7 *i* P **P 04 04 08.2 +0.9**
KLNR pmax pmax
comp=Z,32nm,0.8s
MNK Minsk 70.15 2 *i* P **P 04 04 11.3 +1.4**
MNK *i* 04 06 47.5
MNK *i* PPP PPP 04 08 29.3
MNK *i* S **S 04 13 22.6 +2.0**
MNK *i* SS **SS 04 17 55.7 +6.6**
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,41nm,1.0s
MNK pmax pmax
comp=N,44nm,0.9s
MNK MLR MLR
comp=E,474nm,22.0s
MNK MLR MLR
comp=N,811nm,17.0s
MNK MLR MLR
comp=Z,66nm,14.0s
SUW Suwalki 70.49 5 P **P 04 04 11.4 -0.5**
SUW Suwalki 70.49 5 P **P 04 04 11.4 -0.5**
SUW pmax pmax
comp=Z,28nm,1.0s
SUW Suwalki 70.49 5 *e*P **P 04 04 13.0 +1.1**
IBBN Ibbenburen 70.69 15 *e*P **P 04 04 14.4 +1.2**
comp=Z,5.9nm,0.6s,baz=350,slow=6.0
NRDL Niedersach Rie 70.83 13 *e*P **P 04 04 15.6 +1.6**
comp=Z,6.9nm,0.9s,baz=350,slow=6.0
ASSE Asse, Remlinge 71.26 13 *e*P **P 04 04 18.1 +1.5**
comp=Z,3.3nm,0.9s,baz=350,slow=6.0
RUE Ruedersdorf 71.28 11 *e*P **P 04 04 17.7 +0.9**
RUE Ruedersdorf 71.28 11 *e*P **P 04 04 18.4 +1.6**
comp=Z,9.8nm,0.8s,baz=350,slow=6.0
BELG Belogornoye 71.39 349 P **P 04 04 17.6 +0.1**
comp=Z,13nm,0.8s,baz=36,slow=0.9,SNR=6.1
comp=Z,13nm,0.8s
CLZ Clausthal 71.51 13 *e*P **P 04 04 19.9 +1.7**
comp=Z,4.7nm,0.8s,baz=350,slow=6.0
LPSR Galich'ya Gora 71.87 355 *e*P **P 04 04 19.4 -1.0**
LPSR pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 72.35 12 *i* P **P 04 04 23.9 +0.6**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 72.35 12 *i* P **P 04 04 23.9 +0.6**
comp=Z,9.0nm,1.1s
CLL Collm 72.35 12 *e*P **P 04 04 23.9 +0.6**
comp=Z,5.6nm,0.9s,baz=350,slow=6.0
ABKAR Akbulak array 72.64 340 **P 04 04 25.4 +0.4**
ABKAR Akbulak array 72.64 340 P **P 04 04 24.8 -0.2**
ABKAR IAmb IAmb 04 04 26.1
comp=Z,4.2nm,0.8s
MOX Moxa 72.84 13 *e*P **P 04 04 27.6 +1.4**
comp=Z,4.5nm,0.8s,baz=350,slow=6.0
BRG Berggiesshubel 72.89 11 *e*P **P 04 04 27.4 +1.0**
BRG Amp 04 04 29.6
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 72.89 11 *e*P **P 04 04 27.4 +1.0**
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 72.89 11 *e*P **P 04 04 27.7 +1.2**
comp=Z,5.0nm,0.8s,baz=350,slow=6.0
HSKC Hora Svate Kat 73.09 11 *e*P **P 04 04 27.9 +0.2**
VRH Novokhopyorsk 73.10 353 *e*P P 04 04 25.8 -1.9
VRH pmax pmax
comp=Z,4.0nm,0.6s
TANN Tannenbergstha 73.17 12 *e*P **P 04 04 29.5 +1.2**
comp=Z,2.7nm,0.9s,baz=350,slow=6.0
RICC Richard 73.23 11 *e*P **P 04 04 29.4 +0.9**
VSR Storozhevoye 73.24 355 *e*P **P 04 04 27.3 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
PVCC Panska Ves 73.29 11 *e*P **P 04 04 29.9 +1.0**
PVCC Panska Ves 73.29 11 *e*P **P 04 04 29.9 +1.0**
NKC Novy Kostel 73.35 12 *e*P **P 04 04 30.2 +1.0**
NKC Novy Kostel 73.35 12 *e*P **P 04 04 30.2 +1.0**
UPC Upice 73.46 10 *e*P **P 04 04 30.6 +0.7**
UPC Upice 73.46 10 *e*P **P 04 04 30.6 +0.7**
VORD Divnogorie 73.48 354 *e*P **P 04 04 29.5 -0.5**
VORD pmax pmax
comp=Z,10.0nm,0.6s
MANZ Manzenberg 73.55 12 *e*P **P 04 04 31.3 +0.8**
comp=Z,0.5nm,0.9s,baz=350,slow=6.0
DPC Dobruska-Polom 73.64 10 *e*P **P 04 04 32.0 +1.0**
DPC Dobruska-Polom 73.64 10 *e*P **P 04 04 32.0 +1.0**
ROTZ Rotzenmuhle 73.78 12 *e*P **P 04 04 33.0 +1.3**
comp=Z,1.1nm,0.8s,baz=350,slow=6.0
PRU Pruhonice 73.82 11 *e*P **P 04 04 33.2 +1.2**
PRU Pruhonice 73.82 11 *e*P **P 04 04 33.2 +1.2**
KRLC Kraliky 73.96 9 *e*P **P 04 04 33.7 +0.8**
KRLC Kraliky 73.96 9 *e*P **P 04 04 33.7 +0.8**
AKASG Malin Array Be 73.97 1 P **P 04 04 32.9 +0.1**
comp=Z,10nm,0.9s,baz=359,slow=5.8,SNR=19
comp=Z,10nm,0.9s
AKBB Malin Array Si 73.97 1 P **P 04 04 32.6 -0.3**
AKBB Malin Array Si 73.97 1 P **P 04 04 32.6 -0.3**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 73.98 1 ⇓P **P 04 04 33.2 +0.3**
KIEV Kiev 73.98 1 P **P 04 04 32.6 -0.3**
KIEV Kiev 73.98 1 P **P 04 04 33.2 +0.3**
MORC Moravsky Berou 74.33 9 ⇑P **P 04 04 36.3 +1.3**
MORC Moravsky Berou 74.33 9 P **P 04 04 34.9 -0.1**
MORC IAmb IAmb 04 04 38.0
comp=Z,3.3nm,0.7s
MORC Moravsky Berou 74.33 9 *e*P **P 04 04 35.8 +0.8**
MORC Moravsky Berou 74.33 9 P **P 04 04 36.3 +1.3**
WET Wettzell 74.47 12 *e*P **P 04 04 37.5 +1.6**
comp=Z,3.0nm,1.0s,baz=350,slow=6.0
KHC Kasperske Hory 74.56 12 **P 04 04 36.6 +0.2**
KHC IAmb IAmb 04 04 38.5
comp=Z,5.6nm,1.2s
KHC Kasperske Hory 74.56 12 *e*P **P 04 04 37.5 +1.1**
KHC *ex* x 04 04 46.6
KHC Kasperske Hory 74.56 12 *e*P **P 04 04 37.5 +1.1**
KHC *e* 04 04 46.6
TREC Trest 74.61 10 *e*P **P 04 04 37.4 +0.8**
TREC Trest 74.61 10 *e*P **P 04 04 37.4 +0.8**
VRAC Vranov 74.70 10 *e*P **P 04 04 37.8 +0.6**
GEC2 GERESS Array S 74.86 12 P **P 04 04 38.1 -0.1**
GEC2 IAmb IAmb 04 04 47.8
comp=Z,7.5nm,1.4s
GEC2 GERESS Array S 74.86 12 *e*P **P 04 04 39.3 +1.1**
comp=Z,2.1nm,0.8s,baz=350,slow=6.0
GERES GERESS Array B 74.86 12 **P 04 04 38.5 +0.3**
GERES GERESS Array B 74.86 12 P **P 04 04 38.5 +0.3**
GERES GERESS Array B 74.86 12 P **P 04 04 39.1 +0.9**
comp=Z,2.2nm,0.8s,baz=0.0,slow=4.0,SNR=8.4
comp=Z,2.2nm,0.8s
KRUC Moravsky 74.93 10 *e*P **P 04 04 39.2 +0.7**
CKRC Cesky Krumlov 74.95 11 *e*P **P 04 04 39.2 +0.6**
CKRC Cesky Krumlov 74.95 11 *e*P **P 04 04 39.2 +0.6**
STHS Stebnicka Huta 74.96 6 *e*P **P 04 04 40.5 +1.8**
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS Stebnicka Huta 74.96 6 *e*P **P 04 04 40.5 +1.8**
LANS Liptovska Anna 75.10 8 *e*P **P 04 04 40.9 +1.4**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 75.10 8 *e*P **P 04 04 40.9 +1.4**
JAVC Velka Javorina 75.25 9 *e*P **P 04 04 42.4 +2.0**
UBR Ueberruh 75.55 14 *e*P **P 04 04 44.7 +2.5**
comp=Z,2.8nm,0.9s,baz=350,slow=6.0
MODS Modra-Piesok 75.69 9 *e*P **P 04 04 44.3 +1.4**
MODS pmax pmax
comp=Z,21nm,1.2s
MODS Modra-Piesok 75.69 9 *e*P **P 04 04 44.3 +1.4**
VYHS Vyhne 75.71 8 *e*P **P 04 04 43.6 +0.6**
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS Vyhne 75.71 8 *e*P **P 04 04 43.6 +0.6**
BIOA Bad Ischl, Aus 75.99 12 *e*pP **P 04 04 45.7 +1.1**
comp=Z,1.9nm,0.5s

CONA	Conrad Observa	76.00	10	*ep*P		P	04 04 46.0	+1.3
	comp=Z,4.6nm,1.0s,SNR=7.2							
MOTA	Moosalm	76.01	14	*i* pP		P	04 04 46.2	+1.3
	comp=Z,6.9nm,1.3s							
WATA	Walderalm	76.08	13	*i* pP		P	04 04 46.5	+1.2
	comp=Z,9.0nm,1.0s							
SQTA	Sankt Quirin	76.15	14	*i* pP		P	04 04 46.9	+1.3
	comp=Z,4.4nm,0.8s							
WTTA	Wattenberg	76.16	13	*i* P		P	04 04 46.1	+0.3
	comp=Z,6.0nm,0.7s							
RONA	Rosalia, Austr	76.27	10	*i* pP		P	04 04 47.5	+1.3
	comp=Z,6.5nm,1.2s							
FETA	Feichten	76.28	14	*ep*P		P	04 04 47.7	+1.3
	comp=Z,6.7nm,1.1s							
SORM	Soroca	76.53	2	⇑P		P	04 04 47.3	-0.3
SORM	Soroca	76.53	2	P		P	04 04 47.3	-0.3
KBA	Koelnbreinsper	76.56	12	*i* pP		P	04 04 49.4	+1.4
	comp=Z,5.7nm,0.8s,SNR=9.8							
ABTA	Abfaltersbach	76.78	13	*i* P		P	04 04 49.9	+0.7
	comp=Z,5.2nm,1.1s							
BUR08	Bucovina Ar. S	76.94	4	P		P	04 04 50.3	+0.3
BUR08				IAmb		IAmb	04 04 59.5	
	comp=Z,5.0nm,0.9s							
BURAR	Bucovina Array	76.97	4	⇑P		P	04 04 51.0	+0.8
BURAR	Bucovina Array	76.97	4	P		P	04 04 50.5	+0.3
BURAR	Bucovina Array	76.97	4	P		P	04 04 51.0	+0.8
SOKA	Soboth	77.15	11	*i* P		P	04 04 52.2	+0.9
	comp=Z,6.3nm,1.1s,SNR=6.7							
OBKA	Obir	77.26	11	*i* pP		P	04 04 52.9	+1.0
	comp=Z,7.0nm,0.7s,SNR=9.4							
MILM	Milestii Mici	77.75	1	⇑P		P	04 04 55.0	+0.5
MILM	Milestii Mici	77.75	1	P		P	04 04 55.0	+0.5
MARR	Marisel-Cluj	77.81	5	⇓P		P	04 04 55.5	+0.6
MORH	Mrgy, Hungar	77.95	9	⇓P		P	04 04 56.6	+0.9
VASR	Vaslui	78.01	2	⇑P		P	04 04 56.1	+0.2
PZH	PanZhiHua	78.47	300	P		P	04 04 58.0	-1.0
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,110nm,4.6s							
OZUR		78.50	4	⇓P		P	04 04 59.9	+1.1
TURR	Turia	78.55	3	⇓P		P	04 04 59.7	+0.7
GHRR		78.59	2	⇑P		P	04 04 58.8	-0.4
DOPR	Dopca	78.62	4	⇓P		P	04 04 59.9	+0.5
SURR	Surduc	78.67	6	⇓P		P	04 05 01.2	+1.6
VRI	Vrincioaia	78.76	3	⇑P		P	04 05 01.1	+0.9
VRI	Vrincioaia	78.76	3	P		P	04 05 01.0	+0.9
COVR	Voineasa-Covas	78.77	3	⇑P		P	04 05 02.1	+1.9
PLOR	Plostina	78.78	3	⇓P		P	04 05 01.6	+1.3
PLOR	Plostina	78.78	3	P		P	04 05 01.7	+1.5
PLOR	Plostina	78.78	3	⇓P		P	04 05 01.8	+1.5
LOT	Lotru	79.06	5	⇑P		P	04 05 02.7	+0.8
GZR	Gura Zlata	79.06	6	⇓P		P	04 05 03.0	+1.0
GZR	Gura Zlata	79.06	6	P		P	04 05 02.9	+1.0
MLR	Muntele Rosu	79.11	3	⇑P		P	04 05 03.1	+0.9
MLR	Muntele Rosu	79.11	3			P	04 05 02.2	0.0
MLR				IAmb		IAmb	04 05 14.5	
	comp=Z,5.0nm,1.1s							
MLR	Muntele Rosu	79.11	3	P		P	04 05 03.1	+0.9
VOIR		79.13	4	⇑P		P	04 05 02.6	+0.3
VOIR		79.13	4	P		P	04 05 02.6	+0.3
ARR	Arges	79.19	4	⇑P		P	04 05 04.0	+1.5
HERR	Herculane	79.56	6	⇓P		P	04 05 05.6	+1.1
HARR	Harsova	79.97	2	⇓P		P	04 05 08.1	+1.4
HARR	Harsova	79.97	2	P		P	04 05 08.1	+1.4
KIV	Kislovodsk	80.22	351	*e*P		P	04 05 08.9	+0.7
KIV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KBZ	Khabaz	80.43	351	*i* P		P	04 05 10.0	+0.8
KBZ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KBZ	Khabaz	80.43	351	P		P	04 05 09.7	+0.5
	comp=Z,4.7nm,0.9s,baz=292,slow=0.7,SNR=6.8							
	comp=Z,4.7nm,0.9s							
ESDC	Sonseca Array	80.50	27	P		P	04 05 09.6	-0.1
ESDC	Sonseca Array	80.50	27	P		P	04 05 10.0	+0.2
	comp=Z,3.2nm,0.8s,baz=332,slow=5.5,SNR=13							
	comp=Z,3.2nm,0.8s							
NCK	Nalchik	80.60	351	*i* P		P	04 05 09.6	-0.6
NCK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
RDO	Rodhopi	83.44	4	P		P	04 05 25.3	+0.2
GEYT	Alibeck	83.89	339	P		P	04 05 29.0	+1.5
	comp=Z,4.4nm,0.9s,baz=312,slow=5.1,SNR=6.1							
	comp=Z,4.4nm,0.9s							
BRTR	Keskin Array B	84.93	358	P		P	04 05 32.5	-0.4
BRTR	Keskin Array B	84.93	358	P		P	04 05 33.6	+0.7
	comp=Z,1.5nm,0.7s,baz=354,slow=2.6,SNR=9.3							
	comp=Z,1.5nm,0.7s							
CMAR	Chiang Mai Arr	86.62	298	P		P	04 05 41.4	-0.1
	comp=Z,1.7nm,0.6s,baz=18,slow=5.6,SNR=6.9							
	comp=Z,1.7nm,0.6s							
RPN	Rapa Nui	89.21	145	LR		LR	04 36 25.4	
	comp=Z,46nm,21.1s,baz=79,slow=29							
QSPA	South Pole Qui	145.47	180	PKPbc		PKPdf	04 12 34.7	+0.3
	comp=Z,4.3nm,0.9s,baz=51,slow=2.3,SNR=9.6							

IDC ***27*** *03:58:38.0±0.9, 56°.59N × 148°.60W, h0km, mb3.8/12, mbtmp3.9/17, ML4.0/5, MS2.9/1, Error ellipse: s-maj=25.6km s-min=14.3km az=22.0*

NEIC ***27*** *03:58:38.3±1.6, 56°.43N±0°.05 × 148°.65W±0°.09, h19km±5km, mb4.3/10, ML4.3/60, ML4.1(AEIC), Error ellipse: s-maj=7.3km s-min=6.2km az=47.0*

AEIC ***27*** *03:58:42.2±1.3, 56°.49N±0°.07 × 148°.68W±0°.09, h10km±5km, Error ellipse: s-maj=10.5km s-min=6.9km az=164.0*

ISC 27 03:58:37.4±3.4, 56°.49N±0°.06 × 148°.64W±0°.04, h6km±22km, n292, σ1$29/299, mb4.2/18, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.51	303	Pn	Pn	03 59 17.9	-0.7
KDAK	Kodiak Island	2.51	303		Sn	03 59 45.6	-4.0
KDAK	Kodiak Island	2.51	303	Pn	Pn	03 59 18.0	-0.7
	51nm,0.3s,baz=137,slow=4.6,SNR=109						
KDAK				Sn	Sn	03 59 45.7	-3.9
	66nm,0.3s,baz=262,slow=23,SNR=14						
KDAK				LR	LR	04 00 08.8	
	comp=Z,204nm,18.5s,baz=219,slow=37						
	128nm,0.3s						
OHAK	Old Harbor	2.66	288		Pn	03 59 19.5	-1.1
OHAK					Sn	03 59 48.4	-4.7
OHAK	Old Harbor	2.66	288	P	Pn	03 59 19.7	-1.0
OHAK	Old Harbor	2.66	288	P	Pn	03 59 19.5	-1.1
	baz=105						
OHAK				S	Sn	03 59 48.7	-4.4
	baz=105						
SYI	Shuyak Island	2.93	318	Pn	Pn	03 59 24.3	-0.2
SYI					Sn	03 59 56.7	-3.3
Q20K	Shuyak Island	2.94	318	P	Pn	03 59 24.4	-0.1
	baz=136						
Q20K				S	Sn	03 59 57.0	-3.0
	baz=136						
SII	Sitkinak Islan	3.07	274	Pn	Pn	03 59 25.0	-1.4
SII					Sn	03 59 59.2	-4.3
SII	Sitkinak Islan	3.07	274	P	Pn	03 59 25.6	-0.8
SII	Sitkinak Islan	3.07	274	P	Pn	03 59 26.5	+0.1
	baz=90						
SII				S	Sn	03 59 59.2	-4.3
	baz=90						
Q23K	Middleton Isla	3.19	22		Pn	03 59 27.4	-0.7
Q23K				IAML		03 59 49.8	
	comp=E,489nm,2.4s						
Q23K					Sn	04 00 02.6	-3.7
Q23K				IAML		04 00 21.3	
	comp=N,524nm,2.6s						
Q23K	Middleton Isla	3.19	22	P	Pn	03 59 27.4	-0.7
	baz=203						
Q23K				S	Sn	04 00 03.0	-3.4
	baz=203						
MID	Middleton Isla	3.19	22		Pn	03 59 27.4	-0.7
MID					Sn	04 00 02.5	-3.8
MID				IAML		04 00 22.7	
	comp=E,519nm,3.2s						
MID	Middleton Isla	3.19	22	P	Pn	03 59 27.3	-0.7
CNPM	China Poot	3.34	337	Pn	Pn	03 59 29.7	-0.4
CNPM					Sn	04 00 06.8	-3.4
CNPM				IAML		04 00 15.0	
	comp=E,411nm,0.8s						
BRSE	Bradley Lake S	3.45	342		Pn	03 59 30.9	-0.7
BRSE					Sn	04 00 09.1	-3.6
BRSE	Bradley Lake S	3.45	342	P	Pn	03 59 30.9	-0.7
	baz=161						
BRLK	Bradley Lake	3.49	341		Pn	03 59 31.4	-0.8
BRLK				IAML		04 00 13.9	
	comp=N,463nm,0.7s						
BRLK				IAML		04 00 14.8	
	comp=E,462nm,0.4s						
HOM	Homer	3.56	335		Pn	03 59 33.1	+0.1
HOM	Homer	3.56	335	P	Pn	03 59 33.7	+0.6
	baz=152						
P23K	Montague Islan	3.58	10	P	Pn	03 59 32.8	-0.6
	baz=191						
Q19K	Cape Douglas,	3.63	314	Pn	Pn	03 59 34.2	+0.1
Q19K				IAML		04 00 22.3	
	comp=N,675nm,0.6s						
Q19K				IAML		04 00 22.6	
	comp=E,907nm,0.8s						
Q19K	Cape Douglas,	3.63	314	P	Pn	03 59 34.1	-0.1
	baz=131						
SEW	Seward	3.65	354		Pn	03 59 33.4	-1.0
SEW	Seward	3.65	354	P	Pn	03 59 33.5	-0.9
	baz=173						
AU22	Augustine Moun	3.83	321		Pn	03 59 37.1	+0.3
AUL	Augustine Lava	3.87	321		Pn	03 59 38.0	+0.6
KCE	Katmai Mt Cerb	3.96	299		Pn	03 59 39.2	+0.6
P19K	Oil Pt	4.00	324	Pn	Pn	03 59 39.2	0.0
P19K	Oil Pt	4.00	324	P	Pn	03 59 39.5	+0.3
	baz=141						
ACHA	Angle Creek He	4.01	298		Pn	03 59 40.0	+0.5
O22K	Cooper Landing	4.04	352		Pn	03 59 39.0	-0.7
O22K	Cooper Landing	4.04	352	P	Pn	03 59 39.5	-0.2
	baz=172						
KAHC	Katmai Hardscr	4.05	305	P	Pn	03 59 40.3	+0.2
	baz=120						
KVTA	Katmai Vly 10	4.07	301		Pn	03 59 39.9	-0.2
HIN	Hinchinbrook I	4.08	15	Pn	Pn	03 59 40.1	-0.2
HIN				IAML		04 00 27.2	
	comp=E,531nm,0.7s						
HIN				IAML		04 00 29.3	
	comp=N,494nm,0.5s						
ANCK	Angle Creek	4.09	298		Pn	03 59 40.9	+0.5
KAIM	Kayak Island	4.11	31	Pn	Pn	03 59 40.6	0.0
KAIM				IAML		04 00 27.7	
	comp=E,732nm,1.6s						
KAIM				IAML		04 00 32.0	
	comp=N,463nm,0.7s						
O20K	Slope Mountain	4.17	331		Pn	03 59 41.2	-0.4
O20K	Slope Mountain	4.17	331	P	Pn	03 59 41.4	-0.2
	baz=148						
Q17K	Contact Creek	4.31	297	P	Pn	03 59 43.8	+0.3
	baz=112						
PLK3	Peulik 3	4.33	289		Pn	03 59 43.7	0.0
EYAK	Cordova Ski Ar	4.34	19		Pn	03 59 43.8	0.0
EYAK	Cordova Ski Ar	4.34	19	P	Pn	03 59 44.0	+0.1
EYAK	Cordova Ski Ar	4.34	19	P	Pn	03 59 43.9	0.0
	baz=202						
RAGM	Ragged Mountai	4.43	26		Pn	03 59 45.1	0.0
RAGM				IAML		04 00 45.9	
	comp=E,490nm,0.5s						
CAPN	Captain Cook N	4.49	344	Pn	Pn	03 59 46.5	+0.7
RSO	Redoubt South	4.53	333	Pn	Pn	03 59 45.8	-0.8
PLK1	Peulik 1	4.54	290		Pn	03 59 46.4	-0.1
P18K	Big Mountain,	4.56	312	Pn	Pn	03 59 46.2	-0.7
P18K	Big Mountain,	4.56	312	P	Pn	03 59 46.2	-0.7
	baz=127						
RDWB	Redoubt West	4.58	333		Pn	03 59 46.1	-1.1
RC01	Rabbit Creek A	4.65	353		Pn	03 59 47.8	-0.3
RC01				IAML		04 00 40.2	
	comp=N,300nm,0.4s						
RC01				IAML		04 00 40.6	
	comp=E,443nm,0.3s						
RC01	Rabbit Creek A	4.65	353	P	Pn	03 59 47.8	-0.3
	baz=173						
RDJH	Redoubt Jeurge	4.66	334		Pn	03 59 47.6	-0.7
BERG	Berg Lake	4.70	31		Pn	03 59 48.8	+0.1
O19K	Port Alsworth	4.77	324		Pn	03 59 49.1	-0.6
O19K	Port Alsworth	4.77	324	P	Pn	03 59 49.2	-0.5
	baz=139						
SNH	Sunshine Point	4.80	37		Pn	03 59 50.3	+0.1
SNH				IAML		04 00 46.9	
	comp=E,274nm,2.2s						
SNH				IAML		04 00 49.6	
	comp=N,337nm,2.7s						
Q16K	King Salmon	4.84	300	P	Pn	03 59 51.0	+0.3
	baz=114						
O18K	Koktuh Hills	4.84	317		Pn	03 59 50.2	-0.6
O18K				IAML		04 00 48.0	
	comp=N,151nm,0.8s						
O18K	Koktuh Hills	4.84	317	P	Pn	03 59 50.1	-0.7
	baz=132						
CYK	Cape Yakataga	4.85	39		Pn	03 59 51.0	+0.2
DIV	Divide	4.89	17		Pn	03 59 51.4	0.0
KNK	Knik Glacier	4.94	1		Pn	03 59 51.6	-0.5
KNK				IAML		04 00 56.0	
	comp=E,160nm,0.6s						
KNK	Knik Glacier	4.94	1	P	Pn	03 59 51.9	-0.2
	baz=181						
BMRM	Bremner River	4.96	23		Pn	03 59 52.2	-0.1
BMRM	Bremner River	4.96	23	P	Pn	03 59 52.5	+0.1
	baz=207						
P17K	Kvichak River	4.97	306	P	Pn	03 59 52.7	+0.2
	baz=120						
R16K	Pilot Point	5.00	286		Pn	03 59 52.4	-0.4
N20K	Mount Spurr	5.08	340	P	Pn	03 59 53.3	-0.7
	baz=157						
BARK	Barkley Ridge	5.08	37		Pn	03 59 54.3	+0.2
SUA	Susitna One	5.11	349		Pn	03 59 53.7	-0.8
SUA				IAML		04 00 51.9	
	comp=N,196nm,0.6s						
SUA				IAML		04 00 55.0	
	comp=E,114nm,0.7s						
SUA	Susitna One	5.11	349	P	Pn	03 59 53.8	-0.6
	baz=167						
PMR	Palmer	5.12	357	Pn	Pn	03 59 54.0	-0.6
PMR				IAML		04 00 53.4	
	comp=N,167nm,0.5s						
PMR				IAML		04 00 56.1	
	comp=E,151nm,0.5s						
PMR	Palmer	5.12	357	P	Pn	03 59 54.4	-0.2
SPCG	Spurr Capps Gl	5.13	341		Pn	03 59 54.3	-0.4
SPCP	Crater Peak Br	5.13	341		Pn	03 59 54.8	0.0
SPBG	Spurr Blockage	5.16	340		Pn	03 59 54.5	-0.7
KLU	Klutina	5.21	15		Pn	03 59 56.0	+0.1
KLU				IAML		04 00 54.3	
	comp=E,176nm,0.3s						
KLU				IAML		04 00 55.5	
	comp=N,200nm,0.4s						
KLU	Klutina	5.21	15	P	Pn	03 59 56.0	+0.1
	baz=197						
ANNW	Aniakchak Nort	5.29	279		Pn	03 59 57.4	+0.4
N19K	Bonanza Creek	5.30	327		Pn	03 59 56.4	-0.7
N19K				IAML		04 01 01.2	
	comp=N,110nm,0.7s						
GHO	Glory Hole Cre	5.30	359		Pn	03 59 57.1	0.0
GHO				IAML		04 00 58.8	
	comp=E,305nm,0.5s						
GHO				IAML		04 01 00.5	
	comp=N,323nm,0.5s						
SML	Sawmill	5.34	2		Pn	03 59 57.8	+0.3
SML				IAML		04 00 57.4	
	comp=N,186nm,0.6s						
SML				IAML		04 00 59.9	
	comp=E,247nm,0.6s						
SML	Sawmill	5.34	2	P	Pn	03 59 58.0	+0.4
	baz=182						
M23K	Glacier View	5.34	5	P	Pn	03 59 58.0	+0.4
	baz=186						
SCM	Sheep Creek Mo	5.40	7		Pn	03 59 58.9	+0.4
SCM	Sheep Creek Mo	5.40	7	P	Pn	03 59 58.9	+0.4
	baz=188						
CHGN	Chignik	5.43	272		Pn	03 59 58.5	-0.3
CHGN	Chignik	5.43	272	P	Pn	03 59 59.4	+0.6
	baz=84						
VRDI	Verde Repeater	5.46	27	Pn	Pn	03 59 59.4	0.0
SAMH	Samovar Hills	5.52	45		Pn	04 00 00.7	+0.5
KIAG	Kiagna River	5.52	34		Pn	04 00 00.2	0.0
N25K	Chitina, Valde	5.54	20		Pn	04 00 00.6	+0.3
N25K	Chitina, Valde	5.54	20	P	Pn	04 00 00.7	+0.3
	baz=204						
O17K	Koliganek Bris	5.56	310		Pn	04 00 00.1	-0.5
O17K	Koliganek Bris	5.56	310	P	Pn	04 00 00.3	-0.2
	baz=123						
GLB	Gilahina Butte	5.56	25	Pn	Pn	04 00 00.7	0.0
P16K	Nushagak River	5.62	301	P	Pn	04 00 01.9	+0.6
	baz=114						
YKU2	Yakutat	5.65	54	Pn	Pn	04 00 02.3	+0.5
N18K	Kilae Creek	5.66	321		Pn	04 00 01.1	-0.9
MCARA	McCarthy VSAT	5.70	28		Pn	04 00 02.7	+0.2
MCARA	McCarthy VSAT	5.70	28	P	Pn	04 00 02.7	+0.2
	baz=213						
SKT	Skwentna	5.70	346		Pn	04 00 02.2	-0.3
SKT	Skwentna	5.70	346	P	Pn	04 00 02.8	+0.3
	baz=164						
PCA	Pinnacle	5.71	47		Pn	04 00 03.0	+0.3
PINM	Pinnacle	5.71	47	P	Pn	04 00 03.5	+0.8
	baz=234						
M24K	Tolsona, Glenn	5.78	12		Pn	04 00 04.1	+0.5
M24K	Tolsona, Glenn	5.78	12	P	Pn	04 00 03.9	+0.4
	baz=194						
BARN	Barnard Glacie	5.84	35		Pn	04 00 04.9	+0.2
PNL	Peninsula	5.85	53	P	Pn	04 00 04.9	+0.4
PNL	Peninsula	5.85	53	P	Pn	04 00 04.9	+0.4
	baz=240						
SVW2	Sparrevohn	5.86	325	Pn	Pn	04 00 03.9	-0.9
SVW2	Sparrevohn	5.86	325	P	Pn	04 00 04.6	-0.1
CTG	Chitna Glacier	5.88	37	P	Pn	04 00 05.3	+0.2
	baz=223						
M20K	Styx River	5.88	339		Pn	04 00 04.5	-0.6
CTGM	Chitina Glacie	5.88	37	Pn	Pn	04 00 05.4	+0.3
BCPM	Bancas Point	5.89	50		Pn	04 00 05.6	+0.5
LOGN	Logan Glacier	5.90	39		Pn	04 00 05.3	0.0
O16K	Kokwok River B	5.91	306		Pn	04 00 04.9	-0.4
WACK	Wrangell Chich	5.94	20		Pn	04 00 06.2	+0.2
CUT	Chulitna	5.99	353	Pn	Pn	04 00 06.4	0.0
N17K	Nushagak Hills	6.04	316		Pn	04 00 06.6	-0.5
VNFG	Fog Glacier, M	6.07	273		Pn	04 00 07.9	+0.3
WAT6	Susitna Watana	6.13	4	P	Pn	04 00 08.6	+0.1
	baz=185						
M19K	Big River Lodg	6.18	334		Pn	04 00 08.1	-1.0
HARP	HAARP	6.19	15		Pn	04 00 09.7	+0.5
HARP	HAARP	6.19	15	P	Pn	04 00 09.7	+0.5
	baz=198						
M18K	Stony River	6.24	326		Pn	04 00 08.9	-1.0
CNBA	Chernabura Isl	6.42	259		Pn	04 00 11.5	-0.9
O29M	Mount Kennedy	6.53	50		Pn	04 00 14.8	+0.8
L19K	White Mountain	6.53	333		Pn	04 00 12.6	-1.4
O15K	Ungalikthiuk R	6.55	299		Pn	04 00 14.7	+0.5
L20K	Farewell, AK	6.57	338		Pn	04 00 13.6	-0.9
P29M	Windy Craggy	6.58	57		Pn	04 00 14.6	0.0
M26K	Nabesna, AK	6.59	24		Pn	04 00 15.3	+0.6
DHY	Denali Highway	6.64	5	Pn	Pn	04 00 16.0	+0.5
N16K	Nishlik Lake	6.64	311		Pn	04 00 15.4	0.0
PPLA	Purkeypile	6.67	346		Pn	04 00 16.1	+0.1
PAX	Paxson	6.70	13		Pn	04 00 16.9	+0.7
M17K	Holitna River	6.70	321		Pn	04 00 15.8	-0.5
SDPT	Sand Point	6.75	265		Pn	04 00 16.9	0.0
SDPT	Sand Point	6.75	265	P	Pn	04 00 17.2	+0.3
M27K	Edge Creek, AK	6.82	28		Pn	04 00 18.6	+0.7
S31K	Pelican	6.90	72		Pn	04 00 16.8	-2.1
RND	Reindeer	6.94	359		Pn	04 00 20.1	+0.5
M16K	Timber Creek	7.03	315		Pn	04 00 20.5	-0.2
TRF	Thorofare Moun	7.03	354		Pn	04 00 21.1	+0.1
L18K	Granite Mounta	7.06	328		Pn	04 00 20.1	-1.1
N15K	Kwethluk River	7.07	306		Pn	04 00 21.7	+0.4
L26K	Log Cabin Wild	7.08	20		Pn	04 00 22.9	+1.4
P30M	Million Dollar	7.15	55		Pn	04 00 23.1	+0.7
CAST	Castle Rocks	7.16	347		Pn	04 00 22.6	0.0
KTH	Kantishna Hill	7.18	352		Pn	04 00 23.1	+0.2
HYT	Haines Junctio	7.25	49		Pn	04 00 24.5	+0.6
MCK	McKinley	7.27	359		Pn	04 00 24.6	+0.5
O14K	Tigyukauivet M	7.28	298		Pn	04 00 24.7	+0.5
SIT	Sitka	7.34	80		Pn	04 00 22.1	-2.8
SIT	Sitka	7.34	80	P	Pn	04 00 22.3	-2.7
K20K	Telida	7.41	341		Pn	04 00 25.5	-0.4
L27K	Beaver Creek,	7.43	25		Pn	04 00 26.5	+0.2
BCAR	Beaver Creek A	7.44	25	Pn	Pn	04 00 26.8	+0.4
TTA	Tatalina	7.45	333		Pn	04 00 24.8	-1.8
TTA	Tatalina	7.45	333	P	Pn	04 00 25.8	-0.8
L17K	Donlin	7.51	323		Pn	04 00 26.1	-1.2
M15K	Kasigluk River	7.57	309		Pn	04 00 27.6	-0.5
SKAG	Skagway	7.68	62	Pn	Pn	04 00 30.2	+0.7
SKAG	Skagway	7.68	62	P	Pn	04 00 30.6	+1.0
N14K	Kuskokwak Cree	7.70	302		Pn	04 00 30.2	+0.4
BESE	Bessie Mountai	7.71	69		Pn	04 00 30.1	0.0
BPAW	Bear Paw Mtn.	7.72	352		Pn	04 00 29.9	-0.3
S32K	Killisnoo	7.75	77		Pn	04 00 28.8	-1.7
O30N	Mendenhall	7.83	52		Pn	04 00 32.2	+0.6
R32K	Eaglecrest	7.84	71		Pn	04 00 30.6	-1.3
JIS	Juneau Island	7.91	71		Pn	04 00 32.3	-0.5
JIS	Juneau Island	7.91	71	P	Pn	04 00 32.9	+0.1
K17K	Iditarod	7.93	326		Pn	04 00 32.0	-1.1
HDA	Harding Lake	7.99	5		Pn	04 00 34.3	+0.4
J18K	Innoko River	8.08	333		Pn	04 00 33.9	-1.2
NEA2	Nenana	8.13	359		Pn	04 00 35.4	-0.5
M14K	Bethel	8.15	307	Pn	Pn	04 00 36.4	+0.2
J19K	Fourman	8.29	338		Pn	04 00 36.9	-1.1
WHY	Whitehorse	8.31	54	Pn	Pn	04 00 39.0	+0.6
ILAR	Eielson Array	8.36	5		Pn	04 00 38.4	-0.5
ILAR	Eielson Array	8.36	5	Pn	Pn	04 00 38.9	0.0
	comp=E,1.7nm,0.3s,baz=191,slow=13,SNR=28						
ILAR					Sn	04 02 10.6	-2.8
	comp=E,2.5nm,0.3s,baz=186,slow=26,SNR=8.6						
J26L	Joseph Creek	8.42	15		Pn	04 00 39.4	-0.5
COLA	College	8.42	2		Pn	04 00 40.2	+0.5
COLA	College	8.42	2	P	Pn	04 00 40.9	+1.1
MDM	Murphy Dome	8.50	1		Pn	04 00 40.5	-0.5
P32M	Atlin	8.50	62		Pn	04 00 41.3	+0.3
FALS	False Pass	8.51	265	Pn	Pn	04 00 40.6

INK	**Inuvik**	**13.71**	**24**	Pn		**Pn**	**04 01 52.0**	**+0.1**
INK	**Inuvik**	**13.71**	**24**	Pn		**Pn**	**04 01 52.8**	**+0.8**
	comp=E,0.3nm,0.3s,baz=205,slow=15,SNR=15							
	comp=E,12nm,0.9s							
B22K	**Teshekpuk Lake**	**14.06**	**353**			**Pn**	**04 01 56.5**	**-0.2**
B20K	**Meade River**	**14.08**	**348**			**Pn**	**04 01 55.7**	**-1.4**
ATKA	**Atka Island**	**15.46**	**265**	Pn		**Pn**	**04 02 13.3**	**-2.5**
ATKA	**Atka Island**	**15.46**	**265**	P		**Pn**	**04 02 14.5**	**-1.3**
GSTR	**Great Sitkin T**	**16.54**	**266**	Pn		**Pn**	**04 02 28.8**	**-1.0**
C36M	**Paulatuk**	**16.88**	**31**	Pn		**Pn**	**04 02 32.8**	**-1.0**
ADK	**Adak**	**16.98**	**266**	Pn		**Pn**	**04 02 33.9**	**-1.4**
ADK				IAmb		IAmb	04 02 39.4	
	comp=Z,29nm,1.1s							
ADK	**Adak**	**16.98**	**266**	P		**Pn**	**04 02 34.5**	**-0.8**
KIWB	**Kanaga Island**	**17.25**	**266**	Pn		**Pn**	**04 02 37.0**	**-1.7**
BRLDA	**Berland Lookou**	**17.87**	**85**			**Pn**	**04 02 45.9**	**-0.5**
BRLDA				IAmb		IAmb	04 02 58.6	
	comp=Z,16nm,1.2s							
YKA	**Yellowknife Ar**	**18.13**	**57**			**Pn**	**04 02 48.8**	**-0.7**
YKA	**Yellowknife Ar**	**18.13**	**57**	P		**P**	**04 02 51.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=263,slow=11,SNR=12							
	comp=Z,1.3nm,0.7s							
A36M	**Sachs Harbour**	**18.35**	**23**			**P**	**04 02 51.6**	**-0.6**
A36M				IAmb		IAmb	04 02 56.5	
	comp=Z,25nm,0.7s							
NEW	**Newport**	**20.77**	**100**	P		Pn	04 03 23.0	+1.8
	comp=Z,1.8nm,0.8s,baz=296,slow=8.4,SNR=4.2							
I04A	**Tendick Farm,**	**20.91**	**116**	P		**P**	**04 03 20.8**	**+0.3**
HUMO	**Hull Mountain**	**21.52**	**119**	P		**P**	**04 03 25.0**	**-2.0**
NVAR	**Mina Array Bea**	**27.00**	**119**	P		**P**	**04 04 22.0**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=314,slow=9.1,SNR=4.8							
	comp=Z,0.7nm,0.8s							
RES	**Resolute Bay**	**27.21**	**28**	P		**P**	**04 04 22.2**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=69,slow=16,SNR=2.9							
	comp=Z,1.3nm,0.8s							
PDAR	**Pinedale Array**	**28.36**	**102**	P		**P**	**04 04 33.3**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=317,slow=5.0,SNR=2.5							
	comp=Z,0.2nm,0.4s							
TXAR	**Lajitas Array**	**41.57**	**112**	P		**P**	**04 06 28.2**	**+2.4**
	comp=Z,0.4nm,0.9s,baz=356,slow=2.9,SNR=2.6							
	comp=Z,0.4nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**49.30**	**241**	T		T	05 00 55.2	
	baz=30							
H11N3	**WAKE ISLAND Hy**	**49.30**	**240**	T		T	05 01 20.9	
	baz=30							
H11N1	**WAKE ISLAND Hy**	**49.31**	**240**	T		T	05 00 57.3	
	baz=30							
H11S1	**WAKE ISLAND Hy**	**50.44**	**240**	T		T	05 02 37.5	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**50.45**	**240**	T		T	05 02 45.3	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**50.45**	**240**	T		T	05 02 43.9	
	baz=29							
SONM	**Songino Array**	**58.78**	**310**	P		**P**	**04 08 37.9**	**+1.8**
	comp=Z,2.8nm,0.8s,baz=48,slow=7.0,SNR=12							
	comp=Z,2.8nm,0.8s							
ZALV	**Zalesovo Beam**	**61.58**	**327**	P		**P**	**04 08 55.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=36,slow=7.4,SNR=6.1							
	comp=Z,1.4nm,0.7s							
HHC	**Hu-ho-hao-te**	**61.93**	**302**	*e*P		P	04 09 02.8	+5.1
HHC				pmax		pmax		
	comp=Z,12nm,0.8s							
HHC				pmax		pmax		
	comp=Z,130nm,5.6s							
FINES	**FINESS Array B**	**62.33**	**3**	P		**P**	**04 08 59.9**	**0.0**
FINES	**FINESS Array B**	**62.33**	**3**	P		**P**	**04 09 01.3**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=16,slow=9.9,SNR=5.6							
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**66.23**	**329**	P		**P**	**04 09 25.6**	**0.0**
KURK				IAmb		IAmb	04 09 41.9	
	comp=Z,6.3nm,1.5s							
BVAR	**Borovoye Array**	**66.24**	**335**	P		**P**	**04 09 26.3**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=20,slow=4.9,SNR=5.2							
	comp=Z,1.6nm,0.8s							
KURBB	**Kurchatov Arra**	**66.34**	**329**	P		**P**	**04 09 27.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=31,slow=6.4,SNR=3.5							
	comp=Z,0.4nm,0.6s							
MK31	**Makanchi Array**	**68.63**	**325**	P		**P**	**04 09 40.7**	**-0.3**
MK31				IAmb		IAmb	04 09 55.4	
	comp=Z,1.9nm,1.4s							
MKAR	**Makanchi Array**	**68.63**	**325**	P		**P**	**04 09 40.8**	**-0.1**
MKAR	**Makanchi Array**	**68.63**	**325**	P		**P**	**04 09 41.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=25,slow=5.5,SNR=5.7							
	comp=Z,0.5nm,0.6s							
LZH	**Lanzhou**	**69.35**	**304**	*e*P		**P**	**04 09 49.5**	**+3.7**
LZH				sP		pwP	04 09 58.5	+6.6
LZH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ABKAR	**Akbulak array**	**71.97**	**341**	P		**P**	**04 10 01.5**	**+0.2**
ABKAR				IAmb		IAmb	04 10 10.1	
	comp=Z,5.0nm,1.4s							
ABKAR	**Akbulak array**	**71.97**	**341**	P		**P**	**04 10 01.6**	**+0.2**
AKASG	**Malin Array Be**	**73.16**	**1**	P		**P**	**04 10 09.5**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=355,slow=6.6,SNR=2.0							
	comp=Z,0.5nm,0.5s							
PZH	**PanZhiHua**	**78.32**	**300**	P		**P**	**04 10 42.5**	**+4.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,130nm,4.8s							
ESDC	**Sonseca Array**	**79.64**	**27**	P		**P**	**04 10 46.0**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=337,slow=7.0,SNR=4.4							
	comp=Z,1.0nm,0.9s							
QSPA	**South Pole Qui**	**146.28**	**180**	PKPbc		**PKPab**	**04 18 18.4**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=55,slow=3.2,SNR=5.2							

*NEIC **27** 04:04:50.5±1.9,56°47N±0°.09×148°.9W±0°.1,h24km±10km, ML3.5/44,ML3.2(AEIC),Error ellipse: s-maj=14.0km s-min=8.0km az=157.0*
*AEIC **27** 04:04:53.3±1.7,56°.39N±0°.10×148°.9W±0°.1,h12km±7km, Error ellipse: s-maj=14.0km s-min=8.4km az=166.0*
ISC 27 04:04:47.5±1.8,56°.43N±0°.09×148°.88W±0°.06,h10km,n89, σ1§41/97,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.43**	**305**		**Pn**	**04 05 28.0**	**+0.7**
KDAK	**Kodiak Island**	**2.43**	**305**		**Sn**	**04 05 54.2**	**-2.8**
KDAK	**Kodiak Island**	**2.43**	**305**	S	**Sn**	**04 05 56.3**	**-0.7**
	baz=123						
OHAK	**Old Harbor**	**2.55**	**290**	Pn	**Pn**	**04 05 29.1**	**+0.3**
OHAK				Sn	**Sn**	**04 05 57.7**	**-2.2**
OHAK	**Old Harbor**	**2.55**	**290**	P	**Pn**	**04 05 29.3**	**+0.4**
	baz=107						
OHAK				S	**Sn**	**04 05 57.9**	**-2.0**
	baz=107						
Q20K	**Shuyak Island**	**2.89**	**320**	P	**Pn**	**04 05 35.0**	**+1.4**
	baz=138						
Q20K				S	**Sn**	**04 06 08.5**	**+0.2**
	baz=138						
SYI	**Shuyak Island**	**2.89**	**321**	Pn	**Pn**	**04 05 34.8**	**+1.2**
SYI				Sn	**Sn**	**04 06 08.0**	**-0.3**
SII	**Sitkinak Islan**	**2.94**	**275**	Pn	**Pn**	**04 05 34.2**	**-0.1**
SII				Sn	**Sn**	**04 06 08.3**	**-1.4**
SII				IAML		04 06 31.3	
	comp=N,176nm,2.1s						
SII	**Sitkinak Islan**	**2.94**	**275**	S	**Sn**	**04 06 08.7**	**-1.0**
	baz=91						
CNPM	**China Poot**	**3.35**	**339**	Pn	**Pn**	**04 05 40.8**	**+0.9**
CNPM				Sn	**Sn**	**04 06 18.1**	**-1.5**
BRSE	**Bradley Lake S**	**3.46**	**344**		**Pn**	**04 05 42.9**	**+1.5**
BRSE	**Bradley Lake S**	**3.46**	**344**	P	**Pn**	**04 05 42.9**	**+1.5**
	baz=163						
BRLK	**Bradley Lake**	**3.51**	**343**	Pn	**Pn**	**04 05 42.1**	**0.0**
BRLK				Sn	**Sn**	**04 06 20.8**	**-2.8**
HOM	**Homer**	**3.55**	**337**	Pn	**Pn**	**04 05 44.2**	**+1.6**
Q19K	**Cape Douglas,**	**3.58**	**316**	P	**Pn**	**04 05 44.5**	**+1.5**
	baz=133						
P23K	**Montague Islan**	**3.66**	**12**		**Pn**	**04 05 45.1**	**+0.9**
P23K	**Montague Islan**	**3.66**	**12**	P	**Pn**	**04 05 45.1**	**+0.9**
	baz=192						
KAHG	**Katmai Hook Gl**	**3.69**	**306**		**Pn**	**04 05 46.4**	**+1.7**
SEW	**Seward**	**3.69**	**356**		**Sn**	**04 06 26.2**	**-1.9**
SEW	**Seward**	**3.69**	**356**	S	**Sn**	**04 06 26.2**	**-1.9**
	baz=175						
P19K	**Oil Pt**	**3.97**	**326**	Pn	**Pn**	**04 05 50.2**	**+1.7**
P19K				Sn	**Sn**	**04 06 34.1**	**-1.0**
P19K				IAML		04 06 39.8	
	comp=N,99nm,1.6s						
P19K				IAML		04 06 41.4	
	comp=E,99nm,0.5s						
P19K	**Oil Pt**	**3.97**	**326**	P	**Pn**	**04 05 51.2**	**+2.7**
	baz=143						
P19K				S	**Sn**	**04 06 36.6**	**+1.6**
	baz=143						
HIN	**Hinchinbrook I**	**4.17**	**16**	Pn	**Pn**	**04 05 50.6**	**-0.6**
CNTC	**Contact Creek**	**4.21**	**299**		**Pn**	**04 05 54.5**	**+2.6**
Q17K	**Contact Creek**	**4.22**	**299**	P	**Pn**	**04 05 54.4**	**+2.6**
	baz=113						
KAIM	**Kayak Island**	**4.22**	**32**	Pn	**Pn**	**04 05 51.7**	**-0.2**
KAIM	**Kayak Island**	**4.22**	**32**	P	**Pn**	**04 05 52.8**	**+0.9**
	baz=215						
EYAK	**Cordova Ski Ar**	**4.44**	**20**	Pn	**Pn**	**04 05 55.6**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.44**	**20**	P	**Pn**	**04 05 55.9**	**+1.1**
	baz=203						
P18K	**Big Mountain,**	**4.50**	**314**	Pn	**Pn**	**04 05 56.6**	**+0.9**
P18K				IAML		04 07 38.4	
	comp=E,29nm,3.1s						
P18K				IAML		04 08 03.3	
	comp=N,32nm,2.9s						
P18K	**Big Mountain,**	**4.50**	**314**	P	**Pn**	**04 05 57.1**	**+1.4**
	baz=129						
RSO	**Redoubt South**	**4.52**	**335**	Pn	**Pn**	**04 05 57.4**	**+1.2**
RAGM	**Ragged Mountai**	**4.54**	**27**	Pn	**Pn**	**04 05 56.8**	**+0.5**
RC01	**Rabbit Creek A**	**4.69**	**355**	Pn	**Pn**	**04 06 00.2**	**+1.9**
RC01				IAML		04 07 25.7	
	comp=N,36nm,3.4s						
RC01				IAML		04 08 26.6	
	comp=E,36nm,3.1s						
GOAT	**Goat Mountain**	**4.70**	**26**		**Pn**	**04 06 00.3**	**+1.9**
O19K	**Port Alsworth**	**4.74**	**325**	Pn	**Pn**	**04 06 01.1**	**+2.2**
O19K				IAML		04 07 04.2	
	comp=N,49nm,0.4s						
O18K	**Koktuh Hills**	**4.80**	**318**	Pn	**Pn**	**04 05 58.6**	**-1.2**
O18K				IAML		04 06 45.8	
	comp=E,35nm,3.5s						
O18K				IAML		04 08 18.1	
	comp=N,30nm,3.4s						
KNK	**Knik Glacier**	**5.00**	**2**	Pn	**Pn**	**04 06 03.5**	**+0.9**
KNK				IAML		04 08 17.5	
	comp=N,31nm,2.3s						
KNK				IAML		04 08 57.9	
	comp=E,39nm,2.9s						
KNK	**Knik Glacier**	**5.00**	**2**	P	**Pn**	**04 06 04.1**	**+1.5**
	baz=182						
BMRM	**Bremner River**	**5.06**	**24**	Pn	**Pn**	**04 06 02.4**	**-1.1**
BMRM	**Bremner River**	**5.06**	**24**	P	**Pn**	**04 06 04.7**	**+1.3**
	baz=208						
SUA	**Susitna One**	**5.14**	**350**	Pn	**Pn**	**04 06 03.8**	**-0.7**
SUA				IAML		04 08 43.8	
	comp=N,40nm,3.3s						
PMR	**Palmer**	**5.18**	**359**	Pn	**Pn**	**04 06 06.6**	**+1.7**
PMR				IAML		04 07 08.5	
	comp=E,27nm,2.5s						
PMR				IAML		04 07 09.4	
	comp=N,34nm,3.3s						
N19K	**Bonanza Creek**	**5.28**	**329**	Pn	**Pn**	**04 06 07.6**	**+1.1**
N19K				IAML		04 07 12.7	
	comp=N,20nm,4.2s						
N19K				IAML		04 08 50.2	
	comp=E,23nm,4.6s						
KLU	**Klutina**	**5.30**	**16**	Pn	**Pn**	**04 06 07.5**	**+0.8**
KLU				IAML		04 07 46.4	
	comp=E,25nm,3.2s						
KLU				IAML		04 08 09.2	
	comp=N,34nm,3.4s						
KLU	**Klutina**	**5.30**	**16**	P	**Pn**	**04 06 08.0**	**+1.3**
	baz=198						
GHO	**Glory Hole Cre**	**5.36**	**360**	Pn	**Pn**	**04 06 09.0**	**+1.5**
GHO				IAML		04 08 01.6	
	comp=E,29nm,3.7s						
GHO				IAML		04 08 52.9	
	comp=N,27nm,3.5s						
SML	**Sawmill**	**5.40**	**3**	Pn	**Pn**	**04 06 09.1**	**+1.0**
SML				IAML		04 07 35.4	
	comp=E,37nm,3.3s						
SCM	**Sheep Creek Mo**	**5.48**	**8**	Pn	**Pn**	**04 06 09.9**	**+0.7**
N18K	**Kilae Creek**	**5.62**	**322**	Pn	**Pn**	**04 06 12.3**	**+1.2**
N25K	**Chitina, Valde**	**5.64**	**21**	Pn	**Pn**	**04 06 12.5**	**+1.1**
N25K	**Chitina, Valde**	**5.64**	**21**	P	**Pn**	**04 06 12.8**	**+1.4**
	baz=205						
GLB	**Gilahina Butte**	**5.67**	**25**	Pn	**Pn**	**04 06 12.7**	**+1.0**
SKT	**Skwentna**	**5.73**	**347**	Pn	**Pn**	**04 06 13.7**	**+1.2**
MCARA	**McCarthy VSAT**	**5.82**	**29**	Pn	**Pn**	**04 06 14.2**	**+0.5**
O16K	**Kokwok River B**	**5.83**	**307**	Pn	**Pn**	**04 06 15.9**	**+2.0**
PINM	**Pinnacle**	**5.85**	**48**	P	**Pn**	**04 06 16.2**	**+2.0**
	baz=234						
M24K	**Tolsona, Glenn**	**5.86**	**13**	Pn	**Pn**	**04 06 14.9**	**+0.5**
M24K	**Tolsona, Glenn**	**5.86**	**13**	P	**Pn**	**04 06 17.0**	**+2.6**
	baz=195						
M20K	**Styx River**	**5.89**	**340**	Pn	**Pn**	**04 06 16.3**	**+1.5**
BARN	**Barnard Glacie**	**5.97**	**36**	Pn	**Pn**	**04 06 16.3**	**+0.3**
PNL	**Peninsula**	**5.99**	**53**		**Pn**	**04 06 17.1**	**+1.0**
PNL	**Peninsula**	**5.99**	**53**	P	**Pn**	**04 06 17.1**	**+1.0**
	baz=241						
CTG	**Chitna Glacier**	**6.01**	**38**	P	**Pn**	**04 06 17.3**	**+0.9**
	baz=224						
CTGM	**Chitina Glacie**	**6.01**	**38**	Pn	**Pn**	**04 06 16.7**	**+0.2**
M19K	**Big River Lodg**	**6.17**	**335**	Pn	**Pn**	**04 06 19.5**	**+0.9**
M18K	**Stony River**	**6.21**	**328**		**Pn**	**04 06 20.6**	**+1.5**
M18K	**Stony River**	**6.21**	**328**	P	**Pn**	**04 06 20.6**	**+1.5**
	baz=142						
M26K	**Nabesna, AK**	**6.69**	**24**	Pn	**Pn**	**04 06 27.4**	**+1.5**
P29M	**Windy Craggy**	**6.73**	**57**	Pn	**Pn**	**04 06 27.7**	**+1.5**
P29M	**Windy Craggy**	**6.73**	**57**	P	**Pn**	**04 06 27.6**	**+1.3**
	baz=246						
M27K	**Edge Creek, AK**	**6.93**	**28**	Pn	**Pn**	**04 06 30.1**	**+0.9**
M16K	**Timber Creek**	**6.97**	**315**	Pn	**Pn**	**04 06 30.7**	**+1.1**
N15K	**Kwethluk River**	**6.99**	**307**	Pn	**Pn**	**04 06 32.1**	**+2.3**
L18K	**Granite Mounta**	**7.04**	**329**	Pn	**Pn**	**04 06 31.1**	**+0.6**
S31K	**Pelican**	**7.04**	**72**	Pn	**Pn**	**04 06 30.4**	**-0.1**
K20K	**Telida**	**7.42**	**342**	Pn	**Pn**	**04 06 36.7**	**+1.0**
TTA	**Tatalina**	**7.45**	**334**	Pn	**Pn**	**04 06 36.4**	**+0.3**
L27K	**Beaver Creek,**	**7.54**	**25**	Pn	Pn	04 06 35.1	-2.3
BCAR	**Beaver Creek A**	**7.55**	**25**	Pn	**Pn**	**04 06 35.7**	**-1.9**
K17K	**Iditarod**	**7.90**	**327**	Pn	**Pn**	**04 06 42.7**	**+0.3**
N30M	**Aishikik Lake**	**7.90**	**46**	Pn	**Pn**	**04 06 43.2**	**+0.8**
M29M	**Somme Creek**	**8.02**	**37**	Pn	**Pn**	**04 06 44.1**	**0.0**
L29M	**L29M**	**8.61**	**35**	Pn	**Pn**	**04 06 53.6**	**+1.6**
P33M	**Teslin, Yukon**	**9.25**	**59**	Pn	**Pn**	**04 07 01.4**	**+0.5**
K29M	**Barlow Dome**	**9.33**	**33**	Pn	**Pn**	**04 07 04.1**	**+2.1**
M31M	**Drury Creek, Y**	**9.38**	**46**	Pn	**Pn**	**04 07 04.6**	**+1.9**
H21K	**Melozitna Rive**	**9.45**	**350**	Pn	**Pn**	**04 07 04.6**	**+1.1**
J30M	**Hart River**	**10.22**	**32**	Pn	**Pn**	**04 07 15.8**	**+1.5**

*NEIC **27** 04:11:08.3±1.5,56°.1N±0°.1×150°.1W±0°.1,h32km±15km, ML3.7/16,ML3.2(AEIC),Error ellipse: s-maj=16.0km s-min=9.3km az=171.0*
*AEIC **27** 04:11:09.3±1.8,55°.93N±0°.09×150°.16W±0°.10,h9km±7km, Error ellipse: s-maj=13.6km s-min=7.1km az=161.0*
ISC 27 04:11:04.2±2.2,56°.0N±0°.1×150°.18W±0°.06,h10km,n80, σ1§11/86,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.13**	**308**		**Pn**	**04 11 40.5**	**+0.7**
OHAK					**Sn**	**04 12 04.8**	**-1.6**
OHAK	**Old Harbor**	**2.13**	**308**	P	**Pn**	**04 11 40.5**	**+0.7**
	baz=125						
OHAK				S	**Sn**	**04 12 05.1**	**-1.2**
	baz=125						
KDAK	**Kodiak Island**	**2.25**	**325**	Pn	**Pn**	**04 11 42.2**	**+0.7**
KDAK				Sn	**Sn**	**04 12 07.5**	**-1.8**
SII	**Sitkinak Islan**	**2.31**	**287**	Sn	**Sn**	**04 12 09.2**	**-1.7**
SII	**Sitkinak Islan**	**2.31**	**287**	P	**Pn**	**04 11 43.2**	**+0.9**
	baz=104						
SII				S	**Sn**	**04 12 10.0**	**-0.8**
	baz=104						
Q20K	**Shuyak Island**	**2.92**	**337**	P	**Pn**	**04 11 51.4**	**+0.8**
	baz=155						
Q20K				S	**Sn**	**04 12 24.9**	**-0.7**
	baz=155						
SYI	**Shuyak Island**	**2.92**	**337**	Pn	**Pn**	**04 11 51.3**	**+0.7**
SYI				Sn	**Sn**	**04 12 25.1**	**-0.5**
SYI				IAML		04 13 10.1	
	comp=N,224nm,0.4s						
SYI				IAML		04 13 16.6	
	comp=E,209nm,1.0s						
KAHG	**Katmai Hook Gl**	**3.48**	**319**		**Pn**	**04 12 00.4**	**+2.1**
Q19K	**Cape Douglas,**	**3.52**	**329**	P	**Pn**	**04 12 01.0**	**+2.1**
	baz=146						
CNPM	**China Poot**	**3.62**	**351**	Pn	**Pn**	**04 11 59.6**	**-0.6**
CNPM				IAML		04 13 29.3	
	comp=N,166nm,0.9s						
ANCK	**Angle Creek**	**3.67**	**310**		**Pn**	**04 12 02.5**	**+1.6**
BRSE	**Bradley Lake S**	**3.80**	**356**		**Pn**	**04 12 02.4**	**-0.4**
BRSE	**Bradley Lake S**	**3.80**	**356**	P	**Pn**	**04 12 02.4**	**-0.4**
	baz=175						
BRLK	**Bradley Lake**	**3.83**	**355**	Pn	**Pn**	**04 12 02.7**	**-0.5**
CNTC	**Contact Creek**	**3.87**	**309**		**Pn**	**04 12 05.6**	**+1.8**
Q17K	**Contact Creek**	**3.88**	**309**	P	**Pn**	**04 12 05.6**	**+1.7**
	baz=124						
Q23K	**Middleton Isla**	**4.04**	**29**	Pn	**Pn**	**04 12 05.0**	**-1.0**
P19K	**Oil Pt**	**4.05**	**337**	P	**Pn**	**04 12 07.8**	**+1.6**
	baz=155						
P18K	**Big Mountain,**	**4.38**	**324**	P	**Pn**	**04 12 11.8**	**+1.1**
	baz=140						
P17K	**Kvichak River**	**4.68**	**316**		**Pn**	**04 12 16.7**	**+2.0**
P17K	**Kvichak River**	**4.68**	**316**	P	**Pn**	**04 12 16.7**	**+2.0**
	baz=131						
RSO	**Redoubt South**	**4.71**	**344**	Pn	**Pn**	**04 12 15.6**	**+0.1**
O18K	**Koktuh Hills**	**4.74**	**328**	Pn	**Pn**	**04 12 16.4**	**+0.9**
O18K				IAML		04 14 16.1	
	comp=N,73nm,1.3s						
O18K				IAML		04 14 24.4	
	comp=E,54nm,1.6s						
O18K	**Koktuh Hills**	**4.74**	**328**	P	**Pn**	**04 12 16.7**	**+1.1**
	baz=143						
KAIM	**Kayak Island**	**5.02**	**35**	P	**Pn**	**04 12 19.5**	**0.0**
	baz=220						
EYAK	**Cordova Ski Ar**	**5.16**	**25**	Pn	**Pn**	**04 12 21.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.16**	**25**	P	**Pn**	**04 12 21.6**	**+0.2**
	baz=209						
N19K	**Bonanza Creek**	**5.37**	**337**	Pn	**Pn**	**04 12 24.8**	**+0.6**
N19K				IAML		04 14 14.1	
	comp=N,48nm,0.8s						
N19K				IAML		04 14 40.6	
	comp=E,50nm,1.4s						
N19K	**Bonanza Creek**	**5.37**	**337**	P	**Pn**	**04 12 24.9**	**+0.6**
	baz=153						
O16K	**Kokwok River B**	**5.58**	**314**	Pn	**Pn**	**04 12 28.5**	**+1.3**
N18K	**Kilae Creek**	**5.61**	**330**	Pn	**Pn**	**04 12 27.7**	**+0.2**
BERG	**Berg Lake**	**5.61**	**35**	Pn	**Pn**	**04 12 27.6**	**0.0**
SNH	**Sunshine Point**	**5.75**	**40**	Pn	**Pn**	**04 12 29.8**	**+0.3**
BMRM	**Bremner River**	**5.81**	**28**	P	**Pn**	**04 12 30.6**	**+0.2**
	baz=212						
GHO	**Glory Hole Cre**	**5.87**	**6**	Pn	**Pn**	**04 12 31.6**	**+0.5**
N17K	**Nushagak Hills**	**5.88**	**324**	Pn	**Pn**	**04 12 32.4**	**+1.1**
KLU	**Klutina**	**5.97**	**20**	Pn	**Pn**	**04 12 32.8**	**+0.2**
KLU	**Klutina**	**5.97**	**20**	P	**Pn**	**04 12 33.1**	**+0.5**
	baz=203						
BARK	**Barkley Ridge**	**6.03**	**39**		**Pn**	**04 12 33.6**	**+0.2**
SCM	**Sheep Creek Mo**	**6.07**	**13**	Pn	**Pn**	**04 12 34.8**	**+0.8**
O15K	**Ungalikthiuk R**	**6.11**	**306**		**Pn**	**04 12 36.3**	**+1.9**
O15K	**Ungalikthiuk R**	**6.11**	**306**	P	**Pn**	**04 12 36.3**	**+1.9**
	baz=118						
VRDI	**Verde Repeater**	**6.34**	**31**	Pn	**Pn**	**04 12 37.6**	**-0.1**
N25K	**Chitina, Valde**	**6.36**	**25**	Pn	**Pn**	**04 12 38.6**	**+0.7**
N25K	**Chitina, Valde**	**6.36**	**25**	P	**Pn**	**04 12 38.5**	**+0.6**
	baz=209						
GLB	**Gilahina Butte**	**6.42**	**28**	Pn	**Pn**	**04 12 38.9**	**+0.2**
KIAG	**Kiagna River**	**6.45**	**36**		**Pn**	**04 12 39.1**	**-0.1**
M24K	**Tolsona, Glenn**	**6.50**	**17**	Pn	**Pn**	**04 12 41.2**	**+1.4**
MCARA	**McCarthy VSAT**	**6.59**	**31**	Pn	**Pn**	**04 12 41.8**	**+0.7**
MCARA	**McCarthy VSAT**	**6.59**	**31**	P	**Pn**	**04 12 41.5**	**+0.5**
	baz=217						
PTPK	**Patty Peak**	**6.61**	**34**			**04 12 41.6**	**+0.2**
M17K	**Holitna River**	**6.64**	**328**	Pn	**Pn**	**04 12 42.8**	**+1.2**
PCA	**Pinnacle**	**6.70**	**48**	Pn	**Pn**	**04 12 43.1**	**+0.5**
PINM	**Pinnacle**	**6.70**	**48**	P	**Pn**	**04 12 43.3**	**+0.7**
	baz=236						
N15K	**Kwethluk River**	**6.74**	**313**	Pn	**Pn**	**04 12 45.3**	**+2.3**
BARN	**Barnard Glacie**	**6.78**	**38**	Pn	**Pn**	**04 12 44.3**	**+0.5**
CTG	**Chitna Glacier**	**6.83**	**39**	P	**Pn**	**04 12 44.7**	**+0.3**
	baz=226						
CTGM	**Chitina Glacie**	**6.83**	**39**	Pn	**Pn**	**04 12 44.4**	**-0.1**
M16K	**Timber Creek**	**6.85**	**321**	Pn	**Pn**	**04 12 46.4**	**+1.9**
BCPM	**Bancas Point**	**6.89**	**50**	Pn	**Pn**	**04 12 45.9**	**+0.8**
L16K	**Owhat River**	**7.51**	**324**	Pn	**Pn**	**04 12 53.6**	**0.0**
O29M	**Mount Kennedy**	**7.52**	**50**	P	**Pn**	**04 12 54.8**	**+0.9**
	baz=240						
P29M	**Windy Craggy**	**7.59**	**56**	Pn	**Pn**	**04 12 55.0**	**+0.2**
P29M	**Windy Craggy**	**7.59**	**56**	P	**Pn**	**04 12 55.3**	**+0.5**
	baz=246						
M27K	**Edge Creek, AK**	**7.70**	**30**	Pn	**Pn**	**04 12 57.8**	**+1.5**

comp=E,613nm,1.3s
HOM IAML 04 13 39.0
comp=N,532nm,0.9s
Q19K Cape Douglas, 3.54 315 Pn 04 12 44.4 -0.4
Q19K IAML 04 13 51.5
comp=N,601nm,0.9s
Q19K Cape Douglas, 3.54 315 P Pn 04 12 44.9 +0.2
baz=192
P23K Montague Islan 3.59 12 Pn 04 12 44.4 -0.9
P23K Montague Islan 3.59 12 P Pn 04 12 44.4 -0.9
baz=192
SEW Seward 3.63 355 Pn Pn 04 12 44.6 -1.2
SEW Seward 3.63 355 P Pn 04 12 45.6 -0.3
baz=174
KAHG Katmai Hook Gl 3.67 305 Pn 04 12 46.1 -0.4
AUL Augustine Lava 3.79 322 Pn 04 12 48.3 +0.3
KCE Katmai Mt Cerb 3.85 300 Pn 04 12 48.8 -0.2
ACHA Angle Creek He 3.91 299 Pn 04 12 49.0 -0.8
P19K Oil Pt 3.93 325 Pn Pn 04 12 49.2 -0.8
P19K IAML 04 13 40.9
comp=E,551nm,0.5s
P19K IAML 04 13 41.1
comp=N,534nm,0.6s
KAHC Katmai Hardscr 3.96 306 Pn 04 12 50.4 -0.1
KAHC Katmai Hardscr 3.96 306 P Pn 04 12 52.1 +1.6
baz=121
KVTA Katmai Vly 10 3.96 301 Pn 04 12 51.1 +0.6
ANCK Angle Creek 3.98 298 Pn 04 12 51.6 +0.7
O22K Cooper Landing 4.02 354 Pn Pn 04 12 51.5 +0.3
SLKM Skilak Lake 4.08 350 Pn 04 12 51.2 -0.9
HIN Hinchinbrook I 4.10 17 Pn Pn 04 12 51.0 -1.4
HIN IAML 04 13 49.6
comp=E,260nm,0.8s
HIN IAML 04 13 50.6
comp=N,372nm,1.0s
O20K Slope Mountain 4.11 333 Pn 04 12 52.0 -0.5
IVE Iliamna Volcan 4.16 330 Pn 04 12 52.8 -0.4
KAIM Kayak Island 4.16 32 Pn Pn 04 12 52.0 -1.1
KAIM IAML 04 13 48.1
comp=N,534nm,1.4s
KAIM IAML 04 13 48.7
comp=E,408nm,1.1s
CNTC Contact Creek 4.20 298 Pn 04 12 52.9 -0.9
Q17K Contact Creek 4.20 298 P Pn 04 12 54.9 +1.0
baz=113
EYAK Cordova Ski Ar 4.37 20 Pn Pn 04 12 54.9 -1.1
EYAK Cordova Ski Ar 4.37 20 P Pn 04 12 55.6 -0.5
EYAK Cordova Ski Ar 4.37 20 P Pn 04 12 55.5 -0.5
baz=202
RED Redoubt Volcan 4.44 334 Pn 04 12 56.9 -0.2
CAPN Captain Cook N 4.45 345 Pn Pn 04 12 55.9 -1.1
CAPN IAML 04 14 11.6
comp=E,426nm,1.3s
P18K Big Mountain, 4.47 313 Pn Pn 04 12 56.6 -0.9
P18K Big Mountain, 4.47 313 P Pn 04 12 56.8 -0.7
baz=128
RAGM Ragged Mountai 4.47 28 Pn Pn 04 12 56.9 -0.6
RAGM IAML 04 14 03.8
comp=E,400nm,1.1s
RSO Redoubt South 4.47 334 Pn 04 12 57.2 -0.4
RDT Redoubt 4.49 337 Pn 04 12 57.0 -0.8
RDWB Redoubt West 4.51 334 Pn 04 12 57.5 -0.7
NCT North Crescent 4.60 334 Pn 04 12 58.6 -0.7
GOAT Goat Mountain 4.63 26 Pn 04 12 58.8 -0.9
RC01 Rabbit Creek A 4.63 355 Pn 04 12 60.0 +0.4
RC01 Rabbit Creek A 4.63 355 P Pn 04 12 59.3 -0.3
baz=173
O19K Port Alsworth 4.70 324 Pn 04 13 00.3 -0.2
O19K Port Alsworth 4.70 324 IAML 04 14 01.9
comp=N,271nm,0.5s
O19K Port Alsworth 4.70 324 P Pn 04 13 01.2 +0.7
baz=140
Q16K King Salmon 4.74 301 Pn 04 13 01.3 +0.3
Q16K King Salmon 4.74 301 P Pn 04 13 01.3 +0.3
baz=115
BERG Berg Lake 4.75 33 Pn 04 13 00.6 -0.7
BERG IAML 04 13 59.7
comp=N,283nm,1.0s
O18K Koktuh Hills 4.76 318 Pn Pn 04 13 00.2 -1.2
O18K Koktuh Hills 4.76 318 P Pn 04 13 00.8 -0.6
baz=133
SNH Sunshine Point 4.86 38 Pn Pn 04 13 01.8 -1.0
SNH IAML 04 14 06.6
comp=E,162nm,1.0s
SNH IAML 04 14 06.9
comp=N,118nm,1.5s
P17K Kvichak River 4.87 307 Pn 04 13 03.2 +0.3
P17K Kvichak River 4.87 307 P Pn 04 13 03.2 +0.3
baz=121
KNK Knik Glacier 4.93 2 Pn Pn 04 13 03.4 -0.4
BMRM Bremner River 5.00 24 Pn Pn 04 13 03.0 -1.7
BMRM Bremner River 5.00 24 P Pn 04 13 04.5 -0.2
baz=207
N20K Mount Spurr 5.03 341 P Pn 04 13 04.4 -0.7
baz=158
SPCR Spurr Chakacha 5.03 341 Pn 04 13 04.4 -0.7
SUA Susitna One 5.08 350 Pn Pn 04 13 05.1 -0.7
SUA IAML 04 14 10.8
comp=N,75nm,0.6s
SUA IAML 04 15 55.4
comp=E,84nm,1.0s
SUA Susitna One 5.08 350 P Pn 04 13 05.6 -0.2
baz=168
SPCP Crater Peak Br 5.08 342 Pn 04 13 05.3 -0.6
SPCG Spurr Capps Gl 5.08 342 Pn 04 13 06.1 +0.1
PMR Palmer 5.11 358 Pn Pn 04 13 05.3 -0.9
PMR IAML 04 15 29.2
comp=N,269nm,0.4s
PMR Palmer 5.11 358 P Pn 04 13 06.5 +0.3
PMR Palmer 5.11 358 P Pn 04 13 06.0 -0.2
baz=178
BARK Barkley Ridge 5.14 38 Pn 04 13 06.5 -0.3
ANPB Aniakchak Plen 5.22 277 Pn 04 13 07.4 -0.3
KLU Klutina 5.23 16 Pn Pn 04 13 07.2 -0.7
KLU Klutina 5.23 16 P Pn 04 13 07.6 -0.3
baz=197
N19K Bonanza Creek 5.23 328 Pn Pn 04 13 07.6 -0.4
N19K Bonanza Creek 5.23 328 P Pn 04 13 08.5 +0.5
baz=144
STLK Strandline Lak 5.25 344 Pn 04 13 07.8 -0.3
GHO Glory Hole Cre 5.29 360 Pn Pn 04 13 08.0 -0.7
CHGN Chignik 5.32 272 Pn Pn 04 13 07.0 -2.0
CHGN IAML 04 14 09.5
comp=N,79nm,0.6s
CHGN IAML 04 14 23.0
comp=E,76nm,1.2s
SML Sawmill 5.33 3 Pn Pn 04 13 09.2 -0.1
SML Sawmill 5.33 3 P Pn 04 13 09.5 +0.2
baz=182
SCM Sheep Creek Mo 5.41 8 Pn Pn 04 13 10.4 0.0
SCM Sheep Creek Mo 5.41 8 P Pn 04 13 10.7 +0.4
baz=188
O17K Koliganek Bris 5.46 310 Pn 04 13 11.2 +0.1
O17K Koliganek Bris 5.46 310 P Pn 04 13 11.6 +0.5
baz=124
VRDI Verde Repeater 5.50 28 Pn Pn 04 13 10.9 -0.9
P16K Nushagak River 5.51 301 Pn 04 13 12.2 +0.5
P16K Nushagak River 5.51 301 P Pn 04 13 12.2 +0.5
baz=114
N25K Chitina, Valde 5.57 21 Pn Pn 04 13 11.9 -0.7
N25K Chitina, Valde 5.57 21 P Pn 04 13 12.3 -0.3
baz=204
KIAG Kiagna River 5.58 35 Pn 04 13 12.5 -0.3
N18K Kilae Creek 5.58 322 Pn Pn 04 13 11.6 -1.0
GLB Gilahina Butte 5.60 26 Pn Pn 04 13 11.9 -1.1
SKT Skwentna 5.67 347 Pn Pn 04 13 13.4 -0.5
SKT Skwentna 5.67 347 P Pn 04 13 14.1 +0.2
baz=165
MCARA McCarthy VSAT 5.75 29 Pn Pn 04 13 13.8 -1.2
MCARA McCarthy VSAT 5.75 29 P Pn 04 13 14.4 -0.5
baz=213
PTPK Patty Peak 5.75 33 Pn 04 13 14.8 -0.4
PCA Pinnacle 5.79 48 Pn Pn 04 13 15.0 -0.6
M24K Tolsona, Glenn 5.79 13 Pn Pn 04 13 16.1 +0.5
M24K Tolsona, Glenn 5.79 13 P Pn 04 13 15.9 +0.3
baz=194
PINM Pinnacle 5.79 48 P Pn 04 13 15.5 -0.1
baz=234
O16K Kokwok River B 5.81 306 Pn Pn 04 13 15.2 -0.5
M20K Styx River 5.83 340 Pn Pn 04 13 15.1 -1.1
BARN Barnard Glacie 5.90 36 Pn Pn 04 13 16.0 -1.2
PNL Peninsula 5.93 54 Pn 04 13 16.9 -0.6
PNL Peninsula 5.93 54 P Pn 04 13 17.1 -0.4
CTG Chitina Glacier 5.94 38 P Pn 04 13 17.5 -0.2
baz=223
CTGM Chitina Glacie 5.94 38 Pn Pn 04 13 16.1 -1.7
N17K Nushagak Hills 5.95 316 Pn Pn 04 13 16.2 -1.5
LOGN Logan Glacier 5.96 40 Pn Pn 04 13 16.9 -1.2
BCPM Bancas Point 5.97 51 Pn Pn 04 13 16.1 -1.9
M19K Big River Lodg 6.12 335 Pn Pn 04 13 18.5 -1.6
WAT6 Susitna Watana 6.13 5 Pn 04 13 20.3 0.0
WAT6 Susitna Watana 6.13 5 P Pn 04 13 20.3 0.0
baz=185
M18K Stony River 6.17 327 Pn 04 13 20.3 -0.4
M18K Stony River 6.17 327 P Pn 04 13 20.3 -0.4
baz=141
HARP HAARP 6.21 16 Pn 04 13 22.4 +1.1
HARP HAARP 6.21 16 P Pn 04 13 22.4 +1.1
baz=198
WAT7 Susitna Watana 6.35 360 Pn 04 13 23.1 -0.2
O15K Ungalikthiuk R 6.45 299 Pn 04 13 24.7 +0.2
L19K White Mountain 6.47 334 Pn Pn 04 13 23.9 -1.1
O29M Mount Kennedy 6.61 51 Pn Pn 04 13 26.5 -0.4
M17K Holitna River 6.62 321 Pn Pn 04 13 26.5 -0.5
M26K Nabesna, AK 6.62 24 Pn Pn 04 13 25.4 -1.7
DHY Denali Highway 6.64 6 Pn Pn 04 13 27.8 +0.4
P29M Windy Craggy 6.67 57 Pn Pn 04 13 26.3 -1.5
M27K Edge Creek, AK 6.86 28 Pn Pn 04 13 30.1 -0.3
RND Reindeer 6.93 360 Pn Pn 04 13 31.5 +0.2
M16K Timber Creek 6.94 315 Pn Pn 04 13 30.9 -0.4
MENT Mentasta 6.96 20 Pn Pn 04 13 29.7 -1.9
N15K Kwethluk River 6.97 307 Pn Pn 04 13 32.1 +0.4
L18K Granite Mounta 6.99 328 Pn Pn 04 13 31.3 -0.8
S31K Pelican 7.00 73 Pn Pn 04 13 29.1 -3.1
TRF Thorofare Moun 7.01 355 Pn Pn 04 13 31.9 -0.5
CAST Castle Rocks 7.13 348 Pn Pn 04 13 33.5 -0.5
KTH Kantishna Hill 7.15 353 Pn Pn 04 13 34.2 -0.1
O14K Tigyukauivet M 7.17 298 Pn Pn 04 13 35.6 +1.1
BVCY Beaver Creek 7.19 31 Pn 04 13 34.5 -0.2
PLBC Pleasant Camp 7.27 61 Pn 04 13 35.1 -0.7
HYT Haines Junctio 7.33 49 Pn Pn 04 13 35.0 -1.8
K20K Telida 7.36 341 Pn Pn 04 13 35.3 -1.8
TTA Tatalina 7.39 334 Pn Pn 04 13 36.4 -1.2
TTA Tatalina 7.39 334 P Pn 04 13 38.8 +1.2
SIT Sitka 7.45 80 Pn Pn 04 13 33.1 -5.2
L27K Beaver Creek, 7.47 25 Pn Pn 04 13 37.6 -1.0
BCAR Beaver Creek A 7.48 25 Pn Pn 04 13 38.0 -0.8
RIDG Independent Ri 7.53 14 Pn Pn 04 13 39.5 +0.1
L16K Owhat River 7.56 318 Pn Pn 04 13 39.2 -0.6
BPAW Bear Paw Mtn. 7.70 353 Pn Pn 04 13 40.1 -1.6
SKAG Skagway 7.77 62 Pn Pn 04 13 41.1 -1.6
SKAG Skagway 7.77 62 P Pn 04 13 41.3 -1.4
N30M Aishikik Lake 7.84 46 Pn Pn 04 13 43.4 -0.3
S32K Killisnoo 7.86 77 Pn Pn 04 13 39.6 -4.2
K17K Iditarod 7.86 326 Pn Pn 04 13 42.9 -1.0
SCRK Sand Creek 7.88 16 Pn Pn 04 13 42.9 -1.4
O30N Mendenhall 7.91 52 Pn Pn 04 13 42.6 -2.0
R32K Eaglecrest 7.94 71 Pn Pn 04 13 40.0 -5.0
M29M Somme Creek 7.96 37 Pn Pn 04 13 45.2 -0.2
HDA Harding Lake 7.99 6 Pn Pn 04 13 45.9 +0.2
JIS Juneau Island 8.02 71 Pn Pn 04 13 43.1 -3.0
JIS Juneau Island 8.02 71 P Pn 04 13 44.1 -1.9
J18K Innoko River 8.02 334 Pn Pn 04 13 44.1 -2.0
NEA2 Nenana 8.12 359 Pn Pn 04 13 46.9 -0.6
J20K Nowitna River 8.13 343 Pn Pn 04 13 46.7 -1.0
CCB Clear Creek Bu 8.19 3 Pn Pn 04 13 48.0 -0.4
J19K Poorman 8.23 339 Pn Pn 04 13 48.1 -1.0
K27K Chicken 8.26 21 Pn Pn 04 13 50.3 +0.8
J25K Salcha River, 8.32 10 Pn Pn 04 13 49.2 -1.1
IL31 8.36 6 Pn Pn 04 13 49.8 -0.8
ILAR Eielson Array 8.36 6 Pn Pn 04 13 50.7 0.0
ILAR Eielson Array 8.36 6 Pn Pn 04 13 50.1 -0.6
comp=E,0.4nm,0.3s,baz=187,slow=13,SNR=18
ILAR Sn **Sn 04 15 23.9 -1.1**
comp=E,1.0nm,0.3s,baz=190,slow=19,SNR=8.3
ILAR LR LR 04 17 09.2
comp=E,397nm,19.1s,baz=246,slow=38
comp=E,2.3nm,0.7s
COLA College 8.42 3 Pn Pn 04 13 50.8 -0.8
COLA College 8.42 3 P Pn 04 13 52.2 +0.7
J26L Joseph Creek 8.44 16 Pn Pn 04 13 52.4 +0.5
MDM Murphy Dome 8.49 2 Pn Pn 04 13 52.8 +0.2
L29M L29M 8.54 35 Pn Pn 04 13 53.1 -0.2
P32M Atlin 8.60 63 Pn Pn 04 13 52.7 -1.4
MLY Manley 8.61 355 Pn Pn 04 13 53.1 -1.1
M30M Minto, Yukon 8.63 40 Pn Pn 04 13 53.4 -1.0
L14K Kuka Creek 8.64 310 Pn Pn 04 13 54.8 +0.2
POKR Poker Plat Res 8.67 4 Pn Pn 04 13 55.3 +0.2
I23K Minto, Yukon-K 8.68 359 Pn Pn 04 13 55.7 +0.6
K15K Wolf Creek Mou 8.69 317 Pn Pn 04 13 55.4 +0.2
U33K Whale Pass 8.75 86 Pn Pn 04 13 51.6 -4.6
I21K Tanana 8.84 351 Pn Pn 04 13 57.0 -0.3
CRAG Craig 8.88 90 Pn Pn 04 13 52.5 -5.3
CRAG Craig 8.88 90 P Pn 04 13 56.2 -1.6
DAWY Dawson 8.91 28 Pn Pn 04 13 58.0 -0.4
J16K Anvik River 9.00 324 Pn Pn 04 13 57.2 -2.3
EGAK Eagle 9.11 21 Pn Pn 04 14 00.3 -0.8
P33M Teslin, Yukon 9.20 60 Pn Pn 04 14 00.7 -1.7
I26K Coal Creek Min 9.26 15 Pn Pn 04 14 03.1 +0.1
K29M Barlow Dome 9.26 33 Pn Pn 04 14 03.1 -0.1
M31M Drury Creek, Y 9.32 46 Pn Pn 04 14 03.8 -0.2
H24K Noodor Dome 9.38 2 Pn Pn 04 14 06.0 +1.2
H21K Melozitna River 9.38 350 Pn Pn 04 14 03.4 -1.4
N32M Quiet Lake 9.40 54 Pn Pn 04 14 01.9 -3.2
J14K Nanvaranak Lak 9.72 316 Pn Pn 04 14 09.5 +0.2
FARO Faro, Yukon 9.76 48 Pn Pn 04 14 09.5 -0.5
H19K Roundabout Mou 9.77 341 Pn Pn 04 14 09.8 -0.2
IMAR Indian Mountai 9.80 348 Pn Pn 04 14 09.7 -0.8
H18K Honhosa River 9.83 336 Pn Pn 04 14 10.2 -0.7
R33M Jennings River 9.93 66 Pn Pn 04 14 10.5 -1.9
I28M Miner Creek 9.95 22 Pn Pn 04 14 13.0 +0.3
H17K Granite Mounta 10.03 332 Pn Pn 04 14 12.7 -1.0
J30M Hart River 10.16 32 Pn Pn 04 14 15.9 +0.4
I29M Ogilvie Camp, 10.24 26 Pn Pn 04 14 14.8 -1.8
FYU Fort Yukon 10.25 8 Pn Pn 04 14 15.5 -1.0
G23K Bananza Creek 10.26 357 Pn Pn 04 14 16.9 +0.1
G21K Allakaket 10.29 349 Pn Pn 04 14 16.9 -0.3
DLBC Dease Lake 10.32 71 Pn Pn 04 14 16.4 -1.3
comp=E,0.5nm,0.3s,baz=226,slow=14,SNR=8.2
DLBC Sn **Sn 04 16 09.6 -3.6**
comp=E,0.8nm,0.3s,baz=93,slow=16,SNR=2.5
comp=E,1.2nm,0.3s
G18K Tagagawik 10.53 337 Pn Pn 04 14 19.5 -1.0
I30M Mount Dempster 10.63 30 Pn Pn 04 14 22.1 +0.1
H29M Whitestone 10.95 23 Pn Pn 04 14 25.4 -0.8
F24K Squaw Lake 11.07 2 Pn Pn 04 14 28.3 +0.4
F19K Shaleruckik Mo 11.19 342 Pn Pn 04 14 29.2 -0.2
ANM Nome 11.44 322 Pn Pn 04 14 32.2 -0.6
F17K Baldwin Pennin 11.57 335 Pn Pn 04 14 33.9 -0.8
G29M Pine Creek 11.62 22 Pn Pn 04 14 34.4 -0.9
E19K Redstone River 11.66 344 Pn Pn 04 14 37.1 +1.1
E22K Anaktuvuk Pass 11.76 355 Pn Pn 04 14 38.1 +0.8
E25K Arctic Village 11.76 6 Pn Pn 04 14 37.5 +0.2
F28M Old Crow 11.90 17 Pn Pn 04 14 40.9 +1.7
F15K North Star Dit 11.94 327 Pn Pn 04 14 39.9 +0.1
G31M Satah River 12.49 27 Pn Pn 04 14 47.0 -0.1
D22K Ayikyak River 12.55 354 Pn Pn 04 14 50.0 +2.0
D19K Kuna River 12.75 344 Pn Pn 04 14 48.3 -2.6
BBB Bella Bella 12.83 101 LR LR 04 18 38.2
comp=E,510nm,20.0s,baz=303,slow=32
D25K Kavik River 12.92 4 Pn Pn 04 14 54.0 +0.8
E29M Blow River 12.93 18 Pn Pn 04 14 54.0 +0.7
C18K Utukok River 13.41 340 Pn Pn 04 15 00.3 +0.4
INK Inuvik 13.75 24 Pn Pn 04 15 03.6 -0.7
INK Inuvik 13.75 24 Pn Pn 04 15 05.3 +1.0
comp=E,0.1nm,0.3s,baz=214,slow=15,SNR=12
INK LR LR 04 20 44.7
comp=E,354nm,19.2s,baz=182,slow=39
comp=E,6.9nm,1.1s
C16K Lisburne Hills 14.00 334 Pn Pn 04 15 06.6 -1.1
B22K Teshekpuk Lake 14.04 354 Pn Pn 04 15 07.7 -0.6
B20K Meade River 14.04 348 Pn Pn 04 15 06.0 -2.3
C36M Paulatuk 16.93 31 Pn 04 15 44.4 -1.9
C36M IAmb IAmb 04 15 57.6
comp=Z,25nm,1.2s
YKA Yellowknife Ar 18.22 57 Pn 04 16 01.2 -1.1
YKA Yellowknife Ar 18.22 57 P Pn 04 16 03.0 +0.7
comp=Z,0.2nm,0.3s,baz=263,slow=11,SNR=12
YKA LR LR 04 22 52.0
comp=Z,229nm,20.1s,baz=273,slow=36
comp=Z,2.1nm,0.9s
A36M Sachs Harbour 18.38 23 P P 04 16 02.1 -2.1
A36M IAmb IAmb 04 16 16.2
comp=Z,23nm,0.9s
NEW Newport 20.89 100 P P 04 16 32.7 +0.9
comp=Z,0.6nm,0.4s,baz=276,slow=19,SNR=2.7
NEW LR LR 04 23 31.1
comp=Z,225nm,18.2s,baz=304,slow=34
comp=Z,0.6nm,0.4s
SHEM Shemya Is, Ala 21.61 276 LR LR 04 25 16.2
comp=Z,102nm,19.1s,baz=297,slow=37
YBH Yreka Blue Hor 22.41 120 P P 04 16 49.7 +1.4
comp=Z,0.9nm,0.6s,baz=230,slow=21,SNR=1.7
YBH LR LR 04 23 18.5
comp=Z,333nm,21.6s,baz=320,slow=31
comp=Z,0.9nm,0.6s
ELK Elko 26.88 112 P P 04 17 23.6 -7.1
ELK IAmb IAmb 04 17 41.7
comp=Z,4.2nm,1.5s
ELK Elko 26.88 112 P P 04 17 32.3 +1.5
comp=Z,0.2nm,0.3s,baz=250,slow=1.2,SNR=3.4
ELK LR LR 04 26 12.7
comp=Z,196nm,20.3s,baz=326,slow=32
comp=Z,0.2nm,0.3s
NVAR Mina Array Bea 27.10 119 P P 04 17 31.8 -0.9
comp=Z,0.4nm,0.6s,baz=232,slow=33,SNR=3.9
NVAR LR LR 04 26 25.5
comp=Z,251nm,18.7s,baz=348,slow=32
comp=Z,0.4nm,0.6s
RES Resolute Bay 27.25 28 LR LR 04 28 57.4
comp=Z,293nm,18.7s,baz=157,slow=38
PDAR Pinedale Array 28.47 102 P P 04 17 44.8 -0.1
comp=Z,0.1nm,0.5s,baz=335,slow=6.6,SNR=2.6
PDAR LR LR 04 28 13.1
comp=Z,66nm,18.8s,baz=78,slow=35
comp=Z,0.1nm,0.5s
SEY Seymchan 29.37 307 LR LR 04 30 43.4
comp=Z,320nm,19.6s,baz=102,slow=38
PETK Petropavlovsk- 30.35 287 LR LR 04 30 38.2
comp=Z,104nm,18.3s,baz=82,slow=37
MA2 Magadan 31.15 301 LR LR 04 31 05.6
comp=Z,206nm,19.1s,baz=88,slow=37
PFO Pinyon Flats O 31.86 122 LR LR 04 28 35.1
comp=Z,266nm,20.2s,baz=334,slow=32
TIXI Tiksi 35.62 327 LR LR 04 33 36.9
comp=Z,82nm,18.4s,baz=26,slow=37
ANMO Albuquerque 35.81 109 LR LR 04 32 54.9
comp=Z,80nm,19.2s,baz=79,slow=35
FRB Frobisher Bay 38.10 45 LR LR 04 35 01.4
comp=Z,320nm,18.4s,baz=0.5,slow=37
YAK Yakutsk 39.41 313 LR LR 04 35 36.6
comp=Z,105nm,18.5s,baz=103,slow=36
TXAR Lajitas Array 41.68 111 LR LR 04 36 04.5
comp=Z,104nm,18.4s,baz=336,slow=35
LPIG La Paz 42.75 123 LR LR 04 35 12.4
comp=Z,84nm,18.6s,baz=356,slow=33
SFJD Kangerlussuaq 42.77 35 LR LR 04 37 31.7
comp=Z,171nm,19.0s,baz=296,slow=36
SCHQ Schefferville 43.67 56 LR LR 04 38 03.0
comp=Z,147nm,18.3s,baz=240,slow=36
ASAJ Asahikawa 43.67 284 LR LR 04 39 21.6
comp=Z,71nm,18.6s,baz=156,slow=38
KLR Kul'dur 45.95 296 LR LR 04 39 20.0
comp=Z,80nm,21.9s,baz=36,slow=36
TKL Tuckaleechee C 47.68 87 LR LR 04 40 12.9
comp=Z,123nm,20.1s,baz=338,slow=36
NRIK Noril'sk 48.00 337 LR LR 04 44 15.9
comp=Z,138nm,19.0s,baz=42,slow=40
H11N2 WAKE ISLAND Hy 49.20 240 T T 05 13 37.7
baz=30,slow=76,SNR=5.2
H11N3 WAKE ISLAND Hy 49.21 240 T T 05 13 41.6
baz=30,slow=76,SNR=4.9
H11N1 WAKE ISLAND Hy 49.22 240 T T 05 13 43.0
baz=30,slow=76,SNR=6.5
USRK Ussuriysk Ar. 49.22 291 LR LR 04 44 45.3
comp=Z,48nm,18.1s,baz=41,slow=40
JMIC Jan Mayen 49.74 16 LR LR 04 44 03.1
comp=Z,41nm,18.4s,baz=312,slow=39
H11S1 WAKE ISLAND Hy 50.34 240 T T 05 15 56.2
baz=28,slow=76,SNR=13
H11S2 WAKE ISLAND Hy 50.36 240 T T 05 15 57.7
baz=28,slow=76,SNR=7.3
H11S3 WAKE ISLAND Hy 50.36 240 T T 05 15 57.4
baz=28,slow=76,SNR=9.1
MJAR Matsushiro Arr 51.37 280 LR LR 04 43 33.1
comp=Z,40nm,20.1s,baz=32,slow=37
BORG Borgarnes 52.64 25 LR LR 04 42 57.2
comp=Z,57nm,19.5s,baz=319,slow=36
KSRS Korea Array 56.23 288 LR LR 04 45 05.6
comp=Z,16nm,19.8s,baz=20,slow=35
CMIG Matias Romero 56.28 112 LR LR 04 44 46.3
comp=Z,112nm,19.5s,baz=9.0,slow=35
TEIG Tepich 57.19 103 LR LR 04 47 38.5
comp=Z,430nm,19.5s,baz=232,slow=38
SONM Songino Array 58.68 310 P P 04 21 48.9 +1.8
comp=Z,1.6nm,0.7s,baz=47,slow=7.1,SNR=8.5
SONM LR LR 04 48 03.9
comp=Z,102nm,19.9s,baz=160,slow=37
comp=Z,1.6nm,0.7s
ZALV Zalesovo Beam 61.51 327 P P 04 22 07.5 +1.4
comp=Z,1.0nm,0.7s,baz=24,slow=5.4,SNR=6.3
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 61.75 11 LR LR 04 51 09.5
comp=Z,24nm,19.6s,baz=335,slow=38
HHC Hu-ho-hao-te 61.83 302 *eP* P **04 22 15.0 +6.3**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,280nm,4.7s
FINES FINESS Array B 62.33 3 P P 04 22 12.2 +0.6
comp=Z,1.6nm,0.9s,baz=19,slow=12,SNR=6.4
comp=Z,1.6nm,0.9s
HFS Hagfors 62.89 10 LR LR 04 50 51.2
comp=Z,40nm,20.3s,baz=280,slow=37
KIRV Kirov 64.34 350 LR LR 04 54 22.0
comp=Z,47nm,18.4s,baz=7.9,slow=40
BVAR Borovoye Array 66.19 335 P P 04 22 38.9 +1.9
comp=Z,1.2nm,0.6s,baz=42,slow=9.0,SNR=7.2
BVAR LR LR 04 54 50.9
comp=Z,59nm,18.6s,baz=22,slow=39
comp=Z,1.2nm,0.6s
KURBB Kurchatov Arra 66.28 329 P P 04 22 38.9 +1.3
comp=Z,1.0nm,0.2s,baz=261,slow=36,SNR=2.5
comp=Z,1.0nm,0.2s
JTS Las Juntas de 67.18 107 LR LR 04 53 41.4
comp=Z,35nm,18.9s,baz=301,slow=37
MKAR Makanchi Array 68.56 325 P P 04 22 52.8 +0.7
comp=Z,0.5nm,0.7s,baz=22,slow=5.1,SNR=5.4
comp=Z,0.5nm,0.7s
LZH Lanzhou 69.25 304 *eP* P **04 23 01.0 +4.2**
LZH pmax pmax
comp=Z,14nm,1.0s
AKASG Malin Array Be 73.15 1 P P 04 23 20.4 +0.4
comp=Z,0.9nm,0.7s,baz=358,slow=6.1,SNR=2.8
AKASG LR LR 04 58 49.4
comp=Z,15nm,18.3s,baz=35,slow=38
comp=Z,0.9nm,0.7s
AAK Ala-Archa 74.69 328 LR LR 05 01 24.8
comp=Z,78nm,18.9s,baz=25,slow=40
DAVOX Davos/Dischmat 75.56 15 LR LR 05 02 19.1
comp=Z,25nm,18.5s,baz=262,slow=40
KBZ Khabaz 79.65 351 LR LR 05 00 43.5
comp=Z,28nm,21.8s,baz=9.5,slow=37
ESDC Sonseca Array 79.68 27 P P 04 23 57.5 +0.2
comp=Z,0.8nm,1.1s,baz=355,slow=9.1,SNR=2.2
comp=Z,0.8nm,1.1s
GEYT Alibeck 83.19 339 LR LR 05 08 10.9
comp=Z,52nm,18.3s,baz=354,slow=41
BRTR Keskin Array B 84.12 358 P P 04 24 22.3 +1.6
comp=Z,0.6nm,0.9s,baz=318,slow=1.9,SNR=2.3
comp=Z,0.6nm,0.9s
MDT Midelt 85.99 30 LR LR 05 02 59.2
comp=Z,62nm,18.2s,baz=100,slow=36
CMAR Chiang Mai Arr 86.39 298 LR LR 05 07 43.8
comp=Z,50nm,18.1s,baz=25,slow=39
DZM Mont Dzumac 86.87 221 LR LR 05 04 40.5
comp=Z,42nm,18.1s,baz=32,slow=36
RPN Rapa Nui 89.78 145 LR LR 04 56 24.9
comp=Z,46nm,20.9s,baz=68,slow=30

NEIC **27** *04:17:03.6±2.1,21°.2S±0°.1×177°.6W±0°.1,h382km±6km, mb4.4/36, Error ellipse: s-maj=20.8km s-min=15.8km az=125.0*
NOU **27** *04:17:05.3,21°.18S×177°.55W,h414km,mb4.6/28, Fiji Islands Region*
IDC **27** *04:17:06.8±3.3,21°.17S×177°.86W,h413km±33km, mb3.7/11,mbtmp4.5/13, Error ellipse: s-maj=17.5km s-min=15.2km az=105.0*
ISC 27 04:17:04.8±0.4,21°.14S±0°.07×177°.69W±0°.08,h400km, n118,σ1ᵍ32/120,mb4.3/26,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.08**	**340**	P	**Pn**	**04 18 10.8**	**+2.1**
TAVE	**Taveuni**	**4.88**	**334**	P	**Pn**	**04 18 28.1**	**+2.4**
DGTI	**Dogotuki**	**5.39**	**333**	P	**Pn**	**04 18 33.2**	**+2.2**
NIUE	**Niue**	**7.58**	**76**		**P**	**04 18 54.3**	**-1.2**
AFI	**Afiamalu**	**9.14**	**39**		**P**	**04 19 09.0**	**-4.0**
PINNC	**Pines Island,**	**13.88**	**261**	P	**Pn**	**04 20 06.4**	**-1.3**
LIFNC	**LIFOU**	**14.08**	**269**	P	**P**	**04 20 06.8**	**-0.6**
YATNC	**Mamie plateau,**	**14.37**	**264**	P	**P**	**04 20 12.0**	**+1.5**
OUENC	**Ouen Island, N**	**14.43**	**262**	P	**P**	**04 20 11.1**	**0.0**
ONTNC	**Ouen Toro**	**14.78**	**263**	P	**P**	**04 20 16.5**	**+1.6**
DZM	**Mont Dzumac**	**14.79**	**264**	P	**P**	**04 20 16.2**	**+1.1**
DZM	**Mont Dzumac**	**14.79**	**264**	P	**P**	**04 20 16.4**	**+1.3**
DZM	**Mont Dzumac**	**14.79**	**264**	P	**P**	**04 20 16.4**	**+1.3**
	22nm,0.6s,baz=102,slow=17,SNR=24						
NOUC	**Port Laguerre**	**14.92**	**263**	P	**P**	**04 20 17.5**	**+1.1**
MYRZ	**Mayor Island**	**16.93**	**197**	P	**P**	**04 20 42.5**	**+4.7**
WMGZ	**Waiomatatini S**	**16.96**	**191**	P	**P**	**04 20 40.0**	**+1.8**
HAZ	**Te Kaha**	**17.02**	**192**	P	**P**	**04 20 38.6**	**-0.2**
RUGZ	**Raukumara Rang**	**17.24**	**192**	P	**P**	**04 20 39.8**	**-1.4**
TOZ	**Tahuroa Road**	**17.55**	**198**	P	**P**	**04 20 46.5**	**+2.1**
TOZ				IAmb	IAmb	04 20 47.7	
	comp=Z,20nm,0.8s						
MWZ	**Matawai**	**17.63**	**192**	P	**P**	**04 20 44.1**	**-1.1**
URZ	**Urewera**	**17.64**	**194**	P	**P**	**04 20 44.5**	**-0.9**
URZ	**Urewera**	**17.64**	**194**	P	**P**	**04 20 44.4**	**-0.9**
	comp=Z,15nm,0.6s,baz=59,slow=1.9,SNR=20						
URZ				S	**S**	**04 23 50.5**	**+2.5**
	comp=Z,5.2nm,0.4s,baz=149,slow=18,SNR=7.0						
URZ	**Urewera**	**17.64**	**194**	P	**P**	**04 20 44.1**	**-1.2**
MUGZ	**Murupara**	**17.93**	**194**	P	**P**	**04 20 47.6**	**-0.8**
RIGZ	**Rimuhau**	**17.94**	**192**	P	**P**	**04 20 48.4**	**-0.2**
RTZ	**Ruatahuna**	**18.01**	**194**	P	**P**	**04 20 48.0**	**-1.4**
RTZ				IAmb	IAmb	04 20 55.0	
	comp=Z,18nm,1.1s						
RTZ	**Ruatahuna**	**18.01**	**194**	P	**P**	**04 20 49.0**	**-0.4**
HIZ	**Hauiti**	**18.47**	**199**	P	**P**	**04 20 55.4**	**+1.2**
BKZ	**Black Stump Fm**	**18.65**	**194**	P	**P**	**04 20 53.1**	**-3.0**
ETVZ	**East Tongariro**	**18.81**	**196**	P	**P**	**04 20 56.5**	**-1.4**
OTVZ	**Oturere**	**18.85**	**196**	P	**P**	**04 20 56.7**	**-1.6**
SNVZ	**South Ngauruho**	**18.88**	**196**	P	**P**	**04 20 57.8**	**-0.8**
BFZ	**Birch Farm**	**20.15**	**193**	P	**P**	**04 21 07.9**	**-2.6**
QRZ	**Quartz Range**	**21.31**	**201**	P	**P**	**04 21 20.2**	**-0.8**
QRZ	**Quartz Range**	**21.31**	**201**	P	**P**	**04 21 21.2**	**+0.2**
INZ	**Inchbonnie**	**23.37**	**200**	P	**P**	**04 21 38.3**	**-1.4**
INZ				IAmb	IAmb	04 21 44.1	
	comp=Z,23nm,1.2s						
MLZ	**Mavora Lakes**	**26.84**	**203**	P	**P**	**04 22 11.7**	**+1.2**
MLZ				IAmb	IAmb	04 22 45.6	
	comp=Z,27nm,1.4s						
EIDS	**Eidsvold**	**28.96**	**256**	P	**P**	**04 22 30.2**	**+0.7**
ARMA	**Armidale**	**29.05**	**245**	P	**P**	**04 22 30.4**	**0.0**
SYDH	**Sydney Hard Ro**	**30.58**	**239**	P	**P**	**04 22 44.4**	**+0.9**
AULRC	**Lightning Ridg**	**32.03**	**248**	P	**P**	**04 22 56.9**	**+0.7**
CNB	**Canberra Magne**	**32.11**	**237**	P	**P**	**04 22 57.6**	**+0.7**
CAN	**Canberra**	**32.40**	**237**	P	**P**	**04 22 59.4**	**0.0**
CAN	**Canberra**	**32.40**	**237**	P	**P**	**04 22 59.6**	**+0.2**
CTAO	**Charters Tower**	**33.72**	**265**	P	**P**	**04 23 09.8**	**-1.0**
CTAO				IAmb	IAmb	04 23 15.6	
	comp=Z,15nm,1.1s						
CMSA	**Cobar Meteorol**	**34.27**	**245**	P	**P**	**04 23 15.4**	**+0.1**
QLP	**Quilpie**	**35.15**	**254**	P	**P**	**04 23 23.1**	**+0.3**
TOO	**Toolangi**	**35.76**	**235**	P	**P**	**04 23 27.6**	**-0.2**
TOO				IAmb	IAmb	04 23 29.1	
	comp=Z,18nm,0.8s						
TOO	**Toolangi**	**35.76**	**235**	P	**P**	**04 23 28.1**	**+0.3**
TAU	**Tasmania Unive**	**36.38**	**225**	P	**P**	**04 23 33.2**	**+0.3**
TAU				IAmb	IAmb	04 23 33.8	
	comp=Z,16nm,0.8s						
BRAT	**Ballarat**	**36.94**	**235**	P	**P**	**04 23 38.4**	**+0.8**
STKA	**Stephens Creek**	**37.77**	**245**	P	**P**	**04 23 44.1**	**-0.6**
STKA	**Stephens Creek**	**37.77**	**245**	P	**P**	**04 23 44.8**	**+0.1**
STKA	**Stephens Creek**	**37.77**	**245**	P	**P**	**04 23 44.8**	**+0.1**
	comp=Z,10nm,0.8s,baz=92,slow=10,SNR=29						
	comp=Z,10nm,0.8s						
ARPS	**Mount Arapiles**	**38.38**	**237**	P	**P**	**04 23 49.9**	**+0.4**
HTT	**Hallett**	**40.19**	**243**	P	**P**	**04 24 04.1**	**-0.3**
LCRK	**Leigh Creek**	**40.55**	**248**	P	**P**	**04 24 07.3**	**-0.1**
WHYH	**Whyalla**	**41.27**	**244**	P	**P**	**04 24 13.1**	**0.0**
BBOO	**Buckleboo**	**42.52**	**244**	P	**P**	**04 24 22.1**	**-1.0**
BBOO				IAmb	IAmb	04 24 23.0	
	comp=Z,16nm,0.8s						
BBOO	**Buckleboo**	**42.52**	**244**	P	**P**	**04 24 22.4**	**-0.7**
OOD	**Oodnadatta**	**42.75**	**252**	P	**P**	**04 24 25.6**	**+0.6**
MULG	**Mulgathing**	**44.14**	**248**	P	**P**	**04 24 35.5**	**-0.4**
WR0	**Warramunga Arr**	**44.61**	**263**	P	**P**	**04 24 37.7**	**-2.0**
WR0				IAmb	IAmb	04 25 12.8	
	comp=Z,17nm,1.4s						
AS01	**Alice Springs**	**44.61**	**257**	P	**P**	**04 24 39.8**	**+0.1**
AS31	**Alice Springs**	**44.65**	**257**	P	**P**	**04 24 39.9**	**-0.2**
ASAR	**Alice Springs**	**44.66**	**257**	P	**P**	**04 24 39.1**	**-1.0**
ASAR	**Alice Springs**	**44.66**	**257**	P	**P**	**04 24 39.6**	**-0.5**
	comp=Z,9.6nm,0.8s,baz=100,slow=7.8,SNR=94						
ASAR				PcP	**PcP**	**04 26 14.4**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=94,slow=4.6,SNR=5.3						
	comp=Z,9.6nm,0.8s						
WB0	**Warramunga Arr**	**44.78**	**263**	P	**P**	**04 24 39.5**	**-1.6**
WB0				IAmb	IAmb	04 24 40.9	
	comp=Z,10nm,0.7s						
WB2	**Warramunga Arr**	**44.79**	**263**	P	**P**	**04 24 39.5**	**-1.6**
WB2				IAmb	IAmb	04 24 41.0	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**44.80**	**263**	P	**P**	**04 24 39.4**	**-1.9**
WRA	**Warramunga Arr**	**44.80**	**263**	P	**P**	**04 24 40.5**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=96,slow=7.8,SNR=86						
WRA				PcP	**PcP**	**04 26 14.9**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=110,slow=3.9,SNR=1.8						
	comp=Z,6.9nm,0.7s						
FORT	**Forrest**	**49.31**	**247**	P	**P**	**04 25 14.3**	**-1.1**
FORT	**Forrest**	**49.31**	**247**	P	**P**	**04 25 14.6**	**-0.8**
MTN	**Manton Dam**	**49.46**	**271**	P	**P**	**04 25 16.0**	**-0.7**
WRKA	**Warakurna**	**49.57**	**255**	P	**P**	**04 25 17.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.23**	**263**	P	**P**	**04 25 44.3**	**0.0**
VNDA	**Vanda**	**57.30**	**185**	P	**P**	**04 26 12.4**	**+0.4**
PSA00	**Pilbara Seismi**	**57.80**	**257**	P	**P**	**04 26 15.0**	**-1.4**
PSA00				IAmb	IAmb	04 26 16.2	
	comp=Z,9.0nm,1.1s						
MORW	**Morawa**	**59.85**	**248**	P	**P**	**04 26 28.9**	**-1.4**
MORW				IAmb	IAmb	04 26 30.8	
	comp=Z,35nm,1.5s						
GIRL	**Giralia**	**62.66**	**255**	P	**P**	**04 26 49.5**	**+0.6**
TOLI2	**Tolitoli**	**64.02**	**282**	P	**P**	**04 26 57.4**	**-0.4**
QSPA	**South Pole Qui**	**68.93**	**180**	P	**P**	**04 27 28.4**	**+0.5**
QSPA				IAmb	IAmb	04 27 30.0	
	comp=Z,7.6nm,0.8s						
QSPA	**South Pole Qui**	**68.93**	**180**	P	**P**	**04 27 29.2**	**+1.4**
	comp=Z,7.8nm,0.9s,baz=44,slow=3.1,SNR=21						
	comp=Z,7.8nm,0.9s						
PETK	**Petropavlovsk-**	**76.96**	**345**	P	**P**	**04 28 15.1**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=132,slow=4.4,SNR=2.3						
	comp=Z,3.9nm,0.9s						
USA0B	**Ussuriysk Arra**	**79.65**	**326**	P	**P**	**04 28 31.0**	**+2.0**
USRK	**Ussuriysk Ar.**	**79.65**	**326**	P	**P**	**04 28 31.4**	**+2.4**
USRK	**Ussuriysk Ar.**	**79.65**	**326**	P	**P**	**04 28 31.1**	**+2.2**
	comp=Z,3.8nm,0.8s,baz=161,slow=7.1,SNR=4.9						
	comp=Z,3.8nm,0.8s						
L04D	**Klamath Falls**	**81.15**	**38**	P	**P**	**04 28 39.0**	**+1.9**
NVAR	**Mina Array Bea**	**81.29**	**43**	P	**P**	**04 28 40.2**	**+2.1**
	comp=Z,2.0nm,0.9s,baz=226,slow=9.7,SNR=12						
	comp=Z,2.0nm,0.9s						
K05A	**Summer Lake**	**82.28**	**38**	P	**P**	**04 28 44.7**	**+1.7**
K05A				IAmb	IAmb	04 28 56.5	
	comp=Z,8.8nm,1.3s						
M16K	**Timber Creek**	**83.26**	**9**	P	**P**	**04 28 48.3**	**+1.0**
M16K				IAmb	IAmb	04 28 57.4	
	comp=Z,12nm,1.2s						
K15K	**Wolf Creek Mou**	**84.14**	**8**	P	**P**	**04 28 52.4**	**+0.8**
K15K				IAmb	IAmb	04 29 30.0	
	comp=Z,11nm,1.3s						
F10A	**Beach Ranch, E**	**86.33**	**37**	P	**P**	**04 29 04.1**	**+1.2**
F10A				IAmb	IAmb	04 29 05.4	
	comp=Z,7.0nm,0.9s						
TXAR	**Lajitas Array**	**87.16**	**57**	P	**P**	**04 29 09.7**	**+2.5**
	comp=Z,1.3nm,0.9s,baz=214,slow=8.0,SNR=11						
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**88.87**	**13**	P	**P**	**04 29 14.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=203,slow=5.5,SNR=9.6						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**89.23**	**43**	P	**P**	**04 29 18.0**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=207,slow=3.4,SNR=10						
	comp=Z,1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.60**	**289**	P	**P**	**04 29 24.2**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=126,slow=2.6,SNR=6.3						
	comp=Z,2.4nm,0.3s						
KURBB	**Kurchatov Arra**	**114.71**	**317**	PKP	PKPdf	04 34 56.9	-1.3
	comp=Z,0.4nm,0.5s,baz=300,slow=4.2,SNR=2.6						
SCHQ	**Schefferville**	**119.00**	**38**	PKPdf	**PKPdf**	**04 35 04.8**	**-1.5**
BVAR	**Borovoye Array**	**119.75**	**320**	PKP	**PKiKP**	**04 35 07.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=114,slow=2.3,SNR=6.1						
SPITS	**Spitsbergen Ar**	**122.52**	**357**	PKP	**PKiKP**	**04 35 12.7**	**0.0**
	comp=Z,6.7nm,1.0s,baz=143,slow=10,SNR=1.6						
ARCES	**ARCESS Array B**	**129.60**	**350**	PKP	**PKPdf**	**04 35 24.9**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=64,slow=2.8,SNR=4.2						
FINES	**FINESS Array B**	**136.46**	**344**	PKP	**PKiKP**	**04 35 40.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=106,slow=3.0,SNR=4.5						
LODK	**Lodwar**	**143.35**	**246**	PKPdf	PKPbc	04 35 51.1	-0.1
AKASG	**Malin Array Be**	**143.71**	**331**	PKPdf	**PKPdf**	**04 35 51.4**	**-1.3**
AKASG	**Malin Array Be**	**143.71**	**331**	PKP	**PKPdf**	**04 35 51.3**	**-1.4**
	comp=Z,3.8nm,0.5s,baz=42,slow=4.4,SNR=19						
KIEV	**Kiev**	**143.72**	**331**	PKPdf	**PKPdf**	**04 35 51.6**	**-1.2**
EKA	**Eskdalemuir Ar**	**145.61**	**6**	PKPbc	**PKPab**	**04 35 56.9**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=347,slow=2.6,SNR=2.6						
KWP	**Kalwaria Pacla**	**147.28**	**335**	PKPbc	**PKPbc**	**04 36 01.8**	**-0.1**
BR131	**Keskin Array S**	**147.48**	**312**	PKPbc	**PKPbc**	**04 36 02.2**	**-0.7**
BRTR	**Keskin Array B**	**147.48**	**312**	PKPbc	**PKPbc**	**04 36 01.5**	**-1.4**
BRTR	**Keskin Array B**	**147.48**	**312**	PKPbc	**PKPbc**	**04 36 01.4**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=131,slow=2.9,SNR=4.5						
BUR08	**Bucovina Ar. S**	**147.74**	**330**	PKPbc	**PKiKP**	**04 36 04.3**	**-0.6**
BURAR	**Bucovina Array**	**147.76**	**330**	PKPbc	**PKiKP**	**04 36 04.9**	**0.0**
MMAI	**Mount Meron Ar**	**148.38**	**299**	PKPbc	**PKiKP**	**04 36 05.8**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=75,slow=6.5,SNR=10						
KHC	**Kasperske Hory**	**150.66**	**345**	PKPbc	**PKiKP**	**04 36 10.3**	**-0.5**
GERES	**GERESS Array B**	**150.89**	**344**	PKPbc	**PKiKP**	**04 36 11.1**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=64,slow=3.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**172.03**	**176**	PKP	**PKPdf**	**04 36 25.9**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=207,slow=0.6,SNR=3.6						
TORD				PKPab	**PKPab**	**04 37 52.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=154,slow=3.9,SNR=6.5						

*IDC **27** 04:56:28.6±1.4, 55.6°8N×166.2°2E, h0km, mb3.4/8, mbtmp3.5/9, ML2.9/1, Error ellipse: s-maj=52.9km s-min=17.2km az=166.0*
*KRSC **27** 04:56:29.2±1.2, 55.2°35N×166.2°5E, h34km±6km, Ml4.3*
*MOS **27** 04:56:29.1±1.1, 55.2°38N×166.2°40E, h22km, mb3.9/1, Error ellipse: s-maj=16.3km s-min=8.2km az=149.1*

ISC 27 04:56:30.9±0.8, 55°42N±0°09×166°35E±0°08, h20km, n49, σ1s06/51, mb3.5/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**225**	PN	**Pb**	**04 56 36.4**	**-1.1**
BKI				S	**Sb**	**04 56 41.8**	**-0.3**
BKI	**Bering**	**0.30**	**225**	*e*P	**Pb**	**04 56 36.4**	**-1.1**
BKI				*e*S	**Sb**	**04 56 41.8**	**-0.3**
BZP	**Bezymyannyi-Pe**	**3.33**	**281**	*e*P	**Pn**	**04 57 22.0**	**+0.1**
BZMR	**Bezymyannaya**	**3.36**	**281**	PN	**Pn**	**04 57 22.4**	**+0.1**
BZMR	**Bezymyannaya**	**3.36**	**281**	*e*P	**Pn**	**04 57 22.4**	**+0.1**
BZWR	**Bezymyannyi-We**	**3.36**	**282**	PN	**Pn**	**04 57 22.5**	**+0.2**
BZWR	**Bezymyannyi-We**	**3.36**	**282**	*e*P	**Pn**	**04 57 22.5**	**+0.2**
KIRR	**Kirishev**	**3.44**	**281**	PN	**Pn**	**04 57 23.5**	**0.0**
KIRR	**Kirishev**	**3.44**	**281**	*e*P	**Pn**	**04 57 23.5**	**0.0**
KMNR	**Kamenistaya**	**3.48**	**278**	PN	**Pn**	**04 57 24.9**	**+0.9**
KMNR	**Kamenistaya**	**3.48**	**278**	*e*P	**Pn**	**04 57 24.9**	**+0.9**
KPT	**Kopyto**	**3.51**	**282**	PN	**Pn**	**04 57 24.4**	**+0.1**
KPT	**Kopyto**	**3.51**	**282**	*e*P	**Pn**	**04 57 24.4**	**+0.1**
TUMR	**Tumrok**	**3.54**	**270**	PN	**Pn**	**04 57 25.1**	**+0.3**
TUMR	**Tumrok**	**3.54**	**270**	*e*P	**Pn**	**04 57 25.1**	**+0.3**
SMAR	**Somma**	**4.91**	**247**	PN	**Pn**	**04 57 44.2**	**+0.5**
SMAR	**Somma**	**4.91**	**247**	*e*P	**Pn**	**04 57 44.2**	**+0.5**
UGLR	**Uglovaya**	**4.93**	**246**	PN	**Pn**	**04 57 44.3**	**+0.5**
UGLR	**Uglovaya**	**4.93**	**246**	*e*P	**Pn**	**04 57 44.3**	**+0.5**
AVH	**Avacha**	**4.95**	**247**	PN	**Pn**	**04 57 44.7**	**+0.7**
AVH	**Avacha**	**4.95**	**247**	*e*P	**Pn**	**04 57 44.7**	**+0.7**
KRX	**Arik**	**4.95**	**249**	PN	**Pn**	**04 57 44.8**	**+0.6**
KRX	**Arik**	**4.95**	**249**	*e*P	**Pn**	**04 57 44.8**	**+0.6**
KOK	**Koryaka**	**4.99**	**248**	PN	**Pn**	**04 57 45.4**	**+0.8**
KOK	**Koryaka**	**4.99**	**248**	*e*P	**Pn**	**04 57 45.4**	**+0.8**
DALK	**Dalny**	**5.05**	**245**	PN	**Pn**	**04 57 46.0**	**+0.6**
DALK	**Dalny**	**5.05**	**245**	*e*P	**Pn**	**04 57 46.0**	**+0.6**
PET	**Petropavlovsk**	**5.11**	**245**	*e*PN	**Pn**	**04 57 42.6**	**-3.6**
KRMR	**Karymshinskiy**	**5.48**	**245**	PN	**Pn**	**04 57 52.3**	**+1.0**
KRMR	**Karymshinskiy**	**5.48**	**245**	*e*P	**Pn**	**04 57 52.3**	**+1.0**
KRMR				*e*S	**Sn**	**04 58 54.9**	**+1.2**
PETK	**Petropavlovsk-**	**5.57**	**249**	Pn	**Pn**	**04 57 53.0**	**+0.5**
	2.0nm,0.3s,baz=72,slow=19,SNR=29						
PETK				Sn	**Sn**	**04 58 59.8**	**+3.9**
	1.0nm,0.3s,baz=321,slow=23,SNR=1.2						
	7.5nm,0.6s						
MTVR	**Mutnovka**	**5.64**	**242**	PN	**Pn**	**04 57 54.0**	**+0.3**
MTVR	**Mutnovka**	**5.64**	**242**	*e*P	**Pn**	**04 57 54.0**	**+0.3**
MTVR				*e*S	**Sn**	**04 58 55.8**	**-2.1**
GRL	**Gorelyy**	**5.66**	**243**	PN	**Pn**	**04 57 54.9**	**+1.0**
GRL	**Gorelyy**	**5.66**	**243**	*e*P	**Pn**	**04 57 54.9**	**+1.0**
ASAK	**Asacha**	**5.84**	**242**	PN	**Pn**	**04 57 57.7**	**+1.3**
ASAK	**Asacha**	**5.84**	**242**	*e*P	**Pn**	**04 57 57.7**	**+1.3**
ILAR	**Eielson Array**	**24.55**	**49**	P	**P**	**05 01 48.4**	**-0.4**
	3.2nm,1.1s,baz=258,slow=7.8,SNR=14						
	3.2nm,1.1s						
INK	**Inuvik**	**29.75**	**41**	P	**P**	**05 02 35.0**	**-0.4**
	0.6nm,0.7s,baz=256,slow=4.2,SNR=3.7						
	0.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.63**	**179**	T	T	05 41 15.6	
	baz=359,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	05 41 04.5	
	baz=359,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**35.65**	**179**	T	T	05 41 04.8	
	baz=359,slow=76,SNR=16						
SONM	**Songino Array**	**36.92**	**284**	P	**P**	**05 03 38.2**	**-0.1**
	0.3nm,0.4s,baz=59,slow=12,SNR=2.0						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**38.93**	**47**	P	**P**	**05 03 54.6**	**-0.2**
	0.4nm,0.8s,baz=298,slow=8.4,SNR=6.4						
	0.4nm,0.8s						
KURK	**Kurchatov**	**49.57**	**303**	P	**P**	**05 05 19.9**	**-0.1**
KURBB	**Kurchatov Arra**	**49.67**	**303**	P	**P**	**05 05 19.9**	**-0.9**
	0.3nm,0.6s,baz=57,slow=8.0,SNR=2.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**50.40**	**298**	P	**P**	**05 05 25.6**	**-0.9**
	0.2nm,0.8s,baz=64,slow=2.6,SNR=1.9						
	0.2nm,0.8s						
NVAR	**Mina Array Bea**	**51.56**	**76**	P	**P**	**05 05 36.2**	**+0.7**
	0.1nm,0.4s,baz=286,slow=10,SNR=1.9						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**66.39**	**72**	P	**P**	**05 07 19.3**	**+0.9**
	0.5nm,0.6s,baz=297,slow=4.7,SNR=7.6						
	0.5nm,0.6s						

*IDC **27** 04:56:52.2±1.8, 55.6°68N×166.1°1E, h0km, mb3.6/5, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=69.6km s-min=24.0km az=160.0*

ISC 27 04:56:54.1±1.3, 55.8°8N±0.4°×166.1°1E±0.2, h10km, n6, σ0s93/6, mb3.6/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.56**	**245**	Pn	**Pn**	**04 58 17.4**	**+0.5**
	3.9nm,0.3s,baz=90,slow=20,SNR=15						
	6.1nm,0.4s						
ILAR	**Eielson Array**	**24.43**	**49**	P	**P**	**05 02 12.1**	**-0.4**
	4.2nm,1.1s,baz=261,slow=7.8,SNR=8.1						
	4.2nm,1.1s						
INK	**Inuvik**	**29.58**	**41**	P	**P**	**05 02 59.6**	**+0.9**
	0.9nm,0.8s,baz=281,slow=5.9,SNR=3.9						
	0.9nm,0.8s						
YKA	**Yellowknife Ar**	**38.80**	**47**	P	**P**	**05 04 18.9**	**+0.4**
	0.7nm,0.8s,baz=298,slow=7.9,SNR=7.9						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**50.08**	**297**	P	**P**	**05 05 48.1**	**-0.8**
	0.2nm,0.5s,baz=50,slow=5.8,SNR=2.0						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**66.44**	**72**	P	**P**	**05 07 42.8**	**-0.7**
	0.4nm,0.6s,baz=296,slow=4.5,SNR=5.6						
	0.4nm,0.6s						

*IDC **27** 05:14:32.3±1.1, 32.2°26S×71.7°79W, h0km, mb4.1/4, mbtmp3.8/7, ML3.8/3, MS3.4/3, Error ellipse: s-maj=52.1km s-min=18.6km az=107.0*
*NEIC **27** 05:14:33.5±1.8, 32.2°30S±0.0°4×72.0°00W±0.0°4, h11km±5km, mb4.4/7, Error ellipse: s-maj=6.5km s-min=3.0km az=218.0*
*GUC **27** 05:14:35.8±0.8, 32.2°33S×71.2°83W, h24km±13km, ML4.1*

ISC 27 05:14:34.1±1.3, 32.2°9S±0.0°3×71.8°0W±0.0°5, h12km±8km, n64, σ0s77/80, mb4.4/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.50**	**122**		**Pn**	**05 14 45.8**	**-1.2**
VA06	**Catapilco**	**0.50**	**122**	*e*P	**Pn**	**05 14 45.8**	**-1.2**
VA06				*i* S	**Sb**	**05 14 52.8**	**+0.7**
VA06				IAML		05 14 53.8	
	comp=E,21μm,0.3s						
VA01	**Torpederas**	**0.74**	**170**		**Pb**	**05 14 48.5**	**-0.3**
VA01	**Torpederas**	**0.74**	**170**	*e*P	**Pb**	**05 14 48.6**	**-0.3**
VA01				*i* S	**Sg**	**05 14 57.9**	**-0.3**
MT02	**Curacav**	**1.11**	**150**		**Pn**	**05 14 55.1**	**-0.3**
MT02	**Curacav**	**1.11**	**150**	*e*P	**Pn**	**05 14 55.0**	**-0.3**
MT02				*i* S	**Sb**	**05 15 09.1**	**-0.6**
VA03	**San Esteban**	**1.15**	**114**		**Pn**	**05 14 56.1**	**0.0**
VA03	**San Esteban**	**1.15**	**114**	*e*P	**Pg**	**05 14 56.3**	**0.0**
VA03				*i* S	**Sg**	**05 15 11.5**	**+0.2**
VA03				IAML		05 15 14.0	
	comp=N,15μm,0.4s						
PEL	**Peldehue**	**1.26**	**132**		**Pb**	**05 14 57.9**	**0.0**
PEL	**Peldehue**	**1.26**	**132**	*e*P	**Pb**	**05 14 57.9**	**0.0**
PEL				*i* S	**Sb**	**05 15 14.3**	**+0.2**
PEL				IAML		05 15 15.3	
	comp=E,6μm,0.3s						
CO02	**Combarbal**	**1.28**	**32**		**Pg**	**05 14 59.0**	**+0.2**
CO02	**Combarbal**	**1.28**	**32**	*e*P	**Pg**	**05 14 58.5**	**-0.2**
CO02				*i* S	**Sg**	**05 15 15.9**	**+0.5**
VA05	**Santo Domingo**	**1.37**	**174**		**Pn**	**05 14 58.5**	**-0.5**
MT05	**Renca**	**1.41**	**141**		**Pb**	**05 14 59.9**	**-0.5**
MT05	**Renca**	**1.41**	**141**	*e*P	**Pb**	**05 15 00.2**	**-0.2**
MT05				*i* S	**Sb**	**05 15 18.4**	**+0.1**
MT05				IAML		05 15 22.3	
	comp=E,9μm,0.4s						
MT10	**Hacienda Santa**	**1.44**	**133**	*e*P	**Pb**	**05 15 00.9**	**-0.1**
MT10				*i* S	**Sb**	**05 15 19.6**	**+0.3**
MT10				IAML		05 15 21.3	
	comp=N,9μm,0.6s						
MT14	**Cerro Cal¡n**	**1.53**	**136**	*e*P	**Pb**	**05 15 02.0**	**-0.4**
MT14				*i* S	**Sb**	**05 15 21.7**	**0.0**
MT14				IAML		05 15 31.9	
	comp=N,5μm,0.5s						
MT16	**CCHEN**	**1.56**	**137**		**Pb**	**05 15 02.3**	**-0.6**
MT03	**Universidad Ad**	**1.61**	**138**		**Pb**	**05 15 03.5**	**-0.4**
CO06	**Fray Jorge**	**1.62**	**5**		**Pn**	**05 15 01.8**	**-0.6**
CO06	**Fray Jorge**	**1.62**	**5**	*e*P	**Pn**	**05 15 02.3**	**-0.2**
CO06				*i* S	**Sg**	**05 15 25.5**	**-0.8**
CO06				IAML		05 15 31.4	
	comp=E,3μm,0.5s						

baz=138
SII Sitkinak Islan 2.55 284 Pn 05 32 56.4 +0.2
SII Sn 05 33 25.5 -1.7
SII Sitkinak Islan 2.55 284 IAML 05 34 10.3
comp=N,173nm,2.7s
SII Sitkinak Islan 2.55 284 P **Pn 05 32 56.3 +0.2**
baz=101
SII S **Sn 05 33 25.5 -1.7**
baz=101
SYI Shuyak Island 2.98 332 Pn 05 33 03.0 +1.0
SYI Sn 05 33 37.5 -0.3
Q20K Shuyak Island 2.98 332 P **Pn 05 33 03.0 +0.9**
baz=150
Q20K S **Sn 05 33 37.6 -0.3**
baz=150
Q19K Cape Douglas, 3.62 326 Pn 05 33 12.2 +1.4
Q19K Cape Douglas, 3.62 326 IAML 05 33 59.8
comp=E,187nm,1.2s
Q19K IAML 05 34 00.3
comp=N,140nm,1.1s
Q19K Cape Douglas, 3.62 326 P **Pn 05 33 12.1 +1.4**
baz=142
KAHG Katmai Hook Gl 3.62 316 Pn 05 33 12.6 +1.8
CNPM China Poot 3.62 348 Pn 05 33 11.1 +0.2
CNPM Sn 05 33 52.7 -0.8
CNPM China Poot 3.62 348 IAML 05 33 54.2
comp=E,56nm,1.8s
CNPM IAML 05 35 00.9
comp=N,56nm,3.1s
BRSE Bradley Lake S 3.78 352 Pn 05 33 13.1 +0.1
BRSE Sn 05 33 56.0 -1.6
BRSE Bradley Lake S 3.78 352 P **Pn 05 33 13.1 +0.1**
baz=171
BRSE S **Sn 05 33 56.0 -1.6**
baz=171
BRLK Bradley Lake 3.82 351 Pn 05 33 13.5 0.0
BRLK Bradley Lake 3.82 351 IAML 05 33 55.0
comp=N,37nm,2.9s
BRLK IAML 05 33 59.4
comp=E,51nm,3.4s
Q23K Middleton Isla 3.88 26 Pn **Pn 05 33 13.9 -0.3**
CNTC Contact Creek 4.05 306 Pn 05 33 17.9 +1.1
CNTC Sn 05 34 03.6 -0.6
Q17K Contact Creek 4.05 306 P **Pn 05 33 17.9 +1.1**
baz=122
Q17K S **Sn 05 34 03.6 -0.6**
baz=122
P19K Oil Pt 4.11 334 Pn 05 33 19.2 +1.7
P19K Oil Pt 4.11 334 IAML 05 34 10.3
comp=N,135nm,2.5s
P19K IAML 05 35 15.7
comp=E,94nm,2.8s
P19K Oil Pt 4.11 334 P **Pn 05 33 19.2 +1.7**
baz=151
SEW Seward 4.11 2 Pn 05 33 17.4 -0.1
SEW Seward 4.11 2 P **Pn 05 33 17.3 -0.1**
baz=182
P18K Big Mountain, 4.50 321 Pn 05 33 23.7 +0.8
P18K Big Mountain, 4.50 321 IAML 05 34 15.2
comp=E,28nm,2.4s
P18K IAML 05 35 12.5
comp=N,20nm,3.1s
P18K Big Mountain, 4.50 321 P **Pn 05 33 23.7 +0.8**
baz=137
SLKM Skilak Lake 4.52 357 Pn 05 33 22.9 -0.3
HIN Hinchinbrook I 4.72 20 Pn 05 33 26.4 +0.5
HIN Hinchinbrook I 4.72 20 IAML 05 36 01.5
comp=N,160nm,2.3s
RSO Redoubt South 4.75 342 Pn **Pn 05 33 26.7 +0.3**
P17K Kvichak River 4.82 314 Pn 05 33 29.1 +1.8
P17K Kvichak River 4.82 314 P **Pn 05 33 29.1 +1.8**
baz=129
KAIM Kayak Island 4.84 33 Pn 05 33 28.1 +0.6
KAIM Kayak Island 4.84 33 P **Pn 05 33 28.1 +0.6**
baz=218
O18K Koktuh Hills 4.84 325 Pn 05 33 28.0 +0.4
O18K Koktuh Hills 4.84 325 IAML 05 34 23.5
comp=E,33nm,2.9s
O18K IAML 05 34 39.9
comp=N,33nm,2.8s
O18K Koktuh Hills 4.84 325 P **Pn 05 33 28.0 +0.4**
baz=140
EYAK Cordova Ski Ar 5.01 23 Pn 05 33 30.3 +0.5
EYAK Cordova Ski Ar 5.01 23 P **Pn 05 33 30.3 +0.5**
baz=206
RC01 Rabbit Creek A 5.10 360 Pn **Pn 05 33 30.6 -0.4**
RC01 IAML 05 35 29.1
comp=E,29nm,3.4s
RC01 IAML 05 36 19.4
comp=N,27nm,2.9s
RAGM Ragged Mountai 5.14 29 Pn **Pn 05 33 32.3 +0.7**
GOAT Goat Mountain 5.29 28 Pn 05 33 34.9 +1.1
P16K Nushagak River 5.39 308 Pn 05 33 36.5 +1.5
P16K Nushagak River 5.39 308 P **Pn 05 33 36.5 +1.5**
baz=121
BERG Berg Lake 5.42 33 Pn 05 33 35.9 +0.3
KNK Knik Glacier 5.46 6 Pn **Pn 05 33 36.5 +0.4**
SNH Sunshine Point 5.55 38 Pn **Pn 05 33 38.3 +1.0**
PMR Palmer 5.61 3 Pn **Pn 05 33 38.5 +0.5**
BMRM Bremner River 5.65 26 Pn 05 33 39.2 +0.6
BMRM Bremner River 5.65 26 P **Pn 05 33 39.2 +0.6**
baz=210
O16K Kokwok River B 5.74 312 Pn **Pn 05 33 40.8 +0.9**
GHO Glory Hole Cre 5.80 4 Pn **Pn 05 33 41.8 +1.0**
BARK Barkley Ridge 5.83 38 Pn 05 33 42.0 +0.8
KLU Klutina 5.84 18 Pn 05 33 42.2 +0.8
KLU Klutina 5.84 18 P **Pn 05 33 42.2 +0.8**
baz=201
SML Sawmill 5.86 6 Pn 05 33 42.7 +1.1
SML Sawmill 5.86 6 P **Pn 05 33 42.7 +1.1**
baz=188
SCM Sheep Creek Mo 5.97 11 Pn 05 33 44.0 +0.8
SCM Sheep Creek Mo 5.97 11 P **Pn 05 33 44.0 +0.8**
baz=193
N17K Nushagak Hills 6.00 322 Pn **Pn 05 33 44.2 +0.7**
VRDI Verde Repeater 6.17 29 Pn 05 33 46.4 +0.4
N25K Chitina, Valde 6.21 23 Pn **Pn 05 33 46.9 +0.5**
GLB Gilahina Butte 6.25 27 Pn **Pn 05 33 47.3 +0.3**
KIAG Kiagna River 6.26 35 Pn 05 33 47.7 +0.6
O15K Ungalikthiuk R 6.29 304 Pn 05 33 48.1 +0.7
O15K Ungalikthiuk R 6.29 304 P **Pn 05 33 48.1 +0.7**
baz=116
M24K Tolsona, Glenn 6.38 15 Pn **Pn 05 33 50.3 +1.5**
M19K Big River Lodg 6.39 340 Pn **Pn 05 33 50.6 +1.8**
MCARA McCarthy VSAT 6.42 30 Pn 05 33 49.4 +0.2
PTPK Patty Peak 6.43 33 Pn 05 33 50.5 +1.0
PCA Pinnacle 6.48 47 Pn 05 33 50.9 +0.8
PINM Pinnacle 6.48 47 P **Pn 05 33 50.9 +0.8**
baz=235
BARN Barnard Glacie 6.59 36 Pn 05 33 52.1 +0.4
PNL Peninsula 6.62 52 Pn 05 33 52.6 +0.7
PNL Peninsula 6.62 52 P **Pn 05 33 52.6 +0.7**
baz=240
CTGM Chitina Glacie 6.63 38 Pn **Pn 05 33 52.2 0.0**
N15K Kwethluk River 6.90 311 Pn 05 33 57.8 +2.0
N15K Kwethluk River 6.90 311 P **Pn 05 33 57.8 +2.0**
baz=123
M16K Timber Creek 6.97 320 Pn 05 33 58.0 +1.2
M16K Timber Creek 6.97 320 P **Pn 05 33 58.0 +1.2**
baz=132
O29M Mount Kennedy 7.29 49 Pn **Pn 05 34 01.4 +0.1**
P29M Windy Craggy 7.35 55 Pn 05 34 02.2 +0.2
P29M Windy Craggy 7.35 55 P **Pn 05 34 02.2 +0.2**
baz=245
M27K Edge Creek, AK 7.53 29 Pn **Pn 05 34 05.8 +1.3**
S31K Pelican 7.62 70 Pn 05 34 05.4 -0.3
S31K Pelican 7.62 70 P **Pn 05 34 05.4 -0.3**
baz=261
L16K Owhat River 7.63 323 Pn Pn 05 34 06.7 +0.9
RIDG Independent Ri 8.13 15 Pn Pn 05 34 14.3 +1.5
J20K Nowinta River 8.49 347 Pn Pn 05 34 17.6 +0.1
M29M Somme Creek 8.65 37 Pn Pn 05 34 20.9 +1.0
J26L Joseph Creek 9.05 17 Pn Pn 05 34 26.8 +1.5
I21K Tanana 9.27 354 Pn Pn 05 34 30.1 +1.9
DAWY Dawson 9.58 28 Pn Pn 05 34 33.9 +1.4
H21K Melozitna Rive 9.80 352 Pn Pn 05 34 36.6 +1.1

*IDC **27** 05:36:53.3±11.0, 26°.63N×126°.71E, h93km±100km, mb3.6/7, mbtmp3.9/7, Error ellipse: s-maj=130.7km s-min=25.6km az=66.0*
*NIED **27** 05:36:57.5, 26°.68N×126°.54E, h104km, MW4.2, Moment Tensor Solution. s1 Moment tensor: Scale 10^15^Nm;*
Mrr-1.24; Mθθ2.02; Mφφ-0.78; Mrθ-0.98; Mrφ0.68; Mθφ-0.40; Fault plane solution: Mo2.02000×10^15^ NP1:φs65.00000°, δ62.00000°, λ-105.00000°. NP2:φs275.00000°, δ32.00000°, λ-64.00000°.
*JMA **27** 05:36:57.5±0.2, 27°N±1°×126°.5E±0°.9, h104km±1km, MV3.7/14, NW OFF OKINAWAJIMA IS*
ISC 27 05:36:56.5±0.8, 26°.67N±0°.09×126°.56E±0°.08, h116km±9km, n19, σ0°76/33, mb3.7/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JKE	**Kume jima 2**	**0.40**	**149**	P	**Pn**	**05 37 13.2**	**-0.2**
JKE				S	Sn	05 37 25.1	-1.0
JAGN	**Aguni-jima**	**0.62**	**98**	P	**Pn**	**05 37 15.0**	**+0.3**
JAGN				eS	Sn	05 37 28.4	-0.1
JJT3	**Tamagusuku3**	**1.22**	**115**	P	**Pn**	**05 37 21.7**	**+1.2**
JJT3				eS	Sn	05 37 38.9	+0.3
JIH	**Iheya**	**1.31**	**74**	P	**Pn**	**05 37 22.5**	**+1.0**
JIH				eS	Sn	05 37 40.9	+0.5
JNTH	**Nagotoyohara**	**1.32**	**96**	P	**Pn**	**05 37 22.3**	**+0.8**
JNTH				eS	Sn	05 37 40.3	-0.2
JOW	**Kunigami**	**1.54**	**84**	P	**Pn**	**05 37 24.9**	**+0.8**
JOW				S	Sn	05 37 45.3	+0.1
JYRO	**Yoronjima**	**1.73**	**78**	P	**Pn**	**05 37 27.1**	**+0.7**
JYRO				S	Sn	05 37 48.9	-0.2
JOKE	**Okinoerabujima**	**1.92**	**69**	eP	**Pn**	**05 37 29.5**	**+0.7**
JOKE				eS	Sn	05 37 54.1	+0.7
JIKM	**Ikemajima**	**2.10**	**214**	P	**Pn**	**05 37 31.9**	**+0.8**
JIKM				eS	Sn	05 37 57.9	+0.4
JOGS	**Gusukube**	**2.17**	**209**	P	**Pn**	**05 37 33.0**	**+1.1**
JOGS				S	Sn	05 37 59.6	+0.6
JMJ2	**Miyako jima3**	**2.22**	**210**	P	**Pn**	**05 37 33.6**	**+1.1**
JMJ2				S	Sn	05 38 00.7	+0.6
JTK	**Tokunoshima**	**2.40**	**62**	P	**Pn**	**05 37 35.8**	**+1.0**
JTK				eS	Sn	05 38 04.4	+0.1
SONM	**Songino Array**	**26.38**	**328**	P	**P**	**05 42 23.1**	**+1.1**
	1.0nm,0.5s,baz=127,slow=9.2,SNR=7.0						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**40.13**	**312**	P	**P**	**05 44 20.5**	**-0.4**
	1.1nm,0.5s,baz=101,slow=9.2,SNR=45						
MKAR				PcP	**PcP**	**05 46 23.0**	**-0.1**
	0.7nm,0.6s,baz=85,slow=2.2,SNR=7.1						
	1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**40.99**	**323**	P	**P**	**05 44 27.1**	**-0.7**
	1.8nm,0.4s,baz=114,slow=8.6,SNR=11						
	1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**43.50**	**317**	P	**P**	**05 44 47.8**	**-0.4**
	0.4nm,0.4s,baz=107,slow=8.8,SNR=6.0						
KURBB				PcP	**PcP**	**05 46 34.0**	**-0.1**
	0.3nm,0.6s,baz=103,slow=3.9,SNR=2.4						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**46.95**	**170**	P	**P**	**05 45 14.3**	**-1.4**
	0.7nm,0.6s,baz=354,slow=8.5,SNR=2.9						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**48.95**	**318**	P	**P**	**05 45 31.5**	**+0.7**
	0.7nm,0.5s,baz=99,slow=8.0,SNR=3.6						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**71.74**	**330**	P	**P**	**05 48 05.3**	**-0.4**
	1.2nm,0.9s,baz=72,slow=6.2,SNR=6.0						
	1.2nm,0.9s						

*IDC **27** 05:38:06.9±1.3, 18°.07S×178°.03W, h542km±14km, mb3.7/21, mbtmp4.6/23, Error ellipse: s-maj=11.4km s-min=9.4km az=144.0*
*NOU **27** 05:38:08.3, 17°.98S×177°.84W, h570km, mb4.5/16, Fiji Islands Region*
*NEIC **27** 05:38:08.6±1.9, 18°.1S±0°.1×177°.9W±0°.1, h568km±10km, mb4.7/29, Error ellipse: s-maj=18.1km s-min=15.8km az=143.0*
*BGR **27** 05:38:14.3, 17°.41S×178°.03W, h600km*
ISC 27 05:38:10.4±0.3, 18°.13S±0°.07×177°.94W±0°.07, h590km, n229, σ1§10/231, mb4.5/45, 26C-34D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TAVE	**Taveuni**	**2.35**	**307**	P	**P**	**05 39 22.0**	**-3.5**
YSA	**Yasawairara**	**4.51**	**288**	P	**P**	**05 39 35.4**	**-3.6**
AFI	**Afiamalu**	**7.26**	**56**	P	P	05 39 57.0	-5.6
AFI	**Afiamalu**	**7.26**	**56**	P	P	05 39 57.7	-4.9
NIUE	**Niue**	**7.65**	**98**	P	**P**	**05 40 03.4**	**-2.8**
FUNA	**Funafuti**	**9.95**	**343**	P	**P**	**05 40 25.8**	**-2.8**
OUENC	**Ouen Island, N**	**14.90**	**251**	P	**P**	**05 41 16.6**	**-1.4**
OUENC	**Ouen Island, N**	**14.90**	**251**	P	**P**	**05 41 20.2**	**+2.2**
OUENC	**Ouen Island, N**	**14.90**	**251**	P	**P**	**05 41 17.7**	**-0.3**
DZM	**Mont Dzumac**	**15.18**	**252**	P	**P**	**05 41 20.5**	**-0.3**
DZM				IAmb	IAmb	05 41 22.1	
	comp=Z,15nm,0.7s						
DZM	**Mont Dzumac**	**15.18**	**252**	P	**P**	**05 41 21.3**	**+0.5**
DZM	**Mont Dzumac**	**15.18**	**252**	P	**P**	**05 41 17.8**	**-3.0**
	comp=Z,17nm,0.7s,baz=93,slow=23,SNR=22						
KOUNC	**Koumac, New Ca**	**16.95**	**259**	P	**P**	**05 41 37.0**	**0.0**
KOUNC	**Koumac, New Ca**	**16.95**	**259**	P	**P**	**05 41 38.0**	**+1.0**
KOUNC	**Koumac, New Ca**	**16.95**	**259**	P	**P**	**05 41 36.6**	**-0.4**
RAR	**Rarotonga**	**17.38**	**103**	P	**P**	**05 41 39.9**	**-1.0**
	comp=Z,19nm,0.7s,baz=272,slow=7.4,SNR=4.7						
OUZ	**Omahuta**	**18.61**	**202**	P	**P**	**05 41 53.3**	**+1.4**
TOZ	**Tahuroa Road**	**20.35**	**195**	P	**P**	**05 42 08.2**	**+0.5**
TOZ				IAmb	IAmb	05 42 09.0	
	comp=Z,8.4nm,0.8s						
URZ	**Urewera**	**20.51**	**191**	P	**P**	**05 42 06.6**	**-2.5**
	comp=Z,17nm,0.5s,baz=352,slow=1.6,SNR=15						
	comp=Z,17nm,0.5s						
TCW	**Tory Channel**	**23.95**	**195**	P	**P**	**05 42 37.7**	**-2.0**
QRZ	**Quartz Range**	**24.06**	**198**	P	**P**	**05 42 40.1**	**-0.5**
TKNZ	**Takaka Hill**	**24.13**	**197**	P	**P**	**05 42 39.2**	**-2.1**
THZ	**Tophouse**	**24.82**	**196**	P	**P**	**05 42 45.5**	**-2.0**
THZ				IAmb	IAmb	05 42 47.2	
	comp=Z,21nm,1.3s						
CTZ	**Chatham Island**	**25.55**	**178**	P	**P**	**05 42 56.0**	**+2.3**
CTZ				IAmb	IAmb	05 43 03.0	
	comp=Z,34nm,1.2s						
PPT	**Papeete**	**26.99**	**93**	P	**P**	**05 43 07.0**	**+0.1**
	comp=Z,19nm,0.6s,baz=310,slow=4.7,SNR=4.6						
	comp=Z,19nm,0.6s						
PPTF	**Pamatai, Papee**	**27.00**	**93**	P	**P**	**05 43 06.9**	**-0.1**
PPTF	**Pamatai, Papee**	**27.00**	**93**	P	**P**	**05 43 05.9**	**-1.1**
JCZ	**Jackson Bay**	**28.17**	**201**	P	**P**	**05 43 16.1**	**-0.7**
ARMA	**Armidale**	**30.22**	**240**	P	**P**	**05 43 34.4**	**-0.3**
ARMA				IAmb	IAmb	05 43 35.6	
	comp=Z,14nm,0.9s						
ARMA	**Armidale**	**30.22**	**240**	P	**P**	**05 43 35.1**	**+0.4**
ARMA	**Armidale**	**30.22**	**240**	P	**P**	**05 43 34.9**	**+0.2**
MGCD	**Mangrove Creek**	**31.53**	**236**	P	**P**	**05 43 46.0**	**+0.2**
CTAO	**Charters Tower**	**33.85**	**261**	P	**P**	**05 44 04.2**	**-1.3**
CTAO	**Charters Tower**	**33.85**	**261**	P	**P**	**05 44 04.8**	**-0.8**
CTAO	**Charters Tower**	**33.85**	**261**	P	**P**	**05 44 04.7**	**-0.8**
CAN	**Canberra**	**33.92**	**233**	P	**P**	**05 44 05.6**	**-0.4**
CAN				IAmb	IAmb	05 44 06.7	
	comp=Z,15nm,0.7s						
CAN	**Canberra**	**33.92**	**233**	P	**P**	**05 44 06.2**	**+0.2**
CMSA	**Cobar Meteorol**	**35.43**	**241**	P	**P**	**05 44 18.5**	**0.0**
QLP	**Quilpie**	**35.87**	**250**	P	**P**	**05 44 22.3**	**+0.1**
TOO	**Toolangi**	**37.38**	**231**	P	**P**	**05 44 34.3**	**-0.1**
TOO				IAmb	IAmb	05 44 35.4	
	comp=Z,23nm,0.7s						
COEN	**Coen**	**37.55**	**271**	P	**P**	**05 44 35.5**	**-0.7**
COEN	**Coen**	**37.55**	**271**	P	**P**	**05 44 33.3**	**-2.8**
STKA	**Stephens Creek**	**38.91**	**242**	P	**P**	**05 44 46.7**	**-0.2**
STKA	**Stephens Creek**	**38.91**	**242**	P	**P**	**05 44 47.4**	**+0.5**
STKA	**Stephens Creek**	**38.91**	**242**	P	**P**	**05 44 46.7**	**-0.2**
	comp=Z,18nm,0.5s,baz=88,slow=9.7,SNR=56						
	comp=Z,18nm,0.5s						
ARPS	**Mount Arapiles**	**39.88**	**234**	P	**P**	**05 44 52.8**	**-1.7**
QIS	**Mount Isa**	**40.05**	**259**	P	**P**	**05 44 55.6**	**-0.6**
HTT	**Hallett**	**41.42**	**240**	P	**P**	**05 45 06.8**	**-0.1**
OOD	**Oodnadatta**	**43.55**	**249**	P	**P**	**05 45 24.0**	**+0.5**
BBOO	**Buckleboo**	**43.69**	**241**	P	**P**	**05 45 23.7**	**-0.8**
BBOO				IAmb	IAmb	05 45 24.6	
	comp=Z,25nm,0.6s						
BBOO	**Buckleboo**	**43.69**	**241**	P	**P**	**05 45 23.5**	**-1.0**
WB0	**Warramunga Arr**	**45.00**	**260**	P	**P**	**05 45 33.1**	**-1.7**
WB0				IAmb	IAmb	05 45 34.3	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**45.03**	**260**	P	**P**	**05 45 33.5**	**-1.6**
WRA	**Warramunga Arr**	**45.03**	**260**	P	**P**	**05 45 34.0**	**-1.1**
	comp=Z,16nm,0.7s,baz=97,slow=7.0,SNR=165						
WRA				PcP	**PcP**	**05 47 03.7**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=91,slow=3.8,SNR=6.4						
WRA				ScP	**ScP**	**05 50 04.9**	**+4.9**
	comp=Z,0.6nm,0.7s,baz=92,slow=4.0,SNR=2.4						
WRA				S	**S**	**05 51 33.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=103,slow=14,SNR=1.6						
	comp=Z,16nm,0.7s						
AS01	**Alice Springs**	**45.12**	**254**	P	**P**	**05 45 34.3**	**-1.4**
	comp=Z,158nm,0.7s						
MULG	**Mulgathing**	**45.12**	**245**	P	**P**	**05 45 34.8**	**-0.7**
AS31	**Alice Springs**	**45.16**	**254**	P	**P**	**05 45 35.0**	**-1.0**
ASAR	**Alice Springs**	**45.16**	**254**	P	**P**	**05 45 35.1**	**-0.8**
ASAR	**Alice Springs**	**45.16**	**254**	P	**P**	**05 45 35.3**	**-0.7**
	comp=Z,84nm,0.6s,baz=88,slow=8.7,SNR=1224						
ASAR				PcP	**PcP**	**05 47 04.0**	**+0.4**
	comp=Z,4.5nm,0.4s,baz=104,slow=3.8,SNR=10						
ASAR				ScP	**ScP**	**05 50 06.0**	**+5.5**
	comp=Z,0.8nm,0.7s,baz=98,slow=4.3,SNR=5.0						
ASAR				S	**S**	**05 51 33.2**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=89,slow=15,SNR=9.5						
FORT	**Forrest**	**50.32**	**245**	P	**P**	**05 46 13.1**	**-1.1**
SOEI	**Soe**	**56.52**	**270**	P	**P**	**05 46 58.9**	**+0.5**
SOEI				IAmb	IAmb	05 47 00.1	
	comp=Z,49nm,0.7s						
VNDA	**Vanda**	**60.26**	**185**	P	**P**	**05 47 23.7**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=357,slow=4.6,SNR=7.8						
	comp=Z,1.3nm,0.8s						
TOLI2	**Tolitoli**	**63.20**	**281**	P	**P**	**05 47 42.6**	**+0.1**
MJAR	**Matsushiro Arr**	**68.36**	**323**	P	**P**	**05 48 13.4**	**-0.6**
	comp=Z,15nm,0.9s,baz=155,slow=5.7,SNR=19						
	comp=Z,15nm,0.9s						
KIWB	**Kanaga Island**	**69.69**	**1**	P	**P**	**05 48 21.4**	**-0.2**
ADK	**Adak**	**69.73**	**1**	P	**P**	**05 48 21.2**	**-0.6**
ADK				IAmb	IAmb	05 48 47.7	
	comp=Z,40nm,1.2s						
JNU	**Nakatsue**	**70.61**	**316**	P	**P**	**05 48 26.8**	**-0.8**
	comp=Z,9.4nm,0.9s,baz=127,slow=20,SNR=3.7						
	comp=Z,9.4nm,0.9s						
ASAJ	**Asahikawa**	**71.69**	**331**	P	**P**	**05 48 34.3**	**+0.7**
	comp=Z,6.3nm,0.5s,baz=120,slow=20,SNR=5.8						
	comp=Z,6.3nm,0.5s						
QSPA	**South Pole Qui**	**71.92**	**180**	P	**P**	**05 48 36.2**	**+1.4**
QSPA	**South Pole Qui**	**71.92**	**180**	P	**P**	**05 48 36.2**	**+1.4**
	comp=Z,4.6nm,0.5s,baz=3.9,slow=1.7,SNR=41						
	comp=Z,4.6nm,0.5s						
TPUB	**Ta-pu**	**72.76**	**302**	P	**P**	**05 48 39.6**	**-0.6**
PETK	**Petropavlovsk-**	**74.01**	**345**	P	**P**	**05 48 46.4**	**-0.2**
	comp=Z,9.1nm,0.7s,baz=129,slow=8.2,SNR=9.9						
	comp=Z,9.1nm,0.7s						
KSRS	**Korea Array**	**75.17**	**318**	P	**P**	**05 48 54.3**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=132,slow=6.2,SNR=12						
	comp=Z,3.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**77.05**	**326**	P	**P**	**05 49 03.4**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=154,slow=4.4,SNR=5.0						
	comp=Z,2.9nm,0.6s						
OHAK	**Old Harbor**	**77.85**	**13**	P	**P**	**05 49 08.0**	**+0.4**
OHAK				IAmb	IAmb	05 49 37.0	
	comp=Z,48nm,1.4s						
NJ2	**Nanjing**	**78.43**	**309**	eP	**P**	**05 49 11.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.28**	**44**	P	**P**	**05 49 16.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=237,slow=9.8,SNR=4.8						
	comp=Z,0.7nm,0.8s						
CN2	**Changchun**	**80.47**	**322**	eP	**P**	**05 49 22.0**	**+0.2**
CN2				eSP	sP	05 52 21.8	-3.6
CN2				eS	**S**	**05 58 44.0**	**+3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BNX	**BinXian**	**80.54**	**325**	⇑P	**P**	**05 49 22.5**	**+0.4**
BNX				pmax	pmax		
	comp=Z,23nm,0.9s						
K15K	**Wolf Creek Mou**	**81.21**	**8**	P	**P**	**05 49 26.3**	**+1.1**
K15K				IAmb	IAmb	05 49 27.1	
	comp=Z,18nm,0.9s						
MA2	**Magadan**	**81.53**	**344**	P	**P**	**05 49 25.5**	**-1.3**
	comp=Z,6.6nm,0.7s,baz=148,slow=6.2,SNR=3.6						
	comp=Z,6.6nm,0.7s						
CAST	**Castle Rocks**	**83.76**	**11**	P	**P**	**05 49 36.2**	**-1.8**
CAST				IAmb	IAmb	05 49 37.6	
	comp=Z,8.8nm,0.9s						
HNS	**HongShan**	**84.00**	**312**	⇑P	**P**	**05 49 41.0**	**+1.3**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TRF	**Thorofare Moun**	**84.14**	**12**	P	**P**	**05 49 39.5**	**-0.6**
TRF				IAmb	IAmb	05 49 40.2	
	comp=Z,11nm,0.9s						
BJI	**Beijing**	**84.26**	**315**	P	**P**	**05 49 42.0**	**+1.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LYN	**LuoYang**	**84.32**	**309**	⇑*i*P	**P**	**05 49 42.8**	**+1.4**
LYN				pmax	pmax		
	comp=Z,48nm,0.8s						
LYN				pmax	pmax		
	comp=Z,280nm,5.4s						
CCB	**Clear Creek Bu**	**85.70**	**13**	P	**P**	**05 49 46.7**	**-0.7**
TXAR	**Lajitas Array**	**85.74**	**57**	P	**P**	**05 49 50.3**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=223,slow=6.1,SNR=8.1						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**86.01**	**13**	P	**P**	**05 49 48.0**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=221,slow=5.2,SNR=39						
	comp=Z,1.1nm,0.4s						
F19K	**Shaleruckik Mo**	**86.04**	**8**	P	**P**	**05 49 48.8**	**-0.1**
XLT	**XiLinHaoTe**	**86.21**	**319**	eP	**P**	**05 49 51.0**	**+0.6**
XLT				pP	pP	05 51 40.8	-16
XLT				pmax	pmax		
	comp=Z,14nm,0.9s						
XLT				pmax	pmax		
	comp=Z,180nm,5.7s						
E19K	**Redstone River**	**86.70**	**8**	P	**P**	**05 49 51.8**	**-0.2**
XAN	**Xi'an**	**86.75**	**307**	⇓P	**P**	**05 49 54.3**	**+1.2**
XAN				pP	PcP	05 49 59.5	+4.9
XAN				pmax	pmax		
	comp=Z,34nm,0.8s						
PDAR	**Pinedale Array**	**87.21**	**43**	P	**P**	**05 49 56.2**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=211,slow=1.7,SNR=4.0						
	comp=Z,0.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**87.75**	**314**	eP	**P**	**05 50 00.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,6.1s						
ELIB	**Princess Elisa**	**88.99**	**186**	*d*P	**P**	**05 50 03.7**	**+0.7**
	comp=Z,2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**05 50 06.9**	**+1.3**
	comp=Z,4.7nm,0.8s,baz=114,slow=2.7,SNR=22						
	comp=Z,4.7nm,0.8s						
PLCA	**Paso Flores**	**90.85**	**134**	P	**P**	**05 50 13.9**	**+1.7**
	comp=Z,2.3nm,0.9s,baz=258,slow=5.2,SNR=5.7						
	comp=Z,2.3nm,0.9s						
SONM	**Songino Array**	**94.01**	**319**	P	**P**	**05 50 26.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=106,slow=5.4,SNR=4.0						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**94.35**	**25**	P	**P**	**05 50 27.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=247,slow=4.3,SNR=6.3						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**109.61**	**314**	PKiKP	**PKiKP**	**05 55 34.4**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=180,slow

OJC	Ojcow	144.98	340	ePKP	PKPbc	05 56 42.6	+0.6
TLCR		145.01	326	⇓P	PKPab	05 56 43.4	+0.1
BURAR	Bucovina Array	145.02	332	⇑P	PKPab	05 56 43.7	+0.3
SCTR	Scanteiesti	145.10	328	⇓P	PKPab	05 56 43.9	+0.3
FLTG	Flechtingen baz=16,slow=2.8	145.12	350	ePKPbc	PKPbc	05 56 42.9	+0.6
GHRR		145.13	329	⇓P	PKPab	05 56 44.3	+0.5
NRDL	Niedersach Rie baz=16,slow=2.8	145.13	351	ePKPbc	PKPab	05 56 43.2	-0.3
STHS	Stebnicka Huta	145.17	338	ePKP	PKPbc	05 56 42.9	+0.3
TESR	Tescani	145.18	330	⇓P	PKPab	05 56 43.4	+0.7
KOLS	Kolonicke sedl	145.19	336	ePKP	PKPab	05 56 43.7	-0.2
NEGRR	Negrea	145.26	328	⇓P	PKPbc	05 56 43.3	+0.4
BRTR	Keskin Array B comp=Z,8.3nm,0.7s,baz=90,slow=2,2,SNR=37	145.26	315	PKPbc	PKPbc	05 56 43.9	+0.5
SLCR	Slobozia Conac	145.28	328	⇑P	PKPab	05 56 44.4	+0.1
CFR	Carcaliu	145.37	327	⇑P	PKPab	05 56 44.1	-0.6
TPGR	Topolog	145.44	326	⇓P	PKPab	05 56 44.5	-0.5
KSP	Ksiaz	145.45	344	ePKP	PKPab	05 56 44.4	-0.4
CRVS	Cervenica-Dubn	145.52	337	ePKP	PKPab	05 56 44.7	-0.5
VRI	Vrincioaia	145.60	329	⇓P	PKPbc	05 56 44.7	+0.7
PLOR	Plostina	145.65	329	⇓P	PKPbc	05 56 44.7	+0.5
BMR	Baia Mare	145.71	334	⇑P	PKPbc	05 56 44.9	+0.7
CLL	Collm comp=Z,24nm,0.9s	145.78	348	⇓iPKPbc	PKPbc	05 56 44.8	+0.5
CLL	Collm baz=16,slow=2.8	145.78	348	ePKPbc	PKPbc	05 56 45.1	+0.9
ARCR	ARCALIA	145.80	333	⇑P	PKPdf	05 56 41.6	-1.1
HARR	Harsova	145.81	326	⇑P	PKPab	05 56 45.7	-0.7
TURR	Turia	145.81	330	⇑P	PKPab	05 56 46.2	-0.3
UPC	Upice	145.83	344	ePKP	PKPbc	05 56 45.4	+0.9
BISRR	Bisoca	145.84	329	⇓P	PKPdf	05 56 43.2	+0.4
COVR	Voineasa-Covas	145.87	329	⇑P	PKPbc	05 56 45.1	+0.3
DPC	Dobruska-Polom	145.89	344	ePKP	PKPbc	05 56 45.8	+1.1
OZUR		145.89	330	⇓P	PKPbc	05 56 45.9	+1.1
BOSR	Bodos	145.97	330	⇓P	PKPab	05 56 46.4	-0.7
BRG	Berggiesshubel BRG comp=Z,7.7nm,0.8s	145.99	347	iPKP Amp	PKPbc	05 56 43.9 05 56 46.6	+1.1
LANS	Liptovska Anna	146.01	339	ePKP	PKPab	05 56 46.9	-0.3
KRLC	Kraliky	146.01	343	ePKP	PKPbc	05 56 45.9	+0.8
MORC	Moravsky Berou	146.06	342	⇑P	PKPbc	05 56 45.1	-0.1
MORC	Moravsky Berou	146.06	342	ePKP	PKPbc	05 56 45.9	+0.7
NEUB	Neuenburg baz=16,slow=2.8	146.11	349	ePKPbc	PKPbc	05 56 46.4	+1.2
PVCC	Panska Ves	146.17	346	ePKP	PKPbc	05 56 46.1	+0.7
DOPR	Dopca	146.17	330	⇑P	PKiKP	05 56 47.4	-0.5
MLR	Muntele Rosu	146.25	329	⇓P	PKPbc	05 56 47.2	+1.2
MAUC	Maruska	146.34	341	ePKP	PKPbc	05 56 46.9	+0.9
CJR	Cluj-Napoca	146.42	333	⇑P	PKPbc	05 56 47.4	+1.1
MMAI	Mount Meron Ar comp=Z,12nm,0.6s,baz=65,slow=6.0,SNR=36	146.64	303	PKPbc	PKPbc	05 56 48.1	+0.8
MARR	Marisel-Cluj	146.66	333	⇑P	PKPbc	05 56 48.0	+1.1
PRU	Pruhonice	146.68	345	ePKP	PKPbc	05 56 47.3	+0.5
GOPC	GO Pecny, Ondr	146.69	345	ePKP	PKPbc	05 56 47.6	+0.8
VOIR		146.73	330	⇑P	PKPbc	05 56 48.0	+0.9
TANN	Tannenbergstha baz=16,slow=2.8	146.74	348	ePKPbc	PKPbc	05 56 47.9	+0.9
DRGR		146.74	334	⇓P	PKPbc	05 56 47.9	+0.8
VRAC	Vranov	146.76	343	⇑P	PKPbc	05 56 47.3	+0.2
VRAC	Vranov	146.76	343	ePKP	PKiKP	05 56 48.4	-0.6
VYHS	Vyhne	146.79	339	ePKP	PKPbc	05 56 48.2	+1.0
JAVC	Velka Javorina	146.84	341	ePKP	PKiKP	05 56 49.1	-0.1
PSZ	Piszkesteto	146.91	338	⇑P	PKPbc	05 56 48.6	+1.0
ARR	Arges	146.97	330	⇑P	PKiKP	05 56 49.5	-0.2
KRUC	Moravsky	147.04	343	ePKP	PKPbc	05 56 48.2	+0.4
MANZ	Manzenberg baz=16,slow=2.8	147.21	348	ePKPbc	PKiKP	05 56 49.3	-0.6
ZVC	Zvikov	147.27	345	ePKP	PKPbc	05 56 49.3	+0.9
MODS	Modra-Piesok	147.39	341	ePKP	PKiKP	05 56 49.9	-0.4
ROTZ	Rotzenmuhle baz=16,slow=2.8	147.40	348	ePKPbc	PKPbc	05 56 49.6	+0.9
MEM	Membach	147.45	355	dPKiKP	PKPbc	05 56 49.4	+0.6
BTNL	Ternell	147.46	355	dPKiKP	PKPbc	05 56 49.3	+0.4
BSTI	Sart Tilman	147.50	356	dPKiKP	PKPbc	05 56 49.6	+0.7
TNS	Taunus Mts baz=16,slow=2.8	147.58	352	ePKPbc	PKiKP	05 56 50.1	-0.6
SIRR	Siria	147.59	334	⇑P	PKPbc	05 56 50.0	+0.6
BCLA	Clavier	147.69	356	dPKPdf	PKPdf	05 56 44.3	-1.4
BHOU	Houvegnez	147.70	355	dPKPab	PKiKP	05 56 50.3	-0.6
KHC	Kasperske Hory	147.71	346	ePKPbc	PKPbc	05 56 50.0	+0.4
BGES	Gesves	147.73	356	dPKiKP	PKPbc	05 56 50.1	+0.6
GZR	Gura Zlata	147.81	332	⇓P	PKPbc	05 56 50.3	+0.4
SURR	Surduc	147.81	333	⇓P	PKPbc	05 56 50.4	+0.6
CKRC	Cesky Krumlov	147.82	345	ePKP	PKiKP	05 56 50.7	-0.5
BMRD	Maredsous	147.83	357	dPKiKP	PKiKP	05 56 50.5	+0.7
GEC2	GERESS Array S baz=16,slow=2.8	147.94	345	ePKPbc	PKiKP	05 56 51.2	-0.4
GERES	GERESS Array B comp=Z,6.8nm,0.6s,baz=24,slow=3.5,SNR=26	147.94	345	PKPbc	PKPbc	05 56 50.7	+0.4
RCHB	Rochefort	147.95	356	dPKiKP	PKPbc	05 56 50.3	+0.2
DOU	Dourbes	148.05	357	dPKiKP	PKPbc	05 56 50.8	+0.5
ELND	Elena	148.09	326	⇑P	PKiKP	05 56 51.7	-0.3
BZS	Buzias	148.13	334	⇓P	PKPbc	05 56 50.1	-0.6
CONA	Conrad Observa comp=Z,7.1nm,0.7s,SNR=9.6	148.22	342	iPKiKP	PKiKP	05 56 51.9	-0.2
RONA	Rosalia, Austr comp=Z,6.9nm,0.6s,SNR=8.5	148.29	342	iPKiKP	PKiKP	05 56 52.0	-0.2
HERR	Herculane	148.37	332	⇓P	PKPbc	05 56 51.8	+0.5
WLF	Walferdange	148.37	355	dPKiKP	PKiKP	05 56 52.0	-0.3
WLF	Walferdange baz=16,slow=2.8	148.37	355	ePKPbc	PKiKP	05 56 52.6	+0.3
PLVB	Pleven	148.43	328	⇓P	PKiKP	05 56 52.4	-0.2
MOA	Molln comp=Z,4.5nm,1.2s	148.73	344	iPKiKP	PKiKP	05 56 53.7	+0.5
MORH	Mrgy, Hungar	148.81	338	⇓P	PKPbc	05 56 52.7	+0.4
ARSA	Arzberg comp=Z,1.3nm,0.6s	148.93	342	iPKP	PKPbc	05 56 52.8	+0.1
BIOA	Bad Ischl, Aus comp=Z,4.7nm,0.9s	149.03	345	iPKiKP	PKPbc	05 56 53.2	+0.3
FUR	Furstenfeldbru baz=16,slow=2.8	149.12	348	ePKPbc	PKiKP	05 56 54.1	+0.2
RJOB	Jochberg baz=16,slow=2.8	149.19	346	ePKPbc	PKiKP	05 56 55.7	+1.5
BLKB	Belogradchik	149.21	330	⇑P	PKPbc	05 56 52.8	-0.6
FRGS	Fruska Gora	149.25	335	⇑P	PKPbc	05 56 53.3	-0.1
LESA	Schwarzleotal comp=Z,6.6nm,1.0s	149.52	346	iPKiKP	PKPbc	05 56 54.4	+0.3
SOKA	Soboth comp=Z,4.3nm,0.8s,SNR=4.5	149.59	342	ePKP	PKPbc	05 56 54.3	0.0
BOVS	Bovan	149.65	331	⇓P	PKPbc	05 56 54.2	-0.2
WATA	Walderalm comp=Z,7.3nm,0.6s,SNR=4.6	149.85	347	iPKiKP	PKPbc	05 56 55.3	+0.3
RETA	Reutte comp=Z,3.4nm,0.7s	149.87	348	iPKiKP	PKiKP	05 56 55.4	-0.1
OBKA	Obir comp=Z,3.0nm,0.8s	149.88	343	ePKP	PKPbc	05 56 54.9	-0.1
WTTA	Wattenberg comp=Z,13nm,0.6s,SNR=12	149.90	347	iPKiKP	PKiKP	05 56 55.7	-0.1
MOTA	Moosalm comp=Z,12nm,1.0s,SNR=5.4	149.94	348	iPKiKP	PKPbc	05 56 55.5	+0.3
MYKA	Terra Mystica comp=Z,6.3nm,0.5s,SNR=4.1	150.02	344	ePKP	PKPbc	05 56 55.2	-0.1
SQTA	Sankt Quirin comp=Z,10nm,0.7s,SNR=6.2	150.03	347	iPKiKP	PKiKP	05 56 55.9	-0.1
ABTA	Abfaltersbach comp=Z,12nm,0.6s,SNR=15	150.19	345	iPKP	PKPbc	05 56 55.7	-0.1
VNDS	Vrh nad Dolski	150.21	342	iPKPbc	PKPbc	05 56 56.0	+0.3
DAVA	Damuels comp=Z,11nm,1.2s	150.22	349	iPKiKP	PKiKP	05 56 56.5	+0.1
LJU	Ljubljana	150.31	342	iPKPbc	PKPbc	05 56 56.2	+0.3
FETA	Feichten comp=Z,11nm,1.0s,SNR=7.1	150.32	348	iPKiKP	PKiKP	05 56 56.7	+0.1
BOJS	Bojanci	150.58	341	iPKPbc	PKiKP	05 56 57.3	+0.3
ESDC	Sonseca Array comp=Z,0.9nm,0.9s,baz=352,slow=6.9,SNR=3.2	157.91	12	PKPab	PKPab	05 57 37.9	+0.2
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.9s,baz=154,slow=3.4,SNR=2.2	175.03	176	PKPab	PKPab	05 58 52.3	-1.3

ISN 27 05:38:14.3±0.7, 33.˚74N×45.˚62E, h8km±4km, ML3.1
TEH 27 05:38:15.7, 33.˚77N×45.˚68E, h12km±43km, ML3.0
ISC 27 05:38:16.0±0.9, 33.˚75N±0.˚04×45.˚67E±0.˚04, h10km, n16, σ1s34/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.47	105	Pg		Pg	05 38 25.2	+0.1
ILBA				Sg		Sg	05 38 31.8	+0.6
IBDR	Badra	0.67	161	ePg		Pg	05 38 28.0	-1.0
IBDR				eSg		Sg	05 38 37.0	-0.8
KGS1	Ghasr-e-Shirin	0.76	355	Pg		Pg	05 38 30.0	-0.6
IGHG	Ghaleghazi	0.94	52	Pg		Pb	05 38 33.9	-0.7
IDHR	Dehrash	1.12	32	Pg		Pg	05 38 36.2	-1.3
BHD	Baghdad	1.18	246	ePn		Pb	05 38 38.0	-0.4
BHD				eSn		Sn	05 38 56.0	+1.4
BHD				AML	AML		05 39 00.6	
	comp=E,446nm,0.8s							
KCHF	Cheshme Sefid,	1.25	65	Pg		Pg	05 38 39.5	-0.6
ILIN	Lien	1.58	42	Pg		Pg	05 38 45.4	-1.0
IKFM	Kafar-mosalman	1.83	96	Pn		Pb	05 38 48.7	-0.8
IBZA	Bozab	1.96	68	Pn		Pb	05 38 50.9	-0.9
RAFI	Al-Rafai	2.06	169	ePn		Pn	05 38 51.0	+0.4
RAFI				eSn		Sb	05 39 18.0	-1.0
IALM	Almabolaq	2.35	61	Pn		Pb	05 38 56.6	-1.9
HSAM	Samen	2.48	78	Pn		Pn	05 38 57.6	+0.9
HAGD	Aghdareh	3.07	69	Pn		Pn	05 39 06.7	+2.0
QAMS	Qamsar	4.77	89	Pn		Pn	05 39 29.9	+1.8
IKLH	Kolahrood	4.95	93	Pn		Pn	05 39 33.6	+2.9

IDC 27 06:00:17.6±0.8, 33.˚48N×138.˚71E, h0km, mb3.5/8, mbtmp3.5/11, ML3.8/3, MS2.8/6, Error ellipse: s-maj=23.1km s-min=14.0km az=34.0
NIED 27 06:00:19.6, 33.˚61N×138.˚67E, h24km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.12; $M_{\theta\theta}$-9.33; $M_{\phi\phi}$9.21; $M_{r\theta}$-1.28; $M_{\theta\phi}$-2.16; $M_{r\phi}$2.41; Fault plane solution: $M_0$9.89000×10^{14} NP1: ϕ_s308.00000°, δ84.00000°, λ165.00000°. NP2: ϕ_s39.00000°, δ76.00000°, λ6.00000°.
JMA 27 06:00:19.6±0.1, 33.˚6N±0.˚5×138.˚7E±0.˚4, h24km±2km, MD4.3/39, MV4.1/39, FAR S OFF TOKAI DISTRICT
JMA Felt I J1 at FAR S OFF TOKAI DISTRICT.
ISC 27 06:00:18.8±1.4, 33.˚59N±0.˚04×138.˚66E±0.˚03, h8km±9km, n51, σ1s15/48, mb3.4/8, 4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKO	Kozu shima	0.71	33	P		Pg	06 00 32.6	+0.1
JKO				eS		Sg	06 00 42.3	+0.4
JKO	Kozu shima	0.71	33	A		A	06 00 32.6	
	comp=E,64nm,0.3s,comp=N,30nm,0.7s							
JMKN	Mikurajimanish	0.83	68	iP		Pb	06 00 34.9	-0.6
JMKN				eS		Sg	06 00 45.8	+0.2
JMKN	Mikurajimanish	0.83	68	A		A	06 00 34.9	
	comp=E,28nm,0.4s,comp=N,27nm,0.8s							
TK02	Tokai 2	0.83	295	P		Pb	06 00 35.8	+0.4
TK02				eX			06 00 48.3	
JSKK	Shikinejimakit	0.87	31	eP		Pg	06 00 36.0	+0.5
JSKK				eS		Sg	06 00 46.9	+0.1
JSKK	Shikinejimakit	0.87	31	A		A	06 00 36.0	
	comp=E,14nm,2.2s,comp=N,16nm,1.7s							
JMYK	Miyake Tsubota	0.87	57	P		Pg	06 00 35.4	-0.2
JMYK				eS		Sg	06 00 47.3	+0.4
JMYK	Miyake Tsubota	0.87	57	A		A	06 00 35.4	
	comp=E,14nm,2.0s,comp=N,16nm,2.4s							
JNIO	Niijimaoohara	0.92	33	eP		Pg	06 00 36.4	0.0
JNIO				eS		Sg	06 00 48.1	-0.2
JNIO	Niijimaoohara	0.92	33	A		A	06 00 36.4	
	comp=E,22nm,2.7s,comp=N,19nm,2.4s							
TTO4	TONANKAI O.B.S	1.02	294	P		Pb	06 00 38.0	-0.6
TTO4				eX			06 00 51.5	
TTO5	TONANKAI O.B.S	1.03	310	P		Pb	06 00 38.2	-0.6
TTO5				eS		Sb	06 00 52.0	-0.3
TTO5	TONANKAI O.B.S	1.03	310	A		A	06 00 38.2	
	comp=E,15nm,0.4s,comp=N,9.0nm,0.5s							
TK04	Tokai 4	1.03	321	P		Pb	06 00 38.4	-0.3
TK04				eX			06 00 52.5	
JHJ	Hachijo jima 2	1.05	116	Pn		Pn	06 00 39.4	-0.4
	comp=N,158nm,0.3s,baz=334,slow=22,SNR=50							
JHJ				Sn		Sn	06 00 53.6	-1.0
	comp=N,965nm,0.3s,baz=320,slow=23,SNR=21							
JTHY	Toshimahigashi	1.07	29	eP		Pb	06 00 39.0	-0.5
JTHY				eS		Sb	06 00 53.3	-0.3
JTHY	Toshimahigashi	1.07	29	A		A	06 00 39.0	
	comp=E,26nm,0.5s							
JHJ2	Mitsune	1.08	116	eP		Pn	06 00 39.5	-0.7
JHJ2				eS		Sn	06 00 53.6	-1.7
TTO3	TONANKAI O.B.S	1.09	285	P		Pb	06 00 39.1	-0.6
JIZS	Izushimoda	1.14	9	⇓P		Pn	06 00 39.4	-1.6
JIZS				⇓S		Sb	06 00 54.3	-1.4
JIZS	Izushimoda	1.14	9	A		A	06 00 39.4	
	comp=E,11nm,0.7s,comp=N,10.0nm,0.4s							
JIM2	Oshima 3	1.29	29	P		Pn	06 00 42.4	-0.8
JIM2				eS		Sb	06 00 59.3	-0.8
JIM2	Oshima 3	1.29	29	A		A	06 00 42.4	
	comp=E,19nm,1.0s,comp=N,11nm,2.2s							
TTO2	TONANKAI O.B.S	1.37	276	eP		Pn	06 00 43.0	-1.0
TTO2				eX			06 01 01.6	
SHZ3	Shizuoka 3	1.52	346	eP		Pn	06 00 45.0	-1.3
SHZ3				eS		Sn	06 01 04.2	-2.1
TTO1	TONANKAI O.B.S	1.57	272	eP		Pn	06 00 45.5	-1.1
JFNN	Fujinakano	1.60	1	⇓eP		Pn	06 00 46.7	-0.7
JFNN			1	⇓eS		Sn	06 01 06.9	-1.4
JOD2	Odawara 2	1.71	12	P		Pn	06 00 48.1	-0.7
JOD2				eS		Sn	06 01 10.1	-0.8
JOD2	Odawara 2	1.71	12	A		A	06 00 48.1	
	comp=E,3.0nm,1.7s,comp=N,2.0nm,1.5s							
JIE	Ise	1.81	297	P		Pn	06 00 49.2	-1.0
JIE				eS		Sn	06 01 10.0	-3.4
MJAR	Matsushiro Arr	2.97	353	Pn		Pn	06 01 06.7	+0.5
	comp=N,2.6nm,0.3s,baz=192,slow=14,SNR=76							
MJAR				Sn		Sn	06 01 44.2	+2.1
	comp=N,3.1nm,0.3s,baz=224,slow=26,SNR=9.9							
MJAR				LR		LR	06 02 15.5	
	comp=N,176nm,19.9s,baz=91,slow=38 comp=N,17nm,0.4s							
JNU	Nakatsue	6.53	268	Pn		Pn	06 01 55.8	+0.6
	comp=N,7.0nm,0.3s,baz=74,slow=3.0,SNR=49							
JNU				LR		LR	06 03 33.4	
	comp=N,20nm,20.0s,baz=150,slow=30 comp=N,15nm,0.3s							
KSRS	Korea Array	9.56	297	Pn		Pn	06 02 38.0	+1.3
	comp=N,0.2nm,0.3s,baz=117,slow=15,SNR=2.6							
KSRS				LR		LR	06 06 25.1	
	comp=N,73nm,18.3s,baz=100,slow=38 comp=N,0.9nm,0.6s							
JOW	Kunigami	11.22	236	LR		LR	06 07 13.1	
	comp=N,47nm,20.7s,baz=164,slow=37							
KLR	Kul'dur	16.45	344	LR		LR	06 09 47.2	
	comp=N,55nm,18.4s,baz=359,slow=34							
SONM	Songino Array	28.06	310	P		P	06 06 12.2	+1.5
	comp=N,0.3nm,0.5s,baz=108,slow=9.3,SNR=1.7 comp=N,0.3nm,0.5s							
H11N2	WAKE ISLAND Hy	28.65	112	T		T	06 36 22.6	
	baz=305,slow=75,SNR=20							
H11N1	WAKE ISLAND Hy	28.66	112	T		T	06 36 01.5	
	baz=305,slow=75,SNR=15							
H11N3	WAKE ISLAND Hy	28.67	112	T		T	06 36 28.1	
	baz=305,slow=75,SNR=9.5							
H11S3	WAKE ISLAND Hy	29.20	114	T		T	06 36 56.3	
	baz=306							
H11S1	WAKE ISLAND Hy	29.21	114	T		T	06 36 59.6	
	baz=306							
H11S2	WAKE ISLAND Hy	29.22	114	T		T	06 37 09.6	
	baz=306							
MKAR	Makanchi Array	44.13	305	P		P	06 08 29.0	+1.2
	comp=N,0.2nm,0.7s,baz=91,slow=7.2,SNR=1.7 comp=N,0.2nm,0.7s							
KURBB	Kurchatov Arra	46.43	310	P		P	06 08 46.5	+0.7
	comp=N,0.4nm,0.9s,baz=87,slow=8.2,SNR=2.1 comp=N,0.4nm,0.9s							
WRA	Warramunga Arr	53.39	185	P		P	06 09 37.1	-1.9
	comp=N,0.8nm,1.0s,baz=2.1,slow=7.6,SNR=2.4 comp=N,0.8nm,1.0s							
ILAR	Eielson Array	53.60	31	P		P	06 09 39.9	-0.2
	comp=N,1.1nm,1.1s,baz=241,slow=6.4,SNR=4.3 comp=N,1.1nm,1.1s							
ASAR	Alice Springs	57.12	185	P		P	06 10 05.0	-0.9
	comp=N,3.3nm,0.9s,baz=12,slow=9.5,SNR=2.4 comp=N,0.3nm,0.9s							
ARCES	ARCESS Array B	66.42	339	LR		LR	06 42 29.6	
	comp=N,19nm,21.9s,baz=66,slow=38							
GERES	GERESS Array B	84.41	327	P		P	06 12 52.4	+0.5
	comp=N,0.4nm,0.8s,baz=44,slow=8.5,SNR=1.7 comp=N,0.4nm,0.8s							
TXAR	Lajitas Array	94.02	51	P		P	06 13 39.9	+2.0
	comp=N,0.1nm,0.6s,baz=268,slow=2.7,SNR=1.7 comp=N,0.1nm,0.6s							

IDC 27 06:10:60.0±1.7, 6.˚11S×130.˚11E, h0km, mb3.8/4, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=127.0km s-min=28.0km az=72.0
DJA 27 06:11:14.4±0.5, 6.˚5S±3.˚×13.˚1E±.˚, h142km±14km, M4.5/11, mb4.2/6, mB5.3/3, MLv4.7/11, Mw(mB)4.7/3

ISC 27 06:11:14.3±0.8, 6.˚46S±0.˚07×130.˚55E±0.˚10, h150km, n15, σ0s94/17, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.68	154	P		Pn	06 11 46.7	+0.9
SAUI				S		Sn	06 12 10.3	+0.2
FAKI	Fak Fak	3.90	26	P		Pn	06 12 12.8	-0.5
KMPI	Kaimana, Papua	4.19	49	P		Pn	06 12 16.2	-0.9
NLAI	Namlea	4.70	313	P		Pn	06 12 23.1	-0.6
SIJI	Sorong	5.60	7	P		Pn	06 12 34.7	-1.0
SWI	Sorong 17nm,0.7s,3µm0.6nm	5.61	7	P		Pn	06 12 35.3	-0.5
SOEI	Soe 33nm,1.3s,0.3nm	7.03	242	P		Pn	06 12 54.6	-0.3
TNTI	Ternate 26nm,0.7s,3µm0.5nm	7.86	336	P		Pn	06 13 05.3	-0.5
MMRI	Maumere	8.52	255	P		Pn	06 13 14.6	-0.1
WRA	Warramunga Arr 0.3nm,0.3s,baz=347,slow=13,SNR=2.4	13.90	165	Pn		Pn	06 14 23.9	-1.1
WRA				Sn		Sn	06 16 50.7	-8.3
	1.1nm,0.3s,baz=341,slow=20,SNR=8.7 0.4nm,0.4s							
ASAR	Alice Springs 0.3nm,0.3s,baz=345,slow=10,SNR=18	17.41	170	P		Pn	06 15 10.2	+2.0
ASAR				S		S	06 18 19.5	-1.3
	1.2nm,0.8s,baz=349,slow=25,SNR=5.4 1.0nm,0.5s							
SONM	Songino Array 0.3nm,0.5s,baz=163,slow=5.4,SNR=4.4 0.3nm,0.5s	58.11	341	P		P	06 20 52.7	+0.6
MKAR	Makanchi Array 1.1nm,0.3s,baz=115,slow=7.9,SNR=48 1.1nm,0.3s	68.08	326	P		P	06 21 58.8	+1.0
ZALV	Zalesovo Beam 0.3nm,0.3s,baz=135,slow=5.6,SNR=2.1 0.3nm,0.3s	71.35	333	P		P	06 22 17.8	+0.2
KURBB	Kurchatov Arra 0.4nm,0.5s,baz=129,slow=5.4,SNR=5.7 0.4nm,0.5s	72.34	328	P		P	06 22 23.9	+0.3

IDC 27 06:17:31.2±8.1, 24.˚76S×179.˚75W, h389km±74km, mb3.5/5, mbtmp4.2/7, Error ellipse: s-maj=51.2km s-min=18.3km az=54.0
ISC 27 06:17:31.6±1.2, 24.˚8S±0.˚1×179.˚7W±0.˚2, h400km, n13, σ0s90/14, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac 8.1nm,1.1s,baz=124,slow=7.9,SNR=2.1	12.98	279	P		P	06 20 22.1	-0.1
URZ	Urewera 2.8nm,0.6s,baz=351,slow=19,SNR=1.0	13.69	191	P		P	06 20 29.1	-0.6
URZ				S		S	06 22 55.8	-1.2
	6.5nm,0.6s,baz=140,slow=22,SNR=6.9							
STKA	Stephens Creek 1.3nm,0.5s,baz=88,slow=12,SNR=5.8 1.3nm,0.5s	34.63	249	P		P	06 23 45.7	+0.5
ASAR	Alice Springs 1.5nm,0.4s,baz=94,slow=7.1,SNR=60 1.5nm,0.4s	42.14	262	P		P	06 24 47.4	+0.4
WRA	Warramunga Arr 4.5nm,0.4s,baz=98,slow=6.9,SNR=45 4.5nm,0.4s	42.60	267	P		P	06 24 50.7	0.0
VNDA	Vanda 1.1nm,0.8s,baz=1.7,slow=5.8,SNR=5.2 1.1nm,0.8s	53.52	185	P		P	06 26 13.9	+1.7
QSPA	South Pole Qui 2.5nm,0.7s,baz=358,slow=0.7,SNR=18 2.5nm,0.7s	65.30	180	P		P	06 27 33.0	+1.0
NOA	NORSAR Array B 1.2nm,0.8s,baz=28,slow=2.6,SNR=3.3	143.00	351	PKP		PKPdf	06 36 17.0	-1.0
HFS	Hagfors 2.5nm,0.5s,baz=42,slow=2.3,SNR=17	143.46	349	PKP		PKPdf	06 36 18.2	-0.6
AKASG	Malin Array Be 1.1nm,0.5s,baz=43,slow=4.3,SNR=7.4	145.85	327	PKPbc		PKPbc	06 36 24.5	0.0
MMAI	Mount Meron Ar 1.3nm,0.4s,baz=64,slow=7.5,SNR=5.6	148.28	293	PKPbc		PKiKP	06 36 32.8	-0.4
BRTR	Keskin Array B 0.4nm,0.5s,baz=58,slow=5.6,SNR=2.2	148.30	306	PKPbc		PKiKP	06 36 32.3	-0.8
TORD	Torodi Ar. Bea 0.6nm,0.9s,baz=163,slow=4.0,SNR=3.2	168.34	187	PKPab		PKPab	06 38 02.1	-0.8

**IDC 27 06:21:01.0±46.0, 16.˚07S×175.˚07W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=871.3km s-min=185.8km az=78.0, Ton

TESR	**Tescani**	**0.89**	**10**	⇓P		**Pn**	**06 48 30.9**	**+0.4**
TESR				⇓S		**Sn**	**06 48 43.9**	**-1.2**
SLCR	**Slobozia Conac**	**0.95**	**92**	⇑S		**Sn**	**06 48 44.6**	**-1.5**
IZVR	**Izvoarele**	**0.95**	**95**	⇓P		**Pn**	**06 48 31.1**	**+0.1**
IZVR				⇑S		**Sn**	**06 48 44.3**	**-1.8**
SULR		**0.97**	**187**	⇓S		**Sn**	**06 48 47.2**	**+0.8**
VOIR		**0.98**	**259**	⇓P		**Pn**	**06 48 32.2**	**+0.8**
VOIR				⇓S		**Sn**	**06 48 47.0**	**0.0**
SCHL	**Schela**	**1.00**	**97**	⇑P		**Pn**	**06 48 31.6**	**+0.1**
SCHL				⇓S		**Sn**	**06 48 45.5**	**-1.5**
SCHLR	**Schela**	**1.00**	**99**	⇑P		**Pn**	**06 48 31.7**	**+0.1**
SCHLR				⇓S		**Sn**	**06 48 45.6**	**-1.5**
NEGRR	**Negrea**	**1.03**	**95**	⇑P		**Pn**	**06 48 32.2**	**+0.4**
NEGRR				⇓S		**Sn**	**06 48 46.2**	**-1.3**
VARL	**Varlezi**	**1.03**	**75**	⇓S		**Sn**	**06 48 47.8**	**+0.1**
SCTR	**Scanteiesti**	**1.10**	**88**	⇑S		**Sn**	**06 48 48.4**	**-0.6**
TATR	**Tatarca**	**1.14**	**91**	⇓S		**Sn**	**06 48 49.3**	**-0.6**
VLDR	**Vladesti**	**1.18**	**79**	⇑P		**Pn**	**06 48 34.1**	**+0.5**
VLDR				⇑S		**Sn**	**06 48 50.5**	**-0.1**
INCR	**INCERC-Sediu C**	**1.21**	**189**	⇓S		**Sn**	**06 48 51.2**	**+0.1**
AMRR	**Amara**	**1.21**	**147**	⇓P		**Pn**	**06 48 35.0**	**+1.0**
AMRR				⇑S		**Sn**	**06 48 51.9**	**+0.6**
GIUM	**Giurgiulesti**	**1.26**	**96**	⇓P		**Pn**	**06 48 34.4**	**-0.1**
GIUM				⇓S		**Sn**	**06 48 52.6**	**+0.3**
ARR	**Arges**	**1.29**	**259**	⇑P		**Pn**	**06 48 36.1**	**+1.3**
ARR				⇑S		**Sn**	**06 48 53.1**	**+0.2**
STFAR	**Stefanesti-Arg**	**1.29**	**234**	⇓P		**Pn**	**06 48 36.4**	**+1.6**
STFAR				⇓S		**Sn**	**06 48 53.5**	**+0.6**
CFR	**Carcaliu**	**1.29**	**110**	⇓P		**Pn**	**06 48 35.0**	**+0.2**
CFR				⇓S		**Sn**	**06 48 51.7**	**-1.1**
BIZ	**Bicaz**	**1.32**	**351**	⇑S		**Sn**	**06 48 54.5**	**+1.0**
BUC1	**Bucharest**	**1.32**	**192**	⇑S		**Sn**	**06 48 53.9**	**+0.5**
VASR	**Vaslui**	**1.38**	**43**	⇓S		**Sn**	**06 48 55.1**	**+0.2**
HARR	**Harsova**	**1.43**	**131**	⇓P		**Pn**	**06 48 37.1**	**+0.7**
SGRR	**Singureni**	**1.45**	**193**	⇑P		**Pn**	**06 48 37.6**	**+0.9**
SGRR				⇑S		**Sn**	**06 48 56.2**	**0.0**
HUMR	**Humele**	**1.51**	**223**	⇓P		**Pn**	**06 48 38.3**	**+0.9**
HUMR				⇑S		**Sn**	**06 48 57.7**	**+0.2**
LEOM	**Leova**	**1.52**	**56**	⇓S		**Sn**	**06 48 57.6**	**-0.1**
TLBR	**Topalu**	**1.59**	**133**	⇑P		**Pn**	**06 48 39.3**	**+0.9**
TLBR				⇑S		**Sn**	**06 48 59.2**	**-0.1**
TPGR	**Topolog**	**1.61**	**118**	⇑P		**Pn**	**06 48 39.2**	**+0.5**
TPGR				⇑S		**Sn**	**06 48 59.0**	**-0.9**
TLCR		**1.75**	**104**	⇑P		**Pn**	**06 48 41.2**	**+0.9**
TLCR				⇓S		**Sn**	**06 49 02.8**	**0.0**
TIRR	**Tirgusor**	**1.84**	**129**	⇓P		**Pn**	**06 48 42.4**	**+0.8**
TIRR				⇓S		**Sn**	**06 49 03.6**	**-1.2**
LOT	**Lotru**	**1.87**	**265**	⇑P		**Pn**	**06 48 42.6**	**+0.5**
MFTR	**Murfatlar**	**2.04**	**135**	⇓P		**Pn**	**06 48 44.9**	**+0.8**
RAZG	**Razgrad**	**2.07**	**178**	⇓P		**Pn**	**06 48 45.0**	**+0.4**
RAZG				⇓S		**Sn**	**06 49 09.8**	**-0.4**
MILM	**Milestii Mici**	**2.10**	**51**	⇑P		**Pn**	**06 48 45.9**	**+1.0**
MILM				⇑S		**Sn**	**06 49 10.0**	**-0.7**
MILM	**Milestii Mici** 3.5nm,0.1s	**2.10**	**51**	*e*P		**Pn**	**06 48 45.8**	**+1.0**
MILM	29nm,0.2s			*e*S		**Sn**	**06 49 09.4**	**-1.3**
BURAR	**Bucovina Array**	**2.15**	**338**	⇓P		**Pn**	**06 48 48.0**	**+2.4**
KIS	**Kishinev** 9.0nm,0.1s	**2.15**	**50**	*e*S		**Sn**	**06 49 09.5**	**-2.4**
PSN	**Preselentsi**	**2.34**	**148**	*i* P		**Pn**	**06 48 49.6**	**+1.5**
SZH	**Strazhitsa**	**2.39**	**188**	*i* P		**Pn**	**06 48 49.6**	**+0.8**
SZH				*i* S		**Sn**	**06 49 10.7**	**-1.0**
NEF	**NEVSHA**	**2.45**	**165**	*i* P		**Pn**	**06 48 50.9**	**+1.4**
NEF				*i* S		**Sn**	**06 49 18.7**	**-0.3**
MARR	**Marisel-Cluj**	**2.52**	**296**	⇑P		**Pn**	**06 48 52.2**	**+1.8**
MARR				⇑S		**Sn**	**06 49 22.6**	**+1.8**
GZR	**Gura Zlata**	**2.57**	**266**	⇑P		**Pn**	**06 48 52.3**	**+1.2**
GZR				⇓S		**Sn**	**06 49 23.8**	**+1.7**
GZR	**Gura Zlata**	**2.57**	**266**	*e*Pn		**Pn**	**06 48 52.9**	**+1.7**
PRD	**Provadia**	**2.58**	**164**	*i* P		**Pn**	**06 48 52.4**	**+1.3**
PRD				*i* S		**Sn**	**06 49 21.7**	**-0.3**
PLVB	**Pleven**	**2.59**	**210**	⇓P		**Pn**	**06 48 52.3**	**+0.9**
ROIA	**ROIAK**	**2.63**	**165**	*i* P		**Pn**	**06 48 53.4**	**+1.5**
AVR	**AVREN**	**2.67**	**160**	*i* P		**Pn**	**06 48 53.9**	**+1.5**
ELND	**Elena**	**2.74**	**188**	⇓P		**Pn**	**06 48 54.4**	**+1.1**
ELND				⇓S		**Sn**	**06 49 25.3**	**-0.5**
DRGR		**2.82**	**295**	⇓P		**Pn**	**06 48 55.4**	**+0.9**
DRGR				⇑S		**Sn**	**06 49 29.8**	**+1.8**
DRGR		**2.82**	**295**	*e*Pn		**Pn**	**06 48 55.5**	**+1.0**
DRGR				*e*Sn		**Sn**	**06 49 25.0**	**-2.9**
SORM	**Soroca**	**2.83**	**27**	⇑P		**Pn**	**06 48 55.0**	**+0.6**
VALD	**Valchedram**	**2.89**	**229**	*i* P		**Pn**	**06 48 56.1**	**+0.9**
HERR	**Herculane**	**2.93**	**256**	⇓P		**Pn**	**06 48 56.9**	**+1.2**
MPEP	**Malo Peshtene**	**2.98**	**221**	*i* P		**Pn**	**06 48 57.4**	**+0.9**
BLKB	**Belogradchik**	**3.35**	**234**	⇓P		**Pn**	**06 49 02.0**	**+0.5**
BZS	**Buzias**	**3.37**	**271**	*e*Pn		**Pn**	**06 49 02.3**	**+0.6**
BZS				*e*Sn		**Sn**	**06 49 34.7**	**-6.2**
ZAGS	**Zajecar**	**3.50**	**240**	*e*Pn		**Pn**	**06 49 02.7**	**-0.7**
ZAGS				*e*Sn		Sn	06 49 35.0	-9.0
KUBS	**Kucevo**	**3.58**	**252**	*e*Pn		**Pn**	**06 49 04.7**	**+0.2**
KUBS				*e*Sn		Sn	06 49 37.8	-8.2
ZAPS	**Zavoj**	**3.60**	**230**	*e*Pn		**Pn**	**06 49 05.4**	**+0.6**
ZAPS				*e*Sn		Sn	06 49 37.4	-9.0
VTS	**Vitosha**	**3.79**	**218**	*e*Pn		**Pn**	**06 49 08.6**	**+1.1**
VTS				*e*Sn		**Sn**	**06 49 43.1**	**-8.2**
BOVS	**Bovan**	**3.92**	**241**	*e*Pn		**Pn**	**06 49 09.1**	**+0.1**
BOVS				*e*Sn		Sn	06 49 45.2	-8.8
BARS	**Barje**	**4.35**	**231**	*e*Pn		**Pn**	**06 49 15.8**	**+0.9**
BARS				*e*Sn		Sn	06 49 54.8	-10
PRVS	**Prvonek**	**4.43**	**227**	*e*Pn		**Pn**	**06 49 16.5**	**+0.5**
PRVS				*e*Sn		Sn	06 49 56.8	-10
TRUS	**Trudelj**	**4.50**	**254**	*e*Pn		**Pn**	**06 49 17.4**	**+0.5**
SELS	**Selova**	**4.50**	**239**	*e*Pn		**Pn**	**06 49 17.4**	**+0.4**
SELS				*e*Sn		Sn	06 49 58.1	-10
DIVS	**Divibare**	**4.82**	**254**	*e*Pn		**Pn**	**06 49 21.8**	**+0.4**
DIVS				*e*Sn		Sn	06 50 06.6	-9.5
IVAS	**Ivanjica**	**4.93**	**248**	*e*Pn		**Pn**	**06 49 22.4**	**-0.4**
IVAS				*e*Sn		Sn	06 50 10.0	-8.6

IDC ***27*** *07:09:07.9±3.0,55.°79N×149.°65W,h0km,mb3.5/2, mbtmp3.2/4,ML2.9/2,MS3.2/2,Error ellipse: s-maj=54.0km s-min=34.9km az=137.0*

NEIC ***27*** *07:09:12.2±1.3,56.°1N±0.°1×150.°0W±0.°1,h26km±16km, ML3.3/36,ML3.2(AEIC),Error ellipse: s-maj=17.7km s-min=9.1km az=161.0*

AEIC ***27*** *07:09:13.9±1.2,56.°0N±0.°1×149.°9W±0.°1,h11km±8km, Error ellipse: s-maj=17.8km s-min=9.8km az=166.0*

ISC 27 07:09:13.9±1.3,56.°15N±0.°09×150.°01W±0.°05,h35km, n124,σ0.99/124,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.10**	**302**		**Pn**	**07 09 45.5**	**-1.0**
OHAK					**Sn**	**07 10 10.5**	**-0.9**
OHAK	**Old Harbor**	**2.10**	**302**	P	**Pn**	**07 09 45.6**	**-1.0**
OHAK	**Old Harbor** baz=120	**2.10**	**302**	P	**Pn**	**07 09 45.5**	**-1.0**
OHAK	baz=120			S	**Sn**	**07 10 10.5**	**-0.9**
KDAK	**Kodiak Island**	**2.16**	**320**		**Pn**	**07 09 46.7**	**-0.6**
KDAK	**Kodiak Island**	**2.16**	**320**		**Sn**	**07 10 11.9**	**-1.0**
KDAK	**Kodiak Island** baz=139	**2.16**	**320**	S	**Sn**	**07 10 11.9**	**-1.0**
KDAK	**Kodiak Island** comp=Z,119nm,21.0s,baz=197,slow=43	**2.16**	**320**	LR	LR	07 10 57.9	
SII	**Sitkinak Islan**	**2.36**	**282**		**Pn**	**07 09 48.8**	**-1.3**
SII					**Sn**	**07 10 15.7**	**-2.1**
SII	**Sitkinak Islan** comp=E,91nm,0.7s	**2.36**	**282**	IAML		07 10 18.0	
SII	comp=N,230nm,1.2s			IAML		07 10 19.5	
SII	**Sitkinak Islan**	**2.36**	**282**	P	**Pn**	**07 09 49.0**	**-1.1**
SII	**Sitkinak Islan** baz=99	**2.36**	**282**	P	**Pn**	**07 09 48.8**	**-1.3**
SII	baz=99			S	**Sn**	**07 10 15.7**	**-2.1**
SYI	**Shuyak Island**	**2.78**	**333**		**Pn**	**07 09 55.4**	**-0.5**
Q20K	**Shuyak Island** baz=152	**2.78**	**333**	P	**Pn**	**07 09 55.4**	**-0.5**
Q20K	baz=152			S	**Sn**	**07 10 28.5**	**+0.3**
KAHG	**Katmai Hook Gl**	**3.40**	**316**		**Pn**	**07 10 05.1**	**+0.6**
Q19K	**Cape Douglas,**	**3.41**	**326**		**Pn**	**07 10 04.1**	**-0.4**
Q19K					**Sn**	**07 10 41.8**	**-1.9**
Q19K	**Cape Douglas,** baz=144	**3.41**	**326**	P	**Pn**	**07 10 04.1**	**-0.4**
Q19K	baz=144			S	**Sn**	**07 10 41.7**	**-1.9**
CNPM	**China Poot**	**3.45**	**350**		**Pn**	**07 10 03.8**	**-1.2**
CNPM					**Sn**	**07 10 44.5**	**-0.1**
CNPM	**China Poot** comp=N,28nm,0.5s	**3.45**	**350**	IAML		07 10 45.9	
CNPM	comp=E,37nm,1.5s			IAML		07 10 46.5	
BRSE	**Bradley Lake S**	**3.62**	**354**		**Pn**	**07 10 06.2**	**-1.3**
BRSE					**Sn**	**07 10 47.8**	**-1.1**
BRSE	**Bradley Lake S** baz=174	**3.62**	**354**	P	**Pn**	**07 10 06.2**	**-1.3**
BRSE	baz=174			S	**Sn**	**07 10 47.8**	**-1.1**
BRLK	**Bradley Lake**	**3.65**	**353**		**Pn**	**07 10 06.6**	**-1.3**
BRLK	comp=E,26nm,1.2s			IAML		07 10 55.4	
CNTC	**Contact Creek**	**3.83**	**306**		**Pn**	**07 10 09.9**	**-0.5**
Q17K	**Contact Creek** baz=121	**3.84**	**306**	P	**Pn**	**07 10 09.9**	**-0.5**
P19K	**Oil Pt**	**3.91**	**335**		**Pn**	**07 10 11.3**	**-0.1**
P19K	**Oil Pt** comp=N,66nm,0.7s	**3.91**	**335**	IAML		07 11 00.9	
P19K	comp=E,65nm,1.2s			IAML		07 11 01.8	
P19K	**Oil Pt** baz=153	**3.91**	**335**	P	**Pn**	**07 10 11.3**	**-0.1**
SEW	**Seward**	**3.98**	**4**		**Pn**	**07 10 10.6**	**-1.7**
SEW	**Seward** baz=184	**3.98**	**4**	P	**Pn**	**07 10 10.6**	**-1.7**
O20K	**Slope Mountain**	**4.18**	**342**		**Pn**	**07 10 14.5**	**-0.6**
O20K	**Slope Mountain** baz=160	**4.18**	**342**	P	**Pn**	**07 10 14.5**	**-0.6**
IVE	**Iliamna Volcan**	**4.19**	**339**		**Pn**	**07 10 14.5**	**-0.8**
P18K	**Big Mountain,**	**4.29**	**321**		**Pn**	**07 10 16.0**	**-0.5**
P18K	comp=E,15nm,1.0s			IAML		07 11 08.7	
P18K	**Big Mountain,** baz=137	**4.29**	**321**	P	**Pn**	**07 10 16.1**	**-0.5**
O22K	**Cooper Landing**	**4.35**	**2**		**Pn**	**07 10 16.8**	**-0.5**
SLKM	**Skilak Lake**	**4.37**	**359**		**Pn**	**07 10 16.6**	**-1.1**
Q16K	**King Salmon**	**4.40**	**308**		**Pn**	**07 10 17.2**	**-0.8**
Q16K	**King Salmon** baz=125	**4.40**	**308**	P	**Pn**	**07 10 17.2**	**-0.8**
RSO	**Redoubt South**	**4.56**	**343**	Pn	**Pn**	**07 10 19.8**	**-0.7**
P17K	**Kvichak River**	**4.61**	**314**		**Pn**	**07 10 21.1**	**+0.2**
P17K	**Kvichak River** baz=129	**4.61**	**314**	P	**Pn**	**07 10 21.1**	**+0.2**
O18K	**Koktuh Hills**	**4.63**	**325**		**Pn**	**07 10 20.4**	**-0.9**
O18K	**Koktuh Hills** comp=N,27nm,1.0s	**4.63**	**325**	IAML		07 11 16.1	
O18K	comp=E,17nm,1.0s			IAML		07 11 32.5	
O18K	**Koktuh Hills** baz=141	**4.63**	**325**	P	**Pn**	**07 10 20.4**	**-0.9**
HIN	**Hinchinbrook I**	**4.64**	**22**		**Pn**	**07 10 20.4**	**-1.0**
O19K	**Port Alsworth**	**4.65**	**332**		**Pn**	**07 10 21.9**	**+0.4**
O19K	comp=N,52nm,0.4s			IAML		07 11 17.8	
EYAK	**Cordova Ski Ar**	**4.95**	**25**		**Pn**	**07 10 24.6**	**-0.9**
EYAK	**Cordova Ski Ar**	**4.95**	**25**	P	**Pn**	**07 10 24.8**	**-0.7**
EYAK	**Cordova Ski Ar** baz=209	**4.95**	**25**	P	**Pn**	**07 10 24.6**	**-0.9**
RC01	**Rabbit Creek A**	**4.96**	**2**	Pn	**Pn**	**07 10 23.5**	**-2.2**
RC01	comp=N,18nm,1.2s			IAML		07 11 09.3	
RC01	comp=E,21nm,1.3s			IAML		07 11 09.3	
RAGM	**Ragged Mountai**	**5.09**	**31**		**Pn**	**07 10 26.4**	**-1.2**
RAGM	comp=E,36nm,1.2s			IAML		07 11 50.5	
P16K	**Nushagak River**	**5.17**	**307**		**Pn**	**07 10 29.0**	**+0.3**
P16K	**Nushagak River** baz=121	**5.17**	**307**	P	**Pn**	**07 10 29.0**	**+0.3**
N19K	**Bonanza Creek**	**5.23**	**335**		**Pn**	**07 10 29.0**	**-0.6**
N19K	**Bonanza Creek** comp=E,8.2nm,1.5s	**5.23**	**335**	IAML		07 12 55.2	
N19K	**Bonanza Creek** baz=152	**5.23**	**335**	P	**Pn**	**07 10 29.0**	**-0.6**
SPCP	**Crater Peak Br**	**5.25**	**349**		**Pn**	**07 10 29.3**	**-0.6**
KNK	**Knik Glacier**	**5.34**	**8**		**Pn**	**07 10 29.9**	**-1.1**
KNK	**Knik Glacier** comp=N,26nm,2.7s	**5.34**	**8**	IAML		07 12 45.5	
KNK	comp=E,31nm,3.0s			IAML		07 13 10.5	
KNK	**Knik Glacier** baz=189	**5.34**	**8**	P	**Pn**	**07 10 29.9**	**-1.1**
SUA	**Susitna One**	**5.34**	**356**	Pn	**Pn**	**07 10 29.4**	**-1.7**
SUA	comp=N,29nm,3.5s			IAML		07 12 43.0	
BERG	**Berg Lake**	**5.40**	**35**		**Pn**	**07 10 30.4**	**-1.4**
STLK	**Strandline Lak**	**5.45**	**351**		**Pn**	**07 10 31.8**	**-0.7**
PMR	**Palmer**	**5.48**	**4**	P	**Pn**	**07 10 34.5**	**+1.7**
N18K	**Kilae Creek**	**5.49**	**328**		**Pn**	**07 10 32.2**	**-0.9**
N18K	**Kilae Creek** baz=143	**5.49**	**328**	P	**Pn**	**07 10 32.2**	**-0.9**
O16K	**Kokwok River B**	**5.53**	**312**		**Pn**	**07 10 33.5**	**-0.1**
O16K	**Kokwok River B** baz=125	**5.53**	**312**	P	**Pn**	**07 10 33.5**	**-0.1**
SNH	**Sunshine Point**	**5.54**	**40**	Pn	**Pn**	**07 10 33.7**	**-0.1**
BMRM	**Bremner River**	**5.59**	**28**		**Pn**	**07 10 33.3**	**-1.2**
BMRM	**Bremner River** baz=213	**5.59**	**28**	P	**Pn**	**07 10 33.3**	**-1.2**
GHO	**Glory Hole Cre**	**5.67**	**5**		**Pn**	**07 10 34.8**	**-0.7**
SML	**Sawmill**	**5.74**	**8**	Pn	**Pn**	**07 10 35.5**	**-1.0**
KLU	**Klutina**	**5.76**	**20**		**Pn**	**07 10 36.0**	**-0.8**
KLU	**Klutina** baz=203	**5.76**	**20**	P	**Pn**	**07 10 36.0**	**-0.8**
N17K	**Nushagak Hills**	**5.79**	**322**		**Pn**	**07 10 36.8**	**-0.4**
N17K	**Nushagak Hills** baz=136	**5.79**	**322**	P	**Pn**	**07 10 36.8**	**-0.4**
BARK	**Barkley Ridge**	**5.82**	**40**		**Pn**	**07 10 36.7**	**-1.0**
SCM	**Sheep Creek Mo**	**5.87**	**13**	Pn	**Pn**	**07 10 38.9**	**+0.7**
SKT	**Skwentna**	**5.90**	**353**		**Pn**	**07 10 38.2**	**-0.5**
SKT	**Skwentna** baz=172	**5.90**	**353**	P	**Pn**	**07 10 38.2**	**-0.5**
M20K	**Styx River**	**5.97**	**346**	Pn	**Pn**	**07 10 37.8**	**-1.9**
O15K	**Ungalikthiuk R**	**6.08**	**304**		**Pn**	**07 10 41.2**	**+0.1**
O15K	**Ungalikthiuk R** baz=116	**6.08**	**304**	P	**Pn**	**07 10 41.2**	**+0.1**
N25K	**Chitina, Valde**	**6.15**	**25**		**Pn**	**07 10 41.5**	**-0.6**
N25K	**Chitina, Valde** baz=209	**6.15**	**25**	P	**Pn**	**07 10 41.5**	**-0.6**
M18K	**Stony River**	**6.15**	**333**		**Pn**	**07 10 41.1**	**-0.9**
M18K	**Stony River** baz=148	**6.15**	**333**	P	**Pn**	**07 10 41.1**	**-0.9**
GLB	**Gilahina Butte**	**6.20**	**29**	Pn	**Pn**	**07 10 42.5**	**-0.4**
KIAG	**Kiagna River**	**6.24**	**37**		**Pn**	**07 10 42.6**	**-0.8**
M24K	**Tolsona, Glenn**	**6.29**	**17**	Pn	**Pn**	**07 10 44.3**	**+0.2**
MCARA	**McCarthy VSAT**	**6.38**	**32**	Pn	**Pn**	**07 10 45.8**	**+0.5**
PTPK	**Patty Peak**	**6.40**	**35**		**Pn**	**07 10 44.7**	**-1.0**
M17K	**Holitna River**	**6.53**	**327**		**Pn**	**07 10 46.7**	**-0.5**
BARN	**Barnard Glacie**	**6.57**	**38**		**Pn**	**07 10 47.0**	**-1.1**
L20K	**Farewell, AK**	**6.65**	**344**		**Pn**	**07 10 48.1**	**-0.9**
L20K	**Farewell, AK** baz=161	**6.65**	**344**	P	**Pn**	**07 10 48.1**	**-0.9**
PNL	**Peninsula**	**6.66**	**54**		**Pn**	**07 10 48.0**	**-1.1**
PNL	**Peninsula**	**6.66**	**54**	P	**Pn**	**07 10 48.5**	**-0.6**
PNL	**Peninsula** baz=242	**6.66**	**54**	P	**Pn**	**07 10 48.0**	**-1.1**
N15K	**Kwethluk River**	**6.68**	**311**		**Pn**	**07 10 49.9**	**+0.5**
HARP	**HAARP**	**6.74**	**20**		**Pn**	**07 10 50.3**	**+0.1**
HARP	**HAARP** baz=204	**6.74**	**20**	P	**Pn**	**07 10 50.3**	**+0.1**
M16K	**Timber Creek**	**6.76**	**320**		**Pn**	**07 10 50.1**	**-0.4**
M16K	**Timber Creek** baz=132	**6.76**	**320**	P	**Pn**	**07 10 50.1**	**-0.4**
O14K	**Tigyukauivet M**	**6.79**	**302**	Pn	**Pn**	**07 10 51.0**	**+0.2**
TRF	**Thorofare Moun**	**7.32**	**359**	Pn	**Pn**	**07 10 57.5**	**-0.8**
O29M	**Mount Kennedy**	**7.33**	**51**	Pn	**Pn**	**07 10 58.5**	**+0.1**
KTH	**Kantishna Hill**	**7.44**	**357**	Pn	**Pn**	**07 11 00.0**	**+0.2**
M14K	**Bethel**	**7.78**	**311**	Pn	**Pn**	**07 11 04.9**	**+0.5**
K17K	**Iditarod**	**7.82**	**331**	Pn	**Pn**	**07 11 04.1**	**-0.8**
HYT	**Haines Junctio**	**8.05**	**49**	Pn	**Pn**	**07 11 10.0**	**+1.8**
L15K	**Ungalak Mounta**	**8.12**	**318**		**Pn**	**07 11 09.3**	**+0.2**
L15K	**Ungalak Mounta** baz=128	**8.12**	**318**	P	**Pn**	**07 11 09.3**	**+0.2**
L14K	**Kuka Creek**	**8.39**	**314**		**Pn**	**07 11 12.8**	**+0.1**
M29M	**Somme Creek**	**8.63**	**38**		**Pn**	**07 11 16.5**	**+0.3**
ILAR	**Eielson Array** comp=N,0.2nm,0.3s,baz=192,slow=13,SNR=9.6	**8.78**	**9**	Pn	**Pn**	**07 11 18.8**	**+0.6**
ILAR	comp=N,0.1nm,0.3s,baz=193,slow=23,SNR=3.8 comp=N,0.5nm,0.3s			Sn	**Sn**	**07 12 54.4**	**-1.4**
COLA	**College**	**8.82**	**6**	P	**Pn**	**07 11 20.1**	**+1.5**
YKA	**Yellowknife Ar**	**18.95**	**56**	P	**P**	**07 13 29.8**	**-1.8**
	baz=263,slow=9.3,SNR=2.5 comp=N,0.2nm,0.7s						
H11S1	**WAKE ISLAND Hy** baz=29	**49.61**	**239**	T	T	08 12 06.8	
H11S2	**WAKE ISLAND Hy** baz=29	**49.62**	**239**	T	T	08 11 51.0	
H11S3	**WAKE ISLAND Hy** baz=29	**49.63**	**239**	T	T	08 12 00.9	
JCJ	**Chichijima** comp=N,85nm,20.3s,baz=266,slow=35	**55.67**	**268**	LR	LR	07 41 23.5	
SONM	**Songino Array** comp=N,0.3nm,0.6s,baz=32,slow=8.5,SNR=1.5 comp=N,0.3nm,0.6s	**58.41**	**310**	P	**P**	**07 19 08.4**	**+2.7**
ZALV	**Zalesovo Beam** comp=N,0.3nm,0.4s,baz=46,slow=8.3,SNR=1.9 comp=N,0.3nm,0.4s	**61.45**	**327**	P	**P**	**07 19 27.4**	**+1.1**

KRSC 27 07:10:34.9±0.5,55.°36N×166.°29E,h34km,MI3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.24**	**229**	*e*P	Pb	07 10 42.4	+0.4
BKI				*e*S	Sb	07 10 47.7	+1.0
TUMD	**Tumrok D**	**3.37**	**270**	*e*P	Pn	07 11 29.1	+4.1
KPT	**Kopyto**	**3.49**	**283**	*e*P	Pn	07 11 30.7	+4.0
SMAR	**Somma**	**4.86**	**247**	*e*P	Pn	07 11 50.1	+4.4
AVH	**Avacha**	**4.89**	**248**	*e*P	Pn	07 11 50.7	+4.7
KRX	**Arik**	**4.89**	**249**	*e*P	Pn	07 11 50.5	+4.3
KOK	**Koryaka**	**4.93**	**248**	*e*P	Pn	07 11 51.3	+4.7
MTVR	**Mutnovka**	**5.59**	**242**	*e*P	Pn	07 12 00.4	+4.7
GRL	**Gorelyy**	**5.61**	**243**	*e*P	Pn	07 12 00.9	+5.0

MOS ***27*** *07:28:20.7±1.4,44.°01N×148.°86E,h47km,mb4.3/1,Error ellipse: s-maj=13.7km s-min=12.4km az=5.9*

SKHL ***27*** *07:28:22.1±0.0,44.°00N×148.°80E,h58km±5km,mb4.6/3*

NIED ***27*** *07:28:23.1,44.°16N×148.°80E,h30km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.51; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-3.22; $M_{r\theta}$-0.35; $M_{\theta\phi}$-1.06; $M_{\phi r}$1.71; Fault plane solution: $M_0$3.52000×10^{14} NP1: ϕ_s357.00000°,δ61.00000°,λ70.00000°. NP2: ϕ_s215.00000°,δ35.00000°,λ122.00000°.*

IDC ***27*** *07:28:24.6±3.6,43.°99N×148.°83E,h65km±32km,mb3.4/9, mbtmp3.7/12,ML3.3/3,MS2.8/2 Error ellipse: s-maj=25.9km s-min=23.4km az=155.0*

ISC 27 07:28:17.2±2.5,44.°03N±0.°08×148.°87E±0.°07,h4km±15km, n32,σ1.°90/35,mb3.8/9,2C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.40**	**330**	*d* iPN	**Pb**	**07 28 43.6**	**-0.2**
KUR				S	**Sb**	**07 28 58.6**	**-3.4**
KUR	comp=Z,348nm,0.5s			pmax	pmax		
KUR	comp=N,187nm,0.2s			pmax	pmax		
KUR	comp=E,165nm,0.2s			pmax	pmax		
KUR	comp=N,522nm,0.5s			smax	smax		
KUR	comp=E,645nm,0.5s			smax	smax		
KUR	**Kuril'sk**	**1.40**	**330**	*i* P	**Pg**	**07 28 43.7**	**-0.3**
KUR				AMB	AMB	07 28 45.4	
KUR	comp=E,250nm,0.3s			*e*S	**Sb**	**07 28 59.9**	**-2.1**
KUR	comp=E,510nm,0.4s			A	A	07 29 03.4	
KUR	comp=E,880nm,0.4s			A	A	07 29 03.4	
SHO	**Shikotan**	**1.48**	**264**	⇑ iPN	**Pn**	**07 28 45.2**	**+0.6**
SHO				*i* S	**Sn**	**07 29 05.3**	**+0.9**
SHO	comp=E,31nm,0.3s			pmax	pmax		
SHO	comp=Z,67nm,0.3s			pmax	pmax		
SHO	comp=N,39nm,0.1s			pmax	pmax		
SHO	comp=E,618nm,0.5s			smax	smax		
SHO	comp=N,1μm,0.3s			smax	smax		
SHO	**Shikotan**	**1.48**	**264**	*i* P	**Pn**	**07 28 45.2**	**+0.6**
SHO				AMB	AMB	07 28 46.7	
SHO	comp=N,70nm,0.3s			*i* S	**Sn**	**07 29 02.5**	**-1.9**
SHO	comp=N,1μm,0.4s			A	A	07 29 06.0	
SHO	comp=N,1μm,0.4s			A	A	07 29 06.0	
YUK	**Yuzh-Kuril'sk**	**2.17**	**271**	*c* iPN	**Pn**	**07 28 55.9**	**+1.8**
YUK				*i* S	**Sn**	**07 29 21.6**	**+0.2**
YUK	comp=N,143nm,0.2s			pmax	pmax		

	comp=E,1.1nm,0.6s							
NOA	**NORSAR Array B**	**69.78**	**340**	P		**P**	**07 39 27.6**	**-0.7**
	comp=E,5.0nm,1.3s,baz=31,slow=6.6,SNR=5.7							
	comp=E,5.0nm,1.3s							
HFS	**Hagfors**	**69.90**	**338**	P		**P**	**07 39 28.3**	**-0.6**
	comp=E,1.6nm,0.8s,baz=27,slow=9.7,SNR=4.8							
	comp=E,1.6nm,0.8s							
TXAR	**Lajitas Array**	**81.45**	**57**	P		**P**	**07 40 36.8**	**+1.1**
	comp=E,0.1nm,0.5s,baz=306,slow=4.2,SNR=3.9							
	comp=E,0.1nm,0.5s							

*IDC **27** 07:31:03.4±5.8, 35.87N×70.72E, h70km±41km, mb3.2/3, mbtmp3.6/9, ML3.3/6, Error ellipse: s-maj=60.6km s-min=19.5km az=151.0*

*NNC **27** 07:31:14.2±1.8, 36.54N×70.73E, h111km±37km, mb3.3, mpv3.8, Error ellipse: s-maj=22.7km s-min=13.1km az=125.0*

ISC 27 07:31:08.3±1.6, 36.2N±0.1×70.60E±0.10, h100km, n21, σ1853/27, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.39**	**21**	P	**Pn**	**07 32 41.2**	**+0.9**
	SNR=17						
AML	**Almayashu**	**6.39**	**21**	⇑P	**Pn**	**07 32 41.6**	**+1.3**
	0.3nm,0.2s						
AML				S	**Sn**	**07 33 50.4**	**-1.6**
	4.7nm,0.6s						
UCH	**Uchtor**	**6.74**	**26**	P	**Pn**	**07 32 47.0**	**+1.9**
	SNR=8.7						
KK31	**Karatay Array**	**6.90**	**359**	P	**Pn**	**07 32 47.8**	**+0.9**
	3.4nm,0.3s,baz=191,slow=18,SNR=40						
KK31				⇓S	**Sn**	**07 34 01.7**	**-2.0**
	1.5nm,0.3s,baz=183,slow=27,SNR=3.8						
EKS2	**Erkin-Say**	**6.91**	**20**	P	**Pn**	**07 32 49.0**	**+2.0**
	SNR=15						
AAK	**Ala-Archa**	**7.10**	**24**	P	**Pn**	**07 32 51.0**	**+1.3**
	SNR=6.6						
AAK	**Ala-Archa**	**7.10**	**24**	P	**Pn**	**07 32 50.3**	**+0.6**
	3.4nm,0.3s,baz=168,slow=6.9,SNR=40						
AAK				S	**Sn**	**07 34 09.0**	**+0.1**
	7.6nm,0.6s,baz=139,slow=19,SNR=13						
	6.0nm,0.3s						
CHMS	**Chumysh**	**7.51**	**24**	P	**Pn**	**07 32 56.5**	**+1.4**
	SNR=10						
CHMS	**Chumysh**	**7.51**	**24**	⇑P	**Pn**	**07 32 56.1**	**+1.0**
	6.4nm,0.3s						
CHMS				⇑S	**Sn**	**07 34 16.3**	**-2.3**
	8.5nm,0.6s						
USP	**Ospenovka**	**7.67**	**22**	P	**Pn**	**07 32 58.4**	**+1.0**
	SNR=14						
TKM2	**Tokmak 2**	**7.74**	**28**	⇑P	**Pn**	**07 32 59.4**	**+1.0**
	2.3nm,0.3s						
TKM2				⇓S	**Sn**	**07 34 21.9**	**-2.7**
	7.9nm,0.8s						
GEYT	**Alibeck**	**10.13**	**284**	P	**Pn**	**07 33 28.7**	**-2.1**
	0.2nm,0.3s,baz=111,slow=14,SNR=1.4						
GEYT				S	**Sn**	**07 35 22.7**	**+0.2**
	1.6nm,0.3s,baz=130,slow=23,SNR=2.8						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**13.72**	**36**	P	**Pn**	**07 34 18.4**	**-0.2**
	0.1nm,0.3s,baz=221,slow=12,SNR=8.8						
	0.9nm,0.8s						
AB31	**Akbulak array**	**15.20**	**332**	P	**Pn**	**07 34 38.3**	**+0.9**
	1.6nm,0.4s,baz=153,slow=12,SNR=63						
KURBB	**Kurchatov Arra**	**15.51**	**19**	P	**Pn**	**07 34 39.6**	**-1.7**
	baz=215,slow=13,SNR=2.4						
	0.2nm,0.2s						
BVAR	**Borovoye Array**	**16.83**	**360**	P	**Pn**	**07 34 57.4**	**-0.2**
	baz=172,slow=11,SNR=5.7						
	0.6nm,0.4s						
AKTO	**Aktyubinsk**	**16.89**	**331**	⇓P	**P**	**07 35 01.7**	**+2.9**
	2.2nm,0.8s						
AKTO	**Aktyubinsk**	**16.89**	**331**	P	**Pn**	**07 34 59.5**	**+1.1**
	0.3nm,0.3s,baz=140,slow=13,SNR=6.4						
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**20.32**	**25**	P	**P**	**07 35 36.7**	**+0.5**
	2.1nm,0.5s,baz=221,slow=10,SNR=14						
	2.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.39**	**269**	P	**P**	**07 41 39.7**	**-0.8**
	0.6nm,0.9s,baz=60,slow=5.6,SNR=2.2						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**81.56**	**2**	P	**P**	**07 43 14.6**	**+0.1**
	0.1nm,0.6s,baz=354,slow=5.9,SNR=4.7						
	0.1nm,0.6s						

SKO 27 07:36:51.9, 41.23N×20.86E, h0km, ML1.7, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.13**	**201**	*i* Pg	Pg	07 36 54.6	+0.4
OHR				*i* Sg	Sg	07 36 55.5	-0.4
OHR				*e*Lg	Lg	07 36 55.5	
	comp=N,325nm,0.3s						
OHR				*e*Lg	Lg	07 36 55.9	
	comp=E,497nm,0.5s						
FNA	**Florina**	**0.59**	**139**	P	Pg	07 37 03.2	0.0
FNA				S	Sg	07 37 10.7	-0.2
FNA	**Florina**	**0.59**	**139**	*i* Pg	Pg	07 37 03.1	0.0
FNA				*i* Sg	Sg	07 37 10.9	0.0
NEST	**Nestorio**	**0.83**	**170**	P	Pg	07 37 06.4	-1.3
GRG	**Griva**	**1.20**	**103**	*e*Pg	Pg	07 37 12.7	-2.1
GRG				*e*Sg	Sn	07 37 32.2	-0.7

*THE **27** 07:36:55.4, 38.36N×20.45E, h9km±1km, ML2.2/11, Error ellipse: s-maj=1.6km s-min=0.4km az=140.0*

ATH 27 07:36:55.4, 38.36N×20.45E, h8km±1km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=0.6km az=279.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSK1	**VASILIKIADES**	**0.10**	**62**	P	Pg	07 36 57.5	-0.4
VSK1				S	Sg	07 36 59.6	0.0
	2μm,0.3s						
KEF4	**Livadi, Kephal**	**0.10**	**191**	P	Pg	07 36 57.8	-0.1
KEF4				S	Sg	07 37 00.3	+0.7
KEF4	**Livadi, Kephal**	**0.10**	**191**	P	Pg	07 36 57.8	-0.1
KEF4				S	Sg	07 37 00.0	+0.4
FSK	**Fiskardo**	**0.13**	**42**	P	Pg	07 36 58.0	-0.4
FSK				S	Sg	07 37 00.5	+0.1
	668nm,0.2s						
FSK	**Fiskardo**	**0.13**	**42**	P	Pg	07 36 58.0	-0.3
FSK				S	Sg	07 36 59.8	-0.5
FSK				AML	AML	07 37 01.8	
	comp=E,1598μm,0.1s						
FSK				AML	AML	07 37 03.6	
	comp=N,942μm,0.3s						
DMLN	**Damoulianata-K**	**0.14**	**206**	P	Pg	07 36 58.4	0.0
DMLN				S	Sg	07 37 00.9	+0.4
	comp=N,1μm,0.5s						
DMLN	**Damoulianata-K**	**0.14**	**206**	P	Pg	07 36 58.4	0.0
DMLN				S	Sg	07 37 00.6	+0.1
LXR1	**Lixouri, Cepha**	**0.16**	**183**	P	Pg	07 36 59.0	+0.2
LXR1				S	Sg	07 37 02.4	+1.3
	comp=N,4μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.16**	**183**	P	Pg	07 36 59.0	+0.2
LXRA				S	Sg	07 37 01.8	+0.7
KEF3	**Kipouria, Keph**	**0.18**	**207**	P	Pg	07 36 58.4	-0.7
KEF3				S	Sg	07 37 01.4	-0.2
	comp=N,2μm,0.2s						
KEF3	**Kipouria, Keph**	**0.18**	**207**	P	Pg	07 36 58.5	-0.6
VLS	**Valsamata**	**0.21**	**149**	P	Pg	07 36 59.6	-0.2
VLS				S	Sg	07 37 03.6	+0.9
	comp=N,695nm,0.2s						
VLS	**Valsamata**	**0.21**	**149**	P	Pg	07 36 59.5	-0.3
VLS				S	Sg	07 37 02.9	+0.2
VLS				AML	AML	07 37 03.6	
	comp=N,1596μm,0.2s						
VLS				AML	AML	07 37 05.4	
	comp=E,1153μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.27**	**157**	P	Pg	07 37 00.7	-0.1
PSDA				S	Sg	07 37 05.4	+1.0
	comp=E,1μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.27**	**157**	P	Pg	07 37 00.6	-0.2
PSDA				S	Sg	07 37 05.0	+0.7
EVGI	**Lefkada island**	**0.30**	**32**	P	Pg	07 37 01.5	0.0
EVGI				S	Sg	07 37 06.9	+1.3
	comp=E,890nm,0.1s						
EVGI	**Lefkada island**	**0.30**	**32**	P	Pg	07 37 01.6	+0.1
EVGI				S	Sg	07 37 06.1	+0.5
DRAG	**Dragano-Lefkad**	**0.34**	**17**	P	Pg	07 37 02.0	-0.1
DRAG				S	Sg	07 37 07.6	+1.0
DRAG	**Dragano-Lefkad**	**0.34**	**17**	P	Pg	07 37 02.0	-0.1
DRAG				S	Sg	07 37 06.9	+0.3
NYDR	**Nydri-Lefkada**	**0.40**	**29**	P	Pg	07 37 03.0	-0.3
NYDR				S	Sg	07 37 09.7	+1.1
	comp=E,170nm,0.2s						
NYDR	**Nydri-Lefkada**	**0.40**	**29**	P	Pg	07 37 03.0	-0.3
NYDR				S	Sg	07 37 08.9	+0.3
LKD2	**Lefkada island**	**0.46**	**21**	P	Pg	07 37 04.0	-0.3
LKD2				S	Sg	07 37 11.1	+0.7
	comp=E,68nm,0.3s						
LKD2	**Lefkada island**	**0.46**	**21**	P	Pg	07 37 04.1	-0.2
LKD2				S	Sg	07 37 11.2	+0.8
TSLK	**Tsoukalades, L**	**0.49**	**19**	P	Pg	07 37 04.8	-0.2
TSLK				S	Sb	07 37 12.8	-0.8
	comp=E,92nm,0.4s						
TSLK	**Tsoukalades, L**	**0.49**	**19**	P	Pg	07 37 04.7	-0.3
TSLK				S	Sg	07 37 10.9	-0.5
LTHK	**Lithakia**	**0.72**	**155**	P	Pg	07 37 08.5	-0.7
LTHK				S	Sg	07 37 19.3	+0.6
LTHK				AML	AML	07 37 22.1	
	comp=E,262μm,0.3s						
LTHK				AML	AML	07 37 23.8	
	comp=N,275μm,0.1s						
PVO	**Paravola**	**0.88**	**73**	P	Pg	07 37 12.4	-0.1
PVO				S	Sg	07 37 24.1	+0.3
DRO	**Drossia**	**1.07**	**112**	P	Pg	07 37 15.8	-0.3
EFP	**Efpalio**	**1.15**	**86**	P	Pg	07 37 16.8	-0.7
EFP				S	Sg	07 37 32.1	-0.3
ANX	**Ano Chora**	**1.18**	**78**	P	Pg	07 37 17.3	-0.8
ANX	**Ano Chora**	**1.18**	**78**	P	Pg	07 37 17.1	-1.0
ANX				S	Sg	07 37 32.9	-0.4
KLV	**Kalavryta, Ach**	**1.38**	**103**	P	Pn	07 37 20.2	-0.8
KLV				S	Sb	07 37 38.6	-0.6

*TAP **27** 07:55:38.8, 24.32N×122.75E, h13km, ML2.9, C*
*JMA **27** 07:55:38.9±0.1, 24.2N±2.2×122.8E±0.6, h22km±2km, MV2.8/13, NW OFF ISHIGAKIJIMA IS*

ISC 27 07:55:38.3±1.0, 24.27N±0.03×122.80E±0.02, h16km±8km, n76, σ086/144, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.23**	**37**	*i* P	**Pb**	**07 55 44.2**	**+0.2**
JYNG				*e*S	**Sb**	**07 55 48.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.28**	**45**	P	**Pb**	**07 55 45.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.28**	**45**	P	**Pb**	**07 55 45.1**	**+0.2**
YOJ				*e*S	**Sb**	**07 55 49.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.28**	**45**	⇑P	**Pb**	**07 55 45.1**	**+0.2**
	baz=57						
YOJ				S	**Sb**	**07 55 49.6**	**+0.3**
	baz=57						
EOS3	**EOS3**	**0.44**	**273**	P	**Pg**	**07 55 47.3**	**+0.2**
	baz=265						
EOS3				S	**Sb**	**07 55 54.0**	**+0.2**
	baz=265						
EOS4	**EOS4**	**0.46**	**252**	P	**Pg**	**07 55 47.4**	**0.0**
	baz=249						
EOS4				S	**Sg**	**07 55 53.8**	**+0.1**
	baz=249						
EOS2	**EOS2**	**0.54**	**286**	P	**Pb**	**07 55 49.5**	**+0.3**
	baz=287						
EOS2				S	**Sb**	**07 55 57.4**	**+0.7**
	baz=287						
IRIF	**Iriomote-Funau**	**0.85**	**85**	P	**Pb**	**07 55 54.6**	**-0.2**
IRIF				S	**Sb**	**07 56 06.8**	**+0.8**
ESAO	**Su ao**	**0.92**	**290**	P	**Pb**	**07 55 54.9**	**-1.0**
	baz=300						
ESAO				S	**Sb**	**07 56 07.5**	**-0.4**
	baz=300						
TWC	**Suao**	**0.93**	**292**	*i* P	**Pb**	**07 55 55.5**	**-0.5**
	baz=302						
TWC				*i* S	**Sb**	**07 56 06.8**	**-1.3**
	baz=302						
HATJ	**Hateruma jima**	**0.94**	**103**	P	**Pb**	**07 55 56.6**	**+0.3**
EWUT	**Wuta**	**0.95**	**281**	P	**Pb**	**07 55 56.1**	**-0.2**
	baz=290						
EWUT				S	**Sg**	**07 56 08.9**	**-0.2**
	baz=290						
EAHA	**Aohua**	**0.97**	**274**	P	**Pg**	**07 55 57.3**	**+0.2**
	baz=270						
EAHA				S	**Sg**	**07 56 10.1**	**+0.3**
	baz=270						
ENA	**Nanau**	**0.98**	**280**	*i* P	**Pb**	**07 55 56.3**	**-0.5**
	baz=287						
ENA				*i* S	**Sg**	**07 56 10.0**	**-0.1**
	baz=287						
TWB1	**Santiao Chiao**	**1.04**	**315**	*i* P	**Pb**	**07 55 57.5**	**-0.5**
	baz=314						
TWB1				S	**Sb**	**07 56 10.9**	**-0.5**
	baz=314						
NDS	**Dongshan**	**1.05**	**291**	P	**Pb**	**07 55 57.6**	**-0.5**
	baz=298						
NDS				S	**Sg**	**07 56 11.9**	**-0.5**
	baz=298						
NACB	**Ninganchiao**	**1.10**	**265**	P	**Pn**	**07 55 59.5**	**+0.5**
NACB	**Ninganchiao**	**1.10**	**265**	P	**Pb**	**07 55 59.3**	**+0.3**
	baz=241						
NACB				S	**Sg**	**07 56 15.0**	**+0.9**
	baz=241						
JKRS	**Kuro-shima**	**1.11**	**91**	P	**Pn**	**07 55 59.0**	**-0.1**
JKRS				S	**Sb**	**07 56 13.9**	**+0.7**
TWE	**Neicheng**	**1.12**	**294**	*i* P	**Pb**	**07 55 59.0**	**-0.4**
	baz=303						
TWE				*i* S	**Sn**	**07 56 14.3**	**-0.1**
	baz=303						
TIPB	**Shuangxi**	**1.13**	**309**	P	**Pb**	**07 55 59.0**	**-0.4**
	baz=307						
TIPB				S	**Sb**	**07 56 13.6**	**-0.3**
	baz=307						
SXI1	**Grass Mountain**	**1.18**	**315**	P	**Pn**	**07 55 59.3**	**-0.8**
	baz=313						
SXI1				S	**Sn**	**07 56 15.5**	**-0.4**
	baz=313						
ENTT	**Nioudou**	**1.18**	**289**	*i* P	**Pb**	**07 56 00.6**	**+0.3**
	baz=296						
ENTT				S	**Sb**	**07 56 15.2**	**-0.2**
	baz=296						
LATG	**Datong**	**1.19**	**283**	P	**Pb**	**07 56 00.6**	**0.0**
	baz=290						
LATG				S	**Sg**	**07 56 16.6**	**-0.2**
	baz=290						
ETLH	**Xiulin Townshi**	**1.20**	**267**	P	**Pb**	**07 56 01.0**	**+0.3**
	baz=262						
ETLH				*e*S	**Sg**	**07 56 19.4**	**+2.1**
	baz=262						
FUSB	**Fushanzhiwuyua**	**1.21**	**294**	P	**Pb**	**07 56 01.0**	**+0.2**
	baz=302						
FUSB				S	**Sn**	**07 56 16.6**	**0.0**
	baz=302						
NDT	**Datong Townshi**	**1.22**	**286**	P	**Pb**	**07 56 01.2**	**+0.3**
	baz=293						
NDT				S	**Sn**	**07 56 16.6**	**-0.1**
	baz=293						
SHUL	**Shoufeng**	**1.23**	**247**	*e*P	**Pb**	**07 56 01.5**	**+0.4**
	baz=242						
SHUL				S	**Sn**	**07 56 17.3**	**+0.4**
	baz=242						
ETM	**Tongmen**	**1.23**	**256**	*e*P	**Pn**	**07 55 59.9**	**-0.9**
	baz=251						
ETM				S	**Sn**	**07 56 17.5**	**+0.5**
	baz=251						
JIJ	**Ishigaki jima**	**1.23**	**85**	P	**Pn**	**07 56 00.1**	**-0.7**
JIJ				S	**Sb**	**07 56 16.5**	**-0.4**
NWLT	**Wulai**	**1.28**	**294**	P	**Pg**	**07 56 02.6**	**-0.5**
	baz=290						
NWLT				S	**Sn**	**07 56 18.2**	**-0.2**
	baz=290						
LXIB	**Xiulin Townshi**	**1.29**	**259**	P	**Pn**	**07 56 01.7**	**-0.1**
	baz=254						
LXIB				S	**Sg**	**07 56 19.9**	**-0.2**
	baz=254						
NNSB	**Datong**	**1.30**	**277**	P	**Pb**	**07 56 02.4**	**-0.1**
	baz=256						
NNSB				*e*S	**Sn**	**07 56 19.4**	**+0.4**
	baz=256						
NNS	**Nan Shan**	**1.31**	**278**	P	**Pg**	**07 56 03.5**	**-0.1**
	baz=256						
NNS				S	**Sn**	**07 56 19.5**	**+0.3**
	baz=256						
YHNB	**Yeheng**	**1.35**	**287**	P	**Pb**	**07 56 03.9**	**+0.5**
YHNB	**Yeheng**	**1.35**	**287**	P	**Pb**	**07 56 03.1**	**-0.3**
	baz=297						
YHNB				S	**Sb**	**07 56 20.6**	**+0.2**
	baz=297						
NSK	**Sanguang**	**1.37**	**288**	*i* P	**Pn**	**07 56 02.4**	**-0.4**
	baz=297						
NSK				*i* S	**Sb**	**07 56 20.6**	**-0.3**
	baz=297						
WARBT	**Fenglin Townsh**	**1.40**	**247**	P	**Pn**	**07 56 02.0**	**-1.1**
	baz=242						
WARBT				S	**Sn**	**07 56 21.4**	**0.0**
	baz=242						
WHF	**Hehuan Shan**	**1.40**	**265**	*i* P	**Pn**	**07 56 04.1**	**+0.5**
	baz=261						
WHF				S	**Sb**	**07 56 22.8**	**+0.6**
	baz=261						
JISG	**Ishigakijimahi**	**1.42**	**77**	*e*P	**Pn**	**07 56 02.8**	**-0.5**
JISG				*e*S	**Sn**	**07 56 21.3**	**-0.4**
FUSS	**Fushou**	**1.42**	**270**	P	**Pb**	**07 56 04.9**	**+0.4**
	baz=249						
FUSS				S	**Sg**	**07 56 24.8**	**+0.5**
	baz=249						
HGSD	**Ruisui**	**1.48**	**239**	P	**Pn**	**07 56 02.3**	**-1.9**
	baz=235						
TWT	**Tachien**	**1.48**	**270**	P	**Pb**	**07 56 06.2**	**+0.6**
	baz=251						
TWT				*e*S	**Sg**	**07 56 26.9**	**+0.8**
	baz=251						
CHGB	**Renai**	**1.50**	**262**	P	**Pn**	**07 56 05.2**	**+0.5**
	baz=241						
CHGB				S	**Sb**	**07 56 25.7**	**+1.1**
	baz=241						
OWD	**Renai**	**1.51**	**258**	P	**Pn**	**07 56 05.2**	**+0.4**
	baz=253						
OWD				S	**Sb**	**07 56 24.9**	**-0.2**
	baz=253						
EHY	**Hungye**	**1.55**	**241**	*i* P	**Pn**	**07 56 04.7**	**-0.5**
	baz=236						
EHY				S	**Sn**	**07 56 25.0**	**0.0**
	baz=236						
WUSB	**Renai**	**1.56**	**260**	P	**Pn**	**07 56 06.0**	**+0.5**
	baz=255						
WUSB				S	**Sb**	**07 56 27.4**	**+1.0**
	baz=255						
NFF	**Wufeng Townshi**	**1.57**	**284**	P	**Pb**	**07 56 07.7**	**+0.6**
	baz=264						
NFF				*e*S	**Sg**	**07 56 28.4**	**-0.7**
	baz=264						
VWDT	**VWDT**	**1.60**	**252**	P	**Pn**	**07 56 06.3**	**+0.5**
	baz=247						
VWDT				S	**Sb**	**07 56 27.4**	**0.0**
	baz=247						
YULB	**Yu-li**	**1.63**	**238**	P	**Pn**	**07 56 05.9**	**-0.4**
YULB	**Yu-li**	**1.63**	**238**	P	**Pn**	**07 56 05.8**	**-0.5**
	baz=250						
YULB				S	**Sn**	**07 56 26.2**	**-0.7**
	baz=250						
TWF1	**Yuli**	**1.65**	**237**	*e*P	**Pn**	**07 56 06.3**	**-0.3**
	baz=232						
TWF1				S	**Sb**	**07 56 28.9**	**+0.1**
	baz=232						
LIOB	**Emei**	**1.67**	**283**	*e*P	**Pb**	**07 56 09.3**	**+0.7**
	baz=264						
LIOB				*e*S	**Sg**	**07 56 30.8**	**-1.3**
	baz=264						
NSTT	**Nanjuang**	**1.68**	**283**	*e*P	**Pb**	**07 56 09.6**	**+0.8**
	baz=264						
NSTT				*e*S	**Sg**	**07 56 31.4**	**-1.0**
	baz=264						
WHP	**Taichung City**	**1.69**	**271**	P	**Pb**	**07 56 09.7**	**+0.6**
	baz=266						
WHP				S	**Sb**	**07 56 31.2**	**+1.1**
	baz=266						
WCS	**Beigang Elemen**	**1.73**	**263**	P	**Pb**	**07 56 09.6**	**-0.1**
	baz=246						
WCS				S	**Sb**	**07 56 30.7**	**-0.6**
	baz=246						
FULB	**Fuli**	**1.74**	**233**	P	**Pn**	**07 56 07.8**	**-0.1**
	baz=215						
FULB				S	**Sn**	**07 56 29.9**	**+0.1**
	baz=215						
SSLB	**Suanglung**	**1.75**	**255**	P	**Pn**	**07 56 08.9**	**+0.9**
SSLB	**Suanglung**	**1.75**	**255**	P	**Pn**	**07 56 08.7**	**+0.7**
	baz=250						
SSLB				S	**Sb**	**07 56 31.3**	**-0.5**
	baz=250						
JTJ	**Tarama**	**1.78**	**78**	P	**Pn**	**07 56 08.2**	**-0.1**
SMLT	**Sun Moon Lake**	**1.78**	**258**	*i* P	**Pn**	**07 56 09.5**	**+1.1**
	baz=253						
SMLT				S	**Sb**	**07 56 32.9**	**+0.3**
	baz=253						
TYC	**Yuchr**	**1.81**	**259**	*i* P	**Pn**	**07 56 09.9**	**+1.2**
	baz=254						
TYC				S	**Sb**	**07 56 32.7**	**-0.8**
	baz=254						
EDH	**Donghe**	**1.88**	**227**	*e*P	**Pn**	**07 56 10.2**	**+0.5**
	baz=210						
EDH				*e*S	**Sn**	**07 56 29.4**	**-3.7**
	baz=210						
ELDTW	**Lidau**	**1.95**	**237**	*i* P	**Pn**	**07 56 10.8**	**0.0**
	baz=232						
ELDTW				S	**Sn**	**07 56 34.0**	**-1.1**
	baz=232						
ALS	**Alishan**	**1.97**	**248**	*i* P	**Pn**	**07 56 12.3**	**+1.0**
	baz=243						
ALS				*i* S	**Sn**	**07 56 37.2**	**+1.4**
	baz=243						
LONT	**Longtian**	**2.04**	**229**	P	**Pn**	**07 56 12.9**	**+0.9**
	baz=238						
LONT				*e*S	**Sn**	**07 56 37.2**	**+0.1**
	baz=238						
CHN5	**Tsauling**	**2.05**	**251**	*i* P	**Pb**	**07 56 14.3**	**-0.9**
	baz=234						
CHN5				S	**Sb**	**07 56 40.1**	**-0.4**
	baz=234						
STYH	**Taoyuan**	**2.15**	**240**	P	**Pn**	**07 56 15.0**	**+1.6**
	baz=224						
STYH				S	**Sb**	**07 56 42.9**	**-0.4**
	baz=224						
TPUB	**Ta-pu**	**2.21**	**245**	P	**Pb**	**07 56 16.8**	**-1.0**
	baz=240						
TPUB				S	**Sb**	**07 56 45.2**	**+0.2**
	baz=240						
CHN4	**Tsaushan**	**2.21**	**246**	*i* P	**Pn**	**07 56 16.6**	**+2.2**
	baz=241						
CHN4				*i* S	**Sb**	**07 56 45.0**	**-0.1**
	baz=241						
WTP	**Ta-pu**	**2.24**	**243**	*i* P	**Pn**	**07 56 16.6**	**+1.8**
	baz=238						
WTP				S	**Sb**	**07 56 46.7**	**+0.6**
	baz=238						
TWK	**Hsinying**	**2.34**	**245**	*i* P	**Pn**	**07 56 18.5**	**+2.4**
	baz=240						
TWK				S	**Sn**	**07 56 46.7**	**+2.2**
	baz=240						
CHN1	**Nanshi**	**2.34**	**243**	*i* P	**Pb**	**07 56 18.6**	**-1.5**
	baz=238						
CHN1				*i* S	**Sb**	**07 56 47.6**	**-1.2**
	baz=238						
SLGT	**Liugui**	**2.34**	**238**	P	**Pb**	**07 56 18.8**	**-1.4**
	baz=223						
SLGT				S	**Sb**	**07 56 47.9**	**-1.0**
	baz=223						
SNST	**Tainan City**	**2.35**	**244**	P	**Pn**	**07 56 17.8**	**+1.6**
	baz=239						
SNST				S	**Sb**	**07 56 47.6**	**-1.5**
	baz=239						
TSMG	**Majia**	**2.51**	**232**	P	**Pb**	**07 56 21.5**	**-1.6**
	baz=221						
TSMG				S	**Sn**	**07 56 51.5**	**+2.7**
	baz=221						

*IDC **27** 07:58:32.4±2.8, 55.74N×150.58W, h0km, mb3.3/1, mbtmp3.2/4, ML3.1/3, MS3.0/4, Error ellipse: s-maj=36.8km s-min=33.9km az=175.0*

*NEIC **27** 07:58:32.9±1.6, 55.88N±0.09×150.3W±0.1, h9km±7km, mb3.6/2, ML3.7/36, ML3.3(AEIC), Error ellipse: s-maj=13.0km s-min=8.4km az=167.0*

*AEIC **27** 07:58:37.8±1.8, 55.9N±0.1×150.3W±0.1, h11km±7km, Error ellipse: s-maj=15.2km s-min=8.4km az=165.0*

ISC 27 07:58:34.1±1.2, 56.01N±0.09×150.40W±0.05, h10km, n128, σ092/124, Gulf of Alaska

| Code | Station Name | Δ° |

OHAK S Sn 07 59 31.9 -1.2
baz=128
KDAK Kodiak Island 2.15 327 Pn 07 59 10.4 +0.4
KDAK Kodiak Island 2.15 327 Sn 07 59 36.0 -0.6
KDAK Kodiak Island 2.15 327 Pn **Pn 07 59 09.9 0.0**
comp=E,7.0nm,0.3s,baz=153,slow=6.2,SNR=72
KDAK Sn **Sn 07 59 36.7 +0.2**
comp=E,5.0nm,0.3s,baz=154,slow=21,SNR=11
KDAK LR LR 08 00 19.1
comp=E,170nm,20.1s,baz=196,slow=46
comp=E,24nm,0.3s
SII Sitkinak Islan 2.18 286 Pn 07 59 10.3 -0.1
SII IAML 07 59 37.8
comp=N,303nm,0.5s
SII Sitkinak Islan 2.18 286 P **Pn 07 59 10.4 -0.1**
SII Sitkinak Islan 2.18 286 P **Pn 07 59 10.3 -0.1**
baz=106
SII S **Sn 07 59 36.3 -1.3**
baz=106
Q20K Shuyak Island 2.82 338 P **Pn 07 59 19.9 +0.6**
baz=157
SYI Shuyak Island 2.82 338 Pn 07 59 19.9 +0.6
CHIR Chirikof Islan 2.95 269 Sn 07 59 53.6 -2.7
CHIR Chirikof Islan 2.95 269 S **Sn 07 59 53.7 -2.7**
baz=87
KAHG Katmai Hook Gl 3.36 320 Pn 07 59 28.0 +1.3
Q19K Cape Douglas, 3.41 330 Pn 07 59 28.6 +1.2
Q19K Cape Douglas, 3.41 330 IAML 08 00 17.2
comp=N,269nm,0.9s
Q19K Cape Douglas, 3.41 330 P **Pn 07 59 28.6 +1.2**
baz=148
ANCK Angle Creek 3.54 310 Pn 07 59 30.7 +1.5
CNPM China Poot 3.56 353 Pn 07 59 29.5 +0.1
CNPM IAML 08 00 12.4
comp=E,96nm,0.8s
CNPM IAML 08 00 15.9
comp=N,57nm,1.0s
CNPM China Poot 3.56 353 Sn 08 00 11.1 -0.3
HOM Homer 3.72 350 Pn 07 59 32.0 +0.5
HOM Homer 3.72 350 IAML 08 00 57.4
comp=E,225nm,1.5s
HOM Homer 3.72 350 P **Pn 07 59 32.0 +0.5**
baz=169
BRSE Bradley Lake S 3.75 357 Pn 07 59 31.6 -0.3
BRSE **Sn 08 00 14.4 -1.7**
BRSE Bradley Lake S 3.75 357 P **Pn 07 59 31.6 -0.3**
baz=177
BRSE S **Sn 08 00 14.4 -1.7**
baz=177
CNTC Contact Creek 3.75 309 Pn 07 59 33.4 +1.3
Q17K Contact Creek 3.75 309 P **Pn 07 59 33.4 +1.3**
baz=126
BRLK Bradley Lake 3.78 356 Pn 07 59 31.4 -1.0
BRLK IAML 08 00 17.4
comp=E,54nm,0.6s
P19K Oil Pt 3.96 339 Pn 07 59 36.1 +1.3
P19K IAML 08 00 25.3
comp=E,194nm,0.5s
Q23K Middleton Isla 4.06 31 Pn 07 59 35.6 -0.6
Q23K Middleton Isla 4.06 31 IAML 08 00 51.8
comp=N,158nm,1.3s
Q23K Middleton Isla 4.06 31 P **Pn 07 59 35.6 -0.6**
baz=213
MID Middleton Isla 4.06 31 Pn 07 59 35.6 -0.6
MID Middleton Isla 4.06 31 IAML 08 00 28.8
comp=E,205nm,1.3s
MID IAML 08 00 46.9
comp=N,139nm,1.4s
MID Middleton Isla 4.06 31 P **Pn 07 59 35.9 -0.3**
SEW Seward 4.14 7 Pn 07 59 36.8 -0.4
SEW Seward 4.14 7 P **Pn 07 59 36.8 -0.4**
baz=187
R16K Pilot Point 4.25 295 Pn 07 59 38.3 -0.5
R16K Pilot Point 4.25 295 IAML 08 01 07.6
comp=E,105nm,1.5s
R16K IAML 08 02 18.2
comp=N,83nm,1.4s
R16K Pilot Point 4.25 295 P **Pn 07 59 38.3 -0.5**
baz=110
P18K Big Mountain, 4.27 325 Pn 07 59 40.0 +0.8
P18K Big Mountain, 4.27 325 P **Pn 07 59 40.0 +0.8**
baz=141
Q22K Cooper Landing 4.50 4 Pn 07 59 42.0 -0.3
SLKM Skilak Lake 4.51 1 Pn 07 59 42.3 -0.2
P17K Kvichak River 4.56 317 Pn 07 59 44.5 +1.5
P17K Kvichak River 4.56 317 P **Pn 07 59 44.5 +1.5**
baz=133
O18K Koktuh Hills 4.63 328 Pn 07 59 44.8 +0.7
O18K IAML 08 00 53.8
comp=E,29nm,1.5s
O18K IAML 08 00 54.6
comp=N,34nm,0.9s
O18K Koktuh Hills 4.63 328 P **Pn 07 59 44.9 +0.7**
baz=145
RSO Redoubt South 4.64 345 Pn 07 59 46.3 +2.0
O19K Port Alsworth 4.69 335 Pn 07 59 45.3 +0.5
O19K Port Alsworth 4.69 335 P **Pn 07 59 45.3 +0.5**
baz=152
HIN Hinchinbrook I 4.86 23 Pn 07 59 47.1 -0.1
HIN Hinchinbrook I 4.86 23 IAML 08 00 45.7
comp=N,80nm,1.4s
KAIM Kayak Island 5.05 37 Pn 07 59 49.4 -0.5
KAIM Kayak Island 5.05 37 IAML 08 01 24.5
comp=E,62nm,1.4s
KAIM IAML 08 03 10.2
comp=N,80nm,1.4s
KAIM Kayak Island 5.05 37 P **Pn 07 59 49.4 -0.5**
baz=220
P16K Nushagak River 5.09 310 Pn 07 59 51.7 +1.3
P16K Nushagak River 5.09 310 P **Pn 07 59 51.7 +1.3**
baz=124
EYAK Cordova Ski Ar 5.17 26 Pn 07 59 51.3 -0.2
EYAK Cordova Ski Ar 5.17 26 P **Pn 07 59 51.6 +0.1**
EYAK Cordova Ski Ar 5.17 26 P **Pn 07 59 51.3 -0.2**
baz=209
N19K Bonanza Creek 5.28 338 Pn 07 59 53.5 +0.5
N19K Bonanza Creek 5.28 338 P **Pn 07 59 53.5 +0.5**
baz=154
RAGM Ragged Mountai 5.33 32 Pn 07 59 53.7 0.0
O16K Kokwok River B 5.46 314 Pn 07 59 55.5 0.0
O16K Kokwok River B 5.46 314 P **Pn 07 59 55.5 0.0**
baz=128
GOAT Goat Mountain 5.47 31 Pn 07 59 54.8 -0.9
SUA Susitna One 5.47 358 Pn **Pn 07 59 56.0 +0.2**
N18K Kilae Creek 5.50 331 Pn 07 59 56.1 0.0
N18K Kilae Creek 5.50 331 P **Pn 07 59 56.1 0.0**
baz=146
KNK Knik Glacier 5.51 10 Pn 07 59 56.0 -0.3
KNK Knik Glacier 5.51 10 P **Pn 07 59 55.9 -0.3**
baz=191
STLK Strandline Lak 5.56 353 Pn 07 59 56.7 -0.1
BERG Berg Lake 5.64 36 Pn 07 59 57.9 -0.1
N17K Nushagak Hills 5.78 324 Pn 07 59 59.9 +0.1
N17K Nushagak Hills 5.78 324 P **Pn 07 59 59.8 +0.1**
baz=139
SNH Sunshine Point 5.79 41 Pn **Pn 07 59 59.6 -0.5**
BMRM Bremner River 5.83 29 Pn 07 59 59.8 -0.8
BMRM Bremner River 5.83 29 P **Pn 07 59 59.8 -0.8**
baz=213
GHO Glory Hole Cre 5.83 7 Pn 08 00 00.3 -0.3
KLU Klutina 5.97 21 Pn 08 00 02.9 +0.3
KLU Klutina 5.97 21 P **Pn 08 00 02.7 +0.2**
baz=204
O15K Ungalikthiuk R 5.98 306 Pn 08 00 03.5 +0.9
O15K Ungalikthiuk R 5.98 306 P **Pn 08 00 03.5 +0.9**
baz=119
SKT Skwentna 6.02 355 Pn 08 00 03.0 -0.1
BARK Barkley Ridge 6.07 40 Pn 08 00 03.9 -0.1
M18K Stony River 6.18 335 Pn 08 00 05.5 +0.2
M18K Stony River 6.18 335 P **Pn 08 00 05.5 +0.2**
baz=151
VRDI Verde Repeater 6.37 32 Pn **Pn 08 00 08.1 0.0**
N25K Chitina, Valde 6.37 26 Pn 08 00 08.5 +0.5
N25K Chitina, Valde 6.37 26 P **Pn 08 00 08.5 +0.5**
baz=210
GLB Gilahina Butte 6.44 29 Pn 08 00 09.2 +0.3
KIAG Kiagna River 6.48 37 Pn 08 00 09.3 -0.4
M24K Tolsona, Glenn 6.49 18 Pn 08 00 11.6 +1.9
M17K Holitna River 6.53 329 Pn 08 00 11.0 +0.9
M17K Holitna River 6.53 329 P **Pn 08 00 11.0 +0.9**
baz=143
MCARA McCarthy VSAT 6.62 32 Pn 08 00 11.5 +0.2
MCARA McCarthy VSAT 6.62 32 P **Pn 08 00 11.1 -0.2**
baz=218
N15K Kwethluk River 6.62 313 Pn 08 00 13.2 +1.8

PTPK Patty Peak 6.64 35 Pn 08 00 12.2 +0.3
M16K Timber Creek 6.73 322 Pn 08 00 14.2 +1.3
BARN Barnard Glacie 6.82 38 Pn 08 00 14.0 -0.3
PNL Peninsula 6.92 53 P **Pn 08 00 16.0 +0.5**
L16K Owhat River 7.40 324 Pn 08 00 22.7 +0.6
P29M Windy Craggy 7.67 57 Pn 08 00 25.6 -0.2
M14K Bethel 7.71 313 Pn 08 00 27.8 +1.5
S31K Pelican 7.98 70 Pn Pn 08 00 27.6 -2.4
S31K Pelican 7.98 70 P **Pn 08 00 27.9 -2.1**
baz=261
BCAR Beaver Creek A 8.31 28 Pn **Pn 08 00 34.9 +0.3**
SKAG Skagway 8.77 61 Pn **Pn 08 00 40.5 -0.2**
SKAG Skagway 8.77 61 P **Pn 08 00 40.8 0.0**
ILAR Eielson Array 8.96 10 Pn **Pn 08 00 44.5 +1.1**
comp=N,0.1nm,0.3s,baz=193,slow=13,SNR=5.8
ILAR Sn **Sn 08 02 21.2 -3.1**
comp=N,0.3nm,0.3s,baz=198,slow=24,SNR=7.2
ILAR LR LR 08 04 25.1
comp=N,49nm,19.8s,baz=276,slow=38
comp=N,0.4nm,0.3s
JIS Juneau Island 9.00 69 Pn **Pn 08 00 43.2 -0.7**
JIS Juneau Island 9.00 69 P **Pn 08 00 44.1 +0.2**
L29M L29M 9.44 36 Pn **Pn 08 00 50.0 0.0**
P32M Atlin 9.60 61 Pn **Pn 08 00 51.5 -0.7**
DAWY Dawson 9.76 30 Pn **Pn 08 00 55.1 +0.6**
M31M Drury Creek, Y 10.29 46 Pn **Pn 08 01 01.6 0.0**
INK Inuvik 14.56 25 Pn **Pn 08 02 01.0 +1.1**
INK Inuvik 14.56 25 Pn **Pn 08 02 01.9 +2.1**
baz=208,slow=9.8,SNR=3.3
C36M Paulatuk 17.80 31 Pn 08 02 41.3 -0.2
C36M IAmb IAmb 08 02 53.2
comp=Z,2.3nm,0.9s
A36M Sachs Harbour 19.18 24 P **P 08 02 57.0 -0.5**
A36M IAmb IAmb 08 03 08.4
comp=Z,5.9nm,0.9s
YKA Yellowknife Ar 19.21 56 P **P 08 02 57.9 0.0**
YKA Yellowknife Ar 19.21 56 P **P 08 02 58.8 +1.0**
comp=Z,0.1nm,0.3s,baz=266,slow=9.7,SNR=12
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 27.64 116 LR LR 08 13 04.4
comp=Z,39nm,19.9s,baz=258,slow=32
SADO Sadowa 44.82 73 LR LR 08 24 40.0
comp=Z,48nm,18.9s,baz=267,slow=35
MKAR Makanchi Array 68.45 324 P **P 08 09 37.0 +1.0**
comp=Z,0.1nm,0.4s,baz=18,slow=6.1,SNR=5.8
comp=Z,0.1nm,0.4s

*NEIC **27** 08:08:53.6±0.8, 35.67N±0.01×97.16W±0.02, h7km±6km, Error ellipse: s-maj=3.0km s-min=0.9km az=125.0*
TUL 27 08:08:53.6±0.7, **35.66N**±0.01×**97.16W**±0.02, **h4**km±5km, **ML2.7, mb_Lg2.4**/21(NEIC), **ML2.6**/28(NEIC), **Error ellipse: s-maj=2.7km s-min=1.6km az=118.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.17**	**267**		Pg	08 08 57.3	+0.4
OK029	**Liberty Lake**	**0.27**	**300**	Pg	Pg	08 08 59.4	+0.5
OK029				IAML		08 09 03.6	
734nm,0.3s							
OKCSW	**OKLAHOMA CITY**	**0.34**	**221**	Pg	Pg	08 09 00.5	+0.3
OKCSW				IAML		08 09 05.9	
comp=E,756nm,0.1s							
OKCSW				IAML		08 09 05.9	
comp=N,512nm,0.1s							
OK033	**Mehan**	**0.42**	**26**	Pg	Pg	08 09 02.3	+0.5
OK033				IAML		08 09 08.6	
comp=N,346nm,0.4s							
OK033				IAML		08 09 08.9	
comp=N,673nm,0.3s							
OK052	**Battle Ridge R**	**0.44**	**41**	Pg	Pg	08 09 02.6	+0.5
OK052				IAML		08 09 09.2	
comp=N,445nm,0.2s							
FNO	**Franklin**	**0.45**	**206**	Pg	Pg	08 09 02.1	-0.1
DEOK	**Depew**	**0.57**	**71**		Pg	08 09 05.0	+0.5
DEOK				IAML		08 09 13.3	
comp=E,357nm,0.2s							
QUOK	**Quay**	**0.63**	**36**	Pg	Pg	08 09 06.0	+0.3
QUOK				IAML		08 09 14.9	
comp=N,296nm,0.3s							
OK048	**Pawnee Station**	**0.77**	**13**	Pg	Pg	08 09 08.2	-0.2
OK048				IAML		08 09 22.0	
comp=N,159nm,0.1s							
CROK	**Carrier**	**1.07**	**322**	Pg	Pg	08 09 14.0	-0.2
CROK				IAML		08 09 34.4	
comp=N,166nm,0.3s							
X34A	**Smith Ranch, M**	**1.19**	**208**	Pg	Pg	08 09 16.5	0.0
X34A				IAML		08 09 33.7	
comp=E,144nm,0.5s							
X34A				IAML		08 09 33.8	
comp=N,142nm,0.5s							
T35A	**Sooner Cattle**	**1.36**	**23**		Pn	08 09 18.9	-0.4
OK032	**Salt Plains WL**	**1.42**	**324**		Pn	08 09 19.6	-0.6
KAN14	**Manchester OK**	**1.45**	**334**		Pn	08 09 19.9	-0.6
KAN17	**Caldwell West**	**1.46**	**341**		Pn	08 09 20.6	-0.2
KAN09	**Caldwell North**	**1.52**	**346**		Pn	08 09 21.5	0.0
OK038	**West end E0370**	**1.52**	**303**		Pn	08 09 21.1	-0.5
KAN01	**Argonia South**	**1.56**	**342**	IAmb_Lg		08 09 45.3	
comp=Z,16nm,0.8s							
KAN06	**Argonia West S**	**1.68**	**341**		Pn	08 09 23.8	+0.1
KAN08	**Anthony NE Sta**	**1.69**	**338**		Pn	08 09 23.9	-0.1
RLO	**Rose Lookout**	**1.81**	**73**		Pn	08 09 25.7	+0.2
Z35A	**Perchaven, San**	**2.33**	**182**	IAmb_Lg		08 10 05.7	
comp=Z,12nm,0.8s							
FW06	**Azle**	**2.70**	**187**	IAmb_Lg		08 10 25.1	
comp=Z,11nm,1.2s							
Z38A	**Mt. Pleasant**	**3.00**	**142**	IAmb_Lg		08 10 32.3	
comp=Z,11nm,0.7s							
KSU1	**Kansas State U**	**3.46**	**7**	IAmb_Lg		08 10 45.7	
comp=Z,20nm,1.2s							
X40A	**Basin Creek Fa**	**3.74**	**107**	IAmb_Lg		08 10 58.1	
comp=Z,12nm,0.8s							
AMTX	**Amarillo**	**3.78**	**259**	IAmb_Lg		08 11 02.3	
comp=Z,10nm,0.9s							
MGMO	**Mountain Grove**	**4.22**	**68**	IAmb_Lg		08 11 10.8	
comp=Z,8.5nm,0.8s							
BRDY	**Brady**	**4.63**	**200**	IAmb_Lg		08 11 20.4	
comp=Z,4.2nm,0.7s							
R40A	**Maddies Statio**	**4.72**	**55**	IAmb_Lg		08 11 25.3	
comp=Z,5.1nm,0.7s							
FVM	**French Village**	**5.88**	**65**	IAmb_Lg		08 12 01.7	
comp=Z,8.1nm,1.1s							

DJA 27 08:11:24.1±0.7, **8°S**±9.9×**10°9E**±°, **h175**km±11km, **M3.8**/9, **mb4.0**/1, **MLv3.7**/9, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.30**	**349**	P	Pn	08 11 48.6	+0.9
CMJI	**Cimerak**	**0.56**	**254**	P	Pn	08 11 49.5	+0.9
BBJI	**Bungbulang**	**1.34**	**277**	P	Pn	08 11 54.4	+0.2
UGM	**Wanagama**	**1.54**	**101**	P	Pn	08 11 56.4	+0.3
CNJI	**Cibinong**	**1.87**	**280**	P	Pn	08 11 59.0	-0.4
TNG	**Tangerang**	**2.74**	**302**	P	Pn	08 12 09.8	+0.4
SJI	**Sawahan**	**2.75**	**92**	P	Pn	08 12 09.8	+0.2
GMJI	**Gumukmas**	**4.46**	**99**	P	Pn	08 12 31.0	+0.1
BLJI	**Banyuglugur**	**4.57**	**92**	P	Pn	08 12 32.6	+0.3
JAGI	**Jajag, Banyuwa**	**5.18**	**100**	P	Pn	08 12 39.9	-0.4

*IDC **27** 08:11:59.2±5.5, 6.37S×130.35E, h92km±53km, mb3.8/15, mbtmp4.2/17, ML4.2/2, Error ellipse: s-maj=29.3km s-min=15.4km az=70.0*
*NEIC **27** 08:12:03±2.9, 6.40S±0.07×130.43E±0.10, h116km±8km, mb4.5/16, Error ellipse: s-maj=13.9km s-min=9.5km az=85.0*
ISC 27 08:12:05.0±0.5, **6.41S**±0.06×**130.48E**±0.07, **h150**km, **n73**, **s172/68**, **mb4.2**/19, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.76**	**152**	Pn	**Pn**	**08 12 35.9**	**-1.5**
SAUI	**Saumlaki**	**1.76**	**152**	P	**Pn**	**08 12 36.9**	**-0.5**
BNDI	**Bandanaira**	**1.96**	**343**	P	**Pn**	**08 12 40.1**	**+0.4**
FAKI	**Fak Fak**	**3.90**	**27**		**Pn**	**08 13 00.1**	**-3.8**
MTN	**Manton Dam**	**6.42**	**174**		**Pn**	**08 13 35.2**	**-2.2**
MTN	**Manton Dam**	**6.42**	**174**	P	**Pn**	**08 13 36.0**	**-1.4**
KDU	**Kakadu**	**6.54**	**163**	P	**Pn**	**08 13 36.5**	**-2.4**
SOEI	**Soe**	**6.99**	**241**		**Pn**	**08 13 43.8**	**-1.2**
SOEI	**Soe**	**6.99**	**241**	P	**Pn**	**08 13 43.9**	**-1.1**
TNTI	**Ternate**	**7.78**	**336**	Pn	**Pn**	**08 13 54.4**	**-1.2**
KNRA	**Kununurra**	**9.36**	**190**	Pn	**Pn**	**08 14 13.2**	**-3.4**
FITZ	**Fitzroy Crossi**	**12.54**	**202**	Pn	**Pn**	**08 14 54.4**	**-3.9**

FITZ Fitzroy Crossi 12.54 202 P **Pn 08 14 55.7 -2.6**
PLAI Plampang 12.81 258 P **Pn 08 15 00.3 -1.6**
WRA Warramunga Arr 13.96 165 Pn **Pn 08 15 13.0 -3.5**
WRA Warramunga Arr 13.96 165 P **Pn 08 15 13.0 -3.5**
0.9nm,0.3s,baz=341,slow=13,SNR=26
WRA S Sn 08 17 35.7 -16
2.5nm,0.5s,baz=351,slow=22,SNR=4.8
1.4nm,0.3s
WB2 Warramunga Arr 13.96 165 Pn 08 15 14.1 -2.4
COEN Coen 14.57 122 Pn 08 15 22.4 -1.7
COEN Coen 14.57 122 P **P 08 15 25.1 -1.4**
QIS Mount Isa 16.61 149 P **Pn 08 15 49.5 +0.2**
AS31 Alice Springs 17.47 169 P **Pn 08 15 59.1 -0.5**
ASAR Alice Springs 17.47 169 P **Pn 08 15 59.1 -0.5**
ASAR Alice Springs 17.47 169 P **Pn 08 15 58.2 -1.3**
1.1nm,0.3s,baz=350,slow=11,SNR=102
ASAR S S 08 19 00.8 -12
1.2nm,0.6s,baz=357,slow=29,SNR=3.3
5.6nm,0.5s
AS01 Alice Springs 17.47 169 P **Pn 08 15 59.6 -0.1**
MTSU Mount Surprise 17.83 132 P **Pn 08 16 05.2 +1.2**
PSA00 Pilbara Seismi 18.24 213 P **Pn 08 16 06.6 -2.2**
PSA00 IAmb IAmb 08 16 09.2
comp=Z,19nm,1.4s
PSA00 Pilbara Seismi 18.24 213 P **Pn 08 16 07.6 -1.2**
WRKA Warakurna 18.64 186 P **Pn 08 16 13.1 -0.3**
TV1H Townsville Har 20.37 130 P Pn 08 16 32.8 -1.0
CTA Charters Tower 20.48 133 P Pn 08 16 33.4 -1.7
CTA Charters Tower 20.48 133 P **P 08 16 31.5 +0.3**
comp=Z,5.7nm,0.8s,baz=301,slow=16,SNR=3.0
comp=Z,5.7nm,0.8s
CTAO Charters Tower 20.48 133 P Pn 08 16 32.0 -3.1
CTAO IAmb IAmb 08 16 57.3
comp=Z,26nm,1.4s
CTAO Charters Tower 20.48 133 P Pn 08 16 34.9 -0.2
OOD Oodnadatta 21.83 168 P **P 08 16 45.9 +0.4**
GIRL Giralia 22.49 222 P **P 08 16 53.1 +1.0**
BBJI Bungbulang 22.68 266 P **P 08 16 54.7 +0.6**
INKA Innaminka 23.34 156 P **P 08 17 01.8 +1.9**
MULG Mulgathing 23.98 172 P **P 08 17 08.4 +2.7**
LCRK Leigh Creek 24.99 164 P **P 08 17 16.9 +2.0**
BBOO Buckleboo 26.77 170 P **P 08 17 30.8 -0.1**
BBOO IAmb IAmb 08 17 54.7
comp=Z,7.1nm,1.1s
STKA Stephens Creek 27.38 159 P **P 08 17 36.9 +0.6**
STKA Stephens Creek 27.38 159 P **P 08 17 37.6 +1.2**
STKA Stephens Creek 27.38 159 P **P 08 17 37.0 +0.6**
comp=Z,3.2nm,0.5s,baz=329,slow=12,SNR=9.0
comp=Z,3.2nm,0.5s
HTT Hallett 28.00 165 P **P 08 17 44.4 +2.5**
CMSA Cobar Meteorol 28.77 152 P **P 08 17 50.6 +1.9**
ARMA Armidale 31.07 143 P **P 08 18 10.9 +1.7**
ARMA IAmb IAmb 08 18 52.4
comp=Z,7.2nm,1.1s
ARPS Mount Arapiles 31.95 163 P **P 08 18 18.6 +2.0**
YNG Young 32.32 152 P **P 08 18 22.1 +2.2**
CAN Canberra 33.44 152 P **P 08 18 31.6 +1.9**
CAN IAmb IAmb 08 18 39.3
comp=Z,24nm,1.4s
CAN Canberra 33.44 152 P **P 08 18 32.2 +2.5**
TOO Toolangi 33.89 158 P **P 08 18 35.4 +1.8**
TOO IAmb IAmb 08 19 01.7
comp=Z,8.8nm,1.2s
DZM Mont Dzumac 38.04 118 P **P 08 19 10.0 +0.8**
DZM IAmb IAmb 08 19 15.6
comp=Z,24nm,1.4s
DZM Mont Dzumac 38.04 118 P **P 08 19 10.6 +1.4**
comp=Z,5.7nm,0.8s,baz=293,slow=18,SNR=2.4
comp=Z,5.7nm,0.8s
CMAR Chiang Mai Arr 39.73 309 P **P 08 19 22.4 -0.7**
comp=Z,1.0nm,0.3s,baz=165,slow=12,SNR=5.0
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 43.34 9 P **P 08 19 51.0 -1.3**
comp=Z,1.7nm,0.6s,baz=191,slow=9.7,SNR=3.3
comp=Z,1.7nm,0.6s
KSRS Korea Array 43.70 357 P **P 08 19 54.3 -0.8**
comp=Z,0.5nm,0.5s,baz=180,slow=8.3,SNR=2.3
comp=Z,0.5nm,0.5s
JMM Marumori 45.09 12 P **P 08 20 08.6 +2.5**
USRK Ussuriysk Ar. 50.40 1 P **P 08 20 46.6 -0.4**
comp=Z,1.3nm,0.6s,baz=183,slow=5.5,SNR=2.4
comp=Z,1.3nm,0.6s
TUWZ Tuamarina 52.01 139 P **P 08 20 59.5 +0.4**
BKZ Black Stump Fm 52.67 135 P **P 08 21 06.6 +2.4**
BKZ IAmb IAmb 08 21 08.3
comp=Z,11nm,1.2s
SONM Songino Array 58.04 341 P **P 08 21 42.5 +0.2**
comp=Z,0.6nm,0.6s,baz=150,slow=6.0,SNR=2.8
comp=Z,0.6nm,0.6s
PEA0B Petropavlovsk- 63.62 18 P **P 08 22 20.8 +1.0**
PETK Petropavlovsk- 63.62 18 P **P 08 22 20.8 +0.9**
comp=Z,4.1nm,0.8s,baz=114,slow=1.8,SNR=5.4
comp=Z,4.1nm,0.8s
MK31 Makanchi Array 68.00 326 P **P 08 22 49.0 +0.9**
MKAR Makanchi Array 68.00 326 P **P 08 22 49.2 +1.2**
MKAR Makanchi Array 68.00 326 P **P 08 22 48.8 +0.7**
comp=Z,2.6nm,0.6s,baz=114,slow=8.6,SNR=41
comp=Z,2.6nm,0.6s
SEY Seymchan 71.15 10 P **P 08 23 07.6 +0.7**
comp=Z,4.0nm,0.8s,baz=222,slow=7.6,SNR=9.2
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 71.27 333 P **P 08 23 07.3 -0.5**
comp=Z,0.8nm,0.6s,baz=83,slow=4.6,SNR=4.2
comp=Z,0.8nm,0.6s
KURBB Kurchatov Arra 72.26 328 P **P 08 23 13.6 -0.2**
comp=Z,1.0nm,0.6s,baz=127,slow=4.9,SNR=16
comp=Z,1.0nm,0.6s
ADK Adak 73.44 31 P P 08 23 24.7 +4.0
BVAR Borovoye Array 77.82 328 P **P 08 23 45.5 -0.2**
comp=Z,0.6nm,0.5s,baz=132,slow=8.4,SNR=2.8
comp=Z,0.6nm,0.5s
QSPA South Pole Qui 83.56 180 P **P 08 24 16.7 +0.6**
QSPA South Pole Qui 83.56 180 P **P 08 24 16.9 +0.8**
comp=Z,0.2nm,0.8s,baz=280,slow=1.3,SNR=13
comp=Z,2.0nm,0.8s

*IDC **27** 08:19:28.9±0.8, 56.45N×148.81W, h0km, mb3.9/17, mbtmp3.9/21, ML3.6/4, MS3.5/45, Error ellipse: s-maj=25.8km s-min=13.6km az=23.0*
*NEIC **27** 08:19:30.9±1.8, 56.36N±0.07×148.63W±0.09, h31km±7km, mb4.4/9, ML4.1/52, ML4.0(AEIC), Error ellipse: s-maj=10.7km s-min=7.3km az=168.0*
*AEIC **27** 08:19:33±1.6, 56.34N±0.08×148.7W±0.1, h12km±5km, Error ellipse: s-maj=11.1km s-min=8.3km az=179.0*
ISC 27 08:19:32.8±0.5, **56.42N**±0.06×**148.64W**±0.04, **h35**km, **n316**, **σ1§53/284**, **mb4.3/23**, **MS3.5/41**, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.55**	**304**		**Pn**	**08 20 09.9**	**-1.7**
KDAK	**Kodiak Island**	**2.55**	**304**		**Sn**	**08 20 37.7**	**-3.7**
KDAK	**Kodiak Island**	**2.55**	**304**	Pn	**Pn**	**08 20 09.7**	**-1.8**
31nm,0.3s,baz=146,slow=4.8,SNR=148							
KDAK					Sn	**08 20 37.5**	**-3.8**
23nm,0.3s,baz=224,slow=23,SNR=4.9							
KDAK				LR	LR	08 20 51.4	
comp=Z,389nm,18.4s,baz=216,slow=34							
80nm,0.3s							
OHAK	**Old Harbor**	**2.68**	**289**		**Pn**	**08 20 10.6**	**-2.8**
OHAK	**Old Harbor**	**2.68**	**289**	P	**Pn**	**08 20 10.9**	**-2.5**
OHAK	**Old Harbor**	**2.68**	**289**	P	**Pn**	**08 20 10.8**	**-2.5**
baz=107							
OHAK				S	**Sn**	**08 20 40.2**	**-4.4**
baz=107							
SYI	**Shuyak Island**	**2.99**	**319**		**Pn**	**08 20 15.8**	**-1.7**
SYI	**Shuyak Island**	**2.99**	**319**		**Sn**	**08 20 50.7**	**-1.4**
Q20K	**Shuyak Island**	**2.99**	**319**	P	**Pn**	**08 20 16.0**	**-1.6**
baz=136							
Q20K				S	**Sn**	**08 20 50.7**	**-1.4**
baz=136							
SII	**Sitkinak Islan**	**3.08**	**275**		**Pn**	**08 20 17.0**	**-1.9**
SII				IAML		08 20 51.5	
comp=N,752nm,0.8s							
SII	**Sitkinak Islan**	**3.08**	**275**		**Sn**	**08 20 50.4**	**-4.0**
SII	**Sitkinak Islan**	**3.08**	**275**	P	**Pn**	**08 20 16.6**	**-2.3**
SII	**Sitkinak Islan**	**3.08**	**275**	P	**Pn**	**08 20 16.5**	**-2.4**
baz=91							
SII				S	**Sn**	**08 20 50.4**	**-4.0**
baz=91							
MID	**Middleton Isla**	**3.25**	**21**		**Pn**	**08 20 19.7**	**-1.5**
MID	**Middleton Isla**	**3.25**	**21**	IAML		08 21 03.5	
comp=N,425nm,1.3s							
MID				IAML		08 21 27.7	
comp=E,475nm,2.1s							

MID Middleton Isla 3.25 21 P Pn 08 20 20.0 -1.2
Q23K Middleton Isla 3.25 21 Pn 08 20 19.6 -1.6
Q23K Sn 08 20 55.8 -2.9
Q23K Middleton Isla 3.25 21 IAML 08 21 27.7
comp=E,504nm,2.0s
Q23K IAML 08 22 27.6
comp=N,438nm,2.4s
Q23K Middleton Isla 3.25 21 P Pn 08 20 19.6 -1.6
baz=203
Q23K S Sn 08 20 55.8 -2.9
baz=203
CNPM China Poot 3.41 337 Pn 08 20 21.9 -1.5
CNPM China Poot 3.41 337 Sn 08 21 00.5 -2.1
BRSE Bradley Lake S 3.51 342 Pn 08 20 23.3 -1.6
BRSE Bradley Lake S 3.51 342 P Pn 08 20 23.3 -1.6
baz=161
BRLK Bradley Lake 3.56 341 Pn 08 20 23.6 -1.8
BRLK IAML 08 21 09.2
comp=E,228nm,0.7s
BRLK IAML 08 21 10.1
comp=N,223nm,0.7s
HOM Homer 3.62 335 Pn 08 20 25.5 -0.8
HOM IAML 08 21 15.2
comp=E,573nm,0.7s
HOM IAML 08 21 22.5
comp=N,592nm,1.1s
HOM Homer 3.62 335 P Pn 08 20 25.5 -0.8
baz=153
P23K Montague Islan 3.65 10 Pn 08 20 25.2 -1.4
P23K Sn 08 21 05.5 -2.9
P23K Montague Islan 3.65 10 P Pn 08 20 25.4 -1.3
baz=191
P23K S Sn 08 21 05.8 -2.5
baz=191
Q19K Cape Douglas, 3.68 315 Pn 08 20 26.2 -0.9
Q19K Cape Douglas, 3.68 315 P Pn 08 20 26.9 -0.3
baz=132
SEW Seward 3.72 354 Pn 08 20 26.0 -1.6
SEW Seward 3.72 354 P Pn 08 20 26.5 -1.1
baz=173
KAHG Katmai Hook Gl 3.81 306 Pn 08 20 28.3 -0.7
AUCH Augustine Cone 3.91 321 Pn 08 20 29.2 -1.1
KCE Katmai Mt Cerb 3.99 300 Pn 08 20 30.8 -0.6
ACHA Angle Creek He 4.05 299 Pn 08 20 31.8 -0.4
P19K Oil Pt 4.06 325 Pn 08 20 31.3 -1.0
P19K IAML 08 21 24.6
comp=E,502nm,0.5s
P19K IAML 08 21 32.8
comp=N,444nm,0.7s
P19K Oil Pt 4.06 325 P Pn 08 20 31.6 -0.7
baz=142
KAHC Katmai Hardscr 4.10 306 Pn 08 20 32.1 -0.8
KAHC Katmai Hardscr 4.10 306 P Pn 08 20 32.1 -0.8
baz=121
KVTA Katmai Vly 10 4.10 301 Pn 08 20 32.4 -0.6
O22K Cooper Landing 4.11 352 Pn 08 20 31.2 -1.8
ANCK Angle Creek 4.12 298 Pn 08 20 33.0 -0.3
HIN Hinchinbrook I 4.14 15 Pn 08 20 32.1 -1.3
HIN IAML 08 21 23.2
comp=E,290nm,0.7s
KAIM Kayak Island 4.16 31 Pn 08 20 32.6 -1.1
KAIM IAML 08 21 31.0
comp=E,386nm,0.7s
SLKM Skilak Lake 4.18 349 Pn 08 20 32.4 -1.6
O20K Slope Mountain 4.23 332 Pn 08 20 33.3 -1.4
O20K Slope Mountain 4.23 332 P Pn 08 20 33.5 -1.2
baz=149
IVE Iliamna Volcan 4.29 329 Pn 08 20 34.0 -1.6
CNTC Contact Creek 4.34 298 Pn 08 20 35.1 -1.1
KELA Mount Kelaz 4.34 301 Pn 08 20 35.8 -0.4
Q17K Contact Creek 4.34 298 P Pn 08 20 35.5 -0.8
baz=113
EYAK Cordova Ski Ar 4.41 19 Pn 08 20 36.2 -0.9
EYAK Cordova Ski Ar 4.41 19 P Pn 08 20 36.2 -0.9
RAGM Ragged Mountai 4.49 26 Pn 08 20 38.0 -0.2
RED Redoubt Volcan 4.56 333 Pn 08 20 37.2 -2.1
RSO Redoubt South 4.59 334 Pn 08 20 37.7 -2.1
P18K Big Mountain, 4.61 313 Pn 08 20 37.7 -2.2
P18K Big Mountain, 4.61 313 P Pn 08 20 38.1 -1.8
baz=128
RDT Redoubt 4.61 336 Pn 08 20 37.7 -2.2
RDWB Redoubt West 4.64 333 Pn 08 20 38.4 -2.0
GOAT Goat Mountain 4.65 25 Pn 08 20 39.7 -0.8
DFR Drift River 4.69 335 Pn 08 20 39.4 -1.7
RC01 Rabbit Creek A 4.72 353 Pn 08 20 40.7 -0.7
RC01 IAML 08 21 37.3
comp=N,131nm,1.1s
RC01 IAML 08 21 37.3
comp=E,172nm,0.8s
RC01 Rabbit Creek A 4.72 353 P Pn 08 20 40.3 -1.0
baz=173
RDJH Redoubt Jeurge 4.72 334 Pn 08 20 40.6 -0.9
NCT North Crescent 4.72 333 Pn 08 20 39.6 -1.9
BERG Berg Lake 4.75 31 Pn 08 20 40.7 -1.1
BERG IAML 08 21 39.7
comp=N,303nm,0.5s
O19K Port Alsworth 4.83 324 Pn 08 20 41.0 -1.8
O19K Port Alsworth 4.83 324 P Pn 08 20 41.3 -1.5
baz=140
SNH Sunshine Point 4.85 37 Pn 08 20 42.4 -0.9
SNH IAML 08 21 40.5
comp=E,167nm,0.8s
SNH IAML 08 21 56.7
comp=N,165nm,2.8s
Q16K King Salmon 4.88 301 Pn 08 20 42.6 -0.9
Q16K King Salmon 4.88 301 P Pn 08 20 42.8 -0.7
baz=115
O18K Koktuh Hills 4.90 317 Pn 08 20 41.9 -1.9
O18K IAML 08 21 39.9
comp=N,84nm,0.8s
O18K Koktuh Hills 4.90 317 P Pn 08 20 42.0 -1.8
baz=132
DIV Divide 4.95 16 Pn 08 20 43.5 -1.1
KNK Knik Glacier 5.01 1 Pn 08 20 44.6 -0.8
KNK IAML 08 21 51.5
comp=E,97nm,1.5s
KNK IAML 08 21 56.3
comp=N,78nm,0.7s
KNK Knik Glacier 5.01 1 P Pn 08 20 44.5 -0.8
baz=181
P17K Kvichak River 5.01 307 Pn 08 20 44.3 -1.1
P17K Kvichak River 5.01 307 P Pn 08 20 44.5 -0.9
baz=121
BMRM Bremner River 5.02 23 Pn 08 20 44.7 -0.8
BMRM Bremner River 5.02 23 P Pn 08 20 44.7 -0.8
baz=206
R16K Pilot Point 5.02 287 Pn 08 20 44.5 -1.0
BARK Barkley Ridge 5.13 36 Pn 08 20 46.2 -0.9
N20K Mount Spurr 5.14 340 P Pn 08 20 46.3 -0.9
baz=158
SPCR Spurr Chakacha 5.14 340 Pn 08 20 45.6 -1.6
SUA Susitna One 5.17 349 Pn 08 20 46.6 -1.1
SUA IAML 08 21 47.6
comp=N,74nm,0.8s
SUA IAML 08 21 48.6
comp=E,79nm,0.8s
SUA Susitna One 5.17 349 P Pn 08 20 47.7 0.0
baz=167
SPCG Spurr Capps Gl 5.19 342 Pn 08 20 46.7 -1.3
SPCP Crater Peak Br 5.19 341 Pn 08 20 46.5 -1.4
PMR Palmer 5.19 357 Pn 08 20 47.0 -0.8
PMR IAML 08 21 48.7
comp=E,72nm,0.7s
PMR Palmer 5.19 357 P Pn 08 20 47.3 -0.5
PMR Palmer 5.19 357 P Pn 08 20 47.7 -0.1
baz=177
SPBG Spurr Blockage 5.23 340 Pn 08 20 46.8 -1.6
KLU Klutina 5.28 14 Pn 08 20 48.1 -0.9
KLU IAML 08 21 51.6
comp=E,105nm,0.4s
KLU IAML 08 21 52.5
comp=N,101nm,0.4s
KLU Klutina 5.28 14 P Pn 08 20 48.5 -0.6
baz=196
ANNW Aniakchak Nort 5.31 280 Pn 08 20 48.6 -0.9
ANPB Aniakchak Plen 5.34 278 Pn 08 20 48.0 -1.9
N19K Bonanza Creek 5.36 328 Pn 08 20 48.5 -1.7
GHO Glory Hole Cre 5.37 359 Pn 08 20 49.7 -0.6
SML Sawmill 5.41 2 Pn 08 20 50.0 -0.8
SML Sawmill 5.41 2 P Pn 08 20 50.3 -0.5
baz=182
CHGN Chignik 5.44 273 Pn 08 20 50.0 -1.2
SCM Sheep Creek Mo 5.47 7 Pn 08 20 50.6 -1.1
VRDI Verde Repeater 5.52 27 Pn 08 20 51.4 -1.1

SAMH Samovar Hills 5.57 45 Pn 08 20 52.7 -0.4
KIAG Kiagna River 5.58 33 Pn 08 20 52.4 -0.9
N25K Chitina, Valde 5.60 20 Pn 08 20 52.8 -0.8
O17K Koliganek Bris 5.60 310 Pn 08 20 51.9 -1.6
GLB Gilahina Butte 5.62 24 Pn 08 20 52.6 -1.2
P16K Nushagak River 5.65 301 Pn 08 20 53.3 -0.9
N18K Kilae Creek 5.71 321 Pn 08 20 53.2 -1.9
PTPK Patty Peak 5.75 31 Pn 08 20 54.8 -0.9
PCA Pinnacle 5.75 47 Pn 08 20 54.5 -1.2
MCARA McCarthy VSAT 5.76 28 Pn 08 20 54.9 -0.8
SKT Skwentna 5.77 346 Pn 08 20 55.2 -0.6
M24K Tolsona, Glenn 5.84 11 Pn 08 20 56.9 +0.1
PNL Peninsula 5.89 53 Pn 08 20 56.3 -1.1
PNL Peninsula 5.89 53 P Pn 08 20 57.2 -0.2
BARN Barnard Glacie 5.90 35 Pn 08 20 56.9 -0.9
BCPM Bancas Point 5.93 50 Pn 08 20 57.7 -0.3
CTGM Chitina Glacie 5.94 37 Pn 08 20 57.5 -0.7
M20K Styx River 5.95 339 Pn 08 20 56.6 -1.7
LOGN Logan Glacier 5.95 39 Pn 08 20 57.6 -0.7
O16K Kokwok River B 5.95 306 Pn 08 20 57.0 -1.2
WASW Wrangell South 5.98 21 Pn 08 20 58.4 -0.5
WACK Wrangell Chich 6.00 20 Pn 08 20 58.4 -0.8
CUT Chulitna 6.06 353 Pn 08 20 58.7 -1.0
VNFG Fog Glacier, M 6.07 273 Pn 08 20 58.3 -1.7
N17K Nushagak Hills 6.09 316 Pn 08 20 58.5 -1.6
WAT6 Susitna Watana 6.20 4 Pn 08 21 01.1 -0.7
M19K Big River Lodg 6.24 334 Pn 08 21 00.2 -2.1
HARP HAARP 6.25 15 Pn 08 21 02.3 -0.1
M18K Stony River 6.30 327 Pn 08 21 01.1 -1.9
CNBA Chernabura Isl 6.41 260 Pn 08 21 01.7 -2.9
O29M Mount Kennedy 6.57 50 Pn 08 21 06.8 0.0
O15K Ungalikthiuk R 6.59 299 Pn 08 21 06.5 -0.4
L19K Whitehall Mo 6.59 334 Pn 08 21 05.4 -1.7
P29M Windy Craggy 6.62 56 Pn 08 21 06.6 -0.9
L20K Farewell, AK 6.64 338 Pn 08 21 05.9 -1.8
M26K Nabesna, AK 6.65 23 Pn 08 21 07.0 -0.9
N16K Nishlik Lake 6.69 312 Pn 08 21 07.1 -1.3
YUK8 Steele Glacier 6.70 40 Pn 08 21 08.9 +0.1
DHY Denali Highway 6.71 5 Pn 08 21 08.2 -0.5
SDPT Sand Point 6.75 266 Pn 08 21 07.5 -1.7
SDPT Sand Point 6.75 266 P Pn 08 21 07.5 -1.7
M17K Holitna River 6.76 321 Pn 08 21 07.8 -1.5
PAX Paxson 6.76 12 Pn 08 21 09.0 -0.5
M27K Edge Creek, AK 6.88 27 Pn 08 21 10.7 -0.4
S31K Pelican 6.92 72 Pn 08 21 10.1 -1.4
MENT Mentasta 6.99 19 Pn 08 21 12.2 -0.3
RND Reindeer 7.01 359 Pn 08 21 12.7 -0.2
M16K Timber Creek 7.08 315 Pn 08 21 12.5 -1.2
TRF Thorofare Moun 7.10 354 Pn 08 21 13.2 -1.0
N15K Kwethluk River 7.11 307 Pn 08 21 13.4 -0.7
L18K Granite Mounta 7.12 328 Pn 08 21 12.7 -1.6
L26K Log Cabin Wild 7.14 20 Pn 08 21 15.0 +0.4
P30M Million Dollar 7.19 54 Pn 08 21 15.1 -0.2
CAST Castle Rocks 7.23 348 Pn 08 21 15.4 -0.4
KTH Kantishna Hill 7.25 352 Pn 08 21 16.1 0.0
HYT Haines Junctio 7.29 48 Pn 08 21 16.8 0.0
O14K Tigyukauivet M 7.31 298 Pn 08 21 16.6 -0.3
SIT Sitka 7.35 79 Pn 08 21 14.0 -3.4
SIT Sitka 7.35 79 P Pn 08 21 14.2 -3.2
K20K Telida 7.47 341 Pn 08 21 18.0 -1.1
L27K Beaver Creek, 7.49 24 Pn 08 21 18.6 -0.8
BCAR Beaver Creek A 7.50 25 Pn 08 21 19.7 +0.1
TTA Tatalina 7.52 333 Pn 08 21 17.3 -2.5
TTA Tatalina 7.52 333 P Pn 08 21 18.1 -1.7
K24K Donnelly Dome 7.54 10 Pn 08 21 20.7 +0.6
L17K Donlin 7.56 323 Pn 08 21 18.6 -1.8
RIDG Independent Ri 7.58 13 Pn 08 21 20.4 -0.2
M15K Kasigluk River 7.62 309 Pn 08 21 20.0 -1.1
L16K Owhat River 7.70 318 Pn 08 21 20.5 -1.6
SKAG Skagway 7.71 61 Pn 08 21 22.6 +0.3
SKAG Skagway 7.71 61 P Pn 08 21 22.2 -0.1
BESE Bessie Mountai 7.73 68 Pn 08 21 21.7 -1.0
N14K Kuskokwak Cree 7.74 302 Pn 08 21 21.8 -0.9
S32K Killisnoo 7.76 76 Pn 08 21 21.0 -2.0
BPAW Bear Paw Mtn. 7.79 352 Pn 08 21 23.0 -0.5
N30M Aishikik Lake 7.81 45 Pn 08 21 23.5 -0.4
R32K Eaglecrest 7.86 70 Pn 08 21 23.7 -0.7
O30N Mendenhall 7.87 51 Pn 08 21 24.2 -0.4
SCRK Sand Creek 7.92 15 Pn 08 21 25.4 0.0
JIS Juneau Island 7.93 71 Pn 08 21 24.2 -1.2
JIS Juneau Island 7.93 71 P Pn 08 21 24.5 -0.9
M29M Somme Creek 7.95 36 Pn 08 21 25.4 -0.4
K17K Iditarod 7.99 326 Pn 08 21 24.1 -2.1
HDA Harding Lake 8.06 5 Pn 08 21 26.9 -0.2
J18K Inrooko River 8.14 334 Pn 08 21 26.5 -1.8
M14K Bethel 8.20 307 Pn 08 21 28.7 -0.4
NEA2 Nenana 8.20 359 Pn 08 21 28.6 -0.5
J20K Nowinta River 8.24 343 Pn 08 21 28.4 -1.3
CCB Clear Creek Bu 8.26 2 Pn 08 21 29.7 -0.3
K27K Chicken 8.30 20 Pn 08 21 29.5 -0.9
J19K Poorman 8.35 338 Pn 08 21 29.2 -1.9
WHY Whitehorse 8.35 54 Pn 08 21 31.7 +0.5
N31M Braeburn, Yuko 8.36 47 Pn 08 21 31.1 -0.2
J25K Salcha River, 8.38 10 Pn 08 21 30.2 -1.3
IL31 8.42 5 Pn 08 21 32.1 0.0
ILAR Eielson Array 8.42 5 Pn Pn 08 21 32.3 +0.2
comp=N,0.5nm,0.3s,baz=188,slow=13,SNR=20
ILAR Sn Sn 08 23 02.0 -3.9
comp=N,1.0nm,0.3s,baz=193,slow=23,SNR=7.7
ILAR LR LR 08 24 59.0
comp=N,294nm,20.6s,baz=250,slow=39
L15K Ungalak Mounta 8.46 314 Pn 08 21 30.9 -1.7
J26L Joseph Creek 8.48 15 Pn 08 21 31.8 -1.2
COLA College 8.49 2 Pn 08 21 33.5 +0.5
COLA College 8.49 2 P Pn 08 21 33.6 +0.6
P32M Atlin 8.53 62 Pn 08 21 33.0 -0.7
L29M L29M 8.54 34 Pn 08 21 33.8 0.0
MDM Murphy Dome 8.57 1 Pn 08 21 33.9 -0.3
M30M Minto, Yukon 8.61 39 Pn 08 21 34.5 -0.3
U33K Whale Pass 8.64 86 Pn 08 21 31.6 -3.5
M13K Dall Lake 8.69 303 Pn 08 21 35.6 -0.1
MLY Manley 8.70 354 Pn 08 21 36.2 +0.2
CRAG Craig 8.76 90 Pn 08 21 32.8 -3.9
CRAG Craig 8.76 90 P Pn 08 21 33.2 -3.5
I23K Minto, Yukon-K 8.76 358 Pn 08 21 36.0 -0.7
L14K Kuka Creek 8.78 310 Pn 08 21 35.9 -1.1
K15K Wolf Creek Mou 8.82 317 Pn 08 21 37.0 -0.6
DAWY Dawson 8.93 27 Pn 08 21 38.3 -0.8
I21K Tanana 8.94 351 Pn 08 21 38.7 -0.5
J16K Anvik River 9.13 324 Pn 08 21 39.6 -2.3
P33M Teslin, Yukon 9.14 59 Pn 08 21 41.8 -0.3
EGAK Eagle 9.15 21 Pn 08 21 41.8 -0.2
K29M Barlow Dome 9.27 32 Pn 08 21 43.4 -0.5
M31M Drury Creek, Y 9.29 46 Pn 08 21 44.4 +0.3
N32M Quiet Lake 9.35 53 Pn 08 21 44.4 -0.6
H24K Noodor Dome 9.46 2 Pn 08 21 45.7 -0.6
H21K Melozitna Rive 9.48 349 Pn 08 21 45.3 -1.4
FARO Faro, Yukon 9.73 47 Pn 08 21 50.4 +0.4
R33M Jennings River 9.86 65 Pn Pn 08 21 51.3 -0.6
H17K Granite Mounta 10.16 332 Pn Pn 08 21 53.2 -2.6
J30M Hart River 10.16 31 Pn Pn 08 21 56.1 +0.1
DLBC Dease Lake 10.23 71 Pn Pn 08 21 57.0 0.0
comp=N,0.6nm,0.3s,baz=250,slow=7.3,SNR=12
DLBC Sn Sn 08 23 46.1 -4.2
comp=N,0.4nm,0.3s,baz=184,slow=19,SNR=1.5
comp=N,1.5nm,0.3s
I29M Ogilvie Camp, 10.27 25 Pn 08 21 57.5 +0.2
G23K Bananza Creek 10.35 357 Pn Pn 08 21 57.7 -0.8
G19K Purcell Mounta 10.55 341 Pn Pn 08 22 00.6 -0.7
G16K Koyuk River 11.18 329 Pn 08 22 08.3 -1.5
EPYK Eagle Plains 11.47 25 Pn 08 22 14.9 +1.0
ANM Nome 11.57 322 Pn 08 22 14.3 -0.9
E25K Arctic Village 11.83 6 Pn 08 22 19.2 +0.5
F28M Old Crow 11.94 16 Pn 08 22 19.0 -1.3
C31M Satah River 12.50 27 Pn 08 22 27.7 -0.2
BBB Bella Bella 12.70 101 Sn Sn 08 24 43.6 -6.9
comp=N,0.2nm,0.3s,baz=232,slow=19,SNR=1.4
BBB LR LR 08 26 16.7
comp=N,356nm,19.4s,baz=318,slow=32
F31M Tsiigehtchic 13.04 26 Pn 08 22 34.4 -0.8
INK Inuvik 13.77 24 Pn 08 22 46.5 +1.4
INK Inuvik 13.77 24 Pn Pn 08 22 46.0 +0.8
comp=N,0.1nm,0.3s,baz=202,slow=14,SNR=20
INK LR LR 08 28 24.4
comp=N,211nm,19.0s,baz=163,slow=39
comp=N,4.8nm,0.9s
B22K Teshekpuk Lake 14.13 353 Pn 08 22 50.0 0.0
B20K Meade River 14.14 348 Pn 08 22 48.6 -1.6
C36M Paulatuk 16.94 30 Pn Pn 08 23 25.4 -1.2
YKA Yellowknife Ar 18.16 56 P P 08 23 41.5 -0.3
comp=N,0.1nm,0.3s,baz=262,slow=11,SNR=23
YKA LR LR 08 30 39.7
comp=N,135nm,18.0s,baz=322,slow=37
comp=N,2.1nm,0.9s
A36M Sachs Harbour 18.41 23 P Pn 08 23 44.5 -0.2
NEW Newport 20.76 100 LR LR 08 31 10.1
comp=N,133nm,19.1s,baz=299,slow=34
HUMO Hull Mountain 21.49 119 P P 08 24 20.3 +2.1
HUMO IAmb IAmb 08 24 28.8
comp=Z,21nm,1.0s
SHEM Shemya Is, Ala 21.73 276 LR LR 08 32 06.1
comp=Z,90nm,18.9s,baz=186,slow=35
YBH Yreka Blue Hor 22.27 120 LR LR 08 30 57.1
comp=Z,203nm,20.6s,baz=313,slow=31
ELK Elko 26.74 112 LR LR 08 34 02.2
comp=Z,110nm,19.3s,baz=325,slow=32
NVAR Mina Array Bea 26.96 119 P P 08 25 11.8 +0.8
comp=Z,0.8nm,0.9s,baz=301,slow=9.0,SNR=4.7
NVAR LR LR 08 33 44.0
comp=Z,184nm,20.2s,baz=283,slow=32
comp=Z,0.8nm,0.9s
RES Resolute Bay 27.27 28 LR LR 08 36 45.9
comp=Z,164nm,18.2s,baz=242,slow=38
PDAR Pinedale Array 28.34 102 P P 08 25 25.9 +2.5
comp=Z,0.3nm,0.8s,baz=294,slow=6.8,SNR=2.6
PDAR LR LR 08 35 09.8
comp=Z,47nm,21.1s,baz=302,slow=33
comp=Z,0.3nm,0.8s
R11B Troy Canyon, C 28.37 116 P P 08 25 24.5 +1.0
PRN Pahroc Range 29.36 116 P P 08 25 32.1 -0.2
PRN IAmb IAmb 08 25 43.8
comp=Z,10nm,1.1s
SEY Seymchan 29.51 307 P P 08 25 32.4 -0.8
comp=Z,2.4nm,0.9s,baz=243,slow=23,SNR=3.6
SEY LR LR 08 38 24.7
comp=Z,178nm,18.4s,baz=71,slow=39
comp=Z,2.4nm,0.9s
GWY Greenwater Val 29.53 120 P P 08 25 33.9 0.0
GWY IAmb IAmb 08 25 44.0
comp=Z,4.6nm,0.9s
SRU San Rafael Swe 30.40 108 P P 08 25 42.7 +1.1
SRU IAmb IAmb 08 25 52.2
comp=Z,8.5nm,1.0s
PETK Petropavlovsk- 30.48 287 LR LR 08 36 50.2
comp=Z,41nm,20.9s,baz=81,slow=34
V12A Nelson 30.78 118 P P 08 25 43.7 -1.2
V12A IAmb IAmb 08 25 56.5
comp=Z,6.4nm,1.0s
MA2 Magadan 31.29 301 LR LR 08 38 14.2
comp=Z,121nm,21.8s,baz=102,slow=36
ULM Lac du Bonnet 31.42 79 LR LR 08 38 37.8
comp=Z,94nm,18.1s,baz=42,slow=36
PFO Pinyon Flats O 31.73 122 LR LR 08 36 24.2
comp=Z,130nm,19.3s,baz=338,slow=32
ANMO Albuquerque 35.67 109 LR LR 08 41 00.8
comp=Z,52nm,18.7s,baz=49,slow=36
TIXI Tiksi 35.75 327 LR LR 08 43 46.0
comp=Z,32nm,18.9s,baz=50,slow=41
FRB Frobisher Bay 38.08 45 LR LR 08 42 31.1
comp=Z,160nm,18.3s,baz=298,slow=36
YAK Yakutsk 39.55 313 LR LR 08 43 51.7
comp=Z,56nm,18.8s,baz=350,slow=37
TXAR Lajitas Array 41.54 111 P P 08 27 19.5 +2.8
comp=Z,1.6nm,1.2s,baz=259,slow=1.4,SNR=3.9
TXAR LR LR 08 43 42.0
comp=Z,52nm,19.2s,baz=20,slow=35
comp=Z,1.6nm,1.2s
LPIG La Paz 42.61 123 LR LR 08 42 51.8
comp=Z,64nm,18.9s,baz=14,slow=33
SUMG Summit 42.69 25 iP P 08 27 30.0 +4.0
SFJD Kangerlussuaq 42.77 35 LR LR 08 45 00.8
comp=Z,105nm,19.8s,baz=335,slow=36
SCHQ Scheffville 43.62 56 LR LR 08 46 07.9
comp=Z,51nm,18.1s,baz=22,slow=37
ASAJ Asahikawa 43.81 284 LR LR 08 47 22.8
comp=Z,44nm,18.1s,baz=119,slow=38
KLR Kul'dur 46.09 296 P P 08 27 53.5 +0.6
comp=Z,2.3nm,0.6s,baz=88,slow=8.7,SNR=9.4
KLR LR LR 08 48 18.7
comp=Z,43nm,19.9s,baz=39,slow=38
comp=Z,2.3nm,0.6s
TKL Tuckaleechee C 47.56 87 LR LR 08 48 11.3
comp=Z,187nm,18.0s,baz=336,slow=36
NRIK Noril'sk 48.12 337 P P 08 28 08.9 +0.4
NRIK Noril'sk 48.12 337 P P 08 28 09.9 +1.4
comp=Z,2.6nm,0.7s,baz=44,slow=5.5,SNR=5.0
NRIK LR LR 08 51 37.2
comp=Z,74nm,18.2s,baz=138,slow=40
comp=Z,2.6nm,0.7s
H11N2 WAKE ISLAND Hy 49.26 241 T T 09 21 47.3
baz=30
H11N3 WAKE ISLAND Hy 49.27 241 T T 09 21 57.4
baz=30
H11N1 WAKE ISLAND Hy 49.28 241 T T 09 21 48.9
baz=30
USRK Ussuriysk Ar. 49.36 291 LR LR 08 49 20.2
comp=Z,44nm,20.3s,baz=55,slow=36
JMIC Jan Mayen 49.78 16 LR LR 08 51 34.1
comp=Z,30nm,18.5s,baz=280,slow=39
H11S1 WAKE ISLAND Hy 50.41 240 T T 09 23 27.7
baz=29,slow=76
H11S2 WAKE ISLAND Hy 50.42 240 T T 09 23 21.3
baz=29,slow=76
H11S3 WAKE ISLAND Hy 50.42 240 T T 09 23 23.4
baz=29,slow=76
MJAR Matsushiro Arr 51.50 280 LR LR 08 51 05.9
comp=Z,20nm,20.2s,baz=48,slow=37
BORG Borgarnes 52.66 25 LR LR 08 52 17.9
comp=Z,72nm,18.7s,baz=329,slow=37
ARCES ARCESS Array B 54.28 3 P P 08 28 54.8 +0.1
comp=Z,3.7nm,0.9s,baz=310,slow=13,SNR=1.8
comp=Z,3.7nm,0.9s
CMIG Matias Romero 56.15 112 LR LR 08 52 37.0
comp=Z,64nm,18.8s,baz=18,slow=35
KSRS Korea Array 56.36 288 LR LR 08 53 50.6
comp=Z,13nm,18.4s,baz=195,slow=37
TEIG Tepich 57.06 103 LR LR 08 55 28.2
comp=Z,347nm,18.2s,baz=34,slow=38
SONM Songino Array 58.82 310 P P 08 29 27.7 +0.3
comp=Z,2.9nm,0.8s,baz=42,slow=6.5,SNR=12
comp=Z,2.9nm,0.8s
ZALV Zalesovo Beam 61.64 327 P P 08 29 47.2 +0.8
comp=Z,1.5nm,0.6s,baz=34,slow=6.1,SNR=8.6
ZALV LR LR 09 00 19.1
comp=Z,27nm,19.4s,baz=35,slow=40
comp=Z,1.5nm,0.6s
NOA NORSAR Array B 61.81 11 LR LR 08 58 27.5
comp=Z,15nm,19.2s,baz=5.0,slow=38
HHC Hu-ho-hao-te 61.97 302 eP P 08 29 53.5 +4.5
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.4s
FINES FINESS Array B 62.40 3 P P 08 29 53.6 +2.3
comp=Z,1.8nm,0.8s,baz=13,slow=7.6,SNR=2.9
comp=Z,1.8nm,0.8s
ARU Arti 65.37 344 LR LR 09 00 57.2
comp=Z,39nm,20.4s,baz=183,slow=38
BVAR Borovoye Array 66.31 335 P P 08 30 18.3 +1.2
comp=Z,1.9nm,0.7s,baz=42,slow=6.8,SNR=8.3
BVAR LR LR 09 03 47.1
comp=Z,32nm,18.3s,baz=35,slow=40
comp=Z,1.9nm,0.7s
KURBB Kurchatov Arra 66.40 329 P P 08 30 18.4 +0.6
comp=Z,0.6nm,0.6s,baz=28,slow=6.7,SNR=6.4
comp=Z,0.6nm,0.6s
MKAR Makanchi Array 68.69 325 P P 08 30 32.9 +0.6
comp=Z,0.5nm,0.5s,baz=46,slow=6.9,SNR=7.5
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 73.23 1 P P 08 31 01.5 +1.8
comp=Z,0.2nm,0.3s,baz=359,slow=5.8,SNR=1.5
comp=Z,0.2nm,0.3s
VRAC Vranov 73.92 10 LR LR 09 04 29.0
comp=Z,17nm,20.7s,baz=30,slow=36
GERES GERESS Array B 74.07 12 LR LR 09 06 32.7
comp=Z,18nm,19.3s,baz=324,slow=38
AAK Ala-Archa 74.82 328 LR LR 09 09 33.8
comp=Z,20nm,19.1s,baz=27,slow=40
RAR Rarotonga 77.90 191 LR LR 08 58 13.5
comp=Z,34nm,21.6s,baz=196,slow=30
HNR Honiara 78.08 232 LR LR 09 03 41.0
comp=Z,390nm,18.4s,baz=28,slow=34
ESDC Sonseca Array 79.70 27 P P 08 31 40.2 +3.6
comp=Z,0.2nm,0.4s,baz=328,slow=9.3,SNR=0.8
comp=Z,0.2nm,0.4s
BRTR Keskin Array B 84.20 358 P P 08 32 02.8 +2.4
comp=Z,0.3nm,0.6s,baz=303,slow=2.3,SNR=1.5
comp=Z,0.3nm,0.6s

CMAR **Chiang Mai Arr 86.53 298** P **P** **08 32 13.2 +1.0**
comp=Z,0.9nm,0.3s,baz=18,slow=5.2,SNR=5.4
CMAR LR LR 09 13 35.3
comp=Z,12nm,20.4s,baz=205,slow=38
comp=Z,0.9nm,0.3s
QSPA South Pole Qui 146.21 180 PKPbc **PKiKP** **08 39 09.5 -1.5**
comp=Z,3.2nm,0.7s,baz=41,slow=2.0,SNR=6.1

KRSC 27 08:21:36.4±0.6, 55°38N×166°17E, h31km±1km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BKI	**Bering**	**0.21**	**213**	*eP*		**Pn**		08 21 43.3	-0.1
BKI				*eS*		Sn		08 21 48.3	+0.5
TUMD	**Tumrok D**	**3.31**	**269**	*eP*		Pn		08 22 29.6	+3.6
TUMR	**Tumrok**	**3.44**	**271**	*eP*		Pn		08 22 31.9	+3.9
SMAR	**Somma**	**4.81**	**247**	*eP*		Pn		08 22 51.1	+4.3
UGLR	**Uglovaya**	**4.82**	**246**	*eP*		Pn		08 22 51.3	+4.4
AVH	**Avacha**	**4.84**	**247**	*eP*		Pn		08 22 51.7	+4.6
KRX	**Arik**	**4.84**	**248**	*eP*		Pn		08 22 52.0	+4.8
KOK	**Koryaka**	**4.88**	**248**	*eP*		Pn		08 22 52.1	+4.4
MTVR	**Mutnovka**	**5.54**	**242**	*eP*		Pn		08 23 01.2	+4.4
ASAK	**Asacha**	**5.74**	**242**	*eP*		Pn		08 23 04.5	+5.0

IDC 27 08:22:06.2±1.4, 55°54N×166°25E, h0km, mb3.7/6, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=45.7km s-min=19.2km az=157.0
KRSC 27 08:22:07.0±1.3, 55°40N×166°28E, h32km±8km, Ml4.2
ISC 27 08:22:09.3±0.9, 55°58N±0°05×166°10E±0°06, h20km, n36, σ2s05/41, mb3.8/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BKI	**Bering**	**0.38**	**191**	*eP*		**Pb**		**08 22 14.8**	**-2.6**
BKI				*eS*		**Sb**		**08 22 20.2**	**-2.6**
KBG	**Krutoberegovo**	**2.03**	**291**	*eS*		**Sb**		**08 23 08.9**	**-1.3**
SMKR	**Semkarok**	**2.79**	**293**	*eS*		**Sb**		**08 23 29.2**	**-2.9**
BDR	**Baidarnaya**	**2.92**	**292**	*eS*		**Sb**		**08 23 33.3**	**-2.5**
SRKR	**Sorokina**	**2.97**	**293**	*eS*		**Sb**		**08 23 34.2**	**-3.0**
ZLN	**Zelenaya**	**3.02**	**281**	*eP*		**Pn**		**08 22 58.9**	**+2.8**
ZLN				*eS*		**Sb**		**08 23 36.6**	**-2.3**
BZGR	**Bezymyannyi-Gr**	**3.08**	**279**	*eP*		**Pb**		**08 23 00.2**	**-3.2**
KLY	**Klyuchi**	**3.15**	**286**	*eP*		**Pn**		**08 22 58.2**	**+0.5**
KLY				*eS*		**Sn**		**08 23 35.9**	**+1.2**
BZP	**Bezymyannyi-Pe**	**3.16**	**278**	*eP*		**Pn**		**08 22 59.6**	**+1.6**
BZWR	**Bezymyannyi-We**	**3.19**	**279**	*eP*		**Pn**		**08 23 00.5**	**+2.1**
BZMR	**Bezymyannaya**	**3.19**	**279**	*eP*		**Pn**		**08 23 01.1**	**+2.7**
KIRR	**Kirishev**	**3.28**	**279**	*eP*		**Pn**		**08 23 01.7**	**+2.2**
KMNR	**Kamenistaya**	**3.33**	**275**	*eP*		**Pn**		**08 23 03.3**	**+3.0**
KPT	**Kopyto**	**3.34**	**279**	*eP*		**Pn**		**08 23 02.5**	**+2.1**
TUMR	**Tumrok**	**3.41**	**267**	*eP*		**Pn**		**08 23 03.8**	**+2.4**
SRDR	**Sredinnyy**	**3.67**	**284**	*eP*		**Pn**		**08 23 07.1**	**+2.3**
SMAR	**Somma**	**4.86**	**244**	*eP*		**Pn**		**08 23 22.7**	**+1.4**
SMAR				*eS*		**Sn**		**08 24 17.8**	**+0.8**
KRX	**Arik**	**4.88**	**246**	*eP*		**Pn**		**08 23 23.0**	**+1.4**
AVH	**Avacha**	**4.89**	**245**	*eP*		**Pn**		**08 23 23.3**	**+1.7**
KOK	**Koryaka**	**4.92**	**245**	*eP*		**Pn**		**08 23 23.7**	**+1.5**
DALK	**Dalny**	**5.00**	**242**	*eP*		**Pn**		**08 23 24.2**	**+1.1**
PET	**Petropavlovsk**	**5.06**	**243**	*eP*		**Pn**		**08 23 24.9**	**+1.0**
KRMR	**Karymshinskiy**	**5.43**	**243**	*eP*		**Pn**		**08 23 30.8**	**+1.8**
KRMR				*eS*		**Sn**		**08 24 32.9**	**+2.1**
PETK	**Petropavlovsk-** 4.3nm,0.3s,baz=68,slow=17,SNR=29	**5.50**	**247**	Pn		**Pn**		**08 23 30.9**	**+0.9**
PETK	0.9nm,0.3s,baz=348,slow=6.7,SNR=7.2 6.2nm,0.4s			Sn		**Sn**		**08 24 35.5**	**+2.8**
GRL	**Gorelyy**	**5.62**	**241**	*eP*		**Pn**		**08 23 32.9**	**+1.2**
GRL				*eS*		**Sn**		**08 24 36.6**	**+1.0**
ASAK	**Asacha**	**5.80**	**240**	*eP*		**Pn**		**08 23 36.0**	**+1.8**
ASAK				*eS*		**Sn**		**08 24 43.0**	**+2.8**
APC	**Apacha**	**5.88**	**247**	*eP*		**Pn**		**08 23 37.5**	**+2.3**
ILAR	**Eielson Array** 4.2nm,1.0s,baz=260,slow=7.6,SNR=13 4.2nm,1.0s	**24.54**	**49**	P		**P**		**08 27 26.9**	**-0.3**
H11N2	**WAKE ISLAND Hy** baz=359,slow=76	**35.80**	**179**	T		T		09 06 49.5	
H11N3	**WAKE ISLAND Hy** baz=359,slow=76	**35.81**	**179**	T		T		09 06 52.5	
H11N1	**WAKE ISLAND Hy** baz=359,slow=76	**35.81**	**179**	T		T		09 06 52.8	
SONM	**Songino Array** 1.1nm,0.7s,baz=52,slow=8.3,SNR=7.3 1.1nm,0.7s	**36.75**	**284**	P		**P**		**08 29 17.3**	**+2.2**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=299,slow=7.9,SNR=7.5 0.6nm,0.8s	**38.92**	**47**	P		**P**		**08 29 33.0**	**0.0**
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=56,slow=7.2,SNR=3.7 0.6nm,0.7s	**49.47**	**303**	P		**P**		**08 30 57.0**	**-0.6**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=33,slow=9.0,SNR=2.4 0.3nm,0.6s	**50.20**	**297**	P		**P**		**08 31 03.4**	**+0.1**
ASAR	**Alice Springs** 0.7nm,0.9s,baz=16,slow=4.0,SNR=4.1 0.7nm,0.9s	**83.57**	**209**	P		**P**		**08 34 35.5**	**-0.1**

IDC 27 08:27:41.5±20.0, 5°48S×149°24E, h276km±206km, mb2.6/3, mbtmp3.2/3, Error ellipse: s-maj=124.7km s-min=77.2km az=100.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
WRA	**Warramunga Arr** 0.9nm,1.0s,baz=48,slow=10,SNR=2.1 0.9nm,1.0s	**20.42**	**224**	P		P		08 31 58.8	+0.3
ASAR	**Alice Springs** 0.3nm,0.8s,baz=56,slow=9.5,SNR=4.2 0.3nm,0.8s	**23.35**	**218**	P		P		08 32 25.6	-0.3
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=112,slow=6.4,SNR=2.9 0.4nm,0.8s	**78.53**	**320**	P		P		08 39 12.6	+0.1

IDC 27 08:44:51.0±1.0, 55°71N×149°13W, h0km, mb3.6/10, mbtmp3.7/15, ML3.5/5, MS3.1/3, Error ellipse: s-maj=23.7km s-min=16.1km az=37.0
NEIC 27 08:44:50.8±1.6, 55°68N±0°08×149°30W±0°10, h8km±6km, mb4.0/3, ML3.9/30, ML3.8(AEIC), Error ellipse: s-maj=12.3km s-min=7.6km az=163.0
AEIC 27 08:44:55.5±1.6, 55°68N±0°09×149°22W±0°08, h10km±7km, Error ellipse: s-maj=12.8km s-min=6.3km az=191.0
ISC 27 08:44:52.0±0.8, 55°78N±0°07×149°19W±0°05, h10km, n214, σ1s17/203, mb3.9/10, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OHAK	**Old Harbor**	**2.69**	**304**				Pn	08 45 34.0	-1.3
OHAK	**Old Harbor**	**2.69**	**304**				**Sn**	**08 46 04.3**	**-3.6**
OHAK	**Old Harbor**	**2.69**	**304**	P		**Pn**		**08 45 34.2**	**-1.1**
OHAK	**Old Harbor** baz=123	**2.69**	**304**	P		**Pn**		**08 45 34.3**	**-1.1**
OHAK	baz=123			S		**Sn**		**08 46 04.3**	**-3.6**
KDAK	**Kodiak Island**	**2.74**	**319**				**Pn**	**08 45 35.2**	**-0.8**
KDAK	**Kodiak Island**	**2.74**	**319**				**Sn**	**08 46 06.9**	**-2.3**
KDAK	**Kodiak Island** baz=138	**2.74**	**319**	S			**Sn**	**08 46 06.9**	**-2.3**
KDAK	**Kodiak Island** 7.5nm,0.3s,baz=146,slow=5.4,SNR=65	**2.74**	**319**	Pn			**Pn**	**08 45 35.7**	**-0.3**
KDAK	26nm,0.3s,baz=38,slow=19,SNR=12 17nm,0.3s			Sn			**Sn**	**08 46 06.6**	**-2.6**
SII	**Sitkinak Islan**	**2.90**	**288**				Pn	08 45 36.2	-2.0
SII	comp=N,292nm,0.6s			IAML				08 46 15.3	
SII	**Sitkinak Islan**	**2.90**	**288**	P			Pn	08 45 36.7	-1.5
SII	**Sitkinak Islan** baz=106	**2.90**	**288**	P			Pn	08 45 36.8	-1.3
SII	baz=106			S			**Sn**	**08 46 08.8**	**-4.3**
Q20K	**Shuyak Island** baz=149	**3.33**	**330**	P			**Pn**	**08 45 43.7**	**-0.4**
Q20K	baz=149			S			**Sn**	**08 46 22.7**	**-1.0**
SYI	**Shuyak Island**	**3.33**	**330**				**Pn**	**08 45 43.6**	**-0.5**
SYI	comp=E,88nm,0.2s			IAML				08 46 24.6	
SYI	**Shuyak Island**	**3.33**	**330**				**Sn**	**08 46 22.7**	**-1.0**
CNPM	**China Poot**	**3.92**	**345**				**Pn**	**08 45 52.5**	**+0.3**
CNPM	comp=N,137nm,0.3s			IAML				08 46 38.5	
CNPM	comp=E,94nm,0.3s			IAML				08 46 39.1	
CNPM	**China Poot**	**3.92**	**345**				**Sn**	**08 46 36.9**	**-1.2**
MID	**Middleton Isla**	**3.97**	**22**	Pn			**Pn**	**08 45 52.4**	**-0.5**
MID	comp=N,324nm,2.7s			IAML				08 47 14.3	
MID	**Middleton Isla**	**3.97**	**22**	P			**Pn**	**08 45 52.8**	**0.0**
Q23K	**Middleton Isla**	**3.97**	**21**	Pn			**Pn**	**08 45 52.8**	**0.0**
Q23K	**Middleton Isla** baz=204	**3.97**	**21**	P			**Pn**	**08 45 52.6**	**-0.2**
Q19K	**Cape Douglas,** baz=142	**3.97**	**324**	P			**Pn**	**08 45 53.1**	**+0.1**
KAHG	**Katmai Hook Gl**	**3.99**	**315**				**Pn**	**08 45 53.8**	**+0.5**
BRSE	**Bradley Lake S**	**4.06**	**349**				**Pn**	**08 45 53.8**	**-0.3**
BRSE							**Sn**	**08 46 39.4**	**-2.3**
BRSE	**Bradley Lake S** baz=169	**4.06**	**349**	P			**Pn**	**08 45 53.8**	**-0.3**
BRSE	baz=169			S			**Sn**	**08 46 39.5**	**-2.2**
BRLK	**Bradley Lake**	**4.10**	**348**				**Pn**	**08 45 54.2**	**-0.5**
BRLK	comp=E,106nm,0.3s			IAML				08 46 44.1	
BRLK	comp=N,71nm,0.2s			IAML				08 46 44.4	
BRLK	**Bradley Lake**	**4.10**	**348**				**Sn**	**08 46 40.4**	**-2.2**
HOM	**Homer**	**4.11**	**342**				**Sn**	**08 46 41.8**	**-1.0**
HOM	**Homer** baz=162	**4.11**	**342**	S			**Sn**	**08 46 41.8**	**-1.0**
ACHA	**Angle Creek He**	**4.15**	**309**				**Pn**	**08 45 55.7**	**+0.3**
P23K	**Montague Islan**	**4.34**	**12**				**Pn**	**08 45 57.9**	**-0.1**
P23K							**Sn**	**08 46 45.8**	**-2.7**
P23K	**Montague Islan** baz=194	**4.34**	**12**	P			**Pn**	**08 45 57.9**	**-0.1**
P23K	baz=194			S			**Sn**	**08 46 45.8**	**-2.7**
PLK3	**Peulik 3**	**4.34**	**299**				**Pn**	**08 45 58.0**	**0.0**
SEW	**Seward**	**4.34**	**358**				**Pn**	**08 45 57.3**	**-0.6**
SEW	**Seward** baz=179	**4.34**	**358**	P			**Pn**	**08 45 57.5**	**-0.4**
CNTC	**Contact Creek**	**4.42**	**307**				**Pn**	**08 45 59.2**	**0.0**
Q17K	**Contact Creek** baz=123	**4.42**	**307**	P			**Pn**	**08 45 59.0**	**-0.2**
P19K	**Oil Pt**	**4.45**	**333**				**Pn**	**08 45 58.8**	**-0.6**
P19K	comp=N,156nm,0.5s			IAML				08 46 55.4	
P19K	comp=E,166nm,0.4s			IAML				08 46 58.1	
P19K	**Oil Pt**	**4.45**	**333**				**Sn**	**08 46 50.1**	**-1.1**
P19K	**Oil Pt** baz=150	**4.45**	**333**	P			**Pn**	**08 45 59.5**	**0.0**
P19K	baz=150			S			**Sn**	**08 46 50.1**	**-1.1**
O20K	**Slope Mountain**	**4.69**	**338**				**Pn**	**08 46 02.6**	**-0.2**
O22K	**Cooper Landing**	**4.72**	**357**				**Sn**	**08 46 55.7**	**-2.3**
O22K	**Cooper Landing** baz=177	**4.72**	**357**	S			**Sn**	**08 46 55.7**	**-2.3**
HIN	**Hinchinbrook I**	**4.85**	**16**	Pn			**Pn**	**08 46 04.8**	**-0.1**
HIN	comp=N,196nm,1.0s			IAML				08 46 59.4	
HIN	comp=E,158nm,2.3s			IAML				08 47 03.6	
P18K	**Big Mountain,**	**4.87**	**321**				**Pn**	**08 46 04.6**	**-0.6**
P18K	comp=E,30nm,3.0s			IAML				08 47 55.1	
P18K	**Big Mountain,**	**4.87**	**321**				**Sn**	**08 46 58.7**	**-2.8**
P18K	**Big Mountain,** baz=137	**4.87**	**321**	P			**Pn**	**08 46 04.7**	**-0.6**
P18K	baz=137			S			**Sn**	**08 46 58.7**	**-2.8**
KAIM	**Kayak Island**	**4.88**	**30**	Pn			**Pn**	**08 46 05.9**	**+0.6**
KAIM	**Kayak Island** baz=214	**4.88**	**30**	P			**Pn**	**08 46 05.5**	**+0.2**
Q16K	**King Salmon**	**4.99**	**309**				**Pn**	**08 46 06.9**	**+0.1**
Q16K	**King Salmon** baz=124	**4.99**	**309**	P			**Pn**	**08 46 06.4**	**-0.4**
RSO	**Redoubt South**	**5.06**	**340**				Pn	08 46 04.4	-3.6
EYAK	**Cordova Ski Ar**	**5.12**	**19**				**Pn**	**08 46 08.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**5.12**	**19**	P			**Pn**	**08 46 09.0**	**+0.4**
EYAK	**Cordova Ski Ar** baz=203	**5.12**	**19**	P			**Pn**	**08 46 08.8**	**+0.2**
ANPB	**Aniakchak Plen**	**5.17**	**285**				**Pn**	**08 46 08.7**	**-0.7**
P17K	**Kvichak River**	**5.20**	**314**				**Pn**	**08 46 10.0**	**+0.3**
P17K	**Kvichak River** baz=129	**5.20**	**314**	P			**Pn**	**08 46 09.2**	**-0.5**
O18K	**Koktuh Hills**	**5.20**	**324**				**Pn**	**08 46 09.2**	**-0.6**
O18K	comp=E,33nm,1.8s			IAML				08 47 17.8	
O18K	comp=N,38nm,1.0s			IAML				08 47 19.0	
O18K	**Koktuh Hills** baz=140	**5.20**	**324**	P			**Pn**	**08 46 09.4**	**-0.3**
O19K	**Port Alsworth**	**5.20**	**330**				**Pn**	**08 46 09.6**	**-0.2**
O19K	comp=E,163nm,0.4s			IAML				08 47 12.1	
O19K	comp=N,131nm,0.4s			IAML				08 47 12.2	
O19K	**Port Alsworth** baz=147	**5.20**	**330**	P			**Pn**	**08 46 09.3**	**-0.5**
RAGM	**Ragged Mountai**	**5.21**	**26**				**Pn**	**08 46 10.1**	**+0.2**
GOAT	**Goat Mountain**	**5.36**	**24**				**Pn**	**08 46 12.7**	**+0.6**
BERG	**Berg Lake**	**5.47**	**30**				**Pn**	**08 46 13.2**	**-0.3**
CYK	**Cape Yakataga**	**5.60**	**37**				**Pn**	**08 46 15.3**	**+0.1**
DIV	**Divide**	**5.66**	**17**				**Pn**	**08 46 16.5**	**+0.3**
BMRM	**Bremner River**	**5.74**	**23**				**Pn**	**08 46 17.6**	**+0.4**
BMRM	**Bremner River** baz=207	**5.74**	**23**	P			**Pn**	**08 46 17.6**	**+0.4**
P16K	**Nushagak River**	**5.76**	**308**				**Pn**	**08 46 17.7**	**+0.2**
P16K	**Nushagak River** baz=122	**5.76**	**308**	P			**Pn**	**08 46 17.7**	**+0.2**
N19K	**Bonanza Creek**	**5.77**	**333**				Pn	08 46 15.7	-2.0
N19K	**Bonanza Creek** baz=150	**5.77**	**333**	P			**Pn**	**08 46 17.0**	**-0.7**
PMR	**Palmer**	**5.83**	**0**	Pn			**Pn**	**08 46 18.4**	**0.0**
S14K	**Fog Glacier** baz=92	**5.83**	**279**	P			**Pn**	**08 46 17.5**	**-1.0**
VNFG	**Fog Glacier, M**	**5.83**	**279**				**Pn**	**08 46 17.5**	**-1.0**
BARK	**Barkley Ridge**	**5.84**	**35**				**Pn**	**08 46 19.0**	**+0.3**
KLU	**Klutina**	**5.98**	**15**				**Pn**	**08 46 21.0**	**+0.5**
KLU	**Klutina** baz=198	**5.98**	**15**	P			**Pn**	**08 46 21.1**	**+0.5**
CHNA	**Chernabura Isl** baz=78	**6.01**	**265**	P			Pn	08 46 18.1	-2.8
GHO	**Glory Hole Cre**	**6.01**	**1**	Pn			**Pn**	**08 46 21.6**	**+0.6**
CNBA	**Chernabura Isl**	**6.02**	**265**				Pn	08 46 17.9	-3.0
N18K	**Kilae Creek**	**6.05**	**327**				**Pn**	**08 46 21.2**	**-0.3**
N18K	**Kilae Creek** baz=142	**6.05**	**327**	P			**Pn**	**08 46 21.3**	**-0.2**
SML	**Sawmill**	**6.06**	**4**	Pn			**Pn**	**08 46 21.8**	**+0.1**
SML	**Sawmill** baz=185	**6.06**	**4**	P			**Pn**	**08 46 22.6**	**+0.9**
M23K	**Glacier View**	**6.08**	**7**				**Pn**	**08 46 22.5**	**+0.6**
M23K	**Glacier View** baz=188	**6.08**	**7**	P			**Pn**	**08 46 22.5**	**+0.6**
O16K	**Kokwok River B**	**6.11**	**312**				**Pn**	**08 46 21.8**	**-0.5**
SCM	**Sheep Creek Mo**	**6.15**	**8**				**Pn**	**08 46 23.9**	**+1.0**
VRDI	**Verde Repeater**	**6.24**	**26**				**Pn**	**08 46 24.4**	**+0.2**
SAMH	**Samovar Hills**	**6.25**	**42**				**Pn**	**08 46 25.0**	**+0.8**
KIAG	**Kiagna River**	**6.29**	**32**				**Pn**	**08 46 25.1**	**+0.2**
N25K	**Chitina, Valde**	**6.32**	**20**				**Pn**	**08 46 25.6**	**+0.5**
N25K	**Chitina, Valde** baz=204	**6.32**	**20**	P			**Pn**	**08 46 25.8**	**+0.6**
GLB	**Gilahina Butte**	**6.34**	**24**				**Pn**	**08 46 25.6**	**+0.2**
SDPT	**Sand Point**	**6.42**	**271**	P			**Pn**	**08 46 25.0**	**-1.4**
PCA	**Pinnacle**	**6.43**	**44**				**Pn**	**08 46 27.2**	**+0.5**
PINM	**Pinnacle** baz=231	**6.43**	**44**	P			**Pn**	**08 46 27.2**	**+0.5**
PTPK	**Patty Peak**	**6.47**	**30**				**Pn**	**08 46 27.8**	**+0.5**
MCARA	**McCarthy VSAT**	**6.48**	**27**				**Pn**	**08 46 27.3**	**0.0**
MCARA	**McCarthy VSAT** baz=213	**6.48**	**27**	P			**Pn**	**08 46 28.5**	**+1.2**
PNL	**Peninsula**	**6.54**	**49**				**Pn**	**08 46 28.3**	**+0.2**
PNL	**Peninsula**	**6.54**	**49**	P			**Pn**	**08 46 28.5**	**+0.4**
PNL	**Peninsula** baz=237	**6.54**	**49**	P			**Pn**	**08 46 28.3**	**+0.2**
M24K	**Tolsona, Glenn**	**6.54**	**13**				**Pn**	**08 46 28.9**	**+0.8**
M24K	**Tolsona, Glenn** baz=195	**6.54**	**13**	P			**Pn**	**08 46 29.3**	**+1.1**
BCPM	**Bancas Point**	**6.59**	**47**				**Pn**	**08 46 29.9**	**+1.0**
BARN	**Barnard Glacie**	**6.61**	**34**				**Pn**	**08 46 29.4**	**+0.2**
CTG	**Chitna Glacier** baz=222	**6.64**	**35**	P			**Pn**	**08 46 30.0**	**+0.4**
CTGM	**Chitina Glacie**	**6.64**	**35**				**Pn**	**08 46 29.6**	**-0.1**
LOGN	**Logan Glacier**	**6.65**	**37**				**Pn**	**08 46 29.9**	**+0.1**
WASW	**Wrangell South**	**6.69**	**21**				**Pn**	**08 46 31.7**	**+1.2**
WACK	**Wrangell Chich**	**6.72**	**20**				**Pn**	**08 46 31.3**	**+0.5**
WAT6	**Susitna Watana**	**6.86**	**6**				**Pn**	**08 46 33.0**	**+0.2**
WAT6	**Susitna Watana** baz=187	**6.86**	**6**	P			**Pn**	**08 46 33.0**	**+0.2**
N16K	**Nishlik Lake**	**6.92**	**317**				**Pn**	**08 46 33.8**	**+0.4**
N16K	**Nishlik Lake** baz=130	**6.92**	**317**	P			**Pn**	**08 46 33.8**	**+0.4**
HARP	**HAARP**	**6.96**	**16**				**Pn**	**08 46 35.3**	**+1.4**
HARP	**HAARP** baz=199	**6.96**	**16**	P			**Pn**	**08 46 35.3**	**+1.4**
WAT7	**Susitna Watana**	**7.08**	**1**				**Pn**	**08 46 36.3**	**+0.7**
WAT1	**Susitna Watana**	**7.08**	**2**				**Pn**	**08 46 36.4**	**+0.8**
WAT1	**Susitna Watana** baz=183	**7.08**	**2**	P			**Pn**	**08 46 36.4**	**+0.8**
O29M	**Mount Kennedy**	**7.23**	**47**				**Pn**	**08 46 38.2**	**+0.5**
O29M	**Mount Kennedy** baz=236	**7.23**	**47**	P			**Pn**	**08 46 38.7**	**+0.9**
P29M	**Windy Craggy**	**7.25**	**53**				**Pn**	**08 46 37.9**	**0.0**
P29M	**Windy Craggy** baz=242	**7.25**	**53**	P			**Pn**	**08 46 38.3**	**+0.4**
DHY	**Denali Highway**	**7.38**	**6**				**Pn**	**08 46 40.6**	**+0.8**
DHY	**Denali Highway** baz=188	**7.38**	**6**	P			**Pn**	**08 46 40.8**	**+1.0**
S31K	**Pelican**	**7.43**	**68**	Pn			Pn	08 46 38.0	-2.4
S31K	**Pelican** baz=258	**7.43**	**68**	P			**Pn**	**08 46 38.4**	**-1.9**
PAX	**Paxson**	**7.46**	**13**				**Pn**	**08 46 41.9**	**+1.1**
PAX	**Paxson** baz=197	**7.46**	**13**	P			**Pn**	**08 46 41.9**	**+1.1**
RND	**Reindeer**	**7.65**	**1**				**Pn**	**08 46 43.3**	**-0.2**
MENT	**Mentasta**	**7.70**	**19**				**Pn**	**08 46 45.2**	**+1.0**
SIT	**Sitka**	**7.80**	**75**				Pn	08 46 42.6	-2.8
SIT	**Sitka**	**7.80**	**75**	P			Pn	08 46 42.0	-3.4
SIT	**Sitka** baz=266	**7.80**	**75**	P			Pn	08 46 42.6	-2.8
L26K	**Log Cabin Wild**	**7.85**	**20**				**Pn**	**08 46 47.9**	**+1.7**
BVCY	**Beaver Creek**	**7.91**	**29**				**Pn**	**08 46 48.4**	**+1.4**
BVCY	**Beaver Creek** baz=216	**7.91**	**29**	P			**Pn**	**08 46 48.4**	**+1.4**
HYT	**Haines Junctio**	**7.96**	**46**				**Pn**	**08 46 48.6**	**+0.8**
HYT	**Haines Junctio** baz=236	**7.96**	**46**	P			**Pn**	**08 46 48.5**	**+0.7**
MCK	**McKinley**	**7.98**	**1**				**Pn**	**08 46 48.5**	**+0.6**
MCK	**McKinley** baz=182	**7.98**	**1**	P			**Pn**	**08 46 48.6**	**+0.6**
BCAR	**Beaver Creek A**	**8.22**	**24**	Pn			**Pn**	**08 46 51.5**	**+0.3**
BESE	**Bessie Mountai**	**8.28**	**64**				**Pn**	**08 46 51.2**	**-0.9**
RIDG	**Independent Ri**	**8.28**	**14**				**Pn**	**08 46 53.0**	**+1.0**
RIDG	**Independent Ri** baz=198	**8.28**	**14**	P			**Pn**	**08 46 53.1**	**+1.0**
SKAG	**Skagway**	**8.30**	**58**				**Pn**	**08 46 52.9**	**+0.6**
SKAG	**Skagway**	**8.30**	**58**	P			**Pn**	**08 46 52.8**	**+0.6**
K17K	**Iditarod**	**8.37**	**330**				Pn	08 46 52.0	-1.2
JIS	**Juneau Island**	**8.46**	**67**	Pn			**Pn**	**08 46 53.4**	**-1.1**
JIS	**Juneau Island**	**8.46**	**67**	P			**Pn**	**08 46 53.3**	**-1.1**
N30M	**Aishikik Lake**	**8.50**	**43**				**Pn**	**08 46 55.8**	**+0.8**
O30N	**Mendenhall**	**8.52**	**49**				**Pn**	**08 46 56.3**	**+1.0**
O30N	**Mendenhall** baz=240	**8.52**	**49**	P			**Pn**	**08 46 56.1**	**+0.8**
SCRK	**Sand Creek**	**8.63**	**15**				**Pn**	**08 46 57.7**	**+0.8**
HDA	**Harding Lake**	**8.73**	**6**				**Pn**	**08 47 00.0**	**+1.8**
CCB	**Clear Creek Bu**	**8.92**	**4**				**Pn**	**08 47 01.6**	**+0.8**
L14K	**Kuka Creek**	**8.98**	**314**				**Pn**	**08 47 02.6**	**+1.0**
WHY	**Whitehorse**	**8.99**	**51**	Pn			**Pn**	**08 47 02.8**	**+1.0**
K27K	**Chicken**	**9.01**	**20**	Pn			**Pn**	**08 47 02.7**	**+0.8**
N31M	**Braeburn, Yuko**	**9.03**	**45**	Pn			**Pn**	**08 47 03.2**	**+1.0**
N31M	**Braeburn, Yuko** baz=236	**9.03**	**45**	P			**Pn**	**08 47 03.7**	**+1.4**
J25K	**Salcha River,**	**9.06**	**11**				**Pn**	**08 47 03.7**	**+0.9**
IL31		**9.10**	**6**				**Pn**	**08 47 04.0**	**+0.9**
ILAR	**Eielson Array** comp=N,0.4nm,0.3s,baz=189,slow=13,SNR=19	**9.10**	**6**	Pn			**Pn**	**08 47 03.1**	**-0.1**
ILAR	comp=N,0.6nm,0.3s,baz=188,slow=23,SNR=6.8 comp=N,0.9nm,0.3s			Sn			**Sn**	**08 48 41.4**	**-4.1**
CRAG	**Craig**	**9.10**	**85**	P			Pn	08 47 00.3	-2.9
P32M	**Atlin**	**9.12**	**59**				**Pn**	**08 47 03.6**	**0.0**
P32M	**Atlin** baz=252	**9.12**	**59**	P			**Pn**	**08 47 03.5**	**0.0**
COLA	**College**	**9.15**	**4**	P			**Pn**	**08 47 04.7**	**+0.8**
J26L	**Joseph Creek**	**9.19**	**15**				**Pn**	**08 47 05.4**	**+0.9**
MDM	**Murphy Dome**	**9.22**	**3**				**Pn**	**08 47 06.1**	**+1.1**
M30M	**Minto, Yukon**	**9.31**	**38**	Pn			**Pn**	**08 47 07.0**	**+0.8**
M30M	**Minto, Yukon** baz=228	**9.31**	**38**	P			**Pn**	**08 47 07.0**	**+0.8**
P33M	**Teslin, Yukon**	**9.75**	**56**	Pn			**Pn**	**08 47 12.2**	**0.0**
P33M	**Teslin, Yukon** baz=250	**9.75**	**56**	P			**Pn**	**08 47 12.4**	**+0.1**
M31M	**Drury Creek, Y**	**9.97**	**44**				**Pn**	**08 47 16.8**	**+1.6**
I26K	**Coal Creek Min**	**10.01**	**15**				**Pn**	**08 47 17.0**	**+1.4**
MAYO	**Mayo, Yukon**	**10.30**	**35**	Pn	

AKASG	**Malin Array Be**	**73.88**	**1**	P		**P**	**08 56 27.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=310,slow=30,SNR=1.8							
	comp=Z,0.2nm,0.3s							
QSPA	**South Pole Qui**	**145.57**	**180**	PKPbc		**PKPdf**	**09 04 28.3**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=111,slow=0.7,SNR=7.6							

SSNC ***27*** *08:46:55.5±2.6, 18°.57N×74°.09W, h5km±15km, MD3.3, ML3.5, MW3.2*
OSPL ***27*** *08:46:56.8±1.8, 18°.88N×73°.94W, h0km±16km, ML3.3*

ISC 27 08:46:54.8±3.3, 18°.67N±0°.06×74°.10W±0°.04, h15km±25km, n26, σ1$98/39, 1C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GTBY	**Guantanamo Bay**	**1.57**	**323**	*ei*P		**Pn**	**08 47 22.5**	**+0.3**
GTBY				*es*		**Sb**	**08 47 43.5**	**+0.2**
GTBY				IAML			08 47 52.2	
	comp=Z,1μm,0.5s							
GTBY				IAML			08 47 53.2	
	461nm,0.5s							
GTBY	**Guantanamo Bay**	**1.57**	**323**	*i* P		**Pn**	**08 47 22.5**	**+0.3**
GTBY				*es*		**Sb**	**08 47 43.3**	**-0.1**
GTBY				IAML			08 47 49.8	
	comp=Z,141nm,0.3s							
PAPH	**Port-au-Prince**	**1.71**	**95**	*e*P		**Pn**	**08 47 22.6**	**-1.5**
PAPH				*es*		**Sn**	**08 47 43.8**	**-2.1**
PAPH				IAML			08 47 46.0	
	comp=E,748nm,0.3s							
PAPH				IAML			08 47 47.0	
	comp=N,864nm,0.3s							
PAPH	**Port-au-Prince**	**1.71**	**95**	*i* P		**Pn**	**08 47 22.7**	**-1.5**
PAPH				*es*		**Sn**	**08 47 44.8**	**-1.0**
PAPH				IAML			08 47 46.3	
	comp=Z,418nm,0.2s							
RCC	**Rio Carpintero**	**2.00**	**311**	*e*P		**Pn**	**08 47 28.0**	**0.0**
RCC				*es*		**Sn**	**08 47 53.0**	**+0.1**
NMDO	**Nuevo Mundo**	**2.06**	**336**	*e*P		**Pn**	**08 47 29.8**	**+1.0**
NMDO				*es*		**Sn**	**08 47 54.3**	**+0.1**
MOAC	**Moa**	**2.14**	**338**	*e*P		**Pn**	**08 47 31.1**	**+1.2**
MOAC				*es*		**Sn**	**08 47 55.1**	**-1.2**
MARVS	**Santiago de Cu**	**2.15**	**308**	*e*P		**Pb**	**08 47 32.0**	**-1.5**
MARVS				*es*		**Sn**	**08 47 57.5**	**+0.9**
MARVS				IAML			08 48 02.2	
	comp=E,196nm,0.3s							
MARVS				IAML			08 48 02.4	
	comp=N,176nm,0.3s							
LOPE2	**Hotel El Peder**	**2.33**	**105**	*i* P		**Pn**	**08 47 33.0**	**+0.5**
LOPE2				IAML			08 48 13.8	
	comp=Z,167nm,0.6s							
PINC	**Pinares de May**	**2.41**	**319**	*e*P		**Pn**	**08 47 33.2**	**-0.5**
PINC				*es*		**Sn**	**08 48 01.8**	**-1.2**
CHIV	**Chivirico**	**2.54**	**301**	*e*P		**Pn**	**08 47 35.6**	**+0.1**
CHIV				*es*		**Sn**	**08 48 04.5**	**-1.7**
CHIV				IAML			08 48 16.1	
	comp=E,76nm,0.4s							
CHIV				IAML			08 48 17.2	
	comp=N,72nm,0.3s							
SDDR	**Presa de Saban**	**2.68**	**83**	*i* P		**Pn**	**08 47 38.0**	**+0.5**
SDDR				IAML			08 48 15.8	
	comp=Z,88nm,1.2s							
HLGC	**Holguin**	**2.88**	**320**	*e*P		**Pn**	**08 47 42.2**	**+2.1**
HLGC				*es*		**Sn**	**08 48 17.7**	**+3.1**
HLGC				IAML			08 48 31.1	
	comp=E,118nm,0.9s							
HLGC				IAML			08 48 32.7	
	comp=N,111nm,0.6s							
LMGC	**Las Mercedes**	**3.07**	**297**	*e*P		**Pn**	**08 47 42.4**	**-0.4**
LMGC				*es*		**Sn**	**08 48 17.2**	**-2.1**
MTDJ	**Mount Denham**	**3.29**	**263**	*i* P		**Pb**	**08 47 50.8**	**-2.1**
MTDJ				IAML			08 49 06.7	
	comp=Z,87nm,2.2s							
PILO	**Pilon**	**3.36**	**292**	*e*P		**Pn**	**08 47 47.1**	**+0.3**
PILO				*es*		**Sn**	**08 48 24.8**	**-1.6**
CCCC	**Cccc**	**4.27**	**307**	*e*P		**Pn**	**08 47 57.2**	**-2.0**
CCCC				*es*		**Sn**	**08 48 44.0**	**-4.8**
PAMC	**Pamplona, Colo**	**11.34**	**173**	*e*P		**Pn**	**08 49 36.6**	**-0.2**
BARC	**Barichara**	**12.04**	**176**	*e*P		**Pn**	**08 49 49.3**	**+3.2**
PTBC	**PUERTO BERRIO,**	**12.06**	**182**	*e*P		**Pn**	**08 49 49.3**	**+3.0**
CBOC	**Ciudad Bolivar**	**12.86**	**189**	*e*P		**Pn**	**08 50 00.0**	**+2.6**
CBOC				*e*P		P	08 50 02.0	-6.1
SPBC	**San Pablo de B**	**12.94**	**180**	*e*P		**Pn**	**08 50 00.0**	**+1.7**
JTS	**Las Juntas de**	**13.40**	**233**	*e*P		Pn	08 49 59.1	-5.5
GUY2C	**Guyana, Caldas**	**13.42**	**185**	*e*P		**Pn**	**08 50 09.9**	**+4.7**
PLMC	**San Jos del P**	**13.84**	**189**	*e*P		**Pn**	**08 50 12.4**	**+1.7**
ORTC	**Ortega, Tolima**	**14.71**	**185**	*e*P		**Pn**	**08 50 25.5**	**+3.0**

IDC 27 08:49:40.7±7.3, 2°.34N×125°.36E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=180.0km s-min=114.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.83**	**159**	P		P	08 54 55.8	0.0
	1.2nm,0.5s,baz=337,slow=10,SNR=9.8							
	1.2nm,0.5s							
ASAR	**Alice Springs**	**27.15**	**163**	P		P	08 55 26.4	+0.4
	0.2nm,0.6s,baz=337,slow=7.4,SNR=6.2							
	0.2nm,0.6s							
STKA	**Stephens Creek**	**37.36**	**157**	P		P	08 56 54.6	-0.6
	0.4nm,0.4s,baz=329,slow=12,SNR=3.5							
	0.4nm,0.4s							

IDC ***27*** *08:51:55.6±1.9, 56°.40N×148°.70W, h0km, mb3.2/2, mbtmp3.3/7, ML3.0/5, MS3.0/5, Error ellipse: s-maj=30.8km s-min=19.3km az=42.0*
NEIC ***27*** *08:51:56.6±0.7, 56°.36N±0°.08×148°.71W±0°.03, h21km±9km, ML3.4/48, ML3.3(AEIC), Error ellipse: s-maj=12.0km s-min=2.6km az=175.0*
AEIC ***27*** *08:51:59.5±0.7, 56°.33N±0°.07×148°.7W±0°.1, h7km±7km, Error ellipse: s-maj=11.8km s-min=7.0km az=134.0*

ISC 27 08:51:58.9±1.1, 56°.44N±0°.07×148°.74W±0°.05, h35km, n161, σ0$80/151, MS3.1/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.50**	**304**	Pn		**Pn**	**08 52 36.8**	**-0.1**
KDAK	**Kodiak Island**	**2.50**	**304**			**Sn**	**08 53 04.5**	**-1.6**
KDAK	**Kodiak Island**	**2.50**	**304**	Pn		**Pn**	**08 52 36.4**	**-0.5**
	1.7nm,0.3s,baz=119,slow=5.6,SNR=24							
KDAK				Sn		**Sn**	**08 53 05.2**	**-0.9**
	4.1nm,0.3s,baz=96,slow=22,SNR=9.8							
	10nm,0.6s							
OHAK	**Old Harbor**	**2.62**	**289**	Pn		**Pn**	**08 52 38.1**	**-0.6**
OHAK	**Old Harbor**	**2.62**	**289**			**Sn**	**08 53 07.1**	**-2.1**
OHAK	**Old Harbor**	**2.62**	**289**	P		**Pn**	**08 52 37.9**	**-0.8**
OHAK	**Old Harbor**	**2.62**	**289**	P		**Pn**	**08 52 37.8**	**-0.9**
	baz=107							
OHAK				S		**Sn**	**08 53 07.1**	**-2.1**
	baz=107							
SYI	**Shuyak Island**	**2.94**	**319**			**Pn**	**08 52 43.0**	**0.0**
SYI						**Sn**	**08 53 17.4**	**+0.4**
Q20K	**Shuyak Island**	**2.94**	**319**	P		**Pn**	**08 52 43.0**	**0.0**
	baz=137							
Q20K				S		**Sn**	**08 53 17.4**	**+0.3**
	baz=137							
SII	**Sitkinak Islan**	**3.02**	**275**			**Sn**	**08 53 19.1**	**0.0**
SII	**Sitkinak Islan**	**3.02**	**275**	Pn		**Pn**	**08 52 42.5**	**-1.8**
SII				IAML			08 53 32.9	
	comp=N,122nm,0.9s							
SII	**Sitkinak Islan**	**3.02**	**275**	S		**Sn**	**08 53 19.1**	**0.0**
	baz=91							
MID	**Middleton Isla**	**3.26**	**22**			**Pn**	**08 52 47.1**	**-0.3**
MID	**Middleton Isla**	**3.26**	**22**	IAML			08 54 01.4	
	comp=N,161nm,1.5s							
MID	**Middleton Isla**	**3.26**	**22**	P		**Pn**	**08 52 47.4**	**0.0**
Q23K	**Middleton Isla**	**3.26**	**22**			**Pn**	**08 52 47.3**	**-0.1**
Q23K	**Middleton Isla**	**3.26**	**22**	IAML			08 53 37.7	
	comp=E,151nm,1.5s							
Q23K				IAML			08 54 09.9	
	comp=N,164nm,1.5s							
Q23K	**Middleton Isla**	**3.26**	**22**	P		**Pn**	**08 52 47.3**	**-0.1**
	baz=203							
CNPM	**China Poot**	**3.37**	**338**			**Pn**	**08 52 49.1**	**+0.1**
CNPM						**Sn**	**08 53 27.9**	**+0.2**
BRSE	**Bradley Lake S**	**3.48**	**343**			**Pn**	**08 52 50.5**	**0.0**
BRSE						**Sn**	**08 53 30.4**	**-0.1**
BRSE	**Bradley Lake S**	**3.48**	**343**	P		**Pn**	**08 52 50.5**	**0.0**
	baz=162							
BRSE				S		**Sn**	**08 53 30.4**	**-0.1**
	baz=162							
BRLK	**Bradley Lake**	**3.53**	**342**			**Pn**	**08 52 51.6**	**+0.4**
BRLK				IAML			08 53 38.4	
	comp=E,38nm,0.8s							
Q19K	**Cape Douglas,**	**3.63**	**316**			**Pn**	**08 52 53.2**	**+0.6**
Q19K	**Cape Douglas,**	**3.63**	**316**	IAML			08 53 56.6	
	comp=N,117nm,0.8s							
Q19K	**Cape Douglas,**	**3.63**	**316**	P		**Pn**	**08 52 53.2**	**+0.6**
	baz=132							
P23K	**Montague Islan**	**3.64**	**11**			**Pn**	**08 52 52.1**	**-0.6**
P23K	**Montague Islan**	**3.64**	**11**	P		**Pn**	**08 52 52.1**	**-0.6**
	baz=191							
SEW	**Seward**	**3.70**	**354**			**Pn**	**08 52 53.4**	**-0.1**
SEW						**Sn**	**08 53 34.6**	**-1.1**
SEW	**Seward**	**3.70**	**354**	P		**Pn**	**08 52 53.4**	**-0.1**
	baz=174							
SEW				S		**Sn**	**08 53 34.6**	**-1.1**
	baz=174							
KAHG	**Katmai Hook Gl**	**3.76**	**306**			**Pn**	**08 52 53.8**	**-0.5**
P19K	**Oil Pt**	**4.01**	**325**			**Pn**	**08 52 58.1**	**+0.3**
P19K	**Oil Pt**	**4.01**	**325**	IAML			08 54 00.6	
	comp=E,68nm,1.0s							
P19K	**Oil Pt**	**4.01**	**325**	P		**Pn**	**08 52 58.1**	**+0.3**
	baz=142							
O22K	**Cooper Landing**	**4.09**	**353**			Pn	08 53 08.7	+10
HIN	**Hinchinbrook I**	**4.14**	**16**			**Pn**	**08 52 59.1**	**-0.4**
HIN	**Hinchinbrook I**	**4.14**	**16**	IAML			08 53 53.4	
	comp=E,79nm,1.4s							
SLKM	**Skilak Lake**	**4.16**	**350**			**Pn**	**08 52 59.6**	**-0.2**
SLKM						**Sn**	**08 53 46.3**	**-0.8**
KAIM	**Kayak Island**	**4.18**	**31**			**Pn**	**08 52 59.7**	**-0.3**
KAIM	**Kayak Island**	**4.18**	**31**	P		**Pn**	**08 52 59.7**	**-0.3**
	baz=214							
O20K	**Slope Mountain**	**4.19**	**332**			**Pn**	**08 53 00.0**	**-0.3**
O20K	**Slope Mountain**	**4.19**	**332**	P		**Pn**	**08 53 00.0**	**-0.3**
	baz=149							
IVE	**Iliamna Volcan**	**4.25**	**330**			**Pn**	**08 53 00.8**	**-0.2**
CNTC	**Contact Creek**	**4.28**	**298**			**Pn**	**08 53 00.8**	**-0.8**
Q17K	**Contact Creek**	**4.29**	**298**	P		**Pn**	**08 53 00.8**	**-0.8**
	baz=113							
EYAK	**Cordova Ski Ar**	**4.41**	**20**			**Pn**	**08 53 03.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.41**	**20**	P		**Pn**	**08 53 02.9**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.41**	**20**	P		**Pn**	**08 53 03.0**	**-0.2**
	baz=202							
RAGM	**Ragged Mountai**	**4.50**	**27**			**Pn**	**08 53 04.3**	**-0.2**
P18K	**Big Mountain,**	**4.56**	**313**			**Pn**	**08 53 05.0**	**-0.3**
P18K	**Big Mountain,**	**4.56**	**313**	P		**Pn**	**08 53 05.0**	**-0.3**
	baz=128							
RDT	**Redoubt**	**4.58**	**337**			**Pn**	**08 53 05.4**	**-0.1**
DFR	**Drift River**	**4.65**	**335**			**Pn**	**08 53 06.7**	**0.0**
GOAT	**Goat Mountain**	**4.66**	**25**			**Pn**	**08 53 06.6**	**-0.1**
NCT	**North Crescent**	**4.69**	**334**			**Pn**	**08 53 06.7**	**-0.4**
RC01	**Rabbit Creek A**	**4.70**	**354**	Pn		**Pn**	**08 53 07.5**	**+0.4**
RC01				IAML			08 54 03.8	
	comp=N,30nm,1.4s							
RC01				IAML			08 54 11.2	
	comp=E,21nm,1.1s							
BERG	**Berg Lake**	**4.77**	**32**			**Pn**	**08 53 07.7**	**-0.4**
Q16K	**King Salmon**	**4.82**	**301**			**Pn**	**08 53 08.5**	**-0.3**
Q16K	**King Salmon**	**4.82**	**301**	P		**Pn**	**08 53 08.5**	**-0.3**
	baz=115							
O18K	**Koktuh Hills**	**4.85**	**318**			**Pn**	**08 53 09.2**	**-0.1**
O18K	**Koktuh Hills**	**4.85**	**318**	IAML			08 54 40.2	
	comp=E,16nm,1.5s							
O18K				IAML			08 54 45.2	
	comp=N,18nm,1.0s							
O18K	**Koktuh Hills**	**4.85**	**318**	P		**Pn**	**08 53 09.2**	**-0.1**
	baz=133							
SNH	**Sunshine Point**	**4.87**	**37**			**Pn**	**08 53 09.2**	**-0.4**
SNH	**Sunshine Point**	**4.87**	**37**	IAML			08 54 15.6	
	comp=E,37nm,1.1s							
SNH				IAML			08 54 25.0	
	comp=N,40nm,1.0s							
KNK	**Knik Glacier**	**5.00**	**2**			**Pn**	**08 53 11.4**	**+0.1**
KNK	**Knik Glacier**	**5.00**	**2**	IAML			08 54 17.9	
	comp=N,23nm,1.5s							
KNK				IAML			08 54 17.9	
	comp=E,32nm,0.7s							
KNK	**Knik Glacier**	**5.00**	**2**	P		**Pn**	**08 53 11.4**	**+0.1**
	baz=182							
BMRM	**Bremner River**	**5.03**	**24**			**Pn**	**08 53 11.5**	**-0.3**
BMRM	**Bremner River**	**5.03**	**24**	P		**Pn**	**08 53 11.5**	**-0.3**
	baz=207							
N20K	**Mount Spurr**	**5.11**	**341**	P		**Pn**	**08 53 13.2**	**+0.3**
	baz=158							
SPCR	**Spurr Chakacha**	**5.11**	**341**			**Pn**	**08 53 13.2**	**+0.3**
SUA	**Susitna One**	**5.15**	**349**	Pn		**Pn**	**08 53 14.2**	**+0.7**
SUA				IAML			08 54 38.3	
	comp=N,12nm,1.0s							
SUA				IAML			08 55 03.3	
	comp=E,12nm,1.3s							
BARK	**Barkley Ridge**	**5.16**	**37**			**Pn**	**08 53 13.2**	**-0.4**
PMR	**Palmer**	**5.18**	**358**			**Pn**	**08 53 13.3**	**-0.4**
PMR				IAML			08 54 16.5	
	comp=N,22nm,0.7s							
PMR				IAML			08 54 17.8	
	comp=E,29nm,1.5s							
KLU	**Klutina**	**5.28**	**15**			**Pn**	**08 53 15.2**	**0.0**
KLU	**Klutina**	**5.28**	**15**	IAML			08 54 24.5	
	comp=E,23nm,0.9s							
KLU				IAML			08 54 27.8	
	comp=N,22nm,1.3s							
KLU	**Klutina**	**5.28**	**15**	P		**Pn**	**08 53 15.2**	**0.0**
	baz=197							
N19K	**Bonanza Creek**	**5.32**	**328**			**Pn**	**08 53 15.7**	**-0.1**
N19K	**Bonanza Creek**	**5.32**	**328**	IAML			08 54 29.0	
	comp=N,10nm,1.5s							
N19K				IAML			08 54 30.2	
	comp=E,13nm,1.4s							
N19K	**Bonanza Creek**	**5.32**	**328**	P		**Pn**	**08 53 15.7**	**-0.1**
	baz=143							
STLK	**Strandline Lak**	**5.33**	**344**			**Pn**	**08 53 15.9**	**0.0**
GHO	**Glory Hole Cre**	**5.35**	**359**			**Pn**	**08 53 16.6**	**+0.3**
SML	**Sawmill**	**5.39**	**2**	Pn		**Pn**	**08 53 15.8**	**-0.9**
SCM	**Sheep Creek Mo**	**5.46**	**7**			**Pn**	**08 53 17.3**	**-0.4**
VRDI	**Verde Repeater**	**5.53**	**28**			**Pn**	**08 53 18.5**	**-0.3**
KIAG	**Kiagna River**	**5.59**	**34**			**Pn**	**08 53 19.1**	**-0.6**
P16K	**Nushagak River**	**5.60**	**302**			**Pn**	**08 53 19.6**	**+0.1**
P16K	**Nushagak River**	**5.60**	**302**	P		**Pn**	**08 53 19.6**	**+0.1**
	baz=114							
N25K	**Chitina, Valde**	**5.61**	**21**			**Pn**	**08 53 19.5**	**-0.2**
N25K	**Chitina, Valde**	**5.61**	**21**	P		**Pn**	**08 53 19.5**	**-0.2**
	baz=203							
GLB	**Gilahina Butte**	**5.63**	**25**			**Pn**	**08 53 19.7**	**-0.3**
N18K	**Kilae Creek**	**5.67**	**322**			**Pn**	**08 53 20.1**	**-0.4**
N18K	**Kilae Creek**	**5.67**	**322**	P		**Pn**	**08 53 20.1**	**-0.4**
	baz=136							
SKT	**Skwentna**	**5.74**	**347**			**Pn**	**08 53 21.7**	**+0.1**
SKT	**Skwentna**	**5.74**	**347**	P		**Pn**	**08 53 21.7**	**+0.1**
	baz=164							
PTPK	**Patty Peak**	**5.77**	**32**			**Pn**	**08 53 21.8**	**-0.3**
MCARA	**McCarthy VSAT**	**5.78**	**28**			**Pn**	**08 53 21.9**	**-0.1**
MCARA	**McCarthy VSAT**	**5.78**	**28**	P		**Pn**	**08 53 21.9**	**-0.1**
	baz=213							
M24K	**Tolsona, Glenn**	**5.84**	**12**			**Pn**	**08 53 22.9**	**+0.1**
M24K	**Tolsona, Glenn**	**5.84**	**12**	P		**Pn**	**08 53 22.9**	**+0.1**
	baz=194							
O16K	**Kokwok River B**	**5.89**	**306**			**Pn**	**08 53 23.6**	**0.0**
M20K	**Styx River**	**5.91**	**339**			**Pn**	**08 53 24.0**	**+0.1**
M20K	**Styx River**	**5.91**	**339**	P		**Pn**	**08 53 24.0**	**+0.1**
	baz=156							
BARN	**Barnard Glacie**	**5.92**	**36**			**Pn**	**08 53 23.8**	**-0.4**
PNL	**Peninsula**	**5.92**	**53**			**Pn**	**08 53 23.2**	**-0.8**
PNL	**Peninsula**	**5.92**	**53**	P		**Pn**	**08 53 24.0**	**0.0**
PNL	**Peninsula**	**5.92**	**53**	P		**Pn**	**08 53 23.2**	**-0.8**
	baz=240							
CTG	**Chitna Glacier**	**5.96**	**37**	P		**Pn**	**08 53 24.0**	**-0.5**
	baz=223							
CTGM	**Chitina Glacie**	**5.96**	**37**			**Pn**	**08 53 24.0**	**-0.6**
LOGN	**Logan Glacier**	**5.97**	**39**			**Pn**	**08 53 24.1**	**-0.7**
WASW	**Wrangell South**	**5.99**	**21**			**Pn**	**08 53 24.9**	**-0.2**
N17K	**Nushagak Hills**	**6.04**	**316**	Pn		**Pn**	**08 53 25.2**	**-0.3**
WAT6	**Susitna Watana**	**6.19**	**4**			**Pn**	**08 53 27.8**	**+0.1**
WAT6	**Susitna Watana**	**6.19**	**4**	P		**Pn**	**08 53 27.8**	**+0.1**
	baz=185							
HARP	**HAARP**	**6.25**	**15**			**Pn**	**08 53 28.6**	**+0.1**
HARP	**HAARP**	**6.25**	**15**	P		**Pn**	**08 53 28.6**	**+0.1**
	baz=198							
M18K	**Stony River**	**6.25**	**327**			**Pn**	**08 53 28.5**	**0.0**
M18K	**Stony River**	**6.25**	**327**	P		**Pn**	**08 53 28.5**	**0.0**
	baz=141							
CNBA	**Chernabura Isl**	**6.36**	**260**	Pn		**Pn**	**08 53 29.6**	**-0.4**
WAT7	**Susitna Watana**	**6.42**	**360**			**Pn**	**08 53 31.0**	**+0.2**
O29M	**Mount Kennedy**	**6.60**	**50**			**Pn**	**08 53 32.9**	**-0.5**
O29M	**Mount Kennedy**	**6.60**	**50**	P		**Pn**	**08 53 32.9**	**-0.5**
	baz=238							
M26K	**Nabesna, AK**	**6.66**	**24**			**Pn**	**08 53 34.5**	**+0.3**
	baz=208							
P29M	**Windy Craggy**	**6.66**	**57**			**Pn**	**08 53 33.7**	**-0.4**
P29M	**Windy Craggy**	**6.66**	**57**	P		**Pn**	**08 53 33.7**	**-0.4**
	baz=245							
DHY	**Denali Highway**	**6.70**	**5**	Pn		**Pn**	**08 53 36.5**	**+1.8**
M27K	**Edge Creek, AK**	**6.89**	**28**	Pn		**Pn**	**08 53 37.8**	**+0.4**
S31K	**Pelican**	**6.96**	**72**			**Pn**	**08 53 36.0**	**-2.2**
S31K	**Pelican**	**6.96**	**72**	P		**Pn**	**08 53 36.0**	**-2.2**
	baz=262							
RND	**Reindeer**	**6.99**	**360**	Pn		**Pn**	**08 53 40.2**	**+1.4**
M16K	**Timber Creek**	**7.03**	**315**			**Pn**	**08 53 39.2**	**0.0**
M16K	**Timber Creek**	**7.03**	**315**	P		**Pn**	**08 53 39.2**	**0.0**
	baz=127							
N15K	**Kwethluk River**	**7.06**	**307**	Pn		**Pn**	**08 53 40.8**	**+1.3**
YUK4	**Talbot Arm**	**7.17**	**43**	P		**Pn**	**08 53 44.2**	**+2.9**
	baz=230							
CAST	**Castle Rocks**	**7.20**	**348**	Pn		**Pn**	**08 53 43.4**	**+1.8**
KTH	**Kantishna Hill**	**7.22**	**352**	Pn		**Pn**	**08 53 42.9**	**+1.1**
HYT	**Haines Junctio**	**7.33**	**48**	Pn		**Pn**	**08 53 42.8**	**-0.5**
RIDG	**Independent Ri**	**7.58**	**13**			**Pn**	**08 53 45.9**	**-0.8**
L16K	**Owhat River**	**7.65**	**318**			**Pn**	**08 53 48.0**	**+0.4**
L16K	**Owhat River**	**7.65**	**318**	P		**Pn**	**08 53 48.0**	**+0.4**
	baz=129							
SKAG	**Skagway**	**7.75**	**61**	P		**Pn**	**08 53 48.2**	**-0.8**
SCRK	**Sand Creek**	**7.92**	**15**	Pn		**Pn**	**08 53 52.5**	**+1.0**
K17K	**Iditarod**	**7.95**	**326**	Pn		**Pn**	**08 53 51.0**	**-0.7**
JIS	**Juneau Island**	**7.98**	**71**	P		**Pn**	**08 53 52.2**	**+0.1**
J18K	**Innoko River**	**8.10**	**334**	Pn		**Pn**	**08 53 52.8**	**-1.1**
ILAR	**Eielson Array**	**8.41**	**5**	Pn		**Pn**	**08 53 56.8**	**-1.3**
	baz=187,slow=13,SNR=2.4							
ILAR				Sn		**Sn**	**08 55 27.7**	**-4.0**
	comp=E,0.1nm,0.3s,baz=191,slow=22,SNR=5.8							
ILAR				LR		LR	08 57 14.3	
	comp=E,43nm,19.0s,baz=211,slow=38							
	comp=E,0.3nm,0.5s							
DLBC	**Dease Lake**	**10.28**	**71**	Pn		**Pn**	**08 54 23.7**	**0.0**
	comp=E,0.3nm,0.3s,baz=269,slow=8.9,SNR=7.8							
	comp=E,0.6nm,0.3s							
BBB	**Bella Bella**	**12.76**	**101**	LR		LR	08 58 20.5	
	comp=E,49nm,21.0s,baz=236,slow=30							
INK	**Inuvik**	**13.78**	**24**	Pn		**Pn**	**08 55 13.0**	**+1.6**
	baz=195,slow=11,SNR=6.7							
	comp=E,1.9nm,0.9s							
YKA	**Yellowknife Ar**	**18.20**	**57**	P		**Pn**	**08 56 08.7**	**+0.4**
	baz=262,slow=11,SNR=7.6							
	comp=E,0.7nm,0.9s							
YBH	**Yreka Blue Hor**	**22.33**	**120**	LR		LR	09 02 58.3	
	comp=E,51nm,18.7s,baz=346,slow=30							
NVAR	**Mina Array Bea**	**27.02**	**119**	P		**P**	**08 57 40.3**	**+2.6**
	comp=E,0.2nm,0.6s,baz=288,slow=7.5,SNR=1.7							
	comp=E,0.2nm,0.6s							
PDAR	**Pinedale Array**	**28.40**	**102**	P		**P**	**08 57 50.4**	**+0.4**
	comp=E,0.3nm,0.7s,baz=320,slow=2.4,SNR=2.2							
	comp=E,0.3nm,0.7s							
MA2	**Magadan**	**31.24**	**301**	LR		LR	09 10 46.7	
	comp=E,54nm,18.6s,baz=94,slow=36							
PFO	**Pinyon Flats O**	**31.78**	**122**	LR		LR	09 08 31.8	
	comp=E,57nm,19.9s,baz=345,slow=31							
H11N2	**WAKE ISLAND Hy**	**49.22**	**240**	T		T	09 54 10.4	
	baz=24							
H11N3	**WAKE ISLAND Hy**	**49.23**	**240**	T		T	09 54 14.8	
	baz=24							
H11N1	**WAKE ISLAND Hy**	**49.24**	**240**	T		T	09 54 18.2	
	baz=24							
H11S1	**WAKE ISLAND Hy**	**50.37**	**240**	T		T	09 55 52.5	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**50.38**	**240**	T		T	09 55 47.1	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**50.38**	**240**	T		T	09 55 51.9	
	baz=29							

PGC 27 08:57:43.6±7.0, 51°.22N×131°.27W, h10km, MLSn2.8/16, Mw3.5/16, 228km Sse of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HG4B	**Hotspring**	**1.07**	**2**	P		Pg	08 58 02.2	-2.0
HG4B				S		Sg	08 58 14.2	-3.8
BAIB	**Barry Inlet**	**1.39**	**348**	P		Pn	08 58 06.9	-2.1
BAIB			

baz=293
NHDH S Sn 09 05 39.9 -0.3
baz=293
ENTT Nioudou 0.30 230⇑*i*P Pn 09 05 30.0 +0.1
baz=243
ENTT *e*S Sn 09 05 39.9 -0.3
baz=243
TNOU National Taiwa 0.32 353 *i* P Pn 09 05 30.0 0.0
baz=4.0
TNOU *i* S Sn 09 05 40.0 -0.4
baz=4.0
TATO Taipei 0.33 296 P Pn 09 05 30.2 +0.2
TAP Taipei 0.35 306 *e*S Sn 09 05 41.0 +0.3
baz=313
NDT Datong Townshi 0.36 231⇑*i*P Pn 09 05 30.2 0.0
baz=244
NDT *i* S Sn 09 05 40.3 -0.5
baz=244
EWUT Wuta 0.39 185 P Pn 09 05 30.5 +0.2
baz=189
EWUT S Sn 09 05 41.6 +0.6
baz=189
LATG Datong 0.40 222⇑*i*P Pn 09 05 30.6 +0.1
baz=231
LATG S Sn 09 05 40.9 -0.5
baz=231
ENA Nanau 0.41 190 P Pn 09 05 30.9 +0.4
baz=194
ENA *e*S Sn 09 05 42.0 +0.7
baz=194
YHNB Yeheng 0.43 248 P Pn 09 05 30.4 -0.3
ANP Anpu 0.45 323 *e*P Pn 09 05 31.0 +0.2
baz=325
ANP *e*S Sn 09 05 40.7 -1.2
baz=325
NSK Sanguang 0.45 250 *e*P Pn 09 05 30.4 -0.4
baz=243
NSK S Sn 09 05 40.7 -1.2
baz=243
TWS1 Kuangyinshan 0.45 306 P Pn 09 05 31.3 +0.5
baz=300
TWS1 *e*S Sn 09 05 41.5 -0.3
baz=300
NTST Danshui 0.47 315 *e*P Pn 09 05 31.4 +0.5
baz=322
NTST S Sn 09 05 42.2 +0.2
baz=322
TWY Chenhua 0.48 336 P Pn 09 05 31.4 +0.4
baz=335
TWY S Sn 09 05 42.9 +0.7
baz=335
EAHA Aohua 0.51 188 P Pn 09 05 31.5 +0.3
baz=192
EAHA S Sn 09 05 43.9 +1.4
baz=192
EOS2 EOS2 0.56 137 P Pn 09 05 32.4 +0.9
baz=129
EOS2 *e*S Sn 09 05 43.8 +0.8
baz=129
NNS Nan Shan 0.56 226 P Pn 09 05 31.8 0.0
baz=229
NNS *e*S Sn 09 05 43.0 -0.5
baz=229
NNSB Datong 0.56 225 P Pn 09 05 31.8 0.0
baz=226
NNSB S Sn 09 05 43.0 -0.6
baz=226
NCUH Zhongli 0.59 283 *e*P Pn 09 05 31.6 -0.3
baz=286
NCUH S Sn 09 05 43.1 -0.6
baz=286
NFF Wufeng Townshi 0.67 253 P Pn 09 05 32.5 -0.1
baz=255
NFF S Sn 09 05 44.0 -1.0
baz=255
NACB Ninganchiao 0.69 197 P Pn 09 05 31.9 -0.8
NACB Ninganchiao 0.69 197 P Pn 09 05 31.9 -0.8
baz=201
NACB S Sn 09 05 44.0 -1.2
baz=201
ETL Fush Village 0.69 195 *e*P Pn 09 05 31.9 -0.9
baz=200
ETL *e*S Sn 09 05 44.0 -1.4
baz=200
ETLH Xiulin Townshi 0.69 206 P Pn 09 05 32.4 -0.5
baz=211
ETLH S Sn 09 05 44.8 -0.7
baz=211
EOS3 EOS3 0.71 140 P Pn 09 05 33.2 +0.5
baz=133
EOS3 *e*S Sn 09 05 45.0 -0.3
baz=133
LIOB Emei 0.75 256 P Pn 09 05 33.5 +0.2
baz=251
LIOB S Sn 09 05 45.8 -0.5
baz=251
SBCB Hsinchu 0.76 267 *e*P Pn 09 05 32.7 -0.7
baz=269
SBCB S Sn 09 05 45.5 -0.9
baz=269
NSTT Nanjuang 0.77 255 P Pn 09 05 33.5 0.0
baz=250
NSTT S Sn 09 05 46.0 -0.6
baz=250
HSN Hsinchu 0.77 268 *e*P Pn 09 05 33.3 -0.2
baz=264
HSN S Sn 09 05 44.9 -1.8
baz=264
TWD Chiawan 0.78 195 *e*P Pn 09 05 33.0 -0.6
baz=199
TWD S Sn 09 05 45.8 -0.9
baz=199
FUSS Fushou 0.78 222 ⇑P Pn 09 05 34.4 +0.4
baz=221
FUSS S Sn 09 05 47.3 0.0
baz=221
TWT Tachien 0.82 226 P Pn 09 05 35.0 +0.7
baz=220
TWT S Sn 09 05 48.4 +0.5
baz=220
TDCB Techi 0.83 226 P Pn 09 05 35.0 +0.7
baz=220
TDCB S Sn 09 05 47.9 -0.2
baz=220
EOS4 EOS4 0.84 147 P Pn 09 05 33.7 -0.1
baz=144
EOS4 S Sn 09 05 47.3 0.0
baz=144
WHF Hehuan Shan 0.85 217 *e*P Pn 09 05 35.4 +0.5
baz=208
WHF S Sn 09 05 48.1 -0.8
baz=208
LXIB Xiulin Townshi 0.89 205 P Pn 09 05 34.2 -0.7
baz=193
LXIB S Sn 09 05 48.0 -1.1
baz=193
ETM Tongmen 0.91 199 P Pn 09 05 34.0 -1.0
baz=196
ETM *e*S Sn 09 05 47.8 -1.4
baz=196
CHGB Renai 0.97 218 P Pn 09 05 36.5 +0.6
baz=215
CHGB *e*S Sn 09 05 50.5 -0.2
baz=215
NMLH Miaoli 0.98 253 *e*P Pn 09 05 36.0 +0.3
baz=254
NMLH S Sn 09 05 50.2 -0.4
baz=254
NSY Sanyi 1.05 247 *e*P Pn 09 05 36.9 +0.4
baz=248
NSY *e*S Sn 09 05 50.6 -1.3
baz=248
OWD Renai 1.05 214 P Pn 09 05 37.0 +0.3
baz=218
OWD S Sn 09 05 52.2 -0.1
baz=218
SHUL Shoufeng 1.06 193 P Pn 09 05 36.6 -0.1
baz=195
SHUL S Sn 09 05 52.1 -0.2
baz=195
TWQ1 Liyutan 1.07 243 *e*P Pn 09 05 37.0 +0.3
baz=244
TWQ1 S Sn 09 05 52.1 -0.2
baz=244
ESL Shilin 1.07 199 *e*P Pn 09 05 35.6 -1.2
baz=190
ESL *e*S Sn 09 05 50.6 -1.8
baz=190

JYNG Yonagunijimaku 1.09 110 P Pn 09 05 36.7 -0.3
JYNG S Sn 09 05 51.7 -1.1
TEGC Jichi Village 1.15 193 *e*S Sn 09 05 53.9 0.0
baz=196
EGFH Guangfu 1.21 197 *e*P Pn 09 05 39.1 +0.7
baz=194
EGFH *e*S Sn 09 05 54.1 -1.2
baz=194
TCU Taichung 1.24 237 *e*P Pn 09 05 39.4 +0.6
baz=238
TCU *e*S Sn 09 05 55.4 -0.6
baz=238
SMLT Sun Moon Lake 1.26 222 P Pn 09 05 39.9 +0.7
baz=229
SMLT *e*S Sn 09 05 58.1 +1.5
baz=229
TYC Yuchr 1.27 224 P Pn 09 05 39.6 +0.5
baz=223
TYC *e*S Sn 09 05 57.0 +0.4
baz=223
SSLB Suanglung 1.30 217 P Pn 09 05 40.0 +0.5
SSLB Suanglung 1.30 217 P Pn 09 05 40.1 +0.5
baz=228
SSLB S Sn 09 05 57.4 0.0
baz=228
HGSD Ruisui 1.38 195 P Pn 09 05 40.7 +0.2
baz=197
HGSD *e*S Sn 09 05 59.1 +0.2
baz=197
EHY Hungye 1.40 199 P Pn 09 05 41.2 +0.5
baz=189
EHY *e*S Sn 09 05 58.8 -0.5
baz=189
WNT Mingjian 1.40 228 P Pn 09 05 41.1 +0.3
baz=236
WNT S Sn 09 05 59.7 +0.2
baz=236
YULB Yu-li 1.51 198 P Pn 09 05 41.4 -0.7
TWF1 Yuli 1.55 198 *e*P Pn 09 05 43.0 +0.4
baz=197
ALS Alishan 1.61 215 P Pn 09 05 44.4 +0.7
baz=224
ALS *e*S Sn 09 06 05.3 +0.9
baz=224
CHN5 Tsauling 1.61 220 P Pn 09 05 44.2 +0.8
baz=220
CHN5 *e*S Sn 09 06 04.3 +0.1
baz=220
WGK Gukeng 1.62 225 *e*S Sn 09 06 04.9 +0.7
baz=235
CHKH Chenggong 1.68 193 *e*S Sn 09 06 05.5 0.0
baz=193
FULB Fuli 1.69 197 *e*P Pn 09 05 44.4 -0.1
baz=192
FULB *e*S Sn 09 06 06.9 +0.9
baz=192
EHD Haiduan 1.77 199 *e*S Sn 09 06 07.2 -0.4
baz=192
CHKT Chengkung 1.77 194 *e*S Sn 09 06 07.3 -0.5
baz=180
ELDTW Lidau 1.79 204 *e*P Pn 09 05 45.8 0.0
baz=191
ELDTW *e*S Sn 09 06 08.1 -0.3
baz=191
IRIF Iriomote-Funau 1.81 105 P Pn 09 05 45.7 -0.2
IRIF *e*S Sn 09 06 07.8 -0.8
ECS Chishang 1.81 198 *e*S Sn 09 06 09.2 +0.4
baz=193
CHN4 Tsaushan 1.85 217 *e*P Pn 09 05 47.2 +0.8
baz=217
CHN4 *e*S Sn 09 06 11.3 +1.7
baz=217
TPUB Ta-pu 1.87 216 P Pn 09 05 47.4 +0.7
TPUB Ta-pu 1.87 216 *e*P Pn 09 05 47.2 +0.5
baz=215
TPUB *e*S Sn 09 06 10.6 +0.5
baz=215
STYH Taoyuan 1.91 210 *e*P Pn 09 05 48.1 +1.0
baz=221
STYH *e*S Sn 09 06 11.2 +0.3
baz=221
EDH Donghe 1.91 194 *e*P Pn 09 05 45.6 -1.6
baz=181
EDH *e*S Sn 09 06 09.4 -1.5
baz=181
WTP Ta-pu 1.93 215 P Pn 09 05 47.7 +0.3
baz=213
WTP *e*S Sn 09 06 13.1 +1.7
baz=213
TWK Hsinying 1.98 218 P Pn 09 05 48.8 +0.7
baz=219
TWK *e*S Sn 09 06 13.3 +0.7
baz=219
SNST Tainan City 2.01 217 *e*S Sn 09 06 13.4 +0.2
baz=218
LONT Longtian 2.02 198 *e*P Pn 09 05 47.7 -0.9
baz=188
LONT *e*S Sn 09 06 11.6 -1.8
baz=188
CHN1 Nanshi 2.02 216 *e*P Pn 09 05 49.5 +0.9
baz=215
CHN1 *e*S Sn 09 06 13.4 -0.1
baz=215
ICHU Yijhu 2.03 224 *e*P Pn 09 05 49.5 +0.8
baz=238
ICHU *e*S Sn 09 06 13.8 +0.1
baz=238
SGST Jiashian 2.08 213 *e*S Sn 09 06 16.0 +1.2
baz=222
JKRS Kuro-shima 2.08 106 P Pn 09 05 49.8 +0.4
JKRS *e*S Sn 09 06 14.6 -0.3
TWG Pinlang 2.12 199 *e*P Pn 09 05 49.8 -0.1
baz=184
TWG *e*S Sn 09 06 13.5 -2.2
baz=184
TWGBT Beinan 2.12 199 *e*P Pn 09 05 49.5 -0.4
baz=189
SLGT Liugui 2.12 211 *e*P Pn 09 05 51.3 +1.3
baz=221
SLGT *e*S Sn 09 06 16.8 +0.9
baz=221
JIJ Ishigaki jima 2.17 102 P Pn 09 05 50.4 -0.1
JIJ *e*S Sn 09 06 15.8 -1.1
LDUT Ludao 2.17 189 *e*S Sn 09 06 15.8 -1.2
baz=177
JISG Ishigakijimahi 2.28 96 P Pn 09 05 52.3 +0.3
JISG S Sn 09 06 19.0 -0.5
TSMG Majia 2.37 207 *e*P Pn 09 05 55.1 +1.8
baz=202
TSMG *e*S Sn 09 06 22.9 +1.1
baz=202
PHUB P'eng-hu 2.44 238 *e*P Pn 09 05 53.0 -1.0
baz=241
PHUB S Sn 09 06 20.9 -2.4
baz=241
MASBT Mashibuluo 2.46 206 *e*P Pn 09 05 55.7 +1.3
baz=202
MASBT *e*S Sn 09 06 24.1 +0.2
baz=202
EAST Anshuo 2.59 200 *e*P Pn 09 05 57.3 +1.1
baz=185
EAST *e*S Sn 09 06 26.8 -0.4
baz=185
JTJ Tarama 2.63 94 S Sn 09 06 28.9 +1.0

IDC ***27*** *09:06:40.2±0.8,29°.25S×71°.18W,h0km,mb3.9/7, mbtmp3.8/11,ML3.6/4,MS3.0/4,Error ellipse: s-maj=28.1km s-min=24.5km az=40.0*
SJA ***27*** *09:06:46.2±0.6,29°.17S×71°.37W,h30km±4km,ML4.4, MW4.3*
GUC ***27*** *09:06:48.5±0.8,29°.19S×71°.13W,h59km±4km,ML4.2*
NEIC ***27*** *09:06:48.0±1.2,29°.11S±0°.03×71°.28W±0°.08,h57km±6km, mb4.2/16,Error ellipse: s-maj=10.6km s-min=4.9km az=95.0*
ISC 27 09:06:46.2±0.9,29°.10S±0°.03×71°.40W±0°.04,h44km±9km, n122,σ2°12/137,mb4.0/11,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.62**	**82**			**Pn**	**09 06 59.9**	**+0.9**
LCO						**Sn**	**09 07 08.3**	**+0.3**
LCO	**Las Campanas**	**0.62**	**82**	*e*P		**Pn**	**09 07 00.0**	**+1.1**
LCO				*e*S		**Sn**	**09 07 08.5**	**+0.5**
LCO				IAML			09 07 09.4	

comp=Z,22µm,0.3s
LCO Las Campanas 0.62 82 *e*P Pn 09 06 59.4 +0.4
LCO *e*S Sn 09 07 07.9 -0.1
CO05 La Serena 0.83 170 Pn 09 07 03.6 +2.0
CO05 Sn Sn 09 07 14.6 +2.0
CO05 La Serena 0.83 170 *e*P Pn 09 07 03.5 +1.9
CO05 *e*S Sn 09 07 14.5 +1.8
CO05 IAML 09 07 16.3
comp=N,15µm,0.3s
AC04 Llanos de Chal 0.93 18 Pn Pn 09 07 06.1 +3.2
AC04 Llanos de Chal 0.93 18 *e*P Pn 09 07 06.5 +3.6
AC04 *e*S Sn 09 07 19.7 +4.5
AC04 IAML 09 07 22.7
comp=Z,6µm,0.3s
AC04 Llanos de Chal 0.93 18 *e*P Pn 09 07 06.5 +3.6
AC04 *e*S Sn 09 07 19.2 +4.1
AC04 IAML 09 07 22.8
comp=E,12µm,0.1s
AC05 El Transito 1.02 76 Pn Pn 09 07 05.3 +1.0
AC05 Sn Sn 09 07 17.6 +0.1
AC05 El Transito 1.02 76 *e*P Pn 09 07 05.0 +0.9
AC05 *e*S Sn 09 07 17.5 0.0
AC05 IAML 09 07 17.8
comp=Z,14µm,0.3s
AC05 El Transito 1.02 76⇑*i*P Pn 09 07 05.1 +0.9
AC05 *e*S Sn 09 07 17.2 -0.3
AC05 IAML 09 07 17.8
comp=N,24µm,0.2s
GO04 Tololo Observa 1.19 154 Pn 09 07 07.8 +1.1
GO04 Sn Sn 09 07 23.0 +1.1
GO04 Tololo Observa 1.19 154 *e*P Pn 09 07 07.8 +1.1
GO04 *e*S Sn 09 07 20.2 -1.7
GO04 Tololo Observa 1.19 154 *e*P Pn 09 07 07.7 +1.1
GO04 *e*S Sn 09 07 22.1 +0.3
GO04 IAML 09 07 24.1
comp=E,15µm,0.5s
CO01 Juntas del Tor 1.44 128 Pn 09 07 10.9 +0.9
CO01 Juntas del Tor 1.44 128 *e*P Pn 09 07 10.8 +0.8
CO01 *e*S Sn 09 07 27.6 -0.3
CO01 IAML 09 07 28.6
comp=Z,6µm,0.3s
CO01 Juntas del Tor 1.44 128 *e*P Pn 09 07 10.5 +0.4
CO01 *e*S Sn 09 07 27.0 -0.9
CO01 IAML 09 07 28.9
comp=N,9µm,0.2s
CO06 Fray Jorge 1.58 187 Pn 09 07 14.1 +2.3
CO06 Fray Jorge 1.58 187 *e*P Pn 09 07 14.2 +2.4
CO06 *e*S Sn 09 07 34.9 +3.8
CO06 IAML 09 07 41.6
comp=E,3µm,0.3s
GO03 Copiap 1.82 35 Pn 09 07 16.9 +1.8
GO03 Copiap 1.82 35 *e*P Pn 09 07 16.9 +1.8
GO03 *e*S Sn 09 07 31.8 -5.1
GO03 Copiap 1.82 35 *e*P Pn 09 07 16.8 +1.7
GO03 IAML 09 07 45.2
comp=E,3µm,0.4s
CO03 El Pedregal 1.84 161 Pn Pn 09 07 16.9 +1.5
CO03 El Pedregal 1.84 161 *e*P Pn 09 07 17.0 +1.5
CO03 *e*S Sn 09 07 31.7 -5.9
CO03 IAML 09 07 44.1
comp=Z,2µm,0.5s
CO03 El Pedregal 1.84 161 *e*P Pn 09 07 16.9 +1.5
CO03 *e*S Sn 09 07 38.7 +1.0
CO03 IAML 09 07 42.8
comp=E,4µm,0.2s
AC06 Mina Casimiro 1.96 28 Pn Pn 09 07 19.5 +2.5
AC06 Mina Casimiro 1.96 28⇑*i*P Pn 09 07 19.6 +2.5
AC06 *e*S Sn 09 07 35.1 -5.4
AROD Rodeo 1.99 123 *e*P Pn 09 07 19.8 +2.2
AROD *e*S Sn 09 07 43.1 +1.6
CO02 Combarbal 2.13 171 Pn 09 07 21.2 +1.8
CO02 Combarbal 2.13 171 *e*P Pn 09 07 21.0 +1.6
CO02 *e*S Sn 09 07 36.6 -8.0
CO02 IAML 09 08 00.4
comp=Z,3µm,0.4s
CO02 Combarbal 2.13 171 *e*P Pn 09 07 20.9 +1.5
CO02 *e*S Sn 09 07 46.1 +1.5
ACDV Cuesta del Vie 2.26 119 *e*P Pn 09 07 23.7 +2.5
ACDV *e*S Sn 09 07 50.8 +2.8
ACDV IAML 09 07 52.9
comp=Z,1µm,0.4s
ACCO Cerro Coronel 2.52 127 *e*P Pn 09 07 27.7 +2.8
ACCO IAML 09 08 09.2
comp=Z,837nm,0.4s
AGUA GUANDACOL 2.57 99 *e*P Pn 09 07 28.9 +3.4
AGUA *e*S Sn 09 08 01.1 +5.5
AGUA IAML 09 08 06.8
comp=Z,2µm,0.4s
DOCA Reserva Natura 2.73 133 *e*P Pn 09 07 30.9 +3.1
DOCA *e*S Sn 09 07 47.7 -12
VCA Vinchina 2.83 83 *e*P Pn 09 07 33.2 +4.3
VCA *e*S Sn 09 08 07.1 +5.2
VCA IAML 09 08 16.5
comp=Z,2µm,0.4s
VCA Vinchina 2.83 83 *e*P Pn 09 07 33.3 +4.3
VCA *e*S Sn 09 08 06.7 +4.8
AC01 Pan de Azucar 3.02 14 Pn 09 07 32.9 +1.3
AC01 Pan de Azucar 3.02 14 *e*P Pn 09 07 32.8 +1.2
AC01 *e*S Sn 09 08 19.5 +13
AC01 IAML 09 08 22.1
comp=Z,507nm,0.6s
AC01 Pan de Azucar 3.02 14⇑*i*P Pn 09 07 32.9 +1.3
RTLS Leoncito 3.25 147 *e*P Pn 09 07 38.8 +3.8
RTLS *e*S Sn 09 07 59.1 -13
RTLS IAML 09 08 26.9
comp=Z,2µm,0.6s
VA06 Catapilco 3.46 179 Pn 09 07 39.1 +1.7
VA06 Catapilco 3.46 179 *e*P Pn 09 07 39.2 +1.7
VA03 San Esteban 3.73 169 Pn 09 07 43.5 +2.2
VA03 San Esteban 3.73 169 *e*P Pn 09 07 43.6 +2.2
VA03 IAML 09 08 47.4
comp=Z,989nm,0.3s
VA01 Torpederas 3.92 183 Pn Pn 09 07 45.1 +1.2
PEL Peldehue 4.08 172 Pn 09 07 48.6 +2.4
MT02 Curacav 4.16 177 Pn 09 07 48.8 +1.6
MT02 Curacav 4.16 177 *e*P Pn 09 07 48.3 +1.2
MT02 *e*S Sn 09 08 44.1 +10
MT02 IAML 09 08 50.1
comp=Z,526nm,0.4s
GO02 Mina Guanaco 4.24 23 Pn Pn 09 07 49.9 +1.3
GO02 Mina Guanaco 4.24 23 *e*P Pn 09 07 50.0 +1.4
GO02 Mina Guanaco 4.24 23 *e*P Pn 09 07 49.7 +1.1
MT05 Renca 4.32 173 Pn Pn 09 07 50.4 +1.0
MT05 Renca 4.32 173 *e*P Pn 09 07 52.2 +2.8
MT05 *e*S Sn 09 08 59.1 +21
MT05 IAML 09 09 00.8
comp=Z,626nm,0.8s
MT16 CCHEN 4.38 170 Pn 09 07 51.6 +1.3
MT03 Universidad Ad 4.45 170 Pn 09 07 53.7 +2.4
MT03 Universidad Ad 4.45 170 *e*P Pn 09 07 54.0 +2.7
MT03 IAML 09 09 09.0
comp=Z,911nm,0.4s
PB14 IPOC Station P 4.54 12 Pn Pn 09 07 53.4 +0.6
PB14 IPOC Station P 4.54 12 *e*P Pn 09 07 53.6 +0.9
PB14 IAML 09 09 08.8
comp=Z,271nm,0.6s
VA05 Santo Domingo 4.55 182 Pn 09 07 53.7 +1.2
MT09 Talagante 4.68 176 Pn 09 07 56.0 +1.6
MT13 San Alfonso 4.73 169 Pn 09 07 58.1 +3.0
MT01 Popeta 4.75 178 *e*P Pn 09 07 56.6 +1.2
MT01 IAML 09 09 10.1
comp=Z,453nm,0.3s
LMEL Las Melosas 4.85 168 *e*P Pn 09 08 02.4 +5.7
BO04 La Punta 4.92 172 *e*P Pn 09 07 59.5 +1.7
BO01 Tunca 5.29 177 Pn 09 08 04.1 +1.4
BO01 Tunca 5.29 177 *e*P Pn 09 08 03.2 +0.6
BO01 IAML 09 09 25.0
comp=Z,244nm,0.8s
PB10 IPOC Station P 5.61 8 Pn Pn 09 08 07.0 -0.2
GO05 Huala 5.91 184 Pn 09 08 11.5 +0.2
PB15 IPOC Station P 6.12 17 Pn 09 08 15.1 +0.8
PB05 IPOC Station P 6.31 10 Pn 09 08 15.8 -1.0
ML02 Panimavida 6.65 180 Pn 09 08 22.2 +0.9
LVC Limon Verde 6.84 20 Pn 09 08 24.4 +0.1
LVC Limon Verde 6.84 20 Pn Pn 09 08 23.7 -0.6
comp=Z,1.8nm,0.3s,baz=126,slow=7.3,SNR=22
LVC Sn **Sn 09 09 38.8 -2.3**
comp=Z,6.5nm,0.3s,baz=18,slow=20,SNR=1.7
LVC Lg Lg 09 10 16.6
comp=Z,18nm,0.3s,baz=353,slow=18,SNR=7.3
LVC LR LR 09 11 12.1
comp=Z,74nm,21.9s,baz=207,slow=39
comp=Z,3.3nm,0.3s

H03N1	**Juan Fernandez** baz=65,slow=71	**7.75**	**234**	T	T	09 16 25.2			
H03N2	**Juan Fernandez** baz=65,slow=71	**7.76**	**234**	T	T	09 16 37.8			
H03N3	**Juan Fernandez** baz=65,slow=71	**7.77**	**234**	T	T	09 16 32.8			
BI05	**Punta Hualpn**	**7.78**	**191**	Pn	**Pn**	**09 08 36.6**	**-0.2**		
VA04	**Juan Fernndez**	**7.80**	**233**		**Pn**	**09 08 39.3**	**+2.2**		
TA01	**Diego Aracena**	**8.57**	**8**	Pn	**Pn**	**09 08 49.1**	**+1.5**		
GO06	**Curarrehue**	**10.46**	**180**	Pn	**Pn**	**09 09 15.1**	**+1.5**		
PLCA	**Paso Flores**	**11.63**	**177**	Pn	**Pn**	**09 09 29.4**	**-0.2**		
PLCA	**Paso Flores** baz=345,slow=15,SNR=1.3 comp=Z,2.5nm,1.2s	**11.63**	**177**	Pn	Pn	09 09 24.4	-5.2		
TRQA	**Tornquist**	**11.89**	**141**		**Pn**	**09 09 32.2**	**-0.9**		
CPUP	**Villa Florida**	**12.77**	**81**	Pn	**Pn**	**09 09 43.8**	**-1.4**		
CPUP	**Villa Florida** comp=Z,0.3nm,0.3s,baz=250,slow=12,SNR=8.2	**12.77**	**81**	Pn	Pn	09 09 40.6	-4.5		
CPUP	comp=Z,89nm,21.5s,baz=240,slow=39 comp=Z,2.1nm,0.6s			LR	LR	09 14 56.0			
ITQB	**Itaqui**	**12.90**	**96**		**Pn**	**09 09 45.4**	**-1.5**		
LPAZ	**La Paz**	**13.10**	**14**		**Pn**	**09 09 48.6**	**-1.7**		
PLTB	**Pedras Altas**	**15.58**	**104**	P	**Pn**	**09 10 21.4**	**-1.4**		
PLTB	comp=Z,19nm,1.2s			IAmb	IAmb	09 10 34.2			
SIV	**San Ignacio** baz=215,slow=16,SNR=2.5 comp=Z,0.5nm,0.5s	**16.15**	**38**	Pn	**Pn**	**09 10 27.4**	**-2.8**		
ITAB	**Concordia**	**17.10**	**88**	P	**Pn**	**09 10 40.6**	**-1.4**		
ITAB	comp=Z,17nm,1.2s			IAmb	IAmb	09 11 11.1			
PTLB	**Pontes e Lacer**	**17.68**	**42**	P	**Pn**	**09 10 49.0**	**-0.3**		
NNA	**Nana** comp=Z,32nm,19.2s,baz=194,slow=33	**17.76**	**342**	LR	LR	09 16 32.3			
ETMB	**Extrema**	**19.79**	**15**	P	**P**	**09 11 13.2**	**+0.3**		
ETMB	comp=Z,5.3nm,0.7s			IAmb	IAmb	09 11 20.1			
CZSB	**Cruzeiro do Su**	**21.29**	**356**	P	**P**	**09 11 29.3**	**+0.1**		
CZSB	comp=Z,13nm,0.7s			IAmb	IAmb	09 11 35.8			
SAML	**Samuel**	**21.48**	**23**	P	**P**	**09 11 30.2**	**-0.9**		
BDFB	**Brasilia** comp=Z,1.6nm,0.6s,baz=219,slow=14,SNR=1.8 comp=Z,1.6nm,0.6s	**25.37**	**63**	P	**P**	**09 12 06.7**	**-2.9**		
MCRA	**Macar, Loja**	**25.90**	**340**	P	**P**	**09 12 17.6**	**+3.4**		
BOSC	**San Juan Bosco**	**26.67**	**344**	P	**P**	**09 12 22.3**	**+1.0**		
BOSC	comp=Z,1.6nm,0.5s			IAmb	IAmb	09 12 45.6			
ARNL	**Arenillas**	**26.71**	**340**	P	**P**	**09 12 22.1**	**+0.5**		
ARNL	comp=Z,6.8nm,0.6s			IAmb	IAmb	09 12 49.3			
COHC	**Cochancay**	**27.52**	**343**	P	**P**	**09 12 30.1**	**+1.3**		
OTAV	**Otavalo**	**29.94**	**346**	P	**P**	**09 12 50.5**	**-0.3**		
OTAV	comp=Z,7.1nm,1.4s			IAmb	IAmb	09 13 17.0			
PMSA	**Palmer Station**	**35.99**	**175**	P	**P**	**09 13 42.1**	**-0.5**		
BAUV	**El Baul**	**37.96**	**5**	P	**P**	**09 13 59.1**	**-0.7**		
SNAA	**Sanae**	**55.94**	**159**	P	**P**	**09 16 19.8**	**+0.3**		
SNAA	comp=Z,4.5nm,0.8s			IAmb	IAmb	09 16 41.6			
HNDO	**Hondo**	**64.09**	**333**	P	**P**	**09 17 16.3**	**+0.5**		
JCT	**Junction City**	**65.14**	**333**	P	**P**	**09 17 23.6**	**+1.0**		
TXAR	**Lajitas Array** comp=Z,0.6nm,0.6s,baz=151,slow=8.9,SNR=11 comp=Z,0.6nm,0.6s	**65.77**	**329**	P	**P**	**09 17 29.5**	**+2.7**		
DBIC	**Dimbokro** comp=Z,20nm,19.4s,baz=155,slow=34	**73.13**	**72**	LR	LR	09 48 28.0			
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=133,slow=6.2,SNR=5.4 comp=Z,0.4nm,0.6s	**79.66**	**332**	P	**P**	**09 18 49.9**	**+0.7**		
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.5s,baz=160,slow=5.6,SNR=1.7 comp=Z,0.2nm,0.5s	**80.20**	**324**	P	**P**	**09 18 52.6**	**+0.4**		
BOSA	**Boshof** comp=Z,1.2nm,0.7s,baz=217,slow=5.1,SNR=1.4 comp=Z,1.2nm,0.7s	**81.88**	**118**	P	**P**	**09 19 00.6**	**-0.8**		
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.5s,baz=283,slow=5.8,SNR=11 comp=Z,0.7nm,0.5s	**82.04**	**70**	P	**P**	**09 19 02.1**	**-0.1**		
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.7s,baz=138,slow=3.8,SNR=6.1 comp=Z,0.2nm,0.7s	**97.60**	**341**	P	Pdif	09 20 15.8	+0.4		
WRA	**Warramunga Arr** comp=Z,0.5nm,0.8s,baz=155,slow=1.6,SNR=8.2	**125.28**	**210**	PKP	**PKPdf**	**09 25 42.7**	**-0.1**		
H11N3	**WAKE ISLAND Hyl** baz=113,slow=75,SNR=15	**126.54**	**274**	T	T	11 45 11.3			
H11N1	**WAKE ISLAND Hyl** baz=113,slow=75,SNR=7.1	**126.55**	**274**	T	T	11 45 09.7			
H11N2	**WAKE ISLAND Hyl** baz=113,slow=75,SNR=18	**126.56**	**274**	T	T	11 45 11.3			
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.4s,baz=298,slow=2.0,SNR=2.9	**148.80**	**38**	PKPbc	**PKiKP**	**09 26 30.0**	**+0.1**		
AAK	**Ala-Archa** comp=Z,2.2nm,0.5s,baz=246,slow=12,SNR=2.0	**149.46**	**55**	PKPbc	**PKiKP**	**09 26 32.6**	**+0.8**		
ZALV	**Zalesovo Beam** comp=Z,3.7nm,0.5s,baz=303,slow=3.6,SNR=17	**149.73**	**28**	PKPbc	**PKiKP**	**09 26 32.2**	**+0.5**		
MKAR	**Makanchi Array** comp=Z,0.7nm,0.6s,baz=316,slow=1.5,SNR=8.8	**152.94**	**42**	PKPbc	**PKiKP**	**09 26 39.5**	**+0.8**		

*IDC **27** 09:20:51.0±2.0,5°51S×129°32E,**h0**km,**mb3.5**/2,*
mbtmp3.3/4,ML3.1/2,Error ellipse: s-maj=145.6km
s-min=27.5km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=344,slow=13,SNR=9.6	**15.16**	**162**	Pn	Pn	09 24 25.4	-1.1
WRA	0.2nm,0.3s,baz=358,slow=23,SNR=1.8 0.3nm,0.5s			Sn	Sn	09 27 13.8	-1.5
ASAR	**Alice Springs** baz=349,slow=14,SNR=1.2 0.2nm,0.6s	**18.59**	**167**	P	Pn	09 25 10.4	+0.4
STKA	**Stephens Creek** 0.8nm,0.7s,baz=335,slow=14,SNR=1.7 0.8nm,0.7s	**28.64**	**158**	P	P	09 26 49.7	+0.3
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=120,slow=8.5,SNR=1.6 0.2nm,0.7s	**66.61**	**327**	P	P	09 31 43.2	-0.1

*TEH **27** 09:31:19.2,33°.83N×45°.64E,h8km±85km,ML2.8*
*ISN **27** 09:31:19.8±1.2,33°.78N×45°.63E,h20km±9km,ML2.7*
ISC 27 09:31:19.5±1.0,33°.84N±0°.04×45°.64E±0°.04,h10km,n11,
σ0s75/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**114**	Pg	**Pg**	**09 31 29.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.67**	**356**	Pg	**Pb**	**09 31 32.8**	**-0.4**
IBDR	**Badra**	**0.77**	**162**	*e*Pg	**Pg**	**09 31 34.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**09 31 43.0**	**-1.3**
IBDR	comp=E,205nm,0.5s			AML	AML	09 31 48.9	
IBDR	comp=N,143nm,0.7s			AML	AML	09 31 52.1	
IGHG	**Ghaleghazi**	**0.91**	**57**	Pg	**Pb**	**09 31 37.8**	**+0.3**
IDHR	**Dehrash**	**1.06**	**36**	Pg	**Pg**	**09 31 39.4**	**-0.4**
BHD	**Baghdad**	**1.20**	**242**	*e*Pn	**Pg**	**09 31 42.0**	**-0.5**
BHD				*e*Sn	**Sn**	**09 32 00.0**	**+1.4**
BHD	comp=E,410nm,0.5s			AML	AML	09 32 07.6	
KCHF	**Cheshme Sefid,**	**1.24**	**69**	Pg	**Pg**	**09 31 43.8**	**+0.5**
ILIN	**Lien**	**1.53**	**45**	Pg	**Pg**	**09 31 48.6**	**-0.4**
IKFM	**Kafar-mosalman**	**1.87**	**99**	Pn	**Pb**	**09 31 54.2**	**+0.5**
IBZA	**Bozab**	**1.94**	**71**	Pn	**Pb**	**09 31 54.5**	**-0.7**
RAFI	**Al-Rafai**	**2.15**	**169**	*e*Pn	**Pn**	**09 31 56.0**	**+0.7**
RAFI				*e*Sn	**Sn**	**09 32 22.0**	**0.0**

*IDC 27 09:54:56.9±87.0,45°49S×94°55E,**h0**km,**mb3.8**/3,*
mbtmp3.8/3,MS3.6/8,Error ellipse: s-maj=1546.0km
s-min=156.1km az=73.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=226,slow=74,SNR=33	**18.28**	**61**	T	T	10 16 30.6	
H01W3	**Cape Leeuwin H** baz=226,slow=74,SNR=31	**18.29**	**61**	T	T	10 16 30.1	
H01W1	**Cape Leeuwin H** baz=226,slow=74,SNR=32	**18.29**	**61**	T	T	10 16 30.3	
NWAO	**Narrogin (SRO)** comp=Z,92nm,20.8s,baz=221,slow=30	**21.51**	**62**	LR	LR	10 05 45.0	
ASAR	**Alice Springs**	**38.52**	**69**	P	P	10 02 20.6	-0.5
	0.9nm,0.9s,baz=224,slow=7.7,SNR=6.0						
ASAR	comp=Z,89nm,20.2s,baz=196,slow=32 0.9nm,0.9s			LR	LR	10 15 24.0	
STKA	**Stephens Creek** 1.2nm,0.7s,baz=221,slow=3.8,SNR=4.2	**38.62**	**86**	P	P	10 02 21.6	-0.2
STKA	comp=Z,66nm,20.5s,baz=204,slow=31 1.2nm,0.7s			LR	LR	10 14 58.2	
VNDA	**Vanda** comp=Z,81nm,18.4s,baz=198,slow=33	**41.17**	**162**	LR	LR	10 17 36.7	
WRA	**Warramunga Arr** 1.8nm,0.8s,baz=223,slow=8.4,SNR=11 1.8nm,0.8s	**41.45**	**65**	P	P	10 02 45.8	+0.3
H08S2	**Diego Garcia H** baz=155,slow=76,SNR=11	**42.25**	**326**	T	T	10 48 43.8	
H08S1	**Diego Carcia H** baz=155,slow=76,SNR=14	**42.26**	**326**	T	T	10 48 41.4	
H08S3	**Diego Garcia H** baz=155,slow=76,SNR=18	**42.27**	**326**	T	T	10 48 51.8	
SUR	**Sutherland** comp=Z,67nm,18.6s,baz=166,slow=32	**56.94**	**256**	LR	LR	10 25 30.2	
PMG	**Port Moresby** comp=Z,50nm,19.0s,baz=276,slow=34	**57.53**	**68**	LR	LR	10 27 19.3	
LBTB	**Lobatse** comp=Z,48nm,19.1s,baz=186,slow=31	**58.12**	**266**	LR	LR	10 25 06.7	
TSUM	**Tsumeb** comp=Z,41nm,18.4s,baz=152,slow=32	**67.52**	**265**	LR	LR	10 31 22.8	

*IDC **27** 10:04:55.8±0.9,67°.79N×20°.68E,h0km,mbtmp3.2/5,*
ML2.1/4,Error ellipse: s-maj=15.3km s-min=6.3km
az=117.0
*UPP **27** 10:04:55.1±0.0,67°.82N×20°.22E,h0km,ML2.5,Confirmed*
Induced event
*HEL **27** 10:04:55.2±0.2,67°.81N×20°.16E,h0km,ML1.8,Explosion*
ISC 27 10:04:55.3±0.8,67°.81N±0°.02×20°.23E±0°.03,h0km,n37,
σ1s07/58,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**15**	P	**Pg**	**10 04 58.1**	**0.0**
KUA				S	**Sg**	**10 05 00.1**	**0.0**
RATU	**Laukkuluspa**	**0.24**	**274**	P	**Pg**	**10 04 59.9**	**0.0**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**10 05 08.5**	**-0.1**
DUNU				S	**Sg**	**10 05 19.1**	**+1.3**
LANU	**Lannavaara**	**0.71**	**69**	PG	**Pg**	**10 05 08.3**	**-0.5**
LANU				SG	**Sg**	**10 05 17.3**	**-0.7**
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	**10 05 08.5**	**-0.3**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**10 05 09.7**	**-0.1**
MASU				S	**Sg**	**10 05 20.7**	**+1.0**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pg**	**10 05 10.0**	**-0.3**
KIF	**Kilpisjarvi** comp=Z,5.8nm,0.2s	**1.22**	**10**	MSG		10 05 33.3	
KIF				SN	**Sn**	**10 05 39.6**	**+2.9**
PAJU	**Pajala**	**1.36**	**124**	PG	**Pg**	**10 05 19.8**	**-1.5**
PAJU				SB	**Sg**	**10 05 38.9**	**-0.1**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**10 05 20.4**	**-1.0**
PAJU				S	**Sg**	**10 05 39.1**	**+0.1**
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pn**	**10 05 21.0**	**-1.3**
HEF	**Hetta** baz=250	**1.42**	**63**	PG	**Pn**	**10 05 21.0**	**-1.3**
HEF	comp=Z,9.2nm,0.2s			MSG		10 05 38.5	
HEF				SG	**Sg**	**10 05 40.0**	**-0.7**
KLF	**Kolari**	**1.55**	**110**	PG	**Pn**	**10 05 23.2**	**-0.8**
KLF	comp=Z,10nm,0.2s			MSG		10 05 42.4	
KLF				SN	**Sn**	**10 05 44.7**	**-0.1**
KTK1	**Kautokeino**	**1.64**	**41**	*e*P	**Pn**	**10 05 24.7**	**-0.6**
KTK1	**Kautokeino**	**1.64**	**41**	PG	**Pn**	**10 05 24.8**	**-0.6**
KTK1				SN	**Sb**	**10 05 47.4**	**-0.1**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**10 05 25.7**	**-0.1**
TRO	**Tromso**	**1.89**	**346**	PG	**Pn**	**10 05 28.8**	**0.0**
TRO				SG	**Sb**	**10 05 54.3**	**-0.5**
KALU	**Kalix** baz=330	**2.32**	**146**	PG	**Pn**	**10 05 35.6**	**+1.0**
KALU				SG	**Sb**	**10 06 06.1**	**-0.8**
TOF	**Tornio** baz=316	**2.37**	**135**	PB	**Pn**	**10 05 36.6**	**+1.3**
TOF	comp=Z,8.9nm,0.2s			MSG		10 06 05.9	
TOF				SG	**Sb**	**10 06 08.5**	**0.0**
SGF	**Sodankyl**	**2.44**	**96**	PB	**Pn**	**10 05 37.1**	**+0.9**
SGF				SG	**Sb**	**10 06 11.0**	**+0.6**
RNF	**Rovaniemi**	**2.55**	**115**	PB	**Pn**	**10 05 39.3**	**+1.4**
RNF				SG	**Sb**	**10 06 12.9**	**-0.9**
ARCES	**ARCESS Array B** comp=Z,0.7nm,0.3s,baz=230,slow=14,SNR=91	**2.59**	**46**	Pn	**Pn**	**10 05 38.8**	**+0.4**
ARCES	comp=Z,2.6nm,0.3s,baz=234,slow=24,SNR=21 comp=Z,1.6nm,0.2s			Lg	Lg	10 06 12.4	
KMNF	**Kaamanen**	**2.83**	**59**	PN	**Pn**	**10 05 41.8**	**+0.1**
KMNF				SB	**Sn**	**10 06 17.8**	**+1.4**
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PN	**Pn**	**10 05 45.2**	**-0.1**
RAJF				SG	**Sb**	**10 06 28.8**	**-0.5**
KEV	**Kevo**	**3.15**	**48**	PN	**Pn**	**10 05 46.6**	**+0.6**
KEV				SN	**Sn**	**10 06 24.8**	**+0.6**
RANF	**Ranua**	**3.15**	**122**	PB	**Pn**	**10 05 47.1**	**+1.1**
RANF				SG	**Sb**	**10 06 31.9**	**+1.0**
OUL	**Oulu** baz=323	**3.56**	**138**	PG	**Pb**	**10 05 59.8**	**+0.9**
OUL				SG	**Sb**	**10 06 43.5**	**+0.9**
VRF	**Varrio**	**3.56**	**87**	PN	**Pn**	**10 05 51.9**	**+0.2**
OBF8	**Ulkokalla**	**3.73**	**158**	PN	**Pn**	**10 05 55.3**	**+1.3**
OLKF	**Oulanka, Finla**	**3.89**	**108**	PN	**Pn**	**10 05 56.7**	**+0.5**
OUF	**Merijarvi** baz=334	**3.91**	**150**	PN	**Pn**	**10 05 57.8**	**+1.3**
MSF	**Maaselka** baz=306	**3.96**	**115**	PN	**Pn**	**10 05 58.4**	**+1.1**
KU6	**Riekki**	**4.20**	**111**	PN	**Pn**	**10 06 01.1**	**+0.6**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=6.8	**6.86**	**156**	Pn	**Pn**	**10 06 37.7**	**+0.7**
FINES	comp=Z,0.3nm,0.3s,baz=348,slow=22,SNR=7.0			Sn	**Sn**	**10 07 53.6**	**-2.0**
FINES	comp=Z,0.3nm,0.3s,baz=346,slow=26,SNR=4.2 comp=Z,1.1nm,0.7s			Lg	Lg	10 08 27.6	
NOA	**NORSAR Array B** baz=16,slow=12,SNR=5.3	**7.83**	**214**	Pn	**Pn**	**10 06 50.0**	**-0.3**
NOA	baz=29,slow=22,SNR=2.7 comp=Z,0.5nm,0.8s			Lg	Lg	10 09 02.2	
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=2.1	**8.22**	**203**	Pn	**Pn**	**10 06 54.9**	**-0.7**
HFS	comp=Z,0.2nm,0.3s,baz=28,slow=22,SNR=2.4			Sn	**Sn**	**10 08 24.9**	**-4.1**
HFS	comp=Z,0.3nm,0.3s,baz=15,slow=29,SNR=5.3 comp=Z,1.4nm,0.8s			Lg	Lg	10 09 12.2	
SPITS	**Spitsbergen Ar** comp=Z,4.7nm,0.8s,baz=152,slow=13,SNR=1.3	**10.48**	**356**	Pn	**Pn**	**10 07 26.1**	**-0.4**

*IDC **27** 10:23:58.9±1.3,16°.44N×59°.90E,h0km,mb3.6/5,*
mbtmp3.6/5,Error ellipse: s-maj=42.8km s-min=32.2km
az=35.0
*OMAN **27** 10:24:07.9±0.3,17°.00N×59°.56E,h10km,mb4.6/7,ml4.3/6,*
Error ellipse: s-maj=5.1km s-min=2.6km az=310.0
ISC 27 10:24:02.8±1.6,16°.77N±0°.09×59°.79E±0°.09,h10km,n20,
σ1s62/32,mb3.7/5,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM** SNR=32	**3.80**	**326**	P	**Pn**	**10 25 03.3**	**+1.8**
DQM				S	**Sn**	**10 25 47.0**	**+0.7**
SHAO	**Shalim** SNR=80	**4.17**	**288**	P	**Pn**	**10 25 07.7**	**+1.2**
SHAO				S	**Sn**	**10 25 52.6**	**-2.7**
MHTO	**MHTO** SNR=20	**4.54**	**338**	P	**Pn**	**10 25 12.5**	**+0.9**
MHTO				S	**Sn**	**10 26 03.3**	**-1.1**
DMTO	**DMTO** SNR=37	**4.72**	**282**	P	**Pn**	**10 25 15.6**	**+1.5**
DMTO				S	**Sn**	**10 26 08.2**	**-0.8**
JLN	**Jalan Bani Buh**	**5.37**	**356**	P	**Pn**	**10 25 24.5**	**+1.5**
JLN				S	**Sn**	**10 26 22.6**	**-2.3**
RBK	**Rabkut** SNR=16	**5.39**	**279**	P	**Pn**	**10 25 25.1**	**+1.7**
RBK				S	**Sn**	**10 26 24.1**	**-1.5**
DOK	**Doka** SNR=12	**5.70**	**290**	P	**Pn**	**10 25 29.7**	**+2.1**
DOK				S	**Sn**	**10 26 32.9**	**-0.3**
JMDO	**Jabal Madar** SNR=11	**5.79**	**344**	P	**Pn**	**10 25 31.1**	**+2.1**
JMDO				S	**Sn**	**10 26 34.9**	**-0.6**
WHFO	**Wadi Hawf**	**5.86**	**282**	S	**Sn**	**10 26 36.6**	**-0.6**
WBK	**Wadi Bani Khal** SNR=9.1	**5.86**	**353**	P	**Pn**	**10 25 30.7**	**+0.8**
WBK				S	**Sn**	**10 26 37.2**	**+0.1**
ABTO	**Aybut**	**6.24**	**276**	P	**Pn**	**10 25 36.8**	**+1.7**
ABTO	SNR=7.0			S	**Sn**	**10 26 45.3**	**-1.1**
BSY	**Bisya**	**6.42**	**338**	P	**Pn**	**10 25 40.5**	**+2.9**
BSY				S	**Sn**	**10 26 51.0**	**-0.1**
SMDO	**Samad**	**6.47**	**346**	P	**Pn**	**10 25 39.9**	**+1.7**
SMDO				S	**Sn**	**10 26 50.3**	**-1.9**
WSAR	**Wadi Sarin**	**6.53**	**351**	P	**Pn**	**10 25 40.6**	**+1.6**
WSAR				S	**Sn**	**10 26 51.4**	**-2.2**
BIDO	**Bidbid**	**6.90**	**347**	P	**Pn**	**10 25 46.1**	**+2.0**
BIDO				S	**Sn**	**10 27 00.7**	**-2.0**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=208,slow=8.3,SNR=2.5 0.2nm,0.6s	**35.27**	**27**	P	**P**	**10 30 58.1**	**+0.3**
FINES	**FINESS Array B** 1.1nm,0.6s,baz=148,slow=8.2,SNR=7.0 1.1nm,0.6s	**50.62**	**340**	P	**P**	**10 33 01.4**	**-0.5**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=60,slow=7.0,SNR=3.6 0.5nm,0.8s	**56.08**	**275**	P	**P**	**10 33 41.5**	**-1.2**
WRA	**Warramunga Arr** 0.9nm,1.1s,baz=306,slow=4.3,SNR=3.0 0.9nm,1.1s	**81.79**	**114**	P	P	10 36 18.3	-4.3
ASAR	**Alice Springs** 0.4nm,0.7s,baz=299,slow=6.3,SNR=2.8 0.4nm,0.7s	**82.77**	**117**	P	P	10 36 24.6	-3.1

*NEIC **27** 10:40:12.7±1.2,55°.6N±0°.1×149°.25W±0°.10,h8km±8km,*
ML3.5/32,ML3.2(AEIC),Error ellipse: s-maj=16.2km
s-min=3.6km az=154.0
*AEIC **27** 10:40:16.1±1.8,55°.6N±0°.1×149°.1W±0°.1,h9km±8km,Error*
ellipse: s-maj=16.1km s-min=8.1km az=157.0
ISC 27 10:40:12.7±2.3,55°.7N±0°.1×149°.21W±0°.07,h10km,n91,
σ0s85/98,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.75**	**306**		**Pn**	**10 40 57.2**	**+0.4**
OHAK	**Old Harbor** baz=124	**2.75**	**306**	P	**Pn**	**10 40 57.0**	**+0.1**
OHAK	baz=124			S	**Sn**	**10 41 28.6**	**-1.5**
KDAK	**Kodiak Island**	**2.82**	**320**		**Pn**	**10 40 58.4**	**+0.6**
SII	**Sitkinak Islan**	**2.93**	**290**		**Pn**	**10 40 58.8**	**-0.4**
SII					**Sn**	**10 41 33.5**	**-1.0**
SII	comp=N,101nm,1.8s			IAML		10 42 24.3	
SII	**Sitkinak Islan** baz=107	**2.93**	**290**	P	**Pn**	**10 40 59.1**	**-0.2**
SII	baz=107			S	**Sn**	**10 41 34.0**	**-0.5**
SYI	**Shuyak Island**	**3.43**	**331**		**Pn**	**10 41 06.9**	**+0.8**
Q20K	**Shuyak Island** baz=148	**3.43**	**331**	P	**Pn**	**10 41 06.8**	**+0.7**
Q20K	baz=148			S	**Sn**	**10 41 47.0**	**+0.3**
CNPM	**China Poot**	**4.02**	**345**		**Pn**	**10 41 14.7**	**+0.3**
CNPM					**Sn**	**10 42 01.2**	**-0.3**
CNPM	comp=E,23nm,1.7s			IAML		10 42 08.8	
CNPM	comp=N,22nm,2.0s			IAML		10 42 21.6	
Q19K	**Cape Douglas,**	**4.06**	**326**		**Pn**	**10 41 16.4**	**+1.5**
Q19K	comp=E,176nm,1.9s			IAML		10 42 09.9	
Q19K	comp=N,56nm,1.9s			IAML		10 42 46.5	
Q19K	**Cape Douglas,** baz=142	**4.06**	**326**	P	**Pn**	**10 41 16.4**	**+1.5**
KAHG	**Katmai Hook Gl**	**4.07**	**316**		**Pn**	**10 41 16.6**	**+1.7**
MID	**Middleton Isla**	**4.08**	**21**	Pn	**Pn**	**10 41 15.8**	**+0.8**
Q23K	**Middleton Isla**	**4.08**	**21**	Pn	**Pn**	**10 41 15.7**	**+0.6**
BRSE	**Bradley Lake S**	**4.17**	**349**		**Pn**	**10 41 16.6**	**+0.2**
BRSE					**Sn**	**10 42 04.0**	**-1.1**
BRSE	**Bradley Lake S** baz=167	**4.17**	**349**	P	**Pn**	**10 41 16.6**	**+0.2**
BRSE	baz=167			S	**Sn**	**10 42 04.0**	**-1.1**
BRLK	**Bradley Lake**	**4.21**	**348**		**Pn**	**10 41 17.1**	**+0.2**
BRLK	comp=N,16nm,1.9s			IAML		10 42 00.0	
BRLK					**Sn**	**10 42 05.4**	**-0.7**
BRLK	comp=E,22nm,1.7s			IAML		10 42 07.5	
ACHA	**Angle Creek He**	**4.21**	**310**		**Pn**	**10 41 18.6**	**+1.6**
HOM	**Homer**	**4.21**	**343**	Pn	**Pn**	**10 41 17.2**	**+0.3**
ANCK	**Angle Creek**	**4.28**	**309**		**Pn**	**10 41 19.6**	**+1.7**
AUL	**Augustine Lava**	**4.37**	**330**		**Pn**	**10 41 20.4**	**+1.3**
P23K	**Montague Islan**	**4.45**	**12**		**Pn**	**10 41 20.6**	**+0.5**
P23K	**Montague Islan** baz=192	**4.45**	**12**	P	**Pn**	**10 41 20.6**	**+0.5**
SEW	**Seward**	**4.46**	**358**		**Pn**	**10 41 20.2**	**0.0**
SEW	**Seward** baz=177	**4.46**	**358**	P	**Pn**	**10 41 20.7**	**+0.5**
CNTC	**Contact Creek**	**4.49**	**308**		**Pn**	**10 41 21.9**	**+1.2**
Q17K	**Contact Creek** baz=123	**4.49**	**308**	P	**Pn**	**10 41 21.9**	**+1.1**
P19K	**Oil Pt**	**4.55**	**333**		**Pn**	**10 41 22.3**	**+0.8**
P19K	comp=N,56nm,1.8s			IAML		10 42 10.0	
P19K	comp=E,70nm,1.9s			IAML		10 42 14.8	
P19K	**Oil Pt** baz=150	**4.55**	**333**	P	**Pn**	**10 41 22.6**	**+1.1**
O20K	**Slope Mountain**	**4.79**	**339**		**Pn**	**10 41 25.3**	**+0.4**
O20K	**Slope Mountain** baz=156	**4.79**	**339**	P	**Pn**	**10 41 25.0**	**+0.1**
SLKM	**Skilak Lake**	**4.89**	**354**		**Pn**	**10 41 26.4**	**+0.2**
P18K	**Big Mountain,**	**4.95**	**322**		**Pn**	**10 41 27.5**	**+0.4**
P18K	comp=N,12nm,1.8s			IAML		10 43 59.9	
P18K	**Big Mountain,** baz=137	**4.95**	**322**	P	**Pn**	**10 41 27.5**	**+0.4**
HIN	**Hinchinbrook I**	**4.96**	**16**		**Pn**	**10 41 27.5**	**+0.3**
HIN	comp=N,81nm,2.0s			IAML		10 42 22.1	
HIN	comp=E,100nm,1.9s			IAML		10 44 09.8	
KAIM	**Kayak Island**	**4.98**	**29**		**Pn**	**10 41 27.8**	**+0.3**
KAIM	comp=E,109nm,1.8s			IAML		10 42 30.1	
KAIM	**Kayak Island** baz=212	**4.98**	**29**	P	**Pn**	**10 41 27.9**	**+0.5**
RSO	**Redoubt South**	**5.17**	**340**	Pn	**Pn**	**10 41 30.1**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.23**	**19**		**Pn**	**10 41 31.3**	**+0.5**
P17K	**Kvichak River**	**5.27**	**315**		**Pn**	**10 41 31.7**	**+0.3**
**O18

M18K	**Stony River**	**6.79**	**332**		**Pn**	**10 41 52.1**	**-0.1**
P29M	**Windy Craggy**	**7.32**	**52**		**Pn**	**10 41 59.8**	**+0.2**
M16K	**Timber Creek**	**7.42**	**320**		**Pn**	**10 42 01.3**	**+0.4**
O14K	**Tigyukauivet M**	**7.43**	**304**	Pn	**Pn**	**10 42 02.1**	**+1.1**
DHY	**Denali Highway**	**7.49**	**6**	Pn	**Pn**	**10 42 04.1**	**+2.0**
L18K	**Granite Mounta**	**7.62**	**333**	Pn	**Pn**	**10 42 03.8**	**+0.1**
M27K	**Edge Creek, AK**	**7.70**	**26**	Pn	**Pn**	**10 42 04.6**	**-0.3**
TRF	**Thorofare Moun**	**7.83**	**356**	Pn	**Pn**	**10 42 07.5**	**+0.8**
M15K	**Kasigluk River**	**7.88**	**314**		**Pn**	**10 42 07.6**	**+0.3**
CAST	**Castle Rocks**	**7.92**	**351**	Pn	**Pn**	**10 42 10.2**	**+2.5**
KTH	**Kantishna Hill**	**7.96**	**354**	Pn	**Pn**	**10 42 10.4**	**+2.0**
L16K	**Owhat River**	**8.08**	**323**	Pn	**Pn**	**10 42 10.6**	**+0.7**
K17K	**Iditarod**	**8.47**	**330**	Pn	**Pn**	**10 42 14.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**8.51**	**355**	Pn	**Pn**	**10 42 15.7**	**-0.1**
O30N	**Mendenhall**	**8.60**	**48**	Pn	**Pn**	**10 42 17.9**	**+0.7**
J20K	**Nowinta River**	**8.89**	**346**	Pn	**Pn**	**10 42 22.8**	**+1.8**
N31M	**Braeburn, Yuko**	**9.11**	**45**	Pn	**Pn**	**10 42 24.5**	**+0.4**
K15K	**Wolf Creek Mou**	**9.19**	**321**	Pn	**Pn**	**10 42 25.0**	**-0.2**
J26L	**Joseph Creek**	**9.30**	**15**	Pn	**Pn**	**10 42 27.2**	**+0.5**
MDM	**Murphy Dome**	**9.34**	**3**	Pn	**Pn**	**10 42 27.9**	**+0.7**
MLY	**Manley**	**9.43**	**356**	Pn	**Pn**	**10 42 27.8**	**-0.7**
J16K	**Anvik River**	**9.58**	**328**	Pn	**Pn**	**10 42 30.4**	**-0.1**
I21K	**Tanana**	**9.64**	**353**	Pn	**Pn**	**10 42 32.9**	**+1.6**
DAWY	**Dawson**	**9.75**	**26**	Pn	**Pn**	**10 42 32.9**	**0.0**
I17K	**Unalakleet**	**10.06**	**330**	Pn	Pn	10 42 34.2	-2.8
K29M	**Barlow Dome**	**10.08**	**31**	Pn	**Pn**	**10 42 38.8**	**+1.3**
H21K	**Melozitna Rive**	**10.18**	**352**	Pn	**Pn**	**10 42 39.8**	**+1.1**
IMAR	**Indian Mountai**	**10.59**	**350**	Pn	**Pn**	**10 42 43.6**	**-0.6**

*SDD **27** 10:56:24.1±2.0, 19°.70N×69°.21W, h118km±15km, MD3.2, ML2.8, MW2.3*
*RSPR **27** 10:56:30.6, 19°.36N×68°.87W, h49km±2km*

ISC 27 10:56:22.2±1.8**, 19°.5N**±0°.2×**69°.14W**±0°.06**, h124**km**, n12,** σ2§52/17**, 1C-2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMDR	**Samana, DR**	**0.18**	**194**	*e*Pg		**Pn**	**10 56 40.4**	**+1.1**
SMDR				*e*Sg		**Sn**	**10 56 53.1**	**+0.9**
HATOM	**Hato Mayor del**	**0.71**	**199**	*e*Pg		**Pn**	**10 56 43.6**	**+1.5**
HATOM				*e*Sg		**Sn**	**10 56 57.8**	**+0.6**
HATOM				IAML			10 57 13.1	
	comp=N,38nm,3.2s							
PCDR	**Punta Cana, DR**	**1.19**	**143**∥	*e*P		**Pn**	**10 56 45.0**	**-1.5**
PCDR	**Punta Cana, DR**	**1.19**	**143**	*e*S		**Sn**	**10 56 59.5**	**-5.4**
SC01	**Santiago de lo**	**1.50**	**269**	*e*Pg		**Pn**	**10 56 49.6**	**-0.3**
SC01				*e*Sg		**Sn**	**10 57 07.5**	**-3.5**
SC01				IAML			10 57 29.9	
	comp=N,96nm,4.0s							
ABDR	**Alto Bandera**	**1.55**	**245**	*e*Pg		**Pn**	**10 56 52.5**	**+1.6**
ABDR				*e*Sg		**Sn**	**10 57 13.1**	**+0.5**
ABDR				IAML			10 57 22.3	
	comp=N,140nm,1.8s							
CRPR	**Cabo Rojo, PR**	**2.41**	**127**∥	*e*P		**Pn**	**10 57 02.8**	**+1.8**
CRPR	**Cabo Rojo, PR**	**2.41**	**127**	*e*S		**Sn**	**10 57 28.4**	**-2.4**
CRPR	**Cabo Rojo, PR**	**2.41**	**127**	*e*Pg		**Pn**	**10 57 03.1**	**+2.1**
CRPR				*e*Sg		**Sn**	**10 57 33.5**	**+2.7**
CRPR				IAML			10 57 47.3	
	comp=N,46nm,1.6s							
MLPR	**Magueyes Islan**	**2.48**	**127**∥	*e*P		**Pn**	**10 57 04.7**	**+2.8**
MLPR	**Magueyes Islan**	**2.48**	**127**	*e*S		**Sn**	**10 57 30.3**	**-2.2**
AOPR	**Arecibo Observ**	**2.52**	**116**	*e*S		**Sn**	**10 57 31.2**	**-2.1**

*TEH **27** 11:01:39.7, 22°.54N×61°.56E, h10km, ML4.2*
*IDC **27** 11:01:41.3±1.6, 22°.16N×61°.35E, h0km, mb3.6/9, mbtmp3.7/11, ML4.0/2, MS3.3/16, Error ellipse: s-maj=37.6km s-min=20.7km az=170.0*
*NEIC **27** 11:01:45.5±0.8, 22°.9N±0°.1×61°.35E±0°.03, h10km±2km, mb4.3/19, Error ellipse: s-maj=19.4km s-min=3.5km az=172.0*
*DSN **27** 11:01:49.1±1.9, 23°.05N×61°.29E, h15km, ML3.9/10, Error ellipse: s-maj=29.6km s-min=17.7km az=26.0*
*OMAN **27** 11:01:50.5±1.5, 22°.60N×60°.97E, h10km, mb5.1/2, ml3.9/20, Error ellipse: s-maj=14.5km s-min=9.0km az=120.0*

ISC 27 11:01:44.3±0.6**, 22°.68N**±0°.06×**61°.38E**±0°.05**, h10**km**, n106,** σ1§83/112**, mb4.0**/16**, MS3.2**/14**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**1.90**	**254**	P		**Pn**	**11 02 16.2**	**-0.6**
	SNR=19							
JLN				S		**Sn**	**11 02 37.5**	**-3.2**
WBK	**Wadi Bani Khal**	**2.23**	**269**	Pn		**Pn**	**11 02 21.5**	**+0.1**
WBK	**Wadi Bani Khal**	**2.23**	**269**	P		**Pn**	**11 02 21.5**	**+0.1**
	SNR=72							
WBK				S		**Sn**	**11 02 47.7**	**-1.3**
WSAR	**Wadi Sarin**	**2.59**	**283**	Pn		**Pn**	**11 02 25.8**	**-0.6**
	35nm,0.3s,baz=124,slow=8.0,SNR=134							
WSAR				Sn		**Sn**	**11 02 52.6**	**-5.4**
	36nm,0.3s,baz=264,slow=4.5,SNR=7.7							
WSAR				LR		LR	11 03 38.9	
	comp=Z,547nm,19.4s,baz=207,slow=43 76nm,0.3s							
WSAR	**Wadi Sarin**	**2.59**	**283**	P		**Pn**	**11 02 26.1**	**-0.3**
NGCH	**Negor - Chabah**	**2.67**	**355**	Pn		**Pn**	**11 02 27.7**	**+0.2**
CHBR	**Chabahar**	**3.01**	**344**	Pn		**Pn**	**11 02 32.5**	**+0.3**
JMDO	**Jabal Madar**	**3.04**	**265**	P		**Pn**	**11 02 34.2**	**+1.5**
	SNR=51							
SMDO	**Samad**	**3.09**	**278**	P		**Pn**	**11 02 34.4**	**+1.0**
	SNR=29							
SMDO				S		**Sn**	**11 03 10.4**	**-0.1**
BIDO	**Bidbid**	**3.11**	**286**	Pn		**Pn**	**11 02 34.9**	**+1.5**
BIDO	**Bidbid**	**3.11**	**286**	P		**Pn**	**11 02 35.6**	**+2.1**
BIDO				S		**Sn**	**11 03 08.6**	**-2.1**
MHTO	**MHTO**	**3.59**	**243**	P		**Pn**	**11 02 42.2**	**+2.1**
MHTO				S		**Sn**	**11 03 20.1**	**-2.5**
HOQ	**Hoqain**	**3.85**	**284**	Pn		**Pn**	**11 02 44.1**	**+0.4**
HOQ	**Hoqain**	**3.85**	**284**	P		**Pn**	**11 02 46.7**	**+3.0**
BSY	**Bisya**	**3.86**	**272**	P		**Pn**	**11 02 45.6**	**+1.8**
DQM	**DQM**	**4.51**	**233**	P		**Pn**	**11 02 52.9**	**+0.2**
DQM				S		**Sn**	**11 03 42.8**	**-2.5**
JASK	**Jask - Hormozg**	**4.51**	**315**	Pn		**Pn**	**11 02 52.7**	**0.0**
JASK	**Jask - Hormozg**	**4.51**	**315**	P		**Pn**	**11 02 55.1**	**+2.4**
JASK				S		**Sn**	**11 03 47.6**	**+2.4**
ARQ	**Araqi**	**4.52**	**279**	P		**Pn**	**11 02 55.2**	**+2.2**
SOHO	**SOHO**	**4.68**	**289**	*i* P		**Pn**	**11 02 55.7**	**+0.6**
	SNR=7.0							
SOHO	**SOHO**	**4.68**	**289**	Pn		**Pn**	**11 02 56.8**	**+1.7**
SOHO	**SOHO**	**4.68**	**289**	P		**Pn**	**11 02 56.0**	**+0.9**
SRVN	**Saravan**	**4.79**	**11**	Pn		**Pn**	**11 02 56.2**	**-0.6**
UOSS	**Minazif**	**5.25**	**296**	Pn		**Pn**	**11 03 02.1**	**-0.8**
UOSS	**Minazif**	**5.25**	**296**	P		**Pn**	**11 03 03.2**	**+0.3**
UOSS	**Minazif**	**5.25**	**296**	Pn		**Pn**	**11 03 06.1**	**+3.2**
UOSS	**Minazif**	**5.25**	**296**	P		**Pn**	**11 03 04.8**	**+1.9**
UOSS				S		**Sn**	**11 04 00.2**	**-3.3**
HATD	**Hatta, Dubai**	**5.26**	**295**	*i* P		**Pn**	**11 03 04.4**	**+1.3**
	SNR=17							
HATD	**Hatta, Dubai**	**5.26**	**295**	Pn		**Pn**	**11 03 04.7**	**+1.6**
HATD	**Hatta, Dubai**	**5.26**	**295**	P		**Pn**	**11 03 06.6**	**+3.6**
HATD				S		**Sn**	**11 04 04.3**	**+0.5**
ASHO	**Ashiyiah**	**5.27**	**293**	*i* P		**Pn**	**11 03 04.7**	**+1.5**
	SNR=18							
ASHO				S		**Sn**	**11 04 03.5**	**-0.6**
ASHO	**Ashiyiah**	**5.27**	**293**	Pn		**Pn**	**11 03 06.1**	**+2.9**
ASHO	**Ashiyiah**	**5.27**	**293**	P		**Pn**	**11 03 06.8**	**+3.6**
	SNR=18							
MDH	**Madha**	**5.33**	**300**	*i* P		**Pn**	**11 03 03.8**	**-0.2**
	SNR=6.9							
MDH	**Madha**	**5.33**	**300**	Pn		**Pn**	**11 03 04.7**	**+0.7**
MDH	**Madha**	**5.33**	**300**	P		**Pn**	**11 03 04.6**	**+0.7**
MDH				S		**Sn**	**11 04 02.3**	**-3.1**
ALNE	**Al Ain**	**5.35**	**286**	P		**Pn**	**11 03 07.3**	**+3.0**
ALNE	**Al Ain**	**5.35**	**286**	Pn		**Pn**	**11 03 07.3**	**+3.0**
ALNE	**Al Ain**	**5.35**	**286**	P		**Pn**	**11 03 07.0**	**+2.7**
ALNE				S		**Sn**	**11 04 08.5**	**+2.5**
MSFE	**Esma-Masafi**	**5.47**	**300**	P		**Pn**	**11 03 05.4**	**-0.5**
MSFE	**Esma-Masafi**	**5.47**	**300**	Pn		**Pn**	**11 03 06.2**	**+0.2**
MASF	**Masafi**	**5.47**	**300**	P		**Pn**	**11 03 07.1**	**+1.1**
MASF				S		**Sn**	**11 04 07.7**	**-1.4**
BANOM	**Banah**	**5.65**	**306**	P		**Pn**	**11 03 10.6**	**+2.2**
FAQ	**Al Faqa, Dubai**	**5.69**	**292**	*i* P		**Pn**	**11 03 11.5**	**+2.6**
	SNR=10							
FAQ	**Al Faqa, Dubai**	**5.69**	**292**	P		**Pn**	**11 03 12.4**	**+3.4**
	SNR=10							
FAQ				S		**Sn**	**11 04 14.0**	**-0.3**
UMZA	**Um Al Zommool**	**5.74**	**272**	P		**Pn**	**11 03 11.8**	**+2.1**
UMZA				S		**Sn**	**11 04 15.3**	**-0.4**
SHME	**Shamm**	**5.83**	**306**	*i* P		**Pn**	**11 03 12.5**	**+1.6**
	SNR=21							
SHME	**Shamm**	**5.83**	**306**	P		**Pn**	**11 03 11.9**	**+1.0**
	SNR=5.8							
ASUD	**Al Ashush, Dub**	**5.88**	**290**	*i* P		**Pn**	**11 03 14.9**	**+3.4**
	SNR=6.8							
ASUD	**Al Ashush, Dub**	**5.88**	**290**	P		**Pn**	**11 03 14.5**	**+3.0**
	SNR=6.8							
KHNJ	**Kahnooj**	**6.21**	**328**	Pn		**Pn**	**11 03 16.8**	**+0.7**
IBND	**Bandar-abas**	**6.46**	**318**	Pn		**Pn**	**11 03 20.5**	**+0.9**
GENO	**Geno**	**6.66**	**316**	Pn		**Pn**	**11 03 24.0**	**+1.5**
ZHDN	**Zahedan**	**6.71**	**356**	Pn		**Pn**	**11 03 22.5**	**-0.6**
KBAM	**BAM**	**6.95**	**338**	Pn		**Pn**	**11 03 25.5**	**-0.8**
KHGB	**Koh Gabri**	**8.83**	**331**	Pn		**Pn**	**11 03 52.9**	**+0.6**
BSRN	**Basiran**	**9.46**	**348**	Pn		**Pn**	**11 04 01.2**	**+0.3**
IKOO	**Kooshah**	**9.93**	**348**	Pn		**Pn**	**11 04 07.1**	**-0.3**
HRA	**Herat**	**11.69**	**4**	Pn		**Pn**	**11 04 29.0**	**-2.4**
IRAM	**Ramesheh**	**12.11**	**321**	Pn		**Pn**	**11 04 38.3**	**+1.2**
KBL	**Kabul**	**13.59**	**28**	Pn		**Pn**	**11 04 56.6**	**-0.8**
KBL	**Kabul**	**13.59**	**28**	Pn		**Pn**	**11 04 56.6**	**-0.8**
RAYN	**Ar Rayn**	**14.63**	**276**	Pn		**Pn**	**11 05 11.4**	**-0.2**
GEYT	**Alibeck**	**15.45**	**350**	Pn		**P**	**11 05 28.0**	**+0.9**
	0.5nm,0.3s,baz=169,slow=13,SNR=1.6							
GEYT				LR		LR	11 12 31.5	
	comp=Z,101nm,20.0s,baz=172,slow=41 0.8nm,0.3s							
GYA0B	**ALIBECK ARRAY**	**15.45**	**350**	Pn		**Pn**	**11 05 20.7**	**-1.8**
GYA0B				IAmb		IAmb	11 05 36.4	
	comp=Z,9.6nm,1.4s							
SIMJ	**Simiganj**	**17.21**	**21**	Pn		**Pn**	**11 05 43.4**	**-1.7**
SIMJ				IAmb		IAmb	11 05 50.7	
	comp=Z,21nm,1.0s							
KSH	**Kashi**	**20.88**	**33**	P		**P**	**11 06 24.8**	**-2.0**
KSH				pmax		pmax		
	comp=Z,7.0nm,1.3s							
KK31	**Karatay Array**	**21.73**	**18**	P		**P**	**11 06 34.4**	**-1.5**
KKAR	**Karatay Array**	**21.73**	**18**	P		**P**	**11 06 34.1**	**-1.8**
GNI	**Garni**	**22.40**	**325**	LR		LR	11 17 37.7	
	comp=Z,55nm,20.9s,baz=108,slow=42							
EIL	**Elat**	**24.68**	**292**	LR		LR	11 18 29.2	
	comp=Z,89nm,20.0s,baz=86,slow=40							
MMAI	**Mount Meron Ar**	**25.11**	**300**	LR		LR	11 21 09.2	
	comp=Z,67nm,19.1s,baz=77,slow=46							
ARPR	**Arapgir-MALATY**	**25.56**	**315**	P		**P**	**11 07 13.3**	**-0.3**
ABKAR	**Akbulak array**	**26.54**	**358**	P		**P**	**11 07 21.1**	**-1.2**
ABKAR				IAmb		IAmb	11 07 41.8	
	comp=Z,3.3nm,1.0s							
AKTO	**Aktyubinsk**	**27.82**	**355**	LR		LR	11 20 04.7	
	comp=Z,57nm,20.0s,baz=327,slow=39							
BR131	**Keskin Array S**	**29.02**	**312**	P		**P**	**11 07 43.1**	**-1.6**
BR131				IAmb		IAmb	11 08 08.9	
	comp=Z,3.1nm,1.1s							
BRTR	**Keskin Array B**	**29.02**	**312**	P		**P**	**11 07 44.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=23,slow=15,SNR=1.8							
BRTR				LR		LR	11 22 42.9	
	comp=Z,80nm,18.7s,baz=116,slow=43 comp=Z,0.2nm,0.3s							
MK31	**Makanchi Array**	**29.38**	**30**	P		**P**	**11 07 47.4**	**-0.3**
MKAR	**Makanchi Array**	**29.38**	**30**	P		**P**	**11 07 46.9**	**-0.8**
MKAR	**Makanchi Array**	**29.38**	**30**	P		**P**	**11 07 50.6**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=208,slow=9.9,SNR=4.4							
MKAR				LR		LR	11 21 11.4	
	comp=Z,34nm,19.3s,baz=228,slow=39 comp=Z,0.3nm,0.5s							
WMQ	**Urumqi**	**30.26**	**40**	*e*P		**P**	**11 07 57.0**	**+1.5**
KURBB	**Kurchatov Arra**	**30.94**	**21**	P		**P**	**11 08 03.7**	**+2.3**
	comp=Z,0.2nm,0.2s,baz=224,slow=7.8,SNR=2.0 comp=Z,0.2nm,0.2s							
BVAR	**Borovoye Array**	**31.07**	**11**	P		**P**	**11 08 05.4**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=231,slow=9.1,SNR=2.3							
BVAR				LR		LR	11 23 00.8	
	comp=Z,77nm,18.5s,baz=205,slow=40 comp=Z,0.5nm,0.7s							
BRVK	**Borovoye**	**31.08**	**10**	P		**P**	**11 08 01.9**	**-0.7**
BRVK				IAmb		IAmb	11 08 17.4	
	comp=Z,3.0nm,1.1s							
BELG	**Belogornoye**	**31.49**	**344**	LR		LR	11 24 02.3	
	comp=Z,52nm,20.2s,baz=113,slow=42							
DGAR	**Diego Garcia**	**31.81**	**159**	P		**P**	**11 08 10.9**	**+1.6**
ARU	**Arti**	**33.77**	**357**	LR		LR	11 25 30.6	
	comp=Z,50nm,18.4s,baz=168,slow=42							
CMAR	**Chiang Mai Arr**	**35.36**	**90**	P		**P**	**11 08 40.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**35.36**	**90**	P		**P**	**11 08 37.9**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=283,slow=16,SNR=1.5							
CMAR				LR		LR	11 26 19.5	
	comp=Z,23nm,18.2s,baz=295,slow=42 comp=Z,0.3nm,0.3s							
ZAA0	**Zalesovo Array**	**35.89**	**24**	P		**P**	**11 08 43.1**	**-1.4**
ZALV	**Zalesovo Beam**	**35.89**	**24**	P		**P**	**11 08 43.9**	**-0.5**
ZALV	**Zalesovo Beam**	**35.89**	**24**	P		**P**	**11 08 48.0**	**+3.6**
	comp=Z,0.3nm,0.5s,baz=228,slow=5.4,SNR=1.7							
ZALV				LR		LR	11 24 14.9	
	comp=Z,22nm,21.5s,baz=198,slow=37 comp=Z,0.3nm,0.5s							
PZH	**PanZhiHua**	**36.80**	**76**	P		**P**	**11 08 54.5**	**+1.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,5.6s							
KIRV	**Kirov**	**36.88**	**350**	LR		LR	11 25 21.4	
	comp=Z,44nm,19.2s,baz=137,slow=38							
FNA	**Florina**	**38.12**	**308**	P		**P**	**11 09 02.4**	**-1.3**
FNA				IAmb		IAmb	11 09 15.0	
	comp=Z,5.3nm,0.7s							
CUC	**Castrocucco**	**42.08**	**305**	P		**P**	**11 09 36.0**	**-0.6**
CUC				IAmb		IAmb	11 10 05.1	
	comp=Z,5.3nm,0.7s							
SONM	**Songino Array**	**43.68**	**44**	P		**P**	**11 09 51.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=246,slow=11,SNR=2.6 comp=Z,0.3nm,0.7s							
HHC	**Hu-ho-hao-te**	**45.70**	**55**	*e*P		**P**	**11 10 05.8**	**+0.1**
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,170nm,5.5s							
FIA1	**FINESS Array S**	**45.70**	**337**	P		**P**	**11 10 05.4**	**+0.2**
FINES	**FINESS Array B**	**45.70**	**337**	P		**P**	**11 10 07.1**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=188,slow=12,SNR=1.7 comp=Z,1.5nm,0.8s							
CLL	**Collm**	**46.88**	**320**	*e*Px		Px	11 10 18.0	
CLL				*ex*		x	11 10 26.0	
LSZ	**Lusaka**	**49.79**	**224**	LR		LR	11 31 28.1	
	comp=Z,57nm,19.6s,baz=156,slow=36							
TOA0	**Torodi Ar. Sit**	**57.26**	**271**	P		**P**	**11 11 32.5**	**-0.1**
TOA0				IAmb		IAmb	11 11 42.5	
	comp=Z,6.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**57.26**	**271**	P		**P**	**11 11 32.7**	**+0.2**
TORD				IAmb		IAmb	11 11 42.5	
	comp=Z,4.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**57.26**	**271**	P		**P**	**11 11 31.7**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=59,slow=8.1,SNR=14 comp=Z,1.9nm,0.7s							
DBIC	**Dimbokro**	**65.55**	**267**	LR		LR	11 42 56.5	
	comp=Z,31nm,18.6s,baz=52,slow=38							

*TAP **27** 11:12:58.8, 25°.15N×122°.23E, h206km, ML4.5, C*
*IDC **27** 11:12:58.3±2.3, 25°.16N×122°.09E, h191km±23km, mb3.3/11, mbtmp3.9/14, Error ellipse: s-maj=18.1km s-min=11.7km az=77.0*
*ASIES **27** 11:12:58.8, 25°.15N×122°.23E, h206km, ML4.5, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; Mrr=4.68; Mθθ=0.55; Mϕϕ=0.41; Mrθ=1.46; Mθϕ=1.37; Mϕr=6.21; Fault plane solution: M0=7.33380×10^{21} NP1: ϕs=164.26000°, δ=77.88000°, λ=-82.19000°. NP2: ϕs=311.12000°, δ=14.39000°, λ=-122.31000°. Principal axes: T Plg32.4390°, Azm247.7240°; N Plg7.6330°, Azm342.6110°; P Plg56.4540°, Azm84.2720°;*
*JMA **27** 11:12:60.0±0.2, 25°.N±2°×122°.2E±0°.7, h194km±2km, MV4.2/18, TAIWAN REGION*

ISC 27 11:12:59.1±0.6**, 25°.19N**±0°.05×**122°.18E**±0°.03**, h200**km±5km**, n143,** σ0§84/220**, mb3.5**/10**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.24**	**224**	*i* P		**Pn**	**11 13 25.7**	**+0.1**
	baz=236							
TWB1				*i* S		**S**	**11 13 45.5**	**-0.6**
	baz=236							
SXI1	**Grass Mountain**	**0.29**	**252**	*i* P		**Pn**	**11 13 25.7**	**-0.1**
	baz=262							
SXI1				S		**S**	**11 13 46.1**	**-0.3**
	baz=262							
TNOU	**National Taiwa**	**0.37**	**265**	P		**Pn**	**11 13 25.8**	**0.0**
	baz=271							
TNOU				S		**S**	**11 13 47.1**	**+0.5**
	baz=271							
NWF	**Wu-fen Shan**	**0.38**	**252**	P		**Pn**	**11 13 25.9**	**0.0**
	baz=269							
NWF				*e*S		**S**	**11 13 46.8**	**0.0**
	baz=269							
WFSB	**Wu-fen Shan**	**0.38**	**252**	P		**Pn**	**11 13 26.0**	**+0.1**
	baz=269							
WFSB				S		**S**	**11 13 46.5**	**-0.1**
	baz=269							
TIPB	**Shuangxi**	**0.38**	**236**	*i* P		**Pn**	**11 13 25.8**	**-0.2**
	baz=258							
TIPB				S		**S**	**11 13 46.3**	**-0.4**
	baz=258							
PCYT	**Pengchaiyu**	**0.45**	**348**	P		**Pn**	**11 13 26.8**	**+0.7**
	baz=351							
TWY	**Chenhua**	**0.53**	**280**	P		**Pn**	**11 13 26.6**	**+0.2**
	baz=282							
YM08	**YM08**	**0.53**	**270**	*e*P		**Pn**	**11 13 26.2**	**-0.2**
	baz=274							
YM01	**YM01**	**0.55**	**266**	*e*P		**Pn**	**11 13 26.4**	**-0.2**
	baz=271							
NHY	**Taipei**	**0.57**	**255**	*e*P		**Pn**	**11 13 26.6**	**+0.1**
	baz=268							
ANP	**Anpu**	**0.59**	**270**	*e*P		**Pn**	**11 13 26.6**	**-0.2**
	baz=270							
TAP	**Taipei**	**0.62**	**257**	P		**Pn**	**11 13 27.0**	**+0.2**
	baz=267							
TAP				S		**S**	**11 13 47.9**	**-0.2**
	baz=267							
NHDH	**Xindian Distri**	**0.63**	**250**	P		**Pn**	**11 13 26.6**	**-0.2**
	baz=263							
NHDH				*e*S		**S**	**11 13 47.1**	**-1.1**
	baz=263							
TWC	**Suao**	**0.65**	**208**	P		**Pn**	**11 13 26.8**	**-0.2**
	baz=213							
TWC				S		**S**	**11 13 46.4**	**-2.0**
	baz=213							
TWE	**Neicheng**	**0.65**	**225**	P		**Pn**	**11 13 26.9**	**0.0**
	baz=234							
TWE				S		**S**	**11 13 47.9**	**-0.6**
	baz=234							
TATO	**Taipei**	**0.66**	**252**	P		**Pn**	**11 13 26.9**	**-0.1**
NTST	**Danshui**	**0.66**	**268**	P		**Pn**	**11 13 26.9**	**0.0**
	baz=273							
ESAO	**Su ao**	**0.68**	**207**	*e*P		**Pn**	**11 13 26.9**	**-0.2**
	baz=215							
ESAO				*e*S		**S**	**11 13 46.5**	**-2.2**
	baz=215							
FUSB	**Fushanzhiwuyua**	**0.68**	**232**	P		**Pn**	**11 13 26.9**	**-0.3**
	baz=243							
NDS	**Dongshan**	**0.69**	**217**	P		**Pn**	**11 13 27.3**	**+0.2**
	baz=228							
NDS				*e*S		**S**	**11 13 49.0**	**+0.3**
	baz=228							
TWS1	**Kuangyinshan**	**0.69**	**263**	*e*P		**Pn**	**11 13 27.1**	**0.0**
	baz=275							
TWS1				*e*S		**S**	**11 13 49.6**	**+0.9**
	baz=275							
NWLT	**Wulai**	**0.73**	**237**	P		**Pn**	**11 13 27.1**	**-0.3**
	baz=243							
NWLT				*e*S		**S**	**11 13 47.1**	**-2.0**
	baz=243							
EOS2	**EOS2**	**0.77**	**176**	P		**Pn**	**11 13 28.1**	**+0.7**
	baz=193							
EOS2				*e*S		**S**	**11 13 48.7**	**-0.5**
	baz=193							
ENTT	**Nioudou**	**0.78**	**226**	P		**Pn**	**11 13 27.8**	**+0.2**
	baz=242							
EWUT	**Wuta**	**0.82**	**206**	P		**Pn**	**11 13 28.2**	**+0.3**
	baz=212							
EWUT				S		**S**	**11 13 49.0**	**-1.0**
	baz=212							
NDT	**Datong Townshi**	**0.84**	**226**	P		**Pn**	**11 13 28.1**	**+0.1**
	baz=242							
NDT				S		**S**	**11 13 49.6**	**-0.6**
	baz=242							
ENA	**Nanau**	**0.85**	**208**	P		**Pn**	**11 13 28.4**	**+0.3**
	baz=210							
ENA				*e*S		**S**	**11 13 49.9**	**-0.4**
	baz=210							
LATG	**Datong**	**0.88**	**223**	P		**Pn**	**11 13 28.6**	**+0.3**
	baz=237							
LATG				S		**S**	**11 13 50.1**	**-0.7**
	baz=237							
YHNB	**Yeheng**	**0.89**	**235**	P		**Pn**	**11 13 28.0**	**-0.4**
YHNB

HWA				*e*S	**S**	**11 13 56.1**	**+0.2**
	baz=204								
TDCB	**Techi**	**1.31**	**225**	*e*P	**Pn**	**11 13 31.6**	**+0.1**
	baz=236								
TDCB				*e*S	**S**	**11 13 55.0**	**-1.1**
	baz=236								
WHF	**Hehuan Shan**	**1.33**	**219**	*e*P	**Pn**	**11 13 32.5**	**+0.6**
	baz=219								
WHF				*e*S	**S**	**11 13 56.0**	**-0.9**
	baz=219								
LXIB	**Xiulin Townshi**	**1.35**	**211**	*e*P	**Pn**	**11 13 31.3**	**-0.5**
	baz=217								
LXIB				*e*S	**S**	**11 13 56.0**	**-0.8**
	baz=217								
ETM	**Tongmen**	**1.36**	**207**	*e*P	**Pn**	**11 13 31.0**	**-0.8**
	baz=212								
ETM				*e*S	**S**	**11 13 54.9**	**-1.8**
	baz=212								
NMLH	**Miaoli**	**1.42**	**243**	*e*P	**Pn**	**11 13 32.4**	**+0.2**
	baz=252								
NMLH				*e*S	**S**	**11 13 56.7**	**-0.6**
	baz=252								
WHP	**Taichung City**	**1.44**	**231**	*e*P	**Pn**	**11 13 32.6**	**+0.1**
	baz=236								
WHP				*e*S	**S**	**11 13 57.6**	**-0.2**
	baz=236								
CHGB	**Renai**	**1.45**	**219**	P	**Pn**	**11 13 33.2**	**+0.5**
	baz=220								
CHGB				*e*S	**S**	**11 13 58.9**	**+0.7**
	baz=220								
NSY	**Sanyi**	**1.50**	**240**	*e*P	**Pn**	**11 13 33.2**	**+0.3**
	baz=241								
SHUL	**Shoufeng**	**1.50**	**202**	*e*P	**Pn**	**11 13 32.9**	**0.0**
	baz=208								
ESL	**Shilin**	**1.52**	**207**	*e*P	**Pn**	**11 13 32.2**	**-1.0**
	baz=214								
TWQ1	**Liyutan**	**1.52**	**237**	*e*P	**Pn**	**11 13 33.0**	**-0.2**
	baz=237								
TWQ1				*e*S	**S**	**11 13 58.8**	**-0.3**
	baz=237								
OWD	**Renai**	**1.53**	**217**	*e*P	**Pn**	**11 13 34.0**	**+0.6**
	baz=219								
WUSB	**Renai**	**1.53**	**219**	*e*P	**Pn**	**11 13 33.2**	**-0.1**
	baz=220								
WUSB				*e*S	**S**	**11 13 59.3**	**0.0**
	baz=220								
TEGC	**Jichi Village**	**1.58**	**202**	*e*P	**Pn**	**11 13 34.2**	**+0.6**
	baz=208								
WCS	**Beigang Elemen**	**1.61**	**226**	*e*P	**Pn**	**11 13 34.1**	**+0.2**
	baz=237								
WCS				*e*S	**S**	**11 13 59.7**	**-0.7**
	baz=237								
WDJ	**Dajia District**	**1.63**	**239**	*e*P	**Pn**	**11 13 34.6**	**+0.6**
	baz=240								
WARBT	**Fenglin Townsh**	**1.63**	**206**	*e*P	**Pn**	**11 13 33.0**	**-1.1**
	baz=208								
VWDT	**VWDT**	**1.71**	**214**	*e*P	**Pn**	**11 13 35.7**	**+0.9**
	baz=224								
VWDT				*e*S	**S**	**11 14 03.5**	**+1.5**
	baz=224								
TCU	**Taichung**	**1.71**	**233**	*e*P	**Pn**	**11 13 35.2**	**+0.4**
	baz=233								
TCU				*e*S	**S**	**11 14 01.9**	**-0.1**
	baz=233								
SMLT	**Sun Moon Lake**	**1.74**	**222**	*e*P	**Pn**	**11 13 35.3**	**0.0**
	baz=221								
SMLT				*e*S	**S**	**11 14 02.9**	**+0.1**
	baz=221								
TYC	**Yuchr**	**1.75**	**224**	*e*P	**Pn**	**11 13 35.3**	**+0.1**
	baz=235								
TYC				*e*S	**S**	**11 14 02.7**	**0.0**
	baz=235								
SSLB	**Suanglung**	**1.78**	**219**	P	**Pn**	**11 13 35.6**	**0.0**
SSLB	**Suanglung**	**1.78**	**219**	*e*P	**Pn**	**11 13 35.6**	**0.0**
	baz=224								
SSLB				*e*S	**S**	**11 14 02.7**	**-0.6**
	baz=224								
HGSD	**Ruisui**	**1.82**	**202**	*e*P	**Pn**	**11 13 35.8**	**-0.1**
	baz=209								
WCHH	**Zhanghua**	**1.84**	**234**	*e*P	**Pn**	**11 13 36.4**	**+0.3**
	baz=235								
EHY	**Hungye**	**1.84**	**205**	*e*P	**Pn**	**11 13 35.0**	**-1.1**
	baz=205								
HATJ	**Hateruma jima**	**1.86**	**127**	P	**Pn**	**11 13 36.8**	**+0.6**
HATJ				S	**S**	**11 14 04.7**	**+0.2**
WNT	**Mingjian**	**1.88**	**227**	*e*P	**Pn**	**11 13 36.8**	**+0.2**
	baz=231								
WNT				*e*S	**S**	**11 14 05.0**	**+0.1**
	baz=231								
WJS	**Zhushan**	**1.89**	**225**	*e*P	**Pn**	**11 13 36.7**	**+0.1**
	baz=235								
WJS				*e*S	**S**	**11 14 05.7**	**+0.5**
	baz=235								
WHYT	**Xinyi Township**	**1.91**	**219**	*e*P	**Pn**	**11 13 37.1**	**+0.2**
	baz=224								
WHYT				*e*S	**S**	**11 14 05.5**	**-0.1**
	baz=224								
JKRS	**Kuro-shima**	**1.92**	**119**	P	**Pn**	**11 13 37.3**	**+0.4**
JKRS				S	**S**	**11 14 05.8**	**+0.3**
YULB	**Yu-li**	**1.96**	**204**	P	**Pn**	**11 13 36.2**	**-1.1**
YULB	**Yu-li**	**1.96**	**204**	*e*P	**Pn**	**11 13 36.2**	**-1.1**
	baz=209								
JIJ	**Ishigaki jima**	**1.96**	**114**	P	**Pn**	**11 13 37.3**	**0.0**
JIJ				S	**S**	**11 14 04.9**	**-1.4**
EYUL	**Yuli**	**1.99**	**203**	*e*P	**Pn**	**11 13 39.1**	**+1.5**
	baz=209								
TWF1	**Yuli**	**1.99**	**204**	*e*P	**Pn**	**11 13 36.7**	**-1.0**
	baz=209								
JISG	**Ishigakijimahi**	**2.03**	**107**	*i* P	**Pn**	**11 13 38.0**	**+0.1**
JISG				*e*S	**S**	**11 14 06.8**	**-0.6**
WRL	**Guolierlin Hig**	**2.08**	**232**	*e*P	**Pn**	**11 13 38.4**	**-0.2**
	baz=232								
ALS	**Alishan**	**2.08**	**217**	*e*P	**Pn**	**11 13 38.9**	**0.0**
	baz=227								
CHN5	**Tsauling**	**2.09**	**221**	*e*P	**Pn**	**11 13 38.7**	**0.0**
	baz=223								
WGK	**Gukeng**	**2.10**	**225**	*e*P	**Pn**	**11 13 39.1**	**+0.4**
	baz=235								
CHKH	**Chenggong**	**2.11**	**200**	*e*P	**Pn**	**11 13 38.5**	**-0.4**
	baz=210								
WDLH	**Douliu**	**2.11**	**225**	*e*P	**Pn**	**11 13 38.9**	**+0.1**
	baz=235								
FULB	**Fuli**	**2.14**	**202**	*e*P	**Pn**	**11 13 38.9**	**-0.3**
	baz=209								
WTK	**Tuku**	**2.21**	**228**	*e*P	**Pn**	**11 13 39.8**	**-0.1**
	baz=232								
WTK				*e*S	**S**	**11 14 10.7**	**-0.2**
	baz=232								
EHD	**Haiduan**	**2.21**	**204**	*e*P	**Pn**	**11 13 38.8**	**-1.2**
	baz=209								
MATB	**Ma-tsu**	**2.23**	**296**	*e*P	**Pn**	**11 13 39.6**	**-0.4**
	baz=294								
ELDTW	**Lidau**	**2.25**	**208**	*e*P	**Pn**	**11 13 40.7**	**+0.2**
	baz=213								
WCKO	**Fanlu**	**2.25**	**220**	*e*P	**Pn**	**11 13 40.6**	**+0.1**
	baz=226								
CHN2	**Minshiung**	**2.26**	**224**	*e*P	**Pn**	**11 13 41.0**	**+0.5**
	baz=235								
CHN4	**Tsaushan**	**2.33**	**219**	*e*P	**Pn**	**11 13 41.1**	**-0.1**
	baz=219								
CHN4				*e*S	**S**	**11 14 13.7**	**+0.4**
	baz=219								
EDH	**Donghe**	**2.34**	**200**	*e*P	**Pn**	**11 13 39.6**	**-1.7**
	baz=208								
TPUB	**Ta-pu**	**2.35**	**217**	P	**Pn**	**11 13 41.5**	**0.0**
TPUB	**Ta-pu**	**2.35**	**217**	*e*P	**Pn**	**11 13 41.4**	**0.0**
	baz=223								
WSF	**Szhu**	**2.35**	**230**	*e*P	**Pn**	**11 13 41.6**	**+0.1**
	baz=230								
WSF				*e*S	**S**	**11 14 13.7**	**0.0**
	baz=230								
JTJ	**Tarama**	**2.36**	**103**	P	**Pn**	**11 13 42.0**	**+0.5**
JTJ				S	**S**	**11 14 13.5**	**-0.2**
STYH	**Taoyuan**	**2.38**	**213**	*e*P	**Pn**	**11 13 42.1**	**+0.3**
	baz=222								
STYH				*e*S	**S**	**11 14 14.5**	**+0.2**
	baz=222								
WTP	**Ta-pu**	**2.40**	**217**	*e*P	**Pn**	**11 13 42.0**	**-0.1**
	baz=221								
WTP				*e*S	**S**	**11 14 14.5**	**-0.3**
	baz=221								
WSL	**Shuilin Townsh**	**2.43**	**227**	*e*P	**Pn**	**11 13 44.2**	**+2.0**
	baz=231								
WSL				*e*S	**S**	**11 14 16.3**	**+1.1**
	baz=231								
TWK	**Hsinying**	**2.46**	**219**	*e*P	**Pn**	**11 13 42.5**	**-0.2**
	baz=220								
TWK				*e*S	**S**	**11 14 15.6**	**-0.3**
	baz=220								
VWUC	**VWUC**	**2.48**	**266**	*e*P	**Pn**	**11 13 42.1**	**-0.7**
	baz=267								
SNST	**Tainan City**	**2.49**	**218**	*e*P	**Pn**	**11 13 43.1**	**+0.2**
	baz=219								
SNST				*e*S	**S**	**11 14 15.6**	**-0.8**
	baz=219								
CHN1	**Nanshi**	**2.50**	**217**	*e*P	**Pn**	**11 13 43.2**	**+0.1**
	baz=219								
CHN1				*e*S	**S**	**11 14 16.1**	**-0.6**
	baz=219								
ICHU	**Yijhu**	**2.51**	**224**	*e*P	**Pn**	**11 13 43.5**	**+0.4**
	baz=234								
SGST	**Jiashian**	**2.55**	**215**	*e*P	**Pn**	**11 13 43.0**	**-0.7**
	baz=224								
TWG	**Pinlang**	**2.56**	**203**	*e*P	**Pn**	**11 13 42.5**	**-1.3**
	baz=208								
TWGBT	**Beinan**	**2.56**	**203**	P	**Pn**	**11 13 42.3**	**-1.5**
TWGBT	**Beinan**	**2.56**	**203**	*e*P	**Pn**	**11 13 42.4**	**-1.4**
	baz=208								
SLGT	**Liugui**	**2.59**	**213**	*e*P	**Pn**	**11 13 44.7**	**+0.5**
	baz=222								
SCLT	**Jiali**	**2.70**	**223**	*e*P	**Pn**	**11 13 45.6**	**+0.3**
	baz=227								
JIRB	**Irabujima**	**2.74**	**97**	P	**Pn**	**11 13 46.3**	**+0.6**
JIRB				*e*S	**S**	**11 14 21.4**	**-0.1**
JIKM	**Ikemajima**	**2.80**	**95**	P	**Pn**	**11 13 47.4**	**+1.0**
JIKM				*e*S	**S**	**11 14 22.9**	**+0.3**
JMJ	**Miyako jima 2**	**2.85**	**97**	P	**Pn**	**11 13 48.8**	**+1.7**
JMJ2	**Miyako jima3**	**2.89**	**98**	P	**Pn**	**11 13 48.6**	**+1.1**
JMJ2				*e*S	**S**	**11 14 24.2**	**-0.4**
JOGS	**Gusukube**	**2.96**	**98**	P	**Pn**	**11 13 49.5**	**+1.2**
JOGS				*e*S	**S**	**11 14 26.4**	**+0.3**
JOW	**Kunigami**	**5.73**	**72**	P	**Pn**	**11 14 21.6**	**-1.3**
	30nm,0.3s,baz=118,slow=22,SNR=59								
JOW				S	**S**	**11 15 22.6**	**-6.1**
	57nm,0.3s,baz=118,slow=25,SNR=18								
JNU	**Nakatsue**	**10.97**	**42**	P	**Pn**	**11 15 32.6**	**+1.8**
	3.2nm,0.9s,baz=207,slow=4.5,SNR=1.5								
KSRS	**Korea Array**	**13.18**	**20**	P	**Pn**	**11 15 59.5**	**+0.8**
	5.6nm,0.6s,baz=204,slow=11,SNR=1.5								
USRK	**Ussuriysk Ar.**	**20.58**	**20**	P	**P**	**11 17 23.4**	**+0.8**
	2.7nm,0.8s,baz=193,slow=11,SNR=4.4								
	2.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**22.57**	**257**	P	**P**	**11 17 41.9**	**-0.8**
	0.6nm,0.4s,baz=61,slow=8.9,SNR=9.0								
	0.6nm,0.4s								
SONM	**Songino Array**	**25.82**	**335**	P	**P**	**11 18 12.0**	**0.0**
	1.4nm,0.6s,baz=152,slow=10,SNR=12								
	1.4nm,0.6s								
MKAR	**Makanchi Array**	**38.27**	**315**	P	**P**	**11 19 59.6**	**-0.4**
	0.2nm,0.4s,baz=99,slow=7.6,SNR=10.0								
	0.2nm,0.4s								
ZALV	**Zalesovo Beam**	**39.91**	**326**	P	**P**	**11 20 12.7**	**-0.8**
	0.4nm,0.4s,baz=96,slow=7.4,SNR=2.1								
	0.4nm,0.4s								
WRA	**Warramunga Arr**	**46.39**	**164**	P	**P**	**11 21 05.4**	**-0.3**
	1.6nm,0.6s,baz=348,slow=8.8,SNR=16								
	1.6nm,0.6s								
ASAR	**Alice Springs**	**49.88**	**166**	P	**P**	**11 21 33.0**	**+0.6**
	1.1nm,0.7s,baz=345,slow=7.0,SNR=15								
	1.1nm,0.7s								
STKA	**Stephens Creek**	**59.70**	**161**	P	**P**	**11 22 42.0**	**-0.6**
	1.4nm,0.6s,baz=338,slow=8.7,SNR=3.7								
	1.4nm,0.6s								
ILAR	**Eielson Array**	**67.91**	**28**	P	**P**	**11 23 38.0**	**+2.1**
	0.4nm,0.5s,baz=267,slow=4.7,SNR=6.1								
	0.4nm,0.5s								
INK	**Inuvik**	**71.96**	**22**	P	**P**	**11 23 59.9**	**-0.4**
	0.9nm,0.6s,baz=288,slow=3.2,SNR=6.7								
	0.9nm,0.6s								
YKA	**Yellowknife Ar**	**81.70**	**23**	P	**P**	**11 24 54.5**	**-0.4**
	0.5nm,0.6s,baz=312,slow=5.1,SNR=9.4								
	0.5nm,0.6s								

*GCMT **27** 11:14:12.9±0.4,55.91N±0.03×149.97W±0.05,h22km±2km, MW4.8/71,Moment Tensor Solution. s9,c9; s71,c101; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.22±.14; Mθθ-0.32±.10; Mφφ0.54±.11; Mrθ0.97±.19; Mrφ1.61±.09; Mθφ-0.04±.17; Best double couple: M₀1.93800×10¹⁶ NP1:φ±261.0000°,δ83.00000°,λ-30.00000°. NP2: φ±354.00000°,δ60.00000°,λ-172.00000°. Principal axes: T 1.9380, Plg16.0000°, Azm311.0000°; N 0.0000, Plg59.0000°, Azm69.0000°; P -1.9380, Plg26.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **27** 11:14:12.4±0.9,56.09N×149.76W,h0km,mb3.8/10, mbtmp3.8/15,ML3.7/5,MS3.9/7 Error ellipse: s-maj=23.3km s-min=13.6km az=40.0*

*NEIC **27** 11:14:14.9±1.7,56.09N±0.08×149.84W±0.09,h22km±7km, mb4.1/5,ML4.2/48,ML4.0(AEIC),Error ellipse: s-maj=11.4km s-min=7.1km az=167.0*

*AEIC **27** 11:14:16.1±1.9,55.96N±0.08×149.78W±0.09,h7km±6km, Error ellipse: s-maj=11.5km s-min=7.3km az=174.0*

ISC 27 11:14:16.6±0.7,56.11N±0.06×149.78W±0.04,h35km, n282,σ1$03/280,mb3.6/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.24**	**301**	Pn	**Pn**	**Pn**	**11 14 49.7**	**-1.4**
OHAK	**Old Harbor**	**2.24**	**301**			**Sn**	**11 15 15.5**	**-2.0**
OHAK	**Old Harbor**	**2.24**	**301**	P	**Pn**	**Pn**	**11 14 49.9**	**-1.2**
OHAK	**Old Harbor**	**2.24**	**301**	P	**Pn**	**Pn**	**11 14 49.4**	**-1.7**
	baz=120							
OHAK				S		**Sn**	**11 15 15.5**	**-2.0**
	baz=120							
KDAK	**Kodiak Island**	**2.28**	**319**	Pn	**Pn**	**Pn**	**11 14 50.3**	**-1.3**
KDAK	**Kodiak Island**	**2.28**	**319**			**Sn**	**11 15 16.9**	**-1.5**
KDAK	**Kodiak Island**	**2.28**	**319**	Pn	**Pn**	**Pn**	**11 14 49.6**	**-2.0**
	40nm,0.3s,baz=152,slow=4.7,SNR=668							
KDAK						**Sn**	**11 15 17.1**	**-1.4**
	20nm,0.3s,baz=233,slow=20,SNR=4.7							
KDAK				LR		LR	11 16 02.6	
	comp=Z,4μm,19.1s,baz=205,slow=48							
	92nm,0.2s							
SII	**Sitkinak Islan**	**2.50**	**282**	Pn	**Pn**	**Pn**	**11 14 52.8**	**-1.9**
SII				IAML			11 15 27.9	
	comp=N,850nm,0.7s							
SII	**Sitkinak Islan**	**2.50**	**282**			**Sn**	**11 15 22.1**	**-1.8**
SII	**Sitkinak Islan**	**2.50**	**282**	P	**Pn**	**Pn**	**11 14 53.2**	**-1.5**
SII	**Sitkinak Islan**	**2.50**	**282**	P	**Pn**	**Pn**	**11 14 52.7**	**-1.9**
	baz=99							
SII				S		**Sn**	**11 15 22.1**	**-1.8**
	baz=99							
SYI	**Shuyak Island**	**2.88**	**332**	Pn	**Pn**	**Pn**	**11 14 58.6**	**-1.4**
SYI	**Shuyak Island**	**2.88**	**332**			**Sn**	**11 15 33.1**	**-0.3**
Q20K	**Shuyak Island**	**2.88**	**332**	P	**Pn**	**Pn**	**11 14 59.0**	**-0.9**
	baz=150							
Q20K				S		**Sn**	**11 15 33.1**	**-0.3**
	baz=150							
Q19K	**Cape Douglas,**	**3.52**	**325**			**Pn**	**11 15 08.4**	**-0.3**
Q19K	**Cape Douglas,**	**3.52**	**325**	P	**Pn**	**Pn**	**11 15 08.5**	**-0.2**
	baz=143							
CNPM	**China Poot**	**3.52**	**348**	Pn	**Pn**	**Pn**	**11 15 07.7**	**-1.0**
CNPM				IAML			11 15 49.5	
	comp=E,231nm,0.7s							
CNPM	**China Poot**	**3.52**	**348**			**Sn**	**11 15 48.7**	**-0.4**
KAHG	**Katmai Hook Gl**	**3.52**	**315**			**Pn**	**11 15 09.2**	**+0.3**
KCE	**Katmai Mt Cerb**	**3.64**	**308**			**Pn**	**11 15 11.1**	**+0.7**
BRSE	**Bradley Lake S**	**3.68**	**352**			**Pn**	**11 15 09.8**	**-1.2**
BRSE						**Sn**	**11 15 52.1**	**-1.1**
BRSE	**Bradley Lake S**	**3.68**	**352**	P		**Pn**	**11 15 09.8**	**-1.2**
	baz=172							
BRSE				S		**Sn**	**11 15 52.5**	**-0.6**
	baz=172							
ACHA	**Angle Creek He**	**3.69**	**307**			**Pn**	**11 15 10.8**	**-0.2**
HOM	**Homer**	**3.70**	**345**			**Pn**	**11 15 10.0**	**-1.1**
HOM						**Sn**	**11 15 53.9**	**+0.4**
HOM	**Homer**	**3.70**	**345**	IAML			11 15 58.8	
	comp=E,556nm,0.9s							
HOM				IAML			11 16 11.7	
	comp=N,573nm,0.8s							
HOM	**Homer**	**3.70**	**345**	P		**Pn**	**11 15 10.4**	**-0.8**
	baz=164							
HOM				S		**Sn**	**11 15 53.9**	**+0.4**
	baz=164							
BRLK	**Bradley Lake**	**3.72**	**351**	Pn	**Pn**	**Pn**	**11 15 10.0**	**-1.5**
BRLK				IAML			11 15 56.7	
	comp=N,222nm,1.2s							
BRLK				IAML			11 15 56.9	
	comp=E,202nm,0.6s							
BRLK	**Bradley Lake**	**3.72**	**351**			**Sn**	**11 15 53.2**	**-0.8**

ANCK	**Angle Creek**	**3.75**	**306**			**Pn**	**11 15 12.1**	**+0.1**
KVTA	**Katmai Vly 10**	**3.77**	**310**			**Pn**	**11 15 12.5**	**+0.4**
AU22	**Augustine Moun**	**3.79**	**331**			**Pn**	**11 15 12.7**	**+0.2**
Q23K	**Middleton Isla**	**3.81**	**27**			**Pn**	**11 15 11.4**	**-1.2**
Q23K						**Sn**	**11 15 53.6**	**-2.5**
Q23K	**Middleton Isla**	**3.81**	**27**	IAML			11 17 09.2	
	comp=E,449nm,2.3s							
Q23K				IAML			11 17 38.5	
	comp=N,346nm,2.4s							
Q23K	**Middleton Isla**	**3.81**	**27**	P		**Pn**	**11 15 11.4**	**-1.2**
	baz=211							
MID	**Middleton Isla**	**3.81**	**28**			**Pn**	**11 15 11.3**	**-1.3**
MID				IAML			11 17 09.1	
	comp=E,433nm,2.3s							
MID	**Middleton Isla**	**3.81**	**28**			**Sn**	**11 15 54.6**	**-1.4**
MID	**Middleton Isla**	**3.81**	**28**	IAML			11 15 39.9	
	comp=N,369nm,2.6s							
MID	**Middleton Isla**	**3.81**	**28**	P		**Pn**	**11 15 11.6**	**-1.0**
KAHC	**Katmai Hardscr**	**3.81**	**314**			**Pn**	**11 15 13.1**	**+0.2**
KAHC	**Katmai Hardscr**	**3.81**	**314**	P		**Pn**	**11 15 13.1**	**+0.2**
	baz=130							
AUCH	**Augustine Cone**	**3.81**	**330**			**Pn**	**11 15 13.1**	**+0.3**
PLK3	**Peulik 3**	**3.90**	**297**			**Pn**	**11 15 13.4**	**-0.5**
CNTC	**Contact Creek**	**3.97**	**306**			**Pn**	**11 15 14.7**	**-0.3**
CNTC						**Sn**	**11 15 59.8**	**-0.4**
Q17K	**Contact Creek**	**3.97**	**306**	P		**Pn**	**11 15 14.5**	**-0.5**
	baz=121							
KELA	**Mount Kelaz**	**4.00**	**308**			**Pn**	**11 15 15.1**	**-0.2**
P19K	**Oil Pt**	**4.01**	**334**			**Pn**	**11 15 15.6**	**+0.1**
P19K	**Oil Pt**	**4.01**	**334**			**Sn**	**11 16 02.2**	**+1.1**
P19K	**Oil Pt**	**4.01**	**334**	P		**Pn**	**11 15 15.1**	**-0.3**
	baz=152							
SEW	**Seward**	**4.01**	**2**			**Pn**	**11 15 14.1**	**-1.4**
SEW	**Seward**	**4.01**	**2**	P		**Pn**	**11 15 14.0**	**-1.5**
	baz=183							
P23K	**Montague Islan**	**4.10**	**17**			**Pn**	**11 15 15.7**	**-1.0**
P23K						**Sn**	**11 16 01.0**	**-2.4**
P23K	**Montague Islan**	**4.10**	**17**	P		**Pn**	**11 15 15.8**	**-0.9**
	baz=199							
PLK1	**Peulik 1**	**4.11**	**297**			**Pn**	**11 15 16.1**	**-0.7**
O20K	**Slope Mountain**	**4.26**	**340**			**Pn**	**11 15 17.8**	**-1.2**
O20K	**Slope Mountain**	**4.26**	**340**	P		**Pn**	**11 15 18.3**	**-0.7**
	baz=159							
IVE	**Iliamna Volcan**	**4.28**	**338**			**Pn**	**11 15 18.2**	**-1.1**
O22K	**Cooper Landing**	**4.39**	**0**			**Pn**	**11 15 19.9**	**-0.7**
P18K	**Big Mountain,**	**4.40**	**321**			**Pn**	**11 15 19.9**	**-1.0**
P18K	**Big Mountain,**	**4.40**	**321**	P		**Pn**	**11 15 20.0**	**-0.9**
	baz=137							
SLKM	**Skilak Lake**	**4.42**	**357**			**Pn**	**11 15 20.2**	**-0.9**
R16K	**Pilot Point**	**4.53**	**292**			**Pn**	**11 15 21.4**	**-1.0**
R16K	**Pilot Point**	**4.53**	**292**	IAML			11 17 06.8	
	comp=N,339nm,2.6s							
R16K	**Pilot Point**	**4.53**	**292**	P		**Pn**	**11 15 22.0**	**-0.5**
	baz=106							
Q16K	**King Salmon**	**4.53**	**308**			**Pn**	**11 15 21.9**	**-0.6**
Q16K	**King Salmon**	**4.53**	**308**	P		**Pn**	**11 15 22.2**	**-0.3**
	baz=122							
RED	**Redoubt Volcan**	**4.61**	**341**			**Pn**	**11 15 21.8**	**-1.9**
RDSO	**Redoubt South**	**4.63**	**341**			**Pn**	**11 15 22.1**	**-2.0**
HIN	**Hinchinbrook I**	**4.64**	**21**	Pn		**Pn**	**11 15 23.5**	**-0.6**
HIN				IAML			11 16 16.9	
	comp=N,221nm,0.6s							
HIN				IAML			11 16 39.4	
	comp=E,204nm,0.9s							
RSO	**Redoubt South**	**4.64**	**341**			**Pn**	**11 15 23.3**	**-1.0**
RDWB	**Redoubt West**	**4.68**	**341**			**Pn**	**11 15 22.8**	**-2.0**
RDT	**Redoubt**	**4.69**	**344**			**Pn**	**11 15 23.2**	**-1.7**
CAPN	**Captain Cook N**	**4.73**	**352**	Pn		**Pn**	**11 15 26.0**	**+0.6**
P17K	**Kvichak River**	**4.73**	**314**			**Pn**	**11 15 25.2**	**-0.2**
P17K	**Kvichak River**	**4.73**	**314**	P		**Pn**	**11 15 25.1**	**-0.2**
	baz=128							
O18K	**Koktuh Hills**	**4.74**	**325**			**Pn**	**11 15 24.3**	**-1.2**
O18K				IAML			11 16 21.0	
	comp=N,172nm,0.8s							
O18K				IAML			11 16 33.5	
	comp=E,115nm,1.2s							
O18K	**Koktuh Hills**	**4.74**	**325**	P		**Pn**	**11 15 24.6**	**-0.9**
	baz=141							
DFR	**Drift River**	**4.75**	**342**			**Pn**	**11 15 24.2**	**-1.5**
O19K	**Port Alsworth**	**4.75**	**331**			**Pn**	**11 15 24.3**	**-1.3**
O19K	**Port Alsworth**	**4.75**	**331**	P		**Pn**	**11 15 24.6**	**-1.0**
	baz=148							
NCT	**North Crescent**	**4.77**	**341**			**Pn**	**11 15 24.4**	**-1.6**
ANPB	**Aniakchak Plen**	**4.77**	**282**			**Pn**	**11 15 25.1**	**-0.8**
KAIM	**Kayak Island**	**4.77**	**34**	Pn		**Pn**	**11 15 25.7**	**-0.3**
KAIM				IAML			11 16 30.3	
	comp=E,272nm,1.8s							
KAIM				IAML			11 16 45.9	
	comp=N,281nm,2.3s							
CHGN	**Chignik**	**4.83**	**276**			**Pn**	**11 15 26.1**	**-0.6**
CHGN				IAML			11 16 20.9	
	comp=N,144nm,0.8s							
CHGN				IAML			11 16 23.7	
	comp=E,123nm,0.7s							
EYAK	**Cordova Ski Ar**	**4.94**	**24**			**Pn**	**11 15 27.4**	**-0.7**
EYAK	**Cordova Ski Ar**	**4.94**	**24**	P		**Pn**	**11 15 27.7**	**-0.4**
RC01	**Rabbit Creek A**	**5.00**	**0**	Pn		**Pn**	**11 15 28.2**	**-0.8**
RC01				IAML			11 16 27.0	
	comp=N,84nm,0.6s							
RC01				IAML			11 16 28.6	
	comp=E,139

N15K	Kwethluk River	6.81	311			Pn	11 15 53.8	-0.1
M16K	Timber Creek	6.88	320			Pn	11 15 54.2	-0.6
O14K	Tigyukauivet M	6.92	302			Pn	11 15 55.4	+0.1
PN7A	Pavlof North-7	6.93	269			Pn	11 15 54.4	-1.2
L18K	Granite Mounta	7.08	333			Pn	11 15 56.0	-1.6
DHY	Denali Highway	7.10	9			Pn	11 15 58.4	+0.5
M26K	Nabesna, AK	7.21	26	Pn		Pn	11 16 00.0	+0.7
PAX	Paxson	7.22	16			Pn	11 15 59.4	-0.3
O29M	Mount Kennedy	7.26	50	Pn		Pn	11 16 00.0	-0.1
P29M	Windy Craggy	7.33	56			Pn	11 16 00.2	-0.7
RND	Reindeer	7.34	3			Pn	11 16 01.2	0.0
M15K	Kasigluk River	7.35	313			Pn	11 16 00.7	-0.5
TRF	Thorofare Moun	7.37	358			Pn	11 16 01.4	-0.3
N14K	Kuskokwak Cree	7.39	306			Pn	11 16 01.6	-0.2
CAST	Castle Rocks	7.43	352			Pn	11 16 01.9	-0.4
M27K	Edge Creek, AK	7.46	30			Pn	11 16 03.1	+0.2
L17K	Donlin	7.46	328			Pn	11 16 02.2	-0.6
KTH	Kantishna Hill	7.49	356			Pn	11 16 03.3	0.0
MENT	Mentasta	7.51	22	Pn		Pn	11 16 04.0	+0.5
L16K	Owhat River	7.53	322			Pn	11 16 03.1	-0.6
TTA	Tatalina	7.54	338			Pn	11 16 02.5	-1.4
TTA	Tatalina	7.54	338	P		Pn	11 16 02.8	-1.1
K20K	Telida	7.59	345			Pn	11 16 02.4	-2.2
S31K	Pelican	7.62	70	Pn		Pn	11 16 02.3	-2.7
MCK	McKinley	7.66	3			Pn	11 16 06.0	+0.4
L26K	Log Cabin Wild	7.67	23			Pn	11 16 06.8	+1.2
BVCY	Beaver Creek	7.80	32			Pn	11 16 07.7	+0.3
P30M	Million Dollar	7.89	54			Pn	11 16 08.8	+0.1
M14K	Bethel	7.91	311	Pn		Pn	11 16 09.8	+1.0
PLBC	Pleasant Camp	7.91	59			Pn	11 16 08.3	-0.7
K17K	Iditarod	7.92	330			Pn	11 16 08.3	-0.8
HYT	Haines Junctio	7.98	49			Pn	11 16 10.6	+0.6
SIT	Sitka	8.04	77			Pn	11 16 07.2	-3.5
SIT	Sitka	8.04	77	P		Pn	11 16 07.8	-2.9
BPAW	Bear Paw Mtn.	8.04	356			Pn	11 16 09.8	-1.0
RIDG	Independent Ri	8.05	16			Pn	11 16 10.6	-0.2
L27K	Beaver Creek,	8.05	27			Pn	11 16 10.7	-0.2
ISNN	Isanotski Nort	8.06	267			Pn	11 16 09.4	-1.7
BCAR	Beaver Creek A	8.07	27			Pn	11 16 11.4	+0.3
J18K	Innoko River	8.16	338	Pn		Pn	11 16 11.7	-0.7
L15K	Ungalak Mounta	8.24	318			Pn	11 16 13.5	+0.1
M13K	Dall Lake	8.35	307			Pn	11 16 14.7	-0.2
J20K	Nowinta River	8.38	347	Pn		Pn	11 16 14.1	-1.3
SCRK	Sand Creek	8.41	18			Pn	11 16 16.0	+0.1
SKAG	Skagway	8.42	61			Pn	11 16 16.1	+0.2
SKAG	Skagway	8.42	61	P		Pn	11 16 15.7	-0.2
J19K	Poorman	8.43	342	Pn		Pn	11 16 15.0	-1.1
HDA	Harding Lake	8.45	8			Pn	11 16 17.1	+0.8
S32K	Killisnoo	8.46	74	Pn		Pn	11 16 14.6	-1.9
N30M	Aishikik Lake	8.49	46	Pn		Pn	11 16 16.5	-0.4
L14K	Kuka Creek	8.51	313	Pn		Pn	11 16 17.0	-0.1
NEA2	Nenana	8.52	2			Pn	11 16 18.4	+1.1
O30N	Mendenhall	8.56	51			Pn	11 16 18.1	+0.2
R32K	Eaglecrest	8.57	69	Pn		Pn	11 16 17.0	-1.0
M29M	Somme Creek	8.59	38	Pn		Pn	11 16 18.3	0.0
CCB	Clear Creek Bu	8.62	6			Pn	11 16 19.6	+0.9
JIS	Juneau Island	8.64	69			Pn	11 16 17.8	-1.0
JIS	Juneau Island	8.64	69	P		Pn	11 16 17.6	-1.3
K15K	Wolf Creek Mou	8.64	321	Pn		Pn	11 16 19.6	+0.6
J25K	Salcha River,	8.81	12	Pn		Pn	11 16 20.9	-0.4
IL31		8.81	8			Pn	11 16 21.5	+0.3
ILAR	Eielson Array	8.81	8	Pn		Pn	11 16 22.4	+1.2
ILAR	Eielson Array	8.81	8	Pn		Pn	11 16 19.3	-2.0
	comp=E,0.5nm,0.3s,baz=189,slow=12,SNR=60							
ILAR				Sn		Sn	11 17 55.0	-4.2
	comp=E,0.9nm,0.3s,baz=201,slow=23,SNR=7.7							
ILAR				LR		LR	11 19 58.0	
	comp=E,419nm,19.7s,baz=236,slow=39							
	comp=E,2.7nm,0.5s							
K27K	Chicken	8.82	23	Pn		Pn	11 16 21.8	+0.3
COLA	College	8.85	5	P		Pn	11 16 23.1	+1.4
MDM	Murphy Dome	8.92	4			Pn	11 16 22.5	-0.3
J26L	Joseph Creek	8.96	17	Pn		Pn	11 16 23.5	0.0
MLY	Manley	8.97	357			Pn	11 16 23.3	-0.2
J16K	Anvik River	9.03	327	Pn		Pn	11 16 23.9	-0.4
N31M	Braeburn, Yuko	9.04	48			Pn	11 16 24.7	+0.3
WHY	Whitehorse	9.05	54			Pn	11 16 25.8	+1.1
I23K	Minto, Yukon-K	9.08	1			Pn	11 16 25.4	+0.5
POKR	Poker Plat Res	9.12	6	Pn		Pn	11 16 26.2	+0.7
L29M	L29M	9.16	35	Pn		Pn	11 16 26.4	+0.3
I21K	Tanana	9.17	354			Pn	11 16 24.9	-1.3
P32M	Atlin	9.24	61			Pn	11 16 26.8	-0.5
M30M	Minto, Yukon	9.26	40			Pn	11 16 27.7	+0.1
CRAG	Craig	9.41	87	P		Pn	11 16 27.0	-2.4
DAWY	Dawson	9.51	29			Pn	11 16 31.0	+0.2
EGAK	Eagle	9.68	22			Pn	11 16 33.4	+0.3
H21K	Melozitna Rive	9.70	353			Pn	11 16 32.3	-1.1
I26K	Coal Creek Min	9.78	17	Pn		Pn	11 16 35.9	+1.4
H24K	Noodor Dome	9.81	5	Pn		Pn	11 16 35.9	+0.9
Q32M	Nakina River	9.84	66	Pn		Pn	11 16 36.1	+0.6
P33M	Teslin, Yukon	9.85	58			Pn	11 16 34.9	-0.7
K29M	Barlow Dome	9.88	33	Pn		Pn	11 16 36.0	0.0
M31M	Drury Creek, Y	9.97	46			Pn	11 16 37.5	+0.3
H18K	Honhosa River	10.00	339	Pn		Pn	11 16 37.9	+0.4
N32M	Quiet Lake	10.05	53	Pn		Pn	11 16 38.7	-0.2
IMAR	Indian Mountai	10.15	351	Pn		Pn	11 16 38.9	+0.1
FARO	Faro, Yukon	10.41	47	Pn		Pn	11 16 43.6	+0.5
R33M	Jennings River	10.57	64	Pn		Pn	11 16 45.0	-0.5
G21K	Allakaket	10.60	352	Pn		Pn	11 16 46.2	+0.5
G19K	Purcell Mounta	10.66	344	Pn		Pn	11 16 47.5	+0.9
G18K	Tagagawik	10.71	340	Pn		Pn	11 16 47.2	0.0
FYU	Fort Yukon	10.72	10	Pn		Pn	11 16 47.3	0.0
I29M	Ogilvie Camp,	10.83	26			Pn	11 16 48.8	-0.1
DLBC	Dease Lake	10.94	70	Pn		Pn	11 16 50.3	-0.2
DLBC	Dease Lake	10.94	70	Pn		Pn	11 16 49.5	-1.0
	comp=E,0.5nm,0.3s,baz=307,slow=6.1,SNR=14							
DLBC				LR		LR	11 20 19.5	
	comp=E,664nm,19.7s,baz=264,slow=34							
	comp=E,1.3nm,0.3s							
G16K	Koyuk River	11.14	332	Pn		Pn	11 16 52.4	-0.7
F19K	Shaleruckik Mo	11.41	344	Pn		Pn	11 16 57.5	+0.7
ANM	Nome	11.44	324			Pn	11 16 58.0	+0.8
E25K	Arctic Village	12.21	7			Pn	11 17 09.0	+1.2
F28M	Old Crow	12.43	18			Pn	11 17 12.7	+1.9
BBB	Bella Bella	13.27	98	LR		LR	11 21 14.9	
	comp=E,334nm,20.5s,baz=300,slow=32							
D25K	Kavik River	13.36	5			Pn	11 17 24.3	+0.9
F31M	Tsiigehtchic	13.61	27			Pn	11 17 27.2	+0.5
D27M	Malcolm River	13.77	13			Pn	11 17 30.0	+0.9
INK	Inuvik	14.32	25			Pn	11 17 37.4	+0.9
INK	Inuvik	14.32	25	Pn		Pn	11 17 35.9	-0.6
	comp=E,0.1nm,0.3s,baz=208,slow=16,SNR=13							
INK				LR		LR	11 23 27.3	
	comp=E,481nm,19.9s,baz=186,slow=39							
	comp=E,3.3nm,0.8s							
B20K	Meade River	14.33	350	Pn		Pn	11 17 35.1	-1.5
WRGLY	Wrigley	15.00	51	Pn		Pn	11 17 46.2	+0.6
WRGLY				IAmb		IAmb	11 18 07.5	
	comp=Z,8.6nm,1.0s							
ADK	Adak	16.32	266	P		Pn	11 18 01.1	-1.8
ADK				IAmb		IAmb	11 18 25.8	
	comp=Z,22nm,0.9s							
ADK	Adak	16.32	266	P		Pn	11 18 02.4	-0.4
C36M	Paulatuk	17.54	31	P		Pn	11 18 17.9	+0.1
C36M				IAmb		IAmb	11 18 29.9	
	comp=Z,8.9nm,0.8s							
YKA	Yellowknife Ar	18.87	56	P		Pn	11 18 33.9	-0.3
YKA	Yellowknife Ar	18.87	56	P		P	11 18 33.0	-0.4
	comp=Z,0.1nm,0.3s,baz=265,slow=9.6,SNR=14							
YKA				LR		LR	11 25 44.3	
	comp=Z,406nm,18.1s,baz=280,slow=37							
	comp=Z,1.9nm,1.0s							
A36M	Sachs Harbour	18.95	23	P		Pn	11 18 35.5	+0.4
NEW	Newport	21.34	98	P		P	11 19 01.1	+0.7
	comp=Z,2.3nm,0.7s,baz=316,slow=12,SNR=3.6							
NEW				LR		LR	11 25 58.2	
	comp=Z,214nm,20.5s,baz=296,slow=33							
	comp=Z,2.3nm,0.7s							
ELK	Elko	27.23	110	P		P	11 19 58.2	+1.0
	comp=Z,0.4nm,0.4s,baz=318,slow=5.3,SNR=3.0							
	comp=Z,0.4nm,0.4s							
NVAR	Mina Array Bea	27.38	117	P		P	11 19 59.2	+0.7
	comp=Z,0.8nm,0.7s,baz=314,slow=9.2,SNR=7.3							
	comp=Z,0.8nm,0.7s							
R11B	Troy Canyon, C	28.82	114	P		P	11 20 11.2	-0.2
PDAR	Pinedale Array	28.90	100	P		P	11 20 13.2	+1.0
PDAR	Pinedale Array	28.90	100	P		P	11 20 12.6	+0.4
	comp=Z,0.3nm,0.5s,baz=300,slow=4.0,SNR=4.3							
	comp=Z,0.3nm,0.5s							
TXAR	Lajitas Array	42.02	110	P		P	11 22 05.6	+1.1
	comp=Z,0.7nm,0.8s,baz=307,slow=4.6,SNR=4.9							
	comp=Z,0.7nm,0.8s							

H11N2	WAKE ISLAND Hy	48.55	240	T		T	12 15 44.5	
	baz=29,slow=76,SNR=17							
H11N3	WAKE ISLAND Hy	48.56	240	T		T	12 15 44.2	
	baz=29,slow=76,SNR=16							
H11N1	WAKE ISLAND Hy	48.57	240	T		T	12 15 41.3	
	baz=29,slow=76,SNR=13							
H11S1	WAKE ISLAND Hy	49.70	239	T		T	12 17 07.1	
	baz=28,slow=76,SNR=29							
H11S2	WAKE ISLAND Hy	49.71	239	T		T	12 17 04.5	
	baz=28,slow=76,SNR=23							
H11S3	WAKE ISLAND Hy	49.71	239	T		T	12 17 05.4	
	baz=28,slow=76,SNR=26							
ARCES	ARCESS Array B	54.62	2	P		P	11 23 43.8	+2.8
	comp=Z,3.9nm,0.8s,baz=345,slow=6.5,SNR=4.5							
	comp=Z,3.9nm,0.8s							
SONM	Songino Array	58.54	310	P		P	11 24 11.1	+1.8
	comp=Z,1.3nm,1.0s,baz=45,slow=4.6,SNR=5.2							
	comp=Z,1.3nm,1.0s							
ZALV	Zalesovo Beam	61.56	327	P		P	11 24 30.5	+0.8
	comp=Z,0.7nm,0.5s,baz=42,slow=6.0,SNR=4.5							
	comp=Z,0.7nm,0.5s							
FINES	FINESS Array B	62.75	2	P		P	11 24 37.7	+0.2
	comp=Z,1.3nm,1.0s,baz=333,slow=8.3,SNR=1.0							
	comp=Z,1.3nm,1.0s							
MKAR	Makanchi Array	68.58	324	P		P	11 25 15.7	+0.3
	comp=Z,0.3nm,0.5s,baz=23,slow=6.1,SNR=7.2							
	comp=Z,0.3nm,0.5s							
PPT2	Papeete2	73.41	180	eLR		LR	11 48 04.9	
	comp=Z,50nm,23.2s							
PPT2				eLR		LR	11 48 20.2	
	comp=Z,84nm,31.2s							
TBI	Tubuai	79.14	180	eLR		LR	11 50 51.2	
	comp=Z,204nm,27.0s							
DZM	Mont Dzumac	86.23	220	eLR		LR	11 54 07.0	
	comp=Z,124nm,22.2s							
QSPA	South Pole Qui	145.90	180	PKPbc		PKPab	11 33 51.9	+0.6
	comp=Z,1.7nm,0.7s,baz=61,slow=2.8,SNR=7.1							

*IDC **27** 11:18:11.0±1.4, 11°.58S×162°.02E, h0km, mb3.8/6, mbtmp3.9/8, ML4.3/2, MS3.3/3, Error ellipse: s-maj=32.9km s-min=29.5km az=98.0*

ISC 27 11:18:11.9±0.9, 11°.7S±0°.1×162°.0E±0°.2, h10km, n15, σ2.9 39/10, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	Honiara	3.01	318	Pn		Pn		11 18 59.0	-0.7
	183nm,0.3s,baz=214,slow=3.6,SNR=1.3								
HNR				Sn		Sn		11 19 33.0	-2.9
	616nm,0.3s,baz=177,slow=24,SNR=6.7								
HNR				LR		LR		11 19 57.5	
	comp=Z,828nm,18.1s,baz=132,slow=36								
	2μm,0.5s								
DZM	Mont Dzumac	11.16	158	Pn		Pn		11 20 53.1	+1.3
	0.4nm,0.3s,baz=28,slow=9.8,SNR=6.2								
DZM				Sn		Sn		11 22 52.5	-4.4
	0.2nm,0.3s,baz=296,slow=23,SNR=1.1								
DZM				LR		LR		11 24 43.2	
	comp=Z,139nm,18.8s,baz=26,slow=35								
	1.4nm,0.3s								
CTA	Charters Tower	17.27	239	LR		LR		11 28 15.5	
	comp=Z,44nm,18.1s,baz=84,slow=35								
WRA	Warramunga Arr	27.80	249	P		P		11 24 02.9	+1.3
	0.7nm,0.6s,baz=78,slow=9.5,SNR=4.5								
	0.7nm,0.6s								
ASAR	Alice Springs	29.22	242	P		P		11 24 15.2	+1.1
	1.1nm,0.8s,baz=68,slow=9.6,SNR=10.0								
	1.1nm,0.8s								
H11S2	WAKE ISLAND Hy	30.35	9	T		T		11 55 14.2	
	baz=188,slow=76,SNR=11								
H11S3	WAKE ISLAND Hy	30.35	9	T		T		11 55 19.3	
	baz=188,slow=76,SNR=7.0								
H11S1	WAKE ISLAND Hy	30.37	9	T		T		11 55 22.7	
	baz=188,slow=76,SNR=6.1								
H11N1	WAKE ISLAND Hy	31.58	9	T		T		11 56 51.6	
	baz=187								
H11N3	WAKE ISLAND Hy	31.59	9	T		T		11 56 48.5	
	baz=187								
H11N2	WAKE ISLAND Hy	31.60	9	T		T		11 56 57.7	
	baz=187								
CMAR	Chiang Mai Arr	69.02	295	P		P		11 29 20.4	+2.2
	0.5nm,0.4s,baz=140,slow=4.6,SNR=1.9								
	0.5nm,0.4s								
SONM	Songino Array	77.05	325	P		P		11 30 05.7	+0.2
	1.1nm,0.8s,baz=150,slow=6.4,SNR=6.1								
	1.1nm,0.8s								
NVAR	Mina Array Bea	89.27	51	P		P		11 31 09.6	+0.8
	0.2nm,0.6s,baz=249,slow=5.6,SNR=3.8								
	0.2nm,0.6s								
MKAR	Makanchi Array	91.49	317	P		P		11 31 17.5	-1.2
	0.2nm,0.4s,baz=90,slow=4.6,SNR=4.5								
	0.2nm,0.4s								

*NEIC **27** 11:25:54.7, 56°.05N×149°.90W, h5km*

*NEIC **27** 11:25:54.9±1.6, 56°.07N±0°.06×149°.83W±0°.08, h6km±4km, mb4.5/65, ML4.6/44, Mwr4.6/33, ML4.5(AEIC), Error ellipse: s-maj=9.1km s-min=6.7km az=180.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.71; Mθθ=0.37; Mϕϕ=0.34; Mrθ=0.53; Mθϕ=0.67; Mϕr=0.03; Fault plane solution: M0=1.05000×10^16 NP1:ϕs=251.50000°, δ=62.39000°, λ=-57.94000°. NP2:ϕs=18.00000°, δ=41.33000°, λ=-135.43000°. Principal axes: T 1.0947, Plg=12.0000°, Azm=319.0000°; N -0.1002, Plg=28.0000°, Azm=55.0000°; P -0.9945, Plg=59.0000°, Azm=209.0000°;*

*MOS **27** 11:25:54.8±0.8, 56°.16N×149°.70W, h13km, mb4.7/27 Error ellipse: s-maj=13.3km s-min=5.4km az=96.7*

*IDC **27** 11:25:54.4±0.7, 56°.13N×149°.74W, h0km, mb4.1/23, mbtmp4.2/27, ML4.3/4, MS4.0/67, Error ellipse: s-maj=21.4km s-min=11.1km az=27.0*

*GCMT **27** 11:25:56.9±0.3, 56°.05N±0°.02×149°.76W±0°.02, h12km, MW4.9/97, Moment Tensor Solution. s8,c9; s97,c143; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.13±.08; Mθθ=0.11±.08; Mϕϕ=0.23±.07; Mrθ=0.98±.21; Mθϕ=2.27±.05; Mϕr=1.22±.25; Best double couple: M0=2.65800×10^16 NP1:ϕs=355.00000°, δ=75.00000°, λ=158.00000°. NP2: ϕs=91.00000°, δ=69.00000°, λ=16.00000°. Principal axes: T 3.0950, Plg=26.0000°, Azm=312.0000°; N -0.8750, Plg=64.0000°, Azm=143.0000°; P -2.2210, Plg=4.0000°, Azm=44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*AEIC **27** 11:25:58.1±2.9, 55°.92N±0°.07×149°.71W±0°.09, h12km±5km Error ellipse: s-maj=10.9km s-min=7.4km az=179.0*

ISC 27 11:25:55.6±0.8, 56°.07N±0°.06×149°.75W±0°.04, h11km±4km, n503, σ1.9 14/465, mb4.5/81, MS4.1/70, 9C-6D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
OHAK	Old Harbor	2.27	302			Pn		11 26 31.5	-1.5
OHAK				Sn		Sn		11 26 56.9	-4.0
OHAK	Old Harbor	2.27	302	P		Pn		11 26 31.7	-1.3
OHAK	Old Harbor	2.27	302	P		Pn		11 26 31.7	-1.3
	baz=120								
OHAK				S		Sn		11 26 57.3	-3.7
	baz=120								
KDAK	Kodiak Island	2.32	319			Pn		11 26 33.0	-0.7
KDAK				Sn		Sn		11 26 59.1	-2.9
KDAK	Kodiak Island	2.32	319	*iP*		Pn		11 26 32.9	-0.7
KDAK	Kodiak Island	2.32	319	Pn		Pn		11 26 31.8	-1.8
	115nm,0.3s,baz=167,slow=5.6,SNR=984								
KDAK				Sn		Sn		11 26 59.0	-3.0
	176nm,0.3s,baz=198,slow=19,SNR=12								
KDAK				LR		LR		11 27 44.9	
	comp=Z,7μm,19.1s,baz=210,slow=49								
	242nm,0.3s								
SII	Sitkinak Islan	2.52	283			Pn		11 26 34.9	-1.6
SII				IAML				11 27 07.0	
	comp=N,4μm,0.7s								
SII	Sitkinak Islan	2.52	283			Sn		11 27 03.8	-3.4
SII	Sitkinak Islan	2.52	283	P		Pn		11 26 35.0	-1.5
SII	Sitkinak Islan	2.52	283	P		Pn		11 26 34.9	-1.6
	baz=100								
SII				S		Sn		11 27 03.8	-3.4
	baz=100								
Q20K	Shuyak Island	2.92	332	P		Pn		11 26 41.5	-0.4
	baz=150								
Q20K				S		Sn		11 27 15.3	-1.7
	baz=150								
SYI	Shuyak Island	2.92	332			Pn		11 26 41.4	-0.5
SYI	Shuyak Island	2.92	332			Sn		11 27 15.3	-1.7

Q19K	Cape Douglas,	3.56	325			Pn	11 26 50.7	+0.1
Q19K	Cape Douglas,	3.56	325			Sn	11 27 31.9	-0.8
Q19K	Cape Douglas,	3.56	325	P		Pn	11 26 50.8	+0.1
	baz=143							
Q19K				S		Sn	11 27 31.9	-0.8
	baz=143							
CNPM	China Poot	3.56	348			Pn	11 26 50.1	-0.6
CNPM				IAML			11 27 33.3	
	comp=N,737nm,0.5s							
CNPM				IAML			11 27 37.7	
	comp=E,834nm,0.5s							
CNPM	China Poot	3.56	348			Sn	11 27 31.1	-1.5
KAHG	Katmai Hook Gl	3.56	315			Pn	11 26 51.4	+0.5
KAHG						Sn	11 27 31.5	-1.4
KCE	Katmai Mt Cerb	3.68	309			Pn	11 26 52.9	+0.5
BRSE	Bradley Lake S	3.72	352			Pn	11 26 52.0	-0.9
BRSE						Sn	11 27 35.1	-1.6
BRSE	Bradley Lake S	3.72	352	P		Pn	11 26 52.0	-0.9
	baz=172							
ACHA	Angle Creek He	3.72	308			Pn	11 26 53.1	+0.1
HOM	Homer	3.74	345			Pn	11 26 52.8	-0.3
HOM				IAML			11 28 00.6	
	comp=E,1μm,1.2s							
BRLK	Bradley Lake	3.75	351			Pn	11 26 52.3	-1.1
BRLK				IAML			11 27 39.3	
	comp=E,673nm,0.7s							
BRLK				IAML			11 27 39.5	
	comp=N,777nm,0.9s							
ANCK	Angle Creek	3.79	307			Pn	11 26 54.1	+0.1
KVTA	Katmai Vly 10	3.80	310			Pn	11 26 54.4	+0.3
Q23K	Middleton Isla	3.83	27			Pn	11 26 53.6	-0.7
Q23K				IAML			11 27 42.5	
	comp=N,459nm,1.2s							
Q23K				IAML			11 28 35.4	
	comp=E,518nm,2.8s							
Q23K	Middleton Isla	3.83	27			Sn	11 27 36.1	-3.2
Q23K	Middleton Isla	3.83	27	P		Pn	11 26 53.7	-0.7
	baz=210							
MID	Middleton Isla	3.83	27			Pn	11 26 53.6	-0.8
MID				IAML			11 28 35.4	
	comp=E,498nm,2.8s							
MID	Middleton Isla	3.83	27	P		Pn	11 26 53.8	-0.6
MID	Middleton Isla	3.83	27	P		Pn	11 26 53.6	-0.8
MID							11 27 36.1	
KAHC	Katmai Hardscr	3.85	314			Pn	11 26 55.2	+0.4
KAHC	Katmai Hardscr	3.85	314	P		Pn	11 26 55.2	+0.4
	baz=130							
AUCH	Augustine Cone	3.85	331			Pn	11 26 55.0	+0.2
AUL	Augustine Lava	3.87	331			Pn	11 26 55.2	+0.2
PLK3	Peulik 3	3.93	297			Pn	11 26 55.6	-0.2
CNTC	Contact Creek	4.00	306			Pn	11 26 56.8	0.0
CNTC						Sn	11 27 42.9	-0.9
Q17K	Contact Creek	4.00	306	P		Pn	11 26 56.8	-0.1
	baz=121							
KELA	Mount Kelaz	4.03	309			Pn	11 26 57.4	+0.2
P19K	Oil Pt	4.05	334			Pn	11 26 57.3	-0.2
P19K	Oil Pt	4.05	334			Sn	11 27 45.0	+0.2
P19K	Oil Pt	4.05	334	P		Pn	11 26 57.4	0.0
	baz=152							
SEW	Seward	4.05	2			Pn	11 26 56.2	-1.2
SEW	Seward	4.05	2	P		Pn	11 26 56.5	-0.9
	baz=183							
P23K	Montague Islan	4.13	17			Pn	11 26 57.8	-0.8
P23K	Montague Islan	4.13	17	P		Pn	11 26 58.0	-0.5
	baz=199							
PLK1	Peulik 1	4.14	298			Pn	11 26 58.2	-0.5
O20K	Slope Mountain	4.30	340			Pn	11 27 00.4	-0.6
O20K	Slope Mountain	4.30	340	P		Pn	11 27 00.6	-0.4
	baz=159							
IVE	Iliamna Volcan	4.32	338			Pn	11 27 00.3	-1.0
IVE						Sn	11 27 50.3	-1.4
O22K	Cooper Landing	4.42	0			Pn	11 27 01.6	-0.9
O22K	Cooper Landing	4.42	0	P		Pn	11 27 02.1	-0.5
	baz=181							
P18K	Big Mountain,	4.44	321	Pn		Pn	11 27 02.2	-0.7
P18K	Big Mountain,	4.44	321	P		Pn	11 27 02.2	-0.7
	baz=137							
SLKM	Skilak Lake	4.46	357			Pn	11 27 02.0	-1.1
SLKM						Sn	11 27 52.2	-2.7
R16K	Pilot Point	4.56	292			Pn	11 27 02.3	-2.0
R16K	Pilot Point	4.56	292	IAML			11 28 13.5	
	comp=N,476nm,2.5s							
R16K				IAML			11

PMR Palmer 5.55 3 P Pn 11 27 17.6 -0.4
baz=184
STLK Strandline Lak 5.55 350 Pn 11 27 17.3 -0.9
CYK Cape Yakataga 5.57 41 Pn 11 27 17.3 -1.0
BMRM Bremner River 5.60 27 Pn 11 27 18.3 -0.5
BMRM Bremner River 5.60 27 P Pn 11 27 18.7 -0.1
baz=211
N18K Kilae Creek 5.64 328 Pn 11 27 18.4 -0.9
O16K Kokwok River B 5.69 312 Pn 11 27 19.9 0.0
GHO Glory Hole Cre 5.74 Pn Pn 11 27 21.1 +0.4
CHNA Chernabura Isl 5.74 262 P Pn 11 27 18.5 -2.1
baz=73
CNBA Chernabura Isl 5.74 261 Pn Pn 11 27 18.9 -1.7
KLU Klutina 5.79 18 Pn 11 27 20.8 -0.6
KLU Klutina 5.79 18 P Pn 11 27 21.5 +0.1
baz=202
BARK Barkley Ridge 5.79 38 Pn 11 27 21.1 -0.3
SML Sawmill 5.80 7 Pn 11 27 21.8 +0.2
SML Sawmill 5.80 7 P Pn 11 27 21.7 +0.2
baz=188
M23K Glacier View 5.83 9 Pn 11 27 21.8 -0.2
M23K Glacier View 5.83 9 P Pn 11 27 22.3 +0.4
baz=192
SVW2 Sparrevohn 5.89 331 Pn 11 27 22.4 -0.4
SVW2 Sparrevohn 5.89 331 P Pn 11 27 22.2 -0.5
SCM Sheep Creek Mo 5.91 11 Pn 11 27 23.0 -0.1
SCM Sheep Creek Mo 5.91 11 P Pn 11 27 23.3 +0.2
baz=194
SCM Sheep Creek Mo 5.91 11 P Pn 11 27 23.0 -0.1
N17K Nushagak Hills 5.94 322 Pn 11 27 22.7 -0.7
SKT Skwentna 6.00 352 Pn 11 27 23.7 -0.6
SKT Skwentna 6.00 352 P Pn 11 27 23.6 -0.6
baz=171
M20K Styx River 6.09 345 Pn 11 27 24.5 -1.0
SDPT Sand Point 6.11 268 Pn 11 27 24.2 -1.5
SDPT Sand Point 6.11 268 P Pn 11 27 25.1 -0.6
SDPT Sand Point 6.11 268 P Pn 11 27 23.5 -2.2
baz=79
VRDI Verde Repeater 6.12 30 Pn Pn 11 27 25.3 -0.8
N25K Chitina, Valde 6.16 24 Pn 11 27 26.4 -0.1
GLB Gilahina Butte 6.21 27 Pn Pn 11 27 27.1 0.0
KIAG Kiagna River 6.22 35 Pn 11 27 27.1 -0.3
O15K Ungalikthiuk R 6.25 304 Pn 11 27 27.4 -0.1
M18K Stony River 6.29 332 Pn 11 27 27.1 -1.1
M19K Big River Lodg 6.32 340 Pn 11 27 28.7 0.0
M24K Tolsona, Glenn 6.33 15 Pn 11 27 29.4 +0.6
CUT Chulitna 6.36 358 Pn 11 27 29.1 -0.1
PTPK Patty Peak 6.38 34 Pn 11 27 29.7 +0.1
YKU2 Yakutat 6.40 53 P Pn 11 27 29.5 -0.1
PCA Pinnacle 6.45 47 Pn 11 27 30.8 +0.4
N16K Nishlik Lake 6.49 317 Pn 11 27 31.1 +0.1
WASW Wrangell South 6.54 24 Pn 11 27 31.8 0.0
BARN Barnard Glacie 6.55 37 Pn 11 27 32.3 +0.4
WACK Wrangell Chich 6.56 23 Pn 11 27 32.4 +0.3
CTGM Chitina Glacie 6.59 38 Pn 11 27 32.5 0.0
PNL Peninsula 6.59 53 Pn 11 27 32.5 +0.1
PNL Peninsula 6.59 53 P Pn 11 27 33.0 +0.6
WAT6 Susitna Watana 6.61 8 Pn 11 27 33.0 +0.3
LOGN Logan Glacier 6.61 40 Pn 11 27 32.5 -0.3
BCPM Bancas Point 6.63 50 Pn 11 27 33.7 +0.8
L19K White Mountain 6.67 339 Pn 11 27 32.5 -0.9
M17K Holitna River 6.67 326 Pn 11 27 33.0 -0.4
HARP HAARP 6.77 18 Pn 11 27 35.1 +0.4
WAT7 Susitna Watana 6.80 3 Pn 11 27 35.6 +0.3
PS1A Pavlof South-1 6.81 269 Pn 11 27 33.8 -1.4
WAT1 Susitna Watana 6.81 5 Pn 11 27 35.6 +0.2
PVV Pavlof Volcano 6.84 269 Pn 11 27 34.1 -1.7
N15K Kwethluk River 6.85 311 Pn 11 27 36.5 +0.7
M16K Timber Creek 6.92 320 Pn 11 27 36.5 -0.3
PN7A Pavlof North-7 6.95 270 Pn 11 27 36.3 -1.0
O14K Tigyukauivet M 6.95 302 Pn 11 27 37.4 +0.1
PPLA Purkeypile 6.96 351 Pn 11 27 37.6 +0.1
L18K Granite Mounta 7.12 333 Pn 11 27 38.3 -1.3
DHY Denali Highway 7.13 9 Pn 11 27 40.1 +0.2
PAX Paxson 7.25 16 Pn 11 27 41.6 +0.1
PAX Paxson 7.25 16 P Pn 11 27 41.6 +0.1
O29M Mount Kennedy 7.27 50 Pn 11 27 42.2 +0.5
P29M Windy Craggy 7.33 56 Pn 11 27 42.0 -0.5
YUK2 White River 7.35 35 Pn 11 27 43.7 +0.9
RND Reindeer 7.37 3 Pn 11 27 43.0 -0.1
RND Reindeer 7.37 3 P Pn 11 27 43.0 -0.1
M15K Kasigluk River 7.38 313 Pn 11 27 43.2 0.0
TRF Thorofare Moun 7.41 358 Pn 11 27 43.1 -0.6
N14K Kuskokwak Cree 7.42 306 Pn 11 27 44.0 +0.3
CAST Castle Rocks 7.47 352 Pn 11 27 44.0 -0.3
M27K Edge Creek, AK 7.48 29 Pn 11 27 45.6 +1.0
L17K Donlin 7.50 328 Pn 11 27 44.0 -0.8
KTH Kantishna Hill 7.53 356 Pn 11 27 44.7 -0.6
MENT Mentasta 7.54 21 Pn 11 27 45.8 +0.4
L16K Owhat River 7.57 322 Pn 11 27 45.0 -0.7
TTA Tatalina 7.58 338 Pn Pn 11 27 44.8 -1.2
TTA Tatalina 7.58 338 P Pn 11 27 44.4 -1.5
TTA Tatalina 7.58 338 P Pn 11 27 44.8 -1.2
S31K Pelican 7.62 70 Pn 11 27 44.3 -2.0
K20K Telida 7.63 345 Pn 11 27 44.6 -1.9
L26K Log Cabin Wild 7.69 22 Pn 11 27 48.8 +1.4
MCK McKinley 7.70 3 Pn 11 27 47.7 +0.2
MCK McKinley 7.70 3 P Pn 11 27 47.7 +0.2
P30M Million Dollar 7.89 54 Pn 11 27 50.2 0.0
M14K Bethel 7.94 311 Pn Pn 11 27 50.6 -0.2
K17K Iditarod 7.96 330 Pn 11 27 50.4 -0.7
HYT Haines Junctio 7.99 48 Pn Pn 11 27 52.4 +0.8
SIT Sitka 8.03 77 Pn 11 27 48.9 -3.1
SIT Sitka 8.03 77 P Pn 11 27 49.8 -2.2
SIT Sitka 8.03 77 P Pn 11 27 48.9 -3.1
ISLZ Isanotski Laza 8.06 266 Pn 11 27 51.0 -1.6
ISNN Isanotski Nort 8.07 267 Pn 11 27 51.3 -1.4
RIDG Independent Ri 8.08 16 Pn Pn 11 27 53.5 +0.8
L27K Beaver Creek, 8.08 27 Pn 11 27 52.2 -0.5
BPAW Bear Paw Mtn. 8.08 356 Pn Pn 11 27 52.2 -0.6
BCAR Beaver Creek A 8.09 27 Pn Pn 11 27 53.4 +0.5
BWN Browne 8.13 1 Pn 11 27 53.9 +0.5
SSLN Shishaldin Nor 8.20 267 Pn 11 27 53.5 -1.0
J18K Innoko River 8.20 338 Pn 11 27 53.5 -0.9
SSLS Shishaldin Sou 8.23 266 Pn 11 27 53.7 -1.1
L15K Ungalak Mounta 8.28 318 Pn 11 27 55.0 -0.3
M13K Dall Lake 8.39 307 Pn 11 27 57.0 +0.1
SKAG Skagway 8.42 60 Pn Pn 11 27 57.9 +0.6
SKAG Skagway 8.42 60 P Pn 11 27 57.7 +0.3
J20K Nowinta River 8.42 347 Pn 11 27 55.9 -1.5
SCRK Sand Creek 8.44 18 Pn 11 27 57.6 -0.1
BESE Bessie Mountai 8.44 67 Pn 11 27 57.1 -0.6
S32K Killisnoo 8.45 74 Pn 11 27 55.4 -2.4
J19K Poorman 8.47 342 Pn 11 27 56.8 -1.3
HDA Harding Lake 8.48 8 Pn 11 27 59.0 +0.8
N30M Aishikik Lake 8.50 45 Pn 11 27 58.6 0.0
L14K Kuka Creek 8.55 313 Pn 11 27 59.5 +0.4
NEA2 Nenana 8.56 2 Pn 11 27 58.3 -1.0
R32K Eaglecrest 8.56 69 Pn 11 27 59.1 -0.3
O30N Mendenhall 8.57 51 Pn 11 27 59.4 -0.1
M29M Somme Creek 8.61 37 Pn 11 28 00.4 +0.3
JIS Juneau Island 8.63 69 Pn Pn 11 28 00.0 -0.3
JIS Juneau Island 8.63 69 P Pn 11 27 59.8 -0.5
CCB Clear Creek Bu 8.66 6 Pn 11 28 00.4 -0.2
K15K Wolf Creek Mou 8.68 321 Pn 11 28 01.3 +0.4
J25K Salcha River, 8.84 12 Pn 11 28 02.3 -0.9
IL31 8.84 8 Pn 11 28 03.0 -0.1
ILAR Eielson Array 8.84 8 Pn 11 28 04.1 +0.9
ILAR Eielson Array 8.84 8 P Pn 11 28 04.1 +0.9
ILAR Eielson Array 8.84 8 Pn Pn 11 28 03.0 -0.1
comp=E,3.2nm,0.3s,baz=187,slow=14,SNR=133
ILAR Sn Sn 11 29 38.5 -4.2
comp=E,3.2nm,0.3s,baz=198,slow=19,SNR=5.0
ILAR LR LR 11 31 40.5
comp=E,771nm,18.7s,baz=212,slow=39
K27K Chicken 8.85 22 Pn Pn 11 28 03.8 +0.5
COLA College 8.88 5 Pn 11 28 03.9 +0.2
COLA College 8.88 5 P Pn 11 28 03.5 -0.2
COLA College 8.88 5 P Pn 11 28 03.9 +0.2
MDM Murphy Dome 8.95 4 Pn 11 28 04.2 -0.5
J25L Joseph Creek 8.99 17 Pn 11 28 05.1 -0.2
MLY Manley 9.01 357 Pn 11 28 04.3 -1.2
N31M Braeburn, Yuko 9.05 47 Pn 11 28 06.7 +0.6
WHY Whitehorse 9.06 53 Pn Pn 11 28 07.0 +0.7
J16K Anvik River 9.07 327 Pn 11 28 05.4 -0.9
I23K Minto, Yukon-K 9.11 1 Pn 11 28 07.3 +0.5
POKR Poker Plat Res 9.15 6 Pn 11 28 07.0 -0.4
L29M L29M 9.18 35 Pn 11 28 09.0 +1.2
I21K Tanana 9.21 354 Pn 11 28 07.0 -1.1
P32M Atlin 9.24 61 Pn Pn 11 28 08.9 +0.1

M30M Minto, Yukon 9.28 40 Pn 11 28 09.4 +0.2
U33K Whale Pass 9.29 83 Pn 11 28 06.1 -3.2
CRAG Craig 9.39 87 Pn 11 28 07.4 -3.3
CRAG Craig 9.39 87 P Pn 11 28 08.9 -1.8
DAWY Dawson 9.53 29 Pn 11 28 12.5 -0.1
I17K Unalakleet 9.55 330 Pn Pn 11 28 12.9 0.0
M11K Mekoryuk 9.69 303 Pn 11 28 14.2 -0.5
EGAK Eagle 9.70 22 Pn 11 28 16.4 +1.5
H21K Melozitna Rive 9.73 352 Pn 11 28 13.7 -1.7
H24K Noodor Dome 9.84 5 Pn 11 28 17.7 +0.8
P33M Teslin, Yukon 9.86 58 Pn Pn 11 28 17.2 +0.1
UNV Unalaska Valle 9.89 264 Pn 11 28 15.4 -2.2
UNV Unalaska Valle 9.89 264 P Pn 11 28 15.8 -1.8
K29M Barlow Dome 9.90 33 Pn Pn 11 28 18.2 +0.5
M31M Drury Creek, Y 9.98 46 Pn 11 28 19.7 +0.9
H18K Honhosa River 10.04 339 Pn Pn 11 28 18.2 -1.3
IMAR Indian Mountai 10.13 351 Pn Pn 11 28 21.9 +1.1
S34M Telegraph Cree 10.32 72 Pn 11 28 23.2 -0.2
FARO Faro, Yukon 10.42 47 Pn Pn 11 28 26.1 +1.3
I28M Miner Creek 10.54 23 Pn Pn 11 28 28.0 +1.4
R33M Jennings River 10.57 64 Pn Pn 11 28 27.0 +0.1
G18K Tagagawik 10.75 340 Pn Pn 11 28 28.4 -0.8
J30M Hart River 10.79 32 Pn Pn 11 28 30.9 +1.0
T35M Bob Quinn 10.80 77 Pn Pn 11 28 31.3 +1.2
I29M Ogilvie Camp, 10.85 26 Pn Pn 11 28 31.8 +1.1
DLBC Dease Lake 10.93 69 Pn Pn 11 28 32.2 +0.4
DLBC Dease Lake 10.93 69 Pn Pn 11 28 31.9 0.0
comp=E,2.2nm,0.3s,baz=238,slow=9.2,SNR=41
DLBC Sn Sn 11 30 27.7 -6.4
comp=E,0.2nm,0.3s,baz=248,slow=26,SNR=1.4
DLBC LR LR 11 32 01.5
comp=E,1µm,19.3s,baz=266,slow=34
comp=E,5.0nm,0.4s
ANM Nome 11.48 324 Pn Pn 11 28 39.3 +0.1
ANM Nome 11.48 324 P Pn 11 28 39.3 +0.1
WTLY Watson Lake, Y 11.78 61 Pn 11 28 44.0 +0.6
EPYK Eagle Plains 12.05 26 Pn Pn 11 28 49.1 +2.0
E25K Arctic Village 12.25 7 Pn Pn 11 28 50.5 +0.7
F28M Old Crow 12.46 18 Pn Pn 11 28 54.2 +1.5
D22K Ayikyak River 12.93 355 Pn Pn 11 28 59.8 +0.8
BBB Bella Bella 13.25 98 Sn Sn 11 31 19.4 -11
comp=E,0.5nm,0.3s,baz=67,slow=20,SNR=5.7
BBB LR LR 11 32 34.6
comp=E,589nm,21.6s,baz=306,slow=30
F31M Tsiigehtchic 13.63 27 Pn Pn 11 29 09.2 +0.7
D27M Malcolm River 13.80 13 Pn Pn 11 29 11.4 +0.5
INK Inuvik 14.35 25 Pn Pn 11 29 19.3 +1.0
INK Inuvik 14.35 25 P Pn 11 29 19.3 +1.0
INK Inuvik 14.35 25 Pn Pn 11 29 18.3 -0.1
comp=E,0.6nm,0.3s,baz=206,slow=15,SNR=51
INK LR LR 11 34 59.5
comp=E,945nm,21.0s,baz=182,slow=38
comp=E,22nm,1.0s
FLDN Fort Liard 14.43 62 Pn 11 29 21.2 +1.6
WRGLY Wrigley 15.01 51 Pn 11 29 29.3 +2.0
ADK Adak 16.34 266 Pn Pn 11 29 42.2 -2.5
ADK IAmb IAmb 11 30 04.7
comp=Z,68nm,1.4s
ADK Adak 16.34 266 P Pn 11 29 42.7 -2.0
ADK Adak 16.34 266 P Pn 11 29 42.2 -2.5
ADK pmax pmax
comp=Z,68nm,1.4s
KIWB Kanaga Island 16.61 267 P Pn 11 29 46.0 -2.2
C36M Paulatuk 17.56 31 Pn 11 29 59.6 -0.3
C36M IAmb IAmb 11 30 11.9
comp=Z,35nm,0.8s
HILA High Level 17.75 68 P P 11 30 04.0 +0.8
BRLDA Berland Lookou 18.53 83 Pn 11 30 12.5 +0.4
YKA Yellowknife Ar 18.87 56 P Pn 11 30 16.6 +0.5
comp=Z,0.4nm,0.3s,baz=264,slow=11,SNR=62
YKA LR LR 11 37 26.4
comp=Z,784nm,18.2s,baz=272,slow=37
comp=Z,8.7nm,1.0s
A36M Sachs Harbour 18.98 23 P Pn 11 30 17.4 +0.2
D05A Enumclaw 19.27 106 P Pn 11 30 21.6 +0.6
D05A IAmb IAmb 11 30 23.7
comp=Z,43nm,1.2s
LON Longmire 19.64 107 P Pn 11 30 25.4 0.0
LON Longmire 19.64 107 P Pn 11 30 25.5 0.0
LON pmax pmax
comp=Z,16nm,1.2s
LTY Liberty 19.94 104 P Pn 11 30 29.8 +0.7
LTY IAmb IAmb 11 30 32.1
comp=Z,51nm,1.4s
MXC Moxie City 20.57 105 P Pn 11 30 35.6 -0.7
MXC IAmb IAmb 11 30 39.5
comp=Z,25nm,1.3s
E07A Sunnyside 20.81 105 P P 11 30 37.4 +0.6
E07A IAmb IAmb 11 30 50.1
comp=Z,14nm,0.9s
C09A Chrisman Ranch 20.94 100 P P 11 30 38.5 +0.3
D08A Wollman Farm, 21.02 102 P P 11 30 40.0 +1.0
D08A IAmb IAmb 11 30 49.3
comp=Z,26nm,1.2s
HAWA Hanford 21.09 105 P P 11 30 41.0 +1.2
HAWA IAmb IAmb 11 30 53.4
comp=Z,33nm,1.4s
EDM Edmonton 21.09 82 P P 11 30 41.0 +1.2
EDM IAmb IAmb 11 30 51.2
comp=Z,26nm,1.5s
EDM Edmonton 21.09 82 P P 11 30 41.0 +1.2
EDM pmax pmax
comp=Z,26nm,1.5s
SHEM Shemya Is, Ala 21.15 276 LR LR 11 38 47.8
comp=Z,310nm,20.8s,baz=120,slow=37
F07A Phinny Hill Vi 21.19 106 P P 11 30 41.7 +0.9
F07A IAmb IAmb 11 30 54.0
comp=Z,25nm,1.1s
E08A Dider Farm, El 21.29 104 P P 11 30 42.4 +0.5
E08A IAmb IAmb 11 30 52.1
comp=Z,24nm,1.2s
NEW Newport 21.32 98 P P 11 30 42.9 +0.7
NEW Newport 21.32 98 P P 11 30 42.9 +0.7
NEW pmax pmax
comp=Z,14nm,1.2s
NEW Newport 21.32 98 P P 11 30 42.9 +0.7
comp=Z,4.8nm,0.8s,baz=316,slow=10,SNR=6.7
NEW LR LR 11 37 40.4
comp=Z,349nm,21.0s,baz=296,slow=33
comp=Z,4.8nm,0.8s
E09A Wood Farm, Sta 21.77 103 P P 11 30 47.2 +0.1
E09A IAmb IAmb 11 31 02.8
comp=Z,12nm,0.9s
PINE Pine Mountain 22.05 112 P P 11 30 49.2 -1.1
F10A Beach Ranch, E 22.61 103 P P 11 30 56.1 0.0
F10A IAmb IAmb 11 31 13.8
comp=Z,17nm,1.1s
I07A Izee 22.61 109 P P 11 30 56.4 +0.2
I07A IAmb IAmb 11 30 58.0
comp=Z,30nm,1.5s
YBH Yreka Blue Hor 22.64 118 P P 11 30 57.5 +1.0
comp=Z,4.9nm,0.9s,baz=259,slow=5.2,SNR=4.7
YBH LR LR 11 37 31.9
comp=Z,848nm,21.3s,baz=314,slow=31
comp=Z,4.9nm,0.9s
K05A Summer Lake 22.83 114 P P 11 30 59.2 +0.6
BILL Bilibino 23.23 319 eP P 11 31 02.5 +0.2
BMO Blue Mountains 23.28 105 P P 11 31 03.5 +0.5
BMO Blue Mountains 23.28 105 P P 11 31 03.6 +0.5
BMO pmax pmax
comp=Z,6.0nm,1.0s
PLID Pearl Lake 23.84 103 P P 11 31 09.4 +0.6
MSO Missoula 23.91 98 P P 11 31 09.5 +0.2
WVOR Wild Horse Val 24.21 111 P P 11 31 12.4 +0.3
WVOR IAmb IAmb 11 31 14.3
comp=Z,14nm,1.1s
WVOR Wild Horse Val 24.21 111 P P 11 31 12.4 +0.3
WVOR pmax pmax
comp=Z,14nm,1.2s
BPMT Black Pine Rid 24.41 98 P P 11 31 14.3 +0.2
ORV Oroville 24.90 120 P P 11 31 17.5 -0.7
ORV Oroville 24.90 120 P P 11 31 17.5 -0.7
ORV pmax pmax
comp=Z,4.0nm,0.7s
MFID Camas Ranch 25.02 106 P P 11 31 19.9 +0.4
MFID IAmb IAmb 11 31 31.0
comp=Z,16nm,1.4s
HLID Hailey 25.69 104 P P 11 31 26.5 +0.9
HLID IAmb IAmb 11 31 38.0
comp=Z,11nm,1.4s
MCMT McKenzie Canyo 25.73 100 P P 11 31 25.9 -0.2
PAHR Pah Rah Range 25.83 116 P P 11 31 27.5 +0.6
PAHR IAmb IAmb 11 31 31.1
comp=Z,11nm,1.1s

PNTR Pine Nut 26.19 118 P P 11 31 30.4 +0.2
PNTR IAmb IAmb 11 31 35.0
comp=Z,14nm,1.1s
YERR Yerington 26.45 117 P P 11 31 32.7 +0.2
KVN Kaiserville 26.97 116 P P 11 31 37.4 +0.2
KVN Kaiserville 26.97 116 P P 11 31 37.4 +0.2
KVN pmax pmax
comp=Z,8.0nm,1.4s
RYN Ryan 27.08 117 P P 11 31 38.0 -0.2
ELK Elko 27.20 110 P P 11 31 39.7 +0.4
ELK IAmb IAmb 11 31 52.5
comp=Z,10nm,1.4s
ELK Elko 27.20 110 P P 11 31 39.7 +0.4
ELK pmax pmax
comp=Z,10.0nm,1.4s
ELK Elko 27.20 110 LR LR 11 40 27.8
comp=Z,371nm,21.1s,baz=313,slow=32
NVAR Mina Array Bea 27.34 117 P P 11 31 40.4 -0.3
NVAR Mina Array Bea 27.34 117 P P 11 31 40.6 0.0
comp=Z,2.5nm,0.8s,baz=310,slow=8.1,SNR=20
NVAR LR LR 11 40 48.4
comp=Z,777nm,18.3s,baz=311,slow=33
comp=Z,2.5nm,0.8s
LHV Little Huntoon 27.38 117 P P 11 31 40.5 -0.1
LHV IAmb IAmb 11 31 52.7
comp=Z,14nm,1.3s
RES Resolute Bay 27.87 28 P P 11 31 44.6 -0.1
RES IAmb IAmb 11 32 10.3
comp=Z,8.7nm,1.4s
RES Resolute Bay 27.87 28 P P 11 31 44.6 -0.1
RES pmax pmax
comp=Z,9.0nm,1.4s
RES Resolute Bay 27.87 28 LR LR 11 43 21.7
comp=Z,531nm,18.7s,baz=228,slow=38
TPH Tonopah 28.16 116 P P 11 31 47.8 -0.1
TPH Tonopah 28.16 116 P P 11 31 47.8 -0.1
TPH pmax pmax
comp=Z,17nm,1.0s
R11B Troy Canyon, C 28.79 114 P P 11 31 53.2 -0.2
R11B IAmb IAmb 11 31 55.8
comp=Z,7.0nm,1.2s
BW06 Boulder Array 28.88 100 P P 11 31 54.5 +0.2
PD31 Pinedale Array 28.88 100 P P 11 31 54.3 0.0
PDAR Pinedale Array 28.88 100 P P 11 31 54.1 -0.2
PDAR Pinedale Array 28.88 100 P P 11 31 54.5 +0.2
comp=Z,0.9nm,0.6s,baz=314,slow=4.7,SNR=9.7
comp=Z,0.9nm,0.6s
SEY Seymchan 29.23 307 i P 11 31 57.7 +0.8
SEY pmax pmax
comp=Z,11nm,1.1s
PETK Petropavlovsk- 29.99 287 P P 11 32 03.8 0.0
comp=Z,1.8nm,0.6s,baz=67,slow=14,SNR=2.0
PETK LR LR 11 45 05.8
comp=Z,187nm,18.9s,baz=80,slow=38
comp=Z,1.8nm,0.6s
MA2 Magadan 30.95 302 LR LR 11 46 11.1
comp=Z,534nm,18.3s,baz=80,slow=39
O20A White River Ci 31.40 103 P P 11 32 16.4 -0.2
PFO Pinyon Flats O 32.07 120 LR LR 11 43 44.8
comp=Z,422nm,18.7s,baz=326,slow=33
ULM Lac du Bonnet 32.10 77 LR LR 11 43 28.3
comp=Z,131nm,20.4s,baz=300,slow=33
WUAZ Wupatki 33.12 112 P P 11 32 32.0 +0.3
Y14A Wickenburg 33.52 116 P P 11 32 34.8 -0.2
Y14A IAmb IAmb 11 32 37.7
comp=Z,6.9nm,1.2s
X16A Lo Mia Camp, P 33.94 113 P P 11 32 38.7 -0.1
X16A IAmb IAmb 11 32 41.5
comp=Z,4.0nm,0.9s
TIXI Tiksi 35.71 328 P P 11 32 53.3 -0.2
TIXI IAmb IAmb 11 32 55.5
comp=Z,10.0nm,1.4s
TIXI Tiksi 35.71 328 ⇑ eP P 11 32 54.7 +1.2
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI Tiksi 35.71 328 LR LR 11 49 44.1
comp=Z,225nm,18.2s,baz=29,slow=40
ANMO Albuquerque 36.15 107 ⇓ i P 11 32 54.5 -3.4
ANMO pmax pmax
comp=Z,1.0nm,1.2s
ANMO Albuquerque 36.15 107 LR LR 11 47 02.4
comp=Z,141nm,18.7s,baz=47,slow=35
NEEM North Greenlan 37.87 21 i P P 11 33 11.6 -0.6
NEEM IAmb IAmb 11 33 15.2
comp=Z,6.9nm,1.0s
FRB Frobisher Bay 38.76 45 LR LR 11 49 26.5
comp=Z,914nm,19.1s,baz=320,slow=36
YAK Yakutsk 39.33 313 eP P 11 33 24.8 +0.6
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK Yakutsk 39.33 313 LR LR 11 52 19.7
comp=E,238nm,18.3s,baz=76,slow=40
YSS Yuzh-Sakhalins 41.39 287 eP P 11 33 31.7 -10
YSS MLR MLR
comp=Z,500nm,15.0s
TX31 Lajitas Ar. Si 41.99 110 P P 11 33 47.2 +0.5
TXAR Lajitas Array 41.99 110 P P 11 33 48.1 +1.4
comp=Z,2.3nm,0.9s,baz=318,slow=5.2,SNR=15
TXAR LR LR 11 50 37.4
comp=Z,216nm,18.0s,baz=302,slow=35
comp=Z,2.3nm,0.9s
SAND Sanderson 42.32 108 P P 11 33 48.6 -0.7
Z35A Perchaven, San 42.38 100 P P 11 33 49.4 -0.3
Z35A IAmb IAmb 11 34 00.2
comp=Z,15nm,1.2s
LPIG La Paz 42.95 122 LR LR 11 49 04.7
comp=Z,216nm,20.3s,baz=352,slow=32
JCT Junction City 43.16 105 P P 11 33 56.1 0.0
JCT Junction City 43.16 105 P P 11 33 56.2 0.0
JCT pmax pmax
comp=Z,17nm,1.2s
SUMG Summit 43.27 24 P P 11 33 56.8 -0.1
SUMG Summit 43.27 24 P P 11 33 56.8 -0.1
SUMG pmax pmax
comp=Z,22nm,1.3s
SUMG Summit 43.27 24 i P P 11 33 57.0 +0.1
SUMG IAmb IAmb 11 33 59.2
comp=Z,5.0nm,0.8s
SFJD Kangerlussuaq 43.41 34 LR LR 11 51 47.5
comp=Z,287nm,21.2s,baz=324,slow=36
DRIO Del Rio 43.55 107 P P 11 33 58.7 -0.5
DRIO IAmb IAmb 11 34 08.9
comp=Z,6.0nm,0.7s
SCHQ Schefferville 44.33 55 LR LR 11 52 38.4
comp=Z,330nm,18.4s,baz=298,slow=36
SADO Sadowa 44.46 74 LR LR 11 51 09.7
comp=Z,156nm,18.2s,baz=283,slow=34
ZEA Zeya 45.04 304 eP P 11 34 10.9 +0.1
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,300nm,13.0s
KLR Kul'dur 45.69 296 ⇑ i P P 11 34 16.1 0.0
KLR pmax pmax
comp=Z,16nm,1.3s
KLR Kul'dur 45.69 296 P P 11 34 16.5 +0.4
comp=Z,5.9nm,0.7s,baz=58,slow=7.3,SNR=17
comp=Z,5.9nm,0.7s
HEH HeiHe 47.18 300 eP P 11 34 28.5 +0.8
HEH pmax pmax
comp=Z,9.0nm,1.1s
HEH pmax pmax
comp=Z,240nm,5.0s
HEH LR LR
comp=N,310nm,12.2s
HEH LR LR
comp=E,400nm,11.4s
HEH LR LR
comp=Z,440nm,13.6s
BOD Bodaibo 48.18 314 eP P 11 34 35.9 +0.5
BOD e 11 34 37.3
NRIK Noril'sk 48.20 336 P P 11 34 34.4 -1.0
NRIK Noril'sk 48.20 336 ⇑ eP P 11 34 36.4 +1.0
NRIK pmax pmax
comp=Z,14nm,1.7s
NRIK Noril'sk 48.20 336 P P 11 34 35.1 -0.2
comp=Z,1.8nm,0.4s,baz=56,slow=4.8,SNR=4.8
NRIK LR LR 11 57 41.5
comp=Z,406nm,19.6s,baz=36,slow=40
comp=Z,1.8nm,0.4s
TKL Tuckaleechee C 48.20 86 LR LR 11 54 31.8
comp=Z,390nm,18.8s,baz=318,slow=36

H11N2 WAKE ISLAND Hy 48.55 240 T T 12 27 16.6
baz=31,slow=76,SNR=20
H11N3 WAKE ISLAND Hy 48.56 240 T T 12 27 18.1
baz=31,slow=76,SNR=21
H11N1 WAKE ISLAND Hy 48.57 240 T T 12 27 16.6
baz=31,slow=76,SNR=18
USRK Ussuriysk Ar. 48.91 291 P **P** **11 34 40.8 -0.4**
comp=Z,1.0nm,0.4s,baz=50,slow=12,SNR=5.9
USRK LR LR 11 55 10.5
comp=Z,152nm,20.7s,baz=59,slow=36
comp=Z,1.0nm,0.4s
H11S1 WAKE ISLAND Hy 49.69 239 T T 12 28 49.4
baz=28,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 49.70 239 T T 12 29 03.7
baz=28,slow=76,SNR=25
H11S3 WAKE ISLAND Hy 49.71 239 T T 12 28 55.0
baz=28,slow=76,SNR=32
JMIC Jan Mayen 50.29 15 LR LR 11 57 31.1
comp=Z,100nm,20.1s,baz=327,slow=38
MJAR Matsushiro Arr 50.95 279 LR LR 11 54 57.7
comp=Z,37nm,21.4s,baz=52,slow=34
JHJ Hachijo jima 2 52.59 275 LR LR 11 54 14.4
comp=Z,40nm,21.1s,baz=111,slow=32
BORG Borgarnes 53.24 25 LR LR 11 59 01.3
comp=Z,203nm,19.0s,baz=330,slow=37
KSRS Korea Array 55.88 288 LR LR 12 00 00.6
comp=Z,59nm,19.1s,baz=55,slow=37
CMIG Matias Romero 56.60 110 LR LR 11 58 59.3
comp=Z,171nm,19.8s,baz=324,slow=35
XLT XiLinHaoTe 57.14 301 *eP* **P** **11 35 42.0 0.0**
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.5s
JNU Nakatsue 57.52 282 LR LR 12 02 03.7
comp=Z,53nm,19.0s,baz=50,slow=38
TEIG Tepich 57.58 102 LR LR 12 03 28.0
comp=Z,670nm,18.2s,baz=56,slow=39
ULN Ulaanbaatar 58.27 310⇑ *eP* **P** **11 35 49.8 -0.2**
ULN pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 58.58 310 P **P** **11 35 53.3 +1.2**
comp=Z,3.2nm,0.8s,baz=44,slow=5.0,SNR=24
comp=Z,3.2nm,0.8s
ZAA0 Zalesovo Array 61.60 327 P **P** **11 36 12.2 -0.3**
ZALV Zalesovo Beam 61.60 327 P **P** **11 36 12.3 -0.2**
ZALV Zalesovo Beam 61.60 327 *i* P **P** **11 36 13.5 +1.0**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 61.60 327 P **P** **11 36 12.6 +0.1**
comp=Z,2.2nm,0.6s,baz=34,slow=7.3,SNR=9.9
ZALV LR LR 12 07 12.9
comp=Z,261nm,18.3s,baz=18,slow=40
comp=Z,2.2nm,0.6s
HHC Hu-ho-hao-te 61.63 302 *eP* **P** **11 36 16.3 +3.2**
HHC PcP **PcP** **11 36 52.8 -1.8**
HHC *eS* **S** **11 44 30.5 -4.5**
HHC sS sS 11 44 48.5 +10
HHC Hu-ho-hao-te 61.63 302 SS SS 11 48 43.0 +7.5
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.9s
HHC LR LR
comp=N,590nm,16.8s
HHC LR LR
comp=E,830nm,15.7s
HHC LR LR
comp=Z,590nm,19.3s
NB2 NORSAR Subarra 62.27 10 P **P** **11 36 17.4 +0.4**
comp=Z,8.2nm,1.2s,baz=348,slow=6.9
NOA NORSAR Array B 62.27 10 P **P** **11 36 16.9 -0.1**
comp=Z,1.6nm,0.8s,baz=348,slow=6.7,SNR=6.6
NOA LR LR 12 03 51.2
comp=Z,53nm,21.3s,baz=335,slow=37
comp=Z,1.6nm,0.8s
BTO Baotou 62.55 302 *eP* **P** **11 36 18.5 -0.8**
BTO pP **sP** **11 36 23.0 +0.8**
BTO sP **pwP** **11 36 25.8 -1.9**
BTO PP **PP** **11 38 37.5 +1.1**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,190nm,5.3s
HNS HongShan 62.77 297 ⇓P **P** **11 36 22.5 +1.9**
HNS *eS* **S** **11 44 49.0 -0.2**
HNS pmax pmax
comp=Z,6.0nm,1.2s
HNS LR LR
comp=N,180nm,20.7s
HNS LR LR
comp=E,280nm,19.1s
HNS LR LR
comp=Z,260nm,21.1s
FINES FINESS Array B 62.78 2 *i* P **P** **11 36 22.6 +2.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 62.78 2 P **P** **11 36 21.2 +0.9**
comp=Z,1.1nm,0.5s,baz=2.3,slow=8.9,SNR=8.5
comp=Z,1.1nm,0.5s
HFS Hagfors 63.40 9 P **P** **11 36 24.1 -0.3**
comp=Z,1.5nm,0.6s,baz=329,slow=1.7,SNR=7.8
HFS LR LR 12 05 57.4
comp=Z,69nm,18.4s,baz=26,slow=38
comp=Z,1.5nm,0.6s
JOW Kunigami 63.79 280 LR LR 12 04 33.8
comp=Z,25nm,21.9s,baz=206,slow=36
DGZ Jazzator, Alta 64.38 323 *c i* P **P** **11 36 32.9 +1.6**
DGZ pmax pmax
comp=Z,11nm,1.7s
KIRV Kirov 64.67 349 LR LR 12 09 04.0
comp=Z,113nm,18.7s,baz=26,slow=40
GUMO Guam 65.14 257 LR LR 12 00 08.8
comp=Z,43nm,20.9s,baz=48,slow=32
ARU Arti 65.53 343 P **P** **11 36 38.6 +0.1**
ARU Arti 65.53 343 ⇓ *i* P **P** **11 36 39.3 +0.8**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 65.53 343 LR LR 12 08 22.7
comp=Z,136nm,19.1s,baz=9.5,slow=39
LYN LuoYang 66.12 297 ⇓P **P** **11 36 44.3 +1.7**
LYN pmax pmax
comp=Z,13nm,1.0s
LYN pmax pmax
comp=Z,380nm,4.7s
LYN LR LR
comp=N,290nm,20.3s
LYN LR LR
comp=E,240nm,16.1s
LYN LR LR
comp=Z,300nm,13.7s
KURK Kurchatov 66.28 329 P **P** **11 36 43.6 +0.2**
KURK IAmb IAmb 11 36 59.8
comp=Z,5.4nm,1.2s
KURK Kurchatov 66.28 329⇑ *eP* **P** **11 36 44.9 +1.6**
KURK pmax pmax
comp=Z,4.0nm,1.1s
BRVK Borovoye 66.36 335 P **P** **11 36 43.9 0.0**
BRVK Borovoye 66.36 335 P **P** **11 36 43.9 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 66.37 335 P **P** **11 36 44.1 +0.2**
comp=Z,3.0nm,0.6s,baz=46,slow=6.6,SNR=13
BVAR LR LR 12 09 53.4
comp=Z,209nm,18.7s,baz=28,slow=40
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 66.39 329 P **P** **11 36 44.2 +0.1**
comp=Z,0.9nm,0.6s,baz=23,slow=5.7,SNR=5.7
KURBB LR LR 12 08 27.6
comp=Z,175nm,18.9s,baz=192,slow=38
comp=Z,0.9nm,0.6s
JTS Las Juntas de 67.54 106 LR LR 12 08 20.7
comp=Z,70nm,18.1s,baz=310,slow=38
GTA Gaotai 68.17 309 *eP* **P** **11 36 56.3 +0.6**
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA LR LR
comp=N,230nm,19.3s
GTA LR LR
comp=E,290nm,18.2s
GTA LR LR
comp=Z,460nm,19.3s
MK31 Makanchi Array 68.62 324 P **P** **11 36 58.6 +0.3**
MK31 IAmb IAmb 11 37 08.0
comp=Z,3.2nm,0.9s
MK31 Makanchi Array 68.62 324 P **P** **11 36 58.6 +0.3**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 68.62 324 P **P** **11 36 58.1 -0.2**
MKAR Makanchi Array 68.62 324 P **P** **11 36 58.1 -0.2**
MKAR Makanchi Array 68.62 324 P **P** **11 36 58.4 +0.2**
comp=Z,1.6nm,0.7s,baz=28,slow=6.2,SNR=24
comp=Z,1.6nm,0.7s
MAKZ Makanchi 68.71 325 P **P** **11 36 59.0 +0.2**
MAKZ Makanchi 68.71 325 P **P** **11 36 59.0 +0.2**
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
WMQ Urumqi 69.34 319 *eP* P 11 37 08.3 +5.5
WMQ LR LR
comp=Z,180nm,17.5s
BELG Belogornoye 70.95 349 LR LR 12 12 25.9
comp=Z,112nm,18.7s,baz=143,slow=39
AKTO Aktyubinsk 71.38 342 LR LR 12 13 06.6
comp=Z,104nm,18.3s,baz=18,slow=40
SJG San Juan 71.62 85 LR LR 12 09 09.7
comp=Z,78nm,19.1s,baz=202,slow=36
CLL Collm 72.04 11 *i* P **P** **11 37 20.1 +1.1**
CLL *i* 11 37 29.4
CLL *eS* **S** **11 46 41.0 +0.9**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 72.04 11 *i* P **P** **11 37 20.1 +1.1**
comp=Z,5.0nm,1.0s
CLL *i* x x 11 37 29.4
CLL *eSx* Sx 11 46 41.0
ABKAR Akbulak array 72.16 340 P **P** **11 37 20.5 +0.7**
ABKAR Akbulak array 72.16 340 P **P** **11 37 21.0 +1.2**
AKASG Malin Array Be 73.59 1 P **P** **11 37 29.1 +0.8**
comp=Z,0.6nm,0.5s,baz=1.2,slow=5.4,SNR=5.1
AKASG LR LR 12 09 54.1
comp=Z,65nm,21.5s,baz=12,slow=36
comp=Z,0.6nm,0.5s
KHC Kasperske Hory 74.25 11 ⇓ *i* P **P** **11 37 34.0 +1.8**
KHC pmax pmax
comp=Z,12nm,1.7s
VRAC Vranov 74.37 9 LR LR 12 10 40.2
comp=Z,38nm,21.4s,baz=354,slow=36
GERES GERESS Array B 74.54 11 P **P** **11 37 33.5 -0.5**
comp=Z,0.8nm,0.6s,baz=354,slow=5.9,SNR=4.8
GERES LR LR 12 11 52.1
comp=Z,45nm,21.7s,baz=348,slow=37
comp=Z,0.8nm,0.6s
AAK Ala-Archa 74.79 328 ⇑ *iP* **P** **11 37 36.6 +1.0**
AAK pmax pmax
comp=Z,9.0nm,1.2s
KKAR Karatay Array 75.50 331 P **P** **11 37 39.2 -0.4**
KKAR Karatay Array 75.50 331 P **P** **11 37 39.2 -0.4**
MOTA Moosalm 75.71 13 *eP* **P** **11 37 43.4 +2.5**
comp=Z,4.9nm,0.9s
WATA Walderalm 75.78 13 *i* P **P** **11 37 44.1 +2.9**
comp=Z,4.1nm,0.7s
SQTA Sankt Quirin 75.85 13 *i* P **P** **11 37 43.6 +2.0**
comp=Z,4.3nm,1.0s
FETA Feichten 75.98 14 *eP* **P** **11 37 45.3 +2.9**
comp=Z,3.7nm,1.1s
DAVOX Davos/Dischmat 76.10 14 LR LR 12 13 00.7
comp=Z,33nm,21.9s,baz=68,slow=37
KBA Koelnbreinsper 76.25 12 *i* P **P** **11 37 46.2 +2.2**
comp=Z,5.0nm,1.0s
SDV Santo Domingo 76.60 94 LR LR 12 14 30.4
comp=Z,68nm,18.2s,baz=250,slow=38
SOKA Soboth 76.83 11 *i* P **P** **11 37 49.9 +2.8**
comp=Z,3.4nm,1.1s
OBKA Obir 76.94 11 *i* P **P** **11 37 50.1 +2.3**
comp=Z,5.8nm,1.0s
HNR Honiara 77.38 231 LR LR 12 03 28.6
comp=Z,2µm,21.9s,baz=25,slow=29
PZH PanZhiHua 78.00 300 P **P** **11 37 56.8 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,5.1s
MLR Muntele Rosu 78.75 3 LR LR 12 12 42.2
comp=Z,94nm,20.9s,baz=5.5,slow=36
KIV Kislovodsk 79.79 351 *eP* **P** **11 38 03.2 -0.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 80.00 351 LR LR 12 18 44.5
comp=Z,56nm,18.6s,baz=12,slow=40
SIMJ Simiganj 80.05 330 P **P** **11 38 05.1 0.0**
SIMJ IAmb IAmb 11 38 15.7
comp=Z,5.3nm,0.8s
ESDC Sonseca Array 80.29 26 P **P** **11 38 06.4 +0.1**
comp=Z,1.4nm,0.8s,baz=332,slow=5.6,SNR=6.7
comp=Z,1.4nm,0.8s
DAV Davao City (W) 81.21 270 LR LR 12 07 29.7
comp=Z,64nm,22.0s,baz=356,slow=31
PMG Port Moresby 83.34 242 LR LR 12 10 01.2
comp=Z,74nm,21.9s,baz=18,slow=32
GNI Garni 83.36 349 LR LR 12 21 14.3
comp=Z,107nm,18.2s,baz=31,slow=40
GEYT Alibeck 83.41 338 P **P** **11 38 23.1 +0.4**
comp=Z,1.4nm,0.6s,baz=14,slow=6.0,SNR=2.1
comp=Z,1.4nm,0.6s
BRTR Keskin Array B 84.53 357 P **P** **11 38 28.9 +0.4**
comp=Z,0.6nm,0.7s,baz=21,slow=10,SNR=2.4
BRTR LR LR 12 17 37.9
comp=Z,64nm,21.4s,baz=13,slow=37
comp=Z,0.6nm,0.7s
VAE Valguarnera 85.84 13 LR LR 12 21 34.9
comp=Z,89nm,18.1s,baz=322,slow=39
CMAR Chiang Mai Arr 86.15 298 *ceP* **P** **11 38 37.5 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 86.15 298 P **P** **11 38 37.1 +0.4**
comp=Z,0.5nm,0.3s,baz=18,slow=5.4,SNR=6.5
CMAR LR LR 12 21 47.3
comp=Z,81nm,18.6s,baz=10.0,slow=39
comp=Z,0.5nm,0.3s
DZM Mont Dzumac 86.21 220 LR LR 12 16 39.8
comp=Z,110nm,18.6s,baz=42,slow=35
MDT Midelt 86.61 29 LR LR 12 17 42.5
comp=Z,137nm,18.2s,baz=335,slow=36
KEST Kesra 86.84 17 LR LR 12 19 35.9
comp=Z,64nm,19.8s,baz=324,slow=37
RPN Rapa Nui 89.71 145 LR LR 12 10 47.4
comp=Z,88nm,18.5s,baz=16,slow=30
MDP Montagnes des 89.77 81 LR LR 12 16 48.9
comp=Z,62nm,21.7s,baz=285,slow=34
QSPA South Pole Qui 145.86 180 PKPbc **PKPbc** **11 45 33.4 0.0**
comp=Z,2.7nm,0.7s,baz=82,slow=0.9,SNR=18

PRU 27 11:36:52.5, 50.08N×19.07E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.97**	**164**	*eSG*	Sg	11 37 21.0	-2.5
LANS				*eLG*	Lg	11 37 21.9	
MORC	**Moravsky Berou**	**1.03**	**253**	*ePG*	Pg	11 37 11.4	-0.9
MORC				*eSG*	Sg	11 37 25.7	+0.1
MAUC	**Maruska**	**1.08**	**229**	*eSG*	Sg	11 37 26.5	-0.6
KRLC	**Kraliky**	**1.47**	**271**	*ePG*	Pn	11 37 18.6	-1.8
KRLC				*eSG*	Sg	11 37 38.5	-1.3
	comp=Z,7.0nm,0.8s						
KRLC	**Kraliky**	**1.47**	**271**	*e*	Sg	11 37 38.5	-1.3
KRLC	**Kraliky**	**1.47**	**271**	*eP*	Pn	11 37 18.6	-1.8
VYHS	**Vyhne**	**1.59**	**186**	*eSN*	Sn	11 37 39.0	-4.3
DPC	**Dobruska-Polom**	**1.79**	**280**	*eSG*	Sg	11 37 49.7	-0.1

*NNC **27** 11:39:53.5±1.4, 50.84N×73.72E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=13.3km s-min=8.0km az=143.0, Suspected Mining explosion.*
*IDC **27** 11:39:56.9±1.5, 50.89N×73.88E, h0km, mbtmp2.5/4, ML1.9/4, Error ellipse: s-maj=29.4km s-min=10.3km az=28.0*

ISC 27 11:39:54.0±0.9, 50.85N±0.04×73.48E±0.06, h0km, n13, σ1s22/14, 2C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**1.01**	**211**	P	**Pg**	**11 40 13.0**	**-0.3**
	2.2nm,0.3s						
BRZS				S	**Sn**	**11 40 30.2**	**-0.1**
	11nm,0.3s						
OTUK	**Ortayu**	**2.71**	**196**	Pg	**Pb**	**11 40 41.8**	**-1.6**
	0.5nm,0.4s						
OTUK				Lg	Lg	11 41 19.0	
	3.3nm,0.7s						
OTUK	**Ortayu**	**2.71**	**196**	⇓Pg	**Pg**	**11 40 45.5**	**-0.4**
	3.3nm,0.7s						
OTUK				⇓Lg	Lg	11 41 21.2	
	10nm,0.9s						
BVA0	**Borovoye Array**	**2.90**	**320**	⇑Pg	**Pg**	**11 40 50.8**	**+1.3**
	1.5nm,0.6s,baz=134,slow=18,SNR=5.8						
BVA0				Lg	Lg	11 41 27.6	
	8.8nm,0.8s,baz=132,slow=30,SNR=9.7						
BVAR	**Borovoye Array**	**2.90**	**320**	Pn	**Pb**	**11 40 46.1**	**-0.5**
	0.1nm,0.3s,baz=137,slow=18,SNR=9.0						
BVAR				Sn	**Sb**	**11 41 22.5**	**-0.1**
	0.1nm,0.3s,baz=132,slow=22,SNR=3.7						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**3.22**	**92**	Pn	**Pn**	**11 40 44.7**	**-1.1**
	0.2nm,0.3s,baz=278,slow=14,SNR=3.5						
KURBB				Lg	Lg	11 41 29.5	
	0.3nm,0.3s,baz=282,slow=29,SNR=1.6						
	1.2nm,0.3s						
KURK	**Kurchatov**	**3.27**	**90**	⇓Pg	**Pb**	**11 40 51.5**	**-1.4**
	1.8nm,0.6s						
KURK				⇑Lg	Lg	11 41 31.8	
	18nm,0.7s						
SEM	**Semipalatinsk**	**4.33**	**93**	Pg	**Pn**	**11 41 01.9**	**+0.6**
	2.4nm,0.1s						
SEM				Lg	Lg	11 41 53.0	
	12nm,0.2s						
BTLS	**Baital**	**5.82**	**176**	Pg	**Pb**	**11 41 38.5**	**+2.1**
	1.3nm,0.3s						
BTLS				Lg	Lg	11 42 56.0	
	1.3nm,0.5s						
MK31	**Makanchi Array**	**7.09**	**121**	⇓Pg	**Pb**	**11 41 59.9**	**+1.9**
	0.8nm,0.8s,baz=302,slow=12,SNR=4.0						
MK31				⇓Lg	Lg	11 43 35.5	
	3.3nm,0.8s,baz=311,slow=26,SNR=5.8						
MKAR	**Makanchi Array**	**7.09**	**121**	Pn	**Pn**	**11 41 38.8**	**-0.2**
	baz=305,slow=13,SNR=1.6						
MKAR				Lg	Lg	11 43 30.1	
	0.2nm,0.3s,baz=317,slow=28,SNR=9.2						
	0.1nm,0.4s						
I46RU	**ZALESOVO INFRA**	**7.60**	**62**	I	I	12 25 10.0	
	0.1nm,0.8s,baz=249,slow=337,SNR=2.7						
ZALV	**Zalesovo Beam**	**7.60**	**62**	Pn	**Pn**	**11 41 45.8**	**-0.2**
	0.1nm,0.3s,baz=243,slow=15,SNR=2.0						
ZALV				Lg	Lg	11 43 52.5	
	0.1nm,0.3s,baz=246,slow=30,SNR=2.1						
	0.3nm,0.4s						

KRSC 27 11:54:45.0±0.7, 55.22N×166.39E, h32km±3km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.24**	**268**	*eP*	Pb	11 54 52.0	+0.1
BKI				*eS*	Sn	11 54 57.7	+0.8
TUMR	**Tumrok**	**3.57**	**274**	*eP*	Pn	11 55 42.5	+4.2
SMAR	**Somma**	**4.86**	**249**	*eP*	Pn	11 56 00.2	+4.2
AVH	**Avacha**	**4.89**	**250**	*eP*	Pn	11 56 00.8	+4.4
KRMR	**Karymshinskiy**	**5.42**	**247**	*eS*	Sn	11 57 09.9	+5.2
MTVR	**Mutnovka**	**5.57**	**244**	*eP*	Pn	11 56 10.2	+4.4
MTVR				*eS*	Sn	11 57 13.4	+4.7
ASAK	**Asacha**	**5.77**	**244**	*eP*	Pn	11 56 14.1	+5.6

*NEIC **27** 12:01:07.4±1.7, 55.86N±0.05×149.7W±0.1, h7km±7km, mb3.8/2, ML4.0/44, ML3.7(AEIC), Error ellipse: s-maj=9.1km s-min=7.1km az=130.0*
*IDC **27** 12:01:08.5±1.3, 55.95N×149.46W, h0km, mb3.6/6, mbtmp3.6/11, ML3.4/5, MS2.9/4, Error ellipse: s-maj=26.5km s-min=19.2km az=49.0*
*AEIC **27** 12:01:11.7±1.8, 55.83N±0.09×149.6W±0.1, h11km±7km, Error ellipse: s-maj=13.4km s-min=8.8km az=160.0*

ISC 27 12:01:09.8±0.8, 56.05N±0.08×149.62W±0.05, h10km, n282, σ0s98/265, mb3.7/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.34**	**302**		Pn	12 01 46.4	-1.9
OHAK	**Old Harbor**	**2.34**	**302**		**Sn**	**12 02 14.2**	**-2.9**
OHAK	**Old Harbor**	**2.34**	**302**	P	**Pn**	**12 01 47.1**	**-1.2**
OHAK	**Old Harbor**	**2.34**	**302**	P	**Pn**	**12 01 46.9**	**-1.4**
	baz=123						
OHAK				S	**Sn**	**12 02 14.2**	**-2.9**
	baz=123						
KDAK	**Kodiak Island**	**2.38**	**318**		**Pn**	**12 01 47.7**	**-1.1**
KDAK	**Kodiak Island**	**2.38**	**318**		**Sn**	**12 02 15.6**	**-2.4**
KDAK	**Kodiak Island**	**2.38**	**318**	Pn	**Pn**	**12 01 48.0**	**-0.8**
	6.5nm,0.3s,baz=134,slow=4.9,SNR=97						
KDAK				Sn	**Sn**	**12 02 15.8**	**-2.2**
	33nm,0.3s,baz=172,slow=19,SNR=32						
KDAK				LR	LR	12 03 01.6	
	comp=Z,134nm,18.9s,baz=171,slow=45						
	22nm,0.2s						
SII	**Sitkinak Islan**	**2.60**	**283**		Pn	12 01 49.7	-2.1
SII				IAML		12 02 31.2	
	comp=N,286nm,0.6s						
SII	**Sitkinak Islan**	**2.60**	**283**	P	Pn	12 01 49.9	-1.9
SII	**Sitkinak Islan**	**2.60**	**283**	P	Pn	12 01 49.7	-2.0
	baz=104						
Q20K	**Shuyak Island**	**2.98**	**331**	P	**Pn**	**12 01 56.9**	**-0.1**
	baz=151						
Q20K				S	**Sn**	**12 02 32.4**	**-0.3**
	baz=151						
SYI	**Shuyak Island**	**2.98**	**331**		**Pn**	**12 01 56.4**	**-0.5**
SYI				IAML		12 02 35.2	
	comp=E,166nm,0.7s						
SYI	**Shuyak Island**	**2.98**	**331**		**Sn**	**12 02 32.4**	**-0.2**
CNPM	**China Poot**	**3.59**	**347**		**Pn**	**12 02 04.9**	**-0.5**
CNPM				IAML		12 02 51.6	
	comp=N,123nm,0.6s						
CNPM	**China Poot**	**3.59**	**347**		**Sn**	**12 02 47.0**	**-0.9**
Q19K	**Cape Douglas,**	**3.61**	**325**		**Pn**	**12 02 05.6**	**-0.1**
Q19K	**Cape Douglas,**	**3.61**	**325**	P	**Pn**	**12 02 06.1**	**+0.3**
	baz=144						
KAHG	**Katmai Hook Gl**	**3.63**	**314**		**Pn**	**12 02 06.5**	**+0.5**
BRSE	**Bradley Lake S**	**3.75**	**351**		**Pn**	**12 02 07.1**	**-0.5**
BRSE					**Sn**	**12 02 51.3**	**-0.5**
BRSE	**Bradley Lake S**	**3.75**	**351**	P	**Pn**	**12 02 07.1**	**-0.5**
	baz=171						
BRSE				S	**Sn**	**12 02 51.3**	**-0.5**
	baz=171						
HOM	**Homer**	**3.78**	**344**	Pn	**Pn**	**12 02 08.3**	**+0.3**
HOM				IAML		12 02 56.8	
	comp=N,271nm,0.6s						
HOM				IAML		12 02 57.3	
	comp=E,303nm,0.9s						
BRLK	**Bradley Lake**	**3.79**	**350**		**Pn**	**12 02 07.3**	**-0.9**
BRLK	**Bradley Lake**	**3.79**	**350**		**Sn**	**12 02 52.4**	**-0.3**
ACHA	**Angle Creek He**	**3.79**	**307**		**Pn**	**12 02 08.2**	**-0.1**
Q23K	**Middleton Isla**	**3.81**	**26**		**Pn**	**12 02 08.2**	**-0.3**
Q23K	**Middleton Isla**	**3.81**	**26**	IAML		12 04 42.5	
	comp=N,341nm,2.0s						
Q23K	**Middleton Isla**	**3.81**	**26**	P	**Pn**	**12 02 08.2**	**-0.3**
	baz=208						
MID	**Middleton Isla**	**3.81**	**26**	Pn	**Pn**	**12 02 08.2**	**-0.3**
MID				IAML		12 03 56.1	
	comp=E,340nm,2.4s						
MID				IAML		12 04 42.4	
	comp=N,340nm,2.0s						
MID	**Middleton Isla**	**3.81**	**26**		**Sn**	**12 02 51.4**	**-1.9**
MID	**Middleton Isla**	**3.81**	**26**	P	**Pn**	**12 02 08.4**	**-0.1**
PLK3	**Peulik 3**	**4.00**	**297**		**Pn**	**12 02 10.8**	**-0.3**
SEW	**Seward**	**4.07**	**1**		**Pn**	**12 02 11.3**	**-0.6**
SEW	**Seward**	**4.07**	**1**	P	**Pn**	**12 02 11.3**	**-0.6**
	baz=182						
CNTC	**Contact Creek**	**4.07**	**306**		**Pn**	**12 02 11.9**	**-0.2**
Q17K	**Contact Creek**	**4.07**	**306**	P	**Pn**	**12 02 11.9**	**-0.2**
	baz=123						
P19K	**Oil Pt**	**4.10**	**333**			**12 02 12.5**	**+0.1**
P19K				IAML		12 03 04.9	
	comp=E,277nm,0.6s						
P19K				IAML		12 03 05.2	
	comp=N,298nm,0.6s						
P19K	**Oil Pt**	**4.10**	**333**	P	**Pn**	**12 02 12.6**	**+0.2**
	baz=152						
P23K	**Montague Islan**	**4.13**	**16**		**Pn**	**12 02 12.8**	**0.0**
P23K					**Sn**	**12 02 59.3**	**-1.8**
P23K	**Montague Islan**	**4.13**	**16**	P	**Pn**	**12 02 12.8**	**0.0**
	baz=197						
P23K				S	**Sn**	**12 02 59.3**	**-1.8**
	baz=197						
PLK1	**Peulik 1**	**4.21**	**298**		**Pn**	**12 02 13.5**	**-0.5**
O20K	**Slope Mountain**	**4.35**	**340**		**Pn**	**12 02 15.7**	**-0.2**
O20K	**Slope Mountain**	**4.35**	**340**	P	**Pn**	**12 02 15.7**	**-0.2**
	baz=159						
O22K	**Cooper Landing**	**4.44**	**359**		**Pn**	**12 02 16.8**	**-0.3**
O22K	**Cooper Landing**	**4.44**	**359**	IAML		12 03 11.6	
	comp=E,192nm,0.3s						
O22K	**Cooper Landing**	**4.44**	**359**	P	**Pn**	**12 02 16.8**	**-0.3**

baz=180
SLKM **Skilak Lake** 4.48 356 Pn 12 02 17.1 -0.6
SLKM Sn 12 03 08.8 -1.1
P18K **Big Mountain,** 4.50 320 Pn 12 02 17.0 -1.0
P18K **Big Mountain,** 4.50 320 P Pn 12 02 18.1 +0.2
baz=138
R16K **Pilot Point** 4.63 292 Pn 12 02 18.6 -1.1
R16K **Pilot Point** 4.63 292 P Pn 12 02 18.6 -1.1
baz=108
Q16K **King Salmon** 4.63 308 Pn 12 02 19.2 -0.5
Q16K **King Salmon** 4.63 308 P Pn 12 02 19.2 -0.5
baz=124
HIN **Hinchinbrook I** 4.66 19 Pn 12 02 19.3 -0.8
HIN IAML 12 03 21.8
comp=E,117nm,2.4s
HIN IAML 12 04 14.8
comp=N,120nm,2.3s
RED **Redoubt Volcan** 4.69 340 Pn 12 02 19.6 -1.0
RSO **Redoubt South** 4.72 341 Pn 12 02 20.8 -0.4
RDWB **Redoubt West** 4.76 340 Pn 12 02 20.6 -1.1
KAIM **Kayak Island** 4.77 33 Pn 12 02 21.9 +0.3
KAIM **Kayak Island** 4.77 33 P Pn 12 02 21.9 +0.3
baz=217
CAPN **Captain Cook N** 4.80 351 Pn Pn 12 02 22.9 +0.9
P17K **Kvichak River** 4.84 313 Pn 12 02 22.5 0.0
P17K **Kvichak River** 4.84 313 P Pn 12 02 22.5 0.0
baz=130
O18K **Koktuh Hills** 4.84 324 Pn 12 02 22.6 0.0
O18K IAML 12 03 20.1
comp=N,93nm,0.8s
O18K IAML 12 03 32.7
comp=E,57nm,0.8s
O18K **Koktuh Hills** 4.84 324 P Pn 12 02 22.0 -0.5
baz=141
O19K **Port Alsworth** 4.85 331 Pn 12 02 21.6 -1.0
O19K IAML 12 03 19.3
comp=E,172nm,0.4s
O19K IAML 12 03 21.1
comp=N,160nm,0.5s
O19K **Port Alsworth** 4.85 331 P Pn 12 02 22.4 -0.2
baz=149
ANPB **Aniakchak Plen** 4.87 282 Pn 12 02 21.6 -1.5
CHGN **Chignik** 4.92 277 Pn 12 02 21.4 -2.3
CHGN IAML 12 03 31.8
comp=N,57nm,1.8s
CHGN IAML 12 04 25.1
comp=E,58nm,2.8s
EYAK **Cordova Ski Ar** 4.95 23 Pn 12 02 24.2 +0.2
EYAK **Cordova Ski Ar** 4.95 23 P Pn 12 02 24.4 +0.3
EYAK **Cordova Ski Ar** 4.95 23 P Pn 12 02 24.2 +0.2
baz=206
RC01 **Rabbit Creek A** 5.05 359 Pn 12 02 24.9 -0.6
RC01 IAML 12 03 27.2
comp=N,55nm,0.4s
RC01 IAML 12 03 28.2
comp=E,58nm,0.5s
RC01 **Rabbit Creek A** 5.05 359 P Pn 12 02 25.3 -0.2
baz=180
RAGM **Ragged Mountai** 5.07 29 Pn 12 02 26.1 +0.3
RAGM **Ragged Mountai** 5.07 29 IAML 12 03 32.0
comp=E,111nm,0.9s
GOAT **Goat Mountain** 5.22 28 Pn 12 02 28.5 +0.6
N20K **Mount Spurr** 5.34 346 P Pn 12 02 28.6 -0.9
baz=165
SPCR **Spurr Chakacha** 5.34 346 Pn 12 02 28.6 -0.9
BERG **Berg Lake** 5.36 33 Pn 12 02 29.7 0.0
SPCP **Crater Peak Br** 5.40 347 Pn 12 02 29.6 -0.8
SPCG **Spurr Capps Gl** 5.40 348 Pn 12 02 30.2 -0.3
P16K **Nushagak River** 5.41 307 Pn 12 02 29.2 -1.2
P16K **Nushagak River** 5.41 307 P Pn 12 02 29.2 -1.2
baz=122
KNK **Knik Glacier** 5.41 6 Pn 12 02 29.9 -0.6
KNK **Knik Glacier** 5.41 6 P Pn 12 02 30.5 +0.1
baz=187
N19K **Bonanza Creek** 5.42 334 Pn 12 02 29.7 -0.8
N19K **Bonanza Creek** 5.42 334 P Pn 12 02 29.7 -0.8
baz=151
O17K **Koliganek Bris** 5.46 316 Pn 12 02 30.9 -0.2
SUA **Susitna One** 5.46 354 Pn Pn 12 02 29.9 -1.3
SUA **Susitna One** 5.46 354 P Pn 12 02 30.6 -0.6
baz=174
DIV **Divide** 5.47 20 Pn 12 02 31.6 +0.2
SNH **Sunshine Point** 5.48 38 Pn 12 02 31.4 0.0
S14K **Fog Glacier** 5.56 277 P Pn 12 02 30.4 -2.1
baz=90
VNFG **Fog Glacier, M** 5.56 277 Pn 12 02 30.4 -2.1
PMR **Palmer** 5.56 2 Pn 12 02 32.6 +0.1
PMR **Palmer** 5.56 2 P Pn 12 02 32.7 +0.2
PMR **Palmer** 5.56 2 P Pn 12 02 32.9 +0.4
baz=183
BMRM **Bremner River** 5.58 26 Pn 12 02 33.0 +0.2
BMRM **Bremner River** 5.58 26 P Pn 12 02 33.0 +0.2
baz=210
STLK **Strandline Lak** 5.58 349 Pn 12 02 32.5 -0.4
N18K **Kilae Creek** 5.70 327 Pn 12 02 33.8 -0.5
N18K **Kilae Creek** 5.70 327 P Pn 12 02 33.8 -0.5
baz=143
GHO **Glory Hole Cre** 5.75 3 Pn Pn 12 02 36.0 +0.8
O16K **Kokwok River B** 5.75 312 Pn 12 02 34.9 -0.2
O16K **Kokwok River B** 5.75 312 P Pn 12 02 34.9 -0.2
baz=126
BARK **Barkley Ridge** 5.76 38 Pn 12 02 35.5 +0.2
KLU **Klutina** 5.79 18 Pn 12 02 36.0 +0.5
KLU **Klutina** 5.79 18 P Pn 12 02 36.1 +0.5
baz=201
CHNA **Chernabura Isl** 5.81 262 P Pn 12 02 33.0 -2.9
baz=76
CNBA **Chernabura Isl** 5.81 262 Pn 12 02 32.4 -3.5
SML **Sawmill** 5.81 6 Pn Pn 12 02 36.3 +0.4
SML **Sawmill** 5.81 6 P Pn 12 02 36.5 +0.5
baz=187
M23K **Glacier View** 5.84 9 Pn 12 02 37.0 +0.6
M23K **Glacier View** 5.84 9 P Pn 12 02 37.0 +0.6
baz=191
SCM **Sheep Creek Mo** 5.92 11 Pn 12 02 38.0 +0.5
SCM **Sheep Creek Mo** 5.92 11 P Pn 12 02 38.0 +0.5
baz=193
N17K **Nushagak Hills** 6.00 321 Pn Pn 12 02 38.0 -0.5
SKT **Skwentna** 6.03 351 Pn 12 02 38.6 -0.3
SKT **Skwentna** 6.03 351 P Pn 12 02 38.6 -0.3
baz=170
VRDI **Verde Repeater** 6.11 29 Pn 12 02 40.4 +0.3
M20K **Styx River** 6.12 344 Pn 12 02 39.8 -0.5
M20K **Styx River** 6.12 344 P Pn 12 02 39.8 -0.5
baz=162
N25K **Chitina, Valde** 6.15 23 Pn 12 02 41.1 +0.5
N25K **Chitina, Valde** 6.15 23 P Pn 12 02 41.1 +0.5
baz=207
SDPT **Sand Point** 6.18 268 Pn 12 02 38.3 -2.7
SDPT **Sand Point** 6.18 268 P Pn 12 02 38.9 -2.1
SDPT **Sand Point** 6.18 268 P Pn 12 02 38.3 -2.7
baz=81
KIAG **Kiagna River** 6.19 35 Pn 12 02 41.6 +0.3
GLB **Gilahina Butte** 6.19 27 Pn 12 02 41.5 +0.3
SAMH **Samovar Hills** 6.22 45 Pn 12 02 42.0 +0.4
M24K **Tolsona, Glenn** 6.33 15 Pn 12 02 44.3 +1.3
M24K **Tolsona, Glenn** 6.33 15 P Pn 12 02 44.3 +1.3
baz=198
M18K **Stony River** 6.34 332 Pn 12 02 42.4 -0.7
M18K **Stony River** 6.34 332 P Pn 12 02 42.4 -0.7
baz=148
M19K **Big River Lodg** 6.37 339 Pn Pn 12 02 44.6 +1.0
CUT **Chulitna** 6.38 357 Pn Pn 12 02 44.1 +0.4
PCA **Pinnacle** 6.41 47 Pn 12 02 44.2 +0.1
PINM **Pinnacle** 6.41 47 P Pn 12 02 44.2 0.0
baz=234
BARN **Barnard Glacie** 6.52 36 Pn 12 02 45.4 -0.4
PNL **Peninsula** 6.55 52 Pn 12 02 46.1 +0.1
PNL **Peninsula** 6.55 52 P Pn 12 02 45.9 -0.1
PNL **Peninsula** 6.55 52 P Pn 12 02 46.1 +0.1
baz=240
N16K **Nishlik Lake** 6.55 316 Pn 12 02 45.7 -0.4
N16K **Nishlik Lake** 6.55 316 P Pn 12 02 45.7 -0.4
baz=130
CTG **Chitna Glacier** 6.56 38 P Pn 12 02 46.5 +0.1
baz=224
CTGM **Chitina Glacie** 6.56 38 Pn 12 02 46.5 +0.1
LOGN **Logan Glacier** 6.58 40 Pn Pn 12 02 46.3 -0.3
BCPM **Bancas Point** 6.59 49 Pn 12 02 46.8 +0.2
WAT6 **Susitna Watana** 6.62 8 Pn 12 02 47.8 +0.7
WAT6 **Susitna Watana** 6.62 8 P Pn 12 02 47.8 +0.7
baz=189
L19K **White Mountain** 6.71 339 Pn Pn 12 02 48.2 -0.1
M17K **Holitna River** 6.73 326 Pn Pn 12 02 48.8 +0.3
HARP **HAARP** 6.76 18 Pn 12 02 50.2 +1.2
HARP **HAARP** 6.76 18 P Pn 12 02 50.2 +1.2
baz=202
WAT7 **Susitna Watana** 6.81 3 Pn 12 02 50.5 +0.8
WAT1 **Susitna Watana** 6.82 4 Pn 12 02 51.0 +1.2
WAT1 **Susitna Watana** 6.82 4 P Pn 12 02 51.0 +1.2
baz=185
PS1A **Pavlof South-1** 6.88 270 Pn 12 02 48.0 -2.5
N15K **Kwethluk River** 6.92 311 Pn Pn 12 02 50.8 -0.2
M16K **Timber Creek** 6.98 319 Pn Pn 12 02 52.4 +0.5
PN7A **Pavlof North-7** 7.02 270 Pn 12 02 50.6 -2.0
O14K **Tigyukuivet M** 7.03 302 Pn Pn 12 02 52.4 -0.1
DHY **Denali Highway** 7.14 8 Pn Pn 12 02 54.7 +0.5
DHY **Denali Highway** 7.14 8 P Pn 12 02 55.1 +0.8
baz=190
L18K **Granite Mounta** 7.17 332 Pn Pn 12 02 53.8 -0.8
M26K **Nabesna, AK** 7.21 25 Pn Pn 12 02 56.6 +1.4
O29M **Mount Kennedy** 7.22 49 Pn 12 02 56.1 +0.7
O29M **Mount Kennedy** 7.22 49 P Pn 12 02 56.1 +0.7
baz=238
PAX **Paxson** 7.25 15 Pn 12 02 57.5 +1.7
PAX **Paxson** 7.25 15 P Pn 12 02 57.5 +1.7
baz=199
P29M **Windy Craggy** 7.28 56 Pn Pn 12 02 55.5 -0.7
P29M **Windy Craggy** 7.28 56 P Pn 12 02 55.4 -0.7
baz=245
RND **Reindeer** 7.39 3 Pn 12 02 57.8 +0.1
TRF **Thorofare Moun** 7.43 358 Pn Pn 12 02 58.3 0.0
TRF **Thorofare Moun** 7.43 358 P Pn 12 02 58.7 +0.4
baz=178
M27K **Edge Creek, AK** 7.46 29 Pn Pn 12 02 59.6 +0.9
CAST **Castle Rocks** 7.50 351 Pn Pn 12 02 58.4 -0.6
MENT **Mentasta** 7.53 21 Pn 12 03 00.4 +1.0
KTH **Kantishna Hill** 7.55 356 Pn Pn 12 03 00.4 +0.6
S31K **Pelican** 7.55 70 Pn 12 02 57.9 -1.9
S31K **Pelican** 7.55 70 P Pn 12 02 57.9 -1.9
baz=260
TTA **Tatalina** 7.63 337 Pn Pn 12 03 00.9 +0.1
TTA **Tatalina** 7.63 337 P Pn 12 03 01.3 +0.4
L16K **Owhat River** 7.63 322 Pn Pn 12 03 00.5 -0.3
K20K **Telida** 7.67 345 Pn Pn 12 03 00.2 -1.2
L26K **Log Cabin Wild** 7.68 22 Pn 12 03 03.7 +2.1
MCK **McKinley** 7.71 2 Pn 12 03 03.2 +1.2
MCK **McKinley** 7.71 2 P Pn 12 03 03.2 +1.2
baz=183
YUK4 **Talbot Arm** 7.79 43 P Pn 12 03 06.2 +3.0
baz=231
BVCY **Beaver Creek** 7.80 31 Pn 12 03 03.8 +0.6
BVCY **Beaver Creek** 7.80 31 P Pn 12 03 03.8 +0.6
baz=218
PLBC **Pleasant Camp** 7.86 59 Pn 12 03 04.5 +0.5
PLBC **Pleasant Camp** 7.86 59 P Pn 12 03 04.5 +0.5
baz=249
HYT **Haines Junctio** 7.95 48 Pn Pn 12 03 06.5 +1.2
M14K **Bethel** 8.01 311 Pn Pn 12 03 06.9 +0.9
K24K **Donnelly Dome** 8.01 12 Pn 12 03 07.8 +1.7
K24K **Donnelly Dome** 8.01 12 P Pn 12 03 07.8 +1.7
baz=196
K17K **Iditarod** 8.02 330 Pn Pn 12 03 05.7 -0.4
L27K **Beaver Creek,** 8.06 26 Pn Pn 12 03 08.2 +1.4
BCAR **Beaver Creek A** 8.07 26 Pn Pn 12 03 07.5 +0.6
RIDG **Independent Ri** 8.07 15 Pn Pn 12 03 07.9 +0.9
RIDG **Independent Ri** 8.07 15 P Pn 12 03 09.0 +2.0
baz=199
BPAW **Bear Paw Mtn.** 8.11 356 Pn 12 03 07.5 +0.1
BPAW **Bear Paw Mtn.** 8.11 356 P Pn 12 03 07.5 +0.1
baz=175
SKAG **Skagway** 8.37 60 Pn Pn 12 03 11.9 +1.0
SKAG **Skagway** 8.37 60 P Pn 12 03 11.8 +0.9
SCRK **Sand Creek** 8.43 17 Pn Pn 12 03 12.9 +1.0
SCRK **Sand Creek** 8.43 17 P Pn 12 03 13.4 +1.4
baz=202
J20K **Nowinta River** 8.46 346 Pn Pn 12 03 11.9 -0.2
N30M **Aishikik Lake** 8.46 45 Pn Pn 12 03 12.5 +0.2
HDA **Harding Lake** 8.49 8 Pn 12 03 13.6 +1.0
J19K **Poorman** 8.51 342 Pn Pn 12 03 13.0 +0.1
O30N **Mendenhall** 8.52 51 Pn Pn 12 03 13.7 +0.5
JIS **Juneau Island** 8.57 69 P Pn 12 03 13.5 -0.2
M29M **Somme Creek** 8.58 37 Pn Pn 12 03 15.2 +1.3
CCB **Clear Creek Bu** 8.67 5 Pn 12 03 15.9 +0.9
K27K **Chicken** 8.84 22 Pn Pn 12 03 18.9 +1.5
J25K **Salcha River,** 8.84 12 Pn Pn 12 03 18.4 +0.9
IL31 8.85 8 Pn Pn 12 03 18.1 +0.6
ILAR **Eielson Array** 8.85 8 Pn Pn 12 03 18.8 +1.2
ILAR **Eielson Array** 8.85 8 Pn Pn 12 03 17.2 -0.3
comp=E,0.9nm,0.3s,baz=191,slow=14,SNR=43
ILAR Sn Sn 12 04 52.9 -4.3
comp=E,0.4nm,0.3s,baz=95,slow=25,SNR=3.0
ILAR LR LR 12 06 56.8
comp=E,46nm,19.1s,baz=168,slow=39
comp=E,2.0nm,0.4s
COLA **College** 8.89 5 Pn 12 03 19.0 +0.9
COLA **College** 8.89 5 P Pn 12 03 19.7 +1.6
MDM **Murphy Dome** 8.96 4 Pn 12 03 19.3 +0.1
J26L **Joseph Creek** 8.99 17 Pn 12 03 19.7 +0.2
J26L **Joseph Creek** 8.99 17 P Pn 12 03 19.7 +0.2
baz=202
N31M **Braeburn, Yuko** 9.01 47 Pn 12 03 20.4 +0.6
N31M **Braeburn, Yuko** 9.01 47 P Pn 12 03 19.9 +0.1
baz=238
WHY **Whitehorse** 9.01 53 Pn Pn 12 03 20.1 +0.2
MLY **Manley** 9.03 357 Pn 12 03 20.2 +0.2
I23K **Minto, Yukon-K** 9.13 1 Pn 12 03 22.0 +0.7
L29M **L29M** 9.15 35 Pn Pn 12 03 23.2 +1.4
POKR **Poker Plat Res** 9.16 6 Pn Pn 12 03 22.7 +0.9
P32M **Atlin** 9.19 61 Pn 12 03 21.8 -0.5
P32M **Atlin** 9.19 61 P Pn 12 03 21.8 -0.5
baz=253
I21K **Tanana** 9.23 354 Pn 12 03 22.2 -0.6
I21K **Tanana** 9.23 354 P Pn 12 03 24.1 +1.3
baz=172
M30M **Minto, Yukon** 9.25 40 Pn 12 03 23.8 +0.7
CRAG **Craig** 9.32 87 P Pn 12 03 22.0 -2.0
DAWY **Dawson** 9.51 28 Pn 12 03 27.6 +0.9
EGAK **Eagle** 9.69 22 Pn Pn 12 03 30.4 +1.3
H21K **Melozitna Rive** 9.76 352 Pn 12 03 29.5 -0.5
Q32M **Nakina River** 9.78 66 Pn Pn 12 03 30.3 -0.1
P33M **Teslin, Yukon** 9.80 58 Pn 12 03 29.3 -1.4
P33M **Teslin, Yukon** 9.80 58 P Pn 12 03 29.3 -1.4
baz=251
I26K **Coal Creek Min** 9.80 16 Pn Pn 12 03 31.4 +0.8
H24K **Noodor Dome** 9.86 4 Pn Pn 12 03 33.1 +1.7
K29M **Barlow Dome** 9.88 33 Pn Pn 12 03 33.3 +1.6
M31M **Drury Creek, Y** 9.95 45 Pn 12 03 33.5 +0.9
UNV **Unalaska Valle** 9.96 264 P Pn 12 03 31.9 -0.9
H18K **Honhosa River** 10.08 338 Pn Pn 12 03 33.8 -0.6
IMAR **Indian Mountai** 10.16 350 Pn Pn 12 03 36.0 +0.5
R33M **Jennings River** 10.51 64 Pn Pn 12 03 40.7 +0.2
I28M **Miner Creek** 10.53 23 Pn Pn 12 03 42.3 +1.6
G21K **Allakaket** 10.66 352 Pn Pn 12 03 41.4 -1.0
FYU **Fort Yukon** 10.76 9 Pn Pn 12 03 44.2 +0.6
J30M **Hart River** 10.77 32 Pn Pn 12 03 45.5 +1.6
DLBC **Dease Lake** 10.87 69 Pn Pn 12 03 44.0 -1.3
comp=E,0.3nm,0.3s,baz=227,slow=5.7,SNR=10
DLBC Sn Sn 12 05 42.1 -4.8
comp=E,0.1nm,0.3s,baz=211,slow=14,SNR=1.8
comp=E,1.0nm,0.5s
F20K **Avaraart Lake** 11.41 348 Pn Pn 12 03 52.8 +0.3
ANM **Nome** 11.54 324 Pn Pn 12 03 56.1 +1.8
F24K **Squaw Lake** 11.54 3 Pn Pn 12 03 54.8 +0.5
E25K **Arctic Village** 12.26 7 Pn Pn 12 04 05.6 +1.4
D25K **Kavik River** 13.40 5 Pn 12 04 21.4 +1.6
INK **Inuvik** 14.33 25 Pn Pn 12 04 32.1 -0.3
comp=E,0.1nm,0.3s,baz=206,slow=16,SNR=14
comp=E,3.2nm,0.8s
C36M **Paulatuk** 17.54 31 Pn 12 05 15.5 +1.6
C36M IAmb IAmb 12 05 18.4
comp=Z,5.8nm,1.1s
YKA **Yellowknife Ar** 18.82 56 P P 12 05 30.0 +0.7
YKA **Yellowknife Ar** 18.82 56 P P 12 05 28.8 -0.5
baz=265,slow=9.9,SNR=8.0
comp=Z,0.5nm,0.8s
A36M **Sachs Harbour** 18.97 23 P 12 05 32.3 +1.6
A36M IAmb IAmb 12 05 34.0
comp=Z,7.0nm,0.9s
NEW **Newport** 21.24 98 LR LR 12 11 56.4
comp=Z,44nm,18.3s,baz=304,slow=31
YBH **Yreka Blue Hor** 22.57 118 LR LR 12 11 44.7
comp=Z,38nm,20.1s,baz=20,slow=28
NVAR **Mina Array Bea** 27.27 117 P P 12 06 54.1 -0.2
comp=Z,0.3nm,0.5s,baz=299,slow=9.2,SNR=3.2
comp=Z,0.3nm,0.5s
PDAR **Pinedale Array** 28.80 100 P P 12 07 08.3 +0.3
comp=Z,0.3nm,0.7s,baz=328,slow=3.3,SNR=2.2
comp=Z,0.3nm,0.7s
H11N2 **WAKE ISLAND Hy** 48.60 240 T T 13 02 34.3
baz=30
H11N3 **WAKE ISLAND Hy** 48.61 240 T T 13 02 40.9
baz=30
H11N1 **WAKE ISLAND Hy** 48.62 240 T T 13 02 51.4
baz=30
H11S1 **WAKE ISLAND Hy** 49.75 239 T T 13 04 20.3
baz=28,slow=76,SNR=8.2
H11S2 **WAKE ISLAND Hy** 49.76 239 T T 13 04 24.7
baz=28,slow=76,SNR=5.6
H11S3 **WAKE ISLAND Hy** 49.76 239 T T 13 04 21.7
baz=28,slow=76,SNR=7.7
ARCES **ARCESS Array B** 54.67 2 P P 12 10 38.2 0.0
comp=Z,2.5nm,0.9s,baz=19,slow=5.7,SNR=1.1
comp=Z,2.5nm,0.9s
FINES **FINESS Array B** 62.80 2 P P 12 11 35.5 +0.7
comp=Z,2.4nm,0.9s,baz=81,slow=8.6,SNR=2.4
comp=Z,2.4nm,0.9s
BVAR **Borovoye Array** 66.42 335 P P 12 12 01.1 +2.6
comp=Z,0.3nm,0.5s,baz=2.9,slow=5.8,SNR=2.0
comp=Z,0.3nm,0.5s
MKAR **Makanchi Array** 68.68 325 P P 12 12 13.7 +0.7
comp=Z,0.3nm,0.6s,baz=55,slow=10,SNR=2.0
comp=Z,0.3nm,0.6s
QSPA **South Pole Qui** 145.84 180 PKPbc PKPdf 12 20 46.0 -1.0
comp=Z,1.0nm,0.9s,baz=9.4,slow=9.4,SNR=1.7

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*IDC **27** 12:13:11.5±1.7,55°.74N×148°.84W,h0km,mb3.7/4, mbtmp3.5/8,ML2.9/3,MS3.3/5,Error ellipse: s-maj=33.8km s-min=31.0km az=43.0*
*NEIC **27** 12:13:11.7±1.6,55°.6N±0°.1×149°.2W±0°.1, h9km±8km, ML3.6/40,ML3.4(AEIC),Error ellipse: s-maj=15.0km s-min=8.4km az=171.0*
*AEIC **27** 12:13:15.3±1.7,55°.57N±0°.10×149°.1W±0°.1, h9km±8km, Error ellipse: s-maj=14.6km s-min=10.0km az=170.0*
ISC 27 12:13:12.2±1.1,**55°.69N**±0°.09×**149°.16W**±0°.06,**h10km**, **n191**,**d**088/176,**mb3.9**/4,**MS3.5**/4,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.76**	**306**	Pn	**Pn**	**12 13 55.6**	**-0.9**
OHAK	**Old Harbor**	**2.76**	**306**		**Sn**	**12 14 27.5**	**-2.3**
OHAK	**Old Harbor**	**2.76**	**306**	P	**Pn**	**12 13 55.9**	**-0.6**
OHAK	**Old Harbor**	**2.76**	**306**	P	**Pn**	**12 13 55.9**	**-0.6**
baz=124							
OHAK				S	**Sn**	**12 14 27.5**	**-2.3**
baz=124							
KDAK	**Kodiak Island**	**2.82**	**319**	Pn	**Pn**	**12 13 57.0**	**-0.4**
KDAK	**Kodiak Island**	**2.82**	**319**		**Sn**	**12 14 30.5**	**-0.9**
KDAK	**Kodiak Island**	**2.82**	**319**	S	**Sn**	**12 14 30.5**	**-0.9**
baz=138							
KDAK	**Kodiak Island**	**2.82**	**319**	Pn	**Pn**	**12 13 57.3**	**0.0**
4.8nm,0.3s,baz=138,slow=7.6,SNR=51							
KDAK				Sn	**Sn**	**12 14 30.3**	**-1.1**
2.1nm,0.3s,baz=142,slow=10,SNR=1.4							
KDAK				LR	LR	12 15 18.5	
comp=Z,297nm,20.0s,baz=144,slow=44							
14nm,0.3s							
SII	**Sitkinak Islan**	**2.95**	**289**		**Pn**	**12 13 58.1**	**-1.0**
SII	**Sitkinak Islan**	**2.95**	**289**	IAML		12 14 40.9	
comp=N,164nm,1.1s							
SII	**Sitkinak Islan**	**2.95**	**289**	P	**Pn**	**12 13 58.1**	**-1.0**
SII	**Sitkinak Islan**	**2.95**	**289**	P	**Pn**	**12 13 58.1**	**-1.0**
baz=107							
SII				S	**Sn**	**12 14 33.5**	**-1.0**
baz=107							
SYI	**Shuyak Island**	**3.42**	**330**		**Pn**	**12 14 05.6**	**+0.1**
Q20K	**Shuyak Island**	**3.42**	**330**	P	**Pn**	**12 14 05.6**	**+0.1**
baz=148							
CNPM	**China Poot**	**4.01**	**345**		**Pn**	**12 14 13.8**	**+0.2**
CNPM					**Sn**	**12 15 00.1**	**-0.5**
CNPM	**China Poot**	**4.01**	**345**	IAML		12 15 05.7	
comp=N,30nm,1.1s							
MID	**Middleton Isla**	**4.04**	**21**		**Pn**	**12 14 14.2**	**+0.1**
MID					**Sn**	**12 14 59.4**	**-2.1**
MID	**Middleton Isla**	**4.04**	**21**	IAML		12 14 59.6	
comp=N,100nm,1.0s							
MID				IAML		12 16 19.4	
comp=E,111nm,1.2s							
MID	**Middleton Isla**	**4.04**	**21**	P	**Pn**	**12 14 14.6**	**+0.5**
Q23K	**Middleton Isla**	**4.04**	**21**		**Pn**	**12 14 14.0**	**-0.1**
Q23K	**Middleton Isla**	**4.04**	**21**	IAML		12 16 28.2	
comp=E,110nm,1.1s							
Q23K				IAML		12 16 32.7	
comp=N,116nm,1.2s							
Q23K	**Middleton Isla**	**4.04**	**21**	P	**Pn**	**12 14 14.0**	**-0.1**
baz=203							
Q19K	**Cape Douglas,**	**4.06**	**325**		**Pn**	**12 14 14.6**	**+0.2**
Q19K	**Cape Douglas,**	**4.06**	**325**	P	**Pn**	**12 14 14.6**	**+0.2**
baz=142							
KAHG	**Katmai Hook Gl**	**4.07**	**316**		**Pn**	**12 14 15.8**	**+1.3**
BRSE	**Bradley Lake S**	**4.15**	**349**		**Pn**	**12 14 15.5**	**-0.2**
BRSE					**Sn**	**12 15 03.4**	**-0.8**
BRSE	**Bradley Lake S**	**4.15**	**349**	P	**Pn**	**12 14 15.5**	**-0.2**
baz=168							
BRSE				S	**Sn**	**12 15 03.4**	**-0.8**
baz=168							
BRLK	**Bradley Lake**	**4.19**	**348**	Pn	**Pn**	**12 14 16.2**	**0.0**
BRLK				IAML		12 15 05.9	
comp=E,30nm,0.4s							
BRLK	**Bradley Lake**	**4.19**	**348**		**Sn**	**12 15 04.7**	**-0.4**
HOM	**Homer**	**4.20**	**342**	Pn	**Pn**	**12 14 16.4**	**+0.2**
AUJK	**Augustine Jueg**	**4.33**	**330**		**Pn**	**12 14 18.4**	**+0.4**
AUL	**Augustine Lava**	**4.36**	**330**		**Pn**	**12 14 19.3**	**+0.8**
PLK3	**Peulik 3**	**4.40**	**300**		**Pn**	**12 14 19.9**	**+0.8**
P23K	**Montague Islan**	**4.42**	**11**		**Pn**	**12 14 19.5**	**+0.2**
P23K					**Sn**	**12 15 08.1**	**-2.7**
P23K	**Montague Islan**	**4.42**	**11**	P	**Pn**	**12 14 19.5**	**+0.2**
baz=193							
P23K				S	**Sn**	**12 15 08.1**	**-2.7**
baz=193							
SEW	**Seward**	**4.43**	**358**		**Pn**	**12 14 19.6**	**+0.2**
SEW	**Seward**	**4.43**	**358**	P	**Pn**	**12 14 19.6**	**+0.2**
baz=178							
CNTC	**Contact Creek**	**4.50**	**308**		**Pn**	**12 14 20.7**	**+0.3**
Q17K	**Contact Creek**	**4.50**	**308**	P	**Pn**	**12 14 20.7**	**+0.3**
baz=123							
P19K	**Oil Pt**	**4.54**	**333**		**Pn**	**12 14 21.1**	**+0.2**
P19K	**Oil Pt**	**4.54**	**333**	IAML		12 15 46.8	
comp=E,61nm,1.1s							
P19K				IAML		12 17 11.8	
comp=N,52nm,1.1s							
P19K	**Oil Pt**	**4.54**	**333**	P	**Pn**	**12 14 21.1**	**+0.2**
baz=150							
PLK1	**Peulik 1**	**4.62**	**300**		**Pn**	**12 14 22.5**	**+0.5**
O20K	**Slope Mountain**	**4.78**	**339**		**Pn**	**12 14 24.4**	**+0.2**
O20K	**Slope Mountain**	**4.78**	**339**	P	**Pn**	**12 14 24.4**	**+0.2**
baz=156							
IVE	**Iliamna Volcan**	**4.80**	**336**		**Pn**	**12 14 24.8**	**+0.1**
O22K	**Cooper Landing**	**4.82**	**357**		**Pn**	**12 14 24.7**	**-0.1**
O22K	**Cooper Landing**	**4.82**	**357**	P	**Pn**	**12 14 24.7**	**-0.1**
baz=176							
SLKM	**Skilak Lake**	**4.87**	**354**		**Pn**	**12 14 25.3**	**-0.2**
HIN	**Hinchinbrook I**	**4.93**	**16**		**Pn**	**12 14 26.2**	**-0.1**
HIN	**Hinchinbrook I**	**4.93**	**16**	IAML		12 15 26.6	
comp=N,44nm,1.0s							
HIN				IAML		12 15 29.6	
comp=E,43nm,1.0s							
KAIM	**Kayak Island**	**4.95**	**29**		**Pn**	**12 14 26.8**	**+0.2**
KAIM	**Kayak Island**	**4.95**	**29**	IAML		12 15 23.7	
comp=N,56nm,1.0s							
KAIM				IAML		12 16 37.9	
comp=E,35nm,1.1s							
KAIM	**Kayak Island**	**4.95**	**29**	P	**Pn**	**12 14 26.8**	**+0.2**
baz=213							
P18K	**Big Mountain,**	**4.95**	**321**		**Pn**	**12 14 26.7**	**+0.1**
P18K	**Big Mountain,**	**4.95**	**321**	P	**Pn**	**12 14 26.7**	**+0.1**
baz=137							
R16K	**Pilot Point**	**5.02**	**296**		**Pn**	**12 14 27.2**	**-0.2**
R16K	**Pilot Point**	**5.02**	**296**	IAML		12 16 29.1	
comp=E,59nm,1.0s							
R16K				IAML		12 17 37.8	
comp=N,27nm,1.0s							
R16K	**Pilot Point**	**5.02**	**296**	P	**Pn**	**12 14 27.2**	**-0.2**
baz=109							
Q16K	**King Salmon**	**5.06**	**309**		**Pn**	**12 14 28.2**	**+0.1**
Q16K	**King Salmon**	**5.06**	**309**	P	**Pn**	**12 14 28.2**	**+0.1**
baz=124							
RDSO	**Redoubt South**	**5.14**	**340**		**Pn**	**12 14 29.3**	**0.0**
RSO	**Redoubt South**	**5.15**	**340**	Pn	**Pn**	**12 14 28.9**	**-0.7**
RDT	**Redoubt**	**5.19**	**342**		**Pn**	**12 14 29.4**	**-0.6**
EYAK	**Cordova Ski Ar**	**5.20**	**19**		**Pn**	**12 14 29.8**	**-0.1**

EYAK	Cordova Ski Ar	5.20	19	P		Pn	12 14 30.6	+0.7	
EYAK	Cordova Ski Ar	5.20	19	P		Pn	12 14 29.8	-0.1	
	baz=202								
CHGN	Chignik	5.23	281	Pn		Pn	12 14 29.2	-1.2	
CHGN				IAML			12 15 27.6		
	comp=E,37nm,1.1s								
DFR	Drift River	5.26	341			Pn	12 14 30.7	-0.2	
P17K	Kvichak River	5.28	315			Pn	12 14 31.9	+0.9	
P17K	Kvichak River	5.28	315	P		Pn	12 14 31.9	+0.9	
	baz=129								
RAGM	Ragged Mountai	5.28	25			Pn	12 14 31.6	+0.5	
O18K	Koktuh Hills	5.29	325			Pn	12 14 30.9	-0.3	
O18K	Koktuh Hills	5.29	325	IAML			12 15 46.3		
	comp=N,15nm,1.1s								
O18K				IAML			12 15 56.2		
	comp=E,11nm,0.9s								
O18K	Koktuh Hills	5.29	325	P		Pn	12 14 30.9	-0.3	
	baz=140								
O19K	Port Alsworth	5.29	331			Pn	12 14 30.6	-0.6	
O19K	Port Alsworth	5.29	331	IAML			12 15 37.8		
	comp=E,45nm,0.4s								
O19K				IAML			12 15 48.4		
	comp=N,40nm,0.5s								
O19K	Port Alsworth	5.29	331	P		Pn	12 14 30.6	-0.6	
	baz=147								
RC01	Rabbit Creek A	5.43	357			Pn	12 14 33.2	+0.1	
RC01	Rabbit Creek A	5.43	357	P		Pn	12 14 33.2	+0.1	
	baz=177								
GOAT	Goat Mountain	5.44	24			Pn	12 14 33.7	+0.3	
BERG	Berg Lake	5.54	29	Pn		Pn	12 14 34.5	-0.1	
SNH	Sunshine Point	5.62	34	Pn		Pn	12 14 36.9	+1.1	
N20K	Mount Spurr	5.76	345	P		Pn	12 14 37.5	-0.2	
	baz=163								
SPCR	Spurr Chakacha	5.76	345			Pn	12 14 37.5	-0.2	
P16K	Nushagak River	5.84	309			Pn	12 14 39.4	+0.7	
P16K	Nushagak River	5.84	309	P		Pn	12 14 39.4	+0.7	
	baz=122								
SUA	Susitna One	5.85	352			Pn	12 14 38.8	-0.3	
SUA	Susitna One	5.85	352	P		Pn	12 14 38.8	-0.3	
	baz=172								
N19K	Bonanza Creek	5.86	334			Pn	12 14 38.7	-0.4	
N19K	Bonanza Creek	5.86	334	P		Pn	12 14 38.7	-0.4	
	baz=150								
PMR	Palmer	5.92	0	Pn		Pn	12 14 40.0	+0.2	
PMR	Palmer	5.92	0	P		Pn	12 14 40.7	+0.8	
STLK	Strandline Lak	5.99	348			Pn	12 14 41.1	+0.2	
CHNA	Chernabura Isl	6.03	266	P		Pn	12 14 39.5	-1.8	
	baz=78								
CNBA	Chernabura Isl	6.03	266			Pn	12 14 39.5	-1.9	
KLU	Klutina	6.06	15			Pn	12 14 41.8	-0.1	
KLU	Klutina	6.06	15	P		Pn	12 14 41.8	-0.1	
	baz=198								
GHO	Glory Hole Cre	6.10	1			Pn	12 14 43.4	+0.9	
N18K	Kilae Creek	6.14	327			Pn	12 14 42.9	-0.1	
N18K	Kilae Creek	6.14	327	P		Pn	12 14 42.9	-0.1	
	baz=142								
SML	Sawmill	6.15	4			Pn	12 14 43.9	+0.7	
SML	Sawmill	6.15	4	P		Pn	12 14 43.8	+0.7	
	baz=184								
O16K	Kokwok River B	6.19	313	Pn		Pn	12 14 43.8	+0.2	
VRDI	Verde Repeater	6.31	26			Pn	12 14 44.9	-0.5	
KIAG	Kiagna River	6.35	31			Pn	12 14 45.4	-0.6	
N25K	Chitina, Valde	6.39	20			Pn	12 14 46.2	-0.2	
N25K	Chitina, Valde	6.39	20	P		Pn	12 14 46.2	-0.2	
	baz=204								
GLB	Gilahina Butte	6.41	24			Pn	12 14 46.6	0.0	
SKT	Skwentna	6.43	350			Pn	12 14 47.6	+0.7	
SKT	Skwentna	6.43	350	P		Pn	12 14 47.6	+0.7	
	baz=168								
N17K	Nushagak Hills	6.45	322	Pn		Pn	12 14 47.9	+0.8	
M20K	Styx River	6.55	343			Pn	12 14 48.9	+0.3	
M20K	Styx River	6.55	343	P		Pn	12 14 48.9	+0.3	
	baz=160								
PNL	Peninsula	6.58	49			Pn	12 14 49.2	+0.3	
PNL	Peninsula	6.58	49	P		Pn	12 14 50.1	+1.2	
PNL	Peninsula	6.58	49	P		Pn	12 14 49.2	+0.3	
	baz=237								
BARN	Barnard Glacie	6.67	33			Pn	12 14 50.3	-0.1	
CTGM	Chitina Glacie	6.70	35	Pn		Pn	12 14 51.3	+0.6	
LOGN	Logan Glacier	6.71	37	Pn		Pn	12 14 51.8	+1.0	
O15K	Ungalikthiuk R	6.74	306			Pn	12 14 51.7	+0.6	
O15K	Ungalikthiuk R	6.74	306	P		Pn	12 14 51.7	+0.6	
	baz=117								
M18K	Stony River	6.78	332			Pn	12 14 51.3	-0.4	
M18K	Stony River	6.78	332	P		Pn	12 14 51.3	-0.4	
	baz=147								
M19K	Big River Lodg	6.80	339			Pn	12 14 52.3	+0.3	
M19K	Big River Lodg	6.80	339	P		Pn	12 14 52.3	+0.3	
	baz=155								
WAT7	Susitna Watana	7.17	1			Pn	12 14 57.4	+0.3	
M17K	Holitna River	7.18	326	Pn		Pn	12 14 57.3	+0.2	
P29M	Windy Craggy	7.29	52			Pn	12 14 58.7	0.0	
P29M	Windy Craggy	7.29	52	P		Pn	12 14 58.7	0.0	
	baz=242								
PN7A	Pavlof North-7	7.29	273			Pn	12 14 57.6	-1.2	
N15K	Kwethluk River	7.35	312			Pn	12 15 00.2	+0.7	
N15K	Kwethluk River	7.35	312	P		Pn	12 15 00.2	+0.7	
	baz=124								
M16K	Timber Creek	7.42	320	Pn		Pn	12 15 01.7	+1.2	
O14K	Tigyukauivet M	7.44	304	Pn		Pn	12 15 00.9	+0.2	
M26K	Nabesna, AK	7.44	23	Pn		Pn	12 14 57.7	-3.1	
S31K	Pelican	7.45	67			Pn	12 14 58.9	-1.9	
S31K	Pelican	7.45	67	P		Pn	12 14 58.9	-1.9	
	baz=257								
DHY	Denali Highway	7.47	6	Pn		Pn	12 15 03.4	+2.1	
L18K	Granite Mounta	7.62	332	Pn		Pn	12 15 00.8	-2.3	
M27K	Edge Creek, AK	7.67	26	Pn		Pn	12 15 06.3	+2.4	
RND	Reindeer	7.75	1	Pn		Pn	12 15 06.3	+1.4	
SIT	Sitka	7.80	74	P		Pn	12 15 05.7	0.0	
TRF	Thorofare Moun	7.81	356	Pn		Pn	12 15 07.0	+1.0	
CAST	Castle Rocks	7.90	350			Pn	12 15 08.1	+1.1	
KTH	Kantishna Hill	7.94	354	Pn		Pn	12 15 08.3	+0.7	
L16K	Owhat River	8.08	323	Pn		Pn	12 15 09.4	0.0	
L27K	Beaver Creek,	8.28	24	Pn		Pn	12 15 13.3	+1.0	
BCAR	Beaver Creek A	8.29	24	Pn		Pn	12 15 13.5	+1.0	
RIDG	Independent Ri	8.36	13	Pn		Pn	12 15 14.2	+0.8	
K17K	Iditarod	8.46	330	Pn		Pn	12 15 14.3	-0.4	
BPAW	Bear Paw Mtn.	8.49	355	Pn		Pn	12 15 14.6	-0.5	
N30M	Aishikik Lake	8.55	42	Pn		Pn	12 15 16.1	+0.2	
HDA	Harding Lake	8.82	6	Pn		Pn	12 15 21.9	+2.3	
J20K	Nowinta River	8.87	346	Pn		Pn	12 15 20.4	+0.1	
J19K	Poorman	8.94	341	Pn		Pn	12 15 21.5	+0.2	
CCB	Clear Creek Bu	9.01	4	Pn		Pn	12 15 24.2	+1.9	
N31M	Braeburn, Yuko	9.07	45	Pn		Pn	12 15 24.6	+1.5	
K27K	Chicken	9.09	20	Pn		Pn	12 15 25.2	+1.9	
IL31		9.18	6	Pn		Pn	12 15 25.6	+1.1	
ILAR	Eielson Array	9.18	6	Pn		Pn	12 15 25.9	+1.3	
ILAR	Eielson Array	9.18	6	Pn		Pn	12 15 20.6	-4.0	
	comp=N,1.2nm,1.3s,baz=185,slow=14,SNR=2.6								
ILAR				Sn		Sn	12 16 51.5	-16	
	comp=N,0.1nm,0.3s,baz=196,slow=17,SNR=3.6								
K15K	Wolf Creek Mou	9.19	321	Pn		Pn	12 15 25.9	+1.2	
COLA	College	9.24	3	P		Pn	12 15 27.2	+1.9	
J26L	Joseph Creek	9.27	15	Pn		Pn	12 15 27.5	+1.6	
L29M	L29M	9.31	33	Pn		Pn	12 15 28.0	+1.6	
MDM	Murphy Dome	9.31	2	Pn		Pn	12 15 27.0	+0.6	
I23K	Minto, Yukon-K	9.49	359	Pn		Pn	12 15 29.4	+0.6	
J16K	Anvik River	9.57	327	Pn		Pn	12 15 30.4	+0.5	
I21K	Tanana	9.62	353	Pn		Pn	12 15 31.4	+0.8	
DAWY	Dawson	9.72	26	Pn		Pn	12 15 33.1	+1.2	
P33M	Teslin, Yukon	9.79	56	Pn		Pn	12 15 32.1	-0.9	
K29M	Barlow Dome	10.05	31	Pn		Pn	12 15 37.9	+1.3	
H21K	Melozitna Rive	10.16	351	Pn		Pn	12 15 38.5	+0.5	
H24K	Noodor Dome	10.20	3	Pn		Pn	12 15 41.3	+2.7	
R33M	Jennings River	10.45	62	Pn		Pn	12 15 42.1	+0.1	
IMAR	Indian Mountai	10.57	350	Pn		Pn	12 15 44.5	+1.0	
INK	Inuvik	14.56	23	Pn		Pn	12 16 36.9	-1.1	
	comp=N,0.1nm,0.3s,baz=221,slow=16,SNR=4.5								
	comp=N,1.0nm,0.9s								
YKA	Yellowknife Ar	18.82	55	P		P	12 17 30.6	-1.1	
	baz=267,slow=12,SNR=1.7								
	comp=N,0.5nm,1.0s								
ELK	Elko	26.76	110	LR		LR	12 28 18.2		
	comp=N,26nm,18.5s,baz=274,slow=34								
NVAR	Mina Array Bea	26.87	117	LR		LR	12 27 39.4		
	comp=N,60nm,18.9s,baz=312,slow=32								
H11N2	WAKE ISLAND Hy	48.65	241	T		T	13 14 17.6		
	baz=32,slow=76,SNR=3.8								
H11N3	WAKE ISLAND Hy	48.65	241	T		T	13 14 16.1		
	baz=32,slow=76,SNR=5.6								
H11N1	WAKE ISLAND Hy	48.67	241	T		T	13 14 22.2		
	baz=32,slow=76,SNR=4.2								
FINES	FINESS Array B	63.15	3	P		P	12 23 41.1	+1.5	
	comp=N,1.8nm,0.9s,baz=353,slow=9.0,SNR=1.9								
	comp=N,1.8nm,0.9s								
BVAR	Borovoye Array	66.85	335	P		P	12 24 05.0	+1.2	
	comp=N,1.0nm,0.9s,baz=4.3,slow=5.8,SNR=3.8								
	comp=N,1.0nm,0.9s								
KURBB	Kurchatov Arra	66.89	329	P		P	12 24 05.5	+1.5	
	comp=N,0.4nm,0.9s,baz=27,slow=5.7,SNR=3.2								
	comp=N,0.4nm,0.9s								
MKAR	Makanchi Array	69.12	325	P		P	12 24 18.9	+0.7	
	comp=N,0.5nm,0.9s,baz=27,slow=6.5,SNR=3.4								
	comp=N,0.5nm,0.9s								
AKASG	Malin Array Be	73.97	1	LR		LR	13 00 11.7		
	comp=N,46nm,18.4s,baz=182,slow=38								
MLR	Muntele Rosu	79.11	4	LR		LR	13 00 26.9		
	comp=N,42nm,21.4s,baz=106,slow=36								
QSPA	South Pole Qui	145.48	180	PKPbc		PKPdf	12 32 48.7	-0.2	
	comp=N,1.4nm,1.0s,baz=54,slow=2.8,SNR=2.7								

IDC 27 12:15:41.1±4.1, 4°40S×135°68E, h0km, mb3.4/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=187.8km s-min=29.3km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.51	185	Pn	Pn	12 19 19.8	-1.4
	0.2nm,0.3s,baz=11,slow=13,SNR=7.8						
WRA				Sn	Sn	12 22 13.5	-0.4
	0.1nm,0.3s,baz=2.2,slow=23,SNR=1.9						
	0.7nm,0.7s						
ASAR	Alice Springs	19.23	185	P	Pn	12 20 07.9	-0.1
	0.2nm,0.3s,baz=16,slow=10,SNR=21						
	0.9nm,0.6s						
MKAR	Makanchi Array	69.32	324	P	P	12 26 50.4	0.0
	0.2nm,0.4s,baz=107,slow=7.0,SNR=4.9						
	0.2nm,0.4s						

IDC 27 12:39:56.7±1.2, 35°77N×52°98E, h0km, mb3.9/14, mbtmp4.0/20, ML3.6/6, MS3.6/3, Error ellipse: s-maj=22.7km s-min=14.3km az=21.0
TEH 27 12:39:58.2, 35°89N×53°06E, h8km±21km, ML4.1
NEIC 27 12:40:02.2±1.3, 36°0N±0°1×53°14E±0°09, h10km±2km, mb4.1/19, Error ellipse: s-maj=17.7km s-min=11.9km az=185.0

ISC 27 12:39:58.9±0.4, 35°91N±0°03×53°07E±0°02, h10km, n157, σ2s44/132, mb4.1/26, MS3.6/30, 11C-6D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IALA	Alasht	0.27	309	Pg	Pg	12 40 04.1	-0.5
IALA				Sg	Sb	12 40 09.2	-1.7
IFIR	Firoozkooh	0.38	224	Pg	Pg	12 40 05.4	-1.0
ILAS	Lasjerd	0.54	190	Pg	Pg	12 40 08.5	-0.8
ILAS				Sg	Sb	12 40 16.9	-1.5
IKIA	Kiasar	0.58	59	Pg	Pg	12 40 09.6	-0.5
IKIA				Sg	Sb	12 40 19.0	-0.6
IPRN	Peran	0.68	299	Pg	Pg	12 40 11.4	-0.7
IANJ	Anjilo	0.82	123	Pg	Pg	12 40 13.8	-0.8
IGLO	Ghaloghah	0.85	46	Pg	Pb	12 40 15.4	-0.5
IDMV	Damavand	0.91	249	Pg	Pg	12 40 15.5	-1.0
MZPU	Pul - Mazandar	1.33	294	Pg	Pn	12 40 23.1	-0.6
TEH	Tehran	1.39	263	Pg	Pb	12 40 24.2	-0.7
IVRN	Varamin	1.43	231	Pg	Pg	12 40 25.2	-1.1
IHSB	Hasanabad	1.54	253	Pg	Pb	12 40 26.9	-0.6
ISFB	Sefidab	1.70	204	Pg	Pb	12 40 29.2	-1.0
AMD1	Meshkindasht	1.72	265	Pg	Pb	12 40 30.2	-0.5
KLST	Kelardasht - M	1.74	291	Pg	Pg	12 40 31.1	-1.1
IQOM	Qom	1.95	237	Pn	Pb	12 40 33.6	-1.1
IMHD	Mahdasht	1.97	264	Pn	Pb	12 40 34.5	-0.4
KRSH	Karshahi	2.09	202	Pn	Pb	12 40 35.4	-1.6
IMND	Minoodasht	2.31	54	Pn	Pb	12 40 38.7	-1.9
QAMS	Qamsar	2.57	213	Pn	Pb	12 40 42.3	-3.0
IRAZ	Razeghan	2.61	260	Pn	Pb	12 40 43.1	-2.8
LHJ2	Lahijan - Gila	2.73	298	Pn	Pb	12 40 44.9	-2.9
JIR1	Jirandeh	2.76	288	Pn	Pn	12 40 44.7	+1.4
ANAR	Anarak	2.77	169	Pn	Pn	12 40 45.0	+1.5
IKLH	Kolahrood	2.87	206	Pn	Pn	12 40 46.6	+1.7
MRVT	Maraveh tapeh	2.98	53	Pn	Pn	12 40 48.2	+1.9
IZEF	Zefreh	3.07	192	Pn	Pn	12 40 48.7	+1.0
HAGD	Aghdareh	3.39	252	Pn	Pn	12 40 54.1	+2.0
TNSJ	Nastanj	3.50	123	Pn	Pn	12 40 55.2	+1.8
SBZV	Sabzevar	3.70	81	Pn	Pn	12 40 58.5	+2.2
HSAM	Samen	4.04	246	Pn	Pn	12 41 02.6	+1.6
TKDS	Koohdasht(Taba	4.05	123	Pn	Pn	12 41 02.9	+1.9
ISFR	Sfrayin	4.13	73	Pn	Pn	12 41 04.5	+2.2
IRAM	Ramesheh	4.13	188	Pn	Pn	12 41 03.8	+1.5
TPRV	Parvadeh(Tabas	4.14	133	Pn	Pn	12 41 04.3	+2.0
ZNGN	Zangian	4.21	207	Pn	Pn	12 41 05.1	+1.7
GEYT	Alibeck	4.51	62	Pn	Pn	12 41 10.0	+2.6
GEYT	Alibeck	4.51	62	Pn	Pn	12 41 08.9	+1.6
	6.6nm,0.3s,baz=240,slow=14,SNR=35						
GEYT				Sn	Sn	12 42 01.8	+1.9
	3.6nm,0.3s,baz=225,slow=15,SNR=3.9						
	18nm,0.4s						
GYA0B	ALIBECK ARRAY	4.51	62	Pn	Pn	12 41 10.1	+2.8
IAKL	Akhelmad	4.64	80	Pn	Pn	12 41 11.6	+2.2
IMEH	Mehriz	4.69	164	Pn	Pn	12 41 11.5	+1.6
IBAF	Bafgh	4.79	154	Pn	Pn	12 41 13.1	+2.0
IPAY	Payeh	4.82	82	Pn	Pn	12 41 13.6	+1.9
IKFM	Kafar-mosalman	4.92	243	Pn	Pn	12 41 15.2	+2.3
GRMI	Germi	5.04	307	Pn	Pn	12 41 16.3	+1.7
IKRD	Kardeh	5.27	79	Pn	Pn	12 41 20.9	+3.0
AFRZ	Afriz	5.49	115	Pn	Pn	12 41 23.2	+2.4
ITEG	Tejag	5.57	121	Pn	Pn	12 41 24.3	+2.3
IDHR	Dehrash	5.60	259	Pn	Pn	12 41 24.4	+2.0
IMYA	Miami	5.71	84	Pn	Pn	12 41 26.4	+2.6
TBJM	Torbat-e-JAM	5.95	94	Pn	Pn	12 41 29.3	+2.1
BAGH	Bagheran - Bir	5.96	120	Pn	Pn	12 41 29.0	+1.6
IKOO	Kooshah	6.02	124	Pn	Pn	12 41 30.4	+2.1
ILBA	Ilam Banvizeh	6.09	250	Pn	Pn	12 41 31.1	+2.1
SHRT	Shahrakht	6.36	109	Pn	Pn	12 41 34.9	+2.2
BSRN	Basiran	6.39	126	Pn	Pn	12 41 35.0	+1.9
IDAH	Dahanechah	6.45	117	Pn	Pn	12 41 35.9	+1.7
NHDN	Nehbandan	7.36	126	Pn	Pn	12 41 48.8	+2.3
HRA	Herat	7.67	99	Pn	Pn	12 41 53.8	+3.0
GNI	Garni	7.82	305	Pn	Pn	12 41 57.5	+4.7
GNI	Garni	7.82	305	Pn	Pn	12 41 59.1	+6.3
	3.6nm,0.3s,baz=57,slow=3.6,SNR=8.3						
ONI	Oni	10.00	315	Pn	Pn	12 42 24.8	+2.2
KBZ	Khabaz	11.05	318	Pn	Pn	12 42 38.6	+1.8
	0.1nm,0.3s,baz=162,slow=3.2,SNR=2.3						
KBZ				Sn	Sn	12 44 41.2	+0.8
	0.2nm,0.3s,baz=135,slow=5.0,SNR=2.2						
KBZ				LR	LR	12 47 11.8	
	comp=Z,83nm,19.2s,baz=132,slow=39						
	1.9nm,0.9s						
WSAR	Wadi Sarin	13.52	158	Pn	Pn	12 43 09.7	-1.1
	0.1nm,0.3s,baz=34,slow=18,SNR=2.1						
	0.7nm,0.5s						
RAYN	Ar Rayn	13.98	210		Pn	12 43 15.2	-2.0
BNN	Bunyan	14.01	287	Pn	Pn	12 43 19.6	+2.0
ABKAR	Akbulak array	14.25	19		Pn	12 43 20.3	-0.3
BTK	Batken	14.59	68	Pn	Pn	12 43 25.4	-0.1
MMAI	Mount Meron Ar	14.86	264	LR	LR	12 49 57.1	
	comp=Z,199nm,18.8s,baz=47,slow=41						
AKTO	Aktyubinsk	14.95	12	Pn	Pn	12 43 29.0	-1.2
	0.8nm,0.3s,baz=188,slow=13,SNR=9.9						
AKTO				Sn	Sn	12 46 08.0	-7.8
	0.4nm,0.3s,baz=41,slow=19,SNR=3.4						
AKTO				LR	LR	12 50 54.6	
	comp=Z,207nm,19.3s,baz=250,slow=44						
	4.6nm,0.7s						
KK31	Karatay Array	15.24	57	Pn	Pn	12 43 35.5	+1.4
KKAR	Karatay Array	15.24	57	Pn	Pn	12 43 35.1	+1.0
KKAR	Karatay Array	15.24	57	Pn	Pn	12 43 35.4	+1.3
KKAR				IAmb	IAmb	12 43 54.4	
	comp=Z,4.4nm,0.9s						
BR131	Keskin Array S	15.82	290	Pn	P	12 43 44.1	-1.6
BRTR	Keskin Array B	15.82	290	Pn	P	12 43 44.0	-1.7
EIL	Elat	16.45	253	LR	LR	12 51 26.6	
	comp=Z,418nm,18.3s,baz=74,slow=42						
NIL	Nilore	16.73	92	P	P	12 43 57.5	+1.8
NIL				IAmb	IAmb	12 44 14.8	
	comp=Z,22nm,1.4s						
BELG	Belogornoye	16.93	348	Pn	Pn	12 43 54.5	-1.2
	comp=Z,0.7nm,0.3s,baz=146,slow=6.1,SNR=17						
BELG				S	Sn	12 46 52.4	-11
	comp=Z,7.8nm,0.6s,baz=273,slow=20,SNR=2.9						
	comp=Z,35nm,0.9s						
AAK	Ala-Archa	17.87	61	P	P	12 44 07.6	-0.8
	comp=Z,0.1nm,0.3s,baz=256,slow=19,SNR=1.6						
AAK				LR	LR	12 52 40.6	
	comp=Z,152nm,20.0s,baz=264,slow=42						
	comp=Z,0.7nm,0.5s						
KSH	Kashi	18.46	72	P	P	12 44 13.5	-1.4
KSH				sP	sP	12 44 22.3	+2.6
KSH				S	Sn	12 47 31.5	-10
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSH				LR	LR		
	comp=N,560nm,14.4s						
KSH				LR	LR		
	comp=E,460nm,13.8s						
KSH				LR	LR		
	comp=Z,560nm,15.4s						
BOOM	Boomskoye usch	18.87	63	P	Pn	12 44 20.9	+1.0
TPGR	Topolog	20.73	303	⇓P	Pn	12 44 42.5	+0.6
ARU	Arti	20.86	9	P	Pn	12 44 43.0	-0.2
ARU	Arti	20.86	9	P	Pn	12 44 41.6	-1.6
	comp=Z,8.5nm,0.6s,baz=223,slow=4.1,SNR=12						
ARU				S	S	12 48 21.5	-12
	comp=Z,0.9nm,0.3s,baz=4.9,slow=22,SNR=1.8						
ARU				LR	LR	12 54 51.2	
	comp=Z,229nm,18.4s,baz=184,slow=43						
	comp=Z,8.5nm,0.6s						
BRVK	Borovoye	20.99	30	P	P	12 44 43.1	+0.9
BRVK				IAmb	IAmb	12 44 59.6	
	comp=Z,10nm,1.1s						
BVAR	Borovoye Array	21.01	30	P	P	12 44 42.8	+0.4
	comp=Z,6.8nm,0.7s,baz=220,slow=9.4,SNR=22						
BVAR				S	S	12 48 33.9	-2.3
	comp=Z,0.9nm,0.6s,baz=224,slow=31,SNR=4.0						
BVAR				LR	LR	12 54 40.9	
	comp=Z,270nm,19.5s,baz=212,slow=42						
	comp=Z,6.8nm,0.7s						
SORM	Soroca	21.95	311	⇑P	P	12 44 53.9	+1.4
ISR	Istrita	22.09	303	⇓P	P	12 44 59.9	+5.8
PLOR	Plostina	22.22	305	⇓P	P	12 45 01.1	+5.5
OBN	Obninsk	22.31	335	LR	LR	12 57 01.2	
	comp=Z,58nm,19.0s,baz=161,slow=46						
MLR	Muntele Rosu	22.59	303	⇑P	P	12 45 04.3	+4.7
MLR	Muntele Rosu	22.59	303	P	P	12 45 02.9	+3.3
MLR				IAmb	IAmb	12 45 07.8	
	comp=Z,5.5nm,0.8s						
AK05	Malin Array Si	22.63	318	P	P	12 45 01.4	+1.6
AK05				IAmb	IAmb	12 45 13.5	
	comp=Z,7.8nm,0.9s						
AKASG	Malin Array Be	22.66	318	P	P	12 44 59.3	-0.8
	comp=Z,1.2nm,0.6s,baz=122,slow=9.1,SNR=10						
	comp=Z,1.2nm,0.6s						
AKBB	Malin Array Si	22.66	318	P	P	12 45 02.4	+2.3
AKBB				IAmb	IAmb	12 45 07.0	
	comp=Z,7.4nm,0.8s						
KIEV	Kiev	22.66	318	⇓P	P	12 45 01.9	+1.8
KIEV	Kiev	22.66	318	P	P	12 45 02.4	+2.3
KIEV				IAmb	IAmb	12 45 07.0	
	comp=Z,6.6nm,0.8s						
DOPR	Dopca	23.10	304	⇓P	P	12 45 08.2	+3.4
VOIR		23.19	303	⇑P	P	12 45 09.6	+3.9
KURBB	Kurchatov Arra	23.50	43	P	P	12 45 10.7	+2.0
	comp=Z,3.7nm,1.2s,baz=246,slow=9.8,SNR=6.4						
	comp=Z,3.7nm,1.2s						
KURK	Kurchatov	23.60	43	P	P	12 45 12.1	+2.4
KURK				IAmb	IAmb	12 45 24.2	
	comp=Z,12nm,1.4s						
BURAR	Bucovina Array	23.71	308	⇑P	P	12 45 12.9	+2.0
BURAR	Bucovina Array	23.71	308	P	P	12 45 13.2	+2.3
BURAR				IAmb	IAmb	12 45 16.1	
	comp=Z,2.9nm,0.9s						
BUR08	Bucovina Ar. S	23.73	308	P	P	12 45 14.1	+2.9
BUR08				IAmb	IAmb	12 45 56.5	
	comp=Z,13nm,1.5s						
MAKZ	Makanchi	24.14	54	P	P	12 45 17.1	+2.1
MAKZ				IAmb	IAmb	12 45 21.2	
	comp=Z,3.5nm,0.8s						
MK31	Makanchi Array	24.34	54	P	P	12 45 18.4	+1.5
MKAR	Makanchi Array	24.34	54

	comp=Z,45nm,18.1s,baz=20,slow=42										
JNU	**Nakatsue**	**62.52**	**68**	LR	LR	13 19 42.8					
	comp=Z,61nm,18.6s,baz=288,slow=38										
SEY	**Seymchan**	**62.66**	**31**	LR	LR	13 21 23.5					
	comp=Z,64nm,18.2s,baz=9.0,slow=40										
JOW	**Kunigami**	**63.42**	**75**	LR	LR	13 23 20.6					
	comp=Z,36nm,20.2s,baz=288,slow=41										
MA2	**Magadan**	**63.43**	**34**	LR	LR	13 21 08.2					
	comp=Z,49nm,18.4s,baz=313,slow=39										
TSUM	**Tsumeb**	**64.30**	**218**	LR	LR	13 19 58.3					
	comp=Z,104nm,18.2s,baz=152,slow=37										
ASAJ	**Asahikawa**	**65.80**	**52**	LR	LR	13 21 23.2					
	comp=Z,70nm,18.4s,baz=67,slow=38										
LBTB	**Lobatse**	**65.93**	**207**	LR	LR	13 20 43.1					
	comp=Z,126nm,19.5s,baz=49,slow=37										
MJAR	**Matsushiro Arr**	**66.32**	**61**	LR	LR	13 19 56.5					
	comp=Z,24nm,19.9s,baz=334,slow=36										
BOSA	**Boshof**	**69.33**	**206**	LR	LR	13 21 28.8					
	comp=Z,87nm,19.8s,baz=24,slow=36										
SUR	**Sutherland**	**74.36**	**208**	LR	LR	13 25 38.0					
	comp=Z,148nm,18.7s,baz=149,slow=37										
ILAR	**Eielson Array**	**78.43**	**9**	P	**P**	**12 52 00.2 +0.8**					
	comp=Z,0.9nm,1.0s,baz=331,slow=4.1,SNR=5.7										
ILAR				LR	LR	13 29 57.8					
	comp=Z,30nm,21.5s,baz=308,slow=38										
	comp=Z,0.9nm,1.0s										
YKA	**Yellowknife Ar**	**81.43**	**354**	P	**P**	**12 52 17.0 +1.3**					
	comp=Z,0.8nm,0.9s,baz=5.2,slow=6.2,SNR=14										
	comp=Z,0.8nm,0.9s										

NCEDC ***27*** *12:40:15.4±5.0,40.˚14N±0.˚04×126.˚19W±0.˚09,h4km±2km, Error ellipse: s-maj=11.3km s-min=7.1km az=273.0*

NEIC 27 12:40:13.6±1.5,40.˚38N±0.˚03×126.˚31W±0.˚09,h10km±2km, ML3.3/60,Md3.0/14(NCEDC),Error ellipse: s-maj=11.6km s-min=5.1km az=268.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.51**	**86**	Pn		12 40 41.0	+0.3
KCTM				Sb		12 41 01.3	+0.4
KMPM	**Mount Pierce**	**1.67**	**88**	Pn		12 40 42.7	-0.3
KMPM	**Mount Pierce**	**1.67**	**88**	IAML		12 41 07.0	
	comp=E,527nm,0.3s						
KMPM				IAML		12 41 07.3	
	comp=N,542nm,0.4s						
JCC	**Jacoby Creek,**	**1.79**	**75**	Pn		12 40 43.5	-1.0
JCC				Sn		12 41 06.0	-1.4
JCC	**Jacoby Creek,**	**1.79**	**75**	Pn		12 40 43.4	-1.1
KCRM	**Chalk Rock**	**1.90**	**88**	Pn		12 40 46.4	+0.2
KRPM	**Rodgers**	**1.90**	**65**	Pn		12 40 44.6	-1.6
KRPM				IAML		12 41 30.1	
	comp=E,144nm,3.0s						
KRPM				IAML		12 41 34.9	
	comp=N,128nm,3.9s						
KMRM	**Mail Ridge**	**2.00**	**94**	Pn	Pn	12 40 48.3	+0.8
KMRM				IAML		12 41 16.5	
	comp=N,267nm,0.7s						
KMRM				IAML		12 41 17.6	
	comp=E,324nm,0.6s						
KHMM	**Horse Mountain**	**2.02**	**75**	Pn		12 40 47.4	-0.5
KRMB	**Red Mountain**	**2.15**	**57**	Pn		12 40 48.8	-0.8
KRMB	**Red Mountain**	**2.15**	**57**	IAML		12 41 20.9	
	comp=N,87nm,4.7s						
KCPM	**Cahto Peak**	**2.21**	**107**	Pn		12 40 50.9	+0.5
KCPM				IAML		12 41 24.8	
	comp=E,94nm,1.3s						
KIPM	**Iron Peak**	**2.25**	**104**	Pn		12 40 51.4	+0.5
KSXB	**Camp Six Broad**	**2.34**	**51**	Pn		12 40 51.4	-0.8
KSXB	**Camp Six Broad**	**2.34**	**51**	IAML		12 42 10.2	
	comp=E,77nm,3.6s						
KOMM	**Orleans Mounta**	**2.35**	**67**	Pn		12 40 51.5	-0.8
KHBM	**Hayfork Bally**	**2.37**	**82**	Pn		12 40 52.5	-0.3
KBO	**Bosley Butte**	**2.41**	**40**	Pn		12 40 52.3	-0.9
KBO	**Bosley Butte**	**2.41**	**40**	IAML		12 41 13.2	
	comp=N,207nm,2.2s						
KBO				IAML		12 41 28.9	
	comp=E,276nm,4.9s						
KBNM	**Bluenose Ridge**	**2.44**	**101**	Pn		12 40 54.1	+0.5
DCMP	**DeCamp, Califo**	**2.46**	**111**	Pn		12 40 52.5	-1.3
L02F	**Cave Junction**	**2.70**	**49**	Pn		12 40 57.5	+0.4
HOPS	**Hopland Field**	**2.86**	**118**	Pn		12 40 58.6	-0.6
HOPS				IAML		12 41 39.0	
	comp=E,49nm,3.1s						
HOPS				IAML		12 42 15.7	
	comp=N,56nm,4.0s						
YBH	**Yreka Blue Hor**	**3.04**	**62**	Pn	Pn	12 41 02.9	+1.1
K02D	**Willamette Mer**	**3.05**	**40**	Pn	Pn	12 41 01.7	-0.2
K02D				IAML		12 41 21.5	
	comp=N,73nm,4.6s						
K02D				IAML		12 42 33.2	
	comp=E,66nm,4.5s						
J01E	**Myrtle Point**	**3.30**	**32**	Pn	Pn	12 41 03.7	-1.5
J01E				IAML		12 41 29.7	
	comp=N,110nm,3.4s						
J01E				IAML		12 41 46.2	
	comp=E,115nm,3.5s						
HUMO	**Hull Mountain**	**3.36**	**47**	Pn		12 41 06.4	+0.3
HUMO				IAML		12 41 33.6	
	comp=N,33nm,4.5s						
HUMO				IAML		12 42 18.1	
	comp=E,34nm,4.4s						
MCCM	**Marconi Confer**	**3.48**	**129**	Pn	Pn	12 41 07.2	-0.4
MCCM				IAML		12 43 18.2	
	comp=E,62nm,3.4s						
L04D	**Klamath Falls**	**3.53**	**57**	Pn	Pn	12 41 10.6	+1.9
L04D				IAML		12 41 34.9	
	comp=N,75nm,4.8s						
L04D				IAML		12 41 56.5	
	comp=E,85nm,4.4s						
DBO	**Dodson Butte**	**3.57**	**39**	Pn	Pn	12 41 09.1	0.0
DBO				IAML		12 41 53.7	
	comp=E,93nm,4.2s						
DBO				IAML		12 42 59.4	
	comp=N,110nm,4.3s						
ORV	**Oroville**	**3.79**	**101**	Pn		12 41 12.2	+0.2
I03D	**Drain, OR**	**3.98**	**33**	Pn	Pn	12 41 13.3	-1.3
I03D				IAML		12 42 45.4	
	comp=E,70nm,2.7s						
I03D				IAML		12 42 57.5	
	comp=N,77nm,4.4s						
K04D	**Chiloquin, OR**	**4.09**	**55**	Pn	Pn	12 41 16.5	+0.2
AFDM	**Forest Hills D**	**4.36**	**107**	Pn	Pn	12 41 21.4	+1.5
AFDM				IAML		12 44 06.5	
	comp=N,14nm,4.6s						
I04A	**Tendick Farm,**	**4.48**	**39**	Pn	Pn	12 41 21.8	+0.3
I04A				IAML		12 42 38.4	
	comp=E,57nm,4.3s						
I04A				IAML		12 44 17.0	
	comp=N,53nm,4.7s						
BUCK	**Buck Mountain**	**4.54**	**32**	Pn	Pn	12 41 22.3	-0.1
K05A	**Summer Lake**	**4.69**	**58**	Pn	Pn	12 41 25.2	+0.6
J05D	**Fort Rock, OR**	**4.78**	**51**	Pn	Pn	12 41 25.3	-0.4
H04D	**Lebanon**	**4.91**	**31**	Pn	Pn	12 41 27.2	-0.2
CMB	**Columbia Colle**	**5.16**	**115**	Pn		12 41 33.0	+2.1
CMB				IAML		12 44 52.9	
	comp=N,8.8nm,4.1s						
SAO	**San Andreas Ge**	**5.25**	**132**	Pn	Pn	12 41 31.3	-0.8
PINE	**Pine Mountain**	**5.25**	**48**	Pn	Pn	12 41 32.7	+0.4
H04A	**Detroit Lake**	**5.27**	**34**	Pn	Pn	12 41 32.3	-0.1
I05D	**Terrebonne, OR**	**5.40**	**41**	Pn	Pn	12 41 34.3	+0.1
BBGB	**Big Mountain B**	**5.61**	**131**	Pn	Pn	12 41 36.7	-0.5
PMPB	**Monarch Peak**	**6.00**	**132**	Pn	Pn	12 41 42.9	+0.4
I07A	**Izee**	**6.26**	**52**	Pn	Pn	12 41 47.8	+1.7
MDPB	**Devils Postpil**	**6.26**	**114**	Pn	Pn	12 41 49.2	+2.9
G06A	**Carlson Farm,**	**6.40**	**39**	Pn	Pn	12 41 48.4	+0.5

ANF ***27*** *12:47:55.3±0.2,33.˚73N×117.˚51W,h12km±1km,ML3.1/30, Error ellipse: s-maj=1.7km s-min=1.3km az=26.0*

NEIC ***27*** *12:47:55.9±1.1,33.˚735N±0.˚008×117.˚480W±0.˚010, h15km±2km, Error ellipse: s-maj=1.2km s-min=1.1km az=195.0*

PAS ***27*** *12:47:56.3±1.0,33.˚741N±0.˚008×117.˚490W±0.˚009, h11km±3km,ML3.1/326,ML3.0/62(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=202.0*

ISC 27 12:47:55.9±0.8,33.˚73N±0.˚01×117.˚49W±0.˚01,h17km±5km, n137,σ0.˚94/213,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELS	**Elsinore Mount**	**0.10**	**145**	Pg	**Pg**	**12 47 59.1**	**-0.4**
ELS				Sg	**Sg**	**12 48 01.0**	**-0.9**
CRNC	**Corona**	**0.16**	**339**		**Pb**	**12 48 01.7**	**+1.3**
MURC	**Murrieta**	**0.28**	**117**		**Pg**	**12 48 02.0**	**0.0**
MURC					**Sg**	**12 48 06.3**	**+0.1**
MURC	**Murrieta**	**0.28**	**117**	P	**Pg**	**12 48 02.0**	**0.0**
	baz=300,SNR=1000						
MURC				S	**Sg**	**12 48 06.3**	**+0.1**
	baz=300						
RSBC	**Riverside Bore**	**0.28**	**29**		**Pg**	**12 48 01.5**	**-0.6**
RSBC					**Sg**	**12 48 05.3**	**-1.0**
RSBC	**Riverside Bore**	**0.28**	**29**		**Pg**	**12 48 01.5**	**-0.6**
RSBC					**Sg**	**12 48 05.3**	**-1.0**
MLSC	**Mira Loma**	**0.28**	**348**		**Pg**	**12 48 05.2**	**-0.1**
RVR	**Riverside**	**0.28**	**20**		**Pg**	**12 48 01.5**	**-0.6**
CHNC	**Chino**	**0.31**	**330**		**Pg**	**12 48 02.3**	**-0.4**
CHNC					**Sg**	**12 48 06.7**	**-0.5**
PEC	**Perris**	**0.32**	**59**		**Pg**	**12 48 02.3**	**-0.4**
SANC	**Santa Ana**	**0.33**	**266**		**Pg**	**12 48 03.1**	**+0.2**
FON	**Fontana**	**0.37**	**7**		**Pg**	**12 48 03.1**	**-0.6**
FON					**Sg**	**12 48 08.1**	**-0.9**
FULC	**Fullerton**	**0.39**	**292**		**Pb**	**12 48 04.5**	**+0.2**
FULC					**Sb**	**12 48 10.7**	**+0.7**
CLTC	**Calectric**	**0.39**	**22**		**Pg**	**12 48 03.6**	**-0.4**
CLTC					**Sg**	**12 48 09.4**	**-0.2**
BACC	**Bachelor Mtn.**	**0.39**	**107**		**Pg**	**12 48 03.6**	**-0.4**
BACC					**Sg**	**12 48 09.3**	**-0.2**
HMTC	**Hemet**	**0.41**	**92**		**Pg**	**12 48 04.1**	**-0.2**
HMTC					**Sg**	**12 48 09.7**	**-0.2**
BREC	**Barre Substati**	**0.41**	**281**		**Pb**	**12 48 04.9**	**+0.1**
BREC					**Sb**	**12 48 11.8**	**+1.0**
CFSC	**Central Fire S**	**0.42**	**25**		**Pg**	**12 48 04.1**	**-0.4**
CFSC					**Sg**	**12 48 10.2**	**0.0**
CFSC	**Central Fire S**	**0.42**	**25**		**Pg**	**12 48 04.1**	**-0.4**
CFT	**Crafton Hills**	**0.44**	**46**		**Pg**	**12 48 04.6**	**-0.3**
CFT					**Sg**	**12 48 10.9**	**-0.1**
PSRC	**Puddingstone R**	**0.45**	**324**		**Pg**	**12 48 04.7**	**-0.4**
PSRC					**Sg**	**12 48 10.6**	**-0.6**
HLNC	**Highland**	**0.45**	**30**		**Pg**	**12 48 04.8**	**-0.4**
HLNC					**Sg**	**12 48 11.0**	**-0.3**
POB	**Polly Butte**	**0.48**	**95**		**Pg**	**12 48 05.3**	**-0.2**
POB					**Sg**	**12 48 11.8**	**-0.2**
SS2	**San Sevaine**	**0.48**	**359**		**Pg**	**12 48 05.0**	**-0.6**
SVD	**Seven Oaks Dam**	**0.50**	**41**		**Pg**	**12 48 05.7**	**-0.3**
SVD					**Sb**	**12 48 12.7**	**-0.7**
SSK	**Sunset Peak**	**0.51**	**341**		**Pg**	**12 48 05.7**	**-0.6**
RHC	**Rose Hills Cem**	**0.51**	**302**		**Pg**	**12 48 06.4**	**+0.2**
RHC					**Sb**	**12 48 14.1**	**+0.4**
DLAC	**Del Amo**	**0.52**	**284**		**Pb**	**12 48 07.2**	**+0.7**
DLAC					**Sb**	**12 48 15.1**	**+1.3**
BFSC	**Mount Baldy Ra**	**0.53**	**345**		**Pg**	**12 48 05.7**	**-0.9**
BFSC					**Sg**	**12 48 12.6**	**-1.1**
BFSC	**Mount Baldy Ra**	**0.53**	**345**	P	**Pg**	**12 48 05.7**	**-0.9**
	baz=164,SNR=206						
BFSC				S	**Sg**	**12 48 12.6**	**-1.1**
	baz=164						
GORC	**Green Oak Ranc**	**0.61**	**159**		**Pg**	**12 48 07.4**	**-0.7**
GORC					**Sg**	**12 48 16.0**	**-0.2**
GVRC	**Garvey Reservo**	**0.61**	**302**		**Pg**	**12 48 07.9**	**-0.1**
GVRC	**Garvey Reservo**	**0.61**	**302**		**Sb**	**12 48 17.7**	**+1.2**
PLM	**Palomar**	**0.65**	**125**		**Pg**	**12 48 08.1**	**-0.6**
PLM					**Sg**	**12 48 17.3**	**0.0**
CRY	**Cary Ranch**	**0.65**	**104**		**Pg**	**12 48 08.3**	**-0.5**
CRY					**Sg**	**12 48 17.0**	**-0.4**
CACC	**Caltech Cellar**	**0.66**	**308**		**Pg**	**12 48 08.6**	**-0.4**
CACC					**Sg**	**12 48 17.4**	**-0.5**
FMP	**Fort Macarthur**	**0.67**	**269**		**Pg**	**12 48 08.5**	**-0.6**
FMP					**Sb**	**12 48 19.2**	**+1.1**
FMP	**Fort Macarthur**	**0.67**	**269**	P	**Pg**	**12 48 08.4**	**-0.6**
	baz=87,SNR=8.5						
FMP				S	**Sg**	**12 48 17.1**	**-0.8**
	baz=87						
GSA	**Caltech--GSA**	**0.67**	**308**		**Sg**	**12 48 17.7**	**-0.3**
CBCC	**Caltech Broad**	**0.67**	**308**		**Sg**	**12 48 18.2**	**+0.1**
WTT2	**Watts, South G**	**0.67**	**289**		**Pb**	**12 48 09.7**	**+0.5**
MWC	**Mount Wilson**	**0.68**	**317**		**Pg**	**12 48 08.7**	**-0.7**
MWC					**Sb**	**12 48 18.8**	**+0.1**
GVDA	**Garner Valley**	**0.69**	**95**		**Pg**	**12 48 09.1**	**-0.3**
GVDA					**Sg**	**12 48 18.3**	**-0.3**
BBRC	**Big Bear Solar**	**0.71**	**41**		**Pg**	**12 48 09.5**	**-0.5**
BBRC					**Sg**	**12 48 19.1**	**-0.5**
BBRC	**Big Bear Solar**	**0.71**	**41**	P	**Pg**	**12 48 09.5**	**-0.5**
	baz=222,SNR=169						
BBRC				S	**Sg**	**12 48 19.0**	**-0.5**
	baz=222						
USC	**University of**	**0.72**	**294**		**Pb**	**12 48 10.4**	**+0.3**
USC					**Sb**	**12 48 20.9**	**+1.3**
PASC	**Pasadena Art C**	**0.73**	**308**	Pg	**Pg**	**12 48 09.2**	**-0.9**
PASC				IAML		12 48 21.1	
	comp=N,859nm,0.3s						
PASC				IAML		12 48 21.3	
	comp=E,566nm,0.4s						
PASC	**Pasadena Art C**	**0.73**	**308**		**Sg**	**12 48 19.1**	**-0.7**
BZNA	**Buzz No.'s Pla**	**0.73**	**109**		**Pg**	**12 48 09.8**	**-0.4**
BZNA					**Sg**	**12 48 19.6**	**-0.3**
DNR	**Dunn Ranch,Anz**	**0.74**	**102**		**Pg**	**12 48 10.1**	**-0.3**
DNR					**Sb**	**12 48 20.4**	**+0.1**
CHFC	**Chilao Flat St**	**0.75**	**324**		**Pg**	**12 48 09.7**	**-0.9**
CHFC					**Sg**	**12 48 19.4**	**-1.2**
SNDA	**J Saunders Pla**	**0.75**	**103**		**Pg**	**12 48 10.4**	**-0.3**
SNDA					**Sg**	**12 48 20.4**	**-0.3**
RPV	**Rancho Palos V**	**0.76**	**271**		**Pg**	**12 48 09.7**	**-1.0**
RPV					**Sb**	**12 48 21.4**	**+0.7**
BHPC	**Baldwin Hills**	**0.77**	**290**		**Pb**	**12 48 11.5**	**+0.6**
BHPC					**Sn**	**12 48 23.1**	**-0.1**
GR2C	**Griffith Obs.**	**0.78**	**300**		**Pg**	**12 48 10.4**	**-0.7**
GR2C					**Sg**	**12 48 21.0**	**-0.5**
FRD	**Ford Ranch, An**	**0.78**	**107**		**Pg**	**12 48 10.7**	**-0.5**
FRD					**Sg**	**12 48 20.8**	**-0.7**
FRD	**Ford Ranch, An**	**0.78**	**107**		**Pg**	**12 48 10.6**	**-0.5**
FRD					**Sg**	**12 48 20.8**	**-0.7**
LCGC	**La Cienega, Cu**	**0.79**	**291**		**Pb**	**12 48 11.9**	**+0.7**
LCGC					**Sn**	**12 48 24.0**	**+0.4**
DEVC	**Devers**	**0.79**	**74**		**Pb**	**12 48 11.1**	**-0.1**
DEVC					**Sb**	**12 48 21.9**	**+0.2**
JNH	**Juniper Hills**	**0.81**	**332**		**Pg**	**12 48 10.8**	**-1.1**
JNH					**Sg**	**12 48 21.2**	**-1.5**
ADO	**Adelanto Recei**	**0.82**	**3**		**Pg**	**12 48 11.1**	**-0.9**
ADO					**Sg**	**12 48 22.3**	**-0.6**
SIL	**Silver Peak**	**0.83**	**42**		**Pg**	**12 48 11.4**	**-0.7**
CIAC	**Catalina I. Ai**	**0.83**	**247**		**Pb**	**12 48 13.3**	**-0.7**
CIAC					**Sg**	**12 48 22.9**	**-0.4**
CIS	**Catalina Islan**	**0.84**	**247**	P	**Pb**	**12 48 11.3**	**-0.7**
	baz=66,SNR=13						
CIS				S	**Sg**	**12 48 22.9**	**-0.4**
	baz=66						
VTV	**Victorville**	**0.84**	**9**		**Pg**	**12 48 11.2**	**-1.2**
VTV					**Sg**	**12 48 22.0**	**-1.5**
HLLC	**North Hollywoo**	**0.85**	**302**		**Pb**	**12 48 12.1**	**-0.1**
HLLC					**Sg**	**12 48 23.0**	**-0.7**
DPP	**Dos Picos Cty**	**0.86**	**147**		**Pb**	**12 48 11.4**	**-1.0**
DPP					**Sg**	**12 48 22.6**	**-1.5**
PFO	**Pinyon Flats O**	**0.87**	**97**	Pg	**Pg**	**12 48 12.3**	**-0.5**
PFO				IAML		12 48 24.5	
	comp=E,294nm,0.4s						
PFO	**Pinyon Flats O**	**0.87**	**97**		**Pg**	**12 48 12.3**	**-0.5**
PFO					**Sg**	**12 48 23.6**	**-0.7**
PFO	**Pinyon Flats O**	**0.87**	**97**	P	**Pg**	**12 48 12.4**	**-0.5**
	baz=279,SNR=47						
PFO				S	**Sg**	**12 48 23.8**	**-0.6**
	baz=279						
DECC	**Green Verdugo**	**0.87**	**307**		**Pb**	**12 48 12.1**	**-0.6**
DECC					**Sb**	**12 48 23.4**	**-0.7**
DECC	**Green Verdugo**	**0.87**	**307**	P	**Pb**	**12 48 12.2**	**-0.5**
	baz=126,SNR=61						
DECC				S	**Sb**	**12 48 23.8**	**-0.3**
	baz=126						
MATG	**Mataguay Scout**	**0.88**	**126**		**Pb**	**12 48 11.9**	**-0.9**
MATG					**Sg**	**12 48 24.1**	**-0.7**
DJJ	**Donna J Jenkin**	**0.89**	**296**		**Pb**	**12 48 12.1**	**-0.7**
DJJ					**Sb**	**12 48 24.4**	**+0.1**
109C	**Camp Elliot, M**	**0.90**	**159**	Pg	**Pb**	**12 48 12.2**	**-0.8**
109C	**Camp Elliot, M**	**0.90**	**159**	P	**Pb**	**12 48 12.2**	**-0.8**
	baz=339,SNR=26						
109C				S	**Sb**	**12 48 24.4**	**-0.3**
	baz=339						
LRRC	**Littlerock Res**	**0.91**	**331**		**Pb**	**12 48 12.6**	**-0.7**
LRRC					**Sb**	**12 48 24.4**	**-0.7**
PMD	**Palm Desert**	**0.93**	**95**		**Pb**	**12 48 12.9**	**-0.8**
PMD				IAML		12 48 26.3	
	comp=N,384nm,0.4s						
PMD				IAML		12 48 28.7	
	comp=E,408nm,0.5s						
JUEM	**Julian Eagle M**	**0.99**	**130**		**Pb**	**12 48 13.6**	**-1.1**
RRX	**Edison Barstow**	**1.22**	**20**	P	**Pn**	**12 48 18.3**	**+0.1**
	baz=200,SNR=38						
RRX				S	**Sn**	**12 48 34.5**	**+0.2**
	baz=200						
MONP2	**Monument Peak**	**1.22**	**133**	P	**Pn**	**12 48 17.8**	**-0.6**
	baz=314,SNR=34						
MONP2				S	**Sb**	**12 48 33.9**	**-0.5**
	baz=314						
EDW2	**Edwards Air Fo**	**1.22**	**340**	P	**Pn**	**12 48 18.2**	**-0.1**
	baz=160,SNR=66						
EDW2				S	**Sb**	**12 48 33.7**	**-0.5**
	baz=160						
BAR	**Barrett**	**1.25**	**146**		**Pn**	**12 48 17.8**	**-0.8**
TJX	**Tijuana**	**1.27**	**163**		**Pb**	**12 48 19.7**	**+0.4**
BELC	**Belle Mtn. Jos**	**1.27**	**77**	P	**Pb**	**12 48 19.5**	**0.0**
	baz=259,SNR=129						
BELC				S	**Sn**	**12 48 36.2**	**+0.3**
	baz=259						
OSI	**Osito Audit: C**	**1.35**	**311**	P	**Pn**	**12 48 19.7**	**-0.4**
	baz=130,SNR=9.4						
OSI				S	**Sn**	**12 48 38.0**	**+0.4**
	baz=130						
TKX	**Tecate**	**1.37**	**147**		**Pn**	**12 48 20.1**	**-0.3**
HEC	**Hector,Ludlow**	**1.46**	**41**	P	**Pn**	**12 48 21.7**	**+0.2**
	baz=222,SNR=184						
HEC				S	**Sg**	**12 48 41.8**	**-1.3**
	baz=222						
CCAC	**Calif City Air**	**1.49**	**343**		**Pn**	**12 48 22.1**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**1.58**	**132**	P	**Pn**	**12 48 23.5**	**+0.3**
	baz=314,SNR=14						
IKP				S	**Sb**	**12 48 44.8**	**+0.4**
	baz=314						
SWSC	**Sam W. Stewart**	**1.62**	**118**	Pb	**Pb**	**12 48 25.8**	**+0.5**
	baz=300,SNR=12						
SWSC				Sb	**Sg**	**12 48 47.7**	**-0.4**
	baz=300						
RMX	**La Rumorosa**	**1.63**	**133**		**Pb**	**12 48 26.2**	**+0.5**
RMX				IAML		12 48 50.4	
	comp=E,190nm,0.6s						
RMX				IAML		12 48 53.9	
	comp=N,113nm,0.3s						
GSC	**Goldstone, Bar**	**1.67**	**20**	Pn	**Pn**	**12 48 25.1**	**+0.6**
GSC				IAML		12 48 48.2	
	comp=E,260nm,0.6s						
GSC	**Goldstone, Bar**	**1.67**	**20**	P	**Pn**	**12 48 25.1**	**+0.6**
	baz=200,SNR=157						
GSC				S	**Sb**	**12 48 46.5**	**-0.6**
	baz=200						
YUH	**Yuha Desert**	**1.70**	**129**		**Pb**	**12 48 26.4**	**-0.3**
BC3	**Big Chuckawall**	**1.70**	**92**	Sb	**Sg**	**12 48 50.1**	**-0.7**
	baz=274						
LRMC	**Laurel Mtn Rad**	**1.75**	**355**	P	**Pn**	**12 48 26.2**	**+0.5**
	baz=175,SNR=45						
LRMC				S	**Sn**	**12 48 48.3**	**+0.6**
	baz=175						
SNCC	**San Nicolas Is**	**1.76**	**255**	Pn	**Pn**	**12 48 24.2**	**-1.4**
SNCC				IAML		12 48 51.9	
	comp=E,133nm,0.8s						
SNCC	**San Nicolas Is**	**1.76**	**255**	P	**Pn**	**12 48 25.2**	**-0.5**
	baz=73						
ARVC	**Arvin**	**1.78**	**322**	P	**Pn**	**12 48 26.3**	**+0.4**
	baz=141,SNR=27						
ARVC				Sb	**Sb**	**12 48 51.3**	**+1.1**
	baz=141						
SCZ2	**Santa Cruz Isl**	**1.80**	**279**	P	**Pn**	**12 48 25.3**	**-1.0**
	baz=98						
SCZ2				Sg	**Sg**	**12 48 55.1**	**+1.1**
	baz=98						
GMRC	**Granite Mounta**	**1.85**	**55**	P	**Pn**	**12 48 27.7**	**+0.7**
	baz=236,SNR=66						
GMRC				Sb	**Sg**	**12 48 53.9**	**-1.6**
	baz=236						
SBC	**Santa Barbara**	**1.98**	**292**	Sb	**Sg**	**12 48 58.0**	**-1.5**
	baz=110						
CCX	**Cicese**	**1.98**	**159**		**Pn**	**12 48 29.9**	**+1.2**
CCX				IAML		12 48 59.9	
	comp=N,115nm,0.8s						
CCX				IAML		12 49 03.5	
	comp=E,116nm,0.7s						
BCW	**Bitter Crk WRg**	**2.00**	**308**		**Pn**	**12 48 29.2**	**+0.2**
BCW				IAML		12 49 02.6	
	comp=N,181nm,0.7s						
IRM	**Iron Mountain**	**2.00**	**77**	P	**Pn**	**12 48 29.7**	**+0.8**
	baz=259,SNR=30						
IRM				Sb	**Sg**	**12 48 58.1**	**-2.1**
	baz=259						
ISA	**Isabella, Lake**	**2.09**	**338**	Pn	**Pn**	**12 48 30.7**	**+0.4**
ISA				IAML		12 49 02.0	
	comp=N,66nm,0.4s						
ISA				IAML		12 49 02.0	
	comp=E,126nm,0.5s						
ISA	**Isabella, Lake**	**2.09**	**338**	P	**Pn**	**12 48 30.7**	**+0.4**
	baz=157,SNR=28						
ISA				Sb	**Sg**	**12 49 01.4**	**-1.9**
	baz=157						
TUQ	**Turquoise Moun**	**2.14**	**37**	Pb	**Pb**	**12 48 34.9**	**+0.6**
	baz=218,SNR=18						
TUQ				Sb	**Sg**	**12 49 03.2**	**-1.7**
	baz=218						
ESJX	**Sierra Juarez**	**2.15**	**142**		**Pn**	**12 48 32.9**	**+1.7**
ESJX				IAML		12 49 02.2	
	comp=N,95nm,0.1s						
ESJX				IAML		12 49 06.9	
	comp=E,98nm,0.5s						
QSM	**Queen of S

s-min=8.0km az=163.0
*AEIC **27** 12:50:52.9±1.5,56°.13N±0°.08×149°.8W±0°.1,h10km±7km,*
Error ellipse: s-maj=12.2km s-min=7.6km az=159.0
*IDC **27** 12:50:59.1±3.4,56°.60N×148°.54W,h0km,mb3.2/1,*
mbtmp2.9/3,ML2.9/2,Error ellipse: s-maj=55.9km
s-min=42.4km az=120.0

ISC 27 12:50:51.1±1.5,56°.19N±0°.09×149°.79W±0°.05,h35km,
n133,σ0s90/138,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.19**	**300**	IAML		12 51 50.0	
	comp=N,150nm,0.2s						
OHAK	**Old Harbor**	**2.19**	**300**		**Pn**	**12 51 24.8**	**-0.1**
OHAK					**Sn**	**12 51 49.6**	**-1.1**
OHAK	**Old Harbor**	**2.19**	**300**	P	**Pn**	**12 51 24.8**	**-0.1**
	baz=119						
OHAK				S	**Sn**	**12 51 49.6**	**-1.1**
	baz=119						
KDAK	**Kodiak Island**	**2.21**	**317**	Pn	**Pn**	**12 51 24.6**	**-0.7**
KDAK	**Kodiak Island**	**2.21**	**317**		**Pn**	**12 51 25.4**	**+0.2**
SII	**Sitkinak Islan**	**2.47**	**280**		**Pn**	**12 51 28.5**	**-0.4**
SII	**Sitkinak Islan**	**2.47**	**280**		**Sn**	**12 51 56.5**	**-1.4**
SII	**Sitkinak Islan**	**2.47**	**280**	IAML		12 51 48.2	
	comp=N,94nm,1.1s						
SII				IAML		12 51 53.1	
	comp=E,101nm,0.8s						
SII	**Sitkinak Islan**	**2.47**	**280**	P	**Pn**	**12 51 28.5**	**-0.4**
	baz=99						
SII				S	**Sn**	**12 51 56.5**	**-1.4**
	baz=99						
SYI	**Shuyak Island**	**2.81**	**331**		**Pn**	**12 51 34.0**	**+0.5**
SYI					**Sn**	**12 52 06.5**	**+0.6**
Q20K	**Shuyak Island**	**2.81**	**331**	P	**Pn**	**12 51 34.0**	**+0.5**
	baz=150						
Q20K				S	**Sn**	**12 52 06.6**	**+0.5**
	baz=150						
CNPM	**China Poot**	**3.43**	**348**		**Pn**	**12 51 42.5**	**+0.4**
CNPM					**Sn**	**12 52 21.6**	**0.0**
CNPM	**China Poot**	**3.43**	**348**	IAML		12 52 23.6	
	comp=E,49nm,0.6s						
CNPM				IAML		12 52 24.1	
	comp=N,28nm,0.4s						
Q19K	**Cape Douglas,**	**3.44**	**325**		**Pn**	**12 51 43.1**	**+0.9**
Q19K	**Cape Douglas,**	**3.44**	**325**	IAML		12 52 30.6	
	comp=E,158nm,1.1s						
Q19K				IAML		12 52 31.3	
	comp=N,71nm,1.0s						
Q19K	**Cape Douglas,**	**3.44**	**325**	P	**Pn**	**12 51 43.2**	**+0.9**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.46**	**314**		**Sn**	**12 52 22.1**	**-0.1**
BRSE	**Bradley Lake S**	**3.60**	**352**		**Pn**	**12 51 44.2**	**-0.2**
BRSE					**Sn**	**12 52 24.9**	**-0.7**
BRSE	**Bradley Lake S**	**3.60**	**352**	P	**Pn**	**12 51 44.2**	**-0.2**
	baz=172						
BRSE				S	**Sn**	**12 52 24.9**	**-0.7**
	baz=172						
HOM	**Homer**	**3.62**	**345**	Pn	**Pn**	**12 51 43.5**	**-1.1**
BRLK	**Bradley Lake**	**3.63**	**351**		**Pn**	**12 51 44.5**	**-0.3**
BRLK					**Sn**	**12 52 26.6**	**+0.1**
BRLK	**Bradley Lake**	**3.63**	**351**	IAML		12 52 30.0	
	comp=E,25nm,0.3s						
BRLK				IAML		12 52 30.7	
	comp=N,28nm,1.1s						
CNTC	**Contact Creek**	**3.91**	**305**		**Pn**	**12 51 48.8**	**+0.1**
CNTC					**Sn**	**12 52 32.8**	**-0.6**
Q17K	**Contact Creek**	**3.91**	**305**	P	**Pn**	**12 51 48.8**	**+0.1**
	baz=121						
Q17K				S	**Sn**	**12 52 32.8**	**-0.6**
	baz=121						
P19K	**Oil Pt**	**3.93**	**334**		**Pn**	**12 51 49.4**	**+0.5**
P19K	**Oil Pt**	**3.93**	**334**	IAML		12 52 39.1	
	comp=E,82nm,0.6s						
P19K				IAML		12 52 39.3	
	comp=N,85nm,1.0s						
P19K	**Oil Pt**	**3.93**	**334**	P	**Pn**	**12 51 49.4**	**+0.5**
	baz=152						
SEW	**Seward**	**3.93**	**2**		**Pn**	**12 51 48.4**	**-0.5**
SEW	**Seward**	**3.93**	**2**	P	**Pn**	**12 51 48.4**	**-0.5**
	baz=183						
P23K	**Montague Islan**	**4.02**	**17**		**Pn**	**12 51 50.1**	**0.0**
P23K					**Sn**	**12 52 35.0**	**-1.1**
P23K	**Montague Islan**	**4.02**	**17**	P	**Pn**	**12 51 50.1**	**0.0**
	baz=199						
P23K				S	**Sn**	**12 52 35.0**	**-1.1**
	baz=199						
IVE	**Iliamna Volcan**	**4.20**	**337**		**Pn**	**12 51 52.5**	**-0.3**
O22K	**Cooper Landing**	**4.30**	**0**		**Pn**	**12 51 54.3**	**+0.3**
O22K	**Cooper Landing**	**4.30**	**0**	IAML		12 52 46.3	
	comp=E,77nm,0.5s						
O22K	**Cooper Landing**	**4.30**	**0**	P	**Pn**	**12 51 54.3**	**+0.3**
	baz=181						
P18K	**Big Mountain,**	**4.33**	**320**		**Pn**	**12 51 54.6**	**+0.1**
P18K	**Big Mountain,**	**4.33**	**320**	P	**Pn**	**12 51 54.6**	**+0.1**
	baz=136						
SLKM	**Skilak Lake**	**4.34**	**357**		**Pn**	**12 51 54.4**	**-0.1**
RED	**Redoubt Volcan**	**4.52**	**341**		**Pn**	**12 51 56.4**	**-0.7**
RSO	**Redoubt South**	**4.56**	**341**		**Pn**	**12 51 57.5**	**-0.2**
HIN	**Hinchinbrook I**	**4.56**	**21**		**Pn**	**12 51 57.8**	**+0.2**
HIN					**Sn**	**12 52 48.5**	**-0.8**
HIN	**Hinchinbrook I**	**4.56**	**21**	IAML		12 52 49.6	
	comp=E,63nm,1.0s						
HIN				IAML		12 52 50.6	
	comp=N,65nm,0.9s						
RDT	**Redoubt**	**4.61**	**344**		**Pn**	**12 51 57.9**	**-0.3**
O18K	**Koktuh Hills**	**4.67**	**324**		**Pn**	**12 51 59.2**	**+0.1**
O18K	**Koktuh Hills**	**4.67**	**324**	IAML		12 52 54.9	
	comp=N,12nm,0.8s						
O18K	**Koktuh Hills**	**4.67**	**324**	P	**Pn**	**12 51 59.2**	**+0.1**
	baz=140						
O19K	**Port Alsworth**	**4.68**	**331**		**Pn**	**12 51 59.1**	**0.0**
O19K	**Port Alsworth**	**4.68**	**331**	IAML		12 52 56.2	
	comp=N,59nm,0.4s						
O19K	**Port Alsworth**	**4.68**	**331**	P	**Pn**	**12 51 59.1**	**0.0**
	baz=148						
NCT	**North Crescent**	**4.69**	**341**		**Pn**	**12 51 59.2**	**-0.1**
KAIM	**Kayak Island**	**4.71**	**35**		**Pn**	**12 52 00.3**	**+0.7**
KAIM	**Kayak Island**	**4.71**	**35**	P	**Pn**	**12 52 00.3**	**+0.7**
	baz=219						
CHGN	**Chignik**	**4.81**	**275**	Pn	**Pn**	**12 51 59.0**	**-2.0**
CHGN				IAML		12 52 39.2	
	comp=E,35nm,1.1s						
CHGN				IAML		12 52 43.2	
	comp=N,37nm,0.1s						
EYAK	**Cordova Ski Ar**	**4.86**	**24**		**Pn**	**12 52 01.9**	**+0.3**
EYAK					**Sn**	**12 52 55.6**	**-1.0**
EYAK	**Cordova Ski Ar**	**4.86**	**24**	P	**Pn**	**12 52 01.9**	**+0.3**
	baz=207						
EYAK				S	**Sn**	**12 52 55.6**	**-1.0**
	baz=207						
RC01	**Rabbit Creek A**	**4.92**	**0**		**Pn**	**12 52 01.3**	**-1.1**
RC01				IAML		12 52 58.9	
	comp=N,19nm,0.7s						
RC01				IAML		12 52 59.3	
	comp=E,26nm,0.4s						
RAGM	**Ragged Mountai**	**5.00**	**31**		**Pn**	**12 52 03.7**	**+0.1**
N20K	**Mount Spurr**	**5.18**	**347**	P	**Pn**	**12 52 06.0**	**-0.1**
	baz=165						
SPCR	**Spurr Chakacha**	**5.18**	**347**		**Pn**	**12 52 06.0**	**-0.1**
N19K	**Bonanza Creek**	**5.25**	**334**		**Pn**	**12 52 06.8**	**-0.3**
N19K	**Bonanza Creek**	**5.25**	**334**	P	**Pn**	**12 52 06.7**	**-0.3**
	baz=151						
KNK	**Knik Glacier**	**5.29**	**7**		**Pn**	**12 52 07.8**	**+0.3**
KNK	**Knik Glacier**	**5.29**	**7**	IAML		12 53 10.1	
	comp=E,11nm,0.7s						
KNK				IAML		12 53 16.9	
	comp=N,11nm,0.6s						
KNK	**Knik Glacier**	**5.29**	**7**	P	**Pn**	**12 52 07.8**	**+0.3**
	baz=188						
BERG	**Berg Lake**	**5.30**	**35**		**Pn**	**12 52 08.2**	**+0.5**
SUA	**Susitna One**	**5.31**	**355**		**Pn**	**12 52 07.8**	**-0.2**
SUA	**Susitna One**	**5.31**	**355**	P	**Pn**	**12 52 07.8**	**-0.2**
	baz=174						
PMR	**Palmer**	**5.43**	**3**	Pn	**Pn**	**12 52 10.1**	**+0.7**
STLK	**Strandline Lak**	**5.43**	**350**		**Pn**	**12 52 09.6**	**0.0**
SNH	**Sunshine Point**	**5.43**	**40**	Pn	**Pn**	**12 52 10.8**	**+1.2**
N18K	**Kilae Creek**	**5.53**	**327**		**Pn**	**12 52 10.9**	**+0.1**
N18K	**Kilae Creek**	**5.53**	**327**	P	**Pn**	**12 52 10.9**	**+0.1**
	baz=143						
O16K	**Kokwok River B**	**5.59**	**311**	Pn	**Pn**	**12 52 12.1**	**+0.4**
GHO	**Glory Hole Cre**	**5.62**	**4**		**Pn**	**12 52 12.6**	**+0.5**
KLU	**Klutina**	**5.68**	**19**		**Pn**	**12 52 12.5**	**-0.5**
SML	**Sawmill**	**5.69**	**7**		**Pn**	**12 52 13.4**	**+0.3**
SML	**Sawmill**	**5.69**	**7**	P	**Pn**	**12 52 13.4**	**+0.3**
	baz=188						
BARK	**Barkley Ridge**	**5.71**	**39**		**Pn**	**12 52 14.1**	**+0.6**
CHNA	**Chernabura Isl**	**5.73**	**260**	P	**Pn**	**12 52 12.8**	**-0.8**
AKIN	baz=73						
CNBA	**Chernabura Isl**	**5.74**	**260**		**Pn**	**12 52 12.8**	**-0.9**
SCM	**Sheep Creek Mo**	**5.80**	**12**		**Pn**	**12 52 15.5**	**+0.9**
SKT	**Skwentna**	**5.88**	**352**		**Pn**	**12 52 15.9**	**+0.2**
SKT	**Skwentna**	**5.88**	**352**	P	**Pn**	**12 52 15.9**	**+0.2**
	baz=171						
M20K	**Styx River**	**5.96**	**345**	Pn	**Pn**	**12 52 16.8**	**-0.1**
VRDI	**Verde Repeater**	**6.04**	**31**		**Pn**	**12 52 17.7**	**-0.3**
N25K	**Chitina, Valde**	**6.06**	**24**		**Pn**	**12 52 19.3**	**+1.0**
N25K	**Chitina, Valde**	**6.06**	**24**	S	**Sn**	**12 53 24.7**	**-1.6**
	baz=206						
GLB	**Gilahina Butte**	**6.11**	**28**		**Pn**	**12 52 17.4**	**-1.5**
M18K	**Stony River**	**6.17**	**332**		**Pn**	**12 52 19.6**	**-0.1**
M18K	**Stony River**	**6.17**	**332**	P	**Pn**	**12 52 19.5**	**-0.1**
	baz=147						
M19K	**Big River Lodg**	**6.20**	**339**	Pn	**Pn**	**12 52 19.8**	**-0.3**
M24K	**Tolsona, Glenn**	**6.22**	**16**		**Pn**	**12 52 20.7**	**+0.3**
M24K	**Tolsona, Glenn**	**6.22**	**16**	P	**Pn**	**12 52 20.7**	**+0.3**
	baz=199						
CUT	**Chulitna**	**6.24**	**358**	Pn	**Pn**	**12 52 21.2**	**+0.6**
PCA	**Pinnacle**	**6.39**	**48**		**Pn**	**12 52 23.4**	**+0.7**
PINM	**Pinnacle**	**6.39**	**48**	P	**Pn**	**12 52 23.4**	**+0.7**
	baz=236						
WACK	**Wrangell Chich**	**6.46**	**24**		**Sn**	**12 53 35.2**	**-1.1**
BARN	**Barnard Glacie**	**6.47**	**38**		**Pn**	**12 52 25.2**	**+1.3**
CTGM	**Chitina Glacie**	**6.51**	**39**		**Pn**	**12 52 25.9**	**+1.3**
LOGN	**Logan Glacier**	**6.54**	**41**	Pn	**Pn**	**12 52 26.2**	**+1.4**
PNL	**Peninsula**	**6.54**	**53**		**Pn**	**12 52 25.7**	**+0.9**
PNL	**Peninsula**	**6.54**	**53**	P	**Pn**	**12 52 25.7**	**+0.9**
	baz=242						
BCPM	**Bancas Point**	**6.58**	**51**	Pn	**Pn**	**12 52 26.2**	**+1.0**
N15K	**Kwethluk River**	**6.75**	**310**	Pn	**Pn**	**12 52 28.9**	**+1.3**
M16K	**Timber Creek**	**6.81**	**319**	Pn	**Pn**	**12 52 27.6**	**-0.8**
PN7A	**Pavlof North-7**	**6.92**	**269**		**Pn**	**12 52 29.6**	**-0.4**
DHY	**Denali Highway**	**7.01**	**9**		**Pn**	**12 52 31.8**	**+0.4**
O29M	**Mount Kennedy**	**7.21**	**51**	Pn	**Pn**	**12 52 35.1**	**+1.1**
RND	**Reindeer**	**7.26**	**3**	Pn	**Pn**	**12 52 36.0**	**+1.5**
P29M	**Windy Craggy**	**7.29**	**57**		**Pn**	**12 52 35.6**	**+0.7**
P29M	**Windy Craggy**	**7.29**	**57**	P	**Pn**	**12 52 35.6**	**+0.7**
	baz=246						
TRF	**Thorofare Moun**	**7.29**	**358**	Pn	**Pn**	**12 52 35.8**	**+0.7**
CAST	**Castle Rocks**	**7.34**	**352**	Pn	**Pn**	**12 52 37.1**	**+1.4**
KTH	**Kantishna Hill**	**7.41**	**356**	Pn	**Pn**	**12 52 38.3**	**+1.6**
L16K	**Owhat River**	**7.46**	**322**	Pn	**Pn**	**12 52 37.4**	**+0.1**
S31K	**Pelican**	**7.60**	**71**		**Pn**	**12 52 37.6**	**-1.6**
S31K	**Pelican**	**7.60**	**71**	P	**Pn**	**12 52 37.6**	**-1.6**
	baz=262						
K17K	**Iditarod**	**7.84**	**330**	Pn	**Pn**	**12 52 42.3**	**-0.3**
RIDG	**Independent Ri**	**7.97**	**16**	Pn	**Pn**	**12 52 45.5**	**+1.2**
HDA	**Harding Lake**	**8.37**	**9**	Pn	**Pn**	**12 52 51.8**	**+2.1**
M29M	**Somme Creek**	**8.53**	**38**	Pn	**Pn**	**12 52 54.6**	**+2.5**
CCB	**Clear Creek Bu**	**8.54**	**6**	Pn	**Pn**	**12 52 53.3**	**+1.2**
ILAR	**Eielson Array**	**8.73**	**8**	Pn	**Pn**	**12 52 56.0**	**+1.3**
	comp=N,0.1nm,0.3s,baz=193,slow=12,SNR=4.4						
ILAR				Sn	**Sn**	**12 54 27.3**	**-4.4**
	comp=N,0.1nm,0.3s,baz=207,slow=12,SNR=1.8						
	comp=N,0.2nm,0.4s						
J26L	**Joseph Creek**	**8.89**	**18**	Pn	**Pn**	**12 52 57.5**	**+0.6**
I21K	**Tanana**	**9.09**	**354**	Pn	**Pn**	**12 53 00.8**	**+1.3**
L29M	**L29M**	**9.10**	**36**	Pn	**Pn**	**12 52 60.0**	**+0.2**
P32M	**Atlin**	**9.21**	**62**	Pn	**Pn**	**12 53 01.8**	**+0.4**
H21K	**Melozitna Rive**	**9.61**	**352**	Pn	**Pn**	**12 53 07.2**	**+0.4**
P33M	**Teslin, Yukon**	**9.81**	**59**	Pn	**Pn**	**12 53 10.3**	**+0.6**
H18K	**Honhosa River**	**9.91**	**339**	Pn	**Pn**	**12 53 11.2**	**+0.2**
IMAR	**Indian Mountai**	**10.01**	**351**	Pn	**Pn**	**12 53 12.8**	**+0.6**
YKA	**Yellowknife Ar**	**18.83**	**56**	P	**Pn**	**12 55 10.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=267,slow=12,SNR=5.9						
	comp=N,0.1nm,0.4s						
MKAR	**Makanchi Array**	**68.50**	**324**	P	P	13 02 03.5	+14
	comp=N,0.1nm,0.5s,baz=37,slow=7.4,SNR=1.8						
	comp=N,0.1nm,0.5s						

*AEIC **27** 12:58:11.7±2.0,55°.9N±0°.1×150°.3W±0°.1,h10km±9km,*
Error ellipse: s-maj=17.9km s-min=11.2km az=176.0
NEIC 27 12:58:10.8±1.1,56°.00N±0°.06×150°.4W±0°.1,h27km±9km,
ML3.3/28,ML3.0(AEIC),Error ellipse: s-maj=9.5km
s-min=8.3km az=223.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.04**	**308**		Pn	12 58 42.9	-0.4
OHAK					Sn	12 59 06.7	-1.0
KDAK	**Kodiak Island**	**2.17**	**327**		Pn	12 58 45.0	0.0
KDAK					Sn	12 59 10.9	-0.1
SII	**Sitkinak Islan**	**2.21**	**286**		Pn	12 58 44.9	-0.8
SII	**Sitkinak Islan**	**2.21**	**286**	IAML		12 59 04.1	
	comp=N,158nm,2.9s						
SII	**Sitkinak Islan**	**2.21**	**286**		Sn	12 59 11.0	-1.1
SYI	**Shuyak Island**	**2.85**	**338**		Pn	12 58 54.6	+0.3
SYI					Sn	12 59 28.6	+0.9
KAHG	**Katmai Hook Gl**	**3.39**	**319**		Pn	12 59 03.1	+1.2
Q19K	**Cape Douglas,**	**3.44**	**330**		Pn	12 59 03.3	+0.8
Q19K	**Cape Douglas,**	**3.44**	**330**	IAML		12 59 47.5	
	comp=E,128nm,2.0s						
CNPM	**China Poot**	**3.57**	**353**		Pn	12 59 03.7	-0.7
CNPM					Sn	12 59 45.9	+0.3
CNPM	**China Poot**	**3.57**	**353**	IAML		13 00 01.1	
	comp=N,36nm,2.8s						
CNPM				IAML		13 00 11.3	
	comp=E,37nm,2.8s						
BRSE	**Bradley Lake S**	**3.76**	**357**		Pn	12 59 05.9	-1.0
BRSE					Sn	12 59 50.2	-0.1
CNTC	**Contact Creek**	**3.78**	**309**		Pn	12 59 07.8	+0.5
BRLK	**Bradley Lake**	**3.79**	**356**		Pn	12 59 06.4	-0.9
BRLK	**Bradley Lake**	**3.79**	**356**	IAML		13 00 34.0	
	comp=N,31nm,3.1s						
P19K	**Oil Pt**	**3.98**	**338**	Pn	Pn	12 59 09.7	-0.3
P18K	**Big Mountain,**	**4.29**	**324**		Pn	12 59 14.5	+0.2
O18K	**Koktuh Hills**	**4.66**	**328**		Pn	12 59 19.3	+0.1
HIN	**Hinchinbrook I**	**4.86**	**23**		Pn	12 59 21.7	-0.3
KAIM	**Kayak Island**	**5.05**	**36**		Pn	12 59 24.3	-0.3
N19K	**Bonanza Creek**	**5.30**	**338**		Pn	12 59 28.0	-0.1
N19K	**Bonanza Creek**	**5.30**	**338**	IAML		13 01 21.8	
	comp=E,16nm,2.8s						
N19K				IAML		13 01 51.5	
	comp=N,19nm,3.4s						
RAGM	**Ragged Mountai**	**5.33**	**32**	Pn	Pn	12 59 28.7	+0.2
O16K	**Kokwok River B**	**5.49**	**314**	Pn	Pn	12 59 30.2	-0.5
N18K	**Kilae Creek**	**5.53**	**330**		Pn	12 59 31.3	+0.1
BERG	**Berg Lake**	**5.64**	**36**		Pn	12 59 31.8	-0.9
SNH	**Sunshine Point**	**5.79**	**40**	Pn	Pn	12 59 33.0	-1.8
N17K	**Nushagak Hills**	**5.80**	**324**	Pn	Pn	12 59 34.6	-0.3
KLU	**Klutina**	**5.97**	**21**	Pn	Pn	12 59 39.2	+1.9
O15K	**Ungalikthiuk R**	**6.01**	**306**		Pn	12 59 38.4	+0.7
N25K	**Chitina, Valde**	**6.37**	**26**	Pn	Pn	12 59 43.1	+0.3
GLB	**Gilahina Butte**	**6.44**	**29**	Pn	Pn	12 59 43.5	-0.1
M17K	**Holitna River**	**6.56**	**329**	Pn	Pn	12 59 44.1	-1.1
PCA	**Pinnacle**	**6.75**	**48**		Pn	12 59 47.3	-0.7
M16K	**Timber Creek**	**6.76**	**322**		Pn	12 59 48.8	+0.7
BARN	**Barnard Glacie**	**6.82**	**38**	Pn	Pn	12 59 49.1	0.0
CTGM	**Chitina Glacie**	**6.87**	**40**	Pn	Pn	12 59 49.3	-0.4
LOGN	**Logan Glacier**	**6.89**	**42**	Pn	Pn	12 59 51.1	+1.1
PNL	**Peninsula**	**6.91**	**53**		Pn	12 59 49.6	-0.5
L16K	**Owhat River**	**7.43**	**324**	Pn	Pn	12 59 57.1	-0.1
O29M	**Mount Kennedy**	**7.58**	**50**	Pn	Pn	12 59 59.5	+0.1

*ISK **27** 13:08:29.9,34°.93N×33°.95E,h48km±1km,ML2.6/10*
*GII **27** 13:08:30.9±0.3,34°.687N±0°.001×33°.917E±0°.001,h6km,*
Mws2.1,confirmed
*NIC **27** 13:08:30.3,35°.38N×33°.86E,h20km±2km,Ml1.6/4*
*AFAD **27** 13:08:31.1±0.0,35°.27N×33°.68E,h6km±3km,ML2.0*
*GRAL **27** 13:08:33.9±1.8,34°.80N×34°.13E,h88km±115km,MD3.0*
ISC 27 13:08:31.0±1.2,34°.92N±0°.03×33°.95E±0°.03,h49km±7km,
n61,σ0s86/76,1C-2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.10**	**45**	P	**Pn**	**13 08 39.0**	**+0.4**
PARAL				S	**Sn**	**13 08 45.5**	**+1.3**
PARAL				AML	AML	13 08 48.1	
	0.2nm,0.2s						
PARAL				AML	AML	13 08 51.0	
	0.3nm,0.7s						
MVOU	**Mavrovouni**	**0.28**	**290**	⇓*i*P	**Pn**	**13 08 39.5**	**-0.3**
MVOU				S	**Sn**	**13 08 46.0**	**-0.1**
MVOU				AML	AML	13 08 47.2	
	0.2nm,0.2s						
MVOU				AML	AML	13 08 48.7	
	0.3nm,0.3s						
AKIN	**Akıncılar- Kıb**	**0.41**	**283**	Pg	**Pn**	**13 08 40.5**	**-0.6**
AKIN				Sg	**Sn**	**13 08 48.1**	**-0.3**
LFK	**Lefkose**	**0.50**	**316**	Pg	**Pn**	**13 08 41.7**	**-0.5**
CSS	**Mathiatis**	**0.51**	**275**	Pg	**Pn**	**13 08 41.6**	**-0.7**
CSS				Sg	**Sn**	**13 08 49.9**	**-0.5**
CSS	**Mathiatis**	**0.51**	**275**	⇓*i*P	**Pn**	**13 08 41.8**	**-0.5**
CSS				S	**Sn**	**13 08 50.0**	**-0.5**
CSS				AML	AML	13 08 50.4	
	0.2nm,0.4s						
CSS				AML	AML	13 08 51.2	
	0.2nm,0.6s						
CSS	**Mathiatis**	**0.51**	**275**	P	**Pn**	**13 08 41.3**	**-1.0**
EREN	**Erenkoy**	**0.63**	**16**		**Pn**	**13 08 43.1**	**-0.7**
AKDN	**Akdeniz- Kıbrı**	**0.89**	**295**	Pg	**Pn**	**13 08 46.7**	**-0.5**
TROD	**Troodos**	**0.89**	**272**	⇑*i*P	**Pn**	**13 08 47.6**	**+0.2**
TROD				S	**Sn**	**13 09 01.4**	**+1.9**
LEF	**Lefka**	**0.89**	**283**	Pg	**Pn**	**13 08 47.1**	**-0.1**
ALFC	**Alefka**	**1.13**	**282**	P	**Pn**	**13 08 49.9**	**-0.6**
ALFC				S	**Sn**	**13 09 04.1**	**-0.9**
ALFC				AML	AML	13 09 05.2	
	0.1nm,0.3s						
TISA	**Tisan-Mersin**	**1.26**	**350**	Pn	**Pn**	**13 08 51.7**	**-0.4**
AKMS	**Akamas**	**1.33**	**275**	P	**Pn**	**13 08 53.5**	**+0.4**
AKMS				S	**Sn**	**13 09 11.1**	**+1.4**
IKL	**Isikli**	**1.33**	**351**	Pn	**Pn**	**13 08 52.6**	**-0.6**
KIZK	**Mersin**	**1.56**	**6**	Pn	**Pn**	**13 08 56.1**	**-0.2**
BHL	**Bhannes**	**1.73**	**125**	*e*P	**Pn**	**13 08 59.4**	**+0.7**
BHL				*e*S	**Sn**	**13 09 17.3**	**-2.5**
HWQ	**Hawqa**	**1.77**	**111**	*e*P	**Pn**	**13 09 00.1**	**+0.9**
HWQ				*e*S	**Sn**	**13 09 20.7**	**+0.2**
GAZI	**Gazipasa**	**1.87**	**315**	Pn	**Pn**	**13 09 00.4**	**-0.1**
GAZI	**Gazipasa**	**1.87**	**315**	P	Pn	13 08 54.1	-6.4
GAZI				S	**Sn**	**13 09 19.6**	**-3.4**
GAZI				*i* AML	AML	13 09 21.0	
	comp=N,24nm,1.1s						
BEIL	**Beino**	**1.88**	**101**	*e*P	**Pn**	**13 09 01.0**	**+0.4**
BEIL				*e*S	**Sn**	**13 09 20.9**	**-2.3**
ZAHL	**Zahle**	**1.92**	**123**	*e*P	**Pn**	**13 09 01.8**	**+0.5**
HNTI	**Hanita**	**2.10**	**151**	S	**Sn**	**13 09 28.2**	**-0.3**
HNTI	**Hanita**	**2.10**	**151**	P	**Pn**	**13 09 03.6**	**0.0**
RCY	**Rachaya**	**2.11**	**132**	*e*P	**Pn**	**13 09 04.3**	**+0.3**
RCY				*e*S	**Sn**	**13 09 26.5**	**-2.6**
GEM	**Giv'at Ha'Em**	**2.22**	**140**	S	**Sn**	**13 09 31.5**	**0.0**
GEM	**Giv'at Ha'Em**	**2.22**	**140**	P	**Pn**	**13 09 06.0**	**+0.6**
NATI	**Neve Ativ**	**2.22**	**138**	P	**Pn**	**13 09 05.7**	**+0.4**
MMC7	**Mount Meron ar**	**2.24**	**147**	P	**Pn**	**13 09 05.8**	**+0.2**
MMA0B	**Mount Meron ar**	**2.25**	**147**	P	**Pn**	**13 09 06.0**	**+0.1**
MMA0B	**Mount Meron ar**	**2.25**	**147**	S	**Sn**	**13 09 31.8**	**-0.6**
BLGI	**Bet Lehem HaGe**	**2.41**	**154**	P	**Pn**	**13 09 07.5**	**-0.5**
BLGI	**Bet Lehem HaGe**	**2.41**	**154**	S	**Sn**	**13 09 35.9**	**-0.4**
KKBE	**Karaman, Kazim**	**2.44**	**341**	P	**Pn**	**13 09 09.5**	**+1.1**
KKBE				S	**Sn**	**13 09 37.8**	**+0.8**
KKBE				*i* AML	AML	13 10 23.0	
	comp=N,9.3nm,2.1s						
KKBE				*i* AML	AML	13 10 27.0	
	comp=E,64nm,3.2s						
OFRI	**`Ofer**	**2.45**	**159**	S	**Sn**	**13 09 36.9**	**-0.3**
OFRI	**`Ofer**	**2.45**	**159**	P	**Pn**	**13 09 08.5**	**-0.1**
KSHT	**Keshet**	**2.48**	**141**	S	**Sn**	**13 09 38.6**	**+0.7**
KSHT	**Keshet**	**2.48**	**141**	P	**Pn**	**13 09 09.5**	**+0.7**
KERG	**Konya-Eregli**	**2.49**	**3**	P	**Pn**	**13 09 09.6**	**+0.4**
KERG				S	**Sn**	**13 09 39.4**	**+1.0**
KERG				*i* AML	AML	13 10 27.0	
	comp=N,34nm,2.4s						
KERG				*i* AML	AML	13 10 27.0	
	comp=E,10nm,2.5s						
MMLI	**Mount Malkishu**	**2.76**	**153**	P	**Pn**	**13 09 13.1**	**+0.3**
MMLI	**Mount Malkishu**	**2.76**	**153**	S	**Sn**	**13 09 44.8**	**-0.2**
SLTI	**Sal'it**	**2.82**	**161**	P	**Pn**	**13 09 13.6**	**0.0**
SLTI	**Sal'it**	**2.82**	**161**	S

Q23K				IAML		13 36 55.2	
	comp=E,345nm,2.1s						
Q23K				IAML		13 37 46.2	
	comp=N,259nm,2.8s						
Q23K	**Middleton Isla**	**3.77**	**28**	P	**Pn**	**13 35 38.8**	**+0.3**
	baz=211						
MID	**Middleton Isla**	**3.77**	**28**	Pn	**Pn**	**13 35 38.9**	**+0.3**
MID				IAML		13 37 54.4	
	comp=N,264nm,2.7s						
MID	**Middleton Isla**	**3.77**	**28**	P	**Pn**	**13 35 39.1**	**+0.5**
PLK3	**Peulik 3**	**3.88**	**296**		**Pn**	**13 35 40.6**	**+0.5**
CNTC	**Contact Creek**	**3.94**	**305**		**Pn**	**13 35 41.6**	**+0.5**
Q17K	**Contact Creek**	**3.94**	**305**	P	**Pn**	**13 35 41.6**	**+0.5**
	baz=121						
P19K	**Oil Pt**	**3.97**	**334**	Pn	**Pn**	**13 35 42.3**	**+0.9**
P19K				IAML		13 36 32.4	
	comp=E,277nm,0.4s						
P19K	**Oil Pt**	**3.97**	**334**	P	**Pn**	**13 35 42.0**	**+0.6**
	baz=152						
SEW	**Seward**	**3.97**	**2**		**Pn**	**13 35 40.9**	**-0.5**
SEW	**Seward**	**3.97**	**2**	P	**Pn**	**13 35 40.9**	**-0.5**
	baz=183						
P23K	**Montague Islan**	**4.06**	**17**		**Pn**	**13 35 42.9**	**+0.2**
P23K	**Montague Islan**	**4.06**	**17**	P	**Pn**	**13 35 42.9**	**+0.2**
	baz=199						
PLK1	**Peulik 1**	**4.09**	**297**		**Pn**	**13 35 43.8**	**+0.8**
IVE	**Iliamna Volcan**	**4.24**	**337**		**Pn**	**13 35 44.7**	**-0.5**
IVE					**Sn**	**13 36 33.5**	**-0.1**
O22K	**Cooper Landing**	**4.35**	**0**		**Pn**	**13 35 46.9**	**+0.4**
O22K	**Cooper Landing**	**4.35**	**0**	P	**Pn**	**13 35 46.6**	**0.0**
	baz=181						
P18K	**Big Mountain,**	**4.37**	**320**	Pn	**Pn**	**13 35 46.9**	**0.0**
P18K	**Big Mountain,**	**4.37**	**320**		**Sn**	**13 36 35.3**	**-1.2**
P18K	**Big Mountain,**	**4.37**	**320**	P	**Pn**	**13 35 46.8**	**-0.1**
	baz=137						
P18K				S	**Sn**	**13 36 35.3**	**-1.2**
	baz=137						
Q16K	**King Salmon**	**4.50**	**307**		**Pn**	**13 35 49.2**	**+0.6**
Q16K	**King Salmon**	**4.50**	**307**	P	**Pn**	**13 35 49.2**	**+0.6**
	baz=122						
R16K	**Pilot Point**	**4.51**	**292**		**Pn**	**13 35 49.1**	**+0.3**
R16K	**Pilot Point**	**4.51**	**292**	IAML		13 38 05.8	
	comp=N,289nm,2.7s						
R16K	**Pilot Point**	**4.51**	**292**	P	**Pn**	**13 35 49.1**	**+0.3**
	baz=106						
HIN	**Hinchinbrook I**	**4.60**	**21**	Pn	**Pn**	**13 35 50.8**	**+0.7**
HIN				IAML		13 36 41.5	
	comp=N,104nm,1.3s						
HIN				IAML		13 36 43.4	
	comp=E,160nm,1.0s						
RSO	**Redoubt South**	**4.60**	**341**		**Pn**	**13 35 50.9**	**+0.7**
P17K	**Kvichak River**	**4.70**	**313**	P	**Pn**	**13 35 52.4**	**+0.9**
	baz=128						
O18K	**Koktuh Hills**	**4.71**	**324**		**Pn**	**13 35 51.6**	**+0.1**
O18K				IAML		13 36 45.4	
	comp=N,73nm,0.8s						
O18K				IAML		13 36 59.2	
	comp=E,76nm,0.9s						
O18K	**Koktuh Hills**	**4.71**	**324**	P	**Pn**	**13 35 51.6**	**+0.1**
	baz=141						
O19K	**Port Alsworth**	**4.72**	**331**		**Pn**	**13 35 51.4**	**-0.2**
O19K	**Port Alsworth**	**4.72**	**331**	P	**Pn**	**13 35 51.6**	**0.0**
	baz=148						
KAIM	**Kayak Island**	**4.74**	**35**	Pn	**Pn**	**13 35 53.1**	**+1.1**
KAIM				IAML		13 37 15.0	
	comp=E,189nm,2.8s						
KAIM	**Kayak Island**	**4.74**	**35**	P	**Pn**	**13 35 52.8**	**+0.9**
	baz=219						
ANPB	**Aniakchak Plen**	**4.76**	**281**		**Pn**	**13 35 52.4**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	**Pn**	**13 35 54.9**	**+0.8**
	comp=E,28nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	**Pn**	**13 35 54.9**	**+0.8**
	baz=207						
RC01	**Rabbit Creek A**	**4.96**	**0**	Pn	**Pn**	**13 35 55.0**	**0.0**
RC01				IAML		13 36 51.7	
	comp=E,124nm,0.3s						
RC01				IAML		13 36 53.5	
	comp=N,79nm,0.3s						
RC01	**Rabbit Creek A**	**4.96**	**0**	P	**Pn**	**13 35 54.9**	**-0.1**
	baz=181						
RAGM	**Ragged Mountai**	**5.03**	**30**		**Pn**	**13 35 56.8**	**+0.8**
RAGM				IAML		13 36 56.9	
	comp=E,146nm,0.6s						
GOAT	**Goat Mountain**	**5.18**	**29**		**Pn**	**13 35 58.8**	**+0.8**
P16K	**Nushagak River**	**5.28**	**307**		**Pn**	**13 35 59.7**	**+0.3**
P16K	**Nushagak River**	**5.28**	**307**	P	**Pn**	**13 35 59.7**	**+0.3**
	baz=120						
SPCP	**Crater Peak Br**	**5.28**	**347**		**Pn**	**13 35 59.6**	**0.0**
N19K	**Bonanza Creek**	**5.29**	**334**	Pn	**Pn**	**13 35 59.3**	**-0.3**
N19K	**Bonanza Creek**	**5.29**	**334**	P	**Pn**	**13 35 59.1**	**-0.5**
	baz=151						
KNK	**Knik Glacier**	**5.33**	**7**	Pn	**Pn**	**13 35 59.7**	**-0.3**
KNK				IAML		13 37 01.2	
	comp=N,44nm,0.4s						
KNK				IAML		13 37 05.7	
	comp=E,56nm,0.7s						
O17K	**Koliganek Bris**	**5.33**	**316**		**Pn**	**13 35 59.8**	**-0.2**
O17K	**Koliganek Bris**	**5.33**	**316**	P	**Pn**	**13 35 59.8**	**-0.2**
	baz=131						
BERG	**Berg Lake**	**5.33**	**34**		**Pn**	**13 36 00.7**	**+0.7**
SUA	**Susitna One**	**5.36**	**355**	Pn	**Pn**	**13 36 00.3**	**-0.2**
SNH	**Sunshine Point**	**5.46**	**39**	Pn	**Pn**	**13 36 03.4**	**+1.5**
PMR	**Palmer**	**5.47**	**3**	Pn	**Pn**	**13 36 02.5**	**+0.5**
PMR	**Palmer**	**5.47**	**3**	P	**Pn**	**13 36 02.5**	**+0.5**
	baz=184						
STLK	**Strandline Lak**	**5.47**	**350**		**Pn**	**13 36 02.1**	**0.0**
CYK	**Cape Yakataga**	**5.52**	**41**		**Pn**	**13 36 03.7**	**+1.1**
BMRM	**Bremner River**	**5.54**	**27**		**Pn**	**13 36 03.7**	**+0.7**
BMRM	**Bremner River**	**5.54**	**27**	P	**Pn**	**13 36 03.7**	**+0.7**
	baz=212						
N18K	**Kilae Creek**	**5.56**	**327**	Pn	**Pn**	**13 36 03.3**	**0.0**
N18K	**Kilae Creek**	**5.56**	**327**	P	**Pn**	**13 36 03.0**	**-0.3**
	baz=143						
O16K	**Kokwok River B**	**5.62**	**311**	Pn	**Pn**	**13 36 04.7**	**+0.6**
O16K	**Kokwok River B**	**5.62**	**311**	P	**Pn**	**13 36 04.2**	**+0.2**
	baz=125						
GHO	**Glory Hole Cre**	**5.66**	**4**	Pn	**Pn**	**13 36 06.0**	**+1.4**
KLU	**Klutina**	**5.72**	**19**		**Pn**	**13 36 06.6**	**+1.1**
KLU	**Klutina**	**5.72**	**19**	P	**Pn**	**13 36 06.5**	**+1.0**
	baz=202						
SML	**Sawmill**	**5.72**	**7**	Pn	**Pn**	**13 36 06.7**	**+1.1**
SML	**Sawmill**	**5.72**	**7**	P	**Pn**	**13 36 05.9**	**+0.4**
	baz=188						
CHNA	**Chernabura Isl**	**5.73**	**261**	P	**Pn**	**13 36 05.2**	**-0.3**
	baz=73						
CNBA	**Chernabura Isl**	**5.74**	**261**	Pn	**Pn**	**13 36 05.2**	**-0.4**
SCM	**Sheep Creek Mo**	**5.84**	**11**	Pn	**Pn**	**13 36 09.5**	**+2.3**
SCM	**Sheep Creek Mo**	**5.84**	**11**	P	**Pn**	**13 36 08.3**	**+1.1**
	baz=194						
N17K	**Nushagak Hills**	**5.87**	**321**	Pn	**Pn**	**13 36 07.5**	**0.0**
N17K	**Nushagak Hills**	**5.87**	**321**	P	**Pn**	**13 36 07.5**	**0.0**
	baz=136						
SKT	**Skwentna**	**5.92**	**352**	Pn	**Pn**	**13 36 08.7**	**+0.5**
M20K	**Styx River**	**6.01**	**345**		**Pn**	**13 36 09.4**	**0.0**
M20K	**Styx River**	**6.01**	**345**	P	**Pn**	**13 36 09.4**	**0.0**
	baz=162						
VRDI	**Verde Repeater**	**6.07**	**30**	Pn	**Pn**	**13 36 11.4**	**+1.0**
N25K	**Chitina, Valde**	**6.10**	**24**		**Pn**	**13 36 12.1**	**+1.4**
N25K	**Chitina, Valde**	**6.10**	**24**	P	**Pn**	**13 36 11.6**	**+0.9**
	baz=208						
SDPT	**Sand Point**	**6.10**	**267**		**Pn**	**13 36 10.6**	**+0.1**
SDPT	**Sand Point**	**6.10**	**267**	P	**Pn**	**13 36 10.8**	**+0.2**
SDPT	**Sand Point**	**6.10**	**267**	P	**Pn**	**13 36 10.6**	**+0.1**
	baz=79						
GLB	**Gilahina Butte**	**6.15**	**28**	Pn	**Pn**	**13 36 12.4**	**+1.1**
M18K	**Stony River**	**6.21**	**332**		**Pn**	**13 36 11.8**	**-0.3**
M18K	**Stony River**	**6.21**	**332**	P	**Pn**	**13 36 11.8**	**-0.3**
	baz=148						
SAMH	**Samovar Hills**	**6.21**	**46**		**Pn**	**13 36 13.8**	**+1.6**
M19K	**Big River Lodg**	**6.24**	**340**		**Pn**	**13 36 12.4**	**-0.2**
M19K	**Big River Lodg**	**6.24**	**340**	P	**Pn**	**13 36 12.4**	**-0.2**
	baz=156						
M24K	**Tolsona, Glenn**	**6.26**	**16**		**Pn**	**13 36 15.0**	**+2.1**
M24K	**Tolsona, Glenn**	**6.26**	**16**	P	**Pn**	**13 36 14.1**	**+1.3**
	baz=199						
PCA	**Pinnacle**	**6.41**	**48**		**Pn**	**13 36 16.6**	**+1.6**
PINM	**Pinnacle**	**6.41**	**48**	P	**Pn**	**13 36 16.6**	**+1.6**
	baz=236						
BARN	**Barnard Glacie**	**6.50**	**37**		**Pn**	**13 36 17.4**	**+1.1**
WAT6	**Susitna Watana**	**6.54**	**8**		**Pn**	**13 36 17.3**	**+0.5**
WAT6	**Susitna Watana**	**6.54**	**8**	P	**Pn**	**13 36 17.3**	**+0.5**
	baz=190						
CTG	**Chitna Glacier**	**6.54**	**39**	P	**Pn**	**13 36 17.9**	**+1.1**
	baz=226						
CTGM	**Chitina Glacie**	**6.54**	**39**		**Pn**	**13 36 17.9**	**+1.0**

PNL	**Peninsula**	**6.56**	**53**	P	**Pn**	**13 36 18.9**	**+1.9**
PNL	**Peninsula**	**6.56**	**53**	P	**Pn**	**13 36 18.6**	**+1.7**
	baz=242						
LOGN	**Logan Glacier**	**6.56**	**41**		**Pn**	**13 36 18.1**	**+1.0**
BCPM	**Bancas Point**	**6.59**	**50**		**Pn**	**13 36 19.1**	**+1.7**
M17K	**Holitna River**	**6.60**	**326**		**Pn**	**13 36 17.7**	**+0.2**
M17K	**Holitna River**	**6.60**	**326**	P	**Pn**	**13 36 17.5**	**0.0**
	baz=140						
N15K	**Kwethluk River**	**6.78**	**311**		**Pn**	**13 36 21.6**	**+1.6**
M16K	**Timber Creek**	**6.85**	**319**		**Pn**	**13 36 21.3**	**+0.4**
M16K	**Timber Creek**	**6.85**	**319**	P	**Pn**	**13 36 21.3**	**+0.4**
	baz=132						
PS4A	**Pavlof South-4**	**6.87**	**268**		**Pn**	**13 36 21.0**	**-0.2**
O14K	**Tigyukauivet M**	**6.90**	**302**	Pn	**Pn**	**13 36 22.6**	**+1.0**
PN7A	**Pavlof North-7**	**6.93**	**269**		**Pn**	**13 36 22.3**	**+0.2**
L18K	**Granite Mounta**	**7.04**	**333**	Pn	**Pn**	**13 36 23.7**	**+0.1**
DHY	**Denali Highway**	**7.05**	**9**	Pn	**Pn**	**13 36 24.9**	**+1.1**
DHY	**Denali Highway**	**7.05**	**9**	P	**Pn**	**13 36 24.4**	**+0.5**
	baz=191						
PAX	**Paxson**	**7.18**	**16**		**Pn**	**13 36 26.0**	**+0.4**
PAX	**Paxson**	**7.18**	**16**	P	**Pn**	**13 36 26.0**	**+0.4**
	baz=200						
O29M	**Mount Kennedy**	**7.23**	**50**		**Pn**	**13 36 28.3**	**+2.0**
O29M	**Mount Kennedy**	**7.23**	**50**	P	**Pn**	**13 36 27.8**	**+1.5**
	baz=240						
RND	**Reindeer**	**7.30**	**3**	Pn	**Pn**	**13 36 28.0**	**+0.9**
P29M	**Windy Craggy**	**7.30**	**56**		**Pn**	**13 36 28.5**	**+1.3**
P29M	**Windy Craggy**	**7.30**	**56**	P	**Pn**	**13 36 28.5**	**+1.3**
	baz=246						
N14K	**Kuskokwak Cree**	**7.36**	**306**		**Pn**	**13 36 28.7**	**+0.8**
N14K	**Kuskokwak Cree**	**7.36**	**306**	P	**Pn**	**13 36 28.7**	**+0.8**
	baz=116						
CAST	**Castle Rocks**	**7.39**	**352**	Pn	**Pn**	**13 36 30.2**	**+1.9**
M27K	**Edge Creek, AK**	**7.42**	**30**		**Pn**	**13 36 31.5**	**+2.6**
KTY	**Kantishna Hill**	**7.45**	**356**	Pn	**Pn**	**13 36 31.1**	**+1.8**
MENT	**Mentasta**	**7.47**	**22**		**Pn**	**13 36 31.2**	**+1.7**
L16K	**Owhat River**	**7.50**	**322**	Pn	**Pn**	**13 36 30.3**	**+0.6**
L16K	**Owhat River**	**7.50**	**322**	P	**Pn**	**13 36 30.0**	**+0.3**
	baz=134						
TTA	**Tatalina**	**7.50**	**338**	Pn	**Pn**	**13 36 28.9**	**-1.0**
YUK7	**Dusty Glacier**	**7.53**	**50**		**Pn**	**13 36 32.4**	**+1.9**
S31K	**Pelican**	**7.61**	**71**	Pn	**Pn**	**13 36 31.1**	**-0.2**
S31K	**Pelican**	**7.61**	**71**	P	**Pn**	**13 36 30.4**	**-0.9**
	baz=262						
L26K	**Log Cabin Wild**	**7.63**	**23**		**Pn**	**13 36 34.3**	**+2.7**
FALS	**False Pass**	**7.86**	**266**	P	**Pn**	**13 36 35.3**	**+0.6**
PLBC	**Pleasant Camp**	**7.89**	**60**		**Pn**	**13 36 36.4**	**+1.2**
PLBC	**Pleasant Camp**	**7.89**	**60**	P	**Pn**	**13 36 36.4**	**+1.2**
	baz=251						
R31K	**City Hall, Gus**	**7.94**	**68**		**Pn**	**13 36 36.7**	**+0.9**
R31K	**City Hall, Gus**	**7.94**	**68**	P	**Pn**	**13 36 36.7**	**+0.9**
	baz=259						
HYT	**Haines Junctio**	**7.95**	**49**	Pn	**Pn**	**13 36 37.5**	**+1.4**
HYT	**Haines Junctio**	**7.95**	**49**	P	**Pn**	**13 36 37.9**	**+1.7**
	baz=239						
RIDG	**Independent Ri**	**8.01**	**16**	Pn	**Pn**	**13 36 39.1**	**+2.3**
L27K	**Beaver Creek,**	**8.02**	**27**	Pn	**Pn**	**13 36 37.9**	**+1.0**
BCAR	**Beaver Creek A**	**8.03**	**27**	Pn	**Pn**	**13 36 38.9**	**+1.8**
SIT	**Sitka**	**8.03**	**78**	P	**Pn**	**13 36 35.9**	**-1.2**
ISLZ	**Isanotski Laza**	**8.05**	**266**		**Pn**	**13 36 37.4**	**-0.1**
ISNR	**Isanotski Nort**	**8.06**	**266**		**Pn**	**13 36 37.8**	**+0.3**
BRPK	**Brown Peak**	**8.09**	**265**		**Pn**	**13 36 37.5**	**-0.5**
SCRK	**Sand Creek**	**8.37**	**18**	Pn	**Pn**	**13 36 42.6**	**+0.8**
SKAG	**Skagway**	**8.40**	**61**	Pn	**Pn**	**13 36 43.6**	**+1.5**
SKAG	**Skagway**	**8.40**	**61**	P	**Pn**	**13 36 43.8**	**+1.7**
HDA	**Harding Lake**	**8.41**	**8**		**Pn**	**13 36 44.2**	**+1.9**
N30M	**Aishikik Lake**	**8.46**	**46**		**Pn**	**13 36 44.8**	**+1.7**
L14K	**Kuka Creek**	**8.48**	**313**	Pn	**Pn**	**13 36 44.6**	**+1.3**
O30N	**Mendenhall**	**8.53**	**51**	Pn	**Pn**	**13 36 45.9**	**+1.8**
O30N	**Mendenhall**	**8.53**	**51**	P	**Pn**	**13 36 44.7**	**+0.6**
	baz=243						
R32K	**Eaglecrest**	**8.55**	**69**	Pn	**Pn**	**13 36 45.0**	**+0.7**
CCB	**Clear Creek Bu**	**8.58**	**6**	Pn	**Pn**	**13 36 46.3**	**+1.6**
K15K	**Wolf Creek Mou**	**8.61**	**321**	Pn	**Pn**	**13 36 45.7**	**+0.7**
JIS	**Juneau Island**	**8.62**	**69**	Pn	**Pn**	**13 36 45.9**	**+0.7**
JIS	**Juneau Island**	**8.62**	**69**	P	**Pn**	**13 36 46.1**	**+0.9**
J25K	**Salcha River,**	**8.77**	**13**	Pn	**Pn**	**13 36 48.2**	**+0.9**
IL31		**8.77**	**8**	Pn	**Pn**	**13 36 48.8**	**+1.6**
ILAR	**Eielson Array**	**8.77**	**8**	Pn	**Pn**	**13 36 48.6**	**+1.4**
ILAR	**Eielson Array**	**8.77**	**8**	Pn	**Pn**	**13 36 46.9**	**-0.3**
	comp=E,0.3nm,0.3s,baz=190,slow=13,SNR=22						
ILAR				Sn	**Sn**	**13 38 20.1**	**-4.5**
	comp=E,1.1nm,0.3s,baz=192,slow=22,SNR=16						
	comp=E,0.8nm,0.4s						
COLA	**College**	**8.81**	**5**		**Pn**	**13 36 48.9**	**+1.2**
COLA	**College**	**8.81**	**5**	P	**Pn**	**13 36 49.8**	**+2.1**
MDM	**Murphy Dome**	**8.87**	**4**	Pn	**Pn**	**13 36 50.0**	**+1.4**
J26L	**Joseph Creek**	**8.92**	**18**		**Pn**	**13 36 51.0**	**+1.6**
MLY	**Manley**	**8.93**	**357**	Pn	**Pn**	**13 36 50.4**	**+1.1**
J16K	**Manley**	**8.99**	**327**	Pn	**Pn**	**13 36 51.4**	**+1.1**
N31M	**Braeburn, Yuko**	**9.01**	**48**		**Pn**	**13 36 52.8**	**+2.2**
N31M	**Braeburn, Yuko**	**9.01**	**48**	P	**Pn**	**13 36 52.5**	**+1.9**
	baz=240						
WHY	**Whitehorse**	**9.03**	**54**	Pn	**Pn**	**13 36 52.5**	**+1.7**
L29M	**L29M**	**9.13**	**35**		**Pn**	**13 36 54.1**	**+2.0**
I21K	**Tanana**	**9.13**	**354**	Pn	**Pn**	**13 36 52.8**	**+0.8**
P32M	**Atlin**	**9.22**	**61**	Pn	**Pn**	**13 36 55.0**	**+1.5**
M30M	**Minto, Yukon**	**9.23**	**40**	Pn	**Pn**	**13 36 53.9**	**+0.3**
U33K	**Whale Pass**	**9.30**	**83**	Pn	**Pn**	**13 36 53.0**	**-1.5**
CRAG	**Craig**	**9.40**	**87**	P	**Pn**	**13 36 54.7**	**-1.2**
DAWY	**Dawson**	**9.47**	**29**	Pn	**Pn**	**13 36 58.5**	**+1.7**
EGAK	**Eagle**	**9.63**	**23**	Pn	**Pn**	**13 37 01.1**	**+2.0**
H21K	**Melozitna Rive**	**9.65**	**352**	Pn	**Pn**	**13 36 58.3**	**-1.0**
I26K	**Coal Creek Min**	**9.74**	**17**	Pn	**Pn**	**13 37 01.5**	**+1.1**
H24K	**Noodor Dome**	**9.77**	**5**	Pn	**Pn**	**13 37 03.5**	**+2.6**
Q32M	**Nakina River**	**9.82**	**66**	Pn	**Pn**	**13 37 03.2**	**+1.5**
P33M	**Teslin, Yukon**	**9.83**	**59**		**Pn**	**13 37 03.1**	**+1.2**
K29M	**Barlow Dome**	**9.84**	**33**		**Pn**	**13 37 03.8**	**+1.8**
UNV	**Unalaska Valle**	**9.88**	**263**	P	**Pn**	**13 37 01.7**	**-0.8**
H18K	**Honhosa River**	**9.96**	**339**	Pn	**Pn**	**13 37 03.0**	**-0.5**
IMAR	**Indian Mountai**	**10.05**	**351**	Pn	**Pn**	**13 37 04.2**	**-0.5**
H17K	**Granite Mounta**	**10.12**	**335**	Pn	**Pn**	**13 37 05.6**	**0.0**
S34M	**Telegraph Cree**	**10.31**	**72**	Pn	**Pn**	**13 37 08.4**	**0.0**
FARO	**Faro, Yukon**	**10.38**	**47**	Pn	**Pn**	**13 37 11.5**	**+2.2**
I28M	**Miner Creek**	**10.48**	**23**	Pn	**Pn**	**13 37 13.4**	**+2.7**
R33M	**Jennings River**	**10.55**	**64**	Pn	**Pn**	**13 37 13.3**	**+1.6**
G23K	**Bananza Creek**	**10.60**	**359**	Pn	**Pn**	**13 37 13.4**	**+1.1**
FYU	**Fort Yukon**	**10.68**	**10**	Pn	**Pn**	**13 37 14.8**	**+1.6**
J30M	**Hart River**	**10.73**	**33**		**Pn**	**13 37 16.6**	**+2.4**
DLBC	**Dease Lake**	**10.92**	**70**	Pn	**Pn**	**13 37 18.1**	**+1.3**
DLBC	**Dease Lake**	**10.92**	**70**	Pn	**Pn**	**13 37 17.8**	**+1.0**
	comp=E,0.5nm,0.3s,baz=299,slow=6.3,SNR=19						
DLBC				Sn	**Sn**	**13 39 16.1**	**-1.5**
	comp=E,0.2nm,0.3s,baz=230,slow=12,SNR=1.9						
	comp=E,0.9nm,0.3s						
F20K	**Avaraart Lake**	**11.29**	**348**	Pn	**Pn**	**13 37 22.2**	**+0.6**
ANM	**Nome**	**11.40**	**324**	Pn	**Pn**	**13 37 23.0**	**-0.2**
F24K	**Squaw Lake**	**11.45**	**4**	Pn	**Pn**	**13 37 24.2**	**+0.4**
H29M	**Whitestone**	**11.48**	**24**	Pn	**Pn**	**13 37 26.6**	**+2.3**
E19K	**Redstone River**	**11.87**	**346**	Pn	**Pn**	**13 37 29.7**	**+0.1**
F15K	**North Star Dit**	**11.97**	**329**	Pn	**Pn**	**13 37 28.6**	**-2.4**
E29M	**Blow River**	**13.43**	**19**	Pn	**Pn**	**13 37 53.7**	**+2.8**
C16K	**Lisburne Hills**	**14.10**	**336**	Pn	**Pn**	**13 37 59.1**	**-0.9**
INK	**Inuvik**	**14.28**	**25**	Pn	**Pn**	**13 38 01.4**	**-1.0**
INK	**Inuvik**	**14.28**	**25**	Pn	**Pn**	**13 38 03.3**	**+0.8**
	baz=202,slow=13,SNR=7.6						
	comp=E,2.9nm,1.0s						
B22K	**Teshekpuk Lake**	**14.34**	**355**	Pn	**Pn**	**13 38 04.0**	**+0.8**
C36M	**Paulatuk**	**17.50**	**31**		**P**	**13 38 45.8**	**+1.1**
YKA	**Yellowknife Ar**	**18.84**	**56**	P	**P**	**13 39 00.2**	**+0.6**
YKA	**Yellowknife Ar**	**18.84**	**56**	P	**Pn**	**13 39 01.6**	**+1.2**
	baz=268,slow=9.6,SNR=5.0						
	comp=E,0.2nm,0.8s						
A36M	**Sachs Harbour**	**18.91**	**23**	P	**Pn**	**13 39 02.0**	**+0.9**
A36M				IAmb	IAmb	13 39 14.1	
	comp=Z,6.6nm,0.9s						
NVAR	**Mina Array Bea**	**27.39**	**117**	P	**P**	**13 40 26.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=282,slow=4.5,SNR=2.5						
	comp=Z,0.3nm,0.7s						
NRIK	**Noril'sk**	**48.12**	**336**	LR	LR	14 05 16.6	
	comp=Z,36nm,18.5s,baz=182,slow=38						
H11N2	**WAKE ISLAND Hy**	**48.58**	**240**	T	T	14 34 51.4	
	baz=32,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**48.58**	**240**	T	T	14 34 54.9	
	baz=32,slow=76,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**48.59**	**240**	T	T	14 34 57.3	
	baz=32,slow=76,SNR=6.7						
SONM	**Songino Array**	**58.51**	**310**	P	**P**	**13 44 34.8**	**-0.8**
SONM	**Songino Array**	**58.51**	**310**	P	**P**	**13 44 37.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=50,slow=6.3,SNR=5.7						
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**61.52**	**327**	P	**P**	**13 44 57.0**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=24,slow=6.7,SNR=4.0						
	comp=Z,0.6nm,0.3s						
FINES	**FINESS Array B**	**62.70**	**2**	P	**P**	**13 45 04.3**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=30,slow=15,SNR=1.4						
	comp=Z,1.5nm,0.9s						
ARU	**Arti**	**65.45**	**343**	P	**P**	**13 45 22.5**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=82,slow=6.0,SNR=3.1						
	comp=Z,1.2nm,0.4s						
BVAR	**Borovoye Array**	**66.29**	**335**	P	**P**	**13 45 27.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=38,slow=8.1,SNR=7.7						
	comp=Z,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**66.31**	**329**	P	**P**	**13 45 28.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=26,slow=6.4,SNR=4.1						
	comp=Z,0.5nm,0.7s						
MK31	**Makanchi Array**	**68.54**	**324**	P	**P**	**13 45 40.9**	**-0.9**
MK31				IAmb	IAmb	13 45 49.9	
	comp=Z,0.8nm,1.1s						
MKAR	**Makanchi Array**	**68.54**	**324**	P	**P**	**13 45 41.8**	**+0.1**
MKAR	**Makanchi Array**	**68.54**	**324**	P	**P**	**13 45 42.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=33,slow=5.7,SNR=10						
	comp=Z,0.5nm,0.6s						
MAKZ	**Makanchi**	**68.63**	**325**	P	**P**	**13 45 42.3**	**0.0**
MAKZ				IAmb	IAmb	13 45 48.6	
	comp=Z,0.5nm,0.9s						
QSPA	**South Pole Qui**	**145.94**	**180**	PKPbc	**PKPdf**	**13 54 15.2**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=144,slow=1.8,SNR=5.3						

*IDC **27** 13:40:17.6±1.4, 6°.44S×124°.98E, h573km±18km, mb3.1/11, mbtmp3.9/14, Error ellipse: s-maj=27.1km s-min=12.0km az=68.0*

ISC 27 13:40:15.7±0.8, **6°.4S**±0°.1×**125°.2E**±0°.2, **h550**km, **n14,** σ1°**18**/17, **mb3.5**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.58**	**284**	P	**P**	**13 41 52.0**	**+1.4**
	9.5nm,0.6s,baz=114,slow=3.9,SNR=5.3						
WRA	**Warramunga Arr**	**16.11**	**147**	P	**P**	**13 43 36.9**	**+0.5**
	0.5nm,0.8s,baz=337,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**19.08**	**155**	P	**P**	**13 44 05.4**	**+1.8**
	0.3nm,0.4s,baz=346,slow=15,SNR=16						
ASAR				PcP	**PcP**	**13 47 59.8**	**-0.9**
	0.2nm,0.5s,baz=356,slow=1.9,SNR=4.7						
ASAR				ScP	**ScP**	**13 50 42.4**	**-2.5**
	0.2nm,0.4s,baz=337,slow=2.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**35.79**	**314**	P	**P**	**13 46 28.9**	**-0.4**
	0.6nm,0.7s,baz=144,slow=6.9,SNR=5.9						
CMAR				PcP	**PcP**	**13 48 42.5**	**+0.6**
	0.3nm,0.3s,baz=193,slow=1.

EFP	**Efpalio**	**0.08**	**326**	P	**Pg**	**13 43 31.5**	**-0.2**
EFP				S	**Sg**	**13 43 32.9**	**-0.7**
	106μm,0.3s						
EFP	**Efpalio**	**0.08**	**326**	P	**Pg**	**13 43 31.6**	**-0.2**
EFP				S	**Sg**	**13 43 32.8**	**-0.7**
EFP				AML	AML	13 43 33.3	
EFP				AML	AML	13 43 33.3	
TRIZ	**Trizonia**	**0.08**	**84**	P	**Pg**	**13 43 32.3**	**+0.6**
TRIZ				S	**Sg**	**13 43 34.4**	**+0.9**
	29μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.15**	**130**	P	**Pb**	**13 43 33.6**	**-0.5**
ALIK				S	**Sg**	**13 43 37.0**	**+2.0**
UPR	**University Cam**	**0.16**	**243**	P	**Pg**	**13 43 32.4**	**-0.4**
UPR				S	**Sg**	**13 43 35.6**	**+0.3**
ANX	**Ano Chora**	**0.24**	**351**	P	**Pg**	**13 43 34.3**	**0.0**
ANX				S	**Sg**	**13 43 38.1**	**+0.4**
	31μm,0.5s						
ANX	**Ano Chora**	**0.24**	**351**	P	**Pg**	**13 43 34.4**	**0.0**
ANX				S	**Sg**	**13 43 37.9**	**+0.2**
ANX				AML	AML	13 43 38.5	
	comp=N,66884μm,0.5s						
ANX				AML	AML	13 43 39.5	
	comp=E,56085μm,0.5s						
KLV	**Kalavryta, Ach**	**0.34**	**155**	P	**Pg**	**13 43 36.5**	**+0.3**
KLV	**Kalavryta, Ach**	**0.34**	**155**	P	**Pg**	**13 43 36.6**	**+0.3**
KLV				S	**Sb**	**13 43 42.7**	**-0.4**
PVO	**Paravola**	**0.43**	**307**	P	**Pg**	**13 43 37.5**	**-0.3**
PVO				S	**Sg**	**13 43 43.9**	**+0.4**
	comp=E,18μm,0.4s						
PVO	**Paravola**	**0.43**	**307**	P	**Pg**	**13 43 37.6**	**-0.2**
PVO				S	**Sg**	**13 43 43.1**	**-0.5**
DLFA	**Delphi**	**0.43**	**74**	P	**Pg**	**13 43 37.9**	**+0.1**
DLFA				S	**Sb**	**13 43 45.0**	**-0.5**
DLFA				AML	AML	13 43 47.7	
	comp=E,6146μm,0.7s						
DLFA				AML	AML	13 43 49.3	
	comp=N,6180μm,0.4s						
DRO	**Drossia**	**0.45**	**207**	P	**Pg**	**13 43 38.2**	**0.0**
DRO				S	**Sg**	**13 43 44.2**	**+0.1**
	comp=N,14μm,0.3s						
DRO	**Drossia**	**0.45**	**207**	P	**Pg**	**13 43 38.3**	**+0.2**
DRO				S	**Sg**	**13 43 44.9**	**+0.8**
DRO				AML	AML	13 43 45.8	
	comp=N,27248μm,0.6s						
DRO				AML	AML	13 43 49.3	
	comp=E,27315μm,0.2s						
RLS	**Riolos of Patr**	**0.49**	**233**	P	**Pg**	**13 43 38.9**	**0.0**
RLS	**Riolos of Patr**	**0.49**	**233**	P	**Pg**	**13 43 39.0**	**0.0**
RLS				S	**Sg**	**13 43 45.6**	**+0.2**
RLS				AML	AML	13 43 48.5	
	comp=N,13036μm,0.4s						
RLS				AML	AML	13 43 48.9	
	comp=E,12768μm,0.2s						
GUR	**Goura**	**0.51**	**145**	P	**Pg**	**13 43 39.3**	**0.0**
GUR				S	**Sb**	**13 43 47.1**	**-0.8**
	comp=E,6μm,0.4s						
GUR	**Goura**	**0.51**	**145**	P	**Pg**	**13 43 39.6**	**+0.3**
GUR				S	**Sb**	**13 43 47.6**	**-0.3**
GUR				AML	AML	13 43 48.1	
	comp=E,12060μm,0.4s						
GUR				AML	AML	13 43 51.2	
	comp=N,13198μm,0.3s						
EVR	**Evrytania**	**0.57**	**348**	P	**Pg**	**13 43 41.1**	**+0.6**
EVR				S	**Sg**	**13 43 49.0**	**+1.0**
	comp=N,4μm,0.6s						
EVR	**Evrytania**	**0.57**	**348**	P	**Pg**	**13 43 40.9**	**+0.4**
EVR				S	**Sg**	**13 43 48.4**	**+0.4**
EVR				AML	AML	13 43 53.2	
	comp=E,6948μm,0.3s						
EVR				AML	AML	13 43 53.9	
	comp=N,8691μm,0.6s						
MAKR	**Makrakomi, Fth**	**0.67**	**11**	P	**Pg**	**13 43 42.4**	**+0.1**
MAKR				S	**Sb**	**13 43 53.0**	**+0.7**
	comp=N,8μm,0.5s						
AXAR	**Agios Charalam**	**0.68**	**53**	P	**Pg**	**13 43 42.5**	**0.0**
AXAR				S	**Sb**	**13 43 53.4**	**+0.7**
	comp=N,10μm,0.8s						
AGG	**Agios Georgios**	**0.72**	**23**	P	**Pg**	**13 43 42.8**	**-0.5**
AGG				S	**Sb**	**13 43 54.1**	**+0.2**
	comp=N,4μm,0.6s						
AGG	**Agios Georgios**	**0.72**	**23**	P	**Pg**	**13 43 42.6**	**-0.7**
AGG				S	**Sg**	**13 43 52.6**	**-0.1**
AGG				AML	AML	13 43 57.2	
	comp=E,8496μm,0.4s						
AGG				AML	AML	13 43 59.8	
	comp=N,12611μm,0.6s						
LOUT	**Loutraki**	**0.88**	**115**	P	**Pb**	**13 43 46.5**	**0.0**
NYDR	**Nydri-Lefkada**	**1.06**	**290**	P	**Pb**	**13 43 48.7**	**-0.9**
EVGI	**Lefkada island**	**1.06**	**285**	P	**Pb**	**13 43 48.5**	**-1.2**
EVGI	**Lefkada island**	**1.06**	**285**	P	**Pb**	**13 43 48.9**	**-0.8**
VILL	**Villia**	**1.08**	**100**	P	**Pn**	**13 43 51.0**	**+0.6**
VLS	**Valsamata**	**1.10**	**261**	P	**Pb**	**13 43 49.2**	**-1.1**
VLS				S	**Sn**	**13 44 05.9**	**0.0**
	comp=N,2μm,0.2s						
VLS	**Valsamata**	**1.10**	**261**	P	**Pb**	**13 43 49.4**	**-0.9**
VLS				S	**Sb**	**13 44 04.4**	**-0.3**
VLS				AML	AML	13 44 14.2	
	comp=N,5237μm,0.8s						
VLS				AML	AML	13 44 15.0	
	comp=E,2890μm,0.6s						
LTHK	**Lithakia**	**1.10**	**234**	P	**Pb**	**13 43 49.8**	**-0.6**
LTHK				S	**Sn**	**13 44 05.7**	**-0.2**
	comp=E,4μm,0.4s						
LTHK	**Lithakia**	**1.10**	**234**	P	**Pb**	**13 43 50.5**	**+0.1**
LTHK				S	**Sb**	**13 44 04.7**	**-0.1**
LTHK				AML	AML	13 44 13.0	
	comp=N,7022μm,0.5s						
LTHK				AML	AML	13 44 14.9	
	comp=E,7069μm,0.3s						
VSK1	**VASILIKIADES**	**1.10**	**273**	P	**Pb**	**13 43 49.2**	**-1.2**
FSK	**Fiskardo**	**1.11**	**276**	P	**Pb**	**13 43 49.3**	**-1.2**
FSK				S	**Sg**	**13 44 05.8**	**+0.8**
	comp=E,2μm,0.6s						
FSK	**Fiskardo**	**1.11**	**276**	P	**Pb**	**13 43 49.9**	**-0.5**
FSK				S	**Sb**	**13 44 03.9**	**-1.1**
FSK				AML	AML	13 44 14.1	
	comp=E,3295μm,0.4s						
FSK				AML	AML	13 44 14.9	
	comp=N,3865μm,0.7s						
LKD2	**Lefkada island**	**1.11**	**293**	P	**Pb**	**13 43 50.1**	**-0.5**
	baz=305						
LKD2				S	**Sn**	**13 44 09.6**	**+3.3**
	baz=305						
LKD2				AMP			
	comp=E,4.0nm,0.5s,baz=305						
LKD2	**Lefkada island**	**1.11**	**293**	P	**Pb**	**13 43 49.6**	**-1.0**
LKD2	**Lefkada island**	**1.11**	**293**	P	**Pb**	**13 43 50.1**	**-0.5**
LKD2				AML	AML	13 44 14.1	
	comp=E,2536μm,0.6s						
LKD2				AML	AML	13 44 16.8	
	comp=N,2741μm,0.6s						
PSDA	**Pessada-Kefalo**	**1.11**	**258**	P	**Pb**	**13 43 49.5**	**-1.1**
PSDA				S	**Sg**	**13 44 05.8**	**+0.6**
	comp=N,4μm,0.2s						
PSDA	**Pessada-Kefalo**	**1.11**	**258**	P	**Pb**	**13 43 49.4**	**-1.1**
TSLK	**Tsoukalades, L**	**1.13**	**295**	P	**Pb**	**13 43 50.3**	**-0.5**
TSLK	**Tsoukalades, L**	**1.13**	**295**	P	**Pb**	**13 43 50.6**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.14**	**287**	P	**Pb**	**13 43 49.8**	**-1.2**
KRI1	**kERI**	**1.14**	**233**	P	**Pb**	**13 43 50.6**	**-0.5**
KRI1				S	**Sn**	**13 44 07.2**	**+0.3**
	comp=N,3μm,0.5s						
THL	**Klokotos Trika**	**1.21**	**2**	P	**Pn**	**13 43 51.9**	**-0.2**
THL				S	**Sg**	**13 44 08.8**	**+0.6**
	comp=N,1μm,0.8s						
THL	**Klokotos Trika**	**1.21**	**2**	P	**Pn**	**13 43 52.0**	**-0.1**
THL				AML	AML	13 44 12.7	
	comp=E,3235μm,0.9s						
THL				AML	AML	13 44 13.1	
	comp=N,1566μm,0.7s						
LXRA	**Lixouri, Kepha**	**1.21**	**263**	P	**Pn**	**13 43 51.5**	**-0.8**
KEF4	**Livadi, Kephal**	**1.22**	**266**	P	**Pn**	**13 43 51.1**	**-1.2**
KEF4	**Livadi, Kephal**	**1.22**	**266**	P	**Pn**	**13 43 51.3**	**-1.0**
DMLN	**Damoulianata-K**	**1.26**	**265**	P	**Pn**	**13 43 51.5**	**-1.4**
KEF3	**Kipouria, Keph**	**1.28**	**264**	P	**Pn**	**13 43 52.0**	**-1.2**
KEF3	**Kipouria, Keph**	**1.28**	**264**	P	**Pn**	**13 43 51.9**	**-1.2**
KLMT	**Kalamata**	**1.30**	**177**	P	**Pb**	**13 43 53.4**	**-0.3**
KRND	**KRANIDI**	**1.35**	**136**	P	**Pb**	**13 43 54.4**	**-0.2**
KRND				AML	AML	13 44 17.8	
	comp=E,2166μm,0.9s						
KRND				AML	AML	13 44 19.0	
	comp=N,3514μm,0.6s						
NEO	**Neokhori**	**1.36**	**46**	P	**Pn**	**13 43 54.0**	**-0.4**
NEO				AML	AML	13 44 19.1	
	comp=N,1388μm,0.6s						
NEO				AML	AML	13 44 19.7	
	comp=E,999μm,0.5s						
XOR	**Xorichti**	**1.39**	**43**	P	**Pn**	**13 43 54.4**	**-0.3**
ATH	**Athens Observa**	**1.43**	**105**	P	**Pg**	**13 43 56.3**	**-0.5**
ATH				AML	AML	13 44 21.2	
	comp=E,1862μm,0.6s						
ATH				AML	AML	13 44 27.1	
	comp=N,1573μm,0.6s						
PYL	**PYLOS**	**1.47**	**187**	P	**Pb**	**13 43 56.2**	**-0.4**
PYL	**PYLOS**	**1.47**	**187**	P	**Pb**	**13 43 56.3**	**-0.4**
PYL				AML	AML	13 44 24.4	
	comp=E,1507μm,0.5s						
PYL				AML	AML	13 44 27.5	
	comp=N,1051μm,0.9s						
PTL	**Penteli**	**1.53**	**101**	P	**Pb**	**13 43 57.3**	**-0.4**
PTL				AML	AML	13 44 22.6	
	comp=E,1544μm,0.6s						
PTL				AML	AML	13 44 27.3	
	comp=N,803μm,0.5s						
VLY	**Voula,Athens**	**1.53**	**109**	P	**Pb**	**13 43 57.5**	**-0.1**
VLY	**Voula,Athens**	**1.53**	**109**	P	**Pb**	**13 43 57.8**	**+0.1**
VLY				AML	AML	13 44 21.3	
	comp=E,887μm,0.6s						
VLY				AML	AML	13 44 26.1	
	comp=N,1045μm,0.8s						
JAN	**Janina**	**1.56**	**327**	P	**Pn**	**13 43 56.6**	**-0.4**
DION	**Dionisos Attik**	**1.57**	**100**	P	**Pb**	**13 43 57.8**	**-0.7**
DION				S	**Sg**	**13 44 19.1**	**-0.8**
	comp=N,2μm,0.6s						
DION	**Dionisos Attik**	**1.57**	**100**	P	**Pb**	**13 43 58.0**	**-0.4**
DION				AML	AML	13 44 27.3	
	comp=N,2135μm,0.6s						
DION				AML	AML	13 44 27.6	
	comp=E,2504μm,0.6s						
KPRO	**Kipourio**	**1.66**	**344**	P	**Pn**	**13 43 57.6**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.70**	**80**	P	**Pb**	**13 43 59.9**	**-0.6**
IGT	**Igoumenitsa**	**1.73**	**313**	P	**Pg**	**13 44 02.2**	**-0.3**
	baz=318						
IGT				S	**Sg**	**13 44 29.6**	**+4.6**
	baz=318						
IGT				AMP			
	comp=E,1.6nm,0.7s,baz=318						
IGT	**Igoumenitsa**	**1.73**	**313**	P	**Pn**	**13 43 59.1**	**-0.3**
VLI	**Veliai**	**1.81**	**154**	P	**Pb**	**13 44 01.3**	**-1.1**
VLI	**Veliai**	**1.81**	**154**	P	**Pn**	**13 44 00.9**	**+0.4**
VLI				AML	AML	13 44 33.9	
	comp=N,1366μm,0.6s						
VLI				AML	AML	13 44 36.8	
	comp=E,1270μm,0.8s						
MNVA	**Monemvasia**	**1.87**	**153**	P	**Pn**	**13 44 01.7**	**+0.4**
LSK	**Leskovik**	**2.08**	**330**	P	**Pg**	**13 44 08.8**	**-0.3**
	baz=332						
LSK				S	**Sg**	**13 44 40.4**	**+4.2**
	baz=332						
LSK				AMP			
	comp=E,3.2nm,1.1s,baz=332						
SRN	**Sarande**	**2.16**	**315**	P	**Pb**	**13 44 08.2**	**-0.1**
	baz=320						
SRN				S	**Sg**	**13 44 39.7**	**+1.1**
	baz=320						
SRN				AMP			
	comp=E,0.8nm,0.7s,baz=320						
KEK	**Kerkira**	**2.16**	**309**	P	**Pn**	**13 44 05.4**	**+0.1**
HORT	**Hortiatis**	**2.40**	**21**	P	**Pn**	**13 44 09.2**	**+0.5**
KBN	**Korca**	**2.44**	**338**	P	**Pb**	**13 44 14.9**	**+1.6**
	baz=339						
FNA	**Florina**	**2.47**	**350**	S	**Sg**	**13 44 48.3**	**-0.2**
	baz=349						
FNA				AMP			
	comp=N,100nm,0.4s,baz=349						
FNA	**Florina**	**2.47**	**350**	*e*Pn	**Pb**	**13 44 11.8**	**-1.9**
FNA				*e*Sn	**Sn**	**13 44 41.2**	**+1.5**
FNA	**Florina**	**2.47**	**350**	P	**Pb**	**13 44 09.5**	**0.0**
ANKY	**Antikythira Is**	**2.71**	**156**	P	**Pn**	**13 44 13.7**	**+1.0**
VLO	**Vlora**	**2.85**	**319**	P	**Pb**	**13 44 17.8**	**-2.3**
	baz=322						
VLO				S	**Sg**	**13 44 58.9**	**-1.9**
	baz=322						
OHR	**Ohrid**	**2.89**	**342**	*e*Pn	**Pb**	**13 44 19.8**	**-1.2**
OHR				*e*Sn	**Sn**	**13 44 53.5**	**+3.2**
OHR	**Ohrid**	**2.89**	**342**	*i* Pn	**Pb**	**13 44 22.1**	**+1.2**
VAY	**Valandovo**	**3.00**	**9**	*e*Pn	**Pn**	**13 44 18.0**	**+1.2**
VAY				*e*Sn	**Sn**	**13 44 53.1**	**+0.4**
VAY	**Valandovo**	**3.00**	**9**	*e*Pn	**Pb**	**13 44 20.7**	**-2.0**
SRS	**Serrai**	**3.03**	**24**	*e*Pn	**Pn**	**13 44 17.8**	**+0.6**
SRS				*e*Sn	**Sn**	**13 44 50.8**	**-2.7**
APE	**Apeiranthos**	**3.10**	**113**	P	**Pn**	**13 44 19.3**	**+1.0**
SCTE	**Santa Cesarea**	**3.21**	**303**	P	**Pn**	**13 44 21.5**	**+1.8**
	baz=308						
SCTE				S	**Sb**	**13 45 05.8**	**+0.3**
	baz=308						
STIP	**Stip**	**3.34**	**3**	*i* Pn	**Pn**	**13 44 24.6**	**+3.1**
TIR	**Tirane**	**3.40**	**332**	P	**Pb**	**13 44 29.2**	**-0.3**
	baz=334						
TIR				S	**Sb**	**13 45 10.0**	**-0.8**
	baz=334						
TIR				AMP			
	comp=E,0.2nm,0.8s,baz=334						
TIR	**Tirane**	**3.40**	**332**	*e*Pn	**Pb**	**13 44 28.7**	**-0.8**
PHP	**Peshkopia**	**3.52**	**341**	P	**Pn**	**13 44 27.4**	**+3.3**
	baz=342						
PUK	**Puka**	**4.01**	**337**	P	**Pn**	**13 44 34.2**	**+3.5**
	baz=338						
PUK				S	**Sb**	**13 45 28.7**	**+0.2**
	baz=338						
PRVS	**Prvonek**	**4.15**	**1**	*e*Pn	**Pn**	**13 44 35.2**	**+2.6**
PRVS				*e*Sn	**Sn**	**13 45 21.1**	**0.0**
TIP	**Timpagrande**	**4.15**	**283**	⇑P	**Pn**	**13 44 36.0**	**+3.2**
BCI	**Bajram Curri**	**4.26**	**341**	P	**Pb**	**13 44 39.7**	**-4.5**
	baz=341						
BCI				S	**Sb**	**13 45 34.5**	**-1.2**
	baz=341						
VTS	**Vitosha**	**4.37**	**12**	*e*Pn	**Pn**	**13 44 37.5**	**+1.8**
VTS				*e*Sn	**Sn**	**13 45 22.6**	**-4.1**
BARS	**Barje**	**4.46**	**359**	*e*Pn	**Pn**	**13 44 39.5**	**+2.7**
SELS	**Selova**	**4.90**	**353**	*e*Pn	**Pn**	**13 44 45.1**	**+2.2**
ZAPS	**Zavoj**	**4.94**	**6**	*e*Pn	**Pn**	**13 44 45.6**	**+2.1**
SJES	**Sjenica**	**5.13**	**343**	*e*Pn	**Pn**	**13 44 50.8**	**+4.7**
BOVS	**Bovan**	**5.28**	**358**	⇓P	**Pn**	**13 44 49.8**	**+1.7**
BOVS	**Bovan**	**5.28**	**358**	*e*Pn	**Pn**	**13 44 49.0**	**+0.9**
BLKB	**Belogradchik**	**5.29**	**6**	⇓P	**Pn**	**13 44 51.2**	**+2.9**
IVAS	**Ivanjica**	**5.39**	**346**	*e*Pn	**Pn**	**13 44 53.7**	**+4.0**
ELND	**Elena**	**5.45**	**32**	⇓P	**Pn**	**13 44 52.4**	**+1.9**
ZAGS	**Zajecar**	**5.45**	**2**	*e*Pn	**Pn**	**13 44 52.2**	**+1.7**
GRUS	**Gruza**	**5.61**	**351**	*e*Pn	**Pn**	**13 44 55.6**	**+3.0**
BBLS	**Lazići**	**5.83**	**341**	*e*Pn	**Pn**	**13 44 57.8**	**+2.0**
DIVS	**Divibare**	**5.93**	**346**	*e*Pn	**Pn**	**13 45 00.7**	**+3.6**
DIVS				*e*Sn	**Sn**	**13 46 03.9**	**-1.1**
TRUS	**Trudelj**	**5.98**	**349**	*e*Pn	**Pn**	**13 45 00.2**	**+2.5**
VAE	**Valguarnera**	**6.04**	**264**	Sn	**Sn**	**13 46 10.9**	**+3.2**
	comp=E,1.3nm,0.3s,baz=142,slow=20,SNR=2.4						
GZR	**Gura Zlata**	**7.06**	**5**	⇓P	**Pn**	**13 45 15.6**	**+3.0**
ARR	**Arges**	**7.28**	**15**	⇓P	**Pn**	**13 45 17.7**	**+2.0**
VOIR		**7.44**	**17**	⇑P	**Pn**	**13 45 19.4**	**+1.6**
MLR	**Muntele Rosu**	**7.72**	**21**	⇓P	**Pn**	**13 45 23.5**	**+1.7**
MLR	**Muntele Rosu**	**7.72**	**21**	Pn	**Pn**	**13 45 22.9**	**+1.2**
	comp=E,0.3nm,0.3s,baz=198,slow=5.6,SNR=3.4						
MLR				Sn	**Sn**	**13 46 46.4**	**-2.8**
	baz=202,slow=12						
MLR				LR	LR	13 49 09.3	
	comp=E,78nm,19.2s,baz=213,slow=45						
	comp=E,1.0nm,0.4s						
PLOR	**Plostina**	**8.26**	**23**	⇑P	**Pn**	**13 45 30.2**	**+1.2**
VRI	**Vrincioaia**	**8.29**	**24**	⇑P	Pn	13 45 34.4	+4.9
BRTR	**Keskin Array B**	**9.19**	**78**	Pn	**Pn**	**13 45 44.6**	**+2.7**
	comp=E,0.2nm,0.3s,baz=264,slow=12,SNR=7.0						
	comp=E,1.0nm,0.6s						
VRAC	**Vranov**	**11.61**	**342**	LR	LR	13 51 05.7	
	comp=E,42nm,20.1s,baz=189,slow=40						
GERES	**GERESS Array B**	**12.06**	**333**	LR	LR	13 51 49.8	
	comp=E,99nm,19.7s,baz=143,slow=42						
AKASG	**Malin Array Be**	**13.37**	**20**	LR	LR	13 51 45.5	
	comp=E,33nm,19.5s,baz=196,slow=37						
ESDC	**Sonseca Array**	**20.17**	**282**	P	Pn	13 48 05.7	-0.1
	comp=E,0.8nm,0.6s,baz=78,slow=11,SNR=7.4						
	comp=E,0.8nm,0.6s						
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**13 48 27.6**	**-0.2**
	comp=E,2.3nm,0.5s,baz=170,slow=9.0,SNR=9.1						
	comp=E,2.3nm,0.5s						
BELG	**Belogornoye**	**22.69**	**43**	LR	LR	13 57 49.5	
	comp=E,51nm,20.1s,baz=63,slow=38						
FINES	**FINESS Array B**	**23.25**	**5**	P	**P**	**13 48 37.5**	**+1.0**
	comp=E,3.5nm,1.1s,baz=169,slow=1.9,SNR=4.6						
FINES				LR	LR	13 59 15.6	
	comp=E,48nm,19.1s,baz=126,slow=41						
	comp=E,3.5nm,1.1s						
NB2	**NORSAR Subarra**	**23.68**	**347**	P	**P**	**13 48 40.9**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**23.68**	**347**	P	**P**	**13 48 40.2**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=266,slow=6.7,SNR=7.1						
	comp=Z,1.5nm,1.0s						
EKA	**Eskdalemuir Ar**	**23.95**	**323**	P	**P**	**13 48 44.0**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=122,slow=9.0,SNR=4.2						
	comp=Z,3.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.90**	**221**	P	**P**	**13 49 47.6**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=25,slow=9.8,SNR=5.3						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**41.21**	**54**	P	**P**	**13 51 14.7**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=284,slow=8.9,SNR=6.0						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.24**	**59**	P	**P**	**13 51 39.1**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=275,slow=7.3,SNR=30						
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**44.72**	**48**	P	**P**	**13 51 42.6**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=269,slow=8.7,SNR=5.4						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**59.46**	**51**	P	**P**	**13 53 30.6**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=306,slow=10,SNR=3.0						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**68.74**	**83**	P	**P**	**13 54 31.8**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=327,slow=9.7,SNR=4.9						
	comp=Z,0.6nm,0.3s						
YKA	**Yellowknife Ar**	**73.61**	**341**	P	**P**	**13 55 01.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=33,slow=5.3,SNR=9.8						
	comp=Z,0.4nm,0.7s						
ULM	**Lac du Bonnet**	**76.22**	**324**	P	**P**	**13 55 17.8**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=35,slow=8.7,SNR=3.9						
	comp=Z,1.6nm,0.7s						
ILAR	**Eielson Array**	**76.83**	**355**	P	**P**	**13 55 19.6**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=345,slow=2.8,SNR=1.7						
	comp=Z,0.3nm,0.8s						
PDAR	**Pinedale Array**	**88.03**	**327**	P	**P**	**13 56 20.0**	**0.0**
	comp=Z,0.3nm,0.6s,baz=65,slow=6.9,SNR=4.0						
	comp=Z,0.3nm,0.6s						

NEIC ***27*** *13:43:45.5±1.6,56.14N±0.07×149.8W±0.1,h21km±10km, ML3.6/28,ML3.3(AEIC),Error ellipse: s-maj=11.2km s-min=7.3km az=139.0*
AEIC ***27*** *13:43:48.7±2.2,56.13N±0.09×149.7W±0.1,h10km±6km, Error ellipse: s-maj=13.2km s-min=8.7km az=157.0*
ISC 27 13:43:46.2±1.7,56.13N±0.09×149.75W±0.06,h35km,n73, σ0≤**80**/50,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.24**	**301**			**Pn**	**13 44 21.5**	**+0.9**
OHAK						**Sn**	**13 44 46.7**	**-0.3**
OHAK	**Old Harbor**	**2.24**	**301**	P		**Pn**	**13 44 21.4**	**+0.7**
OHAK	**Old Harbor**	**2.24**	**301**	P		**Pn**	**13 44 21.5**	**+0.9**
	baz=118							
OHAK				S		**Sn**	**13 44 46.7**	**-0.3**
	baz=118							
KDAK	**Kodiak Island**	**2.27**	**318**			**Pn**	**13 44 22.1**	**+1.0**
KDAK						**Sn**	**13 44 47.7**	**-0.1**
SII	**Sitkinak Islan**	**2.51**	**282**			Pn	13 44 25.3	+0.9
SII						**Sn**	**13 44 53.9**	**+0.2**
SII	**Sitkinak Islan**	**2.51**	**282**	IAML			13 45 02.6	
	comp=N,162nm,3.1s							
SII	**Sitkinak Islan**	**2.51**	**282**	P		**Pn**	**13 44 22.5**	**-1.9**
SII	**Sitkinak Islan**	**2.51**	**282**	P		Pn	13 44 25.3	+0.9
	baz=98							
SII				S		**Sn**	**13 44 53.9**	**+0.2**
	baz=98							
SYI	**Shuyak Island**	**2.87**	**331**			**Pn**	**13 44 30.3**	**+1.0**
SYI						**Sn**	**13 45 03.3**	**+0.8**
Q20K	**Shuyak Island**	**2.87**	**331**	P		**Pn**	**13 44 30.3**	**+1.0**
	baz=149							
Q20K				S		**Sn**	**13 45 03.3**	**+0.8**
	baz=149							
CNPM	**China Poot**	**3.49**	**347**			**Pn**	**13 44 38.2**	**+0.3**
Q19K	**Cape Douglas,**	**3.50**	**325**			Pn	13 44 39.3	+1.2
Q19K	**Cape Douglas,**	**3.50**	**325**	IAML			13 45 27.7	
	comp=E,170nm,1.2s							
Q19K				IAML			13 46 44.2	
	comp=N,95nm,2.1s							
Q19K	**Cape Douglas,**	**3.50**	**325**	P		Pn	13 44 39.3	+1.2
	baz=142							
KAHG	**Katmai Hook Gl**	**3.52**	**314**			Pn	13 44 39.8	+1.5
BRSE	**Bradley Lake S**	**3.66**	**352**			**Pn**	**13 44 40.2**	**0.0**
BRSE	**Bradley Lake S**	**3.66**	**352**	P		**Pn**	**13 44 40.2**	**0.0**
	baz=171							
BRLK	**Bradley Lake**	**3.69**	**351**			**Pn**	**13 44 40.8**	**+0.1**
Q23K	**Middleton Isla**	**3.77**	**27**			**Pn**	**13 44 41.9**	**+0.2**
Q23K	**Middleton Isla**	**3.77**	**27**	IAML			13 45 45.4	
	comp=E,310nm,2.1s							
Q23K				IAML			13 46 25.6	
	comp=N,309nm,2.2s							
Q23K	**Middleton Isla**	**3.77**	**27**	P		**Pn**	**13 44 41.9**	**+0.2**
	baz=210							
MID	**Middleton Isla**	**3.77**	**27**			**Pn**	**13 44 41.7**	**-0.1**
MID	**Middleton Isla**	**3.77**	**27**	IAML			13 46 25.6	

baz=240
P29M Windy Craggy 7.30 56 Pn Pn 13 45 31.0 +0.9
P29M Windy Craggy 7.30 56 P Pn 13 45 30.8 +0.7
baz=246
S31K Pelican 7.60 70 Pn 13 45 32.7 -1.5
S31K Pelican 7.60 70 P Pn 13 45 32.7 -1.5
baz=262
SIT Sitka 8.02 77 P Pn 13 45 38.5 -1.4
SKAG Skagway 8.39 61 P Pn 13 45 46.6 +1.6
WRH Wood River Hil 8.40 5 Pn 13 45 44.4 -0.8
N31M Braeburn, Yuko 9.01 48 Pn Pn 13 45 55.0 +1.5
P32M Atlin 9.21 61 Pn Pn 13 45 57.5 +1.1

*AEIC **27** 13:44:21.5±2.9,61°.74N±0°.03×148°.16W±0°.06,h4km±.7km, ML2.9,ML3.1/146(NEIC),Error ellipse: s-maj=5.5km s-min=1.8km az=134.0*

NEIC 27 13:44:22.6±3.0,61°.75N±0°.02×148°.15W±0°.03,h5km±2km, Error ellipse: s-maj=3.6km s-min=3.0km az=147.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SML	Sawmill	0.11	306	Pg	Pg	13 44 24.1	-0.8
SML	comp=E,8μm,0.4s			IAML		13 44 26.7	
SML	comp=N,6μm,0.7s			IAML		13 44 26.7	
M23K	Glacier View	0.21	76		Pg	13 44 26.3	-0.4
M23K					Sg	13 44 29.7	+0.2
KNK	Knik Glacier	0.36	204	Pg	Pg	13 44 28.4	-1.3
GHO	Glory Hole Cre	0.37	275	Pg	Pg	13 44 28.9	-0.9
GHO	comp=E,2μm,0.4s			IAML		13 44 37.0	
GHO	comp=N,2μm,0.6s			IAML		13 44 37.7	
GHO	Glory Hole Cre	0.37	275		Sg	13 44 34.1	-0.5
SCM	Sheep Creek Mo	0.40	77	Pg	Pg	13 44 29.7	-0.7
SCM	comp=E,2μm,0.7s			IAML		13 44 36.6	
SCM	comp=N,2μm,0.6s			IAML		13 44 36.6	
SCM	Sheep Creek Mo	0.40	77		Sg	13 44 35.9	+0.2
PMR	Palmer	0.49	252	Pg	Pg	13 44 30.4	-1.7
PMR	Palmer	0.49	252		Sg	13 44 36.6	-1.8
WAT6	Susitna Watana	0.86	13		Pg	13 44 37.5	-1.7
WAT6					Sg	13 44 48.6	-1.7
M24K	Tolsona, Glenn	1.00	68	Pg	Pg	13 44 40.2	-1.6
M24K	comp=N,659nm,0.7s			IAML		13 44 55.5	
RC01	Rabbit Creek A	1.01	230		Sg	13 44 54.4	-0.6
RC01	Rabbit Creek A	1.01	230	Pg	Pg	13 44 40.0	-1.9
RC01	Rabbit Creek A	1.01	230	IAML		13 44 54.5	
RC01	comp=E,2μm,0.4s			IAML		13 44 54.8	
RC01	comp=N,2μm,0.4s						
KLU	Klutina	1.09	102		Pg	13 44 41.6	-2.0
KLU	Klutina	1.09	102	IAML		13 44 59.1	
WAT1	Susitna Watana	1.10	350		Pg	13 44 42.0	-1.8
WAT7	Susitna Watana	1.14	344		Pg	13 44 42.4	-2.1
FIS	Fire Island	1.16	240		Pg	13 44 43.7	-1.2
CUT	Chulitna	1.20	305	Pg	Pg	13 44 43.4	-2.2
SUA	Susitna One	1.27	258	Pn	Pg	13 44 43.9	-3.1
DIV	Divide	1.30	117		Pn	13 44 45.8	-1.7
DHY	Denali Highway	1.38	15	Pn	Pn	13 44 46.2	-2.6
DHY	comp=E,279nm,0.6s			IAML		13 45 05.1	
O22K	Cooper Landing	1.48	212		Pn	13 44 47.9	-2.0
O22K	Cooper Landing	1.48	212		Sn	13 45 09.0	-0.6
HIN	Hinchinbrook I	1.57	149		Pn	13 44 51.2	0.0
HIN	comp=N,195nm,0.5s			IAML		13 45 15.8	
HIN	comp=E,235nm,0.8s			IAML		13 45 19.3	
SLKM	Skilak Lake	1.60	220		Pn	13 44 50.0	-1.6
SKT	Skwentna	1.62	280		Pn	13 44 50.2	-1.6
SKT	comp=N,263nm,0.3s			IAML		13 45 13.1	
SKT	comp=E,202nm,0.5s			IAML		13 45 19.0	
EYAK	Cordova Ski Ar	1.67	135		Pn	13 44 50.9	-1.6
EYAK	Cordova Ski Ar	1.67	135	P	Pn	13 44 52.7	+0.2
RND	Reindeer	1.70	349		Pn	13 44 52.0	-1.1
RND	comp=N,277nm,0.6s			IAML		13 45 15.1	
RND	comp=E,200nm,0.7s			IAML		13 45 16.3	
RND	Reindeer	1.70	349		Sn	13 45 14.7	-0.4
N25K	Chitina, Valde	1.70	93		Pn	13 44 50.6	-2.4
N25K	comp=N,188nm,0.5s			IAML		13 45 19.6	
CAPN	Captain Cook N	1.75	237		Pb	13 44 54.4	-0.8
SEW	Seward	1.77	202		Pn	13 44 52.9	-0.9
STLK	Strandline Lak	1.78	264		Pn	13 44 53.0	-1.1
BMRM	Bremner River	1.88	113		Pn	13 44 54.0	-1.5
WASW	Wrangell South	1.90	83		Pn	13 44 54.2	-1.6
SPCG	Spurr Capps Gl	1.91	258		Pn	13 44 54.8	-1.1
TRF	Thorofare Moun	1.98	331		Pn	13 44 56.0	-0.9
SPCP	Crater Peak Br	1.98	258		Pn	13 44 55.8	-1.1
SPCR	Spurr Chakacha	2.02	256		Pn	13 44 56.8	-0.6
GOAT	Goat Mountain	2.03	124		Pn	13 44 56.8	-0.7
GLB	Gilahina Butte	2.10	96	Pn	Pn	13 44 58.9	+0.4
GLB	comp=E,121nm,0.9s			IAML		13 45 29.5	
RAGM	Ragged Mountai	2.17	127	Pn	Pn	13 45 00.4	+0.9
PPLA	Purkeypile	2.21	303		Pn	13 44 58.8	-1.3
KTH	Kantishna Hill	2.22	326		Pn	13 44 59.6	-0.6
VRDI	Verde Repeater	2.31	101	Pn	Pn	13 45 00.5	-1.0
VRDI	comp=N,112nm,0.5s			IAML		13 45 34.5	
K24K	Donnelly Dome	2.34	27		Pn	13 45 02.0	+0.3
M20K	Styx River	2.37	276		Pn	13 45 03.3	+1.1
M20K	comp=N,82nm,0.8s			IAML		13 45 37.1	
RDT	Redoubt	2.37	242		Pn	13 45 02.2	-0.1
MENT	Mentasta	2.39	58		Pn	13 45 02.7	+0.2
MENT	comp=N,131nm,0.7s			IAML		13 45 48.4	
BRLK	Bradley Lake	2.40	215		Pn	13 45 02.2	-0.4
BRLK	comp=N,81nm,0.4s			IAML		13 45 40.1	
BRLK	comp=E,99nm,0.5s			IAML		13 45 40.8	
CAST	Castle Rocks	2.48	314		Pn	13 45 03.9	+0.3
DFR	Drift River	2.48	244		Pn	13 45 02.5	-1.3
M26K	Nabesna, AK	2.51	73		Pn	13 45 04.2	0.0
M26K	Nabesna, AK	2.51	73	IAML		13 45 39.0	
RIDG	comp=E,102nm,0.5s Independent Ri	2.52	36	Pn	Pn	13 45 05.5	+1.4
RIDG	comp=N,72nm,1.1s			IAML		13 45 44.3	
RIDG	comp=E,77nm,1.0s			IAML		13 45 44.7	
BERG	Berg Lake	2.55	120		Pn	13 45 03.3	-1.4
BERG	Berg Lake	2.55	120		Pn	13 45 03.3	-1.4
RDSO	Redoubt South	2.58	242		Pn	13 45 05.1	0.0
RSO	Redoubt South	2.58	242		Pn	13 45 05.7	+0.5
L26K	Log Cabin Wild	2.58	58		Pn	13 45 06.3	+1.2
L26K	comp=E,93nm,0.5s			IAML		13 45 50.0	
L26K	comp=N,67nm,0.5s			IAML		13 46 00.3	
RDWB	Redoubt West	2.60	243		Pn	13 45 05.4	-0.1
NCT	North Crescent	2.60	245		Pn	13 45 04.7	-0.8
RED	Redoubt Volcan	2.61	241		Pn	13 45 05.4	-0.1
BPAW	Bear Paw Mtn.	2.70	332		Pn	13 45 05.6	-1.0
CNPM	China Poot	2.70	216		Pn	13 45 05.4	-1.3
CNPM	comp=E,95nm,0.7s			IAML		13 45 48.6	
CNPM	comp=N,80nm,0.9s			IAML		13 45 51.9	
HOM	Homer	2.71	221		Pn	13 45 07.0	+0.2
HDA	Harding Lake	2.73	11		Pn	13 45 07.4	+0.3
HDA	comp=N,100nm,0.5s			IAML		13 45 49.5	
HDA	comp=E,100nm,0.5s			IAML		13 45 50.7	
NEA2	Nenana	2.89	352		Pn	13 45 08.1	-1.2
CCB	Clear Creek Bu	2.92	3	Pn	Pn	13 45 11.5	+1.8
CCB	comp=E,51nm,0.5s			IAML		13 45 54.1	
M19K	Big River Lodg	2.96	276		Pn	13 45 11.3	+1.0
M19K	comp=N,49nm,0.5s			IAML		13 45 54.5	
M19K	comp=E,51nm,0.4s			IAML		13 45 54.6	
M27K	Edge Creek, AK	3.02	75	Pn	Pn	13 45 08.6	-2.6
SNH	Sunshine Point	3.03	119	Pn	Pn	13 45 07.0	-4.2
ILAR	Eielson Array	3.09	10		Pn	13 45 11.8	-0.3
J25K	Salcha River,	3.14	22		Pn	13 45 12.7	-0.1
COLA	College	3.14	2	Pn	Pn	13 45 12.8	+0.1
K20K	Telida	3.18	303	Pn	Pn	13 45 14.0	+0.7
K20K	comp=E,49nm,0.8s			IAML		13 46 04.2	
BARN	Barnard Glacie	3.20	100	Pn	Pn	13 45 15.9	+2.3
BARN	comp=N,42nm,0.6s			IAML		13 46 04.1	
BARN	comp=E,46nm,0.7s			IAML		13 46 06.8	
L19K	White Mountain	3.20	281	Pn	Pn	13 45 13.5	0.0
N19K	Bonanza Creek	3.20	256		Pn	13 45 14.0	+0.4
MDM	Murphy Dome	3.23	359		Pn	13 45 15.9	+1.9
MDM	comp=N,46nm,1.0s			IAML		13 45 58.2	
MDM	comp=E,40nm,0.9s			IAML		13 46 01.8	
BCAR	Beaver Creek A	3.25	63	Pn	Pn	13 45 13.6	-0.7
POKR	Poker Plat Res	3.40	5	Pn	Pn	13 45 15.1	-1.2
POKR	Poker Plat Res	3.40	5		Pn	13 45 16.8	+0.5
POKR	comp=E,35nm,0.9s			IAML		13 46 11.3	
POKR	comp=N,37nm,0.8s			IAML		13 46 11.5	
I23K	Minto, Yukon-K	3.46	352		Pn	13 45 16.6	-0.5
I23K	comp=N,41nm,1.0s			IAML		13 46 11.5	
I23K	comp=E,31nm,0.9s			IAML		13 46 17.6	
J26L	Joseph Creek	3.46	35		Pn	13 45 18.3	+1.1
J26L	comp=N,30nm,1.1s			IAML		13 46 14.7	
MLY	Manley	3.50	342		Pn	13 45 16.3	-1.4
YUK3	Moose Creek	3.66	86		Pn	13 45 19.6	-0.4
J20K	Nowinta River	3.67	314	Pn	Pn	13 45 20.8	+0.9
J20K	comp=N,43nm,0.5s			IAML		13 46 19.6	
I21K	Tanana	3.85	335		Pn	13 45 21.8	-0.6
TTA	Tatalina	3.85	291		Pn	13 45 23.4	+0.8
TTA	comp=N,26nm,0.9s			IAML		13 46 25.0	
TTA	comp=E,23nm,1.2s			IAML		13 46 30.4	
N18K	Kilae Creek	3.89	257		Pn	13 45 24.0	+0.9
N18K	comp=E,22nm,3.9s			IAML		13 47 03.5	
PRP	Porcupine Dome	3.96	16		Pn	13 45 22.7	-1.4
PRP	comp=N,38nm,0.6s			IAML		13 46 15.5	
PRP	comp=E,26nm,0.9s			IAML		13 46 26.3	
L18K	Granite Mounta	4.06	280	Pn	Pn	13 45 25.5	+0.2
L18K	comp=N,32nm,1.9s			IAML		13 46 37.6	
L18K	comp=E,24nm,3.8s			IAML		13 46 39.9	
L18K	Granite Mounta baz=147	4.06	280	P	Pn	13 45 25.7	+0.4
J19K	Poorman	4.10	307		Pn	13 45 26.5	+0.7
J19K	comp=E,32nm,0.8s			IAML		13 46 31.7	
J19K	comp=N,30nm,1.0s			IAML		13 46 34.3	
H24K	Noodor Dome	4.11	2		Pn	13 45 27.7	+1.6
H24K	comp=E,17nm,1.1s			IAML		13 46 35.0	
I26K	Coal Creek Min	4.22	30		Pn	13 45 28.8	+1.4
J18K	Innoko River	4.32	297		Pn	13 45 29.6	+0.7
J18K	comp=E,15nm,1.8s			IAML		13 46 49.2	
EGAK	Eagle	4.39	43	Pn	Pn	13 45 30.8	+1.0
EGAK	comp=E,28nm,0.8s			IAML		13 46 54.1	
H21K	Melozitna Rive	4.44	334		Pn	13 45 30.4	-0.1
N17K	Nushagak Hills	4.55	258	Pn	Pn	13 45 30.4	-1.6
N17K	comp=E,19nm,3.5s			IAML		13 46 49.6	
N17K	comp=N,15nm,5.0s			IAML		13 48 14.8	
M29M	Somme Creek	4.61	77		Pn	13 45 34.2	+1.3
M29M	comp=N,15nm,4.4s			IAML		13 47 17.3	
M29M	comp=E,12nm,4.2s			IAML		13 47 36.7	
DAWY	Dawson	4.63	56	Pn	Pn	13 45 32.3	-1.0
K17K	Iditarod	4.85	286	Pn	Pn	13 45 36.8	+0.6
K17K	comp=N,18nm,3.0s			IAML		13 47 13.6	
IMAR	Indian Mountai	4.92	332	Pn	Pn	13 45 36.4	-0.7
FYU	Fort Yukon	5.01	13	Pn	Pn	13 45 39.4	+1.1
G23K	Bananza Creek	5.05	352	Pn	Pn	13 45 41.1	+2.1
G23K	comp=E,9.2nm,4.6s			IAML		13 46 16.4	
G23K	comp=N,8.9nm,4.0s			IAML		13 46 43.3	
HYT	Haines Junctio	5.22	95	Pn	Pn	13 45 37.1	-4.3
I28M	Miner Creek	5.22	41		Pn	13 45 41.6	+0.3
I28M	comp=N,12nm,4.9s			IAML		13 46 35.3	
I28M	comp=E,13nm,1.0s			IAML		13 47 13.0	
N30M	Aishikik Lake	5.29	88	Pn	Pn	13 45 42.5	+0.1
N30M	comp=N,15nm,4.2s			IAML		13 46 40.1	
N30M	comp=E,15nm,4.3s			IAML		13 49 08.2	
H19K	Roundabout Mou	5.30	319	Pn	Pn	13 45 42.5	+0.2
H19K	comp=E,14nm,3.4s			IAML		13 47 13.1	
H19K	comp=N,13nm,3.0s			IAML		13 47 19.5	
K29M	Barlow Dome	5.31	62	Pn	Pn	13 45 43.9	+1.2
K29M	comp=E,11nm,3.7s			IAML		13 46 25.8	
K29M	comp=N,14nm,4.2s			IAML		13 48 54.3	
G21K	Allakaket	5.33	336	Pn	Pn	13 45 43.5	+0.7
G21K	comp=N,11nm,3.9s			IAML		13 47 15.2	
G21K	comp=E,9.5nm,5.0s			IAML		13 49 13.3	
L16K	Owhat River	5.38	275	Pn	Pn	13 45 44.6	+1.1
I29M	Ogilvie Camp,	5.70	46	Pn	Pn	13 45 49.2	+1.3
H18K	Honhosa River	5.71	311		Pn	13 45 49.2	+1.2
F24K	Squaw Lake	5.80	1	Pn	Pn	13 45 51.1	+1.8
O30N	Mendenhall	5.90	94	Pn	Pn	13 45 48.0	-2.6
G19K	Purcell Mounta	5.91	322	Pn	Pn	13 45 50.3	-0.5
J16K	Anvik River	5.97	290	Pn	Pn	13 45 52.0	+0.5
J30M	Hart River	6.06	57	Pn	Pn	13 45 54.9	+2.0
H17K	Granite Mounta	6.18	306	Pn	Pn	13 45 55.5	+1.0
H29M	Whitestone	6.22	40	Pn	Pn	13 45 55.9	+1.0
G18K	Tagagawik	6.24	316		Pn	13 45 55.4	+0.2
F20K	Avaraart Lake	6.25	332		Pn	13 45 55.5	+0.1
I30M	Mount Dempster	6.32	51	Pn	Pn	13 45 56.2	-0.2
K15K	Wolf Creek Mou	6.32	281	Pn	Pn	13 45 57.5	+1.1
E25K	Arctic Village	6.50	9	Pn	Pn	13 46 00.2	+1.4
F19K	Shaleruckik Mo	6.60	325	Pn	Pn	13 45 59.0	-1.2
E19K	Redstone River	6.93	330		Pn	13 46 04.1	-0.6
N32M	Quiet Lake	7.25	88	Pn	Pn	13 46 08.8	-0.3

*NEIC **27** 13:52:59.8±2.2,5°.52S±0°.06×147°.54E±0°.09,h116km±14km, mb4.2/13,Error ellipse: s-maj=13.5km s-min=5.7km az=117.0*
*IDC **27** 13:53:01.3±3.5,5°.70S×147°.78E,h144km±41km,mb3.5/5, mbtmp4.0/7,Error ellipse: s-maj=60.2km s-min=28.2km az=120.0*

ISC 27 13:52:57.3±0.7,5°.54S±0°.07×147°.62E±0°.10,h100km,n27, σ1°59/27,mb3.8/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.48	356	Pn	Pn	13 53 52.8	+3.2
PMG	Port Moresby	3.87	187	Pn	Pn	13 53 58.1	+3.4
PMG	Port Moresby 13nm,0.3s,baz=332,slow=6.3,SNR=24	3.87	187	P	Pn	13 53 59.9	+5.2
PMG				S	Sn	13 54 41.4	+2.3
RABL	Rabaul	4.72	74	Pn	Pn	13 54 05.3	-1.0
COEN	Coen	9.44	207	Pn	Pn	13 55 10.2	-0.3
FAKI	Fak Fak	15.54	279	Pn	Pn	13 56 27.5	-3.6
FAKI	comp=E,34nm,1.1s			IAmb	IAmb	13 56 39.2	
SAUI	Saumlaki	16.38	261	Pn	Pn	13 56 39.5	-2.0
MTN	Manton Dam	17.81	245	P	P	13 56 57.0	-1.2
MTN	comp=Z,19nm,1.1s			IAmb	IAmb	13 57 08.5	
WB0	Warramunga Arr	19.12	221	P	P	13 57 13.6	+1.0
WB0	comp=Z,9.5nm,0.8s			IAmb	IAmb	13 57 14.3	
WR0	Warramunga Arr	19.16	220	P	P	13 57 14.0	+0.9
WR0	comp=Z,17nm,0.9s			IAmb	IAmb	13 57 14.8	
WRAB	Tennant Creek	19.27	221	P	P	13 57 14.9	+0.7
WRAB	comp=Z,20nm,0.6s			IAmb	IAmb	13 57 15.8	
WB2	Warramunga Arr	19.27	221	P	P	13 57 15.3	+1.0
WRA	Warramunga Arr	19.28	221	P	P	13 57 14.0	-0.3
WRA	Warramunga Arr	19.28	221	P	P	13 57 15.2	+0.9
AS31	comp=Z,14nm,0.5s,baz=49,slow=12,SNR=118 Alice Springs	22.34	215		P	13 57 47.9	+0.7
AS31	comp=Z,3.5nm,0.8s			IAmb	IAmb	13 57 51.5	
ASAR	Alice Springs	22.34	215	P	P	13 57 47.4	+0.2
ASAR	Alice Springs	22.34	215	P	P	13 57 47.8	+0.7
FITZ	comp=Z,6.7nm,0.5s,baz=51,slow=8.4,SNR=448 comp=Z,6.7nm,0.5s Fitzroy Crossi	24.83	238	P	P	13 58 10.1	-0.4
ARMA	Armidale	25.03	172	P	P	13 58 13.1	+0.8
BBOO	Buckleboo	29.19	200	P	P	13 58 49.4	0.0
BBOO	comp=Z,2.8nm,1.0s			IAmb	IAmb	13 58 54.5	
PSA00	Pilbara Seismi	31.26	237	P	P	13 59 05.8	-2.1
SONM	Songino Array	64.31	330	P	P	14 03 23.4	+1.1
MKAR	comp=Z,1.9nm,1.2s,baz=171,slow=6.5,SNR=3.1 comp=Z,1.9nm,1.2s Makanchi Array	77.54	320	P	P	14 04 42.0	-0.2
ZALV	comp=Z,0.1nm,0.3s,baz=98,slow=8.0,SNR=6.8 comp=Z,0.1nm,0.3s Zalesovo Beam	78.95	328	P	P	14 04 49.4	-0.4
QSPA	comp=Z,0.3nm,0.4s,baz=102,slow=3.6,SNR=2.0 comp=Z,0.3nm,0.4s South Pole Qui	84.42	180	P	P	14 05 19.4	+0.8
ILAR	Eielson Array	84.82	23	P	P	14 05 19.9	-0.6
TORD	comp=Z,0.7nm,0.8s,baz=257,slow=4.8,SNR=8.1 comp=Z,0.7nm,0.8s Torodi Ar. Bea	145.57	285	PKPbc	PKPdf	14 12 23.7	-1.2
	comp=Z,0.4nm,0.5s,baz=54,slow=4.8,SNR=4.0						

*TEH **27** 13:55:31.5,33°.71N×45°.62E,h12km,ML2.7*
*ISN **27** 13:55:32.5±0.4,33°.70N×45°.76E,h25km,ML2.7*

ISC 27 13:55:31.1±2.1,33°.69N±0°.06×45°.6E±0°.1,h13km,n7, σ0°52/8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.48	97	Pg	Pb	13 55 41.8	+0.3
IBDR	Badra	0.62	157	ePg	Pb	13 55 44.0	+0.1
IBDR	baz=346			eSg	Sb	13 55 53.0	+0.4
IBDR				AML	AML	13 56 15.3	
IGHG	comp=N,68nm,0.4s Ghaleghazi	1.01	50	Pg	Pn	13 55 50.8	-0.3
IDHR	Dehrash	1.19	31	Pg	Pg	13 55 54.2	+0.2
KCHF	Cheshme Sefid,	1.31	63	Pg	Pg	13 55 56.9	+0.6
ILIN	Lien	1.65	41	Pg	Pg	13 56 02.3	-0.5
IKFM	Kafar-mosalman	1.85	94	Pn	Pg	13 56 06.1	-0.6

*NEIC **27** 14:10:09.8±1.8,56°.2N±0°.2×148°.6W±0°.1,h20km±10km, ML2.9/22,ML2.9(AEIC),Error ellipse: s-maj=23.4km s-min=10.3km az=171.0*
*AEIC **27** 14:10:13.1±1.8,56°.21N±0°.09×148°.6W±0°.1,h10km±9km, Error ellipse: s-maj=13.9km s-min=10.2km az=150.0*
*IDC **27** 14:10:35.8±4.4,55°.97N×148°.78W,h0km,mb3.2/1, mbtmp3.0/3,ML2.6/2,MS2.5/1,Error ellipse: s-maj=77.5km s-min=51.0km az=161.0*

ISC 27 14:10:07.8±3.2,56°.1N±0°.2×148°.55W±0°.07,h10km,n38, σ0°77/34,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.77	309	Pn	Pn	14 10 52.5	+0.3
KDAK	Kodiak Island comp=Z,82nm,21.0s,baz=115,slow=38	2.77	309	LR	LR	14 12 19.8	
OHAK	Old Harbor	2.84	295	Pn	Pn	14 10 53.0	-0.2
SYI	Shuyak Island	3.26	322		Pn	14 10 59.1	+0.3
SYI	comp=E,18nm,1.4s			IAML		14 12 04.5	
Q23K	Middleton Isla	3.53	19	Pn	Pn	14 11 01.7	-0.9
MID	Middleton Isla	3.53	19	Pn	Pn	14 11 01.7	-1.0
CNPM	China Poot	3.71	338	Pn	Pn	14 11 04.2	-1.0
CNPM	comp=N,16nm,1.4s			IAML		14 11 52.1	
CNPM	comp=E,22nm,1.5s			IAML		14 12 12.8	
BRLK	Bradley Lake	3.87	342	Pn	Pn	14 11 06.2	-1.1
BRLK	comp=N,18nm,1.4s			IAML		14 12 14.6	
BRLK	comp=E,14nm,1.2s			IAML		14 12 18.1	
HIN	Hinchinbrook I	4.43	13	Pn	Pn	14 11 14.2	-0.9
HIN	comp=N,38nm,1.5s			IAML		14 11 55.7	
P18K	Big Mountain,	4.86	315	Pn	Pn	14 11 20.1	-0.8
P18K	comp=N,8.4nm,1.4s			IAML		14 12 44.4	
P18K	comp=E,8.0nm,1.4s			IAML		14 13 02.9	
RSO	Redoubt South	4.89	335	Pn	Pn	14 11 22.5	+0.9
RC01	Rabbit Creek A	5.03	353	Pn	Pn	14 11 23.9	+0.7
RC01	comp=E,12nm,1.3s			IAML		14 12 45.2	
RC01	comp=N,12nm,1.0s			IAML		14 12 48.0	
O18K	Koktuh Hills	5.16	319	Pn	Pn	14 11 24.9	-0.2
O18K	comp=E,6.6nm,1.3s			IAML		14 12 21.1	
O18K	comp=N,8.7nm,1.5s			IAML		14 13 42.8	
KLU	Klutina	5.57	13	Pn	Pn	14 11 29.8	-0.9
N19K	Bonanza Creek	5.65	329	Pn	Pn	14 11 31.1	-0.8
GHO	Glory Hole Cre	5.68	358	Pn	Pn	14 11 32.6	+0.3
SML	Sawmill	5.71	1	Pn	Pn	14 11 32.6	-0.1
SCM	Sheep Creek Mo	5.78	6	Pn	Pn	14 11 34.2	+0.7
VRDI	Verde Repeater	5.78	25	Pn	Pn	14 11 34.1	+0.4
N25K	Chitina, Valde	5.88	19	Pn	Pn	14 11 35.5	+0.5
GLB	Gilahina Butte	5.89	23	Pn	Pn	14 11 36.0	+0.9
N18K	Kilae Creek	5.99	323	Pn	Pn	14 11 35.9	-0.5
BCPM	Bancas Point	6.10	47	Pn	Pn	14 11 39.1	+1.1
BARN	Barnard Glacie	6.13	33	Pn	Pn	14 11 38.5	0.0
M24K	Tolsona, Glenn	6.14	11	Pn	Pn	14 11 40.0	+1.5
CTGM	Chitina Glacie	6.16	35	Pn	Pn	14 11 38.1	-0.8
LOGN	Logan Glacier	6.17	37	Pn	Pn	14 11 38.6	-0.4
O16K	Kokwok River B	6.17	308	Pn	Pn	14 11 39.1	+0.2
P29M	Windy Craggy	6.76	54	Pn	Pn	14 11 47.7	+0.7
DHY	Denali Highway	7.01	4	Pn	Pn	14 11 51.1	+0.5
M17K	Holitna River	7.03	323	Pn	Pn	14 11 50.0	-0.6
M16K	Timber Creek	7.33	316	Pn	Pn	14 11 54.6	-0.3
BCAR	Beaver Creek A	7.77	23	Pn	Pn	14 12 00.6	-0.3
N30M	Aishikik Lake	8.01	43	Pn	Pn	14 12 05.1	+1.0
M29M	Somme Creek	8.18	35	Pn	Pn	14 12 07.7	+1.2
ILAR	Eielson Array comp=N,0.1nm,0.3s,baz=189,slow=13,SNR=4.1	8.73	5	Pn	Pg	14 12 42.5	-12
YKA	comp=N,0.4nm,0.8s Yellowknife Ar baz=267,slow=12,SNR=3.5	18.30	56	P	P	14 14 52.6	+31
MKAR	comp=N,0.2nm,0.7s Makanchi Array comp=N,0.1nm,0.4s,baz=42,slow=7.4,SNR=1.7 comp=N,0.1nm,0.4s	68.97	325	P	P	14 21 42.8	+30

*NEIC **27** 14:27:41.7±1.8,55°.8N±0°.1×149°.24W±0°.02,h10km±2km, ML3.5/30,ML3.3(AEIC),Error ellipse: s-maj=17.9km s-min=3.0km az=184.0*
*AEIC **27** 14:27:44.0±2.6,55°.6N±0°.1×149°.1W±0°.1,h10km±8km, Error ellipse: s-maj=16.7km s-min=10.6km az=181.0*

ISC 27 14:27:42.7±2.3,55°.7N±0°.1×149°.15W±0°.06,h35km,n107,

σ0$99/108, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.77**	**306**		**Pn**	**14 28 24.3**	**-0.1**
OHAK					**Sn**	**14 28 55.3**	**-1.3**
OHAK	**Old Harbor** baz=124	**2.77**	**306**	P	**Pn**	**14 28 24.3**	**-0.1**
OHAK	baz=124			S	**Sn**	**14 28 55.3**	**-1.3**
KDAK	**Kodiak Island**	**2.83**	**319**		**Pn**	**14 28 25.5**	**+0.2**
KDAK					**Sn**	**14 28 57.3**	**-0.8**
SII	**Sitkinak Islan**	**2.95**	**289**		**Pn**	**14 28 26.6**	**-0.4**
SII	**Sitkinak Islan** comp=N,172nm,2.8s	**2.95**	**289**	IAML		14 30 18.4	
SII	**Sitkinak Islan** baz=107	**2.95**	**289**	P	**Pn**	**14 28 26.6**	**-0.4**
SYI	**Shuyak Island**	**3.42**	**330**		**Pn**	**14 28 33.8**	**+0.3**
SYI	**Shuyak Island**	**3.42**	**330**		**Sn**	**14 29 12.7**	**-0.1**
SYI	**Shuyak Island** comp=E,56nm,2.4s	**3.42**	**330**	IAML		14 29 07.2	
SYI	comp=N,42nm,2.9s			IAML		14 29 09.2	
Q20K	**Shuyak Island** baz=148	**3.42**	**330**	P	**Pn**	**14 28 33.8**	**+0.3**
Q20K	baz=148			S	**Sn**	**14 29 12.7**	**-0.1**
CNPM	**China Poot**	**4.01**	**345**		**Pn**	**14 28 41.7**	**+0.1**
CNPM	**China Poot** comp=E,39nm,3.0s	**4.01**	**345**	IAML		14 29 21.0	
CNPM	comp=N,45nm,2.7s			IAML		14 29 28.0	
CNPM	**China Poot**	**4.01**	**345**		**Sn**	**14 29 26.6**	**-0.7**
MID	**Middleton Isla**	**4.04**	**21**		**Pn**	**14 28 42.4**	**+0.4**
Q23K	**Middleton Isla**	**4.04**	**21**		**Sn**	**14 28 42.3**	**+0.3**
Q23K	**Middleton Isla** baz=202	**4.04**	**21**	P	**Pn**	**14 28 42.3**	**+0.3**
Q19K	**Cape Douglas,**	**4.06**	**325**		**Pn**	**14 28 43.0**	**+0.7**
Q19K	**Cape Douglas,** comp=N,78nm,1.8s	**4.06**	**325**	IAML		14 29 38.3	
Q19K	comp=E,136nm,2.0s			IAML		14 31 17.3	
Q19K	**Cape Douglas,** baz=142	**4.06**	**325**	P	**Pn**	**14 28 43.0**	**+0.7**
KAHG	**Katmai Hook Gl**	**4.07**	**316**		**Pn**	**14 28 43.3**	**+0.8**
BRSE	**Bradley Lake S**	**4.16**	**349**		**Pn**	**14 28 43.5**	**0.0**
BRSE					**Sn**	**14 29 30.2**	**-0.7**
BRSE	**Bradley Lake S** baz=168	**4.16**	**349**	P	**Pn**	**14 28 43.5**	**0.0**
BRSE	baz=168			S	**Sn**	**14 29 30.2**	**-0.7**
BRLK	**Bradley Lake**	**4.20**	**348**		**Sn**	**14 29 31.5**	**-0.4**
BRLK	**Bradley Lake** comp=N,36nm,2.9s	**4.20**	**348**	IAML		14 30 38.1	
P23K	**Montague Islan**	**4.42**	**11**		**Pn**	**14 28 47.1**	**-0.1**
P23K					**Sn**	**14 29 35.7**	**-1.7**
P23K	**Montague Islan** baz=192	**4.42**	**11**	P	**Pn**	**14 28 47.1**	**-0.1**
P23K	baz=192			S	**Sn**	**14 29 35.7**	**-1.7**
CNTC	**Contact Creek**	**4.50**	**308**		**Pn**	**14 28 49.2**	**+0.8**
Q17K	**Contact Creek** baz=123	**4.50**	**308**	P	**Pn**	**14 28 49.2**	**+0.8**
HIN	**Hinchinbrook I**	**4.93**	**15**		**Pn**	**14 28 54.6**	**+0.5**
HIN					**Sn**	**14 29 48.3**	**-1.6**
HIN	**Hinchinbrook I** comp=E,86nm,2.3s	**4.93**	**15**	IAML		14 29 49.6	
HIN	comp=N,90nm,2.3s			IAML		14 30 58.8	
KAIM	**Kayak Island**	**4.95**	**29**		**Pn**	**14 28 54.7**	**+0.3**
KAIM	**Kayak Island** baz=212	**4.95**	**29**	P	**Pn**	**14 28 54.7**	**+0.3**
P18K	**Big Mountain,**	**4.95**	**321**		**Pn**	**14 28 54.7**	**+0.2**
P18K	**Big Mountain,** comp=N,22nm,3.5s	**4.95**	**321**	IAML		14 31 03.6	
P18K	comp=E,22nm,3.2s			IAML		14 31 28.7	
P18K	**Big Mountain,** baz=136	**4.95**	**321**	P	**Pn**	**14 28 54.7**	**+0.2**
EYAK	**Cordova Ski Ar**	**5.20**	**19**		**Pn**	**14 28 58.4**	**+0.6**
EYAK	**Cordova Ski Ar** baz=201	**5.20**	**19**	P	**Pn**	**14 28 58.4**	**+0.6**
RAGM	**Ragged Mountai**	**5.28**	**25**	Pn	**Pn**	**14 29 00.0**	**+1.0**
RAGM	comp=N,85nm,2.6s			IAML		14 30 02.6	
RAGM	comp=E,80nm,2.5s			IAML		14 30 35.7	
P17K	**Kvichak River**	**5.28**	**315**		**Pn**	**14 28 59.4**	**+0.5**
P17K	**Kvichak River** baz=129	**5.28**	**315**	P	**Pn**	**14 28 59.4**	**+0.5**
O18K	**Koktuh Hills**	**5.29**	**325**		**Pn**	**14 28 59.0**	**-0.1**
O18K	**Koktuh Hills** comp=N,23nm,3.5s	**5.29**	**325**	IAML		14 30 07.1	
O18K	comp=E,21nm,2.6s			IAML		14 31 37.6	
O18K	**Koktuh Hills** baz=140	**5.29**	**325**	P	**Pn**	**14 28 59.0**	**-0.1**
RC01	**Rabbit Creek A**	**5.43**	**357**	Pn	**Pn**	**14 29 00.4**	**-0.6**
RC01	comp=N,18nm,3.5s			IAML		14 29 40.6	
RC01	comp=E,25nm,2.9s			IAML		14 30 17.3	
SNH	**Sunshine Point**	**5.62**	**34**		**Pn**	**14 29 04.2**	**+0.6**
KNK	**Knik Glacier**	**5.76**	**3**	Pn	**Pn**	**14 29 05.4**	**-0.1**
BMRM	**Bremner River**	**5.81**	**22**		**Pn**	**14 29 06.9**	**+0.6**
BMRM	**Bremner River** baz=206	**5.81**	**22**	P	**Pn**	**14 29 06.9**	**+0.6**
P16K	**Nushagak River**	**5.84**	**309**		**Pn**	**14 29 07.7**	**+1.0**
P16K	**Nushagak River** baz=122	**5.84**	**309**	P	**Pn**	**14 29 07.7**	**+1.0**
SUA	**Susitna One**	**5.86**	**352**	Pn	**Pn**	**14 29 06.5**	**-0.5**
N19K	**Bonanza Creek**	**5.86**	**333**		**Pn**	**14 29 06.9**	**-0.2**
N19K	**Bonanza Creek** baz=149	**5.86**	**333**	P	**Pn**	**14 29 06.9**	**-0.2**
BARK	**Barkley Ridge**	**5.90**	**34**		**Pn**	**14 29 08.1**	**+0.5**
KLU	**Klutina**	**6.06**	**15**		**Pn**	**14 29 10.7**	**+0.9**
KLU	**Klutina** baz=197	**6.06**	**15**	P	**Pn**	**14 29 10.7**	**+0.9**
GHO	**Glory Hole Cre**	**6.11**	**1**		**Pn**	**14 29 11.9**	**+1.5**
N18K	**Kilae Creek**	**6.14**	**327**	Pn	**Pn**	**14 29 10.7**	**-0.2**
SML	**Sawmill**	**6.16**	**4**	Pn	**Pn**	**14 29 12.4**	**+1.4**
O16K	**Kokwok River B**	**6.20**	**313**	Pn	**Pn**	**14 29 12.1**	**+0.5**
VRDI	**Verde Repeater**	**6.31**	**26**		**Pn**	**14 29 13.5**	**+0.3**
KIAG	**Kiagna River**	**6.35**	**31**		**Pn**	**14 29 13.9**	**+0.1**
N25K	**Chitina, Valde**	**6.39**	**20**	Pn	**Pn**	**14 29 15.8**	**+1.5**
GLB	**Gilahina Butte**	**6.41**	**24**	Pn	**Pn**	**14 29 14.1**	**-0.5**
PCA	**Pinnacle**	**6.48**	**43**		**Pn**	**14 29 16.0**	**+0.5**
PINM	**Pinnacle** baz=230	**6.48**	**43**	P	**Pn**	**14 29 16.0**	**+0.5**
PNL	**Peninsula**	**6.58**	**49**		**Pn**	**14 29 17.1**	**+0.3**
PNL	**Peninsula** baz=236	**6.58**	**49**	P	**Pn**	**14 29 17.0**	**+0.3**
M24K	**Tolsona, Glenn**	**6.62**	**12**	Pn	**Pn**	**14 29 18.0**	**+0.5**
BCPM	**Bancas Point**	**6.64**	**46**	Pn	**Pn**	**14 29 19.2**	**+1.6**
BARN	**Barnard Glacie**	**6.67**	**33**		**Pn**	**14 29 19.4**	**+0.9**
CTGM	**Chitina Glacie**	**6.70**	**35**	Pn	**Pn**	**14 29 19.6**	**+1.0**
LOGN	**Logan Glacier**	**6.71**	**36**	Pn	**Pn**	**14 29 19.6**	**+0.9**
O15K	**Ungalikthiuk R**	**6.74**	**306**		**Pn**	**14 29 20.0**	**+1.0**
O15K	**Ungalikthiuk R** baz=117	**6.74**	**306**	P	**Pn**	**14 29 20.0**	**+1.0**
M18K	**Stony River**	**6.78**	**332**		**Pn**	**14 29 19.1**	**-0.5**
M18K	**Stony River** baz=146	**6.78**	**332**	P	**Pn**	**14 29 19.1**	**-0.5**
O29M	**Mount Kennedy**	**7.28**	**46**	Pn	**Pn**	**14 29 28.0**	**+1.6**
P29M	**Windy Craggy**	**7.28**	**52**		**Pn**	**14 29 26.3**	**-0.2**
P29M	**Windy Craggy** baz=241	**7.28**	**52**	P	**Pn**	**14 29 26.3**	**-0.2**
N15K	**Kwethluk River**	**7.35**	**312**		**Pn**	**14 29 28.4**	**+1.0**
N15K	**Kwethluk River** baz=123	**7.35**	**312**	P	**Pn**	**14 29 28.4**	**+1.0**
M16K	**Timber Creek**	**7.43**	**320**	Pn	**Pn**	**14 29 30.1**	**+1.7**
O14K	**Tigyukauivet M**	**7.45**	**304**	Pn	**Pn**	**14 29 30.0**	**+1.4**
S31K	**Pelican**	**7.45**	**67**		**Pn**	**14 29 27.0**	**-1.6**
S31K	**Pelican** baz=257	**7.45**	**67**	P	**Pn**	**14 29 27.0**	**-1.6**
DHY	**Denali Highway**	**7.47**	**6**	Pn	**Pn**	**14 29 31.1**	**+2.0**
M27K	**Edge Creek, AK**	**7.67**	**26**	Pn	**Pn**	**14 29 33.6**	**+1.7**
RND	**Reindeer**	**7.75**	**1**	Pn	**Pn**	**14 29 33.7**	**+0.9**
HYT	**Haines Junctio**	**8.01**	**45**	Pn	**Pn**	**14 29 37.9**	**+1.4**
L27K	**Beaver Creek,**	**8.28**	**24**	Pn	**Pn**	**14 29 40.2**	**+0.1**
BCAR	**Beaver Creek A**	**8.29**	**24**	Pn	**Pn**	**14 29 42.0**	**+1.6**
N30M	**Aishikik Lake**	**8.55**	**42**	Pn	**Pn**	**14 29 45.3**	**+1.5**
M29M	**Somme Creek**	**8.72**	**35**	Pn	**Pn**	**14 29 48.0**	**+1.7**
N31M	**Braeburn, Yuko**	**9.07**	**45**	Pn	**Pn**	**14 29 52.7**	**+1.7**
P32M	**Atlin**	**9.15**	**58**	Pn	**Pn**	**14 29 52.9**	**+0.8**
J26L	**Joseph Creek**	**9.27**	**15**	Pn	**Pn**	**14 29 56.0**	**+2.2**
L29M	**L29M**	**9.31**	**32**	Pn	**Pn**	**14 29 56.4**	**+2.1**
M30M	**Minto, Yukon**	**9.37**	**37**	Pn	**Pn**	**14 29 56.6**	**+1.6**
P33M	**Teslin, Yukon**	**9.78**	**56**	Pn	**Pn**	**14 30 01.6**	**+0.8**
M31M	**Drury Creek, Y**	**10.02**	**43**	Pn	**Pn**	**14 30 06.2**	**+2.2**
N32M	**Quiet Lake**	**10.04**	**50**	Pn	**Pn**	**14 30 06.0**	**+1.8**
K29M	**Barlow Dome**	**10.05**	**31**	Pn	**Pn**	**14 30 06.3**	**+1.9**
H21K	**Melozitna Rive**	**10.16**	**351**	Pn	**Pn**	**14 30 05.3**	**-0.5**
R33M	**Jennings River**	**10.45**	**62**	Pn	**Pn**	**14 30 10.1**	**+0.2**
FARO	**Faro, Yukon**	**10.45**	**45**	Pn	**Pn**	**14 30 10.2**	**+0.4**
J30M	**Hart River**	**10.94**	**30**	Pn	**Pn**	**14 30 18.1**	**+1.4**

IDC ***27*** *14:40:34.4±1.0, 16°.14N×84°.59W, h0km, mb4.3/12, mbtmp4.2/15, ML3.7/3, MS3.7/44, Error ellipse: s-maj=24.8km s-min=16.2km az=29.0*

NEIC ***27*** *14:40:36.0±2.2, 16°.00N±0°.06×84°.54W±0°.07, h10km±1km, mb4.7/147, Error ellipse: s-maj=12.3km s-min=9.5km az=286.0*

SNET ***27*** *14:40:38.3±1.2, 15°.85N×83°.80W, h35km±999km, ML5.2*

CATAC ***27*** *14:40:47.0±1.1, 16°.29N×85°.20W, h8km±39km, MB5.4, mb5.4, ML5.8*

ISC 27 14:40:35.8±0.3, 16°.05N±0°.03×84°.53W±0°.03, h10km, n450, σ1$32/427, **mb4.7**/57, **MS3.6**/38, **2D, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUSH	**Yuscaran**	**3.05**	**227**	*eP*	**Pb**	**14 41 30.5**	**+0.2**
YUSH				*eS*	**Sg**	**14 42 10.8**	**-3.1**
TGUH	**Tegucigalpa,Un**	**3.31**	**234**	Pn	**Pn**	**14 41 26.7**	**-1.0**
TGUH	**Tegucigalpa,Un**	**3.31**	**234**	*eP*	**Pb**	**14 41 34.4**	**-0.2**
TGUH				*eS*	**Sg**	**14 42 18.6**	**-3.5**
TGUH	**Tegucigalpa,Un**	**3.31**	**234**	*eP*	**Pb**	**14 41 34.9**	**+0.3**
TGUH				*eS*	**Sb**	**14 42 16.6**	**+1.5**
TGUH	comp=Z,4μm,0.8s			*i*		14 42 32.8	
MATN	**Matagalpa**	**3.38**	**204**		**Pn**	**14 41 27.3**	**-1.4**
BOAB	**BOACO BROADBAN**	**3.74**	**197**		**Pn**	**14 41 32.3**	**-1.3**
PRVC	**Isla de Provid**	**4.05**	**130**	*eP*	**Pn**	**14 41 36.7**	**-1.2**
PRVC				*eS*	**Sg**	**14 42 42.6**	**-3.3**
PRVC	comp=Z,508nm,0.6s			*i*		14 42 58.7	
AMPH	**Amapala**	**4.09**	**228**	*eP*	**Pb**	**14 41 44.5**	**-3.4**
ACON	**Acoyapa**	**4.10**	**189**		**Pn**	**14 41 37.5**	**-1.0**
ACON	**Acoyapa**	**4.10**	**189**	*eP*	**Pn**	**14 41 38.1**	**-0.5**
ACON				*eS*	**Sb**	**14 42 36.3**	**-1.5**
APQ2	**Apoyeque**	**4.20**	**205**	*i* P	**Pb**	**14 41 51.7**	**+1.9**
APQ2				*i* S	**Sb**	**14 42 42.3**	**+1.6**
APQ2	comp=Z,4μm,1.0s			IAML		14 43 01.8	
CNCH	**Conchagua**	**4.22**	**230**	*eP*	**Pb**	**14 41 47.6**	**-2.6**
CNCH	comp=Z,3μm,0.5s			IAML		14 42 53.5	
LCND	**La Caada**	**4.24**	**231**	*eP*	**Pb**	**14 41 47.5**	**-2.9**
LCND				*eS*	**Sb**	**14 42 41.8**	**0.0**
LCND	comp=Z,950nm,0.4s			IAML		14 43 03.3	
SAPS	**Ciudad Sandino**	**4.26**	**206**	*i* P	**Pb**	**14 41 52.1**	**+1.3**
SAPS				*i* S	**Sb**	**14 42 43.1**	**+0.7**
SAPS	comp=Z,4μm,1.0s			IAML		14 42 54.7	
MAS3	**Al N del Volca**	**4.30**	**202**	*i* P	**Pb**	**14 41 53.5**	**+1.9**
MAS3				*i* S	**Sb**	**14 42 44.7**	**+1.0**
MAS3	comp=Z,4μm,1.0s			IAML		14 42 52.5	
NANN	**Nandasmo**	**4.36**	**201**	*i* P	**Pb**	**14 41 54.2**	**+1.6**
NANN				*i* S	**Sb**	**14 42 46.8**	**+1.4**
NANN	comp=Z,69μm,1.0s			IAML		14 43 01.7	
CONN	**Concepcion**	**4.58**	**194**	*i* P	**Pb**	**14 41 58.7**	**+2.4**
CONN				*i* S	**Sb**	**14 42 54.3**	**+2.7**
CONN	comp=Z,41μm,1.0s			IAML		14 43 03.0	
MORN	**Al O del Volca**	**4.60**	**194**	*i* P	**Pb**	**14 41 58.5**	**+1.8**
MORN	comp=Z,8μm,1.0s			IAML		14 43 03.2	
JAPN	**Al SSO del Vol**	**4.63**	**194**	*i* P	**Pb**	**14 41 58.2**	**+1.1**
JAPN				*i* S	**Sb**	**14 42 56.0**	**+3.0**
JAPN	comp=Z,2μm,1.0s			IAML		14 43 11.8	
TEIG	**Tepich**	**5.48**	**320**	Pn	**Pn**	**14 41 57.0**	**-0.4**
TEIG	**Tepich**	**5.48**	**320**	LR	LR	14 44 10.4	
TEIG	**Tepich**	**5.48**	**320**	*eP*	**Pn**	**14 41 57.0**	**-0.4**
TEIG				*eS*	**Sn**	**14 42 57.1**	**-3.5**
TEIG	comp=Z,76nm,0.2s			*i*		14 43 05.7	
SOCE	**Pocosol**	**5.63**	**181**	*i* P	**Pb**	**14 42 13.9**	**-0.3**
SOCE	comp=Z,3μm,1.0s			IVmB_BB		14 42 40.2	
SOCE	comp=Z,310nm,0.7s			IAmb	IAmb	14 42 40.6	
SOCE	comp=Z,2μm,1.0s			*i* S	**Sb**	**14 43 23.7**	**+1.9**
SOCE				IAML		14 43 38.8	
ORTG	**Ortega, Santa**	**5.72**	**189**	*i* P	**Pb**	**14 42 11.3**	**-4.5**
ORTG	comp=Z,120nm,0.9s			IAmb	IAmb	14 42 18.8	
ORTG	comp=Z,1μm,1.0s			*i* S	**Sb**	**14 43 25.2**	**+0.7**
ORTG				IAML		14 43 31.8	
RIFO	**Rio Frio, Sara**	**5.72**	**174**	*i* P	**Pb**	**14 42 16.2**	**+0.4**
RIFO	comp=Z,6μm,1.0s			IVmB_BB		14 42 26.1	
RIFO	comp=Z,690nm,0.9s			IAmb	IAmb	14 42 27.1	
RIFO	comp=Z,4μm,1.0s			*i* S	**Sb**	**14 43 26.1**	**+1.6**
RIFO				IAML		14 43 43.4	
CPMI	**Catarata Coope**	**5.73**	**179**	*i* P	**Pb**	**14 42 16.9**	**+0.9**
CPMI	comp=Z,4μm,1.0s			IVmB_BB		14 42 28.5	
CPMI	comp=Z,510nm,0.8s			IAmb	IAmb	14 42 28.9	
CPMI	comp=Z,2μm,1.0s			*i* S	**Sb**	**14 43 26.9**	**+2.0**
CPMI				IAML		14 43 50.7	
JTS	**Las Juntas de**	**5.73**	**184**		**Pn**	**14 42 01.9**	**+0.8**
JTS	**Las Juntas de**	**5.73**	**184**	Pn	**Pn**	**14 42 00.2**	**-0.9**
JTS	comp=Z,2.6nm,0.3s,baz=336,slow=19,SNR=2.4 comp=Z,10nm,0.3s,baz=21,slow=19,SNR=1.7			Sn	**Sn**	**14 43 11.5**	**+4.5**
JTS	comp=Z,920nm,21.6s,baz=12,slow=40 comp=Z,5.2nm,0.3s			LR	LR	14 44 28.3	
JTS	**Las Juntas de**	**5.73**	**184**	*eP*	**Pb**	**14 42 17.2**	**+1.2**
JTS				*eS*	**Sb**	**14 43 26.3**	**+1.5**
HAYA	**Volcan Irazu**	**6.07**	**174**	*i* P	**Pb**	**14 42 21.9**	**+0.1**
HAYA	comp=Z,530nm,0.6s			IAmb	IAmb	14 42 35.5	
HAYA	comp=Z,6μm,1.0s			IVmB_BB		14 42 53.6	
HAYA	comp=Z,2μm,1.0s			IAML		14 43 43.8	
RIMA	**Rio Macho**	**6.27**	**174**	*i* P	**Pb**	**14 42 26.2**	**+0.9**
RIMA	comp=Z,130nm,1.1s			IAmb	IAmb	14 42 30.7	
RIMA	comp=Z,1μm,1.0s			IVmB_BB		14 42 32.7	
RIMA	comp=Z,590nm,1.0s			IAML		14 44 00.1	
LCR2	**La Lucha 2**	**6.29**	**175**	*i* P	**Pb**	**14 42 27.8**	**+2.3**
LCR2	comp=Z,2μm,1.0s			IVmB_BB		14 42 30.5	
LCR2	comp=Z,150nm,0.9s			IAmb	IAmb	14 42 30.9	
LCR2	comp=Z,810nm,1.0s			*i* S	**Sb**	**14 43 40.4**	**-0.5**
LCR2				IAML		14 43 56.9	
SOR	**Soroa**	**6.86**	**12**	Pn	**Pn**	**14 42 18.3**	**+1.8**
MTDJ	**Mount Denham**	**7.03**	**71**	Pn	**Pn**	**14 42 18.5**	**-0.4**
MTDJ	**Mount Denham**	**7.03**	**71**	*eP*	**Pn**	**14 42 18.7**	**-0.2**
MTDJ				*eS*	**Sn**	**14 43 36.0**	**-3.0**
BCIP	**Isla Barro Col**	**8.23**	**146**	Pn	**Pn**	**14 42 36.2**	**+0.9**
GTBY	**Guantanamo Bay**	**9.76**	**65**	Pn	**Pn**	**14 42 55.4**	**-0.9**
CMIG	**Matias Romero** comp=Z,0.5nm,0.3s,baz=113,slow=8.4,SNR=3.3 comp=Z,0.9nm,0.5s	**9.98**	**277**	Pn	**Pn**	**14 42 57.2**	**-2.2**
061Z	**Ochoppi**	**10.34**	**18**	Pn	**Pn**	**14 43 04.7**	**+0.5**
DWPF	**Disney Wildern** baz=194	**12.35**	**13**	P	**Pn**	**14 43 32.1**	**+0.5**
ROSC	**El Rosal** comp=Z,239nm,18.6s,baz=350,slow=42	**14.98**	**137**	LR	LR	14 51 03.9	
SDV	**Santo Domingo**	**15.31**	**116**	Pn	**Pn**	**14 44 12.2**	**-0.1**
SDV	comp=Z,17nm,0.7s			IAmb	IAmb	14 44 27.2	
SDV	**Santo Domingo** comp=Z,0.6nm,0.3s,baz=304,slow=5.9,SNR=4.1	**15.31**	**116**	Pn	**Pn**	**14 44 10.5**	**-1.8**
SDV	comp=Z,0.7nm,0.3s,baz=28,slow=20,SNR=1.4			Sn	**Sn**	**14 46 57.9**	**-4.3**
SDV	comp=Z,122nm,18.4s,baz=346,slow=44			LR	LR	14 51 47.8	
TIGA	**Tifton** baz=183	**15.35**	**3**	P	**Pn**	**14 44 13.9**	**+1.4**
MLPR	**Magueyes Islan**	**16.83**	**81**	Pn	**Pn**	**14 44 28.6**	**-3.0**
MLPR	comp=Z,47nm,1.1s			IAmb	IAmb	14 44 37.9	
LRAL	**Lakeview Retre**	**17.06**	**353**		**Pn**	**14 44 34.0**	**-0.5**
LRAL	**Lakeview Retre** baz=172	**17.06**	**353**	P	**Pn**	**14 44 36.1**	**+1.6**
GOGA	**Godfrey** baz=183	**17.32**	**3**	P	**P**	**14 44 39.6**	**+0.6**
NHSC	**New Hope** baz=194	**17.44**	**12**	P	**Pn**	**14 44 40.6**	**+1.5**
SJG	**San Juan** comp=Z,264nm,18.6s,baz=248,slow=37	**17.69**	**81**	LR	LR	14 51 37.4	
NATX	**Nacogdoches** baz=147	**18.16**	**331**	P	**P**	**14 44 49.7**	**+1.3**
ZAIG	**Zacatecas**	**18.27**	**294**		**P**	**14 44 51.2**	**+1.2**
833A	**Chaparral WMA,**	**18.38**	**314**		**P**	**14 44 50.6**	**-0.3**
833A	**Chaparral WMA,** baz=129	**18.38**	**314**	P	**P**	**14 44 51.3**	**+0.4**
JSC	**Jenkinsville**	**18.40**	**9**	P	**P**	**14 44 50.7**	**-0.3**
FPAL	**Fort Paine**	**18.44**	**357**	P	**P**	**14 44 52.0**	**+0.4**
X51A	**Calhoun**	**18.45**	**359**	P	**P**	**14 44 50.5**	**-1.0**
X51A	comp=Z,49nm,1.2s			IAmb	IAmb	14 44 54.5	
X48A	**Hartselle**	**18.47**	**353**	P	**P**	**14 44 49.4**	**-2.4**
OXF	**Oxford** baz=166	**18.91**	**347**	P	**Pn**	**14 44 58.5**	**+1.4**
237A	**Washetta, Mont**	**18.91**	**329**	P	**Pn**	**14 44 57.7**	**+0.5**
237A	comp=Z,50nm,1.2s			IAmb	IAmb	14 45 02.2	
435B	**Jarrell** baz=138	**18.91**	**323**	P	**Pn**	**14 44 57.8**	**+0.5**
BG3	**Lake Jocassee**	**18.92**	**4**		**Pn**	**14 44 58.9**	**+1.5**
CCAR	**Cane Creek**	**18.96**	**341**	P	**P**	**14 44 55.6**	**-1.5**
CCAR	comp=Z,72nm,1.4s			IAmb	IAmb	14 45 01.9	
HNDO	**Hondo**	**19.08**	**317**	P	**P**	**14 44 55.5**	**-3.1**
HNDO	comp=Z,29nm,1.0s			IAmb	IAmb	14 45 04.5	
W50A	**Signal Mountai**	**19.09**	**358**	P	**P**	**14 44 58.8**	**+0.1**
COHC	**Cochancay**	**19.12**	**164**	P	**P**	**14 44 56.7**	**-2.3**
PLAL	**Pickwick Lake**	**19.13**	**351**	P	**P**	**14 44 59.6**	**+0.6**
SWET	**Sewanee**	**19.13**	**356**	P	**P**	**14 44 58.2**	**-1.0**
SWET	comp=Z,56nm,1.1s			IAmb	IAmb	14 45 02.7	
WLAR	**White Oak Lake**	**19.20**	**338**	P	**P**	**14 45 00.0**	**+0.2**
WLAR	comp=Z,63nm,1.1s			IAmb	IAmb	14 45 04.2	
KMSC	**Kings Mountain** baz=189	**19.23**	**8**	P	**Pn**	**14 45 01.9**	**+0.7**
TKL	**Tuckaleechee C** comp=Z,0.3nm,0.3s,baz=102,slow=23,SNR=2.0	**19.55**	**2**	P	**P**	**14 45 00.8**	**-2.8**
TKL	comp=Z,245nm,18.6s,baz=188,slow=38 comp=Z,1.5nm,0.4s			LR	LR	14 52 49.1	
Z38A	**Mt. Pleasant**	**19.58**	**333**	P	**P**	**14 45 04.1**	**+0.2**
Z38A	comp=Z,55nm,1.4s			IAmb	IAmb	14 45 09.8	
V51A	**Loudon**	**19.68**	**0**	P	**P**	**14 45 05.2**	**+0.2**
V48A	**Smith Brothers**	**19.72**	**354**	P	**P**	**14 45 07.0**	**+1.5**
V48A	comp=Z,44nm,1.1s			IAmb	IAmb	14 45 10.1	
WHTX	**Lake Whitney,**	**19.75**	**326**	P	**P**	**14 45 05.7**	**-0.2**
WHTX	comp=Z,58nm,1.2s			IAmb	IAmb	14 45 09.8	
WHTX	**Lake Whitney,** baz=141,SNR=11	**19.75**	**326**	P	**Pn**	**14 45 08.0**	**+0.6**
X40A	**Basin Creek Fa**	**19.82**	**339**	P	**P**	**14 45 06.7**	**+0.1**
DRIO	**Del Rio**	**19.91**	**315**	P	**P**	**14 45 07.6**	**-0.1**
UALR	**University of**	**19.93**	**341**	P	**P**	**14 45 08.1**	**+0.4**
UALR	comp=Z,37nm,1.3s			IAmb	IAmb	14 45 15.1	
BOSC	**San Juan Bosco**	**19.98**	**162**	P	**P**	**14 45 08.8**	**+0.1**
FW13	**Cleburne**	**20.02**	**326**	P	**P**	**14 45 08.8**	**0.0**
FW13	comp=Z,38nm,0.9s			IAmb	IAmb	14 45 19.9	
JCT	**Junction City**	**20.05**	**318**	P	**P**	**14 45 09.3**	**+0.1**
JCT	**Junction City** baz=133	**20.05**	**318**	P	**P**	**14 45 10.5**	**+1.2**
BRDY	**Brady**	**20.11**	**322**	P	**P**	**14 45 09.7**	**-0.2**
BRDY	comp=Z,27nm,1.1s			IAmb	IAmb	14 45 16.7	
WVT	**Waverly** baz=171	**20.22**	**352**	P	Pn	14 45 13.0	+0.1
WHAR	**Wooly Hollow**	**20.39**	**342**	P	**P**	**14 45 12.7**	**-0.1**
TZTN	**Tazewell** baz=183	**20.44**	**2**	P	Pn	14 45 15.3	-0.1
FW07	**Weatherford**	**20.48**	**326**	P	**P**	**14 45 12.2**	**-1.7**
FW07	comp=Z,28nm,0.8s			IAmb	IAmb	14 45 17.4	
U56A	**King**	**20.55**	**10**	P	**P**	**14 45 13.6**	**-1.0**
FW06	**Azle**	**20.57**	**327**	P	**P**	**14 45 15.2**	**+0.4**
FW06	comp=Z,64nm,1.2s			IAmb	IAmb	14 45 21.6	
GLAT	**Glass**	**20.59**	**349**	P	**P**	**14 45 15.3**	**+0.4**
MCRA	**Macar, Loja**	**20.78**	**167**		**P**	**14 45 17.5**	**+0.3**
LCAR	**Lake Charles**	**20.80**	**345**	P	Pn	14 45 19.5	-0.2
LCAR	comp=Z,57nm,1.4s			IAmb	IAmb	14 45 23.9	
PLPT	**Palo Pinto**	**20.85**	**326**	P	**P**	**14 45 17.8**	**-0.1**
PLPT	comp=Z,50nm,1.0s			IAmb	IAmb	14 45 21.2	
FW03	**Perrin-Whitt E**	**20.89**	**327**	P	**P**	**14 45 17.9**	**-0.3**
FW03	comp=Z,59nm,1.1s			IAmb	IAmb	14 45 39.4	
T50A	**Nancy**	**20.89**	**359**	P	**P**	**14 45 20.2**	**+1.9**
T50A	comp=Z,22nm,0.8s			IAmb	IAmb	14 45 24.6	
V61A	**Roper**	**20.91**	**18**	P	**P**	**14 45 14.0**	**-4.4**
T47A	**Sharon Grove**	**20.99**	**354**	P	**P**	**14 45 19.9**	**+0.7**
T47A	comp=Z,46nm,0.9s			IAmb	IAmb	14 45 22.1	
U59A	**Littleton

comp=Z,5.8nm,0.9s,baz=129,slow=9.9,SNR=32
TXAR S **S** **14 49 33.4 -0.3**
comp=Z,0.1nm,0.4s,baz=136,slow=56,SNR=2.1
TXAR LR LR 14 55 13.8
comp=Z,32nm,19.8s,baz=210,slow=40
comp=Z,5.8nm,0.9s
TX31 Lajitas Ar. Si 22.02 310 P **P** **14 45 31.6 +1.1**
TX31 IAmb IAmb 14 45 35.4
comp=Z,26nm,1.2s
MGMO Mountain Grove 22.12 343 P **P** **14 45 31.4 -0.1**
MGMO IAmb IAmb 14 45 35.9
comp=Z,44nm,1.2s
R50A Paris 22.15 0 P **P** **14 45 32.5 +0.7**
R50A IAmb IAmb 14 45 36.6
comp=Z,48nm,1.1s
WCI Wyandotte Cave 22.15 356 P **P** **14 45 32.8 +1.0**
WCI Wyandotte Cave 22.15 356 P **P** **14 45 33.3 +1.5**
baz=176
R49A Shelbyville 22.17 359 P **P** **14 45 33.3 +1.4**
R49A IAmb IAmb 14 45 36.5
comp=Z,43nm,1.1s
S57A Dark Hollow, R 22.18 12 P **P** **14 45 31.9 -0.2**
S57A IAmb IAmb 14 45 36.6
comp=Z,18nm,0.9s
TUL3 Leonard 22.19 335 P **P** **14 45 33.3 +1.1**
TUL3 Leonard 22.19 335 P **P** **14 45 33.3 +1.1**
baz=150
APMT Aspermont 22.24 324 P **P** **14 45 33.6 +0.8**
APMT IAmb IAmb 14 45 41.0
comp=Z,52nm,1.4s
FNO Franklin 22.34 331 P **P** **14 45 32.0 -1.8**
SN01 Snyder 1 22.36 321 P **P** **14 45 32.2 -2.0**
SN01 IAmb IAmb 14 45 35.9
comp=Z,28nm,0.9s
HPIG 22.42 302 P **P** **14 45 34.4 -0.6**
HPIG IAmb IAmb 14 45 43.4
comp=Z,21nm,1.2s
DEOK Depew 22.43 334 P **P** **14 45 35.5 +0.8**
R55A Marlinton 22.49 9 P **P** **14 45 34.3 -1.2**
R55A IAmb IAmb 14 45 40.3
comp=Z,58nm,1.4s
MNHN Monahans 22.55 316 P **P** **14 45 36.0 -0.1**
ALPN Alpine 22.58 313 P **P** **14 45 35.6 -0.9**
ALPN IAmb IAmb 14 45 42.0
comp=Z,31nm,1.4s
WMOK Wichita Mounta 22.59 328 **P** **14 45 36.8 +0.3**
WMOK IAmb IAmb 14 45 38.7
comp=Z,27nm,0.9s
WMOK Wichita Mounta 22.59 328 P **P** **14 45 37.4 +0.9**
baz=142
SSFO Shawnee State 22.59 3 P **P** **14 45 36.3 -0.3**
OK052 Battle Ridge R 22.68 333 P **P** **14 45 36.2 -1.2**
CCM Cathedral Cave 22.71 346 P **P** **14 45 38.8 +1.0**
CCM Cathedral Cave 22.71 346 P **P** **14 45 39.6 +1.8**
baz=163
OK033 Mehan 22.79 333 P **P** **14 45 37.3 -1.2**
QUOK Quay 22.79 334 P **P** **14 45 37.7 -1.0**
QUOK IAmb IAmb 14 45 40.9
comp=Z,36nm,0.9s
OK029 Liberty Lake 22.81 332 P **P** **14 45 39.3 +0.5**
OK029 IAmb IAmb 14 45 41.5
comp=Z,32nm,0.9s
OLIL Olney 22.82 353 P **P** **14 45 38.5 -0.4**
POST Post 22.87 321 P **P** **14 45 39.7 +0.2**
POST IAmb IAmb 14 45 47.4
comp=Z,23nm,0.9s
S39A Bolivar 22.92 342 P **P** **14 45 40.8 +0.9**
S39A IAmb IAmb 14 45 48.2
comp=Z,43nm,1.2s
BLO Bloomington 23.11 356 P **P** **14 45 40.2 -1.7**
OK051 E0350 and S346 23.13 334 P **P** **14 45 43.1 +1.0**
R40A Maddies Statio 23.19 344 P **P** **14 45 43.5 +0.8**
P49A Miami Univ. Ec 23.40 360 P **P** **14 45 46.5 +1.6**
baz=180
BLOK Blackwell 23.51 334 P **P** **14 45 45.0 -1.0**
BLOK IAmb IAmb 14 45 48.9
comp=Z,37nm,1.2s
P53A Whipple 23.52 6 P **P** **14 45 46.6 +0.6**
P53A IAmb IAmb 14 45 49.6
comp=Z,23nm,0.9s
P52A Corning 23.59 5 P **P** **14 45 48.5 +1.7**
baz=186
SMWD Samnorwood 23.63 326 P **P** **14 45 47.2 0.0**
VHRN Van Horn 23.77 312 P **P** **14 45 47.4 -1.3**
VHRN IAmb IAmb 14 45 51.1
comp=Z,23nm,1.1s
ATAH Atahualpa 23.82 165 LR LR 14 54 54.2
comp=Z,228nm,18.9s,baz=2.6,slow=36
MCWV Mont Chateau 23.88 9 P **P** **14 45 51.2 +1.7**
baz=191,SNR=6.5
P43A Skaggs, Pawnee 23.91 350 P **P** **14 45 48.2 -1.6**
P43A IAmb IAmb 14 45 52.7
comp=Z,35nm,1.1s
ELIS Ellis County 23.95 329 P **P** **14 45 49.0 -1.3**
OK032 Salt Plains WL 23.98 332 P **P** **14 45 49.5 -1.0**
O48B Farmland 24.13 359 P **P** **14 45 53.5 +1.6**
baz=179
ACSO Alum Creek Sta 24.14 3 P **P** **14 45 53.8 +1.8**
baz=184,SNR=5.0
SDMD Soldier's Deli 24.23 15 P **P** **14 45 51.3 -1.5**
SDMD IAmb IAmb 14 45 55.9
comp=Z,13nm,0.8s
AMTX Amarillo 24.26 324 P **P** **14 45 54.2 +0.9**
baz=137
MSTX Muleshoe 24.26 321 P **P** **14 45 53.4 +0.1**
baz=133,SNR=5.2
O44A Mansfield 24.26 353 P **P** **14 45 51.2 -1.8**
O53A New Philadelph 24.29 6 P **P** **14 45 54.5 +1.1**
baz=188
SFIN Lafayette 24.35 355 P **P** **14 45 55.0 +1.2**
baz=174
MNTX Cornudas Mount 24.56 313 P **P** **14 45 56.2 +0.3**
baz=125,SNR=13
HDIL Hopedale 24.77 351 P **P** **14 45 59.0 +1.3**
baz=169
SSPA Standing Stone 25.17 12 P **P** **14 45 59.6 -1.7**
SSPA IAmb IAmb 14 46 04.6
comp=Z,16nm,0.9s
SSPA Standing Stone 25.17 12 P **P** **14 46 02.7 +1.4**
baz=195
KSU1 Kansas State U 25.29 338 P **P** **14 46 03.5 +1.1**
baz=152
LPIG La Paz 25.48 292 LR LR 14 57 18.0
comp=Z,137nm,18.2s,baz=56,slow=40
M53A WI Miller and 25.52 7 P **P** **14 46 05.7 +1.2**
baz=189,SNR=5.5
ERPA Erie 26.27 8 P **P** **14 46 12.6 +1.3**
baz=190
121A Cookes Peak, D 26.72 312 P **P** **14 46 16.0 +0.3**
baz=123,SNR=8.5
BINY Binghamton 27.08 14 P **P** **14 46 20.2 +1.6**
baz=198
ANMO Albuquerque 27.21 318 P **P** **14 46 20.7 +0.7**
baz=128
JFWS Jewell Farm 27.22 351 P **P** **14 46 20.9 +1.1**
baz=168
T25A Trinidad 27.41 324 P **P** **14 46 22.6 +0.7**
baz=135
L61B Northampton 28.21 19 P **P** **14 46 30.8 +2.1**
baz=205
SDCO Great Sand Dun 28.46 323 P **P** **14 46 32.4 +1.1**
baz=134
HRV Adam Dziewonsk 28.62 20 P **P** **14 46 34.0 +1.6**
baz=207
TUC Tucson 28.80 309 P **P** **14 46 35.2 +1.0**
baz=118
NNA Nana 28.87 164 LR LR 14 57 58.6
comp=Z,80nm,18.8s,baz=340,slow=36
SADO Sadowa 28.99 8 LR LR 14 58 26.1
comp=Z,287nm,19.1s,baz=268,slow=37
OGNE Ogallala 29.08 332 P **P** **14 46 37.7 +1.2**
baz=144
Q24A Divide 29.12 326 P **P** **14 46 38.3 +1.1**
baz=136
S22A 4UR Ranch, Cre 29.23 322 P **P** **14 46 39.6 +1.3**
baz=132
W18A Petrified Fore 29.48 315 P **P** **14 46 42.0 +1.6**
baz=124
SPMN Marine on St. 29.91 348 P **P** **14 46 45.4 +1.6**
baz=164
ISCO Idaho Springs 29.97 326 P **P** **14 46 45.6 +0.9**
baz=136
LBNH Lisbon 30.07 18 P **P** **14 46 47.1 +1.9**
baz=205
214A Organ Pipe Nat 30.18 307 P **P** **14 46 47.2 +0.8**
baz=115

F36A Milaca 30.67 348 IAmb IAmb 14 46 52.3
comp=Z,8.9nm,1.0s
WUAZ Wupatki 30.83 314 P **P** **14 46 53.1 +0.9**
baz=122
ETMB Extrema 31.45 144 P **P** **14 46 56.1 -1.5**
ETMB IAmb IAmb 14 47 01.5
comp=Z,12nm,1.5s
O20A White River Ci 31.65 324 P **P** **14 47 00.5 +1.0**
baz=133
PKME Peaks-Kenny Pk 31.83 21 P **P** **14 47 02.6 +2.0**
baz=208
PDMCI Parker Dam,Lak 32.21 310 P **P** **14 47 05.0 +0.8**
baz=117
RSSD Black Hills 32.51 333 P **P** **14 47 08.1 +1.1**
baz=144
K22A Casper 32.52 329 P **P** **14 47 08.7 +1.6**
baz=138
SWSC Sam W. Stewart 32.89 307 P **P** **14 47 11.7 +1.5**
baz=113
IRM Iron Mountain 32.89 309 P **P** **14 47 11.1 +0.8**
baz=116
BELC Belle Mtn. Jos 33.47 308 P **P** **14 47 16.4 +1.0**
baz=115
AGMN Agassiz Nation 33.49 346 P **P** **14 47 17.2 +2.0**
baz=160
GMRC Granite Mounta 33.55 310 P **P** **14 47 17.6 +1.5**
baz=116
TPFO Pinon Flats 33.65 307 P **P** **14 47 17.7 +0.6**
baz=114
PFO Pinyon Flats O 33.66 307 P **P** **14 47 17.6 +0.5**
baz=114
PFO Pinyon Flats O 33.66 307 LR LR 15 03 20.4
comp=Z,53nm,19.2s,baz=149,slow=41
HEC Hector,Ludlow 34.07 309 P **P** **14 47 21.5 +1.0**
baz=115
BW06 Bolder Array 34.17 326 P **P** **14 47 22.7 +1.2**
baz=134
PDAR Pinedale Array 34.17 326 P **P** **14 47 19.8 -1.7**
comp=Z,1.6nm,0.9s,baz=134,slow=11,SNR=11
PDAR LR LR 15 03 13.0
comp=Z,94nm,21.5s,baz=114,slow=40
comp=Z,1.6nm,0.9s
DUG Dugway, Tooele 34.40 320 P **P** **14 47 24.4 +1.0**
baz=126
GSC Goldstone, Bar 34.62 310 P **P** **14 47 25.7 +0.4**
baz=116
BFSC Mount Baldy Ra 34.82 308 P **P** **14 47 27.4 +0.3**
baz=113
TPNV Topopah Spring 34.95 313 P **P** **14 47 29.2 +1.0**
baz=118,SNR=5.9
BGU Big Grassy Mou 34.96 321 IAmb IAmb 14 47 30.6
comp=Z,8.3nm,1.0s
FURC Furnace Creek, 35.17 312 P **P** **14 47 31.2 +1.3**
baz=116
R11B Troy Canyon, C 35.18 315 P **P** **14 47 31.2 +1.0**
baz=121
EDW2 Edwards Air Fo 35.33 308 P **P** **14 47 32.6 +1.2**
baz=114
ULM Lac du Bonnet 35.33 347 IAmb IAmb 14 47 31.6
comp=Z,20nm,1.4s
ULM Lac du Bonnet 35.33 347 P **P** **14 47 29.3 -1.8**
comp=Z,6.1nm,1.0s,baz=179,slow=7.6,SNR=6.0
ULM LR LR 15 04 28.5
comp=Z,51nm,18.2s,baz=311,slow=41
comp=Z,6.1nm,1.0s
LRMC Laurel Mtn Rad 35.34 309 P **P** **14 47 32.5 +0.9**
baz=115
MPMC Manual Prospec 35.44 311 P **P** **14 47 33.4 +0.8**
baz=116
RLMT Red Lodge 35.68 329 P **P** **14 47 36.5 +2.0**
baz=136
H17A Great Village 35.83 327 P **P** **14 47 37.3 +1.5**
baz=134
SNCC San Nicolas Is 35.91 305 P **P** **14 47 37.9 +1.6**
baz=110
CWC Cottonwood Cre 36.04 311 P **P** **14 47 37.8 +0.2**
baz=116
DGMT Dagmar 36.14 338 P **P** **14 47 38.5 +0.3**
baz=147
ELK Elko 36.23 319 LR LR 15 05 24.9
comp=Z,64nm,19.0s,baz=158,slow=41
NVAR Mina Array Bea 37.08 314 P **P** **14 47 47.1 +0.5**
comp=Z,4.5nm,0.9s,baz=121,slow=8.3,SNR=28
comp=Z,4.5nm,0.9s
BMN Battle Mountai 37.33 317 IAmb IAmb 14 47 51.2
comp=Z,14nm,1.0s
HLID Hailey 37.38 323 P **P** **14 47 50.5 +1.6**
baz=128,SNR=6.7
EGMT Eagleton 38.05 332 IAmb IAmb 14 47 56.8
comp=Z,23nm,1.3s
EGMT Eagleton 38.05 332 P **P** **14 47 56.0 +1.6**
baz=138,SNR=5.8
MFID Camas Ranch 38.11 322 IAmb IAmb 14 47 58.9
comp=Z,13nm,1.3s
MSO Missoula 39.21 328 P **P** **14 48 05.5 +1.3**
baz=132,SNR=6.3
SIV San Ignacio 39.36 143 LR LR 15 04 55.2
comp=Z,100nm,19.1s,baz=293,slow=37
F10A Beach Ranch, E 40.43 324 P **P** **14 48 14.9 +0.5**
F10A IAmb IAmb 14 48 15.9
comp=Z,15nm,1.0s
SCHQ Schefferville 41.06 16 P **P** **14 48 19.1 -0.2**
comp=Z,4.9nm,0.7s,baz=228,slow=5.2,SNR=5.9
SCHQ LR LR 15 05 43.1
comp=Z,200nm,19.2s,baz=225,slow=37
comp=Z,4.9nm,0.7s
LVC Limon Verde 41.35 158 LR LR 15 05 34.2
comp=Z,63nm,21.1s,baz=325,slow=36
YBH Yreka Blue Hor 41.59 316 LR LR 15 09 50.1
comp=Z,32nm,18.6s,baz=142,slow=42
NEW Newport 41.78 327 P **P** **14 48 26.4 +0.9**
baz=129
BDFB Brasilia 47.86 129 LR LR 15 11 07.6
comp=Z,46nm,21.0s,baz=295,slow=38
FRB Frobisher Bay 48.92 9 LR LR 15 10 36.2
comp=Z,310nm,18.9s,baz=191,slow=37
RPN Rapa Nui 49.21 210 LR LR 15 05 39.4
comp=Z,97nm,18.0s,baz=46,slow=31
CPUP Villa Florida 49.73 147 LR LR 15 12 27.6
comp=Z,57nm,20.2s,baz=297,slow=38
BBB Bella Bella 49.81 326 LR LR 15 12 30.2
comp=Z,49nm,20.2s,baz=162,slow=38
YKA Yellowknife Ar 50.98 343 P **P** **14 49 36.5 -0.9**
comp=Z,3.5nm,0.9s,baz=136,slow=7.7,SNR=49
YKA PcP **PcP** **14 50 53.4 -0.1**
comp=Z,0.6nm,0.7s,baz=141,slow=3.8,SNR=5.9
YKA LR LR 15 12 16.0
comp=Z,56nm,18.2s,baz=281,slow=37
comp=Z,3.5nm,0.9s
FLDN Fort Liard 52.33 337 P **P** **14 49 49.2 +1.6**
baz=130
KOTAN Kotaneelee Air 52.48 336 P **P** **14 49 50.1 +1.4**
baz=130,SNR=7.1
T35M Bob Quinn 53.32 331 P **P** **14 49 56.8 +1.8**
baz=121
DLBC Dease Lake 53.98 332 P **P** **14 50 02.2 +2.3**
baz=122,SNR=15
DLBC Dease Lake 53.98 332 LR LR 15 16 42.7
comp=Z,69nm,18.7s,baz=136,slow=40
S34M Telegraph Cree 54.20 331 P **P** **14 50 02.7 +1.3**
baz=121
WRGLY Wrigley 54.29 339 P **P** **14 50 03.1 +1.2**
baz=132,SNR=6.4
WTLY Watson Lake, Y 54.37 335 P **P** **14 50 04.1 +1.5**
baz=124,SNR=6.6
R33M Jennings River 54.90 333 P **P** **14 50 08.1 +1.5**
baz=122
Q32M Nakina River 55.25 332 P **P** **14 50 11.2 +2.0**
baz=120
SFJD Kangerlussuaq 55.51 15 LR LR 15 14 24.5
comp=Z,201nm,18.2s,baz=217,slow=37
P33M Teslin, Yukon 56.12 333 P **P** **14 50 16.6 +1.2**
P33M IAmb IAmb 14 50 17.6
comp=Z,8.5nm,1.1s
P33M Teslin, Yukon 56.12 333 P **P** **14 50 16.4 +1.1**
baz=120
P32M Atlin 56.21 332 P **P** **14 50 17.0 +1.1**
baz=119
R31K City Hall, Gus 56.59 331 P **P** **14 50 20.1 +1.5**
baz=116
N32M Quiet Lake 56.71 334 P **P** **14 50 20.7 +1.3**
baz=120
WHY Whitehorse 57.23 333 P **P** **14 50 24.3 +1.0**
baz=118
M31M Drury Creek, Y 57.78 335 P **P** **14 50 28.2 +1.3**
baz=120
O30N Mendenhall 57.81 333 P **P** **14 50 28.2 +1.0**
baz=117,SNR=5.7
P30M Million Dollar 57.91 332 P **P** **14 50 29.5 +1.5**
baz=116
P29M Windy Craggy 58.05 331 P **P** **14 50 30.3 +1.4**
baz=115
HYT Haines Junctio 58.46 333 P **P** **14 50 32.8 +1.0**
baz=116
N30M Aishikik Lake 58.56 333 P **P** **14 50 34.1 +1.6**
baz=117
O29M Mount Kennedy 58.72 332 P **P** **14 50 34.8 +1.2**
baz=114
YUK6 Outpost Mounta 58.89 333 P **P** **14 50 36.2 +1.2**
baz=115
RES Resolute Bay 58.93 357 IAmb IAmb 14 50 35.5
comp=Z,6.6nm,0.8s
RES Resolute Bay 58.93 357 LR LR 15 16 10.7
comp=Z,60nm,19.3s,baz=18,slow=36
M30M Minto, Yukon 58.94 335 P **P** **14 50 35.7 +0.6**
M30M Minto, Yukon 58.94 335 P **P** **14 50 35.9 +0.8**
baz=118
MAYO Mayo, Yukon 59.06 336 P **P** **14 50 37.3 +1.4**
baz=119
YUK4 Talbot Arm 59.18 333 P **P** **14 50 38.3 +1.3**
baz=115
PINM Pinnacle 59.40 331 P **P** **14 50 39.9 +1.6**
baz=113
M29M Somme Creek 59.57 334 P **P** **14 50 41.3 +1.7**
baz=116
YUK8 Steele Glacier 59.65 333 P **P** **14 50 41.1 +0.8**
baz=114
J30M Hart River 59.71 337 P **P** **14 50 41.3 +0.8**
baz=119
L29M L29M 59.73 335 P **P** **14 50 41.4 +0.9**
baz=116
K29M Barlow Dome 59.82 336 P **P** **14 50 42.0 +0.8**
baz=117
I30M Mount Dempster 60.04 338 P **P** **14 50 43.5 +0.7**
baz=119
YUK3 Moose Creek 60.15 333 P **P** **14 50 43.9 +0.3**
baz=113
G31M Satah River 60.17 340 P **P** **14 50 44.3 +0.9**
baz=122
CTG Chitna Glacier 60.23 332 P **P** **14 50 45.3 +1.1**
baz=112
F31M Tsiigehtchic 60.28 340 P **P** **14 50 44.9 +0.8**
baz=123,SNR=6.0
BVCY Beaver Creek 60.58 334 P **P** **14 50 47.5 +1.2**
baz=113
DAWY Dawson 60.66 336 P **P** **14 50 47.3 +0.4**
baz=116
INK Inuvik 60.69 341 P **P** **14 50 48.1 +1.2**
baz=124,SNR=10
EPYK Eagle Plains 60.73 339 IAmb IAmb 14 50 49.2
comp=Z,8.7nm,1.0s
EPYK Eagle Plains 60.73 339 P **P** **14 50 47.9 +0.6**
baz=120,SNR=5.1
A36M Sachs Harbour 60.81 347 P **P** **14 50 47.8 +0.1**
baz=134,SNR=21
I29M Ogilvie Camp, 60.82 337 P **P** **14 50 48.9 +0.9**
baz=117
M27K Edge Creek, AK 60.99 333 P **P** **14 50 50.2 +0.9**
baz=112
F30M Barrier River 61.04 340 P **P** **14 50 50.5 +1.1**
baz=121
H29M Whitestone 61.24 338 P **P** **14 50 51.6 +0.8**
baz=118
L27K Beaver Creek, 61.24 334 P **P** **14 50 51.6 +0.7**
baz=113
G29M Pine Creek 61.45 339 P **P** **14 50 53.5 +1.3**
baz=118
I28M Miner Creek 61.47 337 P **P** **14 50 53.1 +0.7**
baz=116
M26K Nabesna, AK 61.49 333 P **P** **14 50 53.7 +1.1**
baz=111
K27K Chicken 61.72 335 P **P** **14 50 54.8 +0.8**
baz=113
BMRM Bremner River 61.72 331 P **P** **14 50 55.1 +1.0**
baz=109
L26K Log Cabin Wild 61.87 334 P **P** **14 50 56.4 +1.3**
baz=111
N25K Chitina, Valde 61.93 332 P **P** **14 50 56.5 +0.9**
baz=109
E29M Blow River 62.12 340 P **P** **14 50 58.0 +1.4**
baz=119,SNR=11
I27K Kandik River 62.17 337 P **P** **14 50 58.3 +1.2**
baz=114,SNR=8.2
H27K Steamboat Moun 62.40 337 P **P** **14 50 59.9 +1.3**
baz=114
F28M Old Crow 62.41 339 P **P** **14 51 00.0 +1.4**
baz=117,SNR=29
SUMG Summit 62.43 14 P **P** **14 50 59.3 +0.2**
HARP HAARP 62.44 333 P **P** **14 51 00.2 +1.3**
baz=109
SCRK Sand Creek 62.48 335 P **P** **14 51 00.5 +1.2**
baz=111
KLU Klutina 62.49 332 P **P** **14 51 00.7 +1.4**
baz=108
J26L Joseph Creek 62.50 335 P **P** **14 51 00.8 +1.4**
baz=112
I26K Coal Creek Min 62.64 336 P **P** **14 51 01.3 +1.1**
baz=112
E28M Babbage River 62.75 340 P **P** **14 51 02.2 +1.3**
baz=118
RIDG Independent Ri 62.76 334 P **P** **14 51 01.9 +0.9**
baz=110,SNR=8.2
PAX Paxson 62.76 333 P **P** **14 51 01.9 +0.7**
baz=109,SNR=5.5
M24K Tolsona, Glenn 62.80 332 P **P** **14 51 02.7 +1.3**
baz=108
D28M Stokes Point 62.84 341 P **P** **14 51 03.1 +1.7**
baz=119
K24K Donnelly Dome 63.17 334 P **P** **14 51 04.9 +1.1**
baz=109
J25K Salcha River, 63.27 335 P **P** **14 51 05.5 +1.0**
baz=110,SNR=17
D27M Malcolm River 63.50 341 P **P** **14 51 07.1 +1.1**
baz=116
G26K Porcupine Rive 63.51 338 P **P** **14 51 07.4 +1.5**
baz=113
WAT6 Susitna Watana 63.63 333 P **P** **14 51 07.7 +0.7**
baz=107
PRP Porcupine Dome 63.64 336 P **P** **14 51 07.7 +0.7**
baz=110
HDA Harding Lake 63.85 335 P **P** **14 51 09.2 +1.0**
baz=108,SNR=8.4
F26K Sheenjek River 63.93 338 P **P** **14 51 09.7 +1.0**
baz=113
IL31 63.94 335 P **P** **14 51 07.5 -1.2**
ILAR Eielson Array 63.94 335 P **P** **14 51 08.7 0.0**
comp=Z,6.5nm,0.8s,baz=116,slow=4.8,SNR=74
ILAR LR LR 15 20 47.4
comp=Z,37nm,21.0s,baz=108,slow=38
comp=Z,6.5nm,0.8s
WAT1 Susitna Watana 64.06 333 P **P** **14 51 11.0 +1.3**
baz=106
POKR Poker Plat Res 64.27 335 P **P** **14 51 11.7 +0.7**
baz=108
BORG Borgarnes 64.27 25 LR LR 15 15 32.4
comp=Z,24nm,21.6s,baz=252,slow=33
CCB Clear Creek Bu 64.27 335 P **P** **14 51 10.8 -0.2**
CCB IAmb IAmb 14 51 12.6
comp=Z,5.9nm,0.9s
G25K Bearman Lake 64.30 337 P **P** **14 51 12.7 +1.6**
baz=110
COLA College 64.36 335 P **P** **14 51 12.7 +1.1**
baz=108
F25K Christian Rive 64.42 338 P **P** **14 51 13.8 +1.9**
baz=111
MCK McKinley 64.48 334 P **P** **14 51 13.7 +1.3**
baz=106,SNR=5.3
E25K Arctic Village 64.59 339 P **P** **14 51 14.7 +1.6**
baz=111,SNR=11
H24K Noodor Dome 64.67 336 P **P** **14 51 15.1 +1.5**
baz=108
SUA Susitna One 64.72 331 P **P** **14 51 14.6 +0.5**
baz=103
NEA2 Nenana 64.78 334 P **P** **14 51 15.2 +0.9**
baz=106
KDAK Kodiak Island 64.89 327 LR LR 15 22 12.6
comp=Z,21nm,18.2s,baz=111,slow=39
TRF Thorofare Moun 64.99 333 P **P** **14 51 16.9 +1.0**
TRF Thorofare Moun 64.99 333 P **P** **14 51 16.6 +0.7**
baz=105
I23K Minto, Yukon-K 65.06 335 P **P** **14 51 17.5 +1.5**
baz=106,SNR=12
SKT Skwentna 65.20 331 P **P** **14 51 18.3 +1.2**
baz=103
D25K Kavik River 65.30 340 P **P** **14 51 19.4 +1.8**
baz=111
O20K Slope Mountain 65.32 329 P **P** **14 51 19.3 +1.3**

baz=101
N20K Mount Spurr 65.35 330 P **P** **14 51 18.8 +0.6**
baz=102
BPAW Bear Paw Mtn. 65.45 334 P **P** **14 51 19.4 +0.6**
baz=104
MLY Manley 65.59 335 P **P** **14 51 20.6 +1.0**
baz=105,SNR=8.6
G23K Bananza Creek 65.76 337 P **P** **14 51 22.1 +1.5**
baz=106
CAST Castle Rocks 65.77 333 P **P** **14 51 21.3 +0.5**
baz=103
COLD Coldfoot 65.97 337 P **P** **14 51 23.4 +1.4**
baz=106,SNR=7.9
CHUM Lake Minchumin 65.97 333 P **P** **14 51 22.8 +0.8**
baz=103
E23K Chandalar 66.00 338 P **P** **14 51 23.9 +1.7**
baz=107
D24K Happy Valley 66.06 339 P **P** **14 51 23.2 +0.7**
baz=109,SNR=7.4
H22K Ishtalitna Cre 66.06 336 P **P** **14 51 23.6 +1.0**
baz=105
I21K Tanana 66.13 335 P **P** **14 51 24.0 +0.9**
baz=104,SNR=5.4
C24K Franklin Bluff 66.20 340 P **P** **14 51 24.8 +1.4**
baz=109
N19K Bonanza Creek 66.36 330 P **P** **14 51 24.9 +0.2**
baz=100
L20K Farewell, AK 66.38 332 P **P** **14 51 25.2 +0.4**
baz=101
G22K Bettles 66.38 337 P **P** **14 51 25.8 +1.2**
baz=105
H21K Melozitna Rive 66.58 335 P **P** **14 51 26.7 +0.8**
baz=103
K20K Telida 66.63 333 P **P** **14 51 26.5 +0.3**
baz=101
D23K Nanushuk River 66.64 339 P **P** **14 51 27.7 +1.4**
baz=107
E22K Anaktuvuk Pass 66.81 338 P **P** **14 51 28.0 +0.5**
baz=105
J20K Nowinta River 66.82 333 P **P** **14 51 28.2 +0.8**
baz=103
G21K Allakaket 67.05 336 P **P** **14 51 30.6 +1.7**
baz=103
I20K Naaghedeneel 67.08 334 P **P** **14 51 30.2 +1.1**
baz=101
P17K Kvichak River 67.10 328 P **P** **14 51 30.3 +1.0**
baz=97
F21K Alatna River 67.20 337 P **P** **14 51 31.2 +1.3**
baz=103
D22K Ayikyak River 67.31 339 P **P** **14 51 31.7 +1.2**
baz=105
H20K Anotleneega Mo 67.39 335 P **P** **14 51 31.3 +0.2**
baz=101
TTA Tatalina 67.42 332 P **P** **14 51 31.2 -0.2**
baz=99
J19K Poorman 67.42 333 P **P** **14 51 31.7 +0.4**
baz=100
L18K Granite Mounta 67.62 331 P **P** **14 51 34.1 +1.5**
baz=98
N17K Nushagak Hills 67.64 329 P **P** **14 51 34.3 +1.6**
baz=97
J18K Innoko River 67.82 332 P **P** **14 51 33.6 -0.2**
baz=99
B22K Teshekpuk Lake 67.94 340 P **P** **14 51 35.6 +1.2**
baz=105
F20K Avaraart Lake 68.03 336 P **P** **14 51 36.2 +1.2**
baz=101
H19K Roundabout Mou 68.04 335 P **P** **14 51 36.0 +0.9**
baz=100
GCSA Galena City Sc 68.09 334 P **P** **14 51 35.4 0.0**
baz=99
C21K Knifeblade Rid 68.11 339 P **P** **14 51 36.0 +0.4**
baz=103
L17K Donlin 68.36 331 P **P** **14 51 37.3 +0.1**
baz=97
G19K Purcell Mounta 68.40 335 P **P** **14 51 38.5 +1.1**
baz=99
E20K Nigu River 68.43 338 P **P** **14 51 39.1 +1.5**
baz=101,SNR=13
D20K Etivluk River 68.67 338 P **P** **14 51 39.8 +0.6**
baz=101
E19K Redstone River 68.67 337 lAmb lAmb 14 51 41.0
comp=Z,3.3nm,0.8s
E19K Redstone River 68.67 337 P **P** **14 51 40.4 +1.2**
baz=100,SNR=5.5
H18K Honhosa River 68.77 334 P **P** **14 51 40.7 +0.9**
baz=98
F19K Shaleruckik Mo 68.78 336 P **P** **14 51 40.9 +1.1**
baz=99
G18K Tagagawik 69.00 335 P **P** **14 51 42.1 +0.9**
baz=98
B20K Meade River 69.11 339 P **P** **14 51 42.8 +1.1**
baz=101
D19K Kuna River 69.18 338 P **P** **14 51 43.3 +1.1**
baz=99
M15K Kasigluk River 69.37 329 P **P** **14 51 43.7 +0.2**
baz=94
H17K Granite Mounta 69.40 334 P **P** **14 51 44.7 +1.0**
baz=96
F18K Selawik 69.49 336 P **P** **14 51 45.1 +1.0**
baz=97
J16K Anvik River 69.54 332 P **P** **14 51 45.4 +0.9**
baz=95
G17K Kiwalik Mounta 69.77 334 P **P** **14 51 47.1 +1.2**
baz=96
C19K Lookout Ridge 69.80 338 P **P** **14 51 47.4 +1.3**
baz=98
E18K Tukpahlearik C 69.96 336 P **P** **14 51 47.4 +0.4**
baz=97
F17K Baldwin Pennin 70.11 335 P **P** **14 51 48.9 +1.0**
baz=96
C18K Utukok River 70.32 338 P **P** **14 51 50.7 +1.4**
baz=96
H16K Elim 70.36 333 P **P** **14 51 50.9 +1.4**
baz=94
JMIC Jan Mayen 70.39 20 LR LR 15 22 52.5
comp=Z,26nm,19.2s,baz=246,slow=36
E17K Hotham Inlet 70.39 336 P **P** **14 51 50.6 +0.8**
baz=95
A19K Wainwright 70.46 339 P **P** **14 51 51.3 +1.3**
baz=97
G16K Koyuk River 70.47 334 P **P** **14 51 51.4 +1.2**
baz=94
B18K Kokolik River 70.61 338 P **P** **14 51 52.1 +1.1**
baz=96
FALS False Pass 70.66 323 P **P** **14 51 53.1 +1.6**
baz=90
M13K Dall Lake 70.67 329 P **P** **14 51 53.0 +1.5**
baz=92
C17K DeLong Mountai 71.03 338 P **P** **14 51 54.5 +0.9**
baz=94
G15K Niukluk 71.15 334 P **P** **14 51 55.5 +1.1**
baz=93
F15K North Star Dit 71.44 335 P **P** **14 51 57.6 +1.4**
baz=92
ANM Nome 71.71 333 P **P** **14 51 58.5 +0.7**
baz=91
C16K Lisburne Hills 71.82 337 P **P** **14 51 59.2 +0.9**
baz=92
F14K Arctic Creek 72.13 334 P **P** **14 52 01.8 +1.6**
baz=91
PPT2 Papeete2 72.28 245 *e*LR LR 15 14 01.0
comp=Z,68nm,22.2s
ESDC Sonseca Array 72.76 53 P **P** **14 52 06.2 +1.6**
ESDC lAmb lAmb 14 52 06.9
comp=Z,5.1nm,1.0s
ESDC Sonseca Array 72.76 53 P **P** **14 52 05.3 +0.7**
comp=Z,4.4nm,0.8s,baz=287,slow=5.4,SNR=21
comp=Z,4.4nm,0.8s
TNA Tin City 72.80 334 P **P** **14 52 05.7 +1.5**
baz=89
MDT Midelt 73.15 60 LR LR 15 16 54.0
comp=Z,61nm,20.0s,baz=325,slow=30
SPITS Spitsbergen Ar 76.63 12 LR LR 15 26 53.3
comp=Z,116nm,20.0s,baz=240,slow=36
DBIC Dimbokro 78.29 86 LR LR 15 28 19.3
comp=Z,24nm,18.1s,baz=248,slow=37
NOA NORSAR Array B 78.86 30 P **P** **14 52 39.4 +0.4**
comp=Z,1.0nm,0.8s,baz=284,slow=5.5,SNR=4.2
NOA LR LR 15 24 26.3
comp=Z,41nm,20.2s,baz=275,slow=33
comp=Z,1.0nm,0.8s
DAVOX Davos/Dischmat 81.44 44 LR LR 15 22 59.4
comp=Z,74nm,19.8s,baz=263,slow=31
ARCES ARCESS Array B 81.88 19 P **P** **14 52 54.8 -0.3**
comp=Z,3.8nm,0.9s,baz=308,slow=4.4,SNR=4.2
comp=Z,3.8nm,0.9s
CLL Collm 82.26 39 *i* P **P** **14 52 57.7 +0.3**
TORD Torodi Ar. Bea 82.89 78 LR LR 15 28 04.9
comp=Z,34nm,19.2s,baz=118,slow=34
GERES GERESS Array B 83.38 41 P **P** **14 53 03.9 +0.5**
comp=Z,0.3nm,0.5s,baz=320,slow=3.5,SNR=5.1
GERES LR LR 15 25 06.1
comp=Z,73nm,19.4s,baz=282,slow=32
comp=Z,0.3nm,0.5s
VRAC Vranov 85.05 40 LR LR 15 26 30.7
comp=Z,74nm,19.7s,baz=286,slow=32
FINES FINESS Array B 85.51 27 P **P** **14 53 13.1 -0.7**
comp=Z,3.5nm,0.6s,baz=252,slow=3.0,SNR=16
comp=Z,3.5nm,0.6s
TIXI Tiksi 89.64 350 P **P** **14 53 33.2 -0.3**
TIXI lAmb lAmb 14 53 34.2
comp=Z,2.9nm,0.8s
TIXI Tiksi 89.64 350 LR LR 15 37 18.1
comp=Z,25nm,19.0s,baz=14,slow=38
AKASG Malin Array Be 91.97 36 LR LR 15 33 20.9
comp=Z,62nm,19.0s,baz=286,slow=34
KIRV Kirov 96.63 22 LR LR 15 38 14.9
comp=Z,40nm,18.7s,baz=347,slow=36
YAK Yakutsk 97.62 344 LR LR 15 40 02.8
comp=Z,24nm,21.9s,baz=326,slow=37
ELIB Princess Elisa 110.67 162 *d*PKiKP **PKiKP** **14 59 08.4 +0.1**
ELIB *d*PP **PP** **14 59 43.3 -1.7**
PZH PanZhiHua 137.27 352 PKP **PKPdf** **14 59 59.3 -1.1**
WRA Warramunga Arr 142.89 258 PKhKP PKPpre 15 00 04.9
comp=Z,0.7nm,0.9s,baz=93,slow=3.2,SNR=4.8
ASAR Alice Springs 143.15 252 PKhKP PKPpre 15 00 06.0
comp=Z,0.6nm,1.0s,baz=102,slow=3.3,SNR=5.7
CMAR Chiang Mai Arr 145.54 354 PKPbc **PKPdf** **15 00 14.5 -0.7**
comp=Z,4.7nm,0.9s,baz=336,slow=4.2,SNR=21

*NEIC **27** 14:43:37.0±2.5,3.42°S±0.06°×146.32°E±0.06°,h10km±2km, mb4.4/9,Error ellipse: s-maj=11.5km s-min=8.3km az=229.0*
*IDC **27** 14:43:38.3±1.5,3.34°S×145.66°E,h0km,mb3.6/8, mbtmp3.7/9,ML4.1/1,MS3.0/5,Error ellipse: s-maj=55.1km s-min=20.9km az=95.0*
ISC 27 14:43:37.5±0.6,3.41°S±0.08°×146.3°E±0.1°,h10km,n27, σ1s74/23,mb3.7/9,MS2.8/5,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**1.72**	**38**		**Pn**	**14 44 08.2**	**+0.6**
MANU				Sn	**Sn**	**14 44 27.7**	**-1.9**
COEN	**Coen**	**10.93**	**196**	Pn	**Pn**	**14 46 14.7**	**+0.7**
HNR	**Honiara**	**14.81**	**114**	Pn	**Pn**	**14 47 05.4**	**-1.8**
WB0	**Warramunga Arr**	**19.99**	**215**	P	**P**	**14 48 09.4**	**-0.9**
WB0				lAmb	lAmb	14 48 11.0	
comp=Z,24nm,1.1s							
WR0	**Warramunga Arr**	**20.06**	**214**	P	**P**	**14 48 10.7**	**-0.4**
WR0				lAmb	lAmb	14 48 11.9	
comp=Z,17nm,0.8s							
WRAB	**Tennant Creek**	**20.14**	**214**	P	**P**	**14 48 11.2**	**-0.8**
WRAB				lAmb	lAmb	14 48 12.8	
comp=Z,19nm,0.8s							
WB2	**Warramunga Arr**	**20.15**	**214**	P	**P**	**14 48 11.4**	**-0.7**
WB2				lAmb	lAmb	14 48 13.0	
comp=Z,20nm,0.8s							
WRA	**Warramunga Arr**	**20.16**	**214**	P	**P**	**14 48 09.9**	**-2.3**
WRA	**Warramunga Arr**	**20.16**	**214**	P	**P**	**14 48 11.5**	**-0.7**
comp=Z,0.6nm,0.3s,baz=39,slow=12,SNR=60							
comp=Z,12nm,0.7s							
DAV	**Davao City (W)**	**23.16**	**297**	LR	LR	14 56 47.9	
comp=Z,21nm,21.0s,baz=300,slow=35							
AS31	**Alice Springs**	**23.43**	**210**	P	**P**	**14 48 45.5**	**-1.6**
ASAR	**Alice Springs**	**23.43**	**210**	P	**P**	**14 48 45.1**	**-2.0**
ASAR	**Alice Springs**	**23.43**	**210**	P	**P**	**14 48 45.8**	**-1.4**
comp=Z,4.2nm,0.8s,baz=43,slow=7.8,SNR=51							
comp=Z,4.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**24.96**	**233**	P	**P**	**14 48 59.2**	**-2.2**
FITZ				lAmb	lAmb	14 49 01.6	
comp=Z,8.7nm,1.2s							
DZM	**Mont Dzumac**	**26.94**	**135**	LR	LR	14 58 37.4	
comp=Z,59nm,18.8s,baz=28,slow=33							
OUENC	**Ouen Island, N**	**27.45**	**135**	P	**P**	**14 49 24.1**	**+0.2**
STKA	**Stephens Creek**	**28.66**	**188**	P	**P**	**14 49 37.6**	**+3.0**
comp=Z,1.2nm,0.5s,baz=332,slow=7.1,SNR=3.9							
comp=Z,1.2nm,0.5s							
FORT	**Forrest**	**32.22**	**210**	P	**P**	**14 50 04.3**	**-1.7**
JOW	**Kunigami**	**34.75**	**331**	LR	LR	15 03 26.0	
comp=Z,18nm,19.4s,baz=173,slow=34							
KSRS	**Korea Array**	**44.10**	**339**	LR	LR	15 07 03.2	
comp=Z,9.6nm,21.1s,baz=275,slow=32							
CMAR	**Chiang Mai Arr**	**51.45**	**297**	P	**P**	**14 52 42.6**	**-0.8**
comp=Z,0.4nm,0.4s,baz=113,slow=4.3,SNR=1.4							
comp=Z,0.4nm,0.4s							
SONM	**Songino Array**	**61.83**	**331**	P	**P**	**14 53 57.5**	**+0.6**
comp=Z,0.3nm,0.7s,baz=102,slow=6.1,SNR=2.6							
comp=Z,0.3nm,0.7s							
PPT	**Papeete**	**64.31**	**108**	LR	LR	15 16 05.4	
comp=Z,37nm,21.3s,baz=48,slow=30							
MKAR	**Manchi Array**	**75.08**	**320**	P	**P**	**14 55 19.4**	**-0.3**
comp=Z,0.2nm,0.8s,baz=115,slow=6.8,SNR=2.8							
comp=Z,0.2nm,0.8s							
KURBB	**Kurchatov Arra**	**78.76**	**323**	P	**P**	**14 55 38.9**	**-1.5**
comp=Z,0.2nm,0.6s,baz=104,slow=6.4,SNR=1.6							
comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**83.39**	**23**	P	**P**	**14 56 08.7**	**+3.9**
comp=Z,0.3nm,0.8s,baz=261,slow=5.1,SNR=2.3							
comp=Z,0.3nm,0.8s							
BVAR	**Borovoye Array**	**84.29**	**324**	P	**P**	**14 56 08.9**	**-0.7**
comp=Z,0.4nm,0.8s,baz=104,slow=6.1,SNR=3.0							
comp=Z,0.4nm,0.8s							

*IDC **27** 14:47:12.7±9.0,31.66°S×179.32°W,h183km±85km, mb3.6/2, mbtmp4.1/3,Error ellipse: s-maj=81.4km s-min=42.7km az=8.0*
*WEL **27** 14:48:42.1,38°S±22°×17°8E±1°4,h45km±16km,M2.2/14, ML2.6/26,MLv2.2/14,Error ellipse: s-maj=0.0km s-min=0.0km az=162.4*
ISC 27 14:47:12.2±2.0,31.8°S±0.1°×179.0°W±0.3°,h200km,n48, σ1s29/48,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**6.54**	**203**	P	**Pn**	**14 48 49.0**	**+2.6**
PKGZ	**Pakihiroa**	**6.56**	**201**	P	**Pn**	**14 48 48.6**	**+1.8**
CNGZ	**Carnagh Statio**	**7.08**	**198**	P	**Pn**	**14 48 55.2**	**+1.8**
TKGZ	**Te Karaka**	**7.14**	**200**	P	**Pn**	**14 48 55.1**	**+1.0**
MWZ	**Matawai**	**7.15**	**203**	P	**Pn**	**14 48 55.4**	**+1.1**
URZ	**Urewera**	**7.22**	**205**	P	**Pn**	**14 48 55.7**	**+0.5**
3.3nm,0.3s,baz=10,slow=12,SNR=20							
URZ				S	**Sn**	**14 50 16.7**	**-0.4**
3.6nm,0.3s,baz=74,slow=18,SNR=1.8							
URZ	**Urewera**	**7.22**	**205**	P	**Pn**	**14 48 56.3**	**+1.1**
RAGZ	**Rawiri**	**7.33**	**203**	P	**Pn**	14 48 51.8	-4.9
RIGZ	**Rimuhau**	**7.41**	**200**	P	**Pn**	**14 48 58.3**	**+0.6**
MUGZ	**Murupara**	**7.54**	**206**	P	**Pn**	**14 49 00.1**	**+0.7**
RTZ	**Ruatahuna**	**7.59**	**205**	P	**Pn**	**14 48 59.9**	**-0.1**
SNGZ	**Shannon Statio**	**7.61**	**202**	P	**Pn**	**14 49 01.2**	**+0.9**
KNZ	**Kokohu**	**7.73**	**200**	P	**Pn**	**14 49 02.5**	**+0.6**
MHGZ	**Mahia Peninsul**	**7.79**	**198**	P	**Pn**	**14 49 03.6**	**+1.0**
RAHZ	**Arahi**	**7.82**	**203**	P	**Pn**	**14 49 03.6**	**+0.6**
MTHZ	**Maungataniwha**	**7.85**	**205**	P	**Pn**	**14 49 04.5**	**+1.1**
WHHZ	**Waihua**	**7.92**	**202**	P	**Pn**	**14 49 04.3**	**0.0**
ARHZ	**Aropaoanui**	**8.16**	**203**	P	**Pn**	**14 49 07.4**	**-0.1**
HIZ	**Hauiti**	**8.41**	**215**	P	Pn	14 49 16.8	+6.1
MCHZ	**McNeill Hill**	**8.43**	**204**	P	**Pn**	**14 49 11.5**	**+0.6**
KWHZ	**Kaweka Forest**	**8.50**	**205**	P	**Pn**	**14 49 11.7**	**-0.3**
TMVZ	**Te Maari**	**8.51**	**209**	P	**Pn**	**14 49 14.1**	**+2.0**
ETVZ	**East Tongariro**	**8.53**	**209**	P	**Pn**	**14 49 14.9**	**+2.5**
OTVZ	**Oturere**	**8.57**	**209**	P	**Pn**	**14 49 13.4**	**+0.4**
SNVZ	**South Ngauruho**	**8.60**	**209**	P	**Pn**	**14 49 13.6**	**+0.3**
KAHZ	**Kahuranaki**	**8.68**	**202**	P	**Pn**	**14 49 13.9**	**-0.4**
BHHZ	**Black Hill Sta**	**8.69**	**206**	P	**Pn**	**14 49 14.7**	**+0.3**
KRHZ	**Kereru**	**8.72**	**204**	P	**Pn**	**14 49 14.1**	**-0.6**
MTVZ	**Mangateitei**	**8.84**	**209**	P	**Pn**	**14 49 18.3**	**+2.0**
PXZ	**Pawanui**	**8.90**	**201**	P	**Pn**	**14 49 16.1**	**-1.0**
PNHZ	**Pukenui**	**9.02**	**204**	P	**Pn**	**14 49 17.4**	**-1.2**
WAZ	**Wanganui**	**9.35**	**210**	P	**Pn**	**14 49 25.5**	**+2.5**
DVHZ	**Dannevirke**	**9.37**	**203**	P	**Pn**	**14 49 24.6**	**+1.4**
POWZ	**Post Office Ro**	**9.59**	**205**	P	**Pn**	**14 49 26.5**	**+0.5**
PRWZ	**Pori Road**	**9.67**	**204**	P	**Pn**	**14 49 29.7**	**+2.7**
BFZ	**Birch Farm**	**9.69**	**202**	P	**Pn**	**14 49 26.8**	**-0.5**
TIWZ	**Tintock**	**9.89**	**203**	P	**Pn**	**14 49 28.5**	**-1.5**
HOWZ	**Holdsworth Sta**	**10.13**	**204**	P	**Pn**	**14 49 31.8**	**-1.3**
TMWZ	**Te Maipa**	**10.19**	**202**	P	**Pn**	**14 49 33.4**	**-0.4**
MTW	**Mount Morrison**	**10.37**	**204**	P	**Pn**	**14 49 35.1**	**-1.0**
DUWZ	**D'Urville Isla**	**10.67**	**210**	P	**Pn**	**14 49 39.9**	**-0.2**
BHW	**Baring Head**	**10.81**	**205**	P	**Pn**	**14 49 40.4**	**-1.4**
PLWZ	**Palliser**	**10.81**	**204**	P	**Pn**	**14 49 40.1**	**-1.7**
TCW	**Tory Channel**	**10.87**	**208**	P	**Pn**	**14 49 42.3**	**-0.2**
RPZ	**Rata Peaks**	**14.28**	**211**	P	**Pn**	**14 50 22.7**	**-2.8**
5.3nm,1.0s,baz=81,slow=16,SNR=1.7							
ASAR	**Alice Springs**	**42.22**	**269**	P	**P**	**14 54 45.5**	**-0.4**
0.8nm,0.3s,baz=108,slow=7.6,SNR=29							
ASAR				PcP	**PcP**	**14 56 37.1**	**+1.0**
0.1nm,0.5s,baz=126,slow=3.5,SNR=1.3							
0.8nm,0.3s							
WRA	**Warramunga Arr**	**43.34**	**274**	P	**P**	**14 54 54.4**	**-0.4**
1.1nm,0.3s,baz=111,slow=8.0,SNR=38							
1.1nm,0.3s							
FINES	**FINESS Array B**	**146.13**	**339**	PKPbc	**PKPab**	**15 06 29.0**	**-0.1**
0.7nm,0.3s,baz=60,slow=4.7,SNR=14							

*IDC **27** 14:55:00.8±1.2,38.03°N×136.12°E,h337km±14km,mb2.9/6, mbtmp3.6/9,Error ellipse: s-maj=27.4km s-min=15.7km az=64.0*
*JMA **27** 14:55:01.6±0.6,38°N±2°×13°6E±°,h341km±4km,MV3.2/36, OFF NOTO PENINSULA*
ISC 27 14:55:00.6±0.8,37.95N±0.08°×136.16E±0.08,h338km,n22, σ1s04/26,mb3.0/6,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**2.15**	**130**	P	**Pn**	**14 55 52.7**	**+0.7**
MJAR	**Matsushiro Arr**	**2.16**	**130**	P	**Pn**	**14 55 52.9**	**+0.9**
5.9nm,0.5s,baz=303,slow=11,SNR=47							
JNG	**Nsakai**	**2.19**	**134**	P	**Pn**	**14 55 53.2**	**+0.8**
JWT	**Wachi**	**2.73**	**193**	*e*P	**Pn**	**14 55 57.1**	**+0.4**
JWT				S	**S**	**14 56 40.5**	**-1.2**
JRY	**Ryogami san**	**2.92**	**130**	P	**Pn**	**14 55 58.9**	**+0.5**
JAG	**Ashikaga**	**3.04**	**119**	P	**Pn**	**14 55 59.8**	**+0.4**
JYN	**Shimob**	**3.11**	**141**	P	**Pn**	**14 56 01.1**	**+1.0**
JOTO	**OTAMA OYAMA**	**3.33**	**95**	P	**Pn**	**14 56 04.2**	**+2.0**
JOD2	**Odawara 2**	**3.57**	**138**	P	**Pn**	**14 56 05.1**	**+0.5**
JIE	**Ise**	**3.58**	**173**	*e*P	**Pn**	**14 56 05.8**	**+1.1**
JMM	**Marumori**	**3.67**	**90**	P	**Pn**	**14 56 06.4**	**+0.9**
JFK	**Kawauchi**	**3.79**	**97**	P	**Pn**	**14 56 07.2**	**+0.5**
JFK				S	**S**	**14 56 57.7**	**-2.3**
JRG	**Rokugo**	**3.79**	**66**	P	**Pn**	**14 56 07.9**	**+1.3**
JRG				*e*S	**S**	**14 57 00.5**	**+0.6**
JMK	**Ichinoseki**	**4.10**	**74**	P	**Pn**	**14 56 10.7**	**+0.8**
JMK				S	**S**	**14 57 04.0**	**-1.7**
KSRS	**Korea Array**	**6.55**	**268**	P	**Pn**	**14 56 37.9**	**+0.6**
1.8nm,0.8s,baz=86,slow=13,SNR=6.6							
ASAJ	**Asahikawa**	**7.85**	**36**	P	**Pn**	**14 56 52.2**	**-0.4**
14nm,0.4s,baz=225,slow=8.6,SNR=69							
MKAR	**Makanchi Array**	**40.07**	**300**	P	**P**	**15 02 03.2**	**-0.8**
0.2nm,0.7s,baz=81,slow=9.1,SNR=2.4							
0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**42.12**	**307**	P	**P**	**15 02 19.9**	**-0.6**
0.3nm,0.5s,baz=80,slow=7.3,SNR=5.8							
0.3nm,0.5s							
BVAR	**Borovoye Array**	**46.84**	**311**	P	**P**	**15 02 57.1**	**-0.3**
0.2nm,0.3s,baz=96,slow=8.2,SNR=5.3							
0.2nm,0.3s							
WRA	**Warramunga Arr**	**57.60**	**182**	P	**P**	**15 04 16.7**	**+0.5**
0.6nm,0.4s,baz=359,slow=7.4,SNR=6.6							
0.6nm,0.4s							
ASAR	**Alice Springs**	**61.32**	**182**	P	**P**	**15 04 42.3**	**+1.0**
0.6nm,1.0s,baz=359,slow=6.4,SNR=6.3							
0.6nm,1.0s							
FINES	**FINESS Array B**	**66.01**	**330**	P	**P**	**15 05 11.3**	**+0.1**
2.8nm,1.1s,baz=72,slow=8.9,SNR=1.6							
2.8nm,1.1s							

*IDC **27** 14:56:29.6±1.8,13.05°N×87.87W,h0km,mb3.4/5, mbtmp3.5/7,ML3.0/2,Error ellipse: s-maj=86.0km s-min=23.2km az=45.0*
*CATAC **27** 14:56:30.2±0.2,13.25°N×87.70W,h3km±2km,ML4.1*
*SNET **27** 14:56:30.5±1.1,13.23°N×87.73W,h3km,ML4.2*
ISC 27 14:56:30.2±1.0,13.17N±0.04°×87.75W±0.03,h7km±7km, n61,σ0s92/73,mb3.4/5,1D,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.14**	**322**	*e*P	**Pg**	**14 56 33.5**	**+0.4**
CNCH				*e*S	**Sg**	**14 56 35.3**	**+0.2**
CNCH	**Conchagua**	**0.14**	**322**	*i* P	**Pg**	**14 56 33.5**	**+0.4**
CNCH				IAML		14 56 41.4	
comp=Z,290μm,1.0s							
AMPH	**Amapala**	**0.14**	**36**	*e*P	**Pg**	**14 56 33.2**	**0.0**
AMPH				*e*S	**Sg**	**14 56 35.1**	**-0.1**
LCND	**La Caada**	**0.20**	**315**	*e*P	**Pg**	**14 56 34.4**	**+0.3**
LCND	**La Caada**	**0.20**	**315**	*i* PA		14 56 34.4	
LCND				*i* P	**Pg**	**14 56 34.5**	**+0.3**
LCND				IAML		14 56 37.9	
comp=Z,140μm,1.0s							
LCND				IAML		14 56 38.0	
comp=Z,120μm,1.0s							
CSGN	**Cosiguina Volc**	**0.27**	**136**	*i* P	**Pb**	**14 56 37.1**	**-0.3**
CSGN				IAML		14 56 46.2	
comp=Z,190nm,1.0s							
CNRM	**Centro Naciona**	**0.51**	**306**	*i* P	**Pg**	**14 56 39.8**	**-0.3**
CNRM				*i* S	**Sg**	**14 56 47.7**	**+0.9**
CNRM				IAML		14 57 13.8	
comp=Z,37μm,1.0s							
PACA	**Pacayal**	**0.64**	**298**	*i* P	**Pg**	**14 56 42.6**	**+0.1**
PACA				IAML		14 57 02.8	
comp=Z,42μm,1.0s							
CRIN	**San Cristobal**	**0.82**	**124**	*i* P	**Pb**	**14 56 47.2**	**+0.3**
CRIN				IAML		14 57 03.7	
comp=Z,13μm,1.0s							
PQSS	**Presa 15 de Se**	**0.91**	**300**	*i* P	**Pg**	**14 56 47.0**	**-0.7**
PQSS				IAML		14 56 47.4	
comp=Z,4μm,1.0s							
PQSS				*i* S	**Sb**	**14 57 00.0**	**-0.8**
HERN	**Volcan Telica**	**1.05**	**122**	*i* P	**Pg**	**14 56 50.2**	**-0.2**
HERN				IAML		14 57 12.7	
comp=Z,4μm,1.0s							
TECO	**Alcaldia de Te**	**1.07**	**290**	*i* P	**Pg**	**14 56 50.0**	**-0.8**
TECO				*i* S	**Sb**	**14 57 04.8**	**-0.6**
TECO				IAML		14 57 11.4	
comp=Z,2μm,1.0s							
SCLA	**Alcaldia de Sa**	**1.09**	**299**	*i* P	**Pg**	**14 56 50.3**	**-0.9**
SCLA				IAML		14 56 50.8	
comp=Z,2μm,1.0s							
UESV	**Universidad de**	**1.11**	**295**	*i* P	**Pg**	**14 56 50.7**	**-0.9**
UESV				IAML		14 57 15.2	
comp=Z,2μm,1.0s							
PLRN	**Geotermica Pol**	**1.12**	**121**	*i* P	**Pg**	**14 56 51.0**	**-0.7**
PLRN				IAML		14 57 14.8	
comp=Z,1μm,1.0s							
PACN	**Al O del Volca**	**1.14**	**125**	*i* P	**Pb**	**14 56 52.1**	**-0.3**
PACN				IAML		14 56 55.1	
comp=Z,4μm,1.0s							
ROCN	**Rota Cerro Neg**	**1.17**	**123**	*i* P	**Pg**	**14 56 51.2**	**-1.5**
ROCN				IAML		14 56 51.9	
comp=Z,2μm,1.0s							
COEG	**Centro de Oper**	**1.19**	**292**	*i* P	**Pg**	**14 56 52.1**	**-1.0**
COEG				*i* S	**Sn**	**14 57 09.5**	**-0.5**
COEG				IAML		14 57 10.2	
comp=Z,2μm,1.0s							
CNGN	**Cerro Negro**	**1.22**	**123**	*i* P	**Pg**	**14 56 52.9**	**-0.7**
CNGN				IAML		14 57 21.9	
comp=Z,3μm,1.0s							
CNGA	**Al SSO del Vol**	**1.22**	**123**	*i* P	**Pg**	**14 56 52.8**	**-0.8**
CNGA				IAML		14 57 22.8	
comp=Z,2μm,1.0s							
MACN	**El Madrono**	**1.26**	**124**	*i* P	**Pg**	**14 56 53.4**	**-1.0**
MACN				IAML		14 56 59.6	
comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**1.28**	**295**	*i* P	**Pg**	**14 56 53.8**	**-1.0**
PAVA				*i* S	**Sn**	**14 57 12.2**	**0.0**
PAVA				IAML		14 57 15.9	
comp=Z,7μm,1.0s							
SJTE	**Alcalda de S**	**1.30**	**290**	*i* P	**Pg**	**14 56 54.1**	**-1.2**
SJTE				*i* S	**Sn**	**14 57 12.4**	**-0.4**
SJTE				IAML		14 57 14.5	
comp=Z,2μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.34**	**125**	*i* P	**Pg**	**14 56 54.9

	comp=Z,2µm,1.0s								
PANCS	**Alcalda de**		**1.46**	**288**	*i* P		**Pn**	**14 56 56.6**	**-0.6**
PANCS					IAML			14 56 57.2	
	comp=Z,4µm,1.0s								
PANCS					*i* S		**Sg**	**14 57 16.3**	**-1.0**
LOMA	**Loma Larga**		**1.47**	**289**	*i* P		**Pn**	**14 56 56.9**	**-0.4**
LOMA					IAML			14 57 22.1	
	comp=Z,2µm,1.0s								
COPN	**Copaltepe**		**1.50**	**131**	*i* P		**Pn**	**14 56 56.7**	**-0.9**
COPN					IAML			14 56 57.8	
	comp=Z,4µm,1.0s								
LLGN	**La Laguna**		**1.53**	**310**	*i* P		**Pn**	**14 56 56.8**	**-1.3**
LLGN					IAML			14 57 21.9	
	comp=Z,2µm,1.0s								
RCFN	**Al S de San Ju**		**1.54**	**76**	*i* P		**Pn**	**14 56 57.0**	**-1.3**
RCFN					*i* S		**Sn**	**14 57 17.3**	**-1.3**
RCFN					IAML			14 57 18.7	
	comp=Z,33µm,1.0s								
LALI	**Alcalda de L**		**1.56**	**282**	*e*P		**Pn**	**14 56 58.6**	**+0.1**
LALI	**Alcalda de L**		**1.56**	**282**	*i* P		**Pn**	**14 56 58.7**	**+0.2**
LALI					IAML			14 57 31.9	
	comp=Z,600nm,1.0s								
BOQS	**Boqueron**		**1.59**	**291**	*e*P		**Pn**	**14 56 59.4**	**+0.2**
PMON	**Piamonte**		**1.62**	**290**	*i* P		**Pn**	**14 56 59.6**	**+0.2**
PMON					IAML			14 57 22.6	
	comp=Z,2µm,1.0s								
SAPS	**Ciudad Sandino**		**1.64**	**127**	*i* P		**Pb**	**14 57 00.4**	**-0.5**
SAPS					IAML			14 57 41.1	
	comp=Z,2µm,1.0s								
RCPN	**Sur Rio San Ju**		**1.65**	**77**	*i* P		**Pn**	**14 56 58.7**	**-1.1**
RCPN					IAML			14 57 22.2	
	comp=Z,39nm,1.0s								
APQ2	**Apoyeque**		**1.69**	**125**	*i* P		**Pn**	**14 57 01.0**	**+0.8**
APQ2					IAML			14 57 36.4	
	comp=Z,1µm,1.0s								
JAYA	**Jayaque - finc**		**1.73**	**286**	*e*P		**Pn**	**14 57 01.4**	**+0.5**
JAYA	**Jayaque - finc**		**1.73**	**286**	*i* P		**Pb**	**14 57 01.4**	**-1.0**
JAYA					IAML			14 57 04.1	
	comp=Z,3µm,1.0s								
HUEN			**1.74**	**118**	*i* P		**Pn**	**14 57 01.8**	**+0.8**
HUEN					IAML			14 57 33.9	
	comp=Z,1µm,1.0s								
TISN	**Laguna Tiscapa**		**1.77**	**125**	*i* P		**Pn**	**14 56 59.3**	**-2.0**
TISN					IAML			14 57 00.7	
	comp=Z,140nm,1.0s								
MSHP	**Masachapa**		**1.78**	**138**	*i* P		**Pn**	**14 57 02.2**	**+0.7**
MSHP					IAML			14 57 02.7	
	comp=Z,310nm,1.0s								
UNAN	**Cigeo UNAN**		**1.78**	**126**	*i* P		**Pb**	**14 57 02.6**	**-0.7**
UNAN					IAML			14 57 07.9	
	comp=Z,7µm,1.0s								
MATN	**Matagalpa**		**1.79**	**97**	*i* P		**Pn**	**14 57 00.7**	**-1.0**
MATN					IAML			14 57 30.5	
	comp=Z,2µm,1.0s								
WILN	**Americas 2**		**1.82**	**123**	*i* P		**Pb**	**14 57 03.2**	**-0.7**
WILN					IAML			14 57 36.1	
	comp=Z,770nm,1.0s								
MAS3	**Al N del Volca**		**1.91**	**126**	*i* P		**Pn**	**14 57 04.3**	**+1.0**
MAS3					IAML			14 57 04.8	
	comp=Z,1µm,1.0s								
CEVE	**Cerro Verde**		**1.94**	**290**	*i* P		**Pb**	**14 57 05.8**	**-0.3**
CEVE					IAML			14 57 43.1	
	comp=Z,2µm,1.0s								
MTO3	**Montecristo**		**1.99**	**308**	*i* P		**Pn**	**14 57 04.9**	**+0.3**
MTO3					IAML			14 57 07.7	
	comp=Z,1µm,1.0s								
NANN	**Nandasmo**		**2.00**	**127**	*i* P		**Pb**	**14 57 07.0**	**0.0**
NANN					IAML			14 57 38.7	
	comp=Z,11µm,1.0s								
ESQI	**Esquipulas**		**2.08**	**312**	*i* P		**Pn**	**14 57 06.7**	**+1.0**
ESQI					IAML			14 57 07.0	
	comp=Z,2µm,1.0s								
NUBE	**Las Nubes**		**2.11**	**290**	*i* P		**Pb**	**14 57 07.9**	**-1.0**
NUBE					IAML			14 57 46.6	
	comp=Z,810nm,1.0s								
BOAB	**BOACO BROADBAN**		**2.15**	**109**	*i* P		**Pn**	**14 57 05.3**	**-1.3**
BOAB					IAML			14 57 11.5	
	comp=Z,2µm,1.0s								
JTS	**Las Juntas de**		**3.96**	**136**	Pn		**Pn**	**14 57 31.8**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=318,slow=16,SNR=7.3								
JTS					Sn		**Sn**	**14 58 19.5**	**+1.3**
	comp=Z,3.2nm,0.3s,baz=332,slow=23,SNR=1.4								
	comp=Z,10.0nm,0.4s								
CMIG	**Matias Romero**		**7.92**	**300**	Pn		**Pn**	**14 58 23.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=45,slow=20,SNR=1.6								
	comp=Z,4.3nm,1.0s								
TXAR	**Lajitas Array**		**21.84**	**320**	P		**P**	**15 01 23.3**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=150,slow=5.8,SNR=6.1								
	comp=Z,1.2nm,1.0s								
PDAR	**Pinedale Array**		**35.01**	**332**	P		**P**	**15 03 26.0**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=136,slow=8.4,SNR=2.4								
	comp=Z,0.2nm,0.6s								
NVAR	**Mina Array Bea**		**36.98**	**318**	P		**P**	**15 03 42.5**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=139,slow=7.0,SNR=2.5								
	comp=Z,0.7nm,0.8s								
YKA	**Yellowknife Ar**		**52.85**	**345**	P		**P**	**15 05 47.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=137,slow=7.7,SNR=5.4								
	comp=Z,0.7nm,0.8s								
ILAR	**Eielson Array**		**65.25**	**336**	P		**P**	**15 07 12.3**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=162,slow=5.0,SNR=5.4								
	comp=Z,0.5nm,0.9s								

*ISK **27** 15:19:25.6,35˚.06N×32˚.63E,h53km±1km, ML2.5/17*
*NIC **27** 15:19:27.2,35˚.20N×32˚.75E,h42km±2km, Ml2.4/8*
*GII **27** 15:19:29.1±0.2,34˚.925N±0˚.009×32˚.798E±0˚.006,h21km, Mws2.4, confirmed*
*AFAD **27** 15:19:29.2±0.0,35˚.38N×32˚.78E, h22km±4km, ML2.5*

ISC 27 15:19:27.6±1.2,35˚.08N±0˚.02×32.72E±0˚.04,h49km±5km, n86,σ0s94/107,3C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.13**	**309**	⇑*i* P		**Pn**	**15 19 34.4**	**-1.1**
ALFC				S		**Sn**	**15 19 39.7**	**-1.5**
ALFC				AML		AML	15 19 39.9	
	2.4nm,0.2s							
ALFC				AML		AML	15 19 40.2	
	2.1nm,0.1s							
LEF	**Lefka**	**0.15**	**73**	Pg		**Pn**	**15 19 34.7**	**-0.9**
LEF				Sg		**Sn**	**15 19 40.6**	**-0.6**
LEF	**Lefka**	**0.15**	**73**	P		**Pn**	**15 19 35.1**	**-0.5**
LEF				S		**Sn**	**15 19 41.6**	**+0.4**
TROD	**Troodos**	**0.17**	**137**	⇑*i* P		**Pn**	**15 19 35.4**	**-0.6**
TROD				S		**Sn**	**15 19 43.0**	**+1.0**
TROD				AML		AML	15 19 48.2	
	1.1nm,0.6s							
TROD				AML		AML	15 19 49.3	
	0.8nm,0.4s							
AKDN	**Akdeniz- Kıbrı**	**0.30**	**42**	Pg		**Pn**	**15 19 36.5**	**-0.2**
AKDN				Sg		**Sn**	**15 19 44.2**	**+1.0**
NATA	**Nata**	**0.32**	**203**	P		**Pn**	**15 19 37.3**	**+0.4**
NATA				S		**Sn**	**15 19 45.7**	**+2.1**
NATA				AML		AML	15 19 47.7	
	3.8nm,0.3s							
NATA				AML		AML	15 19 48.4	
	4.5nm,0.3s							
AKMS	**Akamas**	**0.32**	**260**	⇓*i* P		**Pn**	**15 19 36.4**	**-0.5**
AKMS				S		**Sn**	**15 19 44.1**	**+0.6**
AKMS				AML		AML	15 19 45.7	
	1.6nm,0.3s							
AKMS				AML		AML	15 19 46.5	
	1.5nm,0.3s							
CSS	**Mathiatis**	**0.51**	**103**	Pg		**Pn**	**15 19 38.6**	**-0.4**
CSS				Sg		**Sn**	**15 19 47.8**	**+0.6**
CSS	**Mathiatis**	**0.51**	**103**	P		**Pn**	**15 19 38.5**	**-0.4**
CSS				S		**Sn**	**15 19 47.8**	**+0.6**
CSS				AML		AML	15 19 50.8	
	1.1nm,0.4s							
CSS				AML		AML	15 19 52.0	
	0.6nm,0.3s							
CSS	**Mathiatis**	**0.51**	**103**	P		**Pn**	**15 19 38.3**	**-0.7**
ASGA	**Asgata**	**0.52**	**123**	⇑*e*P		**Pn**	**15 19 39.0**	**0.0**
ASGA				S		**Sn**	**15 19 48.1**	**+0.8**
ASGA				AML		AML	15 19 50.1	
	1.0nm,0.4s							
ASGA				AML		AML	15 19 54.7	
	0.7nm,0.5s							
ATHAL	**Athalassa**	**0.56**	**83**	P		**Pn**	**15 19 39.1**	**-0.4**
ATHAL				S		**Sn**	**15 19 48.4**	**+0.3**
ATHAL				AML		AML	15 19 55.8	
	0.9nm,0.6s							
ATHAL				AML		AML	15 19 57.9	
	1.0nm,0.5s							
AKIN	**Akıncılar- Kıb**	**0.61**	**95**	Pg		**Pn**	**15 19 39.9**	**-0.4**
LFK	**Lefkose**	**0.70**	**73**	Pg		**Pn**	**15 19 41.1**	**-0.2**
MVOU	**Mavrovouni**	**0.75**	**94**	P		**Pn**	**15 19 41.4**	**-0.5**
MVOU				S		**Sn**	**15 19 52.2**	**-0.3**
MVOU				AML		AML	15 19 54.5	
	0.5nm,0.3s							
MVOU				AML		AML	15 19 54.9	
	0.3nm,0.2s							
GAZI	**Gazipasa**	**1.20**	**344**	Pn		**Pn**	**15 19 46.9**	**-1.2**
GAZI				Sn		**Sn**	**15 20 02.3**	**-1.0**
GAZI	**Gazipasa**	**1.20**	**344**	P		**Pn**	**15 19 47.0**	**-1.1**
GAZI				S		**Sn**	**15 20 00.6**	**-2.7**
AKK2	**Akkuyu-Mersin**	**1.26**	**32**	Pn		**Pn**	**15 19 48.1**	**-0.7**
AKK1	**Akkuyu-Mersin**	**1.26**	**32**	Pn		**Pn**	**15 19 48.3**	**-0.5**
AKKU	**Akkuyu-Mersin**	**1.27**	**32**	Pn		**Pn**	**15 19 48.5**	**-0.5**
GULN	**MERSIN_Gulnar**	**1.29**	**31**	P		**Pn**	**15 19 48.4**	**-0.9**
GULN				S		**Sn**	**15 20 03.3**	**-2.2**
TEPK	**Tepekoy-MERSIN**	**1.33**	**30**	Pn		**Pn**	**15 19 49.1**	**-0.7**
TISA	**Tisan-Mersin**	**1.34**	**35**	Pn		**Pn**	**15 19 49.5**	**-0.4**
YESI	**Yesilovacik-Me**	**1.35**	**34**	Pn		**Pn**	**15 19 49.6**	**-0.4**
KARG	**Kargicak-Mersi**	**1.38**	**35**	Pn		**Pn**	**15 19 50.0**	**-0.5**
IKL	**Isikli**	**1.40**	**34**	Pn		**Pn**	**15 19 50.2**	**-0.6**
SILI	**Silifke-Mersin**	**1.62**	**37**	Pn		**Pn**	**15 19 52.9**	**-0.8**
KIZK	**Mersin**	**1.82**	**39**	Pn		**Pn**	**15 19 56.6**	**+0.1**
KIZK	**Mersin**	**1.82**	**39**	P		**Pn**	**15 19 56.7**	**+0.3**
KIZK				S		**Sn**	**15 20 18.1**	**-0.2**
HDMB	**Hadim**	**1.89**	**354**	Pn		**Pn**	**15 19 56.6**	**-1.1**
KEPZ	**Antalya-Kepez**	**2.04**	**334**	P		**Pn**	**15 19 59.6**	**+0.1**
KEPZ				S		**Sn**	**15 20 22.0**	**-1.7**
KKBE	**Karaman, Kazim**	**2.15**	**5**	P		**Pn**	**15 20 02.5**	**+1.4**
KKBE				*i* AML		AML	15 20 27.0	
	comp=E,44nm,2.6s							
KKBE				S		**Sn**	**15 20 27.8**	**+1.2**
KKBE				*i* AML		AML	15 20 31.0	
	comp=Z,36nm,0.8s							
SEDI	**Konya, Seydise**	**2.50**	**342**	P		**Pn**	**15 20 07.9**	**+2.0**
SEDI				S		**Sn**	**15 20 37.0**	**+1.8**
SEDI				*i* AML		AML	15 20 42.0	
	comp=N,32nm,0.5s							
KERG	**Konya-Eregli**	**2.60**	**26**	P		**Pn**	**15 20 09.4**	**+2.1**
KERG				S		**Sn**	**15 20 41.0**	**+3.3**
KERG				*i* AML		AML	15 20 41.0	
	comp=E,51nm,0.9s							
KERG				*i* AML		AML	15 20 42.0	
	comp=N,65nm,0.8s							
KERG				*i* AML		AML	15 20 43.0	
	comp=Z,23nm,0.4s							
HNTI	**Hanita**	**2.85**	**134**	P		**Pn**	**15 20 10.5**	**-0.1**
HNTI	**Hanita**	**2.85**	**134**	S		**Sn**	**15 20 42.5**	**-1.1**
HNTI	**Hanita**	**2.85**	**134**	P		**Pn**	**15 20 10.3**	**-0.3**
MMC7	**Mount Meron ar**	**3.02**	**132**	P		**Pn**	**15 20 13.0**	**0.0**
MMB1	**Mount Meron ar**	**3.04**	**132**	P		**Pn**	**15 20 13.3**	**+0.1**
GEM	**Giv'at Ha'Em**	**3.07**	**126**	P		**Pn**	**15 20 13.6**	**0.0**
GEM	**Giv'at Ha'Em**	**3.07**	**126**	S		**Sn**	**15 20 48.2**	**-0.9**
GEM	**Giv'at Ha'Em**	**3.07**	**126**	P		**Pn**	**15 20 13.7**	**0.0**
NATI	**Neve Ativ**	**3.09**	**125**	P		**Pn**	**15 20 14.4**	**+0.6**
NATI				S		**Sn**	**15 20 48.5**	**-0.9**
NATI	**Neve Ativ**	**3.09**	**125**	S		**Sn**	**15 20 48.6**	**-0.9**
NATI	**Neve Ativ**	**3.09**	**125**	P		**Pn**	**15 20 14.1**	**+0.3**
OFRI	**`Ofer**	**3.09**	**142**	P		**Pn**	**15 20 13.9**	**0.0**
OFRI	**`Ofer**	**3.09**	**142**	S		**Sn**	**15 20 48.4**	**-1.3**
OFRI	**`Ofer**	**3.09**	**142**	P		**Pn**	**15 20 13.7**	**-0.2**
KSHT	**Keshet**	**3.31**	**128**	P		**Pn**	**15 20 17.2**	**+0.2**
KSHT	**Keshet**	**3.31**	**128**	S		**Sn**	**15 20 54.5**	**-0.6**
SLTI	**Sal'it**	**3.43**	**145**	P		**Pn**	**15 20 19.9**	**+1.4**
SLTI	**Sal'it**	**3.43**	**145**	P		**Pn**	**15 20 18.3**	**-0.2**
SLTI	**Sal'it**	**3.43**	**145**	S		**Sn**	**15 20 56.9**	**-1.0**
MMLI	**Mount Malkishu**	**3.46**	**139**	P		**Pn**	**15 20 19.1**	**+0.1**
MMLI	**Mount Malkishu**	**3.46**	**139**	S		**Sn**	**15 20 58.0**	**-0.8**
QRNJ	**Al-Qirein**	**3.62**	**138**	P		**Pn**	**15 20 21.9**	**+0.7**
QRNJ				S		**Sn**	**15 21 03.3**	**+0.6**
HMDT	**Nahal Hemdat**	**3.66**	**139**	P		**Pn**	**15 20 22.2**	**+0.5**
HMDT	**Nahal Hemdat**	**3.66**	**139**	S		**Sn**	**15 21 02.9**	**-0.7**
HMDT	**Nahal Hemdat**	**3.66**	**139**	P		**Pn**	**15 20 21.9**	**+0.1**
AMAZ	**Amatzia**	**3.98**	**152**	P		**Pn**	**15 20 26.2**	**0.0**
AMAZ	**Amatzia**	**3.98**	**152**	S		**Sn**	**15 21 10.8**	**-0.8**
DSI	**Dead Sea**	**4.14**	**147**	P		**Pn**	**15 20 29.0**	**+0.6**
DSI	**Dead Sea**	**4.14**	**147**	S		**Sn**	**15 21 14.4**	**-1.2**
DSI	**Dead Sea**	**4.14**	**147**	P		**Pn**	**15 20 28.4**	**0.0**
YTIR	**Yattir**	**4.21**	**151**	S		**Sn**	**15 21 16.9**	**-0.4**
YTIR	**Yattir**	**4.21**	**151**	P		**Pn**	**15 20 29.7**	**+0.3**
MDBI	**Mazsada**	**4.36**	**149**	P		**Pn**	**15 20 32.2**	**+1.0**
MSBI	**Mazada**	**4.36**	**149**	P		**Pn**	**15 20 31.4**	**+0.1**
MSBI	**Mazada**	**4.36**	**149**	S		**Sn**	**15 21 19.8**	**-0.9**
GHAJ	**Ghor Haditha**	**4.46**	**147**	P		**Pn**	**15 20 32.8**	**+0.2**
GHAJ	**Ghor Haditha**	**4.46**	**147**	S		**Sn**	**15 21 22.8**	**-0.4**
LISJ	**El Lisan**	**4.47**	**148**	P		**Pn**	**15 20 35.0**	**+2.2**
KARJ	**KARJ**	**4.65**	**147**	P		Pn	15 20 25.9	-9.4
PRNI	**Paran**	**5.09**	**157**	P		**Pn**	**15 20 41.9**	**+0.5**
PRNI	**Paran**	**5.09**	**157**	S		**Sn**	**15 21 38.5**	**-0.3**
PRNI	**Paran**	**5.09**	**157**	P		**Pn**	**15 20 41.4**	**+0.1**
KRMI	**Paran Flat**	**5.22**	**161**	P		**Pn**	**15 20 42.9**	**-0.4**
KRMI	**Paran Flat**	**5.22**	**161**	S		**Sn**	**15 21 41.8**	**-0.4**
HRFI	**Mount Harif**	**5.39**	**158**	P		**Pn**	**15 20 45.3**	**-0.2**
HRFI	**Mount Harif**	**5.39**	**158**	S		**Sn**	**15 21 45.7**	**-0.6**
HRFI	**Mount Harif**	**5.39**	**158**	P		**Pn**	**15 20 46.0**	**+0.5**
MBRI	**Mt Berech**	**5.58**	**160**	P		**Pn**	**15 20 48.5**	**+0.3**
MBRI	**Mt Berech**	**5.58**	**160**	P		**Pn**	**15 20 48.8**	**+0.6**
MBRI	**Mt Berech**	**5.58**	**160**	S		**Sn**	**15 21 50.3**	**-0.8**
EIL	**Elat**	**5.71**	**160**	P		**Pn**	**15 20 50.4**	**+0.5**
EIL	**Elat**	**5.71**	**160**	S		**Sn**	**15 21 53.9**	**-0.2**

*NEIC **27** 15:42:20.4±1.9,56˚.52N±0˚.07×149˚.0W±0˚.1,h26km±9km, ML3.5/50,ML3.2(AEIC), Error ellipse: s-maj=11.0km s-min=7.8km az=155.0*
*AEIC **27** 15:42:23.4±2.0,56˚.52N±0˚.08×149˚.0W±0˚.1,h12km±7km, Error ellipse: s-maj=11.6km s-min=8.4km az=163.0*

ISC 27 15:42:20.6±1.5,56˚.52N±0˚.08×149˚.01W±0˚.06,h35km, n147,σ0s99/145,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.32**	**305**			**Pn**	**15 42 57.2**	**+0.9**
KDAK						**Sn**	**15 43 23.1**	**-0.5**
OHAK	**Old Harbor**	**2.45**	**288**			**Pn**	**15 42 58.6**	**+0.6**
OHAK						**Sn**	**15 43 25.6**	**-1.2**
OHAK	**Old Harbor** baz=105	**2.45**	**288**	P		**Pn**	**15 42 58.6**	**+0.6**
OHAK	baz=105			S		**Sn**	**15 43 25.6**	**-1.2**
SYI	**Shuyak Island**	**2.78**	**320**			**Pn**	**15 43 03.4**	**+0.9**
SYI						**Sn**	**15 43 35.5**	**+0.8**
Q20K	**Shuyak Island** baz=138	**2.78**	**320**	P		**Pn**	**15 43 03.4**	**+0.9**
Q20K	baz=138			S		**Sn**	**15 43 35.5**	**+0.7**
SII	**Sitkinak Islan**	**2.87**	**273**			**Sn**	**15 43 36.0**	**-1.1**
SII	**Sitkinak Islan** baz=89	**2.87**	**273**	S		**Sn**	**15 43 36.0**	**-1.1**
CNPM	**China Poot**	**3.24**	**339**			**Pn**	**15 43 09.6**	**+0.7**
CNPM						**Sn**	**15 43 46.1**	**-0.1**
Q23K	**Middleton Isla**	**3.24**	**25**			**Pn**	**15 43 09.2**	**+0.3**
Q23K	**Middleton Isla** comp=N,190nm,2.4s	**3.24**	**25**	IAML			15 43 50.0	
Q23K	**Middleton Isla** baz=207	**3.24**	**25**	P		**Pn**	**15 43 09.2**	**+0.3**
MID	**Middleton Isla**	**3.24**	**25**			**Pn**	**15 43 09.1**	**+0.2**
MID	**Middleton Isla** comp=N,214nm,2.2s	**3.24**	**25**	IAML			15 44 58.4	
BRSE	**Bradley Lake S**	**3.36**	**345**			**Pn**	**15 43 11.1**	**+0.5**
BRSE						**Sn**	**15 43 47.8**	**-1.4**
BRSE	**Bradley Lake S** baz=163	**3.36**	**345**	P		**Pn**	**15 43 11.1**	**+0.5**
BRSE	baz=163			S		**Sn**	**15 43 47.8**	**-1.4**
BRLK	**Bradley Lake**	**3.40**	**344**			**Pn**	**15 43 11.1**	**0.0**
HOM	**Homer**	**3.44**	**337**			**Sn**	**15 43 51.5**	**+0.3**
HOM	**Homer**	**3.44**	**337**	Pn		**Pn**	**15 43 11.5**	**-0.2**
HOM	**Homer** comp=N,152nm,2.5s	**3.44**	**337**	IAML			15 44 00.9	
HOM	comp=E,165nm,2.3s			IAML			15 44 37.6	
HOM	**Homer** baz=155	**3.44**	**337**	S		**Sn**	**15 43 51.5**	**+0.3**
KAHG	**Katmai Hook Gl**	**3.58**	**306**			**Pn**	**15 43 14.6**	**+0.9**
P23K	**Montague Islan**	**3.59**	**13**			**Pn**	**15 43 14.0**	**+0.3**
P23K	**Montague Islan** baz=194	**3.59**	**13**	P		**Pn**	**15 43 14.0**	**+0.3**
SEW	**Seward**	**3.60**	**356**			**Pn**	**15 43 14.2**	**+0.4**
SEW	**Seward** baz=176	**3.60**	**356**	P		**Pn**	**15 43 14.2**	**+0.4**
P19K	**Oil Pt**	**3.86**	**326**	Pn		**Pn**	**15 43 18.8**	**+1.4**
P19K	comp=N,124nm,0.6s				IAML		15 44 05.4	
P19K	**Oil Pt** baz=143	**3.86**	**326**	S		**Sn**	**15 44 01.9**	**+0.4**
O22K	**Cooper Landing** baz=174	**3.99**	**355**	S		**Sn**	**15 44 03.5**	**-1.1**
SLKM	**Skilak Lake**	**4.05**	**351**			**Sn**	**15 44 04.9**	**-1.3**
IVE	**Iliamna Volcan**	**4.10**	**331**			**Sn**	**15 44 06.8**	**-0.6**
HIN	**Hinchinbrook I**	**4.11**	**18**			**Pn**	**15 43 21.3**	**+0.5**
HIN	**Hinchinbrook I** comp=E,93nm,2.1s	**4.11**	**18**	IAML			15 44 11.3	
KAIM	**Kayak Island**	**4.19**	**33**			**Pn**	**15 43 22.4**	**+0.4**
KAIM	**Kayak Island** baz=217	**4.19**	**33**	P		**Pn**	**15 43 22.4**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.39**	**22**			**Pn**	**15 43 25.1**	**+0.5**
EYAK	**Cordova Ski Ar** baz=204	**4.39**	**22**	P		**Pn**	**15 43 25.1**	**+0.5**
P18K	**Big Mountain,**	**4.39**	**314**	Pn		**Pn**	**15 43 25.0**	**+0.3**
RDSO	**Redoubt South**	**4.41**	**335**			**Pn**	**15 43 25.3**	**+0.2**
RSO	**Redoubt South**	**4.42**	**335**	Pn		**Pn**	**15 43 24.8**	**-0.4**
RAGM	**Ragged Mountai**	**4.50**	**29**	Pn		**Pn**	**15 43 26.5**	**+0.3**
RAGM				IAML			15 44 25.7	
	comp=E,72nm,0.9s							
RC01	**Rabbit Creek A**	**4.60**	**356**	Pn		**Pn**	**15 43 27.9**	**+0.4**
RC01				IAML			15 44 20.7	
	comp=E,43nm,0.4s							
RC01				IAML			15 44 23.5	
	comp=N,30nm,0.7s							
RC01	**Rabbit Creek A** baz=175	**4.60**	**356**	P		**Pn**	**15 43 28.0**	**+0.4**
O18K	**Koktuh Hills**	**4.68**	**318**			**Pn**	**15 43 29.1**	**+0.4**
O18K	**Koktuh Hills** comp=E,22nm,2.8s	**4.68**	**318**	IAML			15 45 31.5	
O18K	comp=N,23nm,2.8s			IAML			15 45 57.4	
O18K	**Koktuh Hills** baz=133	**4.68**	**318**	P		**Pn**	**15 43 29.1**	**+0.4**
SNH	**Sunshine Point**	**4.90**	**39**	Pn		**Pn**	**15 43 33.1**	**+1.4**
KNK	**Knik Glacier**	**4.92**	**3**			**Pn**	**15 43 32.6**	**+0.7**
KNK	**Knik Glacier** comp=N,19nm,1.2s	**4.92**	**3**	IAML			15 44 34.2	
KNK	comp=E,24nm,0.8s			IAML			15 44 34.2	
KNK	**Knik Glacier** baz=184	**4.92**	**3**	P		**Pn**	**15 43 32.6**	**+0.7**
BMRM	**Bremner River**	**5.01**	**25**			**Pn**	**15 43 34.1**	**+0.8**
BMRM	**Bremner River** baz=209	**5.01**	**25**	P		**Pn**	**15 43 34.1**	**+0.8**
SUA	**Susitna One**	**5.04**	**350**	Pn		**Pn**	**15 43 33.8**	**+0.1**
SUA	comp=E,29nm,3.8s			IAML			15 44 46.1	
SUA	comp=N,26nm,4.3s			IAML			15 44 59.8	
PMR	**Palmer**	**5.09**	**359**	Pn		**Pn**	**15 43 33.6**	**-0.6**
PMR	comp=N,20nm,0.8s			IAML			15 44 30.4	
PMR	comp=E,32nm,0.7s			IAML			15 44 30.6	
N19K	**Bonanza Creek**	**5.17**	**329**			**Pn**	**15 43 35.8**	**+0.3**
N19K	**Bonanza Creek** comp=N,17nm,3.4s	**5.17**	**329**	IAML			15 45 19.3	
N19K	comp=E,16nm,4.7s			IAML			15 46 33.3	
N19K	**Bonanza Creek** baz=144	**5.17**	**329**	P		**Pn**	**15 43 35.8**	**+0.3**
BARK	**Barkley Ridge**	**5.18**	**39**			**Pn**	**15 43 36.3**	**+0.6**
CHGN	**Chignik**	**5.23**	**272**	Pn		**Pn**	**15 43 36.6**	**+0.4**
CHGN	comp=N,52nm,1.7s			IAML			15 45 57.0	
KLU	**Klutina**	**5.24**	**16**			**Pn**	**15 43 37.2**	**+0.8**
KLU	**Klutina** comp=E,26nm,0.4s	**5.24**	**16**	IAML			15 44 34.4	
KLU	comp=N,27nm,0.5s			IAML			15 44 34.8	
KLU	**Klutina** baz=199	**5.24**	**16**	P		**Pn**	**15 43 37.2**	**+0.8**
GHO	**Glory Hole Cre**	**5.27**	**0**			**Pn**	**15 43 37.6**	**+0.8**
SML	**Sawmill**	**5.32**	**3**			**Pn**	**15 43 37.8**	**+0.4**
SML	**Sawmill** comp=E,27nm,0.7s	**5.32**	**3**	IAML			15 44 41.2	
SML	comp=N,26nm,1.3s			IAML			15 44 41.7	
SML	**Sawmill** baz=184	**5.32**	**3**	P		**Pn**	**15 43 37.8**	**+0.4**
M23K	**Glacier View**	**5.33**	**7**			**Pn**	**15 43 38.6**	**+1.0**
M23K	**Glacier View** baz=188	**5.33**	**7**	P		**Pn**	**15 43 38.6**	**+1.0**

MDM	**Murphy Dome**	**8.48**	**2**	Pn	**Pn**	**15 44 19.2**	**-1.6**
L29M	**L29M**	**8.57**	**35**	Pn	**Pn**	**15 44 22.9**	**+0.8**
M30M	**Minto, Yukon**	**8.67**	**41**	Pn	**Pn**	**15 44 25.4**	**+2.0**
P32M	**Atlin**	**8.67**	**63**	Pn	**Pn**	**15 44 25.0**	**+1.6**
I21K	**Tanana**	**8.81**	**352**	Pn	**Pn**	**15 44 25.3**	**+0.1**
U33K	**Whale Pass**	**8.84**	**86**	Pn	**Pn**	**15 44 23.4**	**-2.3**
CRAG	**Craig**	**8.97**	**90**	Pn	**Pn**	**15 44 26.6**	**-0.8**
P33M	**Teslin, Yukon**	**9.27**	**60**	Pn	**Pn**	**15 44 33.5**	**+1.8**
K29M	**Barlow Dome**	**9.30**	**33**	Pn	**Pn**	**15 44 31.4**	**-0.6**
H21K	**Melozitna Rive**	**9.35**	**350**	Pn	**Pn**	**15 44 32.8**	**+0.1**
H19K	**Roundabout Mou**	**9.72**	**341**	Pn	**Pn**	**15 44 35.7**	**-2.0**
IMAR	**Indian Mountai**	**9.76**	**348**	Pn	**Pn**	**15 44 39.5**	**+1.2**
V35K	**Ketchikan**	**9.84**	**90**	Pn	**Pn**	**15 44 38.2**	**-1.1**
R33M	**Jennings River**	**10.00**	**66**	Pn	**Pn**	**15 44 42.6**	**+0.8**
J30M	**Hart River**	**10.19**	**32**	Pn	**Pn**	**15 44 43.8**	**-0.5**
G23K	**Bananza Creek**	**10.24**	**358**	Pn	**Pn**	**15 44 45.5**	**+0.6**

IDC ***27*** *15:42:50.1±2.2, 8˚.61S×118˚.49E, h145km±19km, mb3.5/10, mbtmp3.9/12, MS2.8/1, Error ellipse: s-maj=35.3km s-min=13.1km az=58.0*
DJA ***27*** *15:42:51.9±0.2, 9˚S±3˚×11˚9E±˚, h125km±3km, M4.5/13, mb4.6/9, MLv4.5/13*
ISC 27 15:42:50.9±0.6, 8.70S±0.06×118.71E±0.05, h152km, n36, σ1°43/45, mb3.8/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBNI	**Kabupaten Domp**	**0.44**	**297**	P	**Pn**	**15 43 11.1**	**-1.1**
DBNI				S	**Sn**	**15 43 25.8**	**-2.6**
PLAI	**Plampang**	**0.93**	**262**	P	**Pn**	**15 43 15.0**	**-0.2**
PLAI				S	**Sn**	**15 43 32.8**	**-1.0**
TWSI	**Taliwang, Sumb**	**1.81**	**269**	P	**Pn**	**15 43 23.6**	**-0.3**
TWSI				S	**Sn**	**15 43 48.6**	**-0.6**
BASI	**Baing, Sumba**	**2.38**	**129**	P	**Pn**	**15 43 31.3**	**+0.7**
BASI				S	**Sn**	**15 44 01.7**	**+0.4**
EDFI	**Ende, Flores**	**2.95**	**91**	P	**Pn**	**15 43 37.3**	**-0.4**
EDFI				S	**Sn**	**15 44 12.3**	**-1.7**
DNP	**Denpasar**	**3.46**	**270**	P	**Pn**	**15 43 44.6**	**+0.4**
MMRI	**Maumere**	**3.49**	**89**	P	**Pn**	**15 43 44.5**	**-0.1**
SRBI	**Singaraja**	**3.51**	**280**	P	**Pn**	**15 43 45.0**	**+0.1**
MKS	**Makassar**	**3.54**	**12**	P	**Pn**	**15 43 44.0**	**-1.3**
BKSI	**Bulukumba**	**3.64**	**23**	P	**Pn**	**15 43 45.2**	**-1.3**
KAPI	**Kappang**	**3.81**	**16**	P	**Pn**	**15 43 47.5**	**-1.2**
	25nm,0.4s,baz=193,slow=8.0,SNR=7.0						
KAPI				S	**Sn**	**15 44 37.0**	**+3.3**
	11nm,0.3s,baz=23,slow=16,SNR=1.5						
JAGI	**Jajag, Banyuwa**	**4.51**	**273**	P	**Pn**	**15 43 59.2**	**+1.3**
BLJI	**Banyuglugur**	**5.15**	**280**	P	**Pn**	**15 44 08.0**	**+1.7**
	71nm,0.8s,0.8nm						
GMJI	**Gumukmas**	**5.23**	**274**	P	**Pn**	**15 44 08.5**	**+1.2**
SOEI	**Soe**	**5.58**	**101**	P	**Pn**	**15 44 12.1**	**-0.1**
SJI	**Sawahan**	**6.94**	**277**	P	**Pn**	**15 44 32.8**	**+2.6**
	41nm,1.0s,0.6nm						
UGM	**Wanagama**	**8.14**	**275**	P	**Pn**	**15 44 47.8**	**+1.6**
	213nm,1.9s						
KPJI	**Karang Pucung**	**9.78**	**277**	P	**Pn**	**15 45 08.8**	**+0.8**
	22nm,1.2s						
LEM	**Lembang**	**11.15**	**279**	LR	LR	15 50 47.9	
	comp=Z,50nm,19.8s,baz=232,slow=44						
KASI	**Kota Agung**	**14.45**	**282**	P	**P**	**15 46 11.8**	**+0.8**
	50nm,1.0s						
SWI	**Sorong**	**14.73**	**59**	P	**Pn**	**15 46 12.5**	**+0.6**
	31nm,0.8s						
SIJI	**Sorong**	**14.73**	**59**	P	**Pn**	**15 46 12.9**	**+1.0**
	9.7nm,1.0s						
EGSI	**Enggano, Bengk**	**16.64**	**280**	P	**Pn**	**15 46 37.9**	**+2.4**
WRA	**Warramunga Arr**	**18.80**	**128**	P	**P**	**15 47 00.1**	**+1.3**
	0.5nm,0.3s,baz=302,slow=12,SNR=20						
WRA				S	**S**	**15 50 22.7**	**-2.1**
	0.9nm,0.5s,baz=303,slow=25,SNR=4.0						
WRA				ScP	**ScP**	**15 54 41.5**	**+0.2**
	0.2nm,0.5s,baz=332,slow=1.9,SNR=1.2						
ASAR	**Alice Springs**	**20.81**	**137**	P	**P**	**15 47 22.6**	**+2.2**
	0.9nm,0.4s,baz=315,slow=9.3,SNR=60						
ASAR				S	**S**	**15 51 03.0**	**-1.3**
	1.1nm,0.9s,baz=332,slow=27,SNR=4.0						
ASAR				ScP	**ScP**	**15 54 46.9**	**+0.9**
	1.2nm,0.7s,baz=315,slow=1.8,SNR=8.2						
	0.9nm,0.4s						
LASI	**Langsa, Aceh**	**24.47**	**302**	P	P	15 48 14.8	+19
STKA	**Stephens Creek**	**31.36**	**141**	P	**P**	**15 48 59.5**	**+2.3**
	1.5nm,0.7s,baz=328,slow=9.1,SNR=5.7						
	1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**33.30**	**324**	P	**P**	**15 49 14.0**	**-0.3**
	0.3nm,0.4s,baz=154,slow=6.9,SNR=2.0						
CMAR				PcP	**PcP**	**15 51 53.2**	**+0.2**
	0.4nm,0.5s,baz=174,slow=2.9,SNR=4.3						
	0.3nm,0.4s						
KSRS	**Korea Array**	**46.72**	**10**	P	**P**	**15 51 04.1**	**-0.5**
	1.0nm,0.7s,baz=180,slow=8.9,SNR=4.3						
	1.0nm,0.7s						
SONM	**Songino Array**	**57.34**	**350**	P	**P**	**15 52 21.9**	**-1.2**
	0.6nm,0.5s,baz=167,slow=9.1,SNR=5.1						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**64.06**	**333**	P	**P**	**15 53 07.1**	**-1.4**
	1.5nm,0.6s,baz=155,slow=6.7,SNR=27						
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**68.58**	**334**	P	**P**	**15 53 35.6**	**-1.5**
	0.5nm,0.5s,baz=140,slow=5.6,SNR=8.7						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**68.66**	**339**	P	**P**	**15 53 35.9**	**-1.7**
	0.7nm,0.3s,baz=133,slow=5.1,SNR=6.0						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**73.90**	**332**	P	**P**	**15 54 07.4**	**-1.6**
	0.3nm,0.4s,baz=91,slow=6.5,SNR=3.7						
	0.3nm,0.4s						
KMBO	**Kilima Mbogo**	**81.39**	**270**	P	**P**	**15 54 49.9**	**-1.9**
	2.0nm,0.8s,baz=48,slow=5.0,SNR=5.2						
	2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**118.13**	**280**	PKP	**PKiKP**	**16 01 21.1**	**+0.3**
	0.5nm,0.4s,baz=69,slow=2.5,SNR=6.7						

IDC 27 15:58:10.6±6.7, 5.21N×94.80E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=344.5km s-min=21.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**25.66**	**240**	T	T	16 30 54.9	
	baz=60,slow=76,SNR=6.6						
H08S2	**Diego Garcia H**	**25.66**	**240**	T	T	16 30 45.2	
	baz=60,slow=76,SNR=6.8						
H08S1	**Diego Carcia H**	**25.67**	**240**	T	T	16 30 51.0	
	baz=60,slow=76,SNR=6.0						
MKAR	**Makanchi Array**	**42.81**	**347**	P	P	16 06 10.1	-0.2
	0.4nm,0.4s,baz=163,slow=8.1,SNR=10.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**46.21**	**124**	P	P	16 06 37.8	0.0
	0.6nm,0.7s,baz=303,slow=9.1,SNR=5.6						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**47.27**	**346**	P	P	16 06 45.6	0.0
	0.8nm,0.6s,baz=168,slow=7.1,SNR=10.0						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**47.73**	**129**	P	P	16 06 49.4	-0.2
	0.2nm,0.4s,baz=300,slow=7.6,SNR=9.6						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**49.27**	**352**	P	P	16 07 00.7	-0.2
	1.1nm,0.5s,baz=158,slow=7.0,SNR=5.7						
	1.1nm,0.5s						
H04N2	**CROZET ISLANDS**	**63.81**	**212**	T	T	17 18 27.6	
	baz=50,slow=75,SNR=7.7						
H04N1	**CROZET ISLANDS**	**63.82**	**212**	T	T	17 18 29.0	
	baz=50,slow=75,SNR=7.5						
H04N3	**CROZET ISLANDS**	**63.83**	**212**	T	T	17 18 27.3	
	baz=50,slow=75,SNR=6.8						

JMA ***27*** *16:17:28.6±0.1, 24˚N±2˚×122˚.8E±0˚.6, h23km±2km, MV2.5/15, NW OFF ISHIGAKIJIMA IS*
TAP ***27*** *16:17:28.2, 24˚.28N×122˚.78E, h16km, ML2.9, D*
ISC 27 16:17:28.2±0.9, 24˚.25N±0˚.03×122˚.82E±0˚.02, h20km±4km, n99, σ0°93/188, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonaguni jimaku**	**0.24**	**30**	*i* P	**Pb**	**16 17 33.8**	**-0.2**
JYNG				S	**Sb**	**16 17 37.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.28**	**40**	P	**Pb**	**16 17 34.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.28**	**40**	*i* P	**Pb**	**16 17 34.7**	**+0.1**
YOJ				*e*S	**Sb**	**16 17 39.0**	**0.0**
YOJ	**Yonaguni jima**	**0.28**	**40**	P	**Pb**	**16 17 34.5**	**-0.1**
	baz=47						
YOJ				S	**Sb**	**16 17 39.2**	**+0.3**
	baz=47						
EOS3	**EOS3**	**0.46**	**275**	P	**Pb**	**16 17 36.9**	**-0.5**
	baz=270						
EOS3				S	**Sb**	**16 17 43.6**	**-0.1**
	baz=270						
EOS4	**EOS4**	**0.47**	**255**	P	**Pb**	**16 17 37.1**	**-0.4**
	baz=252						
EOS4				S	**Sb**	**16 17 43.3**	**-0.6**
	baz=252						
EOS2	**EOS2**	**0.56**	**288**	P	**Pb**	**16 17 39.2**	**-0.1**
	baz=283						
EOS2				S	**Sb**	**16 17 47.3**	**+0.4**
	baz=283						
IRIF	**Iriomote-Funau**	**0.84**	**84**	P	**Pb**	**16 17 44.4**	**+0.3**
IRIF				S	**Sn**	**16 17 56.5**	**-0.2**
HATJ	**Hateruma jima**	**0.92**	**102**	P	**Pn**	**16 17 46.2**	**+0.2**
HATJ				*e*S	**Sn**	**16 17 58.6**	**-0.1**
ESAO	**Su ao**	**0.94**	**291**	P	**Pn**	**16 17 46.8**	**+0.5**
	baz=301						
ESAO				S	**Sb**	**16 17 57.8**	**-0.2**
	baz=301						
TWC	**Suao**	**0.95**	**293**	*i* P	**Pb**	**16 17 45.7**	**-0.3**
	baz=303						
TWC				*i* S	**Sb**	**16 17 56.3**	**-1.9**
	baz=303						
EWUT	**Wuta**	**0.97**	**282**	P	**Pb**	**16 17 45.7**	**-0.6**
	baz=279						
EWUT				S	**Sb**	**16 17 58.3**	**-0.3**
	baz=279						
EAHA	**Aohua**	**0.98**	**275**	P	**Pn**	**16 17 47.1**	**+0.2**
	baz=272						
EAHA				S	**Sn**	**16 17 59.7**	**-0.5**
	baz=272						
ENA	**Nanau**	**1.00**	**281**	*i* P	**Pb**	**16 17 45.9**	**-0.9**
	baz=278						
ENA				*i* S	**Sb**	**16 17 59.0**	**-0.4**
	baz=278						
TWB1	**Santiao Chiao**	**1.07**	**315**	P	**Pb**	**16 17 46.7**	**-1.3**
	baz=315						
TWB1				*i* S	**Sn**	**16 18 01.3**	**-1.0**
	baz=315						
NDS	**Dongshan**	**1.07**	**291**	P	**Pb**	**16 17 47.6**	**-0.5**
	baz=289						
NDS				S	**Sb**	**16 18 01.5**	**-0.2**
	baz=289						
JKRS	**Kuro-shima**	**1.09**	**90**	P	**Pb**	**16 17 48.7**	**+0.3**
JKRS				S	**Sn**	**16 18 03.7**	**+0.9**
ETL	**Fush Village**	**1.09**	**266**	P	**Pb**	**16 17 48.1**	**-0.3**
	baz=243						
ETL				*e*S	**Sn**	**16 18 04.8**	**+1.9**
	baz=243						
ILA	**Ilan**	**1.10**	**298**	P	**Pb**	**16 17 49.3**	**+0.8**
	baz=296						
ILA				*i* S	**Sn**	**16 18 03.5**	**+0.4**
	baz=296						
NACB	**Ninganchiao**	**1.12**	**267**	P	**Pb**	**16 17 49.1**	**+0.3**
NACB	**Ninganchiao**	**1.12**	**267**	P	**Pb**	**16 17 48.8**	**-0.1**
	baz=244						
NACB				S	**Sn**	**16 18 04.0**	**+0.5**
	baz=244						
TWD	**Chiawan**	**1.13**	**262**	P	**Pn**	**16 17 48.1**	**-0.7**
	baz=258						
TWD				*e*S	**Sn**	**16 18 04.3**	**+0.6**
	baz=258						
TWE	**Neicheng**	**1.15**	**295**	*i* P	**Pb**	**16 17 49.0**	**-0.3**
	baz=292						
TWE				*i* S	**Sb**	**16 18 03.4**	**-0.4**
	baz=292						
TIPB	**Shuangxi**	**1.16**	**309**	P	**Pn**	**16 17 48.7**	**-0.6**
	baz=307						
TIPB				S	**Sn**	**16 18 03.8**	**-0.7**
	baz=307						
SXI1	**Grass Mountain**	**1.20**	**315**	P	**Pn**	**16 17 49.0**	**-0.9**
	baz=332						
SXI1				S	**Sn**	**16 18 05.1**	**-0.6**
	baz=332						
ENTT	**Nioudou**	**1.20**	**289**	*i* P	**Pb**	**16 17 50.2**	**-0.1**
	baz=300						
ENTT				*i* S	**Sn**	**16 18 05.7**	**0.0**
	baz=300						
LATG	**Datong**	**1.21**	**284**	P	**Pb**	**16 17 50.1**	**-0.4**
	baz=281						
LATG				S	**Sn**	**16 18 05.9**	**-0.1**
	baz=281						
JIJ	**Ishigaki jima**	**1.22**	**84**	P	**Pn**	**16 17 49.5**	**-0.6**
JIJ				S	**Sb**	**16 18 05.5**	**-0.3**
ETLH	**Xiulin Townshi**	**1.22**	**268**	P	**Pb**	**16 17 50.3**	**-0.3**
	baz=265						
ETLH				S	**Sn**	**16 18 06.6**	**+0.5**
	baz=265						
FUSB	**Fushanzhiwuyua**	**1.23**	**295**	P	**Pb**	**16 17 50.6**	**-0.2**
	baz=311						
FUSB				S	**Sn**	**16 18 06.2**	**-0.2**
	baz=311						
SHUL	**Shoufeng**	**1.23**	**249**	*e*P	**Pb**	**16 17 50.6**	**-0.1**
	baz=245						
SHUL				S	**Sn**	**16 18 06.6**	**+0.2**
	baz=245						
NDT	**Datong Townshi**	**1.24**	**287**	P	**Pb**	**16 17 50.6**	**-0.3**
	baz=298						
NDT				S	**Sn**	**16 18 06.7**	**+0.2**
	baz=298						
ETM	**Tongmen**	**1.24**	**257**	P	**Pn**	**16 17 50.0**	**-0.5**
	baz=254						
ETM				S	**Sn**	**16 18 07.5**	**+1.0**
	baz=254						
LXIB	**Xiulin Townshi**	**1.30**	**260**	P	**Pn**	**16 17 51.1**	**-0.2**
	baz=257						
LXIB				S	**Sb**	**16 18 10.0**	**+1.6**
	baz=257						
NWLT	**Wulai**	**1.31**	**294**	P	**Pb**	**16 17 51.8**	**-0.4**
	baz=309						
NWLT				S	**Sn**	**16 18 07.4**	**-0.8**
	baz=309						
NNSB	**Datong**	**1.32**	**278**	P	**Pn**	**16 17 51.8**	**+0.1**
	baz=259						
NNSB				S	**Sb**	**16 18 08.9**	**0.0**
	baz=259						
NNS	**Nan Shan**	**1.33**	**279**	*i* P	**Pb**	**16 17 52.2**	**-0.3**
	baz=259						
NNS				*i* S	**Sb**	**16 18 08.7**	**-0.5**
	baz=259						
ESL	**Shilin**	**1.33**	**252**	*i* P	**Pn**	**16 17 51.3**	**-0.4**
	baz=248						
ESL				*i* S	**Sn**	**16 18 08.6**	**-0.3**
	baz=248						
NHDH	**Xindian Distri**	**1.38**	**302**	P	**Pb**	**16 17 52.7**	**-0.5**
	baz=316						
NHDH				S	**Sb**	**16 18 10.3**	**0.0**
	baz=316						
YHNB	**Yeheng**	**1.38**	**288**	P	**Pb**	**16 17 53.9**	**+0.6**
YHNB	**Yeheng**	**1.38**	**288**	P	**Pb**	**16 17 52.6**	**-0.7**
	baz=299						
YHNB				S	**Sb**	**16 18 11.8**	**+1.3**
	baz=299						
EGFH	**Guangfu**	**1.39**	**246**	P	**Pn**	**16 17 52.3**	**-0.2**
	baz=242						
EGFH				S	**Sb**	**16 18 11.3**	**+0.4**
	baz=242						
NSK	**Sanguang**	**1.40**	**288**	*i* P	**Pb**	**16 17 53.8**	**+0.1**
	baz=299						
NSK				*i* S	**Sb**	**16 18 10.9**	**-0.2**
	baz=299						
JISG	**Ishigakijimahi**	**1.41**	**76**	P	**Pn**	**16 17 52.3**	**-0.3**
JISG				*e*S	**Sn**	**16 18 09.2**	**-1.4**
WARBT	**Fenglin Townsh**	**1.41**	**248**	P	**Pn**	**16 17 51.6**	**-1.1**
	baz=245						
WARBT				S	**Sb**	**16 18 11.2**	**-0.2**
	baz=245						
TATO	**Taipei**	**1.41**	**301**	P	**Pb**	**16 17 55.9**	**+2.1**
WHF	**Hehuan Shan**	**1.42**	**266**	*i* P	**Pb**	**16 17 53.9**	**-0.4**
	baz=263						
WHF				S	**Sb**	**16 18 11.9**	**-0.2**
	baz=263						
FUSS	**Fushou**	**1.43**	**270**	P	**Pb**	**16 17 53.9**	**-0.5**
	baz=267						
FUSS				S	**Sb**	**16 18 13.7**	**+1.3**
	baz=267						
YM01	**YM01**	**1.45**	**309**	P	**Pb**	**16 17 54.4**	**-0.1**
	baz=307						
YM01				S	**Sn**	**16 18 11.0**	**-0.6**
	baz=307						
HGSD	**Ruisui**	**1.48**	**240**	P	**Pn**	**16 17 52.8**	**-0.9**
	baz=236						
HGSD				S	**Sn**	**16 18 12.7**	**+0.3**
	baz=236						
ANP	**Anpu**	**1.50**	**309**	*e*P	**Pb**	**16 17 55.0**	**-0.5**
	baz=307						
ANP				*e*S	**Sn**	**16 18 12.3**	**-0.9**
	baz=307						
CHGB	**Renai**	**1.51**	**263**	P	**Pb**	**16 17 54.9**	**-0.7**
	baz=245						
CHGB				S	**Sb**	**16 18 15.6**	**+1.1**
	baz=245						
OWD	**Renai**	**1.53**	**259**	P	**Pn**	**16 17 54.0**	**-0.5**
	baz=256						
OWD				S	**Sb**	**16 18 14.5**	**-0.3**
	baz=256						
TWS1	**Kuangyinshan**	**1.53**	**304**	*e*P	**Pb**	**16 17 55.2**	**-0.7**
	baz=302						
TWS1				*e*S	**Sb**	**16 18 14.7**	**-0.2**
	baz=302						
WUSB	**Renai**	**1.57**	**261**	P	**Pn**	**16 17 55.6**	**+0.6**
	baz=257						
WUSB				S	**Sb**	**16 18 16.6**	**+0.4**
	baz=257						
NFF	**Wufeng Townshi**	**1.59**	**284**	P	**Pb**	**16 17 56.9**	**-0.1**
	baz=267						
NFF				S	**Sb**	**16 18 19.2**	**+2.5**
	baz=267						
VWDT	**VWDT**	**1.61**	**253**	P	**Pn**	**16 17 55.9**	**+0.5**
	baz=249						
VWDT				S	**Sb**	**16 18 16.7**	**-0.3**
	baz=249						
YULB	**Yu-li**	**1.63**	**239**	P	**Pn**	**16 17 55.4**	**-0.4**
YULB	**Yu-li**	**1.63**	**239**	P	**Pn**	**16 17 55.1**	**-0.7**
	baz=253						
YULB				S	**Sn**	**16 18 15.8**	**-0.3**
	baz=253						
EYUL	**Yuli**	**1.64**	**237**	P	**Pn**	**16 17 55.6**	**-0.2**
	baz=234						
EYUL				S	**Sb**	**16 18 17.2**	**-0.7**
	baz=234						
TWF1	**Yuli**	**1.65**	**238**	*i* P	**Pn**	**16 17 55.5**	**-0.6**
	baz=234						
TWF1				S	**Sn**	**16 18 16.8**	**+0.1**
	baz=234						
LIOB	**Emei**	**1.69**	**284**	P	**Pb**	**16 17 58.9**	**+0.3**
	baz=265						
LIOB				S	**Sb**	**16 18 20.5**	**+1.1**
	baz=265						
NSTT	**Nanjuang**	**1.70**	**283**	*i* P	**Pb**	**16 17 58.3**	**-0.4**
	baz=265						
NSTT				S	**Sb**	**16 18 20.8**	**+1.2**
	baz=265						
WHP	**Taichung City**	**1.71**	**271**	P	**Pb**	**16 17 59.2**	**+0.3**
	baz=268						
WHP				S	**Sb**	**16 18 20.6**	**+0.6**
	baz=268						
FULB	**Fuli**	**1.74**	**234**	P	**Pn**	**16 17 56.7**	**-0.7**
	baz=217						
FULB				S	**Sb**	**16 18 20.3**	**-0.6**
	baz=217						
WCS	**Beigang Elemen**	**1.75**	**264**	P	**Pb**	**16 17 59.1**	**-0.5**
	baz=261						
WCS				S	**Sb**	**16 18 21.2**	**0.0**
	baz=261						
SSLB	**Suanglung**	**1.76**	**255**	P	**Pn**	**16 17 58.5**	**+0.9**
SSLB	**Suanglung**	**1.76**	**255**	P	**Pn**	**16 17 58.0**	**+0.4**
	baz=252						
SSLB				S	**Sn**	**16 18 19.7**	**+0.2**
	baz=252						
JTJ	**Tarama**	**1.76**	**77**	P	**Pn**	**16 17 57.7**	**+0.1**
SMLT	**Sun Moon Lake**	**1.79**	**259**	*i* P	**Pn**	**16 17 58.7**	**+0.7**
	baz=255						
SMLT				*i* S	**Sb**	**16 18 21.7**	**-0.7**
	baz=255						
EHD	**Haiduan**	**1.83**	**234**	P	**Pn**	**16 17 57.9**	**-0.7**
	baz=218						
EHD				S	**Sn**	**16 18 21.0**	**-0.3**
	baz=218						
TWQ1	**Liyutan**	**1.87**	**274**	P	**Pb**	**16 18 01.1**	**-0.5**
	baz=270						
TWQ1				*e*S	**Sb**	**16 18 25.4**	**+0.8**
	baz=270						
WHYT	**Xinyi Township**	**1.88**	**253**	P	**Pn**	**16 18 00.4**	**+1.2**
	baz=250						
WHYT				S	**Sb**	**16 18 25.4**	**+0.6**
	baz=250						
EDH	**Donghe**	**1.88**	**228**	P	**Pn**	**16 17 58.1**	**-1.1**
	baz=213						
EDH				S	**Sn**	**16 18 19.8**	**-2.5**
	baz=213						
WJS	**Zhushan**	**1.95**	**258**	P	**Pb**	**16 18 02.6**	**-0.5**
	baz=254						
WJS				S	**Sb**	**16 18 29.0**	**+2.0**
	baz=254						
ELDTW	**Lidau**	**1.96**	**238**	*e*P	**Pn**	**16 17 59.7**	**-0.6**
	baz=234						
ELDTW				S	**Sn**	**16 18 24.1**	**-0.2**
	baz=234						
ALS	**Alishan**	**1.98**	**249**	*i* P	**Pn**	**16 18 01.8**	**+1.0**
	baz=245						
ALS				*i* S	**Sn**	**16 18 26.1**	**+0.8**
	baz=245						
LONT	**Longtian**	**2.04**	**230**	P	**Pn**	**16 18 00.0**	**-1.4**
	baz=242						
LONT				*e*S	**Sn**	**16 18 27.3**	**+1.0**
	baz=242						
CHN5	**Tsauling**	**2.06**	**252**	*i* P	**Pb**	**16 18 03.6**	**-1.4**
	baz=237						
CHN5				*i* S	**Sb**	**16 18 31.1**	**+1.0**
	baz=237						
STYH	**Taoyuan**	**2.15**	**241**	P	**Pn**	**16 18 03.5**	**+0.5**
	baz=226						
STYH				S	**Sb**	**16 18 31.1**	**-1.7**
	baz=226						
WCKO	**Fanlu**	**2.18**	**249**	P	**Pb**	**16 18 06.0**	**-1.0**
	baz=245						
WCKO				S	**Sb**	**16 18 33.5**	**0.0**
	baz=245						
TPUB	**Ta-pu**	**2.21**	**245**	P	**Pb**	**16 18 06.0**	**-1.5**
TPUB	**Ta-pu**	**2.21**	**245**	P	**Pb**	**16 18 05.7**	**-1.8**
	baz=242						
TPUB				S	**Sb**	**16 18 33.6**	**-0.9**
	baz=242						
CHN4	**Tsaushan**	**2.22**	**247**	*i* P	**Pb**	**16 18 06.1**	**-1.6**
	baz=243						
CHN4				*i* S	**Sb**	**16 18 35.2**	**+0.4**
	baz=243						
JIRB	**Irabujima**	**2.22**	**74**	P	**Pn**	**16 18 04.3**	**+0.4**
WRL	**Guolierlin Hig**	**2.25**	**262**	P	**Pb**	**16 18 06.5**	**-1.7**
	baz=258						
WRL				*e*S	**Sb**	**16 18 34.5**	**-1.2**
	baz=258						
WTK	**Tuku**	**2.29**	**256**	P	**Pb**	**16 18 07.0**	**-1.8**
	baz=253						
WTK				S	**Sb**	**16 18 37.1**	**+0.4**
	baz=253						
TWK	**Hsinying**	**2.34**	**246**	*i* P	**Pn**	**16 18 07.3**	**+1.6**
	baz=242						
TWK				*i* S	**Sb**	**16 18 37.8**	**-0.6**
	baz=242						
CHN1	**Nanshi**	**2.35**	**244**	*i* P	**Pb**	**16 18 08.5**	**-1.3**
	baz=241						
CHN1				*i* S	**Sb**	**16 18 38.2**	**-0.2**
	baz=241						
SLGT	**Liugui**	**2.35**	**238**	P	**Pb**	**16 18 08.1**	**-1.7**
	baz=225						
SLGT				S	**Sb**	**16 18 38.2**	**-0.2**

TSCK				S		Sn	16 18 46.0	+2.7	
	baz=244								
SLIU	Shizi	2.74	223	P		Pn	16 18 11.9	+0.8	
	baz=220								
SLIU				S		Sn	16 18 45.1	+1.5	
	baz=220								
SCZT	Fangliau	2.75	228	*e*P		Pn	16 18 13.4	+2.3	
	baz=226								

IDC 27 16:23:36.8±2.2, 6°03'S×129°76'E, h0km, mb3.8/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=145.1km s-min=29.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.53	163	Pn	Pn	16 27 03.0	-0.9
	0.4nm,0.3s,baz=346,slow=14,SNR=29						
WRA				Sn	Sn	16 29 34.5	-11
	0.3nm,0.3s,baz=335,slow=22,SNR=3.3 0.6nm,0.4s						
ASAR	Alice Springs	17.98	168	P	P	16 27 48.9	-0.1
	0.1nm,0.3s,baz=346,slow=9.1,SNR=15						
ASAR				S	Sn	16 31 00.6	-9.1
	0.3nm,0.7s,baz=358,slow=28,SNR=4.5 0.4nm,0.6s						
MKAR	Makanchi Array	67.29	327	P	P	16 34 33.4	0.0
	0.4nm,0.4s,baz=121,slow=6.9,SNR=15 0.4nm,0.4s						

*IDC **27** 16:39:59.3±5.9, 30°.73S×179°.95E, h392km±47km, mb3.4/5, mbtmp4.3/6, Error ellipse: s-maj=64.1km s-min=19.2km az=45.0*
*WEL **27** 16:41:34.0, 38°.8S±20°×17°.8E±1°.6, h96km±25km, M2.6/22, ML2.3/11, MLv2.6/22, Error ellipse: s-maj=0.0km s-min=0.0km az=156.7*

ISC 27 16:39:59.6±1.6, 30°.84S±0°.10×179°.9W±0°.2, h400km, n64, σ2s21/62, mb3.6/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.87	192	P	P	16 41 44.0	+1.7
MXZ	Matakaoa Point	6.87	192	P	P	16 41 46.2	+3.9
OUZ	Omahuta	7.01	230	P	P	16 41 48.2	+4.3
WMGZ	Waiomatatini S	7.11	191	P	P	16 41 46.8	+1.9
WMGZ	Waiomatatini S	7.11	191	P	S	16 43 10.2	+0.3
HAZ	Te Kaha	7.17	195	P	S	16 41 46.5	+1.0
HAZ	Te Kaha	7.17	195	P	S	16 43 11.4	+0.2
PKGZ	Pakihiroa	7.23	193	P	P	16 41 49.4	+3.0
PUZ	Puketiti	7.38	192	P	P	16 41 49.1	+1.1
PUZ	Puketiti	7.38	192	P	S	16 43 11.6	-4.0
RUGZ	Raukumara Rang	7.39	195	P	P	16 41 49.3	+1.1
RUGZ	Raukumara Rang	7.39	195	P	S	16 43 13.4	-2.6
TWGZ	Tauwhareparae	7.53	193	P	P	16 41 51.5	+1.8
TWGZ	Tauwhareparae	7.53	193	P	S	16 43 19.5	+0.7
OPRZ	Ohinepanea	7.59	202	P	P	16 41 54.1	+3.9
MARZ	Manawahe	7.68	201	P	P	16 41 55.2	+4.0
MWZ	Matawai	7.78	195	P	P	16 41 52.9	+0.5
MWZ	Matawai	7.78	195	P	S	16 43 23.7	-0.3
CNGZ	Carnagh Statio	7.79	191	P	P	16 41 54.2	+1.8
URZ	Urewera	7.81	198	P	P	16 41 55.8	+3.1
URZ	Urewera	7.81	198	P	P	16 41 53.4	+0.7
	23nm,0.3s,baz=349,slow=4.7,SNR=60						
URZ				S	S	16 43 23.1	-1.4
	13nm,0.3s,baz=138,slow=23,SNR=15						
URZ	Urewera	7.81	198	P	S	16 43 22.8	-1.7
TKGZ	Te Karaka	7.81	193	P	P	16 41 53.7	+1.0
TKGZ	Te Karaka	7.81	193	P	S	16 43 20.5	-4.0
TOZ	Tahuroa Road	7.87	208	P	P	16 41 59.5	+6.2
RAGZ	Rawiri	7.96	196	P	S	16 43 28.3	+0.5
RIGZ	Rimuhau	8.09	193	P	P	16 41 56.3	+0.5
RIGZ	Rimuhau	8.09	193	P	S	16 43 24.9	-5.5
PRGZ	Paritu Road	8.27	192	P	S	16 43 28.6	-5.8
WHHZ	Waihua	8.55	195	P	P	16 42 03.5	+2.5
HIZ	Hauiti	8.80	208	P	P	16 42 07.7	+4.0
HIZ	Hauiti	8.80	208	P	P	16 42 09.0	+5.3
BKZ	Black Stump Fm	8.82	199	P	P	16 42 06.1	+2.0
TMVZ	Te Maari	9.02	203	P	P	16 42 08.6	+2.3
NNVZ	North Ngauruho	9.06	203	P	Pn	16 42 09.1	+2.3
OTVZ	Oturere	9.07	203	P	P	16 42 07.1	+0.1
SNVZ	South Ngauruho	9.10	203	P	Pn	16 42 08.5	+1.2
NGZ	Ngauruhoe	9.11	203	P	Pn	16 42 09.8	+2.5
CKHZ	Cape Kidnapper	9.14	195	P	Pn	16 42 09.6	+2.0
TRVZ	Turoa	9.23	203	P	Pn	16 42 10.7	+1.9
BHHZ	Black Hill Sta	9.25	200	P	Pn	16 42 09.2	+0.3
PKVZ	Pokaka	9.29	204	P	Pn	16 42 10.4	+1.0
KRHZ	Kereru	9.30	198	P	Pn	16 42 09.9	+0.4
KAHZ	Kahuranaki	9.32	196	P	Pn	16 42 11.9	+2.3
MTVZ	Mangateitei	9.34	203	P	Pn	16 42 12.2	+2.3
VRZ	Vera Road	9.36	207	P	Pn	16 42 14.1	+4.0
PXZ	Pawanui	9.55	195	P	Pn	16 42 13.6	+1.3
PNHZ	Pukenui	9.60	198	P	P	16 42 12.9	+0.2
WPHZ	Waipukurau	9.68	197	P	Pn	16 42 15.0	+1.2
TSZ	Takapari Road	9.80	199	P	P	16 42 14.9	0.0
PRHZ	Porangahau	9.82	196	P	Pn	16 42 16.9	+1.4
WAZ	Wanganui	9.84	204	P	P	16 42 15.2	0.0
DVHZ	Dannevirke	9.97	198	P	Pn	16 42 17.7	+0.5
ANWZ	Angora Road	10.05	196	P	Pn	16 42 19.1	+1.1
BFZ	Birch Farm	10.31	197	P	P	16 42 20.8	+0.3
BFZ	Birch Farm	10.31	197	P	Pn	16 42 21.7	+0.6
MRZ	Mangatainoka R	10.47	199	P	P	16 42 22.4	+0.1
KHZ	Kahutara	12.70	203	P	P	16 42 46.6	-0.2
CTA	Charters Tower	32.29	281	P	P	16 45 53.2	-0.2
	2.7nm,0.4s,baz=132,slow=9.5,SNR=6.9 2.7nm,0.4s						
STKA	Stephens Creek	32.81	258	P	P	16 45 56.9	-0.8
	1.0nm,0.4s,baz=81,slow=11,SNR=4.5 1.0nm,0.4s						
ASAR	Alice Springs	41.48	268	P	P	16 47 08.3	-1.5
	1.0nm,0.3s,baz=105,slow=7.5,SNR=12 1.0nm,0.3s						
WRA	Warramunga Arr	42.51	274	P	P	16 47 16.6	-1.3
	1.9nm,0.3s,baz=111,slow=8.0,SNR=51 1.9nm,0.3s						
QSPA	South Pole Qui	59.27	180	P	P	16 49 22.0	+1.4
	1.4nm,0.9s,baz=229,slow=2.2,SNR=12 1.4nm,0.9s						
FINES	FINESS Array B	144.98	339	PKP	PKPdf	16 58 47.5	-1.7
	1.2nm,0.6s,baz=64,slow=3.2,SNR=7.9						

IDC 27 17:07:51.4±4.5, 3°.23S×99°.99E, h0km, mb3.5/5, mbtmp3.5/5, MS3.0/1, Error ellipse: s-maj=187.7km s-min=24.4km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	27.71	260	T	T	17 42 48.1	
	baz=82,slow=76,SNR=109						
H08S3	Diego Garcia H	27.72	260	T	T	17 42 48.6	
	baz=82,slow=76,SNR=109						
H08S1	Diego Carcia H	27.73	260	T	T	17 42 49.5	
	baz=82,slow=76,SNR=93						
H01W3	Cape Leeuwin H	34.13	159	T	T	17 50 38.7	
	baz=336						
H01W2	Cape Leeuwin H	34.14	159	T	T	17 50 37.7	
	baz=336						
H01W1	Cape Leeuwin H	34.14	159	T	T	17 50 39.0	
	baz=336						
WRA	Warramunga Arr	37.40	119	P	P	17 15 06.6	+0.1
	0.8nm,1.0s,baz=276,slow=7.7,SNR=1.9 0.8nm,1.0s						
ASAR	Alice Springs	38.55	125	P	P	17 15 15.9	-0.3
	0.1nm,0.6s,baz=300,slow=8.0,SNR=1.3 0.1nm,0.6s						
SONM	Songino Array	51.16	6	P	P	17 16 56.1	-0.2
	0.4nm,0.4s,baz=190,slow=7.9,SNR=3.7 0.4nm,0.4s						
MKAR	Makanchi Array	52.20	345	P	P	17 17 04.4	+0.3
	0.9nm,0.7s,baz=145,slow=8.9,SNR=9.3						
MKAR				LR	LR	17 40 42.3	
	comp=Z,16nm,20.4s,baz=339,slow=38 0.9nm,0.7s						
ZALV	Zalesovo Beam	58.37	350	P	P	17 17 47.8	-0.5
	0.5nm,0.5s,baz=150,slow=6.1,SNR=4.4 0.5nm,0.5s						
H04N2	CROZET ISLANDS	59.81	217	T	T	18 23 07.1	
	baz=60,slow=75,SNR=341						
H04N1	CROZET ISLANDS	59.82	217	T	T	18 23 07.6	
	baz=60,slow=75,SNR=372						
H04N3	CROZET ISLANDS	59.83	217	T	T	18 23 06.2	
	baz=60,slow=75,SNR=339						
H04S1	CROZET ISLANDS	60.09	216	T	T	18 23 22.2	
	baz=59,slow=75,SNR=7.6						
H04S3	CROZET ISLANDS	60.10	216	T	T	18 23 24.4	
	baz=59,slow=75,SNR=11						
H04S2	CROZET ISLANDS	60.11	216	T	T	18 23 24.9	
	baz=59,slow=75,SNR=10						

*NEIC **27** 17:19:14.9±1.6, 36°.18N±0°.03×70°.23E±0°.07, h123km±7km, mb4.0/11, Error ellipse: s-maj=9.0km s-min=3.0km az=75.0*
*NNC **27** 17:19:17.8±1.6, 36°.39N×70°.40E, h144km±25km, mb3.1, mpv3.7, Error ellipse: s-maj=15.5km s-min=13.1km az=131.0*
*IDC **27** 17:19:18.2±8.2, 36°.63N×69°.95E, h102km±89km, mb3.5/2, mbtmp3.7/5, ML3.0/3, Error ellipse: s-maj=157.2km s-min=30.8km az=171.0*

ISC 27 17:19:13.3±0.6, 36°.16N±0°.05×70°.28E±0°.05, h100km, n51, σ2s01/63, mb4.0/5, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.90	212	Pn	Pn	17 19 47.9	+3.0
KBL				Sn	Sn	17 20 12.2	+3.3
SIMJ	Simiganj	2.69	338	Pn	Pn	17 19 57.3	+2.2
SIMJ				Sn	Sn	17 20 27.6	+0.4
NIL	Nilore	3.50	135	Pn	Pn	17 20 09.1	+3.3
NIL				Sn	Sn	17 20 48.3	+1.9
BTK	Batken	3.92	6	Pn	Pn	17 20 14.4	+3.0
BTK				Sn	Sn	17 20 59.9	+3.5
JMU	Jammu	5.14	131	*e*P	Pn	17 20 30.0	+2.1
JMU				*e*S	Sn	17 21 26.4	+0.5
DHRM	DHARAMSHALA	6.33	126	*e*P	Pn	17 20 46.3	+2.0
DHRM				*e*S	Sn	17 21 54.7	-0.6
DHRM				IAML		17 21 57.0	
	comp=E,89nm,0.2s						
DHRM				IAML		17 21 58.2	
	comp=E,142nm,0.3s						
DHRM				IAML		17 22 03.2	
	comp=E,89nm,0.1s						
AML	Almayashu	6.53	23	P	Pn	17 20 49.0	+1.9
	SNR=14						
AML	Almayashu	6.53	23	⇓P	Pn	17 20 48.8	+1.7
	comp=E,0.8nm,0.4s						
AML				⇑S	Sn	17 21 59.4	-0.8
	comp=E,6.3nm,0.7s						
UCH	Uchtor	6.89	27	P	Pn	17 20 54.3	+2.1
	SNR=6.8						
NRN	Naryn	6.91	39	Pn	Pn	17 20 52.6	+0.4
KK31	Karatay Array	6.94	1	P	Pn	17 20 53.7	+1.4
	comp=E,3.6nm,0.3s,baz=183,slow=12,SNR=120						
KK31				⇓S	Sn	17 22 10.2	+0.5
	comp=E,2.7nm,0.3s,baz=194,slow=25,SNR=6.6						
KK31	Karatay Array	6.94	1		Pn	17 20 53.5	+1.2
KKAR	Karatay Array	6.94	1		Pn	17 20 53.6	+1.2
KKAR	Karatay Array	6.94	1		Pn	17 20 53.5	+1.2
KKAR				Sn	Sn	17 22 08.0	-1.7
EKS2	Erkin-Say	7.04	22	P	Pn	17 20 56.3	+2.6
	SNR=20						
AAK	Ala-Archa	7.25	25	P	Pn	17 20 59.0	+2.3
	SNR=7.3						
AAK	Ala-Archa	7.25	25		Pn	17 20 58.9	+2.2
FRU1	Bishkek	7.45	26	Pn	Pn	17 21 02.0	+2.8
SMLA	Simla	7.63	129	*e*P	Pn	17 21 03.7	+2.0
SMLA				*e*S	Sn	17 22 23.4	-3.1
SMLA				IAML		17 22 26.0	
	comp=N,41nm,0.2s						
SMLA				IAML		17 22 27.1	
	comp=E,50nm,0.2s						
ULHL	Ulahol	7.64	35	P	Pn	17 21 06.1	+4.0
	SNR=5.5						
CHMS	Chumysh	7.65	25	P	Pn	17 21 05.5	+3.4
	SNR=8.9						
USP	Ospenovka	7.81	23	P	Pn	17 21 06.0	+1.8
	SNR=29						
TKM2	Tokmak 2	7.90	30	⇑P	Pn	17 21 06.5	+0.9
	comp=E,3.5nm,0.5s						
TKM2				⇓S	Sn	17 22 33.1	-0.4
	comp=E,2.6nm,0.6s						
KUDL	Kundal	9.57	145	*e*P	Pn	17 21 28.2	+0.1
KUDL				*e*S	Sn	17 23 07.7	-6.0
GEYT	Alibeck	9.88	284	Pn	Pn	17 21 33.0	+0.7
GEYT	Alibeck	9.88	284	P	Pn	17 21 32.7	+0.3
	comp=E,0.2nm,0.3s,baz=120,slow=8.5,SNR=1.9						
GEYT				S	Sn	17 23 17.4	-3.9
	comp=E,1.5nm,0.6s,baz=98,slow=4.4,SNR=3.1 comp=E,0.4nm,0.3s						
GYA0B	ALIBECK ARRAY	9.88	284	Pn	Pn	17 21 33.2	+0.8
PTH	Pithoragarh	10.64	125	*e*P	Pn	17 21 45.2	+2.3
PTH				*e*S	Sn	17 23 33.8	-6.3
LGTI	Lohaghat	10.72	126	*e*P	Pn	17 21 43.2	-0.7
LGTI				*e*S	Sn	17 23 33.3	-8.6
MAKZ	Makanchi	13.77	36	Pn	Pn	17 22 25.2	+1.0
MK31	Makanchi Array	13.91	37		Pn	17 22 27.8	+1.8
MKAR	Makanchi Array	13.91	37	Pn	Pn	17 22 28.0	+2.0
MKAR	Makanchi Array	13.91	37	P	Pn	17 22 28.4	+2.4
	comp=E,0.1nm,0.3s,baz=220,slow=15,SNR=5.1 comp=E,0.6nm,0.6s						
AB31	Akbulak array	15.11	333	P	Pn	17 22 41.1	-0.1
	comp=E,1.6nm,0.3s,baz=145,slow=15,SNR=108						
ABKAR	Akbulak array	15.11	333		Pn	17 22 40.4	-0.9
ABKAR				IAmb	IAmb	17 22 42.6	
	comp=Z,5.3nm,0.5s						
ABKAR	Akbulak array	15.11	333		Pn	17 22 40.7	-0.6
KURBB	Kurchatov Arra	15.64	20	P	Pn	17 22 47.8	0.0
	comp=Z,0.1nm,0.3s,baz=210,slow=10,SNR=12 comp=Z,0.8nm,0.6s						
KURK	Kurchatov	15.75	20	Pn	Pn	17 22 49.1	-0.1
AKTO	Aktyubinsk	16.80	332	⇓P	Pn	17 23 02.5	+0.3
	comp=Z,2.3nm,0.8s						
BRVK	Borovoye	16.90	0		Pn	17 23 03.1	-0.3
ZAA0	Zalesovo Array	20.47	25	P	P	17 23 41.8	-0.9
ZALV	Zalesovo Beam	20.47	25	P	P	17 23 41.8	-0.9
ZALV	Zalesovo Beam	20.47	25	P	P	17 23 44.0	+1.2
	comp=Z,3.0nm,0.4s,baz=218,slow=10,SNR=16 comp=Z,3.0nm,0.4s						
ARU	Arti	21.77	342	P	P	17 23 56.1	-0.6
	comp=Z,1.0nm,0.4s,baz=159,slow=5.6,SNR=4.4 comp=Z,1.0nm,0.4s						
CSS	Mathiatis	29.97	279	P	P	17 25 11.6	-0.6
FUORN	Ofenpass-Fuorn	45.22	303	P	P	17 27 16.8	-3.8
FUORN				IAmb	IAmb	17 27 34.6	
	comp=Z,5.2nm,1.5s						
SUMG	Summit	61.19	341	*i* P	P	17 29 18.0	+0.6
D19K	Kuna River	69.64	17	P	P	17 30 10.6	-0.9
D19K				IAmb	IAmb	17 30 12.5	
	comp=Z,2.5nm,1.1s						
F15K	North Star Dit	69.97	21	P	P	17 30 13.1	-0.5
F15K				IAmb	IAmb	17 30 31.1	
	comp=Z,3.3nm,1.3s						
G19K	Purcell Mounta	71.72	18	P	P	17 30 24.0	-0.1
G19K				IAmb	IAmb	17 30 59.8	
	comp=Z,4.6nm,1.4s						
J16K	Anvik River	72.95	22	P	P	17 30 31.8	+0.3

*NOU **27** 17:23:21.8, 21°.80S×169°.67E, h0km, MLv4.5/8, Southeast of Loyalty Islands*
*IDC **27** 17:23:32.5±2.4, 20°.95S×168°.52E, h0km, mb3.7/3, mbtmp3.7/4, ML3.7/1, MS2.9/2, Error ellipse: s-maj=115.3km s-min=25.2km az=149.0*

ISC 27 17:23:31.6±1.4, 21°.8S±0°.1×169°.0E±0°.1, h10km, n14, σ0s56/14, mb3.8/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	1.63	239	P	Pn	17 23 59.6	-0.8
LIFNC	LIFOU	1.90	302	P	Pn	17 24 03.4	-0.7
YATNC	Mamie plateau,	1.95	262	P	Pn	17 24 04.5	-0.3
OUENC	Ouen Island, N	2.07	252	P	Pn	17 24 06.6	+0.2
DZM	Mont Dzumac	2.36	263	P	Pn	17 24 10.7	+0.2
DZM	Mont Dzumac	2.36	263	Pn	Pn	17 24 10.7	+0.2
	20nm,0.3s,baz=126,slow=8.6,SNR=439						
DZM				LR	LR	17 24 37.7	
	comp=Z,129nm,18.7s,baz=66,slow=29						
DZM				Sn	Sn	17 24 40.2	+0.6
	49nm,0.3s,baz=115,slow=14,SNR=18 37nm,0.3s						
ONTNC	Ouen Toro	2.39	257	P	Pn	17 24 10.9	+0.1
NOUC	Port Laguerre	2.49	262	P	Pn	17 24 12.4	+0.1
KOUNC	Koumac, New Ca	4.54	285	P	Pn	17 24 40.6	+0.2
CTA	Charters Tower	21.28	270	LR	LR	17 36 16.4	
	comp=Z,55nm,19.2s,baz=90,slow=37						
ASAR	Alice Springs	32.35	260	P	P	17 30 01.4	0.0
	0.8nm,0.7s,baz=80,slow=9.1,SNR=15 0.8nm,0.7s						
WRA	Warramunga Arr	32.37	267	P	P	17 30 00.6	-1.1
	0.5nm,0.6s,baz=97,slow=8.3,SNR=5.4 0.5nm,0.6s						
NVAR	Mina Array Bea	90.67	49	P	P	17 36 35.7	+0.8
	0.3nm,0.6s,baz=215,slow=7.7,SNR=3.0 0.3nm,0.6s						
GERES	GERESS Array B	146.58	330	PKPbc	PKPbc	17 43 13.2	-0.2
	1.3nm,0.6s,baz=33,slow=3.2,SNR=7.9						

*MOS **27** 17:31:47.7±0.8, 47°.33N×152°.86E, h115km, mb4.1/1, Error ellipse: s-maj=20.7km s-min=8.7km az=53.2*
*IDC **27** 17:31:48.9±3.5, 47°.49N×152°.87E, h116km±37km, mb3.2/3, mbtmp3.8/6, Error ellipse: s-maj=64.7km s-min=26.3km az=147.0*
*NEIC **27** 17:31:48.6±2.6, 47°.6N±0°.3×152°.4E±0°.4, h119km±17km, mb4.0/10, Error ellipse: s-maj=48.8km s-min=14.7km az=136.0*
*SKHL **27** 17:31:49.0±0.6, 47°.30N×152°.80E, h104km±7km, mb4.9/5, msha5.4/6*

ISC 27 17:31:47.7±0.8, 47°.5N±0°.1×152°.6E±0°.1, h100km, n52, σ2s30/52, mb4.0/8, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.93	34	*e*PN	Pn	17 32 47.8	+2.0
SKR				*e*S	Sn	17 33 32.0	+1.1
SKR				smax	smax		
	comp=E,95nm,0.7s						
SKR				smax	smax		
	comp=N,56nm,0.8s						
SKR				MLR	MLR		
	comp=Z,800nm,12.0s						
SKR	Severo-Kuril's	3.93	34	*e*P	Pn	17 32 48.0	+2.2
SKR				*e*S	Sn	17 33 32.7	+1.8
SKR				A	A	17 33 34.0	
	comp=Z,40nm,0.3s						
SKR				A	A	17 33 34.0	
	comp=Z,30nm,0.3s						
KUR	Kuril'sk	4.00	237	*e*PN	Pn	17 32 50.5	+3.8
KUR				S	Sn	17 33 39.6	+7.1
KUR	Kuril'sk	4.00	237	*e*P	Pn	17 32 49.5	+2.8
KUR				AMB	AMB	17 32 52.0	
	comp=Z,70nm,0.6s						
KUR				*e*S	Sn	17 33 33.6	+1.1
KUR				A	A	17 33 36.0	
	comp=Z,110nm,0.6s						
KUR				A	A	17 33 36.0	
	comp=Z,130nm,0.6s						
PAU	Pauzhetka	4.82	33	*e*P	Pn	17 33 01.0	+3.1
PAU				AMB	AMB	17 33 03.5	
	comp=Z,20nm,0.2s						
PAU				*e*S	Sn	17 33 54.9	+2.4
PAU				A	A	17 33 55.5	
	comp=Z,60nm,0.3s						
PAU				A	A	17 33 55.5	
	comp=Z,50nm,0.3s						
SHO	Shikotan	5.44	230	⇑*i* PN	Pn	17 33 08.1	+1.8
SHO				*i* S	Sn	17 34 06.8	-0.8
SHO				pmax	pmax		
	comp=N,7.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,13nm,0.2s						
SHO				pmax	pmax		
	comp=Z,16nm,0.2s						
SHO				smax	smax		
	comp=N,31nm,0.3s						
SHO				smax	smax		
	comp=E,40nm,0.5s						
SHO	Shikotan	5.44	230	*i* P	Pn	17 33 08.2	+1.9
SHO				AMB	AMB	17 33 10.5	
	comp=E,20nm,0.2s						
SHO				*i* S	Sn	17 34 06.8	-0.8
SHO				A	A	17 34 12.3	
	comp=E,40nm,0.5s						
SHO				A	A	17 34 12.3	
	comp=E,120nm,0.5s						
YUK	Yuzh-Kuril'sk	5.86	236	⇓*i* PN	Pn	17 33 14.1	+2.1
YUK				*i* S	Sn	17 34 17.6	-0.2
YUK				smax	smax		
	comp=E,126nm,0.4s						
YUK				smax	smax		
	comp=N,88nm,0.3s						
YUK	Yuzh-Kuril'sk	5.86	236	*i* P	Pn	17 33 13.8	+1.8
YUK				AMB	AMB	17 33 15.6	
	comp=N,90nm,0.5s						
YUK				*i* S	Sn	17 34 18.5	+0.7
YUK				A	A	17 34 21.6	
	comp=N,150nm,0.5s						
YUK				A	A	17 34 21.6	
	comp=N,140nm,0.5s						
NMR	Nemuro--Hokkai	6.37	232	⇑*i* PN	Pn	17 33 18.5	-0.4
NMR	Nemuro--Hokkai	6.37	232	*i* P	Pn	17 33 18.5	-0.4
PEA0B	Petropavlovsk-	6.49	28	Pn	Pn	17 33 21.6	+1.1
PEA0B	Petropavlovsk-	6.49	28	PN	Pn	17 33 21.6	+1.1
PETK	Petropavlovsk-	6.49	28	Pn	Pn	17 33 22.8	+2.2
PETK	Petropavlovsk-	6.49	28	PN	Pn	17 33 22.8	+2.2
PETK	Petropavlovsk-	6.49	28	P	Pn	17 33 20.8	+0.3
	comp=N,2.7nm,0.6s,baz=192,slow=12,SNR=12						
PET	Petropavlovsk	6.75	33	*e*PN	Pn	17 33 28.1	+4.1
PET	Petropavlovsk	6.75	33	*e*P	Pn	17 33 28.1	+4.1
TYV	Tymovskoe	7.36	301	*e*PN	Pn	17 33 37.3	+5.0
JKA	Kamikawa-asahi	7.78	248	Pn	Pn	17 33 41.4	+3.4
JKA	Kamikawa-asahi	7.78	248	*e*P	Pn	17 33 41.7	+3.6
ASAJ	Asahikawa	7.78	248	P	Pn	17 33 41.7	+3.6
	comp=N,16nm,0.6s,baz=69,slow=15,SNR=22						
ERM	Erimo	8.68	234	Pn	Pn	17 33 51.3	+1.0
ERM	Erimo	8.68	234	PN	Pn	17 33 51.3	+1.0
JTM	Tenmabayashi	10.67	235	Pn	Pn	17 34 13.9	-3.5
USA0B	Ussuriysk Arra	14.75	265	Pn	Pn	17 35 08.9	-2.2
USA0B	Ussuriysk Arra	14.75	265	P	Pn	17 35 08.9	-2.2
USRK	Ussuriysk Ar.	14.75	265	Pn	Pn	17 35 08.9	-2.2
USRK	Ussuriysk Ar.	14.75	265	P	P	17 35 12.5	-2.0
	comp=N,4.4nm,0.7s,baz=88,slow=15,SNR=4.5						
MJB9	Matsu-Tunnel	15.29	230		P	17 35 19.6	-0.9
MAJO	Matsushiro	15.29	230		Pn	17 35 19.2	+1.2
MAJO	Matsushiro	15.29	230	P	Pn	17 35 19.2	+1.2
MAJO				pmax	pmax		
	comp=Z,20nm,1.5s						
KSRS	Korea Array	20.72	250	P	Pn	17 36 22.3	-0.9
	comp=Z,1.5nm,0.8s,baz=49,slow=11,SNR=5.9 comp=Z,1.5nm,0.8s						
H11N2	WAKE ISLAND Hy	30.03	152	T	T	18 09 33.2	
	baz=341,slow=74,SNR=5.6						
H11N1	WAKE ISLAND Hy	30.04	152	T	T	18 09 46.3	
	baz=341,slow=74						
H11N3	WAKE ISLAND Hy	30.05	152	T	T	18 09 49.9	
	baz=341						
H11S1	WAKE ISLAND Hy	31.12	153	T	T	18 11 08.8	
	baz=342,slow=76,SNR=7.2						
H11S3	WAKE ISLAND Hy	31.13	154	T	T	18 11 00.7	
	baz=

comp=Z,3.9nm,0.9s

IDC 27 17:36:55.7±3.3,5°05S×135°09E,h0km,mb3.5/1, mbtmp3.4/3,ML3.0/2,MS2.6/1,Error ellipse: s-maj=144.2km s-min=33.5km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.82**	**183**	Pn	Pn	17 40 26.3	-0.4
	0.1nm,0.3s,baz=1.6,slow=12,SNR=1.9						
WRA				Sn	Sn	17 43 06.5	-5.2
	0.1nm,0.3s,baz=7.8,slow=24,SNR=1.9						
ASAR	**Alice Springs**	**18.54**	**183**	P	P	17 41 14.0	-0.1
	0.5nm,0.9s						
ASAR	0.1nm,0.3s,baz=8.1,slow=10,SNR=16			S	Sn	17 44 36.3	-5.9
	0.2nm,0.8s,baz=6.1,slow=27,SNR=1.3						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.61**	**304**	LR	LR	18 05 02.6	
	comp=Z,6.9nm,18.0s,baz=115,slow=40						
MKAR	**Makanchi Array**	**69.50**	**324**	P	P	17 48 06.3	+0.1
	0.5nm,0.9s,baz=116,slow=6.6,SNR=3.6						
	0.5nm,0.9s						

IDC 27 17:47:51.6±1.4,56°34N×148°81W,h0km,mb3.8/5, mbtmp3.7/10,ML3.1/4,MS3.3/24,Error ellipse: s-maj=25.9km s-min=21.0km az=16.0
NEIC 27 17:47:51.9±2.0,56°34N±0°07×148°81W±0°09,h25km±8km, mb4.1/3,ML3.7/56,ML3.4(AEIC),Error ellipse: s-maj=10.8km s-min=7.3km az=167.0
AEIC 27 17:47:55.0±1.9,56°35N±0°07×148°83W±0°09,h9km±6km, Error ellipse: s-maj=10.1km s-min=6.5km az=155.0
ISC 27 17:47:51.0±0.7,56°42N±0°06×148°80W±0°04,h10km, n263,σ1s21/254,mb3.9/6,MS3.3/19,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**305**		**Pn**	**17 48 31.1**	**-0.3**
KDAK				Sn	**Sn**	**17 48 59.3**	**-2.2**
KDAK	**Kodiak Island**	**2.47**	**305**	S	**Sn**	**17 48 58.6**	**-2.9**
	baz=124						
KDAK	**Kodiak Island**	**2.47**	**305**	Pn	**Pn**	**17 48 31.2**	**-0.2**
	5.0nm,0.3s,baz=139,slow=5.2,SNR=45						
KDAK				Sn	**Sn**	**17 48 59.0**	**-2.5**
	5.0nm,0.3s,baz=90,slow=23,SNR=9.9						
KDAK				LR	LR	17 49 45.4	
	comp=Z,813nm,19.8s,baz=153,slow=45						
	10nm,0.3s						
OHAK	**Old Harbor**	**2.59**	**290**	Pn	**Pn**	**17 48 32.1**	**-0.9**
OHAK				Sn	**Sn**	**17 49 00.6**	**-3.9**
OHAK	**Old Harbor**	**2.59**	**290**	P	**Pn**	**17 48 32.1**	**-0.9**
OHAK	**Old Harbor**	**2.59**	**290**	P	**Pn**	**17 48 32.1**	**-0.9**
	baz=108						
OHAK				S	**Sn**	**17 49 00.9**	**-3.6**
	baz=108						
SYI	**Shuyak Island**	**2.93**	**320**		**Pn**	**17 48 37.9**	**+0.3**
SYI				Sn	**Sn**	**17 49 10.9**	**-1.8**
Q20K	**Shuyak Island**	**2.93**	**320**	P	**Pn**	**17 48 37.5**	**0.0**
	baz=138						
Q20K				S	**Sn**	**17 49 11.3**	**-1.5**
	baz=138						
SII	**Sitkinak Islan**	**2.99**	**275**		**Pn**	**17 48 37.8**	**-0.6**
SII				Sn	**Sn**	**17 49 11.2**	**-3.0**
SII				IAML		17 49 17.2	
	comp=N,298nm,1.3s						
SII	**Sitkinak Islan**	**2.99**	**275**	S	**Sn**	**17 49 11.3**	**-3.0**
	baz=92						
MID	**Middleton Isla**	**3.29**	**23**	Pn	**Pn**	**17 48 42.1**	**-0.4**
MID				IAML		17 49 08.7	
	comp=N,204nm,2.1s						
MID				Sn	**Sn**	**17 49 19.9**	**-1.7**
MID				IAML		17 50 05.5	
	comp=E,307nm,2.5s						
MID	**Middleton Isla**	**3.29**	**23**	P	**Pn**	**17 48 42.3**	**-0.2**
Q23K	**Middleton Isla**	**3.29**	**22**	Pn	**Pn**	**17 48 41.7**	**-0.8**
Q23K				IAML		17 49 08.7	
	comp=N,227nm,2.2s						
Q23K				Sn	**Sn**	**17 49 19.2**	**-2.4**
Q23K				IAML		17 50 05.5	
	comp=E,295nm,2.5s						
Q23K	**Middleton Isla**	**3.29**	**22**	P	**Pn**	**17 48 42.2**	**-0.4**
	baz=204						
CNPM	**China Poot**	**3.37**	**338**		**Pn**	**17 48 44.0**	**+0.2**
CNPM	**China Poot**	**3.37**	**338**		**Sn**	**17 49 22.3**	**-1.5**
BRSE	**Bradley Lake S**	**3.48**	**344**		**Pn**	**17 48 45.5**	**+0.3**
BRSE					**Sn**	**17 49 25.2**	**-1.4**
BRSE	**Bradley Lake S**	**3.48**	**344**	P	**Pn**	**17 48 45.5**	**+0.3**
	baz=163						
BRSE				S	**Sn**	**17 49 25.2**	**-1.4**
	baz=163						
BRLK	**Bradley Lake**	**3.53**	**343**		**Pn**	**17 48 46.0**	**+0.1**
BRLK	**Bradley Lake**	**3.53**	**343**		**Sn**	**17 49 26.4**	**-1.3**
HOM	**Homer**	**3.58**	**336**	Pn	**Pn**	**17 48 47.4**	**+0.9**
HOM				IAML		17 49 55.5	
	comp=E,224nm,1.4s						
Q19K	**Cape Douglas,**	**3.62**	**316**		**Pn**	**17 48 48.0**	**+0.9**
Q19K				IAML		17 49 46.1	
	comp=N,208nm,1.0s						
Q19K	**Cape Douglas,**	**3.62**	**316**	P	**Pn**	**17 48 47.3**	**+0.2**
	baz=133						
P23K	**Montague Islan**	**3.66**	**11**		**Pn**	**17 48 47.8**	**+0.1**
P23K					**Sn**	**17 49 27.8**	**-3.1**
P23K	**Montague Islan**	**3.66**	**11**	P	**Pn**	**17 48 47.8**	**+0.1**
	baz=192						
P23K				S	**Sn**	**17 49 27.8**	**-3.1**
	baz=192						
SEW	**Seward**	**3.71**	**355**		**Pn**	**17 48 48.4**	**+0.1**
SEW	**Seward**	**3.71**	**355**	P	**Pn**	**17 48 48.4**	**+0.1**
	baz=175						
KAHG	**Katmai Hook Gl**	**3.73**	**306**		**Pn**	**17 48 49.2**	**+0.4**
P19K	**Oil Pt**	**4.00**	**326**	Pn	**Pn**	**17 48 53.1**	**+0.7**
P19K				IAML		17 49 44.1	
	comp=N,88nm,1.1s						
P19K				IAML		17 49 49.0	
	comp=E,111nm,0.8s						
P19K	**Oil Pt**	**4.00**	**326**	P	**Pn**	**17 48 52.8**	**+0.3**
	baz=143						
Q22K	**Cooper Landing**	**4.10**	**354**	Pn	**Pn**	**17 48 53.4**	**-0.3**
SLKM	**Skilak Lake**	**4.17**	**350**		**Pn**	**17 48 54.5**	**-0.1**
SLKM					**Sn**	**17 49 40.9**	**-2.4**
HIN	**Hinchinbrook I**	**4.17**	**16**		**Pn**	**17 48 54.5**	**-0.2**
HIN				IAML		17 49 54.8	
	comp=N,119nm,1.1s						
HIN				IAML		17 51 11.1	
	comp=E,109nm,2.3s						
O20K	**Slope Mountain**	**4.19**	**333**		**Pn**	**17 48 55.2**	**+0.3**
O20K	**Slope Mountain**	**4.19**	**333**	P	**Pn**	**17 48 55.3**	**+0.3**
	baz=150						
KAIM	**Kayak Island**	**4.21**	**32**		**Pn**	**17 48 55.5**	**+0.3**
KAIM	**Kayak Island**	**4.21**	**32**	P	**Pn**	**17 48 55.3**	**+0.1**
	baz=215						
IVE	**Iliamna Volcan**	**4.24**	**330**		**Pn**	**17 48 55.4**	**-0.3**
IVE					**Sn**	**17 49 42.0**	**-3.2**
CNTC	**Contact Creek**	**4.26**	**299**		**Pn**	**17 48 56.1**	**+0.1**
Q17K	**Contact Creek**	**4.26**	**299**	P	**Pn**	**17 48 56.1**	**+0.1**
	baz=114						
EYAK	**Cordova Ski Ar**	**4.44**	**20**	P	**Pn**	**17 48 58.6**	**+0.3**
RED	**Redoubt Volcan**	**4.52**	**334**		**Pn**	**17 48 59.3**	**-0.3**
CAPN	**Captain Cook N**	**4.53**	**345**	Pn	**Pn**	**17 48 59.8**	**+0.2**
RAGM	**Ragged Mountai**	**4.53**	**27**		**Pn**	**17 48 59.9**	**+0.2**
RAGM				IAML		17 50 07.6	
	comp=E,114nm,1.4s						
P18K	**Big Mountain,**	**4.54**	**314**	Pn	**Pn**	**17 48 59.5**	**-0.3**
P18K	**Big Mountain,**	**4.54**	**314**		**Sn**	**17 49 50.5**	**-2.1**
P18K	**Big Mountain,**	**4.54**	**314**	P	**Pn**	**17 48 59.3**	**-0.4**
	baz=129						
P18K				S	**Sn**	**17 49 50.5**	**-2.1**
	baz=129						
RDSO	**Redoubt South**	**4.54**	**335**		**Pn**	**17 48 59.5**	**-0.4**
RSO	**Redoubt South**	**4.55**	**335**		**Pn**	**17 48 60.0**	**-0.1**
RDT	**Redoubt**	**4.57**	**337**		**Pn**	**17 49 00.0**	**-0.2**
NCT	**North Crescent**	**4.68**	**334**		**Pn**	**17 49 01.5**	**-0.3**
GOAT	**Goat Mountain**	**4.69**	**25**		**Pn**	**17 49 01.8**	**0.0**
RC01	**Rabbit Creek A**	**4.71**	**354**		**Pn**	**17 49 02.7**	**+0.7**
RC01				IAML		17 49 59.1	
	comp=E,41nm,0.9s						
RC01				IAML		17 50 10.9	
	comp=N,36nm,0.9s						
O19K	**Port Alsworth**	**4.77**	**325**		**Pn**	**17 49 03.8**	**+0.9**
BERG	**Berg Lake**	**4.80**	**32**		**Pn**	**17 49 03.4**	**0.0**
BERG	**Berg Lake**	**4.80**	**32**	IAML		17 50 04.9	
	comp=N,90nm,1.0s						
O18K	**Koktuh Hills**	**4.83**	**318**		**Pn**	**17 49 03.5**	**-0.3**
O18K				IAML		17 50 19.9	
	comp=N,26nm,0.9s						
O18K	**Koktuh Hills**	**4.83**	**318**	P	**Pn**	**17 49 03.3**	**-0.5**
	baz=133						
SNH	**Sunshine Point**	**4.91**	**37**	Pn	**Pn**	**17 49 05.3**	**+0.4**
P17K	**Kvichak River**	**4.94**	**307**		**Pn**	**17 49 05.2**	**0.0**
P17K	**Kvichak River**	**4.94**	**307**	P	**Pn**	**17 49 05.2**	**0.0**
	baz=122						
KNK	**Knik Glacier**	**5.01**	**2**	Pn	**Pn**	**17 49 06.5**	**+0.3**
KNK				IAML		17 50 28.5	
	comp=N,28nm,1.5s						
KNK				IAML		17 50 40.5	
	comp=E,29nm,1.2s						
BMRM	**Bremner River**	**5.06**	**24**		**Pn**	**17 49 07.2**	**+0.3**
BMRM	**Bremner River**	**5.06**	**24**	P	**Pn**	**17 49 07.2**	**+0.3**
	baz=207						
N20K	**Mount Spurr**	**5.11**	**341**	P	**Pn**	**17 49 07.4**	**-0.2**
	baz=159						
SPCR	**Spurr Chakacha**	**5.11**	**341**		**Pn**	**17 49 07.4**	**-0.3**
SUA	**Susitna One**	**5.16**	**350**		**Pn**	**17 49 08.1**	**-0.3**
SUA				IAML		17 50 10.4	
	comp=E,31nm,2.9s						
SUA				IAML		17 50 22.0	
	comp=N,33nm,3.1s						
SPCP	**Crater Peak Br**	**5.16**	**342**		**Pn**	**17 49 08.2**	**-0.2**
PMR	**Palmer**	**5.19**	**358**		**Pn**	**17 49 09.1**	**+0.4**
PMR				IAML		17 50 10.4	
	comp=N,19nm,1.2s						
PMR				IAML		17 50 13.6	
	comp=E,22nm,1.0s						
PMR	**Palmer**	**5.19**	**358**	P	**Pn**	**17 49 10.2**	**+1.6**
KLU	**Klutina**	**5.30**	**15**		**Pn**	**17 49 10.6**	**+0.4**
KLU				IAML		17 50 17.8	
	comp=E,29nm,0.9s						
KLU				IAML		17 50 43.5	
	comp=N,24nm,1.6s						
KLU	**Klutina**	**5.30**	**15**	P	**Pn**	**17 49 10.6**	**+0.4**
	baz=198						
N19K	**Bonanza Creek**	**5.31**	**328**		**Pn**	**17 49 10.2**	**-0.2**
N19K				IAML		17 50 28.0	
	comp=E,23nm,3.1s						
N19K				IAML		17 50 34.5	
	comp=N,27nm,3.2s						
N19K	**Bonanza Creek**	**5.31**	**328**	P	**Pn**	**17 49 10.0**	**-0.4**
	baz=144						
STLK	**Strandline Lak**	**5.33**	**344**		**Pn**	**17 49 10.8**	**+0.2**
CHGN	**Chignik**	**5.35**	**273**	Pn	**Pn**	**17 49 10.1**	**-0.7**
CHGN				IAML		17 52 09.5	
	comp=N,56nm,2.1s						
CHGN				IAML		17 52 14.1	
	comp=E,65nm,2.2s						
GHO	**Glory Hole Cre**	**5.37**	**359**		**Pn**	**17 49 11.9**	**+0.7**
SML	**Sawmill**	**5.41**	**2**		**Pn**	**17 49 12.6**	**+0.8**
SML	**Sawmill**	**5.41**	**2**	P	**Pn**	**17 49 12.0**	**+0.3**
	baz=183						
M23K	**Glacier View**	**5.42**	**5**		**Pn**	**17 49 12.3**	**+0.5**
M23K	**Glacier View**	**5.42**	**5**	P	**Pn**	**17 49 12.3**	**+0.5**
	baz=186						
SCM	**Sheep Creek Mo**	**5.48**	**7**		**Pn**	**17 49 13.0**	**+0.2**
SCM	**Sheep Creek Mo**	**5.48**	**7**	P	**Pn**	**17 49 13.0**	**+0.2**
	baz=189						
O17K	**Koliganek Bris**	**5.53**	**311**		**Pn**	**17 49 13.3**	**-0.1**
O17K	**Koliganek Bris**	**5.53**	**311**	P	**Pn**	**17 49 13.3**	**-0.1**
	baz=124						
VRDI	**Verde Repeater**	**5.56**	**28**		**Pn**	**17 49 14.1**	**+0.2**
P16K	**Nushagak River**	**5.58**	**302**		**Pn**	**17 49 13.3**	**-0.7**
P16K	**Nushagak River**	**5.58**	**302**	P	**Pn**	**17 49 13.3**	**-0.7**
	baz=115						
KIAG	**Kiagna River**	**5.63**	**34**		**Pn**	**17 49 14.9**	**0.0**
N25K	**Chitina, Valde**	**5.63**	**21**		**Pn**	**17 49 15.5**	**+0.6**
N25K	**Chitina, Valde**	**5.63**	**21**	P	**Pn**	**17 49 15.2**	**+0.3**
	baz=204						
N18K	**Kilae Creek**	**5.66**	**322**	Pn	**Pn**	**17 49 14.9**	**-0.1**
GLB	**Gilahina Butte**	**5.66**	**25**		**Pn**	**17 49 15.6**	**+0.4**
SKT	**Skwentna**	**5.75**	**347**		**Pn**	**17 49 17.2**	**+0.8**
YKU2	**Yakutat**	**5.76**	**54**	Pn	**Pn**	**17 49 17.2**	**+0.7**
PTPK	**Patty Peak**	**5.80**	**32**		**Pn**	**17 49 17.6**	**+0.4**
PCA	**Pinnacle**	**5.82**	**47**		**Pn**	**17 49 17.9**	**+0.4**
PINM	**Pinnacle**	**5.82**	**47**	P	**Pn**	**17 49 17.8**	**+0.4**
	baz=234						
M24K	**Tolsona, Glenn**	**5.86**	**12**		**Pn**	**17 49 18.2**	**+0.2**
M24K	**Tolsona, Glenn**	**5.86**	**12**	P	**Pn**	**17 49 18.9**	**+0.9**
	baz=194						
O16K	**Kokwok River B**	**5.87**	**307**		**Pn**	**17 49 18.1**	**+0.1**
O16K	**Kokwok River B**	**5.87**	**307**	P	**Pn**	**17 49 18.3**	**+0.3**
	baz=119						
M20K	**Styx River**	**5.91**	**340**	Pn	**Pn**	**17 49 18.7**	**+0.1**
M20K	**Styx River**	**5.91**	**340**	P	**Pn**	**17 49 18.7**	**+0.1**
	baz=156						
BARN	**Barnard Glacie**	**5.95**	**36**		**Pn**	**17 49 19.8**	**+0.5**
PNL	**Peninsula**	**5.96**	**53**		**Pn**	**17 49 19.5**	**+0.2**
PNL	**Peninsula**	**5.96**	**53**	P	**Pn**	**17 49 19.5**	**+0.2**
	baz=240						
CTGM	**Chitina Glacie**	**5.99**	**37**		**Pn**	**17 49 20.0**	**+0.2**
LOGN	**Logan Glacier**	**6.00**	**39**		**Pn**	**17 49 20.3**	**+0.3**
N17K	**Nushagak Hills**	**6.02**	**317**		**Pn**	**17 49 19.6**	**-0.5**
CUT	**Chuitna**	**6.05**	**354**	Pn	**Pn**	**17 49 21.0**	**+0.6**
M19K	**Big River Lodg**	**6.20**	**335**	Pn	**Pn**	**17 49 22.3**	**-0.2**
M19K	**Big River Lodg**	**6.20**	**335**	P	**Pn**	**17 49 21.9**	**-0.7**
	baz=150						
M18K	**Stony River**	**6.25**	**327**		**Pn**	**17 49 22.7**	**-0.4**
M18K	**Stony River**	**6.25**	**327**	P	**Pn**	**17 49 22.7**	**-0.4**
	baz=142						
HARP	**HAARP**	**6.28**	**16**		**Pn**	**17 49 23.9**	**+0.3**
HARP	**HAARP**	**6.28**	**16**	P	**Pn**	**17 49 23.9**	**+0.3**
	baz=199						
CNBA	**Chernabura Isl**	**6.32**	**260**	Pn	**Pn**	**17 49 23.2**	**-0.9**
L19K	**White Mountain**	**6.55**	**334**		**Pn**	**17 49 26.9**	**-0.5**
L20K	**Farewell, AK**	**6.60**	**339**		**Pn**	**17 49 27.7**	**-0.4**
L20K	**Farewell, AK**	**6.60**	**339**	P	**Pn**	**17 49 27.7**	**-0.4**
	baz=155						
O29M	**Mount Kennedy**	**6.64**	**50**		**Pn**	**17 49 29.3**	**+0.6**
O29M	**Mount Kennedy**	**6.64**	**50**	P	**Pn**	**17 49 28.6**	**0.0**
	baz=238						
SDPT	**Sand Point**	**6.66**	**266**	Pn	**Pn**	**17 49 29.6**	**+0.9**
P29M	**Windy Craggy**	**6.70**	**57**		**Pn**	**17 49 29.5**	**+0.1**
P29M	**Windy Craggy**	**6.70**	**57**	P	**Pn**	**17 49 29.0**	**-0.4**
	baz=246						
M17K	**Holitna River**	**6.70**	**322**		**Pn**	**17 49 29.5**	**+0.1**
DHY	**Denali Highway**	**6.71**	**6**		**Pn**	**17 49 30.5**	**+0.8**
M27K	**Eagle Creek, AK**	**6.92**	**28**		**Pn**	**17 49 33.2**	**+0.7**
S31K	**Pelican**	**7.00**	**72**	Pn	**Pn**	**17 49 31.9**	**-1.7**
S31K	**Pelican**	**7.00**	**72**	P	**Pn**	**17 49 32.4**	**-1.1**
	baz=262						
RND	**Reindeer**	**7.01**	**360**	Pn	**Pn**	**17 49 35.2**	**+1.5**
M16K	**Timber Creek**	**7.01**	**315**	Pn	**Pn**	**17 49 33.8**	**+0.1**
MENT	**Mentasta**	**7.02**	**19**	Pn	**Pn**	**17 49 35.6**	**+1.8**
N15K	**Kwethluk River**	**7.03**	**307**		**Pn**	**17 49 35.0**	**+1.0**
L18K	**Granite Mounta**	**7.07**	**329**	Pn	**Pn**	**17 49 35.4**	**+0.9**
TRF	**Thorofare Moun**	**7.09**	**355**	Pn	**Pn**	**17 49 35.9**	**+1.0**
L26K	**Log Cabin Wild**	**7.17**	**20**		**Pn**	**17 49 36.8**	**+0.9**
CAST	**Castle Rocks**	**7.21**	**348**	Pn	**Pn**	**17 49 37.3**	**+0.9**
O14K	**Tigyukauivet M**	**7.23**	**298**	Pn	**Pn**	**17 49 37.7**	**+1.1**
KTH	**Kantishna Hill**	**7.23**	**352**	Pn	**Pn**	**17 49 37.9**	**+1.2**
HYT	**Haines Junctio**	**7.36**	**49**	Pn	**Pn**	**17 49 39.9**	**+1.3**
K20K	**Telida**	**7.44**	**341**		**Pn**	**17 49 40.4**	**+0.8**
SIT	**Sitka**	**7.44**	**79**	Pn	**Pn**	**17 49 36.9**	**-2.6**
TTA	**Tatalina**	**7.47**	**334**	Pn	**Pn**	**17 49 39.6**	**-0.5**
TTA	**Tatalina**	**7.47**	**334**	P	**Pn**	**17 49 40.4**	**+0.3**
L27K	**Beaver Creek,**	**7.53**	**25**		**Pn**	**17 49 41.3**	**+0.5**
BCAR	**Beaver Creek A**	**7.54**	**25**	Pn	**Pn**	**17 49 41.5**	**+0.5**
RIDG	**Independent Ri**	**7.60**	**13**		**Pn**	**17 49 41.1**	**-0.7**
L16K	**Owhat River**	**7.63**	**318**	Pn	**Pn**	**17 49 42.2**	**0.0**
BPAW	**Bear Paw Mtn.**	**7.78**	**353**	Pn	**Pn**	**17 49 43.3**	**-0.9**
SKAG	**Skagway**	**7.79**	**61**	Pn	**Pn**	**17 49 43.9**	**-0.4**
S32K	**Killisnoo**	**7.85**	**76**	Pn	**Pn**	**17 49 43.8**	**-1.4**
N30M	**Aishikik Lake**	**7.88**	**45**		**Pn**	**17 49 46.2**	**+0.6**
K17K	**Iditarod**	**7.94**	**327**	Pn	**Pn**	**17 49 45.9**	**-0.4**
O30N	**Mendenhall**	**7.94**	**51**	Pn	**Pn**	**17 49 46.3**	**-0.1**
R32K	**Eaglecrest**	**7.95**	**71**	Pn	**Pn**	**17 49 43.5**	**-3.0**
SCRK	**Sand Creek**	**7.95**	**16**	Pn	**Pn**	**17 49 47.5**	**+0.9**
M29M	**Somme Creek**	**8.01**	**37**		**Pn**	**17 49 48.1**	**+0.7**
M29M	**Somme Creek**	**8.01**	**37**	P	**Pn**	**17 49 48.8**	**+1.3**
	baz=226						
JIS	**Juneau Island**	**8.02**	**71**	Pn	**Pn**	**17 49 47.1**	**-0.4**
JIS	**Juneau Island**	**8.02**	**71**	P	**Pn**	**17 49 47.6**	**+0.2**
HDA	**Harding Lake**	**8.07**	**6**		**Pn**	**17 49 48.8**	**+0.7**
J18K	**Innoko River**	**8.10**	**334**	Pn	**Pn**	**17 49 48.8**	**+0.2**
M14K	**Bethel**	**8.12**	**308**	Pn	**Pn**	**17 49 47.7**	**-1.1**
NEA2	**Nenana**	**8.20**	**359**	Pn	**Pn**	**17 49 48.2**	**-1.7**
J20K	**Nowinta River**	**8.22**	**343**	Pn	**Pn**	**17 49 50.2**	**0.0**
CCB	**Clear Creek Bu**	**8.27**	**3**	Pn	**Pn**	**17 49 50.4**	**-0.4**
J19K	**Poorman**	**8.31**	**339**	Pn	**Pn**	**17 49 50.7**	**-0.8**
J25K	**Salcha River,**	**8.39**	**10**		**Pn**	**17 49 52.6**	**0.0**
N31M	**Braeburn, Yuko**	**8.42**	**48**	Pn	**Pn**	**17 49 53.7**	**+0.7**
WHY	**Whitehorse**	**8.42**	**54**	Pn	**Pn**	**17 49 52.9**	**-0.3**
IL31		**8.43**	**6**		**Pn**	**17 49 53.2**	**+0.1**
ILAR	**Eielson Array**	**8.43**	**6**	Pn	**Pn**	**17 49 53.4**	**+0.3**
ILAR	**Eielson Array**	**8.43**	**6**	Pn	**Pn**	**17 49 53.6**	**+0.6**
	comp=E,0.2nm,0.3s,baz=187,slow=13,SNR=9.7						
ILAR				Sn	**Sn**	**17 51 25.7**	**-2.5**
	comp=E,0.3nm,0.3s,baz=198,slow=24,SNR=5.7						
ILAR				LR	LR	17 53 23.2	
	comp=E,105nm,20.1s,baz=234,slow=39						
	comp=E,0.7nm,0.6s						
MDM	**Murphy Dome**	**8.57**	**2**	Pn	**Pn**	**17 49 55.5**	**+0.4**
L29M	**L29M**	**8.59**	**34**		**Pn**	**17 49 55.6**	**+0.2**
P32M	**Atlin**	**8.62**	**62**	Pn	**Pn**	**17 49 56.0**	**+0.4**
M30M	**Minto, Yukon**	**8.67**	**40**	Pn	**Pn**	**17 49 56.8**	**+0.3**
MLY	**Manley**	**8.69**	**355**	Pn	**Pn**	**17 49 55.8**	**-0.9**
L14K	**Kuka Creek**	**8.71**	**310**	Pn	**Pn**	**17 49 58.3**	**+1.5**
U33K	**Whale Pass**	**8.73**	**85**	Pn	**Pn**	**17 49 54.3**	**-2.9**
POKR	**Poker Plat Res**	**8.75**	**4**	Pn	**Pn**	**17 49 57.7**	**+0.2**
K15K	**Wolf Creek Mou**	**8.76**	**317**	Pn	**Pn**	**17 49 58.5**	**+0.9**
I23K	**Minto, Yukon-K**	**8.76**	**358**	Pn	**Pn**	**17 49 57.4**	**-0.2**
I20K	**Naaghedeneel**	**8.85**	**344**	Pn	**Pn**	**17 49 57.0**	**-1.8**
CRAG	**Craig**	**8.85**	**90**	Pn	**Pn**	**17 49 57.8**	**-1.0**
I21K	**Tanana**	**8.92**	**351**	Pn	**Pn**	**17 49 59.2**	**-0.6**
DAWY	**Dawson**	**8.97**	**27**	Pn	**Pn**	**17 49 58.7**	**-1.9**
J16K	**Anvik River**	**9.07**	**324**	Pn	**Pn**	**17 50 00.2**	**-1.7**
WRAK	**Wrangell Islan**	**9.12**	**83**	Pn	**Pn**	**17 50 00.5**	**-2.1**
EGAK	**Eagle**	**9.18**	**21**	Pn	**Pn**	**17 50 02.1**	**-1.2**
Q32M	**Nakina River**	**9.21**	**67**	Pn	**Pn**	**17 50 03.0**	**-0.9**
P33M	**Teslin, Yukon**	**9.22**	**59**	Pn	**Pn**	**17 50 04.5**	**+0.5**
P33M	**Teslin, Yukon**	**9.22**	**59**	P	**Pn**	**17 50 04.8**	**+0.8**
	baz=252						
PRP	**Porcupine Dome**	**9.26**	**9**	Pn	**Pn**	**17 50 04.8**	**+0.2**
K29M	**Barlow Dome**	**9.32**	**32**	Pn	**Pn**	**17 50 06.4**	**+1.0**
I26K	**Coal Creek Min**	**9.32**	**15**	Pn	**Pn**	**17 50 05.7**	**+0.4**
M31M	**Drury Creek, Y**	**9.36**	**46**		**Pn**	**17 50 04.3**	**-1.6**
H24K	**Moodar Dome**	**9.46**	**2**	Pn	**Pn**	**17 50 06.5**	**-0.7**
H21K	**Melozitna Rive**	**9.47**	**350**		**Pn**	**17 50 06.7**	**-0.5**
H21K	**Melozitna Rive**	**9.47**	**350**	P	**Pn**	**17 50 08.1**	**+0.8**
	baz=166						
I17K	**Unalakleet**	**9.53**	**327**	Pn	**Pn**	**17 50 07.6**	**-0.5**
J14K	**Nanvaranak Lak**	**9.79**	**316**	Pn	**Pn**	**17 50 09.9**	**-1.7**
IMAR	**Indian Mountai**	**9.88**	**348**	Pn	**Pn**	**17 50 13.0**	**+0.1**
H18K	**Honhosa River**	**9.91**	**336**	Pn	**Pn**	**17 50 12.0**	**-1.4**
R33M	**Jennings River**	**9.94**	**65**	Pn	**Pn**	**17 50 14.0**	**0.0**
AKUT	**Akutan**	**9.95**	**264**	Pn	**Pn**	**17 50 11.9**	**-2.0**
I28M	**Miner Creek**	**10.02**	**22**	Pn	**Pn**	**17 50 13.9**	**-1.0**
H17K	**Granite Mounta**	**10.11**	**332**	Pn	**Pn**	**17 50 14.5**	**-1.6**
J30M	**Hart River**	**10.21**	**32**	Pn	**Pn**	**17 50 18.0**	**+0.4**
DLBC	**Dease Lake**	**10.32**	**71**	Pn	**Pn**	**17 50 21.0**	**+2.0**
	comp=E,0.9nm,0.2s,baz=263,slow=16,SNR=0.8						
G23K	**Bananza Creek**	**10.34**	**357**	Pn	**Pn**	**17 50 17.8**	**-1.5**
G21K	**Allakaket**	**10.37**	**349**	Pn	**Pn**	**17 50 18.6**	**-1.0**
G19K	**Purcell Mounta**	**10.52**	**341**	Pn	**Pn**	**17 50 21.0**	**-0.7**
G18K	**Tagagawik**	**10.61**	**338**	Pn	**Pn**	**17 50 22.2**	**-0.8**
I30M	**Mount Dempster**	**10.69**	**29**	Pn	**Pn**	**17 50 23.0**	**-1.0**
H29M	**Whitestone**	**11.01**	**23**	Pn	**Pn**	**17 50 29.3**	**+0.9**
HG4B	**Hotspring**	**11.06**	**105**	Pn	**Pn**	**17 50 27.0**	**-2.2**
F19K	**Shaleruckik Mo**	**11.27**	**342**	Pn	**Pn**	**17 50 30.1**	**-1.8**
ANM	**Nome**	**11.51**	**322**	Pn	**Pn**	**17 50 34.3**	**-1.0**
F17K	**Baldwin Pennin**	**11.65**	**335**	Pn	**Pn**	**17 50 34.7**	**-2.4**
G31M

ISC 27 17:51:07.8±1.5,55°92N±0°09×150°12W±0°06,h35km, n139,σ1927/140,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.19**	**308**		**Pn**	**17 51 41.1**	**-0.4**
OHAK	**Old Harbor**	**2.19**	**308**		**Sn**	**17 52 06.8**	**-0.6**
OHAK	**Old Harbor**	**2.19**	**308**	IAML		17 52 08.1	
	comp=N,61nm,0.2s						
OHAK				IAML		17 52 08.5	
	comp=E,50nm,0.6s						
OHAK	**Old Harbor**	**2.19**	**308**	P	**Pn**	**17 51 41.3**	**-0.2**
	baz=126						
OHAK				S	**Sn**	**17 52 06.8**	**-0.6**
	baz=126						
KDAK	**Kodiak Island**	**2.31**	**325**		**Pn**	**17 51 43.2**	**0.0**
KDAK	**Kodiak Island**	**2.31**	**325**		**Sn**	**17 52 10.5**	**+0.2**
SII	**Sitkinak Islan**	**2.36**	**287**		**Sn**	**17 52 10.5**	**-1.2**
SII	**Sitkinak Islan**	**2.36**	**287**	Pn	**Pn**	**17 51 43.4**	**-0.5**
SII	**Sitkinak Islan**	**2.36**	**287**	IAML		17 53 09.9	
	comp=N,200nm,1.8s						
SII	**Sitkinak Islan**	**2.36**	**287**	S	**Sn**	**17 52 10.5**	**-1.2**
	baz=106						
SYI	**Shuyak Island**	**2.97**	**336**		**Pn**	**17 51 52.4**	**+0.2**
SYI					**Sn**	**17 52 26.6**	**0.0**
SYI	**Shuyak Island**	**2.97**	**336**	IAML		17 52 30.1	
	comp=E,70nm,1.2s						
Q20K	**Shuyak Island**	**2.97**	**336**	P	**Pn**	**17 51 52.4**	**+0.2**
	baz=154						
Q20K				S	**Sn**	**17 52 26.6**	**0.0**
	baz=154						
KAHG	**Katmai Hook Gl**	**3.53**	**319**		**Pn**	**17 52 01.2**	**+1.1**
Q19K	**Cape Douglas,**	**3.57**	**329**		**Pn**	**17 52 00.8**	**+0.2**
Q19K				IAML		17 52 47.8	
	comp=E,264nm,0.9s						
Q19K				IAML		17 52 53.3	
	comp=N,164nm,0.8s						
Q19K	**Cape Douglas,**	**3.57**	**329**	P	**Pn**	**17 52 01.7**	**+1.1**
	baz=146						
CNPM	**China Poot**	**3.67**	**351**		**Pn**	**17 52 00.5**	**-1.4**
CNPM						17 52 01.3	
CNPM				IAML		17 52 45.2	
	comp=E,48nm,0.5s						
HOM	**Homer**	**3.84**	**348**		**Pn**	**17 52 02.2**	**-2.0**
HOM				IAML		17 52 36.6	
	comp=E,193nm,2.4s						
BRSE	**Bradley Lake S**	**3.85**	**355**		**Pn**	**17 52 04.4**	**0.0**
BRSE					**Sn**	**17 52 46.8**	**-1.5**
BRSE	**Bradley Lake S**	**3.85**	**355**	P	**Pn**	**17 52 04.4**	**0.0**
	baz=174						
BRSE				S	**Sn**	**17 52 46.8**	**-1.5**
	baz=174						
BRLK	**Bradley Lake**	**3.88**	**354**		**Sn**	**17 52 48.3**	**-0.8**
BRLK	**Bradley Lake**	**3.88**	**354**	Pn	**Pn**	**17 52 03.0**	**-1.8**
BRLK						17 52 03.4	
BRLK	**Bradley Lake**	**3.88**	**354**	IAML		17 52 51.3	
	comp=N,35nm,0.7s						
BRLK				IAML		17 53 51.6	
	comp=E,38nm,3.2s						
CNTC	**Contact Creek**	**3.93**	**309**		**Pn**	**17 52 06.1**	**+0.5**
Q17K	**Contact Creek**	**3.93**	**309**	P	**Pn**	**17 52 06.1**	**+0.5**
	baz=125						
Q23K	**Middleton Isla**	**4.06**	**28**		**Pn**	**17 52 06.5**	**-0.8**
Q23K	**Middleton Isla**	**4.06**	**28**	P	**Pn**	**17 52 06.6**	**-0.6**
	baz=211						
MID	**Middleton Isla**	**4.06**	**28**		**Pn**	**17 52 06.3**	**-0.9**
P23K	**Montague Islan**	**4.34**	**18**		**Pn**	**17 52 10.7**	**-0.4**
P23K	**Montague Islan**	**4.34**	**18**	P	**Pn**	**17 52 10.7**	**-0.4**
	baz=200						
P18K	**Big Mountain,**	**4.43**	**324**		**Pn**	**17 52 12.8**	**+0.3**
P18K	**Big Mountain,**	**4.43**	**324**	IAML		17 53 04.0	
	comp=E,22nm,2.5s						
P18K	**Big Mountain,**	**4.43**	**324**	P	**Pn**	**17 52 12.8**	**+0.3**
	baz=140						
O22K	**Cooper Landing**	**4.58**	**2**		**Sn**	**17 53 05.1**	**-1.2**
P17K	**Kvichak River**	**4.73**	**317**		**Pn**	**17 52 17.1**	**+0.7**
P17K	**Kvichak River**	**4.73**	**317**	P	**Pn**	**17 52 17.1**	**+0.7**
	baz=132						
RSO	**Redoubt South**	**4.76**	**344**		**Sn**	**17 53 16.7**	**+5.5**
O18K	**Koktuh Hills**	**4.79**	**328**		**Pn**	**17 52 17.6**	**+0.3**
O18K				IAML		17 54 00.4	
	comp=N,22nm,2.9s						
O18K				IAML		17 54 53.1	
	comp=E,25nm,2.8s						
O18K	**Koktuh Hills**	**4.79**	**328**	P	**Pn**	**17 52 17.9**	**+0.6**
	baz=143						
O19K	**Port Alsworth**	**4.83**	**334**	Pn	**Pn**	**17 52 18.1**	**+0.2**
O19K				IAML		17 53 13.4	
	comp=E,93nm,0.4s						
O19K				IAML		17 53 14.9	
	comp=N,76nm,0.4s						
HIN	**Hinchinbrook I**	**4.88**	**22**		**Pn**	**17 52 18.0**	**-0.6**
HIN				IAML		17 53 16.1	
	comp=N,96nm,2.3s						
HIN				IAML		17 55 15.6	
	comp=E,67nm,2.3s						
KAIM	**Kayak Island**	**5.04**	**35**		**Pn**	**17 52 20.3**	**-0.4**
KAIM	**Kayak Island**	**5.04**	**35**	P	**Pn**	**17 52 20.3**	**-0.4**
	baz=219						
EYAK	**Cordova Ski Ar**	**5.18**	**25**		**Pn**	**17 52 22.3**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.18**	**25**	P	**Pn**	**17 52 22.7**	**0.0**
	baz=208						
RC01	**Rabbit Creek A**	**5.19**	**2**	Pn	**Pn**	**17 52 22.9**	**+0.1**
RC01					**Sn**	**17 53 20.9**	**-0.5**
RC01				IAML		17 53 29.2	
	comp=E,16nm,0.6s						
RC01				IAML		17 53 35.9	
	comp=N,23nm,2.2s						
RAGM	**Ragged Mountai**	**5.33**	**31**	Pn	**Pn**	**17 52 24.0**	**-0.7**
RAGM				IAML		17 55 49.1	
	comp=E,79nm,3.2s						
O17K	**Koliganek Bris**	**5.37**	**319**		**Pn**	**17 52 25.6**	**+0.5**
O17K	**Koliganek Bris**	**5.37**	**319**	P	**Pn**	**17 52 25.7**	**+0.5**
	baz=133						
N19K	**Bonanza Creek**	**5.42**	**337**		**Pn**	**17 52 25.8**	**-0.2**
N19K	**Bonanza Creek**	**5.42**	**337**	P	**Pn**	**17 52 26.6**	**+0.5**
	baz=153						
GOAT	**Goat Mountain**	**5.47**	**29**		**Pn**	**17 52 26.8**	**+0.1**
CNBA	**Chernabura Isl**	**5.51**	**262**	Pn	**Pn**	**17 52 27.4**	**+0.2**
KNK	**Knik Glacier**	**5.58**	**8**	Pn	**Pn**	**17 52 28.6**	**+0.4**
BERG	**Berg Lake**	**5.62**	**34**		**Pn**	**17 52 27.9**	**-0.9**
O16K	**Kokwok River B**	**5.64**	**314**	Pn	**Pn**	**17 52 28.3**	**-0.6**
N18K	**Kilae Creek**	**5.66**	**330**		**Pn**	**17 52 28.5**	**-0.7**
N18K	**Kilae Creek**	**5.66**	**330**	P	**Pn**	**17 52 29.4**	**+0.2**
	baz=145						
SNH	**Sunshine Point**	**5.76**	**39**		**Pn**	**17 52 29.6**	**-1.0**
BMRM	**Bremner River**	**5.83**	**27**		**Pn**	**17 52 31.6**	**-0.1**
BMRM	**Bremner River**	**5.83**	**27**	P	**Pn**	**17 52 31.6**	**-0.1**
	baz=212						
SDPT	**Sand Point**	**5.90**	**269**	Pn	**Pn**	**17 52 32.3**	**-0.2**
GHO	**Glory Hole Cre**	**5.90**	**6**	Pn	**Pn**	**17 52 33.2**	**+0.5**
N17K	**Nushagak Hills**	**5.94**	**324**	Pn	**Pn**	**17 52 32.6**	**-0.5**
KLU	**Klutina**	**6.00**	**20**		**Pn**	**17 52 33.4**	**-0.6**
KLU	**Klutina**	**6.00**	**20**	P	**Pn**	**17 52 34.3**	**+0.3**
	baz=203						
SCM	**Sheep Creek Mo**	**6.11**	**13**		**Pn**	**17 52 32.3**	**-3.1**
SKT	**Skwentna**	**6.12**	**354**		**Pn**	**17 52 33.3**	**-2.4**
O15K	**Ungalikthiuk R**	**6.16**	**306**		**Pn**	**17 52 37.0**	**+0.9**
O15K	**Ungalikthiuk R**	**6.16**	**306**	P	**Pn**	**17 52 37.0**	**+0.9**
	baz=118						
M20K	**Styx River**	**6.18**	**347**	Pn	**Pn**	**17 52 33.6**	**-2.9**
VRDI	**Verde Repeater**	**6.36**	**30**	Pn	**Pn**	**17 52 37.3**	**-1.8**
N25K	**Chitina, Valde**	**6.38**	**24**		**Pn**	**17 52 37.3**	**-1.9**
N25K	**Chitina, Valde**	**6.38**	**24**	P	**Pn**	**17 52 39.5**	**+0.3**
	baz=208						
GLB	**Gilahina Butte**	**6.44**	**28**	Pn	**Pn**	**17 52 39.6**	**-0.4**
KIAG	**Kiagna River**	**6.46**	**36**		**Pn**	**17 52 40.1**	**-0.3**
M24K	**Tolsona, Glenn**	**6.53**	**17**	Pn	**Pn**	**17 52 39.8**	**-1.5**
PTPK	**Patty Peak**	**6.62**	**34**		**Pn**	**17 52 42.6**	**-0.1**
M17K	**Holitna River**	**6.69**	**328**		**Pn**	**17 52 43.5**	**+0.1**
PCA	**Pinnacle**	**6.71**	**47**		**Pn**	**17 52 43.8**	**+0.2**
PINM	**Pinnacle**	**6.71**	**47**	P	**Pn**	**17 52 43.8**	**+0.1**
	baz=235						
L19K	**White Mountain**	**6.74**	**341**	Pn	**Pn**	**17 52 43.2**	**-0.9**
N15K	**Kwethluk River**	**6.79**	**313**		**Pn**	**17 52 45.9**	**+1.1**
BARN	**Barnard Glacie**	**6.79**	**37**		**Pn**	**17 52 45.0**	**-0.1**
CTG	**Chitna Glacier**	**6.84**	**39**	P	**Pn**	**17 52 45.5**	**0.0**
	baz=226						
CTGM	**Chitina Glacie**	**6.84**	**39**		**Pn**	**17 52 45.5**	**-0.1**
PNL	**Peninsula**	**6.85**	**52**		**Pn**	**17 52 45.8**	**+0.1**
PNL	**Peninsula**	**6.85**	**52**	P	**Pn**	**17 52 45.7**	**+0.1**
	baz=241						
O14K	**Tigyukauivet M**	**6.86**	**304**	Pn	**Pn**	**17 52 46.4**	**+0.7**
LOGN	**Logan Glacier**	**6.86**	**41**	Pn	**Pn**	**17 52 45.7**	**-0.2**
BCPM	**Bancas Point**	**6.89**	**50**		**Pn**	**17 52 46.1**	**-0.1**
M16K	**Timber Creek**	**6.90**	**321**	Pn	**Pn**	**17 52 46.8**	**+0.5**
L18K	**Granite Mounta**	**7.17**	**335**	Pn	**Pn**	**17 52 48.2**	**-1.7**
DHY	**Denali Highway**	**7.31**	**10**	Pn	**Pn**	**17 52 47.7**	**-4.4**
M26K	**Nabesna, AK**	**7.46**	**26**	Pn	**Pn**	**17 52 52.8**	**-1.1**
O29M	**Mount Kennedy**	**7.52**	**50**	Pn	**Pn**	**17 52 54.9**	**-0.1**
TRF	**Thorofare Moun**	**7.55**	**359**	Pn	**Pn**	**17 52 52.0**	**-3.4**
L16K	**Owhat River**	**7.56**	**324**	Pn	**Pn**	**17 52 53.1**	**-2.3**
CAST	**Castle Rocks**	**7.59**	**353**	Pn	**Pn**	**17 52 52.2**	**-3.6**
P29M	**Windy Craggy**	**7.59**	**56**		**Pn**	**17 52 55.3**	**-0.4**
P29M	**Windy Craggy**	**7.59**	**56**	P	**Pn**	**17 52 55.3**	**-0.4**
	baz=245						
TTA	**Tatalina**	**7.64**	**339**	Pn	**Pn**	**17 52 54.0**	**-2.5**
KTH	**Kantishna Hill**	**7.67**	**357**	Pn	**Pn**	**17 52 55.2**	**-1.6**
M27K	**Edge Creek, AK**	**7.72**	**30**	Pn	**Pn**	**17 52 55.5**	**-2.0**
K20K	**Telida**	**7.72**	**347**	Pn	**Pn**	**17 52 55.2**	**-2.3**
MENT	**Mentasta**	**7.75**	**22**	Pn	**Pn**	**17 52 56.3**	**-1.7**
S31K	**Pelican**	**7.87**	**69**		**Pn**	**17 52 57.3**	**-2.2**
S31K	**Pelican**	**7.87**	**69**	P	**Pn**	**17 52 57.9**	**-1.6**
	baz=260						
M14K	**Bethel**	**7.89**	**313**	Pn	**Pn**	**17 52 58.9**	**-0.9**
K17K	**Iditarod**	**7.99**	**332**	Pn	**Pn**	**17 52 59.9**	**-1.3**
RIDG	**Independent Ri**	**8.28**	**16**	Pn	**Pn**	**17 53 05.6**	**+0.4**
L27K	**Beaver Creek,**	**8.31**	**27**	Pn	**Pn**	**17 53 05.9**	**+0.4**
M13K	**Dall Lake**	**8.31**	**308**	Pn	**Pn**	**17 53 06.0**	**+0.4**
BCAR	**Beaver Creek A**	**8.32**	**27**	Pn	**Pn**	**17 53 06.0**	**+0.2**
L14K	**Kuka Creek**	**8.51**	**315**	Pn	**Pn**	**17 53 08.7**	**+0.5**
J20K	**Nowinta River**	**8.52**	**348**	Pn	**Pn**	**17 53 09.5**	**+1.0**
SCRK	**Sand Creek**	**8.64**	**18**	Pn	**Pn**	**17 53 10.9**	**+0.6**
K15K	**Wolf Creek Mou**	**8.67**	**322**	Pn	**Pn**	**17 53 11.3**	**+0.8**
SKAG	**Skagway**	**8.68**	**60**	Pn	**Pn**	**17 53 11.5**	**+0.9**
O30N	**Mendenhall**	**8.83**	**51**	Pn	**Pn**	**17 53 12.7**	**0.0**
CCB	**Clear Creek Bu**	**8.83**	**7**	Pn	**Pn**	**17 53 14.5**	**+1.8**
M29M	**Somme Creek**	**8.85**	**38**	Pn	**Pn**	**17 53 13.3**	**+0.1**
JIS	**Juneau Island**	**8.88**	**68**	Pn	**Pn**	**17 53 13.7**	**+0.2**
IL31		**9.02**	**9**	Pn	**Pn**	**17 53 15.8**	**+0.5**
ILAR	**Eielson Array**	**9.02**	**9**		**Pn**	**17 53 16.6**	**+1.3**
J16K	**Anvik River**	**9.09**	**329**	Pn	**Pn**	**17 53 15.2**	**-1.0**
J26L	**Joseph Creek**	**9.20**	**18**	Pn	**Pn**	**17 53 16.2**	**-1.6**
WHY	**Whitehorse**	**9.31**	**53**	Pn	**Pn**	**17 53 18.7**	**-0.8**
I21K	**Tanana**	**9.34**	**355**	Pn	**Pn**	**17 53 18.9**	**-0.7**
L29M	**L29M**	**9.42**	**35**	Pn	**Pn**	**17 53 20.3**	**-0.6**
P32M	**Atlin**	**9.50**	**60**	Pn	**Pn**	**17 53 21.5**	**-0.5**
U33K	**Whale Pass**	**9.52**	**82**	Pn	**Pn**	**17 53 20.3**	**-1.9**
M30M	**Minto, Yukon**	**9.53**	**40**	Pn	**Pn**	**17 53 21.7**	**-0.6**
P33M	**Teslin, Yukon**	**10.11**	**58**	Pn	**Pn**	**17 53 29.4**	**-0.9**
K29M	**Barlow Dome**	**10.14**	**33**	Pn	**Pn**	**17 53 30.0**	**-0.7**
H17K	**Kantishna Mounta**	**10.24**	**336**	Pn	**Pn**	**17 53 33.8**	**+1.8**
G23K	**Bananza Creek**	**10.83**	**0**	Pn	**Pn**	**17 53 40.9**	**+0.8**
J30M	**Hart River**	**11.03**	**33**	Pn	**Pn**	**17 53 44.6**	**+1.7**
ANM	**Nome**	**11.48**	**325**	Pn	**Pn**	**17 53 51.7**	**+2.8**

*NEIC **27** 18:00:16.4±1.5,56°44N±0°07×149°33W±0°09,h21km±8km, mb4.2/2,ML3.8/58,ML3.4(AEIC),Error ellipse: s-maj=11.1km s-min=6.6km az=167.0*

*AEIC **27** 18:00:18.3±2.3,56°29N±0°08×149°23W±0°09,h12km±6km, Error ellipse: s-maj=11.3km s-min=7.0km az=168.0*

*IDC **27** 18:00:25.6±2.0,56°90N×147°92W,h0km,mb3.6/4, mbtmp3.5/8,ML3.2/4,Error ellipse: s-maj=34.4km s-min=27.1km az=173.0*

ISC 27 18:00:17.8±0.9,56°43N±0°06×149°28W±0°04,h35km, n189,σ0°95/199,mb3.7/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.26**	**308**	Pn	**Pn**	**18 00 52.5**	**-0.1**
KDAK				Sn	**Sn**	**18 01 17.8**	**-1.4**
KDAK	**Kodiak Island**	**2.26**	**308**	S	**Sn**	**18 01 17.7**	**-1.4**
	baz=128						
OHAK	**Old Harbor**	**2.34**	**291**	Pn	**Pn**	**18 00 53.0**	**-0.7**
OHAK				Sn	**Sn**	**18 01 19.3**	**-1.9**
OHAK				IAML		18 01 20.2	
	comp=N,441nm,0.3s						
OHAK				IAML		18 01 20.2	
	comp=E,295nm,0.2s						
OHAK	**Old Harbor**	**2.34**	**291**	P	**Pn**	**18 00 53.2**	**-0.5**
OHAK	**Old Harbor**	**2.34**	**291**	P	**Pn**	**18 00 53.1**	**-0.7**
	baz=111						
OHAK				S	**Sn**	**18 01 19.0**	**-2.2**
	baz=111						
SII	**Sitkinak Islan**	**2.72**	**275**	Pn	**Pn**	**18 00 58.9**	**-0.1**
SII				IAML		18 01 17.1	
	comp=N,245nm,2.7s						
SII				Sn	**Sn**	**18 01 28.3**	**-2.4**
SII	**Sitkinak Islan**	**2.72**	**275**	P	**Pn**	**18 00 58.8**	**-0.2**
SII	**Sitkinak Islan**	**2.72**	**275**	P	**Pn**	**18 00 58.2**	**-0.7**
	baz=94						
SII				S	**Sn**	**18 01 28.1**	**-2.5**
	baz=94						
SYI	**Shuyak Island**	**2.76**	**324**	Pn	**Pn**	**18 00 58.7**	**-0.6**
SYI				Sn	**Sn**	**18 01 31.0**	**-0.4**
SYI				IAML		18 01 33.3	
	comp=N,169nm,0.3s						
Q20K	**Shuyak Island**	**2.76**	**324**	P	**Pn**	**18 00 59.5**	**0.0**
	baz=142						
Q20K				S	**Sn**	**18 01 32.0**	**+0.5**
	baz=142						
CNPM	**China Poot**	**3.27**	**342**		**Pn**	**18 01 06.3**	**-0.2**
CNPM				Sn	**Sn**	**18 01 44.4**	**+0.2**
Q23K	**Middleton Isla**	**3.39**	**26**	Pn	**Pn**	**18 01 07.4**	**-0.7**
Q23K				Sn	**Sn**	**18 01 43.4**	**-3.6**
Q23K				IAML		18 01 53.0	
	comp=N,209nm,1.9s						
Q23K				IAML		18 03 19.1	
	comp=E,202nm,2.0s						
Q23K	**Middleton Isla**	**3.39**	**26**	P	**Pn**	**18 01 07.8**	**-0.3**
	baz=207						
MID	**Middleton Isla**	**3.39**	**26**	Pn	**Pn**	**18 01 07.5**	**-0.5**
MID				Sn	**Sn**	**18 01 43.8**	**-3.2**
MID				IAML		18 01 46.5	
	comp=E,219nm,1.8s						
MID				IAML		18 01 53.0	
	comp=N,192nm,1.9s						
MID	**Middleton Isla**	**3.39**	**26**	P	**Pn**	**18 01 07.7**	**-0.4**
BRSE	**Bradley Lake S**	**3.41**	**347**		**Pn**	**18 01 08.0**	**-0.4**
BRSE					**Sn**	**18 01 47.3**	**-0.3**
BRSE	**Bradley Lake S**	**3.41**	**347**	P	**Pn**	**18 01 08.0**	**-0.4**
	baz=166						
BRSE				S	**Sn**	**18 01 47.3**	**-0.3**
	baz=166						
Q19K	**Cape Douglas,**	**3.43**	**319**	Pn	**Pn**	**18 01 09.0**	**+0.3**
Q19K				IAML		18 01 56.6	
	comp=E,221nm,1.0s						
Q19K				IAML		18 01 57.6	
	comp=N,158nm,0.8s						
Q19K	**Cape Douglas,**	**3.43**	**319**	P	**Pn**	**18 01 09.1**	**+0.3**
	baz=136						
BRLK	**Bradley Lake**	**3.45**	**346**		**Pn**	**18 01 08.4**	**-0.6**
BRLK				IAML		18 01 48.4	
	comp=E,105nm,0.5s						
HOM	**Homer**	**3.47**	**340**	Pn	**Pn**	**18 01 09.9**	**+0.7**
HOM				IAML		18 02 07.2	
	comp=N,202nm,1.2s						
HOM				IAML		18 02 10.1	
	comp=E,192nm,1.5s						
KAHG	**Katmai Hook Gl**	**3.52**	**308**		**Pn**	**18 01 10.4**	**+0.5**
KAHG					**Sn**	**18 01 50.5**	**+0.1**
AUJK	**Augustine Jueg**	**3.67**	**325**		**Pn**	**18 01 12.3**	**+0.5**
SEW	**Seward**	**3.69**	**359**	Pn	**Pn**	**18 01 11.5**	**-0.6**
SEW	**Seward**	**3.69**	**359**	P	**Pn**	**18 01 11.6**	**-0.6**
	baz=178						
P23K	**Montague Islan**	**3.71**	**15**		**Pn**	**18 01 12.5**	**-0.1**
P23K					**Sn**	**18 01 53.5**	**-1.5**
P23K	**Montague Islan**	**3.71**	**15**	P	**Pn**	**18 01 12.5**	**-0.1**
	baz=195						
P23K				S	**Sn**	**18 01 53.5**	**-1.5**
	baz=195						
KAHC	**Katmai Hardscr**	**3.81**	**308**		**Pn**	**18 01 14.2**	**+0.2**
KAHC	**Katmai Hardscr**	**3.81**	**308**	P	**Pn**	**18 01 14.2**	**+0.2**
	baz=125						
P19K	**Oil Pt**	**3.85**	**329**	Pn	**Pn**	**18 01 14.8**	**+0.4**
P19K				IAML		18 02 03.4	
	comp=N,182nm,0.3s						
P19K				IAML		18 02 04.8	
	comp=E,163nm,0.4s						
P19K	**Oil Pt**	**3.85**	**329**		**Sn**	**18 01 59.7**	**+1.2**
P19K	**Oil Pt**	**3.85**	**329**	P	**Pn**	**18 01 14.9**	**+0.4**
	baz=146						
P19K				S	**Sn**	**18 01 59.7**	**+1.2**
	baz=146						
CNTC	**Contact Creek**	**4.02**	**300**		**Pn**	**18 01 17.3**	**+0.4**
CNTC					**Sn**	**18 02 01.5**	**-1.3**
Q17K	**Contact Creek**	**4.03**	**300**	P	**Pn**	**18 01 17.3**	**+0.4**
	baz=116						
Q17K				S	**Sn**	**18 02 01.5**	**-1.4**
	baz=116						
O20K	**Slope Mountain**	**4.07**	**336**		**Pn**	**18 01 17.0**	**-0.5**
O20K	**Slope Mountain**	**4.07**	**336**	P	**Pn**	**18 01 17.0**	**-0.5**
	baz=153						
O22K	**Cooper Landing**	**4.07**	**357**	Pn	**Pn**	**18 01 17.1**	**-0.3**
IVE	**Iliamna Volcan**	**4.10**	**333**		**Pn**	**18 01 17.6**	**-0.4**
IVE					**Sn**	**18 02 04.8**	**0.0**
SLKM	**Skilak Lake**	**4.12**	**353**		**Pn**	**18 01 17.6**	**-0.6**
HIN	**Hinchinbrook I**	**4.24**	**19**	Pn	**Pn**	**18 01 19.7**	**-0.1**
P18K	**Big Mountain,**	**4.35**	**316**	Pn	**Pn**	**18 01 20.9**	**-0.3**
P18K				Sn	**Sn**	**18 02 08.8**	**-1.9**
P18K	**Big Mountain,**	**4.35**	**316**	P	**Pn**	**18 01 21.1**	**-0.2**
	baz=132						
KAIM	**Kayak Island**	**4.35**	**34**	Pn	**Pn**	**18 01 21.4**	**+0.2**
KAIM	**Kayak Island**	**4.35**	**34**	P	**Pn**	**18 01 21.5**	**+0.2**
	baz=217						
RED	**Redoubt Volcan**	**4.40**	**337**		**Pn**	**18 01 21.4**	**-0.7**
RDSO	**Redoubt South**	**4.43**	**337**		**Pn**	**18 01 21.7**	**-0.8**
RSO	**Redoubt South**	**4.44**	**337**		**Pn**	**18 01 22.0**	**-0.7**
CAPN	**Captain Cook N**	**4.46**	**348**	Pn	**Pn**	**18 01 22.0**	**-0.7**
RDT	**Redoubt**	**4.47**	**340**		**Pn**	**18 01 22.0**	**-1.0**
RDWB	**Redoubt West**	**4.48**	**337**		**Pn**	**18 01 22.6**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.53**	**23**	Pn	**Pn**	**18 01 23.1**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.53**	**23**	P	**Pn**	**18 01 24.0**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.53**	**23**	P	**Pn**	**18 01 23.8**	**+0.2**
	baz=205						
DFR	**Drift River**	**4.54**	**338**		**Pn**	**18 01 23.4**	**-0.6**
NCT	**North Crescent**	**4.56**	**337**		**Pn**	**18 01 23.7**	**-0.6**
O19K	**Port Alsworth**	**4.62**	**327**		**Pn**	18 01 23.1	-1.8
O19K					**Sn**	**18 02 17.2**	**-0.1**
O19K				IAML		18 02 24.6	
	comp=N,112nm,0.4s						
O19K	**Port Alsworth**	**4.62**	**327**	P	**Pn**	**18 01 24.6**	**-0.3**
	baz=143						
RAGM	**Ragged Mountai**	**4.65**	**29**	Pn	**Pn**	**18 01 25.5**	**+0.1**
O18K	**Koktuh Hills**	**4.65**	**320**	Pn	**Pn**	**18 01 24.9**	**-0.6**
O18K	**Koktuh Hills**	**4.65**	**320**	P	**Pn**	**18 01 25.1**	**-0.4**
	baz=136						
RC01	**Rabbit Creek A**	**4.68**	**357**	Pn	**Pn**	**18 01 24.7**	**-1.2**
RC01					**Sn**	**18 02 18.2**	**-0.6**
RC01				IAML		18 02 18.4	
	comp=N,55nm,0.3s						
RC01				IAML		18 02 18.9	
	comp=E,99nm,0.5s						
RC01	**Rabbit Creek A**	**4.68**	**357**	P	**Pn**	**18 01 25.7**	**-0.2**
	baz=177						
P17K	**Kvichak River**	**4.73**	**309**		**Pn**	**18 01 26.9**	**+0.4**
P17K	**Kvichak River**	**4.73**	**309**	P	**Pn**	**18 01 26.9**	**+0.4**
	baz=124						
GOAT	**Goat Mountain**	**4.80**	**28**		**Pn**	**18 01 27.9**	**+0.4**
BERG	**Berg Lake**	**4.94**	**34**		**Pn**	**18 01 29.3**	**0.0**
BERG	**Berg Lake**	**4.94**	**34**	IAML		18 02 29.4	
	comp=E,104nm,0.4s						
KNK	**Knik Glacier**	**5.02**	**5**	Pn	**Pn**	**18 01 29.9**	**-0.6**
KNK				IAML		18 02 26.8	
	comp=E,45nm,0.6s						
KNK				IAML		18 02 36.2	
	comp=N,40nm,0.5s						
N20K	**Mount Spurr**	**5.02**	**344**	P	**Pn**	**18 01 30.0**	**-0.5**
	baz=161						
SPCR	**Spurr Chakacha**	**5.02**	**344**			**18 01 30.1**	**-0.5**
DIV	**Divide**	**5.05**	**20**	Pn	**Pn**	**18 01 30.4**	**-0.6**
SNH	**Sunshine Point**	**5.07**	**39**	Pn	**Pn**	**18 01 31.1**	**-0.1**
SPCP	**Crater Peak Br**	**5.08**	**344**		**Pn**	**18 01 31.4**	**+0.1**
SPCG	**Spurr Capps Gl**	**5.08**	**345**		**Pn**	**18 01 31.4**	**-0.1**
CHGN	**Chignik**	**5.08**	**272**	Pn	**Pn**	**18 01 30.7**	**-0.6**
CHGN				IAML		18 02 28.0	
	comp=E,59nm,0.5s						
CHGN				IAML		18 02 30.3	
	comp=N,86nm,0.1s						
SUA	**Susitna One**	**5.11**	**352**	Pn	**Pn**	**18 01 31.2**	**-0.6**
SUA				IAML		18 04 33.2	
	comp=E,27nm,3.9s						
BMRM	**Bremner River**	**5.16**	**26**	Pn	**Pn**	**18 01 32.5**	**0.0**
BMRM	**Bremner River**	**5.16**	**26**	P	**Pn**	**18 01 32.5**	**0.0**
	baz=209						
N19K	**Bonanza Creek**	**5.17**

	baz=129							
O29M	Mount Kennedy	6.83	51			Pn	18 01 56.5	+1.0
PAX	Paxson	6.84	15	Pn		Pn	18 01 56.1	+0.6
P29M	Windy Craggy	6.92	58			Pn	18 01 56.6	0.0
P29M	Windy Craggy	6.92	58	P		Pn	18 01 56.2	-0.3
	baz=246							
L18K	Granite Mounta	6.93	330	Pn		Pn	18 01 53.8	-2.9
RND	Reindeer	7.00	2	Pn		Pn	18 01 57.7	0.0
M27K	Edge Creek, AK	7.04	29	Pn		Pn	18 01 58.9	+0.6
TRF	Thorofare Moun	7.06	356	Pn		Pn	18 01 57.2	-1.5
MENT	Mentasta	7.11	21	Pn		Pn	18 01 58.1	-1.0
CAST	Castle Rocks	7.15	350	Pn		Pn	18 01 57.0	-2.7
KTH	Kantishna Hill	7.19	354	Pn		Pn	18 01 57.1	-3.3
S31K	Pelican	7.25	72	Pn		Pn	18 01 58.3	-2.8
S31K	Pelican	7.25	72	P		Pn	18 01 58.6	-2.5
	baz=262							
HYT	Haines Junctio	7.56	49	Pn		Pn	18 02 06.1	+0.7
HYT	Haines Junctio	7.56	49	P		Pn	18 02 04.8	-0.6
	baz=239							
RIDG	Independent Ri	7.66	15	Pn		Pn	18 02 07.5	+0.8
SIT	Sitka	7.70	80	P		Pn	18 02 04.3	-2.9
BPAW	Bear Paw Mtn.	7.74	354	Pn		Pn	18 02 07.0	-0.9
SKAG	Skagway	8.02	62	P		Pn	18 02 11.9	+0.3
N30M	Aishikik Lake	8.06	46			Pn	18 02 13.0	+0.7
O30N	Mendenhall	8.14	52			Pn	18 02 14.0	+0.7
FALS	False Pass	8.15	265	P		Pn	18 02 12.4	-1.1
NEA2	Nenana	8.19	1	Pn		Pn	18 02 13.5	-0.5
JIS	Juneau Island	8.26	71	Pn		Pn	18 02 14.6	-0.4
JIS	Juneau Island	8.26	71	P		Pn	18 02 14.5	-0.4
CCB	Clear Creek Bu	8.28	4	Pn		Pn	18 02 14.2	-0.9
IL31		8.45	7			Pn	18 02 15.2	-2.2
ILAR	Eielson Array	8.45	7	Pn		Pn	18 02 19.4	+1.8
	comp=E,0.2nm,0.3s,baz=191,slow=13,SNR=5.5							
ILAR				Sn		Sn	18 03 45.2	-6.3
	comp=E,0.6nm,0.3s,baz=177,slow=17,SNR=5.6							
	comp=E,0.4nm,0.4s							
MDM	Murphy Dome	8.57	3			Pn	18 02 17.9	-1.3
N31M	Braeburn, Yuko	8.61	48	Pn		Pn	18 02 20.9	+1.1
WHY	Whitehorse	8.63	55	Pn		Pn	18 02 21.0	+0.9
L29M	L29M	8.73	35			Pn	18 02 22.0	+0.6
P32M	Atlin	8.84	63			Pn	18 02 23.0	0.0
CRAG	Craig	9.12	89	P		Pn	18 02 24.2	-2.4
PRP	Porcupine Dome	9.30	10			Pn	18 02 28.1	-1.2
P33M	Teslin, Yukon	9.45	60	Pn		Pn	18 02 31.6	+0.4
M31M	Drury Creek, Y	9.54	47			Pn	18 02 33.8	+1.3
IMAR	Indian Mountai	9.82	349	Pn		Pn	18 02 35.9	-0.4
S34M	Telegraph Cree	9.96	74	Pn		Pn	18 02 37.8	-0.4
FARO	Faro, Yukon	9.98	48	Pn		Pn	18 02 39.5	+0.9
R33M	Jennings River	10.18	65			Pn	18 02 41.4	+0.1
UNV	Unalaska Valle	10.20	263	P		Pn	18 02 40.2	-1.2
J30M	Hart River	10.34	33	Pn		Pn	18 02 44.7	+1.1
DLBC	Dease Lake	10.57	71	Pn		Pn	18 02 46.8	+0.2
	comp=E,0.5nm,0.3s,baz=270,slow=9.1,SNR=8.3							
	comp=E,1.4nm,0.4s							
E19K	Redstone River	11.67	345	Pn		Pn	18 03 01.0	-0.5
INK	Inuvik	13.91	25	Pn		Pn	18 03 31.2	-0.8
INK	Inuvik	13.91	25	Pn		Pn	18 03 33.5	+1.5
	baz=202,slow=12,SNR=5.1							
	comp=E,1.7nm,1.0s							
B22K	Teshekpuk Lake	14.08	354	Pn		Pn	18 03 34.8	+0.4
YKA	Yellowknife Ar	18.46	57			P	18 04 31.8	+1.7
YKA	Yellowknife Ar	18.46	57	P		P	18 04 31.5	+1.5
	comp=E,0.1nm,0.3s,baz=268,slow=11,SNR=7.1							
	comp=E,0.4nm,0.8s							
A36M	Sachs Harbour	18.54	23	P		P	18 04 32.2	+1.3
A36M				IAmb		IAmb	18 04 34.9	
	comp=Z,4.3nm,0.8s							
K02D	Willamette Mer	21.39	119	P		P	18 05 03.3	+1.1
K02D				IAmb		IAmb	18 05 09.5	
	comp=Z,44nm,1.4s							
SONM	Songino Array	58.55	310	P		P	18 10 25.2	+15
	comp=Z,0.5nm,0.7s,baz=69,slow=8.1,SNR=3.5							
	comp=Z,0.5nm,0.7s							
FINES	FINESS Array B	62.41	3	P		P	18 10 46.3	+10
	comp=Z,1.1nm,0.7s,baz=12,slow=7.7,SNR=1.4							
	comp=Z,1.1nm,0.7s							
MKAR	Makanchi Array	68.47	325	P		P	18 11 29.5	+14
	comp=Z,0.1nm,0.5s,baz=39,slow=7.2,SNR=1.6							
	comp=Z,0.1nm,0.5s							
ESDC	Sonseca Array	79.85	26	P		P	18 12 31.8	+9.4
	comp=Z,0.4nm,0.7s,baz=330,slow=6.6,SNR=1.8							
	comp=Z,0.4nm,0.7s							

NEIC ***27*** *18:06:45.3±2.3,56°.33N±0°.08×148°.9W±0°.1, h20km±9km, mb3.6/1, ML3.6/50, ML3.2(AEIC), Error ellipse: s-maj=12.3km s-min=7.9km az=162.0*

IDC ***27*** *18:06:46.3±3.2,56°.26N×148°.99W, h0km, mb3.2/1, mbtmp3.1/4, ML2.7/2, MS3.0/8, Error ellipse: s-maj=43.3km s-min=31.5km az=178.0*

AEIC ***27*** *18:06:49.2±2.1,56°.34N±0°.08×149°.0W±0°.1, h7km±7km, Error ellipse: s-maj=12.0km s-min=8.0km az=157.0*

ISC 27 18:06:47.0±1.3, 56°.35N±0°.08×148°.95W±0°.05, h35km, n192, σ1§08/200, MS3.1/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.45	307		Pn	18 07 24.2	-0.1
KDAK	Kodiak Island	2.45	307		Sn	18 07 51.9	-1.1
KDAK	Kodiak Island	2.45	307	S	Sn	18 07 51.9	-1.1
	baz=125						
KDAK	Kodiak Island	2.45	307	Pn	Pn	18 07 26.0	+1.7
	2.0nm,0.3s,baz=120,slow=4.7,SNR=9.1						
KDAK				Sn	Sn	18 07 56.6	+3.6
	3.3nm,0.3s,baz=54,slow=22,SNR=6.2						
KDAK				LR	LR	18 08 30.1	
	comp=Z,206nm,21.8s,baz=120,slow=42						
	11nm,0.7s						
OHAK	Old Harbor	2.54	292		Pn	18 07 25.2	-0.4
OHAK					Sn	18 07 54.0	-1.2
OHAK	Old Harbor	2.54	292	P	Pn	18 07 25.2	-0.4
	baz=109						
OHAK				S	Sn	18 07 54.0	-1.2
	baz=109						
SII	Sitkinak Islan	2.91	276		Sn	18 08 03.2	-1.2
SII	Sitkinak Islan	2.91	276	S	Sn	18 08 03.2	-1.2
	baz=92						
SYI	Shuyak Island	2.93	322		Pn	18 07 30.9	0.0
SYI					Sn	18 08 04.2	-0.6
Q20K	Shuyak Island	2.93	322	P	Pn	18 07 30.9	-0.1
	baz=140						
Q20K				S	Sn	18 08 04.2	-0.6
	baz=140						
Q23K	Middleton Isla	3.38	23		Pn	18 07 37.9	+0.7
Q23K	Middleton Isla	3.38	23	IAML		18 08 40.5	
	comp=E,227nm,2.3s						
Q23K				IAML		18 08 57.9	
	comp=N,183nm,2.1s						
Q23K	Middleton Isla	3.38	23	P	Pn	18 07 37.8	+0.7
	baz=206						
CNPM	China Poot	3.41	340		Pn	18 07 37.8	+0.2
CNPM				Sn	Sn	18 08 17.1	+0.5
BRSE	Bradley Lake S	3.53	345		Pn	18 07 39.6	+0.4
BRSE	Bradley Lake S	3.53	345	P	Pn	18 07 39.6	+0.4
	baz=164						
BRLK	Bradley Lake	3.57	344		Pn	18 07 39.8	0.0
Q19K	Cape Douglas,	3.61	318		Pn	18 07 39.1	-1.2
Q19K				Sn	Sn	18 08 25.5	+3.8
Q19K				IAML		18 08 47.2	
	comp=N,125nm,1.3s						
Q19K				IAML		18 08 52.2	
	comp=E,201nm,0.9s						
Q19K	Cape Douglas,	3.61	318	P	Pn	18 07 40.2	-0.1
	baz=134						
HOM	Homer	3.61	338	Pn	Pn	18 07 39.7	-0.6
HOM				IAML		18 08 32.5	
	comp=E,172nm,1.9s						
P23K	Montague Islan	3.75	12		Pn	18 07 42.4	+0.2
P23K					Sn	18 08 22.9	-2.1
P23K	Montague Islan	3.75	12	P	Pn	18 07 42.4	+0.2
	baz=194						
P23K				S	Sn	18 08 22.9	-2.1
	baz=194						
ANCK	Angle Creek	4.00	300		Pn	18 07 46.0	+0.2
P19K	Oil Pt	4.01	327	Pn	Pn	18 07 47.0	+1.1
P19K				Sn	Sn	18 08 33.6	+1.9
P19K				IAML		18 08 39.5	
	comp=N,88nm,0.5s						
P19K				IAML		18 08 42.6	
	comp=E,93nm,1.0s						
P19K	Oil Pt	4.01	327	P	Pn	18 07 46.4	+0.5
	baz=144						
O22K	Cooper Landing	4.16	355		Pn	18 07 46.9	-0.9
O22K				Sn	Sn	18 08 36.4	+1.2
CNTC	Contact Creek	4.22	300		Pn	18 07 48.8	+0.1
Q17K	Contact Creek	4.22	300	P	Pn	18 07 48.8	0.0
	baz=114						
SLKM	Skilak Lake	4.22	351		Pn	18 07 49.0	+0.2
SLKM					Sn	18 08 35.0	-1.7
HIN	Hinchinbrook I	4.25	17	Pn	Pn	18 07 48.9	-0.3
HIN				Sn	Sn	18 08 36.4	-1.2
HIN				IAML		18 08 56.0	
	comp=N,80nm,1.6s						
HIN				IAML		18 09 04.7	
	comp=E,74nm,2.0s						
IVE	Iliamna Volcan	4.26	331		Pn	18 07 49.5	+0.2
IVE					Sn	18 08 36.0	-1.8
KAIM	Kayak Island	4.31	32	Pn	Pn	18 07 49.3	-0.7
KAIM	Kayak Island	4.31	32	P	Pn	18 07 50.8	+0.8
	baz=216						
P18K	Big Mountain,	4.53	315	Pn	Pn	18 07 53.0	+0.1
P18K	Big Mountain,	4.53	315	P	Pn	18 07 53.1	+0.1
	baz=130						
EYAK	Cordova Ski Ar	4.53	20		Pn	18 07 53.6	+0.7
EYAK	Cordova Ski Ar	4.53	20	P	Pn	18 07 53.6	+0.7
	baz=204						
RED	Redoubt Volcan	4.54	335		Pn	18 07 53.3	+0.1
CAPN	Captain Cook N	4.58	346	Pn	Pn	18 07 52.6	-0.9
RSO	Redoubt South	4.58	336		Pn	18 07 53.8	0.0
RDT	Redoubt	4.60	338		Pn	18 07 54.0	0.0
RDWB	Redoubt West	4.62	335		Pn	18 07 54.1	-0.2
RAGM	Ragged Mountai	4.63	27	Pn	Pn	18 07 54.5	+0.2
RAGM				IAML		18 09 01.9	
	comp=E,105nm,1.2s						
RC01	Rabbit Creek A	4.77	355		Pn	18 07 57.0	+0.7
RC01				IAML		18 08 55.5	
	comp=E,30nm,0.8s						
RC01				IAML		18 09 06.3	
	comp=N,22nm,1.8s						
O19K	Port Alsworth	4.78	326		Pn	18 07 57.9	+1.5
O19K				IAML		18 09 02.4	
	comp=N,80nm,0.5s						
O18K	Koktuh Hills	4.83	319		Pn	18 07 57.5	+0.5
O18K				IAML		18 08 59.0	
	comp=N,26nm,2.3s						
O18K				IAML		18 11 19.4	
	comp=E,23nm,2.5s						
O18K	Koktuh Hills	4.83	319	P	Pn	18 07 57.3	+0.2
	baz=134						
BERG	Berg Lake	4.90	32		Pn	18 07 58.5	+0.5
P17K	Kvichak River	4.92	309		Pn	18 07 58.3	+0.1
P17K	Kvichak River	4.92	309	P	Pn	18 07 58.3	+0.1
	baz=123						
SNH	Sunshine Point	5.01	38	Pn	Pn	18 07 59.2	-0.4
SNH				IAML		18 09 01.5	
	comp=E,78nm,2.7s						
KNK	Knik Glacier	5.08	3	Pn	Pn	18 08 01.3	+0.7
KNK				IAML		18 09 02.4	
	comp=E,23nm,0.9s						
KNK				IAML		18 09 29.3	
	comp=N,17nm,1.5s						
N20K	Mount Spurr	5.15	342	P	Pn	18 08 02.2	+0.7
	baz=160						
SPCR	Spurr Chakacha	5.15	342		Pn	18 08 02.2	+0.7
BMRM	Bremner River	5.15	24		Pn	18 08 01.9	+0.3
BMRM	Bremner River	5.15	24	P	Pn	18 08 02.3	+0.7
	baz=208						
SUA	Susitna One	5.21	350	Pn	Pn	18 08 03.0	+0.6
SUA				IAML		18 08 43.5	
	comp=N,26nm,3.9s						
SUA				IAML		18 09 47.3	
	comp=E,26nm,4.2s						
SUA	Susitna One	5.21	350	P	Pn	18 08 02.9	+0.6
	baz=169						
PMR	Palmer	5.25	359	Pn	Pn	18 08 04.2	+1.3
PMR				IAML		18 09 05.4	
	comp=E,17nm,0.9s						
PMR				IAML		18 09 10.2	
	comp=N,16nm,1.8s						
CHGN	Chignik	5.27	273	Pn	Pn	18 08 04.7	+1.7
CHGN				IAML		18 09 47.9	
	comp=N,44nm,1.9s						
CHGN				IAML		18 11 21.6	
	comp=E,47nm,1.6s						
N19K	Bonanza Creek	5.33	329	Pn	Pn	18 08 03.1	-0.8
N19K				IAML		18 09 15.5	
	comp=N,18nm,2.4s						
N19K				IAML		18 09 53.0	
	comp=E,16nm,3.8s						
N19K	Bonanza Creek	5.33	329	P	Pn	18 08 04.2	+0.2
	baz=184						
STLK	Strandline Lak	5.37	345		Pn	18 08 05.1	+0.5
KLU	Klutina	5.39	16		Pn	18 08 03.8	-1.0
KLU	Klutina	5.39	16	P	Pn	18 08 05.6	+0.8
	baz=199						
GHO	Glory Hole Cre	5.43	0		Pn	18 08 05.0	-0.5
SML	Sawmill	5.48	3		Pn	18 08 06.5	+0.5
SML	Sawmill	5.48	3	P	Pn	18 08 06.9	+0.8
	baz=184						
O17K	Koliganek Bris	5.51	312		Pn	18 08 06.8	+0.3
O17K	Koliganek Bris	5.51	312	P	Pn	18 08 06.8	+0.3
	baz=125						
P16K	Nushagak River	5.54	303		Pn	18 08 07.1	+0.3
P16K	Nushagak River	5.54	303	P	Pn	18 08 07.1	+0.3
	baz=115						
SCM	Sheep Creek Mo	5.56	8		Pn	18 08 08.4	+1.2
SCM	Sheep Creek Mo	5.56	8	P	Pn	18 08 07.9	+0.8
	baz=190						
N18K	Kilae Creek	5.66	323	Pn	Pn	18 08 07.3	-1.2
N18K	Kilae Creek	5.66	323	P	Pn	18 08 08.6	+0.1
	baz=137						
VRDI	Verde Repeater	5.66	28	Pn	Pn	18 08 07.5	-1.2
N25K	Chitina, Valde	5.73	21		Pn	18 08 07.8	-1.7
N25K	Chitina, Valde	5.73	21	P	Pn	18 08 10.2	+0.7
	baz=205						
KIAG	Kiagna River	5.73	34		Pn	18 08 10.2	+0.6
GLB	Gilahina Butte	5.76	25		Pn	18 08 07.7	-2.1
SKT	Skwentna	5.80	348		Pn	18 08 11.3	+0.9
SKT	Skwentna	5.80	348	P	Pn	18 08 11.1	+0.7
	baz=166						
O16K	Kokwok River B	5.85	308		Pn	18 08 11.1	+0.1
O16K	Kokwok River B	5.85	308	P	Pn	18 08 11.2	+0.2
	baz=120						
PTPK	Patty Peak	5.91	32		Pn	18 08 12.9	+0.9
PCA	Pinnacle	5.93	47		Pn	18 08 13.3	+1.0
PINM	Pinnacle	5.93	47	P	Pn	18 08 13.3	+1.0
	baz=235						
M24K	Tolsona, Glenn	5.94	13	Pn	Pn	18 08 11.6	-0.8
M20K	Styx River	5.95	341	Pn	Pn	18 08 12.2	-0.3
N17K	Nushagak Hills	6.01	317	Pn	Pn	18 08 14.0	+0.7
BARN	Barnard Glacie	6.06	36		Pn	18 08 14.4	+0.3
PNL	Peninsula	6.07	53		Pn	18 08 15.0	+0.9
PNL	Peninsula	6.07	53	P	Pn	18 08 15.0	+0.9
	baz=241						
CTGM	Chitina Glacie	6.10	38	Pn	Pn	18 08 14.2	-0.4
LOGN	Logan Glacier	6.11	40	Pn	Pn	18 08 13.7	-1.1
CHNA	Chernabura Isl	6.22	260	P	Pn	18 08 15.5	-0.6
	baz=272						
CNBA	Chernabura Isl	6.22	260	Pn	Pn	18 08 16.5	+0.3
M19K	Big River Lodg	6.23	336	Pn	Pn	18 08 15.0	-1.3
M18K	Stony River	6.26	328		Pn	18 08 16.5	-0.2
M18K	Stony River	6.26	328	P	Pn	18 08 16.5	-0.2
	baz=143						
L19K	White Mountain	6.58	335	Pn	Pn	18 08 21.0	-0.1
M17K	Holitna River	6.70	323	Pn	Pn	18 08 23.2	+0.5
O29M	Mount Kennedy	6.75	50		Pn	18 08 23.9	+0.4
O29M	Mount Kennedy	6.75	50	P	Pn	18 08 24.3	+0.8
	baz=239						
DHY	Denali Highway	6.79	6		Pn	18 08 24.5	+0.4
P29M	Windy Craggy	6.80	57		Pn	18 08 24.7	+0.5
P29M	Windy Craggy	6.80	57	P	Pn	18 08 25.0	+0.8
	baz=246						
M16K	Timber Creek	7.00	316	Pn	Pn	18 08 27.1	+0.2
N15K	Kwethluk River	7.01	308	Pn	Pn	18 08 28.8	+1.8
M27K	Edge Creek, AK	7.02	28	Pn	Pn	18 08 28.1	+0.8
L18K	Granite Mounta	7.09	329	Pn	Pn	18 08 28.3	+0.3
S31K	Pelican	7.11	72	Pn	Pn	18 08 27.2	-1.1
S31K	Pelican	7.11	72	P	Pn	18 08 27.7	-0.6
	baz=262						
TRF	Thorofare Moun	7.15	355	Pn	Pn	18 08 27.7	-1.3
O14K	Tigyukauivet M	7.19	299	Pn	Pn	18 08 29.8	+0.4
CAST	Castle Rocks	7.26	349	Pn	Pn	18 08 28.9	-1.5
KTH	Kantishna Hill	7.29	353	Pn	Pn	18 08 29.5	-1.4
HYT	Haines Junctio	7.47	48	Pn	Pn	18 08 32.2	-1.2
K20K	Telida	7.48	342	Pn	Pn	18 08 31.9	-1.6
TTA	Tatalina	7.50	334	Pn	Pn	18 08 32.2	-1.5
SIT	Sitka	7.54	79	Pn	Pn	18 08 33.7	-0.5
L27K	Beaver Creek,	7.63	25	Pn	Pn	18 08 35.4	-0.1
L16K	Owhat River	7.63	319	Pn	Pn	18 08 35.4	0.0
BCAR	Beaver Creek A	7.64	25	Pn	Pn	18 08 35.3	-0.3
RIDG	Independent Ri	7.69	14	Pn	Pn	18 08 36.8	+0.5
SKAG	Skagway	7.89	61	Pn	Pn	18 08 38.7	-0.4
K17K	Iditarod	7.95	327	Pn	Pn	18 08 40.0	+0.2
S32K	Killisnoo	7.95	76	Pn	Pn	18 08 39.0	-0.8
N30M	Aishikik Lake	7.99	45	Pn	Pn	18 08 41.3	+0.8
SCRK	Sand Creek	8.04	16	Pn	Pn	18 08 41.8	+0.7
O30N	Mendenhall	8.05	51	Pn	Pn	18 08 41.4	+0.1
M29M	Somme Creek	8.11	37		Pn	18 08 41.3	-0.9
JIS	Juneau Island	8.12	70	Pn	Pn	18 08 42.8	+0.6
J18K	Innoko River	8.12	335	Pn	Pn	18 08 42.0	-0.3
HDA	Harding Lake	8.14	6	Pn	Pn	18 08 41.5	-1.0
J20K	Nowinta River	8.26	344	Pn	Pn	18 08 43.0	-1.1
CCB	Clear Creek Bu	8.34	3	Pn	Pn	18 08 43.9	-1.3
J19K	Poorman	8.35	339	Pn	Pn	18 08 44.4	-0.9
J25K	Salcha River,	8.47	11	Pn	Pn	18 08 46.6	-0.4
IL31		8.51	6	Pn	Pn	18 08 47.2	-0.2
ILAR	Eielson Array	8.51	6	Pn	Pn	18 08 46.3	-1.2
ILAR	Eielson Array	8.51	6	Pn	Pn	18 08 49.2	+1.7
	comp=E,0.1nm,0.3s,baz=190,slow=14,SNR=2.1						
ILAR				Sn	Sn	18 10 22.2	+0.1
	comp=E,0.1nm,0.3s,baz=188,slow=24,SNR=6.1						
ILAR				LR	LR	18 12 22.9	
	comp=E,56nm,18.7s,baz=134,slow=39						
	comp=E,0.3nm,0.4s						
N31M	Braeburn, Yuko	8.53	47	Pn	Pn	18 08 46.3	-1.6
WHY	Whitehorse	8.53	54	Pn	Pn	18 08 46.4	-1.5
M13K	Dall Lake	8.58	304	Pn	Pn	18 08 47.6	-0.9
MDM	Murphy Dome	8.64	2	Pn	Pn	18 08 48.0	-1.3
L29M	L29M	8.69	34		Pn	18 08 47.7	-2.4
P32M	Atlin	8.72	62	Pn	Pn	18 08 49.2	-1.3
MLY	Manley	8.75	355	Pn	Pn	18 08 50.2	-0.7
M30M	Minto, Yukon	8.78	40	Pn	Pn	18 08 50.1	-1.2
I23K	Minto, Yukon-K	8.83	359	Pn	Pn	18 08 50.5	-1.4
I21K	Tanana	8.98	352	Pn	Pn	18 08 54.2	+0.2
DAWY	Dawson	9.07	28	Pn	Pn	18 08 56.1	+0.9
J16K	Anvik River	9.08	325	Pn	Pn	18 08 56.1	+0.8
EGAK	Eagle	9.27	21	Pn	Pn	18 08 58.6	+0.6
Q32M	Nakina River	9.31	67	Pn	Pn	18 08 59.5	+0.7
P33M	Teslin, Yukon	9.33	59		Pn	18 08 57.6	-1.3
I26K	Coal Creek Min	9.41	15	Pn	Pn	18 08 59.9	0.0
K29M	Barlow Dome	9.42	32	Pn	Pn	18 08 58.1	-2.0
M31M	Drury Creek, Y	9.47	46	Pn	Pn	18 08 59.1	-1.6
H21K	Melozitna Rive	9.52	350		Pn	18 09 00.2	-1.1
H24K	Noodor Dome	9.53	3	Pn	Pn	18 09 01.9	+0.4
N32M	Quiet Lake	9.54	53	Pn	Pn	18 09 01.5	-0.1
IMAR	Indian Mountai	9.93	349	Pn	Pn	18 09 06.8	-0.2
H18K	Honhosa River	9.94	336	Pn	Pn	18 09 07.4	+0.3
R33M	Jennings River	10.05	65	Pn	Pn	18 09 09.0	+0.3
I28M	Miner Creek	10.11	22	Pn	Pn	18 09 08.8	-0.7
H17K	Granite Mounta	10.13	333	Pn	Pn	18 09 08.6	-1.2
J30M	Hart River	10.31	32	Pn	Pn	18 09 11.3	-1.0
G23K	Bananza Creek	10.41	358	Pn	Pn	18 09 13.2	-0.3
G21K	Allakaket	10.42	350	Pn	Pn	18 09 13.4	-0.3
G18K	Tagagawik	10.64	338	Pn	Pn	18 09 17.0	+0.2
F21K	Alatna River	11.11	351	Pn	Pn	18 09 23.3	+0.1
G16K	Koyuk River	11.14	330	Pn	Pn	18 09 23.4	-0.1
F17K	Baldwin Pennin	11.68	335	Pn	Pn	18 09 28.9	-2.0
E22K	Anaktuvuk Pass	11.90	355	Pn	Pn	18 09 32.2	-1.6
D22K	Ayikyak River	12.69	354	Pn	Pn	18 09 42.7	-1.9
E28M	Babbage River	13.02	15	Pn	Pn	18 09 48.2	-0.9
F31M	Tsiigehtchic	13.18	26	Pn	Pn	18 09 50.1	-1.1
INK	Inuvik	13.90	24	Pn	Pn	18 09 57.1	-4.0
INK	Inuvik	13.90	24	LR	LR	18 16 19.3	
	comp=E,28nm,19.9s,baz=187,slow=41						
C16K	Lisburne Hills	14.11	334	Pn	Pn	18 10 02.0	-1.9
B20K	Meade River	14.17	348	Pn	Pn	18 10 03.9	-0.9
B22K	Teshekpuk Lake	14.18	354	Pn	Pn	18 10 02.5	-2.4
YKA	Yellowknife Ar	18.35	56	P	Pn	18 11 01.9	+3.7
	comp=E,0.3nm,0.7s,baz=268,slow=13,SNR=3.9						
YKA				LR	LR	18 17 41.6	
	comp=E,81nm,18.6s,baz=196,slow=36						
A36M	Sachs Harbour	18.54	23		Pn	18 11 00.6	+0.1
A36M				IAmb	IAmb	18 11 21.0	
	comp=Z,3.8nm,0.8s						
YBH	Yreka Blue Hor	22.39	120	LR	LR	18 18 19.9	
	comp=Z,34nm,18.4s,baz=8.0,slow=31						
SEY	Seymchan	29.41	307	LR	LR	18 25 29.5	
	comp=Z,52nm,18.1s,baz=304,slow=38						
PFO	Pinyon Flats O	31.84	122	LR	LR	18 23 47.8	
	comp=Z,42nm,19.2s,baz=16,slow=32						
MJAR	Matsushiro Arr	51.34	280	LR	LR	18 37 29.8	
	comp=Z,16nm,20.5s,baz=19,slow=36						
MKAR	Makanchi Array	68.64	325	P	P	18 17 51.5	+5.3
	comp=Z,0.2nm,0.7s,baz=28,slow=6.5,SNR=1.8						
	comp=Z,0.2nm,0.7s						

PDG ***27*** *18:29:13.2±0.2, 39°.09N×16°.48E, h75km±3km, ML3.5/12, Error ellipse: s-maj=0.7km s-min=0.8

SPS2 S Sn 18 29 35.8 -0.1
SPS2 AML AML
comp=E,2945µm,0.3s
SPS2 AML AML
comp=N,4430µm,0.3s
SPS2 AML AML
comp=N,4429µm,0.3s
SPS2 AML AML
comp=E,2944µm,0.3s
SPS2 AML AML
comp=E,2944µm,1.7s
CAR1 CAROLEI 0.34 324 ⇓P Pn 18 29 26.1 -0.3
CAR1 S Sn 18 29 35.0 -1.0
CAR1 AML AML
comp=N,14400µm,0.8s
CAR1 AML AML
comp=N,9765µm,0.8s
CAR1 AML AML
comp=E,16800µm,0.3s
CAR1 AML AML
comp=E,18850µm,0.4s
CAR1 AML AML
comp=E,18875µm,0.4s
CAR1 AML AML
comp=E,16807µm,0.3s
CAR1 AML AML
comp=N,10982µm,0.3s
CAR1 AML AML
comp=N,8150µm,0.3s
CAR1 AML AML
comp=E,16807µm,1.6s
CAR1 AML AML
comp=N,10982µm,1.7s
CAR1 AML AML
comp=E,18875µm,1.6s
CELI Celico 0.42 4 ⇓P Pn 18 29 27.6 +0.6
CELI S Sn 18 29 37.8 +0.6
CELI AML AML
comp=E,2730µm,0.5s
CELI AML AML
comp=N,2550µm,0.4s
CELI AML AML
comp=E,6730µm,0.5s
CELI AML AML
comp=N,6215µm,0.8s
CELI AML AML
comp=N,6187µm,0.5s
CELI AML AML
comp=E,6731µm,0.5s
CELI AML AML
comp=N,2550µm,0.5s
CELI AML AML
comp=E,2730µm,0.5s
LADO San Nicola del 0.50 53 ⇓P Pn 18 29 27.8 +0.3
LADO S Sn 18 29 38.7 +0.6
LADO AML AML
comp=E,381µm,0.8s
LADO AML AML
comp=E,380µm,0.8s
LADO AML AML
comp=N,229µm,0.6s
LADO AML AML
comp=N,223µm,0.2s
LADO AML AML
comp=E,363µm,0.3s
PLAC Placanica 0.53 182 ⇑P Pn 18 29 27.8 -0.1
PLAC S Sn 18 29 37.6 -0.9
PLAC AML AML
comp=N,8085µm,0.5s
PLAC AML AML
comp=E,8300µm,0.5s
PLAC AML AML
comp=N,5265µm,0.7s
PLAC AML AML
comp=E,4900µm,0.7s
PLAC AML AML
comp=N,8080µm,0.5s
PLAC AML AML
comp=E,4681µm,0.5s
PLAC AML AML
comp=N,8083µm,0.5s
PLAC AML AML
comp=N,5147µm,0.5s
PLAC AML AML
comp=E,8302µm,0.5s
PLAC AML AML
comp=E,4681µm,1.5s
PLAC AML AML
comp=E,8302µm,1.5s
PLAC AML AML
comp=N,5147µm,1.5s
PLAC AML AML
comp=N,8083µm,1.5s
PIPA Pietrapaola 0.57 28 ⇓P Pn 18 29 28.8 +0.7
PIPA AML AML
comp=E,4125µm,1.3s
PIPA AML AML
comp=N,3400µm,0.2s
PIPA AML AML
comp=E,4120µm,1.3s
PIPA AML AML
comp=N,3595µm,0.2s
PIPA AML AML
comp=E,4125µm,1.3s
PIPA AML AML
comp=N,3596µm,0.2s
PIPA AML AML
comp=N,3400µm,0.2s
PIPA AML AML
comp=E,3653µm,0.2s
PIPA AML AML
comp=E,3671µm,0.2s
JOPP Joppolo 0.59 231 ⇑P Pn 18 29 27.5 -0.8
JOPP S Sn 18 29 37.0 -2.4
JOPP AML AML
comp=E,32750µm,0.4s
JOPP AML AML
comp=N,42650µm,0.2s
JOPP AML AML
comp=N,42664µm,0.2s
JOPP AML AML
comp=E,27079µm,0.1s
CET2 Cetraro 0.68 324 ⇓P Pn 18 29 28.6 -0.6
CET2 S Sn 18 29 38.7 -2.2
CET2 AML AML
comp=N,28200µm,0.7s
CET2 AML AML
comp=E,14300µm,0.5s
CET2 AML AML
comp=E,12466µm,0.2s
CET2 AML AML
comp=N,26954µm,0.3s
TDS Terranova Siba 0.68 352 ⇓P Pn 18 29 30.1 +0.9
TDS S Sn 18 29 42.0 +1.0
TDS AML AML
comp=N,1180µm,1.2s
TDS AML AML
comp=E,1670µm,1.0s
TDS AML AML
comp=N,1057µm,0.6s
TDS AML AML
comp=E,1419µm,0.5s
CEL Celeste 0.85 212 ⇑P Pn 18 29 30.5 -0.5
CEL S Sn 18 29 42.6 -1.5
CEL AML AML
comp=E,4580µm,0.9s
CEL AML AML
comp=N,3770µm,1.1s
CEL AML AML
comp=E,5690µm,0.9s
CEL AML AML
comp=N,4600µm,1.1s
CEL AML AML
comp=N,3677µm,0.2s
CEL AML AML
comp=E,5527µm,0.5s
CEL AML AML
comp=N,4543µm,0.2s
CEL AML AML
comp=E,4481µm,0.5s
GRIS Grisolia 0.90 328 ⇓P Pn 18 29 30.9 -0.5
SALB San Lorenzo Be 0.90 354 ⇑P Pn 18 29 32.3 +0.7
SALB S Sn 18 29 46.4 +1.1
SALB AML AML
comp=N,1770µm,0.2s
SALB AML AML
comp=E,3445µm,0.3s
SALB AML AML
comp=N,1767µm,0.2s
SALB AML AML
comp=E,3445µm,0.3s
SOI Samo 0.96 200 ⇑P Pn 18 29 32.2 0.0
SOI AML AML
comp=E,1670µm,0.4s
SOI AML AML
comp=N,2345µm,0.6s
SOI AML AML
comp=N,2344µm,0.6s
SOI AML AML
comp=E,1668µm,0.4s
SOI AML AML
comp=N,2344µm,1.4s
MMN Mormanno 0.98 338 ⇓P Pn 18 29 32.3 0.0
MMN S Sn 18 29 45.7 -0.9
MMN AML AML
comp=E,3430µm,0.3s
MMN AML AML
comp=N,6015µm,0.2s
MMN AML AML
comp=N,6014µm,0.2s
MMN AML AML
comp=E,3430µm,0.3s
IST3 Stromboli F 0.98 260 ⇓P Pn 18 29 31.3 -1.1
IST3 AML AML
comp=N,22750µm,0.4s
IST3 AML AML
comp=E,23400µm,1.6s
IST3 AML AML
comp=N,20322µm,0.3s
IST3 AML AML
comp=E,21858µm,0.2s
IST3 AML AML
comp=N,20322µm,1.7s
ISTR Stromboli Gino 1.01 259 ⇓P Pn 18 29 31.4 -1.3
ISTR S Sn 18 29 43.7 -3.6
ISTR AML AML
comp=E,7870µm,0.5s
ISTR AML AML
comp=N,7900µm,1.3s
ISTR AML AML
comp=E,6974µm,0.3s
ISTR AML AML
comp=N,7385µm,0.2s
MSRU Castanea 1.04 227 ⇑P Pn 18 29 32.1 -1.0
MSRU S Sn 18 29 45.2 -2.7
MSRU AML AML
comp=E,14900µm,0.4s
MSRU AML AML
comp=N,12150µm,0.5s
MSRU AML AML
comp=E,14905µm,0.4s
MSRU AML AML
comp=N,10574µm,0.2s
ORI Oriolo Calabro 1.08 359 ⇑P Pn 18 29 34.6 +1.0
ORI AML AML
comp=E,4225µm,0.3s
ORI AML AML
comp=N,3315µm,0.4s
ORI AML AML
comp=E,4222µm,0.3s
ORI AML AML
comp=N,3315µm,0.4s
ORI AML AML
comp=N,3315µm,1.6s
CUC Castrocucco 1.13 334 ⇓P Pn 18 29 33.5 -0.7
CUC S Sn 18 29 47.5 -2.4
CUC AML AML
comp=E,1535µm,0.6s
CUC AML AML
comp=E,1905µm,0.7s
CUC AML AML
comp=E,1530µm,0.6s
CUC AML AML
comp=N,1440µm,0.5s
CUC AML AML
comp=N,1725µm,1.5s
CUC AML AML
comp=E,1826µm,0.2s
CUC AML AML
comp=E,1454µm,0.2s
CUC AML AML
comp=N,1661µm,0.3s
CUC AML AML
comp=N,1339µm,0.3s
MTTG Motta San Giov 1.15 212 ⇑P Pn 18 29 34.2 -0.2
MTTG S Sn 18 29 49.1 -1.2
MTTG AML AML
comp=N,3085µm,0.8s
MTTG AML AML
comp=E,3185µm,0.9s
MTTG AML AML
comp=N,2988µm,0.6s
MTTG AML AML
comp=E,3106µm,0.4s
MILZ Milazzo 1.20 234 P Pn 18 29 34.0 -0.9
MILZ S Sn 18 29 48.4 -2.9
MILZ AML AML
comp=E,14500µm,0.5s
MILZ AML AML
comp=N,16100µm,0.3s
MILZ AML AML
comp=E,14508µm,0.5s
MILZ AML AML
comp=N,16082µm,0.3s
MILZ AML AML
comp=E,14508µm,1.5s
MPNC Port Mandanici 1.21 227 ⇑P Pn 18 29 34.2 -1.0
MPNC S Sn 18 29 49.0 -2.6
SIRI Monte Sirino - 1.28 339 P Pn 18 29 36.1 -0.1
SIRI S Sn 18 29 52.4 -1.0
SIRI AML AML
comp=E,2625µm,0.4s
SIRI AML AML
comp=N,2185µm,0.2s
SIRI AML AML
comp=E,2575µm,0.4s
SIRI AML AML
comp=N,2160µm,0.2s
SIRI AML AML
comp=N,2183µm,0.2s
SIRI AML AML
comp=E,2626µm,0.4s
SIRI AML AML
comp=N,2158µm,0.2s
SIRI AML AML
comp=E,2577µm,0.4s
SIRI AML AML
comp=N,2183µm,1.8s
SIRI AML AML
comp=N,2158µm,1.8s
LLI Lipari 1.30 246 P Pn 18 29 36.0 -0.3
LLI AML AML
comp=E,13200µm,1.4s
LLI AML AML
comp=N,31800µm,0.6s
LLI AML AML
comp=N,31818µm,0.6s
LLI AML AML
comp=E,12968µm,0.5s
VPL Vulcano Piano 1.31 243 ⇓P Pn 18 29 35.7 -0.7
VPL S Sn 18 29 50.7 -3.0
VPL AML AML
comp=N,8695µm,1.0s
VPL AML AML
comp=E,8240µm,0.5s
VPL AML AML
comp=E,7203µm,0.3s
VPL AML AML
comp=N,8400µm,0.2s
IVGP Vulcano Grotta 1.31 244 ⇓P Pn 18 29 35.5 -0.9
IVGP S Sn 18 29 50.7 -3.2
IVGP AML AML
comp=E,3395µm,0.5s
IVGP AML AML
comp=N,3455µm,0.3s
IVGP AML AML
comp=E,3187µm,0.2s
IVGP AML AML
comp=N,2802µm,0.2s
MGR Morigerati 1.35 329 ⇓P Pn 18 29 36.5 -0.5
MGR S Sn 18 29 53.3 -1.4
MGR AML AML
comp=E,3475µm,0.2s
MGR AML AML
comp=N,2945µm,0.6s
MGR AML AML
comp=E,3475µm,0.2s
MGR AML AML
comp=N,2945µm,0.6s
MGR AML AML
comp=E,3225µm,0.2s
MGR AML AML
comp=N,3370µm,0.6s
MGR AML AML
comp=E,3477µm,0.2s
MGR AML AML
comp=E,3221µm,0.2s
MGR AML AML
comp=N,2722µm,0.2s
MGR AML AML
comp=N,2676µm,0.2s
BULG Bulgheria - Ca 1.38 323 ⇓P Pn 18 29 37.2 -0.1
BULG S Sn 18 29 54.8 -0.7
BULG AML AML
comp=E,2930µm,0.5s
BULG AML AML
comp=N,6450µm,1.4s
BULG AML AML
comp=E,2990µm,0.5s
BULG AML AML
comp=N,6665µm,1.4s
BULG AML AML
comp=N,6032µm,0.3s
BULG AML AML
comp=E,2933µm,0.5s
BULG AML AML
comp=E,2990µm,0.5s
BULG AML AML
comp=N,5870µm,0.3s
CRAC Craco 1.38 359 ⇑P Pn 18 29 38.8 +1.5
CRAC AML AML
comp=E,2055µm,0.5s
CRAC AML AML
comp=N,2180µm,0.4s
CRAC AML AML
comp=N,2179µm,0.4s
CRAC AML AML
comp=E,1963µm,0.1s
MTSN Montesano sull 1.40 337 P Pn 18 29 37.2 -0.4
MTSN AML AML
comp=E,1670µm,0.7s
MTSN AML AML
comp=N,1640µm,0.3s
MTSN AML AML
comp=N,1644µm,0.3s
MTSN AML AML
comp=E,1673µm,0.7s
AIO Antillo 1.40 224 ⇑P Pn 18 29 37.0 -0.6
AIO S Sn 18 29 53.9 -1.9
AIO AML AML
comp=E,4280µm,0.7s
AIO AML AML
comp=N,4905µm,0.4s
AIO AML AML
comp=E,3997µm,0.3s
AIO AML AML
comp=N,4907µm,0.4s
NOV Novara 1.41 228 ⇑P Pn 18 29 37.1 -0.7
NOV S Sn 18 29 54.1 -2.1
NOV AML AML
comp=E,5765µm,0.9s
NOV AML AML
comp=N,5680µm,0.3s
NOV AML AML
comp=E,4987µm,0.4s
NOV AML AML
comp=N,5683µm,0.3s
MCEL Monticello 1.44 339 P Pn 18 29 38.4 +0.3
MCEL AML AML
comp=E,1555µm,1.6s
MCEL AML AML
comp=N,1335µm,0.4s
MCEL AML AML
comp=E,1590µm,1.6s
MCEL AML AML
comp=N,1370µm,0.4s
MCEL AML AML
comp=N,1340µm,0.4s
MCEL AML AML
comp=N,1337µm,0.4s
MCEL AML AML
comp=N,1369µm,0.4s
MCEL AML AML
comp=E,1546µm,0.5s
MCEL AML AML
comp=E,1566µm,0.5s
SLCN Sala Consilina 1.55 336 P Pn 18 29 39.4 -0.1
SLCN AML AML
comp=E,2335µm,0.3s
SLCN AML AML
comp=N,1600µm,1.0s
SLCN AML AML
comp=E,2575µm,0.3s
SLCN AML AML
comp=N,1650µm,0.3s
SLCN AML AML
comp=E,2572µm,0.3s
SLCN AML AML
comp=N,1648µm,0.3s
SLCN AML AML
comp=E,2331µm,0.3s
SLCN AML AML
comp=N,1568µm,0.3s
MUCR Ucria 1.56 234 P Pn 18 29 39.1 -0.6
MUCR AML AML
comp=N,3525µm,0.7s
MUCR AML AML
comp=E,2585µm,0.8s
MUCR AML AML
comp=E,2343µm,0.3s
MUCR AML AML
comp=N,3253µm,0.3s
MUCR AML AML
comp=E,2343µm,1.7s
PTRP Pietrapertosa 1.57 349 P Pn 18 29 41.4 +1.6
PTRP AML AML
comp=E,1195µm,0.3s
PTRP AML AML
comp=N,938µm,1.3s
PTRP AML AML
comp=N,777µm,0.5s
PTRP AML AML
comp=E,1195µm,0.3s
CMPR Campora 1.61 326 P Pn 18 29 40.0 -0.3
MIGL Miglionico 1.62 359 ⇑P Pn 18 29 40.7 +0.3
MIGL AML AML
comp=E,2335µm,0.3s
MIGL AML AML
comp=N,2850µm,0.6s
MIGL AML AML
comp=N,2580µm,0.2s
MIGL AML AML
comp=E,2332µm,0.3s
MIGL AML AML
comp=E,2332µm,1.7s
EMSG Monte Spagnolo 1.66 226 P Pn 18 29 42.2 +1.1
EMSG AML AML
comp=E,5075µm,0.7s
EMSG AML AML
comp=N,5830µm,0.4s
EMSG AML AML
comp=E,5074µm,0.7s
EMSG AML AML
comp=N,5830µm,0.4s
EMSG AML AML
comp=N,5830µm,1.6s
TAR1 Taranto 1.67 22 ⇑P Pn 18 29 40.5 -0.4
TAR1 AML AML
comp=E,4795µm,0.3s
TAR1 AML AML
comp=N,5475µm,0.3s
TAR1 AML AML
comp=N,5388µm,0.2s
TAR1 AML AML
comp=E,4499µm,0.1s
MATE Matera 1.68 6 ⇑P Pn 18 29 40.9 -0.2
MATE ⇓S Sn 18 29 58.0 -4.1
MATE Matera 1.68 6 ⇑P Pn 18 29 40.9 -0.2
MATE AML AML
comp=E,1305µm,1.4s
MATE AML AML

MATE AML AML
comp=E,1068µm,0.2s
MATE AML AML
comp=N,1551µm,0.1s
SRN3 Sant'Arsenio 1.69 333 P **Pn 18 29 41.0 -0.3**
SRN3 Sant'Arsenio 1.69 333 ⇓*i*P **Pn 18 29 41.1 -0.3**
SRN3 *i*S **Pn 18 29 42.3 +0.9**
IACL Alicudi 1.71 255 ⇓P **Pn 18 29 40.7 -0.8**
IACL AML AML
comp=E,1580µm,1.5s
IACL AML AML
comp=N,1510µm,1.0s
IACL AML AML
comp=E,1529µm,0.4s
IACL AML AML
comp=N,1321µm,0.3s
EPZF Pizzo Felice 1.71 228 P **Pn 18 29 42.6 +0.9**
EPZF AML AML
comp=E,4860µm,0.4s
EPZF AML AML
comp=N,6550µm,1.0s
EPZF AML AML
comp=E,4859µm,0.4s
EPZF AML AML
comp=N,5959µm,0.4s
EPZF AML AML
comp=N,5959µm,1.6s
PZUN Potenza 1.74 343 P **Pn 18 29 43.7 +1.9**
PZUN AML AML
comp=E,928µm,0.8s
PZUN AML AML
comp=N,846µm,0.3s
PZUN AML AML
comp=E,902µm,1.3s
PZUN AML AML
comp=N,832µm,0.3s
PZUN AML AML
comp=E,856µm,0.3s
PZUN AML AML
comp=E,811µm,0.4s
PZUN AML AML
comp=N,846µm,0.3s
PZUN AML AML
comp=N,831µm,0.3s
PZUN AML AML
comp=E,811µm,1.6s
ESLN Serra La Nave 1.74 223 P **Pn 18 29 42.0 -0.1**
ESLN AML AML
comp=E,2225µm,0.3s
ESLN AML AML
comp=N,1935µm,0.7s
ESLN AML AML
comp=N,1938µm,0.7s
ESLN AML AML
comp=E,2224µm,0.3s
ESLN AML AML
comp=N,1938µm,1.4s
MSFR San Fratello 1.75 238 P **Pn 18 29 41.5 -0.6**
MSFR AML AML
comp=E,658µm,0.3s
MSFR AML AML
comp=N,736µm,0.5s
MSFR AML AML
comp=N,644µm,0.2s
MSFR AML AML
comp=E,658µm,0.3s
CDRU Civita di Ruta 1.75 330 P **Pn 18 29 42.0 -0.2**
EPOZ Pozzillo 1.83 217 P **Pn 18 29 40.5 -2.5**
EPOZ AML AML
comp=E,2090µm,0.7s
EPOZ AML AML
comp=N,2655µm,0.4s
EPOZ AML AML
comp=E,2090µm,0.7s
EPOZ AML AML
comp=N,2653µm,0.4s
ACER Acerenza 1.85 348 P **Pn 18 29 43.8 +0.4**
ACER AML AML
comp=E,906µm,0.5s
ACER AML AML
comp=N,774µm,0.5s
ACER AML AML
comp=E,931µm,0.5s
ACER AML AML
comp=N,808µm,0.9s
ACER AML AML
comp=E,906µm,0.5s
ACER AML AML
comp=E,931µm,0.5s
ACER AML AML
comp=N,775µm,0.5s
ACER AML AML
comp=N,798µm,0.5s
ESML S. M. di Licod 1.85 223 P **Pn 18 29 43.5 +0.2**
ESML AML AML
comp=E,1670µm,1.4s
ESML AML AML
comp=N,1550µm,0.6s
ESML AML AML
comp=N,1548µm,0.6s
ESML AML AML
comp=E,1563µm,0.3s
NOCI Noci 1.86 14 P **Pn 18 29 43.1 -0.5**
baz=9.0
NOCI S **Sn 18 30 01.9 -4.6**
baz=9.0
NOCI AMP
comp=E,9.4nm,0.1s,baz=9.0
NOCI Noci 1.86 14 ⇑P **Pn 18 29 43.0 -0.5**
NOCI AML AML
comp=E,3435µm,0.1s
NOCI AML AML
comp=N,4180µm,0.1s
NOCI AML AML
comp=E,3437µm,0.1s
NOCI AML AML
comp=N,4177µm,0.1s
SCL3 Muro Lucano (S 1.86 337 *i*P **Pn 18 29 45.5 +1.9**
SCL3 *i*S **Pn 18 29 46.0 +2.5**
SCTE Santa Cesarea 1.89 54 P **Pn 18 29 42.9 -1.0**
baz=57
SCTE S **Sn 18 30 03.3 -3.9**
baz=57
SCTE AMP
comp=E,1.5nm,0.4s,baz=57
SCTE Santa Cesarea 1.89 54 P **Pn 18 29 43.6 -0.3**
SCTE AML AML
comp=E,1710µm,0.4s
SCTE AML AML
comp=N,1375µm,0.5s
SCTE AML AML
comp=N,1157µm,0.2s
SCTE AML AML
comp=E,1709µm,0.4s
SCTE AML AML
comp=N,1157µm,1.8s
AMUR Altamura 1.93 3 ⇑P **Pn 18 29 44.1 -0.3**
AMUR AML AML
comp=E,2235µm,0.3s
AMUR AML AML
comp=N,2965µm,0.2s
AMUR AML AML
comp=N,2965µm,0.2s
AMUR AML AML
comp=N,2965µm,1.8s
AMUR AML AML
comp=E,2233µm,0.3s
AMUR Altamura 1.93 3 ⇑P **Pn 18 29 44.1 -0.3**
MRLC Muro Lucano 1.93 337 P **Pn 18 29 45.8 +1.4**
MRLC AML AML
comp=E,246µm,1.3s
MRLC AML AML
comp=N,308µm,0.4s
MRLC AML AML
comp=E,513µm,0.3s
MRLC AML AML
comp=N,616µm,0.4s
MRLC AML AML
comp=E,513µm,0.3s
MRLC AML AML
comp=N,616µm,0.4s
MRLC AML AML
comp=N,308µm,0.4s
MRLC AML AML
comp=E,513µm,1.7s
MRLC AML AML
comp=E,241µm,0.5s
MESG Mesagne 1.93 33 P **Pn 18 29 44.0 -0.3**
MESG AML AML
comp=E,2490µm,0.4s
MESG AML AML
comp=N,2185µm,0.5s
MESG AML AML
comp=E,1919µm,0.1s
MESG AML AML
comp=N,1913µm,0.2s
SFL3 San Fele 1.93 340 *i*P **Pn 18 29 46.0 +1.5**
VDS3 Muro Lucano (V 1.93 336 *i*P **Pn 18 29 46.2 +1.6**
GALF Gagliano Caste 1.96 230 P **Pn 18 29 46.0 +1.1**
GALF AML AML
comp=E,2250µm,0.5s
GALF AML AML
comp=N,1935µm,0.6s
GALF AML AML
comp=E,2246µm,0.5s
GALF AML AML
comp=N,1936µm,0.6s
GALF AML AML
comp=E,2246µm,1.5s
AGST Augusta-Monte 1.98 210 P **Pn 18 29 43.0 -2.1**
HAGA Augusta 1.98 212 P **Pn 18 29 43.3 -1.9**
HAGA AML AML
comp=E,1880µm,1.4s
HAGA AML AML
comp=N,1640µm,1.3s
HAGA AML AML
comp=E,1792µm,0.3s
HAGA AML AML
comp=N,1215µm,0.1s
PALZ Palazzo San Ge 2.00 349 AML AML
comp=N,495µm,0.3s
PALZ AML AML
comp=E,775µm,1.3s
PALZ AML AML
comp=N,716µm,1.3s
PALZ AML AML
comp=E,557µm,0.3s
RDM3 Ruvo Del Monte 2.02 340 *i*P **Pn 18 29 47.1 +1.4**
MCRV Calabrutti - M 2.06 331 P **Pn 18 29 46.6 +0.4**
MCRV AML AML
comp=E,707µm,1.2s
MCRV AML AML
comp=N,908µm,0.3s
MCRV AML AML
comp=N,908µm,0.3s
MCRV AML AML
comp=E,681µm,0.4s
CAGR Agira 2.06 229 P **Pn 18 29 47.4 +1.2**
HLNI Lentini 2.06 218 P **Pn 18 29 44.7 -1.4**
HLNI AML AML
comp=E,1705µm,0.9s
HLNI AML AML
comp=N,1615µm,0.7s
HLNI AML AML
comp=N,1253µm,0.2s
HLNI AML AML
comp=E,1531µm,0.1s
PLLN Pollina 2.07 242 P **Pn 18 29 46.1 -0.2**
PLLN AML AML
comp=E,1490µm,0.8s
PLLN AML AML
comp=N,2145µm,0.4s
PLLN AML AML
comp=E,1415µm,0.5s
PLLN AML AML
comp=N,2144µm,0.4s
VULT Monte Vulture 2.08 342 P **Pn 18 29 46.8 +0.3**
VULT AML AML
comp=E,543µm,1.4s
VULT AML AML
comp=N,715µm,0.2s
VULT AML AML
comp=E,551µm,1.4s
VULT AML AML
comp=N,768µm,1.4s
VULT AML AML
comp=N,718µm,0.2s
VULT AML AML
comp=E,503µm,0.2s
VULT AML AML
comp=N,715µm,0.2s
VULT AML AML
comp=E,534µm,0.1s
MRVN Minervino Murg 2.09 354 P **Pn 18 29 46.0 -0.6**
MRVN AML AML
comp=E,914µm,0.2s
MRVN AML AML
comp=N,974µm,0.1s
MRVN AML AML
comp=N,972µm,0.1s
MRVN AML AML
comp=E,915µm,0.2s
NSC3 Nusco 2.13 331 ⇑*i*P **Pn 18 29 47.9 +0.7**
SSY Sortino 2.13 212 P **Pn 18 29 45.6 -1.5**
SSY AML AML
comp=E,2395µm,0.7s
SSY AML AML
comp=N,4435µm,0.2s
SSY AML AML
comp=N,4434µm,0.2s
SSY AML AML
comp=E,2094µm,0.2s
LIO3 Lioni 2.15 333 *i*P **Pn 18 29 48.5 +1.1**
GIB Gibilmanna 2.15 243 P **Pn 18 29 47.0 -0.5**
GIB AML AML
comp=E,1285µm,0.4s
GIB AML AML
comp=N,1305µm,0.6s
GIB AML AML
comp=E,1288µm,0.4s
GIB AML AML
comp=N,1305µm,0.6s
CSLB Castelbuono 2.16 242 P **Pn 18 29 46.8 -0.7**
CSLB AML AML
comp=E,304µm,1.2s
CSLB AML AML
comp=N,300µm,0.8s
CSLB AML AML
comp=E,286µm,0.6s
CSLB AML AML
comp=N,282µm,0.4s
CSLB AML AML
comp=N,282µm,1.6s
SNAL S. Angelo Dei 2.17 334 P **Pn 18 29 48.8 +1.1**
SNAL AML AML
comp=E,668µm,0.7s
SNAL AML AML
comp=N,678µm,0.7s
SNAL AML AML
comp=E,664µm,0.6s
SNAL AML AML
comp=N,668µm,0.7s
SNAL AML AML
comp=E,664µm,0.6s
SNAL AML AML
comp=E,669µm,0.7s
SNAL AML AML
comp=N,668µm,0.7s
SNAL AML AML
comp=N,677µm,0.7s
PETRA Petralia Sopra 2.17 239 P **Pn 18 29 48.0 +0.1**
PETRA AML AML
comp=E,1085µm,0.3s
PETRA AML AML
comp=N,1080µm,0.7s
PETRA AML AML
comp=N,1081µm,0.7s
PETRA AML AML
comp=N,1081µm,1.3s
PETRA AML AML
comp=E,1085µm,0.3s
VAE Valguarnera 2.21 228 P **Pn 18 29 51.1 +3.0**
comp=E,5.6nm,0.3s,baz=346,slow=17,SNR=6.2
VAE S **Sn 18 30 18.7 +4.0**
comp=E,61nm,0.5s,baz=347,slow=7.6,SNR=8.5
CAFE Carife 2.25 336 P **Pn 18 29 50.0 +1.2**
CAFE AML AML
comp=E,484µm,1.2s
CAFE AML AML
comp=N,622µm,0.4s
CAFE AML AML
comp=E,528µm,0.8s
CAFE AML AML
comp=N,630µm,0.4s
CAFE AML AML
comp=E,478µm,0.4s
CAFE AML AML
comp=N,630µm,0.4s
CAFE AML AML
comp=E,493µm,0.6s
CAFE AML AML
comp=N,622µm,0.4s
HVZN Vizzini 2.27 218 P **Pn 18 29 47.8 -1.2**
SGTA Sant Agata di 2.31 339 P **Pn 18 29 50.0 +0.4**
SGTA AML AML
comp=E,369µm,0.6s
SGTA AML AML
comp=N,322µm,1.3s
SGTA AML AML
comp=E,328µm,0.7s
SGTA AML AML
comp=N,296µm,0.6s
SGTA AML AML
comp=N,296µm,0.6s
SGTA AML AML
comp=N,238µm,0.5s
SGTA AML AML
comp=E,325µm,0.6s
SGTA AML AML
comp=E,325µm,1.4s
SGTA AML AML
comp=N,296µm,1.4s
SGTA AML AML
comp=E,369µm,0.6s
SGTA AML AML
comp=N,238µm,1.5s
RESU Resuttano 2.32 236 AML AML
comp=E,344µm,0.5s
RESU AML AML
comp=N,442µm,0.6s
RESU AML AML
comp=N,442µm,0.6s
RESU AML AML
comp=N,442µm,1.4s
RESU AML AML
comp=E,345µm,0.5s
HMDC Modica 2.42 214 P **Pn 18 29 50.0 -1.0**
HMDC AML AML
comp=E,1050µm,0.5s
HMDC AML AML
comp=N,1310µm,0.9s
HMDC AML AML
comp=N,1274µm,0.2s
HMDC AML AML
comp=E,987µm,0.1s
HMDC AML AML
comp=N,1274µm,1.8s
ALJA Alia 2.46 241 P **Pn 18 29 52.2 +0.7**
ALJA AML AML
comp=E,400µm,1.0s
ALJA AML AML
comp=N,447µm,1.1s
ALJA AML AML
comp=E,313µm,0.7s
ALJA AML AML
comp=N,441µm,0.5s
SOLUN Solunto 2.47 250 P **Pn 18 29 51.5 -0.1**
SOLUN AML AML
comp=E,226µm,0.9s
SOLUN AML AML
comp=N,280µm,0.5s
SOLUN AML AML
comp=E,222µm,0.8s
SOLUN AML AML
comp=E,222µm,1.2s
SOLUN AML AML
comp=N,280µm,0.5s
PAOL Paolisi 2.51 325 P **Pn 18 29 52.9 +0.7**
PAOL AML AML
comp=E,300µm,0.7s
PAOL AML AML
comp=N,362µm,1.2s
PAOL AML AML
comp=E,254µm,0.3s
PAOL AML AML
comp=N,296µm,0.4s
PAOL AML AML
comp=E,254µm,0.3s
PAOL AML AML
comp=N,290µm,0.3s
PAOL AML AML
comp=N,296µm,0.4s
PAOL AML AML
comp=E,279µm,0.5s
PAOL AML AML
comp=E,254µm,1.7s
HPAC Pachino 2.52 206 P **Pn 18 29 51.3 -1.0**
HPAC AML AML
comp=E,3190µm,0.2s
HPAC AML AML
comp=N,3110µm,1.4s
HPAC AML AML
comp=N,2821µm,0.3s
HPAC AML AML
comp=E,3192µm,0.2s
USI Ustica 2.58 265 ⇓P **Pn 18 29 52.3 -0.8**
USI AML AML
comp=E,282µm,0.3s
USI AML AML
comp=N,940µm,0.2s
USI AML AML
comp=E,282µm,0.3s
USI AML AML
comp=N,942µm,0.2s
MOCO Biccari - m.te 2.59 338 P **Pn 18 29 54.1 +0.8**
MOCO AML AML
comp=E,210µm,0.8s
MOCO AML AML
comp=N,120µm,0.4s
MOCO AML AML
comp=E,196µm,0.5s
MOCO AML AML
comp=N,121µm,0.4s
MOCO AML AML
comp=E,204µm,0.5s
MOCO AML AML
comp=N,123µm,0.4s
VITU Vitulano (BN) 2.61 328 P **Pn 18 29 54.5 +1.0**
VITU AML AML
comp=E,538µm,0.3s
VITU AML AML
comp=N,608µm,1.2s
VITU AML AML
comp=N,544µm,0.4s
VITU AML AML
comp=E,290µm,0.5s
VITU AML AML
comp=N,596µm,0.5s
VITU AML AML
comp=E,290µm,1.5s
VITU AML AML
comp=E,537µm,0.3s
KEK Kerkira 2.69 73 P **Pn 18 29 52.9 -1.6**
CORL Corleone 2.71 247 AML AML
comp=E,848µm,1.2s
CORL AML AML
comp=N,712µm,0.4s
CORL AML AML
comp=E,705µm,1.0s
CORL AML AML
comp=N,713µm,0.4s
CORL AML AML
comp=N,713µm,1.6s
CORL AML AML
comp=E,705µm,1.0s
MSAG Monte S. Angel 2.76 351 ⇑P **Pn 18 29 55.2 -0.4**
MSAG AML AML
comp=E,640µm,0.3s
MSAG AML AML
comp=N,1200µm,0.3s
MSAG AML AML
comp=E,260µm,0.3s
MSAG AML AML
comp=N,495µm,0.3s
MSAG AML AML
comp=E,260µm,0.3s
MSAG AML AML
comp=E,640µm,0.3s
MSAG AML AML
comp=N,495µm,0.3s
MSAG AML AML

comp=N,1200µm,0.3s
VLO Vlora 2.77 57 P **Pn 18 29 55.5 -0.1**
baz=59
VLO S **Sn 18 30 27.1 -1.0**
baz=59
VLO AMP
comp=E,6.0nm,0.1s,baz=59
VLO Vlora 2.77 57 AML AML
comp=E,1895µm,0.1s
VLO AML AML
comp=E,2005µm,0.9s
VLO AML AML
comp=N,2650µm,0.3s
VLO AML AML
comp=N,2540µm,0.2s
GATE Gambatesa 2.79 335 AML AML
comp=E,273µm,1.6s
GATE AML AML
comp=E,336µm,0.4s
GATE AML AML
comp=N,280µm,0.8s
GATE AML AML
comp=E,273µm,0.4s
GATE AML AML
comp=N,260µm,0.6s
GATE AML AML
comp=E,273µm,0.4s
GATE AML AML
comp=N,261µm,0.6s
GATE AML AML
comp=E,336µm,0.4s
GATE AML AML
comp=N,279µm,0.8s
GATE AML AML
comp=N,261µm,1.4s
GATE AML AML
comp=E,336µm,1.6s
SGRT San Giovanni R 2.83 349 P **Pn 18 29 56.1 -0.3**
baz=344
SGRT S **Sn 18 30 26.5 -3.1**
baz=344
SGRT AMP
comp=N,2.0nm,0.1s,baz=344
SGRT San Giovanni R 2.83 349 AML AML
comp=N,766µm,1.6s
SGRT AML AML
comp=E,812µm,0.2s
SGRT AML AML
comp=E,812µm,0.2s
SGRT AML AML
comp=N,749µm,0.2s
APRC Apricena 2.86 346 AML AML
comp=E,1224µm,0.5s
APRC AML AML
comp=E,1225µm,0.5s
APRC AML AML
comp=N,1076µm,0.2s
APRC AML AML
comp=N,1077µm,0.2s
APRC AML AML
comp=E,1262µm,0.5s
APRC AML AML
comp=N,1113µm,0.9s
SRN Sarande 2.88 71 P **Pn 18 29 57.1 0.0**
baz=74
SRN S **Sn 18 30 29.1 -1.7**
baz=74
SRN AMP
comp=E,0.8nm,0.1s,baz=74
SRN Sarande 2.88 71 P **Pn 18 29 57.4 +0.3**
SRN Sarande 2.88 71 AML AML
comp=E,301µm,1.1s
SRN AML AML
comp=N,293µm,0.7s
SRN AML AML
comp=N,292µm,0.1s
SRN AML AML
comp=E,265µm,0.2s
MELA Melanico ??? S 2.91 340 P **Pn 18 29 57.8 +0.4**
MELA AML AML
comp=E,654µm,1.2s
MELA AML AML
comp=N,555µm,1.0s
MELA AML AML
comp=N,568µm,0.7s
MELA AML AML
comp=E,655µm,0.3s
MELA AML AML
comp=E,639µm,0.4s
MELA AML AML
comp=N,537µm,0.7s
MELA AML AML
comp=N,537µm,1.3s
MELA AML AML
comp=N,568µm,1.4s
BSSO Busso 2.94 331 AML AML
comp=E,64µm,0.8s
BSSO AML AML
comp=N,70µm,1.0s
BSSO AML AML
comp=E,55µm,0.5s
BSSO AML AML
comp=N,187µm,1.0s
BSSO AML AML
comp=N,71µm,1.0s
BSSO AML AML
comp=N,71µm,1.0s
BSSO AML AML
comp=N,187µm,1.0s
BSSO AML AML
comp=E,135µm,0.7s
MODR Mondragone 2.94 318 AML AML
comp=E,142µm,0.4s
MODR AML AML
comp=N,121µm,1.2s
VENT Ventotene 2.96 309 P **Pn 18 29 57.6 -0.6**
VENT AML AML
comp=E,202µm,1.0s
VENT AML AML
comp=N,188µm,0.3s
CRJA Costa Raja 2.96 248 AML AML
comp=E,368µm,1.1s
CRJA AML AML
comp=N,162µm,1.5s
CRJA AML AML
comp=E,368µm,1.1s
CRJA AML AML
comp=N,160µm,0.5s
CRJA AML AML
comp=E,368µm,0.9s
MMGO Monte Magaggia 3.04 245 AML AML
comp=N,139µm,1.1s
MMGO AML AML
comp=E,136µm,0.7s
MMGO AML AML
comp=E,136µm,0.7s
MMGO AML AML
comp=N,139µm,1.1s
IGT Igoumenitsa 3.05 78 P **Pn 18 30 00.1 +0.6**
baz=83
IGT S **Sn 18 30 32.9 -2.1**
baz=83
IGT Igoumenitsa 3.05 78 P **Pn 18 30 00.0 +0.6**
KEF3 Kipouria, Keph 3.14 103 P **Pn 18 30 01.7 +1.1**
DMLN Damoulianata-K 3.15 102 P **Pn 18 30 01.7 +0.9**
KEF4 Livadi, Kephal 3.18 102 P **Pn 18 30 02.0 +0.8**
CERA Filignano 3.21 325 AML AML
comp=N,196µm,0.5s
CERA AML AML
comp=E,151µm,1.1s
CERA AML AML
comp=N,196µm,0.5s
CERA AML AML
comp=E,126µm,0.6s
CERA AML AML
comp=E,135µm,0.7s
CERA AML AML
comp=N,190µm,0.5s
CERA AML AML
comp=E,135µm,1.3s
CERA AML AML
comp=E,126µm,1.4s
DRAG Dragano-Lefkad 3.22 94 P **Pn 18 30 02.5 +0.8**
RNI2 Rionero Sannit 3.24 328 AML AML
comp=E,210µm,0.6s
RNI2 AML AML
comp=E,214µm,1.2s
RNI2 AML AML
comp=N,126µm,0.5s
RNI2 AML AML
comp=E,216µm,1.2s
RNI2 AML AML
comp=N,120µm,0.4s
RNI2 AML AML
comp=N,120µm,0.4s
RNI2 AML AML
comp=N,126µm,0.5s
RNI2 AML AML
comp=E,200µm,0.6s
RNI2 AML AML
comp=E,200µm,1.4s
RNI2 AML AML
comp=N,120µm,1.6s
FSK Fiskardo 3.25 98 P **Pn 18 30 02.9 +0.9**
VSK1 VASILIKIADES 3.26 99 P **Pn 18 30 03.2 +1.0**
TSLK Tsoukalades, L 3.27 91 P **Pn 18 30 03.7 +1.3**
LKD2 Lefkada island 3.28 92 P **Pn 18 30 03.7 +1.1**
baz=97
LKD2 S **Sn 18 30 41.8 +1.3**
baz=97
LKD2 Lefkada island 3.28 92 P **Pn 18 30 03.6 +1.1**
EVGl Lefkada island 3.29 95 P **Pn 18 30 03.6 +0.9**
NYDR Nydri-Lefkada 3.31 93 P **Pn 18 30 03.8 +0.8**
VLS Valsamata 3.33 103 P **Pn 18 30 03.7 +0.5**
VLS Valsamata 3.33 103 AML AML
comp=N,108µm,1.2s
VLS AML AML
comp=E,120µm,0.4s
VLS AML AML
comp=E,95µm,0.1s
VLS AML AML
comp=N,93µm,0.1s
PSDA Pessada-Kefalo 3.34 104 P **Pn 18 30 04.0 +0.7**
LSK Leskovik 3.40 69 P **Pn 18 30 05.2 +1.0**
baz=71
LSK S **Sn 18 30 41.4 -2.2**
baz=71
LSK Leskovik 3.40 69 P **Pn 18 30 05.2 +1.0**
JAN Janina 3.47 77 P **Pn 18 30 07.5 +2.4**
TIR Tirane 3.52 47 ⇓P **Pn 18 30 06.3 +0.6**
TIR ⇑S **Sn 18 30 41.5 -4.7**
TIR Tirane 3.52 47 P **Pn 18 30 06.6 +0.9**
baz=47
TIR S **Sn 18 30 44.2 -2.0**
baz=47
TIR AMP
comp=E,0.6nm,0.3s,baz=47
INTR Introdacqua 3.60 328 AML AML
comp=E,68µm,0.5s
INTR AML AML
comp=N,164µm,0.9s
INTR AML AML
comp=N,163µm,0.9s
INTR AML AML
comp=N,187nm,0.7s
INTR AML AML
comp=E,68µm,0.5s
INTR AML AML
comp=E,108nm,0.8s
VVLD Villa Vallelon 3.61 324 AML AML
comp=N,86µm,0.5s
VVLD AML AML
comp=E,55µm,0.5s
VVLD AML AML
comp=N,86µm,0.5s
VVLD AML AML
comp=E,55µm,0.5s
ULC Ulcinj 3.66 35 ⇑*i* Pn **Pn 18 30 06.8 -0.8**
ULC *i* Sn **Sn 18 30 46.4 -3.2**
LTHK Lithakia 3.66 109 P **Pn 18 30 07.3 -0.4**
KBN Korca 3.71 62 P **Pn 18 30 10.9 +2.4**
baz=64
HCY Herceg Novi 3.79 23 ⇓*i* Pn **Pn 18 30 08.2 -1.2**
HCY *i* Sn **Sn 18 30 49.9 -2.9**
HCY Herceg Novi 3.79 23 *e*Pn **Pn 18 30 07.9 -1.5**
BUM Brajici-Budva 3.79 28 ⇑*i* Pn **Pn 18 30 08.5 -1.1**
BUM *i* Sn **Sn 18 30 50.8 -2.3**
PENT Pentalofos 3.81 70 P **Pn 18 30 11.6 +1.8**
DRME Dracevica, Mon 3.81 32 ⇓*i* Pn **Pn 18 30 09.2 -0.5**
DRME *i* Sn **Sn 18 30 50.9 -2.5**
DRME Dracevica, Mon 3.81 32 *e*Pn **Pn 18 30 09.0 -0.7**
NEST Nestorio 3.81 67 P **Pn 18 30 12.2 +2.4**
KPRO Kipourio 3.91 74 P **Pn 18 30 13.1 +1.9**
OHR Ohrid 3.95 56 *e*Pn **Pn 18 30 12.5 +0.9**
OHR *e*Sn Sn 18 30 45.0 -12
OHR Ohrid 3.95 56 *i* Pn **Pn 18 30 13.3 +1.7**
PVO Paravola 3.97 94 P **Pn 18 30 14.2 +2.3**
TREB Trebinje 4.00 20 *e*Pn **Pn 18 30 11.0 -1.2**
TREB *e*Sn Sn 18 30 44.7 -13
TREB Trebinje 4.00 20 *e*Pn **Pn 18 30 10.8 -1.4**
STON Ston 4.00 13 *e*Pn **Pn 18 30 11.0 -1.2**
STON *e*Sn Sn 18 30 46.1 -12
STON Ston 4.00 13 *e*Pn **Pn 18 30 11.2 -1.0**
CEME Cevo 4.02 27 ⇑*i* Pn **Pn 18 30 11.6 -1.0**
CEME *i* Sn **Sn 18 30 55.9 -2.6**
PUK Puka 4.02 39 P **Pn 18 30 12.6 0.0**
baz=39
PUK S **Sn 18 30 57.0 -1.6**
baz=39
PUK Puka 4.02 39 AML AML
comp=N,396µm,0.1s
PUK AML AML
comp=E,389µm,1.0s
PUK AML AML
comp=N,420µm,1.2s
PUK AML AML
comp=E,380µm,0.2s
RLS Riolos of Patr 4.03 102 P **Pn 18 30 14.2 +1.5**
PHP Peshkopia 4.06 47 P **Pn 18 30 14.2 +1.0**
baz=48
PHP S **Sn 18 30 58.3 -1.3**
baz=48
EVR Evrytania 4.17 89 P **Pn 18 30 17.9 +3.3**
FNA Florina 4.18 63 P **Pn 18 30 16.6 +1.7**
baz=65
FNA S **Sn 18 31 02.1 -0.5**
baz=65
FNA Florina 4.18 63 P **Pn 18 30 16.4 +1.6**
BRY Bratogost 4.22 21 ⇑*i* Pn **Pn 18 30 14.4 -1.0**
BRY *i* Sn **Sn 18 31 01.0 -2.5**
BRY Bratogost 4.22 21 *e*Pn **Pn 18 30 14.4 -1.0**
NKME Niksic 4.22 26 ⇓*i* Pn **Pn 18 30 14.9 -0.5**
NKME *i* Sn **Sn 18 31 01.0 -2.5**
DRO Drossia 4.24 102 P **Pn 18 30 17.0 +1.4**
ANX Ano Chora 4.28 93 P **Pn 18 30 18.8 +2.6**
EFP Efpalio 4.29 96 P **Pn 18 30 18.2 +2.0**
RM33 Pellescritta (4.30 326 AML AML
comp=E,167µm,0.8s
RM33 AML AML
comp=E,78µm,0.2s
RM33 AML AML
comp=N,75µm,0.3s
RM33 AML AML
comp=N,64µm,0.1s
RM33 AML AML
comp=E,78µm,0.2s
RM33 AML AML
comp=N,146µm,0.7s
THL Klokotos Trika 4.34 81 P **Pn 18 30 19.1 +2.2**
BCI Bajram Curri 4.35 38 P **Pn 18 30 17.6 +0.5**
baz=38
BCI S **Sn 18 31 06.7 +0.2**
baz=38
SMA1 SAN MARTINO 4.35 328 AML AML
comp=E,68µm,1.4s
SMA1 AML AML
comp=N,77µm,1.1s
SMA1 AML AML
comp=N,73µm,0.3s
SMA1 AML AML
comp=E,60µm,0.1s
MAKR Makrakomi, Fth 4.41 88 P **Pn 18 30 20.8 +2.9**
MTRA Matera 4.43 329 AML AML
comp=E,152µm,1.0s
MTRA AML AML
comp=E,175µm,0.5s
MTRA AML AML
comp=N,186µm,1.1s
MTRA AML AML
comp=E,141µm,0.1s
MTRA AML AML
comp=N,181µm,0.3s
MTRA AML AML
comp=N,236µm,0.3s
PVY Plav 4.48 35 ⇑*i* Pn **Pn 18 30 18.5 -0.4**
PVY *i* Sn **Sn 18 31 07.1 -2.7**
ALIK Aliki, Aigiali 4.48 97 P **Pn 18 30 21.1 +2.3**
NEVS Nevesinje 4.49 15 *e*Pn **Pn 18 30 18.4 -0.6**
KOME Kolasin 4.50 30 ⇓*i* Pn **Pn 18 30 18.9 -0.3**
KOME *i* Sn **Sn 18 31 07.7 -2.6**
KLV Kalavryta, Ach 4.56 100 P **Pn 18 30 21.1 +1.2**
AGG Agios Georgios 4.57 88 P **Pn 18 30 22.4 +2.4**
UPM Unac-Piva 4.60 23 ⇓*i* Pn **Pn 18 30 20.1 -0.5**
UPM *i* Sn **Sn 18 31 09.8 -3.1**
MF5 Montefalcone A 4.60 331 AML AML
comp=E,94µm,1.7s
MF5 AML AML
comp=E,94µm,0.3s
MF5 AML AML
comp=N,102µm,1.1s
PYL PYLOS 4.66 115 P **Pn 18 30 21.8 +0.5**
IVA Berane 4.67 33 ⇑*i* Pn **Pn 18 30 21.3 -0.2**
IVA *i* Sn **Sn 18 31 11.9 -2.6**
GUR Goura 4.73 101 P **Pn 18 30 24.2 +1.9**
SKO Skopje 4.83 50 *e*Pn **Pn 18 30 24.5 +1.0**
SKO *e*Sn Sn 18 31 04.1 -14
SKO Skopje 4.83 50 *i* Pn **Pn 18 30 24.7 +1.2**
AXAR Agios Charalam 4.84 91 P **Pn 18 30 25.8 +2.1**
PLE Pljevlja 4.87 26 ⇑*i* Pn **Pn 18 30 23.8 -0.4**
PLE *i* Sn **Sn 18 31 16.5 -2.9**
THAL Thalero 4.95 99 P **Pn 18 30 27.0 +1.8**
GRG Griva 4.97 65 P **Pn 18 30 26.3 +0.8**
SJES Sjenica 5.03 31 *e*Pn **Pn 18 30 27.2 +0.8**
SJES *e*Sn Sn 18 31 08.1 -15
SJES Sjenica 5.03 31 *e*Pn **Pn 18 30 27.2 +0.8**
RUDO Rudo 5.12 24 *e*Pn **Pn 18 30 27.8 +0.3**
RUDO *e*Sn Sn 18 31 11.0 -14
RUDO Rudo 5.12 24 *e*Pn **Pn 18 30 27.5 0.0**
STIP Stip 5.14 56 *i* Pn **Pn 18 30 30.9 +3.1**
VAY Valandovo 5.23 62 *e*Pn **Pn 18 30 29.9 +1.0**
VAY *e*Sn Sn 18 31 15.1 -13
VAY Valandovo 5.23 62 *i* Pn **Pn 18 30 29.9 +1.0**
NEO Neokhori 5.26 84 P **Pn 18 30 30.6 +1.1**
BBLS Lazići 5.36 23 *e*Pn **Pn 18 30 31.0 +0.2**
BBLS *e*Sn Sn 18 31 16.7 -14
BBLS Lazići 5.36 23 *e*Pn **Pn 18 30 30.8 0.0**
HORT Hortiatis 5.36 70 P **Pn 18 30 31.5 +0.7**
IVAS Ivanjica 5.37 30 *e*Pn **Pn 18 30 30.1 -0.8**
IVAS *e*Sn Sn 18 31 15.7 -16
KNT Kendrikon 5.39 64 P **Pn 18 30 31.9 +0.7**
VILL Villia 5.43 97 P **Pn 18 30 33.4 +1.7**
HAPS Han Pijesak,Bl 5.43 19 *e*Pn **Pn 18 30 32.2 +0.4**
HAPS *e*Sn Sn 18 31 18.7 -14
HAPS Han Pijesak,Bl 5.43 19 *e*Pn **Pn 18 30 31.4 -0.4**
MGRS Mrkonjic Grad 5.45 5 *e*Pn **Pn 18 30 32.8 +0.8**
A050A Klekovaca 5.50 0 *e*Pn **Pn 18 30 33.5 +0.8**
KRND KRANIDI 5.50 105 P **Pn 18 30 33.8 +1.1**
SELS Selova 5.50 38 *e*Pn **Pn 18 30 33.2 +0.5**
SELS *e*Sn Sn 18 31 19.1 -16
PRVS Prvonek 5.53 49 *e*Pn **Pn 18 30 33.4 +0.3**
PRVS *e*Sn Sn 18 31 20.0 -15
BARS Barje 5.58 45 *e*Pn **Pn 18 30 34.5 +0.8**
BARS *e*Sn Sn 18 31 20.9 -16
VLI Veliai 5.60 112 P **Pn 18 30 36.2 +2.2**
SOH Sokhos 5.61 69 P **Pn 18 30 35.4 +1.2**
PAIG Palouri 5.66 78 P **Pn 18 30 35.5 +0.6**
DIVS Divibare 5.76 26 *e*Pn **Pn 18 30 35.2 -1.0**
DIVS *e*Sn Sn 18 31 25.3 -16
ATH Athens Observa 5.78 98 P **Pn 18 30 38.1 +1.6**
BLY Banja Luka 5.79 5 *e*Pn **Pn 18 30 37.4 +0.8**
BLY *e*Sn Sn 18 31 29.9 -12
BLY Banja Luka 5.79 5 *e*Pn **Pn 18 30 37.2 +0.6**
GRUS Gruza 5.85 32 *e*Pn **Pn 18 30 37.9 +0.5**
GRUS *e*Sn Sn 18 31 27.0 -16
SRS Serrai 5.87 66 P **Pn 18 30 38.2 +0.5**
PTL Penteli 5.88 97 P **Pn 18 30 40.2 +2.3**
OUR Ouranopolis 5.96 75 P **Pn 18 30 39.5 +0.6**
TRUS Trudelj 6.01 28 *e*Pn **Pn 18 30 39.2 -0.5**
TEKS Tekeris 6.02 21 *e*Pn **Pn 18 30 38.7 -1.0**
TEKS Tekeris 6.02 21 *e*Pn **Pn 18 30 38.5 -1.2**
A051A Mrakovica 6.04 3 *e*Pn **Pn 18 30 40.4 +0.4**
KOKK Kokkinochori, 6.08 70 P **Pn 18 30 41.2 +0.7**
BOVS Bovan 6.10 39 ⇑P **Pn 18 30 41.5 +0.7**
BOVS ⇑S **Sn 18 31 44.6 -4.5**
BOVS Bovan 6.10 39 *e*Pn **Pn 18 30 41.0 +0.2**
BOVS *e*Sn Sn 18 31 32.5 -17
NVR Nevrokopi 6.14 65 P **Pn 18 30 43.5 +2.1**
ZAPS Zavoj 6.33 45 *e*Pn **Pn 18 30 44.5 +0.5**
ZAGS Zajecar 6.49 40 *e*Pn **Pn 18 30 45.5 -0.6**
KEST Kesra 6.53 242 P **Pn 18 30 50.5 +3.7**
comp=N,2.0nm,0.6s,baz=300,slow=7.6,SNR=8.4
BOJS Bojanci 6.58 353 *e*Pn **Pn 18 30 47.9 +0.5**
BLKB Belogradchik 6.58 43 ⇓P **Pn 18 30 48.3 +0.9**
BLKB ⇓S **Sn 18 31 57.1 -3.9**
FRGS Fruska Gora 6.65 21 ⇓P **Pn 18 30 48.0 -0.4**
FRGS ⇑S **Sn 18 31 57.9 -4.8**
FRGS Fruska Gora 6.65 21 *e*Pn **Pn 18 30 47.7 -0.7**
FRGS *e*Sn Sn 18 31 47.9 -15
FRGS Fruska Gora 6.65 21 *e*Pn **Pn 18 30 42.8 -5.6**
SKDS Skadanscina 6.81 345 *e*Pn **Pn 18 30 49.5 -1.0**
CRES Cresnjev 6.88 354 *e*Pn **Pn 18 30 51.7 +0.2**
CEY Cerknica 6.92 348 *e*Pn **Pn 18 30 51.6 -0.4**
MDVR Moldovita 6.99 32 ⇑P **Pn 18 30 53.5 +0.5**
MDVR ⇑S **Sn 18 32 06.1 -4.9**
HERR Herculane 7.38 35 ⇑P **Pn 18 30 59.2 +0.9**
HERR ⇑S **Sn 18 32 15.9 -4.4**
BZS Buzias 7.65 28 ⇓P **Pn 18 31 02.2 +0.3**
OBKA Obir 7.65 350 *i* Pn **Pn 18 31 03.0 +0.8**
comp=N,6.2nm,0.2s,SNR=24
OBKA *e*Sn **Sn 18 32 25.6 -1.6**
comp=N,7.2nm,0.4s
OBKA Obir 7.65 350 *e*Pn **Pn 18 31 02.2 +0.1**
SOKA Soboth 7.76 353 *i* Pn **Pn 18 31 03.7 +0.1**
comp=N,3.0nm,0.2s,SNR=18
SOKA *i* Sn **Sn 18 32 26.5 -3.4**
comp=N,1.6nm,0.4s
MYKA Terra Mystica 7.92 346 *e*Pn **Pn 18 31 06.4 +0.7**
comp=N,1.3nm,0.2s,SNR=4.4
MYKA *i* Sn **Sn 18 32 30.9 -2.8**
comp=N,1.7nm,0.3s
GZR Gura Zlata 7.94 34 ⇓P **Pn 18 31 06.3 +0.4**
SURR Surduc 7.96 30 ⇑P **Pn 18 31 06.2 0.0**
ELND Elena 8.14 58 ⇑P **Pn 18 31 10.1 +1.5**
SIRR Siria 8.22 26 ⇓P **Pn 18 31 09.6 -0.3**
ABTA Abfaltersbach 8.29 341 *i* Pn **Pn 18 31 11.0 +0.3**
comp=N,1.5nm,0.5s,SNR=4.6
ABTA *e*Sn **Sn 18 32 39.4 -3.2**
comp=N,2.5nm,0.6s
ARSA Arzberg 8.29 356 *i* Pn **Pn 18 31 10.8 0.0**
comp=N,6.0nm,0.4s,SNR=10
ARSA *i* Sn **Sn 18 32 39.5 -3.2**
comp=N,4.2nm,0.6s
RONA Rosalia, Austr 8.72 359 *i* Pn **Pn 18 31 17.1 +0.6**
comp=N,3.8nm,0.2s,SNR=18
LESA Schwarzleotal 8.88 343 *i* Pn **Pn 18 31 20.3 +1.5**
comp=N,1.5nm,0.3s
BIOA Bad Ischl, Aus 8.95 348 *i* Pn **Pn 18 31 20.6 +1.0**
comp=N,2.2nm,0.2s,SNR=5.5
BIOA *i* Sn **Sn 18 32 55.1 -3.5**
comp=N,4.1nm,0.5s
CONA Conrad Observa 8.95 357 *i* Pn **Pn 18 31 20.0 +0.2**
comp=N,4.7nm,0.3s,SNR=20
CONA *i* Sn **Sn 18 32 53.8 -5.2**
comp=N,3.0nm,0.5s
WTTA Wattenberg 9.00 338 *i* Pn **Pn 18 31 22.3 +1.8**
comp=N,1.1nm,0.2s
WTTA *e*Sn **Sn 18 32 56.3 -3.8**
comp=N,2.4nm,0.4s
MOA Molln 9.01 350 *i* Pn **Pn 18 31 21.5 +1.0**
comp=N,6.0nm,0.4s,SNR=17
MOA *i* Sn **Sn 18 32 55.7 -4.5**
comp=N,1.5nm,0.3s
DRGR 9.05 28 ⇓P **Pn 18 31 21.7 +0.6**
VOIR 9.06 42 ⇑P **Pn 18 31 22.0 +0.7**
VOIR ⇑S **Sn 18 32 58.9 -2.7**
FETA Feichten 9.06 334 *i* Pn **Pn 18 31 22.1 +0.6**
comp=N,0.5nm,0.2s
FETA *i* Sn **Sn 18 33 04.0 +2.3**
comp=N,0.4nm,0.3s
WATA Walderalm 9.08 338 *i* Pn **Pn 18 31 24.0 +2.4**
comp=N,1.5nm,0.2s,SNR=4.9
SQTA Sankt Quirin 9.09 337 *i* Pn **Pn 18 31 23.3 +1.6**
comp=N,1.8nm,0.3s
SQTA *i* Sn **Sn 18 33 02.7 +0.5**
comp=N,2.3nm,0.3s
DAVOX Davos/Dischmat 9.17 330 P **Pn 18 31 23.2 +0.3**

comp=N,1.1nm,0.5s,baz=184,slow=12,SNR=2.6
MOTA Moosalm 9.23 337 *e*Pn **Pn 18 31 26.2 +2.5**
comp=N,0.8nm,0.3s
MOTA *e*Sn **Sn 18 33 04.2 -1.5**
comp=N,1.4nm,0.4s
MODS Modra-Piesok 9.41 3 *e*P **Pn 18 31 26.2 +0.3**
MODS *e*S **Sn 18 33 03.5 -6.4**
RETA Reutte 9.46 336 *i* Sn **Sn 18 33 11.0 -0.3**
comp=N,0.8nm,0.3s
MLR Muntele Rosu 9.57 44 ⇓P **Pn 18 31 29.5 +1.1**
MLR Muntele Rosu 9.57 44 P **Pn 18 31 29.9 +1.6**
comp=N,1.9nm,0.6s,baz=144,slow=12,SNR=4.2
VYHS Vyhne 9.66 9 *e*P **Pn 18 31 31.3 +1.9**
CKRC Cesky Krumlov 9.96 352 *e*PN **Pn 18 31 33.3 -0.1**
GERES GERESS Array B 10.06 349 P **Pn 18 31 34.6 -0.3**
comp=N,1.0nm,0.6s,baz=163,slow=14,SNR=7.2
GERES S **Sn 18 33 20.7 -5.2**
comp=N,1.1nm,0.5s,baz=170,slow=24,SNR=5.8
KRUC Moravsky 10.08 360 *e*PN **Pn 18 31 35.2 +0.2**
KRUC *e* 18 33 20.7
VRAC Vranov 10.32 0 *e*PN **Pn 18 31 39.1 +0.7**
VRAC *e* 18 33 27.0
KHC Kasperske Hory 10.36 349 *e*PN **Pn 18 31 38.8 -0.1**
KHC *e*SN **Sn 18 33 29.4 -3.6**
MAUC Maruska 10.43 5 *e*SN **Sn 18 33 29.9 -4.9**
MORC Moravsky Berou 10.82 4 ⇓P **Pn 18 31 47.3 +2.1**
MORC Moravsky Berou 10.82 4 *e*PN **Pn 18 31 46.3 +1.1**
MORC *e* 18 33 38.5
BRTR Keskin Array B 13.31 81 P **Pn 18 32 21.1 +2.1**
comp=N,0.5nm,0.4s,baz=266,slow=13,SNR=6.8
CSS Mathiatis 14.06 101 P **Pn 18 32 25.4 -3.3**
AKASG Malin Array Be 14.78 33 P **Pn 18 32 39.3 +1.6**
comp=N,0.1nm,0.3s,baz=227,slow=11,SNR=5.1
ESDC Sonseca Array 15.83 279 P **P 18 32 54.9 +1.6**
comp=N,0.8nm,1.0s,baz=81,slow=11,SNR=4.1
MMC7 Mount Meron ar 16.42 105 P **Pn 18 32 57.3 -1.3**
MMA0 Mount Meron ar 16.43 105 P **Pn 18 32 57.5 -1.3**
MMAI Mount Meron Ar 16.43 105 P **Pn 18 32 57.9 -0.9**
comp=N,0.8nm,0.3s,baz=312,slow=12,SNR=15
GEM Giv'at Ha'Em 16.54 104 P **Pn 18 32 59.5 -0.6**
SALP Salfit 16.72 109 P **Pn 18 33 01.7 -0.6**
KSHT Keshet 16.75 105 P **Pn 18 33 01.8 -0.9**
HMDT Nahal Hemdat 16.88 108 P **Pn 18 33 03.6 -0.6**
HMDT Nahal Hemdat 16.88 108 S Sn 18 35 58.2 -13
YTIR Yattir 17.02 111 P **Pn 18 33 05.0 -1.1**
DSI Dead Sea 17.11 110 P **Pn 18 33 06.2 -0.9**
MSBI Mazada 17.22 111 P **Pn 18 33 07.4 -1.0**
GHAJ Ghor Haditha 17.38 110 P **Pn 18 33 09.7 -0.6**
KRMI Paran Flat 17.43 115 P **Pn 18 33 09.9 -1.0**
KRMI Paran Flat 17.43 115 S Sn 18 36 08.2 -16
PRNI Paran 17.49 114 P **P 18 33 10.8 -1.0**
PRNI Paran 17.49 114 S Sn 18 36 10.6 -16
HRFI Mount Harif 17.69 115 P **P 18 33 13.3 -0.7**
HRFI Mount Harif 17.69 115 S Sn 18 36 16.6 -14
EIL Elat 17.84 116 P **Pn 18 33 18.4 +2.4**
comp=N,1.9nm,0.3s,baz=266,slow=2.9,SNR=14
EIL S Sn 18 36 19.4 -15
comp=N,4.8nm,0.8s,baz=38,slow=19,SNR=6.0
EIL Elat 17.84 116 P **P 18 33 14.9 -0.7**
EIL Elat 17.84 116 S Sn 18 36 19.8 -15
HFS Hagfors 21.25 356 P **P 18 33 53.3 +1.0**
comp=N,1.1nm,0.3s,baz=164,slow=10,SNR=16
comp=N,1.1nm,0.3s
FINES FINESS Array B 23.26 12 P **P 18 34 14.0 +0.8**
comp=N,4.9nm,0.7s,baz=188,slow=9.7,SNR=29
comp=N,4.9nm,0.7s
ARCES ARCESS Array B 31.00 6 P **P 18 35 23.0 +0.7**
comp=N,1.8nm,0.6s,baz=186,slow=8.3,SNR=11
comp=N,1.8nm,0.6s
WSAR Wadi Sarin 38.99 101 LR LR 18 59 10.6
comp=N,29nm,18.6s,baz=238,slow=46
ZALV Zalesovo Beam 47.52 48 P **P 18 37 42.5 +2.6**
comp=N,0.8nm,0.4s,baz=279,slow=7.1,SNR=8.0
comp=N,0.8nm,0.4s
MKAR Makanchi Array 47.58 58 P **P 18 37 43.2 +2.7**
comp=N,0.4nm,0.4s,baz=285,slow=7.5,SNR=8.3
comp=N,0.4nm,0.4s

ROM 27 18:30:12.8±0.1, 42°.706N±0°.003×13°.217E±0°.005, h12km, ML1.0/8, 2C, Error ellipse: s-maj=0.4km s-min=0.1km az=240.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.12**	**131**	⇑P	Pg	18 30 16.3	+0.4
SMA1				S	Sg	18 30 18.8	+0.6
SMA1				AML	AML		
	comp=E,68μm,1.4s						
SMA1				AML	AML		
	comp=N,77μm,1.1s						
SMA1				AML	AML		
	comp=E,60μm,0.1s						
SMA1				AML	AML		
	comp=N,73μm,0.3s						
MTRA	**Matera**	**0.14**	**69**	P	Pg	18 30 16.6	+0.3
MTRA				S	Sg	18 30 19.1	+0.4
MTRA				AML	AML		
	comp=E,175μm,0.5s						
MTRA				AML	AML		
	comp=N,186μm,1.1s						
MTRA				AML	AML		
	comp=N,181μm,0.3s						
MTRA				AML	AML		
	comp=E,141μm,0.1s						
NRCA	**Norcia**	**0.15**	**329**	⇑P	Pg	18 30 16.7	+0.3
NRCA				S	Sg	18 30 19.3	+0.3
RM33	**Pellescritta (**	**0.20**	**181**	P	Pg	18 30 17.6	+0.5
RM33				S	Sg	18 30 21.0	+0.9
RM33				AML	AML		
	comp=E,78μm,0.2s						
RM33				AML	AML		
	comp=N,75μm,0.3s						
RM33				AML	AML		
	comp=E,78μm,0.2s						
RM33				AML	AML		
	comp=N,64μm,0.1s						
MC2	**Monte Cornacci**	**0.21**	**355**	P	Pg	18 30 17.8	+0.3
MC2				S	Sg	18 30 21.6	+1.0
MMO1	**Montemonaco**	**0.21**	**23**	P	Pg	18 30 17.7	+0.4
MMO1				S	Sg	18 30 21.4	+0.9
TERO	**Teramo**	**0.30**	**106**	P	Pg	18 30 19.1	+0.3
TERO				S	Sb	18 30 24.1	-0.8
T1221	**Campello sul C**	**0.31**	**300**	P	Pg	18 30 19.5	+0.3
T1221				S	Sb	18 30 24.5	-1.0
MF5	**Montefalcone A**	**0.34**	**32**	P	Pb	18 30 20.4	-0.3
GIGS	**Gran Sasso**	**0.36**	**134**	P	Pg	18 30 20.3	+0.2
GIGS				S	Sg	18 30 25.7	+0.7
CESI	**CESI - Serrava**	**0.38**	**323**	P	Pg	18 30 20.6	+0.2
CESI				S	Sb	18 30 26.5	-0.8
CSP1	**Cessapalombo**	**0.39**	**359**	P	Pg	18 30 20.8	+0.3

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*AEIC **27** 18:42:13.4±1.2, 56°.28N±0°.09×148°.7W±0°.1, h10km±8km, Error ellipse: s-maj=15.0km s-min=6.5km az=151.0*
NEIC 27 18:42:10.6±1.0, 56°.4N±0°.1×148°.7W±0°.1, h21km±10km, ML3.1/36, ML2.8(AEIC), Error ellipse: s-maj=17.0km s-min=9.3km az=174.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.55**	**305**		Pn	18 42 50.5	-0.1
KDAK	**Kodiak Island**	**2.55**	**305**		Sn	18 43 19.1	-1.9
OHAK	**Old Harbor**	**2.67**	**290**		Pn	18 42 51.6	-0.7
OHAK					Sn	18 43 20.9	-3.0
SYI	**Shuyak Island**	**3.00**	**320**		Pn	18 42 57.3	+0.5
SYI					Sn	18 43 32.1	+0.1
SYI	**Shuyak Island**	**3.00**	**320**	IAML		18 43 57.9	
	comp=N,17nm,1.4s						
CNPM	**China Poot**	**3.43**	**338**		Pn	18 43 02.2	-0.6
CNPM	**China Poot**	**3.43**	**338**		Sn	18 43 42.6	-0.3
BRSE	**Bradley Lake S**	**3.54**	**343**		Pn	18 43 04.8	+0.5
BRSE					Sn	18 43 45.3	-0.2
BRLK	**Bradley Lake**	**3.58**	**342**		Pn	18 43 05.0	0.0
BRLK					Sn	18 43 46.6	0.0
Q19K	**Cape Douglas,**	**3.69**	**316**		Pn	18 43 06.1	-0.3
Q19K				IAML		18 44 57.5	
	comp=N,60nm,1.5s						
KAHG	**Katmai Hook Gl**	**3.81**	**306**		Pn	18 43 08.8	+0.8
P19K	**Oil Pt**	**4.07**	**325**	Pn	Pn	18 43 12.6	+1.0
O22K	**Cooper Landing**	**4.14**	**353**	Pn	Pn	18 43 13.1	+0.5
HIN	**Hinchinbrook I**	**4.18**	**15**	Pn	Pn	18 43 13.2	+0.1
HIN				IAML		18 45 57.8	
	comp=E,38nm,0.6s						
KAIM	**Kayak Island**	**4.21**	**31**	Pn	Pn	18 43 13.1	-0.4
KAIM				IAML		18 45 58.0	
	comp=E,40nm,1.2s						
CNTC	**Contact Creek**	**4.33**	**299**		Pn	18 43 16.1	+0.8
EYAK	**Cordova Ski Ar**	**4.45**	**19**		Pn	18 43 16.6	-0.2
RED	**Redoubt Volcan**	**4.58**	**334**		Pn	18 43 18.8	+0.1
P18K	**Big Mountain,**	**4.61**	**314**		Pn	18 43 18.8	-0.2
P18K	**Big Mountain,**	**4.61**	**314**	IAML		18 46 19.5	
	comp=E,5.0nm,1.5s						
P18K				IAML		18 46 26.6	
	comp=N,6.0nm,1.4s						
RC01	**Rabbit Creek A**	**4.75**	**354**	Pn	Pn	18 43 20.3	-0.6
BERG	**Berg Lake**	**4.80**	**31**		Pn	18 43 21.8	+0.2
O18K	**Koktuh Hills**	**4.90**	**318**		Pn	18 43 22.9	-0.2
O18K	**Koktuh Hills**	**4.90**	**318**	IAML		18 46 19.0	
	comp=E,8.1nm,1.5s						
SUA	**Susitna One**	**5.21**	**349**	Pn	Pn	18 43 26.2	-1.1
CRQM	**Cirque**	**5.26**	**31**		Pn	18 43 28.3	+0.3
CRQM	**Cirque**	**5.26**	**31**	IAML		18 45 25.7	
	comp=E,15nm,1.1s						
KLU	**Klutina**	**5.32**	**14**	Pn	Pn	18 43 27.8	-1.0
KLU				IAML		18 46 26.4	
	comp=E,16nm,0.3s						
KLU				IAML		18 46 27.3	
	comp=N,17nm,0.2s						
N19K	**Bonanza Creek**	**5.38**	**328**		Pn	18 43 29.4	-0.2
N19K				IAML		18 45 33.7	
	comp=E,3.8nm,1.5s						
GHO	**Glory Hole Cre**	**5.41**	**359**	Pn	Pn	18 43 28.7	-1.2
SML	**Sawmill**	**5.44**	**2**	Pn	Pn	18 43 29.4	-1.0
SCM	**Sheep Creek Mo**	**5.51**	**7**	Pn	Pn	18 43 30.0	-1.4
VRDI	**Verde Repeater**	**5.56**	**27**	Pn	Pn	18 43 31.0	-1.3
N25K	**Chitina, Valde**	**5.65**	**20**	Pn	Pn	18 43 33.9	+0.6
GLB	**Gilahina Butte**	**5.67**	**24**	Pn	Pn	18 43 33.6	0.0
N18K	**Kilae Creek**	**5.72**	**322**	Pn	Pn	18 43 34.3	0.0
YKU2	**Yakutat**	**5.73**	**53**	Pn	Pn	18 43 34.5	+0.1
PNL	**Peninsula**	**5.93**	**52**		Pn	18 43 37.3	+0.1
BARN	**Barnard Glacie**	**5.95**	**35**	Pn	Pn	18 43 37.8	+0.3
BCPM	**Bancas Point**	**5.98**	**49**	Pn	Pn	18 43 37.4	-0.4
CTGM	**Chitina Glacie**	**5.98**	**37**	Pn	Pn	18 43 37.4	-0.5
N17K	**Nushagak Hills**	**6.09**	**316**	Pn	Pn	18 43 39.4	+0.1
M18K	**Stony River**	**6.31**	**327**		Pn	18 43 42.5	+0.1
O29M	**Mount Kennedy**	**6.61**	**49**	Pn	Pn	18 43 46.4	-0.1
M17K	**Holitna River**	**6.77**	**322**	Pn	Pn	18 43 48.9	+0.3
S31K	**Pelican**	**6.95**	**72**		Pn	18 43 50.6	-0.5
M16K	**Timber Creek**	**7.09**	**315**	Pn	Pn	18 43 53.5	+0.6
N15K	**Kwethluk River**	**7.11**	**307**	Pn	Pn	18 43 54.7	+1.5

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*NEIC **27** 18:46:25.3±0.7, 19°.557N±0°.006×155°.323W±0°.006, h16km±2km, Error ellipse: s-maj=1.1km s-min=0.5km az=142.0*
HVO 27 18:46:25.6±1.0, 19°.568N±0°.008×155°.309W±0°.008, h12km±2km, ML2.7/39, ML2.7/52(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=212.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.10**	**225**		Pg	18 46 29.0	+0.3
MLH				Sg	Sg	18 46 31.4	+0.5
RSD	**Rainshed**	**0.11**	**164**		Pg	18 46 29.0	+0.3
RSD				Sg	Sg	18 46 31.4	+0.5
SBLHI	**Steaming Bluff**	**0.15**	**164**		Pg	18 46 29.2	0.0
SBLHI				IAML		18 46 32.2	
	comp=N,2μm,0.2s						
UWB	**Uwekahuna B**	**0.15**	**168**		Pg	18 46 29.0	-0.2
UWB				Sg	Sg	18 46 31.2	-0.5
UWE	**Uwekahuna**	**0.15**	**174**		Pg	18 46 29.4	+0.2
UWE				Sg	Sg	18 46 31.6	-0.2
UWE				IAML		18 46 35.9	
	comp=E,3μm,0.3s						
HATHI	**Halema'uma'u T**	**0.15**	**162**		Pg	18 46 29.4	+0.2
HATHI				Sg	Sg	18 46 31.6	-0.3
HATHI				IAML		18 46 32.3	
	comp=N,2μm,0.1s						
HATHI				IAML		18 46 33.2	
	comp=E,2μm,0.2s						
OBL	**Observatory Le**	**0.15**	**171**		Pg	18 46 29.2	0.0
OBL				Sg	Sg	18 46 32.2	+0.3
OBL				IAML		18 46 36.1	
	comp=N,3μm,0.6s						
NPH	**North Pit**	**0.16**	**170**		Sg	18 46 31.4	-0.6
NPH				IAML		18 46 34.8	
	comp=N,2μm,0.2s						
NPH	**North Pit**	**0.16**	**170**		Pg	18 46 29.6	+0.2
WRMHI	**West Rim**	**0.16**	**177**		Pg	18 46 29.5	+0.1
WRMHI				Sg	Sg	18 46 31.8	-0.3
WRMHI				IAML		18 46 32.6	
	comp=E,2μm,0.2s						
WRMHI				IAML		18 46 36.2	
	comp=N,2μm,0.5s						
BYL	**Byron's Ledge**	**0.16**	**163**		Pg	18 46 29.5	+0.1
BYL				Sg	Sg	18 46 31.8	-0.3
BYL				IAML		18 46 32.7	
	comp=E,1μm,0.3s						
HMH	**Humu'ula Sheep**	**0.17**	**282**		Pg	18 46 30.0	+0.3
HMH				IAML		18 46 33.4	
	comp=E,2μm,0.2s						
HMH				Sg	Sg	18 46 33.0	+0.5
KKO	**Keanakako`i**	**0.17**	**166**		Pg	18 46 29.6	0.0
KKO				Sg	Sg	18 46 32.0	-0.4
RIM	**Rim**	**0.17**	**169**	Pg	Pg	18 46 30.0	+0.4
RIM				Sg	Sg	18 46 32.5	0.0
SDHHI	**Sand Hill**	**0.18**	**175**		Pg	18 46 29.7	0.0
SDHHI				Sg	Sg	18 46 32.8	+0.2
SDHHI				IAML		18 46 33.9	
	comp=N,3μm,0.1s						
SDHHI				IAML		18 46 36.6	
	comp=E,2μm,0.3s						
PUH	**Pauahi**	**0.21**	**155**		Pg	18 46 30.3	+0.1
PUH				Sg	Sg	18 46 34.0	+0.6
KNHH	**Kane Nui o Ham**	**0.23**	**145**		Pg	18 46 30.7	+0.2
STCH	**Steam Cracks**	**0.25**	**136**		Pg	18 46 31.0	+0.1
STCH					Sg	18 46 34.9	+0.4
STCH				IAML		18 46 35.9	
	comp=N,2μm,0.1s						
MLOA	**Mauna Loa Obse**	**0.25**	**263**		Pg	18 46 31.1	-0.1
MLOA				Sg	Sg	18 46 34.2	-0.7
MLOA				IAML		18 46 36.0	
	comp=N,1μm,0.1s						
NPOC	**North of Pu'u**	**0.26**	**133**		Pg	18 46 31.1	+0.1
NPOC					Sg	18 46 35.3	+0.7
NPOC	**North of Pu'u**	**0.26**	**133**	IAML		18 46 35.5	
	comp=N,2μm,0.2s						
NPOC				IAML		18 46 40.4	
	comp=E,1μm,0.3s						
JCUZ	**Jacuzzi**	**0.27**	**133**	Pg	Pg	18 46 31.2	0.0
JCUZ					Sg	18 46 34.6	-0.3
JCUZ				IAML		18 46 35.6	
	comp=E,934nm,0.1s						
JCUZ				IAML		18 46 35.6	
	comp=N,805nm,0.1s						
HLP	**Hilina Pali**	**0.27**	**180**		Pg	18 46 31.2	0.0
HLP				Sg	Sg	18 46 35.3	+0.3
HLP				IAML		18 46 35.8	
	comp=E,1μm,0.4s						
HLP				IAML		18 46 36.6	
	comp=N,908nm,0.2s						
POHA	**Pohakuloa**	**0.28**	**312**		Pg	18 46 31.3	-0.3
POHA				Sg	Sg	18 46 35.1	-0.4
POHA				IAML		18 46 36.3	
	comp=N,1μm,0.1s						
POHA				IAML		18 46 37.0	
	comp=N,2μm,0.1s						
MWH	**Moku'aweowe**	**0.28**	**253**		Pg	18 46 31.4	-0.3
MWH					Sg	18 46 36.4	+0.6
MWH				IAML		18 46 37.3	
	comp=N,1μm,0.4s						
MWH				IAML		18 46 37.4	
	comp=E,914nm,0.3s						
ALEP	**Alea Permanent**	**0.32**	**265**		Pg	18 46 32.1	-0.1
ALEP					Sg	18 46 37.5	+0.9
JOKA	**Jonika Flow**	**0.32**	**115**		Pg	18 46 32.0	0.0
JOKA					Sg	18 46 37.2	+0.8
HTC	**Hot Caves**	**0.34**	**194**		Pg	18 46 32.5	0.0
KHU	**Kahuku**	**0.43**	**222**		Pg	18 46 33.5	-0.7
KHU				Sg	Sg	18 46 39.5	-0.5
KHU				IAML		18 46 40.4	
	comp=E,599nm,0.4s						
HUH	**Hualalai**	**0.51**	**283**		Pg	18 46 35.0	-0.6
KHLU	**Kahalu`u**	**0.55**	**273**		Pg	18 46 35.2	-1.2
KHLU					Sg	18 46 42.4	-1.3
CPH	**Captain Cook**	**0.58**	**262**		Pg	18 46 36.0	-0.9
HPAH	**Hawaii Prepara**	**0.59**	**322**		Pg	18 46 35.5	-1.6
HPAH				Sg	Sg	18 46 42.1	-2.8
HPAH				IAML		18 46 44.7	
	comp=E,375nm,0.2s						
MHA	**Mahukona**	**0.83**	**318**	Pg	Pg	18 46 39.1	-2.6

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*NEIC **27** 19:04:08.5±1.6, 43°.67N±0°.04×105°.24W±0°.06, h0km±1km, ML3.2/50, Error ellipse: s-maj=9.6km s-min=4.6km az=316.0*
*IDC **27** 19:04:11.2±1.1, 43°.99N×105°.76W, h0km, mb4.2/1, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=29.0km s-min=9.4km az=148.0*
ISC 27 19:04:10.0±0.9, 43°.70N±0°.06×105°.28W±0°.06, h0km, n35, σ18°31/35, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**64**	Pg	**Pb**	**19 04 30.0**	**-0.3**
K22A	**Casper**	**1.39**	**222**		**Pg**	**19 04 34.8**	**-1.8**
K22A				IAML		19 05 04.9	
	comp=N,425nm,0.3s						
K22A				IAML		19 05 05.1	
	comp=E,319nm,0.3s						
PHWY	**Pilot Hill**	**2.40**	**183**		**Pn**	**19 04 50.9**	**+0.1**
RWWY	**Rawlins**	**2.46**	**216**		**Pn**	**19 04 52.6**	**+1.0**
RWWY				IAML		19 05 28.1	
	comp=E,148nm,1.2s						
RWWY				IAML		19 05 32.1	
	comp=E,142nm,0.8s						
N23A	**Red Feather La**	**2.84**	**190**	Pn	**Pn**	**19 04 56.5**	**-0.5**
N23A				IAML		19 05 41.9	
	comp=E,78nm,0.5s						
N23A				IAML		19 05 46.3	
	comp=N,58nm,0.4s						
LAO	**LASA Array**	**3.07**	**348**	Pn	**Pn**	**19 04 59.7**	**-0.1**
BRIGG	**Briggsdale**	**3.19**	**167**		**Pn**	**19 05 01.5**	**-0.1**
RLMT	**Red Lodge**	**3.20**	**298**	Pn	**Pn**	**19 05 02.5**	**+0.8**
RLMT				IAML		19 05 58.4	
	comp=N,58nm,0.3s						
RLMT				IAML		19 05 58.6	
	comp=N,48nm,0.4s						
PD31	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**19 05 04.2**	**+1.5**
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**19 05 03.6**	**+0.9**
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**19 05 03.8**	**+1.1**
	comp=N,5.8nm,0.3s,baz=74,slow=15,SNR=19						
PDAR				Lg	Lg	19 05 45.1	
	comp=N,8.7nm,0.3s,baz=73,slow=35,SNR=4.3						
	comp=N,7.6nm,0.3s						
BW06	**Boulder Array**	**3.27**	**255**	Pn	**Pn**	**19 05 03.1**	**+0.4**
BW06				IAML		19 05 52.0	
	comp=N,49nm,0.4s						
BW06				IAML		19 05 55.9	
	comp=N,42nm,1.0s						
OGNE	**Ogallala**	**3.65**	**138**		**Pn**	**19 05 08.0**	**+0.2**
YMP	**Mirror Lake Pl**	**3.66**	**288**	Pn	**Pn**	**19 05 09.0**	**+0.8**
LKWY	**Lake**	**3.79**	**285**	Pn	**Pn**	**19 05 10.5**	**+0.6**
LKWY				IAML		19 06 13.6	
	comp=N,38nm,1.5s						
LKWY				IAML		19 06 31.0	
	comp=N,35nm,3.0s						
LOHW	**Long Hollow**	**3.87**	**271**	Pn	**Pn**	**19 05 11.8**	**+0.9**
H17A	**Grant Village**	**3.89**	**282**	Pn	**Pn**	**19 05 11.2**	**-0.1**
H17A				IAML		19 06 14.4	
	comp=N,39nm,0.4s						
H17A				IAML		19 06 15.0	
	comp=E,32nm,0.4s						
ISCO	**Idaho Springs**	**3.90**	**184**		**Pn**	**19 05 12.1**	**+0.6**
FLWY	**Flagg Ranch**	**3.94**	**278**	Pn	**Pn**	**19 05 12.1**	**+0.2**
FLWY				IAML		19 06 17.0	
	comp=E,36nm,2.2s						
FLWY				IAML		19 06 27.7	
	comp=E,42nm,2.0s						
O20A	**White River Ci**	**4.19**	**213**		**Pn**	**19 05 15.8**	**+0.4**
K30B	**Basset**	**4.26**	**102**		**Pn**	**19 05 16.6**	**+0.3**
AHID	**Auburn Hatcher**	**4.36**	**260**	Pn	**Pn**	**19 05 16.4**	**-1.2**
AHID				IAML		19 06 40.6	
	comp=E,26nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.09**	**156**		**Pn**	**19 05 26.6**	**-1.1**
CTU	**Camp Tracy**	**5.67**	**240**		**Pn**	**19 05 35.1**	**-0.5**
SPUT	**South Promonto**	**5.81**	**248**		**Pn**	**19 05 37.6**	**0.0**
HVU	**Hansel Valley**	**5.84**	**253**		**Pn**	**19 05 37.9**	**-0.2**
SRU	**San Rafael Swe**	**6.04**	**223**		**Pn**	**19 05 40.7**	**-0.2**
ECSD	**EROS Data Cent**	**6.28**	**87**	Pn	**Pn**	**19 05 44.3**	**+0.4**
Q16A	**Castle Valley**	**6.52**	**225**		**Pn**	**19 05 47.2**	**-0.1**
DUG	**Dugway, Tooele**	**6.62**	**241**		**Pn**	**19 05 48.6**	**-0.1**
HMU	**Henry Mountain**	**7.09**	**218**		**Pn**	**19 05 54.1**	**-1.2**
RTBA	**Rita Blanca**	**7.50**	**164**		**Pn**	**19 06 00.9**	**+0.1**
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**19 06 22.3**	**-1.3**
	comp=E,2.7nm,0.3s,baz=234,slow=11,SNR=22						
	comp=E,4.3nm,0.3s						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**P**	**19 08 38.6**	**-1.0**
	comp=E,0.1nm,0.3s,baz=160,slow=11,SNR=2.4						
	comp=E,0.1nm,0.3s						
CMIG	**Matias Romero**	**27.94**	**158**	P	**P**	**19 10 08.0**	**+5.9**
	comp=E,1.1nm,0.4s,baz=352,slow=15,SNR=1.4						
	comp=E,1.1nm,0.4s						

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*IDC **27** 19:15:45.9±13.0, 56°.14S×27°.21W, h144km±115km, mb3.5/3, mbtmp4.1/4, ML4.7/1, Error ellipse: s-maj=118.5km s-min=30.3km az=107.0*
ISC 27 19:15:46.5±1.7, 56°.2S±0°.2×27°.1W±0°.5, h150km, n8, σ0°39/8, mb3.6/3, 3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.87**	**161**	⇓P	**P**	**19 19 32.9**	**-0.1**
	comp=Z,0.6nm,0.3s						
VNA2	**Neumayer--Watz**	**17.07**	**158**	⇓P	**Pn**	**19 19 35.6**	**-0.2**
	comp=Z,0.5nm,0.2s,baz=319,slow=12						
SNAA	**Sanae**	**18.62**	**156**	⇓P	**P**	**19 19 52.3**	**+0.3**
	comp=Z,30nm,0.3s						
SNAA	**Sanae**	**18.62**	**156**	P	**P**	**19 19 52.4**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=299,slow=10,SNR=67						
	comp=Z,8.3nm,0.5s						
QSPA	**South Pole Qui**	**34.10**	**180**	P	**P**	**19 22 16.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=203,slow=2.2,SNR=17						
	comp=Z,1.4nm,0.5s						
VNDA	**Vanda**	**46.48**	**183**	P	**P**	**19 23 57.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=180,slow=5.1,SNR=2.3						
	comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.11**	**29**	P	**P**	**19 27 00.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=198,slow=6.4,SNR=9.2						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**150.67**	**87**	PKPbc	**PKiKP**	**19 35 19.8**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=224,slow=3.6,SNR=9.3						

IDC 27 19:15:55.7±2.0, 5°.25S×144°.51E, h0km, mb3.1/2, mbtmp3.3/4, ML2.6/2, Error ellipse: s-maj=51.9km s-min=32.3km az=108.0, New Guinea

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

BSO4				⇓X			19 40 04.3
KTR	**Katsuura**	**0.34**	**358**	⇓P	**Pn**	**19 39 57.0**	**-0.2**
KTR				⇓S	**Sn**	**19 40 04.8**	**-0.2**
JKUC	**kamogawauchiur**	**0.37**	**343**	⇓P	**Pn**	**19 39 57.2**	**-0.3**
JKUC				⇓*e*S	**Sn**	**19 40 05.3**	**-0.1**
TATJ	**Tateyama 2**	**0.43**	**302**	⇓*i*P	**Pn**	**19 39 58.3**	**+0.4**
TATJ				⇓S	**Sn**	**19 40 07.3**	**+1.0**
BSO1	**Boso 1**	**0.55**	**106**	*i* P	**Pn**	**19 39 58.8**	**+0.2**
BSO1				X		19 40 09.1	
JIM2	**Oshima 3**	**0.75**	**264**	*i* P	**Pn**	**19 40 01.0**	**-0.5**
JIM2				*e*S	**Sn**	**19 40 11.8**	**-0.7**
JTHY	**Toshimahigashi**	**0.91**	**252**	*i* P	**Pn**	**19 40 03.4**	**0.0**
JTHY				S	**Sn**	**19 40 16.0**	**0.0**
JMYK	**Miyake Tsubota**	**0.99**	**221**	P	**Pn**	**19 40 04.6**	**+0.1**
JMYK				S	**Sn**	**19 40 18.3**	**+0.5**
JMKN	**Mikurajimanish**	**1.10**	**214**	P	**Pn**	**19 40 06.0**	**0.0**
JMKN				S	**Sn**	**19 40 20.4**	**0.0**
JOD2	**Odawara 2**	**1.12**	**294**	⇓*i*P	**Pn**	**19 40 05.6**	**-0.6**
JOD2				⇓S	**Sn**	**19 40 20.1**	**-0.8**
JIZS	**Izushimoda**	**1.20**	**266**	⇓*i*P	**Pn**	**19 40 06.9**	**-0.3**
JIZS				⇓*e*S	**Sn**	**19 40 22.0**	**-0.7**
JHJ	**Hachijo jima 2**	**1.74**	**195**	P	**Pn**	**19 40 14.8**	**+0.3**
	373nm,0.3s,baz=16,slow=18,SNR=37						
JHJ				S	**Sn**	**19 40 35.0**	**-0.7**
	443nm,0.3s,baz=304,slow=20,SNR=14						
MJAR	**Matsushiro Arr**	**2.45**	**316**	P	**Pn**	**19 40 24.8**	**+0.6**
	3.0nm,0.3s,baz=144,slow=12,SNR=163						
MJAR				S	**Sn**	**19 40 53.4**	**+0.5**
	52nm,0.3s,baz=158,slow=15,SNR=9.6						
	14nm,0.3s						
JNU	**Nakatsue**	**8.03**	**261**	P	**Pn**	**19 41 41.8**	**+1.2**
	0.3nm,0.3s,baz=90,slow=5.6,SNR=1.7						
	3.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.87**	**116**	T	T	20 14 58.1	
	baz=309,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**27.88**	**116**	T	T	20 14 57.3	
	baz=309,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**27.89**	**116**	T	T	20 14 58.1	
	baz=309,slow=75,SNR=37						
SONM	**Songino Array**	**28.38**	**308**	P	**P**	**19 45 35.1**	**+0.3**
	0.3nm,0.8s,baz=93,slow=7.7,SNR=2.1						
	0.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**28.49**	**118**	T	T	20 15 42.4	
	baz=310,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.49**	**118**	T	T	20 15 40.7	
	baz=310,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.51**	**118**	T	T	20 15 40.7	
	baz=310,slow=75,SNR=13						
KURBB	**Kurchatov Arra**	**46.71**	**310**	P	**P**	**19 48 09.4**	**+0.5**
	0.4nm,0.5s,baz=82,slow=7.4,SNR=8.4						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**54.74**	**187**	P	**P**	**19 49 09.0**	**-0.7**
	0.5nm,0.4s,baz=20,slow=7.2,SNR=16						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**58.47**	**187**	P	**P**	**19 49 36.6**	**+0.5**
	0.3nm,0.5s,baz=21,slow=9.6,SNR=5.0						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**77.03**	**52**	P	**P**	**19 51 32.9**	**-0.3**
	0.4nm,0.6s,baz=300,slow=5.9,SNR=4.8						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**79.86**	**45**	P	**P**	**19 51 47.5**	**-1.1**
	0.3nm,0.7s,baz=304,slow=3.2,SNR=3.5						
	0.3nm,0.7s						

MOS ***27*** *19:43:28.0±0.9, 40.°18N×142.°43E, h47km, mb5.3/72, Error ellipse: s-maj=5.5km s-min=3.5km az=107.8*

NIED ***27*** *19:43:28.6, 40.°12N×142.°42E, h35km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr 1.44; Mθθ-0.06; Mϕϕ-1.38; Mrθ 0.90; Mθϕ-0.40; Mϕr 1.69; Fault plane solution: M₀2.41000×10¹⁶ NP1:φs25.00000°, δ71.00000°, λ96.00000°. NP2:φs186.00000°, δ20.00000°, λ72.00000°.*

JMA ***27*** *19:43:28.6±0.1, 40.°1N±0.°2×142.°4E±0.°6, h35km±1km, MD4.9/40, MW4.9/40, NE OFF IWATE PREF*

JMA Felt II J1 at NE OFF IWATE PREF .

NEIC ***27*** *19:43:30.7±1.2, 40.°19N±0.°05×142.°32E±0.°10, h52km±5km, mb5.2/177, Mww4.8/7, Error ellipse: s-maj=10.9km s-min=7.2km az=106.0*

NEIC ***27*** *19:43:30.1, 40.°12N×142.°30E, h50km*

NEIC ***27*** *19:43:30.1, 40.°12N×142.°82E, h50km, Moment Tensor Solution. Duration: 1s1 Moment tensor: Scale 10¹⁶Nm; Mrr 1.84; Mθθ-0.39; Mϕϕ-1.45; Mrθ 0.79; Mθϕ-0.67; Mϕr 1.16; Fault plane solution: M₀2.28000×10¹⁶ NP1:φs30.91000°, δ63.95000°, λ94.33000°. NP2:φs201.12000°, δ26.38000°, λ81.21000°. Principal axes: T 2.3253, Plg71.0000°, Azm310.0000°; N -0.0806, Plg4.0000°, Azm209.0000°; P -2.2447, Plg19.0000°, Azm118.0000°;*

GCMT ***27*** *19:43:30.7±0.3, 40.°23N±0.°02×142.°49E±0.°03, h42km±1km, MW5.0/93, Moment Tensor Solution. s51, c66; s93, c144; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 3.43±.18; Mθθ-0.84±.12; Mϕϕ-2.58±.12; Mrθ 1.23±.09; Mθϕ-0.75±.08; Mϕr 2.01±.09; Best double couple: M₀3.92600×10¹⁶ NP1:φs27.00000°, δ63.00000°, λ95.00000°. NP2: φs197.00000°, δ27.00000°, λ81.00000°. Principal axes: T 4.2270, Plg71.0000°, Azm307.0000°; N -0.5930, Plg4.0000°, Azm205.0000°; P -3.6250, Plg18.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***27*** *19:43:30.5±1.6, 40.°09N×142.°41E, h58km±13km, mb4.5/32, mbtmp4.8/39, MS4.1/67 Error ellipse: s-maj=12.9km s-min=9.1km az=105.0*

ISC 27 19:43:29.3±0.3, 40.°14N±0.°03×142.°39E±0.°03, h47km±2km, h47km:pP-P, n1180, σ1s38/1138, mb5.1/233, MS4.3/83, 114C-72D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.45**	**243**	⇓*i*P	**Pn**	**19 43 38.7**	**-1.0**
JTH				⇓S	**Sn**	**19 43 45.9**	**-1.3**
JTH	**Tanohata**	**0.45**	**243**	A	A	19 43 38.7	
	comp=E,66nm,2.9s,comp=N,89nm,2.8s						
JKEN	**Kujiedanarisaw**	**0.52**	**277**	⇓*i*P	**Pn**	**19 43 39.7**	**-0.9**
JKEN				⇓S	**Sn**	**19 43 47.5**	**-1.1**
JKEN	**Kujiedanarisaw**	**0.52**	**277**	A	A	19 43 39.7	
	comp=E,70nm,0.7s,comp=N,80nm,1.0s						
JANG	**Nango**	**0.70**	**289**	⇓*i*P	**Pn**	**19 43 42.4**	**-0.6**
JANG				⇓S	**Sn**	**19 43 52.0**	**-0.9**
JANG	**Nango**	**0.70**	**289**	A	A	19 43 42.4	
	comp=E,33nm,0.7s,comp=N,29nm,1.4s						
MIYJ	**Miyakonagasawa**	**0.71**	**218**	⇓*i*P	**Pn**	**19 43 41.9**	**-1.2**
MIYJ				⇓S	**Sn**	**19 43 51.4**	**-1.7**
MIYJ	**Miyakonagasawa**	**0.71**	**218**	A	A	19 43 41.9	
	comp=E,71nm,2.5s,comp=N,35nm,1.3s						
JKZ	**Kuzumaki**	**0.83**	**259**	⇓*i*P	**Pn**	**19 43 44.5**	**-0.2**
JKZ				⇓S	**Sn**	**19 43 55.5**	**-0.3**
JKZ	**Kuzumaki**	**0.83**	**259**	A	A	19 43 44.5	
	comp=E,26nm,0.9s,comp=N,48nm,3.2s						
JOM	**Ohasama**	**1.08**	**232**	⇓*i*P	**Pn**	**19 43 47.9**	**-0.1**
JOM				⇓*e*S	**Sn**	**19 44 02.1**	**+0.3**
JOM	**Ohasama**	**1.08**	**232**	A	A	19 43 47.9	
	comp=E,56nm,2.1s,comp=N,43nm,2.7s						
JARK	**Aomorirokkasho**	**1.16**	**318**	⇓*i*P	**Pn**	**19 43 49.3**	**+0.2**
JARK				⇓S	**Sn**	**19 44 04.5**	**+0.7**
JARK	**Aomorirokkasho**	**1.16**	**318**	A	A	19 43 49.3	
	comp=E,75nm,0.8s,comp=N,77nm,0.9s						
JSZI	**Iwateshizukuis**	**1.17**	**250**	A	A	19 43 49.4	
	comp=E,148nm,1.1s,comp=N,108nm,1.9s						
JTM	**Tenmabayashi**	**1.19**	**303**		**Pn**	**19 43 50.0**	**+0.4**
JTM				Sn	**Sn**	**19 44 03.4**	**-1.3**
JTM	**Tenmabayashi**	**1.19**	**303**	P	**Pn**	**19 43 50.3**	**+0.8**
JTM	**Tenmabayashi**	**1.19**	**303**	⇓*i*P	**Pn**	**19 43 49.9**	**+0.4**
JTM	**Tenmabayashi**	**1.19**	**303**	A	A	19 43 49.9	
	comp=E,18nm,1.4s,comp=N,40nm,2.4s						
OFUJ	**Ofunato**	**1.20**	**208**	⇓*i*P	**Pn**	**19 43 49.1**	**-0.5**
OFUJ				⇓*e*S	**Sn**	**19 44 04.7**	**-0.1**
OFUJ	**Ofunato**	**1.20**	**208**	A	A	19 43 49.1	
	comp=E,42nm,1.6s,comp=N,36nm,2.6s						
JAH	**Hinai**	**1.34**	**272**	⇓*i*P	**Pn**	**19 43 52.2**	**+0.6**
JAH				⇓S	**Sn**	**19 44 09.8**	**+1.6**
JAH	**Hinai**	**1.34**	**272**	A	A	19 43 52.2	
	comp=E,42nm,1.2s,comp=N,40nm,0.9s						
JAHD	**Aomorihigashid**	**1.38**	**325**	A	A	19 43 52.7	
	comp=E,76nm,1.5s,comp=N,69nm,1.5s						
JMK	**Ichinoseki**	**1.49**	**217**	⇓*i*P	**Pn**	**19 43 53.6**	**0.0**
JMK				⇓S	**Sn**	**19 44 13.3**	**+1.4**
JMK	**Ichinoseki**	**1.49**	**217**	A	A	19 43 53.6	
	comp=E,56nm,3.7s,comp=N,24nm,3.4s						
JKMT	**Kesennumamotoy**	**1.51**	**208**	A	A	19 43 53.9	
	comp=E,19nm,2.3s,comp=N,13nm,2.1s						
JRG	**Rokugo**	**1.54**	**242**	A	A	19 43 54.8	
	comp=E,37nm,0.8s,comp=N,34nm,1.3s						
JOT	**Ohata**	**1.60**	**321**	A	A	19 43 56.0	
	comp=E,22nm,3.5s,comp=N,22nm,1.7s						
JHHS	**Hirosakihyakuz**	**1.63**	**289**	A	A	19 43 56.3	
	comp=E,58nm,2.1s,comp=N,47nm,4.6s						
JNTW	**Noshirotokiwa**	**1.71**	**275**	A	A	19 43 57.4	
	comp=E,63nm,1.9s,comp=N,83nm,3.8s						
JSI2	**Shiura 2**	**1.76**	**302**	A	A	19 43 58.3	
	comp=E,36nm,3.1s,comp=N,28nm,2.9s						
JYW	**Yuwa**	**1.78**	**251**	A	A	19 43 58.3	
	comp=E,62nm,1.3s,comp=N,78nm,1.7s						
JIO	**Ouri**	**1.87**	**206**	A	A	19 43 59.1	
	comp=E,9.0nm,1.2s,comp=N,10.0nm,2.8s						
JIW	**Iwasaki**	**1.87**	**285**	A	A	19 43 59.9	
	comp=E,24nm,2.3s,comp=N,15nm,0.6s						
JOFO	**Osakifurukawao**	**1.92**	**217**	A	A	19 44 00.0	
	comp=E,69nm,1.3s,comp=N,81nm,2.4s						
ERM	**Erimo**	**1.96**	**17**	Pn	**Pn**	**19 44 00.4**	**+0.5**
ERM	**Erimo**	**1.96**	**17**	P	**Pn**	**19 44 03.3**	**+3.3**
ERM	**Erimo**	**1.96**	**17**	*d* iP	**Pn**	**19 44 00.5**	**+0.5**
ERM				pmax	pmax		
	comp=Z,555nm,1.0s						
JEM	**Erimo**	**1.96**	**17**	P	**Pn**	**19 44 03.4**	**+3.4**
JEM	**Erimo**	**1.96**	**17**	A	A	19 44 00.8	
	comp=E,13nm,1.3s,comp=N,10.0nm,1.6s						
JYK	**Kaneyama**	**1.99**	**233**	A	A	19 44 01.2	
	comp=E,19nm,2.1s,comp=N,13nm,1.6s						
JKB	**Kayabe**	**2.02**	**330**	A	A	19 44 02.1	
	comp=E,22nm,0.5s,comp=N,24nm,1.9s						
JSR	**Shiriuchi**	**2.04**	**313**	A	A	19 44 02.3	
	comp=E,13nm,0.7s,comp=N,18nm,1.3s						
JNBK	**Urakawa-nobuka**	**2.15**	**7**	A	A	19 44 03.7	
	comp=E,25nm,0.8s,comp=N,36nm,0.6s						
JYYZ	**Yamagatayuza**	**2.21**	**240**	A	A	19 44 04.3	
	comp=E,57nm,3.4s,comp=N,63nm,2.1s						
JOU	**Okura**	**2.22**	**218**	A	A	19 44 04.4	
	comp=E,22nm,2.5s,comp=N,18nm,0.7s						
JTHR	**Tokachihiroo**	**2.25**	**18**	A	A	19 44 05.0	
	comp=E,12nm,2.3s,comp=N,14nm,1.4s						
JSHD	**Hidakashinhida**	**2.26**	**2**	A	A	19 44 05.3	
	comp=E,27nm,1.7s,comp=N,27nm,2.3s						
JOMM	**Oshimamatsumae**	**2.27**	**308**	A	A	19 44 05.6	
	comp=E,9.0nm,1.3s,comp=N,9.0nm,3.3s						
JTB	**Tobi-shima**	**2.38**	**247**	A	A	19 44 06.9	
	comp=E,17nm,2.8s,comp=N,34nm,3.2s						
JYM2	**Yakumo 2**	**2.49**	**323**	A	A	19 44 08.8	
	comp=E,10.0nm,3.2s,comp=N,10.0nm,1.6s						
JIAM	**Iburiatsuma**	**2.50**	**352**	A	A	19 44 08.8	
	comp=E,42nm,1.3s,comp=N,41nm,1.5s						
JNB	**Noboribetsu**	**2.54**	**337**	A	A	19 44 09.4	
	comp=E,12nm,1.2s,comp=N,7.0nm,1.7s						
JOG3	**Oga3**	**2.55**	**266**	A	A	19 44 01.5	
	comp=E,18nm,3.9s,comp=N,26nm,1.3s						
JCH	**Churui**	**2.58**	**16**	A	A	19 44 09.7	
	comp=E,11nm,4.2s,comp=N,7.0nm,2.0s						
JYA	**Atsumi**	**2.59**	**234**	A	A	19 44 09.7	
	comp=E,51nm,2.1s,comp=N,59nm,1.9s						
JMM	**Marumori**	**2.59**	**209**		**Pn**	**19 44 09.2**	**+0.5**
JMM	**Marumori**	**2.59**	**209**	P	**Pn**	**19 44 10.1**	**+1.4**
JMM	**Marumori**	**2.59**	**209**	A	A	19 44 09.5	
	comp=E,13nm,1.9s,comp=N,17nm,1.1s						
JBT2	**Biratori 2**	**2.63**	**360**	A	A	19 44 10.6	
	comp=E,10.0nm,3.4s,comp=N,8.0nm,1.7s						
JYS	**Shirataka**	**2.63**	**224**	A	A	19 44 10.3	
	comp=E,35nm,2.6s,comp=N,33nm,1.5s						
JMST	**Minamisoumatoc**	**2.68**	**206**	A	A	19 44 10.8	
	comp=E,10.0nm,1.1s,comp=N,8.0nm,2.1s						
JEW	**Eniwo**	**2.78**	**346**	A	A	19 44 12.9	
	comp=E,17nm,3.2s,comp=N,19nm,2.6s						
JYAR	**Yonezawaarcadi**	**2.83**	**219**	A	A	19 44 13.1	
	comp=E,36nm,1.8s,comp=N,41nm,1.4s						
JHST	**Hiyamasetana**	**2.96**	**321**	A	A	19 44 15.4	
	comp=E,10.0nm,2.8s,comp=N,10.0nm,2.7s						
JOB	**Onbets**	**2.96**	**21**	A	A	19 44 15.2	
	comp=E,13nm,0.7s,comp=N,12nm,1.4s						
JFK	**Kawauchi**	**3.02**	**204**	A	A	19 44 15.5	
	comp=E,6.0nm,2.0s,comp=N,5.0nm,1.9s						
JFR	**Furan**	**3.02**	**3**	A	A	19 44 16.1	
	comp=E,8.0nm,0.8s,comp=N,8.0nm,4.8s						
JOTO	**OTAMA OYAMA**	**3.04**	**212**	A	A	19 44 15.9	
	comp=E,21nm,3.5s,comp=N,25nm,1.0s						
JSH	**Shim**	**3.06**	**326**	A	A	19 44 16.8	
	comp=E,5.0nm,4.9s,comp=N,3.0nm,4.8s						
JISS	**Ishikarishitsu**	**3.21**	**347**	A	A	19 44 18.9	
	comp=E,15nm,4.3s,comp=N,16nm,3.0s						
ONAJ	**Iwakimizuishiy**	**3.28**	**203**	A	A	19 44 19.3	
	comp=E,8.0nm,2.2s,comp=N,6.0nm,1.9s						
JAR	**Ashorobuto**	**3.32**	**18**	A	A	19 44 20.2	
	comp=E,9.0nm,1.0s,comp=N,8.0nm,2.4s						
JNS	**Sasagawa**	**3.33**	**227**	A	A	19 44 20.3	
	comp=E,7.0nm,3.4s,comp=N,7.0nm,2.1s						
JAK	**Akkeshi**	**3.33**	**31**	A	A	19 44 20.3	
	comp=E,11nm,2.0s,comp=N,8.0nm,3.0s						
JAB	**Ashibetsu**	**3.36**	**358**	A	A	19 44 21.0	
	comp=E,14nm,1.9s,comp=N,15nm,5.9s						
JFY	**Yanaizu**	**3.44**	**218**	A	A	19 44 21.7	
	comp=E,9.0nm,2.6s,comp=N,6.0nm,2.7s						
JKHN	**Kushirohamanak**	**3.60**	**34**	A	A	19 44 24.0	
	comp=E,8.0nm,1.4s,comp=N,16nm,1.2s						
JHR	**Hokuryu**	**3.63**	**252**	A	A	19 44 24.8	
	comp=E,14nm,1.6s,comp=N,9.0nm,1.6s						
JSB	**Shiboa**	**3.71**	**212**	A	A	19 44 25.5	
	comp=E,11nm,2.3s,comp=N,10.0nm,1.8s						
JKK2	**Kamakawa 2**	**3.74**	**4**	A	A	19 44 26.2	
	comp=E,6.0nm,3.2s,comp=N,7.0nm,3.2s						
JMP	**Maruseppu**	**3.93**	**10**	A	A	19 44 28.9	
	comp=E,6.0nm,1.7s,comp=N,5.0nm,3.6s						
JKA	**Kamikawa-asahi**	**3.97**	**2**	Pn	**Pn**	**19 44 28.8**	**+1.2**
ASAJ	**Asahikawa**	**3.97**	**2**	A	A	19 44 29.6	
	comp=E,5.0nm,6.2s,comp=N,5.0nm,1.4s						
ASAJ	**Asahikawa**	**3.97**	**2**	P	**Pn**	**19 44 28.8**	**+1.2**
	comp=N,201nm,0.4s,baz=214,slow=17,SNR=26						
ASAJ				S	**Sn**	**19 45 16.5**	**+3.6**
	comp=N,325nm,0.7s,baz=93,slow=33,SNR=3.6						
ASAJ				LR	LR	19 46 28.0	
	comp=N,4μm,21.6s,baz=179,slow=44						
NMR	**Nemuro--Hokkai**	**4.08**	**37**	⇓*i*P	**Pn**	**19 44 27.5**	**-1.6**
NMR				*i* S	**Sn**	**19 45 10.7**	**-4.8**
NEM2	**Nemuro 2**	**4.08**	**37**	A	A	19 44 30.8	
	comp=E,5.0nm,1.1s,comp=N,6.0nm,0.7s						
JNSB	**Nemuroshibetsu**	**4.12**	**27**	A	A	19 44 31.4	
	comp=E,6.0nm,3.4s,comp=N,7.0nm,2.8s						
JSS	**Shosan**	**4.27**	**355**	A	A	19 44 33.8	
	comp=E,6.0nm,4.5s,comp=N,6.0nm,4.9s						
JYT	**Yasato**	**4.27**	**205**	A	A	19 44 33.3	
	comp=E,6.0nm,1.8s,comp=N,4.0nm,3.6s						
JAG	**Ashikaga**	**4.37**	**213**	A	A	19 44 34.7	
	comp=E,5.0nm,3.9s,comp=N,4.0nm,6.2s						
JIHU	**Itakohorinouch**	**4.42**	**200**	A	A	19 44 35.4	
	comp=E,19nm,3.8s,comp=N,19nm,1.5s						
JJN	**Nakama**	**4.49**	**229**	A	A	19 44 36.6	
	comp=E,10.0nm,2.5s,comp=N,14nm,2.0s						
RUSJ	**Misakicho**	**4.49**	**27**	⇓*i*P	**Pn**	**19 44 34.6**	**-0.2**
RUSJ				*e*S	**Sn**	**19 45 23.8**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**4.67**	**32**	*c* iP	**Pn**	**19 44 34.9**	**-2.3**
YUK				*i* S	**Sn**	**19 45 26.4**	**-3.6**
YUK				pmax	pmax		
	comp=N,164nm,0.2s						
YUK				pmax	pmax		
	comp=Z,869nm,0.2s						
YUK				pmax	pmax		
	comp=E,224nm,0.1s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK				smax	smax		
	comp=N,6μm,0.4s						
MJAR	**Matsushiro Arr**	**4.87**	**224**	P	**Pn**	**19 44 42.5**	**+2.5**
	comp=N,166nm,0.7s,baz=31,slow=13,SNR=239						
MJAR				LR	LR	19 46 51.7	
	comp=N,2μm,20.9s,baz=41,slow=42						
MJB9	**Matsu-Tunnel**	**4.87**	**224**		**Pn**	**19 44 43.5**	**+3.5**
MAJO	**Matsushiro**	**4.87**	**224**	Pn	**Pn**	**19 44 42.1**	**+2.1**
MAJO	**Matsushiro**	**4.87**	**224**	P	**Pn**	**19 44 42.6**	**+2.5**
MAJO	**Matsushiro**	**4.87**	**224**	*c* iP	**Pn**	**19 44 42.5**	**+2.5**
JHU	**Hanno**	**4.94**	**211**	A	A	19 44 42.6	
	comp=E,4.0nm,1.7s,comp=N,4.0nm,4.4s						
SHO	**Shikotan**	**4.98**	**40**	⇑*i*P	**Pn**	**19 44 39.3**	**-2.2**
SHO				*i* S	**Sn**	**19 45 30.6**	**-7.1**
SHO				pmax	pmax		
	comp=E,67nm,0.3s						
SHO				pmax	pmax		
	comp=Z,153nm,0.3s						
SHO				pmax	pmax		
	comp=N,19nm,0.1s						
SHO				smax	smax		
	comp=N,2μm,0.3s						
SHO				smax	smax		
	comp=E,3μm,0.3s						
JSG	**Sagara**	**6.40**	**213**		**Pn**	**19 45 01.2**	**+0.3**
JSG	**Sagara**	**6.40**	**213**	P	**Pn**	**19 45 02.2**	**+1.2**
TEY	**Ternei**	**6.49**	**321**	⇑*e*P	**Pn**	**19 45 03.6**	**+1.5**
TEY				*e*		19 46 18.1	
TEY				pmax	pmax		
	comp=E,20nm,0.5s						
TEY				pmax	pmax		
	comp=N,20nm,0.7s						
TEY				pmax	pmax		
	comp=Z,30nm,0.4s						
KUR	**Kuril'sk**	**6.49**	**37**	⇑*i*P	**Pn**	**19 45 01.7**	**-0.5**
KUR				*i* S	**Sn**	**19 46 11.5**	**-3.4**
KUR				pmax	pmax		
	comp=E,236nm,0.8s						
KUR				pmax	pmax		
	comp=Z,387nm,0.8s						
KUR				smax	smax		
	comp=N,923nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.81**	**2**	Pn	**Pn**	**19 45 08.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**6.81**	**2**	P	**Pn**	**19 45 10.2**	**+3.6**
YSS	**Yuzh-Sakhalins**	**6.81**	**2**	*e*P	**Pn**	**19 45 07.6**	**+1.0**
YSS				*e*S	**Sn**	**19 46 19.9**	**-2.8**
YSS				pmax	pmax		
	comp=Z,110nm,0.8s						
YSS				smax	smax		
	comp=N,110nm,0.9s						
YSS				smax	smax		
	comp=E,80nm,0.8s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,18.0s						
JHJ	**Hachijo jima 2**	**7.32**	**197**	P	**Pn**	**19 45 12.4**	**-1.1**
	comp=N,72nm,0.4s,baz=308,slow=20,SNR=6.4						
JHJ				S	**Sn**	**19 46 29.2**	**-6.0**
	comp=N,86nm,0.5s,baz=90,slow=20,SNR=1.3						
JHJ				LR	LR	19 48 08.3	
	comp=N,676nm,21.0s,baz=32,slow=38						
JHJ2	**Mitsune**	**7.32**	**197**	Pn	**Pn**	**19 45 13.8**	**+0.2**
JHJ2	**Mitsune**	**7.32**	**197**	P	**Pn**	**19 45 15.1**	**+1.6**
USA0B	**Ussuriysk Arra**	**8.72**	**301**		**Pn**	**19 45 35.3**	**+2.6**
USA0B	**Ussuriysk Arra**	**8.72**	**301**	*c* iP	**Pn**	**19 45 36.0**	**+3.3**
USRK	**Ussuriysk Ar.**	**8.72**	**301**	Pn	**Pn**	**19 45 34.2**	**+1.5**
USRK	**Ussuriysk Ar.**	**8.72**	**301**	P	**Pn**	**19 45 35.3**	**+2.6**
	comp=N,95nm,0.7s,baz=108,slow=10,SNR=65						
USRK				LR	LR	19 48 51.7	
	comp=N,2μm,18.7s,baz=122,slow=37						
MSHR	**Mys Shultsa**	**8.79**	**290**	*de*P	**Pn**	**19 45 36.3**	**+2.7**
UGL	**Uglegorsk**	**8.94**	**359**	P	Pn	19 45 23.2	-12
UGL				pmax	pmax		
	comp=Z,27nm,0.7s						
UGL				MLR	MLR		
	comp=Z,2μm,22.0s						
UGL				MLR	MLR		
	comp=N,2μm,20.0s						
UGL				MLR	MLR		
	comp=E,900nm,16.0s						
JMN	**Monobe**	**9.34**	**229**	P	**Pn**	**19 45 40.8**	**-0.5**
JMN	**Monobe**	**9.34**	**229**	P	**Pn**	**19 45 44.0**	**+2.6**
MDJ	**Mudanjiang**	**10.46**	**299**	P	**Pn**	**19 45 58.8**	**+2.2**
MDJ				pP		19 46 01.0	
MDJ				sP		19 46 02.5	
MDJ				PP	**PnPn**	**19 46 07.3**	**+3.0**
MDJ				S	**Sn**	**19 47 54.5**	**+2.1**
MDJ				sS		19 47 58.5	
MDJ				SS	**SnSn**	**19 48 09.5**	**+5.3**
MDJ				PcP	**PcP**	**19 52 01.0**	**+2.2**
MDJ				ScP	**ScP**	**19 55 33.3**	**+6.1**
MDJ				PcS	**PcS**	**19 55 37.5**	**+5.3**
MDJ	**Mudanjiang**	**10.46**	**299**	ScS	ScS	19 59 05.5	+3.5
MDJ				pmax	pmax		
	comp=Z,39nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,390nm,3.6s						
MDJ				LR	LR		
	comp=N,540nm,13.0s						
MDJ				LR	LR		
	comp=E,2μm,18.8s						
MDJ				LR	LR		
	comp=Z,2μm,18.1s						
MDJ	**Mudanjiang**	**10.46**	**299**	Pn	**Pn**	**19 45 58.2**	**+1.6**
MDJ	**Mudanjiang**	**10.46**	**299**	P	**Pn**	**19 45 58.5**	**+1.9**
TYV	**Tymovskoe**	**10.72**	**1**	*e*P	**Pn**	**19 46 00.5**	**+0.4**
TYV				*e*S	**Sn**	**19 48 00.2**	**+1.6**
TYV				pmax	pmax		
	comp=Z

comp=Z,1μm,22.6s
HEH HeiHe 14.59 319 *e*P **Pn** **19 46 50.5 -2.1**
HEH pP **P** **19 46 58.3 +0.2**
HEH S **Sn** **19 49 29.5 -3.4**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,200nm,3.5s
HEH LR LR
comp=N,910nm,14.3s
HEH LR LR
comp=E,760nm,14.7s
HEH LR LR
comp=Z,1μm,16.2s
DL2 Dalian 16.07 272 P **P** **19 47 15.3 +0.7**
DL2 pmax pmax
comp=Z,40nm,0.8s
DL2 LR LR
comp=E,520nm,21.2s
DL2 LR LR
comp=Z,630nm,25.3s
PEA0B Petropavlovsk- 16.65 34 Pn **Pn** **19 47 16.7 -2.4**
PEA0B Petropavlovsk- 16.65 34⇓*e*P **Pn** **19 47 19.3 +0.2**
PETK Petropavlovsk- 16.65 34 Pn **Pn** **19 47 15.9 -3.2**
PETK Petropavlovsk- 16.65 34 P **Pn** **19 47 15.9 -3.2**
PETK Petropavlovsk- 16.65 34 P **Pn** **19 47 15.5 -3.6**
comp=Z,1.8nm,0.6s,baz=214,slow=6.7,SNR=7.8
ZEA Zeya 17.03 328 *e*P **Pn** **19 47 22.2 -1.6**
ZEA *e* 19 50 28.6
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA MLR MLR
comp=E,300nm,23.0s
ZEA MLR MLR
comp=N,500nm,15.0s
ZEA MLR MLR
comp=Z,500nm,21.0s
JOW Kunigami 17.71 226 Pn **Pn** **19 47 29.6 -2.8**
JOW Kunigami 17.71 226 P **Pn** **19 47 30.0 -2.5**
comp=Z,28nm,0.9s,baz=323,slow=7.7,SNR=5.2
HIA Hailar 18.44 307 P **P** **19 47 38.1 -2.7**
HIA Hailar 18.44 307 P **P** **19 47 38.1 -2.7**
HIA pmax pmax
comp=Z,18nm,0.8s
XLT XiLinHaoTe 19.87 290⇓*i*P **P** **19 47 55.5 -1.0**
XLT pP pP 19 48 07.3 -0.2
XLT sP sP 19 48 18.5 +5.1
XLT S **S** **19 51 36.3 -1.3**
XLT sS Sn 19 51 47.8 +6.9
XLT SS **SnSn** **19 51 58.3 +2.8**
XLT pmax pmax
comp=Z,73nm,1.0s
XLT pmax pmax
comp=Z,210nm,4.5s
XLT LR LR
comp=N,22nm,8.1s
XLT LR LR
comp=E,420nm,15.7s
XLT LR LR
comp=Z,490nm,17.9s
BJI Beijing 20.03 278 P **P** **19 47 56.5 -1.7**
BJI pP **pP** **19 48 09.5 +0.3**
BJI PP **sP** **19 48 16.5 +1.4**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=N,210nm,12.9s
BJI LR LR
comp=E,230nm,16.8s
BJI LR LR
comp=Z,330nm,18.2s
BJT Baijiatuau 20.04 278 P **P** **19 47 56.4 -1.9**
BJT Baijiatuau 20.04 278 P **P** **19 47 56.4 -1.9**
BJT pmax pmax
comp=Z,21nm,0.9s
MA2 Magadan 20.16 12 P **P** **19 47 58.3 -1.1**
MA2 Magadan 20.16 12 P **P** **19 47 59.9 +0.5**
MA2 Magadan 20.16 12*de*P **P** **19 47 58.6 -0.8**
MA2 pmax pmax
comp=Z,38nm,1.0s
MA2 Magadan 20.16 12 P **P** **19 47 58.3 -1.1**
comp=Z,19nm,0.5s,baz=199,slow=10,SNR=32
comp=Z,19nm,0.5s
TIA Tai'an 20.22 267⇓P **P** **19 47 59.0 -1.3**
TIA S S 19 51 30.8 -14
TIA pmax pmax
comp=Z,19nm,1.2s
TIA pmax pmax
comp=Z,140nm,4.1s
TIA LR LR
comp=N,200nm,16.1s
TIA LR LR
comp=E,390nm,17.9s
TIA LR LR
comp=Z,630nm,16.7s
NJ2 Nanjing 20.62 254 *e*P **P** **19 48 03.8 -0.8**
NJ2 pP **pP** **19 48 16.5 +0.8**
NJ2 sP **sP** **19 48 21.5 -0.1**
NJ2 pmax pmax
comp=Z,80nm,0.8s
NJ2 pmax pmax
comp=Z,350nm,3.7s
NJ2 LR LR
comp=N,370nm,11.8s
NJ2 LR LR
comp=E,350nm,10.9s
NJ2 LR LR
comp=Z,670nm,12.3s
HNS HongShan 21.72 272⇓P **P** **19 48 13.5 -2.9**
HNS pP **pP** **19 48 23.3 -4.2**
HNS PP **PnPn** **19 48 38.3 -0.3**
HNS *e*S **S** **19 52 04.0 -10**
HNS PcP **PcP** **19 52 17.0 +1.3**
HNS SS **SnSn** **19 52 45.3 +4.5**
HNS pmax pmax
comp=Z,16nm,0.9s
HNS LR LR
comp=N,260nm,14.3s
HNS LR LR
comp=E,560nm,16.7s
HNS LR LR
comp=Z,700nm,20.6s
CIT Chita 23.09 311 *e*P **P** **19 48 28.5 -2.4**
CIT *e* 19 48 43.9
CIT *e* 19 48 55.8
CIT pmax pmax
comp=Z,211nm,1.3s
YAK Yakutsk 23.24 345 P **P** **19 48 29.1 -2.9**
YAK Yakutsk 23.24 345*c i*P **P** **19 48 29.8 -2.3**
YAK *e**PP **pP** **19 48 42.7 -0.6**
YAK *e*S **S** **19 52 34.4 -6.0**
YAK *e**SS **sS** **19 52 56.5 -3.9**
YAK *e* 19 59 37.7
YAK pmax pmax
comp=Z,106nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK pmax pmax
comp=N,22nm,0.9s
YAK pmax pmax
comp=Z,68nm,0.8s
YAK pmax pmax
comp=N,42nm,1.1s
YAK pmax pmax
comp=E,23nm,1.0s
YAK smax smax
comp=E,121nm,2.2s
YAK smax smax
comp=N,246nm,2.6s
YAK MLR MLR
comp=Z,424nm,15.0s
YAK MLR MLR
comp=E,193nm,18.0s
YAK MLR MLR
comp=N,295nm,17.0s
HHC Hu-ho-hao-te 23.39 282⇑P **P** **19 48 34.5 +0.5**
HHC pmax pmax
comp=Z,39nm,0.7s
HHC pmax pmax
comp=Z,96nm,4.0s
HHC LR LR
comp=N,450nm,10.8s
HHC LR LR
comp=E,1μm,16.2s
HHC LR LR
comp=Z,2μm,16.7s
YHNB Yeheng 23.42 235 P **P** **19 48 31.6 -2.7**
YHNB IAmb IAmb 19 48 42.0
comp=Z,147nm,1.7s
YHNB Yeheng 23.42 235 P **P** **19 48 33.8 -0.5**
SEY Seymchan 23.60 11*ce*P **P** **19 48 33.9 -1.6**
SEY pmax pmax
comp=Z,66nm,0.9s
NACB Ninganchiao 23.65 234 P **P** **19 48 36.4 +0.1**
SSLB Suanglung 24.33 234 P **P** **19 48 40.2 -2.4**
SSLB IAmb IAmb 19 48 50.1
comp=Z,82nm,1.6s
SSLB Suanglung 24.33 234 P **P** **19 48 43.4 +0.8**
LYN LuoYang 24.36 266⇓P **P** **19 48 42.8 -0.1**
LYN sP sP 19 49 04.5 +3.8
LYN pmax pmax
comp=Z,29nm,0.8s
LYN pmax pmax
comp=Z,200nm,3.7s
LYN LR LR
comp=N,540nm,16.8s
LYN LR LR
comp=E,1μm,16.8s
LYN LR LR
comp=Z,2μm,17.2s
YULB Yu-li 24.41 233 P **P** **19 48 43.8 +0.5**
BTO Baotou 24.59 282 *e*P **P** **19 48 44.5 -0.5**
BTO pP **pP** **19 48 56.0 -1.2**
BTO sP **sP** **19 49 01.5 -1.3**
BTO PP **PnPn** **19 49 22.0 +4.1**
BTO S **S** **19 53 00.5 -2.4**
BTO sS **sS** **19 53 19.5 -3.5**
BTO SS **SnSn** **19 53 57.0 +5.8**
BTO pmax pmax
comp=Z,120nm,0.7s
BTO pmax pmax
comp=Z,220nm,4.6s
BTO LR LR
comp=N,690nm,16.5s
BTO LR LR
comp=E,2μm,16.6s
BTO LR LR
comp=Z,2μm,18.6s
WHN Wuhan 24.71 256⇑*i*P **P** **19 48 46.5 +0.5**
WHN sP **sP** **19 49 07.8 +4.0**
WHN pmax pmax
comp=Z,120nm,0.9s
WHN LR LR
comp=Z,2μm,16.5s
SHEM Shemya Is, Ala 24.99 49 LR LR 19 57 46.5
comp=Z,168nm,21.3s,baz=287,slow=34
BOD Bodaibo 25.39 324 *e*P **P** **19 48 52.3 +0.4**
ULN Ulaanbaatar 26.38 299 P **P** **19 49 00.3 -0.9**
ULN Ulaanbaatar 26.38 299*c i*P **P** **19 49 01.0 -0.2**
ULN pmax pmax
comp=Z,11nm,0.7s
ULN Ulaanbaatar 26.38 299 P **P** **19 49 01.0 -0.2**
ULN Ulaanbaatar 26.38 299 P **P** **19 49 01.0 -0.2**
comp=Z,63nm,0.7s
GUMO Guam 26.54 175 LR LR 19 58 25.8
comp=Z,220nm,21.8s,baz=356,slow=34
SONM Songino Array 26.82 299 P **P** **19 49 05.2 +0.1**
SONM Songino Array 26.82 299 P **P** **19 49 05.3 +0.1**
comp=Z,14nm,0.7s,baz=102,slow=8.2,SNR=61
SONM PcP **PcP** **19 52 26.7 -0.1**
comp=Z,0.8nm,0.5s,baz=132,slow=4.3,SNR=1.9
SONM LR LR 20 00 17.1
comp=Z,862nm,18.8s,baz=125,slow=38
comp=Z,14nm,0.7s
XAN Xi'an 27.27 268⇓P **P** **19 49 07.8 -1.5**
XAN pP pP 19 49 11.5 -10
XAN pmax pmax
comp=Z,13nm,1.0s
ENH Enshi 28.49 260 P **P** **19 49 19.1 -1.0**
ENH IAmb IAmb 19 49 21.6
comp=Z,26nm,0.6s
IRK Irkutsk 28.68 308 *e*P **P** **19 49 21.6 0.0**
IRK pmax pmax
comp=Z,32nm,1.6s
ZAK Zakamensk 29.06 304 *e*P **P** **19 49 24.4 -0.6**
ZAK pmax pmax
comp=Z,31nm,1.3s
H11N2 WAKE ISLAND Hy 29.25 127 T T 20 20 10.1
baz=319,slow=75,SNR=399
H11N1 WAKE ISLAND Hy 29.25 127 T T 20 20 11.7
baz=319,slow=75,SNR=423
H11N3 WAKE ISLAND Hy 29.26 127 T T 20 20 07.9
baz=319,slow=75,SNR=386
H11S1 WAKE ISLAND Hy 30.06 129 T T 20 21 14.9
baz=320
H11S3 WAKE ISLAND Hy 30.06 129 T T 20 21 17.2
baz=320,slow=74
H11S2 WAKE ISLAND Hy 30.08 129 T T 20 21 17.7
baz=320,slow=74
LZH Lanzhou 30.43 275 *e*P **P** **19 49 36.5 -0.9**
LZH pP pP 19 49 47.5 -2.2
LZH S **S** **19 54 33.3 -1.9**
LZH pmax pmax
comp=Z,28nm,1.0s
LZH LR LR
comp=N,380nm,16.1s
LZH LR LR
comp=E,470nm,19.2s
LZH LR LR
comp=Z,550nm,18.9s
GULI GuiLin 30.55 251 P **P** **19 49 34.5 -3.8**
MOY Mondy 30.62 306 *e*P **P** **19 49 39.4 +0.5**
MOY pmax pmax
comp=Z,35nm,1.5s
BILL Bilibino 30.83 17 *i*P **P** **19 49 40.8 +0.4**
TIXI Tiksi 32.31 352 P **P** **19 49 52.9 -0.4**
TIXI Tiksi 32.31 352 P **P** **19 49 52.9 -0.4**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 32.31 352 P **P** **19 49 53.0 -0.3**
GTA Gaotai 32.50 283 P **P** **19 49 55.5 -0.1**
GTA pP pP 19 50 02.8 -5.1
GTA PcP **PcP** **19 52 42.8 +1.3**
GTA PcS **PcS** **19 56 27.0 +0.3**
GTA pmax pmax
comp=Z,24nm,1.1s
GTA LR LR
comp=N,300nm,20.4s
GTA LR LR
comp=E,780nm,19.6s
GTA LR LR
comp=Z,980nm,19.3s
CD2 Chengdu 32.55 266 P **P** **19 49 55.3 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,380nm,19.6s
GYA Guiyang 32.60 256⇓*i*P **P** **19 49 56.3 -0.2**
GYA sP sP 19 50 18.5 +4.1
GYA pmax pmax
comp=Z,34nm,0.8s
GYA pmax pmax
comp=Z,310nm,4.8s
GYA LR LR
comp=Z,710nm,17.6s
SPIA Saint Paul Isl 34.78 45 P **P** **19 50 14.9 -0.1**
baz=262
QIZ Qiongzhong 34.97 243 P **P** **19 50 17.3 +0.3**
QIZ S **S** **19 55 44.5 -1.1**
QIZ LR LR
comp=N,370nm,21.3s
QIZ LR LR
comp=E,340nm,20.3s
QIZ LR LR
comp=Z,300nm,15.5s
PZH PanZhiHua 36.27 261 P **P** **19 50 28.0 -0.3**
PZH S **S** **19 56 05.8 +0.1**
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,150nm,3.5s
PZH LR LR
comp=N,280nm,14.4s
PZH LR LR
comp=E,200nm,16.6s
PZH LR LR
comp=Z,250nm,16.3s
KMI Kunming 36.27 258⇑P **P** **19 50 28.5 +0.1**
KMI pmax pmax
comp=Z,41nm,0.9s
KMI pmax pmax
comp=Z,130nm,5.7s
KMI LR LR
comp=N,460nm,16.9s
KMI LR LR
comp=E,460nm,17.7s
KMI LR LR
comp=Z,610nm,18.9s
GOMU GeErMu 37.26 280 P **P** **19 50 37.0 +0.1**
GOMU pP sP 19 51 07.3 +12
GOMU S S 19 55 55.5 -26
GOMU pmax pmax
comp=Z,44nm,0.7s
GOMU LR LR
comp=N,130nm,17.3s
GOMU LR LR
comp=E,210nm,17.5s
GOMU LR LR
comp=Z,350nm,18.2s
M11K Mekoryuk 37.36 40 P **P** **19 50 37.9 +0.9**
baz=261
SLVN Son La 37.65 252 P **P** **19 50 39.7 -0.3**
SLVN IAmb IAmb 19 50 42.2
comp=Z,30nm,0.9s
TNA Tin City 37.79 31 P **P** **19 50 41.0 +0.5**
baz=253,SNR=18
K13K Kusilvak Mount 38.35 37 P **P** **19 50 46.1 +0.8**
baz=260
F14K Arctic Creek 38.40 32 P **P** **19 50 46.7 +1.0**
baz=254,SNR=9.5
ANM Nome 38.56 33 P **P** **19 50 48.0 +0.9**
ANM IAmb IAmb 19 51 04.6
comp=Z,14nm,0.7s
ANM Nome 38.56 33 P **P** **19 50 47.5 +0.4**
baz=256,SNR=12
ANM Nome 38.56 33 P **P** **19 50 48.0 +0.9**
ANM pmax pmax
comp=Z,14nm,0.7s
M13K Dall Lake 38.77 40 P **P** **19 50 49.9 +1.1**
baz=264
J14K Nanvaranak Lak 38.99 36 P **P** **19 50 52.1 +1.4**
baz=261
F15K North Star Dit 39.14 32 P **P** **19 50 53.6 +1.7**
F15K North Star Dit 39.14 32 P **P** **19 50 52.8 +1.0**
baz=256
L14K Kuka Creek 39.20 39 P **P** **19 50 53.5 +1.1**
baz=263
G15K Niukluk 39.22 33 P **P** **19 50 53.9 +1.3**
baz=257
DGZ Jazzator, Alta 39.27 303*c i*P **P** **19 50 54.9 +1.5**
DGZ pmax pmax
comp=Z,145nm,0.8s
M14K Bethel 39.48 40 P **P** **19 50 56.6 +1.9**
M14K IAmb IAmb 19 52 09.7
comp=Z,62nm,1.6s
M14K Bethel 39.48 40 P **P** **19 50 56.0 +1.2**
baz=265
TNCH TengChong 39.51 261⇑P **P** **19 50 56.5 +0.8**
TNCH pP pP 19 51 07.0 -1.2
TNCH sP sP 19 51 15.5 +1.8
TNCH PP **PnPn** **19 52 31.3 +1.2**
TNCH S **S** **19 56 51.3 -3.6**
TNCH sS sS 19 57 15.3 -0.3
TNCH SS **SS** **19 59 43.0 -7.7**
TNCH pmax pmax
comp=Z,120nm,1.1s
TNCH pmax pmax
comp=Z,260nm,2.0s
TNCH LR LR
comp=N,240nm,13.5s
TNCH LR LR
comp=E,190nm,17.9s
TNCH LR LR
comp=Z,360nm,16.3s
C16K Lisburne Hills 39.59 28 P **P** **19 50 55.8 +0.2**
baz=252
L15K Ungalak Mounta 39.81 38 P **P** **19 50 58.2 +0.7**
baz=264
K15K Wolf Creek Mou 39.86 37 P **P** **19 50 59.4 +1.5**
baz=263
H16K Elim 39.90 34 P **P** **19 50 59.4 +1.2**
baz=260,SNR=12
G16K Koyuk River 40.00 32 P **P** **19 51 00.5 +1.5**
G16K Koyuk River 40.00 32 P **P** **19 51 00.4 +1.5**
baz=259
M15K Kasigluk River 40.10 40 P **P** **19 51 01.2 +1.2**
baz=266
WMQ Urumqi 40.20 294 *e*P **P** **19 51 02.3 +1.2**
WMQ pP pP 19 51 13.3 -0.3
WMQ pmax pmax
comp=Z,51nm,1.1s
WMQ pmax pmax
comp=Z,290nm,3.9s
WMQ LR LR
comp=Z,240nm,21.9s
NONG Nongkai 40.30 249 P **P** **19 51 02.2 +0.2**
N15K Kwethluk River 40.36 41 P **P** **19 51 03.2 +1.1**
baz=267
J16K Anvik River 40.41 36 P **P** **19 51 04.0 +1.6**
baz=263
C17K DeLong Mountai 40.41 28 P **P** **19 51 03.3 +0.8**
baz=254
I17K Unalakleet 40.45 35 P **P** **19 51 04.0 +1.3**
baz=262
ZAA0 Zalesovo Array 40.45 310 P **P** **19 51 03.0 +0.1**
ZAA0 IAmb IAmb 19 51 21.2
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 40.45 310 P **P** **19 51 02.5 -0.4**
ZALV PcP **PcP** **19 53 04.7 -0.2**
ZALV Zalesovo Beam 40.45 310 P **P** **19 51 03.4 +0.5**
comp=Z,13nm,0.5s,baz=92,slow=8.4,SNR=78
ZALV PcP **PcP** **19 53 04.9 0.0**
comp=Z,6.3nm,0.6s,baz=96,slow=3.5,SNR=4.3
ZALV LR LR 20 08 39.4
comp=Z,646nm,18.6s,baz=77,slow=37
comp=Z,13nm,0.5s
O15K Ungalikthiuk R 40.46 42 P **P** **19 51 03.6 +0.7**
baz=268
E17K Hotham Inlet 40.56 30 P **P** **19 51 05.1 +1.4**
baz=257,SNR=40
F17K Baldwin Pennin 40.65 31 P **P** **19 51 05.7 +1.3**
baz=258
CHNA Chernabura Isl 40.66 49 P **P** **19 51 05.7 +1.2**
baz=274
G17K Kiwalik Mounta 40.72 32 P **P** **19 51 06.5 +1.5**
baz=260
L16K Owhat River 40.77 38 P **P** **19 51 06.8 +1.4**
L16K Owhat River 40.77 38 P **P** **19 51 07.0 +1.6**
baz=266
NRIK Noril'sk 40.79 334 P **P** **19 51 05.7 +0.2**
NRIK IAmb IAmb 19 51 24.2
comp=Z,20nm,0.8s
NRIK Noril'sk 40.79 334 P **P** **19 51 05.7 +0.2**
NRIK pmax pmax
comp=Z,20nm,0.8s
NRIK Noril'sk 40.79 334 P **P** **19 51 05.6 +0.1**
comp=Z,6.8nm,0.5s,baz=112,slow=8.7,SNR=16
NRIK LR LR 20 08 54.4
comp=Z,786nm,19.8s,baz=113,slow=37
comp=Z,6.8nm,0.5s
CRAI Chiangrai 40.92 254 P **P** **19 51 08.1 +0.8**
CRAI IAmb IAmb 19 51 09.3
comp=Z,51nm,0.8s
H17K Granite Mounta 40.93 33 P **P** **19 51 08.7 +1.9**
baz=262
M16K Timber Creek 40.97 39 P **P** **19 51 08.7 +1.6**
baz=267
DLV T Lat 41.00 236 P **P** **19 51 07.5 -0.6**
DLV IAmb IAmb 19 51 09.6
comp=Z,22nm,0.8s
N16K Nishlik Lake 41.04 40 P **P** **19 51 09.2 +1.5**
baz=268
E18K Tukpahlearik C 41.10 30 P **P** **19 51 09.5 +1.4**
baz=258
B18K Kokolik River 41.13 26 P **P** **19 51 09.8 +1.4**
baz=255
C18K Utukok River 41.16 28 P **P** **19 51 09.5 +0.9**
baz=256
KKM Kota Kinabalu 41.29 222 P **P** **19 51 09.9 -0.4**
KKM Kota Kinabalu 41.29 222 P **P** **19 51 11.1 +0.8**
comp=Z,22nm,1.3s
F18K Selawik 41.31 31 P **P** **19 51 11.3 +1.5**
baz=260
L17K Donlin 41.35 38 P **P** **19 51 11.5 +1.3**
baz=266

O16K **Kokwok River B** 41.35 42 P P 19 51 10.6 +0.4
baz=269
K17K **Iditarod** 41.39 37 P P 19 51 10.7 +0.2
baz=266
P16K **Nushagak River** 41.40 42 P P 19 51 11.3 +0.6
baz=270
TNTI **Ternate** 41.51 203 P P 19 51 11.4 -0.6
TNTI IAmb IAmb 19 51 14.0
comp=Z,29nm,0.9s
TNTI **Ternate** 41.51 203 P P 19 51 12.1 +0.2
TNTI **Ternate** 41.51 203 P P 19 51 12.3 +0.4
comp=Z,24nm,0.9s
G18K **Tagagawik** 41.59 32 P P 19 51 13.2 +1.0
baz=262
A19K **Wainwright** 41.60 25 P P 19 51 13.5 +1.3
baz=254
H18K **Honhosa River** 41.61 33 P P 19 51 13.7 +1.3
baz=263,SNR=9.8
M17K **Holitna River** 41.72 39 P P 19 51 14.5 +1.3
baz=268
N17K **Nushagak Hills** 41.82 40 P P 19 51 15.2 +1.1
baz=269
C19K **Lookout Ridge** 41.84 27 P P 19 51 15.1 +1.0
baz=257
O17K **Koliganek Bris** 41.86 41 P P 19 51 15.6 +1.2
baz=270
F19K **Shaleruckik Mo** 42.09 31 P P 19 51 17.5 +1.4
baz=262
Q16K **King Salmon** 42.10 43 P P 19 51 17.7 +1.4
baz=272
L18K **Granite Mounta** 42.11 38 P P 19 51 17.4 +0.9
baz=268
J18K **Innoko River** 42.16 36 P P 19 51 17.6 +0.7
baz=266
GCSA **Galena City Sc** 42.20 34 P P 19 51 18.4 +1.3
baz=265
P17K **Kvichak River** 42.20 42 P P 19 51 17.6 +0.5
baz=271
D19K **Kuna River** 42.23 28 P P 19 51 18.3 +0.9
D19K **Kuna River** 42.23 28 P P 19 51 18.6 +1.2
baz=259
G19K **Purcell Mounta** 42.26 32 P P 19 51 18.6 +1.0
baz=263
E19K **Redstone River** 42.39 30 P P 19 51 19.5 +0.9
baz=261,SNR=24
H19K **Roundabout Mou** 42.45 33 P P 19 51 20.6 +1.5
baz=264
TTA **Tatalina** 42.45 37 P P 19 51 20.6 +1.3
TTA **Tatalina** 42.45 37 P P 19 51 19.9 +0.6
TTA **Tatalina** 42.45 37 P P 19 51 20.7 +1.4
baz=268
TTA **Tatalina** 42.45 37 P P 19 51 20.6 +1.3
TTA pmax pmax
comp=Z,10.0nm,1.0s
N18K **Kilae Creek** 42.46 40 P P 19 51 19.8 +0.4
baz=270
M18K **Stony River** 42.50 39 P P 19 51 19.0 -0.6
baz=269
Q17K **Contact Creek** 42.52 44 P P 19 51 19.4 -0.5
baz=273
J19K **Poorman** 42.69 35 P P 19 51 21.7 +0.6
baz=267
LSA **Lhasa** 42.77 272 P P 19 51 22.4 -0.3
LSA **Lhasa** 42.77 272 *i* P P 19 51 24.1 +1.3
SNR=21
LSA **Lhasa** 42.77 272 P P 19 51 22.4 -0.3
LSA pmax pmax
comp=Z,17nm,0.9s
LSA **Lhasa** 42.77 272 P P 19 51 23.9 +1.2
LSA pP pP 19 51 36.8 +1.4
O18K **Koktuh Hills** 42.81 41 P P 19 51 22.6 +0.4
baz=272
P18K **Big Mountain,** 42.81 42 P P 19 51 22.3 0.0
baz=272
D20K **Etivluk River** 42.82 28 P P 19 51 22.5 +0.4
baz=261
CMMT **Chiang Mai** 42.85 253 P P 19 51 23.3 +0.3
comp=Z,73nm,1.0s
CHTO **Chiang Mai** 42.86 253 P P 19 51 23.4 +0.4
CHTO IAmb IAmb 19 51 24.6
comp=Z,33nm,1.1s
CHTO **Chiang Mai** 42.86 253 P P 19 51 23.7 +0.7
CHTO **Chiang Mai** 42.86 253 P P 19 51 23.4 +0.4
CHTO pmax pmax
comp=Z,33nm,1.1s
CHTO **Chiang Mai** 42.86 253 P P 19 51 23.5 +0.5
CHTO **Chiang Mai** 42.86 253 P P 19 51 23.3 +0.4
CHTO PcP PcP 19 53 13.6 +0.1
CHTO **Chiang Mai** 42.86 253 P P 19 51 23.3 +0.3
comp=Z,27nm,1.0s
B20K **Meade River** 42.86 26 P P 19 51 22.9 +0.5
baz=259
E20K **Nigu River** 42.90 29 P P 19 51 23.2 +0.3
baz=262
F20K **Avaraart Lake** 42.91 31 P P 19 51 22.9 +0.1
baz=263
L19K **White Mountain** 42.97 38 P P 19 51 23.6 +0.2
baz=269
CM31 **Chiang Mai Arr** 43.08 253 P P 19 51 24.7 -0.2
CM31 **Chiang Mai Arr** 43.08 253 P P 19 51 25.5 +0.6
SNR=7.9
CMAR **Chiang Mai Arr** 43.08 253 P P 19 51 24.6 -0.2
CMAR **Chiang Mai Arr** 43.08 253 P P 19 51 25.1 +0.3
comp=Z,6.4nm,0.8s,baz=49,slow=6.4,SNR=52
CMAR PcP PcP 19 53 15.0 +0.8
comp=Z,1.8nm,0.9s,baz=46,slow=3.9,SNR=2.8
CMAR LR LR 20 09 39.5
comp=Z,66nm,21.0s,baz=70,slow=36
comp=Z,6.4nm,0.8s
H20K **Anotleneega Mo** 43.10 33 P P 19 51 25.0 +0.6
baz=266,SNR=8.2
N19K **Bonanza Creek** 43.15 40 P P 19 51 25.2 +0.2
baz=271
MK31 **Makanchi Array** 43.18 300 P P 19 51 25.6 +0.3
MK31 **Makanchi Array** 43.18 300 P P 19 51 25.7 +0.3
MK31 pmax pmax
comp=Z,17nm,0.8s
MKAR **Makanchi Array** 43.18 300 P P 19 51 25.7 +0.3
comp=Z,9.9nm,0.6s,baz=86,slow=9.8,SNR=79
MKAR LR LR 20 10 15.2
comp=Z,522nm,19.9s,baz=76,slow=37
comp=Z,9.9nm,0.6s
M19K **Big River Lodg** 43.19 38 P P 19 51 25.6 +0.4
baz=270
I20K **Naaghedeneel** 43.23 34 P P 19 51 25.8 +0.4
baz=267
O19K **Port Alsworth** 43.25 41 P P 19 51 26.1 +0.5
baz=272
A21K **Barrow** 43.31 24 P P 19 51 26.9 +0.9
baz=258
J20K **Nowinta River** 43.34 35 P P 19 51 26.8 +0.5
baz=268,SNR=7.7
K20K **Telida** 43.35 36 P P 19 51 27.0 +0.5
baz=269
MAKZ **Makanchi** 43.39 300 P P 19 51 27.3 +0.3
MAKZ **Makanchi** 43.39 300 P P 19 51 27.3 +0.3
MAKZ pmax pmax
comp=Z,19nm,0.8s
MAKZ **Makanchi** 43.39 300 ⇑P P 19 51 27.4 +0.4
L20K **Farewell, AK** 43.43 37 P P 19 51 27.3 +0.2
baz=270
TOLI2 **Tolitoli** 43.54 212 P P 19 51 27.8 -0.7
TOLI2 **Tolitoli** 43.54 212 P P 19 51 28.9 +0.4
C21K **Knifeblade Rid** 43.54 28 P P 19 51 28.6 +0.7
baz=262,SNR=16
IMAR **Indian Mountai** 43.60 32 P P 19 51 29.7 +1.2
Q19K **Cape Douglas,** 43.65 42 P P 19 51 29.7 +0.8
Q19K IAmb IAmb 19 51 52.4
comp=Z,88nm,1.4s
Q19K **Cape Douglas,** 43.65 42 P P 19 51 29.8 +0.8
baz=274
SEM **Semipalatinsk** 43.72 305 *e*P P 19 51 29.4 -0.5
comp=Z,21nm,0.9s,baz=305
SEM **Semipalatinsk** 43.72 305 *e*P P 19 51 29.4 -0.5
SEM pmax pmax
comp=Z,21nm,0.9s
E21K **Killik River** 43.74 29 P P 19 51 31.0 +1.5
baz=264
G21K **Allakaket** 43.74 31 P P 19 51 30.7 +1.1
baz=266
M20K **Styx River** 43.78 38 P P 19 51 31.1 +1.0
baz=271
F21K **Alatna River** 43.80 30 P P 19 51 31.6 +1.5
baz=265
FAKI **Fak Fak** 43.85 195 P P 19 51 30.9 -0.1
FAKI IAmb IAmb 19 52 49.4
comp=Z,60nm,1.2s

H21K **Melozitna Rive** 43.97 33 P P 19 51 32.6 +1.1
baz=268
O20K **Slope Mountain** 44.10 41 P P 19 51 33.7 +1.1
baz=274
CHUM **Lake Minchumin** 44.14 35 P P 19 51 34.0 +1.2
baz=270,SNR=5.6
B22K **Teshekpuk Lake** 44.17 26 P P 19 51 34.6 +1.7
baz=262
PPLA **Purkeypile** 44.20 37 P P 19 51 34.6 +1.1
baz=271
CAST **Castle Rocks** 44.24 36 P P 19 51 35.1 +1.4
CAST **Castle Rocks** 44.24 36 P P 19 51 34.9 +1.2
baz=270,SNR=7.9
N20K **Mount Spurr** 44.25 39 P P 19 51 34.8 +1.0
baz=273
D22K **Ayikyak River** 44.26 28 P P 19 51 34.8 +1.1
baz=264
SHL **Shillong** 44.27 267 P P 19 51 34.7 +0.1
SHL IAmb IAmb 19 51 36.8
comp=Z,16nm,0.6s
SHL **Shillong** 44.27 267 P P 19 51 34.7 +0.1
SHL pmax pmax
comp=Z,16nm,0.6s
SHL **Shillong** 44.27 267 P P 19 51 34.1 -0.5
SNR=6.6
I21K **Tanana** 44.30 33 P P 19 51 35.3 +1.3
baz=269
KDAK **Kodiak Island** 44.31 44 P P 19 51 34.6 +0.4
baz=276
Q20K **Shuyak Island** 44.33 43 P P 19 51 35.6 +1.3
baz=275
E22K **Anaktuvuk Pass** 44.51 29 P P 19 51 36.6 +0.9
baz=266
SKT **Skwentna** 44.53 38 P P 19 51 37.1 +1.0
baz=272
G22K **Bettles** 44.56 31 P P 19 51 37.0 +0.9
baz=268
H22K **Ishtalitna Cre** 44.57 32 P P 19 51 37.0 +0.7
baz=269
SANI **Sanana** 44.59 204 P P 19 51 37.1 +0.2
SANI **Sanana** 44.59 204 P P 19 51 36.8 -0.1
comp=Z,34nm,0.9s
KURK **Kurchatov** 44.67 306 P P 19 51 37.4 +0.2
KURK **Kurchatov** 44.67 306 P P 19 51 38.0 +0.8
KURK 19 53 19.2
KURK **Kurchatov** 44.67 306 P P 19 51 37.4 +0.2
KURK **Kurchatov** 44.67 306 ⇑P P 19 51 37.4 +0.2
BPAW **Bear Paw Mtn.** 44.73 35 P P 19 51 38.3 +0.8
baz=271
KURBB **Kurchatov Arra** 44.75 306 P P 19 51 38.0 +0.2
comp=Z,74nm,0.7s,baz=81,slow=8.6,SNR=225
KURBB PcP PcP 19 53 19.2 -0.1
comp=Z,3.7nm,0.8s,baz=83,slow=3.9,SNR=1.9
KURBB LR LR 20 11 42.0
comp=Z,199nm,18.4s,baz=146,slow=38
comp=Z,74nm,0.7s
KTH **Kantishna Hill** 44.76 36 P P 19 51 39.1 +1.2
KTH IAmb IAmb 19 51 53.7
comp=Z,23nm,0.9s
CAPN **Captain Cook N** 44.78 40 P P 19 51 38.8 +0.9
baz=274
MLY **Manley** 44.83 34 P P 19 51 39.7 +1.3
MLY **Manley** 44.83 34 P P 19 51 39.5 +1.1
baz=270,SNR=9.0
SUA **Susitna One** 44.94 39 P P 19 51 39.2 -0.1
SUA IAmb IAmb 19 51 55.7
comp=Z,18nm,0.8s
SUA **Susitna One** 44.94 39 P P 19 51 40.5 +1.1
baz=274,SNR=5.9
D23K **Nanushuk River** 44.98 28 P P 19 51 41.2 +1.7
baz=266
TRF **Thorofare Moun** 45.05 36 P P 19 51 41.3 +1.0
baz=272
BRSE **Bradley Lake S** 45.07 41 P P 19 51 41.1 +0.8
baz=275
COLD **Coldfoot** 45.08 31 P P 19 51 41.8 +1.6
baz=268,SNR=8.2
CUT **Chulitna** 45.11 37 P P 19 51 41.6 +1.1
baz=273
G23K **Bananza Creek** 45.14 31 P P 19 51 42.0 +1.3
baz=269,SNR=12
E23K **Chandalar** 45.33 29 P P 19 51 43.4 +1.1
baz=268,SNR=28
I23K **Minto, Yukon-K** 45.41 33 P P 19 51 44.4 +1.6
baz=271
RC01 **Rabbit Creek A** 45.45 39 P P 19 51 44.4 +1.1
baz=275
O22K **Cooper Landing** 45.51 40 P P 19 51 44.5 +0.8
baz=276
NEA2 **Nenana** 45.55 34 P P 19 51 44.6 +0.6
NEA2 IAmb IAmb 19 52 06.7
comp=Z,18nm,0.7s
NEA2 **Nenana** 45.55 34 P P 19 51 44.9 +0.9
baz=272,SNR=9.2
SRDT **SRDT** 45.64 248 P P 19 51 45.6 +0.3
comp=Z,35nm,1.3s
MCK **McKinley** 45.64 35 P P 19 51 45.6 +0.8
baz=273
D24K **Happy Valley** 45.66 28 P P 19 51 45.9 +1.1
baz=268
SEW **Seward** 45.68 41 P P 19 51 46.0 +1.0
baz=276
PMR **Palmer** 45.70 38 P P 19 51 46.1 +0.9
PMR **Palmer** 45.70 38 P P 19 51 46.5 +1.3
baz=275
PMR **Palmer** 45.70 38 P P 19 51 46.1 +0.9
PMR pmax pmax
comp=Z,24nm,1.3s
C24K **Franklin Bluff** 45.73 27 P P 19 51 45.7 +0.4
baz=267
GHO **Glory Hole Cre** 45.78 38 P P 19 51 46.5 +0.6
GHO IAmb IAmb 19 52 02.3
comp=Z,24nm,0.7s
WAT1 **Susitna Watana** 45.87 37 P P 19 51 47.2 +0.5
baz=274
F24K **Squaw Lake** 45.98 30 P P 19 51 47.6 +0.2
baz=270
H24K **Noodor Dome** 46.01 32 P P 19 51 48.1 +0.4
baz=272
KNK **Knik Glacier** 46.03 39 P P 19 51 47.9 0.0
KNK **Knik Glacier** 46.03 39 P P 19 51 48.3 +0.4
baz=276
BRDH **Bariadhala** 46.04 264 LR LR 20 13 35.9
comp=Z,152nm,19.0s,baz=314,slow=39
SML **Sawmill** 46.06 38 P P 19 51 48.5 +0.4
SML IAmb IAmb 19 52 04.0
comp=Z,23nm,0.8s
SML **Sawmill** 46.06 38 P P 19 51 49.2 +1.1
baz=275
COLA **College** 46.06 34 P P 19 51 48.6 +0.6
baz=273
SHLS **Shalkode** 46.13 295 *e*P P 19 51 46.9 -2.1
comp=Z,24nm,1.4s,baz=295
SHLS **Shalkode** 46.13 295 *e*P P 19 51 46.9 -2.1
SHLS pmax pmax
comp=Z,24nm,1.4s
G24K **Hadweenzic Riv** 46.15 31 P P 19 51 49.4 +0.7
baz=271
POKR **Poker Plat Res** 46.23 33 P P 19 51 50.6 +1.3
POKR IAmb IAmb 19 52 05.2
comp=Z,25nm,0.8s
POKR **Poker Plat Res** 46.23 33 P P 19 51 49.9 +0.6
baz=273,SNR=5.9
WAT6 **Susitna Watana** 46.27 37 P P 19 51 49.9 0.0
baz=275
TDK **Taldyqorghan** 46.28 298 *e*P P 19 51 50.8 +0.7
comp=Z,17nm,0.9s,baz=298
TDK **Taldyqorghan** 46.28 298 *e*P P 19 51 50.8 +0.7
TDK pmax pmax
comp=Z,17nm,0.9s
M23K **Glacier View** 46.35 38 P P 19 51 50.6 +0.3
baz=276
DHY **Denali Highway** 46.39 36 P P 19 51 51.2 +0.4
baz=275
SBUM **Sibu** 46.42 224 P P 19 51 50.7 -0.7
UZB **Uzynbulak** 46.44 295 *e*P P 19 51 51.7 +0.2
comp=Z,25nm,1.4s,baz=296
UZB **Uzynbulak** 46.44 295 *e*P P 19 51 51.7 +0.2
UZB pmax pmax
comp=Z,25nm,1.4s
HDA **Harding Lake** 46.48 34 P P 19 51 51.7 +0.4
HDA IAmb IAmb 19 52 06.2
comp=Z,9.9nm,0.6s
HDA **Harding Lake** 46.48 34 P P 19 51 51.4 +0.1
baz=274,SNR=5.9
ILAR **Eielson Array** 46.48 34 P P 19 51 52.1 +0.9
comp=Z,6.1nm,0.7s,baz=264,slow=6.0,SNR=106

comp=Z,6.1nm,0.7s
SCM **Sheep Creek Mo** 46.53 38 P P 19 51 52.8 +1.0
SCM IAmb IAmb 19 52 07.0
comp=Z,21nm,0.9s
SCM **Sheep Creek Mo** 46.53 38 P P 19 51 52.3 +0.5
baz=276
SCM **Sheep Creek Mo** 46.53 38 P P 19 51 52.8 +1.0
SCM pmax pmax
comp=Z,21nm,0.9s
D25K **Kavik River** 46.54 28 P P 19 51 52.2 +0.5
baz=270
KPKS **Kokpek** 46.57 296 *e*P P 19 51 53.0 +0.5
baz=296
KPKS **Kokpek** 46.57 296 *e*P P 19 51 52.9 +0.5
G25K **Bearman Lake** 46.69 31 P P 19 51 54.0 +1.1
baz=273
P23K **Montague Islan** 46.72 41 P P 19 51 54.2 +1.0
baz=278
F25K **Christian River** 46.84 30 P P 19 51 55.3 +1.1
baz=272
ZHN **Zhinishke** 46.84 296 *e*P P 19 51 54.6 0.0
comp=Z,28nm,1.4s,baz=296
ZHN **Zhinishke** 46.84 296 *e*P P 19 51 54.5 0.0
ZHN pmax pmax
comp=Z,28nm,1.4s
E25K **Arctic Village** 46.85 29 P P 19 51 55.0 +0.8
baz=272,SNR=10.0
SATY **Saty** 46.89 296 *e*P P 19 51 55.6 +0.5
comp=Z,21nm,1.3s,baz=296
SATY **Saty** 46.89 296 *e*P P 19 51 55.5 +0.5
SATY pmax pmax
comp=Z,21nm,1.3s
WUS **Wushi** 46.96 293 P P 19 51 56.6 +1.0
WUS pP pP 19 52 10.5 +2.1
PRP **Porcupine Dome** 47.00 33 P P 19 51 56.3 +0.7
baz=274,SNR=14
K24K **Donnelly Dome** 47.04 35 P P 19 51 56.9 +1.2
baz=276
M24K **Tolsona, Glenn** 47.04 38 P P 19 51 56.6 +0.8
baz=277
FYU **Fort Yukon** 47.05 31 P P 19 51 57.4 +1.7
PRZ **Przheval'sk** 47.09 295 P P 19 51 56.7 +0.1
PRZ **Przheval'sk** 47.09 295 P P 19 51 56.7 +0.1
PRZ pmax pmax
comp=Z,280nm,1.7s
J25K **Salcha River,** 47.14 34 P P 19 51 57.2 +0.6
baz=275
KLU **Klutina** 47.24 38 P P 19 51 58.6 +1.2
KLU IAmb IAmb 19 52 14.5
comp=Z,19nm,1.0s
KLU **Klutina** 47.24 38 P P 19 51 58.0 +0.7
baz=278
PAX **Paxson** 47.26 36 P P 19 51 58.1 +0.5
baz=277
F26K **Sheenjek River** 47.41 30 P P 19 51 59.4 +0.9
baz=274,SNR=44
EYAK **Cordova Ski Ar** 47.45 40 P P 19 51 59.8 +0.9
baz=279
RIDG **Independent Ri** 47.46 35 P P 19 51 59.3 +0.2
baz=276
HARP **HAARP** 47.48 37 P P 19 52 00.0 +0.8
baz=278
G26K **Porcupine Rive** 47.59 31 P P 19 52 01.1 +1.2
baz=274
CHKK **Chushkaly** 47.61 297 *e*P P 19 52 00.7 +0.2
baz=297
CHKK **Chushkaly** 47.61 297 *e*P P 19 52 00.6 +0.2
TARG **Taragay, Kyrgy** 47.77 294 P P 19 52 02.8 +0.6
TARG IAmb IAmb 19 52 09.0
comp=Z,40nm,1.0s
TARG **Taragay, Kyrgy** 47.77 294 P P 19 52 02.8 +0.6
TARG pmax pmax
comp=Z,40nm,1.0s
MDOK **Medeo** 47.80 296 *e*P P 19 52 02.7 +0.6
baz=296
MDOK **Medeo** 47.80 296 *e*P P 19 52 02.7 +0.6
SCRK **Sand Creek** 47.81 35 P P 19 52 02.0 +0.1
baz=277,SNR=14
N25K **Chitina, Valde** 47.85 38 P P 19 52 03.0 +0.9
baz=279
J26L **Joseph Creek** 47.93 34 P P 19 52 03.7 +1.0
baz=277
BMRM **Bremner River** 47.94 39 P P 19 52 03.7 +0.9
baz=279
I26K **Coal Creek Min** 48.01 33 P P 19 52 04.1 +0.9
baz=276
L26K **Log Cabin Wild** 48.22 36 P P 19 52 06.0 +1.2
baz=278,SNR=9.0
KSM **Kuching** 48.26 225 P P 19 52 05.7 0.0
KSM IAmb IAmb 19 52 07.5
comp=Z,21nm,1.3s
D27M **Malcolm River** 48.46 28 P P 19 52 07.8 +1.1
baz=275
M26K **Nabesna, AK** 48.47 37 P P 19 52 07.9 +1.0
baz=279
BERG **Berg Lake** 48.48 40 P P 19 52 08.5 +1.6
BRZS **Berezniki** 48.54 306 ⇑*i*P P 19 52 07.6 0.0
comp=Z,9.2nm,0.6s,baz=306
BRZS **Berezniki** 48.54 306 *c i*P P 19 52 07.5 0.0
BRZS pmax pmax
comp=Z,9.0nm,0.6s
H27K **Steamboat Moun** 48.56 32 P P 19 52 08.6 +1.1
baz=277
I27K **Kandik River** 48.61 32 P P 19 52 09.8 +1.9
baz=278
MCARA **McCarthy VSAT** 48.63 38 P P 19 52 09.7 +1.6
MCARA IAmb IAmb 19 52 24.0
comp=Z,24nm,1.0s
MCARA **McCarthy VSAT** 48.63 38 P P 19 52 09.1 +1.1
baz=280
K27K **Chicken** 48.63 35 P P 19 52 09.2 +1.2
baz=279
TKM2 **Tokmak 2** 48.88 296 P P 19 52 11.7 +1.3
SNR=7.8
L27K **Beaver Creek,** 48.90 36 P P 19 52 11.0 +0.9
baz=280
BCAR **Beaver Creek A** 48.91 36 P P 19 52 12.0 +1.7
EGAK **Eagle** 48.92 34 P P 19 52 10.6 +0.4
EGAK IAmb IAmb 19 52 21.1
comp=Z,14nm,0.9s
EGAK **Eagle** 48.92 34 P P 19 52 11.3 +1.1
baz=279
SAUI **Saumlaki** 48.97 195 P P 19 52 11.6 +0.5
M27K **Edge Creek, AK** 48.99 37 P P 19 52 12.1 +1.1
baz=280
F28M **Old Crow** 49.04 30 P P 19 52 12.5 +1.4
baz=277,SNR=13
E28M **Babbage River** 49.04 28 P P 19 52 12.3 +1.2
baz=277
BVAR **Borovoye Array** 49.09 311 P P 19 52 12.2 +0.5
comp=Z,25nm,0.6s,baz=72,slow=8.7,SNR=104
comp=Z,25nm,0.6s
NRN **Naryn** 49.14 294 P P 19 52 12.7 +0.1
NRN IAmb IAmb 19 52 14.4
comp=Z,28nm,1.3s
NRN **Naryn** 49.14 294 P P 19 52 12.7 +0.1
NRN pmax pmax
comp=Z,28nm,1.3s
BRVK **Borovoye** 49.14 311 P P 19 52 12.4 +0.3
BRVK IAmb IAmb 19 52 13.7
comp=Z,32nm,0.9s
BRVK **Borovoye** 49.14 311 *c i*P P 19 52 12.6 +0.6
BRVK pmax pmax
comp=Z,35nm,0.9s
BRVK **Borovoye** 49.14 311 P P 19 52 12.7 +0.6
BRVK **Borovoye** 49.14 311 P P 19 52 12.7 +0.6
BTLS **Baital** 49.20 299 *e*P P 19 52 12.5 -0.1
baz=300
BTLS **Baital** 49.20 299 *e*P P 19 52 12.5 -0.1
D28M **Stokes Point** 49.24 27 P P 19 52 14.7 +2.1
baz=277
I28M **Miner Creek** 49.32 33 P P 19 52 15.3 +1.9
baz=279,SNR=11
SRIT **Nakonsritamara** 49.33 242 P P 19 52 14.8 +0.9
SGDS **Sogindy** 49.35 297 *e*P P 19 52 14.1 +0.2
baz=297
SGDS **Sogindy** 49.35 297 *e*P P 19 52 14.1 +0.2
KBK **Karagaybulak** 49.42 296 P P 19 52 15.4 +0.8
SNR=17
CHMS **Chumysh** 49.43 297 P P 19 52 15.0 +0.5
SNR=5.9
BVCY **Beaver Creek** 49.45 37 P P 19 52 16.0 +1.7
baz=281
PMG **Port Moresby** 49.50 174 LR LR 20 10 25.6
comp=Z,38nm,21.4s,baz=286,slow=33
USP **Ospenovka** 49.51 297 P P 19 52 15.6 +0.6
SNR=7.9

CTG	Chitna Glacier	49.51	39	P		P		19 52 16.3	+1.3
	baz=282								
FRU1	Bishkek	49.58	297	P		P		19 52 15.9	+0.2
FRU1				IAmb		IAmb		19 52 22.6	
	comp=Z,32nm,1.0s								
FRU1	Bishkek	49.58	297	P		P		19 52 15.9	+0.2
FRU1				pmax		pmax			
	comp=Z,33nm,1.0s								
E29M	Blow River	49.67	29	P		P		19 52 18.1	+2.3
	baz=278								
SKLT	Songkhla	49.69	240	P		P		19 52 17.6	+0.9
	comp=Z,76nm,0.9s								
AAK	Ala-Archa	49.74	296	P		P		19 52 17.4	+0.4
	SNR=5.2								
AAK	Ala-Archa	49.74	296	P		P		19 52 17.3	+0.3
AAK				IAmb		IAmb		19 52 17.9	
	comp=Z,14nm,1.0s								
AAK	Ala-Archa	49.74	296	P		P		19 52 17.1	+0.1
AAK	Ala-Archa	49.74	296	P		P		19 52 17.3	+0.3
AAK				pmax		pmax			
	comp=Z,14nm,1.0s								
AAK	Ala-Archa	49.74	296	LR		LR		20 14 31.6	
	comp=Z,345nm,20.2s,baz=77,slow=37								
AAK	Ala-Archa	49.74	296	P		P		19 52 17.6	+0.6
AAK	Ala-Archa	49.74	296	P		P		19 52 17.4	+0.4
AAK				PcP		PcP		19 53 37.9	+0.5
YUK3	Moose Creek	49.76	37	P		P		19 52 18.4	+1.5
	baz=282								
DAWY	Dawson	49.79	34	P		P		19 52 18.5	+1.6
	baz=281								
H29M	Whitestone	49.83	31	P		P		19 52 19.0	+1.9
	baz=280								
G29M	Pine Creek	49.85	30	P		P		19 52 19.5	+2.2
	baz=280								
KSH	Kashi	49.89	292	P		P		19 52 22.5	+4.4
KSH				sP		sP		19 52 39.8	+3.4
KSH				PP		PP		19 54 21.3	+8.3
KSH				pmax		pmax			
	comp=Z,12nm,1.1s								
KSH				LR		LR			
	comp=N,410nm,18.3s								
KSH				LR		LR			
	comp=E,330nm,18.9s								
KSH				LR		LR			
	comp=Z,720nm,17.9s								
I29M	Ogilvie Camp,	50.01	33	P		P		19 52 20.2	+1.6
	baz=281,SNR=14								
YUK8	Steele Glacier	50.19	38	P		P		19 52 21.3	+1.1
	baz=283								
EKS2	Erkin-Say	50.22	297	P		P		19 52 21.2	+0.6
	SNR=6.1								
PINM	Pinnacle	50.22	40	P		P		19 52 20.8	+0.5
	baz=283								
EPYK	Eagle Plains	50.46	31	P		P		19 52 23.7	+1.8
EPYK	Eagle Plains	50.46	31	P		P		19 52 23.0	+1.0
	baz=281,SNR=12								
AML	Almayashu	50.48	296	P		P		19 52 24.0	+1.1
	SNR=7.8								
M29M	Somme Creek	50.53	36	P		P		19 52 23.7	+1.1
M29M	Somme Creek	50.53	36	P		P		19 52 24.2	+1.6
	baz=283								
G30M	tAoh Zraii Nji	50.54	30	P		P		19 52 23.9	+1.4
	baz=281,SNR=7.4								
L29M	L29M	50.54	35	P		P		19 52 24.3	+1.7
	baz=283								
F30M	Barrier River	50.59	29	P		P		19 52 25.2	+2.3
	baz=281								
K29M	Barlow Dome	50.65	34	P		P		19 52 25.6	+2.1
	baz=282,SNR=13								
YUK4	Talbot Arm	50.70	38	P		P		19 52 26.0	+2.0
	baz=284								
I30M	Mount Dempster	50.83	32	P		P		19 52 26.7	+1.8
	baz=282								
YUK6	Outpost Mounta	50.93	38	P		P		19 52 28.0	+2.2
	baz=284								
O29M	Mount Kennedy	50.99	39	P		P		19 52 28.0	+1.9
	baz=284								
J30M	Hart River	50.99	33	P		P		19 52 27.9	+1.8
	baz=283								
KULM	Kulim	51.07	238	P		P		19 52 27.3	+0.3
KULM				IAmb		IAmb		19 52 28.9	
	comp=Z,28nm,0.9s								
KULM	Kulim	51.07	238	P		P		19 52 27.8	+0.7
	comp=Z,36nm,1.0s								
M30M	Minto, Yukon	51.26	36	P		P		19 52 30.3	+2.3
	baz=284,SNR=5.3								
INK	Inuvik	51.28	28	P		P		19 52 29.1	+1.1
INK				IAmb		IAmb		19 52 37.8	
	comp=Z,19nm,0.7s								
INK	Inuvik	51.28	28	P		P		19 52 29.5	+1.5
	baz=282,SNR=15								
INK	Inuvik	51.28	28	P		P		19 52 29.1	+1.1
INK				pmax		pmax			
	comp=Z,19nm,0.7s								
G31M	Satah River	51.30	30	P		P		19 52 29.6	+1.5
	baz=283,SNR=12								
HYT	Haines Junctio	51.37	38	P		P		19 52 31.1	+2.1
HYT	Haines Junctio	51.37	38	P		P		19 52 31.3	+2.3
	baz=285,SNR=12								
F31M	Tsiigehtchic	51.39	29	P		P		19 52 30.5	+1.7
	baz=283,SNR=6.4								
N30M	Aishikik Lake	51.40	37	P		P		19 52 31.2	+2.1
	baz=285								
MAYO	Mayo, Yukon	51.41	34	P		P		19 52 31.2	+2.1
	baz=284								
P29M	Windy Craggy	51.57	40	P		P		19 52 32.2	+1.9
	baz=286								
P30M	Million Dollar	51.81	39	P		P		19 52 34.4	+2.2
	baz=286								
HNR	Honiara	51.94	158	LR		LR		20 15 16.8	
	comp=Z,559nm,19.4s,baz=354,slow=37								
N31M	Braeburn, Yuko	52.00	37	P		P		19 52 35.6	+2.1
	baz=286								
O30N	Mendenhall	52.05	38	P		P		19 52 35.7	+1.7
	baz=286								
KK31	Karatay Array	52.27	298	P		P		19 52 35.8	-0.1
KK31				IAmb		IAmb		19 52 37.0	
	comp=Z,26nm,0.9s								
KK31	Karatay Array	52.27	298	P		P		19 52 35.8	-0.1
KK31				pmax		pmax			
	comp=Z,26nm,1.0s								
KKAR	Karatay Array	52.27	298	P		P		19 52 35.9	0.0
KKAR	Karatay Array	52.27	298	P		P		19 52 35.9	0.0
M31M	Drury Creek, Y	52.44	36	P		P		19 52 38.8	+2.1
	baz=286,SNR=5.3								
WHY	Whitehorse	52.65	38	P		P		19 52 39.1	+0.6
WHY				IAmb		IAmb		19 52 54.7	
	comp=Z,68nm,1.9s								
WHY	Whitehorse	52.65	38	P		P		19 52 40.1	+1.6
	baz=287								
SKAG	Skagway	52.79	39	P		P		19 52 41.5	+2.1
	baz=288								
S31K	Pelican	52.80	41	P		P		19 52 40.2	+0.8
	baz=288								
FARO	Faro, Yukon	52.90	36	P		P		19 52 42.0	+1.8
	baz=287,SNR=5.3								
A36M	Sachs Harbour	53.10	23	P		P		19 52 43.0	+1.6
A36M				IAmb		IAmb		19 52 58.1	
	comp=Z,26nm,1.0s								
A36M	Sachs Harbour	53.10	23	P		P		19 52 43.2	+1.8
	baz=287,SNR=15								
BTK	Batken	53.30	295	P		P		19 52 43.1	-0.3
BTK				IAmb		IAmb		19 52 53.0	
	comp=Z,14nm,0.8s								
BTK	Batken	53.30	295	P		P		19 52 43.2	-0.3
BTK				pmax		pmax			
	comp=Z,14nm,0.9s								
N32M	Quiet Lake	53.34	37	P		P		19 52 45.3	+1.8
	baz=288								
SVE	Sverdlovsk	53.35	317	*de*P		P		19 52 44.6	+1.1
SVE				pmax		pmax			
	comp=Z,109nm,0.9s								
P32M	Atlin	53.54	39	P		P		19 52 46.4	+1.5
	baz=289								
SIT	Sitka	53.56	42	P		P		19 52 44.5	-0.5
	baz=289								
R32K	Eaglecrest	53.57	41	P		P		19 52 45.9	+0.8
	baz=289								
P33M	Teslin, Yukon	53.76	38	P		P		19 52 48.0	+1.4
	baz=289								
S32K	Killisnoo	53.80	42	P		P		19 52 47.7	+0.9
	baz=290								
COEN	Coen	53.83	179	P		P		19 52 49.2	+1.8
PSI	Prapat	54.06	238	P		P		19 52 49.4	0.0
PSI				pmax		pmax			
	comp=Z,12nm,0.8s								
PSI	Prapat	54.06	238	P		P		19 52 49.7	+0.3
	comp=Z,19nm,1.0s								
RPSI	Rantau Prapat	54.14	238	P		P		19 52 49.4	-0.4
RPSI				IAmb		IAmb		19 52 50.5	
	comp=Z,12nm,0.8s								
C36M	Paulatuk	54.30	26	P		P		19 52 50.8	+0.6
C36M				IAmb		IAmb		19 53 06.5	
	comp=Z,18nm,0.8s								
C36M	Paulatuk	54.30	26	P		P		19 52 51.7	+1.5
	baz=290								
NIL	Nilore	54.41	287	P		P		19 52 52.3	+0.6
NIL	Nilore	54.41	287	P		P		19 52 52.3	+0.6
NIL				pmax		pmax			
	comp=Z,60nm,0.8s								
NIL	Nilore	54.41	287	P		P		19 52 52.7	+1.1
NIL	Nilore	54.41	287	P		P		19 52 53.1	+1.4
NIL				pP		pP		19 53 06.6	+1.9
Q32M	Nakina River	54.45	39	P		P		19 52 53.1	+1.4
	baz=290								
ARU	Arti	54.56	317	P		P		19 52 53.0	+0.6
ARU	Arti	54.56	317	*c* *i*P		P		19 52 53.0	+0.6
ARU				*PP		sP		19 53 09.5	-1.2
ARU								19 53 53.4	
ARU								19 54 54.3	
ARU				S		S		20 00 30.5	+2.3
ARU				SS		SS		20 04 09.6	-1.0
ARU				pmax		pmax			
	comp=Z,75nm,0.8s								
ARU				MLR		MLR			
	comp=Z,719nm,16.0s								
ARU	Arti	54.56	317	LR		LR		20 18 41.6	
	comp=Z,619nm,18.6s,baz=83,slow=39								
ARU	Arti	54.56	317	⇑P		P		19 52 52.9	+0.6
BKNI	Bangkinang	54.61	234	P		P		19 52 54.1	+0.8
R33M	Jennings River	54.92	39	P		P		19 52 56.5	+1.3
R33M	Jennings River	54.92	39	P		P		19 52 56.8	+1.7
	baz=291								
U33K	Whale Pass	55.03	43	P		P		19 52 57.5	+1.8
	baz=292								
SIMJ	Simiganj	55.17	294	P		P		19 52 57.1	-0.1
SIMJ	Simiganj	55.17	294	⇑P		P		19 52 57.3	+0.1
SIMJ				pP		pP		19 53 11.2	+1.0
WRAK	Wrangell Islan	55.32	42	P		P		19 52 58.7	+1.0
	baz=292								
S34M	Telegraph Cree	55.38	40	P		P		19 52 58.3	0.0
	baz=292								
DLBC	Dease Lake	55.73	39	P		P		19 53 01.0	+0.1
	baz=292								
DLBC	Dease Lake	55.73	39	LR		LR		20 19 22.6	
	comp=Z,48nm,18.5s,baz=321,slow=39								
GSI	Gunungsitoli	56.07	238	P		P		19 53 03.4	-0.4
GSI	Gunungsitoli	56.07	238	P		P		19 53 04.2	+0.5
GSI	Gunungsitoli	56.07	238	P		P		19 53 03.6	-0.1
	comp=Z,60nm,1.2s								
T35M	Bob Quinn	56.17	41	P		P		19 53 04.6	+0.6
	baz=293								
ABKAR	Akbulak array	56.55	309	P		P		19 53 06.7	-0.1
ABKAR	Akbulak array	56.55	309	P		P		19 53 06.9	+0.1
ABKAR				IAmb		IAmb		19 53 08.1	
	comp=Z,74nm,1.3s								
LEM	Lembang	56.67	223	LR		LR		20 17 43.0	
	comp=Z,38nm,21.2s,baz=233,slow=36								
U35K	Hyder	56.71	42	P		P		19 53 08.4	+0.7
	baz=294								
WRGLY	Wrigley	56.81	33	P		P		19 53 09.1	+0.7
	baz=294								
ALE	Alert	56.96	4	P		P		19 53 10.1	+0.8
ALE				pP		pP		19 53 24.0	+1.9
KBL	Kabul	57.05	290	P		P		19 53 10.1	-0.7
KBL	Kabul	57.05	290	P		P		19 53 10.1	-0.7
KBL				pmax		pmax			
	comp=Z,85nm,0.9s								
KBL	Kabul	57.05	290	P		P		19 53 10.5	-0.3
	SNR=40								
SISI	Saibi	57.11	235	P		P		19 53 10.6	-0.5
	comp=Z,33nm,1.1s								
AKTO	Aktyubinsk	57.19	311	LR		LR		20 19 05.0	
	comp=Z,337nm,19.1s,baz=86,slow=37								
SPITS	Spitsbergen Ar	57.63	349	P		P		19 53 14.7	+0.7
SPITS				pmax		pmax			
	comp=Z,128nm,1.7s								
SPITS	Spitsbergen Ar	57.63	349	P		P		19 53 14.3	+0.3
	comp=Z,3.2nm,0.6s,baz=75,slow=6.4,SNR=9.1								
SPITS				LR		LR		20 21 37.7	
	comp=Z,84nm,18.5s,baz=356,slow=40								
	comp=Z,3.2nm,0.6s								
KOTAN	Kotaneelee Air	57.85	36	P		P		19 53 16.7	+0.9
	baz=296								
FLDN	Fort Liard	58.06	36	P		P		19 53 18.3	+1.0
	baz=296								
KIRV	Kirov	58.25	322	*c* *i*P		P		19 53 19.1	+0.6
KIRV	Kirov	58.25	322	LR		LR		20 21 55.4	
	comp=Z,307nm,18.3s,baz=46,slow=40								
BBB	Bella Bella	59.33	46	LR		LR		20 15 22.0	
	comp=Z,56nm,21.8s,baz=296,slow=32								
RES	Resolute Bay	59.40	15	P		P		19 53 26.5	+0.2
RES				IAmb		IAmb		19 53 41.4	
	comp=Z,16nm,0.8s								
RES	Resolute Bay	59.40	15	P		P		19 53 26.5	+0.2
RES				pmax		pmax			
	comp=Z,16nm,0.8s								
RES	Resolute Bay	59.40	15	LR		LR		20 22 50.7	
	comp=Z,111nm,18.4s,baz=359,slow=40								
LVZ	Lovozero	59.60	335	P		P		19 53 27.6	-0.2
LVZ	Lovozero	59.60	335	P		P		19 53 27.6	-0.2
LVZ				pmax		pmax			
	comp=Z,278nm,2.0s								
FITZ	Fitzroy Crossi	60.01	198	P		P		19 53 30.9	-0.2
FITZ	Fitzroy Crossi	60.01	198	P		P		19 53 31.5	+0.4
CTA	Charters Tower	60.03	176	P		P		19 53 31.8	+0.6
CTA	Charters Tower	60.03	176	LR		LR		20 16 09.0	
	comp=Z,32nm,22.0s,baz=356,slow=33								
APA	Apatity	60.18	335	⇓*i*P		P		19 53 30.9	-0.8
APA				pmax		pmax			
	comp=Z,15nm,0.8s								
APA				MLR		MLR			
	comp=Z,600nm,15.0s								
WR0	Warramunga Arr	60.24	189	P		P		19 53 32.0	-0.7
WR0				IAmb		IAmb		19 53 47.8	
	comp=Z,22nm,1.2s								
WRA	Warramunga Arr	60.24	189	P		P		19 53 31.2	-1.6
WRA	Warramunga Arr	60.24	189	P		P		19 53 31.9	-0.8
	comp=Z,5.6nm,0.6s,baz=5.6,slow=6.9,SNR=53								
	comp=Z,5.6nm,0.6s								
YKA	Yellowknife Ar	60.75	31	P		P		19 53 36.4	+0.7
	comp=Z,3.2nm,0.9s,baz=301,slow=6.8,SNR=28								
	comp=Z,3.2nm,0.9s								
ARCES	ARCESS Array B	61.36	339	P		P		19 53 39.5	-0.3
ARCES	ARCESS Array B	61.36	339	P		P		19 53 39.6	-0.2
	comp=Z,9.8nm,1.0s,baz=44,slow=9.0,SNR=6.3								
ARCES				LR		LR		20 24 52.2	
	comp=Z,140nm,19.4s,baz=50,slow=40								
	comp=Z,9.8nm,1.0s								
KLMR	Klimovskoe	61.55	327	*e*P		P		19 53 38.5	-2.6
KLMR				*e**PP		pP		19 53 56.2	+2.0
KLMR				*e*				19 55 54.3	
KLMR				pmax		pmax			
	comp=Z,66nm,1.3s								
HRA	Herat	61.99	293	P		P		19 53 44.5	-0.4
HRA				IAmb		IAmb		19 53 46.2	
	comp=Z,17nm,0.8s								
BELG	Belogornoye	62.06	316	*c* *i*P		P		19 53 45.1	+0.4
BELG				pmax		pmax			
	comp=Z,14nm,0.9s								
BELG	Belogornoye	62.06	316	LR		LR		20 23 12.6	
	comp=Z,409nm,18.4s,baz=31,slow=38								
NEEM	North Greenlan	62.38	3	*i* P		P		19 53 45.5	-1.4
NEEM				IAmb		IAmb		19 54 02.6	
	comp=Z,18nm,0.7s								
GEYT	Alibeck	63.02	298	P		P		19 53 51.5	0.0
GEYT	Alibeck	63.02	298	P		P		19 53 51.9	+0.4
	comp=Z,35nm,0.8s,baz=57,slow=5.5,SNR=80								
GEYT				LR		LR		20 23 08.0	
	comp=Z,128nm,18.8s,baz=52,slow=38								
	comp=Z,35nm,0.8s								
GYA0B	ALIBECK ARRAY	63.02	298	P		P		19 53 51.2	-0.2
AS01	Alice Springs	63.96	189	P		P		19 53 58.0	+0.4
	comp=Z,11nm,1.3s								
AS31	Alice Springs	63.97	189	P		P		19 53 56.7	-1.0
ASAR	Alice Springs	63.97	189	P		P		19 53 56.9	-0.8
ASAR	Alice Springs	63.97	189	P		P		19 53 57.5	-0.2
	comp=Z,4.4nm,0.8s,baz=7.3,slow=5.7,SNR=39								
	comp=Z,4.4nm,0.8s								
PSA00	Pilbara Seismi	64.90	203	P		P		19 54 03.1	-0.6
PSA00	Pilbara Seismi	64.90	203	P		P		19 54 02.8	-0.9
PSA00				IAmb		IAmb		19 56 16.3	
	comp=Z,53nm,1.8s								
MOS	Moscow	65.22	323	*e*P		P		19 54 02.7	-2.8
MOS				*e*				19 54 17.2	
MOS				pmax		pmax			
	comp=Z,70nm,1.3s								
VRH	Novokhopyorsk	65.80	317	⇑*i*P		P		19 54 09.3	0.0
VRH				pmax		pmax			
	comp=Z,55nm,0.8s								
DZM	Mont Dzumac	65.83	156	LR		LR		20 19 15.9	
	comp=Z,143nm,21.9s,baz=3.0,slow=33								
OBN	Obninsk	66.07	323	P		P		19 54 10.8	-0.2
OBN	Obninsk	66.07	323	*c* *i*P		P		19 54 11.3	+0.3
OBN				*e*				19 54 36.1	
OBN				*e*				19 56 37.8	
OBN				*e*S		S		20 03 09.9	+14
OBN				pmax		pmax			
	comp=Z,71nm,1.5s								
OBN				MLR		MLR			
	comp=Z,400nm,17.0s								
WRKA	Warakurna	66.16	194	P		P		19 54 12.2	+0.3
LPSR	Galich'ya Gora	66.42	320	*e*P		P		19 54 12.9	-0.3
LPSR				pmax		pmax			
	comp=Z,80nm,0.8s								
FIA1	FINESS Array S	66.42	332	P		P		19 54 13.0	-0.2
FINES	FINESS Array B	66.43	332	P		P		19 54 13.3	+0.2
	comp=Z,15nm,0.8s,baz=46,slow=6.9,SNR=47								
FINES				LR		LR		20 24 25.2	
	comp=Z,350nm,21.2s,baz=56,slow=37								
	comp=Z,15nm,0.8s								
EDM	Edmonton	66.45	39	P		P		19 54 13.8	+0.2
EDM				IAmb		IAmb		19 54 28.1	
	comp=Z,18nm,1.0s								
EDM	Edmonton	66.45	39	P		P		19 54 13.8	+0.2
EDM				pmax		pmax			
	comp=Z,18nm,1.0s								
VORR	Voronezh	66.82	319	⇑*i*P		P		19 54 16.4	+0.6
VORR				pmax		pmax			
	comp=Z,29nm,0.4s								
VSR	Storozhevoye	67.11	318	*e*P		P		19 54 16.9	-0.8
VSR				pmax		pmax			
	comp=Z,30nm,0.6s								
VORD	Divnogorie	67.19	318	*e*P		P		19 54 16.9	-1.3
VORD				pmax		pmax			
	comp=Z,40nm,0.9s								
NEW	Newport	67.39	45	P		P		19 54 20.9	+1.3
	baz=305								
NEW	Newport	67.39	45	LR		LR		20 20 31.6	
	comp=Z,61nm,21.6s,baz=306,slow=33								
SUMG	Summit	67.58	0	P		P		19 54 21.8	+1.0
SUMG				IAmb		IAmb		19 54 23.0	
	comp=Z,27nm,0.9s								
SUMG	Summit	67.58	0	P		P		19 54 21.8	+1.0
SUMG				pmax		pmax			
	comp=Z,27nm,0.9s								
SUMG	Summit	67.58	0	*i* P		P		19 54 21.0	+0.2
SUMG				IAmb		IAmb		19 54 23.0	
	comp=Z,17nm,0.7s								
YBH	Yreka Blue Hor	67.86	54	LR		LR		20 17 23.1	
	comp=Z,36nm,21.5s,baz=337,slow=30								
OOD	Oodnadatta	67.88	186	P		P		19 54 23.1	+0.5
	comp=Z,11nm,1.3s								
VSU	Vasula	68.17	329	*c* *i*P		P		19 54 24.5	+0.3
VSU				pmax		pmax			
	comp=Z,45nm,1.0s								
VSU	Vasula	68.17	329	*e*P		P		19 54 25.2	+1.0
RAF	Rauma	68.24	333	*e*P		P		19 54 24.6	0.0
K05A	Summer Lake	68.41	52	P		P		19 54 27.3	+1.0
GOF	Gofitskoye	68.60	311	*c*e*P		P		19 54 28.2	+1.0
MTSE	Matsula	69.11	331	*e*P		P		19 54 30.8	+0.7
NCK	Nalchik	69.19	310	⇓*i*P		P		19 54 31.8	+0.9
NCK				pmax		pmax			
	comp=Z,34nm,0.8s								
ZEI	Tsey	69.43	309	*e*P		P		19 54 31.9	-0.7
ZEI				pmax		pmax			
	comp=Z,27nm,1.0s								
KIV	Kislovodsk	69.46	311	⇑P		P		19 54 34.4	+1.7
KIV	Kislovodsk	69.46	311	P		P		19 54 33.4	+0.7
KIV	Kislovodsk	69.46	311	*i* P		P		19 54 34.0	+1.3
	SNR=24								
KIV	Kislovodsk	69.46	311	*e*P		P		19 54 33.7	+1.1
KIV				pmax		pmax			
	comp=Z,110nm,1.1s								
KIV				MLR		MLR			
	comp=Z,144nm,17.0s								
KIV	Kislovodsk	69.46	311	P		P		19 54 33.8	+1.1
KIV	Kislovodsk	69.46	311	P		P		19 54 33.7	+1.1
KBZ	Khabaz	69.47	310	P		P		19 54 33.6	+1.1
	comp=Z,32nm,0.8s,baz=60,slow=3.3,SNR=54								
KBZ				LR		LR		20 27 32.5	
	comp=Z,192nm,19.7s,baz=26,slow=38								
	comp=Z,32nm,0.8s								
ONI	Oni	69.81	309	P		P		19 54 35.3	+0.5
ONI				IAmb		IAmb		19 54 37.4	
	comp=Z,34nm,1.0s								
ONI	Oni	69.81	309	P		P		19 54 35.3	+0.5
ONI				pmax		pmax			
	comp=Z,34nm,1.0s								
MSO	Missoula	69.97	45	P		P		19 54 36.5	+0.7
	baz=308								
OVMT	Ovando	70.34	45	P		P		19 54 38.6	+0.5
MNK	Minsk	70.35	326	*i* P		P		19 54 38.5	+0.7
MNK				*i* *PP		sP		19 54 55.1	-1.2
MNK				*i*				19 57 15.1	
MNK				*i* PPP		PPP		19 58 57.7	
MNK				*i* S		S		20 03 47.8	+1.3
MNK				*i* *SS		SKiKP		20 04 15.5	-2.6
MNK				*i* SS		SS		20 08 18.8	+2.1
MNK				pmax		pmax			
	comp=Z,65nm,1.1s								
MNK				pmax		pmax			
	comp=E,6.0nm,0.9s								
MNK				pmax		pmax			
	comp=N,21nm,1.1s								
MNK				MLR		MLR			
	comp=Z,432nm,18.0s								
MNK				MLR		MLR			
	comp=N,158nm,12.0s								
MNK				MLR		MLR			
	comp=E,60nm,13.0s								
ISAL	Salakas	70.37	327	*e*P		P		19 54 38.9	+0.9
GNI	Garni	70.47	306	P		P		19 54 39.3	+0.3
GNI				IAmb		IAmb		19 54 56.2	
	comp=Z,32nm,1.0s								
GNI	Garni	70.47	306	⇓*i*P		P		19 54 40.7	+1.7
GNI				pmax		pmax			
	comp=Z,42nm,1.1s								
GNI	Garni	70.47	306	LR		LR		20 28 33.8	
	comp=Z,190nm,20.0s,baz=56,slow=38								
AKH	Akhalkalaki	70.49	308	P		P		19 54 39.1	+0.1
AKH	Akhalkalaki	70.49	308	P		P		19 54 39.2	+0.1
AKH				pmax		pmax	

PABE Paberze 71.30 328 *e*P P **P** 19 54 44.6 +1.1
MDH Madha 71.32 288 P P **P** 19 54 44.1 -0.1
MDH Madha 71.32 288 P P **P** 19 54 43.8 -0.4
SMDO Samad 71.35 285 P P **P** 19 54 45.6 +1.0
SNR=7.5
MASF Masafi 71.38 288 P **P**
SNR=6.0 19 54 45.3 +0.7
MSFE Esma-Masafi 71.39 288 *i* P **P**
SNR=11 19 54 45.2 +0.6
SOC Sochi 71.40 312 *e*P **P** 19 54 43.4 -1.0
SOC *e* 19 57 21.9
SOC *e*PPP PPP 19 59 06.0
SOC *e*S **S** **20 03 58.4 -0.6**
SOC *e*SS **SS** **20 08 36.2 +2.9**
SOC pmax pmax
comp=Z,7.0nm,0.2s
EGMT Eagleton 71.45 42 P **P** 19 54 45.4 +0.6
EGMT IAmb IAmb 19 55 00.2
comp=Z,28nm,0.9s
EGMT Eagleton 71.45 42 P **P** 19 54 45.6 +0.9
baz=310
HFS Hagfors 71.57 336 P **P** 19 54 45.5 +0.4
comp=Z,8.4nm,0.5s,baz=45,slow=6.5,SNR=39
HFS LR LR 20 30 32.5
comp=Z,235nm,19.1s,baz=38,slow=39
comp=Z,8.4nm,0.5s
NB201 NORSAR Array S 71.58 337 P **P** 19 54 45.4 +0.1
UOSS Minazif 71.60 287 P **P** 19 54 45.5 -0.3
UOSS IAmb IAmb 19 54 47.0
comp=Z,33nm,0.8s
UOSS Minazif 71.60 287 *i* P **P** 19 54 46.1 +0.2
SNR=6.0
UOSS Minazif 71.60 287 P **P** 19 54 46.0 +0.1
NB2 NORSAR Subarra 71.62 337 P **P** 19 54 46.0 +0.6
comp=Z,6.4nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 71.62 337 P **P** 19 54 45.6 +0.2
comp=Z,14nm,0.8s,baz=38,slow=6.0,SNR=29
NOA LR LR 20 31 09.8
comp=Z,158nm,18.1s,baz=30,slow=40
comp=Z,14nm,0.8s
UMQ Umm Al-Quwin 71.65 288 P **P** 19 54 47.2 +1.0
STKA Stephens Creek 71.66 181 P **P** 19 54 45.8 -0.1
comp=Z,0.6nm,0.3s,baz=309,slow=13,SNR=3.7
STKA LR LR 20 28 18.3
comp=Z,36nm,20.3s,baz=25,slow=38
comp=Z,0.6nm,0.3s
HLID Hailey 71.72 48 P **P** 19 54 47.4 +0.9
baz=308
JMDO Jabal Madar 71.72 284 P **P** 19 54 47.2 +0.6
SNR=8.0
HATD Hatta, Dubai 71.72 287 *i* P **P** 19 54 47.0 +0.4
SNR=29
HATD Hatta, Dubai 71.72 287 P **P** 19 54 47.2 +0.6
SNR=16
FORT Forrest 71.81 193 P **P** 19 54 47.4 +0.7
SOHO SOHO 71.83 286 *i* P **P** 19 54 47.7 +0.4
SNR=15
SOHO SOHO 71.83 286 P **P** 19 54 47.4 +0.2
ASHO Ashiyiah 71.86 287 *i* P **P** 19 54 47.8 +0.3
SNR=20
ASHO Ashiyiah 71.86 287 P **P** 19 54 47.8 +0.3
SNR=13
ANN Anapa 71.93 314 *e*P P 19 54 42.2 -5.3
ANN *e**PP pP 19 54 58.8 -2.1
ANN *e*S **S** **20 03 56.3 -8.7**
ANN pmax pmax
comp=Z,63nm,1.9s
NAZ Nazwa, Dubai 71.97 288 P **P** 19 54 48.5 +0.4
SNR=6.5
FAQ Al Faqa, Dubai 72.16 288 P **P** 19 54 49.4 +0.1
FAQ Al Faqa, Dubai 72.16 288 P **P** 19 54 49.2 0.0
SNR=7.6
BSY Bisya 72.17 285 P **P** 19 54 49.9 +0.5
SNR=7.4
KVN Kaiserville 72.28 54 P **P** 19 54 50.5 +0.5
KVN Kaiserville 72.28 54 P **P** 19 54 50.6 +0.5
KVN pmax pmax
comp=Z,20nm,1.4s
AKASG Malin Array Be 72.31 322 P **P** 19 54 49.6 -0.1
AKASG Malin Array Be 72.31 322 P **P** 19 54 50.0 +0.3
AKASG Malin Array Be 72.31 322 P **P** 19 54 50.0 +0.3
comp=Z,15nm,0.6s,baz=44,slow=6.0,SNR=74
AKASG LR LR 20 29 41.1
comp=Z,219nm,18.6s,baz=23,slow=38
comp=Z,15nm,0.6s
AKBB Malin Array Si 72.31 322 P **P** 19 54 49.4 -0.3
AKBB IAmb IAmb 19 54 51.0
comp=Z,38nm,0.9s
AKBB Malin Array Si 72.31 322 *c i*P **P** 19 54 49.9 +0.2
AKBB pmax pmax
comp=Z,46nm,1.0s
ARQ Araqi 72.32 286 P **P** 19 54 50.9 +0.7
SNR=9.0
KIEV Kiev 72.32 322 ⇑P **P** 19 54 50.0 +0.3
KIEV Kiev 72.32 322 P **P** 19 54 49.4 -0.4
KIEV IAmb IAmb 19 54 50.9
comp=Z,34nm,0.9s
KIEV Kiev 72.32 322 *i* P **P** 19 54 50.0 +0.3
SNR=17
KIEV Kiev 72.32 322 ⇑P **P** 19 54 50.0 +0.3
ASUD Al Ashush, Dub 72.43 288 *i* P **P** 19 54 51.4 +0.6
SNR=19
ASUD Al Ashush, Dub 72.43 288 P **P** 19 54 51.5 +0.6
SNR=12
ALNE Al Ain 72.46 287 *i* P **P** 19 54 51.4 +0.3
SNR=17
ALNE Al Ain 72.46 287 P **P** 19 54 51.5 +0.5
SNR=11
NVAR Mina Array Bea 72.54 54 P **P** 19 54 52.1 +0.5
NVAR Mina Array Bea 72.54 54 P **P** 19 54 52.5 +0.9
comp=Z,0.9nm,0.7s,baz=292,slow=6.1,SNR=8.0
NVAR LR LR 20 29 29.8
comp=Z,20nm,18.2s,baz=302,slow=38
comp=Z,0.9nm,0.7s
MHTO MHTO 72.64 283 P **P** 19 54 52.7 +0.5
SNR=22
SUW Suwalki 72.68 327 *e*P **P** 19 54 51.9 +0.1
SFJD Kangerlussuaq 72.72 5 P **P** 19 54 52.4 +0.5
SFJD IAmb IAmb 19 55 07.0
comp=Z,20nm,0.8s
SFJD Kangerlussuaq 72.72 5 P **P** 19 54 52.4 +0.5
SFJD pmax pmax
comp=Z,20nm,0.9s
SFJD Kangerlussuaq 72.72 5 LR LR 20 28 16.0
comp=Z,258nm,19.8s,baz=342,slow=37
YHH Holmes Hill 72.94 45 P **P** 19 54 54.7 +0.8
ELK Elko 72.98 51 LR LR 20 26 50.9
comp=Z,34nm,19.9s,baz=285,slow=36
MORW Morawa 73.08 204 P **P** 19 54 54.1 -0.3
MORW IAmb IAmb 19 56 49.3
comp=Z,60nm,1.5s
GURO Guroymak-BITLI 73.11 306 P **P** 19 54 55.8 +0.9
GURO IAmb IAmb 19 54 57.3
comp=Z,33nm,0.8s
KONO Kongsberg 73.22 337 P **P** 19 54 54.4 -0.5
KONO Kongsberg 73.22 337 P **P** 19 54 54.4 -0.5
KONO pmax pmax
comp=Z,93nm,1.5s
H17A Grant Village 73.34 46 P **P** 19 54 58.9 +2.6
baz=310
DY2G Dye2 73.50 4 *i* P **P** 19 54 55.3 -1.5
DY2G IAmb IAmb 19 55 12.5
comp=Z,23nm,0.7s
FRB Frobisher Bay 73.58 14 LR LR 20 30 22.4
comp=Z,156nm,19.4s,baz=350,slow=38
RLMT Red Lodge 73.58 44 P **P** 19 54 58.7 +1.0
baz=311
DQM DQM 73.60 282 P **P** 19 54 57.7 -0.1
SIM Simferopol' 73.65 315 *e*P **P** 19 54 58.7 +1.0
SIM pmax pmax
comp=Z,52nm,1.0s
UMZA Um Al Zommool 73.69 286 P **P** 19 54 57.8 -0.5
DGMT Dagmar 73.94 39 P **P** 19 55 00.1 +0.7
baz=313
MZWR Madinat Zayed 74.00 288 P **P** 19 54 59.4 -0.7
JRN Qarnain Island 74.04 289 P **P** 19 54 59.5 -0.8
SBC Santa Barbara 74.07 58 P **P** 19 55 00.9 +0.5
baz=308
ISA Isabella, Lake 74.12 57 P **P** 19 55 00.9 +0.1
baz=308
LAO LASA Array 74.14 42 P **P** 19 55 01.7 +1.0
baz=312
ARVC Arvin 74.22 57 P **P** 19 55 01.5 +0.2
baz=308
R11B Troy Canyon, C 74.27 53 P **P** 19 55 02.3 +0.6
R11B Troy Canyon, C 74.27 53 P **P** 19 55 02.5 +0.8
baz=309
BLDU Ballidu 74.33 203 P **P** 19 55 02.0 +0.4
SCZ2 Santa Cruz Isl 74.39 59 P **P** 19 55 03.5 +1.2
baz=308
SORM Soroca 74.47 321 ⇑P **P** 19 55 02.7 +0.2
SORM Soroca 74.47 321 ⇑P **P** 19 55 02.7 +0.2
MPMC Manual Prospec 74.51 56 P **P** 19 55 04.2 +1.0
baz=309
GHWR Ruwais 74.61 288 P **P** 19 55 02.8 -0.9
TPNV Topopah Spring 74.73 55 P **P** 19 55 04.7 +0.3
TPNV Topopah Spring 74.73 55 P **P** 19 55 05.9 +1.5
baz=309
TPNV Topopah Spring 74.73 55 P **P** 19 55 04.7 +0.3
TPNV pmax pmax
comp=Z,7.0nm,0.9s
LRMC Laurel Mtn Rad 74.74 56 P **P** 19 55 05.1 +0.7
baz=309
DUG Dugway, Tooele 74.76 50 P **P** 19 55 05.6 +1.0
baz=310
PURM Purcari 74.82 319 ⇑P **P** 19 55 05.0 +0.5
SHMA Al-Shehemyia 74.85 291 P **P** 19 55 04.2 -0.8
EDW2 Edwards Air Fo 74.91 57 P **P** 19 55 05.4 0.0
baz=309
QSM Queen of Sheba 74.96 56 P **P** 19 55 06.4 +0.8
BW06 Boulder Array 74.96 46 P **P** 19 55 06.6 +0.9
baz=311
PD31 Pinedale Array 74.96 46 P **P** 19 55 06.2 +0.5
PDAR Pinedale Array 74.96 46 P **P** 19 55 06.4 +0.7
comp=Z,1.0nm,0.5s,baz=259,slow=1.9,SNR=15
comp=Z,1.0nm,0.5s
ARPR Arapir-MALATY 75.02 309 P **P** 19 55 06.0 -0.1
SAKB Bahrain 75.08 291 P **P** 19 55 05.3 -1.1
MILM Milestii Mici 75.08 319 ⇓P **P** 19 55 06.4 +0.4
MILM Milestii Mici 75.08 319 ⇓P **P** 19 55 06.4 +0.4
LVV L'vov 75.32 324 *e*P **P** 19 55 08.5 +1.2
TRNA Turayna 75.35 290 P **P** 19 55 07.1 -0.8
SLWR Sila 75.41 289 P **P** 19 55 07.9 -0.4
FMP Fort Macarthur 75.45 58 P **P** 19 55 09.7 +1.4
baz=309
CIS Catalina Islan 75.56 59 P **P** 19 55 11.4 +2.3
baz=309
SMRA Abu-Samra 75.62 290 P **P** 19 55 08.4 -1.0
VASR Vaslui 75.78 320 ⇑P **P** 19 55 11.0 +0.9
TUQ Turquoise Moun 75.89 56 P **P** 19 55 12.6 +1.6
baz=310
PRAR RASCA 76.04 321 ⇑P **P** 19 55 12.2 +0.7
KWP Kalwaria Pacla 76.05 324 *e*P **P** 19 55 12.8 +1.3
KWP Kalwaria Pacla 76.05 324 P **P** 19 55 12.1 +0.5
KWP Kalwaria Pacla 76.05 324 P **P** 19 55 12.1 +0.5
KWP pmax pmax
comp=Z,105nm,1.4s
VLDR Vladesti 76.19 319 ⇑P **P** 19 55 13.5 +1.1
VARL Varlezi 76.27 319 ⇑P **P** 19 55 14.0 +1.2
TLCR 76.28 318 ⇓P **P** 19 55 13.7 +0.9
TLCR 76.28 318 ⇓P **P** 19 55 13.7 +0.9
BUR08 Bucovina Ar. S 76.33 322 P **P** 19 55 13.5 +0.2
BUR08 IAmb IAmb 19 55 15.2
comp=Z,23nm,0.8s
NWAO Narrogin (SRO) 76.34 202 P **P** 19 55 12.9 -0.2
NWAO Narrogin (SRO) 76.34 202 P **P** 19 55 13.8 +0.6
NWAO Narrogin (SRO) 76.34 202 P **P** 19 55 12.9 -0.2
comp=Z,16nm,1.0s,baz=39,slow=7.2,SNR=3.8
comp=Z,16nm,1.0s
BURAR Bucovina Array 76.35 322 ⇑P **P** 19 55 14.4 +1.0
BURAR Bucovina Array 76.35 322 P **P** 19 55 14.0 +0.7
BURAR IAmb IAmb 19 55 15.6
comp=Z,27nm,0.7s
BURAR Bucovina Array 76.35 322 ⇑P **P** 19 55 14.4 +1.0
SCTR Scanteiesti 76.35 319 ⇑P **P** 19 55 14.8 +1.5
GHRR 76.38 319 ⇑P **P** 19 55 14.9 +1.5
TATR Tatarca 76.38 319 ⇓P **P** 19 55 15.0 +1.6
TESR Tescani 76.44 320 ⇑P **P** 19 55 14.5 +0.8
GMRC Granite Mounta 76.47 56 P **P** 19 55 15.9 +1.6
baz=310
ULM Lac du Bonnet 76.50 34 P **P** 19 55 13.8 -0.3
comp=Z,3.7nm,0.7s,baz=310,slow=5.3,SNR=5.9
ULM LR LR 20 32 11.7
comp=Z,79nm,18.1s,baz=318,slow=38
comp=Z,3.7nm,0.7s
NEGRR Negrea 76.51 319 ⇑P **P** 19 55 13.6 -0.6
SLCR Slobozia Conac 76.53 319 ⇑P **P** 19 55 15.5 +1.3
SCHL Schela 76.56 319 ⇑P **P** 19 55 15.9 +1.4
IZVR Izvoarele 76.56 319 ⇓P **P** 19 55 16.1 +1.6
MDND Maddock 76.58 38 P **P** 19 55 15.9 +1.4
baz=316
SCHLR Schela 76.58 319 ⇑P **P** 19 55 15.8 +1.2
CFR Carcaliu 76.63 318 ⇑P **P** 19 55 15.6 +0.8
CFR Carcaliu 76.63 318 ⇑P **P** 19 55 15.6 +0.8
PANC Panciu 76.64 319 ⇑P **P** 19 55 16.7 +1.8
BNN Bunyan 76.66 310 P **P** 19 55 15.8 +0.4
PFO Pinyon Flats O 76.70 57 LR LR 20 21 47.7
comp=Z,144nm,21.9s,baz=317,slow=30
TPGR Topolog 76.70 318 ⇑P **P** 19 55 16.5 +1.1
BELC Belle Mtn. Jos 76.75 57 P **P** 19 55 17.5 +1.6
baz=310
KOLS Kolonicke sedl 76.75 324 *e*P **P** 19 55 16.6 +1.1
KOLS pmax pmax
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 76.75 324 *e*P **P** 19 55 16.6 +1.1
ODBI Odobesti 76.76 319 ⇓P **P** 19 55 18.2 +2.6
VRI Vrincioaia 76.85 320 ⇓P **P** 19 55 17.6 +1.4
VRI Vrincioaia 76.85 320 ⇓P **P** 19 55 17.6 +1.4
STHS Stebnicka Huta 76.86 325 *e*P **P** 19 55 17.2 +1.1
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 76.86 325 *e*P **P** 19 55 17.2 +1.1
OJC Ojcow 76.88 326 *e*P **P** 19 55 17.1 +0.9
OJC Ojcow 76.88 326 P **P** 19 55 16.8 +0.5
OJC IAmb IAmb 19 55 18.4
comp=Z,34nm,1.1s
OJC Ojcow 76.88 326 P **P** 19 55 16.8 +0.5
OJC pmax pmax
comp=Z,34nm,1.1s
DMTO DMTO 76.89 282 P **P** 19 55 16.6 -0.2
PLOR Plostina 76.90 320 ⇓P **P** 19 55 17.8 +1.4
PLOR Plostina 76.90 320 ⇓P **P** 19 55 17.8 +1.4
GAZ Gaziantep 76.93 308 P **P** 19 55 17.5 +0.7
GAZ IAmb IAmb 19 55 19.5
comp=Z,45nm,1.1s
DOK Doka 76.94 283 P **P** 19 55 16.6 -0.5
TIRR Tirgusor 76.98 318 ⇑P **P** 19 55 17.4 +0.5
TIRR Tirgusor 76.98 318 P **P** 19 55 16.6 -0.3
TIRR IAmb IAmb 19 55 18.6
comp=Z,36nm,0.9s
TIRR Tirgusor 76.98 318 ⇑P **P** 19 55 17.4 +0.5
RSSD Black Hills 77.02 43 P **P** 19 55 18.7 +1.3
baz=314
TURR Turia 77.07 320 ⇑P **P** 19 55 19.4 +1.9
GRER 77.07 319 ⇓P **P** 19 55 20.3 +2.9
HARR Harsova 77.07 318 ⇑P **P** 19 55 18.2 +0.8
BISRR Bisoca 77.08 319 ⇑P **P** 19 55 19.5 +2.0
TLBR Topalu 77.11 318 ⇑P **P** 19 55 18.7 +1.1
COVR Voineasa-Covas 77.12 320 ⇑P **P** 19 55 17.9 +0.2
ARCR ARCALIA 77.13 322 ⇓P **P** 19 55 19.9 +2.2
CRVS Cervenica-Dubn 77.14 325 *e*P **P** 19 55 18.6 +0.9
CRVS pmax pmax
comp=Z,15nm,0.9s
CRVS Cervenica-Dubn 77.14 325 *e*P **P** 19 55 18.6 +0.9
OZUR 77.15 320 ⇑P **P** 19 55 19.5 +1.7
MONP2 Monument Peak 77.18 58 P **P** 19 55 19.7 +1.2
baz=310
IRM Iron Mountain 77.19 56 P **P** 19 55 19.6 +1.3
baz=310
CVDA Cernavoda 77.27 318 ⇑P **P** 19 55 19.4 +0.9
BC3 Big Chuckawall 77.32 57 P **P** 19 55 20.9 +1.7
baz=310
BR131 Keskin Array S 77.36 312 P **P** 19 55 19.5 +0.2
BR131 IAmb IAmb 19 55 21.3
comp=Z,49nm,1.6s
BR131 Keskin Array S 77.36 312 *c i*P **P** 19 55 19.7 +0.4
BR131 Keskin Array S 77.36 312 P **P** 19 55 20.2 +0.9
SNR=9.3
BRTR Keskin Array B 77.36 312 P **P** 19 55 20.0 +0.7
comp=Z,7.8nm,0.8s,baz=83,slow=4.1,SNR=31
BRTR PP **PP** 19 58 12.8 -0.7
comp=Z,2.9nm,1.1s,baz=72,slow=4.0,SNR=4.7
BRTR LR LR 20 34 48.4
comp=Z,153nm,19.2s,baz=4.0,slow=40
comp=Z,7.8nm,0.8s
NEHR Nehoiu 77.38 320 ⇑P **P** 19 55 19.8 +0.7
PGOR Pogoanele 77.40 319 ⇑P **P** 19 55 21.2 +2.0
DOPR Dopca 77.44 320 ⇑P **P** 19 55 20.9 +1.4
O20A White River Ci 77.44 48 P **P** 19 55 20.8 +0.9
baz=312
HMU Henry Mountain 77.45 51 P **P** 19 55 20.9 +0.9
ISR Istrita 77.47 319 ⇓P **P** 19 55 21.3 +1.6
ISR Istrita 77.47 319 ⇓P **P** 19 55 21.3 +1.6
MLR Muntele Rosu 77.50 320 ⇓P **P** 19 55 21.1 +1.1
MLR Muntele Rosu 77.50 320 P **P** 19 55 20.1 +0.2
MLR IAmb IAmb 19 55 22.8
comp=Z,23nm,1.3s
MLR Muntele Rosu 77.50 320 ⇓P **P** 19 55 21.1 +1.1
MLR Muntele Rosu 77.50 320 LR LR 20 31 56.6
comp=Z,351nm,19.9s,baz=38,slow=38
U15A North Rim 77.51 53 P **P** 19 55 21.4 +1.1
ICOR Ion Corvin 77.54 318 ⇑P **P** 19 55 21.3 +1.3
BSEG Bad Segeberg 77.63 333 *e*P **P** 19 55 21.9 +1.6
comp=Z,8.7nm,0.8s,baz=35,slow=5.5
WHFO Wadi Hawf 77.64 283 P **P** 19 55 20.3 -0.7
PDMCI Parker Dam,Lak 77.74 55 P **P** 19 55 22.2 +0.9
baz=310
CBBR Cluj-Babes-Bol 77.74 322 ⇓P **P** 19 55 19.1 -2.0
MESR Meseseni 77.75 323 ⇓P **P** 19 55 22.6 +1.4
ANTO Ankara 77.75 312 P **P** 19 55 21.7 +0.3
ANTO IAmb IAmb 19 55 23.5
comp=Z,42nm,1.1s
ANTO Ankara 77.75 312 P **P** 19 55 21.7 +0.3
ANTO pmax pmax
comp=Z,42nm,1.1s
ANTO Ankara 77.75 312 P **P** 19 55 22.4 +1.0
CJR Cluj-Napoca 77.76 322 ⇓P **P** 19 55 22.4 +1.1
CJR Cluj-Napoca 77.76 322 ⇓P **P** 19 55 22.4 +1.1
LANS Liptovska Anna 77.83 326 *e*P **P** 19 55 23.6 +2.0
LANS pmax pmax
comp=Z,7.0nm,0.8s
LANS Liptovska Anna 77.83 326 *e*P **P** 19 55 23.5 +2.0
KSP Ksiaz 77.86 328 *e*P **P** 19 55 22.9 +1.2
SULR 77.93 319 ⇑P **P** 19 55 23.6 +1.4
AGMN Agassiz Nation 77.96 35 P **P** 19 55 22.0 -0.2
baz=318
VOIR 77.98 320 ⇓P **P** 19 55 23.9 +1.3
VOIR 77.98 320 ⇓P **P** 19 55 23.9 +1.3
MARR Marisel-Cluj 78.02 322 ⇑P **P** 19 55 23.9 +1.2
DRGR 78.12 322 ⇑P **P** 19 55 23.7 +0.4
DRGR 78.12 322 ⇑P **P** 19 55 23.7 +0.4
MORC Moravsky Berou 78.17 327 ⇑P **P** 19 55 24.9 +1.4
MORC Moravsky Berou 78.17 327 P **P** 19 55 24.3 +0.8
MORC IAmb IAmb 19 55 25.2
comp=Z,15nm,0.8s
MORC Moravsky Berou 78.17 327 *e*P **P** 19 55 24.6 +1.1
MORC Moravsky Berou 78.17 327 ⇑P **P** 19 55 24.9 +1.4
N23A Red Feather La 78.22 46 P **P** 19 55 25.6 +1.4
baz=314
DPC Dobruska-Polom 78.23 328 *e*P **P** 19 55 25.2 +1.4
DPC Dobruska-Polom 78.23 328 *e*P **P** 19 55 25.2 +1.4
UPC Upice 78.23 328 *e*P **P** 19 55 25.1 +1.3
UPC Upice 78.23 328 *e*P **P** 19 55 25.1 +1.3
ARR Arges 78.24 320 ⇑P **P** 19 55 25.6 +1.6
MDUB Mudurnu 78.24 313 P **P** 19 55 24.6 +0.4
KRLC Kraliky 78.25 328 *e*P **P** 19 55 25.1 +1.2
KRLC Kraliky 78.25 328 *e*P **P** 19 55 25.1 +1.2
ABTO Aybut 78.34 283 P **P** 19 55 24.7 -0.2
MAUC Maruska 78.36 327 *e*P **P** 19 55 25.7 +1.1
PSZ Piszkesteto 78.57 325 ⇑P **P** 19 55 27.3 +1.5
PSZ Piszkesteto 78.57 325 P **P** 19 55 26.1 +0.3
PSZ IAmb IAmb 19 55 28.1
comp=Z,19nm,1.0s
PSZ Piszkesteto 78.57 325 ⇑P **P** 19 55 27.3 +1.5
RAZG Razgrad 78.59 318 ⇑P **P** 19 55 26.8 +0.9
VYHS Vyhne 78.60 326 *e*P **P** 19 55 27.0 +1.2
VYHS pmax pmax
comp=Z,13nm,1.0s
VYHS Vyhne 78.60 326 *e*P **P** 19 55 27.0 +1.2
LOT Lotru 78.60 321 ⇑P **P** 19 55 26.9 +0.8
FLTG Flechtingen 78.61 332 *e*P **P** 19 55 26.1 +0.4
comp=Z,9.7nm,0.8s,baz=35,slow=5.5
WUAZ Wupatki 78.67 53 **P** 19 55 27.3 +0.6
WUAZ Wupatki 78.67 53 P **P** 19 55 28.2 +1.5
baz=312
HUMR Humele 78.67 320 ⇓P **P** 19 55 26.3 0.0
LOZB Loznitsa 78.69 318 ⇓P **P** 19 55 27.2 +0.8
DEV Deva 78.70 322 ⇑P **P** 19 55 27.6 +1.2
DEV Deva 78.70 322 ⇑P **P** 19 55 27.6 +1.2
BRG Berggiesshubel 78.76 330 *e*P **P** 19 55 27.5 +0.8
BRG Amp 19 55 28.1
comp=Z,7.1nm,0.8s
BRG Berggiesshubel 78.76 330 *e*P **P** 19 55 27.4 +0.8
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 78.76 330 *e*P **P** 19 55 27.5 +0.8
comp=Z,4.3nm,0.8s,baz=35,slow=5.5
CLL Collm 78.78 330 P **P** 19 55 26.9 +0.1
CLL IAmb IAmb 19 55 28.1
comp=Z,12nm,0.8s
CLL Collm 78.78 330 *i* P **P** 19 55 26.8 +0.1
CLL *e**PP **pP** 19 55 40.0 -0.2
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 78.78 330 *i* P **P** 19 55 26.8 +0.1
comp=Z,13nm,0.8s
CLL *e*(pP) **pP** 19 55 40.0 -0.2
CLL Collm 78.78 330 *e*P **P** 19 55 27.5 +0.7
baz=35,slow=5.5
PVCC Panska Ves 78.79 329 *e*P **P** 19 55 27.9 +1.1
PVCC Panska Ves 78.79 329 *e*P **P** 19 55 27.9 +1.1
JAVC Velka Javorina 78.82 326 *e*P **P** 19 55 29.2 +2.1
VRAC Vranov 78.92 327 ⇑P **P** 19 55 27.8 +0.2
VRAC Vranov 78.92 327 *e*P **P** 19 55 28.9 +1.3
VRAC Vranov 78.92 327 ⇑P **P** 19 55 27.8 +0.2
VRAC Vranov 78.92 327 LR LR 20 33 08.5
comp=Z,315nm,19.9s,baz=14,slow=38
SIRR Siria 79.00 323 ⇑P **P** 19 55 29.0 +0.9
GZR Gura Zlata 79.12 321 ⇑P **P** 19 55 29.7 +0.9
GZR Gura Zlata 79.12 321 ⇑P **P** 19 55 29.7 +0.9
ISCO Idaho Springs 79.15 47 P **P** 19 55 29.9 +0.5
baz=314
SURR Surdue 79.16 322 ⇓P **P** 19 55 30.2 +1.2
GOPC GO Pecny, Ondr 79.19 329 *e*P **P** 19 55 30.2 +1.2
GOPC GO Pecny, Ondr 79.19 329 *e*P **P** 19 55 30.2 +1.2
KRUC Moravsky 79.20 327 *e*P **P** 19 55 30.2 +1.1
PRU Pruhonice 79.23 329 *e*P **P** 19 55 30.5 +1.3
PRU Pruhonice 79.23 329 *e*P **P** 19 55 30.5 +1.3
MVCO Mesa Verde 79.26 50 P **P** 19 55 31.2 +1.2
baz=313
VLAD Vladila 79.34 320 ⇑P **P** 19 55 30.4 +0.5
SRO Srobarova 79.34 325 *e*P **P** 19 55 31.7 +1.8
SRO pmax pmax
comp=Z,23nm,0.9s
SRO Srobarova 79.34 325 *e*P **P** 19 55 31.7 +1.8
SUSD Miller 79.35 40 P **P** 19 55 31.1 +1.0
baz=317
MODS Modra-Piesok 79.36 326 *e*P **P** 19 55 31.5 +1.5
MODS pmax pmax
comp=Z,41nm,1.3s
MODS Modra-Piesok 79.36 326 *e*P **P** 19 55 31.5 +1.5
ELND Elena 79.37 318 ⇑P **P** 19 55 30.9 +0.7
BZS Buzias 79.50 322 ⇓P **P** 19 55 30.4 -0.4
HERR Herculane 79.67 321 ⇑P **P** 19 55 32.1 +0.4
PLVB Pleven 79.67 319 ⇑P **P** 19 55 32.6 +0.8
DJES Djerdap 79.78 321 P **P** 19 55 31.8 -0.5
ZVC Zvikov 79.80 329 *ex* x 19 55 46.6
MOX Moxa 79.83 331 *e*P **P** 19 55 33.3 +0.8
comp=Z,4.1nm,0.8s,baz=35,slow=5.5
BAIL Bailesti 79.85 320 ⇑P P 19 55 21.5 -11
S22A 4UR Ranch, Cre 79.87 49 P **P** 19 55 34.4 +1.1
baz=314
W18A Petrified Fore 79.93 52 P **P** 19 55 34.6 +1.0
baz=312
Q24A Divide 79.99 47 P **P** 19 55 34.9 +0.9
baz=314
MDVR Moldovita 80.08 322 ⇑P **P** 19 55 30.1 -3.9
EYMN Ely 80.12 33 P **P** 19 55 33.9 -0.2
baz=321
MANZ Manzenberg 80.18 330 *e*P **P** 19 55 35.5 +1.0
comp=Z,1.0nm,0.8s,baz=35,slow=5.5
RAYN Ar Rayn 80.18 292 P **P** 19 55 34.4 -0.6
RAYN IAmb IAmb 19 55 36.1
comp=Z,25nm,1.1s
RAYN Ar Rayn 80.18 292 *i* P **P** 19 55 34.8 -0.1
SNR=11
RAYN Ar Rayn 80.18 292 ⇑P **P** 19 55 35.2 +0.3
RAYN Ar Rayn 80.18 292 P **P** 19 55 34.9 -0.1
CKRC Cesky Krumlov 80.24 328 *e*P **P** 19 55 35.8 +1.0
CKRC Cesky Krumlov 80.24 328 *e*P **P** 19 55 35.8 +1.0
KHC Kasperske Hory 80.29 329 P **P** 19 55 35.4 +0.3
KHC IAmb IAmb 19 55 37.2
comp=Z,14nm,0.7s

KHC	**Kasperske Hory**	**80.29**	**329**	*e*P	**P**	**19 55 36.1**	**+1.0**
KHC				*e*pP	**pP**	**19 55 49.6**	**+1.0**
KHC	**Kasperske Hory**	**80.29**	**329**	*e*P	**P**	**19 55 36.1**	**+1.0**
KHC				*e*		19 55 49.6	
RONA	**Rosalia, Austr**	**80.30**	**326**	*e*P	**P**	**19 55 36.7**	**+1.6**
	comp=Z,21nm,1.0s,SNR=14						
CONA	**Conrad Observa**	**80.30**	**327**	*i* P	**P**	**19 55 36.7**	**+1.4**
	comp=Z,12nm,1.0s,SNR=8.1						
ROTZ	**Rotzenmuhle**	**80.32**	**330**	*e*P	**P**	**19 55 36.5**	**+1.4**
	baz=35,slow=5.5						
MORH	**Mrgy, Hungar**	**80.42**	**324**	⇑P	**P**	**19 55 35.7**	**0.0**
EKA	**Eskdalemuir Ar**	**80.45**	**341**	P	**P**	**19 55 36.1**	**+0.4**
	comp=Z,8.0nm,0.7s,baz=24,slow=4.6,SNR=16						
	comp=Z,8.0nm,0.7s						
GEC2	**GERESS Array S**	**80.47**	**328**	*e*P	**P**	**19 55 36.8**	**+0.8**
	comp=Z,4.0nm,0.7s,baz=35,slow=5.5						
GERES	**GERESS Array B**	**80.47**	**328**	P	**P**	**19 55 36.2**	**+0.1**
GERES	**GERESS Array B**	**80.47**	**328**	P	**P**	**19 55 36.4**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=28,slow=6.0,SNR=26						
GERES				LR	LR	20 33 53.5	
	comp=Z,406nm,19.4s,baz=342,slow=38						
	comp=Z,4.8nm,0.7s						
BLKB	**Belogradchik**	**80.47**	**320**	⇑P	**P**	**19 55 36.1**	**0.0**
ESK	**Eskdalemuir**	**80.48**	**341**	P	**P**	**19 55 36.1**	**+0.2**
ESK	**Eskdalemuir**	**80.48**	**341**	P	**P**	**19 55 36.1**	**+0.2**
ESK				pmax	pmax		
	comp=Z,232nm,1.8s						
WET	**Wettzell**	**80.56**	**329**	*e*P	**P**	**19 55 38.0**	**+1.5**
	comp=Z,7.8nm,0.9s,baz=35,slow=5.5						
SDCO	**Great Sand Dun**	**80.64**	**48**	P	**P**	**19 55 39.1**	**+1.7**
	baz=314						
FRGS	**Fruska Gora**	**80.69**	**323**	⇓P	**P**	**19 55 38.4**	**+1.1**
FRGS	**Fruska Gora**	**80.69**	**323**	⇑*i*P	**P**	**19 55 37.8**	**+0.6**
ALN	**Alexandroupoli**	**80.73**	**317**	P	**P**	**19 55 37.8**	**+0.3**
ALN	**Alexandroupoli**	**80.73**	**317**	P	**P**	**19 55 37.8**	**+0.3**
ALN				pmax	pmax		
	comp=Z,15nm,1.1s						
BUG	**Bochum--Univer**	**80.74**	**333**	*e*P	**P**	**19 55 38.4**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=35,slow=5.5						
CSS	**Mathiatis**	**80.75**	**308**	P	**P**	**19 55 38.0**	**+0.2**
GRA1	**Grafenberg Arr**	**80.75**	**330**	P	**P**	**19 55 37.8**	**+0.3**
GRA1				IAmb	IAmb	19 55 39.7	
	comp=Z,20nm,0.8s						
GRF	**Grafenberg Arr**	**80.75**	**330**	P	**P**	**19 55 37.8**	**+0.3**
GRF				pmax	pmax		
	comp=Z,20nm,0.8s						
GRF	**Grafenberg Arr**	**80.75**	**330**	*e*P	**P**	**19 55 39.0**	**+1.4**
	comp=Z,16nm,0.8s,baz=35,slow=5.5						
GRFO	**Grafenberg**	**80.76**	**330**	P	**P**	**19 55 38.1**	**+0.7**
GRFO				IAmb	IAmb	19 55 39.7	
	comp=Z,19nm,0.8s						
GRFO	**Grafenberg**	**80.76**	**330**	P	**P**	**19 55 38.2**	**+0.7**
GRFO				pmax	pmax		
	comp=Z,19nm,0.8s						
MMAI	**Mount Meron Ar**	**80.78**	**306**	P	**P**	**19 55 38.6**	**+0.6**
	comp=Z,8.7nm,0.7s,baz=55,slow=7.2,SNR=11						
MMAI				LR	LR	20 35 14.3	
	comp=Z,212nm,20.6s,baz=5.0,slow=38						
	comp=Z,8.7nm,0.7s						
RDO	**Rodhopi**	**80.82**	**317**	P	**P**	**19 55 38.3**	**+0.3**
RDO				IAmb	IAmb	19 55 40.1	
	comp=Z,32nm,1.0s						
BOVS	**Bovan**	**80.93**	**321**	⇑P	**P**	**19 55 38.3**	**-0.3**
ARSA	**Arzberg**	**80.98**	**327**	*i* P	**P**	**19 55 39.7**	**+0.9**
	comp=Z,9.1nm,1.0s						
MOA	**Molln**	**81.03**	**328**	*i* P	**P**	**19 55 39.9**	**+0.9**
	comp=Z,9.9nm,1.3s						
TUC	**Tucson**	**81.16**	**55**	P	**P**	**19 55 42.2**	**+2.1**
	baz=312						
TEKS	**Tekeris**	**81.28**	**323**	⇑*i*P	**P**	**19 55 40.6**	**+0.2**
KSCO	**Kaye Shedlock'**	**81.35**	**46**	P	**P**	**19 55 42.5**	**+1.4**
	baz=316						
RAR	**Rarotonga**	**81.39**	**127**	LR	LR	20 26 47.7	
	comp=Z,137nm,19.3s,baz=300,slow=32						
BIOA	**Bad Ischl, Aus**	**81.41**	**328**	*i* P	**P**	**19 55 42.0**	**+1.0**
	comp=Z,10nm,0.7s,SNR=9.1						
ELL	**Elmali**	**81.54**	**311**	P	**P**	**19 55 42.2**	**+0.2**
ELL	**Elmali**	**81.54**	**311**	P	**P**	**19 55 42.2**	**+0.2**
ELL				pmax	pmax		
	comp=Z,62nm,0.8s						
SOKA	**Soboth**	**81.64**	**326**	*i* P	**P**	**19 55 43.1**	**+0.8**
	comp=Z,18nm,0.7s,SNR=17						
T25A	**Trinidad**	**81.68**	**48**	P	**P**	**19 55 43.6**	**+0.7**
T25A	**Trinidad**	**81.68**	**48**	P	**P**	**19 55 43.8**	**+0.9**
	baz=315						
RJOB	**Jochberg**	**81.72**	**328**	*e*P	**P**	**19 55 44.2**	**+1.5**
	comp=Z,11nm,0.8s,baz=35,slow=5.5						
BBLS	**Lazići**	**81.86**	**322**	⇑*i*P	**P**	**19 55 44.4**	**+0.9**
HAPS	**Han Pijesak,BI**	**81.90**	**323**	⇑*i*P	**P**	**19 55 44.6**	**+0.8**
OBKA	**Obir**	**81.97**	**327**	*i* P	**P**	**19 55 44.6**	**+0.5**
	comp=Z,8.6nm,0.6s,SNR=5.0						
OBKA	**Obir**	**81.97**	**327**	⇑*i*P	**P**	**19 55 44.2**	**+0.1**
FUR	**Furstenfeldbru**	**81.97**	**329**	*e*P	**P**	**19 55 45.4**	**+1.4**
	comp=Z,21nm,0.9s,baz=35,slow=5.5						
BGNE	**Belgrade**	**81.98**	**41**	P	**P**	**19 55 45.7**	**+1.5**
	baz=318						
ANMO	**Albuquerque**	**82.02**	**51**	P	**P**	**19 55 45.6**	**+0.9**
ANMO	**Albuquerque**	**82.02**	**51**	P	**P**	**19 55 47.0**	**+2.3**
	baz=314						
ANMO	**Albuquerque**	**82.02**	**51**	⇓*e*P	**P**	**19 55 45.7**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ANMO	**Albuquerque**	**82.02**	**51**	LR	LR	20 34 19.6	
	comp=Z,22nm,18.5s,baz=76,slow=37						
LESA	**Schwarzleotal**	**82.02**	**328**	*i* P	**P**	**19 55 45.2**	**+0.9**
	comp=Z,17nm,1.1s						
KBA	**Koelnbreinsper**	**82.02**	**328**	*i* P	**P**	**19 55 45.2**	**+0.7**
	comp=Z,17nm,0.8s,SNR=9.6						
SJES	**Sjenica**	**82.05**	**321**	⇑*i*P	**P**	**19 55 45.5**	**+0.9**
RUDO	**Rudo**	**82.06**	**322**	*e*P	**P**	**19 55 44.3**	**-0.2**
A051A	**Mrakovica**	**82.12**	**324**	⇑*i*P	**P**	**19 55 45.0**	**+0.1**
CRES	**Cresnjev**	**82.12**	**326**	*i* P	**P**	**19 55 44.7**	**-0.1**
CRES	**Cresnjev**	**82.12**	**326**	⇑*i*P	**P**	**19 55 45.1**	**+0.3**
STIP	**Stip**	**82.14**	**319**	*i* P	**P**	**19 55 44.7**	**-0.3**
SCHQ	**Schefferville**	**82.14**	**17**	P	**P**	**19 55 45.1**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=358,slow=6.6,SNR=10						
SCHQ				LR	LR	20 33 53.4	
	comp=Z,100nm,21.8s,baz=348,slow=37						
	comp=Z,4.7nm,0.7s						
BLY	**Banja Luka**	**82.20**	**324**	⇑*i*P	**P**	**19 55 45.5**	**+0.3**
VAY	**Valandovo**	**82.22**	**319**	*i* P	**P**	**19 55 46.4**	**+1.0**
MYKA	**Terra Mystica**	**82.26**	**327**	*i* P	**P**	**19 55 45.7**	**+0.1**
	comp=Z,11nm,0.8s,SNR=6.2						
STU	**Stuttgart**	**82.27**	**331**	*e*P	**P**	**19 55 46.6**	**+1.1**
	comp=Z,32nm,0.8s,baz=35,slow=5.5						
SKO	**Skopje**	**82.30**	**320**	*i* P	**P**	**19 55 47.0**	**+1.2**
LJU	**Ljubljana**	**82.35**	**326**	*i* P	**P**	**19 55 46.1**	**+0.1**
BOJS	**Bojanci**	**82.47**	**326**	*i* P	**P**	**19 55 46.7**	**+0.2**
BOJS	**Bojanci**	**82.47**	**326**	⇑*i*P	**P**	**19 55 46.8**	**+0.2**
MGRS	**Mrkonjic Grad**	**82.50**	**324**	⇑*i*P	**P**	**19 55 47.9**	**+1.0**
WATA	**Walderalm**	**82.53**	**329**	*i* P	**P**	**19 55 47.8**	**+0.7**
	comp=Z,11nm,0.7s,SNR=5.3						
WTTA	**Wattenberg**	**82.56**	**329**	*i* P	**P**	**19 55 48.0**	**+0.7**
	comp=Z,9.6nm,0.7s						
ABTA	**Abfaltersbach**	**82.63**	**328**	*i* P	**P**	**19 55 47.2**	**-0.3**
	comp=Z,9.5nm,1.2s						
CEY	**Cerknica**	**82.64**	**326**	⇑*i*P	**P**	**19 55 47.2**	**-0.3**
A050A	**Klekovaca**	**82.70**	**324**	⇑*i*P	**P**	**19 55 48.2**	**+0.3**
CLUD	**Cludinico**	**82.71**	**327**	P	**P**	**19 55 47.5**	**-0.4**
CLUD				IAmb	IAmb	19 55 48.4	
	comp=Z,19nm,0.8s						
MOTA	**Moosalm**	**82.71**	**329**	*i* P	**P**	**19 55 48.7**	**+0.7**
	comp=Z,22nm,0.9s,SNR=9.2						
RETA	**Reutte**	**82.73**	**329**	*i* P	**P**	**19 55 48.8**	**+0.8**
	comp=Z,16nm,0.8s,SNR=8.0						
SQTA	**Sankt Quirin**	**82.77**	**329**	*i* P	**P**	**19 55 49.0**	**+0.7**
	comp=Z,16nm,1.6s,SNR=5.6						
UBR	**Ueberruh**	**82.82**	**330**	*e*P	**P**	**19 55 51.1**	**+2.6**
	comp=Z,2.8nm,0.7s,baz=35,slow=5.5						
121A	**Cookes Peak, D**	**82.87**	**53**	P	**P**	**19 55 51.5**	**+2.3**
	baz=314						
BFO	**Black Forest**	**82.96**	**331**	P	**P**	**19 55 49.1**	**0.0**
BFO	**Black Forest**	**82.96**	**331**	P	**P**	**19 55 49.1**	**0.0**
BFO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BFO	**Black Forest**	**82.96**	**331**	*e*P	**P**	**19 55 50.1**	**+0.9**
	comp=Z,6.5nm,0.7s,baz=35,slow=5.5						
SKDS	**Skadanscina**	**82.96**	**326**	⇑*i*P	**P**	**19 55 48.7**	**-0.5**
BRY	**Bratogost**	**83.00**	**322**	⇑*i*P	**P**	**19 55 49.1**	**-0.5**
PUK	**Puka**	**83.01**	**321**	P	**P**	**19 55 49.9**	**+0.3**
PUK				IAmb	IAmb	19 55 58.7	
	comp=Z,25nm,1.1s						
CBKS	**Cedar Bluff**	**83.06**	**44**	P	**P**	**19 55 52.2**	**+2.4**
	baz=317						
FETA	**Feichten**	**83.12**	**329**	*i* P	**P**	**19 55 50.8**	**+0.6**
	comp=Z,10.0nm,1.0s,SNR=5.3						
DAVA	**Damuels**	**83.24**	**330**	*i* P	**P**	**19 55 51.4**	**+0.6**
	comp=Z,12nm,0.8s,SNR=5.0						
DRME	**Dracevica, Mon**	**83.24**	**321**	⇑*i*P	**P**	**19 55 51.2**	**+0.5**
OHR	**Ohrid**	**83.27**	**320**	*i* P	**P**	**19 55 51.7**	**+0.8**
EIL	**Elat**	**83.32**	**303**	LR	LR	20 37 50.2	
	comp=Z,90nm,18.1s,baz=64,slow=39						
HCY	**Herceg Novi**	**83.37**	**322**	*e*P	**P**	**19 55 51.1**	**-0.2**
STON	**Ston**	**83.42**	**323**	⇑*i*P	**P**	**19 55 50.8**	**-0.7**
ECH	**Echery**	**83.48**	**332**	P	**P**	**19 55 52.1**	**+0.3**
ECH	**Echery**	**83.48**	**332**	P	**P**	**19 55 52.1**	**+0.3**
ECH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**83.63**	**329**	P	**P**	**19 55 53.4**	**+0.5**
FUORN				IAmb	IAmb	19 55 54.9	
	comp=Z,27nm,1.1s						
DAVOX	**Davos/Dischmat**	**83.65**	**329**	LR	LR	20 38 02.4	
	comp=Z,227nm,19.4s,baz=3.5,slow=39						
SCIA	**State Center**	**84.03**	**38**	P	**P**	**19 55 56.5**	**+1.8**
	baz=321						
URZ	**Urewera**	**84.26**	**153**	LR	LR	20 31 28.1	
	comp=Z,78nm,18.2s,baz=122,slow=34						
KSU1	**Kansas State U**	**84.48**	**42**	P	**P**	**19 55 57.4**	**+0.3**
	baz=319						
JFWS	**Jewell Farm**	**84.61**	**36**	P	**P**	**19 55 58.6**	**+1.0**
	baz=322						
AMTX	**Amarillo**	**84.84**	**48**	P	**P**	**19 56 00.1**	**+1.0**
	baz=316						
MSTX	**Muleshoe**	**84.86**	**49**	P	**P**	**19 56 00.3**	**+1.0**
	baz=316						
MNTX	**Comudas Mount**	**84.92**	**52**	P	**P**	**19 56 00.6**	**+1.2**
	baz=315						
SENIN	**Lac Senin/Sane**	**84.99**	**331**	P	**P**	**19 55 59.7**	**-0.1**
SGRT	**San Giovanni R**	**85.20**	**323**	P	**P**	**19 56 00.5**	**-0.2**
SGRT				IAmb	IAmb	19 56 01.7	
	comp=Z,21nm,0.8s						
PPT	**Papeete**	**85.36**	**117**	LR	LR	20 26 54.0	
	comp=Z,150nm,21.8s,baz=356,slow=30						
IDI	**Anoyia**	**85.42**	**313**	LR	LR	20 38 52.2	
	comp=Z,108nm,18.1s,baz=22,slow=39						
BNI	**Bardonecchia**	**86.33**	**330**	P	**P**	**19 56 06.6**	**+0.3**
BNI	**Bardonecchia**	**86.33**	**330**	P	**P**	**19 56 06.6**	**+0.3**
BNI				pmax	pmax		
	comp=Z,54nm,1.9s						
TIP	**Timpagrande**	**86.73**	**321**	P	**P**	**19 56 08.0**	**-0.3**
HDIL	**Hopedale**	**86.92**	**37**	P	**P**	**19 56 09.9**	**+0.7**
	baz=323						
RPZ	**Rata Peaks**	**87.39**	**160**	LR	LR	20 34 12.9	
	comp=Z,90nm,18.1s,baz=345,slow=35						
SADO	**Sadowa**	**87.60**	**28**	LR	LR	20 38 57.3	
	comp=Z,124nm,18.5s,baz=89,slow=38						
TXAR	**Lajitas Array**	**87.63**	**53**	P	**P**	**19 56 13.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=282,slow=3.3,SNR=9.5						
	comp=Z,1.0nm,0.7s						
ABTX	**Abilene, Hawle**	**87.64**	**48**	P	**P**	**19 56 12.6**	**-0.2**
	baz=318						
LMQ	**La Malbaie**	**87.97**	**21**	P	**P**	**19 56 13.9**	**-0.2**
LMQ				IAmb	IAmb	19 56 30.9	
	comp=Z,43nm,1.7s						
CCM	**Cathedral Cave**	**87.97**	**39**	P	**P**	**19 56 14.2**	**-0.1**
CCM				IAmb	IAmb	19 56 15.6	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**87.97**	**39**	P	**P**	**19 56 14.9**	**+0.7**
	baz=322						
CCM	**Cathedral Cave**	**87.97**	**39**	P	**P**	**19 56 14.2**	**-0.1**
CCM				pmax	pmax		
	comp=Z,11nm,0.8s						
SFIN	**Lafayette**	**88.05**	**36**	P	**P**	**19 56 15.2**	**+0.6**
	baz=324						
O48B	**Farmland**	**89.01**	**34**	P	**P**	**19 56 19.7**	**+0.6**
	baz=326						
JCT	**Junction City**	**89.12**	**50**	P	**P**	**19 56 20.9**	**+1.0**
	baz=318						
VAE	**Valguarnera**	**89.21**	**321**	LR	LR	20 39 45.6	
	comp=Z,247nm,19.3s,baz=125,slow=38						
BATG	**Bathurst New B**	**89.35**	**19**	P	**P**	**19 56 21.0**	**+0.4**
BATG				IAmb	IAmb	19 56 36.5	
	comp=Z,24nm,1.2s						
WHTX	**Lake Whitney,**	**89.35**	**47**	P	**P**	**19 56 20.9**	**0.0**
	baz=319						
ERPA	**Erie**	**89.56**	**30**	P	**P**	**19 56 22.2**	**+0.5**
	baz=329						
WHAR	**Wooly Hollow**	**89.61**	**42**	P	**P**	**19 56 22.5**	**+0.5**
WHAR				IAmb	IAmb	19 56 23.4	
	comp=Z,17nm,1.0s						
P49A	**Miami Univ. Ec**	**89.79**	**35**	P	**P**	**19 56 23.4**	**+0.6**
	baz=326						
WVNY	**West Valley, N**	**89.83**	**29**	P	**P**	**19 56 22.9**	**0.0**
M53A	**WI Miller and**	**89.87**	**31**	P	**P**	**19 56 23.4**	**+0.3**
	baz=329						
ACSO	**Alum Creek Sta**	**89.95**	**33**	P	**P**	**19 56 23.9**	**+0.4**
ACSO				IAmb	IAmb	19 56 25.5	
	comp=Z,14nm,0.7s						
ACSO	**Alum Creek Sta**	**89.95**	**33**	P	**P**	**19 56 24.1**	**+0.5**
	baz=327						
WCI	**Wyandotte Cave**	**90.17**	**36**	P	**P**	**19 56 25.0**	**+0.5**
	baz=325						
WVT	**Waverly**	**91.15**	**38**	P	**P**	**19 56 29.3**	**+0.2**
	baz=324						
SSPA	**Standing Stone**	**91.63**	**29**	P	**P**	**19 56 31.9**	**+0.6**
	baz=330						
OXF	**Oxford**	**91.68**	**40**	P	**P**	**19 56 32.0**	**+0.4**
	baz=323						
L61B	**Northampton**	**91.86**	**25**	P	**P**	**19 56 33.3**	**+0.9**
	baz=334						
HRV	**Adam Dziewonsk**	**92.17**	**24**	P	**P**	**19 56 33.8**	**+0.1**
	baz=335						
PAL	**Palisades**	**92.74**	**27**	P	**P**	**19 56 35.6**	**-0.8**
	baz=333						
TZTN	**Tazewell**	**92.79**	**35**	P	**P**	**19 56 36.2**	**-0.5**
	baz=327						
KEST	**Kesra**	**93.00**	**323**	LR	LR	20 45 03.1	
	comp=Z,208nm,18.6s,baz=268,slow=40						
TKL	**Tuckaleechee C**	**93.42**	**36**	LR	LR	20 42 39.2	
	comp=Z,99nm,18.1s,baz=5.5,slow=38						
BLA	**Blacksburg**	**93.57**	**33**	P	**P**	**19 56 39.5**	**-0.8**
	baz=329						
LRAL	**Lakeview Retre**	**94.06**	**40**	P	**P**	**19 56 42.3**	**-0.3**
	baz=324						
ESDC	**Sonseca Array**	**94.83**	**335**	P	**P**	**19 56 46.2**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=19,slow=4.3,SNR=17						
	comp=Z,2.2nm,0.7s						
TIGA	**Tifton**	**97.01**	**38**	P	Pdif	19 56 56.3	+0.1
	baz=326						
TORD	**Torodi Ar. Bea**	**115.63**	**317**	PKP	**PKiKP**	**20 02 05.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=12,slow=1.8,SNR=5.1						
TORD				PP	**PP**	**20 03 02.2**	**-6.5**
	comp=Z,1.5nm,0.8s,baz=28,slow=9.5,SNR=7.2						
DBIC	**Dimbokro**	**124.49**	**319**	PKP	**PKPdf**	**20 02 22.1**	**-1.7**
	comp=Z,2.5nm,0.6s,baz=30,slow=1.6,SNR=6.6						
BOSA	**Boshof**	**127.83**	**262**	PKP	**PKPdf**	**20 02 29.1**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=79,slow=5.2,SNR=1.2						
QSPA	**South Pole Qui**	**129.88**	**180**	PKP	**PKPdf**	**20 02 31.2**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=249,slow=1.9,SNR=10						
ELIB	**Princess Elisa**	**136.57**	**203**	*d*PKPdf	**PKiKP**	**20 02 47.2**	**+0.5**
SNAA	**Sanae**	**143.94**	**198**	⇑PKPdf	PKPab	20 02 55.9	+0.3
	comp=Z,195nm,0.8s						
SNAA	**Sanae**	**143.94**	**198**	PKP	PKPab	20 02 55.9	+0.2
	comp=Z,7.4nm,0.8s,baz=214,slow=6.4,SNR=15						
VNA2	**Neumayer--Watz**	**145.51**	**197**	⇑PKPdf	**PKPdf**	**20 03 00.9**	**0.0**
	comp=Z,15nm,0.8s,baz=143,slow=3.0						
H03N2	**Juan Fernandez**	**146.47**	**92**	T	T	22 46 50.1	
	baz=300,slow=77,SNR=11						
H03N3	**Juan Fernandez**	**146.49**	**92**	T	T	22 46 49.5	
	baz=300,slow=77,SNR=13						
H03N1	**Juan Fernandez**	**146.49**	**92**	T	T	22 46 51.2	
	baz=300,slow=77,SNR=8.3						
BDFB	**Brasilia**	**153.96**	**23**	PKIKP	**PKPbc**	**20 03 23.0**	**-1.1**
BDFB	**Brasilia**	**153.96**	**23**	PKPbc	**PKPbc**	**20 03 23.0**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=58,slow=14,SNR=3.2						
PLCA	**Paso Flores**	**155.00**	**102**	PKPbc		20 03 26.1	
	comp=Z,1.5nm,0.7s,baz=205,slow=3.8,SNR=3.2						

*IDC **27** 19:59:48.0±1.7,30°.38S×177°.34W,h0km,mb3.9/3, mbtmp4.0/5,ML3.3/2,Error ellipse: s-maj=42.6km s-min=25.3km az=106.0*

ISC 27 19:59:51.8±1.6,30°.38S±0°.08×177°.4W±0°.2,h33km,n10, σ1s65/12,mb3.9/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.22**	**338**	Pn	**Pn**	**20 00 11.8**	**-0.6**
	309nm,0.3s,baz=72,slow=20,SNR=7.6						
RAO				Sn	**Sn**	**20 00 26.0**	**-1.8**
	756nm,0.3s,baz=90,slow=20,SNR=16						
RAO				LR	LR	20 00 38.7	
	comp=Z,153nm,18.8s,baz=52,slow=41						

URZ	**Urewera**	**9.08**	**209**	Pn	**Pn**	**20 01 59.5**	**-0.9**
	0.3nm,0.3s,baz=84,slow=8.2,SNR=1.6						
URZ				Sn	**Sn**	**20 03 39.5**	**-2.0**
	2.0nm,0.3s,baz=323,slow=22,SNR=13						
	7.4nm,1.0s						
RPZ	**Rata Peaks**	**16.17**	**211**	Pn	**Pn**	**20 03 35.6**	**-0.9**
	0.2nm,0.3s,baz=356,slow=11,SNR=2.1						
RPZ				Sn	Sn	20 06 22.4	-12
	0.3nm,0.3s,baz=355,slow=16,SNR=1.9						
	5.4nm,0.9s						
STKA	**Stephens Creek**	**35.00**	**257**	P	**P**	**20 06 43.3**	**+2.1**
	3.3nm,0.8s,baz=87,slow=8.3,SNR=7.3						
	3.3nm,0.8s						
ASAR	**Alice Springs**	**43.64**	**267**	P	**P**	**20 07 54.8**	**+1.4**
	0.5nm,0.6s,baz=103,slow=7.5,SNR=11						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.62**	**272**	P	**P**	**20 08 02.4**	**+1.0**
	1.0nm,0.5s,baz=110,slow=8.1,SNR=12						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	**PKiKP**	**20 19 27.6**	**-1.8**
	1.9nm,0.6s,baz=67,slow=3.6,SNR=21						
AKASG	**Malin Array Be**	**151.60**	**323**	PKPbc	**PKiKP**	**20 19 42.6**	**-0.1**
	0.3nm,0.3s,baz=71,slow=1.3,SNR=4.5						
MMAI	**Mount Meron Ar**	**152.04**	**284**	PKPbc	**PKiKP**	**20 19 46.5**	**+2.2**
	1.2nm,0.5s,baz=90,slow=2.8,SNR=3.5						
BRTR	**Keskin Array B**	**153.05**	**299**	PKPbc	**PKPbc**	**20 19 45.9**	**-0.2**
	0.3nm,0.4s,baz=90,slow=3.6,SNR=2.2						

*IDC **27** 20:17:05.9±18.0,8°.57N×91°.97E,h0km,mb3.4/3, mbtmp3.4/4,ML3.9/1,Error ellipse: s-maj=330.4km s-min=70.6km az=165.0,Nicobar Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.94**	**34**	Pn	Pn	20 19 57.5	0.0
	0.2nm,0.3s,baz=224,slow=7.6,SNR=6.3						
	0.3nm,0.3s						
H08S3	**Diego Garcia H**	**25.22**	**231**	T	T	20 48 58.2	
	baz=47,slow=74,SNR=4.3						
H08S2	**Diego Garcia H**	**25.23**	**231**	T	T	20 48 57.2	
	baz=47,slow=74,SNR=2.7						
H08S1	**Diego Garcia H**	**25.24**	**231**	T	T	20 48 59.8	
	baz=47						
MKAR	**Makanchi Array**	**38.98**	**349**	P	P	20 24 33.9	-0.1
	0.4nm,0.5s,baz=171,slow=9.3,SNR=8.3						
	0.4nm,0.5s						
SONM	**Songino Array**	**41.00**	**15**	P	P	20 24 50.7	-0.2
	0.4nm,0.8s,baz=207,slow=9.1,SNR=1.7						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**43.38**	**348**	P	P	20 25 09.9	-0.1
	0.2nm,0.3s,baz=178,slow=7.7,SNR=4.5						
	0.2nm,0.3s						
H04N2	**CROZET ISLANDS**	**65.24**	**210**	T	T	21 38 50.0	
	baz=45						
H04N1	**CROZET ISLANDS**	**65.25**	**210**	T	T	21 38 52.3	
	baz=45						
H04N3	**CROZET ISLANDS**	**65.26**	**210**	T	T	21 38 48.9	
	baz=45						

*SJA **27** 20:19:33.5±0.6,23°.96S×69°.45W,h77km±4km,ML3.5, MW3.5*
*GUC **27** 20:19:34.0±0.8,23°.96S×69°.45W,h86km±6km,ML3.7*

ISC 27 20:19:34.1±1.4,23°.97S±0°.03×69°.47W±0°.05,h88km±13km, n24,σ1s46/45,2C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.76**	**0**	*e*P	**Pn**	**20 19 50.6**	**-0.7**
PB15				*e*S	**Sn**	**20 20 03.2**	**-0.9**
PB15				IAML		20 20 03.9	
	comp=Z,4μm,0.1s						
PB15	**IPOC Station P**	**0.76**	**0**	⇓*i*P	**Pn**	**20 19 50.6**	**-0.7**
PB15				*i* S	**Sn**	**20 20 02.9**	**-1.2**
PB14	**IPOC Station P**	**1.07**	**232**	*e*P	**Pn**	**20 19 55.0**	**+0.2**
PB14				*e*S	**Sn**	**20 20 10.9**	**+

LPAZ	La Paz	6.01	94	Pn		Pn	20 28 05.4	+4.1	
TA01	Diego Aracena	6.11	140	Pn		Pn	20 28 02.0	0.0	
GO01	Chusmiza	6.19	128			Pn	20 28 04.3	+0.6	
PATCX	Punta Patache	6.32	141			Pn	20 28 04.6	-0.4	
PB08	IPOC Station P	6.51	131			Pn	20 28 08.5	+0.6	
PB02	IPOC Station P	6.85	142			Pn	20 28 12.1	-0.3	
PB01	IPOC Station P	6.90	139			Pn	20 28 12.9	-0.1	
PB07	IPOC Station P	7.18	144			Pn	20 28 16.0	-0.9	
PB04	IPOC Station P	7.54	149			Pn	20 28 20.8	-0.9	
PB09	IPOC Station P	7.61	141			Pn	20 28 23.4	+0.6	
PB05	IPOC Station P	7.95	151	Pn		Pn	20 28 26.2	-1.2	
CZSB	Cruzeiro do Su	8.29	12	Pn		Pn	20 28 32.4	+0.4	
CZSB	Cruzeiro do Su	8.29	12	eP		Pn	20 28 32.4	+0.4	
PB10	IPOC Station P	8.38	155	Pn		Pn	20 28 33.0	-0.1	
LVC	Limon Verde	8.43	143	Pn		Pn	20 28 35.0	+0.8	
LVC	Limon Verde	8.43	143	P		P	20 28 35.4	+1.2	
	9.1nm,0.2s,baz=323,slow=10.0,SNR=32								
LVC				S		Sn	20 30 03.7	-4.5	
	17nm,0.3s,baz=72,slow=20,SNR=12								
LVC				LR		LR	20 31 56.3		
	comp=Z,142nm,19.5s,baz=328,slow=38								
LVC	Limon Verde	8.43	143	eP		Pn	20 28 35.5	+1.3	
PB15	IPOC Station P	8.61	148			Pn	20 28 35.7	-0.8	
ATAH	Atahualpa	9.57	335	P		Pn	20 28 52.4	+2.6	
	1.1nm,0.3s,baz=102,slow=20,SNR=1.4								
ATAH				LR		LR	20 33 09.3		
	comp=Z,92nm,18.6s,baz=179,slow=41								
ETMB	Extrema	9.99	54	Pn		Pn	20 28 55.8	+0.5	
ETMB	Extrema	9.99	54	eP		Pn	20 28 55.6	+0.2	
SIV	San Ignacio	12.79	92	P		Pn	20 29 31.3	-2.3	
	2.9nm,0.7s,baz=271,slow=9.8,SNR=8.8								
SIV				LR		LR	20 35 13.5		
	comp=Z,242nm,20.6s,baz=282,slow=41								
SAML	Samuel	12.93	59	Pn		Pn	20 29 33.4	-2.0	
BBSD	Serra de San D	13.26	97	eP		Pn	20 29 38.1	-1.9	
COHC	Cochancay	14.20	340			Pn	20 29 51.6	-1.1	
PTLB	Pontes e Lacer	14.68	90	eP		Pn	20 29 58.5	-0.5	
CHSH	Refugio Sur-Vo	14.99	342	P		P	20 30 06.7	-1.6	
CO03	El Pedregal	15.24	168	Pn		Pn	20 30 03.2	-3.2	
SLOR	San Lorenzo -	15.62	345			P	20 30 13.9	-1.3	
MURT	Porto Murtinho	16.87	112	eP		Pn	20 30 26.3	-0.7	
BDQN	Bodoquena, MS	17.34	108	eP		Pn	20 30 31.8	-1.2	
H03N1	Juan Fernandez	17.93	192	T		T	20 49 20.6		
	baz=14,slow=74,SNR=873								
H03N2	Juan Fernandez	17.94	192	T		T	20 49 19.9		
	baz=14,slow=74,SNR=1370								
H03N3	Juan Fernandez	17.95	192	T		T	20 49 19.3		
	baz=14,slow=74,SNR=1036								
AQDB	Aquidauana	18.31	107	eP		Pn	20 30 46.0	+1.2	
ANTJ	Antonio Joao (	18.39	112	eP		Pn	20 30 47.3	+1.4	
MACA	Manacapuru-AM	18.49	48	P		Pn	20 30 47.0	0.0	
PP1B	Ponte de Pedra	18.74	98	eP		Pn	20 30 49.9	-0.2	
RVDE	Rio Verde (Bra	18.80	102	eP		P	20 30 50.3	+0.5	
CPUP	Villa Florida	18.96	126	P		P	20 30 51.2	-0.3	
	4.0nm,1.0s,baz=208,slow=6.5,SNR=1.7								
CPUP				LR		LR	20 38 20.6		
	comp=Z,73nm,20.7s,baz=332,slow=37								
RPRD	Ribas do Rio P	20.15	106	eP		Pn	20 31 06.3	-0.5	
NPGB	Novo Progresso	20.59	67	eP		P	20 31 09.0	-0.4	
ITQB	Itaqui	21.30	133	P		P	20 31 17.1	+0.3	
ITQB				IAmb		IAmb	20 31 22.3		
	comp=Z,24nm,0.9s								
ITQB	Itaqui	21.30	133	eP		P	20 31 18.8	+1.9	
ITTB	Itaituba	21.61	60	eP		P	20 31 20.3	0.0	
PCMB	Pacaembu	22.59	108	eP		P	20 31 31.6	+0.7	
PTGB	Pitanga	22.66	116	eP		P	20 31 33.8	+2.3	
RODS	Rosario do Sul	22.70	133	eP		P	20 31 33.1	+1.2	
SNDB	Serra Nova Dou	22.73	83	eP		P	20 31 32.0	-0.4	
LDASE	Londrina, Braz	23.11	112	eP		P	20 31 37.2	+1.0	
ITRB	Iturama	23.17	103	eP		P	20 31 38.0	+1.2	
ALGR	Alto Alegre (B	23.49	127	eP		P	20 31 41.0	+1.1	
ITAB	Concordia	23.51	122	eP		P	20 31 41.4	+1.4	
CPSB	Cacapava Do Su	24.00	131	eP		P	20 31 45.9	+1.5	
MALB	Monte Alegre	24.24	57	eP		P	20 31 47.8	+1.0	
FRTB	Fartura	24.49	111	eP		P	20 31 50.8	+1.8	
PLTB	Pedras Altas	24.63	134	P		P	20 31 49.5	-0.6	
PLTB	Pedras Altas	24.63	134	eP		P	20 31 51.1	+1.0	
SDV	Santo Domingo	24.91	9	P		P	20 31 52.1	-0.9	
SDV	Santo Domingo	24.91	9	eP		P	20 31 54.5	+1.5	
PLCA	Paso Flores	24.96	173	P		P	20 31 52.9	-0.3	
PLCA	Paso Flores	24.96	173	P		P	20 31 55.4	+2.2	
	comp=Z,1.3nm,0.8s,baz=314,slow=10,SNR=1.7								
PLCA				LR		LR	20 39 49.3		
	comp=Z,64nm,21.8s,baz=353,slow=32								
	comp=Z,1.3nm,0.8s								
BB19B	Bebedouro	25.03	106	eP		P	20 31 54.5	+0.6	
IPMB	Ipameri, GO	25.10	98	eP		P	20 31 55.7	+1.0	
BDFB	Brasilia	25.36	93	P		P	20 31 57.0	-0.2	
BDFB				IAmb		IAmb	20 31 59.2		
	comp=Z,16nm,1.0s								
BDFB	Brasilia	25.36	93	P		P	20 31 56.5	-0.6	
	comp=Z,12nm,0.9s,baz=264,slow=11,SNR=14								
BDFB				LR		LR	20 42 47.4		
	comp=Z,110nm,21.0s,baz=330,slow=38								
	comp=Z,12nm,0.9s								
BAUV	El Baul	25.48	15	P		P	20 31 57.6	-0.3	
PMNB	Patos De Minas	26.80	100	eP		P	20 32 11.1	+1.0	
JTS	Las Juntas de	28.06	337	LR		LR	20 42 17.1		
	comp=Z,145nm,20.8s,baz=58,slow=34								
JANB	Januaria	28.97	92	eP		P	20 32 30.3	+0.8	
DIAM	Diamantina, MG	29.42	99	eP		P	20 32 35.6	+2.0	
RIB01	Linhares ES	32.53	101	eP		P	20 33 01.6	+0.8	
GUA01	Guaratinga, BA	33.17	96	eP		P	20 33 07.6	+1.2	
RPN	Rapa Nui	34.28	245	LR		LR	20 43 38.5		
	comp=Z,233nm,18.1s,baz=260,slow=30								
TEIG	Tepich	38.42	339	LR		LR	20 48 47.7		
	comp=Z,553nm,19.4s,baz=258,slow=35								
CMIG	Matias Romero	38.53	327	LR		LR	20 46 40.0		
	comp=Z,70nm,21.1s,baz=142,slow=31								
RCBR	Riachuelo	39.02	79	LR		LR	20 50 54.5		
	comp=Z,183nm,19.2s,baz=254,slow=38								
HNDO	Hondo	51.17	332	P		P	20 35 32.0	-0.7	
HNDO				IAmb		IAmb	20 35 45.9		
	comp=Z,6.9nm,0.8s								
WLAR	White Oak Lake	52.46	340	P		P	20 35 40.6	-1.4	
TXAR	Lajitas Array	53.13	328	P		P	20 35 47.1	-0.2	
	comp=Z,0.4nm,0.6s,baz=152,slow=9.8,SNR=2.9								
	comp=Z,0.4nm,0.6s								
SMWD	Samnorwood	56.36	335	P		P	20 36 10.0	-0.6	
ANMO	Albuquerque	59.04	329	LR		LR	21 00 44.7		
	comp=Z,45nm,18.4s,baz=162,slow=35								
SDCO	Great Sand Dun	60.87	332	P		P	20 36 42.1	0.0	
SDCO				IAmb		IAmb	20 36 43.4		
	comp=Z,3.5nm,0.8s								
DUG	Dugway, Tooele	66.29	329	P		P	20 37 17.7	+0.1	
DUG				IAmb		IAmb	20 37 19.7		
	comp=Z,3.9nm,0.8s								
PDAR	Pinedale Array	66.75	332	P		P	20 37 20.4	-0.2	
	comp=Z,0.3nm,0.6s,baz=180,slow=4.4,SNR=3.4								
PDAR				LR		LR	21 07 30.0		
	comp=Z,58nm,18.1s,baz=28,slow=37								
	comp=Z,0.3nm,0.6s								
NVAR	Mina Array Bea	67.94	324	P		P	20 37 29.1	+0.8	
	comp=Z,0.2nm,0.6s,baz=148,slow=5.3,SNR=2.2								
	comp=Z,0.2nm,0.6s								
SNAA	Sanae	69.22	161	P		P	20 37 36.5	+1.0	
SNAA				IAmb		IAmb	20 37 39.0		
	comp=Z,13nm,1.3s								
SNAA	Sanae	69.22	161	P		P	20 37 36.9	+1.3	
	comp=Z,4.0nm,0.8s,baz=279,slow=11,SNR=6.8								
	comp=Z,4.0nm,0.8s								
SCHQ	Schefferville	70.75	5	P		P	20 37 44.6	-0.4	
	comp=Z,3.0nm,0.8s,baz=160,slow=12,SNR=3.0								
SCHQ				LR		LR	21 10 27.8		
	comp=Z,64nm,18.4s,baz=155,slow=37								
	comp=Z,3.0nm,0.8s								
DBIC	Dimbokro	72.36	78	P		P	20 37 55.1	-0.5	
DBIC				IAmb		IAmb	20 37 56.0		
	comp=Z,6.4nm,0.8s								
DBIC	Dimbokro	72.36	78	P		P	20 37 54.4	-1.2	
	comp=Z,5.5nm,0.8s,baz=241,slow=5.1,SNR=9.3								
	comp=Z,5.5nm,0.8s								
QSPA	South Pole Qui	74.25	180	P		P	20 38 06.8	+0.8	
QSPA	South Pole Qui	74.25	180	P		P	20 38 07.4	+1.4	
	comp=Z,0.6nm,0.7s,baz=40,slow=7.0,SNR=2.1								
	comp=Z,0.6nm,0.7s								
FRB	Frobisher Bay	79.53	3	LR		LR	21 14 42.2		
	comp=Z,50nm,19.0s,baz=186,slow=36								
RAR	Rarotonga	80.21	251	LR		LR	21 06 28.0		
	comp=Z,53nm,21.8s,baz=317,slow=30								
TOA0	Torodi Ar. Sit	80.55	73	P		P	20 38 41.9	-0.1	
TOA0				IAmb		IAmb	20 38 43.4		
	comp=Z,10nm,0.8s								
TORD	Torodi Ar. Bea	80.55	73	P		P	20 38 41.9	-0.1	
TORD				IAmb		IAmb	20 38 43.4		
	comp=Z,8.4nm,0.8s								
TORD	Torodi Ar. Bea	80.55	73	P		P	20 38 42.5	+0.5	
	comp=Z,8.0nm,0.7s,baz=265,slow=4.7,SNR=48								
	comp=Z,8.0nm,0.7s								
YKA	Yellowknife Ar	84.27	342	P		P	20 38 59.9	-0.4	
	comp=Z,1.1nm,0.9s,baz=139,slow=5.2,SNR=13								
	comp=Z,1.1nm,0.9s								
ESDC	Sonseca Array	85.65	47	P		P	20 39 08.3	+0.4	
ESDC	Sonseca Array	85.65	47	P		P	20 39 08.7	+0.8	
	comp=Z,2.5nm,1.1s,baz=258,slow=5.3,SNR=5.9								
	comp=Z,2.5nm,1.1s								
TAM	Tamanrasset	87.08	65	P		P	20 39 16.0	+0.6	
TAM				IAmb		IAmb	20 39 18.8		
	comp=Z,5.6nm,0.9s								
H11N3	WAKE ISLAND Hyl	21.80	284	T		T	22 58 41.7		
	baz=97,slow=75,SNR=9.4								
H11N2	WAKE ISLAND Hyl	21.81	284	T		T	22 58 53.0		
	baz=97,slow=75,SNR=16								
H11N1	WAKE ISLAND Hyl	21.81	284	T		T	22 58 46.0		
	baz=97,slow=75,SNR=12								
H11S2	WAKE ISLAND Hyl	21.83	282	T		T	22 58 41.1		
	baz=99,slow=75,SNR=14								
H11S1	WAKE ISLAND Hyl	21.84	282	T		T	22 58 46.1		
	baz=99,slow=75,SNR=8.4								
H11S3	WAKE ISLAND Hyl	21.85	282	T		T	22 58 44.4		
	baz=99,slow=75,SNR=14								
BVAR	Borovoye Array	133.77	29	PKP		PKPdf	20 45 44.9	-0.6	
	comp=Z,0.3nm,0.6s,baz=264,slow=1.4,SNR=1.6								
WRA	Warramunga Arr	134.55	219	PKP		PKPdf	20 45 48.3	+0.3	
	comp=Z,0.6nm,0.8s,baz=144,slow=2.0,SNR=2.5								
ZALV	Zalesovo Beam	138.71	19	PKP		PKPdf	20 45 55.5	+0.9	
	comp=Z,2.3nm,0.8s,baz=288,slow=2.3,SNR=10								
KURBB	Kurchatov Arra	139.08	26	PKP		PKPdf	20 45 55.2	-0.2	
	comp=Z,0.4nm,0.4s,baz=312,slow=2.9,SNR=4.1								
MKAR	Makanchi Array	143.60	27	PKP		PKPbc	20 46 01.5	+0.3	
	comp=Z,0.7nm,0.7s,baz=307,slow=3.8,SNR=7.1								
MJAR	Matsushiro Arr	144.53	312	PKP		PKPab	20 46 03.9	-0.2	
	comp=Z,1.2nm,0.7s,baz=65,slow=2.3,SNR=3.7								
SONM	Songino Array	148.16	359	PKPbc		PKPbc	20 46 15.6	+0.7	
	comp=Z,2.9nm,0.9s,baz=336,slow=2.7,SNR=16								
KSRS	Korea Array	150.86	322	PKPbc		PKPbc	20 46 21.7	+0.1	
	comp=Z,2.8nm,1.0s,baz=36,slow=1.7,SNR=6.6								
CMAR	Chiang Mai Arr	173.13	67	PKPab		PKPab	20 48 06.7	+0.2	
	comp=Z,0.3nm,0.7s,baz=268,slow=7.2,SNR=5.5								

IDC 27 20:26:50.1±6.4, 19°.69S×172°.41W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=314.8km s-min=68.6km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	49.81	255	P	P	20 35 43.8	-1.4
	0.2nm,0.5s,baz=95,slow=7.3,SNR=4.7						
	0.2nm,0.5s						
WRA	Warramunga Arr	49.91	260	P	P	20 35 46.9	+0.9
	0.4nm,0.4s,baz=98,slow=8.6,SNR=14						
	0.4nm,0.4s						
BRTR	Keskin Array B	150.00	317	PKPbc	PKPbc	20 46 42.5	-0.6
	0.4nm,0.7s,baz=30,slow=3.8,SNR=2.2						

NOU 27 20:27:49.8, 42°.64S×173°.42E, h7km, MLv3.8/9, South Island, New Zealand
WEL 27 20:27:51.1±0.4, 43°.3S×174°.3E±°, h11km±4km, M3.2/10, ML3.3/10, MLv3.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=128.1, confirmed

ISC 27 20:27:51.6±0.9, 42°.56S±0°.03×173°.38E±0°.03, h17km±6km, n83, σ1°.14/92, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.18	40	P	Pg	20 27 55.4	-0.8
KHZ	Kahutara	0.18	40	P	Pg	20 27 55.7	-0.5
KHZ				S	Sg	20 27 58.8	-0.5
KIKS	Kaikoura	0.26	59	P	Pb	20 27 57.2	-0.6
KIKS				S	Sb	20 28 03.0	+1.0
CECS	Cheviot Emerge	0.27	197	P	Pg	20 27 58.8	+1.3
CECS				S	Sg	20 28 04.4	+2.9
GVZ	Greta Valley S	0.48	212	P	Pn	20 28 02.4	-1.2
GVZ				S	Sb	20 28 10.6	+2.2
SCAC	Scargill	0.51	221	P	Pb	20 28 01.3	-0.7
WAKC	Waikari	0.64	231	P	Pn	20 28 04.7	-1.2
LSRC	Lake Sumner Ro	0.69	243	P	Pb	20 28 04.7	-0.4
KEKS	Kekerengu Vall	0.75	37	P	Pb	20 28 06.5	+0.3
AMBC	Amberley HDC	0.76	218	P	Pb	20 28 06.0	-0.4
AMCZ	Amberley	0.82	221	P	Pn	20 28 07.7	-0.6
AMCZ				S	Sn	20 28 20.4	+0.4
LTZ	Lake Taylor	0.85	254	P	Pb	20 28 07.5	-0.3
LTZ				S	Sb	20 28 19.3	+0.4
THZ	Tophouse	0.87	336	P	Pg	20 28 07.2	-1.3
THZ				S	Sg	20 28 17.5	-2.5
BSWZ	Blackbirch Sta	0.92	24	P	Pb	20 28 08.9	-0.1
BSWZ				S	Sn	20 28 23.5	+1.0
CMWZ	Cape Campbell	1.02	38	P	Pn	20 28 11.5	+0.5
OKCZ	Okains Bay	1.19	191	P	Pn	20 28 12.0	-0.4
TUWZ	Tuamarina	1.20	21	P	Pn	20 28 13.4	-0.2
TUWZ				S	Sg	20 28 30.0	-0.5
MRNZ	Matariki Terra	1.25	338	P	Pn	20 28 13.7	-0.5
MRNZ				S	Sb	20 28 31.4	+1.0
OXZ	Oxford	1.25	232	P	Pn	20 28 13.2	-1.0
MQZ	McQueen's Vall	1.26	205	P	Pn	20 28 13.0	-1.4
NNZ	Nelson	1.34	0	P	Pn	20 28 15.2	-0.2
AKCZ	Akaroa Harbour	1.36	194	P	Pn	20 28 14.8	-1.0
DSZ	Denniston Nort	1.43	304	P	Pn	20 28 16.3	-0.3
RACZ	Rakaia	1.48	217	P	Pn	20 28 16.2	-1.1
TCW	Tory Channel	1.50	27	P	Pn	20 28 17.1	-0.6
TKNZ	Takaka Hill	1.56	348	P	Pn	20 28 19.0	+0.6
SNZO	South Karori	1.59	39	P	Pn	20 28 18.3	-0.6
BHW	Baring Head	1.60	45	P	Pn	20 28 18.2	-0.8
WEL	Wellington	1.64	40	P	Pn	20 28 19.2	-0.4
MHCZ	Mount Hutt	1.65	233	P	Pn	20 28 18.5	-1.2
WACZ	Wakanui South	1.78	219	P	Pn	20 28 20.4	-1.1
DUWZ	D'Urville Isla	1.80	13	P	Pn	20 28 21.9	0.0
QRZ	Quartz Range	1.84	340	P	Pn	20 28 23.0	+0.6
QRZ	Quartz Range	1.84	340	P	Pn	20 28 23.0	+0.6
CAW	Cannon Point	1.92	42	P	Pn	20 28 22.5	-1.0
PAWZ	Paruwai Farm	1.93	53	P	Pn	20 28 22.0	-1.6
WVZ	Waitaha Valley	2.01	254	P	Pn	20 28 24.4	-0.3
KIW	Kapiti Island	2.05	35	P	Pn	20 28 24.6	-0.6
RPZ	Rata Peaks	2.06	235	P	Pn	20 28 24.2	-1.1
RPZ	Rata Peaks	2.06	235	P	Pn	20 28 24.2	-1.1
TRWZ	Traveller	2.08	57	P	Pn	20 28 25.0	-0.5
MTW	Mount Morrison	2.12	49	P	Pn	20 28 24.7	-1.4
ARCZ	Arundel	2.12	228	P	Pn	20 28 24.9	-1.3
OGWZ	Otaki Gorge	2.20	38	P	Pn	20 28 26.3	-1.0
HOWZ	Holdsworth Sta	2.31	45	P	Pn	20 28 29.3	+0.5
GCSZ	Gaunt Creek Bo	2.37	250	P	Pn	20 28 29.8	+0.2
TMWZ	Te Maipa	2.37	53	P	Pn	20 28 28.2	-1.5
TMZ	Timaru	2.51	223	P	Pn	20 28 30.4	-1.2
MRZ	Mangatainoka R	2.51	42	P	Pn	20 28 30.1	-1.5
FOZ	Fox Glacier	2.79	248	P	Pn	20 28 36.1	+0.7
BFZ	Birch Farm	2.85	50	P	Pn	20 28 35.3	-0.9
LBZ	Lake Benmore	2.96	231	P	Pn	20 28 36.7	-1.0
WAZ	Wanganui	3.05	24	P	Pn	20 28 40.6	+1.6
TSZ	Takapari Road	3.17	39	P	Pn	20 28 39.0	-1.6
ODZ	Otahua Downs	3.18	218	P	Pn	20 28 39.4	-1.4
ODZ	Otahua Downs	3.18	218	P	Pn	20 28 39.3	-1.4
KHEZ	Kahui Hut	3.30	9	P	Pn	20 28 42.7	+0.3
KHEZ	Kahui Hut	3.30	9	P	Pn	20 28 44.9	+2.5
PKE	Pukeiti	3.39	8	P	Pn	20 28 45.2	+1.5
VRZ	Vera Road	3.59	17	P	Pn	20 28 48.0	+1.6
WNVZ	Wahianoa	3.64	28	P	Pn	20 28 47.5	+0.3
TRVZ	Turoa	3.65	27	P	Pn	20 28 47.4	0.0
JCZ	Jackson Bay	3.68	244	P	Pn	20 28 47.2	-0.5
JCZ	Jackson Bay	3.68	244	P	Pn	20 28 47.0	-0.7
NGZ	Ngauruhoe	3.78	27	P	Pn	20 28 49.0	-0.1
OTVZ	Oturere	3.81	28	P	Pn	20 28 49.5	-0.1
NNVZ	North Ngauruho	3.82	27	P	Pn	20 28 52.4	+2.7
WTVZ	West Tongariro	3.83	27	P	Pn	20 28 52.1	+2.3
TMVZ	Te Maari	3.87	28	P	Pn	20 28 50.8	+0.5
NTVZ	North Tongarir	3.87	28	P	Pn	20 28 51.5	+1.1
HHSZ	Highcliff Hill	3.88	210	P	Pn	20 28 49.0	-1.4
WKZ	Wanaka	3.89	233	P	Pn	20 28 49.1	-1.5
EAZ	Earnscleugh	3.97	226	P	Pn	20 28 50.3	-1.4
HIZ	Hauiti	4.20	16	P	Pn	20 28 56.1	+1.4
HIZ	Hauiti	4.20	16	P	Pn	20 28 55.5	+0.8
TUZ	Tuapeka	4.33	217	P	Pn	20 28 55.5	-1.1
MLZ	Mavora Lakes	4.72	232	P	Pn	20 29 00.1	-1.9
SYZ	Scrubby Hill	5.00	216	P	Pn	20 29 04.9	-0.9
SYZ	Scrubby Hill	5.00	216	P	Pn	20 29 04.8	-0.9
MKAZ	Moumakai	5.62	15	P	Pn	20 29 14.5	+0.3
MYRZ	Mayor Island	5.71	24	P	Pn	20 29 21.3	+5.8
ETAZ	East Tamaki Re	5.72	13	P	Pn	20 29 16.2	+0.5
MBAZ	Motutapu North	5.90	12	P	Pn	20 29 18.7	+0.6

WEL 27 20:46:14.9±0.9, 32°.5S±7°×17°.9W±1°.7, h334km±13km, mB5.1/12, MLv5.6/15, Mw(mB)4.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=109.0, confirmed
NOU 27 20:46:15.4, 32°.15S×179°.50W, h357km, mb4.5/46, South of Kermadec Islands
NEIC 27 20:46:16.1±1.9, 32°.03S±0°.09×180°.0E±0°.2, h332km±6km, mb4.4/27, Error ellipse: s-maj=21.4km s-min=12.9km az=102.0
IDC 27 20:46:17.1±1.4, 31°.86S×179°.98W, h349km±13km, mb4.3/8, mbtmp5.0/8, Error ellipse: s-maj=16.5km s-min=12.7km az=82.0

ISC 27 20:46:16.1±0.4, 32°.04S±0°.05×179°.84W±0°.08, h350km, n146, σ2°.22/160, mb4.5/27, 3C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.23	31	P	Pn	20 47 16.0	-1.6
GLKZ				S	S	20 48 03.6	-3.5
RAO	Raoul Island	3.24	31	P	Pn	20 47 18.0	+0.3
RAO	Raoul Island	3.24	31	P	Pn	20 47 16.1	-1.6
	1µm,0.3s,baz=117,slow=7.6,SNR=14						
RAO				S	S	20 47 59.9	-7.3
	586nm,0.3s,baz=270,slow=20,SNR=1.4						
MXZ	Matakaoa Point	5.71	195	Pn	Pn	20 47 41.8	-1.7
MXZ	Matakaoa Point	5.71	195	P	Pn	20 47 42.9	-0.6
KUZ	Kuaotunu	5.96	217	P	Pn	20 47 49.3	+3.0
WCZ	Waipu Caves	6.20	230	P	Pn	20 47 51.8	+2.8
OUZ	Omahuta	6.33	238	P	Pn	20 47 52.9	+2.4
OUZ	Omahuta	6.33	238	P	Pn	20 47 53.0	+2.4
MWZ	Matawai	6.63	198	P	Pn	20 47 52.4	-1.8
MWZ				S	S	20 49 11.3	-2.5
TKGZ	Te Karaka	6.66	196	P	Pn	20 47 53.1	-1.1
TKGZ				S	S	20 49 11.3	-2.9
URZ	Urewera	6.69	201	P	Pn	20 47 52.5	-2.1
URZ	Urewera	6.69	201	P	Pn	20 47 52.7	-2.0
	45nm,0.3s,baz=117,slow=3.5,SNR=46						
URZ				S	S	20 49 10.8	-4.0
	307nm,0.6s,baz=351,slow=20,SNR=19						
RAGZ	Rawiri	6.82	198	P	Pn	20 47 54.4	-1.9
RAGZ				S	S	20 49 15.3	-2.4
RIGZ	Rimuhau	6.93	196	P	Pn	20 47 55.6	-1.9
RIGZ				S	S	20 49 16.1	-4.0
RTZ	Ruatahuna	7.05	201	Pn	Pn	20 47 56.1	-2.9
RTZ	Ruatahuna	7.05	201	P	Pn	20 47 56.5	-2.5
RTZ				S	S	20 49 20.3	-2.4
SNGZ	Shannon Statio	7.11	198	P	Pn	20 47 57.6	-1.9
SNGZ				S	S	20 49 19.6	-4.3
PRGZ	Paritu Road	7.11	195	P	Pn	20 47 57.9	-1.8
PRGZ				S	S	20 49 21.7	-2.2
KNZ	Kokohu	7.25	196	P	Pn	20 47 58.9	-2.4
KNZ				S	S	20 49 24.6	-2.3
RAHZ	Arahi	7.30	199	P	Pn	20 47 59.9	-1.9
RAHZ				S	S	20 49 26.3	-1.7
MTHZ	Maungataniwha	7.31	201	P	Pn	20 48 00.2	-1.8
MHGZ	Mahia Peninsul	7.33	194	P	Pn	20 47 60.0	-2.2
WHHZ	Waihua	7.41	198	P

comp=Z,0.9nm,0.8s,baz=104,slow=4.3,SNR=3.5
comp=Z,18nm,0.3s

FORT	**Forrest**	**44.13**	**257**	P	**P**	**20 53 50.0**	**-1.1**
FORT				IAmb	IAmb	20 53 51.3	
	comp=Z,19nm,0.7s						
FORT	**Forrest**	**44.13**	**257**	P	**P**	**20 53 51.4**	**+0.2**
WRKA	**Warakurna**	**45.74**	**265**	P	**P**	**20 54 03.1**	**-0.8**
SBA	**Scott Base**	**46.29**	**184**	P	**P**	**20 54 11.3**	**+4.0**
SBA				IAmb	IAmb	20 54 32.6	
	comp=Z,21nm,1.1s						
VNDA	**Vanda**	**46.31**	**185**	P	**P**	**20 54 08.6**	**+1.2**
VNDA	**Vanda**	**46.31**	**185**	P	**P**	**20 54 08.4**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=8.8,slow=6.3,SNR=13 comp=Z,1.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.81**	**272**	P	**P**	**20 54 40.8**	**-1.5**
CASY	**Casey**	**52.95**	**208**	P	**P**	**20 54 57.5**	**+0.3**
CASY				IAmb	IAmb	20 54 58.5	
	comp=Z,15nm,1.2s						
MEEK	**Meekatharra**	**53.30**	**259**	P	**P**	**20 55 00.2**	**-0.2**
MUN	**Mundaring**	**53.47**	**252**	P	**P**	**20 55 01.4**	**-0.1**
PSA00	**Pilbara Seismi**	**54.23**	**265**	P	**P**	**20 55 05.0**	**-2.2**
PSA00				IAmb	IAmb	20 55 26.0	
	comp=Z,27nm,1.1s						
MORW	**Morawa**	**54.57**	**255**	P	**P**	**20 55 09.2**	**-0.2**
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**20 55 37.0**	**+3.5**
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**20 55 37.1**	**+3.6**
	comp=Z,57nm,0.7s,baz=47,slow=0.9,SNR=426 comp=Z,57nm,0.7s						
BELA	**Belgrano 2**	**68.37**	**173**	P	**P**	**20 56 42.3**	**+2.2**
BELA				IAmb	IAmb	20 56 43.3	
	comp=Z,6.4nm,0.9s						
MAW	**Mawson**	**70.22**	**201**	P	**P**	**20 56 52.4**	**+1.0**
	comp=Z,17nm,0.8s,baz=100,slow=11,SNR=2.2 comp=Z,17nm,0.8s						
ELIB	**Princess Elisa**	**75.03**	**187**	*d*P	**P**	**20 57 20.9**	**+1.2**
	comp=Z,8.8nm,0.7s						
SNAA	**Sanae**	**76.55**	**179**	P	**P**	**20 57 30.2**	**+2.1**
SNAA	**Sanae**	**76.55**	**179**	⇑P	**P**	**20 57 30.2**	**+2.1**
	comp=Z,113nm,0.3s						
SNAA	**Sanae**	**76.55**	**179**	P	**P**	**20 57 30.4**	**+2.3**
	comp=Z,5.4nm,0.3s,baz=208,slow=10,SNR=39 comp=Z,5.4nm,0.3s						
VNA3	**Neumayer Olymp**	**76.77**	**177**	⇑P	**P**	**20 57 31.4**	**+2.2**
	comp=Z,25nm,0.7s						
VNA2	**Neumayer--Watz**	**77.18**	**177**	⇑P	**P**	**20 57 34.0**	**+2.5**
	comp=Z,22nm,0.7s,baz=192,slow=5.0						
GSI	**Gunungsitoli**	**84.40**	**275**	P	**P**	**20 58 10.2**	**-0.2**
GSI				IAmb	IAmb	20 58 11.9	
	comp=Z,6.2nm,0.7s						
KSRS	**Korea Array**	**84.60**	**321**	P	**P**	**20 58 11.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=144,slow=7.2,SNR=1.8						
PEA0B	**Petropavlovsk-**	**87.03**	**347**	P	**P**	**20 58 23.7**	**+1.6**
PETK	**Petropavlovsk-**	**87.03**	**347**	P	**P**	**20 58 23.4**	**+1.3**
PETK	**Petropavlovsk-**	**87.03**	**347**	P	**P**	**20 58 23.0**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=122,slow=6.4,SNR=8.2 comp=Z,5.5nm,0.8s						
NVAR	**Mina Array Bea**	**90.51**	**44**	P	**P**	**20 58 40.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=232,slow=6.8,SNR=1.9						
PZH	**PanZhiHua**	**94.68**	**298**	P	**P**	**20 59 01.5**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,5.3s						
MKAR	**Makanchi Array**	**117.62**	**310**	PKP	**PKPdf**	**21 04 20.3**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=238,slow=4.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**118.20**	**318**	PKP	**PKiKP**	**21 04 21.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=134,slow=6.2,SNR=2.4						
KURBB	**Kurchatov Arra**	**121.07**	**313**	PKP	**PKPdf**	**21 04 25.7**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=99,slow=2.1,SNR=8.2						
BVAR	**Borovoye Array**	**126.47**	**315**	PKP	**PKiKP**	**21 04 37.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=113,slow=1.8,SNR=13						
ARCES	**ARCESS Array B**	**139.84**	**347**	PKhKP	PKPpre	21 04 56.1	
	comp=Z,5.5nm,1.0s,baz=30,slow=1.5,SNR=8.9						
ONI	**Oni**	**144.34**	**300**	PKPdf	**PKPdf**	**21 05 10.9**	**+0.1**
KBZ	**Khabaz**	**144.68**	**302**	PKP	**PKPab**	**21 05 10.7**	**-0.5**
	comp=Z,3.3nm,1.1s,baz=10,slow=15,SNR=2.5						
FIA1	**FINESS Array S**	**146.11**	**338**	PKPdf	**PKPab**	**21 05 15.2**	**-0.9**
FINES	**FINESS Array B**	**146.11**	**338**	PKPbc	**PKPbc**	**21 05 15.2**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=43,slow=4.6,SNR=69						
NB2	**NORSAR Subarra**	**150.10**	**349**	PKP	**PKPab**	**21 05 32.8**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=20,slow=4.3						
NOA	**NORSAR Array B**	**150.10**	**349**	PKPab	**PKPab**	**21 05 32.6**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=19,slow=5.3,SNR=7.6						
MMAI	**Mount Meron Ar**	**150.35**	**281**	PKPbc	**PKiKP**	**21 05 27.9**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=91,slow=5.0,SNR=8.2						
HFS	**Hagfors**	**150.50**	**346**	PKPbc	**PKiKP**	**21 05 26.3**	**-0.3**
	comp=Z,5.0nm,1.1s,baz=90,slow=3.0,SNR=6.5						
HFS				PKPab	**PKPab**	**21 05 34.2**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=69,slow=4.9,SNR=28						
AKASG	**Malin Array Be**	**151.59**	**320**	PKPbc	**PKPbc**	**21 05 28.7**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=44,slow=2.7,SNR=9.0						
AKBB	**Malin Array Si**	**151.59**	**320**	PKPbc	**PKiKP**	**21 05 29.4**	**+0.3**
BR131	**Keskin Array S**	**151.93**	**295**		**PKPbc**	**21 05 29.8**	**-0.4**
BRTR	**Keskin Array B**	**151.93**	**295**	PKPbc	**PKPbc**	**21 05 29.4**	**-0.7**
BRTR	**Keskin Array B**	**151.93**	**295**	PKPbc	**PKiKP**	**21 05 30.1**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=147,slow=4.0,SNR=19						
VYHS	**Vyhne**	**158.34**	**325**	*e*PKP	**PKPab**	**21 06 07.0**	**-1.0**
TOA0	**Torodi Ar. Sit**	**161.14**	**185**		**PKPab**	**21 06 21.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**161.14**	**185**	PKPab	**PKPab**	**21 06 21.9**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=172,slow=2.9,SNR=19						

IDC 27 20:48:09.9±2.4, 4°42'S×129°75'E, h0km, mb3.2/1, mbtmp3.2/3, ML3.7/2, Error ellipse: s-maj=132.8km s-min=31.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.06**	**164**	Pn	Pn	20 51 56.8	-0.5
	0.4nm,0.3s,baz=344,slow=11,SNR=25 0.5nm,0.4s						
ASAR	**Alice Springs**	**19.55**	**169**	P	P	20 52 39.6	+0.2
	0.1nm,0.3s,baz=336,slow=9.7,SNR=8.8 0.3nm,0.5s						
MKAR	**Makanchi Array**	**65.95**	**326**	P	P	20 58 58.0	0.0
	0.2nm,0.7s,baz=111,slow=7.9,SNR=1.8 0.2nm,0.7s						

*IDC **27** 20:59:30.4±1.0, 39°.20'N×138°.28'E, h0km, mb3.5/5, mbtmp3.5/8, ML2.9/3, MS3.2/2, Error ellipse: s-maj=28.1km s-min=19.0km az=99.0*
*JMA **27** 20:59:32.9±0.1, 39°.2'N±0°.4×138°.3'E±0°.7, h42km±3km, MD4.2/35, MV4.1/35, EASTERN SEA OF JAPAN*
*NIED **27** 20:59:32.9, 39°.22'N×138°.29'E, h42km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr1.74; Mθθ0.08; Mϕϕ -1.82; Mrθ0.11; Mθϕ -0.23; Mϕr -1.17; Fault plane solution: M0 2.15000×10^14 NP1: ϕs180.00000°, δ62.00000°, λ83.00000°. NP2: ϕs14.00000°, δ29.00000°, λ102.00000°.*

ISC 27 20:59:36.1±1.1, 39°09'N±0°.04×138°39'E±0°.06, h45km±13km, n25, σ2s°08/29, mb3.5/5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTB	**Tobi-shima**	**0.91**	**83**	*i* P	**Pn**	**20 59 50.6**	**-1.9**
JTB				S	**Sn**	**21 00 03.5**	**-1.0**
JAW	**Awa shima**	**0.92**	**133**	P	**Pn**	**20 59 51.5**	**-1.1**
JOG3	**Oga3**	**0.99**	**33**	P	**Pn**	**20 59 56.1**	**+2.5**
JOG3				*e*S	**Sn**	**21 00 13.1**	**+6.8**
JOG3	**Oga3**	**0.99**	**33**	A	A	20 59 56.1	
	comp=E,20nm,0.3s,comp=N,13nm,0.6s						
JSD	**Sado**	**1.06**	**186**	P	**Pn**	**20 59 53.3**	**-1.2**
JSD				*e*S	**Sn**	**21 00 08.5**	**+0.5**
JYA	**Atsumi**	**1.15**	**115**	*i* P	**Pn**	**20 59 54.5**	**-1.3**
JYA	**Atsumi**	**1.15**	**115**	A	A	20 59 54.5	
	comp=E,6.0nm,2.3s,comp=N,5.0nm,0.7s						
JYYZ	**Yamagatayuza**	**1.20**	**93**	*e*P	**Pn**	**20 59 55.8**	**-0.7**
JNS	**Sasagawa**	**1.46**	**150**	P	**Pn**	**20 59 59.4**	**-0.6**
JNS				*e*S	**Sn**	**21 00 19.7**	**+1.7**
JYK	**Kaneyama**	**1.54**	**96**	P	**Pn**	**20 59 59.9**	**-1.3**
JYK				*e*S	**Sn**	**21 00 19.6**	**-0.4**
JRG	**Rokugo**	**1.77**	**79**	P	**Pn**	**21 00 03.1**	**-1.1**
JSZ	**Suzu**	**1.83**	**207**	*e*S	**Sn**	**21 00 27.2**	**+0.3**
JOU	**Okura**	**1.92**	**111**	P	**Pn**	**21 00 06.1**	**-0.3**
JIW	**Iwasaki**	**1.95**	**39**	*e*P	**Pn**	**21 00 03.8**	**-3.0**
JIW				*e*S	**Sn**	**21 00 27.7**	**-2.4**
JMK	**Ichinoseki**	**2.21**	**93**	P	**Pn**	**21 00 09.9**	**-0.3**
JOM	**Ohasama**	**2.28**	**79**	*i* P	**Pn**	**21 00 10.5**	**-0.8**
MJAR	**Matsushiro Arr**	**2.55**	**183**	Pn	**Pn**	**21 00 15.3**	**+0.3**
	comp=N,0.4nm,0.3s,baz=9.4,slow=14,SNR=27						
MJAR				Sn	**Sn**	**21 00 47.1**	**+2.3**
	comp=N,0.7nm,0.3s,baz=3.7,slow=18,SNR=2.0 comp=N,3.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**7.00**	**319**	Pn	**Pn**	**21 01 12.8**	**-3.3**
	comp=N,0.2nm,0.3s,baz=130,slow=13,SNR=4.6 comp=N,1.0nm,0.4s						
KSRS	**Korea Array**	**8.39**	**262**	Pn	**Pn**	**21 01 34.4**	**-0.8**
	comp=N,0.9nm,0.3s,baz=69,slow=14,SNR=16						
KSRS				LR	LR	21 04 20.0	
	comp=N,36nm,18.7s,baz=330,slow=35 comp=N,3.6nm,0.5s						
KURBB	**Kurchatov Arra**	**42.86**	**306**	P	**P**	**21 07 27.8**	**-1.9**
	comp=N,0.4nm,0.5s,baz=84,slow=8.3,SNR=2.9 comp=N,0.4nm,0.5s						
ILAR	**Eielson Array**	**49.06**	**33**	P	**P**	**21 08 19.1**	**+0.7**
	comp=N,0.6nm,0.8s,baz=280,slow=7.2,SNR=7.2 comp=N,0.6nm,0.8s						
KIRV	**Kirov**	**57.16**	**321**	LR	LR	21 35 36.9	
	comp=N,88nm,19.9s,baz=301,slow=38						
WRA	**Warramunga Arr**	**58.84**	**184**	P	**P**	**21 09 31.4**	**+1.2**
	comp=N,0.5nm,0.4s,baz=360,slow=7.5,SNR=8.4 comp=N,0.5nm,0.4s						
YKA	**Yellowknife Ar**	**63.22**	**30**	P	**P**	**21 09 59.6**	**+0.2**
	comp=N,0.2nm,0.7s,baz=312,slow=7.4,SNR=4.5 comp=N,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**75.64**	**52**	P	**P**	**21 11 17.6**	**+0.8**
	comp=N,0.3nm,0.5s,baz=303,slow=3.4,SNR=3.6 comp=N,0.3nm,0.5s						

IDC 27 21:07:29.3±5.5, 13°.35S×167°.74E, h0km, mb3.6/3, mbtmp3.6/3, MS3.4/1, Error ellipse: s-maj=273.0km s-min=33.9km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.62**	**254**	P	P	21 14 02.8	-0.3
	0.3nm,0.5s,baz=85,slow=9.6,SNR=4.8 0.3nm,0.5s						
ASAR	**Alice Springs**	**33.61**	**247**	P	P	21 14 11.9	+0.2
	0.8nm,0.6s,baz=76,slow=9.2,SNR=19 0.8nm,0.6s						
MJAR	**Matsushiro Arr**	**56.91**	**332**	LR	LR	21 41 26.1	
	comp=Z,9nm,18.8s,baz=32,slow=36						
ILAR	**Eielson Array**	**85.08**	**18**	P	P	21 20 06.7	0.0
	0.3nm,0.6s,baz=226,slow=5.2,SNR=5.9 0.3nm,0.6s						

*IDC **27** 21:18:13.9±2.9, 20°.92S×175°.01W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=95.2km s-min=43.4km az=141.0*
ISC 27 21:18:22.8±2.6, 21°0S±0°.5×175°.1W±0°.4, h66km, n6, σ0s°71/7, mb3.8/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.18**	**264**	P	**P**	**21 25 19.8**	**+0.6**
	2.8nm,0.6s,baz=90,slow=13,SNR=1.7 2.8nm,0.6s						
ASAR	**Alice Springs**	**47.08**	**257**	P	**P**	**21 26 48.6**	**+0.3**
	0.4nm,0.5s,baz=96,slow=6.9,SNR=9.5						
ASAR				PcP	**PcP**	**21 28 19.2**	**-0.3**
	0.4nm,0.9s,baz=103,slow=3.2,SNR=2.1 0.4nm,0.5s						
WRA	**Warramunga Arr**	**47.25**	**262**	P	**P**	**21 26 48.5**	**-1.2**
	0.3nm,0.6s,baz=96,slow=7.3,SNR=12 0.3nm,0.6s						
MJAR	**Matsushiro Arr**	**72.26**	**322**	P	**P**	**21 29 41.1**	**0.0**
	0.9nm,0.6s,baz=154,slow=6.4,SNR=4.3 0.9nm,0.6s						
AKASG	**Malin Array Be**	**144.73**	**333**	PKP	**PKPdf**	**21 37 51.8**	**-0.1**
	0.6nm,0.5s,baz=42,slow=4.0,SNR=5.6						
BRTR	**Keskin Array B**	**149.18**	**314**	PKPbc	**PKPbc**	**21 38 04.5**	**+0.4**
	0.2nm,0.3s,baz=58,slow=3.6,SNR=1.9						

*NEIC **27** 21:19:48.5±2.2, 11°.26S±0°.07×74°.30W±0°.06, h10km±1km, mb4.2/7, Error ellipse: s-maj=11.5km s-min=9.2km az=208.0*
*IDC **27** 21:19:50.7±2.3, 11°.27S×74°.16W, h47km±24km, mb3.6/8, mbtmp3.8/10, ML3.9/3, MS3.3/4, Error ellipse: s-maj=22.6km s-min=19.1km az=19.0*
ISC 27 21:19:50.3±0.6, 11°22S±0°.08×74°20W±0°.06, h35km, n30, σ1s°41/31, mb3.9/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.70**	**253**		**Pn**	**21 20 31.0**	**-0.4**
NNA				Sn	**Sn**	**21 21 04.4**	**+1.4**
NNA	**Nana**	**2.70**	**253**	P	**Pn**	**21 20 31.9**	**+0.5**
	32nm,0.3s,baz=61,slow=13,SNR=80						
NNA				S	**Sn**	**21 21 04.3**	**+1.4**
	190nm,0.5s,baz=86,slow=16,SNR=9.7						
NNA				LR	LR	21 21 31.6	
	comp=Z,379nm,18.8s,baz=146,slow=37 156nm,0.4s						
CZSB	**Cruzeiro do Su**	**3.77**	**23**	P	**Pn**	**21 20 48.4**	**+2.4**
ATAH	**Atahualpa**	**5.80**	**314**	P	**Pn**	**21 21 16.6**	**+2.3**
	6.7nm,0.3s,baz=157,slow=7.3,SNR=36						
ATAH				S	**Sn**	**21 22 21.4**	**+1.6**
	16nm,0.6s,baz=84,slow=20,SNR=1.1						
LPAZ	**La Paz**	**7.75**	**131**	Pn	**Pn**	**21 21 42.8**	**+1.5**
ETMB	**Extrema**	**7.97**	**81**	Pn	**Pn**	**21 21 46.1**	**+2.3**
MCRA	**Macar, Loja**	**8.88**	**320**		**Pn**	**21 21 53.2**	**-3.0**
COHC	**Cochancay**	**10.04**	**330**		**Pn**	**21 22 10.6**	**-1.5**
CHSH	**Refugio Sur-Vo**	**10.72**	**334**		**Pn**	**21 22 21.7**	**-0.3**
SAML	**Samuel**	**11.08**	**79**	Pn	**Pn**	**21 22 27.3**	**+1.0**
SLOR	**San Lorenzo -**	**11.26**	**337**		**Pn**	**21 22 29.1**	**-0.2**
OTAV	**Otavalo**	**12.14**	**339**		**Pn**	**21 22 41.1**	**-0.3**
SIV	**San Ignacio**	**13.61**	**112**	P	**Pn**	**21 23 00.6**	**-0.4**
	baz=82,slow=22,SNR=2.0						
SIV				Lg	Lg	21 26 53.6	
	0.1nm,0.3s,baz=202,slow=16,SNR=3.4						
SIV				LR	LR	21 29 03.0	
	comp=Z,52nm,18.1s,baz=19,slow=41 0.6nm,0.4s						
PTLB	**Pontes e Lacer**	**15.24**	**108**	Pn	**P**	**21 23 26.3**	**-1.3**
PTLB				IAmb	IAmb	21 23 33.3	
	comp=Z,10nm,0.9s						
MACA	**Manacapuru-AM**	**15.61**	**60**	Pn	**Pn**	**21 23 27.8**	**0.0**
BOAV	**Boa Vista**	**19.18**	**46**	P	**Pn**	**21 24 14.0**	**+1.7**
BAUV	**El Baul**	**20.94**	**17**	P	**P**	**21 24 31.6**	**+1.2**
BAUV				IAmb	IAmb	21 24 41.1	
	comp=Z,11nm,0.8s						
SRBA	**San Rafael, Bu**	**22.27**	**335**	P	**P**	**21 24 45.3**	**+0.7**
SRBA				IAmb	IAmb	21 24 51.1	
	comp=Z,7.8nm,1.1s						
BDFB	**Brasilia**	**25.83**	**103**	LR	LR	21 36 29.6	
	comp=Z,92nm,22.0s,baz=310,slow=39						
MDP	**Montagnes des**	**26.89**	**54**	LR	LR	21 36 34.5	
	comp=Z,114nm,20.0s,baz=144,slow=37						
TXAR	**Lajitas Array**	**49.33**	**326**	P	**P**	**21 28 36.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=156,slow=12,SNR=1.4 comp=Z,0.2nm,0.5s						
ULM	**Lac du Bonnet**	**64.08**	**345**	P	**P**	**21 30 19.0**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=214,slow=4.9,SNR=3.0 comp=Z,1.9nm,0.8s						
NVAR	**Mina Array Bea**	**64.30**	**323**	P	**P**	**21 30 22.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=160,slow=4.7,SNR=3.8 comp=Z,0.5nm,0.7s						
DBIC	**Dimbokro**	**71.24**	**79**		**P**	**21 31 06.8**	**+0.2**
DBIC				IAmb	IAmb	21 31 22.6	
	comp=Z,3.1nm,0.9s						
DBIC	**Dimbokro**	**71.24**	**79**	P	**P**	**21 31 05.1**	**-1.6**
	comp=Z,4.0nm,1.1s,baz=97,slow=14,SNR=2.3 comp=Z,4.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**79.09**	**74**		**P**	**21 31 53.4**	**+1.6**
TORD				IAmb	IAmb	21 32 08.0	
	comp=Z,2.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**79.09**	**74**	P	**P**	**21 31 50.7**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=265,slow=4.9,SNR=3.5 comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**79.88**	**342**	P	**P**	**21 31 54.0**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=140,slow=5.5,SNR=10 comp=Z,0.8nm,0.9s						
ESDC	**Sonseca Array**	**82.35**	**47**	P	**P**	**21 32 08.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=259,slow=5.1,SNR=1.8 comp=Z,0.5nm,0.8s						
INK	**Inuvik**	**89.62**	**341**	P	**P**	**21 32 43.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=128,slow=10,SNR=1.9 comp=Z,0.5nm,0.4s						

*TAP **27** 21:27:13.2, 24°.92N×121°.97E, h113km, ML4.1, B*
*ASIES **27** 21:27:13.2, 24°.92N×121°.97E, h113km, ML4.1, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^21 Nm; Mrr0.48; Mθθ0.37; Mϕϕ -0.85; Mrθ1.41; Mθϕ 0.33; Mϕr -3.21; Fault plane solution: M0 3.59534×10^21 NP1: ϕs155.95000°, δ84.47000°, λ86.30000°. NP2: ϕs9.83000°, δ6.65000°, λ123.70000°. Principal axes: T Plg50.3970°, Azm61.8450°; N Plg3.6840°, Azm156.3080°; P Plg39.3620°, Azm249.3360°;*
*JMA **27** 21:27:13.8±0.2, 24°.8N±0°.6×121°.9E±0°.4, h105km±1km, MV3.5/18, TAIWAN REGION*
*IDC **27** 21:27:39.0±22.0, 25°.37N×122°.68E, h404km±322km, mb2.4/3, mbtmp3.4/4, Error ellipse: s-maj=223.6km s-min=19.8km az=59.0*
ISC 27 21:27:13.6±0.8, 24°90N±0°.03×121°94E±0°.02, h110km±4km, n144, σ0s°78/271, mb3.3/4, 29C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.11**	**244**	P	**Pn**	**21 27 29.2**	**+0.4**
	baz=242						
NTC				S	**Sn**	**21 27 39.1**	**-0.9**
	baz=242						
TWB1	**Santiao Chiao**	**0.12**	**24**	⇑*i*P	**Pn**	**21 27 28.6**	**-0.2**
	baz=18						
TWB1				*i* S	**Sn**	**21 27 38.9**	**-1.3**
	baz=18						
TIPB	**Shuangxi**	**0.12**	**305**	⇑P	**Pn**	**21 27 28.5**	**-0.3**
	baz=292						
TIPB				*i* S	**Sn**	**21 27 39.1**	**-1.1**
	baz=292						
SXI1	**Grass Mountain**	**0.20**	**344**	P	**Pn**	**21 27 28.4**	**-0.6**
	baz=334						
SXI1				S	**Sn**	**21 27 40.4**	**-0.3**
	baz=334						
ILA	**Ilan**	**0.22**	**232**	*i* P	**Pn**	**21 27 29.1**	**+0.1**
	baz=230						
ILA				S	**Sn**	**21 27 40.5**	**0.0**
	baz=230						
NWF	**Wu-fen Shan**	**0.22**	**320**	⇑*i*P	**Pn**	**21 27 28.8**	**-0.4**
	baz=312						
NWF				*i* S	**Sn**	**21 27 39.7**	**-1.1**
	baz=312						
TNOU	**National Taiwa**	**0.29**	**329**	⇑P	**Pn**	**21 27 28.9**	**-0.4**
	baz=322						
TNOU				S	**Sn**	**21 27 40.4**	**-0.6**
	baz=322						
TWC	**Suao**	**0.30**	**195**	⇑*i*P	**Pn**	**21 27 29.1**	**-0.2**
	baz=197						
TWC				*i* S	**Sn**	**21 27 39.9**	**-1.2**
	baz=197						
TWE	**Neicheng**	**0.30**	**234**	*i* P	**Pn**	**21 27 29.3**	**-0.1**
	baz=232						
TWE				*i* S	**Sn**	**21 27 42.0**	**+1.0**
	baz=232						
NDS	**Dongshan**	**0.33**	**217**	P	**Pn**	**21 27 29.8**	**+0.3**
	baz=218						
NDS				S	**Sn**	**21 27 41.5**	**+0.1**
	baz=218						
ESAO	**Su ao**	**0.34**	**195**	P	**Pn**	**21 27 29.4**	**-0.1**
	baz=197						
ESAO				S	**Sn**	**21 27 40.6**	**-0.8**
	baz=197						
FUSB	**Fushanzhiwuyua**	**0.35**	**246**	⇑P	**Pn**	**21 27 29.6**	**0.0**
	baz=245						
FUSB				S	**Sn**	**21 27 41.1**	**-0.5**
	baz=245						
NHY	**Taipei**	**0.36**	**292**	P	**Pn**	**21 27 29.4**	**-0.2**
	baz=288						
NHY				S	**Sn**	**21 27 41.8**	**+0.2**
	baz=288						
NHDH	**Xindian Distri**	**0.38**	**279**	⇑P	**Pn**	**21 27 29.5**	**-0.1**
	baz=276						
NHDH				S	**Sn**	**21 27 41.4**	**-0.4**
	baz=276						
NWLT	**Wulai**	**0.41**	**253**	P	**Pn**	**21 27 29.9**	**-0.1**
	baz=251						
NWLT				S	**Sn**	**21 27 41.8**	**-0.4**
	baz=251						
TATO	**Taipei**	**0.41**	**280**	P	**Pn**	**21 27 29.9**	**0.0**
ENTT	**Nioudou**	**0.43**	**232**	⇑*i*P	**Pn**	**21 27 30.4**	**+0.4**
	baz=231						
ENTT				*i* S	**Sn**	**21 27 42.5**	**+0.3**
	baz=231						
ANP	**Anpu**	**0.47**	**307**	*i* P	**Pn**	**21 27 30.0**	**-0.4**
	baz=303						
ANP				*e*S	**Sn**	**21 27 42.4**	**-0.5**
	baz=303						
EWUT	**Wuta**	**0.48**	**198**	⇑P	**Pn**	**21 27 30.6**	**+0.3**
	baz=199						
EWUT				S	**Sn**	**21 27 42.8**	**+0.1**
	baz=199						
TWY	**Chenhua**	**0.48**	**321**	*i* P	**Pn**	**21 27 30.1**	**-0.1**
	baz=317						
TWY				S	**Sn**	**21 27 42.6**	**-0.3**
	baz=317						
NDT	**Datong Townshi**	**0.49**	**232**	⇑P	**Pn**	**21 27 30.6**	**+0.3**
	baz=232						
NDT				S	**Sn**	**21 27 42.5**	**-0.4**
	baz=232						
ENA	**Nanau**	**0.50**	**201**	⇑*i*P	**Pn**	**21 27 30.7**	**+0.3**
	baz=201						
ENA				*i* S	**Sn**	**21 27 43.2**	**+0.1**
	baz=201						
TWS1	**Kuangyinshan**	**0.51**	**293**	⇑*i*P	**Pn**	**21 27 30.6**	**+0.1**
	baz=290						
TWS1				*i* S	**Sn**	**21 27 43.0**	**-0.1**
	baz=290						
NTST	**Danshui**	**0.51**	**301**	P	**Pn**	**21 27 30.7**	**+0.2**
	baz=297						
NTST				S	**Sn**	**21 27 43.5**	**+0.3**
	baz=297						
LATG	**Datong**	**0.52**	**226**	⇑P	**

baz=202
ETLH **Xiulin Townshi** **0.81 211** P **Pn** **21 27 32.8 -0.2**
baz=211
ETLH S **Sn** **21 27 47.7 +0.2**
baz=211
NHW **Xinwu Township** **0.81 278**⇑*i*P **Pn** **21 27 33.3 +0.4**
baz=275
NHW *i* S **Sn** **21 27 47.3 -0.2**
baz=275
EOS4 **EOS4** **0.85 156** P **Pn** **21 27 32.8 -0.1**
baz=158
EOS4 S **Sn** **21 27 46.8 -0.6**
baz=158
SBCB **Hsinchu** **0.87 263** ⇑P **Pn** **21 27 33.8 +0.3**
baz=261
SBCB S **Sn** **21 27 48.0 -0.5**
baz=261
LIOB **Emei** **0.88 253** ⇑P **Pn** **21 27 33.7 +0.2**
baz=252
LIOB S **Sn** **21 27 48.5 -0.1**
baz=252
TWD **Chiawan** **0.88 201** *i* P **Pn** **21 27 32.9 -0.6**
baz=201
TWD *i* S **Sn** **21 27 47.0 -1.5**
baz=201
HSN **Hsinchu** **0.88 264** *i* P **Pn** **21 27 33.4 -0.1**
baz=264
HSN *i* S **Sn** **21 27 47.9 -0.7**
baz=264
NSTT **Nanjuang** **0.89 253** *i* P **Pn** **21 27 33.8 +0.1**
baz=251
NSTT S **Sn** **21 27 48.3 -0.5**
baz=251
FUSS **Fushou** **0.91 224** ⇑P **Pn** **21 27 34.7 +0.6**
baz=224
FUSS S **Sn** **21 27 49.4 -0.1**
baz=224
TDCB **Techi** **0.96 228** ⇑P **Pn** **21 27 35.1 +0.6**
baz=227
TDCB S **Sn** **21 27 50.0 -0.2**
baz=227
WHF **Hehuan Shan** **0.97 219** *i* P **Pn** **21 27 35.3 +0.3**
baz=219
WHF *i* S **Sn** **21 27 50.7 -0.3**
baz=219
LXIB **Xiulin Townshi** **1.00 209** ⇑P **Pn** **21 27 34.1 -0.8**
baz=209
LXIB S **Sn** **21 27 50.5 -0.5**
baz=209
ETM **Tongmen** **1.02 204** ⇓P **Pn** **21 27 34.1 -0.9**
baz=204
ETM S **Sn** **21 27 50.0 -1.0**
baz=204
JYNG **Yonaguni jima** **1.02 116** *i* P **Pn** **21 27 34.7 -0.2**
JYNG S **Sn** **21 27 50.1 -1.0**
YOJ **Yonaguni jima** **1.07 114** P **Pn** **21 27 35.4 -0.1**
YOJ **Yonaguni jima** **1.07 114** *i* P **Pn** **21 27 35.3 -0.2**
YOJ S **Sn** **21 27 51.0 -1.0**
YOJ **Yonaguni jima** **1.07 114** P **Pn** **21 27 35.2 -0.2**
baz=115
YOJ S **Sn** **21 27 51.2 -0.8**
baz=115
CHGB **Renai** **1.09 220** ⇑P **Pn** **21 27 36.5 +0.5**
baz=220
CHGB S **Sn** **21 27 52.7 0.0**
baz=220
NMLH **Miaoli** **1.10 251** *e*P **Pn** **21 27 36.2 +0.3**
baz=250
NMLH S **Sn** **21 27 52.4 -0.2**
baz=250
SHUL **Shoufeng** **1.16 197** P **Pn** **21 27 36.5 +0.1**
baz=198
SHUL S **Sn** **21 27 54.1 +0.3**
baz=198
OWD **Renai** **1.17 216** P **Pn** **21 27 37.1 +0.3**
baz=216
OWD S **Sn** **21 27 53.8 -0.5**
baz=216
WUSB **Renai** **1.17 220** P **Pn** **21 27 37.4 +0.6**
baz=219
WUSB S **Sn** **21 27 54.4 +0.1**
baz=219
ESL **Shilin** **1.18 203**⇑*i*P **Pn** **21 27 35.4 -1.3**
baz=203
ESL S **Sn** **21 27 53.5 -0.6**
baz=203
TWQ1 **Liyutan** **1.19 243**⇑*i*P **Pn** **21 27 37.1 +0.2**
baz=242
TWQ1 *i* S **Sn** **21 27 54.1 -0.3**
baz=242
TEGC **Jichi Village** **1.24 197** P **Pn** **21 27 37.4 0.0**
baz=197
TEGC S **Sn** **21 27 56.3 +1.0**
baz=197
EGFH **Guangfu** **1.31 201** P **Pn** **21 27 37.3 -0.9**
baz=201
EGFH S **Sn** **21 27 55.7 -1.1**
baz=201
TCU **Taichung** **1.37 237** *i* P **Pn** **21 27 39.4 +0.5**
baz=236
TCU *i* S **Sn** **21 27 58.5 +0.5**
baz=236
SMLT **Sun Moon Lake** **1.39 223**⇑*i*P **Pn** **21 27 39.6 +0.4**
baz=223
SMLT *i* S **Sn** **21 27 59.2 +0.7**
baz=223
TYC **Yuchr** **1.40 225** *i* P **Pn** **21 27 39.5 +0.3**
baz=224
TYC *i* S **Sn** **21 27 58.6 0.0**
baz=224
SSLB **Suanglung** **1.43 219** P **Pn** **21 27 40.2 +0.6**
SSLB **Suanglung** **1.43 219** P **Pn** **21 27 40.0 +0.4**
baz=219
SSLB S **Sn** **21 27 59.7 +0.4**
baz=219
HGSD **Ruisui** **1.48 199** P **Pn** **21 27 40.1 0.0**
baz=199
HGSD S **Sn** **21 28 01.1 +0.8**
baz=199
YULB **Yu-li** **1.61 201** P **Pn** **21 27 42.3 +0.5**
ECBN **Changbin** **1.64 196** P **Pn** **21 27 42.1 0.0**
baz=196
ECBN S **Sn** **21 28 03.2 -0.5**
baz=196
EYUL **Yuli** **1.65 200** P **Pn** **21 27 42.8 +0.6**
baz=200
EYUL S **Sn** **21 28 06.0 +2.1**
baz=200
TWF1 **Yuli** **1.65 201** *i* P **Pn** **21 27 41.0 -1.3**
baz=201
TWF1 *i* S **Sn** **21 28 03.5 -0.5**
baz=201
ALS **Alishan** **1.73 217** *i* P **Pn** **21 27 44.0 +0.5**
baz=216
ALS *i* S **Sn** **21 28 06.8 +0.6**
baz=216
CHN5 **Tsauling** **1.73 222** *i* P **Pn** **21 27 43.8 +0.5**
baz=221
CHN5 *i* S **Sn** **21 28 06.2 +0.3**
baz=221
WGK **Gukeng** **1.74 226** *i* P **Pn** **21 27 43.8 +0.5**
baz=226
WGK *i* S **Sn** **21 28 07.0 +1.0**
baz=226
CHKH **Chenggong** **1.77 196** P **Pn** **21 27 43.5 -0.2**
baz=196
CHKH S **Sn** **21 28 06.1 -0.5**
baz=196
FULB **Fuli** **1.79 199** P **Pn** **21 27 43.9 -0.1**
baz=199
FULB S **Sn** **21 28 08.1 +0.9**
baz=199
EHD **Haiduan** **1.87 201** P **Pn** **21 27 43.9 -1.0**
baz=201
EHD S **Sn** **21 28 09.2 +0.3**
baz=201
CHKT **Chengkung** **1.87 196** *i* P **Pn** **21 27 44.3 -0.6**
baz=196
CHKT *i* S **Sn** **21 28 07.1 -1.7**
baz=196
HATJ **Hateruma jima** **1.90 116** P **Pn** **21 27 45.2 -0.1**
ELDTW **Lidau** **1.90 206** *i* P **Pn** **21 27 45.0 -0.4**
baz=206
ELDTW *i* S **Sn** **21 28 10.2 +0.5**
baz=206
ECS **Chishang** **1.91 200** P **Pn** **21 27 45.4 -0.1**
baz=200
ECS S **Sn** **21 28 11.2 +1.3**
baz=200
CHY **Chiayi** **1.96 225** P **Pn** **21 27 47.3 +1.2**
baz=224
CHY S **Sn** **21 28 12.0 +1.1**
baz=224
TPUB **Ta-pu** **1.99 217** P **Pn** **21 27 47.2 +0.7**
TPUB **Ta-pu** **1.99 217** P **Pn** **21 27 46.7 +0.2**
baz=217
TPUB S **Sn** **21 28 12.2 +0.6**
baz=217
JKRS **Kuro-shima** **2.00 109** P **Pn** **21 27 46.7 +0.2**
JKRS *e*S **Sn** **21 28 10.9 -0.8**
EDH **Donghe** **2.01 197** P **Pn** **21 27 45.7 -1.0**
baz=197
EDH S **Sn** **21 28 11.0 -0.9**
baz=197
WSF **Szhu** **2.01 232** *i* P **Pn** **21 27 46.3 -0.3**
baz=231
WSF *i* S **Sn** **21 28 12.4 +0.5**
baz=231
STYH **Taoyuan** **2.02 212** P **Pn** **21 27 47.6 +0.7**
baz=212
STYH S **Sn** **21 28 13.1 +0.8**
baz=212
WTP **Ta-pu** **2.04 217** *i* P **Pn** **21 27 47.5 +0.3**
baz=216
WTP *i* S **Sn** **21 28 13.7 +0.9**
baz=216
JIJ **Ishigaki jima** **2.08 104** P **Pn** **21 27 47.2 -0.3**
JIJ S **Sn** **21 28 12.0 -1.5**
TWK **Hsinying** **2.10 219** *i* P **Pn** **21 27 48.1 +0.2**
baz=219
TWK *i* S **Sn** **21 28 14.4 +0.3**
baz=219
LONT **Longtian** **2.12 201** P **Pn** **21 27 47.3 -0.8**
baz=200
LONT S **Sn** **21 28 13.0 -1.5**
baz=200
SNST **Tainan City** **2.13 218** P **Pn** **21 27 48.6 +0.4**
baz=218
SNST S **Sn** **21 28 14.6 -0.2**
baz=218
CHN1 **Nanshi** **2.14 217** *i* P **Pn** **21 27 48.8 +0.4**
baz=217
CHN1 *i* S **Sn** **21 28 14.9 -0.1**
baz=217
ICHU **Yijhu** **2.15 225** P **Pn** **21 27 49.1 +0.5**
baz=224
ICHU S **Sn** **21 28 16.2 +1.0**
baz=224
JISG **Ishigakijimahi** **2.18 98** P **Pn** **21 27 49.0 +0.1**
JISG S **Sn** **21 28 15.1 -0.8**
MATB **Ma-tsu** **2.19 305** P **Pn** **21 27 48.6 -0.3**
baz=303
MATB S **Sn** **21 28 15.4 -0.6**
baz=303
CHN8 **Yiju** **2.21 226** *i* P **Pn** **21 27 48.1 -1.2**
baz=225
CHN8 *i* S **Sn** **21 28 17.2 +0.6**
baz=225
TWG **Pinlang** **2.22 201** *i* P **Pn** **21 27 48.2 -1.2**
baz=201
TWG *i* S **Sn** **21 28 15.1 -1.7**
baz=201
TWGBT **Beinan** **2.22 201** P **Pn** **21 27 50.7 +1.3**
TWGBT **Beinan** **2.22 201** P **Pn** **21 27 48.1 -1.3**
baz=201
TWGBT S **Sn** **21 28 15.5 -1.2**
baz=201
SLGT **Liugui** **2.24 212** P **Pn** **21 27 50.9 +1.3**
baz=212
SLGT S **Sn** **21 28 18.3 +1.1**
baz=212
LDUT **Ludao** **2.26 191** P **Pn** **21 27 49.2 -0.7**
baz=191
LDUT S **Sn** **21 28 15.5 -2.2**
baz=191
SSHA **Shanhua** **2.31 221** *e*P **Pn** **21 27 51.5 +0.9**
baz=220
SSHA S **Sn** **21 28 20.5 +1.5**
baz=220
CHN3 **Shinhua** **2.32 219** P **Pn** **21 27 51.2 +0.5**
baz=218
CHN3 S **Sn** **21 28 19.1 +0.1**
baz=218
SCLT **Jiali** **2.34 223** *i* P **Pn** **21 27 51.2 +0.2**
baz=222
SCLT *i* S **Sn** **21 28 20.4 +0.8**
baz=222
SHHT **Tainan City** **2.37 218** P **Pn** **21 27 52.8 +1.4**
baz=218
SHHT S **Sn** **21 28 20.5 +0.3**
baz=218
SCST **Cishan** **2.40 214** P **Pn** **21 27 52.8 +1.0**
baz=213
SCST S **Sn** **21 28 20.6 -0.4**
baz=213
TSCK **Chigu Township** **2.43 224** P **Pn** **21 27 52.2 +0.1**
baz=224
TSCK S **Sn** **21 28 21.2 -0.4**
baz=224
ECL **Taimali** **2.46 202** *i* P **Pn** **21 27 52.2 -0.3**
baz=201
ECL *i* S **Sn** **21 28 21.3 -1.2**
baz=201
TSMG **Majia** **2.49 209** P **Pn** **21 27 53.4 +0.6**
baz=208
TSMG S **Sn** **21 28 24.1 +1.2**
baz=208
TWM1 **Shoushan** **2.49 214** P **Pn** **21 27 51.5 -1.4**
baz=213
TWM1 *e*S **Sn** **21 28 22.6 -0.4**
baz=213
JTJ **Tarama** **2.53 95** P **Pn** **21 27 54.1 +0.8**
JTJ *e*S **Sn** **21 28 23.8 -0.1**
LYJJ **Jianjiangzhen** **2.56 310** P **Pn** **21 27 53.7 -0.1**
baz=309
LYJJ *e*S **Sn** **21 28 23.4 -1.2**
baz=309
PTMZ **Houxiangcun** **2.56 274** P **Pn** **21 27 53.8 0.0**
baz=272
PTMZ S **Sn** **21 28 22.5 -2.1**
baz=272
PHUB **P'eng-hu** **2.56 238** P **Pn** **21 27 53.1 -0.7**
baz=237
PHUB S **Sn** **21 28 22.6 -2.1**
baz=237
MASBT **Mashibuluo** **2.57 208** P **Pn** **21 27 54.4 +0.4**
baz=208
MASBT S **Sn** **21 28 24.9 -0.1**
baz=208
WDGT **Dungji** **2.65 232** P **Pn** **21 27 53.4 -1.5**
baz=231
WDGT *i* S **Sn** **21 28 25.0 -1.7**
baz=231
EAST **Anshuo** **2.70 202** *i* P **Pn** **21 27 55.7 +0.1**
baz=201
EAST S **Sn** **21 28 27.6 -0.5**
baz=201
TAWH **Dawu Township** **2.73 201** P **Pn** **21 27 58.2 +2.2**
baz=201
TAWH S **Sn** **21 28 28.0 -0.5**
baz=201
SCZT **Fangliau** **2.79 206** P **Pn** **21 27 56.8 -0.1**
baz=205
SCZT S **Sn** **21 28 30.0 -0.1**
baz=205
SLIU **Shizi** **2.87 202** P **Pn** **21 27 59.0 +1.1**
baz=201
SLIU S **Sn** **21 28 31.9 -0.1**
baz=201
LAY **Lan-yu** **2.87 187** *i* P **Pn** **21 27 56.8 -1.1**
baz=187
LAY S **Sn** **21 28 30.2 -1.9**
baz=187
MHZQ **Yeshan** **2.88 295** P **Pn** **21 27 57.9 -0.1**
baz=293
MHZQ *e*S **Sn** **21 28 31.4 -0.9**
baz=293
LYUB **Lan-yu** **2.91 186** P **Pn** **21 27 56.9 -1.5**
baz=186
LYUB *e*S **Sn** **21 28 29.7 -3.1**
baz=186
JIRB **Irabujima** **2.94 91** P **Pn** **21 27 59.5 +0.7**
JIRB *e*S **Sn** **21 28 33.3 -0.3**
JIKM **Ikemajima** **3.01 89** *e*P **Pn** **21 28 01.1 +1.4**
JIKM *e*S **Sn** **21 28 35.8 +0.7**
HEN **Hengchun** **3.09 201** P **Pn** **21 28 01.9 +1.2**
baz=201
HEN S **Sn** **21 28 36.8 -0.3**
baz=201
JMJ2 **Miyako jima3** **3.09 92** P **Pn** **21 28 01.8 +1.1**
JMJ2 *e*S **Sn** **21 28 37.3 +0.3**
JOGS **Gusukube** **3.16 92** *e*S **Sn** **21 28 39.0 +0.3**
KNM **Kinmen** **3.22 262** P **Pn** **21 28 04.4 +1.8**
baz=261
KNMB **Chin-men Tao** **3.26 263** P **Pn** **21 28 02.8 -0.2**
baz=262
AXDP **Jialang** **3.60 271** P **Pn** **21 28 07.5 0.0**
baz=269
AXDP S **Sn** **21 28 47.5 -1.8**
baz=269
KSRS **Korea Array** **13.52 21** P **P** **21 30 27.6 +1.5**
4.0nm,0.7s,baz=205,slow=12,SNR=15
MKAR **Makanchi Array** **38.31 315** P **P** **21 34 23.8 +0.3**
0.1nm,0.5s,baz=106,slow=8.2,SNR=2.3
0.1nm,0.5s
ZALV **Zalesovo Beam** **40.02 326** P **P** **21 34 36.2 -1.4**
0.2nm,0.3s,baz=100,slow=7.9,SNR=2.1
0.2nm,0.3s
WRA **Warramunga Arr** **46.18 164** P **P** **21 35 27.2 -0.2**
3.2nm,0.5s,baz=350,slow=8.9,SNR=12
ASAR **Alice Springs** **49.66 166** P **P** **21 35 54.2 -0.1**
0.2nm,0.6s,baz=350,slow=8.5,SNR=1.7
0.2nm,0.6s

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*NEIC **27**'21:28:15.8±1.1,56.06N±0.04×149.5W±0.1,h25km±7km, ML3.6/42,ML3.3(AEIC), Error ellipse: s-maj=9.2km s-min=5.6km az=103.0*
*AEIC **27**'21:28:19.6±1.5,56.12N±0.08×149.5W±0.1,h11km±7km, Error ellipse: s-maj=12.4km s-min=8.3km az=168.0*
ISC 27 21:28:16.3±1.5,56.10N±0.09×149.42W±0.06,h35km, n160,σ1$10/170,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.42**	**299**				**Pn**	**21 28 53.5**	**+0.3**
OHAK							**Sn**	**21 29 20.1**	**-1.3**
OHAK	**Old Harbor**	**2.42**	**299**	P			**Pn**	**21 28 53.3**	**+0.1**
OHAK	**Old Harbor**	**2.42**	**299**	P			**Pn**	**21 28 53.5**	**+0.3**
baz=117									
OHAK				S			**Sn**	**21 29 20.2**	**-1.3**
baz=117									
KDAK	**Kodiak Island**	**2.42**	**316**				**Pn**	**21 28 53.8**	**+0.5**
KDAK							**Sn**	**21 29 20.2**	**-1.4**
SII	**Sitkinak Islan**	**2.69**	**282**				**Pn**	**21 28 57.4**	**+0.3**
SII							**Sn**	**21 29 27.3**	**-1.2**
SII					IAML			21 29 28.4	
comp=N,230nm,0.7s									
SII	**Sitkinak Islan**	**2.69**	**282**	P			**Pn**	**21 28 57.3**	**+0.2**
SII	**Sitkinak Islan**	**2.69**	**282**	P			**Pn**	**21 28 57.5**	**+0.3**
baz=99									
SII				S			**Sn**	**21 29 27.2**	**-1.2**
baz=99									
SYI	**Shuyak Island**	**2.99**	**329**				**Pn**	**21 29 01.8**	**+0.6**
SYI							**Sn**	**21 29 36.0**	**+0.3**
SYI					IAML			21 29 37.5	
comp=N,86nm,0.2s									
SYI					IAML			21 29 38.1	
comp=E,80nm,0.4s									
Q20K	**Shuyak Island**	**2.99**	**329**	P			**Pn**	**21 29 01.7**	**+0.6**
baz=147									
Q20K				S			**Sn**	**21 29 36.1**	**+0.4**
baz=147									
R18K	**Karluk**	**3.13**	**300**				**Pn**	**21 29 04.1**	**+1.0**
R18K							**Sn**	**21 29 38.1**	**-1.1**
R18K					IAML			21 29 39.5	
comp=N,101nm,0.4s									
R18K					IAML			21 29 40.0	
comp=E,111nm,0.3s									
R18K	**Karluk**	**3.13**	**300**	P			**Pn**	**21 29 04.1**	**+1.0**
baz=117									
R18K				S			**Sn**	**21 29 38.3**	**-0.9**
baz=117									
CNPM	**China Poot**	**3.57**	**345**				**Pn**	**21 29 09.4**	**+0.3**
CNPM					IAML			21 29 51.1	
comp=E,58nm,0.3s									
CNPM					IAML			21 29 51.2	
comp=N,87nm,0.4s									
Q19K	**Cape Douglas,**	**3.64**	**323**	Pn			**Pn**	**21 29 11.5**	**+1.4**
Q19K					IAML			21 29 58.9	
comp=N,127nm,1.2s									
KAHG	**Katmai Hook Gl**	**3.67**	**313**				**Pn**	**21 29 12.3**	**+1.7**
BRSE	**Bradley Lake S**	**3.72**	**350**				**Pn**	**21 29 11.1**	**-0.1**
BRSE	**Bradley Lake S**	**3.72**	**350**	P			**Pn**	**21 29 11.1**	**-0.1**
baz=169									
BRSE				S			**Sn**	**21 29 51.8**	**-1.9**
baz=169									
Q23K	**Middleton Isla**	**3.72**	**25**				**Pn**	**21 29 11.4**	**+0.2**
Q23K					IAML			21 30 57.3	
comp=N,112nm,1.5s									
Q23K					IAML			21 31 24.7	
comp=E,109nm,1.3s									
Q23K	**Middleton Isla**	**3.72**	**25**	P			**Pn**	**21 29 11.4**	**+0.2**
baz=208									
MID	**Middleton Isla**	**3.72**	**25**				**Pn**	**21 29 11.4**	**+0.3**
MID					IAML			21 29 52.3	
comp=E,120nm,1.2s									
MID					IAML			21 30 57.3	
comp=N,92nm,1.5s									
MID	**Middleton Isla**	**3.72**	**25**	P			**Pn**	**21 29 11.5**	**+0.3**
BRLK	**Bradley Lake**	**3.76**	**349**	Pn			**Pn**	**21 29 11.4**	**-0.3**
BRLK					IAML			21 29 56.6	
comp=E,60nm,0.3s									
ACHA	**Angle Creek He**	**3.85**	**306**				**Pn**	**21 29 14.3**	**+1.3**
SEW	**Seward**	**4.02**	**360**				**Pn**	**21 29 15.0**	**-0.2**
SEW	**Seward**	**4.02**	**360**	P			**Pn**	**21 29 15.0**	**-0.2**
baz=180									
P23K	**Montague Islan**	**4.05**	**14**	P			**Pn**	**21 29 16.1**	**+0.4**
baz=196									
P23K				S			**Sn**	**21 29 59.8**	**-2.2**
baz=196									
P19K	**Oil Pt**	**4.10**	**332**				**Pn**	**21 29 17.4**	**+0.9**
P19K					IAML			21 30 06.5	
comp=E,95nm,0.6s									
P19K	**Oil Pt**	**4.10**	**332**	P			**Pn**	**21 29 17.3**	**+0.8**
baz=149									
CNTC	**Contact Creek**	**4.13**	**304**				**Pn**	**21 29 18.1**	**+1.1**
Q17K	**Contact Creek**	**4.13**	**304**	P			**Pn**	**21 29 18.0**	**+1.1**
baz=120									
IVE	**Iliamna Volcan**	**4.37**	**336**				**Pn**	**21 29 20.6**	**+0.4**
IVE							**Sn**	**21 30 08.6**	**-1.2**
O22K	**Cooper Landing**	**4.40**	**358**				**Pn**	**21 29 20.5**	**0.0**
O22K	**Cooper Landing**	**4.40**	**358**	P			**Pn**	**21 29 20.7**	**+0.2**
baz=178									
P18K	**Big Mountain,**	**4.54**	**319**				**Pn**	**21 29 22.7**	**+0.3**
P18K	**Big Mountain,**	**4.54**	**319**	P			**Pn**	**21 29 22.5**	**+0.1**
baz=135									
HIN	**Hinchinbrook I**	**4.58**	**18**				**Pn**	**21 29 23.6**	**+0.6**
HIN					IAML			21 30 14.1	
comp=N,48nm,0.7s									
HIN					IAML			21 30 14.2	
comp=E,40nm,0.9s									
KAIM	**Kayak Island**	**4.67**	**33**				**Pn**	**21 29 25.2**	**+1.0**
KAIM					IAML			21 30 34.8	
comp=E,67nm,1.4s									
KAIM	**Kayak Island**	**4.67**	**33**	P			**Pn**	**21 29 25.0**	**+0.8**
baz=217									
RSO	**Redoubt South**	**4.72**	**339**	Pn			**Pn**	**21 29 24.9**	**-0.2**
O19K	**Port Alsworth**	**4.86**	**330**	Pn			**Pn**	**21 29 27.9**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.86**	**22**				**Pn**	**21 29 27.7**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.86**	**22**	P			**Pn**	**21 29 28.0**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.86**	**22**	P			**Pn**	**21 29 27.5**	**+0.7**
baz=205									
O18K	**Koktuh Hills**	**4.87**	**323**				**Pn**	**21 29 27.2**	**+0.3**
O18K	**Koktuh Hills**	**4.87**	**323**	P			**Pn**	**21 29 27.3**	**+0.3**
baz=139									
P17K	**Kvichak River**	**4.88**	**312**				**Pn**	**21 29 28.1**	**+1.0**
P17K	**Kvichak River**	**4.88**	**312**	P			**Pn**	**21 29 28.1**	**+1.0**
baz=127									
FID	**Port Fidalgo**	**4.91**	**17**				**Pn**	**21 29 27.8**	**+0.3**
FID					IAML			21 30 22.5	
comp=N,39nm,0.3s									
FID					IAML			21 30 23.2	
comp=E,38nm,0.8s									
RAGM	**Ragged Mountai**	**4.98**	**28**				**Pn**	**21 29 29.2**	**+0.7**
RAGM					IAML			21 30 34.2	
comp=E,40nm,0.4s									
RC01	**Rabbit Creek A**	**5.01**	**358**				**Pn**	**21 29 29.0**	**+0.1**
RC01					IAML			21 30 26.1	
comp=N,39nm,0.4s									
RC01	**Rabbit Creek A**	**5.01**	**358**	P			**Pn**	**21 29 29.0**	**+0.1**
baz=178									

GOAT	**Goat Mountain**	**5.13**	**27**			**Pn**	**21 29 31.3**	**+0.7**
BERG	**Berg Lake**	**5.26**	**33**			**Pn**	**21 29 33.1**	**+0.8**
BERG				IAML			21 30 37.6	
	comp=E,45nm,1.0s							
KNK	**Knik Glacier**	**5.36**	**5**			**Pn**	**21 29 34.2**	**+0.7**
KNK	**Knik Glacier**	**5.36**	**5**	P		**Pn**	**21 29 34.3**	**+0.7**
	baz=186							
SNH	**Sunshine Point**	**5.38**	**38**			**Pn**	**21 29 35.1**	**+1.1**
SPCP	**Crater Peak Br**	**5.38**	**346**			**Pn**	**21 29 34.6**	**+0.6**
DIV	**Divide**	**5.39**	**19**			**Pn**	**21 29 35.1**	**+0.9**
N19K	**Bonanza Creek**	**5.42**	**333**			**Pn**	**21 29 34.5**	**-0.1**
N19K	**Bonanza Creek**	**5.42**	**333**	P		**Pn**	**21 29 35.1**	**+0.5**
	baz=149							
SUA	**Susitna One**	**5.43**	**353**				**21 29 34.6**	**-0.1**
SUA	**Susitna One**	**5.43**	**353**	P		**Pn**	**21 29 34.9**	**+0.2**
	baz=172							
BMRM	**Bremner River**	**5.50**	**25**			**Pn**	**21 29 36.3**	**+0.8**
BMRM	**Bremner River**	**5.50**	**25**	P		**Pn**	**21 29 36.6**	**+1.1**
	baz=209							
O17K	**Koliganek Bris**	**5.50**	**315**			**Pn**	**21 29 36.4**	**+0.8**
O17K	**Koliganek Bris**	**5.50**	**315**	P		**Pn**	**21 29 36.4**	**+0.8**
	baz=129							
PMR	**Palmer**	**5.51**	**1**	P		**Pn**	**21 29 37.3**	**+1.6**
GHO	**Glory Hole Cre**	**5.70**	**2**			**Pn**	**21 29 39.4**	**+1.0**
KLU	**Klutina**	**5.71**	**17**			**Pn**	**21 29 39.5**	**+1.0**
KLU	**Klutina**	**5.71**	**17**	P		**Pn**	**21 29 39.5**	**+1.0**
	baz=200							
N18K	**Kilae Creek**	**5.72**	**326**			**Pn**	**21 29 38.8**	**+0.2**
N18K	**Kilae Creek**	**5.72**	**326**	P		**Pn**	**21 29 39.0**	**+0.4**
	baz=141							
SML	**Sawmill**	**5.75**	**5**			**Pn**	**21 29 40.3**	**+1.2**
SML	**Sawmill**	**5.75**	**5**	P		**Pn**	**21 29 40.2**	**+1.0**
	baz=186							
O16K	**Kokwok River B**	**5.81**	**311**			**Pn**	**21 29 40.8**	**+1.0**
O16K	**Kokwok River B**	**5.81**	**311**	P		**Pn**	**21 29 40.6**	**+0.9**
	baz=124							
SCM	**Sheep Creek Mo**	**5.85**	**10**			**Pn**	**21 29 41.5**	**+1.0**
SCM	**Sheep Creek Mo**	**5.85**	**10**	P		**Pn**	**21 29 41.3**	**+0.7**
	baz=192							
CHNA	**Chernabura Isl**	**5.92**	**262**	P		**Pn**	**21 29 41.8**	**+0.4**
	baz=74							
CNBA	**Chernabura Isl**	**5.93**	**262**			**Pn**	**21 29 41.7**	**+0.3**
SKT	**Skwentna**	**6.00**	**350**	Pn		**Pn**	**21 29 43.1**	**+0.7**
VRDI	**Verde Repeater**	**6.01**	**29**			**Pn**	**21 29 43.6**	**+0.9**
N17K	**Nushagak Hills**	**6.04**	**321**	Pn		**Pn**	**21 29 42.5**	**-0.5**
N25K	**Chitina, Valde**	**6.06**	**22**			**Pn**	**21 29 44.5**	**+1.1**
N25K	**Chitina, Valde**	**6.06**	**22**	P		**Pn**	**21 29 44.1**	**+0.7**
	baz=206							
KIAG	**Kiagna River**	**6.09**	**34**			**Pn**	**21 29 44.7**	**+0.9**
GLB	**Gilahina Butte**	**6.10**	**26**			**Pn**	**21 29 44.9**	**+1.0**
M20K	**Styx River**	**6.11**	**343**	Pn		**Pn**	**21 29 45.1**	**+1.1**
YKU2	**Yakutat**	**6.23**	**53**	Pn		**Pn**	**21 29 46.7**	**+1.1**
M24K	**Tolsona, Glenn**	**6.25**	**14**			**Pn**	**21 29 47.4**	**+1.4**
M24K	**Tolsona, Glenn**	**6.25**	**14**	P		**Pn**	**21 29 47.4**	**+1.4**
	baz=197							
MCARA	**McCarthy VSAT**	**6.26**	**29**			**Pn**	**21 29 47.1**	**+1.1**
MCARA	**McCarthy VSAT**	**6.26**	**29**	P		**Pn**	**21 29 46.9**	**+0.9**
	baz=215							
PTPK	**Patty Peak**	**6.26**	**33**			**Pn**	**21 29 47.0**	**+0.8**
SDPT	**Sand Point**	**6.29**	**268**			**Pn**	**21 29 47.3**	**+0.8**
SDPT	**Sand Point**	**6.29**	**268**	P		**Pn**	**21 29 47.6**	**+1.2**
	baz=79							
PCA	**Pinnacle**	**6.29**	**47**			**Pn**	**21 29 47.7**	**+1.1**
PINM	**Pinnacle**	**6.30**	**47**	P		**Pn**	**21 29 47.9**	**+1.3**
	baz=234							
M18K	**Stony River**	**6.35**	**331**			**Pn**	**21 29 47.5**	**+0.3**
M18K	**Stony River**	**6.35**	**331**	P		**Pn**	**21 29 47.5**	**+0.3**
	baz=146							
O15K	**Ungalikthiuk R**	**6.38**	**303**			**Pn**	**21 29 48.8**	**+1.1**
O15K	**Ungalikthiuk R**	**6.38**	**303**	P		**Pn**	**21 29 48.8**	**+1.1**
	baz=115							
BARN	**Barnard Glacie**	**6.42**	**36**			**Pn**	**21 29 49.6**	**+1.3**
PNL	**Peninsula**	**6.43**	**52**			**Pn**	**21 29 49.9**	**+1.5**
PNL	**Peninsula**	**6.43**	**52**	P		**Pn**	**21 29 49.9**	**+1.5**
	baz=240							
CTG	**Chitna Glacier**	**6.46**	**38**	P		**Pn**	**21 29 50.1**	**+1.3**
	baz=224							
CTGM	**Chitina Glacie**	**6.46**	**38**			**Pn**	**21 29 49.9**	**+1.0**
BCPM	**Bancas Point**	**6.47**	**49**			**Pn**	**21 29 50.7**	**+1.7**
LOGN	**Logan Glacier**	**6.47**	**39**			**Pn**	**21 29 50.1**	**+1.0**
WAT6	**Susitna Watana**	**6.56**	**7**			**Pn**	**21 29 51.1**	**+0.8**
WAT6	**Susitna Watana**	**6.56**	**7**	P		**Pn**	**21 29 51.1**	**+0.8**
	baz=188							
HARP	**HAARP**	**6.69**	**17**			**Pn**	**21 29 53.4**	**+1.6**
HARP	**HAARP**	**6.69**	**17**	P		**Pn**	**21 29 53.4**	**+1.6**
	baz=201							
M17K	**Holitna River**	**6.75**	**325**	P		**Pn**	**21 29 53.7**	**+0.9**
	baz=139							
WAT7	**Susitna Watana**	**6.76**	**2**			**Pn**	**21 29 54.0**	**+1.0**
WAT1	**Susitna Watana**	**6.77**	**3**			**Pn**	**21 29 53.9**	**+0.9**
WAT1	**Susitna Watana**	**6.77**	**3**	P		**Pn**	**21 29 53.9**	**+0.9**
	baz=184							
M16K	**Timber Creek**	**7.02**	**319**			**Pn**	**21 29 57.2**	**+0.9**
M16K	**Timber Creek**	**7.02**	**319**	P		**Pn**	**21 29 57.4**	**+1.0**
	baz=131							
DHY	**Denali Highway**	**7.08**	**8**			**Pn**	**21 29 58.3**	**+1.0**
DHY	**Denali Highway**	**7.08**	**8**	P		**Pn**	**21 29 58.4**	**+1.0**
	baz=189							
O14K	**Tigyukauivet M**	**7.09**	**301**	Pn		**Pn**	**21 29 58.9**	**+1.4**
O29M	**Mount Kennedy**	**7.11**	**49**			**Pn**	**21 29 59.4**	**+1.7**
O29M	**Mount Kennedy**	**7.11**	**49**	P		**Pn**	**21 29 59.5**	**+1.7**
	baz=238							
PN7A	**Pavlof North-7**	**7.13**	**270**			**Pn**	**21 29 59.0**	**+1.0**
P29M	**Windy Craggy**	**7.16**	**56**			**Pn**	**21 29 59.3**	**+0.9**
P29M	**Windy Craggy**	**7.16**	**56**	P		**Pn**	**21 29 59.4**	**+1.0**
	baz=245							
PAX	**Paxson**	**7.18**	**15**	P		**Pn**	**21 29 59.3**	**+0.6**
	baz=198							
M27K	**Edge Creek, AK**	**7.37**	**29**				**21 30 03.0**	**+1.7**
TRF	**Thorofare Moun**	**7.39**	**357**	Pn		**Pn**	**21 30 01.7**	**+0.1**
S31K	**Pelican**	**7.43**	**70**			Pn	21 30 00.6	-1.5
S31K	**Pelican**	**7.43**	**70**	P		**Pn**	**21 30 01.2**	**-0.9**
	baz=261							
KTH	**Kantishna Hill**	**7.52**	**355**	Pn		**Pn**	**21 30 04.5**	**+1.2**
L16K	**Owhat River**	**7.66**	**321**	Pn		**Pn**	**21 30 05.8**	**+0.6**
YUK4	**Talbot Arm**	**7.68**	**42**	P		**Pn**	**21 30 09.5**	**+3.8**
	baz=231							
BVCY	**Beaver Creek**	**7.70**	**31**	P		**Pn**	**21 30 08.7**	**+2.9**
	baz=218							
PLBC	**Pleasant Camp**	**7.75**	**59**	P		**Pn**	**21 30 08.1**	**+1.7**
	baz=250							
HYT	**Haines Junctio**	**7.84**	**48**	Pn		**Pn**	**21 30 09.3**	**+1.6**
SIT	**Sitka**	**7.84**	**77**	Pn		Pn	21 30 06.4	-1.3
SIT	**Sitka**	**7.84**	**77**	P		**Pn**	**21 30 06.6**	**-1.1**
L27K	**Beaver Creek,**	**7.97**	**26**	P		**Pn**	**21 30 11.5**	**+2.0**
	baz=212							
BCAR	**Beaver Creek A**	**7.98**	**26**	Pn		**Pn**	**21 30 11.5**	**+1.8**
SKAG	**Skagway**	**8.25**	**60**	P		**Pn**	**21 30 14.8**	**+1.6**
BESE	**Bessie Mountai**	**8.26**	**66**	Pn		**Pn**	**21 30 14.1**	**+0.6**
S32K	**Killisnoo**	**8.27**	**74**				**21 30 12.4**	**-1.1**
S32K	**Killisnoo**	**8.27**	**74**	P		**Pn**	**21 30 12.7**	**-0.8**
	baz=266							
O30N	**Mendenhall**	**8.41**	**51**				**21 30 17.1**	**+1.6**
O30N	**Mendenhall**	**8.41**	**51**	P		**Pn**	**21 30 17.1**	**+1.6**
	baz=242							
JIS	**Juneau Island**	**8.45**	**69**	Pn		**Pn**	**21 30 16.6**	**+0.5**
JIS	**Juneau Island**	**8.45**	**69**	P		**Pn**	**21 30 17.0**	**+1.0**
M29M	**Somme Creek**	**8.47**	**37**			**Pn**	**21 30 18.1**	**+1.7**
ILAR	**Eielson Array**	**8.79**	**7**	Pn		**Pn**	**21 30 21.4**	**+0.7**
WHY	**Whitehorse**	**8.89**	**53**	Pn		**Pn**	**21 30 24.2**	**+2.0**
L29M	**L29M**	**9.05**	**34**	P		**Pn**	**21 30 26.5**	**+2.1**
	baz=224							
P32M	**Atlin**	**9.07**	**61**	Pn		**Pn**	**21 30 25.7**	**+1.1**
U33K	**Whale Pass**	**9.11**	**83**			**Pn**	**21 30 23.9**	**-1.1**
U33K	**Whale Pass**	**9.11**	**83**	P		**Pn**	**21 30 24.0**	**-1.1**
	baz=276							
M30M	**Minto, Yukon**	**9.14**	**40**			**Pn**	**21 30 26.6**	**+1.1**
M30M	**Minto, Yukon**	**9.14**	**40**	P		**Pn**	**21 30 27.8**	**+2.3**
	baz=230							
I21K	**Tanana**	**9.20**	**353**	Pn		**Pn**	**21 30 27.3**	**+1.1**
P33M	**Teslin, Yukon**	**9.69**	**58**	P		**Pn**	**21 30 34.4**	**+1.4**
	baz=252							

*TEH **27** 21:30:48.0,34.′04N×46.′40E,h10km±91km,ML2.6*
*ISN **27** 21:30:48.5±1.5,34.′00N×46.′48E,h23km±11km,ML2.6*

ISC 27 21:30:47.9±1.1,34.′04N±0.′04×46.′39E±0.′04,h10km,n11,
σ0.′56/14,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.33**	**28**	Pg	**Pg**	**21 30 54.9**	**+0.4**
ILBA	**Ilam Banvizeh**	**0.44**	**200**	Pg	**Pg**	**21 30 57.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**0.59**	**67**	Pg	**Pg**	**21 30 59.5**	**0.0**
KCHF				Sg	**Sb**	**21 31 08.1**	**-0.9**
IDHR	**Dehrash**	**0.66**	**0**	Pg	**Pg**	**21 31 00.2**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.81**	**305**	Pg	**Pb**	**21 31 04.1**	**+0.1**
ILIN	**Lien**	**1.00**	**28**	Pg	**Pb**	**21 31 07.4**	**-0.1**
IBDR	**Badra**	**1.00**	**202**	*e*Pg	**Pg**	**21 31 06.0**	**-1.2**
	baz=27						
IBDR				*e*Sg	**Sb**	**21 31 21.0**	**+0.4**
IBDR				AML	AML	21 31 30.5	
	comp=N,74nm,0.3s						
IBDR				AML	AML	21 31 40.7	
	comp=E,102nm,0.4s						
IBZA	**Bozab**	**1.29**	**70**	Pg	**Pg**	**21 31 13.3**	**+0.5**
IKFM	**Kafar-mosalman**	**1.32**	**113**	Pg	**Pb**	**21 31 12.8**	**0.0**
IALM	**Almabolaq**	**1.69**	**60**	Pg	**Pg**	**21 31 20.5**	**+0.2**
BHD	**Baghdad**	**1.84**	**246**	*e*Pn	**Pb**	**21 31 22.0**	**+0.4**
BHD				*e*Sn	**Sb**	**21 31 45.0**	**+0.3**

*IDC **27** 21:34:04.2±0.8, 15.′59S×179.′64W,h0km,mb4.0/9, mbtmp4.0/9,MS3.3/6,Error ellipse: s-maj=41.7km s-min=19.6km az=144.0*

ISC 27 21:34:09.5±0.8,15.′6S±0.′2×179.′7W±0.′2,h35km,n30,
σ1s06/23,mb4.0/9,MS3.4/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.73**	**173**	LR	LR	21 41 44.9	
	comp=Z,188nm,19.0s,baz=77,slow=34						
DZM	**Mont Dzumac**	**14.62**	**242**	LR	LR	21 42 05.3	
	comp=Z,49nm,19.0s,baz=40,slow=33						
RAR	**Rarotonga**	**19.73**	**110**	LR	LR	21 43 31.9	
	comp=Z,37nm,21.0s,baz=304,slow=29						
HNR	**Honiara**	**20.77**	**285**	LR	LR	21 45 41.5	
	comp=Z,4μm,19.0s,baz=116,slow=34						
URZ	**Urwera**	**22.79**	**186**	LR	LR	21 47 28.1	
	comp=Z,153nm,18.2s,baz=122,slow=35						
PPT	**Papeete**	**28.93**	**98**	LR	LR	21 49 48.1	
	comp=Z,49nm,18.1s,baz=358,slow=33						
RPZ	**Rata Peaks**	**29.15**	**194**	LR	LR	21 49 16.2	
	comp=Z,84nm,20.3s,baz=337,slow=31						
STKA	**Stephens Creek**	**38.74**	**238**	P	**P**	**21 41 29.5**	**-1.0**
	0.7nm,0.3s,baz=62,slow=12,SNR=3.5						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**43.88**	**257**	P	**P**	**21 42 13.1**	**+0.1**
	1.6nm,1.1s,baz=90,slow=9.4,SNR=3.1						
	1.6nm,1.1s						
ASAR	**Alice Springs**	**44.28**	**252**	P	**P**	**21 42 17.0**	**+0.8**
	2.1nm,0.8s,baz=82,slow=8.8,SNR=16						
	2.1nm,0.8s						
QSPA	**South Pole Qui**	**74.49**	**180**	P	**P**	**21 45 43.9**	**-0.4**
	1.9nm,0.8s,baz=78,slow=2.6,SNR=6.8						
	1.9nm,0.8s						
NVAR	**Mina Array Bea**	**78.61**	**45**	P	**P**	**21 46 08.4**	**+0.3**
	1.4nm,0.8s,baz=225,slow=8.8,SNR=11						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**83.89**	**14**	P	**P**	**21 46 34.2**	**-1.1**
	2.2nm,0.9s,baz=231,slow=5.3,SNR=12						
	2.2nm,0.9s						
TXAR	**Lajitas Array**	**85.80**	**58**	P	**P**	**21 46 46.4**	**+0.5**
	1.0nm,0.8s,baz=218,slow=5.8,SNR=8.5						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**86.52**	**44**	P	**P**	**21 46 50.0**	**+0.8**
	0.9nm,0.7s,baz=234,slow=2.7,SNR=9.3						
	0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**86.92**	**290**	P	**P**	**21 46 53.2**	**+1.8**
	0.2nm,0.5s,baz=94,slow=2.7,SNR=1.6						
	0.2nm,0.5s						
GERES	**GERESS Array B**	**145.03**	**345**	PKPbc	**PKPab**	**21 53 41.5**	**-1.2**
	0.6nm,0.8s,baz=0.0,slow=3.9,SNR=2.3						
CONA	**Conrad Observa**	**145.25**	**342**	*i* PKP	**PKiKP**	**21 53 45.8**	**-1.8**
	7.2nm,1.4s						
MOA	**Molln**	**145.79**	**343**	*e*PKP	**PKiKP**	**21 53 47.5**	**-1.1**
	9.0nm,1.5s						
ARSA	**Arzberg**	**145.96**	**341**	*e*PKP	**PKiKP**	**21 53 47.2**	**-1.8**
	3.6nm,1.1s						
BIOA	**Bad Ischl, Aus**	**146.10**	**344**	*i* PKP	**PKPab**	**21 53 46.3**	**-0.2**
	3.8nm,1.1s						
LESA	**Schwarzleotal**	**146.60**	**345**	*e*PKP	**PKPbc**	**21 53 46.6**	**-0.9**
	3.7nm,1.2s						
SOKA	**Soboth**	**146.62**	**341**	*e*PKP	**PKPdf**	**21 53 46.5**	**+0.4**
	5.1nm,1.8s						
KBA	**Koelnbreinsper**	**146.75**	**344**	*e*PKP	**PKiKP**	**21 53 50.6**	**-0.2**
	6.7nm,1.5s						
WATA	**Walderalm**	**146.96**	**346**	*e*PKP	**PKPab**	**21 53 49.2**	**-0.9**
	6.1nm,1.3s						
RETA	**Reute**	**147.00**	**347**	*e*PKP	**PKPab**	**21 53 50.3**	**+0.2**
	5.9nm,1.2s						
WTTA	**Wattenberg**	**147.01**	**346**	*i* PKP	**PKPbc**	**21 53 48.9**	**+0.1**
	8.3nm,1.2s						
MYKA	**Terra Mystica**	**147.07**	**343**	*i* PKP	**PKPbc**	**21 53 48.9**	**0.0**
	6.1nm,1.1s						
ABTA	**Abfaltersbach**	**147.27**	**344**	*e*PKP	**PKPab**	**21 53 50.4**	**-0.8**
	6.7nm,1.5s						
TORD	**Torodi Ar. Bea**	**177.25**	**210**	PKP	**PKPdf**	**21 54 19.1**	**+1.9**
	0.4nm,0.8s,baz=117,slow=5.4,SNR=3.7						

*IDC **27** 21:45:09.7±0.5,7.′21N×79.′78W,h0km,mb4.7/22, mbtmp4.7/29,ML4.2/7,MS5.1/55,Error ellipse: s-maj=18.2km s-min=11.2km az=47.0*

*MOS **27** 21:45:10.5±1.1,7.′27N×79.′77W,h12km,mb5.5/43, MS5.3/35,Error ellipse: s-maj=8.7km s-min=5.0km az=108.2*

*UPA **27** 21:45:11.3±1.4,7.′23N×79.′75W,h5km,MW5.6,Fault plane solution: NP1:φ≈5.00000°,δ64.00000°, λ-163.00000°.*

*NEIC **27** 21:45:12.3,7.′28N×79.′69W,h10km*

*BJI **27** 21:45:12.0±0.0,7.′30N×79.′60W,h10km,mB5.7/13, Ms5.7/32,Ms7 5.5/34*

*RSNC **27** 21:45:12.9±1.4,7.′13N×79.′73W,h32km±11km,ML4.6, Mw5.3*

*NEIC **27** 21:45:12.3±1.4,7.′28N±0.′05×79.′68W±0.′06,h10km±3km, mb5.2/222,Ms_20 5.2/746,Mwb5.6/40,Mww5.7/26,Error ellipse: s-maj=9.4km s-min=7.1km az=68.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.32; Mθθ=0.72; Mφφ=0.40; Mrθ=-0.23; Mrφ=2.64; Mθφ=1.10; Fault plane solution: M0=2.94000×10^17^ NP1: φs=172.39000°,δ81.89000°,λ157.90000°. NP2: φs=265.67000°,δ68.13000°,λ8.75000°. Principal axes: T 2.9297, Plg21.0000°, Azm127.0000°; N 0.0152, Plg67.0000°, Azm333.0000°; P -2.9448, Plg9.0000°, Azm221.0000°;*

*IPGP **27** 21:45:13.0,7.′31N×79.′70W,h11km,Mw5.7,Fault plane solution: NP1:φs=356.00000°,δ71.00000°,λ-126.00000°. NP2:φs=243.00000°,δ40.00000°,λ-30.00000°.*

*NEIC **27** 21:45:13.5,7.′31N×79.′70W,h20km*

*NEIC **27** 21:45:13.5,7.′21N×79.′50W,h20km,Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^17^Nm; Mrr=0.28; Mθθ-0.63; Mφφ0.90; Mrθ0.45; Mrφ3.55; Mθφ-2.39; Fault plane solution: M0=4.38000×10^17^ NP1: φs=355.03000°,δ86.53000°,λ-146.21000°. NP2: φs=262.71000°,δ56.28000°,λ-4.18000°. Principal axes: T 4.3638, Plg20.0000°, Azm124.0000°; N 0.0315, Plg56.0000°, Azm0.0000°; P -4.3953, Plg26.0000°, Azm224.0000°;*

*GCMT **27** 21:45:15.3±0.1,7.′26N±0.′01×79.′68W±0.′01,h12km, MW5.7/166,Moment Tensor Solution. s128,c223; s166,c338; Duration: 1s6 Moment tensor: Scale 10^17^ Nm; Mrr=0.21±.03; Mθθ-0.51±.04; Mφφ0.71±.04; Mrθ0.54±.09; Mrφ3.32±.03; Mθr-1.78±.09; Best double couple: M0=3.85500×10^17^ NP1:φs=356.00000°,δ85.00000°, λ-152.00000°. NP2:φs=263.00000°,δ62.00000°, λ-6.00000°. Principal axes: T 3.7680, Plg16.0000°, Azm126.0000°; N 0.1750, Plg61.0000°, Azm5.0000°; P -3.9420, Plg23.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UCR **27** 21:45:15.1±6.6,7.′28N×79.′68W,h10km,MB5.7(NEIC)*

ISC 27 21:45:11.1±0.9,7.′14N±0.′03×79.′73W±0.′03,h10km±5km, n1586,σ1s58/1305,mb5.2/172,MS5.2/453,51C-21D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEDA3	**Pedasi**	**0.48**	**322**	*i*P	**Pg**	**21 45 19.3**	**-1.3**
PEDA3				*e*S	**Sg**	**21 45 26.1**	**-0.9**
ACHO3	**Achotines, Los**	**0.52**	**302**	*e*P	**Pg**	**21 45 20.6**	**-0.7**
ACHO3				*e*S	**Sg**	**21 45 28.4**	**+0.3**
TOSI3	**Tonosi**	**0.76**	**291**	*i*P	**Pg**	**21 45 24.6**	**-1.1**
TOSI3				*e*S	**Sg**	**21 45 36.4**	**+0.8**
CHIT3	**Chitre**	**1.06**	**320**	*i*P	**Pg**	**21 45 28.9**	**-2.7**
CHIT3				*e*S	**Sg**	**21 45 44.4**	**-1.0**
CACAO	**El Cacao, Vera**	**1.14**	**280**	*i*P	**Pb**	**21 45 30.4**	**-2.6**
CACAO				*e*S	**Sb**	**21 45 48.3**	**+0.3**
CACAO	**El Cacao, Vera**	**1.14**	**280**	*i*P	**Pb**	**21 45 30.2**	**-2.8**
CACAO				*e*S	**Sb**	**21 45 45.8**	**-2.2**
CACAO				*i*		21 45 52.2	
	comp=Z,39μm,0.4s						
MARI3	**Mariato, Verag**	**1.35**	**292**	*e*P	**Pn**	**21 45 34.3**	**-1.8**
MARI3				*e*S	**Sb**	**21 45 53.3**	**-0.6**
CRIS3	**El Cristo, Coc**	**1.42**	**321**	*e*P	**Pn**	**21 45 35.5**	**-1.5**
PNME	**Penonome**	**1.46**	**336**	*i*P	**Pn**	**21 45 35.6**	**-2.1**
PNME				*e*S	**Sn**	**21 45 54.3**	**-2.6**
PNME	**Penonome**	**1.46**	**336**	*e*P	**Pn**	**21 45 35.6**	**-2.1**
PNME				*e*S	**Sn**	**21 45 54.9**	**-2.0**
STIA3	**Santiago, Vera**	**1.56**	**308**	*i*P	**Pn**	**21 45 37.7**	**-1.3**
STIA3				*e*S	**Sb**	**21 45 60.0**	**0.0**
CALO3	**Calobre, Verag**	**1.61**	**317**	*e*P	**Pn**	**21 45 38.4**	**-1.3**
GMAL	**Guarumal, Vera**	**1.62**	**293**	*i*P	**Pn**	**21 45 38.8**	**-1.0**
GMAL				*e*S	**Sn**	**21 45 59.3**	**-1.4**
GMAL	**Guarumal, Vera**	**1.62**	**293**	*e*P	**Pn**	**21 45 38.4**	**-1.4**
GMAL				*e*S	**Sn**	**21 45 59.8**	**-0.9**
GMAL				*i*		21 46 05.2	
	comp=Z,12μm,0.6s						
TABO3	**Taboga, Panama**	**1.65**	**6**	*i*P	**Pn**	**21 45 38.5**	**-1.7**
TABO3				*e*S	**Sn**	**21 45 59.0**	**-2.6**
FLAM	**Flamenco Islan**	**1.77**	**6**	*e*P	**Pn**	**21 45 43.1**	**-0.7**
ARRA3	**Arraijan, Pana**	**1.82**	**2**	*e*P	**Pn**	**21 45 41.2**	**-1.3**
UPA	**Univ. de Panam**	**1.84**	**6**	*i*P	**Pn**	**21 45 41.4**	**-1.5**
UPA				*e*S	**Sn**	**21 46 02.7**	**-3.5**
UPA	**Univ. de Panam**	**1.84**	**6**	*e*P	**Pn**	**21 45 41.4**	**-1.5**
UPA				*e*S	**Sn**	**21 46 03.3**	**-2.9**
PTAC	**Punta Ardita,**	**1.90**	**90**	*i*P	**Pn**	**21 45 40.9**	**-2.8**
PTAC				*e*S	**Sn**	**21 46 01.0**	**-6.8**
PTAC	**Punta Ardita,**	**1.90**	**90**	*i*P	**Pn**	**21 45 40.9**	**-2.8**
PTAC				*e*S	**Sn**	**21 46 01.1**	**-6.8**
PTAC				*i*		21 46 22.1	
	comp=Z,3μm,0.4s						
BCIP	**Isla Barro Col**	**2.02**	**357**		**Pn**	**21 45 44.5**	**-0.8**
BCIP				Sn	**Sn**	**21 46 08.8**	**-1.8**
BCIP	**Isla Barro Col**	**2.02**	**357**	*i*P	**Pn**	**21 45 44.6**	**-0.7**
BCIP				*e*S	**Sn**	**21 46 09.8**	**-0.9**
BCIP	**Isla Barro Col**	**2.02**	**357**	P	**Pn**	**21 45 44.0**	**-0.8**
BCIP						21 46 08.8	
BCIP	**Isla Barro Col**	**2.02**	**357**	*i*P	**Pn**	**21 45 44.3**	**-1.0**
BCIP				*e*S	**Sn**	**21 46 09.5**	**-1.1**
BCIP				*i*		21 46 13.6	
	comp=Z,37μm,0.3s						
FRIJ	**El Hiral**	**2.07**	**0**	*e*P	**Pn**	**21 45 45.2**	**-0.8**
CHPO	**Chepo, Panama**	**2.11**	**17**	*i*P	**Pn**	**21 45 45.6**	**-0.9**
CHPO				*e*S	**Sn**	**21 46 12.0**	**-0.8**
UPD2	**Meteti**	**2.20**	**50**	*i*P	**Pn**	**21 45 47.2**	**-0.6**
UPD2				*e*S	**Sn**	**21 46 13.6**	**-1.5**
UPD2	**Meteti**	**2.20**	**50**	*i*P	**Pn**	**21 45 47.2**	**-0.6**
UPD2				*e*S	**Sn**	**21 46 13.0**	**-2.1**
CNTA3	**Canitas, Panam**	**2.23**	**22**	*i*P	**Pn**	**21 45 47.4**	**-0.8**
TOTI	**Torti**	**2.27**	**38**	*i*P	**Pn**	**21 45 47.9**	**-0.8**
TOTI				*e*S	**Sn**	**21 46 16.8**	**0.0**
SOLC	**Bahia Solano**	**2.48**	**111**	*i*P	**Pn**	**21 45 49.0**	**-2.6**
SOLC	**Bahia Solano**	**2.48**	**111**	*e*P	**Pn**	**21 45 49.0**	**-2.6**
SOLC				*e*S	**Sn**	**21 46 17.9**	**-4.1**
CAPC	**Capurgana**	**2.78**	**58**	*e*P	**Pn**	**21 45 54.9**	**-0.9**
CAPC				*e*S	**Sn**	**21 46 26.1**	**-3.4**
CAPC				*i*		21 46 46.2	
	comp=Z,3μm,0.7s						
CAP2	**Capurgana**	**2.78**	**57**	*e*P	**Pn**	**21 45 54.4**	**-1.5**
CAP2				*e*S	**Sn**	**21 46 26.1**	**-3.5**
CHGR2	**Aguacate**	**2.99**	**307**	*e*P	**Pn**	**21 45 60.0**	**+1.3**
CHGR2				*e*S	**Sn**	**21 46 35.9**	**+1.3**
DVD	**David**	**2.99**	**296**	*e*P	**Pn**	**21 45 59.8**	**+1.1**
PTAR3	**Potrerillos Ar**	**3.15**	**300**	*e

LUJA	Lujan	5.11	303	eP	Pn	21 46 30.9	+2.8
ACOS	Acosta	5.12	301	eP	Pn	21 46 30.5	+2.3
MEXI	Barrio Mexico	5.13	303	eP	Pb	21 46 38.5	-2.7
DOMI	Santo Domingo	5.16	304	eP	Pb	21 46 37.5	-4.1
HDC3	Heredia 3	5.18	304	eP	Pn	21 46 31.2	+2.2
HDC	Heredia	5.19	304		Pn	21 46 30.5	+1.4
HDC	Heredia	5.19	304	⇑iP	Pn	21 46 31.1	+2.1
HDC				eS	Sb	21 47 50.5	+5.9
HDC	Heredia	5.19	304	eP	Pn	21 46 31.1	+2.1
HDC	Heredia	5.19	304	eP	Pn	21 46 31.1	+2.1
SANTA	Santa Ana	5.21	302	eP	Pn	21 46 31.3	+2.0
RIFO	Rio Frio, Sara	5.21	308	eP	Pn	21 46 30.7	+1.5
BELE	Belen	5.24	303	eP	Pn	21 46 34.2	+4.6
SJCC	San Jacinto, C	5.27	58	i P	Pn	21 46 31.6	+1.5
SJCC				eS	Sn	21 47 20.0	-11
SJCC	San Jacinto, C	5.27	58	⇑eP	Pn	21 46 31.4	+1.4
SJCC				eS	Sn	21 47 28.8	-2.1
SJCC				i		21 47 48.8	
	comp=Z,204nm,0.6s						
PTBC	PUERTO BERRIO,	5.27	96	⇑eP	Pn	21 46 30.0	0.0
PTBC				eS	Sn	21 47 29.0	-1.9
PTBC				i		21 47 45.3	
	comp=Z,169nm,0.6s						
TCS1	Tacares	5.36	303	eP	Pn	21 46 33.6	+2.1
TUMC	Tumaco	5.37	169	eP	Pb	21 46 48.4	+3.1
TUMC	Tumaco	5.37	169	eP	Pn	21 46 34.3	+2.8
VPS6	Volcano Poas	5.39	305	eP	Pn	21 46 35.4	+3.5
GREC	Grecia	5.39	303	eP	Pb	21 46 42.1	-3.4
POA5	Crater Von Fra	5.39	305	eP	Pn	21 46 34.4	+2.3
TRB2	Turrubares	5.42	301	eP	Pn	21 46 34.8	+2.7
JACO	JACO, Garabito	5.49	298		Pn	21 46 34.6	+1.6
JACO	JACO, Garabito	5.49	298	eP	Pn	21 46 34.7	+1.7
POPC	Popayan, Colom	5.49	146	⇑eP	Pn	21 46 31.8	-1.5
POPC				eS	Sn	21 47 34.7	-2.0
ORTC	Ortega, Tolima	5.49	126	⇑iP	Pn	21 46 33.5	+0.3
ORTC				eS	Sn	21 47 37.9	+1.4
ORTC				i		21 47 42.2	
	comp=Z,217nm,0.4s						
ZARE	Zarcero	5.51	304	eP	Pn	21 46 38.5	+4.9
SRA1	San Ramn	5.54	302	eP	Pn	21 46 35.7	+1.8
CPMI	Catarata Coope	5.56	304	eP	Pn	21 46 37.0	+2.8
ITAL	Pital	5.57	307	eP	Pn	21 46 35.3	+1.2
BBAC	Balboa, Cauca	5.65	154	⇑eP	Pn	21 46 34.2	-1.3
BBAC				eS	Sn	21 47 36.5	-4.2
BBAC				i		21 47 50.3	
	comp=Z,79nm,0.4s						
SOCE	Pocosol	5.81	304		Pn	21 46 38.7	+1.2
SOCE	Pocosol	5.81	304	eP	Pn	21 46 38.8	+1.3
SPBC	San Pablo de B	5.81	104	⇑eP	Pn	21 46 38.7	+1.1
SPBC				eS	Sn	21 47 44.5	+0.1
COVE	Coope Vega, Sa	5.83	308		Pn	21 46 39.4	+1.7
COVE	Coope Vega, Sa	5.83	308	eP	Pn	21 46 40.4	+2.6
CBL1	Cabuya	5.84	295	eP	Pn	21 46 37.4	-0.4
ROSC	El Rosal	5.84	113	Pn	Pn	21 46 40.4	+2.1
ROSC	El Rosal	5.84	113	Pn	Pn	21 46 40.7	+2.4
	comp=Z,125nm,0.3s,baz=289,slow=11,SNR=106						
ROSC				LR	LR	21 49 03.8	
	comp=Z,26µm,21.8s,baz=312,slow=40						
	comp=Z,624nm,0.6s						
ROSC	El Rosal	5.84	113	⇑eP	Pn	21 46 40.6	+2.3
ROSC				eS	Sn	21 47 49.3	+3.7
PRAC	Prado	5.90	125	⇑eP	Pn	21 46 39.6	+0.8
PRAC				eS	Sn	21 47 47.1	+0.5
PRAC				i		21 47 54.4	
	comp=Z,224nm,0.5s						
VACR	Volcan Arenal	5.91	304	eP	Pn	21 46 41.3	+2.4
ARE1	Arenal 1	5.94	304		Pn	21 46 41.3	+2.1
ARE1	Arenal 1	5.94	304	eP	Pn	21 46 43.5	+4.2
CEDE	Laguna Cedeo	5.94	304	eP	Pn	21 46 41.3	+2.0
JTS	Las Juntas de	6.04	302	Pn	Pn	21 46 42.0	+1.3
JTS	Las Juntas de	6.04	302	⇓iP	Pn	21 46 41.0	+0.3
JTS				eS	Sb	21 48 09.6	+0.5
JTS	Las Juntas de	6.04	302	P	Pn	21 46 42.0	+1.3
JTS	Las Juntas de	6.04	302	Pn	Pn	21 46 41.1	+0.4
	comp=Z,8.2nm,0.3s,baz=117,slow=10,SNR=62						
JTS				Lg	Lg	21 48 16.5	
	comp=Z,7.7nm,0.3s,baz=197,slow=19,SNR=1.5						
	comp=Z,278nm,0.8s						
JTS	Las Juntas de	6.04	302	eP	Pn	21 46 41.4	+0.7
JUNT	Juntas	6.04	301	eP	Pn	21 46 43.5	+2.9
ARGC	Ariguani, Magd	6.06	63	eP	Pn	21 46 43.4	+2.5
BETC	Betania	6.15	136	eP	Pn	21 46 43.9	+1.7
BETC				eS	Sn	21 47 57.1	+4.3
BETC				i		21 48 00.4	
	comp=Z,343nm,0.5s						
NYURE	Nandayure	6.16	298	eP	Pn	21 46 43.1	+0.8
CRUC	La Cruz	6.19	153	eP	Pn	21 46 45.2	+2.2
CVER	Cruz Verde, Cu	6.20	115	eP	Pn	21 46 45.5	+2.2
LCHIL	Los Chiles	6.26	309	eP	Pn	21 46 44.9	+1.2
VERA	Finca Concepci	6.28	306	eP	Pn	21 46 45.5	+1.6
CMARA	Lajas Hojancha	6.32	297	eP	Pn	21 46 45.1	+0.5
GCUF	Volcan Galeras	6.34	158	eP	Pn	21 46 46.3	+1.2
NICO	Nicoya	6.39	298	eP	Pn	21 46 46.4	+0.9
PRVC	Isla de Provid	6.40	346	⇑iP	Pn	21 46 44.2	-1.4
PRVC				eS	Sn	21 47 53.5	-5.3
PRVC	Isla de Provid	6.40	346	eP	Pn	21 46 44.2	-1.4
PRVC				eS	Sn	21 47 52.4	-6.5
PRVC				i		21 48 15.9	
	comp=Z,514nm,0.5s						
DUNO	Dulce Nombre,	6.41	298		Pn	21 46 47.2	+1.5
PLVR	Palo Verde	6.41	300	eP	Pn	21 46 48.5	+2.6
CUI	Cuipilapa	6.41	303	eP	Pn	21 46 48.5	+2.7
OCAC	Ocana	6.44	80	eP	Pn	21 46 46.5	+0.2
OCAC				eS	Sn	21 47 58.6	-1.5
OCAC				i		21 48 05.0	
	comp=Z,1µm,0.4s						
COLC	Colonia	6.45	303	eP	Pn	21 46 46.2	0.0
VMAR	Armenia, Volca	6.45	305	eP	Pn	21 46 48.6	+2.2
CAMAV	Centro de Prod	6.46	304	eP	Pn	21 46 44.4	-2.1
GARC	Garzon, Huila	6.48	139	eP	Pn	21 46 48.6	+1.6
GARC				eS	Sn	21 48 03.8	+2.6
ORTG	Ortega, Santa	6.51	300	Pn	Pn	21 46 48.1	+1.0
ORTG	Ortega, Santa	6.51	300	eP	Pn	21 46 46.8	-0.3
BARC	Barichara	6.52	94	eP	Pn	21 46 48.3	+0.9
VRLE	La Escondida,	6.64	303	eP	Pn	21 46 49.4	+0.3
VORI	VORI	6.65	304	eP	Pn	21 46 51.6	+2.5
TULM	Tulcn-Chalpat	6.67	163		Pn	21 46 51.8	+2.0
TULM	Tulcn-Chalpat	6.67	163	eP	Pn	21 46 54.3	+4.6
VILC	Villavicencio,	6.71	116	eP	Pn	21 46 53.3	+3.2
ELI1	Hacienda Flor	6.73	302	eP	Pn	21 46 25.8	-24
SMRC	Santa Marta, M	6.75	53	eP	Pn	21 46 51.2	+0.9
SMRC				eS	Sn	21 48 06.7	-0.6
SMRC				i		21 48 07.7	
	comp=Z,75nm,0.5s						
ESPN	Las Esperanzas	6.75	318	Pn	Pn	21 46 50.9	+0.5
ESPN	Las Esperanzas	6.75	318	eP	Pn	21 46 52.9	+2.5
HZTE	Horizontes, Gu	6.80	302		Pn	21 46 52.1	+1.0
HZTE	Horizontes, Gu	6.80	302	eP	Pn	21 46 53.4	+2.3
LL6C	La Loma 6 Bece	6.89	68	eP	Pn	21 46 54.2	+1.9
LL6C				eS	Sn	21 48 03.7	-7.2
PAC1	Pacto, Paraso	6.89	172	eP	Pn	21 46 55.4	+2.9
CUSE	Cuicocha Este	6.92	169	eP	Pn	21 47 01.6	+8.5
OTAV	Otavalo	6.97	169	Pn	Pn	21 46 57.7	+3.8
OTAV	Otavalo	6.97	169	⇓eP	Pn	21 47 00.6	+6.7
OTAV	Otavalo	6.97	169	P	Pn	21 46 57.7	+3.8
OTAV	Otavalo	6.97	169	eP	Pn	21 46 59.9	+6.0
OTAV				eS	Sn	21 48 07.3	-6.2
PAMC	Pamplona, Colo	6.97	88	⇑eP	Pn	21 46 54.6	+0.7
PAMC				eS	Sn	21 48 12.6	-1.1
PAMC				i		21 48 19.0	
	comp=Z,160nm,0.6s						
IMBA	Imbabura, San	6.99	167		Pn	21 46 57.9	+3.8
BONI	La Bonita	7.00	162	eP	Pn	21 46 55.6	+1.6
PULU	Pululahua	7.18	170		Pn	21 47 01.4	+4.8
ACON	Acoyapa	7.20	312		Pn	21 46 57.4	+0.8
ACON	Acoyapa	7.20	312	eP	Pn	21 46 58.8	+2.2
ACON	Acoyapa	7.20	312	eP	Pn	21 46 59.0	+2.4
CRJC	Cerrejon, Guaj	7.78	60	eP	Pn	21 47 04.5	-0.2
CRJC				eS	Sn	21 48 28.3	-4.7
CRJC				i		21 48 36.0	
	comp=Z,154nm,0.5s						
BOAB	BOACO BROADBAN	7.88	312		Pn	21 47 06.5	+0.6
TAMC	Tame, Arauca	7.91	95	eP	Pn	21 47 07.8	+1.4
SLOR	San Lorenzo -	7.91	171	Pn	Pn	21 47 10.5	+3.7
PTGC	Puerto Gaitan,	8.10	111	⇑eP	Pn	21 47 09.0	0.0
PIAT	Ana Tenorio	8.21	170	eP	Pn	21 47 18.7	+7.8
MATN	Matagalpa	8.39	314		Pn	21 47 13.8	+0.8
PTLC	Puerto Leguiza	8.49	144	⇑eP	Pn	21 47 19.0	+4.7
CHSH	Refugio Sur-Vo	8.62	174		Pn	21 47 20.9	+4.3
PPLP	Puerto Lpez	8.69	187	eP	Pn	21 47 22.6	+5.5
CNGN	Cerro Negro	8.69	308		Pn	21 47 18.8	+1.7
CNGN	Cerro Negro	8.69	308	eP	Pn	21 47 21.9	+4.8
URIC	Uribia, Colomb	8.87	59	eP	Pn	21 47 20.8	+1.2
URIC				eS	Sn	21 48 56.8	-3.0
URIC				i		21 49 00.6	
	comp=Z,48nm,0.6s						
CRIN	San Cristobal	9.09	308		Pn	21 47 23.8	+1.2
CRIN	San Cristobal	9.09	308	eP	Pn	21 47 23.0	+0.5
SDV	Santo Domingo	9.17	78	Pn	Pn	21 47 23.7	-0.1
SDV	Santo Domingo	9.17	78	⇑iP	Pn	21 47 24.1	+0.2
SDV				eS	Sn	21 49 07.4	+0.1
SDV	Santo Domingo	9.17	78	Pn	Pn	21 47 24.7	+0.8
	comp=Z,14nm,0.3s,baz=248,slow=7.9,SNR=131						
SDV				Sn	Sn	21 49 01.9	-5.5
	comp=Z,38nm,0.3s,baz=270,slow=20,SNR=7.3						
SDV				LR	LR	21 51 08.4	
	comp=Z,20µm,21.6s,baz=252,slow=39						
	comp=Z,147nm,0.8s						
SDV	Santo Domingo	9.17	78	⇑eP	Pn	21 47 24.0	+0.2
SDV				eS	Sn	21 49 00.5	-6.9
SDV				i		21 49 16.3	
	comp=Z,105nm,0.6s						
SDV	Santo Domingo	9.17	78	eP	Pn	21 47 24.0	+0.2
SALI	Salinas	9.35	188	Pn	Pn	21 47 29.4	+3.3
COHC	Cochancay	9.55	177		Pn	21 47 31.3	+2.4
COHC	Cochancay	9.55	177	eP	Pn	21 47 32.7	+3.8
TGUH	Tegucigalpa,Un	10.11	313	Pn	Pn	21 47 37.0	+0.3
TGUH	Tegucigalpa,Un	10.11	313	eP	Pn	21 47 42.4	+5.8
ARNL	Arenillas	10.62	182	Pn	Pn	21 47 46.6	+3.0
MTDJ	Mount Denham	11.22	11	Pn	Pn	21 47 50.7	-1.2
SNET	Serv Nac Est T	11.39	306	Pn	Pn	21 47 53.8	-0.3
MCRA	Macar, Loja	11.44	181	Pn	Pn	21 47 56.7	+2.0
MCRA	Macar, Loja	11.44	181	eP	Pn	21 47 57.4	+2.6
MCRA				eS	Sn	21 49 55.3	-7.4
BAUV	El Baul	11.71	80	Pn	Pn	21 47 55.7	-2.8
BAUV	El Baul	11.71	80	eP	Pn	21 47 51.8	-6.7
HATO	Hato, Curacao	11.74	64		Pn	21 47 59.1	+0.3
MTO3	Montecristo	11.90	308		Pn	21 48 03.1	+1.9
ESQI	Esquipulas	11.98	309		Pn	21 48 03.5	+1.2
PAYG	Puerto Ayora	13.09	234	Pn	Pn	21 48 20.0	+2.7
PAYG	Puerto Ayora	13.09	234	⇓iP	Pn	21 48 14.9	-2.4
PAPH	Port-au-Prince	13.43	32		Pn	21 48 19.5	-2.4
GTBY	Guantanamo Bay	13.48	19	Pn	Pn	21 48 22.9	+0.3
RTAL	Retalhuleu	13.85	303		Pn	21 48 27.8	0.0
HUEH	Huehuetenango	14.12	306	Pn	Pn	21 48 32.5	+0.9
ATAH	Atahualpa	14.24	175	Pn	Pn	21 48 34.5	+1.0
	comp=Z,0.6nm,0.3s,baz=355,slow=11,SNR=6.7						
ATAH				LR	LR	21 53 41.4	
	comp=Z,6µm,21.5s,baz=353,slow=36						
	comp=Z,6.5nm,0.8s						
SDDR	Presa de Saban	14.35	34	Pn	Pn	21 48 33.0	-1.6
CCIG	Comitan	15.16	308		Pn	21 48 45.7	-0.1
PCRV	Puerto La Cruz	15.22	78	Pn	Pn	21 48 43.2	-3.2
	comp=Z,2.8nm,0.3s,baz=273,slow=2.3,SNR=8.2						
PCRV				LR	LR	21 56 46.4	
	comp=Z,24µm,18.9s,slow=46						
TEIG	Tepich	15.43	328		Pn	21 48 49.5	+0.5
TEIG				IAmb	IAmb	21 48 53.0	
	comp=Z,213nm,1.8s						
PCDR	Punta Cana, DR	15.80	43		Pn	21 48 53.8	-0.2
SOR	Soroa	15.88	349		Pn	21 48 54.9	0.0
SOR	Soroa	15.88	349	P	Pn	21 48 54.9	0.0
SOR				pmax	pmax		
	comp=Z,52nm,1.1s						
CZSB	Cruzeiro do Su	16.35	155	Pn	Pn	21 49 00.3	-0.7
CZSB	Cruzeiro do Su	16.35	155	eP	Pn	21 48 58.4	-2.5
CZSB	Cruzeiro do Su	16.35	155	eP	Pn	21 49 01.4	+0.4
CRPR	Cabo Rojo, PR	16.37	48		Pn	21 48 59.9	-1.3
MLPR	Magueyes Islan	16.39	48	Pn	Pn	21 48 58.4	-3.1
PRSN	Puerto Rico Se	16.48	47		Pn	21 49 01.7	-0.9
OBIP	Obispado Ponce	16.76	48		Pn	21 49 04.0	-2.2
CELP	Cerrillos	16.80	48		Pn	21 49 04.9	-1.9
AOPR	Arecibo Observ	16.84	47	eP	Pn	21 49 07.3	0.0
IGPR	InterUniversit	17.09	50		Pn	21 49 07.5	-2.9
SJG	San Juan	17.14	49		Pn	21 49 08.7	-2.3
SJG				IAmb	IAmb	21 49 18.4	
	comp=Z,543nm,1.7s						
SJG	San Juan	17.14	49	P	Pn	21 49 09.3	-1.7
	comp=Z,4.4nm,0.3s,baz=230,slow=14,SNR=9.6						
SJG				S	Sn	21 52 13.7	-8.2
	comp=Z,8.9nm,0.5s,baz=212,slow=22,SNR=1.9						
SJG				LR	LR	21 56 16.7	
	comp=Z,8µm,21.3s,baz=229,slow=39						
	comp=Z,19nm,0.5s						
SJG	San Juan	17.14	49	eP	Pn	21 49 10.3	-0.7
GCPR	Guaynabo City	17.31	49		Pn	21 49 10.8	-2.4
GCPR				IAmb	IAmb	21 49 18.2	
	comp=Z,159nm,1.0s						
HUMP	Col San Antoni	17.39	50		Pn	21 49 11.6	-2.5
CMIG	Matias Romero	17.80	305	P	Pn	21 49 19.1	-0.2
	comp=Z,0.1nm,0.3s,baz=92,slow=8.9,SNR=6.5						
	comp=Z,6.7nm,0.8s						
TPP	Pointe-a-Pierr	18.34	79	eP	Pn	21 49 21.8	-4.0
GRFF	Grenada Fort F	18.39	73	eP	P	21 49 26.4	-0.2
TEFE	Tefe	18.41	125	eP	P	21 49 25.4	-1.3
TRN	Trinidad (W)	18.43	78	eP	Pn	21 49 22.6	-4.4
GRGR	Grenville	18.49	73	P	P	21 49 25.7	-1.9
GRGR	Grenville	18.49	73	eP	Pn	21 49 27.6	-0.1
GRGR	Grenville	18.49	73	eP	Pn	21 49 29.7	+2.0
GRHS	Sauteurs	18.52	73	eP	Pn	21 49 29.0	+0.8
GCMP	Grenada, Carri	18.79	72	eP	P	21 49 30.3	-0.6
SABA	Saba	19.16	56	P	P	21 49 34.1	-0.8
SABA				IAmb	IAmb	21 49 43.4	
	comp=Z,160nm,0.8s						
SVOC	Richmond Hill,	19.16	70	eP	Pn	21 49 39.2	+3.3
SVB	Belmont	19.17	70	eP	P	21 49 34.2	-0.8
NNA	Nana	19.22	171	P	Pn	21 49 37.6	+1.1
NNA	Nana	19.22	171	⇓eP	Pn	21 49 40.5	+3.9
NNA				pmax	pmax		
	comp=Z,90nm,1.0s						
NNA	Nana	19.22	171	P	Pn	21 49 37.6	+1.1
	comp=Z,0.9nm,0.3s,baz=291,slow=15,SNR=1.7						
	comp=Z,9.0nm,0.6s						
MBFL	Flemmings, Mon	19.60	59	eP	Pn	21 49 41.7	+0.6
SLBI	Saint Lucia, B	19.65	68	eP	P	21 49 38.0	-2.4
BOAV	Boa Vista	19.70	103	P	P	21 49 40.8	-0.2
BOAV				IAmb	IAmb	21 49 48.1	
	comp=Z,104nm,1.0s						
BOAV	Boa Vista	19.70	103	⇑eP	P	21 49 40.2	-0.7
BOAV	Boa Vista	19.70	103	eP	P	21 49 41.0	+0.1
TBG	Guadaloupe-3	19.70	62	eP	P	21 49 34.6	-6.4
BIM	Bigot	19.72	67	P	P	21 49 40.8	-0.4
BIM				IAmb	IAmb	21 49 51.9	
	comp=Z,156nm,1.0s						
BIM	Bigot	19.72	67	eP	P	21 49 40.7	-0.4
FDF	Fort de France	19.73	66	P	P	21 49 40.8	-0.4
FDF				IAmb	IAmb	21 49 51.1	
	comp=Z,241nm,1.1s						
FDF	Fort de France	19.73	66	P	P	21 49 40.8	-0.4
FDF				pmax	pmax		
	comp=Z,241nm,1.1s						
FDF	Fort de France	19.73	66	eP	P	21 49 40.7	-0.4
SVN	Savane Anatole	19.75	66	eP	Pn	21 49 42.8	-0.2
GDHS	Morne Mazeau,	19.77	61	P	P	21 49 41.8	+0.1
CBE	Ff, Capester	19.83	62	P	P	21 49 42.0	-0.3
CBE	Ff, Capester	19.83	62	eP	Pn	21 49 46.6	+2.8
MPOM	Morne Pois Mar	19.89	67	P	P	21 49 42.0	-1.0
MPOM				IAmb	IAmb	21 49 47.8	
	comp=Z,304nm,1.3s						
MPOM	Morne Pois Mar	19.89	67	eP	P	21 49 43.2	+0.2
ABD	La Joyeuse, An	20.10	61	eP	P	21 49 45.8	+0.6
ANBD	Bethesda, Anti	20.12	59	eP	P	21 49 43.3	-2.1
GDSD	La Dsirade Is	20.40	62	P	P	21 49 48.2	-0.4
BBGH	Gun Hill	20.72	72	eP	P	21 49 52.1	+0.1
DWPF	Disney Wildern	20.92	356	P	P	21 49 54.9	+0.8
	baz=175						
TLIG	Tlapa	21.10	301	P	P	21 49 56.5	+0.3
TLIG				IAMs_20	IAMs_20	21 59 29.0	
	comp=Z,7µm,19.0s						
ETMB	Extrema	21.56	141	P	P	21 50 00.7	-0.4
ETMB				IAmb	IAmb	21 50 07.1	
	comp=Z,115nm,1.0s						
ETMB	Extrema	21.56	141	eP	P	21 50 01.4	+0.3
MACA	Manacapuru-AM	21.59	118	P	P	21 50 01.3	-0.1
MACA	Manacapuru-AM	21.59	118	eP	P	21 50 01.8	+0.5
UNM	Universidad Na	22.45	305	IAMs_20	IAMs_20	21 59 43.5	
	comp=Z,10µm,21.0s						
SAML	Samuel	22.96	134	P	P	21 50 15.4	-0.6
SAML	Samuel	22.96	134	P	P	21 50 15.4	-0.6
SAML				pmax	pmax		
	comp=Z,603nm,1.9s						
SAML				MLR	MLR		
	comp=Z,12µm,19.0s						
SAML	Samuel	22.96	134	eP	P	21 50 15.7	-0.3
451A	Vernon	24.03	347	IAMs_20	IAMs_20	22 00 27.8	
	comp=Z,6µm,18.0s						
JRQG	Juriquilla Cam	24.17	306	P	P	21 50 27.9	-0.2
MOIG	Morelia	24.27	303	P	P	21 50 28.8	-0.4
MOIG				IAmb	IAmb	21 50 35.5	
	comp=Z,42nm,0.8s						
MOIG				IAMs_20	IAMs_20	22 01 24.0	
	comp=Z,5µm,21.0s						
TIGA	Tifton	24.44	352	P	P	21 50 29.2	-1.0
TIGA				IAMs_20	IAMs_20	22 00 47.7	
	comp=Z,5µm,18.0s						
TIGA	Tifton	24.44	352	P	P	21 50 31.4	+1.1
	baz=171						
TIGA	Tifton	24.44	352	P	P	21 50 31.8	+1.6
	baz=171						
352A	Blakely	24.70	349	IAMs_20	IAMs_20	22 01 17.5	
	comp=Z,7µm,18.0s						
352A	Blakely	24.70	349	P	P	21 50 34.4	+1.9
	baz=167						
255A	Hazlehurst	24.79	354	P	P	21 50 35.1	+1.7
	baz=173						
BRAL	Brewton	24.87	345	P	P	21 50 33.5	-0.6
BRAL	Brewton	24.87	345	P	P	21 50 35.7	+1.6
	baz=162						
BRAL	Brewton	24.87	345	P	P	21 50 35.4	+1.3
	baz=162						
250A	Grady	25.45	347	IAMs_20	IAMs_20	22 01 13.6	
	comp=Z,5µm,20.0s						
250A	Grady	25.45	347	P	P	21 50 40.3	+0.9
	baz=165,SNR=8.6						
154A	Montrose	25.54	353	P	P	21 50 39.4	-0.7
154A	Montrose	25.54	353	P	P	21 50 41.8	+1.7
	baz=172						
152A	Waverly Hall	25.82	350	IAMs_20	IAMs_20	22 00 46.2	
	comp=Z,6µm,21.0s						
152A	Waverly Hall	25.82	350	P	P	21 50 43.8	+1.0
	baz=168,SNR=19						
NHSC	New Hope	25.84	359	IAMs_20	IAMs_20	22 01 21.6	
	comp=Z,5µm,18.0s						
NHSC	New Hope	25.84	359	P	P	21 50 43.8	+0.9
	baz=179						
LPAZ	La Paz	25.95	154	P	P	21 50 45.4	+0.7
LPAZ	La Paz	25.95	154	P	P	21 50 45.4	+0.7
HAW	Hawthorne Fire	26.15	356	P	P	21 50 46.8	+1.1
	baz=176,SNR=8.0						
GOGA	Godfrey	26.37	353	P	P	21 50 47.6	-0.1
GOGA	Godfrey	26.37	353	P	P	21 50 48.1	+0.4
	baz=172						
GOGA	Godfrey	26.37	353	P	P	21 50 48.6	+0.9
	baz=172						
GOGA	Godfrey	26.37	353	P	P	21 50 47.6	-0.1
GOGA				pmax	pmax		
	comp=Z,186nm,1.7s						
GOGA				MLR	MLR		
	comp=Z,4µm,21.0s						
Z51A	Franklin	26.53	350	IAMs_20	IAMs_20	22 02 15.1	
	comp=Z,7µm,18.0s						
Z51A	Franklin	26.53	350	P	P	21 50 50.5	+1.3
	baz=168,SNR=8.0						
ITTB	Itaituba	26.53	115	eP	P	21 50 49.4	0.0
Y58A	Scranton	26.64	0	IAMs_20	IAMs_20	22 01 47.6	
	comp=Z,5µm,19.0s						
LRAL	Lakeview Retre	26.64	346	P	P	21 50 49.8	-0.3
LRAL				IAmb	IAmb	21 50 58.3	
	comp=Z,56nm,1.0s						
LRAL				IAMs_20	IAMs_20	22 01 50.0	
	comp=Z,5µm,20.0s						
LRAL	Lakeview Retre	26.64	346	P	P	21 50 51.4	+1.3
	baz=164,SNR=20						
LRAL	Lakeview Retre	26.64	346	P	P	21 50 51.1	+1.0
	baz=164,SNR=20						
HBVL	Hebbronville	26.77	320	P	P	21 50 50.8	-0.5
HBVL				IAmb	IAmb	21 51 04.1	
	comp=Z,64nm,1.2s						
Y60A	Bolivia	26.77	3	IAMs_20	IAMs_20	22 02 39.2	
	comp=Z,6µm,18.0s						
Y60A	Bolivia	26.77	3	P	P	21 50 50.9	-0.4
	baz=183,SNR=5.2						
Y60A				P	P	21 50 50.9	-0.4
	baz=183,SNR=5.2						
Y52A	Lilburn	26.89	352	P	P	21 50 52.5	+0.1
	baz=170						
Y52A				P	P	21 50 52.5	+0.1
	baz=170						
VBMS	Vicksburg	26.90	339	P	P	21 50 52.0	-0.5
VBMS	Vicksburg	26.90	339	P	P	21 50 52.9	+0.5
	baz=156						
ZAIG	Zacatecas	26.92	308	P	P	21 50 53.1	-0.1
ZAIG				IAMs_20	IAMs_20	22 02 52.4	
	comp=Z,6µm,20.0s						
MALB	Monte Alegre	26.93	108	eP	P	21 50 53.7	+0.7
MDP	Montagnes des	27.00	93	LR	LR	22 02 04.0	
	comp=Z,10µm,19.2s,baz=275,slow=38						
JSC	Jenkinsville	27.05	357	P	P	21 50 56.6	+2.8
	baz=176						
HODGE	Hodges	27.06	355	P	P	21 50 54.7	+0.8
	baz=174,SNR=8.4						
Z47A	Carrollton	27.06	344	P	P	21 50 55.0	+1.1
	baz=161						
PB12	IPOC Station P	27.22	160	P	P	21 50 57.7	+2.1
PB12				IAmb	IAmb	21 51 32.3	
	comp=Z,79nm,1.4s						
PB16	IPOC Station P	27.25	158	P	P	21 50 57.9	+1.5
PB16				IAmb	IAmb	21 51 23.0	
	comp=Z,61nm,1.0s						
PB16				IAMs_20	IAMs_20	22 02 41.3	
	comp=Z,6µm,21.0s						
HKT	Hockley	27.28	328	P	P	21 50 55.1	-0.7
HKT				IAmb	IAmb	21 51 20.5	
	comp=Z,63nm,1.3s						
HKT	Hockley	27.28	328	P	P	21 50 55.5	-0.3
	baz=143						
HKT	Hockley	27.28	328	P	P	21 50 55.1	-0.7
HKT				pmax	pmax		
	comp=Z,63nm,1.3s						
Y49A	Blount Mountai	27.30	348	IAMs_20	IAMs_20	22 02 30.3	
	comp=Z,5µm,19.0s						
Y49A	Blount Mountai	27.30	348	P	P	21 50 56.2	+0.1
	baz=165,SNR=7.9						
BIRD	Birdtown, Kers	27.38	359	P	P	21 50 58.5	+1.7
	baz=178						
PAULI	Pauline	27.61	356	P	P	21 50 59.5	+0.6
	baz=175,SNR=5.6						
X51A	Calhoun	27.70	351	IAMs_20	IAMs_20	22 01 42.9	
	comp=Z,6µm,21.0s						
FPAL	Fort Paine	27.80	350	P	P	21 50 59.7	-0.9
FPAL				IAmb	IAmb	21 51 15.4	
	comp=Z,123nm,1.7s						
FPAL				IAMs_20	IAMs_20	22 02 55.7	
	comp=Z,6µm,18.0s						
VILB	Vilhena	27.84	136	P	P	21 51 01.4	+0.3
VILB	Vilhena	27.84	136	eP	P	21 51 01.8	+0.7
CASEE	Lake Jocassee	27.88	354	P	P	21 51 03.0	+1.8
	baz=173						
W57A	Gilead	27.88	360	IAMs_20	IAMs_20	22 02 33.6	
	comp=Z,5µm,19.0s						
KMSC	Kings Mountain	27.91	357	P	P	21 51 01.8	+0.3
KMSC				IAmb	IAmb	21 51 09.7	
	comp=Z,128nm,1.8s						
KMSC	Kings Mountain	27.91	357	P	P	21 51 02.8	+1.2
	baz=176						
KMSC	Kings Mountain	27.91	357	P	P	21 51 04.0	+2.5
	baz=176						
W59A	Clinton	27.92	2	IAMs_20	IAMs_20	22 02 32.6	
	comp=Z,5µm,19.0s						
X48A	Hartselle	28.01	347	IAMs_20	IAMs_20	22 02 53.1	
	comp=Z,5µm,19.0s						
X48A	Hartselle	28.01	347	P	P	21 51 02.3	-0.1
	baz=164						
CNNC	Cliffs of the	28.02	3	IAMs_20	IAMs_20	22 01 44.2	
	comp=Z,5µm,20.0s						
CNNC	Cliffs of the	28.02	3	P	P	21 51 05.0	+2.6
	baz=184						
W52A	Murphy	28.09	353	IAMs_20	IAMs_20	22 03 01.1	
	comp=Z,4µm,18.0s						
W52A	Murphy	28.09	353	P	P	21 51 04.5	+1.3
	baz=171						
NPGB	Novo Progresso	28.10	120	eP	P	21 51 03.7	+0.2
833A	Chaparral WMA,	28.10	321	P	P	21 51 01.9	-1.5
833A	Chaparral WMA,	28.10	321	P	P	21 51 04.9	+1.5
	baz=135						
Y45A	Yeager Farm, C	28.10	342	P	P	21 51 04.2	+0.9
	baz=159,SNR=9.6						
NATX	Nacogdoches	28.18	332	P	P	21 51 05.0	+1.0
	baz=147						
W50A	Signal Mountai	28.39	350	IAMs_20	IAMs_20	22 03 12.3	
	comp=Z,5µm,18.0s						

W50A	**Signal Mountai**	**28.39**	**350**	P	**P**	**21**	**51**	**06.5**	**+0.6**
	baz=168,SNR=9.0								
PB11	**IPOC Station P**	**28.51**	**160**	P	**P**	**21**	**51**	**09.2**	**+2.0**
PB11				IAmb	IAmb	21	51	28.2	
	comp=Z,43nm,1.0s								
PB11				IAMs_20	IAMs_20	22	04	22.8	
	comp=Z,4µm,18.0s								
CPCT	**Cooper Cave**	**28.52**	**352**	P	**P**	**21**	**51**	**05.8**	**-1.2**
CPCT				IAmb	IAmb	21	51	17.0	
	comp=Z,39nm,0.9s								
CPCT				IAMs_20	IAMs_20	22	02	20.6	
	comp=Z,6µm,21.0s								
SWET	**Sewanee**	**28.52**	**349**	IAMs_20	IAMs_20	22	03	16.6	
	comp=Z,7µm,18.0s								
V53A	**Saluda**	**28.54**	**355**	P	**P**	**21**	**51**	**08.6**	**+1.4**
	baz=174								
V53A				P	**P**	**21**	**51**	**08.6**	**+1.4**
	baz=174								
GO01	**Chusmiza**	**28.59**	**159**	P	**P**	**21**	**51**	**09.7**	**+1.5**
MCPB	**Macapa, AP**	**28.59**	**104**	*e*P	**P**	**21**	**51**	**09.2**	**+1.4**
TKL	**Tuckaleechee C**	**28.62**	**353**	P	**P**	**21**	**51**	**08.2**	**+0.4**
TKL				IAmb	IAmb	21	51	32.8	
	comp=Z,42nm,1.1s								
TKL				IAMs_20	IAMs_20	22	03	25.4	
	comp=Z,4µm,18.0s								
TKL	**Tuckaleechee C**	**28.62**	**353**	P	**P**	**21**	**51**	**08.3**	**+0.4**
TKL				pmax	pmax				
	comp=Z,42nm,1.2s								
TKL				MLR	MLR				
	comp=Z,4µm,18.0s								
TKL	**Tuckaleechee C**	**28.62**	**353**	LR	LR	22	03	27.3	
	comp=Z,3µm,18.3s,baz=166,slow=38								
OXF	**Oxford**	**28.67**	**343**	P	**P**	**21**	**51**	**09.4**	**+1.1**
	baz=160								
BBSR	**BB Station**	**28.74**	**27**	IAMs_20	IAMs_20	22	01	48.8	
	comp=Z,6µm,20.0s								
PLAL	**Pickwick Lake**	**28.75**	**346**	P	**P**	**21**	**51**	**08.1**	**-0.9**
PLAL				IAMs_20	IAMs_20	22	03	16.0	
	comp=Z,4µm,20.0s								
TA02	**Huaiquique**	**28.83**	**161**	P	**P**	**21**	**51**	**11.3**	**+1.4**
TA02				IAmb	IAmb	21	51	40.3	
	comp=Z,104nm,1.6s								
V51A	**Loudon**	**28.84**	**352**	IAMs_20	IAMs_20	22	02	19.1	
	comp=Z,5µm,21.0s								
435B	**Jarrell**	**28.86**	**327**	P	**P**	**21**	**51**	**11.1**	**+1.0**
	baz=141								
CCAR	**Cane Creek**	**28.88**	**339**	P	**P**	**21**	**51**	**09.5**	**-0.7**
CCAR				IAmb	IAmb	21	51	18.3	
	comp=Z,57nm,0.9s								
PB08	**IPOC Station P**	**29.04**	**159**	P	**P**	**21**	**51**	**13.9**	**+1.8**
PB08				IAmb	IAmb	21	51	23.8	
	comp=Z,57nm,1.4s								
U56A	**King**	**29.08**	**359**	IAMs_20	IAMs_20	22	03	20.3	
	comp=Z,5µm,19.0s								
U59A	**Littleton**	**29.13**	**3**	IAMs_20	IAMs_20	22	02	27.7	
	comp=Z,5µm,21.0s								
WLAR	**White Oak Lake**	**29.18**	**337**	P	**P**	**21**	**51**	**12.0**	**-0.8**
WLAR				IAmb	IAmb	21	51	20.2	
	comp=Z,62nm,1.3s								
V48A	**Smith Brothers**	**29.20**	**348**	IAMs_20	IAMs_20	22	03	31.7	
	comp=Z,6µm,19.0s								
V48A	**Smith Brothers**	**29.20**	**348**	P	**P**	**21**	**51**	**13.8**	**+0.8**
	baz=165,SNR=20								
U54A	**Nelsons Funny**	**29.31**	**357**	IAMs_20	IAMs_20	22	03	52.4	
	comp=Z,4µm,20.0s								
U54A	**Nelsons Funny**	**29.31**	**357**	P	**P**	**21**	**51**	**15.3**	**+1.3**
	baz=176,SNR=9.0								
U54A				P	**P**	**21**	**51**	**15.3**	**+1.3**
	baz=176,SNR=9.0								
CLTN	**Cedars of Leba**	**29.44**	**349**	IAMs_20	IAMs_20	22	03	55.1	
	comp=Z,6µm,18.0s								
TZTN	**Tazewell**	**29.48**	**354**	P	**P**	**21**	**51**	**16.2**	**+0.8**
TZTN				IAmb	IAmb	21	51	23.4	
	comp=Z,40nm,1.1s								
TZTN	**Tazewell**	**29.48**	**354**	P	**P**	**21**	**51**	**16.5**	**+1.1**
	baz=172								
TZTN	**Tazewell**	**29.48**	**354**	P	**P**	**21**	**51**	**16.6**	**+1.1**
	baz=172								
SIV	**San Ignacio**	**29.48**	**141**	LR	LR	22	03	24.8	
	comp=Z,10µm,18.2s,baz=332,slow=37								
WHTX	**Lake Whitney,**	**29.74**	**329**	P	**P**	**21**	**51**	**16.5**	**-1.4**
WHTX	**Lake Whitney,**	**29.74**	**329**	P	**P**	**21**	**51**	**17.4**	**-0.4**
	baz=142								
U49A	**Red Boiling Sp**	**29.75**	**350**	IAMs_20	IAMs_20	22	04	04.3	
	comp=Z,5µm,18.0s								
U49A	**Red Boiling Sp**	**29.75**	**350**	P	**P**	**21**	**51**	**18.9**	**+1.0**
	baz=168								
PB01	**IPOC Station P**	**29.76**	**160**	P	**P**	**21**	**51**	**19.1**	**+0.9**
T59A	**Double "B" Far**	**29.76**	**4**	IAMs_20	IAMs_20	22	03	49.3	
	comp=Z,4µm,19.0s								
CLDB	**Colider**	**29.79**	**127**	*e*P	**P**	**21**	**51**	**18.8**	**+0.3**
WVT	**Waverly**	**29.79**	**347**	P	**P**	**21**	**51**	**17.5**	**-0.8**
WVT	**Waverly**	**29.79**	**347**	IAMs_20	IAMs_20	22	03	57.4	
	comp=Z,5µm,20.0s								
WVT	**Waverly**	**29.79**	**347**	P	**P**	**21**	**51**	**17.9**	**-0.3**
	baz=164								
WVT	**Waverly**	**29.79**	**347**	P	**P**	**21**	**51**	**18.2**	**-0.1**
	baz=164,SNR=13								
WVT	**Waverly**	**29.79**	**347**	P	**P**	**21**	**51**	**17.5**	**-0.8**
WVT				pmax	pmax				
	comp=Z,31nm,1.2s								
WVT				MLR	MLR				
	comp=Z,5µm,20.0s								
JCT	**Junction City**	**29.89**	**324**	P	**P**	**21**	**51**	**18.1**	**-1.2**
JCT				IAmb	IAmb	21	51	25.1	
	comp=Z,84nm,1.6s								
JCT	**Junction City**	**29.89**	**324**	P	**P**	**21**	**51**	**19.6**	**+0.3**
	baz=137								
JCT	**Junction City**	**29.89**	**324**	P	**P**	**21**	**51**	**18.4**	**-0.9**
	baz=137								
JCT	**Junction City**	**29.89**	**324**	P	**P**	**21**	**51**	**18.1**	**-1.2**
JCT				pmax	pmax				
	comp=Z,84nm,1.6s								
BLA	**Blacksburg**	**29.94**	**359**	IAMs_20	IAMs_20	22	04	38.1	
	comp=Z,5µm,18.0s								
BLA	**Blacksburg**	**29.94**	**359**	P	**P**	**21**	**51**	**20.9**	**+1.2**
	baz=178								
T50A	**Nancy**	**30.11**	**352**	IAMs_20	IAMs_20	22	02	48.6	
	comp=Z,5µm,20.0s								
T50A	**Nancy**	**30.11**	**352**	P	**P**	**21**	**51**	**21.7**	**+0.7**
	baz=170								
T50A				P	**P**	**21**	**51**	**21.7**	**+0.7**
	baz=170								
PTLB	**Pontes e Lacer**	**30.33**	**138**	P	**P**	**21**	**51**	**23.1**	**-0.1**
PTLB	**Pontes e Lacer**	**30.33**	**138**	*e*P	**P**	**21**	**51**	**21.8**	**-1.4**
T47A	**Sharon Grove**	**30.46**	**348**	IAMs_20	IAMs_20	22	04	19.1	
	comp=Z,6µm,18.0s								
T47A	**Sharon Grove**	**30.46**	**348**	P	**P**	**21**	**51**	**24.5**	**+0.3**
	baz=165,SNR=10								
S57A	**Dark Hollow, R**	**30.49**	**1**	IAMs_20	IAMs_20	22	04	26.7	
	comp=Z,4µm,19.0s								
S57A	**Dark Hollow, R**	**30.49**	**1**	P	**P**	**21**	**51**	**27.0**	**+2.6**
	baz=181								
S57A				P	**P**	**21**	**51**	**27.0**	**+2.6**
	baz=181								
S51A	**Beattyville**	**30.56**	**354**	P	**P**	**21**	**51**	**25.8**	**+0.7**
	baz=172,SNR=14								
S51A				P	**P**	**21**	**51**	**25.8**	**+0.7**
	baz=172,SNR=14								
LCAR	**Lake Charles**	**30.64**	**342**	P	**P**	**21**	**51**	**24.8**	**-0.9**
	baz=157,SNR=24								
BBSD	**Serra de San D**	**30.68**	**142**	*e*P	**P**	**21**	**51**	**26.7**	**+0.3**
R58B	**Mineral**	**30.73**	**3**	IAMs_20	IAMs_20	22	04	26.0	
	comp=Z,4µm,20.0s								
CBN	**Corbin Frederi**	**31.00**	**4**	IAMs_20	IAMs_20	22	04	35.1	
	comp=Z,5µm,19.0s								
CBN	**Corbin Frederi**	**31.00**	**4**	P	**P**	**21**	**51**	**28.3**	**-0.6**
	baz=184								
OZNA	**Ozona**	**31.00**	**322**	P	**P**	**21**	**51**	**27.7**	**-1.4**
PBMO	**Poplar Bluff**	**31.08**	**343**	P	**P**	**21**	**51**	**29.0**	**-0.6**
	baz=159,SNR=11								
R53A	**Hurricane**	**31.12**	**357**	IAMs_20	IAMs_20	22	04	47.3	
	comp=Z,4µm,19.0s								
R53A	**Hurricane**	**31.12**	**357**	P	**P**	**21**	**51**	**31.0**	**+1.1**
	baz=176								
R53A				P	**P**	**21**	**51**	**31.0**	**+1.1**
	baz=176								
LOOK	**Love County**	**31.21**	**331**		**P**	**21**	**51**	**29.6**	**-1.3**
LOOK				IAmb	IAmb	21	51	44.1	
	comp=Z,52nm,1.1s								
PB05	**IPOC Station P**	**31.23**	**163**	IAMs_20	IAMs_20	22	00	05.0	
	comp=Z,4µm,19.0s								
R50A	**Paris**	**31.28**	**353**	IAMs_20	IAMs_20	22	03	56.7	
	comp=Z,4µm,21.0s								
R50A	**Paris**	**31.28**	**353**	P	**P**	**21**	**51**	**32.5**	**+1.1**
	baz=171								
R50A				P	**P**	**21**	**51**	**32.5**	**+1.1**
	baz=171								
ABTX	**Abilene, Hawle**	**31.40**	**327**	P	**P**	**21**	**51**	**31.5**	**-1.0**
	baz=139,SNR=7.7								
ABTX	**Abilene, Hawle**	**31.40**	**327**	P	**P**	**21**	**51**	**31.1**	**-1.4**
	baz=139,SNR=7.7								
R49A	**Shelbyville**	**31.40**	**352**	IAMs_20	IAMs_20	22	03	50.0	
	comp=Z,6µm,21.0s								
LVC	**Limon Verde**	**31.41**	**161**	P	**P**	**21**	**51**	**34.3**	**+1.2**
LVC				IAmb	IAmb	21	51	43.2	
	comp=Z,49nm,1.4s								
LVC	**Limon Verde**	**31.41**	**161**	P	**P**	**21**	**51**	**34.3**	**+1.2**
LVC				pmax	pmax				
	comp=Z,49nm,1.4s								
LVC				MLR	MLR				
	comp=Z,3µm,21.0s								
LVC	**Limon Verde**	**31.41**	**161**	LR	LR	22	05	40.6	
	comp=Z,3µm,22.0s,baz=316,slow=39								
U40A	**Yellville**	**31.46**	**339**	P	**P**	**21**	**51**	**31.9**	**-1.1**
	baz=154,SNR=38								
U40A				P	**P**	**21**	**51**	**31.9**	**-1.1**
	baz=154,SNR=38								
WCI	**Wyandotte Cave**	**31.52**	**350**	P	**P**	**21**	**51**	**33.2**	**-0.2**
WCI				IAmb	IAmb	21	51	40.6	
	comp=Z,65nm,1.1s								
WCI	**Wyandotte Cave**	**31.52**	**350**	IAMs_20	IAMs_20	22	05	01.0	
	comp=Z,5µm,18.0s								
WCI	**Wyandotte Cave**	**31.52**	**350**	P	**P**	**21**	**51**	**34.0**	**+0.5**
	baz=167								
WCI	**Wyandotte Cave**	**31.52**	**350**	P	**P**	**21**	**51**	**33.9**	**+0.4**
	baz=167								
WCI	**Wyandotte Cave**	**31.52**	**350**	P	**P**	**21**	**51**	**33.2**	**-0.2**
WCI				pmax	pmax				
	comp=Z,65nm,1.2s								
WCI				MLR	MLR				
	comp=Z,5µm,18.0s								
HPIG		**31.54**	**312**	P	**P**	**21**	**51**	**33.8**	**-0.2**
HPIG				IAMs_20	IAMs_20	22	06	25.6	
	comp=Z,3µm,20.0s								
TX31	**Lajitas Ar. Si**	**31.56**	**317**	P	**P**	**21**	**51**	**33.0**	**-1.1**
TX31				IAmb	IAmb	21	51	57.6	
	comp=Z,46nm,1.7s								
TX31	**Lajitas Ar. Si**	**31.56**	**317**	P	**P**	**21**	**51**	**34.2**	**+0.2**
	baz=130,SNR=10								
TXAR	**Lajitas Array**	**31.56**	**317**	P	**P**	**21**	**51**	**33.1**	**-1.0**
TXAR	**Lajitas Array**	**31.56**	**317**	P	**P**	**21**	**51**	**33.9**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=190,slow=16,SNR=17								
TXAR				PcP	**PcP**	**21**	**54**	**26.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=156,slow=4.6,SNR=2.7								
TXAR				LR	LR	22	07	38.5	
	comp=Z,1µm,18.3s,baz=124,slow=43								
	comp=Z,2.6nm,0.7s								
SSFO	**Shawnee State**	**31.57**	**355**	P	**P**	**21**	**51**	**33.5**	**-0.5**
S44A	**Carbondale**	**31.62**	**345**	P	**P**	**21**	**51**	**34.2**	**-0.2**
	baz=162								
Q54A	**Coxs Mills**	**31.72**	**358**	IAMs_20	IAMs_20	22	04	35.2	
	comp=Z,5µm,20.0s								
Q54A	**Coxs Mills**	**31.72**	**358**	P	**P**	**21**	**51**	**37.3**	**+2.1**
	baz=178								
Q54A				P	**P**	**21**	**51**	**37.3**	**+2.1**
	baz=178								
Q52A	**Bidwell**	**31.76**	**356**	P	**P**	**21**	**51**	**36.4**	**+0.7**
	baz=175,SNR=16								
Q52A				P	**P**	**21**	**51**	**36.4**	**+0.7**
	baz=175,SNR=16								
Q51A	**Peebles**	**31.91**	**355**	P	**P**	**21**	**51**	**38.1**	**+1.1**
	baz=173								
Q51A				P	**P**	**21**	**51**	**38.1**	**+1.1**
	baz=173								
BBRB	**Robore, Bolivi**	**32.01**	**142**	*e*P	**P**	**21**	**51**	**38.0**	**0.0**
U38A	**Gravette**	**32.09**	**337**	P	**P**	**21**	**51**	**36.4**	**-2.2**
	baz=152								
TUL3	**Leonard**	**32.20**	**335**	P	**P**	**21**	**51**	**39.5**	**0.0**
	baz=149,SNR=5.1								
TUL3	**Leonard**	**32.20**	**335**	P	**P**	**21**	**51**	**38.2**	**-1.3**
	baz=149,SNR=5.1								
FVM	**French Village**	**32.20**	**344**	P	**P**	**21**	**51**	**38.4**	**-1.1**
	baz=160,SNR=13								
SDMD	**Soldier's Deli**	**32.23**	**4**	P	**P**	**21**	**51**	**39.0**	**-0.8**
SDMD	**Soldier's Deli**	**32.23**	**4**	P	**P**	**21**	**51**	**40.3**	**+0.6**
	baz=185								
P57A	**Homestead Farm**	**32.24**	**2**	IAMs_20	IAMs_20	22	05	13.0	
	comp=Z,4µm,20.0s								
P53A	**Whipple**	**32.24**	**358**	IAMs_20	IAMs_20	22	05	54.0	
	comp=Z,5µm,19.0s								
P53A	**Whipple**	**32.24**	**358**	P	**P**	**21**	**51**	**42.5**	**+2.7**
	baz=177,SNR=8.2								
P53A				P	**P**	**21**	**51**	**42.5**	**+2.7**
	baz=177,SNR=8.2								
OLIL	**Olney**	**32.35**	**348**	P	**P**	**21**	**51**	**40.6**	**-0.1**
	baz=164								
FNO	**Franklin**	**32.35**	**332**		**P**	**21**	**51**	**39.6**	**-1.3**
FNO				IAmb	IAmb	21	51	47.6	
	comp=Z,52nm,1.0s								
MCWV	**Mont Chateau**	**32.38**	**360**	IAMs_20	IAMs_20	22	06	06.6	
	comp=Z,3µm,19.0s								
MCWV	**Mont Chateau**	**32.38**	**360**	P	**P**	**21**	**51**	**41.9**	**+0.9**
	baz=180								
P52A	**Corning**	**32.42**	**357**	P	**P**	**21**	**51**	**41.4**	**0.0**
	baz=175,SNR=21								
BLO	**Bloomington**	**32.47**	**350**	IAMs_20	IAMs_20	22	05	24.4	
	comp=Z,6µm,18.0s								
OKCSW	**OKLAHOMA CITY**	**32.49**	**332**	IAMs_20	IAMs_20	22	06	49.6	
	comp=Z,4µm,22.0s								
CCM	**Cathedral Cave**	**32.50**	**343**	P	**P**	**21**	**51**	**40.9**	**-1.2**
CCM	**Cathedral Cave**	**32.50**	**343**	P	**P**	**21**	**51**	**42.4**	**+0.3**
	baz=158								
CCM	**Cathedral Cave**	**32.50**	**343**	P	**P**	**21**	**51**	**40.6**	**-1.5**
	baz=158,SNR=24								
CCM	**Cathedral Cave**	**32.50**	**343**	P	**P**	**21**	**51**	**40.9**	**-1.2**
CCM				pmax	pmax				
	comp=Z,56nm,0.7s								
CCM				MLR	MLR				
	comp=Z,2µm,21.0s								
P49A	**Miami Univ. Ec**	**32.56**	**353**	IAMs_20	IAMs_20	22	04	36.7	
	comp=Z,5µm,21.0s								
P49A	**Miami Univ. Ec**	**32.56**	**353**	P	**P**	**21**	**51**	**43.2**	**+0.5**
	baz=171								
P49A	**Miami Univ. Ec**	**32.56**	**353**	P	**P**	**21**	**51**	**43.0**	**+0.4**
	baz=171								
P48A	**Milroy**	**32.59**	**352**	IAMs_20	IAMs_20	22	04	36.3	
	comp=Z,5µm,22.0s								
P48A	**Milroy**	**32.59**	**352**	P	**P**	**21**	**51**	**42.9**	**+0.1**
	baz=169								
P48A				P	**P**	**21**	**51**	**42.9**	**+0.1**
	baz=169								
WMOK	**Wichita Mounta**	**32.59**	**330**	P	**P**	**21**	**51**	**42.8**	**-0.3**
	baz=143								
WMOK	**Wichita Mounta**	**32.59**	**330**	P	**P**	**21**	**51**	**42.0**	**-1.0**
	baz=143								
P61A	**Hammonton**	**32.69**	**7**	IAMs_20	IAMs_20	22	06	31.0	
	comp=Z,3µm,20.0s								
S39A	**Bolivar**	**32.82**	**340**	P	**P**	**21**	**51**	**43.3**	**-1.7**
	baz=154,SNR=8.9								
MVL	**Millersville**	**32.86**	**5**	IAMs_20	IAMs_20	22	07	06.3	
	comp=Z,4µm,19.0s								
O52A	**Adamsville**	**32.89**	**357**	P	**P**	**21**	**51**	**46.4**	**+0.9**
	baz=176,SNR=11								
O52A				P	**P**	**21**	**51**	**46.4**	**+0.9**
	baz=176,SNR=11								
O54A	**Avella**	**32.91**	**359**	IAMs_20	IAMs_20	22	06	27.6	
	comp=Z,4µm,18.0s								
O54A	**Avella**	**32.91**	**359**	P	**P**	**21**	**51**	**47.1**	**+1.5**
	baz=179,SNR=14								
O54A				P	**P**	**21**	**51**	**47.1**	**+1.5**
	baz=179,SNR=14								
O53A	**New Philadelph**	**32.99**	**358**	P	**P**	**21**	**51**	**47.0**	**+0.6**
O53A				IAMs_20	IAMs_20	22	06	25.0	
	comp=Z,5µm,18.0s								
O53A	**New Philadelph**	**32.99**	**358**	P	**P**	**21**	**51**	**46.3**	**-0.2**
	baz=177,SNR=22								
SALV	**Santo Antonio**	**33.02**	**134**	*e*P	**P**	**21**	**51**	**47.6**	**+0.7**
R40A	**Maddies Statio**	**33.02**	**342**	P	**P**	**21**	**51**	**46.0**	**-0.7**
	baz=157								
ACSO	**Alum Creek Sta**	**33.08**	**355**	P	**P**	**21**	**51**	**47.0**	**-0.1**
ACSO				IAmb	IAmb	21	51	55.0	
	comp=Z,47nm,0.9s								
ACSO	**Alum Creek Sta**	**33.08**	**355**	P	**P**	**21**	**51**	**47.3**	**+0.1**
	baz=174								
ACSO	**Alum Creek Sta**	**33.08**	**355**	P	**P**	**21**	**51**	**48.3**	**+1.2**
	baz=174								
O49A	**Covington**	**33.16**	**354**	IAMs_20	IAMs_20	22	05	05.6	
	comp=Z,4µm,20.0s								
O48B	**Farmland**	**33.33**	**352**	IAMs_20	IAMs_20	22	05	10.0	
	comp=Z,4µm,20.0s								
O48B	**Farmland**	**33.33**	**352**	P	**P**	**21**	**51**	**49.4**	**0.0**
	baz=170,SNR=6.0								
O48B	**Farmland**	**33.33**	**352**	P	**P**	**21**	**51**	**49.6**	**+0.3**
	baz=170,SNR=6.0								
SLBS	**Sierra La Lagu**	**33.34**	**303**	P	**P**	**21**	**51**	**49.8**	**0.0**
SLBS				IAmb	IAmb	21	51	54.9	
	comp=Z,33nm,1.0s								
SLBS				IAMs_20	IAMs_20	22	07	32.0	
	comp=Z,3µm,19.0s								
T35B	**Sooner Cattle**	**33.36**	**335**	P	**P**	**21**	**51**	**48.8**	**-0.8**
	baz=148,SNR=10								
SSPA	**Standing Stone**	**33.39**	**3**	P	**P**	**21**	**51**	**50.0**	**+0.1**
SSPA				IAmb	IAmb	21	51	58.6	
	comp=Z,32nm,1.1s								
SSPA	**Standing Stone**	**33.39**	**3**	IAMs_20	IAMs_20	22	05	56.5	
	comp=Z,5µm,19.0s								
SSPA	**Standing Stone**	**33.39**	**3**	P	**P**	**21**	**51**	**50.0**	**+0.1**
	baz=183								
P43A	**Skaggs, Pawnee**	**33.54**	**346**	IAMs_20	IAMs_20	22	06	05.6	
	comp=Z,4µm,20.0s								
P43A	**Skaggs, Pawnee**	**33.54**	**346**	P	**P**	**21**	**51**	**50.6**	**-0.5**
	baz=182								
N53A	**Lisbon**	**33.54**	**358**	IAMs_20	IAMs_20	22	05	50.4	
	comp=Z,5µm,19.0s								
N53A	**Lisbon**	**33.54**	**358**	P	**P**	**21**	**51**	**52.2**	**+1.0**
	baz=178,SNR=8.3								
N53A				P	**P**	**21**	**51**	**52.2**	**+1.0**
	baz=178,SNR=8.3								
GO02	**Mina Guanaco**	**33.59**	**163**	P	**P**	**21**	**51**	**52.5**	**+0.4**
GO02				IAmb	IAmb	21	52	13.4	
	comp=Z,36nm,1.2s								
N58A	**Sunbury**	**33.66**	**4**	IAMs_20	IAMs_20	22	05	02.7	
	comp=Z,3µm,21.0s								
BRNJ	**Basking Ridge**	**33.72**	**7**	IAMs_20	IAMs_20	22	07	02.1	
	comp=Z,6µm,20.0s								
N51A	**Ashland**	**33.72**	**356**	IAMs_20	IAMs_20	22	07	02.2	
	comp=Z,3µm,19.0s								
N51A	**Ashland**	**33.72**	**356**	P	**P**	**21**	**51**	**53.6**	**+0.8**
	baz=175								
N51A				P	**P**	**21**	**51**	**53.6**	**+0.8**
	baz=175								
SFIN	**Lafayette**	**33.75**	**350**	IAMs_20	IAMs_20	22	06	12.1	
	comp=Z,5µm,19.0s								
SFIN	**Lafayette**	**33.75**	**350**	P	**P**	**21**	**51**	**53.2**	**+0.3**
	baz=167								
O44A	**Mansfield**	**33.79**	**348**	IAMs_20	IAMs_20	22	06	21.3	
	comp=Z,6µm,19.0s								
LPIG	**La Paz**	**33.81**	**303**	LR	LR	22	06	18.0	
	comp=Z,2µm,20.5s,baz=109,slow=38								
N49A	**Columbus Grove**	**33.87**	**354**	IAMs_20	IAMs_20	22	05	18.3	
	comp=Z,3µm,20.0s								
N49A	**Columbus Grove**	**33.87**	**354**	P	**P**	**21**	**51**	**55.4**	**+1.3**
	baz=172,SNR=5.6								
N49A				P	**P**	**21**	**51**	**55.4**	**+1.3**
	baz=172,SNR=5.6								
N47A	**Urbana**	**34.02**	**352**	IAMs_20	IAMs_20	22	05	30.2	
	comp=Z,4µm,20.0s								
N47A	**Urbana**	**34.02**	**352**	P	**P**	**21**	**51**	**55.4**	**+0.1**
	baz=169,SNR=5.4								
N47A				P	**P**	**21**	**51**	**55.4**	**+0.1**
	baz=169,SNR=5.4								
SNDB	**Serra Nova Dou**	**34.06**	**124**	*e*P	**P**	**21**	**51**	**57.2**	**+1.2**
P40A	**Paris**	**34.10**	**343**	P	**P**	**21**	**51**	**54.7**	**-1.3**
	baz=158								
ODNJ	**Ogdensburg**	**34.11**	**7**	IAMs_20	IAMs_20	22	07	23.4	
	comp=Z,3µm,19.0s								
N62A	**Caumsett State**	**34.11**	**8**	IAMs_20	IAMs_20	22	07	07.4	
	comp=Z,4µm,21.0s								
PAL	**Palisades**	**34.12**	**8**	IAMs_20	IAMs_20	22	07	19.7	
	comp=Z,5µm,20.0s								
PAL	**Palisades**	**34.12**	**8**	P	**P**	**21**	**51**	**56.2**	**+0.1**
	baz=190								
M57A	**Sunshine Farm,**	**34.13**	**3**	IAMs_20	IAMs_20	22	06	29.1	
	comp=Z,4µm,19.0s								
MSTX	**Muleshoe**	**34.15**	**325**	P	**P**	**21**	**51**	**54.6**	**-2.2**
MSTX				IAmb	IAmb	21	51	58.6	
	comp=Z,41nm,1.0s								
MSTX	**Muleshoe**	**34.15**	**325**	P	**P**	**21**	**51**	**54.9**	**-1.8**
	baz=136,SNR=19								
MSTX	**Muleshoe**	**34.15**	**325**	P	**P**	**21**	**51**	**54.8**	**-2.0**
	baz=136,SNR=19								
M53A	**WI Miller and**	**34.17**	**359**	P	**P**	**21**	**51**	**56.7**	**+0.1**
M53A				IAMs_20	IAMs_20	22	06	09.0	
	comp=Z,4µm,19.0s								
M53A	**WI Miller and**	**34.17**	**359**	P	**P**	**21**	**51**	**55.8**	**-0.8**

L42A **Oliver, Polo** 35.82 347 IAMs_20 IAMs_20 22 07 35.1
comp=Z,5µm,19.0s
TRY **Troy** 35.85 8 IAMs_20 IAMs_20 22 08 22.5
comp=Z,3µm,20.0s
BCX **Boston College** 35.86 11 P P 21 52 11.2 0.0
WES **Weston** 35.88 11 IAMs_20 IAMs_20 22 08 19.3
comp=Z,3µm,20.0s
MURT **Porto Murtinho** 35.91 143 *e*P P 21 52 13.1 +1.2
HRV **Adam Dziewonsk** 35.95 10 P P 21 52 11.8 -0.3
baz=194
K62A **Royalston** 35.99 9 IAMs_20 IAMs_20 22 08 30.3
comp=Z,3µm,19.0s
J54A **Appleton** 36.00 1 IAMs_20 IAMs_20 22 09 09.5
comp=Z,4µm,18.0s
J55A **Hilton** 36.02 2 IAMs_20 IAMs_20 22 07 38.0
comp=Z,4µm,19.0s
J56A **Wolcott** 36.08 4 IAMs_20 IAMs_20 22 08 40.6
comp=Z,3µm,18.0s
AQDB **Aquidauana** 36.21 140 P P 21 52 14.0 -0.5
AQDB **Aquidauana** 36.21 140 *e*P P 21 52 16.0 +1.5
J47A **Sunmer** 36.23 354 IAMs_20 IAMs_20 22 06 28.8
comp=Z,4µm,20.0s
L40A **Anamosa** 36.24 345 IAMs_20 IAMs_20 22 07 48.2
comp=Z,3µm,20.0s
J57A **Williamstown** 36.27 5 IAMs_20 IAMs_20 22 07 29.7
comp=Z,4µm,19.0s
J58A **Remsen** 36.29 5 IAMs_20 IAMs_20 22 08 34.1
comp=Z,3µm,19.0s
J58A **Remsen** 36.29 5 P P 21 52 17.1 +2.2
baz=187,SNR=9.5
J58A P P 21 52 17.1 +2.2
baz=187,SNR=9.5
121A **Cookes Peak, D** 36.31 318 P P 21 52 15.3 -0.1
121A **Cookes Peak, D** 36.31 318 P P 21 52 14.9 -0.5
baz=128,SNR=10
121A **Cookes Peak, D** 36.31 318 P P 21 52 16.0 +0.6
baz=128,SNR=10
CBKS **Cedar Bluff** 36.34 333 P P 21 52 14.3 -1.1
CBKS IAmb IAmb 21 52 23.7
comp=Z,37nm,0.9s
CBKS **Cedar Bluff** 36.34 333 P P 21 52 15.1 -0.3
baz=145
CBKS **Cedar Bluff** 36.34 333 P P 21 52 14.3 -1.1
CBKS pmax pmax
comp=Z,37nm,0.9s
CBKS MLR MLR
comp=Z,2µm,22.0s
HSIG 36.60 310 IAMs_20 IAMs_20 22 08 52.7
comp=Z,4µm,22.0s
J61A **Chester** 36.61 9 IAMs_20 IAMs_20 22 08 41.6
comp=Z,3µm,21.0s
SCIA **State Center** 36.63 343 P P 21 52 16.6 -1.3
SCIA IAmb IAmb 21 52 24.2
comp=Z,83nm,1.1s
SCIA IAMs_20 IAMs_20 22 07 48.9
comp=Z,3µm,20.0s
SCIA **State Center** 36.63 343 P P 21 52 16.7 -1.1
baz=157
319A **Douglas** 36.65 315 IAMs_20 IAMs_20 22 09 32.7
comp=Z,3µm,21.0s
Y22A **Socorro** 36.66 320 P P 21 52 18.6 +0.1
baz=130,SNR=12
Y22D **IRIS PASSCAL I** 36.73 321 P P 21 52 18.5 -0.5
baz=131
Y22F **Passcal Instru** 36.73 321 P P 21 52 18.5 -0.5
baz=131
I49A **Point Hope** 36.76 356 IAMs_20 IAMs_20 22 08 55.6
comp=Z,3µm,19.0s
SRIG **Santa Rosalia** 36.79 307 IAMs_20 IAMs_20 22 08 31.0
comp=Z,4µm,22.0s
JFWS **Jewell Farm** 36.82 347 P P 21 52 17.7 -1.7
JFWS **Jewell Farm** 36.82 347 IAMs_20 IAMs_20 22 08 06.4
comp=Z,4µm,20.0s
JFWS **Jewell Farm** 36.82 347 P P 21 52 18.8 -0.6
baz=162
JFWS **Jewell Farm** 36.82 347 P P 21 52 18.7 -0.7
baz=162
JFWS **Jewell Farm** 36.82 347 P P 21 52 17.7 -1.7
JFWS pmax pmax
comp=Z,151nm,1.7s
JFWS MLR MLR
comp=Z,4µm,20.0s
AC05 **El Transito** 36.91 166 P P 21 52 22.0 +1.5
AC05 IAmb IAmb 21 52 31.3
comp=Z,39nm,0.9s
N33A **J Bar K, Exete** 37.01 337 IAMs_20 IAMs_20 22 09 36.9
comp=Z,4µm,22.0s
ANMO **Albuquerque** 37.01 322 P P 21 52 20.5 -1.0
ANMO **Albuquerque** 37.01 322 P P 21 52 20.8 -0.6
baz=132
ANMO **Albuquerque** 37.01 322 P P 21 52 20.8 -0.6
baz=132,SNR=48
ANMO **Albuquerque** 37.01 322 *d i*P P 21 52 20.9 -0.6
ANMO pmax pmax
comp=Z,34nm,1.0s
ANMO **Albuquerque** 37.01 322 LR LR 22 09 33.5
comp=Z,2µm,22.0s,baz=222,slow=40
ANTJ **Antonio Joao (** 37.14 142 *e*P P 21 52 23.1 +0.7
I45A **Fountain** 37.19 352 IAMs_20 IAMs_20 22 07 49.2
comp=Z,4µm,22.0s
DUN6 **Lazy B Ranch** 37.20 317 P P 21 52 22.5 -0.5
DELO **Deloro Mine** 37.28 2 P P 21 52 22.2 -1.0
DELO IAMs_20 IAMs_20 22 08 15.3
comp=Z,3µm,19.0s
T25A **Trinidad** 37.37 327 P P 21 52 24.2 -0.3
T25A IAmb IAmb 21 52 28.3
comp=Z,44nm,1.1s
T25A **Trinidad** 37.37 327 P P 21 52 23.8 -0.6
baz=137,SNR=21
I42A **Draeger Farm,** 37.48 349 P P 21 52 24.8 -0.2
baz=165
SADO **Sadowa** 37.49 1 P P 21 52 25.0 -0.1
SADO IAmb IAmb 21 52 32.6
comp=Z,47nm,1.0s
SADO IAMs_20 IAMs_20 22 08 25.9
comp=Z,3µm,19.0s
SADO **Sadowa** 37.49 1 LR LR 22 08 26.5
comp=Z,3µm,19.4s,baz=244,slow=37
RPRD **Ribas do Rio P** 37.52 138 *e*P P 21 52 27.0 +1.3
VT1 **Waterbury** 37.55 8 IAMs_20 IAMs_20 22 09 22.1
comp=Z,4µm,19.0s
LBNH **Lisbon** 37.58 9 P P 21 52 26.1 +0.3
baz=193
LONY **Lake Ozonia** 37.60 6 IAMs_20 IAMs_20 22 09 21.9
comp=Z,3µm,18.0s
LONY **Lake Ozonia** 37.60 6 P P 21 52 26.0 -0.1
baz=188
I63A **Otisfield** 37.63 11 IAMs_20 IAMs_20 22 08 50.6
comp=Z,3µm,19.0s
GLMI **Grayling** 37.78 354 IAMs_20 IAMs_20 22 07 16.7
comp=Z,3µm,21.0s
GLMI **Grayling** 37.78 354 P P 21 52 27.5 0.0
baz=172
I40A **Norwalk** 37.83 347 IAMs_20 IAMs_20 22 08 47.2
comp=Z,5µm,20.0s
H43A **Windswept, Lux** 37.84 351 IAMs_20 IAMs_20 22 07 59.4
comp=Z,4µm,22.0s
KSCO **Kaye Shedlock'** 37.85 330 P P 21 52 27.2 -1.2
KSCO IAmb IAmb 21 52 31.9
comp=Z,36nm,0.8s
KSCO **Kaye Shedlock'** 37.85 330 P P 21 52 27.8 -0.6
baz=141,SNR=8.6
KSCO **Kaye Shedlock'** 37.85 330 P P 21 52 28.1 -0.3
baz=141,SNR=8.6
BGNE **Belgrade** 37.86 337 P P 21 52 26.9 -1.4
BGNE IAMs_20 IAMs_20 22 10 12.3
comp=Z,3µm,21.0s
BGNE **Belgrade** 37.86 337 P P 21 52 28.6 +0.3
baz=149
WBO **Williamsburg** 37.91 5 P P 21 52 28.3 -0.3
WBO IAmb IAmb 21 52 36.9
comp=Z,52nm,1.2s
WBO IAMs_20 IAMs_20 22 09 25.1
comp=Z,4µm,19.0s
FRNY **Flat Rock** 37.93 7 IAMs_20 IAMs_20 22 09 47.5
comp=Z,3µm,20.0s
CO01 **Juntas del Tor** 38.05 166 P P 21 52 31.9 +1.6
TUC **Tucson** 38.23 315 P P 21 52 31.4 -0.3
TUC **Tucson** 38.23 315 IAMs_20 IAMs_20 22 09 17.6
comp=Z,3µm,21.0s
TUC **Tucson** 38.23 315 P P 21 52 31.1 -0.6
baz=124
TUC **Tucson** 38.23 315 P P 21 52 31.4 -0.3
TUC pmax pmax
comp=Z,11nm,0.9s
TUC MLR MLR
comp=Z,3µm,21.0s

WVL **Waterville** 38.30 12 IAMs_20 IAMs_20 22 09 29.4
comp=Z,2µm,18.0s
SDCO **Great Sand Dun** 38.40 326 P P 21 52 32.9 -0.4
SDCO **Great Sand Dun** 38.40 326 P P 21 52 32.3 -1.0
baz=136,SNR=28
SDCO **Great Sand Dun** 38.40 326 P P 21 52 32.9 -0.4
baz=136,SNR=28
MNTQ **Montreal, Queb** 38.58 7 P P 21 52 34.6 +0.4
MNTQ IAmb IAmb 21 52 42.8
comp=Z,125nm,1.4s
MNTQ IAMs_20 IAMs_20 22 10 16.8
comp=Z,3µm,20.0s
BDFB **Brasilia** 38.72 126 P P 21 52 35.7 -0.3
BDFB IAmb IAmb 21 52 38.9
comp=Z,79nm,1.5s
BDFB **Brasilia** 38.72 126 P P 21 52 36.0 0.0
BDFB **Brasilia** 38.72 126 P P 21 52 36.0 0.0
comp=Z,20nm,1.1s,baz=309,slow=9.3,SNR=14
BDFB LR LR 22 09 18.4
comp=Z,7µm,19.6s,baz=311,slow=37
comp=Z,20nm,1.1s
CO03 **El Pedregal** 38.74 168 P P 21 52 37.2 +1.3
CO03 IAmb IAmb 21 52 56.2
comp=Z,66nm,1.1s
G62A **West of Eustis** 38.77 10 P P 21 52 37.7 +1.9
baz=195
G62A P P 21 52 37.7 +1.9
baz=195
EMMW **East Machias** 38.92 14 IAMs_20 IAMs_20 22 10 15.8
comp=Z,3µm,19.0s
X18A **Snowflake** 38.96 319 IAMs_20 IAMs_20 22 11 22.9
comp=Z,3µm,21.0s
CO02 **Combarbal** 39.03 168 P P 21 52 40.3 +1.9
CO02 IAmb IAmb 21 52 58.6
comp=Z,40nm,0.9s
PKME **Peaks-Kenny Pk** 39.05 12 IAMs_20 IAMs_20 22 09 52.3
comp=Z,3µm,20.0s
PKME **Peaks-Kenny Pk** 39.05 12 P P 21 52 37.9 -0.3
baz=196
OGNE **Ogallala** 39.10 333 P P 21 52 37.9 -0.9
OGNE **Ogallala** 39.10 333 P P 21 52 38.6 -0.3
baz=143
OGNE **Ogallala** 39.10 333 P P 21 52 38.3 -0.5
baz=143
Q24A **Divide** 39.10 328 P P 21 52 38.8 -0.3
baz=137,SNR=7.3
S22A **4UR Ranch, Cre** 39.15 325 P P 21 52 39.5 0.0
baz=134,SNR=41
F42A **Maple Grove Fa** 39.16 351 IAMs_20 IAMs_20 22 08 39.4
comp=Z,3µm,22.0s
W18A **Petrified Fore** 39.18 320 P P 21 52 39.4 -0.3
baz=128,SNR=14
TRQ **Mont Tremblant** 39.19 6 P P 21 52 39.0 -0.5
TRQ IAMs_20 IAMs_20 22 10 19.8
comp=Z,3µm,18.0s
E46A **Sault Ste Mari** 39.28 355 IAMs_20 IAMs_20 22 08 45.4
comp=Z,4µm,20.0s
ITRB **Iturama** 39.34 133 *e*P P 21 52 42.0 +1.0
ECSD **EROS Data Cent** 39.34 341 P P 21 52 39.7 -1.1
G65A **Princeton** 39.36 14 IAMs_20 IAMs_20 22 10 27.6
comp=Z,3µm,20.0s
GGN **Saint George** 39.46 14 IAMs_20 IAMs_20 22 12 02.0
comp=Z,2µm,19.0s
214A **Organ Pipe Nat** 39.48 313 IAMs_20 IAMs_20 22 10 31.1
comp=Z,5µm,22.0s
214A **Organ Pipe Nat** 39.48 313 P P 21 52 41.9 -0.2
baz=122,SNR=10.0
K30B **Basel** 39.50 337 P P 21 52 40.9 -1.2
baz=148,SNR=28
E43A **Lone Tree Farm** 39.59 352 IAMs_20 IAMs_20 22 09 00.9
comp=Z,4µm,21.0s
SPMN **Marine on St.** 39.60 345 IAMs_20 IAMs_20 22 08 33.2
comp=Z,3µm,22.0s
SPMN **Marine on St.** 39.60 345 P P 21 52 43.1 +0.2
baz=159
SDBA **SAO DESIDERIO** 39.69 119 *e*P P 21 52 44.9 +0.9
CPUP **Villa Florida** 39.74 148 P P 21 52 43.9 -0.4
comp=Z,1.4nm,0.4s,baz=338,slow=10.0,SNR=3.5
CPUP LR LR 22 09 47.7
comp=Z,2µm,20.8s,baz=327,slow=37
comp=Z,1.4nm,0.4s
CPUP **Villa Florida** 39.74 148 *e*P P 21 52 43.0 -1.2
PIX **Pinacate** 39.75 312 P P 21 52 44.6 +0.3
MVCO **Mesa Verde** 39.75 323 P P 21 52 44.3 -0.3
MVCO **Mesa Verde** 39.75 323 P P 21 52 44.3 -0.3
baz=132,SNR=20
X16A **Lo Mia Camp, P** 39.88 317 IAMs_20 IAMs_20 22 10 42.4
comp=Z,2µm,21.0s
IPMB **Ipameri, GO** 39.89 129 *e*P P 21 52 44.6 -1.0
HAL **Halifax** 39.91 18 IAMs_20 IAMs_20 22 11 48.2
comp=Z,3µm,21.0s
PCMB **Pacaembu** 39.95 136 *e*P P 21 52 46.3 +0.3
ISCO **Idaho Springs** 39.96 328 P P 21 52 45.7 -0.6
ISCO IAmb IAmb 21 52 53.5
comp=Z,131nm,2.0s
ISCO **Idaho Springs** 39.96 328 P P 21 52 46.4 +0.1
baz=138,SNR=13
ISCO **Idaho Springs** 39.96 328 P P 21 52 46.0 -0.3
baz=138,SNR=13
ISCO **Idaho Springs** 39.96 328 P P 21 52 45.7 -0.6
ISCO pmax pmax
comp=Z,131nm,2.0s
ISCO MLR MLR
comp=Z,1µm,21.0s
MCR1 **Marechal Candi** 40.17 142 *e*P P 21 52 49.0 +1.2
SMCO **Snowmass** 40.23 327 P P 21 52 47.6 -1.0
E62A **Clayton Lake** 40.30 11 IAMs_20 IAMs_20 22 10 40.6
comp=Z,3µm,20.0s
E62A **Clayton Lake** 40.30 11 P P 21 52 50.7 +2.0
baz=196,SNR=13
E62A P P 21 52 50.7 +2.0
baz=196,SNR=13
F36A **Milaca** 40.38 345 IAMs_20 IAMs_20 22 10 08.0
comp=Z,2µm,19.0s
PV01 **Paradox Valley** 40.41 324 P P 21 52 49.9 -0.1
WUAZ **Wupatki** 40.49 319 P P 21 52 49.9 -0.7
WUAZ IAmb IAmb 21 52 54.8
comp=Z,39nm,0.8s
WUAZ **Wupatki** 40.49 319 P P 21 52 50.3 -0.3
baz=127,SNR=45
D41A **Chassel** 40.49 351 IAMs_20 IAMs_20 22 09 52.8
comp=Z,4µm,20.0s
SFX **San Felipe** 40.53 311 IAMs_20 IAMs_20 22 11 08.1
comp=Z,3µm,22.0s
113A **Mohawk Valley,** 40.60 314 IAMs_20 IAMs_20 22 11 04.6
comp=Z,5µm,22.0s
VA03 **San Esteban** 40.63 168 P P 21 52 53.4 +1.7
PQI **Presque Isle** 40.65 12 IAMs_20 IAMs_20 22 10 59.8
comp=Z,2µm,20.0s
LMN **Caledonia Moun** 40.67 16 IAMs_20 IAMs_20 22 11 51.3
comp=Z,3µm,20.0s
Y14A **Wickenburg** 40.68 316 IAMs_20 IAMs_20 22 12 51.7
comp=Z,3µm,20.0s
SUSD **Miller** 40.77 339 P P 21 52 50.6 -2.0
SUSD IAmb IAmb 21 52 58.3
comp=Z,74nm,1.1s
SUSD **Miller** 40.77 339 P P 21 52 52.6 0.0
baz=150
D62A **Allapoint, All** 40.84 11 IAMs_20 IAMs_20 22 10 56.7
comp=Z,4µm,19.0s
D62A **Allapoint, All** 40.84 11 P P 21 52 56.0 +3.0
baz=196,SNR=6.4
D62A P P 21 52 56.0 +3.0
baz=196,SNR=6.4
VLDQ **Val d'Or** 40.87 2 P P 21 52 53.8 +0.5
VLDQ IAmb IAmb 21 53 01.3
comp=Z,60nm,1.1s
VLDQ IAMs_20 IAMs_20 22 09 18.4
comp=Z,4µm,22.0s
N23A **Red Feather La** 40.94 329 P P 21 52 54.2 -0.1
baz=138
MT02 **Curacav** 41.00 169 P P 21 52 55.9 +1.3
MT02 IAmb IAmb 21 53 29.7
comp=Z,60nm,1.4s
PHWY **Pilot Hill** 41.00 330 IAMs_20 IAMs_20 22 12 24.1
comp=Z,2µm,21.0s
LMQ **La Malbaie** 41.06 10 P P 21 52 54.3 -0.6
LMQ IAmb IAmb 21 53 03.6
comp=Z,43nm,1.1s
MT05 **Renca** 41.20 169 P P 21 52 57.9 +1.6
LDASE **Londrina, Braz** 41.26 138 *e*P P 21 52 57.4 +0.5
GBN **Guysborough** 41.27 20 IAMs_20 IAMs_20 22 10 47.1
comp=Z,4µm,20.0s
MT16 **CCHEN** 41.28 168 P P 21 52 58.3 +1.4
MT16 IAmb IAmb 21 53 38.7
comp=Z,21nm,0.6s
VTX **Valle De La Tr** 41.40 310 IAMs_20 IAMs_20 22 11 29.2

comp=Z,4µm,22.0s
JANB **Januaria** 41.46 122 *e*P P 21 52 59.5 +0.8
BB19B **Bebedouro** 41.53 133 *e*P P 21 52 59.5 +0.4
MT09 **Talagante** 41.53 169 P P 21 53 00.1 +1.1
HMU **Henry Mountain** 41.58 322 P P 21 52 59.3 -0.3
HMU IAmb IAmb 21 53 21.5
comp=Z,41nm,1.0s
PMNB **Patos De Minas** 41.58 128 *e*P P 21 53 00.7 +1.1
PTGB **Pitanga** 41.58 140 *e*P P 21 52 59.5 -0.1
O20A **White River Ci** 41.60 327 P P 21 52 59.4 -0.3
O20A IAmb IAmb 21 53 28.2
comp=Z,86nm,1.6s
O20A **White River Ci** 41.60 327 P P 21 53 00.2 +0.5
baz=134
MT13 **San Alfonso** 41.63 168 P P 21 53 01.5 +1.6
MT13 IAmb IAmb 21 53 09.8
comp=Z,53nm,1.2s
BLYC **Blythe** 41.65 314 P P 21 52 59.9 0.0
BLYC IAmb IAmb 21 53 04.4
comp=Z,34nm,0.9s
BATG **Bathurst New B** 41.67 14 P P 21 52 59.5 -0.4
PDMCI **Parker Dam,Lak** 41.67 315 P P 21 53 00.7 +0.6
baz=122,SNR=7.2
LMEL **Las Melosas** 41.75 168 P P 21 53 02.2 +1.3
BO04 **La Punta** 41.81 169 P P 21 53 02.9 +1.7
BO04 IAmb IAmb 21 53 21.2
comp=Z,54nm,1.2s
ESJX **Sierra Juarez** 41.82 311 P P 21 53 01.3 -0.2
ESJX IAMs_20 IAMs_20 22 12 04.1
comp=Z,2µm,20.0s
EYMN **Ely** 41.88 348 P P 21 53 01.3 -0.4
EYMN IAmb IAmb 21 53 07.1
comp=Z,121nm,2.0s
EYMN **Ely** 41.88 348 P P 21 53 01.7 +0.1
baz=162
FRBT **Francisco Belt** 41.89 143 *e*P P 21 53 02.0 0.0
W13A **Hualapai Mount** 41.93 316 IAMs_20 IAMs_20 22 13 42.6
comp=Z,3µm,20.0s
YUH **Yuha Desert** 42.11 312 IAMs_20 IAMs_20 22 12 03.6
comp=Z,3µm,21.0s
BO01 **Tunca** 42.11 169 P P 21 53 05.4 +1.8
SWSC **Sam W. Stewart** 42.16 312 P P 21 53 04.7 +0.5
baz=119
RMX **La Rumorosa** 42.20 312 P P 21 53 03.9 -0.7
IKP **In-Ko-Pah, Jac** 42.24 312 P P 21 53 04.8 -0.1
baz=119
PKCU **Pink Cliffs** 42.25 320 IAMs_20 IAMs_20 22 12 41.8
comp=Z,2µm,19.0s
NEE2 **Needles Airpor** 42.25 316 P P 21 53 04.6 -0.3
baz=122
BC3 **Big Chuckawall** 42.26 314 P P 21 53 05.9 +0.8
baz=120,SNR=9.2
FRTB **Fartura** 42.27 137 *e*P P 21 53 06.2 +1.0
CCX **Cicese** 42.29 311 IAMs_20 IAMs_20 22 12 17.7
comp=Z,3µm,19.0s
IRM **Iron Mountain** 42.30 314 P P 21 53 05.3 -0.1
baz=121,SNR=22
KNB **Kanab** 42.32 320 IAMs_20 IAMs_20 22 13 36.7
comp=Z,3µm,18.0s
CRSM **Crissiumal (Br** 42.46 145 *e*P P 21 53 07.0 +0.4
RSSD **Black Hills** 42.52 334 P P 21 53 06.8 -0.4
RSSD IAmb IAmb 21 53 15.2
comp=Z,83nm,1.1s
RSSD **Black Hills** 42.52 334 P P 21 53 07.6 +0.4
baz=143
RSSD **Black Hills** 42.52 334 P P 21 53 07.2 0.0
baz=143,SNR=16
RSSD **Black Hills** 42.52 334 P P 21 53 06.8 -0.4
RSSD pmax pmax
comp=Z,83nm,1.2s
K22A **Casper** 42.54 331 P P 21 53 07.6 +0.3
baz=138
BO02 **Sierra Bellavi** 42.55 169 P P 21 53 07.6 +0.3
BO02 IAmb IAmb 21 53 16.6
comp=Z,62nm,1.5s
MONP2 **Monument Peak** 42.59 312 P P 21 53 08.0 +0.1
baz=119,SNR=12
BAR **Barrett** 42.68 312 IAMs_20 IAMs_20 22 12 29.8
comp=Z,3µm,20.0s
BELC **Belle Mtn. Jos** 42.83 314 P P 21 53 10.1 +0.3
baz=120
SZCU **Shurtz Canyon** 42.83 320 IAMs_20 IAMs_20 22 13 21.2
comp=Z,3µm,21.0s
MVU **Marysvale** 42.84 322 P P 21 53 09.8 -0.1
MVU IAmb IAmb 21 53 16.6
comp=Z,88nm,1.1s
TJX **Tijuana** 42.88 311 IAMs_20 IAMs_20 22 12 38.2
comp=Z,3µm,20.0s
V12A **Nelson** 42.93 317 P P 21 53 10.2 -0.3
V12A IAmb IAmb 21 53 14.8
comp=Z,35nm,0.9s
V12A IAMs_20 IAMs_20 22 14 20.1
comp=Z,4µm,20.0s
TPFO **Pinon Flats** 42.96 313 P P 21 53 11.2 +0.3
baz=119,SNR=16
PFO **Pinyon Flats O** 42.97 313 P P 21 53 10.6 -0.3
PFO **Pinyon Flats O** 42.97 313 IAMs_20 IAMs_20 22 12 37.3
comp=Z,3µm,21.0s
PFO **Pinyon Flats O** 42.97 313 P P 21 53 11.5 +0.6
baz=119,SNR=14
PFO **Pinyon Flats O** 42.97 313 ⇓ *i*P P 21 53 11.8 +0.9
PFO pmax pmax
comp=Z,39nm,1.0s
PFO **Pinyon Flats O** 42.97 313 LR LR 22 12 25.3
comp=Z,3µm,21.5s,baz=119,slow=38
GMRC **Granite Mounta** 42.99 315 P P 21 53 11.3 +0.2
baz=121,SNR=14
TCRU **Three Creeks R** 43.05 322 IAMs_20 IAMs_20 22 12 04.8
comp=Z,2µm,21.0s
RCLB **Rio Claro- Sao** 43.09 134 *e*P P 21 53 12.9 +0.9
109C **Camp Elliot, M** 43.10 312 IAMs_20 IAMs_20 22 11 43.9
comp=Z,3µm,19.0s
109C **Camp Elliot, M** 43.10 312 P P 21 53 12.1 +0.4
baz=118
UNIS **Unistalda (Bra** 43.13 148 *e*P P 21 53 12.9 +0.9
AGMN **Agassiz Nation** 43.24 344 IAMs_20 IAMs_20 22 14 22.8
comp=Z,2µm,19.0s
AGMN **Agassiz Nation** 43.24 344 P P 21 53 13.5 +0.8
baz=156
ITAB **Concordia** 43.38 143 P P 21 53 13.4 -0.6
ITAB IAmb IAmb 21 53 20.0
comp=Z,69nm,1.3s
ITAB **Concordia** 43.38 143 *e*P P 21 53 14.8 +0.8
HEC **Hector,Ludlow** 43.49 315 P P 21 53 16.5 +1.5
baz=121,SNR=28
MURC **Murrieta** 43.50 312 P P 21 53 15.8 +0.7
baz=119
TUQ **Turquoise Moun** 43.51 316 P P 21 53 15.4 +0.1
baz=122,SNR=14
SHPR **Sheep Range** 43.56 317 IAMs_20 IAMs_20 22 14 47.8
comp=Z,2µm,20.0s
BBRC **Big Bear Solar** 43.62 313 P P 21 53 16.2 0.0
baz=120
DIAM **Diamantina, MG** 43.64 126 *e*P P 21 53 17.8 +1.3
ELS **Elsinore Mount** 43.69 312 IAMs_20 IAMs_20 22 13 01.6
comp=Z,2µm,21.0s
SPB **Sao Paulo** 43.91 135 *e*P P 21 53 18.8 +0.4
MDND **Maddock** 43.96 341 P P 21 53 19.1 +0.6
baz=151
RRX **Edison Barstow** 43.98 314 P P 21 53 19.0 +0.1
baz=120
SHOC **Shoshone, Teco** 44.00 316 P P 21 53 19.1 +0.1
baz=122,SNR=10
ALGR **Alto Alegre (B** 44.03 145 *e*P P 21 53 19.0 -0.4
TCUT **Toone Canyon** 44.03 325 IAMs_20 IAMs_20 22 14 25.7
comp=Z,2µm,22.0s
GSC **Goldstone, Bar** 44.06 315 IAMs_20 IAMs_20 22 13 37.2
comp=Z,3µm,22.0s
GSC **Goldstone, Bar** 44.06 315 P P 21 53 19.9 +0.3
baz=121,SNR=25
RODS **Rosario do Sul** 44.08 149 *e*P P 21 53 19.9 +0.2
BFSC **Mount Baldy Ra** 44.14 313 P P 21 53 20.4 +0.1
baz=119,SNR=7.6
PDAR **Pinedale Array** 44.15 328 P P 21 53 19.8 -0.6
comp=Z,6.0nm,0.6s,baz=132,slow=9.5,SNR=36
comp=Z,6.0nm,0.6s
BW06 **Boulder Array** 44.16 328 P P 21 53 19.8 -0.6
BW06 **Boulder Array** 44.16 328 P P 21 53 20.0 -0.5
baz=135,SNR=16
DUG **Dugway, Tooele** 44.26 323 P P 21 53 20.4 -0.8
DUG IAMs_20 IAMs_20 22 14 59.7
comp=Z,2µm,18.0s
DUG **Dugway, Tooele** 44.26 323 P P 21 53 21.2 +0.1
baz=129,SNR=12
DUG **Dugway, Tooele** 44.26 323 P P 21 53 20.4 -0.8
DUG pmax pmax

comp=Z,18nm,1.0s
DUG MLR MLR

comp=Z,2µm,18.0s
BSCB Bom Sucesso 44.27 130 *e*P **P 21 53 22.4 +0.9**
CIS Catalina Islan 44.31 312 P **P 21 53 21.6 0.0**
baz=117
FMP Fort Macarthur 44.36 312 P **P 21 53 22.2 +0.2**
baz=118
QSM Queen of Sheba 44.45 316 IAMs_20 IAMs_20 22 12 37.3
comp=Z,3µm,22.0s
HWUT Hardware Ranch 44.45 326 P **P 21 53 21.6 -1.2**
HWUT IAMs_20 IAMs_20 22 14 02.6
comp=Z,2µm,22.0s
SPR3 Spring Creek 3 44.45 321 IAMs_20 IAMs_20 22 13 20.1
comp=Z,3µm,22.0s
PET01 Itanhaem-SP 44.47 136 *e*P **P 21 53 22.8 -0.1**
RPN Rapa Nui 44.52 219 LR LR 22 07 00.9
comp=Z,5µm,21.4s,baz=56,slow=29
TPNV Topopah Spring 44.54 317 P **P 21 53 23.4 -0.1**
TPNV IAmb IAmb 21 53 27.6
comp=Z,25nm,0.9s
TPNV IAMs_20 IAMs_20 22 12 16.7
comp=Z,2µm,22.0s
TPNV Topopah Spring 44.54 317 P **P 21 53 23.1 -0.5**
baz=123,SNR=24
TPNV Topopah Spring 44.54 317 P **P 21 53 23.4 -0.1**
TPNV pmax pmax
comp=Z,25nm,1.0s
TPNV MLR MLR
comp=Z,2µm,22.0s
S11A Rachel 44.59 318 IAMs_20 IAMs_20 22 15 35.8
comp=Z,3µm,21.0s
DECC Green Verdugo 44.64 313 P **P 21 53 24.4 +0.2**
baz=118
EDW2 Edwards Air Fo 44.70 314 P **P 21 53 25.1 +0.4**
baz=119,SNR=26
FURC Furnace Creek, 44.70 316 P **P 21 53 25.0 +0.5**
baz=122,SNR=24
LRMC Laurel Mtn Rad 44.77 315 P **P 21 53 25.3 -0.1**
baz=120,SNR=6.8
BGU Big Grassy Mou 44.84 324 IAMs_20 IAMs_20 22 15 31.2
comp=Z,3µm,18.0s
CCAC Calif City Air 44.84 314 IAMs_20 IAMs_20 22 14 14.0
comp=Z,3µm,22.0s
R11B Troy Canyon, C 44.87 319 IAMs_20 IAMs_20 22 15 24.4
comp=Z,2µm,19.0s
R11B Troy Canyon, C 44.87 319 P **P 21 53 25.6 -0.6**
baz=124,SNR=17
MPMC Manual Prospec 44.92 315 P **P 21 53 26.1 -0.5**
baz=120
AHID Auburn Hatcher 44.97 327 P **P 21 53 25.7 -1.2**
AHID IAmb IAmb 21 53 34.2
comp=Z,25nm,0.8s
PARB Paraibuna 45.04 133 *e*P **P 21 53 27.8 +0.3**
ULM Lac du Bonnet 45.04 345 IAMs_20 IAMs_20 22 13 00.3
comp=Z,3µm,20.0s
ULM Lac du Bonnet 45.04 345 P **P 21 53 24.8 -2.3**
comp=Z,16nm,0.6s,baz=155,slow=8.1,SNR=22
comp=Z,16nm,0.6s
CPSB Cacapava Do Su 45.05 147 *e*P **P 21 53 27.6 +0.2**
SNCC San Nicolas Is 45.07 311 IAMs_20 IAMs_20 22 13 16.1
comp=Z,2µm,21.0s
SNCC San Nicolas Is 45.07 311 P **P 21 53 27.0 -0.6**
baz=116
OSI Osito Audit: C 45.10 313 P **P 21 53 27.9 0.0**
baz=118
GRAC Grapevine Rang 45.32 317 IAMs_20 IAMs_20 22 15 16.5
comp=Z,3µm,20.0s
GRAC Grapevine Rang 45.32 317 P **P 21 53 30.0 +0.3**
baz=122
ARVC Arvin 45.42 313 P **P 21 53 30.8 +0.5**
baz=118,SNR=5.4
ISA Isabella, Lake 45.42 314 IAMs_20 IAMs_20 22 14 54.2
comp=Z,2µm,20.0s
ISA Isabella, Lake 45.42 314 P **P 21 53 31.1 +0.7**
baz=119,SNR=11
SCZ2 Santa Cruz Isl 45.48 312 P **P 21 53 30.8 -0.1**
baz=117
LAO LASA Array 45.50 334 P **P 21 53 30.2 -0.7**
LAO LASA Array 45.50 334 P **P 21 53 31.0 +0.2**
baz=142
LAO LASA Array 45.50 334 P **P 21 53 30.5 -0.4**
baz=142
CWC Cottonwood Cre 45.53 315 P **P 21 53 32.0 +0.6**
baz=120
RCBR Riachuelo 45.59 105 LR LR 22 13 31.2
comp=Z,3µm,19.5s,baz=304,slow=37
RCBR Riachuelo 45.59 105 *e*P **P 21 53 34.9 +2.9**
RLMT Red Lodge 45.70 331 P **P 21 53 31.6 -1.1**
RLMT IAmb IAmb 21 53 40.1
comp=Z,47nm,1.2s
RLMT Red Lodge 45.70 331 P **P 21 53 32.5 -0.2**
baz=137,SNR=20
BCW Bitter Crk WRg 45.75 313 IAMs_20 IAMs_20 22 14 40.1
comp=Z,3µm,20.0s
TPH Tonopah 45.80 318 P **P 21 53 32.9 -0.7**
TPH Tonopah 45.80 318 P **P 21 53 32.9 -0.7**
TPH pmax pmax
comp=Z,115nm,1.1s
TPH MLR MLR
comp=Z,14µm,20.0s
H17A Grant Village 45.83 329 P **P 21 53 33.9 +0.1**
baz=135
YMP Mirror Lake Pl 45.86 330 P **P 21 53 33.8 -0.2**
YMP IAmb IAmb 21 53 56.3
comp=Z,28nm,1.1s
SJMB Sao Joao De Ma 45.87 125 *e*P **P 21 53 35.1 +1.0**
VES Vestal, Richgr 45.94 314 P **P 21 53 35.0 +0.5**
baz=119
DRLN Deer Lake 45.96 20 P **P 21 53 34.6 +0.3**
DRLN IAmb IAmb 21 53 41.9
comp=Z,38nm,0.9s
DRLN IAMs_20 IAMs_20 22 10 38.3
comp=Z,3µm,18.0s
GUA01 Guaratinga, BA 45.99 121 *e*P **P 21 53 36.0 +0.9**
PKM Mcpherson Peak 46.02 313 P **P 21 53 36.0 +0.7**
baz=117
PLTB Pedras Altas 46.03 149 *e*P **P 21 53 36.6 +1.4**
DGMT Dagmar 46.11 338 IAMs_20 IAMs_20 22 16 06.0
comp=Z,2µm,21.0s
DGMT Dagmar 46.11 338 P **P 21 53 36.7 +1.1**
baz=145
DGMT Dagmar 46.11 338 P **P 21 53 34.8 -0.8**
baz=145
Q09A Carvers 46.18 319 IAMs_20 IAMs_20 22 16 38.1
comp=Z,2µm,20.0s
SMMC Simmler 46.35 313 P **P 21 53 38.8 +1.1**
baz=118,SNR=6.9
NV11 Mina Array Sit 46.61 318 IAMs_20 IAMs_20 22 15 22.4
comp=Z,2µm,22.0s
MLAC Mammoth, Mammo 46.65 316 P **P 21 53 41.0 +0.6**
baz=120
NVAR Mina Array Bea 46.71 318 P **P 21 53 40.8 +0.1**
NVAR Mina Array Bea 46.71 318 P **P 21 53 41.0 +0.3**
comp=Z,14nm,0.7s,baz=129,slow=6.7,SNR=39
comp=Z,14nm,0.7s
DUB01 Friburgo-RJ 46.72 129 *e*P **P 21 53 42.0 +1.2**
OMMB Old Mammoth Mi 46.76 316 IAMs_20 IAMs_20 22 15 41.5
comp=Z,3µm,20.0s
RIB01 Linhares ES 46.82 125 *e*P **P 21 53 42.6 +1.1**
MDPB Devils Postpil 46.82 316 IAMs_20 IAMs_20 22 15 10.1
comp=Z,3µm,22.0s
KVN Kaiserville 46.90 319 IAMs_20 IAMs_20 22 17 06.1
comp=Z,3µm,21.0s
RYN Ryan 46.96 318 IAMs_20 IAMs_20 22 15 22.6
comp=Z,2µm,21.0s
BMN Battle Mountai 47.10 321 IAMs_20 IAMs_20 22 16 26.1
comp=Z,2µm,19.0s
GO06 Curarrehue 47.11 171 P **P 21 53 44.5 +0.9**
ALF01 Guarapari-ES 47.22 127 *e*P **P 21 53 45.1 +0.5**
MCMT McKenzie Canyo 47.30 328 P **P 21 53 45.4 +0.1**
HLID Hailey 47.32 326 P **P 21 53 45.0 -0.4**
HLID IAmb IAmb 21 53 52.6
comp=Z,22nm,1.1s
HLID IAMs_20 IAMs_20 22 17 03.6
comp=Z,2µm,20.0s
HLID Hailey 47.32 326 P **P 21 53 44.9 -0.5**
baz=130,SNR=25
PMPB Monarch Peak 47.34 314 IAMs_20 IAMs_20 22 15 42.2
comp=Z,3µm,21.0s
WAKR Walker 47.51 317 IAMs_20 IAMs_20 22 16 24.2
comp=Z,2µm,20.0s
ABR01 Abrolhos, BA 47.57 122 *e*P **P 21 53 48.9 +1.5**
YERR Yerington 47.62 318 IAMs_20 IAMs_20 22 16 20.2
comp=Z,2µm,22.0s
BBGB Big Mountain B 47.68 314 IAMs_20 IAMs_20 22 16 48.1
comp=Z,2µm,19.0s

TRQA Tornquist 47.91 161 P **P 21 53 50.8 +1.0**
TRQA Tornquist 47.91 161 P **P 21 53 50.8 +1.0**
TRQA pmax pmax
comp=Z,114nm,1.6s
PNTR Pine Nut 47.91 318 IAMs_20 IAMs_20 22 16 29.0
comp=Z,3µm,22.0s
CMB Columbia Colle 47.92 316 IAMs_20 IAMs_20 22 15 41.2
comp=Z,2µm,22.0s
SAO San Andreas Ge 48.06 314 IAMs_20 IAMs_20 22 15 50.1
comp=Z,3µm,22.0s
EGMT Eagleton 48.07 333 P **P 21 53 50.7 -0.3**
EGMT IAmb IAmb 21 54 31.7
comp=Z,33nm,1.1s
EGMT Eagleton 48.07 333 P **P 21 53 50.7 -0.3**
baz=138,SNR=9.2
PAHR Pah Rah Range 48.09 319 IAMs_20 IAMs_20 22 15 21.7
comp=Z,2µm,22.0s
MPK Martis Peak 48.31 318 IAMs_20 IAMs_20 22 16 51.5
comp=Z,3µm,21.0s
PLCA Paso Flores 48.38 171 P **P 21 53 54.3 +0.9**
PLCA IAmb IAmb 21 54 12.9
comp=Z,40nm,1.4s
PLCA Paso Flores 48.38 171 P **P 21 53 55.0 +1.6**
comp=Z,8.2nm,0.8s,baz=350,slow=8.1,SNR=12
PLCA LR LR 22 11 20.6
comp=Z,1µm,20.4s,baz=352,slow=32
comp=Z,8.2nm,0.8s
PLCA Paso Flores 48.38 171 *e*P **P 21 53 55.4 +2.0**
SCHQ Schefferville 48.67 10 P **P 21 53 56.0 +0.6**
comp=Z,11nm,0.7s,baz=215,slow=6.0,SNR=19
SCHQ LR LR 22 16 02.1
comp=Z,1µm,20.4s,baz=204,slow=38
comp=Z,11nm,0.7s
AFDM Forest Hills D 48.77 317 IAMs_20 IAMs_20 22 16 22.5
comp=Z,2µm,22.0s
WVOR Wild Horse Val 49.11 322 P **P 21 53 58.3 -0.9**
WVOR Wild Horse Val 49.11 322 P **P 21 53 58.3 -0.9**
WVOR pmax pmax
comp=Z,70nm,1.1s
PLID Pearl Lake 49.16 326 IAMs_20 IAMs_20 22 17 46.4
comp=Z,2µm,20.0s
MSO Missoula 49.22 329 IAMs_20 IAMs_20 22 18 05.6
comp=Z,2µm,18.0s
MSO Missoula 49.22 329 P **P 21 54 00.6 +0.7**
baz=132
ORV Oroville 49.42 317 IAMs_20 IAMs_20 22 15 30.9
comp=Z,2µm,22.0s
MCCM Marconi Confer 49.70 315 P **P 21 54 03.9 +0.3**
MCCM IAMs_20 IAMs_20 22 18 23.6
comp=Z,3µm,21.0s
I07A Izee 50.56 323 P **P 21 54 09.6 -0.6**
LL02 Futaleuf 50.60 173 P **P 21 54 10.6 +0.3**
LL02 IAmb IAmb 21 54 18.5
comp=Z,102nm,1.9s
K05A Summer Lake 50.66 321 IAMs_20 IAMs_20 22 19 42.3
comp=Z,2µm,21.0s
FFC Flin Flon 50.70 344 P **P 21 54 10.2 -0.7**
FFC IAmb IAmb 21 54 31.4
comp=Z,41nm,1.6s
FFC Flin Flon 50.70 344 IAMs_20 IAMs_20 22 17 17.1
comp=Z,2µm,18.0s
FFC Flin Flon 50.70 344 P **P 21 54 10.2 -0.7**
FFC pmax pmax
comp=Z,41nm,1.6s
FFC MLR MLR
comp=Z,2µm,18.0s
L04D Klamath Falls 51.28 320 P **P 21 54 16.1 +0.4**
L04D IAmb IAmb 21 54 34.8
comp=Z,55nm,1.1s
L04D IAMs_20 IAMs_20 22 19 55.0
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 51.30 319 IAMs_20 IAMs_20 22 18 06.5
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 51.30 319 LR LR 22 20 30.8
comp=Z,2µm,18.7s,baz=149,slow=41
NEW Newport 51.78 329 P **P 21 54 18.4 -0.8**
NEW Newport 51.78 329 P **P 21 54 19.6 +0.4**
baz=130
NEW Newport 51.78 329 P **P 21 54 18.4 -0.8**
NEW pmax pmax
comp=Z,17nm,1.0s
NEW Newport 51.78 329 LR LR 22 20 23.2
comp=Z,1µm,18.3s,baz=135,slow=41
HUMO Hull Mountain 51.90 320 IAMs_20 IAMs_20 22 17 46.2
comp=Z,3µm,22.0s
KRMB Red Mountain 51.98 318 IAMs_20 IAMs_20 22 18 09.6
comp=Z,3µm,22.0s
FCC Fort Churchill 52.67 351 P **P 21 54 24.9 -0.6**
FCC IAmb IAmb 21 54 31.6
comp=Z,46nm,1.3s
FCC Fort Churchill 52.67 351 P **P 21 54 24.9 -0.6**
FCC pmax pmax
comp=Z,46nm,1.3s
FCC MLR MLR
comp=Z,3µm,18.0s
EDM Edmonton 53.45 336 P **P 21 54 30.4 -1.1**
EDM IAMs_20 IAMs_20 22 20 58.2
comp=Z,2µm,18.0s
EDM Edmonton 53.45 336 P **P 21 54 30.4 -1.1**
EDM pmax pmax
comp=Z,63nm,1.1s
EDM MLR MLR
comp=Z,2µm,18.0s
SACV Santiago Islan 55.50 77 IAMs_20 IAMs_20 22 16 19.7
comp=Z,1µm,20.0s
FRB Frobisher Bay 57.08 6 LR LR 22 20 58.4
comp=Z,2µm,19.7s,baz=200,slow=38
BBB Bella Bella 59.80 328 LR LR 22 24 01.1
comp=Z,1µm,20.6s,baz=138,slow=39
NUUK Nuuk 60.35 14 *i* P **P 21 55 21.5 +1.4**
NUUK IAmb IAmb 21 55 34.8
comp=Z,11nm,0.8s
YKA Yellowknife Ar 60.83 342 P **P 21 55 22.0 -1.4**
YKA Yellowknife Ar 60.83 342 P **P 21 55 22.2 -1.3**
comp=Z,6.5nm,0.7s,baz=133,slow=7.1,SNR=69
comp=Z,6.5nm,0.7s
TAOE Nuku Hiva Isla 62.28 256 *e*LR LR 22 13 58.4
comp=Z,2µm,25.5s
FLDN Fort Liard 62.31 337 P **P 21 55 34.1 +0.6**
baz=129
KOTAN Kotaneelee Air 62.47 337 P **P 21 55 34.8 +0.2**
baz=128
SFJD Kangerlussuaq 62.98 12 LR LR 22 23 34.7
comp=Z,2µm,20.7s,baz=212,slow=37
PMOZ Porto Moniz, M 63.12 57 *e*LR LR 22 14 41.9
comp=Z,1µm,20.0s
V35K Ketchikan 63.17 330 P **P 21 55 40.2 +1.0**
baz=119
T35M Bob Quinn 63.34 332 P **P 21 55 41.3 +0.9**
baz=121
DY2G Dye2 63.55 14 *i* P **P 21 55 42.6 +0.7**
DY2G IAmb IAmb 21 55 52.8
comp=Z,8.8nm,0.6s
DLBC Dease Lake 64.00 333 P **P 21 55 44.6 -0.2**
DLBC IAmb IAmb 21 55 48.9
comp=Z,17nm,1.1s
DLBC Dease Lake 64.00 333 P **P 21 55 46.4 +1.5**
baz=122
DLBC Dease Lake 64.00 333 LR LR 22 25 33.0
comp=Z,2µm,21.1s,baz=102,slow=38
S34M Telegraph Cree 64.22 332 P **P 21 55 47.6 +1.4**
baz=120
WRGLY Wrigley 64.23 340 P **P 21 55 45.5 -0.6**
WRGLY Wrigley 64.23 340 P **P 21 55 46.8 +0.7**
baz=130
WTLY Watson Lake, Y 64.38 335 IAMs_20 IAMs_20 22 23 17.1
comp=E,2µm,20.0s
ILULI Ilulissat 64.77 11 *i* P **P 21 55 49.4 -0.2**
ILULI IAmb IAmb 21 55 51.5
comp=Z,10nm,0.9s
R33M Jennings River 64.92 334 P **P 21 55 51.3 +0.4**
baz=121
Q32M Nakina River 65.27 333 IAMs_20 IAMs_20 22 28 50.9
comp=Z,2µm,20.0s
Q32M Nakina River 65.27 333 P **P 21 55 54.7 +1.4**
baz=120
S32K Killisnoo 65.63 331 P **P 21 55 56.1 +0.7**
baz=117
JIS Juneau Island 65.91 332 IAMs_20 IAMs_20 22 27 17.0
comp=Z,2µm,21.0s
R32K Eaglecrest 65.97 332 IAMs_20 IAMs_20 22 28 59.6
comp=Z,2µm,20.0s
R32K Eaglecrest 65.97 332 P **P 21 55 58.1 +0.5**
baz=117
P33M Teslin, Yukon 66.14 334 IAMs_20 IAMs_20 22 26 12.8
comp=Z,2µm,22.0s
P33M Teslin, Yukon 66.14 334 P **P 21 55 58.8 0.0**
baz=120
P32M Atlin 66.23 333 P **P 21 55 59.9 +0.6**
baz=119
S31K Pelican 66.65 331 P **P 21 56 03.0 +1.1**
baz=116
N32M Quiet Lake 66.72 335 P **P 21 56 03.4 +1.0**
baz=120,SNR=5.8
SKAG Skagway 66.89 333 IAMs_20 IAMs_20 22 27 12.9
comp=Z,2µm,21.0s
SKAG Skagway 66.89 333 P **P 21 56 04.5 +1.1**
baz=117
ICESG Greenland Ices 67.18 15 *i* P **P 21 56 07.2 +1.7**
ICESG IAmb IAmb 21 56 15.4
comp=Z,22nm,0.8s
WHY Whitehorse 67.25 334 IAMs_20 IAMs_20 22 26 57.2
comp=Z,1µm,20.0s
WHY Whitehorse 67.25 334 P **P 21 56 06.9 +1.1**
baz=118
PLBC Pleasant Camp 67.36 332 P **P 21 56 07.5 +1.1**
baz=116
FARO Faro, Yukon 67.37 336 P **P 21 56 07.9 +1.4**
baz=120
M31M Drury Creek, Y 67.78 336 IAMs_20 IAMs_20 22 31 04.1
comp=Z,2µm,19.0s
M31M Drury Creek, Y 67.78 336 P **P 21 56 09.5 +0.4**
baz=119
O30N Mendenhall 67.83 334 IAMs_20 IAMs_20 22 27 53.5
comp=Z,1µm,20.0s
O30N Mendenhall 67.83 334 P **P 21 56 10.2 +0.7**
baz=117
P30M Million Dollar 67.93 333 P **P 21 56 10.8 +0.7**
baz=116
N31M Braeburn, Yuko 68.02 335 P **P 21 56 10.6 -0.1**
baz=117
RES Resolute Bay 68.06 356 P **P 21 56 09.8 -0.8**
RES IAmb IAmb 21 56 15.9
comp=Z,56nm,1.9s
RES Resolute Bay 68.06 356 P **P 21 56 09.8 -0.8**
RES Resolute Bay 68.06 356 LR LR 22 28 04.1
comp=Z,1µm,18.4s,baz=164,slow=38
P29M Windy Craggy 68.07 332 P **P 21 56 10.9 -0.1**
baz=115
C36M Paulatuk 68.46 345 P **P 21 56 13.2 +0.1**
C36M Paulatuk 68.46 345 P **P 21 56 14.0 +0.9**
baz=132
HYT Haines Junctio 68.48 334 P **P 21 56 14.1 +0.5**
baz=115
N30M Aishikik Lake 68.57 334 P **P 21 56 14.6 +0.4**
N30M IAmb IAmb 21 56 33.8
comp=Z,16nm,1.1s
N30M IAMs_20 IAMs_20 22 31 05.1
comp=Z,1µm,18.0s
N30M Aishikik Lake 68.57 334 P **P 21 56 14.7 +0.6**
baz=116
O29M Mount Kennedy 68.73 333 P **P 21 56 15.8 +0.6**
baz=114
PNL Peninsula 68.86 332 P **P 21 56 16.7 +0.9**
baz=113
YUK6 Outpost Mounta 68.91 333 P **P 21 56 18.0 +1.5**
baz=115
M30M Minto, Yukon 68.95 335 P **P 21 56 17.5 +1.1**
baz=117,SNR=8.3
BCPM Bancas Point 69.08 332 IAMs_20 IAMs_20 22 28 04.5
comp=Z,2µm,20.0s
YUK4 Talbot Arm 69.20 334 P **P 21 56 18.8 +0.6**
baz=115
PINM Pinnacle 69.42 332 P **P 21 56 20.6 +1.2**
baz=113
M29M Somme Creek 69.58 335 P **P 21 56 21.6 +1.2**
baz=115
YUK8 Steele Glacier 69.67 333 P **P 21 56 22.1 +1.0**
baz=114
J30M Hart River 69.69 337 P **P 21 56 22.4 +1.3**
baz=118
L29M L29M 69.73 336 P **P 21 56 22.5 +1.2**
baz=116
K29M Barlow Dome 69.81 336 P **P 21 56 21.8 0.0**
K29M IAmb IAmb 21 56 41.0
comp=Z,20nm,0.9s
K29M Barlow Dome 69.81 336 P **P 21 56 21.9 0.0**
baz=116,SNR=9.0
SUMG Summit 69.97 12 P **P 21 56 22.7 -0.3**
SUMG Summit 69.97 12 P **P 21 56 22.7 -0.3**
SUMG pmax pmax
comp=Z,58nm,0.9s
SUMG Summit 69.97 12 *i* P **P 21 56 23.0 0.0**
SUMG IAmb IAmb 21 56 33.7
comp=Z,34nm,0.8s
I30M Mount Dempster 70.01 338 IAMs_20 IAMs_20 22 31 58.8
comp=Z,2µm,19.0s
I30M Mount Dempster 70.01 338 P **P 21 56 23.1 +0.1**
baz=118
LOGN Logan Glacier 70.04 333 IAMs_20 IAMs_20 22 32 45.1
comp=Z,1µm,19.0s
G31M Satah River 70.10 340 P **P 21 56 23.7 +0.3**
baz=121
YUK3 Moose Creek 70.17 334 P **P 21 56 24.5 +0.3**
baz=113
F31M Tsiigehtchic 70.19 341 P **P 21 56 24.6 +0.8**
baz=121,SNR=9.7
CTGM Chitina Glacie 70.25 333 IAMs_20 IAMs_20 22 32 51.6
comp=Z,1µm,19.0s
CTG Chitna Glacier 70.25 333 P **P 21 56 24.9 +0.3**
baz=112
J29N Klondike Camp 70.36 337 IAMs_20 IAMs_20 22 30 46.1
comp=Z,3µm,22.0s
J29N Klondike Camp 70.36 337 P **P 21 56 25.4 +0.3**
baz=116
BARN Barnard Glacie 70.43 333 IAMs_20 IAMs_20 22 32 57.3
comp=Z,1µm,20.0s
BORG Borgarnes 70.45 23 LR LR 22 25 16.5
comp=Z,1µm,19.9s,baz=235,slow=34
PFVI Vila Bisbo 70.50 53 IAMs_20 IAMs_20 22 24 38.8
comp=Z,1µm,19.0s
A36M Sachs Harbour 70.51 346 P **P 21 56 24.4 -1.4**
A36M Sachs Harbour 70.51 346 P **P 21 56 26.3 +0.5**
baz=131,SNR=44
INK Inuvik 70.58 341 P **P 21 56 25.8 -0.4**
INK IAmb IAmb 21 56 33.8
comp=Z,34nm,1.2s
INK Inuvik 70.58 341 P **P 21 56 26.9 +0.6**
baz=122,SNR=14
INK Inuvik 70.58 341 P **P 21 56 25.8 -0.4**
INK pmax pmax
comp=Z,34nm,1.2s
INK MLR MLR
comp=Z,3µm,21.0s
BVCY Beaver Creek 70.59 334 P **P 21 56 26.6 0.0**
baz=113
DAWY Dawson 70.65 336 P **P 21 56 26.4 -0.5**
DAWY Dawson 70.65 336 P **P 21 56 27.5 +0.6**
baz=115,SNR=7.7
MORF Marmelete 70.66 53 *e*P **P 21 56 29.0 +1.5**
comp=Z,110nm,2.0s
EPYK Eagle Plains 70.68 339 IAMs_20 IAMs_20 22 30 05.4
comp=Z,851nm,19.0s
EPYK Eagle Plains 70.68 339 P **P 21 56 27.7 +0.8**
baz=118
I29M Ogilvie Camp, 70.79 338 P **P 21 56 28.0 +0.4**
baz=116
G30M tAoh Zraii Nji 70.80 340 P **P 21 56 29.1 +1.4**
baz=119
F30M Barrier River 70.95 340 P **P 21 56 29.4 +0.8**
baz=119
M27K Edge Creek, AK 71.01 334 P **P 21 56 30.6 +1.4**
baz=112,SNR=5.1
MESJ Messejana 71.06 53 IAMs_20 IAMs_20 22 30 12.4
comp=Z,1µm,20.0s
PCAS Casmilo, Conde 71.08 50 *e*P **P 21 56 31.9 +2.0**
comp=Z,115nm,1.7s
MCARA McCarthy VSAT 71.16 333 P **P 21 56 30.5 +0.5**
MCARA IAmb IAmb 21 56 38.5
comp=Z,26nm,1.1s
MCARA IAMs_20 IAMs_20 22 31 39.7
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 71.16 333 P **P 21 56 30.8 +0.9**
baz=110
COI Coimbra 71.16 50 P **P 21 56 30.1 -0.3**
COI Coimbra 71.16 50 P **P 21 56 30.1 -0.3**
COI pmax pmax
comp=Z,179nm,1.6s
COI MLR MLR
comp=Z,3µm,22.0s
H29M Whitestone 71.20 339 P **P 21 56 31.0 +0.9**
baz=116
BCAR Beaver Creek A 71.24 335 P **P 21 56 30.3 -0.1**
L27K Beaver Creek, 71.25 335 IAMs_20 IAMs_20 22 32 05.9
comp=Z,1µm,20.0s

L27K	**Beaver Creek,** baz=112	71.25	335	P		**P**	**21 56 31.4**	**+0.8**
VRDI	**Verde Repeater**	71.30	333	P		**P**	**21 56 31.4**	**+0.4**
VRDI	comp=Z,42nm,1.6s			IAmb		IAmb	21 56 42.6	
VRDI	comp=Z,2µm,20.0s			IAMs_20		IAMs_20	22 33 26.4	
KAIM	**Kayak Island** baz=109	71.32	331	P		**P**	**21 56 31.8**	**+0.9**
AVE	**Averroes** comp=Z,1µm,21.0s	71.34	57	IAMs_20		IAMs_20	22 25 09.3	
G29M	**Pine Creek** baz=117	71.39	339	P		**P**	**21 56 32.7**	**+1.4**
I28M	**Miner Creek** baz=115	71.45	338	P		**P**	**21 56 33.2**	**+1.5**
PGAV	**Gavieira, Arco** comp=Z,63nm,1.7s	71.48	48	*e*P		**P**	**21 56 35.6**	**+3.2**
PGAV	**Gavieira, Arco** comp=Z,1µm,20.0s	71.48	48	*e*LR		LR	22 18 44.8	
M26K	**Nabesna, AK** comp=Z,1µm,22.0s	71.51	334	IAMs_20		IAMs_20	22 30 03.8	
M26K	**Nabesna, AK** baz=111	71.51	334	P		**P**	**21 56 32.8**	**+0.7**
GLB	**Gilahina Butte**	71.54	333	P		**P**	**21 56 32.7**	**+0.4**
GLB	comp=Z,41nm,1.6s			IAmb		IAmb	21 56 54.7	
GLB	comp=Z,2µm,21.0s			IAMs_20		IAMs_20	22 29 40.6	
PVIS	**Viseu**	71.61	50	*e*P		**P**	**21 56 33.2**	**0.0**
EGAK	**Eagle**	71.64	337	P		**P**	**21 56 33.0**	**+0.2**
EGAK	comp=Z,26nm,1.3s			IAmb		IAmb	21 56 59.8	
EGAK	**Eagle** baz=113,SNR=10	71.64	337	P		**P**	**21 56 33.7**	**+0.9**
PESTR	**Estremoz** comp=Z,71nm,1.6s	71.65	52	*e*P		**P**	**21 56 34.6**	**+1.2**
PESTR	**Estremoz**	71.65	52	P		**P**	**21 56 33.3**	**-0.1**
PESTR	comp=Z,1µm,22.0s			IAMs_20		IAMs_20	22 22 57.0	
K27K	**Chicken** baz=112	71.72	336	P		**P**	**21 56 34.1**	**+0.8**
BMRM	**Bremner River** baz=109	71.74	332	P		**P**	**21 56 34.9**	**+1.3**
POLO	**Lamas de Olo** comp=Z,25nm,1.5s	71.76	49	*e*P		**P**	**21 56 36.1**	**+2.0**
PVRL	**Vila Real** comp=Z,58nm,1.7s	71.81	49	*e*P		**P**	**21 56 35.3**	**+0.9**
PCBR	**Castelo Branco** comp=Z,52nm,1.5s	71.84	51	*e*P		**P**	**21 56 35.6**	**+1.1**
MTE	**Manteigas** comp=Z,2µm,24.0s	71.84	50	*e*LR		LR	22 18 54.2	
PMRV	**Marv??o** comp=Z,974nm,24.0s	71.86	51	*e*LR		LR	22 18 58.0	
NEEM	**North Greenlan**	71.88	6	*i* P		**P**	**21 56 34.4**	**0.0**
NEEM	comp=Z,20nm,0.8s			IAmb		IAmb	21 56 50.2	
L26K	**Log Cabin Wild** baz=111	71.88	335	P		**P**	**21 56 35.6**	**+1.2**
N25K	**Chitina, Valde** comp=Z,1µm,20.0s	71.95	333	IAMs_20		IAMs_20	22 29 52.5	
N25K	**Chitina, Valde** baz=109	71.95	333	P		**P**	**21 56 35.6**	**+0.7**
MENT	**Mentasta** comp=Z,1µm,19.0s	72.01	334	IAMs_20		IAMs_20	22 34 20.0	
PBAR	**Barrancos** comp=Z,60nm,1.7s	72.02	52	*e*P		**P**	**21 56 37.8**	**+2.2**
E29M	**Blow River** comp=Z,1µm,19.0s	72.03	341	IAMs_20		IAMs_20	22 33 08.9	
E29M	**Blow River** baz=118	72.03	341	P		**P**	**21 56 36.7**	**+1.6**
Q23K	**Middleton Isla** baz=107	72.10	330	P		**P**	**21 56 36.8**	**+1.2**
EYAK	**Cordova Ski Ar** baz=108	72.14	332	P		**P**	**21 56 36.5**	**+0.6**
I27K	**Kandik River** baz=113,SNR=17	72.15	337	P		**P**	**21 56 36.9**	**+1.0**
MVO	**Moncorvo** comp=Z,51nm,1.6s	72.31	49	*e*P		**P**	**21 56 38.0**	**+0.6**
MVO	**Moncorvo** comp=Z,2µm,22.0s	72.31	49	*e*LR		LR	22 19 19.2	
F28M	**Old Crow** comp=Z,1µm,18.0s	72.34	340	IAMs_20		IAMs_20	22 31 07.5	
F28M	**Old Crow** baz=115,SNR=12	72.34	340	P		**P**	**21 56 37.9**	**+0.9**
H27K	**Steamboat Moun** baz=113	72.36	338	P		**P**	**21 56 38.6**	**+1.4**
HARP	**HAARP** baz=109	72.46	334	P		**P**	**21 56 38.2**	**+0.4**
SCRK	**Sand Creek**	72.49	335	P		**P**	**21 56 38.8**	**+0.7**
SCRK	**Sand Creek** baz=110,SNR=10	72.49	335	P		**P**	**21 56 38.8**	**+0.7**
J26L	**Joseph Creek** baz=111	72.50	336	P		**P**	**21 56 39.8**	**+1.7**
KLU	**Klutina** baz=108	72.51	333	P		**P**	**21 56 39.9**	**+1.7**
SFS	**San Fernando** comp=Z,974nm,20.0s	72.54	54	IAMs_20		IAMs_20	22 23 03.9	
PBRG	**Braganca** comp=Z,49nm,1.8s	72.60	49	*e*P		**P**	**21 56 43.0**	**+3.9**
I26K	**Coal Creek Min** comp=Z,1µm,20.0s	72.63	337	IAMs_20		IAMs_20	22 32 13.5	
I26K	**Coal Creek Min** baz=112	72.63	337	P		**P**	**21 56 39.5**	**+0.8**
E28M	**Babbage River** comp=Z,1µm,20.0s	72.66	341	IAMs_20		IAMs_20	22 33 41.5	
E28M	**Babbage River** baz=116	72.66	341	P		**P**	**21 56 40.3**	**+1.4**
D28M	**Stokes Point** baz=117	72.73	341	P		**P**	**21 56 40.7**	**+1.5**
RIDG	**Independent Ri**	72.76	335	P		**P**	**21 56 40.1**	**+0.5**
RIDG	comp=Z,29nm,0.8s			IAmb		IAmb	21 56 53.0	
RIDG	comp=Z,2µm,21.0s			IAMs_20		IAMs_20	22 32 05.9	
RIDG	**Independent Ri** baz=109,SNR=18	72.76	335	P		**P**	**21 56 41.2**	**+1.6**
P23K	**Montague Islan** baz=106	72.77	331	P		**P**	**21 56 41.4**	**+1.8**
PAX	**Paxson** baz=109	72.78	334	P		**P**	**21 56 40.7**	**+1.0**
M24K	**Tolsona, Glenn** baz=108	72.82	333	P		**P**	**21 56 41.1**	**+1.2**
K24K	**Donnelly Dome** baz=109	73.18	335	P		**P**	**21 56 43.2**	**+1.2**
PPT	**Papeete** comp=Z,2µm,18.0s,baz=27,slow=30	73.20	249	LR		LR	22 21 44.2	
PPT2	**Papeete2** comp=Z,114nm,23.0s	73.20	249	*e*P		**P**	**21 56 41.3**	**-1.8**
PPT2	comp=Z,486nm,26.8s			*e*S		S	22 06 02.4	-9.4
PPT2	comp=Z,354nm,25.0s			*e*SS		**SS**	**22 10 49.3**	**-4.3**
PPT2	comp=Z,1µm,28.0s			*e*LQ		LQ	22 15 52.3	
PPT2	comp=Z,3µm,23.2s			*e*LR		LR	22 19 03.4	
PPT2	comp=Z,2µm,24.8s			*e*LR		LR	22 19 04.5	
SCM	**Sheep Creek Mo**	73.25	333	P		**P**	**21 56 42.5**	**0.0**
SCM	comp=Z,2µm,21.0s			IAMs_20		IAMs_20	22 30 46.0	
SCM	**Sheep Creek Mo** baz=106	73.25	333	P		**P**	**21 56 42.8**	**+0.2**
SCM	**Sheep Creek Mo**	73.25	333	P		**P**	**21 56 42.6**	**0.0**
SCM	comp=Z,92nm,1.8s			pmax		pmax		
SCM	comp=Z,2µm,21.0s			MLR		MLR		
J25K	**Salcha River,** baz=109,SNR=23	73.27	336	P		**P**	**21 56 43.5**	**+0.9**
D27M	**Malcolm River** comp=Z,1µm,19.0s	73.41	341	IAMs_20		IAMs_20	22 33 12.4	
D27M	**Malcolm River** baz=115	73.41	341	P		**P**	**21 56 44.7**	**+1.4**
M23K	**Glacier View** baz=106	73.42	333	P		**P**	**21 56 43.5**	**0.0**
G26K	**Porcupine Rive** baz=111	73.47	338	P		**P**	**21 56 44.6**	**+0.9**
PRP	**Porcupine Dome** comp=Z,2µm,20.0s	73.63	337	IAMs_20		IAMs_20	22 32 55.7	
PRP	**Porcupine Dome** baz=109,SNR=8.2	73.63	337	P		**P**	**21 56 45.4**	**+0.6**
DHY	**Denali Highway** comp=Z,1µm,20.0s	73.64	334	IAMs_20		IAMs_20	22 32 12.0	
DHY	**Denali Highway** baz=107	73.64	334	P		**P**	**21 56 45.3**	**+0.4**
WAT6	**Susitna Watana** baz=106,SNR=9.9	73.65	333	P		**P**	**21 56 44.8**	**-0.2**
KNK	**Knik Glacier**	73.66	332	P		**P**	**21 56 44.8**	**-0.1**
KNK	comp=Z,73nm,1.7s			IAmb		IAmb	21 57 26.9	
KNK	**Knik Glacier** baz=105	73.66	332	P		**P**	**21 56 44.6**	**-0.3**
MDT	**Midelt** comp=Z,572nm,19.6s,baz=281,slow=34	73.67	58	LR		LR	22 27 12.9	
SML	**Sawmill** comp=Z,1µm,19.0s	73.70	333	IAMs_20		IAMs_20	22 30 59.0	
SML	**Sawmill** baz=106	73.70	333	P		**P**	**21 56 46.1**	**+0.9**
SEW	**Seward** baz=104	73.79	331	P		**P**	**21 56 46.3**	**+0.7**
HDA	**Harding Lake** baz=108,SNR=18	73.85	335	P		**P**	**21 56 47.4**	**+1.4**
F26K	**Sheenjek River** baz=111	73.88	339	P		**P**	**21 56 46.9**	**+0.8**
BMAR	**Burnt Mountain**	73.94	339	P		**P**	**21 56 46.3**	**-0.1**
IL31		73.94	336	P		**P**	**21 56 46.0**	**-0.4**
ILAR	**Eielson Array**	73.94	336	P		**P**	**21 56 46.0**	**-0.5**
ILAR	**Eielson Array** comp=Z,4.5nm,0.7s,baz=106,slow=3.5,SNR=19	73.94	336	P		**P**	**21 56 46.5**	**+0.1**
ILAR	comp=Z,1µm,18.5s,baz=96,slow=40 comp=Z,4.5nm,0.7s			LR		LR	22 33 47.8	
O22K	**Cooper Landing** baz=104	74.02	331	P		**P**	**21 56 47.2**	**+0.3**
PMR	**Palmer** baz=105	74.02	332	P		**P**	**21 56 48.0**	**+1.1**
WAT1	**Susitna Watana** baz=106	74.08	334	P		**P**	**21 56 47.2**	**-0.2**
TIC	**Toumodi** comp=Z,10nm,0.7s	74.09	85⇑	*e*PKP1		**P**	**21 56 49.3**	**+1.0**
LIC	**Lamto** comp=Z,32nm,0.9s	74.12	86⇑	*e*PKP1		**P**	**21 56 48.9**	**+0.4**
RC01	**Rabbit Creek A**	74.17	332	P		**P**	**21 56 48.2**	**+0.3**
RC01	comp=Z,21nm,1.1s			IAmb		IAmb	21 57 18.2	
RC01	comp=Z,1µm,20.0s			IAMs_20		IAMs_20	22 33 44.4	
RC01	**Rabbit Creek A** baz=104	74.17	332	P		**P**	**21 56 48.7**	**+0.8**
PAB	**San Pablo**	74.22	51	P		**P**	**21 56 49.2**	**+0.5**
PAB	**San Pablo**	74.22	51	P		**P**	**21 56 49.2**	**+0.5**
PAB	comp=Z,98nm,1.8s			pmax		pmax		
PAB	comp=Z,2µm,21.0s			MLR		MLR		
DBIC	**Dimbokro**	74.25	85	P		**P**	**21 56 49.2**	**0.0**
DBIC	comp=Z,44nm,1.2s			IAmb		IAmb	21 56 56.5	
DBIC	**Dimbokro** comp=Z,10nm,0.9s,baz=264,slow=5.1,SNR=12	74.25	85	P		**P**	**21 56 49.1**	**0.0**
DBIC	comp=Z,1µm,20.6s,baz=256,slow=34 comp=Z,10nm,0.9s			LR		LR	22 26 49.5	
POKR	**Poker Flat Res** comp=Z,1µm,20.0s	74.27	336	IAMs_20		IAMs_20	22 33 26.5	
POKR	**Poker Flat Res** baz=107	74.27	336	P		**P**	**21 56 49.1**	**+0.7**
G25K	**Bearman Lake** baz=109	74.27	338	P		**P**	**21 56 49.1**	**+0.8**
CCB	**Clear Creek Bu** comp=Z,1µm,20.0s	74.28	335	IAMs_20		IAMs_20	22 32 28.9	
BRSE	**Bradley Lake S** baz=103	74.34	330	P		**P**	**21 56 50.2**	**+1.3**
COLA	**College**	74.36	336	P		**P**	**21 56 48.4**	**-0.5**
COLA	**College** comp=Z,1µm,20.0s	74.36	336	IAMs_20		IAMs_20	22 32 53.2	
COLA	**College** baz=107	74.36	336	P		**P**	**21 56 49.1**	**+0.3**
COLA	**College**	74.36	336	P		**P**	**21 56 48.4**	**-0.5**
COLA	comp=Z,12nm,0.8s			pmax		pmax		
COLA	comp=Z,2µm,20.0s			MLR		MLR		
F25K	**Christian Rive** baz=110	74.38	339	P		**P**	**21 56 50.2**	**+1.2**
KIC	**Kosan Boka** comp=Z,19nm,0.9s	74.39	85⇑	*e*PKP1		**P**	**21 56 49.8**	**-0.3**
BRLK	**Bradley Lake**	74.41	330	P		**P**	**21 56 49.4**	**+0.1**
MCK	**McKinley** baz=106	74.50	334	P		**P**	**21 56 50.1**	**+0.4**
TBI	**Tubuai** comp=Z,319nm,24.2s	74.50	243	*e*P		**P**	**21 56 47.1**	**-3.4**
TBI	comp=Z,2µm,29.8s			*e*S		**SKiKP**	**22 06 20.3**	**+2.8**
TBI	comp=Z,1µm,27.2s			*e*SS		**SS**	**22 11 14.5**	**+1.5**
TBI	comp=Z,14µm,34.8s			*e*LQ		LQ	22 16 36.8	
TBI	comp=Z,27µm,25.8s			*e*LR		LR	22 19 44.4	
TBI	comp=Z,6µm,26.2s			*e*LR		LR	22 19 46.1	
ESDC	**Sonseca Array**	74.52	51	P		**P**	**21 56 50.5**	**0.0**
ESDC	comp=Z,2µm,22.0s			IAMs_20		IAMs_20	22 23 46.0	
ESDC	**Sonseca Array** comp=Z,20nm,1.3s,baz=276,slow=5.0,SNR=20	74.52	51	P		**P**	**21 56 50.9**	**+0.4**
ESDC	comp=Z,1µm,22.0s,baz=259,slow=32 comp=Z,20nm,1.3s			LR		LR	22 24 54.9	
ESBB	**Sonseca Array**	74.52	51	P		**P**	**21 56 50.5**	**+0.1**
ESBB	comp=Z,2µm,22.0s			IAMs_20		IAMs_20	22 23 46.0	
E25K	**Arctic Village** baz=110,SNR=18	74.53	339	P		**P**	**21 56 50.6**	**+0.7**
ES01	**SONSECA Array** comp=Z,1µm,21.0s	74.53	51	IAMs_20		IAMs_20	22 34 10.3	
ES18	**SONSECA Array** comp=Z,2µm,22.0s	74.53	51	IAMs_20		IAMs_20	22 24 19.3	
MDM	**Murphy Dome**	74.54	336	P		**P**	**21 56 50.2**	**+0.2**
MDM	comp=Z,51nm,1.8s			IAmb		IAmb	21 57 14.8	
MDM	comp=Z,1µm,20.0s			IAMs_20		IAMs_20	22 32 57.9	
ES10	**SONSECA Array** comp=Z,2µm,22.0s	74.57	51	IAMs_20		IAMs_20	22 24 25.2	
ES09	**SONSECA Array** comp=Z,2µm,21.0s	74.57	51	IAMs_20		IAMs_20	22 22 57.3	
H24K	**Noodor Dome** comp=Z,1µm,21.0s	74.66	337	IAMs_20		IAMs_20	22 28 15.9	
H24K	**Noodor Dome** baz=107	74.66	337	P		**P**	**21 56 50.9**	**+0.2**
SUA	**Susitna One** comp=Z,1µm,21.0s	74.73	332	IAMs_20		IAMs_20	22 34 00.2	
SUA	**Susitna One** baz=103	74.73	332	P		**P**	**21 56 51.3**	**0.0**
CUT	**Chulitna** comp=Z,1µm,21.0s	74.74	333	IAMs_20		IAMs_20	22 31 30.2	
CUT	**Chulitna** baz=104	74.74	333	P		**P**	**21 56 52.0**	**+0.8**
G24K	**Hadweenzic Riv** comp=Z,2µm,22.0s	74.77	338	IAMs_20		IAMs_20	22 32 36.9	
G24K	**Hadweenzic Riv** baz=108	74.77	338	P		**P**	**21 56 52.6**	**+1.4**
NEA2	**Nenana** comp=Z,1µm,19.0s	74.79	335	IAMs_20		IAMs_20	22 33 26.3	
NEA2	**Nenana** baz=106	74.79	335	P		**P**	**21 56 53.0**	**+1.6**
BWN	**Brwne** comp=Z,1µm,19.0s	74.84	335	IAMs_20		IAMs_20	22 34 45.9	
KDAK	**Kodiak Island** baz=101	74.87	328	P		**P**	**21 56 53.3**	**+1.3**
KDAK	**Kodiak Island** comp=Z,840nm,19.6s,baz=105,slow=38	74.87	328	LR		LR	22 32 18.8	
Q20K	**Shuyak Island** baz=101	74.93	329	P		**P**	**21 56 52.3**	**0.0**
C26K	**Camden Bay** baz=111,SNR=18	74.95	341	P		**P**	**21 56 52.4**	**+0.3**
TRF	**Thorofare Moun**	75.01	334	P		**P**	**21 56 52.5**	**-0.4**
TRF	comp=Z,37nm,1.4s			IAmb		IAmb	21 57 18.7	
TRF	**Thorofare Moun** baz=104	75.01	334	P		**P**	**21 56 52.7**	**-0.2**
I23K	**Minto, Yukon-K** comp=Z,1µm,19.0s	75.06	336	IAMs_20		IAMs_20	22 34 01.4	
I23K	**Minto, Yukon-K** baz=106,SNR=7.8	75.06	336	P		**P**	**21 56 53.0**	**+0.1**
OHAK	**Old Harbor** baz=100	75.14	327	P		**P**	**21 56 54.2**	**+0.7**
F24K	**Squaw Lake** baz=108	75.17	338	P		**P**	**21 56 54.8**	**+1.2**
SKT	**Skwentna**	75.22	332	P		**P**	**21 56 53.8**	**-0.2**
SKT	comp=Z,43nm,1.5s			IAmb		IAmb	21 57 20.0	
SKT	comp=Z,1µm,19.0s			IAMs_20		IAMs_20	22 33 55.9	
SKT	**Skwentna** baz=103,SNR=5.2	75.22	332	P		**P**	**21 56 54.6**	**+0.6**
D25K	**Kavik River** baz=110	75.22	340	P		**P**	**21 56 54.8**	**+0.9**
KTH	**Kantishna Hill**	75.31	334	P		**P**	**21 56 54.5**	**0.0**
O20K	**Slope Mountain** baz=101	75.34	330	P		**P**	**21 56 55.0**	**+0.3**
N20K	**Mount Spurr** baz=102	75.36	331	P		**P**	**21 56 55.2**	**+0.3**
BPAW	**Bear Paw Mtn.** comp=Z,1µm,20.0s	75.47	335	IAMs_20		IAMs_20	22 36 25.4	
BPAW	**Bear Paw Mtn.** baz=104	75.47	335	P		**P**	**21 56 55.2**	**-0.2**
SII	**Sitkinak Islan** baz=99	75.52	327	P		**P**	**21 56 54.9**	**-0.9**
P19K	**Oil Pt** baz=101	75.56	330	P		**P**	**21 56 56.5**	**+0.6**
MLY	**Manley**	75.59	336	P		**P**	**21 56 55.4**	**-0.7**
MLY	comp=Z,18nm,1.0s			IAmb		IAmb	21 57 03.6	
MLY	comp=Z,1µm,21.0s			IAMs_20		IAMs_20	22 33 39.6	
MLY	**Manley** baz=104	75.59	336	P		**P**	**21 56 56.6**	**+0.5**
Q19K	**Cape Douglas,** comp=Z,1µm,20.0s	75.63	329	IAMs_20		IAMs_20	22 30 10.2	
Q19K	**Cape Douglas,** baz=100	75.63	329	P		**P**	**21 56 57.0**	**+0.6**
PPLA	**Purkeypile** baz=102	75.72	333	P		**P**	**21 56 57.3**	**+0.3**
G23K	**Bananza Creek** comp=Z,1µm,19.0s	75.74	337	IAMs_20		IAMs_20	22 36 34.4	
G23K	**Bananza Creek** baz=105	75.74	337	P		**P**	**21 56 57.1**	**+0.2**
CAST	**Castle Rocks** comp=Z,1µm,21.0s	75.78	334	IAMs_20		IAMs_20	22 32 38.8	
CAST	**Castle Rocks** baz=103,SNR=7.7	75.78	334	P		**P**	**21 56 57.1**	**0.0**
M20K	**Styx River** baz=101	75.94	332	P		**P**	**21 56 57.9**	**-0.3**
COLD	**Coldfoot**	75.94	338	P		**P**	**21 56 57.7**	**-0.3**
COLD	**Coldfoot** baz=105	75.94	338	P		**P**	**21 56 58.0**	**0.0**
E23K	**Chandalar** baz=106	75.96	339	P		**P**	**21 56 57.7**	**-0.5**
CHUM	**Lake Minchumin** baz=102	75.99	334	P		**P**	**21 56 59.4**	**+1.1**
D24K	**Happy Valley** comp=Z,2µm,21.0s	75.99	340	IAMs_20		IAMs_20	22 33 09.1	
D24K	**Happy Valley** baz=107	75.99	340	P		**P**	**21 56 59.5**	**+1.3**
H22K	**Ishtalitna Cre** baz=104	76.06	336	P		**P**	**21 56 59.4**	**+0.7**
C24K	**Franklin Bluff** baz=107	76.12	340	P		**P**	**21 56 59.8**	**+0.9**
I21K	**Tanana** comp=Z,1µm,20.0s	76.14	336	IAMs_20		IAMs_20	22 33 58.0	
I21K	**Tanana** baz=103,SNR=8.4	76.14	336	P		**P**	**21 56 59.9**	**+0.8**
O19K	**Port Alsworth** comp=Z,1µm,22.0s	76.19	330	IAMs_20		IAMs_20	22 30 28.9	
O19K	**Port Alsworth** baz=100	76.19	330	P		**P**	**21 57 00.2**	**+0.7**
G22K	**Bettles** baz=104	76.36	337	P		**P**	**21 57 01.5**	**+1.1**
N19K	**Bonanza Creek** baz=100	76.38	331	P		**P**	**21 57 01.6**	**+0.9**
L20K	**Farewell, AK** baz=101	76.40	333	P		**P**	**21 57 01.6**	**+0.9**
ESK	**Eskdalemuir**	76.50	35	P		**P**	**21 57 01.3**	**0.0**
ESK	**Eskdalemuir**	76.50	35	P		**P**	**21 57 01.3**	**0.0**
ESK	comp=Z,210nm,1.9s			pmax		pmax		
P18K	**Big Mountain,** baz=99	76.51	329	P		**P**	**21 57 02.7**	**+1.2**
EKA	**Eskdalemuir Ar** comp=Z,8.1nm,1.0s,baz=249,slow=7.0,SNR=4.3 comp=Z,8.1nm,1.0s	76.52	35	P		**P**	**21 57 01.7**	**+0.2**
M19K	**Big River Lodg** baz=100	76.53	332	P		**P**	**21 57 01.1**	**-0.3**
O18K	**Koktuh Hills** comp=Z,1µm,20.0s	76.58	330	IAMs_20		IAMs_20	22 32 34.1	
O18K	**Koktuh Hills** baz=99	76.58	330	P		**P**	**21 57 01.8**	**0.0**
H21K	**Melozitna Rive** comp=Z,1µm,20.0s	76.58	336	IAMs_20		IAMs_20	22 30 09.7	
H21K	**Melozitna Rive** baz=102	76.58	336	P		**P**	**21 57 01.6**	**0.0**
D23K	**Nanushuk River** baz=105	76.58	339	P		**P**	**21 57 01.8**	**+0.2**
K20K	**Telida** comp=Z,1µm,20.0s	76.65	334	IAMs_20		IAMs_20	22 34 17.6	
K20K	**Telida** baz=101	76.65	334	P		**P**	**21 57 01.2**	**-0.9**
Q17K	**Contact Creek** baz=98	76.69	328	P		**P**	**21 57 01.6**	**-0.9**
E22K	**Anaktuvuk Pass** baz=104	76.77	339	P		**P**	**21 57 02.4**	**-0.3**
L19K	**White Mountain** baz=100	76.79	332	P		**P**	**21 57 02.4**	**-0.5**
J20K	**Nowinta River** comp=Z,1µm,20.0s	76.84	334	IAMs_20		IAMs_20	22 36 10.6	
J20K	**Nowinta River** baz=101,SNR=8.4	76.84	334	P		**P**	**21 57 03.0**	**-0.1**
IMAR	**Indian Mountai**	77.03	336	P		**P**	**21 57 03.9**	**-0.2**
N18K	**Kilae Creek** comp=Z,1µm,20.0s	77.04	331	IAMs_20		IAMs_20	22 32 34.3	
N18K	**Kilae Creek** baz=98	77.04	331	P		**P**	**21 57 04.0**	**-0.4**
G21K	**Allakaket** comp=Z,1µm,20.0s	77.04	337	IAMs_20		IAMs_20	22 35 27.5	
G21K	**Allakaket** baz=102,SNR=9.6	77.04	337	P		**P**	**21 57 03.8**	**-0.4**
I20K	**Naaghedeneel** comp=Z,903nm,19.0s	77.09	335	IAMs_20		IAMs_20	22 34 48.4	
I20K	**Naaghedeneel** baz=101	77.09	335	P		**P**	**21 57 04.8**	**+0.3**
P17K	**Kvichak River** baz=98	77.10	329	P		**P**	**21 57 04.2**	**-0.4**
M18K	**Stony River** baz=99	77.13	331	P		**P**	**21 57 04.2**	**-0.6**
Q16K	**King Salmon** baz=97	77.14	329	P		**P**	**21 57 04.6**	**-0.3**
F21K	**Alatna River** baz=102	77.19	337	P		**P**	**21 57 04.6**	**-0.4**
JMIC	**Jan Mayen** comp=Z,443nm,22.0s,baz=256,slow=34	77.21	19	LR		LR	22 28 49.8	
D22K	**Ayikyak River** baz=103	77.26	339	P		**P**	**21 57 05.0**	**-0.4**
H20K	**Anotleneega Mo** baz=100	77.39	336	P		**P**	**21 57 05.3**	**-1.0**
J19K	**Poorman** baz=100	77.44	334	P		**P**	**21 57 06.9**	**+0.4**
TTA	**Tatalina** comp=Z,984nm,18.0s	77.44	333	IAMs_20		IAMs_20	22 37 29.7	
TTA	**Tatalina** baz=99	77.44	333	P		**P**	**21 57 07.4**	**+0.8**
R16K	**Pilot Point** baz=96	77.49	327	P		**P**	**21 57 07.8**	**+0.9**
O17K	**Koliganek Bris** baz=97	77.51	330	P		**P**	**21 57 07.6**	**+0.6**
E21K	**Killik River** baz=102	77.62	339	P		**P**	**21 57 07.6**	**+0.1**
L18K	**Granite Mounta** comp=Z,960nm,22.0s	77.64	332	IAMs_20		IAMs_20	22 38 06.1	
L18K	**Granite Mounta** baz=98	77.64	332	P		**P**	**21 57 07.5**	**-0.2**
N17K	**Nushagak Hills** baz=97	77.65	330	P		**P**	**21 57 07.9**	**+0.2**
CHGN	**Chignik** baz=95	77.82	326	P		**P**	**21 57 09.6**	**+0.9**
J18K	**Innoko River** baz=98	77.84	333	P		**P**	**21 57 09.4**	**+0.6**
B22K	**Teshekpuk Lake** baz=103	77.85	341	P		**P**	**21 57 09.6**	**+1.0**
P16K	**Nushagak River** baz=96	77.87	329	P		**P**	**21 57 10.0**	**+1.0**
M17K	**Holitna River** comp=Z,1µm,22.0s	77.89	331	IAMs_20		IAMs_20	22 31 30.6	
M17K	**Holitna River** baz=97	77.89	331	P		**P**	**21 57 09.9**	**+0.9**
O16K	**Kokwok River B** comp=Z,1µm,21.0s	77.99	329	IAMs_20		IAMs_20	22 32 11.5	
O16K	**Kokwok River B** baz=96	77.99	329	P		**P**	**21 57 10.6**	**+1.0**
F20K	**Avaraart Lake** comp=Z,2µm,22.0s	78.01	337	IAMs_20		IAMs_20	22 33 37.5	

F20K Avaraart Lake 78.01 337 P **P** 21 57 10.3 +0.7
baz=100
H19K Roundabout Mou 78.04 336 IAMs_20 IAMs_20 22 32 11.0
comp=Z,1µm,21.0s
H19K Roundabout Mou 78.04 336 P **P** 21 57 10.8 +1.0
baz=99
C21K Knifeblade Rid 78.06 339 P **P** 21 57 10.3 +0.4
baz=101
GCSA Galena City Sc 78.10 335 P **P** 21 57 10.0 -0.1
baz=98
CHNA Chernabura Isl 78.36 324 P **P** 21 57 12.2 +0.4
baz=94
L17K Donlin 78.38 332 P **P** 21 57 12.5 +0.7
baz=97
E20K Nigu River 78.40 338 P **P** 21 57 12.8 +1.0
baz=100
G19K Purcell Mounta 78.40 336 IAMs_20 IAMs_20 22 31 15.7
comp=Z,1µm,20.0s
G19K Purcell Mounta 78.40 336 P **P** 21 57 12.6 +0.8
baz=99,SNR=11
N16K Nishlik Lake 78.42 330 P **P** 21 57 12.3 +0.3
baz=96
S14K Fog Glacier 78.45 326 P **P** 21 57 12.8 +0.4
baz=94
K17K Iditarod 78.45 333 IAMs_20 IAMs_20 22 33 56.5
comp=Z,1µm,20.0s
K17K Iditarod 78.45 333 P **P** 21 57 13.0 +0.9
baz=97
M16K Timber Creek 78.57 331 P **P** 21 57 13.8 +1.0
baz=96
D20K Etivluk River 78.63 339 P **P** 21 57 14.2 +1.2
baz=100
E19K Redstone River 78.66 337 P **P** 21 57 14.6 +1.4
baz=99
F19K Shaleruckik Mo 78.77 337 IAMs_20 IAMs_20 22 34 59.4
comp=Z,1µm,21.0s
F19K Shaleruckik Mo 78.77 337 P **P** 21 57 14.9 +1.1
baz=98
H18K Honhosa River 78.78 335 IAMs_20 IAMs_20 22 37 46.7
comp=Z,999nm,20.0s
H18K Honhosa River 78.78 335 P **P** 21 57 14.4 +0.5
baz=97,SNR=7.0
O15K Ungalikthiuk R 78.83 329 P **P** 21 57 14.6 +0.3
baz=95
L16K Owhat River 78.89 331 IAMs_20 IAMs_20 22 32 36.1
comp=Z,1µm,22.0s
L16K Owhat River 78.89 331 P **P** 21 57 14.8 +0.2
baz=96
SDPT Sand Point 78.90 325 P **P** 21 57 14.0 -0.8
baz=93
G18K Tagagawik 79.00 336 IAMs_20 IAMs_20 22 32 49.6
comp=Z,1µm,22.0s
G18K Tagagawik 79.00 336 P **P** 21 57 15.3 +0.2
baz=97,SNR=9.1
B20K Meade River 79.04 340 P **P** 21 57 16.0 +0.8
baz=99
N15K Kwethluk River 79.05 330 P **P** 21 57 15.3 -0.3
baz=95
A21K Barrow 79.08 341 P **P** 21 57 15.6 +0.2
baz=100
D19K Kuna River 79.14 338 P **P** 21 57 16.8 +0.9
baz=98
M15K Kasigluk River 79.39 330 P **P** 21 57 17.8 +0.5
baz=94
H17K Granite Mounta 79.41 335 P **P** 21 57 17.9 +0.5
baz=96
F18K Selawik 79.48 336 P **P** 21 57 18.5 +0.8
baz=96,SNR=6.0
J16K Anvik River 79.56 333 P **P** 21 57 18.4 +0.2
baz=95
O14K Tigyukauivet M 79.57 329 IAMs_20 IAMs_20 22 34 47.5
comp=Z,1µm,19.0s
O14K Tigyukauivet M 79.57 329 P **P** 21 57 19.6 +1.2
baz=94
I17K Unalakleet 79.65 334 P **P** 21 57 20.1 +1.4
baz=95
C19K Lookout Ridge 79.75 339 P **P** 21 57 19.9 +0.7
baz=97
G17K Kiwalik Mounta 79.78 335 P **P** 21 57 19.6 +0.2
baz=95
N14K Kuskokwak Cree 79.83 330 P **P** 21 57 19.5 -0.2
baz=93
L15K Ungalak Mounta 79.84 331 P **P** 21 57 19.9 +0.2
baz=94
K15K Wolf Creek Mou 79.91 332 P **P** 21 57 20.3 +0.2
baz=94
E18K Tukpahlearik C 79.94 337 P **P** 21 57 20.0 -0.2
baz=96
M14K Bethel 80.01 330 P **P** 21 57 20.7 +0.1
baz=93
TOC6 Torodi Ar. Sit 80.06 78 IAMs_20 IAMs_20 22 28 46.6
comp=Z,1µm,22.0s
TOC5 Torodi Ar. Sit 80.07 78 IAMs_20 IAMs_20 22 28 46.9
comp=Z,1µm,21.0s
TOC7 Torodi Ar. Sit 80.07 78 IAMs_20 IAMs_20 22 28 46.9
comp=Z,1µm,21.0s
TOB5 Torodi Ar. Sit 80.08 78 IAMs_20 IAMs_20 22 28 46.9
comp=Z,1µm,22.0s
TOB4 Torodi Ar. Sit 80.08 78 IAMs_20 IAMs_20 22 28 47.1
comp=Z,1µm,22.0s
TOB1 Torodi Ar. Sit 80.09 78 IAMs_20 IAMs_20 22 28 46.3
comp=Z,1µm,22.0s
TOA3 Torodi Ar. Sit 80.09 78 IAMs_20 IAMs_20 22 28 46.3
comp=Z,1µm,22.0s
TOA0 Torodi Ar. Sit 80.09 78 P **P** 21 57 21.7 -0.4
TOA0 IAMs_20 IAMs_20 22 28 47.3
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 80.09 78 P **P** 21 57 22.1 0.0
TORD IAmb IAmb 21 57 29.7
comp=Z,70nm,1.8s
TORD IAMs_20 IAMs_20 22 28 46.3
comp=Z,938nm,21.0s
TORD Torodi Ar. Bea 80.09 78 P **P** 21 57 21.8 -0.3
comp=Z,2.0nm,0.5s,baz=299,slow=3.7,SNR=14
TORD PP **PP** 22 00 22.5 -1.8
comp=Z,1.4nm,1.0s,baz=282,slow=7.1,SNR=3.8
TORD LR LR 22 31 31.6
comp=Z,678nm,21.9s,baz=276,slow=35
comp=Z,2.0nm,0.5s
TOA2 Torodi Ar. Sit 80.10 78 IAMs_20 IAMs_20 22 28 46.5
comp=Z,1µm,22.0s
TOC4 Torodi Ar. Sit 80.10 78 IAMs_20 IAMs_20 22 28 46.5
comp=Z,1µm,21.0s
TOB3 Torodi Ar. Sit 80.10 78 IAMs_20 IAMs_20 22 28 47.6
comp=Z,1µm,22.0s
F17K Baldwin Pennin 80.10 336 IAMs_20 IAMs_20 22 36 45.8
comp=Z,966nm,20.0s
F17K Baldwin Pennin 80.10 336 P **P** 21 57 21.6 +0.5
baz=95
TOC3 Torodi Ar. Sit 80.12 78 IAMs_20 IAMs_20 22 28 48.0
comp=Z,1µm,21.0s
C18K Utukok River 80.28 338 P **P** 21 57 21.6 -0.5
baz=95
H16K Elim 80.38 334 P **P** 21 57 23.7 +1.1
baz=94,SNR=7.1
E17K Hotham Inlet 80.39 337 P **P** 21 57 22.9 +0.3
baz=94,SNR=23
A19K Wainwright 80.39 340 P **P** 21 57 23.2 +0.7
baz=96
L14K Kuka Creek 80.40 331 P **P** 21 57 24.1 +1.4
baz=93
G16K Koyuk River 80.48 335 P **P** 21 57 24.5 +1.4
baz=94
B18K Kokolik River 80.56 339 P **P** 21 57 24.4 +0.9
baz=95
FALS False Pass 80.57 324 P **P** 21 57 24.3 +0.5
baz=91
M13K Dall Lake 80.68 330 P **P** 21 57 25.1 +0.8
baz=92
J14K Nanvaranak Lak 80.87 332 IAMs_20 IAMs_20 22 34 09.3
comp=Z,1µm,22.0s
J14K Nanvaranak Lak 80.87 332 P **P** 21 57 26.1 +0.9
baz=92
C17K DeLong Mountai 81.00 338 P **P** 21 57 25.8 -0.1
baz=93
G15K Niukluk 81.17 335 P **P** 21 57 28.1 +1.2
baz=92
K13K Kusilvak Mount 81.36 332 P **P** 21 57 28.4 +0.5
baz=91
F15K North Star Dit 81.44 335 P **P** 21 57 29.0 +0.7
F15K IAmb IAmb 21 57 46.5
comp=Z,69nm,1.7s
F15K IAMs_20 IAMs_20 22 38 01.0
comp=Z,1µm,20.0s
F15K North Star Dit 81.44 335 P **P** 21 57 29.1 +0.8
baz=92
ANM Nome 81.73 334 IAMs_20 IAMs_20 22 37 59.9
comp=Z,847nm,18.0s

ANM Nome 81.73 334 P **P** 21 57 30.0 +0.1
baz=91
C16K Lisburne Hills 81.79 338 IAMs_20 IAMs_20 22 38 02.2
comp=Z,1µm,22.0s
C16K Lisburne Hills 81.79 338 P **P** 21 57 29.8 -0.2
baz=91
WLF Walferdange 81.94 41 P **P** 21 57 31.6 +0.4
WLF IAmb IAmb 21 57 43.0
comp=Z,23nm,1.1s
WLF Walferdange 81.94 41 P **P** 21 57 31.6 +0.4
WLF pmax pmax
comp=Z,23nm,1.1s
WLF MLR MLR
comp=Z,3µm,19.0s
M11K Mekoryuk 82.10 330 P **P** 21 57 32.1 +0.3
baz=89
F14K Arctic Creek 82.14 335 P **P** 21 57 32.6 +0.7
baz=90
UNV Unalaska Valle 82.39 323 P **P** 21 57 34.3 +0.9
baz=88
ECH Echery 82.65 42 P **P** 21 57 35.0 0.0
ECH IAmb IAmb 21 57 41.6
comp=Z,42nm,1.7s
ECH Echery 82.65 42 P **P** 21 57 35.1 0.0
ECH pmax pmax
comp=Z,42nm,1.7s
TNA Tin City 82.80 335 P **P** 21 57 35.4 0.0
baz=89
TAM Tamanrasset 82.91 68 P **P** 21 57 37.5 +0.4
TAM Tamanrasset 82.91 68 P **P** 21 57 37.5 +0.4
TAM pmax pmax
comp=Z,116nm,2.0s
TAM MLR MLR
comp=Z,1µm,20.0s
RAR Rarotonga 83.36 248 LR LR 22 26 42.2
comp=Z,1µm,18.2s,baz=115,slow=30
NIKH Nikolski High 83.83 323 P **P** 21 57 41.9 +0.9
baz=86
STU Stuttgart 83.98 42 P **P** 21 57 41.7 -0.1
STU IAmb IAmb 21 57 53.1
comp=Z,12nm,0.8s
STU Stuttgart 83.98 42 P **P** 21 57 41.7 -0.1
STU pmax pmax
comp=Z,12nm,0.8s
STU MLR MLR
comp=Z,2µm,19.0s
P08K Saint George I 84.00 326 P **P** 21 57 41.5 -0.2
baz=86
NB2 NORSAR Subarra 84.27 29 P **P** 21 57 44.4 +1.3
comp=Z,6.1nm,1.1s,baz=273,slow=5.1
NOA NORSAR Array B 84.27 29 P **P** 21 57 43.3 +0.2
comp=Z,3.0nm,1.0s,baz=275,slow=5.0,SNR=4.1
NOA LR LR 22 31 30.5
comp=Z,930nm,20.9s,baz=265,slow=33
comp=Z,3.0nm,1.0s
SPITS Spitsbergen Ar 84.31 12 P **P** 21 57 43.4 +0.4
comp=Z,12nm,1.0s,baz=262,slow=9.9,SNR=1.9
SPITS LR LR 22 36 43.3
comp=Z,817nm,19.5s,baz=252,slow=37
comp=Z,12nm,1.0s
SPIA Saint Paul Isl 84.34 327 P **P** 21 57 42.7 -0.8
baz=86
GAMB Gambell 84.53 334 P **P** 21 57 45.0 +0.8
baz=85
DAVA Damuels 84.54 43 *i* PcP **PcP** 21 57 48.8 +0.3
comp=Z,12nm,1.2s
DAVOX Davos/Dischmat 84.58 44 LR LR 22 30 12.1
comp=Z,704nm,21.4s,baz=282,slow=32
VSL Villasalto 84.82 51 IAMs_20 IAMs_20 22 28 50.6
comp=Z,1µm,22.0s
FUORN Ofenpass-Fuorn 84.86 44 P **P** 21 57 46.2 -0.5
FUORN IAmb IAmb 21 58 14.0
comp=Z,19nm,1.2s
RETA Reutte 85.12 43 *e*pP pP 21 57 51.5 +1.5
comp=Z,18nm,1.4s
SALO Salr 85.13 45 P **P** 21 57 47.1 -0.7
SALO IAmb IAmb 21 58 04.5
comp=Z,18nm,0.9s
KEST Kesra 85.13 55 P **P** 21 57 49.0 +0.9
comp=Z,6.7nm,1.0s,baz=193,slow=10.0,SNR=4.5
comp=Z,6.7nm,1.0s
FETA Feichten 85.14 43 *e*pP pP 21 57 51.9 +1.6
comp=Z,11nm,1.2s
GRF Grafenberg Arr 85.23 41 *e*P **P** 21 57 50.4 +2.3
comp=Z,195nm,3.0s,baz=275,slow=5.9
GRF *e*L L 22 31 29.4
comp=Z,3µm,20.3s
MOTA Moosalm 85.37 43 *e*PcP **PcP** 21 57 50.9 -1.3
comp=Z,17nm,1.9s
MOX Moxa 85.39 40 *e*L L 22 31 25.4
comp=Z,952nm,21.8s
SQTA Sankt Quirin 85.45 43 *e*pP pP 21 57 52.6 +0.8
comp=Z,15nm,1.5s
HFS Hagfors 85.57 30 P **P** 21 57 50.5 +0.9
comp=Z,10nm,1.1s,baz=246,slow=9.3,SNR=4.3
HFS LR LR 22 30 02.1
comp=Z,971nm,19.3s,baz=270,slow=32
comp=Z,10nm,1.1s
WATA Walderalm 85.69 43 *i* PcP **PcP** 21 57 52.2 -1.3
comp=Z,9.8nm,1.6s
WTTA Wattenberg 85.74 43 *i* PcP **PcP** 21 57 52.9 -0.9
comp=Z,17nm,1.6s
OSSC Osservatorio P 85.84 47 IAMs_20 IAMs_20 22 35 53.1
comp=Z,1µm,22.0s
CTI Castel Tesino 85.87 44 P **P** 21 57 51.0 -0.6
CTI IAmb IAmb 21 58 15.0
comp=Z,28nm,1.5s
CTI Castel Tesino 85.87 44 P **P** 21 57 51.0 -0.6
CTI pmax pmax
comp=Z,28nm,1.5s
NKC Novy Kostel 85.96 40 AMS AMS 22 32 00.0
comp=Z,4µm,19.5s
CLL Collm 86.19 39 P **P** 21 57 53.2 +0.3
CLL IAmb IAmb 21 58 01.0
comp=Z,29nm,1.4s
CLL Collm 86.19 39 *e*P **P** 21 57 55.0 +2.1
CLL *e*S **SKSac** 22 08 23.0 +3.8
CLL pmax pmax
comp=Z,45nm,1.7s
CLL MLR MLR
comp=Z,2µm,21.0s
ABTA Abfaltersbach 86.39 44 *i* PcP **PcP** 21 57 56.1 -0.5
comp=Z,12nm,1.1s
LESA Schwarzleuta 86.42 43 *i* PcP **PcP** 21 57 56.2 -0.6
comp=Z,12nm,1.2s
HSKC Hora Svate Kat 86.54 40 AMS AMS 22 32 50.0
comp=Z,2µm,19.2s
CLUD Cludinico 86.67 44 P **P** 21 57 54.6 -0.9
CLUD IAmb IAmb 21 58 11.1
comp=Z,12nm,0.9s
KHC Kasperske Hory 86.82 41 P **P** 21 57 56.5 +0.5
KHC IAmb IAmb 21 58 04.4
comp=Z,22nm,1.4s
KHC Kasperske Hory 86.82 41 *e*P **P** 21 57 58.5 +2.4
KHC AMS AMS 22 32 20.0
comp=Z,2µm,20.5s
KHC Kasperske Hory 86.82 41 *e*P **P** 21 57 58.5 +2.4
KHC MLR MLR
comp=Z,2µm,20.5s
BRG Berggiesshubel 86.83 39 Amp 21 58 00.5
comp=Z,9.6nm,1.2s
BRG Berggiesshubel 86.83 39 Amp 21 58 05.1
comp=Z,12nm,1.2s
BRG Berggiesshubel 86.83 39 Amp 21 58 21.2
comp=Z,11nm,1.1s
BRG Berggiesshubel 86.83 39 *e*P **P** 21 57 59.5 +3.5
BRG *e* 21 58 03.9
BRG S **S** 22 08 36.0 +1.8
BRG PS **PnS** 22 09 40.0 +6.9
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG pmax pmax
comp=Z,13nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.1s
BRG MLR MLR
comp=E,2µm,23.9s
BRG MLR MLR
comp=Z,2µm,21.9s
BRG MLR MLR
comp=N,1µm,20.7s
BRG Berggiesshubel 86.83 39 *e*P **P** 21 57 59.5 +3.5
BRG Berggiesshubel 86.83 39 P P 21 58 03.9 +7.9
BRG Berggiesshubel 86.83 39 P P 21 58 13.3 +17
CESX Cesi 86.92 48 IAMs_20 IAMs_20 22 30 57.7
comp=Z,943nm,21.0s
KBA Koelnbreinsper 86.92 43 *e*PcP **PcP** 21 57 58.8 -0.2
comp=Z,14nm,1.3s
GEC2 GERESS Array S 86.93 41 P **P** 21 57 56.0 -0.7
GEC2 IAmb IAmb 21 58 04.7
comp=Z,15nm,1.3s
GERES GERESS Array B 86.93 41 P **P** 21 57 58.3 +1.6
comp=Z,2.0nm,0.9s,baz=318,slow=1.8,SNR=6.4
GERES LR LR 22 32 45.8
comp=Z,2µm,20.4s,baz=274,slow=33
comp=Z,2.0nm,0.9s
RICC Richard 86.97 40 AMS AMS 22 32 30.0
comp=Z,3µm,22.0s
BIOA Bad Ischl, Aus 87.04 42 *e*PcP **PcP** 21 57 59.1 -0.3
comp=Z,22nm,1.5s
MYKA Terra Mystica 87.17 44 *e*PcP **PcP** 21 57 59.9 -0.2
comp=Z,10nm,1.4s
ZVC Zvikov 87.18 41 AMS AMS 22 32 30.0
comp=Z,3µm,21.0s
PRA Prague 87.25 40 AMS AMS 22 32 40.0
comp=Z,3µm,17.5s
PVCC Panska Ves 87.27 40 AMS AMS 22 32 40.0
comp=Z,3µm,21.0s
PRU Pruhonice 87.33 40 AMS AMS 22 32 50.0
comp=Z,4µm,21.7s
CKRC Cesky Krumlov 87.33 41 *e*P P 21 58 06.4 +7.8
CKRC AMS AMS 22 32 40.0
comp=Z,2µm,20.3s
CKRC Cesky Krumlov 87.33 41 *e*P P 21 58 06.4 +7.8
CKRC MLR MLR
comp=Z,2µm,20.3s
GUMA Gualdo di Mace 87.41 47 IAMs_20 IAMs_20 22 35 54.7
comp=Z,1µm,20.0s
MOA Molin 87.44 42 *e*PcP **PcP** 21 58 00.9 -0.2
comp=Z,12nm,1.8s
GOPC GO Pecny, Ondr 87.49 40 AMS AMS 22 32 40.0
comp=Z,4µm,19.4s
OBKA Obir 87.81 44 *i* P **P** 21 58 00.2 -0.8
comp=Z,14nm,2.0s
TREC Trest 88.03 41 AMS AMS 22 33 30.0
comp=Z,3µm,20.6s
SOKA Soboth 88.12 43 *e*PcP **PcP** 21 58 03.6 -0.6
comp=Z,11nm,2.0s
UPC Upice 88.19 39 AMS AMS 22 33 00.0
comp=Z,3µm,22.0s
UPC Upice 88.19 39 *e*P P 21 58 11.5 +8.9
UPC MLR MLR
comp=Z,3µm,22.0s
ARSA Arzberg 88.36 43 *e*P **P** 21 58 03.8 +0.2
comp=Z,8.7nm,1.5s
DPC Dobruska-Polom 88.41 40 *e*P **P** 21 58 06.0 +2.3
DPC AMS AMS 22 33 10.0
comp=Z,3µm,18.7s
DPC Dobruska-Polom 88.41 40 *e*P **P** 21 58 06.0 +2.3
DPC MLR MLR
comp=Z,3µm,18.7s
BELA Belgrano 2 88.43 171 P **P** 21 58 04.1 +1.0
CONA Conrad Observa 88.49 42 *e*PcP **PcP** 21 58 06.4 +0.5
comp=Z,11nm,1.3s
ARCES ARCESS Array B 88.63 20 P **P** 21 58 04.2 -0.1
ARCES ARCESS Array B 88.63 20 P **P** 21 58 04.2 -0.1
ARCES pmax pmax
comp=Z,152nm,2.0s
ARCES ARCESS Array B 88.63 20 P **P** 21 58 04.1 -0.2
comp=Z,1.8nm,0.8s,baz=335,slow=7.9,SNR=4.5
ARCES LR LR 22 33 23.6
comp=Z,946nm,20.5s,baz=285,slow=33
comp=Z,1.8nm,0.8s
KRUC Moravsky 88.66 41 *e*P **P** 21 58 06.6 +1.8
ADK Adak 88.72 322 P **P** 21 58 04.6 -0.4
ADK Adak 88.72 322 P **P** 21 58 04.6 -0.4
ADK pmax pmax
comp=Z,139nm,1.7s
KRLC Kraliky 88.74 40 *e*P **P** 21 58 07.7 +2.4
KRLC AMS AMS 22 33 30.0
comp=Z,3µm,21.1s
KRLC Kraliky 88.74 40 *e*P **P** 21 58 07.7 +2.4
KRLC MLR MLR
comp=Z,3µm,21.1s
VRAC Vranov 88.75 41 *e*P **P** 21 58 08.7 +3.4
VRAC Vranov 88.75 41 LR LR 22 34 03.9
comp=Z,3µm,20.5s,baz=276,slow=33
RONA Rosalia, Austr 88.81 42 *i* pP pP 21 58 08.9 +0.9
comp=Z,7.9nm,1.5s
VAE Valguarnera 88.98 53 LR LR 22 33 18.8
comp=Z,1µm,21.5s,baz=336,slow=32
MORC Moravsky Berou 89.28 40 P **P** 21 58 07.7 -0.1
MORC IAmb IAmb 21 59 01.5
comp=Z,35nm,1.8s
MORC Moravsky Berou 89.28 40 *e*P **P** 21 58 09.5 +1.7
MORC Moravsky Berou 89.28 40 P **P** 21 58 07.7 -0.1
MORC pmax pmax
comp=Z,35nm,1.8s
MORC MLR MLR
comp=Z,4µm,20.0s
WDD Wied Dalam 89.30 54 IAMs_20 IAMs_20 22 46 02.5
comp=Z,736nm,19.0s
MODS Modra-Piesok 89.35 41 *e*P **P** 21 58 12.1 +4.0
MODS Modra-Piesok 89.35 41 *e*P **P** 21 58 12.1 +4.0
JAVC Velka Javorina 89.52 41 *e*P **P** 21 58 12.1 +3.1
OKC Ostrava-Krasne 89.65 40 AMS AMS 22 34 20.0
comp=Z,3µm,19.9s
CUC Castrocucco 89.69 50 IAMs_20 IAMs_20 22 31 36.3
comp=Z,1µm,22.0s
CEL Celeste 90.02 52 IAMs_20 IAMs_20 22 32 36.3
comp=Z,825nm,22.0s
SRO Srobarova 90.13 42 *e*P **P** 21 58 15.2 +3.4
SRO Srobarova 90.13 42 *e*P **P** 21 58 15.2 +3.4
VYHS Vyhne 90.35 41 *e*P **P** 21 58 16.3 +3.5
VYHS pmax pmax
comp=Z,72nm,2.7s
VYHS Vyhne 90.35 41 *e*P **P** 21 58 16.3 +3.5
TIP Timpagrande 90.54 51 P **P** 21 58 13.3 -0.6
TIP IAMs_20 IAMs_20 22 38 18.9
comp=Z,972nm,21.0s
OJC Ojcow 90.62 39 P **P** 21 58 14.5 +0.5
OJC IAmb IAmb 21 58 38.9
comp=Z,11nm,1.1s
OJC Ojcow 90.62 39 P **P** 21 58 14.5 +0.5
OJC pmax pmax
comp=Z,11nm,1.1s
LANS Liptovska Anna 90.63 40 *e*P **P** 21 58 17.3 +3.2
LANS pmax pmax
comp=Z,11nm,1.8s
LANS Liptovska Anna 90.63 40 *e*P **P** 21 58 17.3 +3.2
PSZ Piszkesteto 91.16 42 P **P** 21 58 16.9 +0.2
PSZ IAmb IAmb 21 58 52.5
comp=Z,9.5nm,1.0s
PSZ Piszkesteto 91.16 42 P **P** 21 58 16.9 +0.2
PSZ pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 91.24 28 P **P** 21 58 16.1 -0.5
comp=Z,1.4nm,0.7s,baz=350,slow=9.7,SNR=3.4
FINES LR LR 22 37 36.5
comp=Z,945nm,18.7s,baz=286,slow=34
comp=Z,1.4nm,0.7s
SCTE Santa Cesarea 91.68 49 IAMs_20 IAMs_20 22 33 15.0
comp=Z,838nm,22.0s
BILL Bilibino 92.14 340 *e*P **P** 21 58 22.2 +1.5
PUK Puka 92.36 47 IAMs_20 IAMs_20 22 35 28.6
comp=Z,932nm,21.0s
VSU Vasula 92.45 30 *e*P **P** 21 58 25.6 +3.4
VSU pmax pmax
comp=Z,44nm,1.5s
SNAA Sanae 92.63 162 LR LR 22 40 01.8
comp=Z,545nm,20.0s,baz=296,slow=36
KBN Korca 93.31 49 IAMs_20 IAMs_20 22 34 34.9
comp=Z,930nm,20.0s
FNA Florina 93.71 48 P **P** 21 58 28.4 -0.2
FNA Florina 93.71 48 P **P** 21 58 28.4 -0.2
FNA pmax pmax
comp=Z,2.0nm,1.0s
SHEM Shemya Is, Ala 94.02 324 LR LR 22 40 55.9
comp=Z,340nm,21.9s,baz=114,slow=36
MNK Minsk 94.29 34 *i* P **P** 21 58 32.8 +2.0
MNK *i* 22 02 14.4
MNK *i* PPP PPP 22 04 18.8
MNK *i* S **SKSac** 22 09 07.2 +1.1
MNK *i* SS **SS** 22 16 06.4 +3.2
MNK *i* SSS SSS 22 19 47.8
MNK pmax pmax
comp=N,12nm,1.2s
MNK pmax pmax
comp=Z,9.0nm,1.0s
MNK pmax pmax
comp=E,9.0nm,1.2s
MNK MLR MLR
comp=N,291nm,19.0s

MNK					MLR	MLR			
	comp=Z,532nm,21.0s								
MNK					MLR	MLR			
	comp=E,141nm,15.0s								
MLR	**Muntele Rosu**	**95.78**	**43**		LR	LR	22 38 42.3		
	comp=E,994nm,20.6s,baz=304,slow=34								
AKASG	**Malin Array Be**	**96.30**	**37**		LR	LR	22 39 04.7		
	comp=E,1µm,20.4s,baz=290,slow=34								
RDO	**Rodhopi**	**96.68**	**47**		IAMs_20	IAMs_20	22 40 56.0		
	comp=Z,632nm,20.0s								
ALN	**Alexandroupoli**	**97.12**	**47**		IAMs_20	IAMs_20	22 37 04.7		
	comp=Z,669nm,22.0s								
QSPA	**South Pole Qui**	**97.14**	**180**		IAMs_20	IAMs_20	22 46 21.7		
	comp=Z,1µm,22.0s								
QSPA	**South Pole Qui**	**97.14**	**180**		P	**P**	**21 58 44.1**	**+0.4**	
	comp=Z,2.6nm,1.0s,baz=245,slow=0.3,SNR=6.9								
	comp=Z,2.6nm,1.0s								
KLMR	**Klimovskoe**	**97.45**	**26**		*e*P	Pdif	21 58 50.9	+5.8	
KLMR					pmax	pmax			
	comp=Z,41nm,2.0s								
IDI	**Anoyia**	**97.69**	**53**		LR	LR	22 38 48.9		
	comp=Z,181nm,21.6s,baz=294,slow=33								
OBN	**Obninsk**	**98.71**	**31**	⇓	*e*P	Pdif	21 58 52.5	+1.6	
OBN					*e*S	**SKSac**	**22 09 21.5**	**-7.6**	
OBN					pmax	pmax			
	comp=Z,25nm,1.9s								
OBN	**Obninsk**	**98.71**	**31**		LR	LR	22 37 12.9		
	comp=Z,502nm,20.3s,baz=303,slow=32								
BALB	**Balikesir**	**98.82**	**48**		IAMs_20	IAMs_20	22 43 42.7		
	comp=Z,822nm,20.0s								
TIXI	**Tiksi**	**99.14**	**351**		P	**Pdif**	**21 58 51.4**	**-1.1**	
TIXI	**Tiksi**	**99.14**	**351**	⇓	*e*P	**Pdif**	**21 58 54.3**	**+1.8**	
TIXI					pmax	pmax			
	comp=Z,11nm,2.3s								
TIXI	**Tiksi**	**99.14**	**351**		LR	LR	22 47 21.8		
	comp=Z,676nm,18.4s,baz=34,slow=38								
TSUM	**Tsumeb**	**99.19**	**108**		LR	LR	22 40 20.1		
	comp=Z,2µm,21.7s,baz=276,slow=33								
SEY	**Seymchan**	**99.73**	**339**		LR	LR	22 48 30.6		
	comp=Z,1µm,20.6s,baz=54,slow=38								
ISP	**Isparta**	**101.34**	**49**		IAMs_20	IAMs_20	22 45 09.1		
	comp=Z,714nm,20.0s								
ANTO	**Ankara**	**102.34**	**47**		IAMs_20	IAMs_20	22 44 40.6		
	comp=Z,551nm,20.0s								
VNDA	**Vanda**	**102.90**	**191**		IAMs_20	IAMs_20	22 39 48.8		
	comp=Z,805nm,18.0s								
BRTR	**Keskin Array B**	**103.00**	**47**		P	**Pdif**	**21 59 11.4**	**+0.9**	
	comp=Z,0.1nm,0.4s,baz=325,slow=2.3,SNR=1.5								
ANN	**Anapa**	**103.64**	**41**	*i*	P	**Pdif**	**21 59 11.8**	**-1.2**	
ANN					pmax	pmax			
	comp=Z,44nm,1.1s								
CSS	**Mathiatis**	**104.41**	**51**		IAMs_20	IAMs_20	22 52 33.0		
	comp=Z,469nm,20.0s								
ARPR	**Arapgir-MALATY**	**106.60**	**46**		IAMs_20	IAMs_20	22 44 27.4		
	comp=Z,540nm,20.0s								
GHAJ	**Ghor Haditha**	**107.40**	**54**		IAMs_20	IAMs_20	22 50 42.8		
	comp=Z,506nm,21.0s								
ONI	**Oni**	**108.53**	**41**		IAMs_20	IAMs_20	22 49 07.6		
	comp=Z,723nm,20.0s								
GNI	**Garni**	**110.56**	**42**		IAMs_20	IAMs_20	22 49 44.6		
	comp=Z,499nm,20.0s								
YSS	**Yuzh-Sakhalins**	**114.29**	**329**		IAMs_20	IAMs_20	23 01 23.0		
	comp=Z,641nm,20.0s								
YSS	**Yuzh-Sakhalins**	**114.29**	**329**	*i*	PKIKP	PKiKP	22 03 43.0	-8.3	
YSS				*e*			22 14 21.9		
YSS					MLR	MLR			
	comp=N,400nm,15.0s								
YSS					MLR	MLR			
	comp=Z,700nm,15.0s								
LODK	**Lodwar**	**114.38**	**83**		IAMs_20	IAMs_20	22 58 45.5		
	comp=Z,524nm,19.0s								
DZM	**Mont Dzumac**	**114.71**	**249**	*e*	PP	PP	22 04 43.0	-7.7	
	comp=Z,52nm,23.8s								
DZM	**Mont Dzumac**	**114.71**	**249**	*e*	SS	SS	22 20 43.4	-2.4	
	comp=Z,266nm,26.4s								
DZM	**Mont Dzumac**	**114.71**	**249**	*e*	LR	LR	22 38 27.7		
	comp=Z,734nm,24.1s								
FURI	**Furi**	**116.58**	**76**		IAMs_20	IAMs_20	22 56 18.5		
	comp=Z,600nm,19.0s								
ZAA0	**Zalesovo Array**	**117.76**	**10**		IAMs_20	IAMs_20	23 00 44.8		
	comp=Z,692nm,22.0s								
ZALV	**Zalesovo Beam**	**117.76**	**10**		PKPdf	**PKPdf**	**22 03 57.9**	**+0.1**	
ZALV	**Zalesovo Beam**	**117.76**	**10**		PKIKP	**PKPdf**	**22 03 57.9**	**+0.1**	
ZALV	**Zalesovo Beam**	**117.76**	**10**		PKP	**PKPdf**	**22 03 56.7**	**-1.1**	
	comp=Z,0.5nm,0.7s,baz=302,slow=2.7,SNR=2.3								
KIBK	**Kibwezi**	**117.84**	**89**		IAMs_20	IAMs_20	22 50 43.4		
	comp=Z,711nm,22.0s								
HEH	**HeiHe**	**118.18**	**341**		PKP	**PKPdf**	**22 03 55.5**	**-3.2**	
HEH					SS	SS	22 21 29.0	+1.4	
HEH					AMB	AMB			
	comp=Z,190nm,6.4s								
HEH					LR	LR			
	comp=Z,790nm,19.7s								
HEH					LR	LR			
	comp=Z,940nm,18.2s								
HEH					LR	LR			
	comp=Z,1µm,20.0s								
KURK	**Kurchatov**	**119.41**	**16**		PKIKP	**PKPdf**	**22 04 01.0**	**-0.1**	
KURBB	**Kurchatov Arra**	**119.47**	**16**		PKP	**PKPdf**	**22 04 01.0**	**-0.3**	
	comp=Z,0.5nm,0.3s,baz=336,slow=2.0,SNR=1.7								
ATD	**Arta Tunnel**	**119.94**	**72**		IAMs_20	IAMs_20	22 58 03.7		
	comp=Z,637nm,20.0s								
GEYT	**Alibeck**	**120.41**	**38**		PKPdf	**PKiKP**	**22 04 03.7**	**+0.1**	
GEYT	**Alibeck**	**120.41**	**38**		PKIKP	**PKiKP**	**22 04 03.7**	**+0.1**	
GEYT	**Alibeck**	**120.41**	**38**		PKP	**PKPdf**	**22 04 03.0**	**-0.5**	
	comp=Z,1.2nm,0.5s,baz=256,slow=4.3,SNR=2.9								
GYA0B	**ALIBECK ARRAY**	**120.41**	**38**		IAMs_20	IAMs_20	22 54 40.6		
	comp=Z,531nm,21.0s								
MDJ	**Mudanjiang**	**122.11**	**336**		PKP	**PKPdf**	**22 04 06.5**	**0.0**	
MAKZ	**Makanchi**	**123.88**	**15**		IAMs_20	IAMs_20	23 02 29.9		
	comp=Z,629nm,19.0s								
MKAR	**Makanchi Array**	**123.97**	**15**		PKP	**PKPdf**	**22 04 09.3**	**-0.7**	
	comp=Z,0.7nm,0.8s,baz=288,slow=3.1,SNR=6.0								
SONM	**Songino Array**	**125.00**	**355**		PKPdf	**PKPdf**	**22 04 11.6**	**-0.6**	
SONM	**Songino Array**	**125.00**	**355**		PKIKP	**PKPdf**	**22 04 11.6**	**-0.6**	
SONM	**Songino Array**	**125.00**	**355**		PKP	**PKPdf**	**22 04 11.0**	**-1.1**	
	comp=Z,0.6nm,0.6s,baz=242,slow=0.8,SNR=4.9								
HRA	**Herat**	**125.24**	**39**		PKPdf	**PKPdf**	**22 04 12.6**	**-0.5**	
UOSS	**Minazif**	**126.55**	**52**		IAMs_20	IAMs_20	23 04 31.4		
	comp=Z,526nm,21.0s								
XLT	**XiLinHaoTe**	**127.22**	**346**		*e*PKP	**PKPdf**	**22 04 12.0**	**-4.4**	
CAN	**Canberra**	**127.33**	**231**		IAMs_20	IAMs_20	22 53 45.1		
	comp=Z,581nm,19.0s								
WMQ	**Urumqi**	**128.01**	**12**	*e*	PKP	**PKPdf**	**22 04 18.0**	**+0.1**	
WMQ					LR	LR			
	comp=Z,900nm,17.1s								
WMQ					LR	LR			
	comp=Z,930nm,20.7s								
WMQ					LR	LR			
	comp=Z,850nm,20.7s								
KSRS	**Korea Array**	**128.66**	**332**		PKP	**PKPdf**	**22 04 17.8**	**-1.5**	
	comp=Z,1.4nm,0.7s,baz=1.4,slow=1.6,SNR=5.2								
KSAR	**Wonju Array Be**	**128.69**	**332**		PKPdf	**PKPdf**	**22 04 18.2**	**-1.1**	
KSAR	**Wonju Array Be**	**128.69**	**332**		PKIKP	**PKPdf**	**22 04 18.2**	**-1.1**	
HHC	**Hu-ho-hao-te**	**131.13**	**349**	*e*	PKP	**PKPdf**	**22 04 20.0**	**-4.0**	
HHC					PP	**PP**	**22 06 42.3**	**+2.5**	
HHC					SS	SS	22 24 10.0	-0.8	
HHC					AMB	AMB			
	comp=Z,340nm,7.5s								
HHC					LR	LR			
	comp=Z,1µm,20.4s								
HHC					LR	LR			
	comp=Z,840nm,21.0s								
HHC					LR	LR			
	comp=Z,2µm,22.7s								
BTO	**Baotou**	**131.65**	**350**	*e*	PKP	**PKPdf**	**22 04 21.5**	**-3.5**	
BTO					PP	**PP**	**22 06 45.8**	**+2.7**	
BTO					SS	SS	22 24 15.0	-2.1	
BTO					LR	LR			
	comp=Z,1µm,22.4s								
BTO					LR	LR			
	comp=Z,2µm,21.2s								
BTO					LR	LR			
	comp=Z,2µm,23.6s								
HNS	**HongShan**	**133.68**	**344**	⇑	PKP	**PKiKP**	**22 04 30.5**	**+0.5**	
HNS					*e*PP	**PP**	**22 07 00.3**	**+4.2**	
HNS					LR	LR			
	comp=Z,330nm,20.7s								
HNS					LR	LR			
	comp=Z,1µm,23.9s								
HNS					LR	LR			
	comp=Z,1µm,19.4s								
GTA	**Gaotai**	**133.68**	**0**		PKP	**PKiKP**	**22 04 30.5**	**+0.3**	
GTA					PKS	**PKSdf**	**22 07 59.8**	**-5.6**	
GTA					LR	LR			
	comp=Z,660nm,21.4s								
GTA					LR	LR			
	comp=Z,620nm,21.1s								
GTA					LR	LR			
	comp=Z,690nm,21.8s								
STKA	**Stephens Creek**	**134.34**	**232**		PKP	**PKPdf**	**22 04 29.2**	**-0.9**	
	comp=Z,0.9nm,0.3s,baz=74,slow=2.4,SNR=4.4								
SMLA	**Simla**	**135.99**	**29**	*e*	P	**PKPdf**	**22 04 33.4**	**+0.2**	
NJ2	**Nanjing**	**137.18**	**337**	*e*	PKP	**PKiKP**	**22 04 37.0**	**-0.3**	
WHN	**Wuhan**	**140.17**	**341**		PKP	**PKPdf**	**22 04 41.8**	**+0.9**	
WHN					LR	LR			
	comp=Z,2µm,22.2s								
LSA	**Lhasa**	**142.34**	**13**		PKPdf	**PKPdf**	**22 04 45.3**	**-0.2**	
LSA	**Lhasa**	**142.34**	**13**		PKIKP	**PKPdf**	**22 04 45.3**	**-0.2**	
LSA					MLR	MLR			
	comp=Z,600nm,20.0s								
ASAR	**Alice Springs**	**143.79**	**239**		PKhKP	PKPpre	22 04 44.1		
	comp=Z,6.0nm,0.4s,baz=110,slow=3.9,SNR=126								
WR0	**Warramunga Arr**	**144.42**	**246**			**PKPab**	**22 04 46.2**	**-0.7**	
WB0	**Warramunga Arr**	**144.61**	**246**		PKPdf	**PKPab**	**22 04 47.5**	**-0.1**	
WRA	**Warramunga Arr**	**144.61**	**245**			**PKPab**	**22 04 47.2**	**-0.5**	
WRA	**Warramunga Arr**	**144.61**	**245**		PKIKP	**PKPab**	**22 04 47.2**	**-0.5**	
WRA					MLR	MLR			
	comp=Z,100nm,21.0s								
WRA	**Warramunga Arr**	**144.61**	**245**		PKP	**PKPab**	**22 04 47.0**	**-0.7**	
	comp=Z,32nm,0.8s,baz=103,slow=3.3,SNR=115								
FORT	**Forrest**	**144.93**	**224**		PKPbc	**PKPab**	**22 04 48.0**	**-0.5**	
GYA	**Guiyang**	**146.03**	**350**	⇓	PKPbc	**PKPdf**	**22 04 52.0**	**+0.4**	
GYA					PP	PP	22 08 20.5	+8.4	
GYA					AMB	AMB			
	comp=Z,120nm,11.3s								
GYA					LR	LR			
	comp=Z,480nm,25.2s								
GYA					LR	LR			
	comp=Z,710nm,24.3s								
GYA					LR	LR			
	comp=Z,790nm,25.2s								
GULI	**GuiLin**	**146.30**	**343**		PKPbc	**PKPab**	**22 04 54.3**	**+0.6**	
SHL	**Shillong**	**146.48**	**14**		PKPdf	**PKPdf**	**22 04 51.7**	**-0.7**	
SHL	**Shillong**	**146.48**	**14**		PKIKP	**PKPdf**	**22 04 51.7**	**-0.7**	
SHL					MLR	MLR			
	comp=Z,800nm,22.0s								
PZH	**PanZhiHua**	**146.53**	**358**		PKPbc	**PKPdf**	**22 04 53.0**	**+0.6**	
PZH					sPKP		22 04 59.0		
PZH					SS	SS	22 27 17.0	+4.7	
PZH					AMB	AMB			
	comp=Z,170nm,5.9s								
PZH					LR	LR			
	comp=Z,320nm,20.4s								
PZH					LR	LR			
	comp=Z,490nm,20.0s								
PZH					LR	LR			
	comp=Z,600nm,21.2s								
KMI	**Kunming**	**147.84**	**356**	⇓	PKPbc	**PKPbc**	**22 04 57.8**	**+0.2**	
KMI					LR	LR			
	comp=Z,350nm,16.7s								
KMI					LR	LR			
	comp=Z,640nm,22.9s								
KMI					LR	LR			
	comp=Z,720nm,31.7s								
TNCH	**TengChong**	**147.98**	**3**		PKPbc	**PKPdf**	**22 04 52.8**	**-2.2**	
TNCH					pPKP	pPKPdf	22 04 57.5	+0.2	
TNCH					sPKP		22 04 58.5		
TNCH					PKPab	**PKiKP**	**22 04 59.5**	**-0.4**	
TNCH					PP	**PP**	**22 08 24.0**	**+0.4**	
TNCH					AMB	AMB			
	comp=Z,190nm,4.2s								
TNCH					LR	LR			
	comp=Z,320nm,14.8s								
TNCH					LR	LR			
	comp=Z,270nm,14.9s								
TNCH					LR	LR			
	comp=Z,780nm,22.2s								
TNTI	**Ternate**	**151.85**	**285**		IAMs_20	IAMs_20	23 04 52.1		
	comp=Z,272nm,21.0s								
QIZ	**Qiongzhong**	**152.34**	**340**		PKPbc	**PKPdf**	**22 05 00.5**	**-1.2**	
QIZ					PP	**PP**	**22 08 48.8**	**0.0**	
QIZ					SS	SS	22 28 19.0	+1.5	
QIZ					LR	LR			
	comp=Z,480nm,30.3s								
QIZ					LR	LR			
	comp=Z,700nm,26.1s								
QIZ					LR	LR			
	comp=Z,710nm,24.5s								
CRAI	**Chiangrai**	**152.80**	**360**			**PKPbc**	**22 05 08.3**	**-1.2**	
CHTO	**Chiang Mai**	**154.18**	**3**		PKPdf	**PKPdf**	**22 05 03.9**	**-0.5**	
CHTO	**Chiang Mai**	**154.18**	**3**		PKIKP	**PKPdf**	**22 05 03.9**	**-0.5**	
CHTO					MLR	MLR			
	comp=Z,600nm,20.0s								
CM31	**Chiang Mai Arr**	**154.53**	**3**		PKPdf	**PKPdf**	**22 05 03.9**	**-1.0**	
CMAR	**Chiang Mai Arr**	**154.53**	**3**		PKPdf	**PKPdf**	**22 05 04.3**	**-0.6**	
CMAR	**Chiang Mai Arr**	**154.53**	**3**		PKP	**PKPdf**	**22 05 04.8**	**0.0**	
	comp=Z,1.0nm,0.4s,baz=318,slow=1.2,SNR=4.1								
CMAR					PKPbc	**PKPbc**	**22 05 13.4**	**+0.1**	
	comp=Z,1.9nm,0.5s,baz=329,slow=2.3,SNR=10								
TOLI2	**Tolitoli**	**157.96**	**291**		IAMs_20	IAMs_20	23 22 43.0		
	comp=Z,296nm,22.0s								

ellipse: s-maj=0.0km s-min=0.0km az=113.8,preliminary MDD 27 22:09:49.8±0.3,41.19N×1.17W, h0km, mb_Lg1.6/13, Error ellipse: s-maj=2.6km s-min=2.0km az=158.0

ISC 27 22:09:48.9±1.2, 41.16N±0.04×1.20W±0.04, h7km±11km, n10, σ0.40/19, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E0901	**Celadas (Terue**	**0.68**	**176**	Pg	**Pb**	**22 10 03.2**	**+0.1**
E0901				Sg	**Sg**	**22 10 10.8**	**-0.1**
E0901				*i* Vmb_Lg		22 10 15.6	
ETOR	**Torete**	**0.73**	**243**	Pg	**Pb**	**22 10 04.4**	**+0.3**
ETOR				Sg	**Sb**	**22 10 14.0**	**-0.3**
ETOR				*i* Vmb_Lg		22 10 16.5	
ESAC	**San Caprasio**	**0.78**	**44**	Pg	**Pg**	**22 10 03.4**	**-0.5**
ESAC				Sg	**Sg**	**22 10 13.9**	**-0.2**
ESAC				*i* Vmb_Lg		22 10 15.9	
EMOS	**Mosqueruela**	**0.97**	**145**	Pg	**Pb**	**22 10 08.5**	**+0.4**
EMOS				Sg	**Sb**	**22 10 21.4**	**+0.3**
EMOS				*i* Vmb_Lg		22 10 24.0	
ERTA	**Horta de San J**	**1.17**	**100**	Pg	**Pb**	**22 10 11.8**	**+0.3**
ERTA				Sg	**Sb**	**22 10 26.7**	**-0.2**
ERTA				*i* Vmb_Lg		22 10 30.5	
CANF	**Canfranc**	**1.68**	**17**	Sg	**Sg**	**22 10 43.7**	**+0.8**
EPOB	**Poblet**	**1.73**	**83**	Pg	**Pg**	**22 10 21.9**	**0.0**
EPOB				Sg	**Sn**	**22 10 41.1**	**-0.6**
EPOB				*i* Vmb_Lg		22 10 46.9	
ATE	**Arette**	**1.96**	**11**	Pn	**Pn**	**22 10 22.5**	**0.0**
ATE				Pg	**Pg**	**22 10 26.2**	**-0.2**
ATE				Sg	**Sg**	**22 10 52.1**	**+0.3**
EALK	**Alkurruntz**	**2.07**	**354**	Pg	**Pg**	**22 10 28.5**	**0.0**
EALK				Sn	**Sn**	**22 10 50.2**	**0.0**
OSSF	**Osses**	**2.09**	**359**	Pg	**Pg**	**22 10 28.4**	**-0.6**

STR 27 21:55:46.8±1.1, 45°N±13°×±2°1, h3km, MLv1.3/5, Error ellipse: s-maj=0.0km s-min=0.0km az=122.8, preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDM	**Grand'Maison**	**0.27**	**212**	Pg	Pg	21 55 52.1	+0.1
GDM				Sg	Sg	21 55 55.7	+0.1
RSL	**Roselend**	**0.33**	**40**	Pg	Pg	21 55 53.4	+0.1
RSL				Sg	Sg	21 55 57.8	+0.1
ORIF	**Oris-en-Rattie**	**0.60**	**211**	Sg	Sg	21 56 06.1	0.0

IDC 27 22:00:44.6±7.0, 15.03S×167.57E, h126km±51km, mb3.7/5, mbtmp4.0/6, MS4.2/1, Error ellipse: s-maj=56.6km s-min=32.5km az=40.0

ISC 27 22:00:44.7±2.0, 15.0S±0.1×167.6E±0.3, h129km, n7, σ0.92/7, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.09**	**189**	P	**Pn**	**22 02 26.6**	**+0.5**
	3.2nm,0.4s,baz=90,slow=20,SNR=20						
DZM				S	**Sn**	**22 03 44.1**	**-1.2**
	3.5nm,0.3s,baz=336,slow=20,SNR=3.0						
HNR	**Honiara**	**9.29**	**306**	LR	LR	22 05 52.0	
	comp=Z,1µm,18.2s,baz=140,slow=33						
STKA	**Stephens Creek**	**29.03**	**230**	P	**P**	**22 06 33.6**	**+0.9**
	2.0nm,0.6s,baz=46,slow=7.9,SNR=3.1						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**32.04**	**256**	P	**P**	**22 06 59.0**	**-0.4**
	0.6nm,0.7s,baz=95,slow=6.7,SNR=1.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**32.84**	**250**	P	**P**	**22 07 06.5**	**0.0**
	1.8nm,0.6s,baz=76,slow=9.2,SNR=9.9						
	1.8nm,0.6s						
QSPA	**South Pole Qui**	**75.01**	**180**	P	**P**	**22 12 12.2**	**+0.3**
	1.8nm,0.8s,baz=0.4,slow=1.0,SNR=8.0						
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**97.61**	**316**	P	**P**	**22 14 03.8**	**-0.8**
	0.2nm,0.6s,baz=117,slow=5.4,SNR=1.8						
	0.2nm,0.6s						

NNC 27 22:03:47.7±4.1, 44.18N×87.49E, h0km, mb3.6, mpv2.9, 6C-1D, Error ellipse: s-maj=75.0km s-min=27.9km az=41.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.49**	**307**	⇑	Pn	Pn	22 04 57.4	+0.4
	0.2nm,0.1s,baz=138,slow=15,SNR=42						
MK31					Sn	Sn	22 05 50.9	+0.9
	1.9nm,0.2s,baz=134,slow=26,SNR=12						
MK31				⇑	Lg	Lg	22 06 13.5	
	1.2nm,0.3s,baz=128,slow=26,SNR=3.6						
MAKZ	**Makanchi**	**4.68**	**306**	⇑	Pn	Pn	22 04 59.7	+0.1
	1.2nm,0.3s						
MAKZ				⇑	Sn	Sn	22 05 55.7	+1.0
	2.3nm,0.3s						
MAKZ				⇑	Lg	Lg	22 06 18.8	
	11nm,0.8s						
KURK	**Kurchatov**	**8.87**	**321**	⇓	Sn	Sn	22 07 37.2	-0.6
	1.6nm,0.7s						
KURK				⇑	Lg	Lg	22 08 27.9	
	3.1nm,0.7s						

STR 27 22:09:48.4±2.6, 41°N±14°×±2°3, h5km, MLv2.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=113.8, preliminary

DJA 27 22:35:12.2±0.3, 1°S±4°×12°1E±°, h10km, M3.8/6, MLv3.8/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.83**	**332**	P	Pn	22 35 37.9	-5.8
TTSI	**Tana Toraja**	**1.99**	**208**	P	Pn	22 35 46.1	+0.1
LUWI	**Luwuk**	**2.02**	**83**	P	Pn	22 35 47.1	+0.8
LUWI				S	Sg	22 36 17.6	+0.5
MRSI	**Marisa**	**2.10**	**34**	P	Pn	22 35 46.1	-1.4
MRSI				S	Sn	22 36 14.0	+0.3
PMSI	**Majene**	**2.88**	**220**	P	Pn	22 35 59.1	+0.9
BKB	**Balikpapan**	**3.87**	**270**	P	Pn	22 36 11.8	-0.1
BKSI	**Bulukumba**	**4.07**	**189**	P	Pn	22 36 14.0	-0.5

NEIC 27 22:48:43.1±1.2, 55.75N±0.09×149.20W±0.09, h12km±7km, mb3.6/1, ML3.6/38, ML3.3(AEIC), Error ellipse: s-maj=13.6km s-min=7.5km az=169.0
AEIC 27 22:48:47.9±1.4, 55.77N±0.09×149.17W±0.09, h12km±7km, Error ellipse: s-maj=13.6km s-min=7.4km az=169.0

ISC 27 22:48:45.5±1.2, 55.80N±0.09×149.17W±0.06, h35km, n164, σ0.87/173, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.69**	**304**	Pn	**Pn**	**22 49 26.0**	**-0.2**
OHAK				Sn	**Sn**	**22 49 55.5**	**-2.1**
OHAK	**Old Harbor**	**2.69**	**304**	P	**Pn**	**22 49 25.9**	**-0.4**
OHAK	**Old Harbor**	**2.69**	**304**	P	**Pn**	**22 49 26.2**	**-0.1**
	baz=121						
OHAK				S	**Sn**	**22 49 55.6**	**-2.1**
	baz=121						
KDAK	**Kodiak Island**	**2.74**	**318**		**Pn**	**22 49 27.0**	**+0.1**
KDAK				Sn	**Sn**	**22 49 56.7**	**-2.0**
KDAK	**Kodiak Island**	**2.74**	**318**	S	**Sn**	**22 49 57.2**	**-1.5**
	baz=136						
SII	**Sitkinak Islan**	**2.91**	**287**	Pn	**Pn**	**22 49 28.9**	**-0.4**
SII				IAML		22 50 02.4	
	comp=N,197nm,2.0s						
SII	**Sitkinak Islan**	**2.91**	**287**	P	**Pn**	**22 49 29.2**	**-0.1**
SII	**Sitkinak Islan**	**2.91**	**287**	P	**Pn**	**22 49 28.9**	**-0.4**
	baz=104						
SII				S	**Sn**	**22 50 01.7**	**-1.2**
	baz=104						
Q20K	**Shuyak Island**	**3.32**	**329**	P	**Pn**	**22 49 35.1**	**+0.2**
	baz=147						
Q20K				S	**Sn**	**22 50 13.5**	**+0.5**
	baz=147						
SYI	**Shuyak Island**	**3.32**	**329**		**Pn**	**22 49 35.2**	**+0.3**
SYI					**Sn**	**22 50 13.4**	**+0.4**
CNPM	**China Poot**	**3.90**	**344**		**Pn**	**22 49 42.8**	**-0.1**
CNPM					**Sn**	**22 50 26.9**	**-0.5**
CNPM				IAML		22 50 28.9	
	comp=N,48nm,0.4s						
CNPM				IAML		22 50 33.8	
	comp=E,53nm,1.8s						
Q23K	**Middleton Isla**	**3.94**	**21**	Pn	**Pn**	**22 49 43.3**	**-0.2**
Q23K	**Middleton Isla**	**3.94**	**21**	P	**Pn**	**22 49 43.8**	**+0.3**
	baz=204						
MID	**Middleton Isla**	**3.94**	**22**	Pn	**Pn**	**22 49 43.2**	**-0.3**
MID				IAML		22 51 14.4	
	comp=N,204nm,2.4s						
MID	**Middleton Isla**	**3.94**	**22**	P	**Pn**	**22 49 43.9**	**+0.5**
Q19K	**Cape Douglas,**	**3.96**	**324**		**Pn**	**22 49 44.6**	**+0.8**
Q19K				IAML		22 50 39.9	
	comp=E,170nm,1.1s						
Q19K				IAML		22 50 39.9	

O18K	Koktuh Hills	5.19	324	P		Pn	22 50 00.6	0.0
	baz=139							
CHGN	Chignik	5.21	279	Pn		Pn	22 50 00.5	-0.3
CHGN				IAML			22 51 01.3	
	comp=N,54nm,0.3s							
CHGN				IAML			22 51 01.5	
	comp=E,67nm,1.4s							
RC01	Rabbit Creek A	5.32	357	Pn		Pn	22 50 02.2	-0.1
RC01				IAML			22 51 03.5	
	comp=E,36nm,0.4s							
RC01				IAML			22 51 06.4	
	comp=N,23nm,0.5s							
GOAT	Goat Mountain	5.34	24			Pn	22 50 02.9	+0.3
SNH	Sunshine Point	5.53	35	Pn		Pn	22 50 05.5	+0.2
KNK	Knik Glacier	5.64	3	Pn		Pn	22 50 07.3	+0.5
BMRM	Bremner River	5.71	23			Pn	22 50 08.0	+0.2
BMRM	Bremner River	5.71	23	P		Pn	22 50 08.0	+0.2
	baz=207							
SUA	Susitna One	5.74	352	Pn		Pn	22 50 07.9	-0.3
N19K	Bonanza Creek	5.76	333			Pn	22 50 07.8	-0.6
N19K	Bonanza Creek	5.76	333	P		Pn	22 50 07.9	-0.6
	baz=149							
PMR	Palmer	5.81	0	Pn		Pn	22 50 09.3	+0.3
BARK	Barkley Ridge	5.82	35			Pn	22 50 09.8	+0.5
O17K	Koliganek Bris	5.82	316			Pn	22 50 09.0	-0.2
O17K	Koliganek Bris	5.82	316	P		Pn	22 50 09.0	-0.2
	baz=130							
S14K	Fog Glacier	5.84	279	P		Pn	22 50 10.4	+0.8
	baz=91							
VNFG	Fog Glacier, M	5.84	279			Pn	22 50 10.2	+0.5
STLK	Strandline Lak	5.88	347			Pn	22 50 10.0	-0.2
KLU	Klutina	5.96	15			Pn	22 50 11.8	+0.6
KLU	Klutina	5.96	15	P		Pn	22 50 11.7	+0.6
	baz=198							
GHO	Glory Hole Cre	5.99	1	Pn		Pn	22 50 12.9	+1.2
CHNA	Chernabura Isl	6.03	265	P		Pn	22 50 11.3	-0.8
	baz=77							
CNBA	Chernabura Isl	6.03	265	Pn		Pn	22 50 11.4	-0.7
SML	Sawmill	6.04	4	Pn		Pn	22 50 13.3	+1.0
SML	Sawmill	6.04	4	P		Pn	22 50 12.8	+0.4
	baz=185							
N18K	Kilae Creek	6.04	327			Pn	22 50 12.1	-0.2
N18K	Kilae Creek	6.04	327	P		Pn	22 50 11.8	-0.5
	baz=142							
O16K	Kokwok River B	6.11	312			Pn	22 50 13.4	+0.2
SCM	Sheep Creek Mo	6.13	8	Pn		Pn	22 50 14.9	+1.4
SCM	Sheep Creek Mo	6.13	8	P		Pn	22 50 14.3	+0.8
	baz=190							
VRDI	Verde Repeater	6.21	26	Pn		Pn	22 50 14.9	+0.2
KIAG	Kiagna River	6.26	32			Pn	22 50 15.3	-0.2
N25K	Chitina, Valde	6.29	20	Pn		Pn	22 50 16.0	+0.3
N25K	Chitina, Valde	6.29	20	P		Pn	22 50 16.1	+0.3
	baz=204							
GLB	Gilahina Butte	6.31	24	Pn		Pn	22 50 16.6	+0.6
SKT	Skwentna	6.32	350	Pn		Pn	22 50 16.9	+0.8
N17K	Nushagak Hills	6.36	321	Pn		Pn	22 50 17.1	+0.5
PCA	Pinnacle	6.41	44			Pn	22 50 18.1	+0.8
PINM	Pinnacle	6.41	44	P		Pn	22 50 18.3	+0.9
	baz=231							
SDPT	Sand Point	6.43	271	Pn		Pn	22 50 17.5	-0.1
SDPT	Sand Point	6.43	271	P		Pn	22 50 18.1	+0.5
SDPT	Sand Point	6.43	271	P		Pn	22 50 18.0	+0.5
	baz=82							
PTPK	Patty Peak	6.44	30			Pn	22 50 18.3	+0.3
MCARA	McCarthy VSAT	6.45	27			Pn	22 50 18.5	+0.6
MCARA	McCarthy VSAT	6.45	27	P		Pn	22 50 18.5	+0.6
	baz=212							
PNL	Peninsula	6.51	49			Pn	22 50 19.5	+0.8
PNL	Peninsula	6.51	49	P		Pn	22 50 19.5	+0.8
	baz=237							
M24K	Tolsona, Glenn	6.51	12			Pn	22 50 19.7	+0.9
M24K	Tolsona, Glenn	6.51	12	P		Pn	22 50 20.0	+1.2
	baz=195							
BCPM	Bancas Point	6.57	47			Pn	22 50 20.5	+1.0
BARN	Barnard Glacie	6.58	34			Pn	22 50 20.5	+0.6
CTG	Chitna Glacier	6.61	35	P		Pn	22 50 20.9	+0.6
	baz=222							
CTGM	Chitina Glacie	6.62	35	Pn		Pn	22 50 20.6	+0.3
LOGN	Logan Glacier	6.62	37			Pn	22 50 21.1	+0.7
O15K	Ungalikthiuk R	6.67	305			Pn	22 50 21.6	+0.8
O15K	Ungalikthiuk R	6.67	305	P		Pn	22 50 21.6	+0.8
	baz=116							
M18K	Stony River	6.68	331			Pn	22 50 20.6	-0.4
M18K	Stony River	6.68	331	P		Pn	22 50 20.6	-0.4
	baz=146							
WAZA	Wrangell Mount	6.81	20			Pn	22 50 24.0	+1.0
HARP	HAARP	6.93	16			Pn	22 50 25.6	+1.1
HARP	HAARP	6.93	16	P		Pn	22 50 25.6	+1.1
	baz=199							
L19K	White Mountain	7.04	338	Pn		Pn	22 50 26.2	+0.2
M17K	Holitna River	7.08	326			Pn	22 50 26.7	+0.2
M17K	Holitna River	7.08	326	P		Pn	22 50 26.9	+0.3
	baz=139							
O29M	Mount Kennedy	7.21	47			Pn	22 50 29.5	+1.1
O29M	Mount Kennedy	7.21	47	P		Pn	22 50 29.8	+1.4
	baz=236							
P29M	Windy Craggy	7.22	53			Pn	22 50 29.1	+0.5
P29M	Windy Craggy	7.22	53	P		Pn	22 50 29.2	+0.7
	baz=243							
N15K	Kwethluk River	7.27	312			Pn	22 50 30.6	+1.5
PN7A	Pavlof North-7	7.28	272			Pn	22 50 29.6	+0.3
M16K	Timber Creek	7.34	320	Pn		Pn	22 50 30.5	+0.5
DHY	Denali Highway	7.36	6			Pn	22 50 31.6	+1.1
DHY	Denali Highway	7.36	6	P		Pn	22 50 31.5	+1.1
	baz=188							
O14K	Tigyukauivet M	7.37	303			Pn	22 50 31.4	+0.9
O14K	Tigyukauivet M	7.37	303	P		Pn	22 50 30.9	+0.4
	baz=113							
S31K	Pelican	7.41	68	Pn		Pn	22 50 29.4	-1.7
S31K	Pelican	7.41	68	P		Pn	22 50 30.5	-0.5
	baz=258							
M27K	Edge Creek, AK	7.57	27			Pn	22 50 34.2	+0.9
M27K	Edge Creek, AK	7.57	27	P		Pn	22 50 33.9	+0.6
	baz=213							
TRF	Thorofare Moun	7.70	356	Pn		Pn	22 50 35.7	+0.6
SIT	Sitka	7.78	75	Pn		Pn	22 50 33.1	-3.0
PLBC	Pleasant Camp	7.79	57			Pn	22 50 37.0	+0.8
PLBC	Pleasant Camp	7.79	57	P		Pn	22 50 37.0	+0.8
	baz=247							
P30M	Million Dollar	7.80	51			Pn	22 50 37.8	+1.3
P30M	Million Dollar	7.80	51	P		Pn	22 50 37.5	+1.1
	baz=241							
KTH	Kantishna Hill	7.83	354	Pn		Pn	22 50 37.7	+0.9
HYT	Haines Junctio	7.94	46	Pn		Pn	22 50 39.4	+1.1
HYT	Haines Junctio	7.94	46	P		Pn	22 50 39.8	+1.4
	baz=236							
BCAR	Beaver Creek A	8.20	24	Pn		Pn	22 50 42.4	+0.5
S32K	Killisnoo	8.22	72	Pn		Pn	22 50 40.7	-1.4
RIDG	Independent Ri	8.26	13			Pn	22 50 44.2	+1.5
SKAG	Skagway	8.28	58	Pn		Pn	22 50 42.5	-0.4
M14K	Bethel	8.37	312	Pn		Pn	22 50 43.5	-0.6
JIS	Juneau Island	8.44	67	Pn		Pn	22 50 44.5	-0.5
JIS	Juneau Island	8.44	67	P		Pn	22 50 46.2	+1.2
O30N	Mendenhall	8.49	49	Pn		Pn	22 50 46.5	+0.6
O30N	Mendenhall	8.49	49	P		Pn	22 50 46.8	+0.8
	baz=240							
J18K	Innoko River	8.58	337	Pn		Pn	22 50 47.2	+0.2
SCRK	Sand Creek	8.60	15	Pn		Pn	22 50 48.7	+1.2
M29M	Somme Creek	8.63	35			Pn	22 50 49.2	+1.3
J20K	Nowinta River	8.76	346	Pn		Pn	22 50 50.6	+1.0
J19K	Poorman	8.83	341	Pn		Pn	22 50 50.3	-0.2
WHY	Whitehorse	8.97	51	Pn		Pn	22 50 53.3	+0.9
N31M	Braeburn, Yuko	9.00	45	Pn		Pn	22 50 53.3	+0.5
U33K	Whale Pass	9.01	81	Pn		Pn	22 50 50.7	-2.3
ILAR	Eielson Array	9.07	6	Pn		Pn	22 50 54.3	+0.5
P32M	Atlin	9.10	59	Pn		Pn	22 50 54.7	+0.4
J26L	Joseph Creek	9.16	15			Pn	22 50 55.8	+0.7
M30M	Minto, Yukon	9.29	38	P		Pn	22 50 58.4	+1.6
	baz=228							
Q32M	Nakina River	9.65	64	Pn		Pn	22 51 02.1	+0.2
M31M	Drury Creek, Y	9.95	44			Pn	22 51 07.4	+1.6
K29M	Barlow Dome	9.96	31			Pn	22 51 06.8	+0.9
R33M	Jennings River	10.40	62	Pn		Pn	22 51 12.3	+0.2
IMAR	Indian Mountai	10.46	350	Pn		Pn	22 51 13.3	+0.5
H17K	Granite Mounta	10.58	334	Pn		Pn	22 51 14.3	-0.1
DLBC	Dease Lake	10.73	68	Pn		Pn	22 51 16.4	-0.2
G31M	Satah River	13.20	26	Pn		Pn	22 51 51.9	+1.8
INK	Inuvik	14.46	24	Pn		Pn	22 52 09.1	+1.8
B22K	Teshekpuk Lake	14.72	354	Pn		Pn	22 52 11.5	+0.8
A36M	Sachs Harbour	19.10	23	P		P	22 53 05.3	+0.5
A36M				IAmb		IAmb	22 53 08.9	
	comp=Z,3.2nm,0.8s							

*KRSC **27** 22:49:52.7±1.6,55°.34N×166°.72E,h42km±11km,Mc5.0, MM4.8,Felt [II-III] at Nikolskoe.*
*IDC **27** 22:49:53.5±0.6,55°.54N×166°.53E,h0km,mb4.0/24, mbtmp4.1/29,ML4.2/4,MS3.9/11,Error ellipse: s-maj=16.8km s-min=11.3km az=165.0*
*NEIC **27** 22:49:55.8±1.1,55°.57N±0°.07×166°.4E±0°.1,h10km±1km, mb4.5/76,Error ellipse: s-maj=13.3km s-min=9.6km az=42.0*
*MOS **27** 22:49:56.7±1.0,55°.44N×166°.52E,h35km,mb4.6/19,Error ellipse: s-maj=6.1km s-min=5.5km az=60.5*

ISC 27 22:49:56.6±0.4,55°.38N±0°.05×166°.53E±0°.04,h20km,n437, σ1§43/479,**mb4.4**/74,**MS4.0**/12,**4C-10D,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
BKI	Bering	0.36	241	PN		Pb	22 50 03.3		-1.0
BKI				S		Sb	22 50 09.7		+0.2
BKI	Bering	0.36	241	*e*P		Pb	22 50 03.3		-1.0
BKI				*e*S		Sb	22 50 09.7		+0.2
KBG	Krutoberegovo	2.33	294	PN		Pn	22 50 31.2		-2.4
KBG				S		Sn	22 51 00.5		-1.1
KBG	Krutoberegovo	2.33	294	*e*P		Pn	22 50 31.2		-2.4
KBG				*e*S		Sn	22 51 00.5		-1.1
SMKR	Semkarok	3.09	295	*e*S		Sn	22 51 21.3		+0.8
BDR	Baidarnaya	3.22	294	PN		Pn	22 50 45.7		-0.3
BDR				S		Sn	22 51 25.1		+1.4
BDR	Baidarnaya	3.22	294	*e*P		Pn	22 50 45.7		-0.3
BDR				*e*S		Sn	22 51 25.1		+1.4
SRKR	Sorokina	3.27	295	PN		Pn	22 50 46.5		-0.1
SRKR	Sorokina	3.27	295	*e*P		Pn	22 50 46.5		-0.1
ZLN	Zelenaya	3.30	283	PN		Pn	22 50 47.8		+0.7
ZLN				S		Sn	22 51 28.3		+2.5
ZLN	Zelenaya	3.30	283	*e*P		Pn	22 50 47.8		+0.7
ZLN				*e*S		Sn	22 51 28.3		+2.5
CIRR	Tsirk	3.35	285	PN		Pn	22 50 48.4		+0.6
CIRR				S		Sn	22 51 29.8		+2.8
CIRR	Tsirk	3.35	285	*e*P		Pn	22 50 48.4		+0.6
CIRR				*e*S		Sn	22 51 29.8		+2.8
BZGR	Bezymyannyi-Gr	3.35	282	PN		Pn	22 50 48.8		+1.0
BZGR				S		Sn	22 51 29.8		+2.8
BZGR	Bezymyannyi-Gr	3.35	282	*e*P		Pn	22 50 48.8		+1.0
BZGR				*e*S		Sn	22 51 29.8		+2.8
BZP	Bezymyannyi-Pe	3.43	281	*e*P		Pn	22 50 49.2		+0.1
BZP				*e*S		Sn	22 51 32.1		+2.9
KLY	Klyuchi	3.44	288	PN		Pn	22 50 47.4		-1.5
KLY				S		Sn	22 51 27.5		-1.6
KLY	Klyuchi	3.44	288	*e*P		Pn	22 50 47.4		-1.5
KLY				*e*S		Sn	22 51 27.5		-1.6
BZMR	Bezymyannaya	3.46	282	PN		Pn	22 50 50.8		+1.4
BZMR				S		Sn	22 51 32.5		+2.6
BZMR	Bezymyannaya	3.46	282	*e*P		Pn	22 50 50.8		+1.4
BZMR				*e*S		Sn	22 51 32.5		+2.6
BZWR	Bezymyannyi-We	3.46	282	PN		Pn	22 50 50.2		+0.7
BZWR				S		Sn	22 51 31.7		+1.8
BZWR	Bezymyannyi-We	3.46	282	*e*P		Pn	22 50 50.2		+0.7
BZWR				*e*S		Sn	22 51 31.7		+1.8
TUMD	Tumrok D	3.51	270	*e*P		Pn	22 50 50.6		+0.7
TUMD				*e*S		Sn	22 51 32.4		+1.6
KIRR	Kirishev	3.55	282	PN		Pn	22 50 50.7		+0.1
KIRR				S		Sn	22 51 32.5		+0.5
KIRR	Kirishev	3.55	282	*e*P		Pn	22 50 50.7		+0.1
KIRR				*e*S		Sn	22 51 32.5		+0.5
KMNR	Kamenistaya	3.59	279	PN		Pn	22 50 51.7		+0.6
KMNR				S		Sn	22 51 36.1		+3.1
KMNR	Kamenistaya	3.59	279	*e*P		Pn	22 50 51.7		+0.6
KMNR				*e*S		Sn	22 51 36.1		+3.1
KPT	Kopyto	3.62	282	PN		Pn	22 50 51.9		+0.4
KPT				S		Sn	22 51 35.3		+1.7
KPT	Kopyto	3.62	282	*e*P		Pn	22 50 51.9		+0.4
KPT				*e*S		Sn	22 51 35.3		+1.7
TUMR	Tumrok	3.65	271	PN		Pn	22 50 53.0		+1.1
TUMR				S		Sn	22 51 37.0		+2.7
TUMR	Tumrok	3.65	271	*e*P		Pn	22 50 53.0		+1.1
TUMR				*e*S		Sn	22 51 37.0		+2.7
KOZ	Kozyrevsk	3.82	283	PN		Pn	22 50 53.2		+1.0
KOZ				S		Sn	22 51 40.5		+1.9
KOZ	Kozyrevsk	3.82	283	*e*P		Pn	22 50 55.3		+1.0
KOZ				*e*S		Sn	22 51 40.5		+1.9
OSSR	Ossora	4.31	336	PN		Pn	22 51 00.1		-0.8
OSSR	Ossora	4.31	336	*e*P		Pn	22 51 00.1		-0.8
SPN	Mys Shipunski	4.45	242	PN		Pn	22 51 02.5		-0.3
SPN	Mys Shipunski	4.45	242	*e*P		Pn	22 51 02.5		-0.3
ESO	Esso	4.47	280	PN		Pn	22 51 05.2		+2.1
ESO				S		Sn	22 51 57.7		+3.3
ESO	Esso	4.47	280	*e*P		Pn	22 51 05.2		+2.1
ESO				*e*S		Sn	22 51 57.7		+3.3
TIGL	Tigil	4.96	302	*e*P		Pn	22 51 12.3		+2.5
SMAR	Somma	4.99	248	PN		Pn	22 51 11.4		+0.9
SMAR	Somma	4.99	248	*e*P		Pn	22 51 11.4		+0.9
SMAR				*e*S		Sn	22 52 08.5		+0.8
KRER	Koryakskii	5.00	249	*e*S		Sn	22 52 07.6		-0.3
UGLR	Uglovaya	5.01	247	PN		Pn	22 51 11.9		+1.3
UGLR	Uglovaya	5.01	247	*e*P		Pn	22 51 11.9		+1.3
UGLR				*e*S		Sn	22 52 07.4		-0.5
AVH	Avacha	5.03	248	PN		Pn	22 51 12.0		+1.2
AVH	Avacha	5.03	248	*e*P		Pn	22 51 12.0		+1.2
AVH				*e*S		Sn	22 52 08.4		+0.1
KRX	Arik	5.03	250	PN		Pn	22 51 11.8		+0.8
KRX	Arik	5.03	250	*e*P		Pn	22 51 11.8		+0.8
KRX				*e*S		Sn	22 52 08.6		+0.1
KOK	Koryaka	5.07	249	PN		Pn	22 51 12.3		+0.9
KOK	Koryaka	5.07	249	*e*P		Pn	22 51 12.3		+0.9
KOK				*e*S		Sn	22 52 10.2		+0.8
TILK	Tilichiki	5.08	358	PN		Pn	22 51 11.0		-0.5
TILK	Tilichiki	5.08	358	*e*P		Pn	22 51 11.0		-0.5
DALK	Dalny	5.13	246	PN		Pn	22 51 13.5		+1.3
DALK	Dalny	5.13	246	*e*P		Pn	22 51 13.5		+1.3
DALK				*e*S		Sn	22 52 10.0		-0.8
PALN	Palana	5.15	319	PN		Pn	22 51 13.0		+0.6
PALN	Palana	5.15	319	*e*P		Pn	22 51 13.0		+0.6
PET	Petropavlovsk	5.19	246			Pn	22 51 13.9		+1.0
PET	Petropavlovsk	5.19	246	*e*PN		Pn	22 51 13.5		+0.5
PET				pmax		pmax			
	comp=Z,84nm,0.4s								
PET				MLR		MLR			
	comp=Z,400nm,18.0s								
PET	Petropavlovsk	5.19	246	*e*P		Pn	22 51 14.5		+1.6
PET				*e*S		Sn	22 52 11.8		-0.3
SHEM	Shemya Is, Ala	5.19	118	Pn		Pn	22 51 11.6		-1.4
	comp=Z,4.0nm,0.3s,baz=290,slow=18,SNR=1.7								
SHEM				Sn		Sn	22 52 11.7		-0.6
	comp=Z,2.1nm,0.3s,baz=261,slow=23,SNR=1.5								
	comp=Z,74nm,0.9s								
INSR	Institute	5.19	247	*e*P		Pn	22 51 14.0		+0.9
INSR				*e*S		Sn	22 52 11.7		-0.6
KRMR	Karymshinskiy	5.56	246	PN		Pn	22 51 19.1		+1.0
KRMR	Karymshinskiy	5.56	246	*e*P		Pn	22 51 19.1		+1.0
KRMR				*e*S		Sn	22 52 21.7		+0.4
RUS	Russkaya	5.58	241	*e*S		Sn	22 52 20.6		-1.2
PEA0B	Petropavlovsk-	5.65	250	Pn		Pn	22 51 20.0		+0.6
PEA0B	Petropavlovsk-	5.65	250	*ce*PN		Pn	22 51 20.9		+1.5
PETK	Petropavlovsk-	5.65	250	Pn		Pn	22 51 19.8		+0.4
	comp=Z,15nm,0.3s,baz=71,slow=17,SNR=102								
PETK				Sn		Sn	22 52 23.0		-0.6
	comp=Z,2.6nm,0.3s,baz=78,slow=14,SNR=3.9								
PETK				LR		LR	22 53 37.8		
	comp=Z,682nm,21.2s,baz=51,slow=39								
	comp=Z,52nm,0.5s								
MTVR	Mutnovka	5.72	243	PN		Pn	22 51 20.7		+0.3
MTVR	Mutnovka	5.72	243	*e*P		Pn	22 51 20.7		+0.3
MTVR				*e*S		Sn	22 52 23.9		-1.6
GRL	Gorelyy	5.74	244	PN		Pn	22 51 21.9		+1.3
GRL	Gorelyy	5.74	244	*e*P		Pn	22 51 21.9		+1.3
GRL				*e*S		Sn	22 52 27.2		+1.3
ASAK	Asacha	5.92	243	PN		Pn	22 51 23.9		+0.8
ASAK	Asacha	5.92	243	*e*P		Pn	22 51 23.9		+0.8
ASAK				*e*S		Sn	22 52 30.1		-0.2
APC	Apacha	6.03	250	PN		Pn	22 51 26.1		+1.6
APC	Apacha	6.03	250	*e*P		Pn	22 51 26.1		+1.6
APC				*e*S		Sn	22 52 33.8		+1.0
KMSK	Kamenskaya	7.11	359	PN		Pn	22 51 38.3		-1.0
KMSK	Kamenskaya	7.11	359	*e*P		Pn	22 51 38.3		-1.0
SKR	Severo-Kuril's	7.84	237	*e*PN		Pn	22 51 50.2		+0.9
SKR				pmax		pmax			
	comp=Z,20nm,0.3s								
SKR				pmax		pmax			
	comp=Z,1μm,4.6s								
SKR				MLR		MLR			
	comp=Z,2μm,17.0s								
SEY	Seymchan	10.47	322	Pn		Pn	22 52 23.4		-1.9
	comp=Z,0.4nm,0.2s,baz=217,slow=20,SNR=1.3								
BILL	Bilibino	12.71	360	*e*PN		Pn	22 52 55.9		+0.1
SPIA	Saint Paul Isl	13.02	73	P		Pn	22 53 00.5		+0.4
	baz=273								
GAMB	Gambell	13.80	44	P		Pn	22 53 10.8		0.0
	baz=243								
NIKH	Nikolski High	14.59	89	P		Pn	22 53 22.7		+1.0
	baz=290								
TYV	Tymovskoe	14.99	262	*e*P		P	22 53 31.8		-0.6
TYV				pmax		pmax			
	comp=Z,5.0nm,1.2s								
TYV				pmax		pmax			
	comp=Z,100nm,3.1s								
M11K	Mekoryuk	15.28	60	P		Pn	22 53 30.6		-0.2
	baz=264								
UNV	Unalaska Valle	15.66	84	P		Pn	22 53 37.3		+1.5
	baz=287								
TNA	Tin City	16.07	40	P		Pn	22 53 39.6		-1.4
	baz=243,SNR=8.7								
K13K	Kusilvak Mount	16.26	55			Pn	22 53 43.3		-0.2
K13K	Kusilvak Mount	16.26	55	P		Pn	22 53 42.6		-0.8
	baz=260								
F14K	Arctic Creek	16.63	42	P		Pn	22 53 46.3		-1.9
	baz=246								
ANM	Nome	16.66	45	Pn		Pn	22 53 48.2		-0.3
ANM				IAmb		IAmb	22 54 09.0		
	comp=Z,72nm,1.4s								
ANM	Nome	16.66	45	P		Pn	22 53 47.1		-1.4
	baz=250								
ANM	Nome	16.66	45	P		Pn	22 53 48.2		-0.3
ANM				pmax		pmax			
	comp=Z,72nm,1.4s								
M13K	Dall Lake	16.69	60	P		Pn	22 53 49.7		+0.8
	baz=266								
J14K	Nanvaranak Lak	16.93	52	P		Pn	22 53 52.5		+0.6
J14K				IAmb		IAmb	22 54 11.3		
	comp=Z,48nm,1.4s								
J14K	Nanvaranak Lak	16.93	52	P		Pn	22 53 50.9		-1.0
	baz=259								
YSS	Yuzh-Sakhalins	17.06	250	Pn		Pn	22 53 53.1		-0.6
YSS	Yuzh-Sakhalins	17.06	250	‖*e*P		Pn	22 53 54.7		+1.1
YSS				pmax		pmax			
	comp=Z,52nm,2.5s								
L14K	Kuka Creek	17.10	57			Pn	22 53 54.5		+0.4
L14K	Kuka Creek	17.10	57	P		Pn	22 53 53.2		-0.9
	baz=264								
FALS	False Pass	17.14	79	P		Pn	22 53 54.6		0.0
	baz=285								
G15K	Niukluk	17.34	44	P		Pn	22 53 50.5		-6.5
	baz=251								
F15K	North Star Dit	17.36	42	P		P	22 53 58.3		-0.3
F15K	North Star Dit	17.36	42	P		Pn	22 53 56.0		-1.4
	baz=248								
M14K	Bethel	17.40	59	P		P	22 53 59.6		+0.7
M14K	Bethel	17.40	59	P		Pn	22 53 57.7		0.0
	baz=267								
N14K	Kuskokwak Cree	17.50	62	P		Pn	22 53 58.6		-0.4
	baz=270								
L15K	Ungalak Mounta	17.71	56	P		Pn	22 54 01.7		0.0
	baz=264								
O14K	Tigyukauivet M	17.72	64	P		Pn	22 54 00.7		-1.0
	baz=272								
K15K	Wolf Creek Mou	17.77	54	P		Pn	22 54 02.7		+0.3
K15K	Wolf Creek Mou	17.77	54	P		Pn	22 54 01.5		-0.9
	baz=262								
H16K	Elim	17.96	46	P		Pn	22 54 03.7		-1.1
	baz=254,SNR=9.3								
M15K	Kasigluk River	18.02	59	P		Pn	22 54 04.6		-0.8
	baz=268								
G16K	Koyuk River	18.14	44	P		Pn	22 54 06.0		-1.0
	baz=252								
C16K	Lisburne Hills	18.29	34			Pn	22 54 07.1		-1.6
C16K	Lisburne Hills	18.29	34	P		Pn	22 54 07.4		-1.2
	baz=240								
N15K	Kwethluk River	18.30	61	P		Pn	22 54 09.0		0.0
	baz=270								
J16K	Anvik River	18.35	51	P		Pn	22 54 09.5		-0.1
	baz=260								
I17K	Unalakleet	18.43	49	P		P	22 54 10.6		+0.2
	baz=258								
O15K	Ungalikthiuk R

baz=260
F19K **Shaleruckik Mo** 20.36 42 P Pn 22 54 32.7 -0.9
baz=254
TTA **Tatalina** 20.38 53 P **P** **22 54 32.4 +0.7**
TTA IAmb IAmb 22 54 51.9
comp=Z,30nm,1.4s
TTA **Tatalina** 20.38 53 P **P** **22 54 32.2 +0.5**
baz=266
TTA **Tatalina** 20.38 53 P **P** **22 54 32.4 +0.7**
TTA pmax pmax
comp=Z,30nm,1.4s
N18K **Kilae Creek** 20.38 60 P **P** **22 54 32.6 +0.9**
N18K **Kilae Creek** 20.38 60 P **P** **22 54 31.4 -0.3**
baz=272
M18K **Stony River** 20.40 57 P **P** **22 54 33.3 +1.4**
baz=270
G19K **Purcell Mounta** 20.44 44 P **P** **22 54 33.3 +1.0**
G19K IAmb IAmb 22 54 44.4
comp=Z,25nm,1.4s
G19K **Purcell Mounta** 20.44 44 P **P** **22 54 32.4 +0.1**
baz=256,SNR=6.0
C19K **Lookout Ridge** 20.54 35 P **P** **22 54 33.6 +0.2**
baz=246
H19K **Roundabout Mou** 20.56 46 P **P** **22 54 34.4 +0.8**
baz=259
A19K **Wainwright** 20.58 31 P **P** **22 54 32.1 -1.6**
baz=241
Q17K **Contact Creek** 20.59 66 P **P** **22 54 35.3 +1.2**
baz=279
J19K **Poorman** 20.66 50 P **P** **22 54 35.2 +0.5**
J19K IAmb IAmb 22 54 55.9
comp=Z,31nm,1.2s
J19K **Poorman** 20.66 50 P Pn 22 54 36.3 -0.7
baz=264
E19K **Redstone River** 20.75 40 P **P** **22 54 33.8 -1.9**
baz=253
O18K **Koktuh Hills** 20.77 62 P Pn 22 54 40.0 +1.6
baz=275
D19K **Kuna River** 20.79 37 P Pn 22 54 37.9 -0.6
baz=249
P18K **Big Mountain,** 20.80 63 P **P** **22 54 37.3 +1.0**
baz=276
L19K **White Mountain** 20.88 55 P **P** **22 54 37.7 +0.6**
baz=269
N19K **Bonanza Creek** 21.07 59 P **P** **22 54 39.8 +0.6**
baz=273
M19K **Big River Lodg** 21.09 56 P **P** **22 54 41.2 +1.9**
baz=270
H20K **Anotleneega Mo** 21.19 46 P **P** **22 54 40.6 +0.2**
baz=260,SNR=7.9
F20K **Avaraart Lake** 21.20 42 P **P** **22 54 40.6 +0.2**
F20K IAmb IAmb 22 54 57.5
comp=Z,29nm,1.4s
F20K **Avaraart Lake** 21.20 42 P **P** **22 54 38.7 -1.8**
baz=256
I20K **Naaghedeneel** 21.25 48 P **P** **22 54 41.4 +0.4**
baz=263
K20K **Telida** 21.29 52 P **P** **22 54 39.0 -2.5**
baz=267
J20K **Nowinta River** 21.32 50 P **P** **22 54 42.3 +0.4**
J20K IAmb IAmb 22 54 58.8
comp=Z,34nm,1.3s
J20K **Nowinta River** 21.32 50 P **P** **22 54 42.2 +0.4**
baz=265
L20K **Farewell, AK** 21.34 54 P **P** **22 54 43.2 +1.2**
baz=269
E20K **Nigu River** 21.38 38 P **P** **22 54 41.0 -1.4**
baz=252
D20K **Etivluk River** 21.38 37 P **P** **22 54 40.4 -2.0**
baz=250
Q19K **Cape Douglas,** 21.66 64 P **P** **22 54 46.6 +1.1**
baz=278
M20K **Styx River** 21.68 56 P **P** **22 54 46.4 +0.6**
baz=272
B20K **Meade River** 21.69 33 P **P** **22 54 43.5 -2.1**
baz=247
IMAR **Indian Mountai** 21.74 45 P **P** **22 54 46.1 -0.1**
P19K **Oil Pt** 21.78 62 P **P** **22 54 48.5 +1.7**
baz=277
G21K **Allakaket** 21.93 44 P **P** **22 54 49.6 +1.3**
baz=259
KLR **Kul'dur** 21.97 268 ⇓ *e*P **P** **22 54 49.6 +0.8**
KLR pmax pmax
comp=Z,13nm,1.9s
KLR **Kul'dur** 21.97 268 P **P** **22 54 49.5 +0.7**
comp=Z,1.3nm,0.6s,baz=49,slow=12,SNR=4.6
comp=Z,1.3nm,0.6s
O20K **Slope Mountain** 22.04 61 P **P** **22 54 54.0 +4.4**
baz=276
H21K **Melozitna Rive** 22.07 46 P **P** **22 54 51.7 +1.8**
baz=262
F21K **Alatna River** 22.09 42 P **P** **22 54 51.2 +1.1**
baz=258
CHUM **Lake Minchumin** 22.10 51 P **P** **22 54 52.7 +2.6**
baz=267
PPLA **Purkeypile** 22.12 53 P **P** **22 54 52.6 +2.1**
baz=270
C21K **Knifeblade Rid** 22.15 36 P **P** **22 54 53.5 +2.8**
baz=252
N20K **Mount Spurr** 22.15 58 P **P** **22 54 55.1 +4.2**
baz=274
CAST **Castle Rocks** 22.18 52 P **P** **22 54 52.7 +1.6**
baz=269
E21K **Killik River** 22.22 38 P **P** **22 54 53.0 +1.5**
baz=254
I21K **Tanana** 22.35 47 P **P** **22 54 53.0 +0.1**
I21K **Tanana** 22.35 47 P **P** **22 54 54.3 +1.4**
baz=264
A21K **Barrow** 22.41 30 P **P** **22 54 55.4 +2.1**
baz=244
SKT **Skwentna** 22.44 56 P **P** **22 54 55.1 +1.3**
SKT IAmb IAmb 22 55 14.8
comp=Z,19nm,1.3s
SKT **Skwentna** 22.44 56 P **P** **22 54 56.6 +2.7**
baz=273
ZEA **Zeya** 22.63 282 *e*P **P** **22 54 56.6 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
H22K **Ishtalitna Cre** 22.69 46 P **P** **22 54 56.3 -0.1**
baz=263
BPAW **Bear Paw Mtn.** 22.70 50 P **P** **22 54 56.7 +0.1**
BPAW IAmb IAmb 22 55 14.0
comp=Z,23nm,1.3s
BPAW **Bear Paw Mtn.** 22.70 50 P **P** **22 54 58.6 +2.0**
baz=268
KTH **Kantishna Hill** 22.71 52 **P** **22 54 56.4 -0.4**
KTH IAmb IAmb 22 55 14.4
comp=Z,26nm,1.3s
TIXI **Tiksi** 22.78 330 P **P** **22 54 55.1 -2.2**
TIXI **Tiksi** 22.78 330 ⇓ *i*P **P** **22 54 57.1 -0.2**
TIXI pmax pmax
comp=Z,14nm,2.3s
G22K **Bettles** 22.79 43 P **P** **22 54 57.7 +0.3**
baz=261
D22K **Ayikyak River** 22.79 38 P **P** **22 54 56.8 -0.7**
D22K IAmb IAmb 22 55 15.8
comp=Z,25nm,1.3s
D22K **Ayikyak River** 22.79 38 P **P** **22 54 55.4 -2.1**
baz=255
SUA **Susitna One** 22.84 57 P **P** **22 54 54.0 -4.2**
baz=274
MLY **Manley** 22.86 48 P **P** **22 54 58.4 +0.1**
MLY IAmb IAmb 22 55 15.7
comp=Z,30nm,1.4s
MLY **Manley** 22.86 48 P **P** **22 54 59.2 +0.9**
baz=266
E22K **Anaktuvuk Pass** 22.92 40 P **P** **22 54 59.3 +0.4**
E22K **Anaktuvuk Pass** 22.92 40 P **P** **22 54 59.9 +1.0**
baz=257
TRF **Thorofare Moun** 22.99 52 P **P** **22 54 57.1 -2.7**
baz=270
B22K **Teshekpuk Lake** 23.00 34 P **P** **22 54 56.2 -3.3**
baz=250
CUT **Chulitna** 23.02 55 P **P** **22 54 57.5 -2.3**
baz=273
BRSE **Bradley Lake S** 23.02 61 P **P** **22 54 58.5 -1.5**
baz=278
G23K **Bananza Creek** 23.34 44 P **P** **22 55 01.5 -1.7**
baz=263
COLD **Coldfoot** 23.34 42 P **P** **22 55 01.5 -1.7**
baz=261,SNR=8.1
RC01 **Rabbit Creek A** 23.36 58 P **P** **22 55 04.5 +1.2**
baz=276
BWN **Browne** 23.37 50 P **P** **22 55 05.6 +2.2**
I23K **Minto, Yukon-K** 23.45 48 P **P** **22 55 05.4 +1.2**
baz=267
D23K **Nanushuk River** 23.51 38 P **P** **22 55 05.6 +0.8**
baz=257
NEA2 **Nenana** 23.55 49 P **P** **22 55 05.4 +0.2**
NEA2 IAmb IAmb 22 55 21.0
comp=Z,19nm,1.3s
NEA2 **Nenana** 23.55 49 P **P** **22 55 03.4 -1.8**
baz=268
MCK **McKinley** 23.60 51 P **P** **22 55 02.8 -2.9**
baz=271
E23K **Chandalar** 23.71 40 P **P** **22 55 05.2 -1.6**
baz=260
WAT1 **Susitna Watana** 23.79 53 P **P** **22 55 06.0 -1.6**
baz=273
MDM **Murphy Dome** 23.92 48 P **P** **22 55 08.0 -0.8**
MDM IAmb IAmb 22 55 16.9
comp=Z,12nm,1.3s
HEH **HeiHe** 23.95 274 *e*P **P** **22 55 08.3 -0.8**
HEH pmax pmax
comp=Z,5.0nm,1.0s
SML **Sawmill** 23.96 56 P **P** **22 55 08.2 -1.0**
baz=276
CCB **Clear Creek Bu** 24.10 49 P **P** **22 55 10.0 -0.4**
CCB IAmb IAmb 22 55 27.2
comp=Z,18nm,1.1s
H24K **Noodor Dome** 24.11 46 P **P** **22 55 08.0 -2.6**
baz=267
WAT6 **Susitna Watana** 24.18 54 P **P** **22 55 13.1 +1.7**
baz=274
D24K **Happy Valley** 24.21 38 P **P** **22 55 11.2 -0.1**
baz=258
M23K **Glacier View** 24.25 56 P **P** **22 55 13.4 +1.5**
baz=276
POKR **Poker Plat Res** 24.27 48 P **P** **22 55 11.2 -0.8**
baz=269
F24K **Squaw Lake** 24.27 42 P **P** **22 55 13.4 +1.4**
baz=263
DHY **Denali Highway** 24.32 53 P **P** **22 55 11.7 -0.9**
DHY **Denali Highway** 24.32 53 P **P** **22 55 12.5 -0.1**
baz=274
G24K **Hadweenzic Riv** 24.34 44 P **P** **22 55 15.3 +2.6**
baz=265
C24K **Franklin Bluff** 24.37 37 P **P** **22 55 13.6 +0.8**
baz=257
SCM **Sheep Creek Mo** 24.43 56 P **P** **22 55 13.4 -0.2**
SCM **Sheep Creek Mo** 24.43 56 P **P** **22 55 13.1 -0.5**
baz=276
SCM **Sheep Creek Mo** 24.43 56 P **P** **22 55 13.4 -0.2**
SCM pmax pmax
comp=Z,27nm,1.2s
HDA **Harding Lake** 24.47 50 P **P** **22 55 13.7 -0.1**
HDA IAmb IAmb 22 55 26.1
comp=Z,10.0nm,1.0s
HDA **Harding Lake** 24.47 50 P **P** **22 55 16.7 +2.9**
baz=271
ILAR **Eielson Array** 24.49 49 P **P** **22 55 13.3 -0.7**
comp=Z,10nm,1.0s,baz=252,slow=8.0,SNR=32
ILAR LR LR 23 04 42.4
comp=Z,288nm,18.6s,baz=345,slow=36
comp=Z,10nm,1.0s
USRK **Ussuriysk Ar.** 24.68 258 P **P** **22 55 17.8 +1.9**
comp=Z,2.5nm,0.8s,baz=61,slow=15,SNR=1.1
comp=Z,2.5nm,0.8s
G25K **Bearman Lake** 24.89 44 P **P** **22 55 19.1 +1.5**
baz=266
M24K **Tolsona, Glenn** 24.95 55 P **P** **22 55 20.1 +1.9**
baz=277
K24K **Donnelly Dome** 25.00 51 P **P** **22 55 19.0 +0.4**
baz=273
PRP **Porcupine Dome** 25.08 47 P **P** **22 55 19.6 +0.1**
PRP IAmb IAmb 22 55 36.8
comp=Z,15nm,1.1s
PRP **Porcupine Dome** 25.08 47 P **P** **22 55 20.1 +0.6**
baz=270,SNR=9.6
D25K **Kavik River** 25.10 38 P **P** **22 55 20.2 +0.7**
baz=261
F25K **Christian Rive** 25.14 42 P **P** **22 55 22.4 +2.5**
baz=265
KLU **Klutina** 25.14 56 P **P** **22 55 18.9 -1.0**
baz=278
J25K **Salcha River,** 25.15 49 P **P** **22 55 21.2 +1.2**
baz=272
PAX **Paxson** 25.19 53 P **P** **22 55 22.7 +2.2**
baz=275
E25K **Arctic Village** 25.22 41 P **P** **22 55 20.6 0.0**
E25K **Arctic Village** 25.22 41 P **P** **22 55 22.6 +2.0**
baz=264,SNR=9.3
HARP **HAARP** 25.39 54 P **P** **22 55 23.6 +1.4**
baz=277
RIDG **Independent Ri** 25.41 51 P **P** **22 55 21.9 -0.5**
RIDG IAmb IAmb 22 55 31.5
comp=Z,14nm,1.2s
RIDG **Independent Ri** 25.41 51 P **P** **22 55 24.2 +1.7**
baz=274
BMAR **Burnt Mountain** 25.53 42 P **P** **22 55 22.8 -0.7**
F26K **Sheenjek River** 25.72 42 P **P** **22 55 27.4 +2.3**
baz=266
N25K **Chitina, Valde** 25.75 56 P **P** **22 55 23.8 -1.7**
baz=279
MDJ **Mudanjiang** 25.77 261 P **P** **22 55 25.3 -0.4**
MDJ pmax pmax
comp=Z,13nm,2.4s
MDJ pmax pmax
comp=Z,690nm,11.6s
SCRK **Sand Creek** 25.78 50 P **P** **22 55 25.8 0.0**
SCRK IAmb IAmb 22 55 44.9
comp=Z,13nm,1.3s
SCRK **Sand Creek** 25.78 50 P **P** **22 55 24.4 -1.4**
baz=274
G26K **Porcupine Rive** 25.82 44 P **P** **22 55 24.5 -1.5**
baz=268
BMRM **Bremner River** 25.85 57 P **P** **22 55 27.4 +1.1**
baz=280
J26L **Joseph Creek** 25.93 49 P **P** **22 55 24.0 -3.2**
baz=274
BNX **BinXian** 26.33 265 ⇑ P **P** **22 55 30.0 -0.8**
BNX pmax pmax
comp=Z,5.0nm,1.2s
BNX pmax pmax
comp=Z,350nm,5.7s
M26K **Nabesna, AK** 26.39 54 P **P** **22 55 30.1 -1.2**
baz=278
MCARA **McCarthy VSAT** 26.53 56 P **P** **22 55 32.7 +0.2**
baz=280
K27K **Chicken** 26.61 50 P **P** **22 55 33.0 -0.2**
K27K **Chicken** 26.61 50 P **P** **22 55 35.4 +2.2**
baz=276
I27K **Kandik River** 26.70 47 P **P** **22 55 36.0 +2.0**
baz=273
H27K **Steamboat Moun** 26.71 45 P **P** **22 55 35.6 +1.4**
baz=272
L27K **Beaver Creek,** 26.83 52 P **P** **22 55 37.0 +1.7**
baz=278
BCAR **Beaver Creek A** 26.85 52 P **P** **22 55 35.6 +0.2**
SNH **Sunshine Point** 26.86 59 P **P** **22 55 35.5 0.0**
M27K **Edge Creek, AK** 26.91 54 P **P** **22 55 37.8 +1.7**
baz=279
EGAK **Eagle** 26.95 48 P **P** **22 55 35.0 -1.2**
EGAK IAmb IAmb 22 55 38.0
comp=Z,7.1nm,0.9s
EGAK **Eagle** 26.95 48 P **P** **22 55 36.9 +0.7**
baz=275
MJB9 **Matsu-Tunnel** 26.95 237 P **P** **22 55 36.5 0.0**
MAJO **Matsushiro** 26.95 237 P **P** **22 55 36.5 0.0**
MAJO **Matsushiro** 26.95 237 ⇓ *e*P **P** **22 55 38.3 +1.8**
MAJO pmax pmax
comp=Z,50nm,2.1s
MJAR **Matsushiro Arr** 26.95 237 P **P** **22 55 38.1 +1.6**
comp=Z,3.4nm,0.8s,baz=32,slow=7.9,SNR=8.3
comp=Z,3.4nm,0.8s
D27M **Malcolm River** 27.00 39 P **P** **22 55 36.9 +0.2**
D27M IAmb IAmb 22 55 52.9
comp=Z,6.4nm,0.8s
D27M **Malcolm River** 27.00 39 P **P** **22 55 37.8 +1.2**
baz=266
F28M **Old Crow** 27.35 42 P **P** **22 55 39.3 -0.5**
baz=271,SNR=6.3
BVCY **Beaver Creek** 27.37 54 P **P** **22 55 41.8 +1.8**
baz=280
I28M **Miner Creek** 27.41 47 P **P** **22 55 41.9 +1.4**
baz=275
CTG **Chitna Glacier** 27.41 57 P **P** **22 55 40.0 -0.6**
baz=282
E28M **Babbage River** 27.48 40 P **P** **22 55 41.8 +0.8**
baz=269
YUK3 **Moose Creek** 27.67 55 P **P** **22 55 44.6 +1.6**
baz=281
DAWY **Dawson** 27.78 50 P **P** **22 55 45.4 +1.6**
baz=278
D28M **Stokes Point** 27.79 38 P **P** **22 55 43.1 -0.5**
baz=268
H29M **Whitestone** 27.99 45 P **P** **22 55 46.1 +0.5**
baz=275
E29M **Blow River** 28.09 40 P **P** **22 55 46.2 -0.1**
baz=271
G29M **Pine Creek** 28.09 44 P **P** **22 55 48.2 +1.8**
baz=274
I29M **Ogilvie Camp,** 28.10 47 P **P** **22 55 48.5 +2.0**
baz=276
M29M **Somme Creek** 28.46 53 P **P** **22 55 49.7 -0.2**
baz=282
L29M **L29M** 28.49 52 P **P** **22 55 50.7 +0.6**
L29M IAmb IAmb 22 56 06.7
comp=Z,9.5nm,1.3s
L29M **L29M** 28.49 52 P **P** **22 55 52.2 +2.1**
baz=281
EPYK **Eagle Plains** 28.65 45 P **P** **22 55 51.4 +0.1**
EPYK **Eagle Plains** 28.65 45 P **P** **22 55 51.5 +0.1**
baz=276
G30M **tAoh Zraii Nji** 28.79 43 P **P** **22 55 54.5 +1.8**
baz=275
F30M **Barrier River** 28.91 42 P **P** **22 55 54.5 +0.8**
baz=274
I30M **Mount Dempster** 28.92 47 P **P** **22 55 54.7 +0.7**
baz=278
M30M **Minto, Yukon** 29.19 52 P **P** **22 55 58.5 +2.1**
baz=282
HYT **Haines Junctio** 29.27 56 P **P** **22 55 57.6 +0.5**
HYT **Haines Junctio** 29.27 56 P **P** **22 55 58.4 +1.3**
baz=285
G31M **Satah River** 29.56 43 P **P** **22 56 00.8 +1.4**
baz=277
F31M **Tsiigehtchic** 29.71 42 P **P** **22 56 01.1 +0.4**
baz=276
INK **Inuvik** 29.71 40 P **P** **22 56 00.4 -0.3**
INK IAmb IAmb 22 56 12.4
comp=Z,12nm,1.4s
INK **Inuvik** 29.71 40 P **P** **22 56 01.5 +0.8**
baz=275
INK **Inuvik** 29.71 40 P **P** **22 56 00.4 -0.3**
INK pmax pmax
comp=Z,12nm,1.4s
INK **Inuvik** 29.71 40 LR LR 23 07 28.8
comp=Z,153nm,19.7s,baz=320,slow=36
M31M **Drury Creek, Y** 30.37 53 P **P** **22 56 08.4 +1.7**
baz=285
N32M **Quiet Lake** 31.26 54 P **P** **22 56 18.1 +3.5**
baz=287
P32M **Atlin** 31.44 57 P **P** **22 56 20.3 +4.1**
baz=290
KSRS **Korea Array** 31.55 252 P **P** **22 56 16.4 -0.8**
comp=Z,1.1nm,0.7s,baz=41,slow=8.2,SNR=2.2
comp=Z,1.1nm,0.7s
P33M **Teslin, Yukon** 31.67 56 P **P** **22 56 20.8 +2.6**
baz=285
A36M **Sachs Harbour** 32.19 33 P **P** **22 56 25.8 +3.2**
baz=276
R33M **Jennings River** 32.83 57 P **P** **22 56 29.1 +0.6**
R33M IAmb IAmb 22 56 33.0
comp=Z,4.7nm,1.1s
R33M **Jennings River** 32.83 57 P **P** **22 56 30.0 +1.6**
baz=291
C36M **Paulatuk** 32.97 38 P **P** **22 56 29.1 -0.3**
C36M **Paulatuk** 32.97 38 P **P** **22 56 29.5 +0.2**
baz=281,SNR=15
WRAK **Wrangell Islan** 33.30 62 P **P** **22 56 35.4 +3.0**
baz=295
DLBC **Dease Lake** 33.64 58 P **P** **22 56 36.0 +0.6**
DLBC IAmb IAmb 22 56 45.3
comp=Z,7.7nm,1.2s
XLT **XiLinHaoTe** 33.89 272 *e*P P 22 56 25.5 -12
XLT pP pP 22 56 39.0 -4.8
XLT sP sP 22 56 43.5 -2.8
XLT PP PnPn 22 57 34.8 -16
XLT pmax pmax
comp=Z,3.0nm,0.9s
XLT pmax pmax
comp=Z,200nm,5.0s
NRIK **Noril'sk** 36.25 324 ⇓ *e*P **P** **22 56 57.4 -0.3**
NRIK pmax pmax
comp=Z,6.0nm,1.6s
ULN **Ulaanbaatar** 36.65 284 ⇓ *e*P **P** **22 57 02.4 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.2s
SONM **Songino Array** 37.03 284 P **P** **22 57 05.0 +0.2**
SONM **Songino Array** 37.03 284 P **P** **22 57 05.9 +1.1**
comp=Z,1.6nm,0.4s,baz=62,slow=7.3,SNR=5.1
comp=Z,1.6nm,0.4s
BBB **Bella Bella** 37.48 67 LR LR 23 10 22.2
comp=Z,179nm,19.7s,baz=4.5,slow=33
HHC **Hu-ho-hao-te** 38.41 271 *e*P **P** **22 57 17.0 +0.5**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,230nm,6.2s
EUNU **Eureka** 38.78 15 P **P** **22 57 19.0 -0.1**
YKA **Yellowknife Ar** 38.88 47 P **P** **22 57 20.1 +0.1**
comp=Z,2.1nm,0.9s,baz=297,slow=8.3,SNR=8.7
YKA PcP **PcP** **22 59 30.1 -0.3**
comp=Z,0.4nm,0.8s,baz=312,slow=2.7,SNR=2.2
comp=Z,2.1nm,0.9s
RES **Resolute Bay** 39.73 24 LR LR 23 15 08.6
comp=Z,117nm,19.4s,baz=3.0,slow=38
NJ2 **Nanjing** 40.53 255 *e*P **P** **22 57 33.0 -1.1**
NJ2 pP **pP** **22 57 36.3 -3.9**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
LYN **LuoYang** 42.26 264 *e*P **P** **22 57 46.5 -1.8**
LYN pmax pmax
comp=Z,7.0nm,0.7s
LYN LR LR
comp=N,1μm,16.1s
LYN LR LR
comp=E,360nm,14.4s
LYN LR LR
comp=Z,1μm,19.6s
ZALV **Zalesovo Beam** 44.68 304 P **P** **22 58 07.1 -0.5**
ZALV **Zalesovo Beam** 44.68 304 P **P** **22 58 06.5 -1.0**
comp=Z,0.5nm,0.4s,baz=46,slow=6.2,SNR=2.4
ZALV PcP **PcP** **22 59 49.5 -0.2**
comp=Z,0.8nm,0.5s,baz=68,slow=1.4,SNR=4.8
comp=Z,0.5nm,0.4s
NEEM **North Greenlan** 45.39 11 *i* P **P** **22 58 11.6 -1.7**
SPITS **Spitsbergen Ar** 45.46 352 P **P** **22 58 12.8 -0.7**
comp=Z,18nm,0.8s,baz=54,slow=8.4,SNR=18
comp=Z,18nm,0.8s
DGZ **Jazzator, Alta** 46.00 298 ⇑ *e*P **P** **22 58 18.3 0.0**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
GTA **Gaotai** 46.05 279 P **P** **22 58 19.5 +0.7**
GTA pP pwP 22 58 29.0 +4.0
GTA pmax pmax
comp=Z,3.0nm,0.8s
LZH **Lanzhou** 46.08 272 *e*P **P** **22 58 20.8 +1.7**
LZH sP sP 22 58 27.8 +0.1
LZH pmax pmax
comp=Z,8.0nm,1.2s
L04D **Klamath Falls** 46.64 75 P **P** **22 58 23.0 -0.4**
KURK **Kurchatov** 49.67 304 P **P** **22 58 45.4 -1.1**
KURK **Kurchatov** 49.67 304 P **P** **22 58 46.6 +0.1**
KURK 23 00 07.5
WMQ **Urumqi** 49.71 291 *e*P **P** **22 58 48.8 +1.8**
KURBB **Kurchatov Arra** 49.78 304 P **P** **22 58 46.6 -0.7**
comp=Z,3.1nm,0.6s,baz=54,slow=7.9,SNR=31
KURBB PcP **PcP** **23 00 07.5 -0.3**
comp=Z,0.4nm,0.4s,baz=44,slow=2.7,SNR=5.2
comp=Z,3.1nm,0.6s
MK31 **Makanchi Array** 50.50 298 P **P** **22 58 51.5 -1.4**
MK31 **Makanchi Array** 50.50 298 *d* *i*P **P** **22 58 51.9 -1.0**
MKAR **Makanchi Array** 50.50 298 P **P** **22 58 51.7 -1.2**
comp=Z,1.9nm,0.4s,baz=53,slow=6.2,SNR=52
comp=Z,1.9nm,0.4s
WAKR **Walker** 50.78 77 P **P** **22 58 56.0 +0.7**
NVAR **Mina Array Bea** 51.47 76 P **P** **22 59 01.0 +0.5**
comp=Z,0.5nm,0.6s,baz=288,slow=6.1,SNR=4.4
comp=Z,0.5nm,0.6s
RLMT **Red Lodge** 51.63 64 P **P** **22 59 01.9 +0.2**
RLMT IAmb IAmb 22 59 09.3
comp=Z,3.9nm,0.8s
BVAR **Borovoye Array** 51.86 310 P **P** **22 59 01.9 -1.1**
comp=Z,3.1nm,0.6s,baz=52,slow=8.1,SNR=21
BVAR PcP **PcP** **23 00 15.2 -0.4**
comp=Z,1.2nm,0.4s,baz=83,slow=2.2,SNR=8.0
comp=Z,3.1nm,0.6s
BRVK **Borovoye** 51.88 310 P **P** **22 59 02.8 -0.4**
BRVK IAmb IAmb 22 59 03.5

comp=Z,5.0nm,0.6s
BRVK Borovoye 51.88 310 *de* P **P** 22 59 02.9 -0.2
BRVK pmax pmax
comp=Z,11nm,1.7s
PDAR Pinedale Array 53.12 66 P **P** 22 59 13.0 +0.2
comp=Z,0.7nm,0.8s,baz=335,slow=6.6,SNR=4.4
comp=Z,0.7nm,0.8s
MPMC Manual Prospec 53.62 78 P **P** 22 59 17.7 +1.2
baz=317
TPNV Topopah Spring 53.66 76 P **P** 22 59 18.8 +2.1
baz=317
FURC Furnace Creek, 53.67 77 P **P** 22 59 18.9 +2.4
baz=317
FRB Frobisher Bay 53.83 27 LR LR 23 27 03.8
comp=Z,140nm,18.5s,baz=324,slow=42
LRMC Laurel Mtn Rad 53.93 78 P **P** 22 59 20.9 +2.3
baz=317
ARU Arti 54.20 319 P **P** 22 59 19.3 -0.9
ARU IAmb IAmb 22 59 20.2
comp=Z,3.1nm,0.6s
ARU Arti 54.20 319 *d* iP **P** 22 59 19.7 -0.4
ARU 23 01 17.4
ARU S **S** **23 06 59.0 +3.2**
ARU SS **SS** **23 10 36.7 -0.1**
ARU pmax pmax
comp=Z,16nm,2.7s
PZH PanZhiHua 54.38 266 P **P** 22 59 23.0 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.5s
ULM Lac du Bonnet 54.47 51 LR LR 23 23 32.9
comp=Z,204nm,19.3s,baz=308,slow=37
SFJD Kangerlussuaq 54.81 17 LR LR 23 24 50.1
comp=Z,109nm,18.4s,baz=18,slow=38
SRU San Rafael Swe 55.22 70 P **P** 22 59 29.1 +1.1
SRU IAmb IAmb 22 59 53.8
comp=Z,3.4nm,0.7s
SRU San Rafael Swe 55.22 70 P **P** 22 59 29.1 +1.1
SRU pmax pmax
comp=Z,3.0nm,0.7s
ISCO Idaho Springs 57.32 66 P **P** 22 59 43.7 +0.6
ISCO IAmb IAmb 23 00 09.6
comp=Z,7.2nm,1.4s
ISCO Idaho Springs 57.32 66 P **P** 22 59 43.7 +0.6
ISCO pmax pmax
comp=Z,7.0nm,1.4s
AAK Ala-Archa 57.37 299 P **P** 22 59 42.9 -0.4
AAK Ala-Archa 57.37 299 P **P** 22 59 42.9 -0.4
AAK pmax pmax
comp=Z,11nm,1.3s
MVCO Mesa Verde 57.70 70 P **P** 22 59 47.2 +1.4
baz=318
Q24A Divide 58.18 67 P **P** 22 59 49.5 +0.3
baz=318
S22A 4UR Ranch, Cre 58.20 69 P **P** 22 59 50.5 +1.2
baz=318
KK31 Karatay Array 58.98 302 P **P** 22 59 53.5 -0.9
KK31 Karatay Array 58.98 302 P **P** 22 59 53.5 -0.9
KK31 pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 58.98 302 P **P** 22 59 53.5 -0.8
KKAR Karatay Array 58.98 302 P **P** 22 59 53.6 -0.8
KKAR pmax pmax
comp=Z,3.0nm,1.0s
ABKAR Akbulak array 59.09 313 P **P** 22 59 54.1 -0.8
ABKAR Akbulak array 59.09 313 P **P** 22 59 54.2 -0.8
ABKAR IAmb IAmb 22 59 55.0
comp=Z,4.6nm,1.5s
FINES FINESS Array B 59.42 339 P **P** 22 59 56.5 -0.6
FINES FINESS Array B 59.42 339 P **P** 22 59 55.0 -2.1
comp=Z,1.7nm,0.8s,baz=104,slow=3.9,SNR=4.7
FINES PcP **PcP** **23 00 42.5 -2.2**
comp=Z,2.6nm,1.0s,baz=22,slow=7.2,SNR=2.0
comp=Z,1.7nm,0.8s
BGNE Belgrade 59.92 60 P **P** 23 00 00.6 -0.3
baz=319
BORG Borgarnes 60.05 4 LR LR 23 26 22.8
comp=Z,64nm,18.1s,baz=84,slow=37
SCHQ Schefferville 61.79 32 P **P** 23 00 13.1 -0.3
SCHQ Schefferville 61.79 32 P **P** 23 00 12.0 -1.4
comp=Z,3.3nm,0.7s,baz=309,slow=5.6,SNR=9.3
comp=Z,3.3nm,0.7s
NC204 NORSAR Array S 62.12 347 P **P** 23 00 15.1 -0.5
CMAR Chiang Mai Arr 62.29 262 P **P** 23 00 17.7 +0.5
comp=Z,0.8nm,0.3s,baz=19,slow=8.6,SNR=4.8
comp=Z,0.8nm,0.3s
NOA NORSAR Array B 62.29 347 P **P** 23 00 15.7 -1.0
comp=Z,0.4nm,0.4s,baz=12,slow=6.4,SNR=6.6
comp=Z,0.4nm,0.4s
HFS Hagfors 62.82 345 P **P** 23 00 18.7 -1.4
comp=Z,1.5nm,0.6s,baz=35,slow=5.4,SNR=7.4
comp=Z,1.5nm,0.6s
MNTX Cornudas Mount 63.54 72 P **P** 23 00 25.2 -0.2
baz=321
WMOK Wichita Mounta 64.70 65 P **P** 23 00 33.5 +0.5
WMOK Wichita Mounta 64.70 65 P **P** 23 00 33.5 +0.5
WMOK pmax pmax
comp=Z,4.0nm,1.0s
MNK Minsk 65.34 335 *i* P **P** 23 00 35.2 -1.6
MNK *i* 23 02 59.1
MNK *i* PPP PPP 23 04 31.7
MNK *i* S **S** **23 09 18.3 -1.0**
MNK *i* SS **SS** **23 13 33.2 +1.9**
MNK pmax pmax
comp=N,13nm,1.2s
MNK pmax pmax
comp=Z,7.0nm,1.0s
MNK pmax pmax
comp=E,6.0nm,1.2s
MNK MLR MLR
comp=E,90nm,18.0s
MNK MLR MLR
comp=N,136nm,19.0s
MNK MLR MLR
comp=Z,151nm,12.0s
TX31 Lajitas Ar. Si 66.30 72 P **P** 23 00 44.0 +0.5
TX31 IAmb IAmb 23 00 50.4
comp=Z,2.9nm,0.8s
TXAR Lajitas Array 66.30 72 P **P** 23 00 44.0 +0.5
TXAR Lajitas Array 66.30 72 P **P** 23 00 44.0 +0.5
comp=Z,1.2nm,0.6s,baz=301,slow=4.4,SNR=12
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 68.47 332 P **P** 23 00 55.8 -1.0
comp=Z,0.6nm,0.4s,baz=26,slow=6.2,SNR=4.1
comp=Z,0.6nm,0.4s
KBZ Khabaz 70.34 320 ǁ *eP* **P** 23 01 10.2 +1.8
KBZ pmax pmax
comp=Z,11nm,1.6s
LANS Liptovska Anna 72.25 338 *eP* **P** 23 01 21.3 +1.4
LANS Liptovska Anna 72.25 338 *eP* **P** 23 01 21.3 +1.4
VYHS Vyhne 73.01 338 *eP* **P** 23 01 25.5 +1.1
VYHS Vyhne 73.01 338 *eP* **P** 23 01 25.5 +1.1
MODS Modra-Piesok 73.44 339 *eP* **P** 23 01 30.6 +3.6
MODS Modra-Piesok 73.44 339 *eP* **P** 23 01 30.6 +3.6
BRTR Keskin Array B 77.10 325 P **P** 23 01 46.8 -1.6
comp=Z,0.5nm,0.9s,baz=87,slow=3.6,SNR=2.1
comp=Z,0.5nm,0.9s
PPT Papeete 81.61 138 LR LR 23 28 56.4
comp=Z,77nm,21.6s,baz=182,slow=29
ASAR Alice Springs 83.51 210 P **P** 23 02 22.1 -0.6
comp=Z,1.4nm,1.0s,baz=8.2,slow=5.3,SNR=4.9
ASAR LR LR 23 35 40.5
comp=Z,219nm,22.0s,baz=246,slow=33
comp=Z,1.4nm,1.0s
ESDC Sonseca Array 84.97 353 P **P** 23 02 30.5 +0.4
comp=Z,1.0nm,0.9s,baz=358,slow=2.5,SNR=4.3
comp=Z,1.0nm,0.9s
QSPA South Pole Qui 145.13 180 PKPbc **PKPbc** 23 09 29.7 -0.9
comp=Z,6.3nm,0.9s,baz=308,slow=1.0,SNR=15

IDC ***27*** *22:50:31.6±5.7, 49.44N×150.61E, h409km±86km, mb3.0/6, mbtmp3.7/8, Error ellipse: s-maj=63.5km s-min=24.9km az=173.0*

ISC 27 22:50:30.9±1.7, 49°5N±0.2×150°7E±0.2, h400km, n8, σ0.61/8, mb3.2/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**12.34**	**276**	P		P	**P**	**22 53 14.8**	**+0.6**
	1.6nm,0.7s,baz=77,slow=9.5,SNR=7.1								
MJAR	**Matsushiro Arr**	**15.78**	**220**	P		P	**P**	**22 53 51.6**	**-0.2**
	0.6nm,0.4s,baz=24,slow=11,SNR=4.1								
ZALV	**Zalesovo Beam**	**39.72**	**302**	P		P	**P**	**22 57 25.1**	**-1.2**
	0.3nm,0.4s,baz=85,slow=9.3,SNR=2.6								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**44.28**	**294**	P		P	**P**	**22 58 02.4**	**-0.3**
	0.5nm,0.5s,baz=68,slow=7.4,SNR=15								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**44.62**	**300**	P		P	**P**	**22 58 05.1**	**-0.1**
	1.1nm,0.6s,baz=69,slow=8.3,SNR=15								
	1.1nm,0.6s								
BVAR	**Borovoye Array**	**47.89**	**307**	P		P	**P**	**22 58 30.3**	**+0.1**
	0.8nm,0.5s,baz=54,slow=8.2,SNR=8.0								
	0.8nm,0.5s								
YKA	**Yellowknife Ar**	**49.74**	**37**	P		P	**P**	**22 58 44.1**	**+0.2**
	0.2nm,0.3s,baz=301,slow=7.6,SNR=4.9								
	0.2nm,0.3s								
FINES	**FINESS Array B**	**60.87**	**333**	P		P	**P**	**23 00 02.3**	**+0.1**
	0.9nm,0.4s,baz=34,slow=7.4,SNR=20								
	0.9nm,0.4s								

IDC ***27*** *23:03:50.6±2.8, 55.75N×149.74W, h0km, mb3.4/4, mbtmp3.4/8, ML3.1/4, MS3.1/1, Error ellipse: s-maj=55.7km s-min=27.6km az=0.0*

NEIC ***27*** *23:03:50.9±1.3, 55.95N±0.09×149.8W±0.1, h9km±7km, mb3.7/2, ML3.8/40, ML3.5(AEIC), Error ellipse: s-maj=12.4km s-min=8.3km az=176.0*

AEIC ***27*** *23:03:55.9±1.6, 55.99N±0.08×149.70W±0.10, h11km±7km, Error ellipse: s-maj=12.5km s-min=7.7km az=166.0*

ISC 27 23:03:53.2±1.0, 56.15N±0.08×149.81W±0.06, h10km, n187, σ0.93/186, mb3.6/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.20**	**301**				**Pn**	**23 04 28.8**	**-1.0**
OHAK							**Sn**	**23 04 54.6**	**-2.4**
OHAK	**Old Harbor**	**2.20**	**301**	P			**Pn**	**23 04 29.1**	**-0.6**
	baz=122								
OHAK				S			**Sn**	**23 04 54.8**	**-2.2**
	baz=122								
KDAK	**Kodiak Island**	**2.24**	**318**				**Pn**	**23 04 30.0**	**-0.2**
KDAK	**Kodiak Island**	**2.24**	**318**				**Sn**	**23 04 56.0**	**-1.8**
KDAK	**Kodiak Island**	**2.24**	**318**	Pn			**Pn**	**23 04 30.0**	**-0.2**
	7.0nm,0.3s,baz=146,slow=5.2,SNR=70								
KDAK				Sn			**Sn**	**23 04 56.2**	**-1.7**
	12nm,0.3s,baz=227,slow=19,SNR=16								
KDAK				LR		LR	23 05 40.7		
	comp=Z,386nm,20.6s,baz=16,slow=43								
	21nm,0.4s								
SII	**Sitkinak Islan**	**2.47**	**281**	Pn			**Pn**	**23 04 31.7**	**-1.8**
SII				IAML			23 05 05.5		
	comp=N,360nm,0.6s								
SII	**Sitkinak Islan**	**2.47**	**281**	S			**Sn**	**23 05 01.2**	**-2.5**
	baz=102								
Q20K	**Shuyak Island**	**2.84**	**332**	P			**Pn**	**23 04 38.6**	**+0.1**
	baz=151								
Q20K				S			**Sn**	**23 05 12.7**	**0.0**
	baz=151								
SYI	**Shuyak Island**	**2.84**	**332**				**Pn**	**23 04 38.8**	**+0.3**
SYI							**Sn**	**23 05 12.4**	**-0.3**
Q19K	**Cape Douglas,**	**3.47**	**325**				**Pn**	**23 04 48.1**	**+0.8**
Q19K	**Cape Douglas,**	**3.47**	**325**	P			**Pn**	**23 04 48.5**	**+1.2**
	baz=143								
CNPM	**China Poot**	**3.47**	**348**				**Pn**	**23 04 46.9**	**-0.4**
CNPM							**Sn**	**23 05 28.0**	**-0.4**
CNPM				IAML			23 05 29.7		
	comp=N,74nm,0.5s								
CNPM				IAML			23 05 30.3		
	comp=E,79nm,0.6s								
KAHG	**Katmai Hook Gl**	**3.48**	**314**				**Pn**	**23 04 48.6**	**+1.2**
BRSE	**Bradley Lake S**	**3.64**	**353**				**Pn**	**23 04 49.2**	**-0.4**
BRSE							**Sn**	**23 05 31.9**	**-0.6**
BRSE	**Bradley Lake S**	**3.64**	**353**	P			**Pn**	**23 04 49.2**	**-0.4**
	baz=172								
BRSE				S			**Sn**	**23 05 31.9**	**-0.6**
	baz=172								
BRLK	**Bradley Lake**	**3.67**	**351**				**Pn**	**23 04 49.4**	**-0.7**
BRLK				IAML			23 05 36.3		
	comp=N,72nm,0.8s								
ANCK	**Angle Creek**	**3.72**	**306**				**Pn**	**23 04 51.5**	**+0.8**
KAHC	**Katmai Hardscr**	**3.77**	**314**				**Pn**	**23 04 52.3**	**+0.9**
KAHC	**Katmai Hardscr**	**3.77**	**314**	P			**Pn**	**23 04 52.3**	**+0.9**
	baz=131								
Q23K	**Middleton Isla**	**3.78**	**28**	Pn			**Pn**	**23 04 50.8**	**-0.6**
Q23K				IAML			23 06 35.5		
	comp=E,216nm,2.1s								
MID	**Middleton Isla**	**3.78**	**28**	Pn			**Pn**	**23 04 50.6**	**-0.8**
MID				IAML			23 05 26.1		
	comp=N,205nm,2.3s								
Q17K	**Contact Creek**	**3.93**	**305**	P			**Pn**	**23 04 54.0**	**+0.4**
	baz=122								
KELA	**Mount Kelaz**	**3.96**	**308**				**Pn**	**23 04 54.9**	**+1.0**
P19K	**Oil Pt**	**3.96**	**334**	Pn			**Pn**	**23 04 54.3**	**+0.3**
P19K				IAML			23 05 46.4		
	comp=N,173nm,0.6s								
P19K				IAML			23 05 46.5		
	comp=E,170nm,0.6s								
P19K	**Oil Pt**	**3.96**	**334**	P			**Pn**	**23 04 54.5**	**+0.5**
	baz=152								
P23K	**Montague Islan**	**4.07**	**17**				**Pn**	**23 04 55.1**	**-0.3**
P23K	**Montague Islan**	**4.07**	**17**	P			**Pn**	**23 04 55.1**	**-0.3**
	baz=198								
P23K				S			**Sn**	**23 05 40.4**	**-2.6**
	baz=198								
PLK1	**Peulik 1**	**4.07**	**297**				**Pn**	**23 04 55.8**	**+0.4**
IVE	**Iliamna Volcan**	**4.24**	**338**				**Pn**	**23 04 57.4**	**-0.5**
O22K	**Cooper Landing**	**4.35**	**1**	Pn			**Pn**	**23 04 58.3**	**-0.9**
P18K	**Big Mountain,**	**4.36**	**321**				**Pn**	**23 04 59.3**	**-0.2**
P18K	**Big Mountain,**	**4.36**	**321**	P			**Pn**	**23 04 59.1**	**-0.4**
	baz=137								
SLKM	**Skilak Lake**	**4.38**	**357**				**Pn**	**23 04 59.2**	**-0.5**
RSO	**Redoubt South**	**4.60**	**341**				**Pn**	**23 05 02.2**	**-0.7**
HIN	**Hinchinbrook I**	**4.61**	**21**				**Pn**	**23 05 02.5**	**-0.3**
HIN				IAML			23 05 57.7		
	comp=N,62nm,0.6s								
HIN				IAML			23 05 58.8		
	comp=E,87nm,2.9s								
RDWB	**Redoubt West**	**4.64**	**341**				**Pn**	**23 05 02.9**	**-0.5**
P17K	**Kvichak River**	**4.69**	**313**				**Pn**	**23 05 04.4**	**+0.5**
P17K	**Kvichak River**	**4.69**	**313**	P			**Pn**	**23 05 04.4**	**+0.5**
	baz=129								
O18K	**Koktuh Hills**	**4.70**	**325**				**Pn**	**23 05 03.7**	**-0.4**
O18K				IAML			23 06 00.6		
	comp=N,65nm,0.9s								
O18K				IAML			23 06 13.1		
	comp=E,46nm,0.8s								
O18K	**Koktuh Hills**	**4.70**	**325**	P			**Pn**	**23 05 04.0**	**-0.1**
	baz=141								
O19K	**Port Alsworth**	**4.71**	**331**				**Pn**	**23 05 04.3**	**+0.1**
O19K				IAML			23 06 07.6		
	comp=N,105nm,0.5s								
KAIM	**Kayak Island**	**4.75**	**35**	Pn			**Pn**	**23 05 04.5**	**-0.3**
KAIM	**Kayak Island**	**4.75**	**35**	P			**Pn**	**23 05 04.2**	**-0.5**
	baz=218								
CHGN	**Chignik**	**4.81**	**275**				**Pn**	**23 05 03.7**	**-1.8**
CHGN				IAML			23 06 03.6		
	comp=N,67nm,0.1s								
CHGN				IAML			23 06 08.7		
	comp=E,65nm,0.7s								
EYAK	**Cordova Ski Ar**	**4.90**	**24**				**Pn**	**23 05 06.9**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P			**Pn**	**23 05 06.7**	**-0.1**
	baz=206								
FID	**Port Fidalgo**	**4.94**	**19**				**Pn**	**23 05 07.0**	**-0.4**
FID				IAML			23 06 01.9		
	comp=E,45nm,0.7s								
FID				IAML			23 06 06.8		
	comp=N,42nm,1.6s								
RC01	**Rabbit Creek A**	**4.96**	**0**				**Pn**	**23 05 07.2**	**-0.5**
RC01				IAML			23 06 06.3		
	comp=E,44nm,0.6s								
RC01				IAML			23 06 13.6		
	comp=N,25nm,0.7s								
RAGM	**Ragged Mountai**	**5.04**	**30**				**Pn**	**23 05 08.8**	**0.0**
RAGM				IAML			23 06 20.8		
ARCES	**ARCESS Array B**	**79.90**	**340**	P			**P**	**23 05 19.3**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=94,slow=7.6,SNR=11								
	comp=Z,0.6nm,0.4s								
GERES	**GERESS Array B**	**82.36**	**319**	P			**P**	**23 05 34.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=108,slow=5.3,SNR=2.3								
	comp=Z,0.5nm,0.6s								
HFS	**Hagfors**	**83.12**	**330**	P			**P**	**23 05 36.3**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=107,slow=5.1,SNR=8.1								
	comp=Z,2.2nm,0.8s								
SPITS	**Spitsbergen Ar**	**84.34**	**348**	P			**P**	**23 05 41.6**	**-1.0**
	comp=Z,15nm,1.1s,baz=116,slow=9.5,SNR=7.3								
	comp=Z,15nm,1.1s								
FUORN	**Ofenpass-Fuorn**	**84.61**	**316**	P			**P**	**23 05 45.6**	**+0.7**
FUORN				IAmb			IAmb	23 06 01.1	
	comp=Z,2.9nm,1.2s								
DAVOX	**Davos/Dischmat**	**84.87**	**316**	P			**P**	**23 05 46.4**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=63,slow=6.8,SNR=4.5								
	comp=Z,2.1nm,0.5s								
KEST	**Kesra**	**85.39**	**305**	P			**P**	**23 05 49.9**	**+1.1**
KEST	**Kesra**	**85.39**	**305**	P			**P**	**23 05 49.9**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=174,slow=5.9,SNR=4.9								
	comp=Z,3.8nm,0.8s								
QSPA	**South Pole Qui**	**93.62**	**180**	P			**P**	**23 06 27.9**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=241,slow=1.7,SNR=1.6								
	comp=Z,0.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**93.64**	**283**	P			**P**	**23 06 28.5**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=60,slow=4.4,SNR=2.1								
	comp=Z,0.5nm,0.8s								
NVAR	**Mina Array Bea**	**127.27**	**34**	PKP			**PKPdf**	**23 12 16.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=284,slow=3.6,SNR=2.7								

comp=E,81nm,2.2s
GOAT Goat Mountain 5.19 29 Pn 23 05 10.9 +0.1
P16K Nushagak River 5.27 307 P Pn 23 05 12.4 +0.6
baz=121
SPCP Crater Peak Br 5.28 348 Pn 23 05 11.8 -0.4
N19K Bonanza Creek 5.28 334 Pn 23 05 11.7 -0.4
N19K Bonanza Creek 5.28 334 P Pn 23 05 11.8 -0.4
baz=151
O17K Koliganek Bris 5.32 316 P Pn 23 05 13.0 +0.5
baz=131
KNK Knik Glacier 5.33 7 Pn 23 05 12.8 0.0
KNK Knik Glacier 5.33 7 P Pn 23 05 12.9 +0.2
baz=188
SUA Susitna One 5.36 355 Pn Pn 23 05 12.2 -1.0
SUA Susitna One 5.36 355 P Pn 23 05 12.6 -0.6
baz=174
DIV Divide 5.42 21 Pn 23 05 14.4 +0.3
S14K Fog Glacier 5.44 275 P Pn 23 05 13.9 -0.5
baz=89
VNFG Fog Glacier, M 5.44 275 Pn 23 05 14.2 -0.2
SNH Sunshine Point 5.47 39 Pn Pn 23 05 14.4 -0.4
BMRM Bremner River 5.55 27 Pn 23 05 15.9 +0.1
BMRM Bremner River 5.55 27 P Pn 23 05 15.9 +0.1
baz=211
N18K Kilae Creek 5.55 327 Pn 23 05 15.7 -0.1
N18K Kilae Creek 5.55 327 P Pn 23 05 15.7 -0.1
baz=143
O16K Kokwok River B 5.61 311 Pn 23 05 17.1 +0.5
GHO Glory Hole Cre 5.66 4 Pn 23 05 17.9 +0.5
CHNA Chernabura Isl 5.72 261 P Pn 23 05 16.3 -1.7
baz=75
CNBA Chernabura Isl 5.72 261 Pn Pn 23 05 15.3 -2.8
KLU Klutina 5.73 19 Pn 23 05 18.3 0.0
KLU Klutina 5.73 19 P Pn 23 05 18.7 +0.4
baz=202
SML Sawmill 5.73 7 Pn 23 05 18.2 0.0
SML Sawmill 5.73 7 P Pn 23 05 18.7 +0.4
baz=188
BARK Barkley Ridge 5.75 39 Pn 23 05 18.7 0.0
SCM Sheep Creek Mo 5.84 12 Pn Pn 23 05 20.4 +0.6
SCM Sheep Creek Mo 5.84 12 P Pn 23 05 20.5 +0.6
baz=193
N17K Nushagak Hills 5.86 322 Pn Pn 23 05 20.0 0.0
M20K Styx River 6.00 345 Pn 23 05 22.8 +0.7
VRDI Verde Repeater 6.08 30 Pn Pn 23 05 23.1 -0.1
SDPT Sand Point 6.08 267 Pn Pn 23 05 21.3 -1.7
SDPT Sand Point 6.08 267 P Pn 23 05 21.8 -1.2
baz=80
N25K Chitina, Valde 6.10 24 Pn 23 05 23.8 +0.3
N25K Chitina, Valde 6.10 24 P Pn 23 05 23.9 +0.4
baz=208
GLB Gilahina Butte 6.16 28 Pn Pn 23 05 24.2 +0.1
M18K Stony River 6.20 332 Pn 23 05 24.2 -0.5
M18K Stony River 6.20 332 P Pn 23 05 24.2 -0.5
baz=148
M24K Tolsona, Glenn 6.26 16 Pn 23 05 26.6 +1.0
MCARA McCarthy VSAT 6.32 31 Pn 23 05 26.7 +0.3
MCARA McCarthy VSAT 6.32 31 P Pn 23 05 26.5 +0.1
baz=216
N16K Nishlik Lake 6.41 316 Pn 23 05 28.0 +0.5
N16K Nishlik Lake 6.41 316 P Pn 23 05 28.0 +0.5
baz=130
PCA Pinnacle 6.42 48 Pn 23 05 27.8 0.0
PINM Pinnacle 6.42 48 P Pn 23 05 27.9 +0.1
baz=235
BARN Barnard Glacie 6.51 37 Pn 23 05 29.2 +0.1
WAT6 Susitna Watana 6.54 8 Pn 23 05 29.6 +0.1
WAT6 Susitna Watana 6.54 8 P Pn 23 05 29.6 +0.1
baz=190
CTG Chitna Glacier 6.55 39 P Pn 23 05 29.7 0.0
baz=225
CTGM Chitina Glacie 6.55 39 Pn 23 05 29.5 -0.2
PNL Peninsula 6.57 53 Pn 23 05 29.8 0.0
PNL Peninsula 6.57 53 P Pn 23 05 29.8 0.0
baz=241
LOGN Logan Glacier 6.58 41 Pn 23 05 29.8 -0.3
M17K Holitna River 6.59 326 Pn 23 05 30.3 +0.3
HARP HAARP 6.71 19 Pn 23 05 32.6 +1.0
HARP HAARP 6.71 19 P Pn 23 05 32.6 +1.0
baz=202
N15K Kwethluk River 6.77 311 Pn 23 05 33.7 +1.2
N15K Kwethluk River 6.77 311 P Pn 23 05 33.3 +0.8
baz=123
M16K Timber Creek 6.84 319 Pn 23 05 33.9 +0.4
M16K Timber Creek 6.84 319 P Pn 23 05 33.8 +0.4
baz=133
O14K Tigyukauivet M 6.88 302 Pn 23 05 34.5 +0.4
O14K Tigyukauivet M 6.88 302 P Pn 23 05 34.4 +0.3
baz=113
PN7A Pavlof North-7 6.91 269 Pn 23 05 33.7 -0.8
DHY Denali Highway 7.06 9 Pn 23 05 37.1 +0.5
O29M Mount Kennedy 7.24 50 Pn 23 05 39.4 +0.3
O29M Mount Kennedy 7.24 50 P Pn 23 05 38.7 -0.4
baz=238
RND Reindeer 7.30 3 Pn Pn 23 05 41.2 +1.4
P29M Windy Craggy 7.32 57 Pn 23 05 39.3 -0.7
P29M Windy Craggy 7.32 57 P Pn 23 05 39.7 -0.4
baz=245
TRF Thorofare Moun 7.33 358 Pn Pn 23 05 40.2 -0.1
CAST Castle Rocks 7.38 352 Pn Pn 23 05 42.1 +1.2
M27K Edge Creek, AK 7.43 30 Pn 23 05 42.4 +0.7
KTH Kantishna Hill 7.45 356 Pn Pn 23 05 43.2 +1.3
L16K Owhat River 7.49 322 Pn Pn 23 05 42.5 +0.2
S31K Pelican 7.62 71 Pn Pn 23 05 41.5 -2.7
S31K Pelican 7.62 71 P Pn 23 05 41.5 -2.7
baz=260
L26K Log Cabin Wild 7.63 23 Pn 23 05 45.4 +1.1
PLBC Pleasant Camp 7.91 60 Pn 23 05 47.8 -0.3
PLBC Pleasant Camp 7.91 60 P Pn 23 05 47.7 -0.3
baz=250
HYT Haines Junctio 7.97 49 Pn Pn 23 05 48.9 -0.1
RIDG Independent Ri 8.01 16 Pn 23 05 50.1 +0.5
ISLZ Isanotski Laza 8.04 266 Pn 23 05 48.4 -1.5
BCAR Beaver Creek A 8.04 27 Pn Pn 23 05 49.7 -0.2
SIT Sitka 8.05 77 Pn Pn 23 05 46.3 -3.7
SCRK Sand Creek 8.37 18 Pn Pn 23 05 54.8 +0.2
S32K Killisnoo 8.46 75 Pn Pn 23 05 53.2 -2.5
L14K Kuka Creek 8.47 313 Pn 23 05 56.2 +0.4
L14K Kuka Creek 8.47 313 P Pn 23 05 56.5 +0.7
baz=123
M29M Somme Creek 8.57 38 Pn 23 05 57.5 +0.3
M29M Somme Creek 8.57 38 P Pn 23 05 57.5 +0.3
baz=227
R32K Eaglecrest 8.57 69 Pn Pn 23 05 53.1 -4.0
CCB Clear Creek Bu 8.59 6 Pn Pn 23 05 58.2 +0.9
JIS Juneau Island 8.64 69 Pn Pn 23 05 55.6 -2.5
IL31 8.77 8 Pn Pn 23 06 00.4 +0.5
ILAR Eielson Array 8.77 8 Pn Pn 23 06 01.1 +1.1
comp=E,0.1nm,0.3s,baz=188,slow=14,SNR=10
ILAR Sn Sn 23 07 34.6 -4.1
comp=E,0.3nm,0.3s,baz=200,slow=22,SNR=8.0
comp=E,0.5nm,0.5s
MDM Murphy Dome 8.88 4 Pn 23 06 01.6 +0.2
J26L Joseph Creek 8.93 18 Pn 23 06 02.4 +0.2
J26L Joseph Creek 8.93 18 P Pn 23 06 02.3 +0.2
baz=203
J16K Anvik River 8.99 327 Pn Pn 23 06 03.1 +0.3
N31M Braeburn, Yuko 9.02 48 Pn 23 06 03.6 +0.2
I21K Tanana 9.12 354 Pn 23 06 05.8 +1.1
I21K Tanana 9.12 354 P Pn 23 06 05.4 +0.6
baz=172
L29M L29M 9.14 35 Pn 23 06 05.1 +0.1
P32M Atlin 9.24 61 Pn Pn 23 06 05.2 -1.1
M30M Minto, Yukon 9.24 40 Pn Pn 23 06 06.5 +0.1
U33K Whale Pass 9.32 83 Pn Pn 23 06 04.0 -3.4
EGAK Eagle 9.64 23 Pn Pn 23 06 11.8 0.0
H21K Melozitna Rive 9.65 353 Pn 23 06 11.3 -0.7
Q32M Nakina River 9.83 66 Pn Pn 23 06 11.6 -3.1
P33M Teslin, Yukon 9.85 59 Pn 23 06 13.6 -1.1
H18K Honhosa River 9.95 339 Pn Pn 23 06 16.2 +0.1
N32M Quiet Lake 10.04 53 Pn Pn 23 06 16.3 -1.1
IMAR Indian Mountai 10.05 351 Pn Pn 23 06 17.5 +0.1
H17K Granite Mounta 10.11 335 Pn Pn 23 06 17.6 -0.6
R33M Jennings River 10.57 64 Pn Pn 23 06 23.2 -1.4
G23K Bananza Creek 10.60 360 Pn 23 06 23.9 -1.1
DLBC Dease Lake 10.94 70 Pn Pn 23 06 30.0 +0.3
comp=E,0.1nm,0.3s,baz=200,slow=4.9,SNR=3.0
comp=E,1.8nm,0.8s
ANM Nome 11.39 324 Pn Pn 23 06 36.7 +0.9
BMAR Burnt Mountain 11.58 10 Pn Pn 23 06 39.0 +0.6
D27M Malcolm River 13.73 13 Pn Pn 23 07 08.1 +0.4
INK Inuvik 14.29 25 Pn Pn 23 07 15.9 +0.7
INK Inuvik 14.29 25 Pn Pn 23 07 16.2 +0.9
baz=214,slow=11,SNR=5.8

B22K Teshekpuk Lake 14.34 355 Pn Pn 23 07 15.9 0.0
C36M Paulatuk 17.51 31 P Pn 23 07 57.7 +0.7
C36M IAmb IAmb 23 08 25.7
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 18.86 56 P P 23 08 11.9 -1.2
YKA Yellowknife Ar 18.86 56 P P 23 08 13.4 +0.3
baz=264,slow=10,SNR=10
comp=Z,1.2nm,1.0s
A36M Sachs Harbour 18.92 24 P P 23 08 13.8 +0.1
A36M IAmb IAmb 23 08 17.9
comp=Z,6.8nm,0.8s
H11N2 WAKE ISLAND Hy 48.56 240 T T 00 05 18.5
baz=29
H11N3 WAKE ISLAND Hy 48.57 239 T T 00 05 07.5
baz=29
H11N1 WAKE ISLAND Hy 48.58 240 T T 00 05 29.5
baz=29
H11S1 WAKE ISLAND Hy 49.70 239 T T 00 06 52.4
baz=25,slow=74
H11S2 WAKE ISLAND Hy 49.72 239 T T 00 06 54.9
baz=25
H11S3 WAKE ISLAND Hy 49.72 239 T T 00 06 58.4
baz=25,slow=74
ZALV Zalesovo Beam 61.51 327 P P 23 14 10.1 +0.4
comp=Z,0.3nm,0.4s,baz=32,slow=8.5,SNR=1.6
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 66.28 335 P P 23 14 44.3 +3.2
comp=Z,0.7nm,0.9s,baz=39,slow=7.4,SNR=3.1
comp=Z,0.7nm,0.9s
KURBB Kurchatov Arra 66.30 329 P P 23 14 43.6 +2.4
comp=Z,0.3nm,1.0s,baz=26,slow=6.1,SNR=1.9
comp=Z,0.3nm,1.0s
MKAR Makanchi Array 68.53 324 P P 23 14 55.6 +0.1
comp=Z,0.1nm,0.5s,baz=48,slow=4.3,SNR=1.6
comp=Z,0.1nm,0.5s

*IPEC **27** 23:08:31.9±0.2, 51°.51N×16°.17E, h1km, ML2.0/4, Error ellipse: s-maj=2.0km s-min=1.1km az=36.0*
*IDC **27** 23:08:33.4±0.9, 51°.47N×16°.02E, h0km, mbtmp3.1/6, ML2.4/6, Error ellipse: s-maj=15.8km s-min=9.0km az=111.0*
*VIE **27** 23:08:33.3±1.1, 51°.42N×15°.94E, h0km, mb2.5/3, ml2.4/4, Error ellipse: s-maj=9.7km s-min=6.1km az=49.0 82 km WNW of Wroclaw Suspected Mining induced.*
*PRU **27** 23:08:34.5, 51°.44N×16°.09E, h0km*

ISC 27 23:08:31.3±0.9, 51°.54N±0°.04×16°.14E±0°.03, h0km, n34, σ0°92/61, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.70	172	ePg	Pg	23 08 45.4	+0.6
KSP				eSg	Sg	23 08 54.8	+1.0
UPC	Upice	1.03	184	ePG	Pg	23 08 51.5	+0.4
UPC				eSG	Sg	23 09 04.7	+0.2
	comp=Z,32nm,0.3s						
DPC	Dobruska-Polom	1.20	174	ePG	Pg	23 08 54.1	-0.1
DPC				eSG	Sg	23 09 09.1	-0.5
	comp=Z,9.8nm,0.5s						
PVCC	Panska Ves	1.42	225	ePG	Pn	23 08 58.7	+0.4
PVCC				eSG	Sb	23 09 17.5	+0.4
	comp=Z,33nm,0.2s						
KRLC	Kraliky	1.52	164	ePG	Pn	23 08 59.7	-0.1
KRLC				eSG	Sn	23 09 20.3	0.0
BRG	Berggiesshubel	1.53	245	Pg	Pb	23 09 01.1	+0.5
BRG				Sg	Sn	23 09 21.0	+0.5
BRG				Amp		23 09 23.1	
	comp=Z,15nm,0.4s						
RICC	Richard	1.63	233	ePG	Pn	23 09 01.6	+0.4
GOPC	GO Pecny, Ondr	1.84	208	ePG	Pb	23 09 05.4	-0.4
PRU	Pruhonice	1.85	214	ePG	Pb	23 09 05.6	-0.4
PRU				eSG	Sb	23 09 30.1	+0.4
	comp=Z,12nm,0.3s						
HSKC	Hora Svate Kat	1.94	242	ePG	Pb	23 09 07.5	-0.1
HSKC				eSG	Sb	23 09 32.6	+0.2
CLL	Collm	1.98	265	ePg	Pb	23 09 08.0	-0.1
CLL				*i* x	x	23 09 12.7	
CLL				eSg	Sb	23 09 34.0	+0.7
MORC	Moravsky Berou	1.98	153	ePn	Pn	23 09 06.0	-0.1
	baz=334						
MORC				eSg	Sb	23 09 32.5	-0.9
	comp=Z,12nm,0.5s,baz=334						
VRAC	Vranov	2.25	172	ePn	Pn	23 09 09.8	0.0
	baz=353						
VRAC				eSg	Sb	23 09 41.5	+0.3
	comp=Z,5.0nm,0.2s,baz=353						
VRAC	Vranov	2.25	172	Pn	Pn	23 09 09.8	0.0
	comp=Z,0.7nm,0.3s,baz=344,slow=18,SNR=9.5						
VRAC				Sn	Sb	23 09 40.6	-0.6
	comp=Z,1.8nm,0.3s,baz=268,slow=22,SNR=9.5						
	comp=Z,1.7nm,0.3s						
TREC	Trest	2.28	191	ePG	Pb	23 09 13.7	+0.3
ZVC	Zvikov	2.44	211	ePN	Pn	23 09 12.4	0.0
ZVC				ePG	Pb	23 09 17.2	+1.1
KRUC	Moravsky	2.48	176	ePn	Pn	23 09 13.1	+0.1
	baz=357						
KRUC				eSg	Sb	23 09 48.8	+0.9
	comp=Z,5.7nm,0.5s,baz=357						
KRUC	Moravsky	2.48	176	ePN	Pn	23 09 13.2	+0.2
KRUC				eSG	Sb	23 09 48.9	+1.0
OJC	Ojcow	2.67	118	ePg	Pg	23 09 22.8	+0.3
OJC				eSg	Sg	23 09 58.0	+1.0
NKC	Novy Kostel	2.68	242	ePN	Pn	23 09 17.3	+1.6
NKC				ePG	Pg	23 09 22.5	-0.1
NKC				eSG	Sg	23 09 57.1	-0.2
	comp=Z,10nm,0.5s						
JAVC	Velka Javorina	2.86	159	ePn	Pn	23 09 18.1	-0.1
	baz=341						
KHC	Kasperske Hory	2.92	215	ePN	Pn	23 09 18.4	-0.5
KHC				ePG	Pb	23 09 24.8	+0.7
KHC				eSG	Sg	23 10 04.1	-0.8
CKRC	Cesky Krumlov	2.96	204	ePN	Pn	23 09 20.1	+0.5
CKRC				ePG	Pb	23 09 26.4	+1.4
GERES	GERESS Array B	3.12	211	Pn	Pn	23 09 22.4	+0.7
	comp=Z,0.5nm,0.3s,baz=35,slow=13,SNR=8.8						
GERES				Pg	Pb	23 09 28.5	+0.9
	comp=Z,1.1nm,0.3s,baz=31,slow=16,SNR=15						
GERES				Sn	Sn	23 09 55.5	-4.3
	comp=Z,0.5nm,0.3s,baz=59,slow=39,SNR=1.3						
GERES				Lg	Lg	23 10 08.9	
	comp=Z,1.2nm,0.3s,baz=32,slow=28,SNR=5.5						
	comp=Z,1.0nm,0.4s						
MODS	Modra-Piesok	3.25	166	ePG	Pg	23 09 33.7	+0.1
MODS				eSG	Sg	23 10 15.5	-0.2
VYHS	Vyhne	3.51	149	ePN	Pn	23 09 28.3	+1.2
CONA	Conrad Observa	3.62	183	*i* Pn	Pn	23 09 28.4	-0.3
	comp=Z,0.1nm,0.1s						
CONA				eSn	Sn	23 10 12.1	0.0
	comp=Z,3.9nm,0.4s						
CONA				Sg	Sg	23 10 27.1	-0.4
	comp=Z,5.6nm,0.4s						
MOA	Molln	3.89	199	*i* Pn	Pn	23 09 32.9	+0.6
	comp=Z,0.8nm,0.2s						
MOA				eSg	Sg	23 10 35.7	-0.4
	comp=Z,3.7nm,0.5s						
BIOA	Bad Ischl, Aus	4.18	204	*i* Pn	Pn	23 09 36.8	+0.5
	comp=Z,1.2nm,0.2s						
KBA	Koelnbreinsper	4.82	203	ePn	Pn	23 09 46.0	+0.7
	comp=Z,0.9nm,0.4s						
DAVOX	Davos/Dischmat	6.28	223	Pn	Pn	23 10 06.8	+1.4
	comp=Z,0.1nm,0.3s,baz=10,slow=11,SNR=1.9						
DAVOX				Lg	Lg	23 11 46.8	
	baz=342,slow=20						
	comp=Z,0.4nm,0.3s						
AKASG	Malin Array Be	8.28	91	Pn	Pn	23 10 33.2	+0.6
	comp=Z,0.5nm,0.3s,baz=282,slow=12,SNR=2.0						
	comp=Z,0.1nm,0.3s						
HFS	Hagfors	8.72	352	Pn	Pn	23 10 39.4	+0.8
	comp=Z,0.1nm,0.3s,baz=182,slow=17,SNR=1.3						
	comp=Z,2.4nm,0.9s						
FINES	FINESS Array B	11.33	25	Pn	Pn	23 11 11.5	-2.7
	baz=209,slow=14,SNR=2.0						
	comp=Z,2.4nm,0.9s						

IDC 27 23:09:14.6±3.9, 56°.77S×141°.39W, h0km, mb3.9/3, mbtmp3.9/3, MS3.9/14, Error ellipse: s-maj=137.9km s-min=43.6km az=39.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	28.30	203	LR	LR	23 22 49.0	
	comp=Z,162nm,19.9s,baz=76,slow=29						
RPZ	Rata Peaks	32.40	273	LR	LR	23 26 16.9	
	comp=Z,179nm,20.1s,baz=122,slow=32						

URZ Urewera 32.92 286 LR LR 23 25 44.1
comp=Z,234nm,20.6s,baz=264,slow=30
QSPA South Pole Qui 33.38 180 LR LR 23 26 53.8
comp=Z,184nm,21.0s,baz=66,slow=32
PMSA Palmer Station 36.30 135 LR LR 23 29 47.5
comp=Z,139nm,18.1s,baz=292,slow=34
RPN Rapa Nui 37.40 51 LR LR 23 27 59.8
comp=Z,235nm,21.8s,baz=359,slow=30
RAR Rarotonga 38.02 331 LR LR 23 27 01.0
comp=Z,269nm,21.9s,baz=172,slow=28
PLCA Paso Flores 47.16 102 LR LR 23 33 11.5
comp=Z,75nm,18.3s,baz=212,slow=30
H03S2 Juan Fernandez 47.58 89 T T 00 09 24.5
baz=222,slow=74
H03S1 Juan Fernandez 47.59 89 T T 00 09 03.9
baz=222
H03S3 Juan Fernandez 47.60 89 T T 00 09 17.5
baz=222,slow=74
H03N3 Juan Fernandez 47.87 88 T T 00 09 34.1
baz=222,slow=72,SNR=21
H03N2 Juan Fernandez 47.88 88 T T 00 09 36.1
baz=222,slow=72,SNR=33
H03N1 Juan Fernandez 47.89 88 T T 00 09 34.9
baz=222,slow=72,SNR=28
SNAA Sanae 48.60 164 P P 23 17 59.1 -0.2
3.6nm,0.9s,baz=222,slow=9.2,SNR=3.1
SNAA LR LR 23 35 48.4
comp=Z,205nm,18.2s,baz=348,slow=33
3.6nm,0.9s
CPUP Villa Florida 65.20 100 LR LR 23 44 16.9
comp=Z,109nm,18.3s,baz=212,slow=32
NNA Nana 66.19 75 LR LR 23 41 06.6
comp=Z,74nm,18.5s,baz=206,slow=29
ASAR Alice Springs 67.68 261 P P 23 20 14.4 +0.9
1.0nm,0.8s,baz=137,slow=5.7,SNR=7.0
1.0nm,0.8s
H01W1 Cape Leeuwin H 68.75 239 T T 00 35 50.6
baz=144,slow=76,SNR=16
H01W2 Cape Leeuwin H 68.75 239 T T 00 35 50.7
baz=144,slow=76,SNR=16
H01W3 Cape Leeuwin H 68.77 239 T T 00 35 51.8
baz=144,slow=76,SNR=13
ATAH Atahualpa 69.45 71 LR LR 23 45 57.7
comp=Z,43nm,18.6s,baz=183,slow=32
WRA Warramunga Arr 70.44 263 P P 23 20 29.2 -1.5
0.8nm,0.9s,baz=149,slow=5.6,SNR=1.8
0.8nm,0.9s
PCRV Puerto La Cruz 91.28 73 LR LR 23 58 56.1
comp=Z,152nm,18.1s,slow=33
LBTB Lobatse 97.80 168 LR LR 00 04 51.8
comp=Z,94nm,18.7s,baz=82,slow=34
H10N3 ASCENSION HYDR 102.38 126 T T 01 18 24.9
baz=208
H10N1 ASCENSION HYDR 102.38 126 T T 01 18 35.6
baz=208
H10N2 ASCENSION HYDR 102.39 126 T T 01 18 27.8
baz=208
MKAR Makanchi Array 151.66 268 PKPbc PKPbc 23 29 09.9 0.0
0.5nm,0.9s,baz=132,slow=2.1,SNR=4.1

*IDC **27** 23:11:11.0±10.0, 13°.06N×143°.64E, h200km±101km, mb3.1/9, mbtmp3.6/9, Error ellipse: s-maj=46.1km s-min=20.4km az=88.0*

ISC 27 23:11:05.9±1.3, 13°.1N±0°.2×143°.6E±0°.4, h150km, n9, σ0°78/9, mb3.5/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	23.83	349	P	P	23 16 05.7	+0.5
	0.8nm,0.6s,baz=172,slow=9.8,SNR=2.0						
	0.8nm,0.6s						
WRA	Warramunga Arr	34.07	196	P	P	23 17 36.2	0.0
	0.4nm,0.8s,baz=16,slow=9.4,SNR=1.5						
	0.4nm,0.8s						
ASAR	Alice Springs	37.75	195	P	P	23 18 07.7	+0.2
	0.2nm,0.7s,baz=12,slow=10,SNR=1.4						
	0.2nm,0.7s						
MKAR	Makanchi Array	60.96	316	P	P	23 21 04.0	+0.8
	0.3nm,0.5s,baz=99,slow=8.0,SNR=6.6						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	61.28	325	P	P	23 21 04.7	-0.5
	0.3nm,0.3s,baz=117,slow=7.2,SNR=2.3						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	64.17	320	P	P	23 21 24.9	+0.4
	0.4nm,0.3s,baz=106,slow=6.6,SNR=14						
	0.4nm,0.3s						
BVAR	Borovoye Array	69.52	322	P	P	23 21 58.9	+0.7
	1.8nm,0.3s,baz=101,slow=8.1,SNR=26						
	1.8nm,0.3s						
ILAR	Eielson Array	69.55	25	P	P	23 21 58.5	+0.3
	0.3nm,0.8s,baz=254,slow=6.5,SNR=2.1						
	0.3nm,0.8s						
FINES	FINESS Array B	91.06	335	P	P	23 23 51.8	-1.3
	0.5nm,0.5s,baz=69,slow=4.6,SNR=7.0						
	0.5nm,0.5s						

*IDC **27** 23:15:12.1±2.8, 55°.89N×149°.51W, h0km, mb3.3/2, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=53.9km s-min=36.6km az=131.0*
*NEIC **27** 23:15:14.4±1.4, 56°.1N±0°.1×149°.35W±0°.03, h20km±10km, mb3.5/2, ML3.4/28, ML2.9(AEIC), Error ellipse: s-maj=16.4km s-min=2.0km az=184.0*
*AEIC **27** 23:15:17.1±1.3, 56°.0N±0°.1×149°.4W±0°.1, h10km±7km, Error ellipse: s-maj=15.5km s-min=9.3km az=177.0*

ISC 27 23:15:17.2±1.5, 56°.2N±0°.1×149°.36W±0°.08, h35km, n58, σ0°90/59, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.39	314	Pn	Pn	23 15 52.9	-0.8
OHAK	Old Harbor	2.40	297		Pn	23 15 52.9	-1.0
SII	Sitkinak Islan	2.71	280		Pn	23 15 56.7	-1.5
SII				IAML		23 16 38.2	
	comp=N,143nm,1.0s						
Q19K	Cape Douglas,	3.60	322	Pn	Pn	23 16 10.9	+0.5
Q19K				IAML		23 17 03.7	
	comp=N,95nm,0.9s						
Q23K	Middleton Isla	3.64	25	Pn	Pn	23 16 10.0	-0.9
Q23K				IAML		23 18 01.2	
	comp=E,110nm,1.4s						
MID	Middleton Isla	3.64	25	Pn	Pn	23 16 10.2	-0.7
MID				IAML		23 17 29.4	
	comp=E,119nm,1.4s						
HIN	Hinchinbrook I	4.49	18	Pn	Pn	23 16 22.1	-0.6
HIN				IAML		23 17 20.6	
	comp=N,29nm,1.3s						
HIN				IAML		23 18 09.2	
	comp=E,30nm,1.3s						
P18K	Big Mountain,	4.50	318	Pn	Pn	23 16 22.8	0.0
KAIM	Kayak Island	4.59	33	Pn	Pn	23 16 23.4	-0.6
O18K	Koktuh Hills	4.82	322	Pn	Pn	23 16 26.6	-0.6
O18K				IAML		23 17 24.4	
	comp=E,12nm,0.8s						
O18K				IAML		23 17 25.3	
	comp=N,17nm,1.1s						
FID	Port Fidalgo	4.83	17	Pn	Pn	23 16 26.6	-0.7
FID				IAML		23 17 12.8	
	comp=N,15nm,0.4s						
FID				IAML		23 17 30.9	
	comp=E,20nm,1.3s						
RAGM	Ragged Mountai	4.89	28	Pn	Pn	23 16 28.0	-0.1
RAGM				IAML		23 17 49.0	
	comp=E,43nm,0.7s						
KNK	Knik Glacier	5.27	5		Pn	23 16 30.6	-2.8
KNK				IAML		23 17 39.6	
	comp=N,9.2nm,0.7s						
KNK				IAML		23 17 45.8	
	comp=E,12nm,0.7s						
SNH	Sunshine Point	5.29	38	Pn	Pn	23 16 33.3	-0.4
SNH				IAML		23 19 37.5	
	comp=E,34nm,1.4s						
N19K	Bonanza Creek	5.37	332	Pn	Pn	23 16 33.9	-0.8
KLU	Klutina	5.62	17		Pn	23 16 38.2	0.0
N18K	Kilae Creek	5.67	326	Pn	Pn	23 16 38.0	-0.8
SML	Sawmill	5.67	5	Pn	Pn	23 16 38.7	-0.2
SCM	Sheep Creek Mo	5.77	10	Pn	Pn	23 16 39.6	-0.7
VRDI	Verde Repeater	5.93	29	Pn	Pn	23 16 42.1	-0.4
N25K	Chitina, Valde	5.98	22		Pn	23 16 43.4	+0.3
GLB	Gilahina Butte	6.01	26		Pn	23 16 43.6	0.0
M20K	Styx River	6.04	343		Pn	23 16 44.8	+0.8
M24K	Tolsona, Glenn	6.17	14	Pn	Pn	23 16 46.8	+1.1
MCARA	McCarthy VSAT	6.17	30		Pn	23 16 46.4	+0.7
SDPT	Sand Point	6.33	267	Pn	Pn	23 16 47.2	-0.6
BARN	Barnard Glacie	6.33	36	Pn	Pn	23 16 48.0	-0.1

CTGM	**Chitina Glacie**	**6.38**	**38**	Pn	**Pn**	23 16 48.5	**-0.2**
LOGN	**Logan Glacier**	**6.39**	**40**	Pn	**Pn**	23 16 48.9	**0.0**
N15K	**Kwethluk River**	**6.94**	**310**	Pn	**Pn**	23 16 56.6	**+0.4**
O29M	**Mount Kennedy**	**7.04**	**50**	Pn	**Pn**	23 16 58.0	**+0.3**
P29M	**Windy Craggy**	**7.09**	**56**	Pn	**Pn**	23 16 57.6	**-0.8**
S31K	**Pelican**	**7.38**	**71**	Pn	**Pn**	23 17 00.2	**-2.0**
L16K	**Owhat River**	**7.62**	**321**	Pn	**Pn**	23 17 05.0	**-0.5**
RIDG	**Independent Ri**	**7.92**	**15**		**Pn**	23 17 09.2	**-0.4**
HDA	**Harding Lake**	**8.35**	**7**	Pn	**Pn**	23 17 15.3	**-0.2**
M29M	**Somme Creek**	**8.39**	**37**	Pn	**Pn**	23 17 16.8	**+0.5**
CCB	**Clear Creek Bu**	**8.53**	**5**	Pn	**Pn**	23 17 19.1	**+1.1**
ILAR	**Eielson Array**	**8.71**	**7**	Pn	**Pn**	23 17 19.8	**-0.7**
ILAR	**Eielson Array**	**8.71**	**7**	Pn	**Pn**	23 17 21.2	**+0.8**
	comp=E,0.3nm,0.3s,baz=187,slow=14,SNR=14						
ILAR				Sn	**Sn**	23 18 55.9	**-1.4**
	baz=220,slow=9.6,SNR=4.1						
	comp=E,0.6nm,0.4s						
MDM	**Murphy Dome**	**8.83**	**3**	Pn	**Pn**	23 17 21.9	**-0.2**
P32M	**Atlin**	**9.01**	**61**	Pn	**Pn**	23 17 24.0	**-0.6**
U33K	**Whale Pass**	**9.07**	**84**	Pn	**Pn**	23 17 22.7	**-2.7**
EGAK	**Eagle**	**9.52**	**22**	Pn	**Pn**	23 17 31.5	**-0.1**
P33M	**Teslin, Yukon**	**9.62**	**58**	Pn	**Pn**	23 17 32.4	**-0.6**
H21K	**Melozitna Rive**	**9.66**	**351**		**Pn**	23 17 33.9	**+0.5**
M31M	**Drury Creek, Y**	**9.76**	**46**	Pn	**Pn**	23 17 35.0	**+0.2**
H19K	**Roundabout Mou**	**9.99**	**343**	Pn	**Pn**	23 17 37.9	**-0.1**
IMAR	**Indian Mountai**	**10.06**	**350**	Pn	**Pn**	23 17 38.2	**-0.8**
H17K	**Granite Mounta**	**10.19**	**334**	Pn	**Pn**	23 17 40.5	**-0.2**
F20K	**Avaraart Lake**	**11.31**	**347**	Pn	**Pn**	23 17 56.7	**+0.7**
BMAR	**Burnt Mountain**	**11.51**	**9**	Pn	**Pn**	23 17 58.7	**-0.1**
D22K	**Ayikyak River**	**12.84**	**355**	Pn	**Pn**	23 18 17.7	**+0.8**
C36M	**Paulatuk**	**17.36**	**31**	Pn	**Pn**	23 19 15.6	**-0.6**
C36M				IAmb	IAmb	23 19 20.8	
	comp=Z,3.3nm,1.1s						
YKA	**Yellowknife Ar**	**18.64**	**56**	P	**Pn**	23 19 33.2	**+1.2**
	baz=263,slow=11,SNR=5.9						
	comp=Z,0.6nm,1.0s						
A36M	**Sachs Harbour**	**18.80**	**23**	P	**Pn**	23 19 33.7	**-0.1**
A36M				IAmb	IAmb	23 19 37.3	
	comp=Z,3.8nm,0.8s						
KURBB	**Kurchatov Arra**	**66.41**	**329**	P	**P**	23 26 03.1	**+1.0**
	comp=Z,0.2nm,0.7s,baz=29,slow=6.8,SNR=2.2						
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**68.65**	**325**	P	**P**	23 26 18.1	**+1.7**
	comp=Z,0.2nm,0.5s,baz=32,slow=6.7,SNR=4.4						
	comp=Z,0.2nm,0.5s						

DJA ***27*** *23:19:07.1±1.7, 10°S±6°×11°9E±°, h37km±43km, M4.6/11, mb5.0/3, MLv4.3/11*

IDC ***27*** *23:19:08.4±5.9, 9.86S×119.32E, h67km±51km, mb3.7/7, mbtmp4.0/10, ML3.9/3, MS4.1/1, Error ellipse: s-maj=74.2km s-min=15.1km az=65.0*

ISC 27 23:19:05.1±0.7, 9.94S±0.07×119.16E±0.07, h33km, n32, σ1§66/28, mb4.1/10, 3C, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**1.43**	**102**	P	**Pn**	**23 19 29.4**	**+0.7**
DBNI	**Kabupaten Domp**	**1.65**	**330**	P	**Pb**	23 19 34.4	**-0.5**
PLAI	**Plampang**	**1.75**	**309**	P	**Pb**	23 19 35.6	**-1.1**
EDFI	**Ende, Flores**	**2.76**	**65**	P	**Pn**	23 19 47.7	**+0.5**
MMRI	**Maumere**	**3.30**	**67**	P	**Pn**	23 19 55.5	**+1.0**
DNP	**Denpasar**	**4.09**	**287**	P	**Pn**	23 20 07.4	**+2.0**
SRSI	**Singaraja**	**4.31**	**295**	P	**Pn**	23 20 11.4	**+3.0**
BKSI	**Bulukumba**	**4.68**	**12**	P	**Pn**	23 20 15.5	**+2.0**
MKS	**Makassar**	**4.70**	**4**	P	**Pn**	23 20 15.5	**+1.8**
KAPI	**Kappang**	**4.92**	**7**	P	**Pn**	23 20 18.6	**+1.8**
	6.3nm,0.3s,baz=189,slow=9.0,SNR=12						
KAPI				S	**Sn**	**23 21 14.4**	**+1.7**
	23nm,0.3s,baz=180,slow=20,SNR=1.4						
	22nm,0.4s						
SOEI	**Soe**	**5.04**	**88**	P	**Pn**	23 20 20.8	**+2.3**
SOEI				S	**Sn**	23 21 17.0	**+1.3**
JAGI	**Jajag, Banyuwa**	**5.15**	**286**	P	**Pn**	23 20 20.8	**+0.8**
UGM	**Wanagama**	**8.77**	**283**	P	**Pn**	23 21 11.7	**+2.1**
MTKI	**Muara Teweh, K**	**9.89**	**334**	P	**Pn**	23 21 27.2	**+2.2**
SANI	**Sanana**	**10.37**	**41**	P	**Pn**	23 21 27.9	**-3.7**
LEM	**Lembang**	**11.83**	**284**	LR	LR	23 28 02.9	
	comp=Z,917nm,19.4s,baz=223,slow=45						
WRA	**Warramunga Arr**	**17.71**	**126**	P	**Pn**	**23 23 07.6**	**-1.7**
	0.4nm,0.3s,baz=299,slow=13,SNR=13						
WRA				S	Sn	23 26 11.4	-14
	1.6nm,0.6s,baz=291,slow=22,SNR=6.3						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**19.61**	**136**	P	**Pn**	**23 23 31.9**	**-0.5**
	0.5nm,0.3s,baz=318,slow=11,SNR=44						
ASAR				S	S	23 26 58.0	-13
	0.8nm,0.8s,baz=314,slow=24,SNR=1.4						
	1.6nm,0.5s						
STKA	**Stephens Creek**	**30.14**	**140**	P	**P**	**23 25 11.4**	**-0.6**
	1.2nm,0.5s,baz=336,slow=18,SNR=3.6						
	1.2nm,0.5s						
H08S2	**Diego Garcia H**	**46.15**	**269**	T	T	00 16 48.0	
	baz=96,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**46.16**	**269**	T	T	00 16 59.1	
	baz=96,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**46.16**	**269**	T	T	00 16 54.5	
	baz=96,slow=75,SNR=7.8						
USRK	**Ussuriysk Ar.**	**55.12**	**11**	P	**P**	**23 28 33.3**	**-0.8**
	1.0nm,0.5s,baz=193,slow=5.9,SNR=2.0						
	1.0nm,0.5s						
SONM	**Songino Array**	**58.62**	**350**	P	**P**	**23 28 58.2**	**-0.8**
	0.7nm,0.4s,baz=163,slow=7.5,SNR=2.0						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**65.36**	**333**	P	**P**	**23 29 43.8**	**-0.3**
	1.1nm,0.5s,baz=154,slow=6.9,SNR=4.7						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**69.87**	**334**	P	**P**	**23 30 11.7**	**-0.9**
	0.7nm,0.6s,baz=142,slow=5.4,SNR=18						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**69.97**	**339**	P	**P**	**23 30 11.6**	**-1.4**
	0.8nm,0.5s,baz=140,slow=3.4,SNR=5.0						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**75.19**	**332**	P	**P**	**23 30 43.6**	**-0.6**
	0.6nm,0.7s,baz=123,slow=5.5,SNR=4.4						
	0.6nm,0.7s						
VNA2	**Neumayer--Watz**	**91.78**	**195**	⇑P	P	23 32 13.5	+4.3
	comp=Z,1.2nm,0.2s,baz=2.0,slow=15						
VNA3	**Neumayer Olymp**	**92.16**	**195**	⇑P	P	23 32 19.4	+8.4
	comp=Z,2.2nm,0.2s						
VNA1	**Neumayer--Stat**	**92.17**	**195**	⇑P	**P**	**23 32 11.3**	**+0.3**
	comp=Z,1.5nm,0.2s						
TORD	**Torodi Ar. Bea**	**118.77**	**280**	PKP	**PKiKP**	**23 37 52.0**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=117,slow=1.6,SNR=2.1						

HEL 27 23:22:03.4±0.2, 67.18N×20.62E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALU	**Saltoluokta**	**0.84**	**285**	*e*P	Pg	23 22 18.7	-0.8
PAJU	**Pajala**	**0.99**	**98**	PG	Pg	23 22 21.4	-0.9
	baz=281						
PAJU				SG	Sg	23 22 33.8	-1.3
LANU	**Lannavaara**	**1.02**	**31**	PG	Pg	23 22 21.7	-1.2
LANU				SN	Sb	23 22 37.7	-0.2
KLF	**Kolari**	**1.31**	**86**	PG	Pg	23 22 26.7	-1.7
	baz=271						
KLF				MSG		23 22 42.8	
	comp=Z,1.0nm,0.2s						
KLF				SG	Sg	23 22 43.8	-1.5
HEF	**Hetta**	**1.69**	**42**	*e*P	Pn	23 22 33.1	-1.1
HEF	**Hetta**	**1.69**	**42**	PG	Pn	23 22 33.7	-0.5
	baz=220						
HEF				MSG		23 22 53.9	
	comp=Z,1.7nm,0.2s						
HEF				SG	Sn	23 22 55.0	-1.5
KALU	**Kalix**	**1.72**	**139**	PG	Pn	23 22 34.5	-0.1
KALU				SN	Sn	23 22 57.4	+0.3
KIF	**Kilpisjarvi**	**1.84**	**2**	PG	Pn	23 22 36.8	+0.7
KIF				MSG		23 22 59.1	
	comp=Z,3.4nm,0.2s						
KIF				SG	Sg	23 23 02.2	-0.1
TOF	**Tornio**	**1.84**	**125**	PG	Pn	23 22 36.2	0.0
	baz=306						
TOF				MSG		23 22 58.4	
	comp=Z,1.1nm,0.2s						
TOF				SG	Sn	23 23 00.6	+0.3
KTK1	**Kautokeino**	**2.09**	**27**	PG	Pn	23 22 40.4	+0.8
KTK1				SG	Sb	23 23 08.0	-0.6
RNF	**Rovaniemi**	**2.21**	**103**	PG	Pn	23 22 42.1	+0.9
RNF				SG	Sb	23 23 11.0	-0.9
SGF	**Sodankyl**	**2.31**	**81**	PG	Pb	23 22 44.7	-1.1
SGF				SG	Sb	23 23 14.1	-0.7
TRO	**Tromso**	**2.54**	**347**	SG	Sb	23 23 22.5	+0.9
RANF	**Ranua**	**2.73**	**113**	PG	Pb	23 22 51.7	-1.2
RANF				SG	Sb	23 23 26.3	-0.6
ARA0	**ARCESS Array S**	**2.98**	**35**	PN	Pn	23 22 52.0	+0.1
	baz=217						
ARA0				SB	Sn	23 23 29.8	+1.5
KMNF	**Kaamanen**	**3.10**	**47**	PN	Pn	23 22 53.7	+0.2
KMNF				SN	Sn	23 23 30.4	-0.8
RAJF	**Raja-Jooseppi**	**3.20**	**62**	SG	Sb	23 23 39.7	-0.7
UMAU	**Umeaa**	**3.31**	**180**	PB	Pn	23 22 57.7	+1.3

HEL 27 23:22:35.4±0.3, 67.61N×34.17E, h0km, ML1.6, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.34**	**32**	PG	Pg	23 22 41.8	-0.2
LVZ				SG	Sg	23 22 46.1	-0.3
VRF	**Varrio**	**1.75**	**277**	PG	Pn	23 23 06.8	-0.1
VRF				SB	Sn	23 23 25.3	-4.5
VRF				MSG		23 23 27.5	
	comp=Z,4.6nm,0.2s						
OLKF	**Oulanka, Finla**	**2.28**	**238**	SN	Sn	23 23 42.9	0.0
OLKF	**Oulanka, Finla**	**2.28**	**238**	PN	Pn	23 23 13.5	-0.7
OLKF				MSG		23 23 42.8	
	comp=Z,2.4nm,0.2s						
OLKF				SB	Sn	23 23 42.9	0.0
KU6	**Riekki**	**2.32**	**229**	PG	Pn	23 23 14.0	-0.8
KU6				SN	Sb	23 23 47.9	+0.6
KU6	**Riekki**	**2.32**	**229**	PN	Pn	23 23 14.0	-0.8
KU6				MSG		23 23 44.1	
	comp=Z,1.8nm,0.2s						
KU6				SG	Sb	23 23 47.9	+0.6
RAJF	**Raja-Jooseppi**	**2.37**	**294**	PG	Pn	23 23 17.0	+1.6
RAJF				SN	Sn	23 23 43.9	-1.2
MSF	**Maaselka**	**2.65**	**232**	PN	Pn	23 23 20.1	+0.7
	baz=45						
MSF				SG	Sb	23 23 58.6	+1.8
KMNF	**Kaamanen**	**3.07**	**303**	PB	Pn	23 23 25.9	+0.8
KMNF				SN	Sn	23 24 02.5	0.0
RANF	**Ranua**	**3.33**	**245**	PN	Pn	23 23 27.4	-1.2
KEV	**Kevo**	**3.39**	**313**	PN	Pn	23 23 29.2	-0.2
KEV				SN	Sn	23 24 09.3	-1.0
HEF	**Hetta**	**4.03**	**286**	SN	Sn	23 24 25.8	-0.4
TOF	**Tornio**	**4.18**	**253**	PG	Pb	23 23 51.8	+2.1
TOF				SG	Sb	23 24 44.7	+4.1
OUL	**Oulu**	**4.19**	**237**	SG	Sb	23 24 42.0	+1.1
KTK1	**Kautokeino**	**4.29**	**294**	SG	Sb	23 24 45.4	+1.5
PAJU	**Pajala**	**4.32**	**267**	PG	Pb	23 23 53.3	+1.2
KALU	**Kalix**	**4.63**	**253**	SG	Sb	23 24 55.7	+2.1
LANU	**Lannavaara**	**4.63**	**281**	SB	Sb	23 24 53.2	-0.5

IDC ***27*** *23:27:18.8±1.3, 17.62N×145.78E, h0km, mb3.3/6, mbtmp3.3/6, Error ellipse: s-maj=51.8km s-min=24.0km az=92.0*

ISC 27 23:27:37.8±1.4, 17.5N±0.2×145.8E±0.4, h167km, n6, σ0§26/6, mb3.2/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.87**	**197**	P	**P**	**23 34 46.7**	**-0.3**
	0.2nm,0.5s,baz=18,slow=8.7,SNR=6.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**42.52**	**196**	P	**P**	**23 35 17.3**	**+0.3**
	0.4nm,0.8s,baz=9.9,slow=7.5,SNR=2.5						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**59.37**	**314**	P	**P**	**23 37 22.4**	**-0.1**
	0.3nm,0.8s,baz=91,slow=5.8,SNR=2.4						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**62.28**	**318**	P	**P**	**23 37 42.0**	**0.0**
	0.1nm,0.3s,baz=94,slow=7.3,SNR=5.6						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**64.68**	**26**	P	**P**	**23 37 57.5**	**0.0**
	0.2nm,0.6s,baz=239,slow=6.6,SNR=4.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**67.47**	**321**	P	**P**	**23 38 15.6**	**+0.1**
	0.2nm,0.4s,baz=84,slow=7.6,SNR=1.9						
	0.2nm,0.4s						

IDC ***27*** *23:28:35.0±1.3, 52.46N×168.72W, h0km, mb4.0/19, mbtmp4.0/20, ML2.9/1, Error ellipse: s-maj=32.8km s-min=18.3km az=159.0*

NEIC ***27*** *23:28:35.0±2.0, 52.12N±0.04×168.47W±0.06, h10km±1km, mb3.9/33, ML3.6/6, ML3.3(AEIC), Error ellipse: s-maj=7.0km s-min=5.9km az=219.0*

AEIC ***27*** *23:28:37.0±2.3, 52.20N±0.04×168.47W±0.07, h14km±4km, Error ellipse: s-maj=5.8km s-min=5.2km az=79.0*

ISC 27 23:28:36.0±1.9, 52.25N±0.07×168.52W±0.06, h13km±11km, n109, σ1§13/108, mb4.1/22, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.75**	**344**		**Pn**	**23 28 52.0**	**-0.3**
NIKH	**Nikolski High**	**0.75**	**344**		**Sn**	**23 29 04.0**	**+0.4**
NIKH	**Nikolski High**	**0.75**	**344**	P	**Pn**	**23 28 52.2**	**-0.1**
CLCO	**Concord Point,**	**0.91**	**307**		**Pn**	**23 28 55.1**	**+0.6**
CLCO					**Sn**	**23 29 09.0**	**+1.5**
CLES	**Cleveland East**	**1.02**	**305**		**Pn**	**23 28 56.4**	**+0.4**
CLES				IAML		23 29 24.3	
	comp=N,2µm,0.5s						
OKWR	**Okmok West Rim**	**1.20**	**9**		**Pg**	**23 28 59.6**	**+0.5**
OKWR					**Sn**	**23 29 17.4**	**+2.6**
OKFG	**Magazine Ridge**	**1.22**	**17**		**Pg**	**23 28 59.6**	**+0.2**
OKER	**Okmok East Rim**	**1.24**	**13**		**Pg**	**23 29 00.1**	**+0.3**
MAPS	**Pakushin South**	**1.83**	**31**		**Pb**	**23 29 08.1**	**-1.2**
MAPS					**Sb**	**23 29 32.7**	**+0.5**
MGOD	**Makushin Gods**	**1.84**	**32**		**Pb**	**23 29 08.3**	**-1.2**
MSW	**Makushin Switc**	**1.97**	**31**		**Pb**	**23 29 10.4**	**-1.3**
MSW					**Sb**	**23 29 35.8**	**-0.4**
MNAT	**Makushin Natee**	**1.98**	**33**		**Pb**	**23 29 10.2**	**-1.6**
MNAT					**Sb**	**23 29 36.3**	**-0.1**
UNV	**Unalaska Valle**	**2.01**	**37**		**Pn**	**23 29 10.4**	**+0.8**
UNV	**Unalaska Valle**	**2.01**	**37**	P	**Pn**	**23 29 10.6**	**+1.0**
AKRB	**Akutan Reef Bi**	**2.39**	**37**		**Pn**	**23 29 15.7**	**+0.8**
AKBBA	**Akutan Broad B**	**2.42**	**39**		**Pn**	**23 29 16.2**	**+0.9**
AKSA	**Akutan Strait**	**2.54**	**41**		**Pn**	**23 29 17.2**	**+0.3**
KOFP	**Korovin Flat P**	**3.43**	**273**		**Pn**	**23 29 30.6**	**+1.4**
ATKA	**Atka Island**	**3.49**	**271**		**Pn**	**23 29 31.1**	**+1.1**
ATKA					**Sn**	**23 30 11.4**	**+0.3**
ATKA				IAML		23 30 37.1	
	comp=N,53nm,1.4s						
ATKA	**Atka Island**	**3.49**	**271**	P	**Pn**	**23 29 31.7**	**+1.7**
KOWE	**Korovin West**	**3.52**	**274**		**Pn**	**23 29 31.9**	**+1.5**
GSMY	**Great Sitkin M**	**4.65**	**270**		**Pn**	**23 29 47.4**	**+1.5**
GSCK	**Great Sitkin C**	**4.71**	**270**		**Pn**	**23 29 48.3**	**+1.5**
GSSP	**Great Sitkin S**	**4.71**	**271**		**Pn**	**23 29 48.1**	**+1.2**
ADAG	**Mount Adagdak**	**4.99**	**270**		**Pn**	**23 29 51.9**	**+1.4**
ADK	**Adak**	**5.05**	**269**		**Pn**	**23 29 52.8**	**+1.0**
ADK	**Adak**	**5.05**	**269**	IAML		23 30 56.3	
	comp=N,39nm,0.6s						
ADK				IAML		23 31 02.7	
	comp=N,52nm,1.2s						
ADK	**Adak**	**5.05**	**269**	P	**Pn**	**23 29 52.7**	**+1.3**
KIWB	**Kanaga Island**	**5.34**	**269**		**Pn**	**23 29 56.7**	**+1.3**
SDPT	**Sand Point**	**5.69**	**54**	P	**Pn**	**23 30 03.3**	**+3.2**
CNBA	**Chernabura Isl**	**5.92**	**61**		**Pn**	**23 30 02.8**	**-0.5**
CHGN	**Chignik**	**7.17**	**52**	Pn	**Pn**	**23 30 21.9**	**+1.4**
O14K	**Tigyukauivet M**	**8.12**	**27**	Pn	**Pn**	**23 30 35.8**	**+2.3**
O16K	**Kokwok River B**	**9.39**	**34**	Pn	**Pn**	**23 30 53.4**	**+2.5**
OHAK	**Old Harbor**	**10.11**	**55**	Pn	**Pn**	**23 31 01.0**	**+0.2**
L16K	**Owhat River**	**10.68**	**24**	Pn	**Pn**	**23 31 08.5**	**0.0**
Q19K	**Cape Douglas,**	**10.74**	**46**	Pn	**Pn**	**23 31 10.8**	**+1.5**
K15K	**Wolf Creek Mou**	**10.75**	**18**	Pn	**Pn**	**23 31 10.9**	**+1.4**
K17K	**Iditarod**	**11.82**	**24**	Pn	**Pn**	**23 31 26.1**	**+1.9**
SUA	**Susitna One**	**13.36**	**39**	Pn	**Pn**	**23 31 46.0**	**+0.8**
RC01	**Rabbit Creek A**	**13.55**	**42**	Pn	**Pn**	**23 31 47.6**	**-0.2**
J20K	**Nowinta River**	**14.10**	**27**	Pn	**Pn**	**23 31 56.7**	**+1.5**
CAST	**Castle Rocks**	**14.15**	**31**	Pn	**Pn**	**23 31 57.9**	**+1.9**
HIN	**Hinchinbrook I**	**14.63**	**47**	Pn	**Pn**	**23 32 01.0**	**-1.5**
M24K	**Tolsona, Glenn**	**15.54**	**42**	Pn	**Pn**	**23 32 14.3**	**-0.3**
H21K	**Melozitna Rive**	**15.62**	**25**	Pn	**P**	**23 32 18.2**	**-1.6**
H21K				IAmb	IAmb	23 32 22.8	
	comp=Z,7.5nm,1.1s						
IMAR	**Indian Mountai**	**15.65**	**23**		**P**	**23 32 18.7**	**-1.5**
MLY	**Manley**	**15.72**	**29**		**P**	**23 32 20.1**	**-0.8**
MLY				IAmb	IAmb	23 32 22.2	
	comp=Z,7.7nm,1.0s						
F20K	**Avaraart Lake**	**16.13**	**18**		**P**	**23 32 24.9**	**-0.6**
G21K	**Allakaket**	**16.14**	**22**		**P**	**23 32 25.0**	**-0.6**
VRDI	**Verde Repeater**	**16.33**	**47**	Pn	**Pn**	**23 32 24.4**	**-0.6**
VRDI				IAmb	IAmb	23 32 30.4	
	comp=Z,13nm,1.4s						
MCARA	**McCarthy VSAT**	**16.58**	**47**	Pn	**P**	**23 32 28.8**	**-1.6**
MCARA				IAmb	IAmb	23 32 45.3	
	comp=Z,23nm,1.4s						
ILAR	**Eielson Array**	**16.76**	**33**	Pn	**Pn**	**23 32 28.8**	**-1.5**
	baz=234,slow=11,SNR=6.5						
	comp=Z,0.9nm,1.0s						
M26K	**Nabesna, AK**	**17.00**	**43**		**Pn**	**23 32 32.6**	**-0.7**
M26K				IAmb	IAmb	23 32 41.3	
	comp=Z,13nm,1.4s						
G23K	**Bananza Creek**	**17.16**	**25**	P	**P**	**23 32 37.5**	**+0.7**
G23K				IAmb	IAmb	23 32 41.5	
	comp=Z,10nm,1.5s						
CTGM	**Chitina Glacie**	**17.20**	**49**		**P**	**23 32 36.5**	**-1.0**
CTGM				IAmb	IAmb	23 32 52.7	
	comp=Z,18nm,1.4s						
J26L	**Joseph Creek**	**17.78**	**37**	P	**Pn**	**23 32 42.6**	**-0.4**
J26L				IAmb	IAmb	23 32 44.8	
	comp=Z,4.2nm,0.8s						
D22K	**Ayikyak River**	**18.30**	**18**	P	**P**	**23 32 50.0**	**+0.6**
EGAK	**Eagle**	**18.81**	**38**	P	**Pn**	**23 32 55.0**	**-0.6**
HYT	**Haines Junctio**	**18.97**	**51**	P	**Pn**	**23 32 58.4**	**+0.8**
HYT				IAmb	IAmb	23 33 15.4	
	comp=Z,8.4nm,1.0s						
M29M	**Somme Creek**	**18.97**	**46**	P	**Pn**	**23 32 58.1**	**+0.5**
BMAR	**Burnt Mountain**	**19.18**	**28**	P	**Pn**	**23 32 59.6**	**-0.5**
N30M	**Aishikik Lake**	**19.31**	**49**	P	**Pn**	**23 33 02.5**	**+0.8**
N30M				IAmb	IAmb	23 33 05.8	
	comp=Z,7.5nm,0.8s						
E25K	**Arctic Village**	**19.37**	**26**	P	**Pn**	**23 33 01.8**	**-0.5**
E25K				IAmb	IAmb	23 33 04.6	
	comp=Z,3.2nm,0.8s						
I28M	**Miner Creek**	**19.59**	**37**	P	**P**	**23 33 03.3**	**-0.3**
N31M	**Braeburn, Yuko**	**19.93**	**50**	P	**Pn**	**23 33 09.5**	**+0.5**
N31M				IAmb	IAmb	23 33 15.6	
	comp=Z,7.9nm,0.7s						
PEA0B	**Petropavlovsk-**	**20.39**	**286**	P	**P**	**23 33 12.1**	**-0.3**
PETK	**Petropavlovsk-**	**20.39**	**286**	P	**P**	**23 33 11.7**	**-0.7**
PETK	**Petropavlovsk-**	**20.39**	**286**	P	**P**	**23 33 11.6**	**-0.9**
	comp=Z,4.3nm,0.5s,baz=83,slow=15,SNR=12						
	comp=Z,4.3nm,0.5s						
H29M	**Whitestone**	**20.53**	**36**	P	**P**	**23 33 13.0**	**-0.7**
H29M				IAmb	IAmb	23 33 31.7	
	comp=Z,5.7nm,0.8s						
J30M	**Hart River**	**20.61**	**41**	P	**P**	**23 33 14.5**	**-0.2**
I30M	**Mount Dempster**	**20.83**	**39**	P	**P**	**23 33 15.9**	**-1.3**
N32M	**Quiet Lake**	**21.15**	**51**	P	**P**	**23 33 21.4**	**+0.9**
D27M	**Malcolm River**	**21.38**	**27**	P	**P**	**23 33 23.1**	**+0.2**
D27M				IAmb	IAmb	23 33 27.0	
	comp=Z,2.5nm,0.8s						
E29M	**Blow River**	**21.79**	**31**	P	**P**	**23 33 27.2**	**-0.1**
E29M				IAmb	IAmb	23 33 52.9	
	comp=Z,5.1nm,1.5s						
INK	**Inuvik**	**23.16**	**33**	P	**P**	**23 33 40.8**	**-1.0**
INK				IAmb	IAmb	23 33 41.2	
	comp=Z,3.2nm,1.1s						
YKA	**Yellowknife Ar**	**29.93**	**49**	P	**P**	**23 34 42.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=274,slow=8.6,SNR=2.3						
	comp=Z,0.3nm,0.8s						
EUNU	**Eureka**	**37.69**	**16**	P	**P**	**23 35 51.1**	**+0.6**
EUNU				IAmb	IAmb	23 36 03.0	
	comp=Z,4.0nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**37.69**	**220**	T	T	00 16 44.2	
	baz=24,slow=74,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**37.70**	**220**	T	T	00 16 26.0	
	baz=24,slow=74,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**37.71**	**220**	T	T	00 16 52.3	
	baz=24,slow=74,SNR=3.7						
JMM	**Marumori**	**37.78**	**268**	P	**P**	**23 35 50.7**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**38.88**	**219**	T	T	00 18 06.9	
	baz=23,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**38.89**	**219**	T	T	00 18 04.4	
	baz=23,slow=75,SNR=19						
H11S3	**WAKE ISLAND

FETY	**Fethiye**	**0.59**	**140**	P	**Pg**	**23 42 50.5**	**+0.4**
FETY				S	**Sn**	**23 43 01.7**	**-0.3**
DNIZ	**Denizli-Tavas-**	**0.64**	**32**	P	**Pb**	**23 42 51.3**	**-0.3**
DNIZ				S	**Sg**	**23 42 59.6**	**0.0**
DNIZ				*i* AML	AML	23 43 02.0	
	comp=N,169nm,0.5s						
DNIZ				*i* AML	AML	23 43 03.0	
	comp=Z,50nm,0.4s						
DNIZ				*i* AML	AML	23 43 04.0	
	comp=E,139nm,0.2s						
APMY	**Acipayam-Deniz**	**0.68**	**55**	Pg	**Pb**	**23 42 52.4**	**+0.2**
RFTAA	**Mazikoy-Bodrum**	**0.69**	**263**	Pg	**Pb**	**23 42 52.5**	**+0.1**
MLSB	**Milas**	**0.70**	**288**	Pg	**Pb**	**23 42 52.5**	**0.0**
ESEN	**Aydn-Nazilli**	**0.74**	**344**	P	**Pg**	**23 42 52.6**	**-0.3**
ESEN				S	**Sg**	**23 43 02.5**	**-0.3**
DAT	**Datca**	**0.90**	**247**	Pg	**Pn**	**23 42 56.8**	**-0.1**
ARG	**Arkhangelos**	**0.95**	**204**	Pg	**Pn**	**23 42 57.7**	**+0.2**
BODT	**Bodrum**	**1.04**	**269**	Pg	**Pg**	**23 42 58.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.25**	**300**	Pn	**Pg**	**23 43 03.3**	**+0.6**

*IDC **27** 23:42:52.3±1.1,37.°13N×23.°78E,h0km,mb3.7/8, mbtmp3.6/14,ML3.3/6,Error ellipse: s-maj=22.3km s-min=16.0km az=170.0*
*THE **27** 23:42:56.4,37.°18N×23.°80E,h13km±2km,ML3.8/7,Error ellipse: s-maj=2.1km s-min=1.0km az=231.0*
*ATH **27** 23:42:56.6,37.°19N×23.°81E,h5km±1km,ML3.6/30,Error ellipse: s-maj=1.5km s-min=0.8km az=50.0*

ISC 27 23:42:55.2±1.0,**37.°14N**±0.°02×**23.°84E**±0.°02,**h17**km±7km, **n71**,σ0**93**/94,**mb3.7**/8,**4C-5D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.36**	**305**	P	**Pg**	**23 43 02.7**	**0.0**
YDRA				S	**Sg**	**23 43 07.0**	**-0.8**
YDRA				AML	AML	23 43 07.7	
	comp=E,32862µm,0.5s						
YDRA				AML	AML	23 43 09.4	
	comp=N,26396µm,0.4s						
KRND	**KRANIDI**	**0.60**	**294**	P	**Pg**	**23 43 07.0**	**0.0**
KRND				S	**Sb**	**23 43 15.8**	**+0.4**
	comp=N,14µm,0.3s						
KRND	**KRANIDI**	**0.60**	**294**	P	**Pg**	**23 43 07.0**	**0.0**
KRND				S	**Sg**	**23 43 15.2**	**+0.2**
KRND				AML	AML	23 43 17.2	
	comp=N,26722µm,0.3s						
KRND				AML	AML	23 43 19.3	
	comp=E,29447µm,0.4s						
MHLO	**Agia Marina, M**	**0.64**	**135**	P	**Pn**	**23 43 09.1**	**-0.4**
MHLO				S	**Sn**	**23 43 20.6**	**+1.4**
	comp=E,7µm,0.4s						
MHLO	**Agia Marina, M**	**0.64**	**135**	P	**Pn**	**23 43 09.3**	**-0.1**
MHLO				S	**Sn**	**23 43 19.8**	**+0.6**
MHLO				AML	AML	23 43 22.8	
	comp=N,13886µm,0.3s						
MHLO				AML	AML	23 43 23.8	
	comp=E,16663µm,0.3s						
VLY	**Voula,Athens**	**0.71**	**357**	P	**Pb**	**23 43 09.3**	**+0.2**
VLY				S	**Sb**	**23 43 18.9**	**+0.3**
	comp=E,12µm,0.3s						
VLY	**Voula,Athens**	**0.71**	**357**	P	**Pg**	**23 43 09.1**	**0.0**
VLY				S	**Sg**	**23 43 18.3**	**-0.2**
VLY				AML	AML	23 43 20.3	
	comp=N,25766µm,0.2s						
VLY				AML	AML	23 43 22.6	
	comp=E,20930µm,0.3s						
MNVA	**Monemvasia**	**0.79**	**235**	P	**Pn**	**23 43 11.8**	**+0.3**
MNVA				S	**Sn**	**23 43 21.9**	**-0.9**
MNVA				AML	AML	23 43 25.0	
	comp=N,6368µm,1.0s						
MNVA				AML	AML	23 43 26.2	
	comp=E,5876µm,0.5s						
ATH	**Athens Observa**	**0.83**	**353**	P	**Pg**	**23 43 11.5**	**+0.1**
ATH				S	**Sb**	**23 43 22.4**	**+0.2**
	comp=E,7µm,0.4s						
ATH	**Athens Observa**	**0.83**	**353**	P	**Pg**	**23 43 11.5**	**+0.1**
ATH				S	**Sb**	**23 43 21.8**	**-0.4**
ATH				AML	AML	23 43 23.3	
	comp=N,16926µm,0.5s						
ATH				AML	AML	23 43 23.6	
	comp=E,12592µm,0.3s						
VLI	**Velíai**	**0.84**	**240**	P	**Pg**	**23 43 11.4**	**0.0**
VLI				S	**Sn**	**23 43 23.5**	**-0.6**
	comp=E,5µm,0.7s						
VLI	**Velíai**	**0.84**	**240**	P	**Pg**	**23 43 11.5**	**0.0**
VLI				S	**Sn**	**23 43 23.4**	**-0.7**
VLI				AML	AML	23 43 25.4	
	comp=E,6866µm,1.0s						
VLI				AML	AML	23 43 26.0	
	comp=N,12516µm,0.5s						
PTL	**Penteli**	**0.91**	**1**	P	**Pn**	**23 43 13.7**	**+0.5**
PTL				S	**Sb**	**23 43 24.6**	**+0.3**
	comp=N,6µm,0.4s						
PTL	**Penteli**	**0.91**	**1**	P	**Pn**	**23 43 13.6**	**+0.4**
PTL				S	**Sg**	**23 43 24.7**	**0.0**
PTL				AML	AML	23 43 26.6	
	comp=N,13656µm,0.3s						
PTL				AML	AML	23 43 27.0	
	comp=E,10657µm,0.4s						
DION	**Dionisos Attik**	**0.94**	**5**	P	**Pn**	**23 43 14.2**	**+0.6**
DION				S	**Sg**	**23 43 25.9**	**+0.1**
	comp=E,10µm,0.3s						
DION	**Dionisos Attik**	**0.94**	**5**	P	**Pn**	**23 43 13.9**	**+0.3**
DION				S	**Sb**	**23 43 25.0**	**-0.2**
DION				AML	AML	23 43 27.8	
	comp=N,14647µm,0.3s						
DION				AML	AML	23 43 31.8	
	comp=E,11571µm,0.5s						
TNSA	**Tinos**	**1.13**	**69**	P	**Pg**	**23 43 16.9**	**-0.1**
TNSA				S	**Sn**	**23 43 32.0**	
	comp=N,1854µm,0.4s						
TNSA				AML	AML	23 43 40.3	
	comp=E,1980µm,0.4s						
VIL2	**Platees**	**1.16**	**337**	P	**Pn**	**23 43 15.7**	**-1.0**
VIL2				S	**Sb**	**23 43 30.7**	**-0.9**
VIL2				AML	AML	23 43 35.0	
	comp=E,11413µm,0.6s						
VIL2				AML	AML	23 43 36.4	
	comp=N,7720µm,0.6s						
THAL	**Thalero**	**1.29**	**314**	P	**Pg**	**23 43 20.2**	**+0.1**
THAL				S	**Sn**	**23 43 36.4**	**+1.0**
THAL				AML	AML	23 43 48.2	
	comp=E,7339µm,0.4s						
THAL				AML	AML	23 43 48.5	
	comp=N,6327µm,0.5s						
ANKY	**Antikythira Is**	**1.34**	**199**	P	**Pb**	**23 43 19.9**	**0.0**
ANKY	**Antikythira Is**	**1.34**	**199**	P	**Pg**	**23 43 21.6**	**+0.5**
ANKY				AML	AML	23 43 45.4	
	comp=N,3495µm,0.8s						
ANKY				AML	AML	23 43 49.8	
	comp=E,3128µm,1.0s						
APE	**Apeiranthos**	**1.35**	**93**	⇑P	**Pg**	**23 43 21.4**	**0.0**
APE	**Apeiranthos**	**1.35**	**93**	P	**Pn**	**23 43 19.4**	**0.0**
APE	**Apeiranthos**	**1.35**	**93**	P	**Pg**	**23 43 21.3**	**-0.1**
APE				AML	AML	23 43 43.1	
	comp=N,1004µm,0.3s						
APE				AML	AML	23 43 46.8	
	comp=E,848µm,0.6s						
GUR	**Goura**	**1.43**	**304**	P	**Pn**	**23 43 20.8**	**+0.4**
GUR				S	**Sb**	**23 43 40.0**	**+0.6**
GUR				AML	AML	23 43 44.6	
	comp=N,6439µm,0.7s						
GUR				AML	AML	23 43 48.9	
	comp=E,7558µm,0.6s						
KYMI	**Kymi, Euboea I**	**1.50**	**8**	P	**Pn**	**23 43 21.2**	**-0.2**
KYMI				S	**Sn**	**23 43 41.0**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.50**	**8**	P	**Pb**	**23 43 23.1**	**+0.4**
KYMI				AML	AML	23 43 45.1	
	comp=N,5158µm,0.5s						
KYMI				AML	AML	23 43 47.5	
	comp=E,5408µm,0.6s						
KLV	**Kalavryta, Ach**	**1.61**	**304**	P	**Pb**	**23 43 24.3**	**-0.3**
KLV	**Kalavryta, Ach**	**1.61**	**304**	P	**Pb**	**23 43 24.5**	**-0.1**
KLV				S	**Sb**	**23 43 44.7**	**0.0**
KLV				AML	AML	23 43 51.6	
	comp=E,1598µm,0.5s						
KLV				AML	AML	23 43 53.2	
	comp=N,1547µm,0.6s						
CHAN	**Chania**	**1.63**	**174**	P	**Pg**	**23 43 26.5**	**0.0**
CHAN				AML	AML	23 43 51.7	
	comp=E,2158µm,0.7s						
CHAN				AML	AML	23 43 55.4	
	comp=N,1795µm,0.4s						
IMMV	**Iera Moni Meta**	**1.68**	**176**	P	**Pb**	**23 43 26.4**	**+0.8**
IMMV				AML	AML	23 44 00.1	
	comp=E,3320µm,0.7s						
IMMV				AML	AML	23 44 03.7	
	comp=N,2048µm,0.8s						
SKY	**Skiros Island**	**1.82**	**18**	P	**Pn**	**23 43 26.8**	**+1.0**
SKY				AML	AML	23 43 54.9	
	comp=N,2758µm,0.6s						
SKY				AML	AML	23 43 56.1	
	comp=E,3372µm,0.3s						
AXAR	**Agios Charalam**	**1.87**	**330**	P	**Pn**	**23 43 27.3**	**+0.8**
AXAR				S	**Sn**	**23 43 50.1**	**+0.4**
AXAR	**Agios Charalam**	**1.87**	**330**	P	**Pn**	**23 43 27.6**	**+1.1**
AXAR				AML	AML	23 44 03.6	
	comp=N,3287µm,0.5s						
AXAR				AML	AML	23 44 05.1	
	comp=E,3442µm,0.7s						
DRO	**Drossia**	**1.87**	**296**	P	**Pb**	**23 43 28.4**	**-0.6**
DRO	**Drossia**	**1.87**	**296**	P	**Pb**	**23 43 28.6**	**-0.4**
DRO				AML	AML	23 44 03.2	
	comp=N,2731µm,0.6s						
DRO				AML	AML	23 44 03.3	
	comp=E,2433µm,0.5s						
EFP	**Efpalio**	**2.00**	**311**	P	**Pn**	**23 43 29.6**	**+1.4**
EFP				AML	AML	23 44 03.9	
	comp=E,713µm,0.6s						
EFP				AML	AML	23 44 14.6	
	comp=N,652µm,0.6s						
IDI	**Anoyia**	**2.04**	**155**	P	**Pb**	**23 43 31.0**	**-0.7**
IDI				AML	AML	23 44 08.6	
	comp=E,406µm,0.5s						
IDI				AML	AML	23 44 10.8	
	comp=N,452µm,0.6s						
RLS	**Riolos of Patr**	**2.09**	**297**	P	**Pb**	**23 43 31.4**	**-1.2**
RLS				AML	AML	23 44 08.4	
	comp=N,942µm,0.5s						
RLS				AML	AML	23 44 10.0	
	comp=E,653µm,0.5s						
ANX	**Ano Chora**	**2.10**	**314**	P	**Pn**	**23 43 31.0**	**+1.4**
ANX	**Ano Chora**	**2.10**	**314**	P	**Pn**	**23 43 30.8**	**+1.1**
ANX				AML	AML	23 44 12.3	
	comp=N,1477µm,0.5s						
ANX				AML	AML	23 44 13.7	
	comp=E,1496µm,0.5s						
NEO	**Neokhori**	**2.21**	**348**	P	**Pn**	**23 43 32.1**	**+0.9**
NEO				AML	AML	23 44 06.4	
	comp=E,1564µm,0.3s						
NEO				AML	AML	23 44 10.3	
	comp=N,3264µm,0.4s						
AGG	**Agios Georgios**	**2.22**	**328**	P	**Pn**	**23 43 32.7**	**+1.4**
EVR	**Evrytania**	**2.39**	**319**	P	**Pn**	**23 43 35.3**	**+1.6**
EVR				AML	AML	23 44 19.7	
	comp=N,668µm,0.7s						
EVR				AML	AML	23 44 21.3	
	comp=E,502µm,0.7s						
SIGR	**SIGRI**	**2.61**	**37**	P	**Pb**	**23 43 39.2**	**-2.2**
SIGR				AML	AML	23 44 29.3	
	comp=N,623µm,0.7s						
SIGR				AML	AML	23 44 29.3	
	comp=E,417µm,0.9s						
THL	**Klokotos Trika**	**2.81**	**330**	P	**Pn**	**23 43 41.2**	**+1.8**
THL				AML	AML	23 44 27.7	
	comp=N,118µm,0.6s						
THL				AML	AML	23 44 41.8	
	comp=E,139µm,0.9s						
VAY	**Valandovo**	**4.29**	**347**	*i* Pn	**Pn**	**23 44 01.8**	**+2.2**
STIP	**Stip**	**4.72**	**345**	*i* Pn	**Pn**	**23 44 07.2**	**+1.6**
TIP	**Timpagrande**	**5.94**	**292**	⇓P	**Pn**	**23 44 23.0**	**+0.6**
BLKB	**Belogradchik**	**6.54**	**353**	⇓P	**Pn**	**23 44 31.9**	**+1.3**
VAE	**Valguarnera**	**7.52**	**275**	Pn	**Pn**	**23 44 44.5**	**+0.3**
	comp=E,0.6nm,0.3s,baz=18,slow=13,SNR=1.5						
VAE				Sn	**Sn**	**23 46 08.5**	**-0.5**
	comp=E,0.9nm,0.3s,baz=185,slow=14,SNR=1.5 comp=E,4.3nm,0.8s						
HERR	**Herculane**	**7.81**	**353**	⇑P	**Pn**	**23 44 47.4**	**-0.5**
BRTR	**Keskin Array B**	**8.11**	**68**	Pn	**Pn**	**23 44 54.9**	**+2.6**
	comp=E,0.1nm,0.3s,baz=254,slow=14,SNR=5.3 comp=E,0.7nm,0.6s						
HARR	**Harsova**	**8.15**	**21**	⇑P	**Pn**	**23 44 53.9**	**+1.2**
ARR	**Arges**	**8.24**	**4**	⇓P	**Pn**	**23 44 54.8**	**+0.8**
VOIR		**8.34**	**6**	⇑P	**Pn**	**23 44 56.3**	**+0.9**
MLR	**Muntele Rosu**	**8.49**	**10**	⇓P	**Pn**	**23 44 59.1**	**+1.6**
MLR	**Muntele Rosu**	**8.49**	**10**	Pn	**Pn**	**23 44 58.5**	**+1.0**
	comp=E,0.1nm,0.3s,baz=146,slow=22,SNR=5.6 comp=E,2.2nm,0.8s						
DOPR	**Dopca**	**8.89**	**7**	⇓P	**Pn**	**23 45 05.1**	**+2.2**
MMAI	**Mount Meron Ar**	**10.33**	**110**	Pn	**Pn**	**23 45 24.0**	**+1.4**
	comp=E,0.4nm,0.3s,baz=320,slow=13,SNR=1.2 comp=E,1.3nm,0.6s						
GERES	**GERESS Array B**	**13.83**	**331**	Pn	**Pn**	**23 46 12.0**	**+1.5**
	comp=E,0.1nm,0.3s,baz=153,slow=6.6,SNR=2.3 comp=E,0.6nm,0.7s						
KBZ	**Khabz**	**15.92**	**60**	Pn	**P**	**23 46 41.5**	**-0.3**
	baz=219,slow=6.5,SNR=1.4 comp=E,2.9nm,1.1s						
ESDC	**Sonseca Array**	**21.90**	**285**	P	**P**	**23 47 44.9**	**-2.5**
	comp=E,0.6nm,0.8s,baz=82,slow=9.2,SNR=2.0 comp=E,0.6nm,0.8s						
HFS	**Hagfors**	**23.91**	**347**	P	**P**	**23 48 06.6**	**-1.3**
	comp=E,4.9nm,1.0s,baz=226,slow=7.4,SNR=2.0 comp=E,4.9nm,1.0s						
FINES	**FINESS Array B**	**24.37**	**3**	P	**P**	**23 48 11.7**	**-0.3**
	comp=E,3.5nm,1.0s,baz=183,slow=17,SNR=2.0 comp=E,3.5nm,1.0s						
EKA	**Eskdalemuir Ar**	**25.81**	**323**	P	**P**	**23 48 26.2**	**+0.9**
	comp=E,3.7nm,0.9s,baz=124,slow=8.9,SNR=3.5 comp=E,3.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.03**	**225**	P	**P**	**23 49 12.0**	**-0.2**
	comp=E,0.9nm,0.7s,baz=33,slow=9.7,SNR=6.6 comp=E,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**40.74**	**53**	P	**P**	**23 50 34.6**	**-0.4**
	comp=E,0.4nm,0.5s,baz=286,slow=8.6,SNR=4.1 comp=E,0.4nm,0.5s						
MKAR	**Makanchi Array**	**43.61**	**58**	P	**P**	**23 50 58.3**	**-0.2**
	comp=E,0.3nm,0.5s,baz=290,slow=6.5,SNR=5.8 comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**44.43**	**48**	P	**P**	**23 51 04.3**	**-0.6**
	comp=E,0.5nm,0.5s,baz=287,slow=7.6,SNR=3.5 comp=E,0.5nm,0.5s						
ASAR	**Alice Springs**	**119.43**	**99**	PKP	**PKPdf**	**00 01 43.4**	**-0.6**
	comp=E,0.2nm,0.8s,baz=319,slow=1.5,SNR=1.2						

*NEIC **27** 23:45:38.4±1.7,55.°92N±0.°08×149.°72W±0.°09,h6km±5km, mb4.4/11,ML4.1/42,ML4.0(AEIC),Error ellipse: s-maj=11.8km s-min=7.6km az=180.0*
*IDC **27** 23:45:40.1±0.9,56.°10N×149.°61W,h0km,mb3.9/15, mbtmp3.9/19,ML3.4/4,MS3.8/11,Error ellipse: s-maj=26.8km s-min=13.7km az=22.0*
*AEIC **27** 23:45:43.4±1.6,55.°98N±0.°08×149.°74W±0.°10,h7km±5km, Error ellipse: s-maj=11.8km s-min=7.9km az=177.0*

ISC 27 23:45:41.4±0.6,**56.°16N**±0.°07×**149.°74W**±0.°05,**h10**km, **n257**,σ0**94**/245,**mb4.2**/23,**MS3.8**/5,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.23**	**300**		**Pn**	**23 46 17.0**	**-1.3**
OHAK					**Sn**	**23 46 42.7**	**-3.1**
OHAK	**Old Harbor**	**2.23**	**300**	P	**Pn**	**23 46 16.9**	**-1.3**
OHAK	**Old Harbor**	**2.23**	**300**	P	**Pn**	**23 46 17.0**	**-1.3**
	baz=122						
OHAK				S	**Sn**	**23 46 42.7**	**-3.1**
	baz=122						
KDAK	**Kodiak Island**	**2.25**	**317**		**Pn**	**23 46 17.9**	**-0.7**
KDAK					**Sn**	**23 46 44.1**	**-2.3**
KDAK	**Kodiak Island**	**2.25**	**317**	Pn	**Pn**	**23 46 17.9**	**-0.7**
	14nm,0.3s,baz=149,slow=6.2,SNR=413						
KDAK				Sn	**Sn**	**23 46 44.3**	**-2.0**
	17nm,0.3s,baz=194,slow=24,SNR=5.2						
KDAK				LR	LR	23 47 29.7	
	comp=Z,3µm,19.1s,baz=204,slow=47 60nm,0.2s						
SII	**Sitkinak Islan**	**2.50**	**281**	Pn	Pn	23 46 20.1	-2.1
SII				IAML		23 47 07.9	
	comp=N,644nm,0.8s						
SII	**Sitkinak Islan**	**2.50**	**281**	P	**Pn**	**23 46 20.9**	**-1.2**
SII	**Sitkinak Islan**	**2.50**	**281**	P	Pn	23 46 20.1	-2.1
	baz=102						
SII				S	**Sn**	**23 46 49.6**	**-3.1**
	baz=102						
SYI	**Shuyak Island**	**2.84**	**331**		**Pn**	**23 46 26.5**	**-0.2**
SYI					**Sn**	**23 47 00.8**	**-0.2**
CNPM	**China Poot**	**3.47**	**347**		**Pn**	**23 46 34.7**	**-0.7**
CNPM				IAML		23 47 20.7	
	comp=E,241nm,1.0s						
Q19K	**Cape Douglas,**	**3.48**	**324**		**Pn**	**23 46 35.5**	**-0.1**
Q19K	**Cape Douglas,**	**3.48**	**324**	P	**Pn**	**23 46 36.1**	**+0.6**
	baz=143						
KAHG	**Katmai Hook Gl**	**3.50**	**314**		**Pn**	**23 46 36.3**	**+0.4**
BRSE	**Bradley Lake S**	**3.63**	**352**		**Pn**	**23 46 36.6**	**-0.9**
BRSE					**Sn**	**23 47 19.7**	**-0.7**
BRSE	**Bradley Lake S**	**3.63**	**352**	P	**Pn**	**23 46 36.9**	**-0.7**
	baz=172						
BRSE				S	**Sn**	**23 47 19.7**	**-0.7**
	baz=172						
BRLK	**Bradley Lake**	**3.66**	**351**		**Pn**	**23 46 37.2**	**-0.9**
BRLK				IAML		23 47 23.9	
	comp=N,168nm,1.3s						
BRLK				IAML		23 47 25.6	
	comp=E,283nm,0.7s						
ACHA	**Angle Creek He**	**3.67**	**306**		**Pn**	**23 46 38.0**	**-0.2**
ANCK	**Angle Creek**	**3.74**	**305**		**Pn**	**23 46 39.2**	**+0.1**
Q23K	**Middleton Isla**	**3.75**	**28**	Pn	**Pn**	**23 46 38.7**	**-0.4**
Q23K				IAML		23 47 28.1	
	comp=E,320nm,1.4s						
Q23K				IAML		23 48 53.9	
	comp=N,252nm,2.2s						
Q23K	**Middleton Isla**	**3.75**	**28**	P	**Pn**	**23 46 38.8**	**-0.4**
	baz=209						
MID	**Middleton Isla**	**3.75**	**28**	Pn	**Pn**	**23 46 38.7**	**-0.4**
MID				IAML		23 47 26.9	
	comp=E,389nm,2.6s						
MID				IAML		23 48 28.1	
	comp=N,242nm,1.0s						
MID	**Middleton Isla**	**3.75**	**28**	P	**Pn**	**23 46 39.0**	**-0.1**
AU22	**Augustine Moun**	**3.75**	**330**		**Pn**	**23 46 39.9**	**+0.6**
AUL	**Augustine Lava**	**3.79**	**330**		**Pn**	**23 46 40.4**	**+0.6**
CNTC	**Contact Creek**	**3.95**	**305**		**Pn**	**23 46 41.7**	**-0.3**
CNTC					**Sn**	**23 47 25.9**	**-2.5**
Q17K	**Contact Creek**	**3.95**	**305**	P	**Pn**	**23 46 41.9**	**-0.2**
	baz=122						
P19K	**Oil Pt**	**3.96**	**333**		**Pn**	**23 46 41.9**	**-0.3**
P19K				IAML		23 47 33.6	
	comp=N,493nm,0.6s						
P19K				IAML		23 47 34.2	
	comp=E,392nm,0.8s						
P19K	**Oil Pt**	**3.96**	**333**	P	**Pn**	**23 46 43.0**	**+0.8**
	baz=152						
P23K	**Montague Islan**	**4.04**	**17**		**Pn**	**23 46 43.0**	**-0.2**
P23K	**Montague Islan**	**4.04**	**17**	P	**Pn**	**23 46 42.9**	**-0.4**
	baz=198						
PLK1	**Peulik 1**	**4.10**	**296**		**Pn**	**23 46 43.1**	**-0.9**
O20K	**Slope Mountain**	**4.22**	**340**		**Pn**	**23 46 45.5**	**-0.1**
O20K	**Slope Mountain**	**4.22**	**340**	P	**Pn**	**23 46 45.6**	**-0.1**
	baz=158						
IVE	**Iliamna Volcan**	**4.24**	**337**		**Pn**	**23 46 45.4**	**-0.6**
IVE					**Sn**	**23 47 34.4**	**-1.2**
O22K	**Cooper Landing**	**4.33**	**0**		**Pn**	**23 46 47.0**	**-0.2**
O22K	**Cooper Landing**	**4.33**	**0**	P	**Pn**	**23 46 46.9**	**-0.3**
	baz=180						
SLKM	**Skilak Lake**	**4.37**	**357**		**Pn**	**23 46 46.6**	**-1.1**
P18K	**Big Mountain,**	**4.37**	**320**		**Pn**	**23 46 47.2**	**-0.6**
P18K	**Big Mountain,**	**4.37**	**320**	P	**Pn**	**23 46 47.2**	**-0.6**
	baz=137						
Q16K	**King Salmon**	**4.51**	**307**		**Pn**	**23 46 48.9**	**-0.7**
Q16K	**King Salmon**	**4.51**	**307**	P	**Pn**	**23 46 48.6**	**-0.9**
	baz=123						
RED	**Redoubt Volcan**	**4.56**	**341**		Pn	23 46 49.0	-1.4
HIN	**Hinchinbrook I**	**4.58**	**21**		**Pn**	**23 46 50.6**	**0.0**
HIN				IAML		23 47 49.8	
	comp=N,227nm,1.1s						
HIN				IAML		23 47 52.3	
	comp=E,270nm,1.3s						
RSO	**Redoubt South**	**4.60**	**341**		**Pn**	**23 46 50.1**	**-0.9**
RDWB	**Redoubt West**	**4.64**	**341**		**Pn**	**23 46 50.4**	**-1.1**
RDT	**Redoubt**	**4.64**	**344**		**Pn**	**23 46 50.7**	**-0.8**
O18K	**Koktuh Hills**	**4.71**	**324**		**Pn**	**23 46 51.6**	**-0.7**
O18K				IAML		23 47 50.5	
	comp=E,93nm,0.7s						
O18K				IAML		23 48 05.4	
	comp=N,156nm,0.8s						
O18K	**Koktuh Hills**	**4.71**	**324**	P	**Pn**	**23 46 51.4**	**-1.0**
	baz=141						
P17K	**Kvichak River**	**4.71**	**313**		**Pn**	**23 46 52.5**	**+0.2**
P17K	**Kvichak River**	**4.71**	**313**	P	**Pn**	**23 46 52.1**	**-0.3**
	baz=129						
O19K	**Port Alsworth**	**4.71**	**331**		**Pn**	**23 46 52.1**	**-0.4**
O19K				IAML		23 47 52.7	
	comp=N,257nm,0.5s						
KAIM	**Kayak Island**	**4.72**	**35**		**Pn**	**23 46 52.8**	**+0.3**
NCT	**North Crescent**	**4.72**	**341**		**Pn**	**23 46 51.9**	**-0.7**
ANNW	**Aniakchak Nort**	**4.76**	**283**		**Pn**	**23 46 52.0**	**-1.1**
ANPB	**Aniakchak Plen**	**4.78**	**281**		**Pn**	**23 46 52.2**	**-1.1**
CHGN	**Chignik**	**4.84**	**275**	Pn	Pn	23 46 51.6	-2.5
CHGN				IAML		23 47 49.5	
	comp=N,90nm,0.9s						
CHGN				IAML		23 47 51.6	
	comp=E,78nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.88**	**24**		**Pn**	**23 46 54.6**	**0.0**
EYAK	**Cordova Ski Ar**	**4.88**	**24**	P	**Pn**	**23 46 55.2**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.88**	**24**	P	**Pn**	**23 46 54.7**	**+0.1**
	baz=206						
FID	**Port Fidalgo**	**4.91**	**19**		**Pn**	**23 46 54.8**	**-0.4**
FID				IAML		23 47 50.4	
	comp=E,137nm,0.7s						
FID				IAML		23 47 60.0	
	comp=N,102nm,1.3s						
RC01	**Rabbit Creek A**	**4.94**	**0**		**Pn**	**23 46 55.1**	**-0.5**
RC01				IAML		23 47 54.4	
	comp=E,101nm,0.6s						
RC01				IAML		23 48 08.1	
	comp=N,89nm,0.8s						
RC01	**Rabbit Creek A**	**4.94**	**0**	P	**Pn**	**23 46 55.4**	**-0.2**
	baz=180						
FIS	**Fire Island**	**5.00**	**357**	Pn	**Pn**	**23 46 56.4**	**0.0**
FIS				IAML		23 48 01.0	
	comp=E,175nm,1.2s						
RAGM	**Ragged Mountai**	**5.01**	**30**		**Pn**	**23 46 56.5**	**0.0**
GOAT	**Goat Mountain**	**5.16**	**29**		**Pn**	**23 46 58.9**	**+0.3**
N20K	**Mount Spurr**	**5.21**	**347**	P	**Pn**	**23 47 00.2**	**+0.8**
	baz=165						
SPCR	**Spurr Chakacha**	**5.21**	**347**		**Pn**	**23 46 58.6**	**-0.8**
SPCP	**Crater Peak Br**	**5.27**	**347**		**Pn**	**23 47 00.4**	**+0.1**
N19K	**Bonanza Creek**	**5.29**	**334**		**Pn**	**23 46 59.6**	**-0.8**
P16K	**Nushagak River**	**5.29**	**306**	P	**Pn**	**23 47 00.3**	**+0.1**
	baz=121						
KNK	**Knik Glacier**	**5.31**	**7**		**

WAZA	**Wrangell Mount**	6.59	24			Pn		23 47 19.2	+0.8
M17K	**Holitna River**	6.60	326			Pn		23 47 18.1	-0.2
HARP	**HAARP**	6.68	19			Pn		23 47 20.2	+0.7
WAT7	**Susitna Watana**	6.71	4			Pn		23 47 20.4	+0.5
WAT1	**Susitna Watana**	6.72	5			Pn		23 47 20.9	+0.9
N15K	**Kwethluk River**	6.79	311			Pn		23 47 21.6	+0.7
O14K	**Tigyukauivet M**	6.91	301			Pn		23 47 22.4	-0.1
PN7A	**Pavlof North-7**	6.95	269			Pn		23 47 21.6	-1.6
DHY	**Denali Highway**	7.04	9			Pn		23 47 25.1	+0.6
P29M	**Windy Craggy**	7.28	57			Pn		23 47 27.4	-0.2
RND	**Reindeer**	7.28	3			Pn		23 47 29.2	+1.4
TRF	**Thorofare Moun**	7.32	358			Pn		23 47 28.6	+0.3
M15K	**Kasigluk River**	7.32	313			Pn		23 47 28.3	+0.1
CAST	**Castle Rocks**	7.38	352			Pn		23 47 29.7	+0.7
KTH	**Kantishna Hill**	7.44	356			Pn		23 47 30.0	+0.1
MENT	**Mentasta**	7.45	22			Pn		23 47 31.1	+1.1
TTA	**Tatalina**	7.50	337			Pn		23 47 29.9	-0.7
K20K	**Telida**	7.54	345			Pn		23 47 30.3	-0.9
S31K	**Pelican**	7.58	71			Pn		23 47 29.2	-2.6
FALS	**False Pass**	7.88	266	P		Pn		23 47 35.0	-0.8
K17K	**Iditarod**	7.88	330			Pn		23 47 35.9	0.0
HYT	**Haines Junctio**	7.93	49			Pn		23 47 36.5	-0.1
RIDG	**Independent Ri**	7.99	16			Pn		23 47 37.6	+0.3
BPAW	**Bear Paw Mtn.**	7.99	356			Pn		23 47 36.1	-1.3
SIT	**Sitka**	8.01	78	Pn		Pn		23 47 34.3	-3.3
SIT	**Sitka**	8.01	78	P		Pn		23 47 36.0	-1.6
BCAR	**Beaver Creek A**	8.01	27	Pn		Pn		23 47 37.9	+0.2
BWN	**Browne**	8.04	1	Pn		Pn		23 47 38.8	+0.8
ISLZ	**Isanotski Laza**	8.07	266			Pn		23 47 36.1	-2.5
ISNN	**Isanotski Nort**	8.08	266			Pn		23 47 36.8	-1.9
J18K	**Innoko River**	8.12	337			Pn		23 47 38.4	-0.7
M19K	**Dall Lake**	8.33	306			Pn		23 47 42.5	+0.4
SCRK	**Sand Creek**	8.35	18			Pn		23 47 43.1	+0.7
SKAG	**Skagway**	8.37	61			Pn		23 47 42.3	-0.3
SKAG	**Skagway**	8.37	61	P		Pn		23 47 43.0	+0.4
J19K	**Poorman**	8.38	342			Pn		23 47 42.2	-0.5
S32K	**Killisnoo**	8.42	75	Pn		Pn		23 47 41.5	-1.8
N30M	**Aishikik Lake**	8.44	46			Pn		23 47 44.0	+0.4
NEA2	**Nenana**	8.47	2			Pn		23 47 44.1	+0.2
O30N	**Mendenhall**	8.51	52	Pn		Pn		23 47 44.0	-0.5
R32K	**Eaglecrest**	8.53	69	Pn		Pn		23 47 42.6	-2.1
M29M	**Somme Creek**	8.53	38			Pn		23 47 45.7	+0.8
CCB	**Clear Creek Bu**	8.57	6			Pn		23 47 46.0	+0.8
JIS	**Juneau Island**	8.60	69	Pn		Pn		23 47 44.2	-1.5
K15K	**Wolf Creek Mou**	8.61	320	Pn		Pn		23 47 46.0	+0.1
IL31		8.75	8			Pn		23 47 48.9	+1.2
ILAR	**Eielson Array**	8.75	8			Pn		23 47 49.2	+1.4
ILAR	**Eielson Array**	8.75	8	Pn		Pn		23 47 48.6	+0.8
	comp=E,0.7nm,0.3s,baz=189,slow=13,SNR=47								
ILAR					Sn	Sn		23 49 22.3	-4.0
	comp=E,0.6nm,0.3s,baz=203,slow=20,SNR=7.2								
ILAR					LR	LR		23 51 25.2	
	comp=E,336nm,18.8s,baz=226,slow=39								
K27K	**Chicken**	8.77	23			Pn		23 47 48.6	+0.6
J26L	**Joseph Creek**	8.90	18			Pn		23 47 50.6	+0.6
N31M	**Braeburn, Yuko**	8.99	48	Pn		Pn		23 47 51.9	+0.9
J16K	**Anvik River**	8.99	327	Pn		Pn		23 47 51.7	+0.6
WHY	**Whitehorse**	9.00	54			Pn		23 47 51.0	-0.3
I23K	**Minto, Yukon-K**	9.02	1			Pn		23 47 52.3	+0.8
POKR	**Poker Flat Res**	9.06	6			Pn		23 47 53.0	+1.0
P32M	**Atlin**	9.20	61	Pn		Pn		23 47 53.8	-0.2
U33K	**Whale Pass**	9.28	83	Pn		Pn		23 47 52.5	-2.5
DAWY	**Dawson**	9.45	29	Pn		Pn		23 47 58.2	+0.8
K13K	**Kusilvak Mount**	9.60	313			Pn		23 48 00.8	+1.3
PRP	**Porcupine Dome**	9.61	11	Pn		Pn		23 48 00.6	+0.9
EGAK	**Eagle**	9.62	23	Pn		Pn		23 48 01.0	+1.4
J14K	**Nanvaranak Lak**	9.63	319	Pn		Pn		23 48 00.7	+0.9
H21K	**Melozitna Rive**	9.64	352			Pn		23 48 00.2	+0.2
I26K	**Coal Creek Min**	9.72	17			Pn		23 48 02.5	+1.5
H24K	**Noodor Dome**	9.75	5			Pn		23 48 03.0	+1.4
P33M	**Teslin, Yukon**	9.81	59	Pn		Pn		23 48 02.0	-0.3
K29M	**Barlow Dome**	9.82	33	Pn		Pn		23 48 03.4	+0.9
H19K	**Roundabout Mou**	9.94	344	Pn		Pn		23 48 04.4	+0.3
H18K	**Honhosa River**	9.95	338			Pn		23 48 03.9	-0.3
N32M	**Quiet Lake**	10.00	53	Pn		Pn		23 48 04.7	-0.3
IMAR	**Indian Mountai**	10.04	351	Pn		Pn		23 48 05.7	+0.3
H17K	**Granite Mounta**	10.11	335			Pn		23 48 06.0	-0.4
V35K	**Ketchikan**	10.26	87	Pn		Pn		23 48 03.0	-5.4
FA9K	**Faro, Yukon**	10.36	47			Pn		23 48 10.7	+0.9
I28M	**Miner Creek**	10.46	23	Pn		Pn		23 48 12.0	+0.8
G23K	**Bananza Creek**	10.59	359	Pn		Pn		23 48 12.0	-0.9
G19K	**Purcell Mounta**	10.61	344	Pn		Pn		23 48 12.8	-0.4
FYU	**Fort Yukon**	10.66	10	Pn		Pn		23 48 14.8	+0.9
G18K	**Tagagawik**	10.66	340	Pn		Pn		23 48 14.0	0.0
DLBC	**Dease Lake**	10.90	70	Pn		Pn		23 48 15.6	-1.7
DLBC	**Dease Lake**	10.90	70	Pn		Pn		23 48 17.1	-0.2
	comp=E,0.3nm,0.3s,baz=223,slow=16,SNR=5.3								
DLBC					Sn	Sn		23 50 16.0	-3.2
	comp=E,0.1nm,0.3s,baz=201,slow=18,SNR=1.3								
DLBC					LR	LR		23 51 46.5	
	comp=E,499nm,19.9s,baz=282,slow=34								
	comp=E,0.8nm,0.3s								
I30M	**Mount Dempster**	11.17	30			Pn		23 48 21.5	+0.5
F21K	**Alatna River**	11.24	353	Pn		Pn		23 48 21.7	-0.2
F20K	**Avaraart Lake**	11.28	348			Pn		23 48 22.5	+0.1
ANM	**Nome**	11.40	324	Pn		Pn		23 48 24.3	+0.2
F24K	**Squaw Lake**	11.43	4			Pn		23 48 25.8	+1.4
H29M	**Whitestone**	11.46	24			Pn		23 48 24.9	+0.1
BMAR	**Burnt Mountain**	11.56	10	Pn		Pn		23 48 26.8	+0.5
F17K	**Baldwin Pennin**	11.68	337			Pn		23 48 27.8	+0.1
F15K	**North Star Dit**	11.97	329			Pn		23 48 31.7	-0.1
EPYK	**Eagle Plains**	11.97	26	Pn		Pn		23 48 33.3	+1.5
G29M	**Pine Creek**	12.12	22			Pn		23 48 35.6	+1.8
E25K	**Arctic Village**	12.16	7			Pn		23 48 35.4	+1.0
F28M	**Old Crow**	12.37	18	Pn		Pn		23 48 38.5	+1.2
D22K	**Ayikyak River**	12.84	355	Pn		Pn		23 48 44.2	+0.6
BBB	**Bella Bella**	13.26	98	LR		LR		23 52 42.7	
	comp=E,286nm,20.6s,baz=294,slow=32								
E29M	**Blow River**	13.41	19			Pn		23 48 52.7	+1.3
F31M	**Tsiigehtchic**	13.55	27	Pn		Pn		23 48 53.2	0.0
INK	**Inuvik**	14.26	25	Pn		Pn		23 49 03.4	+0.3
INK	**Inuvik**	14.26	25	Pn		Pn		23 49 03.8	+0.8
	baz=238,slow=19,SNR=14								
INK					LR	LR		23 54 54.7	
	comp=E,376nm,20.0s,baz=190,slow=39								
	comp=E,9.6nm,1.0s								
B22K	**Teshekpuk Lake**	14.32	355			Pn		23 49 04.0	+0.1
WRGLY	**Wrigley**	14.95	51			Pn		23 49 12.0	-0.4
WRGLY					IAmb	IAmb		23 49 30.9	
	comp=Z,29nm,1.2s								
C36M	**Paulatuk**	17.48	31	Pn		Pn		23 49 43.3	-1.5
C36M					IAmb	IAmb		23 50 05.5	
	comp=Z,28nm,1.1s								
YKA	**Yellowknife Ar**	18.82	56	P		P		23 49 58.9	-2.0
YKA	**Yellowknife Ar**	18.82	56	P		P		23 50 02.0	+1.2
	comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=31								
YKA					LR	LR		23 57 11.9	
	comp=Z,319nm,18.2s,baz=280,slow=37								
	comp=Z,5.4nm,1.1s								
A36M	**Sachs Harbour**	18.89	23	P		P		23 50 02.2	+0.7
NEW	**Newport**	21.33	98	P		P		23 50 29.0	+0.8
	comp=Z,2.2nm,1.0s,baz=345,slow=20,SNR=2.5								
NEW					LR	LR		23 57 35.8	
	comp=Z,116nm,19.0s,baz=290,slow=34								
	comp=Z,2.2nm,1.0s								
YBH	**Yreka Blue Hor**	22.68	118	LR		LR		23 57 25.8	
	comp=Z,316nm,18.1s,baz=278,slow=31								
ELK	**Elko**	27.23	110	LR		LR		00 00 13.1	
	comp=Z,157nm,21.2s,baz=292,slow=32								
NVAR	**Mina Array Bea**	27.38	117	P		P		23 51 26.5	-0.4
	comp=Z,0.7nm,0.9s,baz=324,slow=9.7,SNR=4.1								
NVAR					LR	LR		00 00 33.6	
	comp=Z,342nm,18.3s,baz=284,slow=33								
	comp=Z,0.7nm,0.9s								
RES	**Resolute Bay**	27.79	28			P		23 51 30.0	+0.1
PDAR	**Pinedale Array**	28.89	100	P		P		23 51 38.1	-2.3
	comp=Z,0.1nm,0.4s,baz=304,slow=6.4,SNR=2.0								
	comp=Z,0.1nm,0.4s								
PFO	**Pinyon Flats O**	32.12	121	LR		LR		00 02 21.7	
	comp=Z,211nm,20.9s,baz=314,slow=31								
YAK	**Yakutsk**	39.27	313	P		P		23 53 09.3	-0.3
YAK	**Yakutsk**	39.27	313	P		P		23 53 10.1	+0.4
	comp=Z,14nm,0.6s,baz=132,slow=3.6,SNR=5.2								
TXAR	**Lajitas Array**	42.02	110	P		P		23 53 29.3	-3.6
TXAR	**Lajitas Array**	42.02	110	P		P		23 53 31.3	-1.6
	comp=Z,0.1nm,0.4s,baz=316,slow=7.6,SNR=2.5								
	comp=Z,0.1nm,0.4s								
SUMG	**Summit**	43.18	24	P		P		23 53 41.8	-0.3
KLR	**Kul'dur**	45.65	296	P		P		23 54 03.4	+1.7
	comp=Z,5.1nm,1.1s,baz=63,slow=8.7,SNR=5.0								
	comp=Z,5.1nm,1.1s								
HEH	**HeiHe**	47.13	300	*e*P		P		23 54 07.3	-6.0
HEH					pmax	pmax			
	comp=Z,5.0nm,1.2s								
NRIK	**Noril'sk**	48.11	336	P		P		23 54 21.1	+0.5
	comp=Z,2.2nm,0.9s,baz=31,slow=4.4,SNR=3.7								
	comp=Z,2.2nm,0.9s								
H11S1	**WAKE ISLAND Hy**	49.74	239	T		T		00 48 30.7	
	baz=28,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy**	49.76	239	T		T		00 48 39.7	
	baz=28,slow=76,SNR=9.8								
H11S3	**WAKE ISLAND Hy**	49.76	239	T		T		00 48 32.9	
	baz=28,slow=76,SNR=9.6								
SONM	**Songino Array**	58.52	310	P		P		23 55 38.4	+0.8
	comp=Z,2.2nm,0.9s,baz=52,slow=5.8,SNR=4.4								
	comp=Z,2.2nm,0.9s								
ZALV	**Zalesovo Beam**	61.52	327	P		P		23 55 57.3	-0.7
ZALV	**Zalesovo Beam**	61.52	327	P		P		23 55 59.4	+1.4
	comp=Z,0.7nm,0.6s,baz=28,slow=6.7,SNR=4.7								
	comp=Z,0.7nm,0.6s								
HHC	**Hu-ho-hao-te**	61.58	302	*e*P		P		23 56 01.0	+2.3
HHC					pmax	pmax			
	comp=Z,18nm,0.6s								
HHC					pmax	pmax			
	comp=Z,100nm,4.1s								
NOA	**NORSAR Array B**	62.18	10	P		P		23 56 03.6	+1.3
	comp=Z,2.5nm,1.0s,baz=348,slow=7.0,SNR=3.5								
	comp=Z,2.5nm,1.0s								
FINES	**FINESS Array B**	62.69	2	P		P		23 56 06.6	+0.9
	comp=Z,1.3nm,0.9s,baz=350,slow=7.7,SNR=4.3								
	comp=Z,1.3nm,0.9s								
BRVK	**Borovoye**	66.28	335	P		P		23 56 28.9	-0.4
BRVK					IAmb	IAmb		23 56 39.3	
	comp=Z,3.7nm,1.1s								
BVAR	**Borovoye Array**	66.28	335	P		P		23 56 30.0	+0.7
	comp=Z,1.1nm,0.7s,baz=44,slow=6.6,SNR=6.7								
	comp=Z,1.1nm,0.7s								
KURBB	**Kurchatov Area**	66.31	329	P		P		23 56 30.2	+0.7
	comp=Z,0.8nm,0.3s,baz=0.0,slow=3.8,SNR=2.5								
	comp=Z,0.8nm,0.3s								
MK31	**Makanchi Array**	68.54	324	P		P		23 56 43.0	-0.7
MK31					IAmb	IAmb		23 56 53.9	
	comp=Z,2.1nm,1.1s								
MKAR	**Makanchi Array**	68.54	324	P		P		23 56 43.0	-0.7
MKAR	**Makanchi Array**	68.54	324	P		P		23 56 43.5	-0.2
	comp=Z,3.5nm,1.2s,baz=44,slow=5.4,SNR=7.2								
	comp=Z,3.5nm,1.2s								
CLL	**Collm**	71.95	11	*e*P		P		23 57 05.0	+0.6
ABKAR	**Akbulak array**	72.08	340	P		P		23 57 05.3	+0.1
ABKAR	**Akbulak array**	72.08	340	P		P		23 57 04.9	-0.3
ABKAR					IAmb	IAmb		23 57 15.3	
	comp=Z,3.4nm,0.8s								
BUR08	**Bucovina Ar. S**	76.48	4	P		P		23 57 30.7	-0.4
BUR08					IAmb	IAmb		23 57 41.1	
	comp=Z,2.4nm,1.1s								
BURAR	**Bucovina Array**	76.51	4	P		P		23 57 31.8	+0.5
BURAR					IAmb	IAmb		23 57 51.1	
	comp=Z,1.2nm,0.9s								
ESDC	**Sonseca Array**	80.21	26	P		P		23 57 51.9	+0.1
	comp=Z,1.4nm,0.9s,baz=339,slow=3.3,SNR=5.9								
	comp=Z,1.4nm,0.9s								
GEYT	**Alibeck**	83.32	338	P		P		23 58 10.7	+2.5
	comp=Z,1.1nm,0.8s,baz=12,slow=7.4,SNR=2.2								
	comp=Z,1.1nm,0.8s								
CMAR	**Chiang Mai Arr**	86.11	298	P		P		23 58 21.1	-1.4
QSPA	**South Pole Qui**	145.95	180	PKPbc		PKPdf		00 05 20.1	+1.3
	comp=Z,3.2nm,1.2s,baz=55,slow=4.2,SNR=3.3								

*KRSC **27** 23:51:17.5±2.3, 55°.34N×166°.79E, h40^{km}±15^{km}, Ml5.3, Felt [II] at Nikolskoe.*
*BJI **27** 23:51:17.5±0.0, 55°.56N×166°.82E, h17^{km}, mb4.5/34, mB5.2/25, Ms5.0/32, Ms7 4.7/32*
*MOS **27** 23:51:17.3±1.3, 55°.39N×166°.78E, h10^{km}, mb4.9/50, MS4.3/8, Error ellipse: s-maj=5.0km s-min=4.6km az=51.8*
*IDC **27** 23:51:18.8±0.4, 55°.52N×166°.47E, h0^{km}, mb4.3/37, mbtmp4.4/43, ML4.7/5, MS4.2/17, Error ellipse: s-maj=11.7km s-min=8.5km az=173.0*
*NEIC **27** 23:51:20.4±1.4, 55°.40N±0°.09×166°.6E±0°.1, h10^{km}±1^{km}, mb4.9/188, Error ellipse: s-maj=14.6km s-min=10.3km az=182.0*
*GCMT **27** 23:51:21.4±0.2, 55°.57N±0°.01×166°.69E±0°.02, h12^{km}, MW5.0/131, Moment Tensor Solution. s59,c83; s131,c212; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.28±.08; $M_{\theta\theta}$-3.69±.08; $M_{\phi\phi}$-0.58±.07; $M_{r\theta}$-1.18±.23; $M_{\theta\phi}$1.33±.07; $M_{r\phi}$0.50±.27; Best double couple: M_{o}4.42100×10^{16} NP1:ϕ_s291.00000°, δ53.00000°, λ91.00000°. NP2:ϕ_s110.00000°, δ37.00000°, λ89.00000°. Principal axes: T 4.4700, Plg82.0000°, Azm205.0000°; N -0.0960, Plg1.0000°, Azm111.0000°; P -4.3710, Plg8.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 23:51:21.7±0.5, 55°.37N±0°.04×166°.55E±0°.03, h20^{km}±2^{km}, h21^{km}:pP-P, n758, σ1°.54/798, mb4.8/174, MS4.5/34, 15C-21D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	0.37	244			PN	Pb	23 51 28.6	-0.8
BKI						S	Sb	23 51 35.1	+0.4
BKI	**Bering**	0.37	244			*e*P	Pb	23 51 28.6	-0.8
BKI						*e*S	Sb	23 51 35.1	+0.4
KBG	**Krutoberegovo**	2.34	294			PN	Pn	23 51 56.7	-2.3
KBG						S	Sn	23 52 26.7	-0.4
KBG	**Krutoberegovo**	2.34	294			*e*P	Pn	23 51 56.7	-2.3
KBG						*e*S	Sn	23 52 26.7	-0.4
SMKR	**Semkarok**	3.10	295			PN	Pn	23 52 11.4	+1.9
SMKR						S	Sn	23 52 48.1	+2.1
SMKR	**Semkarok**	3.10	295			*e*P	Pn	23 52 11.4	+1.9
SMKR						*e*S	Sn	23 52 48.1	+2.1
BDR	**Baidarnaya**	3.23	294			PN	Pn	23 52 11.5	+0.2
BDR	**Baidarnaya**	3.23	294			*e*P	Pn	23 52 11.5	+0.2
SRKR	**Sorokina**	3.28	295			PN	Pn	23 52 12.2	+0.2
SRKR	**Sorokina**	3.28	295			*e*P	Pn	23 52 12.2	+0.2
ZLN	**Zelenaya**	3.32	284			PN	Pn	23 52 13.0	+0.5
ZLN						S	Sn	23 52 53.4	+2.1
ZLN	**Zelenaya**	3.32	284			*e*P	Pn	23 52 13.0	+0.5
ZLN						*e*S	Sn	23 52 53.4	+2.1
CIRR	**Tsirk**	3.36	285			PN	Pn	23 52 14.4	+1.2
CIRR	**Tsirk**	3.36	285			*e*P	Pn	23 52 14.4	+1.2
BZGR	**Bezymyannyi-Gr**	3.37	282			*e*P	Pn	23 52 13.4	+0.2
BZP	**Bezymyannyi-Pe**	3.45	282			*e*P	Pn	23 52 14.5	+0.1
KLY	**Klyuchi**	3.46	288			PN	Pn	23 52 12.9	-1.4
KLY	**Klyuchi**	3.46	288			*e*P	Pn	23 52 12.9	-1.4
BZMR	**Bezymyannaya**	3.48	282			PN	Pn	23 52 15.0	+0.2
BZMR	**Bezymyannaya**	3.48	282			*e*P	Pn	23 52 15.0	+0.2
BZWR	**Bezymyannyi-We**	3.48	282			PN	Pn	23 52 15.3	+0.5
BZWR	**Bezymyannyi-We**	3.48	282			*e*P	Pn	23 52 15.3	+0.5
KIRR	**Kirishev**	3.56	282			PN	Pn	23 52 16.0	+0.1
KIRR	**Kirishev**	3.56	282			*e*P	Pn	23 52 16.0	+0.1
KMNR	**Kamenistaya**	3.60	279			PN	Pn	23 52 17.3	+0.9
KMNR	**Kamenistaya**	3.60	279			*e*P	Pn	23 52 17.3	+0.9
KPT	**Kopyto**	3.63	282			PN	Pn	23 52 17.1	+0.3
KPT						S	Sn	23 53 03.7	+4.6
KPT	**Kopyto**	3.63	282			*e*P	Pn	23 52 17.1	+0.3
KPT						*e*S	Sn	23 53 03.7	+4.6
TUMR	**Tumrok**	3.66	271			PN	Pn	23 52 18.4	+1.2
TUMR						S	Sn	23 53 04.5	+4.7
TUMR	**Tumrok**	3.66	271			*e*P	Pn	23 52 18.4	+1.2
TUMR						*e*S	Sn	23 53 04.5	+4.7
KOZ	**Kozyrevsk**	3.84	283			PN	Pn	23 52 20.9	+1.3
KOZ						S	Sn	23 53 08.7	+4.6
KOZ	**Kozyrevsk**	3.84	283			*e*P	Pn	23 52 20.9	+1.3
KOZ						*e*S	Sn	23 53 08.7	+4.6
SRDR	**Sredinnyy**	3.97	287			PN	Pn	23 52 21.8	+0.4
SRDR						S	Sn	23 53 12.6	+5.3
SRDR	**Sredinnyy**	3.97	287			*e*P	Pn	23 52 21.8	+0.4
SRDR						*e*S	Sn	23 53 12.6	+5.3
OSSR	**Ossora**	4.33	336			PN	Pn	23 52 24.8	-1.4
OSSR	**Ossora**	4.33	336			*e*P	Pn	23 52 24.8	-1.4
KII	**Karymskiy**	4.33	255			PN	Pn	23 52 27.8	+1.4
KII	**Karymskiy**	4.33	255			*e*P	Pn	23 52 27.8	+1.4
SPN	**Mys Shipunski**	4.45	242			PN	Pn	23 52 27.4	-0.6
SPN	**Mys Shipunski**	4.45	242			*e*P	Pn	23 52 27.4	-0.6
SPN						*e*S	Sn	23 53 15.8	-3.4
ESO	**Esso**	4.48	280			PN	Pn	23 52 30.6	+2.2
ESO	**Esso**	4.48	280			*e*P	Pn	23 52 30.6	+2.2
SMAR	**Somma**	5.00	248			PN	Pn	23 52 36.7	+1.0
SMAR	**Somma**	5.00	248			*e*P	Pn	23 52 36.7	+1.0
UGLR	**Uglovaya**	5.02	248			PN	Pn	23 52 37.3	+1.5
UGLR	**Uglovaya**	5.02	248			*e*P	Pn	23 52 37.3	+1.5
AVH	**Avacha**	5.04	248			PN	Pn	23 52 37.8	+1.8
AVH	**Avacha**	5.04	248			*e*P	Pn	23 52 37.8	+1.8
AVH						*e*S	Sn	23 53 35.1	+1.5
KRX	**Arik**	5.04	250	PN		Pn	Pn	23 52 37.3	+1.1
KRX	**Arik**	5.04	250	*e*P		Pn	Pn	23 52 37.3	+1.1
KRX						*e*S	Sn	23 53 33.7	-0.1
KOK	**Koryaka**	5.08	249	PN		Pn	Pn	23 52 38.0	+1.4
KOK	**Koryaka**	5.08	249	*e*P		Pn	Pn	23 52 38.0	+1.4
KOK						*e*S	Sn	23 53 34.6	-0.1
DALK	**Dalny**	5.14	246	PN		Pn	Pn	23 52 38.0	+0.6
DALK	**Dalny**	5.14	246	*e*P		Pn	Pn	23 52 38.0	+0.6
DALK						*e*S	Sn	23 53 34.2	-1.8
PALN	**Palana**	5.17	319	PN		Pn	Pn	23 52 38.1	+0.4
PALN	**Palana**	5.17	319	*e*P		Pn	Pn	23 52 38.1	+0.4
SHEM	**Shemya Is, Ala**	5.17	118	Pn		Pn	Pn	23 52 37.2	-0.7
	17nm,0.3s,baz=294,slow=19,SNR=8.2								
SHEM						Sn	Sn	23 53 34.6	-2.3
	8.1nm,0.3s,baz=245,slow=23,SNR=1.5								
	51nm,0.3s								
PET	**Petropavlovsk**	5.20	246				Pn	23 52 38.5	+0.3
PET	**Petropavlovsk**	5.20	246	*e*PN			Pn	23 52 39.2	+1.0
PET						pmax	pmax		
	comp=Z,330nm,0.6s								
PET						MLR	MLR		
	comp=Z,6μm,16.0s								
PET						MLR	MLR		
	comp=Z,5μm,18.0s								
PET	**Petropavlovsk**	5.20	246	*e*P			Pn	23 52 39.5	+1.3
PET						*e*S	Sn	23 53 37.8	+0.4
INSR	**Institute**	5.20	247	*e*P			Pn	23 52 40.0	+1.8
INSR						*e*S	Sn	23 53 37.4	-0.2
KRMR	**Karymshinskiy**	5.57	246	PN			Pn	23 52 43.9	+0.6
KRMR	**Karymshinskiy**	5.57	246	*e*P			Pn	23 52 43.9	+0.6
RUS	**Russkaya**	5.59	242	PN			Pn	23 52 43.5	-0.1
RUS	**Russkaya**	5.59	242	*e*P			Pn	23 52 43.5	-0.1
PEA0B	**Petropavlovsk-**	5.66	250	Pn			Pn	23 52 45.4	+0.8
PEA0B	**Petropavlovsk-**	5.66	250	PN			Pn	23 52 45.4	+0.8
PETK	**Petropavlovsk-**	5.66	250	Pn			Pn	23 52 45.2	+0.6
PETK	**Petropavlovsk-**	5.66	250	PN			Pn	23 52 45.0	+0.4
PETK	**Petropavlovsk-**	5.66	250	Pn			Pn	23 52 45.0	+0.4
	comp=Z,38nm,0.3s,baz=67,slow=13,SNR=181								
PETK		

O14K	Tigyukauivet M	17.71	64	P		Pn	23 55 26.9	+0.1		
	baz=271									
K15K	Wolf Creek Mou	17.77	54	P		P	23 55 28.5	+0.3		
K15K	Wolf Creek Mou	17.77	54	P		Pn	23 55 26.1	-1.3		
	baz=262,SNR=11									
H16K	Elim	17.96	46	P		P	23 55 30.3	0.0		
	baz=254,SNR=34									
M15K	Kasigluk River	18.02	59	P		P	23 55 31.0	+0.1		
	baz=267,SNR=7.6									
G16K	Koyuk River	18.14	44	P		P	23 55 32.6	+0.3		
G16K	Koyuk River	18.14	44	P		P	23 55 33.7	+1.4		
	baz=251									
C16K	Lisburne Hills	18.29	34	P		Pn	23 55 33.5	-0.3		
C16K	Lisburne Hills	18.29	34	P		P	23 55 34.9	+1.0		
	baz=239									
N15K	Kwethluk River	18.30	61	P		Pn	23 55 33.8	-0.2		
N15K				IAmb		IAmb	23 55 38.3			
	comp=Z,101nm,1.8s									
N15K	Kwethluk River	18.30	61	P		P	23 55 35.7	+1.7		
	baz=270									
J16K	Anvik River	18.35	51	P		Pn	23 55 35.1	+0.5		
	baz=260									
I17K	Unalakleet	18.43	49	P		Pn	23 55 37.2	+1.7		
	baz=258,SNR=17									
O15K	Ungalikthiuk R	18.45	64	P		Pn	23 55 36.8	+1.0		
	baz=273									
GRNR	Gornyy	18.59	268	⇑	*i*	P	Pn	23 55 39.5	+1.8	
GRNR					pmax		pmax			
	comp=Z,9.0nm,0.7s									
GRNR					MLR		MLR			
	comp=E,930nm,13.0s									
GRNR					MLR		MLR			
	comp=N,700nm,16.0s									
GRNR					MLR		MLR			
	comp=Z,790nm,11.0s									
SDPT	Sand Point	18.65	76	P		Pn	23 55 38.3	0.0		
	baz=284									
L16K	Owhat River	18.66	56	P		Pn	23 55 38.4	0.0		
L16K	Owhat River	18.66	56	P		Pn	23 55 39.5	+1.0		
	baz=266									
G17K	Kiwalik Mounta	18.85	44	P		P	23 55 40.1	0.0		
	baz=253									
M16K	Timber Creek	18.87	58	P		P	23 55 39.7	-0.7		
	baz=268									
F17K	Baldwin Pennin	18.92	41	P		P	23 55 41.0	+0.2		
	baz=250									
E17K	Hotham Inlet	18.95	39	P		P	23 55 41.1	0.0		
	baz=247,SNR=32									
N16K	Nishlik Lake	18.96	60	P		Pn	23 55 42.1	+0.1		
	baz=270									
S14K	Fog Glacier	18.96	73	P		P	23 55 41.4	0.0		
	baz=282									
H17K	Granite Mounta	19.00	46	P		Pn	23 55 42.5	0.0		
	baz=256									
JKA	Kamikawa-asahi	19.03	244	P		P	23 55 42.0	-0.1		
JKA				IAmb		IAmb	23 55 49.5			
	comp=Z,47nm,0.7s									
ASAJ	Asahikawa	19.03	244	P		Pn	23 55 43.6	+0.6		
	comp=Z,3.0nm,0.3s,baz=39,slow=6.7,SNR=12									
ASAJ				LR		LR	00 03 15.2			
	comp=Z,1μm,18.6s,baz=21,slow=38									
	comp=Z,26nm,0.8s									
C17K	DeLong Mountai	19.09	35	P		P	23 55 42.9	+0.2		
	baz=242									
L17K	Donlin	19.25	55	P		P	23 55 43.9	-0.6		
	baz=266									
CHNA	Chernabura Isl	19.28	78	P		Pn	23 55 46.5	+0.7		
	baz=286									
K17K	Iditarod	19.31	53	P		P	23 55 44.9	-0.2		
K17K				IAmb		IAmb	23 55 56.6			
	comp=Z,70nm,1.2s									
K17K	Iditarod	19.31	53	P		P	23 55 45.6	+0.5		
	baz=264									
O16K	Kokwok River B	19.32	63	P		P	23 55 45.5	+0.3		
O16K				IAmb		IAmb	23 55 56.5			
	comp=Z,50nm,1.1s									
O16K	Kokwok River B	19.32	63	P		P	23 55 44.7	-0.5		
	baz=273									
P16K	Nushagak River	19.41	65	P		P	23 55 45.2	-0.9		
	baz=275									
E18K	Tukpahlearik C	19.52	39	P		P	23 55 47.3	-0.1		
E18K	Tukpahlearik C	19.52	39	P		P	23 55 46.0	-1.4		
	baz=248									
CHGN	Chignik	19.58	73	P		P	23 55 47.5	-0.5		
CHGN	Chignik	19.58	73	P		P	23 55 44.9	-3.1		
	baz=282									
F18K	Selawik	19.58	42	P		P	23 55 47.2	-0.8		
	baz=251,SNR=5.5									
M17K	Holitna River	19.62	57	P		P	23 55 46.0	-2.5		
	baz=268									
H18K	Honhosa River	19.69	46	P		P	23 55 48.0	-1.3		
	baz=257									
N17K	Nushagak Hills	19.74	60	P		P	23 55 48.3	-1.5		
	baz=271									
G18K	Tagagawik	19.76	44	P		P	23 55 49.2	-0.8		
	baz=254,SNR=19									
O17K	Koliganek Bris	19.81	62	P		P	23 55 50.1	-0.5		
	baz=273									
C18K	Utukok River	19.82	35	P		P	23 55 50.7	+0.1		
C18K	Utukok River	19.82	35	P		P	23 55 49.1	-1.5		
	baz=244									
B18K	Kokolik River	19.95	33	P		Pn	23 55 53.5	-0.3		
	baz=241,SNR=20									
L18K	Granite Mounta	20.01	55	P		P	23 55 52.6	-0.2		
	baz=267									
YAK	Yakutsk	20.05	304	P		P	23 55 52.2	-1.0		
YAK	Yakutsk	20.05	304	*e*		P	23 55 52.2	-1.0		
YAK				*e*			23 56 07.6			
YAK				*e*		S	23 59 36.0	-1.3		
YAK				pmax		pmax				
	comp=Z,55nm,0.8s									
YAK				pmax		pmax				
	comp=N,2.0nm,0.8s									
YAK				pmax		pmax				
	comp=E,8.0nm,0.9s									
YAK				pmax		pmax				
	comp=Z,198nm,1.8s									
YAK				pmax		pmax				
	comp=E,154nm,1.5s									
YAK				smax		smax				
	comp=E,379nm,3.8s									
YAK				smax		smax				
	comp=N,171nm,3.7s									
YAK	Yakutsk	20.05	304	P		P	23 55 52.4	-0.7		
	comp=N,3.8nm,0.3s,baz=113,slow=1.7,SNR=26									
YAK				S		S	23 59 35.4	-1.9		
	comp=N,6.4nm,0.4s,baz=165,slow=20,SNR=1.3									
YAK				LR		LR	00 03 52.0			
	comp=N,470nm,18.5s,baz=104,slow=38									
	comp=N,86nm,0.7s									
J18K	Innoko River	20.11	51	P		P	23 55 54.0	+0.2		
	baz=263									
Q16K	King Salmon	20.13	65	P		Pn	23 55 56.4	+0.5		
	baz=277									
P17K	Kvichak River	20.19	64	P		P	23 55 54.5	-0.1		
	baz=275									
GCSA	Galena City Sc	20.23	48	P		Pn	23 55 56.2	-0.8		
	baz=260									
ERM	Erimo	20.29	239	P		Pn	23 55 57.1	-0.9		
ERM	Erimo	20.29	239	P		Pn	23 55 57.1	-0.9		
ERM				pmax		pmax				
	comp=Z,215nm,1.8s									
F19K	Shaleruckik Mo	20.36	42	P		Pn	23 55 58.0	-0.6		
	baz=253									
TTA	Tatalina	20.37	53	P		P	23 55 57.0	+0.2		
TTA				IAmb		IAmb	23 56 10.1			
	comp=Z,88nm,1.3s									
TTA	Tatalina	20.37	53	P		Pn	23 55 58.1	-0.8		
	baz=266,SNR=16									
TTA	Tatalina	20.37	53	P		P	23 55 57.0	+0.2		
TTA				pmax		pmax				
	comp=Z,88nm,1.3s									
N18K	Kilae Creek	20.38	60	P		Pn	23 55 58.5	-0.4		
	baz=272									
M18K	Stony River	20.40	57	P		P	23 55 55.9	-1.1		
	baz=270									
G19K	Purcell Mounta	20.44	44	P		P	23 55 57.8	+0.4		
G19K				IAmb		IAmb	23 56 10.4			
	comp=Z,113nm,1.6s									
G19K	Purcell Mounta	20.44	44	P		P	23 55 58.2	+0.8		
	baz=256,SNR=24									
SVW2	Sparrevohn	20.52	58	P		P	23 55 57.2	-1.1		
C19K	Lookout Ridge	20.54	35	P		P	23 55 57.9	-0.5		
C19K	Lookout Ridge	20.54	35	P		P	23 55 57.0	-1.5		
	baz=245,SNR=28									
H19K	Roundabout Mou	20.56	46	P		Pn	23 56 00.6	-0.3		
	baz=258									
A19K	Wainwright	20.58	31	P		P	23 55 59.9	+1.0		
	baz=240									
Q17K	Contact Creek	20.59	66	P		P	23 55 59.5	+0.4		
	baz=278									
J19K	Poorman	20.66	50	P		P	23 55 58.5	-1.3		
	baz=263									
E19K	Redstone River	20.75	40	P		P	23 56 00.3	-0.4		
	baz=252									
O18K	Koktuh Hills	20.76	62	P		Pn	23 56 02.7	-0.6		
	baz=274									
D19K	Kuna River	20.79	37	P		P	23 55 59.9	-1.3		
D19K				IAmb		IAmb	23 56 11.2			
	comp=Z,95nm,1.1s									
D19K	Kuna River	20.79	37	P		Pn	23 56 03.0	-0.6		
	baz=248									
P18K	Big Mountain,	20.79	63	P		P	23 56 01.8	+0.5		
	baz=276,SNR=9.9									
L19K	White Mountain	20.87	55	P		P	23 56 01.9	-0.2		
	baz=269									
N19K	Bonanza Creek	21.06	59	P		P	23 56 05.4	+1.2		
	baz=272									
M19K	Big River Lodg	21.08	56	P		P	23 56 03.9	-0.6		
M19K	Big River Lodg	21.08	56	P		P	23 56 05.7	+1.3		
	baz=270									
O19K	Port Alsworth	21.18	61	P		P	23 56 05.0	-0.4		
O19K	Port Alsworth	21.18	61	P		P	23 56 04.8	-0.5		
	baz=274									
H20K	Aoleeega Mo	21.19	46	P		P	23 56 03.3	-2.3		
	baz=260,SNR=24									
F20K	Avaraart Lake	21.20	42	P		P	23 56 05.4	-0.1		
F20K	Avaraart Lake	21.20	42	P		P	23 56 05.6	+0.1		
	baz=255									
I20K	Naaghedeneel	21.25	48	P		P	23 56 05.7	-0.4		
I20K				IAmb		IAmb	23 56 15.0			
	comp=Z,51nm,1.0s									
I20K	Naaghedeneel	21.25	48	P		P	23 56 05.8	-0.3		
	baz=262									
K20K	Telida	21.28	52	P		P	23 56 06.4	-0.2		
K20K				IAmb		IAmb	23 56 19.7			
	comp=Z,38nm,1.1s									
K20K	Telida	21.28	52	P		P	23 56 06.3	-0.3		
	baz=266									
J20K	Nowinta River	21.32	50	P		P	23 56 06.1	-0.8		
	baz=264,SNR=16									
L20K	Farewell, AK	21.33	54	P		P	23 56 05.9	-1.2		
	baz=269									
E20K	Nigu River	21.38	38	P		P	23 56 07.5	-0.1		
	baz=252									
D20K	Etivluk River	21.38	37	P		P	23 56 06.6	-1.0		
	baz=250									
Q19K	Cape Douglas,	21.65	64	P		P	23 56 10.5	-0.1		
	baz=278									
M20K	Styx River	21.68	56	P		P	23 56 10.6	-0.3		
M20K				IAmb		IAmb	23 56 22.0			
	comp=Z,44nm,1.2s									
M20K	Styx River	21.68	56	P		P	23 56 11.5	+0.7		
	baz=271									
B20K	Meade River	21.69	33	P		P	23 56 10.8	0.0		
	baz=246									
IMAR	Indian Mountai	21.74	45	P		P	23 56 11.6	+0.2		
P19K	Oil Pt	21.77	62	P		P	23 56 12.7	+0.8		
	baz=276									
SII	Sitkinak Islan	21.81	71	P		P	23 56 12.3	+0.1		
	baz=284									
RSO	Redoubt South	21.93	60	P		P	23 56 12.6	-1.1		
G21K	Allakaket	21.93	44	P		P	23 56 14.0	+0.5		
	baz=259									
KLR	Kul'dur	21.98	268	⇓	*e*	P	P	23 56 15.1	+1.0	
KLR					pmax		pmax			
	comp=Z,26nm,1.8s									
KLR	Kul'dur	21.98	268			P	P	23 56 14.5	+0.4	
	comp=Z,3.3nm,0.7s,baz=68,slow=9.7,SNR=7.2									
KLR						LR	LR	00 05 33.8		
	comp=Z,772nm,18.7s,baz=68,slow=39									
	comp=Z,3.3nm,0.7s									
O20K	Slope Mountain	22.03	61	P		P	23 56 16.3	+1.7		
	baz=276									
H21K	Melozitna Rive	22.07	46	P		P	23 56 15.0	+0.1		
	baz=262									
F21K	Alatna River	22.09	42	P		P	23 56 14.8	-0.4		
F21K				IAmb		IAmb	23 56 26.1			
	comp=Z,31nm,0.9s									
F21K	Alatna River	22.09	42	P		P	23 56 13.3	-1.9		
	baz=257									
CHUM	Lake Minchumin	22.10	51	P		P	23 56 12.6	-2.7		
	baz=267,SNR=13									
PPLA	Purkeypile	22.12	53	P		P	23 56 10.9	-4.7		
	baz=269									
OHAK	Old Harbor	22.14	69	P		P	23 56 14.5	-1.2		
OHAK				IAmb		IAmb	23 56 20.9			
	comp=Z,57nm,1.3s									
OHAK	Old Harbor	22.14	69	P		P	23 56 18.2	+2.4		
	baz=282									
N20K	Mount Spurr	22.15	58	P		P	23 56 16.3	+0.4		
	baz=273,SNR=5.6									
C21K	Knifeblade Rid	22.15	36	P		P	23 56 13.4	-2.4		
	baz=251,SNR=27									
CAST	Castle Rocks	22.18	52	P		P	23 56 16.1	0.0		
CAST	Castle Rocks	22.18	52	P		P	23 56 17.3	+1.1		
	baz=268,SNR=13									
E21K	Killik River	22.22	38	P		P	23 56 16.5	0.0		
E21K	Killik River	22.22	38	P		P	23 56 16.0	-0.5		
	baz=254									
JTM	Tenmabayashi	22.24	240	P		P	23 56 16.3	-0.7		
Q20K	Shuyak Island	22.35	65	P		P	23 56 15.5	-2.5		
	baz=280									
I21K	Tanana	22.35	47	P		P	23 56 16.1	-1.9		
I21K				IAmb		IAmb	23 56 32.6			
	comp=Z,42nm,1.1s									
I21K	Tanana	22.35	47	P		P	23 56 14.2	-3.7		
	baz=264,SNR=7.6									
KDAK	Kodiak Island	22.40	67	P		P	23 56 17.1	-1.4		
KDAK	Kodiak Island	22.40	67	P		P	23 56 15.6	-2.9		
	baz=282									
KDAK	Kodiak Island	22.40	67	⇓	*e*	P	P	23 56 18.3	-0.2	
KDAK	Kodiak Island	22.40	67			LR	LR	00 05 02.7		
	comp=Z,1μm,19.2s,baz=283,slow=37									
A21K	Barrow	22.41	30	P		P	23 56 17.6	-0.9		
	baz=244,SNR=5.4									
SKT	Skwentna	22.43	56	P		P	23 56 18.0	-0.9		
SKT				IAmb		IAmb	23 56 38.5			
	comp=Z,44nm,1.2s									
SKT	Skwentna	22.43	56	P		P	23 56 17.6	-1.3		
	baz=272									
ZEA	Zeya	22.65	282	*e*		P	P	23 56 22.3	+1.1	
ZEA				*e*				23 56 30.0		
ZEA				*e*		S	S	00 00 29.1	+1.2	
ZEA				*e*				00 01 20.2		
ZEA				pmax		pmax				
	comp=Z,10.0nm,0.6s									
ZEA				smax		smax				
	comp=N,600nm,14.1s									
H22K	Ishtalitna Cre	22.69	46	P		P	23 56 20.6	-0.9		
	baz=263,SNR=18									
BPAW	Bear Paw Mtn.	22.70	50	P		P	23 56 20.7	-0.9		
BPAW	Bear Paw Mtn.	22.70	50	P		P	23 56 19.8	-1.8		
	baz=267,SNR=9.2									
KTH	Kantishna Hill	22.70	52	P		P	23 56 21.1	-0.7		
G22K	Bettles	22.79	43	P		P	23 56 21.2	-1.4		
	baz=260									
D22K	Ayikyak River	22.79	38	P		P	23 56 20.2	-2.5		
	baz=254									
TIXI	Tiksi	22.80	330	P		P	23 56 22.0	-0.7		
TIXI	Tiksi	22.80	330	⇓	*i*	P	P	23 56 22.5	-0.1	
TIXI				pmax		pmax				
	comp=Z,18nm,1.0s									
TIXI	Tiksi	22.80	330			LR	LR	00 05 47.5		
	comp=Z,752nm,18.6s,baz=123,slow=38									
SUA	Susitna One	22.84	57	P		P	23 56 20.5	-2.8		
	baz=274,SNR=5.3									
MLY	Manley	22.86	48	P		P	23 56 22.7	-0.8		
MLY				IAmb		IAmb	23 56 32.5			
	comp=Z,46nm,1.3s									
MLY	Manley	22.86	48	P		P	23 56 18.6	-4.8		
	baz=265,SNR=13									
E22K	Anaktuvuk Pass	22.92	40	P		P	23 56 21.0	-2.9		
	baz=257									
TRF	Thorofare Moun	22.99	52	P		P	23 56 24.6	-0.3		
TRF				IAmb		IAmb	23 56 36.1			
	comp=Z,70nm,1.5s									
TRF	Thorofare Moun	22.99	52	P		P	23 56 22.9	-1.9		
	baz=270,SNR=8.2									
B22K	Teshekpuk Lake	23.00	34	P		P	23 56 23.7	-1.0		
B22K	Teshekpuk Lake	23.00	34	P		P	23 56 23.2	-1.5		
	baz=250									
CUT	Chulitna	23.01	55	P		P	23 56 22.3	-2.6		
	baz=272									
BRSE	Bradley Lake S	23.02	61	P		P	23 56 20.6	-4.5		
	baz=278									
G23K	Bananza Creek	23.34	44	P		P	23 56 27.7	-0.6		
G23K				IAmb		IAmb	23 56 36.6			
	comp=Z,70nm,1.8s									
G23K	Bananza Creek	23.34	44	P		P	23 56 25.5	-2.7		
	baz=262									
COLD	Coldfoot	23.34	42	P		P	23 56 27.0	-1.3		
	baz=261,SNR=27									
RC01	Rabbit Creek A	23.35	58	P		P	23 56 26.9	-1.5		
	baz=276									
BWN	Browne	23.36	50	P		P	23 56 28.7	+0.2		
I23K	Minto, Yukon-K	23.45	48	P		P	23 56 29.2	-0.1		
	baz=266,SNR=19									
D23K	Nanushuk River	23.52	38	P		P	23 56 27.8	-2.2		
	baz=256,SNR=7.2									
NEA2	Nenana	23.55	49	P		P	23 56 29.7	-0.6		
NEA2				IAmb		IAmb	23 56 34.9			
	comp=Z,53nm,1.4s									
NEA2	Nenana	23.55	49	P		P	23 56 28.8	-1.5		
	baz=268,SNR=9.9									
MCK	McKinley	23.59	51	P		P	23 56 30.0	-0.7		
	baz=270,SNR=11									
PMR	Palmer	23.60	57	P		P	23 56 29.4	-1.3		
	baz=275									
RND	Reindeer	23.63	52	P		P	23 56 29.7	-1.5		
RND				IAmb		IAmb	23 56 38.9			
	comp=Z,72nm,1.6s									
RND	Reindeer	23.63	52	P		P	23 56 29.7	-1.5		
RND				pmax		pmax				
	comp=Z,72nm,1.6s									
E23K	Chandalar	23.71	40	P		P	23 56 30.3	-1.6		
	baz=260									
WAT1	Susitna Watana	23.79	53	P		P	23 56 30.7	-1.9		
	baz=272									
KNK	Knik Glacier	23.93	57	P		P	23 56 33.0	-1.1		
KNK				IAmb		IAmb	23 56 41.6			
	comp=Z,22nm,1.0s									
KNK	Knik Glacier	23.93	57	P		P	23 56 32.1	-1.9		
	baz=276									
SML	Sawmill	23.96	56	P		P	23 56 32.7	-1.6		
SML				IAmb		IAmb	23 56 42.6			
	comp=Z,30nm,0.9s									
SML	Sawmill	23.96	56	P		P	23 56 33.5	-0.8		
	baz=275,SNR=6.3									
HEH	HeiHe	23.97	274	*e*	P	P	23 56 32.8	-1.6		
HEH				pP		pP	23 56 39.8	-0.6		
HEH				S		S	00 00 46.5	-3.3		
HEH				pmax		pmax				
	comp=Z,13nm,0.6s									
HEH				pmax		pmax				
	comp=Z,340nm,4.9s									
HEH				LR		LR				
	comp=Z,2μm,14.7s									
HEH				LR		LR				
	comp=Z,2μm,16.6s									
HEH				LR		LR				
	comp=Z,2μm,15.7s									
COLA	College	24.08	48	P		P	23 56 34.7	-0.6		
COLA	College	24.08	48	P		P	23 56 33.3	-2.0		
	baz=268									
COLA	College	24.08	48	P		P	23 56 34.7	-0.6		
COLA				pmax		pmax				
	comp=Z,51nm,1.0s									
H24K	Noodor Dome	24.11	46	P		P	23 56 35.0	-0.7		
	baz=266									
WAT6	Susitna Watana	24.18	54	P		P	23 56 33.3	-3.1		
	baz=274									
D24K	Happy Valley	24.21	38	P		P	23 56 35.7	-0.7		
	baz=258									
M23K	Glacier View	24.25	56	P		P	23 56 34.9	-2.0		
	baz=276,SNR=7.4									
POKR	Poker Plat Res	24.27	48	P		P	23 56 35.9	-1.2		
POKR				IAmb		IAmb	23 56 46.6			
	comp=Z,33nm,1.1s									
POKR	Poker Plat Res	24.27	48	P		P	23 56 35.0	-2.1		
	baz=268,SNR=11									
F24K	Squaw Lake	24.27	42	P		P	23 56 36.3	-0.9		
F24K	Squaw Lake	24.27	42	P		P	23 56 35.4	-1.7		
	baz=263									
DHY	Denali Highway	24.31	53	P		P	23 56 36.3	-1.4		
DHY				IAmb		IAmb	23 56 46.3			
	comp=Z,69nm,1.6s									
DHY	Denali Highway	24.31	53	P		P	23 56 36.1	-1.6		
	baz=273,SNR=8.0									
G24K	Hadweenzic Riv	24.34	44	P		P	23 56 34.2	-3.6		
	baz=265									
C24K	Franklin Bluff	24.37	36	P		P	23 56 36.3	-1.7		
	baz=257									
SCM	Sheep Creek Mo	24.43	56	P		P	23 56 38.1	-0.6		
SCM	Sheep Creek Mo	24.43	56	P		P	23 56 35.6	-3.0		
	baz=276,SNR=13									
SCM	Sheep Creek Mo	24.43	56	P		P	23 56 38.1	-0.6		
SCM				pmax		pmax				
	comp=Z,72nm,1.0s									
HDA	Harding Lake	24.46	50	P		P	23 56 37.8	-1.1		
HDA				IAmb		IAmb	23 56 50.7			
	comp=Z,40nm,1.1s									
HDA	Harding Lake	24.46	50	P		P	23 56 36.3	-2.5		
	baz=270,SNR=17									
IL31		24.49	49	P		P	23 56 38.0	-1.1		
ILAR	Eielson Array	24.49	49	P		P	23 56 38.2	-0.9		
ILAR	Eielson Array	24.49	49	P		P	23 56 38.5	-0.6		
	comp=Z,33nm,1.0s,baz=260,slow=7.9,SNR=122									
ILAR				PcP		PcP	00 00 16.5	-0.4		
	comp=Z,0.5nm,0.6s,baz=287,slow=4.0,SNR=4.3									
ILAR				LR		LR	00 06 59.7			
	comp=Z,1μm,18.5s,baz=276,slow=38									
	comp=Z,33nm,1.0s									
P23K	Montague Islan	24.64	60	P		P	23 56 37.6	-2.8		
	baz=280									
JMM	Marumori	24.66	236	P		P	23 56 40.7	-0.1		
USRK	Ussuriysk Ar.	24.69	258	P		P	23 56 40.4	-0.7		
	comp=Z,1.4nm,0.7s,baz=53,slow=13,SNR=2.1									
USRK				LR		LR	00 06 50.2			
	comp=Z,913nm,18.7s,baz=61,slow=38									
	comp=Z,1.4nm,0.7s									
G25K	Bearman Lake	24.89	44	P		P	23 56 42.5	-0.2		
	baz=266									
M24K	Tolsona, Glenn	24.94	55	P		P	23 56 41.7	-1.6		
	baz=276,SNR=8.8									
K24K	Donnelly Dome	24.99	51	P		P	23 56 41.6	-2.1		
	baz=273,SNR=7.6									
PRP	Porcupine Dome	25.07	47	P		P	23 56 44.4	-0.2		
PRP	Porcupine Dome	25.07	47	P		P	23 56 42.3	-2.2		
	baz=269,SNR=30									
D25K	Kavik River	25.10	38

MDJ LR LR
comp=Z,1µm,17.4s
MDJ LR LR
comp=Z,900nm,20.8s
MDJ Mudanjiang 25.78 261 P **P** **23 56 50.8 -0.2**
MDJ IAmb IAmb 23 56 58.3
comp=Z,16nm,0.8s
G26K Porcupine Rive 25.82 44 P **P** **23 56 48.9 -2.1**
baz=268
BMRM Bremner River 25.84 57 P **P** **23 56 51.4 -0.1**
BMRM IAmb IAmb 23 56 58.8
comp=Z,40nm,1.1s
BMRM Bremner River 25.84 57 P **P** **23 56 52.5 +1.0**
baz=280,SNR=6.8
J26L Joseph Creek 25.93 49 P **P** **23 56 50.8 -1.5**
J26L Joseph Creek 25.93 49 P **P** **23 56 52.4 +0.2**
baz=273
L26K Log Cabin Wild 26.15 53 P **P** **23 56 55.4 +1.3**
baz=276
BNX BinXian 26.34 265 ⇑P **P** **23 56 55.3 -0.7**
BNX S **S** **00 01 24.3 -3.5**
BNX sS **sS** **00 01 41.8 +4.4**
BNX pmax pmax
comp=Z,5.0nm,0.9s
BNX pmax pmax
comp=Z,260nm,5.3s
BNX LR LR
comp=Z,680nm,12.0s
BNX LR LR
comp=Z,730nm,13.5s
BNX LR LR
comp=Z,590nm,13.0s
VRDI Verde Repeater 26.35 57 P **P** **23 56 55.9 -0.3**
VRDI IAmb IAmb 23 57 03.7
comp=Z,17nm,1.0s
M26K Nabesna, AK 26.38 54 P **P** **23 56 57.1 +0.8**
baz=278
MCARA McCarthy VSAT 26.53 56 P **P** **23 56 58.0 +0.4**
baz=280
K27K Chicken 26.61 50 P **P** **23 56 58.6 +0.3**
baz=275
I27K Kandik River 26.70 47 P **P** **23 56 57.9 -1.2**
baz=273
H27K Steamboat Moun 26.71 45 P **P** **23 56 58.5 -0.8**
baz=271
L27K Beaver Creek, 26.83 52 P **P** **23 57 00.7 +0.3**
L27K IAmb IAmb 23 57 09.0
comp=Z,41nm,1.1s
L27K Beaver Creek, 26.83 52 P **P** **23 57 01.5 +1.2**
baz=278,SNR=28
BCAR Beaver Creek A 26.85 52 P **P** **23 57 00.5 0.0**
M27K Edge Creek, AK 26.91 54 P **P** **23 57 01.4 +0.3**
baz=279,SNR=10
EGAK Eagle 26.94 48 P **P** **23 57 00.3 -1.0**
EGAK IAmb IAmb 23 57 01.9
comp=Z,20nm,0.9s
EGAK Eagle 26.94 48 P **P** **23 57 00.5 -0.8**
baz=275,SNR=21
MJAR Matsushiro Arr 26.95 238 P **P** **23 57 02.8 +1.2**
comp=Z,9.2nm,0.8s,baz=32,slow=8.5,SNR=26
MJAR LR LR 00 08 09.0
comp=Z,555nm,20.9s,baz=42,slow=37
comp=Z,9.2nm,0.8s
MJB9 Matsu-Tunnel 26.95 238 P **P** **23 57 01.9 +0.2**
MAJO Matsushiro 26.95 238 P **P** **23 57 01.6 0.0**
MAJO Matsushiro 26.95 238*ce*P **P** **23 57 03.0 +1.4**
MAJO pmax pmax
comp=Z,108nm,1.8s
D27M Malcolm River 27.00 39 P **P** **23 57 00.4 -1.4**
baz=266
F28M Old Crow 27.35 42 P **P** **23 57 05.8 +0.9**
baz=270,SNR=22
BVCY Beaver Creek 27.36 54 P **P** **23 57 05.9 +0.8**
baz=280
I28M Miner Creek 27.41 47 P **P** **23 57 06.1 +0.6**
baz=274
CTG Chitna Glacier 27.41 57 P **P** **23 57 06.3 +0.7**
baz=282
E28M Babbage River 27.48 40 P **P** **23 57 06.0 -0.1**
E28M Babbage River 27.48 40 P **P** **23 57 07.2 +1.1**
baz=269
YUK3 Moose Creek 27.66 55 P **P** **23 57 09.5 +1.5**
baz=281
DAWY Dawson 27.78 50 P **P** **23 57 07.9 -1.0**
DAWY IAmb IAmb 23 57 37.0
comp=Z,21nm,1.0s
DAWY Dawson 27.78 50 P **P** **23 57 09.0 +0.2**
baz=277,SNR=6.2
D28M Stokes Point 27.80 38 P **P** **23 57 09.5 +0.7**
baz=268
H29M Whitestone 27.99 45 P **P** **23 57 12.3 +1.6**
baz=274
E29M Blow River 28.09 40 P **P** **23 57 13.0 +1.6**
baz=270
G29M Pine Creek 28.09 44 P **P** **23 57 13.1 +1.6**
baz=273
YUK8 Steele Glacier 28.09 56 P **P** **23 57 12.4 +0.5**
baz=282
I29M Ogilvie Camp, 28.09 47 P **P** **23 57 12.7 +1.1**
baz=276
PINM Pinnacle 28.13 58 P **P** **23 57 12.3 +0.3**
baz=284
BOD Bodaibo 28.43 297 *e*P **P** **23 57 13.9 -0.7**
M29M Somme Creek 28.46 53 P **P** **23 57 15.4 +0.5**
M29M Somme Creek 28.46 53 P **P** **23 57 15.6 +0.6**
baz=281
L29M L29M 28.49 52 P **P** **23 57 15.8 +0.7**
L29M IAmb IAmb 23 57 24.3
comp=Z,32nm,1.1s
L29M L29M 28.49 52 P **P** **23 57 15.8 +0.7**
baz=280
YUK4 Talbot Arm 28.60 55 P **P** **23 57 17.6 +1.3**
baz=283
K29M Barlow Dome 28.63 50 P **P** **23 57 15.8 -0.7**
K29M IAmb IAmb 23 57 33.3
comp=Z,28nm,1.8s
K29M Barlow Dome 28.63 50 P **P** **23 57 17.1 +0.6**
baz=279
EPYK Eagle Plains 28.64 45 P **P** **23 57 16.6 +0.1**
EPYK IAmb IAmb 23 57 24.6
comp=Z,29nm,0.9s
PNL Peninsula 28.66 59 P **P** **23 57 17.9 +1.3**
baz=286
G30M tAoh Zraii Nji 28.79 43 P **P** **23 57 18.4 +0.6**
baz=275
HIA Hailar 28.80 278 P **P** **23 57 17.7 -0.3**
HIA Hailar 28.80 278 P **P** **23 57 17.7 -0.3**
HIA pmax pmax
comp=Z,7.0nm,0.9s
YUK6 Outpost Mounta 28.83 56 P **P** **23 57 19.0 +0.5**
baz=284
O29M Mount Kennedy 28.89 57 P **P** **23 57 20.0 +1.1**
baz=285
F30M Barrier River 28.91 42 P **P** **23 57 20.9 +2.0**
baz=274
I30M Mount Dempster 28.92 47 P **P** **23 57 19.5 +0.5**
baz=278
JHJ Hachijo jima 2 29.04 231 LR LR 00 09 02.9
comp=Z,181nm,21.7s,baz=56,slow=37
M30M Minto, Yukon 29.19 52 P **P** **23 57 22.5 +1.2**
baz=282
HYT Haines Junctio 29.27 56 P **P** **23 57 22.4 +0.3**
HYT IAmb IAmb 23 57 31.0
comp=Z,12nm,1.0s
HYT Haines Junctio 29.27 56 P **P** **23 57 23.2 +1.0**
baz=285,SNR=6.8
N30M Aishikik Lake 29.31 55 P **P** **23 57 23.6 +1.2**
baz=284
G31M Satah River 29.56 43 P **P** **23 57 24.7 +0.2**
baz=276
F31M Tsiigehtchic 29.71 42 P **P** **23 57 26.1 +0.3**
baz=276,SNR=10
INK Inuvik 29.71 40 P **P** **23 57 26.1 +0.2**
INK IAmb IAmb 23 57 35.6
comp=Z,16nm,1.1s
INK Inuvik 29.71 40 P **P** **23 57 26.5 +0.7**
baz=275,SNR=13
INK Inuvik 29.71 40 P **P** **23 57 26.1 +0.2**
comp=Z,6.6nm,0.7s,baz=286,slow=7.1,SNR=33
comp=Z,6.6nm,0.7s
O30N Mendenhall 29.95 56 P **P** **23 57 27.9 -0.3**
baz=286
M31M Drury Creek, Y 30.37 53 P **P** **23 57 33.0 +1.3**
baz=284,SNR=6.8
WHY Whitehorse 30.55 56 P **P** **23 57 33.5 0.0**
WHY IAmb IAmb 23 57 41.0
comp=Z,45nm,2.0s
WHY Whitehorse 30.55 56 P **P** **23 57 36.0 +2.5**
baz=287
SKAG Skagway 30.70 58 P **P** **23 57 35.5 +0.8**
baz=288
FARO Faro, Yukon 30.83 52 P **P** **23 57 37.0 +1.1**
baz=285
R31K City Hall, Gus 30.84 60 P **P** **23 57 37.7 +1.8**
baz=290
N32M Quiet Lake 31.25 54 P **P** **23 57 43.1 +3.5**
baz=287
P32M Atlin 31.44 57 P **P** **23 57 43.8 +2.6**
baz=289
JIS Juneau Island 31.56 60 P **P** **23 57 42.6 +0.4**
KSRS Korea Array 31.56 252 P **P** **23 57 43.4 +0.9**
comp=Z,2.5nm,0.8s,baz=46,slow=9.3,SNR=7.2
KSRS LR LR 00 11 50.9
comp=Z,149nm,18.4s,baz=45,slow=39
comp=Z,2.5nm,0.8s
KSAR Wonju Array Be 31.59 252 P **P** **23 57 43.2 +0.5**
KSAR Wonju Array Be 31.59 252 P **P** **23 57 43.2 +0.5**
P33M Teslin, Yukon 31.66 56 P **P** **23 57 43.9 +0.6**
baz=289,SNR=9.1
S32K Killisnoo 31.75 62 P **P** **23 57 47.7 +3.7**
baz=292
A36M Sachs Harbour 32.20 33 P **P** **23 57 47.8 +0.1**
A36M IAmb IAmb 23 57 49.4
comp=Z,9.6nm,0.9s
A36M Sachs Harbour 32.20 33 P **P** **23 57 48.2 +0.5**
baz=276,SNR=11
Q32M Nakina River 32.35 58 P **P** **23 57 50.1 +0.7**
Q32M Nakina River 32.35 58 P **P** **23 57 50.9 +1.4**
baz=291
R33M Jennings River 32.82 57 P **P** **23 57 54.5 +1.0**
baz=291
C36M Paulatuk 32.97 38 P **P** **23 57 54.8 +0.3**
C36M Paulatuk 32.97 38 P **P** **23 57 55.0 +0.5**
baz=281,SNR=26
CRAG Craig 33.30 64 P **P** **23 57 59.3 +1.8**
baz=295
S34M Telegraph Cree 33.30 59 P **P** **23 57 57.8 +0.3**
S34M IAmb IAmb 23 58 06.8
comp=Z,9.3nm,0.9s
S34M Telegraph Cree 33.30 59 P **P** **23 58 01.0 +3.6**
baz=293
JNU Nakatsue 33.31 243 P **P** **23 57 59.7 +1.8**
comp=Z,14nm,1.2s,baz=43,slow=14,SNR=2.0
JNU LR LR 00 12 00.3
comp=Z,190nm,18.6s,baz=45,slow=37
comp=Z,14nm,1.2s
WTLY Watson Lake, Y 33.59 55 P **P** **23 58 01.1 +1.0**
baz=291
DLBC Dease Lake 33.63 58 P **P** **23 58 01.0 +0.5**
DLBC IAmb IAmb 23 58 10.6
comp=Z,21nm,1.2s
DLBC Dease Lake 33.63 58 P **P** **23 58 01.6 +1.1**
baz=293,SNR=6.8
DLBC Dease Lake 33.63 58 LR LR 00 12 24.1
comp=Z,294nm,18.9s,baz=298,slow=38
XLT XiLinHaoTe 33.90 272 *e*P **P** **23 58 03.0 0.0**
XLT pP sP 23 58 13.3 +1.5
XLT sP pP 23 58 16.0 +6.8
XLT PcP **PcP** **00 00 44.3 +3.2**
XLT S **S** **00 03 27.5 +1.2**
XLT sS sS 00 03 36.5 0.0
XLT SS **SnSn** **00 05 31.0 -1.3**
XLT pmax pmax
comp=Z,4.0nm,0.8s
XLT pmax pmax
comp=Z,190nm,5.2s
XLT LR LR
comp=Z,99nm,14.5s
XLT LR LR
comp=Z,960nm,13.6s
XLT LR LR
comp=Z,1µm,13.2s
T35M Bob Quinn 34.11 61 P **P** **23 58 07.7 +3.1**
baz=295,SNR=5.5
WRGLY Wrigley 34.87 48 P **P** **23 58 11.7 +0.7**
WRGLY IAmb IAmb 23 58 20.6
comp=Z,18nm,1.1s
WRGLY Wrigley 34.87 48 P **P** **23 58 12.7 +1.7**
baz=290,SNR=5.7
KOTAN Kotaneelee Air 35.77 53 P **P** **23 58 22.2 +3.3**
baz=294
NRIK Noril'sk 36.27 324 P **P** **23 58 23.8 +0.8**
NRIK Noril'sk 36.27 324 P **P** **23 58 23.8 +0.8**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 36.27 324 P **P** **23 58 22.2 -0.8**
comp=Z,2.2nm,0.8s,baz=46,slow=8.8,SNR=5.0
NRIK LR LR 00 13 55.1
comp=Z,558nm,20.5s,baz=82,slow=38
comp=Z,2.2nm,0.8s
BJT Baijiatuau 36.35 266 P **P** **23 58 24.7 +0.7**
BJT IAmb IAmb 23 58 32.6
comp=Z,21nm,1.6s
BJT Baijiatuau 36.35 266 P **P** **23 58 24.7 +0.7**
BJT pmax pmax
comp=Z,21nm,1.6s
ULN Ulaanbaatar 36.67 284 P **P** **23 58 26.9 +0.1**
ULN Ulaanbaatar 36.67 284↓ *e*P **P** **23 58 27.1 +0.3**
ULN pmax pmax
comp=Z,14nm,1.4s
SONM Songino Array 37.05 284 P **P** **23 58 30.4 +0.3**
SONM Songino Array 37.05 284 P **P** **23 58 29.9 -0.1**
comp=Z,3.3nm,0.7s,baz=60,slow=7.9,SNR=6.4
SONM LR LR 00 16 04.4
comp=Z,258nm,20.3s,baz=46,slow=40
comp=Z,3.3nm,0.7s
ZAK Zakamensk 37.33 289 *e*P **P** **23 58 32.1 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
BBB Bella Bella 37.47 67 P **P** **23 58 33.0 -0.5**
comp=Z,8.0nm,1.0s,baz=355,slow=11,SNR=2.2
comp=Z,8.0nm,1.0s
MOY Mondy 37.86 293 *e*P **P** **23 58 38.2 +1.3**
MOY pmax pmax
comp=Z,46nm,2.7s
HHC Hu-ho-hao-te 38.42 271 *e*P **P** **23 58 41.8 +0.1**
HHC S **S** **00 04 33.3 -2.3**
HHC sS sS 00 04 46.3 +0.4
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,180nm,3.8s
HHC LR LR
comp=Z,2µm,14.3s
HHC LR LR
comp=Z,900nm,14.3s
HHC LR LR
comp=Z,1µm,16.4s
EUNU Eureka 38.79 15 P **P** **23 58 44.5 +0.1**
YKA Yellowknife Ar 38.88 47 P **P** **23 58 44.7 -0.4**
YKA Yellowknife Ar 38.88 47 P **P** **23 58 45.5 +0.3**
comp=Z,3.4nm,0.8s,baz=299,slow=8.0,SNR=34
YKA PcP **PcP** **00 00 55.9 +0.4**
comp=Z,0.3nm,0.7s,baz=226,slow=5.0,SNR=1.6
YKA LR LR 00 15 25.9
comp=Z,616nm,20.3s,baz=321,slow=37
comp=Z,3.4nm,0.8s
HNS HongShan 38.97 265 ||P **P** **23 58 47.3 +1.1**
HNS pmax pmax
comp=Z,8.0nm,1.4s
HNS LR LR
comp=Z,250nm,13.5s
HNS LR LR
comp=Z,1µm,15.1s
HNS LR LR
comp=Z,820nm,22.2s
BTO Baotou 39.47 272 *e*P **P** **23 58 51.8 +1.4**
BTO pP **pP** **23 58 56.3 -0.3**
BTO sP **sP** **23 58 59.0 -0.2**
BTO PP **PnPn** **00 00 26.5 +2.6**
BTO S **S** **00 04 53.8 +2.6**
BTO sS **sS** **00 05 01.5 -0.1**
BTO SS **SS** **00 07 39.0 -6.4**
BTO pmax pmax
comp=Z,26nm,0.7s
BTO pmax pmax
comp=Z,580nm,8.6s
BTO LR LR
comp=Z,3µm,14.5s
BTO LR LR
comp=Z,2µm,13.9s
BTO LR LR
comp=Z,900nm,14.7s
JOW Kunigami 39.73 240 P **P** **23 58 54.6 +1.9**
comp=Z,8.3nm,0.6s,baz=58,slow=17,SNR=1.9
comp=Z,8.3nm,0.6s
RES Resolute Bay 39.74 24 P **P** **23 58 52.0 -0.2**
RES Resolute Bay 39.74 24 P **P** **23 58 52.0 -0.2**
RES pmax pmax
comp=Z,6.0nm,1.2s
NJ2 Nanjing 40.55 255 *e*P **P** **23 58 59.0 -0.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 LR LR
comp=Z,2µm,13.7s
NJ2 LR LR
comp=Z,1µm,13.0s
NJ2 LR LR
comp=Z,2µm,13.3s
BRLDA Berland Lookou 41.88 59 P **P** **23 59 10.6 +0.3**
LYN LuoYang 42.27 264 *e*P **P** **23 59 16.0 +2.5**
LYN pmax pmax
comp=Z,9.0nm,0.9s
LYN pmax pmax
comp=Z,410nm,4.5s
LYN LR LR
comp=Z,1µm,14.8s
LYN LR LR
comp=Z,570nm,16.5s
LYN LR LR
comp=Z,1µm,15.8s
EDM Edmonton 44.35 58 P **P** **23 59 30.0 -0.2**
EDM Edmonton 44.35 58 P **P** **23 59 30.0 -0.2**
EDM pmax pmax
comp=Z,46nm,1.0s
ZALV Zalesovo Beam 44.70 304 P **P** **23 59 31.5 -1.4**
ZALV Zalesovo Beam 44.70 304 P **P** **23 59 30.6 -2.2**
comp=Z,1.2nm,0.7s,baz=58,slow=8.9,SNR=4.0
ZALV PcP **PcP** **00 01 15.1 +0.2**
comp=Z,1.4nm,0.6s,baz=77,slow=2.5,SNR=5.5
comp=Z,1.2nm,0.7s
C09A Chrisman Ranch 45.18 67 P **P** **23 59 35.8 -1.0**
C09A IAmb IAmb 23 59 45.3
comp=Z,27nm,1.5s
SPITS Spitsbergen Ar 45.47 352 P **P** **23 59 38.4 -0.3**
SPITS pmax pmax
comp=Z,167nm,1.7s
SPITS Spitsbergen Ar 45.47 352 P **P** **23 59 38.2 -0.5**
comp=Z,68nm,1.2s,baz=68,slow=7.3,SNR=22
NEW Newport 45.49 66 P **P** **23 59 40.7 +1.4**
baz=309
NEW Newport 45.49 66 P **P** **23 59 39.2 -0.1**
comp=Z,2.0nm,0.7s,baz=282,slow=8.1,SNR=4.1
comp=Z,2.0nm,0.7s
DGZ Jazzator, Alta 46.02 298⇑ *e*P **P** **23 59 43.4 -0.2**
DGZ pmax pmax
comp=Z,5.0nm,0.6s
GTA Gaotai 46.06 279 P **P** **23 59 44.5 +0.5**
GTA sP sP 23 59 58.8 +5.9
GTA S **S** **00 06 32.0 +3.7**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=Z,860nm,17.1s
GTA LR LR
comp=Z,890nm,17.5s
GTA LR LR
comp=Z,1µm,18.2s
LZH Lanzhou 46.09 272 *e*P **P** **23 59 45.5 +1.2**
LZH sP pP 23 59 51.3 +0.7
LZH S **S** **00 06 29.8 +1.0**
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=Z,2µm,15.2s
LZH LR LR
comp=Z,1µm,14.3s
LZH LR LR
comp=Z,1µm,15.5s
J05D Fort Rock, OR 46.51 73 P **P** **23 59 48.0 +0.5**
J05D IAmb IAmb 23 59 58.4
comp=Z,17nm,1.0s
MSO Missoula 48.07 65 P **P** **23 59 59.6 +0.1**
MSO IAmb IAmb 00 00 08.0
comp=Z,7.6nm,1.1s
MSO Missoula 48.07 65 P **P** **00 00 00.8 +1.3**
baz=311
OVMT Ovando 48.40 64 P **P** **00 00 01.8 -0.4**
BPMT Black Pine Rid 48.58 65 P **P** **00 00 03.9 +0.2**
FFC Flin Flon 48.68 51 P **P** **00 00 04.3 +0.3**
FFC Flin Flon 48.68 51 P **P** **00 00 04.3 +0.3**
FFC pmax pmax
comp=Z,6.0nm,1.0s
ORV Oroville 48.89 77 P **P** **00 00 05.7 -0.1**
ORV Oroville 48.89 77 P **P** **00 00 05.7 -0.1**
ORV pmax pmax
comp=Z,5.0nm,1.0s
FCC Fort Churchill 49.28 43 P **P** **00 00 08.4 -0.1**
FCC IAmb IAmb 00 00 19.1
comp=Z,17nm,0.9s
FCC Fort Churchill 49.28 43 P **P** **00 00 08.4 -0.1**
FCC pmax pmax
comp=Z,17nm,0.9s
EGMT Eagleton 49.41 61 P **P** **00 00 09.6 -0.2**
EGMT IAmb IAmb 00 00 19.3
comp=Z,11nm,1.1s
EGMT Eagleton 49.41 61 P **P** **00 00 12.0 +2.2**
baz=312
KURK Kurchatov 49.69 304 P **P** **00 00 11.0 -0.8**
KURK IAmb IAmb 00 00 14.9
comp=Z,20nm,1.1s
KURK Kurchatov 49.69 304 P **P** **00 00 11.9 +0.1**
KURK 00 01 32.9
WMQ Urumqi 49.73 291 *e*P **P** **00 00 12.5 +0.2**
WMQ pP sP 00 00 19.8 -0.6
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ LR LR
comp=N,2µm,17.3s
WMQ LR LR
comp=E,1µm,13.9s
WMQ LR LR
comp=Z,410nm,18.7s
KURBB Kurchatov Arra 49.80 304 P **P** **00 00 11.9 -0.7**
comp=Z,9.4nm,0.7s,baz=54,slow=7.7,SNR=57
KURBB PcP **PcP** **00 01 32.9 -0.2**
comp=Z,1.2nm,0.6s,baz=43,slow=2.7,SNR=0.5
comp=Z,9.4nm,0.7s
CD2 Chengdu 49.91 268 P **P** **00 00 13.5 -0.2**
CD2 S **S** **00 07 24.5 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=N,280nm,13.2s
CD2 LR LR
comp=E,500nm,10.8s
CD2 LR LR
comp=Z,810nm,17.6s
HLID Hailey 50.00 69 P **P** **00 00 16.8 +2.3**
baz=313
MK31 Makanchi Array 50.52 298 P **P** **00 00 16.6 -1.6**
MK31 Makanchi Array 50.52 298*c* iP **P** **00 00 16.6 -1.6**
MKAR Makanchi Array 50.52 298 *i* P **P** **00 00 17.1 -1.1**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 50.52 298 P **P** **00 00 16.8 -1.4**
comp=Z,4.3nm,0.6s,baz=53,slow=6.2,SNR=60
comp=Z,4.3nm,0.6s
MAKZ Makanchi 50.67 298 P **P** **00 00 18.1 -1.2**
MAKZ Makanchi 50.67 298 P **P** **00 00 18.1 -1.2**
MAKZ pmax pmax
comp=Z,11nm,1.5s
WAKR Walker 50.77 77 P **P** **00 00 21.0 +0.7**
WAKR IAmb IAmb 00 00 29.8
comp=Z,29nm,1.8s
YHL Hebgen Lake 50.82 65 P **P** **00 00 21.1 +0.3**
SUMG Summit 51.17 9 P **P** **00 00 23.3 +0.2**
SUMG Summit 51.17 9 P **P** **00 00 23.3 +0.2**
SUMG pmax pmax
comp=Z,31nm,1.3s
H17A Grant Village 51.45 65 P **P** **00 00 28.5 +3.1**
baz=314
NVAR Mina Array Bea 51.45 76 P **P** **00 00 26.0 +0.5**
NVAR Mina Array Bea 51.45 76 P **P** **00 00 26.1 +0.6**
comp=Z,2.7nm,0.8s,baz=304,slow=7.6,SNR=12
comp=Z,2.7nm,0.8s
ELK Elko 51.51 72 P **P** **00 00 26.3 +0.4**
ELK Elko 51.51 72 P **P** **00 00 26.3 +0.4**
ELK pmax pmax
comp=Z,7.0nm,1.3s

NV11	**Mina Array Sit**	**51.53**	**76**	P	**P**	**00 00 26.6**	**+0.5**
NV11				IAmb	IAmb	00 00 34.6	
	comp=Z,15nm,1.5s						
RLMT	**Red Lodge**	**51.62**	**64**	P	**P**	**00 00 28.8**	**+2.1**
	baz=314						
GYA	**Guiyang**	**51.64**	**261⇑**	*i*P	**P**	**00 00 28.0**	**+1.1**
GYA				sP	sP	00 00 42.0	+6.3
GYA				S	**S**	**00 07 48.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,15nm,2.2s						
GYA				LR	LR		
	comp=N,670nm,17.0s						
GYA				LR	LR		
	comp=E,600nm,17.3s						
GYA				LR	LR		
	comp=Z,630nm,24.8s						
MOOW	**Moose Ponds**	**51.81**	**66**	P	**P**	**00 00 28.0**	**-0.2**
DGMT	**Dagmar**	**51.85**	**58**	P	**P**	**00 00 30.3**	**+2.2**
	baz=314						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**00 00 27.4**	**-0.8**
	comp=Z,12nm,0.8s,baz=52,slow=7.9,SNR=45						
BVAR				PcP	**PcP**	**00 01 40.5**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=87,slow=2.6,SNR=5.8						
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**51.90**	**310**	P	**P**	**00 00 28.0**	**-0.4**
BRVK				IAmb	IAmb	00 00 29.4	
	comp=Z,9.6nm,0.7s						
BRVK	**Borovoye**	**51.90**	**310**	P	**P**	**00 00 28.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LAO	**LASA Array**	**52.08**	**61**	P	**P**	**00 00 30.2**	**+0.3**
LAO				IAmb	IAmb	00 00 32.1	
	comp=Z,15nm,1.1s						
LAO	**LASA Array**	**52.08**	**61**	P	**P**	**00 00 31.7**	**+1.8**
	baz=314						
HVU	**Hansel Valley**	**52.11**	**69**	P	**P**	**00 00 30.1**	**-0.2**
HVU	**Hansel Valley**	**52.11**	**69**	P	**P**	**00 00 30.1**	**-0.2**
HVU				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARCES	**ARCESS Array B**	**52.23**	**344**	P	**P**	**00 00 28.6**	**-2.1**
	comp=Z,12nm,1.2s,baz=27,slow=8.1,SNR=2.2						
ARCES				PcP	**PcP**	**00 01 42.4**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=23,slow=6.6,SNR=4.4						
	comp=Z,12nm,1.2s						
TPH	**Tonopah**	**52.30**	**76**	P	**P**	**00 00 31.5**	**-0.3**
TPH	**Tonopah**	**52.30**	**76**	P	**P**	**00 00 31.5**	**-0.3**
TPH				pmax	pmax		
	comp=Z,58nm,1.2s						
HWUT	**Hardware Ranch**	**52.88**	**69**	P	**P**	**00 00 36.2**	**+0.2**
HWUT				IAmb	IAmb	00 00 46.7	
	comp=Z,11nm,1.1s						
GRAC	**Grapevine Rang**	**53.00**	**77**	P	**P**	**00 00 39.0**	**+2.2**
	baz=316						
CWC	**Cottonwood Cre**	**53.00**	**78**	P	**P**	**00 00 38.1**	**+1.2**
	baz=316						
R11B	**Troy Canyon, C**	**53.01**	**74**	P	**P**	**00 00 39.5**	**+2.5**
	baz=316						
BW06	**Boulder Array**	**53.12**	**66**	P	**P**	**00 00 39.1**	**+1.2**
	baz=315						
PD31	**Pinedale Array**	**53.12**	**66**	P	**P**	**00 00 38.0**	**+0.1**
PDAR	**Pinedale Array**	**53.12**	**66**	P	**P**	**00 00 37.9**	**+0.1**
PDAR	**Pinedale Array**	**53.12**	**66**	P	**P**	**00 00 38.2**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=320,slow=4.4,SNR=10						
	comp=Z,2.2nm,0.9s						
DUG	**Dugway, Tooele**	**53.21**	**71**	P	**P**	**00 00 39.9**	**+1.5**
	baz=315						
SPR3	**Spring Creek 3**	**53.23**	**73**	P	**P**	**00 00 39.1**	**+0.2**
SPR3				IAmb	IAmb	00 00 51.0	
	comp=Z,18nm,1.4s						
ISA	**Isabella, Lake**	**53.34**	**79**	P	**P**	**00 00 43.1**	**+3.7**
	baz=317						
WCT	**Wildcat Mounta**	**53.55**	**76**	P	**P**	**00 00 41.5**	**+0.5**
MPMC	**Manual Prospec**	**53.60**	**78**	P	**P**	**00 00 41.7**	**+0.2**
	baz=317						
TPNV	**Topopah Spring**	**53.65**	**76**	P	**P**	**00 00 42.7**	**+1.0**
TPNV				IAmb	IAmb	00 00 50.4	
	comp=Z,13nm,1.1s						
TPNV	**Topopah Spring**	**53.65**	**76**	P	**P**	**00 00 43.8**	**+2.1**
	baz=316						
TPNV	**Topopah Spring**	**53.65**	**76**	P	**P**	**00 00 42.7**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,13nm,1.1s						
FURC	**Furnace Creek,**	**53.66**	**77**	P	**P**	**00 00 44.4**	**+2.9**
	baz=317						
SCZ2	**Santa Cruz Isl**	**53.90**	**81**	P	**P**	**00 00 47.3**	**+3.9**
	baz=317						
LRMC	**Laurel Mtn Rad**	**53.92**	**78**	P	**P**	**00 00 45.4**	**+1.7**
	baz=317						
BSUT	**Blindstream Ca**	**54.06**	**69**	P	**P**	**00 00 45.3**	**+0.3**
BSUT				IAmb	IAmb	00 00 54.4	
	comp=Z,11nm,1.2s						
EDW2	**Edwards Air Fo**	**54.18**	**79**	P	**P**	**00 00 49.7**	**+4.2**
	baz=317						
ARU	**Arti**	**54.22**	**319**	P	**P**	**00 00 44.2**	**-1.2**
ARU				IAmb	IAmb	00 00 54.9	
	comp=Z,17nm,1.4s						
ARU	**Arti**	**54.22**	**319⇑**	*i*P	**P**	**00 00 44.6**	**-0.8**
ARU				pmax	pmax		
	comp=Z,13nm,1.4s						
PZH	**PanZhiHua**	**54.40**	**266**	P	**P**	**00 00 49.0**	**+1.8**
PZH				S	**S**	**00 08 25.0**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,5.0s						
PZH				LR	LR		
	comp=N,410nm,12.8s						
PZH				LR	LR		
	comp=E,400nm,14.8s						
PZH				LR	LR		
	comp=Z,420nm,15.1s						
SHOC	**Shoshone, Teco**	**54.40**	**77**	P	**P**	**00 00 51.7**	**+4.7**
	baz=317						
ULM	**Lac du Bonnet**	**54.47**	**51**	P	**P**	**00 00 47.0**	**-0.3**
ULM				IAmb	IAmb	00 00 55.8	
	comp=Z,12nm,1.0s						
ULM	**Lac du Bonnet**	**54.47**	**51**	P	**P**	**00 00 47.0**	**-0.3**
ULM	**Lac du Bonnet**	**54.47**	**51**	P	**P**	**00 00 47.0**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=332,slow=14,SNR=3.9						
	comp=Z,4.3nm,0.9s						
MDND	**Maddock**	**54.48**	**56**	P	**P**	**00 00 50.1**	**+2.7**
	baz=316						
GSC	**Goldstone, Bar**	**54.54**	**78**	P	**P**	**00 00 48.7**	**+0.6**
GSC				IAmb	IAmb	00 00 56.5	
	comp=Z,12nm,1.0s						
GSC	**Goldstone, Bar**	**54.54**	**78**	P	**P**	**00 00 50.8**	**+2.7**
	baz=317						
GSC	**Goldstone, Bar**	**54.54**	**78**	P	**P**	**00 00 48.7**	**+0.6**
GSC				pmax	pmax		
	comp=Z,12nm,1.0s						
RDMU	**Red Mountain**	**54.67**	**68**	P	**P**	**00 00 49.4**	**+0.2**
RDMU				IAmb	IAmb	00 01 00.0	
	comp=Z,8.4nm,1.0s						
P17A	**Butcher Ranch,**	**54.84**	**70**	P	**P**	**00 00 51.0**	**+0.7**
P17A				IAmb	IAmb	00 01 11.2	
	comp=Z,14nm,1.4s						
E28A	**Huff**	**54.87**	**57**	P	**P**	**00 00 50.5**	**+0.1**
TUQ	**Turquoise Moun**	**54.93**	**77**	P	**P**	**00 00 54.6**	**+3.6**
	baz=317						
RSSD	**Black Hills**	**54.98**	**62**	P	**P**	**00 00 51.1**	**-0.3**
RSSD				IAmb	IAmb	00 01 09.1	
	comp=Z,7.8nm,1.0s						
RSSD	**Black Hills**	**54.98**	**62**	P	**P**	**00 00 52.1**	**+0.7**
	baz=316						
RSSD	**Black Hills**	**54.98**	**62**	P	**P**	**00 00 51.1**	**-0.3**
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HEC	**Hector,Ludlow**	**55.14**	**78**	P	P	00 00 57.6	+5.1
	baz=318						
BBRC	**Big Bear Solar**	**55.23**	**79**	P	P	00 00 58.8	+5.5
	baz=318						
GMRC	**Granite Mounta**	**55.55**	**77**	P	**P**	**00 00 59.2**	**+3.6**
	baz=318						
O20A	**White River Ci**	**55.69**	**68**	P	**P**	**00 00 57.0**	**+0.5**
O20A				IAmb	IAmb	00 01 22.5	
	comp=Z,12nm,0.9s						
O20A	**White River Ci**	**55.69**	**68**	P	**P**	**00 00 01.0**	**+3.7**
	baz=317						
KIRV	**Kirov**	**55.73**	**326⇓**	*e*P	**P**	**00 00 57.5**	**+1.2**
AGMN	**Agassiz Nation**	**55.89**	**53**	P	**P**	**00 00 58.2**	**+0.6**
AGMN				IAmb	IAmb	00 01 06.1	
	comp=Z,18nm,1.1s						
AGMN	**Agassiz Nation**	**55.89**	**53**	P	**P**	**00 00 58.8**	**+1.2**
	baz=317						
BELC	**Belle Mtn. Jos**	**55.94**	**78**	P	**P**	**00 01 01.5**	**+3.2**
	baz=318						
PFO	**Pinyon Flats O**	**55.97**	**79**	P	**P**	**00 01 01.8**	**+3.2**
	baz=318						
TPFO	**Pinon Flats**	**55.98**	**79**	P	**P**	**00 01 01.8**	**+3.2**
	baz=318						
U15A	**North Rim**	**56.21**	**74**	P	**P**	**00 01 00.8**	**+0.4**
U15A				IAmb	IAmb	00 01 11.2	
	comp=Z,27nm,1.7s						
IRM	**Iron Mountain**	**56.30**	**77**	P	P	00 01 06.4	+5.7
	baz=318						
N23A	**Red Feather La**	**56.34**	**65**	P	**P**	**00 01 01.9**	**+0.6**
N23A	**Red Feather La**	**56.34**	**65**	P	P	00 01 06.3	+5.0
	baz=317						
KLMR	**Klimovskoe**	**56.80**	**332**	*e*P	P	00 00 56.1	-7.7
KLMR				pmax	pmax		
	comp=Z,35nm,1.9s						
KLMR				MLR	MLR		
	comp=Z,924nm,15.0s						
ISCO	**Idaho Springs**	**57.31**	**66**	P	**P**	**00 01 08.6**	**+0.4**
ISCO				IAmb	IAmb	00 01 18.1	
	comp=Z,20nm,1.4s						
ISCO	**Idaho Springs**	**57.31**	**66**	P	**P**	**00 01 11.8**	**+3.6**
	baz=318						
ISCO	**Idaho Springs**	**57.31**	**66**	P	**P**	**00 01 08.6**	**+0.4**
ISCO				pmax	pmax		
	comp=Z,20nm,1.4s						
TNCH	**TengChong**	**57.37**	**267**	P	**P**	**00 01 08.3**	**-0.3**
TNCH				pP	pP	00 01 13.0	-1.8
TNCH				sP	sP	00 01 14.3	-3.2
TNCH				S	**S**	**00 09 02.5**	**-1.7**
TNCH				sS	pS	00 09 10.5	-1.6
TNCH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,140nm,4.7s						
TNCH				LR	LR		
	comp=N,410nm,19.5s						
TNCH				LR	LR		
	comp=E,370nm,17.9s						
TNCH				LR	LR		
	comp=Z,250nm,18.1s						
WUAZ	**Wupatki**	**57.38**	**74**	P	**P**	**00 01 09.7**	**+1.1**
	baz=318						
AAK	**Ala-Archa**	**57.38**	**299**	P	**P**	**00 01 08.0**	**-0.4**
AAK				IAmb	IAmb	00 01 38.1	
	comp=Z,17nm,1.3s						
AAK	**Ala-Archa**	**57.38**	**299⇓**	*i*P	**P**	**00 01 08.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,20nm,2.2s						
NRN	**Naryn**	**57.51**	**297**	P	**P**	**00 01 09.3**	**-0.3**
NRN	**Naryn**	**57.51**	**297**	P	**P**	**00 01 09.3**	**-0.3**
NRN				pmax	pmax		
	comp=Z,63nm,2.0s						
MVCO	**Mesa Verde**	**57.69**	**70**	P	**P**	**00 01 13.7**	**+2.9**
	baz=318						
EYMN	**Ely**	**58.11**	**51**	P	**P**	**00 01 13.6**	**+0.2**
EYMN	**Ely**	**58.11**	**51**	P	**P**	**00 01 14.5**	**+1.2**
	baz=319						
Q24A	**Divide**	**58.17**	**67**	P	**P**	**00 01 17.4**	**+3.1**
	baz=318						
S22A	**4UR Ranch, Cre**	**58.19**	**69**	P	**P**	**00 01 14.8**	**+0.4**
S22A				IAmb	IAmb	00 01 24.4	
	comp=Z,13nm,1.2s						
S22A	**4UR Ranch, Cre**	**58.19**	**69**	P	P	**00 01 16.5**	**+2.2**
	baz=318,SNR=12						
K30B	**Basset**	**58.24**	**60**	P	**P**	**00 01 14.8**	**+0.5**
SDCO	**Great Sand Dun**	**58.89**	**68**	P	**P**	**00 01 22.0**	**+2.7**
	baz=318						
ECSD	**EROS Data Cent**	**58.91**	**57**	P	**P**	**00 01 19.3**	**+0.3**
ECSD				IAmb	IAmb	00 01 28.7	
	comp=Z,7.3nm,0.9s						
KSH	**Kashi**	**58.94**	**295**	P	**P**	**00 01 23.0**	**+3.6**
KSH				sP	sP	00 01 33.5	+5.8
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KSH				LR	LR		
	comp=N,710nm,16.7s						
KSH				LR	LR		
	comp=E,650nm,13.9s						
KSH				LR	LR		
	comp=Z,310nm,17.6s						
KK31	**Karatay Array**	**59.00**	**302**	P	**P**	**00 01 18.8**	**-0.8**
KK31				IAmb	IAmb	00 01 27.0	
	comp=Z,20nm,1.7s						
KK31	**Karatay Array**	**59.00**	**302**	P	**P**	**00 01 18.8**	**-0.8**
KK31				pmax	pmax		
	comp=Z,20nm,1.7s						
KKAR	**Karatay Array**	**59.00**	**302**	P	**P**	**00 01 18.9**	**-0.7**
KKAR	**Karatay Array**	**59.00**	**302**	P	**P**	**00 01 18.9**	**-0.7**
ABKAR	**Akbulak array**	**59.11**	**313**	P	**P**	**00 01 19.5**	**-0.8**
ABKAR	**Akbulak array**	**59.11**	**313**	P	**P**	**00 01 19.8**	**-0.5**
ABKAR				IAmb	IAmb	00 01 46.8	
	comp=Z,3.5nm,0.8s						
ARSB	**Arslanbob**	**59.11**	**299**	P	**P**	**00 01 20.0**	**-0.6**
ARSB	**Arslanbob**	**59.11**	**299**	P	**P**	**00 01 20.0**	**-0.6**
ARSB				pmax	pmax		
	comp=Z,4.0nm,1.4s						
FINES	**FINESS Array B**	**59.44**	**339**	P	**P**	**00 01 21.3**	**-1.0**
FINES	**FINESS Array B**	**59.44**	**339**	*i* P	**P**	**00 01 23.3**	**+1.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**59.44**	**339**	P	**P**	**00 01 21.1**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=27,slow=4.7,SNR=6.8						
	comp=Z,3.0nm,0.8s						
SPMN	**Marine on St.**	**59.58**	**54**	P	**P**	**00 01 24.3**	**+0.8**
	baz=320						
BGNE	**Belgrade**	**59.91**	**60**	P	**P**	**00 01 25.5**	**-0.5**
BGNE	**Belgrade**	**59.91**	**60**	P	**P**	**00 01 26.9**	**+0.9**
	baz=319						
ANMO	**Albuquerque**	**60.48**	**71**	P	**P**	**00 01 30.0**	**-0.1**
ANMO				IAmb	IAmb	00 01 35.8	
	comp=Z,8.0nm,1.1s						
ANMO	**Albuquerque**	**60.48**	**71**	P	**P**	**00 01 30.2**	**+0.1**
	baz=319						
ANMO	**Albuquerque**	**60.48**	**71**	P	**P**	**00 01 30.0**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SHL	**Shillong**	**60.74**	**273**	P	**P**	**00 01 31.8**	**-0.2**
SHL				IAmb	IAmb	00 01 49.0	
	comp=Z,13nm,1.4s						
SHL	**Shillong**	**60.74**	**273**	P	**P**	**00 01 31.8**	**-0.2**
SHL				pmax	pmax		
	comp=Z,13nm,1.4s						
CBKS	**Cedar Bluff**	**61.08**	**63**	P	**P**	**00 01 33.6**	**-0.4**
CBKS	**Cedar Bluff**	**61.08**	**63**	P	**P**	**00 01 35.4**	**+1.5**
	baz=320						
CBKS	**Cedar Bluff**	**61.08**	**63**	P	**P**	**00 01 33.6**	**-0.4**
CBKS				pmax	pmax		
	comp=Z,18nm,0.9s						
BTK	**Batken**	**61.15**	**299**	P	**P**	**00 01 34.1**	**-0.4**
BTK	**Batken**	**61.15**	**299**	P	**P**	**00 01 34.1**	**-0.4**
BTK				pmax	pmax		
	comp=Z,21nm,1.5s						
RTBA	**Rita Blanca**	**61.33**	**67**	P	**P**	**00 01 36.2**	**+0.5**
RTBA				IAmb	IAmb	00 01 44.6	
	comp=Z,15nm,1.3s						
BELG	**Belogornoye**	**61.34**	**322⇓**	*e*P	**P**	**00 01 35.0**	**-0.4**
BELG				pmax	pmax		
	comp=Z,6.0nm,1.5s						
SCHQ	**Schefferville**	**61.79**	**32**	P	**P**	**00 01 38.0**	**-0.5**
SCHQ				IAmb	IAmb	00 01 38.9	
	comp=Z,12nm,1.1s						
SCHQ	**Schefferville**	**61.79**	**32**	P	**P**	**00 01 37.4**	**-1.1**
	comp=Z,7.4nm,0.9s,baz=318,slow=5.7,SNR=11						
	comp=Z,7.4nm,0.9s						
SCIA	**State Center**	**61.93**	**56**	P	**P**	**00 01 39.9**	**+0.3**
SCIA	**State Center**	**61.93**	**56**	P	**P**	**00 01 40.5**	**+0.9**
	baz=321						
CHTO	**Chiang Mai**	**62.02**	**263**	P	**P**	**00 01 40.7**	**+0.2**
CHTO	**Chiang Mai**	**62.02**	**263**	P	**P**	**00 01 40.7**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NC405	**NORSAR Array S**	**62.17**	**346**	P	**P**	**00 01 40.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**62.30**	**262**	P	**P**	**00 01 42.5**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=21,slow=7.2,SNR=4.1						
	comp=Z,1.8nm,0.3s						
NB2	**NORSAR Subarra**	**62.31**	**347**	P	**P**	**00 01 41.0**	**-0.9**
	comp=Z,21nm,0.6s,baz=17,slow=6.9						
NOA	**NORSAR Array B**	**62.31**	**347**	P	**P**	**00 01 40.1**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=13,slow=6.8,SNR=10						
	comp=Z,0.7nm,0.5s						
KSU1	**Kansas State U**	**62.43**	**61**	P	**P**	**00 01 44.0**	**+1.0**
	baz=320						
OBN	**Obninsk**	**62.53**	**330**	*e*P	**P**	**00 01 45.8**	**+2.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,396nm,19.0s						
JFWS	**Jewell Farm**	**62.53**	**54**	P	**P**	**00 01 45.4**	**+1.8**
	baz=321						
HFS	**Hagfors**	**62.84**	**345**	P	**P**	**00 01 44.0**	**-1.3**
	comp=Z,2.3nm,0.7s,baz=62,slow=3.5,SNR=12						
	comp=Z,2.3nm,0.7s						
AMTX	**Amarillo**	**63.07**	**67**	P	**P**	**00 01 49.5**	**+2.1**
	baz=320						
SIMJ	**Simiganj**	**63.12**	**300**	P	**P**	**00 01 46.5**	**-1.2**
SIMJ				IAmb	IAmb	00 01 55.4	
	comp=Z,6.2nm,0.8s						
MSTX	**Muleshoe**	**63.19**	**69**	P	**P**	**00 01 49.9**	**+1.6**
	baz=320						
MNTX	**Cornudas Mount**	**63.53**	**72**	P	**P**	**00 01 54.2**	**+3.8**
	baz=321						
GLMI	**Grayling**	**63.53**	**49**	P	**P**	**00 01 51.9**	**+1.7**
	baz=323						
VLDQ	**Val d'Or**	**63.79**	**42**	P	**P**	**00 01 51.0**	**-0.8**
POST	**Post**	**64.56**	**68**	P	**P**	**00 01 57.2**	**0.0**
POST				IAmb	IAmb	00 02 07.3	
	comp=Z,10nm,1.0s						
WMOK	**Wichita Mounta**	**64.69**	**65**	P	**P**	**00 01 57.5**	**-0.5**
WMOK				IAmb	IAmb	00 02 05.3	
	comp=Z,13nm,1.1s						
WMOK	**Wichita Mounta**	**64.69**	**65**	P	**P**	**00 01 57.5**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,13nm,1.1s						
NIL	**Nilore**	**64.82**	**293**	P	**P**	**00 01 58.3**	**-0.6**
NIL	**Nilore**	**64.82**	**293**	P	**P**	**00 01 58.3**	**-0.6**
NIL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HDIL	**Hopedale**	**64.83**	**55**	P	**P**	**00 01 58.6**	**-0.2**
HDIL	**Hopedale**	**64.83**	**55**	P	**P**	**00 01 58.7**	**0.0**
	baz=322						
VSR	**Storozhevoye**	**65.14**	**327**	*e*P	**P**	**00 01 56.3**	**-4.4**
VSR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
R40A	**Maddies Statio**	**65.19**	**58**	P	**P**	**00 02 00.7**	**-0.5**
PABE	**Paberze**	**65.34**	**338**	P	**P**	**00 02 02.0**	**+0.1**
MNK	**Minsk**	**65.36**	**335**	*i* P	**P**	**00 01 59.1**	**-2.9**
MNK				*i*		00 04 23.9	
MNK				*i* PPP	PPP	00 05 56.2	
MNK				*i* S	**S**	**00 10 43.1**	**-1.4**
MNK				*i* SS	**SS**	**00 14 56.7**	**+0.1**
MNK				pmax	pmax		
	comp=E,6.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MNK				pmax	pmax		
	comp=N,12nm,1.3s						
MNK				MLR	MLR		
	comp=N,189nm,17.0s						
MNK				MLR	MLR		
	comp=Z,342nm,15.0s						
MNK				MLR	MLR		
	comp=E,123nm,14.0s						
CCM	**Cathedral Cave**	**65.88**	**58**	P	**P**	**00 02 07.1**	**+1.5**
	baz=322						
ABTX	**Abilene, Hawle**	**65.89**	**67**	P	**P**	**00 02 08.0**	**+2.2**
	baz=322						
TX31	**Lajitas Ar. Si**	**66.29**	**72**	P	**P**	**00 02 09.1**	**+0.6**
TX31				IAmb	IAmb	00 02 16.8	
	comp=Z,11nm,1.1s						
TXAR	**Lajitas Array**	**66.29**	**72**	P	**P**	**00 02 09.2**	**+0.6**
TXAR	**Lajitas Array**	**66.29**	**72**	P	**P**	**00 02 09.1**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=300,slow=4.7,SNR=14						
	comp=Z,3.0nm,0.7s						
KBL	**Kabul**	**66.31**	**297**	P	**P**	**00 02 06.3**	**-2.4**
KBL				IAmb	IAmb	00 02 08.1	
	comp=Z,5.1nm,0.7s						
KBL	**Kabul**	**66.31**	**297**	P	**P**	**00 02 06.3**	**-2.4**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
O48B	**Farmland**	**66.96**	**52**	P	**P**	**00 02 15.3**	**+2.8**
	baz=324						
PBMO	**Poplar Bluff**	**67.28**	**58**	P	**P**	**00 02 14.3**	**-0.3**
JCT	**Junction City**	**67.48**	**69**	P	**P**	**00 02 15.7**	**-0.3**
JCT				IAmb	IAmb	00 02 23.7	
	comp=Z,12nm,1.0s						
JCT	**Junction City**	**67.48**	**69**	P	**P**	**00 02 18.8**	**+2.7**
	baz=322						
JCT	**Junction City**	**67.48**	**69**	P	**P**	**00 02 15.7**	**-0.3**
JCT				pmax	pmax		
	comp=Z,12nm,1.0s						
ERPA	**Erie**	**67.70**	**48**	P	**P**	**00 02 17.5**	**+0.3**
	baz=326						
ACSO	**Alum Creek Sta**	**67.95**	**51**	P	**P**	**00 02 21.6**	**+2.8**
	baz=325						
M53A	**WI Miller and**	**67.97**	**48**	P	**P**	**00 02 21.1**	**+2.2**
	baz=326						
WCI	**Wyandotte Cave**	**68.08**	**54**	P	**P**	**00 02 22.0**	**+2.4**
	baz=324						
435B	**Jarrell**	**68.41**	**67**	P	**P**	**00 02 21.4**	**-0.5**
435B				IAmb	IAmb	00 02 29.6	
	comp=Z,13nm,1.1s						
435B	**Jarrell**	**68.41**	**67**	P	**P**	**00 02 22.7**	**+0.9**
	baz=322						
AKASG	**Malin Array Be**	**68.48**	**332**	P	**P**	**00 02 20.9**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=27,slow=6.1,SNR=5.4						
	comp=Z,1.2nm,0.5s						
AKBB	**Malin Array Si**	**68.48**	**332⇑**	*e*P	**P**	**00 02 21.6**	**-0.3**
P52A	**Corning**	**68.82**	**50**	P	**P**	**00 02 23.2**	**-1.0**
	baz=325						
GEYT	**Alibeck**	**68.91**	**306**	P	**P**	**00 02 24.9**	**0.0**
GEYT	**Alibeck**	**68.91**	**306**	P	**P**	**00 02 24.9**	**0.0**
GEYT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GEYT	**Alibeck**	**68.91**	**306**	P	**P**	**00 02 24.0**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=67,slow=5.0,SNR=4.5						
	comp=Z,1.9nm,0.8s						
WVT	**Waverly**	**69.05**	**57**	P	**P**	**00 02 25.3**	**-0.4**
	baz=324						
LBNH	**Lisbon**	**69.13**	**41**	P	**P**	**00 02 27.7**	**+1.6**
	baz=329						
EKA	**Eskdalemuir Ar**	**69.34**	**354**	P	**P**	**00 02 26.5**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=9.8,slow=5.8,SNR=1.9						
	comp=Z,2.4nm,0.8s						
HRA	**Herat**	**69.82**	**301**	P	**P**	**00 02 30.3**	**-0.5**
KBZ	**Khabaz**	**70.35**	**320**	P	**P**	**00 02 33.0**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=11,slow=11,SNR=2.9						
	comp=Z,2.8nm,0.9s						
ZEI	**Tsey**	**70.79**	**319**	*e*P	**P**	**00 02 32.8**	**-3.8**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KWP	**Kalwaria Pacla**	**71.09**	**336**	P	**P**	**00 02 38.9**	**+0.9**
KWP	**Kalwaria Pacla**	**71.09**	**336**	P	**P**	**00 02 38.9**	**+0.9**
KWP				pmax	pmax		
	comp=Z,54nm,1.5s						
OJC	**Ojcow**	**71.18**	**338**	P	**P**	**00 02 38.5**	**-0.1**
OJC				IAmb	IAmb	00 02 50.0	
	comp=Z,9.6nm,0.9s						

MLR	**Muntele Rosu**	**74.14**	**332**	P	**P**	**00 02 57.2**	**+0.8**
MLR				pmax	pmax			
	comp=Z,15nm,1.6s							
CONA	**Conrad Observa**	**74.17**	**340**	*e*pP	**P**	**00 02 58.5**	**+2.1**
	comp=Z,4.9nm,1.2s							
RONA	**Rosalia, Austr**	**74.30**	**340**	*e*pP	**P**	**00 03 00.0**	**+2.8**
	comp=Z,3.0nm,1.0s							
VOIR		**74.43**	**333**	⇓P	**P**	**00 02 58.7**	**+0.7**
SIRR	**Siria**	**74.49**	**336**	⇓P	**P**	**00 02 59.7**	**+1.5**
SURR	**Surduc**	**74.86**	**335**	⇑P	**P**	**00 03 01.3**	**+0.9**
ARSA	**Arzberg**	**74.88**	**340**	*e*pP	**P**	**00 03 02.6**	**+2.0**
	comp=Z,4.3nm,1.6s							
GZR	**Gura Zlata**	**75.04**	**334**	⇓P	**P**	**00 03 01.6**	**+0.1**
BZS	**Buzias**	**75.11**	**335**	⇓P	**P**	**00 03 02.2**	**+0.3**
MORH	**Mrgy, Hungar**	**75.23**	**338**	⇑P	**P**	**00 03 05.0**	**+2.5**
KBA	**Koelnbreinsper**	**75.46**	**341**	*e*pP	**P**	**00 03 05.0**	**+0.9**
	comp=Z,7.2nm,1.0s							
WATA	**Walderalm**	**75.52**	**343**	*e*pP	**P**	**00 03 04.5**	**+0.1**
	comp=Z,3.0nm,0.9s							
SOKA	**Soboth**	**75.53**	**340**	*e*pP	**P**	**00 03 05.1**	**+0.7**
	comp=Z,5.0nm,1.3s							
WTTA	**Wattenberg**	**75.58**	**343**	*e*pP	**P**	**00 03 05.9**	**+1.1**
	comp=Z,3.9nm,1.3s							
MOTA	**Moosalm**	**75.59**	**343**	*e*P	**P**	**00 03 03.4**	**-1.4**
	comp=Z,3.9nm,0.9s							
OBKA	**Obir**	**75.78**	**340**	*e*pP	**P**	**00 03 06.5**	**+0.6**
	comp=Z,7.5nm,0.8s							
ABTA	**Abfaltersbach**	**75.93**	**342**	*e*pP	**P**	**00 03 08.9**	**+2.2**
	comp=Z,1.6nm,0.6s							
FETA	**Feichten**	**75.97**	**343**	*e*pP	**P**	**00 03 07.0**	**0.0**
	comp=Z,4.5nm,1.3s							
PRED	**Cave del Predi**	**76.03**	**341**	P	**P**	**00 03 06.9**	**-0.3**
PRED				IAmb	IAmb	00 03 39.3		
	comp=Z,26nm,1.9s							
FUORN	**Ofenpass-Fuorn**	**76.43**	**343**	P	**P**	**00 03 09.3**	**-0.4**
FUORN				IAmb	IAmb	00 04 14.8		
	comp=Z,15nm,1.9s							
BOVS	**Bovan**	**76.96**	**335**	⇓P	**P**	**00 03 14.1**	**+1.8**
GSI	**Gunungsitoli**	**77.09**	**253**	P	**P**	**00 03 13.9**	**+0.4**
BRTR	**Keskin Array B**	**77.12**	**325**	P	**P**	**00 03 13.4**	**-0.1**
BRTR	**Keskin Array B**	**77.12**	**325**	P	**P**	**00 03 13.5**	**-0.1**
BRTR	**Keskin Array B**	**77.12**	**325**	P	**P**	**00 03 12.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=67,slow=4.0,SNR=7.7							
	comp=Z,1.2nm,0.8s							
TEOL	**Teolo**	**77.42**	**342**	P	**P**	**00 03 15.0**	**0.0**
TEOL				IAmb	IAmb	00 03 42.8		
	comp=Z,12nm,0.8s							
FDMO	**Fiordimonte**	**79.41**	**341**	P	**P**	**00 03 26.3**	**+0.3**
FDMO				IAmb	IAmb	00 03 34.2		
	comp=Z,18nm,1.1s							
NRCA	**Norcia**	**79.60**	**340**	P	**P**	**00 03 26.7**	**-0.4**
WB0	**Warramunga Arr**	**79.68**	**211**	P	**P**	**00 03 27.7**	**+0.1**
WRA	**Warramunga Arr**	**79.86**	**211**	P	**P**	**00 03 28.6**	**0.0**
WRA	**Warramunga Arr**	**79.86**	**211**	P	**P**	**00 03 28.6**	**0.0**
WRA	**Warramunga Arr**	**79.86**	**211**	P	**P**	**00 03 28.4**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=26,slow=6.3,SNR=11							
	comp=Z,2.1nm,0.8s							
PPT2	**Papeete2**	**81.61**	**138**	*e*LR	LR	00 29 09.3		
	comp=Z,395nm,23.0s							
PPT2				*e*LR	LR	00 29 17.5		
	comp=Z,329nm,23.5s							
AS31	**Alice Springs**	**83.51**	**210**	P	**P**	**00 03 48.1**	**+0.4**
ASAR	**Alice Springs**	**83.51**	**210**	P	**P**	**00 03 47.8**	**0.0**
ASAR	**Alice Springs**	**83.51**	**210**	P	**P**	**00 03 48.5**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=16,slow=4.4,SNR=20							
	comp=Z,2.9nm,0.8s							
ESDC	**Sonseca Array**	**84.98**	**353**	P	**P**	**00 03 55.4**	**+0.1**
ESDC	**Sonseca Array**	**84.98**	**353**	P	**P**	**00 03 55.1**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=344,slow=4.1,SNR=7.5							
	comp=Z,2.8nm,1.0s							
TBI	**Tubuai**	**86.91**	**140**	*e*LR	LR	00 31 48.4		
	comp=Z,1µm,24.2s							
STKA	**Stephens Creek**	**89.49**	**201**	P	**P**	**00 04 17.4**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=350,slow=6.4,SNR=7.6							
	comp=Z,3.4nm,0.9s							
QSPA	**South Pole Qui**	**145.12**	**180**	PKPbc	**PKPbc**	**00 10 54.5**	**-1.2**
	comp=Z,18nm,1.0s,baz=354,slow=1.1,SNR=27							
ELIB	**Princess Elisa**	**157.31**	**209**	*d*PKPdf	**PKPdf**	**00 11 18.6**	**+4.0**

PGC 28 00:00:17.3±2.4, 50°.49N×130°.19W, h10km, MLSn3.0/9, Mw3.6/9, 197km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.32**	**83**	Pn	Pn	00 00 39.5	-2.3
PHC	**Port Hardy**	**1.77**	**82**	Pn	Pn	00 00 46.2	-1.8
PHC				Sn	Sn	00 01 06.4	-4.1
HG4B	**Hotspring**	**1.91**	**341**	Pn	Pn	00 00 47.6	-2.3
HG4B				Sn	Sn	00 01 10.4	-3.6
MAYB	**Maynard**	**1.93**	**92**	Pn	Pn	00 00 48.0	-2.3
EDB	**Eliza Dome**	**2.07**	**106**	Pn	Pn	00 00 48.3	-3.7
BBB	**Bella Bella**	**2.14**	**37**	Pn	Pn	00 00 50.8	-2.1
BBB				Sn	Sn	00 01 15.1	-4.4
BNB	**Barry Inlet**	**2.30**	**336**	Pn	Pn	00 00 53.4	-1.9
BNB				Sn	Sn	00 01 20.4	-3.3
BAIB	**Barry Inlet**	**2.30**	**336**	Pn	Pn	00 00 53.3	-2.1
BAIB				Sn	Sn	00 01 20.4	-3.4
WOSB	**Woss**	**2.34**	**97**	Pn	Pn	00 00 54.2	-1.7
NCSB	**Newcastle Ridg**	**2.64**	**90**	Pn	Pn	00 00 58.4	-1.7
BUTB	**Butedale**	**2.79**	**22**	Pn	Pn	00 01 01.6	-0.5
BUTB				Sn	Sn	00 01 34.4	-1.3
BNKB	**Banks Island**	**2.85**	**3**	Pn	Pn	00 01 01.1	-1.7
BNKB				Sn	Sn	00 01 33.0	-4.1
GRIB	**Gribbell Islan**	**2.92**	**12**	Pn	Pn	00 01 02.4	-1.4
GRIB				Sn	Sn	00 01 35.1	-3.8
BNAB	**Bonilla**	**3.02**	**355**	Pn	Pn	00 01 03.4	-1.6
BNAB				Sn	Sn	00 01 37.2	-3.9
DIB	**Dawson Inlet,**	**3.06**	**333**	Pn	Pn	00 01 03.9	-1.8
GRNB	**Grenville Isla**	**3.36**	**2**	Pn	Pn	00 01 08.4	-1.4
GRNB				Sn	Sn	00 01 46.2	-3.5
KITB	**Kitimat**	**3.71**	**14**	Pn	Pn	00 01 13.3	-1.3
KITB				Sn	Sn	00 01 55.5	-2.9
RUBB	**Prince Rupert**	**3.84**	**359**	Pn	Pn	00 01 15.4	-1.0
LLLB	**Lillooet**	**5.30**	**86**	P	Pn	00 01 36.1	-0.4
MBW	**Mount Baker**	**5.65**	**104**	P	Pn	00 01 41.9	+0.4
JCW	**Jim Creek**	**5.87**	**110**	P	Pn	00 01 45.1	+0.8
RPW	**Rockport**	**6.01**	**107**	P	Pn	00 01 46.6	+0.3
T35M	**Bob Quinn**	**6.50**	**360**	P	Pn	00 01 53.6	+0.7

*ISK **28** 00:03:31.2, 36°.93N×27°.35E, h10km, ML2.2/19*
*AFAD **28** 00:03:31.3±0.0, 36°.92N×27°.33E, h6km±1km, ML2.5*
*THE **28** 00:03:32.0, 36°.94N×27°.36E, h9km±1km, ML2.7/3, Error ellipse: s-maj=1.5km s-min=0.6km az=242.0*
*ATH **28** 00:03:32.1, 36°.93N×27°.34E, h11km±2km, ML2.6/3, Error ellipse: s-maj=2.2km s-min=1.0km az=255.0*

ISC 28 00:03:31.9±0.9, 36°.93N±0°.02×27°.34E±0°.02, h10km±6km, n41, σ0s59/64, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.13**	**351**	Pg	**Pg**	**00 03 35.0**	**0.0**
BODT				Sg	**Sg**	**00 03 37.4**	**+0.2**
BODT	**Bodrum**	**0.13**	**351**	P	**Pg**	**00 03 35.0**	**0.0**
BODT				S	**Sg**	**00 03 37.2**	**0.0**
BDRM	**Kayabasi**	**0.16**	**33**	P	**Pg**	**00 03 35.2**	**-0.2**
BDRM				S	**Sg**	**00 03 37.5**	**-0.4**
BDRM				*i* AML	AML	00 03 38.0	
	comp=Z,941nm,0.2s						
BDRM				*i* AML	AML	00 03 38.0	
	comp=E,2µm,0.6s						
YKAV	**Yalikavak-Bodr**	**0.20**	**347**	Pg	**Pg**	**00 03 35.8**	**-0.2**
YKAV				Sg	**Sg**	**00 03 39.0**	**+0.1**
YAZI	**Mula-Dat§a-**	**0.27**	**160**	P	**Pg**	**00 03 37.2**	**-0.1**
YAZI				S	**Sg**	**00 03 41.2**	**+0.3**
DAT	**Datca**	**0.28**	**136**	Pg	**Pg**	**00 03 37.3**	**-0.3**
DAT	**Datca**	**0.28**	**136**	P	**Pg**	**00 03 37.2**	**-0.3**
DAT				S	**Sg**	**00 03 41.6**	**+0.2**
DAT	**Datca**	**0.28**	**136**	P	**Pg**	**00 03 37.1**	**-0.5**
DAT				*i* AML	AML	00 03 41.0	
	comp=Z,667nm,1.1s						
DAT				S	**Sg**	**00 03 41.3**	**-0.1**
KLNA	**Kalymnos**	**0.29**	**275**	P	**Pg**	**00 03 38.1**	**+0.3**
KLNA				S	**Sg**	**00 03 42.1**	**+0.4**
KLNA				AML	AML	00 03 43.1	
	comp=E,5702µm,0.2s						
KLNA				AML	AML	00 03 45.3	
	comp=N,3489µm,0.3s						
RFTAA	**Mazikoy-Bodrum**	**0.33**	**78**	Pg	**Pg**	**00 03 37.9**	**-0.6**
RFTAA				Sg	**Sg**	**00 03 43.1**	**+0.1**
NISR	**Nisiros**	**0.36**	**208**	P	**Pg**	**00 03 39.6**	**+0.6**
NISR				S	**Sg**	**00 03 44.0**	**+0.2**
DIDI	**Didim-Aydin**	**0.45**	**350**	Pg	**Pg**	**00 03 40.4**	**-0.3**
MLSB	**Milas**	**0.51**	**44**	Pg	**Pg**	**00 03 41.1**	**-0.6**
MLSB				Sg	**Sg**	**00 03 48.8**	**+0.4**
DDIM	**Aydin, Didim**	**0.53**	**352**	P	**Pg**	**00 03 42.1**	**-0.1**
DDIM				S	**Sb**	**00 03 50.2**	**-0.8**
DDIM				*i* AML	AML	00 03 54.0	
	comp=N,340nm,0.5s						
DDIM				*i* AML	AML	00 03 55.0	
	comp=N,279nm,0.3s						
TURN	**Turunc**	**0.74**	**102**	Pg	**Pg**	**00 03 44.8**	**-1.4**
TURN	**Turunc**	**0.74**	**102**	P	**Pg**	**00 03 45.4**	**-0.9**
TURN				S	**Sb**	**00 03 56.8**	**-0.3**
TURN				*i* AML	AML	00 03 58.0	
	comp=N,200nm,0.3s						
TURN				*i* AML	AML	00 03 59.0	
	comp=N,210nm,0.3s						
GCAM	**G?zelcaml?**	**0.77**	**354**	Pg	**Pg**	**00 03 46.5**	**-0.3**
GCAM	**G?zelcaml?**	**0.77**	**354**	P	**Pg**	**00 03 46.5**	**-0.3**
GCAM				S	**Sb**	**00 03 57.9**	**-0.1**
GCAM				*i* AML	AML	00 04 02.0	
	comp=N,204nm,0.3s						
GCAM				*i* AML	AML	00 04 02.0	
	comp=N,159nm,0.5s						
YER	**Yerkesik**	**0.78**	**75**	Pg	**Pg**	**00 03 47.1**	**+0.1**
YER	**Yerkesik**	**0.78**	**75**	P	**Pg**	**00 03 46.8**	**-0.2**
YER				S	**Sb**	**00 03 58.8**	**+0.5**
MULA	**Mugla, Merkez-**	**0.85**	**67**	P	**Pb**	**00 03 49.1**	**+0.3**
MULA				S	**Sb**	**00 04 00.4**	**+0.1**
SMG	**Samos**	**0.87**	**333**	P	**Pg**	**00 03 48.2**	**-0.4**
SMG				S	**Sb**	**00 04 01.2**	**+0.4**
	comp=N,480nm,0.3s						
SMG	**Samos**	**0.87**	**333**	P	**Pg**	**00 03 48.3**	**-0.4**
SMG				S	**Sb**	**00 04 01.0**	**+0.2**
SMG				AML	AML	00 04 03.5	
	comp=N,842µm,0.3s						
SMG				AML	AML	00 04 05.8	
	comp=E,972µm,0.3s						
ARG	**Arkhangelos**	**0.96**	**138**	Pg	**Pg**	**00 03 49.9**	**-0.3**
ARG	**Arkhangelos**	**0.96**	**138**	P	**Pg**	**00 03 50.0**	**-0.3**
ARG				S	**Sb**	**00 04 03.5**	**+0.3**
	comp=E,262nm,0.4s						
ARG	**Arkhangelos**	**0.96**	**138**	P	**Pg**	**00 03 49.7**	**-0.6**
ARG				S	**Sb**	**00 04 03.2**	**-0.1**
ARG				AML	AML	00 04 06.4	
	comp=N,657µm,0.4s						
ARG				AML	AML	00 04 06.5	
	comp=E,393µm,0.7s						
DALY	**Dalyan (Mula)**	**1.06**	**96**	Pg	**Pg**	**00 03 51.7**	**-0.6**
SABU	**Mula-Dalaman**	**1.31**	**94**	P	**Pn**	**00 03 56.1**	**-0.2**
SABU				S	**Sn**	**00 04 13.8**	**-0.1**
KARP	**Karpathos**	**1.39**	**186**	Pn	**Pn**	**00 03 57.1**	**-0.3**
KARP	**Karpathos**	**1.39**	**186**	P	**Pn**	**00 03 56.3**	**-1.0**
KARP				S	**Sb**	**00 04 15.1**	**-0.7**
FETY	**Fethiye**	**1.43**	**101**	Pn	**Pn**	**00 03 57.9**	**0.0**
FETY	**Fethiye**	**1.43**	**101**	P	**Pg**	**00 03 59.7**	**+0.3**
FETY				S	**Sg**	**00 04 21.0**	**+3.1**
APE	**Apeiranthos**	**1.45**	**276**	Pn	**Pn**	**00 03 58.2**	**0.0**
APE	**Apeiranthos**	**1.45**	**276**	P	**Pn**	**00 03 57.4**	**-0.9**
BLCB	**Balcova**	**1.47**	**351**	Pn	**Pn**	**00 03 58.2**	**-0.2**
URLA	**Izmir**	**1.54**	**338**	Pn	**Pn**	**00 03 59.7**	**+0.2**
CAME	**Cameli-Denizli**	**1.57**	**89**	Pn	**Pn**	**00 03 59.9**	**-0.1**
APMY	**Acipayam-Deniz**	**1.66**	**70**	Pn	**Pn**	**00 04 01.1**	**0.0**
CHOS	**Chios Island**	**1.77**	**325**	P	**Pn**	**00 04 01.9**	**-0.8**
KULA	**Kula-Manisa**	**1.90**	**33**	Pn	**Pn**	**00 04 04.6**	**+0.2**
ELL	**Elmali**	**2.07**	**94**	Pn	**Pn**	**00 04 06.7**	**-0.1**

*BJI **28** 00:08:49.6±0.0, 55°.57N×166°.87E, h15km, mb4.7/63, mB5.4/42, Ms5.4/64, Ms7.5.0/61*
*KRSC **28** 00:08:50.2±1.9, 55°.35N×166°.77E, h40km±13km, Ml5.2, Felt [III] at Nikolskoe.*
*IDC **28** 00:08:51.4±0.5, 55°.45N×166°.41E, h0km, mb4.6/34, mbtmp4.6/39, ML4.7/5, MS4.8/75, Error ellipse: s-maj=12.8km s-min=9.2km az=167.0*
*NEIC **28** 00:08:53.5±1.3, 55°.45N±0°.08×166°.4E±0°.1, h10km±1km, mb5.1/218, Ms_20 5.0/290, Mww5.3/24, Error ellipse: s-maj=14.1km s-min=10.4km az=170.0*
*NEIC **28** 00:08:54.1, 55°.52N×166°.39E, h12km*
*GCMT **28** 00:08:54.5±0.1, 55°.60N±0°.01×166°.68E±0°.01, h12km, MW5.4/161, Moment Tensor Solution. s132,c223; s161,c317; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.34±.01; Mθθ-1.19±.01; Mϕϕ-0.15±.01; Mrθ-0.61±.04; Mθϕ0.45±.01; Mrϕ0.05±.04; Best double couple: M₀1.48100×10^17 NP1:ϕs284.00000°, δ57.00000°, λ83.00000°. NP2:ϕs117.00000°, δ33.00000°, λ101.00000°. Principal axes: T 1.4820, Plg77.0000°, Azm172.0000°; N -0.0070, Plg6.0000°, Azm288.0000°; P -1.4800, Plg12.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 00:08:54.1, 55°.32N×166°.39E, h12km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17Nm; Mrr1.19; Mθθ-1.13; Mϕϕ-0.07; Mrθ-0.11; Mθϕ0.45; Mrϕ-0.29; Fault plane solution: M₀1.28000×10^17 NP1: ϕs275.97000°, δ47.04000°, λ69.64000°. NP2: ϕs124.54000°, δ46.67000°, λ110.49000°. Principal axes: T 1.2736, Plg75.0000°, Azm111.0000°; N 0.0205, Plg15.0000°, Azm290.0000°; P -1.2941, Plg0.0000°, Azm20.0000°;*
*MOS **28** 00:08:55.6±1.0, 55°.45N×166°.35E, h41km, mb5.0/59, MS4.8/31 Error ellipse: s-maj=4.7km s-min=4.0km az=82.1*

ISC 28 00:08:54.6±0.5, 55°.42N±0°.04×166°.48E±0°.03, h19km±1km, n1151, σ1s19/1092, mb5.0/208, MS5.0/248, 30C-26D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**234**	PN	**Pg**	**00 09 01.2**	**-1.1**
BKI	**Bering**	**0.36**	**234**	*e*P	**Pg**	**00 09 01.2**	**-1.1**
BKI				*e*S	**Sg**	**00 09 07.4**	**-0.2**
KBG	**Krutoberegovo**	**2.29**	**293**	PN	**Pn**	**00 09 29.8**	**-1.5**
KBG				S	**Sn**	**00 09 59.1**	**+0.1**
KBG	**Krutoberegovo**	**2.29**	**293**	*e*P	**Pn**	**00 09 29.8**	**-1.5**
KBG				*e*S	**Sn**	**00 09 59.1**	**+0.1**
SMKR	**Semkarok**	**3.05**	**295**	PN	**Pn**	**00 09 41.3**	**-0.5**
SMKR	**Semkarok**	**3.05**	**295**	*e*P	**Pn**	**00 09 41.3**	**-0.5**
BDR	**Baidarnaya**	**3.18**	**293**	PN	**Pn**	**00 09 43.0**	**-0.6**
BDR	**Baidarnaya**	**3.18**	**293**	*e*P	**Pn**	**00 09 43.0**	**-0.6**
SRKR	**Sorokina**	**3.23**	**295**	PN	**Pn**	**00 09 45.5**	**+1.2**
SRKR	**Sorokina**	**3.23**	**295**	*e*P	**Pn**	**00 09 45.5**	**+1.2**
ZLN	**Zelenaya**	**3.27**	**283**	PN	**Pn**	**00 09 46.9**	**+2.0**
ZLN	**Zelenaya**	**3.27**	**283**	*e*P	**Pn**	**00 09 46.9**	**+2.0**
CIRR	**Tsirk**	**3.31**	**284**	PN	**Pn**	**00 09 46.3**	**+0.7**
CIRR	**Tsirk**	**3.31**	**284**	*e*P	**Pn**	**00 09 46.3**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**3.32**	**281**	PN	**Pn**	**00 09 46.6**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**3.32**	**281**	*e*P	**Pn**	**00 09 46.6**	**+1.0**
BZP	**Bezymyannyi-Pe**	**3.40**	**281**	*e*P	**Pn**	**00 09 47.2**	**+0.4**
KLY	**Klyuchi**	**3.41**	**288**	*e*S	**Sn**	**00 10 25.3**	**-1.2**
BZMR	**Bezymyannaya**	**3.43**	**281**	PN	**Pn**	**00 09 48.2**	**+1.0**
BZMR	**Bezymyannaya**	**3.43**	**281**	*e*P	**Pn**	**00 09 48.2**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.43**	**282**	PN	**Pn**	**00 09 48.0**	**+0.8**
BZWR	**Bezymyannyi-We**	**3.43**	**282**	*e*P	**Pn**	**00 09 48.0**	**+0.8**
TUMD	**Tumrok D**	**3.48**	**269**	*e*P	**Pn**	**00 09 47.6**	**-0.1**
TUMD				*e*S	**Sn**	**00 10 30.0**	**+1.6**
KIRR	**Kirishev**	**3.52**	**281**	PN	**Pn**	**00 09 48.3**	**0.0**
KIRR				S	**Sn**	**00 10 33.5**	**+4.0**
KIRR	**Kirishev**	**3.52**	**281**	*e*P	**Pn**	**00 09 48.3**	**0.0**
KIRR				*e*S	**Sn**	**00 10 33.5**	**+4.0**
KMNR	**Kamenistaya**	**3.56**	**278**	PN	**Pn**	**00 09 49.7**	**+0.8**
KMNR				S	**Sn**	**00 10 35.2**	**+4.7**
KMNR	**Kamenistaya**	**3.56**	**278**	*e*P	**Pn**	**00 09 49.7**	**+0.8**
KMNR				*e*S	**Sn**	**00 10 35.2**	**+4.7**
KPT	**Kopyto**	**3.59**	**281**	PN	**Pn**	**00 09 49.3**	**+0.1**
KPT				S	**Sn**	**00 10 35.3**	**+4.2**
KPT	**Kopyto**	**3.59**	**281**	*e*P	**Pn**	**00 09 49.3**	**+0.1**
KPT				*e*S	**Sn**	**00 10 35.3**	**+4.2**
TUMR	**Tumrok**	**3.62**	**270**	PN	**Pn**	**00 09 47.6**	**-2.1**
TUMR				S	**Sn**	**00 10 30.0**	**-2.0**
TUMR	**Tumrok**	**3.62**	**270**	*e*P	**Pn**	**00 09 51.0**	**+1.3**
TUMR				*e*S	**Sn**	**00 10 35.9**	**+3.9**
KOZ	**Kozyrevsk**	**3.79**	**282**	PN	**Pn**	**00 09 52.2**	**+0.2**
KOZ				S	**Sn**	**00 10 39.8**	**+3.8**
KOZ	**Kozyrevsk**	**3.79**	**282**	*e*P	**Pn**	**00 09 52.2**	**+0.2**
KOZ				*e*S	**Sn**	**00 10 39.8**	**+3.8**
SRDR	**Sredinnyy**	**3.92**	**286**	PN	**Pn**	**00 09 54.2**	**+0.5**
SRDR				S	**Sn**	**00 10 43.4**	**+4.2**
SRDR	**Sredinnyy**	**3.92**	**286**	*e*P	**Pn**	**00 09 54.2**	**+0.5**
SRDR				*e*S	**Sn**	**00 10 43.4**	**+4.2**
OSSR	**Ossora**	**4.26**	**336**	PN	**Pn**	**00 09 57.9**	**-0.5**
OSSR	**Ossora**	**4.26**	**336**	*e*P	**Pn**	**00 09 57.9**	**-0.5**
KII	**Karymskiy**	**4.31**	**254**	PN	**Pn**	**00 10 00.9**	**+1.8**
KII	**Karymskiy**	**4.31**	**254**	*e*P	**Pn**	**00 10 00.9**	**+1.8**
ESO	**Esso**	**4.44**	**280**	PN	**Pn**	**00 10 02.4**	**+1.5**
ESO	**Esso**	**4.44**	**280**	*e*P	**Pn**	**00 10 02.4**	**+1.5**
SPN	**Mys Shipunski**	**4.45**	**241**	PN	**Pn**	**00 10 00.1**	**-0.8**
SPN	**Mys Shipunski**	**4.45**	**241**	*e*P	**Pn**	**00 10 00.1**	**-0.8**
TIGL	**Tigil**	**4.92**	**302**	*e*P	**Pn**	**00 10 08.6**	**+1.2**
SMAR	**Somma**	**4.99**	**247**	PN	**Pn**	**00 10 09.3**	**+0.7**
SMAR				S	**Sn**	**00 11 05.4**	**-0.4**
SMAR	**Somma**	**4.99**	**247**	*e*P	**Pn**	**00 10 09.3**	**+0.7**
SMAR				*e*S	**Sn**	**00 11 05.4**	**-0.4**
KRER	**Koryakskii**	**5.00**	**248**	PN	**Pn**	**00 10 09.9**	**+1.2**
KRER				S	**Sn**	**00 11 07.9**	**+1.9**
KRER	**Koryakskii**	**5.00**	**248**	*e*P	**Pn**	**00 10 09.9**	**+1.2**
KRER				*e*S	**Sn**	**00 11 07.9**	**+1.9**
UGLR	**Uglovaya**	**5.00**	**247**	PN	**Pn**	**00 10 09.4**	**+0.7**
UGLR				S	**Sn**	**00 11 07.6**	**+1.6**
UGLR	**Uglovaya**	**5.00**	**247**	*e*P	**Pn**	**00 10 09.4**	**+0.7**
UGLR				*e*S	**Sn**	**00 11 07.6**	**+1.6**
AVH	**Avacha**	**5.02**	**248**	PN	**Pn**	**00 10 09.7**	**+0.8**
AVH				S	**Sn**	**00 11 07.9**	**+1.5**
AVH	**Avacha**	**5.02**	**248**	*e*P	**Pn**	**00 10 09.7**	**+0.8**
AVH				*e*S	**Sn**	**00 11 07.8**	**+1.5**
KRX	**Arik**	**5.02**	**249**	PN	**Pn**	**00 10 09.7**	**+0.7**
KRX				S	**Sn**	**00 11 07.1**	**+0.5**
KRX	**Arik**	**5.02**	**249**	*e*P	**Pn**	**00 10 09.7**	**+0.7**
KRX				*e*S	**Sn**	**00 11 07.1**	**+0.5**
TILK	**Tilichiki**	**5.04**	**358**	PN	**Pn**	**00 10 08.1**	**-1.0**
TILK	**Tilichiki**	**5.04**	**358**	*e*P	**Pn**	**00 10 08.1**	**-1.0**
KOK	**Koryaka**	**5.06**	**248**	PN	**Pn**	**00 10 10.2**	**+0.7**
KOK				S	**Sn**	**00 11 08.3**	**+0.9**
KOK	**Koryaka**	**5.06**	**248**	*e*P	**Pn**	**00 10 10.2**	**+0.7**
KOK				*e*S	**Sn**	**00 11 08.3**	**+0.9**
DALK	**Dalny**	**5.13**	**245**	PN	**Pn**	**00 10 11.1**	**+0.8**
DALK	**Dalny**	**5.13**	**245**	*e*P	**Pn**	**00 10 11.1**	**+0.8**
DALK				*e*S	**Sn**	**00 11 08.2**	**-0.7**
PET	**Petropavlovsk**	**5.18**	**246**		**Pn**	**00 10 10.8**	**-0.3**
PET	**Petropavlovsk**	**5.18**	**246**	*e*PN	**Pn**	**00 10 11.4**	**+0.4**
PET				pmax	pmax		
	comp=Z,353nm,0.6s						
PET				MLR	MLR		
	comp=Z,13µm,19.0s						
PET				MLR	MLR		
	comp=Z,11µm,15.0s						
PET	**Petropavlovsk**	**5.18**	**246**	*e*P	**Pn**	**00 10 11.5**	**+0.4**
PET				*e*S	**Sn**	**00 11 09.6**	**-0.6**
INSR	**Institute**	**5.19**	**246**	*e*P	**Pn**	**00 10 12.2**	**+1.1**
INSR				*e*S	**Sn**	**00 11 09.1**	**-1.2**
SHEM	**Shemya Is, Ala**	**5.23**	**118**	Pn	**Pn**	**00 10 11.2**	**-0.6**
	comp=Z,24nm,0.3s,baz=12,slow=7.8,SNR=12						
SHEM				Sn	**Sn**	**00 11 08.5**	**-3.0**
	comp=Z,26nm,0.3s,baz=252,slow=20,SNR=6.3						
	comp=Z,58nm,0.3s						
KRMR	**Karymshinskiy**	**5.56**	**246**	PN	**Pn**	**00 10 16.4**	**+0.2**
KRMR				S	**Sn**	**00 11 19.5**	**+0.1**
KRMR	**Karymshinskiy**	**5.56**	**246**	*e*P	**Pn**	**00 10 16.4**	**+0.2**
KRMR				*e*S	**Sn**	**00 11 19.5**	**+0.1**
RUS	**Russkaya**	**5.58**	**241**	PN	**Pn**	**00 10 16.5**	**0.0**
RUS	**Russkaya**	**5.58**	**241**	*e*P	**Pn**	**00 10 16.5**	**0.0**
RUS				*e*S	**Sn**	**00 11 18.4**	**-1.6**
PEA0B	**Petropavlovsk-**	**5.65**	**249**	Pn	**Pn**	**00 10 18.2**	**+0.8**
PEA0B	**Petropavlovsk-**	**5.65**	**249**	*c iP*n	**Pn**	**00 10 18.3**	**+0.8**
PETK	**Petropavlovsk-**	**5.65

comp=N,1µm,14.9s
UGL MLR MLR
comp=Z,3µm,13.0s
UGL MLR MLR
comp=N,5µm,16.0s
UGL MLR MLR
comp=E,2µm,16.0s
K13K Kusilvak Mount 16.26 55 Pn Pn 00 12 41.0 -0.6
K13K Kusilvak Mount 16.26 55 P **Pn 00 12 42.0 +0.4**
baz=260
F14K Arctic Creek 16.61 42 P **Pn 00 12 47.1 +1.0**
baz=246,SNR=22
ANM Nome 16.64 45 Pn **Pn 00 12 46.4 -0.1**
ANM IAmb IAmb 00 12 54.3
comp=Z,179nm,1.5s
ANM Nome 16.64 45 P **Pn 00 12 47.7 +1.2**
baz=250,SNR=38
ANM Nome 16.64 45 P **Pn 00 12 46.4 -0.1**
ANM pmax pmax
comp=Z,179nm,1.5s
M13K Dall Lake 16.69 60 Pn 00 12 47.9 +0.8
M13K IAmb IAmb 00 12 52.5
comp=Z,209nm,1.6s
M13K Dall Lake 16.69 60 P **Pn 00 12 47.9 +0.8**
baz=266
J14K Nanvaranak Lak 16.92 52 Pn **Pn 00 12 48.9 -1.0**
J14K Nanvaranak Lak 16.92 52 P **Pn 00 12 50.9 +0.9**
baz=258,SNR=21
YSS Yuzh-Sakhalins 17.05 250 Pn 00 12 51.2 -0.5
YSS Yuzh-Sakhalins 17.05 250 *e*P **P 00 12 54.9 +1.5**
YSS *e*S **Sn 00 16 05.0 +4.4**
YSS pmax pmax
comp=Z,80nm,1.2s
YSS pmax pmax
comp=Z,900nm,4.9s
YSS MLR MLR
comp=E,3µm,18.0s
L14K Kuka Creek 17.10 57 P **Pn 00 12 53.6 +1.3**
baz=264,SNR=9.4
G15K Niukluk 17.33 45 P **P 00 12 56.6 +0.2**
baz=250
F15K North Star Dit 17.35 42 Pn 00 12 55.2 -0.2
F15K IAmb IAmb 00 13 02.8
comp=Z,265nm,1.9s
F15K North Star Dit 17.35 42 P **P 00 12 57.2 +0.5**
baz=248
M14K Bethel 17.40 59 P **P 00 12 57.9 +0.7**
baz=266,SNR=6.2
YUK Yuzh-Kuril'sk 17.46 238𝄇 *e*P **Pn 00 12 55.7 -1.1**
N14K Kuskokwak Cree 17.50 62 P **P 00 12 58.7 +0.4**
baz=269,SNR=5.6
L15K Ungalak Mounta 17.71 56 P **P 00 13 01.2 +0.6**
baz=264
O14K Tigyukauivet M 17.72 64 P **Pn 00 12 59.6 -0.3**
O14K IAmb IAmb 00 13 04.8
comp=Z,258nm,1.4s
O14K Tigyukauivet M 17.72 64 P **P 00 13 01.7 +1.0**
baz=272
K15K Wolf Creek Mou 17.77 54 P **P 00 13 02.1 +0.8**
baz=262,SNR=21
H16K Elim 17.95 47 P **P 00 13 04.3 +1.0**
baz=254,SNR=90
M15K Kasigluk River 18.02 60 P **P 00 13 05.1 +1.1**
baz=268,SNR=6.8
G16K Koyuk River 18.13 44 P **P 00 13 06.5 +1.3**
baz=252
C16K Lisburne Hills 18.27 34 Pn 00 13 05.7 -0.9
C16K Lisburne Hills 18.27 34 P **P 00 13 07.5 +0.8**
baz=239,SNR=52
N15K Kwethluk River 18.30 61 P **P 00 13 09.0 +1.8**
baz=270
J16K Anvik River 18.34 51 P **Pn 00 13 09.7 +2.1**
baz=260
I17K Unalakleet 18.42 49 P **Pn 00 13 10.1 +1.6**
baz=258,SNR=30
O15K Ungalikthiuk R 18.46 64 P **Pn 00 13 10.9 +1.8**
baz=273,SNR=8.5
GRNR Gornyy 18.56 268𝄇 *i*P **Pn 00 13 11.7 +1.4**
GRNR pmax pmax
comp=E,4.0nm,1.1s
GRNR pmax pmax
comp=N,3.0nm,1.0s
GRNR pmax pmax
comp=Z,8.0nm,1.0s
GRNR MLR MLR
comp=E,2µm,13.0s
GRNR MLR MLR
comp=N,1µm,12.0s
GRNR MLR MLR
comp=Z,2µm,14.0s
L16K Owhat River 18.67 56 P **Pn 00 13 12.8 +1.3**
baz=266,SNR=7.7
SDPT Sand Point 18.68 77 P **Pn 00 13 12.9 +1.3**
baz=284
G17K Kiwalik Mounta 18.84 44 P **Pn 00 13 14.1 +0.5**
baz=253,SNR=18
M16K Timber Creek 18.88 59 P **Pn 00 13 15.6 +1.5**
baz=268,SNR=6.9
F17K Baldwin Pennin 18.91 41 P 00 13 14.3 +0.6
F17K IAmb IAmb 00 13 25.6
comp=Z,298nm,2.0s
F17K Baldwin Pennin 18.91 41 P **Pn 00 13 15.4 +1.1**
baz=250,SNR=22
E17K Hotham Inlet 18.93 39 P **Pn 00 13 16.2 +1.5**
baz=248,SNR=64
N16K Nishlik Lake 18.96 60 P **Pn 00 13 16.7 +1.5**
baz=270
S14K Fog Glacier 18.98 73 P **Pn 00 13 16.3 +0.9**
baz=282
H17K Granite Mounta 18.99 46 P **Pn 00 13 16.8 +1.4**
baz=256
JKA Kamikawa-asahi 19.02 243 P 00 13 15.6 +0.5
JKA IAmb IAmb 00 13 24.3
comp=Z,76nm,0.9s
ASAJ Asahikawa 19.02 243 P **P 00 13 15.7 +0.5**
comp=Z,2.2nm,0.3s,baz=44,slow=4.3,SNR=16
ASAJ LR LR 00 20 48.7
comp=Z,3µm,18.5s,baz=50,slow=38
comp=Z,39nm,0.7s
C17K DeLong Mountai 19.06 35 P **Pn 00 13 17.0 +0.6**
baz=242
L17K Donlin 19.25 55 P **Pn 00 13 19.9 +1.3**
baz=266
CHNA Chernabura Isl 19.30 78 P **Pn 00 13 20.5 +1.3**
baz=286
K17K Iditarod 19.30 53 P **Pn 00 13 19.8 +0.6**
baz=264
O16K Kokwok River B 19.32 63 P **P 00 13 18.9 +0.5**
O16K Kokwok River B 19.32 63 P **Pn 00 13 20.1 +0.6**
baz=273
P16K Nushagak River 19.42 65 P **Pn 00 13 21.0 +0.4**
baz=275,SNR=6.7
E18K Tukpahlearik C 19.50 39 P **P 00 13 20.5 +0.3**
E18K IAmb IAmb 00 13 27.2
comp=Z,162nm,1.7s
E18K Tukpahlearik C 19.50 39 P **Pn 00 13 22.0 +0.5**
baz=248
F18K Selawik 19.57 42 P **Pn 00 13 22.3 0.0**
baz=252,SNR=25
CHGN Chignik 19.59 73 P **Pn 00 13 23.1 +0.4**
baz=282
M17K Holitna River 19.62 58 P **Pn 00 13 23.5 +0.5**
baz=269
H18K Honhosa River 19.68 46 P **Pn 00 13 23.9 +0.2**
baz=257
N17K Nushagak Hills 19.75 60 P 00 13 23.8 +0.8
N17K IAmb IAmb 00 13 36.1
comp=Z,128nm,1.2s
N17K Nushagak Hills 19.75 60 P **Pn 00 13 24.6 +0.1**
baz=271
G18K Tagagawik 19.75 44 P **P 00 13 24.3 +1.3**
baz=255,SNR=32
C18K Utukok River 19.79 35 P **P 00 13 23.2 -0.2**
C18K Utukok River 19.79 35 P **P 00 13 24.3 +0.8**
baz=244
R16K Pilot Point 19.81 69 P **Pn 00 13 25.1 -0.2**
baz=279
O17K Koliganek Bris 19.82 62 P **Pn 00 13 25.5 +0.1**
baz=274
B18K Kokolik River 19.93 33 P **P 00 13 26.2 +1.3**
baz=242,SNR=38
YAK Yakutsk 19.99 304 P P 00 13 24.8 -0.8
YAK IAmb IAmb 00 13 27.2
comp=Z,134nm,1.1s
YAK Yakutsk 19.99 304 *e*P **P 00 13 24.6 -1.0**
YAK *e*S **S 00 17 06.7 -2.6**
YAK pmax pmax
comp=Z,96nm,0.9s
YAK pmax pmax
comp=E,22nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,101nm,1.1s
YAK smax smax
comp=N,1µm,7.0s
YAK smax smax
comp=E,598nm,5.7s
YAK MLR MLR
comp=Z,3µm,12.0s
YAK MLR MLR
comp=E,2µm,12.0s
YAK MLR MLR
comp=N,2µm,11.0s
YAK Yakutsk 19.99 304 P **P 00 13 24.7 -0.8**
comp=N,5.1nm,0.3s,baz=88,slow=5.5,SNR=30
YAK LR LR 00 21 25.1
comp=N,1µm,18.9s,baz=95,slow=38
comp=N,95nm,0.9s
L18K Granite Mounta 20.01 55 P **Pn 00 13 27.6 -0.1**
baz=267
J18K Innoko River 20.10 52 P **P 00 13 27.4 +0.5**
J18K IAmb IAmb 00 13 39.2
comp=Z,128nm,0.9s
J18K Innoko River 20.10 52 P **P 00 13 28.0 +1.2**
baz=264,SNR=55
Q16K King Salmon 20.14 66 P Pn 00 13 28.8 -0.4
baz=277,SNR=6.2
P17K Kvichak River 20.20 64 P **P 00 13 28.8 +0.9**
baz=276
GCSA Galena City Sc 20.22 48 P **P 00 13 28.7 +0.7**
baz=260
ERM Erimo 20.29 238 P **P 00 13 28.3 -0.6**
ERM IAmb IAmb 00 13 37.4
comp=Z,225nm,1.8s
ERM Erimo 20.29 238 P **P 00 13 28.3 -0.6**
ERM pmax pmax
comp=Z,225nm,1.8s
F19K Shaleruckik Mo 20.35 42 P **P 00 13 30.2 +0.8**
baz=253
TTA Tatalina 20.37 53 P 00 13 28.9 -0.9
TTA IAmb IAmb 00 13 40.5
comp=Z,121nm,1.4s
TTA Tatalina 20.37 53 P **P 00 13 31.0 +1.2**
baz=266,SNR=25
TTA Tatalina 20.37 53 P **P 00 13 28.9 -0.9**
TTA pmax pmax
comp=Z,121nm,1.4s
N18K Kilae Creek 20.38 60 IAMs_20 IAMs_20 00 21 03.5
comp=E,8µm,19.0s
N18K Kilae Creek 20.38 60 P **P 00 13 31.4 +1.5**
baz=272
M18K Stony River 20.40 57 P Pn 00 13 32.0 -0.3
baz=270
G19K Purcell Mounta 20.43 44 P **P 00 13 30.4 0.0**
G19K IAmb IAmb 00 13 42.1
comp=Z,147nm,1.4s
G19K IAMs_20 IAMs_20 00 21 45.4
comp=E,5µm,18.0s
G19K Purcell Mounta 20.43 44 P **P 00 13 31.2 +0.9**
baz=256,SNR=44
C19K Lookout Ridge 20.52 35 IAMs_20 IAMs_20 00 22 41.5
comp=Z,7µm,18.0s
C19K Lookout Ridge 20.52 35 P **P 00 13 32.1 +0.8**
baz=245
SVW2 Sparrevohn 20.52 58 P **P 00 13 31.3 -0.1**
H19K Roundabout Mou 20.55 46 IAMs_20 IAMs_20 00 21 39.6
comp=E,7µm,18.0s
H19K Roundabout Mou 20.55 46 P **P 00 13 32.6 +1.0**
baz=258
A19K Wainwright 20.56 31 P **P 00 13 32.7 +1.1**
baz=241
Q17K Contact Creek 20.60 67 P **P 00 13 33.1 +0.7**
baz=278
J19K Poorman 20.65 50 P **P 00 13 33.7 +0.9**
baz=263
E19K Redstone River 20.73 40 P **P 00 13 34.8 +1.1**
baz=252
O18K Koktuh Hills 20.77 62 P **P 00 13 34.3 +0.2**
O18K IAmb IAmb 00 13 48.6
comp=Z,75nm,1.1s
O18K IAMs_20 IAMs_20 00 21 05.8
comp=Z,6µm,20.0s
O18K Koktuh Hills 20.77 62 P **P 00 13 35.3 +1.3**
baz=275,SNR=12
D19K Kuna River 20.77 37 P **P 00 13 34.4 +0.3**
D19K IAmb IAmb 00 13 45.9
comp=Z,125nm,1.2s
D19K Kuna River 20.77 37 P **P 00 13 34.9 +0.8**
baz=249
P18K Big Mountain, 20.80 63 P **P 00 13 34.8 +0.3**
P18K Big Mountain, 20.80 63 P **P 00 13 35.7 +1.2**
baz=276,SNR=13
L19K White Mountain 20.87 55 P **P 00 13 36.6 +1.4**
baz=269
N19K Bonanza Creek 21.07 59 P **P 00 13 37.2 -0.1**
N19K IAmb IAmb 00 13 51.7
comp=Z,114nm,1.4s
N19K IAMs_20 IAMs_20 00 21 43.6
comp=Z,7µm,19.0s
N19K Bonanza Creek 21.07 59 P **P 00 13 38.5 +1.1**
baz=273,SNR=11
M19K Big River Lodg 21.09 56 P **P 00 13 38.5 +1.0**
baz=270
F20K Avaraart Lake 21.18 42 P **P 00 13 39.4 +1.0**
baz=255
H20K Anotleneega Mo 21.18 46 P **P 00 13 39.5 +1.0**
baz=260
O19K Port Alsworth 21.18 61 P **P 00 13 38.3 -0.3**
O19K IAmb IAmb 00 13 51.6
comp=Z,93nm,1.6s
O19K IAMs_20 IAMs_20 00 21 28.8
comp=Z,7µm,19.0s
O19K Port Alsworth 21.18 61 P **P 00 13 39.2 +0.7**
baz=274
I20K Naaghedeneel 21.24 48 P **P 00 13 39.0 -0.2**
I20K IAMs_20 IAMs_20 00 21 53.1
comp=Z,7µm,20.0s
I20K Naaghedeneel 21.24 48 P **P 00 13 39.4 +0.3**
baz=262
K20K Telida 21.28 52 IAMs_20 IAMs_20 00 21 47.2
comp=Z,6µm,20.0s
K20K Telida 21.28 52 P **P 00 13 40.8 +1.3**
baz=267
J20K Nowinta River 21.31 50 P **P 00 13 41.0 +1.1**
baz=264,SNR=30
L20K Farewell, AK 21.33 55 P **P 00 13 41.2 +1.1**
baz=269
E20K Nigu River 21.36 38 P **P 00 13 41.4 +0.9**
baz=252
D20K Etivluk River 21.36 37 P **P 00 13 41.3 +0.8**
baz=250
TEY Ternei 21.59 254 *e*P **P 00 13 45.2 +2.2**
TEY *e* 00 17 35.5
Q19K Cape Douglas, 21.66 64 P **P 00 13 44.3 +0.6**
Q19K IAmb IAmb 00 14 01.7
comp=Z,124nm,1.1s
Q19K Cape Douglas, 21.66 64 P **P 00 13 44.6 +0.8**
baz=278
B20K Meade River 21.67 34 P **P 00 13 43.4 -0.2**
B20K Meade River 21.67 34 P **P 00 13 44.2 +0.6**
baz=246
M20K Styx River 21.68 56 P **P 00 13 45.0 +1.0**
M20K IAmb IAmb 00 14 02.0
comp=Z,150nm,1.8s
M20K IAMs_20 IAMs_20 00 21 26.9
comp=Z,5µm,20.0s
M20K Styx River 21.68 56 P **P 00 13 45.0 +1.0**
baz=271
IMAR Indian Mountai 21.73 45 P **P 00 13 44.3 -0.1**
P19K Oil Pt 21.78 62 IAMs_20 IAMs_20 00 21 36.7
comp=Z,5µm,20.0s
P19K Oil Pt 21.78 62 P **P 00 13 46.9 +1.9**
baz=277
SII Sitkinak Islan 21.83 71 P **P 00 13 46.0 +0.5**
SII Sitkinak Islan 21.83 71 P **P 00 13 47.1 +1.6**
baz=284
G21K Allakaket 21.92 44 P **P 00 13 46.9 +0.5**
G21K IAmb IAmb 00 14 07.3
comp=Z,68nm,1.1s
G21K Allakaket 21.92 44 P **P 00 13 46.6 +0.2**
baz=259
RSO Redoubt South 21.94 60 P **P 00 13 46.9 0.0**
KLR Kul'dur 21.94 268 P **P 00 13 46.1 -0.7**
comp=Z,4.8nm,0.7s,baz=56,slow=10,SNR=14
KLR LR LR 00 23 07.2
comp=Z,2µm,18.4s,baz=68,slow=39
comp=Z,4.8nm,0.7s
O20K Slope Mountain 22.04 61 P **P 00 13 48.7 +0.9**
baz=276
H21K Melozitna Rive 22.06 46 IAMs_20 IAMs_20 00 22 36.6
comp=Z,6µm,19.0s
H21K Melozitna Rive 22.06 46 P **P 00 13 48.5 +0.5**
baz=262
F21K Alatna River 22.07 42 IAMs_20 IAMs_20 00 22 47.9
comp=Z,4µm,18.0s
F21K Alatna River 22.07 42 P **P 00 13 48.7 +0.6**
baz=258,SNR=31
CHUM Lake Minchumin 22.09 51 P **P 00 13 49.3 +1.0**
baz=267,SNR=19
PPLA Purkeypile 22.12 53 P **P 00 13 49.8 +1.1**
baz=270,SNR=14
C21K Knifeblade Rid 22.13 36 P **P 00 13 49.8 +1.1**
baz=251,SNR=38
N20K Mount Spurr 22.15 58 P **P 00 13 50.1 +1.1**
baz=274,SNR=11
OHAK Old Harbor 22.16 69 P **P 00 13 49.2 +0.2**
OHAK Old Harbor 22.16 69 P **P 00 13 53.9 +4.9**
OHAK Old Harbor 22.16 69 P **P 00 13 49.9 +0.9**
baz=283
CAST Castle Rocks 22.18 52 P **P 00 13 49.5 +0.3**
CAST IAmb IAmb 00 14 07.1
comp=Z,54nm,1.0s
CAST Castle Rocks 22.18 52 P **P 00 13 50.4 +1.2**
baz=268,SNR=10.0
E21K Killik River 22.20 39 P **P 00 13 49.9 +0.5**
E21K IAmb IAmb 00 14 06.5
comp=Z,97nm,1.4s
E21K IAMs_20 IAMs_20 00 23 56.1
comp=Z,5µm,18.0s
E21K Killik River 22.20 39 P **P 00 13 50.1 +0.7**
baz=254
JTM Tenmabayashi 22.24 239 P **P 00 13 50.8 +0.8**
JTM IAmb IAmb 00 14 00.5
comp=Z,140nm,1.4s
I21K Tanana 22.34 47 P **P 00 13 51.0 +0.1**
I21K IAMs_20 IAMs_20 00 22 46.1
comp=Z,6µm,20.0s
I21K Tanana 22.34 47 P **P 00 13 51.3 +0.4**
baz=264,SNR=17
Q20K Shuyak Island 22.36 65 P **P 00 13 51.2 +0.1**
baz=280
SYI Shuyak Island 22.36 65 P **P 00 13 50.6 -0.5**
SYI IAmb IAmb 00 13 54.0
comp=Z,80nm,1.0s
A21K Barrow 22.39 31 P **P 00 13 51.0 -0.3**
baz=244,SNR=6.7
KDAK Kodiak Island 22.41 67 P **P 00 13 51.1 -0.6**
KDAK IAmb IAmb 00 14 02.2
comp=Z,57nm,1.0s
KDAK Kodiak Island 22.41 67 P **P 00 13 51.9 +0.2**
baz=282
KDAK Kodiak Island 22.41 67 P **P 00 13 51.1 -0.6**
KDAK pmax pmax
comp=Z,57nm,1.0s
KDAK Kodiak Island 22.41 67 P **P 00 13 51.3 -0.4**
comp=Z,21nm,0.8s,baz=293,slow=6.9,SNR=8.9
KDAK LR LR 00 22 16.5
comp=Z,3µm,18.3s,baz=277,slow=36
comp=Z,21nm,0.8s
SKT Skwentna 22.44 56 P **P 00 13 52.0 0.0**
SKT IAmb IAmb 00 14 15.7
comp=Z,101nm,1.4s
SKT Skwentna 22.44 56 P **P 00 13 52.6 +0.6**
baz=272,SNR=7.1
HOM Homer 22.58 62 IAMs_20 IAMs_20 00 22 12.7
comp=Z,5µm,20.0s
ZEA Zeya 22.60 282 *e*P **P 00 13 55.5 +1.7**
ZEA *e*S **S 00 17 55.7 -4.5**
ZEA *e* 00 18 53.8
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA smax smax
comp=N,1µm,13.4s
ZEA MLR MLR
comp=E,1µm,13.0s
ZEA MLR MLR
comp=N,1µm,14.0s
ZEA MLR MLR
comp=Z,1µm,13.0s
H22K Ishtalitna Cre 22.68 46 P **P 00 13 54.6 +0.1**
baz=263
BPAW Bear Paw Mtn. 22.69 50 P **P 00 13 55.3 +0.6**
BPAW IAmb IAmb 00 13 59.1
comp=Z,110nm,1.2s
BPAW IAMs_20 IAMs_20 00 22 50.4
comp=Z,5µm,21.0s
BPAW Bear Paw Mtn. 22.69 50 P **P 00 13 55.4 +0.6**
baz=268,SNR=21
CAPN Captain Cook N 22.70 59 IAMs_20 IAMs_20 00 20 59.8
comp=Z,7µm,22.0s
CAPN Captain Cook N 22.70 59 P **P 00 13 55.3 +0.6**
baz=276
KTH Kantishna Hill 22.70 52 P **P 00 13 55.5 +0.7**
KTH IAmb IAmb 00 13 59.6
comp=Z,117nm,1.2s
KTH IAMs_20 IAMs_20 00 22 59.7
comp=Z,5µm,18.0s
TIXI Tiksi 22.73 330 P **P 00 13 53.9 -1.1**
TIXI Tiksi 22.73 330 P **P 00 13 53.9 -1.1**
TIXI pmax pmax
comp=Z,25nm,1.0s
TIXI MLR MLR
comp=Z,3µm,19.0s
TIXI Tiksi 22.73 330 LR LR 00 23 20.2
comp=Z,3µm,18.2s,baz=120,slow=38
D22K Ayikyak River 22.77 38 P **P 00 13 55.3 -0.2**
D22K IAmb IAmb 00 14 08.4
comp=Z,119nm,1.2s
D22K IAMs_20 IAMs_20 00 23 49.3
comp=Z,6µm,19.0s
D22K Ayikyak River 22.77 38 P **P 00 13 55.8 +0.3**
baz=254,SNR=38
G22K Bettles 22.78 43 P **P 00 13 55.7 +0.2**
baz=260
CNPM China Poot 22.80 62 P **P 00 13 55.4 -0.5**
CNPM IAmb IAmb 00 14 08.8
comp=Z,138nm,1.5s
CNPM IAMs_20 IAMs_20 00 22 20.7
comp=Z,5µm,21.0s
SUA Susitna One 22.84 57 P **P 00 13 55.9 -0.4**
SUA Susitna One 22.84 57 P **P 00 13 56.7 +0.4**
baz=274,SNR=9.7
MLY Manley 22.85 48 P **P 00 13 54.5 -2.0**
MLY IAmb IAmb 00 14 14.3
comp=Z,115nm,1.4s
MLY IAMs_20 IAMs_20 00 23 11.6
comp=Z,6µm,19.0s
MLY Manley 22.85 48 P **P 00 13 56.8 +0.4**
baz=266,SNR=39
E22K Anaktuvuk Pass 22.90 40 P **P 00 13 57.3 +0.5**
baz=257
B22K Teshekpuk Lake 22.97 34 P **P 00 13 57.0 -0.6**
baz=250
TRF Thorofare Moun 22.98 52 P **P 00 13 57.8 -0.1**
TRF IAmb IAmb 00 14 16.7
comp=Z,103nm,1.2s
TRF IAMs_20 IAMs_20 00 22 50.2
comp=Z,6µm,20.0s
TRF Thorofare Moun 22.98 52 P **P 00 13 58.4 +0.5**
baz=270,SNR=8.5
CUT Chulitna 23.01 55 P **P 00 13 58.3 +0.3**
CUT Chulitna 23.01 55 P **P 00 13 57.7 -0.2**
baz=272,SNR=8.4
BRSE Bradley Lake S 23.02 62 P **P 00 13 57.8 -0.4**
baz=278,SNR=7.5
G23K Bananza Creek 23.32 44 P **P 00 14 01.1 -0.1**
G23K IAmb IAmb 00 14 03.8
comp=Z,158nm,2.0s
G23K IAMs_20 IAMs_20 00 23 27.0
comp=Z,4µm,18.0s
G23K Bananza Creek 23.32 44 P **P 00 14 01.3 +0.1**
baz=262,SNR=25
COLD Coldfoot 23.33 42 P **P 00 14 01.4 +0.2**
baz=261,SNR=34
RC01 Rabbit Creek A 23.36 58 P **P 00 14 01.7 +0.2**
RC01 IAMs_20 IAMs_20 00 23 11.1
comp=Z,4µm,19.0s
RC01 Rabbit Creek A 23.36 58 P **P 00 14 01.5 0.0**
baz=276
BWN Browne 23.36 50 P **P 00 14 03.0 +1.5**

BWN IAMs_20 IAMs_20 00 23 22.0
comp=Z,4µm,19.0s
O22K Cooper Landing 23.43 60 IAMs_20 IAMs_20 00 23 02.2
comp=Z,7µm,19.0s
I23K Minto, Yukon-K 23.44 48 P **P** **00 14 01.6 -0.7**
I23K IAMs_20 IAMs_20 00 23 30.2
comp=Z,7µm,19.0s
I23K Minto, Yukon-K 23.44 48 P **P** **00 14 02.8 +0.5**
baz=267,SNR=35
D23K Nanushuk River 23.50 38 P **P** **00 14 03.0 +0.2**
baz=257,SNR=26
NEA2 Nenana 23.54 49 P **P** **00 14 03.2 -0.2**
NEA2 IAmb IAmb 00 14 05.8
comp=Z,56nm,1.2s
NEA2 IAMs_20 IAMs_20 00 23 42.9
comp=Z,5µm,18.0s
NEA2 Nenana 23.54 49 P **P** **00 14 03.2 -0.2**
baz=268,SNR=18
MCK McKinley 23.59 51 P **P** **00 14 04.2 +0.4**
baz=270,SNR=18
PMR Palmer 23.60 57 P **P** **00 14 04.2 +0.4**
PMR Palmer 23.60 57 P **P** **00 14 03.8 0.0**
baz=275
PMR Palmer 23.60 57 P **P** **00 14 04.2 +0.4**
PMR pmax pmax
comp=Z,37nm,1.5s
SEW Seward 23.61 60 P **P** **00 14 04.0 0.0**
baz=278,SNR=5.8
RND Reindeer 23.63 52 P **P** **00 14 03.5 -0.8**
RND IAmb IAmb 00 14 06.2
comp=Z,63nm,1.1s
RND IAMs_20 IAMs_20 00 23 10.2
comp=Z,4µm,20.0s
RND Reindeer 23.63 52 P **P** **00 14 03.5 -0.8**
RND pmax pmax
comp=Z,63nm,1.1s
RND MLR MLR
comp=Z,4µm,20.0s
GHO Glory Hole Cre 23.68 56 P **P** **00 14 05.3 +0.5**
GHO IAmb IAmb 00 14 25.1
comp=Z,48nm,1.2s
E23K Chandalar 23.69 40 P **P** **00 14 04.9 0.0**
baz=260
WAT1 Susitna Watana 23.79 54 P **P** **00 14 04.9 -0.9**
baz=273
HEH HeiHe 23.93 274 *eP* **P** **00 14 05.0 -2.1**
HEH pP **pP** **00 14 11.5 -0.8**
HEH S **S** **00 18 21.0 -1.4**
HEH pmax pmax
comp=Z,23nm,0.8s
HEH pmax pmax
comp=Z,590nm,4.9s
HEH LR LR
comp=Z,6µm,15.1s
HEH LR LR
comp=Z,4µm,16.3s
HEH LR LR
comp=Z,5µm,15.4s
KNK Knik Glacier 23.94 57 P **P** **00 14 05.8 -1.4**
KNK IAmb IAmb 00 14 09.8
comp=Z,27nm,0.7s
KNK IAMs_20 IAMs_20 00 22 52.5
comp=Z,5µm,21.0s
KNK Knik Glacier 23.94 57 P **P** **00 14 06.8 -0.4**
baz=276,SNR=8.9
SML Sawmill 23.96 56 P **P** **00 14 06.8 -0.6**
baz=275,SNR=8.7
COLA College 24.07 48 P **P** **00 14 08.4 +0.2**
COLA IAmb IAmb 00 14 11.0
comp=Z,48nm,0.9s
COLA College 24.07 48 IAMs_20 IAMs_20 00 24 08.8
comp=Z,4µm,18.0s
COLA College 24.07 48 P **P** **00 14 08.6 +0.3**
baz=269
COLA College 24.07 48 P **P** **00 14 08.5 +0.2**
COLA pmax pmax
comp=Z,49nm,0.9s
COLA MLR MLR
comp=Z,4µm,18.0s
CCB Clear Creek Bu 24.09 49 IAMs_20 IAMs_20 00 23 51.3
comp=Z,5µm,18.0s
H24K Noodor Dome 24.10 46 IAMs_20 IAMs_20 00 23 49.6
comp=Z,5µm,20.0s
H24K Noodor Dome 24.10 46 P **P** **00 14 09.1 +0.4**
baz=267
WAT6 Susitna Watana 24.17 54 P **P** **00 14 08.8 -0.8**
baz=274
D24K Happy Valley 24.19 38 IAMs_20 IAMs_20 00 25 03.7
comp=Z,7µm,18.0s
D24K Happy Valley 24.19 38 P **P** **00 14 09.5 +0.1**
baz=258,SNR=33
M23K Glacier View 24.25 56 P **P** **00 14 09.9 -0.1**
baz=276
POKR Poker Plat Res 24.26 48 P **P** **00 14 10.3 +0.3**
POKR IAmb IAmb 00 14 33.9
comp=Z,79nm,1.4s
POKR Poker Plat Res 24.26 48 IAMs_20 IAMs_20 00 23 54.7
comp=Z,4µm,20.0s
POKR Poker Plat Res 24.26 48 P **P** **00 14 10.4 +0.3**
baz=269,SNR=19
DHY Denali Highway 24.31 53 P **P** **00 14 10.3 -0.5**
DHY IAmb IAmb 00 14 13.6
comp=Z,51nm,1.2s
DHY IAMs_20 IAMs_20 00 23 32.3
comp=Z,4µm,20.0s
DHY Denali Highway 24.31 53 P **P** **00 14 10.7 -0.1**
baz=273,SNR=19
G24K Hadweenzic Riv 24.33 44 IAMs_20 IAMs_20 00 23 47.6
comp=Z,4µm,20.0s
G24K Hadweenzic Riv 24.33 44 P **P** **00 14 10.9 +0.1**
baz=265
C24K Franklin Bluff 24.35 37 P **P** **00 14 10.8 0.0**
baz=257
SCM Sheep Creek Mo 24.43 56 P **P** **00 14 11.5 -0.3**
SCM Sheep Creek Mo 24.43 56 P **P** **00 14 11.7 -0.1**
baz=276,SNR=14
SCM Sheep Creek Mo 24.43 56 P **P** **00 14 11.5 -0.3**
SCM pmax pmax
comp=Z,113nm,1.1s
SCM MLR MLR
comp=Z,3µm,22.0s
HDA Harding Lake 24.46 50 P **P** **00 14 11.2 -0.7**
baz=271,SNR=32
IL31 24.48 49 P **P** **00 14 11.7 -0.4**
ILAR Eielson Array 24.48 49 P **P** **00 14 11.9 -0.3**
ILAR Eielson Array 24.48 49 P **P** **00 14 11.9 -0.3**
ILAR Eielson Array 24.48 49 P **P** **00 14 12.1 0.0**
comp=Z,51nm,1.0s,baz=257,slow=5.4,SNR=73
ILAR LR LR 00 24 23.3
comp=Z,5µm,18.9s,baz=260,slow=38
comp=Z,51nm,1.0s
P23K Montague Islan 24.65 60 P **P** **00 14 13.9 +0.2**
baz=280
USRK Ussuriysk Ar. 24.67 257 P **P** **00 14 12.7 -1.3**
comp=Z,4.4nm,0.8s,baz=49,slow=11,SNR=1.7
USRK LR LR 00 24 23.4
comp=Z,3µm,18.4s,baz=59,slow=38
comp=Z,4.4nm,0.8s
G25K Bearman Lake 24.88 44 P **P** **00 14 16.8 +1.1**
baz=266
M24K Tolsona, Glenn 24.94 55 P **P** **00 14 16.7 +0.3**
baz=276,SNR=11
FID Port Fidalgo 24.98 58 IAMs_20 IAMs_20 00 24 00.6
comp=Z,6µm,19.0s
K24K Donnelly Dome 24.99 51 P **P** **00 14 17.0 +0.3**
baz=273,SNR=7.7
HIN Hinchinbrook I 25.02 59 IAMs_20 IAMs_20 00 24 03.2
comp=Z,6µm,19.0s
PRP Porcupine Dome 25.07 47 IAMs_20 IAMs_20 00 24 09.1
comp=Z,5µm,20.0s
PRP Porcupine Dome 25.07 47 P **P** **00 14 18.1 +0.6**
baz=270,SNR=55
D25K Kavik River 25.08 38 P **P** **00 14 17.1 -0.4**
D25K IAmb IAmb 00 14 48.9
comp=Z,44nm,0.8s
D25K IAMs_20 IAMs_20 00 25 42.2
comp=Z,5µm,18.0s
D25K Kavik River 25.08 38 P **P** **00 14 17.6 +0.1**
baz=260
F25K Christian Rive 25.12 42 P **P** **00 14 17.6 -0.4**
baz=265,SNR=38
KLU Klutina 25.14 57 IAMs_20 IAMs_20 00 23 40.2
comp=Z,4µm,21.0s
KLU Klutina 25.14 57 P **P** **00 14 18.2 +0.1**
baz=278,SNR=6.0
J25K Salcha River, 25.14 49 IAMs_20 IAMs_20 00 24 12.0
comp=Z,4µm,20.0s
J25K Salcha River, 25.14 49 P **P** **00 14 16.7 -1.4**
baz=272
PAX Paxson 25.18 53 P **P** **00 14 18.2 -0.4**
baz=275,SNR=9.3
E25K Arctic Village 25.20 41 P **P** **00 14 18.4 -0.3**
baz=264,SNR=43
FYU Fort Yukon 25.21 44 P **P** **00 14 19.0 +0.3**
FYU IAMs_20 IAMs_20 00 24 24.9
comp=Z,5µm,20.0s
Q23K Middleton Isla 25.28 61 P **P** **00 14 20.3 +1.0**
baz=282
EYAK Cordova Ski Ar 25.36 59 P **P** **00 14 19.2 -0.9**
baz=280
HARP HAARP 25.39 54 P **P** **00 14 19.7 -0.6**
baz=276,SNR=5.3
RIDG Independent Ri 25.41 51 P **P** **00 14 19.7 -0.9**
RIDG IAmb IAmb 00 14 23.2
comp=Z,56nm,1.1s
RIDG IAMs_20 IAMs_20 00 24 45.2
comp=Z,5µm,19.0s
RIDG Independent Ri 25.41 51 P **P** **00 14 20.0 -0.5**
baz=274,SNR=28
BMAR Burnt Mountain 25.52 43 P **P** **00 14 22.0 +0.5**
F26K Sheenjek River 25.70 42 P **P** **00 14 23.0 -0.2**
baz=266
MDJ Mudanjiang 25.75 261 P **P** **00 14 24.0 +0.3**
MDJ pP pP 00 14 25.8 -3.7
MDJ S **S** **00 18 53.3 +1.7**
MDJ sS sS 00 19 01.5 +2.1
MDJ ScS **ScS** **00 25 19.3 -1.2**
MDJ pmax pmax
comp=Z,27nm,1.9s
MDJ pmax pmax
comp=Z,900nm,6.7s
MDJ LR LR
comp=Z,3µm,17.9s
MDJ LR LR
comp=Z,3µm,19.9s
MDJ LR LR
comp=Z,3µm,24.0s
MDJ Mudanjiang 25.75 261 P **P** **00 14 23.0 -0.7**
N25K Chitina, Valde 25.75 56 P **P** **00 14 24.1 +0.4**
baz=278,SNR=7.9
SCRK Sand Creek 25.77 51 IAMs_20 IAMs_20 00 25 03.8
comp=Z,3µm,18.0s
SCRK Sand Creek 25.77 51 P **P** **00 14 23.4 -0.5**
baz=274,SNR=31
G26K Porcupine Rive 25.80 44 P **P** **00 14 24.1 +0.1**
baz=268
BMRM Bremner River 25.85 57 P **P** **00 14 24.7 +0.1**
baz=280,SNR=6.6
J26L Joseph Creek 25.92 49 P **P** **00 14 25.2 -0.1**
baz=273,SNR=5.2
MENT Mentasta 25.98 53 P **P** **00 14 26.2 +0.5**
I26K Coal Creek Min 26.06 47 IAMs_20 IAMs_20 00 25 19.4
comp=Z,5µm,18.0s
I26K Coal Creek Min 26.06 47 P **P** **00 14 26.9 +0.6**
baz=272
KAIM Kayak Island 26.13 60 IAMs_20 IAMs_20 00 24 46.7
comp=Z,6µm,20.0s
KAIM Kayak Island 26.13 60 P **P** **00 14 28.0 +0.9**
baz=282
L26K Log Cabin Wild 26.14 53 IAMs_20 IAMs_20 00 24 50.7
comp=Z,5µm,20.0s
L26K Log Cabin Wild 26.14 53 P **P** **00 14 27.8 +0.6**
baz=277
GLB Gilahina Butte 26.15 56 IAMs_20 IAMs_20 00 24 22.9
comp=Z,4µm,20.0s
BNX BinXian 26.31 265 ⇑P **P** **00 14 28.0 -0.8**
BNX S **S** **00 19 01.0 +0.5**
BNX pmax pmax
comp=Z,14nm,1.1s
BNX pmax pmax
comp=Z,580nm,6.1s
BNX LR LR
comp=Z,2µm,13.5s
BNX LR LR
comp=Z,2µm,13.4s
BNX LR LR
comp=Z,2µm,12.5s
VRDI Verde Repeater 26.35 57 P **P** **00 14 29.5 +0.2**
VRDI IAMs_20 IAMs_20 00 24 19.4
comp=Z,4µm,20.0s
M26K Nabesna, AK 26.38 54 IAMs_20 IAMs_20 00 24 38.1
comp=Z,4µm,20.0s
M26K Nabesna, AK 26.38 54 P **P** **00 14 30.2 +0.8**
baz=278
MCARA McCarthy VSAT 26.53 56 IAMs_20 IAMs_20 00 24 25.0
comp=Z,4µm,20.0s
MCARA McCarthy VSAT 26.53 56 P **P** **00 14 31.2 +0.6**
baz=280
K27K Chicken 26.61 50 P **P** **00 14 31.8 +0.5**
baz=276
I27K Kandik River 26.69 47 P **P** **00 14 32.7 +0.6**
baz=273,SNR=10
H27K Steamboat Moun 26.70 45 P **P** **00 14 33.0 +0.8**
baz=272
L27K Beaver Creek, 26.83 52 P **P** **00 14 33.8 +0.5**
L27K IAmb IAmb 00 14 37.1
comp=Z,64nm,1.1s
L27K IAMs_20 IAMs_20 00 25 20.8
comp=Z,5µm,19.0s
L27K Beaver Creek, 26.83 52 P **P** **00 14 33.6 +0.2**
baz=278,SNR=39
BCAR Beaver Creek A 26.84 52 P **P** **00 14 33.9 +0.4**
SNH Sunshine Point 26.86 59 IAMs_20 IAMs_20 00 25 33.7
comp=Z,6µm,19.0s
M27K Edge Creek, AK 26.91 54 P **P** **00 14 34.7 +0.5**
baz=279,SNR=5.9
EGAK Eagle 26.94 49 IAMs_20 IAMs_20 00 25 37.6
comp=Z,4µm,19.0s
EGAK Eagle 26.94 49 P **P** **00 14 33.8 -0.5**
baz=275,SNR=25
MJB9 Matsu-Tunnel 26.95 237 P **P** **00 14 35.0 +0.3**
MJB9 IAmb IAmb 00 14 50.7
comp=Z,43nm,0.8s
MAJO Matsushiro 26.95 237 P **P** **00 14 34.5 -0.2**
MAJO IAmb IAmb 00 14 49.7
comp=Z,44nm,0.8s
MAJO Matsushiro 26.95 237 P **P** **00 14 34.5 -0.2**
MAJO pmax pmax
comp=Z,45nm,0.8s
MAJO MLR MLR
comp=Z,2µm,20.0s
MJAR Matsushiro Arr 26.95 237 P **P** **00 14 35.1 +0.4**
comp=Z,12nm,1.0s,baz=32,slow=8.7,SNR=22
MJAR LR LR 00 25 42.3
comp=Z,2µm,20.7s,baz=38,slow=38
comp=Z,12nm,1.0s
D27M Malcolm River 26.98 39 P **P** **00 14 34.7 0.0**
D27M IAmb IAmb 00 14 38.2
comp=Z,49nm,1.2s
D27M IAMs_20 IAMs_20 00 26 33.5
comp=Z,4µm,18.0s
BARN Barnard Glacie 27.24 57 IAMs_20 IAMs_20 00 24 48.8
comp=Z,5µm,21.0s
F28M Old Crow 27.33 42 P **P** **00 14 38.0 +0.2**
baz=270,SNR=33
BVCY Beaver Creek 27.36 54 P **P** **00 14 39.3 +1.1**
baz=280,SNR=8.7
I28M Miner Creek 27.40 47 P **P** **00 14 38.3 -0.2**
I28M IAmb IAmb 00 14 41.7
comp=Z,42nm,1.4s
I28M IAMs_20 IAMs_20 00 25 43.7
comp=Z,5µm,20.0s
I28M Miner Creek 27.40 47 P **P** **00 14 38.9 +0.4**
baz=275
CTG Chitna Glacier 27.41 57 P **P** **00 14 39.4 +0.6**
baz=282
CTGM Chitina Glacie 27.41 57 IAMs_20 IAMs_20 00 24 42.4
comp=Z,5µm,22.0s
E28M Babbage River 27.47 40 IAMs_20 IAMs_20 00 26 06.4
comp=Z,4µm,19.0s
E28M Babbage River 27.47 40 P **P** **00 14 38.7 -0.3**
baz=269
LOGN Logan Glacier 27.60 57 P **P** **00 14 40.4 -0.1**
LOGN IAMs_20 IAMs_20 00 24 59.4
comp=Z,4µm,22.0s
YUK3 Moose Creek 27.66 55 P **P** **00 14 41.4 +0.2**
baz=281
DAWY Dawson 27.77 50 P **P** **00 14 42.1 +0.2**
baz=278,SNR=12
D28M Stokes Point 27.78 38 P **P** **00 14 42.1 +0.4**
baz=268
H29M Whitestone 27.98 45 IAMs_20 IAMs_20 00 26 12.1
comp=Z,4µm,20.0s
H29M Whitestone 27.98 45 P **P** **00 14 44.5 +0.9**
baz=274
E29M Blow River 28.07 41 P **P** **00 14 44.6 +0.1**
baz=271
G29M Pine Creek 28.07 44 IAMs_20 IAMs_20 00 26 17.5
comp=Z,3µm,19.0s
G29M Pine Creek 28.07 44 P **P** **00 14 45.5 +1.0**
baz=273
I29M Ogilvie Camp, 28.09 47 P **P** **00 14 44.8 +0.2**
I29M IAmb IAmb 00 14 46.9
comp=Z,36nm,1.3s
I29M IAMs_20 IAMs_20 00 26 25.9
comp=Z,4µm,20.0s
I29M Ogilvie Camp, 28.09 47 P **P** **00 14 45.1 +0.5**
baz=276,SNR=10
YUK8 Steele Glacier 28.09 56 P **P** **00 14 46.0 +1.0**
baz=283
PINM Pinnacle 28.13 58 P **P** **00 14 46.1 +0.9**
baz=284
J29N Klondike Camp 28.23 49 IAMs_20 IAMs_20 00 26 46.8
comp=Z,4µm,18.0s
BOD Bodaibo 28.38 297 *eP* **P** **00 14 47.6 +0.4**
BOD pmax pmax
comp=Z,20nm,1.8s
M29M Somme Creek 28.46 53 IAMs_20 IAMs_20 00 26 21.9
comp=Z,4µm,20.0s
M29M Somme Creek 28.46 53 P **P** **00 14 48.9 +0.9**
baz=281
L29M L29M 28.48 52 IAMs_20 IAMs_20 00 26 31.5
comp=Z,4µm,19.0s
L29M L29M 28.48 52 P **P** **00 14 49.0 +0.8**
baz=280
CN2 Changchun 28.59 263 *eP* **P** **00 14 49.5 +0.2**
CN2 *es*P pP 00 14 56.0 +0.9
CN2 *eS* **S** **00 19 34.5 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,2µm,14.0s
YUK4 Talbot Arm 28.60 55 P **P** **00 14 50.2 +0.7**
baz=283,SNR=5.4
K29M Barlow Dome 28.62 50 IAMs_20 IAMs_20 00 27 11.2
comp=Z,3µm,18.0s
K29M Barlow Dome 28.62 50 P **P** **00 14 50.1 +0.6**
baz=280
EPYK Eagle Plains 28.63 45 IAMs_20 IAMs_20 00 26 22.3
comp=Z,4µm,20.0s
EPYK Eagle Plains 28.63 45 P **P** **00 14 49.9 +0.4**
baz=276
PNL Peninsula 28.66 59 P **P** **00 14 50.2 +0.4**
baz=286
HIA Hailar 28.75 277 P **P** **00 14 49.5 -1.2**
HIA Hailar 28.75 277 P **P** **00 14 49.5 -1.2**
HIA pmax pmax
comp=Z,9.0nm,1.1s
HIA MLR MLR
comp=Z,2µm,18.0s
G30M tAoh Zraii Nji 28.78 43 IAMs_20 IAMs_20 00 27 07.1
comp=Z,4µm,18.0s
G30M tAoh Zraii Nji 28.78 43 P **P** **00 14 51.1 +0.3**
baz=276
YUK6 Outpost Mounta 28.83 56 P **P** **00 14 52.1 +0.6**
baz=284
O29M Mount Kennedy 28.89 58 IAMs_20 IAMs_20 00 26 03.5
comp=Z,3µm,20.0s
O29M Mount Kennedy 28.89 58 P **P** **00 14 52.4 +0.4**
baz=285
F30M Barrier River 28.90 42 P **P** **00 14 52.6 +0.8**
baz=274
I30M Mount Dempster 28.91 47 IAMs_20 IAMs_20 00 26 50.6
comp=Z,4µm,20.0s
I30M Mount Dempster 28.91 47 P **P** **00 14 52.1 +0.1**
baz=278,SNR=11
J30M Hart River 29.02 48 P **P** **00 14 52.2 -0.9**
J30M Hart River 29.02 48 P **P** **00 14 53.7 +0.6**
baz=279
JHJ Hachijo jima 2 29.05 231 LR LR 00 28 08.4
comp=Z,341nm,19.8s,baz=60,slow=40
M30M Minto, Yukon 29.19 53 IAMs_20 IAMs_20 00 26 53.2
comp=Z,4µm,20.0s
M30M Minto, Yukon 29.19 53 P **P** **00 14 55.8 +1.3**
baz=282,SNR=5.0
HYT Haines Junctio 29.27 56 P **P** **00 14 56.1 +0.8**
baz=285
N30M Aishikik Lake 29.30 55 P **P** **00 14 56.9 +1.4**
baz=284
MAYO Mayo, Yukon 29.38 50 P **P** **00 14 56.6 +0.4**
baz=281
P29M Windy Craggy 29.48 59 P **P** **00 14 57.6 +0.6**
baz=287
G31M Satah River 29.55 43 P **P** **00 14 57.5 0.0**
G31M IAmb IAmb 00 15 28.2
comp=Z,33nm,1.1s
G31M IAMs_20 IAMs_20 00 27 11.4
comp=Z,3µm,19.0s
G31M Satah River 29.55 43 P **P** **00 14 58.3 +0.9**
baz=277
F31M Tsiigehtchic 29.69 42 P **P** **00 14 59.7 +0.9**
baz=276,SNR=22
INK Inuvik 29.69 41 P **P** **00 14 59.2 +0.4**
INK IAmb IAmb 00 15 29.4
comp=Z,24nm,0.9s
INK Inuvik 29.69 41 P **P** **00 15 00.0 +1.2**
baz=275,SNR=22
INK Inuvik 29.69 41 P **P** **00 14 59.2 +0.4**
INK pmax pmax
comp=Z,24nm,1.0s
P30M Million Dollar 29.72 57 P **P** **00 15 00.8 +1.6**
baz=286
N31M Braeburn, Yuko 29.91 54 IAMs_20 IAMs_20 00 27 11.3
comp=Z,3µm,20.0s
N31M Braeburn, Yuko 29.91 54 P **P** **00 15 01.3 +0.5**
baz=285
O30N Mendenhall 29.95 56 IAMs_20 IAMs_20 00 26 57.5
comp=Z,3µm,20.0s
O30N Mendenhall 29.95 56 P **P** **00 15 02.1 +0.8**
baz=286
PLBC Pleasant Camp 30.20 59 P **P** **00 15 04.5 +1.1**
baz=288
M31M Drury Creek, Y 30.36 53 IAMs_20 IAMs_20 00 27 31.3
comp=Z,3µm,20.0s
M31M Drury Creek, Y 30.36 53 P **P** **00 15 05.3 +0.4**
baz=285
WHY Whitehorse 30.55 56 P **P** **00 15 07.5 +0.9**
baz=287
SKAG Skagway 30.70 58 P **P** **00 15 09.1 +1.3**
baz=288
FARO Faro, Yukon 30.83 52 P **P** **00 15 10.2 +1.3**
baz=285
N32M Quiet Lake 31.25 54 P **P** **00 15 14.2 +1.5**
baz=287
P32M Atlin 31.44 57 P **P** **00 15 15.9 +1.5**
baz=289
R32K Eaglecrest 31.50 60 P **P** **00 15 16.7 +1.8**
baz=291
SIT Sitka 31.54 63 P **P** **00 15 17.3 +2.1**
baz=292
KSRS Korea Array 31.54 251 P **P** **00 15 16.3 +0.9**
comp=Z,5.1nm,0.8s,baz=40,slow=8.7,SNR=11
KSRS LR LR 00 29 47.3
comp=Z,398nm,18.1s,baz=40,slow=40
comp=Z,5.1nm,0.8s
JIS Juneau Island 31.56 60 P **P** **00 15 16.3 +1.0**
KSAR Wonju Array Be 31.57 252 P **P** **00 15 15.3 -0.3**
KSAR Wonju Array Be 31.57 252 P **P** **00 15 15.3 -0.3**
P33M Teslin, Yukon 31.66 56 IAMs_20 IAMs_20 00 27 59.8
comp=Z,4µm,20.0s
P33M Teslin, Yukon 31.66 56 P **P** **00 15 18.3 +1.9**
baz=289,SNR=6.7
S32K Killisnoo 31.76 62 IAMs_20 IAMs_20 00 27 06.5
comp=Z,3µm,22.0s
S32K Killisnoo 31.76 62 P **P** **00 15 19.2 +2.1**
baz=292
A36M Sachs Harbour 32.17 33 P **P** **00 15 20.7 +0.2**
A36M IAmb IAmb 00 15 24.4
comp=Z,22nm,1.0s
A36M Sachs Harbour 32.17 33 P **P** **00 15 21.6 +1.1**
baz=276,SNR=14
Q32M Nakina River 32.35 58 P **P** **00 15 22.8 +0.3**
Q32M IAMs_20 IAMs_20 00 29 32.0
comp=Z,3µm,18.0s
Q32M Nakina River 32.35 58 P **P** **00 15 24.4 +1.8**
baz=291

R33M	Jennings River	32.82	57	P	P	00 15 26.2	-0.4				
	baz=291										
T33K	Petersburg	32.83	62	P	P	00 15 26.4	-0.1				
	baz=294										
C36M	Paulatuk	32.95	38	P	P	00 15 27.6	+0.2				
C36M	Paulatuk	32.95	38	P	P	00 15 27.8	+0.4				
	baz=281,SNR=39										
U33K	Whale Pass	33.03	63	IAMs_20	IAMs_20	00 31 13.2					
	comp=Z,3µm,18.0s										
U33K	Whale Pass	33.03	63	P	P	00 15 28.0	-0.3				
	baz=295										
WRAK	Wrangell Islan	33.30	62	IAMs_20	IAMs_20	00 28 45.2					
	comp=Z,3µm,20.0s										
WRAK	Wrangell Islan	33.30	62	P	P	00 15 30.6	0.0				
	baz=295										
S34M	Telegraph Cree	33.30	59	IAMs_20	IAMs_20	00 30 25.2					
	comp=Z,3µm,20.0s										
S34M	Telegraph Cree	33.30	59	P	P	00 15 30.9	+0.3				
	baz=293,SNR=6.1										
JNU	Nakatsue	33.30	243	P	P	00 15 31.3	+0.4				
JNU	Nakatsue	33.30	243	LR	LR	00 29 42.9					
	comp=Z,627nm,18.8s,baz=40,slow=38										
CRAG	Craig	33.31	64	P	P	00 15 31.8	+1.2				
	baz=296										
JCJ	Chichijima	33.34	222	LR	LR	00 25 48.6					
	comp=Z,658nm,21.8s,baz=14,slow=30										
WTLY	Watson Lake, Y	33.59	55	P	P	00 15 35.1	+1.9				
	baz=291										
DLBC	Dease Lake	33.63	58	P	P	00 15 35.6	+1.9				
	baz=293,SNR=9.7										
DLBC	Dease Lake	33.63	58	LR	LR	00 29 56.8					
	comp=Z,1µm,18.6s,baz=300,slow=38										
XLT	XiLinHaoTe	33.86	272	*e*P	P	00 15 35.0	-0.8				
XLT				pP	pP	00 15 40.0	-1.1				
XLT				sP	sP	00 15 41.5	-0.7				
XLT				pmax	pmax						
	comp=Z,9.0nm,0.8s										
XLT				pmax	pmax						
	comp=Z,280nm,4.6s										
XLT				LR	LR						
	comp=Z,250nm,15.0s										
XLT				LR	LR						
	comp=Z,2µm,15.3s										
XLT				LR	LR						
	comp=Z,1µm,18.2s										
T35M	Bob Quinn	34.12	61	IAMs_20	IAMs_20	00 29 10.7					
	comp=Z,3µm,20.0s										
T35M	Bob Quinn	34.12	61	P	P	00 15 38.6	+0.8				
	baz=295,SNR=10										
V35K	Ketchikan	34.14	64	P	P	00 15 37.5	-0.4				
	baz=296										
DIB	Dawson Inlet,	34.68	68	P	P	00 15 43.6	+1.0				
DIB				IAmb	IAmb	00 15 47.0					
	comp=Z,42nm,1.2s										
U35K	Hyder	34.69	62	IAMs_20	IAMs_20	00 29 45.9					
	comp=Z,3µm,20.0s										
U35K	Hyder	34.69	62	P	P	00 15 41.7	-0.9				
	baz=296										
WRGLY	Wrigley	34.86	48	P	P	00 15 43.2	-0.9				
	baz=290,SNR=10										
H11N2	WAKE ISLAND Hy	35.63	179	T	T	00 53 10.5					
	baz=360,slow=76,SNR=388										
H11N3	WAKE ISLAND Hy	35.65	179	T	T	00 53 10.0					
	baz=360,slow=76,SNR=319										
H11N1	WAKE ISLAND Hy	35.65	179	T	T	00 53 10.7					
	baz=360,slow=76,SNR=412										
KOTAN	Kotaneelee Air	35.77	53	P	P	00 15 51.2	-0.8				
	baz=294,SNR=10										
IRK	Irkutsk	35.77	291	*e*P	P	00 15 50.4	-1.7				
IRK				pmax	pmax						
	comp=Z,61nm,3.1s										
NRIK	Noril'sk	36.20	324	P	P	00 15 55.3	-0.2				
NRIK	Noril'sk	36.20	324	*d i*P	P	00 15 55.5	0.0				
NRIK				pmax	pmax						
	comp=Z,14nm,1.5s										
NRIK	Noril'sk	36.20	324	P	P	00 15 54.5	-1.1				
	comp=Z,6.8nm,1.0s,baz=91,slow=9.6,SNR=6.4										
NRIK				LR	LR	00 30 55.0					
	comp=Z,2µm,20.0s,baz=78,slow=37										
	comp=Z,6.8nm,1.0s										
BJI	Beijing	36.30	266	P	P	00 15 58.0	+1.4				
BJI				S	S	00 21 39.0	+2.8				
BJI				LR	LR						
	comp=Z,1µm,12.7s										
BJI				LR	LR						
	comp=Z,1µm,14.4s										
BJI				LR	LR						
	comp=Z,2µm,14.0s										
BJT	Baijiatuan	36.31	266	P	P	00 15 57.3	+0.5				
BJT	Baijiatuan	36.31	266	P	P	00 15 57.3	+0.5				
BJT				pmax	pmax						
	comp=Z,16nm,1.5s										
BJT				MLR	MLR						
	comp=Z,2µm,20.0s										
ULN	Ulaanbaatar	36.62	284	P	P	00 15 59.7	+0.2				
ULN	Ulaanbaatar	36.62	284	P	P	00 15 59.7	+0.2				
ULN				pmax	pmax						
	comp=Z,9.0nm,1.0s										
ULN				MLR	MLR						
	comp=Z,800nm,19.0s										
ULN	Ulaanbaatar	36.62	284	P	P	00 15 56.2	-3.3				
	comp=Z,44nm,1.1s										
SONM	Songino Array	37.00	284	P	P	00 16 03.1	+0.4				
SONM	Songino Array	37.00	284	P	P	00 16 02.5	-0.3				
	comp=Z,4.5nm,0.7s,baz=61,slow=7.9,SNR=12										
SONM				PcP	PcP	00 18 22.8	-0.5				
	comp=Z,2.5nm,0.7s,baz=52,slow=4.3,SNR=3.6										
SONM				LR	LR	00 33 37.3					
	comp=Z,763nm,19.6s,baz=54,slow=40										
	comp=Z,4.5nm,0.7s										
ZAK	Zakamensk	37.28	289	*e*P	P	00 16 05.0	-0.1				
ZAK				pmax	pmax						
	comp=Z,4.0nm,1.0s										
BBB	Bella Bella	37.49	67	LR	LR	00 30 50.4					
	comp=Z,2µm,18.5s,baz=306,slow=35										
MOY	Mondy	37.81	292	*e*P	P	00 16 10.1	+0.6				
MOY				pmax	pmax						
	comp=Z,32nm,2.3s										
HHC	Hu-ho-hao-te	38.38	271	⇑P	P	00 16 14.0	-0.5				
HHC				pP	pP	00 16 19.5	-0.4				
HHC				PP	PnPn	00 17 50.8	+6.8				
HHC				S	S	00 22 06.0	-2.2				
HHC				pmax	pmax						
	comp=Z,8.0nm,0.5s										
HHC				pmax	pmax						
	comp=Z,740nm,6.2s										
HHC				LR	LR						
	comp=Z,3µm,12.8s										
HHC				LR	LR						
	comp=Z,3µm,12.3s										
HHC				LR	LR						
	comp=Z,5µm,12.2s										
EUNU	Eureka	38.75	15	P	P	00 16 17.2	+0.1				
YKA	Yellowknife Ar	38.87	47	P	P	00 16 18.7	+0.5				
	comp=Z,9.7nm,0.9s,baz=297,slow=8.1,SNR=66										
YKA				ScP	ScP	00 22 16.8	+1.3				
	comp=Z,1.6nm,1.2s,baz=306,slow=4.2,SNR=4.3										
YKA				LR	LR	00 32 59.2					
	comp=Z,2µm,19.9s,baz=296,slow=37										
	comp=Z,9.7nm,0.9s										
HNS	HongShan	38.94	265	⇑P	P	00 16 19.5	+0.5				
HNS				*e*S	S	00 22 16.0	-0.4				
HNS				pmax	pmax						
	comp=Z,9.0nm,1.0s										
HNS				LR	LR						
	comp=Z,3µm,19.1s										
HNS				LR	LR						
	comp=Z,2µm,18.3s										
HNS				LR	LR						
	comp=Z,2µm,20.6s										
BTO	Baotou	39.43	272	*e*P	P	00 16 23.0	-0.2				
BTO				pP	pP	00 16 27.5	-0.7				
BTO				sP	sP	00 16 30.0	+0.3				
BTO				PP	PnPn	00 17 57.0	+0.5				
BTO				S	S	00 22 27.3	+3.4				
BTO				sS	sS	00 22 32.5	+0.2				
BTO				SS	SS	00 25 07.5	-10				
BTO				pmax	pmax						
	comp=Z,35nm,1.0s										
BTO				pmax	pmax						
	comp=Z,1µm,9.3s										
BTO				LR	LR						
	comp=Z,9µm,15.6s										
BTO				LR	LR						
	comp=Z,6µm,14.4s										
BTO				LR	LR						
	comp=Z,6µm,15.7s										
HILA	High Level	39.70	53	P	P	00 16 25.9	+0.8				
RES	Resolute Bay	39.71	24	P	P	00 16 25.0	0.0				
RES	Resolute Bay	39.71	24	P	P	00 16 25.0	0.0				
RES				pmax	pmax						
	comp=Z,10.0nm,1.2s										
JOW	Kunigami	39.72	240	LR	LR	00 33 04.4					
	comp=Z,958nm,21.9s,baz=75,slow=37										
SSE	Sheshan	39.98	252	P	P	00 16 25.3	-2.5				
SSE				S	S	00 22 32.5	+0.4				
SSE				pmax	pmax						
	comp=Z,6.0nm,0.8s										
SSE				pmax	pmax						
	comp=Z,150nm,4.6s										
SSE				LR	LR						
	comp=Z,350nm,23.7s										
SSE				LR	LR						
	comp=Z,350nm,24.1s										
NJ2	Nanjing	40.52	255	*e*P	P	00 16 32.8	+0.6				
NJ2				sP	sP	00 16 40.3	+1.3				
NJ2				pmax	pmax						
	comp=Z,7.0nm,0.6s										
NJ2				pmax	pmax						
	comp=Z,240nm,4.1s										
NJ2				LR	LR						
	comp=Z,1µm,20.8s										
NJ2				LR	LR						
	comp=Z,2µm,19.9s										
NJ2				LR	LR						
	comp=Z,2µm,22.7s										
LYN	LuoYang	42.24	263	⇑P	P	00 16 47.0	+0.6				
LYN				pP	pP	00 16 51.5	-0.7				
LYN				pmax	pmax						
	comp=Z,16nm,0.7s										
LYN				pmax	pmax						
	comp=Z,440nm,4.9s										
LYN				LR	LR						
	comp=Z,2µm,18.2s										
LYN				LR	LR						
	comp=Z,2µm,15.6s										
LYN				LR	LR						
	comp=Z,3µm,18.2s										
D05A	Enumclaw	43.61	70	P	P	00 16 57.4	+0.1				
TULEG	Thule	43.73	16	IAMs_20	IAMs_20	00 34 38.3					
	comp=Z,2µm,20.0s										
WHN	Wuhan	44.16	258	P	P	00 17 05.8	+3.9				
WHN				pmax	pmax						
	comp=Z,1µm,3.2s										
B08A	Colville Reser	44.29	67	P	P	00 17 03.3	+0.5				
EDM	Edmonton	44.36	58	P	P	00 17 03.7	+0.4				
EDM	Edmonton	44.36	58	P	P	00 17 03.7	+0.4				
EDM				pmax	pmax						
	comp=Z,118nm,1.3s										
ZAA0	Zalesovo Array	44.64	304	P	P	00 17 05.0	-0.5				
ZALV	Zalesovo Beam	44.64	304	P	P	00 17 04.6	-0.9				
ZALV	Zalesovo Beam	44.64	304	P	P	00 17 04.4	-1.1				
	comp=Z,1.9nm,0.8s,baz=30,slow=6.8,SNR=6.1										
ZALV				PcP	PcP	00 18 47.2	-0.6				
	comp=Z,2.8nm,0.6s,baz=38,slow=2.2,SNR=7.6										
ZALV				LR	LR	00 38 10.7					
	comp=Z,667nm,18.4s,baz=44,slow=40										
GUMO	Guam	44.99	210	LR	LR	00 33 38.8					
	comp=Z,954nm,20.0s,baz=35,slow=33										
YHNB	Yeheng	45.00	246	IAMs_20	IAMs_20	00 35 08.2					
	comp=Z,2µm,21.0s										
NEEM	North Greenlan	45.35	11	*i*P	P	00 17 10.6	-0.6				
NEEM				IAmb	IAmb	00 17 43.1					
	comp=Z,13nm,0.9s										
SPITS	Spitsbergen Ar	45.41	352	P	P	00 17 10.9	-0.5				
SPITS				pmax	pmax						
	comp=Z,98nm,1.2s										
SPITS	Spitsbergen Ar	45.41	352	P	P	00 17 11.3	0.0				
	comp=Z,22nm,0.7s,baz=40,slow=7.7,SNR=14										
SPITS				LR	LR	00 36 10.1					
	comp=Z,568nm,19.8s,baz=352,slow=36										
	comp=Z,22nm,0.7s										
SPB2	Spitsbergen Ar	45.42	352	P	P	00 17 11.2	-0.2				
NEW	Newport	45.50	66	P	P	00 17 13.0	+0.5				
NEW	Newport	45.50	66	IAMs_20	IAMs_20	00 37 14.1					
	comp=Z,2µm,19.0s										
NEW	Newport	45.50	66	P	P	00 17 11.7	-0.8				
	baz=309,SNR=7.4										
NEW	Newport	45.50	66	P	P	00 17 13.0	+0.5				
NEW				pmax	pmax						
	comp=Z,13nm,1.0s										
NEW				MLR	MLR						
	comp=Z,2µm,19.0s										
NEW	Newport	45.50	66	LR	LR	00 34 15.2					
	comp=Z,1µm,21.3s,baz=303,slow=34										
SSLB	Suanglung	45.94	245	IAMs_20	IAMs_20	00 35 49.1					
	comp=Z,1µm,19.0s										
DGZ	Jazzator, Alta	45.96	298	⇑*e*P	P	00 17 15.8	-0.4				
DGZ				pmax	pmax						
	comp=Z,7.0nm,0.6s										
GTA	Gaotai	46.02	279	P	P	00 17 17.0	+0.2				
GTA				pP	pP	00 17 22.0	+0.1				
GTA				sP	sP	00 17 25.3	+0.7				
GTA				pmax	pmax						
	comp=Z,6.0nm,1.3s										
GTA				LR	LR						
	comp=Z,2µm,18.5s										
GTA				LR	LR						
	comp=Z,3µm,18.9s										
GTA				LR	LR						
	comp=Z,4µm,18.5s										
LZH	Lanzhou	46.05	272	*e*P	P	00 17 17.0	-0.1				
LZH				sP	sP	00 17 24.3	+0.7				
LZH				pmax	pmax						
	comp=Z,17nm,1.1s										
LZH				LR	LR						
	comp=Z,4µm,14.3s										
LZH				LR	LR						
	comp=Z,3µm,15.3s										
LZH				LR	LR						
	comp=Z,4µm,15.2s										
TPUB	Ta-pu	46.51	245	IAMs_20	IAMs_20	00 35 44.2					
	comp=Z,2µm,22.0s										
J05D	Fort Rock, OR	46.53	73	P	P	00 17 22.0	+1.3				
YBH	Yreka Blue Hor	46.76	76	LR	LR	00 35 18.2					
	comp=Z,856nm,18.3s,baz=313,slow=34										
ENH	Enshi	47.10	262	IAMs_20	IAMs_20	00 36 05.9					
	comp=Z,2µm,22.0s										
BMO	Blue Mountains	47.61	69	P	P	00 17 30.4	+1.3				
BMO				IAmb	IAmb	00 17 45.4					
	comp=Z,22nm,1.3s										
BMO				IAMs_20	IAMs_20	00 35 14.1					
	comp=Z,2µm,22.0s										
BMO	Blue Mountains	47.61	69	P	P	00 17 30.4	+1.3				
BMO				pmax	pmax						
	comp=Z,23nm,1.3s										
MSO	Missoula	48.08	65	P	P	00 17 34.0	+1.3				
MSO				IAmb	IAmb	00 17 49.5					
	comp=Z,26nm,1.2s										
MSO				IAMs_20	IAMs_20	00 35 25.2					
	comp=Z,1µm,22.0s										
MSO	Missoula	48.08	65	P	P	00 17 33.1	+0.4				
	baz=311,SNR=9.5										
PLID	Pearl Lake	48.15	68	P	P	00 17 34.5	+1.1				
PLID				IAMs_20	IAMs_20	00 36 14.3					
	comp=Z,2µm,20.0s										
OVMT	Ovando	48.41	64	P	P	00 17 36.4	+1.1				
BPMT	Black Pine Rid	48.59	65	P	P	00 17 36.8	-0.1				
FFC	Flin Flon	48.67	51	P	P	00 17 37.6	+0.6				
FFC	Flin Flon	48.67	51	P	P	00 17 37.6	+0.6				
FFC				pmax	pmax						
	comp=Z,11nm,1.1s										
ZSN	Zaisan	48.72	297	*e*P	P	00 17 38.4	+0.9				
	baz=297										
ZSN	Zaisan	48.72	297	*e*P	P	00 17 38.4	+0.9				
ORV	Oroville	48.91	77	P	P	00 17 39.2	+0.1				
ORV	Oroville	48.91	77	P	P	00 17 39.2	+0.1				
ORV				pmax	pmax						
	comp=Z,9.0nm,1.0s										
SEM	Semipalatinsk	49.06	302	*e*P	P	00 17 38.5	-1.9				
	baz=302										
SEM	Semipalatinsk	49.06	302	*e*P	P	00 17 38.4	-1.9				
FCC	Fort Churchill	49.27	43	P	P	00 17 41.8	+0.3				
FCC	Fort Churchill	49.27	43	P	P	00 17 41.8	+0.3				
FCC				pmax	pmax						
	comp=Z,27nm,0.8s										
EGMT	Eagleton	49.42	61	P	P	00 17 43.5	+0.6				
EGMT				IAmb	IAmb	00 18 59.8					
	comp=Z,20nm,0.8s										
EGMT	Eagleton	49.42	61	P	P	00 17 43.8	+0.8				
	baz=312										
AFDM	Forest Hills D	49.63	78	P	P	00 17 45.6	+1.0				
KURK	Kurchatov	49.63	304	P	P	00 17 43.4	-1.0				
KURK				IAmb	IAmb	00 17 47.0					
	comp=Z,24nm,0.9s										
KURK	Kurchatov	49.63	304	*c i*P	P	00 17 43.4	-1.0				
KURK				pmax	pmax						
	comp=Z,26nm,0.9s										
WMQ	Urumqi	49.68	291	*e*P	P	00 17 45.0	0.0				
WMQ				sP	sP	00 17 56.5	+3.9				
WMQ				pmax	pmax						
	comp=Z,19nm,1.3s										
WMQ				LR	LR						
	comp=Z,6µm,16.9s										
WMQ				LR	LR						
	comp=Z,4µm,18.1s										
WMQ				LR	LR						
	comp=Z,1µm,21.3s										
KURBB	Kurchatov Arra	49.74	303	P	P	00 17 44.2	-1.0				
	comp=Z,16nm,0.8s,baz=52,slow=7.5,SNR=87										
KURBB				LR	LR	00 40 50.5					
	comp=Z,1µm,18.5s,baz=113,slow=39										
	comp=Z,16nm,0.8s										
CD2	Chengdu	49.87	268	P	P	00 17 47.3	+0.7				
CD2				pmax	pmax						
	comp=Z,10.0nm,0.6s										
CD2				LR	LR						
	comp=Z,690nm,14.1s										
CD2				LR	LR						
	comp=Z,1µm,13.4s										
CD2				LR	LR						
	comp=Z,2µm,17.0s										
MPK	Martis Peak	49.91	77	P	P	00 17 47.9	+0.8				
HLID	Hailey	50.02	69	IAMs_20	IAMs_20	00 37 02.7					
	comp=Z,1µm,19.0s										
HLID	Hailey	50.02	69	P	P	00 17 49.2	+1.5				
	baz=313										
MK31	Makanchi Array	50.46	298	P	P	00 17 49.2	-1.6				
MK31	Makanchi Array	50.46	298	*c i*P	P	00 17 49.2	-1.6				
MKAR	Makanchi Array	50.46	298	P	P	00 17 49.3	-1.5				
MKAR	Makanchi Array	50.46	298	P	P	00 17 49.5	-1.3				
	comp=Z,6.8nm,0.7s,baz=50,slow=6.1,SNR=64										
MKAR				LR	LR	00 40 15.4					
	comp=Z,785nm,20.2s,baz=50,slow=37										
	comp=Z,6.8nm,0.7s										
YHL	Hebgen Lake	50.84	65	P	P	00 17 54.4	+0.4				
YHL				IAmb	IAmb	00 18 27.0					
	comp=Z,16nm,1.0s										
SUMG	Summit	51.12	9	P	P	00 17 56.3	+0.4				
SUMG	Summit	51.12	9	P	P	00 17 56.3	+0.4				
SUMG				pmax	pmax						
	comp=Z,98nm,1.7s										
SUMG	Summit	51.12	9	*i*P	P	00 17 54.4	-1.5				
SUMG				IAmb	IAmb	00 18 06.5					
	comp=Z,6.4nm,0.8s										
LKWY	Lake	51.44	65	P	P	00 17 59.3	+0.8				
LKWY				IAmb	IAmb	00 18 24.4					
	comp=Z,30nm,1.1s										
LKWY	Lake	51.44	65	P	P	00 17 59.3	+0.8				
LKWY				pmax	pmax						
	comp=Z,30nm,1.2s										
LKWY				MLR	MLR						
	comp=Z,3µm,20.0s										
YMP	Mirror Lake Pl	51.44	65	P	P	00 17 59.2	+0.7				
YMP				IAmb	IAmb	00 18 29.5					
	comp=Z,26nm,1.2s										
H17A	Grant Village	51.46	65	P	P	00 17 59.6	+1.0				
H17A				IAmb	IAmb	00 19 10.1					
	comp=Z,32nm,1.4s										
H17A	Grant Village	51.46	65	P	P	00 17 58.2	-0.5				
	baz=314,SNR=6.2										
NVAR	Mina Array Bea	51.48	76	P	P	00 17 59.3	+0.5				
NVAR	Mina Array Bea	51.48	76	P	P	00 17 59.4	+0.6				
	comp=Z,6.0nm,0.9s,baz=301,slow=7.3,SNR=17										
NVAR				LR	LR	00 37 38.0					
	comp=Z,903nm,20.4s,baz=313,slow=34										
	comp=Z,6.0nm,0.9s										
ELK	Elko	51.52	72	P	P	00 18 00.1	+0.9				
ELK	Elko	51.52	72	P	P	00 18 00.1	+0.9				
ELK				pmax	pmax						
	comp=Z,8.0nm,1.1s										
ELK	Elko	51.52	72	LR	LR	00 39 36.2					
	comp=Z,912nm,19.0s,baz=318,slow=36										
GYA	Guiyang	51.61	261	P	P	00 18 01.5	+1.7				
GYA				pmax	pmax						
	comp=Z,20nm,2.2s										
GYA				LR	LR						
	comp=Z,2µm,22.4s										
FLWY	Flagg Ranch	51.62	66	IAMs_20	IAMs_20	00 39 48.8					
	comp=Z,1µm,20.0s										
RLMT	Red Lodge	51.63	64	P	P	00 18 00.4	+0.5				
RLMT				IAmb	IAmb	00 18 22.7					
	comp=Z,32nm,1.2s										
RLMT				IAMs_20	IAMs_20	00 39 48.3					
	comp=Z,2µm,20.0s										
RLMT	Red Lodge	51.63	64	P	P	00 17 59.9	0.0				
	baz=314,SNR=11										
BVAR	Borovoye Array	51.82	310	P	P	00 18 00.2	-0.7				
	comp=Z,13nm,0.7s,baz=50,slow=7.5,SNR=77										
BVAR				LR	LR	00 42 39.2					
	comp=Z,2µm,18.6s,baz=44,slow=39										
	comp=Z,13nm,0.7s										
BRVK	Borovoye	51.84	310	P	P	00 18 00.4	-0.6				
BRVK				IAmb	IAmb	00 18 02.2					
	comp=Z,16nm,0.8s										
BRVK	Borovoye	51.84	310	P	P	00 18 00.4	-0.6				
BRVK				pmax	pmax						
	comp=Z,16nm,0.8s										
DGMT	Dagmar	51.85	58	P	P	00 18 01.5	+0.3				
	baz=314										
DGMT	Dagmar	51.85	58	P	P	00 18 03.6	+2.4				
	baz=314										
SNOW	Snow King Moun	52.02	66	IAMs_20	IAMs_20	00 41 21.5					
	comp=Z,1µm,21.0s										
LAO	LASA Array	52.09	61	P	P	00 18 03.6	+0.6				
LAO	LASA Array	52.09	61	P	P	00 18 03.4	+0.3				
	baz=314,SNR=13										
LAO	LASA Array	52.09	61	P	P	00 18 04.2	+1.1				
	baz=314,SNR=13										
ARCES	ARCESS Array B	52.17	344	P	P	00 18 03.4	+0.1				
	comp=Z,6.2nm,1.0s,baz=46,slow=5.5,SNR=1.8										
ARCES				PcP	PcP	00 19 15.3	+0.6				
	comp=Z,6.9nm,1.0s,baz=30,slow=6.2,SNR=4.8					

SBC Santa Barbara 53.56 81 P **P** **00 18 14.1 +0.1**
baz=317
MPMC Manual Prospec 53.63 78 P **P** **00 18 15.1 +0.4**
baz=317
TDK Taldyqorghan 53.66 298 *e*P **P** **00 18 14.6 0.0**
comp=Z,9.1nm,0.8s,baz=298
TDK Taldyqorghan 53.66 298 *e*P **P** **00 18 14.6 0.0**
TDK pmax pmax
comp=Z,9.0nm,0.8s
TPNV Topopah Spring 53.67 76 IAMs_20 IAMs_20 00 38 13.8
comp=Z,1μm,18.0s
TPNV Topopah Spring 53.67 76 P **P** **00 18 15.8 +0.8**
baz=316,SNR=9.4
FURC Furnace Creek, 53.68 77 P **P** **00 18 15.7 +0.8**
baz=317,SNR=12
NLU North Lily Min 53.79 70 P **P** **00 18 17.5 +1.6**
JMIC Jan Mayen 53.84 358 LR LR 00 40 08.3
comp=Z,421nm,19.4s,baz=20,slow=35
SCZ2 Santa Cruz Isl 53.93 81 P **P** **00 18 18.2 +1.4**
baz=316
LRMC Laurel Mtn Rad 53.94 78 P **P** **00 18 17.6 +0.6**
baz=317,SNR=6.8
OSI Osito Audit: C 53.99 80 P **P** **00 18 17.0 -0.2**
baz=317
TARA Tarawa 54.15 172 IAMs_20 IAMs_20 00 36 54.4
comp=Z,2μm,21.0s
ARU Arti 54.15 319 P **P** **00 18 17.2 -0.8**
ARU Arti 54.15 319 *c i*P **P** **00 18 17.2 -0.8**
ARU 00 19 16.0
ARU 00 20 14.3
ARU S **S** **00 25 55.7 +2.3**
ARU SS **SS** **00 29 35.4 +1.0**
ARU MLR MLR
comp=Z,969nm,18.0s
ARU Arti 54.15 319 LR LR 00 43 53.4
comp=Z,1μm,18.2s,baz=38,slow=39
EDW2 Edwards Air Fo 54.20 79 P **P** **00 18 19.5 +0.8**
baz=317,SNR=5.4
PZH PanZhiHua 54.36 266 P **P** **00 18 21.5 +1.4**
PZH S **S** **00 25 57.5 +0.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,220nm,4.4s
PZH LR LR
comp=Z,860nm,22.2s
PZH LR LR
comp=Z,1μm,19.2s
PZH LR LR
comp=Z,900nm,21.8s
SHOC Shoshone, Teco 54.42 77 P **P** **00 18 21.0 +0.7**
baz=317,SNR=5.4
SHLS Shalkode 54.44 296 *e*P **P** **00 18 18.0 -2.4**
comp=Z,6.1nm,0.5s,baz=296
SHLS Shalkode 54.44 296 *e*P **P** **00 18 18.0 -2.4**
SHLS pmax pmax
comp=Z,6.0nm,0.5s
ULM Lac du Bonnet 54.46 51 P **P** **00 18 20.6 +0.2**
ULM IAmb IAmb 00 18 36.1
comp=Z,33nm,1.4s
ULM Lac du Bonnet 54.46 51 P **P** **00 18 20.6 +0.2**
comp=Z,10nm,1.0s,baz=289,slow=6.8,SNR=9.0
ULM LR LR 00 42 32.6
comp=Z,3μm,19.9s,baz=324,slow=37
comp=Z,10nm,1.0s
DECC Green Verdugo 54.47 80 P **P** **00 18 21.7 +1.0**
baz=318
MDND Maddock 54.48 56 P **P** **00 18 20.9 +0.4**
MDND Maddock 54.48 56 P **P** **00 18 20.1 -0.5**
baz=316,SNR=5.1
MDND Maddock 54.48 56 P **P** **00 18 23.7 +3.2**
baz=316,SNR=5.1
SNCC San Nicolas Is 54.55 81 P **P** **00 18 22.2 +1.0**
baz=318
GSC Goldstone, Bar 54.56 78 P **P** **00 18 21.4 0.0**
baz=317,SNR=14
KPKS Kokpek 54.61 297 *e*P **P** **00 18 21.2 -0.5**
baz=297
KPKS Kokpek 54.61 297 *e*P **P** **00 18 21.1 -0.5**
RRX Edison Barstow 54.77 78 P **P** **00 18 23.4 +0.6**
baz=317
SFJD Kangerlussuaq 54.78 17 LR LR 00 43 48.0
comp=Z,976nm,20.0s,baz=324,slow=38
K22A Casper 54.78 64 P **P** **00 18 23.6 +0.6**
K22A IAmb IAmb 00 18 39.5
comp=Z,36nm,1.5s
K22A Casper 54.78 64 P **P** **00 18 23.0 0.0**
baz=316
BFSC Mount Baldy Ra 54.86 79 P **P** **00 18 24.4 +0.7**
baz=318
KMI Kunming 54.86 264 ⇓P **P** **00 18 25.3 +1.4**
KMI pmax pmax
comp=Z,260nm,9.0s
KMI LR LR
comp=Z,2μm,21.1s
KMI LR LR
comp=Z,2μm,21.7s
KMI LR LR
comp=Z,840nm,28.9s
FMP Fort Macarthur 54.89 80 P **P** **00 18 24.4 +0.7**
baz=318
TUQ Turquoise Moun 54.95 77 P **P** **00 18 25.6 +1.3**
baz=317
RSSD Black Hills 54.99 62 P **P** **00 18 24.9 +0.3**
RSSD IAmb IAmb 00 18 27.5
comp=Z,18nm,1.1s
RSSD Black Hills 54.99 62 IAMs_20 IAMs_20 00 41 47.0
comp=Z,2μm,21.0s
RSSD Black Hills 54.99 62 P **P** **00 18 25.1 +0.6**
baz=316
RSSD Black Hills 54.99 62 P **P** **00 18 25.2 +0.6**
baz=316,SNR=11
RSSD Black Hills 54.99 62 P **P** **00 18 24.9 +0.3**
RSSD pmax pmax
comp=Z,18nm,1.1s
RSSD MLR MLR
comp=Z,2μm,21.0s
CIS Catalina Islan 55.06 80 P **P** **00 18 26.5 +1.6**
baz=318
RWWY Rawlins 55.12 66 IAMs_20 IAMs_20 00 42 42.5
comp=Z,2μm,22.0s
HEC Hector,Ludlow 55.17 78 P **P** **00 18 26.3 +0.5**
baz=318
BBRC Big Bear Solar 55.26 79 P **P** **00 18 25.2 -1.4**
baz=318
GMRC Granite Mounta 55.58 77 P **P** **00 18 28.5 -0.3**
baz=318,SNR=13
MURC Murrieta 55.59 79 P **P** **00 18 29.1 +0.3**
baz=318,SNR=5.3
MDOK Medeo 55.66 298 *e*P **P** **00 18 28.2 -1.1**
baz=297
MDOK Medeo 55.66 298 *e*P **P** **00 18 28.0 -1.1**
KIRV Kirov 55.67 326 ⇓*e*P **P** **00 18 28.0 -0.9**
KIRV Kirov 55.67 326 LR LR 00 45 25.7
comp=Z,1μm,18.8s,baz=34,slow=39
O20A White River Ci 55.70 68 P **P** **00 18 31.3 +1.6**
O20A IAmb IAmb 00 19 26.1
comp=Z,28nm,1.1s
O20A White River Ci 55.70 68 P **P** **00 18 30.2 +0.5**
baz=317,SNR=7.8
QIZ Qiongzhong 55.75 253 P **P** **00 18 28.3 -1.7**
QIZ PcS **PcS** **00 23 28.0 -1.5**
QIZ S **S** **00 26 19.0 +3.3**
QIZ LR LR
comp=Z,670nm,20.2s
QIZ LR LR
comp=Z,1μm,17.6s
QIZ LR LR
comp=Z,950nm,20.2s
BTLS Baital 55.79 301 *e*P **P** **00 18 29.5 -0.5**
baz=301
BTLS Baital 55.79 301 *e*P **P** **00 18 29.5 -0.5**
AGMN Agassiz Nation 55.88 53 P **P** **00 18 30.5 -0.2**
baz=317,SNR=8.3
AGMN Agassiz Nation 55.88 53 P **P** **00 18 33.1 +2.4**
baz=317,SNR=8.3
BELC Belle Mtn. Jos 55.97 78 P **P** **00 18 32.5 +0.9**
baz=318
PFO Pinyon Flats O 56.00 79 P **P** **00 18 32.3 +0.5**
PFO Pinyon Flats O 56.00 79 P **P** **00 18 32.7 +0.9**
baz=318
PFO Pinyon Flats O 56.00 79 P **P** **00 18 32.3 +0.5**
PFO pmax pmax
comp=Z,13nm,1.2s
PFO Pinyon Flats O 56.00 79 LR LR 00 38 58.1
comp=Z,699nm,21.1s,baz=314,slow=32
TPFO Pinon Flats 56.00 79 P **P** **00 18 33.1 +1.2**
baz=318
NEE2 Needles Airpor 56.17 77 P **P** **00 18 34.4 +1.5**
baz=318
109C Camp Elliot, M 56.17 80 P **P** **00 18 33.4 +0.5**
baz=318
U15A North Rim 56.23 74 P **P** **00 18 35.4 +1.7**
U15A IAmb IAmb 00 19 10.7
comp=Z,18nm,1.1s
IRM Iron Mountain 56.33 77 P **P** **00 18 34.6 +0.6**
baz=318,SNR=15
N23A Red Feather La 56.35 65 P **P** **00 18 35.0 +0.6**
N23A IAmb IAmb 00 18 51.3
comp=Z,18nm,0.9s
N23A Red Feather La 56.35 65 P **P** **00 18 34.8 +0.3**
baz=317,SNR=6.9
BC3 Big Chuckawall 56.53 78 P **P** **00 18 37.0 +1.4**
baz=318
MONP2 Monument Peak 56.55 79 P **P** **00 18 35.6 -0.3**
baz=318
KLMR Klimovskoe 56.73 332 *e*P **P** **00 18 35.2 -1.3**
KLMR *e* 00 20 40.1
KLMR pmax pmax
comp=Z,42nm,1.9s
KLMR MLR MLR
comp=Z,2μm,18.0s
PDMCI Parker Dam,Lak 56.78 77 P **P** **00 18 37.1 -0.1**
baz=318
B35A Bob, Littlefor 56.80 52 P **P** **00 18 38.0 +0.8**
baz=318,SNR=5.7
SWSC Sam W. Stewart 56.86 79 P **P** **00 18 38.0 +0.2**
baz=318
IKP In-Ko-Pah, Jac 56.91 79 P **P** **00 18 37.8 -0.5**
baz=319
SMCO Snowmass 57.07 68 IAMs_20 IAMs_20 00 43 34.2
comp=Z,1μm,22.0s
SLVN Son La 57.19 260 IAMs_20 IAMs_20 00 42 59.5
comp=Z,1μm,22.0s
SUSD Miller 57.26 58 P **P** **00 18 39.2 -1.3**
baz=318
ISCO Idaho Springs 57.33 66 P **P** **00 18 42.4 +1.0**
ISCO IAmb IAmb 00 18 45.6
comp=Z,31nm,1.1s
ISCO IAMs_20 IAMs_20 00 43 53.9
comp=Z,1μm,20.0s
ISCO Idaho Springs 57.33 66 P **P** **00 18 40.7 -0.7**
baz=318,SNR=23
ISCO Idaho Springs 57.33 66 P **P** **00 18 42.9 +1.5**
baz=318,SNR=23
ISCO Idaho Springs 57.33 66 P **P** **00 18 42.4 +1.0**
ISCO pmax pmax
comp=Z,31nm,1.2s
ISCO MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 57.33 299 P **P** **00 18 40.3 -0.9**
AAK Ala-Archa 57.33 299 ⇓*i*P **P** **00 18 40.8 -0.4**
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 57.33 299 LR LR 00 46 03.5
comp=Z,1μm,18.8s,baz=38,slow=39
TNCH TengChong 57.34 267 P **P** **00 18 42.0 +0.5**
TNCH pP pP 00 18 45.3 -1.4
TNCH S **S** **00 26 34.8 -2.2**
TNCH pmax pmax
comp=Z,42nm,0.4s
TNCH pmax pmax
comp=Z,290nm,5.5s
TNCH LR LR
comp=Z,930nm,16.7s
TNCH LR LR
comp=Z,850nm,15.8s
TNCH LR LR
comp=Z,730nm,21.5s
WUAZ Wupatki 57.40 74 P **P** **00 18 42.7 +0.9**
WUAZ IAmb IAmb 00 18 45.9
comp=Z,25nm,1.4s
WUAZ Wupatki 57.40 74 P **P** **00 18 42.3 +0.5**
baz=318,SNR=6.8
NRN Naryn 57.45 297 P **P** **00 18 41.5 -0.8**
NRN Naryn 57.45 297 P **P** **00 18 41.5 -0.8**
NRN pmax pmax
comp=Z,59nm,2.0s
F33A 5 Mile Ranch, 57.50 55 P **P** **00 18 42.9 +0.7**
F33A IAmb IAmb 00 18 44.9
comp=Z,25nm,1.1s
F33A 5 Mile Ranch, 57.50 55 P **P** **00 18 43.0 +0.8**
baz=318,SNR=7.0
MVCO Mesa Verde 57.71 70 IAMs_20 IAMs_20 00 44 41.6
comp=Z,1μm,21.0s
MVCO Mesa Verde 57.71 70 P **P** **00 18 43.9 -0.2**
baz=318,SNR=5.8
LSA Lhasa 57.96 277 P **P** **00 18 45.6 -0.6**
LSA IAMs_20 IAMs_20 00 45 46.3
comp=Z,1μm,19.0s
LSA Lhasa 57.96 277 P **P** **00 18 45.6 -0.6**
LSA pmax pmax
comp=Z,9.0nm,1.0s
LSA MLR MLR
comp=Z,1μm,19.0s
EYMN Ely 58.11 51 P **P** **00 18 46.2 -0.2**
baz=319
Q24A Divide 58.18 67 P **P** **00 18 46.6 -0.8**
baz=318,SNR=5.3
S22A 4UR Ranch, Cre 58.20 69 P **P** **00 18 46.7 -0.9**
baz=318,SNR=18
OGNE Ogallala 58.32 63 IAMs_20 IAMs_20 00 42 59.1
comp=Z,2μm,22.0s
OGNE Ogallala 58.32 63 P **P** **00 18 47.6 -0.5**
baz=318
W18A Petrified Fore 58.59 73 P **P** **00 18 49.9 -0.3**
baz=319
F36A Milaca 58.77 54 P **P** **00 18 51.8 +0.8**
F36A IAmb IAmb 00 19 13.2
comp=Z,32nm,1.4s
KSH Kashi 58.89 295 P **P** **00 18 55.5 +3.4**
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH LR LR
comp=Z,2μm,18.4s
KSH LR LR
comp=Z,2μm,18.6s
KSH LR LR
comp=Z,880nm,14.8s
SDCO Great Sand Dun 58.91 68 P **P** **00 18 53.3 +0.8**
SDCO IAmb IAmb 00 18 56.4
comp=Z,20nm,1.2s
SDCO IAMs_20 IAMs_20 00 44 58.8
comp=Z,2μm,21.0s
SDCO Great Sand Dun 58.91 68 P **P** **00 18 51.7 -0.8**
baz=318,SNR=12
SDCO Great Sand Dun 58.91 68 P **P** **00 18 53.6 +1.1**
baz=318,SNR=12
ECSD EROS Data Cent 58.92 57 P **P** **00 18 52.1 0.0**
ECSD IAmb IAmb 00 18 55.1
comp=Z,17nm,0.9s
AKTO Aktyubinsk 58.93 315 LR LR 00 44 15.3
comp=Z,746nm,19.5s,baz=30,slow=36
KK31 Karatay Array 58.94 302 P **P** **00 18 51.1 -1.1**
KK31 IAmb IAmb 00 19 34.5
comp=Z,20nm,1.6s
KK31 Karatay Array 58.94 302 P **P** **00 18 51.2 -1.1**
KK31 pmax pmax
comp=Z,20nm,1.6s
KKAR Karatay Array 58.94 302 P **P** **00 18 51.0 -1.3**
KKAR Karatay Array 58.94 302 P **P** **00 18 51.0 -1.3**
ABKAR Akbulak array 59.05 313 P **P** **00 18 52.1 -0.9**
ABKAR IAmb IAmb 00 18 54.9
comp=Z,25nm,1.8s
ABKAR Akbulak array 59.05 313 P **P** **00 18 52.0 -0.9**
ARSB Arslanbob 59.06 299 P **P** **00 18 52.5 -0.8**
ARSB Arslanbob 59.06 299 P **P** **00 18 52.5 -0.8**
ARSB pmax pmax
comp=Z,4.0nm,1.2s
214A Organ Pipe Nat 59.27 77 P **P** **00 18 54.0 -0.8**
baz=319
FINES FINESS Array B 59.38 339 P **P** **00 18 54.6 -0.4**
FINES FINESS Array B 59.38 339 *i*P **P** **00 18 54.7 -0.3**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 59.38 339 P **P** **00 18 54.4 -0.6**
comp=Z,5.8nm,0.8s,baz=14,slow=8.5,SNR=12
FINES LR LR 00 48 22.8
comp=Z,454nm,18.3s,baz=28,slow=40
comp=Z,5.8nm,0.8s
KSCO Kaye Shedlock' 59.46 65 P **P** **00 18 56.8 +0.7**
KSCO Kaye Shedlock' 59.46 65 P **P** **00 18 55.4 -0.7**
baz=319
SPMN Marine on St. 59.58 54 P **P** **00 18 56.9 +0.3**
SPMN IAmb IAmb 00 18 59.5
comp=Z,19nm,0.9s
SPMN Marine on St. 59.58 54 P **P** **00 18 57.7 +1.1**
baz=320
BGNE Belgrade 59.92 60 P **P** **00 18 59.1 0.0**
BGNE Belgrade 59.92 60 P **P** **00 18 59.1 0.0**
baz=319,SNR=7.3
BGNE Belgrade 59.92 60 P **P** **00 18 59.7 +0.6**
baz=319,SNR=7.3
BORG Borgarnes 60.01 4 LR LR 00 44 28.7
comp=Z,797nm,20.2s,baz=351,slow=36
CRAI Chiangrai 60.05 262 P **P** **00 18 60.0 -0.2**
CRAI IAmb IAmb 00 19 55.4
comp=Z,18nm,1.6s
TUC Tucson 60.13 76 P **P** **00 19 02.5 +1.8**
TUC IAmb IAmb 00 19 04.5
comp=Z,14nm,1.3s
TUC Tucson 60.13 76 P **P** **00 19 01.4 +0.7**
baz=320
TUC Tucson 60.13 76 P **P** **00 19 02.5 +1.8**
TUC pmax pmax
comp=Z,14nm,1.3s
I37B Waseca 60.22 55 P **P** **00 19 02.0 +0.9**
baz=320,SNR=12
L34A Svendsen Farm, 60.36 58 P **P** **00 19 02.2 +0.1**
baz=320,SNR=6.3
ANMO Albuquerque 60.49 71 P **P** **00 19 04.5 +1.2**
ANMO IAmb IAmb 00 19 07.0
comp=Z,12nm,1.1s
ANMO Albuquerque 60.49 71 IAMs_20 IAMs_20 00 46 26.1
comp=Z,1μm,22.0s
ANMO Albuquerque 60.49 71 P **P** **00 19 03.4 0.0**
baz=319
ANMO Albuquerque 60.49 71 P **P** **00 19 04.6 +1.2**
baz=319,SNR=12
ANMO Albuquerque 60.49 71 ⇓*i*P **P** **00 19 04.7 +1.4**
ANMO pmax pmax
comp=Z,13nm,1.1s
SHL Shillong 60.70 273 P **P** **00 19 03.5 -1.3**
SHL IAmb IAmb 00 21 01.1
comp=Z,10nm,0.5s
SHL Shillong 60.70 273 P **P** **00 19 03.5 -1.3**
SHL pmax pmax
comp=Z,10.0nm,0.5s
Y22D IRIS PASSCAL I 60.90 71 IAMs_20 IAMs_20 00 44 30.0
comp=Z,954nm,20.0s
Y22D IRIS PASSCAL I 60.90 71 P **P** **00 19 06.0 -0.1**
baz=320
Y22F Passcal Instru 60.90 71 P **P** **00 19 06.4 +0.3**
baz=320
Y22A Socorro 60.98 72 P **P** **00 19 08.4 +1.7**
baz=320,SNR=9.0
CBKS Cedar Bluff 61.09 63 P **P** **00 19 06.7 -0.4**
CBKS IAMs_20 IAMs_20 00 44 31.3
comp=Z,1μm,20.0s
CBKS Cedar Bluff 61.09 63 P **P** **00 19 07.8 +0.7**
baz=320,SNR=7.0
CBKS Cedar Bluff 61.09 63 P **P** **00 19 07.4 +0.3**
baz=320,SNR=7.0
CBKS Cedar Bluff 61.09 63 P **P** **00 19 06.7 -0.4**
CBKS pmax pmax
comp=Z,33nm,0.9s
BTK Batken 61.09 299 P **P** **00 19 06.2 -1.0**
BTK IAmb IAmb 00 19 08.2
comp=Z,9.8nm,0.8s
BTK Batken 61.09 299 P **P** **00 19 06.2 -1.0**
BTK pmax pmax
comp=Z,10.0nm,0.8s
BELG Belogornoye 61.28 322 ⇓*i*P **P** **00 19 07.5 -0.6**
BELG pmax pmax
comp=Z,5.0nm,1.1s
BELG Belogornoye 61.28 322 LR LR 00 49 13.4
comp=Z,780nm,18.6s,baz=38,slow=40
N35A Tabor 61.56 59 P **P** **00 19 10.9 +0.6**
baz=320,SNR=5.6
121A Cookes Peak, D 61.60 73 P **P** **00 19 11.9 +1.1**
121A IAmb IAmb 00 20 30.7
comp=Z,16nm,1.2s
121A Cookes Peak, D 61.60 73 P **P** **00 19 10.9 0.0**
baz=320
MOS Moscow 61.62 330 *e*P **P** **00 19 10.4 0.0**
MOS pmax pmax
comp=Z,23nm,1.1s
MOS MLR MLR
comp=Z,1μm,18.0s
SCHQ Schefferville 61.77 32 P **P** **00 19 11.1 -0.3**
SCHQ Schefferville 61.77 32 P **P** **00 19 10.7 -0.7**
comp=Z,8.1nm,0.7s,baz=359,slow=7.4,SNR=23
comp=Z,8.1nm,0.7s
SCIA State Center 61.93 56 P **P** **00 19 13.0 +0.3**
SCIA State Center 61.93 56 P **P** **00 19 12.2 -0.5**
baz=321
SCIA State Center 61.93 56 P **P** **00 19 13.5 +0.8**
baz=321
VSU Vasula 61.95 337 ⇓*e*P **P** **00 19 11.6 -1.0**
VSU pmax pmax
comp=Z,80nm,2.3s
CHTO Chiang Mai 61.99 263 P **P** **00 19 12.9 -0.5**
CHTO Chiang Mai 61.99 263 IAMs_20 IAMs_20 00 46 16.5
comp=Z,1μm,22.0s
CHTO Chiang Mai 61.99 263 P **P** **00 19 12.9 -0.5**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO MLR MLR
comp=Z,1μm,22.0s
CHTO Chiang Mai 61.99 263 P **P** **00 19 13.4 0.0**
comp=Z,9.1nm,0.9s
NB201 NORSAR Array S 62.23 347 P **P** **00 19 14.2 -0.3**
NB2 NORSAR Subarra 62.25 347 P **P** **00 19 13.6 -1.0**
comp=Z,2.0nm,0.6s,baz=17,slow=6.9
NOA NORSAR Array B 62.25 347 P **P** **00 19 14.0 -0.6**
comp=Z,3.3nm,0.8s,baz=17,slow=6.8,SNR=8.9
NOA LR LR 00 46 07.3
comp=Z,460nm,21.6s,baz=0.0,slow=36
comp=Z,3.3nm,0.8s
CMAR Chiang Mai Arr 62.27 262 P **P** **00 19 15.2 -0.1**
CMAR Chiang Mai Arr 62.27 262 *i*P **P** **00 19 15.8 +0.5**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 62.27 262 P **P** **00 19 15.0 -0.3**
comp=Z,4.3nm,0.8s,baz=20,slow=7.2,SNR=19
CMAR LR LR 00 48 57.4
comp=Z,773nm,19.2s,baz=50,slow=39
comp=Z,4.3nm,0.8s
KSU1 Kansas State U 62.44 61 P **P** **00 19 15.9 -0.3**
KSU1 Kansas State U 62.44 61 P **P** **00 19 16.8 +0.6**
baz=320
KSU1 Kansas State U 62.44 61 P **P** **00 19 16.1 0.0**
baz=320
OBN Obninsk 62.47 330 *e*P **P** **00 19 15.5 -0.5**
OBN pmax pmax
comp=Z,24nm,1.6s
OBN Obninsk 62.47 330 LR LR 00 49 27.8
comp=Z,1μm,18.8s,baz=9.5,slow=39
JFWS Jewell Farm 62.53 54 P **P** **00 19 16.7 -0.1**
baz=321
HSIG 62.54 78 P **P** **00 19 18.1 +1.1**
HFS Hagfors 62.77 345 P **P** **00 19 17.1 -0.9**
comp=Z,3.1nm,0.5s,baz=67,slow=3.7,SNR=8.8
HFS LR LR 00 45 53.9
comp=Z,893nm,21.7s,baz=2.0,slow=35
comp=Z,3.1nm,0.5s
EPT El Paso 62.88 73 IAMs_20 IAMs_20 00 45 18.4
comp=Z,1μm,19.0s
SWI Sorong 63.04 220 P **P** **00 19 23.7 +3.4**
SIJI Sorong 63.04 220 P **P** **00 19 23.3 +2.9**
comp=Z,32nm,1.7s,comp=Z,699nm
SIMJ Simiganj 63.06 299 P **P** **00 19 19.2 -1.3**
AMTX Amarillo 63.08 67 P **P** **00 19 20.8 +0.2**
AMTX IAmb IAmb 00 19 23.6
comp=Z,19nm,1.2s
AMTX IAMs_20 IAMs_20 00 45 32.4
comp=Z,1μm,21.0s
AMTX Amarillo 63.08 67 P **P** **00 19 20.9 +0.3**
baz=320
BRDH Bariadhala 63.09 271 LR LR 00 49 21.8
comp=Z,1μm,18.7s,baz=174,slow=38
MSTX Muleshoe 63.21 69 P **P** **00 19 21.4 -0.1**
MSTX Muleshoe 63.21 69 P **P** **00 19 22.0 +0.5**
baz=320,SNR=9.3
MSTX Muleshoe 63.21 69 P **P** **00 19 22.1 +0.6**
baz=320,SNR=9.3
OK035 E0210 Rd and N 63.22 64 IAMs_20 IAMs_20 00 46 20.9
comp=Z,1μm,22.0s
OK038 West end E0370 63.38 64 IAMs_20 IAMs_20 00 46 03.1
comp=Z,1μm,22.0s
OK032 Salt Plains WL 63.40 63 IAMs_20 IAMs_20 00 48 01.6

comp=Z,1µm,19.0s
GLMI Grayling 63.53 49 P P 00 19 24.0 +0.7
baz=323
MNTX Cornudas Mount 63.55 72 P P 00 19 23.7 0.0
baz=321,SNR=29
MNTX Cornudas Mount 63.55 72 P P 00 19 24.7 +1.1
baz=321,SNR=29
SMWD Samnorwood 63.66 66 P P 00 19 25.1 +0.6
VLDQ Val d'Or 63.77 42 P P 00 19 23.2 -1.7
LPSR Galich'ya Gora 63.95 327 *eP* **P 00 19 23.2 -2.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
L44A Lake County Fo 64.18 53 P P 00 19 26.9 -0.7
baz=323
VRH Novokhopyorsk 64.27 325 *eP* **P 00 19 24.9 -3.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
P40A Paris 64.33 57 P P 00 19 28.3 -0.4
baz=322,SNR=14
OK029 Liberty Lake 64.57 64 IAMs_20 IAMs_20 00 48 50.5
comp=Z,1µm,21.0s
OK033 Mehan 64.64 63 IAMs_20 IAMs_20 00 50 06.3
comp=Z,1µm,20.0s
WMOK Wichita Mounta 64.71 65 P P 00 19 31.4 +0.2
WMOK IAMs_20 IAMs_20 00 50 35.3
comp=Z,1µm,18.0s
WMOK Wichita Mounta 64.71 65 P P 00 19 32.1 +0.8
baz=321
WMOK Wichita Mounta 64.71 65 P P 00 19 31.4 +0.2
WMOK pmax pmax
comp=Z,25nm,1.0s
WMOK MLR MLR
comp=Z,1µm,18.0s
OK052 Battle Ridge R 64.75 63 IAMs_20 IAMs_20 00 50 09.2
comp=Z,1µm,20.0s
NIL Nilore 64.77 293 P P 00 19 30.7 -0.9
NIL Nilore 64.77 293 P P 00 19 30.7 -0.9
HDIL Hopedale 64.83 55 P P 00 19 31.9 0.0
baz=322,SNR=7.6
HDIL Hopedale 64.83 55 P P 00 19 31.7 -0.2
baz=322,SNR=7.6
HNR Honiara 64.84 187 LR LR 00 42 53.0
comp=Z,17µm,21.6s,baz=26,slow=32
VSR Storozhevoye 65.08 327 *eP* **P 00 19 31.2 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.2s
R40A Maddies Statio 65.20 58 P P 00 19 33.8 -0.5
baz=322,SNR=16
VORD Divnogorie 65.26 326 *eP* **P 00 19 33.4 -1.1**
VORD pmax pmax
comp=Z,10.0nm,1.3s
PABE Paberze 65.28 338 P P 00 19 34.3 -0.2
MNK Minsk 65.30 335 *i* P **P 00 19 34.6 -0.1**
comp=E,4.0nm,0.9s
MNK *i* P **P 00 19 34.6 -0.1**
comp=N,6.0nm,0.9s
MNK *i* P **P 00 19 34.6 -0.1**
comp=Z,15nm,0.9s,baz=24
MNK *i* PcP **PcP 00 20 07.0 +0.1**
MNK *i* PP **PP 00 21 57.9 +0.1**
MNK *i* PPP PPP 00 23 30.3
MNK *i* S **S 00 28 18.3 +1.3**
MNK *i* SS **SS 00 32 24.9 -4.0**
MNK *i* LQ LQ 00 41 29.8
MNK *i* LR LR 00 49 12.2
MNK *i* LRM MLR 00 50 59.8
comp=N,681nm,18.7s
MNK *i* LRM MLR 00 51 07.0
comp=Z,1µm,18.7s
MNK *i* LRM MLR 00 51 22.7
comp=E,258nm,18.7s
MNK Minsk 65.30 335 *i* P **P 00 19 34.6 -0.1**
MNK *i* 00 20 06.9
MNK *i* 00 21 57.8
MNK *i* PPP PPP 00 23 30.2
MNK *i* S **S 00 28 18.3 +1.3**
MNK *i* SS **SS 00 32 24.8 -4.0**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK MLR MLR
comp=N,681nm,19.0s
MNK MLR MLR
comp=Z,1µm,19.0s
MNK MLR MLR
comp=E,258nm,19.0s
TUL3 Leonard 65.32 62 P P 00 19 35.6 +0.4
baz=322
SADO Sadowa 65.86 45 LR LR 00 50 26.5
comp=E,2µm,19.9s,baz=277,slow=38
CCM Cathedral Cave 65.88 58 P P 00 19 38.7 0.0
baz=322
CCM Cathedral Cave 65.88 58 P P 00 19 38.4 -0.3
baz=322,SNR=8.9
ABTX Abilene, Hawle 65.90 67 P P 00 19 39.3 +0.3
ABTX Abilene, Hawle 65.90 67 P P 00 19 39.9 +0.8
baz=322
ABTX Abilene, Hawle 65.90 67 P P 00 19 38.8 -0.2
baz=322,SNR=8.7
HHAR Hobbs 65.96 61 P P 00 19 38.7 -0.6
HHAR IAmb IAmb 00 19 41.0
comp=Z,19nm,1.1s
AAM Ann Arbor 65.97 50 P P 00 19 39.9 +0.6
baz=324
SFIN Lafayette 65.98 53 P P 00 19 40.5 +1.1
baz=323
KBL Kabul 66.25 297 P P 00 19 39.4 -2.1
KBL IAmb IAmb 00 19 41.0
comp=Z,9.3nm,0.7s
KBL Kabul 66.25 297 P P 00 19 39.4 -2.1
KBL pmax pmax
comp=Z,9.0nm,0.7s
TX31 Lajitas Ar. Si 66.31 72 P P 00 19 41.6 -0.2
TX31 Lajitas Ar. Si 66.31 72 P P 00 19 42.3 +0.5
baz=322,SNR=28
TXAR Lajitas Array 66.31 72 P P 00 19 41.5 -0.3
TXAR Lajitas Array 66.31 72 P P 00 19 42.0 +0.3
comp=Z,17nm,0.9s,baz=301,slow=4.3,SNR=57
comp=Z,17nm,0.9s
FVM French Village 66.33 57 P P 00 19 41.5 -0.1
baz=323,SNR=11
U40A Yellville 66.44 60 P P 00 19 41.7 -0.6
baz=322,SNR=8.5
U40A P **P 00 19 41.7 -0.6**
baz=322,SNR=8.5
TRQ Mont Tremblant 66.45 42 P P 00 19 42.5 +0.2
PMG Port Moresby 66.58 201 LR LR 00 44 55.0
comp=Z,1µm,20.6s,baz=49,slow=32
LPIG La Paz 66.72 81 LR LR 00 45 09.7
comp=Z,208nm,20.2s,baz=328,slow=33
O48B Farmland 66.96 52 P P 00 19 45.6 0.0
baz=324
O48B Farmland 66.96 52 P P 00 19 44.8 -0.8
baz=324
HPIG 67.09 76 P P 00 19 47.9 +1.0
HPIG IAmb IAmb 00 19 50.1
comp=Z,12nm,1.2s
S44A Carbondale 67.12 57 P P 00 19 46.4 -0.2
baz=323,SNR=7.2
PBMO Poplar Bluff 67.29 58 P P 00 19 47.5 -0.2
baz=323,SNR=9.7
JCT Junction City 67.50 69 P P 00 19 49.6 +0.4
JCT IAMs_20 IAMs_20 00 51 41.4
comp=Z,865nm,18.0s
JCT Junction City 67.50 69 P P 00 19 49.9 +0.7
baz=322,SNR=8.0
JCT Junction City 67.50 69 P P 00 19 49.3 +0.1
baz=322,SNR=8.0
JCT Junction City 67.50 69 P P 00 19 49.6 +0.4
JCT pmax pmax
comp=Z,28nm,1.1s
JCT MLR MLR
comp=Z,900nm,18.0s
WHTX Lake Whitney, 67.54 66 P P 00 19 49.9 +0.5
baz=322
WHAR Wooly Hollow 67.56 60 P P 00 19 49.2 -0.3
ERPA Erie 67.69 48 P P 00 19 50.5 +0.3
baz=326
P49A Miami Univ. Ec 67.74 52 P P 00 19 50.6 0.0
baz=324
LONY Lake Ozonia 67.78 42 P P 00 19 51.0 +0.2
baz=328
X40A Basin Creek Fa 67.93 61 P P 00 19 52.1 +0.3
X40A IAmb IAmb 00 19 54.1
comp=Z,20nm,1.3s
ACSO Alum Creek Sta 67.95 51 P P 00 19 52.6 +0.8
ACSO Alum Creek Sta 67.95 51 P P 00 19 52.7 +0.8
baz=325
M53A WI Miller and 67.96 48 P P 00 19 51.8 -0.1
baz=326
WCI Wyandotte Cave 68.08 54 P P 00 19 52.6 0.0
WCI Wyandotte Cave 68.08 54 P P 00 19 52.8 +0.1
baz=324
WCI Wyandotte Cave 68.08 54 P P 00 19 52.7 0.0
WCI pmax pmax
comp=Z,79nm,1.9s
WCI MLR MLR
comp=Z,2µm,18.0s
AKASG Malin Array Be 68.42 332 P P 00 19 53.9 -0.7
comp=Z,2.5nm,0.5s,baz=25,slow=6.1,SNR=12
AKASG LR LR 00 53 49.4
comp=Z,980nm,18.5s,baz=25,slow=40
comp=Z,2.5nm,0.5s
AKBB Malin Array Si 68.42 332 P P 00 19 53.9 -0.7
AKBB IAmb IAmb 00 20 36.3
comp=Z,26nm,1.6s
AKBB Malin Array Si 68.42 332 *eP* **P 00 19 53.9 -0.7**
AKBB pmax pmax
comp=Z,25nm,2.5s
435B Jarrell 68.43 67 IAMs_20 IAMs_20 00 49 00.9
comp=Z,1µm,20.0s
435B Jarrell 68.43 67 P P 00 19 55.0 0.0
baz=323
KIEV Kiev 68.43 332 P P 00 19 54.2 -0.5
KIEV Kiev 68.43 332 P P 00 19 54.1 -0.6
KIEV IAmb IAmb 00 20 36.3
comp=Z,26nm,1.6s
KIEV Kiev 68.43 332 IAMs_20 IAMs_20 00 50 39.8
comp=Z,1µm,22.0s
KIEV Kiev 68.43 332 P P 00 19 54.2 -0.5
SBUM Sibu 68.43 241 P P 00 19 55.6 +0.4
SBUM IAmb IAmb 00 19 59.3
comp=Z,21nm,1.7s
O52A Adamsville 68.55 50 P P 00 19 54.8 -0.8
baz=325,SNR=5.5
O52A P **P 00 19 54.8 -0.8**
baz=325,SNR=5.5
L56A Greenwood 68.68 46 P P 00 19 55.8 -0.7
baz=327,SNR=5.2
L56A P **P 00 19 55.8 -0.7**
baz=327,SNR=5.2
T47A Sharon Grove 68.70 56 P P 00 19 57.0 +0.4
baz=324,SNR=8.3
O53A New Philadelph 68.71 49 P P 00 19 56.4 -0.2
baz=326
P52A Corning 68.81 50 P P 00 19 57.1 -0.2
baz=325
GEYT Alibeck 68.85 306 P P 00 19 56.6 -1.0
GEYT Alibeck 68.85 306 P P 00 19 56.6 -1.0
comp=Z,2.7nm,0.8s,baz=280,slow=9.8,SNR=6.8
GEYT LR LR 00 52 24.5
comp=Z,935nm,18.0s,baz=48,slow=38
comp=Z,2.7nm,0.8s
WVT Waverly 69.05 57 P P 00 19 59.0 +0.1
baz=324
WVT Waverly 69.05 57 P P 00 19 58.9 +0.1
baz=324,SNR=7.2
LBNH Lisbon 69.11 41 P P 00 20 00.1 +1.0
baz=329
NATX Nacogdoches 69.17 64 P P 00 19 59.9 +0.2
baz=323
MAK Makhachkala 69.20 317 *eP* P 00 19 53.6 -6.0
MAK *eS* S 00 28 55.3 -9.0
MAK MLR MLR
comp=Z,985nm,15.0s
BINY Binghamton 69.27 45 P P 00 19 59.2 -0.9
baz=327
EKA Eskdalemuir Ar 69.28 354 P P 00 19 59.5 -0.4
comp=Z,3.9nm,0.9s,baz=354,slow=5.7,SNR=2.5
comp=Z,3.9nm,0.9s
833A Chaparral WMA, 69.41 70 P P 00 20 01.6 +0.5
baz=323
OXF Oxford 69.60 59 P P 00 20 03.1 +0.9
baz=324
HRA Herat 69.76 301 P P 00 20 02.2 -1.3
MCWV Mont Chateau 69.78 49 P P 00 20 03.5 +0.2
baz=326
SSPA Standing Stone 69.80 47 P P 00 20 02.9 -0.5
baz=327
V48A Smith Brothers 69.85 56 P P 00 20 03.5 -0.3
baz=325,SNR=7.9
HKT Hockley 70.00 66 P P 00 20 04.5 -0.1
HKT IAmb IAmb 00 20 38.7
comp=Z,22nm,1.4s
HKT Hockley 70.00 66 P P 00 20 04.6 -0.1
HKT pmax pmax
comp=Z,21nm,1.4s
HKT MLR MLR
comp=Z,2µm,19.0s
Y45A Yeager Farm, C 70.05 59 P P 00 20 05.7 +0.6
baz=324,SNR=6.3
GGN Saint George 70.18 37 P P 00 20 05.2 -0.4
KBZ Khabaz 70.29 320 *eP* **P 00 20 06.0 -0.3**
KBZ pmax pmax
comp=Z,11nm,1.2s
KBZ Khabaz 70.29 320 P P 00 20 05.4 -0.9
comp=Z,4.2nm,0.8s,baz=43,slow=2.4,SNR=7.1
KBZ LR LR 00 53 49.3
comp=Z,878nm,21.2s,baz=19,slow=38
comp=Z,4.2nm,0.8s
L61B Northampton 70.36 42 P P 00 20 06.4 -0.4
baz=329
SKLT Songkhla 70.54 254 P P 00 20 09.2 +1.0
comp=Z,46nm,1.0s
LVV L'vov 70.54 335 *eP* **P 00 20 09.4 +1.6**
SWET Sewanee 70.69 56 P P 00 20 08.7 -0.3
SWET IAmb IAmb 00 20 10.9
comp=Z,22nm,1.0s
TZTN Tazewell 70.71 53 P P 00 20 08.1 -1.0
baz=326
ZEI Tsey 70.73 319 *eP* **P 00 20 08.0 -1.3**
ZEI pmax pmax
comp=Z,6.0nm,1.2s
HRV Adam Dziewonsk 70.73 42 P P 00 20 08.9 -0.2
baz=329
KWP Kalwaria Pacla 71.03 336 P P 00 20 10.9 +0.1
KWP Kalwaria Pacla 71.03 336 P P 00 20 10.9 +0.1
KWP pmax pmax
comp=Z,42nm,1.1s
OJC Ojcow 71.12 338 P P 00 20 11.4 +0.2
OJC IAmb IAmb 00 20 14.5
comp=Z,17nm,1.1s
OJC Ojcow 71.12 338 P P 00 20 11.5 +0.2
OJC pmax pmax
comp=Z,17nm,1.1s
146A Union 71.28 60 P P 00 20 13.8 +1.2
baz=324,SNR=5.9
Z47A Carrollton 71.31 59 P P 00 20 13.0 +0.3
baz=325
TKL Tuckaleechee C 71.34 54 LR LR 00 53 18.6
comp=Z,2µm,18.4s,baz=333,slow=37
CLL Collm 71.38 343 P P 00 20 13.5 +0.7
CLL Collm 71.38 343 P P 00 20 13.5 +0.7
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 71.38 343 *i* P **P 00 20 13.3 +0.5**
comp=Z,38nm,1.8s
CLL *e*(PcP) **PcP 00 20 35.0 +2.6**
CLL AMS AMS 00 52 00.0
comp=Z,800nm,22.0s
CLL AMS AMS 00 53 00.0
comp=N,900nm,19.0s
CLL AMS AMS 00 53 00.0
comp=E,600nm,20.0s
FPAL Fort Paine 71.40 56 P P 00 20 13.1 -0.2
KAPI Kappang 71.46 230 LR LR 00 47 25.4
comp=E,82nm,21.9s,baz=34,slow=32
SOC Sochi 71.55 322 *eP* **P 00 20 11.0 -3.0**
SOC *e* 00 22 51.0
SOC *e*PPP PPP 00 24 33.6
SOC *e*S **S 00 29 29.2 -2.6**
SOC *e*SS **SS 00 34 07.0 +1.2**
SOC MLR MLR
comp=Z,657nm,17.0s
STHS Stebnicka Huta 71.56 337 *eP* **P 00 20 12.6 -1.4**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 71.56 337 *eP* **P 00 20 12.6 -1.4**
BLA Blacksburg 71.57 51 P **P 00 20 13.4 -0.9**
baz=327
UPC Upice 71.61 341 *eP* **P 00 20 14.8 +0.6**
UPC Upice 71.61 341 *eP* **P 00 20 14.8 +0.6**
BRG Berggiesshubel 71.63 342 *eP* **P 00 20 18.9 +4.5**
BRG Amp 00 20 20.6
comp=Z,4.4nm,1.1s
BRG Berggiesshubel 71.63 342 *eP* **P 00 20 18.9 +4.5**
BRG pmax pmax
comp=Z,4.0nm,1.1s
DPC Dobruska-Polom 71.70 340 *eP* **P 00 20 15.3 +0.4**
DPC *ex* x 00 20 24.2
DPC Dobruska-Polom 71.70 340 *eP* **P 00 20 15.3 +0.4**
DPC *e* 00 20 24.2
KOLS Kolonicke sedl 71.78 336 *eP* **P 00 20 15.9 +0.6**
KOLS Kolonicke sedl 71.78 336 *eP* **P 00 20 15.9 +0.6**
KRLC Kraliky 71.87 340 *eP* **P 00 20 16.3 +0.4**
KRLC Kraliky 71.87 340 *eP* **P 00 20 16.3 +0.4**
RICC Richard 71.92 342 *eP* **P 00 20 17.2 +1.1**
LRAL Lakeview Retre 71.97 58 P P 00 20 16.4 -0.3
baz=325
LRAL Lakeview Retre 71.97 58 P P 00 20 16.0 -0.6
baz=325
MILM Milestii Mici 71.99 331 ⇑P **P 00 20 15.4 -1.1**
MILM Milestii Mici 71.99 331 ⇑P **P 00 20 15.4 -1.1**
CRVS Cervenica-Dubn 72.00 337 *eP* **P 00 20 17.7 +1.1**
CRVS Cervenica-Dubn 72.00 337 *eP* **P 00 20 17.7 +1.1**
MORC Moravsky Berou 72.01 339 ⇑P **P 00 20 17.7 +1.0**
MORC Moravsky Berou 72.01 339 P P 00 20 16.9 +0.2
MORC IAmb IAmb 00 20 19.9
comp=Z,14nm,1.3s
MORC Moravsky Berou 72.01 339 *eP* **P 00 20 17.2 +0.5**
MORC Moravsky Berou 72.01 339 P P 00 20 16.9 +0.2
MORC pmax pmax
comp=Z,14nm,1.3s
KULM Kulim 72.08 253 P P 00 20 17.3 -0.2
KULM Kulim 72.08 253 P P 00 20 18.6 +1.1
ZAIG Zacatecas 72.10 76 P P 00 20 18.4 +0.4
ZAIG IAmb IAmb 00 20 21.3
comp=Z,15nm,1.1s
LANS Liptovska Anna 72.20 338 *eP* **P 00 20 19.3 +1.4**
LANS pmax pmax
comp=Z,7.0nm,0.7s
LANS Liptovska Anna 72.20 338 *eP* **P 00 20 19.3 +1.4**
BUR08 Bucovina Ar. S 72.28 334 P P 00 20 18.0 -0.4
BURAR Bucovina Array 72.30 334 ⇓P **P 00 20 19.2 +0.7**
BURAR Bucovina Array 72.30 334 P P 00 20 18.4 -0.2
BURAR Bucovina Array 72.30 334 ⇓P **P 00 20 19.2 +0.7**
PRU Pruhonice 72.38 341 *eP* **P 00 20 19.0 +0.1**
PRU Pruhonice 72.38 341 *eP* **P 00 20 19.0 +0.1**
VRAC Vranov 72.64 340 ⇑P **P 00 20 21.0 +0.6**
VRAC Vranov 72.64 340 *eP* **P 00 20 20.5 0.0**
VRAC Vranov 72.64 340 ⇑P **P 00 20 21.0 +0.6**
VRAC Vranov 72.64 340 LR LR 00 56 58.4
comp=Z,521nm,18.6s,baz=18,slow=40
GNI Garni 72.68 317 IAMs_20 IAMs_20 00 57 50.0
comp=Z,1µm,18.0s
GNI Garni 72.68 317 LR LR 00 57 52.3
comp=Z,810nm,18.8s,baz=28,slow=40
JAVC Velka Javorina 72.85 339 *eP* **P 00 20 23.7 +1.9**
TREC Trest 72.87 341 *eP* **P 00 20 21.7 -0.1**
TREC Trest 72.87 341 *eP* **P 00 20 21.7 -0.1**
KMSC Kings Mountain 72.88 53 P P 00 20 21.0 -1.1
baz=327
KRUC Moravsky 72.92 340 *eP* **P 00 20 23.6 +1.5**
VYHS Vyhne 72.96 338 *eP* **P 00 20 24.5 +2.1**
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 72.96 338 *eP* **P 00 20 24.5 +2.1**
ZVC Zvikov 72.97 341 *eP* **P 00 20 22.8 +0.4**
GHRR 73.16 332 ⇑P **P 00 20 23.7 +0.2**
HODGE Hodges 73.22 54 P P 00 20 24.1 0.0
HODGE IAmb IAmb 00 20 43.4
comp=Z,31nm,1.4s
PSZ Piszkesteto 73.28 337 IAMs_20 IAMs_20 00 54 59.1
comp=Z,1µm,19.0s
GOGA Godfrey 73.33 55 P P 00 20 23.8 -1.0
baz=326
KHC Kasperske Hory 73.38 342 *eP* **P 00 20 23.0 -1.9**
KHC *ex* x 00 20 32.9
KHC Kasperske Hory 73.38 342 ⇓*eP* **P 00 20 25.4 +0.6**
KHC pmax pmax
comp=Z,30nm,1.5s
MODS Modra-Piesok 73.40 339 *eP* **P 00 20 26.6 +1.6**
MODS Modra-Piesok 73.40 339 *eP* **P 00 20 26.6 +1.6**
CJR Cluj-Napoca 73.54 334 ⇑P **P 00 20 27.1 +1.2**
CJR Cluj-Napoca 73.54 334 ⇑P **P 00 20 27.1 +1.2**
CKRC Cesky Krumlov 73.54 341 *eP* **P 00 20 26.0 +0.2**
CKRC Cesky Krumlov 73.54 341 *eP* **P 00 20 26.0 +0.2**
GEC2 GERESS Array S 73.63 342 P P 00 20 26.2 -0.2
GERES GERESS Array B 73.63 342 P P 00 20 26.6 +0.2
GERES GERESS Array B 73.63 342 P P 00 20 26.6 +0.2
GERES GERESS Array B 73.63 342 P P 00 20 25.6 -0.9
comp=Z,1.6nm,0.8s,baz=23,slow=7.2,SNR=6.0
comp=Z,1.6nm,0.8s
COVR Voineasa-Covas 73.68 332 ⇑P **P 00 20 27.8 +1.1**
DRGR 73.69 335 ⇓P **P 00 20 26.8 +0.1**
DRGR 73.69 335 ⇓P **P 00 20 26.8 +0.1**
MARR Marisel-Cluj 73.69 335 ⇓P **P 00 20 27.3 +0.4**
SRO Srobarova 73.72 338 *eP* **P 00 20 30.3 +3.5**
SRO Srobarova 73.72 338 *eP* **P 00 20 30.3 +3.5**
CFR Carcaliu 73.77 331 ⇓P **P 00 20 28.7 +1.5**
CFR Carcaliu 73.77 331 ⇓P **P 00 20 28.7 +1.5**
DOPR Dopca 73.78 333 ⇓P **P 00 20 28.7 +1.4**
MLR Muntele Rosu 74.08 332 ⇓P **P 00 20 30.0 +0.9**
MLR Muntele Rosu 74.08 332 P P 00 20 29.4 +0.3
MLR IAmb IAmb 00 21 09.6
comp=Z,17nm,1.3s
MLR Muntele Rosu 74.08 332 ⇓P **P 00 20 30.0 +0.9**
MLR Muntele Rosu 74.08 332 LR LR 00 57 11.7
comp=Z,1µm,18.5s,baz=25,slow=39
CONA Conrad Observa 74.10 340 *ep*P **P 00 20 29.5 +0.3**
comp=Z,7.2nm,1.1s
RONA Rosalia, Austr 74.24 340 *ep*P **P 00 20 30.7 +0.8**
comp=Z,6.9nm,1.1s
CNNC Cliffs of the 74.33 50 P P 00 20 30.0 -0.6
baz=328
VOIR 74.36 333 ⇑P **P 00 20 31.8 +1.1**
VOIR 74.36 333 ⇑P **P 00 20 31.8 +1.1**
SIRR Siria 74.43 335 ⇓P **P 00 20 31.4 +0.4**
MOA Molln 74.48 341 *ep*P **P 00 20 31.5 +0.2**
comp=Z,10nm,1.8s
ARR Arges 74.53 333 ⇑P **P 00 20 32.6 +0.9**
SURR Surduc 74.80 335 ⇑P **P 00 20 33.3 +0.2**
ARSA Arzberg 74.82 340 *ep*P **P 00 20 33.9 +0.6**
comp=Z,9.1nm,1.7s
TIGA Tifton 74.91 56 P P 00 20 33.9 -0.1
baz=326
GZR Gura Zlata 74.98 334 ⇑P **P 00 20 33.8 -0.5**
GZR Gura Zlata 74.98 334 ⇑P **P 00 20 33.8 -0.5**
BZS Buzias 75.05 335 ⇓P **P 00 20 34.9 +0.3**
BZS Buzias 75.05 335 ⇓P **P 00 20 34.9 +0.3**
PSI Prapat 75.09 253 P P 00 20 35.5 +0.1
PSI pmax pmax
comp=Z,6.0nm,0.6s
NHSC New Hope 75.11 53 P P 00 20 35.3 +0.2
baz=327
MORH Mrgy, Hungar 75.16 338 ⇓P **P 00 20 34.7 -0.5**
RPSI Rantau Prapat 75.18 253 P P 00 20 35.5 -0.2
KBA Koelnbreinsper 75.40 341 *ep*P **P 00 20 37.7 +0.9**
comp=Z,14nm,1.2s
RETA Reutte 75.45 343 *ep*P **P 00 20 37.2 +0.2**
comp=Z,5.1nm,1.1s
WATA Walderalm 75.46 343 *ep*P **P 00 20 37.3 +0.2**
comp=Z,9.9nm,1.1s
SOKA Soboth 75.47 340 *ep*P **P 00 20 37.2 +0.2**
comp=Z,8.7nm,1.5s
WTTA Wattenberg 75.52 343 *ep*P **P 00 20 37.8 +0.3**
comp=Z,15nm,1.6s
MOTA Moosalm 75.53 343 *ep*P **P 00 20 37.5 -0.1**
comp=Z,4.5nm,0.9s
SQTA Sankt Quirin 75.63 343 *ep*P **P 00 20 38.3 +0.2**
comp=Z,5.1nm,0.8s
OBKA Obir 75.72 340 *ep*P **P 00 20 39.0 +0.5**
comp=Z,9.1nm,0.7s
MDVR Moldovita 75.81 335 ⇑P **P 00 20 41.7 +2.7**
ABTA Abfaltersbach 75.87 342 *ep*P **P 00 20 39.5 +0.1**
comp=Z,12nm,1.4s
FRGS Fruska Gora 75.91 336 ⇑P **P 00 20 40.1 +0.5**
FETA Feichten 75.91 343 *ep*P **P 00 20 39.8 0.0**
comp=Z,4.8nm,0.9s
PRED Cave del Predi 75.97 341 P P 00 20 40.0 +0.1
PRED IAmb IAmb 00 20 59.1
comp=Z,13nm,1.1s
DAVOX Davos/Dischmat 76.28 344 LR LR 00 57 37.4
comp=Z,422nm,19.7s,baz=9.5,slow=38

FUORN	**Ofenpass-Fuorn**	**76.37**	**343**	P		**P**		**00 20 42.5**	**0.0**
ELND	**Elena**	**76.47**	**331**	⇓P		**P**		**00 20 39.2**	**-3.6**
BOVS	**Bovan**	**76.89**	**335**	⇑P		**P**		**00 20 44.0**	**-1.2**
BR131	**Keskin Array S**	**77.06**	**325**	P		**P**		**00 20 46.0**	**-0.4**
BR131	**Keskin Array S**	**77.06**	**325**	P		**P**		**00 20 46.0**	**-0.4**
BR131				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BRTR	**Keskin Array B**	**77.06**	**325**	P		**P**		**00 20 45.9**	**-0.4**
BRTR	**Keskin Array B**	**77.06**	**325**	P		**P**		**00 20 46.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=44,slow=4.3,SNR=11								
BRTR				LR	LR			00 58 07.3	
	comp=Z,517nm,19.5s,baz=24,slow=38								
	comp=Z,2.1nm,0.8s								
GSI	**Gunungsitoli**	**77.08**	**253**	P		**P**		**00 20 46.3**	**-0.2**
GSI				IAmb	IAmb			00 20 49.2	
	comp=Z,20nm,1.0s								
GSI	**Gunungsitoli**	**77.08**	**253**	P		**P**		**00 20 48.5**	**+2.0**
CTA	**Charters Tower**	**77.16**	**199**	LR	LR			00 50 52.3	
	comp=Z,470nm,20.2s,baz=16,slow=33								
DZM	**Mont Dzumac**	**77.18**	**180**	LR	LR			00 48 54.1	
	comp=Z,475nm,21.5s,baz=30,slow=31								
ANTO	**Ankara**	**77.20**	**325**	IAMs_20	IAMs_20			00 58 23.5	
	comp=Z,692nm,22.0s								
TEOL	**Teolo**	**77.36**	**342**	P		**P**		**00 20 47.7**	**0.0**
TEOL				IAmb	IAmb			00 21 22.6	
	comp=Z,23nm,1.0s								
PWJI	**Pagerwojo**	**77.73**	**236**	P		**P**		**00 20 54.5**	**+4.4**
BNI	**Bardonecchia**	**78.45**	**346**	P		**P**		**00 20 55.0**	**+1.0**
BNI				IAmb	IAmb			00 22 30.8	
	comp=Z,36nm,1.8s								
BNI	**Bardonecchia**	**78.45**	**346**	P		**P**		**00 20 55.0**	**+1.0**
BNI				pmax	pmax				
	comp=Z,36nm,1.8s								
ZCCA	**Zocca**	**78.46**	**342**	P		**P**		**00 20 54.5**	**+0.6**
MSSA	**Maissana**	**78.73**	**343**	P		**P**		**00 20 55.3**	**-0.2**
MSSA				IAmb	IAmb			00 20 58.4	
	comp=Z,19nm,1.1s								
MURB	**Monte Urbino**	**79.23**	**341**	P		**P**		**00 20 59.1**	**+0.8**
TIR	**Tirane**	**79.50**	**335**	IAMs_20	IAMs_20			00 59 23.9	
	comp=Z,1μm,20.0s								
WB0	**Warramunga Arr**	**79.71**	**211**	P		**P**		**00 21 00.7**	**-0.1**
WB0				IAmb	IAmb			00 21 42.0	
	comp=Z,37nm,1.6s								
WRA	**Warramunga Arr**	**79.89**	**211**	P		**P**		**00 21 01.3**	**-0.5**
WRA	**Warramunga Arr**	**79.89**	**211**	P		**P**		**00 21 01.3**	**-0.5**
WRA				pmax	pmax				
	comp=Z,1.0nm,1.4s								
WRA	**Warramunga Arr**	**79.89**	**211**	P		**P**		**00 21 01.0**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=24,slow=6.1,SNR=12								
	comp=Z,4.4nm,1.0s								
WSAR	**Wadi Sarin**	**80.70**	**297**	LR	LR			01 00 44.5	
	comp=Z,513nm,18.6s,baz=82,slow=39								
PPT2	**Papeete2**	**81.67**	**138**	eLR	LR			00 46 27.6	
PPT2	comp=Z,1μm,24.5s			*e*LR	LR			00 46 43.1	
	comp=Z,2μm,24.0s								
CUC	**Castrocucco**	**81.72**	**338**	IAMs_20	IAMs_20			01 01 53.5	
	comp=Z,740nm,20.0s								
TEIG	**Tepich**	**81.86**	**66**	LR	LR			00 57 24.3	
	comp=Z,3μm,21.8s,baz=130,slow=36								
TIP	**Timpagrande**	**82.29**	**337**	P		**P**		**00 21 15.2**	**+0.5**
TIP				IAmb	IAmb			00 22 03.3	
	comp=Z,28nm,1.6s								
TIP				IAMs_20	IAMs_20			00 59 55.6	
	comp=Z,870nm,20.0s								
MMAI	**Mount Meron Ar**	**82.49**	**320**	LR	LR			01 02 05.0	
	comp=Z,398nm,18.7s,baz=1.0,slow=39								
CEL	**Celeste**	**83.36**	**337**	IAMs_20	IAMs_20			01 02 59.0	
	comp=Z,770nm,19.0s								
AS31	**Alice Springs**	**83.54**	**210**	P		**P**		**00 21 20.4**	**-0.6**
ASAR	**Alice Springs**	**83.54**	**210**	P		**P**		**00 21 20.9**	**-0.1**
ASAR	**Alice Springs**	**83.54**	**210**	P		**P**		**00 21 20.9**	**-0.1**
ASAR	**Alice Springs**	**83.54**	**210**	P		**P**		**00 21 20.6**	**-0.4**
	comp=Z,5.1nm,0.9s,baz=19,slow=4.3,SNR=24								
ASAR				LR	LR			00 55 10.6	
	comp=Z,800nm,21.8s,baz=36,slow=33								
	comp=Z,5.1nm,0.9s								
IDI	**Anoyia**	**83.86**	**329**	LR	LR			01 03 12.8	
	comp=Z,267nm,18.0s,baz=12,slow=39								
GHAJ	**Ghor Haditha**	**83.97**	**319**	IAMs_20	IAMs_20			01 04 56.7	
	comp=Z,586nm,18.0s								
VAE	**Valguarnera**	**84.43**	**338**	LR	LR			01 03 34.8	
	comp=Z,568nm,19.2s,baz=16,slow=39								
ESDC	**Sonseca Array**	**84.92**	**353**	P		**P**		**00 21 27.9**	**-0.2**
ESDC				IAmb	IAmb			00 21 31.2	
	comp=Z,21nm,1.6s								
ESDC	**Sonseca Array**	**84.92**	**353**	P		**P**		**00 21 28.0**	**-0.2**
	comp=Z,4.5nm,1.0s,baz=355,slow=5.0,SNR=12								
	comp=Z,4.5nm,1.0s								
EIL	**Elat**	**85.66**	**319**	LR	LR			01 05 40.6	
	comp=Z,320nm,19.8s,baz=38,slow=40								
PSA00	**Pilbara Seismi**	**86.33**	**223**	P		**P**		**00 21 34.6**	**-0.4**
RAYN	**Ar Rayn**	**86.75**	**308**	P		**P**		**00 21 36.8**	**-0.7**
RAYN				IAmb	IAmb			00 22 23.1	
	comp=Z,18nm,1.5s								
RAYN	**Ar Rayn**	**86.75**	**308**	P		**P**		**00 21 36.8**	**-0.7**
RAYN				pmax	pmax				
	comp=Z,18nm,1.5s								
TBI	**Tubuai**	**86.97**	**140**	*e*LR	LR			00 49 13.7	
	comp=Z,3μm,22.5s								
TBI				*e*LR	LR			00 49 16.4	
	comp=Z,1μm,26.8s								
KEST	**Kesra**	**87.12**	**342**	P		**P**		**00 21 38.8**	**-0.3**
	comp=Z,4.3nm,1.0s,baz=22,slow=5.4,SNR=3.5								
KEST				LR	LR			01 04 02.1	
	comp=Z,338nm,19.3s,baz=346,slow=38								
	comp=Z,4.3nm,1.0s								
STKA	**Stephens Creek**	**89.53**	**201**	P		**P**		**00 21 50.0**	**-0.1**
STKA	**Stephens Creek**	**89.53**	**201**	P		**P**		**00 21 50.1**	**0.0**
	comp=Z,5.2nm,0.9s,baz=0.3,slow=9.9,SNR=8.2								
STKA				LR	LR			00 57 22.5	
	comp=Z,731nm,21.8s,baz=13,slow=32								
	comp=Z,5.2nm,0.9s								
CAN	**Canberra**	**91.61**	**194**	IAMs_20	IAMs_20			00 58 02.7	
	comp=Z,774nm,20.0s								
MDT	**Midelt**	**91.79**	**353**	LR	LR			01 01 28.8	
	comp=Z,182nm,22.0s,baz=22,slow=34								
JTS	**Las Juntas de**	**91.88**	**69**	LR	LR			01 08 17.3	
	comp=Z,209nm,18.5s,baz=332,slow=39								
SJG	**San Juan**	**94.31**	**49**	LR	LR			01 06 29.7	
	comp=Z,471nm,21.5s,baz=344,slow=37								
BKZ	**Black Stump Fm**	**94.61**	**172**	IAMs_20	IAMs_20			00 52 45.2	
	comp=Z,643nm,21.0s								
NWAO	**Narrogin (SRO)**	**97.56**	**220**	LR	LR			01 06 26.0	
	comp=Z,331nm,19.8s,baz=44,slow=35								
ATD	**Arta Tunnel**	**98.42**	**304**	IAMs_20	IAMs_20			01 12 53.3	
	comp=Z,416nm,20.0s								
ATD	**Arta Tunnel**	**98.42**	**304**	LR	LR			01 13 13.7	
	comp=Z,19nm,18.8s,baz=10,slow=39								
KMBO	**Kilima Mbogo**	**112.12**	**303**	IAMs_20	IAMs_20			01 20 54.7	
	comp=Z,459nm,20.0s								
BOSA	**Boshof**	**141.46**	**298**	PP	**PP**			**00 31 28.6**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=18,slow=6.0,SNR=5.1								
QSPA	**South Pole Qui**	**145.17**	**180**	PKPbc	**PKPbc**			**00 28 27.5**	**-1.5**
	comp=Z,38nm,1.0s,baz=11,slow=1.9,SNR=39								

*AEIC **28** 00:10:10.1±2.3, 52.2°N±0.2°×168.4°W±0.1°, h30km±7km, Error ellipse: s-maj=27.6km s-min=10.1km az=170.0*
*NEIC **28** 00:10:13.4±1.8, 52.4°N±0.2°×168.5°W±0.1°, h37km±10km, mb4.3/10, ML3.3(AEIC), Error ellipse: s-maj=27.8km s-min=10.5km az=170.0*

ISC 28 00:10:12.6±1.0, 52.3°N±0.2°×168.49°W±0.08, h35km, n37, σ1°03/37, mb4.7/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CLES	**Cleveland East**	**1.03**	**304**	Pn		**Pn**	**00 10 30.3**	**-0.3**
ATKA	**Atka Island**	**3.51**	**271**	Pn		**Pn**	**00 11 04.8**	**+0.2**
GSTR	**Great Sitkin T**	**4.67**	**271**	Pn		**Pn**	**00 11 20.5**	**0.0**
SDPT	**Sand Point**	**5.67**	**54**	Pn		**Pn**	**00 11 34.4**	**+0.1**
CNBA	**Chernabura Isl**	**5.89**	**61**	Pn		**Pn**	**00 11 36.9**	**-0.5**
OHAK	**Old Harbor**	**10.09**	**54**	Pn		**Pn**	**00 12 34.7**	**-0.2**
KDAK	**Kodiak Island**	**10.67**	**52**	Pn		**Pn**	**00 12 42.4**	**-0.3**
Q19K	**Cape Douglas,**	**10.72**	**46**	Pn		**Pn**	**00 12 44.4**	**+0.9**
N19K	**Bonanza Creek**	**11.52**	**36**	Pn		**Pn**	**00 12 56.7**	**+2.2**
BRLK	**Bradley Lake**	**12.36**	**46**	Pn		**Pn**	**00 13 06.8**	**+0.8**
SUA	**Susitna One**	**13.34**	**39**	Pn		**Pn**	**00 13 20.1**	**+0.7**
SKT	**Skwentna**	**13.36**	**37**	Pn		**Pn**	**00 13 19.8**	**+0.3**
CAST	**Castle Rocks**	**14.14**	**31**	Pn		**Pn**	**00 13 29.9**	**-0.2**
KNK	**Knik Glacier**	**14.23**	**42**	Pn		**Pn**	**00 13 29.8**	**-1.6**
GHO	**Glory Hole Cre**	**14.24**	**40**	Pn		**Pn**	**00 13 30.5**	**-1.0**
SML	**Sawmill**	**14.49**	**41**	Pn		**Pn**	**00 13 34.3**	**-0.7**
HIN	**Hinchinbrook I**	**14.61**	**47**	Pn		**Pn**	**00 13 34.5**	**-2.0**
KTH	**Kantishna Hill**	**14.61**	**32**	Pn		**Pn**	**00 13 36.5**	**-0.1**
SCM	**Sheep Creek Mo**	**14.91**	**42**	Pn		**Pn**	**00 13 38.3**	**-2.3**
M24K	**Tolsona, Glenn**	**15.52**	**42**	Pn		**Pn**	**00 13 47.6**	**-1.1**
M24K				IAmb	IAmb		00 13 54.5	
	comp=Z,52nm,1.5s							
N25K	**Chitina, Valde**	**15.96**	**45**	Pn		**Pn**	**00 13 52.4**	**-1.9**
GLB	**Gilahina Butte**	**16.23**	**46**	Pn		**Pn**	**00 13 55.6**	**-2.2**
VRDI	**Verde Repeater**	**16.31**	**47**	Pn		**Pn**	**00 13 57.8**	**-1.1**
VRDI				IAmb	IAmb		00 14 07.8	
	comp=Z,16nm,1.4s							
MCARA	**McCarthy VSAT**	**16.56**	**47**	Pn		**Pn**	**00 14 01.9**	**+0.1**
MCARA				IAmb	IAmb		00 14 18.4	
	comp=Z,20nm,1.2s							
L27K	**Beaver Creek,**	**17.75**	**42**			**Pn**	**00 14 15.9**	**-0.8**
L27K				IAmb	IAmb		00 14 35.3	
	comp=Z,21nm,0.8s							
PDAR	**Pinedale Array**	**39.89**	**80**	P		**P**	**00 17 44.0**	**+0.9**
TXAR	**Lajitas Array**	**52.21**	**90**	P		**P**	**00 19 20.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**53.47**	**292**	*e*P		**P**	**00 19 30.0**	**+0.8**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,230nm,4.7s							
BRVK	**Borovoye**	**64.12**	**325**	P		**P**	**00 20 43.2**	**+0.3**
BRVK				IAmb	IAmb		00 21 01.4	
	comp=Z,5.7nm,1.3s							
MKAR	**Makanchi Array**	**64.28**	**314**	P		**P**	**00 20 43.9**	**-0.2**
FIA1	**FINESS Array S**	**66.06**	**352**	P		**P**	**00 20 54.9**	**-0.4**
FINES	**FINESS Array B**	**66.06**	**352**	P		**P**	**00 20 55.2**	**-0.1**
PZH	**PanZhiHua**	**69.37**	**287**	P		**P**	**00 21 16.0**	**-0.9**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,140nm,5.8s							
ABKAR	**Akbulak array**	**70.82**	**329**	P		**P**	**00 21 25.8**	**+0.6**
ABKAR	**Akbulak array**	**70.82**	**329**	P		**P**	**00 21 25.9**	**+0.6**
ABKAR				IAmb	IAmb		00 21 26.9	
	comp=Z,5.0nm,1.2s							
AAK	**Ala-Archa**	**70.96**	**316**	P		**P**	**00 21 26.2**	**-0.2**
KKAR	**Karatay Array**	**72.24**	**319**	P		**P**	**00 21 33.4**	**-0.5**

KRSC 28 00:10:45.6±2.0, 55.28N×166.57E, h36km±14km, MI4.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.34**	**271**	*e*P		Pn	00 10 54.4	+0.5
BKI				*e*S		Sn	00 11 00.8	+0.6
TUMD	**Tumrok D**	**3.54**	**273**	*e*P		Pn	00 11 41.4	+3.4
TUMR	**Tumrok**	**3.68**	**274**	*e*P		Pn	00 11 43.9	+4.0
SPN	**Mys Shipunski**	**4.39**	**244**	*e*P		Pn	00 11 53.0	+3.4
SPN				*e*S		Sn	00 12 42.8	+3.5
SMAR	**Somma**	**4.96**	**250**	*e*P		Pn	00 12 02.6	+5.0
UGLR	**Uglovaya**	**4.97**	**250**	*e*P		Pn	00 12 02.9	+5.3
AVH	**Avacha**	**4.99**	**250**	*e*P		Pn	00 12 03.1	+5.2
KRX	**Arik**	**5.00**	**252**	*e*P		Pn	00 12 02.9	+4.9
DALK	**Dalny**	**5.09**	**248**	*e*P		Pn	00 12 03.8	+4.7
DALK				*e*S		Sn	00 13 05.5	+3.9
PET	**Petropavlovsk**	**5.14**	**248**	*e*P		Pn	00 12 04.5	+4.6
PET				*e*S		Sn	00 13 02.1	+4.2
KRMR	**Karymshinskiy**	**5.51**	**248**	*e*P		Pn	00 12 10.8	+5.7
KRMR				*e*S		Sn	00 13 14.1	+7.0
MTVR	**Mutnovka**	**5.66**	**245**	*e*P		Pn	00 12 12.5	+5.3
MTVR				*e*S		Sn	00 13 16.8	+5.8

KRSC 28 00:11:11.6±1.8, 55.28N×166.40E, h35km±13km, MI4.2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.26**	**252**	*e*P		Pn	00 11 18.8	-0.3
BKI				*e*S		Sn	00 11 25.2	+0.4
TUMR	**Tumrok**	**3.58**	**273**	*e*P		Pn	00 12 08.8	+4.2
SMAR	**Somma**	**4.89**	**249**	*e*P		Pn	00 12 27.6	+4.8
SMAR				*e*S		Sn	00 13 23.6	+5.5
UGLR	**Uglovaya**	**4.91**	**248**	*e*P		Pn	00 12 29.1	+6.3
AVH	**Avacha**	**4.92**	**249**	*e*P		Pn	00 12 28.2	+5.2
KRX	**Arik**	**4.93**	**250**	*e*P		Pn	00 12 27.1	+3.9
KRX				*e*S		Sn	00 13 23.6	+4.6
KOK	**Koryaka**	**4.97**	**250**	*e*P		Pn	00 12 27.5	+3.8
DALK	**Dalny**	**5.03**	**246**	*e*P		Pn	00 12 29.1	+4.7
DALK				*e*S		Sn	00 13 25.1	+3.9
PET	**Petropavlovsk**	**5.08**	**247**	*e*P		Pn	00 12 28.9	+3.7
KRMR	**Karymshinskiy**	**5.46**	**247**	*e*P		Pn	00 12 36.9	+6.6
MTVR	**Mutnovka**	**5.61**	**243**	*e*P		Pn	00 12 37.5	+5.0
MTVR				*e*S		Sn	00 13 39.5	+3.7
GRL	**Gorelyy**	**5.63**	**244**	*e*P		Pn	00 12 36.7	+3.9
ASAK	**Asacha**	**5.81**	**244**	*e*P		Pn	00 12 40.2	+5.0
ASAK				*e*S		Sn	00 13 47.5	+6.9

*IDC **28** 00:11:26.6±0.7, 52.2°N×168.64W, h0km, mb4.8/36, mbtmp4.8/37, ML4.0/1, MS4.0/2, Error ellipse: s-maj=20.8km s-min=11.6km az=165.0*
*MOS **28** 00:11:27.9±0.7, 52.36N×168.59W, h19km, mb5.3/75, Error ellipse: s-maj=10.2km s-min=6.6km az=112.5*
*BJI **28** 00:11:28.6±0.0, 52.33N×168.67W, h27km, mb5.1/65, mB5.4/28, Ms5.5/32, Ms7 5.2/32*
*AEIC **28** 00:11:29.0±1.6, 52.15N±0.05°×168.51W±0.06, h18km±3km, Error ellipse: s-maj=6.6km s-min=5.6km az=170.0*
*NEIC **28** 00:11:29.7±1.7, 52.19N±0.05°×168.58W±0.06, h19km±4km, mb5.1/145, ML4.4/8, ML4.3(AEIC), Error ellipse: s-maj=8.0km s-min=5.3km az=167.0*
*BGR **28** 00:11:41.8, 53.65N×168.62W, h30km, mb5.0*

ISC 28 00:11:31.2±0.6, 52.21N±0.05°×168.57W±0.03, h31km±3km, h31km:pP-P, n634, σ0.96/664, mb5.1/213, MS5.2/16, 47C-57D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIKH	**Nikolski High**	**0.78**	**347**			**Pn**	**00 11 44.7**	**-1.4**
NIKH				Sg		**Sb**	**00 11 55.4**	**-1.2**
NIKH	**Nikolski High**	**0.78**	**347**			**Sn**	**00 11 57.8**	**+1.1**
NIKH	**Nikolski High**	**0.78**	**347**	P		**Pn**	**00 11 44.9**	**-1.2**
NIKH	**Nikolski High**	**0.78**	**347**	P		**Pn**	**00 11 44.7**	**-1.4**
	baz=168							
NIKH				S		**Sn**	**00 11 57.8**	**+1.1**
	baz=168							
CLCO	**Concord Point,**	**0.91**	**310**			**Pn**	**00 11 47.2**	**-0.6**
CLCO						**Sb**	**00 12 01.4**	**+1.1**
CLES	**Cleveland East**	**1.02**	**308**	Pn		**Pn**	**00 11 48.9**	**-0.4**
CLES						**Sn**	**00 12 01.1**	**-1.4**
CLES				IAML			00 12 23.3	
	comp=E,13μm,0.8s							
OKWR	**Okmok West Rim**	**1.25**	**10**			**Pn**	**00 11 52.3**	**-0.2**
OKFG	**Magazine Ridge**	**1.27**	**18**			**Pn**	**00 11 52.1**	**-0.6**
OKFG						**Sb**	**00 12 10.0**	**-0.4**
MAPS	**Pakushin South**	**1.88**	**31**			**Pn**	**00 12 10.4**	**-0.7**
MGOD	**Makushin Gods**	**1.89**	**32**			**Pn**	**00 12 10.6**	**-0.7**
MGOD						**Sn**	**00 12 25.2**	**+1.2**
MSW	**Makushin Switc**	**2.02**	**32**			**Pn**	**00 12 02.7**	**-0.3**
MNAT	**Makushin Natee**	**2.03**	**33**			**Pn**	**00 12 02.8**	**-0.3**
UNV	**Unalaska Valle**	**2.06**	**36**			**Pn**	**00 12 02.9**	**-0.6**
UNV	**Unalaska Valle**	**2.06**	**36**			**Sn**	**00 12 28.6**	**+0.4**
UNV	**Unalaska Valle**	**2.06**	**36**	P		**Pn**	**00 12 03.2**	**-0.3**
UNV	**Unalaska Valle**	**2.06**	**36**	P		**Pn**	**00 12 02.8**	**-0.7**
	baz=218							
UNV				S		**Sn**	**00 12 28.6**	**+0.4**
	baz=218							
AKRB	**Akutan Reef Bi**	**2.44**	**37**			**Pn**	**00 12 08.5**	**-0.4**
ZRO	**Akutan Zero**	**2.45**	**39**			**Pn**	**00 12 09.0**	**+0.1**
AKBBA	**Akutan Broad B**	**2.47**	**39**			**Pn**	**00 12 09.0**	**-0.2**
AKV	**Akutan Volcano**	**2.48**	**38**			**Pn**	**00 12 09.3**	**-0.1**
AKUT	**Akutan**	**2.56**	**40**			**Pn**	**00 12 10.0**	**-0.5**
WECS	**Westdahl Cape**	**3.25**	**43**			**Pn**	**00 12 20.9**	**+0.9**
KOFP	**Korovin Flat P**	**3.40**	**273**			**Pn**	**00 12 22.7**	**+0.6**
ATKA	**Atka Island**	**3.46**	**272**	Pn		**Pn**	**00 12 23.7**	**+0.8**
ATKA						**Sn**	**00 13 03.0**	**+0.3**
ATKA				IAML			00 13 18.8	
	comp=N,459nm,1.1s							
ATKA				IAML			00 13 22.1	
	comp=E,554nm,1.0s							
ATKA	**Atka Island**	**3.46**	**272**	P		**Pn**	**00 12 24.3**	**+1.4**
SSLN	**Shishaldin Nor**	**3.77**	**45**			**Pn**	**00 12 27.6**	**+0.5**
ISLZ	**Isanotski Laza**	**3.84**	**47**			**Pn**	**00 12 28.8**	**+0.6**
FALS	**False Pass**	**4.06**	**47**			**Pn**	**00 12 31.3**	**+0.3**
FALS	**False Pass**	**4.06**	**47**	P		**Pn**	**00 12 32.0**	**+1.0**
FALS	**False Pass**	**4.06**	**47**	P		**Pn**	**00 12 31.8**	**+0.8**
	baz=231							
P08K	**Saint George I**	**4.44**	**353**			**Pn**	**00 12 36.5**	**+0.2**
GSTR	**Great Sitkin T**	**4.62**	**272**			**Pn**	**00 12 39.6**	**+0.8**
GSMY	**Great Sitkin M**	**4.62**	**271**			**Pn**	**00 12 39.6**	**+0.8**
GSCK	**Great Sitkin C**	**4.69**	**271**			**Pn**	**00 12 40.2**	**+0.5**
ADK	**Adak**	**5.02**	**269**			**Pn**	**00 12 44.6**	**+0.4**
ADK				IAML			00 14 08.0	
	comp=E,371nm,1.5s							
ADK	**Adak**	**5.02**	**269**	P		**Pn**	**00 12 45.2**	**+0.9**
ADK	**Adak**	**5.02**	**269**	P		**Pn**	**00 12 44.6**	**+0.4**
PN7A	**Pavlof North-7**	**5.05**	**48**			**Pn**	**00 12 45.6**	**+0.8**
SPIA	**Saint Paul Isl**	**5.07**	**350**			**Pn**	**00 12 46.2**	**+1.3**
SPIA	**Saint Paul Isl**	**5.07**	**350**	P		**Pn**	**00 12 47.0**	**+2.1**
SPIA	**Saint Paul Isl**	**5.07**	**350**	P		**Pn**	**00 12 46.4**	**+1.4**
	baz=168							
PS1A	**Pavlof South-1**	**5.17**	**49**			**Pn**	**00 12 46.9**	**+0.6**
KIWB	**Kanaga Island**	**5.31**	**270**			**Pn**	**00 12 49.1**	**+0.8**
SDPT	**Sand Point**	**5.73**	**54**	Pn		**Pn**	**00 12 54.7**	**+0.7**
SDPT	**Sand Point**	**5.73**	**54**	P		**Pn**	**00 12 53.0**	**-1.0**
SDPT	**Sand Point**	**5.73**	**54**	P		**Pn**	**00 12 54.7**	**+0.7**
	baz=240							
TASE	**Tanaga Southea**	**5.86**	**270**			**Pn**	**00 12 57.5**	**+1.6**
CNBA	**Chernabura Isl**	**5.96**	**60**			**Pn**	**00 12 56.0**	**-1.2**
CHNA	**Chernabura Isl**	**5.96**	**60**	P		**Pn**	**00 12 56.0**	**-1.1**
	baz=247							
GANE	**Gareloi Northe**	**6.32**	**270**			**Pn**	**00 13 02.8**	**+0.7**
GANO	**Gareloi North**	**6.33**	**271**			**Pn**	**00 13 03.1**	**+0.8**
VNFG	**Fog Glacier, M**	**6.67**	**49**			**Pn**	**00 13 06.5**	**-0.5**
CHGN	**Chignik**	**7.22**	**51**			**Pn**	**00 13 13.9**	**-0.5**
ANPB	**Aniakchak Plen**	**7.55**	**48**			**Pn**	**00 13 20.1**	**+1.1**
SII	**Sitkinak Islan**	**9.45**	**57**	Pn		**Pn**	**00 13 45.0**	**+0.1**
O18K	**Koktuh Hills**	**10.68**	**39**	Pn		**Pn**	**00 14 03.0**	**+1.1**
KDAK	**Kodiak Island**	**10.73**	**52**	*d*	*i*P	**Pn**	**00 14 01.3**	**-1.2**
N19K	**Bonanza Creek**	**11.59**	**36**	Pn		**Pn**	**00 14 14.6**	**+0.3**
RSO	**Redoubt South**	**12.03**	**40**	Pn		**Pn**	**00 14 21.6**	**+1.2**
CNPM	**China Poot**	**12.15**	**46**	Pn		**Pn**	**00 14 21.5**	**-0.5**
O22K	**Cooper Landing**	**13.29**	**44**	Pn		**Pn**	**00 14 36.6**	**-0.8**
SUA	**Susitna One**	**13.41**	**39**	Pn		**Pn**	**00 14 38.6**	**-0.6**
RC01	**Rabbit Creek A**	**13.60**	**42**	Pn		**Pn**	**00 14 40.1**	**-1.6**
CAST	**Castle Rocks**	**14.20**	**31**	Pn		**Pn**	**00 14 51.0**	**+1.1**
KTH	**Kantishna Hill**	**14.67**	**32**	Pn		**Pn**	**00 14 57.0**	**+0.7**
HIN	**Hinchinbrook I**	**14.67**	**47**			**Pn**	**00 14 53.4**	**-3.0**
FID	**Port Fidalgo**	**14.83**	**46**	Pn		**Pn**	**00 14 55.2**	**-3.3**
SCM	**Sheep Creek Mo**	**14.98**	**42**	Pn		**Pn**	**00 14 57.9**	**-2.6**
SCM	**Sheep Creek Mo**	**14.98**	**42**	P		**Pn**	**00 14 57.9**	**-2.6**
EYAK	**Cordova Ski Ar**	**15.08**	**47**	P		**Pn**	**00 15 00.0**	**-1.6**
KLU	**Klutina**	**15.40**	**44**	Pn		**Pn**	**00 15 03.3**	**-2.8**
I21K	**Tanana**	**15.52**	**27**	Pn		**Pn**	**00 15 07.5**	**0.0**
M24K	**Tolsona, Glenn**	**15.59**	**42**	Pn		**Pn**	**00 15 06.1**	**-2.3**
M24K				IAmb	IAmb		00 15 13.6	
	comp=Z,118nm,0.8s							
MLY	**Manley**	**15.77**	**29**	Pn		**Pn**	**00 15 11.4**	**+0.7**
MLY				IAmb	IAmb		00 15 15.3	
	comp=Z,106nm,1.1s							
I23K	**Minto, Yukon-K**	**16.26**	**30**	Pn		**Pn**	**00 15 16.8**	**-0.2**
SNH	**Sunshine Point**	**16.30**	**51**			**Pn**	**00 15 16.4**	**

HEH pmax pmax
comp=Z,32nm,1.1s
USA0B Ussuriysk Arra 39.41 283 *i* P **P** **00 18 56.9 -0.9**
USRK Ussuriysk Ar. 39.41 283 P **P** **00 18 56.6 -1.2**
comp=Z,7.6nm,0.6s,baz=70,slow=9.2,SNR=6.0
comp=Z,7.6nm,0.6s
PD31 Pinedale Array 39.95 79 P **P** **00 19 03.5 +0.9**
PDAR Pinedale Array 39.95 79 P **P** **00 19 03.5 +0.9**
comp=Z,3.9nm,0.6s,baz=304,slow=2.5,SNR=16
comp=Z,3.9nm,0.6s
MAJO Matsushiro 40.18 269 P **P** **00 19 04.5 +0.1**
MAJO IAmb IAmb 00 19 07.3
comp=Z,28nm,0.9s
MAJO Matsushiro 40.18 269*c* *e*P **P** **00 19 04.8 +0.4**
MAJO pmax pmax
comp=Z,30nm,1.0s
MJAR Matsushiro Arr 40.18 269 P **P** **00 19 04.0 -0.3**
comp=Z,7.9nm,0.9s,baz=46,slow=7.1,SNR=9.7
comp=Z,7.9nm,0.9s
MJB9 Matsu-Tunnel 40.18 269 P **P** **00 19 05.2 +0.8**
MJB9 IAmb IAmb 00 19 08.3
comp=Z,28nm,1.0s
MDJ Mudanjiang 40.61 285 P **P** **00 19 06.8 -1.0**
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,820nm,11.3s
MSHR Mys Shultsa 40.82 281⇑ *e*P **P** **00 19 10.7 +1.2**
BNX BinXian 41.29 287 ⇓P **P** **00 19 12.5 -0.9**
BNX pmax pmax
comp=Z,33nm,0.8s
BNX pmax pmax
comp=Z,340nm,7.1s
O20A White River Ci 42.30 82 P **P** **00 19 22.7 +0.7**
BOD Bodaibo 42.48 309 *e*P **P** **00 19 21.6 -1.3**
BOD pmax pmax
comp=Z,28nm,1.1s
CN2 Changchun 43.53 286 *e*P **P** **00 19 32.0 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 43.76 296 P **P** **00 19 32.8 -0.7**
HIA Hailar 43.76 296 P **P** **00 19 32.8 -0.7**
HIA pmax pmax
comp=Z,14nm,0.8s
ULM Lac du Bonnet 43.79 62 P **P** **00 19 33.9 +0.3**
comp=Z,6.0nm,0.9s,baz=300,slow=8.1,SNR=2.3
comp=Z,6.0nm,0.9s
NEEM North Greenlan 45.01 16 *i* P **P** **00 19 42.2 -1.2**
NEEM IAmb IAmb 00 19 44.0
comp=Z,17nm,0.5s
KSRS Korea Array 45.91 277 P **P** **00 19 51.2 +0.6**
comp=Z,21nm,0.9s,baz=53,slow=5.8,SNR=15
comp=Z,21nm,0.9s
KS19 Wonju Array Si 45.92 278 P **P** **00 19 50.7 0.0**
KS19 IAmb IAmb 00 19 53.3
comp=Z,30nm,0.9s
KSAR Wonju Array Be 45.94 277 P **P** **00 19 51.3 +0.4**
KSAR Wonju Array Be 45.94 277 P **P** **00 19 51.3 +0.4**
INCN Inchon 46.68 278 P **P** **00 19 57.1 +0.4**
INCN Inchon 46.68 278 P **P** **00 19 57.1 +0.4**
INCN pmax pmax
comp=Z,74nm,1.1s
NRIK Noril'sk 46.80 332 P **P** **00 19 56.9 -0.3**
NRIK Noril'sk 46.80 332⇑ *i*P **P** **00 19 56.9 -0.3**
NRIK pmax pmax
comp=Z,7.0nm,0.6s
NRIK Noril'sk 46.80 332 P **P** **00 19 56.6 -0.6**
comp=Z,6.2nm,0.6s,baz=67,slow=7.4,SNR=13
comp=Z,6.2nm,0.6s
TJN Taejon 46.95 277 P **P** **00 19 58.3 -0.5**
TJN Taejon 46.95 277*c* *i*P **P** **00 19 58.6 -0.2**
JNU Nakatsue 46.96 271 P **P** **00 19 59.0 +0.1**
JNU IAmb IAmb 00 20 00.6
comp=Z,29nm,1.1s
ECSD EROS Data Cent 47.06 70 P **P** **00 19 59.0 -0.7**
ECSD IAmb IAmb 00 20 38.2
comp=Z,16nm,1.2s
SPMN Marine on St. 48.34 66 P **P** **00 20 09.6 0.0**
SPMN IAmb IAmb 00 20 28.7
comp=Z,14nm,1.1s
XLT XiLinHaoTe 48.92 292⇓ *i*P **P** **00 20 14.8 +0.7**
XLT PcP **PcP** **00 21 39.0 +1.0**
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,130nm,3.7s
KBS Kingsbay 49.12 360 *e*P **P** **00 20 15.9 +0.8**
KBS IAmb IAmb 00 20 17.6
comp=Z,24nm,1.0s
SPB5 Spitsbergen Ar 49.84 359 P **P** **00 20 19.9 -0.6**
SPA0 Spitsbergen Ar 49.84 359 *e*P **P** **00 20 20.3 -0.3**
SPA0 IAmb IAmb 00 20 20.7
comp=Z,36nm,1.1s
SPITS Spitsbergen Ar 49.84 359 P **P** **00 20 20.0 -0.6**
SPITS Spitsbergen Ar 49.84 359 P **P** **00 20 20.0 -0.6**
comp=Z,4.6nm,0.4s,baz=31,slow=6.7,SNR=3.7
comp=Z,4.6nm,0.4s
SUMG Summit 50.79 17 P **P** **00 20 28.4 +0.2**
SUMG IAmb IAmb 00 20 30.6
comp=Z,28nm,0.8s
SUMG Summit 50.79 17 P **P** **00 20 28.4 +0.2**
SUMG pmax pmax
comp=Z,28nm,0.8s
SUMG Summit 50.79 17 *i* P **P** **00 20 27.9 -0.3**
SUMG IAmb IAmb 00 20 30.9
comp=Z,21nm,0.7s
HSPB Hornsund (broa 51.03 359 *e*P **P** **00 20 30.7 +1.1**
HOPEN Hopen 51.26 356 *e*P **P** **00 20 31.3 +0.1**
HOPEN IAmb IAmb 00 20 31.4
comp=Z,39nm,1.0s
BJI Beijing 51.29 288 P **P** **00 20 32.8 +0.8**
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJT Baijiatuan 51.31 288 P **P** **00 20 32.2 +0.1**
BJT Baijiatuan 51.31 288 P **P** **00 20 32.2 +0.1**
BJT pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 51.44 301 P **P** **00 20 33.1 -0.1**
ULN IAmb IAmb 00 20 34.5
comp=Z,32nm,1.2s
ULN Ulaanbaatar 51.44 301 ⇓P **P** **00 20 33.3 +0.1**
SONM Songino Array 51.80 301 P **P** **00 20 35.9 0.0**
SONM IAmb IAmb 00 20 37.8
comp=Z,28nm,1.4s
SONM Songino Array 51.80 301 P **P** **00 20 36.2 +0.3**
comp=Z,6.8nm,0.6s,baz=57,slow=6.8,SNR=17
comp=Z,6.8nm,0.6s
ZAK Zakamensk 51.81 306 *e*P **P** **00 20 33.6 -2.3**
ZAK *e* 00 21 48.0
ZAK pmax pmax
comp=Z,10.0nm,1.3s
ZAK pmax pmax
comp=Z,7.0nm,1.3s
MOY Mondy 52.14 308 *e*P **P** **00 20 38.8 +0.5**
MOY pmax pmax
comp=Z,18nm,1.9s
P40A Paris 52.36 72 P **P** **00 20 39.3 -0.7**
P40A IAmb IAmb 00 20 40.2
comp=Z,29nm,0.7s
ICESG Greenland Ices 53.35 20 *i* P **P** **00 20 45.5 -1.8**
ICESG IAmb IAmb 00 20 48.1
comp=Z,10nm,0.8s
HHC Hu-ho-hao-te 53.44 292 ⇑P **P** **00 20 49.0 +1.0**
HHC S **S** **00 28 21.3 +3.0**
HHC sS sS 00 28 33.0 +0.9
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,180nm,4.0s
HHC LR LR
comp=Z,640nm,12.2s
HHC LR LR
comp=Z,1μm,13.7s
HHC LR LR
comp=Z,2μm,12.9s
DY2G Dye2 53.84 25 *i* P **P** **00 20 50.2 -0.6**
DY2G IAmb IAmb 00 20 53.2
comp=Z,11nm,0.5s
HNS HongShan 53.90 286 ⇑P **P** **00 20 52.5 +1.2**
HNS sP **pwP** **00 21 07.0 +2.4**
HNS PcP **PcP** **00 21 57.3 +0.8**
HNS pmax pmax
comp=Z,58nm,1.0s
BTO Baotou 54.48 292 *e*P **P** **00 20 56.0 +0.4**
BTO pP **sP** **00 21 06.0 -1.2**
BTO sP **pwP** **00 21 10.3 +2.0**

BTO PP **PP** **00 22 59.5 +1.8**
BTO S **S** **00 28 31.3 -1.0**
BTO sS **sS** **00 28 47.3 +1.1**
BTO pmax pmax
comp=Z,65nm,0.9s
BTO pmax pmax
comp=Z,920nm,12.0s
N47A Urbana 55.12 67 P **P** **00 20 59.0 -1.1**
N47A IAmb IAmb 00 21 03.2
comp=Z,32nm,1.2s
SCHQ Schefferville 55.21 44 P **P** **00 21 00.5 -0.1**
SCHQ IAmb IAmb 00 21 02.1
comp=Z,14nm,1.1s
SCHQ Schefferville 55.21 44 P **P** **00 21 00.8 +0.2**
comp=Z,8.9nm,0.9s,baz=284,slow=8.5,SNR=5.9
comp=Z,8.9nm,0.9s
WLAR White Oak Lake 55.66 78 P **P** **00 21 04.2 +0.1**
WLAR IAmb IAmb 00 21 20.6
comp=Z,24nm,0.8s
O48B Farmland 55.84 67 P **P** **00 21 04.1 -1.2**
O48B IAmb IAmb 00 21 04.8
comp=Z,19nm,0.7s
LYN LuoYang 57.16 285 ⇓P **P** **00 21 15.8 +1.0**
LYN pmax pmax
comp=Z,38nm,1.0s
LYN pmax pmax
comp=Z,270nm,5.1s
VADS Vadso 57.29 353 *e*P **P** **00 21 15.3 +0.2**
TRQ Mont Tremblant 57.49 55 P **P** **00 21 16.4 -0.6**
TRQ IAmb IAmb 00 21 36.1
comp=Z,28nm,1.2s
KEV Kevo 57.82 354 P **P** **00 21 18.3 -0.5**
KEV Kevo 57.82 354 P **P** **00 21 18.3 -0.5**
KEV pmax pmax
comp=Z,122nm,1.7s
ZAA0 Zalesovo Array 57.87 318 P **P** **00 21 18.9 -0.7**
ZALV Zalesovo Beam 57.87 318 P **P** **00 21 18.9 -0.6**
ZALV Zalesovo Beam 57.87 318 P **P** **00 21 18.6 -0.9**
comp=Z,2.2nm,0.5s,baz=40,slow=6.5,SNR=7.1
ZALV PcP **PcP** **00 22 12.5 +0.9**
comp=Z,1.9nm,0.6s,baz=31,slow=5.1,SNR=3.7
comp=Z,2.2nm,0.5s
WBO Williamsburg 57.96 57 P **P** **00 21 20.2 -0.1**
WBO IAmb IAmb 00 21 36.5
comp=Z,19nm,1.0s
ARA0 ARCESS Array S 58.13 354 *e*P **P** **00 21 20.6 -0.5**
ARA0 IAmb IAmb 00 21 22.2
comp=Z,46nm,1.4s
ARCES ARCESS Array B 58.13 354 P **P** **00 21 20.5 -0.7**
ARCES IAmb IAmb 00 21 22.0
comp=Z,25nm,1.2s
ARCES ARCESS Array B 58.13 354 P **P** **00 21 20.4 -0.7**
comp=Z,11nm,0.7s,baz=14,slow=4.7,SNR=16
comp=Z,11nm,0.7s
TRO Tromso 58.35 357 *e*P **P** **00 21 22.6 0.0**
TRO IAmb IAmb 00 21 23.0
comp=Z,21nm,0.8s
JETT Jettan, Norway 58.37 356 *e*P **P** **00 21 23.1 +0.3**
JETT IAmb IAmb 00 21 23.4
comp=Z,31nm,0.7s
X48A Hartselle 58.74 73 P **P** **00 21 24.7 -1.2**
X48A IAmb IAmb 00 21 27.5
comp=Z,12nm,1.1s
KTK1 Kautokeino 58.78 355 *e*P **P** **00 21 25.2 -0.4**
KTK1 IAmb IAmb 00 21 25.6
comp=Z,56nm,1.5s
WHN Wuhan 58.85 281 P **P** **00 21 27.0 +0.3**
WHN pP **pP** **00 21 35.8 +0.8**
WHN sP **pwP** **00 21 39.0 -1.0**
WHN pmax pmax
comp=Z,68nm,0.9s
WHN LR LR
comp=Z,3μm,13.7s
WHN LR LR
comp=Z,3μm,11.2s
WHN LR LR
comp=Z,4μm,14.9s
LVZ Lovozero 58.96 350 P **P** **00 21 26.5 -0.5**
LVZ Lovozero 58.96 350*d* *i*P **P** **00 21 26.6 -0.4**
LVZ pmax pmax
comp=Z,137nm,1.6s
APA Apatity 59.41 350⇓ *i*P **P** **00 21 30.1 +0.1**
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,1μm,17.0s
XAN Xi'an 59.62 287⇑ P **P** **00 21 32.0 0.0**
XAN pP pP 00 21 36.8 -3.6
XAN pmax pmax
comp=Z,33nm,1.0s
S54A Dingess, Beckl 59.70 66 P **P** **00 21 32.0 -0.5**
DGZ Jazzator, Alta 59.81 313*c* *i*P **P** **00 21 33.6 +0.3**
DGZ pmax pmax
comp=Z,19nm,1.0s
LOF Lofoten 59.97 359 *e*P **P** **00 21 34.0 +0.2**
STEI Steigen 60.15 358 *e*P **P** **00 21 34.5 -0.5**
STEI IAmb IAmb 00 21 35.0
comp=Z,10nm,0.7s
BORG Borgarnes 60.65 15 P **P** **00 21 39.4 +0.8**
BORG Borgarnes 60.65 15 P **P** **00 21 39.4 +0.8**
BORG pmax pmax
comp=Z,250nm,1.7s
FAUS Fauske 60.70 358 *e*P **P** **00 21 38.6 -0.2**
GTA Gaotai 60.99 298⇑ P **P** **00 21 41.5 +0.1**
GTA pP pP 00 21 49.5 -0.5
GTA sP pwP 00 21 53.5 -0.7
GTA pmax pmax
comp=Z,12nm,1.2s
LZH Lanzhou 61.10 292⇑ P **P** **00 21 43.3 +1.0**
LZH pP sP 00 21 53.3 -0.6
LZH pmax pmax
comp=Z,40nm,1.2s
LZH LR LR
comp=Z,2μm,13.1s
LZH LR LR
comp=Z,1μm,13.4s
LZH LR LR
comp=Z,1μm,16.1s
KONS Konsvik 61.61 359 *e*P **P** **00 21 45.1 +0.1**
MOR8 Moi Rana 61.92 359 *e*P **P** **00 21 45.5 -1.6**
ENH Enshi 61.97 284 P **P** **00 21 48.5 +0.4**
ENH IAmb IAmb 00 21 49.3
comp=Z,20nm,0.8s
SEM Semipalatinsk 62.39 318 *e*P **P** **00 21 49.6 -1.3**
baz=318
SEM Semipalatinsk 62.39 318 *e*P **P** **00 21 49.5 -1.3**
ZSN Zaisan 62.62 313 *e*P **P** **00 21 52.5 +0.3**
baz=313
ZSN Zaisan 62.62 313 *e*P **P** **00 21 52.4 +0.3**
KURK Kurchatov 62.82 319 P **P** **00 21 53.3 -0.1**
KURK IAmb IAmb 00 21 54.1
comp=Z,13nm,0.7s
KURK Kurchatov 62.82 319 P **P** **00 21 54.2 +0.8**
KURBB Kurchatov Arra 62.93 319 P **P** **00 21 54.1 +0.1**
comp=Z,9.6nm,0.8s,baz=41,slow=7.9,SNR=25
comp=Z,9.6nm,0.8s
NSS Namsos 63.59 360 *e*P **P** **00 21 58.0 -0.2**
WMQ Urumqi 64.02 309 *e*P **P** **00 22 02.3 +0.8**
WMQ pP sP 00 22 13.0 -0.4
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ LR LR
comp=Z,6μm,17.7s
WMQ LR LR
comp=Z,4μm,17.7s
WMQ LR LR
comp=Z,1μm,20.9s
SVE Sverdlovsk 64.06 332 *e*P **P** **00 22 02.0 +0.5**
SVE pmax pmax
comp=Z,28nm,1.1s
BVAR Borovoye Array 64.12 325 P **P** **00 21 01.9 0.0**
comp=Z,16nm,0.7s,baz=47,slow=6.3,SNR=29
comp=Z,16nm,0.7s
BRVK Borovoye 64.13 325 P **P** **00 22 01.9 -0.1**
BRVK IAmb IAmb 00 22 03.7
comp=Z,20nm,1.0s
BRVK Borovoye 64.13 325*c* *e*P **P** **00 22 02.1 +0.1**
BRVK pmax pmax
comp=Z,25nm,1.1s
MK31 Makanchi Array 64.27 314 P **P** **00 22 02.8 -0.3**
MK31 IAmb IAmb 00 22 03.3
comp=Z,8.5nm,0.8s
MK31 Makanchi Array 64.27 314 P **P** **00 22 02.8 -0.3**
MK31 pmax pmax
comp=Z,9.0nm,0.8s

MKAR Makanchi Array 64.27 314 P **P** **00 22 02.5 -0.6**
MKAR Makanchi Array 64.27 314 P **P** **00 22 02.6 -0.5**
comp=Z,7.9nm,0.6s,baz=47,slow=6.7,SNR=34
comp=Z,7.9nm,0.6s
TBLU Trondheim 64.88 1 *e*P **P** **00 22 06.0 -0.7**
CD2 Chengdu 64.89 288 P **P** **00 22 08.3 +0.9**
CD2 pmax pmax
comp=Z,30nm,0.8s
ARU Arti 64.98 333 P **P** **00 22 07.3 -0.2**
ARU IAmb IAmb 00 22 08.4
comp=Z,19nm,0.8s
ARU Arti 64.98 333*c* *i*P **P** **00 22 07.4 -0.1**
ARU S **S** **00 30 49.0 +2.1**
ARU SS **SS** **00 34 58.5 +0.6**
ARU pmax pmax
comp=Z,21nm,0.8s
KLMR Klimovskoe 65.06 345 *e*P **P** **00 22 05.0 -2.9**
KLMR pmax pmax
comp=Z,38nm,1.4s
GULI GuiLin 65.08 280 P **P** **00 22 05.0 -3.6**
KIRV Kirov 65.33 339⇑ *i*P **P** **00 22 09.5 -0.1**
MOL Molde 65.52 2 *e*P **P** **00 22 11.0 +0.1**
BRZS Berezniki 65.74 322 *e*P **P** **00 22 12.0 -0.5**
baz=322
BRZS Berezniki 65.74 322 *e*P **P** **00 22 12.0 -0.5**
AKN Aaknes 65.90 2 *e*P **P** **00 22 13.7 +0.3**
GOMU GeErMu 66.04 298 P **P** **00 22 15.3 +0.2**
GOMU pP pP 00 22 19.5 -4.2
GOMU pmax pmax
comp=Z,23nm,1.0s
GOMU LR LR
comp=Z,2μm,15.2s
GOMU LR LR
comp=Z,2μm,14.7s
GOMU LR LR
comp=Z,3μm,16.3s
DOMB Dombas 66.08 1 *e*P **P** **00 22 14.2 -0.3**
FIA1 FINESS Array S 66.09 352 P **P** **00 22 14.1 -0.5**
FINES FINESS Array B 66.09 352 P **P** **00 22 14.2 -0.4**
comp=Z,26nm,0.6s,baz=19,slow=7.5,SNR=114
comp=Z,26nm,0.6s
RAF Rauma 66.81 355 *e*P **P** **00 22 19.3 +0.1**
NC204 NORSAR Array S 66.86 0 P **P** **00 22 19.4 -0.2**
NB2 NORSAR Subarra 67.10 0 P **P** **00 22 21.0 -0.1**
comp=Z,8.3nm,0.6s,baz=1.7,slow=6.9
NB2 NORSAR Subarra 67.10 0 P **P** **00 22 21.0 -0.1**
baz=1.7,slow=6.9
NOA NORSAR Array B 67.10 0 P **P** **00 22 21.0 -0.1**
NOA NORSAR Array B 67.10 0 P **P** **00 22 21.0 -0.1**
comp=Z,8.1nm,0.7s,baz=0.2,slow=6.3,SNR=18
comp=Z,8.1nm,0.7s
PUL Pulkovo 67.33 350⇓ *e*P **P** **00 22 22.5 0.0**
PUL pmax pmax
comp=Z,49nm,0.4s
TDK Taldyqorghan 67.37 315 *e*P **P** **00 22 23.1 +0.1**
comp=Z,17nm,0.9s,baz=315
TDK Taldyqorghan 67.37 315 *e*P **P** **00 22 23.1 +0.1**
TDK pmax pmax
comp=Z,17nm,0.9s
NC602 NORSAR Array S 67.41 360 *e*P **P** **00 22 22.9 0.0**
SKAR Skarslia 67.43 2 *e*P **P** **00 22 23.3 +0.1**
MEF Metsahovi 67.44 353 *e*P **P** **00 22 23.4 +0.2**
HFS Hagfors 68.00 359 P **P** **00 22 26.3 -0.4**
comp=Z,17nm,0.4s,baz=29,slow=3.4,SNR=84
comp=Z,17nm,0.4s
SHLS Shalkode 68.36 313 *e*P **P** **00 22 28.7 -0.8**
comp=Z,21nm,0.9s,baz=313
SHLS Shalkode 68.36 313 *e*P **P** **00 22 28.6 -0.8**
SHLS pmax pmax
comp=Z,21nm,0.9s
KPKS Kokpek 68.46 314 *e*P **P** **00 22 30.2 +0.1**
comp=Z,7.3nm,0.5s,baz=314
KPKS Kokpek 68.46 314 *e*P **P** **00 22 30.1 +0.1**
KPKS pmax pmax
comp=Z,7.0nm,0.5s
KONO Kongsberg 68.49 1 P **P** **00 22 29.8 0.0**
KONO Kongsberg 68.49 1 *e*P **P** **00 22 29.9 +0.1**
KONO Kongsberg 68.49 1 P **P** **00 22 29.8 0.0**
KONO pmax pmax
comp=Z,138nm,1.6s
UZB Uzynbulak 68.56 313 *e*P **P** **00 22 31.0 +0.2**
baz=313
UZB Uzynbulak 68.56 313 *e*P **P** **00 22 30.9 +0.2**
ZHN Zhinishke 68.81 314 *e*P **P** **00 22 32.4 +0.2**
baz=314
ZHN Zhinishke 68.81 314 *e*P **P** **00 22 32.4 +0.2**
CHKK Chushkaly 68.90 315 *e*P **P** **00 22 32.0 -0.7**
baz=315
CHKK Chushkaly 68.90 315 *e*P **P** **00 22 31.9 -0.7**
MTSE Matsula 68.97 353 *e*P **P** **00 22 33.4 +0.6**
VSU Vasula 68.98 351*d* *i*P **P** **00 22 33.2 +0.4**
VSU pmax pmax
comp=Z,52nm,0.7s
VSU Vasula 68.98 351 *e*P **P** **00 22 33.5 +0.7**
PZH PanZhiHua 69.34 287 P **P** **00 22 36.8 +1.0**
PZH S **S** **00 31 37.0 -3.4**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,90nm,3.5s
PZH LR LR
comp=Z,610nm,13.1s
PZH LR LR
comp=Z,620nm,16.0s
PZH LR LR
comp=Z,1μm,14.8s
PRZ Przheval'sk 69.37 313 P **P** **00 22 36.5 +0.7**
PRZ Przheval'sk 69.37 313 P **P** **00 22 36.5 +0.7**
PRZ pmax pmax
comp=Z,182nm,1.7s
MDOK Medeo 69.43 315 *e*P **P** **00 22 36.1 0.0**
baz=314
MDOK Medeo 69.43 315 *e*P **P** **00 22 36.1 0.0**
AAA Alma-Ata 69.45 315 *e*P **P** **00 22 36.1 0.0**
comp=Z,18nm,0.9s,baz=315
AAA Alma-Ata 69.45 315 *e*P **P** **00 22 36.1 0.0**
AAA pmax pmax
comp=Z,18nm,0.9s
KMI Kunming 69.78 285 ⇓P **P** **00 22 39.3 +0.7**
KMI pmax pmax
comp=Z,15nm,1.0s
KMI LR LR
comp=Z,2μm,22.4s
KMI LR LR
comp=Z,2μm,20.8s
KMI LR LR
comp=Z,1μm,24.6s
TJOU Tjoern 70.12 360 *e*P **P** **00 22 40.6 +0.8**
SLIT Slitere, Latvi 70.16 354 *e*P **P** **00 22 40.5 +0.4**
SGDS Sogindy 70.24 316 *e*P **P** **00 22 40.9 -0.1**
baz=316
SGDS Sogindy 70.24 316 *e*P **P** **00 22 40.8 -0.1**
TARG Taragay, Kyrgy 70.24 313 P **P** **00 22 41.9 +0.4**
TARG Taragay, Kyrgy 70.24 313 P **P** **00 22 41.9 +0.4**
TARG pmax pmax
comp=Z,82nm,1.5s
MOS Moscow 70.26 345 *e*P **P** **00 22 39.0 -1.7**
MOS pmax pmax
comp=Z,72nm,0.7s
USP Ospenovka 70.44 316 P **P** **00 22 42.9 +0.7**
SNR=9.9
BORU Boraas 70.51 359 *e*P **P** **00 22 42.4 +0.2**
CHMS Chumysh 70.55 316 P **P** **00 22 43.7 +0.9**
SNR=8.2
KBK Karagaybulak 70.75 316 P **P** **00 22 45.1 +0.8**
SNR=7.3
ONAU Onsala 70.75 360 *e*P **P** **00 22 43.8 +0.1**
FRU1 Bishkek 70.76 316 P **P** **00 22 44.6 +0.4**
FRU1 Bishkek 70.76 316 P **P** **00 22 44.6 +0.4**
FRU1 pmax pmax
comp=Z,26nm,0.8s
ABKAR Akbulak array 70.83 329 P **P** **00 22 44.5 +0.1**
ABKAR Akbulak array 70.83 329 P **P** **00 22 44.8 +0.5**
ABKAR IAmb IAmb 00 22 45.5
comp=Z,23nm,0.8s
AAK Ala-Archa 70.96 316 P **P** **00 22 46.2 +0.7**
SNR=9.6
AAK Ala-Archa 70.96 316 P **P** **00 22 46.2 +0.7**
AAK IAmb IAmb 00 22 47.0
comp=Z,19nm,0.8s
AAK Ala-Archa 70.96 316 P **P** **00 22 46.2 +0.7**
AAK pmax pmax
comp=Z,19nm,0.8s
OBN Obninsk 71.03 345 P **P** **00 22 45.1 -0.3**
OBN Obninsk 71.03 345*c* *i*P **P** **00 22 44.9 -0.5**

OBN *i* 00 22 53.6
OBN *i* 00 23 05.5
OBN pmax pmax
comp=Z,31nm,0.6s
EKS2 Erkin-Say 71.24 316 P **P** **00 22 48.3 +1.1**
SNR=6.5
NRN Naryn 71.28 314 P **P** **00 22 48.2 +0.5**
NRN IAmb IAmb 00 22 49.1
comp=Z,9.7nm,0.8s
NRN Naryn 71.28 314 P **P** **00 22 48.2 +0.5**
NRN pmax pmax
comp=Z,10.0nm,0.8s
BELG Belogornoye 71.42 338*c i*P **P** **00 22 48.0 +0.1**
BELG pmax pmax
comp=Z,7.0nm,0.9s
DEL Delary 71.67 359 *i* P **P** **00 22 49.0 -0.3**
VSVD Vaisvydziai 71.68 353 *e*P **P** **00 22 50.3 +0.9**
BLEU Blekinge 71.79 357 *e*P **P** **00 22 50.2 +0.2**
BJUU Bjuv 72.07 359 *e*P **P** **00 22 52.1 +0.4**
EKA Eskdalemuir Ar 72.14 9 P **P** **00 22 52.5 +0.4**
comp=Z,6.3nm,0.8s,baz=355,slow=4.2,SNR=6.2
comp=Z,6.3nm,0.8s
PABE Paberze 72.15 353 P **P** **00 22 52.5 +0.3**
PABE Paberze 72.15 353 *e*P **P** **00 22 52.9 +0.7**
KK31 Karatay Array 72.23 319 P **P** **00 22 53.0 0.0**
KK31 IAmb IAmb 00 22 54.1
comp=Z,16nm,0.9s
KK31 Karatay Array 72.23 319 P **P** **00 22 53.0 0.0**
KK31 pmax pmax
comp=Z,16nm,0.9s
KKAR Karatay Array 72.23 319 P **P** **00 22 53.1 +0.1**
KKAR Karatay Array 72.23 319 P **P** **00 22 53.1 +0.1**
TNCH TengChong 72.34 288 *e*P **P** **00 22 53.5 -0.6**
TNCH pP sP 00 23 05.3 -0.6
TNCH S **S** **00 32 11.8 -3.7**
TNCH sS sS 00 32 31.3 +1.4
TNCH pmax pmax
comp=Z,22nm,0.4s
TNCH pmax pmax
comp=Z,150nm,4.7s
TNCH LR LR
comp=Z,490nm,13.7s
TNCH LR LR
comp=Z,420nm,10.4s
TNCH LR LR
comp=Z,270nm,12.6s
ARSB Arslanbob 72.68 316 P **P** **00 22 56.2 +0.4**
ARSB Arslanbob 72.68 316 P **P** **00 22 56.2 +0.4**
ARSB pmax pmax
comp=Z,4.0nm,0.9s
MNK Minsk 72.78 350 *i* P **P** **00 22 55.6 -0.4**
MNK *i* 00 23 09.3
MNK *i* 00 25 37.1
MNK *i* S **S** **00 32 18.7 -0.5**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
KSH Kashi 72.85 313 P **P** **00 23 00.5 +3.7**
KSH sP PcP 00 23 13.3 -0.6
KSH pmax pmax
comp=N,36nm,0.8s
KSH LR LR
comp=N,960nm,14.6s
KSH LR LR
comp=N,620nm,13.0s
KSH LR LR
comp=N,1μm,16.4s
LSA Lhasa 72.96 296 P **P** **00 22 58.6 +0.5**
LSA IAmb IAmb 00 23 00.8
comp=Z,39nm,1.3s
LSA Lhasa 72.96 296 P **P** **00 22 58.6 +0.5**
LSA pmax pmax
comp=Z,39nm,1.3s
LPSR Galich'ya Gora 73.04 343 *e*P **P** **00 22 56.8 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KLNR Kaliningrad 73.30 355⇑ *e*P **P** **00 22 59.0 0.0**
KLNR pmax pmax
comp=Z,58nm,0.9s
SUW Suwalki 73.69 353 *e*P **P** **00 23 01.5 +0.2**
SUW Suwalki 73.69 353 P **P** **00 23 00.6 -0.8**
SUW Suwalki 73.69 353 P **P** **00 23 00.6 -0.8**
SUW pmax pmax
comp=Z,61nm,0.9s
SUW Suwalki 73.69 353 *e*P **P** **00 23 02.0 +0.6**
VRH Novokhopyorsk 73.83 341 *e*P **P** **00 23 01.6 -0.6**
VRH pmax pmax
comp=Z,20nm,0.6s
VORR Voronezh 73.88 342 *e*P **P** **00 23 01.4 -1.1**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 74.32 342 *e*P **P** **00 23 04.6 -0.5**
VSR pmax pmax
comp=Z,20nm,0.5s
VORD Divnogorie 74.53 342 *e*P **P** **00 23 05.9 -0.4**
VORD pmax pmax
comp=Z,20nm,0.6s
BTK Batken 74.65 317 P **P** **00 23 07.5 +0.2**
BTK IAmb IAmb 00 23 08.9
comp=Z,24nm,0.9s
BTK Batken 74.65 317 P **P** **00 23 07.5 +0.2**
BTK pmax pmax
comp=Z,24nm,0.9s
CRAI Chiangrai 74.92 283 P **P** **00 23 10.1 +1.1**
CRAI IAmb IAmb 00 23 11.2
comp=Z,24nm,0.9s
RETH Rethem/Aller, 75.41 1 *e*P **P** **00 23 12.9 +1.6**
comp=Z,27nm,1.3s,baz=360,slow=5.7
SHL Shillong 75.75 293 P **P** **00 23 13.4 -0.5**
SHL IAmb IAmb 00 23 16.3
comp=Z,14nm,0.6s
SHL Shillong 75.75 293 P **P** **00 23 13.5 -0.5**
SHL pmax pmax
comp=Z,14nm,0.6s
FLTG Flechtingen 75.83 0 *e*P **P** **00 23 14.1 +0.3**
comp=Z,11nm,1.0s,baz=360,slow=5.7
CLZ Clausthal 76.32 1 *e*P **P** **00 23 17.7 +1.1**
comp=Z,21nm,0.9s,baz=360,slow=5.7
AKASG Malin Array Be 76.36 348 P **P** **00 23 16.1 -0.7**
AKASG Malin Array Be 76.36 348 P **P** **00 23 16.2 -0.6**
comp=Z,13nm,0.6s,baz=13,slow=5.7,SNR=47
comp=Z,13nm,0.6s
AKBB Malin Array Si 76.36 348 P **P** **00 23 15.9 -0.9**
AKBB IAmb IAmb 00 23 17.1
comp=Z,22nm,0.7s
AKBB Malin Array Si 76.36 348⇑ *i*P **P** **00 23 15.9 -0.9**
AKBB pmax pmax
comp=Z,24nm,0.8s
KIEV Kiev 76.37 348 P **P** **00 23 15.7 -1.2**
KIEV IAmb IAmb 00 23 17.1
comp=Z,20nm,0.8s
KIEV Kiev 76.37 348 P **P** **00 23 15.7 -1.2**
KIEV pmax pmax
comp=Z,20nm,0.8s
SIMJ Simiganj 76.58 317 P **P** **00 23 18.6 +0.1**
GTTG Gottingen 76.61 1 *e*P **P** **00 23 18.7 +0.5**
comp=Z,26nm,1.0s,baz=360,slow=5.7
CLL Collm 76.85 359 *i* P **P** **00 23 20.0 +0.4**
CLL *i* *SP **pwP** **00 23 31.8 -1.0**
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 76.85 359 *i* P **P** **00 23 20.0 +0.4**
comp=Z,10.0nm,0.9s
CLL *i* (sP) **pwP** **00 23 31.8 -1.0**
CLL AMS AMS 00 32 00.0
comp=Z,400nm,21.2s
CLL Collm 76.85 359 *e*P **P** **00 23 20.4 +0.8**
comp=Z,8.3nm,0.8s,baz=360,slow=5.7
CHTO Chiang Mai 76.86 284 P **P** **00 23 20.6 +0.4**
CHTO IAmb IAmb 00 23 21.7
comp=Z,29nm,1.5s
CHTO Chiang Mai 76.86 284 P **P** **00 23 20.6 +0.4**
CHTO pmax pmax
comp=Z,29nm,1.5s
CM31 Chiang Mai Arr 77.13 283 P **P** **00 23 22.3 +0.6**
CM31 IAmb IAmb 00 23 23.7
comp=Z,27nm,1.1s
CMAR Chiang Mai Arr 77.13 283 P **P** **00 23 22.2 +0.5**
CMAR Chiang Mai Arr 77.13 283 P **P** **00 23 22.8 +1.1**
comp=Z,12nm,0.7s,baz=26,slow=6.2,SNR=39
comp=Z,12nm,0.7s
KSP Ksiaz 77.24 357 *e*P **P** **00 23 22.6 +0.8**

BRG Berggiesshubel 77.27 358 *e*P **P** **00 23 22.9 +0.9**
BRG Amp 00 23 25.2
comp=Z,14nm,1.0s
BRG Berggiesshubel 77.27 358 *e*P **P** **00 23 22.8 +0.9**
BRG *e* 00 23 35.8
BRG pmax pmax
comp=Z,14nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 77.27 358 *e*P **P** **00 23 22.7 +0.7**
comp=Z,14nm,1.0s,baz=360,slow=5.7
MEM Membach 77.45 4 *d*P **P** **00 23 23.2 +0.2**
BSTI Sart Tilman 77.46 4 *d*P **P** **00 23 24.2 +1.2**
comp=Z,4.3nm,0.7s
BTNL Ternell 77.48 3 *d*P **P** **00 23 24.4 +1.2**
comp=Z,12nm,1.1s
MOX Moxa 77.52 360 *e*P **P** **00 23 24.3 +0.9**
comp=Z,19nm,1.0s,baz=360,slow=5.7
HSKC Hora Svate Kat 77.54 359 *e*P **P** **00 23 24.9 +1.4**
UPC Upice 77.58 357 *e*P **P** **00 23 24.6 +0.9**
UPC Upice 77.58 357 *e*P **P** **00 23 24.6 +0.9**
RICC Richard 77.60 358 *e*P **P** **00 23 25.1 +1.3**
PVCC Panska Ves 77.60 358 *e*P **P** **00 23 24.6 +0.8**
PVCC Panska Ves 77.60 358 *e*P **P** **00 23 24.6 +0.8**
BGES Gesves 77.64 4 *d*P **P** **00 23 22.4 -1.6**
comp=Z,9.7nm,1.1s
PLN Plauen 77.68 360 *e*P **P** **00 23 25.1 +0.8**
comp=Z,8.3nm,1.0s,baz=360,slow=5.7
OJC Ojcow 77.70 355 P **P** **00 23 24.8 +0.4**
OJC IAmb IAmb 00 23 26.2
comp=Z,15nm,0.9s
OJC Ojcow 77.70 355 P **P** **00 23 24.8 +0.4**
OJC pmax pmax
comp=Z,15nm,0.9s
BMRD Maredsous 77.71 4 *d*P **P** **00 23 25.4 +1.0**
comp=Z,15nm,1.1s
DPC Dobruska-Polom 77.73 357 *e*P **P** **00 23 25.7 +1.1**
DPC Dobruska-Polom 77.73 357 *e*P **P** **00 23 25.7 +1.1**
LVV L'vov 77.78 352 *e*P **P** **00 23 25.3 +0.4**
RCHB Rochefort 77.87 4 *d*P **P** **00 23 26.2 +0.9**
comp=Z,13nm,1.1s
DOU Dourbes 77.91 4 *d*P **P** **00 23 26.1 +0.6**
comp=Z,8.1nm,1.0s
TNS Taunus Mts 77.91 2 *e*P **P** **00 23 26.6 +1.0**
comp=Z,12nm,1.0s,baz=360,slow=5.7
NKC Novy Kostel 77.93 359 *e*P **P** **00 23 25.2 -0.5**
NKC Novy Kostel 77.93 359 *e*P **P** **00 23 25.2 -0.5**
KRLC Kraliky 77.99 356 *e*P **P** **00 23 25.6 -0.5**
KRLC Kraliky 77.99 356 *e*P **P** **00 23 25.6 -0.5**
KWP Kalwaria Pacla 78.08 353 *e*P **P** **00 23 27.3 +0.7**
KWP Kalwaria Pacla 78.08 353 P **P** **00 23 27.2 +0.7**
KWP Kalwaria Pacla 78.08 353 P **P** **00 23 27.2 +0.7**
PRU Pruhonice 78.14 358 *e*P **P** **00 23 27.4 +0.6**
PRU Pruhonice 78.14 358 *e*P **P** **00 23 27.4 +0.6**
OKC Ostrava-Krasne 78.17 356 *e*P **P** **00 23 27.8 +0.8**
OKC Ostrava-Krasne 78.17 356 *e*P **P** **00 23 27.8 +0.8**
MORC Moravsky Berou 78.26 356 ⇓P **P** **00 23 28.4 +0.9**
MORC Moravsky Berou 78.26 356 P **P** **00 23 27.8 +0.3**
MORC IAmb IAmb 00 23 29.5
comp=Z,24nm,1.2s
MORC Moravsky Berou 78.26 356 *e*P **P** **00 23 28.2 +0.7**
MORC Moravsky Berou 78.26 356 P **P** **00 23 27.8 +0.3**
MORC pmax pmax
comp=Z,24nm,1.2s
ROTZ Rotzenmuhle 78.40 359 *e*P **P** **00 23 29.3 +1.0**
comp=Z,5.6nm,1.4s,baz=360,slow=5.7
WLF Walferdange 78.40 4 *d*P **P** **00 23 27.3 -1.0**
comp=Z,7.8nm,1.1s
WLF Walferdange 78.40 4 *e*P **P** **00 23 30.3 +2.0**
comp=Z,21nm,1.1s,baz=360,slow=5.7
STHS Stebnicka Huta 78.41 353 *e*P **P** **00 23 28.9 +0.6**
STHS pmax pmax
comp=Z,19nm,1.1s
STHS Stebnicka Huta 78.41 353 *e*P **P** **00 23 28.9 +0.6**
GRA1 Grafenberg Arr 78.47 0 P **P** **00 23 28.8 +0.1**
GRA1 IAmb IAmb 00 23 31.1
comp=Z,19nm,0.9s
GRF Grafenberg Arr 78.47 0 P **P** **00 23 28.8 +0.1**
GRF pmax pmax
comp=Z,19nm,0.9s
GRFO Grafenberg 78.47 0 P **P** **00 23 29.5 +0.8**
GRFO IAmb IAmb 00 23 31.1
comp=Z,22nm,1.0s
GRFO Grafenberg 78.47 0 P **P** **00 23 29.5 +0.8**
GRFO pmax pmax
comp=Z,22nm,1.0s
ZVC Zvikov 78.70 358 *e*P **P** **00 23 30.5 +0.6**
VRAC Vranov 78.76 357⇑P **P** **00 23 31.7 +1.3**
VRAC Vranov 78.76 357 *e*P **P** **00 23 31.2 +0.9**
VRAC Vranov 78.76 357 P **P** **00 23 31.6 +1.3**
SAUI Saumlaki 78.77 241 P **P** **00 23 31.1 +0.4**
LANS Liptovska Anna 78.78 355 *e*P **P** **00 23 32.3 +1.8**
LANS pmax pmax
comp=Z,23nm,1.4s
LANS Liptovska Anna 78.78 355 *e*P **P** **00 23 32.3 +1.8**
KOLS Kolonicke sedl 78.81 353 *e*P **P** **00 23 31.9 +1.3**
KOLS pmax pmax
comp=Z,12nm,0.8s
KOLS Kolonicke sedl 78.81 353 *e*P **P** **00 23 31.9 +1.3**
TREC Trest 78.81 357 *e*P **P** **00 23 30.0 -0.6**
TREC Trest 78.81 357 *e*P **P** **00 23 30.0 -0.6**
CRVS Cervenica-Dubn 78.90 353 *e*P **P** **00 23 32.1 +1.0**
CRVS Cervenica-Dubn 78.90 353 *e*P **P** **00 23 32.1 +1.0**
NIL Nilore 78.91 311 P **P** **00 23 32.0 +0.6**
NIL Nilore 78.91 311 P **P** **00 23 32.0 +0.6**
NIL pmax pmax
comp=Z,35nm,0.9s
SORM Soroca 78.99 349 ⇓P **P** **00 23 31.5 0.0**
SORM Soroca 78.99 349 P **P** **00 23 31.5 0.0**
WET Wettzell 79.02 359 *e*P **P** **00 23 32.8 +1.1**
comp=Z,12nm,1.1s,baz=360,slow=5.7
KRUC Moravsky 79.02 357 *e*P **P** **00 23 32.3 +0.6**
KHC Kasperske Hory 79.02 359 P **P** **00 23 32.4 +0.7**
KHC IAmb IAmb 00 23 34.2
comp=Z,22nm,1.1s
KHC Kasperske Hory 79.02 359 *e*P **P** **00 23 32.8 +1.1**
KHC Kasperske Hory 79.02 359*ce*P **P** **00 23 32.9 +1.2**
KHC pmax pmax
comp=Z,50nm,1.1s
JAVC Velka Javorina 79.17 356 *e*P **P** **00 23 34.6 +2.0**
GEC2 GERESS Array S 79.30 358 P **P** **00 23 33.6 +0.3**
GEC2 IAmb IAmb 00 23 35.2
comp=Z,15nm,1.1s
GEC2 GERESS Array S 79.30 358 *e*P **P** **00 23 34.2 +0.8**
comp=Z,18nm,1.1s,baz=360,slow=5.7
GERES GERESS Array B 79.30 358 P **P** **00 23 33.4 0.0**
GERES GERESS Array B 79.30 358 P **P** **00 23 34.5 +1.2**
comp=Z,6.3nm,0.9s,baz=359,slow=5.3,SNR=15
comp=Z,6.3nm,0.9s
ERBR Yeremizino-Bor 79.31 340 *e*P **P** **00 23 34.6 +1.3**
ERBR *e*S **S** **00 33 33.2 +1.9**
ERBR pmax pmax
comp=Z,83nm,1.0s
ERBR MLR MLR
comp=Z,858nm,16.0s
CKRC Cesky Krumlov 79.32 358 *e*P **P** **00 23 33.2 -0.2**
CKRC Cesky Krumlov 79.32 358 *e*P **P** **00 23 33.2 -0.2**
GOF Gofitskoye 79.36 338*ce*P **P** **00 23 35.1 +1.5**
STU Stuttgart 79.38 2 P **P** **00 23 33.9 +0.3**
STU IAmb IAmb 00 23 35.6
comp=Z,13nm,0.9s
STU Stuttgart 79.38 2 P **P** **00 23 33.9 +0.3**
STU pmax pmax
comp=Z,13nm,0.9s
KECS Kecovo 79.39 354 *e*P **P** **00 23 34.8 +1.1**
KECS pmax pmax
comp=Z,22nm,1.1s
KECS Kecovo 79.39 354 *e*P **P** **00 23 34.8 +1.1**
VYHS Vyhne 79.47 355 *e*P **P** **00 23 35.3 +1.1**
VYHS pmax pmax
comp=Z,27nm,1.1s
VYHS Vyhne 79.47 355 *e*P **P** **00 23 35.3 +1.1**
MODS Modra-Piesok 79.67 356 *e*P **P** **00 23 36.9 +1.6**
MODS pmax pmax
comp=Z,75nm,1.1s
MODS Modra-Piesok 79.67 356 *e*P **P** **00 23 36.9 +1.6**
BFO Black Forest 79.80 2 *e*P **P** **00 23 36.9 +0.9**
comp=Z,15nm,1.0s,baz=360,slow=5.7
BUR08 Bucovina Ar. S 79.83 351 P **P** **00 23 36.0 -0.2**
CLF Chambon-Foret 79.83 6 P **P** **00 23 37.3 +1.2**
ZST Bratislava 79.85 356 *e*P **P** **00 23 38.0 +1.8**
ZST pmax pmax
comp=Z,90nm,1.2s
ZST Bratislava 79.85 356 *e*P **P** **00 23 38.0 +1.8**
BURAR Bucovina Array 79.86 351 P **P** **00 23 36.6 +0.2**
ECH Echery 79.89 3 P **P** **00 23 37.2 +0.7**
ECH IAmb IAmb 00 23 38.8
comp=Z,34nm,1.2s
ECH Echery 79.89 3 P **P** **00 23 37.2 +0.7**
ECH pmax pmax
comp=Z,34nm,1.2s
BMR Baia Mare 79.96 352⇑P **P** **00 23 37.6 +0.8**
BMR Baia Mare 79.96 352 P **P** **00 23 37.6 +0.8**
PSZ Piszkesteto 79.99 354⇑P **P** **00 23 38.6 +1.5**
PSZ Piszkesteto 79.99 354 P **P** **00 23 37.6 +0.6**
PSZ IAmb IAmb 00 23 39.5
comp=Z,25nm,1.1s
PSZ Piszkesteto 79.99 354 P **P** **00 23 38.5 +1.5**
FUR Furstenfeldbru 80.00 0 *e*P **P** **00 23 38.2 +1.1**
comp=Z,42nm,1.2s,baz=360,slow=5.7
KBL Kabul 80.05 315 P **P** **00 23 37.4 -0.4**
KBL IAmb IAmb 00 23 39.0
comp=Z,44nm,1.4s
KBL Kabul 80.05 315 P **P** **00 23 37.4 -0.4**
KBL pmax pmax
comp=Z,45nm,1.4s
MILM Milestii Mici 80.13 348 ⇓P **P** **00 23 37.8 +0.1**
MILM Milestii Mici 80.13 348 P **P** **00 23 37.8 +0.1**
CONA Conrad Observa 80.17 357 *i* P **P** **00 23 39.4 +1.3**
comp=Z,25nm,1.0s,SNR=12
SRO Srobarova 80.18 355 *e*P **P** **00 23 39.8 +1.8**
SRO pmax pmax
comp=Z,22nm,1.2s
SRO Srobarova 80.18 355 *e*P **P** **00 23 39.8 +1.8**
MAK Makhachkala 80.20 334 *e*P **P** **00 23 37.9 -0.3**
MAK *e* 00 26 37.1
MAK *e*S **S** **00 33 40.8 0.0**
MAK *e*SS **SS** **00 38 51.5 +1.0**
MAK *e*SSS SSS 00 42 20.7
MAK pmax pmax
comp=Z,375nm,1.2s
MAK MLR MLR
comp=Z,501nm,19.0s
LABN Labinsk 80.28 339 *e*P **P** **00 23 39.5 +0.9**
LABN *e*S **S** **00 33 44.3 +2.7**
LABN pmax pmax
comp=Z,55nm,1.4s
MOA Molln 80.29 358 *i* P **P** **00 23 39.6 +0.9**
comp=Z,5.3nm,1.0s
RONA Rosalia, Austr 80.38 357 *e*P **P** **00 23 40.5 +1.4**
comp=Z,13nm,1.0s,SNR=6.1
RJOB Jochberg 80.42 359 *e*P **P** **00 23 40.6 +1.2**
comp=Z,14nm,1.0s,baz=360,slow=5.7
BIOA Bad Ischl, Aus 80.46 358 *e*P **P** **00 23 40.5 +0.9**
comp=Z,18nm,1.2s,SNR=8.9
ARCR ARCALIA 80.47 351 ⇓P **P** **00 23 41.0 +1.4**
UBR Ueberruh 80.48 1 *e*P **P** **00 23 40.8 +1.1**
comp=Z,22nm,1.2s,baz=360,slow=5.7
KIV Kislovodsk 80.48 338 ⇓P **P** **00 23 41.1 +1.3**
KIV Kislovodsk 80.48 338 P **P** **00 23 40.3 +0.5**
KIV IAmb IAmb 00 23 43.0
comp=Z,32nm,1.0s
KIV Kislovodsk 80.48 338 *e*P **P** **00 23 40.8 +1.0**
KIV pmax pmax
comp=Z,26nm,1.1s
VASR Vaslui 80.53 349 ⇓P **P** **00 23 40.3 +0.4**
BSZH Besenyszg 80.58 354 ⇓P **P** **00 23 41.7 +1.6**
KBZ Khabaz 80.65 337 P **P** **00 23 41.6 +1.1**
comp=Z,15nm,0.9s,baz=65,slow=2.5,SNR=14
comp=Z,15nm,0.9s
RETA Reutte 80.68 0 *i* P **P** **00 23 41.9 +1.1**
comp=Z,8.4nm,0.8s
NCK Nalchik 80.70 337⇓ *i*P **P** **00 23 42.6 +1.7**
NCK pmax pmax
comp=Z,49nm,0.8s
ANN Anapa 80.80 342 *e*P **P** **00 23 41.5 +0.1**
ANN *e*S **S** **00 33 45.1 -1.9**
ANN pmax pmax
comp=Z,72nm,1.2s
ANN MLR MLR
comp=Z,765nm,16.0s
MOTA Moosalm 80.82 0 *i* P **P** **00 23 42.7 +1.0**
comp=Z,21nm,0.9s,SNR=11
WATA Walderalm 80.83 360 *i* P **P** **00 23 42.8 +1.1**
comp=Z,14nm,0.8s,SNR=8.1
ARSA Arzberg 80.86 357 *e*P **P** **00 23 43.2 +1.6**
comp=Z,13nm,1.0s,SNR=7.8
DAVA Damuels 80.87 1 *i* PcP **P** **00 23 44.2 +2.2**
comp=Z,11nm,1.1s
CJR Cluj-Napoca 80.90 352 ⇓P **P** **00 23 42.9 +0.8**
CJR Cluj-Napoca 80.90 352 P **P** **00 23 42.8 +0.8**
DRGR 80.90 352⇑P **P** **00 23 42.4 +0.4**
DRGR 80.90 352 P **P** **00 23 42.4 +0.4**
WTTA Wattenberg 80.90 360 *i* P **P** **00 23 43.5 +1.3**
comp=Z,22nm,0.8s,SNR=8.7
SQTA Sankt Quirin 80.95 0 *i* P **P** **00 23 43.6 +1.3**
comp=Z,23nm,0.8s,SNR=11
MARR Marisel-Cluj 80.98 352 ⇓P **P** **00 23 43.1 +0.6**
KBA Koelnbreinsper 81.08 359 *i* PcP **P** **00 23 44.7 +1.6**
comp=Z,34nm,0.8s,SNR=19
FETA Feichten 81.14 0 *i* P **P** **00 23 44.7 +1.3**
comp=Z,18nm,0.9s,SNR=14
GHRR 81.15 349 ⇓P **P** **00 23 44.4 +1.1**
VLDR Vladesti 81.28 348⇑P **P** **00 23 44.4 +0.5**
ZEI Tsey 81.30 336 *e*P **P** **00 23 42.4 -1.9**
ZEI pmax pmax
comp=Z,19nm,1.5s
OZUR 81.30 350 ⇓P **P** **00 23 44.5 +0.4**
TURR Turia 81.31 350⇑P **P** **00 23 45.2 +1.0**
BOSR Bodos 81.33 350⇑P **P** **00 23 46.0 +1.8**
ABTA Abfaltersbach 81.42 359 *i* P **P** **00 23 45.7 +0.9**
comp=Z,19nm,0.9s,SNR=11
SOKA Soboth 81.44 357 *i* P **P** **00 23 46.1 +1.2**
comp=Z,20nm,0.9s,SNR=18
PLOR Plostina 81.44 349 ⇓P **P** **00 23 45.5 +0.6**
PLOR Plostina 81.44 349 P **P** **00 23 45.4 +0.6**
GEYT Alibeck 81.45 324 P **P** **00 23 45.5 +0.4**
GEYT Alibeck 81.45 324 P **P** **00 23 46.0 +1.0**
GEYT Alibeck 81.45 324 P **P** **00 23 46.0 +1.0**
comp=Z,26nm,0.9s,baz=339,slow=3.8,SNR=31
comp=Z,26nm,0.9s
GYA0B ALIBECK ARRAY 81.45 324 P **P** **00 23 45.4 +0.4**
GYA0B IAmb IAmb 00 23 50.5
comp=Z,36nm,1.1s
SCTR Scanteiesti 81.46 348 ⇓P **P** **00 23 45.5 +0.6**
DOPR Dopca 81.47 350⇑P **P** **00 23 46.1 +1.2**
ODBI Odobesti 81.48 349 ⇓P **P** **00 23 46.8 +1.8**
COVR Voineasa-Covas 81.50 350 ⇓P **P** **00 23 46.6 +1.4**
SIRR Siria 81.51 353⇑P **P** **00 23 46.4 +1.2**
MYKA Terra Mystica 81.52 358 *i* P **P** **00 23 46.1 +0.9**
comp=Z,16nm,1.5s
FUORN Ofenpass-Fuorn 81.54 1 P **P** **00 23 46.1 +0.4**
FUORN IAmb IAmb 00 23 48.4
comp=Z,31nm,1.3s
SLCR Slobozia Conac 81.57 348 ⇓P **P** **00 23 46.4 +1.0**
TUDR 81.58 349 ⇓P **P** **00 23 47.3 +1.8**
NEGRR Negrea 81.61 348 ⇓P **P** **00 23 47.5 +1.9**
IZVR Izvoarele 81.62 348 ⇓P **P** **00 23 46.6 +1.0**
OBKA Obir 81.62 358 *e*P **P** **00 23 46.8 +1.0**
comp=Z,16nm,0.8s,SNR=6.3
OBKA Obir 81.62 358⇑ *i*P **P** **00 23 46.5 +0.6**
SCHL Schela 81.65 348⇑P **P** **00 23 47.2 +1.4**
PRED Cave del Predi 81.71 359 P **P** **00 23 46.7 +0.5**
PRED IAmb IAmb 00 23 47.9
comp=Z,17nm,0.9s
BISRR Bisoca 81.74 349 ⇓P **P** **00 23 47.6 +1.2**
SENIN Lac Senin/Sane 81.74 3 P **P** **00 23 47.0 +0.3**
MORH Mrgy, Hungar 81.76 355 ⇓P **P** **00 23 47.0 +0.6**
MLR Muntele Rosu 81.88 350 ⇓P **P** **00 23 48.5 +1.3**
MLR Muntele Rosu 81.88 350 P **P** **00 23 48.0 +0.7**
MLR Muntele Rosu 81.88 350 P **P** **00 23 48.0 +0.7**
MLR pmax pmax
comp=Z,15nm,1.3s
STAL STALIGIAL 81.90 359 P **P** **00 23 47.7 +0.4**
STAL IAmb IAmb 00 23 48.7
comp=Z,20nm,1.5s
NEHR Nehoiu 81.90 349 ⇓P **P** **00 23 47.9 +0.6**
ROBS Robic 81.91 359 *i* P **P** **00 23 47.5 +0.3**
CFR Carcaliu 81.93 348 ⇓P **P** **00 23 47.9 +0.5**
CFR Carcaliu 81.93 348 P **P** **00 23 47.8 +0.5**
SURR Surduc 81.98 352⇑P **P** **00 23 48.2 +0.6**
VOIR 82.03 350⇑P **P** **00 23 48.6 +0.5**
VOIR 82.03 350 P **P** **00 23 48.5 +0.5**
CTI Castel Tesino 82.12 360 P **P** **00 23 49.1 +0.6**
CTI IAmb IAmb 00 23 50.0
comp=Z,18nm,1.1s

CTI	**Castel Tesino**	**82.12**	**360**	P	**P**	**00 23 49.1**	**+0.6**
CTI				pmax	pmax		
	comp=Z,18nm,1.1s						
ARR	**Arges**	**82.14**	**351**	⇑P	**P**	**00 23 49.4**	**+0.9**
BZS	**Buzias**	**82.16**	**353**	⇓P	**P**	**00 23 49.2**	**+0.6**
BZS	**Buzias**	**82.16**	**353**	P	**P**	**00 23 49.1**	**+0.6**
TPGR	**Topolog**	**82.21**	**348**	⇓P	**P**	**00 23 49.4**	**+0.6**
CRES	**Cresnjev**	**82.28**	**357**	*e*P	**P**	**00 23 49.3**	**+0.1**
GZR	**Gura Zlata**	**82.29**	**352**	⇑P	**P**	**00 23 49.8**	**+0.5**
GZR	**Gura Zlata**	**82.29**	**352**	P	**P**	**00 23 49.8**	**+0.5**
CEY	**Cerknica**	**82.40**	**358**	*i* P	**P**	**00 23 50.2**	**+0.4**
CEY	**Cerknica**	**82.40**	**358**	⇑*i*P	**P**	**00 23 50.2**	**+0.4**
HARR	**Harsova**	**82.44**	**348**	⇓P	**P**	**00 23 50.9**	**+0.8**
HARR	**Harsova**	**82.44**	**348**	P	**P**	**00 23 50.8**	**+0.8**
GBRS	**Gornja Briga**	**82.59**	**358**	*i* P	**P**	**00 23 51.5**	**+0.7**
SKDS	**Skadanscina**	**82.60**	**358**	*e*P	**P**	**00 23 51.2**	**+0.3**
TIRR	**Tirgusor**	**82.60**	**348**	⇓P	**P**	**00 23 51.7**	**+0.8**
TIRR	**Tirgusor**	**82.60**	**348**	P	**P**	**00 23 51.4**	**+0.5**
TIRR	**Tirgusor**	**82.60**	**348**	P	**P**	**00 23 51.6**	**+0.8**
BOJS	**Bojanci**	**82.61**	**357**	⇑*i*P	**P**	**00 23 51.1**	**+0.2**
SULR		**82.65**	**349**	⇓P	**P**	**00 23 52.1**	**+1.0**
FRGS	**Fruska Gora**	**82.74**	**354**	⇓P	**P**	**00 23 52.5**	**+0.8**
FRGS	**Fruska Gora**	**82.74**	**354**	⇑*i*P	**P**	**00 23 52.1**	**+0.4**
TEOL	**Teolo**	**82.81**	**360**	P	**P**	**00 23 52.7**	**+0.7**
HERR	**Herculane**	**82.83**	**352**	⇑P	**P**	**00 23 52.1**	**+0.1**
MDVR	**Moldovita**	**82.98**	**353**	⇓P	**P**	**00 23 53.5**	**+0.6**
HRA	**Herat**	**83.02**	**320**	P	**P**	**00 23 53.5**	**0.0**
HRA				IAmb	IAmb	00 23 54.9	
	comp=Z,14nm,1.1s						
BNI	**Bardonecchia**	**83.03**	**3**	P	**P**	**00 23 54.4**	**+1.1**
BNI				IAmb	IAmb	00 23 56.6	
	comp=Z,16nm,0.8s						
BNI	**Bardonecchia**	**83.03**	**3**	P	**P**	**00 23 54.4**	**+1.1**
BNI				pmax	pmax		
	comp=Z,16nm,0.8s						
A051A	**Mrakovica**	**83.04**	**356**	*e*P	**P**	**00 23 53.6**	**+0.3**
BLY	**Banja Luka**	**83.29**	**356**	*e*P	**P**	**00 23 54.4**	**-0.1**
TEKS	**Tekeris**	**83.37**	**354**	*e*P	**P**	**00 23 55.0**	**+0.1**
PRMA	**PARMA**	**83.40**	**1**	P	**P**	**00 23 56.2**	**+1.3**
A050A	**Klekovaca**	**83.59**	**356**	*e*P	**P**	**00 23 55.8**	**-0.3**
MGRS	**Mrkonjic Grad**	**83.63**	**356**	*e*P	P	00 23 44.1	-12
ZCCA	**Zocca**	**83.82**	**0**	P	**P**	**00 23 58.6**	**+1.4**
HAPS	**Han Pijesak,BI**	**83.86**	**355**	⇑*i*P	**P**	**00 23 58.0**	**+0.4**
LOZB	**Loznitsa**	**83.90**	**349**	⇓P	**P**	**00 23 57.9**	**+0.3**
BLKB	**Belogradchik**	**84.05**	**352**	⇑P	**P**	**00 23 59.0**	**+0.6**
BBLS	**Lazići**	**84.06**	**354**	⇑*i*P	**P**	**00 23 59.2**	**+0.7**
PLVB	**Pleven**	**84.10**	**350**	⇓P	**P**	**00 23 59.7**	**+1.1**
BOVS	**Bovan**	**84.12**	**353**	⇓P	**P**	**00 23 58.7**	**0.0**
RUDO	**Rudo**	**84.30**	**354**	*e*P	**P**	**00 24 00.0**	**+0.3**
SJES	**Sjenica**	**84.62**	**354**	⇑*i*P	**P**	**00 24 01.7**	**+0.3**
OSSC	**Osservatorio P**	**84.64**	**0**	P	**P**	**00 24 01.7**	**+0.3**
NEVS	**Nevesinje**	**84.69**	**355**	*e*P	**P**	**00 24 02.4**	**+0.7**
BRY	**Bratogost**	**85.07**	**355**	*e*P	**P**	**00 24 03.4**	**-0.3**
FDMO	**Fiordimonte**	**85.12**	**359**	P	**P**	**00 24 04.8**	**+1.0**
FDMO				IAmb	IAmb	00 24 11.1	
	comp=Z,12nm,0.8s						
STON	**Ston**	**85.14**	**355**	⇑*i*P	**P**	**00 24 03.5**	**-0.3**
TREB	**Trebinje**	**85.26**	**355**	*e*P	**P**	**00 24 08.9**	**+4.4**
HCY	**Herceg Novi**	**85.52**	**355**	*e*P	**P**	**00 24 05.2**	**-0.6**
DRME	**Dracevica, Mon**	**85.74**	**354**	*e*P	**P**	**00 24 05.5**	**-1.4**
PUK	**Puka**	**85.84**	**354**	P	**P**	**00 24 07.8**	**+0.4**
MDUB	**Mudurnu**	**86.11**	**345**	P	**P**	**00 24 09.7**	**+0.8**
RDO	**Rodhopi**	**86.22**	**349**	P	**P**	**00 24 10.0**	**+0.8**
BR131	**Keskin Array S**	**86.42**	**343**	P	**P**	**00 24 10.8**	**+0.3**
BR131				IAmb	IAmb	00 24 13.5	
	comp=Z,22nm,1.3s						
BR131	**Keskin Array S**	**86.42**	**343**	*ce*P	**P**	**00 24 11.4**	**+0.9**
BRTR	**Keskin Array B**	**86.42**	**343**	P	**P**	**00 24 11.4**	**+0.9**
	comp=Z,7.0nm,0.8s,baz=8.0,slow=2.3,SNR=21						
	comp=Z,7.0nm,0.8s						
ANTO	**Ankara**	**86.43**	**344**	⇑P	**P**	**00 24 12.3**	**+1.8**
ANTO	**Ankara**	**86.43**	**344**	P	**P**	**00 24 11.7**	**+1.3**
ANTO				IAmb	IAmb	00 24 13.3	
	comp=Z,21nm,0.9s						
ANTO	**Ankara**	**86.43**	**344**	P	**P**	**00 24 12.2**	**+1.8**
BORA	**Eskisehir**	**86.80**	**345**	P	**P**	**00 24 13.0**	**+0.7**
WB0	**Warramunga Arr**	**87.12**	**232**	P	**P**	**00 24 13.0**	**-0.8**
WB0				IAmb	IAmb	00 24 41.4	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**87.29**	**232**	*i* P	**P**	**00 24 14.1**	**-0.5**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**87.29**	**232**	P	**P**	**00 24 13.7**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=33,slow=5.6,SNR=8.5						
	comp=Z,2.3nm,0.9s						
MATE	**Matera**	**87.40**	**356**	⇓P	**P**	**00 24 15.9**	**+0.9**
ESBB	**Sonseca Array**	**87.51**	**12**	P	**P**	**00 24 16.3**	**+0.6**
ESBB				IAmb	IAmb	00 24 17.9	
	comp=Z,25nm,1.6s						
ESDC	**Sonseca Array**	**87.51**	**12**	P	**P**	**00 24 16.0**	**+0.3**
ESDC	**Sonseca Array**	**87.51**	**12**	P	**P**	**00 24 15.6**	**-0.1**
	comp=Z,5.4nm,0.7s,baz=346,slow=4.4,SNR=25						
	comp=Z,5.4nm,0.7s						
PAB	**San Pablo**	**87.59**	**12**	P	**P**	**00 24 16.7**	**+0.6**
PAB				IAmb	IAmb	00 24 37.7	
	comp=Z,25nm,1.6s						
PAB	**San Pablo**	**87.59**	**12**	P	**P**	**00 24 16.7**	**+0.6**
PAB				pmax	pmax		
	comp=Z,25nm,1.6s						
TIP	**Timpagrande**	**88.87**	**356**	P	**P**	**00 24 22.6**	**+0.5**
TIP				IAmb	IAmb	00 24 56.6	
	comp=Z,10nm,1.2s						
PSI	**Prapat**	**89.35**	**274**	P	**P**	**00 24 24.9**	**+0.1**
PSI				pmax	pmax		
	comp=Z,15nm,0.9s						
RPSI	**Rantau Prapat**	**89.43**	**274**	P	**P**	**00 24 24.9**	**-0.1**
RPSI				IAmb	IAmb	00 24 44.0	
	comp=Z,15nm,0.9s						
HYB	**Hyderabad**	**89.65**	**298**	*e*P	**P**	**00 24 25.6**	**-0.5**
AS31	**Alice Springs**	**90.67**	**231**	P	**P**	**00 24 30.4**	**-0.1**
ASAR	**Alice Springs**	**90.67**	**231**	P	**P**	**00 24 30.5**	**0.0**
ASAR	**Alice Springs**	**90.67**	**231**	P	**P**	**00 24 30.7**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=26,slow=4.7,SNR=13						
	comp=Z,4.6nm,0.9s						
KEST	**Kesra**	**92.41**	**2**	P	**P**	**00 24 38.7**	**0.0**
	comp=Z,3.2nm,0.8s,baz=27,slow=4.5,SNR=5.7						
	comp=Z,3.2nm,0.8s						
MMAI	**Mount Meron Ar**	**92.58**	**340**	P	**P**	**00 24 39.3**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=354,slow=6.7,SNR=4.7						
	comp=Z,3.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**114.37**	**10**	PKP	**PKiKP**	**00 30 07.4**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=346,slow=3.6,SNR=2.7						
KMBO	**Kilima Mbogo**	**124.69**	**328**	PKP	**PKPdf**	**00 30 25.9**	**-2.2**
	comp=Z,2.2nm,1.0s,baz=14,slow=8.3,SNR=6.2						

*RSNC **28** 00:18:00.2±2.2, 7.°16N×79.°63W, h4km±8km, ML3.2, Mw3.7*
*UPA **28** 00:18:00.7±1.7, 7.°22N×79.°72W, h0km±6km, MW4.4*
ISC 28 00:17:59.4±1.4, 7°20N±0.°03×79°66W±0.°02, h7km±11km, n54, σ1s90/87, 10C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACHO3	**Achotines, Los**	**0.56**	**293**	*e*P	**Pb**	**00 18 11.2**	**-0.3**
ACHO3				*e*S	**Sb**	**00 18 19.1**	**-0.6**
TOSI3	**Tonosi**	**0.80**	**285**	⇑*i*P	**Pg**	**00 18 15.1**	**+0.2**
TOSI3				*e*S	**Sn**	**00 18 28.0**	**-1.5**
CHIT3	**Chitre**	**1.07**	**315**	*e*P	**Pb**	**00 18 19.3**	**-1.0**
CHIT3				*e*S	**Sg**	**00 18 33.0**	**-0.8**
CACAO	**El Cacao, Vera**	**1.20**	**277**	*e*P	**Pn**	**00 18 21.0**	**-1.7**
CACAO				*e*S	**Sn**	**00 18 38.8**	**-0.5**
CACAO	**El Cacao, Vera**	**1.20**	**277**	*e*P	**Pn**	**00 18 20.8**	**-1.9**
CACAO				*e*S	**Sb**	**00 18 36.1**	**-2.2**
CRIS3	**El Cristo, Coc**	**1.42**	**318**	*e*P	**Pn**	**00 18 25.4**	**-0.3**
PNME	**Penonome**	**1.44**	**333**	⇑*i*P	**Pn**	**00 18 25.8**	**-0.3**
PNME				*e*S	**Sn**	**00 18 45.1**	**-0.2**
CALO3	**Calobre, Verag**	**1.62**	**314**	*e*P	**Pn**	**00 18 28.5**	**0.0**
GMAL	**Guarumal, Vera**	**1.66**	**290**	*e*P	**Pb**	**00 18 30.2**	**-0.2**
GMAL				*e*S	**Sg**	**00 18 53.4**	**+0.6**
GMAL				*i*		00 18 56.3	
	comp=Z,592nm,0.4s						
FLAM	**Flamenco Islan**	**1.71**	**4**	*e*P	**Pb**	**00 18 31.0**	**-0.2**
FLAM				*e*S	**Sb**	**00 18 52.7**	**-0.3**
ARRA3	**Arraijan, Pana**	**1.76**	**0**	*e*P	**Pb**	**00 18 31.9**	**-0.2**
UPA	**Univ. de Panam**	**1.78**	**4**	⇑*i*P	**Pb**	**00 18 31.4**	**-1.0**
UPA	**Univ. de Panam**	**1.78**	**4**	⇑*i*P	**Pb**	**00 18 31.6**	**-0.8**
UPA				*e*S	**Sn**	**00 18 53.9**	**+0.3**
PTAC	**Punta Ardita,**	**1.84**	**91**	⇑*i*P	**Pn**	**00 18 30.4**	**-1.1**
PTAC				*e*S	**Sn**	**00 18 50.4**	**-4.6**
PTAC				*i*		00 18 57.2	
	comp=Z,303nm,0.2s						
BCIP	**Isla Barro Col**	**1.97**	**355**	⇑*e*P	**Pb**	**00 18 34.5**	**-1.1**
BCIP				*e*S	**Sb**	**00 19 00.3**	**-0.1**
BCIP	**Isla Barro Col**	**1.97**	**355**	⇑*i*P	**Pb**	**00 18 34.6**	**-1.1**
BCIP				*e*S	**Sb**	**00 18 59.4**	**-1.0**
FRIJ	**El Hiral**	**2.01**	**358**	*e*P	**Pb**	**00 18 35.5**	**-1.0**
CHPO	**Chepo, Panama**	**2.03**	**15**	*e*P	**Pb**	**00 18 35.9**	**-0.9**
CHPO				*e*S	**Sb**	**00 19 01.4**	**-0.9**
UPD2	**Meteti**	**2.11**	**50**	⇑*i*P	**Pb**	**00 18 36.9**	**-1.2**
UPD2				*e*S	**Sb**	**00 19 05.0**	**+0.4**
UPD2	**Meteti**	**2.11**	**50**	*e*P	**Pb**	**00 18 37.1**	**-1.0**
UPD2				*e*S	**Sb**	**00 19 04.8**	**+0.3**
UPD2				*i*		00 19 12.3	
	comp=Z,501nm,0.6s						
CNTA3	**Canitas, Panam**	**2.15**	**21**	*e*P	**Pb**	**00 18 37.4**	**-1.4**
TOTI	**Torti**	**2.18**	**38**	⇑*i*P	**Pb**	**00 18 38.2**	**-1.1**
TOTI				*e*S	**Sb**	**00 19 06.3**	**-0.2**
SOLC	**Bahia Solano**	**2.43**	**113**	*e*P	**Pn**	**00 18 39.0**	**-0.7**
SOLC				*e*S	**Sn**	**00 19 08.9**	**-0.8**
CAPC	**Capurgana**	**2.70**	**58**	*e*P	**Pb**	**00 18 47.1**	**-0.9**
CAPC				*e*S	**Sn**	**00 19 17.1**	**+0.9**
CAPC				*i*		00 19 22.6	
	comp=Z,86nm,0.5s						
CHGR2	**Aguacate**	**3.01**	**305**	*e*P	**Pn**	**00 18 50.0**	**+2.4**
CHGR2				*e*S	**Sn**	**00 19 25.3**	**+1.3**
DVD	**David**	**3.03**	**294**	*e*P	**Pn**	**00 18 49.7**	**+1.8**
DVD				*e*S	**Sn**	**00 19 25.9**	**+1.4**
APAC	**Apartado, Choc**	**3.13**	**77**	*e*P	**Pb**	**00 18 52.6**	**-2.9**
APAC				*e*S	**Sn**	**00 19 29.1**	**+2.1**
APAC				*i*		00 19 45.4	
	comp=Z,99nm,0.6s						
BCO2	**Palmira**	**3.22**	**298**	*e*P	**Pn**	**00 18 52.4**	**+1.8**
BCO2				*e*S	**Sn**	**00 19 31.4**	**+2.0**
BRU2	**Volcan**	**3.40**	**298**	*e*P	**Pn**	**00 18 55.5**	**+2.4**
BRU2				*e*S	**Sn**	**00 19 35.5**	**+1.7**
DBBC	**Dabeiba**	**3.43**	**93**	⇑*i*P	**Pn**	**00 18 54.8**	**+1.4**
DBBC				*e*S	**Sn**	**00 19 32.6**	**-1.8**
DBBC				*i*		00 19 37.2	
	comp=Z,62nm,0.3s						
CDITO	**Canoas**	**3.46**	**293**	*e*P	**Pn**	**00 18 56.1**	**+2.2**
CNI2	**El Empalme, Bo**	**3.56**	**309**	*e*P	**Pn**	**00 18 57.1**	**+2.0**
CBOC	**Ciudad Bolivar**	**3.86**	**110**	*e*P	**Pn**	**00 18 59.4**	**-0.1**
CBOC				*e*S	Sn	00 19 35.5	-10
CBOC				*i*		00 19 49.0	
	comp=Z,23nm,0.2s						
PLMC	**San Jos del P**	**4.06**	**124**	*e*P	**Pn**	**00 19 01.1**	**-1.0**
PLMC				*e*S	**Sn**	**00 19 47.4**	**-2.6**
PLMC				*i*		00 19 58.8	
	comp=Z,23nm,0.5s						
UREC	**San Jos de Ur**	**4.13**	**82**	*e*P	**Pn**	**00 19 05.2**	**+2.2**
UREC				*e*S	**Sn**	**00 19 50.9**	**-0.8**
UREC				*i*		00 19 55.6	
	comp=Z,32nm,0.4s						
YOTC	**Yotoco, Valle**	**4.59**	**134**	*e*P	**Pn**	**00 19 08.7**	**-0.8**
GUY2C	**Guyana, Caldas**	**4.70**	**114**	*e*P	**Pn**	**00 19 12.3**	**+1.0**
GUY2C				*i*		00 20 03.5	
	comp=Z,13nm,0.6s						
JAMC	**Jamundi, Valle**	**4.95**	**143**	*e*P	**Pn**	**00 19 14.1**	**-0.3**
JAMC				*e*S	**Sn**	**00 20 12.4**	**+0.3**
ANIL	**Santa Ana**	**5.01**	**122**	*e*P	**Pn**	**00 19 17.6**	**+2.2**
SJCC	**San Jacinto, C**	**5.18**	**58**	*e*P	**Pn**	**00 19 21.7**	**+4.2**
SJCC				*i*		00 20 56.0	
	comp=Z,7.9nm,0.7s						
PTBC	**PUERTO BERRIO,**	**5.21**	**97**	*e*P	**Pn**	**00 19 19.8**	**+1.9**
PTBC				*e*S	**Sn**	**00 20 15.8**	**-2.5**
PTBC				*i*		00 20 30.2	
	comp=Z,8.2nm,0.5s						
ORTC	**Ortega, Tolima**	**5.47**	**126**	*e*P	**Pn**	**00 19 24.2**	**+2.7**
ORTC				*e*S	**Sn**	**00 20 26.7**	**+1.9**
ORTC				*i*		00 20 47.8	
	comp=Z,7.6nm,0.6s						
POPC	**Popayan, Colom**	**5.50**	**147**	*e*P	**Pn**	**00 19 24.9**	**+2.9**
BBAC	**Balboa, Cauca**	**5.67**	**155**	*e*P	**Pn**	**00 19 27.6**	**+3.1**
SPBC	**San Pablo de B**	**5.76**	**105**	*e*P	**Pn**	**00 19 29.2**	**+3.7**
SPBC				*i*		00 20 34.5	
	comp=Z,5.9nm,0.5s						
ROSC	**El Rosal**	**5.80**	**113**	*e*P	Pn	00 19 30.6	+4.2
PRAC	**Prado**	**5.88**	**126**	*e*P	**Pn**	**00 19 29.4**	**+2.3**
PRAC				*e*S	**Sn**	**00 20 38.0**	**+3.2**
PRAC				*i*		00 20 43.0	
	comp=Z,7.3nm,0.4s						
BETC	**Betania**	**6.14**	**137**	*e*P	**Pn**	**00 19 33.8**	**+3.0**
BETC				*i*		00 20 48.9	
	comp=Z,26nm,0.8s						
PRVC	**Isla de Provid**	**6.37**	**345**	*e*P	**Pn**	**00 19 35.0**	**+1.2**
PRVC				*e*S	**Sn**	**00 20 45.9**	**-0.9**
OCAC	**Ocana**	**6.37**	**80**	*e*P	**Pn**	**00 19 36.1**	**+2.2**
OCAC				*e*S	**Sn**	**00 20 44.5**	**-2.6**
OCAC				*i*		00 20 51.4	
	comp=Z,38nm,0.5s						
BARC	**Barichara**	**6.46**	**95**	*e*P	**Pn**	**00 19 37.9**	**+2.6**
BARC				*e*S	**Sn**	**00 20 44.2**	**-5.2**
BARC				*i*		00 21 11.9	
	comp=Z,21nm,0.6s						
GARC	**Garzon, Huila**	**6.48**	**140**	*e*P	**Pn**	**00 19 38.1**	**+2.6**
GARC				*e*S	**Sn**	**00 20 50.9**	**+0.9**
GARC				*i*		00 20 54.4	
	comp=Z,9.6nm,0.5s						
VILC	**Villavicencio,**	**6.68**	**117**	*e*P	Pn	00 19 43.5	+5.3
PAMC	**Pamplona, Colo**	**6.91**	**88**	*e*P	**Pn**	**00 19 44.6**	**+3.0**
PAMC				*e*S	**Sn**	**00 20 57.5**	**-3.3**
PAMC				*i*		00 21 08.3	
	comp=Z,11nm,0.4s						

KRSC 28 00:19:38.5±1.6, 55.°18N×166.°50E, h35km±12km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**274**	*e*P	Pn	00 19 46.8	+0.3
BKI				*e*S	Sn	00 19 52.7	+0.5
TUMD	**Tumrok D**	**3.49**	**273**	*e*P	Pn	00 20 34.1	+3.8
TUMD				*e*S	Sn	00 21 14.3	+3.9
KMNR	**Kamenistaya**	**3.61**	**282**	*e*P	Pn	00 20 34.9	+3.0
KMNR				*e*S	Sn	00 21 19.9	+6.6
TUMR	**Tumrok**	**3.64**	**274**	*e*P	Pn	00 20 36.3	+3.9
TUMR				*e*S	Sn	00 21 20.7	+6.6
KPT	**Kopyto**	**3.65**	**285**	*e*P	Pn	00 20 37.1	+4.7
SMAR	**Somma**	**4.91**	**250**	*e*P	Pn	00 20 54.7	+4.8
SMAR				*e*S	Sn	00 21 50.8	+5.3
UGLR	**Uglovaya**	**4.92**	**249**	*e*P	Pn	00 20 55.3	+5.3
UGLR				*e*S	Sn	00 21 51.0	+5.4
AVH	**Avacha**	**4.94**	**250**	*e*P	Pn	00 20 55.1	+4.8
AVH				*e*S	Sn	00 21 49.5	+3.4
KRX	**Arik**	**4.95**	**252**	*e*P	Pn	00 20 55.1	+4.7
KRX				*e*S	Sn	00 21 50.0	+3.6
KOK	**Koryaka**	**4.98**	**251**	*e*P	Pn	00 20 56.0	+5.1
DALK	**Dalny**	**5.04**	**248**	*e*P	Pn	00 20 56.4	+4.9
DALK				*e*S	Sn	00 21 53.2	+4.8
KRMR	**Karymshinskiy**	**5.47**	**248**	*e*P	Pn	00 21 01.8	+4.5
KRMR				*e*S	Sn	00 22 05.1	+6.1
MTVR	**Mutnovka**	**5.62**	**245**	*e*P	Pn	00 21 04.4	+4.9
MTVR				*e*S	Sn	00 22 06.5	+3.7
GRL	**Gorelyy**	**5.64**	**246**	*e*P	Pn	00 21 04.6	+4.8
GRL				*e*S	Sn	00 22 08.9	+5.6
ASAK	**Asacha**	**5.82**	**245**	*e*P	Pn	00 21 07.8	+5.6
ASAK				*e*S	Sn	00 22 14.2	+6.5

*THE **28** 00:21:47.2, 37.°19N×23.°78E, h23km±3km, ML2.6/6, Error ellipse: s-maj=3.2km s-min=0.9km az=233.0*
ATH 28 00:21:47.1, 37.°18N×23.°81E, h8km±1km, ML2.4/13, Error ellipse: s-maj=1.8km s-min=0.9km az=319.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.32**	**303**	P	Pg	00 21 52.9	-0.6
YDRA				S	Sg	00 21 58.1	+0.4
YDRA				AML	AML	00 21 59.1	
	comp=E,1126μm,0.3s						
YDRA				AML	AML	00 22 00.0	
	comp=N,812μm,0.3s						
KRND	**KRANIDI**	**0.56**	**292**	P	Pg	00 21 57.6	-0.3
KRND				S	Sb	00 22 06.6	-0.7
	comp=N,658nm,0.3s						
KRND	**KRANIDI**	**0.56**	**292**	P	Pg	00 21 57.6	-0.4
KRND				S	Sg	00 22 06.1	+0.7
KRND				AML	AML	00 22 09.7	
	comp=E,1488μm,0.4s						
KRND				AML	AML	00 22 10.0	
	comp=N,1115μm,0.2s						
VLY	**Voula,Athens**	**0.68**	**359**	P	Pg	00 21 59.4	-0.7
VLY				S	Sg	00 22 09.2	+0.3
VLY	**Voula,Athens**	**0.68**	**359**	P	Pg	00 21 59.3	-0.8
VLY				S	Sg	00 22 08.9	0.0
VLY				AML	AML	00 22 10.6	
	comp=N,862μm,0.2s						
VLY				AML	AML	00 22 11.5	
	comp=E,839μm,0.2s						
MHLO	**Agia Marina, M**	**0.68**	**135**	P	Pg	00 22 00.5	+0.3
MHLO				S	Sb	00 22 10.9	+0.2
	comp=E,1μm,0.2s						
MHLO	**Agia Marina, M**	**0.68**	**135**	P	Pg	00 22 00.5	+0.4
MHLO				S	Sg	00 22 09.8	+0.7
MHLO				AML	AML	00 22 12.5	
	comp=N,2128μm,0.2s						
MHLO				AML	AML	00 22 14.0	
	comp=E,1996μm,0.2s						
ATHU	**Athens Univers**	**0.79**	**359**	P	Pg	00 22 01.1	-1.2
ATHU				S	Sg	00 22 12.1	-0.5
	comp=E,115nm,0.3s						
ATH	**Athens Observa**	**0.80**	**355**	P	Pg	00 22 02.1	-0.3
ATH				S	Sg	00 22 12.4	-0.5
ATH				AML	AML	00 22 13.6	
	comp=N,774μm,0.5s						
ATH				AML	AML	00 22 15.8	
	comp=E,491μm,0.2s						
VLI	**Velíai**	**0.83**	**237**	P	Pg	00 22 01.8	-1.3
VLI				S	Sg	00 22 13.6	-0.3
	comp=E,332nm,0.4s						
VLI	**Velíai**	**0.83**	**237**	P	Pg	00 22 02.0	-1.0
VLI				S	Sg	00 22 13.8	-0.1
VLI				AML	AML	00 22 16.2	
	comp=N,718μm,0.6s						
VLI				AML	AML	00 22 17.7	
	comp=E,603μm,0.3s						
PTL	**Penteli**	**0.87**	**3**	P	Pg	00 22 04.0	+0.1
PTL				S	Sg	00 22 15.3	+0.1
	comp=E,332nm,0.5s						
PTL	**Penteli**	**0.87**	**3**	P	Pb	00 22 04.2	-0.3
PTL				S	Sg	00 22 15.1	-0.1
PTL				AML	AML	00 22 16.7	
	comp=E,565μm,0.7s						
PTL				AML	AML	00 22 16.9	
	comp=N,758μm,0.4s						
DION	**Dionisos Attik**	**0.91**	**6**	P	Pg	00 22 04.0	-0.5
DION				S	Sg	00 22 16.2	-0.1
DION	**Dionisos Attik**	**0.91**	**6**	P	Pg	00 22 04.3	-0.2
DION				S	Sg	00 22 16.5	+0.2
DION				AML	AML	00 22 18.8	
	comp=E,485μm,0.3s						
DION				AML	AML	00 22 18.9	
	comp=N,551μm,0.3s						
VIL2	**Platees**	**1.12**	**338**	P	Pg	00 22 06.5	-2.0
VIL2				S	Sg	00 22 21.7	-1.4
VIL2				AML	AML	00 22 25.4	
	comp=E,516μm,0.5s						
VIL2				AML	AML	00 22 26.7	
	comp=N,454μm,0.6s						
THAL	**Thalero**	**1.25**	**314**	P	Pn	00 22 10.6	-0.1
THAL				AML	AML	00 22 38.5	
	comp=E,336μm,0.3s						
THAL				AML	AML	00 22 38.7	
	comp=N,413μm,0.4s						
ANKY	**Antikythira Is**	**1.37**	**197**	P	Pn	00 22 11.1	-1.3
APE	**Apeiranthos**	**1.38**	**94**	P	Pn	00 22 10.7	-2.0
GUR	**Goura**	**1.39**	**304**	P	Pn	00 22 11.9	-0.9
GUR				S	Sb	00 22 29.9	-1.3
GUR				AML	AML	00 22 36.9	
	comp=E,336μm,0.4s						
GUR				AML	AML	00 22 38.2	
	comp=N,257μm,0.6s						
KYMI	**Kymi, Euboea I**	**1.47**	**9**	P	Pn	00 22 12.6	-1.3
KYMI				S	Sn	00 22 32.7	-0.6
KYMI				AML	AML	00 22 34.7	
	comp=E,206μm,0.3s						
KYMI				AML	AML	00 22 35.4	
	comp=N,213μm,0.5s						
KLV	**Kalavryta, Ach**	**1.57**	**304**	P	Pn	00 22 14.7	-0.6
KLV				AML	AML	00 22 41.3	
	comp=E,44μm,0.3s						
KLV				AML	AML	00 22 44.5	
	comp=N,67μm,0.6s						
AXAR	**Agios Charalam**	**1.83**	**331**	P	Pn	00 22 17.8	-1.0
EFP	**Efpalio**	**1.96**	**310**	P	Pn	00 22 20.1	-0.4
IDI	**Anoyia**	**2.

IDC ***28*** *00:34:42.5±0.7, 55°.52N×166°.43E, h0km, mb3.8/14, mbtmp3.9/17, ML3.7/2, Error ellipse: s-maj=22.3km s-min=13.1km az=164.0*

MOS ***28*** *00:34:42.1±0.8, 55°.47N×166°.60E, h10km, mb4.2/12, Error ellipse: s-maj=7.0km s-min=6.0km az=142.6*

NEIC ***28*** *00:34:44.2±1.0, 55°.5N±0°.2×166°.4E±0°.2, h10km±1km, mb4.2/48, Error ellipse: s-maj=30.2km s-min=13.8km az=155.0*

ISC 28 00:34:45.4±0.5, 55°.43N±0°.05×166°.54E±0°.05, h20km, n163, σ1§03/201, mb4.1/42, 5C-6D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**235**	PN		**Pb**		**00 34 52.0**	**-1.6**
BKI				S		**Sb**		**00 34 58.2**	**-1.1**
BKI	**Bering**	**0.40**	**235**	*e*P		**Pb**		**00 34 52.0**	**-1.6**
BKI				*e*S		**Sb**		**00 34 58.2**	**-1.1**
KBG	**Krutoberegovo**	**2.32**	**292**	PN		**Pn**		**00 35 20.7**	**-1.6**
KBG				S		**Sn**		**00 35 48.9**	**-1.2**
KBG	**Krutoberegovo**	**2.32**	**292**	*e*P		**Pn**		**00 35 20.7**	**-1.6**
KBG				*e*S		**Sn**		**00 35 48.9**	**-1.2**
BDR	**Baidarnaya**	**3.21**	**293**	PN		**Pn**		**00 35 34.8**	**+0.2**
BDR				S		**Sn**		**00 36 13.9**	**+1.7**
BDR	**Baidarnaya**	**3.21**	**293**	*e*P		**Pn**		**00 35 34.8**	**+0.2**
BDR				*e*S		**Sn**		**00 36 13.9**	**+1.7**
SRKR	**Sorokina**	**3.25**	**294**	PN		**Pn**		**00 35 35.7**	**+0.4**
SRKR				S		**Sn**		**00 36 14.6**	**+1.2**
SRKR	**Sorokina**	**3.25**	**294**	*e*P		**Pn**		**00 35 35.7**	**+0.4**
SRKR				*e*S		**Sn**		**00 36 14.6**	**+1.2**
ZLN	**Zelenaya**	**3.30**	**283**	PN		**Pn**		**00 35 36.4**	**+0.5**
ZLN				S		**Sn**		**00 36 16.2**	**+1.7**
ZLN	**Zelenaya**	**3.30**	**283**	*e*P		**Pn**		**00 35 36.4**	**+0.5**
ZLN				*e*S		**Sn**		**00 36 16.2**	**+1.7**
CIRR	**Tsirk**	**3.34**	**284**	PN		**Pn**		**00 35 37.4**	**+0.8**
CIRR				S		**Sn**		**00 36 18.0**	**+2.2**
CIRR	**Tsirk**	**3.34**	**284**	*e*P		**Pn**		**00 35 37.4**	**+0.8**
CIRR				*e*S		**Sn**		**00 36 18.0**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**3.35**	**281**	PN		**Pn**		**00 35 37.1**	**+0.5**
BZGR				S		**Sn**		**00 36 18.1**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.35**	**281**	*e*P		**Pn**		**00 35 37.1**	**+0.5**
BZGR				*e*S		**Sn**		**00 36 18.1**	**+2.3**
BZP	**Bezymyannyi-Pe**	**3.43**	**281**	*e*P		**Pn**		**00 35 38.1**	**+0.3**
BZP				*e*S		**Sn**		**00 36 17.5**	**-0.4**
KLY	**Klyuchi**	**3.44**	**287**	PN		**Pn**		**00 35 36.2**	**-1.4**
KLY				S		**Sn**		**00 36 16.0**	**-1.7**
KLY	**Klyuchi**	**3.44**	**287**	*e*P		**Pn**		**00 35 36.2**	**-1.4**
KLY				*e*S		**Sn**		**00 36 16.0**	**-1.7**
BZWR	**Bezymyannyi-We**	**3.46**	**281**	PN		**Pn**		**00 35 38.9**	**+0.7**
BZWR				S		**Sn**		**00 36 20.0**	**+1.3**
BZWR	**Bezymyannyi-We**	**3.46**	**281**	*e*P		**Pn**		**00 35 38.9**	**+0.7**
BZWR				*e*S		**Sn**		**00 36 20.0**	**+1.3**
BZMR	**Bezymyannaya**	**3.46**	**281**	PN		**Pn**		**00 35 37.7**	**-0.5**
BZMR				S		**Sn**		**00 36 19.4**	**+0.7**
BZMR	**Bezymyannaya**	**3.46**	**281**	*e*P		**Pn**		**00 35 37.7**	**-0.5**
BZMR				*e*S		**Sn**		**00 36 19.4**	**+0.7**
TUMD	**Tumrok D**	**3.52**	**269**	*e*P		**Pn**		**00 35 39.4**	**+0.6**
TUMD				*e*S		**Sn**		**00 36 20.1**	**+0.3**
KIRR	**Kirishev**	**3.55**	**281**	PN		**Pn**		**00 35 40.2**	**+0.8**
KIRR				S		**Sn**		**00 36 23.0**	**+2.2**
KIRR	**Kirishev**	**3.55**	**281**	*e*P		**Pn**		**00 35 40.2**	**+0.8**
KIRR				*e*S		**Sn**		**00 36 23.0**	**+2.2**
KMNR	**Kamenistaya**	**3.59**	**278**	PN		**Pn**		**00 35 40.9**	**+1.0**
KMNR				S		**Sn**		**00 36 23.5**	**+1.7**
KMNR	**Kamenistaya**	**3.59**	**278**	*e*P		**Pn**		**00 35 40.9**	**+1.0**
KMNR				*e*S		**Sn**		**00 36 23.5**	**+1.7**
KPT	**Kopyto**	**3.62**	**281**	PN		**Pn**		**00 35 41.2**	**+0.9**
KPT				S		**Sn**		**00 36 24.6**	**+2.2**
KPT	**Kopyto**	**3.62**	**281**	*e*P		**Pn**		**00 35 41.2**	**+0.9**
KPT				*e*S		**Sn**		**00 36 24.6**	**+2.2**
TUMR	**Tumrok**	**3.65**	**270**	PN		**Pn**		**00 35 41.9**	**+1.1**
TUMR	**Tumrok**	**3.65**	**270**	*e*P		**Pn**		**00 35 41.9**	**+1.1**
TUMR				*e*S		**Sn**		**00 36 22.6**	**-0.8**
KOZ	**Kozyrevsk**	**3.82**	**282**	PN		**Pn**		**00 35 44.3**	**+1.3**
KOZ	**Kozyrevsk**	**3.82**	**282**	*e*P		**Pn**		**00 35 44.3**	**+1.3**
SRDR	**Sredinnyy**	**3.95**	**286**	PN		**Pn**		**00 35 45.1**	**+0.3**
SRDR				S		**Sn**		**00 36 33.1**	**+2.7**
SRDR	**Sredinnyy**	**3.95**	**286**	*e*P		**Pn**		**00 35 45.1**	**+0.3**
SRDR				*e*S		**Sn**		**00 36 33.1**	**+2.7**
OSSR	**Ossora**	**4.27**	**335**	PN		**Pn**		**00 35 48.3**	**-0.8**
OSSR	**Ossora**	**4.27**	**335**	*e*P		**Pn**		**00 35 48.3**	**-0.8**
OSSR				*e*S		**Sn**		**00 36 37.1**	**-1.2**
ESO	**Esso**	**4.47**	**280**	PN		**Pn**		**00 35 53.2**	**+1.3**
ESO	**Esso**	**4.47**	**280**	*e*P		**Pn**		**00 35 53.2**	**+1.3**
SPN	**Mys Shipunski**	**4.48**	**241**	PN		**Pn**		**00 35 52.3**	**+0.3**
SPN	**Mys Shipunski**	**4.48**	**241**	*e*P		**Pn**		**00 35 52.3**	**+0.3**
SMAR	**Somma**	**5.02**	**248**	PN		**Pn**		**00 36 00.1**	**+0.4**
SMAR	**Somma**	**5.02**	**248**	*e*P		**Pn**		**00 36 00.1**	**+0.4**
SMAR				*e*S		**Sn**		**00 36 54.8**	**-2.4**
UGLR	**Uglovaya**	**5.04**	**247**	PN		**Pn**		**00 36 00.7**	**+0.9**
UGLR	**Uglovaya**	**5.04**	**247**	*e*P		**Pn**		**00 36 00.7**	**+0.9**
UGLR				*e*S		**Sn**		**00 36 57.1**	**-0.3**
AVH	**Avacha**	**5.05**	**248**	PN		**Pn**		**00 36 00.9**	**+0.9**
AVH	**Avacha**	**5.05**	**248**	*e*P		**Pn**		**00 36 00.9**	**+0.9**
AVH				*e*S		**Sn**		**00 36 58.2**	**+0.4**
KRX	**Arik**	**5.06**	**249**	PN		**Pn**		**00 36 00.6**	**+0.5**
KRX	**Arik**	**5.06**	**249**	*e*P		**Pn**		**00 36 00.6**	**+0.5**
KRX				*e*S		**Sn**		**00 36 57.9**	**0.0**
KOK	**Koryaka**	**5.09**	**248**	PN		**Pn**		**00 36 01.3**	**+0.7**
KOK	**Koryaka**	**5.09**	**248**	*e*P		**Pn**		**00 36 01.3**	**+0.7**
KOK				*e*S		**Sn**		**00 36 58.3**	**-0.5**
DALK	**Dalny**	**5.16**	**245**	PN		**Pn**		**00 36 02.6**	**+1.2**
DALK	**Dalny**	**5.16**	**245**	*e*P		**Pn**		**00 36 02.6**	**+1.2**
PET	**Petropavlovsk**	**5.22**	**246**			**Pn**		**00 36 01.1**	**-1.0**
PET	**Petropavlovsk**	**5.22**	**246**	*e*PN		**Pn**		**00 36 01.4**	**-0.8**
PET					pmax	pmax			
	comp=Z,54nm,0.6s								
PET	**Petropavlovsk**	**5.22**	**246**	*e*P		**Pn**		**00 36 02.0**	**-0.2**
KRMR	**Karymshinskiy**	**5.59**	**246**	PN		**Pn**		**00 36 07.0**	**-0.3**
KRMR	**Karymshinskiy**	**5.59**	**246**	*e*P		**Pn**		**00 36 07.0**	**-0.3**
PEA0B	**Petropavlovsk-**	**5.68**	**249**	Pn		**Pn**		**00 36 08.9**	**+0.3**
PEA0B	**Petropavlovsk-**	**5.68**	**249**	*c i*PN		**Pn**		**00 36 09.4**	**+0.9**
PETK	**Petropavlovsk-**	**5.68**	**249**	Pn		**Pn**		**00 36 08.8**	**+0.3**
PETK	**Petropavlovsk-**	**5.68**	**249**	Pn		**Pn**		**00 36 08.9**	**+0.4**
	comp=Z,7.5nm,0.3s,baz=72,slow=16,SNR=48								
PETK					Sn		**Sn**	**00 37 13.8**	**+0.7**
	comp=Z,2.7nm,0.3s,baz=358,slow=16,SNR=2.6 comp=Z,35nm,0.6s								
MTVR	**Mutnovka**	**5.75**	**243**	PN		**Pn**		**00 36 09.9**	**+0.3**
MTVR	**Mutnovka**	**5.75**	**243**	*e*P		**Pn**		**00 36 09.9**	**+0.3**
GRL	**Gorelyy**	**5.77**	**243**	PN		**Pn**		**00 36 11.7**	**+1.9**
GRL	**Gorelyy**	**5.77**	**243**	*e*P		**Pn**		**00 36 11.7**	**+1.9**
ASAK	**Asacha**	**5.95**	**243**	PN		**Pn**		**00 36 12.9**	**+0.6**
ASAK	**Asacha**	**5.95**	**243**	*e*P		**Pn**		**00 36 12.9**	**+0.6**
APC	**Apacha**	**6.05**	**249**	PN		**Pn**		**00 36 14.5**	**+0.9**
APC	**Apacha**	**6.05**	**249**	*e*P		**Pn**		**00 36 14.5**	**+0.9**
KMSK	**Kamenskaya**	**7.06**	**359**	PN		**Pn**		**00 36 27.2**	**-0.2**
KMSK	**Kamenskaya**	**7.06**	**359**	*e*P		**Pn**		**00 36 27.2**	**-0.2**
BILL	**Bilibino**	**12.65**	**360**	*e*PN		**Pn**		**00 37 42.6**	**-1.3**
ANM	**Nome**	**16.61**	**45**			**Pn**		**00 38 37.4**	**+0.7**
ANM					IAmb	IAmb		00 38 51.0	
	comp=Z,26nm,1.4s								
ANM	**Nome**	**16.61**	**45**	P		**Pn**		**00 38 37.4**	**+0.7**
ANM					pmax	pmax			
	comp=Z,26nm,1.4s								
YSS	**Yuzh-Sakhalins**	**17.08**	**250**	Pn		**Pn**		**00 38 41.5**	**-1.2**
YSS	**Yuzh-Sakhalins**	**17.08**	**250**	*e*P		**P**		**00 38 46.8**	**+2.4**
YSS					pmax	pmax			
	comp=Z,30nm,0.8s								
F15K	**North Star Dit**	**17.32**	**42**			**Pn**		**00 38 45.8**	**+0.2**
C16K	**Lisburne Hills**	**18.24**	**34**	P		**Pn**		**00 38 56.2**	**-0.7**
I17K	**Unalakleet**	**18.39**	**49**	P		**P**		**00 38 59.2**	**+0.6**
H17K	**Granite Mounta**	**18.96**	**46**	P		**Pn**		**00 39 05.5**	**-0.2**
JKA	**Kamikawa-asahi**	**19.06**	**244**			**P**		**00 39 05.2**	**-1.0**
JKA					IAmb	IAmb		00 39 12.9	
	comp=Z,30nm,1.0s								
ASAJ	**Asahikawa**	**19.06**	**244**	P		**P**		**00 39 07.9**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=26,slow=9.6,SNR=6.3 comp=Z,18nm,0.8s								
E18K	**Tukpahlearik C**	**19.47**	**39**	P		**Pn**		**00 39 11.1**	**-0.7**
G18K	**Tagagawik**	**19.72**	**44**	P		**P**		**00 39 13.7**	**+0.5**
C18K	**Utukok River**	**19.77**	**35**	P		**P**		**00 39 14.0**	**+0.2**
YAK	**Yakutsk**	**20.01**	**304**	P		**P**		**00 39 15.2**	**-1.2**
YAK					IAmb	IAmb		00 39 17.4	
	comp=Z,15nm,0.9s								
YAK	**Yakutsk**	**20.01**	**304**	*e*P		**P**		**00 39 16.3**	**-0.2**
YAK					pmax	pmax			
	comp=Z,15nm,0.9s								
YAK					pmax	pmax			
	comp=E,7.0nm,1.3s								
YAK	**Yakutsk**	**20.01**	**304**	P		**P**		**00 39 16.3**	**-0.2**
	comp=E,6.1nm,0.4s,baz=23,slow=1.9,SNR=6.5								
J18K	**Innoko River**	**20.07**	**52**	P		**P**		**00 39 17.9**	**+0.8**
J18K					IAmb	IAmb		00 39 20.0	
	comp=Z,19nm,1.2s								
TTA	**Tatalina**	**20.34**	**53**	P		**P**		**00 39 20.0**	**-0.1**
TTA	**Tatalina**	**20.34**	**53**	P		**P**		**00 39 20.0**	**-0.1**
TTA					pmax	pmax			
	comp=Z,6.0nm,1.2s								
C19K	**Lookout Ridge**	**20.49**	**35**			**P**		**00 39 22.4**	**+0.7**
C19K					IAmb	IAmb		00 39 32.7	
	comp=Z,18nm,0.9s								
J19K	**Poorman**	**20.62**	**50**	P		**P**		**00 39 23.0**	**0.0**
J20K	**Nowinta River**	**21.28**	**50**	P		**P**		**00 39 30.5**	**+0.4**
J20K					IAmb	IAmb		00 39 32.7	
	comp=Z,12nm,1.4s								
B20K	**Meade River**	**21.64**	**34**	P		**P**		**00 39 34.3**	**+0.4**
IMAR	**Indian Mountai**	**21.70**	**45**	P		**P**		**00 39 34.9**	**+0.3**
G21K	**Allakaket**	**21.89**	**44**	P		**P**		**00 39 36.6**	**-0.1**
G21K					IAmb	IAmb		00 39 40.4	
	comp=Z,6.6nm,0.9s								
KLR	**Kul'dur**	**21.98**	**268**	*e*P		**P**		**00 39 39.2**	**+1.5**
KLR					pmax	pmax			
	comp=Z,16nm,3.8s								
H21K	**Melozitna River**	**22.03**	**46**	P		**P**		**00 39 38.0**	**-0.2**
H21K					IAmb	IAmb		00 39 42.2	
	comp=Z,14nm,1.2s								
CAST	**Castle Rocks**	**22.14**	**52**	P		**P**		**00 39 40.3**	**+0.9**
TIXI	**Tiksi**	**22.74**	**330**	*e*P		**P**		**00 39 46.1**	**+0.4**
TIXI					pmax	pmax			
	comp=Z,14nm,2.7s								
SUA	**Susitna One**	**22.80**	**57**			**P**		**00 39 47.2**	**+0.6**
SUA					IAmb	IAmb		00 39 59.0	
	comp=Z,8.0nm,1.1s								
B22K	**Teshekpuk Lake**	**22.95**	**34**	P		**P**		**00 39 48.2**	**+0.3**
B22K					IAmb	IAmb		00 39 57.9	
	comp=Z,13nm,1.0s								
I23K	**Minto, Yukon-K**	**23.41**	**48**	P		**P**		**00 39 52.7**	**+0.1**
MDM	**Murphy Dome**	**23.88**	**48**	P		**P**		**00 39 57.8**	**+0.6**
MDM					IAmb	IAmb		00 40 00.5	
	comp=Z,4.9nm,1.0s								
CCB	**Clear Creek Bu**	**24.06**	**49**	P		**P**		**00 39 59.0**	**+0.2**
CCB					IAmb	IAmb		00 40 01.3	
	comp=Z,10nm,1.1s								
SCM	**Sheep Creek Mo**	**24.40**	**56**	P		**P**		**00 40 01.7**	**-0.4**
SCM	**Sheep Creek Mo**	**24.40**	**56**	P		**P**		**00 40 01.7**	**-0.4**
SCM					pmax	pmax			
	comp=Z,12nm,0.9s								
IL31		**24.45**	**49**	P		**P**		**00 40 02.0**	**-0.3**
ILAR	**Eielson Array**	**24.45**	**49**	P		**P**		**00 40 02.5**	**0.0**
ILAR	**Eielson Array**	**24.45**	**49**	P		**P**		**00 40 02.5**	**0.0**
ILAR	**Eielson Array**	**24.45**	**49**	P		**P**		**00 40 02.4**	**-0.1**
	comp=Z,7.8nm,1.0s,baz=261,slow=7.9,SNR=50 comp=Z,7.8nm,1.0s								
M24K	**Tolsona, Glenn**	**24.91**	**55**	P		**P**		**00 40 05.1**	**-1.6**
PRP	**Porcupine Dome**	**25.04**	**47**	P		**P**		**00 40 07.5**	**-0.3**
PRP					IAmb	IAmb		00 40 11.3	
	comp=Z,8.5nm,0.9s								
FYU	**Fort Yukon**	**25.18**	**45**	P		**P**		**00 40 08.6**	**-0.4**
BMAR	**Burnt Mountain**	**25.49**	**43**	P		**P**		**00 40 11.9**	**+0.1**
J26L	**Joseph Creek**	**25.89**	**49**	P		**P**		**00 40 15.1**	**-0.5**
K27K	**Chicken**	**26.57**	**50**	P		**P**		**00 40 21.6**	**0.0**
K27K					IAmb	IAmb		00 40 25.5	
	comp=Z,8.6nm,1.0s								
BCAR	**Beaver Creek A**	**26.81**	**52**	P		**P**		**00 40 23.9**	**+0.1**
EGAK	**Eagle**	**26.91**	**49**	P		**P**		**00 40 24.0**	**-0.6**
EGAK					IAmb	IAmb		00 40 24.8	
	comp=Z,4.6nm,0.9s								
MAJO	**Matsushiro**	**26.98**	**237**	P		**P**		**00 40 24.8**	**-0.8**
MAJO	**Matsushiro**	**26.98**	**237**	*e*P		**P**		**00 40 25.5**	**-0.1**
MAJO					pmax	pmax			
	comp=Z,13nm,0.8s								
MJAR	**Matsushiro Arr**	**26.98**	**237**	P		**P**		**00 40 26.3**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=30,slow=8.6,SNR=9.8 comp=Z,2.8nm,0.7s								
F28M	**Old Crow**	**27.30**	**42**	P		**P**		**00 40 28.0**	**-0.2**
F28M					IAmb	IAmb		00 40 30.4	
	comp=Z,6.0nm,1.1s								
DAWY	**Dawson**	**27.74**	**50**	P		**P**		**00 40 32.4**	**+0.2**
DAWY					IAmb	IAmb		00 40 37.8	
	comp=Z,4.8nm,1.1s								
E29M	**Blow River**	**28.04**	**41**	P		**P**		**00 40 35.2**	**+0.5**
E29M					IAmb	IAmb		00 40 36.6	
	comp=Z,7.0nm,1.4s								
G29M	**Pine Creek**	**28.04**	**44**	P		**P**		**00 40 35.9**	**+1.1**
HYT	**Haines Junctio**	**29.23**	**56**	P		**P**		**00 40 45.9**	**+0.3**
F31M	**Tsiigehtchic**	**29.66**	**42**	P		**P**		**00 40 49.4**	**+0.2**
F31M					IAmb	IAmb		00 40 50.1	
	comp=Z,3.2nm,0.8s								
INK	**Inuvik**	**29.67**	**41**	P		**P**		**00 40 49.5**	**+0.4**
INK					IAmb	IAmb		00 40 50.4	
	comp=Z,3.7nm,1.0s								
INK	**Inuvik**	**29.67**	**41**	P		**P**		**00 40 49.5**	**+0.4**
INK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
C36M	**Paulatuk**	**32.92**	**38**	P		**P**		**00 41 18.0**	**+0.2**
NRIK	**Noril'sk**	**36.22**	**324**	*e*P		**P**		**00 41 46.9**	**+0.7**
NRIK					pmax	pmax			
	comp=Z,10.0nm,2.2s								
ULN	**Ulaanbaatar**	**36.65**	**284**	*e*P		**P**		**00 41 49.9**	**-0.5**
ULN					pmax	pmax			
	comp=Z,2.0nm,1.4s								
SONM	**Songino Array**	**37.03**	**284**	P		**P**		**00 41 53.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=49,slow=9.9,SNR=2.4 comp=Z,0.5nm,0.7s								
HHC	**Hu-ho-hao-te**	**38.42**	**271**	*e*P		**P**		**00 42 04.8**	**-0.6**
HHC					pmax	pmax			
	comp=Z,13nm,0.5s								
YKA	**Yellowknife Ar**	**38.84**	**47**	*i* P		**P**		**00 42 09.3**	**+0.8**
YKA					pmax	pmax			
	comp=Z,1.0nm,1.0s								
YKA	**Yellowknife Ar**	**38.84**	**47**	P		**P**		**00 42 09.1**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=300,slow=8.3,SNR=10.0 comp=Z,1.1nm,0.9s								
ZALV	**Zalesovo Beam**	**44.66**	**304**	P		**P**		**00 42 54.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=73,slow=4.8,SNR=1.7 comp=Z,0.2nm,0.3s								
DGZ	**Jazzator, Alta**	**45.99**	**298**	*i* P		**P**		**00 43 07.6**	**+0.6**
DGZ					pmax	pmax			
	comp=Z,3.0nm,1.8s								
KURK	**Kurchatov**	**49.66**	**304**	P		**P**		**00 43 33.9**	**-1.2**
KURK					IAmb	IAmb		00 43 40.6	
	comp=Z,5.8nm,1.1s								
KURK	**Kurchatov**	**49.66**	**304**	*e*P		**P**		**00 43 34.9**	**-0.3**
KURK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
KURBB	**Kurchatov Arra**	**49.76**	**303**	P		**P**		**00 43 34.5**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=53,slow=7.7,SNR=16 comp=Z,1.8nm,0.9s								
MK31	**Makanchi Array**	**50.49**	**298**	P		**P**		**00 43 40.0**	**-1.7**
MK31	**Makanchi Array**	**50.49**	**298**	*e*P		**P**		**00 43 41.0**	**-0.6**
MKAR	**Makanchi Array**	**50.49**	**298**	P		**P**		**00 43 40.8**	**-0.8**
MKAR	**Makanchi Array**	**50.49**	**298**	P		**P**		**00 43 40.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=51,slow=6.4,SNR=8.0 comp=Z,0.5nm,0.5s								
NVAR	**Mina Array Bea**	**51.44**	**76**	P		**P**		**00 43 49.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=303,slow=6.6,SNR=4.2 comp=Z,0.3nm,0.5s								
BVAR	**Borovoye Array**	**51.84**	**310**	P		**P**		**00 43 51.2**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=61,slow=8.4,SNR=7.4 comp=Z,0.8nm,0.6s								
BRVK	**Borovoye**	**51.86**	**310**	P		**P**		**00 43 51.4**	**-0.4**
BRVK					IAmb	IAmb		00 43 52.4	
	comp=Z,2.1nm,0.9s								
BRVK	**Borovoye**	**51.86**	**310**	*i* P		**P**		**00 43 51.4**	**-0.4**
ARCES	**ARCESS Array B**	**52.17**	**344**	P		**P**		**00 43 53.0**	**-0.8**
	comp=Z,4.5nm,1.0s,baz=19,slow=5.7,SNR=1.9 comp=Z,4.5nm,1.0s								
PDAR	**Pinedale Array**	**53.09**	**66**	P		**P**		**00 44 02.2**	**+0.9**
PDAR	**Pinedale Array**	**53.09**	**66**	P		**P**		**00 44 01.9**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=290,slow=4.3,SNR=5.6 comp=Z,0.7nm,1.0s								
GWY	**Greenwater Val**	**53.96**	**77**			**P**		**00 44 08.8**	**+1.1**
GWY					IAmb	IAmb		00 44 11.5	
	comp=Z,1.9nm,0.8s								
PZH	**PanZhiHua**	**54.40**	**266**	P		**P**		**00 44 13.0**	**+2.1**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.5s								
PZH					pmax	pmax			
	comp=Z,100nm,5.5s								
HMU	**Henry Mountain**	**55.93**	**71**	P		**P**		**00 44 23.4**	**+1.3**
ABKAR	**Akbulak array**	**59.07**	**313**	P		**P**		**00 44 43.3**	**-0.3**
ABKAR					IAmb	IAmb		00 44 50.6	
	comp=Z,1.5nm,1.1s								
TXAR	**Lajitas Array**	**66.28**	**73**	P		**P**		**00 45 33.1**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=289,slow=4.1,SNR=11 comp=Z,1.1nm,0.7s								
AKBB	**Malin Array Si**	**68.43**	**332**	*e*P		**P**		**00 45 44.0**	**-1.3**
AKBB					pmax	pmax			
	comp=Z,16nm,1.8s								
WRA	**Warramunga Arr**	**79.91**	**211**	P		**P**		**00 46 51.8**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=21,slow=7.1,SNR=1.4 comp=Z,0.5nm,0.8s								
ASAR	**Alice Springs**	**83.56**	**210**	P		**P**		**00 47 12.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=23,slow=7.0,SNR=4.2 comp=Z,0.5nm,0.8s								
QSPA	**South Pole Qui**	**145.18**	**180**	PKPbc		**PKPbc**		**00 54 18.8**	**-0.7**
	comp=Z,4.3nm,0.9s,baz=334,slow=0.6,SNR=10.0								

IDC 28 00:35:19.4±3.6, 4°.36S×153°.03E, h0km, mb3.6/2, mbtmp3.7/2, Error ellipse: s-maj=165.5km s-min=47.8km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91**	**228**	P		**P**		00 40 35.1	0.0
	1.9nm,0.6s,baz=54,slow=9.9,SNR=14 1.9nm,0.6s								
ASAR	**Alice Springs**	**26.63**	**222**	P		P		00 41 00.1	+0.2
	0.3nm,0.4s,baz=54,slow=9.1,SNR=9.5 0.3nm,0.4s								
TORD	**Torodi Ar. Bea**	**150.38**	**289**	PKPbc		PKPbc		00 55 13.4	-0.6
	0.1nm,0.3s,baz=82,slow=2.8,SNR=5.4								

KRSC 28 00:35:22.7±1.6, 55°.29N×166°.38E, h34km±11km, MI4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.25**	**251**	*e*P		**Pb**		00 35 29.7	-0.1
BKI				*e*S		Sb		00 35 35.9	+1.2
KBG	**Krutoberegovo**	**2.29**	**297**	*e*S		Sn		00 36 28.0	+2.9
SPN	**Mys Shipunski**	**4.33**	**242**	*e*S		Sn		00 37 19.9	+4.7
SMAR	**Somma**	**4.88**	**249**	*e*P		Pn		00 36 38.6	+4.8
SMAR				*e*S		Sn		00 37 35.4	+6.2
UGLR	**Uglovaya**	**4.90**	**248**	*e*P		Pn		00 36 39.2	+5.3
AVH	**Avacha**	**4.92**	**249**	*e*P		Pn		00 36 39.0	+4.9
KRX	**Arik**	**4.92**	**250**	*e*P		Pn		00 36 38.3	+4.0
KRX				*e*S		Sn		00 37 35.0	+4.9
KOK	**Koryaka**	**4.96**	**249**	*e*P		Pn		00 36 40.9	+6.1
DALK	**Dalny**	**5.02**	**246**	*e*P		Pn		00 36 40.9	+5.4
DALK				*e*S		Sn		00 37 36.6	+4.4
PET	**Petropavlovsk**	**5.08**	**247**	*e*P		Pn		00 36 40.2	+4.0
PET				*e*S		Sn		00 37 37.2	+3.6
KRMR	**Karymshinskiy**	**5.45**	**247**	*e*P		Pn		00 36 46.5	+5.2
MTVR	**Mutnovka**	**5.60**	**243**	*e*P		Pn		00 36 47.8	+4.2
MTVR				*e*S		Sn		00 37 51.8	+4.9
GRL	**Gorelyy**	**5.62**	**244**	*e*P		Pn		00 36 49.3	+5.5
GRL				*e*S

s-maj=25.7km s-min=18.7km az=45.0
*NEIC **28** 01:10:25.4±1.4,56.1°N±0.1°×149.9°W±0.1°,1,h21km±12km, ML3.4/36,ML3.4(AEIC),Error ellipse: s-maj=18.5km s-min=3.8km az=150.0*
*AEIC **28** 01:10:27.2±2.4,56.0°N±0.1°×149.7°W±0.2°,2,h10km±9km, Error ellipse: s-maj=19.2km s-min=10.9km az=141.0*

ISC 28 01:10:25.9±0.8,56.07N±0.07°×149.73W±0.05,h35km, n149,σ1§16/156,mb4.0/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.28**	**302**	Pn	**Pn**	**01 11 00.0**	**-1.0**
OHAK				Sn	**Sn**	**01 11 26.4**	**-1.5**
OHAK				IAML		01 11 27.3	
	comp=N,133nm,0.8s						
OHAK	**Old Harbor**	**2.28**	**302**	P	**Pn**	**01 11 00.2**	**-0.8**
OHAK	**Old Harbor**	**2.28**	**302**	P	**Pn**	**01 11 00.4**	**-0.6**
	baz=120						
OHAK				S	**Sn**	**01 11 26.1**	**-1.8**
	baz=120						
KDAK	**Kodiak Island**	**2.33**	**319**	Pn	**Pn**	**01 11 01.0**	**-0.6**
KDAK	**Kodiak Island**	**2.33**	**319**		**Sn**	**01 11 27.4**	**-1.6**
KDAK	**Kodiak Island**	**2.33**	**319**	Pn	**Pn**	**01 11 01.1**	**-0.6**
	comp=N,2.9nm,0.3s,baz=155,slow=4.3,SNR=39						
KDAK				Sn	**Sn**	**01 11 26.7**	**-2.3**
	comp=N,8.9nm,0.3s,baz=23,slow=20,SNR=20						
	comp=N,5.7nm,0.3s						
SII	**Sitkinak Islan**	**2.53**	**283**		**Sn**	**01 11 31.7**	**-2.4**
SII				IAML		01 11 41.2	
	comp=N,179nm,1.0s						
SII	**Sitkinak Islan**	**2.53**	**283**		**Pn**	**01 11 03.6**	**-0.9**
SII	**Sitkinak Islan**	**2.53**	**283**	P	**Pn**	**01 11 03.6**	**-0.9**
SII	**Sitkinak Islan**	**2.53**	**283**	P	**Pn**	**01 11 03.6**	**-0.9**
	baz=100						
SII				S	**Sn**	**01 11 31.7**	**-2.4**
	baz=100						
SYI	**Shuyak Island**	**2.93**	**332**		**Pn**	**01 11 09.5**	**-0.5**
SYI					**Sn**	**01 11 43.4**	**-0.5**
Q20K	**Shuyak Island**	**2.93**	**332**	P	**Pn**	**01 11 09.5**	**-0.5**
	baz=150						
Q20K				S	**Sn**	**01 11 43.4**	**-0.6**
	baz=150						
CNPM	**China Poot**	**3.56**	**348**	Pn	**Pn**	**01 11 18.2**	**-0.5**
CNPM	**China Poot**	**3.56**	**348**		**Sn**	**01 11 57.3**	**-2.2**
CNPM	**China Poot**	**3.56**	**348**	IAML		01 12 01.2	
	comp=E,38nm,0.6s						
CNPM				IAML		01 12 02.5	
	comp=N,33nm,0.6s						
Q19K	**Cape Douglas,**	**3.56**	**325**		**Pn**	**01 11 19.8**	**+1.1**
Q19K	**Cape Douglas,**	**3.56**	**325**		**Sn**	**01 11 57.3**	**-2.3**
Q19K	**Cape Douglas,**	**3.56**	**325**	IAML		01 12 06.1	
	comp=N,240nm,1.0s						
Q19K				IAML		01 12 06.7	
	comp=E,361nm,1.3s						
Q19K	**Cape Douglas,**	**3.56**	**325**	P	**Pn**	**01 11 18.4**	**-0.4**
	baz=143						
Q19K				S	**Sn**	**01 11 57.3**	**-2.3**
	baz=143						
KAHG	**Katmai Hook Gl**	**3.57**	**315**		**Pn**	**01 11 19.1**	**+0.3**
BRSE	**Bradley Lake S**	**3.73**	**352**		**Pn**	**01 11 19.8**	**-1.2**
BRSE					**Sn**	**01 12 02.1**	**-1.4**
BRSE	**Bradley Lake S**	**3.73**	**352**	P	**Pn**	**01 11 19.7**	**-1.2**
	baz=172						
BRSE				S	**Sn**	**01 12 02.1**	**-1.4**
	baz=172						
HOM	**Homer**	**3.75**	**345**	Pn	**Pn**	**01 11 20.3**	**-0.9**
BRLK	**Bradley Lake**	**3.76**	**351**	Pn	**Pn**	**01 11 20.3**	**-1.1**
BRLK				IAML		01 12 07.5	
	comp=N,31nm,0.6s						
BRLK				IAML		01 12 07.8	
	comp=E,34nm,0.8s						
BRLK	**Bradley Lake**	**3.76**	**351**		**Sn**	**01 12 03.4**	**-1.0**
CNTC	**Contact Creek**	**4.01**	**306**		**Pn**	**01 11 24.8**	**-0.1**
Q17K	**Contact Creek**	**4.01**	**306**	P	**Pn**	**01 11 24.8**	**-0.1**
	baz=122						
P19K	**Oil Pt**	**4.05**	**334**		**Pn**	**01 11 25.5**	**+0.1**
P19K	**Oil Pt**	**4.05**	**334**	IAML		01 12 17.2	
	comp=N,126nm,0.7s						
P19K				IAML		01 12 17.8	
	comp=E,123nm,0.5s						
P19K	**Oil Pt**	**4.05**	**334**	P	**Pn**	**01 11 25.5**	**+0.1**
	baz=152						
P23K	**Montague Islan**	**4.13**	**16**		**Pn**	**01 11 25.6**	**-0.8**
P23K					**Sn**	**01 12 10.7**	**-2.8**
P23K	**Montague Islan**	**4.13**	**16**	P	**Pn**	**01 11 25.6**	**-0.8**
	baz=199						
P23K				S	**Sn**	**01 12 10.7**	**-2.8**
	baz=199						
O20K	**Slope Mountain**	**4.31**	**340**		**Pn**	**01 11 28.3**	**-0.7**
O20K	**Slope Mountain**	**4.31**	**340**	P	**Pn**	**01 11 28.3**	**-0.7**
	baz=159						
IVE	**Iliamna Volcan**	**4.33**	**338**		**Pn**	**01 11 28.6**	**-0.7**
P18K	**Big Mountain,**	**4.45**	**321**	Pn	**Pn**	**01 11 30.5**	**-0.4**
P18K	**Big Mountain,**	**4.45**	**321**	P	**Pn**	**01 11 30.5**	**-0.4**
	baz=137						
SLKM	**Skilak Lake**	**4.46**	**357**		**Pn**	**01 11 30.5**	**-0.5**
RED	**Redoubt Volcan**	**4.65**	**341**		**Pn**	**01 11 33.0**	**-0.7**
HIN	**Hinchinbrook I**	**4.67**	**20**	Pn	**Pn**	**01 11 33.9**	**+0.1**
HIN				IAML		01 12 34.8	
	comp=E,53nm,1.1s						
HIN				IAML		01 12 37.6	
	comp=N,55nm,1.4s						
RSO	**Redoubt South**	**4.69**	**341**	Pn	**Pn**	**01 11 34.7**	**+0.4**
RDT	**Redoubt**	**4.74**	**344**		**Pn**	**01 11 34.1**	**-0.7**
P17K	**Kvichak River**	**4.78**	**314**		**Pn**	**01 11 35.0**	**-0.3**
P17K	**Kvichak River**	**4.78**	**314**	P	**Pn**	**01 11 35.0**	**-0.3**
	baz=129						
O18K	**Koktuh Hills**	**4.79**	**325**		**Pn**	**01 11 35.5**	**0.0**
O18K				IAML		01 12 31.3	
	comp=N,36nm,0.8s						
O18K				IAML		01 12 32.5	
	comp=E,27nm,0.9s						
O18K	**Koktuh Hills**	**4.79**	**325**	P	**Pn**	**01 11 35.0**	**-0.5**
	baz=141						
KAIM	**Kayak Island**	**4.79**	**34**	Pn	**Pn**	**01 11 36.0**	**+0.5**
O19K	**Port Alsworth**	**4.80**	**331**	Pn	**Pn**	**01 11 36.5**	**+0.9**
O19K				IAML		01 12 33.4	
	comp=N,56nm,0.4s						
CHGN	**Chignik**	**4.86**	**276**	Pn	**Pn**	**01 11 35.0**	**-1.4**
CHGN				IAML		01 13 50.4	
	comp=N,69nm,0.3s						
CHGN				IAML		01 13 50.9	
	comp=E,66nm,0.3s						
EYAK	**Cordova Ski Ar**	**4.96**	**23**		**Pn**	**01 11 37.2**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.96**	**23**	P	**Pn**	**01 11 37.9**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.96**	**23**	P	**Pn**	**01 11 37.2**	**-0.6**
	baz=207						
RC01	**Rabbit Creek A**	**5.04**	**360**	Pn	**Pn**	**01 11 37.7**	**-1.2**
RC01				IAML		01 12 36.5	
	comp=E,24nm,0.5s						
RC01				IAML		01 12 38.2	
	comp=N,18nm,0.6s						
RAGM	**Ragged Mountai**	**5.09**	**30**	Pn	**Pn**	**01 11 39.8**	**+0.1**
N20K	**Mount Spurr**	**5.31**	**347**	P	**Pn**	**01 11 42.2**	**-0.6**
	baz=165						
SPCR	**Spurr Chakacha**	**5.31**	**347**		**Pn**	**01 11 42.2**	**-0.6**
P16K	**Nushagak River**	**5.35**	**307**		**Pn**	**01 11 42.8**	**-0.4**
P16K	**Nushagak River**	**5.35**	**307**	P	**Pn**	**01 11 42.8**	**-0.4**
	baz=121						
N19K	**Bonanza Creek**	**5.38**	**334**	Pn	**Pn**	**01 11 43.0**	**-0.6**
N19K				IAML		01 13 09.8	
	comp=N,12nm,1.0s						
N19K				IAML		01 13 15.2	
	comp=E,9.4nm,1.3s						
N19K	**Bonanza Creek**	**5.38**	**334**	P	**Pn**	**01 11 42.8**	**-0.8**
	baz=151						
O17K	**Koliganek Bris**	**5.41**	**316**		**Pn**	**01 11 43.6**	**-0.3**
O17K	**Koliganek Bris**	**5.41**	**316**	P	**Pn**	**01 11 43.6**	**-0.3**
	baz=131						
PMR	**Palmer**	**5.55**	**3**	P	**Pn**	**01 11 46.3**	**+0.4**
BMRM	**Bremner River**	**5.60**	**27**		**Pn**	**01 11 46.0**	**-0.7**
BMRM	**Bremner River**	**5.60**	**27**	P	**Pn**	**01 11 46.0**	**-0.7**
	baz=211						
N18K	**Kilae Creek**	**5.65**	**328**		**Pn**	**01 11 46.7**	**-0.6**
N18K	**Kilae Creek**	**5.65**	**328**	P	**Pn**	**01 11 46.7**	**-0.6**
	baz=143						
O16K	**Kokwok River B**	**5.70**	**312**		**Pn**	**01 11 47.2**	**-0.7**
O16K	**Kokwok River B**	**5.70**	**312**	P	**Pn**	**01 11 47.2**	**-0.7**
	baz=125						
GHO	**Glory Hole Cre**	**5.74**	**4**	Pn	**Pn**	**01 11 49.0**	**+0.3**
CHNA	**Chernabura Isl**	**5.75**	**262**	P	**Pn**	**01 11 47.4**	**-1.2**
	baz=74						
CNBA	**Chernabura Isl**	**5.75**	**262**		**Pn**	**01 11 47.4**	**-1.3**
KLU	**Klutina**	**5.79**	**18**		**Pn**	**01 11 49.9**	**+0.6**
KLU	**Klutina**	**5.79**	**18**	P	**Pn**	**01 11 49.3**	**0.0**
	baz=202						
SML	**Sawmill**	**5.80**	**7**	Pn	**Pn**	**01 11 50.0**	**+0.5**
SML	**Sawmill**	**5.80**	**7**	P	**Pn**	**01 11 48.9**	**-0.6**
	baz=188						
SCM	**Sheep Creek Mo**	**5.92**	**11**	Pn	**Pn**	**01 11 52.7**	**+1.7**
N17K	**Nushagak Hills**	**5.96**	**322**		**Pn**	**01 11 51.0**	**-0.4**
N17K	**Nushagak Hills**	**5.96**	**322**	P	**Pn**	**01 11 51.0**	**-0.4**
	baz=136						
SKT	**Skwentna**	**6.01**	**352**	Pn	**Pn**	**01 11 53.0**	**+0.8**
M20K	**Styx River**	**6.09**	**345**	Pn	**Pn**	**01 11 55.3**	**+1.9**
SDPT	**Sand Point**	**6.12**	**268**	P	**Pn**	**01 11 53.5**	**-0.2**
VRDI	**Verde Repeater**	**6.12**	**30**	Pn	**Pn**	**01 11 55.3**	**+1.3**
N25K	**Chitina, Valde**	**6.16**	**23**		**Pn**	**01 11 55.4**	**+1.0**
N25K	**Chitina, Valde**	**6.16**	**23**	P	**Pn**	**01 11 54.5**	**+0.1**
	baz=208						
GLB	**Gilahina Butte**	**6.21**	**27**	Pn	**Pn**	**01 11 55.5**	**+0.5**
KIAG	**Kiagna River**	**6.21**	**35**		**Pn**	**01 11 55.0**	**-0.2**
O15K	**Ungalikthiuk R**	**6.26**	**304**		**Pn**	**01 11 55.3**	**-0.3**
O15K	**Ungalikthiuk R**	**6.26**	**304**	P	**Pn**	**01 11 55.3**	**-0.3**
	baz=116						
M18K	**Stony River**	**6.29**	**332**		**Pn**	**01 11 55.4**	**-0.7**
M18K	**Stony River**	**6.29**	**332**	P	**Pn**	**01 11 55.4**	**-0.7**
	baz=148						
M24K	**Tolsona, Glenn**	**6.33**	**15**	Pn	**Pn**	**01 11 58.5**	**+1.9**
MCARA	**McCarthy VSAT**	**6.37**	**30**		**Pn**	**01 11 58.7**	**+1.5**
MCARA	**McCarthy VSAT**	**6.37**	**30**	P	**Pn**	**01 11 57.0**	**-0.2**
	baz=216						
PTPK	**Patty Peak**	**6.38**	**33**		**Pn**	**01 11 57.3**	**-0.2**
PCA	**Pinnacle**	**6.45**	**47**		**Pn**	**01 11 58.3**	**0.0**
PINM	**Pinnacle**	**6.45**	**47**	P	**Pn**	**01 11 58.3**	**0.0**
	baz=235						
N16K	**Nishlik Lake**	**6.50**	**317**		**Pn**	**01 11 59.0**	**+0.1**
N16K	**Nishlik Lake**	**6.50**	**317**	P	**Pn**	**01 11 59.0**	**+0.1**
	baz=129						
BARN	**Barnard Glacie**	**6.55**	**37**		**Pn**	**01 12 00.6**	**+0.8**
PNL	**Peninsula**	**6.59**	**52**		**Pn**	**01 12 00.1**	**-0.1**
PNL	**Peninsula**	**6.59**	**52**	P	**Pn**	**01 12 00.1**	**-0.1**
	baz=241						
CTGM	**Chitina Glacie**	**6.59**	**38**	Pn	**Pn**	**01 12 01.4**	**+1.1**
LOGN	**Logan Glacier**	**6.61**	**40**	Pn	**Pn**	**01 12 02.3**	**+1.7**
M17K	**Holitna River**	**6.69**	**326**		**Pn**	**01 12 01.3**	**-0.2**
M17K	**Holitna River**	**6.69**	**326**	P	**Pn**	**01 12 01.3**	**-0.2**
	baz=140						
HARP	**HAARP**	**6.77**	**18**		**Pn**	**01 12 02.5**	**-0.2**
HARP	**HAARP**	**6.77**	**18**	P	**Pn**	**01 12 02.5**	**-0.2**
	baz=202						
N15K	**Kwethluk River**	**6.86**	**311**		**Pn**	**01 12 03.6**	**-0.3**
N15K	**Kwethluk River**	**6.86**	**311**	P	**Pn**	**01 12 03.6**	**-0.3**
	baz=123						
M16K	**Timber Creek**	**6.93**	**320**		**Pn**	**01 12 04.5**	**-0.3**
M16K	**Timber Creek**	**6.93**	**320**	P	**Pn**	**01 12 04.6**	**-0.3**
	baz=132						
PN7A	**Pavlof North-7**	**6.96**	**270**		**Pn**	**01 12 04.4**	**-0.9**
O14K	**Tigyukauivet M**	**6.96**	**302**	Pn	**Pn**	**01 12 06.0**	**+0.7**
DHY	**Denali Highway**	**7.13**	**9**	Pn	**Pn**	**01 12 08.6**	**+0.8**
P29M	**Windy Craggy**	**7.33**	**56**		**Pn**	**01 12 09.4**	**-0.9**
P29M	**Windy Craggy**	**7.33**	**56**	P	**Pn**	**01 12 09.4**	**-0.9**
	baz=246						
TRF	**Thorofare Moun**	**7.42**	**358**	Pn	**Pn**	**01 12 14.1**	**+2.4**
N14K	**Kuskokwak Cree**	**7.44**	**306**		**Pn**	**01 12 11.6**	**-0.2**
N14K	**Kuskokwak Cree**	**7.44**	**306**	P	**Pn**	**01 12 11.6**	**-0.2**
	baz=117						
KTH	**Kantishna Hill**	**7.54**	**356**	Pn	**Pn**	**01 12 14.5**	**+1.2**
L16K	**Owhat River**	**7.58**	**322**		**Pn**	**01 12 13.7**	**0.0**
L16K	**Owhat River**	**7.58**	**322**	P	**Pn**	**01 12 13.7**	**0.0**
	baz=134						
S31K	**Pelican**	**7.61**	**70**		**Pn**	**01 12 12.2**	**-1.9**
S31K	**Pelican**	**7.61**	**70**	P	**Pn**	**01 12 12.2**	**-1.9**
	baz=261						
M14K	**Bethel**	**7.95**	**311**	Pn	**Pn**	**01 12 20.3**	**+1.5**
HYT	**Haines Junctio**	**7.99**	**48**	Pn	**Pn**	**01 12 17.6**	**-1.8**
SIT	**Sitka**	**8.02**	**77**	P	**Pn**	**01 12 17.1**	**-2.7**
RIDG	**Independent Ri**	**8.08**	**16**	Pn	**Pn**	**01 12 21.9**	**+1.3**
BCAR	**Beaver Creek A**	**8.09**	**27**	Pn	**Pn**	**01 12 23.0**	**+2.2**
SKAG	**Skagway**	**8.41**	**60**	P	**Pn**	**01 12 26.0**	**+0.8**
ILAR	**Eielson Array**	**8.85**	**8**	Pn	**Pn**	**01 12 31.4**	**+0.3**
	comp=E,0.1nm,0.3s,baz=192,slow=13,SNR=7.0						
ILAR				Sn	**Sn**	**01 14 07.2**	**-2.3**
	comp=E,0.1nm,0.3s,baz=196,slow=21,SNR=5.3						
	comp=E,0.9nm,0.7s						
I21K	**Tanana**	**9.21**	**354**	Pn	**Pn**	**01 12 36.9**	**+0.8**
P32M	**Atlin**	**9.24**	**61**	Pn	**Pn**	**01 12 36.3**	**-0.3**
DAWY	**Dawson**	**9.53**	**28**	Pn	**Pn**	**01 12 41.3**	**+0.8**
P33M	**Teslin, Yukon**	**9.85**	**58**	Pn	**Pn**	**01 12 44.3**	**-0.6**
INK	**Inuvik**	**14.35**	**25**	Pn	**P**	**01 13 49.3**	**-3.5**
	baz=201,slow=9.2,SNR=4.9						
	comp=E,1.7nm,1.0s						
YKA	**Yellowknife Ar**	**18.87**	**56**	P	**Pn**	**01 14 44.9**	**+1.4**
	baz=265,slow=9.7,SNR=8.2						
	comp=E,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**27.33**	**117**	P	**P**	**01 16 07.8**	**+0.2**
	comp=E,2.1nm,0.5s,baz=22,slow=2.9,SNR=1.6						
	comp=E,0.1nm,0.5s						
PDAR	**Pinedale Array**	**28.87**	**100**	P	**P**	**01 16 21.2**	**-0.1**
	comp=E,0.2nm,0.5s,baz=302,slow=5.2,SNR=2.3						
	comp=E,0.2nm,0.5s						
PFO	**Pinyon Flats O**	**32.06**	**120**	LR	LR	01 28 40.0	
	comp=E,63nm,18.9s,baz=237,slow=34						
ANMO	**Albuquerque**	**36.14**	**107**	LR	LR	01 30 03.5	
	comp=E,77nm,19.3s,baz=102,slow=33						
SONM	**Songino Array**	**58.59**	**310**	P	**P**	**01 20 22.0**	**+3.1**
	comp=E,1.1nm,0.7s,baz=47,slow=5.8,SNR=7.3						
	comp=E,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**61.61**	**327**	P	**P**	**01 20 41.5**	**+2.1**
	comp=E,0.9nm,0.6s,baz=46,slow=6.4,SNR=5.2						
	comp=E,0.9nm,0.6s						
FINES	**FINESS Array B**	**62.78**	**2**	P	**P**	**01 20 48.5**	**+1.4**
	comp=E,2.6nm,1.0s,baz=2.1,slow=11,SNR=3.7						
	comp=E,2.6nm,1.0s						
BVAR	**Borovoye Array**	**66.38**	**335**	P	**P**	**01 21 12.8**	**+2.1**
	comp=E,1.3nm,0.8s,baz=28,slow=7.0,SNR=6.8						
	comp=E,1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**66.40**	**329**	P	**P**	**01 21 12.4**	**+1.6**
	comp=E,0.7nm,0.7s,baz=31,slow=6.2,SNR=6.4						
	comp=E,0.7nm,0.7s						
MKAR	**Makanchi Array**	**68.63**	**324**	P	**P**	**01 21 27.1**	**+2.1**
	comp=E,0.5nm,0.6s,baz=22,slow=6.3,SNR=7.8						
	comp=E,0.5nm,0.6s						
QSPA	**South Pole Qui**	**145.86**	**180**	PKPbc	**PKiKP**	**01 30 01.7**	**-1.6**
	comp=E,1.2nm,0.7s,baz=179,slow=1.1,SNR=5.1						

*IDC **28** 01:13:14.6±1.0,55.96N×149.90W,h0km,mb3.8/10, mbtmp3.7/14,ML2.9/4, Error ellipse: s-maj=28.0km s-min=18.7km az=32.0*
*NEIC **28** 01:13:16.1±1.8,56.03N±0.09°×149.77W±0.03°, h20km±10km,ML3.4/32,ML3.3(AEIC),Error ellipse: s-maj=13.5km s-min=1.6km az=172.0*
*AEIC **28** 01:13:20.0±1.4,56.06N±0.10°×149.8W±0.1°,h10km±8km, Error ellipse: s-maj=14.6km s-min=10.3km az=165.0*

ISC 28 01:13:19.4±0.8,56.12N±0.07°×149.78W±0.05,h35km, n132,σ1§43/134,mb4.1/10,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.23**	**301**		**Pn**	**01 13 52.2**	**-1.6**
OHAK	**Old Harbor**	**2.23**	**301**		**Sn**	**01 14 17.9**	**-2.1**
OHAK	**Old Harbor**	**2.23**	**301**	IAML		01 14 19.5	
	comp=N,92nm,0.8s						
OHAK				IAML		01 14 25.2	
	comp=E,72nm,0.6s						
OHAK	**Old Harbor**	**2.23**	**301**	P	**Pn**	**01 13 52.4**	**-1.4**
	baz=120						
OHAK				S	**Sn**	**01 14 17.9**	**-2.1**
	baz=120						
KDAK	**Kodiak Island**	**2.27**	**318**	Pn	**Pn**	**01 13 53.3**	**-1.0**
	comp=E,5.0nm,0.3s,baz=148,slow=6.2,SNR=10						
KDAK				Sn	**Sn**	**01 14 19.1**	**-1.9**
	comp=E,6.5nm,0.3s,baz=3.4,slow=23,SNR=6.1						
	comp=E,12nm,0.4s						
SII	**Sitkinak Islan**	**2.49**	**282**		**Pn**	**01 13 55.5**	**-2.0**
SII					**Sn**	**01 14 23.7**	**-2.9**
SII	**Sitkinak Islan**	**2.49**	**282**	IAML		01 14 40.4	
	comp=N,166nm,0.7s						
SII	**Sitkinak Islan**	**2.49**	**282**	P	**Pn**	**01 13 55.5**	**-2.0**
	baz=100						
SII				S	**Sn**	**01 14 23.7**	**-2.9**
	baz=100						
SYI	**Shuyak Island**	**2.87**	**332**		**Pn**	**01 14 01.6**	**-1.0**
SYI					**Sn**	**01 14 35.9**	**+0.1**
Q20K	**Shuyak Island**	**2.87**	**331**	P	**Pn**	**01 14 01.6**	**-1.0**
	baz=150						
Q20K				S	**Sn**	**01 14 35.9**	**0.0**
	baz=150						
CNPM	**China Poot**	**3.50**	**348**		**Pn**	**01 14 10.0**	**-1.3**
CNPM	**China Poot**	**3.50**	**348**		**Sn**	**01 14 50.5**	**-1.0**
CNPM	**China Poot**	**3.50**	**348**	IAML		01 14 53.4	
	comp=N,36nm,1.1s						
CNPM				IAML		01 14 53.6	
	comp=E,34nm,0.6s						
Q19K	**Cape Douglas,**	**3.50**	**325**		**Pn**	**01 14 10.4**	**-0.9**
Q19K	**Cape Douglas,**	**3.50**	**325**	P	**Pn**	**01 14 10.4**	**-0.9**
	baz=143						
KAHG	**Katmai Hook Gl**	**3.51**	**315**		**Pn**	**01 14 11.2**	**-0.3**
BRSE	**Bradley Lake S**	**3.67**	**352**		**Pn**	**01 14 12.1**	**-1.4**
BRSE					**Sn**	**01 14 53.5**	**-2.0**
BRSE	**Bradley Lake S**	**3.67**	**352**	P	**Pn**	**01 14 12.1**	**-1.4**
	baz=172						
BRSE				S	**Sn**	**01 14 53.6**	**-2.0**
	baz=172						
BRLK	**Bradley Lake**	**3.70**	**351**		**Pn**	**01 14 12.5**	**-1.6**
BRLK	**Bradley Lake**	**3.70**	**351**		**Sn**	**01 14 55.6**	**-0.7**
BRLK	**Bradley Lake**	**3.70**	**351**	IAML		01 14 59.3	
	comp=E,33nm,0.9s						
BRLK				IAML		01 14 59.6	
	comp=N,26nm,1.0s						
ANCK	**Angle Creek**	**3.75**	**306**		**Pn**	**01 14 14.3**	**-0.3**
Q17K	**Contact Creek**	**3.96**	**305**	P	**Pn**	**01 14 17.4**	**-0.2**
	baz=121						
P19K	**Oil Pt**	**3.99**	**334**		**Pn**	**01 14 17.4**	**-0.7**
P19K	**Oil Pt**	**3.99**	**334**	IAML		01 15 09.1	
	comp=N,86nm,0.6s						
P19K				IAML		01 15 12.2	
	comp=E,92nm,0.8s						
P19K	**Oil Pt**	**3.99**	**334**	P	**Pn**	**01 14 17.4**	**-0.7**
	baz=152						
P23K	**Montague Islan**	**4.09**	**17**		**Pn**	**01 14 18.1**	**-1.2**
P23K					**Sn**	**01 15 02.8**	**-3.0**
P23K	**Montague Islan**	**4.09**	**17**	P	**Pn**	**01 14 18.1**	**-1.2**
	baz=199						
P23K				S	**Sn**	**01 15 02.8**	**-3.0**
	baz=199						
O20K	**Slope Mountain**	**4.25**	**340**		**Pn**	**01 14 20.2**	**-1.4**
O20K	**Slope Mountain**	**4.25**	**340**	P	**Pn**	**01 14 20.2**	**-1.4**
	baz=158						
IVE	**Iliamna Volcan**	**4.27**	**338**		**Pn**	**01 14 20.4**	**-1.5**
O22K	**Cooper Landing**	**4.37**	**0**	Pn	**Pn**	**01 14 22.3**	**-0.9**
P18K	**Big Mountain,**	**4.39**	**321**		**Pn**	**01 14 22.2**	**-1.3**
P18K	**Big Mountain,**	**4.39**	**321**	IAML		01 15 28.3	
	comp=N,17nm,1.4s						
P18K	**Big Mountain,**	**4.39**	**321**	P	**Pn**	**01 14 22.3**	**-1.3**
	baz=137						
RED	**Redoubt Volcan**	**4.59**	**341**		**Pn**	**01 14 24.6**	**-1.7**
HIN	**Hinchinbrook I**	**4.62**	**21**		**Pn**	**01 14 25.7**	**-1.0**
HIN	**Hinchinbrook I**	**4.62**	**21**	IAML		01 15 21.6	
	comp=N,48nm,1.0s						
HIN				IAML		01 15 29.8	
	comp=E,59nm,1.1s						
P17K	**Kvichak River**	**4.72**	**313**		**Pn**	**01 14 28.1**	**+0.1**
P17K	**Kvichak River**	**4.72**	**313**	P	**Pn**	**01 14 28.1**	**+0.1**
	baz=129						
O18K	**Koktuh Hills**	**4.73**	**325**		**Pn**	**01 14 26.8**	**-1.3**
O18K	**Koktuh Hills**	**4.73**	**325**	IAML		01 15 30.6	
	comp=N,32nm,1.1s						
O18K				IAML		01 15 36.4	
	comp=E,20nm,0.7s						
O18K	**Koktuh Hills**	**4.73**	**325**	P	**Pn**	**01 14 26.8**	**-1.3**
	baz=141						
DFR	**Drift River**	**4.74**	**342**		**Pn**	**01 14 26.9**	**-1.4**
O19K	**Port Alsworth**	**4.74**	**331**	Pn	**Pn**	**01 14 27.6**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.92**	**24**		**Pn**	**01 14 29.9**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.92**	**24**	P	**Pn**	**01 14 29.9**	**-0.8**
	baz=207						
FID	**Port Fidalgo**	**4.95**	**19**		**Pn**	**01 14 29.8**	**-1.5**
FID	**Port Fidalgo**	**4.95**	**19**	IAML		01 15 29.2	
	comp=N,28nm,0.7s						
FID				IAML		01 15 36.9	
	comp=E,27nm,0.9s						
RC01	**Rabbit Creek A**	**4.98**	**0**	Pn	**Pn**	**01 14 30.2**	**-1.4**
RC01				IAML		01 15 28.8	
	comp=E,26nm,0.4s						
RC01				IAML		01 15 36.0	
	comp=N,20nm,0.6s						
RAGM	**Ragged Mountai**	**5.05**	**30**		**Pn**	**01 14 31.5**	**-1.1**
GOAT	**Goat Mountain**	**5.20**	**29**		**Pn**	**01 14 33.7**	**-0.9**
N20K	**Mount Spurr**	**5.25**	**347**	P	**Pn**	**01 14 34.0**	**-1.3**
	baz=165						
SPCR	**Spurr Chakacha**	**5.25**	**347**		**Pn**	**01 14 34.0**	**-1.3**
P16K	**Nushagak River**	**5.29**	**307**		**Pn**	**01 14 35.3**	**-0.5**
P16K	**Nushagak River**	**5.29**	**307**	P	**Pn**	**01 14

comp=N,0.2nm,0.3s,baz=193,slow=13,SNR=4.4
ILAR Sn **Sn** **01 16 57.6 -4.0**
comp=N,0.1nm,0.3s,baz=206,slow=14,SNR=2.4
comp=N,0.8nm,0.5s
INK Inuvik 14.31 25 Pn **Pn** **01 16 40.7 +1.6**
baz=241,slow=3.5,SNR=1.7
comp=N,0.8nm,0.8s
YKA Yellowknife Ar 18.86 56 P **Pn** **01 17 37.0 +0.1**
baz=265,slow=9.9,SNR=6.2
comp=N,0.5nm,0.8s
NVAR Mina Array Bea 27.38 117 P **P** **01 19 02.0 +0.5**
comp=N,0.2nm,0.6s,baz=304,slow=9.6,SNR=2.3
comp=N,0.2nm,0.6s
PDAR Pinedale Array 28.91 100 P **P** **01 19 15.1 +0.1**
comp=N,0.1nm,0.4s,baz=327,slow=6.5,SNR=1.9
comp=N,0.1nm,0.4s
KLR Kul'dur 45.65 296 P **P** **01 21 36.3 +0.2**
comp=N,1.2nm,0.6s,baz=67,slow=12,SNR=4.0
comp=N,1.2nm,0.6s
SONM Songino Array 58.53 310 P **P** **01 23 12.0 0.0**
comp=N,1.5nm,0.9s,baz=46,slow=6.4,SNR=6.4
comp=N,1.5nm,0.9s
ZALV Zalesovo Beam 61.54 327 P **P** **01 23 33.9 +1.5**
comp=N,0.9nm,0.5s,baz=46,slow=6.4,SNR=5.6
comp=N,0.9nm,0.5s
FINES FINESS Array B 62.73 2 P **P** **01 23 40.9 +0.7**
comp=N,2.2nm,0.9s,baz=14,slow=8.8,SNR=4.8
comp=N,2.2nm,0.9s
BVAR Borovoye Array 66.31 335 P **P** **01 24 05.1 +1.4**
comp=N,1.5nm,0.7s,baz=38,slow=7.5,SNR=5.4
comp=N,1.5nm,0.7s
KURBB Kurchatov Arra 66.33 329 P **P** **01 24 05.1 +1.2**
comp=N,0.7nm,0.6s,baz=29,slow=6.4,SNR=6.1
comp=N,0.7nm,0.6s
MKAR Makanchi Array 68.56 324 P **P** **01 24 19.3 +1.1**
comp=N,0.8nm,0.7s,baz=31,slow=6.2,SNR=9.7
comp=N,0.8nm,0.7s
GEYT Alibeck 83.35 338 P **P** **01 25 44.9 +2.3**
comp=N,1.3nm,0.7s,baz=326,slow=3.9,SNR=3.5
comp=N,1.3nm,0.7s
QSPA South Pole Qui 145.91 180 PKPbc **PKPab** **01 32 54.1 -0.1**
comp=N,1.2nm,0.6s,baz=223,slow=3.1,SNR=5.3

*IDC **28** 01:19:14.7±0.7, 13°.68N×120°.90E, h150km±4km, mb3.3/12, mbtmp3.8/12, MS3.3/2, Error ellipse: s-maj=31.7km s-min=14.7km az=65.0*
*NEIC **28** 01:19:14.3±0.8, 13°.71N±0°.03×121°.0E±0°.2, h143km±10km, mb4.2/9, Error ellipse: s-maj=28.2km s-min=4.1km az=94.0.*
ISC 28 01:19:14.5±0.6, 13°.67N±0°.07×121°.0E±0°.1, h150km, n35, σ0s97/34, mb3.9/17, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.43**	**354**	P			**Pn**	**01 19 37.0**	**+1.3**
	407nm,0.3s,baz=257,slow=4.6,SNR=10								
TGY				S			**Sn**	**01 19 53.1**	**+1.3**
	672nm,0.3s,baz=343,slow=3.3,SNR=7.1								
TPUB	**Ta-pu**	**9.58**	**358**	Pn			**Pn**	**01 21 28.4**	**-0.6**
YULB	**Yu-li**	**9.67**	**2**	Pn			**Pn**	**01 21 29.3**	**-0.9**
SBUM	**Sibu**	**14.12**	**219**	P			**P**	**01 22 31.7**	**+0.6**
TNTI	**Ternate**	**14.29**	**153**	Pn			**Pn**	**01 22 28.6**	**-1.6**
LUWI	**Luwuk**	**14.72**	**173**	P			**P**	**01 22 37.9**	**+0.1**
KAPI	**Kappang**	**18.60**	**184**	LR			LR	01 29 54.4	
	comp=Z,5.1nm,21.0s,baz=277,slow=34								
CMAR	**Chiang Mai Arr**	**21.70**	**286**	P			**P**	**01 23 52.9**	**-1.0**
	1.3nm,0.7s,baz=93,slow=7.1,SNR=8.3								
	1.3nm,0.7s								
WRA	**Warramunga Arr**	**35.89**	**158**	P			**P**	**01 25 59.8**	**-0.6**
	0.5nm,0.7s,baz=330,slow=10,SNR=5.6								
	0.5nm,0.7s								
SONM	**Songino Array**	**36.16**	**343**	P			**P**	**01 26 02.5**	**0.0**
	0.7nm,0.5s,baz=158,slow=9.5,SNR=5.0								
	0.7nm,0.5s								
ASAR	**Alice Springs**	**39.20**	**161**	P			**P**	**01 26 29.4**	**+1.3**
	0.2nm,0.4s,baz=335,slow=6.2,SNR=4.3								
	0.2nm,0.4s								
MK31	**Makanchi Array**	**46.22**	**323**	P			**P**	**01 27 24.6**	**+0.1**
MKAR	**Makanchi Array**	**46.22**	**323**	P			**P**	**01 27 24.4**	**-0.1**
MKAR	**Makanchi Array**	**46.22**	**323**	P			**P**	**01 27 24.8**	**+0.3**
	0.7nm,0.5s,baz=135,slow=8.8,SNR=11								
	0.7nm,0.5s								
ZAA0	**Zalesovo Array**	**49.21**	**333**	P			**P**	**01 27 46.3**	**-1.1**
ZAA0				IAmb			IAmb	01 27 47.2	
	comp=Z,1.6nm,0.4s								
ZALV	**Zalesovo Beam**	**49.21**	**333**	P			**P**	**01 27 46.4**	**-1.0**
ZALV	**Zalesovo Beam**	**49.21**	**333**	P			**P**	**01 27 45.9**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=127,slow=6.7,SNR=7.8								
	comp=Z,1.1nm,0.4s								
KURBB	**Kurchatov Arra**	**50.37**	**326**	P			**P**	**01 27 56.6**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=128,slow=7.7,SNR=16								
	comp=Z,1.6nm,0.7s								
KURK	**Kurchatov**	**50.37**	**326**	P			**P**	**01 27 56.3**	**+0.2**
KURK				IAmb			IAmb	01 27 57.3	
	comp=Z,5.4nm,0.7s								
KKAR	**Karatay Array**	**52.19**	**314**	P			**P**	**01 28 09.7**	**-0.3**
BVAR	**Borovoye Array**	**55.95**	**326**	P			**P**	**01 28 37.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=80,slow=8.5,SNR=4.2								
	comp=Z,0.3nm,0.4s								
DZM	**Mont Dzumac**	**57.00**	**128**	LR			LR	01 54 42.8	
	comp=Z,52nm,18.4s,baz=13,slow=37								
TIXI	**Tiksi**	**58.15**	**3**	P			**P**	**01 28 51.8**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=160,slow=5.0,SNR=5.6								
	comp=Z,0.7nm,0.3s								
NRIK	**Noril'sk**	**59.51**	**347**	P			**P**	**01 29 01.7**	**+0.3**
NRIK				IAmb			IAmb	01 29 03.1	
	comp=Z,1.7nm,0.9s								
NRIK	**Noril'sk**	**59.51**	**347**	P			**P**	**01 29 01.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=126,slow=8.7,SNR=3.8								
	comp=Z,0.5nm,0.3s								
ABKAR	**Akbulak array**	**60.94**	**319**	P			**P**	**01 29 10.5**	**-1.1**
POKR	**Poker Plat Res**	**78.38**	**26**	P			**P**	**01 30 58.4**	**+0.3**
POKR				IAmb			IAmb	01 31 06.5	
	comp=Z,2.9nm,0.7s								
BMAR	**Burnt Mountain**	**79.19**	**23**	P			**P**	**01 31 04.0**	**+1.4**
ARCES	**ARCESS Array B**	**79.21**	**339**	P			**P**	**01 31 02.2**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=75,slow=5.1,SNR=4.1								
	comp=Z,2.0nm,1.0s								
HIN	**Hinchinbrook I**	**79.47**	**30**	P			**P**	**01 31 02.4**	**-1.8**
HIN				IAmb			IAmb	01 31 20.0	
	comp=Z,12nm,1.0s								
SPITS	**Spitsbergen Ar**	**79.67**	**348**	P			**P**	**01 31 04.9**	**0.0**
	comp=Z,12nm,0.9s,baz=98,slow=6.1,SNR=6.7								
Q23K	**Middleton Isla**	**79.70**	**31**	P			**P**	**01 31 05.7**	**+0.3**
MID	**Middleton Isla**	**79.71**	**31**	P			**P**	**01 31 03.6**	**-1.8**
D27M	**Malcolm River**	**80.16**	**21**	P			**P**	**01 31 09.1**	**+1.4**
YKA	**Yellowknife Ar**	**92.70**	**23**	P			**P**	**01 32 10.7**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=304,slow=4.4,SNR=2.5								
	comp=Z,0.1nm,0.5s								

*IDC **28** 01:20:50.6±1.4, 55°.67N×166°.38E, h0km, mb3.5/7, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=49.6km s-min=17.5km az=156.0*
*KRSC **28** 01:20:50.4±1.4, 55°.24N×166°.61E, h36km±9km, Ml4.1*
ISC 28 01:20:52.8±0.9, 55°.34N±0°.06×166°.54E±0°.06, h20km, n36, σ1s75/55, mb3.5/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.35**	**247**	*eP*			**Pb**	**01 20 59.5**	**-0.8**
BKI				*eS*			**Sb**	**01 21 05.7**	**+0.3**
BDR	**Baidarnaya**	**3.24**	**294**	*eP*			**Pn**	**01 21 42.8**	**+0.3**
BDR				*eS*			**Sn**	**01 22 22.0**	**+1.5**
CIRR	**Tsirk**	**3.36**	**286**	*eS*			**Sn**	**01 22 25.7**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**3.36**	**283**	*eP*			**Pn**	**01 21 45.3**	**+1.1**
BZGR				*eS*			**Sn**	**01 22 26.5**	**+2.9**
BZP	**Bezymyannyi-Pe**	**3.45**	**282**	*eS*			**Sn**	**01 22 28.0**	**+2.3**
KLY	**Klyuchi**	**3.46**	**289**	*eS*			**Sn**	**01 22 24.1**	**-1.6**
BZMR	**Bezymyannaya**	**3.48**	**282**	*eP*			**Pn**	**01 21 46.9**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.48**	**283**	*eP*			**Pn**	**01 21 47.1**	**+1.2**
TUMD	**Tumrok D**	**3.51**	**270**	*eP*			**Pn**	**01 21 47.1**	**+0.8**
TUMD				*eS*			**Sn**	**01 22 28.5**	**+1.3**
KIRR	**Kirishev**	**3.56**	**282**	*eP*			**Pn**	**01 21 48.1**	**+1.1**
KIRR				*eS*			**Sn**	**01 22 31.8**	**+3.2**
KMNR	**Kamenistaya**	**3.60**	**279**	*eP*			**Pn**	**01 21 48.6**	**+1.1**
KMNR				*eS*			**Sn**	**01 22 32.6**	**+3.1**
KPT	**Kopyto**	**3.63**	**282**	*eP*			**Pn**	**01 21 48.6**	**+0.7**
KPT				*eS*			**Sn**	**01 22 33.2**	**+3.0**
TUMR	**Tumrok**	**3.65**	**272**	*eP*			**Pn**	**01 21 49.3**	**+1.0**
TUMR				*eS*			**Sn**	**01 22 33.1**	**+2.3**
KOZ	**Kozyrevsk**	**3.84**	**283**	*eP*			**Pn**	**01 21 52.5**	**+1.8**
KOZ				*eS*			**Sb**	**01 22 39.5**	**-6.3**
SRDR	**Sredinnyy**	**3.97**	**287**	*eP*			**Pn**	**01 21 53.5**	**+1.0**
SRDR				*eS*			**Sn**	**01 22 41.3**	**+2.9**
SPN	**Mys Shipunski**	**4.43**	**242**	*eS*			**Sn**	**01 22 49.3**	**-0.6**
SMAR	**Somma**	**4.99**	**248**	*eP*			**Pn**	**01 22 07.5**	**+0.9**
SMAR				*eS*			**Sn**	**01 23 04.2**	**+0.5**
UGLR	**Uglovaya**	**5.00**	**248**	*eP*			**Pn**	**01 22 08.0**	**+1.3**
UGLR				*eS*			**Sn**	**01 23 05.0**	**+1.1**
AVH	**Avacha**	**5.02**	**249**	*eP*			**Pn**	**01 22 08.5**	**+1.5**
AVH				*eS*			**Sn**	**01 23 05.4**	**+1.0**
KRX	**Arik**	**5.02**	**250**	*eP*			**Pn**	**01 22 08.1**	**+1.0**
KRX				*eS*			**Sn**	**01 23 04.9**	**+0.3**
KOK	**Koryaka**	**5.06**	**249**	*eP*			**Pn**	**01 22 08.8**	**+1.2**
KOK				*eS*			**Sn**	**01 23 06.5**	**+1.1**
DALK	**Dalny**	**5.12**	**246**	*eS*			**Sn**	**01 23 06.3**	**-0.5**
PET	**Petropavlovsk**	**5.18**	**247**	*eS*			**Sn**	**01 23 08.2**	**+0.1**
KRMR	**Karymshinskiy**	**5.55**	**246**	*eP*			**Pn**	**01 22 15.0**	**+0.8**
KRMR				*eS*			**Sn**	**01 23 16.5**	**-0.8**
PETK	**Petropavlovsk-**	**5.65**	**250**	Pn			**Pn**	**01 22 16.7**	**+1.2**
	3.4nm,0.3s,baz=73,slow=16,SNR=35								
PETK				Sn			**Sn**	**01 23 21.9**	**+2.1**
	1.6nm,0.3s,baz=79,slow=8.0,SNR=5.3								
	13nm,0.5s								
MTVR	**Mutnovka**	**5.71**	**243**	*eP*			**Pn**	**01 22 17.4**	**+0.9**
MTVR				*eS*			**Sn**	**01 23 20.7**	**-0.7**
GRL	**Gorelyy**	**5.72**	**244**	*eP*			**Pn**	**01 22 19.4**	**+2.7**
ASAK	**Asacha**	**5.91**	**243**	*eP*			**Pn**	**01 22 20.3**	**+1.2**
ASAK				*eS*			**Sn**	**01 23 26.1**	**-0.1**
APC	**Apacha**	**6.02**	**250**	*eP*			**Pn**	**01 22 22.3**	**+1.7**
ILAR	**Eielson Array**	**24.51**	**49**	P			**P**	**01 26 09.7**	**-0.8**
	1.2nm,0.9s,baz=260,slow=8.5,SNR=11								
	1.2nm,0.9s								
MJAR	**Matsushiro Arr**	**26.93**	**238**	P			**P**	**01 26 34.4**	**+1.9**
	1.6nm,0.9s,baz=33,slow=7.4,SNR=3.3								
	1.6nm,0.9s								
INK	**Inuvik**	**29.73**	**40**	P			**P**	**01 26 56.0**	**-1.1**
	1.3nm,1.0s,baz=210,slow=3.6,SNR=3.8								
	1.3nm,1.0s								
YKA	**Yellowknife Ar**	**38.90**	**46**	P			**P**	**01 28 16.6**	**+0.2**
	0.2nm,0.8s,baz=301,slow=8.6,SNR=3.7								
	0.2nm,0.8s								
KURBB	**Kurchatov Arra**	**49.80**	**304**	P			**P**	**01 29 42.8**	**-0.9**
	0.4nm,0.4s,baz=55,slow=8.3,SNR=6.7								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**50.52**	**298**	P			**P**	**01 29 48.0**	**-1.3**
	0.2nm,0.6s,baz=43,slow=6.0,SNR=3.9								
	0.2nm,0.6s								
TXAR	**Lajitas Array**	**66.31**	**72**	P			**P**	**01 31 40.4**	**+0.6**
	0.3nm,0.8s,baz=307,slow=5.1,SNR=2.6								
	0.3nm,0.8s								

*RSNC **28** 01:23:19.3±1.1, 7°.13N×79°.76W, h13km±7km, ML2.9, Mw3.1*
*UPA **28** 01:23:20.1±1.7, 7°.27N×79°.82W, h6km±9km, MW4.1*
ISC 28 01:23:16.7±1.4, 7°.17N±0°.03×79°.77W±0°.03, h3km±12km, n43, σ1s77/68, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PEDA3	**Pedasi**	**0.44**	**325**	*eP*			**Pb**	**01 23 27.1**	**0.0**
ACHO3	**Achotines, Los**	**0.47**	**302**	*eP*			**Pb**	**01 23 27.9**	**+0.4**
ACHO3				*eS*			**Sb**	**01 23 35.2**	**+0.3**
CHIT3	**Chitre**	**1.01**	**321**	*eP*			**Pb**	**01 23 36.7**	**-0.2**
CHIT3				*eS*			**Sb**	**01 23 49.9**	**-0.7**
CACAO	**El Cacao, Vera**	**1.09**	**279**	*eP*			**Pb**	**01 23 38.0**	**-0.3**
CACAO				*eS*			**Sn**	**01 23 53.4**	**-1.1**
CACAO	**El Cacao, Vera**	**1.09**	**279**	*i*P			**Pb**	**01 23 38.0**	**-0.3**
CACAO				*eS*			**Sn**	**01 23 53.5**	**-1.1**
CACAO				*i*				01 24 04.5	
	comp=Z,316nm,0.5s								
MARI3	**Mariato, Verag**	**1.30**	**292**	*eP*			**Pn**	**01 23 42.3**	**+0.6**
CRIS3	**El Cristo, Coc**	**1.37**	**322**	*eP*			**Pb**	**01 23 42.7**	**-0.2**
PNME	**Penonome**	**1.42**	**337**	*eP*			**Pg**	**01 23 44.1**	**+0.1**
PNME				*eS*			**Sn**	**01 24 03.4**	**+0.8**
PNME				*i*				01 24 04.1	
	comp=Z,572nm,0.3s								
CALO3	**Calobre, Verag**	**1.56**	**317**	*eP*			**Pb**	**01 23 45.8**	**-0.4**
GMAL	**Guarumal, Vera**	**1.56**	**292**	*eP*			**Pg**	**01 23 46.2**	**-0.5**
GMAL				*eS*			**Sg**	**01 24 07.6**	**+0.6**
GMAL	**Guarumal, Vera**	**1.56**	**292**	*eP*			**Pg**	**01 23 46.0**	**-0.7**
GMAL				*eS*			**Sg**	**01 24 07.2**	**+0.2**
GMAL				*i*				01 24 12.5	
	comp=Z,258nm,0.4s								
FLAM	**Flamenco Islan**	**1.75**	**8**	*eP*			**Pb**	**01 23 49.0**	**-0.5**
FLAM				*eS*			**Sn**	**01 24 10.9**	**+0.1**
ARRA3	**Arraijan, Pana**	**1.79**	**4**	*eP*			**Pb**	**01 23 49.8**	**-0.4**
UPA	**Univ. de Panam**	**1.82**	**7**	*i*P			**Pn**	**01 23 49.7**	**+0.8**
UPA	**Univ. de Panam**	**1.82**	**7**	*eP*			**Pn**	**01 23 49.5**	**+0.6**
UPA				*eS*			**Sn**	**01 24 12.5**	**+0.1**
PTAC	**Punta Ardita,**	**1.95**	**90**	*eP*			**Pn**	**01 23 50.2**	**-0.5**
PTAC				*eS*			**Sn**	**01 24 10.2**	**-5.5**
PTAC				*i*				01 24 11.0	
	comp=Z,69nm,0.4s								
BCIP	**Isla Barro Col**	**1.99**	**358**	*eP*			**Pb**	**01 23 52.5**	**-1.0**
BCIP				*eS*			**Sn**	**01 24 15.9**	**-0.8**
BCIP	**Isla Barro Col**	**1.99**	**358**	*i*P			**Pb**	**01 23 52.5**	**-1.0**
BCIP				*eS*			**Sb**	**01 24 17.8**	**-0.9**
FRIJ	**El Hiral**	**2.04**	**1**	*eP*			**Pn**	**01 23 53.0**	**+1.0**
CHPO	**Chepo, Panama**	**2.10**	**18**	*eP*			**Pn**	**01 23 54.1**	**+1.4**
CHPO				*eS*			**Sn**	**01 24 19.1**	**-0.2**
UPD2	**Meteti**	**2.22**	**52**	*eP*			**Pn**	**01 23 56.0**	**+1.6**
UPD2				*eS*			**Sb**	**01 24 25.4**	**0.0**
UPD2				*i*				01 24 34.4	
	comp=Z,99nm,0.4s								
CAPC	**Capurgana**	**2.81**	**59**	*eP*			**Pn**	**01 24 02.3**	**-0.2**
CHGR2	**Aguacate**	**2.93**	**307**	*eP*			**Pb**	**01 24 07.2**	**-2.5**
DVD	**David**	**2.94**	**296**	*eP*			**Pn**	**01 24 06.0**	**+1.7**
BCO2	**Palmira**	**3.13**	**300**	*eP*			**Pb**	**01 24 10.0**	**-3.2**
BCO2				*eS*			**Sn**	**01 24 46.7**	**+1.5**
APAC	**Apartado, Choc**	**3.25**	**77**	*eP*			**Pb**	**01 24 14.9**	**-0.1**
APAC				*eS*			**Sn**	**01 24 47.6**	**-0.2**
APAC				*i*				01 25 00.1	
	comp=Z,30nm,0.6s								
BRU2	**Volcan**	**3.31**	**299**	*e*			**Pn**	**01 24 11.1**	**+1.5**
BRU2				*eP*			**Pn**	**01 24 11.1**	**+1.5**
DBBC	**Dabeiba**	**3.54**	**92**	*eP*			**Pn**	**01 24 13.3**	**+0.6**
DBBC				*eS*			**Sn**	**01 24 51.4**	**-3.7**
DBBC				*i*				01 24 57.8	
	comp=Z,13nm,0.4s								
CBOC	**Ciudad Bolivar**	**3.96**	**109**	*eP*			**Pn**	**01 24 18.1**	**-0.4**
CBOC				*eS*			**Sn**	**01 25 03.8**	**-1.7**
PLMC	**San Jos del P**	**4.13**	**123**	*eP*			**Pn**	**01 24 19.5**	**-1.4**
PLMC				*eS*			**Sn**	**01 25 07.9**	**-1.8**
PLMC				*i*				01 25 25.2	
	comp=Z,6.4nm,0.2s								
UREC	**San Jos de Ur**	**4.25**	**82**	*eP*			**Pn**	**01 24 24.0**	**+1.6**
UREC				*eS*			**Sn**	**01 25 10.3**	**-2.1**
UREC				*i*				01 25 15.5	
	comp=Z,13nm,0.8s								
GUY2C	**Guyana, Caldas**	**4.79**	**114**	*eP*			**Pn**	**01 24 31.8**	**+1.6**
JAMC	**Jamundi, Valle**	**4.99**	**142**	*eP*			**Pn**	**01 24 34.4**	**+1.6**
ANIL	**Santa Ana**	**5.10**	**121**	*eP*			**Pn**	**01 24 36.8**	**+2.5**
PTBC	**PUERTO BERRIO,**	**5.32**	**96**	*eP*			**Pn**	**01 24 40.7**	**+3.6**
PTBC				*eS*			**Sn**	**01 25 38.1**	**-0.8**
PTBC				*i*				01 25 42.2	
	comp=Z,3.3nm,0.5s								
ORTC	**Ortega, Tolima**	**5.55**	**125**	*eP*			**Pn**	**01 24 43.0**	**+2.7**
ORTC				*eS*			**Sn**	**01 25 47.5**	**+2.9**
ORTC				*i*				01 25 56.3	
	comp=Z,3.5nm,0.4s								
SPBC	**San Pablo de B**	**5.86**	**105**	*eP*			**Pn**	**01 24 49.2**	**+4.6**
PRAC	**Prado**	**5.95**	**125**	*eP*			**Pn**	**01 24 47.2**	**+1.3**
PRAC				*eS*			**Sn**	**01 25 56.0**	**+1.4**
PRAC				*i*				01 26 03.9	
	comp=Z,3.2nm,0.6s								
JTS	**Las Juntas de**	**5.99**	**302**	*eP*			Pn	01 24 53.0	+6.7
GARC	**Garzon, Huila**	**6.53**	**139**	*eP*			**Pn**	**01 24 55.2**	**+1.3**
BARC	**Barichara**	**6.57**	**95**	*eP*			**Pn**	**01 24 56.4**	**+1.9**
BARC				*eS*			**Sn**	**01 26 08.7**	**-1.4**
BARC				*i*				01 26 13.1	
	comp=Z,8.5nm,0.6s								
VILC	**Villavicencio,**	**6.77**	**116**	*eP*			**Pn**	**01 25 01.7**	**+4.6**
PAMC	**Pamplona, Colo**	**7.02**	**88**	*eP*			**Pn**	**01 25 03.0**	**+2.1**
PAMC				*eS*			**Sn**	**01 26 22.4**	**+0.8**
PAMC				*i*				01 26 37.5	
	comp=Z,4.7nm,0.8s								

KRSC 28 01:30:23.1±1.2, 55°.33N×166°.63E, h36km±7km, Ml3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**252**	*eP*			Pn	01 30 32.6	+0.6
BKI				*eS*			Sn	01 30 38.8	+0.2
BZGR	**Bezymyannyi-Gr**	**3.42**	**283**	*eP*			Pn	01 31 18.6	+4.7
BZP	**Bezymyannyi-Pe**	**3.50**	**282**	*eP*			Pn	01 31 18.9	+3.8
KLY	**Klyuchi**	**3.52**	**289**	*eS*			Sn	01 31 57.9	+2.5
BZMR	**Bezymyannaya**	**3.54**	**282**	*eP*			Pn	01 31 19.7	+4.2
BZWR	**Bezymyannyi-We**	**3.54**	**283**	*eP*			Pn	01 31 18.9	+3.3
TUMD	**Tumrok D**	**3.57**	**271**	*eP*			Pn	01 31 20.0	+4.2
TUMD				*eS*			Sn	01 32 02.7	+5.9
KMNR	**Kamenistaya**	**3.66**	**279**	*eP*			Pn	01 31 21.5	+4.3
KMNR				*eS*			Sn	01 32 04.8	+5.7
KPT	**Kopyto**	**3.69**	**283**	*eP*			Pn	01 31 21.1	+3.6
TUMR	**Tumrok**	**3.71**	**272**	*eP*			Pn	01 31 22.7	+4.8
TUMR				*eS*			Sn	01 32 06.9	+6.5
SRDR	**Sredinnyy**	**4.03**	**287**	*eP*			Pn	01 31 26.0	+3.9
SRDR				*eS*			Sn	01 32 13.4	+5.3
SMAR	**Somma**	**5.03**	**249**	*eP*			Pn	01 31 40.9	+4.7
UGLR	**Uglovaya**	**5.04**	**248**	*eP*			Pn	01 31 41.3	+5.1
AVH	**Avacha**	**5.06**	**249**	*eP*			Pn	01 31 41.5	+5.1
AVH				*eS*			Sn	01 32 38.6	+4.9
KRX	**Arik**	**5.07**	**250**	*eP*			Pn	01 31 41.0	+4.4
KRX				*eS*			Sn	01 32 37.6	+3.7
KOK	**Koryaka**	**5.11**	**250**	*eP*			Pn	01 31 42.1	+5.0
PET	**Petropavlovsk**	**5.22**	**247**	*eS*			Sn	01 32 41.8	+4.4
KRMR	**Karymshinskiy**	**5.59**	**247**	*eS*			Sn	01 32 51.8	+5.2
MTVR	**Mutnovka**	**5.75**	**244**	*eP*			Pn	01 31 50.7	+4.7
MTVR				*eS*			Sn	01 32 54.5	+3.9
GRL	**Gorelyy**	**5.77**	**245**	*eP*			Pn	01 31 51.5	+5.3
ASAK	**Asacha**	**5.95**	**244**	*eP*			Pn	01 31 53.8	+5.1
ASAK				*eS*			Sn	01 33 00.9	+5.4

*KRNET **28** 01:30:31.8±0.1, 42°.35N×70°.62E, h23km, mb2.8*
*NNC **28** 01:30:31.4±1.3, 42°.34N×70°.56E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=8.0km s-min=4.4km az=36.0, Suspected Mining explosion.*
*SOME **28** 01:30:32.3, 42°.40N×70°.83E, h0km*
*ISU **28** 01:30:34.0, 42°.24N×70°.64E, h5km*
ISC 28 01:30:32.5±0.8, 42°.34N±0°.02×70°.76E±0°.03, h0km, n38, σ1s14/66, 28C-16D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.78**	**347**	⇑P			**Pg**	**01 30 47.1**	**-0.4**
	3.2nm,0.3s,baz=183,slow=16,SNR=693								
KK31				⇓S			**Sg**	**01 30 56.8**	**-0.8**
	34nm,0.5s,baz=179,slow=29,SNR=96								
KKAR	**Karatay Array**	**0.78**	**347**	⇑*e*P			**Pg**	**01 30 46.5**	**-1.0**
	baz=54								
KKAR				⇑*e*S			**Sg**	**01 30 56.9**	**-0.7**
	baz=54								
TRKS	**Terek-Say**	**0.86**	**161**	⇓*e*P			**Pb**	**01 30 50.1**	**-0.4**
	baz=55								
TRKS				⇓*e*S			**Sb**	**01 31 03.2**	**+0.6**
	baz=55								
CHMG	**Chimgan**	**0.97**	**215**	P			**Pg**	**01 30 50.8**	**-0.3**
CHMG				S			**Sg**	**01 31 03.2**	**-0.5**
ARK	**Arkit**	**1.05**	**121**	⇑*e*P			**Pg**	**01 30 53.0**	**+0.4**
	baz=18								
ARK				⇑*e*S			**Sb**	**01 31 08.5**	**+0.5**
	baz=18								
MNAS	**Manas**	**1.30**	**83**	⇑*e*P			**Pg**	**01 30 57.3**	**-0.1**
	baz=84								
MNAS				⇑*e*S			**Sb**	**01 31 15.9**	**+0.7**
	baz=84								
TGS	**TashGRES**	**1.30**	**226**	P			**Pn**	**01 30 59.1**	**+1.1**
TGS				S			**Sn**

	3.8nm,0.5s							
KRBS	**Karabastau**	**3.85**	**68**	*e*P		**Pb**	**01 31 42.8**	**+1.5**
	1.5nm,0.8s							
KRBS				*e*S		**Sg**	**01 32 34.0**	**-2.2**
	3.8nm,0.5s							
KST	**Kastek**	**3.90**	**78**	Pg		**Pb**	**01 31 43.9**	**+1.6**
	4.7nm,0.7s							
KST				Lg		Lg	01 32 35.5	
	11nm,0.4s							
KST	**Kastek**	**3.90**	**78**	*e*P		**Pb**	**01 31 43.9**	**+1.6**
	4.7nm,0.7s							
KST				*e*S		**Sg**	**01 32 35.5**	**-2.3**
	11nm,0.4s							
KTBS	**Karatobe**	**4.55**	**71**	Pg		**Pb**	**01 31 55.1**	**+1.8**
	0.8nm,0.6s							
KTBS				Lg		Lg	01 32 55.2	
	3.7nm,0.6s							
KTBS	**Karatobe**	**4.55**	**71**	*e*P		**Pb**	**01 31 55.8**	**+2.5**
	0.5nm,0.2s							
KTBS				*e*S		**Sg**	**01 32 55.9**	**-2.8**
	8.4nm,0.4s							

*CATAC **28** 01:40:24.7±0.2, 13°.30N×87°.70W, h4km, ML2.8*
*SNET **28** 01:40:25.2±0.8, 13°.33N×87°.74W, h6km, ML3.0*
ISC 28 01:40:25.2±0.9,**13°.27N**±0°.05×**87°.72W**±0°.03,**h13**km±5km,
n20,σ1º**05**/33,**1C,Honduras**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AMPH	**Amapala**	**0.06**	**71**	*i* P		**Pg**	**01 40 27.7**	**0.0**
AMPH				*e*S		**Sg**	**01 40 30.2**	**+0.6**
CNCH	**Conchagua**	**0.11**	**276**	*e*P		**Pg**	**01 40 28.0**	**-0.5**
CNCH				*e*S		**Sg**	**01 40 30.2**	**-0.5**
CNCH	**Conchagua**	**0.11**	**276**	*i* P		**Pg**	**01 40 28.0**	**-0.5**
CNCH				*i* S		**Sg**	**01 40 30.2**	**-0.5**
CNCH				IAML			01 40 31.7	
	comp=Z,22μm,1.0s							
LCND	**La Caada**	**0.17**	**285**	*e*P		**Pg**	**01 40 28.9**	**-0.4**
LCND				*e*S		**Sg**	**01 40 31.7**	**-0.3**
LCND				*e*S			01 40 31.8	
LCND	**La Caada**	**0.17**	**285**	*i* P		**Pg**	**01 40 28.8**	**-0.4**
LCND				*i* P			01 40 28.9	
LCND				*i* S		**Sg**	**01 40 31.7**	**-0.3**
LCND				IAML			01 40 32.2	
	comp=Z,6μm,1.0s							
LCND				IAML			01 40 52.1	
	comp=Z,21μm,1.0s							
CSGN	**Cosiguina Volc**	**0.33**	**152**	*i* P		**Pg**	**01 40 31.0**	**-0.9**
CSGN				IAML			01 40 33.7	
	comp=Z,29nm,1.0s							
PACA	**Pacayal**	**0.62**	**289**	*e*P		**Pg**	**01 40 37.1**	**-0.3**
PACA	**Pacayal**	**0.62**	**289**	*i* P		**Pg**	**01 40 36.8**	**-0.6**
PACA				IAML			01 40 47.5	
	comp=Z,2μm,1.0s							
CRIN	**San Cristobal**	**0.86**	**131**	*i* P		**Pg**	**01 40 41.7**	**-0.2**
CRIN				*i* S		**Sb**	**01 40 55.6**	**+2.0**
CRIN				IAML			01 40 58.7	
	comp=Z,590nm,1.0s							
PQSS	**Presa 15 de Se**	**0.89**	**294**	*i* P		**Pg**	**01 40 41.4**	**-1.1**
PQSS				IAML			01 40 41.6	
	comp=Z,160nm,1.0s							
PQSS				*i* S		**Sb**	**01 40 54.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.07**	**294**	*i* P		**Pg**	**01 40 44.5**	**-1.4**
SCLA				*i* S		**Sb**	**01 41 00.7**	**+1.0**
SCLA				IAML			01 41 11.7	
	comp=Z,48nm,1.0s							
YUSH	**Yuscaran**	**1.09**	**51**	*e*P		**Pg**	**01 40 45.4**	**-0.9**
CNGA	**Al SSO del Vol**	**1.25**	**128**	*i* P		**Pg**	**01 40 47.5**	**-1.8**
CNGA				IAML			01 41 12.9	
	comp=Z,140nm,1.0s							
MACN	**El Madrono**	**1.29**	**128**	*i* P		**Pn**	**01 40 47.9**	**-1.1**
MACN				IAML			01 41 09.5	
	comp=Z,62nm,1.0s							
LIMN	**Finca el Limon**	**1.33**	**99**	*i* P		**Pn**	**01 40 48.7**	**-0.9**
LIMN				*i* S		**Sg**	**01 41 07.1**	**-1.1**
LIMN				IAML			01 41 08.8	
	comp=Z,250nm,1.0s							
COPN	**Copaltepe**	**1.54**	**134**	*i* P		**Pn**	**01 40 51.7**	**-0.7**
COPN				IAML			01 41 29.5	
	comp=Z,110nm,1.0s							
RCPN	**Sur Rio San Ju**	**1.60**	**81**	*i* P		**Pn**	**01 40 52.6**	**-0.8**
RCPN				*i* S		**Sn**	**01 41 14.1**	**+0.1**
RCPN				IAML			01 41 15.9	
	comp=Z,2.5nm,1.0s							
MATN	**Matagalpa**	**1.78**	**101**	*i* P		**Pn**	**01 40 55.2**	**-0.6**
MATN				*i* S		**Sn**	**01 41 19.2**	**+0.9**
MATN				IAML			01 41 24.8	
	comp=Z,74nm,1.0s							
MTO3	**Montecristo**	**1.95**	**305**	*i* P		**Pn**	**01 40 59.2**	**+0.9**
MTO3				IAML			01 41 05.4	
	comp=Z,51nm,1.0s							
MTO3				*i* S		**Sb**	**01 41 25.0**	**-0.2**
BOAB	**BOACO BROADBAN**	**2.16**	**112**	*i* P		**Pn**	**01 41 02.1**	**+1.2**
BOAB				*i* S		**Sn**	**01 41 30.5**	**+2.9**
BOAB				IAML			01 41 34.4	
	comp=Z,54nm,1.0s							

*NEIC **28** 01:47:25.9±0.4, 19°.40N±0°.03×155°.28W±0°.03, h40km±4km,*
Error ellipse: s-maj=4.5km s-min=4.4km az=127.0
HVO 28 01:47:26.7±0.5,**19°.39N**±0°.04×**155°.24W**±0°.03,**h39**km±4km,
ML2.0/16,**ML2.4**/41(NEIC),**Error ellipse: s-maj=5.5km**
s-min=4.6km az=169.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PUH	**Pauahi**	**0.02**	**131**			Pn	01 47 32.3	-0.9
PUH				IAML			01 47 37.6	
	comp=N,491nm,0.7s							
KKO	**Keanakako'i**	**0.03**	**285**			Pn	01 47 32.7	-0.5
KKO				IAML			01 47 37.8	
	comp=E,516nm,0.6s							
BYL	**Byron's Ledge**	**0.03**	**313**			Sn	01 47 37.3	-0.4
BYL	**Byron's Ledge**	**0.03**	**313**			Pn	01 47 32.5	-0.7
BYL				IAML			01 47 37.8	
	comp=E,504nm,0.6s							
BYL				IAML			01 47 40.5	
	comp=N,350nm,0.9s							
RIM	**Rim**	**0.04**	**278**			Pn	01 47 32.6	-0.6
RIM				IAML			01 47 40.5	
	comp=N,428nm,0.7s							
HATHI	**Halema'uma'u T**	**0.04**	**323**			Pn	01 47 32.6	-0.6
HATHI				IAML			01 47 37.9	
	comp=N,538nm,0.7s							
HATHI				IAML			01 47 42.1	
	comp=E,531nm,0.6s							
SBLHI	**Steaming Bluff**	**0.05**	**320**			Pn	01 47 32.3	-0.9
SBLHI						Sn	01 47 37.0	-0.8
SBLHI	**Steaming Bluff**	**0.05**	**320**	IAML			01 47 40.8	
	comp=N,415nm,0.8s							
SBLHI				IAML			01 47 40.8	
	comp=E,297nm,0.8s							
NPH	**North Pit**	**0.05**	**297**	Pn		Pn	01 47 32.2	-1.0
UWB	**Uwekahuna B**	**0.05**	**311**			Sn	01 47 37.2	-0.6
OBL	**Observatory Le**	**0.05**	**301**			Pn	01 47 31.4	-1.8
SDHHI	**Sand Hill**	**0.06**	**270**			Pn	01 47 32.5	-0.7
SDHHI				IAML			01 47 38.1	
	comp=E,571nm,0.7s							
KNHH	**Kane Nui o Ham**	**0.06**	**99**			Pn	01 47 32.6	-0.6
UWE	**Uwekahuna**	**0.06**	**300**			Pn	01 47 32.3	-1.0
UWE				IAML			01 47 40.6	
	comp=N,571nm,0.5s							
WRMHI	**West Rim**	**0.06**	**285**			Pn	01 47 32.3	-1.0
WRMHI				IAML			01 47 45.0	
	comp=N,405nm,0.7s							
RSD	**Rainshed**	**0.08**	**331**			Pn	01 47 32.4	-1.0
STCH	**Steam Cracks**	**0.10**	**92**			Pn	01 47 32.7	-2.6
STCH	**Steam Cracks**	**0.10**	**92**	IAML			01 47 37.8	
	comp=N,302nm,0.7s							
STCH				IAML			01 47 37.9	
	comp=E,299nm,0.6s							
HLP	**Hilina Pali**	**0.12**	**216**			Pn	01 47 32.5	-2.6
MLH	**Mauna Loa**	**0.18**	**306**			Pn	01 47 33.0	-1.9
MLH				IAML			01 47 39.0	
	comp=E,334nm,0.7s							
MLH				IAML			01 47 39.0	
	comp=N,338nm,0.7s							
HTC	**Hot Caves**	**0.22**	**225**			Pn	01 47 33.7	-0.9
JOKA	**Jonika Flow**	**0.22**	**79**			Pn	01 47 33.5	-1.1
JOKA						Sn	01 47 38.6	-2.2
HMH	**Humu'ula Sheep**	**0.32**	**312**			Sn	01 47 40.5	-1.4
HMH	**Humu'ula Sheep**	**0.32**	**312**			Pn	01 47 34.7	-0.8
HMH				IAML			01 47 39.7	
	comp=E,272nm,3.7s							
HMH	**Humu'ula Sheep**	**0.32**	**312**	IAML			01 47 41.6	
	comp=N,397nm,0.7s							
MLOA	**Mauna Loa Obse**	**0.35**	**294**			Pn	01 47 34.9	-1.0
MLOA				IAML			01 47 41.5	
	comp=N,376nm,0.4s							
MLOA				IAML			01 47 42.0	
	comp=E,362nm,2.1s							
MWH	**Moku'aweowe**	**0.35**	**286**			Pn	01 47 34.6	-1.4
MWH				IAML			01 47 42.0	
	comp=E,316nm,0.7s							
MWH				IAML			01 47 48.3	
	comp=N,245nm,0.6s							
KHU	**Kahuku**	**0.39**	**248**			Pn	01 47 34.6	-1.5
KHU				IAML			01 47 41.5	
	comp=E,335nm,2.0s							
KHU	**Kahuku**	**0.39**	**248**			Sn	01 47 41.1	-1.7
ALEP	**Alea Permanent**	**0.41**	**291**			Pn	01 47 35.1	-1.4
POHA	**Pohakuloa**	**0.46**	**323**			Pn	01 47 35.8	-1.3
KHLU	**Kahalu`u**	**0.65**	**288**			Pn	01 47 37.8	-1.8
KHLU				IAML			01 47 46.9	
	comp=E,169nm,2.2s							
KHLU				IAML			01 48 04.1	
	comp=N,152nm,3.9s							

*NEIC **28** 01:49:11.2±1.1, 20°.4S±0°.1×177°.85W±0°.07, h473km±7km,*
mb4.0/25, Error ellipse: s-maj=20.4km s-min=8.4km
az=193.0
*IDC **28** 01:49:14.3±5.3, 20°.34S×177°.92W, h503km±58km,*
mb3.3/10, mbtmp4.1/10, Error ellipse: s-maj=34.2km
s-min=20.3km az=158.0
ISC 28 01:49:12.9±0.5,**20°.4S**±0°.1×**177°.84W**±0°.09,**h500**km,**n64,**
σ1º18/64,mb3.9/22,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**7.56**	**81**	P		**P**	**01 51 02.8**	**-2.1**
AFI	**Afiamalu**	**8.66**	**43**	P		**P**	**01 51 13.2**	**-3.2**
DSZ	**Denniston Nort**	**23.03**	**200**	P		**P**	**01 53 38.5**	**-0.3**
LTZ	**Lake Taylor**	**23.83**	**198**	P		**P**	**01 53 43.3**	**-2.6**
LTZ				IAmb		IAmb	01 53 48.8	
	comp=Z,7.6nm,1.1s							
EIDS	**Eidsvold**	**29.02**	**254**	P		**P**	**01 54 30.2**	**-1.6**
EIDS				IAmb		IAmb	01 54 30.3	
	comp=Z,14nm,1.1s							
RABL	**Rabaul**	**33.34**	**295**	P		**P**	**01 55 08.2**	**-0.9**
CTA	**Charters Tower**	**33.65**	**264**	P		**P**	**01 55 12.4**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=90,slow=13,SNR=1.5							
	comp=Z,2.9nm,0.8s							
CTAO	**Charters Tower**	**33.65**	**264**	P		**P**	**01 55 11.1**	**-0.6**
CTAO				IAmb		IAmb	01 55 19.7	
	comp=Z,6.0nm,0.9s							
TOO	**Toolangi**	**36.09**	**234**	P		**P**	**01 55 32.3**	**+0.5**
TOO				IAmb		IAmb	01 55 40.2	
	comp=Z,6.0nm,1.1s							
BBOO	**Buckleboo**	**42.73**	**243**	P		**P**	**01 56 25.2**	**-0.4**
BBOO				IAmb		IAmb	01 56 33.3	
	comp=Z,3.4nm,0.8s							
PTCN	**Pitcairn Islan**	**44.11**	**105**	P		**P**	**01 56 35.9**	**-0.5**
WR0	**Warramunga Arr**	**44.58**	**262**	P		**P**	**01 56 40.5**	**+0.4**
AS31	**Alice Springs**	**44.69**	**257**	P		**P**	**01 56 41.0**	**0.0**
ASAR	**Alice Springs**	**44.69**	**257**	P		**P**	**01 56 38.8**	**-2.2**
ASAR	**Alice Springs**	**44.69**	**257**	P		**P**	**01 56 41.4**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=95,slow=8.0,SNR=10							
ASAR				PcP		**PcP**	**01 58 13.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=104,slow=4.0,SNR=4.6							
	comp=Z,1.2nm,0.7s							
WB0	**Warramunga Arr**	**44.74**	**262**	P		**P**	**01 56 41.2**	**-0.2**
WB0				IAmb		IAmb	01 56 55.3	
	comp=Z,5.4nm,1.1s							
WB2	**Warramunga Arr**	**44.76**	**262**	P		**P**	**01 56 40.9**	**-0.6**
WB2				IAmb		IAmb	01 56 51.5	
	comp=Z,4.3nm,1.0s							
WRA	**Warramunga Arr**	**44.77**	**262**	P		**P**	**01 56 41.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=96,slow=6.8,SNR=23							
	comp=Z,0.8nm,0.6s							
QSPA	**South Pole Qui**	**69.68**	**180**	P		**P**	**01 59 32.9**	**+1.3**
	comp=Z,2.6nm,1.0s,baz=53,slow=2.6,SNR=4.0							
	comp=Z,2.6nm,1.0s							
NVAR	**Mina Array Bea**	**80.84**	**43**	P		**P**	**02 00 36.2**	**+1.8**
	comp=Z,1.9nm,1.0s,baz=223,slow=8.2,SNR=8.4							
	comp=Z,1.9nm,1.0s							
TXAR	**Lajitas Array**	**86.86**	**57**	P		**P**	**02 01 06.2**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=213,slow=6.0,SNR=7.6							
	comp=Z,1.0nm,0.8s							
ANMO	**Albuquerque**	**87.21**	**51**	P		**P**	**02 01 07.5**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=313,slow=3.8,SNR=4.9							
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**88.17**	**13**	P		**P**	**02 01 09.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=221,slow=5.0,SNR=5.4							
	comp=Z,0.5nm,0.6s							
PDAR	**Pinedale Array**	**88.77**	**43**	P		**P**	**02 01 13.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=212,slow=4.0,SNR=7.0							
	comp=Z,0.5nm,0.6s							
M30M	**Minto, Yukon**	**88.81**	**18**	P		**P**	**02 01 13.7**	**+1.0**
L29M	**L29M**	**88.87**	**17**	P		**P**	**02 01 14.1**	**+1.2**
L29M				IAmb		IAmb	02 01 15.0	
	comp=Z,4.6nm,1.1s							
DAWY	**Dawson**	**89.31**	**16**	P		**P**	**02 01 15.8**	**+0.9**
DAWY				IAmb		IAmb	02 01 16.5	
	comp=Z,1.6nm,0.7s							
EGAK	**Eagle**	**89.45**	**15**	P		**P**	**02 01 16.5**	**+1.0**
K29M	**Barlow Dome**	**89.62**	**17**	P		**P**	**02 01 17.7**	**+1.3**
C19K	**Lookout Ridge**	**90.20**	**6**	P		**P**	**02 01 19.6**	**+0.6**
C19K				IAmb		IAmb	02 01 21.0	
	comp=Z,3.5nm,1.1s							
CMAR	**Chiang Mai Arr**	**90.22**	**290**	P		**P**	**02 01 22.6**	**+2.4**
	comp=Z,2.1nm,0.3s,baz=106,slow=2.4,SNR=4.9							
	comp=Z,2.1nm,0.3s							
I28M	**Miner Creek**	**90.30**	**15**	P		**P**	**02 01 20.1**	**+0.5**
I28M				IAmb		IAmb	02 01 20.8	
	comp=Z,1.3nm,0.8s							
D22K	**Ayikyak River**	**90.86**	**9**	P		**P**	**02 01 22.8**	**+0.9**
D22K				IAmb		IAmb	02 01 26.7	
	comp=Z,1.0nm,0.9s							
BMAR	**Burnt Mountain**	**90.95**	**12**	P		**P**	**02 01 23.1**	**+0.6**
I30M	**Mount Dempster**	**91.02**	**16**	P		**P**	**02 01 23.6**	**+0.7**
I30M				IAmb		IAmb	02 01 24.8	
	comp=Z,1.8nm,1.0s							
H29M	**Whitestone**	**91.31**	**15**	P		**P**	**02 01 24.9**	**+0.8**
B20K	**Meade River**	**91.33**	**7**	P		**P**	**02 01 25.0**	**+1.0**
MT09	**Talagante**	**92.00**	**127**	P		**P**	**02 01 28.9**	**+0.5**
VA03	**San Esteban**	**92.77**	**126**	P		**P**	**02 01 32.8**	**+0.9**
G31M	**Satah River**	**92.88**	**16**	P		**P**	**02 01 31.6**	**+0.4**
BVAR	**Borovoye Array**	**119.09**	**320**	PKP		**PKPdf**	**02 07 03.7**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=111,slow=1.0,SNR=5.8							
KARS	**Kars**	**139.83**	**309**	PKPdf		**PKPdf**	**02 07 43.5**	**-0.6**
AKASG	**Malin Array Be**	**142.99**	**331**	PKPdf		**PKPdf**	**02 07 47.0**	**-2.2**
AKASG	**Malin Array Be**	**142.99**	**331**	PKhKP		PKPpre	02 07 46.5	
	comp=Z,1.8nm,0.5s,baz=43,slow=4.3,SNR=17							
AKBB	**Malin Array Si**	**142.99**	**331**	PKPdf		**PKPdf**	**02 07 46.5**	**-2.6**
KIEV	**Kiev**	**143.00**	**331**	PKPdf		**PKPdf**	**02 07 46.8**	**-2.3**
AK05	**Malin Array Si**	**143.05**	**331**	PKPdf		**PKPdf**	**02 07 46.9**	**-2.4**
KWP	**Kalwaria Pacla**	**146.54**	**336**	PKPbc		**PKPbc**	**02 07 58.3**	**+0.6**
BR131	**Keskin Array S**	**146.87**	**313**			**PKPbc**	**02 07 59.7**	**+0.6**
BRTR	**Keskin Array B**	**146.87**	**313**			**PKPbc**	**02 07 59.2**	**0.0**
BRTR	**Keskin Array B**	**146.87**	**313**	PKPbc		**PKPbc**	**02 07 59.5**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=142,slow=5.1,SNR=8.4							
BUR08	**Bucovina Ar. S**	**147.02**	**331**			**PKiKP**	**02 08 01.4**	**+0.3**
BURAR	**Bucovina Array**	**147.03**	**331**			**PKiKP**	**02 08 01.5**	**+0.3**
MMAI	**Mount Meron Ar**	**147.89**	**100**	PKPbc		**PKiKP**	**02 08 03.0**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=71,slow=6.3,SNR=6.9							
CLL	**Collm**	**147.98**	**347**	*i* PKPbc		**PKPbc**	**02 08 02.2**	**+0.8**
	comp=Z,8.0nm,0.7s							
DPC	**Dobruska-Polom**	**148.06**	**343**	*e*PKP		**PKPbc**	**02 08 01.5**	**-0.2**
KRLC	**Kraliky**	**148.18**	**342**	*e*PKP		**PKPbc**	**02 08 02.7**	**+0.7**
MAUC	**Maruska**	**148.49**	**340**	*e*PKP		**PKiKP**	**02 08 03.8**	**-0.2**
PRU	**Pruhonice**	**148.86**	**344**	*e*PKP		**PKiKP**	**02 08 04.5**	**-0.2**
TREC	**Trest**	**149.25**	**343**	*e*PKP		**PKPbc**	**02 08 05.2**	**+0.6**
ZVC	**Zvikov**	**149.46**	**344**	*e*PKP		**PKiKP**	**02 08 05.9**	**0.0**
KHC	**Kasperske Hory**	**149.90**	**345**	*e*PKP		**PKPbc**	**02 08 06.2**	**0.0**
CKRC	**Cesky Krumlov**	**150.00**	**344**	*e*PKP		**PKiKP**	**02 08 07.3**	**+0.2**
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc		**PKPbc**	**02 08 06.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=157,slow=8.1,SNR=5.5							

*IDC **28** 01:49:32.2±2.2, 2°.57S×139°.42E, h0km, mb3.7/5,*
mbtmp3.8/6, ML3.7/1, MS2.9/1, Error ellipse:
s-maj=106.3km s-min=22.8km az=84.0
ISC 28 01:49:38.7±2.4,**2°.7S**±0°.2×**139°.0E**±0°.8,**h35**km,**n7,**σ0º**39**/6,
mb3.9/5,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.74**	**194**	P		**Pn**	**01 53 42.8**	**-0.3**
	0.2nm,0.3s,baz=18,slow=12,SNR=10							
	0.9nm,0.5s							
CTA	**Charters Tower**	**18.70**	**158**	LR		LR	02 02 05.3	
	comp=Z,34nm,20.0s,baz=265,slow=40							
ASAR	**Alice Springs**	**21.43**	**193**	P		**P**	**01 54 24.2**	**+0.3**
	0.6nm,0.5s,baz=18,slow=10,SNR=14							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**69.93**	**322**	P		**P**	**02 00 46.8**	**+0.3**
	0.8nm,0.6s,baz=111,slow=8.0,SNR=11							
	0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**73.86**	**325**	P		**P**	**02 01 09.4**	**-0.4**
	0.3nm,0.7s,baz=101,slow=4.8,SNR=3.0							
	0.3nm,0.7s							
BVAR	**Borovoye Array**	**79.44**	**325**	P		**P**	**02 01 41.4**	**0.0**
	0.8nm,0.6s,baz=105,slow=7.7,SNR=7.0							
	0.8nm,0.6s							
QSPA	**South Pole Qui**	**87.27**	**180**	P		**P**	**02 02 21.6**	**0.0**
	0.7nm,0.6s,baz=277,slow=1.7,SNR=6.2							
	0.7nm,0.6s							

*NEIC **28** 01:51:10.8±0.7, 36°.52N±0°.02×98°.98W±0°.03, h10km±6km,*
Error ellipse: s-maj=3.8km s-min=2.2km az=136.0
TUL 28 01:51:10.7±0.7,**36°.52N**±0°.02×**98°.98W**±0°.04,**h6**km±5km,
ML2.8,mb_Lg2.5/25(NEIC),**ML2.7**/12(NEIC),**Error**
ellipse: s-maj=4.8km s-min=2.0km az=114.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.14**	**188**	Pg		Pg	01 51 14.0	+0.3
U32A				Sg		Sg	01 51 16.6	+0.9
U32A				IAML			01 51 17.1	
	comp=N,2μm,0.1s							
OK038	**West end E0370**	**0.20**	**103**	Pg		Pg	01 51 15.1	+0.6
OK038				Sg		Sg	01 51 17.9	+0.6
OK038				IAML			01 51 18.5	
	comp=N,2μm,0.3s							
OK038				IAML			01 51 18.7	
	comp=N,2μm,0.4s							
OK035	**E0210 Rd and N**	**0.28**	**49**	Pg		Pg	01 51 16.6	+0.3
OK035				Sg		Sg	01 51 20.9	+0.8
ELIS	**Ellis County**	**0.58**	**218**	Pg		Pg	01 51 21.7	-0.1
ELIS				Sg		Sg	01 51 30.2	+0.8
ELIS				IAML			01 51 38.4	
	comp=E,346nm,0.5s							
OK032	**Salt Plains WL**	**0.68**	**65**	Pg		Pg	01 51 23.8	+0.1
OK032				Sg		Sg	01 51 32.7	+0.1
OK032				IAML			01 51 40.9	
	comp=E,537nm,0.2s							
CROK	**Carrier**	**0.80**	**91**	Pg		Pg	01 51 26.1	0.0
CROK				Sg		Sg	01 51 37.0	+0.5
KAN14	**Manchester OK**	**0.92**	**62**	Pg		Pg	01 51 28.4	-0.1
KAN10	**Anthony SW Sta**	**0.93**	**50**	Pg		Pg	01 51 27.6	-0.9
GC02	**Grant County #**	**0.96**	**70**	Pg		Pg	01 51 28.8	-0.3
KAN05	**Bluff City Nor**	**1.06**	**56**	Pg		Pg	01 51 30.6	-0.5
KAN12	**Harper NE Stat**	**1.10**	**45**			Pg	01 51 31.5	-0.3
KAN17	**Caldwell West**	**1.10**	**62**	Pg		Pg	01 51 31.5	-0.4
KAN06	**Argonia West S**	**1.15**	**51**			Pg	01 51 32.3	-0.5
KAN01	**Argonia South**	**1.16**	**57**	Pg		Pg	01 51 32.5	-0.5
KAN09	**Caldwell North**	**1.25**	**60**	Pg		Pg	01 51 34.0	-0.7
KAN13	**South Haven SW**	**1.30**	**67**	Pg		Pn	01 51 34.7	-0.7
OK029	**Liberty Lake**	**1.43**	**120**			Pn	01 51 37.0	-0.1
OK048	**Pawnee Station**	**1.64**	**93**			Pn	01 51 40.6	+0.5
OKCSW	**OKLAHOMA CITY**	**1.68**	**131**			Pn	01 51 41.0	+0.4
OK033	**Mehan**	**1.72**	**106**			Pn	01 51 41.5	+0.4
OK051	**E0350 and S346**	**1.73**	**90**			Pn	01 51 41.8	+0.5
SMWD	**Samnorwood**	**1.75**	**216**	Pn		Pn	01 51 42.4	+0.8
WMOK	**Wichita Mounta**	**1.79**	**175**	Pn		Pn	01 51 42.3	+0.2
FNO	**Franklin**	**1.80**	**134**			Pb	01 51 43.2	-0.9
OK052	**Battle Ridge R**	**1.84**	**106**			Pn	01 51 43.3	+0.5
QUOK	**Quay**	**1.87**	**100**			Pn	01 51 43.8	+0.6
R32A	**Long Quarter,**	**1.91**	**6**			Pn	01 51 44.6	+0.8
T35A	**Sooner Cattle**	**2.02**	**78**			Pb	01 51 46.8	-1.0
T35A				IAmb_Lg			01 52 16.9	
	comp=Z,19nm,0.8s							
DEOK	**Depew**	**2.12**	**108**			Pn	01 51 47.7	+1.0
X34A	**Smith Ranch, M**	**2.13**	**154**			Pn	01 51 48.2	+1.3
W35A	**Tecumseh**	**2.19**	**128**			Pn	01 51 48.5	+0.9
CBKS	**Cedar Bluff**	**2.36**	**345**			Pn	01 51 51.1	+1.0
CBKS				IAmb_Lg			01 52 27.0	
	comp=Z,23nm,0.9s							
TUL3	**Leonard**	**2.65**	**102**			Pn	01 51 54.8	+0

FWVZ	Far West T-bar	1.37	319	P	Pb	01 53 26.6	+0.5
SNVZ	South Ngauruho	1.38	323	P	Pb	01 53 26.6	+0.3
OTVZ	Oturere	1.39	324	P	Pg	01 53 27.2	-0.6
ETVZ	East Tongariro	1.39	326	P	Pb	01 53 27.0	+0.5
NGZ	Ngauruhoe	1.41	322	P	Pb	01 53 27.3	+0.5
RAHZ	Arahi	1.41	12	P	Pn	01 53 25.0	-0.8
TMVZ	Te Maari	1.41	326	P	Pb	01 53 27.2	+0.4
COVZ	Chateau Observ	1.42	320	P	Pb	01 53 27.3	+0.4
WAZ	Wanganui	1.43	292	P	Pg	01 53 28.1	-0.4
NNVZ	North Ngauruho	1.44	324	P	Pb	01 53 27.9	+0.6
NTVZ	North Tongarir	1.44	326	P	Pg	01 53 28.0	-0.7
MTHZ	Maungataniwha	1.45	4	P	Pn	01 53 25.6	-0.7
PKVZ	Pokaka	1.45	313	P	Pb	01 53 27.9	+0.4
PAWZ	Paruwai Farm	1.45	221	P	Pg	01 53 29.6	+0.6
KRVZ	Karewarewa	1.46	325	P	Pb	01 53 28.0	+0.4
WTVZ	West Tongariro	1.46	324	P	Pb	01 53 27.8	+0.1
KIW	Kapiti Island	1.48	247	P	Pn	01 53 25.6	-1.1
MRHZ	Matea Rd	1.48	351	P	Pn	01 53 26.7	0.0
CAW	Cannon Point	1.49	236	P	Pn	01 53 25.0	-1.7
KATZ	Kakaramea	1.54	329	P	Pg	01 53 30.5	0.0
RATZ	Rangitukua	1.60	333	P	Pg	01 53 32.1	+0.3
RTZ	Ruatahuna	1.69	7	P	Pn	01 53 29.1	-0.6
BHW	Baring Head	1.78	231	P	Pg	01 53 34.6	-0.5
MUGZ	Murupara	1.82	2	P	Pn	01 53 30.6	-0.8
VRZ	Vera Road	1.91	307	P	Pg	01 53 37.7	+0.2
TCW	Tory Channel	2.06	243	P	Pn	01 53 32.9	-1.8
MWZ	Matawai	2.06	18	P	Pn	01 53 33.3	-1.4
TARZ	Mount Tarawera	2.06	356	P	Pn	01 53 34.5	-0.3
DUWZ	D'Urville Isla	2.18	256	P	Pg	01 53 41.7	-1.0
NEZ	North Egmont	2.26	296	P	Pg	01 53 43.2	-1.1
HIZ	Hauiti	2.29	321	P	Pb	01 53 42.2	+0.5
PKE	Pukeiti	2.37	297	P	Pb	01 53 43.5	+0.5
RUGZ	Raukumara Rang	2.45	18	P	Pn	01 53 38.4	-1.7

*IDC **28** 01:55:39.6±1.0, 17°.38S×66°.21E, h0km, mb4.1/16, mbtmp4.1/16, MS3.6/1, Error ellipse: s-maj=32.5km s-min=19.1km az=28.0*
*NEIC **28** 01:55:40.4±1.6, 17°.36S±0°.05×66°.1E±0°.2, h10km±1km, mb4.5/29, Error ellipse: s-maj=30.0km s-min=9.0km az=271.0*
ISC 28 01:55:41.9±0.7, 17°.4S±0°.1×66°.2E±0°.1, h17km, n82, σ1§11/72, mb4.3/37, 6C-4D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	11.42	33	T	T	02 09 55.7	
	baz=210,slow=75,SNR=222						
H08S2	Diego Garcia H	11.43	33	T	T	02 09 57.4	
	baz=210,slow=75,SNR=180						
H08S3	Diego Garcia H	11.44	33	T	T	02 09 56.4	
	baz=210,slow=75,SNR=538						
H04N2	CROZET ISLANDS	31.12	200	T	T	02 34 48.5	
	baz=27,slow=75,SNR=204						
H04N1	CROZET ISLANDS	31.13	200	T	T	02 34 52.5	
	baz=27,slow=75,SNR=198						
H04N3	CROZET ISLANDS	31.14	200	T	T	02 34 50.8	
	baz=27,slow=75,SNR=188						
KMBO	Kilima Mbogo	32.75	296	P	P	02 02 14.4	-0.1
	0.8nm,0.6s,baz=56,slow=4.4,SNR=3.7 0.8nm,0.6s						
WSAR	Wadi Sarin	41.03	349	LR	LR	02 18 01.4	
	comp=Z,70nm,18.8s,baz=217,slow=33						
H01W2	Cape Leeuwin H	45.95	122	T	T	02 53 12.7	
	baz=280,slow=75,SNR=298						
H01W3	Cape Leeuwin H	45.95	122	T	T	02 53 02.4	
	baz=280,slow=75,SNR=296						
H01W1	Cape Leeuwin H	45.97	122	T	T	02 53 13.9	
	baz=280,slow=75,SNR=347						
CMAR	Chiang Mai Arr	47.98	44	P	P	02 04 20.9	+0.8
CMAR	Chiang Mai Arr	47.98	44	P	P	02 04 21.6	+1.5
	1.0nm,0.3s,baz=237,slow=8.6,SNR=14 1.0nm,0.3s						
SHL	Shillong	49.44	31	P	P	02 04 32.0	+0.6
SHL				IAmb	IAmb	02 04 34.0	
	comp=Z,5.9nm,1.0s						
KBL	Kabul	51.69	3	P	P	02 04 48.7	+0.5
SLVN	Son La	53.31	45	P	P	02 04 59.0	-1.4
SLVN				IAmb	IAmb	02 05 03.2	
	comp=Z,8.0nm,0.9s						
KK31	Karatay Array	60.30	4	P	P	02 05 46.4	-3.1
KK31				IAmb	IAmb	02 06 12.5	
	comp=Z,9.3nm,1.5s						
KKAR	Karatay Array	60.30	4	P	P	02 05 48.0	-1.6
GAZ	Gaziantep	60.76	334	P	P	02 05 51.5	-1.4
GAZ				IAmb	IAmb	02 05 55.0	
	comp=Z,8.1nm,1.2s						
AKH	Akhalkalaki	62.16	341	P	P	02 06 01.1	-1.3
ASAR	Alice Springs	63.18	108	P	P	02 06 08.4	-1.1
ASAR	Alice Springs	63.18	108	P	P	02 06 10.2	+0.6
	comp=Z,1.2nm,0.7s,baz=271,slow=5.8,SNR=14 comp=Z,1.2nm,0.7s						
AS31	Alice Springs	63.18	108	P	P	02 06 08.4	-1.1
WRA	Warramunga Arr	64.17	104	P	P	02 06 16.0	-0.1
WRA	Warramunga Arr	64.17	104	P	P	02 06 17.1	+1.0
	comp=Z,3.3nm,1.0s,baz=264,slow=5.9,SNR=9.4 comp=Z,3.3nm,1.0s						
WB2	Warramunga Arr	64.18	104	P	P	02 06 15.8	-0.4
WRAB	Tennant Creek	64.18	104	P	P	02 06 15.4	-0.8
WB0	Warramunga Arr	64.25	104	P	P	02 06 15.1	-1.6
WR0	Warramunga Arr	64.36	104	P	P	02 06 18.4	+1.1
BRTR	Keskin Array B	64.43	333	P	P	02 06 18.9	+1.5
	comp=Z,0.6nm,0.7s,baz=156,slow=7.7,SNR=5.1 comp=Z,0.6nm,0.7s						
GTA	Gaotai	64.61	28	P	P	02 06 20.0	+1.4
GTA				pP	sP	02 06 26.0	+1.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MAKZ	Makanchi	65.43	12	P	P	02 06 22.3	-1.3
MAKZ				IAmb	IAmb	02 06 25.8	
	comp=Z,2.9nm,0.6s						
MK31	Makanchi Array	65.48	12	P	P	02 06 22.9	-1.1
MK31				IAmb	IAmb	02 06 41.1	
	comp=Z,2.8nm,1.3s						
MKAR	Makanchi Array	65.48	12	P	P	02 06 22.1	-1.9
MKAR	Makanchi Array	65.48	12	P	P	02 06 24.1	+0.1
	comp=Z,1.7nm,1.0s,baz=218,slow=7.7,SNR=9.6 comp=Z,1.7nm,1.0s						
ABKAR	Akbulak array	66.56	356	P	P	02 06 29.7	-1.1
KURBB	Kurchatov Arra	68.55	8	P	P	02 06 43.9	+0.6
	comp=Z,1.5nm,0.9s,baz=205,slow=6.6,SNR=12 comp=Z,1.5nm,0.9s						
KURK	Kurchatov	68.65	8	P	P	02 06 43.5	-0.5
KURK				IAmb	IAmb	02 06 48.1	
	comp=Z,2.8nm,0.9s						
BVAR	Borovoye Array	70.19	3	P	P	02 06 53.4	-0.1
	comp=Z,1.1nm,0.6s,baz=168,slow=7.6,SNR=9.4 comp=Z,1.1nm,0.6s						
BRVK	Borovoye	70.22	3	P	P	02 06 53.6	0.0
TORD	Torodi Ar. Bea	70.56	291	P	P	02 06 57.6	+1.0
	comp=Z,0.8nm,1.0s,baz=117,slow=3.8,SNR=3.6 comp=Z,0.8nm,1.0s						
VRI	Vrincioaia	72.39	332	↑P	P	02 07 08.6	+1.6
PLOR	Plostina	72.41	332	↑P	P	02 07 08.9	+1.7
BLKB	Belogradchik	72.63	328	↑P	P	02 07 09.2	+0.7
ZAA0	Zalesovo Array	72.79	11	P	P	02 07 08.7	-0.4
ZAA0				IAmb	IAmb	02 07 10.3	
	comp=Z,3.4nm,1.0s						
ZALV	Zalesovo Beam	72.79	11	P	P	02 07 08.5	-0.7
ZALV	Zalesovo Beam	72.79	11	P	P	02 07 09.4	+0.3
	comp=Z,2.0nm,0.8s,baz=212,slow=5.3,SNR=9.1 comp=Z,2.0nm,0.8s						
VOIR		72.82	331	↑P	P	02 07 08.7	-0.9
ARR	Arges	72.96	331	↓P	P	02 07 11.6	+1.1
SORM	Soroca	73.46	335	↓P	P	02 07 12.0	-1.2
SONM	Songino Array	74.18	27	P	P	02 07 17.9	+0.3
SONM	Songino Array	74.18	27	P	P	02 07 19.2	+1.5
	comp=Z,1.3nm,0.9s,baz=216,slow=7.3,SNR=7.0 comp=Z,1.3nm,0.9s						
VNDA	Vanda	74.38	167	P	P	02 07 18.2	-0.1
VNDA				IAmb	IAmb	02 07 33.0	
	comp=Z,12nm,1.4s						
BUR08	Bucovina Ar. S	74.42	333	P	P	02 07 19.4	+0.3
SURR	Surduc	74.44	330	↓P	P	02 07 20.8	+1.7
ULN	Ulaanbaatar	74.49	27	P	P	02 07 19.5	-0.1
ULN				IAmb	IAmb	02 07 30.2	
	comp=Z,5.4nm,1.5s						
MARR	Marisel-Cluj	74.64	331	↑P	P	02 07 21.4	+1.1
DRGR		74.92	331	↑P	P	02 07 23.2	+1.3
AKASG	Malin Array Be	75.17	337	P	P	02 07 23.7	+0.6
	comp=Z,2.0nm,0.7s,baz=135,slow=5.0,SNR=14 comp=Z,2.0nm,0.7s						
MORH	Mrgy, Hungar	76.48	328	↓P	P	02 07 31.6	+0.8
RONA	Rosalia, Austr	78.67	328	*i* P	P	02 07 43.9	+0.9
	comp=Z,0.6nm,0.3s						
OBKA	Obir	78.79	326	*e*P	P	02 07 44.9	+1.1
	comp=Z,0.4nm,0.5s						
CONA	Conrad Observa	79.04	328	*i* P	P	02 07 46.1	+0.9
	comp=Z,0.4nm,0.3s						
KSRS	Korea Array	79.58	45	P	P	02 07 47.4	-0.7
	comp=Z,1.7nm,0.8s,baz=243,slow=5.5,SNR=4.7 comp=Z,1.7nm,0.8s						
KBA	Koelnbreinsper	79.79	326	*e*P	P	02 07 50.4	+1.1
	comp=Z,0.3nm,0.4s						
MOA	Molln	79.81	327	*e*P	P	02 07 49.9	+0.7
	comp=Z,0.6nm,0.4s						
ABTA	Abfaltersbach	80.03	326	*e*P	P	02 07 51.6	+1.1
	comp=Z,0.6nm,0.4s						
PRMA	PARMA	80.04	323	P	P	02 07 50.4	0.0
CTI	Castel Tesino	80.06	325	P	P	02 07 49.2	-1.6
CTI				IAmb	IAmb	02 07 52.1	
	comp=Z,4.7nm,1.3s						
LESA	Schwarzleotal	80.36	326	*i* P	P	02 07 53.1	+0.8
	comp=Z,0.8nm,0.4s						
WATA	Walderalm	80.89	326	*e*P	P	02 07 56.2	+1.0
	comp=Z,0.6nm,0.4s						
KHC	Kasperske Hory	80.98	328	P	P	02 07 54.5	-1.0
SSB	Saint Sauveur	83.71	321	P	P	02 08 08.5	-1.4
ECH	Echery	83.82	325	P	P	02 08 10.1	-0.3
ECH				IAmb	IAmb	02 08 36.0	
	comp=Z,10nm,1.4s						
FINES	FINESS Array B	84.81	342	P	P	02 08 16.3	+1.3
	comp=Z,4.8nm,1.0s,baz=108,slow=4.5,SNR=2.3 comp=Z,4.8nm,1.0s						
MJAR	Matsushiro Arr	86.44	50	P	P	02 08 24.9	+1.1
	comp=Z,3.4nm,0.9s,baz=234,slow=4.0,SNR=7.0 comp=Z,3.4nm,0.9s						
MRNZ	Matariki Terra	90.51	134	P	P	02 08 43.3	+0.1
ARCES	ARCESS Array B	91.33	347	P	P	02 08 46.5	+0.4
	comp=Z,3.0nm,1.0s,baz=111,slow=4.9,SNR=3.6 comp=Z,3.0nm,1.0s						
INK	Inuvik	127.55	9	PKP	PKPdf	02 14 43.4	-2.0
	comp=Z,1.9nm,1.1s,baz=174,slow=1.8,SNR=4.1						
ILAR	Eielson Array	127.65	17	PKP	PKPdf	02 14 45.7	-0.1
	comp=Z,0.5nm,0.7s,baz=291,slow=3.2,SNR=5.0						
YKA	Yellowknife Ar	134.92	1	PKP	PKiKP	02 15 00.3	-0.6
	comp=Z,0.6nm,0.9s,baz=358,slow=1.6,SNR=7.2						
PDAR	Pinedale Array	154.43	353	PKPbc	PKiKP	02 15 42.9	+0.9
	comp=Z,0.9nm,0.8s,baz=114,slow=2.2,SNR=7.7						

*IDC **28** 02:02:27.8±2.6, 55°.59N×149°.69W, h0km, mb3.7/3, mbtmp3.7/8, ML3.7/5, MS3.0/1, Error ellipse: s-maj=49.8km s-min=26.1km az=176.0*
*NEIC **28** 02:02:32.6±1.6, 56°.00N±0°.08×149°.7W±0°.1, h22km±9km, ML4.0/43, ML3.7(AEIC), Error ellipse: s-maj=11.9km s-min=8.3km az=172.0*
*AEIC **28** 02:02:33.8±2.1, 55°.94N±0°.06×149°.57W±0°.10, h4km±7km, Error ellipse: s-maj=10.2km s-min=6.4km az=140.0*
ISC 28 02:02:34.7±1.0, 56°.08N±0°.07×149°.64W±0°.05, h35km, n237, σ1§03/249, mb3.8/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.32	301		Pn	02 03 09.4	-0.9
OHAK				Sn	Sn	02 03 35.6	-2.0
OHAK				IAML		02 03 36.5	
	comp=N,536nm,0.8s						
OHAK				IAML		02 03 36.6	
	comp=E,445nm,0.9s						
OHAK	Old Harbor	2.32	301	P	Pn	02 03 09.2	-1.1
OHAK	Old Harbor	2.32	301	P	Pn	02 03 09.2	-1.1
	baz=121						
OHAK				S	Sn	02 03 35.5	-2.0
	baz=121						
KDAK	Kodiak Island	2.35	318		Pn	02 03 10.2	-0.6
KDAK				Sn	Sn	02 03 37.1	-1.2
KDAK	Kodiak Island	2.35	318	Pn	Pn	02 03 10.2	-0.6
	comp=E,26nm,0.3s,baz=140,slow=4.7,SNR=316						
KDAK				Sn	Sn	02 03 36.9	-1.4
	comp=E,48nm,0.3s,baz=313,slow=19,SNR=17 comp=E,69nm,0.3s						
SII	Sitkinak Islan	2.58	283		Pn	02 03 12.5	-1.4
SII				Sn	Sn	02 03 41.4	-2.6
SII				IAML		02 03 43.4	
	comp=E,346nm,0.7s						
SII				IAML		02 03 45.5	
	comp=N,979nm,0.7s						
SII	Sitkinak Islan	2.58	283	P	Pn	02 03 12.8	-1.1
SII	Sitkinak Islan	2.58	283	P	Pn	02 03 12.5	-1.4
	baz=102						
SII				S	Sn	02 03 41.7	-2.3
	baz=102						
Q20K	Shuyak Island	2.95	331	P	Pn	02 03 18.5	-0.5
	baz=149						
Q20K				S	Sn	02 03 53.2	+0.2
	baz=149						
SYI	Shuyak Island	2.95	331		Pn	02 03 18.4	-0.5
SYI				Sn	Sn	02 03 53.2	+0.2
CNPM	China Poot	3.56	347	Pn	Pn	02 03 26.6	-0.9
CNPM				Sn	Sn	02 04 08.0	-0.3
CNPM				IAML		02 04 09.2	
	comp=E,112nm,0.9s						
Q19K	Cape Douglas,	3.58	325		Pn	02 03 27.6	-0.1
Q19K				Sn	Sn	02 04 09.2	+0.4
Q19K				IAML		02 04 16.0	
	comp=N,326nm,1.0s						
Q19K	Cape Douglas,	3.58	325	P	Pn	02 03 27.9	+0.2
	baz=142						
Q19K				S	Sn	02 04 09.9	+1.1
	baz=142						
KAHG	Katmai Hook Gl	3.60	314		Pn	02 03 28.5	+0.5
BRSE	Bradley Lake S	3.72	351		Pn	02 03 28.6	-1.0
BRSE					Sn	02 04 10.6	-1.6
BRSE	Bradley Lake S	3.72	351	P	Pn	02 03 28.6	-1.0
	baz=170						
BRSE				S	Sn	02 04 10.6	-1.6
	baz=170						
HOM	Homer	3.75	344		Pn	02 03 29.0	-0.9
HOM				IAML		02 04 15.0	
	comp=E,228nm,0.7s						
HOM				IAML		02 04 25.2	
	comp=N,219nm,0.7s						
HOM	Homer	3.75	344	P	Pn	02 03 29.5	-0.4
	baz=162						
BRLK	Bradley Lake	3.76	350	Pn	Pn	02 03 28.9	-1.2
BRLK					Sn	02 04 12.4	-0.7
Q23K	Middleton Isla	3.79	26	Pn	Pn	02 03 30.0	-0.5
Q23K				IAML		02 04 29.7	
	comp=E,215nm,1.4s						
Q23K				IAML		02 05 36.1	
	comp=N,202nm,1.3s						
Q23K	Middleton Isla	3.79	26	P	Pn	02 03 29.7	-0.8
	baz=208						
MID	Middleton Isla	3.80	26	Pn	Pn	02 03 29.9	-0.7
MID				IAML		02 04 29.2	
	comp=E,222nm,1.1s						
MID	Middleton Isla	3.80	26	P	Pn	02 03 29.9	-0.7
AU22	Augustine Moun	3.86	330		Pn	02 03 31.1	-0.4
AUL	Augustine Lava	3.89	330		Pn	02 03 31.8	-0.1
PLK3	Peulik 3	3.98	297		Sn	02 04 17.1	-1.4
SEW	Seward	4.04	1	P	Pn	02 03 32.8	-1.1
	baz=181						
CNTC	Contact Creek	4.04	305		Pn	02 03 34.0	-0.1
CNTC					Sn	02 04 19.4	-0.8
Q17K	Contact Creek	4.05	305	P	Pn	02 03 34.0	-0.1
	baz=122						
Q17K				S	Sn	02 04 19.4	-0.9
	baz=122						
P19K	Oil Pt	4.07	333		Pn	02 03 33.8	-0.5
P19K	Oil Pt	4.07	333	IAML		02 04 24.7	
	comp=E,135nm,0.4s						
P19K				IAML		02 04 25.6	
	comp=N,139nm,0.6s						
P19K	Oil Pt	4.07	333	P	Pn	02 03 33.8	-0.5
	baz=151						
P23K	Montague Islan	4.11	16		Pn	02 03 33.8	-1.1
P23K					Sn	02 04 19.2	-2.4
P23K	Montague Islan	4.11	16	P	Pn	02 03 33.8	-1.1
	baz=197						
P23K				S	Sn	02 04 19.2	-2.4
	baz=197						
O20K	Slope Mountain	4.32	340		Pn	02 03 37.2	-0.6
O20K	Slope Mountain	4.32	340	P	Pn	02 03 37.2	-0.6
	baz=157						
O22K	Cooper Landing	4.42	359		Pn	02 03 38.5	-0.6
O22K	Cooper Landing	4.42	359	P	Pn	02 03 38.2	-0.9
	baz=179						
O22K				S	Sn	02 04 27.9	-1.4
	baz=179						
P18K	Big Mountain,	4.47	320	Pn	Pn	02 03 39.4	-0.6
P18K	Big Mountain,	4.47	320		Sn	02 04 28.9	-1.8
P18K	Big Mountain,	4.47	320	P	Pn	02 03 39.3	-0.7
	baz=136						
P18K				S	Sn	02 04 28.9	-1.8
	baz=136						
HIN	Hinchinbrook I	4.64	20	Pn	Pn	02 03 41.9	-0.3
HIN				IAML		02 04 36.6	
	comp=N,164nm,0.7s						
RSO	Redoubt South	4.70	341		Pn	02 03 42.7	-0.4
KAIM	Kayak Island	4.75	34	Pn	Pn	02 03 43.9	+0.1
KAIM				IAML		02 04 37.8	
	comp=E,184nm,1.0s						
KAIM				IAML		02 04 40.5	
	comp=N,176nm,0.6s						
KAIM	Kayak Island	4.75	34	P	Pn	02 03 42.9	-0.9
	baz=217						
CAPN	Captain Cook N	4.77	351	Pn	Pn	02 03 43.8	-0.2
P17K	Kvichak River	4.81	313	P	Pn	02 03 44.8	+0.3
	baz=129						
O18K	Koktuh Hills	4.81	324		Pn	02 03 44.0	-0.5
O18K				IAML		02 04 41.0	
	comp=N,60nm,0.9s						
O18K	Koktuh Hills	4.81	324	P	Pn	02 03 44.0	-0.5
	baz=140						
O19K	Port Alsworth	4.82	331		Pn	02 03 43.7	-0.9
O19K	Port Alsworth	4.82	331	IAML		02 04 41.6	
	comp=N,181nm,0.4s						
O19K	Port Alsworth	4.82	331	P	Pn	02 03 43.7	-0.9
	baz=147						
CHGN	Chignik	4.91	276	Pn	Pn	02 03 45.1	-0.7
CHGN				IAML		02 04 43.1	
	comp=N,148nm,0.4s						
CHGN				IAML		02 04 44.1	
	comp=E,105nm,0.3s						
EYAK	Cordova Ski Ar	4.93	23		Pn	02 03 45.0	-1.1
EYAK	Cordova Ski Ar	4.93	23	P	Pn	02 03 46.2	+0.1
EYAK	Cordova Ski Ar	4.93	23	P	Pn	02 03 45.0	-1.1
	baz=205						
RC01	Rabbit Creek A	5.03	359	Pn	Pn	02 03 46.5	-1.0
RC01				IAML		02 04 44.3	
	comp=E,105nm,0.6s						
RC01				IAML		02 04 48.4	
	comp=N,60nm,0.5s						
RC01	Rabbit Creek A	5.03	359	P	Pn	02 03 46.7	-0.8
	baz=179						
RAGM	Ragged Mountai	5.05	29		Pn	02 03 48.1	+0.2
FIS	Fire Island	5.09	357	Pn	Pn	02 03 47.2	-1.1
FIS				IAML		02 04 48.5	
	comp=E,121nm,0.6s						
GOAT	Goat Mountain	5.21	28		Pn	02 03 49.6	-0.4
N20K	Mount Spurr	5.31	346	P	Pn	02 03 50.1	-1.4
	baz=164						
SPCR	Spurr Chakacha	5.31	346		Pn	02 03 50.0	-1.4
SPCP	Crater Peak Br	5.37	347		Pn	02 03 51.3	-1.0
SPCG	Spurr Capps Gl	5.38	348		Pn	02 03 51.5	-0.9
P16K	Nushagak River	5.38	307		Pn	02 03 51.2	-1.2
P16K	Nushagak River	5.38	307	P	Pn	02 03 51.2	-1.2
	baz=121						
N19K	Bonanza Creek	5.39	334	P	Pn	02 03 51.5	-1.1
	baz=150						
KNK	Knik Glacier	5.39	6		Pn	02 03 52.5	+0.1
KNK	Knik Glacier	5.39	6	P	Pn	02 03 51.8	-0.7
	baz=186						
O17K	Koliganek Bris	5.43	316		Pn	02 03 52.4	-0.6
O17K	Koliganek Bris	5.43	316	P	Pn	02 03 52.4	-0.6
	baz=131						
SUA	Susitna One	5.43	354	Pn	Pn	02 03 52.3	-0.9
SUA	Susitna One	5.43	354	P	Pn	02 03 52.0	-1.2
	baz=173						
SNH	Sunshine Point	5.47	38	Pn	Pn	02 03 53.7	+0.1
PMR	Palmer	5.54	3		Pn	02 03 53.7	-0.8
PMR	Palmer	5.54	3	P	Pn	02 03 54.2	-0.3
PMR	Palmer	5.54	3	P	Pn	02 03 53.7	-0.8
	baz=182						
BMRM	Bremner River	5.57	26		Pn	02 03 54.1	-0.8
BMRM	Bremner River	5.57	26	P	Pn	02 03 54.2	-0.8
	baz=210						
N18K	Kilae Creek	5.67	327		Pn	02 03 55.6	-0.7
N18K	Kilae Creek	5.67	327	P	Pn	02 03 55.6	-0.7
	baz=142						
GHO	Glory Hole Cre	5.72	3	Pn	Pn	02 03 57.3	+0.2
O16K	Kokwok River B	5.73	311		Pn	02 03 57.1	0.0
O16K	Kokwok River B	5.73	311	P	Pn	02 03 57.1	0.0
	baz=125						
KLU	Klutina	5.76	18		Pn	02 03 58.6	+0.9
KLU	Klutina	5.76	18	P	Pn	02 03 57.5	-0.2
	baz=200						
SML	Sawmill	5.79	6	Pn	Pn	02 03 57.9	-0.1
SML	Sawmill	5.79	6	P	Pn	02 03 57.6	-0.4
	baz=187						
CHNA	Chernabura Isl	5.80	262	P	Pn	02 03 56.5	-1.6
	baz=75						
CNBA	Chernabura Isl	5.80	262	Pn	Pn	02 03 56.8	-1.4
M23K	Glacier View	5.82	9		Pn	02 03 57.5	-0.9
M23K	Glacier View	5.82	9	P	Pn	02 03 57.5	-0.9
	baz=190						
SCM	Sheep Creek Mo	5.90	11		Pn	02 04 00.3	+0.8
SVW2	Sparrevohn	5.92	331	Pn	Pn	02 03 58.8	-0.9
N17K	Nushagak Hills	5.98	321		Pn	02 03 59.8	-0.7
N17K	Nushagak Hills	5.98	321	P	Pn	02 03 59.8	-0.7
	baz=136						
SKT	Skwentna	6.00	351	P	Pn	02 04 00.2	-0.7
	baz=170						
VRDI	Verde Repeater	6.09	29		Pn	02 04 01.2	-1.0
M20K	Styx River	6.10	344		Pn	02 04 01.2	-1.1
M20K	Styx River	6.10	344	P	Pn	02 04 01.2	-1.1
	baz=161						
SDPT	Sand Point	6.17	268	Pn	Pn	02 04 02.5	-0.7
SDPT	Sand Point	6.17	268	P	Pn	02 04 02.5	-0.7
SDPT	Sand Point	6.17	268	P	Pn	02 04 01.0	-2.1
	baz=80						
GLB	Gilahina Butte	6.17	27		Pn	02 04 02.7	-0.6
KIAG	Kiagna River	6.18	35		Pn	02 04 02.5	-0.9
O15K	Ungalikthiuk R	6.29	304		Pn	02 04 04.7	-0.1
O15K	Ungalikthiuk R	6.29	304	P	Pn	02 04 04.7	-0.1
	baz=116						
M24K	Tolsona, Glenn	6.30	15		Pn	02 04 05.0	-0.1
M24K	Tolsona

L18K	Granite Mounta	7.14	332	P		Pn	02 04 15.2	-1.3
	baz=147							
RND	Reindeer	7.36	3	Pn		Pn	02 04 19.2	-0.4
TRF	Thorofare Moun	7.41	358			Pn	02 04 20.3	0.0
M15K	Kasigluk River	7.42	313			Pn	02 04 20.6	+0.2
M15K	Kasigluk River	7.42	313	P		Pn	02 04 20.6	+0.2
	baz=124							
CAST	Castle Rocks	7.47	352	Pn		Pn	02 04 21.2	+0.2
CAST	Castle Rocks	7.47	352	P		Pn	02 04 20.6	-0.4
	baz=169							
KTH	Kantishna Hill	7.53	356	Pn		Pn	02 04 21.9	0.0
L17K	Donlin	7.53	327			Pn	02 04 21.2	-0.6
L17K	Donlin	7.53	327	P		Pn	02 04 21.2	-0.6
	baz=140							
S31K	Pelican	7.56	70			Pn	02 04 19.7	-2.5
S31K	Pelican	7.56	70	P		Pn	02 04 19.7	-2.5
	baz=260							
TTA	Tatalina	7.60	337	Pn		Pn	02 04 21.9	-0.9
L16K	Owhat River	7.60	322	Pn		Pn	02 04 22.7	-0.1
L16K	Owhat River	7.60	322	P		Pn	02 04 22.3	-0.4
	baz=134							
K20K	Telida	7.64	345			Pn	02 04 21.9	-1.4
K20K	Telida	7.64	345	P		Pn	02 04 21.9	-1.4
	baz=161							
L26K	Log Cabin Wild	7.66	22	Pn		Pn	02 04 26.2	+2.5
FALS	False Pass	7.93	267	P		Pn	02 04 26.6	-0.7
HYT	Haines Junctio	7.94	48			Pn	02 04 28.0	+0.4
CHUM	Lake Minchumin	7.95	351			Pn	02 04 26.8	-0.7
CHUM	Lake Minchumin	7.95	351	P		Pn	02 04 26.8	-0.7
	baz=169							
SIT	Sitka	7.97	77			Pn	02 04 24.2	-3.6
SIT	Sitka	7.97	77	P		Pn	02 04 25.1	-2.7
SIT	Sitka	7.97	77	P		Pn	02 04 24.2	-3.6
	baz=268							
M14K	Bethel	7.98	311			Pn	02 04 28.5	+0.5
K17K	Iditarod	7.99	330			Pn	02 04 27.1	-1.0
K17K	Iditarod	7.99	330	P		Pn	02 04 27.0	-1.0
	baz=143							
L27K	Beaver Creek,	8.04	26	Pn		Pn	02 04 29.6	+0.7
RIDG	Independent Ri	8.05	15			Pn	02 04 29.9	+0.9
BCAR	Beaver Creek A	8.06	26	Pn		Pn	02 04 30.0	+0.9
BPAW	Bear Paw Mtn.	8.08	356	Pn		Pn	02 04 29.1	-0.2
BWN	Browne	8.12	1	Pn		Pn	02 04 30.2	+0.3
ISNN	Isanotski Nort	8.14	267			Pn	02 04 29.4	-0.8
J18K	Innoko River	8.22	337	Pn		Pn	02 04 30.0	-1.3
SKAG	Skagway	8.36	60			Pn	02 04 33.5	+0.3
SKAG	Skagway	8.36	60	P		Pn	02 04 33.4	+0.2
S32K	Killisnoo	8.39	74	Pn		Pn	02 04 32.7	-0.9
SCRK	Sand Creek	8.41	17	Pn		Pn	02 04 34.5	+0.5
J20K	Nowinta River	8.43	346	Pn		Pn	02 04 33.6	-0.5
HDA	Harding Lake	8.46	8			Pn	02 04 34.5	-0.1
J19K	Poorman	8.48	342	Pn		Pn	02 04 34.0	-0.9
R32K	Eaglecrest	8.51	69	Pn		Pn	02 04 34.5	-0.7
O30N	Mendenhall	8.52	51			Pn	02 04 35.6	+0.1
NEA2	Nenana	8.55	2	Pn		Pn	02 04 35.9	+0.1
JIS	Juneau Island	8.57	69	P		Pn	02 04 35.6	-0.5
CCB	Clear Creek Bu	8.65	5			Pn	02 04 37.3	+0.2
IL31		8.83	8			Pn	02 04 39.9	+0.3
ILAR	Eielson Array	8.83	8	Pn		Pn	02 04 40.0	+0.4
	comp=E,0.5nm,0.3s,baz=192,slow=13,SNR=18							
ILAR				Sn		Sn	02 06 13.6	-4.1
	comp=E,0.9nm,0.3s,baz=323,slow=22,SNR=5.7							
	comp=E,1.0nm,0.4s							
MLY	Manley	9.00	357			Pn	02 04 42.3	+0.3
I23K	Minto, Yukon-K	9.10	1			Pn	02 04 43.2	-0.1
I23K	Minto, Yukon-K	9.10	1	P		Pn	02 04 43.2	-0.1
	baz=181							
POKR	Poker Plat Res	9.13	6	Pn		Pn	02 04 44.2	+0.4
P32M	Atlin	9.19	61			Pn	02 04 44.2	-0.5
P32M	Atlin	9.19	61	P		Pn	02 04 44.2	-0.5
	baz=254							
I21K	Tanana	9.21	354			Pn	02 04 44.8	0.0
I21K	Tanana	9.21	354	P		Pn	02 04 45.5	+0.7
	baz=172							
U33K	Whale Pass	9.23	83	Pn		Pn	02 04 42.5	-2.6
M30M	Minto, Yukon	9.24	40	Pn		Pn	02 04 45.6	+0.3
CRAG	Craig	9.33	87	Pn		Pn	02 04 43.5	-3.0
DAWY	Dawson	9.50	28	Pn		Pn	02 04 49.4	+0.6
I17K	Unalakleet	9.58	329	Pn		Pn	02 04 50.0	+0.2
EGAK	Eagle	9.67	22	Pn		Pn	02 04 52.6	+1.5
P33M	Teslin, Yukon	9.80	58			Pn	02 04 52.7	-0.4
P33M	Teslin, Yukon	9.80	58	P		Pn	02 04 52.7	-0.4
	baz=252							
K29M	Barlow Dome	9.86	33			Pn	02 04 53.4	-0.4
K29M	Barlow Dome	9.86	33	P		Pn	02 04 53.4	-0.4
	baz=223							
M31M	Drury Creek, Y	9.94	46			Pn	02 04 55.5	+0.7
IMAR	Indian Mountai	10.14	350	Pn		Pn	02 04 57.7	+0.2
V35K	Ketchikan	10.20	87	Pn		Pn	02 04 56.8	-1.6
H17K	Granite Mounta	10.21	335	Pn		Pn	02 04 57.8	-0.7
S34M	Telegraph Cree	10.26	72	Pn		Pn	02 04 59.6	+0.3
DIB	Dawson Inlet,	10.35	99			Pn	02 05 00.3	-0.2
FARO	Faro, Yukon	10.37	47	Pn		Pn	02 05 01.6	+0.9
R33M	Jennings River	10.51	64			Pn	02 05 02.5	-0.3
I28M	Miner Creek	10.51	23	Pn		Pn	02 05 04.4	+1.7
G21K	Allakaket	10.64	352			Pn	02 05 03.8	-0.5
G23K	Bananza Creek	10.67	359			Pn	02 05 05.1	+0.2
G19K	Purcell Mounta	10.71	344	Pn		Pn	02 05 06.1	+0.7
T35M	Bob Quinn	10.74	77	Pn		Pn	02 05 06.3	+0.4
G18K	Tagagawik	10.76	340	Pn		Pn	02 05 06.6	+0.5
DLBC	Dease Lake	10.88	69			Pn	02 05 07.8	0.0
DLBC	Dease Lake	10.88	69	Pn		Pn	02 05 07.2	-0.5
	comp=E,1.0nm,0.3s,baz=235,slow=10.0,SNR=20							
	comp=E,2.3nm,0.3s							
U35K	Hyder	10.98	83			Pn	02 05 08.9	-0.2
F21K	Alatna River	11.33	352			Pn	02 05 14.5	+0.7
ANM	Nome	11.51	324	Pn		Pn	02 05 16.8	+0.5
E25K	Arctic Village	12.23	7	Pn		Pn	02 05 26.9	+0.8
BBB	Bella Bella	13.19	98	LR		LR	02 09 25.2	
	comp=E,66nm,19.3s,baz=302,slow=32							
INK	Inuvik	14.32	25	Pn		Pn	02 05 59.2	+4.7
	comp=E,0.1nm,0.3s,baz=162,slow=6.4,SNR=1.8							
	comp=E,0.8nm,0.7s							
YKA	Yellowknife Ar	18.82	56	P		P	02 06 52.5	+1.5
	comp=E,0.1nm,0.3s,baz=265,slow=9.8,SNR=26							
	comp=E,1.0nm,0.6s							
H11N2	WAKE ISLAND Hy	48.61	240	T		T	03 02 40.9	
	baz=32,slow=76,SNR=6.1							
H11N3	WAKE ISLAND Hy	48.61	240	T		T	03 02 43.1	
	baz=32,slow=76,SNR=6.7							
H11N1	WAKE ISLAND Hy	48.62	240	T		T	03 02 46.4	
	baz=32,slow=76,SNR=5.1							
BVAR	Borovoye Array	66.39	335	P		P	02 13 20.5	+1.0
	comp=E,0.4nm,0.4s,baz=15,slow=8.0,SNR=6.2							
	comp=E,0.4nm,0.4s							
KURBB	Kurchatov Arra	66.41	329	P		P	02 13 20.9	+1.2
	comp=E,0.7nm,0.8s,baz=30,slow=6.7,SNR=5.7							
	comp=E,0.7nm,0.8s							
MKAR	Makanchi Array	68.65	324	P		P	02 13 35.2	+1.3
	comp=E,0.3nm,0.5s,baz=37,slow=6.2,SNR=6.2							
	comp=E,0.3nm,0.5s							

NEIC ***28*** *02:05:03.0±1.5,55°.99N×0°.07×149°.9W±0°.1, h8km±7km, ML3.4/36, ML3.1(AEIC), Error ellipse: s-maj=11.0km s-min=7.7km az=144.0*

IDC ***28*** *02:05:07.3±3.0,56°.03N×150°.59W, h0km, mb3.4/1, mbtmp3.3/5, ML3.0/3, Error ellipse: s-maj=48.6km s-min=24.2km az=57.0*

AEIC ***28*** *02:05:07.3±1.5,55°.9N±0°.1×149°.9W±0°.1, h10km±8km, Error ellipse: s-maj=15.1km s-min=8.7km az=166.0*

ISC 28 02:05:06.3±1.7,56°.01N±0°.10×149°.90W±0°.06,h35km, n117,σ0°976/122,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.23	304		Pn	02 05 40.2	-0.5
OHAK					Sn	02 06 05.8	-1.3
OHAK	Old Harbor	2.23	304	P	Pn	02 05 40.2	-0.5
	baz=123						
OHAK				S	Sn	02 06 05.8	-1.3
	baz=123						
KDAK	Kodiak Island	2.31	321		Pn	02 05 41.6	-0.2
KDAK	Kodiak Island	2.31	321		Sn	02 06 08.3	-0.6
KDAK	Kodiak Island	2.31	321	Pn	Pn	02 05 41.8	+0.1
	6.0nm,0.3s,baz=127,slow=6.2,SNR=3.9						
KDAK				Sn	Sn	02 06 08.7	-0.1
	5.3nm,0.3s,baz=351,slow=19,SNR=3.8						
	18nm,0.3s						
SII	Sitkinak Islan	2.45	285		Sn	02 06 11.0	-1.5
SII				IAML		02 06 12.7	
	comp=E,99nm,0.8s						
SII				IAML		02 06 14.5	
	comp=N,252nm,1.4s						
SII	Sitkinak Islan	2.45	285		Pn	02 05 42.9	-0.9
SII	Sitkinak Islan	2.45	285	P	Pn	02 05 42.9	-0.9
	baz=103						
SII				S	Sn	02 06 11.7	-0.8
	baz=103						
SYI	Shuyak Island	2.93	334		Pn	02 05 50.4	0.0
SYI					Sn	02 06 24.6	+0.2
Q20K	Shuyak Island	2.94	334	P	Pn	02 05 50.4	0.0
	baz=152						
Q20K				S	Sn	02 06 24.6	+0.2
	baz=152						
KAHG	Katmai Hook Gl	3.54	316		Pn	02 05 59.6	+0.8
Q19K	Cape Douglas,	3.56	327		Pn	02 05 58.8	-0.1
Q19K					Sn	02 06 40.6	+0.9
Q19K	Cape Douglas,	3.56	327	P	Pn	02 05 59.5	+0.6
	baz=144						
CNPM	China Poot	3.59	349		Sn	02 06 40.6	-0.1
CNPM	China Poot	3.59	349		Pn	02 05 58.7	-0.8
CNPM	China Poot	3.59	349	IAML		02 06 42.7	
	comp=E,33nm,0.6s						
CNPM				IAML		02 06 45.4	
	comp=N,33nm,1.1s						
ACHA	Angle Creek He	3.69	309		Pn	02 06 01.8	+0.9
BRSE	Bradley Lake S	3.77	353		Pn	02 06 01.0	-0.9
BRSE					Sn	02 06 44.0	-1.0
BRSE	Bradley Lake S	3.77	353	P	Pn	02 06 01.0	-0.9
	baz=173						
BRSE				S	Sn	02 06 44.0	-1.0
	baz=173						
BRLK	Bradley Lake	3.80	352		Pn	02 06 01.2	-1.1
BRLK					Sn	02 06 45.1	-0.7
BRLK	Bradley Lake	3.80	352	IAML		02 06 48.2	
	comp=N,29nm,1.1s						
BRLK				IAML		02 06 51.9	
	comp=E,30nm,0.7s						
KAHC	Katmai Hardscr	3.83	316		Pn	02 06 04.1	+1.3
Q23K	Middleton Isla	3.92	28		Pn	02 06 03.2	-0.7
Q23K	Middleton Isla	3.92	28	P	Pn	02 06 03.8	-0.1
	baz=210						
MID	Middleton Isla	3.92	28		Pn	02 06 03.1	-0.9
CNTC	Contact Creek	3.97	307		Pn	02 06 05.0	+0.3
Q17K	Contact Creek	3.97	307	P	Pn	02 06 05.0	+0.3
	baz=123						
P19K	Oil Pt	4.06	335		Pn	02 06 05.6	-0.3
P19K	Oil Pt	4.06	335	IAML		02 06 58.0	
	comp=E,74nm,0.6s						
P19K				IAML		02 06 58.3	
	comp=N,79nm,0.6s						
P19K	Oil Pt	4.06	335	P	Pn	02 06 05.6	-0.3
	baz=153						
P23K	Montague Islan	4.21	17		Pn	02 06 07.2	-0.7
P23K	Montague Islan	4.21	17	P	Pn	02 06 07.2	-0.7
	baz=199						
O20K	Slope Mountain	4.33	342		Pn	02 06 09.3	-0.4
O20K	Slope Mountain	4.33	342	P	Pn	02 06 09.3	-0.4
	baz=160						
IVE	Iliamna Volcan	4.34	339		Pn	02 06 09.4	-0.4
P18K	Big Mountain,	4.43	322	Pn	Pn	02 06 11.2	+0.2
P18K	Big Mountain,	4.43	322	P	Pn	02 06 10.9	-0.1
	baz=138						
HIN	Hinchinbrook I	4.75	21		Pn	02 06 14.9	-0.4
HIN	Hinchinbrook I	4.75	21	IAML		02 07 11.6	
	comp=E,41nm,1.2s						
HIN				IAML		02 07 12.3	
	comp=N,40nm,1.4s						
P17K	Kvichak River	4.75	315		Pn	02 06 14.9	-0.4
P17K	Kvichak River	4.75	315	P	Pn	02 06 14.9	-0.4
	baz=130						
CHGN	Chignik	4.77	277	Pn	Pn	02 06 15.1	-0.5
CHGN				IAML		02 07 14.7	
	comp=E,32nm,1.1s						
CHGN				IAML		02 07 15.3	
	comp=N,34nm,0.9s						
O18K	Koktuh Hills	4.78	326		Pn	02 06 15.4	-0.4
O18K	Koktuh Hills	4.78	326	IAML		02 07 11.9	
	comp=N,24nm,0.8s						
O18K				IAML		02 07 24.6	
	comp=E,16nm,1.2s						
O18K	Koktuh Hills	4.78	326	P	Pn	02 06 15.4	-0.4
	baz=142						
KAIM	Kayak Island	4.89	34	Pn	Pn	02 06 16.8	-0.5
EYAK	Cordova Ski Ar	5.05	24		Pn	02 06 19.0	-0.4
EYAK	Cordova Ski Ar	5.05	24	P	Pn	02 06 19.0	-0.4
	baz=207						
FID	Port Fidalgo	5.08	19	Pn	Pn	02 06 19.2	-0.7
FID				IAML		02 07 17.5	
	comp=N,26nm,0.4s						
FID				IAML		02 07 18.8	
	comp=E,21nm,1.4s						
RC01	Rabbit Creek A	5.09	1	Pn	Pn	02 06 19.2	-0.8
RC01				Sn	Sn	02 07 16.2	-1.3
RC01				IAML		02 07 20.0	
	comp=N,19nm,0.5s						
RC01				IAML		02 07 20.3	
	comp=E,17nm,0.6s						
RAGM	Ragged Mountai	5.18	30	Pn	Pn	02 06 20.9	-0.4
RAGM				IAML		02 07 27.2	
	comp=E,50nm,1.2s						
GOAT	Goat Mountain	5.33	29		Pn	02 06 22.8	-0.5
O17K	Koliganek Bris	5.38	317		Pn	02 06 23.5	-0.5
O17K	Koliganek Bris	5.38	317	P	Pn	02 06 23.5	-0.5
	baz=132						
N19K	Bonanza Creek	5.38	335		Pn	02 06 23.6	-0.5
N19K	Bonanza Creek	5.38	335	P	Pn	02 06 23.7	-0.5
	baz=152						
SNH	Sunshine Point	5.61	39	Pn	Pn	02 06 26.5	-0.7
PMR	Palmer	5.61	4	Pn	Pn	02 06 27.1	0.0
N18K	Kilae Creek	5.64	328		Pn	02 06 27.2	-0.4
N18K	Kilae Creek	5.64	328	P	Pn	02 06 27.2	-0.4
	baz=144						
O16K	Kokwok River B	5.66	313	Pn	Pn	02 06 28.2	+0.3
GHO	Glory Hole Cre	5.80	5	Pn	Pn	02 06 29.0	-0.8
SML	Sawmill	5.87	7	Pn	Pn	02 06 30.1	-0.6
KLU	Klutina	5.87	19	Pn	Pn	02 06 30.6	-0.2
N17K	Nushagak Hills	5.94	323	Pn	Pn	02 06 31.3	-0.3
SCM	Sheep Creek Mo	5.99	12	Pn	Pn	02 06 33.2	+0.9
O15K	Ungalikthiuk R	6.21	305		Pn	02 06 35.3	0.0
O15K	Ungalikthiuk R	6.21	305	P	Pn	02 06 35.3	0.0
	baz=117						
VRDI	Vrde Repeater	6.22	30	Pn	Pn	02 06 34.9	-0.8
N25K	Chitina, Valde	6.25	24		Pn	02 06 36.0	0.0
N25K	Chitina, Valde	6.25	24	P	Pn	02 06 36.0	0.0
	baz=208						
GLB	Gilahina Butte	6.30	28	Pn	Pn	02 06 36.6	-0.1
M18K	Stony River	6.30	333		Pn	02 06 36.0	-0.6
M18K	Stony River	6.30	333	P	Pn	02 06 36.0	-0.6
	baz=148						
MCARA	McCarthy VSAT	6.46	31	Pn	Pn	02 06 39.1	+0.3
PCA	Pinnacle	6.55	47		Pn	02 06 39.9	-0.3
PINM	Pinnacle	6.55	47	P	Pn	02 06 39.9	-0.3
	baz=235						
BARN	Barnard Glacie	6.65	37	Pn	Pn	02 06 40.9	-0.7
M17K	Politna River	6.68	327	Pn	Pn	02 06 42.5	+0.7
CTGM	Chitina Glacie	6.69	39	Pn	Pn	02 06 40.7	-1.4
L19K	White Mountain	6.69	340	Pn	Pn	02 06 42.3	+0.3
PNL	Peninsula	6.70	52		Pn	02 06 41.4	-0.7
PNL	Peninsula	6.70	52	P	Pn	02 06 41.4	-0.7
	baz=241						
LOGN	Logan Glacier	6.71	40	Pn	Pn	02 06 42.7	+0.3
BCPM	Bancas Point	6.73	50	Pn	Pn	02 06 42.6	0.0
N15K	Kwethluk River	6.82	312	Pn	Pn	02 06 44.8	+1.1
M16K	Timber Creek	6.91	320	Pn	Pn	02 06 45.5	+0.5
L18K	Granite Mounta	7.13	334		Pn	02 06 47.0	-1.0
L18K	Granite Mounta	7.13	334	P	Pn	02 06 47.0	-1.0
	baz=148						
DHY	Denali Highway	7.20	9	Pn	Pn	02 06 48.6	-0.4
O29M	Mount Kennedy	7.37	50	Pn	Pn	02 06 51.1	-0.3
L16K	Owhat River	7.56	323	Pn	Pn	02 06 54.0	+0.1
M27K	Edge Creek, AK	7.58	30	Pn	Pn	02 06 54.8	+0.6
S31K	Pelican	7.72	70		Pn	02 06 54.6	-1.4
S31K	Pelican	7.72	70	P	Pn	02 06 54.6	-1.4
	baz=260						
M14K	Bethel	7.92	312	Pn	Pn	02 06 59.6	+0.9
K17K	Iditarod	7.97	331	Pn	Pn	02 06 58.5	-1.0
M13K	Dall Lake	8.35	307	Pn	Pn	02 07 05.2	+0.5
SKAG	Skagway	8.52	60	Pn	Pn	02 07 06.6	-0.4
L14K	Kuka Creek	8.53	314	Pn	Pn	02 07 06.8	-0.4
K15K	Wolf Creek Mou	8.67	321	Pn	Pn	02 07 10.1	+1.0
ILAR	Eielson Array	8.91	8	Pn	Pn	02 07 13.5	+1.2
	comp=E,0.5nm,0.4s,baz=186,slow=14,SNR=1.2						
ILAR				Sn	Sn	02 08 48.5	-2.9
	comp=E,0.1nm,0.3s,baz=201,slow=20,SNR=3.5						
N31M	Braeburn, Yuko	9.15	47	Pn	Pn	02 07 14.5	-1.3
WHY	Whitehorse	9.16	53	Pn	Pn	02 07 15.7	-0.2
L29M	L29M	9.28	35	Pn	Pn	02 07 17.8	+0.4
P32M	Atlin	9.35	61	Pn	Pn	02 07 16.9	-1.5
K13K	Kusilvak Mount	9.64	314	Pn	Pn	02 07 22.3	-0.1
J14K	Nanvaranak Lak	9.69	320	Pn	Pn	02 07 23.2	+0.2
P33M	Teslin, Yukon	9.96	58	Pn	Pn	02 07 26.2	-0.6
K29M	Barlow Dome	9.99	33	Pn	Pn	02 07 26.8	-0.5
M31M	Drury Creek, Y	10.09	46	Pn	Pn	02 07 28.4	-0.1
H17K	Granite Mounta	10.21	335	Pn	Pn	02 07 29.4	-0.7
G16K	Koyuk River	11.19	332	Pn	Pn	02 07 42.9	-0.6
ANM	Nome	11.47	325	Pn	Pn	02 07 46.0	-1.4
INK	Inuvik	14.44	25	Pn	P	02 08 36.3	+2.2
	comp=E,0.1nm,0.3s,baz=224,slow=7.3,SNR=3.7						
	comp=E,1.5nm,1.0s						
YKA	Yellowknife Ar	18.98	56	P	Pn	02 09 34.0	+8.8
	baz=264,slow=11,SNR=4.7						
	comp=E,0.7nm,0.9s						
TXAR	Lajitas Array	42.06	110	P	P	02 13 03.1	+8.5
	comp=E,0.4nm,0.8s,baz=332,slow=9.3,SNR=2.6						
	comp=E,0.4nm,0.8s						

BJI ***28*** *02:18:10.9±0.0, 8°.70N×126°.51E, h42km, mb4.7/64, mB5.1/36, Ms4.6/42, Ms7 4.4/44*

DJA ***28*** *02:18:11.9±1.4, 9°N±4°×12°7E±°, h28km±9km, M5.2/60, mb5.3/60, mB5.6/26, MLv6.0/4, Mw(mB)5.1/26, MwMwp5.0/5, Mwp5.3/5*

NEIC ***28*** *02:18:14.5±1.6, 8°.91N±0°.06×126°.56E±0°.08, h42km±4km, mb5.0/269, Error ellipse: s-maj=11.5km s-min=9.1km az=81.0*

GCMT ***28*** *02:18:14.5±0.2, 8°.80N±0°.02×126°.64E±0°.02, h37km±1km, MW5.2/89, Moment Tensor Solution. s79,c106; s89,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.47±.19; Mθθ0.54±.14; Mϕϕ-5.01±.13; Mrθ-0.58±.21; Mθϕ1.14±.11; Mϕr4.43±.26; Best double couple: Mo6.59700×10^16 NP1:ϕs352.00000°, δ66.00000°, λ93.00000°. NP2:ϕs165.00000°, δ24.00000°, λ84.00000°. Principal axes: T 6.2210, Plg69.0000°, Azm267.0000°; N 0.7550, Plg2.0000°, Azm171.0000°; P -6.9740, Plg21.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***28*** *02:18:14.4±1.1, 8°.86N×126°.38E, h65km, mb5.3/56, MS4.2/4 Error ellipse: s-maj=8.9km s-min=4.5km az=111.8*

IDC ***28*** *02:18:15.0±1.5, 8°.80N×126°.35E, h56km±12km, mb4.6/36, mbtmp4.9/37, MS4.1/60, Error ellipse: s-maj=17.5km s-min=8.7km az=75.0*

ISC 28 02:18:14.3±0.4,8°.89N±0°.03×126°.54E±0°.05,h48km±3km, h48km:pP-P, n927,σ1§48/929,mb5.0/228,MS4.2/73, 17C-24D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.05	208	||ePP	Pn	02 18 49.0	+2.7
DAV	Davao City (W)	2.05	208		Pn	02 18 47.1	+0.9
DAV					Sn	02 19 13.3	+2.7
DAV	Davao City (W)	2.05	208	P	Pn	02 18 49.2	+2.9
DAV	Davao City (W)	2.05	208	P	Pn	02 18 46.7	+0.4
	6μm,0.8s,baz=50,slow=2.1,SNR=4.8						
DAV				S	Sn	02 19 13.3	+2.7
	8μm,0.6s,baz=87,slow=18,SNR=9.2						
DAV				LR	LR	02 19 19.1	
	comp=Z,4μm,21.4s,baz=14,slow=34						
DAV	Davao City (W)	2.05	208	P	Pn	02 18 48.5	+2.3
DAV	Davao City (W)	2.05	208	P	Pn	02 18 46.9	+0.6
SGSI	Sangihe	5.27	191	P	Pn	02 19 32.2	+1.7
	2μm,0.6s,22μm3μm26nm						
TGY	Tagaytay City	7.55	314	P	Pn	02 20 03.5	+1.6
	162nm,0.7s,baz=27,slow=4.7,SNR=4.4						
TGY				LR	LR	02 23 23.2	
	comp=Z,2μm,18.5s,baz=112,slow=41						
TNTI	Ternate	8.11	174	Pn	Pn	02 20 09.8	+0.3
TNTI				Sn	Sn	02 21 42.4	+2.5
TNTI	Ternate	8.11	174	P	Pn	02 20 11.4	+1.9
TNTI	Ternate	8.11	174	P	Pn	02 20 09.4	-0.1
	229nm,0.8s,4μm1.3nm						
KMSI	Cibinong	8.65	197	P	Pn	02 20 19.0	+2.1
	852nm,1.0s,11μm						
LBMI	Labuha	9.52	174	P	Pn	02 20 28.4	-0.4
	260nm,1.2s,3μm						
TOLI2	Tolitoli	9.63	217	Pn	Pn	02 20 28.4	-1.9
LUWI	Luwuk	10.56	201		Pn	02 20 46.0	+2.9
LUWI	Luwuk	10.56	201	P	Pn	02 20 46.3	+3.2
LUWI	Luwuk	10.56	201	P	Pn	02 20 45.7	+2.6
	229nm,0.6s,3μm						
KKM	Kota Kinabalu	10.62	255	Pn	Pn	02 20 47.8	+3.8
KKM	Kota Kinabalu	10.62	255	P	Pn	02 20 49.3	+5.3
KKM	Kota Kinabalu	10.62	255	P	Pn	02 20 47.9	+3.8
	122nm,1.2s,1μm						
MPSI	Mapaga	10.77	218	P	Pn	02 20 46.0	+0.1
	20nm,1.1s,2μm						
SWI	Sorong	10.77	154	P	Pn	02 20 45.1	-0.8
	89nm,0.6s,1μm						
SIJI	Sorong	10.78	154	P	Pn	02 20 48.0	+1.9
	74nm,0.7s,3μm						
SANI	Sanana	10.88	183	P	Pn	02 20 43.2	-4.3

SRBI Singaraja 20.30 214 P Pn 02 22 51.4 +2.8
comp=Z,205nm,0.8s
JAGI Jajag, Banyuwa 21.21 216 P P 02 22 55.4 -0.7
JAGI IAmb IAmb 02 23 03.2
comp=Z,42nm,0.7s
MTN Manton Dam 22.07 168 P P **02 23 04.8 -0.6**
baz=22,SNR=19
MTN Manton Dam 22.07 168 P P **02 23 05.4 0.0**
MTN IAmb IAmb 02 23 10.6
comp=Z,68nm,0.8s
MTN Manton Dam 22.07 168 P P **02 23 05.5 +0.2**
SJI Sawahan 22.13 222 P P 02 23 23.4 +17
KDU Kakadu 22.23 165 P P **02 23 05.5 -1.6**
baz=22,SNR=38
KDU Kakadu 22.23 165 P P **02 23 07.2 +0.1**
PPBI Pangkal Pinang 23.11 243 P P **02 23 18.5 +2.1**
comp=Z,34nm,0.6s,comp=Z,22µm
JCJ Chichijima 23.39 37 LR LR 02 30 36.0
comp=Z,538nm,21.7s,baz=248,slow=31
MYKOM Kota Tinggi 23.66 254 P P **02 23 21.8 +0.3**
MYKOM IAmb IAmb 02 23 39.2
comp=Z,49nm,1.1s
MYKOM Kota Tinggi 23.66 254 P P 02 23 39.1 +18
KPJI Karang Pucung 23.83 228 P P **02 23 26.4 +3.2**
comp=Z,88nm,1.1s
NJ2 Nanjing 24.12 344 *e*P P **02 23 25.5 -0.2**
NJ2 pP **pP 02 23 35.5 -1.9**
NJ2 sP **pwP 02 23 41.0 +0.5**
NJ2 pmax pmax
comp=Z,14nm,0.7s
WHN Wuhan 24.37 334 P P **02 23 30.5 +2.6**
WHN LR LR
comp=Z,2µm,16.2s
JNU Nakatsue 24.44 9 P P **02 23 30.4 +1.8**
JNU IAmb IAmb 02 23 40.2
comp=Z,41nm,1.1s
JNU Nakatsue 24.44 9 LR LR 02 34 36.8
comp=Z,333nm,18.7s,baz=177,slow=40
NONG Nongkai 24.48 294 P P **02 23 29.3 +0.2**
LEM Lembang 24.49 231 P P **02 23 30.0 +0.6**
comp=Z,72nm,0.7s,baz=329,slow=21,SNR=9.7
SLVN Son La 25.07 302 P P **02 23 35.5 +1.0**
SBJI Serang 25.23 234 P P **02 23 40.8 +4.9**
comp=Z,275nm,1.1s
NAYO Nakonayok 25.28 285 P P **02 23 39.0 +2.6**
JMN Monobe 25.62 14 P P **02 23 40.0 +0.6**
JMN IAmb IAmb 02 23 52.4
comp=Z,40nm,1.0s
IPM Ipoh 25.71 262 P P **02 23 41.3 +0.9**
KULM Kulim 25.94 264 P P **02 23 43.0 +0.6**
KULM IAmb IAmb 02 23 51.3
comp=Z,52nm,1.1s
KULM Kulim 25.94 264 P P **02 23 43.6 +1.2**
comp=Z,46nm,0.9s,comp=Z,552nm
KASI Kota Agung 26.23 238 P P **02 23 48.0 +3.0**
comp=Z,106nm,1.2s
LWLI Liwa 26.33 239 P P **02 23 48.2 +2.1**
comp=Z,438nm,0.9s
SURA Surathani 26.58 273 P P **02 23 49.5 +1.3**
SRIT Nakonsritamara 26.63 271 P P **02 23 49.6 +1.0**
SRIT IAmb IAmb 02 23 53.9
comp=Z,40nm,1.2s
SRIT Nakonsritamara 26.63 271 P P **02 23 49.9 +1.3**
FITZ Fitzroy Crossi 26.83 182 P P **02 23 50.0 -0.4**
baz=27,SNR=44
FITZ Fitzroy Crossi 26.83 182 P P **02 23 49.9 -0.5**
FITZ IAmb IAmb 02 23 53.5
comp=Z,30nm,0.8s
FITZ Fitzroy Crossi 26.83 182 P P **02 23 51.5 +1.1**
JHJ Hachijo jima 2 27.04 25 LR LR 02 35 21.4
comp=Z,325nm,18.4s,baz=105,slow=38
PMG Port Moresby 27.42 131 LR LR 02 35 16.0
comp=Z,241nm,20.7s,baz=264,slow=37
CRAI Chiangrai 27.68 297 P P **02 23 58.2 +0.2**
PDSI Padang 27.75 251 P P 02 24 10.2 +11
COEN Coen 28.07 144 P P **02 24 01.9 +0.4**
COEN IAmb IAmb 02 24 19.2
comp=Z,22nm,0.8s
COEN Coen 28.07 144 P P **02 24 01.4 -0.1**
PSI Prapat 28.12 259 P P **02 24 04.3 +2.1**
PSI Prapat 28.12 259 P P **02 24 03.0 +0.8**
PSI 02 27 14.8
PSI pmax pmax
comp=Z,29nm,1.0s
PSI Prapat 28.12 259 P P **02 24 04.7 +2.5**
comp=Z,29nm,1.1s,comp=Z,383nm
RPSI Rantau Prapat 28.14 259 P P **02 24 03.0 +0.8**
RPSI IAmb IAmb 02 24 06.5
comp=Z,29nm,1.0s
RPSI PcP **PcP 02 27 14.8 -0.8**
CM31 Chiang Mai Arr 28.41 292 P P **02 24 05.4 +0.8**
CM31 IAmb IAmb 02 24 08.8
comp=Z,25nm,0.9s
CM31 Chiang Mai Arr 28.41 292 P P **02 24 05.2 +0.6**
SNR=12
CMAR Chiang Mai Arr 28.41 292 P P **02 24 05.1 +0.5**
comp=Z,16nm,0.9s,baz=108,slow=7.1,SNR=57
CMAR PcP **PcP 02 27 17.1 +0.9**
comp=Z,2.0nm,0.6s,baz=56,slow=0.4,SNR=7.5
CMAR ScP **ScP 02 30 53.0 -0.6**
comp=Z,1.1nm,0.3s,baz=79,slow=1.9,SNR=4.7
CMAR LR LR 02 36 21.8
comp=Z,352nm,18.5s,baz=110,slow=38
comp=Z,16nm,0.9s
KSAR Wonju Array Be 28.45 2 P P **02 24 05.5 +0.9**
KSAR Wonju Array Be 28.45 2 P P **02 24 05.6 +0.9**
KSRS Korea Array 28.46 2 P P **02 24 06.5 +1.8**
comp=Z,7.1nm,0.9s,baz=183,slow=11,SNR=18
KSRS PcP **PcP 02 27 16.9 +1.0**
comp=Z,0.4nm,0.3s,baz=165,slow=3.7,SNR=5.6
KSRS ScP **ScP 02 30 53.3 0.0**
comp=Z,2.2nm,0.9s,baz=179,slow=2.1,SNR=5.2
KSRS LR LR 02 37 40.4
comp=Z,485nm,18.7s,baz=180,slow=41
comp=Z,7.1nm,0.9s
CHTO Chiang Mai 28.51 293 P P **02 24 05.6 +0.1**
CHTO Chiang Mai 28.51 293 P P **02 24 06.4 +0.9**
CHTO Chiang Mai 28.51 293 P P **02 24 05.6 +0.1**
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 28.51 293 P P **02 24 05.5 0.0**
CHTO Chiang Mai 28.51 293 P P **02 24 05.9 +0.4**
comp=Z,17nm,1.2s
LYN LuoYang 28.62 335 *e*P P **02 24 06.8 +0.6**
LYN pmax pmax
comp=Z,12nm,0.5s
LYN pmax pmax
comp=Z,240nm,5.4s
LYN LR LR
comp=Z,500nm,16.5s
LYN LR LR
comp=Z,400nm,16.0s
LYN LR LR
comp=Z,580nm,16.8s
KCSI Kotacane, Aceh 29.08 261 P P **02 24 11.0 +0.4**
comp=Z,90nm,0.9s,comp=Z,3µm
SISI Saibi 29.18 251 P P **02 24 11.8 +0.4**
comp=Z,47nm,0.8s
PZH PanZhiHua 29.31 310 P P **02 24 12.0 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,6.2s
MAJO Matsushiro 29.50 19 P P **02 24 13.9 -0.1**
MAJO Matsushiro 29.50 19 P P **02 24 13.9 -0.1**
MAJO pmax pmax
comp=Z,8.0nm,1.0s
MJAR Matsushiro Arr 29.50 19 P P **02 24 14.7 +0.7**
comp=Z,2.2nm,0.9s,baz=199,slow=9.1,SNR=4.3
MJAR PP **PnPn 02 25 13.8 +3.8**
comp=Z,10nm,1.1s,baz=207,slow=11,SNR=8.8
MJAR LR LR 02 37 36.2
comp=Z,416nm,18.2s,baz=242,slow=39
comp=Z,2.2nm,0.9s
WB0 Warramunga Arr 29.51 165 P P **02 24 13.5 -0.8**
WB0 IAmb IAmb 02 24 37.6
comp=Z,19nm,0.9s
LHMI Lhok Sumawe 29.59 265 P P **02 24 14.8 -0.3**
LHMI Lhok Sumawe 29.59 265 P P **02 24 17.4 +2.3**
WRAB Tennant Creek 29.66 165 P P **02 24 14.8 -0.7**
WRAB IAmb IAmb 02 24 25.3
comp=Z,18nm,0.6s
WRAB Tennant Creek 29.66 165 P P **02 24 14.8 -0.7**
WRAB pmax pmax
comp=Z,18nm,0.6s

WRA Warramunga Arr 29.66 165 P P **02 24 15.7 +0.1**
WRA Warramunga Arr 29.66 165 P P **02 24 15.7 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 29.66 165 P P **02 24 14.0 -1.6**
comp=Z,7.5nm,0.7s,baz=344,slow=8.0,SNR=37
WRA S S 02 28 58.9 -9.3
comp=Z,4.5nm,0.7s,baz=346,slow=15,SNR=5.0
comp=Z,7.5nm,0.7s
WB2 Warramunga Arr 29.67 165 P P **02 24 14.4 -1.2**
WB2 IAmb IAmb 02 24 42.8
comp=Z,19nm,0.7s
WB1 Warramunga Ar. 29.68 165 P P **02 24 16.8 +1.0**
WR0 Warramunga Arr 29.73 165 P P **02 24 15.0 -1.3**
GSI Gunungsitoli 29.80 257 P P **02 24 16.2 -0.7**
GSI IAmb IAmb 02 24 18.1
comp=Z,27nm,0.9s
GSI PcP **PcP 02 27 19.5 -0.3**
GSI Gunungsitoli 29.80 257 P P **02 24 18.8 +1.9**
GSI Gunungsitoli 29.80 257 P P **02 24 17.4 +0.5**
comp=Z,36nm,1.1s
XAN Xi'an 29.82 330 ⇓P P **02 24 15.3 -1.6**
XAN pmax pmax
comp=Z,9.0nm,0.8s
HNS HongShan 30.34 341 ⇑P P **02 24 20.5 -0.8**
HNS pP **pP 02 24 31.0 -2.1**
HNS PcP **PcP 02 27 21.5 +0.8**
HNS *e*S **S 02 29 15.5 -2.8**
HNS ScS **ScS 02 34 57.3 +2.1**
HNS pmax pmax
comp=Z,16nm,1.0s
HNS LR LR
comp=Z,470nm,15.9s
HNS LR LR
comp=Z,280nm,17.5s
HNS LR LR
comp=Z,400nm,19.1s
ALOT Alotau 30.50 128 P P **02 24 24.3 +1.2**
CD2 Chengdu 30.51 319 P P **02 24 25.8 +2.7**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,1µm,23.8s
TNCH TengChong 31.14 304 P P **02 24 33.3 +4.4**
TNCH pmax pmax
comp=Z,200nm,3.9s
QIS Mount Isa 31.96 156 P P **02 24 34.9 -1.0**
baz=32,SNR=22
QIS Mount Isa 31.96 156 P P **02 24 35.9 0.0**
MND Mandalay 32.02 298 P P **02 24 39.0 +2.6**
MTSU Mount Surprise 32.08 147 P P **02 24 37.9 +1.0**
baz=32,SNR=12
MTSU Mount Surprise 32.08 147 P P **02 24 37.8 +0.8**
BJT Baijiatuan 32.35 345 P P **02 24 38.5 -0.6**
BJT IAmb IAmb 02 24 39.9
comp=Z,16nm,1.0s
BJT Baijiatuan 32.35 345 P P **02 24 39.9 +0.8**
BJT Baijiatuan 32.35 345 P P **02 24 38.5 -0.6**
BJT pmax pmax
comp=Z,16nm,1.0s
BJI Beijing 32.37 345 P P **02 24 38.8 -0.4**
BJI pP **pP 02 24 48.5 -2.6**
BJI sP **pwP 02 24 52.5 -1.5**
BJI pmax pmax
comp=Z,8.0nm,1.1s
BJI LR LR
comp=Z,140nm,16.6s
BJI LR LR
comp=Z,75nm,17.1s
BJI LR LR
comp=Z,93nm,17.5s
ASAR Alice Springs 33.15 168 P P **02 24 44.5 -1.8**
comp=Z,6.1nm,0.6s,baz=350,slow=7.2,SNR=61
ASAR PcP **PcP 02 27 27.9 -0.8**
comp=Z,2.4nm,0.6s,baz=349,slow=3.1,SNR=5.4
ASAR S **S 02 29 55.8 -6.8**
comp=Z,1.8nm,0.7s,baz=350,slow=17,SNR=4.8
ASAR ScP **ScP 02 31 07.0 -2.1**
comp=Z,2.0nm,0.7s,baz=343,slow=2.4,SNR=5.7
ASAR LR LR 02 40 33.6
comp=Z,173nm,18.3s,baz=332,slow=40
comp=Z,6.1nm,0.6s
AS01 Alice Springs 33.16 168 P P **02 24 45.9 -0.5**
PBA Port Blair 33.36 278 P P **02 24 48.7 +0.5**
WRKA Warakurna 33.77 177 P P **02 24 51.1 -0.5**
baz=34,SNR=27
WRKA Warakurna 33.77 177 P P **02 24 52.0 +0.3**
LZH Lanzhou 34.06 326 *e*P P 02 25 00.5 +6.2
LZH sP sP 02 25 13.3 +1.1
LZH PcP **PcP 02 27 33.0 +1.8**
LZH S **S 02 30 21.3 +4.5**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=N,590nm,17.2s
LZH LR LR
comp=E,570nm,18.6s
LZH LR LR
comp=Z,620nm,19.0s
HHC Hu-ho-hao-te 34.49 340 *e*P P **02 24 58.3 +0.4**
HHC pP pP 02 25 08.5 -1.2
HHC S **S 02 30 26.8 +3.5**
HHC SS **SnSn 02 32 33.5 -4.2**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,270nm,5.0s
HHC LR LR
comp=Z,470nm,18.0s
HHC LR LR
comp=Z,420nm,15.3s
HHC LR LR
comp=Z,630nm,18.5s
CTA Charters Tower 34.73 146 P P **02 25 00.0 +0.1**
CTA Charters Tower 34.73 146 P P **02 24 60.0 0.0**
comp=Z,6.1nm,0.7s,baz=334,slow=9.6,SNR=9.9
CTA LR LR 02 41 03.8
comp=Z,317nm,20.0s,baz=308,slow=39
comp=Z,6.1nm,0.7s
CTAO Charters Tower 34.73 146 P P **02 25 00.1 +0.1**
CTAO Charters Tower 34.73 146 P P **02 25 00.1 +0.1**
CTAO pmax pmax
comp=Z,10.0nm,1.2s
CN2 Changchun 34.79 359 *e*P P **02 25 02.3 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
USA0B Ussuriysk Arra 35.49 7 P P **02 25 07.0 +0.7**
USA0B Ussuriysk Arra 35.49 7 *de*P P **02 25 07.4 +1.1**
USRK Ussuriysk Ar. 35.49 7 P P **02 25 06.8 +0.5**
USRK Ussuriysk Ar. 35.49 7 P P **02 25 07.9 +1.6**
comp=Z,28nm,0.9s,baz=195,slow=8.5,SNR=14
USRK LR LR 02 41 15.2
comp=Z,191nm,18.7s,baz=181,slow=39
comp=Z,28nm,0.9s
MDJ Mudanjiang 35.69 4 P P **02 25 09.8 +1.8**
MDJ pmax pmax
comp=Z,36nm,1.3s
MDJ pmax pmax
comp=Z,270nm,4.3s
MDJ Mudanjiang 35.69 4 P P **02 25 08.4 +0.4**
MDJ IAmb IAmb 02 25 18.2
comp=Z,32nm,1.0s
MDJ Mudanjiang 35.69 4 P P **02 25 09.9 +1.9**
MDJ Mudanjiang 35.69 4 P P **02 25 10.2 +2.3**
XLT XiLinHaoTe 36.05 347 ⇑iP P **02 25 11.0 -0.2**
XLT pmax pmax
comp=Z,31nm,0.8s
XLT pmax pmax
comp=Z,130nm,4.5s
MEEK Meekatharra 36.15 192 P P **02 25 11.4 -0.7**
baz=36,SNR=27
MEEK Meekatharra 36.15 192 P P **02 25 12.2 +0.1**
BRDH Bariadhala 36.16 296 LR LR 02 42 07.7
comp=Z,249nm,18.5s,baz=10,slow=40
COCO West Island 36.20 235 P P **02 25 15.9 +3.2**
BNX BinXian 36.72 1 ⇓P P **02 25 16.8 0.0**
BNX pmax pmax
comp=Z,18nm,1.4s
BNX pmax pmax
comp=Z,200nm,3.5s
SHL Shillong 36.87 301 P P **02 25 17.7 -0.9**
SHL Shillong 36.87 301 P P **02 25 17.7 -0.9**
SHL pmax pmax
comp=Z,43nm,0.9s
SHL Shillong 36.87 301 P P **02 25 17.8 -0.7**
SNR=13

OOD Oodnadatta 37.53 167 P P **02 25 23.5 -0.3**
ASAJ Asahikawa 37.77 19 LR LR 02 42 10.6
comp=Z,421nm,18.5s,baz=188,slow=38
HNR Honiara 37.92 118 LR LR 02 39 16.7
comp=Z,4µm,20.5s,baz=302,slow=33
GTA Gaotai 38.66 326 P P **02 25 33.3 -0.2**
GTA PcP **PcP 02 27 45.3 +0.4**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA LR LR
comp=Z,270nm,17.4s
GTA LR LR
comp=Z,420nm,17.1s
GTA LR LR
comp=Z,480nm,17.5s
INKA Innaminka 38.93 160 P P **02 25 36.5 +0.9**
LSA Lhasa 39.05 307 P P **02 25 37.3 0.0**
LSA IAmb IAmb 02 25 39.5
comp=Z,25nm,1.1s
LSA Lhasa 39.05 307 P P **02 25 37.7 +0.4**
LSA Lhasa 39.05 307 P P **02 25 37.3 0.0**
LSA pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 39.05 307 P P **02 25 37.5 +0.3**
MORW Morawa 39.08 195 P P **02 25 37.9 +1.0**
baz=39,SNR=8.5
MORW Morawa 39.08 195 P P **02 25 36.5 -0.3**
MORW IAmb IAmb 02 25 38.7
comp=Z,28nm,0.8s
MORW Morawa 39.08 195 P P **02 25 38.1 +1.3**
QLP Quilpie 39.23 155 P P **02 25 36.9 -1.2**
baz=39,SNR=4.7
QLP Quilpie 39.23 155 P P **02 25 37.0 -1.2**
FORT Forrest 39.47 178 P P **02 25 40.3 +0.2**
baz=40,SNR=9.4
FORT Forrest 39.47 178 P P **02 25 38.9 -1.2**
FORT Forrest 39.47 178 P P **02 25 40.9 +0.8**
MULG Mulgathing 39.61 170 P P **02 25 41.7 +0.4**
GOMU GeErMu 39.63 318 P P **02 25 41.5 -0.4**
GOMU S **S 02 31 45.0 +2.8**
GOMU pmax pmax
comp=Z,12nm,1.4s
GOMU LR LR
comp=Z,380nm,18.8s
GOMU LR LR
comp=Z,490nm,19.2s
GOMU LR LR
comp=Z,1µm,19.3s
KMBL Kambalda 40.28 186 P P **02 25 46.3 -0.5**
baz=40,SNR=43
KMBL Kambalda 40.28 186 P P **02 25 47.7 +0.9**
YSS Yuzh-Sakhalins 40.37 17 ⇓*e*P P **02 25 49.4 +2.0**
YSS pmax pmax
comp=Z,48nm,1.4s
BLDU Ballidu 40.40 193 P P **02 25 48.8 +1.0**
baz=40,SNR=9.6
BLDU Ballidu 40.40 193 P P **02 25 48.6 +0.8**
KLR Kul'dur 40.44 5 *ce*P P **02 25 48.9 +0.9**
KLR pmax pmax
comp=Z,21nm,1.6s
KLR Kul'dur 40.44 5 LR LR 02 44 32.1
comp=Z,231nm,18.5s,baz=194,slow=39
HIA Hailar 40.64 353 P P **02 25 49.1 -0.6**
HIA Hailar 40.64 353 P P **02 25 49.1 -0.6**
HIA pmax pmax
comp=Z,7.0nm,0.9s
LCRK Leigh Creek 40.69 164 P P **02 25 50.5 +0.3**
KLBR Kellerberrin 41.12 191 P P **02 25 54.1 +0.3**
baz=41,SNR=12
KLBR Kellerberrin 41.12 191 P P **02 25 54.3 +0.5**
HEH HeiHe 41.24 1 *e*P P **02 25 55.0 +0.5**
HEH pmax pmax
comp=Z,20nm,1.0s
HEH pmax pmax
comp=Z,160nm,6.2s
HEH LR LR
comp=Z,290nm,13.8s
HEH LR LR
comp=Z,320nm,14.7s
HEH LR LR
comp=Z,430nm,18.4s
MUN Mundaring 41.82 193 P P **02 25 59.6 0.0**
baz=42,SNR=15
MUN Mundaring 41.82 193 P P **02 25 59.5 0.0**
ULN Ulaanbaatar 42.20 340 P P **02 26 01.9 -0.8**
ULN Ulaanbaatar 42.20 340 *c i*P P **02 26 02.3 -0.3**
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 42.20 340 P P **02 26 01.4 -1.2**
ULN Ulaanbaatar 42.20 340 P P **02 26 01.4 -1.2**
ULN pP **pP 02 26 12.0 -2.7**
ULN PcP **PcP 02 27 56.7 +0.6**
ULN Ulaanbaatar 42.20 340 P P **02 26 02.3 -0.3**
comp=Z,34nm,0.9s
SONM Songino Array 42.40 340 P P **02 26 03.6 -0.6**
SONM Songino Array 42.40 340 P P **02 26 03.6 -0.6**
comp=Z,1.6nm,0.6s,baz=164,slow=8.3,SNR=12
SONM PcP **PcP 02 27 56.9 +0.1**
comp=Z,2.3nm,0.8s,baz=152,slow=4.7,SNR=2.7
SONM ScP **ScP 02 31 43.9 +0.2**
comp=Z,1.3nm,0.8s,baz=143,slow=5.7,SNR=4.5
SONM LR LR 02 44 19.0
comp=Z,205nm,21.3s,baz=206,slow=37
SONM PKP2ab **P'P'ab 02 59 15.0 -3.7**
comp=Z,0.4nm,0.8s,baz=174,slow=4.3,SNR=3.6
comp=Z,1.6nm,0.6s
BBOO Buckleboo 42.45 168 P P **02 26 03.7 -0.9**
baz=42,SNR=168
BBOO Buckleboo 42.45 168 P P **02 26 04.7 +0.1**
NWAO Narrogin (SRO) 42.52 192 P P **02 26 05.5 +0.3**
baz=42,SNR=12
NWAO P P **02 26 05.5 +0.3**
baz=42,SNR=12
NWAO Narrogin (SRO) 42.52 192 P P **02 26 05.0 -0.2**
NWAO IAmb IAmb 02 26 06.1
comp=Z,40nm,0.9s
NWAO Narrogin (SRO) 42.52 192 P P **02 26 05.1 -0.1**
NWAO IAmb IAmb 02 26 06.1
comp=Z,143nm,1.0s
NWAO Narrogin (SRO) 42.52 192 P P **02 26 05.7 +0.5**
NWAO Narrogin (SRO) 42.52 192 P P **02 26 05.1 -0.1**
NWAO pmax pmax
comp=Z,143nm,1.0s
NWAO Narrogin (SRO) 42.52 192 P P **02 26 04.0 -1.2**
comp=Z,24nm,0.8s,baz=358,slow=9.4,SNR=6.1
NWAO LR LR 02 47 45.3
comp=Z,86nm,18.2s,baz=353,slow=42
comp=Z,24nm,0.8s
GRNR Gornyy 42.54 9 ⇑*i*P P **02 26 07.3 +2.2**
GRNR pmax pmax
comp=N,5.0nm,0.9s
GRNR pmax pmax
comp=Z,8.0nm,1.0s
GRNR MLR MLR
comp=E,260nm,22.0s
GRNR MLR MLR
comp=N,230nm,16.0s
GRNR MLR MLR
comp=Z,290nm,17.0s
WHYH Whyalla 43.00 166 P P **02 26 09.3 +0.3**
STKA Stephens Creek 43.02 161 P P **02 26 08.4 -0.8**
baz=43,SNR=24
STKA Stephens Creek 43.02 161 P P **02 26 08.4 -0.8**
STKA Stephens Creek 43.02 161 P P **02 26 09.0 -0.2**
STKA Stephens Creek 43.02 161 P P **02 26 08.5 -0.7**
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA Stephens Creek 43.02 161 P P **02 26 08.3 -0.8**
comp=Z,17nm,0.7s,baz=341,slow=8.0,SNR=28
STKA LR LR 02 46 48.8
comp=Z,134nm,20.2s,baz=315,slow=40
comp=Z,17nm,0.7s
AULRC Lightning Ridg 43.34 152 P P **02 26 12.5 +0.7**
HTT Hallett 43.70 165 P P **02 26 14.7 -0.1**
baz=44,SNR=25
HTT Hallett 43.70 165 P P **02 26 15.4 +0.6**
TYV Tymovskoe 43.91 15 *e*P P 02 26 28.0 +12
TYV pmax pmax
comp=Z,300nm,4.3s
TYV pmax pmax
comp=Z,100nm,1.4s
CMSA Cobar Meteorol 44.18 156 P P **02 26 18.6 0.0**
baz=44,SNR=8.8
CMSA Cobar Meteorol 44.18 156 P P **02 26 19.0 +0.4**
RKGY Rocky Gully 44.20 191 P P **02 26 19.7 +1.0**
baz=44,SNR=6.9

RKGY **Rocky Gully** 44.20 191 P **P** 02 26 20.1 +1.4
ZEA **Zeya** 44.72 1 *e*P **P** 02 26 23.5 +0.9
ZEA pmax pmax
comp=Z,10.0nm,1.7s
ZEA MLR MLR
comp=N,300nm,20.0s
ZEA MLR MLR
comp=Z,200nm,22.0s
ZAK **Zakamensk** 45.64 339 *e*P **P** 02 26 28.9 -1.2
ZAK pmax pmax
comp=Z,3.0nm,1.3s
HYB **Hyderabad** 47.38 285 *e*P **P** 02 26 44.5 +0.3
HYB IVmB_BB 02 26 44.9
comp=Z,402nm,0.9s
MOY **Mondy** 47.52 339 *e*P **P** 02 26 44.9 +0.1
MOY pmax pmax
comp=Z,21nm,1.9s
ARPS **Mount Arapiles** 47.64 163 P **P** 02 26 45.8 0.0
baz=48,SNR=39
ARPS **Mount Arapiles** 47.64 163 P **P** 02 26 46.4 +0.7
YNG **Young** 47.69 155 P **P** 02 26 46.8 +0.6
WMQ **Urumqi** 48.47 323 *e*P **P** 02 26 52.5 +0.2
WMQ sP sP 02 27 09.0 -1.8
WMQ PcP **PcP** 02 28 18.0 +0.1
WMQ pmax pmax
comp=Z,31nm,1.5s
WMQ LR LR
comp=Z,650nm,21.3s
WMQ LR LR
comp=Z,240nm,16.9s
CNB **Canberra Magne** 48.97 155 P **P** 02 26 58.1 +2.0
baz=49,SNR=5.7
BRAT **Ballarat** 48.98 162 P **P** 02 26 56.8 +0.7
TOO **Toolangi** 49.51 160 P **P** 02 27 00.9 +0.7
baz=50,SNR=16
TOO **Toolangi** 49.51 160 P **P** 02 27 00.4 +0.2
TOO IAmb IAmb 02 27 03.0
comp=Z,19nm,0.9s
TOO **Toolangi** 49.51 160 P **P** 02 27 00.7 +0.5
TOO **Toolangi** 49.51 160 P **P** 02 27 00.4 +0.2
TOO pmax pmax
comp=Z,19nm,0.9s
NOUC **Port Laguerre** 49.68 129 P **P** 02 27 04.6 +2.9
LIFNC **LIFOU** 49.69 127 P **P** 02 27 01.6 -0.2
BOD **Bodaibo** 49.76 351 *e*P **P** 02 27 02.5 +0.7
BOD pmax pmax
comp=Z,27nm,1.3s
DZM **Mont Dzumac** 49.77 129 P **P** 02 27 03.5 +0.9
DZM IAmb IAmb 02 27 19.5
comp=Z,12nm,1.0s
ONTNC **Ouen Toro** 49.91 129 P **P** 02 27 02.3 -1.2
PETK **Petropavlovsk-** 50.78 24 P **P** 02 27 11.9 +2.3
comp=Z,2.6nm,0.5s,baz=215,slow=4.8,SNR=11
comp=Z,2.6nm,0.5s
DGZ **Jazzator, Alta** 52.07 329 *c i*P **P** 02 27 19.1 -0.4
DGZ pmax pmax
comp=Z,16nm,1.7s
YAK **Yakutsk** 53.09 2 P **P** 02 27 26.9 +0.3
YAK IAmb IAmb 02 27 29.7
comp=Z,29nm,1.1s
YAK **Yakutsk** 53.09 2 *e*P **P** 02 27 27.7 +1.1
YAK *e* 02 28 36.2
YAK *e* 02 29 27.9
YAK *e*S **S** 02 34 55.0 +1.9
YAK *e**SS **sS** 02 35 15.6 +5.2
YAK *e*SS **SS** 02 38 29.4 -3.6
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=Z,126nm,3.7s
YAK smax smax
comp=N,65nm,2.3s
YAK smax smax
comp=E,38nm,3.3s
MK31 **Makanchi Array** 53.28 323 IAmb IAmb 02 27 29.0
comp=Z,24nm,0.9s
MK31 **Makanchi Array** 53.28 323 *c i*P **P** 02 27 27.9 -0.5
MKAR **Makanchi Array** 53.28 323 P **P** 02 27 27.7 -0.6
MKAR **Makanchi Array** 53.28 323 P **P** 02 27 27.9 -0.5
comp=Z,22nm,0.8s,baz=121,slow=8.2,SNR=173
MKAR PcP **PcP** 02 28 34.9 -0.7
comp=Z,13nm,0.8s,baz=174,slow=3.3,SNR=8.5
MKAR LR LR 02 51 39.6
comp=Z,394nm,20.8s,baz=122,slow=38
comp=Z,22nm,0.8s
MAKZ **Makanchi** 53.48 323 P **P** 02 27 28.6 -1.2
MAKZ **Makanchi** 53.48 323 P **P** 02 27 28.6 -1.2
MAKZ pmax pmax
comp=Z,32nm,1.1s
MAKZ **Makanchi** 53.48 323 P **P** 02 27 29.4 -0.4
MAKZ PcP **PcP** 02 28 35.2 -1.0
MA2 **Magadan** 53.78 15⇓ *e*P **P** 02 27 33.1 +1.3
MA2 pmax pmax
comp=Z,54nm,2.0s
MA2 **Magadan** 53.78 15 LR LR 02 51 56.7
comp=Z,65nm,18.5s,baz=186,slow=38
MA2 **Magadan** 53.78 15 P **P** 02 27 33.7 +1.9
KSH **Kashi** 54.35 313 P **P** 02 27 37.8 +1.4
KSH pP pP 02 27 48.0 -1.5
KSH PcP **PcP** 02 28 41.0 +1.1
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH LR LR
comp=Z,260nm,15.5s
KSH LR LR
comp=Z,380nm,17.3s
KSH LR LR
comp=Z,350nm,17.4s
NIL **Nilore** 54.73 305 P **P** 02 27 38.9 -0.3
NIL **Nilore** 54.73 305 P **P** 02 27 38.9 -0.3
NIL pmax pmax
comp=Z,64nm,0.8s
NIL **Nilore** 54.73 305 P **P** 02 27 38.8 -0.4
NIL **Nilore** 54.73 305 P **P** 02 27 38.7 -0.4
NIL pP **pP** 02 27 49.6 -2.6
TAU **Tasmania Unive** 54.93 161 P **P** 02 27 41.6 +1.4
TAU **Tasmania Unive** 54.93 161 P **P** 02 27 41.6 +1.4
TAU pmax pmax
comp=Z,45nm,1.2s
ZAA0 **Zalesovo Array** 55.96 332 IAmb IAmb 02 27 47.3
comp=Z,17nm,1.0s
ZALV **Zalesovo Beam** 55.96 332 P **P** 02 27 46.3 -1.2
comp=Z,12nm,0.7s,baz=116,slow=6.9,SNR=50
ZALV LR LR 02 53 56.7
comp=Z,110nm,20.1s,baz=119,slow=38
comp=Z,12nm,0.7s
AAK **Ala-Archa** 56.49 316 *d i*P **P** 02 27 52.8 +1.0
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK **Ala-Archa** 56.49 316 LR LR 02 54 50.2
comp=Z,265nm,21.6s,baz=98,slow=39
AAK **Ala-Archa** 56.49 316 P **P** 02 27 51.7 -0.1
AAK PcP **PcP** 02 28 48.0 -0.1
SEY **Seymchan** 57.08 14⇑ *i*P **P** 02 27 57.3 +1.9
SEY pmax pmax
comp=Z,14nm,1.2s
SEY **Seymchan** 57.08 14 LR LR 02 55 18.7
comp=Z,120nm,18.0s,baz=268,slow=39
KURK **Kurchatov** 57.35 326 P **P** 02 27 56.6 -0.9
KURK **Kurchatov** 57.35 326 P **P** 02 27 56.8 -0.7
KURK **Kurchatov** 57.35 326 P **P** 02 27 56.8 -0.7
KURK **Kurchatov** 57.35 326 P **P** 02 27 56.9 -0.6
KURBB **Kurchatov Arra** 57.35 326 P **P** 02 27 56.1 -1.4
KURBB **Kurchatov Arra** 57.35 326 P **P** 02 27 56.8 -0.8
comp=Z,18nm,0.9s,baz=125,slow=6.2,SNR=122
KURBB LR LR 02 56 41.4
comp=Z,141nm,18.0s,baz=192,slow=40
comp=Z,18nm,0.9s
BTK **Batken** 58.29 312 P **P** 02 28 03.8 -0.7
BTK IAmb IAmb 02 28 06.4
comp=Z,8.0nm,0.8s
BTK **Batken** 58.29 312 P **P** 02 28 03.8 -0.7
BTK pmax pmax
comp=Z,8.0nm,0.8s
KBL **Kabul** 58.33 305 P **P** 02 28 04.8 -0.2
KBL IAmb IAmb 02 28 08.9
comp=Z,14nm,0.8s
KBL **Kabul** 58.33 305 P **P** 02 28 04.8 -0.2
KBL pmax pmax
comp=Z,14nm,0.8s
KBL **Kabul** 58.33 305 P **P** 02 28 04.6 -0.4
SNR=7.8
SIMJ **Simiganj** 59.28 310 P **P** 02 28 10.7 -0.7
SIMJ IAmb IAmb 02 28 14.9
comp=Z,13nm,0.9s
SIMJ **Simiganj** 59.28 310 P **P** 02 28 10.9 -0.5
SIMJ pP **pP** 02 28 22.1 -2.6
SIMJ PcP **PcP** 02 28 58.9 -0.3
KK31 **Karatay Array** 59.41 315 IAmb IAmb 02 28 14.2
comp=Z,8.6nm,0.8s
KK31 **Karatay Array** 59.41 315 *i*P **P** 02 28 09.9 -2.2
KKAR **Karatay Array** 59.41 315 P **P** 02 28 11.0 -1.1
KKAR **Karatay Array** 59.41 315 IAmb IAmb 02 28 14.2
comp=Z,8.6nm,0.8s
KKAR **Karatay Array** 59.41 315 P **P** 02 28 11.0 -1.1
TIXI **Tiksi** 62.72 1 P **P** 02 28 33.9 0.0
TIXI **Tiksi** 62.72 1 P **P** 02 28 33.9 0.0
TIXI pmax pmax
comp=Z,25nm,1.1s
TIXI **Tiksi** 62.72 1 P **P** 02 28 34.7 +0.8
BVA0 **Borovoye Array** 62.95 326 *i*P **P** 02 28 34.6 -1.2
BVAR **Borovoye Array** 62.95 326 P **P** 02 28 34.9 -1.0
comp=Z,3.9nm,0.5s,baz=118,slow=8.6,SNR=34
BVAR PcP **PcP** 02 29 12.9 -0.6
comp=Z,9.4nm,0.8s,baz=122,slow=5.4,SNR=5.2
BVAR LR LR 02 57 23.0
comp=Z,176nm,20.8s,baz=117,slow=37
comp=Z,3.9nm,0.5s
BRVK **Borovoye** 63.02 326 P **P** 02 28 35.7 -0.6
BRVK IAmb IAmb 02 28 45.9
comp=Z,14nm,0.8s
BRVK **Borovoye** 63.02 326 P **P** 02 28 35.7 -0.6
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK **Borovoye** 63.02 326 P **P** 02 28 35.5 -0.8
BRVK **Borovoye** 63.02 326 P **P** 02 28 35.6 -0.6
GSTR **Great Sitkin T** 63.30 36 P **P** 02 28 38.9 +0.8
HRA **Herat** 63.85 304 P **P** 02 28 41.7 -0.7
HRA IAmb IAmb 02 28 43.6
comp=Z,15nm,0.8s
BILL **Bilibino** 64.65 15 *i*P **P** 02 28 47.6 +0.9
TOZ **Tahuroa Road** 65.11 139 P **P** 02 28 50.2 0.0
TOZ IAmb IAmb 02 28 55.8
comp=Z,14nm,1.0s
DCZ **Deep Cove** 65.24 150 P **P** 02 28 51.3 +0.5
DCZ IAmb IAmb 02 28 54.6
comp=Z,15nm,0.8s
NRIK **Noril'sk** 65.41 346 P **P** 02 28 51.8 +0.1
NRIK **Noril'sk** 65.41 346 P **P** 02 28 51.8 +0.1
NRIK pmax pmax
comp=Z,42nm,1.2s
NRIK **Noril'sk** 65.41 346 P **P** 02 28 51.7 +0.1
comp=Z,27nm,1.0s,baz=122,slow=6.2,SNR=46
NRIK LR LR 02 58 04.3
comp=Z,222nm,21.8s,baz=148,slow=36
comp=Z,27nm,1.0s
TKNZ **Takaka Hill** 65.49 143 P **P** 02 28 52.4 -0.2
JLN **Jalan Bani Buh** 65.57 290 P **P** 02 28 51.4 -2.2
MRNZ **Matariki Terra** 65.59 143 P **P** 02 28 53.1 -0.1
INZ **Inchbonnie** 65.67 145 P **P** 02 28 55.4 +1.6
THZ **Tophouse** 65.91 144 P **P** 02 28 55.7 +0.4
WBK **Wadi Bani Khal** 65.98 291 P **P** 02 28 55.0 -1.2
LBZ **Lake Benmore** 66.07 147 P **P** 02 28 56.4 +0.1
RPZ **Rata Peaks** 66.10 146 P **P** 02 28 57.2 +0.8
RPZ **Rata Peaks** 66.10 146 LR LR 02 55 18.4
comp=Z,158nm,21.9s,baz=292,slow=34
LTZ **Lake Taylor** 66.18 145 P **P** 02 28 55.6 -1.4
LTZ IAmb IAmb 02 29 01.0
comp=Z,18nm,0.8s
WSAR **Wadi Sarin** 66.30 291 LR LR 03 01 37.7
comp=Z,81nm,18.6s,baz=92,slow=39
WSAR **Wadi Sarin** 66.30 291 P **P** 02 28 56.1 -2.1
TUWZ **Tuamarina** 66.31 143 P **P** 02 28 57.2 -0.7
OXZ **Oxford** 66.39 145 P **P** 02 28 58.1 -0.2
BSWZ **Blackbirch Sta** 66.45 143 P **P** 02 28 58.2 -0.6
URZ **Urewera** 66.46 138 LR LR 02 55 54.4
comp=Z,109nm,22.0s,baz=46,slow=34
BKZ **Black Stump Fm** 66.57 140 P **P** 02 28 59.0 -0.6
BKZ IAmb IAmb 02 29 04.0
comp=Z,17nm,0.7s
RTZ **Ruatahuna** 66.57 139 P **P** 02 29 00.1 +0.4
AMCZ **Amberley** 66.64 145 P **P** 02 29 00.9 +0.9
KHZ **Kahutara** 66.68 144 P **P** 02 29 00.7 +0.5
KHZ IAmb IAmb 02 29 03.3
comp=Z,13nm,0.6s
GVZ **Greta Valley S** 66.73 145 P **P** 02 29 01.0 +0.5
BIDO **Bidbid** 66.76 292 P **P** 02 29 00.7 -0.4
SNR=6.6
JMDO **Jabal Madar** 66.78 290 P **P** 02 28 59.2 -2.1
SMDO **Samad** 66.83 291 P **P** 02 29 00.4 -1.4
MRZ **Mangatainoka R** 66.85 141 P **P** 02 29 02.0 +0.7
MHTO **MHTO** 66.92 289 P **P** 02 29 00.1 -2.1
MQZ **McQueen's Vall** 66.98 145 P **P** 02 29 01.7 -0.3
JASK **Jask - Hormozg** 67.02 294 P **P** 02 29 01.7 -1.1
BFZ **Birch Farm** 67.28 141 P **P** 02 29 04.4 +0.4
BFZ IAmb IAmb 02 29 33.4
comp=Z,24nm,1.2s
DQM **DQM** 67.35 288 P **P** 02 29 02.8 -2.1
GEYT **Alibeck** 67.58 307 P **P** 02 29 06.5 +0.3
comp=Z,16nm,0.8s,baz=131,slow=4.5,SNR=35
GEYT LR LR 03 04 09.4
comp=Z,212nm,18.2s,baz=98,slow=41
comp=Z,16nm,0.8s
GYA0B **ALIBECK ARRAY** 67.58 307 P **P** 02 29 06.2 0.0
GYA0B IAmb IAmb 02 29 07.5
comp=Z,20nm,0.9s
BSY **Bisya** 67.61 291 P **P** 02 29 04.3 -2.4
AB31 **Akbulak array** 68.09 320 *i*P **P** 02 29 07.7 -1.4
ABKAR **Akbulak array** 68.09 320 IAmb IAmb 02 29 09.4
comp=Z,12nm,1.0s
SOHO **SOHO** 68.22 292 P **P** 02 29 08.9 -1.5
SOHO **SOHO** 68.22 292 P **P** 02 29 08.2 -2.1
ARQ **Araqi** 68.23 292 P **P** 02 29 07.1 -3.5
BANOM **Banah** 68.43 294 P **P** 02 29 11.3 -0.5
UOSS **Minazif** 68.52 293 P **P** 02 29 11.5 -0.8
UOSS **Minazif** 68.52 293 P **P** 02 29 11.4 -0.9
UOSS **Minazif** 68.52 293 P **P** 02 29 09.5 -2.7
MASF **Masafi** 68.56 294 P **P** 02 29 12.5 -0.1
MSFE **Esma-Masafi** 68.56 294 P **P** 02 29 12.4 -0.2
HATD **Hatta, Dubai** 68.58 293 *i*P **P** 02 29 12.1 -0.6
SNR=7.5
HATD **Hatta, Dubai** 68.58 293 P **P** 02 29 11.3 -1.3
ASHO **Ashiyiah** 68.65 293 *i*P **P** 02 29 12.6 -0.5
SNR=8.6
ASHO **Ashiyiah** 68.65 293 P **P** 02 29 12.3 -0.9
SNR=5.4
ALNE **Al Ain** 68.93 292 P **P** 02 29 14.3 -0.5
ALNE **Al Ain** 68.93 292 P **P** 02 29 13.9 -1.0
SNR=7.3
NAZ **Nazwa, Dubai** 69.01 293 P **P** 02 29 13.7 -1.6
FAQ **Al Faqa, Dubai** 69.07 293 P **P** 02 29 14.3 -1.4
SHAO **Shalim** 69.23 286 *i*P **P** 02 29 17.1 +0.3
SNR=8.3
SHAO **Shalim** 69.23 286 P **P** 02 29 16.1 -0.7
ASUD **Al Ashush, Dub** 69.31 293 P **P** 02 29 16.7 -0.5
UMZA **Um Al Zommool** 69.50 291 P **P** 02 29 16.9 -1.5
SVE **Sverdlovsk** 69.51 328 *de*P **P** 02 29 17.3 -0.5
SVE *e*S **S** 02 38 20.6 -1.2
SVE pmax pmax
comp=Z,42nm,1.1s
AKTO **Aktyubinsk** 69.55 321 P **P** 02 29 17.0 -1.2
AKTO **Aktyubinsk** 69.55 321 LR LR 03 02 26.4
comp=Z,330nm,19.4s,baz=104,slow=38
AJN **Ajban** 69.63 293 P **P** 02 29 17.7 -1.4
GAMB **Gambell** 69.80 25 P **P** 02 29 21.7 +2.4
baz=248
DMTO **DMTO** 69.89 286 P **P** 02 29 20.1 -0.7
ARU **Arti** 70.52 327 P **P** 02 29 22.8 -1.2
ARU IAmb IAmb 02 29 23.8
comp=Z,18nm,0.7s
ARU **Arti** 70.52 327 *d i*P **P** 02 29 22.8 -1.2
ARU S **S** 02 38 33.9 +0.2
ARU SS **SS** 02 42 59.6 -5.9
ARU pmax pmax
comp=Z,29nm,1.1s
ARU **Arti** 70.52 327 P **P** 02 29 22.9 -1.1
comp=Z,13nm,0.5s,baz=93,slow=3.7,SNR=33
ARU LR LR 03 02 24.8
comp=Z,173nm,18.9s,baz=115,slow=38
comp=Z,13nm,0.5s
ARU **Arti** 70.52 327 P **P** 02 29 22.8 -1.1
RBK **Rabkut** 70.61 285 P **P** 02 29 24.2 -1.1
SNR=6.8
DOK **Doka** 70.62 287 P **P** 02 29 24.4 -0.9
SNR=12
MZWR **Madinat Zayed** 70.65 292 P **P** 02 29 24.9 -0.5
WHFO **Wadi Hawf** 71.00 286 P **P** 02 29 26.1 -1.6
SNR=6.8
M11K **Mekoryuk** 71.15 29 P **P** 02 29 29.9 +2.2
baz=254
ABTO **Aybut** 71.48 285 P **P** 02 29 29.7 -0.9
SNR=10
JRN **Qarnain Island** 71.56 293 P **P** 02 29 29.7 -1.2
GHWR **Ruwais** 71.56 292 P **P** 02 29 30.3 -0.7
TNA **Tin City** 71.95 23 P **P** 02 29 33.6 +1.2
baz=251
K13K **Kusilvak Mount** 72.28 28 P **P** 02 29 35.5 +1.0
K13K **Kusilvak Mount** 72.28 28 P **P** 02 29 35.7 +1.2
baz=255
M13K **Dall Lake** 72.53 29 P **P** 02 29 37.7 +1.7
baz=257
F14K **Arctic Creek** 72.55 24 P **P** 02 29 37.4 +1.4
baz=253
SLWR **Sila** 72.64 292 P **P** 02 29 36.6 -0.7
ANM **Nome** 72.67 25 P **P** 02 29 36.2 -0.6
ANM **Nome** 72.67 25 P **P** 02 29 39.0 +2.3
baz=254,SNR=7.0
ANM **Nome** 72.67 25 P **P** 02 29 36.2 -0.6
ANM pmax pmax
comp=Z,9.0nm,1.1s
J14K **Nanvaranak Lak** 72.98 27 P **P** 02 29 39.0 +0.4
J14K **Nanvaranak Lak** 72.98 27 P **P** 02 29 41.0 +2.4
baz=256
L14K **Kuka Creek** 73.06 28 P **P** 02 29 40.4 +1.4
L14K IAmb IAmb 02 29 44.6
comp=Z,30nm,1.0s
L14K **Kuka Creek** 73.06 28 P **P** 02 29 39.9 +0.8
baz=257
SHMA **Al-Shehemyia** 73.24 294 P **P** 02 29 39.7 -1.2
M14K **Bethel** 73.28 29 P **P** 02 29 40.7 +0.4
M14K IAmb IAmb 02 29 44.0
comp=Z,24nm,1.0s
M14K **Bethel** 73.28 29 P **P** 02 29 40.8 +0.5
baz=258
F15K **North Star Dit** 73.29 24 P **P** 02 29 41.0 +0.6
F15K **North Star Dit** 73.29 24 P **P** 02 29 41.5 +1.1
baz=254
O14K **Tigyukauivet M** 73.32 31 P **P** 02 29 42.1 +1.4
baz=259
G15K **Niukluk** 73.34 25 P **P** 02 29 41.7 +1.0
baz=255,SNR=8.5
SMRA **Abu-Samra** 73.41 293 P **P** 02 29 40.4 -1.4
L15K **Ungalak Mounta** 73.69 28 P **P** 02 29 44.0 +1.2
baz=258
C16K **Lisburne Hills** 73.76 21 P **P** 02 29 43.9 +0.8
C16K IAmb IAmb 02 29 47.4
comp=Z,22nm,1.1s
C16K **Lisburne Hills** 73.76 21 P **P** 02 29 44.2 +1.1
baz=253
K15K **Wolf Creek Mou** 73.80 28 P **P** 02 29 44.2 +0.8
K15K IAmb IAmb 02 29 47.8
comp=Z,14nm,1.0s
K15K **Wolf Creek Mou** 73.80 28 P **P** 02 29 45.1 +1.6
baz=258
M15K **Kasigluk River** 73.88 29 P **P** 02 29 45.3 +1.4
baz=259
H16K **Elim** 74.00 25 P **P** 02 29 46.3 +1.7
baz=257,SNR=6.7
O15K **Ungalikthiuk R** 74.04 31 P **P** 02 29 46.6 +1.7
baz=260
N15K **Kwethluk River** 74.07 30 P **P** 02 29 46.4 +1.3
baz=260
G16K **Koyuk River** 74.13 24 P **P** 02 29 45.9 +0.6
G16K **Koyuk River** 74.13 24 P **P** 02 29 45.9 +0.6
baz=256
CHGN **Chignik** 74.36 34 P **P** 02 29 47.9 +1.1
baz=262
J16K **Anvik River** 74.42 27 P **P** 02 29 48.3 +1.2
J16K **Anvik River** 74.42 27 P **P** 02 29 48.0 +0.9
baz=259
I17K **Unalakleet** 74.50 26 P **P** 02 29 49.7 +2.3
I17K IAmb IAmb 02 29 51.3
comp=Z,21nm,1.1s
I17K **Unalakleet** 74.50 26 P **P** 02 29 48.7 +1.2
baz=258
C17K **DeLong Mountai** 74.59 21 P **P** 02 29 49.1 +1.2
baz=255,SNR=11
L16K **Owhat River** 74.64 28 P **P** 02 29 48.9 +0.5
L16K IAmb IAmb 02 29 51.8
comp=Z,18nm,1.1s
L16K **Owhat River** 74.64 28 P **P** 02 29 49.5 +1.1
baz=260,SNR=6.6
E17K **Hotham Inlet** 74.74 23 P **P** 02 29 48.7 -0.1
baz=256
M16K **Timber Creek** 74.77 29 P **P** 02 29 49.6 +0.5
M16K IAmb IAmb 02 29 52.6
comp=Z,17nm,0.9s
M16K **Timber Creek** 74.77 29 P **P** 02 29 49.9 +0.7
baz=261
N16K **Nishlik Lake** 74.77 30 P **P** 02 29 50.7 +1.5
baz=261
F17K **Baldwin Pennin** 74.81 23 P **P** 02 29 50.2 +0.9
F17K **Baldwin Pennin** 74.81 23 P **P** 02 29 51.0 +1.7
baz=257
G17K **Kiwalik Mounta** 74.85 24 P **P** 02 29 50.4 +0.9
baz=258
P16K **Nushagak River** 74.95 31 P **P** 02 29 50.8 +0.6
baz=262
R16K **Pilot Point** 74.97 33 P **P** 02 29 50.5 +0.1
baz=263
O16K **Kokwok River B** 74.98 31 P **P** 02 29 51.7 +1.3
O16K IAmb IAmb 02 29 54.3
comp=Z,20nm,1.1s
O16K **Kokwok River B** 74.98 31 P **P** 02 29 51.2 +0.9
baz=262
H17K **Granite Mounta** 75.04 25 P **P** 02 29 52.0 +1.4
H17K IAmb IAmb 02 29 54.1
comp=Z,14nm,1.0s
H17K **Granite Mounta** 75.04 25 P **P** 02 29 52.0 +1.4
baz=259
L17K **Donlin** 75.26 28 P **P** 02 29 52.7 +0.8
baz=261
E18K **Tukpahlearik C** 75.28 22 P **P** 02 29 53.4 +1.5
E18K IAmb IAmb 02 29 55.4
comp=Z,23nm,0.9s
E18K **Tukpahlearik C** 75.28 22 P **P** 02 29 53.6 +1.7
baz=258
B18K **Kokolik River** 75.29 20 P **P** 02 29 53.5 +1.5
baz=256
C18K **Utukok River** 75.34 21 P **P** 02 29 53.4 +1.0
C18K IAmb IAmb 02 29 55.3
comp=Z,16nm,0.9s
C18K **Utukok River** 75.34 21 P **P** 02 29 53.7 +1.3
baz=257,SNR=17
K17K **Iditarod** 75.35 27 P **P** 02 29 53.8 +1.4
K17K IAmb IAmb 02 29 57.5
comp=Z,30nm,1.1s
K17K **Iditarod** 75.35 27 P **P** 02 29 54.4 +1.9
baz=261
F18K **Selawik** 75.47 23 P **P** 02 29 54.9 +1.8
baz=259
O17K **Koliganek Bris** 75.50 31 P **P** 02 29 55.0 +1.7
baz=263
M17K **Holitna River** 75.55 29 P **P** 02 29 54.4 +0.8
M17K IAmb IAmb 02 29 57.6
comp=Z,21nm,1.0s
M17K **Holitna River** 75.55 29 P **P** 02 29 55.0 +1.3
baz=262,SNR=5.7
N17K **Nushagak Hills** 75.55 30 P **P** 02 29 54.1 +0.5
N17K IAmb IAmb 02 29 59.0
comp=Z,20nm,1.1s
N17K **Nushagak Hills** 75.55 30 P **P** 02 29 55.4 +1.8
baz=262
H18K **Honhosa River** 75.72 25 P **P** 02 29 55.0 +0.4
H18K **Honhosa River** 75.72 25 P **P** 02 29 56.1 +1.5
baz=260
G18K **Tagagawik** 75.73 24 P **P** 02 29 54.5 -0.1
G18K **Tagagawik** 75.73 24 P **P** 02 29 56.4 +1.7
baz=260
A19K **Wainwright** 75.74 20 P **P** 02 29 56.2 +1.7
baz=256
KIRV **Kirov** 75.75 328 P **P** 02 29 54.0 -0.8
KIRV **Kirov** 75.75 328 P **P** 02 29 54.0 -0.8
comp=Z,56nm,0.8s,baz=117,slow=1.1,SNR=30
KIRV LR LR 03 06 59.9
comp=Z,156nm,18.3s,baz=106,slow=39
comp=Z,56nm,0.8s
CASY **Casey** 75.89 187 P **P** 02 29 55.1 -0.2
CASY IAmb IAmb 02 29 56.3
comp=Z,33nm,1.1s
Q17K **Contact Creek** 75.95 32 P **P** 02 29 58.1 +2.0
baz=264

C19K	Lookout Ridge	76.00	21	P	P	02 29 57.7	+1.6	
C19K	Lookout Ridge baz=258	76.00	21	P	P	02 29 58.1	+2.0	
L18K	Granite Mounta	76.02	28	P	P	02 29 56.6	+0.4	
L18K	Granite Mounta baz=262	76.02	28	P	P	02 29 58.5	+2.2	
J18K	Innoko River baz=262	76.17	27	P	P	02 29 59.1	+1.9	
N18K	Kilae Creek	76.21	30	P	P	02 29 57.5	0.0	
N18K	Kilae Creek baz=264	76.21	30	P	P	02 29 59.4	+1.9	
BELG	Belogornoye comp=Z,42nm,0.8s,baz=298,slow=1.3,SNR=10 comp=Z,42nm,0.8s	76.25	322	P	P	02 29 56.6	-1.1	
F19K	Shaleruckik Mo	76.25	23	P	P	02 29 58.4	+0.9	
F19K	Shaleruckik Mo baz=260	76.25	23	P	P	02 29 59.3	+1.8	
M18K	Stony River baz=263	76.33	29	P	P	02 29 59.7	+1.7	
G19K	Purcell Mounta	76.41	24	P	P	02 29 59.9	+1.5	
G19K	Purcell Mounta baz=261	76.41	24	P	P	02 30 00.8	+2.3	
D19K	Kuna River	76.41	22	P	P	02 29 59.9	+1.5	
D19K	Kuna River baz=260	76.41	22	P	P	02 30 00.3	+1.9	
TTA	Tatalina	76.42	27	P	P	02 30 00.2	+1.6	
TTA	Tatalina baz=263	76.42	27	P	P	02 30 00.3	+1.7	
TTA	Tatalina comp=Z,6.0nm,1.0s	76.42	27	P pmax	P pmax	02 30 00.2	+1.6	
O18K	Koktuh Hills	76.46	31	P	P	02 29 59.9	+1.0	
O18K	Koktuh Hills baz=264,SNR=11	76.46	31	P	P	02 30 01.1	+2.3	
E19K	Redstone River	76.56	23	P	P	02 30 00.5	+1.2	
E19K	Redstone River baz=261	76.56	23	P	P	02 30 01.2	+1.9	
H19K	Roundabout Mou baz=262	76.58	25	P	P	02 30 01.1	+1.8	
J19K	Poorman	76.72	26	P	P	02 30 01.1	+0.8	
J19K	Poorman baz=263	76.72	26	P	P	02 30 01.9	+1.7	
L19K	White Mountain	76.87	28	P	P	02 30 01.5	+0.3	
L19K	White Mountain comp=Z,14nm,1.1s	76.87	28	P IAmb	P IAmb	02 30 03.2	+2.1	
L19K	White Mountain baz=264	76.87	28	P	P	02 30 03.2	+2.1	
N19K	Bonanza Creek	76.91	30		P	02 30 01.6	+0.1	
N19K	comp=Z,21nm,1.1s			IAmb	IAmb	02 30 04.6		
N19K	Bonanza Creek baz=265	76.91	30	P	P	02 30 04.0	+2.5	
O19K	Port Alsworth	76.93	30	P	P	02 30 02.8	+1.4	
O19K	comp=Z,22nm,1.1s			IAmb	IAmb	02 30 04.6		
O19K	Port Alsworth baz=265	76.93	30	P	P	02 30 03.8	+2.3	
D20K	Etivluk River baz=261	76.99	21	P	P	02 30 03.9	+2.2	
B20K	Meade River	77.01	20	P	P	02 30 03.0	+1.3	
B20K	Meade River baz=260	77.01	20	P	P	02 30 04.2	+2.4	
M19K	Big River Lodg	77.06	28	P	P	02 30 03.5	+1.3	
M19K	Big River Lodg baz=265	77.06	28	P	P	02 30 04.5	+2.3	
E20K	Nigu River baz=261	77.08	22	P	P	02 30 04.4	+2.2	
F20K	Avaraart Lake	77.08	23	P	P	02 30 03.7	+1.5	
F20K	comp=Z,14nm,1.0s			IAmb	IAmb	02 30 05.5		
F20K	Avaraart Lake baz=262	77.08	23	P	P	02 30 04.2	+2.0	
Q19K	Cape Douglas, baz=266	77.18	32	P	P	02 30 05.0	+2.1	
H20K	Anotleneega Mo baz=263	77.22	25	P	P	02 30 05.3	+2.3	
OHAK	Old Harbor baz=267	77.25	33	P	P	02 30 05.6	+2.2	
I20K	Naaghedeneel	77.31	26	P	P	02 30 04.0	+0.5	
I20K	Naaghedeneel baz=264	77.31	26	P	P	02 30 05.3	+1.9	
K20K	Telida	77.34	27	P	P	02 30 05.0	+1.2	
K20K	Telida baz=264	77.34	27	P	P	02 30 06.3	+2.6	
L20K	Farewell, AK baz=265	77.35	28	P	P	02 30 05.8	+1.9	
J20K	Nowinta River	77.39	26	P	P	02 30 05.8	+1.9	
J20K	comp=Z,17nm,1.1s			IAmb	IAmb	02 30 08.3		
J20K	Nowinta River baz=264	77.39	26	P	P	02 30 05.9	+1.9	
A21K	Barrow baz=260	77.42	19	P	P	02 30 06.0	+2.0	
M20K	Styx River	77.65	29	P	P	02 30 05.6	0.0	
M20K	comp=Z,11nm,1.0s			IAmb	IAmb	02 30 30.3		
M20K	Styx River baz=266	77.65	29	P	P	02 30 07.8	+2.2	
KDAK	Kodiak Island baz=267	77.66	33	P	P	02 30 07.2	+1.6	
KDAK	Kodiak Island comp=Z,230nm,20.2s,baz=262,slow=32	77.66	33	LR	LR	03 00 05.1		
C21K	Knifeblade Rid baz=263	77.71	21	P	P	02 30 07.4	+1.7	
RSO	Redoubt South	77.73	30	P	P	02 30 06.8	+0.5	
IMAR	Indian Mountai	77.74	24	P	P	02 30 07.4	+1.5	
G21K	Allakaket	77.89	24	P	P	02 30 07.2	+0.5	
G21K	Allakaket baz=264	77.89	24	P	P	02 30 08.6	+1.8	
F21K	Alatna River	77.97	23	P	P	02 30 07.8	+0.6	
F21K	Alatna River baz=264	77.97	23	P	P	02 30 09.6	+2.4	
N20K	Mount Spurr baz=267,SNR=5.8	78.04	29	P	P	02 30 09.4	+1.6	
GNI	Garni	78.07	309	⇑ *e*P	P	02 30 08.9	+0.4	
GNI	comp=Z,17nm,1.0s			pmax	pmax			
GNI	Garni comp=Z,136nm,20.9s,baz=82,slow=40	78.07	309	LR	LR	03 09 41.2		
H21K	Melozitna Rive	78.09	25	P	P	02 30 08.8	+0.9	
H21K	comp=Z,13nm,1.1s			IAmb	IAmb	02 30 11.3		
H21K	Melozitna Rive baz=265	78.09	25	P	P	02 30 09.5	+1.6	
PPLA	Purkeypile baz=266	78.16	28	P	P	02 30 09.6	+1.1	
CHUM	Lake Minchumin baz=266	78.17	27	P	P	02 30 10.0	+1.7	
CAST	Castle Rocks	78.24	27	P	P	02 30 09.8	+1.1	
CAST	comp=Z,21nm,1.2s			IAmb	IAmb	02 30 11.7		
CAST	Castle Rocks baz=266,SNR=10	78.24	27	P	P	02 30 11.1	+2.3	
RAR	Rarotonga comp=Z,168nm,19.5s,baz=320,slow=31	78.24	114	LR	LR	02 58 43.9		
HOM	Homer baz=268	78.24	31	P	P	02 30 10.9	+2.1	
B22K	Teshekpuk Lake	78.32	20	P	P	02 30 09.4	+0.3	
B22K	comp=Z,23nm,0.8s			IAmb	IAmb	02 30 12.1		
B22K	Teshekpuk Lake baz=264	78.32	20	P	P	02 30 11.5	+2.4	
RAYN	Ar Rayn	78.33	292	P	P	02 30 09.1	-1.0	
RAYN	Ar Rayn SNR=37	78.33	292	*i* P	P	02 30 09.6	-0.5	
RAYN	Ar Rayn	78.33	292	P	P	02 30 09.1	-1.0	
RAYN	comp=Z,60nm,0.9s			pmax	pmax			
RAYN	Ar Rayn	78.33	292	P	P	02 30 08.9	-1.2	
I21K	Tanana	78.40	25	P	P	02 30 11.0	+1.5	
I21K	comp=Z,16nm,0.9s			IAmb	IAmb	02 30 13.0		
I21K	Tanana baz=266,SNR=14	78.40	25	P	P	02 30 12.1	+2.5	
SKT	Skwentna	78.41	29	P	P	02 30 09.7	-0.1	
SKT	comp=Z,15nm,1.1s			IAmb	IAmb	02 30 12.3		
SKT	Skwentna baz=267,SNR=8.4	78.41	29	P	P	02 30 11.1	+1.4	
D22K	Ayikyak River	78.43	21	P	P	02 30 10.2	+0.5	
BRLK	Bradley Lake	78.63	31	P	P	02 30 11.7	+0.7	
BRLK	comp=Z,19nm,1.1s			IAmb	IAmb	02 30 23.8		
ZEI	Tsey	78.63	312	*e*P	P	02 30 10.3	-1.3	
ZEI	comp=Z,17nm,1.0s			pmax	pmax			
E22K	Anaktuvuk Pass	78.69	22	P	P	02 30 11.9	+0.7	
E22K	comp=Z,24nm,1.1s			IAmb	IAmb	02 30 15.2		
E22K	Anaktuvuk Pass baz=266	78.69	22	P	P	02 30 12.9	+1.7	
H22K	Ishtalitna Cre baz=266	78.70	25	P	P	02 30 12.9	+1.7	
BRSE	Bradley Lake S baz=268	78.70	31	P	P	02 30 12.9	+1.5	
G22K	Bettles baz=266	78.72	23	P	P	02 30 13.0	+1.8	
SUA	Susitna One	78.76	29	P	P	02 30 12.4	+0.6	
SUA	comp=Z,19nm,0.9s			IAmb	IAmb	02 30 17.9		
SUA	Susitna One baz=268,SNR=10.0	78.76	29	P	P	02 30 12.5	+0.8	
BPAW	Bear Paw Mtn.	78.76	26	P	P	02 30 12.8	+1.1	
BPAW	comp=Z,22nm,1.0s			IAmb	IAmb	02 30 15.9		
BPAW	Bear Paw Mtn. baz=267,SNR=11	78.76	26	P	P	02 30 13.4	+1.7	
KTH	Kantishna Hill	78.77	27	P	P	02 30 12.8	+1.0	
KTH	comp=Z,16nm,1.1s			IAmb	IAmb	02 30 16.4		
NCK	Nalchik	78.83	313	⇓ *e*P	P	02 30 11.9	-0.6	
NCK	comp=Z,16nm,1.0s			pmax	pmax			
MLY	Manley	78.92	25	P	P	02 30 13.6	+1.1	
MLY	Manley baz=267,SNR=14	78.92	25	P	P	02 30 13.9	+1.4	
ONI	Oni	78.97	312	P	P	02 30 13.2	0.0	
ONI	comp=Z,17nm,1.2s			IAmb	IAmb	02 30 28.3		
ONI	Oni	78.97	312	P	P	02 30 13.2	0.0	
ONI	comp=Z,17nm,1.2s			pmax	pmax			
AKH	Akhalkalaki	78.98	310	P	P	02 30 13.7	+0.2	
AKH	Akhalkalaki	78.98	310	P	P	02 30 13.7	+0.2	
AKH	comp=Z,72nm,1.1s			pmax	pmax			
CUT	Chulitna baz=268	79.02	28	P	P	02 30 14.0	+1.0	
TRF	Thorofare Moun	79.05	27	P	P	02 30 13.9	+0.5	
TRF	comp=Z,18nm,1.2s			IAmb	IAmb	02 30 26.3		
TRF	Thorofare Moun baz=268,SNR=6.9	79.05	27	P	P	02 30 14.5	+1.1	
D23K	Nanushuk River baz=266	79.16	21	P	P	02 30 15.7	+2.0	
RC01	Rabbit Creek A	79.24	29	P	P	02 30 15.0	+0.8	
RC01	comp=Z,14nm,1.1s			IAmb	IAmb	02 30 31.6		
RC01	Rabbit Creek A baz=269	79.24	29	P	P	02 30 15.7	+1.5	
COLD	Coldfoot baz=267,SNR=17	79.24	23	P	P	02 30 15.9	+1.7	
G23K	Bananza Creek	79.29	24	P	P	02 30 15.3	+0.9	
G23K	comp=Z,20nm,1.1s			IAmb	IAmb	02 30 19.3		
G23K	Bananza Creek baz=268	79.29	24	P	P	02 30 16.4	+1.9	
KARS	Kars	79.33	310	P	P	02 30 16.0	+0.6	
KARS	Kars	79.33	310	P	P	02 30 16.0	+0.6	
KARS	comp=Z,57nm,1.0s			pmax	pmax			
KBZ	Khabaz	79.33	313	⇓ *i* P	P	02 30 14.7	-0.4	
KBZ	comp=Z,12nm,1.0s			pmax	pmax			
KBZ	Khabaz comp=Z,7.2nm,1.0s,baz=136,slow=1.9,SNR=7.1	79.33	313	P LR	P LR	02 30 14.6	-0.5	
KBZ	comp=Z,166nm,19.9s,baz=76,slow=39 comp=Z,7.2nm,1.0s					03 09 37.9		
SEW	Seward baz=269	79.36	30	P	P	02 30 15.7	+0.8	
KIV	Kislovodsk	79.48	313	P	P	02 30 15.7	-0.3	
KIV	comp=Z,18nm,0.9s			IAmb	IAmb	02 30 17.1		
KIV	Kislovodsk	79.48	313	*e*P	P	02 30 15.9	-0.1	
KIV	comp=Z,20nm,1.1s			pmax	pmax			
KIV	comp=Z,123nm,19.0s			MLR	MLR			
KIV	Kislovodsk	79.48	313	P	P	02 30 16.0	-0.1	
E23K	Chandalar baz=268	79.50	22	P	P	02 30 17.0	+1.3	
I23K	Minto, Yukon-K	79.51	25	P	P	02 30 16.5	+0.9	
I23K	comp=Z,16nm,1.1s			IAmb	IAmb	02 30 29.3		
I23K	Minto, Yukon-K baz=268,SNR=11	79.51	25	P	P	02 30 17.1	+1.5	
PMR	Palmer	79.54	29	P	P	02 30 16.0	+0.2	
PMR	comp=Z,12nm,0.8s			IAmb	IAmb	02 30 17.9		
PMR	Palmer baz=269,SNR=7.4	79.54	29	P	P	02 30 17.4	+1.5	
PMR	Palmer	79.54	29	P	P	02 30 16.0	+0.2	
PMR	comp=Z,12nm,0.8s			pmax	pmax			
NEA2	Nenana	79.62	26	P	P	02 30 16.7	+0.4	
NEA2	comp=Z,10nm,0.8s			IAmb	IAmb	02 30 21.2		
NEA2	Nenana baz=269,SNR=5.6	79.62	26	P	P	02 30 17.8	+1.5	
GHO	Glory Hole Cre	79.64	29	P	P	02 30 17.1	+0.6	
GHO	comp=Z,16nm,1.0s			IAmb	IAmb	02 30 29.9		
MCK	McKinley baz=269,SNR=20	79.66	27	P	P	02 30 17.8	+1.3	
RND	Reindeer	79.69	27	P	P	02 30 16.7	-0.1	
RND	comp=Z,23nm,1.1s			IAmb	IAmb	02 30 19.4		
RND	Reindeer	79.69	27	P	P	02 30 16.7	-0.1	
RND	comp=Z,23nm,1.1s			pmax	pmax			
WAT1	Susitna Watana baz=270	79.82	28	P	P	02 30 18.3	+0.9	
D24K	Happy Valley	79.83	21	P	P	02 30 18.9	+1.6	
D24K	comp=Z,18nm,0.9s			IAmb	IAmb	02 30 20.7		
D24K	Happy Valley baz=268	79.83	21	P	P	02 30 19.1	+1.8	
KNK	Knik Glacier	79.86	29	P	P	02 30 18.3	+0.6	
KNK	comp=Z,19nm,0.8s			IAmb	IAmb	02 30 20.3		
KNK	Knik Glacier baz=270,SNR=7.2	79.86	29	P	P	02 30 19.1	+1.4	
VRH	Novokhopyorsk	79.89	320	*e*P	P	02 30 15.7	-2.3	
VRH	comp=Z,30nm,1.0s			pmax	pmax			
C24K	Franklin Bluff baz=268	79.90	21	P	P	02 30 19.1	+1.5	
SML	Sawmill	79.92	29	P	P	02 30 18.3	+0.3	
SML	Sawmill baz=270,SNR=11	79.92	29	P	P	02 30 19.3	+1.3	
MDM	Murphy Dome	79.98	26	P	P	02 30 18.1	-0.1	
H24K	Noodor Dome	80.14	25	P	P	02 30 20.5	+1.4	
H24K	Noodor Dome baz=270	80.14	25	P	P	02 30 20.6	+1.4	
COLA	College baz=270	80.14	26	P	P	02 30 20.5	+1.4	
F24K	Squaw Lake	80.15	23	P	P	02 30 21.0	+1.9	
F24K	comp=Z,12nm,0.9s			IAmb	IAmb	02 30 22.7		
F24K	Squaw Lake baz=269	80.15	23	P	P	02 30 21.0	+1.9	
CCB	Clear Creek Bu	80.16	26	P	P	02 30 19.8	+0.6	
WAT6	Susitna Watana baz=270,SNR=17	80.19	28	P	P	02 30 21.2	+1.6	
M23K	Glacier View baz=270	80.21	29	P	P	02 30 21.2	+1.6	
GURO	Guroymak-BITLI	80.25	308	P	P	02 30 19.9	-0.5	
GURO	comp=Z,22nm,0.9s			IAmb	IAmb	02 30 21.9		
G24K	Hadweenzic Riv	80.30	24	P	P	02 30 20.4	+0.5	
G24K	comp=Z,16nm,1.0s			IAmb	IAmb	02 30 23.4		
G24K	Hadweenzic Riv baz=270	80.30	24	P	P	02 30 21.6	+1.7	
POKR	Poker Plat Res	80.32	25	P	P	02 30 20.2	+0.2	
POKR	Poker Plat Res	80.32	25		P	02 30 21.5	+1.5	
POKR	Poker Plat Res baz=270	80.32	25	P	P	02 30 21.6	+1.5	
DHY	Denali Highway	80.36	27	P	P	02 30 20.3	-0.2	
DHY	Denali Highway baz=271,SNR=7.3	80.36	27	P	P	02 30 22.1	+1.6	
P23K	Montague Islan baz=271	80.39	31	P	P	02 30 22.7	+2.2	
SCM	Sheep Creek Mo	80.40	29	P	P	02 30 20.5	-0.1	
SCM	comp=Z,22nm,1.0s			IAmb	IAmb	02 30 24.6		
SCM	Sheep Creek Mo baz=271	80.40	29	P	P	02 30 22.1	+1.5	
SCM	Sheep Creek Mo	80.40	29	P	P	02 30 20.5	-0.1	
SCM	comp=Z,22nm,1.0s			pmax	pmax			
HDA	Harding Lake	80.53	26	P	P	02 30 21.1	-0.1	
HDA	Harding Lake baz=271,SNR=13	80.53	26	P	P	02 30 22.4	+1.2	
IL31		80.56	26	P	P	02 30 21.5	+0.2	
ILAR	Eielson Array	80.56	26	P	P	02 30 21.0	-0.3	
ILAR	Eielson Array comp=Z,3.4nm,0.8s,baz=244,slow=4.6,SNR=28 comp=Z,3.4nm,0.8s	80.56	26	P	P	02 30 21.9	+0.6	
IL03	Eielson Array	80.57	26	P	P	02 30 21.6	+0.2	
D25K	Kavik River	80.71	21	P	P	02 30 22.8	+0.6	
D25K	comp=Z,16nm,0.9s			IAmb	IAmb	02 30 26.4		
D25K	Kavik River baz=270	80.71	21	P	P	02 30 23.8	+1.7	
G25K	Bearman Lake baz=271	80.85	24	P	P	02 30 24.5	+1.7	
KLMR	Klimovskoe	80.85	330	*e*P	P	02 30 20.0	-2.9	
KLMR	comp=Z,49nm,1.3s			pmax	pmax			
M24K	Tolsona, Glenn	80.93	28	P	P	02 30 23.9	+0.5	
M24K	comp=Z,22nm,0.9s			IAmb	IAmb	02 30 53.4		
M24K	Tolsona, Glenn baz=272	80.93	28	P	P	02 30 24.8	+1.4	
F25K	Christian Rive baz=271	81.01	23	P	P	02 30 25.6	+1.8	
E25K	Arctic Village	81.02	22	P	P	02 30 24.9	+1.1	
E25K	comp=Z,17nm,1.1s			IAmb	IAmb	02 30 27.4		
E25K	Arctic Village baz=271	81.02	22	P	P	02 30 25.9	+2.1	
K24K	Donnelly Dome baz=272	81.06	27	P	P	02 30 26.1	+2.0	
KLU	Klutina	81.08	29	P	P	02 30 25.0	+0.7	
KLU	Klutina baz=272	81.08	29	P	P	02 30 25.8	+1.5	
EYAK	Cordova Ski Ar baz=272	81.20	30	P	P	02 30 26.9	+2.1	
FYU	Fort Yukon	81.20	24	P	P	02 30 25.2	+0.5	
J25K	Salcha River,	81.21	26	P	P	02 30 24.5	-0.4	
J25K	Salcha River, baz=272	81.21	26	P	P	02 30 26.8	+1.9	
PAX	Paxson	81.23	28	P	P	02 30 26.2	+1.1	
PAX	comp=Z,16nm,1.0s			IAmb	IAmb	02 30 29.2		
PAX	Paxson baz=272,SNR=11	81.23	28	P	P	02 30 26.7	+1.7	
PAX	Paxson comp=Z,16nm,1.0s	81.23	28	P pmax	P pmax	02 30 26.2	+1.1	
HARP	HAARP baz=273	81.40	28	P	P	02 30 27.4	+1.5	
BMAR	Burnt Mountain	81.42	23	P	P	02 30 27.4	+1.5	
VORD	Divnogorie	81.43	320	*e*P	P	02 30 23.4	-2.8	
VORD	comp=Z,10.0nm,0.7s			pmax	pmax			
VORR	Voronezh	81.44	321	*e*P	P	02 30 24.0	-2.3	
VORR	comp=Z,20nm,0.4s			pmax	pmax			
RIDG	Independent Ri	81.48	27	P	P	02 30 27.6	+1.3	
RIDG	Independent Ri baz=273,SNR=25	81.48	27	P	P	02 30 27.9	+1.5	
VSR	Storozhevoye	81.50	321	*e*P	P	02 30 23.4	-3.2	
VSR	comp=Z,10.0nm,0.8s			pmax	pmax			
LPSR	Galich'ya Gora	81.56	322	*e*P	P	02 30 24.3	-2.6	
LPSR	comp=Z,30nm,0.8s			pmax	pmax			
F26K	Sheenjek River baz=273	81.58	23	P	P	02 30 29.0	+2.3	
N25K	Chitina, Valde	81.70	29	P	P	02 30 27.6	0.0	
N25K	comp=Z,23nm,1.1s			IAmb	IAmb	02 30 32.6		
N25K	Chitina, Valde baz=273,SNR=5.9	81.70	29	P	P	02 30 29.7	+2.1	
BMRM	Bremner River baz=273	81.74	30	P	P	02 30 29.6	+1.9	
G26K	Porcupine Rive baz=273	81.76	23	P	P	02 30 30.0	+2.4	
SCRK	Sand Creek	81.84	26	P	P	02 30 28.3	-0.1	
SCRK	comp=Z,11nm,1.0s			IAmb	IAmb	02 30 31.6		
SCRK	Sand Creek baz=273,SNR=10.0	81.84	26	P	P	02 30 30.2	+1.9	
J26L	Joseph Creek	82.00	26	P	P	02 30 29.9	+0.8	
J26L	comp=Z,12nm,1.1s			IAmb	IAmb	02 30 32.6		
J26L	Joseph Creek baz=274	82.00	26	P	P	02 30 30.8	+1.7	
MENT	Mentasta	82.03	28	P	P	02 30 30.2	+0.9	
MENT	comp=Z,11nm,0.9s			IAmb	IAmb	02 30 34.4		
GLB	Gilahina Butte	82.09	29	P	P	02 30 30.9	+1.3	
GLB	comp=Z,20nm,1.0s			IAmb	IAmb	02 30 34.4		
MOS	Moscow	82.11	325	*e*P	P	02 30 27.1	-2.6	
MOS	comp=Z,25nm,0.9s			pmax	pmax			
I26K	Coal Creek Min	82.12	25	P	P	02 30 30.1	+0.5	
I26K	comp=Z,17nm,1.1s			IAmb	IAmb	02 30 33.6		
I26K	Coal Creek Min baz=274	82.12	25	P	P	02 30 31.3	+1.7	
ATD	Arta Tunnel	82.14	280	P	P	02 30 30.8	+0.1	
ATD	Arta Tunnel SNR=5.1	82.14	280	P	P	02 30 31.1	+0.4	
L26K	Log Cabin Wild	82.19	27	P	P	02 30 30.2	+0.1	
L26K	Log Cabin Wild baz=274,SNR=8.1	82.19	27	P	P	02 30 31.7	+1.6	
M26K	Nabesna, AK	82.40	28	P	P	02 30 32.0	+0.8	
M26K	Nabesna, AK baz=275	82.40	28	P	P	02 30 32.9	+1.7	
MCARA	McCarthy VSAT baz=275	82.47	29	P	P	02 30 33.1	+1.6	
LVZ	Lovozero	82.54	338	⇑ *e*P	P	02 30 30.8	-1.0	
LVZ	comp=Z,89nm,1.5s			pmax	pmax			
D27M	Malcolm River	82.64	21	P	P	02 30 33.2	+0.9	
D27M	comp=Z,11nm,0.9s			IAmb	IAmb	02 30 35.7		
D27M	Malcolm River baz=276	82.64	21	P	P	02 30 34.2	+1.9	
K27K	Chicken	82.68	26	P	P	02 30 34.3	+1.8	
K27K	Chicken baz=275	82.68	26	P	P	02 30 34.3	+1.8	
H27K	Steamboat Moun baz=275	82.71	24	P	P	02 30 34.5	+1.8	
I27K	Kandik River baz=275	82.73	25	P	P	02 30 35.4	+2.5	
OBN	Obninsk	82.76	325	P	P	02 30 32.4	-0.7	
OBN	comp=Z,9.8nm,0.9s			IAmb	IAmb	02 30 34.0		
OBN	Obninsk	82.76	325	*i* P	P	02 30 32.1	-1.0	
OBN	comp=Z,13nm,1.0s			pmax	pmax			
OBN	comp=Z,200nm,18.0s			MLR	MLR			
L27K	Beaver Creek,	82.88	27	P	P	02 30 34.8	+1.1	
L27K	Beaver Creek, baz=276	82.88	27	P	P	02 30 35.7	+2.0	
BCAR	Beaver Creek A	82.90	27	P	P	02 30 35.1	+1.4	
ABPO	Ambohimpanom	82.90	250	P	P	02 30 32.8	-2.0	
ABPO	comp=Z,9.2nm,0.8s			IAmb	IAmb	02 30 34.3		
ABPO	Ambohimpanom comp=Z,9.0nm,0.9s	82.90	250	P pmax	P pmax	02 30 32.8	-2.0	
M27K	Edge Creek, AK	82.93	28	P	P	02 30 34.6	+0.5	
M27K	Edge Creek, AK baz=276	82.93	28	P	P	02 30 36.3	+2.2	
EGAK	Eagle	83.00	26	P	P	02 30 34.3	+0.1	
EGAK	Eagle baz=276,SNR=5.4	83.00	26	P	P	02 30 35.8	+1.6	
BARN	Barnard Glacie	83.16	29	P	P	02 30 36.7	+1.4	
BARN	comp=Z,15nm,1.0s			IAmb	IAmb	02 30 40.2		

F28M	**Old Crow**	**83.21**	**23**	P	**P**	**02 30 35.8 +0.5**
F28M				IAmb	IAmb	02 30 38.5
	comp=Z,18nm,1.1s					
F28M	**Old Crow**	**83.21**	**23**	P	**P**	**02 30 37.1 +1.8**
	baz=277,SNR=22					
E28M	**Babbage River**	**83.22**	**22**	P	**P**	**02 30 35.7 +0.4**
E28M				IAmb	IAmb	02 30 39.3
	comp=Z,18nm,1.1s					
E28M	**Babbage River**	**83.22**	**22**	P	**P**	**02 30 37.8 +2.5**
	baz=277					
CTG	**Chitna Glacier**	**83.32**	**29**	P	**P**	**02 30 38.4 +2.3**
	baz=276,SNR=16					
CTGM	**Chitina Glacie**	**83.33**	**29**	P	**P**	**02 30 38.3 +2.2**
BVCY	**Beaver Creek**	**83.39**	**28**	P	**P**	**02 30 38.9 +2.5**
	baz=276,SNR=6.4					
D28M	**Stokes Point**	**83.41**	**21**	P	**P**	**02 30 38.7 +2.5**
	baz=278					
I28M	**Miner Creek**	**83.44**	**25**	P	**P**	**02 30 38.2 +1.6**
I28M	**Miner Creek**	**83.44**	**25**	P	**P**	**02 30 38.8 +2.2**
	baz=277					
LOGN	**Logan Glacier**	**83.50**	**30**	P	**P**	**02 30 35.5 -1.5**
YUK3	**Moose Creek**	**83.65**	**29**	P	**P**	**02 30 39.5 +1.7**
	baz=277,SNR=7.0					
E29M	**Blow River**	**83.85**	**22**	P	**P**	**02 30 39.0 +0.6**
E29M	**Blow River**	**83.85**	**22**	P	**P**	**02 30 40.3 +1.9**
	baz=278					
DAWY	**Dawson**	**83.85**	**26**	P	**P**	**02 30 40.0 +1.4**
DAWY	**Dawson**	**83.85**	**26**	P	**P**	**02 30 41.0 +2.4**
	baz=278,SNR=28					
PINM	**Pinnacle**	**83.96**	**30**	P	**P**	**02 30 41.2 +1.9**
	baz=277					
H29M	**Whitestone**	**83.98**	**24**	P	**P**	**02 30 39.7 +0.5**
H29M	**Whitestone**	**83.98**	**24**	P	**P**	**02 30 41.3 +2.1**
	baz=278					
G29M	**Pine Creek**	**84.02**	**23**	P	**P**	**02 30 40.3 +0.9**
G29M	**Pine Creek**	**84.02**	**23**	P	**P**	**02 30 41.4 +2.0**
	baz=278					
YUK8	**Steele Glacier**	**84.05**	**29**	P	**P**	**02 30 41.7 +1.7**
	baz=278,SNR=9.4					
I29M	**Ogilvie Camp,**	**84.13**	**25**	P	**P**	**02 30 40.2 +0.2**
I29M	**Ogilvie Camp,**	**84.13**	**25**	P	**P**	**02 30 42.1 +2.1**
	baz=278,SNR=30					
GAZ	**Gaziantep**	**84.17 307**		P	**P**	**02 30 40.6 -0.3**
GAZ				IAmb	IAmb	02 30 41.9
	comp=Z,12nm,0.8s					
J29N	**Klondike Camp**	**84.30**	**26**	P	**P**	**02 30 42.1 +1.1**
J29N				IAmb	IAmb	02 30 44.7
	comp=Z,29nm,1.1s					
J29N	**Klondike Camp**	**84.30**	**26**	P	**P**	**02 30 43.0 +2.0**
	baz=279,SNR=5.9					
PNL	**Peninsula**	**84.44**	**31**	P	**P**	**02 30 43.4 +1.7**
	baz=278					
M29M	**Somme Creek**	**84.49**	**28**	P	**P**	**02 30 42.7 +0.7**
M29M				IAmb	IAmb	02 30 45.9
	comp=Z,21nm,1.1s					
M29M	**Somme Creek**	**84.49**	**28**	P	**P**	**02 30 44.5 +2.5**
	baz=278					
L29M	**L29M**	**84.55**	**27**	P	**P**	**02 30 43.3 +1.1**
L29M	**L29M**	**84.55**	**27**	P	**P**	**02 30 45.1 +2.9**
	baz=279,SNR=28					
YUK4	**Talbot Arm**	**84.57**	**29**	P	**P**	**02 30 44.7 +2.2**
	baz=279					
EPYK	**Eagle Plains**	**84.62**	**24**	P	**P**	**02 30 43.6 +1.2**
EPYK	**Eagle Plains**	**84.62**	**24**	P	**P**	**02 30 44.1 +1.7**
	baz=280,SNR=26					
K29M	**Barlow Dome**	**84.70**	**26**	P	**P**	**02 30 43.9 +0.9**
K29M				IAmb	IAmb	02 30 47.8
	comp=Z,13nm,1.1s					
K29M	**Barlow Dome**	**84.70**	**26**	P	**P**	**02 30 44.4 +1.3**
	baz=279					
G30M	**tAoh Zraii Nji**	**84.71**	**23**	P	**P**	**02 30 43.7 +0.8**
G30M	**tAoh Zraii Nji**	**84.71**	**23**	P	**P**	**02 30 44.2 +1.3**
	baz=280					
F30M	**Barrier River**	**84.76**	**22**	P	**P**	**02 30 45.4 +2.3**
	baz=280					
O29M	**Mount Kennedy**	**84.76**	**30**	P	**P**	**02 30 43.8 +0.4**
O29M				IAmb	IAmb	02 30 52.0
	comp=Z,11nm,1.1s					
O29M	**Mount Kennedy**	**84.76**	**30**	P	**P**	**02 30 45.4 +1.9**
	baz=279					
YUK6	**Outpost Mounta**	**84.77**	**29**	P	**P**	**02 30 44.8 +1.3**
	baz=279					
I30M	**Mount Dempster**	**84.95**	**25**	P	**P**	**02 30 45.4 +1.0**
I30M				IAmb	IAmb	02 30 48.9
	comp=Z,19nm,1.0s					
I30M	**Mount Dempster**	**84.95**	**25**	P	**P**	**02 30 46.0 +1.7**
	baz=280					
J30M	**Hart River**	**85.09**	**25**	P	**P**	**02 30 46.0 +1.0**
J30M				IAmb	IAmb	02 30 49.0
	comp=Z,16nm,1.1s					
J30M	**Hart River**	**85.09**	**25**	P	**P**	**02 30 47.0 +2.0**
	baz=280					
HYT	**Haines Junctio**	**85.20**	**29**	P	**P**	**02 30 46.3 +0.7**
HYT				IAmb	IAmb	02 30 49.0
	comp=Z,11nm,1.0s					
HYT	**Haines Junctio**	**85.20**	**29**	P	**P**	**02 30 47.6 +1.9**
	baz=280					
M30M	**Minto, Yukon**	**85.24**	**27**	P	**P**	**02 30 46.6 +1.0**
M30M				IAmb	IAmb	02 30 48.8
	comp=Z,9.4nm,1.1s					
M30M	**Minto, Yukon**	**85.24**	**27**	P	**P**	**02 30 47.6 +2.0**
	baz=280					
P29M	**Windy Craggy**	**85.28**	**30**	P	**P**	**02 30 47.0 +1.0**
P29M				IAmb	IAmb	02 30 55.1
	comp=Z,16nm,1.1s					
P29M	**Windy Craggy**	**85.28**	**30**	P	**P**	**02 30 48.2 +2.3**
	baz=279					
N30M	**Aishikik Lake**	**85.29**	**29**	P	**P**	**02 30 46.8 +0.8**
N30M				IAmb	IAmb	02 30 50.9
	comp=Z,12nm,1.1s					
N30M	**Aishikik Lake**	**85.29**	**29**	P	**P**	**02 30 47.9 +1.9**
	baz=280					
SPB2	**Spitsbergen Ar**	**85.41 349**			**P**	**02 30 45.6 -0.6**
SPITS	**Spitsbergen Ar**	**85.41 349**		P	**P**	**02 30 46.3 +0.1**
	comp=Z,5.2nm,0.6s,baz=104,slow=7.1,SNR=25					
SPITS				LR	LR	03 16 15.7
	comp=Z,78nm,18.0s,baz=347,slow=41					
	comp=Z,5.2nm,0.6s					
INK	**Inuvik**	**85.46**	**22**	P	**P**	**02 30 47.2 +0.7**
INK				IAmb	IAmb	02 30 50.2
	comp=Z,12nm,1.1s					
INK	**Inuvik**	**85.46**	**22**	P	**P**	**02 30 48.0 +1.5**
	baz=282,SNR=11					
INK	**Inuvik**	**85.46**	**22**	P	**P**	**02 30 47.2 +0.7**
INK				pmax	pmax	
	comp=Z,12nm,1.1s					
INK	**Inuvik**	**85.46**	**22**	LR	LR	03 12 46.8
	comp=Z,78nm,18.8s,baz=0.5,slow=38					
MAYO	**Mayo, Yukon**	**85.46**	**26**	P	**P**	**02 30 48.1 +1.5**
MAYO	**Mayo, Yukon**	**85.46**	**26**	P	**P**	**02 30 48.3 +1.6**
	baz=281					
G31M	**Satah River**	**85.47**	**23**	P	**P**	**02 30 47.8 +1.2**
G31M	**Satah River**	**85.47**	**23**	P	**P**	**02 30 47.8 +1.2**
	baz=282					
F31M	**Tsiigehtchic**	**85.56**	**22**	P	**P**	**02 30 48.3 +1.2**
F31M	**Tsiigehtchic**	**85.56**	**22**	P	**P**	**02 30 48.6 +1.5**
	baz=282,SNR=14					
ARCES	**ARCESS Array B**	**85.57 340**		P	**P**	**02 30 46.7 -0.4**
ARCES				IAmb	IAmb	02 30 53.7
	comp=Z,15nm,1.1s					
ARCES	**ARCESS Array B**	**85.57 340**		P	**P**	**02 30 47.0 -0.1**
	comp=Z,7.9nm,0.8s,baz=70,slow=7.8,SNR=6.1					
ARCES				LR	LR	03 12 24.6
	comp=Z,109nm,18.6s,baz=126,slow=38					
	comp=Z,7.9nm,0.8s					
P30M	**Million Dollar**	**85.59**	**30**	P	**P**	**02 30 49.8 +2.4**
	baz=280					
O30N	**Mendenhall**	**85.89**	**29**	P	**P**	**02 30 51.2 +2.3**
	baz=281					
N31M	**Braeburn, Yuko**	**85.91**	**28**	P	**P**	**02 30 50.0 +0.9**
N31M				IAmb	IAmb	02 30 53.1
	comp=Z,15nm,1.0s					
N31M	**Braeburn, Yuko**	**85.91**	**28**	P	**P**	**02 30 51.1 +2.1**
	baz=281					
PLBC	**Pleasant Camp**	**86.00**	**31**	P	**P**	**02 30 51.5 +2.1**
	baz=281					
BALJ	**Balqa**	**86.10 302**		P	**P**	**02 30 49.7 -0.8**
BALJ				IAmb	IAmb	02 30 52.4
	comp=Z,39nm,0.9s					
MMAI	**Mount Meron Ar**	**86.17 303**		P	**P**	**02 30 51.1 +0.2**
	comp=Z,11nm,0.9s,baz=87,slow=7.0,SNR=8.3					
MMAI				LR	LR	03 15 28.2
	comp=Z,57nm,19.3s,baz=46,slow=40					
	comp=Z,11nm,0.9s					
S31K	**Pelican**	**86.35**	**32**	P	**P**	**02 30 51.5 +0.4**
S31K				IAmb	IAmb	02 31 11.2
	comp=Z,18nm,1.1s					
S31K	**Pelican**	**86.35**	**32**	P	**P**	**02 30 53.0 +1.9**
	baz=281					
M31M	**Drury Creek, Y**	**86.41**	**28**	P	**P**	**02 30 52.0 +0.6**
M31M	**Drury Creek, Y**	**86.41**	**28**	P	**P**	**02 30 53.1 +1.6**
	baz=282					
WHY	**Whitehorse**	**86.50**	**29**	P	**P**	**02 30 53.3 +1.2**
WHY				IAmb	IAmb	02 30 55.9
	comp=Z,8.6nm,1.0s					
WHY	**Whitehorse**	**86.50**	**29**	P	**P**	**02 30 54.0 +1.9**
	baz=282					
BR131	**Keskin Array S**	**86.61 310**	⇑	*i*P	**P**	**02 30 51.4 -1.7**
BRTR	**Keskin Array B**	**86.61 310**		P	**P**	**02 30 51.0 -2.0**
BRTR	**Keskin Array B**	**86.61 310**		P	**P**	**02 30 51.5 -1.5**
	comp=Z,1.9nm,0.8s,baz=121,slow=4.9,SNR=14					
BRTR				LR	LR	03 14 28.1
	comp=Z,65nm,18.1s,baz=70,slow=39					
	comp=Z,1.9nm,0.8s					
FARO	**Faro, Yukon**	**86.88**	**28**	P	**P**	**02 30 54.7 +1.0**
FARO				IAmb	IAmb	02 30 58.8
	comp=Z,7.5nm,0.9s					
FARO	**Faro, Yukon**	**86.88**	**28**	P	**P**	**02 30 55.6 +1.8**
	baz=283					
PPT	**Papeete**	**86.88 108**		LR	LR	03 02 11.4
	comp=Z,84nm,21.8s,baz=280,slow=30					
SIT	**Sitka**	**87.00**	**33**	P	**P**	**02 30 56.0 +1.6**
	baz=282					
EIL	**Elat**	**87.03 299**		LR	LR	03 15 49.7
	comp=Z,85nm,20.1s,baz=74,slow=40					
A36M	**Sacha Harbour**	**87.14**	**17**	P	**P**	**02 30 56.1 +1.4**
	baz=290,SNR=7.3					
FINES	**FINESS Array B**	**87.22 332**		P	**P**	**02 30 54.5 -0.9**
	comp=Z,4.0nm,0.4s,baz=74,slow=4.7,SNR=61					
FINES				LR	LR	03 15 49.2
	comp=Z,116nm,18.3s,baz=68,slow=40					
	comp=Z,4.0nm,0.4s					
N32M	**Quiet Lake**	**87.25**	**29**	IAmb	IAmb	02 31 13.1
	comp=Z,13nm,0.8s					
N32M	**Quiet Lake**	**87.25**	**29**	P	**P**	**02 30 56.9 +1.3**
	baz=283					
VSU	**Vasula**	**87.58 329**	⇓	*e*P	**P**	**02 30 56.3 -0.8**
VSU				pmax	pmax	
	comp=Z,26nm,1.0s					
P33M	**Teslin, Yukon**	**87.59**	**29**	P	**P**	**02 30 59.2 +1.8**
	baz=284					
AKASG	**Malin Array Be**	**87.80 321**		P	**P**	**02 30 56.5 -1.8**
	comp=Z,1.3nm,0.6s,baz=67,slow=4.5,SNR=7.3					
AKASG				LR	LR	03 12 16.6
	comp=Z,131nm,19.9s,baz=64,slow=37					
	comp=Z,1.3nm,0.6s					
AKBB	**Malin Array Si**	**87.80 321**		P	**P**	**02 30 57.6 -0.8**
AKBB	**Malin Array Si**	**87.80 321**		P	**P**	**02 30 57.6 -0.8**
AKBB				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KIEV	**Kiev**	**87.81 321**	⇓	P	**P**	**02 30 55.9 -2.5**
KIEV	**Kiev**	**87.81 321**		P	**P**	**02 30 57.8 -0.6**
KIEV	**Kiev**	**87.81 321**		P	**P**	**02 30 57.8 -0.6**
KIEV				pmax	pmax	
	comp=Z,4.0nm,0.9s					
U33K	**Whale Pass**	**88.40**	**33**	P	**P**	**02 31 02.7 +1.7**
	baz=284					
C36M	**Paulatuk**	**88.44**	**20**	IAmb	IAmb	02 31 03.8
	comp=Z,9.4nm,0.8s					
C36M	**Paulatuk**	**88.44**	**20**	P	**P**	**02 31 01.8 +0.8**
	baz=291,SNR=15					
MAW	**Mawson**	**88.51 200**		LR	LR	03 11 12.3
	comp=Z,92nm,19.5s,baz=44,slow=36					
VNDA	**Vanda**	**88.54 173**		P	**P**	**02 31 01.4 +0.2**
VNDA	**Vanda**	**88.54 173**		P	**P**	**02 31 01.4 +0.2**
VNDA				pmax	pmax	
	comp=Z,14nm,0.9s					
VNDA	**Vanda**	**88.54 173**		P	**P**	**02 31 01.3 +0.1**
	comp=Z,13nm,0.8s,baz=317,slow=5.1,SNR=30					
VNDA				LR	LR	03 12 04.2
	comp=Z,93nm,18.3s,baz=338,slow=36					
	comp=Z,13nm,0.8s					
R33M	**Jennings River**	**88.70**	**30**	P	**P**	**02 31 03.0 +0.4**
R33M	**Jennings River**	**88.70**	**30**	P	**P**	**02 31 03.9 +1.3**
	baz=285					
SORM	**Soroca**	**88.87 318**	⇑	P	**P**	**02 31 01.9 -1.6**
KIBK	**Kibwezi**	**88.87 267**		P	**P**	**02 31 03.8 -0.6**
KIBK	**Kibwezi**	**88.87 267**		P	**P**	**02 31 03.7 -0.6**
	SNR=5.0					
DLBC	**Dease Lake**	**89.43**	**31**	P	**P**	**02 31 07.0 +1.0**
	baz=286					
DLBC	**Dease Lake**	**89.43**	**31**	LR	LR	03 07 08.3
	comp=Z,54nm,19.9s,baz=292,slow=33					
KMBO	**Kilima Mbogo**	**89.47 269**		P	**P**	**02 31 06.6 -0.7**
KMBO				IAmb	IAmb	02 31 08.1
	comp=Z,12nm,1.1s					
KMBO	**Kilima Mbogo**	**89.47 269**		*i* P	**P**	**02 31 07.3 0.0**
	SNR=15					
KMBO	**Kilima Mbogo**	**89.47 269**		P	**P**	**02 31 06.6 -0.7**
KMBO				pmax	pmax	
	comp=Z,12nm,1.1s					
KMBO	**Kilima Mbogo**	**89.47 269**		P	**P**	**02 31 04.2 -3.1**
	comp=Z,7.9nm,1.0s,baz=49,slow=6.6,SNR=20					
	comp=Z,7.9nm,1.0s					
KMBO	**Kilima Mbogo**	**89.47 269**		P	**P**	**02 31 05.1 -2.2**
VLDR	**Vladesti**	**89.53 316**	⇓	P	**P**	**02 31 03.1 -3.5**
WTLY	**Watson Lake, Y**	**89.56**	**29**	P	**P**	**02 31 07.2 +0.7**
WTLY				IAmb	IAmb	02 31 09.5
	comp=Z,11nm,1.1s					
WTLY	**Watson Lake, Y**	**89.56**	**29**	P	**P**	**02 31 07.6 +1.0**
	baz=287					
EUNU	**Eureka**	**89.59**	**5**	P	**P**	**02 31 06.1 -0.3**
CFR	**Carcaliu**	**89.63 316**	⇓	P	**P**	**02 31 06.1 -1.0**
HARR	**Harsova**	**89.88 315**	⇓	P	**P**	**02 31 06.4 -1.9**
ELL	**Elmali**	**90.01 307**		P	**P**	**02 31 08.2 -1.1**
ELL	**Elmali**	**90.01 307**		P	**P**	**02 31 08.2 -1.1**
ELL				pmax	pmax	
	comp=Z,44nm,1.1s					
TESR	**Tescani**	**90.36 317**	⇓	P	**P**	**02 31 09.7 -0.8**
SUW	**Suwalki**	**90.62 325**		P	**P**	**02 31 09.9 -1.6**
SUW	**Suwalki**	**90.62 325**		P	**P**	**02 31 09.9 -1.6**
SUW				pmax	pmax	
	comp=Z,20nm,0.8s					
NEHR	**Nehoiu**	**90.84 316**	⇑	P	**P**	**02 31 12.8 0.0**
TURR	**Turia**	**90.89 317**	⇑	P	**P**	**02 31 13.1 +0.1**
WRGLY	**Wrigley**	**90.92**	**25**	P	**P**	**02 31 14.7 +2.0**
	baz=292					
BURAR	**Bucovina Array**	**91.04 318**	⇓	P	**P**	**02 31 13.4 -0.4**
BUR08	**Bucovina Ar. S**	**91.05 318**		P	**P**	**02 31 12.8 -1.1**
MLR	**Muntele Rosu**	**91.07 316**	⇑	P	**P**	**02 31 13.0 -1.0**
MLR	**Muntele Rosu**	**91.07 316**		LR	LR	03 17 03.6
	comp=Z,192nm,19.7s,baz=64,slow=39					
KOTAN	**Kotaneelee Air**	**91.80**	**28**	P	**P**	**02 31 19.0 +2.1**
	baz=291					
ARR	**Arges**	**92.00 316**	⇓	P	**P**	**02 31 17.3 -0.9**
CJR	**Cluj-Napoca**	**92.34 318**	⇓	P	**P**	**02 31 19.9 +0.2**
VLAD	**Vladila**	**92.50 315**	⇑	P	**P**	**02 31 20.4 -0.1**
MARR	**Marisel-Cluj**	**92.67 318**	⇓	P	**P**	**02 31 20.9 -0.5**
RES	**Resolute Bay**	**92.80**	**10**	P	**P**	**02 31 20.8 -0.4**
RES				IAmb	IAmb	02 31 23.1
	comp=Z,5.2nm,0.9s					
RES	**Resolute Bay**	**92.80**	**10**	P	**P**	**02 31 20.8 -0.4**
RES				pmax	pmax	
	comp=Z,5.0nm,1.0s					
RES	**Resolute Bay**	**92.80**	**10**	LR	LR	03 18 07.7
	comp=Z,60nm,18.4s,baz=266,slow=39					
DRGR		**92.91 318**	⇓	P	**P**	**02 31 21.6 -0.8**
DEV	**Deva**	**93.03 317**	⇑	P	**P**	**02 31 23.0 +0.1**
CRVS	**Cervenica-Dubn**	**93.11 320**		*e*P	**P**	**02 31 23.6 +0.4**
CRVS				pmax	pmax	
	comp=Z,32nm,1.1s					
CRVS	**Cervenica-Dubn**	**93.11 320**		*e*P	**P**	**02 31 23.6 +0.4**
HFS	**Hagfors**	**93.39 332**		P	**P**	**02 31 23.2 -1.1**
	comp=Z,10.0nm,1.0s,baz=108,slow=3.3,SNR=7.2					
HFS				LR	LR	03 17 08.2
	comp=Z,145nm,18.6s,baz=61,slow=38					
	comp=Z,10.0nm,1.0s					
OJC	**Ojcow**	**93.74 322**		P	**P**	**02 31 24.9 -1.2**
OJC				IAmb	IAmb	02 31 26.4
	comp=Z,4.8nm,1.0s					
OJC	**Ojcow**	**93.74 322**		P	**P**	**02 31 24.9 -1.2**
OJC				pmax	pmax	
	comp=Z,5.0nm,1.0s					
BLKB	**Belogradchik**	**93.81 315**	⇓	P	**P**	**02 31 25.3 -1.3**
NOA	**NORSAR Array B**	**94.11 334**		P	**P**	**02 31 26.3 -1.2**
	comp=Z,2.5nm,1.0s,baz=59,slow=4.9,SNR=2.9					
NOA				LR	LR	03 17 25.3
	comp=Z,80nm,18.2s,baz=50,slow=38					
	comp=Z,2.5nm,1.0s					
LANS	**Liptovska Anna**	**94.28 321**		*e*P	**P**	**02 31 29.4 +0.7**
LANS				pmax	pmax	
	comp=Z,5.0nm,1.4s					
LANS	**Liptovska Anna**	**94.28 321**		*e*P	**P**	**02 31 29.4 +0.7**
IDI	**Anoyia**	**94.30 307**		LR	LR	03 20 17.3
	comp=Z,65nm,19.6s,baz=86,slow=40					
JMIC	**Jan Mayen**	**94.82 347**		LR	LR	03 20 05.4
	comp=Z,34nm,18.8s,baz=82,slow=39					
YKA	**Yellowknife Ar**	**94.90**	**24**	P	**P**	**02 31 31.4 +0.3**
YKA	**Yellowknife Ar**	**94.90**	**24**	*i* P	**P**	**02 31 32.0 +0.9**
YKA				pmax	pmax	
	comp=Z,3.0nm,0.9s					
YKA	**Yellowknife Ar**	**94.90**	**24**	P	**P**	**02 31 31.7 +0.6**
	comp=Z,3.0nm,0.9s,baz=300,slow=4.8,SNR=28					
YKA				LR	LR	03 14 17.8
	comp=Z,74nm,21.9s,baz=58,slow=35					
	comp=Z,3.0nm,0.9s					
MORC	**Moravsky Berou**	**95.26 322**		*e*P	**P**	**02 31 33.2 +0.1**
JAVC	**Velka Javorina**	**95.50 321**		*e*P	**P**	**02 31 34.7 +0.5**
KRLC	**Kraliky**	**95.61 322**		*e*P	**P**	**02 31 37.0 +2.3**
KRLC	**Kraliky**	**95.61 322**		*e*P	**P**	**02 31 37.0 +2.3**
HILA	**High Level**	**95.73**	**28**	P	**P**	**02 31 34.5 -0.5**
DPC	**Dobruska-Polom**	**95.79 323**		*e*P	**P**	**02 31 32.1 -3.4**
DPC	**Dobruska-Polom**	**95.79 323**		*e*P	**P**	**02 31 32.1 -3.4**
MBAR	**Mbarara**	**95.83 270**		LR	LR	03 16 09.9
	comp=Z,107nm,18.3s,baz=64,slow=36					
MODS	**Modra-Piesok**	**95.91 321**		*e*P	**P**	**02 31 35.3 -0.8**
MODS	**Modra-Piesok**	**95.91 321**		*e*P	**P**	**02 31 35.2 -0.8**
VRAC	**Vranov**	**96.00 322**	⇓	P	**P**	**02 31 36.8 +0.3**
VRAC	**Vranov**	**96.00 322**		*e*P	**P**	**02 31 35.7 -0.8**
VRAC	**Vranov**	**96.00 322**		P	**P**	**02 31 36.3 -0.2**
	comp=Z,4.2nm,1.0s,baz=63,slow=2.8,SNR=6.7					
VRAC				LR	LR	03 17 47.5
	comp=Z,136nm,18.5s,baz=68,slow=37					
	comp=Z,4.2nm,1.0s					
ZST	**Bratislava**	**96.08 321**		*e*P	**P**	**02 31 35.2 -1.6**
ZST	**Bratislava**	**96.08 321**		*e*P	**P**	**02 31 35.2 -1.6**
KRUC	**Moravsky**	**96.21 322**		*e*P	**P**	**02 31 37.0 -0.4**
PUK	**Puka**	**96.22 314**		P	**P**	**02 31 36.2 -1.5**
PUK				IAmb	IAmb	02 31 40.4
	comp=Z,4.0nm,1.0s					
TREC	**Trest**	**96.68 322**		*e*P	**P**	**02 31 38.9 -0.7**
TREC	**Trest**	**96.68 322**		*e*P	**P**	**02 31 38.9 -0.7**
ZVC	**Zvikov**	**97.41 322**		*e*P	**P**	**02 31 41.9 -0.9**
CKRC	**Cesky Krumlov**	**97.58 322**		*e*P	**P**	**02 31 42.2 -1.4**
CKRC	**Cesky Krumlov**	**97.58 322**		*e*P	**P**	**02 31 42.2 -1.4**
KHC	**Kasperske Hory**	**97.90 322**		*e*P	Pdif	02 31 45.8 +0.7
KHC	**Kasperske Hory**	**97.90 322**		*e*P	Pdif	02 31 45.8 +0.7
GEC2	**GERESS Array S**	**97.94 322**		P	**P**	**02 31 44.4 -0.9**
GEC2				IAmb	IAmb	02 31 45.6
	comp=Z,4.3nm,1.1s					
GERES	**GERESS Array B**	**97.94 322**		P	**P**	**02 31 44.6 -0.7**
GERES	**GERESS Array B**	**97.94 322**		P	**P**	**02 31 44.6 -0.7**
GERES	**GERESS Array B**	**97.94 322**		P	**P**	**02 31 44.0 -1.3**
	comp=Z,3.1nm,1.0s,baz=56,slow=3.4,SNR=5.5					
	comp=Z,3.1nm,1.0s					
QSPA	**South Pole Qui**	**98.77 180**		P	**P**	**02 31 48.4 -0.2**
QSPA				IAmb	IAmb	02 31 49.8
	comp=Z,5.7nm,0.9s					
QSPA	**South Pole Qui**	**98.77 180**		P	**P**	**02 31 48.2 -0.4**
	comp=Z,4.7nm,1.0s,baz=319,slow=3.6,SNR=10					
	comp=Z,4.7nm,1.0s					
G05A	**Wamic**	**98.88**	**41**		Pdif	02 31 50.9 +1.3
NVAR	**Mina Array Bea**	**103.58**	**47**	PKKPbc	PKKPbc	02 48 02.2 -2.2
	comp=Z,0.6nm,0.8s,baz=93,slow=2.1,SNR=3.7					
PDAR	**Pinedale Array**	**107.57**	**40**	PKKPbc	PKKPbc	02 47 49.0 -3.4
	comp=Z,0.4nm,0.7s,baz=132,slow=4.6,SNR=4.8					
PDAR				PKKP	**PKKPdf**	**02 48 01.9 -3.2**
	comp=Z,1.7nm,1.1s,baz=108,slow=7.0,SNR=4.9					
ULM	**Lac du Bonnet**	**110.52**	**28**	PKKPbc	PKKPbc	02 47 39.4 -3.5
	comp=Z,0.8nm,0.5s,baz=108,slow=1.5,SNR=3.3					
ULM				PKKPab	**PKKPab**	**02 47 48.8 -4.8**
	comp=Z,3.7nm,0.9s,baz=102,slow=1.9,SNR=5.4					
TXAR	**Lajitas Array**	**118.51**	**50**	PKP	**PKiKP**	**02 36 58.1 +0.5**
	comp=Z,0.2nm,0.3s,baz=180,slow=2.9,SNR=4.3					
JCT	**Junction City**	**120.75**	**47**		**PKPdf**	**02 37 01.9 +0.1**
JCT	**Junction City**	**120.75**	**47**	PKIKP	**PKPdf**	**02 37 01.9 +0.1**
TOA0	**Torodi Ar. Sit**	**121.02 291**			**PKPdf**	**02 37 01.6 -1.0**
TORD	**Torodi Ar. Bea**	**121.02 291**			**PKPdf**	**02 37 01.6 -1.0**
TORD	**Torodi Ar. Bea**	**121.02 291**		PKP	**PKPdf**	**02 37 01.4 -1.2**
	comp=Z,3.2nm,1.0s,baz=42,slow=1.7,SNR=22					
DBIC	**Dimbokro**	**129.15 286**		PKP	**PKPdf**	**02 37 18.4 +0.2**
	comp=Z,2.9nm,0.7s,baz=286,slow=4.4,SNR=4.9					
PLCA	**Paso Flores**	**144.84 157**		PKP	**PKPdf**	**02 37 46.7 +0.2**
	comp=Z,10nm,0.9s,baz=244,slow=3.5,SNR=24					
DRK0	**Durika**	**145.28**	**59**	PKPbc	**PKiKP**	**02 37 50.6 -1.4**
GO06	**Curarrehue**	**145.45 155**		PKPdf	**PKPdf**	**02 37 47.4 -0.2**
BO02	**Sierra Bellavi**	**149.72 151**		PKPbc	**PKiKP**	**02 38 00.4 -0.1**
BO01	**Tunca**	**149.90 150**		PKPbc	**PKPbc**	**02 37 59.6 -0.2**
MT01	**Popeta**	**150.24 149**		PKPbc	**PKiKP**	**02 38 01.6 +0.1**
OBIP	**Obispado Ponce**	**150.25**	**26**	PKPdf	**PKPdf**	**02 37 54.8 -1.2**
MT09	**Talagante**	**150.44 149**		PKPbc	**PKPbc**	**02 38 01.2 -0.1**
BO04	**La Punta**	**150.46 150**		PKPbc	**PKiKP**	**02 38 01.7 -0.3**
LMEL	**Las Melosas**	**150.77 151**

28nm,0.8s,baz=334,slow=20,SNR=20
USP Ospenovka 7.36 24 P **Pn 02 35 00.8 +0.9**
SNR=12
TKM2 Tokmak 2 7.46 30 P **Pn 02 35 02.7 +1.3**
SNR=5.8
TKM2 Tokmak 2 7.46 30 ⇓P **Pn 02 35 02.1 +0.7**
1.0nm,0.3s
TKM2 ⇑S **Sn 02 36 27.3 +1.3**
6.0nm,0.8s
MKAR Makanchi Array 13.48 37 P **P 02 36 20.2 -0.8**
2.1nm,0.7s,baz=218,slow=9.1,SNR=14
KURBB Kurchatov Arra 15.19 20 P **Pn 02 36 38.8 -0.5**
0.6nm,0.8s,baz=207,slow=10,SNR=7.9
BVAR Borovoye Array 16.44 360 P **Pn 02 36 55.7 +1.3**
3.6nm,0.7s,baz=171,slow=10,SNR=6.4
AKTO Aktyubinsk 16.49 331 P **Pn 02 36 55.5 +0.4**
3.4nm,0.6s,baz=143,slow=10,SNR=12
ZALV Zalesovo Beam 20.02 25 P **P 02 37 33.9 +1.4**
1.5nm,0.3s,baz=212,slow=10,SNR=13
1.5nm,0.3s
HFS Hagfors 42.73 322 P **P 02 40 53.0 +0.8**
1.8nm,0.8s,baz=92,slow=13,SNR=1.1
1.8nm,0.8s
ASAR Alice Springs 84.66 125 P **P 02 45 24.9 -1.5**
0.3nm,0.6s,baz=315,slow=3.9,SNR=5.0
0.3nm,0.6s

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*IDC **28** 02:43:16.9±0.6,55˚.49N×166˚.57E,h0km,mb4.2/24, mbtmp4.2/28,ML4.1/4,MS3.6/16,Error ellipse: s-maj=16.8km s-min=10.9km az=165.0*
*KRSC **28** 02:43:17.3±1.8,55˚.35N×166˚.57E,h40km±12km,Ml4.6*
*NEIC **28** 02:43:19.5±1.5,55˚.6N±0˚.1×166˚.3E±0˚.1,h10km±1km, mb4.6/198,Error ellipse: s-maj=23.7km s-min=3.0km az=151.0*
*MOS **28** 02:43:20.5±0.9,55˚.45N×166˚.43E,h34km,mb4.8/28,Error ellipse: s-maj=6.4km s-min=5.3km az=142.4*

ISC 28 02:43:20.0±0.3,55˚.40N±0˚.05×166˚.53E±0˚.04,h20km,n614, σ1°08/605,mb4.6/143,MS3.7/17,7C-5D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.38**	**239**	PN	**Pb**	**02 43 27.3**	**-0.6**
BKI				S	**Sb**	**02 43 34.2**	**+0.9**
BKI	**Bering**	**0.38**	**239**	*e*P	**Pb**	**02 43 27.3**	**-0.6**
BKI				*e*S	**Sb**	**02 43 34.2**	**+0.9**
KBG	**Krutoberegovo**	**2.32**	**293**	PN	**Pn**	**02 43 54.6**	**-2.5**
KBG				S	**Sn**	**02 44 21.7**	**-3.3**
KBG	**Krutoberegovo**	**2.32**	**293**	*e*P	**Pn**	**02 43 54.6**	**-2.5**
KBG				*e*S	**Sn**	**02 44 21.7**	**-3.3**
BDR	**Baidarnaya**	**3.21**	**294**	PN	**Pn**	**02 44 09.2**	**-0.2**
BDR				S	**Sn**	**02 44 49.0**	**+1.9**
BDR	**Baidarnaya**	**3.21**	**294**	*e*P	**Pn**	**02 44 09.2**	**-0.2**
BDR				*e*S	**Sn**	**02 44 49.0**	**+1.9**
SRKR	**Sorokina**	**3.26**	**295**	PN	**Pn**	**02 44 10.1**	**0.0**
SRKR	**Sorokina**	**3.26**	**295**	*e*P	**Pn**	**02 44 10.1**	**0.0**
ZLN	**Zelenaya**	**3.30**	**283**	PN	**Pn**	**02 44 10.8**	**+0.2**
ZLN	**Zelenaya**	**3.30**	**283**	*e*P	**Pn**	**02 44 10.8**	**+0.2**
CIRR	**Tsirk**	**3.35**	**285**	PN	**Pn**	**02 44 11.2**	**-0.1**
CIRR	**Tsirk**	**3.35**	**285**	*e*P	**Pn**	**02 44 11.2**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**3.35**	**282**	PN	**Pn**	**02 44 11.1**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**3.35**	**282**	*e*P	**Pn**	**02 44 11.1**	**-0.2**
BZP	**Bezymyannyi-Pe**	**3.44**	**281**	*e*P	**Pn**	**02 44 12.1**	**-0.4**
BZP				*e*S	**Sn**	**02 44 54.5**	**+1.8**
KLY	**Klyuchi**	**3.44**	**288**	PN	**Pn**	**02 44 10.5**	**-1.9**
KLY	**Klyuchi**	**3.44**	**288**	*e*P	**Pn**	**02 44 10.5**	**-1.9**
BZMR	**Bezymyannaya**	**3.46**	**281**	PN	**Pn**	**02 44 12.6**	**-0.3**
BZMR	**Bezymyannaya**	**3.46**	**281**	*e*P	**Pn**	**02 44 12.6**	**-0.3**
BZWR	**Bezymyannyi-We**	**3.46**	**282**	PN	**Pn**	**02 44 13.1**	**+0.2**
BZWR	**Bezymyannyi-We**	**3.46**	**282**	*e*P	**Pn**	**02 44 13.1**	**+0.2**
TUMD	**Tumrok D**	**3.51**	**269**	*e*P	**Pn**	**02 44 13.7**	**+0.3**
TUMD				*e*S	**Sn**	**02 44 55.0**	**+0.7**
KIRR	**Kirishev**	**3.55**	**282**	PN	**Pn**	**02 44 14.1**	**0.0**
KIRR	**Kirishev**	**3.55**	**282**	*e*P	**Pn**	**02 44 14.1**	**0.0**
KMNR	**Kamenistaya**	**3.59**	**278**	PN	**Pn**	**02 44 15.4**	**+0.8**
KMNR	**Kamenistaya**	**3.59**	**278**	*e*P	**Pn**	**02 44 15.4**	**+0.8**
KPT	**Kopyto**	**3.62**	**282**	PN	**Pn**	**02 44 15.0**	**0.0**
KPT	**Kopyto**	**3.62**	**282**	*e*P	**Pn**	**02 44 15.0**	**0.0**
TUMR	**Tumrok**	**3.65**	**271**	PN	**Pn**	**02 44 13.7**	**-1.7**
TUMR	**Tumrok**	**3.65**	**271**	*e*P	**Pn**	**02 44 16.2**	**+0.8**
KOZ	**Kozyrevsk**	**3.82**	**283**	PN	**Pn**	**02 44 18.7**	**+1.0**
KOZ	**Kozyrevsk**	**3.82**	**283**	*e*P	**Pn**	**02 44 18.7**	**+1.0**
SRDR	**Sredinnyy**	**3.95**	**286**	PN	**Pn**	**02 44 19.9**	**+0.4**
SRDR	**Sredinnyy**	**3.95**	**286**	*e*P	**Pn**	**02 44 19.9**	**+0.4**
SPN	**Mys Shipunski**	**4.46**	**242**	PN	**Pn**	**02 44 25.9**	**-0.5**
SPN	**Mys Shipunski**	**4.46**	**242**	*e*P	**Pn**	**02 44 25.9**	**-0.5**
SPN				*e*S	**Sn**	**02 45 15.5**	**-2.1**
ESO	**Esso**	**4.47**	**280**	PN	**Pn**	**02 44 29.3**	**+2.8**
ESO	**Esso**	**4.47**	**280**	*e*P	**Pn**	**02 44 29.3**	**+2.8**
TIGL	**Tigil**	**4.95**	**302**	*e*P	**Pn**	**02 44 35.8**	**+2.6**
SMAR	**Somma**	**5.00**	**248**	PN	**Pn**	**02 44 34.7**	**+0.6**
SMAR	**Somma**	**5.00**	**248**	*e*P	**Pn**	**02 44 34.7**	**+0.6**
SMAR				*e*S	**Sn**	**02 45 30.5**	**-0.9**
UGLR	**Uglovaya**	**5.02**	**247**	PN	**Pn**	**02 44 35.1**	**+0.9**
UGLR				S	**Sn**	**02 45 32.4**	**+0.8**
UGLR	**Uglovaya**	**5.02**	**247**	*e*P	**Pn**	**02 44 35.1**	**+0.9**
UGLR				*e*S	**Sn**	**02 45 32.4**	**+0.8**
AVH	**Avacha**	**5.04**	**248**	PN	**Pn**	**02 44 35.4**	**+1.0**
AVH				S	**Sn**	**02 45 33.8**	**+1.8**
AVH	**Avacha**	**5.04**	**248**	*e*P	**Pn**	**02 44 35.4**	**+1.0**
AVH				*e*S	**Sn**	**02 45 33.8**	**+1.8**
KRX	**Arik**	**5.04**	**249**	PN	**Pn**	**02 44 35.8**	**+1.2**
KRX	**Arik**	**5.04**	**249**	*e*P	**Pn**	**02 44 35.8**	**+1.2**
KRX				*e*S	**Sn**	**02 45 32.5**	**+0.3**
TILK	**Tilichiki**	**5.07**	**358**	PN	**Pn**	**02 44 35.9**	**+1.2**
TILK	**Tilichiki**	**5.07**	**358**	*e*P	**Pn**	**02 44 35.9**	**+1.2**
KOK	**Koryaka**	**5.08**	**249**	PN	**Pn**	**02 44 35.9**	**+0.9**
KOK	**Koryaka**	**5.08**	**249**	*e*P	**Pn**	**02 44 35.9**	**+0.9**
DALK	**Dalny**	**5.14**	**246**	PN	**Pn**	**02 44 35.8**	**0.0**
DALK				S	**Sn**	**02 45 36.3**	**+1.8**
DALK	**Dalny**	**5.14**	**246**	*e*P	**Pn**	**02 44 35.8**	**0.0**
DALK				*e*S	**Sn**	**02 45 36.3**	**+1.8**
SHEM	**Shemya Is, Ala**	**5.20**	**118**	Pn	**Pn**	**02 44 34.9**	**-1.6**
	5.5nm,0.3s,baz=103,slow=18,SNR=1.3						
SHEM				Sn	**Sn**	**02 45 32.9**	**-2.9**
	2.2nm,0.3s,baz=240,slow=20,SNR=1.5						
	60nm,0.9s						
PET	**Petropavlovsk**	**5.20**	**246**		**Pn**	**02 44 36.2**	**-0.3**
PET	**Petropavlovsk**	**5.20**	**246**	*e*PN	**Pn**	**02 44 36.7**	**+0.1**
PET				pmax	pmax		
	comp=Z,160nm,0.7s						
PET				MLR	MLR		
	comp=Z,700nm,19.0s						
PET	**Petropavlovsk**	**5.20**	**246**	*e*P	**Pn**	**02 44 37.1**	**+0.5**
PET				*e*S	**Sn**	**02 45 36.2**	**+0.3**
KRMR	**Karymshinskiy**	**5.57**	**246**	PN	**Pn**	**02 44 42.3**	**+0.6**
KRMR	**Karymshinskiy**	**5.57**	**246**	*e*P	**Pn**	**02 44 42.3**	**+0.6**
KRMR				*e*S	**Sn**	**02 45 44.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**5.66**	**250**		**Pn**	**02 44 42.1**	**-0.9**
PEA0B	**Petropavlovsk-**	**5.66**	**250**	PN	**Pn**	**02 44 42.1**	**-0.9**
PETK	**Petropavlovsk-**	**5.66**	**250**		**Pn**	**02 44 43.1**	**+0.1**
PETK	**Petropavlovsk-**	**5.66**	**250**	Pn	**Pn**	**02 44 43.5**	**+0.5**
	comp=Z,10nm,0.3s,baz=73,slow=17,SNR=66						
PETK				Sn	**Sn**	**02 45 49.5**	**+2.2**
	comp=Z,1.1nm,0.3s,baz=83,slow=22,SNR=1.3						
	comp=Z,72nm,0.6s						
MTVR	**Mutnovka**	**5.73**	**243**	PN	**Pn**	**02 44 44.7**	**+0.7**
MTVR	**Mutnovka**	**5.73**	**243**	*e*P	**Pn**	**02 44 44.7**	**+0.7**
MTVR				*e*S	**Sn**	**02 45 47.0**	**-2.2**
GRL	**Gorelyy**	**5.75**	**244**	PN	**Pn**	**02 44 45.1**	**+0.9**
GRL	**Gorelyy**	**5.75**	**244**	*e*P	**Pn**	**02 44 45.1**	**+0.9**
GRL				*e*S	**Sn**	**02 45 50.4**	**+0.8**
ASAK	**Asacha**	**5.93**	**243**	PN	**Pn**	**02 44 47.7**	**+1.0**
ASAK	**Asacha**	**5.93**	**243**	*e*P	**Pn**	**02 44 47.7**	**+1.0**
ASAK				*e*S	**Sn**	**02 45 51.1**	**-2.9**
APC	**Apacha**	**6.04**	**250**	PN	**Pn**	**02 44 49.5**	**+1.4**
APC	**Apacha**	**6.04**	**250**	*e*P	**Pn**	**02 44 49.5**	**+1.4**
KDTR	**Khodutka, Kamc**	**6.18**	**238**	PN	**Pn**	**02 44 49.8**	**-0.3**
KDTR	**Khodutka, Kamc**	**6.18**	**238**	*e*P	**Pn**	**02 44 49.8**	**-0.3**
BILL	**Bilibino**	**12.69**	**360**	*e*PN	**Pn**	**02 46 18.1**	**-0.9**
TYV	**Tymovskoe**	**15.00**	**262**	*e*P	**Pn**	**02 46 52.7**	**+2.1**
TYV				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,300nm,5.0s						
M11K	**Mekoryuk**	**15.27**	**60**	P	**Pn**	**02 46 54.6**	**+0.5**
	baz=264						
TNA	**Tin City**	**16.05**	**40**	P	**Pn**	**02 47 02.7**	**-1.5**
TNA	**Tin City**	**16.05**	**40**	P	**Pn**	**02 47 03.7**	**-0.5**
	baz=244,SNR=7.9						
K13K	**Kusilvak Mount**	**16.25**	**55**		**Pn**	**02 47 07.6**	**+0.9**
	baz=260						
K13K	**Kusilvak Mount**	**16.25**	**55**	P	**Pn**	**02 47 07.0**	**+0.3**
F14K	**Arctic Creek**	**16.61**	**42**	P	**Pn**	**02 47 10.9**	**-0.4**
	baz=246						
ANM	**Nome**	**16.64**	**45**	Pn	**Pn**	**02 47 11.5**	**-0.3**
ANM				lAmb	lAmb	02 47 24.4	
	comp=Z,52nm,1.3s						
ANM	**Nome**	**16.64**	**45**	P	**Pn**	**02 47 12.4**	**+0.6**
	baz=250,SNR=16						
ANM	**Nome**	**16.64**	**45**	P	**Pn**	**02 47 11.5**	**-0.3**
ANM				pmax	pmax		
	comp=Z,52nm,1.3s						
M13K	**Dall Lake**	**16.68**	**60**	P	**Pn**	**02 47 13.0**	**+0.8**
	baz=267						
J14K	**Nanvaranak Lak**	**16.91**	**52**		**Pn**	**02 47 15.3**	**+0.2**
J14K	**Nanvaranak Lak**	**16.91**	**52**	P	**Pn**	**02 47 15.8**	**+0.6**
	baz=259						
YSS	**Yuzh-Sakhalins**	**17.07**	**250**		**Pn**	**02 47 15.9**	**-1.3**
YSS				lAmb	lAmb	02 47 23.7	
	comp=Z,60nm,1.2s						
YSS	**Yuzh-Sakhalins**	**17.07**	**250**	*e*P	**P**	**02 47 19.8**	**+0.9**
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
L14K	**Kuka Creek**	**17.09**	**57**		**P**	**02 47 18.5**	**-0.5**
L14K	**Kuka Creek**	**17.09**	**57**	P	**P**	**02 47 18.6**	**-0.5**
	baz=264						
G15K	**Niukluk**	**17.33**	**45**	P	**P**	**02 47 21.0**	**-0.6**
	baz=251						
F15K	**North Star Dit**	**17.35**	**42**		**Pn**	**02 47 20.1**	**-0.5**
F15K	**North Star Dit**	**17.35**	**42**	P	**P**	**02 47 21.9**	**0.0**
	baz=248						
M14K	**Bethel**	**17.39**	**59**		**P**	**02 47 21.6**	**-0.6**
M14K				lAmb	lAmb	02 47 37.7	
	comp=Z,66nm,1.4s						
M14K	**Bethel**	**17.39**	**59**	P	**P**	**02 47 22.2**	**-0.1**
	baz=267						
N14K	**Kuskokwak Cree**	**17.49**	**62**	P	**P**	**02 47 23.2**	**-0.3**
	baz=270						
L15K	**Ungalak Mounta**	**17.70**	**56**	P	**P**	**02 47 25.7**	**0.0**
	baz=264						
O14K	**Tigyukauivet M**	**17.70**	**64**		**P**	**02 47 26.4**	**+0.5**
O14K				lAmb	lAmb	02 47 34.0	
	comp=Z,38nm,1.1s						
O14K	**Tigyukauivet M**	**17.70**	**64**	P	**P**	**02 47 26.7**	**+0.9**
	baz=272						
K15K	**Wolf Creek Mou**	**17.76**	**54**	P	**P**	**02 47 28.1**	**+1.7**
K15K	**Wolf Creek Mou**	**17.76**	**54**	P	**P**	**02 47 26.1**	**-0.3**
	baz=262						
H16K	**Elim**	**17.95**	**46**	P	**P**	**02 47 28.4**	**0.0**
	baz=254,SNR=13						
M15K	**Kasigluk River**	**18.01**	**59**	P	**P**	**02 47 29.9**	**+0.7**
	baz=268						
G16K	**Koyuk River**	**18.13**	**44**	P	**Pn**	**02 47 29.9**	**-0.3**
G16K	**Koyuk River**	**18.13**	**44**	P	**P**	**02 47 31.1**	**+0.7**
	baz=252						
C16K	**Lisburne Hills**	**18.27**	**34**	P	**Pn**	**02 47 30.8**	**-1.2**
C16K	**Lisburne Hills**	**18.27**	**34**	P	**P**	**02 47 32.4**	**+0.4**
	baz=240						
J16K	**Anvik River**	**18.34**	**51**		**Pn**	**02 47 34.0**	**+1.1**
J16K	**Anvik River**	**18.34**	**51**	P	**Pn**	**02 47 33.3**	**+0.5**
	baz=260						
I17K	**Unalakleet**	**18.42**	**49**	P	**Pn**	**02 47 34.8**	**+1.0**
I17K	**Unalakleet**	**18.42**	**49**	P	**P**	**02 47 33.5**	**-0.1**
	baz=258						
O15K	**Ungalikthiuk R**	**18.45**	**64**	P	**Pn**	**02 47 34.4**	**+0.3**
	baz=274						
L16K	**Owhat River**	**18.66**	**56**	P	**Pn**	**02 47 36.8**	**+0.2**
	baz=266						
G17K	**Kiwalik Mounta**	**18.84**	**44**	P	**P**	**02 47 38.0**	**-0.3**
	baz=254						
M16K	**Timber Creek**	**18.87**	**59**	P	**Pn**	**02 47 40.3**	**+1.0**
	baz=269						
F17K	**Baldwin Pennin**	**18.91**	**41**	P	**Pn**	**02 47 40.2**	**+0.6**
F17K	**Baldwin Pennin**	**18.91**	**41**	P	**P**	**02 47 39.0**	**0.0**
	baz=250						
E17K	**Hotham Inlet**	**18.93**	**39**	P	**P**	**02 47 39.3**	**0.0**
	baz=248,SNR=11						
N16K	**Nishlik Lake**	**18.95**	**60**	P	**Pn**	**02 47 41.3**	**+1.0**
	baz=271						
S14K	**Fog Glacier**	**18.96**	**73**	P	**Pn**	**02 47 41.8**	**+1.3**
	baz=282						
H17K	**Granite Mounta**	**18.99**	**46**	P	**Pn**	**02 47 41.5**	**+0.8**
H17K	**Granite Mounta**	**18.99**	**46**	P	**Pn**	**02 47 40.3**	**-0.4**
	baz=256						
JKA	**Kamikawa-asahi**	**19.04**	**244**	P	**P**	**02 47 40.8**	**+0.2**
ASAJ	**Asahikawa**	**19.04**	**244**	P	**Pn**	**02 47 42.7**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=12,slow=9.7,SNR=9.0						
ASAJ				LR	LR	02 55 04.9	
	comp=Z,193nm,18.1s,baz=255,slow=37						
	comp=Z,41nm,0.9s						
C17K	**DeLong Mountai**	**19.07**	**35**	P	**P**	**02 47 41.0**	**+0.3**
	baz=242						
L17K	**Donlin**	**19.24**	**55**	P	**Pn**	**02 47 44.0**	**+0.2**
	baz=266						
CHNA	**Chernabura Isl**	**19.28**	**78**	P	**Pn**	**02 47 44.1**	**-0.1**
	baz=286						
K17K	**Iditarod**	**19.30**	**53**	P	**Pn**	**02 47 44.8**	**+0.4**
K17K				lAmb	lAmb	02 47 54.0	
	comp=Z,37nm,1.1s						
K17K	**Iditarod**	**19.30**	**53**	P	**P**	**02 47 42.9**	**-0.4**
	baz=264						
O16K	**Kokwok River B**	**19.31**	**63**	P	**Pn**	**02 47 45.0**	**+0.4**
O16K	**Kokwok River B**	**19.31**	**63**	P	**P**	**02 47 43.9**	**+0.5**
	baz=274						
P16K	**Nushagak River**	**19.40**	**65**	P	**P**	**02 47 44.6**	**+0.2**
	baz=275						
E18K	**Tukpahlearik C**	**19.50**	**39**	P	**Pn**	**02 47 46.8**	**0.0**
E18K	**Tukpahlearik C**	**19.50**	**39**	P	**P**	**02 47 45.6**	**+0.1**
	baz=249						
F18K	**Selawik**	**19.56**	**42**	P	**P**	**02 47 46.0**	**-0.1**
	baz=252,SNR=9.3						
CHGN	**Chignik**	**19.58**	**73**	P	**P**	**02 47 46.5**	**+0.1**
CHGN	**Chignik**	**19.58**	**73**	P	**P**	**02 47 47.0**	**+0.6**
	baz=283						
M17K	**Holitna River**	**19.61**	**57**	P	**Pn**	**02 47 47.7**	**-0.5**
M17K				lAmb	lAmb	02 48 00.1	
	comp=Z,23nm,0.9s						
M17K	**Holitna River**	**19.61**	**57**	P	**Pn**	**02 47 48.0**	**-0.2**
	baz=269						
H18K	**Honhosa River**	**19.68**	**46**	P	**Pn**	**02 47 48.8**	**-0.2**
H18K	**Honhosa River**	**19.68**	**46**	P	**Pn**	**02 47 48.4**	**-0.6**
	baz=258						
N17K	**Nushagak Hills**	**19.73**	**60**	P	**Pn**	**02 47 49.5**	**-0.1**
N17K				lAmb	lAmb	02 48 04.4	
	comp=Z,32nm,1.2s						
N17K	**Nushagak Hills**	**19.73**	**60**	P	**Pn**	**02 47 49.8**	**+0.1**
	baz=272						
G18K	**Tagagawik**	**19.74**	**44**	P	**Pn**	**02 47 49.0**	**-0.7**
G18K	**Tagagawik**	**19.74**	**44**	P	**Pn**	**02 47 49.2**	**-0.5**
	baz=255						
C18K	**Utukok River**	**19.80**	**35**	P	**Pn**	**02 47 50.1**	**-0.3**
C18K	**Utukok River**	**19.80**	**35**	P	**Pn**	**02 47 50.7**	**+0.3**
	baz=245						
O17K	**Koliganek Bris**	**19.81**	**62**	P	**Pn**	**02 47 50.7**	**+0.2**
	baz=274						
B18K	**Kokolik River**	**19.93**	**33**	P	**P**	**02 47 50.8**	**+0.7**
	baz=242						
L18K	**Granite Mounta**	**20.00**	**55**	P	**Pn**	**02 47 52.2**	**-0.6**
L18K				lAmb	lAmb	02 48 10.6	
	comp=Z,32nm,1.5s						
L18K	**Granite Mounta**	**20.00**	**55**	P	**P**	**02 47 50.9**	**-0.2**
	baz=268						
YAK	**Yakutsk**	**20.03**	**304**		**P**	**02 47 50.6**	**-0.7**
YAK	**Yakutsk**	**20.03**	**304**	*e*P	**P**	**02 47 50.2**	**-1.0**
YAK				*e*S	**S**	**02 51 34.1**	**-1.1**
YAK				pmax	pmax		
	comp=E,20nm,1.1s						
YAK				pmax	pmax		
	comp=Z,55nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,31nm,1.3s						
YAK				smax	smax		
	comp=N,106nm,3.7s						
YAK				smax	smax		
	comp=E,50nm,2.8s						
YAK	**Yakutsk**	**20.03**	**304**	P	**P**	**02 47 50.9**	**-0.4**
	comp=E,1.2nm,0.3s,baz=290,slow=1.6,SNR=16						
	comp=E,47nm,0.8s						
J18K	**Innoko River**	**20.10**	**51**	P	**Pn**	**02 47 53.1**	**-0.8**
J18K				lAmb	lAmb	02 48 01.0	
	comp=Z,32nm,1.1s						
J18K	**Innoko River**	**20.10**	**51**	P	**P**	**02 47 51.9**	**-0.1**
	baz=264						
Q16K	**King Salmon**	**20.13**	**65**	P	**Pn**	**02 47 54.1**	**-0.2**
	baz=277						
P17K	**Kvichak River**	**20.18**	**64**	P	**Pn**	**02 47 54.4**	**-0.5**
	baz=276						
GCSA	**Galena City Sc**	**20.21**	**48**	P	**Pn**	**02 47 54.7**	**-0.6**
	baz=260						
F19K	**Shaleruckik Mo**	**20.35**	**42**	P	**P**	**02 47 55.5**	**+0.8**
F19K	**Shaleruckik Mo**	**20.35**	**42**	P	**P**	**02 47 55.5**	**+0.8**
	baz=254						
TTA	**Tatalina**	**20.36**	**53**	P	**Pn**	**02 47 56.6**	**-0.5**
TTA				lAmb	lAmb	02 48 06.8	
	comp=Z,45nm,1.4s						
TTA	**Tatalina**	**20.36**	**53**	P	**Pn**	**02 47 56.1**	**-1.0**
	baz=266						
TTA	**Tatalina**	**20.36**	**53**	P	**Pn**	**02 47 56.7**	**-0.4**
TTA				pmax	pmax		
	comp=Z,45nm,1.4s						
N18K	**Kilae Creek**	**20.37**	**60**	P	**Pn**	**02 47 56.1**	**-1.0**
N18K	**Kilae Creek**	**20.37**	**60**	P	**Pn**	**02 47 56.0**	**-1.1**
	baz=272						
M18K	**Stony River**	**20.39**	**57**	P	**P**	**02 47 54.9**	**-0.3**
	baz=270						
G19K	**Purcell Mounta**	**20.43**	**44**		**Pn**	**02 47 56.9**	**-0.9**
G19K	**Purcell Mounta**	**20.43**	**44**	P	**P**	**02 47 55.4**	**-0.2**
	baz=256						
SVW2	**Sparrevohn**	**20.51**	**58**	P	**P**	**02 47 57.3**	**+0.8**
C19K	**Lookout Ridge**	**20.52**	**35**	lAmb	lAmb	02 48 13.3	
	comp=Z,34nm,0.9s						
C19K	**Lookout Ridge**	**20.52**	**35**	P	**P**	**02 47 55.6**	**-1.0**
	baz=246						
H19K	**Roundabout Mou**	**20.54**	**46**	P	**P**	**02 47 56.9**	**+0.1**
	baz=259						
A19K	**Wainwright**	**20.56**	**31**	P	**P**	**02 47 56.6**	**-0.4**
	baz=241						
Q17K	**Contact Creek**	**20.58**	**66**	P	**P**	**02 47 56.8**	**-0.7**
	baz=279						
J19K	**Poorman**	**20.64**	**50**	P	**P**	**02 47 59.0**	**+1.0**
J19K				lAmb	lAmb	02 48 10.3	
	comp=Z,27nm,1.0s						
J19K	**Poorman**	**20.64**	**50**	P	**P**	**02 47 57.2**	**-0.8**
	baz=264						
E19K	**Redstone River**	**20.73**	**40**	P	**Pn**	**02 48 00.3**	**-1.1**
E19K				lAmb	lAmb	02 48 10.8	
	comp=Z,31nm,0.9s						
E19K	**Redstone River**	**20.73**	**40**	P	**P**	**02 47 59.2**	**+0.3**
	baz=253						
O18K	**Koktuh Hills**	**20.75**	**62**	P	**P**	**02 48 00.2**	**+1.1**
O18K				lAmb	lAmb	02 48 10.6	
	comp=Z,26nm,1.1s						
O18K	**Koktuh Hills**	**20.75**	**62**	P	**P**	**02 47 59.7**	**+0.5**
	baz=275						
D19K	**Kuna River**	**20.77**	**37**	P	**P**	**02 48 00.0**	**+0.7**
D19K				lAmb	lAmb	02 48 15.8	
	comp=Z,25nm,1.1s						
D19K	**Kuna River**	**20.77**	**37**	P	**P**	**02 47 58.8**	**-0.5**
	baz=249						
P18K	**Big Mountain,**	**20.78**	**63**	P	**Pn**	**02 48 01.1**	**-1.0**
P18K				lAmb	lAmb	02 48 07.7	
	comp=Z,29nm,1.1s						
P18K	**Big Mountain,**	**20.78**	**63**	P	**P**	**02 48 00.2**	**+0.7**
	baz=276						
L19K	**White Mountain**	**20.86**	**55**	P	**Pn**	**02 48 02.2**	**-0.7**
L19K				lAmb	lAmb	02 48 09.1	
	comp=Z,32nm,1.2s						
L19K	**White Mountain**	**20.86**	**55**	P	**P**	**02 47 59.7**	**-0.6**
	baz=269						
N19K	**Bonanza Creek**	**21.05**	**59**	P	**P**	**02 48 02.9**	**+0.3**
N19K	**Bonanza Creek**	**21.05**	**59**	P	**P**	**02 48 02.4**	**-0.1**
	baz=273						
M19K	**Big River Lodg**	**21.07**	**56**	P	**P**	**02 48 03.1**	**+0.5**
M19K	**Big River Lodg**	**21.07**	**56**	P	**P**	**02 48 02.9**	**+0.2**
	baz=270						
O19K	**Port Alsworth**	**21.17**	**61**	P	**P**	**02 48 04.5**	**+0.9**
O19K				lAmb	lAmb	02 48 12.0	
	comp=Z,25nm,1.3s						
O19K	**Port Alsworth**	**21.17**	**61**	P	**P**	**02 48 04.5**	**+0.9**
	baz=275						
H20K	**Anotleneega Mo**	**21.18**	**46**	P	**P**	**02 48 03.6**	**-0.1**
	baz=261,SNR=12						
F20K	**Avaraart Lake**	**21.18**	**42**	P	**P**	**02 48 03.7**	**0.0**
F20K	**Avaraart Lake**	**21.18**	**42**	P	**P**	**02 48 04.0**	**+0.4**
	baz=256						
I20K	**Naaghedeneel**	**21.24**	**48**	P	**P**	**02 48 04.4**	**+0.1**
I20K				lAmb	lAmb	02 48 23.7	
	comp=Z,58nm,1.4s						
I20K	**Naaghedeneel**	**21.24**	**48**	P	**P**	**02 48 04.5**	**+0.2**
	baz=263						
K20K	**Telida**	**21.27**	**52**	P	**P**	**02 48 04.5**	**-0.3**
K20K	**Telida**	**21.27**	**52**	P	**P**	**02 48 06.1**	**+1.3**
	baz=267						
J20K	**Nowinta River**	**21.31**	**50**	P	**P**	**02 48 05.8**	**+0.7**
J20K				lAmb	lAmb	02 48 13.8	
	comp=Z,36nm,1.4s						
J20K	**Nowinta River**	**21.31**	**50**	P	**P**	**02

D22K IAmb IAmb 02 48 34.8
comp=Z,26nm,1.3s
D22K Ayikyak River 22.77 38 P **P** **02 48 19.9 -0.9**
baz=255,SNR=10.0
SUA Susitna One 22.83 57 P **P** **02 48 21.9 +0.4**
SUA Susitna One 22.83 57 P **P** **02 48 20.8 -0.7**
baz=275
MLY Manley 22.85 48 P **P** **02 48 22.6 +0.9**
MLY IAmb IAmb 02 48 31.1
comp=Z,45nm,1.4s
MLY Manley 22.85 48 P **P** **02 48 21.6 0.0**
baz=266,SNR=14
E22K Anaktuvuk Pass 22.90 40 P **P** **02 48 22.2 +0.1**
E22K IAmb IAmb 02 48 30.6
comp=Z,30nm,1.1s
E22K Anaktuvuk Pass 22.90 40 P **P** **02 48 21.2 -0.9**
baz=258
TRF Thorofare Moun 22.98 52 P **P** **02 48 24.1 +1.0**
TRF Thorofare Moun 22.98 52 P **P** **02 48 22.1 -1.0**
baz=270
B22K Teshekpuk Lake 22.98 34 P **P** **02 48 23.1 +0.3**
B22K IAmb IAmb 02 48 31.4
comp=Z,29nm,1.1s
B22K Teshekpuk Lake 22.98 34 P **P** **02 48 21.8 -1.0**
baz=251
CUT Chulitna 23.00 55 P **P** **02 48 24.2 +1.1**
CUT IAmb IAmb 02 48 53.7
comp=Z,32nm,1.0s
BRSE Bradley Lake S 23.01 62 P **P** **02 48 24.5 +1.2**
baz=279
G23K Bananza Creek 23.32 44 P **P** **02 48 28.0 +1.5**
G23K Bananza Creek 23.32 44 P **P** **02 48 27.5 +1.1**
baz=263
COLD Coldfoot 23.33 42 P **P** **02 48 26.0 -0.4**
baz=261,SNR=12
RC01 Rabbit Creek A 23.34 58 P **P** **02 48 26.8 +0.2**
baz=276
BWN Browne 23.35 50 P **P** **02 48 28.3 +1.6**
I23K Minto, Yukon-K 23.44 48 P **P** **02 48 27.9 +0.4**
I23K Minto, Yukon-K 23.44 48 P **P** **02 48 28.5 +0.9**
baz=267
D23K Nanushuk River 23.50 38 P **P** **02 48 27.0 -1.1**
baz=257,SNR=6.8
NEA2 Nenana 23.54 49 P **P** **02 48 28.8 +0.2**
NEA2 IAmb IAmb 02 48 38.2
comp=Z,11nm,0.9s
NEA2 Nenana 23.54 49 P **P** **02 48 27.9 -0.6**
baz=269
MCK McKinley 23.58 51 P **P** **02 48 29.1 +0.1**
baz=271,SNR=7.0
RND Reindeer 23.62 52 P **P** **02 48 30.8 +1.4**
RND IAmb IAmb 02 48 37.1
comp=Z,44nm,1.5s
RND Reindeer 23.62 52 P **P** **02 48 30.8 +1.4**
RND pmax pmax
comp=Z,44nm,1.5s
E23K Chandalar 23.69 40 P **P** **02 48 30.8 +0.7**
baz=260
WAT1 Susitna Watana 23.78 54 P **P** **02 48 31.4 +0.5**
baz=273
MDM Murphy Dome 23.91 48 P **P** **02 48 32.4 +0.3**
MDM IAmb IAmb 02 48 41.5
comp=Z,16nm,1.0s
HEH HeiHe 23.95 274 *e*P **P** **02 48 30.5 -2.1**
HEH pmax pmax
comp=Z,8.0nm,0.8s
COLA College 24.07 48 P **P** **02 48 35.4 +1.9**
COLA IAmb IAmb 02 48 42.2
comp=Z,30nm,1.1s
COLA College 24.07 48 P **P** **02 48 33.6 +0.1**
baz=269
COLA College 24.07 48 P **P** **02 48 35.4 +1.9**
COLA pmax pmax
comp=Z,30nm,1.1s
CCB Clear Creek Bu 24.08 49 P **P** **02 48 34.5 +0.9**
H24K Noodor Dome 24.10 46 P **P** **02 48 34.6 +0.7**
H24K Noodor Dome 24.10 46 P **P** **02 48 34.5 +0.6**
baz=267
WAT6 Susitna Watana 24.16 54 P **P** **02 48 34.1 -0.6**
baz=274,SNR=6.0
D24K Happy Valley 24.19 38 P **P** **02 48 35.4 +0.7**
D24K IAmb IAmb 02 48 42.6
comp=Z,22nm,1.0s
D24K Happy Valley 24.19 38 P **P** **02 48 34.2 -0.4**
baz=259
POKR Poker Plat Res 24.25 48 P **P** **02 48 36.4 +1.1**
POKR IAmb IAmb 02 48 44.2
comp=Z,14nm,1.0s
POKR Poker Plat Res 24.25 48 **P** **02 48 37.4 +2.1**
POKR Poker Plat Res 24.25 48 P **P** **02 48 34.7 -0.6**
baz=269
F24K Squaw Lake 24.26 42 P **P** **02 48 36.4 +1.0**
F24K IAmb IAmb 02 48 59.7
comp=Z,13nm,1.1s
F24K Squaw Lake 24.26 42 P **P** **02 48 34.6 -0.8**
baz=263
DHY Denali Highway 24.30 53 P **P** **02 48 37.7 +1.7**
DHY IAmb IAmb 02 48 43.0
comp=Z,16nm,1.1s
DHY Denali Highway 24.30 53 P **P** **02 48 35.6 -0.4**
baz=274,SNR=5.2
G24K Hadweenzic Riv 24.33 44 P **P** **02 48 37.1 +1.1**
G24K IAmb IAmb 02 48 44.0
comp=Z,19nm,0.9s
G24K Hadweenzic Riv 24.33 44 P **P** **02 48 36.3 +0.3**
baz=265
C24K Franklin Bluff 24.36 37 P **P** **02 48 36.1 -0.1**
baz=258
HDA Harding Lake 24.45 50 P **P** **02 48 37.0 -0.1**
HDA IAmb IAmb 02 48 44.5
comp=Z,20nm,1.1s
HDA Harding Lake 24.45 50 P **P** **02 48 36.8 -0.3**
baz=271,SNR=12
ILAR Eielson Array 24.48 49 P **P** **02 48 37.4 +0.1**
ILAR Eielson Array 24.48 49 P **P** **02 48 37.4 +0.1**
ILAR Eielson Array 24.48 49 P **P** **02 48 36.5 -0.8**
comp=Z,13nm,1.0s,baz=259,slow=7.4,SNR=47
comp=Z,13nm,1.0s
USRK Ussuriysk Ar. 24.69 258 LR LR 02 59 06.8
comp=Z,75nm,19.3s,baz=113,slow=38
G25K Bearman Lake 24.88 44 P **P** **02 48 40.9 0.0**
baz=267
K24K Donnelly Dome 24.98 51 P **P** **02 48 42.1 +0.1**
baz=273
D25K Kavik River 25.08 38 P **P** **02 48 43.1 +0.3**
D25K IAmb IAmb 02 48 59.9
comp=Z,13nm,0.8s
D25K Kavik River 25.08 38 P **P** **02 48 42.9 +0.1**
baz=261
F25K Christian Rive 25.12 42 P **P** **02 48 44.2 +1.0**
baz=265
KLU Klutina 25.13 56 P **P** **02 48 45.1 +1.8**
J25K Salcha River, 25.13 49 P **P** **02 48 42.9 -0.4**
J25K IAmb IAmb 02 48 51.6
comp=Z,27nm,1.4s
J25K Salcha River, 25.13 49 P **P** **02 48 41.3 -2.0**
baz=272
PAX Paxson 25.18 53 P **P** **02 48 43.7 -0.1**
baz=275
E25K Arctic Village 25.20 41 P **P** **02 48 44.9 +1.0**
E25K Arctic Village 25.20 41 P **P** **02 48 42.9 -1.0**
baz=264
FYU Fort Yukon 25.21 44 P **P** **02 48 44.3 +0.4**
HARP HAARP 25.38 54 P **P** **02 48 44.7 -0.8**
baz=277
RIDG Independent Ri 25.40 51 P **P** **02 48 45.7 0.0**
RIDG Independent Ri 25.40 51 P **P** **02 48 44.8 -0.9**
baz=274,SNR=6.5
BMAR Burnt Mountain 25.52 42 P **P** **02 48 47.2 +0.4**
F26K Sheenjek River 25.70 42 P **P** **02 48 46.8 -1.6**
baz=266
SCRK Sand Creek 25.77 50 P **P** **02 48 49.3 +0.1**
SCRK Sand Creek 25.77 50 P **P** **02 48 48.7 -0.4**
baz=274
MDJ Mudanjiang 25.77 261 P **P** **02 48 49.0 -0.2**
MDJ pmax pmax
comp=Z,15nm,1.7s
MDJ pmax pmax
comp=Z,190nm,4.8s
G26K Porcupine Rive 25.80 44 P **P** **02 48 49.0 -0.3**
baz=268
J26L Joseph Creek 25.92 49 P **P** **02 48 50.7 +0.2**
J26L Joseph Creek 25.92 49 P **P** **02 48 49.6 -0.8**
baz=274
I26K Coal Creek Min 26.05 47 P **P** **02 48 51.0 -0.6**
baz=272

KAIM Kayak Island 26.12 60 P **P** **02 48 53.9 +1.6**
KAIM Kayak Island 26.12 60 P **P** **02 48 52.5 +0.2**
baz=282
L26K Log Cabin Wild 26.14 53 P **P** **02 48 54.0 +1.6**
L26K Log Cabin Wild 26.14 53 P **P** **02 48 52.1 -0.3**
baz=277
GLB Gilahina Butte 26.14 56 P **P** **02 48 53.1 +0.7**
GLB IAmb IAmb 02 48 59.9
comp=Z,9.9nm,1.0s
BNX BinXian 26.34 265 ⇓P **P** **02 48 54.0 -0.3**
BNX pmax pmax
comp=Z,12nm,1.0s
BNX pmax pmax
comp=Z,110nm,4.3s
VRDI Verde Repeater 26.34 57 P **P** **02 48 56.0 +1.5**
VRDI IAmb IAmb 02 49 04.5
comp=Z,11nm,1.0s
M26K Nabesna, AK 26.37 54 IAmb IAmb 02 49 02.7
comp=Z,19nm,1.4s
M26K Nabesna, AK 26.37 54 P **P** **02 48 56.4 +1.8**
baz=278
K27K Chicken 26.60 50 IAmb IAmb 02 49 06.6
comp=Z,22nm,1.1s
K27K Chicken 26.60 50 P **P** **02 48 57.9 +1.3**
baz=276
I27K Kandik River 26.69 47 P **P** **02 48 58.5 +1.1**
baz=273
H27K Steamboat Moun 26.70 45 P **P** **02 48 57.5 +0.1**
baz=272
L27K Beaver Creek, 26.82 52 P **P** **02 48 58.5 -0.1**
baz=278
BCAR Beaver Creek A 26.84 52 P **P** **02 48 59.3 +0.6**
M27K Edge Creek, AK 26.90 54 P **P** **02 49 00.4 +1.0**
M27K IAmb IAmb 02 49 07.7
comp=Z,14nm,1.1s
M27K Edge Creek, AK 26.90 54 P **P** **02 49 00.2 +0.8**
baz=279
EGAK Eagle 26.93 48 P **P** **02 48 58.9 -0.6**
EGAK IAmb IAmb 02 49 05.9
comp=Z,16nm,0.9s
EGAK Eagle 26.93 48 P **P** **02 48 58.7 -0.8**
baz=275,SNR=14
MJB9 Matsu-Tunnel 26.96 237 P **P** **02 49 01.5 +1.5**
MAJO Matsushiro 26.96 237 P **P** **02 49 00.5 +0.5**
MAJO Matsushiro 26.96 237 P **P** **02 49 00.5 +0.5**
MAJO pmax pmax
comp=Z,24nm,0.9s
MJAR Matsushiro Arr 26.96 237 P **P** **02 49 01.2 +1.2**
comp=Z,5.2nm,0.7s,baz=29,slow=7.8,SNR=17
MJAR LR LR 02 59 05.8
comp=Z,49nm,20.5s,baz=172,slow=35
comp=Z,5.2nm,0.7s
D27M Malcolm River 26.98 39 P **P** **02 49 00.3 +0.3**
D27M IAmb IAmb 02 49 07.8
comp=Z,15nm,1.0s
D27M Malcolm River 26.98 39 P **P** **02 48 59.4 -0.6**
baz=266
F28M Old Crow 27.33 42 P **P** **02 49 04.0 +0.9**
F28M IAmb IAmb 02 49 11.3
comp=Z,17nm,1.1s
F28M Old Crow 27.33 42 P **P** **02 49 03.8 +0.6**
baz=271,SNR=9.6
BVCY Beaver Creek 27.36 54 P **P** **02 49 04.3 +0.9**
baz=280
I28M Miner Creek 27.39 47 P **P** **02 49 05.2 +1.4**
I28M IAmb IAmb 02 49 11.2
comp=Z,12nm,1.2s
I28M Miner Creek 27.39 47 P **P** **02 49 04.2 +0.4**
baz=275
CTG Chitina Glacier 27.40 57 P **P** **02 49 04.2 +0.3**
baz=282
CTGM Chitina Glacie 27.40 57 P **P** **02 49 03.7 -0.3**
CTGM IAmb IAmb 02 49 11.2
comp=Z,11nm,1.0s
E28M Babbage River 27.47 40 P **P** **02 49 05.0 +0.7**
E28M Babbage River 27.47 40 P **P** **02 49 04.2 -0.1**
baz=269
YUK3 Moose Creek 27.66 55 P **P** **02 49 05.2 -1.1**
baz=282
DAWY Dawson 27.77 50 P **P** **02 49 08.1 +1.0**
DAWY IAmb IAmb 02 49 18.8
comp=Z,16nm,1.2s
DAWY Dawson 27.77 50 P **P** **02 49 06.6 -0.4**
baz=278
D28M Stokes Point 27.78 38 P **P** **02 49 07.3 +0.4**
baz=268
H29M Whitestone 27.98 45 P **P** **02 49 09.4 +0.5**
H29M IAmb IAmb 02 49 31.8
comp=Z,21nm,1.3s
H29M Whitestone 27.98 45 P **P** **02 49 08.8 -0.1**
baz=275
E29M Blow River 28.07 40 P **P** **02 49 09.7 0.0**
E29M IAmb IAmb 02 49 22.6
comp=Z,10nm,1.1s
E29M Blow River 28.07 40 P **P** **02 49 10.6 +1.0**
baz=271
G29M Pine Creek 28.07 44 P **P** **02 49 10.5 +0.7**
G29M Pine Creek 28.07 44 P **P** **02 49 10.9 +1.2**
baz=274
YUK8 Steele Glacier 28.08 56 P **P** **02 49 11.5 +1.3**
baz=283
M29M Somme Creek 28.45 53 P **P** **02 49 14.5 +1.3**
M29M Somme Creek 28.45 53 P **P** **02 49 13.4 +0.2**
baz=282
L29M L29M 28.48 52 P **P** **02 49 14.2 +0.8**
L29M IAmb IAmb 02 49 21.8
comp=Z,17nm,1.1s
L29M L29M 28.48 52 P **P** **02 49 12.6 -0.8**
baz=281
K29M Barlow Dome 28.62 50 P **P** **02 49 14.7 0.0**
K29M Barlow Dome 28.62 50 P **P** **02 49 14.0 -0.7**
baz=280
EPYK Eagle Plains 28.63 45 **P** **02 49 15.1 +0.4**
EPYK Eagle Plains 28.63 45 P **P** **02 49 14.8 +0.1**
EPYK IAmb IAmb 02 49 22.7
comp=Z,30nm,1.1s
EPYK Eagle Plains 28.63 45 P **P** **02 49 13.7 -1.0**
baz=276,SNR=5.1
G30M tAoh Zraii Nji 28.77 43 P **P** **02 49 17.4 +1.4**
G30M IAmb IAmb 02 49 23.6
comp=Z,8.4nm,0.9s
G30M tAoh Zraii Nji 28.77 43 P **P** **02 49 14.6 -1.4**
baz=275
HIA Hailar 28.79 277 *i* P **P** **02 49 17.6 +1.4**
F30M Barrier River 28.89 42 P **P** **02 49 16.4 -0.6**
baz=274
I30M Mount Dempster 28.90 47 P **P** **02 49 16.0 -1.3**
baz=278
M30M Minto, Yukon 29.18 53 P **P** **02 49 19.5 -0.2**
baz=283
HYT Haines Junctio 29.26 56 P **P** **02 49 22.0 +1.5**
HYT IAmb IAmb 02 49 28.4
comp=Z,8.9nm,1.0s
HYT Haines Junctio 29.26 56 P **P** **02 49 20.1 -0.3**
baz=285
N30M Aishikik Lake 29.30 55 P **P** **02 49 20.0 -0.7**
baz=284
P29M Windy Craggy 29.47 59 P **P** **02 49 22.9 +0.7**
baz=287
G31M Satah River 29.54 43 IAmb IAmb 02 49 30.3
comp=Z,12nm,1.1s
G31M Satah River 29.54 43 P **P** **02 49 23.0 +0.3**
baz=277
F31M Tsiigehtchic 29.69 42 P **P** **02 49 24.6 +0.5**
F31M IAmb IAmb 02 49 31.6
comp=Z,12nm,1.1s
F31M Tsiigehtchic 29.69 42 P **P** **02 49 24.4 +0.4**
baz=276
INK Inuvik 29.69 41 P **P** **02 49 24.4 +0.4**
INK Inuvik 29.69 41 P **P** **02 49 23.6 -0.5**
baz=275
INK Inuvik 29.69 41 P **P** **02 49 24.4 +0.4**
INK pmax pmax
comp=Z,8.0nm,1.2s
O30N Mendenhall 29.94 56 P **P** **02 49 25.7 -0.7**
baz=286
M31M Drury Creek, Y 30.36 53 P **P** **02 49 31.5 +1.5**
M31M IAmb IAmb 02 49 38.6
comp=Z,13nm,1.1s
M31M Drury Creek, Y 30.36 53 P **P** **02 49 30.1 0.0**
baz=285
WHY Whitehorse 30.54 56 P **P** **02 49 31.0 -0.8**
baz=287
S31K Pelican 30.74 61 P **P** **02 49 34.4 +1.0**
baz=291
FARO Faro, Yukon 30.82 52 P **P** **02 49 34.5 +0.4**
baz=286

P32M Atlin 31.43 57 P **P** **02 49 40.8 +1.3**
baz=290
SIT Sitka 31.53 63 P **P** **02 49 41.3 +1.0**
baz=293
KS19 Wonju Array Si 31.55 252 P **P** **02 49 41.6 +0.8**
KSRS Korea Array 31.56 252 P **P** **02 49 42.8 +2.0**
comp=Z,2.8nm,0.9s,baz=40,slow=9.7,SNR=5.6
KSRS LR LR 03 03 58.9
comp=Z,22nm,18.2s,baz=60,slow=39
comp=Z,2.8nm,0.9s
P33M Teslin, Yukon 31.66 56 P **P** **02 49 42.3 +0.7**
P33M IAmb IAmb 02 49 50.2
comp=Z,12nm,1.1s
P33M Teslin, Yukon 31.66 56 P **P** **02 49 42.8 +1.2**
baz=289
A36M Sachs Harbour 32.18 33 P **P** **02 49 46.5 +0.6**
A36M IAmb IAmb 02 49 54.0
comp=Z,7.3nm,0.9s
A36M Sachs Harbour 32.18 33 P **P** **02 49 46.3 +0.4**
baz=276
Q32M Nakina River 32.34 58 P **P** **02 49 48.4 +0.7**
baz=291
R33M Jennings River 32.81 57 P **P** **02 49 53.5 +1.7**
R33M IAmb IAmb 02 50 01.0
comp=Z,14nm,1.1s
R33M Jennings River 32.81 57 P **P** **02 49 53.3 +1.6**
baz=291
C36M Paulatuk 32.95 38 P **P** **02 49 52.5 -0.1**
C36M Paulatuk 32.95 38 P **P** **02 49 52.9 +0.2**
baz=281,SNR=13
S34M Telegraph Cree 33.29 59 P **P** **02 49 56.9 +1.2**
baz=293
JNU Nakatsue 33.31 243 LR LR 03 03 41.2
comp=Z,69nm,19.8s,baz=29,slow=37
DLBC Dease Lake 33.62 58 P **P** **02 50 00.4 +1.6**
DLBC Dease Lake 33.62 58 P **P** **02 50 00.6 +1.8**
baz=293
T35M Bob Quinn 34.10 61 P **P** **02 50 04.0 +1.1**
T35M Bob Quinn 34.10 61 P **P** **02 50 05.4 +2.5**
baz=295
WRGLY Wrigley 34.85 48 P **P** **02 50 10.0 +0.8**
WRGLY Wrigley 34.85 48 P **P** **02 50 09.6 +0.3**
baz=291
KOTAN Kotaneelee Air 35.77 53 P **P** **02 50 18.0 +0.8**
baz=294
NRIK Noril'sk 36.24 324 P **P** **02 50 21.8 +0.7**
comp=Z,2.5nm,0.7s,baz=100,slow=7.0,SNR=5.6
comp=Z,2.5nm,0.7s
ULN Ulaanbaatar 36.65 284 P **P** **02 50 24.3 -0.7**
ULN Ulaanbaatar 36.65 284 *d* P **P** **02 50 25.9 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 37.03 284 P **P** **02 50 29.3 +1.0**
comp=Z,1.8nm,0.7s,baz=53,slow=7.4,SNR=9.1
comp=Z,1.8nm,0.7s
HHC Hu-ho-hao-te 38.41 271 *e*P **P** **02 50 38.5 -1.5**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,300nm,4.3s
YKA Yellowknife Ar 38.87 47 P **P** **02 50 43.9 +0.5**
comp=Z,1.5nm,0.8s,baz=298,slow=8.2,SNR=17
comp=Z,1.5nm,0.8s
HNS HongShan 38.97 265 ⇑P **P** **02 50 45.0 +0.5**
HNS pmax pmax
comp=Z,8.0nm,1.0s
HILA High Level 39.69 53 P **P** **02 50 50.8 +0.5**
NJ2 Nanjing 40.54 255 *e*P **P** **02 50 57.8 +0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
BRLDA Berland Lookou 41.87 59 P **P** **02 51 10.1 +1.6**
LYN LuoYang 42.27 264 *e*P **P** **02 51 11.3 -0.5**
LYN pmax pmax
comp=Z,15nm,0.4s
LYN pmax pmax
comp=Z,180nm,6.1s
EDM Edmonton 44.35 58 P **P** **02 51 28.5 +0.1**
EDM Edmonton 44.35 58 P **P** **02 51 28.5 +0.1**
EDM pmax pmax
comp=Z,25nm,1.0s
ZALV Zalesovo Beam 44.68 304 P **P** **02 51 29.0 -2.0**
comp=Z,0.6nm,0.6s,baz=37,slow=5.6,SNR=4.4
ZALV PcP **PcP** **02 53 13.3 +0.2**
comp=Z,0.7nm,0.6s,baz=29,slow=3.3,SNR=5.3
comp=Z,0.6nm,0.6s
NEEM North Greenlan 45.37 11 *i* P **P** **02 51 37.5 +1.0**
SPITS Spitsbergen Ar 45.44 352 P **P** **02 51 36.2 -0.6**
comp=Z,8.3nm,0.8s,baz=57,slow=8.0,SNR=9.3
comp=Z,8.3nm,0.8s
NEW Newport 45.49 66 LR LR 03 10 02.0
comp=Z,91nm,19.0s,baz=326,slow=35
DGZ Jazzator, Alta 46.00 298 ⇑*e*P **P** **02 51 41.3 -0.4**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 46.05 279 P **P** **02 51 42.8 +0.6**
GTA pP sP 02 51 50.0 -0.9
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=N,90nm,18.5s
GTA LR LR
comp=E,140nm,17.8s
GTA LR LR
comp=Z,180nm,18.5s
LZH Lanzhou 46.08 272 *e*P **P** **02 51 43.5 +1.0**
LZH sP sP 02 51 50.3 -0.9
LZH pmax pmax
comp=Z,9.0nm,1.1s
LZH LR LR
comp=N,200nm,15.5s
LZH LR LR
comp=E,210nm,15.1s
LZH LR LR
comp=Z,220nm,16.8s
MSO Missoula 48.06 65 P **P** **02 52 00.8 +3.0**
MSO IAmb IAmb 02 52 36.2
comp=Z,11nm,1.5s
MSO Missoula 48.06 65 P **P** **02 51 58.7 +0.9**
baz=311
BPMT Black Pine Rid 48.58 65 P **P** **02 52 03.2 +1.2**
FCC Fort Churchill 49.27 43 P **P** **02 52 06.8 +0.1**
FCC IAmb IAmb 02 52 14.0
comp=Z,11nm,1.1s
FCC Fort Churchill 49.27 43 P **P** **02 52 06.8 +0.1**
FCC pmax pmax
comp=Z,11nm,1.1s
EGMT Eagleton 49.41 61 P **P** **02 52 09.9 +1.8**
EGMT IAmb IAmb 02 52 33.5
comp=Z,15nm,1.5s
EGMT Eagleton 49.41 61 P **P** **02 52 08.9 +0.8**
baz=312
KURK Kurchatov 49.67 304 P **P** **02 52 09.0 -0.9**
KURK Kurchatov 49.67 304 P **P** **02 52 10.0 +0.1**
KURBB Kurchatov Arra 49.77 304 P **P** **02 52 10.0 -0.7**
comp=Z,7.6nm,0.8s,baz=52,slow=7.6,SNR=69
comp=Z,7.6nm,0.8s
PAHR Pah Rah Range 49.96 76 IAmb IAmb 02 52 20.6
comp=Z,8.2nm,1.3s
HLID Hailey 50.00 69 P **P** **02 52 13.5 +0.7**
baz=313
PNTR Pine Nut 50.27 76 P **P** **02 52 16.1 +1.2**
PNTR IAmb IAmb 02 52 33.0
comp=Z,7.1nm,0.9s
MK31 Makanchi Array 50.50 298 P **P** **02 52 15.1 -1.2**
MK31 Makanchi Array 50.50 298 ⇓*i* P **P** **02 52 15.1 -1.2**
MKAR Makanchi Array 50.50 298 P **P** **02 52 15.1 -1.2**
comp=Z,2.4nm,0.7s,baz=55,slow=7.2,SNR=26
comp=Z,2.4nm,0.7s
BMN Battle Mountai 50.65 74 P **P** **02 52 18.2 +0.6**
BMN IAmb IAmb 02 52 26.1
comp=Z,5.1nm,1.0s
BMN Battle Mountai 50.65 74 P **P** **02 52 18.3 +0.6**
BMN pmax pmax
comp=Z,5.0nm,1.0s
YHH Holmes Hill 51.03 65 P **P** **02 52 20.4 -0.3**
GOMU GeErMu 51.12 279 P **P** **02 52 18.5 -3.1**
GOMU pP pP 02 52 22.8 -5.1
GOMU sP sP 02 52 23.5 -6.8
GOMU pmax pmax
comp=Z,4.0nm,0.7s
KVN Kaiserville 51.13 75 P **P** **02 52 23.5 +2.1**
KVN Kaiserville 51.13 75 P **P** **02 52 23.5 +2.1**
KVN pmax pmax
comp=Z,5.0nm,1.2s
SUMG Summit 51.14 9 P **P** **02 52 21.5 +0.2**
SUMG Summit 51.14 9 P **P** **02 52 21.5 +0.2**

SUMG pmax pmax
comp=Z,16nm,1.2s
SUMG Summit 51.14 9 *i* P **P 02 52 21.0 -0.3**
H17A Grant Village 51.45 65 P **P 02 52 25.5 +1.7**
H17A IAmb IAmb 02 52 33.4
comp=Z,5.9nm,0.9s
H17A Grant Village 51.45 65 P **P 02 52 23.7 -0.1**
baz=314
NVAR Mina Array Bea 51.46 76 P **P 02 52 25.2 +1.4**
NVAR Mina Array Bea 51.46 76 P **P 02 52 24.0 +0.1**
comp=Z,1.2nm,0.9s,baz=294,slow=7.4,SNR=7.7
comp=Z,1.2nm,0.9s
LHV Little Huntoon 51.47 76 P **P 02 52 26.2 +2.5**
LHV IAmb IAmb 02 52 32.8
comp=Z,8.8nm,1.3s
ELK Elko 51.51 72 LR LR 03 11 34.5
comp=Z,122nm,20.8s,baz=284,slow=33
MDPB Devils Postpil 51.59 77 **P 02 52 26.1 +1.2**
MDPB IAmb IAmb 02 52 33.7
comp=Z,8.4nm,1.2s
FLWY Flagg Ranch 51.60 66 P **P 02 52 25.9 +1.1**
FLWY IAmb IAmb 02 52 47.4
comp=Z,7.2nm,0.9s
RLMT Red Lodge 51.62 64 P **P 02 52 24.9 -0.1**
RLMT IAmb IAmb 02 52 33.5
comp=Z,8.1nm,1.0s
RLMT Red Lodge 51.62 64 P **P 02 52 24.9 -0.1**
baz=314
BVAR Borovoye Array 51.85 310 P **P 02 52 25.6 -0.8**
comp=Z,5.9nm,0.8s,baz=55,slow=7.7,SNR=32
comp=Z,5.9nm,0.8s
BRVK Borovoye 51.88 310 P **P 02 52 25.3 -1.2**
BRVK IAmb IAmb 02 52 26.7
comp=Z,6.6nm,0.8s
BRVK Borovoye 51.88 310 P **P 02 52 25.3 -1.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
SMMC Simmler 52.74 80 P **P 02 52 35.1 +1.8**
baz=317
GRAC Grapevine Rang 53.00 77 P **P 02 52 35.8 +0.6**
baz=316
CWC Cottonwood Cre 53.00 78 P **P 02 52 36.5 +1.2**
baz=317
R11B Troy Canyon, C 53.01 74 P **P 02 52 36.2 +0.8**
baz=316
BW06 Boulder Array 53.11 66 P **P 02 52 36.7 +0.6**
BW06 Boulder Array 53.11 66 P **P 02 52 36.7 +0.6**
baz=315
PD31 Pinedale Array 53.11 66 P **P 02 52 36.9 +0.7**
PDAR Pinedale Array 53.11 66 **P 02 52 36.0 -0.1**
PDAR Pinedale Array 53.11 66 P **P 02 52 35.5 -0.7**
comp=Z,1.2nm,0.8s,baz=329,slow=2.6,SNR=8.2
PDAR LR LR 03 12 56.8
comp=Z,127nm,21.9s,baz=312,slow=34
comp=Z,1.2nm,0.8s
DUG Dugway, Tooele 53.20 71 P **P 02 52 38.1 +1.4**
DUG Dugway, Tooele 53.20 71 P **P 02 52 38.1 +1.4**
DUG pmax pmax
comp=Z,6.0nm,1.2s
SPR3 Spring Creek 3 53.23 73 P **P 02 52 38.6 +1.5**
SPR3 IAmb IAmb 02 52 46.5
comp=Z,9.8nm,1.2s
WCT Wildcat Mounta 53.56 76 P **P 02 52 41.5 +2.2**
TPNV Topopah Spring 53.65 76 P **P 02 52 40.5 +0.4**
TPNV IAmb IAmb 02 52 48.7
comp=Z,8.9nm,1.1s
TPNV Topopah Spring 53.65 76 P **P 02 52 40.4 +0.3**
baz=317
TPNV Topopah Spring 53.65 76 P **P 02 52 40.5 +0.4**
TPNV pmax pmax
comp=Z,9.0nm,1.1s
FURC Furnace Creek, 53.66 77 P **P 02 52 40.5 +0.6**
baz=317
SCZ2 Santa Cruz Isl 53.91 81 P **P 02 52 42.5 +0.7**
baz=318
LRMC Laurel Mtn Rad 53.92 78 P **P 02 52 42.1 0.0**
baz=317
GWY Greenwater Val 53.97 77 P **P 02 52 43.6 +1.2**
GWY IAmb IAmb 02 52 51.8
comp=Z,5.0nm,1.0s
BSUT Blindstream Ca 54.06 69 P P 02 52 51.9 +8.6
BSUT IAmb IAmb 02 52 52.2
comp=Z,13nm,1.5s
EDW2 Edwards Air Fo 54.18 79 P **P 02 52 45.0 +1.1**
baz=318
ARU Arti 54.19 319*c i* P **P 02 52 42.3 -1.2**
ARU pmax pmax
comp=Z,5.0nm,0.8s
PZH PanZhiHua 54.39 266 P **P 02 52 45.0 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,6.0s
SHOC Shoshone, Teco 54.40 77 P **P 02 52 47.5 +2.1**
baz=317
ULM Lac du Bonnet 54.45 51 P **P 02 52 47.3 +1.8**
comp=Z,1.8nm,0.8s,baz=309,slow=6.5,SNR=2.9
ULM LR LR 03 17 26.3
comp=Z,129nm,18.9s,baz=310,slow=38
MDND Maddock 54.47 56 P **P 02 52 46.1 +0.4**
baz=316
GSC Goldstone, Bar 54.54 78 P **P 02 52 46.8 +0.3**
GSC IAmb IAmb 02 52 55.0
comp=Z,8.9nm,1.0s
GSC Goldstone, Bar 54.54 78 P **P 02 52 48.2 +1.7**
baz=317
GSC Goldstone, Bar 54.54 78 P **P 02 52 46.8 +0.3**
GSC pmax pmax
comp=Z,9.0nm,1.0s
RDMU Red Mountain 54.67 68 IAmb IAmb 02 52 57.4
comp=Z,7.0nm,1.1s
TMUT Trail Mountain 54.71 70 P **P 02 52 49.7 +1.7**
TMUT IAmb IAmb 02 52 56.6
comp=Z,7.6nm,1.0s
MSU Marysvale 54.75 72 P **P 02 52 49.4 +1.2**
MSU Marysvale 54.75 72 P **P 02 52 49.4 +1.2**
SFJD Kangerlussuaq 54.79 17 LR LR 03 18 50.4
comp=Z,73nm,18.2s,baz=352,slow=39
RSSD Black Hills 54.98 62 P **P 02 52 51.0 +1.2**
baz=316
SRU San Rafael Swe 55.21 70 P **P 02 52 51.9 +0.5**
SRU IAmb IAmb 02 53 10.0
comp=Z,6.9nm,0.8s
SRU San Rafael Swe 55.21 70 P **P 02 52 51.9 +0.5**
SRU pmax pmax
comp=Z,7.0nm,0.8s
LCMT Little Creek M 55.26 74 P **P 02 52 52.6 +0.9**
LCMT IAmb IAmb 02 53 00.7
comp=Z,6.8nm,1.1s
V12A Nelson 55.31 76 P **P 02 52 53.9 +1.8**
V12A IAmb IAmb 02 53 00.9
comp=Z,5.7nm,1.0s
GMRC Granite Mounta 55.56 77 P **P 02 52 55.9 +2.0**
baz=318
O20A White River Ci 55.69 68 P **P 02 52 55.1 +0.3**
baz=317
KIRV Kirov 55.70 326⇑ *e*P **P 02 52 53.7 -0.7**
TPFO Pinon Flats 55.98 79 P **P 02 52 58.0 +1.1**
baz=318
IRM Iron Mountain 56.30 77 P **P 02 53 00.7 +1.5**
baz=318
N23A Red Feather La 56.34 66 P **P 02 53 00.7 +1.1**
N23A IAmb IAmb 02 53 08.1
comp=Z,7.7nm,1.0s
N23A Red Feather La 56.34 66 P **P 02 52 59.5 -0.1**
baz=317
ISCO Idaho Springs 57.31 66 P **P 02 53 08.4 +1.9**
ISCO Idaho Springs 57.31 66 P **P 02 53 07.2 +0.7**
baz=318,SNR=5.5
ISCO Idaho Springs 57.31 66 P **P 02 53 08.5 +1.9**
ISCO pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 57.36 299⇑ *e*P **P 02 53 05.7 -1.0**
AAK pmax pmax
comp=Z,14nm,1.5s
WUAZ Wupatki 57.38 74 P **P 02 53 07.1 +0.2**
baz=318
MVCO Mesa Verde 57.69 70 P **P 02 53 08.8 -0.3**
baz=318
EYMN Ely 58.10 51 P **P 02 53 11.1 -0.5**
baz=319
Q24A Divide 58.17 67 P **P 02 53 12.7 +0.1**
baz=318
S22A 4UR Ranch, Cre 58.18 69 IAmb IAmb 02 53 21.9
comp=Z,11nm,1.2s
S22A 4UR Ranch, Cre 58.18 69 P **P 02 53 13.7 +1.0**
baz=318,SNR=5.2

OGNE Ogallala 58.31 63 P **P 02 53 13.5 +0.3**
baz=318
SDCO Great Sand Dun 58.89 68 P **P 02 53 17.8 +0.2**
baz=319
X18A Snowflake 58.90 73 IAmb IAmb 02 53 26.6
comp=Z,9.9nm,1.3s
ECSD EROS Data Cent 58.91 57 P **P 02 53 17.6 +0.3**
KSH Kashi 58.92 295 P **P 02 53 21.0 +3.4**
KSH sP pwP 02 53 28.3 +1.0
KSH pmax pmax
comp=Z,3.0nm,1.2s
KK31 Karatay Array 58.98 302 P **P 02 53 15.8 -2.0**
KK31 IAmb IAmb 02 53 31.2
comp=Z,4.7nm,1.2s
KK31 Karatay Array 58.98 302 P **P 02 53 15.8 -2.0**
KK31 pmax pmax
comp=Z,5.0nm,1.3s
KKAR Karatay Array 58.98 302 P **P 02 53 16.2 -1.6**
KKAR Karatay Array 58.98 302 P **P 02 53 16.7 -1.1**
KKAR IAmb IAmb 02 53 31.2
comp=Z,4.7nm,1.2s
KKAR Karatay Array 58.98 302 P **P 02 53 16.2 -1.6**
KKAR pmax pmax
comp=Z,5.0nm,1.3s
ABKAR Akbulak array 59.09 313 P **P 02 53 17.1 -1.3**
ABKAR Akbulak array 59.09 313 IAmb IAmb 02 53 25.4
comp=Z,6.4nm,1.4s
FINES FINESS Array B 59.41 339 P **P 02 53 19.7 -0.7**
comp=Z,1.4nm,0.7s,baz=41,slow=11,SNR=1.9
comp=Z,1.4nm,0.7s
SPMN Marine on St. 59.57 54 P **P 02 53 21.6 -0.2**
baz=320
ANMO Albuquerque 60.48 71 P **P 02 53 28.9 +0.4**
baz=320
CBKS Cedar Bluff 61.07 63 P **P 02 53 33.0 +0.8**
baz=320
BELG Belogornoye 61.31 322⇑ *e*P **P 02 53 33.4 -0.2**
BELG pmax pmax
comp=Z,1.0nm,1.0s
RTBA Rita Blanca 61.33 67 P **P 02 53 35.5 +1.3**
121A Cookes Peak, D 61.59 73 P **P 02 53 37.0 +1.1**
baz=320
SCHQ Schefferville 61.77 32 P **P 02 53 36.1 -0.6**
comp=Z,3.9nm,0.9s,baz=316,slow=7.2,SNR=4.6
comp=Z,3.9nm,0.9s
SCIA State Center 61.92 56 P **P 02 53 38.0 +0.2**
baz=321
CMAR Chiang Mai Arr 62.30 262 *i* P **P 02 53 41.2 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 62.30 262 P **P 02 53 40.8 +0.1**
comp=Z,2.2nm,0.5s,baz=19,slow=7.5,SNR=10
CMAR LR LR 03 22 53.4
comp=Z,22nm,18.1s,baz=355,slow=38
comp=Z,2.2nm,0.5s
MSTX Muleshoe 63.19 69 P **P 02 53 46.5 -0.1**
baz=321
MNTX Cornudas Mount 63.53 72 P **P 02 53 49.2 +0.4**
baz=321
VLDQ Val d'Or 63.77 42 P **P 02 53 50.5 +0.4**
LPSR Galich'ya Gora 63.99 327 *e*P **P 02 53 54.5 +3.1**
LPSR pmax pmax
comp=Z,5.0nm,1.0s
VRH Novokhopyorsk 64.31 325 *e*P **P 02 53 49.9 -3.6**
VRH pmax pmax
comp=Z,4.0nm,0.9s
VHRN Van Horn 64.45 72 IAmb IAmb 02 54 03.4
comp=Z,3.6nm,0.9s
WMOK Wichita Mounta 64.69 65 P **P 02 53 56.5 +0.1**
WMOK Wichita Mounta 64.69 65 P **P 02 53 56.5 +0.1**
WMOK pmax pmax
comp=Z,8.0nm,1.0s
M44A Midewin, Midew 64.73 53 P **P 02 53 57.7 +1.2**
NIL Nilore 64.80 293 P **P 02 53 56.5 -0.6**
NIL Nilore 64.80 293 P **P 02 53 56.5 -0.6**
NIL pmax pmax
comp=Z,19nm,1.3s
HDIL Hopedale 64.82 55 P **P 02 53 56.8 -0.3**
baz=323
HNR Honiara 64.82 187 LR LR 03 21 07.6
comp=Z,276nm,18.4s,baz=134,slow=35
SN01 Snyder 1 65.04 68 P **P 02 53 60.0 +1.2**
SN01 IAmb IAmb 02 54 06.2
comp=Z,5.3nm,0.9s
APMT Aspermont 65.09 67 P **P 02 53 59.2 +0.3**
VSR Storozhevoye 65.11 327 *e*P **P 02 53 55.0 -3.8**
VSR pmax pmax
comp=Z,4.0nm,1.1s
R40A Maddies Statio 65.19 58 P **P 02 53 59.6 +0.1**
MNHN Monahans 65.22 70 P **P 02 54 02.2 +2.3**
X34A Smith Ranch, M 65.29 65 P **P 02 54 02.1 +1.9**
CCM Cathedral Cave 65.87 58 P **P 02 54 03.1 -0.8**
baz=323
ABTX Abilene, Hawle 65.89 67 P **P 02 54 05.7 +1.6**
ABTX Abilene, Hawle 65.89 67 P **P 02 54 04.3 +0.2**
baz=322
TXAR Lajitas Array 66.29 72 P **P 02 54 06.5 -0.4**
TXAR Lajitas Array 66.29 72 P **P 02 54 07.0 +0.1**
comp=Z,2.4nm,0.7s,baz=290,slow=3.3,SNR=17
comp=Z,2.4nm,0.7s
PMG Port Moresby 66.57 201 LR LR 03 17 53.9
comp=Z,50nm,21.3s,baz=348,slow=31
JCT Junction City 67.48 69 P **P 02 54 14.3 -0.1**
baz=322
P49A Miami Univ. Ec 67.73 52 P **P 02 54 15.2 -0.5**
baz=325
AKASG Malin Array Be 68.45 332 P **P 02 54 19.4 -0.6**
comp=Z,0.2nm,0.3s,baz=29,slow=6.0,SNR=4.4
comp=Z,0.2nm,0.3s
O53A New Philadelph 68.70 49 P **P 02 54 21.0 -0.8**
baz=323
GEYT Alibeck 68.88 306 P **P 02 54 22.2 -0.8**
comp=Z,1.3nm,0.7s,baz=71,slow=14,SNR=3.7
comp=Z,1.3nm,0.7s
WVT Waverly 69.04 57 P **P 02 54 24.7 +0.7**
baz=324
KBZ Khabaz 70.33 320⇑ *e*P **P 02 54 31.7 -0.1**
KBZ pmax pmax
comp=Z,6.0nm,1.2s
VRAC Vranov 72.67 340 *e*P **P 02 54 43.8 -2.1**
KRUC Moravsky 72.95 340 *e*P **P 02 54 46.8 -0.7**
VYHS Vyhne 72.99 338 *e*P **P 02 54 48.4 +0.6**
VYHS Vyhne 72.99 338 *e*P **P 02 54 48.4 +0.6**
CONA Conrad Observa 74.14 340 *e*pP **P 02 54 55.6 +1.0**
comp=Z,7.1nm,1.4s
RONA Rosalia, Austr 74.27 340 pP **P 02 54 56.5 +1.2**
comp=Z,3.2nm,1.0s
KBA Koelnbreinsper 75.43 341 *e*pP **P 02 55 02.9 +0.7**
comp=Z,7.6nm,1.3s
RETA Reutte 75.48 343 *e*pP **P 02 55 02.6 +0.2**
comp=Z,1.0nm,0.7s
WATA Walderalm 75.49 343 *e*pP **P 02 55 03.1 +0.6**
comp=Z,1.4nm,0.7s
SOKA Soboth 75.50 340 *e*pP **P 02 55 03.3 +0.8**
comp=Z,5.8nm,1.6s
WTTA Wattenberg 75.55 343 *e*pP **P 02 55 03.7 +0.7**
comp=Z,5.4nm,1.3s
MOTA Moosalm 75.56 343 *e*pP **P 02 55 03.2 +0.3**
comp=Z,2.2nm,0.9s
OBKA Obir 75.75 340 *e*pP **P 02 55 04.8 +0.8**
comp=Z,5.5nm,0.9s
ABTA Abfaltersbach 75.90 342 *e*pP **P 02 55 05.7 +0.9**
comp=Z,8.6nm,1.4s
FETA Feichten 75.94 343 *e*pP **P 02 55 05.4 +0.3**
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 77.09 325 *i* P **P 02 55 11.8 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 77.09 325 P **P 02 55 11.6 -0.2**
comp=Z,9.9nm,0.9s,baz=120,slow=2.5,SNR=6.4
comp=Z,0.9nm,0.9s
MURB Monte Urbino 79.26 341 P **P 02 55 23.8 +0.2**
NRCA Norcia 79.57 340 P **P 02 55 25.5 +0.2**
PAOL Paolisi 81.01 339 P **P 02 55 29.3 -3.8**
PPT2 Papeete2 81.64 138 *e*LR LR 03 21 10.1
comp=Z,83nm,26.2s
PPT2 *e*LR LR 03 21 12.2
comp=Z,38nm,24.5s
ASAR Alice Springs 83.53 210 P **P 02 55 46.4 +0.2**
comp=Z,1.4nm,0.8s,baz=16,slow=6.1,SNR=12
comp=Z,1.4nm,0.8s
ESDC Sonseca Array 84.95 353 P **P 02 55 54.0 +0.5**
comp=Z,1.4nm,0.8s,baz=0.7,slow=5.8,SNR=6.5
comp=Z,1.4nm,0.8s
TBI Tubuai 86.94 140 *e*LR LR 03 23 38.9
comp=Z,332nm,34.0s
TBI *e*LR LR 03 23 45.2
comp=Z,743nm,33.5s
STKA Stephens Creek 89.52 201 P **P 02 56 15.8 +0.5**
comp=Z,5.0nm,1.1s,baz=326,slow=12,SNR=4.8
STKA LR LR 03 30 38.0
comp=Z,24nm,22.0s,baz=24,slow=32
comp=Z,5.0nm,1.1s
SJG San Juan 94.31 49 LR LR 03 41 25.1
comp=Z,38nm,20.5s,baz=190,slow=37
QSPA South Pole Qui 145.15 180 PKPbc **PKPbc 03 02 52.7 -1.4**
comp=Z,8.1nm,0.8s,baz=3.1,slow=1.0,SNR=33

IDC 28 02:55:55.8±6.1, 4°13S×149°48E, h0km, mb3.5/2, mbtmp3.6/2, Error ellipse: s-maj=278.0km s-min=54.5km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.56**	**222**	P	P	03 00 46.5	-0.5
	1.0nm,0.8s,baz=41,slow=11,SNR=4.9						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**24.56**	**216**	P	P	03 01 17.9	+0.3
	2.1nm,0.9s,baz=55,slow=7.1,SNR=12						
	2.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**146.95**	**288**	PKPbc	PKPbc	03 15 40.7	-0.8
	0.3nm,0.6s,baz=75,slow=3.5,SNR=2.0						

IDC 28 02:59:10.1±5.1, 6°15S×146°94E, h0km, mb3.2/1, mbtmp3.4/2, ML2.9/1, Error ellipse: s-maj=198.0km s-min=52.5km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.38**	**221**	P	Pn	03 03 26.3	-0.4
	baz=43,slow=11,SNR=3.0						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**21.46**	**214**	P	P	03 04 00.0	-0.3
	1.1nm,1.1s,baz=51,slow=9.7,SNR=4.4						
	1.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**145.07**	**284**	PKPbc	PKPbc	03 18 49.5	-0.5
	0.3nm,0.6s,baz=55,slow=3.9,SNR=2.2						

IDC ***28*** *02:59:32.7±4.2, 5°68S×147°42E, h0km, mb3.8/1, mbtmp3.8/2, ML3.4/1, MS3.3/4, Error ellipse: s-maj=140.4km s-min=50.4km az=110.0*
NEIC ***28*** *02:59:33.4±3.0, 5°5S±0°1×147°3E±0°1, h10km±2km, mb4.0/7, Error ellipse: s-maj=28.2km s-min=19.7km az=317.0*
ISC 28 02:59:33.1±1.2, 5°5S±0°2×147°3E±0°1, h10km, n16, σ1°9 15/13, mb3.8/3, MS3.4/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**13.12**	**108**	Pn	**Pn**	**03 02 40.0**	**+0.4**
CTAO	**Charters Tower**	**14.49**	**184**	P	**P**	**03 03 03.6**	**-1.6**
PATS	**Pohnpei**	**16.50**	**42**	Pn	**Pn**	**03 03 24.4**	**-0.4**
WB0	**Warramunga Arr**	**18.91**	**220**	P	**P**	**03 03 53.6**	**-0.5**
WB0				IAmb	IAmb	03 04 11.8	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**18.95**	**220**		**Pn**	**03 03 55.9**	**+0.7**
WR0				IAmb	IAmb	03 04 04.7	
	comp=Z,8.7nm,1.1s						
WB2	**Warramunga Arr**	**19.06**	**220**	P	**Pn**	**03 03 57.3**	**+0.7**
WB2				IAmb	IAmb	03 04 05.7	
	comp=Z,9.2nm,1.0s						
WRA	**Warramunga Arr**	**19.07**	**220**	P	**Pn**	**03 03 58.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=45,slow=12,SNR=5.5						
	comp=Z,1.9nm,0.7s						
AS31	**Alice Springs**	**22.16**	**214**	P	**P**	**03 04 27.9**	**-1.4**
ASAR	**Alice Springs**	**22.16**	**214**	P	**P**	**03 04 28.8**	**-0.6**
ASAR	**Alice Springs**	**22.16**	**214**	P	**P**	**03 04 29.5**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=48,slow=7.9,SNR=9.4						
ASAR				LR	LR	03 14 40.5	
	comp=Z,27nm,19.5s,baz=46,slow=41						
	comp=Z,3.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**24.56**	**238**	P	**P**	**03 04 52.1**	**-1.2**
FITZ				IAmb	IAmb	03 04 58.2	
	comp=Z,2.1nm,0.8s						
BBOO	**Buckleboo**	**29.08**	**200**	P	**P**	**03 05 35.7**	**+1.8**
BBOO				IAmb	IAmb	03 05 38.1	
	comp=Z,10nm,1.1s						
NWAO	**Narrogin (SRO)**	**39.06**	**222**	LR	LR	03 23 46.1	
	comp=Z,83nm,18.8s,baz=303,slow=37						
MJAR	**Matsushiro Arr**	**42.72**	**349**	LR	LR	03 24 59.1	
	comp=Z,46nm,19.6s,baz=331,slow=36						
ZALV	**Zalesovo Beam**	**78.79**	**328**	LR	LR	03 46 18.4	
	comp=Z,22nm,20.1s,baz=9.5,slow=36						
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc	**PKPab**	**03 19 12.4**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=67,slow=4.3,SNR=1.6						

IDC ***28*** *03:16:15.7±4.5, 27°04N×44°59W, h0km, mb3.8/8, mbtmp3.8/8, MS3.6/13, Error ellipse: s-maj=126.4km s-min=27.7km az=5.0*
ISC 28 03:16:18.4±4.4, 27°1N±0°9×44°6W±0°2, h16km, n24, σ0°56/8, mb3.9/8, MS3.6/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SADO	**Sadowa**	**32.76**	**312**	LR	LR	03 33 27.5	
	comp=Z,131nm,21.5s,baz=80,slow=32						
TKL	**Tuckaleechee C**	**34.34**	**294**	LR	LR	03 33 42.4	
	comp=Z,124nm,21.1s,baz=13,slow=30						
MDT	**Midelt**	**34.97**	**71**	LR	LR	03 33 39.5	
	comp=Z,111nm,21.2s,baz=106,slow=30						
DBIC	**Dimbokro**	**42.84**	**111**	LR	LR	03 39 12.6	
	comp=Z,60nm,18.6s,baz=4.0,slow=32						
H10N2	**ASCENSION HYDR**	**45.34**	**136**	T	T	04 12 18.6	
	baz=320,slow=75,SNR=86						
H10N3	**ASCENSION HYDR**	**45.34**	**136**	T	T	04 12 18.7	
	baz=320,slow=75,SNR=75						
H10N1	**ASCENSION HYDR**	**45.36**	**136**	T	T	04 12 20.0	
	baz=320,slow=75,SNR=105						
TORD	**Torodi Ar. Bea**	**45.37**	**98**	LR	LR	03 43 06.9	
	comp=Z,86nm,18.1s,baz=337,slow=36						
H10S3	**ASCENSION HYDR**	**46.10**	**137**	T	T	04 13 15.5	
	baz=320,slow=74,SNR=41						
H10S2	**ASCENSION HYDR**	**46.12**	**137**	T	T	04 13 16.7	
	baz=260,slow=74,SNR=24						
DAVOX	**Davos/Dischmat**	**46.76**	**50**	LR	LR	03 40 55.9	
	comp=Z,43nm,18.7s,baz=320,slow=32						
CMIG	**Matias Romero**	**47.38**	**269**	LR	LR	03 43 48.3	
	comp=Z,25nm,20.3s,baz=26,slow=35						
ANMO	**Albuquerque**	**52.87**	**295**	LR	LR	03 46 18.1	
	comp=Z,59nm,20.4s,baz=134,slow=34						
PDAR	**Pinedale Array**	**54.25**	**305**	P	**P**	**03 25 43.4**	**-0.5**
	0.9nm,0.8s,baz=90,slow=9.2,SNR=7.8						
PDAR				LR	LR	03 47 38.0	
	comp=Z,50nm,19.0s,baz=54,slow=35						
	0.9nm,0.8s						
YKA	**Yellowknife Ar**	**57.14**	**329**	P	**P**	**03 26 03.9**	**0.0**
	0.6nm,0.9s,baz=91,slow=7.6,SNR=8.4						
YKA				LR	LR	03 49 49.0	
	comp=Z,66nm,20.1s,baz=42,slow=35						
	0.6nm,0.9s						
MLR	**Muntele Rosu**	**57.94**	**51**	LR	LR	03 48 07.9	
	comp=Z,64nm,19.3s,baz=236,slow=33						
ARCES	**ARCESS Array B**	**57.95**	**23**	P	**P**	**03 26 09.3**	**-0.3**
	3.2nm,1.0s,baz=254,slow=6.5,SNR=4.4						
	3.2nm,1.0s						
AKASG	**Malin Array Be**	**59.50**	**45**	P	**P**	**03 26 20.2**	**-0.5**
	0.1nm,0.3s,baz=282,slow=4.6,SNR=4.1						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**64.63**	**57**	P	**P**	**03 26 55.5**	**0.0**
	1.0nm,0.8s,baz=251,slow=3.8,SNR=6.8						
	1.0nm,0.8s						
INK	**Inuvik**	**64.75**	**336**	P	**P**	**03 26 56.0**	**+0.4**
	0.7nm,0.7s,baz=74,slow=9.5,SNR=3.6						
	0.7nm,0.7s						
BBB	**Bella Bella**	**65.24**	**318**	LR	LR	03 54 44.4	
	comp=Z,40nm,19.2s,baz=196,slow=35						
ILAR	**Eielson Array**	**70.86**	**334**	P	**P**	**03 27 34.8**	**+0.5**
	1.3nm,0.8s,baz=69,slow=5.0,SNR=11						
	1.3nm,0.8s						
BVAR	**Borovoye Array**	**82.33**	**34**	P	**P**	**03 28 40.0**	**+0.7**
	0.9nm,0.8s,baz=316,slow=4.1,SNR=5.3						
	0.9nm,0.8s						
KMBO	**Kilima Mbogo**	**83.25**	**95**	LR	LR	04 06 07.6	
	comp=Z,40nm,18.2s,baz=253,slow=36						

NEIC ***28*** *03:26:49.9±2.1, 55°90N±0°08×150°17W±0°10, h10km±2km, ML3.6/36, ML3.3(AEIC), Error ellipse: s-maj=13.7km s-min=8.9km az=169.0*
AEIC ***28*** *03:26:55.5±1.9, 55°95N±0°06×150°17W±0°10, h10km±7km,*

Error ellipse: s-maj=9.0km s-min=7.9km az=188.0
ISC 28 03:26:52.2±1.6,**55°93N**±0.10×**150°14W**±0.07,**h35**km,
n118,σ0**98**/127,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.17**	**308**		**Pn**	**03 27 25.4**	**-0.4**
OHAK					**Sn**	**03 27 51.0**	**-0.5**
OHAK	**Old Harbor**	**2.17**	**308**	P	**Pn**	**03 27 26.2**	**+0.4**
	baz=126						
OHAK				S	**Sn**	**03 27 50.7**	**-0.8**
	baz=126						
KDAK	**Kodiak Island**	**2.30**	**325**	Pn	**Pn**	**03 27 27.4**	**-0.1**
KDAK	**Kodiak Island**	**2.30**	**325**	Sn	**Sn**	**03 27 53.4**	**-1.2**
KDAK	**Kodiak Island**	**2.30**	**325**	S	**Sn**	**03 27 52.8**	**-1.7**
	baz=144						
SII	**Sitkinak Islan**	**2.35**	**287**	Pn	**Pn**	**03 27 27.8**	**-0.5**
SII				Sn	**Sn**	**03 27 54.7**	**-1.1**
SII				IAML		03 28 21.4	
	comp=N,212nm,2.6s						
SII	**Sitkinak Islan**	**2.35**	**287**	P	**Pn**	**03 27 28.4**	**+0.1**
	baz=105						
SII				S	**Sn**	**03 27 55.4**	**-0.5**
	baz=105						
SYI	**Shuyak Island**	**2.96**	**337**	Pn	**Pn**	**03 27 36.8**	**+0.2**
SYI				Sn	**Sn**	**03 28 11.7**	**+0.9**
Q20K	**Shuyak Island**	**2.96**	**336**	P	**Pn**	**03 27 37.3**	**+0.7**
	baz=155						
Q20K				S	**Sn**	**03 28 10.9**	**+0.1**
	baz=155						
Q19K	**Cape Douglas,**	**3.56**	**329**	Pn	**Pn**	**03 27 46.1**	**+1.2**
Q19K				IAML		03 28 32.3	
	comp=E,184nm,1.2s						
Q19K				IAML		03 28 36.9	
	comp=N,124nm,0.8s						
Q19K	**Cape Douglas,**	**3.56**	**329**	P	**Pn**	**03 27 46.0**	**+1.0**
	baz=147						
CNPM	**China Poot**	**3.66**	**351**	Pn	**Pn**	**03 27 45.4**	**-0.9**
CNPM				Sn	**Sn**	**03 28 27.0**	**-1.2**
BRSE	**Bradley Lake S**	**3.84**	**355**		**Pn**	**03 27 49.0**	**+0.2**
BRSE					**Sn**	**03 28 31.7**	**-1.0**
BRSE	**Bradley Lake S**	**3.84**	**355**	P	**Pn**	**03 27 49.0**	**+0.2**
	baz=175						
BRSE				S	**Sn**	**03 28 31.7**	**-1.0**
	baz=175						
BRLK	**Bradley Lake**	**3.87**	**354**	Pn	**Pn**	**03 27 48.3**	**-0.9**
CNTC	**Contact Creek**	**3.91**	**309**		**Pn**	**03 27 51.0**	**+1.1**
Q17K	**Contact Creek**	**3.92**	**309**	P	**Pn**	**03 27 51.0**	**+1.1**
	baz=125						
Q23K	**Middleton Isla**	**4.06**	**28**	Pn	**Pn**	**03 27 50.9**	**-0.9**
Q23K	**Middleton Isla**	**4.06**	**28**	P	**Pn**	**03 27 52.2**	**+0.5**
	baz=212						
MID	**Middleton Isla**	**4.06**	**29**	Pn	**Pn**	**03 27 51.4**	**-0.3**
P19K	**Oil Pt**	**4.09**	**337**	Pn	**Pn**	**03 27 54.3**	**+2.1**
SEW	**Seward**	**4.21**	**5**	Pn	**Pn**	**03 27 53.6**	**-0.2**
SEW	**Seward**	**4.21**	**5**	P	**Pn**	**03 27 53.9**	**+0.2**
	baz=186						
P23K	**Montague Islan**	**4.34**	**18**		**Pn**	**03 27 55.9**	**+0.4**
P23K	**Montague Islan**	**4.34**	**18**	P	**Pn**	**03 27 55.9**	**+0.4**
	baz=201						
O20K	**Slope Mountain**	**4.37**	**343**		**Pn**	**03 27 56.5**	**+0.3**
O20K	**Slope Mountain**	**4.37**	**343**	P	**Pn**	**03 27 56.4**	**+0.3**
	baz=162						
IVE	**Iliamna Volcan**	**4.38**	**341**		**Pn**	**03 27 56.6**	**+0.3**
P18K	**Big Mountain,**	**4.42**	**324**	Pn	**Pn**	**03 27 57.7**	**+0.9**
P18K	**Big Mountain,**	**4.42**	**324**	P	**Pn**	**03 27 57.2**	**+0.4**
	baz=140						
O22K	**Cooper Landing**	**4.58**	**3**	Pn	**Pn**	**03 27 58.5**	**-0.3**
O22K				IAML		03 30 01.0	
	comp=E,143nm,0.8s						
O22K				IAML		03 30 05.9	
	comp=N,131nm,0.6s						
SLKM	**Skilak Lake**	**4.60**	**359**		**Sn**	**03 28 49.8**	**-1.5**
P17K	**Kvichak River**	**4.72**	**317**		**Pn**	**03 28 02.5**	**+1.7**
P17K	**Kvichak River**	**4.72**	**317**	P	**Pn**	**03 28 02.5**	**+1.7**
	baz=132						
O18K	**Koktuh Hills**	**4.78**	**328**	Pn	**Pn**	**03 28 01.3**	**-0.3**
O18K	**Koktuh Hills**	**4.78**	**328**	P	**Pn**	**03 28 01.9**	**+0.3**
	baz=144						
O19K	**Port Alsworth**	**4.82**	**334**	Pn	**Pn**	**03 28 02.4**	**+0.2**
O19K				IAML		03 29 00.8	
	comp=E,97nm,0.5s						
O19K				IAML		03 29 02.1	
	comp=N,68nm,0.4s						
CAPN	**Captain Cook N**	**4.89**	**354**	Pn	**Pn**	**03 28 04.1**	**+1.0**
KAIM	**Kayak Island**	**5.04**	**35**	Pn	**Pn**	**03 28 05.2**	**0.0**
KAIM	**Kayak Island**	**5.04**	**35**	P	**Pn**	**03 28 05.8**	**+0.6**
	baz=220						
EYAK	**Cordova Ski Ar**	**5.18**	**25**	P	**Pn**	**03 28 07.8**	**+0.7**
	baz=208						
RC01	**Rabbit Creek A**	**5.18**	**2**	Pn	**Pn**	**03 28 07.0**	**-0.2**
RC01				IAML		03 30 07.3	
	comp=E,31nm,0.5s						
RC01				IAML		03 30 11.2	
	comp=N,33nm,0.5s						
RAGM	**Ragged Mountai**	**5.33**	**31**	Pn	**Pn**	**03 28 09.5**	**+0.3**
RAGM				IAML		03 30 14.4	
	comp=E,95nm,1.1s						
O17K	**Koliganek Bris**	**5.36**	**319**		**Pn**	**03 28 10.1**	**+0.6**
O17K	**Koliganek Bris**	**5.36**	**319**	P	**Pn**	**03 28 10.1**	**+0.6**
	baz=134						
N19K	**Bonanza Creek**	**5.41**	**337**	Pn	**Pn**	**03 28 11.0**	**+0.6**
GOAT	**Goat Mountain**	**5.47**	**29**		**Pn**	**03 28 11.7**	**+0.4**
CNBA	**Chernabura Isl**	**5.56**	**262**	Pn	**Pn**	**03 28 11.1**	**-0.4**
SUA	**Susitna One**	**5.56**	**357**	Pn	**Pn**	**03 28 12.3**	**-0.2**
O16K	**Kokwok River B**	**5.63**	**314**	Pn	**Pn**	**03 28 14.4**	**+1.1**
BERG	**Berg Lake**	**5.63**	**35**	Pn	**Pn**	**03 28 13.4**	**+0.2**
N18K	**Kilae Creek**	**5.65**	**330**	Pn	**Pn**	**03 28 13.9**	**+0.2**
N18K	**Kilae Creek**	**5.65**	**330**	P	**Pn**	**03 28 14.0**	**+0.4**
	baz=145						
SNH	**Sunshine Point**	**5.76**	**39**	Pn	**Pn**	**03 28 15.6**	**+0.5**
BMRM	**Bremner River**	**5.83**	**28**	Pn	**Pn**	**03 28 16.5**	**+0.4**
BMRM	**Bremner River**	**5.83**	**28**	P	**Pn**	**03 28 17.0**	**+0.8**
	baz=212						
GHO	**Glory Hole Cre**	**5.90**	**6**	Pn	**Pn**	**03 28 17.8**	**+0.7**
N17K	**Nushagak Hills**	**5.93**	**324**	Pn	**Pn**	**03 28 18.5**	**+1.1**
SML	**Sawmill**	**5.97**	**8**	Pn	**Pn**	**03 28 18.9**	**+0.8**
KLU	**Klutina**	**6.00**	**20**	Pn	**Pn**	**03 28 18.7**	**+0.3**
KLU	**Klutina**	**6.00**	**20**	P	**Pn**	**03 28 19.1**	**+0.7**
	baz=203						
SCM	**Sheep Creek Mo**	**6.10**	**13**	Pn	**Pn**	**03 28 20.8**	**+1.0**
O15K	**Ungalikthiuk R**	**6.15**	**306**		**Pn**	**03 28 21.5**	**+1.1**
O15K	**Ungalikthiuk R**	**6.15**	**306**	P	**Pn**	**03 28 21.5**	**+1.1**
	baz=118						
M20K	**Styx River**	**6.17**	**347**	Pn	**Pn**	**03 28 20.0**	**-0.8**
M18K	**Stony River**	**6.32**	**334**		**Pn**	**03 28 23.0**	**+0.3**
M18K	**Stony River**	**6.32**	**334**	P	**Pn**	**03 28 23.0**	**+0.3**
	baz=150						
VRDI	**Verde Repeater**	**6.36**	**31**	Pn	**Pn**	**03 28 24.0**	**+0.5**
N25K	**Chitina, Valde**	**6.38**	**25**	Pn	**Pn**	**03 28 25.4**	**+1.7**
M19K	**Big River Lodg**	**6.39**	**342**	Pn	**Pn**	**03 28 24.2**	**+0.5**
GLB	**Gilahina Butte**	**6.44**	**28**	Pn	**Pn**	**03 28 25.7**	**+1.2**
M24K	**Tolsona, Glenn**	**6.53**	**17**	Pn	**Pn**	**03 28 26.5**	**+0.8**
MCARA	**McCarthy VSAT**	**6.61**	**31**	Pn	**Pn**	**03 28 27.9**	**+1.1**
MCARA	**McCarthy VSAT**	**6.61**	**31**	P	**Pn**	**03 28 27.4**	**+0.6**
	baz=217						
M17K	**Holitna River**	**6.68**	**328**	Pn	**Pn**	**03 28 28.7**	**+1.0**
M17K	**Holitna River**	**6.68**	**328**	P	**Pn**	**03 28 28.4**	**+0.7**
	baz=142						
PCA	**Pinnacle**	**6.71**	**47**	Pn	**Pn**	**03 28 28.8**	**+0.6**
PINM	**Pinnacle**	**6.71**	**47**	P	**Pn**	**03 28 29.1**	**+0.9**
	baz=236						
PN7A	**Pavlof North-7**	**6.73**	**271**		**Pn**	**03 28 28.7**	**+0.3**
WASW	**Wrangell South**	**6.76**	**25**		**Pn**	**03 28 30.6**	**+1.5**
N15K	**Kwethluk River**	**6.78**	**313**	Pn	**Pn**	**03 28 31.2**	**+2.1**
BARN	**Barnard Glacie**	**6.80**	**37**	Pn	**Pn**	**03 28 30.2**	**+0.7**
CTG	**Chitna Glacier**	**6.84**	**39**	P	**Pn**	**03 28 30.4**	**+0.3**
	baz=226						
CTGM	**Chitina Glacie**	**6.84**	**39**	Pn	**Pn**	**03 28 31.0**	**+0.9**
PNL	**Peninsula**	**6.86**	**52**		**Pn**	**03 28 31.4**	**+1.2**
PNL	**Peninsula**	**6.86**	**52**	P	**Pn**	**03 28 31.4**	**+1.2**
	baz=241						
LOGN	**Logan Glacier**	**6.87**	**41**	Pn	**Pn**	**03 28 31.2**	**+0.8**
M16K	**Timber Creek**	**6.89**	**322**	Pn	**Pn**	**03 28 32.0**	**+1.4**
BCPM	**Bancas Point**	**6.89**	**50**	Pn	**Pn**	**03 28 31.0**	**+0.3**
DHY	**Denali Highway**	**7.31**	**10**	Pn	**Pn**	**03 28 37.8**	**+1.3**
O29M	**Mount Kennedy**	**7.53**	**50**	Pn	**Pn**	**03 28 39.6**	**+0.1**
L16K	**Owhat River**	**7.55**	**324**	Pn	**Pn**	**03 28 41.1**	**+1.4**
P29M	**Windy Craggy**	**7.60**	**56**	Pn	**Pn**	**03 28 40.9**	**+0.5**
M27K	**Edge Creek, AK**	**7.72**	**30**	Pn	**Pn**	**03 28 44.0**	**+1.9**
S31K	**Pelican**	**7.88**	**69**	Pn	**Pn**	**03 28 43.1**	**-0.9**
S31K	**Pelican**	**7.88**	**69**	P	**Pn**	**03 28 44.2**	**+0.1**
	baz=261						
K17K	**Iditarod**	**7.98**	**332**	Pn	**Pn**	**03 28 45.3**	**-0.2**
M13K	**Dall Lake**	**8.30**	**308**	Pn	**Pn**	**03 28 51.7**	**+1.8**
L14K	**Kuka Creek**	**8.49**	**315**	Pn	**Pn**	**03 28 53.7**	**+1.2**
K15K	**Wolf Creek Mou**	**8.66**	**322**	Pn	**Pn**	**03 28 56.8**	**+2.0**
N30M	**Aishikik Lake**	**8.76**	**45**	Pn	**Pn**	**03 28 57.1**	**+0.8**
M29M	**Somme Creek**	**8.86**	**38**	Pn	**Pn**	**03 28 59.0**	**+1.4**
K27K	**Chicken**	**9.07**	**23**	Pn	**Pn**	**03 29 00.3**	**-0.1**
J16K	**Anvik River**	**9.08**	**329**	Pn	**Pn**	**03 28 59.5**	**-1.0**
J26L	**Joseph Creek**	**9.20**	**18**	Pn	**Pn**	**03 29 03.5**	**+1.2**
N31M	**Braeburn, Yuko**	**9.31**	**47**	Pn	**Pn**	**03 29 05.4**	**+1.6**
WHY	**Whitehorse**	**9.32**	**53**	Pn	**Pn**	**03 29 06.0**	**+1.9**
I21K	**Tanana**	**9.33**	**355**	Pn	**Pn**	**03 29 05.3**	**+1.3**
L29M	**L29M**	**9.43**	**35**	Pn	**Pn**	**03 29 06.4**	**+1.0**
M30M	**Minto, Yukon**	**9.53**	**40**	Pn	**Pn**	**03 29 08.5**	**+1.6**
K13K	**Kusilvak Mount**	**9.61**	**315**	Pn	**Pn**	**03 29 09.3**	**+1.5**
J14K	**Nanvaranak Lak**	**9.67**	**321**	Pn	**Pn**	**03 29 09.2**	**+0.7**
H21K	**Melozitna Rive**	**9.85**	**354**	Pn	**Pn**	**03 29 10.5**	**-0.6**
H18K	**Honhosa River**	**10.09**	**340**	Pn	**Pn**	**03 29 16.8**	**+2.3**
P33M	**Teslin, Yukon**	**10.12**	**58**	Pn	**Pn**	**03 29 16.0**	**+1.1**
K29M	**Barlow Dome**	**10.14**	**33**	Pn	**Pn**	**03 29 16.0**	**+0.8**
M31M	**Drury Creek, Y**	**10.24**	**46**	Pn	**Pn**	**03 29 18.5**	**+1.9**
DLBC	**Dease Lake**	**11.19**	**69**	Pn	**Pn**	**03 29 29.1**	**-0.5**

*NEIC **28** 03:35:23.9±1.2,56°52N±0.07×148°92W±0.10,h24km±9km,*
ML3.6/62,ML3.3(AEIC),Error ellipse: s-maj=11.2km
s-min=7.1km az=159.0
*AEIC **28** 03:35:26.3±1.7,56°45N±0.05×148°80W±0.09,h12km±7km,*
Error ellipse: s-maj=10.2km s-min=2.9km az=135.0
ISC 28 03:35:24.2±1.5,**56°50N**±0.09×**148°86W**±0.05,**h35**km,
n215,σ0**85**/230,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.41**	**304**	Pn	**Pn**	**03 36 01.7**	**+0.8**
KDAK				Sn	**Sn**	**03 36 28.4**	**-0.7**
KDAK	**Kodiak Island**	**2.41**	**304**	S	**Sn**	**03 36 28.6**	**-0.6**
	baz=121						
OHAK	**Old Harbor**	**2.54**	**289**	Pn	**Pn**	**03 36 03.1**	**+0.3**
OHAK				Sn	**Sn**	**03 36 31.2**	**-1.3**
OHAK	**Old Harbor**	**2.54**	**289**	P	**Pn**	**03 36 03.1**	**+0.3**
OHAK	**Old Harbor**	**2.54**	**289**	P	**Pn**	**03 36 03.1**	**+0.3**
	baz=106						
OHAK				S	**Sn**	**03 36 31.1**	**-1.3**
	baz=106						
SYI	**Shuyak Island**	**2.85**	**320**	Pn	**Pn**	**03 36 07.9**	**+0.8**
SYI					**Sn**	**03 36 39.9**	**-0.2**
SYI				IAML		03 36 41.3	
	comp=N,110nm,0.3s						
SYI				IAML		03 36 41.8	
	comp=E,140nm,0.2s						
Q20K	**Shuyak Island**	**2.85**	**320**	P	**Pn**	**03 36 07.9**	**+0.9**
	baz=137						
Q20K				S	**Sn**	**03 36 40.6**	**+0.5**
	baz=137						
SII	**Sitkinak Islan**	**2.95**	**273**	Pn	**Pn**	**03 36 07.0**	**-1.5**
SII				Sn	**Sn**	**03 36 41.1**	**-1.5**
SII				IAML		03 36 50.4	
	comp=N,179nm,2.5s						
SII	**Sitkinak Islan**	**2.95**	**273**	P	**Pn**	**03 36 08.4**	**-0.1**
	baz=90						
SII				S	**Sn**	**03 36 41.6**	**-1.1**
	baz=90						
Q23K	**Middleton Isla**	**3.23**	**23**	Pn	**Pn**	**03 36 12.4**	**+0.1**
Q23K				Sn	**Sn**	**03 36 48.3**	**-1.2**
Q23K				IAML		03 36 51.0	
	comp=N,176nm,1.4s						
Q23K	**Middleton Isla**	**3.23**	**23**	P	**Pn**	**03 36 12.4**	**+0.1**
	baz=205						
Q23K				S	**Sn**	**03 36 48.2**	**-1.3**
	baz=205						
MID	**Middleton Isla**	**3.23**	**23**	Pn	**Pn**	**03 36 12.6**	**+0.2**
MID				Sn	**Sn**	**03 36 48.2**	**-1.3**
MID				IAML		03 37 20.2	
	comp=N,253nm,1.8s						
MID	**Middleton Isla**	**3.23**	**23**	P	**Pn**	**03 36 12.5**	**+0.2**
CNPM	**China Poot**	**3.29**	**338**	Pn	**Pn**	**03 36 10.1**	**-0.1**
CNPM				Sn	**Sn**	**03 36 50.8**	**-0.3**
BRSE	**Bradley Lake S**	**3.41**	**344**		**Pn**	**03 36 14.7**	**0.0**
BRSE					**Sn**	**03 36 53.1**	**-0.7**
BRSE	**Bradley Lake S**	**3.41**	**344**	P	**Pn**	**03 36 14.7**	**0.0**
	baz=162						
BRSE				S	**Sn**	**03 36 53.1**	**-0.7**
	baz=162						
BRLK	**Bradley Lake**	**3.45**	**343**	Pn	**Pn**	**03 36 15.1**	**-0.3**
BRLK				IAML		03 36 56.9	
	comp=E,59nm,0.2s						
BRLK				IAML		03 36 59.6	
	comp=N,54nm,0.1s						
HOM	**Homer**	**3.50**	**336**	Pn	**Pn**	**03 36 15.7**	**-0.3**
HOM				IAML		03 38 01.2	
	comp=E,154nm,1.3s						
HOM				IAML		03 38 31.2	
	comp=N,177nm,2.0s						
HOM	**Homer**	**3.50**	**336**	P	**Pn**	**03 36 16.3**	**+0.4**
	baz=154						
Q19K	**Cape Douglas,**	**3.54**	**316**	Pn	**Pn**	**03 36 17.8**	**+1.2**
Q19K				IAML		03 37 05.5	
	comp=N,176nm,0.7s						
Q19K				IAML		03 37 05.6	
	comp=E,164nm,0.7s						
Q19K	**Cape Douglas,**	**3.54**	**316**	P	**Pn**	**03 36 17.9**	**+1.3**
	baz=132						
P23K	**Montague Islan**	**3.60**	**12**		**Pn**	**03 36 17.5**	**+0.2**
P23K					**Sn**	**03 36 56.9**	**-1.6**
P23K	**Montague Islan**	**3.60**	**12**	P	**Pn**	**03 36 17.5**	**+0.2**
	baz=192						
P23K				S	**Sn**	**03 36 56.9**	**-1.6**
	baz=192						
SEW	**Seward**	**3.63**	**355**		**Pn**	**03 36 17.8**	**0.0**
SEW	**Seward**	**3.63**	**355**	P	**Pn**	**03 36 17.8**	**0.0**
	baz=174						
KAHG	**Katmai Hook Gl**	**3.67**	**306**		**Pn**	**03 36 19.3**	**+1.0**
P19K	**Oil Pt**	**3.93**	**326**	Pn	**Pn**	**03 36 22.6**	**+0.7**
P19K				IAML		03 37 12.4	
	comp=N,106nm,0.5s						
P19K				IAML		03 37 14.1	
	comp=E,100nm,0.6s						
P19K	**Oil Pt**	**3.93**	**326**	P	**Pn**	**03 36 22.9**	**+1.0**
	baz=142						
O22K	**Cooper Landing**	**4.02**	**354**	Pn	**Pn**	**03 36 23.5**	**+0.3**
O22K				IAML		03 37 12.5	
	comp=N,141nm,0.4s						
SLKM	**Skilak Lake**	**4.09**	**351**		**Pn**	**03 36 24.0**	**-0.1**
HIN	**Hinchinbrook I**	**4.11**	**17**	Pn	**Pn**	**03 36 24.7**	**+0.4**
O20K	**Slope Mountain**	**4.11**	**333**		**Pn**	**03 36 24.9**	**+0.4**
O20K	**Slope Mountain**	**4.11**	**333**	P	**Pn**	**03 36 24.9**	**+0.4**
	baz=149						
IVE	**Iliamna Volcan**	**4.16**	**330**		**Pn**	**03 36 25.3**	**+0.2**
KAIM	**Kayak Island**	**4.17**	**32**	Pn	**Pn**	**03 36 25.9**	**+0.8**
KAIM				IAML		03 37 17.8	
	comp=E,122nm,0.6s						
KAIM	**Kayak Island**	**4.17**	**32**	P	**Pn**	**03 36 25.7**	**+0.6**
	baz=216						
CNTC	**Contact Creek**	**4.20**	**298**		**Pn**	**03 36 26.3**	**+0.7**
Q17K	**Contact Creek**	**4.20**	**298**	P	**Pn**	**03 36 26.3**	**+0.7**
	baz=112						
EYAK	**Cordova Ski Ar**	**4.38**	**21**		**Pn**	**03 36 28.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.38**	**21**	P	**Pn**	**03 36 28.6**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.38**	**21**	P	**Pn**	**03 36 28.7**	**+0.6**
	baz=202						
RED	**Redoubt Volcan**	**4.44**	**334**		**Pn**	**03 36 29.0**	**0.0**
FID	**Port Fidalgo**	**4.45**	**15**		**Pn**	**03 36 28.4**	**-0.6**
FID				IAML		03 37 16.9	
	comp=E,96nm,0.5s						
FID				IAML		03 37 18.4	
	comp=N,84nm,0.3s						
CAPN	**Captain Cook N**	**4.45**	**345**	Pn	**Pn**	**03 36 29.9**	**+0.9**
RDSO	**Redoubt South**	**4.46**	**334**		**Pn**	**03 36 29.3**	**0.0**
P18K	**Big Mountain,**	**4.47**	**313**		**Pn**	**03 36 29.8**	**+0.5**
P18K	**Big Mountain,**	**4.47**	**313**	P	**Pn**	**03 36 29.9**	**+0.6**
	baz=128						
RSO	**Redoubt South**	**4.47**	**334**	Pn	**Pn**	**03 36 29.7**	**+0.2**
RAGM	**Ragged Mountai**	**4.48**	**28**	Pn	**Pn**	**03 36 30.1**	**+0.6**
RDT	**Redoubt**	**4.49**	**337**		**Pn**	**03 36 29.5**	**-0.2**
RDWB	**Redoubt West**	**4.52**	**334**		**Pn**	**03 36 30.0**	**-0.1**
DFR	**Drift River**	**4.57**	**336**		**Pn**	**03 36 30.8**	**0.0**
NCT	**North Crescent**	**4.60**	**334**		**Pn**	**03 36 31.2**	**0.0**
RC01	**Rabbit Creek A**	**4.63**	**355**	Pn	**Pn**	**03 36 31.5**	**0.0**
RC01				IAML		03 37 25.5	
	comp=E,42nm,0.4s						
RC01				IAML		03 37 28.3	
	comp=N,29nm,0.4s						
RC01	**Rabbit Creek A**	**4.63**	**355**	P	**Pn**	**03 36 31.8**	**+0.3**
	baz=174						
GOAT	**Goat Mountain**	**4.63**	**26**		**Pn**	**03 36 32.4**	**+0.7**
O19K	**Port Alsworth**	**4.69**	**324**	Pn	**Pn**	**03 36 32.7**	**+0.3**
O19K	**Port Alsworth**	**4.69**	**324**	P	**Pn**	**03 36 32.7**	**+0.3**
	baz=140						
BERG	**Berg Lake**	**4.75**	**33**	Pn	**Pn**	**03 36 33.7**	**+0.4**
O18K	**Koktuh Hills**	**4.76**	**318**	Pn	**Pn**	**03 36 33.8**	**+0.5**
O18K				IAML		03 37 42.8	
	comp=N,22nm,0.8s						
O18K	**Koktuh Hills**	**4.76**	**318**	P	**Pn**	**03 36 34.0**	**+0.7**
	baz=132						
SNH	**Sunshine Point**	**4.87**	**38**	Pn	**Pn**	**03 36 35.8**	**+0.9**
SNH				IAML		03 37 29.6	
	comp=N,43nm,0.7s						
SNH				IAML		03 37 59.9	
	comp=E,35nm,1.3s						
DIV	**Divide**	**4.92**	**18**		**Pn**	**03 36 36.0**	**+0.5**
KNK	**Knik Glacier**	**4.94**	**2**	Pn	**Pn**	**03 36 36.4**	**+0.7**
KNK				IAML		03 37 38.2	
	comp=N,22nm,0.4s						
KNK				IAML		03 37 38.3	
	comp=E,27nm,0.5s						
KNK	**Knik Glacier**	**4.94**	**2**	P	**Pn**	**03 36 36.5**	**+0.7**
	baz=182						
BMRM	**Bremner River**	**5.00**	**25**		**Pn**	**03 36 37.5**	**+0.8**
BMRM	**Bremner River**	**5.00**	**25**	P	**Pn**	**03 36 37.5**	**+0.8**
	baz=208						
N20K	**Mount Spurr**	**5.03**	**341**	P	**Pn**	**03 36 37.3**	**+0.3**
	baz=158						
SPCR	**Spurr Chakacha**	**5.03**	**341**		**Pn**	**03 36 37.3**	**+0.3**
SUA	**Susitna One**	**5.08**	**350**	Pn	**Pn**	**03 36 37.9**	**+0.1**
SUA	**Susitna One**	**5.08**	**350**	P	**Pn**	**03 36 38.2**	**+0.5**
	baz=168						
SPCP	**Crater Peak Br**	**5.08**	**342**		**Pn**	**03 36 38.4**	**+0.5**
SPCG	**Spurr Capps Gl**	**5.08**	**343**		**Pn**	**03 36 38.3**	**+0.5**
PMR	**Palmer**	**5.12**	**359**	Pn	**Pn**	**03 36 38.4**	**+0.2**
PMR				IAML		03 37 35.6	
	comp=E,17nm,0.5s						
PMR	**Palmer**	**5.12**	**359**	P	**Pn**	**03 36 39.0**	**+0.9**
PMR	**Palmer**	**5.12**	**359**	P	**Pn**	**03 36 38.5**	**+0.4**
	baz=178						
N19K	**Bonanza Creek**	**5.23**	**328**	Pn	**Pn**	**03 36 40.0**	**+0.2**
N19K	**Bonanza Creek**	**5.23**	**328**	P	**Pn**	**03 36 40.1**	**+0.2**
	baz=143						
KLU	**Klutina**	**5.24**	**16**	Pn	**Pn**	**03 36 40.7**	**+0.8**
KLU				IAML		03 37 38.2	
	comp=E,50nm,0.3s						
KLU	**Klutina**	**5.24**	**16**	P	**Pn**	**03 36 40.7**	**+0.8**
	baz=198						
STLK	**Strandline Lak**	**5.25**	**344**		**Pn**	**03 36 40.6**	**+0.5**
GHO	**Glory Hole Cre**	**5.29**	**360**	Pn	**Pn**	**03 36 41.3**	**+0.6**
GHO				IAML		03 37 43.4	
	comp=E,25nm,0.4s						
GHO				IAML		03 37 45.6	
	comp=N,27nm,0.5s						
SML	**Sawmill**	**5.34**	**3**	Pn	**Pn**	**03 36 42.2**	**+1.0**
SML				IAML		03 37 46.3	
	comp=E,24nm,0.4s						
SML				IAML		03 37 46.3	
	comp=N,25nm,0.5s						
SML	**Sawmill**	**5.34**	**3**	P	**Pn**	**03 36 42.3**	**+1.0**
	baz=183						
M23K	**Glacier View**	**5.35**	**6**		**Pn**	**03 36 42.5**	**+1.1**
M23K	**Glacier View**	**5.35**	**6**	P	**Pn**	**03 36 42.5**	**+1.1**
	baz=186						
SCM	**Sheep Creek Mo**	**5.41**	**8**		**Pn**	**03 36 43.4**	**+1.1**
SCM				IAML		03 37 44.1	
	comp=E,37nm,0.3s						
SCM				IAML		03 37 46.2	
	comp=N,40nm,0.7s						
SCM	**Sheep Creek Mo**	**5.41**	**8**	P	**Pn**	**03 36 43.2**	**+0.9**
	baz=189						
VRDI	**Verde Repeater**	**5.51**	**28**	Pn	**Pn**	**03 36 44.2**	**+0.4**
N25K	**Chitina, Valde**	**5.58**	**21**	Pn	**Pn**	**03 36 45.4**	**+0.9**
N25K	**Chitina, Valde**	**5.58**	**21**	P	**Pn**	**03 36 45.5**	**+0.9**
	baz=205						
N18K	**Kilae Creek**	**5.58**	**322**	Pn	**Pn**	**03 36 44.3**	**-0.2**
N18K	**Kilae Creek**	**5.58**	**322**	P	**Pn**	**03 36 44.8**	**+0.2**
	baz=136						
KIAG	**Kiagna River**	**5.58**	**35**		**Pn**	**03 36 45.4**	**+0.6**
GLB	**Gilahina Butte**	**5.61**	**26**	Pn	**Pn**	**03 36 45.6**	**+0.6**
SKT	**Skwentna**	**5.67**	**347**	Pn	**Pn**	**03 36 46.5**	**+0.7**
YKU2	**Yakutat**	**5.75**	**54**	Pn	**Pn**	**03 36 48.1**

SKAG	Skagway	7.78	62	Pn		Pn	03 37 16.6	+1.9
SKAG	Skagway	7.78	62	P		Pn	03 37 15.6	+0.9
N30M	Aishikik Lake	7.85	46	Pn		Pn	03 37 16.7	+0.9
K17K	Iditarod	7.86	326	Pn		Pn	03 37 15.5	-0.3
S32K	Killisnoo	7.87	77	Pn		Pn	03 37 15.0	-0.9
O30N	Mendenhall	7.92	52	Pn		Pn	03 37 18.1	+1.4
M29M	Somme Creek	7.97	37	Pn		Pn	03 37 18.9	+1.5
HDA	Harding Lake	8.00	6	Pn		Pn	03 37 18.7	+1.1
J18K	Innoko River	8.02	334	Pn		Pn	03 37 18.0	0.0
JIS	Juneau Island	8.02	71	Pn		Pn	03 37 18.9	+0.9
JIS	Juneau Island	8.02	71	P		Pn	03 37 18.4	+0.4
NEA2	Nenana	8.13	359	Pn		Pn	03 37 20.0	+0.5
J20K	Nowinta River	8.14	343	Pn		Pn	03 37 19.9	+0.3
CCB	Clear Creek Bu	8.20	3	Pn		Pn	03 37 21.6	+1.3
J19K	Poorman	8.23	339	Pn		Pn	03 37 20.5	-0.4
K27K	Chicken	8.27	21	Pn		Pn	03 37 22.7	+1.2
J25K	Salcha River,	8.32	10	Pn		Pn	03 37 22.2	0.0
IL31		8.36	6	Pn		Pn	03 37 23.1	+0.5
ILAR	Eielson Array	8.36	6	Pn		Pn	03 37 22.3	-0.4
WHY	Whitehorse	8.41	54	Pn		Pn	03 37 24.0	+0.6
COLA	College	8.42	3	P		Pn	03 37 25.3	+1.8
	comp=N,3.6nm,2.4s							
J26L	Joseph Creek	8.44	16	Pn		Pn	03 37 24.3	+0.4
MDM	Murphy Dome	8.50	2	Pn		Pn	03 37 25.5	+0.9
L29M	L29M	8.55	35	Pn		Pn	03 37 26.8	+1.5
P32M	Atlin	8.61	63	Pn		Pn	03 37 26.7	+0.6
MLY	Manley	8.61	355	Pn		Pn	03 37 26.6	+0.5
MLY	Manley	8.61	355	P		Pn	03 37 25.7	-0.4
	baz=175							
M30M	Minto, Yukon	8.64	40	Pn		Pn	03 37 27.4	+0.9
L14K	Kuka Creek	8.64	310	Pn		Pn	03 37 28.1	+1.7
POKR	Poker Plat Res	8.68	4	Pn		Pn	03 37 27.3	+0.3
K15K	Wolf Creek Mou	8.68	317	Pn		Pn	03 37 28.0	+0.9
I23K	Minto, Yukon-K	8.69	359	Pn		Pn	03 37 28.0	+0.9
U33K	Whale Pass	8.76	86	Pn		Pn	03 37 26.8	-1.3
I21K	Tanana	8.85	351	Pn		Pn	03 37 29.1	-0.2
DAWY	Dawson	8.92	28	Pn		Pn	03 37 30.5	+0.1
EGAK	Eagle	9.12	21	Pn		Pn	03 37 34.0	+1.0
Q32M	Nakina River	9.21	68	Pn		Pn	03 37 35.2	+0.7
P33M	Teslin, Yukon	9.21	60	Pn		Pn	03 37 35.1	+0.7
I26K	Coal Creek Min	9.26	15	Pn		Pn	03 37 35.4	+0.4
M31M	Drury Creek, Y	9.33	46	Pn		Pn	03 37 37.2	+1.2
H24K	Noodor Dome	9.39	2	Pn		Pn	03 37 37.7	+0.9
H21K	Melozitna Rive	9.39	350	Pn		Pn	03 37 36.6	-0.1
H21K	Melozitna Rive	9.39	350	P		Pn	03 37 36.5	-0.2
	baz=166							
N32M	Quiet Lake	9.41	54	Pn		Pn	03 37 37.8	+0.7
FARO	Faro, Yukon	9.77	48	Pn		Pn	03 37 43.9	+2.0
IMAR	Indian Mountai	9.80	348	Pn		Pn	03 37 42.0	-0.4
R33M	Jennings River	9.94	66	Pn		Pn	03 37 44.8	+0.4
I28M	Miner Creek	9.96	22	Pn		Pn	03 37 46.0	+1.3
J30M	Hart River	10.16	32	Pn		Pn	03 37 49.8	+2.3
FYU	Fort Yukon	10.25	8	Pn		Pn	03 37 48.9	+0.4
G23K	Bananza Creek	10.27	357	Pn		Pn	03 37 48.9	+0.1
F20K	Avaraart Lake	11.07	346	Pn		Pn	03 38 00.0	+0.4
F24K	Squaw Lake	11.07	2	Pn		Pn	03 38 01.3	+1.5
BMAR	Burnt Mountain	11.15	9	Pn		Pn	03 38 00.9	0.0
E25K	Arctic Village	11.77	6	Pn		Pn	03 38 10.1	+0.9

IDC ***28*** *03:43:29.6±2.2, 37°.81S×74°.33W, h0km, mb4.0/3, mbtmp3.9/4, ML3.8/1, MS3.9/15, Error ellipse: s-maj=57.7km s-min=36.9km az=84.0*
NEIC ***28*** *03:43:31.0±1.1, 37°.88S±0°.05×74°.2W±0°.1, h10km±2km, mb4.3/7, Error ellipse: s-maj=14.2km s-min=8.5km az=280.0*
GUC ***28*** *03:43:32.1±0.3, 37°.91S×74°.25W, h24km±2km, ML4.1*
ISC 28 03:43:32.3±0.7,**37°.92S**±0°.04×**74°.16W**±0°.07,**h18**km,**n85**, σ1§**08**/77,**mb4.1**/5,**MS4.0**/15,**1C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**0.53**	**156**	*i* P	**Pb**	**03 43 42.6**	**-0.4**
BI04				*e*S	**Sg**	**03 43 50.3**	**+0.1**
BI04				IAML		03 43 53.1	
	comp=E,30μm,0.5s						
LC02	**Puerto Saavedr**	**1.06**	**145**	Pn	**Pn**	**03 43 51.9**	**-0.4**
LC02	**Puerto Saavedr**	**1.06**	**145**	*i* P	**Pn**	**03 43 50.8**	**-1.4**
LC02				*e*S	**Sb**	**03 44 05.3**	**-0.3**
BI05	**Punta Hualpn**	**1.41**	**34**		**Pn**	**03 43 56.6**	**-0.3**
BI05	**Punta Hualpn**	**1.41**	**34**	*i* P	**Pn**	**03 43 56.2**	**-0.8**
BI05				*e*S	**Sn**	**03 44 14.2**	**-0.9**
BI05				IAML		03 44 31.8	
	comp=E,2μm,0.5s						
LR04	**Corral**	**2.04**	**164**	*i* P	**Pn**	**03 44 07.5**	**+1.9**
LR03	**Panguipulli**	**2.22**	**141**	*i* P	**Pn**	**03 44 08.7**	**+0.5**
LR03				IAML		03 44 57.1	
	comp=N,3μm,0.6s						
GO06	**Curarrehue**	**2.68**	**129**	Pn	**Pn**	**03 44 15.1**	**+0.5**
GO06	**Curarrehue**	**2.68**	**129**	*i* P	**Pn**	**03 44 15.3**	**+0.7**
GO06				IAML		03 45 03.8	
	comp=N,396nm,0.8s						
LR05	**Currie**	**2.85**	**145**	Pn	**Pn**	**03 44 17.3**	**+0.5**
LR05	**Currie**	**2.85**	**145**	*i* P	**Pn**	**03 44 17.5**	**+0.6**
ML02	**Panimavida**	**3.08**	**46**	Pn	**Pn**	**03 44 19.9**	**-0.2**
GO05	**Huala**	**3.42**	**32**	Pn	**Pn**	**03 44 24.4**	**-0.3**
GO05	**Huala**	**3.42**	**32**	*i* P	**Pn**	**03 44 24.9**	**+0.2**
GO05				IAML		03 45 36.0	
	comp=E,286nm,0.3s						
LL05	**Los Muermos**	**3.52**	**172**	Pn	**Pn**	**03 44 24.9**	**-1.1**
LL05	**Los Muermos**	**3.52**	**172**	*i* P	**Pn**	**03 44 26.3**	**+0.3**
LL05				IAML		03 45 06.0	
	comp=N,539nm,0.4s						
PLCA	**Paso Flores**	**3.96**	**136**	Pn	**Pn**	**03 44 33.1**	**+0.8**
PLCA	**Paso Flores**	**3.96**	**136**	Pn	**Pn**	**03 44 33.6**	**+1.3**
	comp=N,1.3nm,0.3s,baz=306,slow=12,SNR=46						
PLCA				Sn	**Sb**	**03 45 25.5**	**-3.8**
	comp=N,4.9nm,0.3s,baz=236,slow=11,SNR=3.8						
	comp=N,3.4nm,0.3s						
BO02	**Sierra Bellavi**	**4.15**	**42**		**Pn**	**03 44 34.4**	**-0.4**
LL06	**Loncomilla**	**4.31**	**175**	Pn	**Pn**	**03 44 35.3**	**-1.6**
LL06	**Loncomilla**	**4.31**	**175**	*i* P	**Pn**	**03 44 37.0**	**+0.2**
BO01	**Tunca**	**4.32**	**36**		**Pn**	**03 44 36.3**	**-0.7**
LL01	**San Ignacio de**	**4.65**	**164**	Pn	**Pn**	**03 44 41.3**	**-0.2**
LL01	**San Ignacio de**	**4.65**	**164**	*i* P	**Pn**	**03 44 42.3**	**+0.8**
LL01				*e*S	**Sn**	**03 45 33.9**	**-1.0**
MT01	**Popeta**	**4.69**	**31**		**Pn**	**03 44 41.2**	**-0.9**
VA05	**Santo Domingo**	**4.74**	**27**		**Pn**	**03 44 41.5**	**-1.3**
BO04	**La Punta**	**4.87**	**37**		**Pn**	**03 44 44.3**	**-0.4**
MT09	**Talagante**	**4.88**	**33**		**Pn**	**03 44 44.0**	**-0.6**
LL07	**Hotel Espejo d**	**4.93**	**174**	*i* P	**Pn**	**03 44 43.6**	**-1.8**
LMEL	**Las Melosas**	**5.18**	**40**	Pn	**Pn**	**03 44 49.0**	**-0.1**
LMEL	**Las Melosas**	**5.18**	**40**	*i* P	**Pn**	**03 44 50.7**	**+1.6**
LMEL				*e*S	**Sn**	**03 45 48.6**	**+0.1**
MT13	**San Alfonso**	**5.23**	**38**		**Pn**	**03 44 49.0**	**-0.6**
MT02	**Curacav**	**5.27**	**29**		**Pn**	**03 44 48.2**	**-1.9**
MT05	**Renca**	**5.31**	**33**	Pn	**Pn**	**03 44 50.0**	**-0.8**
MT03	**Universidad Ad**	**5.33**	**35**		**Pn**	**03 44 49.9**	**-1.1**
MT16	**CCHEN**	**5.38**	**35**		**Pn**	**03 44 50.7**	**-1.0**
PEL	**Peldehue**	**5.55**	**32**		**Pn**	**03 44 53.1**	**-0.9**
FCH	**Farellones**	**5.57**	**36**	*i* P	**Pn**	**03 44 54.3**	**-0.2**
FCH				*e*S	**Sn**	**03 45 58.7**	**+0.6**
H03S1	**Juan Fernandez**	**5.60**	**315**	Pn	**Pn**	**03 44 52.9**	**-1.5**
H03S1				T	T	03 50 36.4	
	baz=138,slow=74,SNR=2224						
H03S3	**Juan Fernandez**	**5.62**	**315**	Pn	**Pn**	**03 44 53.1**	**-1.6**
H03S3				T	T	03 50 36.4	
	baz=138,slow=74,SNR=1654						
H03S2	**Juan Fernandez**	**5.62**	**315**	Pn	**Pn**	**03 44 53.0**	**-1.6**
H03S2				T	T	03 50 36.1	
	baz=138,slow=74,SNR=1987						
VA04	**Juan Fernndez**	**5.71**	**317**	Pn	**Pn**	**03 44 55.2**	**-1.0**
VA06	**Catapilco**	**5.84**	**25**		**Pn**	**03 44 56.9**	**-1.1**
H03N3	**Juan Fernandez**	**5.91**	**318**	Pn	**Pn**	**03 44 58.3**	**-0.4**
H03N3				T	T	03 51 03.5	
	baz=167,slow=76,SNR=68						
H03N1	**Juan Fernandez**	**5.91**	**318**	Pn	**Pn**	**03 44 57.8**	**-0.9**
H03N1				T	T	03 51 04.0	
	baz=167,slow=76,SNR=56						
H03N2	**Juan Fernandez**	**5.92**	**318**	Pn	**Pn**	**03 44 58.2**	**-0.6**
H03N2				T	T	03 51 03.7	
	baz=167,slow=76,SNR=51						
VA03	**San Esteban**	**5.94**	**31**		**Pn**	**03 44 58.6**	**-0.7**
AY01	**Puyuhuapi**	**6.59**	**170**	Pn	**Pn**	**03 45 08.4**	**+0.2**
CO02	**Combarbal**	**7.19**	**22**		**Pn**	**03 45 15.4**	**-1.3**
CO06	**Fray Jorge**	**7.53**	**17**	Pn	**Pn**	**03 45 18.6**	**-2.5**
CO03	**El Pedregal**	**7.63**	**23**	Pn	**Pn**	**03 45 21.7**	**-0.9**
COYC	**Coyhaique**	**7.80**	**169**	Pn	**Pn**	**03 45 25.3**	**+0.5**
GO04	**Tololo Observa**	**8.22**	**21**		**Pn**	**03 45 29.7**	**-1.2**
CO05	**La Serena**	**8.35**	**18**	Pn	**Pn**	**03 45 31.4**	**-0.9**
CO01	**Juntas del Tor**	**8.62**	**24**	Pn	**Pn**	**03 45 35.8**	**-0.5**
LCO	**Las Campanas**	**9.35**	**19**	Pn	**Pn**	**03 45 44.9**	**-1.5**
AY03	**Cochrane**	**9.39**	**173**	Pn	**Pn**	**03 45 47.9**	**+1.3**
TRQA	**Tornquist**	**9.62**	**95**	Pn	**Pn**	**03 45 51.1**	**+1.2**
GO08	**Villa O'Higgin**	**10.60**	**174**	Pn	**Pn**	**03 46 04.5**	**+1.3**
EFI	**East Falkland**	**17.82**	**146**		**P**	**03 47 40.8**	**+1.0**
EFI				IAmb	IAmb	03 47 48.8	
	comp=Z,43nm,1.1s						
PB11	**IPOC Station P**	**18.52**	**13**		**Pn**	**03 47 48.4**	**+0.3**
PB11				IAmb	IAmb	03 48 11.8	
	comp=Z,28nm,1.0s						
GO01	**Chusmiza**	**18.70**	**15**		**Pn**	**03 47 50.7**	**+0.2**
PB16	**IPOC Station P**	**19.94**	**13**	P	**Pn**	**03 48 04.9**	**-0.6**
PB16				IAmb	IAmb	03 48 19.1	
	comp=Z,22nm,1.3s						
LPAZ	**La Paz**	**22.20**	**15**	P	**P**	**03 48 27.4**	**-0.9**
SIV	**San Ignacio**	**24.71**	**31**	LR	LR	04 00 35.6	
	comp=Z,466nm,19.0s,baz=202,slow=42						
NNA	**Nana**	**25.94**	**354**	LR	LR	03 57 14.8	
	comp=Z,157nm,19.3s,baz=174,slow=32						
PMSA	**Palmer Station**	**27.55**	**171**	LR	LR	04 01 07.9	
	comp=Z,337nm,18.1s,baz=286,slow=38						
ETMB	**Extrema**	**28.89**	**16**	P	**P**	**03 49 30.5**	**+0.5**
ETMB				IAmb	IAmb	03 49 43.0	
	comp=Z,3.7nm,0.8s						
RPN	**Rapa Nui**	**31.38**	**280**	LR	LR	03 57 53.6	
	comp=Z,32nm,20.8s,baz=96,slow=28						
BDFB	**Brasilia**	**32.02**	**53**	P	P	03 50 03.1	+5.3
	comp=Z,1.8nm,0.5s,baz=225,slow=7.1,SNR=4.1						
BDFB				LR	LR	04 02 40.5	
	comp=Z,343nm,18.0s,baz=268,slow=36						
BAUV	**El Baul**	**46.97**	**8**	P	**P**	**03 52 02.4**	**+0.2**
RCBR	**Riachuelo**	**47.20**	**57**	LR	LR	04 11 19.9	
	comp=Z,152nm,18.5s,baz=233,slow=35						
MDP	**Montagnes des**	**47.25**	**30**	LR	LR	04 13 04.7	
	comp=Z,187nm,18.4s,baz=196,slow=38						
QSPA	**South Pole Qui**	**52.32**	**180**	P	**P**	**03 52 42.0**	**-0.6**
QSPA				IAmb	IAmb	03 53 03.7	
	comp=Z,5.4nm,1.4s						
QSPA	**South Pole Qui**	**52.32**	**180**	P	**P**	**03 52 43.9**	**+1.2**
	comp=Z,1.8nm,1.0s,baz=268,slow=2.0,SNR=2.6						
	comp=Z,1.8nm,1.0s						
MAW	**Mawson**	**69.91**	**164**	LR	LR	04 24 07.6	
	comp=Z,117nm,19.8s,baz=223,slow=35						
LPIG	**La Paz**	**70.42**	**325**	LR	LR	04 18 45.7	
	comp=Z,74nm,19.4s,baz=20,slow=30						
TXAR	**Lajitas Array**	**72.38**	**333**	LR	LR	04 22 22.9	
	comp=Z,33nm,20.4s,baz=44,slow=32						
SUR	**Sutherland**	**74.44**	**119**	LR	LR	04 23 55.4	
	comp=Z,59nm,19.9s,baz=226,slow=32						
DBIC	**Dimbokro**	**78.06**	**72**	P	**P**	**03 55 31.6**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=230,slow=6.5,SNR=2.3						
	comp=Z,1.7nm,0.8s						
TSUM	**Tsumeb**	**79.79**	**106**	LR	LR	04 26 07.4	
	comp=Z,52nm,18.2s,baz=287,slow=32						
LBTB	**Lobatse**	**82.20**	**116**	LR	LR	04 30 13.2	
	comp=Z,47nm,18.0s,baz=218,slow=34						
TORD	**Torodi Ar. Bea**	**87.14**	**71**	P	**P**	**03 56 17.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=229,slow=4.6,SNR=7.5						
	comp=Z,0.4nm,0.5s						
LSZ	**Lusaka**	**90.17**	**109**	LR	LR	04 35 53.8	
	comp=Z,44nm,18.1s,baz=230,slow=35						
MDT	**Midelt**	**95.60**	**52**	LR	LR	04 37 51.0	
	comp=Z,64nm,20.8s,baz=231,slow=34						

MEX ***28*** *03:49:27.1±0.9, 14°.34N×91°.90W, h80km±14km, MD3.9*
GCG ***28*** *03:49:30.5±0.3, 14°.46N×91°.76W, h54km±4km, MD3.2*
ISC 28 03:49:28.3±2.0,**14°.3N**±0°.1×**92°.03W**±0°.07,**h45**km±23km, **n12**,σ1§**99**/23,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.46**	**83**	*i* P	**Pn**	**03 49 39.5**	**+0.8**
SULM				*i* S	**Sn**	**03 49 46.5**	**+0.4**
STG3	**Santiaguito 3,**	**0.64**	**44**	*i* P	**Pn**	**03 49 40.8**	**-0.4**
STG3				*i* S	**Sn**	**03 49 50.9**	**+0.4**
THIG		**0.69**	**341**	*i* S	**Sn**	**03 49 52.4**	**+1.0**
CHUJ	**Union Juarez**	**0.84**	**355**	*i* P	**Pn**	**03 49 42.5**	**-1.5**
CHUJ				*i* S	**Sn**	**03 49 54.5**	**-0.9**
PATR	**El Naranjo**	**0.88**	**347**	*e*P	**Pn**	**03 49 42.8**	**-1.7**
PATR				*i* S	**Sn**	**03 49 55.4**	**-1.0**
PAVE	**Pavencul**	**0.95**	**352**	*i* P	**Pn**	**03 49 44.0**	**-1.4**
PAVE				*i* S	**Sn**	**03 49 57.5**	**-0.5**
FUG	**Fuego 3**	**1.17**	**80**	*i* P	**Pn**	**03 49 47.5**	**-0.9**
FUG				*i* S	**Sn**	**03 50 02.6**	**-0.7**
PCIG		**1.85**	**322**	*i* P	**Pn**	**03 49 56.3**	**-1.2**
PCIG				*e*S	**Sn**	**03 50 18.1**	**-1.5**
CCIG	**Comitan**	**2.02**	**357**	*e*P	**Pn**	**03 49 57.0**	**-3.1**
CCIG				*e*S	**Sn**	**03 50 28.3**	**+4.1**
TGIG		**2.73**	**337**	*e*P	**Pn**	**03 50 13.5**	**+3.9**
TGIG				*i* S	**Sn**	**03 50 44.2**	**+2.8**
UXUV	**UXUV**	**3.67**	**327**	*e*P	**Pn**	**03 50 22.1**	**-0.4**
UXUV				*e*S	**Sn**	**03 51 07.4**	**+2.9**
CMIG	**Matias Romero**	**3.94**	**316**	*e*P	**Pn**	**03 50 25.1**	**-1.2**
CMIG				*e*S	**Sn**	**03 51 11.1**	**-0.1**

GCG ***28*** *04:05:12.6±1.4, 14°.55N×90°.51W, h6km±999km, MD2.4*
CATAC 28 04:05:09.5±0.4,**14°.81N×90°.65W,h5**km,**ML3.0, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMI	**Mixco**	**0.18**	**168**	*i* P	Pg	04 05 15.5	+2.4
GUMI				IAML		04 05 15.6	
	comp=Z,9μm,1.0s						
GCG4	**OSOP**	**0.25**	**152**	*i* P	Pg	04 05 14.6	+0.2
GCG4				*i* S	Sg	04 05 16.3	-1.3
GCG4				IAML		04 05 17.3	
	comp=Z,7μm,1.0s						
GUNB	**GUNB**	**0.36**	**125**	*i* P	Pg	04 05 17.1	+0.5
GUNB				*i* S	Sg	04 05 20.5	-0.9
GUNB				IAML		04 05 21.1	
	comp=Z,3μm,1.0s						
NBG	**Las Nubes**	**0.37**	**127**	*i* P	Pg	04 05 17.7	+1.0
NBG				*i* S	Sg	04 05 20.4	-1.2
FUG	**Fuego 3**	**0.40**	**208**	*i* P	Pn	04 05 20.8	-1.4
FUG				*i* S	Sb	04 05 25.6	-0.2
ESSG	**Sabana Grande**	**0.46**	**203**	*i* P	Pb	04 05 20.3	+0.2
ESSG				*i* S	Sg	04 05 25.4	+1.1
ESSG				IAML		04 05 27.0	
	comp=Z,710nm,1.0s						
QUIS	**Sacapulas**	**0.64**	**318**	*i* P	Pb	04 05 22.9	-0.4
QUIS				*i* S	Sg	04 05 28.9	-1.4
QUIS				IAML		04 05 43.4	
	comp=Z,310nm,1.0s						
STG3	**Santiaguito 3,**	**0.90**	**264**	*i* P	Pn	04 05 33.1	+4.1
STG3				*i* S	Sn	04 05 47.3	+4.9
MTO3	**Montecristo**	**1.31**	**108**	*i* P	Pg	04 05 34.1	-0.6
MTO3				IAML		04 05 34.7	
	comp=Z,140nm,1.0s						
SARH	**Santa Rosa de**	**1.83**	**91**	*i* P	Pg	04 05 44.3	-0.3

IDC ***28*** *04:07:07.8±1.6, 33°.99N×45°.56E, h0km, mb3.8/12, mbtmp3.8/14, ML3.6/2, MS3.2/7, Error ellipse: s-maj=36.7km s-min=19.5km az=159.0*
ISN ***28*** *04:07:07.3±0.7, 33°.74N×45°.62E, h8km±4km, ML3.4*
TEH ***28*** *04:07:09.0, 33°.80N×45°.74E, h12km±31km, ML3.6*
AFAD ***28*** *04:07:12.5±0.0, 33°.95N×45°.66E, h7km±10km, ML3.7*
ISC 28 04:07:08.3±0.5,**33°.76N**±0°.03×**45°.71E**±0°.04,**h10**km,**n61**, σ1§**85**/63,**mb3.7**/11,**MS3.3**/4,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.44**	**107**	Pg	**Pg**	**04 07 17.8**	**+0.9**
IBDR	**Badra**	**0.67**	**164**	*e*Pg	**Pg**	**04 07 21.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**04 07 30.0**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.75**	**353**	Pg	**Pg**	**04 07 22.7**	**-0.1**
IGHG	**Ghaleghazi**	**0.92**	**51**	Pg	**Pg**	**04 07 25.5**	**-0.4**
IDHR	**Dehrash**	**1.10**	**31**	Pg	**Pg**	**04 07 29.0**	**-0.4**
BHD	**Baghdad**	**1.21**	**247**	*e*Pn	**Pb**	**04 07 31.0**	**-0.3**
BHD				*e*Sn	**Sn**	**04 07 49.0**	**+1.3**
BHD				AML	AML	04 07 53.0	
	comp=E,3μm,0.3s						
KCHF	**Cheshme Sefid,**	**1.22**	**65**	Pg	**Pn**	**04 07 31.8**	**+0.1**
ILIN	**Lien**	**1.56**	**42**	Pg	**Pn**	**04 07 38.1**	**+1.8**
IKFM	**Kafar-mosalman**	**1.80**	**97**	Pg	**Pn**	**04 07 41.4**	**+2.0**
IBZA	**Bozab**	**1.92**	**68**	Pn	**Pn**	**04 07 43.1**	**+1.8**
RAFI	**Al-Rafai**	**2.06**	**170**	*e*Pn	**Pn**	**04 07 44.0**	**+1.1**
RAFI				*e*Sn	**Sb**	**04 08 11.0**	**-0.4**
RAFI				AML	AML	04 08 18.4	
	comp=N,239nm,0.5s						
RAFI				AML	AML	04 08 18.6	
	comp=E,213nm,0.3s						
IALM	**Almabolaq**	**2.32**	**61**	Pn	**Pn**	**04 07 47.5**	**+0.7**
SDS1	**Sardasht. Az.**	**2.39**	**356**	Pn	**Pn**	**04 07 49.7**	**+1.9**
HSAM	**Samen**	**2.45**	**79**	Pn	**Pn**	**04 07 50.0**	**+1.5**
MAHB	**Mahabad**	**3.00**	**360**	Pn	**Pn**	**04 07 58.2**	**+2.1**
HAGD	**Aghdareh**	**3.04**	**69**	Pn	**Pn**	**04 07 58.6**	**+2.0**
IHSH	**Hashtrud**	**3.76**	**19**	Pn	**Pn**	**04 08 08.7**	**+2.0**
IRAZ	**Razeghan**	**3.85**	**64**	Pn	**Pn**	**04 08 09.9**	**+2.1**
CUKT	**Cukurca**	**3.88**	**334**	P	**Pn**	**04 08 08.1**	**0.0**
CUKT				S	**Sn**	**04 08 50.8**	**-3.0**
CUKT				*i* AML	AML	04 09 23.0	
	comp=E,541nm,0.6s						
CUKT				*i* AML	AML	04 09 29.0	
	comp=E,530nm,0.7s						
CUKT				*i* AML	AML	04 09 38.0	
	comp=E,204nm,0.6s						
YOVA	**Hakkari_Yksek**	**3.99**	**344**	P	**Pn**	**04 08 13.7**	**+3.9**
YOVA				*i* AML	AML	04 09 27.0	
	comp=E,168nm,1.1s						
YOVA				*i* AML	AML	04 09 27.0	
	comp=E,104nm,0.8s						
YOVA				*i* AML	AML	04 09 35.0	
	comp=E,109nm,1.4s						
HAKT	**HAKKARI**	**4.13**	**337**	P	**Pn**	**04 08 13.7**	**+2.1**
HAKT				S	**Sn**	**04 08 59.5**	**-0.5**
HAKT				*i* AML	AML	04 09 30.0	
	comp=E,244nm,0.5s						
HAKT				*i* AML	AML	04 09 34.0	
	comp=E,181nm,0.9s						
HAKT				*i* AML	AML	04 09 53.0	
	comp=E,156nm,1.1s						
JHBN	**Jahan bin**	**4.44**	**109**	Pn	**Pn**	**04 08 17.8**	**+1.8**
SIRN	**Sırnak**	**4.59**	**325**	P	**Pn**	**04 08 18.8**	**+0.9**
SIRN				*i* AML	AML	04 09 46.0	
	comp=E,445nm,0.7s						
SIRN				*i* AML	AML	04 09 48.0	
	comp=E,320nm,0.6s						
SIRN				*i* AML	AML	04 09 55.0	
	comp=E,350nm,1.2s						
ZNGN	**Zangian**	**4.63**	**109**	Pn	**Pn**	**04 08 20.2**	**+1.7**
QAMS	**Qamsar**	**4.74**	**89**	Pn	**Pn**	**04 08 22.0**	**+1.9**
PERV	**Siirt/Pervari-**	**4.91**	**329**	P	**Pn**	**04 08 23.5**	**+1.3**
PERV				S	**Sn**	**04 09 20.2**	**+1.1**
PERV				*i* AML	AML	04 09 59.0	
	comp=E,425nm,0.6s						
PERV				*i* AML	AML	04 10 04.0	
	comp=E,252nm,1.3s						
PERV				*i* AML	AML	04 10 12.0	
	comp=E,90nm,1.5s						
IKLH	**Kolahrood**	**4.92**	**93**	Pn	**Pn**	**04 08 25.3**	**+2.7**
IMRD	**Marand**	**4.95**	**360**	Pn	**Pn**	**04 08 24.5**	**+1.7**
GEVA	**Gevas**	**5.03**	**335**	P	**Pn**	**04 08 26.6**	**+2.7**
GEVA				S	**Sn**	**04 09 25.1**	**+3.0**
GEVA				*i* AML	AML	04 10 06.0	
	comp=E,47nm,1.0s						
GEVA				*i* AML	AML	04 10 10.0	
	comp=E,78nm,0.8s						
GEVA				*i* AML	AML	04 10 10.0	
	comp=E,60nm,2.1s						
OZAP	**Van, Ozalp-Mer**	**5.09**	**345**	P	**Pn**	**04 08 28.7**	**+3.9**
OZAP				*i* AML	AML	04 10 14.0	
	comp=E,67nm,1.2s						
OZAP				*i* AML	AML	04 10 39.0	
	comp=E,28nm,1.7s						
OZAP				*i* AML	AML	04 10 46.0	
	comp=E,62nm,1.4s						
GRMI	**Germi**	**5.34**	**19**	Pn	**Pn**	**04 08 30.3**	**+2.1**
KRSH	**Karshahi**	**5.35**	**86**	Pn	**Pn**	**04 08 30.5**	**+2.1**
IZEF	**Zefreh**	**5.61**	**97**	Pn	**Pn**	**04 08 34.6**	**+2.5**
MAKU

KPT	Kopyto	3.63	282	eP		Pn		04 19 44.6	-0.5
TUMR	Tumrok	3.66	271	eP		Pn		04 19 46.6	+1.1
SRDR	Sredinnyy	3.97	287	eP		Pn		04 19 50.2	+0.5
SRDR				eS		Sn		04 20 37.3	+1.7
SMAR	Somma	5.00	248	eP		Pn		04 20 04.4	+0.4
UGLR	Uglovaya	5.01	248	eP		Pn		04 20 04.9	+0.8
UGLR				eS		Sn		04 21 01.9	+0.5
AVH	Avacha	5.03	248	eP		Pn		04 20 04.7	+0.4
AVH				eS		Sn		04 21 02.5	+0.6
KRX	Arik	5.04	250	eP		Pn		04 20 05.0	+0.6
KRX				eS		Sn		04 21 03.1	+1.0
KOK	Koryaka	5.07	249	eP		Pn		04 20 05.9	+0.9
DALK	Dalny	5.14	246	eP		Pn		04 20 04.7	-1.0
DALK				eS		Sn		04 21 02.8	-1.5
PET	Petropavlovsk	5.19	246	eP		Pn		04 20 08.0	+1.5
KRMR	Karymshinskiy	5.56	246	eP		Pn		04 20 12.6	+1.1
PETK	Petropavlovsk- 2.3nm,0.3s,baz=72,slow=18,SNR=18	5.66	250	Pn		Pn		04 20 13.4	+0.5
PETK				Sn		Sn		04 21 18.1	+0.9
	1.2nm,0.3s,baz=84,slow=39,SNR=5.8 5.2nm,0.5s								
MTVR	Mutnovka	5.72	243	eP		Pn		04 20 14.0	+0.1
GRL	Gorelyy	5.74	244	eP		Pn		04 20 15.1	+1.0
ASAK	Asacha	5.92	243	eP		Pn		04 20 17.6	+1.0
ILAR	Eielson Array 1.9nm,0.9s,baz=259,slow=8.6,SNR=16 1.9nm,0.9s	24.49	49	P		P		04 24 07.1	-0.4
YKA	Yellowknife Ar 0.2nm,0.6s,baz=300,slow=8.3,SNR=4.1 0.2nm,0.6s	38.88	47	P		P		04 26 12.7	-0.8
KURBB	Kurchatov Arra 0.6nm,0.9s,baz=54,slow=7.5,SNR=4.9 0.6nm,0.9s	49.80	304	P		P		04 27 40.1	-0.8
MKAR	Makanchi Array 0.2nm,0.5s,baz=46,slow=5.9,SNR=2.1 0.2nm,0.5s	50.52	298	P		P		04 27 45.1	-1.4
TXAR	Lajitas Array 0.5nm,0.7s,baz=312,slow=7.1,SNR=2.5 0.5nm,0.7s	66.30	72	P		P		04 29 38.9	+2.0

KRSC 28 04:30:47.0±0.1, 55°.30N×166°.48E, h32km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
BKI	Bering	0.30	253	eP		Pn	04	30 55.0	-0.2
BKI				eS		Sn	04	31 00.8	+0.3
TUMD	Tumrok D	3.48	271	eP		Pn	04	31 42.9	+4.1
TUMD				eS		Sn	04	32 23.4	+4.5
TUMR	Tumrok	3.62	272	eP		Pn	04	31 44.9	+4.0
TUMR				eS		Sn	04	32 27.2	+4.7
SMAR	Somma	4.94	249	eP		Pn	04	32 03.5	+4.5
UGLR	Uglovaya	4.95	248	eP		Pn	04	32 03.7	+4.5
UGLR				eS		Sn	04	33 00.3	+5.0
AVH	Avacha	4.97	249	eP		Pn	04	32 04.0	+4.6
AVH				eS		Sn	04	33 00.9	+5.2
KRX	Arik	4.97	250	eP		Pn	04	32 04.1	+4.6
KRX				eS		Sn	04	33 01.1	+5.1
MTVR	Mutnovka	5.66	244	eP		Pn	04	32 13.5	+4.7
ASAK	Asacha	5.86	244	eP		Pn	04	32 16.4	+4.9

*IDC **28** 04:33:34.4±10.0, 25°.51S×178°.50W, h450km±62km, mb3.5/3, mbtmp4.6/5, Error ellipse: s-maj=164.9km s-min=42.7km az=70.0*

ISC 28 04:33:39.7±4.1, 25°.85S×179°.2W±0°.4, h450km, n20, σ1§44/21, mb4.0/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
WMGZ	Waiomatatini S	12.18	189	P		P	04	36 20.4	+0.1
HAZ	Te Kaha	12.22	192	P		P	04	36 21.3	+0.6
MKAZ	Moumakai	12.29	202	P		P	04	36 23.9	+2.4
PKGZ	Pakihiroa	12.30	190	P		P	04	36 22.8	+1.1
RUGZ	Raukumara Rang	12.44	192	P		P	04	36 24.0	+0.7
PUZ	Puketiti	12.45	190	P		P	04	36 25.0	+1.7
TWGZ	Tauwhareparae	12.60	190	P		P	04	36 25.4	+0.5
TOZ	Tahuroa Road	12.75	200	P		P	04	36 28.8	+2.3
MWZ	Matawai	12.83	192	P		P	04	36 27.3	0.0
URZ	Urewera 23nm,0.3s,baz=11,slow=2.5,SNR=48	12.84	193	P		P	04	36 27.2	-0.2
URZ				S		S	04	38 45.0	-0.9
	13nm,0.8s,baz=9.5,slow=12,SNR=3.2								
URZ	Urewera	12.84	193	P		P	04	36 26.8	-0.6
CNGZ	Carnagh Statio	12.86	189	P		P	04	36 29.4	+1.8
MKRZ	Makatiti	12.87	196	P		P	04	36 24.0	-3.9
TKGZ	Te Karaka	12.87	191	P		P	04	36 27.6	-0.2
RAGZ	Rawiri	13.01	192	P		P	04	36 29.7	+0.3
MUGZ	Murupara	13.12	194	P		P	04	36 30.5	0.0
DZM	Mont Dzumac 11nm,0.8s,baz=87,slow=16,SNR=6.3	13.68	283	P		P	04	36 37.0	+0.1
STKA	Stephens Creek 1.9nm,0.5s,baz=104,slow=14,SNR=7.6 1.9nm,0.5s	34.79	251	P		P	04	39 51.4	+0.3
ASAR	Alice Springs 3.0nm,0.4s,baz=91,slow=7.8,SNR=76 3.0nm,0.4s	42.52	262	P		P	04	40 54.0	-0.4
WRA	Warramunga Arr 3.0nm,0.4s,baz=104,slow=8.0,SNR=59 3.0nm,0.4s	43.08	268	P		P	04	40 57.8	-1.0

*IDC **28** 04:44:02.8±0.7, 55°.68N×149°.20W, h0km, mb4.2/25, mbtmp4.1/30, ML3.8/5, MS3.3/8, Error ellipse: s-maj=17.7km s-min=11.8km az=29.0*

*NEIC **28** 04:44:03.5, 55°.63N×149°.04W, h14km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^15^Nm; Mrr2.70; Mθθ-1.94; Mφφ-0.76; Mrθ1.10; Mθφ0.65; Mφr-0.70; Fault plane solution: M0 2.79000×10^15^ NP1: φs117.59000°, δ58.95000°, λ93.06000°. NP2: φs291.66000°, δ31.18000°, λ84.93000°. Principal axes: T 3.0272, Plg76.0000°, Azm36.0000°; N -0.4787, Plg3.0000°, Azm296.0000°; P -2.5485, Plg14.0000°, Azm205.0000°;*

*NEIC **28** 04:44:03.5, 55°.63N×149°.22W, h10km*

*NEIC **28** 04:44:03.5, 55°.63N×149°.22W, h14km*

*MOS **28** 04:44:03.2±1.2, 55°.77N×149°.01W, h14km, mb4.6/22, Error ellipse: s-maj=14.8km s-min=5.5km az=92.4*

*NEIC **28** 04:44:03.5±1.9, 55°.63N±0°.07×149°.22W±0°.06, h10km±1km, mb4.6/57, ML4.2/44, Mwr4.0/68, Mww4.2/8, ML3.9(AEIC), Error ellipse: s-maj=11.9km s-min=5.4km az=163.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.94; Mθθ-0.90; Mφφ-0.04; Mrθ0.40; Mθφ-0.01; Mφr-0.64; Fault plane solution: M0 1.19000×10^15^ NP1: φs251.31000°, δ36.16000°, λ50.04000°. NP2: φs117.38000°, δ63.11000°, λ115.15000°. Principal axes: T 1.3150, Plg63.0000°, Azm69.0000°; N -0.3120, Plg22.0000°, Azm285.0000°; P -1.0030, Plg15.0000°, Azm189.0000°;*

*AEIC **28** 04:44:06.5±2.0, 55°.60N±0°.06×149°.20W±0°.10, h7km±3km Error ellipse: s-maj=9.5km s-min=7.9km az=164.0*

ISC 28 04:44:02.9±2.6, 55°.73N±0°.06×149°.18W±0°.04, h2km±16km, n404, σ1§16/399, mb4.4/78, MS3.5/5, 4C, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
OHAK	Old Harbor	2.73	305			Pn	04	44 46.0	-1.7
OHAK						Sn	04	45 17.2	-4.0
OHAK	Old Harbor	2.73	305	P		Pn	04	44 46.6	-1.0
OHAK	Old Harbor baz=124	2.73	305	P		Pn	04	44 46.6	-1.0
OHAK				S		Sn	04	45 17.4	-3.8
	baz=124								
KDAK	Kodiak Island	2.79	319	Pn		Pn	04	44 47.6	-0.9
KDAK	Kodiak Island 8.8nm,0.3s,baz=144,slow=4.8,SNR=42	2.79	319	Pn		Pn	04	44 47.7	-0.7
KDAK				Sn		Sn	04	45 18.8	-3.8
	14nm,0.3s,baz=86,slow=20,SNR=8.7								
KDAK				LR		LR	04	46 05.2	
	comp=Z,200nm,19.8s,baz=156,slow=43 22nm,0.3s								
SII	Sitkinak Islan	2.92	289	Pn		Pn	04	44 48.8	-1.5
SII				Sn		Sn	04	45 22.6	-3.4
SII				IAML			04	45 41.2	
	comp=N,344nm,1.2s								
SII	Sitkinak Islan	2.92	289	P		Pn	04	44 49.0	-1.4
SII	Sitkinak Islan baz=106	2.92	289	P		Pn	04	44 49.4	-1.0
SII				S		Sn	04	45 21.9	-4.1
	baz=106								
SYI	Shuyak Island	3.38	330	Pn		Pn	04	44 55.6	-1.0
SYI				Sn		Sn	04	45 34.8	-2.4
Q20K	Shuyak Island baz=149	3.38	330	P		Pn	04	44 56.0	-0.6
Q20K				S		Sn	04	45 34.4	-2.8
	baz=149								
CNPM	China Poot	3.97	345	Pn		Pn	04	45 03.6	-1.1
CNPM				Sn		Sn	04	45 49.0	-2.7
CNPM				IAML			04	45 51.8	
	comp=E,144nm,0.5s								
CNPM				IAML			04	45 53.2	
	comp=N,139nm,0.5s								
Q23K	Middleton Isla	4.01	21	Pn		Pn	04	45 05.3	+0.1
Q23K				IAML			04	45 50.1	
	comp=N,267nm,1.2s								
Q23K				IAML			04	47 10.1	
	comp=E,316nm,2.4s								
Q23K	Middleton Isla baz=203	4.01	21	P		Pn	04	45 05.3	+0.1
MID	Middleton Isla	4.01	21	Pn		Pn	04	45 04.7	-0.6
MID				IAML			04	46 39.9	
	comp=N,256nm,1.8s								
MID				IAML			04	47 10.1	
	comp=E,298nm,2.4s								
MID	Middleton Isla	4.01	21	P		Pn	04	45 05.6	+0.3
MID	Middleton Isla	4.01	21	P		Pn	04	45 04.7	-0.6
Q19K	Cape Douglas,	4.02	325	Pn		Pn	04	45 05.3	-0.1
Q19K				IAML			04	46 10.1	
	comp=N,439nm,0.9s								
Q19K	Cape Douglas, baz=142	4.02	325	P		Pn	04	45 05.5	+0.1
KAHG	Katmai Hook Gl	4.03	316			Pn	04	45 06.4	+0.7
BRSE	Bradley Lake S	4.11	349			Pn	04	45 05.8	-0.9
BRSE						Sn	04	45 52.1	-3.3
BRSE	Bradley Lake S baz=168	4.11	349	P		Pn	04	45 05.8	-0.9
KCE	Katmai Mt Cerb	4.14	310			Pn	04	45 06.8	-0.3
BRLK	Bradley Lake	4.15	348			Pn	04	45 06.4	-0.8
BRLK	Bradley Lake	4.15	348			Sn	04	45 53.1	-3.2
HOM	Homer	4.16	342			Sn	04	45 55.5	-0.9
HOM	Homer	4.16	342	Pn		Pn	04	45 07.1	-0.2
HOM	Homer comp=N,421nm,0.8s	4.16	342	IAML			04	45 58.8	
HOM				IAML			04	46 21.4	
	comp=E,358nm,1.0s								
KAHC	Katmai Hardscr	4.32	315			Pn	04	45 09.8	+0.2
KAHC	Katmai Hardscr baz=131	4.32	315	P		Pn	04	45 09.8	+0.2
AUL	Augustine Lava	4.32	330			Pn	04	45 09.6	0.0
P23K	Montague Islan	4.39	12			Pn	04	45 10.2	-0.2
P23K						Sn	04	45 58.3	-3.8
P23K	Montague Islan baz=193	4.39	12	P		Pn	04	45 11.0	+0.6
SEW	Seward	4.39	358	Pn		Pn	04	45 09.8	-0.7
SEW	Seward baz=178	4.39	358	P		Pn	04	45 10.5	0.0
CNTC	Contact Creek	4.46	308			Pn	04	45 11.5	-0.1
CNTC						Sn	04	46 01.9	-2.2
Q17K	Contact Creek baz=123	4.46	307	P		Pn	04	45 11.6	0.0
P19K	Oil Pt	4.50	333	Pn		Pn	04	45 12.1	+0.1
P19K				IAML			04	46 09.6	
	comp=N,260nm,0.6s								
P19K				IAML			04	46 19.9	
	comp=E,274nm,0.6s								
PLK1	Peulik 1	4.59	300			Pn	04	45 13.5	+0.4
O20K	Slope Mountain	4.74	339			Pn	04	45 14.6	-0.7
O20K						Sn	04	46 09.7	-1.1
O20K	Slope Mountain baz=156	4.74	339	P		Pn	04	45 15.5	+0.2
IVE	Iliamna Volcan	4.77	336			Pn	04	45 15.0	-0.7
O22K	Cooper Landing	4.78	357			Pn	04	45 16.2	+0.5
O22K	Cooper Landing baz=177	4.78	357	P		Pn	04	45 16.1	+0.3
SLKM	Skilak Lake	4.83	354			Pn	04	45 15.5	-1.0
HIN	Hinchinbrook I	4.89	16			Pn	04	45 17.6	+0.2
HIN				IAML			04	46 11.6	
	comp=E,288nm,1.1s								
P18K	Big Mountain,	4.91	321	Pn		Pn	04	45 17.1	-0.6
P18K	Big Mountain, baz=137	4.91	321	P		Pn	04	45 17.0	-0.7
KAIM	Kayak Island	4.92	29			Pn	04	45 17.9	+0.1
KAIM				IAML			04	46 16.5	
	comp=N,279nm,0.5s								
KAIM	Kayak Island baz=213	4.92	29	P		Pn	04	45 17.3	-0.4
R16K	Pilot Point	4.99	295			Pn	04	45 18.2	-0.4
R16K	Pilot Point comp=N,154nm,2.2s	4.99	295	IAML			04	46 24.8	
R16K				IAML			04	48 12.5	
	comp=E,193nm,2.4s								
Q16K	King Salmon	5.03	309			Pn	04	45 18.9	-0.2
Q16K	King Salmon baz=124	5.03	309	P		Pn	04	45 19.0	-0.2
RED	Redoubt Volcan	5.08	339			Pn	04	45 18.8	-1.2
RSO	Redoubt South	5.11	340			Pn	04	45 20.2	-0.4
RDT	Redoubt	5.15	342			Pn	04	45 19.9	-1.1
RDWB	Redoubt West	5.16	339			Pn	04	45 20.6	-0.5
CAPN	Captain Cook N	5.16	349	Pn		Pn	04	45 22.6	+1.5
EYAK	Cordova Ski Ar	5.17	19	Pn		Pn	04	45 21.1	0.0
EYAK	Cordova Ski Ar	5.17	19	P		Pn	04	45 21.5	+0.4
EYAK	Cordova Ski Ar baz=202	5.17	19	P		Pn	04	45 20.9	-0.2
ANNW	Aniakchak Nort	5.18	288			Pn	04	45 21.3	-0.1
CHGN	Chignik	5.22	280	Pn		Pn	04	45 20.8	-0.9
CHGN				IAML			04	46 19.6	
	comp=E,63nm,0.4s								
CHGN				IAML			04	46 20.1	
	comp=N,65nm,0.5s								
FID	Port Fidalgo	5.24	15			Pn	04	45 21.4	-0.7
FID	Port Fidalgo comp=E,179nm,0.6s	5.24	15	IAML			04	46 18.4	
FID				IAML			04	46 25.2	
	comp=N,97nm,0.8s								
P17K	Kvichak River	5.24	315			Pn	04	45 21.8	-0.3
P17K	Kvichak River baz=129	5.24	315	P		Pn	04	45 22.4	+0.2
NCT	North Crescent	5.24	339			Pn	04	45 21.2	-1.0
O18K	Koktuh Hills	5.25	325			Pn	04	45 21.7	-0.5
O18K				IAML			04	46 29.1	
	comp=E,49nm,0.8s								
O18K				IAML			04	46 29.7	
	comp=N,81nm,0.6s								
O18K	Koktuh Hills baz=140	5.25	325	P		Pn	04	45 22.1	-0.2
RAGM	Ragged Mountai	5.25	25			Pn	04	45 22.4	+0.1
O19K	Port Alsworth	5.25	331			Pn	04	45 22.3	+0.1
O19K	Port Alsworth baz=147	5.25	331	P		Pn	04	45 22.4	+0.1
RC01	Rabbit Creek A	5.39	357			Pn	04	45 24.1	0.0
RC01	Rabbit Creek A baz=177	5.39	357	P		Pn	04	45 24.6	+0.5
GOAT	Goat Mountain	5.41	24			Pn	04	45 24.6	+0.1
FIS	Fire Island	5.46	355	Pn		Pn	04	45 26.0	+0.9
SNH	Sunshine Point	5.60	34			Pn	04	45 27.4	+0.3
DIV	Divide	5.71	17			Pn	04	45 29.3	+0.7
N20K	Mount Spurr baz=163	5.72	345	P		Pn	04	45 28.1	-0.6
SPCR	Spurr Chakacha	5.72	345			Pn	04	45 28.1	-0.6
KNK	Knik Glacier	5.72	3			Pn	04	45 29.7	+1.0
KNK	Knik Glacier baz=184	5.72	3	P		Pn	04	45 29.8	+1.0
SPCP	Crater Peak Br	5.77	346			Pn	04	45 29.2	-0.4
SPCG	Spurr Capps Gl	5.78	346			Pn	04	45 29.2	-0.4
BMRM	Bremner River	5.78	23			Pn	04	45 29.6	0.0
BMRM	Bremner River baz=206	5.78	23	P		Pn	04	45 30.6	+1.0
P16K	Nushagak River	5.80	308			Pn	04	45 29.4	-0.4
P16K	Nushagak River baz=122	5.80	308	P		Pn	04	45 29.9	0.0
SUA	Susitna One	5.81	353	Pn		Pn	04	45 29.4	-0.7
SUA	Susitna One baz=172	5.81	353	P		Pn	04	45 30.2	+0.1
N19K	Bonanza Creek	5.82	333			Pn	04	45 28.9	-1.3
O17K	Koliganek Bris	5.87	317			Pn	04	45 30.0	-0.7
O17K	Koliganek Bris baz=131	5.87	317	P		Pn	04	45 30.5	-0.2
PMR	Palmer	5.88	0			Pn	04	45 31.9	+0.9
PMR	Palmer	5.88	0	P		Pn	04	45 31.8	+0.9
PMR	Palmer	5.88	0	P		Pn	04	45 31.9	+0.9
STLK	Strandline Lak	5.95	348			Pn	04	45 31.5	-0.5
CNBA	Chernabura Isl	6.02	266	Pn		Pn	04	45 30.9	-1.9
KLU	Klutina	6.03	15			Pn	04	45 33.4	+0.5
KLU	Klutina	6.03	15	P		Pn	04	45 33.5	+0.5
	baz=198								
GHO	Glory Hole Cre	6.07	1	Pn		Pn	04	45 34.2	+0.6
N18K	Kilae Creek	6.10	327			Pn	04	45 33.0	-1.0
SML	Sawmill	6.12	4	Pn		Pn	04	45 34.9	+0.7
O16K	Kokwok River B	6.16	313	Pn		Pn	04	45 34.5	-0.2
SCM	Sheep Creek Mo	6.20	8			Pn	04	45 36.5	+1.1
SCM	Sheep Creek Mo	6.20	8	P		Pn	04	45 36.5	+1.1
VRDI	Verde Repeater	6.28	26			Pn	04	45 37.2	+0.6
SAMH	Samovar Hills	6.28	42			Pn	04	45 37.0	+0.5
KIAG	Kiagna River	6.33	32			Pn	04	45 36.9	-0.3
SVW2	Sparrevohn	6.35	331	Pn		Pn	04	45 36.5	-0.8
YKU2	Yakutat	6.36	49	Pn		Pn	04	45 37.1	-0.3
N25K	Chitina, Valde	6.36	20			Pn	04	45 38.2	+0.6
GLB	Gilahina Butte	6.38	24	Pn		Pn	04	45 38.0	+0.2
SKT	Skwentna	6.39	350			Pn	04	45 38.8	+0.9
N17K	Nushagak Hills	6.41	322	Pn		Pn	04	45 38.3	+0.1
SDPT	Sand Point	6.43	271	Pn		Pn	04	45 36.6	-1.8
SDPT	Sand Point	6.43	271	P		Pn	04	45 37.1	-1.3
PCA	Pinnacle	6.46	44			Pn	04	45 39.0	0.0
M20K	Styx River	6.51	343			Pn	04	45 38.5	-1.1
PTPK	Patty Peak	6.51	30			Pn	04	45 39.5	-0.2
MCARA	McCarthy VSAT	6.52	27			Pn	04	45 40.2	+0.5
PNL	Peninsula	6.56	49			Pn	04	45 40.0	-0.3
M24K	Tolsona, Glenn	6.58	12	Pn		Pn	04	45 41.8	+1.2
BARN	Barnard Glacie	6.65	33			Pn	04	45 41.8	+0.2
CTGM	Chitina Glacie	6.68	35			Pn	04	45 38.2	-3.8
LOGN	Logan Glacier	6.68	37			Pn	04	45 42.0	-0.1
O15K	Ungalikthiuk R	6.71	305			Pn	04	45 42.1	-0.1
CUT	Chulitna	6.72	356	Pn		Pn	04	45 44.2	+1.7
M19K	Big River Lodg	6.76	339			Pn	04	45 43.7	+0.7
WAT6	Susitna Watana	6.92	6			Pn	04	45 45.9	+0.7
WAT7	Susitna Watana	7.13	1			Pn	04	45 48.6	+0.4
WAT1	Susitna Watana	7.13	2			Pn	04	45 48.4	+0.3
M17K	Holitna River	7.14	326			Pn	04	45 47.8	-0.4
O29M	Mount Kennedy	7.26	46			Pn	04	45 50.5	+0.5
P29M	Windy Craggy	7.27	53			Pn	04	45 49.8	-0.2
PN7A	Pavlof North-7	7.28	273			Pn	04	45 48.7	-1.5
N15K	Kwethluk River	7.32	312	Pn		Pn	04	45 51.3	+0.7
M16K	Timber Creek	7.39	320	Pn		Pn	04	45 52.1	+0.5
O14K	Tigyukauivet M	7.41	303			Pn	04	45 51.7	-0.2
DHY	Denali Highway	7.43	6	Pn		Pn	04	45 53.1	+0.8
S31K	Pelican	7.44	67	Pn		Pn	04	45 50.0	-2.3
L18K	Granite Mounta	7.58	332	Pn		Pn	04	45 54.0	-0.2
M27K	Edge Creek, AK	7.64	26			Pn	04	45 56.8	+1.7
RND	Reindeer	7.71	1			Pn	04	45 57.5	+1.5
RND	Reindeer	7.71	1	P		Pn	04	45 57.5	+1.5
MENT	Mentasta	7.75	19			Pn	04	45 58.2	+1.7
TRF	Thorofare Moun	7.77	356	Pn		Pn	04	45 58.1	+1.1
SIT	Sitka	7.80	74	Pn		Pn	04	45 53.9	-3.4
SIT	Sitka	7.80	74	P		Pn	04	45 53.8	-3.4
SIT	Sitka	7.80	74	P		Pn	04	45 53.9	-3.4
PLBC	Pleasant Camp	7.83	56			Pn	04	45 57.6	0.0
P30M	Million Dollar	7.85	51			Pn	04	45 57.7	-0.3
CAST	Castle Rocks	7.86	350	Pn		Pn	04	45 59.8	+1.8
L26K	Log Cabin Wild	7.90	20			Pn	04	46 00.6	+2.0
KTH	Kantishna Hill	7.90	354	Pn		Pn	04	45 59.6	+1.0
BVCY	Beaver Creek	7.95	29			Pn	04	46 00.1	+0.8
HYT	Haines Junctio	7.99	45	Pn		Pn	04	46 00.8	+0.8
TTA	Tatalina	8.02	337	Pn		Pn	04	46 01.1	+0.7
TTA	Tatalina	8.02	337	P		Pn	04	45 59.9	-0.4
TTA	Tatalina	8.02	337	P		Pn	04	46 01.1	+0.7
MCK	McKinley	8.03	1			Pn	04	46 01.6	+1.2
MCK	McKinley	8.03	1	P		Pn	04	46 01.7	+1.2
L16K	Owhat River	8.04	322	Pn		Pn	04	46 00.4	-0.1
K20K	Telida	8.05	344			Pn	04	45 59.4	-1.2
S32K	Killisnoo	8.24	72			Pn	04	46 00.9	-2.4
BCAR	Beaver Creek A	8.27	24	Pn		Pn	04	46 05.5	+1.9
K24K	Donnelly Dome	8.28	11			Pn	04	46 04.7	+0.8
SKAG	Skagway	8.32	58	Pn		Pn	04	46 04.7	+0.4
SKAG	Skagway	8.32	58	P		Pn	04	46 04.6	+0.2
RIDG	Independent Ri	8.33	13	Pn		Pn	04	46 05.8	+1.3
R32K	Eaglecrest	8.40	66	Pn		Pn	04	46 04.5	-0.9
M14K	Bethel	8.41	312	Pn		Pn	04	46 06.0	+0.4
O30N	Mendenhall	8.55	48			Pn	04	46 07.9	+0.4
J18K	Innoko River	8.65	337	Pn		Pn	04	46 08.6	-0.2
SCRK	Sand Creek	8.68	15	Pn		Pn	04	46 10.4	+1.1
HDA	Harding Lake	8.78	6			Pn	04	46 12.2	+1.5
J20K	Nowinta River	8.83	346			Pn	04	46 11.7	+0.3
NEA2	Nenana	8.90	0			Pn	04	46 12.8	+0.6
J19K	Poorman	8.90	341			Pn	04	46 11.0	-1.3
CCB	Clear Creek Bu	8.98	4	Pn		Pn	04	46 14.9	+1.5
WHY	Whitehorse	9.02	51	Pn		Pn	04	46 14.3	+0.4
U33K	Whale Pass	9.03	81	Pn		Pn	04	46 14.5	-3.5
N31M	Braeburn, Yuko	9.06	45	Pn		Pn	04	46 15.4	+0.9
CRAG	Craig	9.09	85	Pn		Pn	04	46 11.0	-4.0
CRAG	Craig	9.09	85	P		Pn	04	46 12.2	-2.8
J25K	Salcha River,	9.11	10			Pn	04	46 16.3	+1.0

D08A IAmb IAmb 04 48 47.0
comp=Z,27nm,1.3s
EDM Edmonton 20.82 82 P **P** **04 48 44.8 -0.6**
EDM Edmonton 20.82 82 P **P** **04 48 44.8 -0.6**
EDM pmax pmax
comp=Z,6.0nm,0.7s
NEW Newport 20.95 97 P Pn 04 48 48.1 -1.3
comp=Z,7.2nm,0.9s,baz=298,slow=6.1,SNR=12
comp=Z,7.2nm,0.9s
HUMO Hull Mountain 21.43 117 P **P** **04 48 51.9 -0.1**
HUMO IAmb IAmb 04 48 55.6
comp=Z,25nm,1.4s
G08A Pilot Rock 21.70 106 P **P** **04 48 54.2 -0.8**
F10A Beach Ranch, E 22.22 103 P **P** **04 48 59.5 -1.1**
BMO Blue Mountains 22.88 105 P **P** **04 49 08.3 +0.8**
BMO Blue Mountains 22.88 105 P **P** **04 49 08.3 +0.8**
BMO pmax pmax
comp=Z,3.0nm,1.1s
WVOR Wild Horse Val 23.79 111 P **P** **04 49 16.1 -0.7**
WVOR Wild Horse Val 23.79 111 P **P** **04 49 16.1 -0.7**
WVOR pmax pmax
comp=Z,3.0nm,1.0s
OVMT Ovando 23.94 96 P **P** **04 49 17.5 -0.7**
MFID Camas Ranch 24.62 106 P **P** **04 49 24.5 0.0**
HLID Hailey 25.30 104 P **P** **04 49 30.7 0.0**
MCMT McKenzie Canyo 25.35 100 P **P** **04 49 29.0 -2.2**
MPK Martis Peak 25.37 118 P **P** **04 49 29.3 -2.2**
MPK IAmb IAmb 04 49 32.9
comp=Z,9.6nm,1.3s
PNTR Pine Nut 25.75 118 P **P** **04 49 32.2 -2.7**
WAKR Walker 26.28 118 P **P** **04 49 39.8 +0.1**
RYN Ryan 26.64 117 P **P** **04 49 41.6 -1.2**
NVAR Mina Array Bea 26.90 117 P **P** **04 49 46.0 +0.7**
NVAR Mina Array Bea 26.90 117 P **P** **04 49 45.8 +0.5**
comp=Z,24nm,0.9s,baz=308,slow=8.6,SNR=15
NVAR PcP **PcP** **04 53 07.2 -0.1**
comp=Z,0.1nm,0.3s,baz=309,slow=0.6,SNR=4.2
comp=Z,2.4nm,0.9s
R11B Troy Canyon, C 28.35 114 P **P** **04 49 57.7 -0.6**
PDAR Pinedale Array 28.50 100 P **P** **04 49 59.4 -0.3**
PDAR Pinedale Array 28.50 100 P **P** **04 49 59.2 -0.4**
comp=Z,0.4nm,0.6s,baz=312,slow=3.8,SNR=8.1
comp=Z,0.4nm,0.6s
PETK Petropavlovsk- 30.40 288 P **P** **04 50 16.7 +0.7**
comp=Z,2.3nm,0.8s,baz=59,slow=14,SNR=4.1
comp=Z,2.3nm,0.8s
RSSD Black Hills 30.74 93 P **P** **04 50 19.6 +0.2**
RSSD Black Hills 30.74 93 P **P** **04 50 19.6 +0.2**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 31.87 77 P **P** **04 50 29.1 +0.1**
comp=Z,1.3nm,0.6s,baz=318,slow=7.7,SNR=3.1
comp=Z,1.3nm,0.6s
ANMO Albuquerque 35.74 107 *i* P **P** **04 51 01.0 -2.1**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
NEEM North Greenlan 38.08 21 *i* P **P** **04 51 21.6 -1.0**
NEEM IAmb IAmb 04 51 25.4
comp=Z,4.6nm,0.8s
FRB Frobisher Bay 38.78 44 LR LR 05 06 48.1
comp=Z,70nm,18.3s,baz=99,slow=35
TXAR Lajitas Array 41.58 110 P **P** **04 51 53.0 +1.1**
comp=Z,0.8nm,0.8s,baz=331,slow=7.6,SNR=4.0
comp=Z,0.8nm,0.8s
SUMG Summit 43.45 24 P **P** **04 52 07.0 -0.1**
SUMG IAmb IAmb 04 52 08.9
comp=Z,13nm,1.1s
SUMG Summit 43.45 24 P **P** **04 52 07.0 -0.1**
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 43.45 24 *i* P **P** **04 52 08.0 +0.9**
SUMG IAmb IAmb 04 52 09.7
comp=Z,3.9nm,0.9s
SFJD Kangerlussuaq 43.52 34 LR LR 05 09 55.4
comp=Z,51nm,18.2s,baz=1.5,slow=36
SCHQ Schefferville 44.26 55 P **P** **04 52 14.4 +1.1**
comp=Z,4.4nm,0.8s,baz=306,slow=7.9,SNR=7.4
SCHQ LR LR 05 08 33.8
comp=Z,32nm,21.6s,baz=64,slow=33
comp=Z,4.4nm,0.8s
KLR Kul'dur 46.13 297 *ce* P **P** **04 52 29.6 +1.4**
KLR pmax pmax
comp=Z,9.0nm,2.5s
R53A Hurricane 47.04 82 P **P** **04 52 35.4 -0.1**
Q54A Coxs Mills 47.20 81 P **P** **04 52 36.2 -0.6**
Q54A IAmb IAmb 04 52 40.8
comp=Z,17nm,1.4s
MCWV Mont Chateau 47.29 79 P **P** **04 52 36.8 -0.6**
MCWV IAmb IAmb 04 52 38.4
comp=Z,9.5nm,0.9s
W50A Signal Mountai 47.37 88 P **P** **04 52 37.3 -0.8**
W50A IAmb IAmb 04 52 50.0
comp=Z,13nm,1.5s
TZTN Tazewell 47.40 85 P **P** **04 52 38.4 0.0**
NCB Newcomb 47.42 71 P **P** **04 52 38.1 -0.4**
M57A Sunshine Farm, 47.63 76 P **P** **04 52 39.8 -0.3**
M57A IAmb IAmb 04 52 44.7
comp=Z,14nm,1.1s
BINY Binghamton 47.67 74 P **P** **04 52 40.6 +0.2**
BINY IAmb IAmb 04 52 41.5
comp=Z,7.9nm,0.8s
FPAL Fort Paine 47.68 89 P **P** **04 52 40.1 -0.5**
FPAL IAmb IAmb 04 52 41.4
comp=Z,13nm,1.1s
S54A Dingess, Beckl 47.77 82 P **P** **04 52 41.4 +0.2**
D62A Allapoint, All 48.06 65 P **P** **04 52 43.7 +0.4**
D62A IAmb IAmb 04 52 49.2
comp=Z,7.3nm,1.0s
L59A Walton 48.19 74 P **P** **04 52 44.8 +0.4**
L59A IAmb IAmb 04 52 45.7
comp=Z,10nm,0.8s
U54A Nelsons Funny 48.39 84 P **P** **04 52 46.1 +0.1**
V53A Saluda 48.44 85 P **P** **04 52 45.8 -0.6**
V53A IAmb IAmb 04 52 47.2
comp=Z,18nm,1.5s
NRIK Noril'sk 48.64 337 *ce* P **P** **04 52 47.4 -0.1**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
NRIK Noril'sk 48.64 337 P **P** **04 52 47.4 -0.1**
comp=Z,1.6nm,0.3s,baz=55,slow=2.6,SNR=3.6
comp=Z,1.6nm,0.3s
H11N2 WAKE ISLAND Hy 48.66 241 T T 05 45 07.7
baz=32,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 48.66 240 T T 05 45 15.3
baz=32,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 48.68 241 T T 05 45 10.9
baz=32,slow=76,SNR=16
BG3 Lake Jocassee 48.86 86 P **P** **04 52 49.9 +0.3**
250A Grady 49.19 92 P **P** **04 52 51.5 -0.7**
F64A Sherman 49.24 66 P **P** **04 52 51.5 -0.9**
K62A Royalston 49.38 71 P **P** **04 52 54.1 +0.6**
BATG Bathurst New B 49.45 63 P **P** **04 52 53.6 -0.4**
BATG IAmb IAmb 04 53 08.9
comp=Z,22nm,1.4s
BRNJ Basking Ridge 49.49 75 P **P** **04 52 54.5 +0.2**
QUA2 Belchertown 49.58 72 P **P** **04 52 54.2 -0.8**
H11S1 WAKE ISLAND Hy 49.79 240 T T 05 47 34.0
baz=29,slow=76,SNR=7.5
HODGE Hodges 49.80 86 P **P** **04 52 56.7 -0.1**
HODGE IAmb IAmb 04 53 06.8
comp=Z,11nm,1.2s
H11S2 WAKE ISLAND Hy 49.81 240 T T 05 47 32.0
baz=29,slow=76,SNR=4.8
H11S3 WAKE ISLAND Hy 49.81 240 T T 05 47 37.7
baz=29,slow=76,SNR=5.8
JSC Jenkinsville 50.32 85 P **P** **04 53 00.3 -0.5**
JSC IAmb IAmb 04 53 05.1
comp=Z,12nm,1.2s
JSC Jenkinsville 50.32 85 P **P** **04 53 00.3 -0.5**
JSC pmax pmax
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 51.32 280 P **P** **04 53 08.7 +0.4**
comp=Z,0.6nm,0.5s,baz=47,slow=7.3,SNR=2.2
comp=Z,0.6nm,0.5s
ARCES ARCESS Array B 54.98 2 P **P** **04 53 34.5 -0.3**
ARCES ARCESS Array B 54.98 2 P **P** **04 53 34.5 -0.3**
ARCES pmax pmax
comp=Z,30nm,1.5s
ARCES ARCESS Array B 54.98 2 P **P** **04 53 34.8 0.0**
comp=Z,2.1nm,0.5s,baz=2.2,slow=7.2,SNR=15
comp=Z,2.1nm,0.5s
LVZ Lovozero 56.66 358 *i* P **P** **04 53 47.4 +0.5**
LVZ pmax pmax
comp=Z,40nm,1.3s
SONM Songino Array 59.05 310 P **P** **04 54 05.0 +0.9**
comp=Z,1.3nm,0.9s,baz=50,slow=7.8,SNR=5.1
comp=Z,1.3nm,0.9s
ZALV Zalesovo Beam 62.06 327 P **P** **04 54 25.0 +0.7**
comp=Z,1.4nm,0.5s,baz=21,slow=6.5,SNR=8.6
comp=Z,1.4nm,0.5s
NOA NORSAR Array B 62.55 11 P **P** **04 54 27.4 -0.1**
comp=Z,1.5nm,0.7s,baz=348,slow=6.6,SNR=3.5
NOA LR LR 05 22 13.7
comp=Z,33nm,19.8s,baz=255,slow=37
comp=Z,1.5nm,0.7s
FINES FINESS Array B 63.11 3 *i* P **P** **04 54 31.8 +0.6**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 63.11 3 P **P** **04 54 31.9 +0.7**
comp=Z,3.8nm,0.6s,baz=5.7,slow=9.5,SNR=33
comp=Z,3.8nm,0.6s
HFS Hagfors 63.69 9 P **P** **04 54 35.2 +0.2**
comp=Z,3.4nm,0.9s,baz=1.9,slow=4.5,SNR=8.0
comp=Z,3.4nm,0.9s
NJ2 Nanjing 65.23 291 *e* P **P** **04 54 45.5 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,270nm,5.6s
EKA Eskdalemuir Ar 65.88 20 P **P** **04 54 50.2 +0.8**
comp=Z,1.9nm,0.8s,baz=322,slow=5.3,SNR=5.0
comp=Z,1.9nm,0.8s
ARU Arti 65.95 344 *c i* P **P** **04 54 49.1 -0.8**
ARU 04 57 13.7
ARU S **S** **05 03 39.0 +1.3**
ARU SS **SS** **05 07 50.6 -0.9**
ARU pmax pmax
comp=Z,17nm,2.8s
VSU Vasula 66.12 2 *i* P **P** **04 54 51.4 +0.5**
VSU pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 66.74 329 *ce* P **P** **04 54 54.1 -0.9**
KURK pmax pmax
comp=Z,6.0nm,2.5s
BRVK Borovoye 66.81 335 *i* P **P** **04 54 54.8 -0.6**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 66.81 335 P **P** **04 54 55.8 +0.3**
comp=Z,1.8nm,0.6s,baz=38,slow=7.5,SNR=12
comp=Z,1.8nm,0.6s
KURBB Kurchatov Arra 66.85 329 P **P** **04 54 56.0 +0.3**
comp=Z,1.1nm,0.6s,baz=29,slow=6.5,SNR=9.4
comp=Z,1.1nm,0.6s
GTA Gaotai 68.64 309 *e* P **P** **04 55 09.0 +1.6**
GTA pP pwP 04 55 16.5 +4.0
GTA pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 69.08 325 P **P** **04 55 10.1 +0.2**
MK31 IAmb IAmb 04 55 10.9
comp=Z,3.3nm,1.1s
MK31 Makanchi Array 69.08 325 P **P** **04 55 10.1 +0.2**
MK31 pmax pmax
comp=Z,3.0nm,1.2s
MKAR Makanchi Array 69.08 325 P **P** **04 55 10.1 +0.1**
comp=Z,1.4nm,0.5s,baz=35,slow=5.9,SNR=18
comp=Z,1.4nm,0.5s
OBN Obninsk 69.42 356 *i* P **P** **04 55 11.8 +0.1**
OBN *i*
OBN pmax pmax 04 55 32.0
comp=Z,4.0nm,0.9s
WMQ Urumqi 69.81 320 *e* P **P** **04 55 15.3 +0.8**
WMQ pmax pmax
comp=Z,14nm,0.7s
BELG Belogornoye 71.35 349 *i* P **P** **04 55 22.5 -1.1**
BELG pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 72.31 12 *e* P **P** **04 55 30.0 +0.6**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 72.31 12 *e* P **P** **04 55 30.0 +0.6**
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 72.59 340 P **P** **04 55 31.9 +0.7**
ABKAR IAmb IAmb 04 55 32.5
comp=Z,2.1nm,0.6s
PVCC Panska Ves 73.25 11 *e* P P 04 55 44.0 +9.0
DPC Dobruska-Polom 73.60 10 *e* P **P** **04 55 38.4 +1.2**
PRU Pruhonice 73.78 11 *e* P **P** **04 55 39.0 +0.8**
PRU Pruhonice 73.78 11 *e* P **P** **04 55 39.0 +0.8**
KRLC Kraliky 73.92 9 *e* P **P** **04 55 38.4 -0.6**
AKASG Malin Array Be 73.93 1 P **P** **04 55 39.4 +0.3**
comp=Z,3.5nm,0.7s,baz=360,slow=5.9,SNR=12
comp=Z,3.5nm,0.7s
AKBB Malin Array Si 73.93 1 P **P** **04 55 39.3 +0.3**
AKBB IAmb IAmb 04 55 40.0
comp=Z,6.5nm,0.8s
AKBB Malin Array Si 73.93 1 P **P** **04 55 39.3 +0.3**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 73.94 1 P **P** **04 55 39.2 +0.1**
KIEV IAmb IAmb 04 55 40.0
comp=Z,5.6nm,0.8s
KIEV Kiev 73.94 1 P **P** **04 55 39.2 +0.1**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 74.02 7 P **P** **04 55 40.0 +0.4**
OJC IAmb IAmb 04 55 40.8
comp=Z,3.3nm,0.7s
OJC Ojcow 74.02 7 P **P** **04 55 40.0 +0.4**
OJC pmax pmax
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 74.28 9 *e* P **P** **04 55 41.3 +0.1**
ZVC Zvikov 74.29 11 *e* P **P** **04 55 42.1 +1.0**
KHC Kasperske Hory 74.52 12 *e* P **P** **04 55 43.6 +1.0**
KHC *ex* x 04 55 51.1
KHC Kasperske Hory 74.52 12 *i* P **P** **04 55 43.4 +0.8**
KHC pmax pmax
comp=Z,4.0nm,1.0s
VRAC Vranov 74.66 10 *e* P **P** **04 55 44.2 +0.9**
MAUC Maruska 74.72 9 *e* P **P** **04 55 44.5 +0.8**
GEC2 GERESS Array S 74.82 12 P **P** **04 55 45.1 +0.7**
GEC2 IAmb IAmb 04 55 46.0
comp=Z,2.3nm,0.7s
GERES GERESS Array B 74.82 12 P **P** **04 55 45.2 +0.9**
GERES GERESS Array B 74.82 12 P **P** **04 55 45.2 +0.9**
GERES GERESS Array B 74.82 12 P **P** **04 55 45.4 +1.0**
comp=Z,1.5nm,0.6s,baz=117,slow=4.7,SNR=3.9
comp=Z,1.5nm,0.6s
KRUC Moravsky 74.89 10 *e* P **P** **04 55 45.1 +0.5**
CKRC Cesky Krumlov 74.91 11 *e* P **P** **04 55 44.3 -0.5**
BOOM Boomskoye usch 74.95 327 P **P** **04 55 45.8 +0.4**
BOOM Boomskoye usch 74.95 327 P **P** **04 55 45.8 +0.4**
LANS Liptovska Anna 75.06 8 *e* P **P** **04 55 47.8 +2.1**
LANS Liptovska Anna 75.06 8 *e* P **P** **04 55 47.8 +2.1**
JAVC Velka Javorina 75.20 9 *e* P **P** **04 55 48.2 +1.7**
AAK Ala-Archa 75.25 328 P **P** **04 55 47.5 +0.4**
AAK IAmb IAmb 04 55 56.3
comp=Z,6.1nm,1.2s
AAK Ala-Archa 75.25 328 P **P** **04 55 47.5 +0.4**
AAK pmax pmax
comp=Z,6.0nm,1.2s
MODS Modra-Piesok 75.65 9 *e* P **P** **04 55 50.2 +1.1**
MODS Modra-Piesok 75.65 9 *e* P **P** **04 55 50.2 +1.1**
VYHS Vyhne 75.67 8 *e* P **P** **04 55 50.6 +1.5**
VYHS Vyhne 75.67 8 *e* P **P** **04 55 50.6 +1.5**
MOA Molln 75.86 11 *e* P **P** **04 55 48.9 -1.4**
comp=Z,0.2nm,0.2s
BIOA Bad Ischl, Aus 75.95 12 *e* pP pP 04 55 51.7 +1.7
comp=Z,1.5nm,0.5s
CONA Conrad Observa 75.96 10 *i* pP pP 04 55 52.0 +1.9
comp=Z,1.2nm,0.5s
KK31 Karatay Array 75.96 331 P **P** **04 55 51.0 0.0**
KK31 IAmb IAmb 04 55 59.8
comp=Z,2.8nm,0.8s
KK31 Karatay Array 75.96 331 P **P** **04 55 51.0 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 75.96 331 P **P** **04 55 51.4 +0.5**
KKAR Karatay Array 75.96 331 P **P** **04 55 51.4 +0.5**
WATA Walderalm 76.04 13 *i* pP pP 04 55 52.2 +1.5
comp=Z,1.1nm,0.4s
SQTA Sankt Quirin 76.11 14 *i* pP pP 04 55 52.9 +1.9
comp=Z,0.9nm,0.4s,SNR=4.3
WTTA Wattenberg 76.12 13 *e* pP pP 04 55 53.0 +1.8
comp=Z,3.7nm,0.7s,SNR=6.1
RONA Rosalia, Austr 76.22 10 *i* pP **P** **04 55 52.5 +0.2**
comp=Z,0.2nm,0.2s
FETA Feichten 76.24 14 *i* pP pP 04 55 53.4 +1.6
comp=Z,0.8nm,0.5s
KBA Koelnbreinsper 76.52 12 *i* pP pP 04 55 55.5 +2.0
comp=Z,1.8nm,0.5s,SNR=6.5
FUORN Ofenpass-Fuorn 76.57 14 P **P** **04 55 54.0 -0.6**
FUORN IAmb IAmb 04 55 56.8
comp=Z,3.8nm,1.3s
BUR08 Bucovina Ar. S 76.89 4 P **P** **04 55 56.9 +0.7**
BUR08 IAmb IAmb 04 56 09.7
comp=Z,5.0nm,1.3s
BURAR Bucovina Array 76.92 4 P **P** **04 55 57.2 +0.8**
SOKA Soboth 77.11 11 *e* pP pP 04 55 58.3 +1.7
comp=Z,1.3nm,0.4s,SNR=4.7
OBKA Obir 77.22 11 *i* pP pP 04 55 58.8 +1.5
comp=Z,4.1nm,0.4s
PZH PanZhiHua 78.45 300 P **P** **04 56 04.0 -1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.0s
ESDC Sonseca Array 80.46 27 P **P** **04 56 16.6 +0.7**
ESDC Sonseca Array 80.46 27 P **P** **04 56 17.1 +1.1**
comp=Z,1.5nm,0.8s,baz=340,slow=5.3,SNR=8.8
comp=Z,1.5nm,0.8s
SIMJ Simiganj 80.51 331 P **P** **04 56 16.1 -0.3**
SIMJ IAmb IAmb 04 56 24.8
comp=Z,4.1nm,0.8s
RDO Rodhopi 83.39 4 P **P** **04 56 32.1 +0.8**
GEYT Alibeck 83.85 339 P **P** **04 56 35.5 +1.8**
comp=Z,1.7nm,0.6s,baz=64,slow=3.4,SNR=3.1
GEYT LR LR 05 37 55.6
comp=Z,29nm,18.0s,baz=208,slow=38
comp=Z,1.7nm,0.6s
TIP Timpagrande 84.70 11 P **P** **04 56 38.2 +0.1**
BRTR Keskin Array B 84.89 358 *i* P **P** **04 56 39.9 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 84.89 358 P **P** **04 56 40.2 +1.1**
comp=Z,0.7nm,0.5s,baz=349,slow=3.2,SNR=5.8
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 86.60 298 P **P** **04 56 47.8 +0.1**
comp=Z,2.6nm,0.3s,baz=8.4,slow=5.4,SNR=5.6
comp=Z,2.6nm,0.3s
QSPA South Pole Qui 145.52 180 PKPbc **PKPab** **05 03 40.4 -1.0**
comp=Z,5.1nm,0.8s,baz=36,slow=0.6,SNR=22
BOSA Boshof 152.61 11 PKPbc **PKiKP** **05 04 00.2 -0.7**
comp=Z,3.3nm,0.8s,baz=314,slow=1.5,SNR=6.0

NEIC ***28*** *04:53:53.5±2.0,56.03N±0.09×149.2W±0.1,h10km±2km, mb3.8/3,ML3.9/48,ML3.6(AEIC),Error ellipse: s-maj=15.0km s-min=10.1km az=170.0*
AEIC ***28*** *04:53:58.0±1.7,56.03N±0.09×149.3W±0.1,h12km±7km, Error ellipse: s-maj=13.1km s-min=9.0km az=166.0*
ISC 28 04:53:55.9±1.1,56.06N±0.10×149.38W±0.07,h35km, n236,σ0891/240,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.46**	**300**	Pn	**Pn**	**04 54 33.6**	**+0.3**
OHAK					**Sn**	**04 55 00.9**	**-1.3**
OHAK	**Old Harbor**	**2.46**	**300**	P	**Pn**	**04 54 33.7**	**+0.3**
OHAK	**Old Harbor** baz=116	**2.46**	**300**	P	**Pn**	**04 54 33.9**	**+0.5**
OHAK				S	**Sn**	**04 55 01.1**	**-1.1**
KDAK	**Kodiak Island**	**2.47**	**316**	Pn	**Pn**	**04 54 34.0**	**+0.4**
KDAK	**Kodiak Island** baz=132	**2.47**	**316**	S	**Sn**	**04 55 01.4**	**-1.0**
SII	**Sitkinak Islan**	**2.73**	**283**	Pn	**Pn**	**04 54 37.8**	**+0.7**
SII	**Sitkinak Islan**	**2.73**	**283**	P	**Pn**	**04 54 37.9**	**+0.7**
SII	**Sitkinak Islan** baz=99	**2.73**	**283**	P	**Pn**	**04 54 38.1**	**+0.9**
SYI	**Shuyak Island**	**3.04**	**329**	Pn	**Pn**	**04 54 41.5**	**+0.1**
Q20K	**Shuyak Island** baz=145	**3.04**	**329**	P	**Pn**	**04 54 42.0**	**+0.5**
Q20K				S	**Sn**	**04 55 15.7**	**-0.8**
CNPM	**China Poot**	**3.62**	**345**	Pn	**Pn**	**04 54 49.2**	**-0.3**
CNPM				IAML		04 56 05.7	
	comp=N,105nm,0.5s						
CNPM				IAML		04 56 06.6	
	comp=E,116nm,0.6s						
Q19K	**Cape Douglas,**	**3.69**	**323**	Pn	**Pn**	**04 54 51.8**	**+1.4**
Q19K				IAML		04 55 42.1	
	comp=N,252nm,0.9s						
Q19K	**Cape Douglas,** baz=139	**3.69**	**323**	P	**Pn**	**04 54 50.9**	**+0.5**
Q19K				S	**Sn**	**04 55 33.7**	**+1.1**
	baz=139						
Q23K	**Middleton Isla**	**3.75**	**24**	Pn	**Pn**	**04 54 50.7**	**-0.5**
Q23K				IAML		04 56 04.8	
	comp=N,318nm,2.4s						
Q23K	**Middleton Isla** baz=206	**3.75**	**24**	P	**Pn**	**04 54 51.0**	**-0.2**
MID	**Middleton Isla**	**3.75**	**24**	Pn	**Pn**	**04 54 51.0**	**-0.1**
MID				IAML		04 55 39.5	
	comp=E,296nm,2.2s						
MID	**Middleton Isla**	**3.75**	**24**	P	**Pn**	**04 54 51.1**	**-0.1**
BRSE	**Bradley Lake S**	**3.77**	**349**		**Pn**	**04 54 51.2**	**-0.3**
BRSE	**Bradley Lake S** baz=167	**3.77**	**349**	P	**Pn**	**04 54 51.2**	**-0.3**
BRLK	**Bradley Lake**	**3.81**	**348**	Pn	**Pn**	**04 54 51.1**	**-0.9**
HOM	**Homer**	**3.81**	**342**	Pn	**Pn**	**04 54 52.7**	**+0.6**
HOM				IAML		04 55 41.8	
	comp=E,224nm,0.8s						
HOM	**Homer** baz=159	**3.81**	**342**	P	**Pn**	**04 54 52.3**	**+0.3**
SEW	**Seward**	**4.06**	**359**	Pn	**Pn**	**04 54 54.5**	**-0.9**
SEW	**Seward** baz=178	**4.06**	**359**	P	**Pn**	**04 54 54.8**	**-0.6**
P23K	**Montague Islan**	**4.09**	**14**		**Pn**	**04 54 55.8**	**-0.1**
P23K	**Montague Islan** baz=194	**4.09**	**14**	P	**Pn**	**04 54 55.8**	**-0.1**
P19K	**Oil Pt**	**4.15**	**332**	Pn	**Pn**	**04 54 57.1**	**+0.3**
P19K				IAML		04 56 20.7	
	comp=E,209nm,0.5s						
CNTC	**Contact Creek**	**4.18**	**305**		**Pn**	**04 54 58.6**	**+1.5**
Q17K	**Contact Creek** baz=119	**4.18**	**305**	P	**Pn**	**04 54 58.6**	**+1.5**
PLK1	**Peulik 1**	**4.33**	**297**		**Pn**	**04 55 00.7**	**+1.5**
O22K	**Cooper Landing**	**4.44**	**358**	Pn	**Pn**	**04 54 59.8**	**-0.9**
O22K				IAML		04 55 51.3	
	comp=E,180nm,0.5s						
O22K	**Cooper Landing** baz=176	**4.44**	**358**	P	**Pn**	**04 55 00.3**	**-0.4**
SLKM	**Skilak Lake**	**4.49**	**355**		**Pn**	**04 55 01.0**	**-0.4**
P18K	**Big Mountain,**	**4.59**	**319**	Pn	**Pn**	**04 55 03.2**	**+0.5**
P18K	**Big Mountain,** baz=134	**4.59**	**319**	P	**Pn**	**04 55 03.4**	**+0.7**
HIN	**Hinchinbrook I**	**4.61**	**18**	Pn	**Pn**	**04 55 02.9**	**-0.2**
HIN				IAML		04 56 35.7	
	comp=E,73nm,0.6s						
HIN				IAML		04 56 37.4	
	comp=N,77nm,1.8s						
KAIM	**Kayak Island**	**4.69**	**32**	Pn	**Pn**	**04 55 04.6**	**+0.5**
RED	**Redoubt Volcan**	**4.73**	**339**		**Pn**	**04 55 04.3**	**-0.4**
RSO	**Redoubt South**	**4.76**	**339**	Pn	**Pn**	**04 55 04.6**	**-0.7**
RDT	**Redoubt**	**4.80**	**342**		**Pn**	**04 55 05.1**	**-0.7**
RDWB	**Redoubt West**	**4.81**	**339**		**Pn**	**04 55 05.1**	**-0.8**
CAPN	**Captain Cook N**	**4.82**	**350**	Pn	**Pn**	**04 55 06.6**	**+0.7**
CAPN				IAML		04 57 16.4	
	comp=E,139nm,2.5s						
EYAK	**Cordova Ski Ar**	**4.89**	**21**	Pn	**Pn**	**04 55 06.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.89**	**21**	P	**Pn**	**04 55 07.3**	**+0.4**
EYAK	**Cordova Ski Ar** baz=203	**4.89**	**21**	P	**Pn**	**04 55 07.1**	**+0.2**
O19K	**Port Alsworth**	**4.91**	**330**	Pn	**Pn**	**04 55 07.4**	**+0.3**
O18K	**Koktuh Hills**	**4.91**	**323**	Pn	**Pn**	**04 55 07.7**	**+0.5**
O18K				IAML		04 56 05.8	
	comp=E,40nm,0.6s						
O18K				IAML		04 56 36.6	
	comp=N,39nm,1.0s						
O18K	**Koktuh Hills** baz=138	**4.91**	**323**	P	**Pn**	**04 55 07.3**	**+0.1**
P17K	**Kvichak River**	**4.93**	**313**		**Pn**	**04 55 08.9**	**+1.5**
P17K	**Kvichak River** baz=126	**4.93**	**313**	P	**Pn**	**04 55 08.9**	**+1.5**
FID	**Port Fidalgo**	**4.95**	**17**	Pn	**Pn**	**04 55 07.1**	**-0.5**
FID				IAML		04 55 47.0	
	comp=N,66nm,0.2s						
FID				IAML		04 56 38.7	
	comp=E,54nm,0.5s						
ANPB	**Aniakchak Plen**	**5.00**	**282**		**Pn**	**04 55 08.9**	**+0.5**
RAGM	**Ragged Mountai**	**5.00**	**28**	Pn	**Pn**	**04 55 09.0**	**+0.6**
RAGM				IAML		04 56 13.7	
	comp=E,93nm,1.6s						
RC01	**Rabbit Creek A**	**5.05**	**358**	Pn	**Pn**	**04 55 08.9**	**-0.2**
RC01				IAML		04 56 06.5	
	comp=N,58nm,0.5s						
RC01				IAML		04 56 45.4	

	comp=E,49nm,0.4s								
RC01	Rabbit Creek A	5.05	358		P		Pn	04 55 08.9	-0.2
	baz=177								
CHGN	Chignik	5.06	277		Pn		Pn	04 55 10.2	+1.1
CHGN					IAML			04 56 01.4	
	comp=N,58nm,2.3s								
CHGN					IAML			04 56 50.4	
	comp=E,45nm,2.4s								
CHGN	Chignik	5.06	277		P		Pn	04 55 10.4	+1.3
	baz=89								
FIS	Fire Island	5.12	355		Pn		Pn	04 55 11.1	+1.1
FIS					IAML			04 57 06.5	
	comp=E,98nm,3.1s								
FIS					IAML			04 57 29.5	
	comp=N,106nm,2.7s								
GOAT	Goat Mountain	5.16	26				Pn	04 55 11.0	+0.5
N20K	Mount Spurr	5.37	345		P		Pn	04 55 13.4	-0.1
	baz=162								
SPCR	Spurr Chakacha	5.37	345				Pn	04 55 12.8	-0.7
SNH	Sunshine Point	5.39	37		Pn		Pn	04 55 14.1	+0.3
SNH					IAML			04 56 13.9	
	comp=E,48nm,1.3s								
SNH					IAML			04 58 26.3	
	comp=N,61nm,2.4s								
KNK	Knik Glacier	5.39	5		Pn		Pn	04 55 13.6	-0.2
KNK	Knik Glacier	5.39	5		P		Pn	04 55 14.1	+0.3
	baz=184								
SPCP	Crater Peak Br	5.42	346				Pn	04 55 14.6	+0.3
DIV	Divide	5.43	19		Pn		Pn	04 55 14.2	-0.1
SUA	Susitna One	5.47	353		Pn		Pn	04 55 14.3	-0.7
SUA	Susitna One	5.47	353		P		Pn	04 55 14.6	-0.3
	baz=171								
P16K	Nushagak River	5.51	306				Pn	04 55 16.4	+1.0
P16K	Nushagak River	5.51	306		P		Pn	04 55 16.4	+1.0
	baz=119								
BMRM	Bremner River	5.52	25		Pn		Pn	04 55 15.7	+0.1
BMRM	Bremner River	5.52	25		P		Pn	04 55 16.1	+0.5
	baz=208								
O17K	Koliganek Bris	5.55	315				Pn	04 55 16.7	+0.8
O17K	Koliganek Bris	5.55	315		P		Pn	04 55 17.2	+1.3
	baz=128								
PMR	Palmer	5.55	1		Pn		Pn	04 55 15.7	-0.2
PMR	Palmer	5.55	1		P		Pn	04 55 16.1	+0.2
PMR	Palmer	5.55	1		P		Pn	04 55 16.9	+0.9
	baz=180								
STLK	Strandline Lak	5.61	348				Pn	04 55 16.5	-0.3
GHO	Glory Hole Cre	5.74	2		Pn		Pn	04 55 18.9	+0.3
KLU	Klutina	5.74	17		Pn		Pn	04 55 18.8	+0.2
KLU	Klutina	5.74	17		P		Pn	04 55 19.0	+0.4
	baz=199								
SML	Sawmill	5.79	5		Pn		Pn	04 55 19.8	+0.5
SML	Sawmill	5.79	5		P		Pn	04 55 20.0	+0.7
	baz=185								
O16K	Kokwok River B	5.85	311		Pn		Pn	04 55 20.9	+0.8
O16K	Kokwok River B	5.85	311		P		Pn	04 55 21.3	+1.2
	baz=123								
SCM	Sheep Creek Mo	5.89	10		Pn		Pn	04 55 20.9	+0.3
SCM	Sheep Creek Mo	5.89	10		P		Pn	04 55 21.2	+0.5
	baz=190								
CHNA	Chernabura Isl	5.94	262		P		Pn	04 55 22.5	+1.2
	baz=74								
CNBA	Chernabura Isl	5.95	262		Pn		Pn	04 55 22.1	+0.7
VRDI	Verde Repeater	6.04	28		Pn		Pn	04 55 23.2	+0.5
SKT	Skwentna	6.05	350		Pn		Pn	04 55 23.0	+0.3
N17K	Nushagak Hills	6.09	321		Pn		Pn	04 55 23.7	+0.4
N25K	Chitina, Valde	6.09	22		Pn		Pn	04 55 23.9	+0.5
N25K	Chitina, Valde	6.09	22		P		Pn	04 55 24.1	+0.7
	baz=205								
KIAG	Kiagna River	6.11	34				Pn	04 55 24.3	+0.5
GLB	Gilahina Butte	6.13	26		Pn		Pn	04 55 24.1	+0.2
M20K	Styx River	6.16	343		Pn		Pn	04 55 23.3	-1.1
MCARA	McCarthy VSAT	6.28	29		Pn		Pn	04 55 26.9	+0.9
MCARA	McCarthy VSAT	6.28	29		P		Pn	04 55 26.5	+0.6
	baz=214								
PTPK	Patty Peak	6.28	32				Pn	04 55 27.0	+0.9
M24K	Tolsona, Glenn	6.29	14		Pn		Pn	04 55 27.1	+1.0
M24K	Tolsona, Glenn	6.29	14		P		Pn	04 55 27.2	+1.1
	baz=196								
SDPT	Sand Point	6.32	268		Pn		Pn	04 55 27.7	+1.3
SDPT	Sand Point	6.32	268		P		Pn	04 55 28.1	+1.7
M18K	Stony River	6.40	331				Pn	04 55 28.0	+0.5
M18K	Stony River	6.40	331		P		Pn	04 55 28.0	+0.5
	baz=145								
M19K	Big River Lodg	6.41	338		Pn		Pn	04 55 27.4	-0.4
BARN	Barnard Glacie	6.44	36		Pn		Pn	04 55 28.8	+0.6
CTG	Chitna Glacier	6.47	37		P		Pn	04 55 29.4	+0.7
	baz=223								
CTGM	Chitina Glacie	6.48	37		Pn		Pn	04 55 29.2	+0.4
BCPM	Bancas Point	6.48	49		Pn		Pn	04 55 29.7	+1.0
LOGN	Logan Glacier	6.49	39		Pn		Pn	04 55 29.3	+0.3
WAT6	Susitna Watana	6.60	7				Pn	04 55 30.9	+0.4
WAT6	Susitna Watana	6.60	7		P		Pn	04 55 30.8	+0.4
	baz=187								
HARP	HAARP	6.72	17				Pn	04 55 32.8	+0.8
HARP	HAARP	6.72	17		P		Pn	04 55 32.8	+0.8
	baz=200								
M17K	Holitna River	6.80	325		Pn		Pn	04 55 33.6	+0.5
WAT7	Susitna Watana	6.80	2				Pn	04 55 34.0	+0.8
WAT1	Susitna Watana	6.81	3				Pn	04 55 34.0	+0.8
WAT1	Susitna Watana	6.81	3		P		Pn	04 55 34.0	+0.8
	baz=183								
N15K	Kwethluk River	7.01	310		Pn		Pn	04 55 37.5	+1.5
M16K	Timber Creek	7.06	319		Pn		Pn	04 55 37.8	+1.1
DHY	Denali Highway	7.12	7		Pn		Pn	04 55 38.2	+0.7
DHY	Denali Highway	7.12	7		P		Pn	04 55 38.2	+0.7
	baz=188								
O29M	Mount Kennedy	7.12	49		Pn		Pn	04 55 38.6	+1.1
O29M	Mount Kennedy	7.12	49		P		Pn	04 55 38.6	+1.1
	baz=237								
M26K	Nabesna, AK	7.15	25		Pn		Pn	04 55 39.3	+1.3
PN7A	Pavlof North-7	7.16	270				Pn	04 55 39.6	+1.6
P29M	Windy Craggy	7.17	55		Pn		Pn	04 55 39.0	+0.8
PAX	Paxson	7.21	14		Pn		Pn	04 55 39.4	+0.5
PAX	Paxson	7.21	14		P		Pn	04 55 39.6	+0.8
	baz=197								
YUK8	Steele Glacier	7.25	40				Pn	04 55 38.4	-1.1
YUK8	Steele Glacier	7.25	40		P		Pn	04 55 38.4	-1.1
	baz=227								
RND	Reindeer	7.38	2		Pn		Pn	04 55 41.2	+0.1
M27K	Edge Creek, AK	7.39	28		Pn		Pn	04 55 42.2	+0.8
M27K	Edge Creek, AK	7.39	28		P		Pn	04 55 42.5	+1.2
	baz=214								
S31K	Pelican	7.43	70		Pn		Pn	04 55 39.7	-1.9
TRF	Thorofare Moun	7.43	357		Pn		Pn	04 55 42.4	+0.5
TRF	Thorofare Moun	7.43	357		P		Pn	04 55 42.2	+0.3
	baz=175								
CAST	Castle Rocks	7.51	351		Pn		Pn	04 55 42.4	-0.4
KTH	Kantishna Hill	7.56	355		Pn		Pn	04 55 43.6	+0.1
K20K	Telida	7.70	344		Pn		Pn	04 55 45.9	+0.5
MCK	McKinley	7.71	1		Pn		Pn	04 55 45.6	+0.2
MCK	McKinley	7.71	1		P		Pn	04 55 46.5	+1.1
	baz=181								
L16K	Owhat River	7.71	321		Pn		Pn	04 55 46.1	+0.6
SIT	Sitka	7.83	77		P		Pn	04 55 45.6	-1.6
HYT	Haines Junctio	7.85	48		Pn		Pn	04 55 47.9	+0.4
K24K	Donnelly Dome	7.98	12				Pn	04 55 50.4	+1.2
K24K	Donnelly Dome	7.98	12		P		Pn	04 55 50.4	+1.2
	baz=194								
L27K	Beaver Creek,	8.00	25		Pn		Pn	04 55 50.3	+0.8
BCAR	Beaver Creek A	8.01	26		Pn		Pn	04 55 50.8	+1.1
RIDG	Independent Ri	8.04	15		Pn		Pn	04 55 51.3	+1.3
FALS	False Pass	8.07	267		Pn		Pn	04 55 51.5	+1.0
FALS	False Pass	8.07	267		P		Pn	04 55 52.0	+1.5
FALS	False Pass	8.07	267		P		Pn	04 55 51.5	+1.0
	baz=76								
BPAW	Bear Paw Mtn.	8.11	355		Pn		Pn	04 55 50.2	-0.8
SKAG	Skagway	8.25	60		P		Pn	04 55 53.4	+0.5
S32K	Killisnoo	8.26	74		Pn		Pn	04 55 51.2	-1.7
S32K	Killisnoo	8.26	74		P		Pn	04 55 51.8	-1.1
	baz=266								
ISLZ	Isanotski Laza	8.27	267				Pn	04 55 54.5	+1.2
N30M	Aishikik Lake	8.37	45		Pn		Pn	04 55 55.3	+0.7
SCRK	Sand Creek	8.39	16		Pn		Pn	04 55 54.9	-0.1
O30N	Mendenhall	8.42	50		Pn		Pn	04 55 55.9	+0.6
SSLS	Shishaldin Sou	8.44	267				Pn	04 55 56.6	+1.1
JIS	Juneau Island	8.45	69		Pn		Pn	04 55 56.0	+0.4
JIS	Juneau Island	8.45	69		P		Pn	04 55 56.3	+0.7
J20K	Nowinta River	8.49	346		Pn		Pn	04 55 54.6	-1.5
M13K	Dall Lake	8.56	306		Pn		Pn	04 55 58.5	+1.3
NEA2	Nenana	8.57	1		Pn		Pn	04 55 58.2	+0.9
CCB	Clear Creek Bu	8.65	4		Pn		Pn	04 55 58.8	+0.3
L14K	Kuka Creek	8.71	313		Pn		Pn	04 56 00.3	+1.1
K27K	Chicken	8.79	21		Pn		Pn	04 56 01.0	+0.7
J25K	Salcha River,	8.81	11		Pn		Pn	04 56 00.7	+0.1
J25K	Salcha River,	8.81	11		P		Pn	04 56 01.3	+0.6
	baz=194								
IL31		8.83	7		Pn		Pn	04 56 01.2	+0.4
ILAR	Eielson Array	8.83	7		Pn		Pn	04 56 01.0	+0.2
COLA	College	8.88	4		P		Pn	04 56 03.0	+1.5
WHY	Whitehorse	8.90	53		Pn		Pn	04 56 03.0	+1.1
J26L	Joseph Creek	8.95	16		Pn		Pn	04 56 03.2	+0.7
MDM	Murphy Dome	8.95	3		Pn		Pn	04 56 02.9	+0.3
MLY	Manley	9.03	356		Pn		Pn	04 56 02.6	-1.0
MLY	Manley	9.03	356		P		Pn	04 56 04.3	+0.7
	baz=175								
P32M	Atlin	9.07	61		P		Pn	04 56 04.7	+0.5
	baz=253								
L29M	L29M	9.07	34		Pn		Pn	04 56 05.8	+1.6
U33K	Whale Pass	9.09	83		Pn		Pn	04 56 02.7	-1.7
I23K	Minto, Yukon-K	9.12	0		Pn		Pn	04 56 05.5	+0.7
POKR	Poker Plat Res	9.14	5		Pn		Pn	04 56 06.5	+1.4
M30M	Minto, Yukon	9.16	39		Pn		Pn	04 56 06.2	+0.8
CRAG	Craig	9.18	87		Pn		Pn	04 56 03.5	-2.2
CRAG	Craig	9.18	87		P		Pn	04 56 04.5	-1.2
I21K	Tanana	9.24	353		Pn		Pn	04 56 07.4	+0.9
DAWY	Dawson	9.45	28		Pn		Pn	04 56 10.0	+0.7
WRAK	Wrangell Islan	9.49	81		Pn		Pn	04 56 07.8	-2.1
AKUT	Akutan	9.60	265		Pn		Pn	04 56 12.1	+0.8
EGAK	Eagle	9.64	21		Pn		Pn	04 56 11.6	-0.3
Q32M	Nakina River	9.65	65		Pn		Pn	04 56 12.9	+0.6
P33M	Teslin, Yukon	9.69	58		Pn		Pn	04 56 13.7	+1.0
P33M	Teslin, Yukon	9.69	58		P		Pn	04 56 13.4	+0.7
	baz=251								
I26K	Coal Creek Min	9.76	16		Pn		Pn	04 56 14.0	+0.4
H21K	Melozitna Rive	9.78	352		Pn		Pn	04 56 13.2	-0.6
K29M	Barlow Dome	9.80	32		Pn		Pn	04 56 15.1	+0.9
K13K	Kusilvak Mount	9.83	313		Pn		Pn	04 56 15.6	+1.1
H24K	Noodor Dome	9.84	4		Pn		Pn	04 56 15.8	+1.0
J14K	Nanvaranak Lak	9.85	319		Pn		Pn	04 56 16.7	+2.0
M31M	Drury Creek, Y	9.85	45		Pn		Pn	04 56 16.4	+1.6
N32M	Quiet Lake	9.90	52		Pn		Pn	04 56 14.2	-1.5
V35K	Ketchikan	10.05	87		Pn		Pn	04 56 16.5	-1.1
UNV	Unalaska Valle	10.10	264		P		Pn	04 56 18.7	+0.5
S34M	Telegraph Cree	10.13	72		Pn		Pn	04 56 18.9	+0.3
IMAR	Indian Mountai	10.18	350		Pn		Pn	04 56 19.1	-0.3
FARO	Faro, Yukon	10.28	46		Pn		Pn	04 56 22.6	+1.9
H17K	Granite Mounta	10.30	334		Pn		Pn	04 56 21.6	+0.7
R33M	Jennings River	10.39	64		Pn		Pn	04 56 23.2	+0.8
I28M	Miner Creek	10.48	22		Pn		Pn	04 56 25.1	+1.6
G21K	Allakaket	10.68	351		Pn		Pn	04 56 25.2	-1.0
J30M	Hart River	10.69	32		Pn		Pn	04 56 28.4	+2.0
G23K	Bananza Creek	10.70	359		Pn		Pn	04 56 27.1	+0.7
FYU	Fort Yukon	10.73	9		Pn		Pn	04 56 26.8	-0.1
DLBC	Dease Lake	10.74	69		Pn		Pn	04 56 27.4	+0.2
I30M	Mount Dempster	11.16	29		Pn		Pn	04 56 35.5	+2.7
F20K	Avaraart Lake	11.43	347		Pn		Pn	04 56 37.0	+0.6
F24K	Squaw Lake	11.53	3		Pn		Pn	04 56 37.8	+0.1
BMAR	Burnt Mountain	11.63	9		Pn		Pn	04 56 38.7	-0.5
G29M	Pine Creek	12.14	22		Pn		Pn	04 56 48.4	+2.3
E25K	Arctic Village	12.24	7		Pn		Pn	04 56 47.8	+0.4
F28M	Old Crow	12.41	17		Pn		Pn	04 56 50.7	+0.8
G30M	tAoh Zraii Nji	12.59	24		Pn		Pn	04 56 53.0	+0.8
G31M	Satah River	13.02	27		Pn		Pn	04 56 59.6	+1.0
F31M	Tsiigehtchic	13.55	26		Pn		Pn	04 57 06.3	+1.0
INK	Inuvik	14.27	24		Pn		Pn	04 57 15.8	+0.6
B22K	Teshekpuk Lake	14.45	355		Pn		Pn	04 57 17.8	+0.3
ADK	Adak	16.55	267		Pn		Pn	04 57 46.0	+1.1
ADK					IAmb		IAmb	04 57 53.0	
	comp=Z,59nm,1.1s								
ADK	Adak	16.55	267		P		Pn	04 57 42.4	-2.6
KIWB	Kanaga Island	16.82	267		Pn		Pn	04 57 48.4	0.0
C36M	Paulatuk	17.46	30				P	04 57 57.0	-0.2
C36M					IAmb		IAmb	04 57 57.8	
	comp=Z,3.5nm,1.1s								
A36M	Sachs Harbour	18.91	23		P		P	04 58 13.5	+0.4
A36M					IAmb		IAmb	04 58 27.8	
	comp=Z,6.4nm,1.2s								

NEIC ***28*** *04:54:29.8±1.5,56˚.06N±0˚.08×150˚.00W±0˚.07,h10km±2km, mb3.6/2,ML3.7/36,ML3.5(AEIC),Error ellipse: s-maj=13.8km s-min=6.5km az=178.0*
AEIC ***28*** *04:54:34.0±1.7,56˚.04N±0˚.09×150˚.0W±0˚.1,h10km±7km, Error ellipse: s-maj=12.8km s-min=9.2km az=171.0*
ISC 28 04:54:33.1±1.4,56˚.15N±0˚.09×150˚.01W±0˚.07,h35km, n174,s0s90/181,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.10	302		Pn	04 55 05.0	-0.8
OHAK					Sn	04 55 30.1	-0.6
OHAK	Old Harbor	2.10	302	P	Pn	04 55 06.4	+0.6
	baz=121						
OHAK				S	Sn	04 55 30.4	-0.3
	baz=121						
KDAK	Kodiak Island	2.16	320	Pn	Pn	04 55 05.8	-0.7
KDAK				Sn	Sn	04 55 31.6	-0.5
SII	Sitkinak Islan	2.36	282	Pn	Pn	04 55 08.3	-1.0
SII				Sn	Sn	04 55 35.9	-1.1
SII	Sitkinak Islan	2.36	282	S	Sn	04 55 37.0	0.0
	baz=100						
Q20K	Shuyak Island	2.79	333	S	Sn	04 55 47.7	+0.2
	baz=152						
SYI	Shuyak Island	2.79	333	Pn	Pn	04 55 15.3	+0.2
SYI				IAML		04 55 49.0	
	comp=N,133nm,0.6s						
SYI				IAML		04 55 50.1	
	comp=E,142nm,0.5s						
KAHG	Katmai Hook Gl	3.40	316		Pn	04 55 24.4	+0.7
CNPM	China Poot	3.45	350	Pn	Pn	04 55 24.2	-0.2
CNPM				Sn	Sn	04 56 03.6	-0.3
BRSE	Bradley Lake S	3.63	354		Pn	04 55 26.4	-0.3
BRSE					Sn	04 56 07.3	-1.0
BRSE	Bradley Lake S	3.63	354	P	Pn	04 55 26.4	-0.3
	baz=174						
BRSE				S	Sn	04 56 07.3	-1.0
	baz=174						
HOM	Homer	3.63	347		Pn	04 55 25.4	-1.3
HOM				IAML		04 56 20.1	
	comp=N,243nm,1.2s						
HOM				IAML		04 56 20.3	
	comp=E,199nm,0.9s						
BRLK	Bradley Lake	3.66	353	Pn	Pn	04 55 26.1	-1.1
BRLK				IAML		04 56 10.3	
	comp=N,67nm,0.2s						
BRLK				IAML		04 56 10.5	
	comp=E,76nm,0.3s						
AU22	Augustine Moun	3.70	332		Pn	04 55 28.3	+0.7
Q23K	Middleton Isla	3.83	29	Pn	Pn	04 55 28.9	-0.6
Q23K	Middleton Isla	3.83	29	P	Pn	04 55 28.9	-0.6
	baz=212						
MID	Middleton Isla	3.83	29	Pn	Pn	04 55 29.3	-0.2
CNTC	Contact Creek	3.83	306		Pn	04 55 30.4	+0.7
Q17K	Contact Creek	3.84	306	P	Pn	04 55 30.4	+0.7
	baz=122						
P19K	Oil Pt	3.91	335	Pn	Pn	04 55 30.7	0.0
P19K	Oil Pt	3.91	335	P	Pn	04 55 31.3	+0.6
	baz=153						
SEW	Seward	3.98	4	Pn	Pn	04 55 29.9	-1.6
SEW	Seward	3.98	4	P	Pn	04 55 30.7	-0.8
	baz=184						
P23K	Montague Islan	4.10	19		Pn	04 55 33.0	-0.3
P23K	Montague Islan	4.10	19	P	Pn	04 55 33.0	-0.3
	baz=200						
IVE	Iliamna Volcan	4.20	339		Pn	04 55 34.9	+0.3
P18K	Big Mountain,	4.29	322	Pn	Pn	04 55 35.1	-0.7
P18K	Big Mountain,	4.29	322	P	Pn	04 55 36.2	+0.4
	baz=138						
O18K	Koktuh Hills	4.63	326	Pn	Pn	04 55 39.7	-0.8
O18K	Koktuh Hills	4.63	326	P	Pn	04 55 41.2	+0.7
	baz=142						
HIN	Hinchinbrook I	4.65	22	Pn	Pn	04 55 40.6	-0.2
O19K	Port Alsworth	4.66	332	Pn	Pn	04 55 40.0	-0.9
O19K	Port Alsworth	4.66	332	P	Pn	04 55 41.1	+0.3
	baz=149						
DFR	Drift River	4.67	344		Pn	04 55 41.5	+0.3
KAIM	Kayak Island	4.82	36	Pn	Pn	04 55 42.5	-0.5
KAIM	Kayak Island	4.82	36	P	Pn	04 55 43.0	-0.1
	baz=220						
EYAK	Cordova Ski Ar	4.95	25	Pn	Pn	04 55 43.7	-1.1
EYAK	Cordova Ski Ar	4.95	25	P	Pn	04 55 44.9	+0.1
	baz=208						
RC01	Rabbit Creek A	4.96	2	Pn	Pn	04 55 44.2	-0.8
RC01	Rabbit Creek A	4.96	2	P	Pn	04 55 44.7	-0.3
	baz=182						
FID	Port Fidalgo	4.97	20	Pn	Pn	04 55 44.7	-0.5
FIS	Fire Island	5.01	359	Pn	Pn	04 55 45.5	-0.2
RAGM	Ragged Mountai	5.10	31	Pn	Pn	04 55 47.0	0.0
RAGM				IAML		04 56 46.8	
	comp=E,88nm,0.5s						
CKT	Bend	5.20	348		Pn	04 55 48.9	+0.6
N19K	Bonanza Creek	5.23	335		Pn	04 55 49.0	+0.1
N19K	Bonanza Creek	5.23	335	P	Pn	04 55 49.0	+0.1
	baz=152						
GOAT	Goat Mountain	5.24	30		Pn	04 55 49.2	+0.3
SPCG	Spurr Capps Gl	5.27	349		Pn	04 55 49.6	+0.2
KNK	Knik Glacier	5.34	8	P	Pn	04 55 50.4	+0.1
	baz=189						
SUA	Susitna One	5.35	356	Pn	Pn	04 55 48.7	-1.7
DIV	Divide	5.46	22	Pn	Pn	04 55 51.9	-0.1
PMR	Palmer	5.48	4	Pn	Pn	04 55 51.3	-0.8
N18K	Kilae Creek	5.50	328		Pn	04 55 52.9	+0.6
N18K	Kilae Creek	5.50	328	P	Pn	04 55 52.9	+0.6
	baz=144						
SNH	Sunshine Point	5.55	40	Pn	Pn	04 55 52.4	-0.7
BMRM	Bremner River	5.60	28	Pn	Pn	04 55 53.8	0.0
BMRM	Bremner River	5.60	28	P	Pn	04 55 54.2	+0.4
	baz=212						
CNBA	Chernabura Isl	5.61	260	Pn	Pn	04 55 53.9	0.0
GHO	Glory Hole Cre	5.67	5	Pn	Pn	04 55 54.9	0.0
SML	Sawmill	5.74	8	Pn	Pn	04 55 55.7	-0.1
SML	Sawmill	5.74	8	P	Pn	04 55 56.3	+0.5
	baz=189						
KLU	Klutina	5.77	20	Pn	Pn	04 55 56.7	+0.5
KLU	Klutina	5.77	20	P	Pn	04 55 56.4	+0.2
	baz=203						
M23K	Glacier View	5.79	11		Pn	04 55 56.6	+0.2
M23K	Glacier View	5.79	11	P	Pn	04 55 56.6	+0.2
	baz=193						
N17K	Nushagak Hills	5.79	322	Pn	Pn	04 55 56.5	+0.1
N17K	Nushagak Hills	5.79	322	P	Pn	04 55 57.2	+0.8
	baz=137						
SCM	Sheep Creek Mo	5.87	13	Pn	Pn	04 55 57.6	0.0
SKT	Skwentna	5.90	353	Pn	Pn	04 55 57.6	-0.4
SKT	Skwentna	5.90	353	P	Pn	04 55 58.4	+0.4
	baz=172						
SDPT	Sand Point	5.96	267	Pn	Pn	04 55 58.4	-0.4
SDPT	Sand Point	5.96	267	P	Pn	04 55 59.1	+0.3
	baz=79						
O15K	Ungalikthiuk R	6.08	304		Pn	04 56 01.3	+1.0
O15K	Ungalikthiuk R	6.08	304	P	Pn	04 56 01.3	+1.0
	baz=116						
VRDI	Verde Repeater	6.13	31	Pn	Pn	04 56 01.2	-0.1
M18K	Stony River	6.15	333		Pn	04 56 01.4	+0.1
M18K	Stony River	6.15	333	P	Pn	04 56 01.4	+0.1
	baz=148						
N25K	Chitina, Valde	6.15	25	Pn	Pn	04 56 02.0	+0.6
GLB	Gilahina Butte	6.21	29	Pn	Pn	04 56 03.0	+0.8
M24K	Tolsona, Glenn	6.29	17	Pn	Pn	04 56 04.2	+0.8
M24K	Tolsona, Glenn	6.29	17	P	Pn	04 56 04.0	+0.6
	baz=200						
MCARA	McCarthy VSAT	6.38	32	Pn	Pn	04 56 04.9	+0.3
MCARA	McCarthy VSAT	6.38	32	P	Pn	04 56 05.6	+1.0
	baz=217						
PTPK	Patty Peak	6.40	35		Pn	04 56 05.5	+0.5
M17K	Holitna River	6.53	327	Pn	Pn	04 56 07.0	+0.4
M17K	Holitna River	6.53	327	P	Pn	04 56 07.4	+0.9
	baz=141						
BARN	Barnard Glacie	6.58	38	Pn	Pn	04 56 07.4	0.0
CTG	Chitna Glacier	6.62	40	P	Pn	04 56 07.8	-0.1
	baz=226						
CTGM	Chitina Glacie	6.63	40	Pn	Pn	04 56 06.6	-1.4
LOGN	Logan Glacier	6.65	41	Pn	Pn	04 56 08.3	0.0
WAZA	Wrangell Mount	6.67	24		Pn	04 56 09.9	+1.3
PNL	Peninsula	6.67	54		Pn	04 56 08.9	+0.5
PNL	Peninsula	6.67	54	P	Pn	04 56 08.9	+0.5
	baz=242						
BCPM	Bancas Point	6.70	51	Pn	Pn	04 56 09.0	+0.2
HARP	HAARP	6.75	20		Pn	04 56 10.5	+1.0
HARP	HAARP	6.75	20	P	Pn	04 56 10.5	+1.0
	baz=204	

B22K	**Teshekpuk Lake**	**14.33**	**355**	Pn	**Pn**	**04 57 52.1**	**-1.0**
C36M	**Paulatuk**	**17.57**	**31**	Pn	**Pn**	**04 58 34.8**	**0.0**
C36M				IAmb	IAmb	04 58 37.2	
	comp=Z,1.8nm,0.8s						
A36M	**Sachs Harbour**	**18.97**	**24**		**P**	**04 58 51.0**	**+0.1**
A36M				IAmb	IAmb	04 58 53.8	
	comp=Z,5.6nm,0.8s						

*NEIC **28** 05:02:56.8±2.3,57˚.40N±0˚.05×156˚.83W±0˚.09, h114km±3km, Error ellipse: s-maj=7.6km s-min=7.0km az=130.0*
*AEIC **28** 05:02:58.5±0.9,57˚.41N±0˚.05×157˚.05W±0˚.09, h107km±4km, ML3.4,ML3.2/50(NEIC), Error ellipse: s-maj=7.1km s-min=6.6km az=147.0*

ISC 28 05:02:55.5±1.6**, 57˚.33N**±0˚.07×**156˚.96W**±0˚.05**, h122**km±9km**, n75,** σ1**9**45/72**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R16K	**Pilot Point**	**0.41**	**305**		**Pn**	**05 03 12.8**	**-0.3**
R16K					**Sn**	**05 03 25.2**	**-1.3**
R16K				IAML		05 03 25.5	
	comp=E,517nm,0.7s						
R16K				IAML		05 03 25.6	
	comp=N,446nm,0.5s						
PLK1	**Peulik 1**	**0.51**	**22**		**Pn**	**05 03 14.0**	**+0.3**
PLK3	**Peulik 3**	**0.52**	**46**		**Pn**	**05 03 14.6**	**+0.8**
PLK3					**Sn**	**05 03 28.1**	**+0.4**
PLK5	**Peulik 5**	**0.67**	**4**		**Pn**	**05 03 15.2**	**+0.4**
ANNW	**Aniakchak Nort**	**0.78**	**242**		**Pn**	**05 03 17.1**	**+1.4**
ANPB	**Aniakchak Plen**	**0.90**	**234**		**Pn**	**05 03 17.7**	**+0.9**
CNTC	**Contact Creek**	**1.10**	**31**		**Pn**	**05 03 19.2**	**+0.4**
ANCK	**Angle Creek**	**1.17**	**42**		**Pn**	**05 03 20.5**	**+1.0**
ACHA	**Angle Creek He**	**1.24**	**44**		**Pn**	**05 03 21.2**	**+1.0**
KELA	**Mount Kelaz**	**1.29**	**30**		**Pn**	**05 03 21.2**	**+0.5**
CHGN	**Chignik**	**1.31**	**218**		**Pn**	**05 03 22.3**	**+1.5**
Q16K	**King Salmon**	**1.36**	**7**		**Pn**	**05 03 21.6**	**+0.3**
Q16K					**Sn**	**05 03 40.0**	**-1.1**
KVTA	**Katmai Vly 10**	**1.38**	**40**		**Pn**	**05 03 22.6**	**+1.0**
KAHC	**Katmai Hardscr**	**1.68**	**37**		**Pn**	**05 03 26.2**	**+1.0**
SII	**Sitkinak Islan**	**1.71**	**116**		**Pn**	**05 03 27.5**	**+2.0**
SII				IAML		05 04 02.2	
	comp=E,86nm,1.8s						
SII				IAML		05 04 08.0	
	comp=N,253nm,0.7s						
SII	**Sitkinak Islan** baz=97	**1.71**	**116**	P	Pn	05 03 34.8	+9.3
KAHG	**Katmai Hook Gl**	**1.73**	**47**		**Pn**	**05 03 27.2**	**+1.3**
KAHG					**Sn**	**05 03 50.3**	**+1.2**
VNFG	**Fog Glacier, M**	**1.77**	**235**		**Pn**	**05 03 28.2**	**+1.9**
VNFG				IAML		05 03 55.7	
	comp=E,186nm,1.9s						
VNFG				IAML		05 04 02.4	
	comp=N,211nm,1.7s						
P16K	**Nushagak River**	**1.79**	**343**		**Pn**	**05 03 26.5**	**+0.1**
P17K	**Kvichak River**	**1.89**	**8**		**Pn**	**05 03 28.2**	**+0.6**
OHAK	**Old Harbor**	**2.00**	**92**		**Pn**	**05 03 30.7**	**+1.7**
OHAK					**Sn**	**05 03 54.0**	**-0.6**
OHAK				IAML		05 03 54.4	
	comp=E,145nm,0.7s						
OHAK	**Old Harbor**	**2.00**	**92**	P	**Pn**	**05 03 30.4**	**+1.5**
OHAK	**Old Harbor** baz=118	**2.00**	**92**	P	**Pn**	**05 03 30.5**	**+1.6**
OHAK				S	**Sn**	**05 03 53.9**	**-0.7**
	baz=118						
P18K	**Big Mountain,**	**2.26**	**23**		**Pn**	**05 03 33.1**	**+0.9**
Q16K	**Kokwok River B**	**2.34**	**346**		**Pn**	**05 03 33.4**	**+0.1**
Q19K	**Cape Douglas,**	**2.38**	**46**		**Pn**	**05 03 36.0**	**+2.3**
O15K	**Ungalikthiuk R**	**2.39**	**322**		**Pn**	**05 03 34.1**	**+0.2**
KDAK	**Kodiak Island**	**2.40**	**77**		**Pn**	**05 03 31.5**	**-2.5**
O17K	**Koliganek Bris**	**2.45**	**358**		**Pn**	**05 03 34.8**	**+0.2**
O18K	**Koktuh Hills**	**2.69**	**19**		**Pn**	**05 03 38.8**	**+1.0**
O18K				IAML		05 04 59.4	
	comp=N,70nm,0.9s						
O18K				IAML		05 05 11.7	
	comp=E,66nm,0.7s						
Q20K	**Shuyak Island** baz=150	**2.75**	**60**	P	**Pn**	**05 03 39.8**	**+1.3**
Q20K				S	**Sn**	**05 04 11.1**	**-0.5**
	baz=150						
SYI	**Shuyak Island**	**2.75**	**60**		**Pn**	**05 03 40.0**	**+1.5**
SYI				IAML		05 04 12.6	
	comp=N,114nm,0.8s						
SDPT	**Sand Point**	**2.79**	**226**	Pn	**Pn**	**05 03 41.0**	**+1.9**
SDPT				IAML		05 04 04.8	
	comp=E,82nm,1.6s						
SDPT				IAML		05 04 47.2	
	comp=N,74nm,1.9s						
CNBA	**Chernabura Isl**	**2.92**	**211**		**Pn**	**05 03 41.9**	**+1.1**
CNBA				IAML		05 04 26.0	
	comp=N,62nm,1.9s						
CNBA				IAML		05 04 30.0	
	comp=E,60nm,0.3s						
O14K	**Tigyukauivet M**	**2.98**	**312**		**Pn**	**05 03 42.0**	**+0.5**
N17K	**Nushagak Hills**	**3.21**	**358**		**Pn**	**05 03 44.9**	**+0.4**
N15K	**Kwethluk River**	**3.28**	**331**		**Pn**	**05 03 46.2**	**+0.8**
N18K	**Kilae Creek**	**3.40**	**9**		**Pn**	**05 03 47.8**	**+0.7**
N14K	**Kuskokwak Cree**	**3.58**	**318**		**Pn**	**05 03 50.0**	**+0.6**
HOM	**Homer** baz=164	**3.63**	**48**	S	**Sn**	**05 04 32.2**	**-0.2**
CNPM	**China Poot**	**3.73**	**51**	Pn	**Pn**	**05 03 48.6**	**-2.7**
RSO	**Redoubt South**	**3.82**	**33**	Pn	Pn	05 03 48.2	-4.6
BRLK	**Bradley Lake**	**4.01**	**50**	Pn	Pn	05 03 51.1	-4.0
BRLK				IAML		05 04 36.0	
	comp=E,45nm,0.5s						
BRSE	**Bradley Lake S**	**4.05**	**51**		Pn	05 03 50.6	-5.1
BRSE	**Bradley Lake S** baz=173	**4.05**	**51**	P	Pn	05 03 50.6	-5.1
BRSE				S	Sn	05 04 30.1	-12
	baz=173						
M18K	**Stony River**	**4.21**	**7**		**Pn**	**05 03 58.6**	**+0.8**
M14K	**Bethel**	**4.29**	**325**	Pn	**Pn**	**05 03 59.5**	**+0.6**
M14K				IAML		05 05 50.4	
	comp=E,21nm,2.0s						
M14K				IAML		05 06 18.7	
	comp=N,18nm,1.7s						
M13K	**Dall Lake**	**4.53**	**316**	Pn	**Pn**	**05 04 03.0**	**+0.9**
M13K				IAML		05 05 25.3	
	comp=E,18nm,1.9s						
M13K				IAML		05 07 01.2	
	comp=N,18nm,1.8s						
N20K	**Mount Spurr** baz=166	**4.58**	**30**	P	Pn	05 04 12.7	+10
M19K	**Big River Lodg**	**4.77**	**15**	Pn	**Pn**	**05 04 06.9**	**+1.7**
O22K	**Cooper Landing** baz=181	**4.90**	**47**	P	Pn	05 04 00.8	-6.2
L14K	**Kuka Creek**	**4.97**	**326**		**Pn**	**05 04 08.8**	**+0.8**
L14K				IAML		05 07 01.3	
	comp=N,12nm,1.4s						
L14K				IAML		05 07 09.3	
	comp=E,11nm,1.8s						
L19K	**White Mountain**	**4.98**	**11**	Pn	**Pn**	**05 04 09.7**	**+1.6**
L19K				IAML		05 05 44.1	
	comp=E,13nm,0.9s						
L19K				IAML		05 05 44.1	
	comp=N,16nm,0.9s						
SUA	**Susitna One**	**5.22**	**35**		**Pn**	**05 04 13.0**	**+1.6**
SUA				IAML		05 05 19.1	
	comp=E,16nm,1.6s						
RC01	**Rabbit Creek A** baz=181	**5.29**	**42**	P	**Pn**	**05 04 09.0**	**-3.2**
SKT	**Skwentna**	**5.41**	**28**	Pn	**Pn**	**05 04 16.3**	**+2.4**
K17K	**Iditarod**	**5.44**	**353**		**Pn**	**05 04 15.3**	**+1.0**
K17K				IAML		05 06 57.3	
	comp=N,11nm,1.7s						
K17K				IAML		05 06 58.5	
	comp=E,8.6nm,1.5s						
PMR	**Palmer**	**5.84**	**40**		**Pn**	**05 04 16.7**	**-3.0**
PMR	**Palmer**	**5.84**	**40**	P	**Pn**	**05 04 17.8**	**-1.8**
GHO	**Glory Hole Cre**	**6.04**	**39**		**Pn**	**05 04 20.1**	**-2.3**
SML	**Sawmill** baz=189	**6.27**	**41**	P	Pn	05 04 20.9	-4.6
WAT7	**Susitna Watana**	**6.84**	**33**		**Pn**	**05 04 33.4**	**+0.1**
WAT1	**Susitna Watana**	**6.93**	**34**		**Pn**	**05 04 34.1**	**-0.3**
WAT1	**Susitna Watana** baz=186	**6.93**	**34**	P	**Pn**	**05 04 34.1**	**-0.3**
WAT6	**Susitna Watana**	**7.00**	**37**		Pn	05 04 31.9	-3.6
WAT6	**Susitna Watana** baz=191	**7.00**	**37**	P	Pn	05 04 31.9	-3.6
BPAW	**Bear Paw Mtn.**	**7.39**	**21**	Pn	**Pn**	**05 04 40.7**	**+0.2**
DHY	**Denali Highway**	**7.47**	**36**		**Pn**	**05 04 40.0**	**-1.8**
DHY	**Denali Highway** baz=192	**7.47**	**36**	P	**Pn**	**05 04 39.2**	**-2.6**
CCB	**Clear Creek Bu**	**8.57**	**27**	Pn	**Pn**	**05 04 56.0**	**-0.4**
COLA	**College**	**8.75**	**26**	P	**Pn**	**05 05 03.2**	**+4.4**
IL31		**8.91**	**29**		**Pn**	**05 05 00.5**	**-0.4**
ILAR	**Eielson Array**	**8.91**	**29**	Pn	**Pn**	**05 05 00.1**	**-0.9**
J25K	**Salcha River,**	**9.21**	**33**	Pn	**Pn**	**05 05 03.6**	**-1.4**
I26K	**Coal Creek Min**	**10.36**	**34**	Pn	**Pn**	**05 05 20.4**	**-0.2**

*IDC **28** 05:13:15.8±1.1,28˚.73S×71˚.30W,h0km,mb3.8/2, mbtmp3.7/3,ML3.3/1,MS3.0/3,Error ellipse: s-maj=57.6km s-min=40.3km az=116.0*
*GUC **28** 05:13:20.7±0.8,28˚.59S×71˚.39W,h38km±3km, ML3.8*

ISC 28 05:13:19.4±0.8**, 28˚.54S**±0˚.04×**71˚.51W**±0˚.07**, h29**km**, n26,** σ1**9**12/29**, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.51**	**49**	*i*P	**Pn**	**05 13 31.3**	**+0.5**
AC04				*e*S	**Sn**	**05 13 38.5**	**0.0**
AC04				IAML		05 13 39.2	
	comp=E,32μm,0.2s						
AC05	**El Transito**	**1.12**	**105**	*i*P	**Pb**	**05 13 39.8**	**-0.5**
AC05				*e*S	**Sn**	**05 13 53.4**	**-0.5**
AC05				IAML		05 13 54.5	
	comp=N,6μm,0.5s						
CO05	**La Serena**	**1.39**	**170**	*e*P	**Pb**	**05 13 43.5**	**-1.3**
CO05				IAML		05 14 05.0	
	comp=N,2μm,0.5s						
GO03	**Copiap**	**1.47**	**50**	*e*P	**Pb**	**05 13 45.2**	**-1.0**
GO03				*e*S	**Sb**	**05 14 03.0**	**-1.5**
GO03				IAML		05 14 06.9	
	comp=N,3μm,0.4s						
AC06	**Mina Casimiro**	**1.56**	**41**	*e*P	**Pb**	**05 13 46.9**	**-0.8**
AC06				IAML		05 14 11.0	
	comp=E,1μm,0.3s						
GO04	**Tololo Observa**	**1.74**	**159**	*e*P	**Pn**	**05 13 48.8**	**+0.8**
GO04				IAML		05 14 14.8	
	comp=E,4μm,0.5s						
CO01	**Juntas del Tor**	**1.89**	**140**	*e*P	**Pb**	**05 13 51.7**	**-1.7**
CO01				*e*S	**Sn**	**05 14 14.5**	**+1.5**
CO01				IAML		05 14 27.1	
	comp=N,1μm,0.4s						
CO06	**Fray Jorge**	**2.13**	**183**	*e*P	**Pn**	**05 13 53.1**	**0.0**
CO06				IAML		05 14 36.2	
	comp=E,614nm,0.4s						
CO03	**El Pedregal**	**2.40**	**163**	*e*P	**Pn**	**05 13 57.8**	**+0.9**
CO03				IAML		05 14 38.4	
	comp=E,893nm,0.4s						
AC01	**Pan de Azucar**	**2.52**	**19**	*e*P	**Pn**	**05 13 58.8**	**+0.3**
AC01				IAML		05 14 28.5	
	comp=E,406nm,0.5s						
LVC	**Limon Verde**	**6.36**	**22**	Pn	**Pn**	**05 14 51.9**	**+0.4**
	comp=E,0.7nm,0.3s,baz=147,slow=5.9,SNR=14						
LVC				Sn	**Sn**	**05 16 01.6**	**-1.7**
	comp=E,5.2nm,0.3s,baz=314,slow=17,SNR=7.7						
LVC				LR	LR	05 17 25.5	
	comp=E,85nm,20.7s,baz=227,slow=39 comp=E,1.5nm,0.3s						
H03N1	**Juan Fernandez**	**8.01**	**231**	Pn	**Pn**	**05 15 13.0**	**-0.7**
H03N1				T	T	05 23 34.5	
	baz=57,slow=72,SNR=1650						
H03N2	**Juan Fernandez**	**8.03**	**231**	Pn	**Pn**	**05 15 13.3**	**-0.6**
H03N2				T	T	05 23 32.8	
	baz=57,slow=72,SNR=1500						
H03N3	**Juan Fernandez**	**8.03**	**231**	Pn	**Pn**	**05 15 13.0**	**-0.9**
H03N3				T	T	05 23 33.6	
	baz=57,slow=72,SNR=955						
H03S3	**Juan Fernandez**	**8.24**	**228**	Pn	**Pn**	**05 15 15.0**	**-1.7**
H03S1	**Juan Fernandez**	**8.25**	**228**	Pn	**Pn**	**05 15 14.6**	**-2.3**
H03S2	**Juan Fernandez**	**8.26**	**228**	Pn	**Pn**	**05 15 16.2**	**-0.8**
PLCA	**Paso Flores** comp=E,82nm,20.5s,baz=74,slow=39	**12.19**	**177**	LR	LR	05 21 07.2	
SIV	**San Ignacio** comp=E,90nm,19.0s,baz=280,slow=39	**15.78**	**40**	LR	LR	05 23 34.6	
PDAR	**Pinedale Array** comp=E,0.2nm,0.5s,baz=131,slow=4.1,SNR=2.4 comp=E,0.2nm,0.5s	**79.13**	**332**	P	**P**	**05 25 23.7**	**+2.3**
TORD	**Torodi Ar. Bea** comp=E,1.3nm,0.7s,baz=266,slow=3.9,SNR=9.5 comp=E,1.3nm,0.7s	**81.94**	**70**	P	**P**	**05 25 37.1**	**+0.2**
ASAR	**Alice Springs** comp=E,0.2nm,0.4s,baz=133,slow=1.5,SNR=2.7	**122.61**	**208**	PKP	**PKiKP**	**05 32 13.3**	**+0.2**
WRA	**Warramunga Arr** comp=E,0.7nm,0.5s,baz=154,slow=1.6,SNR=8.4	**125.71**	**210**	PKP	**PKiKP**	**05 32 19.6**	**+0.3**
KURBB	**Kurchatov Arra** comp=E,1.3nm,0.2s,baz=302,slow=3.6,SNR=5.4	**148.42**	**37**	PKPbc	**PKiKP**	**05 33 04.3**	**-0.1**
ZALV	**Zalesovo Beam** comp=E,3.4nm,0.6s,baz=307,slow=3.6,SNR=17	**149.28**	**28**	PKPbc	**PKiKP**	**05 33 06.1**	**0.0**
MKAR	**Makanchi Array** comp=E,1.2nm,0.7s,baz=325,slow=1.9,SNR=14	**152.59**	**41**	PKPbc	**PKiKP**	**05 33 13.8**	**+0.6**

*IDC **28** 05:14:18.6±4.1,26˚.23N×128˚.27E,h0km,mb3.5/5, mbtmp3.5/5,MS3.2/2,Error ellipse: s-maj=240.0km s-min=23.6km az=65.0*
*NIED **28** 05:14:19.6,26˚.37N×128˚.93E,h34km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}5.28; $M_{\theta\theta}$-0.61; $M_{\phi\phi}$-4.68; $M_{r\theta}$2.11; $M_{r\phi}$-5.13; $M_{\theta\phi}$2.51; Fault plane solution: $M_0$7.49000×10^{14} NP1:φ39.00000°, δ58.00000°, λ,97.00000°. NP2:φ207.00000°, δ32.00000°, λ,79.00000°.*
*JMA **28** 05:14:19.6±0.3,26˚.4N±0˚.8×128˚.9E±˚,h34km±4km, MD3.7/15,MV3.5/15,NEAR OKINAWAJIMA ISLAND*

ISC 28 05:14:21.2±0.8**, 26˚.39N**±0˚.05×**128˚.94E**±0˚.04**, h35**km**, n23,** σ1**9**24/27**, mb3.6/5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.74**	**306**	*i*P	**Pn**	**05 14 33.7**	**-1.5**
JOW				S	**Sn**	**05 14 44.1**	**-1.1**
JOW	**Kunigami** comp=E,5.0nm,4.5s,comp=N,3.0nm,1.0s	**0.74**	**306**	A	A	05 14 33.7	
JYRO	**Yoronjima**	**0.77**	**325**	*i*P	**Pn**	**05 14 34.2**	**-1.3**
JYRO				*e*S	**Sn**	**05 14 45.1**	**-0.7**
JNTH	**Nagotoyohara**	**0.83**	**279**	P	**Pn**	**05 14 34.7**	**-1.7**
JNTH				S	**Sn**	**05 14 45.7**	**-1.8**
JNTH	**Nagotoyohara** comp=E,3.0nm,7.2s,comp=N,2.0nm,7.6s	**0.83**	**279**	A	A	05 14 34.7	
JOKE	**Okinoerabujima**	**1.02**	**341**	*i*P	**Pn**	**05 14 38.5**	**-0.5**
JOKE	**Okinoerabujima** comp=E,3.0nm,2.0s,comp=N,2.0nm,9.6s	**1.02**	**341**	A	A	05 14 38.5	
JJT3	**Tamagusuku3**	**1.07**	**257**	P	**Pn**	**05 14 38.8**	**-0.9**
JJT3				*e*S	**Sn**	**05 14 52.8**	**-0.5**
JIH	**Iheya**	**1.08**	**306**	*i*P	**Pn**	**05 14 39.0**	**-0.8**
JIH				*e*S	**Sn**	**05 14 53.3**	**-0.3**
JTK	**Tokunoshima**	**1.39**	**0**	P	**Pn**	**05 14 43.4**	**-0.7**
JTK				*e*S	**Sn**	**05 15 00.1**	**-1.0**
JAGN	**Aguni-jima**	**1.54**	**278**	P	**Pn**	**05 14 45.1**	**-0.9**
JAGN				*e*S	**Sn**	**05 15 04.3**	**-0.5**
JAGN	**Aguni-jima** comp=E,3.0nm,1.6s,comp=N,3.0nm,2.6s	**1.54**	**278**	A	A	05 14 45.1	
JAMN	**Amaminishikomi**	**1.85**	**6**	*e*P	**Pn**	**05 14 49.8**	**-0.6**
JKE	**Kume jima 2**	**1.94**	**268**	P	**Pn**	**05 14 50.2**	**-1.4**
JKE				*e*S	**Sn**	**05 15 13.9**	**-0.8**
JMZ	**Minamidaito 2**	**2.13**	**105**	*i*P	**Pn**	**05 14 53.1**	**-1.2**
JMZ				S	**Sn**	**05 15 17.1**	**-2.3**
JKDJ	**Kitadaitoujima**	**2.16**	**101**	*i*P	**Pn**	**05 14 53.9**	**-0.8**
JKDJ				S	**Sn**	**05 15 19.1**	**-1.2**
KSRS	**Korea Array** comp=N,51nm,18.3s,baz=330,slow=39	**11.06**	**356**	LR	LR	05 21 34.3	
JHJ	**Hachijo jima 2** comp=N,179nm,18.1s,baz=32,slow=37	**11.56**	**52**	LR	LR	05 21 47.8	
SONM	**Songino Array** comp=N,1.0nm,0.7s,baz=145,slow=9.6,SNR=5.5 comp=N,1.0nm,0.7s	**27.77**	**326**	P	**P**	**05 20 07.2**	**+0.5**
MKAR	**Makanchi Array** comp=N,0.2nm,0.4s,baz=103,slow=10,SNR=4.3 comp=N,0.2nm,0.4s	**41.90**	**312**	P	**P**	**05 22 07.5**	**-0.7**
WRA	**Warramunga Arr** comp=N,0.6nm,0.9s,baz=352,slow=8.5,SNR=2.0 comp=N,0.6nm,0.9s	**46.36**	**173**	P	**P**	**05 22 45.2**	**+1.1**
ASAR	**Alice Springs** comp=N,0.3nm,0.7s,baz=4.5,slow=13,SNR=4.2 comp=N,0.3nm,0.7s	**50.00**	**174**	P	**P**	**05 23 14.4**	**+2.3**
BRTR	**Keskin Array B** comp=N,0.7nm,0.8s,baz=85,slow=3.5,SNR=3.8 comp=N,0.7nm,0.8s	**77.44**	**308**	P	**P**	**05 26 14.6**	**+1.4**

TRN 28 05:15:51.1,15˚.11N×60˚.32W,h26km,MD3.9,2D, Leeward Islands

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

ILAM	**Ilet Lapin Mar**	**0.63**	**238**	*i*P	Pn	05 16 05.7	+1.4
ILAM				*e*S	Sn	05 16 15.8	+2.3
MVM	**Montagne Vaucl**	**0.78**	**225**	*e*P	Pn	05 16 07.7	+1.2
LPMF	**Morne Lapointe**	**0.82**	**230**	*e*P	Pn	05 16 07.9	+0.9
MPOM	**Morne Pois Mar**	**0.84**	**218**	*e*P	Pn	05 16 08.3	+1.1
MPOM				*e*S	Sn	05 16 21.6	+2.9
BAMF	**Morne Balai**	**0.85**	**250**	*e*P	Pn	05 16 09.0	+1.6
SVN	**Savane Anatole**	**0.86**	**252**	*e*P	Pn	05 16 09.2	+1.6
SVN				*e*S	Sn	05 16 23.0	+3.6
ZAM	**Aeronautique**	**0.87**	**232**	*e*P	Pn	05 16 08.6	+1.0
CXM	**Morne La Croix**	**0.87**	**250**	*e*P	Pn	05 16 09.7	+1.9
GBMF	**Grand Be**	**0.87**	**249**	*e*P	Pn	05 16 09.2	+1.5
FDF	**Fort de France**	**0.88**	**245**	*e*P	Pn	05 16 09.2	+1.3
FDF				*e*S	Sn	05 16 22.3	+2.4
PML	**Morne Lenard**	**0.90**	**249**	*e*P	Pn	05 16 09.6	+1.6
TRMF	**Trois Ilets**	**0.91**	**231**	*e*P	Pb	05 16 09.3	+1.1
PCM	**Pelee Case Pet**	**0.91**	**251**	*e*P	Pb	05 16 09.8	+1.5
BIM	**Bigot**	**0.93**	**231**	*e*P	Pb	05 16 09.9	+1.2
BIM				*e*S	Sn	05 16 24.4	+3.3
MAGL	**Barre de l'ile**	**1.25**	**312**	*e*P	Pb	05 16 14.4	+0.4
SLBI	**Saint Lucia, B**	**1.25**	**210**	*i*P	Pb	05 16 14.0	0.0
SLBI				*e*S	Sb	05 16 31.0	+1.3
SLCP	**Castries, St.**	**1.27**	**211**	*e*P	Pb	05 16 14.5	+0.2
SLCP				*e*S	Sb	05 16 31.5	+1.2
TDBA	**Terre de Bas,**	**1.47**	**300**	*e*P	Pb	05 16 18.0	+0.3
TBG	**Guadaloupe-3**	**1.48**	**300**	*e*P	Pb	05 16 17.5	-0.4
TBG				*e*S	Sb	05 16 36.9	+0.6
CBE	**Ff, Capester**	**1.57**	**308**	*e*P	Pb	05 16 19.0	-0.5
CBE				*e*S	Sb	05 16 39.7	+0.9
ABD	**La Joyeuse, An**	**1.76**	**321**	*e*P	Pn	05 16 21.2	+1.3
ABD				*e*S	Sb	05 16 43.6	-0.9
SVV	**Soufriere Volc**	**1.98**	**206**	*e*P	Pb	05 16 26.6	+0.2
SVB	**Belmont**	**2.04**	**206**	*e*P	Pb	05 16 25.6	-1.8
SVB				*e*S	Sn	05 16 50.0	+1.7
BCHC	**Barbados, Cave**	**2.07**	**161**	*e*P	Pb	05 16 26.5	-1.6
BCHC				*e*S	Sb	05 16 52.9	-0.4
SVOC	**Richmond Hill,**	**2.13**	**204**	*e*P	Pn	05 16 26.0	+1.0
SVOC				*e*S	Sn	05 16 52.3	+1.7
ANBD	**Bethesda, Anti**	**2.38**	**324**	*e*P	Pn	05 16 29.1	+0.6
ANBD				*e*S	Sn	05 16 58.7	+2.0
MBFL	**Flemmings, Mon**	**2.44**	**312**	*e*P	Pn	05 16 31.7	+2.4
MBFL				*e*S	Sb	05 17 01.5	-2.6
GCMP	**Grenada, Carri**	**2.82**	**203**	*e*P	Pn	05 16 36.5	+2.1
GCMP				*e*S	Sn	05 17 09.4	+1.7
GRHS	**Sauteurs**	**3.14**	**204**	*e*P	Pn	05 16 40.9	+2.0
GRHS				*e*S	Sn	05 17 16.4	+0.8
GRW	**Mount Saint Ca**	**3.21**	**204**	*e*P	Pn	05 16 42.5	+2.6
GRW				*e*S	Sn	05 17 19.5	+2.1
TRN	**Trinidad (W)**	**4.56**	**194**	*e*P	Pn	05 17 00.9	+2.5
TRN	**Trinidad (W)**	**4.56**	**194**	*e*S	Sn	05 17 51.3	+0.7
BAUV	**El Baul**	**9.72**	**232**	*e*P	Pn	05 18 10.8	+1.4
BAUV	**El Baul**	**9.72**	**232**	*e*S	Sn	05 19 54.5	-3.3

*NEIC **28** 05:28:51.3±0.8,55˚.92N±0˚.10×149˚.3W±0˚.1,h10km±2km, ML3.5/24,ML3.2(AEIC),Error ellipse: s-maj=16.2km s-min=10.3km az=179.0*
*AEIC **28** 05:28:55.5±1.5,55˚.9N±0˚.1×149˚.3W±0˚.1,h10km±8km, Error ellipse: s-maj=15.4km s-min=9.3km az=169.0*

ISC 28 05:28:52.9±1.6**, 55˚.92N**±0˚.10×**149˚.31W**±0˚.07**, h35**km**, n59,** σ0**9**91/65**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.56**	**302**		**Pn**	**05 29 32.5**	**+0.6**
OHAK					**Sn**	**05 30 01.3**	**-0.5**
OHAK	**Old Harbor** baz=119	**2.56**	**302**	P	**Pn**	**05 29 32.3**	**+0.4**
OHAK				S	**Sn**	**05 30 01.0**	**-0.8**
	baz=119						
KDAK	**Kodiak Island**	**2.60**	**317**		**Pn**	**05 29 33.1**	**+0.7**
KDAK	**Kodiak Island**	**2.60**	**317**	Sn	**Sn**	**05 30 02.1**	**-0.5**
KDAK	**Kodiak Island** baz=135	**2.60**	**317**	S	**Sn**	**05 30 02.2**	**-0.5**
SII	**Sitkinak Islan**	**2.80**	**285**		**Pn**	**05 29 35.7**	**+0.6**
SII				IAML		05 31 21.9	
	comp=N,287nm,0.8s						
SII	**Sitkinak Islan** baz=102	**2.80**	**285**	P	**Pn**	**05 29 35.5**	**+0.4**
SII				S	**Sn**	**05 30 06.9**	**-0.7**
	baz=102						
SYI	**Shuyak Island**	**3.18**	**329**		**Pn**	**05 29 41.1**	**+0.8**
SYI				IAML		05 31 37.3	
	comp=E,103nm,0.9s						
Q20K	**Shuyak Island** baz=147	**3.18**	**329**	P	**Pn**	**05 29 41.1**	**+0.7**
Q20K				S	**Sn**	**05 30 17.5**	**+0.5**
	baz=147						
CNPM	**China Poot**	**3.76**	**345**		**Pn**	**05 29 48.7**	**+0.3**
Q19K	**Cape Douglas,** baz=140	**3.82**	**324**	P	**Pn**	**05 29 50.0**	**+0.7**
KAHG	**Katmai Hook Gl**	**3.85**	**314**		**Pn**	**05 29 51.5**	**+1.9**
BRSE	**Bradley Lake S**	**3.91**	**349**		**Pn**	**05 29 50.4**	**0.0**
BRSE					**Sn**	**05 30 33.4**	**-1.7**
BRSE	**Bradley Lake S** baz=168	**3.91**	**349**	P	**Pn**	**05 29 50.4**	**0.0**
BRSE				S	**Sn**	**05 30 33.4**	**-1.7**
	baz=168						
BRLK	**Bradley Lake**	**3.95**	**348**		**P

*IDC **28** 05:30:12.9±2.8,55˚.80N×150˚.18W,h0km,mb3.6/2, mbtmp3.5/6,ML3.2/4, MS3.2/6,Error ellipse: s-maj=44.5km s-min=30.6km az=150.0*
*NEIC **28** 05:30:13.1±1.4,55˚.88N±0˚.05×150˚.12W±0˚.09,h7km±6km, mb3.9/4,ML3.8/42,ML3.4(AEIC),Error ellipse: s-maj=10.1km s-min=2.8km az=131.0*
*AEIC **28** 05:30:18±1.3,55˚.90N±0˚.08×150˚.1W±0˚.1,h12km±6km, Error ellipse: s-maj=11.8km s-min=8.2km az=166.0*

ISC 28 05:30:16.9±0.9,55˚.98N±0˚.08×150˚.06W±0˚.05,h35km, n183,σ0ᵗ94/194,MS3.3/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**306**		**Pn**	**05 30 49.3**	**-1.3**
OHAK				Sn	**Sn**	**05 31 14.5**	**-1.8**
OHAK	**Old Harbor**	**2.18**	**306**	P	**Pn**	**05 30 49.1**	**-1.4**
	baz=126						
OHAK				S	**Sn**	**05 31 14.1**	**-2.2**
	baz=126						
KDAK	**Kodiak Island**	**2.28**	**324**		**Pn**	**05 30 51.5**	**-0.5**
KDAK				Sn	**Sn**	**05 31 18.3**	**-0.5**
KDAK	**Kodiak Island**	**2.28**	**324**	Pn	**Pn**	**05 30 51.5**	**-0.5**
	12nm,0.3s,baz=151,slow=5.8,SNR=9.9						
KDAK				Sn	**Sn**	**05 31 17.6**	**-1.2**
	6.2nm,0.3s,baz=288,slow=20,SNR=2.5						
KDAK				LR	LR	05 32 01.0	
	comp=Z,240nm,21.2s,baz=176,slow=45 29nm,0.3s						
SII	**Sitkinak Islan**	**2.37**	**286**	Pn	**Pn**	**05 30 51.1**	**-2.2**
SII				Sn	**Sn**	**05 31 18.7**	**-2.5**
SII				IAML		05 31 26.4	
	comp=N,298nm,0.8s						
SII	**Sitkinak Islan**	**2.37**	**286**	P	**Pn**	**05 30 51.4**	**-2.0**
	baz=105						
SII				S	**Sn**	**05 31 19.4**	**-1.8**
	baz=105						
SYI	**Shuyak Island**	**2.92**	**335**	Pn	**Pn**	**05 31 00.7**	**-0.1**
Q20K	**Shuyak Island**	**2.93**	**335**	P	**Pn**	**05 31 00.5**	**-0.4**
	baz=154						
Q20K				S	**Sn**	**05 31 34.1**	**-0.7**
	baz=154						
KAHG	**Katmai Hook Gl**	**3.51**	**318**		**Pn**	**05 31 09.4**	**+0.4**
Q19K	**Cape Douglas,**	**3.54**	**328**	Pn	**Pn**	**05 31 10.2**	**+0.9**
Q19K	**Cape Douglas,**	**3.54**	**328**	P	**Pn**	**05 31 08.9**	**-0.4**
	baz=146						
CNPM	**China Poot**	**3.61**	**350**		**Pn**	**05 31 09.7**	**-0.6**
CNPM				IAML		05 31 53.1	
	comp=E,129nm,0.7s						
CNPM				IAML		05 31 53.4	
	comp=N,74nm,0.7s						
ANCK	**Angle Creek**	**3.71**	**309**		**Pn**	**05 31 11.8**	**+0.1**
HOM	**Homer**	**3.78**	**348**	Pn	**Pn**	**05 31 12.7**	**0.0**
HOM				IAML		05 32 08.9	
	comp=E,245nm,0.9s						
HOM				IAML		05 33 29.4	
	comp=N,225nm,2.0s						
BRSE	**Bradley Lake S**	**3.79**	**355**		**Pn**	**05 31 11.6**	**-1.2**
BRSE					**Sn**	**05 31 54.9**	**-1.1**
BRSE	**Bradley Lake S**	**3.79**	**355**	P	**Pn**	**05 31 11.6**	**-1.2**
	baz=174						
BRSE				S	**Sn**	**05 31 54.9**	**-1.1**
	baz=174						
PLK3	**Peulik 3**	**3.82**	**299**		**Pn**	**05 31 13.2**	**+0.1**
BRLK	**Bradley Lake**	**3.82**	**354**	Pn	**Pn**	**05 31 12.4**	**-0.8**
BRLK				IAML		05 31 58.6	
	comp=E,73nm,0.9s						
CNTC	**Contact Creek**	**3.92**	**308**		**Pn**	**05 31 14.3**	**-0.3**
CNTC					**Sn**	**05 31 58.4**	**-0.9**
Q17K	**Contact Creek**	**3.92**	**308**	P	**Pn**	**05 31 13.8**	**-0.8**
	baz=124						
Q17K				S	**Sn**	**05 31 58.4**	**-0.9**
	baz=124						
Q23K	**Middleton Isla**	**3.99**	**28**	Pn	**Pn**	**05 31 15.2**	**-0.2**
Q23K	**Middleton Isla**	**3.99**	**28**	P	**Pn**	**05 31 15.0**	**-0.5**
	baz=211						
MID	**Middleton Isla**	**3.99**	**28**	Pn	**Pn**	**05 31 15.2**	**-0.3**
MID				IAML		05 32 55.2	
	comp=N,205nm,1.6s						
PLK1	**Peulik 1**	**4.03**	**300**		**Pn**	**05 31 15.7**	**-0.3**
P19K	**Oil Pt**	**4.05**	**337**	Pn	**Pn**	**05 31 16.7**	**+0.2**
P19K				IAML		05 32 06.7	
	comp=E,155nm,0.5s						
P19K	**Oil Pt**	**4.05**	**337**	P	**Pn**	**05 31 16.6**	**+0.2**
	baz=154						
SEW	**Seward**	**4.15**	**4**		**Pn**	**05 31 17.3**	**-0.3**
P23K	**Montague Islan**	**4.27**	**18**		**Pn**	**05 31 18.7**	**-0.6**
P23K					**Sn**	**05 32 05.3**	**-2.6**
P23K	**Montague Islan**	**4.27**	**18**	P	**Pn**	**05 31 18.9**	**-0.4**
	baz=200						
P23K				S	**Sn**	**05 32 05.3**	**-2.6**
	baz=200						
O20K	**Slope Mountain**	**4.33**	**343**		**Pn**	**05 31 20.0**	**-0.3**
O20K	**Slope Mountain**	**4.33**	**343**	P	**Pn**	**05 31 20.0**	**-0.3**
	baz=161						
IVE	**Iliamna Volcan**	**4.34**	**340**		**Pn**	**05 31 20.1**	**-0.4**
P18K	**Big Mountain,**	**4.41**	**323**		**Pn**	**05 31 21.0**	**-0.2**
P18K	**Big Mountain,**	**4.41**	**323**	P	**Pn**	**05 31 20.7**	**-0.5**
	baz=140						
P18K				S	**Sn**	**05 32 08.5**	**-2.8**
	baz=140						
R16K	**Pilot Point**	**4.43**	**294**		**Pn**	**05 31 20.3**	**-1.2**
R16K				IAML		05 32 06.2	
	comp=N,101nm,1.6s						
R16K				IAML		05 33 45.0	
	comp=E,112nm,1.9s						
R16K	**Pilot Point**	**4.43**	**294**	P	**Pn**	**05 31 20.4**	**-1.2**
	baz=109						
Q16K	**King Salmon**	**4.48**	**310**		**Pn**	**05 31 21.5**	**-0.7**
Q16K	**King Salmon**	**4.48**	**310**	P	**Pn**	**05 31 21.5**	**-0.7**
	baz=125						
O22K	**Cooper Landing**	**4.52**	**2**	P	**Pn**	**05 31 22.5**	**-0.2**
	baz=182						
SLKM	**Skilak Lake**	**4.54**	**359**		**Pn**	**05 31 22.9**	**-0.2**
ANPB	**Aniakchak Plen**	**4.64**	**284**		**Pn**	**05 31 24.1**	**-0.4**
CHGN	**Chignik**	**4.69**	**277**	Pn	**Pn**	**05 31 23.9**	**-1.1**
CHGN				IAML		05 32 18.2	
	comp=N,49nm,0.4s						
CHGN				IAML		05 32 24.8	
	comp=E,55nm,1.5s						
P17K	**Kvichak River**	**4.71**	**316**		**Pn**	**05 31 25.7**	**+0.3**
P17K	**Kvichak River**	**4.71**	**316**	P	**Pn**	**05 31 25.7**	**+0.3**
	baz=131						
RSO	**Redoubt South**	**4.71**	**344**	Pn	**Pn**	**05 31 25.5**	**-0.2**
O18K	**Koktuh Hills**	**4.76**	**327**		**Pn**	**05 31 25.8**	**-0.3**
O18K				IAML		05 32 22.8	
	comp=E,42nm,0.6s						
O18K				IAML		05 32 25.3	
	comp=N,40nm,0.7s						
O18K	**Koktuh Hills**	**4.76**	**327**	P	**Pn**	**05 31 25.7**	**-0.3**
	baz=143						
O19K	**Port Alsworth**	**4.79**	**334**		**Pn**	**05 31 27.0**	**+0.5**
O19K				IAML		05 32 24.1	
	comp=N,86nm,0.5s						
O19K	**Port Alsworth**	**4.79**	**334**	P	**Pn**	**05 31 26.3**	**-0.2**
	baz=151						
HIN	**Hinchinbrook I**	**4.81**	**22**	Pn	**Pn**	**05 31 27.0**	**+0.2**
HIN				IAML		05 32 22.4	
	comp=N,68nm,0.8s						
HIN				IAML		05 32 23.3	
	comp=E,75nm,1.3s						
KAIM	**Kayak Island**	**4.97**	**35**	Pn	**Pn**	**05 31 29.1**	**+0.2**
KAIM	**Kayak Island**	**4.97**	**35**	P	**Pn**	**05 31 28.6**	**-0.3**
	baz=219						
EYAK	**Cordova Ski Ar**	**5.11**	**25**	Pn	**Pn**	**05 31 31.1**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.11**	**25**	P	**Pn**	**05 31 31.0**	**+0.1**
	baz=208						
RC01	**Rabbit Creek A**	**5.13**	**2**	Pn	**Pn**	**05 31 31.7**	**+0.6**
RC01				IAML		05 32 32.2	
	comp=E,38nm,0.4s						
RC01				IAML		05 32 35.2	
	comp=N,30nm,0.5s						
FID	**Port Fidalgo**	**5.14**	**20**		**Pn**	**05 31 30.8**	**-0.5**
FID				IAML		05 32 26.1	
	comp=E,60nm,0.6s						
FID				IAML		05 32 28.2	
	comp=N,47nm,0.2s						
RAGM	**Ragged Mountai**	**5.25**	**31**		**Pn**	**05 31 33.5**	**+0.6**
RAGM				IAML		05 32 39.8	
	comp=E,67nm,1.7s						
P16K	**Nushagak River**	**5.26**	**309**		**Pn**	**05 31 32.5**	**-0.4**
P16K	**Nushagak River**	**5.26**	**309**	P	**Pn**	**05 31 32.5**	**-0.4**
	baz=123						
O17K	**Koliganek Bris**	**5.34**	**318**		**Pn**	**05 31 33.7**	**-0.3**
O17K	**Koliganek Bris**	**5.34**	**318**	P	**Pn**	**05 31 33.7**	**-0.3**
	baz=133						
N19K	**Bonanza Creek**	**5.38**	**336**	Pn	**Pn**	**05 31 34.7**	**+0.1**
N19K	**Bonanza Creek**	**5.38**	**336**	P	**Pn**	**05 31 34.5**	**-0.1**
	baz=153						
GOAT	**Goat Mountain**	**5.40**	**29**		**Pn**	**05 31 35.0**	**0.0**
O16K	**Kokwok River B**	**5.62**	**313**	Pn	**Pn**	**05 31 37.8**	**0.0**
O16K	**Kokwok River B**	**5.62**	**313**	P	**Pn**	**05 31 37.5**	**-0.3**
	baz=127						
N18K	**Kilae Creek**	**5.62**	**329**	Pn	**Pn**	**05 31 37.8**	**-0.2**
N18K	**Kilae Creek**	**5.62**	**329**	P	**Pn**	**05 31 37.4**	**-0.5**
	baz=145						
PMR	**Palmer**	**5.65**	**4**	Pn	**Pn**	**05 31 38.8**	**+0.5**
SNH	**Sunshine Point**	**5.69**	**39**	Pn	**Pn**	**05 31 39.3**	**+0.4**
CYK	**Cape Yakataga**	**5.75**	**41**		**Pn**	**05 31 38.9**	**-0.7**
BMRM	**Bremner River**	**5.76**	**28**		**Pn**	**05 31 40.3**	**+0.4**
BMRM	**Bremner River**	**5.76**	**28**	P	**Pn**	**05 31 39.6**	**-0.3**
	baz=212						
GHO	**Glory Hole Cre**	**5.84**	**5**	Pn	**Pn**	**05 31 41.4**	**+0.4**
N17K	**Nushagak Hills**	**5.91**	**323**	Pn	**Pn**	**05 31 42.0**	**+0.1**
N17K	**Nushagak Hills**	**5.91**	**323**	P	**Pn**	**05 31 41.7**	**-0.2**
	baz=138						
SML	**Sawmill**	**5.91**	**8**	Pn	**Pn**	**05 31 42.0**	**+0.1**
SML	**Sawmill**	**5.91**	**8**	P	**Pn**	**05 31 41.8**	**-0.1**
	baz=189						
KLU	**Klutina**	**5.93**	**20**		**Pn**	**05 31 42.5**	**+0.3**
KLU	**Klutina**	**5.93**	**20**	P	**Pn**	**05 31 42.1**	**-0.1**
	baz=203						
SCM	**Sheep Creek Mo**	**6.04**	**12**	Pn	**Pn**	**05 31 44.2**	**+0.5**
O15K	**Ungalikthiuk R**	**6.15**	**305**		**Pn**	**05 31 45.1**	**-0.1**
O15K	**Ungalikthiuk R**	**6.15**	**305**	P	**Pn**	**05 31 45.1**	**-0.1**
	baz=118						
M18K	**Stony River**	**6.29**	**334**		**Pn**	**05 31 46.3**	**-0.7**
M18K	**Stony River**	**6.29**	**334**	P	**Pn**	**05 31 46.3**	**-0.7**
	baz=149						
VRDI	**Verde Repeater**	**6.29**	**31**	Pn	**Pn**	**05 31 47.3**	**+0.1**
N25K	**Chitina, Valde**	**6.31**	**24**		**Pn**	**05 31 48.0**	**+0.6**
N25K	**Chitina, Valde**	**6.31**	**24**	P	**Pn**	**05 31 47.3**	**-0.1**
	baz=209						
GLB	**Gilahina Butte**	**6.37**	**28**	Pn	**Pn**	**05 31 48.4**	**+0.2**
KIAG	**Kiagna River**	**6.39**	**36**		**Pn**	**05 31 48.0**	**-0.7**
MCARA	**McCarthy VSAT**	**6.54**	**31**		**Pn**	**05 31 51.1**	**+0.7**
MCARA	**McCarthy VSAT**	**6.54**	**31**	P	**Pn**	**05 31 50.1**	**-0.4**
	baz=217						
PTPK	**Patty Peak**	**6.55**	**34**		**Pn**	**05 31 50.2**	**-0.6**
YKU2	**Yakutat**	**6.59**	**53**	Pn	**Pn**	**05 31 51.4**	**+0.3**
M17K	**Holitna River**	**6.66**	**328**		**Pn**	**05 31 52.2**	**+0.1**
M17K	**Holitna River**	**6.66**	**328**	P	**Pn**	**05 31 51.8**	**-0.3**
	baz=142						
L19K	**White Mountain**	**6.69**	**340**		**Pn**	**05 31 51.8**	**-0.8**
BARN	**Barnard Glacie**	**6.72**	**37**	Pn	**Pn**	**05 31 54.3**	**+1.1**
CTGM	**Chitina Glacie**	**6.77**	**39**	Pn	**Pn**	**05 31 54.4**	**+0.6**
N15K	**Kwethluk River**	**6.78**	**312**	Pn	**Pn**	**05 31 54.6**	**+0.8**
LOGN	**Logan Glacier**	**6.79**	**41**		**Pn**	**05 31 54.5**	**+0.4**
O14K	**Tigyukauivet M**	**6.85**	**303**		**Pn**	**05 31 54.9**	**+0.1**
M16K	**Timber Creek**	**6.88**	**321**		**Pn**	**05 31 55.6**	**+0.5**
L18K	**Granite Mounta**	**7.12**	**334**	Pn	**Pn**	**05 31 58.2**	**-0.3**
P29M	**Windy Craggy**	**7.53**	**56**		**Pn**	**05 32 04.9**	**+0.9**
L16K	**Owhat River**	**7.54**	**324**		**Pn**	**05 32 04.3**	**+0.2**
TTA	**Tatalina**	**7.60**	**339**	Pn	**Pn**	**05 32 05.2**	**+0.1**
KTH	**Kantishna Hill**	**7.61**	**357**	Pn	**Pn**	**05 32 07.3**	**+2.1**
M27K	**Edge Creek, AK**	**7.65**	**30**		**Pn**	**05 32 05.9**	**+0.1**
K20K	**Telida**	**7.67**	**346**	Pn	**Pn**	**05 32 06.3**	**+0.3**
MENT	**Mentasta**	**7.69**	**22**		**Pn**	**05 32 06.6**	**+0.4**
S31K	**Pelican**	**7.81**	**70**	Pn	**Pn**	**05 32 07.4**	**-0.5**
S31K	**Pelican**	**7.81**	**70**	P	**Pn**	**05 32 07.3**	**-0.6**
	baz=261						
L26K	**Log Cabin Wild**	**7.84**	**23**		**Pn**	**05 32 10.7**	**+2.3**
M14K	**Bethel**	**7.87**	**312**		**Pn**	**05 32 09.5**	**+0.8**
ISLZ	**Isanotski Laza**	**7.89**	**266**		**Pn**	**05 32 07.3**	**-1.7**
YUK6	**Outpost Mounta**	**7.89**	**46**		**Pn**	**05 32 09.0**	**-0.2**
YUK6	**Outpost Mounta**	**7.89**	**46**	P	**Pn**	**05 32 09.0**	**-0.2**
	baz=236						
K17K	**Iditarod**	**7.96**	**331**		**Pn**	**05 32 09.5**	**-0.3**
BVCY	**Beaver Creek**	**7.99**	**32**		**Pn**	**05 32 10.4**	**+0.1**
BVCY	**Beaver Creek**	**7.99**	**32**	P	**Pn**	**05 32 10.4**	**+0.1**
	baz=220						
HYT	**Haines Junctio**	**8.18**	**48**	Pn	**Pn**	**05 32 13.7**	**+0.5**
RIDG	**Independent Ri**	**8.21**	**16**	Pn	**Pn**	**05 32 15.1**	**+1.7**
J18K	**Innoko River**	**8.22**	**339**	Pn	**Pn**	**05 32 13.3**	**-0.2**
L27K	**Beaver Creek,**	**8.24**	**27**		**Pn**	**05 32 14.8**	**+1.1**
BCAR	**Beaver Creek A**	**8.25**	**27**	Pn	**Pn**	**05 32 14.7**	**+0.8**
M13K	**Dall Lake**	**8.30**	**308**	Pn	**Pn**	**05 32 15.2**	**+0.6**
M13K	**Dall Lake**	**8.30**	**308**	P	**Pn**	**05 32 14.4**	**-0.2**
	baz=117						
J20K	**Nowinta River**	**8.47**	**348**	Pn	**Pn**	**05 32 18.0**	**+1.1**
L14K	**Kuka Creek**	**8.49**	**314**		**Pn**	**05 32 17.5**	**+0.4**
J19K	**Poorman**	**8.51**	**343**	Pn	**Pn**	**05 32 19.2**	**+1.8**
SCRK	**Sand Creek**	**8.57**	**18**	Pn	**Pn**	**05 32 20.3**	**+1.8**
SKAG	**Skagway**	**8.62**	**60**	Pn	**Pn**	**05 32 18.5**	**-0.4**
K15K	**Wolf Creek Mou**	**8.64**	**322**	Pn	**Pn**	**05 32 20.1**	**+0.8**
CCB	**Clear Creek Bu**	**8.77**	**6**		**Pn**	**05 32 22.6**	**+1.7**
M29M	**Somme Creek**	**8.78**	**36**		**Pn**	**05 32 22.8**	**+1.5**
IL31		**8.96**	**9**		**Pn**	**05 32 23.8**	**+0.2**
ILAR	**Eielson Array**	**8.96**	**9**	Pn	**Pn**	**05 32 23.5**	**-0.1**
ILAR	**Eielson Array**	**8.96**	**9**	Pn	**Pn**	**05 32 24.1**	**+0.5**
	comp=E,0.2nm,0.3s,baz=193,slow=13,SNR=9.2						
ILAR				Sn	**Sn**	**05 34 00.1**	**-3.0**
	comp=E,0.3nm,0.3s,baz=209,slow=16,SNR=2.7 comp=E,0.3nm,0.3s						
K27K	**Chicken**	**9.00**	**23**	Pn	**Pn**	**05 32 24.6**	**+0.4**
J16K	**Anvik River**	**9.05**	**328**	Pn	**Pn**	**05 32 24.3**	**-0.6**
MDM	**Murphy Dome**	**9.05**	**5**	Pn	**Pn**	**05 32 24.7**	**-0.3**
MLY	**Manley**	**9.09**	**358**	Pn	**Pn**	**05 32 25.9**	**+0.5**
J26L	**Joseph Creek**	**9.13**	**18**		**Pn**	**05 32 26.3**	**+0.2**
I23K	**Minto, Yukon-K**	**9.21**	**2**	Pn	**Pn**	**05 32 28.4**	**+1.5**
AKUT	**Akutan**	**9.21**	**265**	Pn	**Pn**	**05 32 25.9**	**-1.1**
WHY	**Whitehorse**	**9.25**	**53**	Pn	**Pn**	**05 32 28.3**	**+0.6**
POKR	**Poker Plat Res**	**9.26**	**7**	Pn	**Pn**	**05 32 28.3**	**+0.6**
I21K	**Tanana**	**9.28**	**355**	Pn	**Pn**	**05 32 28.8**	**+0.8**
L29M	**L29M**	**9.35**	**35**		**Pn**	**05 32 29.7**	**+0.6**
L29M	**L29M**	**9.35**	**35**	P	**Pn**	**05 32 29.9**	**+0.8**
	baz=225						
P32M	**Atlin**	**9.44**	**61**	Pn	**Pn**	**05 32 30.5**	**+0.2**
M30M	**Minto, Yukon**	**9.46**	**40**	Pn	**Pn**	**05 32 31.2**	**+0.6**
J14K	**Nanvaranak Lak**	**9.65**	**320**	Pn	**Pn**	**05 32 34.4**	**+1.3**
DAWY	**Dawson**	**9.69**	**29**	Pn	**Pn**	**05 32 34.5**	**+0.8**
H21K	**Melozitna Rive**	**9.80**	**353**	Pn	**Pn**	**05 32 34.8**	**-0.3**
EGAK	**Eagle**	**9.85**	**23**	Pn	**Pn**	**05 32 35.7**	**-0.1**
I26K	**Coal Creek Min**	**9.94**	**17**	Pn	**Pn**	**05 32 36.1**	**+1.0**
P33M	**Teslin, Yukon**	**10.05**	**58**	Pn	**Pn**	**05 32 39.4**	**+0.7**
K29M	**Barlow Dome**	**10.07**	**33**		**Pn**	**05 32 39.9**	**+0.9**
M31M	**Drury Creek, Y**	**10.17**	**46**	Pn	**Pn**	**05 32 42.0**	**+1.8**
H17K	**Granite Mounta**	**10.20**	**336**	Pn	**Pn**	**05 32 42.0**	**+1.4**
N32M	**Quiet Lake**	**10.25**	**53**	Pn	**Pn**	**05 32 42.3**	**+0.9**
FARO	**Faro, Yukon**	**10.61**	**47**	Pn	**Pn**	**05 32 47.2**	**+0.9**
R33M	**Jennings River**	**10.77**	**64**	Pn	**Pn**	**05 32 48.6**	**+0.1**
G23K	**Bananza Creek**	**10.77**	**0**	Pn	**Pn**	**05 32 50.0**	**+1.6**
BMAR	**Burnt Mountain**	**11.77**	**10**	Pn	**Pn**	**05 33 02.5**	**+0.4**
G29M	**Pine Creek**	**12.35**	**23**	Pn	**Pn**	**05 33 10.8**	**+0.8**
G31M	**Satah River**	**13.26**	**28**	Pn	**Pn**	**05 33 24.6**	**+2.2**
INK	**Inuvik**	**14.50**	**25**	Pn	**Pn**	**05 33 41.0**	**+1.7**
INK	**Inuvik**	**14.50**	**25**	Pn	**Pn**	**05 33 41.0**	**+1.7**
	baz=204,slow=11,SNR=6.0						
INK				LR	LR	05 39 00.2	
	comp=E,33nm,21.1s,baz=358,slow=36 comp=E,1.7nm,0.8s						
CBB	**Campbell River**	**15.96**	**102**	Pn	**Pn**	**05 33 57.3**	**-1.2**
CBB				IAmb	IAmb	05 34 10.6	
	comp=Z,11nm,0.9s						
C03A	**Quillayute Air**	**17.57**	**107**	P	**Pn**	**05 34 18.1**	**-0.6**
C36M	**Paulatuk**	**17.72**	**31**	P	**P**	**05 34 21.5**	**+0.4**
YKA	**Yellowknife Ar**	**19.07**	**56**	P	**Pn**	**05 34 36.5**	**-0.4**
YKA	**Yellowknife Ar**	**19.07**	**56**	P	**Pn**	**05 34 38.6**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=264,slow=9.8,SNR=12 comp=Z,0.5nm,0.7s						
A36M	**Sachs Harbour**	**19.13**	**23**	P	**Pn**	**05 34 37.6**	**+0.1**
A36M				IAmb	IAmb	05 34 40.8	
	comp=Z,4.9nm,0.8s						
YBH	**Yreka Blue Hor**	**22.75**	**117**	LR	LR	05 41 54.9	
	comp=Z,61nm,20.8s,baz=339,slow=31						
NVAR	**Mina Array Bea**	**27.46**	**116**	LR	LR	05 44 50.2	
	comp=Z,69nm,18.2s,baz=308,slow=32						
PFO	**Pinyon Flats O**	**32.18**	**120**	LR	LR	05 46 45.1	
	comp=Z,63nm,18.8s,baz=88,slow=31						
JMIC	**Jan Mayen**	**50.42**	**15**	LR	LR	06 02 32.3	
	comp=Z,32nm,19.1s,baz=101,slow=38						
SONM	**Songino Array**	**58.50**	**310**	P	**P**	**05 40 11.6**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=27,slow=6.6,SNR=3.5 comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**61.58**	**327**	P	**P**	**05 40 31.1**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=20,slow=4.6,SNR=2.2 comp=Z,0.4nm,0.6s						

*IDC **28** 05:33:06.1±6.9,6˚.14S×152˚.58E,h61km±58km,mb3.4/4, mbtmp3.8/5,ML2.4/1,Error ellipse: s-maj=69.9km s-min=33.2km az=120.0*

ISC 28 05:33:02.8±1.4,6˚.3S±0˚.3×152˚.9E±0˚.3,h35km,n6,σ0ᵗ66/7, mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.45**	**241**	P	**Pn**	**05 34 36.1**	**+0.8**
	5.3nm,0.3s,baz=2.2,slow=1.6,SNR=10						
PMG				S	**Sn**	**05 35 47.0**	**-0.8**
	5.3nm,0.4s,baz=198,slow=19,SNR=1.0 14nm,0.3s						
WRA	**Warramunga Arr**	**22.55**	**231**	P	**P**	**05 38 00.2**	**+0.1**
	0.8nm,0.8s,baz=54,slow=11,SNR=2.9 0.8nm,0.8s						
ASAR	**Alice Springs**	**25.13**	**225**	P	**P**	**05 38 25.1**	**+0.4**
	1.5nm,0.8s,baz=59,slow=8.7,SNR=12 1.5nm,0.8s						
STKA	**Stephens Creek**	**27.57**	**201**	P	**P**	**05 38 46.3**	**-0.3**
	0.6nm,0.4s,baz=0.0,slow=17,SNR=1.9 0.6nm,0.4s						
ILAR	**Eielson Array**	**83.49**	**22**	P	**P**	**05 45 26.6**	**-0.1**
	0.7nm,0.9s,baz=227,slow=3.6,SNR=4.7 0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**150.79**	**286**	PKPbc	**PKPbc**	**05 52 52.2**	**-0.4**
	0.4nm,0.9s,baz=58,slow=4.3,SNR=3.8						

*IDC **28** 05:34:25.9±2.5,56˚.05N×149˚.46W,h0km,mb3.9/6, mbtmp3.7/11,ML3.4/5,Error ellipse: s-maj=50.9km s-min=24.0km az=175.0*
*NEIC **28** 05:34:32.1±1.4,56˚.48N±0˚.06×149˚.5W±0˚.1,h23km±7km, mb4.0/3,ML3.8/62,ML3.6(AEIC),Error ellipse: s-maj=9.3km s-min=7.2km az=142.0*
*AEIC **28** 05:34:34.8±1.4,56˚.44N±0˚.08×149˚.46W±0˚.08,h10km±6km, Error ellipse: s-maj=11.3km s-min=6.0km az=165.0*

ISC 28 05:34:33.3±0.8,56˚.50N±0˚.07×149˚.46W±0˚.05,h35km, n241,σ0ᵗ77/250,mb3.9/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.13**	**308**	Pn	**Pn**	**05 35 06.5**	**0.0**
KDAK				Sn	**Sn**	**05 35 31.4**	**-0.2**
KDAK	**Kodiak Island**	**2.13**	**308**	S	**Sn**	**05 35 30.8**	**-0.9**
	baz=127						
KDAK	**Kodiak Island**	**2.13**	**308**	Pn	**Pn**	**05 35 06.4**	**0.0**
	12nm,0.3s,baz=106,slow=6.5,SNR=46						
KDAK				Sn	**Sn**	**05 35 30.7**	**-0.9**
	36nm,0.3s,baz=249,slow=23,SNR=36 40nm,0.4s						
OHAK	**Old Harbor**	**2.22**	**291**	Pn	**Pn**	**05 35 07.2**	**-0.5**
OHAK					**Sn**	**05 35 32.5**	**-1.3**
OHAK	**Old Harbor**	**2.22**	**291**	P	**Pn**	**05 35 07.0**	**-0.7**
	baz=109						
OHAK				S	**Sn**	**05 35 31.9**	**-1.9**
	baz=109						
SII	**Sitkinak Islan**	**2.62**	**273**		**Pn**	**05 35 12.2**	**-1.0**
SII					**Sn**	**05 35 42.1**	**-1.5**
SII	**Sitkinak Islan**	**2.62**	**273**	S	**Sn**	**05 35 41.5**	**-2.1**
	baz=90						
SYI	**Shuyak Island**	**2.64**	**324**	Pn	**Pn**	**05 35 13.5**	**+0.1**
SYI				IAML		05 35 46.3	
	comp=N,252nm,0.4s						
SYI				IAML		05 35 47.0	
	comp=E,197nm,0.3s						
Q20K	**Shuyak Island**	**2.64**	**324**	P	**Pn**	**05 35 13.5**	**+0.1**
	baz=143						
Q20K				S	**Sn**	**05 35 44.9**	**+0.8**
	baz=143						
CNPM	**China Poot**	**3.18**	**343**		**Pn**	**05 35 20.9**	**+0.1**
CNPM				IAML		05 35 59.8	
	comp=E,156nm,0.5s						
Q19K	**Cape Douglas,**	**3.31**	**319**		**Pn**	**05 35 23.5**	**+0.8**
Q19K				IAML		05 36 09.3	
	comp=N,273nm,0.7s						
Q19K	**Cape Douglas,**	**3.31**	**319**	P	**Pn**	**05 35 22.8**	**+0.2**
	baz=136						
BRSE	**Bradley Lake S**	**3.32**	**349**		**Pn**	**05 35 22.5**	**-0.3**
BRSE					**Sn**	**05 35 59.7**	**-1.3**
BRSE	**Bradley Lake S**	**

RC01	Rabbit Creek A	4.61	358			Pn	05 35 40.1	-0.2
RC01				IAML			05 36 32.6	
	comp=N,78nm,0.4s							
RC01				IAML			05 36 35.9	
	comp=E,97nm,0.5s							
RC01	Rabbit Creek A	4.61	358	P		Pn	05 35 40.1	-0.2
	baz=178							
RAGM	Ragged Mountai	4.64	31			Pn	05 35 41.3	+0.4
GOAT	Goat Mountain	4.78	29			Pn	05 35 43.0	+0.1
N20K	Mount Spurr	4.92	344	P		Pn	05 35 44.7	-0.2
	baz=162							
SPCR	Spurr Chakacha	4.92	344			Pn	05 35 43.6	-1.2
KNK	Knik Glacier	4.96	6	Pn		Pn	05 35 45.3	+0.1
KNK				IAML			05 36 47.6	
	comp=E,87nm,0.7s							
KNK				IAML			05 36 50.3	
	comp=N,57nm,0.5s							
KNK	Knik Glacier	4.96	6	P		Pn	05 35 45.6	+0.4
	baz=186							
CHGN	Chignik	4.98	271	Pn		Pn	05 35 44.7	-0.8
CHGN				IAML			05 36 46.6	
	comp=N,57nm,1.1s							
CHGN				IAML			05 37 59.1	
	comp=E,47nm,1.8s							
SPCP	Crater Peak Br	4.98	345			Pn	05 35 45.1	-0.5
SPCG	Spurr Capps Gl	4.99	346			Pn	05 35 45.5	-0.2
SUA	Susitna One	5.02	353			Pn	05 35 45.8	-0.4
SUA				IAML			05 36 45.0	
	comp=N,43nm,0.7s							
SUA				IAML			05 36 49.6	
	comp=E,35nm,0.9s							
SUA	Susitna One	5.02	353	P		Pn	05 35 45.7	-0.4
	baz=172							
N19K	Bonanza Creek	5.06	331			Pn	05 35 46.6	-0.1
N19K	Bonanza Creek	5.06	331	P		Pn	05 35 46.1	-0.6
	baz=147							
SNH	Sunshine Point	5.08	41	Pn		Pn	05 35 47.1	+0.2
SNH				IAML			05 36 44.6	
	comp=N,68nm,0.5s							
SNH				IAML			05 36 56.0	
	comp=E,62nm,1.4s							
PMR	Palmer	5.11	2			Pn	05 35 47.3	+0.1
PMR				IAML			05 36 44.6	
	comp=N,29nm,0.4s							
PMR				IAML			05 36 48.6	
	comp=E,32nm,0.4s							
PMR	Palmer	5.11	2	P		Pn	05 35 47.1	-0.2
	baz=182							
BMRM	Bremner River	5.14	27			Pn	05 35 48.0	+0.2
BMRM	Bremner River	5.14	27	P		Pn	05 35 48.1	+0.3
	baz=211							
STLK	Strandline Lak	5.16	347			Pn	05 35 47.9	-0.2
O17K	Koliganek Bris	5.21	312			Pn	05 35 48.6	0.0
O17K	Koliganek Bris	5.21	312	P		Pn	05 35 48.7	0.0
	baz=126							
P16K	Nushagak River	5.22	303			Pn	05 35 49.3	+0.5
P16K	Nushagak River	5.22	303	P		Pn	05 35 49.3	+0.5
	baz=116							
GHO	Glory Hole Cre	5.29	3			Pn	05 35 50.7	+0.8
GHO				IAML			05 36 49.6	
	comp=E,75nm,0.4s							
GHO				IAML			05 36 53.0	
	comp=N,94nm,0.5s							
KLU	Klutina	5.33	19			Pn	05 35 50.9	+0.5
KLU				IAML			05 36 50.8	
	comp=N,90nm,0.4s							
KLU				IAML			05 36 51.6	
	comp=E,74nm,0.3s							
KLU	Klutina	5.33	19	P		Pn	05 35 50.8	+0.5
	baz=201							
SML	Sawmill	5.35	6			Pn	05 35 51.4	+0.7
SML				IAML			05 36 54.6	
	comp=N,76nm,0.6s							
SML	Sawmill	5.35	6	P		Pn	05 35 51.1	+0.4
	baz=187							
N18K	Kilae Creek	5.37	324	Pn		Pn	05 35 50.6	-0.3
N18K	Kilae Creek	5.37	324	P		Pn	05 35 50.6	-0.3
	baz=139							
SCM	Sheep Creek Mo	5.46	11	Pn		Pn	05 35 53.4	+1.2
SCM	Sheep Creek Mo	5.46	11	P		Pn	05 35 52.7	+0.5
	baz=192							
O16K	Kokwok River B	5.54	308	Pn		Pn	05 35 53.5	+0.4
O16K	Kokwok River B	5.54	308	P		Pn	05 35 52.9	-0.3
	baz=121							
SKT	Skwentna	5.60	350			Pn	05 35 54.3	+0.3
SKT	Skwentna	5.60	350	P		Pn	05 35 54.1	+0.1
	baz=168							
SVW2	Sparrevohn	5.60	328	Pn		Pn	05 35 53.8	-0.3
VRDI	Verde Repeater	5.67	31			Pn	05 35 55.6	+0.5
N25K	Chitina, Valde	5.70	24			Pn	05 35 56.5	+1.0
N25K	Chitina, Valde	5.70	24	P		Pn	05 35 56.2	+0.8
	baz=208							
N17K	Nushagak Hills	5.72	318	Pn		Pn	05 35 55.6	-0.1
N17K	Nushagak Hills	5.72	318	P		Pn	05 35 55.2	-0.4
	baz=132							
M20K	Styx River	5.72	342			Pn	05 35 55.4	-0.4
M20K	Styx River	5.72	342	P		Pn	05 35 55.2	-0.5
	baz=159							
GLB	Gilahina Butte	5.75	28	Pn		Pn	05 35 56.7	+0.5
KIAG	Kiagna River	5.77	37			Pn	05 35 56.7	+0.1
SAMH	Samovar Hills	5.84	48			Pn	05 35 58.0	+0.6
M24K	Tolsona, Glenn	5.87	15	Pn		Pn	05 35 58.9	+1.2
M24K	Tolsona, Glenn	5.87	15	P		Pn	05 35 59.0	+1.2
	baz=198							
MCARA	McCarthy VSAT	5.92	32			Pn	05 35 59.3	+0.9
MCARA	McCarthy VSAT	5.92	32	P		Pn	05 35 58.9	+0.5
	baz=217							
PTPK	Patty Peak	5.94	35			Pn	05 35 59.4	+0.6
CHNA	Chernabura Isl	5.97	258	P		Pn	05 35 57.9	-1.2
	baz=70							
CNBA	Chernabura Isl	5.98	258	Pn		Pn	05 35 57.9	-1.3
M19K	Big River Lodg	5.98	337			Pn	05 35 59.2	-0.1
M18K	Stony River	5.99	329			Pn	05 35 58.7	-0.6
M18K	Stony River	5.99	329	P		Pn	05 35 58.7	-0.6
	baz=144							
PCA	Pinnacle	6.04	50			Pn	05 36 00.4	+0.3
PINM	Pinnacle	6.04	50	P		Pn	05 36 00.2	0.0
	baz=237							
BARN	Barnard Glacie	6.11	38			Pn	05 36 02.0	+0.8
O15K	Ungalikthiuk R	6.15	300			Pn	05 36 02.1	+0.5
CTG	Chitna Glacier	6.15	40	P		Pn	05 36 02.2	+0.4
	baz=227							
CTGM	Chitina Glacie	6.16	40	Pn		Pn	05 36 02.5	+0.7
WAT6	Susitna Watana	6.16	7			Pn	05 36 02.4	+0.5
WAT6	Susitna Watana	6.16	7	P		Pn	05 36 02.4	+0.5
	baz=189							
LOGN	Logan Glacier	6.18	42			Pn	05 36 02.3	+0.1
PNL	Peninsula	6.21	55			Pn	05 36 02.8	+0.4
PNL	Peninsula	6.21	55	P		Pn	05 36 02.8	+0.4
	baz=243							
HARP	HAARP	6.31	19			Pn	05 36 04.9	+1.2
HARP	HAARP	6.31	19	P		Pn	05 36 04.9	+1.2
	baz=202							
L19K	White Mountain	6.33	336			Pn	05 36 03.6	-0.5
L19K	White Mountain	6.33	336	P		Pn	05 36 03.9	-0.2
	baz=152							
WAT7	Susitna Watana	6.36	3			Pn	05 36 04.1	-0.4
WAT1	Susitna Watana	6.37	4			Pn	05 36 05.3	+0.7
WAT1	Susitna Watana	6.37	4	P		Pn	05 36 05.3	+0.7
	baz=184							
L20K	Farewell, AK	6.40	341			Pn	05 36 04.0	-1.1
L20K	Farewell, AK	6.40	341	P		Pn	05 36 04.2	-0.9
	baz=158							
M17K	Holitna River	6.42	323			Pn	05 36 05.2	0.0
M17K	Holitna River	6.42	323	P		Pn	05 36 05.3	+0.1
	baz=137							
PPLA	Purkeypile	6.56	349			Pn	05 36 07.5	+0.2
DHY	Denali Highway	6.68	8	P		Pn	05 36 09.5	+0.6
	baz=190							
N15K	Kwethluk River	6.70	308	Pn		Pn	05 36 10.5	+1.4
N15K	Kwethluk River	6.70	308	P		Pn	05 36 10.2	+1.1
	baz=119							
M16K	Timber Creek	6.70	316	Pn		Pn	05 36 09.5	+0.3
M16K	Timber Creek	6.70	316	P		Pn	05 36 09.3	+0.2
	baz=129							
L18K	Granite Mounta	6.82	330	Pn		Pn	05 36 10.3	-0.4
L18K	Granite Mounta	6.82	330	P		Pn	05 36 10.2	-0.5
	baz=144							
O29M	Mount Kennedy	6.87	52			Pn	05 36 12.8	+1.2
O29M	Mount Kennedy	6.87	52	P		Pn	05 36 12.1	+0.5
	baz=241							
O14K	Tigyukauivet M	6.87	299	Pn		Pn	05 36 12.2	+0.7
YUK2	White River	6.91	36			Pn	05 36 12.7	+0.7
RND	Reindeer	6.94	2	Pn		Pn	05 36 11.2	-1.2
P29M	Windy Craggy	6.96	58			Pn	05 36 13.3	+0.5
P29M	Windy Craggy	6.96	58	P		Pn	05 36 12.9	+0.1
	baz=248							
TRF	Thorofare Moun	6.99	357	Pn		Pn	05 36 13.6	+0.5
CAST	Castle Rocks	7.06	350	Pn		Pn	05 36 14.4	+0.3
KTH	Kantishna Hill	7.11	355	Pn		Pn	05 36 15.2	+0.4
PN7A	Pavlof North-7	7.12	267			Pn	05 36 14.3	-0.7
YUK7	Dusty Glacier	7.17	51			Pn	05 36 16.8	+1.0
L17K	Donlin	7.23	325			Pn	05 36 15.1	-1.3
L17K	Donlin	7.23	325	P		Pn	05 36 16.0	-0.4
	baz=138							
TTA	Tatalina	7.25	336	Pn		Pn	05 36 15.5	-1.2
K20K	Telida	7.26	343	Pn		Pn	05 36 16.3	-0.4
K20K	Telida	7.26	343	P		Pn	05 36 16.4	-0.4
	baz=159							
YUK6	Outpost Mounta	7.29	48			Pn	05 36 18.5	+1.1
YUK6	Outpost Mounta	7.29	48	P		Pn	05 36 18.5	+1.1
	baz=237							
N14K	Kuskokwak Cree	7.31	303			Pn	05 36 17.8	+0.4
S31K	Pelican	7.33	73	Pn		Pn	05 36 16.3	-1.4
S31K	Pelican	7.33	73	P		Pn	05 36 15.9	-1.8
	baz=264							
L16K	Owhat River	7.33	320			Pn	05 36 18.1	+0.3
L16K	Owhat River	7.33	320	P		Pn	05 36 17.7	-0.1
	baz=131							
YUK4	Talbot Arm	7.40	45	P		Pn	05 36 21.6	+2.6
	baz=233							
P30M	Million Dollar	7.51	56			Pn	05 36 20.9	+0.5
CHUM	Lake Minchumin	7.54	350			Pn	05 36 20.4	-0.2
CHUM	Lake Minchumin	7.54	350	P		Pn	05 36 20.5	-0.2
	baz=168							
HYT	Haines Junctio	7.59	50	Pn		Pn	05 36 22.1	+0.7
YUK5	Granite Creek	7.60	48			Pn	05 36 23.0	+1.4
RIDG	Independent Ri	7.62	16	Pn		Pn	05 36 22.6	+0.8
L27K	Beaver Creek,	7.62	27	Pn		Pn	05 36 22.4	+0.7
BPAW	Bear Paw Mtn.	7.66	355	Pn		Pn	05 36 21.8	-0.5
K17K	Iditarod	7.67	328			Pn	05 36 22.0	-0.5
K17K	Iditarod	7.67	328	P		Pn	05 36 21.8	-0.6
	baz=140							
BWN	Browne	7.70	360	Pn		Pn	05 36 23.4	+0.7
SIT	Sitka	7.79	80	Pn		Pn	05 36 21.3	-2.7
J18K	Innoko River	7.87	336	Pn		Pn	05 36 24.9	-0.3
HDA	Harding Lake	8.03	8			Pn	05 36 27.7	+0.4
HDA	Harding Lake	8.03	8	P		Pn	05 36 28.4	+1.1
	baz=190							
J20K	Nowinta River	8.04	345			Pn	05 36 27.4	-0.1
J20K	Nowinta River	8.04	345	P		Pn	05 36 27.2	-0.3
	baz=161							
N30M	Aishikik Lake	8.09	47	Pn		Pn	05 36 28.4	+0.2
J19K	Poorman	8.11	340	Pn		Pn	05 36 27.7	-0.8
BESE	Bessie Mountai	8.13	69			Pn	05 36 28.8	+0.1
M29M	Somme Creek	8.17	39			Pn	05 36 30.8	+1.5
S32K	Killisnoo	8.19	77			Pn	05 36 28.7	-0.8
S32K	Killisnoo	8.19	77	P		Pn	05 36 28.1	-1.4
	baz=269							
CCB	Clear Creek Bu	8.21	5			Pn	05 36 29.4	-0.4
ISLZ	Isanotski Laza	8.26	264			Pn	05 36 29.8	-0.8
JIS	Juneau Island	8.34	71	Pn		Pn	05 36 31.0	-0.5
J25K	Salcha River,	8.38	12	Pn		Pn	05 36 32.1	-0.2
IL31		8.39	8	Pn		Pn	05 36 32.5	+0.2
ILAR	Eielson Array	8.39	8	Pn		Pn	05 36 31.8	-0.5
ILAR	Eielson Array	8.39	8	Pn		Pn	05 36 32.7	+0.4
	comp=N,0.5nm,0.3s,baz=189,slow=14,SNR=15							
ILAR				Sn		Sn	05 38 01.9	-3.8
	comp=N,0.6nm,0.3s,baz=181,slow=17,SNR=4.2							
	comp=N,1.0nm,0.4s							
K15K	Wolf Creek Mou	8.46	318	Pn		Pn	05 36 33.6	+0.4
MDM	Murphy Dome	8.51	4			Pn	05 36 34.3	+0.4
MLY	Manley	8.58	356			Pn	05 36 34.3	-0.6
MLY	Manley	8.58	356	P		Pn	05 36 34.1	-0.8
	baz=175							
WHY	Whitehorse	8.68	55	Pn		Pn	05 36 36.8	+0.5
I23K	Minto, Yukon-K	8.68	0			Pn	05 36 36.9	+0.7
I21K	Tanana	8.79	353			Pn	05 36 37.6	-0.2
I21K	Tanana	8.79	353	P		Pn	05 36 37.8	0.0
	baz=171							
M30M	Minto, Yukon	8.85	41	Pn		Pn	05 36 38.5	-0.1
P32M	Atlin	8.90	63	Pn		Pn	05 36 39.2	-0.1
H21K	Melozitna Rive	9.33	351			Pn	05 36 44.7	-0.5
K29M	Barlow Dome	9.45	34	Pn		Pn	05 36 48.1	+1.3
P33M	Teslin, Yukon	9.50	60	Pn		Pn	05 36 48.0	+0.5
P33M	Teslin, Yukon	9.50	60	P		Pn	05 36 47.7	+0.2
	baz=254							
H19K	Roundabout Mou	9.66	342	Pn		Pn	05 36 48.9	-0.7
IMAR	Indian Mountai	9.73	350	Pn		Pn	05 36 49.5	-1.1
H17K	Granite Mounta	9.88	333	Pn		Pn	05 36 52.5	-0.1
FARO	Faro, Yukon	10.01	48	Pn		Pn	05 36 54.7	+0.2
G22K	Bananza Creek	10.25	359			Pn	05 36 57.9	+0.1
G18K	Tagagawik	10.40	339	Pn		Pn	05 37 00.1	+0.3
DLBC	Dease Lake	10.64	71			Pn	05 37 02.5	-0.6
DLBC	Dease Lake	10.64	71	P		Pn	05 37 02.0	-1.1
	baz=268							
DLBC	Dease Lake	10.64	71	Pn		Pn	05 37 03.7	+0.6
	comp=N,0.3nm,0.3s,baz=288,slow=8.7,SNR=11							
	comp=N,0.9nm,0.3s							
F21K	Alatna River	10.92	352	Pn		Pn	05 37 07.3	+0.4
BMAR	Burnt Mountain	11.20	10	Pn		Pn	05 37 11.0	+0.2
ANM	Nome	11.23	323	Pn		Pn	05 37 10.4	-0.6
INK	Inuvik	13.89	25	Pn		Pn	05 37 49.2	+1.9
	comp=N,0.1nm,0.3s,baz=194,slow=11,SNR=3.8							
	comp=N,0.9nm,0.9s							
B22K	Teshekpuk Lake	14.00	354	Pn		Pn	05 37 48.6	-0.2
C36M	Paulatuk	17.10	31	P		Pn	05 38 29.7	+0.4
C36M				IAmb	IAmb		05 38 32.8	
	comp=Z,3.6nm,0.9s							
YKA	Yellowknife Ar	18.50	57	P		P	05 38 47.0	+0.9
	comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=7.7							
	comp=Z,0.6nm,0.8s							
A36M	Sachs Harbour	18.52	24			P	05 38 47.1	+0.9
A36M				IAmb	IAmb		05 38 50.1	
	comp=Z,9.8nm,0.8s							
E03A	Lebam	18.83	111	P		P	05 38 49.3	-0.5
E03A				IAmb	IAmb		05 39 04.2	
	comp=Z,12nm,1.0s							
ARCES	ARCESS Array B	54.22	2	P		P	05 43 54.3	-0.5
	comp=Z,2.8nm,0.9s,baz=6.9,slow=8.3,SNR=4.4							
	comp=Z,2.8nm,0.9s							
SONM	Songino Array	58.42	310	P		P	05 44 26.4	+1.2
	comp=Z,0.5nm,0.8s,baz=32,slow=5.9,SNR=3.6							
	comp=Z,0.5nm,0.8s							
ZALV	Zalesovo Beam	61.32	327	P		P	05 44 45.6	+0.7
	comp=Z,0.7nm,0.5s,baz=44,slow=6.6,SNR=3.9							
	comp=Z,0.7nm,0.5s							
FINES	FINESS Array B	62.34	2	P		P	05 44 51.6	+0.1
	comp=Z,2.2nm,1.0s,baz=357,slow=8.4,SNR=8.5							
	comp=Z,2.2nm,1.0s							
MKAR	Makanchi Array	68.36	325	P		P	05 45 31.0	+0.2
	comp=Z,0.4nm,0.4s,baz=30,slow=6.3,SNR=11							
	comp=Z,0.4nm,0.4s							
AKASG	Malin Array Be	73.16	1	P		P	05 45 59.7	-0.1
	comp=Z,0.6nm,0.5s,baz=3.0,slow=6.4,SNR=3.6							
	comp=Z,0.6nm,0.5s							

MEX 28 05:47:05.2±1.3, 15°55N×94°94W, h13km±11km, MD4.0,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NILT	Santiago Nilte	1.05	17	*i* P		Pb	05 47 21.2	-4.1
NILT				*i* S		Sb	05 47 32.7	-6.3
HUIG	Huatulco	1.15	281	*i* P		Pb	05 47 23.8	-3.2
HUIG				*i* S		Sb	05 47 36.8	-4.9
CARR	Arriaga	1.20	55	*i* P		Pn	05 47 23.3	-4.4
CARR				*i* S		Sb	05 47 36.5	-6.9
CMIG	Matias Romero	1.53	2	*eP*		Pn	05 47 28.6	-3.7
CMIG				*eS*		Sn	05 47 46.2	-5.9
PCIG		1.66	85	*i* P		Pn	05 47 30.9	-3.2
PCIG				*i* S		Sn	05 47 50.5	-4.8
UXUV	UXUV	1.91	23	*eP*		Pn	05 47 34.7	-2.8
UXUV				*eS*		Sn	05 47 56.7	-4.8
TGIG		2.13	55	*eP*		Pn	05 47 39.4	-1.1
TGIG				*eS*		Sn	05 48 04.1	-2.7
PEIG	Puerto Escondi	2.17	282	*eP*		Pn	05 47 40.8	-0.4
PEIG				*eS*		Sn	05 47 49.8	-18
PEIG	Puerto Escondi	2.17	282	*i* P		Pn	05 47 40.7	-0.4
PEIG				*i* S		Sn	05 47 49.9	-18
VHO	Vista Hermosa	2.29	311	*eP*		Pb	05 47 47.1	+0.5
VHO				*eS*		Sn	05 48 07.7	-3.4
VHO	Vista Hermosa	2.29	311	*eP*		Pg	05 47 51.9	+2.6
VHO				*eS*		Sn	05 48 07.9	-3.2
NEUV	Arroyo Zacate	2.30	339	*eP*		Pn	05 47 39.7	-3.1
NEUV				*i* S		Sn	05 48 07.2	-3.8
PATR	El Naranjo	2.64	99	*eP*		Pn	05 47 45.4	-2.4
PATR				*i* S		Sn	05 48 15.2	-4.7
PAVE	Pavencul	2.69	97	*eP*		Pn	05 47 45.3	-3.1
PAVE				*i* S		Sn	05 48 17.2	-3.7
CHUJ	Union Juarez	2.77	99	*eP*		Pn	05 47 47.6	-1.9
CHUJ				*i* S		Sn	05 48 18.0	-5.0
CCIG	Comitan	2.79	75	*eP*		Pn	05 47 49.6	-0.2
CCIG				*eS*		Sn	05 48 24.5	+1.1
YOIG	Yosondua	2.82	298	*eP*		Pn	05 47 41.4	-8.8
YOIG				*eS*		Sn	05 47 50.5	-34
YOIG	Yosondua	2.82	298	*i* P		Pn	05 47 41.4	-8.9
YOIG				*i* S		Sn	05 47 50.5	-34
PNIG	Pinotepa	3.18	286	*i* P		Pn	05 47 37.3	-18
PNIG				*eS*		Sn	05 47 43.0	-50
TXIG	Tlaxiaco	3.20	302	*eP*		Pn	05 47 47.5	-8.0
TXIG				*eS*		Sn	05 48 01.8	-32
TXIG	Tlaxiaco	3.20	302	*eP*		Pn	05 47 47.4	-8.1
TXIG				*eS*		Sn	05 48 02.0	-32
TOIG	Toxpalan	3.25	321	*eP*		Pn	05 47 57.0	+1.1
TOIG				*eS*		Sn	05 48 29.2	-5.4
TOIG	Toxpalan	3.25	321	*eP*		Pn	05 47 57.1	+1.1
TOIG				*eS*		Sn	05 48 31.4	-3.2
HLIG	Huajuapan de L	3.56	310	*eP*		Pn	05 47 57.3	-3.1
HLIG				*eS*		Sn	05 48 17.8	-25
HLIG	Huajuapan de L	3.56	310	*eP*		Pn	05 47 57.2	-3.1
HLIG				*eS*		Sn	05 48 17.4	-25
FTIG	Fresnillo de T	3.85	308	*eP*		Pn	05 47 59.2	-5.2
FTIG	Fresnillo de T	3.85	308	*eP*		Pn	05 47 59.2	-5.1
FTIG				*eS*		Sn	05 48 21.5	-28

*IDC **28** 06:01:05.3±2.7, 41°.50S×174°.30E, h0km, mb3.4/2, mbtmp3.4/4, ML2.9/2, MS2.4/1, Error ellipse: s-maj=66.5km s-min=27.4km az=133.0*

*NOU **28** 06:01:08.4, 41°.69S×174°.62E, h6km, MLv4.1/12, Cook Strait, New Zealand*

*WEL **28** 06:01:09.8±0.5, 41°.5±3°.3×17°.4E±°, h12km±4km, M3.7/13, ML4.1/13, MLv3.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=156.4, confirmed*

*WEL **28** 06:01:09.8, 41°.46S×174°.49E, h27km, ML3.8, Mw3.7, Moment Tensor Solution. s3 Moment tensor: Mrr3.61; Mθθ38.90; Mφφ-42.51; Mrθ-17.16; Mrφ3.92; Mθφ-2.54; Fault plane solution: NP1:φ226.00000°, δ73.00000°, λ166.00000°. NP2:φ320.00000°, δ76.00000°, λ18.00000°. Principal axes: T 46.1100, Plg22.0000°, Azm184.0000°; N -3.3400, Plg68.0000°, Azm357.0000°; P -42.7700, Plg2.0000°, Azm93.0000°; SOUTH ISLAND*

ISC 28 06:01:08.7±0.9, 41°.55S±0°.03×174°.53E±0°.02, h24km±6km, n132, σ1§27/152, Cook ISLAND

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNZO	South Karori	0.28	29	P		Pb	06 01 16.0	+0.8
BHW	Baring Head	0.29	61	P		Pb	06 01 16.8	+1.3
BHW				S		Sb	06 01 21.7	+1.5
CMWZ	Cape Campbell	0.31	230	P		Pn	06 01 18.0	+0.4
CMWZ				S		Sn	06 01 25.5	+2.1
WNAS	Wellington Int	0.31	43	P		Pb	06 01 15.3	-0.4
WNAS				S		Sb	06 01 20.1	-0.4
WNKS	Wellington Kar	0.31	31	P		Pb	06 01 15.2	-0.6
WNKS				S		Sb	06 01 19.9	-0.7
TRTW	Torrens Terrac	0.31	36	P		Pb	06 01 15.3	-0.5
TRTW				S		Sb	06 01 20.2	-0.4
MKVS	Makara Village	0.32	25	P		Pb	06 01 15.1	-0.7
MKVS				S		Sb	06 01 19.9	-0.8
WTYS	Wellington Ten	0.32	37	P		Pb	06 01 15.4	-0.5
WTYS				S		Sb	06 01 20.3	-0.6
WEL	Wellington	0.32	34	P		Pb	06 01 16.9	+1.0
WEL				S		Sb	06 01 22.0	+1.0
SEAW	Seatoun School	0.32	46	P		Pb	06 01 15.9	0.0
SEAW				S		Sb	06 01 20.7	-0.2
FKPS	Wellington Fra	0.33	36	P		Pb	06 01 15.5	+0.5
FKPS				S		Sb	06 01 20.3	-0.7
PIPS	Aotea Quay Pip	0.34	34	P		Pb	06 01 15.8	-0.5
PIPS				S		Sb	06 01 21.2	-0.2
SEDS	Seddon Fire St	0.36	250	P		Pb	06 01 18.2	+1.7
SEDS				S		Sn	06 01 24.7	0.0
NEWS	Newlands	0.39	35	P		Pb	06 01 17.8	+0.8
SOMS	Somes Island	0.39	41	P		Pb	06 01 17.8	+0.8
TCW	Tory Channel	0.39	331	P		Pb	06 01 17.4	+0.4
TCW				S		Sb	06 01 22.3	-0.4
PTOS	Petone Overbri	0.41	37	P		Pb	06 01 18.1	+0.7
PVCS	Petone Victori	0.42	39	P		Pb	06 01 17.0	-0.5
TUWZ	Tuamarina	0.46	285	P		Pb	06 01 18.5	+0.4
TUWZ				S		Sb	06 01 24.6	+0.1
BSWZ	Blackbirch Sta	0.52	251	P		Pb	06 01 20.6	+1.5
BSWZ				S		Sn	06 01 28.6	+0.1
MSWZ	Moikau Station	0.56	76	P		Pn	06 01 21.9	+0.7
MSWZ				S		Sn	06 01 29.9	+0.3
CAW	Cannon Point	0.60	43	P		Pb	06 01 21.5	+0.9
CAW				S		Sb	06 01 29.8	+1.1

KWHZ	Kaweka Forest	2.57	35	P		Pn	06 01 50.3	+1.5
INZ	Inchbonnie	2.58	242	P		Pn	06 01 50.2	+1.4
TWVZ	Taurewa	2.58	16	P		Pb	06 01 53.1	-1.1
ETVZ	East Tongariro	2.58	21	P		Pn	06 01 51.3	+2.3
TMVZ	Te Maari	2.59	21	P		Pn	06 01 51.3	+2.1
KRVZ	Karewarewa	2.60	19	P		Pn	06 01 52.0	+2.7
NTVZ	North Tongarir	2.60	20	P		Pn	06 01 51.4	+2.1
AKCZ	Akaroa Harbour	2.61	207	P		Pn	06 01 49.3	0.0
KATZ	Kakaramea	2.73	20	P		Pb	06 01 56.8	0.0
RITZ	Rihia Road	2.77	22	P		Pb	06 01 58.2	+0.7
BKZ	Black Stump Fm	2.82	33	P		Pb	06 01 59.4	+1.1
MHCZ	Mount Hutt	2.95	227	P		Pn	06 01 54.3	+0.3
WATZ	Wairara	2.99	18	P		Pb	06 02 01.5	+0.3
HIZ	Hauiti	3.05	5	P		Pb	06 02 00.3	-1.9
HIZ	Hauiti	3.05	5	P		Pb	06 01 59.9	-2.2
MRHZ	Matea Rd	3.08	29	P		Pb	06 02 04.3	+1.6
WACZ	Wakanui South	3.10	219	P		Pn	06 01 56.2	+0.2
WVZ	Waitaha Valley	3.20	240	P		Pn	06 01 58.7	+1.3
TLZ	Tolley Road	3.31	14	P		Pb	06 02 05.7	-1.0
RPZ	Rata Peaks	3.35	229	P		Pn	06 02 00.0	+0.5
RPZ	Rata Peaks	3.35	229	Pn		Pn	06 01 59.7	+0.2
	2.4nm,0.3s,baz=25,slow=3.6,SNR=6.8							
RPZ				Sn		Sn	06 02 36.6	-2.0
	4.4nm,0.3s,baz=353,slow=19,SNR=8.3							
RPZ				LR		LR	06 03 18.6	
	comp=Z,58nm,18.0s,baz=188,slow=41							
	6.6nm,0.4s							
RPZ	Rata Peaks	3.35	229	P		Pn	06 01 59.8	+0.3
ARCZ	Arundel	3.44	225	P		Pn	06 02 01.2	+0.5
GCSZ	Gaunt Creek Bo	3.57	239	P		Pn	06 02 04.3	+1.8
TMZ	Timaru	3.83	221	P		Pn	06 02 06.3	+0.2
URZ	Urewera	3.84	32	P		Pn	06 02 09.6	+3.4
URZ	Urewera	3.84	32	Pn		Pn	06 02 08.4	+2.1
	0.6nm,0.3s,baz=325,slow=16,SNR=1.5							
URZ				Sn		Sn	06 02 47.8	-2.8
	3.4nm,0.3s,baz=315,slow=4.3,SNR=2.1							
	2.2nm,0.3s							
URZ	Urewera	3.84	32	P		Pn	06 02 08.6	+2.3
TOZ	Tahuroa Road	3.89	11	P		Pb	06 02 15.5	-1.0
FOZ	Fox Glacier	4.00	239	P		Pn	06 02 10.0	+1.6
LBZ	Lake Benmore	4.26	227	P		Pn	06 02 13.7	+1.7
MKAZ	Moumakai	4.47	7	P		Pn	06 02 19.8	+4.9
AWAZ	Awhitu Peninsu	4.48	1	P		Pn	06 02 20.3	+5.2
ODZ	Otahua Downs	4.50	218	P		Pn	06 02 15.3	+0.1
ODZ	Otahua Downs	4.50	218	P		Pn	06 02 15.1	-0.1
ETAZ	East Tamaki Re	4.60	4	P		Pn	06 02 21.0	+4.3
JCZ	Jackson Bay	4.92	237	P		Pn	06 02 21.3	+0.2
JCZ	Jackson Bay	4.92	237	P		Pn	06 02 21.9	+0.8
SYZ	Scrubby Hill	6.32	216	P		Pn	06 02 41.7	+1.5
CTZ	Chatham Island	6.88	111	P		Pn	06 02 48.4	+0.4
CTZ	Chatham Island	6.88	111	P		Pn	06 02 48.6	+0.6
ASAR	Alice Springs	38.18	285	P		P	06 08 24.8	-1.6
	0.2nm,0.5s,baz=124,slow=7.2,SNR=7.9							
	0.2nm,0.5s							
WRA	Warramunga Arr	40.23	290	P		P	06 08 43.0	-0.6
	0.5nm,0.7s,baz=126,slow=7.8,SNR=2.3							
	0.5nm,0.7s							
AKASG	Malin Array Be	154.48	303	PKPbc		PKPbc	06 21 05.0	-1.4
	0.4nm,0.4s,baz=83,slow=0.8,SNR=1.8							

*VAO **28** 06:03:43.0±0.5, 15°.82S×75°.54W, h10km, mb4.3*
*IDC **28** 06:03:46.6±0.6, 15°.76S×74°.58W, h0km, mb4.2/12, mbtmp4.2/15, ML3.7/3, MS3.6/19, Error ellipse: s-maj=26.7km s-min=14.4km az=57.0*
*NEIC **28** 06:03:48.0±1.7, 16°.01S±0°.07×74°.93W±0°.09, h10km±1km, mb4.8/63, Error ellipse: s-maj=15.9km s-min=10.4km az=235.0*

ISC 28 06:03:50.5±0.4, 16°.03S±0°.06×74°.80W±0°.07, h30km, n168, σ1§91/129, mb4.7/43, MS3.7/14, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NNA	Nana	4.48	334	Pn		Pn		06 04 56.0	-0.5
NNA	Nana	4.48	334	Pn		Pn		06 04 56.1	-0.3
	4.1nm,0.3s,baz=151,slow=11,SNR=14								
NNA				Sn		Sn		06 05 47.8	+0.2
	36nm,0.3s,baz=64,slow=7.3,SNR=7.2								
NNA				LR		LR		06 06 40.5	
	comp=Z,412nm,18.6s,baz=162,slow=40								
	19nm,0.5s								
AP01	Chacalluta	4.86	119	Pn		Pn		06 05 02.1	+0.6
PB12	IPOC Station P	4.99	122			Pn		06 05 04.1	+0.6
PB16	IPOC Station P	5.56	115			Pn		06 05 12.9	+1.2
TA02	Huaiquique	6.13	134			Pn		06 05 19.6	+0.6
PB11	IPOC Station P	6.15	128	Pn		Pn		06 05 21.2	+1.8
TA01	Diego Aracena	6.30	136	Pn		Pn		06 05 22.6	+1.2
LPAZ	La Paz	6.42	93	Pn		Pn		06 05 26.2	+2.6
GO01	Chusmiza	6.45	125			Pn		06 05 25.6	+1.6
PATCX	Punta Patache	6.50	138			Pn		06 05 25.2	+1.0
PB08	IPOC Station P	6.75	128			Pn		06 05 30.6	+2.6
PB02	IPOC Station P	7.02	139			Pn		06 05 33.2	+1.8
PB01	IPOC Station P	7.09	136			Pn		06 05 33.8	+1.4
PB03	IPOC Station P	7.33	141			Pn		06 05 37.3	+1.5
PB04	IPOC Station P	7.66	146			Pn		06 05 40.8	+0.6
PB09	IPOC Station P	7.79	138			Pn		06 05 44.0	+2.0
PB05	IPOC Station P	8.06	148			Pn		06 05 46.2	+0.5
PB06	IPOC Station P	8.28	144	Pn		Pn		06 05 50.9	+2.2
PB10	IPOC Station P	8.45	152	Pn		Pn		06 05 50.8	-0.2
CZSB	Cruzeiro do Su	8.50	14	Pn		Pn		06 05 51.3	-0.4
LVC	Limon Verde	8.59	141	Pn		Pn		06 05 54.9	+1.7
LVC	Limon Verde	8.59	141	Pn		Pn		06 05 55.7	+2.5
	2.3nm,0.3s,baz=337,slow=6.7,SNR=26								
LVC				Sn		Sn		06 07 24.4	-4.9
	4.4nm,0.3s,baz=108,slow=22,SNR=10								
LVC				LR		LR		06 08 27.6	
	comp=Z,76nm,20.7s,baz=309,slow=32								
	8.0nm,0.5s								
LVC	Limon Verde	8.59	141	eP		Pn		06 05 56.8	+3.6
PB15	IPOC Station P	8.73	146			Pn		06 05 56.8	+1.8
PB14	IPOC Station P	9.50	155	Pn		Pn		06 06 05.8	+0.2
ATAH	Atahualpa	9.51	338	Pn		Pn		06 06 07.6	+1.7
	0.3nm,0.3s,baz=41,slow=19,SNR=1.4								
ATAH				LR		LR		06 09 57.4	
	comp=Z,179nm,21.4s,baz=206,slow=40								
GO02	Mina Guanaco	10.31	153	Pn		Pn		06 06 17.6	+0.9
ETMB	Extrema	10.40	55	Pn		Pn		06 06 17.1	-0.6
AC01	Pan de Azucar	10.81	159	Pn		Pn		06 06 23.6	+0.4
SIV	San Ignacio	13.20	92	Pn		Pn		06 06 52.4	-3.7
	baz=279,slow=7.9,SNR=5.7								
SIV				LR		LR		06 12 33.5	
	comp=Z,188nm,20.9s,baz=292,slow=40								
	1.2nm,0.7s								
SAML	Samuel	13.34	60			Pn		06 06 54.7	-3.3
SAML	Samuel	13.34	60	eP		Pn		06 06 59.9	+1.9
AC05	El Transito	13.41	163	Pn		Pn		06 06 56.8	-2.2
ARNL	Arenillas	13.44	337	Pn		Pn		06 06 57.7	-1.6
LCO	Las Campanas	13.46	164	Pn		Pn		06 06 57.4	-2.4
BBSD	Serra de San D	13.65	97	eP		P		06 07 07.3	-3.4
COHC	Cochancay	14.17	342			Pn		06 07 05.8	-3.5
VILB	Vilhena	14.47	80	Pn		Pn		06 07 12.8	-0.5
BBRB	Robore, Bolivi	14.50	101	eP		P		06 07 19.1	-1.1
CHSH	Refugio Sur-Vo	14.99	344			Pn		06 07 19.7	-1.2
PTLB	Pontes e Lacer	15.09	90	eP		P		06 07 25.8	-0.8
CO02	Combarbal	15.50	168	Pn		Pn		06 07 27.4	+0.2
SLOR	San Lorenzo -	15.63	346			Pn		06 07 26.5	-2.7
TEFE	Tefe	15.96	40	eP		Pn		06 07 32.3	-0.8
PULU	Pululahua	16.36	347	Pn		Pn		06 07 35.7	-2.8
IMBA	Imbabura, San	16.54	348	Pn		Pn		06 07 38.8	-2.1
OTAV	Otavalo	16.56	347	Pn		Pn		06 07 39.1	-2.0
OTAV	Otavalo	16.56	347	eP		Pn		06 07 32.4	-8.7
BDQN	Bodoquena, MS	17.70	107	eP		P		06 07 59.3	+3.7
H03N1	Juan Fernandez	17.73	191	T		T		06 26 38.9	
	baz=14,slow=74,SNR=2587								
H03N2	Juan Fernandez	17.73	191	T		T		06 26 38.6	
	baz=14,slow=74,SNR=2174								
H03N3	Juan Fernandez	17.75	191	T		T		06 26 37.9	
	baz=14,slow=74,SNR=2804								
H03S3	Juan Fernandez	18.11	191	T		T		06 27 04.7	
	baz=68,SNR=6.4								
H03S2	Juan Fernandez	18.12	191	T		T		06 27 04.8	
	baz=68,SNR=5.3								
H03S1	Juan Fernandez	18.12	191	T		T		06 27 04.3	
	baz=68,SNR=6.5								
SALV	Santo Antonio	18.38	92	eP		Pn		06 08 07.1	+3.9
BO02	Sierra Bellavi	19.03	170	P		P		06 08 09.1	-1.1
PP1B	Ponte de Pedra	19.14	98	eP		Pn		06 08 14.4	+1.9
CPUP	Villa Florida	19.23	125	LR		LR		06 17 01.8	
	comp=Z,78nm,20.0s,baz=296,slow=41								
CPUP	Villa Florida	19.23	125	eP		Pn		06 08 16.4	+3.0
ORTC	Ortega, Tolima	19.81	359	eP		Pn		06 08 23.4	+2.8
ROSC	El Rosal	20.74	1	LR		LR		06 17 20.6	
	comp=Z,219nm,20.4s,baz=227,slow=40								
PLMC	San Jos del P	20.85	356	eP		Pn		06 08 37.3	+4.6
GUY2C	Guyana, Caldas	21.12	358	eP		P		06 08 34.2	+0.7
ITQB	Itaqui	21.52	132	P		P		06 08 36.9	-0.3
ITQB	Itaqui	21.52	132	eP		P		06 08 40.3	+3.1
CBOC	Ciudad Bolivar	21.78	357	eP		P		06 08 46.4	+6.1
ITTB	Itaituba	22.03	60	eP		P		06 08 40.9	-1.9
UNIS	Unistalda (Bra	22.33	129	eP		P		06 08 48.0	+2.1
CRSM	Crissiumal (Br	22.36	124	eP		P		06 08 47.7	+1.4
PTBC	PUERTO BERRIO,	22.42	1	eP		P		06 08 54.0	+7.0
FRBT	Francisco Belt	22.55	120	eP		P		06 08 50.4	+2.0
LC02	Puerto Saavedr	22.71	177	P		P		06 08 48.4	-1.4
RODS	Rosario do Sul	22.92	132	eP		P		06 08 53.6	+1.4
DBBC	Dabeiba	22.94	356	eP		P		06 08 60.0	+7.5
PCMB	Pacaembu	22.95	108	eP		P		06 08 56.6	+4.1
PTGB	Pitanga	22.98	116	eP		P		06 08 54.6	+1.7
BOAV	Boa Vista	23.12	39	P		P		06 08 53.6	-0.6
BOAV	Boa Vista	23.12	39	eP		P		06 08 51.8	-2.4
LDASE	Londrina, Braz	23.45	112	eP		P		06 08 59.2	+1.7
ITRB	Iturama	23.54	103	eP		P		06 08 59.5	+1.0
ITAB	Concordia	23.80	122	P		P		06 09 01.0	+0.2
ITAB					IAmb	IAmb		06 09 10.7	
	comp=Z,30nm,1.4s								
OCAC	Ocana	24.16	4	eP		P		06 09 07.9	+3.6
FRTB	Fartura	24.83	111	eP		P		06 09 11.1	+0.7
PLTB	Pedras Altas	24.85	133	P		P		06 09 10.7	+0.2
PLTB					IAmb	IAmb		06 09 13.1	
	comp=Z,17nm,1.4s								
PLCA	Paso Flores	24.89	172	P		P		06 09 10.2	-0.6
PLCA	Paso Flores	24.89	172	P		P		06 09 13.8	+3.0
	comp=Z,1.8nm,0.9s,baz=327,slow=11,SNR=4.2								
PLCA					LR	LR		06 17 07.0	
	comp=Z,78nm,21.0s,baz=11,slow=32								
	comp=Z,1.8nm,0.9s								
BAUV	El Baul	25.70	16	P		P		06 09 17.0	-1.2
SJCC	San Jacinto, C	25.76	359	eP		P		06 09 04.5	-14
BDFB	Brasilia	25.77	93	P		P		06 09 19.4	+0.3
BDFB	Brasilia	25.77	93	P		P		06 09 17.6	-1.5
	comp=Z,2.9nm,0.8s,baz=254,slow=8.3,SNR=5.0								
BDFB					LR	LR		06 21 17.0	
	comp=Z,112nm,19.5s,baz=336,slow=41								
	comp=Z,2.9nm,0.8s								
RCLB	Rio Claro- Sao	26.50	108	eP		P		06 09 25.9	+0.4
PMNB	Patos De Minas	27.19	99	eP		P		06 09 32.1	+0.2
MCPB	Macapa, AP	27.31	57	eP		P		06 09 34.1	+1.3
JTS	Las Juntas de	28.01	338	LR		LR		06 20 25.6	
	comp=Z,142nm,18.4s,baz=158,slow=36								
PARB	Paraibuna	28.38	109	eP		P		06 09 45.1	+2.6
DIAM	Diamantina, MG	29.81	99	eP		P		06 09 55.5	+0.2
MDP	Montagnes des	30.36	48	LR		LR		06 22 55.4	
	comp=Z,209nm,19.1s,baz=236,slow=38								
RPN	Rapa Nui	33.85	245	LR		LR		06 20 43.0	
	comp=Z,152nm,21.9s,baz=80,slow=30								
SJG	San Juan	34.98	14	LR		LR		06 27 21.7	
	comp=Z,64nm,19.1s,baz=207,slow=41								
TEIG	Tepich	38.38	339	LR		LR		06 26 18.3	
	comp=Z,565nm,20.9s,baz=0.5,slow=35								
HNDO	Hondo	51.08	332		IAmb	IAmb		06 12 51.7	
	comp=Z,10nm,0.8s								
WLAR	White Oak Lake	52.43	341		IAmb	IAmb		06 13 01.8	
	comp=Z,15nm,0.9s								
SAND	Sanderson	52.76	330	P		P		06 13 02.7	-0.2
T59A	Double "B" Far	52.78	357	P		P		06 13 02.3	-0.5
T59A					IAmb	IAmb		06 13 20.4	
	comp=Z,16nm,1.4s								
TX31	Lajitas Ar. Si	53.02	328	P		P		06 13 05.2	+0.3
TXAR	Lajitas Array	53.02	328	P		P		06 13 05.2	+0.3
TXAR	Lajitas Array	53.02	328	P		P		06 13 05.0	+0.1
	comp=Z,1.7nm,0.6s,baz=154,slow=8.8,SNR=25								
TXAR					LR	LR		06 32 52.9	
	comp=Z,26nm,19.9s,baz=35,slow=33								
	comp=Z,1.7nm,0.6s								
OZNA	Ozona	53.10	332	P		P		06 13 04.8	-0.7
FW07	Weatherford	53.21	336	P		P		06 13 05.9	-0.2
FW07					IAmb	IAmb		06 13 06.8	
	comp=Z,10nm,0.8s								
WHAR	Wooly Hollow	53.66	342	P		P		06 13 08.8	-0.6
WHAR					IAmb	IAmb		06 13 15.8	
	comp=Z,19nm,1.5s								
MNHN	Monahans	54.22	330		IAmb	IAmb		06 13 14.5	
	comp=Z,6.0nm,0.8s								
APMT	Aspermont	54.71	334		IAmb	IAmb		06 13 18.0	
	comp=Z,6.5nm,0.8s								
HHAR	Hobbs	55.08	341	P		P		06 13 19.6	-0.1
HHAR					IAmb	IAmb		06 13 19.9	
	comp=Z,6.2nm,0.8s								
DKNS	Dickens	55.34	333	P		P		06 13 21.3	-0.4
DKNS					IAmb	IAmb		06 13 22.3	
	comp=Z,4.0nm,0.7s								
MGMO	Mountain Grove	55.40	343		IAmb	IAmb		06 13 22.0	
	comp=Z,8.2nm,0.9s								
SMWD	Samnorwood	56.30	335		IAmb	IAmb		06 13 28.8	
	comp=Z,12nm,0.9s								
R40A	Maddies Statio	56.46	344		IAmb	IAmb		06 13 29.1	
	comp=Z,9.9nm,0.9s								
T35A	Sooner Cattle	56.50	339		IAmb	IAmb		06 13 30.4	
	comp=Z,13nm,1.1s								
P38A	Dawn	58.06	343		IAmb	IAmb		06 13 41.1	
	comp=Z,9.2nm,0.7s								
R32A	Long Quarter,	58.62	338		IAmb	IAmb		06 13 45.2	
	comp=Z,9.0nm,0.8s								
WBO	Williamsburg	60.73	360	P		P		06 13 59.0	-0.2
WBO					IAmb	IAmb		06 14 23.8	
	comp=Z,8.7nm,0.9s								
SDCO	Great Sand Dun	60.78	332	P		P		06 13 59.3	-0.7
SDCO					IAmb	IAmb		06 14 01.2	
	comp=Z,4.9nm,0.8s								
L34A	Svendsen Farm,	61.05	342	P		P		06 13 59.8	-1.6
ECSD	EROS Data Cent	62.73	342	P		P		06 14 11.7	-1.0
ECSD					IAmb	IAmb		06 14 12.2	
	comp=Z,6.4nm,0.8s								
U15A	North Rim	63.05	327	P		P		06 14 16.9	+1.5
U15A					IAmb	IAmb		06 14 25.7	
	comp=Z,6.0nm,0.6s								
O20A	White River Ci	63.96	332	P		P		06 14 21.1	0.0
O20A					IAmb	IAmb		06 14 25.3	
	comp=Z,7.5nm,0.7s								
SPR3	Spring Creek 3	66.05	327	P		P		06 14 36.0	+1.1
SPR3					IAmb	IAmb		06 14 36.6	
	comp=Z,4.5nm,1.0s								
DUG	Dugway, Tooele	66.17	329	P		P		06 14 36.9	+1.4
DUG					IAmb	IAmb		06 14 37.5	
	comp=Z,6.2nm,0.8s								
HWUT	Hardware Ranch	66.66	331	P		P		06 14 37.1	-1.5
HWUT					IAmb	IAmb		06 14 39.7	
	comp=Z,5.3nm,0.9s								
PDAR	Pinedale Array	66.66	333	P		P		06 14 38.4	-0.3
	comp=Z,0.5nm,0.6s,baz=134,slow=6.8,SNR=3.7								
	comp=Z,0.5nm,0.6s								
SPUT	South Promonto	66.85	330		IAmb	IAmb		06 14 42.3	
	comp=Z,5.6nm,1.2s								
HVU	Hansel Valley	67.37	330		IAmb	IAmb		06 14 44.2	
	comp=Z,5.6nm,0.8s								
NVAR	Mina Array Bea	67.79	324	P		P		06 14 46.9	+1.0
	comp=Z,0.7nm,0.8s,baz=147,slow=6.8,SNR=4.7								
	comp=Z,0.7nm,0.8s								
ULM	Lac du Bonnet	68.55	346	P		P		06 14 48.9	-1.2
	comp=Z,3.2nm,0.6s,baz=160,slow=7.3,SNR=8.0								
	comp=Z,3.2nm,0.6s								
SNAA	Sanae	69.24	161	P		P		06 14 55.0	+0.7
SNAA	Sanae	69.24	161	P		P		06 14 55.9	+1.6
	comp=Z,5.3nm,0.8s,baz=282,slow=7.6,SNR=7.1								
	comp=Z,5.3nm,0.8s								
MFID	Camas Ranch	70.08	329		IAmb	IAmb		06 15 02.0	
	comp=Z,7.8nm,0.9s								
ORV	Oroville	70.38	323	P		P		06 15 03.6	+1.9
ORV					IAmb	IAmb		06 15 04.3	
	comp=Z,5.1nm,0.9s								
SCHQ	Schefferville	70.90	5	P		P		06 15 03.3	-1.3
	comp=Z,4.0nm,0.9s,baz=180,slow=10,SNR=2.9								
	comp=Z,4.0nm,0.9s								
DBIC	Dimbokro	72.79	78	P		P		06 15 16.3	-0.4
	comp=Z,4.0nm,0.9s,baz=258,slow=5.5,SNR=4.3								
DBIC					LR	LR		06 46 24.1	
	comp=Z,99nm,18.3s,baz=244,slow=35								
	comp=Z,4.0nm,0.9s								
QSPA	South Pole Qui	74.13	180	P		P		06 15 26.4	+2.5
	comp=Z,0.9nm,0.2s,baz=73,slow=11,SNR=2.2								
	comp=Z,0.9nm,0.2s								
EDM	Edmonton	76.53	337	P		P		06 15 37.1	-0.5
TOA0	Torodi Ar. Sit	80.98	74	P		P		06 16 02.7	-0.2
TOA0					IAmb	IAmb		06 16 03.0	
	comp=Z,8.0nm,0.7s								
TORD	Torodi Ar. Bea	80.98	74	P		P		06 16 02.7	-0.2
TORD					IAmb	IAmb		06 16 03.4	
	comp=Z,6.6nm,0.8s								
TORD	Torodi Ar. Bea	80.98	74	P		P		06 16 02.5	-0.4
	comp=Z,7.7nm,0.6s,baz=262,slow=5.3,SNR=46								
TORD					LR	LR		06 49 36.2	
	comp=Z,57nm,19.7s,baz=310,slow=34								
	comp=Z,7.7nm,0.6s								
YKA	Yellowknife Ar	84.26	343	P		P		06 16 18.1	-0.8
	comp=Z,1.2nm,0.8s,baz=138,slow=5.2,SNR=23								
	comp=Z,1.2nm,0.8s								
SFJD	Kangerlussuaq	84.69	9	LR		LR		06 56 53.5	
	comp=Z,48nm,18.3s,baz=118,slow=38								
SUR	Sutherland	86.18	122	LR		LR		06 53 59.0	
	comp=Z,42nm,18.1s,baz=166,slow=35								
MAW	Mawson	91.09	165	LR		LR		06 56 44.3	
	comp=Z,56nm,19.4s,baz=213,slow=35								
F28M	Old Crow	95.64	340		IAmb	IAmb		06 17 10.4	
	comp=Z,3.1nm,0.6s								
H11N3	WAKE ISLAND Hyl	21.42	284	T		T		08 35 57.2	
	baz=97,slow=74,SNR=21								
H11N2	WAKE ISLAND Hyl	21.44	284	T		T		08 35 51.8	
	baz=97,slow=74,SNR=23								
H11N1	WAKE ISLAND Hyl	21.44	284	T		T		08 35 58.5	
	baz=97,slow=74,SNR=17								
H11S2	WAKE ISLAND Hyl	21.45	282	T		T		08 36 05.2	
	baz=98,slow=75,SNR=21								
H11S1	WAKE ISLAND Hyl	21.46	282	T		T		08 36 12.5	
	baz=98,slow=75,SNR=19								
H11S3	WAKE ISLAND Hyl	21.47	282	T		T		08 36 24.1	
	baz=98,slow=75,SNR=21								
ASAR	Alice Springs	131.59	216	PKP		PKPdf		06 23 01.8	+0.5
	comp=Z,1.0nm,0.8s,baz=107,slow=1.6,SNR=6.6								
BVAR	Borovoye Array	134.07	29	PKP		PKiKP		06 23 05.8	-0.4
	comp=Z,0.6nm,0.6s,baz=318,slow=2.0,SNR=4.2								
WRA	Warramunga Arr	134.20	220	PKP		PKiKP		06 23 07.2	-0.3
	comp=Z,1.6nm,0.6s,baz=141,slow=1.8,SNR=7.5								
ZALV	Zalesovo Beam	138.95	18	PKP		PKPdf		06 23 14.7	+0.8
	comp=Z,3.3nm,0.7s,baz=302,slow=2.8,SNR=14								
KURBB	Kurchatov Arra	139.37	26	PKP		PKPdf		06 23 14.8	+0.1
	comp=Z,1.5nm,1.0s,baz=310,slow=2.9,SNR=6.3								
MKAR	Makanchi Array	143.90	27	PKP		PKPbc		06 23 20.9	+0.1
	comp=Z,0.8nm,0.8s,baz=295,slow=3.5,SNR=8.0								
MJAR	Matsushiro Arr	144.30	311	PKP		PKPab		06 23 22.2	+0.2
	comp=Z,3.2nm,0.8s,baz=103,slow=3.5,SNR=8.0								
SONM	Songino Array	148.27	358	PKPbc		PKPbc		06 23 34.2	+0.2
	comp=Z,3.1nm,0.6s,baz=338,slow=1.9,SNR=18								
KSRS	Korea Array	150.69	321	PKPbc		PKiKP		06 23 41.2	+0.5
	comp=Z,6.7nm,0.9s,baz=344,slow=1.4,SNR=14								
PZH	PanZhiHua	169.09	17	PKP		PKPdf		06 23 53.3	-2.3

*AEIC **28** 06:06:23.1±3.1, 52°.4N±0°.1×173°.4W±0°.1, h189km±4km, Error ellipse: s-maj=20.1km s-min=7.6km az=165.0*
*NEIC **28** 06:06:25.6±1.7, 52°.7N±0°.1×173°.56W±0°.10, h178km±5km, mb4.3/168, ML4.1/8, ML4.0(AEIC), Error ellipse: s-maj=18.3km s-min=7.2km az=163.0*
*IDC **28** 06:06:28.4±6.1, 53°.06N×173°.32W, h192km±50km, mb3.4/8, mbtmp4.0/10, MS3.2/1, Error ellipse: s-maj=49.7km s-min=15.7km az=19.0*

ISC 28 06:06:25.1±0.6, 52°.6N±0°.1×173°.47W±0°.04, h177km±5km, n252, σ1§01/262, mb4.3/56, Andreanof Islands

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

H19K	**Roundabout Mou**	**15.57**	**27**	P	**Pn**	**06 09 53.8**	**-1.1**
CAST	**Castle Rocks**	**15.60**	**38**		**P**	**06 09 57.0**	**+1.1**
CAST				IAmb	IAmb	06 10 03.9	
	comp=Z,13nm,0.6s						
I20K	**Naaghedeneel**	**15.63**	**31**	P	**Pn**	**06 09 55.0**	**-0.7**
I20K				IAmb	IAmb	06 09 58.5	
	comp=Z,14nm,0.8s						
G19K	**Purcell Mounta**	**15.87**	**25**	P	**Pn**	**06 09 58.8**	**+0.1**
KTH	**Kantishna Hill**	**16.11**	**38**	P	**P**	**06 10 01.7**	**+0.2**
KNK	**Knik Glacier**	**16.15**	**47**	P	**P**	**06 10 01.4**	**-0.5**
F19K	**Shaleruckik Mo**	**16.26**	**22**	P	**Pn**	**06 10 04.0**	**+0.8**
TRF	**Thorofare Moun**	**16.30**	**39**	P	**Pn**	**06 10 04.5**	**+0.6**
TRF				IAmb	IAmb	06 10 07.1	
	comp=Z,26nm,1.3s						
I21K	**Tanana**	**16.69**	**33**	P	**Pn**	**06 10 09.3**	**+0.9**
I21K				IAmb	IAmb	06 10 10.1	
	comp=Z,12nm,0.7s						
HIN	**Hinchinbrook I**	**16.72**	**52**	P	**P**	**06 10 07.1**	**-1.1**
H21K	**Melozitna Rive**	**16.74**	**31**	P	**P**	**06 10 08.8**	**+0.4**
H21K				IAmb	IAmb	06 10 10.6	
	comp=Z,9.0nm,0.7s						
SCM	**Sheep Creek Mo**	**16.80**	**46**	P	**P**	**06 10 09.6**	**+0.4**
SCM				IAmb	IAmb	06 10 12.3	
	comp=Z,21nm,1.0s						
FID	**Port Fidalgo**	**16.83**	**50**	P	**P**	**06 10 08.3**	**-1.1**
RND	**Reindeer**	**16.84**	**40**	P	**P**	**06 10 08.8**	**-0.6**
RND				IAmb	IAmb	06 10 12.1	
	comp=Z,13nm,0.7s						
E19K	**Redstone River**	**16.89**	**22**		**P**	**06 10 10.0**	**+0.1**
BWN	**Browne**	**16.99**	**38**	P	**P**	**06 10 11.2**	**+0.1**
BWN				IAmb	IAmb	06 10 14.4	
	comp=Z,15nm,0.8s						
MLY	**Manley**	**17.02**	**34**	P	**Pn**	**06 10 12.2**	**-0.2**
MLY				IAmb	IAmb	06 10 15.1	
	comp=Z,11nm,1.2s						
G21K	**Allakaket**	**17.12**	**28**	P	**P**	**06 10 12.8**	**+0.3**
G21K				IAmb	IAmb	06 10 15.6	
	comp=Z,8.4nm,0.8s						
C18K	**Utukok River**	**17.14**	**15**	P	**P**	**06 10 13.3**	**+0.5**
C18K				IAmb	IAmb	06 10 16.5	
	comp=Z,8.0nm,0.8s						
DHY	**Denali Highway**	**17.28**	**42**	P	**P**	**06 10 14.1**	**-0.4**
DHY				IAmb	IAmb	06 10 16.9	
	comp=Z,12nm,0.8s						
KLU	**Klutina**	**17.32**	**48**	P	**P**	**06 10 14.4**	**-0.4**
KLU				IAmb	IAmb	06 10 16.6	
	comp=Z,16nm,0.7s						
NEA2	**Nenana**	**17.36**	**37**	P	**P**	**06 10 14.6**	**-0.6**
NEA2				IAmb	IAmb	06 10 18.7	
	comp=Z,6.7nm,0.5s						
I23K	**Minto, Yukon-K**	**17.56**	**35**	P	**P**	**06 10 17.8**	**+0.6**
D19K	**Kuna River**	**17.56**	**19**		**P**	**06 10 17.6**	**+0.3**
D19K				IAmb	IAmb	06 10 20.6	
	comp=Z,13nm,0.7s						
F21K	**Alatna River**	**17.64**	**26**		**Pn**	**06 10 19.2**	**-0.5**
F21K				IAmb	IAmb	06 10 24.9	
	comp=Z,8.2nm,0.8s						
C19K	**Lookout Ridge**	**17.82**	**16**	Pn	**Pn**	**06 10 22.2**	**+0.3**
C19K				IAmb	IAmb	06 10 23.6	
	comp=Z,7.8nm,0.9s						
CCB	**Clear Creek Bu**	**17.85**	**37**	P	**P**	**06 10 19.4**	**-1.1**
CCB				IAmb	IAmb	06 10 23.3	
	comp=Z,8.2nm,0.9s						
MDM	**Murphy Dome**	**17.86**	**36**	P	**P**	**06 10 20.1**	**-0.4**
MDM				IAmb	IAmb	06 10 24.6	
	comp=Z,8.8nm,0.5s						
COLA	**College**	**17.95**	**37**	P	**P**	**06 10 21.4**	**-0.1**
COLA				IAmb	IAmb	06 10 35.3	
	comp=Z,11nm,0.8s						
COLA	**College**	**17.95**	**37**	P	**Pn**	**06 10 24.9**	**+1.5**
N25K	**Chitina, Valde**	**17.96**	**48**	P	**P**	**06 10 20.2**	**-1.6**
HDA	**Harding Lake**	**18.06**	**39**	P	**P**	**06 10 22.5**	**-0.2**
POKR	**Poker Flat Res**	**18.23**	**36**		**Pn**	**06 10 26.8**	**+0.1**
POKR				IAmb	IAmb	06 10 27.9	
	comp=Z,5.3nm,0.6s						
IL31		**18.26**	**38**	P	**P**	**06 10 23.6**	**-1.3**
IL31				IAmb	IAmb	06 10 26.7	
	comp=Z,9.4nm,0.5s						
ILAR	**Eielson Array**	**18.26**	**38**	P	**P**	**06 10 25.3**	**+0.4**
ILAR	**Eielson Array**	**18.26**	**38**	P	**P**	**06 10 22.9**	**-1.9**
	comp=Z,2.3nm,0.4s,baz=223,slow=11,SNR=54						
GLB	**Gilahina Butte**	**18.27**	**49**	P	**P**	**06 10 25.0**	**-0.2**
GLB				IAmb	IAmb	06 10 28.1	
	comp=Z,21nm,1.2s						
G23K	**Bananza Creek**	**18.28**	**30**		**P**	**06 10 26.4**	**+1.2**
G23K				IAmb	IAmb	06 10 27.4	
	comp=Z,13nm,0.8s						
H24K	**Noodor Dome**	**18.46**	**34**	P	**P**	**06 10 27.5**	**+0.3**
H24K				IAmb	IAmb	06 10 29.1	
	comp=Z,18nm,0.8s						
RIDG	**Independent Ri**	**18.59**	**42**	P	**P**	**06 10 27.8**	**-0.8**
MCARA	**McCarthy VSAT**	**18.62**	**50**	P	**P**	**06 10 29.1**	**+0.2**
J25K	**Salcha River,**	**18.76**	**39**	P	**P**	**06 10 29.7**	**-0.7**
L26K	**Log Cabin Wild**	**18.96**	**45**	P	**P**	**06 10 32.6**	**+0.1**
SCRK	**Sand Creek**	**19.04**	**42**	P	**P**	**06 10 32.8**	**-0.7**
D22K	**Ayikyak River**	**19.07**	**23**	P	**P**	**06 10 34.7**	**+1.1**
D22K				IAmb	IAmb	06 10 38.4	
	comp=Z,9.7nm,0.7s						
CTGM	**Chitina Glacie**	**19.33**	**52**	P	**Pn**	**06 10 40.8**	**+1.0**
CTGM				IAmb	IAmb	06 10 41.8	
	comp=Z,14nm,0.7s						
M27K	**Edge Creek, AK**	**19.40**	**47**	P	**Pn**	**06 10 40.4**	**-0.2**
M27K				IAmb	IAmb	06 10 42.1	
	comp=Z,16nm,0.9s						
J26L	**Joseph Creek**	**19.41**	**40**	P	**P**	**06 10 37.0**	**-0.6**
F24K	**Squaw Lake**	**19.44**	**30**	P	**P**	**06 10 38.8**	**+1.1**
F24K				IAmb	IAmb	06 10 40.0	
	comp=Z,9.6nm,0.9s						
L27K	**Beaver Creek,**	**19.63**	**45**	P	**P**	**06 10 41.4**	**+1.6**
BCAR	**Beaver Creek A**	**19.65**	**45**	P	**P**	**06 10 41.3**	**+1.3**
K27K	**Chicken**	**19.84**	**43**	P	**P**	**06 10 42.1**	**+0.1**
I26K	**Coal Creek Min**	**19.91**	**39**	P	**P**	**06 10 42.1**	**-0.6**
I26K				IAmb	IAmb	06 10 49.1	
	comp=Z,6.8nm,0.7s						
B22K	**Teshekpuk Lake**	**20.03**	**20**	P	**P**	**06 10 43.5**	**-0.5**
B22K				IAmb	IAmb	06 10 46.6	
	comp=Z,7.9nm,0.7s						
EGAK	**Eagle**	**20.48**	**41**	P	**P**	**06 10 48.6**	**-0.2**
EGAK				IAmb	IAmb	06 10 50.0	
	comp=Z,17nm,1.1s						
E25K	**Arctic Village**	**20.51**	**30**	P	**P**	**06 10 50.0**	**+0.8**
E25K				IAmb	IAmb	06 10 52.0	
	comp=Z,12nm,1.4s						
SEY	**Seymchan**	**20.69**	**313**	P	**P**	**06 10 50.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=136,slow=10.0,SNR=3.6						
	comp=Z,0.9nm,0.4s						
DAWY	**Dawson**	**20.97**	**44**	P	**P**	**06 10 53.9**	**-0.2**
DAWY				IAmb	IAmb	06 10 56.1	
	comp=Z,24nm,1.4s						
HYT	**Haines Junctio**	**21.16**	**53**	P	**P**	**06 10 56.9**	**+0.7**
I28M	**Miner Creek**	**21.20**	**40**	P	**P**	**06 10 56.1**	**-0.5**
I28M				IAmb	IAmb	06 10 58.1	
	comp=Z,7.5nm,0.8s						
L29M	**L29M**	**21.26**	**47**	P	**P**	**06 10 57.0**	**-0.2**
L29M				IAmb	IAmb	06 10 59.3	
	comp=Z,6.4nm,0.7s						
K29M	**Barlow Dome**	**21.70**	**45**	P	**P**	**06 11 01.0**	**-0.9**
I29M	**Ogilvie Camp,**	**21.82**	**41**	P	**P**	**06 11 01.8**	**-1.2**
I29M				IAmb	IAmb	06 11 03.5	
	comp=Z,10nm,0.8s						
H29M	**Whitestone**	**22.09**	**38**	P	**P**	**06 11 04.4**	**-1.2**
H29M				IAmb	IAmb	06 11 05.2	
	comp=Z,9.4nm,0.9s						
F28M	**Old Crow**	**22.10**	**34**	P	**P**	**06 11 03.3**	**-2.5**
F28M				IAmb	IAmb	06 11 09.0	
	comp=Z,13nm,1.5s						
J30M	**Hart River**	**22.39**	**43**	P	**P**	**06 11 07.9**	**-0.8**
J30M				IAmb	IAmb	06 11 09.3	
	comp=Z,7.3nm,0.6s						
G29M	**Pine Creek**	**22.47**	**37**	P	**P**	**06 11 08.4**	**-0.8**
G29M				IAmb	IAmb	06 11 09.2	
	comp=Z,11nm,0.9s						
I30M	**Mount Dempster**	**22.55**	**42**	P	**P**	**06 11 08.8**	**-1.3**
E28M	**Babbage River**	**22.67**	**32**	P	**P**	**06 11 11.1**	**+0.1**
E28M				IAmb	IAmb	06 11 13.3	
	comp=Z,14nm,1.5s						
EPYK	**Eagle Plains**	**22.76**	**39**	P	**P**	**06 11 11.7**	**-0.2**
EPYK				IAmb	IAmb	06 11 12.5	
	comp=Z,8.9nm,0.8s						
M31M	**Drury Creek, Y**	**22.80**	**50**	P	**P**	**06 11 12.1**	**-0.2**
E29M	**Blow River**	**23.11**	**33**	P	**P**	**06 11 15.1**	**+0.1**
G30M	**tAoh Zraii Nji**	**23.16**	**37**	P	**P**	**06 11 14.7**	**-0.8**
G30M				IAmb	IAmb	06 11 24.8	
	comp=Z,4.9nm,0.8s						

Q32M	**Nakina River**	**23.73**	**58**	P	**P**	**06 11 21.9**	**+0.9**
Q32M				IAmb	IAmb	06 11 32.1	
	comp=Z,14nm,1.4s						
G31M	**Satah River**	**23.86**	**38**	P	**P**	**06 11 21.2**	**-0.6**
G31M				IAmb	IAmb	06 11 23.5	
	comp=Z,3.7nm,0.6s						
F31M	**Tsiigehtchic**	**24.22**	**37**	P	**P**	**06 11 25.1**	**0.0**
F31M				IAmb	IAmb	06 11 25.9	
	comp=Z,6.3nm,0.8s						
R33M	**Jennings River**	**24.38**	**57**	P	**P**	**06 11 26.9**	**+0.1**
INK	**Inuvik**	**24.58**	**35**	P	**P**	**06 11 27.8**	**-0.5**
DLBC	**Dease Lake**	**24.93**	**59**	P	**P**	**06 11 32.9**	**+1.2**
DLBC	**Dease Lake**	**24.93**	**59**	LR	LR	06 21 16.6	
	comp=Z,53nm,18.4s,baz=176,slow=36						
A36M	**Sachs Harbour**	**28.43**	**29**	P	**P**	**06 12 02.9**	**+0.2**
A36M				IAmb	IAmb	06 12 03.6	
	comp=Z,3.9nm,0.9s						
HILA	**High Level**	**31.63**	**56**	P	**P**	**06 12 30.1**	**-1.0**
YKA	**Yellowknife Ar**	**31.99**	**49**	P	**P**	**06 12 33.0**	**-1.1**
YKA	**Yellowknife Ar**	**31.99**	**49**	P	**P**	**06 12 32.8**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=281,slow=6.2,SNR=11						
YKA				PcP	**PcP**	**06 15 19.4**	**0.0**
	comp=Z,0.5nm,0.8s,baz=288,slow=3.0,SNR=8.8						
	comp=Z,0.6nm,0.8s						
GNW	**Green Mountain**	**32.33**	**78**	P	**P**	**06 12 37.7**	**+0.4**
GNW				IAmb	IAmb	06 12 41.3	
	comp=Z,9.6nm,1.2s						
LON	**Longmire**	**33.33**	**79**	P	**P**	**06 12 47.8**	**+1.7**
LON				IAmb	IAmb	06 12 54.2	
	comp=Z,6.2nm,1.3s						
H04A	**Detroit Lake**	**34.16**	**82**	P	**P**	**06 12 55.3**	**+2.1**
H04A				IAmb	IAmb	06 13 13.1	
	comp=Z,14nm,1.4s						
K02D	**Willamette Mer**	**34.35**	**86**	P	**P**	**06 12 56.8**	**+1.9**
DBO	**Dodson Butte**	**34.37**	**85**	P	**P**	**06 12 57.4**	**+2.3**
E07A	**Sunnyside**	**34.60**	**78**	P	**P**	**06 12 58.1**	**+1.2**
HUMO	**Hull Mountain**	**34.83**	**86**	P	**P**	**06 13 01.6**	**+2.7**
HUMO				IAmb	IAmb	06 13 03.1	
	comp=Z,9.2nm,1.2s						
I05D	**Terrebonne, OR**	**34.86**	**82**	P	**P**	**06 13 00.9**	**+1.7**
HAWA	**Hanford**	**34.87**	**78**	P	**P**	**06 13 00.5**	**+1.2**
HAWA				IAmb	IAmb	06 13 01.1	
	comp=Z,5.6nm,0.9s						
EDM	**Edmonton**	**35.33**	**64**	P	**P**	**06 13 03.6**	**+0.4**
NEW	**Newport**	**35.38**	**74**	P	**P**	**06 13 04.5**	**+0.9**
NEW				IAmb	IAmb	06 13 05.0	
	comp=Z,6.5nm,1.0s						
YBH	**Yreka Blue Hor**	**35.48**	**87**	P	**P**	**06 13 07.5**	**+2.9**
I07A	**Izee**	**36.11**	**81**	P	**P**	**06 13 11.3**	**+1.3**
I07A				IAmb	IAmb	06 13 11.6	
	comp=Z,3.2nm,0.7s						
RES	**Resolute Bay**	**37.26**	**25**	P	**P**	**06 13 18.5**	**-0.6**
WVOR	**Wild Horse Val**	**37.56**	**83**	P	**P**	**06 13 23.6**	**+1.5**
WVOR				IAmb	IAmb	06 13 24.4	
	comp=Z,6.3nm,0.9s						
MSO	**Missoula**	**37.96**	**74**	P	**P**	**06 13 25.9**	**+0.4**
MSO				IAmb	IAmb	06 13 26.2	
	comp=Z,2.5nm,0.6s						
MPK	**Martis Peak**	**38.58**	**88**	P	**P**	**06 13 31.9**	**+0.9**
MPK				IAmb	IAmb	06 13 33.0	
	comp=Z,5.8nm,0.8s						
PAHR	**Pah Rah Range**	**38.72**	**87**	P	**P**	**06 13 33.6**	**+1.7**
PAHR				IAmb	IAmb	06 13 34.2	
	comp=Z,6.0nm,0.8s						
PNTR	**Pine Nut**	**38.97**	**88**	P	**P**	**06 13 36.1**	**+2.0**
YERR	**Yerington**	**39.25**	**88**	P	**P**	**06 13 37.9**	**+1.5**
YERR				IAmb	IAmb	06 13 39.0	
	comp=Z,5.2nm,0.9s						
WAKR	**Walker**	**39.43**	**89**	P	**P**	**06 13 39.4**	**+1.4**
WAKR				IAmb	IAmb	06 13 40.3	
	comp=Z,4.6nm,0.6s						
HLID	**Hailey**	**39.46**	**79**	P	**P**	**06 13 38.6**	**+0.6**
EGMT	**Eagleton**	**39.77**	**70**	P	**P**	**06 13 40.8**	**+0.2**
EGMT				IAmb	IAmb	06 13 41.5	
	comp=Z,11nm,1.2s						
RYN	**Ryan**	**39.91**	**88**	P	**P**	**06 13 43.2**	**+1.4**
LHV	**Little Huntoon**	**40.16**	**88**	P	**P**	**06 13 44.9**	**+1.2**
NVAR	**Mina Array Bea**	**40.17**	**88**	P	**P**	**06 13 45.0**	**+1.0**
NVAR	**Mina Array Bea**	**40.17**	**88**	P	**P**	**06 13 45.6**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=299,slow=7.6,SNR=30						
NVAR				PcP	**PcP**	**06 15 45.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.8,SNR=1.6						
	comp=Z,3.2nm,0.7s						
MDPB	**Devils Postpil**	**40.20**	**90**	P	**P**	**06 13 46.0**	**+1.6**
MDPB				IAmb	IAmb	06 13 47.1	
	comp=Z,6.4nm,0.8s						
NV11	**Mina Array Sit**	**40.26**	**88**	P	**P**	**06 13 45.5**	**+0.8**
OMMB	**Old Mammoth Mi**	**40.26**	**90**	P	**P**	**06 13 46.0**	**+1.0**
ELK	**Elko**	**40.61**	**83**	P	**P**	**06 13 48.7**	**+1.0**
YHL	**Hebgen Lake**	**40.65**	**75**	P	**P**	**06 13 48.5**	**+0.5**
YHL				IAmb	IAmb	06 13 49.4	
	comp=Z,8.7nm,1.3s						
TPH	**Tonopah**	**41.05**	**88**	P	**P**	**06 13 52.9**	**+1.6**
YFT	**Old Faithful**	**41.08**	**75**	P	**P**	**06 13 51.0**	**-0.5**
YFT				IAmb	IAmb	06 13 57.8	
	comp=Z,13nm,1.3s						
MZP	**Montezuma Peak**	**41.20**	**88**	P	**P**	**06 13 52.8**	**+0.3**
HVU	**Hansel Valley**	**41.48**	**80**	P	**P**	**06 13 55.5**	**+0.9**
JCJ	**Chichijima**	**41.59**	**250**	P	**P**	**06 13 54.2**	**-1.3**
RLMT	**Red Lodge**	**41.63**	**74**	P	**P**	**06 13 56.2**	**+0.3**
R11B	**Troy Canyon, C**	**41.88**	**86**	P	**P**	**06 13 58.8**	**+0.8**
R11B				IAmb	IAmb	06 13 59.3	
	comp=Z,3.7nm,0.7s						
SPR3	**Spring Creek 3**	**42.23**	**84**	P	**P**	**06 14 02.1**	**+1.2**
TPNV	**Topopah Spring**	**42.37**	**88**	P	**P**	**06 14 03.1**	**+1.2**
TPNV				IAmb	IAmb	06 14 04.0	
	comp=Z,9.4nm,0.8s						
DUG	**Dugway, Tooele**	**42.41**	**82**	P	**P**	**06 14 03.2**	**+1.0**
GWY	**Greenwater Val**	**42.61**	**89**	P	**P**	**06 14 05.1**	**+1.2**
QSM	**Queen of Sheba**	**42.63**	**90**	P	**P**	**06 14 04.7**	**+0.9**
DGMT	**Dagmar**	**42.69**	**67**	P	**P**	**06 14 04.1**	**-0.1**
DGMT				IAmb	IAmb	06 14 04.6	
	comp=Z,12nm,1.0s						
BW06	**Boulder Array**	**42.81**	**77**	P	**P**	**06 14 05.8**	**+0.3**
BW06				IAmb	IAmb	06 14 06.6	
	comp=Z,5.4nm,0.9s						
PD31	**Pinedale Array**	**42.81**	**77**	P	**P**	**06 14 05.9**	**+0.4**
PDAR	**Pinedale Array**	**42.81**	**77**	P	**P**	**06 14 05.9**	**+0.4**
PDAR	**Pinedale Array**	**42.81**	**77**	P	**P**	**06 14 05.7**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=310,slow=3.2,SNR=43						
	comp=Z,4.8nm,0.7s						
NLU	**North Lily Min**	**43.01**	**82**	P	**P**	**06 14 07.1**	**+0.1**
GSC	**Goldstone, Bar**	**43.11**	**90**	P	**P**	**06 14 09.1**	**+1.3**
GSC				IAmb	IAmb	06 14 09.8	
	comp=Z,7.8nm,0.9s						
MVU	**Marysvale**	**43.83**	**83**	P	**P**	**06 14 14.8**	**+1.1**
ELS	**Elsinore Mount**	**43.84**	**93**	P	**P**	**06 14 14.6**	**+0.9**
MSU	**Marysvale**	**43.85**	**83**	P	**P**	**06 14 15.2**	**+1.4**
TMUT	**Trail Mountain**	**43.94**	**82**	P	**P**	**06 14 15.8**	**+1.2**
TMUT				IAmb	IAmb	06 14 16.4	
	comp=Z,5.2nm,0.7s						
P17A	**Butcher Ranch,**	**44.11**	**81**	P	**P**	**06 14 17.2**	**+1.3**
RDMU	**Red Mountain**	**44.13**	**79**	P	**P**	**06 14 16.9**	**+0.9**
RDMU				IAmb	IAmb	06 14 17.6	
	comp=Z,4.6nm,0.8s						
MTPU	**Mount Pierson**	**44.14**	**84**	P	**P**	**06 14 17.8**	**+1.5**
LCMT	**Little Creek M**	**44.16**	**86**	P	**P**	**06 14 17.9**	**+1.7**
Q16A	**Castle Valley**	**44.20**	**82**	P	**P**	**06 14 17.6**	**+1.0**
HMU	**Henry Mountain**	**45.08**	**83**	P	**P**	**06 14 24.7**	**+1.1**
HMU				IAmb	IAmb	06 14 25.3	
	comp=Z,7.4nm,0.7s						
MDND	**Maddock**	**45.59**	**65**	P	**P**	**06 14 27.4**	**+0.2**
E28A	**Huff**	**45.72**	**67**	P	**P**	**06 14 28.4**	**+0.2**
PV21	**Cone Mtn., Par**	**45.75**	**81**	P	**P**	**06 14 28.9**	**0.0**
PV03	**Paradox Valley**	**46.02**	**81**	P	**P**	**06 14 31.3**	**+0.3**
SUSD	**Miller**	**47.97**	**68**	P	**P**	**06 14 45.3**	**-0.4**
K30B	**Basset**	**48.69**	**71**	P	**P**	**06 14 51.5**	**+0.3**
TUC	**Tucson**	**48.81**	**89**	P	**P**	**06 14 54.1**	**+1.7**
ECSD	**EROS Data Cent**	**49.73**	**68**	P	**P**	**06 14 58.0**	**-1.1**
ECSD				IAmb	IAmb	06 14 58.1	
	comp=Z,5.3nm,0.6s						
HHC	**Hu-ho-hao-te**	**50.48**	**288**	*e*P	**P**	**06 15 04.0**	**-0.9**
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
I37A	**Lemond, Waseca**	**51.36**	**65**	P	**P**	**06 15 10.8**	**-0.4**
N35A	**Tabor**	**52.13**	**70**	P	**P**	**06 15 17.7**	**+0.7**
COWI	**Conover**	**52.34**	**61**	P	**P**	**06 15 17.4**	**-1.1**
MNTX	**Cornudas Mount**	**52.53**	**85**	P	**P**	**06 15 20.9**	**+0.8**
MNTX				IAmb	IAmb	06 15 21.9	
	comp=Z,5.5nm,0.9s						
VHRN	**Van Horn**	**53.41**	**86**	P	**P**	**06 15 27.9**	**+1.2**
VHRN				IAmb	IAmb	06 15 27.9	

	comp=Z,3.7nm,0.7s						
N38A	**Joes South For**	**53.55**	**68**	P	**P**	**06 15 26.8**	**-0.6**
P38A	**Dawn**	**54.16**	**70**	P	**P**	**06 15 30.7**	**-1.1**
P38A				IAmb	IAmb	06 15 31.8	
	comp=Z,8.0nm,0.9s						
MNHN	**Monahans**	**54.37**	**84**	P	**P**	**06 15 33.8**	**+0.3**
WMOK	**Wichita Mounta**	**54.40**	**78**	P	**P**	**06 15 33.9**	**+0.2**
APMT	**Aspermont**	**54.58**	**80**	P	**P**	**06 15 35.0**	**+0.1**
APMT				IAmb	IAmb	06 15 35.2	
	comp=Z,5.7nm,0.9s						
P40A	**Paris**	**55.07**	**69**	P	**P**	**06 15 37.4**	**-1.0**
TX31	**Lajitas Ar. Si**	**55.24**	**86**	P	**P**	**06 15 40.2**	**+0.4**
TX31				IAmb	IAmb	06 15 41.1	
	comp=Z,3.4nm,0.7s						
TXAR	**Lajitas Array**	**55.24**	**86**	P	**P**	**06 15 40.2**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=300,slow=4.9,SNR=31						
TXAR				PcP	**PcP**	**06 16 39.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=236,slow=1.7,SNR=4.8						
	comp=Z,3.7nm,0.7s						
OZNA	**Ozona**	**55.66**	**83**	P	**P**	**06 15 42.8**	**0.0**
OZNA				IAmb	IAmb	06 15 43.2	
	comp=Z,4.4nm,0.7s						
R40A	**Maddies Statio**	**55.78**	**70**	P	**P**	**06 15 41.8**	**-1.7**
LOOK	**Love County**	**55.87**	**77**	P	**P**	**06 15 43.4**	**-0.7**
SCHQ	**Schefferville**	**56.97**	**41**	P	**P**	**06 15 50.1**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=279,slow=13,SNR=1.7						
	comp=Z,2.3nm,0.8s						
SFIN	**Lafayette**	**57.27**	**65**	P	**P**	**06 15 53.3**	**-0.6**
SSFO	**Shawnee State**	**60.60**	**64**	P	**P**	**06 16 16.8**	**-0.1**
KURBB	**Kurchatov Arra**	**60.62**	**316**	P	**P**	**06 16 16.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=42,slow=6.6,SNR=3.1						
KURBB				pP	**pwP**	**06 17 00.4**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=46,slow=6.5,SNR=6.9						
	comp=Z,0.4nm,0.6s						
M55A	**Ridgway**	**60.99**	**59**	P	**P**	**06 16 19.1**	**-0.4**
MKAR	**Makanchi Array**	**61.80**	**311**	pP	pP	06 17 09.2	+4.4
	comp=Z,0.5nm,0.8s,baz=30,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**62.03**	**322**	P	**P**	**06 16 25.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=35,slow=7.8,SNR=2.1						
BVAR				pP	**pwP**	**06 17 12.0**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=43,slow=11,SNR=6.8						
	comp=Z,0.4nm,0.6s						
PZH	**PanZhiHua**	**66.34**	**283**	P	**P**	**06 16 58.5**	**+3.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						

*IDC **28** 06:10:00.6±4.2, 18°.91S×175°.43W, h164km±38km, mb4.2/17, mbtmp4.7/18, MS3.1/2, Error ellipse: s-maj=17.1km s-min=13.7km az=140.0*
*NEIC **28** 06:10:02.4±2.3, 18°.9S±0°.1×175°.5W±0°.1, h173km±7km, mb4.6/147, Error ellipse: s-maj=16.6km s-min=15.1km az=123.0*
*NOU **28** 06:10:05.1, 19°.01S×175°.15W, h215km, mb4.7/50, Tonga Islands*

ISC 28 06:10:01.4±0.3, 19°.01S±0°.06×175°.44W±0°.05, h173km, n492, σ1$46/438, mb4.6/101, 24C-12D, Tonga Islands

Code	Station Name	Δ°	Az°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.29**	**283**	P	Pn	06 11 02.5	+9.1
TAVE	**Taveuni**	**4.83**	**298**	P	Pn	06 11 20.8	+7.7
NIUE	**Niue**	**5.21**	**92**	Pn	**Pn**	**06 11 20.1**	**+2.0**
NIUE				Sn	**Sn**	**06 12 15.9**	**-2.3**
NIUE	**Niue**	**5.21**	**92**	P	**Pn**	**06 11 19.9**	**+1.8**
DGTI	**Dogotuki**	**5.33**	**300**	P	Pn	06 11 26.3	+6.6
AFI	**Afiamalu**	**6.17**	**35**		**Pn**	**06 11 28.9**	**-1.8**
AFI	**Afiamalu**	**6.17**	**35**	P	**Pn**	**06 11 30.8**	**+0.1**
GLKZ	**Green Lake**	**10.45**	**192**	P	**P**	**06 12 34.6**	**-0.8**
GLKZ				S	Sn	06 14 17.7	-5.3
RAR	**Rarotonga**	**14.88**	**101**	P	**Pn**	**06 13 23.5**	**+0.2**
	26nm,0.9s,baz=246,slow=8.4,SNR=5.4						
LIFNC	**LIFOU**	**16.39**	**261**	P	**P**	**06 13 41.4**	**-0.1**
PINNC	**Pines Island,**	**16.40**	**254**	P	**P**	**06 13 42.3**	**+0.7**
PINNC	**Pines Island,**	**16.40**	**254**	P	**Pn**	**06 13 46.8**	**+4.9

ARMA Armidale 31.89 243 P **P** **06 16 12.3 +1.7**
AULRC Lightning Ridg 34.81 246 P **P** **06 16 37.9 +2.1**
CNB Canberra Magne 35.05 235 P **P** **06 16 38.6 +0.7**
CAN Canberra 35.34 235 P **P** **06 16 41.4 +1.0**
CAN IAmb IAmb 06 16 42.2
comp=Z,14nm,1.0s
CTA Charters Tower 36.06 262 P **P** **06 16 47.4 +0.8**
CTAO Charters Tower 36.06 262 P **P** **06 16 47.6 +1.0**
CTAO Charters Tower 36.06 262 P **P** **06 16 47.5 +0.8**
CMSA Cobar Meteorol 37.11 243 P **P** **06 16 56.0 +0.7**
QLP Quilpie 37.81 251 P **P** **06 17 02.0 +0.7**
MTSU Mount Surprise 38.18 265 P **P** **06 17 04.2 +0.3**
TOO Toolangi 38.72 233 P **P** **06 17 09.8 +1.1**
TOO IAmb IAmb 06 17 10.4
comp=Z,7.4nm,0.8s
BRAT Ballarat 39.90 234 P **P** **06 17 20.4 +1.9**
COEN Coen 39.94 271 P **P** **06 17 19.5 +0.4**
COEN IAmb IAmb 06 17 26.3
comp=Z,17nm,1.2s
STKA Stephens Creek 40.61 243 P **P** **06 17 25.9 +1.4**
STKA Stephens Creek 40.61 243 P **P** **06 17 25.7 +1.3**
STKA Stephens Creek 40.61 243 P **P** **06 17 24.9 +0.5**
comp=Z,6.0nm,0.5s,baz=93,slow=11,SNR=19
comp=Z,6.0nm,0.5s
INKA Innaminka 40.97 249 P **P** **06 17 28.8 +1.4**
ARPS Mount Arapiles 41.31 236 P **P** **06 17 30.7 +0.6**
QIS Mount Isa 42.23 260 P **P** **06 17 37.9 +0.1**
HTT Hallett 43.05 241 P **P** **06 17 44.8 +0.5**
BBOO Buckleboo 45.37 242 P **P** **06 18 02.9 +0.2**
BBOO IAmb IAmb 06 18 04.4
comp=Z,35nm,1.3s
BBOO Buckleboo 45.37 242 P **P** **06 18 03.0 +0.3**
OOD Oodnadatta 45.45 249 P **P** **06 18 04.4 +1.0**
MULG Mulgathing 46.92 246 P **P** **06 18 14.9 +0.1**
AS01 Alice Springs 47.18 255 P **P** **06 18 16.9 0.0**
WB2 Warramunga Arr 47.20 260 P **P** **06 18 16.1 -1.0**
WRAB Tennant Creek 47.20 260 P **P** **06 18 16.1 -1.0**
WRA Warramunga Arr 47.21 260 P **P** **06 18 15.9 -1.3**
WRA Warramunga Arr 47.21 260 P **P** **06 18 16.6 -0.6**
comp=Z,20nm,0.4s,baz=96,slow=7.5,SNR=564
WRA PcP **PcP** **06 19 46.0 +0.1**
comp=Z,2.6nm,0.5s,baz=90,slow=3.6,SNR=5.4
comp=Z,20nm,0.4s
AS31 Alice Springs 47.22 255 P **P** **06 18 16.8 -0.5**
AS31 IAmb IAmb 06 18 20.9
comp=Z,8.3nm,0.5s
ASAR Alice Springs 47.22 255 P **P** **06 18 17.2 -0.1**
ASAR Alice Springs 47.22 255 P **P** **06 18 17.4 +0.2**
comp=Z,19nm,0.5s,baz=97,slow=8.2,SNR=145
ASAR PcP **PcP** **06 19 45.2 -0.6**
comp=Z,5.7nm,0.4s,baz=106,slow=3.6,SNR=13
comp=Z,19nm,0.5s
MTN Manton Dam 51.59 268 P **P** **06 18 49.7 -0.7**
FORT Forrest 52.10 245 P **P** **06 18 52.0 -2.0**
FORT Forrest 52.10 245 P **P** **06 18 53.9 -0.1**
WRKA Warakurna 52.20 253 P **P** **06 18 54.8 -0.1**
SIJI Sorong 55.23 283 P **P** **06 19 17.7 +0.7**
comp=Z,36nm,1.2s,comp=Z,2µm
SWI Sorong 55.24 283 P **P** **06 19 18.7 +1.7**
comp=Z,49nm,1.0s
FITZ Fitzroy Crossi 55.63 261 P **P** **06 19 20.1 +0.3**
FITZ IAmb IAmb 06 19 21.7
comp=Z,11nm,1.4s
LBMI Labuha 58.80 281 P **P** **06 19 38.7 -3.4**
comp=Z,46nm,0.5s,comp=Z,2µm
SOEI Soe 58.89 270 P **P** **06 19 43.0 +0.2**
SOEI Soe 58.89 270 P **P** **06 19 44.8 +2.0**
SOEI Soe 58.89 270 P **P** **06 19 42.5 -0.3**
comp=Z,116nm,0.6s
VNDA Vanda 59.61 186 P **P** **06 19 48.1 +1.6**
VNDA IAmb IAmb 06 20 01.4
comp=Z,11nm,1.3s
VNDA Vanda 59.61 186 P **P** **06 19 49.3 +2.8**
comp=Z,1.3nm,0.8s,baz=7.3,slow=11,SNR=2.5
comp=Z,1.3nm,0.8s
SANI Sanana 59.70 279 P **P** **06 19 49.6 +1.4**
PSA00 Pilbara Seismi 60.36 256 P **P** **06 19 52.4 -0.2**
PSA00 Pilbara Seismi 60.36 256 P **P** **06 19 52.7 +0.1**
PSA00 IAmb IAmb 06 19 53.1
comp=Z,12nm,0.9s
KLBR Kellerberrin 60.87 244 P **P** **06 19 55.5 -0.4**
JCJ Chichijima 61.55 317 LR LR 06 40 18.8
comp=Z,15nm,21.1s,baz=132,slow=30
EDFI Ende, Flores 61.62 270 P **P** **06 20 00.8 -0.5**
comp=Z,33nm,1.0s
DBNI Kabupaten Domp 64.88 269 P **P** **06 20 23.0 +0.3**
comp=Z,75nm,1.5s
TOLI2 Tolitoli 65.69 280 P **P** **06 20 29.0 +1.2**
TWSI Taliwang, Sumb 66.17 269 P **P** **06 20 29.5 -1.4**
comp=Z,26nm,1.5s
CASY Casey 66.33 205 P **P** **06 20 32.3 +1.3**
CASY IAmb IAmb 06 20 53.3
comp=Z,16nm,1.2s
MJAR Matsushiro Arr 70.49 322 P **P** **06 20 57.1 -0.2**
comp=Z,6.9nm,0.7s,baz=153,slow=5.7,SNR=26
comp=Z,6.9nm,0.7s
MAJO Matsushiro 70.49 322 P **P** **06 20 57.9 +0.5**
MAJO IAmb IAmb 06 20 57.9
comp=Z,9.4nm,0.7s
MJB9 Matsu-Tunnel 70.50 322 P **P** **06 20 58.7 +1.3**
MJB9 IAmb IAmb 06 20 58.9
comp=Z,9.1nm,0.7s
QSPA South Pole Qui 71.05 180 P **P** **06 21 02.4 +2.0**
QSPA South Pole Qui 71.05 180 P **P** **06 21 02.2 +1.8**
comp=Z,4.2nm,0.6s,baz=58,slow=1.5,SNR=11
comp=Z,4.2nm,0.6s
JNU Nakatsue 72.89 315 P **P** **06 21 10.6 -1.2**
JNU Nakatsue 72.89 315 P **P** **06 21 12.0 +0.2**
PETK Petropavlovsk- 75.49 344 P **P** **06 21 26.1 -0.2**
comp=Z,7.0nm,0.8s,baz=133,slow=6.5,SNR=6.4
comp=Z,7.0nm,0.8s
KSM Kuching 75.62 277 P **P** **06 21 28.2 +0.3**
KSM Kuching 75.62 277 P **P** **06 21 28.4 +0.5**
KSM Kuching 75.62 277 P **P** **06 21 29.4 +1.5**
EDW2 Edwards Air Fo 76.45 45 P **P** **06 21 31.9 -0.3**
baz=235
LRMC Laurel Mtn Rad 77.00 45 P **P** **06 21 34.8 -0.6**
baz=235
CWC Cottonwood Cre 77.29 44 P **P** **06 21 36.3 -0.7**
baz=235
KSRS Korea Array 77.41 317 P **P** **06 21 38.9 +1.5**
comp=Z,6.3nm,0.9s,baz=134,slow=6.6,SNR=15
comp=Z,6.3nm,0.9s
KSAR Wonju Array Be 77.43 317 P **P** **06 21 37.3 -0.2**
GSC Goldstone, Bar 77.49 46 IAmb IAmb 06 21 38.9
comp=Z,11nm,1.4s
GSC Goldstone, Bar 77.49 46 P **P** **06 21 36.9 -1.1**
baz=236
HEC Hector,Ludlow 77.55 46 P **P** **06 21 36.8 -1.6**
baz=236
YBH Yreka Blue Hor 77.64 38 P **P** **06 21 39.8 +1.0**
YERR Yerington 78.03 41 P **P** **06 21 41.6 +0.5**
OHAK Old Harbor 78.17 12 P **P** **06 21 40.2 -0.9**
SHOC Shoshone, Teco 78.19 45 P **P** **06 21 40.3 -1.5**
baz=236
NVAR Mina Array Bea 78.30 42 P **P** **06 21 43.1 +0.5**
comp=Z,2.5nm,0.8s,baz=223,slow=9.0,SNR=24
comp=Z,2.5nm,0.8s
Q17K Contact Creek 78.67 10 P **P** **06 21 42.9 -1.1**
baz=199
TPH Tonopah 78.79 43 IAmb IAmb 06 21 46.0
comp=Z,17nm,1.0s
TPNV Topopah Spring 78.79 45 P **P** **06 21 43.6 -1.7**
baz=236
O14K Tigyukauivet M 78.84 7 P **P** **06 21 44.0 -0.8**
baz=194
P16K Nushagak River 79.07 9 P **P** **06 21 44.3 -1.7**
baz=197
N14K Kuskokwak Cree 79.45 7 P **P** **06 21 47.9 -0.1**
baz=193
M11K Mekoryuk 79.47 5 P **P** **06 21 47.0 -1.1**
baz=189
P17K Kvichak River 79.47 10 P **P** **06 21 47.6 -0.6**
baz=198
O16K Kokwok River B 79.60 9 P **P** **06 21 47.8 -1.0**
baz=197
Q19K Cape Douglas, 79.70 11 P **P** **06 21 48.0 -1.5**
baz=201
M13K Dall Lake 79.75 6 P **P** **06 21 49.3 -0.3**
baz=192
P18K Big Mountain, 79.86 10 P **P** **06 21 49.5 -0.8**
P18K IAmb IAmb 06 21 50.9
comp=Z,17nm,1.0s
P18K Big Mountain, 79.86 10 P **P** **06 21 49.1 -1.3**
baz=199
N15K Kwethluk River 79.88 8 P **P** **06 21 50.1 -0.3**
baz=195
O17K Koliganek Bris 79.92 9 P **P** **06 21 50.4 -0.1**
baz=198
PINE Pine Mountain 79.94 37 P **P** **06 21 52.4 +1.0**
R11B Troy Canyon, C 80.01 44 P **P** **06 21 51.1 -0.7**
baz=236
TUC Tucson 80.17 51 P **P** **06 21 50.8 -1.9**
baz=240
M14K Bethel 80.22 7 P **P** **06 21 52.4 +0.2**
baz=193
O18K Koktuh Hills 80.30 10 P **P** **06 21 52.7 0.0**
baz=199
M15K Kasigluk River 80.32 7 P **P** **06 21 52.8 +0.1**
baz=194
P19K Oil Pt 80.45 11 P **P** **06 21 53.5 0.0**
baz=201
N17K Nushagak Hills 80.62 9 P **P** **06 21 53.7 -0.7**
baz=197
MDJ Mudanjiang 80.72 324 P **P** **06 21 56.5 +1.2**
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ pmax pmax
comp=Z,320nm,4.0s
L14K Kuka Creek 80.73 6 IAmb IAmb 06 21 57.3
comp=Z,21nm,1.4s
L14K Kuka Creek 80.73 6 P **P** **06 21 55.0 +0.2**
baz=192
O19K Port Alsworth 80.77 11 P **P** **06 21 54.8 -0.3**
baz=200
NJ2 Nanjing 80.82 308 *e*P **P** **06 21 57.3 +1.2**
NJ2 pP **pwP** **06 22 40.0 -0.9**
NJ2 pmax pmax
comp=Z,13nm,0.5s
M16K Timber Creek 80.85 8 P **P** **06 21 56.4 +0.8**
baz=196
BRSE Bradley Lake S 81.02 12 P **P** **06 21 56.1 -0.4**
baz=204
K13K Kusilvak Mount 81.12 5 P **P** **06 21 57.8 +0.9**
baz=190
L15K Ungalak Mounta 81.18 7 P **P** **06 21 56.9 -0.4**
baz=193
N19K Bonanza Creek 81.32 10 P **P** **06 21 57.6 -0.6**
baz=200
M17K Holitna River 81.42 9 IAmb IAmb 06 22 00.2
comp=Z,17nm,1.0s
M17K Holitna River 81.42 9 P **P** **06 21 58.7 +0.1**
baz=197
L16K Owhat River 81.45 8 IAmb IAmb 06 22 00.3
comp=Z,24nm,1.1s
L16K Owhat River 81.45 8 P **P** **06 21 58.4 -0.3**
baz=195
PKCU Pink Cliffs 81.70 46 IAmb IAmb 06 22 03.9
comp=Z,16nm,1.4s
K15K Wolf Creek Mou 81.78 7 P **P** **06 22 00.9 +0.5**
baz=193
L17K Donlin 82.01 8 P **P** **06 22 03.2 +1.6**
baz=196
J14K Nanvaranak Lak 82.03 5 P **P** **06 22 02.2 +0.5**
baz=191
N20K Mount Spurr 82.08 11 P **P** **06 22 01.3 -0.8**
baz=202
L18K Granite Mounta 82.32 9 IAmb IAmb 06 22 04.6
comp=Z,18nm,1.3s
L18K Granite Mounta 82.32 9 P **P** **06 22 03.2 0.0**
baz=198
M19K Big River Lodg 82.37 10 P **P** **06 22 02.8 -0.7**
baz=200
CRAG Craig 82.40 23 P **P** **06 22 02.3 -1.5**
baz=220
RC01 Rabbit Creek A 82.46 12 P **P** **06 22 02.8 -1.2**
baz=204
121A Cookes Peak, D 82.50 52 P **P** **06 22 03.9 -1.2**
baz=242
L19K White Mountain 82.56 10 P **P** **06 22 03.7 -0.9**
baz=200
K17K Iditarod 82.57 8 P **P** **06 22 03.7 -0.8**
baz=196
SUA Susitna One 82.60 12 IAmb IAmb 06 22 05.5
comp=Z,9.9nm,1.1s
SUA Susitna One 82.60 12 P **P** **06 22 04.4 -0.4**
baz=203
KAIM Kayak Island 82.61 15 P **P** **06 22 04.0 -0.8**
baz=209
BNX BinXian 82.63 324 ⇑P **P** **06 22 05.8 +0.6**
BNX pmax pmax
comp=Z,17nm,1.0s
BNX pmax pmax
comp=Z,170nm,3.5s
DUG Dugway, Tooele 82.81 43 P **P** **06 22 05.3 -1.2**
baz=238
EYAK Cordova Ski Ar 82.84 14 P **P** **06 22 05.6 -0.3**
baz=208
J16K Anvik River 82.85 7 IAmb IAmb 06 22 07.6
comp=Z,22nm,1.2s
J16K Anvik River 82.85 7 P **P** **06 22 05.2 -0.8**
baz=194
L20K Farewell, AK 82.99 10 P **P** **06 22 06.3 -0.4**
baz=200
KNK Knik Glacier 83.01 13 P **P** **06 22 06.1 -0.8**
baz=206
PMR Palmer 83.04 12 P **P** **06 22 06.6 -0.3**
baz=205
TTA Tatalina 83.09 9 P **P** **06 22 07.4 +0.2**
TTA IAmb IAmb 06 22 08.4
comp=Z,11nm,1.1s
TTA Tatalina 83.09 9 P **P** **06 22 07.5 +0.2**
TTA Tatalina 83.09 9 P **P** **06 22 07.0 -0.3**
baz=198
S31K Pelican 83.29 20 P **P** **06 22 07.8 -0.5**
baz=217
TMUT Trail Mountain 83.40 45 IAmb IAmb 06 22 11.7
comp=Z,6.3nm,0.8s
I17K Unalakleet 83.42 7 P **P** **06 22 08.9 +0.1**
baz=194
J18K Innoko River 83.50 8 IAmb IAmb 06 22 10.4
comp=Z,13nm,1.0s
J18K Innoko River 83.50 8 P **P** **06 22 09.0 -0.3**
baz=198
SCM Sheep Creek Mo 83.63 13 P **P** **06 22 09.4 -0.7**
baz=207
HLID Hailey 83.64 40 P **P** **06 22 09.3 -1.4**
baz=236
ANM Nome 83.67 4 P **P** **06 22 10.3 +0.2**
ANM Nome 83.67 4 P **P** **06 22 09.9 -0.2**
baz=190
K20K Telida 83.79 10 IAmb IAmb 06 22 11.4
comp=Z,12nm,1.1s
K20K Telida 83.79 10 P **P** **06 22 10.6 -0.2**
baz=200
MNTX Cornudas Mount 83.93 54 P **P** **06 22 11.1 -1.2**
baz=243
H16K Elim 84.00 6 P **P** **06 22 12.2 +0.4**
baz=192,SNR=9.7
N25K Chitina, Valde 84.04 14 P **P** **06 22 11.6 -0.6**
baz=209
M24K Tolsona, Glenn 84.12 13 P **P** **06 22 12.4 -0.2**
baz=208
J19K Poorman 84.16 9 P **P** **06 22 12.8 +0.2**
baz=199
CAST Castle Rocks 84.17 10 P **P** **06 22 11.8 -0.9**
baz=202
P29M Windy Craggy 84.18 18 P **P** **06 22 12.6 -0.3**
baz=216
G15K Niukluk 84.20 5 P **P** **06 22 11.8 -1.0**
baz=191
TCUT Toone Canyon 84.21 43 IAmb IAmb 06 22 15.1
comp=Z,9.7nm,0.8s
WAT6 Susitna Watana 84.22 12 P **P** **06 22 12.4 -0.8**
baz=206
TXAR Lajitas Array 84.23 56 P **P** **06 22 14.6 +0.7**
comp=Z,3.2nm,1.1s,baz=213,slow=6.7,SNR=11
comp=Z,3.2nm,1.1s
WAT1 Susitna Watana 84.28 12 P **P** **06 22 11.7 -1.6**
baz=205
CTG Chitna Glacier 84.29 16 P **P** **06 22 12.4 -1.1**
baz=212
PLBC Pleasant Camp 84.45 19 P **P** **06 22 13.4 -0.8**
baz=217
TNA Tin City 84.50 3 P **P** **06 22 13.9 -0.4**
baz=187,SNR=6.3
F14K Arctic Creek 84.51 4 P **P** **06 22 14.5 +0.1**
baz=189
TRF Thorofare Moun 84.51 11 IAmb IAmb 06 22 15.8
comp=Z,12nm,0.9s
TRF Thorofare Moun 84.51 11 P **P** **06 22 14.0 -0.6**
baz=204
H17K Granite Mounta 84.53 7 IAmb IAmb 06 22 15.2
comp=Z,9.8nm,1.2s
H17K Granite Mounta 84.53 7 P **P** **06 22 14.3 -0.2**
baz=195,SNR=5.4
J20K Nowinta River 84.55 9 IAmb IAmb 06 22 15.4
comp=Z,21nm,1.4s
J20K Nowinta River 84.55 9 P **P** **06 22 14.3 -0.3**
baz=200
CHUM Lake Minchumin 84.56 10 P **P** **06 22 14.2 -0.4**
baz=202
ANMO Albuquerque 84.60 50 P **P** **06 22 16.5 +0.7**
ANMO Albuquerque 84.60 50 P **P** **06 22 14.9 -0.8**
baz=242
HARP HAARP 84.61 14 P **P** **06 22 14.9 0.0**
baz=209
ALPN Alpine 84.69 56 IAmb IAmb 06 22 18.4
comp=Z,7.9nm,1.1s
GCSA Galena City Sc 84.71 8 P **P** **06 22 15.8 +0.5**
baz=198
G16K Koyuk River 84.73 5 IAmb IAmb 06 22 16.6
comp=Z,8.4nm,1.1s
G16K Koyuk River 84.73 5 P **P** **06 22 15.6 +0.1**
baz=192
DHY Denali Highway 84.73 12 P **P** **06 22 15.5 -0.3**
baz=206
NEW Newport 84.77 35 P **P** **06 22 15.8 -0.3**
baz=234
SKAG Skagway 84.77 19 P **P** **06 22 16.2 +0.5**
baz=218
P30M Million Dollar 84.81 18 P **P** **06 22 15.8 -0.2**
baz=216
H03S2 Juan Fernandez 84.83 124 T T 07 55 35.6
baz=249,slow=75,SNR=17
H03S1 Juan Fernandez 84.84 124 T T 07 55 29.4
baz=249,slow=75,SNR=27
H03S3 Juan Fernandez 84.84 124 T T 07 55 35.1
baz=249,slow=75,SNR=16
F15K North Star Dit 84.85 4 P **P** **06 22 16.2 +0.1**
baz=190
H18K Honhosa River 84.91 7 IAmb IAmb 06 22 16.3
comp=Z,11nm,1.3s
H18K Honhosa River 84.91 7 P **P** **06 22 16.4 0.0**
baz=196
YUK8 Steele Glacier 84.97 16 P **P** **06 22 16.6 -0.5**
baz=214
S34M Telegraph Cree 84.98 22 P **P** **06 22 16.8 -0.1**
baz=222
G17K Kiwalik Mounta 85.00 6 P **P** **06 22 16.6 -0.2**
baz=194,SNR=8.5
MCK McKinley 85.02 11 P **P** **06 22 16.2 -0.7**
baz=205,SNR=12
I20K Naaghedeneel 85.08 9 IAmb IAmb 06 22 18.8
comp=Z,18nm,1.2s
I20K Naaghedeneel 85.08 9 P **P** **06 22 16.3 -0.9**
baz=200
M26K Nabesna, AK 85.11 15 IAmb IAmb 06 22 18.3
comp=Z,25nm,1.4s
M26K Nabesna, AK 85.11 15 P **P** **06 22 16.0 -1.5**
baz=211
YUK3 Moose Creek 85.20 16 P **P** **06 22 17.8 -0.4**
baz=213
HYT Haines Junctio 85.22 18 P **P** **06 22 17.9 -0.3**
baz=216
M27K Edge Creek, AK 85.34 15 IAmb IAmb 06 22 20.7
comp=Z,20nm,1.2s
M27K Edge Creek, AK 85.34 15 P **P** **06 22 18.8 +0.1**
baz=212
Q32M Nakina River 85.38 21 P **P** **06 22 18.5 -0.5**
baz=220
MENT Mentasta 85.40 14 IAmb IAmb 06 22 19.9
comp=Z,20nm,1.3s
MENT Mentasta 85.40 14 P **P** **06 22 18.9 0.0**
SEY Seymchan 85.50 346 P **P** **06 22 19.1 -0.2**
comp=Z,8.5nm,0.8s,baz=141,slow=5.2,SNR=16
comp=Z,8.5nm,0.8s
H19K Roundabout Mou 85.51 8 P **P** **06 22 18.6 -0.7**
baz=198
L26K Log Cabin Wild 85.56 14 P **P** **06 22 19.7 0.0**
baz=210
O30N Mendenhall 85.58 18 P **P** **06 22 19.1 -0.8**
baz=217
G18K Tagagawik 85.60 7 IAmb IAmb 06 22 20.3
comp=Z,11nm,1.1s
G18K Tagagawik 85.60 7 P **P** **06 22 19.2 -0.5**
baz=196
S22A 4UR Ranch, Cre 85.63 48 P **P** **06 22 19.8 -1.1**
baz=242
BVCY Beaver Creek 85.64 15 P **P** **06 22 19.2 -0.9**
baz=212,SNR=5.5
H20K Anotleneega Mo 85.69 8 P **P** **06 22 19.4 -0.8**
baz=199
K24K Donnelly Dome 85.71 13 P **P** **06 22 20.2 -0.2**
baz=208,SNR=5.9
DLBC Dease Lake 85.76 22 P **P** **06 22 20.5 -0.3**
baz=222
NEA2 Nenana 85.78 11 P **P** **06 22 19.8 -0.9**
baz=205
MNHN Monahans 85.79 55 IAmb IAmb 06 22 23.3
comp=Z,8.7nm,1.1s
O20A White River Ci 85.80 45 P **P** **06 22 20.1 -1.5**
baz=241
I21K Tanana 85.83 10 IAmb IAmb 06 22 21.3
comp=Z,11nm,1.1s
I21K Tanana 85.83 10 P **P** **06 22 20.1 -0.8**
baz=202,SNR=6.4
N30M Aishikik Lake 85.85 17 P **P** **06 22 20.3 -0.9**
baz=216
RIDG Independent Ri 85.85 13 IAmb IAmb 06 22 22.9
comp=Z,9.6nm,1.1s
RIDG Independent Ri 85.85 13 P **P** **06 22 21.3 +0.1**
baz=209
WHY Whitehorse 85.86 19 P **P** **06 22 20.7 -0.6**
baz=218
F17K Baldwin Pennin 85.86 6 IAmb IAmb 06 22 22.0
comp=Z,8.3nm,1.0s
F17K Baldwin Pennin 85.86 6 P **P** **06 22 21.0 +0.1**
baz=193
MLY Manley 85.89 10 IAmb IAmb 06 22 21.0
comp=Z,8.5nm,1.2s
MLY Manley 85.89 10 P **P** **06 22 20.0 -1.2**
baz=203,SNR=5.4
L27K Beaver Creek, 85.95 15 P **P** **06 22 21.4 -0.2**
baz=212
HDA Harding Lake 86.02 12 IAmb IAmb 06 22 23.4
comp=Z,14nm,1.1s
HDA Harding Lake 86.02 12 P **P** **06 22 21.3 -0.6**
baz=207,SNR=11
G19K Purcell Mounta 86.02 7 IAmb IAmb 06 22 22.8
comp=Z,9.3nm,1.1s
G19K Purcell Mounta 86.02 7 P **P** **06 22 21.7 -0.1**
baz=197
CCB Clear Creek Bu 86.06 12 IAmb IAmb 06 22 22.7
comp=Z,13nm,1.0s
H21K Melozitna Rive 86.14 9 IAmb IAmb 06 22 24.2
comp=Z,20nm,1.4s
H21K Melozitna Rive 86.14 9 P **P** **06 22 22.4 0.0**
baz=201
R33M Jennings River 86.14 21 P **P** **06 22 22.7 0.0**
baz=222
P33M Teslin, Yukon 86.15 20 P **P** **06 22 22.9 +0.2**
baz=220
I23K Minto, Yukon-K 86.23 11 IAmb IAmb 06 22 27.0
comp=Z,8.0nm,1.2s
I23K Minto, Yukon-K 86.23 11 P **P** **06 22 22.5 -0.4**
baz=205
BW06 Boulder Array 86.24 42 P **P** **06 22 22.2 -1.6**
baz=240
PDAR Pinedale Array 86.24 42 P **P** **06 22 21.8 -1.9**
comp=Z,0.6nm,0.8s,baz=222,slow=2.0,SNR=4.2
comp=Z,0.6nm,0.8s
SCRK Sand Creek 86.25 13 IAmb IAmb 06 22 23.8
comp=Z,11nm,1.4s
SCRK Sand Creek 86.25 13 P **P** **06 22 22.9 -0.2**
baz=210
N31M Braeburn, Yuko 86.25 18 P **P** **06 22 23.6 +0.5**
baz=217
COLA College 86.26 11 P **P** **06 22 21.9 -1.1**
COLA College 86.26 11 P **P** **06 22 21.9 -1.1**
COLA College 86.26 11 P **P** **06 22 22.2 -0.8**
baz=206
MDM Murphy Dome 86.27 11 IAmb IAmb 06 22 23.7
comp=Z,12nm,1.0s
M29M Somme Creek 86.28 16 P **P** **06 22 23.0 -0.4**
baz=215
HNS HongShan 86.35 311 ⇓P **P** **06 22 25.0 +0.9**
HNS pmax pmax
comp=Z,22nm,1.3s
IL31 86.35 12 IAmb IAmb 06 22 24.3
comp=Z,12nm,1.1s
ILAR Eielson Array 86.35 12 P **P** **06 22 22.6 -0.8**

comp=Z,5.5nm,1.0s,baz=222,slow=5.1,SNR=21
comp=Z,5.5nm,1.0s
E17K Hotham Inlet 86.43 5 P P 06 22 24.2 +0.4
baz=193
J25K Salcha River, 86.51 12 IAmb IAmb 06 22 24.9
comp=Z,10nm,1.2s
J25K Salcha River, 86.51 12 P P 06 22 24.0 -0.4
baz=208
BJI Beijing 86.56 314 P P 06 22 25.8 +0.8
BJI pmax pmax
comp=Z,5.0nm,1.5s
POKR Poker Plat Res 86.56 11 P P 06 22 23.3 -1.2
baz=206
SDCO Great Sand Dun 86.56 48 P P 06 22 24.5 -1.0
baz=243
H22K Ishtalitna Cre 86.58 10 P P 06 22 24.2 -0.4
baz=203
F19K Shaleruckik Mo 86.60 7 IAmb IAmb 06 22 25.3
comp=Z,7.5nm,0.9s
F19K Shaleruckik Mo 86.60 7 P P 06 22 24.6 0.0
baz=197
LYN LuoYang 86.72 308 ⇑P P 06 22 27.5 +1.5
LYN pmax pmax
comp=Z,34nm,0.9s
LYN pmax pmax
comp=Z,250nm,4.3s
K27K Chicken 86.72 14 IAmb IAmb 06 22 26.7
comp=Z,14nm,1.4s
K27K Chicken 86.72 14 P P 06 22 25.9 +0.6
baz=211
PSI Prapat 86.78 274 P P 06 22 27.2 +0.3
J26L Joseph Creek 86.80 13 IAmb IAmb 06 22 27.1
comp=Z,14nm,1.0s
J26L Joseph Creek 86.80 13 P P 06 22 25.4 -0.4
baz=210
M30M Minto, Yukon 86.84 17 P P 06 22 25.3 -0.6
baz=216
G21K Allakaket 86.84 9 IAmb IAmb 06 22 26.8
comp=Z,9.5nm,1.2s
G21K Allakaket 86.84 9 P P 06 22 26.5 +0.7
baz=201
L29M L29M 86.92 16 P P 06 22 26.7 +0.4
baz=215
F20K Avaraart Lake 87.05 8 P P 06 22 27.5 +0.7
baz=199
H24K Noodor Dome 87.12 11 P P 06 22 27.8 +0.6
baz=206
E19K Redstone River 87.26 7 IAmb IAmb 06 22 32.5
comp=Z,7.7nm,1.2s
E19K Redstone River 87.26 7 P P 06 22 27.4 -0.5
baz=197
DAWY Dawson 87.39 15 IAmb IAmb 06 22 29.6
comp=Z,13nm,1.3s
DAWY Dawson 87.39 15 P P 06 22 28.6 0.0
baz=214,SNR=8.0
F21K Alatna River 87.51 8 P P 06 22 29.0 -0.1
baz=201
G22K Bettles 87.52 9 P P 06 22 29.3 +0.3
baz=202
FARO Faro, Yukon 87.55 18 P P 06 22 29.0 -0.3
baz=219
G23K Bananza Creek 87.55 10 P P 06 22 29.1 -0.2
baz=204
EGAK Eagle 87.57 14 IAmb IAmb 06 22 30.9
comp=Z,11nm,1.2s
EGAK Eagle 87.57 14 P P 06 22 29.4 +0.1
baz=212,SNR=5.7
I26K Coal Creek Min 87.58 13 IAmb IAmb 06 22 30.4
comp=Z,13nm,1.4s
I26K Coal Creek Min 87.58 13 P P 06 22 29.6 +0.2
baz=210
K29M Barlow Dome 87.68 16 IAmb IAmb 06 22 31.4
comp=Z,12nm,1.2s
K29M Barlow Dome 87.68 16 P P 06 22 30.0 0.0
baz=216
J29N Klondike Camp 88.00 15 IAmb IAmb 06 22 33.8
comp=Z,6.9nm,0.9s
J29N Klondike Camp 88.00 15 P P 06 22 31.4 -0.1
baz=215
COLD Coldfoot 88.00 10 P P 06 22 31.3 -0.1
baz=204
D19K Kuna River 88.16 6 P P 06 22 32.0 -0.1
baz=196
I27K Kandik River 88.17 13 P P 06 22 32.5 +0.3
baz=212
G25K Bearman Lake 88.28 11 P P 06 22 32.1 -0.5
baz=208
ELIB Princess Elisa 88.37 186 *d*P P 06 22 33.7 +0.2
I28M Miner Creek 88.42 14 P P 06 22 32.5 -0.9
baz=213
D20K Etivluk River 88.53 7 P P 06 22 33.7 -0.1
baz=198
J30M Hart River 88.58 16 P P 06 22 34.6 +0.3
baz=217
C19K Lookout Ridge 88.61 6 P P 06 22 34.1 -0.1
baz=195
F24K Squaw Lake 88.64 10 P P 06 22 34.6 +0.2
baz=206
H27K Steamboat Moun 88.72 13 P P 06 22 35.0 +0.2
baz=212
I29M Ogilvie Camp, 88.73 15 IAmb IAmb 06 22 35.3
comp=Z,12nm,1.5s
E23K Chandalar 88.85 9 P P 06 22 35.6 +0.1
baz=204
G26K Porcupine Rive 88.88 12 P P 06 22 35.7 +0.2
baz=210
I30M Mount Dempster 89.09 15 P P 06 22 36.6 0.0
baz=217
KOTAN Kotaneelee Air 89.13 23 P P 06 22 36.8 0.0
baz=226
C21K Knifeblade Rid 89.17 7 P P 06 22 37.0 +0.3
baz=199
D22K Ayikyak River 89.17 8 P P 06 22 36.9 0.0
baz=201
SNAA Sanae 89.41 178 P P 06 22 36.9 -1.3
comp=Z,4.6nm,1.0s,baz=200,slow=12,SNR=2.8
comp=Z,4.6nm,1.0s
H29M Whitestone 89.42 14 P P 06 22 38.5 +0.5
baz=215
F26K Sheenjek River 89.47 11 P P 06 22 38.9 +0.6
baz=209
D23K Nanushuk River 89.53 9 P P 06 22 39.4 +1.0
baz=203
A19K Wainwright 89.55 5 P P 06 22 39.2 +0.7
baz=194
E25K Arctic Village 89.58 11 P P 06 22 39.2 +0.4
baz=208
EPYK Eagle Plains 89.93 15 P P 06 22 40.1 -0.3
baz=216
G29M Pine Creek 90.07 14 P P 06 22 40.1 -1.0
baz=215
WMOK Wichita Mounta 90.22 53 P P 06 22 40.5 -2.1
baz=247
F28M Old Crow 90.25 13 P P 06 22 42.0 +0.1
baz=213
SRDT SRDT 90.39 285 P P 06 22 45.4 +1.7
RSSD Black Hills 90.42 43 P P 06 22 42.6 -0.9
baz=244
B22K Teshekpuk Lake 90.45 7 IAmb IAmb 06 22 43.4
comp=Z,5.3nm,1.1s
B22K Teshekpuk Lake 90.45 7 P P 06 22 43.0 +0.3
baz=201
C24K Franklin Bluff 90.51 9 P P 06 22 42.7 -0.3
baz=205
G30M tAoh Zraii Nji 90.54 14 IAmb IAmb 06 22 43.9
comp=Z,11nm,1.1s
G30M tAoh Zraii Nji 90.54 14 P P 06 22 43.3 +0.1
baz=217
G31M Satah River 90.96 15 P P 06 22 45.3 +0.2
baz=218
E28M Babbage River 91.15 12 IAmb IAmb 06 22 47.0
comp=Z,4.5nm,1.1s
E28M Babbage River 91.15 12 P P 06 22 45.8 -0.2
baz=214
F30M Barrier River 91.15 14 P P 06 22 45.8 -0.3
baz=217
E29M Blow River 91.31 13 IAmb IAmb 06 22 48.3
comp=Z,6.2nm,1.3s
E29M Blow River 91.31 13 P P 06 22 46.9 +0.1
baz=215
D27M Malcolm River 91.40 12 P P 06 22 48.1 +0.8
baz=212
F31M Tsiigehtchic 91.50 15 P P 06 22 47.9 +0.3
baz=219
CMAR Chiang Mai Arr 91.91 289 P P 06 22 52.1 +1.4
comp=Z,4.1nm,1.0s,baz=108,slow=2.9,SNR=21
comp=Z,4.1nm,1.0s
CHTO Chiang Mai 92.02 289 P P 06 22 52.0 +0.7
CHTO IAmb IAmb 06 22 53.3
comp=Z,7.1nm,1.1s
CHTO Chiang Mai 92.02 289 P P 06 22 51.3 +0.1
INK Inuvik 92.22 14 P P 06 22 50.4 -0.6
INK IAmb IAmb 06 22 51.3
comp=Z,6.6nm,1.1s
INK Inuvik 92.22 14 P P 06 22 50.8 -0.2
baz=219
DGMT Dagmar 92.25 39 P P 06 22 51.1 -0.5
baz=244
YKA Yellowknife Ar 94.17 24 P P 06 22 58.8 -1.2
comp=Z,0.7nm,0.8s,baz=243,slow=4.5,SNR=14
comp=Z,0.7nm,0.8s
A36M Sachs Harbour 96.85 14 P P 06 23 11.8 -0.2
A36M Sachs Harbour 96.85 14 P P 06 23 11.8 -0.2
baz=227
SSPA Standing Stone 107.74 52 P PKiKP 06 28 07.4 -0.8
baz=260
MKAR Makanchi Array 111.93 314 PKiKP PKiKP 06 28 13.9 -2.0
comp=Z,0.2nm,0.4s,baz=145,slow=1.3,SNR=5.7
KURBB Kurchatov Arra 114.58 318 PKP PKPdf 06 28 19.4 -1.4
comp=Z,0.9nm,0.8s,baz=107,slow=2.0,SNR=9.1
KSH Kashi 116.01 305 PKPbc 06 23 27.0
BVAR Borovoye Array 119.48 321 PKP PKPdf 06 28 29.2 -1.0
comp=Z,1.4nm,0.5s,baz=90,slow=3.0,SNR=12
ARU Arti 125.32 327 PKP PKPdf 06 28 40.8 -0.4
comp=Z,2.3nm,0.5s,baz=146,slow=3.6,SNR=3.3
AKTO Aktyubinsk 127.53 320 PKP PKPdf 06 28 45.6 -0.1
comp=Z,1.2nm,0.7s,baz=310,slow=4.7,SNR=4.4
ARCES ARCESS Array B 127.87 351 PKP PKPdf 06 28 45.0 -0.8
comp=Z,4.9nm,1.0s,baz=350,slow=3.0,SNR=7.8
FINES FINESS Array B 134.98 346 PKhKP PKPpre 06 28 54.0
comp=Z,2.9nm,0.9s,baz=355,slow=3.3,SNR=5.0
FINES PKP PKPdf 06 29 00.3 +0.9
comp=Z,3.7nm,1.0s,baz=48,slow=2.8,SNR=6.6
HFS Hagfors 138.41 353 PKhKP PKPpre 06 28 55.9
comp=Z,8.7nm,1.2s,baz=5,slow=5.1,SNR=1.6
AKASG Malin Array Be 142.81 334 PKhKP PKPpre 06 29 09.4
comp=Z,0.7nm,0.4s,baz=39,slow=3.9,SNR=9.9
EKA Eskdalemuir Ar 143.27 7 PKhKP PKPpre 06 29 10.8
comp=Z,3.4nm,1.0s,baz=297,slow=3.1,SNR=2.5
SORM Soroca 145.12 332 ⇑P PKPbc 06 29 17.5 -0.5
BURAR Bucovina Array 146.87 334 ⇑P **PKPbc** 06 29 23.7 +0.3
KOLS Kolonicke sedl 146.91 338 *e*PKP **PKPbc** 06 29 24.1 +0.7
VLDR Vladesti 146.93 329 ⇓P **PKPbc** 06 29 24.4 +1.0
CLL Collm 147.09 350 *e*PKPdf **PKPdf** 06 29 22.0 +0.6
CLL *i* PKPbc **PKPbc** 06 29 23.6 -0.2
comp=Z,31nm,1.2s
SCTR Scanteiesti 147.09 329 ⇑P **PKPbc** 06 29 24.5 +0.6
TESR Tescani 147.10 331 ⇑P **PKPbc** 06 29 24.0 0.0
UPC Upice 147.28 346 *e*PKP **PKPbc** 06 29 24.4 +0.1
BRG Berggiesshubel 147.35 349 *i* PKP **PKPbc** 06 29 24.7 +0.2
BRG Amp 06 29 27.1
comp=Z,6.4nm,0.9s
DPC Dobruska-Polom 147.35 346 *e*PKP **PKPbc** 06 29 24.6 0.0
CFR Carcaliu 147.38 328 ⇑P **PKPbc** 06 29 24.8 +0.1
TPGR Topolog 147.46 328 ⇑P **PKPbc** 06 29 25.3 +0.3
BMR Baia Mare 147.51 336 ⇑P **PKPbc** 06 29 25.3 +0.3
BRTR Keskin Array B 147.55 316 PKPbc **PKPbc** 06 29 25.1 -0.5
comp=Z,3.6nm,0.6s,baz=140,slow=4.7,SNR=23
VRI Vrincioaia 147.55 331 ⇑P **PKPbc** 06 29 25.4 +0.2
PVCC Panska Ves 147.55 348 *e*PKP **PKPbc** 06 29 25.1 0.0
MORC Moravsky Berou 147.59 344 ⇑P **PKPdf** 06 29 23.6 +1.2
MORC Moravsky Berou 147.59 344 *e*PKP **PKPbc** 06 29 25.5 +0.2
LANS Liptovska Anna 147.62 342 *e*PKP **PKPbc** 06 29 26.3 +0.9
HARR Harsova 147.83 328 ⇑P **PKPbc** 06 29 26.3 +0.3
MAUC Maruska 147.89 344 *e*PKP **PKPbc** 06 29 26.2 +0.1
PRU Pruhonice 148.08 348 *e*PKP **PKPbc** 06 29 26.2 -0.3
DOPR Dopca 148.08 332 ⇑P **PKPbc** 06 29 27.3 +0.6
MLR Muntele Rosu 148.20 331 ⇓P **PKPbc** 06 29 27.5 +0.4
MLR Muntele Rosu 148.20 331 PKPbc **PKPbc** 06 29 26.9 -0.2
comp=Z,6.4nm,1.1s,baz=34,slow=3.5,SNR=8.2
VRAC Vranov 148.26 345 ⇑P **PKPbc** 06 29 27.3 +0.3
VRAC Vranov 148.26 345 *e*PKP **PKPbc** 06 29 27.0 0.0
JAVC Velka Javorina 148.40 343 *e*PKP **PKPbc** 06 29 28.6 +1.2
VYHS Vyhne 148.40 342 *e*PKP **PKPbc** 06 29 27.8 +0.4
MEM Membach 148.45 358 *d*PKP **PKPdf** 06 29 20.7 -3.0
MARR Marisel-Cluj 148.47 335 ⇓P **PKPbc** 06 29 27.6 -0.2
BSTI Sari Tilman 148.49 359 *d*PKP **PKPbc** 06 29 27.0 -0.5
TREC Trest 148.53 346 *e*PKP **PKPbc** 06 29 27.8 +0.1
KRUC Moravsky 148.54 345 *e*PKP **PKPbc** 06 29 27.5 -0.2
DRGR 148.54 336 ⇑P **PKPbc** 06 29 27.9 +0.1
VOIR 148.64 332 ⇑P **PKiKP** 06 29 30.9 +1.3
BCLA Clavier 148.66 359 *d*PKP **PKPdf** 06 29 20.7 -3.3
ZVC Zvikov 148.67 348 *e*PKP **PKPbc** 06 29 27.9 -0.1
BMRD Maredsous 148.78 360 *d*PKP **PKPdf** 06 29 23.3 -0.9
MODS Modra-Piesok 148.95 343 *e*PKP **PKPbc** 06 29 29.5 +0.7
KHC Kasperske Hory 149.09 348 *e*PKP **PKPbc** 06 29 28.9 -0.2
MMAI Mount Meron Ar 149.10 303 PKPbc **PKPbc** 06 29 30.0 +0.3
comp=Z,3.2nm,0.5s,baz=72,slow=5.4,SNR=7.2
CKRC Cesky Krumlov 149.24 347 *e*PKP **PKPbc** 06 29 28.9 -0.6
GERES GERESS Array B 149.34 348 PKPbc **PKPbc** 06 29 29.7 -0.2
comp=Z,5.9nm,1.0s,baz=359,slow=0.0,SNR=5.3
SIRR Siria 149.38 336 ⇑P **PKPbc** 06 29 29.4 -0.5
WLF Walferdange 149.39 358 *d*PKP **PKPbc** 06 29 29.4 -0.4
SURR Surduc 149.63 335 ⇓P **PKPbc** 06 29 30.2 -0.3
GZR Gura Zlata 149.66 334 ⇑P **PKPbc** 06 29 30.3 -0.4
CONA Conrad Observa 149.72 345 *i* PKP **PKPbc** 06 29 30.9 +0.1
comp=Z,3.2nm,0.8s
RONA Rosalia, Austr 149.83 344 *e*PKP **PKPbc** 06 29 31.0 0.0
comp=Z,3.5nm,0.7s
BZS Buzias 149.94 336 ⇑P **PKPbc** 06 29 31.1 -0.2
ELND Elena 150.13 328 ⇑P **PKPbc** 06 29 31.7 -0.1
MOA Molln 150.17 347 *e*PKP **PKPbc** 06 29 31.3 -0.5
comp=Z,1.2nm,0.5s
HERR Herculane 150.22 334 ⇓P **PKPbc** 06 29 31.5 -0.4
EIL Elat 150.43 297 PKPbc **PKPbc** 06 29 32.7 -0.3
comp=Z,16nm,1.1s,baz=89,slow=4.4,SNR=4.1
MORH Mrgy, Hungar 150.49 340 ⇑P **PKPbc** 06 29 32.3 -0.3
MDVR Moldovita 150.59 335 ⇑P **PKPbc** 06 29 32.8 -0.1
LESA Schwarzleotal 150.89 349 *i* PKP **PKPbc** 06 29 33.0 -0.6
comp=Z,1.4nm,0.3s
FRGS Fruska Gora 151.01 337 ⇑P **PKPbc** 06 29 33.9 +0.1
SOKA Soboth 151.09 345 *e*PKP **PKPbc** 06 29 33.2 -0.9
comp=Z,2.9nm,0.8s,SNR=6.9
KBA Koelnbreinsper 151.09 348 *i* PKP **PKPbc** 06 29 33.2 -1.0
comp=Z,2.8nm,0.6s
RETA Reutte 151.15 351 *i* PKP **PKPbc** 06 29 33.7 -0.5
comp=Z,2.8nm,0.9s,SNR=4.6
WATA Walderalm 151.17 350 *e*PKP **PKPbc** 06 29 33.6 -0.7
comp=Z,3.1nm,0.5s,SNR=4.7
WTTA Wattenberg 151.23 350 *i* PKP **PKPbc** 06 29 33.7 -0.8
comp=Z,5.1nm,0.3s,SNR=12
MOTA Moosalm 151.24 351 *i* PKP **PKPbc** 06 29 33.8 -0.7
comp=Z,4.8nm,0.8s,SNR=6.3
SQTA Sankt Quirin 151.34 351 *i* PKP **PKPbc** 06 29 34.2 -0.4
comp=Z,4.0nm,0.6s,SNR=4.9
OBKA Obir 151.37 346 *i* PKP **PKPbc** 06 29 33.5 -1.2
comp=Z,0.3nm,0.3s
MYKA Terra Mystica 151.46 347 *i* PKP **PKPbc** 06 29 33.9 -1.0
comp=Z,2.5nm,0.4s
DAVA Damuels 151.46 352 *e*PKP **PKPbc** 06 29 35.0 0.0
comp=Z,3.0nm,0.5s,SNR=4.7
BOVS Bovan 151.53 333 ⇑P **PKPbc** 06 29 34.1 -0.9
ABTA Abtaltersbach 151.58 348 *e*PKP **PKPbc** 06 29 34.1 -1.1
comp=Z,5.0nm,0.6s,SNR=7.1
FETA Feichten 151.61 351 *e*PKP **PKPbc** 06 29 35.0 -0.4
comp=Z,2.5nm,0.6s
VISS Visnje 151.96 345 *i* PKPbc **PKPbc** 06 29 35.4 -0.6
BOJS Bojanci 152.13 344 *i* PKPbc **PKPbc** 06 29 36.0 -0.3

SNET **28** *06:15:38.3±5.7, 14.48N×89.51W, h25km±23km, ML4.1*
IDC **28** *06:15:39.7±1.8, 14.86N×89.15W, h0km, mb3.3/1, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=68.7km s-min=21.8km az=28.0*
CATAC **28** *06:15:39.6±0.2, 14.54N×89.14W, h1km±1km, ML4.0*
GCG **28** *06:15:39.8±1.1, 14.73N×89.16W, h1km±999km, MD3.7*
ISC 28 06:15:38.9±0.9, 14.56N±0.02×89.13W±0.02, h10km±7km, n80, s077/101, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ESQI	**Esquipulas**	**0.20**	**270**	*i* P	**Pg**	**06 15 42.8**	**-0.4**
ESQI				*i* S	**Sg**	**06 15 46.2**	**0.0**
ESQI				IAML		06 15 46.9	
comp=Z,22μm,1.0s							
MTO3	**Montecristo**	**0.27**	**234**	*e*P	**Pg**	**06 15 44.2**	**-0.3**
MTO3	**Montecristo**	**0.27**	**234**	*i* P	**Pg**	**06 15 44.3**	**-0.3**
MTO3				*i* S	**Sg**	**06 15 48.3**	**-0.1**
MTO3				IAML		06 15 48.7	
comp=Z,12μm,1.0s							
LLGN	**La Laguna**	**0.44**	**155**	⇑*e*P	**Pg**	**06 15 47.6**	**+0.1**
LLGN	**La Laguna**	**0.44**	**155**	*i* P	**Pg**	**06 15 47.8**	**+0.3**
LLGN				*i* S	**Sg**	**06 15 54.2**	**+0.9**
LLGN				IAML		06 15 54.3	
comp=Z,13μm,1.0s							
UNIC	**Universidad Ca**	**0.70**	**215**	*i* P	**Pg**	**06 15 52.1**	**-0.5**
UNIC				*i* S	**Sg**	**06 16 02.0**	**+0.2**
UNIC				IAML		06 16 03.4	
comp=Z,1μm,1.0s							
JAMO	**Monjas**	**0.72**	**265**	*i* P	**Pg**	**06 15 52.6**	**-0.4**
JAMO				*i* S	**Sg**	**06 16 02.9**	**+0.4**
JAMO				IAML		06 16 17.9	
comp=Z,7μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.73**	**191**	*i* P	**Pg**	**06 15 52.8**	**-0.3**
QUEZ				*i* S	**Sb**	**06 16 03.5**	**-0.4**
QUEZ				IAML		06 16 08.6	
comp=Z,12μm,1.0s							
MRL	**Marmol**	**0.74**	**314**	*i* P	**Pg**	**06 15 53.4**	**+0.1**
MRL				*i* S	**Sg**	**06 16 03.6**	**+0.5**
CEDA	**San Andres**	**0.80**	**199**	*i* P	**Pg**	**06 15 54.1**	**-0.2**
CEDA				IAML		06 16 13.8	
comp=Z,7μm,1.0s							
LOAL	**Lomas de Alarc**	**0.84**	**228**	*i* P	**Pg**	**06 15 54.9**	**-0.3**
LOAL				IAML		06 16 12.1	
comp=Z,5μm,1.0s							
IGN	**Direccin Gen**	**0.84**	**182**	*i* P	**Pg**	**06 15 55.3**	**+0.1**
IGN				IAML		06 16 15.4	
comp=Z,9μm,1.0s							
UEES	**Universidad Ev**	**0.85**	**187**	*i* P	**Pg**	**06 15 55.3**	**0.0**
UEES				IAML		06 16 16.6	
comp=Z,3μm,1.0s							
SEMO	**Seminario San**	**0.86**	**186**	*i* P	**Pg**	**06 15 55.6**	**+0.1**
SEMO				IAML		06 16 13.9	
comp=Z,9μm,1.0s							
UTEC	**Universidad Te**	**0.86**	**184**	*i* P	**Pg**	**06 15 54.8**	**-0.7**
UTEC				IAML		06 16 12.8	
comp=Z,2μm,1.0s							
PMON	**Piamonte**	**0.86**	**192**	*i* P	**Pb**	**06 15 55.8**	**-0.2**
PMON				IAML		06 16 14.2	
comp=Z,5μm,1.0s							
PAVA	**Las Pavas**	**0.86**	**167**	*e*P	**Pg**	**06 15 55.5**	**-0.1**
PAVA				*e*S	**Sb**	**06 16 08.0**	**+0.2**
PAVA	**Las Pavas**	**0.86**	**167**	*i* P	**Pg**	**06 15 55.6**	**-0.1**
PAVA				*i* S	**Sb**	**06 16 07.9**	**+0.2**
PAVA				IAML		06 16 08.8	
comp=Z,11μm,1.0s							
CEVE	**Cerro Verde**	**0.87**	**213**	*e*P	**Pg**	**06 15 55.7**	**-0.1**
CEVE	**Cerro Verde**	**0.87**	**213**	*i* P	**Pg**	**06 15 55.7**	**-0.1**
CEVE				IAML		06 16 14.7	
comp=Z,2μm,1.0s							
SNET	**Serv Nac Est T**	**0.87**	**186**	*i* P	**Pg**	**06 15 55.5**	**-0.3**
SNET				IAML		06 16 13.2	
comp=Z,7μm,1.0s							
NUBE	**Las Nubes**	**0.91**	**224**	*i* P	**Pg**	**06 15 56.3**	**-0.1**
NUBE				IAML		06 16 12.6	
comp=Z,2μm,1.0s							
LOMA	**Loma Larga**	**0.91**	**182**	*e*P	**Pg**	**06 15 56.6**	**+0.1**
LOMA	**Loma Larga**	**0.91**	**182**	*i* P	**Pb**	**06 15 56.9**	**0.0**
LOMA				IAML		06 16 19.4	
comp=Z,2μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.94**	**155**	*e*P	**Pg**	**06 15 57.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.94**	**155**	*i* P	**Pg**	**06 15 57.0**	**-0.1**
SCLA				IAML		06 16 19.4	
comp=Z,3μm,1.0s							
PANCS	**Alcalda de**	**0.94**	**183**	*i* P	**Pg**	**06 15 56.8**	**-0.4**
PANCS				IAML		06 16 16.3	
comp=Z,4μm,1.0s							
SJTE	**Alcalda de S**	**0.95**	**173**	*e*S	**Sb**	**06 16 10.2**	**0.0**
SJTE	**Alcalda de S**	**0.95**	**173**	*i* P	**Pg**	**06 15 57.1**	**-0.1**
SJTE				*i* S	**Sb**	**06 16 10.5**	**+0.3**
SJTE				IAML		06 16 10.9	
comp=Z,3μm,1.0s							
JAYA	**Jayaque - finc**	**0.95**	**199**	*e*P	**Pg**	**06 15 57.2**	**-0.1**
JAYA	**Jayaque - finc**	**0.95**	**199**	*i* P	**Pg**	**06 15 57.0**	**-0.3**
JAYA				IAML		06 16 15.2	
comp=Z,6μm,1.0s							
COEG	**Centro de Oper**	**0.97**	**165**	*e*P	**Pg**	**06 15 57.3**	**-0.3**
COEG	**Centro de Oper**	**0.97**	**165**	*i* P	**Pg**	**06 15 57.3**	**-0.3**
COEG				*i* S	**Sb**	**06 16 10.6**	**-0.1**
COEG				IAML		06 16 13.8	
comp=Z,3μm,1.0s							
UESV	**Universidad de**	**0.98**	**160**	*i* P	**Pg**	**06 15 57.3**	**-0.5**
UESV				IAML		06 16 15.6	
comp=Z,4μm,1.0s							
TECO	**Alcaldia de Te**	**1.07**	**161**	*i* P	**Pg**	**06 15 59.0**	**-0.6**
TECO				*i* S	**Sb**	**06 16 13.9**	**+0.2**
TECO				IAML		06 16 17.3	
comp=Z,2μm,1.0s							
LALI	**Alcalda de L**	**1.08**	**190**	*e*P	**Pb**	**06 15 59.7**	**0.0**
LALI	**Alcalda de L**	**1.08**	**190**	*i* P	**Pb**	**06 15 59.4**	**-0.3**
LALI				IAML		06 16 19.3	
comp=Z,840nm,1.0s							
PQSS	**Presa 15 de Se**	**1.08**	**149**	*e*P	**Pb**	**06 15 59.2**	**-0.6**
PQSS	**Presa 15 de Se**	**1.08**	**149**	*i* P	**Pb**	**06 15 59.2**	**-0.6**
PQSS				*i* S	**Sn**	**06 16 14.6**	**-0.6**
PQSS				IAML		06 16 19.6	
comp=Z,4μm,1.0s							
GUNB	**GUNB**	**1.17**	**272**	*i* P	**Pb**	**06 16 00.4**	**-1.1**
GUNB				IAML		06 16 21.6	
comp=Z,6μm,1.0s							
NBG	**Las Nubes**	**1.18**	**271**	*i* P	**Pn**	**06 16 01.9**	**+0.2**
NBG				*i* S	**Sb**	**06 16 16.9**	**+0.1**
CAHU	**Cacacuatique**	**1.19**	**131**	*e*P	**Pb**	**06 16 01.5**	**-0.2**
TECA	**Tecapa**	**1.22**	**150**	*e*P	**Pb**	**06 16 01.9**	**-0.4**
IZABA	**Izabal, Puerto**	**1.28**	**24**	*i* P	**Pb**	**06 16 03.1**	**0.0**
IZABA				*i* S	**Sg**	**06 16 21.1**	**+1.0**
IZABA				IAML		06 16 28.6	
comp=Z,27nm,1.0s							
PACA	**Pacayal**	**1.34**	**144**	*e*P	**Pn**	**06 16 03.8**	**0.0**
PACA	**Pacayal**	**1.34**	**144**	*i* P	**Pn**	**06 16 03.9**	**+0.1**
PACA				IAML		06 16 25.3	
comp=Z,20μm,1.0s							
GCG4	**OSOP**	**1.35**	**271**	*i* P	**Pn**	**06 16 04.4**	**+0.4**
GCG4				*i* S	**Sn**	**06 16 22.5**	**+0.3**
GCG4				IAML		06 16 26.6	
comp=Z,6μm,1.0s							
CNRM	**Centro Naciona**	**1.43**	**139**	*i* P	**Pn**	**06 16 05.2**	**+0.3**
CNRM				IAML		06 16 30.5	
comp=Z,12μm,1.0s							
GUMI	**Mixco**	**1.43**	**273**	*i* P	**Pb**	**06 16 06.0**	**+0.1**
GUMI				IAML		06 16 29.5	
comp=Z,8μm,1.0s							
PCG	**Pacaya**	**1.44**	**263**	*i* P	**Pg**	**06 16 06.9**	**+0.3**
PCG				*i* S	**Sg**	**06 16 26.9**	**+1.6**
ESSG	**Sabana Grande**	**1.65**	**264**	*i* P	**Pn**	**06 16 08.6**	**+0.5**
ESSG				IAML		06 16 14.1	
comp=Z,1μm,1.0s							
FUG	**Fuego 3**	**1.66**	**266**	*i* P	**Pb**	**06 16 10.3**	**+0.7**
FUG				*i* S	**Sg**	**06 16 34.3**	**+1.9**
LCND	**La Caada**	**1.73**	**136**	*e*P	**Pb**	**06 16 10.2**	**-0.7**
CNCH	**Conchagua**	**1.80**	**135**	*e*P	**Pb**	**06 16 11.4**	**-0.6**
CNCH	**Conchagua**	**1.80**	**135**	*i* P	**Pb**	**06 16 11.4**	**-0.6**
CNCH				IAML		06 16 46.6	
comp=Z,3μm,1.0s							
CHTG	**Tecpan**	**1.80**	**277**	*i* P	**Pb**	**06 16 12.0**	**-0.2**
CHTG				IAML		06 16 45.4	
comp=Z,3μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.87**	**105**	*i* P	**Pn**	**06 16 11.6**	**+0.5**
TGUH				IAML		06 16 42.6	
comp=Z,6μm,1.0s							
AMPH	**Amapala**	**1.91**	**131**	*e*P	**Pb**	**06 16 13.1**	**-0.8**
AMPH				*e*S	**Sg**	**06 16 39.8**	**-0.7**
QUIS	**Sacapulas**	**2.03**	**291**	*i* P	**Pb**	**06 16 15.2**	**-0.8**
QUIS				IAML		06 16 15.8	
comp=Z,3μm,1.0s							
QUIS				*i* S	**Sg**	**06 16 43.3**	**-0.9**
STG3	**Santiaguito 3,**	**2.36**	**274**	*i* P	**Pb**	**06 16 22.6**	**+0.9**
HUEH	**Huehuetenango**	**2.41**	**288**	*i* P	**Pb**	**06 16 21.4**	**-1.1**
HUEH				IAML		06 16 58.2	
comp=Z,3μm,1.0s							
PETF	**Flores**	**2.45**	**343**	*i* P	**Pn**	**06 16 19.5**	**+0.6**
PETF				IAML		06 17 04.1	
comp=Z,630nm,1.0s							
RTAL	**Retalhuleu**	**2.48**	**269**	*i* P	**Pb**	**06 16 22.0**	**-1.6**
RTAL				IAML		06 16 59.3	
comp=Z,540nm,1.0s							
SMSP	**San Marcos**	**2.59**	**279**	*i* P	**Pg**	**06 16 27.5**	**-1.2**
CRIN	**San Cristobal**	**2.74**	**132**	*i* P	**Pb**	**06 16 28.5**	**+0.4**
CRIN				IAML		06 17 36.0	
comp=Z,710nm,1.0s							
SMCA	**Catarina**	**2.86**	**276**	*i* P	**Pb**	**06 16 29.1**	**-1.0**
SMCA				IAML		06 17 10.4	
comp=Z,340nm,1.0s							
PACN	**Al O del Volca**	**3.06**	**132**	*i* P	**Pn**	**06 16 28.9**	**+1.5**
PACN				IAML		06 16 44.3	
comp=Z,150nm,1.0s							

LIMN	**Finca el Limon**	**3.07**	**119**	*i* P	**Pn**	**06 16 28.4**	**+0.8**
LIMN				IAML		06 17 22.7	
	comp=Z,370nm,1.0s						
ROCN	**Rota Cerro Neg**	**3.08**	**131**	*i* P	**Pn**	**06 16 30.5**	**+2.8**
ROCN				IAML		06 17 27.2	
	comp=Z,82nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.12**	**109**	*i* P	**Pn**	**06 16 27.6**	**-0.8**
RCPN				IAML		06 17 20.9	
	comp=Z,3.1nm,1.0s						
CNGA	**Al SSO del Vol**	**3.13**	**131**	*i* P	**Pb**	**06 16 33.3**	**-1.5**
CNGA				IAML		06 17 32.2	
	comp=Z,120nm,1.0s						
MACN	**El Madrono**	**3.17**	**131**	*i* P	**Pb**	**06 16 32.6**	**-2.8**
MACN				IAML		06 16 58.8	
	comp=Z,56nm,1.0s						
COPN	**Copaltepe**	**3.42**	**133**	*i* P	**Pn**	**06 16 33.2**	**+0.8**
COPN				IAML		06 17 00.0	
	comp=Z,220nm,1.0s						
MATN	**Matagalpa**	**3.51**	**117**	*i* P	**Pn**	**06 16 34.2**	**+0.5**
MATN				IAML		06 17 31.0	
	comp=Z,130nm,1.0s						
JTS	**Las Juntas de**	**5.89**	**136**	Pn	Pn	06 17 11.9	+5.6
	comp=Z,0.6nm,0.3s,baz=350,slow=12,SNR=1.7						
	comp=Z,1.5nm,0.3s						
CMIG	**Matias Romero**	**6.08**	**295**	Pn	**Pn**	**06 17 09.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=114,slow=10.0,SNR=1.6						
CMIG				Pg	**Pb**	**06 17 26.4**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=90,slow=5.0,SNR=6.5						
CMIG				Sn	**Sn**	**06 18 16.2**	**-2.4**
	comp=Z,1.6nm,0.3s,baz=271,slow=22,SNR=8.6						
CMIG				Lg	Lg	06 18 50.5	
	comp=Z,1.7nm,0.3s,baz=11,slow=18,SNR=2.7						
	comp=Z,1.3nm,0.4s						
TXAR	**Lajitas Array**	**19.91**	**320**	P	**Pn**	**06 20 12.6**	**0.0**
	baz=157,slow=12,SNR=4.2						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**51.16**	**345**	PcP	**PcP**	**06 25 58.2**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=150,slow=4.3,SNR=5.7						
ILAR	**Eielson Array**	**63.44**	**336**	P	**P**	**06 26 08.4**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=113,slow=6.3,SNR=2.2						
	comp=Z,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**146.24**	**346**	PKPbc	**PKPab**	**06 35 21.3**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=350,slow=4.8,SNR=6.0						

WEL 28 06:16:54.1±0.4, 41°S±5°×17°4E±°, *h*14km±4km, M3.2/17, ML3.5/17, MLv3.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=156.4, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WEL	**Wellington**	**0.29**	**46**	P	Pb	06 17 01.5	+0.4
WEL				S	Sb	06 17 06.7	+1.0
BHW	**Baring Head**	**0.29**	**75**	P	Pb	06 17 01.4	+0.3
BHW				S	Sb	06 17 06.2	+0.4
TCW	**Tory Channel**	**0.32**	**329**	P	Pb	06 17 01.9	+0.4
TCW				S	Sb	06 17 06.9	+0.4
CMWZ	**Cape Campbell**	**0.34**	**218**	P	Pb	06 17 02.5	+0.7
CMWZ				S	Sb	06 17 08.0	+1.9
TUWZ	**Tuamarina**	**0.42**	**277**	P	Pb	06 17 03.0	-0.2
TUWZ				S	Sb	06 17 08.9	-0.5
BSWZ	**Blackbirch Sta**	**0.52**	**243**	P	Pb	06 17 05.2	+0.2
BSWZ	**Blackbirch Sta**	**0.52**	**243**	P	Pb	06 17 05.2	+0.3
BSWZ				S	Sb	06 17 12.9	+0.6
MSWZ	**Moikau Station**	**0.57**	**83**	P	Pb	06 17 06.5	+0.6
CAW	**Cannon Point**	**0.57**	**49**	P	Pb	06 17 06.0	+0.1
CAW				S	Sb	06 17 14.0	+0.1
KIW	**Kapiti Island**	**0.70**	**27**	P	Pb	06 17 08.1	0.0
KIW				S	Sb	06 17 17.8	+0.3
PAWZ	**Paruwai Farm**	**0.71**	**82**	P	Pb	06 17 08.7	+0.4
DUWZ	**D'Urville Isla**	**0.81**	**328**	P	Pb	06 17 10.3	+0.4
MTW	**Mount Morrison**	**0.83**	**67**	P	Pb	06 17 10.5	+0.3
MTW				S	Sn	06 17 23.1	-0.3
OGWZ	**Otaki Gorge**	**0.84**	**38**	P	Pb	06 17 10.4	0.0
NNZ	**Nelson**	**0.88**	**287**	P	Pg	06 17 11.2	+0.1
NNZ	**Nelson**	**0.88**	**287**	P	Pg	06 17 11.3	+0.2
TRWZ	**Traveller**	**0.90**	**85**	P	Pb	06 17 11.2	-0.3
HOWZ	**Holdsworth Sta**	**0.97**	**53**	P	Pb	06 17 12.6	0.0
TMWZ	**Te Maipa**	**1.12**	**71**	P	Pb	06 17 14.2	-1.1
MRZ	**Mangatainoka R**	**1.16**	**45**	P	Pn	06 17 15.6	-0.3
KHZ	**Kahutara**	**1.17**	**217**	P	Pn	06 17 15.2	-0.8
THZ	**Tophouse**	**1.22**	**256**	P	Pn	06 17 16.5	-0.3
TKNZ	**Takaka Hill**	**1.24**	**291**	P	Pn	06 17 16.8	-0.2
TKNZ	**Takaka Hill**	**1.24**	**291**	P	Pn	06 17 17.0	0.0
TIWZ	**Tintock**	**1.27**	**57**	P	Pn	06 17 16.6	-0.8
MRNZ	**Matariki Terra**	**1.31**	**273**	P	Pn	06 17 17.8	-0.1
CPWZ	**Castlepoint**	**1.41**	**67**	P	Pn	06 17 18.4	-0.9
OHWZ	**Ohakea**	**1.42**	**26**	P	Pb	06 17 20.9	+0.5
PRWZ	**Pori Road**	**1.45**	**51**	P	Pn	06 17 19.2	-0.8
POWZ	**Post Office Ro**	**1.46**	**42**	P	Pn	06 17 19.7	-0.3
BFZ	**Birch Farm**	**1.55**	**59**	P	Pn	06 17 19.7	-1.6
QRZ	**Quartz Range**	**1.62**	**293**	P	Pb	06 17 23.0	-0.8
DVHZ	**Dannevirke**	**1.74**	**49**	P	Pn	06 17 22.2	-1.3
WAZ	**Wanganui**	**1.77**	**12**	P	Pb	06 17 26.4	+0.1
TSZ	**Takapari Road**	**1.81**	**39**	P	Pn	06 17 24.8	-0.1
ANWZ	**Angora Road**	**1.82**	**56**	P	Pn	06 17 23.2	-1.7
GVZ	**Greta Valley S**	**1.83**	**216**	P	Pn	06 17 23.9	-1.3
LREZ	**Lake Rotokare**	**2.02**	**358**	P	Pg	06 17 32.0	-0.9
PRHZ	**Porangahau**	**2.03**	**54**	P	Pn	06 17 26.3	-1.5
DSZ	**Denniston Nort**	**2.03**	**262**	P	Pn	06 17 28.2	+0.2
PNHZ	**Pukenui**	**2.04**	**40**	P	Pn	06 17 27.2	-0.8
WPHZ	**Waipukurau**	**2.05**	**47**	P	Pn	06 17 28.1	0.0
LTZ	**Lake Taylor**	**2.10**	**231**	P	Pn	06 17 27.9	-1.0
NMEZ	**Namu Road**	**2.12**	**347**	P	Pg	06 17 35.5	+0.7
PREZ	**Palmer Road**	**2.15**	**353**	P	Pg	06 17 34.7	-0.8
AMCZ	**Amberley**	**2.17**	**218**	P	Pn	06 17 28.2	-1.6
KHEZ	**Kahui Hut**	**2.22**	**350**	P	Pb	06 17 35.1	+1.1
MTVZ	**Mangateitei**	**2.23**	**20**	P	Pn	06 17 32.2	+1.6
NEZ	**North Egmont**	**2.23**	**352**	P	Pb	06 17 35.1	+0.9
NBEZ	**Newall Road No**	**2.27**	**348**	P	Pg	06 17 38.6	+1.0
MOVZ	**Moawhango**	**2.29**	**25**	P	Pn	06 17 32.2	+0.7
WNVZ	**Wahianoa**	**2.31**	**22**	P	Pn	06 17 32.8	+0.9
PKE	**Pukeiti**	**2.32**	**350**	P	Pb	06 17 35.3	-0.4
BHHZ	**Black Hill Sta**	**2.33**	**32**	P	Pn	06 17 32.0	+0.1
TRVZ	**Turoa**	**2.33**	**21**	P	Pb	06 17 36.1	+0.1
KRHZ	**Kereru**	**2.33**	**38**	P	Pn	06 17 30.8	-1.2
WHVZ	**Whangaehu Hut**	**2.35**	**21**	P	Pb	06 17 36.8	+0.4
MAVZ	**Matarangi**	**2.36**	**21**	P	Pb	06 17 37.3	+0.8
VRZ	**Vera Road**	**2.37**	**5**	P	Pb	06 17 36.8	+0.3
FWVZ	**Far West T-bar**	**2.37**	**20**	P	Pb	06 17 36.8	+0.1
TUVZ	**Tukino**	**2.38**	**22**	P	Pn	06 17 33.8	+0.9
COVZ	**Chateau Observ**	**2.42**	**20**	P	Pb	06 17 37.3	-0.1
NGZ	**Ngauruhoe**	**2.46**	**21**	P	Pb	06 17 38.3	+0.2
SNVZ	**South Ngauruho**	**2.46**	**21**	P	Pn	06 17 35.9	+2.0
OKCZ	**Okains Bay**	**2.48**	**205**	P	Pn	06 17 31.7	-2.3
KAHZ	**Kahuranaki**	**2.48**	**48**	P	Pn	06 17 32.2	-1.9
OTVZ	**Oturere**	**2.49**	**22**	P	Pn	06 17 35.3	+1.0
NNVZ	**North Ngauruho**	**2.50**	**20**	P	Pn	06 17 36.9	+1.4
WTVZ	**West Tongariro**	**2.51**	**20**	P	Pb	06 17 36.9	+0.8
TWVZ	**Taurewa**	**2.52**	**17**	P	Pb	06 17 39.5	+0.3
ETVZ	**East Tongariro**	**2.52**	**22**	P	Pn	06 17 35.6	+0.8
KWHZ	**Kaweka Forest**	**2.53**	**36**	P	Pn	06 17 35.2	+0.4
TMVZ	**Te Maari**	**2.54**	**22**	P	Pn	06 17 35.7	+0.7
KRVZ	**Karewarewa**	**2.54**	**21**	P	Pb	06 17 38.4	-1.2
NTVZ	**North Tongarir**	**2.55**	**21**	P	Pn	06 17 35.9	+0.8
INZ	**Inchbonnie**	**2.58**	**240**	P	Pn	06 17 34.9	-0.6
MQZ	**McQueen's Vall**	**2.60**	**211**	P	Pn	06 17 32.8	-2.9
AKCZ	**Akaroa Harbour**	**2.66**	**206**	P	Pn	06 17 33.9	-2.6
KATZ	**Kakaramea**	**2.67**	**21**	P	Pb	06 17 42.3	+0.6
RITZ	**Rihia Road**	**2.71**	**23**	P	Pb	06 17 42.6	+0.2
BKZ	**Black Stump Fm**	**2.77**	**34**	P	Pb	06 17 44.7	+1.2
RATZ	**Rangitukua**	**2.79**	**21**	P	Pb	06 17 45.1	+1.3
WATZ	**Wairara**	**2.93**	**19**	P	Pb	06 17 47.4	+1.3
HIZ	**Hauiti**	**2.98**	**5**	P	Pb	06 17 45.0	-2.0
WACZ	**Wakanui South**	**3.14**	**218**	P	Pn	06 17 40.7	-2.4
WVZ	**Waitaha Valley**	**3.21**	**229**	P	Pn	06 17 43.4	-0.7
RPZ	**Rata Peaks**	**3.38**	**228**	P	Pn	06 17 45.3	-1.1
ARCZ	**Arundel**	**3.47**	**224**	P	Pn	06 17 45.7	-1.9
TMZ	**Timaru**	**3.87**	**220**	P	Pn	06 17 51.1	-2.1
ODZ	**Otahua Downs**	**4.53**	**217**	P	Pn	06 17 59.8	-2.5
JCZ	**Jackson Bay**	**4.93**	**236**	P	Pn	06 18 07.0	-0.9
CTZ	**Chatham Island**	**6.93**	**112**	P	Pn	06 18 33.2	-2.0

*IDC **28** 06:22:04.6±4.7,5.°92S×148.°63E, h58km±40km, mb3.6/7, mbtmp4.0/10, ML4.2/2, MS3.0/2, Error ellipse: s-maj=43.7km s-min=24.1km az=90.0*
*NEIC **28** 06:22:07.1±1.2,6.°1S±0.°1×148.°6E±0.°1, h64km±7km, mb4.0/15, Error ellipse: s-maj=24.6km s-min=9.6km az=131.0*
ISC 28 06:22:06.4±0.6, 6.°03S±0.°08×148.°6E±0.°1, *h*65km, n36, σ1§17/35, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.63**	**202**	Pn	**Pn**	**06 23 00.5**	**+0.2**
PMG	**Port Moresby**	**3.63**	**202**	P	**Pn**	**06 23 00.2**	**-0.1**
	160nm,0.4s,baz=16,slow=5.4,SNR=80						
PMG				S	**Sn**	**06 23 43.3**	**+1.4**
	434nm,0.7s,baz=27,slow=18,SNR=12						
RABL	**Rabaul**	**4.03**	**63**		**Pn**	**06 23 05.4**	**-0.3**
COEN	**Coen**	**9.49**	**213**	Pn	**Pn**	**06 24 19.3**	**-1.2**
CTA	**Charters Tower**	**14.16**	**189**	P	**Pn**	**06 25 23.5**	**-0.3**
	0.2nm,0.3s,baz=354,slow=12,SNR=2.0						
	2.8nm,0.6s						
CTAO	**Charters Tower**	**14.16**	**189**	Pn	**Pn**	**06 25 23.9**	**+0.1**
EIDS	**Eidsvold**	**19.39**	**173**	P	**P**	**06 26 26.7**	**-0.5**
EIDS				IAmb	IAmb	06 26 43.5	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**19.39**	**224**	P	**P**	**06 26 27.6**	**+0.3**
WB0				IAmb	IAmb	06 26 45.3	
	comp=Z,7.2nm,1.0s						
WR0	**Warramunga Arr**	**19.42**	**223**	P	**P**	**06 26 28.1**	**+0.4**
WR0				IAmb	IAmb	06 26 50.8	
	comp=Z,9.0nm,1.1s						
WB2	**Warramunga Arr**	**19.54**	**224**	P	**P**	**06 26 29.4**	**+0.4**
WB2				IAmb	IAmb	06 26 47.0	
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**19.55**	**224**	P	**P**	**06 26 28.2**	**-0.9**
WRA	**Warramunga Arr**	**19.55**	**224**	P	**P**	**06 26 29.5**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=52,slow=11,SNR=54						
	comp=Z,5.1nm,0.5s						
ASAR	**Alice Springs**	**22.50**	**217**	P	**P**	**06 27 01.0**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=50,slow=9.3,SNR=18						
	comp=Z,2.2nm,0.5s						
DZM	**Mont Dzumac**	**23.53**	**134**	LR	LR	06 35 15.7	
	comp=Z,77nm,19.2s,baz=174,slow=34						
FITZ	**Fitzroy Crossi**	**25.38**	**240**	P	**P**	**06 27 27.9**	**+0.1**
FITZ				IAmb	IAmb	06 27 42.1	
	comp=Z,4.3nm,0.8s						
STKA	**Stephens Creek**	**26.53**	**193**	P	**P**	**06 27 39.7**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=358,slow=13,SNR=1.7						
	comp=Z,1.0nm,0.4s						
KAPI	**Kappang**	**28.68**	**271**	LR	LR	06 40 46.1	
	comp=Z,18nm,21.5s,baz=4.0,slow=39						
FORT	**Forrest**	**31.25**	**216**	P	**P**	**06 28 19.8**	**-0.3**
PETK	**Petropavlovsk-**	**59.42**	**6**	P	**P**	**06 32 03.7**	**+1.5**
PETK	**Petropavlovsk-**	**59.42**	**6**	P	**P**	**06 32 03.0**	**+0.9**
	comp=Z,4.1nm,1.0s,baz=167,slow=4.7,SNR=4.8						
SONM	**Songino Array**	**65.19**	**330**	P	**P**	**06 32 40.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=122,slow=5.2,SNR=2.9						
	comp=Z,0.3nm,0.5s						
J14K	**Nanvaranak Lak**	**77.62**	**20**	P	**P**	**06 33 56.4**	**+1.0**
K15K	**Wolf Creek Mou**	**78.05**	**21**	P	**P**	**06 33 58.6**	**+0.8**
K15K				IAmb	IAmb	06 33 59.9	
	comp=Z,2.5nm,0.9s						
MK31	**Makanchi Array**	**78.50**	**320**	P	**P**	**06 34 03.3**	**+2.6**
MKAR	**Makanchi Array**	**78.50**	**320**	P	**P**	**06 33 59.0**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=92,slow=9.0,SNR=5.0						
	comp=Z,0.3nm,0.6s						
MAKZ	**Makanchi**	**78.71**	**320**	P	**P**	**06 34 01.4**	**-0.5**
J16K	**Anvik River**	**79.00**	**21**	P	**P**	**06 34 04.2**	**+1.2**
ZALV	**Zalesovo Beam**	**79.86**	**327**	P	**P**	**06 34 04.7**	**-3.2**
	comp=Z,0.4nm,0.4s,baz=106,slow=5.2,SNR=2.5						
	comp=Z,0.4nm,0.4s						
G18K	**Tagagawik**	**81.26**	**19**	P	**P**	**06 34 16.4**	**+1.3**
CAST	**Castle Rocks**	**82.25**	**23**	P	**P**	**06 34 21.4**	**+0.9**
CAST				IAmb	IAmb	06 34 25.7	
	comp=Z,1.8nm,1.0s						
KTH	**Kantishna Hill**	**82.77**	**23**	P	**P**	**06 34 22.9**	**-0.4**
KTH				IAmb	IAmb	06 34 46.2	
	comp=Z,2.0nm,1.1s						
QSPA	**South Pole Qui**	**83.94**	**180**	P	**P**	**06 34 29.4**	**+0.1**
QSPA				IAmb	IAmb	06 34 29.5	
	comp=Z,1.1nm,0.5s						
QSPA	**South Pole Qui**	**83.94**	**180**	P	**P**	**06 34 28.7**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=289,slow=2.6,SNR=5.0						
	comp=Z,1.2nm,0.5s						
ILAR	**Eielson Array**	**84.90**	**23**	P	**P**	**06 34 32.9**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=254,slow=4.9,SNR=15						
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.59**	**285**	PKPbc	**PKPdf**	**06 41 40.6**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=65,slow=3.5,SNR=8.2						
BDFB	**Brasilia**	**152.93**	**143**	PKPbc	**PKPbc**	**06 41 55.2**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=63,slow=2.3,SNR=4.6						

*SJA **28** 06:37:25.6±0.7, 31.°02S×71.°55W, h53km±6km, ML3.4, MW3.5*
*GUC **28** 06:37:27.3±0.5, 30.°98S×71.°27W, h62km±2km, ML3.4*
ISC 28 06:37:26.4±1.3, 31.°10S±0.°03×71.°52W±0.°05, *h*64km±9km, n34, σ2§34/52, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.43**	**347**	*i* P	**Pn**	**06 37 39.4**	**+1.4**
CO06				IAML		06 37 49.1	
	comp=N,4μm,0.2s						
CO06				⇓*e*S	**Sn**	**06 37 49.3**	**+2.7**
CO02	**Combarbal**	**0.46**	**104**	*e*P	**Pn**	**06 37 38.4**	**0.0**
CO02				*e*S	**Sn**	**06 37 47.1**	**0.0**
CO02				IAML		06 37 47.5	
	comp=Z,6μm,0.1s						
CO02	**Combarbal**	**0.46**	**104**	⇑*i*P	**Pn**	**06 37 38.6**	**+0.2**
CO02				*e*S	**Sn**	**06 37 47.5**	**+0.3**
CO03	**El Pedregal**	**0.76**	**70**	*e*P	**Pn**	**06 37 40.7**	**-1.0**
CO03				*e*S	**Sn**	**06 37 51.1**	**-1.8**
CO03				IAML		06 37 52.0	
	comp=Z,2μm,0.3s						
CO03	**El Pedregal**	**0.76**	**70**	⇑*i*P	**Pn**	**06 37 40.7**	**-1.0**
CO03				*e*S	**Sn**	**06 37 51.0**	**-1.8**
CO03				IAML		06 37 51.5	
	comp=E,4μm,0.3s						
GO04	**Tololo Observa**	**1.11**	**34**	*e*P	**Pn**	**06 37 45.6**	**-0.7**
GO04				*e*S	**Sn**	**06 37 59.0**	**-2.0**
GO04	**Tololo Observa**	**1.11**	**34**	*i* P	**Pn**	**06 37 45.8**	**-0.5**
GO04				*e*S	**Sn**	**06 37 59.8**	**-1.3**
CO05	**La Serena**	**1.20**	**12**	⇓*i*P	**Pn**	**06 37 47.1**	**-0.1**
CO05				*e*S	**Sn**	**06 38 02.3**	**-0.5**
CO05				IAML		06 38 04.1	
	comp=E,1μm,0.3s						
CO01	**Juntas del Tor**	**1.66**	**48**	*e*P	**Pn**	**06 37 53.5**	**-0.1**
CO01				IAML		06 38 16.2	
	comp=Z,191nm,0.2s						
CO01	**Juntas del Tor**	**1.66**	**48**	*i* P	**Pn**	**06 37 53.1**	**-0.5**
CO01				*e*S	**Sn**	**06 38 12.8**	**-1.3**
CO01				IAML		06 38 13.9	
	comp=N,1μm,0.2s						
VA03	**San Esteban**	**1.85**	**154**	*e*P	**Pn**	**06 37 58.1**	**+2.0**
VA03				*e*S	**Sn**	**06 38 14.2**	**-4.4**
VA03				IAML		06 38 32.0	
	comp=Z,209nm,0.4s						
ROC1	**El Roble**	**1.92**	**167**	*e*P	**Pn**	**06 37 59.2**	**+2.0**
ROC1				*e*S	**Sn**	**06 38 15.9**	**-4.5**
RTLS	**Leoncito**	**2.02**	**111**	*e*P	**Pn**	**06 38 00.5**	**+2.0**
RTLS				*e*S	**Sn**	**06 38 26.2**	**+3.2**
RTLS				IAML		06 38 27.7	
	comp=Z,653nm,0.3s						
DOCA	**Reserva Natura**	**2.10**	**87**	*e*P	**Pn**	**06 38 00.6**	**+1.0**
DOCA				*e*S	**Sn**	**06 38 27.2**	**+2.4**
PEL	**Peldehue**	**2.16**	**161**	*e*P	**Pn**	**06 38 02.5**	**+2.4**
PEL				*e*S	**Sn**	**06 38 20.9**	**-5.1**
MT02	**Curacav**	**2.18**	**172**	*e*P	**Pn**	**06 38 02.1**	**+1.7**
MT02				*e*S	Sn	06 38 21.1	-5.3
MT02				IAML		06 38 51.5	
	comp=Z,99nm,0.5s						
LCO	**Las Campanas**	**2.20**	**19**	*e*P	**Pn**	**06 38 00.9**	**0.0**
LCO				*e*S	**Sn**	**06 38 27.2**	**+0.1**
LCO				IAML		06 38 28.2	
	comp=Z,673nm,0.9s						
LCO	**Las Campanas**	**2.20**	**19**	*e*P	**Pn**	**06 38 01.1**	**+0.2**
LCO				*e*S	**Sn**	**06 38 27.1**	**-0.1**
MT05	**Renca**	**2.38**	**164**	*e*P	**Pn**	**06 38 05.3**	**+2.1**
MT05				*e*S	Sn	06 38 24.4	-7.0
MT05				IAML		06 38 46.4	
	comp=Z,111nm,0.2s						
FCH	**Farellones**	**2.46**	**155**	*e*P	**Pn**	**06 38 07.7**	**+3.3**
FCH				IAML		06 38 41.6	
	comp=E,242nm,0.1s						
AC05	**El Transito**	**2.50**	**26**	*e*P	**Pn**	**06 38 05.2**	**+0.4**
AC05				*e*S	Sn	06 38 23.2	-11
AC05	**El Transito**	**2.50**	**26**	*e*P	**Pn**	**06 38 05.3**	**+0.4**
MT03	**Universidad Ad**	**2.54**	**161**	*e*P	**Pn**	**06 38 07.9**	**+2.5**
MT03				*e*S	Sn	06 38 26.7	-8.5
MT03				IAML		06 38 26.9	
	comp=Z,125nm,0.6s						
RTCV	**Cerro Valdivia**	**2.66**	**107**	*e*P	**Pn**	**06 38 09.9**	**+3.0**
RTCV				*e*S	**Sn**	**06 38 29.6**	**-8.4**
MT01	**Popeta**	**2.77**	**175**	*e*P	**Pn**	**06 38 10.3**	**+1.9**
AC04	**Llanos de Chal**	**2.91**	**8**	*e*P	**Pn**	**06 38 10.1**	**-0.3**
AC04				*e*S	Sn	06 38 33.3	-11
AC04				IAML		06 39 03.6	
	comp=Z,75nm,0.7s						
AC04	**Llanos de Chal**	**2.91**	**8**	*e*P	**Pn**	**06 38 10.1**	**-0.3**
AGUA	**GUANDACOL**	**3.07**	**59**	*e*P	**Pn**	**06 38 15.2**	**+2.5**
AGUA				*e*S	**Sn**	**06 38 52.0**	**+3.8**
AGUA				IAML		06 38 53.1	
	comp=Z,132nm,0.6s						
BO01	**Tunca**	**3.31**	**174**	*e*P	**Pn**	**06 38 17.5**	**+1.8**
GO03	**Copiap**	**3.67**	**18**	*e*P	**Pn**	**06 38 21.7**	**+1.0**
GO03	**Copiap**	**3.67**	**18**	*e*P	**Pn**	**06 38 21.3**	**+0.6**
BO02	**Sierra Bellavi**	**3.74**	**171**	*e*P	**Pn**	**06 38 23.2**	**+1.5**
BO02				*e*S	Sn	06 38 50.2	-14
BO02				IAML		06 39 13.0	
	comp=Z,45nm,0.1s						
GO05	**Huala**	**3.92**	**185**	*e*P	**Pn**	**06 38 24.6**	**+0.4**
AC01	**Pan de Azucar**	**5.00**	**10**	*e*P	**Pn**	**06 38 38.0**	**-0.9**
AC01				IAML		06 40 00.9	
	comp=Z,24nm,3.4s						

*KRSC **28** 07:00:00.8±1.9, 55.°18N×166.°57E, h34km±13km, Ml3.5*
*IDC **28** 07:00:01.5±3.1, 55.°87N×166.°10E, h0km, mb3.1/2, mbtmp3.3/3, ML3.0/1, MS2.9/1, Error ellipse: s-maj=106.5km s-min=27.0km az=153.0*
ISC 28 07:00:02.1±1.6, 55.°3N±0.°1×166.°69E±0.°09, *h*20km, n20, σ1§39/33, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.41**	**264**	*e*P	**Pb**	**07 00 10.0**	**-0.6**
BKI				*e*S	**Sb**	**07 00 15.7**	**-0.7**
TUMD	**Tumrok D**	**3.60**	**272**	*e*P	**Pn**	**07 00 56.6**	**-0.1**
TUMD				*e*S	**Sn**	**07 01 36.3**	**-2.3**
KMNR	**Kamenistaya**	**3.70**	**281**	*e*P	**Pn**	**07 00 58.5**	**+0.3**
KMNR				*e*S	**Sn**	**07 01 43.5**	**+2.3**
KPT	**Kopyto**	**3.73**	**284**	*e*P	**Pn**	**07 00 59.3**	**+0.6**
KPT				*e*S	**Sn**	**07 01 43.7**	**+1.7**
TUMR	**Tumrok**	**3.74**	**273**	*e*P	**Pn**	**07 00 59.3**	**+0.6**
TUMR				*e*S	**Sn**	**07 01 44.3**	**+2.1**
SMAR	**Somma**	**5.03**	**250**	*e*P	**Pn**	**07 01 17.5**	**+1.0**
SMAR				*e*S	**Sn**	**07 02 15.2**	**+1.1**
UGLR	**Uglovaya**	**5.04**	**249**	*e*P	**Pn**	**07 01 18.1**	**+1.5**
SHEM	**Shemya Is, Ala**	**5.05**	**117**	LR	LR	07 03 33.8	
	comp=Z,100nm,18.8s,baz=291,slow=38						
AVH	**Avacha**	**5.07**	**250**	*e*P	**Pn**	**07 01 18.5**	**+1.6**
AVH				*e*S	**Sn**	**07 02 14.4**	**-0.4**
KRX	**Arik**	**5.07**	**251**	*e*P	**Pn**	**07 01 18.2**	**+1.2**
KRX				*e*S	**Sn**	**07 02 14.6**	**-0.5**
KOK	**Koryaka**	**5.11**	**251**	*e*P	**Pn**	**07 01 18.9**	**+1.4**
KOK				*e*S	**Sn**	**07 02 17.0**	**+1.1**
DALK	**Dalny**	**5.17**	**248**	*e*P	**Pn**	**07 01 19.0**	**+0.9**
DALK				*e*S	**Sn**	**07 02 15.0**	**-2.0**
KRMR	**Karymshinskiy**	**5.59**	**248**	*e*P	**Pn**	**07 01 24.5**	**+0.5**
KRMR				*e*S	**Sn**	**07 02 28.0**	**+0.3**
PETK	**Petropavlovsk-**	**5.70**	**252**	Pn	**Pn**	**07 01 26.8**	**+1.3**
	2.0nm,0.3s,baz=71,slow=18,SNR=2.4

BRSE	**Bradley Lake S** baz=167	**3.62**	**349**	P	Pn	07 04 18.9	+0.1
BRSE	baz=167			S	**Sn**	**07 05 00.0**	**-1.4**
P23K	**Montague Islan** baz=195	**3.95**	**15**	P	Pn	07 04 23.0	-0.2
KAIM	**Kayak Island** baz=216	**4.57**	**33**	P	**Pn**	**07 04 32.4**	**+0.6**
EYAK	**Cordova Ski Ar** baz=204	**4.76**	**22**	P	Pn	07 04 34.5	+0.2
KLU	**Klutina** baz=200	**5.60**	**17**	P	**Pn**	**07 04 46.4**	**+0.4**
PINM	**Pinnacle** baz=234	**6.21**	**47**	P	**Pn**	**07 04 55.0**	**+0.6**
PNL	**Peninsula** baz=240	**6.35**	**53**	P	**Pn**	**07 04 56.4**	**+0.1**
O29M	**Mount Kennedy** baz=238	**7.03**	**50**	P	**Pn**	**07 05 06.5**	**+0.8**
P29M	**Windy Craggy** baz=245	**7.09**	**56**	P	**Pn**	**07 05 06.4**	**-0.1**
S31K	**Pelican** baz=261	**7.39**	**71**	P	Pn	07 05 08.8	-1.6

*NOU **28** 07:03:51.9, 41.91S×174.98E, h2km, MLv3.8/10, Cook Strait, New Zealand*
*WEL **28** 07:03:55.2±0.5, 42.5S±4.7×17.5E±., h23km±5km, M3.3/12, ML3.7/12, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=157.5, confirmed*
ISC 28 07:03:54.7±1.1, **41.73S**±0.03×**174.82E**±0.03, **h32**km±10km, **n109**, σ1.907/119, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHW	**Baring Head**	**0.32**	**6**	P	**Pn**	**07 04 02.7**	**-0.6**
BHW				S	**Sb**	**07 04 07.8**	**-0.2**
PLWZ	**Palliser**	**0.36**	**64**	P	**Pn**	**07 04 04.4**	**+0.6**
PLWZ				S	**Sn**	**07 04 10.9**	**+1.1**
SNZO	**South Karori**	**0.43**	**348**	P	**Pn**	**07 04 03.9**	**-0.8**
WEL	**Wellington**	**0.45**	**355**	P	**Pn**	**07 04 04.4**	**-0.5**
WEL				S	**Sn**	**07 04 10.7**	**-1.2**
MSWZ	**Moikau Station**	**0.45**	**46**	P	**Pn**	**07 04 05.6**	**+0.7**
MSWZ				S	**Sn**	**07 04 12.8**	**+0.9**
CMWZ	**Cape Campbell**	**0.46**	**267**	P	**Pn**	**07 04 05.3**	**+0.2**
CMWZ				S	**Sn**	**07 04 13.7**	**+1.6**
NEWS	**Newlands**	**0.50**	**360**	P	**Pn**	**07 04 05.2**	**-0.4**
WDFS	**Ward Fire Stat**	**0.52**	**259**	P	**Pb**	**07 04 06.3**	**+0.8**
WDFS				S	**Sn**	**07 04 15.1**	**+1.4**
SEDS	**Seddon Fire St**	**0.56**	**276**	P	**Pn**	**07 04 06.8**	**+0.3**
SEDS				S	**Sn**	**07 04 15.6**	**+0.9**
PAWZ	**Paruwai Farm**	**0.57**	**53**	P	**Pn**	**07 04 07.1**	**+0.4**
PAWZ				S	**Sn**	**07 04 16.1**	**+1.0**
CAW	**Cannon Point**	**0.65**	**16**	P	**Pn**	**07 04 07.8**	**+0.1**
CAW				S	**Sn**	**07 04 16.6**	**-0.3**
TCW	**Tory Channel**	**0.66**	**321**	P	**Pn**	**07 04 07.4**	**-0.5**
TCW				S	**Sn**	**07 04 15.9**	**-1.3**
BSWZ	**Blackbirch Sta**	**0.71**	**271**	P	**Pb**	**07 04 08.7**	**+0.1**
TUWZ	**Tuamarina**	**0.73**	**294**	P	**Pb**	**07 04 08.3**	**-0.6**
TRWZ	**Traveller**	**0.73**	**63**	P	**Pb**	**07 04 09.1**	**+0.2**
MTW	**Mount Morrison**	**0.77**	**42**	P	**Pn**	**07 04 09.6**	**+0.3**
KIW	**Kapiti Island**	**0.87**	**4**	P	**Pn**	**07 04 11.1**	**+0.3**
OGWZ	**Otaki Gorge**	**0.95**	**16**	P	**Pn**	**07 04 12.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**0.98**	**32**	P	**Pn**	**07 04 12.7**	**+0.4**
TMWZ	**Te Maipa**	**1.02**	**53**	P	**Pn**	**07 04 13.0**	**+0.2**
DUVI	**D'Urville Isla**	**1.15**	**323**	P	**Pb**	**07 04 15.0**	**-1.0**
KHZ	**Kahutara**	**1.18**	**234**	P	**Pn**	**07 04 15.2**	**+0.3**
KHZ	**Kahutara**	**1.18**	**234**	P	**Pn**	**07 04 15.3**	**+0.3**
NNZ	**Nelson**	**1.20**	**295**	P	**Pn**	**07 04 15.3**	**0.0**
MRZ	**Mangatainoka R**	**1.21**	**28**	P	**Pn**	**07 04 15.8**	**+0.3**
TIWZ	**Tintock**	**1.25**	**40**	P	**Pn**	**07 04 16.3**	**+0.3**
CPWZ	**Castlepoint**	**1.32**	**52**	P	**Pn**	**07 04 17.4**	**+0.5**
THZ	**Tophouse**	**1.44**	**268**	P	**Pn**	**07 04 18.7**	**+0.1**
PRWZ	**Pori Road**	**1.46**	**37**	P	**Pn**	**07 04 19.1**	**+0.2**
BFZ	**Birch Farm**	**1.50**	**46**	P	**Pn**	**07 04 19.4**	**0.0**
BFZ	**Birch Farm**	**1.50**	**46**	P	**Pn**	**07 04 19.2**	**-0.2**
POWZ	**Post Office Ro**	**1.52**	**28**	P	**Pn**	**07 04 20.1**	**+0.5**
TKNZ	**Takaka Hill**	**1.56**	**296**	P	**Pn**	**07 04 20.8**	**+0.5**
OHWZ	**Ohakea**	**1.57**	**14**	P	**Pb**	**07 04 22.3**	**-0.8**
MRNZ	**Matariki Terra**	**1.58**	**281**	P	**Pn**	**07 04 20.9**	**+0.3**
DVHZ	**Dannevirke**	**1.75**	**36**	P	**Pn**	**07 04 22.5**	**-0.4**
ANWZ	**Angora Road**	**1.78**	**45**	P	**Pn**	**07 04 23.0**	**-0.3**
GVZ	**Greta Valley S**	**1.81**	**226**	P	**Pn**	**07 04 23.9**	**+0.2**
TSZ	**Takapari Road**	**1.88**	**28**	P	**Pn**	**07 04 25.1**	**+0.4**
QRZ	**Quartz Range**	**1.95**	**297**	P	**Pn**	**07 04 27.3**	**+1.7**
QRZ	**Quartz Range**	**1.95**	**297**	P	**Pn**	**07 04 26.8**	**+1.2**
WAZ	**Wanganui**	**1.98**	**4**	P	**Pb**	**07 04 28.3**	**-1.7**
PRHZ	**Porangahau**	**2.00**	**44**	P	**Pn**	**07 04 26.1**	**-0.3**
WPHZ	**Waipukurau**	**2.07**	**37**	P	**Pn**	**07 04 27.4**	**+0.1**
PNHZ	**Pukenui**	**2.09**	**30**	P	**Pn**	**07 04 27.5**	**-0.1**
LTZ	**Lake Taylor**	**2.17**	**240**	P	**Pn**	**07 04 28.8**	**+0.2**
DSZ	**Denniston Nort**	**2.26**	**269**	P	**Pn**	**07 04 30.4**	**+0.5**
LREZ	**Lake Rotokare**	**2.29**	**352**	P	**Pb**	**07 04 34.6**	**-0.7**
PXZ	**Pawanui**	**2.30**	**43**	P	**Pn**	**07 04 29.6**	**-0.7**
OKCZ	**Okains Bay**	**2.38**	**213**	P	**Pn**	**07 04 31.2**	**-0.3**
KRHZ	**Kereru**	**2.39**	**30**	P	**Pn**	**07 04 31.3**	**-0.4**
MTVZ	**Mangateitei**	**2.40**	**12**	P	**Pn**	**07 04 33.3**	**+1.5**
NMEZ	**Namu Road**	**2.42**	**342**	P	**Pb**	**07 04 35.7**	**-1.9**
MOVZ	**Moawhango**	**2.43**	**17**	P	**Pn**	**07 04 32.9**	**+0.6**
BHHZ	**Black Hill Sta**	**2.43**	**23**	P	**Pn**	**07 04 32.5**	**+0.3**
PREZ	**Palmer Road**	**2.44**	**348**	P	**Pb**	**07 04 37.2**	**-0.7**
PKVZ	**Pokaka**	**2.47**	**9**	P	**Pn**	**07 04 34.5**	**+1.7**
WNVZ	**Wahianoa**	**2.47**	**14**	P	**Pn**	**07 04 34.1**	**+1.1**
KAHZ	**Kahuranaki**	**2.48**	**40**	P	**Pn**	**07 04 32.5**	**-0.5**
TRVZ	**Turoa**	**2.49**	**13**	P	**Pn**	**07 04 34.6**	**+1.3**
KHEZ	**Kahui Hut**	**2.51**	**346**	P	**Pb**	**07 04 37.9**	**-1.2**
KHEZ	**Kahui Hut**	**2.51**	**346**	P	**Pb**	**07 04 37.5**	**-1.6**
WHVZ	**Whangaehu Hut**	**2.51**	**14**	P	**Pn**	**07 04 35.0**	**+1.4**
NEZ	**North Egmont**	**2.52**	**347**	P	**Pb**	**07 04 38.5**	**-0.8**
MAVZ	**Matarangi**	**2.52**	**13**	P	**Pn**	**07 04 35.2**	**+1.4**
FWVZ	**Far West T-bar**	**2.54**	**13**	P	**Pn**	**07 04 35.3**	**+1.5**
MQZ	**McQueen's Vall**	**2.54**	**218**	P	**Pn**	**07 04 32.6**	**-1.1**
TUVZ	**Tukino**	**2.54**	**15**	P	**Pn**	**07 04 35.1**	**+1.2**
AKCZ	**Akaroa Harbour**	**2.56**	**213**	P	**Pn**	**07 04 33.4**	**-0.6**
NBEZ	**Newall Road No**	**2.57**	**343**	P	**Pb**	**07 04 38.6**	**-1.4**
DREZ	**Durham Road**	**2.58**	**349**	P	**Pb**	**07 04 39.4**	**-0.9**
COVZ	**Chateau Observ**	**2.59**	**12**	P	**Pb**	**07 04 40.6**	**+0.1**
VRZ	**Vera Road**	**2.60**	**359**	P	**Pb**	**07 04 37.3**	**-3.4**
KWHZ	**Kaweka Forest**	**2.61**	**28**	P	**Pn**	**07 04 34.3**	**-0.4**
PKE	**Pukeiti**	**2.61**	**346**	P	**Pb**	**07 04 38.6**	**-2.3**
SNVZ	**South Ngauruho**	**2.62**	**14**	P	**Pn**	**07 04 36.3**	**+1.3**
NGZ	**Ngauruhoe**	**2.62**	**13**	P	**Pn**	**07 04 36.4**	**+1.4**
OTVZ	**Oturere**	**2.64**	**14**	P	**Pn**	**07 04 36.5**	**+1.2**
NNVZ	**North Ngauruho**	**2.67**	**13**	P	**Pn**	**07 04 37.0**	**+1.4**
WTVZ	**West Tongariro**	**2.68**	**13**	P	**Pb**	**07 04 43.3**	**+1.3**
ETVZ	**East Tongariro**	**2.68**	**15**	P	**Pn**	**07 04 37.0**	**+1.3**
MCHZ	**McNeill Hill**	**2.69**	**33**	P	**Pn**	**07 04 37.7**	**+1.9**
TMVZ	**Te Maari**	**2.70**	**15**	P	**Pn**	**07 04 37.2**	**+1.2**
TWVZ	**Taurewa**	**2.70**	**10**	P	**Pn**	**07 04 37.2**	**+1.2**
INZ	**Inchbonnie**	**2.70**	**247**	P	**Pn**	**07 04 36.4**	**+0.5**
KRVZ	**Karewarewa**	**2.71**	**14**	P	**Pn**	**07 04 37.7**	**+1.6**
NTVZ	**North Tongarir**	**2.71**	**14**	P	**Pn**	**07 04 37.4**	**+1.2**
BKZ	**Black Stump Fm**	**2.86**	**27**	P	**Pn**	**07 04 39.4**	**+1.2**
ARHZ	**Aropaoanui**	**2.97**	**35**	P	**Pn**	**07 04 40.9**	**+1.2**
MHCZ	**Mount Hutt**	**3.00**	**232**	P	**Pn**	**07 04 39.4**	**-0.7**
WACZ	**Wakanui South**	**3.12**	**224**	P	**Pn**	**07 04 41.1**	**-0.5**
HIZ	**Hauiti**	**3.21**	**0**	P	**Pn**	**07 04 46.2**	**+3.2**
HIZ	**Hauiti**	**3.21**	**0**	P	**Pn**	**07 04 45.3**	**+2.3**
WVZ	**Waitaha Valley**	**3.31**	**245**	P	**Pn**	**07 04 45.0**	**+0.7**
RPZ	**Rata Peaks**	**3.41**	**233**	P	**Pn**	**07 04 45.5**	**-0.2**
RPZ	**Rata Peaks**	**3.41**	**233**	P	**Pn**	**07 04 45.5**	**-0.2**
ARCZ	**Arundel**	**3.48**	**229**	P	**Pn**	**07 04 46.2**	**-0.4**
MUGZ	**Murupara**	**3.58**	**25**	P	**Pn**	**07 04 50.0**	**+2.0**
GCSZ	**Gaunt Creek Bo**	**3.68**	**243**	P	**Pn**	**07 04 50.6**	**+1.2**
TMZ	**Timaru**	**3.85**	**225**	P	**Pn**	**07 04 51.3**	**-0.5**
MWZ	**Matawai**	**3.98**	**32**	P	**Pn**	**07 04 53.4**	**-0.1**
FOZ	**Fox Glacier**	**4.11**	**242**	P	**Pn**	**07 04 55.4**	**+0.2**
RUGZ	**Raukumara Rang**	**4.36**	**31**	P	**Pn**	**07 04 59.2**	**+0.4**
ODZ	**Otahua Downs**	**4.50**	**221**	P	**Pn**	**07 05 00.0**	**-0.6**
ODZ	**Otahua Downs**	**4.50**	**221**	P	**Pn**	**07 04 59.8**	**-0.8**
MYRZ	**Mayor Island**	**4.58**	**14**	P	**Pn**	**07 05 04.0**	**+2.3**
JCZ	**Jackson Bay**	**5.01**	**240**	P	**Pn**	**07 05 08.1**	**+0.3**
CTZ	**Chatham Island**	**6.61**	**110**	P	**Pn**	**07 05 27.6**	**-2.0**
CTZ	**Chatham Island**	**6.61**	**110**	P	**Pn**	**07 05 30.1**	**+0.5**

IDC 28 07:10:38.2±2.3, **1.11N**×**126.46E**, **h0**km, **mb3.3**/3, **mbtmp3.3**/3, **Error ellipse: s-maj=184.7km s-min=28.3km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**160**	P	P	07 15 36.5	-1.0
	0.5nm,0.4s,baz=339,slow=11,SNR=6.9 0.5nm,0.4s						
ASAR	**Alice Springs**	**25.67**	**164**	P	P	07 16 10.7	+0.7
	0.7nm,1.0s,baz=342,slow=11,SNR=7.8 0.7nm,1.0s						
MKAR	**Makanchi Array**	**59.56**	**326**	P	P	07 20 43.6	-0.1
	0.1nm,0.3s,baz=123,slow=7.9,SNR=1.6 0.1nm,0.3s						

*NNC **28** 07:12:36.5±1.3, 41.56N×74.30E, h4km±6km, mb2.6, mpv2.1, Error ellipse: s-maj=9.9km s-min=6.0km az=20.0*
*KRNET **28** 07:12:37.3±0.1, 41.65N×74.44E, h11km, mb2.2*
*SOME **28** 07:12:37.3, 41.67N×74.38E, h0km*
ISC 28 07:12:37.1±1.7, **41.64N**±0.07×**74.38E**±0.03, **h7**km±12km, **n21**, σ0.70/39, **17C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.23**	**349**	↑*e*P	**Pg**	**07 12 41.5**	**-0.2**
	baz=38						
ARLS				↑*e*S	**Sg**	**07 12 44.8**	**0.0**
	baz=38						
UCH	**Uchtor**	**0.59**	**9**	↑*e*P	**Pg**	**07 12 48.7**	**0.0**
	baz=5.0						
UCH				↑*e*S	**Sg**	**07 12 57.1**	**+0.5**
	baz=5.0						
AML	**Almayashu**	**0.71**	**314**	↑P	**Pg**	**07 12 50.7**	**-0.1**
	0.1nm,0.3s						
AML				↑S	**Sb**	**07 13 01.8**	**-0.4**
	0.8nm,0.7s						
AML	**Almayashu**	**0.71**	**314**	↑*e*P	**Pb**	**07 12 51.6**	**-0.4**
	baz=11						
AML				↑*e*S	**Sb**	**07 13 02.1**	**0.0**
	baz=11						
AAK	**Ala-Archa**	**1.00**	**5**	↑*e*P	**Pg**	**07 12 56.4**	**+0.1**
	baz=2.0						
AAK				↑*e*S	**Sb**	**07 13 10.1**	**-0.2**
	baz=2.0						
KBK	**Karagaybulak**	**1.10**	**22**	↓*i*P	**Pg**	**07 12 57.8**	**-0.4**
	baz=20						
KBK				↓*e*S	**Sg**	**07 13 12.8**	**+0.3**
	baz=20						
EKS2	**Erkin-Say**	**1.11**	**336**	↑*e*P	**Pb**	**07 12 58.8**	**0.0**
	baz=34						
EKS2				↑*i*S	**Sb**	**07 13 14.4**	**+0.9**
	baz=34						
MRKS	**Merke**	**1.40**	**322**	P	**Pn**	**07 13 02.9**	**-0.2**
	2.2nm,0.6s						
MRKS				S	**Sg**	**07 13 21.2**	**-0.9**
	2.6nm,0.6s						
MRKS	**Merke**	**1.40**	**322**	*e*P	**Pn**	**07 13 02.9**	**-0.2**
	2.2nm,0.6s						
MRKS				*e*S	**Sg**	**07 13 21.2**	**-0.9**
	2.6nm,0.6s						
TKM2	**Tokmak 2**	**1.56**	**35**	↓P	**Pb**	**07 13 06.8**	**+0.3**
	0.1nm,0.2s						
TKM2				↑S	**Sg**	**07 13 28.7**	**+1.2**
	2.7nm,0.8s						
USP	**Ospenovka**	**1.63**	**3**	↑*i*P	**Pb**	**07 13 07.7**	**+0.2**
	baz=2.0						
USP				↑*e*S	**Sg**	**07 13 29.5**	**+0.1**
	baz=2.0						
MNAS	**Manas**	**1.63**	**302**	↓*e*P	**Pg**	**07 13 08.4**	**-0.1**
	baz=1.0						
MNAS				↓*e*S	**Sg**	**07 13 31.5**	**+1.8**
	baz=1.0						
DGS	**Degeres**	**1.90**	**32**	P	**Pb**	**07 13 12.8**	**+0.6**
	1.7nm,0.6s						
DGS				S	**Sg**	**07 13 38.0**	**-0.3**
	1.8nm,0.4s						
DGS	**Degeres**	**1.90**	**32**	*e*P	**Pb**	**07 13 12.8**	**+0.6**
	1.7nm,0.6s						
DGS				*e*S	**Sg**	**07 13 38.0**	**-0.3**
	1.8nm,0.4s						
KRBS	**Karabastau**	**2.27**	**24**	Pg	**Pg**	**07 13 19.9**	**-0.6**
	1.2nm,0.3s						
KRBS				Lg	Lg	07 13 50.8	
	2.0nm,0.7s						
KRBS	**Karabastau**	**2.27**	**24**	*e*P	**Pg**	**07 13 19.9**	**-0.6**
	1.2nm,0.3s						
KRBS				*e*S	**Sg**	**07 13 50.8**	**+0.9**
	2.0nm,0.7s						
TRKS	**Terek-Say**	**2.44**	**268**	↑*e*P	**Pb**	**07 13 20.9**	**-0.4**
	baz=67						
TRKS				↑*e*S	**Sb**	**07 13 52.6**	**+1.1**
	baz=67						
KOTS	**Kotyrbulak**	**2.57**	**51**	Pg	**Pg**	**07 13 25.9**	**-0.5**
	2.6nm,0.6s						
KOTS				Lg	Lg	07 14 00.8	
	2.9nm,0.7s						
KOTS	**Kotyrbulak**	**2.57**	**51**	*e*P	**Pg**	**07 13 25.9**	**-0.5**
	2.6nm,0.6s						
KOTS				*e*S	**Sg**	**07 14 00.8**	**+1.0**
	2.9nm,0.7s						
KTBS	**Karatobe**	**2.68**	**39**	Pg	**Pg**	**07 13 27.1**	**-1.3**
	1.6nm,0.6s						
KTBS				Lg	Lg	07 14 02.6	
	2.1nm,0.6s						
KTBS	**Karatobe**	**2.68**	**39**	*e*P	**Pg**	**07 13 27.1**	**-1.3**
	1.6nm,0.6s						
KTBS				*e*S	**Sg**	**07 14 02.6**	**-0.5**
	2.1nm,0.6s						

IDC 28 07:22:58.8±3.0, **4.43S**×**135.84E**, **h0**km, **mb3.7**/2, **mbtmp3.6**/4, **ML3.8**/2, **Error ellipse: s-maj=145.9km s-min=29.3km az=82.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.49**	**185**	Pn	Pn	07 26 36.9	-2.0
	0.3nm,0.3s,baz=4.0,slow=13,SNR=7.1						
WRA				Sn	Sn	07 29 25.0	-6.3
	0.2nm,0.3s,baz=6.7,slow=22,SNR=1.7 0.5nm,0.4s						
ASAR	**Alice Springs**	**19.22**	**185**	P	Pn	07 27 25.5	-0.1
	0.6nm,0.3s,baz=13,slow=8.7,SNR=35						
ASAR				S	Sn	07 30 52.3	-9.4
	0.4nm,0.6s,baz=5.6,slow=29,SNR=2.3 1.5nm,0.6s						
MKAR	**Makanchi Array**	**69.43**	**324**	P	P	07 34 09.2	+0.3
	0.3nm,0.6s,baz=108,slow=7.4,SNR=4.2 0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**72.01**	**331**	P	P	07 34 24.1	-0.3
	0.8nm,0.7s,baz=106,slow=3.1,SNR=2.4 0.8nm,0.7s						

*IDC **28** 07:28:26.4±0.8, 3.38S×149.15E, h0km, mb4.3/15, mbtmp4.2/17, ML2.5/2, Error ellipse: s-maj=30.3km s-min=16.3km az=98.0*
*NEIC **28** 07:28:31.3±2.0, 3.40S±0.10×148.42E±0.06, h10km±1km, mb4.9/35, Error ellipse: s-maj=16.3km s-min=10.0km az=189.0*
ISC 28 07:28:29.9±0.5, **3.44S**±0.05×**148.6E**±0.1, **h10**km, **n74**, σ1.979/62, **mb4.6**/31, **MS4.9**/4, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.85**	**319**	Pn	**Pn**	**07 29 01.2**	**-0.5**
PMG	**Port Moresby**	**6.09**	**193**	Pn	**Pn**	**07 30 01.0**	**+0.9**
	0.6nm,0.3s,baz=283,slow=17,SNR=2.0						
PMG				Sn	**Sn**	**07 31 11.3**	**+1.4**
	2.6nm,0.3s,baz=14,slow=8.6,SNR=5.1 15nm,0.7s						
CTA	**Charters Tower**	**16.70**	**188**	Pn	**Pn**	**07 32 24.2**	**0.0**
	0.1nm,0.3s,baz=295,slow=12,SNR=1.6 4.3nm,1.0s						
CTAO	**Charters Tower**	**16.70**	**188**	P	**P**	**07 32 29.0**	**+2.5**
WB0	**Warramunga Arr**	**21.33**	**219**	P	**P**	**07 33 17.3**	**0.0**
WB0					IAmb	IAmb	07 33 33.0
	comp=Z,62nm,1.2s						
WR0	**Warramunga Arr**	**21.38**	**219**	P	**P**	**07 33 18.2**	**+0.4**
WR0					IAmb	IAmb	07 33 23.8
	comp=Z,46nm,1.0s						
WRAB	**Tennant Creek**	**21.48**	**219**	P	**P**	**07 33 18.7**	**-0.2**
WRAB					IAmb	IAmb	07 33 32.0
	comp=Z,36nm,0.9s						
WB2	**Warramunga Arr**	**21.49**	**219**	P	**P**	**07 33 18.8**	**-0.2**
WB2					IAmb	IAmb	07 33 37.2
	comp=Z,80nm,1.4s						
WRA	**Warramunga Arr**	**21.50**	**219**	P	**P**	**07 33 18.9**	**-0.2**
WRA	**Warramunga Arr**	**21.50**	**219**	P	**P**	**07 33 20.0**	**+0.9**
	comp=Z,22nm,1.0s,baz=45,slow=11,SNR=33 comp=Z,22nm,1.0s						

EIDS	**Eidsvold**	**21.93**	**174**	P	**P**	**07 33 24.5**	**+0.9**
AS31	**Alice Springs**	**24.61**	**214**	P	**P**	**07 33 50.4**	**-0.2**
ASAR	**Alice Springs**	**24.61**	**214**	P	**P**	**07 33 51.5**	**+0.9**
ASAR	**Alice Springs**	**24.61**	**214**	P	**P**	**07 33 52.1**	**+1.5**
	comp=Z,40nm,1.0s,baz=50,slow=8.3,SNR=100 comp=Z,40nm,1.0s						
FITZ	**Fitzroy Crossi**	**26.78**	**235**	P	**P**	**07 34 13.9**	**+3.6**
FITZ				IAmb	IAmb	07 34 16.8	
	comp=Z,14nm,1.0s						
ARMA	**Armidale**	**26.98**	**174**	P	**P**	**07 34 13.0**	**+0.9**
ARMA				IAmb	IAmb	07 34 26.9	
	comp=Z,39nm,1.7s						
TOLI2	**Tolitoli**	**28.16**	**279**	P	**P**	**07 34 19.0**	**-3.7**
H11S3	**WAKE ISLAND Hy**	**28.16**	**39**	T	T	08 04 09.5	
	baz=220,slow=76,SNR=3063						
H11S2	**WAKE ISLAND Hy**	**28.17**	**39**	T	T	08 04 25.5	
	baz=220,slow=76,SNR=733						
H11S1	**WAKE ISLAND Hy**	**28.18**	**39**	T	T	08 04 26.8	
	baz=220,slow=76,SNR=675						
KAPI	**Kappang**	**28.80**	**266**	P	P	07 34 16.9	-12
KAPI				IAmb	IAmb	07 34 29.8	
	comp=Z,28nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**29.21**	**37**	T	T	08 05 44.8	
	baz=218,slow=76,SNR=185						
H11N3	**WAKE ISLAND Hy**	**29.23**	**37**	T	T	08 05 46.2	
	baz=218,slow=76,SNR=156						
H11N2	**WAKE ISLAND Hy**	**29.23**	**37**	T	T	08 05 46.4	
	baz=218,slow=76,SNR=297						
FORT	**Forrest**	**33.39**	**213**	P	**P**	**07 35 07.5**	**-1.2**
TUWZ	**Tuamarina**	**44.14**	**152**	P	**P**	**07 36 36.6**	**-2.1**
KSAR	**Wonju Array Be**	**45.00**	**337**	P	**P**	**07 36 43.7**	**-1.9**
YSS	**Yuzh-Sakhalins**	**50.45**	**355**	P	**P**	**07 37 31.6**	**+3.9**
CMAR	**Chiang Mai Arr**	**53.50**	**296**	P	P	07 37 45.3	-5.8
CMAR	**Chiang Mai Arr**	**53.50**	**296**	P	**P**	**07 37 53.7**	**+2.6**
	comp=Z,1.5nm,0.3s,baz=109,slow=5.4,SNR=16 comp=Z,1.5nm,0.3s						
CHTO	**Chiang Mai**	**53.62**	**296**	P	**P**	**07 37 47.8**	**-4.1**
HEH	**HeiHe**	**56.51**	**344**	*e*P	**P**	**07 38 12.0**	**-0.2**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,240nm,4.7s						
HEH				LR	LR		
	comp=N,690nm,18.6s						
HEH				LR	LR		
	comp=E,220nm,18.4s						
HEH				LR	LR		
	comp=Z,720nm,18.1s						
PETK	**Petropavlovsk-**	**56.87**	**7**	P	P	07 38 10.1	-4.6
	comp=Z,6.3nm,1.0s,baz=188,slow=6.8,SNR=3.5 comp=Z,6.3nm,1.0s						
LZH	**Lanzhou**	**57.36**	**317**	*e*P	P	07 38 24.8	+6.0
LZH				pP	sP	07 38 34.0	+11
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				LR	LR		
	comp=N,720nm,20.6s						
LZH				LR	LR		
	comp=E,710nm,19.9s						
LZH				LR	LR		
	comp=Z,1μm,20.6s						
HIA	**Hailar**	**58.15**	**338**	P	**P**	**07 38 25.0**	**+1.1**
GTA	**Gaotai**	**61.84**	**319**	P	**P**	**07 38 51.8**	**+2.2**
GTA				sP	PcP	07 39 47.0	+16
GTA				SKS	**SKSac**	**07 48 47.5**	**+5.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				LR	LR		
	comp=N,320nm,19.6s						
GTA				LR	LR		
	comp=E,630nm,18.9s						
GTA				LR	LR		
	comp=Z,700nm,21.1s						
ULN	**Ulaanbaatar**	**62.67**	**330**	P	**P**	**07 38 57.2**	**+2.1**
ULN				IAmb	IAmb	07 39 58.7	
	comp=Z,8.1nm,1.2s						
SONM	**Songino Array**	**62.99**	**329**	P	**P**	**07 38 57.8**	**+0.7**
SONM	**Songino Array**	**62.99**	**329**	P	**P**	**07 38 56.8**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=145,slow=6.3,SNR=5.6 comp=Z,1.0nm,0.7s						
GOMU	**GeErMu**	**63.76**	**313**	P	**P**	**07 39 05.8**	**+3.0**
GOMU				pP	sP	07 39 09.0	+2.5
GOMU				sP	pP	07 39 11.0	+5.5
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU				LR	LR		
	comp=N,600nm,18.2s						
GOMU				LR	LR		
	comp=E,650nm,18.8s						
GOMU				LR	LR		
	comp=Z,910nm,17.8s						
LSA	**Lhasa**	**64.02**	**305**	P	**P**	**07 39 02.3**	**-2.4**
LSA				IAmb	IAmb	07 39 18.7	
	comp=Z,8.9nm,1.2s						
TAOE	**Nuku Hiva Isla**	**70.98**	**98**	P	**P**	**07 39 49.8**	**+1.2**
CNBA	**Chernabura Isl**	**72.04**	**29**	P	**P**	**07 39 54.8**	**+0.8**
VNDA	**Vanda**	**74.36**	**177**	P	**P**	**07

*NEIC **28** 07:29:26.4±1.9, 3°.75S±0°.05×148°.7E±0°.1, h10km±1km, mb5.0/40, Ms_20 5.1/140, Mwb5.4/9, Mww5.5/27, Error ellipse: s-maj=19.7km s-min=8.6km az=81.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.30; $M_{\theta\theta}$0.68; $M_{\phi\phi}$-0.98; $M_{r\theta}$-0.05; $M_{\theta\phi}$1.41; $M_{\phi r}$0.07; Fault plane solution: $M_0$1.66000×10^{17} NP1: ϕ_s195.26000°, δ87.88000°, λ-178.80000°. NP2: ϕ_s105.21000°, δ88.80000°, λ-2.12000°. Principal axes: T 1.4846, Plg1.0000°, Azm150.0000°; N 0.3014, Plg88.0000°, Azm256.0000°; P -1.7860, Plg2.0000°, Azm60.0000°;*

*NEIC **28** 07:29:26.9, 3°.63S×148°.88E, h10km*

*NEIC **28** 07:29:26.4, 3°.35S×148°.92E, h20km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10; $M_{\theta\theta}$1.21; $M_{\phi\phi}$-1.12; $M_{r\theta}$-0.01; $M_{\theta\phi}$1.49; $M_{\phi r}$1.44; Fault plane solution: $M_0$2.35000×10^{17} NP1: ϕ_s199.84000°, δ83.56000°, λ-145.35000°. NP2: ϕ_s105.41000°, δ55.60000°, λ-7.81000°. Principal axes: T 2.1484, Plg19.0000°, Azm328.0000°; N 0.4008, Plg55.0000°, Azm209.0000°; P -2.5492, Plg29.0000°, Azm68.0000°;*

*GCMT **28** 07:29:29.4±0.1, 3°.32S±0°.01×149°.01E±0°.01, h12km, MW5.5/158, Moment Tensor Solution. s124,c204; s158,c303; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$1.06±.02; $M_{\phi\phi}$-0.90±.02; $M_{r\theta}$0.17±.05; $M_{\theta\phi}$1.67±.02; $M_{\phi r}$0.30±.05; Best double couple: $M_0$1.96700×10^{17} NP1:ϕ_s15.00000°, δ89.00000°, λ170.00000°. NP2:ϕ_s105.00000°, δ80.00000°, λ1.00000°. Principal axes: T 2.0540, Plg8.0000°, Azm330.0000°; N -0.1740, Plg80.0000°, Azm187.0000°; P -1.8800, Plg6.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 07:29:26.9±0.4, 3°.59S±0°.05×148°.87E±0°.06, h19km, n162, σ1s98/87, mb4.8/36, MS5.1/83, 1D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.15**	**316**	Pn	**Pn**	**07 30 02.0**	**+0.3**
RABL	**Rabaul**	**3.34**	**100**	Pn	**Pn**	**07 30 16.2**	**-2.0**
PMG	**Port Moresby**	**6.02**	**196**	Pn	**Pn**	**07 30 51.5**	**-3.4**
PMG	**Port Moresby**	**6.02**	**196**	Pn	**Pn**	**07 30 59.4**	**+4.5**
	2.9nm,0.3s,baz=66,slow=4.5,SNR=2.0						
PMG				Sn	**Sn**	**07 32 09.3**	**+5.8**
	baz=70,slow=16						
PMG				LR	LR	07 33 25.7	
	comp=Z,6μm,18.2s,baz=339,slow=39						
	38nm,0.9s						
CTA	**Charters Tower**	**16.59**	**189**	Pn	**P**	**07 33 22.6**	**+1.6**
	0.2nm,0.3s,baz=11,slow=11,SNR=3.2						
CTA				LR	LR	07 40 23.0	
	comp=Z,3μm,18.3s,baz=5.0,slow=39						
	15nm,1.1s						
CTAO	**Charters Tower**	**16.59**	**189**	Pn	**Pn**	**07 33 15.9**	**-2.7**
FAKI	**Fak Fak**	**16.61**	**272**	Pn	**Pn**	**07 33 17.1**	**-1.7**
FAKI				IAmb	IAmb	07 33 25.0	
	comp=Z,123nm,1.4s						
WB0	**Warramunga Arr**	**21.40**	**220**	P	**P**	**07 34 10.9**	**-2.9**
WR0	**Warramunga Arr**	**21.45**	**220**	P	**P**	**07 34 12.1**	**-2.1**
WR0				IAmb	IAmb	07 34 27.3	
	comp=Z,60nm,0.9s						
WRAB	**Tennant Creek**	**21.55**	**220**	P	**P**	**07 34 14.2**	**-1.1**
WRAB				IAmb	IAmb	07 34 28.3	
	comp=Z,76nm,1.0s						
WB2	**Warramunga Arr**	**21.56**	**220**	P	**P**	**07 34 13.7**	**-1.7**
WB2				IAmb	IAmb	07 34 28.5	
	comp=Z,77nm,0.9s						
WRA	**Warramunga Arr**	**21.56**	**220**	P	**P**	**07 34 12.2**	**-3.3**
WRA	**Warramunga Arr**	**21.56**	**220**	P	**P**	**07 34 17.0**	**+1.5**
	comp=Z,20nm,0.9s,baz=39,slow=12,SNR=7.9						
WRA				S	Sn	07 38 19.1	-3.5
	comp=Z,3.5nm,1.2s,baz=38,slow=19,SNR=6.7						
	comp=Z,20nm,0.9s						
EIDS	**Eidsvold**	**21.75**	**175**	P	**P**	**07 34 15.5**	**-2.0**
AS31	**Alice Springs**	**24.64**	**215**	P	**P**	**07 34 45.9**	**-0.6**
ASAR	**Alice Springs**	**24.64**	**215**	P	**P**	**07 34 44.1**	**-2.5**
ASAR	**Alice Springs**	**24.64**	**215**	P	**P**	**07 34 48.6**	**+2.0**
	comp=Z,25nm,0.9s,baz=41,slow=7.2,SNR=8.8						
	comp=Z,25nm,0.9s						
DZM	**Mont Dzumac**	**25.06**	**139**	P	**P**	**07 34 49.7**	**-0.7**
DZM				IAmb	IAmb	07 34 53.7	
	comp=Z,20nm,0.7s						
DZM	**Mont Dzumac**	**25.06**	**139**	*e*P	**P**	**07 34 50.8**	**+0.4**
DZM	comp=Z,90nm,1.6s			*e*S	**S**	**07 39 11.0**	**-3.1**
	comp=Z,618nm,24.7s						
DZM				*e*LR	LR	07 41 25.4	
	comp=Z,8μm,29.4s						
DZM	**Mont Dzumac**	**25.06**	**139**	LR	LR	07 43 26.7	
	comp=Z,6μm,19.6s,baz=316,slow=33						
SOEI	**Soe**	**25.18**	**255**	IAMs_20	IAMs_20	07 46 00.5	
	comp=Z,5μm,22.0s						
LUWI	**Luwuk**	**26.20**	**275**	P	**P**	**07 34 58.1**	**-2.5**
ARMA	**Armidale**	**26.81**	**175**	P	**P**	**07 35 05.6**	**-0.5**
ARMA				IAmb	IAmb	07 35 10.8	
	comp=Z,46nm,1.4s						
FITZ	**Fitzroy Crossi**	**26.93**	**236**	P	**P**	**07 35 04.4**	**-2.8**
FITZ				IAmb	IAmb	07 35 17.1	
	comp=Z,28nm,1.1s						
TOLI2	**Tolitoli**	**28.46**	**279**	P	**P**	**07 35 20.2**	**-0.9**
STKA	**Stephens Creek**	**28.95**	**193**	LR	LR	07 48 02.0	
	comp=Z,976nm,19.9s,baz=13,slow=38						
JCJ	**Chichijima**	**31.18**	**348**	LR	LR	07 47 43.0	
	comp=Z,1μm,18.8s,baz=154,slow=36						
BBOO	**Buckleboo**	**31.45**	**201**	P	**P**	**07 35 45.6**	**-1.6**
CAN	**Canberra**	**31.57**	**180**	P	**P**	**07 35 47.9**	**-0.5**
CAN				IAMs_20	IAMs_20	07 48 15.5	
	comp=Z,3μm,20.0s						
FORT	**Forrest**	**33.42**	**214**	P	**P**	**07 36 02.6**	**-2.0**
TOO	**Toolangi**	**33.96**	**185**	P	**P**	**07 36 07.2**	**-2.0**
TOO				IAmb	IAmb	07 36 51.0	
	comp=Z,23nm,1.5s						
JAGI	**Jajag, Banyuwa**	**34.85**	**260**	P	**P**	**07 36 16.0**	**-1.2**
YULB	**Yu-li**	**37.98**	**316**	IAMs_20	IAMs_20	07 48 56.6	
	comp=Z,3μm,20.0s						
NACB	**Ningamchiao**	**38.29**	**318**	IAMs_20	IAMs_20	07 49 08.1	
	comp=Z,3μm,20.0s						
TPUB	**Ta-pu**	**38.38**	**316**	IAMs_20	IAMs_20	07 48 51.0	
	comp=Z,3μm,21.0s						
SSLB	**Suanglung**	**38.47**	**316**	IAMs_20	IAMs_20	07 49 13.8	
	comp=Z,4μm,21.0s						
YHNB	**Yeheng**	**38.77**	**318**	IAMs_20	IAMs_20	07 49 04.9	
	comp=Z,3μm,22.0s						
OUZ	**Omahuta**	**38.92**	**147**	IAMs_20	IAMs_20	07 49 56.1	
	comp=Z,2μm,20.0s						
MORW	**Morawa**	**40.16**	**227**	P	**P**	**07 37 00.2**	**-1.9**
MORW				IAmb	IAmb	07 37 28.5	
	comp=Z,70nm,1.5s						
RAO	**Raoul Island**	**40.54**	**133**	LR	LR	07 51 30.9	
	comp=Z,1μm,20.4s,baz=342,slow=32						
MJAR	**Matsushiro Arr**	**41.15**	**347**	P	**P**	**07 37 08.9**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=138,slow=9.7,SNR=2.4						
	comp=Z,1.3nm,0.8s						
MAJO	**Matsushiro**	**41.15**	**347**	P	**P**	**07 37 10.8**	**+0.8**
MJB9	**Matsu-Tunnel**	**41.16**	**347**	P	**P**	**07 37 11.3**	**+1.2**
MJB9				IAmb	IAmb	07 37 18.2	
	comp=Z,24nm,1.4s						
LEM	**Lembang**	**41.20**	**264**	LR	LR	07 55 50.2	
	comp=Z,710nm,21.8s,baz=78,slow=39						
NWAO	**Narrogin (SRO)**	**41.55**	**222**	P	**P**	**07 37 14.6**	**+1.1**
NWAO				IAmb	IAmb	07 37 54.2	
	comp=Z,58nm,1.4s						
NWAO	**Narrogin (SRO)**	**41.55**	**222**	IAMs_20	IAMs_20	07 55 28.6	
	comp=Z,2μm,19.0s						
TOZ	**Tahuroa Road**	**41.81**	**148**	IAMs_20	IAMs_20	07 52 08.5	
	comp=Z,2μm,21.0s						
HKPS	**Hong Kong Po S**	**42.58**	**309**	IAMs_20	IAMs_20	07 52 25.7	
	comp=Z,2μm,19.0s						
QRZ	**Quartz Range**	**42.75**	**153**	IAMs_20	IAMs_20	07 54 30.0	
	comp=Z,2μm,18.0s						
RTZ	**Ruatahuna**	**43.25**	**147**	IAMs_20	IAMs_20	07 52 41.7	
	comp=Z,3μm,22.0s						
NNZ	**Nelson**	**43.45**	**153**	IAMs_20	IAMs_20	07 54 53.5	
	comp=Z,2μm,18.0s						
INZ	**Inchbonnie**	**43.85**	**156**	IAMs_20	IAMs_20	07 54 41.8	
	comp=Z,3μm,19.0s						
TUWZ	**Tuamarina**	**43.88**	**153**	P	**P**	**07 37 31.0**	**-1.2**
FOZ	**Fox Glacier**	**43.89**	**158**	IAMs_20	IAMs_20	07 55 56.8	
	comp=Z,2μm,19.0s						
SNZO	**South Karori**	**44.14**	**152**	IAMs_20	IAMs_20	07 53 31.7	
	comp=Z,3μm,20.0s						
LTZ	**Lake Taylor**	**44.23**	**155**	IAMs_20	IAMs_20	07 55 35.1	
	comp=Z,3μm,18.0s						
CMWZ	**Cape Campbell**	**44.25**	**153**	P	P	07 37 29.2	-6.0
BHW	**Baring Head**	**44.29**	**152**	IAMs_20	IAMs_20	07 53 45.8	
	comp=Z,2μm,20.0s						
KHZ	**Kahutara**	**44.48**	**154**	IAMs_20	IAMs_20	07 55 02.7	
	comp=Z,3μm,19.0s						
QIZ	**Qiongzhong**	**44.49**	**302**	P	P	07 37 23.0	-14
QIZ				S	**S**	**07 44 12.0**	**-0.1**
QIZ	**Qiongzhong**	**44.49**	**302**	SS	SS	07 47 31.5	-0.5
QIZ				LR	LR		
	comp=N,600nm,20.2s						
QIZ				LR	LR		
	comp=E,710nm,15.1s						
QIZ				LR	LR		
	comp=Z,1μm,27.8s						
RPZ	**Rata Peaks**	**44.52**	**157**	IAMs_20	IAMs_20	07 53 56.5	
	comp=Z,2μm,20.0s						
OXZ	**Oxford**	**44.59**	**156**	IAMs_20	IAMs_20	07 55 44.4	
	comp=Z,3μm,19.0s						
GVZ	**Greta Valley S**	**44.71**	**155**	IAMs_20	IAMs_20	07 54 58.7	
	comp=Z,2μm,21.0s						
LBZ	**Lake Benmore**	**44.76**	**158**	IAMs_20	IAMs_20	07 56 35.8	
	comp=Z,2μm,18.0s						
MQZ	**McQueen's Vall**	**45.15**	**156**	IAMs_20	IAMs_20	07 53 57.4	
	comp=Z,2μm,19.0s						
KSRS	**Korea Array**	**45.25**	**336**	P	**P**	**07 37 41.9**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=161,slow=9.1,SNR=1.5						
KSRS				LR	LR	07 56 33.4	
	comp=Z,821nm,18.6s,baz=145,slow=36						
	comp=Z,1.4nm,0.9s						
KSAR	**Wonju Array Be**	**45.25**	**336**	P	**P**	**07 37 43.2**	**0.0**
ASAJ	**Asahikawa**	**47.83**	**354**	LR	LR	07 56 38.3	
	comp=Z,846nm,21.9s,baz=164,slow=34						
USA0B	**Ussuriysk Arra**	**49.93**	**344**	P	**P**	**07 38 19.7**	**+0.3**
USA0B				IAmb	IAmb	07 38 44.9	
	comp=Z,32nm,1.6s						
USRK	**Ussuriysk Ar.**	**49.93**	**344**	P	**P**	**07 38 19.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**49.93**	**344**	P	**P**	**07 38 18.6**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=211,slow=9.8,SNR=6.0						
USRK				LR	LR	07 57 06.3	
	comp=Z,1μm,20.4s,baz=154,slow=34						
	comp=Z,2.5nm,0.6s						
GSI	**Gunungsitoli**	**51.50**	**275**	P	**P**	**07 38 30.7**	**-1.2**
GSI				IAmb	IAmb	07 38 42.9	
	comp=Z,20nm,0.9s						
HNS	**HongShan**	**51.68**	**325**	*e*P	**P**	**07 38 31.8**	**-0.9**
HNS				S	**S**	**07 45 51.0**	**-2.3**
HNS				LR	LR		
	comp=N,770nm,19.1s						
HNS				LR	LR		
	comp=E,1μm,19.9s						
HNS				LR	LR		
	comp=Z,2μm,18.2s						
CMAR	**Chiang Mai Arr**	**53.82**	**296**	P	**P**	**07 38 49.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**53.82**	**296**	P	**P**	**07 38 49.0**	**0.0**
	comp=Z,2.4nm,0.8s,baz=114,slow=4.7,SNR=3.2						
	comp=Z,2.4nm,0.8s						
CHTO	**Chiang Mai**	**53.94**	**296**	P	**P**	**07 38 50.7**	**+0.9**
CHTO				IAmb	IAmb	07 38 57.8	
	comp=Z,18nm,1.6s						
PETK	**Petropavlovsk-**	**56.98**	**6**	LR	LR	08 00 00.9	
	comp=Z,407nm,21.2s,baz=189,slow=32						
PET	**Petropavlovsk**	**57.01**	**7**	P	**P**	**07 39 13.4**	**+2.2**
LZH	**Lanzhou**	**57.66**	**317**	S	**S**	**07 47 08.3**	**-6.0**
HIA	**Hailar**	**58.40**	**338**	P	**P**	**07 39 19.4**	**-1.7**
HIA				IAmb	IAmb	07 39 26.3	
	comp=Z,16nm,1.0s						
PPT2	**Papeete2**	**61.83**	**108**	*e*P	P	07 39 50.6	+5.3
	comp=Z,73nm,25.2s						
PPT2				*e*S	**S**	**07 48 08.0**	**-0.3**
	comp=Z,115nm,26.5s						
PPT2				*e*SS	**SS**	**07 52 10.3**	**-0.3**
	comp=Z,83nm,27.2s						
PPT2				*e*LQ	LQ	07 55 21.2	
	comp=Z,3μm,31.8s						
PPT2				*e*LR	LR	07 58 01.0	
	comp=Z,610nm,29.2s						
PPT2				*e*LR	LR	07 58 01.0	
	comp=Z,872nm,27.8s						
GTA	**Gaotai**	**62.14**	**319**	S	**S**	**07 48 16.3**	**+4.6**
TBI	**Tubuai**	**62.62**	**114**	*e*S	**S**	**07 48 20.0**	**+1.9**
	comp=Z,478nm,32.5s						
TBI				*e*SS	**SS**	**07 52 22.3**	**-0.5**
	comp=Z,584nm,27.0s						
TBI				*e*LQ	LQ	07 55 47.7	
	comp=Z,10μm,39.2s						
TBI				*e*LR	LR	07 58 32.6	
	comp=Z,5μm,29.0s						
ULN	**Ulaanbaatar**	**62.95**	**330**	IAMs_20	IAMs_20	08 05 15.4	
	comp=Z,974nm,21.0s						
SONM	**Songino Array**	**63.26**	**329**	P	**P**	**07 39 54.8**	**+0.4**
SONM	**Songino Array**	**63.26**	**329**	P	**P**	**07 39 54.6**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=146,slow=5.7,SNR=4.0						
	comp=Z,1.6nm,0.8s						
GOMU	**GeErMu**	**64.07**	**313**	SS	**S**	**07 48 39.8**	**+3.3**
CASY	**Casey**	**68.06**	**196**	P	**P**	**07 40 25.4**	**+0.5**
CASY	**Casey**	**68.06**	**196**	IAMs_20	IAMs_20	08 09 02.9	
	comp=Z,1μm,19.0s						
TAOE	**Nuku Hiva Isla**	**70.67**	**98**	*e*LR	LR	08 02 14.2	
	comp=Z,928nm,29.6s						
VNDA	**Vanda**	**74.20**	**177**	P	**P**	**07 41 02.3**	**+0.4**
VNDA	**Vanda**	**74.20**	**177**	P	**P**	**07 41 05.0**	**+3.1**
	comp=Z,1.6nm,1.0s,baz=331,slow=10,SNR=1.7						
	comp=Z,1.6nm,1.0s						
K13K	**Kusilvak Mount**	**74.32**	**21**	IAMs_20	IAMs_20	08 05 29.4	
	comp=Z,905nm,20.0s						
L14K	**Kuka Creek**	**74.66**	**22**	P	**P**	**07 41 08.0**	**+3.2**
J14K	**Nanvaranak Lak**	**75.25**	**21**	IAMs_20	IAMs_20	08 10 39.8	
	comp=Z,780nm,19.0s						
K15K	**Wolf Creek Mou**	**75.68**	**22**	IAMs_20	IAMs_20	08 04 38.4	
	comp=Z,682nm,20.0s						
ANM	**Nome**	**75.84**	**19**	IAMs_20	IAMs_20	08 09 04.5	
	comp=Z,660nm,21.0s						
J16K	**Anvik River**	**76.63**	**21**	IAMs_20	IAMs_20	08 10 12.4	
	comp=Z,801nm,22.0s						
MK31	**Makanchi Array**	**76.86**	**320**	P	**P**	**07 41 17.6**	**-0.2**
MKAR	**Makanchi Array**	**76.86**	**320**	P	**P**	**07 41 18.3**	**+0.5**
MKAR	**Makanchi Array**	**76.86**	**320**	P	**P**	**07 41 17.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=97,slow=8.1,SNR=9.3						
	comp=Z,1.3nm,0.6s						
I17K	**Unalakleet**	**76.97**	**20**	IAMs_20	IAMs_20	08 11 54.3	
	comp=Z,961nm,21.0s						
MAKZ	**Makanchi**	**77.07**	**320**	P	**P**	**07 41 18.3**	**-0.7**
MAKZ				IAmb	IAmb	07 41 30.7	
	comp=Z,29nm,1.8s						
MAKZ				IAMs_20	IAMs_20	08 15 36.7	
	comp=Z,961nm,18.0s						
N19K	**Bonanza Creek**	**77.60**	**25**	P	**P**	**07 41 20.4**	**-1.3**
H17K	**Granite Mounta**	**77.88**	**20**	IAMs_20	IAMs_20	08 10 21.4	
	comp=Z,828nm,22.0s						
ZAA0	**Zalesovo Array**	**78.00**	**327**	P	**P**	**07 41 21.8**	**-2.2**
ZALV	**Zalesovo Beam**	**78.00**	**327**	P	**P**	**07 41 22.2**	**-1.8**
ZALV	**Zalesovo Beam**	**78.00**	**327**	P	**P**	**07 41 23.0**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=106,slow=5.4,SNR=4.7						
	comp=Z,2.0nm,0.7s						
F17K	**Baldwin Pennin**	**78.38**	**18**	P	**P**	**07 41 27.7**	**+1.9**
F17K				IAmb	IAmb	07 41 40.2	
	comp=Z,13nm,1.3s						
H18K	**Honhosa River**	**78.54**	**20**	IAMs_20	IAMs_20	08 13 50.8	
	comp=Z,751nm,19.0s						
G18K	**Tagagawik**	**78.88**	**19**	IAMs_20	IAMs_20	08 11 02.7	
	comp=Z,727nm,21.0s						
G19K	**Purcell Mounta**	**79.54**	**20**	IAMs_20	IAMs_20	08 13 56.3	
	comp=Z,822nm,20.0s						
I20K	**Naaghedeneel**	**79.71**	**21**	IAMs_20	IAMs_20	08 12 18.8	
	comp=Z,679nm,21.0s						
F19K	**Shaleruckik Mo**	**79.72**	**19**	IAMs_20	IAMs_20	08 11 16.0	
	comp=Z,698nm,21.0s						
NIL	**Nilore**	**80.07**	**305**	P	**P**	**07 41 36.0**	**+0.1**
NIL				IAmb	IAmb	07 41 57.7	
	comp=Z,14nm,1.0s						
E19K	**Redstone River**	**80.25**	**18**	IAMs_20	IAMs_20	08 13 28.1	
	comp=Z,585nm,20.0s						
GHO	**Glory Hole Cre**	**80.42**	**25**	IAMs_20	IAMs_20	08 12 23.7	
	comp=Z,744nm,21.0s						
KURK	**Kurchatov**	**80.42**	**323**	P	**P**	**07 41 37.1**	**-0.2**
KURK				IAmb	IAmb	07 41 49.6	
	comp=Z,37nm,1.8s						
KURBB	**Kurchatov Arra**	**80.45**	**323**	P	**P**	**07 41 37.2**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=101,slow=4.8,SNR=6.0						
	comp=Z,1.9nm,0.8s						
F20K	**Avaraart Lake**	**80.50**	**19**	IAMs_20	IAMs_20	08 15 24.8	
	comp=Z,747nm,20.0s						
D19K	**Kuna River**	**80.59**	**17**	IAMs_20	IAMs_20	08 08 12.9	
	comp=Z,617nm,19.0s						
H21K	**Melozitna Rive**	**80.76**	**21**	IAMs_20	IAMs_20	08 13 30.5	
	comp=Z,785nm,21.0s						
G21K	**Allakaket**	**80.96**	**20**	IAMs_20	IAMs_20	08 12 28.8	
	comp=Z,607nm,20.0s						
F21K	**Alatna River**	**81.34**	**19**	IAMs_20	IAMs_20	08 15 31.7	
	comp=Z,810nm,20.0s						
G23K	**Bananza Creek**	**82.26**	**21**	IAMs_20	IAMs_20	08 16 25.3	
	comp=Z,658nm,20.0s						
F24K	**Squaw Lake**	**83.38**	**20**	IAMs_20	IAMs_20	08 17 12.7	
	comp=Z,556nm,20.0s						
NRIK	**Noril'sk**	**83.58**	**342**	P	**P**	**07 41 53.6**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=92,slow=4.4,SNR=3.8						
	comp=Z,1.4nm,0.5s						
D25K	**Kavik River**	**84.66**	**19**	IAMs_20	IAMs_20	08 18 09.7	
	comp=Z,538nm,20.0s						
BVAR	**Borovoye Array**	**85.94**	**324**	P	**P**	**07 42 05.5**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=107,slow=7.2,SNR=4.5						
	comp=Z,1.6nm,0.6s						
QSPA	**South Pole Qui**	**86.36**	**180**	P	**P**	**07 42 11.5**	**+3.8**
	comp=Z,1.0nm,0.2s,baz=111,slow=2.0,SNR=2.2						
	comp=Z,1.0nm,0.2s						
D27M	**Malcolm River**	**86.41**	**20**	IAMs_20	IAMs_20	08 18 07.9	
	comp=Z,826nm,20.0s						
V35K	**Ketchikan**	**86.98**	**34**	IAMs_20	IAMs_20	08 12 39.0	
	comp=Z,783nm,21.0s						
CMB	**Columbia Colle**	**92.78**	**52**	IAMs_20	IAMs_20	08 17 56.8	
	comp=Z,824nm,20.0s						
GEYT	**Alibeck**	**92.78**	**308**	P	**P**	**07 42 40.3**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=204,slow=3.2,SNR=2.5						
	comp=Z,1.2nm,0.6s						
NVAR	**Mina Array Bea**	**94.43**	**52**	P	**P**	**07 42 49.1**	**+2.8**
	comp=Z,0.3nm,0.8s,baz=251,slow=8.3,SNR=2.0						
	comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**96.19**	**28**	P	**P**	**07 42 52.7**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=277,slow=4.9,SNR=4.5						
	comp=Z,0.7nm,0.8s						
R11B	**Troy Canyon, C**	**96.56**	**52**	IAMs_20	IAMs_20	08 20 20.0	
	comp=Z,759nm,20.0s						
ELK	**Elko**	**96.79**	**50**	IAMs_20	IAMs_20	08 18 14.0	
	comp=Z,768nm,20.0s						
ELIB	**Princess Elisa**	**96.99**	**195**	*d*P	**P**	**07 42 57.9**	**+0.8**
	comp=Z,2.2nm,1.7s						
DUG	**Dugway, Tooele**	**98.66**	**50**	IAMs_20	IAMs_20	08 22 51.5	
	comp=Z,608nm,19.0s						
HWUT	**Hardware Ranch**	**99.53**	**49**	IAMs_20	IAMs_20	08 21 14.3	
	comp=Z,703nm,20.0s						
AHID	**Auburn Hatcher**	**99.79**	**47**	IAMs_20	IAMs_20	08 20 44.2	
	comp=Z,673nm,20.0s						
VOI	**Vohitsoka**	**99.84**	**247**	IAMs_20	IAMs_20	08 25 41.1	
	comp=Z,611nm,21.0s						
WUAZ	**Wupatki**	**100.02**	**55**	IAMs_20	IAMs_20	08 23 09.7	
	comp=Z,622nm,19.0s						
RWWY	**Rawlins**	**102.77**	**48**	IAMs_20	IAMs_20	08 26 03.1	
	comp=Z,695nm,20.0s						
SMCO	**Snowmass**	**103.23**	**51**	IAMs_20	IAMs_20	08 24 58.5	
	comp=Z,600nm,21.0s						
TULEG	**Thule**	**104.22**	**8**	IAMs_20	IAMs_20	08 25 45.3	
	comp=Z,638nm,20.0s						
SDCO	**Great Sand Dun**	**104.54**	**52**	IAMs_20	IAMs_20	08 23 45.3	
	comp=Z,507nm,21.0s						
OK032	**Salt Plains WL**	**110.43**	**52**	IAMs_20	IAMs_20	08 29 50.2	
	comp=Z,645nm,21.0s						
KSU1	**Kansas State U**	**111.19**	**49**	IAMs_20	IAMs_20	08 39 58.9	
	comp=Z,520nm,18.0s						
OK033	**Mehan**	**111.59**	**53**	IAMs_20	IAMs_20	08 29 58.9	
	comp=Z,580nm,20.0s						
TUL3	**Leonard**	**112.53**	**53**	IAMs_20	IAMs_20	08 26 17.7	
	comp=Z,504nm,22.0s						
LSZ	**Lusaka**	**118.37**	**251**	IAMs_20	IAMs_20	08 37 10.6	
	comp=Z,553nm,20.0s						
PLAL	**Pickwick Lake**	**118.85**	**52**	IAMs_20	IAMs_20	08 32 25.1	
	comp=Z,528nm,20.0s						
ACSO	**Alum Creek Sta**	**120.80**	**44**	IAMs_20	IAMs_20	08 35 31.8	
	comp=Z,543nm,22.0s						
OTAV	**Otavalo**	**132.60**	**93**	IAMs_20	IAMs_20	08 35 31.1	
	comp=Z,471nm,22.0s						
SIV	**San Ignacio**	**144.56**	**124**	PKP	**PKPdf**	**07 49 04.1**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=228,slow=3.8,SNR=1.7						
SAML	**Samuel**	**145.70**	**111**	PKPdf	**PKPbc**	**07 49 05.7**	**+0.1**
TOA0	**Torodi Ar. Sit**	**146.21**	**288**		**PKPbc**	**07 49 07.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**146.21**	**288**	PKPbc	**PKPab**	**07 49 07.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**146.21**	**288**	PKPbc	**PKPbc**	**07 49 07.0**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=51,slow=4.4,SNR=6.7						

*AEIC **28** 07:30:00.9±2.2, 55°

SVB	**Belmont**	**2.90**	**25**	Pn		**Pn**	07 30 49.6	**-1.1**
SVB	**Belmont**	**2.90**	**25**	*eP*		**Pn**	07 30 50.8	**+0.1**
SVB				*eS*		**Sn**	07 31 24.1	**-0.5**
SLCP	**Castries, St.**	**3.68**	**23**	*eS*		**Sn**	07 31 43.2	**-0.1**
SLBI	**Saint Lucia, B**	**3.70**	**24**	*eP*		**Pn**	07 31 01.8	**+0.4**
SLBI				*eS*		**Sn**	07 31 43.5	**-0.3**
BCHC	**Barbados, Cave**	**3.75**	**48**	*eP*		**Pn**	07 31 03.9	**+1.7**
BCHC				*eS*		**Sn**	07 31 46.2	**+1.0**
BBGH	**Gun Hill**	**3.81**	**49**	Pn		**Pn**	07 31 02.6	**-0.4**
BBGH	**Gun Hill**	**3.81**	**49**	*eP*		**Pn**	07 31 04.4	**+1.4**
BBGH				*eS*		**Sn**	07 31 46.6	**-0.1**
BIM	**Bigot**	**4.12**	**20**	Pn		**Pn**	07 31 07.1	**0.0**
BIM	**Bigot**	**4.12**	**20**	*eP*		**Pn**	07 31 08.1	**+0.9**
BIM				*eS*		**Sn**	07 31 52.1	**-2.0**
MPOM	**Morne Pois Mar**	**4.12**	**23**	Pn		**Pn**	07 31 07.7	**+0.5**
MPOM	**Morne Pois Mar**	**4.12**	**23**	*eP*		**Pn**	07 31 07.5	**+0.2**
MPOM	**Morne Pois Mar**	**4.12**	**23**	*eS*		**Sn**	07 31 53.4	**-0.8**
TRMF	**Trois Ilets**	**4.14**	**20**	*eP*		**Pn**	07 31 08.2	**+0.8**
ZAM	**Aeronautique**	**4.18**	**20**	*eP*		**Pn**	07 31 09.0	**+1.0**
MVM	**Montagne Vaucl**	**4.21**	**22**	*eP*		**Pn**	07 31 09.3	**+0.9**
FDF	**Fort de France**	**4.29**	**18**	Pn		**Pn**	07 31 09.9	**+0.3**
FDF	**Fort de France**	**4.29**	**18**	*eP*		**Pn**	07 31 10.4	**+0.8**
FDF	**Fort de France**	**4.29**	**18**	*eS*		**Sn**	07 31 57.4	**-1.1**
PML	**Morne Lenard**	**4.33**	**17**	*eP*		**Pn**	07 31 11.0	**+0.9**
GBMF	**Grand Be**	**4.35**	**17**	*eP*		**Pn**	07 31 11.5	**+1.1**
PCM	**Pelee Case Pet**	**4.36**	**17**	*eP*		**Pn**	07 31 10.5	**+0.1**
BAMF	**Morne Balai**	**4.37**	**17**	*eP*		**Pn**	07 31 11.1	**+0.4**
SVN	**Savane Anatole**	**4.39**	**17**	Pn		**Pn**	07 31 10.5	**-0.5**
SVN	**Savane Anatole**	**4.39**	**17**	*eP*		**Pn**	07 31 11.3	**+0.3**
SVN	**Savane Anatole**	**4.39**	**17**	*eS*		**Sn**	07 31 58.7	**-2.2**
TACV	**Tcata**	**4.49**	**264**	*eP*		**Pn**	07 31 14.0	**+1.8**
TACV				*eS*		**Sn**	07 32 03.0	**-0.3**
LUEV	**Luepa**	**4.85**	**168**	*eP*		**Pn**	07 31 17.4	**+0.1**
LUEV				*eS*		**Sn**	07 32 07.3	**-5.0**
CACV	**CAICARA DEL OR**	**5.02**	**233**	*eP*		Pn	07 31 14.5	-4.9
CACV				*eS*		Sn	07 32 06.0	-10
BENV	**Beln**	**5.07**	**263**	*eP*		**Pn**	07 31 22.0	**+1.8**
BENV				*eS*		**Sn**	07 32 16.2	**-1.3**
TBG	**Guadaloupe-3**	**5.27**	**9**	*eP*		**Pn**	07 31 24.6	**+1.8**
MAGL	**Barre de l'ile**	**5.43**	**12**	Pn		**Pn**	07 31 25.6	**+0.6**
CBE	**Ff, Capester**	**5.49**	**9**	Pn		**Pn**	07 31 25.9	**+0.1**
CBE	**Ff, Capester**	**5.49**	**9**	*eP*		**Pn**	07 31 26.8	**+0.9**
CBE	**Ff, Capester**	**5.49**	**9**	*eS*		**Sn**	07 32 26.5	**-1.1**
GDHS	**Morne Mazeau,**	**5.67**	**7**	Pn		**Pn**	07 31 27.7	**-0.6**
BAUV	**El Baul**	**5.72**	**254**	*eP*		**Pn**	07 31 29.3	**+0.4**
BAUV				*eS*		**Sn**	07 32 30.4	**-2.9**
BAUV	**El Baul**	**5.72**	**254**	*eP*		**Pn**	07 31 29.3	**+0.4**
BAUV	**El Baul**	**5.72**	**254**	*eS*		**Sn**	07 32 31.0	**-2.2**
GDSD	**La Dsirade Is**	**5.83**	**14**	Pn		**Pn**	07 31 30.3	**-0.2**
MBFL	**Flemmings, Mon**	**6.10**	**3**	*eP*		**Pn**	07 31 35.0	**+0.8**
ANBD	**Bethesda, Anti**	**6.43**	**6**	*eP*		**Pn**	07 31 39.8	**+1.1**
ANBD	**Bethesda, Anti**	**6.43**	**6**	*eS*		**Sn**	07 32 49.1	**-1.5**
CURV	**Curarigua**	**7.37**	**266**	*eP*		**Pn**	07 31 51.6	**0.0**
CURV				*eS*		**Sn**	07 33 08.6	**-5.4**
HUMP	**Col San Antoni**	**8.16**	**337**	Pn		**Pn**	07 32 02.2	**0.0**
OBIP	**Obispado Ponce**	**8.39**	**332**	Pn		**Pn**	07 32 05.6	**+0.2**
GCPR	**Guaynabo City**	**8.40**	**336**	Pn		**Pn**	07 32 05.7	**+0.1**
BOAV	**Boa Vista**	**8.40**	**166**			**Pn**	07 32 05.3	**-0.3**
MLPR	**Magueyes Islan**	**8.54**	**329**	Pn		**Pn**	07 32 07.4	**-0.1**
SOCV	**Socops**	**8.57**	**255**	*eP*		**Pn**	07 32 07.8	**-0.2**
SOCV				*eS*		Sn	07 33 37.3	-5.8
CRPR	**Cabo Rojo, PR**	**8.60**	**329**	Pn		**Pn**	07 32 08.9	**+0.6**
PRSN	**Puerto Rico Se**	**8.79**	**330**	Pn		**Pn**	07 32 11.9	**+1.0**
SDDR	**Presa de Saban**	**11.89**	**315**	Pn		**Pn**	07 32 52.6	**-0.7**
PAPH	**Port-au-Prince**	**12.32**	**311**	Pn		**Pn**	07 32 58.4	**-0.7**
ROSC	**El Rosal**	**13.05**	**245**	Pn		**Pn**	07 33 09.4	**+0.2**
MACA	**Manacapuru-AM**	**13.81**	**172**	Pn		**Pn**	07 33 18.5	**-0.4**
CAP2	**Capurgana**	**14.79**	**264**	Pn		**Pn**	07 33 32.6	**+0.9**
TUMC	**Tumaco**	**18.34**	**243**	P		**P**	07 34 14.9	**0.0**
PRVC	**Isla de Provid**	**18.66**	**280**	P		**P**	07 34 18.3	**-0.2**
OTAV	**Otavalo**	**18.92**	**238**	P		**P**	07 34 22.0	**+0.2**
SAML	**Samuel**	**19.45**	**182**	P		**P**	07 34 27.2	**+0.2**
SAML				IAmb		IAmb	07 34 31.0	
	comp=Z,4.9nm,1.2s							
ETMB	**Extrema**	**20.64**	**190**	P		**P**	07 34 40.1	**+0.2**
CZSB	**Cruzeiro do Su**	**20.87**	**210**	P		**P**	07 34 43.4	**+1.0**
CZSB				IAmb		IAmb	07 35 07.7	
	comp=Z,4.7nm,0.9s							
ESPN	**Las Esperanzas**	**21.43**	**276**	P		**P**	07 34 49.2	**+0.7**
ESPN				IAmb		IAmb	07 34 49.6	
	comp=Z,9.7nm,0.9s							
ACON	**Acoyapa**	**22.28**	**276**	P		**P**	07 34 58.5	**+0.9**
ACON				IAmb		IAmb	07 35 29.6	
	comp=Z,26nm,1.4s							

IDC ***28*** *07:35:13.2±2.5,56˚.05N×148˚.72W,h0km,mb3.7/5, mbtmp3.6/10,ML3.4/5,Error ellipse: s-maj=52.0km s-min=25.1km az=173.0*

NEIC ***28*** *07:35:18.0±1.3,56˚.41N±0˚.08×148˚.78W±0˚.09,h23km±8km, mb3.6/3,ML3.9/46,ML3.6(AEIC),Error ellipse: s-maj=12.2km s-min=7.3km az=166.0*

AEIC ***28*** *07:35:20.1±1.9,56˚.35N±0˚.08×148˚.70W±0˚.10,h12km±6km, Error ellipse: s-maj=11.8km s-min=7.8km az=171.0*

ISC 28 07:35:19.4±0.8,56˚.44N±0˚.06×148˚.74W±0˚.04,h35km, n224,σ0≧97/242,mb3.8/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KDAK	**Kodiak Island**	**2.49**	**304**	Pn	**Pn**	**07**	**35**	**56.9**	**-0.4**
KDAK				Sn	**Sn**	**07**	**36**	**24.7**	**-1.8**
KDAK	**Kodiak Island**	**2.49**	**304**	S	**Sn**	**07**	**36**	**24.4**	**-2.1**
	baz=122								
KDAK	**Kodiak Island**	**2.49**	**304**	Pn	**Pn**	**07**	**35**	**56.6**	**-0.8**
	3.9nm,0.3s,baz=127,slow=5.4,SNR=4.4								
KDAK				Sn	**Sn**	**07**	**36**	**24.7**	**-1.8**
	19nm,0.3s,baz=245,slow=23,SNR=7.1 10.0nm,0.2s								
OHAK	**Old Harbor**	**2.62**	**289**	Pn	**Pn**	**07**	**35**	**58.0**	**-1.1**
OHAK				Sn	**Sn**	**07**	**36**	**27.0**	**-2.7**
OHAK	**Old Harbor**	**2.62**	**289**	P	**Pn**	**07**	**35**	**58.4**	**-0.7**
	baz=106								
OHAK				S	**Sn**	**07**	**36**	**26.9**	**-2.8**
	baz=106								
SYI	**Shuyak Island**	**2.93**	**319**		**Pn**	**07**	**36**	**03.5**	**0.0**
SYI					**Sn**	**07**	**36**	**37.2**	**-0.2**
SYI				IAML		07	36	37.8	
	comp=E,183nm,0.6s								
Q20K	**Shuyak Island**	**2.93**	**319**	P	**Pn**	**07**	**36**	**03.4**	**-0.1**
	baz=136								
Q20K				S	**Sn**	**07**	**36**	**36.9**	**-0.5**
	baz=136								
SII	**Sitkinak Islan**	**3.02**	**274**	Pn	**Pn**	**07**	**36**	**03.6**	**-1.2**
SII					**Sn**	**07**	**36**	**37.4**	**-2.3**
SII	**Sitkinak Islan**	**3.02**	**274**	P	**Pn**	**07**	**36**	**03.4**	**-1.3**
	baz=91								
SII				S	**Sn**	**07**	**36**	**37.3**	**-2.3**
	baz=91								
Q23K	**Middleton Isla**	**3.25**	**22**		**Pn**	**07**	**36**	**07.4**	**-0.5**
Q23K					**Sn**	**07**	**36**	**42.7**	**-2.5**
Q23K	**Middleton Isla**	**3.25**	**22**	P	**Pn**	**07**	**36**	**07.4**	**-0.5**
	baz=203								
Q23K				S	**Sn**	**07**	**36**	**42.7**	**-2.5**
	baz=203								
MID	**Middleton Isla**	**3.25**	**22**	Pn	**Pn**	**07**	**36**	**07.7**	**-0.1**
MID				IAML		07	36	43.2	
	comp=E,238nm,1.9s								
MID				IAML		07	36	52.0	
	comp=N,199nm,1.8s								
CNPM	**China Poot**	**3.37**	**338**	Pn	**Pn**	**07**	**36**	**09.2**	**-0.2**
BRSE	**Bradley Lake S**	**3.48**	**343**		**Pn**	**07**	**36**	**10.1**	**-0.8**
BRSE					**Sn**	**07**	**36**	**48.9**	**-1.9**
BRSE	**Bradley Lake S**	**3.48**	**343**	P	**Pn**	**07**	**36**	**10.1**	**-0.8**
	baz=161								
BRSE				S	**Sn**	**07**	**36**	**48.9**	**-1.9**
	baz=161								
BRLK	**Bradley Lake**	**3.52**	**342**	Pn	**Pn**	**07**	**36**	**10.9**	**-0.7**
BRLK				IAML		07	36	53.7	
	comp=N,120nm,0.6s								
BRLK				IAML		07	36	53.8	
	comp=E,101nm,0.4s								
HOM	**Homer**	**3.58**	**336**	Pn	**Pn**	**07**	**36**	**12.7**	**+0.4**
HOM				IAML		07	36	58.2	
	comp=N,304nm,0.6s								
HOM				IAML		07	36	59.4	
	comp=E,293nm,1.3s								
HOM	**Homer**	**3.58**	**336**	P	**Pn**	**07**	**36**	**12.2**	**0.0**
	baz=153								
HOM				S	**Sn**	**07**	**36**	**54.0**	**+0.8**
	baz=153								
Q19K	**Cape Douglas,**	**3.63**	**315**		**Pn**	**07**	**36**	**13.1**	**+0.1**
Q19K	**Cape Douglas,**	**3.63**	**315**	P	**Pn**	**07**	**36**	**13.1**	**+0.1**
	baz=132								
P23K	**Montague Islan**	**3.63**	**11**		**Pn**	**07**	**36**	**12.6**	**-0.4**
P23K					**Sn**	**07**	**36**	**52.1**	**-2.5**
P23K	**Montague Islan**	**3.63**	**11**	P	**Pn**	**07**	**36**	**12.6**	**-0.4**
	baz=191								
P23K				S	**Sn**	**07**	**36**	**52.1**	**-2.5**
	baz=191								
SEW	**Seward**	**3.69**	**354**		**Pn**	**07**	**36**	**13.3**	**-0.5**
SEW	**Seward**	**3.69**	**354**	P	**Pn**	**07**	**36**	**13.5**	**-0.3**
	baz=173								
KAHG	**Katmai Hook Gl**	**3.75**	**306**		**Pn**	**07**	**36**	**14.8**	**0.0**
CHIR	**Chirikof Islan**	**3.90**	**264**	S	**Sn**	**07**	**36**	**58.4**	**-2.9**
	baz=79								
P19K	**Oil Pt**	**4.01**	**325**		**Pn**	**07**	**36**	**17.6**	**-0.7**
P19K	**Oil Pt**	**4.01**	**325**	P	**Pn**	**07**	**36**	**17.6**	**-0.7**
	baz=142								
O22K	**Cooper Landing**	**4.08**	**353**		**Pn**	**07**	**36**	**19.2**	**0.0**
O22K	**Cooper Landing**	**4.08**	**353**	P	**Pn**	**07**	**36**	**19.1**	**-0.1**
	baz=172								
O22K				S	**Sn**	**07**	**37**	**03.5**	**-2.2**
	baz=172								
HIN	**Hinchinbrook I**	**4.13**	**16**	Pn	**Pn**	**07**	**36**	**19.9**	**-0.1**
HIN				IAML		07	37	06.4	
	comp=N,175nm,0.8s								
HIN				IAML		07	37	08.5	
	comp=E,172nm,0.6s								
SLKM	**Skilak Lake**	**4.15**	**350**		**Pn**	**07**	**36**	**19.5**	**-0.7**
SLKM					**Sn**	**07**	**37**	**06.1**	**-1.3**
KAIM	**Kayak Island**	**4.17**	**31**	Pn	**Pn**	**07**	**36**	**20.8**	**+0.4**
KAIM	**Kayak Island**	**4.17**	**31**	P	**Pn**	**07**	**36**	**19.9**	**-0.6**
	baz=214								
O20K	**Slope Mountain**	**4.19**	**332**		**Pn**	**07**	**36**	**20.7**	**-0.1**
O20K	**Slope Mountain**	**4.19**	**332**	P	**Pn**	**07**	**36**	**20.7**	**-0.1**
	baz=149								
IVE	**Iliamna Volcan**	**4.24**	**330**		**Pn**	**07**	**36**	**20.9**	**-0.5**
CNTC	**Contact Creek**	**4.28**	**298**		**Pn**	**07**	**36**	**21.7**	**-0.3**
Q17K	**Contact Creek**	**4.28**	**298**	P	**Pn**	**07**	**36**	**21.7**	**-0.3**
	baz=113								
EYAK	**Cordova Ski Ar**	**4.40**	**20**		**Pn**	**07**	**36**	**23.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.40**	**20**	P	**Pn**	**07**	**36**	**23.6**	**0.0**
	baz=201								
FID	**Port Fidalgo**	**4.48**	**14**	Pn	**Pn**	**07**	**36**	**24.4**	**-0.2**
FID				IAML		07	37	14.2	
	comp=E,131nm,0.4s								
FID				IAML		07	37	15.6	
	comp=N,153nm,0.5s								
RAGM	**Ragged Mountai**	**4.49**	**27**		**Pn**	**07**	**36**	**25.3**	**+0.4**
RED	**Redoubt Volcan**	**4.51**	**334**		**Pn**	**07**	**36**	**24.5**	**-0.7**
CAPN	**Captain Cook N**	**4.52**	**345**	Pn	**Pn**	**07**	**36**	**25.8**	**+0.6**
RDSO	**Redoubt South**	**4.54**	**334**		**Pn**	**07**	**36**	**24.8**	**-0.8**
RSO	**Redoubt South**	**4.55**	**334**	Pn	**Pn**	**07**	**36**	**25.4**	**-0.5**
P18K	**Big Mountain,**	**4.55**	**313**		**Pn**	**07**	**36**	**25.4**	**-0.4**
P18K	**Big Mountain,**	**4.55**	**313**	P	**Pn**	**07**	**36**	**25.4**	**-0.4**
	baz=128								
RDWB	**Redoubt West**	**4.59**	**334**		**Pn**	**07**	**36**	**25.6**	**-0.8**
DFR	**Drift River**	**4.65**	**335**		**Pn**	**07**	**36**	**26.3**	**-0.7**
GOAT	**Goat Mountain**	**4.65**	**25**		**Pn**	**07**	**36**	**27.1**	**0.0**
NCT	**North Crescent**	**4.68**	**334**		**Pn**	**07**	**36**	**26.8**	**-0.7**
RC01	**Rabbit Creek A**	**4.69**	**354**		**Pn**	**07**	**36**	**27.4**	**-0.1**
RC01				IAML		07	37	20.6	
	comp=N,163nm,0.5s								
RC01	**Rabbit Creek A**	**4.69**	**354**	P	**Pn**	**07**	**36**	**27.2**	**-0.4**
	baz=173								
O19K	**Port Alsworth**	**4.78**	**324**	P	**Pn**	**07**	**36**	**28.4**	**-0.4**
	baz=140								
O18K	**Koktuh Hills**	**4.84**	**318**		**Pn**	**07**	**36**	**29.2**	**-0.5**
O18K	**Koktuh Hills**	**4.84**	**318**	P	**Pn**	**07**	**36**	**29.2**	**-0.5**
	baz=132								
SNH	**Sunshine Point**	**4.87**	**37**	Pn	**Pn**	**07**	**36**	**30.4**	**+0.3**
SNH				IAML		07	37	24.5	
	comp=N,79nm,0.3s								
SNH				IAML		07	37	28.3	
	comp=E,78nm,1.0s								
R16K	**Pilot Point**	**4.96**	**287**		**Pn**	**07**	**36**	**30.1**	**-1.1**
R16K				IAML		07	38	34.9	
	comp=E,101nm,1.9s								
R16K				IAML		07	39	47.1	
	comp=N,90nm,1.6s								
R16K	**Pilot Point**	**4.96**	**287**	P	**Pn**	**07**	**36**	**30.1**	**-1.1**
	baz=100								
KNK	**Knik Glacier**	**4.99**	**2**	Pn	**Pn**	**07**	**36**	**31.4**	**-0.3**
KNK				IAML		07	37	26.5	
	comp=N,66nm,0.6s								
KNK				IAML		07	37	35.3	
	comp=E,63nm,0.7s								
KNK	**Knik Glacier**	**4.99**	**2**	P	**Pn**	**07**	**36**	**31.4**	**-0.3**
	baz=181								
N20K	**Mount Spurr**	**5.10**	**341**	P	**Pn**	**07**	**36**	**32.7**	**-0.6**
	baz=158								
SPCR	**Spurr Chakacha**	**5.10**	**341**		**Pn**	**07**	**36**	**32.6**	**-0.6**
SUA	**Susitna One**	**5.14**	**349**	Pn	**Pn**	**07**	**36**	**33.5**	**-0.4**
SUA				IAML		07	37	31.4	
	comp=N,51nm,0.7s								
SUA				IAML		07	37	33.0	
	comp=E,40nm,0.6s								
SUA	**Susitna One**	**5.14**	**349**	P	**Pn**	**07**	**36**	**33.7**	**-0.2**
	baz=167								
SPCP	**Crater Peak Br**	**5.15**	**341**		**Pn**	**07**	**36**	**33.0**	**-1.1**
SPCG	**Spurr Capps Gl**	**5.15**	**342**		**Pn**	**07**	**36**	**33.5**	**-0.5**
PMR	**Palmer**	**5.17**	**358**		**Pn**	**07**	**36**	**34.5**	**+0.4**
PMR				IAML		07	37	30.4	
	comp=E,60nm,0.7s								
PMR				IAML		07	37	30.9	
	comp=N,49nm,0.4s								
PMR	**Palmer**	**5.17**	**358**	P	**Pn**	**07**	**36**	**34.0**	**-0.1**
	baz=177								
KLU	**Klutina**	**5.27**	**15**		**Pn**	**07**	**36**	**35.9**	**+0.3**
KLU				IAML		07	37	34.8	
	comp=E,80nm,0.3s								
KLU				IAML		07	37	36.1	
	comp=N,91nm,0.4s								
KLU	**Klutina**	**5.27**	**15**	P	**Pn**	**07**	**36**	**35.4**	**-0.2**
	baz=197								
N19K	**Bonanza Creek**	**5.31**	**328**		**Pn**	**07**	**36**	**35.6**	**-0.6**
N19K	**Bonanza Creek**	**5.31**	**328**	P	**Pn**	**07**	**36**	**35.8**	**-0.4**
	baz=143								
TGL	**Tana Glacier**	**5.31**	**33**		**Pn**	**07**	**36**	**36.5**	**+0.3**
STLK	**Strandline Lak**	**5.32**	**344**		**Pn**	**07**	**36**	**36.0**	**-0.3**
GHO	**Glory Hole Cre**	**5.35**	**359**		**Pn**	**07**	**37**	**37.0**	**+0.4**
SML	**Sawmill**	**5.38**	**2**		**Pn**	**07**	**37**	**37.6**	**+0.4**
SML	**Sawmill**	**5.38**	**2**	P	**Pn**	**07**	**37**	**37.5**	**+0.4**
	baz=182								
SCM	**Sheep Creek Mo**	**5.46**	**7**		**Pn**	**07**	**36**	**39.0**	**+0.9**
SCM	**Sheep Creek Mo**	**5.46**	**7**	P	**Pn**	**07**	**36**	**38.8**	**+0.6**
	baz=188								
VRDI	**Verde Repeater**	**5.53**	**28**	Pn	**Pn**	**07**	**36**	**39.3**	**+0.1**
O17K	**Koliganek Bris**	**5.55**	**310**		**Pn**	**07**	**36**	**39.3**	**0.0**
O17K	**Koliganek Bris**	**5.55**	**310**	P	**Pn**	**07**	**36**	**39.3**	**0.0**
	baz=124								
KIAG	**Kiagna River**	**5.59**	**34**		**Pn**	**07**	**36**	**40.1**	**+0.1**
N25K	**Chitina, Valde**	**5.60**	**21**		**Pn**	**07**	**36**	**40.3**	**+0.2**
N25K	**Chitina, Valde**	**5.60**	**21**	P	**Pn**	**07**	**36**	**40.3**	**+0.2**
	baz=204								
GLB	**Gilahina Butte**	**5.62**	**25**	Pn	**Pn**	**07**	**36**	**41.0**	**+0.5**
GRNC	**Granite Creek**	**5.64**	**37**		**Pn**	**07**	**36**	**41.0**	**+0.2**
N18K	**Kilae Creek**	**5.66**	**322**		**Pn**	**07**	**36**	**40.4**	**-0.5**
N18K	**Kilae Creek**	**5.66**	**322**	P	**Pn**	**07**	**36**	**40.2**	**-0.7**
	baz=136								
YKU2	**Yakutat**	**5.72**	**54**	Pn	**Pn**	**07**	**36**	**41.9**	**+0.2**
SKT	**Skwentna**	**5.74**	**347**		**Pn**	**07**	**36**	**41.8**	**-0.1**
SKT	**Skwentna**	**5.74**	**347**	P	**Pn**	**07**	**36**	**42.3**	**+0.3**
	baz=164								
PTPK	**Patty Peak**	**5.76**	**32**		**Pn**	**07**	**36**	**42.6**	**+0.1**
MCARA	**McCarthy VSAT**	**5.77**	**28**		**Pn**	**07**	**36**	**43.5**	**+1.1**
MCARA	**McCarthy VSAT**	**5.77**	**28**	P	**Pn**	**07**	**36**	**43.1**	**+0.8**
	baz=213								
PCA	**Pinnacle**	**5.78**	**47**		**Pn**	**07**	**36**	**43.1**	**+0.5**
PINM	**Pinnacle**	**5.78**	**47**	P	**Pn**	**07**	**36**	**42.8**	**+0.2**
	baz=234								
M24K	**Tolsona, Glenn**	**5.83**	**12**		**Pn**	**07**	**36**	**44.2**	**+1.0**
M24K	**Tolsona, Glenn**	**5.83**	**12**	P	**Pn**	**07**	**36**	**44.2**	**+1.0**
	baz=194								
O16K	**Kokwok River B**	**5.89**	**306**	Pn	**Pn**	**07**	**36**	**44.2**	**+0.2**
M20K	**Styx River**	**5.90**	**339**		**Pn**	**07**	**36**	**44.1**	**-0.3**
M20K	**Styx River**	**5.90**	**339**	P	**Pn**	**07**	**36**	**43.7**	**-0.6**
	baz=156								
BARN	**Barnard Glacie**	**5.91**	**36**		**Pn**	**07**	**36**	**45.1**	**+0.6**
PNL	**Peninsula**	**5.92**	**53**		**Pn**	**07**	**36**	**44.6**	**+0.2**
PNL	**Peninsula**	**5.92**	**53**	P	**Pn**	**07**	**36**	**44.6**	**+0.2**
	baz=240								
CTG	**Chitna Glacier**	**5.95**	**37**	P	**Pn**	**07**	**36**	**45.6**	**+0.7**
	baz=223								
CTGM	**Chitina Glacie**	**5.95**	**37**	Pn	**Pn**	**07**	**36**	**45.4**	**+0.4**
BCPM	**Bancas Point**	**5.96**	**50**	Pn	**Pn**	**07**	**36**	**45.6**	**+0.6**
LOGN	**Logan Glacier**	**5.96**	**39**	Pn	**Pn**	**07**	**36**	**45.8**	**+0.6**
N17K	**Nushagak Hills**	**6.03**	**316**		**Pn**	**07**	**36**	**46.1**	**+0.1**
N17K	**Nushagak Hills**	**6.03**	**316**	P	**Pn**	**07**	**36**	**45.6**	**-0.4**
	baz=129								
WAT6	**Susitna Watana**	**6.18**	**4**		**Pn**	**07**	**36**	**48.2**	**+0.1**
WAT6	**Susitna Watana**	**6.18**	**4**	P	**Pn**	**07**	**36**	**48.2**	**+0.1**
	baz=185								
M19K	**Big River Lodg**	**6.20**	**334**		**Pn**	**07**	**36**	**47.8**	**-0.5**
M19K	**Big River Lodg**	**6.20**	**334**	P	**Pn**	**07**	**36**	**47.6**	**-0.7**
	baz=150								
HARP	**HAARP**	**6.25**	**15**		**Pn**	**07**	**36**	**50.2**	**+1.2**
HARP	**HAARP**	**6.25**	**15**	P	**Pn**	**07**	**36**	**50.2**	**+1.2**
	baz=198								
M18K	**Stony River**	**6.25**	**327**		**Pn**	**07**	**36**	**48.0**	**-0.9**
M18K	**Stony River**	**6.25**	**327**	P	**Pn**	**07**	**36**	**48.0**	**-0.9**
	baz=141								
CHNA	**Chernabura Isl**	**6.36**	**260**	P	**Pn**	**07**	**36**	**49.0**	**-1.4**
	baz=71								
CNBA	**Chernabura Isl**	**6.36**	**260**		**Pn**	**07**	**36**	**49.7**	**-0.7**
WAT1	**Susitna Watana**	**6.41**	**1**		**Pn**	**07**	**36**	**51.9**	**+0.7**
WAT1	**Susitna Watana**	**6.41**	**1**	P	**Pn**	**07**	**36**	**51.9**	**+0.7**
	baz=181								
WAT7	**Susitna Watana**	**6.41**	**360**		**Pn**	**07**	**36**	**52.0**	**+0.7**
O15K	**Ungalikthiuk R**	**6.53**	**299**		**Pn**	**07**	**36**	**53.1**	**+0.3**
O15K	**Ungalikthiuk R**	**6.53**	**299**	P	**Pn**	**07**	**36**	**53.1**	**+0.3**
	baz=110								
L19K	**White Mountain**	**6.55**	**334**	P	**Pn**	**07**	**36**	**52.2**	**-0.9**
	baz=149								
O29M	**Mount Kennedy**	**6.59**	**50**		**Pn**	**07**	**36**	**54.6**	**+0.8**
L20K	**Farewell, AK**	**6.59**	**339**		**Pn**	**07**	**36**	**52.9**	**-0.8**
L20K	**Farewell, AK**	**6.59**	**339**	P	**Pn**	**07**	**36**	**52.9**	**-0.8**
	baz=154								
N16K	**Nishlik Lake**	**6.63**	**312**		**Pn**	**07**	**36**	**54.3**	**+0.1**
N16K	**Nishlik Lake**	**6.63**	**312**	P	**Pn**	**07**	**36**	**54.3**	**+0.1**
	baz=123								
P29M	**Windy Craggy**	**6.65**	**57**		**Pn**	**07**	**36**	**54.6**	**0.0**
P29M	**Windy Craggy**	**6.65**	**57**	P	**Pn**	**07**	**36**	**54.4**	**-0.1**
	baz=245								
DHY	**Denali Highway**	**6.69**	**5**		**Pn**	**07**	**36**	**55.9**	**+0.8**
DHY	**Denali Highway**	**6.69**	**5**	P	**Pn**	**07**	**36**	**55.6**	**+0.5**
	baz=186								
SDPT	**Sand Point**	**6.70**	**265**	Pn	**Pn**	**07**	**36**	**54.8**	**-0.3**
M17K	**Holitna River**	**6.71**	**321**		**Pn**	**07**	**36**	**55.0**	**-0.2**
M17K	**Holitna River**	**6.71**	**321**	P	**Pn**	**07**	**36**	**55.0**	**-0.2**
	baz=134			

	comp=Z,0.1nm,0.4s								
AKASG	**Malin Array Be**	**73.21**	**1**	P		**P**	**07 46 46.8**	**+0.6**	
	comp=Z,0.8nm,0.5s,baz=356,slow=5.1,SNR=5.8								
	comp=Z,0.8nm,0.5s								

NEIC ***28*** *07:37:13.8±1.1,56.°1N±0.°1×149.°8W±0.°1,h23km±11km, ML3.5/22,ML2.9(AEIC),Error ellipse: s-maj=18.5km s-min=8.9km az=176.0*

AEIC ***28*** *07:37:16.7±1.3,56.°05N±0.°10×149.°8W±0.°1,h12km±8km, Error ellipse: s-maj=15.0km s-min=6.6km az=157.0*

ISC 28 07:37:13.6±2.1,56.°0N±0.°1×149.°79W±0.°06,h35km,n43, σ0°85/52,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.28**	**304**		**Pn**	**07 37 49.2**	**+0.5**
OHAK					**Sn**	**07 38 15.2**	**-0.3**
OHAK	**Old Harbor**	**2.28**	**304**	P	**Pn**	**07 37 49.1**	**+0.4**
	baz=122						
OHAK				S	**Sn**	**07 38 14.4**	**-1.1**
	baz=122						
KDAK	**Kodiak Island**	**2.34**	**320**		**Pn**	**07 37 50.1**	**+0.5**
KDAK					**Sn**	**07 38 16.9**	**-0.2**
SII	**Sitkinak Islan**	**2.51**	**284**	Pn	**Pn**	**07 37 52.1**	**+0.2**
SII				IAML		07 38 30.6	
	comp=N,148nm,1.4s						
SII	**Sitkinak Islan**	**2.51**	**284**	P	**Pn**	**07 37 50.6**	**-1.3**
	baz=103						
SII				S	**Sn**	**07 38 20.9**	**-0.3**
	baz=103						
Q20K	**Shuyak Island**	**2.96**	**333**	P	**Pn**	**07 37 58.7**	**+0.6**
	baz=151						
Q20K				S	**Sn**	**07 38 31.9**	**-0.4**
	baz=151						
SYI	**Shuyak Island**	**2.96**	**333**	Pn	**Pn**	**07 37 58.4**	**+0.3**
SYI				IAML		07 38 37.2	
	comp=N,56nm,1.8s						
SYI				IAML		07 39 50.0	
	comp=E,54nm,1.6s						
KAHG	**Katmai Hook Gl**	**3.58**	**316**		**Pn**	**07 38 08.3**	**+1.6**
Q19K	**Cape Douglas,**	**3.59**	**326**		**Pn**	**07 38 07.2**	**+0.5**
Q19K	**Cape Douglas,**	**3.59**	**326**	P	**Pn**	**07 38 07.2**	**+0.5**
	baz=144						
CNPM	**China Poot**	**3.60**	**348**		**Pn**	**07 38 06.9**	**-0.1**
CNPM				IAML		07 40 11.7	
	comp=E,48nm,0.8s						
CNPM				IAML		07 40 16.0	
	comp=N,51nm,1.2s						
BRSE	**Bradley Lake S**	**3.77**	**353**		**Pn**	**07 38 09.2**	**-0.1**
BRSE					**Sn**	**07 38 51.7**	**-0.6**
BRSE	**Bradley Lake S**	**3.77**	**353**	P	**Pn**	**07 38 09.2**	**-0.1**
	baz=172						
BRSE				S	**Sn**	**07 38 51.7**	**-0.6**
	baz=172						
BRLK	**Bradley Lake**	**3.81**	**352**		**Pn**	**07 38 09.6**	**-0.1**
BRLK				IAML		07 40 00.5	
	comp=N,53nm,0.6s						
BRLK				IAML		07 40 19.5	
	comp=E,39nm,1.9s						
Q23K	**Middleton Isla**	**3.89**	**27**		**Pn**	**07 38 10.8**	**0.0**
Q23K	**Middleton Isla**	**3.89**	**27**	P	**Pn**	**07 38 10.8**	**0.0**
	baz=209						
MID	**Middleton Isla**	**3.89**	**27**		**Pn**	**07 38 11.0**	**+0.1**
MID				IAML		07 40 26.7	
	comp=E,193nm,1.6s						
MID				IAML		07 40 26.9	
	comp=N,273nm,1.9s						
CNTC	**Contact Creek**	**4.01**	**307**		**Pn**	**07 38 13.7**	**+1.0**
Q17K	**Contact Creek**	**4.01**	**307**	P	**Pn**	**07 38 13.7**	**+1.0**
	baz=123						
P18K	**Big Mountain,**	**4.47**	**322**		**Pn**	**07 38 19.4**	**+0.5**
P18K					**Sn**	**07 39 08.3**	**-1.2**
P18K	**Big Mountain,**	**4.47**	**322**	P	**Pn**	**07 38 19.4**	**+0.5**
	baz=138						
P18K				S	**Sn**	**07 39 08.3**	**-1.2**
	baz=138						
HIN	**Hinchinbrook I**	**4.73**	**20**	Pn	**Pn**	**07 38 22.6**	**+0.3**
O18K	**Koktuh Hills**	**4.81**	**325**		**Pn**	**07 38 23.9**	**+0.4**
O18K	**Koktuh Hills**	**4.81**	**325**	P	**Pn**	**07 38 23.9**	**+0.4**
	baz=141						
KAIM	**Kayak Island**	**4.86**	**34**	Pn	**Pn**	**07 38 24.8**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.02**	**23**		**Pn**	**07 38 27.1**	**+0.8**
EYAK	**Cordova Ski Ar**	**5.02**	**23**	P	**Pn**	**07 38 26.5**	**+0.2**
	baz=206						
RAGM	**Ragged Mountai**	**5.15**	**30**	Pn	**Pn**	**07 38 28.6**	**+0.4**
N19K	**Bonanza Creek**	**5.41**	**335**		**Pn**	**07 38 31.4**	**-0.3**
N19K				IAML		07 41 36.9	
	comp=E,38nm,0.8s						
N19K				IAML		07 41 43.2	
	comp=N,25nm,1.0s						
N19K	**Bonanza Creek**	**5.41**	**335**	P	**Pn**	**07 38 32.1**	**+0.3**
	baz=151						
N18K	**Kilae Creek**	**5.67**	**328**	Pn	**Pn**	**07 38 35.8**	**+0.5**
TGL	**Tana Glacier**	**6.00**	**35**	Pn	**Pn**	**07 38 40.6**	**+0.8**
MCARA	**McCarthy VSAT**	**6.43**	**30**	Pn	**Pn**	**07 38 47.0**	**+1.3**
PINM	**Pinnacle**	**6.51**	**47**	P	**Pn**	**07 38 47.5**	**+0.7**
	baz=234						
PNL	**Peninsula**	**6.65**	**52**		**Pn**	**07 38 49.2**	**+0.5**
PNL	**Peninsula**	**6.65**	**52**	P	**Pn**	**07 38 49.2**	**+0.5**
	baz=240						
N15K	**Kwethluk River**	**6.86**	**312**	Pn	**Pn**	**07 38 54.0**	**+2.4**
M16K	**Timber Creek**	**6.94**	**320**	Pn	**Pn**	**07 38 53.9**	**+1.1**
P29M	**Windy Craggy**	**7.38**	**56**		**Pn**	**07 38 59.8**	**+1.0**
P29M	**Windy Craggy**	**7.38**	**56**	P	**Pn**	**07 38 59.6**	**+0.7**
	baz=245						
S31K	**Pelican**	**7.66**	**70**		**Pn**	**07 39 01.9**	**-0.6**
S31K	**Pelican**	**7.66**	**70**	P	**Pn**	**07 39 01.9**	**-0.6**
	baz=260						
L14K	**Kuka Creek**	**8.57**	**314**	Pn	**Pn**	**07 39 17.6**	**+2.6**

IDC ***28*** *07:39:03.1±0.9,56.°07N×149.°83W,h0km,mb3.8/12, mbtmp3.8/17,ML3.3/5,MS3.7/13,Error ellipse: s-maj=22.7km s-min=14.6km az=34.0*

NEIC ***28*** *07:39:03.3±1.5,56.°01N±0.°09×149.°8W±0.°1,h18km±7km, mb3.8/3,ML4.0/31,ML3.8(AEIC),Error ellipse: s-maj=13.3km s-min=9.1km az=178.0*

AEIC ***28*** *07:39:06.8±1.5,56.°04N±0.°09×149.°7W±0.°1,h10km±6km, Error ellipse: s-maj=13.0km s-min=8.6km az=170.0*

ISC 28 07:39:07.2±0.7,56.°13N±0.°06×149.°80W±0.°05,h35km, n208,σ1°43/203,mb3.8/13,MS4.0/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.21**	**301**		**Pn**	**07 39 39.8**	**-1.7**
OHAK	**Old Harbor**	**2.21**	**301**		**Sn**	**07 40 05.2**	**-2.2**
OHAK	**Old Harbor**	**2.21**	**301**	P	**Pn**	**07 39 39.7**	**-1.7**
	baz=120						
OHAK				S	**Sn**	**07 40 05.2**	**-2.2**
	baz=120						
KDAK	**Kodiak Island**	**2.25**	**319**		**Pn**	**07 39 40.6**	**-1.3**
KDAK	**Kodiak Island**	**2.25**	**319**		**Sn**	**07 40 06.5**	**-1.9**
KDAK	**Kodiak Island**	**2.25**	**319**	Pn	**Pn**	**07 39 40.6**	**-1.3**
	8.7nm,0.3s,baz=149,slow=5.1,SNR=12						
KDAK					**Sn**	**07 40 06.7**	**-1.7**
	14nm,0.3s,baz=154,slow=23,SNR=8.0						
KDAK				LR	LR	07 40 51.9	
	comp=Z,1μm,19.2s,baz=196,slow=48 31nm,0.5s						
SII	**Sitkinak Islan**	**2.48**	**282**		**Pn**	**07 39 43.5**	**-1.5**
SII				IAML		07 40 20.9	
	comp=E,310nm,0.7s						
SII				IAML		07 40 22.1	
	comp=N,933nm,0.7s						
SII	**Sitkinak Islan**	**2.48**	**282**		**Sn**	**07 40 11.9**	**-2.1**
SII	**Sitkinak Islan**	**2.48**	**282**	P	**Pn**	**07 39 43.2**	**-1.9**
	baz=100						
SII				S	**Sn**	**07 40 11.9**	**-2.1**
	baz=100						
SYI	**Shuyak Island**	**2.85**	**332**		**Pn**	**07 39 49.2**	**-1.0**
SYI					**Sn**	**07 40 22.7**	**-0.6**
Q20K	**Shuyak Island**	**2.85**	**332**	P	**Pn**	**07 39 49.2**	**-1.0**
	baz=150						
Q20K				S	**Sn**	**07 40 22.7**	**-0.6**
	baz=150						
Q19K	**Cape Douglas,**	**3.49**	**325**		**Pn**	**07 39 58.4**	**-0.6**
Q19K	**Cape Douglas,**	**3.49**	**325**	P	**Pn**	**07 39 58.4**	**-0.6**
	baz=142						
CNPM	**China Poot**	**3.49**	**348**	Pn	**Pn**	**07 39 57.9**	**-1.0**
CNPM				IAML		07 40 39.3	
	comp=E,166nm,0.7s						
CNPM	**China Poot**	**3.49**	**348**		**Sn**	**07 40 38.0**	**-1.0**
BRSE	**Bradley Lake S**	**3.66**	**353**		**Pn**	**07 39 59.5**	**-1.7**
BRSE					**Sn**	**07 40 41.2**	**-1.8**
BRSE	**Bradley Lake S**	**3.66**	**353**	P	**Pn**	**07 39 59.5**	**-1.7**
	baz=171						
BRSE				S	**Sn**	**07 40 41.2**	**-1.8**
	baz=171						
HOM	**Homer**	**3.67**	**345**	Pn	**Pn**	**07 40 00.6**	**-0.8**
HOM				IAML		07 40 49.0	
	comp=N,375nm,0.8s						
HOM				IAML		07 41 02.1	
	comp=E,364nm,0.8s						
HOM	**Homer**	**3.67**	**345**		**Sn**	**07 40 42.4**	**-1.0**
HOM	**Homer**	**3.67**	**345**	S	**Sn**	**07 40 42.4**	**-1.0**
	baz=163						
BRLK	**Bradley Lake**	**3.69**	**351**	Pn	**Pn**	**07 39 59.9**	**-1.8**
BRLK				IAML		07 40 47.0	
	comp=N,132nm,0.9s						
BRLK				IAML		07 40 47.4	
	comp=E,108nm,0.6s						
AUCH	**Augustine Cone**	**3.78**	**330**		**Pn**	**07 40 02.6**	**-0.4**
Q23K	**Middleton Isla**	**3.79**	**28**		**Pn**	**07 40 00.7**	**-2.3**
Q23K	**Middleton Isla**	**3.79**	**28**	P	**Pn**	**07 40 01.3**	**-1.7**
	baz=210						
MID	**Middleton Isla**	**3.79**	**28**	Pn	**Pn**	**07 40 01.2**	**-1.8**
MID				IAML		07 41 38.4	
	comp=E,221nm,1.9s						
MID				IAML		07 41 53.0	
	comp=N,196nm,1.9s						
CNTC	**Contact Creek**	**3.94**	**305**		**Pn**	**07 40 04.6**	**-0.6**
Q17K	**Contact Creek**	**3.94**	**305**	P	**Pn**	**07 40 04.6**	**-0.6**
	baz=121						
Q17K				S	**Sn**	**07 40 49.6**	**-0.6**
	baz=121						
P19K	**Oil Pt**	**3.98**	**334**		**Pn**	**07 40 04.3**	**-1.4**
P19K	**Oil Pt**	**3.98**	**334**	P	**Pn**	**07 40 04.3**	**-1.4**
	baz=151						
SEW	**Seward**	**3.99**	**3**		**Pn**	**07 40 03.9**	**-1.8**
SEW	**Seward**	**3.99**	**3**	P	**Pn**	**07 40 04.2**	**-1.6**
	baz=182						
P23K	**Montague Islan**	**4.08**	**17**		**Pn**	**07 40 05.6**	**-1.4**
P23K	**Montague Islan**	**4.08**	**17**	P	**Pn**	**07 40 05.6**	**-1.4**
	baz=198						
PLK1	**Peulik 1**	**4.08**	**297**		**Pn**	**07 40 06.4**	**-0.7**
O20K	**Slope Mountain**	**4.24**	**340**		**Pn**	**07 40 07.7**	**-1.5**
O20K	**Slope Mountain**	**4.24**	**340**	P	**Pn**	**07 40 07.7**	**-1.5**
	baz=158						
IVE	**Iliamna Volcan**	**4.25**	**338**		**Pn**	**07 40 07.9**	**-1.6**
O22K	**Cooper Landing**	**4.36**	**0**		**Pn**	**07 40 10.5**	**-0.4**
P18K	**Big Mountain,**	**4.38**	**321**		**Pn**	**07 40 09.8**	**-1.3**
P18K	**Big Mountain,**	**4.38**	**321**	P	**Pn**	**07 40 09.8**	**-1.3**
	baz=136						
SLKM	**Skilak Lake**	**4.39**	**357**		**Pn**	**07 40 10.1**	**-1.3**
Q16K	**King Salmon**	**4.50**	**307**		**Pn**	**07 40 12.3**	**-0.5**
Q16K	**King Salmon**	**4.50**	**307**	P	**Pn**	**07 40 12.5**	**-0.2**
	baz=122						
RSO	**Redoubt South**	**4.61**	**341**	Pn	**Pn**	**07 40 14.2**	**-0.4**
HIN	**Hinchinbrook I**	**4.62**	**21**	Pn	**Pn**	**07 40 13.5**	**-1.0**
HIN				IAML		07 41 15.7	
	comp=E,122nm,0.9s						
HIN				IAML		07 41 15.8	
	comp=N,151nm,1.0s						
RDT	**Redoubt**	**4.66**	**344**		**Pn**	**07 40 13.5**	**-1.6**
CAPN	**Captain Cook N**	**4.71**	**352**	Pn	**Pn**	**07 40 15.6**	**0.0**
P17K	**Kvichak River**	**4.71**	**314**		**Pn**	**07 40 14.9**	**-0.6**
P17K	**Kvichak River**	**4.71**	**314**	P	**Pn**	**07 40 14.9**	**-0.6**
	baz=138						
O18K	**Koktuh Hills**	**4.71**	**325**		**Pn**	**07 40 14.5**	**-1.2**
O18K	**Koktuh Hills**	**4.71**	**325**	P	**Pn**	**07 40 14.5**	**-1.2**
	baz=140						
O19K	**Port Alsworth**	**4.73**	**331**		**Pn**	**07 40 14.8**	**-1.0**
O19K				IAML		07 41 16.4	
	comp=N,108nm,0.6s						
O19K	**Port Alsworth**	**4.73**	**331**	P	**Pn**	**07 40 14.6**	**-1.3**
	baz=148						
ANPB	**Aniakchak Plen**	**4.75**	**282**		**Pn**	**07 40 15.4**	**-0.9**
KAIM	**Kayak Island**	**4.76**	**35**	Pn	**Pn**	**07 40 15.5**	**-0.8**
KAIM				IAML		07 41 11.5	
	comp=N,212nm,0.9s						
KAIM				IAML		07 41 22.4	
	comp=E,144nm,0.6s						
KAIM	**Kayak Island**	**4.76**	**35**	P	**Pn**	**07 40 15.0**	**-1.3**
	baz=218						
CHGN	**Chignik**	**4.81**	**276**	Pn	**Pn**	**07 40 15.7**	**-1.4**
CHGN				IAML		07 41 14.4	
	comp=N,112nm,0.6s						
CHGN				IAML		07 41 14.4	
	comp=E,111nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.92**	**24**		**Pn**	**07 40 17.5**	**-1.0**
EYAK	**Cordova Ski Ar**	**4.92**	**24**	P	**Pn**	**07 40 17.5**	**-1.0**
	baz=206						
RC01	**Rabbit Creek A**	**4.97**	**0**		**Pn**	**07 40 18.9**	**-0.4**
RC01				IAML		07 41 27.0	
	comp=N,44nm,0.9s						
RAGM	**Ragged Mountai**	**5.05**	**30**	Pn	**Pn**	**07 40 19.5**	**-0.9**
GOAT	**Goat Mountain**	**5.20**	**29**		**Pn**	**07 40 21.2**	**-1.3**
N20K	**Mount Spurr**	**5.24**	**347**	P	**Pn**	**07 40 21.7**	**-1.3**
	baz=165						
SPCR	**Spurr Chakacha**	**5.24**	**347**		**Pn**	**07 40 20.9**	**-2.1**
P16K	**Nushagak River**	**5.28**	**307**		**Pn**	**07 40 22.9**	**-0.5**
P16K	**Nushagak River**	**5.28**	**307**	P	**Pn**	**07 40 23.0**	**-0.5**
	baz=120						
N19K	**Bonanza Creek**	**5.30**	**334**	P	**Pn**	**07 40 22.3**	**-1.5**
	baz=150						
O17K	**Koliganek Bris**	**5.33**	**316**		**Pn**	**07 40 23.0**	**-1.1**
O17K	**Koliganek Bris**	**5.33**	**316**	P	**Pn**	**07 40 23.0**	**-1.1**
	baz=130						
SUA	**Susitna One**	**5.37**	**355**		**Pn**	**07 40 23.2**	**-1.7**
S14K	**Fog Glacier**	**5.45**	**276**	P	**Pn**	**07 40 24.2**	**-1.7**
	baz=88						
VNFG	**Fog Glacier, M**	**5.45**	**276**		**Pn**	**07 40 24.2**	**-1.7**
SNH	**Sunshine Point**	**5.48**	**39**		**Pn**	**07 40 25.4**	**-1.0**
STLK	**Strandline Lak**	**5.49**	**350**		**Pn**	**07 40 25.3**	**-1.1**
PMR	**Palmer**	**5.49**	**3**		**Pn**	**07 40 25.5**	**-0.8**
BMRM	**Bremner River**	**5.56**	**27**		**Pn**	**07 40 26.0**	**-1.4**
BMRM	**Bremner River**	**5.56**	**27**	P	**Pn**	**07 40 26.0**	**-1.4**
	baz=211						
N18K	**Kilae Creek**	**5.57**	**327**	P	**Pn**	**07 40 26.0**	**-1.5**
	baz=142						
O16K	**Kokwok River B**	**5.62**	**312**		**Pn**	**07 40 28.1**	**-0.1**
GHO	**Glory Hole Cre**	**5.68**	**4**	Pn	**Pn**	**07 40 28.6**	**-0.4**
CHNA	**Chernabura Isl**	**5.72**	**261**	P	**Pn**	**07 40 26.7**	**-2.8**
	baz=74						
CNBA	**Chernabura Isl**	**5.72**	**261**	Pn	**Pn**	**07 40 27.3**	**-2.3**
KLU	**Klutina**	**5.74**	**19**		**Pn**	**07 40 29.1**	**-0.8**
SML	**Sawmill**	**5.74**	**7**		**Pn**	**07 40 29.4**	**-0.5**
SML	**Sawmill**	**5.74**	**7**	P	**Pn**	**07 40 28.1**	**-1.8**
	baz=188						
SVW2	**Sparrevohn**	**5.82**	**331**	Pn	**Pn**	**07 40 29.2**	**-1.7**
N17K	**Nushagak Hills**	**5.88**	**322**		**Pn**	**07 40 30.9**	**-0.8**
N17K	**Nushagak Hills**	**5.88**	**322**	P	**Pn**	**07 40 30.8**	**-0.9**
	baz=136						
SKT	**Skwentna**	**5.94**	**352**	Pn	**Pn**	**07 40 31.2**	**-1.3**
M20K	**Styx River**	**6.02**	**345**		**Pn**	**07 40 31.6**	**-2.1**
M20K	**Styx River**	**6.02**	**345**	P	**Pn**	**07 40 32.4**	**-1.4**
	baz=162						
SDPT	**Sand Point**	**6.08**	**267**	Pn	**Pn**	**07 40 33.1**	**-1.4**
VRDI	**Verde Repeater**	**6.09**	**30**	Pn	**Pn**	**07 40 33.7**	**-1.0**
N25K	**Chitina, Valde**	**6.12**	**24**		**Pn**	**07 40 33.9**	**-1.2**
N25K	**Chitina, Valde**	**6.12**	**24**	P	**Pn**	**07 40 33.9**	**-1.2**
	baz=208						
GLB	**Gilahina Butte**	**6.17**	**28**	Pn	**Pn**	**07 40 35.0**	**-0.8**
KIAG	**Kiagna River**	**6.18**	**36**		**Pn**	**07 40 34.4**	**-1.7**
O15K	**Ungalikthiuk R**	**6.18**	**304**		**Pn**	**07 40 34.9**	**-1.1**
O15K	**Ungalikthiuk R**	**6.18**	**304**	P	**Pn**	**07 40 34.9**	**-1.1**
	baz=116						
M18K	**Stony River**	**6.22**	**332**		**Pn**	**07 40 34.8**	**-1.6**
M18K	**Stony River**	**6.22**	**332**	P	**Pn**	**07 40 34.8**	**-1.6**
	baz=147						
MCARA	**McCarthy VSAT**	**6.34**	**31**		**Pn**	**07 40 38.0**	**0.0**
MCARA	**McCarthy VSAT**	**6.34**	**31**	P	**Pn**	**07 40 36.9**	**-1.1**
	baz=216						
PTPK	**Patty Peak**	**6.35**	**34**		**Pn**	**07 40 36.7**	**-1.6**
N16K	**Nishlik Lake**	**6.42**	**316**		**Pn**	**07 40 38.4**	**-0.8**
N16K	**Nishlik Lake**	**6.42**	**316**	P	**Pn**	**07 40 38.4**	**-0.8**
	baz=129						
BARN	**Barnard Glacie**	**6.52**	**37**		**Pn**	**07 40 40.0**	**-0.7**
CTG	**Chitna Glacier**	**6.56**	**39**	P	**Pn**	**07 40 39.0**	**-2.2**
	baz=225						
CTGM	**Chitina Glacie**	**6.56**	**39**		**Pn**	**07 40 40.3**	**-0.9**
LOGN	**Logan Glacier**	**6.59**	**41**		**Pn**	**07 40 41.0**	**-0.6**
M17K	**Holitna River**	**6.61**	**326**		**Pn**	**07 40 40.9**	**-0.8**
M17K	**Holitna River**	**6.61**	**326**	P	**Pn**	**07 40 40.9**	**-0.8**
	baz=140						
HARP	**HAARP**	**6.72**	**19**		**Pn**	**07 40 42.3**	**-1.0**
HARP	**HAARP**	**6.72**	**19**	P	**Pn**	**07 40 42.3**	**-1.0**
	baz=202						
N15K	**Kwethluk River**	**6.78**	**311**	P	**Pn**	**07 40 44.3**	**+0.2**
	baz=122						
M16K	**Timber Creek**	**6.85**	**319**	P	**Pn**	**07 40 43.7**	**-1.4**
	baz=132						
PN7A	**Pavlof North-7**	**6.92**	**269**		**Pn**	**07 40 44.3**	**-1.8**
L18K	**Granite Mounta**	**7.05**	**333**	Pn	**Pn**	**07 40 46.2**	**-1.6**
DHY	**Denali Highway**	**7.07**	**9**		**Pn**	**07 40 46.4**	**-1.8**
O29M	**Mount Kennedy**	**7.25**	**50**		**Pn**	**07 40 50.5**	**-0.2**
M15K	**Kasigluk River**	**7.32**	**313**		**Pn**	**07 40 50.8**	**-0.7**
M15K	**Kasigluk River**	**7.32**	**313**	P	**Pn**	**07 40 50.8**	**-0.7**
	baz=124						
P29M	**Windy Craggy**	**7.32**	**56**	P	**Pn**	**07 40 50.0**	**-1.5**
	baz=246						
TRF	**Thorofare Moun**	**7.35**	**358**	Pn	**Pn**	**07 40 51.2**	**-0.8**
N14K	**Kuskokwak Cree**	**7.36**	**306**		**Pn**	**07 40 51.4**	**-0.7**
N14K	**Kuskokwak Cree**	**7.36**	**306**	P	**Pn**	**07 40 51.4**	**-0.7**
	baz=116						
M27K	**Edge Creek, AK**	**7.45**	**30**		**Pn**	**07 40 52.6**	**-0.7**
KTH	**Kantishna Hill**	**7.47**	**356**	Pn	**Pn**	**07 40 54.1**	**+0.6**
TTA	**Tatalina**	**7.51**	**338**	Pn	**Pn**	**07 40 53.4**	**-0.8**
S31K	**Pelican**	**7.62**	**70**		**Pn**	**07 40 52.7**	**-2.9**
S31K	**Pelican**	**7.62**	**70**	P	**Pn**	**07 40 52.7**	**-2.9**
	baz=261						
MCK	**McKinley**	**7.64**	**3**	Pn	**Pn**	**07 40 54.5**	**-1.4**
L26K	**Log Cabin Wild**	**7.65**	**23**		**Pn**	**07 40 55.2**	**-0.8**
M14K	**Bethel**	**7.88**	**311**		**Pn**	**07 40 58.2**	**-0.9**
M14K	**Bethel**	**7.88**	**311**	P	**Pn**	**07 40 58.0**	**-1.0**
	baz=121						
K17K	**Iditarod**	**7.89**	**330**	Pn	**Pn**	**07 40 58.0**	**-1.3**
K17K	**Iditarod**	**7.89**	**330**	P	**Pn**	**07 40 57.9**	**-1.3**
	baz=143						
HYT	**Haines Junctio**	**7.97**	**49**	Pn	**Pn**	**07 41 00.6**	**+0.1**
RIDG	**Independent Ri**	**8.03**	**16**		**Pn**	**07 41 00.0**	**-1.2**
L27K	**Beaver Creek,**	**8.04**	**27**		**Pn**	**07 41 01.5**	**+0.2**
ISLZ	**Isanotski Laza**	**8.04**	**266**		**Pn**	**07 40 58.7**	**-2.7**
SIT	**Sitka**	**8.04**	**77**	Pn	**Pn**	**07 40 57.6**	**-3.8**
BWN	**Browne**	**8.07**	**1**	Pn	**Pn**	**07 41 00.5**	**-1.2**
J18K	**Innoko River**	**8.14**	**338**	Pn	**Pn**	**07 41 01.1**	**-1.5**
L15K	**Ungalak Mounta**	**8.21**	**317**		**Pn**	**07 41 02.3**	**-1.3**
L15K	**Ungalak Mounta**	**8.21**	**317**	P	**Pn**	**07 41 02.3**	**-1.3**
	baz=128						
J19K	**Poorman**	**8.40**	**342**	Pn	**Pn**	**07 41 04.6**	**-1.7**
SKAG	**Skagway**	**8.42**	**61**		**Pn**	**07 41 05.8**	**-0.7**
S32K	**Killisnoo**	**8.46**	**75**		**Pn**	**07 41 04.4**	**-2.7**
S32K	**Killisnoo**	**8.46**	**75**	P	**Pn**	**07 41 04.4**	**-2.7**
	baz=267						
K15K	**Wolf Creek Mou**	**8.61**	**321**		**Pn**	**07 41 09.4**	**+0.2**
ILAR	**Eielson Array**	**8.79**	**8**	Pn	**Pn**	**07 41 10.7**	**-0.9**
	comp=N,0.4nm,0.3s,baz=190,slow=14,SNR=8.6						
ILAR				Sn	**Sn**	**07 42 47.0**	**-2.2**
	comp=N,0.3nm,0.3s,baz=198,slow=21,SNR=6.8						
ILAR				LR	LR	07 44 47.6	
	comp=N,128nm,20.1s,baz=261,slow=39 comp=N,1.7nm,0.6s						
J16K	**Anvik River**	**9.00**	**327**		**Pn**	**07 41 12.3**	**-2.2**
N31M	**Braeburn, Yuko**	**9.03**	**48**		**Pn**	**07 41 14.7**	**-0.3**
WHY	**Whitehorse**	**9.05**	**54**		**Pn**	**07 41 14.9**	**-0.3**
I21K	**Tanana**	**9.14**	**354**		**Pn**	**07 41 16.9**	**+0.5**
M30M	**Minto, Yukon**	**9.25**	**40**		**Pn**	**07 41 17.8**	**-0.2**
U33K	**Whale Pass**	**9.32**	**83**	Pn	**Pn**	**07 41 16.0**	**-2.8**
U33K	**Whale Pass**	**9.32**	**83**	P	**Pn**	**07 41 15.3**	**-3.5**
	baz=276						
DAWY	**Dawson**	**9.49**	**29**		**Pn**	**07 41 21.1**	**-0.2**
EGAK	**Eagle**	**9.66**	**23**	Pn	**Pn**	**07 41 22.6**	**-0.9**
H21K	**Melozitna Rive**	**9.67**	**353**		**Pn**	**07 41 21.7**	**-2.0**
H21K	**Melozitna Rive**	**9.67**	**353**	P	**Pn**	**07 41 21.6**	**-2.1**
	baz=170						
P33M	**Teslin, Yukon**	**9.85**	**58**		**Pn**	**07 41 25.0**	**-1.2**
M31M	**Drury Creek, Y**	**9.96**	**46**	Pn	**Pn**	**07 41 27.9**	**+0.2**
G23K	**Bananza Creek**	**10.62**	**360**		**Pn**	**07 41 35.5**	**-1.2**
G24K	**Hadweenzic Riv**	**10.66**	**5**	Pn	**Pn**	**07 41 36.3**	**-1.0**
FYU	**Fort Yukon**	**10.69**	**10**	Pn	**Pn**	**07 41 38.0**	**+0.4**
J30M	**Hart River**	**10.75**	**33**	Pn	**Pn**	**07 41 38.2**	**-0.4**
DLBC	**Dease Lake**	**10.94**	**70**	Pn	**Pn**	**07 41 40.2**	**-1.0**
	comp=N,0.3nm,0.3s,baz=242,slow=7.4,SNR=2.4						
DLBC				Sn	**Sn**	**07 43 41.2**	**-1.0**
	baz=198,slow=20						
DLBC				LR	LR	07 45 09.1	
	comp=N,155nm,21.7s,baz=289,slow=33 comp=N,1.1nm,0.5s						
F15K	**North Star Dit**	**11.98**	**329**	Pn	**Pn**	**07 41 54.5**	**-0.7**
G30M	**tAoh Zrail Nji**	**12.62**	**25**	Pn	**Pn**	**07 42 04.0**	**0.0**
BBB	**Bella Bella**

EIL	**Elat**	**94.45**	**356**	LR	LR	08 39 49.8	
	comp=Z,126nm,20.6s,baz=68,slow=39						
QSPA	**South Pole Qui**	**145.92**	**180**	PKPbc	**PKiKP**	**07 58 43.2**	**-1.6**
	comp=Z,1.0nm,0.2s,baz=226,slow=6.5,SNR=1.6						

IDC 28 07:42:54.3±63.0, 19°.96S×178°.02E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1113.0km s-min=150.3km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.68**	**243**	P	P	07 49 45.7	-0.3
	1.7nm,1.1s,baz=67,slow=7.7,SNR=3.0 1.7nm,1.1s						
WRA	**Warramunga Arr**	**40.97**	**262**	P	P	07 50 39.1	-0.1
	0.6nm,0.3s,baz=97,slow=7.8,SNR=26 0.6nm,0.3s						
ASAR	**Alice Springs**	**41.00**	**257**	P	P	07 50 39.4	-0.1
	2.5nm,0.8s,baz=91,slow=7.7,SNR=20 2.5nm,0.8s						

*IDC **28** 07:49:40.3±1.6, 66°.50N×17°.84W, h0km, mb3.2/1, mbtmp3.8/5, ML3.3/4, MS3.0/1, Error ellipse: s-maj=36.8km s-min=22.2km az=142.0*
*REY **28** 07:49:40.5, 66°.68N×17°.90W, h14km*
ISC 28 07:49:40.9±1.0, 66°.58N±0°.04×17°.81W±0°.03, h19km±3km, n24, σ1§44/40, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.09**	**248**	P	**Pg**	**07 49 44.0**	**-0.7**
	baz=197						
IGRI				S	**Sg**	**07 49 46.2**	**-0.9**
	baz=197						
IBRE	**Brettingsstaoi**	**0.46**	**185**	P	**Pb**	**07 49 50.6**	**+0.3**
	baz=180						
IBRE				S	**Sb**	**07 49 58.1**	**+1.5**
	baz=180						
IHED	**Heoinshofoi**	**0.54**	**158**	P	**Pg**	**07 49 51.7**	**+0.1**
	baz=158						
IHED				S	**Sg**	**07 50 00.2**	**+1.3**
	baz=158						
ILEI	**Leirhofn**	**0.56**	**107**	P	**Pb**	**07 49 51.4**	**-0.5**
	baz=115						
ILEI				S	**Sg**	**07 50 00.3**	**+0.8**
	baz=115						
ISIG	**Siglufjorour**	**0.63**	**226**	P	**Pb**	**07 49 52.3**	**-0.8**
	baz=217						
ISIG				S	**Sb**	**07 50 00.8**	**-0.6**
	baz=217						
IGRA	**Granastaoir**	**0.67**	**172**	P	**Pg**	**07 49 53.9**	**-0.2**
	baz=170						
IGRA				S	**Sg**	**07 50 03.9**	**+0.9**
	baz=170						
IHLA	**Hella**	**0.68**	**200**	P	**Pb**	**07 49 53.8**	**-0.2**
	baz=195						
IHLA				S	**Sg**	**07 50 03.4**	**+0.2**
	baz=195						
IDIM	**Dimmadalss**	**0.71**	**150**	P	**Pb**	**07 49 54.7**	**+0.1**
	baz=151						
IDIM				S	**Sg**	**07 50 05.3**	**+0.9**
	baz=151						
IGIL	**Gilhagi**	**0.77**	**130**	P	**Pb**	**07 49 55.3**	**-0.4**
	baz=133						
IGIL				S	**Sg**	**07 50 06.5**	**+0.2**
	baz=133						
ISKI	**Skildingahlsh**	**0.78**	**155**	P	**Pb**	**07 49 55.5**	**-0.2**
	baz=156						
ISKI				S	**Sg**	**07 50 07.2**	**+0.8**
	baz=156						
IGHA	**Grjothals**	**0.87**	**147**	P	**Pb**	**07 49 56.9**	**-0.4**
	baz=149						
IGHA				S	**Sn**	**07 50 10.1**	**-0.1**
	baz=149						
IKVO	**Krokottuvotn**	**0.94**	**156**	P	**Pb**	**07 49 58.0**	**-0.5**
	baz=156						
IKVO				S	**Sg**	**07 50 11.9**	**+0.2**
	baz=156						
IHRN	**Hraun**	**1.04**	**244**	P	**Pb**	**07 49 58.0**	**-2.2**
	baz=238						
IHRN				S	**Sb**	**07 50 11.2**	**-2.3**
	baz=238						
IMEL	**Melhnausar**	**1.11**	**154**	P	**Pn**	**07 50 00.8**	**-0.6**
	baz=155						
IMEL				S	**Sg**	**07 50 17.0**	**-0.1**
	baz=155						
IGRS	**Grimsstaoir**	**1.17**	**143**	P	**Pn**	**07 50 01.3**	**-0.8**
	baz=145						
ISVA	**Svartarkot**	**1.26**	**169**	P	**Pn**	**07 50 03.2**	**-0.2**
	baz=169						
ISVA				S	**Sb**	**07 50 20.2**	**+0.3**
	baz=169						
BORG	**Borgarnes**	**2.34**	**220**	Pn	**Pn**	**07 50 19.2**	**+0.9**
	48nm,0.3s,baz=36,slow=10,SNR=421						
BORG				Sn	**Sb**	**07 50 49.1**	**-1.8**
	106nm,0.3s,baz=0.0,slow=20,SNR=40 133nm,0.3s						
SCO	**Scoresbysund**	**4.21**	**341**	*i* P	**Pn**	**07 50 43.0**	**-0.9**
SOEG	**Soedalen**	**5.48**	**294**	*i* P	**Pn**	**07 51 00.7**	**-0.6**
SOEG				*eS*	**Sg**	**07 52 42.5**	**+6.0**
JMIC	**Jan Mayen**	**5.57**	**33**	LR	LR	07 52 43.1	
	comp=Z,144nm,19.7s,baz=210,slow=32						
SPITS	**Spitsbergen Ar**	**15.18**	**26**	Pn	**P**	**07 53 16.6**	**-2.1**
	baz=236,slow=12 4.5nm,0.9s						
ARCES	**ARCESS Array B**	**16.19**	**60**	Pn	**P**	**07 53 29.0**	**-0.9**
	0.1nm,0.3s,baz=276,slow=11,SNR=2.3 3.4nm,0.9s						
FINES	**FINESS Array B**	**19.56**	**84**	P	**Pn**	**07 54 09.0**	**+0.6**
	0.1nm,0.3s,baz=316,slow=12,SNR=6.1 1.6nm,0.7s						
YKA	**Yellowknife Ar**	**37.83**	**311**	P	**P**	**07 56 58.1**	**+2.6**
	0.3nm,0.8s,baz=39,slow=8.5,SNR=6.6 0.3nm,0.8s						

*NEIC **28** 07:58:01.2±1.6, 55°.96N±0°.08×150°.2W±0°.1, h6km±7km, mb3.9/2, ML3.4(AEIC), Error ellipse: s-maj=11.9km s-min=8.5km az=169.0*
*IDC **28** 07:58:01.7±1.3, 56°.03N×150°.21W, h0km, mb3.6/8, mbtmp3.6/13, ML3.3/5, Error ellipse: s-maj=26.5km s-min=17.3km az=25.0*
*AEIC **28** 07:58:06.5±1.6, 56°.03N±0°.08×150°.1W±0°.1, h10km±7km, Error ellipse: s-maj=11.7km s-min=8.3km az=173.0*
ISC 28 07:58:04.0±4.0, 56°.10N±0°.07×150°.17W±0°.05, h16km±27km, n147, σ1§07/156, mb3.7/8, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.06**	**304**		**Pn**	**07 58 37.5**	**-0.3**
OHAK				Sn	**Sn**	**07 59 01.1**	**-2.0**
OHAK	**Old Harbor**	**2.06**	**304**	P	**Pn**	**07 58 37.5**	**-0.3**
	baz=123						
OHAK				S	**Sn**	**07 59 01.0**	**-2.0**
	baz=123						
KDAK	**Kodiak Island**	**2.14**	**323**		**Pn**	**07 58 39.0**	**0.0**
KDAK				Sn	**Sn**	**07 59 05.6**	**+0.4**
KDAK	**Kodiak Island**	**2.14**	**323**	Pn	**Pn**	**07 58 38.7**	**-0.3**
	14nm,0.3s,baz=165,slow=5.3,SNR=25						
KDAK				Sn	**Sn**	**07 59 04.8**	**-0.4**
	9.1nm,0.3s,baz=62,slow=22,SNR=10 57nm,0.5s						
SII	**Sitkinak Islan**	**2.28**	**283**		**Pn**	**07 58 39.8**	**-1.2**
SII				Sn	**Sn**	**07 59 08.1**	**-0.6**
SII	**Sitkinak Islan**	**2.28**	**283**	P	**Pn**	**07 58 39.4**	**-1.6**
	baz=102						
SII				S	**Sn**	**07 59 07.4**	**-1.4**
	baz=102						
Q20K	**Shuyak Island**	**2.79**	**335**	P	**Pn**	**07 58 47.7**	**-0.1**
	baz=153						
Q20K				S	**Sn**	**07 59 20.0**	**-1.1**
	baz=153						
SYI	**Shuyak Island**	**2.79**	**335**		**Pn**	**07 58 47.7**	**-0.1**
KAHG	**Katmai Hook Gl**	**3.38**	**317**		**Pn**	**07 58 56.8**	**+0.8**
Q19K	**Cape Douglas,**	**3.40**	**328**	Pn	**Pn**	**07 58 56.8**	**+0.5**
CNPM	**China Poot**	**3.48**	**351**	Pn	**Pn**	**07 58 57.2**	**-0.2**
CNPM	**China Poot**	**3.48**	**351**		**Sn**	**07 59 37.2**	**-1.0**
HOM	**Homer**	**3.65**	**348**	Pn	**Pn**	**07 59 00.0**	**+0.3**
HOM	**Homer**	**3.65**	**348**		**Sn**	**07 59 41.2**	**-1.2**
HOM	**Homer**	**3.65**	**348**	P	**Pn**	**07 58 59.2**	**-0.6**
	baz=166						
HOM				S	**Sn**	**07 59 41.2**	**-1.2**
	baz=166						
BRSE	**Bradley Lake S**	**3.66**	**355**		**Pn**	**07 58 59.2**	**-0.7**
BRSE					**Sn**	**07 59 42.0**	**-0.7**
BRSE	**Bradley Lake S**	**3.66**	**355**	P	**Pn**	**07 58 59.2**	**-0.7**
	baz=174						
BRSE				S	**Sn**	**07 59 42.1**	**-0.7**
	baz=174						
BRLK	**Bradley Lake**	**3.69**	**354**	Pn	**Pn**	**07 58 59.6**	**-0.7**
CNTC	**Contact Creek**	**3.79**	**307**		**Pn**	**07 59 01.4**	**-0.3**
Q17K	**Contact Creek**	**3.79**	**307**	P	**Pn**	**07 59 01.4**	**-0.4**
	baz=123						
Q23K	**Middleton Isla**	**3.91**	**30**	Pn	**Pn**	**07 59 02.8**	**-0.5**
Q23K	**Middleton Isla**	**3.91**	**30**	P	**Pn**	**07 59 02.4**	**-0.9**
	baz=212						
MID	**Middleton Isla**	**3.92**	**30**	Pn	**Pn**	**07 59 02.8**	**-0.5**
P19K	**Oil Pt**	**3.92**	**337**	Pn	**Pn**	**07 59 04.7**	**+1.3**
SEW	**Seward**	**4.03**	**5**	Pn	**Pn**	**07 59 05.1**	**+0.2**
P23K	**Montague Islan**	**4.17**	**19**		**Pn**	**07 59 06.2**	**-0.7**
P23K	**Montague Islan**	**4.17**	**19**	P	**Pn**	**07 59 06.2**	**-0.7**
	baz=201						
IVE	**Iliamna Volcan**	**4.21**	**340**		**Pn**	**07 59 07.1**	**-0.3**
P18K	**Big Mountain,**	**4.27**	**323**	Pn	**Pn**	**07 59 08.0**	**-0.2**
P18K	**Big Mountain,**	**4.27**	**323**	P	**Pn**	**07 59 08.1**	**-0.2**
	baz=139						
O22K	**Cooper Landing**	**4.40**	**3**		**Pn**	**07 59 10.8**	**+0.8**
RED	**Redoubt Volcan**	**4.54**	**343**		**Pn**	**07 59 11.4**	**-0.7**
P17K	**Kvichak River**	**4.58**	**315**		**Pn**	**07 59 11.9**	**-0.5**
P17K	**Kvichak River**	**4.58**	**315**	P	**Pn**	**07 59 12.0**	**-0.5**
	baz=130						
RSO	**Redoubt South**	**4.58**	**344**		**Pn**	**07 59 13.4**	**+0.7**
O18K	**Koktuh Hills**	**4.62**	**327**	Pn	**Pn**	**07 59 13.0**	**0.0**
O18K	**Koktuh Hills**	**4.62**	**327**	P	**Pn**	**07 59 12.6**	**-0.5**
	baz=142						
O19K	**Port Alsworth**	**4.66**	**334**		**Pn**	**07 59 13.2**	**-0.3**
O19K	**Port Alsworth**	**4.66**	**334**	P	**Pn**	**07 59 13.2**	**-0.3**
	baz=150						
CAPN	**Captain Cook N**	**4.71**	**354**	Pn	**Pn**	**07 59 14.7**	**+0.5**
HIN	**Hinchinbrook I**	**4.72**	**23**	Pn	**Pn**	**07 59 14.4**	**-0.1**
KAIM	**Kayak Island**	**4.90**	**36**	Pn	**Pn**	**07 59 17.0**	**+0.1**
KAIM	**Kayak Island**	**4.90**	**36**	P	**Pn**	**07 59 16.2**	**-0.7**
	baz=220						
RC01	**Rabbit Creek A**	**5.01**	**2**	Pn	**Pn**	**07 59 18.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.03**	**26**	Pn	**Pn**	**07 59 18.7**	**+0.1**
FID	**Port Fidalgo**	**5.05**	**21**		**Pn**	**07 59 18.4**	**-0.5**
FIS	**Fire Island**	**5.06**	**360**	Pn	**Pn**	**07 59 19.2**	**+0.2**
P16K	**Nushagak River**	**5.13**	**308**		**Pn**	**07 59 20.1**	**+0.1**
P16K	**Nushagak River**	**5.13**	**308**	P	**Pn**	**07 59 20.1**	**+0.1**
	baz=122						
RAGM	**Ragged Mountai**	**5.18**	**32**		**Pn**	**07 59 20.9**	**0.0**
O17K	**Koliganek Bris**	**5.21**	**318**		**Pn**	**07 59 21.0**	**-0.1**
O17K	**Koliganek Bris**	**5.21**	**318**	P	**Pn**	**07 59 21.0**	**-0.1**
	baz=132						
N20K	**Mount Spurr**	**5.22**	**349**	P	**Pn**	**07 59 20.7**	**-0.6**
	baz=167						
SPCR	**Spurr Chakacha**	**5.22**	**349**		**Pn**	**07 59 20.7**	**-0.6**
N19K	**Bonanza Creek**	**5.24**	**336**		**Pn**	**07 59 21.0**	**-0.6**
N19K	**Bonanza Creek**	**5.24**	**336**	P	**Pn**	**07 59 21.2**	**-0.4**
	baz=152						
SUA	**Susitna One**	**5.39**	**357**	Pn	**Pn**	**07 59 24.0**	**+0.4**
SUA	**Susitna One**	**5.39**	**357**	P	**Pn**	**07 59 23.0**	**-0.7**
	baz=176						
STLK	**Strandline Lak**	**5.48**	**352**		**Pn**	**07 59 24.3**	**-0.6**
N18K	**Kilae Creek**	**5.49**	**329**		**Pn**	**07 59 24.8**	**-0.1**
N18K	**Kilae Creek**	**5.49**	**329**	P	**Pn**	**07 59 24.4**	**-0.6**
	baz=144						
O16K	**Kokwok River B**	**5.49**	**313**		**Pn**	**07 59 25.5**	**+0.6**
O16K	**Kokwok River B**	**5.49**	**313**	P	**Pn**	**07 59 24.3**	**-0.7**
	baz=126						
CHNA	**Chernabura Isl**	**5.51**	**261**	P	**Pn**	**07 59 23.8**	**-1.4**
	baz=74						
CNBA	**Chernabura Isl**	**5.51**	**260**	Pn	**Pn**	**07 59 23.3**	**-2.0**
PMR	**Palmer**	**5.53**	**5**	Pn	**Pn**	**07 59 25.2**	**-0.3**
PMR	**Palmer**	**5.53**	**5**	P	**Pn**	**07 59 24.9**	**-0.7**
	baz=186						
SNH	**Sunshine Point**	**5.64**	**40**	Pn	**Pn**	**07 59 26.8**	**-0.2**
BMRM	**Bremner River**	**5.68**	**29**	Pn	**Pn**	**07 59 27.8**	**+0.1**
GHO	**Glory Hole Cre**	**5.72**	**6**		**Pn**	**07 59 28.7**	**+0.4**
N17K	**Nushagak Hills**	**5.78**	**323**	P	**Pn**	**07 59 28.3**	**-0.6**
	baz=137						
SML	**Sawmill**	**5.80**	**9**		**Pn**	**07 59 29.5**	**+0.2**
SML	**Sawmill**	**5.80**	**9**	P	**Pn**	**07 59 28.5**	**-0.7**
	baz=190						
KLU	**Klutina**	**5.84**	**20**	Pn	**Pn**	**07 59 30.1**	**+0.3**
KLU	**Klutina**	**5.84**	**20**	P	**Pn**	**07 59 29.3**	**-0.5**
	baz=203						
SDPT	**Sand Point**	**5.88**	**267**	Pn	**Pn**	**07 59 28.6**	**-1.6**
SCM	**Sheep Creek Mo**	**5.93**	**13**		**Pn**	**07 59 32.0**	**+0.8**
SCM	**Sheep Creek Mo**	**5.93**	**13**	P	**Pn**	**07 59 30.3**	**-0.8**
	baz=195						
SKT	**Skwentna**	**5.94**	**354**	Pn	**Pn**	**07 59 31.5**	**+0.3**
M20K	**Styx River**	**6.00**	**346**		**Pn**	**07 59 31.4**	**-0.6**
M20K	**Styx River**	**6.00**	**346**	P	**Pn**	**07 59 31.5**	**-0.5**
	baz=164						
M18K	**Stony River**	**6.15**	**334**		**Pn**	**07 59 33.5**	**-0.5**
M18K	**Stony River**	**6.15**	**334**	P	**Pn**	**07 59 33.5**	**-0.5**
	baz=149						
M19K	**Big River Lodg**	**6.21**	**341**		**Pn**	**07 59 34.7**	**-0.2**
M19K	**Big River Lodg**	**6.21**	**341**	P	**Pn**	**07 59 34.4**	**-0.5**
	baz=158						
VRDI	**Verde Repeater**	**6.22**	**31**		**Pn**	**07 59 34.9**	**-0.2**
N25K	**Chitina, Valde**	**6.23**	**25**	Pn	**Pn**	**07 59 35.4**	**+0.2**
GLB	**Gilahina Butte**	**6.29**	**29**	Pn	**Pn**	**07 59 36.5**	**+0.5**
N16K	**Nishlik Lake**	**6.31**	**318**		**Pn**	**07 59 36.2**	**0.0**
N16K	**Nishlik Lake**	**6.31**	**318**	P	**Pn**	**07 59 36.2**	**0.0**
	baz=130						
M24K	**Tolsona, Glenn**	**6.36**	**17**		**Pn**	**07 59 38.2**	**+1.2**
MCARA	**McCarthy VSAT**	**6.47**	**32**	Pn	**Pn**	**07 59 38.9**	**+0.5**
M17K	**Holitna River**	**6.52**	**328**	Pn	**Pn**	**07 59 39.7**	**+0.6**
YKU2	**Yakutat**	**6.57**	**54**	Pn	**Pn**	**07 59 39.6**	**-0.1**
N15K	**Kwethluk River**	**6.65**	**312**	Pn	**Pn**	**07 59 41.2**	**+0.4**
BARN	**Barnard Glacie**	**6.67**	**38**		**Pn**	**07 59 40.9**	**-0.4**
CTGM	**Chitina Glacie**	**6.72**	**40**	Pn	**Pn**	**07 59 41.5**	**-0.4**
M16K	**Timber Creek**	**6.74**	**321**		**Pn**	**07 59 42.7**	**+0.6**
LOGN	**Logan Glacier**	**6.75**	**42**		**Pn**	**07 59 42.2**	**-0.2**
BCPM	**Bancas Point**	**6.79**	**51**	Pn	**Pn**	**07 59 42.6**	**-0.3**
DHY	**Denali Highway**	**7.14**	**10**		**Pn**	**07 59 49.5**	**+1.8**
CAST	**Castle Rocks**	**7.40**	**353**	Pn	**Pn**	**07 59 52.1**	**+0.9**
M14K	**Bethel**	**7.74**	**312**		**Pn**	**07 59 56.8**	**+0.9**
S31K	**Pelican**	**7.83**	**70**	Pn	**Pn**	**07 59 54.1**	**-2.9**
S31K	**Pelican**	**7.83**	**70**	P	**Pn**	**07 59 54.8**	**-2.2**
	baz=262						
ISLZ	**Isanotski Laza**	**7.83**	**265**		**Pn**	**07 59 55.3**	**-1.8**
CCB	**Clear Creek Bu**	**8.65**	**7**	Pn	**Pn**	**08 00 11.2**	**+2.9**
S32K	**Pelican**	**8.67**	**74**	Pn	**Pn**	**08 00 07.1**	**-1.4**
ILAR	**Eielson Array**	**8.85**	**9**	Pn	**Pn**	**08 00 13.0**	**+2.0**
ILAR	**Eielson Array**	**8.85**	**9**	Pn	**Pn**	**08 00 07.9**	**-3.1**
	0.1nm,0.3s,baz=193,slow=14,SNR=2.3						
ILAR				Sn	**Sn**	**08 01 45.9**	**-4.3**
	0.7nm,0.3s,baz=191,slow=25,SNR=4.2 0.4nm,0.6s						
J16K	**Anvik River**	**8.92**	**328**	Pn	**Pn**	**08 00 12.8**	**+0.8**
MLY	**Manley**	**8.96**	**358**	Pn	**Pn**	**08 00 14.2**	**+1.6**
U33K	**Whale Pass**	**9.53**	**83**		**Pn**	**08 00 17.9**	**-2.4**
U33K	**Whale Pass**	**9.53**	**83**	P	**Pn**	**08 00 17.9**	**-2.4**
	baz=277						
K29M	**Barlow Dome**	**10.00**	**34**	Pn	**Pn**	**08 00 27.8**	**+0.9**
P33M	**Teslin, Yukon**	**10.04**	**59**		**Pn**	**08 00 26.9**	**-0.5**
H17K	**Granite Mounta**	**10.07**	**336**	Pn	**Pn**	**08 00 27.8**	**+0.1**
S34M	**Telegraph Cree**	**10.54**	**72**	Pn	**Pn**	**08 00 30.8**	**-3.3**
FARO	**Faro, Yukon**	**10.57**	**48**	Pn	**Pn**	**08 00 33.4**	**-1.3**
G19K	**Purcell Mounta**	**10.61**	**345**	Pn	**Pn**	**08 00 34.2**	**-0.9**
G18K	**Tagagawik**	**10.64**	**341**	Pn	**Pn**	**08 00 36.4**	**+0.9**
G23K	**Bananza Creek**	**10.65**	**0**	Pn	**Pn**	**08 00 35.8**	**+0.2**
FYU	**Fort Yukon**	**10.76**	**11**	Pn	**Pn**	**08 00 38.7**	**+1.6**
R33M	**Jennings River**	**10.77**	**64**	Pn	**Pn**	**08 00 35.2**	**-2.2**
J30M	**Hart River**	**10.89**	**33**	Pn	**Pn**	**08 00 40.7**	**+1.6**
G16K	**Koyuk River**	**11.04**	**333**	Pn	**Pn**	**08 00 42.1**	**+1.2**
DLBC	**Dease Lake**	**11.14**	**70**	Pn	**Pn**	**08 00 42.1**	**-0.4**
	0.2nm,0.3s,baz=204,slow=17,SNR=2.1						
DLBC				Sn	**Sn**	**08 02 46.8**	**+0.2**
	0.3nm,0.3s,baz=174,slow=19,SNR=1.7 0.8nm,0.5s						
ANM	**Nome**	**11.31**	**325**	Pn	**Pn**	**08 00 47.0**	**+2.3**
E19K	**Redstone River**	**11.86**	**347**	Pn	**Pn**	**08 00 53.4**	**+1.2**
F15K	**North Star Dit**	**11.90**	**330**	Pn	**Pn**	**08 00 54.8**	**+2.1**
INK	**Inuvik**	**14.42**	**25**	Pn	**Pn**	**08 01 27.7**	**+0.6**
INK	**Inuvik**	**14.42**	**25**	Pn	**Pn**	**08 01 28.1**	**+1.1**
	0.1nm,0.3s,baz=199,slow=15,SNR=8.8 4.3nm,1.0s						
C36M	**Paulatuk**	**17.65**	**31**	P	**Pn**	**08 02 08.2**	**-0.5**
C36M				IAmb	IAmb	08 02 20.9	
	comp=Z,7.2nm,1.1s						
A36M	**Sachs Harbour**	**19.04**	**24**		**P**	**08 02 24.3**	**-0.7**
A36M				IAmb	IAmb	08 02 35.7	
	comp=Z,13nm,1.0s						
YKA	**Yellowknife Ar**	**19.05**	**56**	P	**P**	**08 02 24.7**	**-0.4**
YKA	**Yellowknife Ar**	**19.05**	**56**	P	**Pn**	**08 02 25.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=10 comp=Z,2.4nm,1.1s						
NEW	**Newport**	**21.55**	**97**	P	**P**	**08 02 53.8**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=288,slow=9.6,SNR=1.9 comp=Z,0.6nm,0.4s						
NVAR	**Mina Array Bea**	**27.57**	**116**	P	**P**	**08 03 50.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=254,slow=42,SNR=2.8 comp=Z,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**48.36**	**239**	T	T	08 59 31.3	
	baz=30						
H11N3	**WAKE ISLAND Hy**	**48.37**	**239**	T	T	08 59 27.4	
	baz=30						
H11N1	**WAKE ISLAND Hy**	**48.38**	**239**	T	T	08 59 24.8	
	baz=30						
ARCES	**ARCESS Array B**	**54.63**	**2**	P	**P**	**08 07 32.4**	**+1.3**
	comp=Z,4.9nm,1.0s,baz=29,slow=2.8,SNR=2.4 comp=Z,4.9nm,1.0s						
SONM	**Songino Array**	**58.38**	**310**	P	**P**	**08 07 58.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=35,slow=5.4,SNR=3.5 comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**66.24**	**335**	P	**P**	**08 08 51.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=14,slow=6.7,SNR=2.9 comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Array**	**66.24**	**328**	P	**P**	**08 08 51.3**	**+0.7**
	comp=Z,0.2nm,0.2s,baz=38,slow=6.7,SNR=1.5 comp=Z,0.2nm,0.2s						
MKAR	**Makanchi Array**	**68.45**	**324**	P	**P**	**08 09 04.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=37,slow=12,SNR=2.5 comp=Z,0.2nm,0.6s						
AKASG	**Malin Array Be**	**73.56**	**0**	P	**P**	**08 09 36.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=95,slow=0.3,SNR=1.5 comp=Z,0.2nm,0.3s						

*IDC **28** 07:59:06.7±0.9, 56°.10N×149°.69W, h0km, mb3.8/13, mbtmp3.8/18, ML3.4/5, MS3.7/3, Error ellipse: s-maj=21.3km s-min=14.5km az=30.0*
*NEIC **28** 07:59:07.8±1.6, 56°.02N±0°.08×149°.8W±0°.1, h20km±6km, mb3.9/4, ML4.0/28, ML3.9(AEIC), Error ellipse: s-maj=12.2km s-min=9.1km az=172.0*
*AEIC **28** 07:59:09.5±1.9, 56°.01N±0°.08×149°.7W±0°.1, h6km±6km, Error ellipse: s-maj=12.4km s-min=9.0km az=175.0*
ISC 28 07:59:10.5±0.7, 56°.12N±0°.08×149°.76W±0°.05, h35km, n166, σ1§18/165, mb3.8/13, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.24**	**301**		**Pn**	**07 59 43.2**	**-1.8**
OHAK	**Old Harbor**	**2.24**	**301**	P	**Pn**	**07 59 43.5**	**-1.5**
	baz=120						
OHAK				S	**Sn**	**08 00 08.5**	**-2.8**
	baz=120						
KDAK	**Kodiak Island**	**2.27**	**318**	Pn	**Pn**	**07 59 44.4**	**-1.1**
	10nm,0.3s,baz=141,slow=5.3,SNR=8.1						
KDAK				Sn	**Sn**	**08 00 10.1**	**-2.2**
	29nm,0.3s,baz=165,slow=19,SNR=12						
KDAK				LR	LR	08 00 57.1	
	comp=Z,2μm,20.2s,baz=215,slow=48 65nm,0.5s						
SII	**Sitkinak Islan**	**2.50**	**282**		**Pn**	**07 59 46.4**	**-2.3**
SII				IAML		08 00 16.5	
	comp=E,321nm,0.7s						
SII				IAML		08 00 24.0	
	comp=N,1μm,0.7s						
SII	**Sitkinak Islan**	**2.50**	**282**	P	**Pn**	**07 59 46.1**	**-2.6**
	baz=101						
SII				S	**Sn**	**08 00 15.6**	**-2.4**
	baz=101						
Q20K	**Shuyak Island**	**2.87**	**331**	P	**Pn**	**07 59 52.9**	**-0.9**
	baz=150						
SYI	**Shuyak Island**	**2.87**	**331**		**Pn**	**07 59 52.7**	**-1.0**
SYI				IAML		08 00 27.8	
	comp=E,235nm,0.6s						
CNPM	**China Poot**	**3.50**	**348**		**Pn**	**08 00 01.2**	**-1.2**
CNPM				IAML		08 00 47.1	
	comp=N,189nm,0.9s						
CNPM				IAML		08 00 47.4	
	comp=E,193nm,0.8s						
Q19K	**Cape Douglas,**	**3.51**	**325**		**Pn**	**08 00 02.2**	**-0.3**
KAHG	**Katmai Hook Gl**	**3.52**	**314**		**Pn**	**08 00 03.4**	**+0.7**
KCE	**Katmai Mt Cerb**	**3.64**	**308**		**Pn**	**08 00 04.1**	**-0.2**
BRSE	**Bradley Lake S**	**3.67**	**352**		**Pn**	**08 00 03.4**	**-1.3**
BRSE					**Sn**	**08 00 45.4**	**-1.3**
ACHA	**Angle Creek He**	**3.68**	**307**		**Pn**	**08 00 04.8**	**-0.1**
BRLK	**Bradley Lake**	**3.70**	**351**		**Pn**	**08 00 03.8**	**-1.3**
BRLK				IAML		08 00 50.1	
	comp=N,224nm,0.9s						
BRLK				IAML		08 00 50.9	
	comp=E,206nm,0.5s						
ANCK	**Angle Creek**	**3.75**	**306**		**Pn**	**08 00 05.9**	**0.0**
KVTA	**Katmai Vly 10**	**3.77**	**309**		**Pn**	**08 00 05.7**	**-0.3**
Q23K	**Middleton Isla**	**3.78**	**27**		**Pn**	**08 00 05.1**	**-1.2**
Q23K				IAML		08 01 03.9	
	comp=N,237nm,1.8s						
Q23K	**Middleton Isla**	**3.78**	**27**	P	**Pn**	**08 00 05.0**	**-1.2**
	baz

BCPM	Bancas Point	6.60	50			Pn	08 00 45.3	+0.3
M17K	Holitna River	6.63	326			Pn	08 00 45.0	-0.3
HARP	HAARP	6.72	19			Pn	08 00 45.8	-0.7
N15K	Kwethluk River	6.81	311			Pn	08 00 48.0	+0.3
M16K	Timber Creek	6.87	319			Pn	08 00 48.6	0.0
O14K	Tigyukauivet M	6.92	302			Pn	08 00 49.2	-0.1
M26K	Nabesna, AK	7.18	26	Pn		Pn	08 00 53.1	+0.1
O29M	Mount Kennedy	7.24	50			Pn	08 00 54.1	+0.4
P29M	Windy Craggy	7.31	56			Pn	08 00 54.9	+0.3
RND	Reindeer	7.32	3	Pn		Pn	08 00 55.3	+0.4
M27K	Edge Creek, AK	7.44	30			Pn	08 00 57.6	+1.0
L16K	Owhat River	7.52	322	Pn		Pn	08 00 56.8	-0.7
TTA	Tatalina	7.53	338	Pn		Pn	08 00 56.8	-0.9
S31K	Pelican	7.60	70			Pn	08 00 56.3	-2.4
K17K	Iditarod	7.91	330			Pn	08 01 01.8	-1.1
HYT	Haines Junctio	7.96	49	Pn		Pn	08 01 02.8	-0.8
SIT	Sitka	8.02	77			Pn	08 01 01.4	-3.0
RIDG	Independent Ri	8.03	16	Pn		Pn	08 01 05.1	+0.6
L27K	Beaver Creek,	8.03	27			Pn	08 01 05.4	+0.9
BCAR	Beaver Creek A	8.04	27	Pn		Pn	08 01 05.2	+0.4
ISLZ	Isanotski Laza	8.06	266			Pn	08 01 02.2	-2.8
M13K	Dall Lake	8.35	307	Pn		Pn	08 01 08.7	-0.2
SCRK	Sand Creek	8.39	18	Pn		Pn	08 01 09.9	+0.4
SKAG	Skagway	8.40	61	Pn		Pn	08 01 09.4	-0.1
J19K	Poorman	8.42	342	Pn		Pn	08 01 10.2	+0.4
S32K	Killisnoo	8.44	75			Pn	08 01 08.5	-1.6
N30M	Aishikik Lake	8.47	46	Pn		Pn	08 01 10.4	-0.2
L14K	Kuka Creek	8.51	313	Pn		Pn	08 01 11.5	+0.4
M29M	Somme Creek	8.57	38			Pn	08 01 12.7	+0.7
CCB	Clear Creek Bu	8.61	6	Pn		Pn	08 01 12.8	+0.4
JIS	Juneau Island	8.62	69	Pn		Pn	08 01 12.7	+0.1
WESE	West Dahl East	8.62	265			Pn	08 01 10.8	-2.0
K15K	Wolf Creek Mou	8.64	321	Pn		Pn	08 01 12.7	-0.1
J25K	Salcha River,	8.79	12	Pn		Pn	08 01 15.1	+0.2
IL31		8.79	8	Pn		Pn	08 01 14.6	-0.3
ILAR	Eielson Array	8.79	8	Pn		Pn	08 01 15.2	+0.3
ILAR	Eielson Array	8.79	8	Pn		Pn	08 01 12.6	-2.4
	comp=N,0.5nm,0.3s,baz=187,slow=14,SNR=6.0							
ILAR				Sn		Sn	08 02 49.0	-3.6
	comp=N,0.9nm,0.3s,baz=194,slow=22,SNR=5.8							
ILAR				LR		LR	08 03 41.5	
	comp=N,153nm,20.6s,baz=248,slow=31 comp=N,1.3nm,0.4s							
K27K	Chicken	8.80	23	Pn		Pn	08 01 15.8	+0.8
J26L	Joseph Creek	8.94	17	Pn		Pn	08 01 17.9	+0.8
MLY	Manley	8.95	357	Pn		Pn	08 01 18.6	+1.5
N31M	Braeburn, Yuko	9.02	48			Pn	08 01 18.7	+0.6
J16K	Anvik River	9.02	327	Pn		Pn	08 01 17.5	-0.6
WHY	Whitehorse	9.03	54			Pn	08 01 18.6	+0.2
L29M	L29M	9.14	35			Pn	08 01 20.1	+0.4
I21K	Tanana	9.15	354			Pn	08 01 18.7	-1.1
P32M	Atlin	9.22	61			Pn	08 01 20.2	-0.7
M30M	Minto, Yukon	9.24	40			Pn	08 01 21.5	+0.4
U33K	Whale Pass	9.29	83			Pn	08 01 19.2	-2.5
DAWY	Dawson	9.49	29			Pn	08 01 24.2	-0.2
EGAK	Eagle	9.65	22	Pn		Pn	08 01 25.8	-0.9
H21K	Melozitna Rive	9.68	352			Pn	08 01 26.6	-0.4
Q32M	Nakina River	9.82	66	Pn		Pn	08 01 28.8	-0.3
P33M	Teslin, Yukon	9.83	58	Pn		Pn	08 01 28.3	-0.9
K29M	Barlow Dome	9.86	33	Pn		Pn	08 01 30.0	+0.4
H18K	Honhosa River	9.98	339	Pn		Pn	08 01 31.2	-0.1
IMAR	Indian Mountai	10.08	351	Pn		Pn	08 01 32.4	-0.2
J29N	Klondike Camp	10.11	30	Pn		Pn	08 01 33.2	+0.2
H17K	Granite Mounta	10.14	335	Pn		Pn	08 01 32.0	-1.4
I27K	Kandik River	10.29	19			Pn	08 01 36.5	+1.0
FARO	Faro, Yukon	10.39	47	Pn		Pn	08 01 37.6	+0.8
R33M	Jennings River	10.55	64	Pn		Pn	08 01 39.0	-0.1
FYU	Fort Yukon	10.70	10	Pn		Pn	08 01 41.4	+0.4
T35M	Bob Quinn	10.80	77	Pn		Pn	08 01 42.3	-0.1
DLBC	Dease Lake	10.92	70	Pn		Pn	08 01 42.8	-1.3
	comp=N,0.3nm,0.3s,baz=268,slow=6.5,SNR=6.5							
DLBC				Sn		Sn	08 03 43.4	-1.6
	comp=N,0.1nm,0.3s,baz=251,slow=18,SNR=1.7 comp=N,0.7nm,0.3s							
F21K	Alatna River	11.28	353			Pn	08 01 47.5	-1.4
F20K	Avaraart Lake	11.32	348	Pn		Pn	08 01 49.6	+0.1
ANM	Nome	11.43	324	Pn		Pn	08 01 51.4	+0.4
D22K	Ayikyak River	12.87	355	Pn		Pn	08 02 11.8	+1.2
TNA	Tin City	12.90	324	Pn		Pn	08 02 10.3	-0.8
G31M	Satah River	13.06	28	Pn		Pn	08 02 13.7	+0.5
INK	Inuvik	14.30	25	Pn		Pn	08 02 30.5	+0.4
	comp=N,0.1nm,0.3s,baz=215,slow=15,SNR=5.8 comp=N,4.2nm,0.8s							
B22K	Teshekpuk Lake	14.36	355	Pn		Pn	08 02 30.8	-0.1
C36M	Paulatuk	17.51	31	P		Pn	08 03 10.5	-1.0
C36M				IAmb		IAmb	08 03 30.7	
	comp=Z,12nm,1.0s							
YKAB2	New Yellowknif	18.84	56	P		P	08 03 24.6	-2.4
YKA	Yellowknife Ar	18.85	56	P		P	08 03 24.4	-2.7
YKA	Yellowknife Ar	18.85	56	P		Pn	08 03 27.7	-0.1
	comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=7.4 comp=Z,3.4nm,1.0s							
A36M	Sachs Harbour	18.93	23	P		Pn	08 03 28.9	+0.1
NEW	Newport	21.33	98	P		P	08 03 54.4	+0.2
	comp=Z,2.4nm,0.9s,baz=269,slow=16,SNR=2.0 comp=Z,2.4nm,0.9s							
HUMO	Hull Mountain	21.90	117	P		P	08 03 58.7	-1.7
NVAR	Mina Array Bea	27.37	117	P		P	08 04 54.1	+1.6
	comp=Z,1.6nm,1.0s,baz=309,slow=7.6,SNR=6.0 comp=Z,1.6nm,1.0s							
RES	Resolute Bay	27.82	28	P		P	08 04 58.0	+2.1
	comp=Z,0.8nm,0.7s,baz=254,slow=7.4,SNR=9.9 comp=Z,0.8nm,0.7s							
PDAR	Pinedale Array	28.89	100	P		P	08 05 05.2	-0.8
PDAR	Pinedale Array	28.89	100	P		P	08 05 06.8	+0.8
	comp=Z,0.3nm,0.6s,baz=328,slow=5.4,SNR=3.7 comp=Z,0.3nm,0.6s							
FRB	Frobisher Bay	38.73	45	P		P	08 06 30.4	-0.2
	comp=Z,1.2nm,0.8s,baz=302,slow=11,SNR=4.1 comp=Z,1.2nm,0.8s							
TXAR	Lajitas Array	42.02	110	P		P	08 06 58.8	+0.4
	comp=Z,0.4nm,0.7s,baz=316,slow=6.9,SNR=3.8 comp=Z,0.4nm,0.7s							
SPITS	Spitsbergen Ar	45.69	4	LR		LR	08 28 39.4	
	comp=Z,262nm,18.4s,baz=16,slow=39							
H11N2	WAKE ISLAND Hy	48.57	240	T		T	09 00 39.5	
	baz=30							
H11N3	WAKE ISLAND Hy	48.58	240	T		T	09 00 36.4	
	baz=30							
H11N1	WAKE ISLAND Hy	48.59	240	T		T	09 00 39.7	
	baz=30							
H11S1	WAKE ISLAND Hy	49.72	239	T		T	09 02 21.5	
	baz=28,slow=76,SNR=4.6							
H11S2	WAKE ISLAND Hy	49.73	239	T		T	09 02 08.7	
	baz=28,slow=76,SNR=4.1							
H11S3	WAKE ISLAND Hy	49.73	239	T		T	09 02 18.8	
	baz=28,slow=76,SNR=5.9							
SONM	Songino Array	58.54	310	P		P	08 09 04.5	+1.3
	comp=Z,1.2nm,0.8s,baz=31,slow=5.7,SNR=5.2 comp=Z,1.2nm,0.8s							
ZALV	Zelesovo Beam	61.55	327	P		P	08 09 25.2	+1.6
	comp=Z,0.8nm,0.7s,baz=29,slow=10,SNR=4.2 comp=Z,0.8nm,0.7s							
NOA	NORSAR Array B	62.22	10	P		P	08 09 30.7	+2.8
	comp=Z,0.9nm,0.9s,baz=347,slow=5.0,SNR=1.5 comp=Z,0.9nm,0.9s							
EKA	Eskdalemuir Ar	65.62	20	P		P	08 09 52.8	+2.5
	comp=Z,3.4nm,1.0s,baz=6.2,slow=8.6,SNR=1.8 comp=Z,3.4nm,1.0s							
BVAR	Borovoye Array	66.31	335	P		P	08 09 56.0	+1.1
	comp=Z,0.8nm,0.7s,baz=20,slow=4.6,SNR=3.4 comp=Z,0.8nm,0.7s							
KURBB	Kurchatov Arra	66.34	329	P		P	08 09 56.5	+1.4
	comp=Z,0.4nm,0.5s,baz=31,slow=6.6,SNR=4.8 comp=Z,0.4nm,0.5s							
MKAR	Makanchi Array	68.57	324	P		P	08 10 10.3	+1.0
	comp=Z,0.7nm,0.8s,baz=27,slow=6.5,SNR=4.7 comp=Z,0.7nm,0.8s							
QSPA	South Pole Qui	145.91	180	PKPbc		PKiKP	08 18 46.8	-1.2
	comp=Z,0.9nm,0.2s,baz=135,slow=0.9,SNR=3.9							

*NEIC **28** 08:05:23.6±1.9,55.93N±0.08×149.7W±0.1,h7km±7km, ML3.5/42,ML3.1(AEIC),Error ellipse: s-maj=11.9km s-min=9.0km az=145.0*

*AEIC **28** 08:05:28.9±1.8,55.98N±0.09×149.7W±0.1,h12km±7km, Error ellipse: s-maj=13.3km s-min=7.6km az=156.0*

ISC 28 08:05:26.9±1.8,56.0N±0.1×149.73W±0.06,h35km,n125, σ0§99/134,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.30	303		Pn	08 06 02.5	+0.3
OHAK					Sn	08 06 27.8	-1.5
OHAK	Old Harbor	2.30	303	P	Pn	08 06 02.5	+0.3
	baz=121						
OHAK				S	Sn	08 06 27.6	-1.7
	baz=121						
KDAK	Kodiak Island	2.36	320		Pn	08 06 03.2	+0.3
SII	Sitkinak Islan	2.54	284		Pn	08 06 05.7	+0.1
SII				IAML		08 06 36.5	
	comp=N,167nm,1.2s						
SII	Sitkinak Islan	2.54	284	P	Pn	08 06 05.6	+0.1
	baz=101						
SII				S	Sn	08 06 33.8	-1.4
	baz=101						
Q20K	Shuyak Island	2.96	332	P	Pn	08 06 11.8	+0.4
	baz=150						
Q20K				S	Sn	08 06 45.5	-0.2
	baz=150						
SYI	Shuyak Island	2.96	332		Pn	08 06 11.9	+0.6
SYI					Sn	08 06 46.4	+0.8
Q19K	Cape Douglas,	3.60	326		Pn	08 06 21.2	+1.2
Q19K				IAML		08 07 04.5	
	comp=N,110nm,2.0s						
Q19K				IAML		08 07 16.3	
	comp=E,197nm,1.2s						
Q19K	Cape Douglas,	3.60	326	P	Pn	08 06 20.6	+0.5
	baz=142						
CNPM	China Poot	3.60	348		Pn	08 06 20.4	+0.3
CNPM				IAML		08 07 01.9	
	comp=E,39nm,1.5s						
CNPM				IAML		08 07 03.0	
	comp=N,42nm,0.6s						
KAHG	Katmai Hook Gl	3.60	315		Pn	08 06 21.5	+1.3
BRSE	Bradley Lake S	3.76	352		Pn	08 06 22.3	-0.1
BRSE					Sn	08 07 04.9	-0.5
BRSE	Bradley Lake S	3.76	352	P	Pn	08 06 22.3	-0.1
	baz=171						
BRSE				S	Sn	08 07 04.9	-0.5
	baz=171						
HOM	Homer	3.78	345		Pn	08 06 22.9	+0.3
HOM	Homer	3.78	345	P	Pn	08 06 22.9	+0.3
	baz=163						
BRLK	Bradley Lake	3.80	351		Pn	08 06 22.6	-0.3
BRLK				IAML		08 07 09.2	
	comp=N,33nm,0.6s						
BRLK				IAML		08 07 19.3	
	comp=E,32nm,1.5s						
Q23K	Middleton Isla	3.86	27		Pn	08 06 24.1	+0.4
Q23K	Middleton Isla	3.86	27	P	Pn	08 06 23.8	+0.2
	baz=209						
MID	Middleton Isla	3.86	27		Pn	08 06 24.1	+0.4
CNTC	Contact Creek	4.03	306		Pn	08 06 27.3	+1.1
Q17K	Contact Creek	4.03	306	P	Pn	08 06 27.3	+1.1
	baz=122						
P19K	Oil Pt	4.09	334		Pn	08 06 27.9	+1.1
P19K				IAML		08 07 17.8	
	comp=E,76nm,1.0s						
P19K				IAML		08 07 19.9	
	comp=N,72nm,0.7s						
P19K	Oil Pt	4.09	334	P	Pn	08 06 27.8	+0.9
	baz=151						
SEW	Seward	4.09	2		Pn	08 06 26.8	0.0
SEW	Seward	4.09	2	P	Pn	08 06 26.6	-0.2
	baz=182						
P23K	Montague Islan	4.17	16		Pn	08 06 28.1	+0.3
P23K					Sn	08 07 13.2	-2.1
P23K	Montague Islan	4.17	16	P	Pn	08 06 28.1	+0.3
	baz=198						
P23K				S	Sn	08 07 13.2	-2.1
	baz=198						
O20K	Slope Mountain	4.35	340		Pn	08 06 30.6	+0.3
O20K	Slope Mountain	4.35	340	P	Pn	08 06 30.7	+0.3
	baz=158						
IVE	Iliamna Volcan	4.37	338		Pn	08 06 30.7	0.0
O22K	Cooper Landing	4.47	0		Pn	08 06 32.9	+0.9
O22K				IAML		08 07 29.5	
	comp=E,66nm,1.0s						
O22K				IAML		08 07 38.0	
	comp=N,82nm,1.0s						
O22K	Cooper Landing	4.47	0	P	Pn	08 06 32.4	+0.4
	baz=180						
P18K	Big Mountain,	4.48	321	Pn	Pn	08 06 32.7	+0.5
P18K	Big Mountain,	4.48	321	P	Pn	08 06 32.6	+0.5
	baz=137						
SLKM	Sklak Lake	4.50	357		Pn	08 06 32.3	-0.1
HIN	Hinchinbrook I	4.70	20		Pn	08 06 36.2	+1.0
HIN				IAML		08 07 13.5	
	comp=E,71nm,2.0s						
HIN				IAML		08 07 32.7	
	comp=N,55nm,2.0s						
RSO	Redoubt South	4.73	341	Pn	Pn	08 06 35.6	-0.1
RDT	Redoubt	4.77	344		Pn	08 06 36.1	-0.2
P17K	Kvichak River	4.81	314		Pn	08 06 37.9	+1.3
P17K	Kvichak River	4.81	314	P	Pn	08 06 37.9	+1.3
	baz=129						
CAPN	Captain Cook N	4.81	352	Pn	Pn	08 06 33.6	-3.1
O18K	Koktuh Hills	4.82	325		Pn	08 06 37.3	+0.5
O18K				IAML		08 07 32.7	
	comp=N,26nm,2.0s						
O18K	Koktuh Hills	4.82	325	P	Pn	08 06 37.4	+0.5
	baz=140						
KAIM	Kayak Island	4.82	34		Pn	08 06 35.4	-1.5
KAIM				IAML		08 07 41.6	
	comp=E,78nm,1.9s						
KAIM	Kayak Island	4.82	34	P	Pn	08 06 37.6	+0.7
	baz=218						
DFR	Drift River	4.84	342		Pn	08 06 37.2	+0.1
O19K	Port Alsworth	4.84	332		Pn	08 06 37.3	+0.3
O19K				IAML		08 07 34.2	
	comp=E,68nm,0.5s						
O19K				IAML		08 07 36.1	
	comp=N,57nm,0.5s						
O19K	Port Alsworth	4.84	332	P	Pn	08 06 37.2	+0.2
	baz=148						
EYAK	Cordova Ski Ar	5.00	23		Pn	08 06 40.0	+0.8
EYAK	Cordova Ski Ar	5.00	23	P	Pn	08 06 39.6	+0.4
	baz=206						
FID	Port Fidalgo	5.04	18	Pn	Pn	08 06 40.5	+0.7
RC01	Rabbit Creek A	5.08	360		Pn	08 06 40.7	+0.4
RC01				IAML		08 07 42.2	
	comp=N,16nm,0.4s						
RC01				IAML		08 07 45.9	
	comp=E,20nm,0.8s						
RC01	Rabbit Creek A	5.08	360	P	Pn	08 06 40.6	+0.2
	baz=180						
RAGM	Ragged Mountai	5.12	29	Pn	Pn	08 06 42.0	+1.0
RAGM				IAML		08 07 48.5	
	comp=E,47nm,1.5s						
N20K	Mount Spurr	5.35	347	P	Pn	08 06 44.3	+0.2
	baz=165						
SPCR	Spurr Chakacha	5.35	347		Pn	08 06 44.3	+0.2
P16K	Nushagak River	5.37	307		Pn	08 06 45.6	+1.2
P16K	Nushagak River	5.37	307	P	Pn	08 06 45.6	+1.2
	baz=121						
N19K	Bonanza Creek	5.41	334		Pn	08 06 45.1	0.0
N19K	Bonanza Creek	5.41	334	P	Pn	08 06 44.9	-0.1
	baz=150						
O17K	Koliganek Bris	5.43	317		Pn	08 06 46.1	+0.9
O17K	Koliganek Bris	5.43	317	P	Pn	08 06 46.1	+0.9
	baz=131						
KNK	Knik Glacier	5.44	6		Pn	08 06 46.1	+0.7
KNK	Knik Glacier	5.44	6	P	Pn	08 06 45.9	+0.5
	baz=187						
SUA	Susitna One	5.48	355		Pn	08 06 46.0	0.0
SUA	Susitna One	5.48	355	P	Pn	08 06 46.4	+0.4
	baz=174						
STLK	Strandline Lak	5.60	350		Pn	08 06 47.7	+0.2
BMRM	Bremner River	5.63	26		Pn	08 06 49.1	+1.1
BMRM	Bremner River	5.63	26	P	Pn	08 06 48.4	+0.4
	baz=210						
N18K	Kilo Creek	5.68	328		Pn	08 06 48.9	+0.2
N18K	Kilae Creek	5.68	328	P	Pn	08 06 48.8	+0.2
	baz=143						
O16K	Kokwok River B	5.72	312		Pn	08 06 50.5	+1.3
O16K	Kokwok River B	5.72	312	P	Pn	08 06 49.9	+0.7
	baz=125						
CHNA	Chernabura Isl	5.74	262	P	Pn	08 06 49.0	-0.5
	baz=74						
CNBA	Chernabura Isl	5.74	262		Pn	08 06 48.7	-0.8
GHO	Glory Hole Cre	5.78	4		Pn	08 06 51.4	+1.4
KLU	Klutina	5.83	18		Pn	08 06 52.2	+1.5
KLU	Klutina	5.83	18	P	Pn	08 06 51.7	+1.0
	baz=201						
SCM	Sheep Creek Mo	5.96	11	Pn	Pn	08 06 54.0	+1.5
N17K	Nushagak Hills	5.98	322		Pn	08 06 53.3	+0.5
N17K	Nushagak Hills	5.98	322	P	Pn	08 06 53.1	+0.3
	baz=136						
SKT	Skwentna	6.04	352		Pn	08 06 53.5	-0.1
SKT	Skwentna	6.04	352	P	Pn	08 06 53.7	0.0
	baz=170						
N25K	Chitina, Valde	6.20	23		Pn	08 06 57.3	+1.5
N25K	Chitina, Valde	6.20	23	P	Pn	08 06 55.7	-0.1
	baz=207						
GLB	Gilahina Butte	6.24	27	Pn	Pn	08 06 57.7	+1.4
KIAG	Kiagna River	6.25	35		Pn	08 06 57.6	+1.0
O15K	Ungalikthiuk R	6.28	304		Pn	08 06 57.9	+1.1
O15K	Ungalikthiuk R	6.28	304	P	Pn	08 06 57.9	+1.1
	baz=116						
M18K	Stony River	6.33	332		Pn	08 06 57.6	+0.1
M18K	Stony River	6.33	332	P	Pn	08 06 57.6	+0.1
	baz=147						
M19K	Big River Lodg	6.37	340	Pn	Pn	08 06 57.7	-0.4
MCARA	McCarthy VSAT	6.41	30		Pn	08 06 59.5	+0.9
MCARA	McCarthy VSAT	6.41	30	P	Pn	08 06 59.0	+0.4
	baz=216						
PTPK	Patty Peak	6.41	33		Pn	08 06 60.0	+1.1
BARN	Barnard Glacie	6.58	37		Pn	08 07 02.4	+1.3
CTG	Chitna Glacier	6.62	38	P	Pn	08 07 02.4	+0.8
	baz=225						
CTGM	Chitina Glacie	6.62	38		Pn	08 07 02.7	+1.0
LOGN	Logan Glacier	6.64	40	Pn	Pn	08 07 02.8	+0.9
M17K	Holitna River	6.72	327		Pn	08 07 03.8	+0.9
M17K	Holitna River	6.72	327	P	Pn	08 07 03.3	+0.5
	baz=140						
HARP	HAARP	6.81	18		Pn	08 07 04.8	+0.7
HARP	HAARP	6.81	18	P	Pn	08 07 04.8	+0.7
	baz=202						
N15K	Kwethluk River	6.88	311		Pn	08 07 07.0	+1.9
N15K	Kwethluk River	6.88	311	P	Pn	08 07 06.4	+1.3
	baz=123						
M16K	Timber Creek	6.96	320	Pn	Pn	08 07 07.3	+1.2
O14K	Tigyukauivet M	6.98	302		Pn	08 07 07.3	+0.8
O14K	Tigyukauivet M	6.98	302	P	Pn	08 07 07.1	+0.7
	baz=113						
DHY	Denali Highway	7.17	9	Pn	Pn	08 07 11.2	+2.0
TRF	Thorofare Moun	7.45	358	Pn	Pn	08 07 14.0	+0.9
M27K	Edge Creek, AK	7.52	29	Pn	Pn	08 07 15.1	+1.1
L16K	Owhat River	7.61	322	Pn	Pn	08 07 15.8	+0.8
S31K	Pelican	7.62	70	P	Pn	08 07 14.9	-0.3
	baz=261						
K17K	Iditarod	8.00	330		Pn	08 07 20.5	0.0
K17K	Iditarod	8.00	330	P	Pn	08 07 20.7	+0.2
	baz=143						
M13K	Dall Lake	8.42	307	Pn	Pn	08 07 28.0	+1.9
L14K	Kuka Creek	8.59	314		Pn	08 07 30.4	+2.0
M29M	Somme Creek	8.63	37	Pn	Pn	08 07 31.3	+2.1
CCB	Clear Creek Bu	8.70	5	Pn	Pn	08 07 31.5	+1.5
K15K	Wolf Creek Mou	8.72	321	Pn	Pn	08 07 32.3	+2.0
IL31		8.88	8	Pn	Pn	08 07 34.4	+1.9
J16K	Anvik River	9.11	327	Pn	Pn	08 07 36.6	+1.0
U33K	Whale Pass	9.29	83	Pn	Pn	08 07 37.6	-0.5
K13K	Kusilvak Mount	9.70	314	Pn	Pn	08 07 46.4	+2.6
H21K	Melozitna Rive	9.78	352	Pn	Pn	08 07 45.8	+1.0

*AEIC **28** 08:07:27.9±0.7,56.15N±0.09×149.2W±0.2,h12km±9km, Error ellipse: s-maj=13.1km s-min=12.2km az=191.0*

NEIC 28 08:07:25.4±0.8,56.3N±0.1×149.3W±0.1,h21km±11km, ML3.0/22,ML2.8(AEIC),Error ellipse: s-maj=17.6km s-min=9.2km az=161.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.38	312		Pn	08 08 03.2	+0.1
KDAK					Sn	08 08 30.7	-1.0
OHAK	Old Harbor	2.43	295		Pn	08 08 03.4	-0.3
OHAK					Sn	08 08 31.4	-1.4
SII	Sitkinak Islan	2.76	279		Pn	08 08 08.2	0.0
SII				IAML		08 08 44.4	
	comp=N,139nm,2.0s						
SII				IAML		08 08 48.6	
	comp=E,39nm,1.7s						
SYI	Shuyak Island	2.91	326		Pn	08 08 10.7	+0.4
SYI				IAML		08 08 54.5	
	comp=N,47nm,1.9s						
SYI				IAML		08 08 58.8	
	comp=E,33nm,1.6s						
CNPM	China Poot	3.45	343		Pn	08 08 17.9	+0.1
CNPM				IAML		08 08 54.6	
	comp=E,19nm,1.9s						
CNPM				IAML		08 09 05.2	
	comp=N,16nm,1.7s						
Q19K	Cape Douglas,	3.58	320		Pn	08 08 20.1	+0.6
BRSE	Bradley Lake S	3.59	348		Pn	08 08 19.4	-0.3
BRLK	Bradley Lake	3.63	347		Pn	08 08 19.8	-0.5
BRLK				IAML		08 10 37.1	
	comp=E,23nm,2.0s						
HOM	Homer	3.65	341	Pn	Pn	08 08 20.9	+0.4
ANCK	Angle Creek	3.92	303		Pn	08 08 25.5	+1.3
CNTC	Contact Creek	4.13	302		Pn	08 08 27.6	+0.4
HIN	Hinchinbrook I	4.41	18		Pn	08 08 30.7	-0.2
HIN				IAML		08 09 59.8	
	comp=E,48nm,1.7s						
P18K	Big Mountain,	4.49	317	Pn	Pn	08 08 32.1	0.0
P18K				IAML		08 11 29.3	
	comp=N,9.6nm,1.6s						
O18K	Koktuh Hills	4.80	321		Pn	08 08 36.1	-0.2
O18K				IAML		08 11 26.1	
	comp=N,12nm,1.0s						

*IDC **28** 08:10:17.6±1.2,29.94N×138.59E,h402km±18km,mb3.0/5, mbtmp3.8/6,Error ellipse: s-maj=42.8km s-min=19.0km az=85.0*

ISC 28 08:10:17.5±0.9,29.81N±0.10×138.9E±0.2,h400km,n7, σ1§46/8,mb3.3/5,Southeast of Honshu

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h

Q20K				S		Sn	08 17 09.6	+0.8
	baz=153							
KAHG	Katmai Hook Gl	3.35	316			Pn	08 16 45.2	-0.1
Q19K	Cape Douglas,	3.36	327			Pn	08 16 47.0	+1.6
Q19K	Cape Douglas,	3.36	327	P		Pn	08 16 45.4	0.0
	baz=145							
CNPM	China Poot	3.43	350			Pn	08 16 45.7	-0.6
CNPM					IAML		08 17 29.6	
	comp=N,38nm,1.6s							
CNPM					IAML		08 18 05.8	
	comp=E,34nm,2.0s							
ANCK	Angle Creek	3.57	307			Pn	08 16 48.2	0.0
HOM	Homer	3.60	348	Pn		Pn	08 16 48.5	-0.1
HOM	Homer	3.60	348	P		Pn	08 16 48.6	0.0
	baz=166							
BRSE	Bradley Lake S	3.61	355			Pn	08 16 48.1	-0.6
BRSE						Sn	08 17 30.4	+0.3
BRSE	Bradley Lake S	3.61	355	P		Pn	08 16 48.1	-0.6
	baz=174							
BRSE				S		Sn	08 17 30.4	+0.3
	baz=174							
BRLK	Bradley Lake	3.64	354			Pn	08 16 48.7	-0.4
BRLK					IAML		08 17 35.6	
	comp=E,35nm,0.9s							
CNTC	Contact Creek	3.78	306			Pn	08 16 51.1	-0.1
Q17K	Contact Creek	3.78	306	P		Pn	08 16 51.1	-0.1
	baz=123							
P19K	Oil Pt	3.88	336	Pn		Pn	08 16 53.5	+1.0
P19K					IAML		08 17 51.7	
	comp=E,75nm,1.7s							
SEW	Seward	3.97	5			Pn	08 16 53.1	-0.5
SEW	Seward	3.97	5	P		Pn	08 16 53.2	-0.5
	baz=184							
P23K	Montague Islan	4.11	19			Pn	08 16 54.8	-0.8
P23K	Montague Islan	4.11	19	P		Pn	08 16 54.8	-0.8
	baz=200							
IVE	Iliamna Volcan	4.16	340			Pn	08 16 56.3	-0.1
P18K	Big Mountain,	4.24	322			Pn	08 16 57.3	-0.2
P18K					IAML		08 17 52.7	
	comp=E,18nm,1.6s							
P18K	Big Mountain,	4.24	322	P		Pn	08 16 57.2	-0.3
	baz=138							
O22K	Cooper Landing	4.34	3	Pn		Pn	08 16 58.1	-0.6
O22K					IAML		08 18 03.9	
	comp=E,73nm,1.1s							
SLKM	Skilak Lake	4.36	359			Pn	08 16 58.8	-0.3
RSO	Redoubt South	4.53	343	Pn		Pn	08 17 01.9	+0.3
O18K	Koktuh Hills	4.59	326			Pn	08 17 02.2	0.0
O18K					IAML		08 17 59.5	
	comp=E,22nm,0.7s							
O18K					IAML		08 18 14.9	
	comp=N,30nm,1.9s							
O18K	Koktuh Hills	4.59	326	P		Pn	08 17 02.1	0.0
	baz=142							
RDT	Redoubt	4.59	346			Pn	08 17 01.8	-0.4
HIN	Hinchinbrook I	4.66	23			Pn	08 17 03.0	-0.1
HIN					IAML		08 17 49.2	
	comp=E,48nm,1.4s							
HIN					IAML		08 18 02.1	
	comp=N,54nm,0.7s							
KAIM	Kayak Island	4.84	36			Pn	08 17 04.5	-1.1
KAIM	Kayak Island	4.84	36	P		Pn	08 17 04.7	-0.9
	baz=219							
RC01	Rabbit Creek A	4.95	2	Pn		Pn	08 17 06.6	-0.5
RC01					IAML		08 18 08.8	
	comp=E,24nm,0.5s							
EYAK	Cordova Ski Ar	4.96	26			Pn	08 17 07.7	+0.3
EYAK	Cordova Ski Ar	4.96	26	P		Pn	08 17 07.0	-0.3
	baz=208							
EYAK				S		Sn	08 18 03.5	+0.1
	baz=208							
FID	Port Fidalgo	4.98	21			Pn	08 17 06.3	-1.3
FID					IAML		08 18 04.5	
	comp=E,32nm,0.6s							
FID					IAML		08 18 20.3	
	comp=N,24nm,2.0s							
RAGM	Ragged Mountai	5.12	32	Pn		Pn	08 17 09.5	0.0
O17K	Koliganek Bris	5.19	317			Pn	08 17 10.0	-0.4
O17K	Koliganek Bris	5.19	317	P		Pn	08 17 10.0	-0.4
	baz=132							
N19K	Bonanza Creek	5.20	336	Pn		Pn	08 17 10.0	-0.6
N19K					IAML		08 18 31.9	
	comp=N,10nm,1.6s							
N19K					IAML		08 18 54.8	
	comp=E,11nm,1.9s							
SUA	Susitna One	5.33	357			Pn	08 17 11.6	-0.9
SUA					IAML		08 18 34.5	
	comp=N,12nm,1.7s							
SUA					IAML		08 18 45.6	
	comp=E,14nm,1.8s							
SUA	Susitna One	5.33	357	P		Pn	08 17 11.9	-0.6
	baz=176							
KNK	Knik Glacier	5.34	9	Pn		Pn	08 17 11.9	-0.6
KNK					IAML		08 18 20.2	
	comp=N,16nm,1.5s							
KNK					IAML		08 18 30.6	
	comp=E,14nm,2.0s							
STLK	Strandline Lak	5.43	351			Pn	08 17 13.4	-0.4
N18K	Kilae Creek	5.45	329			Pn	08 17 13.4	-0.6
N18K	Kilae Creek	5.45	329	P		Pn	08 17 13.9	-0.1
	baz=144							
O16K	Kokwok River B	5.47	312			Pn	08 17 14.4	+0.2
PMR	Palmer	5.47	5	Pn		Pn	08 17 14.2	-0.1
SNH	Sunshine Point	5.57	41	Pn		Pn	08 17 15.6	-0.1
BMRM	Bremner River	5.62	29			Pn	08 17 16.5	+0.1
BMRM	Bremner River	5.62	29	P		Pn	08 17 15.7	-0.6
	baz=212							
GHO	Glory Hole Cre	5.66	6	Pn		Pn	08 17 17.1	+0.1
SML	Sawmill	5.74	9			Pn	08 17 17.4	-0.7
SML	Sawmill	5.74	9	P		Pn	08 17 17.7	-0.4
	baz=189							
N17K	Nushagak Hills	5.75	323			Pn	08 17 18.2	+0.2
N17K	Nushagak Hills	5.75	323	P		Pn	08 17 17.6	-0.5
	baz=137							
KLU	Klutina	5.77	20			Pn	08 17 18.8	+0.2
KLU	Klutina	5.77	20	P		Pn	08 17 18.7	+0.2
	baz=203							
KLU				S		Sn	08 18 22.5	-1.0
	baz=203							
SCM	Sheep Creek Mo	5.87	13	Pn		Pn	08 17 21.3	+1.5
M20K	Styx River	5.95	346			Pn	08 17 20.5	-0.4
M20K	Styx River	5.95	346	P		Pn	08 17 20.6	-0.4
	baz=163							
O15K	Ungalikthiuk R	6.02	304			Pn	08 17 21.6	-0.3
O15K	Ungalikthiuk R	6.02	304	P		Pn	08 17 21.6	-0.3
	baz=117							
M18K	Stony River	6.11	333			Pn	08 17 23.0	-0.1
M18K	Stony River	6.11	333	P		Pn	08 17 23.0	-0.1
	baz=149							
VRDI	Verde Repeater	6.15	32	Pn		Pn	08 17 22.6	-1.2
N25K	Chitina, Valde	6.16	25			Pn	08 17 24.8	+0.9
N25K							08 17 24.9	
N25K	Chitina, Valde	6.16	25	P		Pn	08 17 24.4	+0.6
	baz=209							
N25K				S		Sn	08 18 31.9	-1.2
	baz=209							
M19K	Big River Lodg	6.17	341	Pn		Pn	08 17 23.7	-0.2
GLB	Gilahina Butte	6.23	29			Pn	08 17 25.4	+0.7
KIAG	Kiagna River	6.27	37			Pn	08 17 25.0	-0.4
PTPK	Patty Peak	6.43	35			Pn	08 17 26.7	-0.9
PTPK						Sn	08 18 37.3	-2.4
M17K	Holitna River	6.49	327			Pn	08 17 28.3	+0.1
L19K	White Mountain	6.51	340	Pn		Pn	08 17 28.6	+0.1
WAT6	Susitna Watana	6.55	10	S		Sn	08 18 42.3	-0.4
	baz=191							
CTG	Chitna Glacier	6.65	40	P		Pn	08 17 29.8	-0.8
	baz=226							
CTGM	Chitina Glacie	6.65	40			Pn	08 17 30.5	-0.2
M16K	Timber Creek	6.71	320			Pn	08 17 32.2	+0.9
M16K	Timber Creek	6.71	320	P		Pn	08 17 31.9	+0.5
	baz=133							
O14K	Tigyukauivet M	6.73	302	Pn		Pn	08 17 31.4	-0.1
BCPM	Bancas Point	6.74	51	Pn		Pn	08 17 31.5	-0.2
HARP	HAARP	6.75	20			Pn	08 17 33.4	+1.5
HARP						Sn	08 18 47.1	-0.3
HARP	HAARP	6.75	20	P		Pn	08 17 33.4	+1.5
	baz=203							
HARP				S		Sn	08 18 47.2	-0.3
	baz=203							
M15K	Kasigluk River	7.17	314			Pn	08 17 37.4	-0.2
M15K	Kasigluk River	7.17	314	P		Pn	08 17 37.4	-0.2
	baz=126							
M26K	Nabesna, AK	7.24	27	P		Pn	08 17 37.5	-1.2
	baz=212							
O29M	Mount Kennedy	7.37	51			Pn	08 17 39.6	-0.8
O29M	Mount Kennedy	7.37	51	P		Pn	08 17 38.5	-2.0
	baz=239							
L16K	Owhat River	7.37	323	Pn		Pn	08 17 40.1	-0.2
TTA	Tatalina	7.42	339	Pn		Pn	08 17 39.7	-1.3
P29M	Windy Craggy	7.46	57			Pn	08 17 40.9	-0.6
K20K	Telida	7.49	346	Pn		Pn	08 17 41.2	-0.7
S31K	Pelican	7.78	71	Pn		Pn	08 17 44.0	-2.0
L14K	Kuka Creek	8.34	314			Pn	08 17 53.2	-0.3
L14K	Kuka Creek	8.34	314	P		Pn	08 17 52.6	-1.0
	baz=124							
M29M	Somme Creek	8.66	39			Pn	08 17 58.8	+0.6
M29M	Somme Creek	8.66	39	P		Pn	08 17 58.8	+0.6
	baz=228							
ILAR	Eielson Array	8.79	9	Pn		Pn	08 17 60.0	+0.2
	comp=E,0.1nm,0.3s,baz=197,slow=12,SNR=2.2							
ILAR					Sn	Sn	08 19 35.4	-2.0
	comp=E,0.1nm,0.3s,baz=197,slow=21,SNR=4.2							
	comp=E,0.2nm,0.3s							
K27K	Chicken	8.85	24	Pn		Pn	08 18 00.3	-0.3
J16K	Anvik River	8.88	328	Pn		Pn	08 18 01.7	+0.7
J26L	Joseph Creek	8.97	18	Pn		Pn	08 18 01.1	-1.2
I23K	Minto, Yukon-K	9.03	2	Pn		Pn	08 18 02.2	-0.8
I21K	Tanana	9.10	355	Pn		Pn	08 18 04.4	+0.4
WHY	Whitehorse	9.17	54	Pn		Pn	08 18 04.7	-0.4
M30M	Minto, Yukon	9.35	41	Pn		Pn	08 18 07.3	-0.1
P32M	Atlin	9.38	62	Pn		Pn	08 18 06.8	-1.2
J14K	Nanvaranak Lak	9.49	320	Pn		Pn	08 18 09.2	-0.1
DAWY	Dawson	9.55	30	Pn		Pn	08 18 10.3	0.0
H21K	Melozitna Rive	9.62	353	Pn		Pn	08 18 09.3	-1.8
YKA	Yellowknife Ar	19.00	56	P		Pn	08 20 14.9	+0.4
	baz=264,slow=10,SNR=8.7							
	comp=E,0.3nm,0.7s							
MKAR	Makanchi Array	68.42	324	P		P	08 26 54.7	+1.4
	comp=E,0.1nm,0.5s,baz=35,slow=5.3,SNR=1.5							
	comp=E,0.1nm,0.5s							

*ISN **28** 08:38:41.8±0.5, 33°.75N×45°.72E, h10km±2km, ML2.7*
*TEH **28** 08:38:42.5, 33°.69N×45°.70E, h10km±7km, ML2.7*

ISC 28 08:38:42.4±1.1, 33.71N±0°.05×45.75E±0°.05, h10km, n9, σ0s.78/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	Ilam Banvizeh	0.39	102	Pg	Pb	08 38 51.1	-0.4
ILBA				Sg	Sb	08 38 57.7	+0.1
IBDR	Badra	0.62	166	*e*Pg	Pg	08 38 55.0	+0.7
IBDR				*e*Sg	Sb	08 39 04.0	+0.1
IGHG	Ghaleghazi	0.92	48	Pg	Pn	08 39 02.0	+0.4
IDHR	Dehrash	1.12	28	Pg	Pn	08 39 04.8	+0.4
BHD	Baghdad	1.22	249	*e*Pg	Pn	08 39 05.0	-0.5
BHD				*e*Sg	Sb	08 39 22.0	+0.6
ILIN	Lien	1.57	39	Pg	Pg	08 39 13.1	+0.6
IKFM	Kafar-mosalman	1.76	95	Pg	Pg	08 39 16.1	0.0
RAFI	Al-Rafai	2.00	171	*e*Pn	Pb	08 39 18.0	-0.9
RAFI				*e*Sn	Sb	08 39 45.0	+1.1
HSAM	Samen	2.42	77	Pn	Pb	08 39 24.8	-1.4

TAP 28 08:47:19.6, 23°.01N×121°.43E, h12km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	Chengkung	0.11	326	P	Pb	08 47 23.1	-0.5
	baz=329						
CHKT				*e*S	Sg	08 47 25.7	+1.0
	baz=329						
EDH	Donghe	0.12	253	*e*P	Pg	08 47 23.0	+0.2
	baz=251						
EDH				*e*S	Sg	08 47 25.5	+0.6
	baz=251						
CHKH	Chenggong	0.18	350	*e*P	Pg	08 47 24.2	+0.5
	baz=359						
CHKH				*e*S	Sg	08 47 28.3	+1.8
	baz=359						
ECS	Chishang	0.21	294	*e*P	Pb	08 47 25.2	-0.3
	baz=294						
ECS				*e*S	Sg	08 47 30.1	+2.8
	baz=294						
FULB	Fuli	0.23	326	*e*P	Pb	08 47 25.2	-0.6
	baz=328						
FULB				S	Sg	08 47 29.2	+1.5
	baz=328						
EHD	Haiduan	0.25	304	*e*P	Pb	08 47 25.7	-0.4
	baz=305						
EHD				*e*S	Sb	08 47 30.5	0.0
	baz=305						
LONT	Longtian	0.30	250	*e*P	Pb	08 47 26.4	-0.5
	baz=243						
LONT				*e*S	Sb	08 47 31.6	-0.1
	baz=243						
LDUT	Ludao	0.34	174	*e*S	Sg	08 47 31.8	+0.9
	baz=172						
TWF1	Yuli	0.36	340	*e*P	Pg	08 47 27.4	+0.5
	baz=343						
TWGBT	Beinan	0.38	240	*e*P	Pg	08 47 27.5	+0.4
	baz=237						
TWGBT				*e*S	Sb	08 47 33.6	-0.4
	baz=237						
TWG	Pinlang	0.38	241	*e*P	Pg	08 47 27.5	+0.3
	baz=237						
TWG				*e*S	Sb	08 47 33.7	-0.5
	baz=237						
YULB	Yu-li	0.40	342	*e*P	Pb	08 47 28.5	-0.2
	baz=344						
YULB				*e*S	Sb	08 47 35.1	+0.3
	baz=344						
ELDTW	Lidau	0.42	295	*e*P	Pg	08 47 28.2	+0.2
	baz=296						
ELDTW				*e*S	Sg	08 47 34.3	+0.7
	baz=296						
HGSD	Ruisui	0.48	359	*e*P	Pb	08 47 29.8	-0.3
	baz=16						
HGSD				*e*S	Sb	08 47 37.5	+0.4
	baz=16						
EHY	Hungye	0.51	348	*e*P	Pb	08 47 30.3	-0.1
	baz=352						
EHY				*e*S	Sb	08 47 38.7	+0.9
	baz=352						
ECL	Taimali	0.60	227	*e*P	Pg	08 47 30.9	-0.5
	baz=241						
STYH	Taoyuan	0.62	285	*e*P	Pg	08 47 31.7	0.0
	baz=285						
ALS	Alishan	0.76	311	*e*P	Pb	08 47 35.0	0.0
	baz=312						
VWDT	VWDT	0.79	340	*e*S	Sb	08 47 46.4	+0.5
	baz=358						
MASBT	Mashibuluo	0.84	242	*e*P	Pg	08 47 34.2	-1.5
	baz=228						

*UCR **28** 08:51:04.9±1.1, 8°.58N×83°.94W, h0km±6km, MW3.7*
*UPA **28** 08:51:04.3±1.8, 8°.72N×84°.09W, h10km±100km, MW3.4*
*CATAC **28** 08:51:05.0±0.4, 8°.54N×83°.97W, h0km, ML3.2*

ISC 28 08:51:04.3±1.4, 8°.58N±0°.04×83°.98W±0°.03, h4km±10km, n73, σ0s69/96, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCHAL	Ojochal	0.61	33	*i* P	Pg	08 51 16.3	+0.1
OCHAL				*i* S	Sb	08 51 25.1	-1.5
OCHAL				IAML		08 51 26.7	
	comp=Z,45nm,1.0s						
EDPN	Palmar Norte	0.65	54	*e*P	Pg	08 51 17.0	+0.2
EDPN				*e*S	Sb	08 51 27.4	-0.1
PIRO	Carate, Puerto	0.66	105	*e*P	Pb	08 51 18.4	0.0
PEZE	Perez Zeledon,	0.85	21	*e*P	Pg	08 51 20.4	-0.4
PEZE				*e*S	Sb	08 51 33.7	+0.1
PEZE	Perez Zeledon,	0.85	21	*i* P	Pg	08 51 20.7	-0.1
PEZE				*i* S	Sb	08 51 33.5	-0.1
PEZE				IAML		08 51 36.5	
	comp=Z,650nm,1.0s						
BURE	Buenos Aires	0.87	47	*e*P	Pb	08 51 22.0	0.0
BURE				*e*S	Sb	08 51 33.5	-0.5
LLNJ	Naranjito	0.90	353	*e*P	Pb	08 51 22.6	+0.1
EDBA	Buenos Aires	0.91	50	*e*P	Pg	08 51 21.2	-0.6
EDBA				*e*S	Sb	08 51 34.6	-0.6
POTG	Potrero Grande	0.98	61	*e*P	Pb	08 51 23.5	-0.3
POTG	Potrero Grande	0.98	61	*i* P	Pb	08 51 23.4	-0.4
POTG				*i* S	Sb	08 51 37.2	+0.1
POTG				IAML		08 51 40.6	
	comp=Z,1μm,1.0s						
CDM	Cerro de Muert	0.99	13	*e*P	Pg	08 51 23.2	-0.2
CDM	Cerro de Muert	0.99	13	*i* P	Pg	08 51 23.1	-0.3
CDM				*i* S	Sb	08 51 38.5	+0.5
CDM				IAML		08 51 40.5	
	comp=Z,700nm,1.0s						
BUS1	Rivas	1.00	13	*e*P	Pg	08 51 23.3	-0.3
VITO	San Vito	1.03	76	*e*P	Pb	08 51 24.7	-0.1
CDITO	Canoas	1.10	90	*e*P	Pg	08 51 25.1	-0.3
CDITO				*e*S	Sn	08 51 41.7	-0.3
CDITO	Canoas	1.10	90	*i* P	Pg	08 51 24.9	-0.5
CDITO				IAML		08 51 48.0	
	comp=Z,290nm,1.0s						
ABE2	San Pablo	1.12	356	*e*P	Pg	08 51 26.1	+0.3
LCR2	La Lucha 2	1.16	359	*e*P	Pg	08 51 26.4	-0.2
LCR2	La Lucha 2	1.16	359	*i* P	Pg	08 51 26.3	-0.2
LCR2				IAML		08 51 44.6	
	comp=Z,400nm,1.0s						
MLIR3	Monte Lirio, C	1.17	79	*e*P	Pb	08 51 26.8	-0.2
MLIR3				*e*S	Sn	08 51 44.2	+0.4
RIMA	Rio Macho	1.19	6	*e*P	Pg	08 51 26.7	-0.5
RIMA	Rio Macho	1.19	6	*i* P	Pg	08 51 26.4	-0.7
RIMA				IAML		08 51 44.5	
	comp=Z,220nm,1.0s						
LIMO3	Limones	1.20	113	*e*P	Pn	08 51 28.1	+0.2
LIMO3				*e*S	Sn	08 51 46.5	+1.9
ACOS	Acosta	1.22	352	*e*P	Pb	08 51 28.1	0.0
REPA	Paraso	1.25	5	*e*P	Pn	08 51 29.0	+0.3
JACO	JACO, Garabito	1.27	328	*e*P	Pn	08 51 29.9	+1.1
JACO	JACO, Garabito	1.27	328	*i* P	Pg	08 51 29.0	+0.3
JACO				IAML		08 51 37.7	
	comp=Z,150nm,1.0s						
BRU2	Volcan	1.29	80	⇓*i* P	Pg	08 51 28.7	-0.5
BRU2				*e*S	Sn	08 51 46.9	-0.2
BRU2	Volcan	1.29	80	*e*P	Pg	08 51 28.2	-1.0
BRU2	Volcan	1.29	80	*i* P	Pg	08 51 28.7	-0.5
BRU2				*i* S	Sn	08 51 46.7	-0.4
BRU2				IAML		08 51 57.9	
	comp=Z,330nm,1.0s						
OCM	Ochomogo	1.31	1	*e*P	Pg	08 51 28.9	-0.6
OCM	Ochomogo	1.31	1	*i* P	Pg	08 51 28.8	-0.6
OCM				*i* S	Sn	08 51 48.2	+0.6
OCM				IAML		08 51 50.2	
	comp=Z,240nm,1.0s						
LUJA	Lujan	1.34	356	*e*P	Pb	08 51 31.3	+1.2
TURIB	Turrialba	1.35	12	*e*P	Pb	08 51 30.7	+0.4
SANTA	Santa Ana	1.36	352	*e*P	Pn	08 51 30.3	+0.1
CORON	Coronado	1.39	359	*e*P	Pb	08 51 31.4	+0.5
VERB	Verbena	1.39	12	*e*P	Pn	08 51 30.4	-0.2
ICR3	Volcano Irazu	1.40	6	*e*P	Pn	08 51 30.9	-0.1
HAYA	Volcan Irazu	1.40	6	*i* P	Pn	08 51 31.0	0.0
HAYA				*i* S	Sn	08 51 50.9	+0.8
HAYA				IAML		08 51 57.9	
	comp=Z,680nm,1.0s						
VICA	Volcano Irazu	1.41	6	*e*P	Pb	08 51 31.5	+0.1
TRB2	Turrubares	1.41	341	*e*P	Pg	08 51 31.5	+0.2
VTCV	VTCV, Calle Va	1.42	10	*e*P	Pn	08 51 31.3	+0.2
HDC3	Heredia 3	1.42	355	*e*P	Pn	08 51 29.9	-1.2
HDC3	Heredia 3	1.42	355	*i* P	Pn	08 51 31.4	+0.4
HDC3				*i* S	Sn	08 51 50.7	+0.4
HDC3				IAML		08 51 57.0	
	comp=Z,370nm,1.0s						
RVSTA	Santa Teresita	1.43	13	*e*P	Pn	08 51 31.2	+0.1
CVTV	Tajo	1.44	9	*e*P	Pg	08 51 32.1	+0.2
BCO2	Palmira	1.44	84	⇑*i* P	Pn	08 51 30.9	-0.4
BCO2				*e*S	Sn	08 51 52.0	+1.1
VTLO	VTLO	1.48	10	*e*P	Pb	08 51 32.4	-0.1
TCS1	Tacares	1.49	348	*e*P	Pg	08 51 33.1	+0.1
TCS1	Tacares	1.49	348	*i* P	Pg	08 51 33.0	+0.1
TCS1				IAML		08 51 58.8	
	comp=Z,2μm,1.0s						
DVD	David	1.52	95	*e*P	Pb	08 51 32.9	-0.2
DVD				*e*S	Sg	08 51 54.9	+1.6
BRIBI	Bribri	1.53	47	*e*P	Pg	08 51 34.9	+1.2
LCOCO	El Coco	1.56	16	*e*P	Pg	08 51 34.0	-0.2
RVLA	Villa Bonita	1.57	14	*e*P	Pb	08 51 34.2	+0.2
IRES	Siquirres	1.58	17	*e*P	Pb	08 51 34.2	+0.1
CNI2	El Empalme, Bo	1.71	60	⇑*i* P	Pn	08 51 34.6	-0.4
CNI2				*e*S	Sn	08 51 57.2	-0.1
RIFO	Rio Frio, Sara	1.73	2	*e*P	Pb	08 51 36.3	-0.4
RIFO	Rio Frio, Sara	1.73	2	*i* P	Pb	08 51 36.4	-0.3
RIFO				*i* S	Sg	08 52 00.4	+0.4
RIFO				IAML		08 52 16.4	
	comp=Z,310nm,1.0s						
CPMI	Catarata Coope	1.74	347	*i* P	Pb	08 51 36.9	0.0
CPMI				*i* S	Sg	08 52 00.5	+0.2
CPMI				IAML		08 52 01.3	
	comp=Z,150nm,1.0s						
CHGR2	Aguacate	1.85	79	*e*P	Pn	08 51 36.6	-0.2
CHGR2				*e*S	Sn	08 52 00.8	+0.1
SOCE	Pocosol	1.90	341	*e*P	Pb	08 51 39.4	-0.2
SOCE	Pocosol	1.90	341	*i* P	Pb	08 51 39.2	-0.4
SOCE				IAML		08 51 43.1	
	comp=Z,490nm,1.0s						
JTS	Las Juntas de	1.95	331	*e*P	Pb	08 51 40.2	-0.3
INDI	Punta indio, G	1.97	311	*i* P	Pn	08 51 39.2	+0.7
INDI				*i* S	Sn	08 52 03.6	-0.1
INDI				IAML		08 52 31.8	
	comp=Z,51nm,1.0s						
ARE1	Arenal 1	2.01	339	*e*P	Pg	08 51 42.5	-0.3
COVE	Coope Vega, Sa	2.17	349	*e*P	Pb	08 51 44.6	+0.5
COVE	Coope Vega, Sa	2.17	349	*i* P	Pb	08 51 44.0	-0.1
COVE				IAML		08 52 22.2	
	comp=Z,140nm,1.0s						
JUD3	Juan Diaz 3	2.20	316	*e*P	Pb	08 51 44.3	-0.5
ORTG	Ortega, Santa	2.29	321	*i* P	Pb	08 51 45.7	-0.6
ORTG				IAML		08 52 38.2	
	comp=Z,42nm,1.0s						
CUI	Cuipilapa	2.37	331	*e*P	Pb	08 51 48.1	+0.5
HZTE	Horizontes, Gu	2.65	323	*i* P	Pb	08 51 51.4	-1.0
HZTE				IAML		08 53 31.8	
	comp=Z,100nm,1.0s						
CACAO	El Cacao, Vera	3.33	111	*e*S	Sb	08 52 44.6	-0.1
BOAB	BOACO BROADBAN	3.19	337	*i* P	Pb	08 52 14.6	-4.0
BOAB				IAML		08 53 43.6	
	comp=Z,33nm,1.0s						

*NEIC **28** 08:51:59.3±2.2, 51°.06N±0°.06×130°.70W±0°.09, h10km±2km, ML3.5/16, Mwr4.1(OTT), Error ellipse: s-maj=11.6km s-min=8.0km az=212.0*
*PGC **28** 08:52:01.9±9.4, 51°.11N×130°.50W, h10km, ML

GRNB	**Grenville Isla**	**2.77**	**7**		**Pn**	**08 52 44.7**	**-1.1**
GRNB	comp=N,152nm,0.5s			IAML		08 53 34.6	
GRNB	comp=E,142nm,0.9s			IAML		08 53 36.8	
GRNB	**Grenville Isla**	**2.77**	**7**	Pn	**Pn**	**08 52 44.7**	**-1.1**
NCSB	**Newcastle Ridg**	**2.92**	**102**	Pn	**Pn**	**08 52 47.6**	**-0.4**
KITB	**Kitimat**	**3.19**	**20**	Pn	**Pn**	**08 52 50.4**	**-1.1**
KITB	**Kitimat**	**3.19**	**20**	Pn	**Pn**	**08 52 50.4**	**-1.1**
RUBB	**Prince Rupert**	**3.23**	**3**		**Pn**	**08 52 51.8**	**-0.2**
RUBB	comp=E,140nm,0.9s			IAML		08 53 59.5	
RUBB	**Prince Rupert**	**3.23**	**3**	Pn	**Pn**	**08 52 51.9**	**-0.2**
SPLB	**Strathcona Par**	**3.34**	**109**	Pn	**Pn**	**08 52 52.7**	**-0.9**
SPLB	**Strathcona Par**	**3.34**	**109**	Pn	**Pn**	**08 52 52.7**	**-0.9**
V35K	**Ketchikan**	**4.28**	**352**	Pn	**Pn**	**08 53 02.7**	**-3.8**
V35K	comp=E,39nm,1.9s			IAML		08 54 26.9	
SHB	**Sechelt**	**4.52**	**107**	Pn	**Pn**	**08 53 11.0**	**+1.1**
SHB	**Sechelt**	**4.52**	**107**	Pn	**Pn**	**08 53 11.0**	**+1.1**
U35K	**Hyder**	**4.83**	**3**		**Pn**	**08 53 12.5**	**-1.5**
FSJB	**Fort St James**	**5.05**	**46**		**Pn**	**08 53 17.4**	**+0.2**
FSJB	**Fort St James**	**5.05**	**46**	P	**Pn**	**08 53 17.4**	**+0.2**
U33K	**Whale Pass**	**5.25**	**344**	Pn	**Pn**	**08 53 17.3**	**-2.5**
U33K	comp=N,39nm,2.3s			IAML		08 55 51.9	
U33K	comp=E,33nm,2.2s			IAML		08 56 16.7	
T35M	**Bob Quinn**	**5.89**	**1**		**Pn**	**08 53 29.9**	**+1.3**
T35M	**Bob Quinn**	**5.89**	**1**	P	**Pn**	**08 53 29.9**	**+1.3**
JCW	**Jim Creek**	**6.29**	**114**		**Pn**	**08 53 35.0**	**+0.7**
JCW	**Jim Creek**	**6.29**	**114**	P	**Pn**	**08 53 35.0**	**+0.7**
DLBC	**Dease Lake**	**7.35**	**2**	Pn	**Pn**	**08 53 51.0**	**+2.2**
DLBC	comp=E,0.5nm,0.3s,baz=186,slow=19,SNR=5.4			Sn	**Sn**	**08 55 14.8**	**+2.7**
DLBC	comp=E,0.3nm,0.3s,baz=256,slow=13,SNR=1.1			Lg	Lg	08 55 53.8	
LTY	**Liberty**	**7.52**	**117**	Pn	**Pn**	**08 53 52.8**	**+1.7**
NBC5	**NorthernBC 5**	**7.89**	**32**		**Pn**	**08 53 57.1**	**+1.0**
NBC5	**NorthernBC 5**	**7.89**	**32**	P	**Pn**	**08 53 57.1**	**+1.0**
NBC5				S	**Sg**	**08 56 12.0**	**-2.7**
NEW	**Newport**	**9.14**	**103**	Lg	Lg	08 56 42.1	
NEW	comp=E,0.1nm,0.3s,baz=3.8,slow=11,SNR=3.0			LR	LR	08 58 02.0	
YKA	**Yellowknife Ar**	**14.30**	**31**	Pn	**Pn**	**08 55 21.2**	**-2.5**
YKA	comp=E,74nm,18.3s,baz=336,slow=40 baz=224,slow=12,SNR=2.8			Lg	Lg	08 59 21.5	
ELK	**Elko**	**14.82**	**128**	Pn	**P**	**08 55 35.1**	**-1.9**
NVAR	**Mina Array Bea**	**15.33**	**141**	Pn	**P**	**08 55 40.5**	**-2.2**
ILAR	**Eielson Array**	**16.14**	**334**	Pn	**P**	**08 55 53.8**	**+2.5**
PDAR	**Pinedale Array**	**16.53**	**112**	Pn	**Pn**	**08 55 53.4**	**0.0**
INK	**Inuvik**	**17.32**	**356**	P	**P**	**08 56 05.7**	**+1.5**
TXAR	**Lajitas Array**	**29.61**	**127**	P	**P**	**08 58 08.7**	**+2.1**
H11N2	**WAKE ISLAND Hy**	**57.73**	**261**	T	T	10 05 02.8	
H11N3	**WAKE ISLAND Hy**	**57.73**	**261**	T	T	10 05 03.0	
H11N1	**WAKE ISLAND Hy**	**57.74**	**261**	T	T	10 05 04.3	

baz=219 baz=136 baz=212 baz=209 baz=226 baz=134 baz=104 baz=154 baz=146 baz=175 baz=175 baz=124 baz=211 baz=185 baz=200 baz=143 baz=151 baz=155 baz=125 baz=104 baz=154 baz=154 baz=125 baz=104 baz=154 baz=146 baz=175 baz=175 baz=124 baz=211 baz=185 baz=200 baz=143 baz=151 baz=155

comp=E,0.2nm,0.3s,baz=197,slow=40 comp=E,0.1nm,0.3s,baz=3.8,slow=11,SNR=3.0 comp=E,74nm,18.3s,baz=336,slow=40 comp=E,0.2nm,0.3s,baz=202,slow=8.1,SNR=3.0 comp=E,1.2nm,0.4s comp=E,0.1nm,0.6s comp=E,0.6nm,0.7s comp=E,0.1nm,0.7s comp=E,0.1nm,0.5s,baz=143,slow=10,SNR=1.7 comp=E,0.3nm,0.6s comp=E,0.3nm,0.8s,baz=335,slow=7.9,SNR=2.3 comp=E,0.3nm,0.8s comp=E,0.1nm,0.5s comp=E,0.2nm,0.3s,baz=202,slow=8.1,SNR=3.0 comp=E,1.2nm,0.4s comp=E,0.1nm,0.6s comp=E,0.6nm,0.7s comp=E,0.1nm,0.7s comp=E,0.1nm,0.5s,baz=143,slow=10,SNR=1.7 comp=E,0.3nm,0.6s comp=E,0.3nm,0.8s,baz=335,slow=7.9,SNR=2.3 comp=E,0.3nm,0.8s comp=E,48nm,2.0s comp=E,0.2nm,0.3s,baz=197,slow=40 comp=E,48nm,2.0s comp=E,0.2nm,0.3s,baz=202,slow=8.1,SNR=3.0 comp=E,1.2nm,0.4s comp=E,0.1nm,0.6s comp=E,0.6nm,0.7s comp=E,0.1nm,0.7s comp=E,0.1nm,0.5s,baz=143,slow=10,SNR=1.7 comp=E,0.3nm,0.6s comp=E,0.3nm,0.8s,baz=335,slow=7.9,SNR=2.3 comp=E,0.3nm,0.8s comp=E,48nm,2.0s

*NEIC **28** 08:56:12.3±1.6,55°.93N±0°.05×150°.1W±0°.1, h7km±6km, ML3.5/32,ML3.2(AEIC), Error ellipse: s-maj=12.1km s-min=4.3km az=121.0*
*AEIC **28** 08:56:16.1±1.7,55°.91N±0°.10×150°.1W±0°.1, h6km±8km, Error ellipse: s-maj=14.4km s-min=9.9km az=168.0*

ISC 28 08:56:15.7±2.0,56°.0N±0°.1×150°.08W±0°.07,h35km,n101, σ0s90/105,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.13**	**305**	Pn	**Pn**	**08 56 48.2**	**-0.6**
OHAK	**Old Harbor**	**2.13**	**305**	P	**Pn**	**08 56 48.1**	**-0.6**
OHAK				S	**Sn**	**08 57 12.9**	**-1.0**
KDAK	**Kodiak Island**	**2.22**	**323**	Pn	**Pn**	**08 56 49.6**	**-0.4**
SII	**Sitkinak Islan**	**2.34**	**285**		**Pn**	**08 56 50.5**	**-1.2**
SII				IAML		08 57 25.7	
SII	**Sitkinak Islan**	**2.34**	**285**	P	**Pn**	**08 56 50.7**	**-1.0**
Q20K	**Shuyak Island**	**2.87**	**335**	P	**Pn**	**08 56 59.1**	**+0.3**
Q20K				S	**Sn**	**08 57 32.5**	**+0.5**
Q19K	**Cape Douglas,**	**3.48**	**328**		**Pn**	**08 57 09.0**	**+1.7**
Q19K				IAML		08 57 58.2	
Q19K	**Cape Douglas,**	**3.48**	**328**	P	**Pn**	**08 57 08.1**	**+0.8**
CNPM	**China Poot**	**3.55**	**350**		**Pn**	**08 57 08.3**	**0.0**
CNPM				IAML		08 57 55.3	
CNPM				IAML		08 57 57.3	
BRSE	**Bradley Lake S**	**3.73**	**355**		**Pn**	**08 57 11.1**	**+0.4**
BRSE					**Sn**	**08 57 52.9**	**-0.5**
BRSE	**Bradley Lake S**	**3.73**	**355**	P	**Pn**	**08 57 11.1**	**+0.4**
BRSE				S	**Sn**	**08 57 52.9**	**-0.5**
BRLK	**Bradley Lake**	**3.76**	**354**	Pn	**Pn**	**08 57 11.5**	**+0.3**
BRLK				IAML		08 57 57.9	
CNTC	**Contact Creek**	**3.87**	**308**		**Pn**	**08 57 13.3**	**+0.6**
Q17K	**Contact Creek**	**3.87**	**308**	P	**Pn**	**08 57 13.3**	**+0.6**
Q23K	**Middleton Isla**	**3.95**	**29**		**Pn**	**08 57 14.0**	**+0.3**
Q23K	**Middleton Isla**	**3.95**	**29**	P	**Pn**	**08 57 13.9**	**+0.3**
MID	**Middleton Isla**	**3.95**	**29**	Pn	**Pn**	**08 57 13.8**	**+0.2**
MID				IAML		08 59 22.7	
P19K	**Oil Pt**	**4.00**	**336**		**Pn**	**08 57 15.8**	**+1.4**
P19K				IAML		08 58 03.3	
P19K				IAML		08 58 33.2	
P19K	**Oil Pt**	**4.00**	**336**	P	**Pn**	**08 57 15.1**	**+0.7**
SEW	**Seward**	**4.09**	**4**		**Sn**	**08 58 01.0**	**-1.2**
SEW	**Seward**	**4.09**	**4**	S	**Sn**	**08 58 01.0**	**-1.2**
P23K	**Montague Islan**	**4.22**	**19**		**Pn**	**08 57 17.7**	**+0.3**
P23K	**Montague Islan**	**4.22**	**19**	P	**Pn**	**08 57 17.7**	**+0.3**
IVE	**Iliamna Volcan**	**4.28**	**340**		**Pn**	**08 57 18.7**	**+0.3**
P18K	**Big Mountain,**	**4.35**	**323**	Pn	**Pn**	**08 57 19.6**	**+0.4**
SLKM	**Skilak Lake**	**4.48**	**359**		**Sn**	**08 58 10.9**	**-1.1**
O18K	**Koktuh Hills**	**4.70**	**327**		**Pn**	**08 57 24.4**	**+0.3**
O18K				IAML		08 58 21.7	
O18K				IAML		08 58 35.7	
O18K	**Koktuh Hills**	**4.70**	**327**	P	**Pn**	**08 57 24.3**	**+0.3**
O19K	**Port Alsworth**	**4.73**	**333**		**Pn**	**08 57 25.1**	**+0.6**
O19K				IAML		08 58 20.2	
O19K				IAML		08 58 22.4	
O19K	**Port Alsworth**	**4.73**	**333**	P	**Pn**	**08 57 25.1**	**+0.6**
HIN	**Hinchinbrook I**	**4.76**	**22**		**Pn**	**08 57 25.7**	**+0.8**
HIN				IAML		08 58 41.4	
HIN				IAML		08 58 53.5	
CAPN	**Captain Cook N**	**4.78**	**354**	Pn	**Pn**	**08 57 26.2**	**+1.1**
KAIM	**Kayak Island**	**4.93**	**35**		**Pn**	**08 57 27.9**	**+0.7**
KAIM	**Kayak Island**	**4.93**	**35**	P	**Pn**	**08 57 27.8**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.07**	**25**		**Pn**	**08 57 30.0**	**+0.9**
EYAK	**Cordova Ski Ar**	**5.07**	**25**	P	**Pn**	**08 57 29.9**	**+0.9**
FID	**Port Fidalgo**	**5.09**	**20**	Pn	**Pn**	**08 57 29.8**	**+0.4**
FID				IAML		08 58 19.2	
FID				IAML		08 58 29.5	
O17K	**Koliganek Bris**	**5.29**	**318**		**Pn**	**08 57 32.2**	**+0.1**
O17K	**Koliganek Bris**	**5.29**	**318**	P	**Pn**	**08 57 32.2**	**+0.1**
N19K	**Bonanza Creek**	**5.32**	**336**		**Pn**	**08 57 32.7**	**+0.2**
N19K	**Bonanza Creek**	**5.32**	**336**	P	**Pn**	**08 57 32.7**	**+0.2**
N18K	**Kilae Creek**	**5.57**	**329**		**Pn**	**08 57 36.4**	**+0.4**
N18K	**Kilae Creek**	**5.57**	**329**	P	**Pn**	**08 57 35.9**	**0.0**
O16K	**Kokwok River B**	**5.57**	**313**		**Pn**	**08 57 37.0**	**+1.1**
BMRM	**Bremner River**	**5.72**	**28**		**Pn**	**08 57 39.1**	**+1.0**
BMRM	**Bremner River**	**5.72**	**28**	P	**Pn**	**08 57 39.0**	**+1.0**
N17K	**Nushagak Hills**	**5.85**	**323**		**Pn**	**08 57 40.5**	**+0.6**
N17K	**Nushagak Hills**	**5.85**	**323**	P	**Pn**	**08 57 39.8**	**0.0**
KLU	**Klutina**	**5.88**	**20**		**Pn**	**08 57 41.6**	**+1.3**
O15K	**Ungalikthiuk R**	**6.11**	**305**		**Pn**	**08 57 44.1**	**+0.8**
O15K	**Ungalikthiuk R**	**6.11**	**305**	P	**Pn**	**08 57 44.2**	**+0.8**
M18K	**Stony River**	**6.23**	**334**		**Pn**	**08 57 45.3**	**+0.4**
M18K	**Stony River**	**6.23**	**334**	P	**Pn**	**08 57 45.3**	**+0.4**
VRDI	**Verde Repeater**	**6.25**	**31**	Pn	**Pn**	**08 57 46.5**	**+1.1**
N25K	**Chitina, Valde**	**6.27**	**25**		**Pn**	**08 57 47.3**	**+1.7**
N25K	**Chitina, Valde**	**6.27**	**25**	P	**Pn**	**08 57 46.7**	**+1.1**
GLB	**Gilahina Butte**	**6.33**	**28**	Pn	**Pn**	**08 57 47.6**	**+1.2**
N16K	**Nishlik Lake**	**6.38**	**318**		**Pn**	**08 57 48.0**	**+0.8**
N16K	**Nishlik Lake**	**6.38**	**318**	P	**Pn**	**08 57 48.0**	**+0.8**
M24K	**Tolsona, Glenn**	**6.41**	**17**		**Pn**	**08 57 47.4**	**-0.2**
M24K	**Tolsona, Glenn**	**6.41**	**17**	P	**Pn**	**08 57 48.4**	**+0.9**
M17K	**Holitna River**	**6.60**	**328**		**Pn**	**08 57 50.8**	**+0.8**
BARN	**Barnard Glacie**	**6.69**	**38**		**Pn**	**08 57 52.8**	**+1.3**
N15K	**Kwethluk River**	**6.73**	**312**	Pn	**Pn**	**08 57 53.2**	**+1.4**
CTG	**Chitna Glacier**	**6.73**	**39**	P	**Pn**	**08 57 53.2**	**+1.1**
CTGM	**Chitina Glacie**	**6.74**	**39**		**Pn**	**08 57 53.6**	**+1.4**
PN7A	**Pavlof North-7**	**6.76**	**270**		**Pn**	**08 57 51.6**	**-0.7**
LOGN	**Logan Glacier**	**6.76**	**41**	Pn	**Pn**	**08 57 53.3**	**+0.9**
O14K	**Tigyukauivet M**	**6.81**	**303**	Pn	**Pn**	**08 57 53.7**	**+0.8**
M16K	**Timber Creek**	**6.82**	**321**		**Pn**	**08 57 54.8**	**+1.7**
M16K	**Timber Creek**	**6.82**	**321**	P	**Pn**	**08 57 53.9**	**+0.8**
L18K	**Granite Mounta**	**7.07**	**334**	Pn	**Pn**	**08 57 57.3**	**+0.9**
RND	**Reindeer**	**7.42**	**4**	Pn	**Pn**	**08 58 03.2**	**+1.8**
L16K	**Owhat River**	**7.48**	**323**		**Pn**	**08 58 02.7**	**+0.6**
L16K	**Owhat River**	**7.48**	**323**	P	**Pn**	**08 58 02.8**	**+0.6**
TTA	**Tatalina**	**7.54**	**339**	Pn	**Pn**	**08 58 02.9**	**-0.1**
M27K	**Edge Creek, AK**	**7.61**	**30**		**Pn**	**08 58 04.6**	**+0.6**
M27K	**Edge Creek, AK**	**7.61**	**30**	P	**Pn**	**08 58 03.9**	**-0.1**
S31K	**Pelican**	**7.81**	**70**		**Pn**	**08 58 05.9**	**-0.7**
S31K	**Pelican**	**7.81**	**70**	P	**Pn**	**08 58 06.1**	**-0.5**
M14K	**Bethel**	**7.82**	**312**	Pn	**Pn**	**08 58 08.1**	**+1.3**
ISLZ	**Isanotski Laza**	**7.87**	**266**		**Pn**	**08 58 06.7**	**-1.0**
K17K	**Iditarod**	**7.90**	**331**	Pn	**Pn**	**08 58 08.0**	**+0.2**
SSLS	**Shishaldin Sou**	**8.04**	**266**		**Pn**	**08 58 08.1**	**-1.8**
M13K	**Dall Lake**	**8.26**	**308**	Pn	**Pn**	**08 58 14.2**	**+1.5**
L14K	**Kuka Creek**	**8.44**	**314**	Pn	**Pn**	**08 58 16.7**	**+1.5**
J19K	**Poorman**	**8.45**	**343**	Pn	**Pn**	**08 58 16.4**	**+1.0**
SCRK	**Sand Creek**	**8.53**	**18**	Pn	**Pn**	**08 58 18.5**	**+1.9**
HDA	**Harding Lake**	**8.54**	**9**	Pn	**Pn**	**08 58 17.7**	**+1.1**
K15K	**Wolf Creek Mou**	**8.59**	**322**	Pn	**Pn**	**08 58 17.6**	**+0.3**
J16K	**Anvik River**	**9.00**	**328**	Pn	**Pn**	**08 58 22.5**	**-0.4**
J26L	**Joseph Creek**	**9.08**	**18**	Pn	**Pn**	**08 58 24.3**	**+0.1**
I21K	**Tanana**	**9.22**	**355**	Pn	**Pn**	**08 58 26.1**	**+0.1**
J14K	**Nanvaranak Lak**	**9.60**	**320**	Pn	**Pn**	**08 58 32.0**	**+0.8**
H21K	**Melozitna Rive**	**9.74**	**353**	Pn	**Pn**	**08 58 33.8**	**+0.7**
K29M	**Barlow Dome**	**10.03**	**34**	Pn	**Pn**	**08 58 38.6**	**+1.4**
IMAR	**Stony Mountai**	**10.13**	**351**	Pn	**Pn**	**08 58 39.8**	**+1.4**
G23K	**Bananza Creek**	**10.71**	**0**	Pn	**Pn**	**08 58 47.5**	**+1.1**
F20K	**Avaraart Lake**	**11.36**	**349**	Pn	**Pn**	**08 58 56.6**	**+1.4**
F17K	**Baldwin Pennin**	**11.71**	**337**	Pn	**Pn**	**08 58 59.8**	**-0.2**
INK	**Inuvik**	**14.46**	**25**	Pn	**Pn**	**08 59 37.7**	**+0.3**

*IDC **28** 09:10:38.0±1.0,9°.81S×160°.28E, h0km, mb3.9/10, mbtmp3.9/11, ML3.8/1, MS3.3/5, Error ellipse: s-maj=22.9km s-min=14.7km az=65.0*

ISC 28 09:10:39.3±0.8,9°.9S±0°.1×160°.3E±0°.1,h10km,n19, σ0s76/13,mb3.9/10,MS3.2/4,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.59**	**320**	Pn	**Pn**	**09 10 52.8**	**-0.9**
HNR	7µm,0.3s,baz=179,slow=7.9,SNR=52 46µm,0.3s,baz=217,slow=22,SNR=24			Sn	**Sb**	**09 11 01.1**	**+0.9**
CTA	**Charters Tower**	**16.95**	**232**	Pn	**P**	**09 14 38.3**	**-0.4**
CTA	0.2nm,0.3s,baz=52,slow=13,SNR=4.4 comp=Z,92nm,19.4s,baz=70,slow=34 3.6nm,0.4s			LR	LR	09 20 21.0	
WRA	**Warramunga Arr**	**26.99**	**245**	P	**P**	**09 16 21.8**	**+0.2**
STKA	**Stephens Creek**	**27.93**	**216**	P	**P**	**09 16 30.5**	**+0.7**
STKA	2.8nm,0.9s,baz=75,slow=9.0,SNR=8.4 2.8nm,0.9s 1.5nm,0.9s,baz=36,slow=17,SNR=1.8 comp=Z,34nm,18.5s,baz=19,slow=38 1.5nm,0.9s			LR	LR	09 28 33.2	
ASAR	**Alice Springs**	**28.70**	**238**	P	**P**	**09 16 36.0**	**-0.9**
ASAR	0.7nm,0.9s,baz=60,slow=10,SNR=4.8 comp=Z,66nm,20.2s,baz=27,slow=36 0.7nm,0.9s			LR	LR	09 27 37.8	
H11S2	**WAKE ISLAND Hy**	**28.89**	**13**	T	T	09 45 40.5	
H11S3	**WAKE ISLAND Hy**	**28.89**	**13**	T	T	09 45 40.5	
H11S1	**WAKE ISLAND Hy**	**28.91**	**13**	T	T	09 45 41.1	
H11N1	**WAKE ISLAND Hy**	**30.12**	**12**	T	T	09 47 12.8	
H11N3	**WAKE ISLAND Hy**	**30.13**	**12**	T	T	09 47 13.6	
H11N2	**WAKE ISLAND Hy**	**30.14**	**12**	T	T	09 47 14.2	
KSRS	**Korea Array**	**56.04**	**329**	LR	LR	09 43 21.3	
CMAR	**Chiang Mai Arr**	**66.79**	**295**	P	**P**	**09 21 32.0**	**+0.4**
SONM	**Songino Array**	**74.65**	**326**	P	**P**	**09 22 19.8**	**+0.7**
QSPA	**South Pole Qui**	**80.10**	**180**	P	**P**	**09 22 49.8**	**+0.4**
ILAR	**Eielson Array**	**84.19**	**20**	P	**P**	**09 23 10.1**	**-0.5**
ILAR	0.6nm,0.3s,baz=124,slow=4.8,SNR=1.6 0.6nm,0.3s 1.0nm,1.1s,baz=238,slow=3.4,SNR=3.5 comp=Z,52nm,18.3s,baz=74,slow=34 1.0nm,1.1s			LR	LR	09 58 27.1	
MKAR	**Makanchi Array**	**89.07**	**318**	P	**P**	**09 23 34.7**	**-0.2**
NVAR	**Mina Array Bea**	**89.39**	**51**	P	**P**	**09 23 37.7**	**+0.9**
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**09 24 07.4**	**-0.9**

0.9nm,0.6s,baz=130,slow=4.9,SNR=5.1 0.9nm,0.6s comp=E,0.2nm,19.2s,baz=320,slow=35 0.5nm,1.0s,baz=116,slow=6.3,SNR=3.2 0.5nm,1.0s comp=E,246nm,6.5s,baz=246,slow=6.5,SNR=2.8 0.6nm,0.9s 0.1nm,0.6s,baz=268,slow=4.6,SNR=4.8 0.1nm,0.6s

*TEH **28** 09:26:43.9,27°.54N×59°.83E,h10km,ML2.9*
*OMAN **28** 09:26:51.1±1.9,27°.18N×59°.85E, h10km, ml3.0/10, Error ellipse: s-maj=19.7km s-min=8.6km az=12.0*

ISC 28 09:26:45.5±1.1,27°.46N±0°.05×60°.02E±0°.06,h10km,n17, σ2s05/26,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHDN	**Zahedan**	**2.05**	**20**	Pn	**Pn**	**09 27 21.5**	**+1.3**
SRVN	**Saravan**	**2.12**	**91**	Pn	**Pb**	**09 27 24.6**	**+0.5**
KBAM	**BAM**	**2.16**	**321**	Pn	**Pn**	**09 27 20.8**	**-0.9**
NGCH	**Negor - Chabah**	**2.33**	**154**	Pn	**Pb**	**09 27 26.8**	**-0.7**
NGCH	**Negor - Chabah** SNR=7.1	**2.33**	**154**	P	**Pb**	**09 27 26.8**	**-0.7**
NGCH				S	**Sb**	**09 27 56.3**	**0.0**
JASK	**Jask - Hormozg**	**2.50**	**231**	P	**Pn**	**09 27 26.1**	**-0.1**
JASK				S	**Sn**	**09 27 58.5**	**+1.9**
BANOM	**Banah**	**3.66**	**246**	P	**Pn**	**09 27 44.7**	**+2.5**
BANOM				S	**Sn**	**09 28 25.5**	**0.0**
SHME	**Shamm**	**3.74**	**249**	P	**Pn**	**09 27 45.6**	**+2.3**
SHME				S	**Sn**	**09 28 26.1**	**-1.3**
MDH	**Madha** SNR=7.4	**3.97**	**238**	P	**Pn**	**09 27 48.0**	**+1.5**
MDH				S	**Sn**	**09 28 29.9**	**-3.2**
MASF	**Masafi**	**4.04**	**240**	P	**Pn**	**09 27 51.6**	**+4.2**
MASF				S	**Sn**	**09 28 32.3**	**-2.5**
BIDO	**Bidbid**	**4.28**	**204**	P	**Pn**	**09 27 52.0**	**+1.2**
WSAR	**Wadi Sarin** SNR=19	**4.39**	**197**	P	**Pn**	**09 27 54.5**	**+2.2**
WSAR				S	**Sn**	**09 28 40.6**	**-2.8**
SOHO	**SOHO**	**4.57**	**224**	P	**Pn**	**09 27 55.5**	**+0.8**
WBK	**Wadi Bani Khal** SNR=54	**4.93**	**191**	P	**Pn**	**09 28 01.0**	**+1.4**
WBK				S	**Sn**	**09 28 54.0**	**-2.7**
JLN	**Jalan Bani Buh**	**5.32**	**186**	P	**Pn**	**09 28 05.8**	**+0.8**
JMDO	**Jabal Madar**	**5.36**	**199**	P	**Pn**	**09 28 08.7**	**+3.1**
JMDO				S	**Sn**	**09 29 06.6**	**-0.9**
WHFO	**Wadi Hawf**	**11.11**	**213**	S	**Sn**	**09 31 26.8**	**-2.1**

*JMA **28** 09:40:56.3±0.2,43°.8N±0°.8×144°.5E±°, h153km±1km, MV2.9/33,NEAR KUNASHIRI ISLAND*
*SKHL **28** 09:40:56.9±0.4,43°.70N×145°.30E, h135km±4km, mb4.2/2, msha4.8/2*

ISC 28 09:40:57.6±2.0,43°.75N±0°.07×145°.33E±0°.05, h144km±12km,n18,σ0s68/31,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNSB	**Nemuroshibetsu**	**0.24**	**276**	P	**Pn**	**09 41 17.3**	**+0.1**
JNSB				*e*S	**Sn**	**09 41 33.0**	**+1.0**
JRA	**Rausu**	**0.24**	**321**	*e*P	**Pn**	**09 41 16.9**	**-0.3**
JRA				*e*S	**Sn**	**09 41 32.9**	**+0.8**
JNK	**Nakash**	**0.47**	**250**	*e*P	**Pn**	**09 41 18.1**	**0.0**
JNK				*e*S	**Sn**	**09 41 34.3**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**0.48**	**53**	*e*P	**Pn**	**09 41 17.9**	**-0.2**
YUK	240nm,0.4s			AMB	AMB	09 41 18.2	
YUK				*e*S	**Sn**	**09 41 33.4**	**-0.3**
YUK	210nm,0.6s			A	A	09 41 35.2	
YUK	300nm,0.6s			A	A	09 41 35.2	
NMR	**Nemuro--Hokkai**	**0.48**	**143**	*e*P	**Pn**	**09 41 17.8**	**-0.3**
NMR				*e*S	**Sn**	**09 41 33.4**	**-0.3**
NEM2	**Nemuro 2**	**0.49**	**142**	*e*P	**Pn**	**09 41 17.8**	**-0.4**
NEM2				*e*S	**Sn**	**09 41 33.5**	**-0.3**
JKHN	**Kushirohamanak**	**0.68**	**191**	*i* P	**Pn**	**09 41 19.4**	**+0.1**
AKK	**Akkeshi**	**0.82**	**206**	*e*P	**Pn**	**09 41 20.2**	**-0.1**
AKK				*e*S	**Sn**	**09 41 37.4**	**-0.1**
JAK	**Akkeshi**	**0.89**	**212**	*e*P	**Pn**	**09 41 20.8**	**0.0**
JAK				*e*S	**Sn**	**09 41 39.0**	**+0.5**
JTKR	**Abashiri--Toko**	**1.05**	**282**	*e*P	**Pn**	**09 41 21.8**	**-0.4**
JTKR				*e*S	**Sn**	**09 41 40.7**	**-0.2**
SHO	**Shikotan**	**1.09**	**83**	*e*P	**Pn**	**09 41 21.5**	**-1.0**
SHO	70nm,0.7s			AMB	AMB	09 41 21.9	
SHO				*e*S	**Sn**	**09 41 40.2**	**-1.4**
SHO	210nm,0.4s			A	A	09 41 40.8	
SHO	230nm,0.4s			A	A	09 41 40.8	
JAR	**Ashorobuto**	**1.22**	**249**	*e*P	**Pn**	**09 41 24.0**	**+0.2**
JAR				*e*S	**Sn**	**09 41 44.9**	**+1.0**
JOB	**Onbets**	**1.38**	**233**	*e*P	**Pn**	**09 41 25.6**	**+0.2**
JOB				*e*S	**Sn**	**09 41 46.9**	**+0.3**
JCH	**Churui**	**1.84**	**232**	*e*P	**Pn**	**09 41 30.0**	**-0.4**
JKK2	**Kamakawa 2**	**1.87**	**275**	*e*P	**Pn**	**09 41 30.4**	**-0.4**
ASAJ	**Asahikawa**	**2.01**	**281**	*e*P	**Pn**	**09 41 32.1**	**-0.3**
JSE	**Soyaes**	**2.31**	**302**	*e*P	**Pn**	**09 41 34.5**	**-1.4**
KUR	**Kuril'sk**	**2.34**	**50**	*e*P	**Pn**	**09 41 37.4**	**+1.1**
KUR				*e*S	**Sn**	**09 42 07.6**	**+1.3**

*IDC **28** 09:49:18.8±1.1,24°.72N×124°.98E, h0km, mb3.8/8, mbtmp3.8/9, ML3.0/1, Error ellipse: s-maj=39.0km s-min=21.1km az=62.0*
*NEIC **28** 09:49:23.7±1.3,24°.4N±0°.1×125°.36E±0°.01, h52km±12km, mb4.0/5, Error ellipse: s-maj=17.3km s-min=1.7km az=180.0*
*JMA **28** 09:49:24.5±0.2,25°.N±1°×125°.2E±0°.6, h49km±1km, MD3.7/10, MV3.6/10, NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .

ISC 28 09:49:24.8±0.8,24°.73N±0°.08×125°.20E±0°.05,h46km±5km, n46,σ0s94/48,mb3.7/11,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRB	**Irabujima**	**0.10**	**345**	*i* P	**Pn**	**09 49 31.8**	**-0.3**
JIRB				*e*S	**Sn**	**09 49 37.3**	**+0.1**
JIRB	**Irabujima** comp=E,12nm,1.2s,comp=N,11nm,3.0s	**0.10**	**345**	A	A	09 49 31.8	
JMJ2	**Miyako jima3**	**0.11**	**85**	*i* P	**Pn**	**09 49 32.2**	**+0.1**
JMJ2				*e*S	**Sn**	**09 49 37.9**	**+0.7**
JMJ2	**Miyako jima3** comp=E,27nm,1.2s,comp=N,26nm,1.4s	**0.11**	**85**	A	A	09 49 32.2	
JOGS	**Gusukube**	**0.19**	**81**	P	**Pn**	**09 49 32.7**	**+0.2**
JOGS				S	**Sn**	**09 49 39.1**	**+1.1**
JOGS	**Gusukube** comp=E,24nm,0.5s,comp=N,35nm,0.6s	**0.19**	**81**	A	A	09 49 32.7	
JIKM	**Ikemajima**	**0.20**	**12**	*i* P	**Pn**	**

ZALV	**Zalesovo Beam**	**41.84**	**325**	P	**P**	**09 57 08.8**	**-1.3**	
	comp=N,0.8nm,0.4s,baz=108,slow=9.3,SNR=4.5							
	comp=N,0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**44.10**	**318**	P	**P**	**09 57 28.2**	**-0.2**	
	comp=N,0.4nm,0.6s,baz=108,slow=8.4,SNR=5.3							
	comp=N,0.4nm,0.6s							
WRA	**Warramunga Arr**	**45.29**	**168**	P	**P**	**09 57 38.1**	**0.0**	
	comp=N,1.1nm,1.1s,baz=348,slow=8.8,SNR=2.6							
	comp=N,1.1nm,1.1s							
KK31	**Karatay Array**	**48.07**	**307**	P	**P**	**09 58 00.1**	**+0.3**	
KK31				IAmb	IAmb	09 58 18.4		
	comp=Z,2.7nm,1.2s							
KKAR	**Karatay Array**	**48.07**	**307**	P	**P**	**09 58 00.1**	**+0.3**	
ASAR	**Alice Springs**	**48.84**	**169**	P	**P**	**09 58 06.6**	**+0.7**	
	comp=Z,0.2nm,0.5s,baz=0.7,slow=7.7,SNR=4.9							
	comp=Z,0.2nm,0.5s							
BRVK	**Borovoye**	**49.67**	**320**	P	**P**	**09 58 12.2**	**+0.3**	
BRVK				IAmb	IAmb	09 58 13.0		
	comp=Z,1.0nm,0.8s							
ABKAR	**Akbulak array**	**55.69**	**314**	P	**P**	**09 58 56.4**	**-0.1**	
ABKAR				IAmb	IAmb	09 59 11.0		
	comp=Z,2.2nm,1.2s							
FINES	**FINESS Array B**	**72.81**	**330**	P	**P**	**10 00 47.7**	**-0.6**	
	comp=Z,4.8nm,1.1s,baz=46,slow=6.4,SNR=2.1							
	comp=Z,4.8nm,1.1s							
AKASG	**Malin Array Be**	**74.88**	**319**	P	**P**	**10 00 59.8**	**-0.8**	
	comp=Z,0.4nm,0.4s,baz=64,slow=6.3,SNR=2.6							
	comp=Z,0.4nm,0.4s							
BRTR	**Keskin Array B**	**75.78**	**307**	P	**P**	**10 01 06.5**	**+0.2**	
	comp=Z,0.6nm,0.6s,baz=77,slow=5.3,SNR=4.6							
	comp=Z,0.6nm,0.6s							

NEIC ***28*** *09:56:02.2±2.3,56°07N±0°09×149°4W±0°1,h21km±9km, ML3.8/40,ML3.7(AEIC), Error ellipse: s-maj=13.0km s-min=9.0km az=166.0*

AEIC ***28*** *09:56:05.3±1.8,56°08N±0°09×149°53W±0°10,h12km±7km, Error ellipse: s-maj=13.2km s-min=7.7km az=172.0*

ISC 28 09:56:03.2±1.2,56°10N±0°08×149°50W±0°06,h35km, n211,σ0s97/218,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.37**	**300**	Pn	**Pn**	**09 56 38.5**	**-1.1**
OHAK	**Old Harbor**	**2.37**	**300**	P	**Pn**	**09 56 39.1**	**-0.5**
OHAK	**Old Harbor**	**2.37**	**300**	P	**Pn**	**09 56 39.2**	**-0.4**
	baz=117						
OHAK				S	**Sn**	**09 57 05.4**	**-2.0**
	baz=117						
KDAK	**Kodiak Island**	**2.39**	**316**		**Pn**	**09 56 39.5**	**-0.2**
SII	**Sitkinak Islan**	**2.65**	**282**		**Pn**	**09 56 43.1**	**-0.3**
SII	**Sitkinak Islan**	**2.65**	**282**	IAML		09 57 13.6	
	comp=N,306nm,2.3s						
SII	**Sitkinak Islan**	**2.65**	**282**	P	**Pn**	**09 56 43.1**	**-0.3**
SII	**Sitkinak Islan**	**2.65**	**282**	P	**Pn**	**09 56 43.1**	**-0.3**
	baz=99						
SII				S	**Sn**	**09 57 12.2**	**-2.0**
	baz=99						
SYI	**Shuyak Island**	**2.96**	**329**	Pn	**Pn**	**09 56 47.9**	**+0.2**
SYI	**Shuyak Island**	**2.96**	**329**		**Sn**	**09 57 22.1**	**+0.2**
Q20K	**Shuyak Island**	**2.96**	**329**	P	**Pn**	**09 56 47.7**	**0.0**
	baz=146						
Q20K				S	**Sn**	**09 57 22.1**	**+0.1**
	baz=146						
CNPM	**China Poot**	**3.56**	**346**		**Pn**	**09 56 55.8**	**-0.1**
CNPM				IAML		09 57 38.0	
	comp=N,133nm,0.5s						
CNPM				IAML		09 57 38.3	
	comp=E,125nm,0.5s						
CNPM	**China Poot**	**3.56**	**346**		**Sn**	**09 57 35.8**	**-0.9**
Q19K	**Cape Douglas,**	**3.61**	**323**	Pn	**Pn**	**09 56 57.2**	**+0.6**
Q19K				IAML		09 57 42.4	
	comp=N,226nm,0.7s						
Q19K	**Cape Douglas,**	**3.61**	**323**		**Sn**	**09 57 36.4**	**-1.6**
Q19K	**Cape Douglas,**	**3.61**	**323**	P	**Pn**	**09 56 57.3**	**+0.7**
	baz=140						
Q19K				S	**Sn**	**09 57 36.4**	**-1.6**
	baz=140						
KAHG	**Katmai Hook Gl**	**3.64**	**313**		**Pn**	**09 56 57.8**	**+0.8**
BRSE	**Bradley Lake S**	**3.71**	**350**		**Pn**	**09 56 57.4**	**-0.6**
BRSE					**Sn**	**09 57 39.6**	**-0.8**
BRSE	**Bradley Lake S**	**3.71**	**350**	P	**Pn**	**09 56 57.4**	**-0.6**
	baz=169						
BRSE				S	**Sn**	**09 57 39.6**	**-0.8**
	baz=169						
Q23K	**Middleton Isla**	**3.74**	**26**	Pn	**Pn**	**09 56 57.7**	**-0.6**
Q23K				IAML		09 58 53.5	
	comp=N,163nm,1.9s						
Q23K				IAML		09 59 16.1	
	comp=E,207nm,2.1s						
Q23K	**Middleton Isla**	**3.74**	**26**	P	**Pn**	**09 56 57.9**	**-0.4**
	baz=207						
MID	**Middleton Isla**	**3.74**	**26**	Pn	**Pn**	**09 56 57.5**	**-0.8**
MID				IAML		09 57 40.5	
	comp=N,168nm,1.9s						
MID				IAML		09 59 16.0	
	comp=E,207nm,2.0s						
MID	**Middleton Isla**	**3.74**	**26**	P	**Pn**	**09 56 58.1**	**-0.2**
HOM	**Homer**	**3.75**	**343**		**Sn**	**09 57 41.5**	**+0.3**
HOM	**Homer**	**3.75**	**343**	S	**Sn**	**09 57 41.5**	**+0.3**
	baz=161						
BRLK	**Bradley Lake**	**3.75**	**349**	Pn	**Pn**	**09 56 57.7**	**-0.8**
BRLK				IAML		09 57 41.9	
	comp=E,129nm,0.5s						
BRLK				IAML		09 57 45.2	
	comp=N,89nm,0.4s						
SEW	**Seward**	**4.01**	**0**		**Pn**	**09 57 01.1**	**-1.0**
SEW					**Sn**	**09 57 44.8**	**-3.0**
SEW	**Seward**	**4.01**	**0**	P	**Pn**	**09 57 01.1**	**-1.0**
	baz=180						
SEW				S	**Sn**	**09 57 44.8**	**-3.0**
	baz=180						
P23K	**Montague Islan**	**4.06**	**15**		**Pn**	**09 57 02.4**	**-0.4**
P23K	**Montague Islan**	**4.06**	**15**	P	**Pn**	**09 57 02.4**	**-0.4**
	baz=196						
P19K	**Oil Pt**	**4.08**	**332**		**Pn**	**09 57 01.1**	**-2.0**
P19K				IAML		09 57 52.5	
	comp=N,165nm,0.5s						
P19K				IAML		09 57 55.1	
	comp=E,205nm,0.4s						
P19K	**Oil Pt**	**4.08**	**332**	S	**Sn**	**09 57 48.9**	**-0.6**
	baz=149						
CNTC	**Contact Creek**	**4.09**	**305**		**Pn**	**09 57 03.8**	**+0.4**
Q17K	**Contact Creek**	**4.09**	**305**	P	**Pn**	**09 57 03.8**	**+0.4**
	baz=119						
O20K	**Slope Mountain**	**4.32**	**339**		**Pn**	**09 57 05.9**	**-0.5**
O20K	**Slope Mountain**	**4.32**	**339**	P	**Pn**	**09 57 05.9**	**-0.5**
	baz=156						
O22K	**Cooper Landing**	**4.39**	**359**		**Pn**	**09 57 06.5**	**-0.8**
SLKM	**Skilak Lake**	**4.44**	**355**		**Pn**	**09 57 07.3**	**-0.6**
P18K	**Big Mountain,**	**4.50**	**319**		**Pn**	**09 57 09.3**	**+0.4**
P18K	**Big Mountain,**	**4.50**	**319**	P	**Pn**	**09 57 09.0**	**+0.1**
	baz=134						
HIN	**Hinchinbrook I**	**4.59**	**19**	Pn	**Pn**	**09 57 09.3**	**-0.7**
KAIM	**Kayak Island**	**4.69**	**33**		**Pn**	**09 57 11.4**	**0.0**
KAIM	**Kayak Island**	**4.69**	**33**	P	**Pn**	**09 57 11.4**	**0.0**
	baz=217						
RSO	**Redoubt South**	**4.70**	**340**		**Pn**	**09 57 12.9**	**+1.2**
DFR	**Drift River**	**4.80**	**341**		**Sn**	**09 58 06.8**	**-0.7**
O19K	**Port Alsworth**	**4.83**	**330**		**Pn**	**09 57 13.3**	**0.0**
O19K				IAML		09 58 13.0	
	comp=N,128nm,0.4s						
O19K	**Port Alsworth**	**4.83**	**330**	P	**Pn**	**09 57 12.8**	**-0.5**
	baz=146						
O18K	**Koktuh Hills**	**4.83**	**323**		**Pn**	**09 57 13.2**	**-0.2**
O18K				IAML		09 58 08.0	
	comp=N,34nm,1.3s						
O18K	**Koktuh Hills**	**4.83**	**323**	P	**Pn**	**09 57 13.0**	**-0.4**
	baz=138						
P17K	**Kvichak River**	**4.85**	**313**		**Pn**	**09 57 13.9**	**+0.3**
P17K	**Kvichak River**	**4.85**	**313**	P	**Pn**	**09 57 13.9**	**+0.3**
	baz=127						
EYAK	**Cordova Ski Ar**	**4.88**	**22**		**Pn**	**09 57 14.1**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.88**	**22**	P	**Pn**	**09 57 14.1**	**+0.1**
CHGN	**Chignik**	**4.98**	**276**	Pn	**Pn**	**09 57 16.1**	**+0.7**
CHGN				IAML		09 58 12.4	
	comp=N,76nm,0.1s						
CHGN				IAML		09 58 27.2	
	comp=E,60nm,2.0s						
RAGM	**Ragged Mountai**	**5.00**	**29**		**Pn**	**09 57 16.2**	**+0.5**
RC01	**Rabbit Creek A**	**5.00**	**359**	Pn	**Pn**	**09 57 15.6**	**-0.2**
RC01				IAML		09 58 13.1	
	comp=N,88nm,0.3s						
RC01				IAML		09 58 14.6	
	comp=E,109nm,0.5s						
RC01	**Rabbit Creek A**	**5.00**	**359**	P	**Pn**	**09 57 15.3**	**-0.4**
	baz=178						
GOAT	**Goat Mountain**	**5.15**	**27**		**Pn**	**09 57 18.5**	**+0.7**
BERG	**Berg Lake**	**5.28**	**33**		**Pn**	**09 57 19.4**	**-0.1**
KNK	**Knik Glacier**	**5.36**	**5**		**Pn**	**09 57 20.5**	**0.0**
KNK				IAML		09 58 26.6	
	comp=E,52nm,0.7s						
KNK				IAML		09 58 28.6	
	comp=N,40nm,0.4s						
KNK	**Knik Glacier**	**5.36**	**5**	P	**Pn**	**09 57 20.7**	**+0.2**
	baz=186						
SPCP	**Crater Peak Br**	**5.36**	**346**		**Pn**	**09 57 21.0**	**+0.2**
N19K	**Bonanza Creek**	**5.40**	**333**		**Pn**	**09 57 20.5**	**-0.7**
N19K	**Bonanza Creek**	**5.40**	**333**	P	**Pn**	**09 57 20.5**	**-0.7**
	baz=149						
SNH	**Sunshine Point**	**5.40**	**38**		**Pn**	**09 57 21.3**	**+0.1**
DIV	**Divide**	**5.41**	**20**		**Pn**	**09 57 21.7**	**+0.4**
SUA	**Susitna One**	**5.42**	**354**		**Pn**	**09 57 22.1**	**+0.6**
PMR	**Palmer**	**5.51**	**2**		**Pn**	**09 57 23.1**	**+0.5**
PMR	**Palmer**	**5.51**	**2**	P	**Pn**	**09 57 23.1**	**+0.5**
PMR	**Palmer**	**5.51**	**2**	P	**Pn**	**09 57 23.4**	**+0.7**
	baz=182						
BMRM	**Bremner River**	**5.51**	**26**		**Pn**	**09 57 23.5**	**+0.8**
BMRM	**Bremner River**	**5.51**	**26**	P	**Pn**	**09 57 23.5**	**+0.8**
	baz=209						
N18K	**Kilae Creek**	**5.69**	**326**		**Pn**	**09 57 24.3**	**-0.8**
N18K	**Kilae Creek**	**5.69**	**326**	P	**Pn**	**09 57 24.3**	**-0.8**
	baz=141						
GHO	**Glory Hole Cre**	**5.70**	**3**		**Pn**	**09 57 25.8**	**+0.6**
KLU	**Klutina**	**5.72**	**17**		**Pn**	**09 57 26.0**	**+0.4**
KLU	**Klutina**	**5.72**	**17**	P	**Pn**	**09 57 25.9**	**+0.4**
	baz=200						
SML	**Sawmill**	**5.75**	**6**		**Pn**	**09 57 27.0**	**+0.9**
SML	**Sawmill**	**5.75**	**6**	P	**Pn**	**09 57 26.8**	**+0.7**
	baz=186						
SCM	**Sheep Creek Mo**	**5.86**	**10**		**Pn**	**09 57 28.1**	**+0.6**
SCM	**Sheep Creek Mo**	**5.86**	**10**	P	**Pn**	**09 57 28.1**	**+0.6**
	baz=192						
CHNA	**Chernabura Isl**	**5.88**	**262**	P	**Pn**	**09 57 27.2**	**-0.5**
	baz=74						
CNBA	**Chernabura Isl**	**5.88**	**262**	Pn	**Pn**	**09 57 26.3**	**-1.4**
SKT	**Skwentna**	**5.99**	**351**		**Pn**	**09 57 30.4**	**+1.1**
VRDI	**Verde Repeater**	**6.03**	**29**	Pn	**Pn**	**09 57 30.4**	**+0.4**
N25K	**Chitina, Valde**	**6.08**	**23**		**Pn**	**09 57 31.2**	**+0.6**
N25K	**Chitina, Valde**	**6.08**	**23**	P	**Pn**	**09 57 30.9**	**+0.4**
	baz=206						
M20K	**Styx River**	**6.09**	**344**	Pn	**Pn**	**09 57 31.2**	**+0.5**
KIAG	**Kiagna River**	**6.11**	**35**		**Pn**	**09 57 31.5**	**+0.4**
GLB	**Gilahina Butte**	**6.12**	**27**	Pn	**Pn**	**09 57 32.0**	**+1.0**
SDPT	**Sand Point**	**6.25**	**268**	Pn	**Pn**	**09 57 32.6**	**-0.1**
SDPT	**Sand Point**	**6.25**	**268**	P	**Pn**	**09 57 33.0**	**+0.2**
SDPT	**Sand Point**	**6.25**	**268**	P	**Pn**	**09 57 32.3**	**-0.4**
	baz=79						
M24K	**Tolsona, Glenn**	**6.26**	**14**		**Pn**	**09 57 34.5**	**+1.4**
M24K	**Tolsona, Glenn**	**6.26**	**14**	P	**Pn**	**09 57 34.3**	**+1.2**
	baz=197						
YKU2	**Yakutat**	**6.27**	**53**	P	**Pn**	**09 57 34.5**	**+1.5**
	comp=N,527nm,1.7s						
M18K	**Stony River**	**6.32**	**331**		**Pn**	**09 57 33.2**	**-0.6**
M18K	**Stony River**	**6.32**	**331**	P	**Pn**	**09 57 33.2**	**-0.6**
	baz=146						
M19K	**Big River Lodg**	**6.34**	**339**		**Pn**	**09 57 35.3**	**+1.2**
BARN	**Barnard Glacie**	**6.44**	**36**		**Pn**	**09 57 35.9**	**+0.3**
WACK	**Wrangell Chich**	**6.48**	**22**		**Pn**	**09 57 36.6**	**+0.4**
CTGM	**Chitina Glacie**	**6.48**	**38**		**Pn**	**09 57 36.9**	**+0.8**
LOGN	**Logan Glacier**	**6.50**	**40**		**Pn**	**09 57 37.0**	**+0.6**
BCPM	**Bancas Point**	**6.51**	**50**		**Pn**	**09 57 37.6**	**+1.3**
WAT6	**Susitna Watana**	**6.56**	**7**		**Pn**	**09 57 37.8**	**+0.6**
WAT6	**Susitna Watana**	**6.56**	**7**	P	**Pn**	**09 57 37.8**	**+0.6**
	baz=188						
L19K	**White Mountain**	**6.69**	**338**	Pn	**Pn**	**09 57 38.8**	**-0.1**
HARP	**HAARP**	**6.70**	**18**		**Pn**	**09 57 39.9**	**+1.0**
HARP	**HAARP**	**6.70**	**18**	P	**Pn**	**09 57 39.9**	**+1.0**
	baz=201						
M17K	**Holitna River**	**6.73**	**325**		**Pn**	**09 57 39.2**	**-0.1**
M17K	**Holitna River**	**6.73**	**325**	P	**Pn**	**09 57 39.2**	**-0.1**
	baz=138						
WAT7	**Susitna Watana**	**6.76**	**3**		**Pn**	**09 57 40.4**	**+0.5**
N15K	**Kwethluk River**	**6.93**	**310**	Pn	**Pn**	**09 57 43.8**	**+1.6**
M16K	**Timber Creek**	**6.98**	**319**	Pn	**Pn**	**09 57 43.7**	**+0.8**
DHY	**Denali Highway**	**7.08**	**8**		**Pn**	**09 57 44.4**	**+0.1**
DHY	**Denali Highway**	**7.08**	**8**	P	**Pn**	**09 57 44.8**	**+0.5**
	baz=189						
PN7A	**Pavlof North-7**	**7.08**	**270**		**Pn**	**09 57 44.6**	**+0.3**
M26K	**Nabesna, AK**	**7.14**	**25**		**Pn**	**09 57 46.4**	**+1.3**
O29M	**Mount Kennedy**	**7.14**	**49**		**Pn**	**09 57 46.1**	**+0.9**
O29M	**Mount Kennedy**	**7.14**	**49**	P	**Pn**	**09 57 46.1**	**+0.9**
	baz=238						
PAX	**Paxson**	**7.19**	**15**		**Pn**	**09 57 46.7**	**+1.0**
PAX	**Paxson**	**7.19**	**15**	P	**Pn**	**09 57 46.7**	**+1.0**
	baz=198						
P29M	**Windy Craggy**	**7.20**	**56**		**Pn**	**09 57 46.0**	**+0.1**
P29M	**Windy Craggy**	**7.20**	**56**	P	**Pn**	**09 57 46.0**	**+0.1**
	baz=245						
RND	**Reindeer**	**7.34**	**2**		**Pn**	**09 57 46.6**	**-1.1**
TRF	**Thorofare Moun**	**7.38**	**357**		**Pn**	**09 57 50.5**	**+2.1**
M27K	**Edge Creek, AK**	**7.39**	**29**		**Pn**	**09 57 50.2**	**+1.6**
M27K	**Edge Creek, AK**	**7.39**	**29**	P	**Pn**	**09 57 50.0**	**+1.4**
	baz=215						
CAST	**Castle Rocks**	**7.46**	**351**		**Pn**	**09 57 51.4**	**+2.0**
CAST	**Castle Rocks**	**7.46**	**351**	P	**Pn**	**09 57 50.7**	**+1.4**
	baz=168						
MENT	**Mentasta**	**7.46**	**21**		**Pn**	**09 57 50.9**	**+1.5**
S31K	**Pelican**	**7.48**	**70**		**Pn**	**09 57 48.7**	**-0.9**
S31K	**Pelican**	**7.48**	**70**	P	**Pn**	**09 57 48.7**	**-0.9**
	baz=261						
KTH	**Kantishna Hill**	**7.51**	**355**		**Pn**	**09 57 51.9**	**+1.7**
N14K	**Kuskokwak Cree**	**7.52**	**306**		**Pn**	**09 57 49.1**	**-1.0**
N14K	**Kuskokwak Cree**	**7.52**	**306**	P	**Pn**	**09 57 49.1**	**-1.0**
	baz=115						
TTA	**Tatalina**	**7.60**	**337**	Pn	**Pn**	**09 57 52.2**	**+0.8**
L26K	**Log Cabin Wild**	**7.61**	**22**		**Pn**	**09 57 53.4**	**+1.9**
P30M	**Million Dollar**	**7.76**	**54**		**Pn**	**09 57 54.9**	**+1.2**
P30M	**Million Dollar**	**7.76**	**54**	P	**Pn**	**09 57 54.9**	**+1.2**
	baz=244						
HYT	**Haines Junctio**	**7.87**	**48**	Pn	**Pn**	**09 57 55.9**	**+0.7**
HYT	**Haines Junctio**	**7.87**	**48**	P	**Pn**	**09 57 55.0**	**-0.1**
	baz=238						
SIT	**Sitka**	**7.89**	**77**		**Pn**	**09 57 53.5**	**-1.8**
SIT	**Sitka**	**7.89**	**77**	P	**Pn**	**09 57 53.3**	**-2.0**
SIT	**Sitka**	**7.89**	**77**	P	**Pn**	**09 57 53.5**	**-1.8**
	baz=269						
L27K	**Beaver Creek,**	**7.99**	**26**		**Pn**	**09 57 57.3**	**+0.6**
L27K	**Beaver Creek,**	**7.99**	**26**	P	**Pn**	**09 57 57.3**	**+0.6**
	baz=212						
BCAR	**Beaver Creek A**	**8.00**	**26**	Pn	**Pn**	**09 57 57.7**	**+0.8**
FALS	**False Pass**	**8.01**	**267**		**Pn**	**09 57 56.9**	**+0.1**
FALS	**False Pass**	**8.01**	**267**	P	**Pn**	**09 57 57.5**	**+0.6**
FALS	**False Pass**	**8.01**	**267**	P	**Pn**	**09 57 56.9**	**+0.1**
	baz=76						
RIDG	**Independent Ri**	**8.01**	**15**	Pn	**Pn**	**09 57 58.7**	**+1.8**
ISLZ	**Iliamna Lake**	**8.20**	**266**		**Pn**	**09 57 59.6**	**0.0**
SKAG	**Skagway**	**8.29**	**60**	Pn	**Pn**	**09 58 01.9**	**+1.3**
SKAG	**Skagway**	**8.29**	**60**	P	**Pn**	**09 58 01.8**	**+1.1**
S32K	**Killisnoo**	**8.31**	**74**	Pn	**Pn**	**09 57 59.9**	**-1.1**
S32K	**Killisnoo**	**8.31**	**74**	P	**Pn**	**09 58 00.3**	**-0.7**
	baz=266						
SSLS	**Shishaldin Sou**	**8.37**	**266**		**Pn**	**09 58 02.2**	**+0.2**
N30M	**Aishikik Lake**	**8.38**	**45**		**Pn**	**09 58 03.2**	**+1.1**
HDA	**Harding Lake**	**8.43**	**8**	Pn	**Pn**	**09 58 04.2**	**+1.5**
O30N	**Mendenhall**	**8.44**	**51**		**Pn**	**09 58 04.0**	**+1.0**
O30N	**Mendenhall**	**8.44**	**51**	P	**Pn**	**09 58 03.6**	**+0.7**
	baz=242						
J19K	**Poorman**	**8.48**	**341**	Pn	**Pn**	**09 58 03.6**	**+0.2**
JIS	**Juneau Island**	**8.49**	**69**	Pn	**Pn**	**09 58 02.8**	**-0.7**
JIS	**Juneau Island**	**8.49**	**69**	P	**Pn**	**09 58 03.7**	**+0.2**
M29M	**Somme Creek**	**8.50**	**37**		**Pn**	**09 58 05.3**	**+1.6**
NEA2	**Nenana**	**8.52**	**1**	Pn	**Pn**	**09 58 02.9**	**-1.0**
CCB	**Clear Creek Bu**	**8.62**	**5**	Pn	**Pn**	**09 58 05.7**	**+0.5**
K27K	**Chicken**	**8.77**	**22**		**Pn**	**09 58 07.9**	**+0.6**
J25K	**Salcha River,**	**8.78**	**12**	Pn	**Pn**	**09 58 07.9**	**+0.4**
IL31		**8.79**	**7**		**Pn**	**09 58 09.2**	**+1.6**
ILAR	**Eielson Array**	**8.79**	**7**		**Pn**	**09 58 09.0**	**+1.3**
COLA	**College**	**8.84**	**5**	P	**Pn**	**09 58 10.2**	**+2.0**
MDM	**Murphy Dome**	**8.91**	**3**	Pn	**Pn**	**09 58 10.6**	**+1.3**
J26L	**Joseph Creek**	**8.92**	**17**		**Pn**	**09 58 10.7**	**+1.2**
N31M	**Braeburn, Yuko**	**8.93**	**47**		**Pn**	**09 58 09.4**	**-0.2**
WHY	**Whitehorse**	**8.93**	**53**	Pn	**Pn**	**09 58 11.4**	**+1.8**
MLY	**Manley**	**8.98**	**357**	Pn	**Pn**	**09 58 12.3**	**+2.0**
L29M	**L29M**	**9.08**	**35**		**Pn**	**09 58 12.8**	**+1.2**
P32M	**Atlin**	**9.11**	**61**		**Pn**	**09 58 12.2**	**+0.2**
P32M	**Atlin**	**9.11**	**61**	P	**Pn**	**09 58 12.7**	**+0.6**
	baz=254						
M30M	**Minto, Yukon**	**9.17**	**40**		**Pn**	**09 58 13.2**	**+0.4**
	baz=230						
M30M	**Minto, Yukon**	**9.17**	**40**	P	**Pn**	**09 58 13.2**	**+0.4**
I21K	**Tanana**	**9.19**	**353**		**Pn**	**09 58 14.0**	**+1.0**
DAWY	**Dawson**	**9.44**	**28**	Pn	**Pn**	**09 58 16.8**	**+0.2**
EGAK	**Eagle**	**9.62**	**22**	Pn	**Pn**	**09 58 20.4**	**+1.4**
Q32M	**Nakina River**	**9.70**	**66**	Pn	**Pn**	**09 58 20.3**	**+0.1**
H21K	**Melozitna Rive**	**9.72**	**352**		**Pn**	**09 58 20.9**	**+0.6**
P33M	**Teslin, Yukon**	**9.72**	**58**		**Pn**	**09 58 20.8**	**+0.3**
P33M	**Teslin, Yukon**	**9.72**	**58**	P	**Pn**	**09 58 20.8**	**+0.3**
	baz=252						
I26K	**Coal Creek Min**	**9.74**	**16**	Pn	**Pn**	**09 58 21.2**	**+0.7**
K29M	**Barlow Dome**	**9.80**	**33**	Pn	**Pn**	**09 58 22.9**	**+1.4**
H24K	**Noodor Dome**	**9.80**	**4**	Pn	**Pn**	**09 58 23.1**	**+1.6**
M31M	**Drury Creek, Y**	**9.86**	**46**		**Pn**	**09 58 23.1**	**+0.7**
UNV	**Unalaska Valle**	**10.03**	**264**	P	**Pn**	**09 58 23.8**	**-0.8**
J29N	**Klondike Camp**	**10.06**	**29**		**Pn**	**09 58 25.7**	**+0.7**
IMAR	**Indian Mountai**	**10.12**	**350**	Pn	**Pn**	**09 58 27.3**	**+1.4**
S34M	**Telegraph Cree**	**10.18**	**72**	Pn	**Pn**	**09 58 26.2**	**-0.4**
FARO	**Faro, Yukon**	**10.30**	**47**	Pn	**Pn**	**09 58 29.4**	**+1.1**
R33M	**Jennings River**	**10.43**	**64**		**Pn**	**09 58 31.0**	**+0.8**
I28M	**Miner Creek**	**10.46**	**22**	Pn	**Pn**	**09 58 31.9**	**+1.4**
G21K	**Allakaket**	**10.62**	**351**	Pn	**Pn**	**09 58 33.5**	**+0.8**
G23K	**Bananza Creek**	**10.65**	**359**	Pn	**Pn**	**09 58 32.4**	**-0.7**
G24K	**Hadweenzic Riv**	**10.68**	**4**	Pn	**Pn**	**09 58 33.4**	**-0.1**
FYU	**Fort Yukon**	**10.70**	**9**	Pn	**Pn**	**09 58 33.3**	**-0.3**
DLBC	**Dease Lake**	**10.79**	**69**	Pn	**Pn**	**09 58 35.7**	**+0.6**
I30M	**Mount Dempster**	**11.16**	**30**	Pn	**Pn**	**09 58 42.7**	**+2.6**
BMAR	**Burnt Mountain**	**11.60**	**9**	Pn	**Pn**	**09 58 46.5**	**+0.5**
G29M	**Pine Creek**	**12.12**	**22**	Pn	**Pn**	**09 58 55.1**	**+1.9**
INK	**Inuvik**	**14.26**	**25**	Pn	**Pn**	**09 59 23.6**	**+1.3**
A36M	**Sachs Harbour**	**18.89**	**23**	P	**Pn**	**10 00 21.4**	**+0.4**

VAO ***28*** *10:11:20.1±0.3,28°24S×69°10W,h10km, mb5.5*

MOS ***28*** *10:11:26.4±1.0,28°22S×68°93W,h87km,mb5.3/15,Error ellipse: s-maj=11.3km s-min=6.2km az=94.3*

NEIC ***28*** *10:11:26.9±2.6,28°25S±0°05×68°90W±0°07,h79km±4km, mb5.4/101,Mww5.1/28,Error ellipse: s-maj=9.2km s-min=6.6km az=87.0*

NEIC ***28*** *10:11:27.1,28°28S×69°11W,h80km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10¹⁶Nm; Mrr-4.28; Mθθ1.56; Mϕϕ2.71; Mrθ0.55; Mθϕ-3.63; Mrϕ1.29; Fault plane solution: M₀5.33000×10¹⁶ NP1: ϕs158.92000°,δ52.12000°,λ-62.97000°. NP2: ϕs299.19000°,δ45.33000°,λ-120.29000°. Principal axes: T 5.8508, Plg4.0000°, Azm230.0000°; N -1.0508, Plg21.0000°, Azm322.0000°; P -4.8000, Plg69.0000°, Azm131.0000°;*

SJA ***28*** *10:11:27.8±1.1,28°22S×69°17W,h114km±7km,ML5.2, MW5.1*

NEIC ***28*** *10:11:27.1,28°28S×68°88W,h80km*

BJI ***28*** *10:11:28.0±0.0,28°30S×68°90W,h80km,mB5.3/14, Ms5.2/1,Ms7 5.1/1*

GUC ***28*** *10:11:29.6±0.8,28°21S×69°39W,h127km±6km,ML5.1*

IDC ***28*** *10:11:30.7±0.4,28°20S×68°97W,h115km±3km,mb5.0/20, mbtmp5.3/22,MS3.9/21,Error ellipse: s-maj=12.3km s-min=9.6km az=69.0*

GCMT ***28*** *10:11:34.9±0.2,28°26S±0°01×69°19W±0°02,h82km±1km, MW5.1/108,Moment Tensor Solution. s48,c51; s108,c152; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.03±.13; Mθθ1.67±.14; Mϕϕ3.36±.17; Mrθ0.16±.09; Mθϕ-2.96±.10; Mrϕ-0.33±.14; Best double couple: M₀5.32500×10¹⁶ NP1:ϕs324.00000°,δ47.00000°, λ-89.00000°. NP2:ϕs142.00000°,δ43.00000°, λ-91.00000°. Principal axes: T 5.6050, Plg2.0000

CO06	**Fray Jorge**	**3.30**	**221**	⇑*iP*		**Pn**	**10 12 16.4**	**-2.3**
SJA	**San Juan**	**3.34**	**172**	*eP*		**Pn**	**10 12 19.7**	**+0.4**
SJA					IAML		10 13 19.1	
	comp=Z,2µm,2.0s							
CO02	**Combarbal**	**3.41**	**208**			**Pn**	**10 12 18.9**	**-1.4**
CO02	**Combarbal**	**3.41**	**208**	*eP*		**Pn**	**10 12 18.8**	**-1.5**
CO02				*eS*		Sn	10 12 51.0	-9.1
CO02					IAML		10 13 04.1	
	comp=Z,5µm,0.8s							
CO02	**Combarbal**	**3.41**	**208**	*i P*		**Pn**	**10 12 19.0**	**-1.4**
RTLS	**Leoncito**	**3.58**	**183**	*eP*		**Pn**	**10 12 23.2**	**+0.4**
RTLS					IAML		10 13 15.0	
	comp=Z,6µm,0.8s							
RTCV	**Cerro Valdivia**	**3.67**	**172**	*eP*		**Pn**	**10 12 24.1**	**+0.3**
RTCV				*eS*		**Sn**	**10 13 04.9**	**-1.4**
PB14	**IPOC Station P**	**3.75**	**342**			**Pn**	**10 12 24.9**	**-0.3**
PB14	**IPOC Station P**	**3.75**	**342**	*eP*		**Pn**	**10 12 25.3**	**+0.1**
PB14					IAML		10 13 18.6	
	comp=Z,5µm,0.6s							
PB14	**IPOC Station P**	**3.75**	**342**	⇑*iP*		**Pn**	**10 12 25.3**	**+0.1**
VA03	**San Esteban**	**4.71**	**195**			**Pn**	**10 12 36.4**	**-1.4**
VA03	**San Esteban**	**4.71**	**195**	*eP*		**Pn**	**10 12 36.5**	**-1.3**
VA03					IAML		10 14 05.8	
	comp=Z,2µm,1.1s							
VA03	**San Esteban**	**4.71**	**195**	*i P*		**Pn**	**10 12 38.5**	**+0.7**
VA06	**Catapilco**	**4.73**	**203**			**Pn**	**10 12 34.9**	**-3.1**
VA06	**Catapilco**	**4.73**	**203**	*i P*		**Pn**	**10 12 38.5**	**+0.6**
SLA	**San Lorenzo**	**4.74**	**44**	*eP*		**Pn**	**10 12 40.6**	**+2.3**
PB10	**IPOC Station P**	**4.86**	**344**	*eP*		**Pn**	**10 12 38.6**	**-1.2**
PB10					IAML		10 13 57.2	
	comp=Z,1µm,1.4s							
PB10	**IPOC Station P**	**4.86**	**344**	*i P*		**Pn**	**10 12 38.4**	**-1.4**
PB15	**IPOC Station P**	**4.99**	**356**			**Pn**	**10 12 41.3**	**-0.5**
PEL	**Peldehue**	**5.10**	**195**			**Pn**	**10 12 40.8**	**-2.3**
PEL	**Peldehue**	**5.10**	**195**	P		**Pn**	**10 12 40.8**	**-2.3**
MT10	**Hacienda Santa**	**5.20**	**193**	⇑*iP*		**Pn**	**10 12 42.7**	**-1.7**
MT02	**Curacav**	**5.33**	**199**			**Pn**	**10 12 42.7**	**-3.4**
MT02	**Curacav**	**5.33**	**199**	*eP*		**Pn**	**10 12 42.6**	**-3.4**
MT02					IAML		10 14 23.2	
	comp=Z,880nm,0.9s							
MT02	**Curacav**	**5.33**	**199**	⇑*iP*		**Pn**	**10 12 42.6**	**-3.5**
MT05	**Renca**	**5.35**	**195**	*eP*		**Pn**	**10 12 44.0**	**-2.4**
MT05					IAML		10 14 44.7	
	comp=Z,2µm,1.1s							
MT03	**Universidad Ad**	**5.40**	**193**	*eP*		**Pn**	**10 12 45.5**	**-1.7**
MT03					IAML		10 13 57.6	
	comp=Z,2µm,0.8s							
PB05	**IPOC Station P**	**5.43**	**349**	Pn		**Pn**	**10 12 45.2**	**-2.4**
LVC	**Limon Verde**	**5.58**	**2**	Pn		**Pn**	**10 12 49.3**	**-0.6**
LVC	**Limon Verde**	**5.58**	**2**	P		**Pn**	**10 12 49.4**	**-0.5**
	comp=Z,960nm,0.4s,baz=180,slow=8.5,SNR=1900							
LVC				S		**Sn**	**10 13 50.6**	**-2.3**
	comp=Z,824nm,0.5s,baz=49,slow=19,SNR=9.8							
LMEL	**Las Melosas**	**5.70**	**189**			**Pn**	**10 12 49.0**	**-2.3**
MT09	**Talagante**	**5.78**	**196**			**Pn**	**10 12 48.7**	**-3.6**
VA05	**Santo Domingo**	**5.84**	**201**			**Pn**	**10 12 48.5**	**-4.5**
BO04	**La Punta**	**5.90**	**192**			**Pn**	**10 12 50.9**	**-3.0**
BO01	**Tunca**	**6.39**	**195**			**Pn**	**10 12 55.9**	**-4.6**
BO02	**Sierra Bellavi**	**6.72**	**192**			**Pn**	**10 13 01.4**	**-3.5**
PATCX	**Punta Patache**	**7.42**	**352**			**Pn**	**10 13 10.8**	**-3.8**
TA01	**Diego Aracena**	**7.67**	**352**	Pn		**Pn**	**10 13 14.3**	**-3.7**
ML02	**Panimavida**	**7.78**	**194**			Pn	10 13 14.0	-5.3
H03N1	**Juan Fernandez**	**9.91**	**236**	T		T	10 22 27.0	
	baz=58,slow=71,SNR=469							
H03N2	**Juan Fernandez**	**9.93**	**236**	T		T	10 22 26.3	
	baz=58,slow=71,SNR=352							
H03N3	**Juan Fernandez**	**9.93**	**236**	T		T	10 22 25.1	
	baz=58,slow=71,SNR=424							
CPUP	**Villa Florida**	**10.64**	**83**			**Pn**	**10 13 53.8**	**-4.5**
CPUP	**Villa Florida**	**10.64**	**83**	P		**Pn**	**10 13 53.8**	**-4.5**
CPUP	**Villa Florida**	**10.64**	**83**	P		**Pn**	**10 13 54.2**	**-4.1**
	comp=Z,27nm,0.4s,baz=256,slow=12,SNR=54							
CPUP				S		**Sn**	**10 15 56.0**	**+0.5**
	comp=Z,45nm,0.7s,baz=297,slow=14,SNR=1.3							
CPUP	**Villa Florida**	**10.64**	**83**	*eP*		**Pn**	**10 13 54.2**	**-4.1**
ITQB	**Itaqui**	**11.03**	**101**			**Pn**	**10 14 00.2**	**-3.3**
TRQA	**Tornquist**	**11.49**	**151**			**Pn**	**10 14 06.5**	**-3.0**
TRQA	**Tornquist**	**11.49**	**151**	P		**Pn**	**10 14 06.6**	**-3.0**
GO06	**Curarrehue**	**11.51**	**189**			Pn	10 14 03.4	-6.6
LPAZ	**La Paz**	**11.90**	**5**	Pn		**Pn**	**10 14 13.0**	**-2.7**
LPAZ	**La Paz**	**11.90**	**5**	*eP*		**Pn**	**10 14 13.0**	**-2.7**
LR05	**Currie**	**12.23**	**191**	Pn		**Pn**	**10 14 14.7**	**-4.7**
MURT	**Porto Murtinho**	**12.30**	**61**	*eP*		**Pn**	**10 14 17.2**	**-3.2**
RODS	**Rosario do Sul**	**12.33**	**103**	*eP*		Pn	10 14 16.1	-4.6
UNIS	**Unistalda (Bra**	**12.36**	**97**	*eP*		**Pn**	**10 14 18.2**	**-2.9**
PLCA	**Paso Flores**	**12.55**	**185**			**Pn**	**10 14 21.2**	**-2.5**
PLCA	**Paso Flores**	**12.55**	**185**	*eP*		**Pn**	**10 14 21.2**	**-2.5**
PLCA	**Paso Flores**	**12.55**	**185**	P		**Pn**	**10 14 19.4**	**-4.2**
	comp=Z,9.0nm,0.6s,baz=358,slow=12,SNR=38							
PLCA				LR		LR	10 19 49.3	
	comp=Z,682nm,20.9s,baz=6.0,slow=40							
PLCA	**Paso Flores**	**12.55**	**185**	*eP*		**Pn**	**10 14 19.8**	**-3.8**
BBRB	**Robore, Bolivi**	**13.06**	**43**	*eP*		**Pn**	**10 14 26.6**	**-3.9**
CRSM	**Crissiumal (Br**	**13.35**	**90**	*eP*		**Pn**	**10 14 30.6**	**-3.6**
ANTJ	**Antonio Joao (**	**13.38**	**65**	*eP*		**Pn**	**10 14 32.0**	**-2.6**
BBSD	**Serra de San D**	**13.48**	**37**	*eP*		**Pn**	**10 14 33.3**	**-2.6**
BDQN	**Bodoquena, MS**	**13.65**	**58**	*eP*		**Pn**	**10 14 34.4**	**-3.8**
CPSB	**Cacapava Do Su**	**13.84**	**103**	*eP*		**Pn**	**10 14 36.7**	**-3.9**
PLTB	**Pedras Altas**	**13.89**	**109**	Pn		**Pn**	**10 14 37.5**	**-3.7**
PLTB	**Pedras Altas**	**13.89**	**109**	*eP*		**Pn**	**10 14 37.1**	**-4.1**
ALGR	**Alto Alegre (B**	**14.15**	**96**	*eP*		**Pn**	**10 14 41.5**	**-3.1**
SIV	**San Ignacio**	**14.25**	**33**	P		**Pn**	**10 14 42.1**	**-3.8**
	comp=Z,24nm,0.5s,baz=213,slow=13,SNR=96							
SIV				LR		LR	10 21 01.4	
	comp=Z,428nm,22.0s,baz=233,slow=40							
LL01	**San Ignacio de**	**14.39**	**190**			Pn	10 14 41.1	-6.4
AQDB	**Aquidauana**	**14.43**	**61**	Pn		**Pn**	**10 14 45.1**	**-3.1**
AQDB	**Aquidauana**	**14.43**	**61**	*eP*		**Pn**	**10 14 45.5**	**-2.7**
LL06	**Loncomilla**	**14.45**	**194**			Pn	10 14 41.7	-6.5
FRBT	**Francisco Belt**	**14.46**	**85**	*eP*		**Pn**	**10 14 46.3**	**-2.3**
LL07	**Hotel Espejo d**	**15.01**	**193**	P		**Pn**	**10 14 52.1**	**-3.3**
ITAB	**Concordia**	**15.06**	**90**			**Pn**	**10 14 53.6**	**-2.6**
ITAB	**Concordia**	**15.06**	**90**	*eP*		**Pn**	**10 14 52.8**	**-3.4**
PTGB	**Pitanga**	**15.65**	**81**	*eP*		**Pn**	**10 15 01.6**	**-2.1**
PTLB	**Pontes e Lacer**	**15.70**	**38**			**Pn**	**10 15 02.3**	**-1.9**
PTLB	**Pontes e Lacer**	**15.70**	**38**	*eP*		**Pn**	**10 15 01.8**	**-2.4**
RVDE	**Rio Verde (Bra**	**15.86**	**58**	*eP*		**Pn**	**10 15 03.9**	**-2.4**
RPRD	**Ribas do Rio P**	**16.00**	**65**	*eP*		**Pn**	**10 15 05.6**	**-2.4**
CNLB	**Canela**	**16.05**	**98**	*eP*		**Pn**	**10 15 05.6**	**-2.9**
AY01	**Puyuhuapi**	**16.43**	**189**	P		**Pn**	**10 15 07.1**	**-5.9**
PP1B	**Ponte de Pedra**	**16.81**	**54**	*eP*		**Pn**	**10 15 15.4**	**-2.6**
LDASE	**Londrina, Braz**	**16.89**	**78**	*eP*		**Pn**	**10 15 16.5**	**-2.4**
SALV	**Santo Antonio**	**17.43**	**48**	*eP*		**P**	**10 15 23.2**	**-2.0**
PCMB	**Pacaembu**	**17.46**	**72**	*eP*		**P**	**10 15 23.6**	**-1.9**
NNA	**Nana**	**17.69**	**334**	P		**Pn**	**10 15 29.9**	**+1.2**
	comp=Z,12nm,0.7s,baz=210,slow=7.2,SNR=8.8							
FRTB	**Fartura**	**18.25**	**79**	*eP*		**P**	**10 15 32.6**	**-1.6**
ETMB	**Extrema**	**18.50**	**9**	P		**P**	**10 15 36.1**	**-0.8**
ETMB	**Extrema**	**18.50**	**9**	*eP*		**P**	**10 15 36.8**	**-0.1**
ITRB	**Iturama**	**19.09**	**68**	*eP*		**P**	**10 15 42.5**	**-1.0**
SAML	**Samuel**	**19.96**	**17**	P		**P**	**10 15 53.0**	**+0.2**
SAML	**Samuel**	**19.96**	**17**	P		**P**	**10 15 53.0**	**+0.2**
SAML	**Samuel**	**19.96**	**17**	*eP*		**P**	**10 15 54.0**	**+1.2**
PET01	**Itanhaem-SP**	**19.96**	**84**	*eP*		**P**	**10 15 52.1**	**-0.7**
BB19B	**Bebedouro**	**20.00**	**74**	*eP*		**P**	**10 15 51.9**	**-1.3**
SPB	**Sao Paulo**	**20.02**	**82**	P		**P**	**10 15 52.8**	**-0.6**
SPB	**Sao Paulo**	**20.02**	**82**	*eP*		**P**	**10 15 52.7**	**-0.7**
RCLB	**Rio Claro- Sao**	**20.32**	**78**	*eP*		**P**	**10 15 55.6**	**-1.1**
CZSB	**Cruzeiro do Su**	**20.65**	**350**	P		**P**	**10 16 01.8**	**+1.5**
CZSB	**Cruzeiro do Su**	**20.65**	**350**	*eP*		**P**	**10 16 01.1**	**+0.8**
CLDB	**Colider**	**21.29**	**39**	*eP*		**P**	**10 16 05.9**	**-1.2**
PARB	**Paraibuna**	**21.68**	**82**	*eP*		**P**	**10 16 09.9**	**-1.4**
BDFB	**Brasilia**	**23.18**	**62**	P		**P**	**10 16 24.9**	**-1.7**
BDFB					IAmb	IAmb	10 16 26.5	
	comp=Z,127nm,0.8s							
BDFB	**Brasilia**	**23.18**	**62**	P		**P**	**10 16 24.9**	**-1.7**
	comp=Z,166nm,0.9s,baz=232,slow=9.5,SNR=158							
BDFB				S		**S**	**10 20 28.6**	**-1.6**
	comp=Z,6.0nm,0.9s,baz=192,slow=27,SNR=1.2							
BDFB				LR		LR	10 27 01.8	
	comp=Z,357nm,19.7s,baz=162,slow=40							
	comp=Z,166nm,0.9s							
NPGB	**Novo Progresso**	**24.75**	**34**	*eP*		**P**	**10 16 40.8**	**0.0**
EFI	**East Falkland**	**24.86**	**164**	P		**P**	**10 16 37.9**	**-3.5**
EFI					IAmb	IAmb	10 16 42.8	
	comp=Z,150nm,0.8s							
EFI	**East Falkland**	**24.86**	**164**	*ceP*		**P**	**10 16 41.1**	**-0.3**
EFI					pmax	pmax		
	comp=Z,144nm,0.9s							
DUB01	**Friburgo-RJ**	**24.93**	**82**	*eP*		**P**	**10 16 42.0**	**-0.4**
TEFE	**Tefe**	**24.93**	**11**	*eP*		**P**	**10 16 43.5**	**+1.1**
DIAM	**Diamantina, MG**	**25.32**	**73**	*eP*		**P**	**10 16 46.1**	**0.0**
MCRA	**Macar, Loja**	**25.86**	**335**	P		**P**	**10 16 51.4**	**+0.6**
MCRA	**Macar, Loja**	**25.86**	**335**	*eP*		**P**	**10 16 51.8**	**+1.0**
MACA	**Manacapuru-AM**	**26.17**	**19**	*eP*		**P**	**10 16 55.8**	**+2.2**
JANB	**Januaria**	**26.44**	**66**	*eP*		**P**	**10 16 55.5**	**-0.6**
ALF01	**Guarapari-ES**	**26.88**	**80**	*eP*		**P**	**10 17 00.3**	**+0.4**
ITTB	**Itaituba**	**26.91**	**31**	*eP*		**P**	**10 17 00.5**	**+0.2**
SJMB	**Sao Joao De Ma**	**27.25**	**76**	*eP*		**P**	**10 17 03.3**	**0.0**
COHC	**Cochancay**	**27.37**	**337**	P		**P**	**10 17 06.4**	**+2.0**
COHC	**Cochancay**	**27.37**	**337**	*eP*		**P**	**10 17 06.6**	**+2.2**
RIB01	**Linhares ES**	**27.67**	**78**	*eP*		**P**	**10 17 07.3**	**+0.2**
PIAT	**Ana Tenorio**	**28.44**	**340**	*eP*		**P**	**10 17 17.3**	**+3.0**
PTLC	**Puerto Leguiza**	**28.74**	**348**	*eP*		**P**	**10 17 15.0**	**-1.5**
SLOR	**San Lorenzo -**	**28.77**	**340**	P		**P**	**10 17 20.6**	**+3.3**
GUA01	**Guaratinga, BA**	**29.38**	**73**	*eP*		**P**	**10 17 22.4**	**+0.2**
OTAV	**Otavalo**	**29.67**	**341**	*eP*		**P**	**10 17 27.6**	**+2.3**
OTAV	**Otavalo**	**29.67**	**341**	*eP*		**P**	**10 17 27.9**	**+2.5**
GCUF	**Volcan Galeras**	**30.32**	**344**	*eP*		**P**	**10 17 34.1**	**+3.0**
BBAC	**Balboa, Cauca**	**31.06**	**344**	*eP*		**P**	**10 17 39.5**	**+2.2**
POPC	**Popayan, Colom**	**31.43**	**345**	*eP*		**P**	**10 17 42.6**	**+2.1**
BOAV	**Boa Vista**	**31.53**	**17**	P		**P**	**10 17 40.9**	**-0.2**
BOAV					IAmb	IAmb	10 17 49.8	
	comp=Z,34nm,0.8s							
BOAV	**Boa Vista**	**31.53**	**17**	*eP*		**P**	**10 17 41.4**	**+0.3**
BOAV	**Boa Vista**	**31.53**	**17**	*eP*		**P**	**10 17 41.9**	**+0.7**
JAMC	**Jamundi, Valle**	**32.08**	**346**	*eP*		**P**	**10 17 48.1**	**+1.9**
PRAC	**Prado**	**32.22**	**349**	*eP*		**P**	**10 17 49.4**	**+2.1**
ORTC	**Ortega, Tolima**	**32.48**	**349**	*eP*		**P**	**10 17 51.7**	**+2.2**
YOTC	**Yotoco, Valle**	**32.76**	**347**	*eP*		**P**	**10 17 53.2**	**+1.2**
ROSC	**El Rosal**	**33.24**	**350**	P		**P**	**10 17 56.5**	**0.0**
ROSC	**El Rosal**	**33.24**	**350**	P		**P**	**10 17 57.8**	**+1.3**
	comp=Z,14nm,0.6s,baz=254,slow=23,SNR=3.6							
ROSC				LR		LR	10 33 26.4	
	comp=Z,203nm,18.4s,baz=202,slow=40							
	comp=Z,14nm,0.6s							
PLMC	**San Jos del P**	**33.64**	**347**	*eP*		**P**	**10 18 01.0**	**+1.4**
GUY2C	**Guyana, Caldas**	**33.78**	**349**	*eP*		**P**	**10 18 03.1**	**+1.7**
CBOC	**Ciudad Bolivar**	**34.52**	**348**	*eP*		**P**	**10 18 09.2**	**+1.8**
PAMC	**Pamplona, Colo**	**35.51**	**354**	*eP*		**P**	**10 18 16.9**	**+0.6**
RPN	**Rapa Nui**	**35.53**	**262**	LR		LR	10 28 51.9	
	comp=Z,211nm,19.1s,baz=102,slow=29							
DBBC	**Dabeiba**	**35.69**	**348**	*eP*		**P**	**10 18 19.6**	**+2.3**
UREC	**San Jos de Ur**	**36.29**	**349**	*eP*		**P**	**10 18 22.5**	**+0.2**
ORCD	**Orcadas**	**36.43**	**160**	P		P	10 18 17.8	-5.2
APAC	**Apartado, Choc**	**36.62**	**348**	*eP*		**P**	**10 18 27.7**	**+2.6**
PMSA	**Palmer Station**	**36.72**	**176**	LR		LR	10 32 16.7	
	comp=Z,153nm,19.6s,baz=116,slow=34							
PMSA	**Palmer Station**	**36.72**	**176**	*eP*		**P**	**10 18 26.7**	**+1.3**
MDP	**Montagnes des**	**36.73**	**28**	LR		LR	10 34 20.7	
	comp=Z,172nm,18.2s,baz=256,slow=37							
MPGF	**Montagnes des**	**36.73**	**28**	P		**P**	**10 18 26.6**	**+0.5**
MPGF					sP	**pP**	**10 18 54.0**	**+2.6**
BAUV	**El Baul**	**36.95**	**2**	P		**P**	**10 18 27.7**	**-0.2**
BAUV					IAmb	IAmb	10 18 28.9	
	comp=Z,71nm,1.1s							
CACAO	**El Cacao, Vera**	**37.13**	**340**	*eP*		**P**	**10 18 31.6**	**+2.2**
GMAL	**Guarumal, Vera**	**37.63**	**340**	*eP*		**P**	**10 18 36.4**	**+2.7**
SJCC	**San Jacinto, C**	**38.34**	**350**	*eP*		**P**	**10 18 39.2**	**-0.5**
PCRV	**Puerto La Cruz**	**38.40**	**7**	LR		LR	10 35 26.4	
	comp=Z,288nm,19.9s,slow=37							
RCBR	**Riachuelo**	**38.55**	**61**	*eP*		**P**	**10 18 42.6**	**+1.1**
BCIP	**Isla Barro Col**	**38.58**	**343**	*eP*		**P**	**10 18 43.8**	**+2.2**
PEZE	**Perez Zeledon,**	**39.94**	**337**	P		**P**	**10 18 55.1**	**+2.1**
PEZE					IAmb	IAmb	10 18 56.6	
	comp=Z,30nm,0.6s							
RIMA	**Rio Macho**	**40.36**	**337**	P		**P**	**10 18 58.6**	**+1.9**
LCR2	**La Lucha 2**	**40.39**	**337**	P		**P**	**10 18 59.5**	**+2.5**
HDC	**Heredia**	**40.67**	**337**	P		**P**	**10 19 02.1**	**+3.0**
HDC					PcP	**PcP**	**10 21 00.7**	**+1.7**
HDC	**Heredia**	**40.67**	**337**	*eP*		**P**	**10 19 02.5**	**+3.4**
JTS	**Las Juntas de**	**41.23**	**336**	*i P*		**P**	**10 19 05.7**	**+2.1**
JTS	**Las Juntas de**	**41.23**	**336**	*eP*		**P**	**10 19 05.8**	**+2.1**
JTS	**Las Juntas de**	**41.23**	**336**	P		**P**	**10 19 06.3**	**+2.7**
JTS					PcP	**PcP**	**10 21 01.5**	**+0.8**
COVE	**Coope Vega, Sa**	**41.44**	**337**	P		**P**	**10 19 07.8**	**+2.6**
ORTG	**Ortega, Santa**	**41.48**	**335**	P		**P**	**10 19 08.0**	**+2.3**
ORTG					IAmb	IAmb	10 19 09.3	
	comp=Z,45nm,0.8s							
BIM	**Bigot**	**43.18**	**11**	P		**P**	**10 19 16.5**	**-3.0**
FDF	**Fort de France**	**43.38**	**11**	P		**P**	**10 19 19.6**	**-1.4**
FDF	**Fort de France**	**43.38**	**11**	P		**P**	**10 19 19.6**	**-1.4**
FDF					pmax	pmax		
	comp=Z,184nm,1.3s							
BOAB	**BOACO BROADBAN**	**43.48**	**336**	P		**P**	**10 19 22.7**	**+0.9**
BOAB					IAmb	IAmb	10 19 25.9	
	comp=Z,35nm,0.8s							
MATN	**Matagalpa**	**44.02**	**336**	P		**P**	**10 19 27.6**	**+1.4**
CRIN	**San Cristobal**	**44.23**	**334**	P		**P**	**10 19 27.5**	**-0.4**
CRIN					IAmb	IAmb	10 19 30.4	
	comp=Z,55nm,0.6s							
TGUH	**Tegucigalpa,Un**	**45.55**	**335**	P		**P**	**10 19 39.2**	**+0.8**
TGUH	**Tegucigalpa,Un**	**45.55**	**335**	*eP*		**P**	**10 19 39.5**	**+1.1**
CELP	**Cerrillos**	**46.08**	**3**	P		**P**	**10 19 41.8**	**-0.5**
PETF	**Flores**	**49.16**	**333**	P		**P**	**10 20 06.8**	**+0.6**
PETF					IAmb	IAmb	10 20 08.4	
	comp=Z,50nm,0.9s							
TEIG	**Tepich**	**51.60**	**337**	P		**P**	**10 20 25.1**	**+0.7**
TEIG	**Tepich**	**51.60**	**337**	P		**P**	**10 20 25.2**	**+0.7**
TEIG					PcP	**PcP**	**10 21 37.7**	**+0.7**
BELA	**Belgrano 2**	**52.16**	**171**	P		**P**	**10 20 28.2**	**+0.2**
VNA3	**Neumayer Olymp**	**53.83**	**160**	⇓P		**P**	**10 20 40.6**	**+0.2**
	comp=Z,64nm,0.7s							
VNA1	**Neumayer--Stat**	**54.08**	**159**	⇓P		**P**	**10 20 42.2**	**0.0**
	comp=Z,61nm,1.0s							
VNA2	**Neumayer--Stat**	**54.44**	**159**	⇓P		**P**	**10 20 44.9**	**+0.1**
	comp=Z,74nm,0.6s,baz=287,slow=8.0							
SNAA	**Sanae**	**56.05**	**160**	P		**P**	**10 20 56.3**	**-0.1**
	comp=Z,50nm,0.6s,baz=277,slow=8.0,SNR=156							
	comp=Z,50nm,0.6s							
MOIG	**Morelia**	**56.83**	**323**	P		**P**	**10 21 04.5**	**+1.7**
ZAIG	**Zacatecas**	**60.09**	**324**	P		**P**	**10 21 27.5**	**+2.0**
ZAIG					IAmb	IAmb	10 21 29.4	
	comp=Z,25nm,1.2s							
NVL	**N'lazarevskaya**	**60.68**	**158**	*eP*		**P**	**10 21 26.7**	**-1.8**
NVL					pmax	pmax		
	comp=Z,84nm,1.1s							
TIGA	**Tifton**	**60.90**	**346**	P		**P**	**10 21 30.2**	**-0.2**
	baz=165							
352A	**Blakely**	**61.24**	**345**	P		**P**	**10 21 33.2**	**+0.4**
	baz=164,SNR=5.5							
BRAL	**Brewton**	**61.48**	**343**	P		**P**	**10 21 35.0**	**+0.7**
	baz=162							
HBVL	**Hebbronville**	**61.86**	**330**	P		**P**	**10 21 39.3**	**+2.3**
HBVL					IAmb	IAmb	10 21 39.9	
	comp=Z,35nm,1.0s							
NHSC	**New Hope**	**61.88**	**349**	P		**P**	**10 21 37.2**	**+0.2**
	baz=169							
154A	**Montrose**	**61.94**	**347**	P		**P**	**10 21 37.8**	**+0.4**
	baz=166							
KVTX	**Kingsville**	**61.94**	**331**	P		**P**	**10 21 40.2**	**+2.7**
	baz=151							
QSPA	**South Pole Qui**	**62.01**	**180**	P		**P**	**10 21 38.4**	**+0.6**
QSPA	**South Pole Qui**	**62.01**	**180**	P		**P**	**10 21 38.6**	**+0.8**
	comp=Z,159nm,0.8s,baz=156,slow=2.1,SNR=293							
QSPA				S		**S**	**10 29 53.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=35,slow=8.6,SNR=3.0							
	comp=Z,159nm,0.8s							
QSPA	**South Pole Qui**	**62.01**	**180**	⇓P		**P**	**10 21 38.6**	**+0.8**
346A	**Big Creek Wild**	**62.36**	**340**	P		**P**	**10 21 41.2**	**+0.9**
	baz=160							
GOGA	**Godfrey**	**62.78**	**347**	P		**P**	**10 21 43.3**	**+0.3**
	baz=166							
X58A	**Rowland**	**63.17**	**351**	P		**P**	**10 21 46.2**	**+0.6**
X58A					IAmb	IAmb	10 21 47.2	
	comp=Z,43nm,0.8s							
X58A	**Rowland**	**63.17**	**351**	P		**P**	**10 21 46.4**	**+0.8**
	baz=170,SNR=6.9							
X58A					P	**P**	**10 21 46.4**	**+0.8**
	baz=170,SNR=6.9							
JSC	**Jenkinsville**	**63.21**	**349**	P		**P**	**10 21 45.9**	**+0.1**
JSC	**Jenkinsville**	**63.21**	**349**	P		**P**	**10 21 46.0**	**+0.2**
	baz=168							
JSC	**Jenkinsville**	**63.21**	**349**	P		**P**	**10 21 45.9**	**+0.1**
JSC					pmax	pmax		
	comp=Z,13nm,0.7s							
HKT	**Hockley**	**63.22**	**334**	P		**P**	**10 21 46.7**	**+0.8**
HKT					IAmb	IAmb	10 21 48.6	
	comp=Z,34nm,1.2s							
HKT	**Hockley**	**63.22**	**334**	P		**P**	**10 21 47.3**	**+1.4**
	baz=154							
HKT	**Hockley**	**63.22**	**334**	P		**P**	**10 21 46.7**	**+0.8**
HKT					pmax	pmax		
	comp=Z,34nm,1.2s							
HKT	**Hockley**	**63.22**	**334**	P		**P**	**10 21 47.4**	**+1.4**
HKT					PcP	**sP**	**10 22 24.0**	**-1.4**
LRAL	**Lakeview Retre**	**63.23**	**343**	P		**P**	**10 21 46.0**	**-0.1**
	baz=162							
833A	**Chaparral WMA,**	**63.26**	**330**	P		**P**	**10 21 47.5**	**+1.1**
833A	**Chaparral WMA,**	**63.26**	**330**	P		**P**	**10 21 47.8**	**+1.4**
	baz=150,SNR=44							
833A	**Chaparral WMA,**	**63.26**	**330**	P		**P**	**10 21 48.3**	**+2.0**
	baz=150,SNR=44							
Y52A	**Lilburn**	**63.34**	**346**	P		**P**	**10 21 46.7**	**0.0**
	baz=165,SNR=5.3							
Y52A				P		**P**	**10 21 46.7**	**0.0**
	baz=165,SNR=5.3							
146A	**Union**	**63.41**	**341**	P		**P**	**10 21 47.8**	**+0.6**
	baz=160							
VBMS	**Vicksburg**	**63.45**	**340**	P		**P**	**10 21 48.0**	**+0.5**
	baz=159							
CNNC	**Cliffs of the**	**63.65**	**352**	P		**P**	**10 21 49.9**	**+1.2**
	baz=171							
CNNC	**Cliffs of the**	**63.65**	**352**	P		**P**	**10 21 49.3**	**+0.6**
	baz=171							
Z47A	**Carrollton**	**63.67**	**342**	P		**P**	**10 21 49.0**	**+0.1**
	baz=161,SNR=6.0							
PAULI	**Pauline**	**63.83**	**348**	P		**P**	**10 21 50.7**	**+0.8**
	baz=167							
KMSC	**Kings Mountain**	**64.06**	**349**	P		**P**	**10 21 52.2**	**+0.7**
	baz=168							
KMSC	**Kings Mountain**	**64.06**	**349**	P		**P**	**10 21 52.1**	**+0.7**
	baz=168							
X51A	**Calhoun**	**64.19**	**346**	P		**P**	**10 21 52.9**	**+0.6**
	baz=164,SNR=8.5							
X51A				P		**P**	**10 21 52.9**	**+0.6**
	baz=164,SNR=8.5							
CASEE	**Lake Joc

baz=162
WVT Waverly 66.38 344 P **P** **10 22 06.3 -0.1**
baz=162,SNR=20
WVT Waverly 66.38 344 ⇓P **P** **10 22 06.2 -0.1**
WVT PcP **PcP** **10 22 36.2 +0.9**
S54A Dingess, Beckl 66.65 349 P **P** **10 22 08.3 +0.2**
baz=168,SNR=6.4
S54A P **P** **10 22 08.3 +0.2**
baz=168,SNR=6.4
PLPT Palo Pinto 66.73 333 P **P** **10 22 09.8 +1.1**
Z35A Perchaven, San 66.78 335 P **P** **10 22 09.8 +0.8**
Z35A Perchaven, San 66.78 335 P **P** **10 22 10.4 +1.4**
baz=153,SNR=29
R55A Marlinton 66.94 351 P **P** **10 22 11.3 +1.2**
baz=169,SNR=7.3
R55A P **P** **10 22 11.3 +1.2**
baz=169,SNR=7.3
T47A Sharon Grove 67.02 344 P **P** **10 22 10.4 0.0**
baz=163,SNR=12
ABTX Abilene, Hawle 67.10 332 P **P** **10 22 12.3 +1.2**
baz=151,SNR=29
ABTX Abilene, Hawle 67.10 332 P **P** **10 22 12.1 +1.0**
baz=151,SNR=29
LCAR Lake Charles 67.23 341 P **P** **10 22 12.5 +0.7**
baz=159,SNR=18
MNHN Monahans 67.35 329 P **P** **10 22 13.5 +0.8**
MNHN IAmb IAmb 10 22 15.2
comp=Z,56nm,0.9s
T45B Paducah 67.43 343 P **P** **10 22 13.4 +0.4**
baz=161,SNR=8.8
R50A Paris 67.66 347 P **P** **10 22 14.6 +0.1**
baz=165
R50A P **P** **10 22 14.6 +0.1**
baz=165
PBMO Poplar Bluff 67.68 342 P **P** **10 22 14.8 +0.2**
baz=160,SNR=23
Q54A Coxs Mills 67.74 350 P **P** **10 22 15.0 +0.1**
baz=169,SNR=7.9
Q54A P **P** **10 22 15.0 +0.1**
baz=169,SNR=7.9
R49A Shelbyville 67.84 346 P **P** **10 22 15.6 0.0**
baz=165
R49A P **P** **10 22 15.6 0.0**
baz=165
P57A Homestead Farm 67.86 353 P **P** **10 22 16.9 +1.2**
baz=171,SNR=5.9
P57A P **P** **10 22 16.9 +1.2**
baz=171,SNR=5.9
GEDE Greenville 67.95 355 P **P** **10 22 17.6 +1.4**
baz=174
Q52A Bidwell 67.95 349 P **P** **10 22 16.2 0.0**
baz=167,SNR=5.5
Q52A P **P** **10 22 16.2 0.0**
baz=167,SNR=5.5
CGM3 Cape Girardeau 67.96 342 P **P** **10 22 15.8 -0.5**
CGM3 IAmb IAmb 10 22 17.7
comp=Z,55nm,1.4s
U40A Yellville 68.00 339 P **P** **10 22 17.3 +0.7**
baz=157,SNR=13
U40A P **P** **10 22 17.3 +0.7**
baz=157,SNR=13
WCI Wyandotte Cave 68.02 345 P **P** **10 22 16.0 -0.7**
baz=164
WCI Wyandotte Cave 68.02 345 P **P** **10 22 16.0 -0.7**
baz=164
WCI Wyandotte Cave 68.02 345 P **P** **10 22 16.0 -0.7**
WCI PcP **PcP** **10 22 42.5 +0.3**
Q51A Peebles 68.20 348 P **P** **10 22 17.7 -0.1**
baz=166,SNR=6.3
Q51A P **P** **10 22 17.7 -0.1**
baz=166,SNR=6.3
S44A Carbondale 68.23 343 P **P** **10 22 18.2 +0.2**
baz=161,SNR=15
MCWV Mont Chateau 68.26 351 P **P** **10 22 18.5 +0.3**
baz=170
MCWV Mont Cateau 68.26 351 P **P** **10 22 19.3 +1.1**
baz=170
P53A Whipple 68.32 350 P **P** **10 22 19.2 +0.6**
baz=168
P53A P **P** **10 22 19.2 +0.6**
baz=168
TUL3 Leonard 68.56 337 P **P** **10 22 20.5 +0.4**
TUL3 Leonard 68.56 337 P **P** **10 22 20.9 +0.8**
baz=155,SNR=34
TUL3 Leonard 68.56 337 P **P** **10 22 20.8 +0.7**
baz=155,SNR=34
U38A Gravette 68.57 338 P **P** **10 22 21.0 +0.8**
baz=156,SNR=16
P52A Corning 68.58 349 P **P** **10 22 20.3 +0.1**
baz=168,SNR=7.2
P51A Williamsport 68.59 348 P **P** **10 22 20.2 -0.1**
baz=167,SNR=9.5
P51A P **P** **10 22 20.2 -0.1**
baz=167,SNR=9.5
WMOK Wichita Mounta 68.61 334 P **P** **10 22 21.2 +0.7**
baz=152,SNR=5.7
WMOK Wichita Mounta 68.61 334 P **P** **10 22 20.4 -0.1**
baz=152,SNR=5.7
FVM French Village 68.81 342 P **P** **10 22 22.3 +0.6**
baz=160,SNR=25
MNTX Cornudas Mount 68.87 327 P **P** **10 22 22.7 +0.5**
baz=146,SNR=47
MNTX Cornudas Mount 68.87 327 P **P** **10 22 22.6 +0.4**
baz=146,SNR=47
P49A Miami Univ. Ec 68.95 347 P **P** **10 22 22.1 -0.4**
baz=165
P49A Miami Univ. Ec 68.95 347 P **P** **10 22 22.1 -0.4**
baz=165
SSPA Standing Stone 68.98 353 P **P** **10 22 23.6 +1.0**
baz=172
SSPA Standing Stone 68.98 353 P **P** **10 22 23.6 +1.0**
O52A Adamsville 69.00 350 P **P** **10 22 22.8 0.0**
baz=168,SNR=7.0
O52A P **P** **10 22 22.8 0.0**
baz=168,SNR=7.0
PAL Palisades 69.01 356 P **P** **10 22 22.3 -0.5**
baz=175
P48A Milroy 69.02 347 P **P** **10 22 22.2 -0.7**
baz=164,SNR=6.3
P48A P **P** **10 22 22.2 -0.7**
baz=164,SNR=6.3
O53A New Philadelph 69.03 350 P **P** **10 22 22.8 -0.1**
baz=168
CCM Cathedral Cave 69.11 341 P **P** **10 22 23.6 +0.1**
baz=159
CCM Cathedral Cave 69.11 341 P **P** **10 22 24.1 +0.7**
baz=159,SNR=13
CCM Cathedral Cave 69.11 341 P **P** **10 22 24.0 +0.6**
CCM pP **PcP** **10 22 45.1 -1.6**
CCM sP **pP** **10 22 54.1 +2.7**
ODNJ Ogdensburg 69.13 356 P **P** **10 22 24.9 +1.3**
baz=175
SBA Scott Base 69.23 191 P **P** **10 22 25.3 +1.5**
ACSO Alum Creek Sta 69.31 349 P **P** **10 22 24.4 -0.3**
baz=167,SNR=8.5
ACSO Alum Creek Sta 69.31 349 P **P** **10 22 24.6 -0.1**
baz=167,SNR=8.5
S39A Bolivar 69.38 340 P **P** **10 22 26.0 +0.8**
baz=157,SNR=32
O49A Covington 69.51 348 P **P** **10 22 25.5 -0.4**
baz=166,SNR=8.0
O49A P **P** **10 22 25.5 -0.4**
baz=166,SNR=8.0
P46A Rosedale 69.56 345 P **P** **10 22 25.7 -0.5**
baz=163,SNR=5.6
MSTX Muleshoe 69.58 331 P **P** **10 22 27.4 +0.8**
baz=148,SNR=27
MSTX Muleshoe 69.58 331 P **P** **10 22 27.6 +0.9**
baz=148,SNR=27
HSIG 69.58 321 P **P** **10 22 27.3 +0.7**
HSIG IAmb IAmb 10 22 29.0
comp=Z,25nm,0.8s
R40A Maddies Statio 69.62 341 P **P** **10 22 27.2 +0.6**
baz=158,SNR=35
T35B Sooner Cattle 69.72 337 P **P** **10 22 27.8 +0.5**
baz=154,SNR=10
O48B Farmland 69.73 347 P **P** **10 22 26.8 -0.5**
baz=165
NPNY Mohonk Preserv 69.77 356 P **P** **10 22 28.5 +1.0**
baz=175,SNR=5.2
AMTX Amarillo 69.90 332 P **P** **10 22 29.5 +0.9**
baz=150
AMTX Amarillo 69.90 332 P **P** **10 22 29.6 +1.1**
baz=150,SNR=5.2
M55A Ridgway 69.90 352 P **P** **10 22 28.8 +0.4**
baz=171,SNR=11
M55A P **P** **10 22 28.8 +0.4**
baz=171,SNR=11

M53A WI Miller and 70.12 351 P **P** **10 22 29.2 -0.5**
baz=169
P43A Skaggs, Pawnee 70.13 343 P **P** **10 22 29.6 -0.2**
baz=161,SNR=16
U32A Winter Ranch, 70.14 335 P **P** **10 22 30.7 +0.8**
baz=152
N49A Columbus Grove 70.19 348 P **P** **10 22 30.2 +0.1**
N49A IAmb IAmb 10 22 31.3
comp=Z,131nm,1.5s
N49A Columbus Grove 70.19 348 P **P** **10 22 30.0 0.0**
baz=166,SNR=13
N49A P **P** **10 22 30.0 0.0**
baz=166,SNR=13
VNDA Vanda 70.24 190 P **P** **10 22 31.1 +1.1**
VNDA Vanda 70.24 190 P **P** **10 22 31.1 +1.1**
VNDA pmax pmax
comp=Z,13nm,0.9s
VNDA Vanda 70.24 190 P **P** **10 22 30.9 +0.9**
comp=Z,12nm,0.8s,baz=119,slow=5.8,SNR=28
comp=Z,12nm,0.8s
VNDA Vanda 70.24 190 P **P** **10 22 31.5 +1.4**
SFIN Lafayette 70.26 345 P **P** **10 22 29.9 -0.6**
baz=163
L59A Walton 70.26 355 P **P** **10 22 32.1 +1.5**
baz=174,SNR=5.8
L59A P **P** **10 22 32.1 +1.5**
baz=174,SNR=5.8
M52A Chesterland 70.32 350 P **P** **10 22 31.3 +0.5**
baz=168
M52A P **P** **10 22 31.3 +0.5**
baz=168
BINY Binghamton 70.35 355 P **P** **10 22 31.9 +0.9**
baz=173
O44A Mansfield 70.36 344 P **P** **10 22 30.6 -0.5**
baz=162,SNR=11
HRV Adam Dziewonsk 70.40 358 P **P** **10 22 32.7 +1.4**
baz=178
L56A Greenwood 70.43 353 P **P** **10 22 32.4 +0.8**
baz=172,SNR=7.0
L56A P **P** **10 22 32.4 +0.8**
baz=172,SNR=7.0
N47A Urbana 70.44 347 P **P** **10 22 31.3 -0.3**
baz=164,SNR=9.0
N47A P **P** **10 22 31.3 -0.3**
baz=164,SNR=9.0
M50A Fremont 70.46 349 P **P** **10 22 31.6 -0.1**
baz=167
M50A P **P** **10 22 31.6 -0.1**
baz=167
319A Douglas 70.54 324 P **P** **10 22 34.4 +1.8**
319A IAmb IAmb 10 22 35.8
comp=Z,69nm,1.1s
LIC Lamto 70.55 71 ⇓*e*P **P** **10 22 33.2 +0.3**
comp=Z,126nm,0.8s
ERPA Erie 70.69 351 P **P** **10 22 33.8 +0.7**
baz=170
P40A Paris 70.70 341 P **P** **10 22 33.8 +0.6**
baz=158,SNR=13
121A Cookes Peak, D 70.71 326 P **P** **10 22 35.7 +2.0**
baz=144,SNR=36
121A Cookes Peak, D 70.71 326 P **P** **10 22 36.0 +2.3**
baz=144,SNR=36
HCNY Howe Caverns 70.72 356 P **P** **10 22 34.1 +0.8**
baz=175
TIC Toumodi 70.79 71 ⇑*i*P **P** **10 22 34.9 +0.6**
comp=Z,41nm,0.6s
WVNY West Valley, N 70.81 353 P **P** **10 22 34.3 +0.5**
WVNY IAmb IAmb 10 22 35.8
comp=Z,34nm,0.8s
WVNY West Valley, N 70.81 353 P **P** **10 22 35.0 +1.1**
baz=171,SNR=7.0
KIC Kosan Boka 70.87 72 ⇓*e*P **P** **10 22 35.3 +0.5**
comp=Z,111nm,0.6s
DBIC Dimbokro 70.94 71 P **P** **10 22 35.5 +0.3**
DBIC Dimbokro 70.94 71 P **P** **10 22 35.9 +0.7**
comp=Z,61nm,0.6s,baz=224,slow=6.4,SNR=116
DBIC LR LR 10 53 04.9
comp=Z,64nm,18.2s,baz=202,slow=35
comp=Z,61nm,0.6s
DBIC Dimbokro 70.94 71 P **P** **10 22 35.7 +0.5**
DBIC pP **PcP** **10 22 56.5 +1.4**
DBIC sP **pP** **10 23 05.5 +2.3**
HDIL Hopedale 70.94 344 P **P** **10 22 34.4 -0.2**
HDIL IAmb IAmb 10 22 35.0
comp=Z,40nm,0.5s
HDIL Hopedale 70.94 344 P **P** **10 22 34.5 -0.2**
baz=161,SNR=11
HDIL Hopedale 70.94 344 P **P** **10 22 34.7 0.0**
baz=161,SNR=11
P38A Dawn 71.22 340 P **P** **10 22 36.8 +0.4**
baz=157,SNR=14
L48A N Adams 71.23 348 P **P** **10 22 36.1 -0.3**
baz=166,SNR=5.6
L48A P **P** **10 22 36.1 -0.3**
baz=166,SNR=5.6
TBI Tubuai 71.27 253 *e*S **S** **10 31 46.9 +0.5**
comp=Z,446nm,27.0s
TBI Tubuai 71.27 253 *e*LR LR 10 44 26.3
comp=Z,285nm,27.2s
DUN6 Lazy B Ranch 71.38 325 P **P** **10 22 39.2 +1.5**
AAM Ann Arbor 71.44 349 P **P** **10 22 37.4 -0.1**
baz=166
Y22A Socorro 71.46 327 P **P** **10 22 40.0 +1.8**
baz=145,SNR=16
N41A Harden Midland 71.48 343 P **P** **10 22 38.0 +0.1**
baz=160,SNR=5.2
Y22D IRIS PASSCAL I 71.55 328 P **P** **10 22 40.3 +1.7**
baz=145
Y22F Passcal Instru 71.55 328 P **P** **10 22 40.8 +2.1**
baz=145
KSU1 Kansas State U 71.72 338 P **P** **10 22 40.0 +0.6**
baz=154
K50A Casco 71.72 350 P **P** **10 22 39.2 -0.1**
baz=167,SNR=5.3
K50A P **P** **10 22 39.2 -0.1**
baz=167,SNR=5.3
R32A Long Quarter, 71.84 336 P **P** **10 22 41.0 +0.9**
baz=153,SNR=15
ANMO Albuquerque 72.05 328 P **P** **10 22 43.6 +1.9**
ANMO IAmb IAmb 10 22 44.7
comp=Z,25nm,0.8s
ANMO Albuquerque 72.05 328 P **P** **10 22 43.6 +1.9**
baz=146
ANMO Albuquerque 72.05 328 P **P** **10 22 43.8 +2.1**
baz=146,SNR=30
ANMO Albuquerque 72.05 328 P **P** **10 22 43.6 +1.9**
ANMO pmax pmax
comp=Z,25nm,0.8s
TUC Tucson 72.06 324 P **P** **10 22 43.2 +1.5**
baz=142
WCNY West Carthage 72.09 355 P **P** **10 22 42.5 +1.0**
baz=174
L44A Lake County Fo 72.16 345 P **P** **10 22 41.9 0.0**
baz=162
N38A Joes South For 72.21 341 P **P** **10 22 42.9 +0.7**
baz=158,SNR=5.7
CBKS Cedar Bluff 72.56 335 P **P** **10 22 45.8 +1.3**
baz=152
CBKS Cedar Bluff 72.56 335 P **P** **10 22 45.6 +1.1**
baz=152
LONY Lake Ozonia 72.65 356 P **P** **10 22 46.1 +1.3**
baz=175
HAL Halifax 72.67 4 P **P** **10 22 45.8 +1.0**
HAL IAmb IAmb 10 23 04.0
comp=Z,110nm,1.4s
HAL Halifax 72.67 4 P **P** **10 22 45.8 +1.0**
HAL pmax pmax
comp=Z,110nm,1.4s
FRNY Flat Rock 72.81 357 P **P** **10 22 46.9 +1.3**
baz=176
L40A Anamosa 72.85 343 P **P** **10 22 46.1 +0.1**
L40A Anamosa 72.85 343 P **P** **10 22 46.3 +0.3**
baz=160,SNR=19
214A Organ Pipe Nat 72.87 322 P **P** **10 22 48.4 +2.0**
baz=140,SNR=25
T25A Trinidad 72.97 331 P **P** **10 22 49.3 +2.2**
baz=148,SNR=16
N35A Tabor 73.00 339 P **P** **10 22 47.7 +0.8**
baz=156,SNR=10
WBO Williamsburg 73.08 355 P **P** **10 22 48.1 +0.9**
PKME Peaks-Kenny Pk 73.12 360 P **P** **10 22 48.9 +1.4**
baz=180
SADO Sadowa 73.20 353 LR LR 10 59 14.3
comp=Z,40nm,18.9s,baz=94,slow=39
SCIA State Center 73.24 341 P **P** **10 22 49.2 +0.9**
baz=158
JFWS Jewell Farm 73.40 344 P **P** **10 22 49.6 +0.4**
baz=160

N33B J Bar K, Exete 73.47 338 P **P** **10 22 50.9 +1.1**
baz=154,SNR=8.0
PPT2 Papeete2 73.70 259 *e*P **P** **10 22 49.5 -2.3**
comp=Z,46nm,26.8s
PPT2 *e*S **SKiKP** **10 32 11.5 +0.3**
comp=Z,118nm,24.2s
PPT2 Papeete2 73.70 259 *e*LR LR 10 45 42.7
comp=Z,88nm,22.8s
PPT Papeete 73.71 259 P **P** **10 22 53.6 +1.9**
comp=Z,52nm,0.9s,baz=124,slow=4.2,SNR=4.1
comp=Z,52nm,0.9s
W18A Petrified Fore 73.75 326 P **P** **10 22 53.6 +1.9**
W18A IAmb IAmb 10 22 54.9
comp=Z,89nm,1.1s
W18A Petrified Fore 73.75 326 P **P** **10 22 53.4 +1.7**
baz=143,SNR=22
K38A Parkersburg 73.80 342 P **P** **10 22 51.3 -0.3**
baz=158
KSCO Kaye Shedlock' 73.84 333 P **P** **10 22 53.9 +1.8**
baz=150,SNR=14
KSCO Kaye Shedlock' 73.84 333 P **P** **10 22 53.8 +1.7**
baz=150,SNR=14
SDCO Great Sand Dun 73.95 331 P **P** **10 22 54.4 +1.5**
baz=147,SNR=22
SDCO Great Sand Dun 73.95 331 P **P** **10 22 54.6 +1.7**
baz=147,SNR=22
113A Mohawk Valley, 74.01 322 P **P** **10 22 54.3 +1.3**
I42A Draeger Farm, 74.01 345 P **P** **10 22 53.2 +0.4**
baz=162
L34A Svendsen Farm, 74.23 339 P **P** **10 22 54.5 +0.4**
L34A Svendsen Farm, 74.23 339 P **P** **10 22 54.9 +0.8**
baz=155,SNR=11
E63A Oxbow 74.28 0 P **P** **10 22 55.8 +1.5**
baz=180
E63A P **P** **10 22 55.8 +1.5**
baz=180
BGNE Belgrade 74.31 338 P **P** **10 22 55.9 +1.3**
baz=154,SNR=14
BGNE Belgrade 74.31 338 P **P** **10 22 55.6 +1.0**
baz=154,SNR=14
H43A Windswept, Lux 74.32 346 P **P** **10 22 55.0 +0.5**
baz=163
I40A Norwalk 74.41 344 P **P** **10 22 55.2 +0.1**
baz=160
E62A Clayton Lake 74.48 360 P **P** **10 22 56.9 +1.5**
baz=179,SNR=6.2
E62A P **P** **10 22 56.9 +1.5**
baz=179,SNR=6.2
Y14A Wickenburg 74.49 323 P **P** **10 22 57.3 +1.4**
Y14A IAmb IAmb 10 22 58.9
comp=Z,35nm,1.1s
S22A 4UR Ranch, Cre 74.53 330 P **P** **10 22 57.8 +1.4**
baz=146,SNR=14
Q24A Divide 74.82 332 P **P** **10 22 60.0 +2.0**
baz=147,SNR=44
MVCO Mesa Verde 74.85 328 P **P** **10 23 00.2 +2.1**
baz=144,SNR=41
WUAZ Wupatki 74.88 325 P **P** **10 23 00.7 +2.4**
baz=142,SNR=51
D62A Allapoint, All 74.94 0 P **P** **10 22 59.4 +1.3**
baz=180,SNR=8.5
D62A P **P** **10 22 59.4 +1.3**
baz=180,SNR=8.5
BATG Bathurst New B 75.19 2 P **P** **10 23 00.7 +1.2**
BATG IAmb IAmb 10 23 01.9
comp=Z,65nm,1.4s
IKP In-Ko-Pah, Jac 75.21 320 P **P** **10 23 02.4 +2.3**
baz=138,SNR=7.1
I37B Waseca 75.24 342 P **P** **10 23 00.4 +0.5**
baz=158,SNR=21
SWSC Sam W. Stewart 75.26 321 P **P** **10 23 02.2 +2.0**
baz=138,SNR=5.5
OGNE Ogallala 75.28 335 P **P** **10 23 01.6 +1.4**
baz=150
PDMCI Parker Dam,Lak 75.38 323 P **P** **10 23 03.2 +2.3**
baz=140,SNR=6.6
SUR Sutherland 75.42 119 P **P** **10 23 02.7 +1.1**
comp=Z,28nm,0.7s,baz=233,slow=6.2,SNR=30
SUR LR LR 10 51 26.2
comp=Z,61nm,20.3s,baz=224,slow=32
comp=Z,28nm,0.7s
BAR Barrett 75.55 320 P **P** **10 23 03.7 +1.7**
BAR IAmb IAmb 10 23 04.9
comp=Z,31nm,0.9s
MONP2 Monument Peak 75.57 320 P **P** **10 23 04.1 +1.8**
baz=138,SNR=9.6
BC3 Big Chuckawall 75.60 321 P **P** **10 23 04.4 +2.1**
baz=139,SNR=13
ISCO Idaho Springs 75.72 332 P **P** **10 23 04.4 +1.2**
baz=147,SNR=14
ISCO Idaho Springs 75.72 332 P **P** **10 23 05.2 +2.1**
baz=147,SNR=14
IRM Ion Mountain 75.81 322 P **P** **10 23 05.0 +1.6**
baz=139,SNR=20
LDAQ Lac Daran 75.85 359 P **P** **10 23 04.1 +0.8**
W13A Hualapai Mount 75.85 323 P **P** **10 23 05.5 +1.7**
W13A IAmb IAmb 10 23 06.6
comp=Z,21nm,0.7s
K30B Basset 75.93 337 P **P** **10 23 05.1 +1.2**
baz=152,SNR=21
109C Camp Elliot, M 75.95 320 P **P** **10 23 06.1 +1.9**
baz=138
NEE2 Needles Airpor 75.98 323 P **P** **10 23 06.2 +1.8**
baz=140,SNR=6.0
U15A North Rim 76.06 325 P **P** **10 23 06.9 +1.8**
U15A IAmb IAmb 10 23 08.6
comp=Z,59nm,1.0s
TPFO Pinon Flats 76.12 321 P **P** **10 23 07.0 +1.7**
baz=138,SNR=10.0
PFO Pinyon Flats O 76.12 321 P **P** **10 23 06.9 +1.6**
baz=138,SNR=9.3
PFO Pinyon Flats O 76.12 321 *d*/*i*P **P** **10 23 07.2 +1.9**
PFO pmax pmax
comp=Z,31nm,1.0s
BELC Belle Mtn. Jos 76.16 321 P **P** **10 23 07.2 +1.7**
baz=138
SPMN Marine on St. 76.21 343 P **P** **10 23 05.3 -0.1**
baz=158,SNR=12
SPMN Marine on St. 76.21 343 P **P** **10 23 05.5 +0.1**
baz=158,SNR=12
VLDQ Val d'Or 76.34 354 P **P** **10 23 06.5 +0.5**
MURC Murriets 76.53 320 P **P** **10 23 09.0 +1.5**
baz=138,SNR=10.0
GMRC Granite Mounta 76.56 322 P **P** **10 23 10.1 +2.3**
baz=139,SNR=26
N23A Red Feather La 76.78 332 P **P** **10 23 10.9 +1.8**
baz=147,SNR=6.5
BBRC Big Bear Solar 76.86 321 P **P** **10 23 11.2 +1.5**
baz=138
HEC Hector,Ludlow 76.96 322 P **P** **10 23 11.8 +1.9**
baz=138,SNR=23
F36A Milaca 76.99 343 P **P** **10 23 09.8 +0.1**
baz=158,SNR=16
CIS Catalina Islan 77.08 319 P **P** **10 23 12.2 +1.6**
baz=137
O20A White River Ci 77.12 330 P **P** **10 23 12.9 +2.0**
baz=145,SNR=52
TUQ Turquoise Moun 77.19 322 P **P** **10 23 13.0 +1.7**
baz=139,SNR=14
FMP Fort Macarthur 77.23 320 P **P** **10 23 13.4 +2.0**
baz=137
BFSC Mount Baldy Ra 77.26 320 P **P** **10 23 12.9 +1.2**
baz=137,SNR=6.4
SUSD Miller 77.28 339 P **P** **10 23 11.9 +0.5**
baz=153
GSC Goldstone, Bar 77.57 322 P **P** **10 23 15.3 +2.0**
baz=138,SNR=14
DECC Green Verdugo 77.65 320 P **P** **10 23 15.3 +1.5**
baz=137,SNR=5.5
SHOC Shoshone, Teco 77.73 322 P **P** **10 23 16.2 +2.1**
baz=138
F33A 5 Mile Ranch, 77.73 341 P **P** **10 23 13.3 -0.6**
baz=156,SNR=5.5
DRLN Deer Lake 77.81 8 P **P** **10 23 14.8 +0.6**
DRLN IAmb IAmb 10 23 16.1
comp=Z,42nm,0.9s
EDW2 Edwards Air Fo 77.92 321 P **P** **10 23 16.4 +1.2**
baz=137,SNR=12
MAW Mawson 77.98 163 P **P** **10 23 15.7 +0.5**
comp=Z,48nm,0.9s,baz=182,slow=5.8,SNR=11
MAW LR LR 10 57 35.0
comp=Z,65nm,19.6s,baz=207,slow=36
comp=Z,48nm,0.9s
OSI Osito Audit: C 78.13 320 P **P** **10 23 18.0 +1.5**
baz=137
LRMC Laurel Mtn Rad 78.18 321 P **P** **10 23 18.4 +1.6**
baz=138,SNR=6.3
TSUM Tsumeb 78.35 106 P **P** **10 23 19.0 +0.8**

comp=Z,32nm,0.9s,baz=240,slow=4.8,SNR=33
TSUM pP **pP** 10 23 47.6 +0.9
comp=Z,18nm,0.9s,baz=238,slow=3.4,SNR=4.7
TSUM LR LR 10 53 04.1
comp=Z,56nm,20.1s,baz=349,slow=32
comp=Z,32nm,0.9s
EYMN Ely 78.44 345 P **P** 10 23 18.0 +0.2
baz=160
EYMN Ely 78.44 345 P **P** 10 23 18.3 +0.6
baz=160
FURC Furnace Creek, 78.47 322 P **P** 10 23 19.8 +1.7
baz=138,SNR=17
K22A Casper 78.48 333 P **P** 10 23 20.1 +1.8
K22A IAmb IAmb 10 23 21.2
comp=Z,46nm,0.8s
K22A Casper 78.48 333 P **P** 10 23 19.7 +1.4
baz=147,SNR=22
K22A Casper 78.48 333 P **P** 10 23 19.9 +1.6
baz=147,SNR=22
TPNV Topopah Spring 78.50 323 P **P** 10 23 20.8 +2.3
baz=139,SNR=27
MPMC Manual Prospec 78.50 322 P **P** 10 23 20.5 +1.8
baz=138
ARVC Arvin 78.56 320 P **P** 10 23 20.7 +1.9
baz=137
SBC Santa Barbara 78.57 319 P **P** 10 23 20.1 +1.3
baz=136
ISA Isabella, Lake 78.75 321 P **P** 10 23 21.8 +1.9
baz=137,SNR=14
RSSD Black Hills 78.76 335 P **P** 10 23 21.0 +1.0
baz=149
RSSD Black Hills 78.76 335 P **P** 10 23 21.5 +1.6
baz=149,SNR=23
PKM Mcpherson Peak 78.95 320 P **P** 10 23 23.3 +2.2
baz=136,SNR=8.1
CWC Cottonwood Cre 79.11 322 P **P** 10 23 23.4 +1.5
baz=137
GRAC Grapevine Rang 79.13 323 P **P** 10 23 23.6 +1.7
baz=138
R11B Troy Canyon, C 79.21 325 P **P** 10 23 24.6 +2.2
baz=139,SNR=35
VES Vestal, Richgr 79.22 321 P **P** 10 23 24.2 +1.9
baz=136,SNR=18
DUG Dugway, Tooele 79.26 327 P **P** 10 23 23.6 +1.0
DUG IAmb IAmb 10 23 25.6
comp=Z,71nm,1.6s
DUG Dugway, Tooele 79.26 327 P **P** 10 23 24.4 +1.8
baz=142,SNR=21
DUG Dugway, Tooele 79.26 327 P **P** 10 23 23.6 +1.0
DUG pmax pmax
comp=Z,71nm,1.7s
B35A Bob, Littlefor 79.36 344 P **P** 10 23 23.4 +0.6
baz=158,SNR=7.1
SMMC Simmler 79.36 320 P **P** 10 23 25.1 +1.9
baz=136,SNR=8.0
TIN Tinemaha, Big 79.64 322 P **P** 10 23 26.2 +1.5
baz=137,SNR=7.8
VOG Valley Oaks Go 79.74 321 P **P** 10 23 26.8 +1.7
baz=136
E28A Huff 79.74 338 P **P** 10 23 25.9 +1.0
baz=152,SNR=15
TOA0 Torodi Ar. Sit 79.84 69 P **P** 10 23 26.4 +0.3
TORD Torodi Ar. Bea 79.84 69 P **P** 10 23 26.6 +0.5
TORD Torodi Ar. Bea 79.84 69 P **P** 10 23 26.4 +0.2
comp=Z,56nm,0.6s,baz=273,slow=4.4,SNR=353
TORD pP **pP** 10 23 56.0 +1.0
comp=Z,15nm,0.8s,baz=272,slow=4.0,SNR=3.5
TORD PKKPbc **PKKPbc** 10 42 12.3 +1.2
comp=Z,0.7nm,0.6s,baz=23,slow=3.6,SNR=4.2
TORD LR LR 10 57 29.5
comp=Z,50nm,19.7s,baz=224,slow=35
comp=Z,56nm,0.6s
PD31 Pinedale Array 79.84 331 P **P** 10 23 26.5 +0.7
PDAR Pinedale Array 79.84 331 P **P** 10 23 26.8 +1.0
comp=Z,14nm,0.7s,baz=128,slow=7.7,SNR=100
PDAR PKKPbc **PKKPbc** 10 42 10.6 -2.8
comp=Z,1.4nm,0.6s,baz=152,slow=1.2,SNR=14
comp=Z,14nm,0.7s
BW06 Boulder Array 79.84 331 P **P** 10 23 26.5 +0.7
BW06 Boulder Array 79.84 331 P **P** 10 23 26.3 +0.4
baz=144,SNR=21
AGMN Agassiz Nation 79.85 342 P **P** 10 23 26.1 +0.6
baz=156
MLAC Mammoth, Mammo 80.39 322 P **P** 10 23 30.3 +1.4
baz=137,SNR=12
BOSA Boshof 80.50 117 P **P** 10 23 29.3 -0.4
BOSA IAmb IAmb 10 23 30.5
comp=Z,46nm,0.8s
BOSA Boshof 80.50 117 P **P** 10 23 29.6 -0.2
comp=Z,37nm,0.7s,baz=250,slow=3.8,SNR=70
BOSA pP **pP** 10 23 59.6 +1.4
comp=Z,16nm,0.8s,baz=252,slow=3.1,SNR=5.1
BOSA PKKPbc **PKKPbc** 10 42 10.4 +1.2
comp=Z,1.0nm,0.5s,baz=75,slow=3.5,SNR=4.9
BOSA LR LR 10 54 34.4
comp=Z,76nm,19.7s,baz=200,slow=32
comp=Z,37nm,0.7s
MDND Maddock 80.52 340 P **P** 10 23 29.9 +0.8
MDND Maddock 80.52 340 P **P** 10 23 30.4 +1.4
baz=153,SNR=8.8
MDND Maddock 80.52 340 P **P** 10 23 30.1 +1.0
baz=153
NVAR Mina Array Bea 80.69 323 P **P** 10 23 31.9 +1.4
comp=Z,8.1nm,0.9s,baz=160,slow=6.4,SNR=51
NVAR PKKPbc **PKKPbc** 10 42 10.3 -0.7
comp=Z,1.2nm,0.5s,baz=286,slow=2.4,SNR=17
comp=Z,8.1nm,0.9s
RAR Rarotonga 80.82 251 LR LR 10 50 10.3
comp=Z,54nm,20.6s,baz=296,slow=29
ELK Elko 80.86 326 P **P** 10 23 32.3 +1.0
ELK Elko 80.86 326 P **P** 10 23 32.3 +1.0
ELK pmax pmax
comp=Z,22nm,1.1s
H17A Grant Village 81.59 331 P **P** 10 23 36.7 +1.5
baz=144,SNR=12
RLMT Red Lodge 81.64 333 P **P** 10 23 36.7 +1.4
RLMT IAmb IAmb 10 23 37.8
comp=Z,52nm,0.8s
RLMT Red Lodge 81.64 333 P **P** 10 23 36.7 +1.4
baz=145,SNR=77
ULM Lac du Bonnet 81.65 343 P **P** 10 23 34.9 -0.1
ULM IAmb IAmb 10 23 36.3
comp=Z,30nm,0.9s
ULM Lac du Bonnet 81.65 343 P **P** 10 23 35.1 +0.2
comp=Z,21nm,0.7s,baz=161,slow=5.9,SNR=39
ULM pP **pP** 10 24 04.6 +1.0
comp=Z,10.0nm,0.9s,baz=159,slow=9.9,SNR=3.8
ULM PKKPbc **PKKPbc** 10 42 06.2 -3.1
comp=Z,4.3nm,0.6s,baz=359,slow=3.6,SNR=9.7
comp=Z,21nm,0.7s
LAO LASA Array 81.76 335 P **P** 10 23 36.4 +0.7
baz=147,SNR=16
LAO LASA Array 81.76 335 P **P** 10 23 37.0 +1.3
baz=147
LBTB Lobatse 82.41 114 P **P** 10 23 39.6 -0.3
LBTB IAmb IAmb 10 23 40.8
comp=Z,55nm,0.7s
LBTB Lobatse 82.41 114 P **P** 10 23 39.6 -0.3
LBTB pmax pmax
comp=Z,55nm,0.7s
DGMT Dagmar 82.56 337 P **P** 10 23 40.8 +1.0
DGMT Dagmar 82.56 337 P **P** 10 23 40.9 +1.1
baz=149,SNR=31
DGMT Dagmar 82.56 337 P **P** 10 23 41.2 +1.4
baz=149
HLID Hailey 82.63 329 P **P** 10 23 42.0 +1.5
HLID Hailey 82.63 329 P **P** 10 23 41.8 +1.3
baz=141,SNR=41
SCHQ Schefferville 82.72 1 P **P** 10 23 40.0 -0.5
SCHQ Schefferville 82.72 1 P **P** 10 23 40.3 -0.2
comp=Z,11nm,1.0s,baz=208,slow=5.9,SNR=11
comp=Z,11nm,1.0s
EGMT Eagleton 84.21 334 P **P** 10 23 48.7 +0.4
EGMT IAmb IAmb 10 23 50.0
comp=Z,30nm,0.8s
EGMT Eagleton 84.21 334 P **P** 10 23 48.7 +0.4
baz=145,SNR=14
BPMT Black Pine Rid 84.44 331 P **P** 10 23 51.0 +1.2
MSO Missoula 84.96 331 P **P** 10 23 53.1 +0.9
baz=141,SNR=13
PFVI Vila Bisbo 86.16 44 *e*P **P** 10 24 00.3 +2.1
PFVI *e*pP **pP** 10 24 21.0 -6.5
MDT Midelt 86.19 50 LR LR 11 01 14.0
comp=Z,72nm,19.3s,baz=258,slow=35
PTEO Sao Teotonio 86.48 44 *e*P **P** 10 24 01.6 +1.8
comp=Z,99nm,1.1s
PTEO *i* LQ LQ 10 24 32.2
PBDV Barranco-do-Ve 86.78 44 *e*P **P** 10 24 02.9 +1.6
PBDV *i* LQ LQ 10 24 33.2
PCVE Castro Verde 86.96 44 *e*P **P** 10 24 03.2 +1.1
PCVE *i* LQ LQ 10 24 34.4
PNCL Nicolau / Gran 86.96 43 *e*P **P** 10 24 03.4 +1.3
comp=Z,57nm,2.0s
PNCL *i* LQ LQ 10 24 34.4
MESJ Messejana 86.98 44 *e*P **P** 10 24 04.1 +1.9
comp=Z,62nm,1.6s
MESJ *i* LQ LQ 10 24 34.3
PVAQ Vaqueiros 87.01 44 *e*P **P** 10 24 04.8 +2.4
FFC Flin Flon 87.31 342 P **P** 10 24 02.8 -0.6
FFC Flin Flon 87.31 342 P **P** 10 24 02.8 -0.6
FFC pmax pmax
comp=Z,12nm,1.0s
PBEJ Beja 87.31 44 *e*P **P** 10 24 04.7 +0.9
comp=Z,52nm,1.8s
PBEJ *i* LQ LQ 10 24 35.8
NEW Newport 87.44 330 P **P** 10 24 04.4 +0.1
baz=139,SNR=12
PSBE So Bento 87.70 42 *e*P **P** 10 24 06.8 +1.1
PMTG Montargil 87.75 43 *e*P **P** 10 24 07.0 +1.1
comp=Z,58nm,1.7s
PMTG *i* LQ LQ 10 24 37.3
PBAR Barrancos 87.91 44 *e*P **P** 10 24 08.3 +1.6
comp=Z,49nm,2.1s
PBAR *i* LQ LQ 10 24 38.4
PCAS Casmilo, Conde 88.22 42 *e*P **P** 10 24 08.9 +0.8
LTY Liberty 88.32 328 P **P** 10 24 08.8 +0.4
LTY IAmb IAmb 10 24 10.2
comp=Z,20nm,0.8s
PMRV Marv??o 88.48 43 *e*P **P** 10 24 09.8 +0.4
PCBR Castelo Branco 88.69 43 *e*P **P** 10 24 10.7 +0.4
FCC Fort Churchill 89.11 347 P **P** 10 24 12.3 +0.6
FCC Fort Churchill 89.11 347 P **P** 10 24 12.3 +0.6
FCC pmax pmax
comp=Z,45nm,0.9s
LSZ Lusaka 89.14 107 P **P** 10 24 14.6 +1.4
comp=Z,15nm,0.9s,baz=247,slow=3.9,SNR=21
LSZ pP **pP** 10 24 43.4 +1.1
comp=Z,3.8nm,0.7s,baz=239,slow=8.0,SNR=2.0
LSZ LR LR 10 58 33.8
comp=Z,60nm,18.4s,baz=239,slow=32
comp=Z,15nm,0.9s
POLO Lamas de Olo 89.47 41 *e*P **P** 10 24 14.6 +0.5
EDM Edmonton 89.75 335 P **P** 10 24 14.4 -0.6
EDM Edmonton 89.75 335 P **P** 10 24 14.4 -0.6
EDM pmax pmax
comp=Z,142nm,1.3s
MVO Moncorvo 89.79 42 *e*P **P** 10 24 16.4 +0.9
MVO *i* LQ LQ 10 24 46.9
ESDC Sonseca Array 90.73 44 P **P** 10 24 20.3 +0.4
comp=Z,1.2nm,0.6s,baz=241,slow=4.7,SNR=12
comp=Z,1.2nm,0.6s
SFJD Kangerlussuaq 95.94 7 LR LR 11 07 46.3
comp=Z,15nm,21.2s,baz=170,slow=35
YKA Yellowknife Ar 97.43 340 P Pdif 10 24 50.0 0.0
comp=Z,7.0nm,0.7s,baz=140,slow=4.2,SNR=188
YKA PP **PP** 10 28 50.4 +1.6
comp=Z,0.3nm,0.7s,baz=139,slow=7.5,SNR=3.5
YKA PKiKP **PKiKP** 10 29 23.6 -0.6
comp=Z,0.3nm,0.7s,baz=136,slow=1.8,SNR=2.6
YKA PKKPbc **PKKPbc** 10 41 26.7 -3.0
comp=Z,0.4nm,0.6s,baz=325,slow=3.5,SNR=10
YKA LR LR 11 11 37.9
comp=Z,34nm,18.8s,baz=360,slow=37
comp=Z,7.0nm,0.7s
KOTAN Kotaneelee Air 98.82 336 P Pdif 10 24 57.1 +0.7
baz=133,SNR=6.5
T35M Bob Quinn 99.23 331 P **Pdif** 10 24 58.7 +0.5
baz=128
BORG Borgarnes 99.81 19 LR LR 11 05 26.1
comp=Z,76nm,18.6s,baz=146,slow=32
DLBC Dease Lake 100.04 332 P **Pdif** 10 25 03.0 +1.1
baz=128
S34M Telegraph Cree 100.18 331 P **Pdif** 10 25 02.9 +0.5
baz=128
WTLY Watson Lake, Y 100.60 334 P **Pdif** 10 25 04.8 +0.5
baz=129
FETA Feichten 103.67 44 *e*PKKP **PKKPbc** 10 41 09.5 -1.7
comp=Z,0.6nm,0.5s
MOTA Moosalm 104.05 44 *e*PKKP **PKKPbc** 10 41 09.2 -0.8
comp=Z,0.9nm,0.4s
SQTA Saint Quirin 104.06 44 *i* PKKP **PKKPbc** 10 41 08.2 -1.7
comp=Z,0.8nm,0.2s
WATA Walderalm 104.33 44 *i* PKKP **PKKPbc** 10 41 07.2 -2.0
comp=Z,0.7nm,0.4s
WTTA Wattenberg 104.34 44 *i* PKKP **PKKPbc** 10 41 07.4 -1.8
comp=Z,1.3nm,0.4s
I30M Mount Dempster 106.42 336 P **PKiKP** 10 29 40.7 0.0
baz=122
DZM Mendzumac 106.70 233 *e*LR LR 11 01 00.7
comp=Z,60nm,29.1s
INK Inuvik 107.15 339 P **PKiKP** 10 29 42.3 +0.7
baz=124
I29M Ogilvie Camp, 107.19 336 P **PKiKP** 10 29 42.0 +0.1
baz=120
G30M tAoh Zraii Nji 107.30 338 P **PKiKP** 10 29 42.3 +0.2
baz=122
L27K Beaver Creek, 107.41 333 P **PKiKP** 10 29 43.3 +0.9
baz=118
M26K Nabesna, AK 107.58 332 P **PKiKP** 10 29 43.0 +0.3
baz=117
H29M Whitestone 107.65 337 P **PKiKP** 10 29 43.4 +0.7
baz=120
I28M Miner Creek 107.83 336 P **PKiKP** 10 29 43.5 +0.3
baz=119
G29M Pine Creek 107.88 337 P **PKiKP** 10 29 44.2 +1.0
baz=120
K27K Chicken 107.96 334 P **PKiKP** 10 29 44.0 +0.6
baz=117
L26K Log Cabin Wild 108.01 333 P **PKiKP** 10 29 43.6 +0.1
baz=117
E29M Blow River 108.57 339 P **PKiKP** 10 29 44.5 +0.2
baz=120
SCRK Sand Creek 108.69 333 P **PKiKP** 10 29 45.2 +0.3
baz=116
J26L Joseph Creek 108.76 334 P **PKiKP** 10 29 46.0 +1.1
baz=116
H27K Steamboat Moun 108.78 336 P **PKiKP** 10 29 44.7 -0.2
baz=117
M24K Tolsona, Glenn 108.79 331 P **PKiKP** 10 29 45.2 +0.1
baz=115
F28M Old Crow 108.85 338 P **PKiKP** 10 29 45.5 +0.6
baz=118
PAX Paxson 108.86 332 P **PKiKP** 10 29 45.9 +0.7
baz=115
RIDG Independent Ri 108.93 333 P **PKiKP** 10 29 45.3 +0.1
baz=115
I26K Coal Creek Min 108.96 335 P **PKiKP** 10 29 45.7 +0.6
baz=116
E28M Babbage River 109.21 339 P **PKiKP** 10 29 46.1 +0.5
baz=118
VYHS Vyhne 109.27 45 *i* P **Pdif** 10 25 45.1 +2.0
VYHS Vyhne 109.27 45 *e*PDIFF **Pdif** 10 25 45.1 +2.0
D28M Stokes Point 109.30 339 P **PKiKP** 10 29 46.7 +1.0
baz=119
K24K Donnelly Dome 109.34 333 P **PKiKP** 10 29 46.4 +0.4
baz=114
J25K Salcha River, 109.51 334 P **PKiKP** 10 29 46.8 +0.4
baz=114
WAT6 Susitna Watana 109.65 331 P **PKiKP** 10 29 47.6 +0.8
baz=113
DHY Denali Highway 109.70 332 P **PKiKP** 10 29 47.3 +0.5
baz=113
PMR Palmer 109.87 330 P **PKiKP** 10 29 47.4 +0.5
baz=112
G26K Porcupine Rive 109.90 336 P **PKiKP** 10 29 47.4 +0.5
baz=115
PRP Porcupine Dome 109.94 334 P **PKiKP** 10 29 47.8 +0.6
baz=114
KDAK Kodiak Island 110.08 325 P **PKiKP** 10 29 47.5 0.0
baz=111
WAT1 Susitna Watana 110.09 331 P **PKiKP** 10 29 48.4 +1.0
baz=112
ILAR Eielson Array 110.17 333 Pdiff **Pdif** 10 25 47.0 +0.3
comp=Z,0.2nm,0.6s,baz=137,slow=2.7,SNR=4.1
ILAR PKiKP **PKiKP** 10 29 47.4 -0.1
comp=Z,1.2nm,0.8s,baz=216,slow=1.2,SNR=10
ILAR PP **PP** 10 30 25.7 +2.1
comp=Z,1.0nm,0.8s,baz=104,slow=4.8,SNR=5.0
ILAR PKKPbc **PKKPbc** 10 40 48.1 -3.1
comp=Z,1.6nm,1.0s,baz=313,slow=4.1,SNR=8.9
F26K Sheenjek River 110.35 337 P **PKiKP** 10 29 47.9 +0.1
baz=114
HFS Hagfors 110.59 32 PKKPab PKKPab 10 40 56.9 +0.3
comp=Z,2.7nm,0.7s,baz=87,slow=9.4,SNR=5.7
MCK McKinley 110.60 332 P **PKiKP** 10 29 48.7 +0.3
baz=112
G25K Bearman Lake 110.66 336 P **PKiKP** 10 29 48.5 +0.2
baz=113
CUT Chulitna 110.67 331 P **PKiKP** 10 29 48.5 0.0
baz=111
F25K Christian Rive 110.83 336 P **PKiKP** 10 29 49.7 +1.0
baz=113
H24K Noodor Dome 110.97 334 P **PKiKP** 10 29 49.6 +0.6
baz=112
NEA2 Nenana 110.97 333 P **PKiKP** 10 29 48.8 -0.2
baz=111
E25K Arctic Village 111.01 337 P **PKiKP** 10 29 48.9 -0.1
baz=113
TRF Thorofare Moun 111.06 332 P **PKiKP** 10 29 49.0 -0.4
baz=111
SKT Skwentna 111.08 330 P **PKiKP** 10 29 49.6 +0.3
baz=110
N20K Mount Spurr 111.11 329 P **PKiKP** 10 29 49.4 0.0
baz=110
G24K Hadweenzic Riv 111.14 335 P **PKiKP** 10 29 49.6 +0.3
baz=112
I23K Minto, Yukon-K 111.29 333 P **PKiKP** 10 29 49.5 0.0
baz=111
BPAW Bear Paw Mtn. 111.58 332 P **PKiKP** 10 29 50.4 +0.2
baz=110
F24K Squaw Lake 111.60 336 P **PKiKP** 10 29 50.2 +0.1
baz=111
PPLA Purkeypile 111.68 331 P **PKiKP** 10 29 50.4 -0.2
baz=109
M20K Styx River 111.75 330 P **PKiKP** 10 29 50.2 -0.5
baz=109
MLY Manley 111.80 333 P **PKiKP** 10 29 50.8 +0.2
baz=110
CAST Castle Rocks 111.81 331 P **PKiKP** 10 29 50.7 +0.1
baz=108
Q17K Contact Creek 111.90 325 P **PKiKP** 10 29 50.9 -0.1
baz=108
P18K Big Mountain, 111.93 327 P **PKiKP** 10 29 50.1 -0.9
baz=108
N19K Bonanza Creek 112.03 328 P **PKiKP** 10 29 50.3 -1.0
baz=108
CHUM Lake Minchumin 112.06 332 P **PKiKP** 10 29 50.4 -0.6
baz=109
O18K Koktuh Hills 112.07 327 P **PKiKP** 10 29 51.4 +0.1
baz=108
G23K Bananza Creek 112.09 335 P **PKiKP** 10 29 51.2 0.0
baz=110
L20K Farewell, AK 112.28 330 P **PKiKP** 10 29 51.2 -0.4
baz=108
M19K Big River Lodg 112.33 329 P **PKiKP** 10 29 51.3 -0.4
baz=108
COLD Coldfoot 112.33 335 P **PKiKP** 10 29 51.7 +0.2
baz=109
H22K Ishtalitna Cre 112.33 334 P **PKiKP** 10 29 51.9 +0.3
baz=109
I21K Tanana 112.34 333 P **PKiKP** 10 29 52.0 +0.4
baz=109
E23K Chandalar 112.40 336 P **PKiKP** 10 29 52.3 +0.6
baz=110
K20K Telida 112.63 331 P **PKiKP** 10 29 52.7 +0.4
baz=108
C24K Franklin Bluff 112.66 338 P **PKiKP** 10 29 52.0 0.0
baz=110
G22K Bettles 112.72 335 P **PKiKP** 10 29 52.5 +0.2
baz=108
H21K Melozitna River 112.82 333 P **PKiKP** 10 29 52.1 -0.4
baz=108
CHNA Chernabura Isl 112.82 321 P **PKiKP** 10 29 51.8 -1.0
baz=107
M18K Stony River 112.85 329 P **PKiKP** 10 29 52.3 -0.4
baz=107
O17K Koliganek Bris 112.95 327 P **PKiKP** 10 29 51.9 -1.0
baz=107
D23K Nanushuk River 113.07 337 P **PKiKP** 10 29 52.5 -0.4
baz=108
P16K Nushagak River 113.18 326 P **PKiKP** 10 29 52.8 -0.5
baz=106
N17K Nushagak Hills 113.21 327 P **PKiKP** 10 29 53.6 +0.3
baz=106
S14K Fog Glacier 113.22 323 P **PKiKP** 10 29 52.9 -0.8
baz=106
I20K Naaghedeneel 113.23 332 P **PKiKP** 10 29 53.3 +0.1
baz=107
G21K Allakaket 113.35 334 P **PKiKP** 10 29 53.4 0.0
baz=107
TTA Tatalina 113.35 330 P **PKiKP** 10 29 53.2 -0.4
baz=106
L18K Granite Mounta 113.45 329 P **PKiKP** 10 29 54.8 +1.0
baz=106
J19K Poorman 113.48 331 P **PKiKP** 10 29 54.8 +1.1
baz=106
F21K Alatna River 113.55 335 P **PKiKP** 10 29 55.1 +1.2
baz=106
M17K Holitna River 113.57 328 P **PKiKP** 10 29 54.9 +0.9
baz=106
H20K Anotleneega Mo 113.59 333 P **PKiKP** 10 29 55.2 +1.2
baz=106
D22K Ayikyak River 113.73 337 P **PKiKP** 10 29 55.4 +1.3
baz=106
J18K Innoko River 113.81 331 P **PKiKP** 10 29 55.6 +1.1
baz=105
L17K Donlin 114.16 329 P **PKiKP** 10 29 55.6 +0.4
baz=105
M16K Timber Creek 114.18 328 P **PKiKP** 10 29 55.4 +0.2
baz=104
H19K Roundabout Mou 114.23 333 P **PKiKP** 10 29 55.2 +0.1
baz=105
K17K Iditarod 114.31 330 P **PKiKP** 10 29 55.6 +0.2
baz=104
F20K Avaraart Lake 114.34 335 P PKPdf 10 29 55.2 -0.1
baz=105
B22K Teshekpuk Lake 114.39 338 P **PKiKP** 10 29 55.3 0.0
baz=105
C21K Knifeblade Rid 114.54 337 P **PKiKP** 10 29 55.8 +0.1
baz=104
L16K Owhat River 114.59 328 P **PKiKP** 10 29 56.5 +0.6
baz=104
G19K Purcell Mounta 114.64 333 P **PKiKP** 10 29 56.6 +0.6
baz=104
E20K Nigu River 114.81 336 P **PKiKP** 10 29 57.8 +1.5
baz=104
H18K Honhosa River 114.92 332 P PKPdf 10 29 57.7 +1.2
baz=103
E19K Redstone River 115.01 335 P **PKPdf** 10 29 57.4 +0.8
baz=103
D20K Etivluk River 115.07 336 P **PKPdf** 10 29 58.1 +1.3
baz=103
F19K Shaleruckik Mo 115.07 334 P **PKPdf** 10 29 57.3 +0.6
baz=103
G18K Tagagawik 115.21 333 **PKPdf** 10 29 58.0 +0.9
G18K Tagagawik 115.21 333 P **PKiKP** 10 29 56.8 -0.3
baz=103
J16K Anvik River 115.46 330 PKPdf **PKPdf** 10 29 57.4 -0.2
J16K Anvik River 115.46 330 P **PKiKP** 10 29 57.8 +0.2
baz=102
H17K Granite Mounta 115.52 332 **PKiKP** 10 29 58.2 +0.6
H17K Granite Mounta 115.52 332 P **PKPdf** 10 29 57.6 -0.1
baz=102
L15K Ungalak Mounta 115.52 328 P **PKiKP** 10 29 58.2 +0.4
baz=102
D19K Kuna River 115.56 336 **PKPdf** 10 29 58.0 +0.2
D19K Kuna River 115.56 336 P **PKPdf** 10 29 57.8 +0.1
baz=102
I17K Unalakleet 115.63 331 P **PKiKP** 10 29 58.0 +0.2
baz=102
A21K Barrow 115.65 339 P **PKiKP** 10 29 58.6 +0.9
baz=102
G17K Kiwalik Mounta 115.94 332 P **PKiKP** 10 29 58.7 +0.3
baz=101
L14K Kuka Creek 116.01 328 PKPdf **PKiKP** 10 29 59.1 +0.4
L14K Kuka Creek 116.01 328 P **PKiKP** 10 29 59.0 +0.3
baz=101
M13K Dall Lake 116.15 327 P **PKiKP** 10 29 59.7 +0.7
baz=101
MMAI Mount Meron Ar 116.15 65 PKP **PKiKP** 10 30 00.3 +0.4
comp=Z,2.3nm,0.4s,baz=0.0,slow=1.2,SNR=6.4
C19K Lookout Ridge 116.21 336 **PKiKP** 10 29 60.0 +1.0
C19K Lookout Ridge 116.21 336 P **PKiKP** 10 29 59.5 +0.5
baz=100
E18K Tukpahlearik C 116.28 334 **PKPdf** 10 29 58.9 -0.1
E18K Tukpahlearik C 116.28 334 P **PKiKP** 10 29 59.4 +0.3
baz=100
F17K Baldwin Pennin 116.35 333 **PKPdf** 10 29 59.1 -0.1
F17K Baldwin Pennin 116.35 333 P **PKiKP** 10 29 59.6 +0.4
baz=100
KIEV Kiev 116.36 45 PKPdf **PKPdf** 10 29 58.0 -1.7
KIEV Kiev 116.36 45 PKIKP **PKPdf** 10 29 58.0 -1.7
AKASG Malin Array Be 116.37 45 **PKPdf** 10 29 58.4 -1.3

AKASG	**Malin Array Be**	**116.37**	**45**	PKP	**PKPdf**	**10 29 58.9**	**-0.8**		
	comp=Z,3.8nm,0.6s,baz=264,slow=2.7,SNR=16								
AKASG				pPKP	pPKPdf	10 30 30.4	+0.2		
	comp=Z,0.8nm,0.5s,baz=267,slow=2.2,SNR=2.5								
AKBB	**Malin Array Si**	**116.37**	**45**	PKPdf	**PKPdf**	**10 29 58.4**	**-1.3**		
AKBB	**Malin Array Si**	**116.37**	**45**	PKIKP	**PKPdf**	**10 29 58.4**	**-1.3**		
H16K	**Elim**	**116.44**	**331**	P	**PKiKP**	**10 29 59.8**	**+0.4**		
	baz=100								
SPITS	**Spitsbergen Ar**	**116.47**	**13**	PKP	**PKiKP**	**10 29 59.5**	**+0.3**		
	comp=Z,3.7nm,0.8s,baz=318,slow=1.9,SNR=4.4								
SPITS				PKKPbc	**PKKPbc**	**10 40 27.6**	**-2.4**		
	comp=Z,9.1nm,0.9s,baz=123,slow=7.2,SNR=5.7								
G16K	**Koyuk River**	**116.61**	**332**		**PKiKP**	**10 30 00.6**	**+0.8**		
G16K	**Koyuk River**	**116.61**	**332**	P	**PKiKP**	**10 29 59.7**	**-0.1**		
	baz=100								
J14K	**Nanvaranak Lak**	**116.68**	**329**	P	**PKiKP**	**10 29 59.9**	**0.0**		
	baz=100								
E17K	**Hotham Inlet**	**116.69**	**334**	P	**PKPdf**	**10 29 59.7**	**-0.2**		
	baz=99								
C18K	**Utukok River**	**116.70**	**336**	P	**PKiKP**	**10 29 59.9**	**0.0**		
	baz=99								
BR131	**Keskin Array S**	**116.71**	**57**	PKPdf	**PKPdf**	**10 30 00.3**	**-0.6**		
BR131	**Keskin Array S**	**116.71**	**57**	PKIKP	**PKPdf**	**10 30 00.3**	**-0.6**		
BRTR	**Keskin Array B**	**116.71**	**57**	PKPdf	**PKPdf**	**10 30 00.7**	**-0.3**		
BRTR	**Keskin Array B**	**116.71**	**57**	PKP	**PKPdf**	**10 30 00.8**	**-0.1**		
	comp=Z,4.6nm,0.8s,baz=191,slow=2.3,SNR=27								
BRTR				PKKPab	**PKKPab**	**10 40 32.7**	**+1.7**		
	comp=Z,1.1nm,0.8s,baz=99,slow=3.9,SNR=6.7								
FINES	**FINESS Array B**	**116.79**	**32**	PKPdf	**PKPdf**	**10 29 60.0**	**-0.2**		
FINES	**FINESS Array B**	**116.79**	**32**	PKP	**PKiKP**	**10 30 00.3**	**+0.1**		
	comp=Z,2.9nm,1.0s,baz=343,slow=1.0,SNR=10								
FINES				PKKPbc	**PKKPbc**	**10 40 27.3**	**-1.3**		
	comp=Z,3.0nm,0.6s,baz=67,slow=3.9,SNR=15								
A19K	**Wainwright**	**116.90**	**338**	P	**PKiKP**	**10 30 00.4**	**+0.3**		
	baz=98								
B18K	**Kokolik River**	**117.03**	**337**	P	**PKiKP**	**10 30 00.9**	**+0.4**		
	baz=98								
K13K	**Kusilvak Mount**	**117.05**	**328**	P	**PKiKP**	**10 30 01.1**	**+0.4**		
	baz=99								
G15K	**Niukluk**	**117.25**	**332**	P	**PKiKP**	**10 30 01.6**	**+0.6**		
	baz=98								
D17K	**Noatak River**	**117.26**	**335**	P	**PKPdf**	**10 30 00.4**	**-0.5**		
	baz=98								
C17K	**DeLong Mountai**	**117.40**	**336**	P	**PKPdf**	**10 30 01.2**	**-0.1**		
	baz=97								
M11K	**Mekoryuk**	**117.54**	**326**	P	**PKiKP**	**10 30 02.1**	**+0.5**		
	baz=99								
F15K	**North Star Dit**	**117.61**	**332**		**PKiKP**	**10 30 01.9**	**+0.3**		
F15K	**North Star Dit**	**117.61**	**332**	P	**PKiKP**	**10 30 02.0**	**+0.3**		
	baz=97								
ARCES	**ARCESS Array B**	**117.72**	**23**	PKPdf	**PKiKP**	**10 30 02.2**	**+0.4**		
ARCES	**ARCESS Array B**	**117.72**	**23**	PKIKP	**PKiKP**	**10 30 02.3**	**+0.4**		
ARCES	**ARCESS Array B**	**117.72**	**23**	PKP	**PKPdf**	**10 30 01.4**	**-0.4**		
	comp=Z,1.1nm,0.6s,baz=264,slow=1.1,SNR=6.8								
ARCES				PKKPbc	**PKKPab**	**10 40 23.6**	**-1.2**		
	comp=Z,3.0nm,0.7s,baz=73,slow=4.2,SNR=17								
ANM	**Nome**	**117.76**	**331**	P	**PKiKP**	**10 30 02.5**	**+0.5**		
	baz=97								
C16K	**Lisburne Hills**	**118.17**	**335**	PKPdf	**PKiKP**	**10 30 02.7**	**0.0**		
C16K	**Lisburne Hills**	**118.17**	**335**	P	**PKiKP**	**10 30 03.4**	**+0.7**		
	baz=95								
F14K	**Arctic Creek**	**118.27**	**332**	P	**PKiKP**	**10 30 03.5**	**+0.5**		
	baz=96								
TNA	**Tin City**	**118.94**	**332**	PKPdf	**PKiKP**	**10 30 04.5**	**+0.2**		
TNA	**Tin City**	**118.94**	**332**	P	**PKiKP**	**10 30 04.4**	**+0.2**		
	baz=95								
OBN	**Obninsk**	**121.46**	**40**	*i* PKIKP	**PKPdf**	**10 30 08.2**	**-1.1**		
OBN				*i*		10 30 39.3			
OBN				pmax	pmax				
	comp=Z,17nm,1.1s								
SOC	**Sochi**	**122.00**	**54**	*i* PKIKP	**PKPdf**	**10 30 10.7**	**-0.1**		
SOC				*e*		10 31 46.3			
SOC				*e*PPP	PPP	10 34 22.7			
SOC				*e*PS	**PS**	**10 41 37.9**	**-4.0**		
SOC				*e*SS	SS	10 48 14.8	-2.3		
SOC				*e*SSS	SSS	10 52 54.4			
SOC				pmax	pmax				
	comp=Z,21nm,0.7s								
LPSR	**Galich'ya Gora**	**122.63**	**44**	*e*PKIKP	**PKPdf**	**10 30 10.9**	**-0.8**		
LPSR				pmax	pmax				
	comp=Z,20nm,0.7s								
VSR	**Storozhevoye**	**122.66**	**45**	*e*PKIKP	**PKPdf**	**10 30 10.3**	**-1.5**		
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VORD	**Divnogorie**	**122.71**	**45**	*e*PKIKP	**PKPdf**	**10 30 10.6**	**-1.3**		
VORD				pmax	pmax				
	comp=Z,6.0nm,0.8s								
VORR	**Voronezh**	**122.73**	**45**	*e*PKIKP	**PKPdf**	**10 30 10.4**	**-1.5**		
VORR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KLMR	**Klimovskoe**	**123.23**	**34**	*e*PKIKP	**PKPdf**	**10 30 12.0**	**-0.6**		
KLMR				*e*		10 30 43.2			
KLMR				pmax	pmax				
	comp=Z,41nm,1.2s								
ASAR	**Alice Springs**	**123.86**	**206**	PKP	**PKPdf**	**10 30 14.4**	**-0.7**		
	comp=Z,12nm,0.6s,baz=131,slow=1.7,SNR=142								
ASAR				pPKP	**pPKPdf**	**10 30 46.1**	**+0.6**		
	comp=Z,2.7nm,0.9s,baz=143,slow=1.7,SNR=3.0								
ASAR				PKKPbc	**PKKPbc**	**10 40 01.9**	**+0.2**		
	comp=Z,0.7nm,0.8s,baz=326,slow=2.7,SNR=7.0								
ASAR				SKKPbc	SKKPbc	10 43 35.4	-4.1		
	comp=Z,0.9nm,1.2s,baz=350,slow=4.7,SNR=5.1								
AS31	**Alice Springs**	**123.86**	**206**	PKPdf	**PKPdf**	**10 30 14.5**	**-0.6**		
KIV	**Kislovodsk**	**124.18**	**54**	*e*PKIKP	**PKiKP**	**10 30 15.7**	**+0.3**		
KIV				pmax	pmax				
	comp=Z,17nm,1.1s								
VRH	**Novokhopyorsk**	**124.26**	**45**	*e*PKIKP	**PKPdf**	**10 30 13.8**	**-1.0**		
VRH				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KBZ	**Khabaz**	**124.31**	**54**	PKP	**PKiKP**	**10 30 15.5**	**+0.1**		
	comp=Z,13nm,0.9s,baz=218,slow=5.4,SNR=14								
ONI	**Oni**	**124.55**	**56**	PKPdf	**PKPdf**	**10 30 15.8**	**0.0**		
ONI	**Oni**	**124.55**	**56**	PKIKP	**PKPdf**	**10 30 15.8**	**0.0**		
ZEI	**Tsey**	**124.90**	**56**	*i* PKIKP	**PKPdf**	**10 30 16.1**	**-0.6**		
ZEI				pmax	pmax				
	comp=Z,9.0nm,0.9s								
WR0	**Warramunga Arr**	**126.94**	**208**		**PKPdf**	**10 30 21.0**	**-0.1**		
WB2	**Warramunga Arr**	**127.03**	**208**	PKPdf	**PKPdf**	**10 30 20.8**	**-0.4**		
WRA	**Warramunga Arr**	**127.03**	**208**	PKP	**PKPdf**	**10 30 21.0**	**-0.3**		
	comp=Z,20nm,0.6s,baz=165,slow=1.6,SNR=79								
WRA				pPKP	**pPKPdf**	**10 30 52.2**	**+0.8**		
	comp=Z,2.8nm,0.6s,baz=172,slow=1.6,SNR=3.3								
WRAB	**Tennant Creek**	**127.04**	**208**		**PKPdf**	**10 30 21.1**	**-0.2**		
WRAB	**Tennant Creek**	**127.04**	**208**	PKIKP	**PKPdf**	**10 30 21.1**	**-0.2**		
WB0	**Warramunga Arr**	**127.17**	**208**	PKPdf	**PKPdf**	**10 30 20.5**	**-1.1**		
COEN	**Coen**	**127.71**	**221**	PKPdf	**PKPdf**	**10 30 22.0**	**-0.6**		
H11S2	**WAKE ISLAND Hyd**	**128.24**	**272**	T	T	12 51 28.9			
	baz=115,slow=74,SNR=17								
H11S1	**WAKE ISLAND Hyd**	**128.25**	**272**	T	T	12 51 26.6			
	baz=115,slow=74,SNR=9.5								
H11S3	**WAKE ISLAND Hyd**	**128.25**	**272**	T	T	12 51 30.0			
	baz=115,slow=74,SNR=9.3								
BILL	**Bilibino**	**128.63**	**337**	*i* PKIKP	**PKPdf**	**10 30 23.0**	**+0.2**		
PSA00	**Pilbara Seismi**	**129.76**	**191**		**PKPdf**	**10 30 25.3**	**-1.1**		
FITZ	**Fitzroy Crossi**	**131.80**	**199**	PKPdf	**PKPdf**	**10 30 29.9**	**-0.5**		
ARU	**Arti**	**133.68**	**37**	PKPdf	**PKiKP**	**10 30 33.8**	**-0.1**		
ARU	**Arti**	**133.68**	**37***c*	*i* PKIKP	**PKiKP**	**10 30 34.2**	**+0.3**		
ARU				pmax	pmax				
	comp=Z,33nm,1.7s								
AKTO	**Aktyubinsk**	**134.60**	**46**	PKIKP	**PKPdf**	**10 30 34.4**	**-0.2**		
GEYT	**Alibeck**	**135.23**	**63**	PKPdf	**PKPdf**	**10 30 35.6**	**-0.6**		
GEYT	**Alibeck**	**135.23**	**63**	PKP	**PKPdf**	**10 30 36.1**	**-0.1**		
	comp=Z,7.1nm,0.7s,baz=259,slow=1.5,SNR=12								
TIXI	**Tiksi**	**135.39**	**352**	*i* PKIKP	**PKPdf**	**10 30 35.2**	**-0.2**		
AB31	**Akbulak array**	**136.01**	**47**	*i* PKIKP	**PKPdf**	**10 30 36.3**	**-0.9**		
ABKAR	**Akbulak array**	**136.01**	**47**		**PKPdf**	**10 30 37.4**	**+0.1**		
ABKAR	**Akbulak array**	**136.01**	**47**		**PKPdf**	**10 30 37.6**	**+0.3**		
SEY	**Seymchan**	**136.10**	**334**	*i* PKIKP	**PKiKP**	**10 30 38.5**	**-0.1**		
SEY				pmax	pmax				
	comp=Z,26nm,0.6s								
NRIK	**Noril'sk**	**136.65**	**12**	PKP	**PKiKP**	**10 30 38.7**	**-0.9**		
	comp=Z,2.9nm,0.7s,baz=18,slow=2.3,SNR=6.4								
PEA0B	**Petropavlovsk-**	**137.68**	**319**		**PKPdf**	**10 30 40.5**	**+0.3**		
PEA0B	**Petropavlovsk-**	**137.68**	**319**	PKIKP	**PKPdf**	**10 30 40.5**	**+0.3**		
PETK	**Petropavlovsk-**	**137.68**	**319**	PKPdf	**PKPdf**	**10 30 40.5**	**+0.3**		
PETK	**Petropavlovsk-**	**137.68**	**319**	PKhKP	PKPpre	10 30 30.0			
	comp=Z,4.7nm,1.0s,baz=235,slow=10,SNR=4.8								
PETK				PKP	**PKiKP**	**10 30 41.1**	**-1.1**		
	comp=Z,26nm,0.9s,baz=91,slow=1.7,SNR=16								
MA2	**Magadan**	**138.55**	**330**	PKPdf	**PKPdf**	**10 30 42.3**	**+0.7**		
MA2	**Magadan**	**138.55**	**330***c*	*i* PKIKP	**PKiKP**	**10 30 43.1**	**-0.6**		
MA2				pmax	pmax				
	comp=Z,14nm,0.8s								
BRVK	**Borovoye**	**141.20**	**39**		**PKPdf**	**10 30 47.7**	**+1.1**		
BRVK	**Borovoye**	**141.20**	**39***c*	*i* PKIKP	**PKiKP**	**10 30 48.4**	**-1.0**		
BRVK				pmax	pmax				
	comp=Z,18nm,1.7s								
BVA0	**Borovoye Array**	**141.27**	**39**	*i* PKIKP	**PKPdf**	**10 30 47.5**	**+0.8**		
BVAR	**Borovoye Array**	**141.27**	**39**	PKhKP	PKPpre	10 30 41.9			
	comp=Z,1.0nm,0.5s,baz=338,slow=3.6,SNR=8.1								
BVAR				PKP	**PKPdf**	**10 30 47.8**	**+1.0**		
	comp=Z,9.0nm,0.8s,baz=322,slow=2.8,SNR=18								
FAKI	**Fak Fak**	**142.85**	**217**		**PKPdf**	**10 30 49.0**	**-1.8**		
BRZS	**Berezniki**	**143.78**	**43**	*e*PKP	**PKPdf**	**10 30 52.3**	**+1.0**		
	baz=43								
BRZS	**Berezniki**	**143.78**	**43**	*e*PKIKP	**PKPdf**	**10 30 52.3**	**+1.0**		
YAK	**Yakutsk**	**143.96**	**345***d*	*i* PKIKP	PKPbc	10 30 49.4	+0.1		
YAK				*e*		10 31 11.9			
YAK				*e*		10 34 04.6			
YAK				*e*		10 37 56.9			
YAK				pmax	pmax				
	comp=Z,187nm,0.9s								
YAK				pmax	pmax				
	comp=N,17nm,1.1s								
YAK				pmax	pmax				
	comp=E,14nm,1.1s								
YAK				pmax	pmax				
	comp=Z,106nm,4.4s								
YAK				pmax	pmax				
	comp=E,92nm,3.4s								
YAK				pmax	pmax				
	comp=N,100nm,4.1s								
KK31	**Karatay Array**	**144.34**	**54**	PKPdf	PKPbc	10 30 51.0	-0.1		
KK31	**Karatay Array**	**144.34**	**54**	PKIKP	PKPbc	10 30 51.0	-0.2		
KKAR	**Karatay Array**	**144.34**	**54**		PKPbc	10 30 51.0	-0.1		
KKAR	**Karatay Array**	**144.34**	**54**	PKPdf	**PKPab**	**10 30 50.6**	**-0.2**		
KKAR	**Karatay Array**	**144.34**	**54**	PKIKP	PKPbc	10 30 51.1	-0.1		
SMRI	**Semarang**	**144.94**	**179**		**PKPab**	**10 30 53.8**	**-0.1**		
DZA	**Taraz**	**144.97**	**55**	*e*PKP	**PKPdf**	**10 30 53.5**	**-0.2**		
	baz=55								
DZA	**Taraz**	**144.97**	**55**	*e*PKIKP	**PKPdf**	**10 30 53.5**	**-0.2**		
BTK	**Batken**	**145.06**	**60**		**PKPbc**	**10 30 53.5**	**-0.1**		
BTK	**Batken**	**145.06**	**60**	PKIKP	**PKPbc**	**10 30 53.5**	**-0.1**		
BTLS	**Baital**	**146.34**	**50**	*e*PKP	**PKPdf**	**10 30 56.4**	**+0.5**		
	baz=50								
BTLS				*i* PKPab	**PKPab**	**10 30 58.8**	**+0.5**		
	baz=50								
BTLS	**Baital**	**146.34**	**50**	*e*PKIKP	**PKPdf**	**10 30 56.3**	**+0.5**		
ARSB	**Arslanbob**	**146.49**	**57**		**PKPbc**	**10 30 57.9**	**-0.1**		
ARSB	**Arslanbob**	**146.49**	**57**	PKP2	**PKPbc**	**10 30 57.9**	**-0.1**		
EKS2	**Erkin-Say**	**146.78**	**54**	P	**PKPbc**	**10 30 58.5**	**-0.3**		
	SNR=18								
AML	**Almayashu**	**146.84**	**55**	P	**PKPbc**	**10 30 58.5**	**-0.9**		
	SNR=21								
KURBB	**Kurchatov Arra**	**146.86**	**39**	PKPbc	**PKPbc**	**10 30 57.5**	**-1.0**		
	comp=N,25nm,0.6s,baz=300,slow=3.3,SNR=89								
KURBB				pPKPbc	pPKPbc	10 31 29.3	+0.4		
	comp=N,11nm,0.8s,baz=301,slow=3.8,SNR=3.0								
KURK	**Kurchatov**	**146.86**	**38**	PKPdf	**PKPbc**	**10 30 57.9**	**-0.7**		
KURK	**Kurchatov**	**146.86**	**38**	PKIKP	**PKPbc**	**10 30 57.6**	**-0.9**		
KURK						10 31 29.3			
TYV	**Tymovskoe**	**147.07**	**322**	*e*PKIKP	**PKPbc**	**10 30 58.5**	**-0.6**		
TYV				pmax	pmax				
	comp=Z,300nm,4.2s								
TYV				pmax	pmax				
	comp=Z,54nm,1.2s								
USP	**Ospenovka**	**147.15**	**53**	P	**PKPbc**	**10 30 58.7**	**-1.0**		
	SNR=17								
SGDS	**Sogindy**	**147.19**	**53**	*e*PKP	**PKPdf**	**10 30 57.9**	**+0.4**		
	baz=53								
SGDS	**Sogindy**	**147.19**	**53**	*e*PKIKP	**PKPdf**	**10 30 57.8**	**+0.4**		
AAK	**Ala-Archa**	**147.30**	**54**	P	**PKPbc**	**10 30 59.3**	**-1.0**		
	SNR=26								
AAK	**Ala-Archa**	**147.30**	**54**		**PKPbc**	**10 30 59.2**	**-1.0**		
AAK	**Ala-Archa**	**147.30**	**54***c*	*i* PKP2	**PKPbc**	**10 30 59.6**	**-0.7**		
AAK				pmax	pmax				
	comp=Z,80nm,1.3s								
UCH	**Uchtor**	**147.41**	**55**	P	**PKPbc**	**10 31 00.5**	**-0.5**		
	SNR=28								
KBK	**Karagaybulak**	**147.62**	**54**	P	**PKiKP**	**10 31 02.6**	**-0.6**		
	SNR=18								
SEM	**Semipalatinsk**	**147.91**	**38**	*e*PKP	**PKPdf**	**10 30 58.8**	**+0.1**		
	baz=38								
SEM	**Semipalatinsk**	**147.91**	**38**	*e*PKIKP	**PKPdf**	**10 30 58.7**	**+0.1**		
ZAA0	**Zalesovo Array**	**147.98**	**29**	PKPdf	**PKPdf**	**10 30 58.8**	**+0.5**		
ZAA0				PKPbc	**PKPbc**	**10 31 02.1**	**+0.6**		
ZALV	**Zalesovo Beam**	**147.98**	**29**	PKPdf	**PKPdf**	**10 30 58.7**	**+0.4**		
ZALV				PKPbc	**PKPbc**	**10 31 02.1**	**+0.6**		
ZALV	**Zalesovo Beam**	**147.98**	**29**	PKP	**PKPdf**	**10 30 58.8**	**+0.5**		
	comp=Z,92nm,0.8s,baz=288,slow=3.0,SNR=71								
ZALV				PKPbc	**PKPbc**	**10 31 01.9**	**+0.4**		
	comp=Z,93nm,0.8s,baz=304,slow=3.2,SNR=112								
TKM2	**Tokmak 2**	**148.01**	**53**	P	**PKiKP**	**10 31 03.2**	**-0.8**		
	SNR=13								
TKM2	**Tokmak 2**	**148.01**	**53**	PKIKP	**PKPdf**	**10 31 00.1**	**+1.1**		
HYB	**Hyderabad**	**148.40**	**103**	*e*PKPbc	**PKPbc**	**10 31 03.1**	**-0.6**		
TNTI	**Ternate**	**148.49**	**213**	PKP	**PKPdf**	**10 31 01.6**	**+1.2**		
KRJI	**Kerinci**	**148.54**	**162**	PKP	**PKPbc**	**10 31 03.8**	**-0.5**		
KRJI				PKP	**PKiKP**	**10 31 04.6**	**-1.2**		
ULHL	**Ulahol**	**148.65**	**54**	P	**PKiKP**	**10 31 05.3**	**0.0**		
	SNR=14								
CHKK	**Chushkaly**	**148.71**	**51**	*e*PKP	**PKPdf**	**10 31 00.1**	**+0.2**		
	baz=51								
CHKK	**Chushkaly**	**148.71**	**51**	*e*PKIKP	**PKPdf**	**10 31 00.0**	**+0.2**		
LUWI	**Luwuk**	**148.76**	**203**	PKP	**PKPbc**	**10 31 04.6**	**-0.2**		
AAA	**Alma-Ata**	**148.86**	**52**	*e*PKPbc	**PKPbc**	**10 31 04.6**	**+0.3**		
	baz=52								
AAA	**Alma-Ata**	**148.86**	**52**	*e*PKP2	**PKPbc**	**10 31 04.5**	**+0.3**		
YSS	**Yuzh-Sakhalins**	**148.88**	**316**	*e*PKP2	**PKiKP**	**10 31 04.6**	**-0.7**		
YSS				pmax	pmax				
	comp=Z,100nm,0.9s								
TNSS	**Tian-Shan**	**148.93**	**53**	*e*PKP	**PKPdf**	**10 31 00.3**	**-0.5**		
	baz=52								
TNSS				*e*PKPbc	**PKPbc**	**10 31 05.4**	**+0.5**		
	baz=52								
TNSS	**Tian-Shan**	**148.93**	**53**	*e*PKIKP	**PKPdf**	**10 31 00.3**	**-0.5**		
MDOK	**Medeo**	**148.96**	**52**	*e*PKP	**PKPdf**	**10 31 00.5**	**0.0**		
	baz=52								
MDOK	**Medeo**	**148.96**	**52**	*e*PKIKP	**PKPdf**	**10 31 00.5**	**0.0**		
KSH	**Kashi**	**149.07**	**59**	PKPbc	**PKPdf**	**10 31 01.0**	**+0.3**		
KSH				sPKP		10 31 36.5			
TDK	**Taldyqorghan**	**149.26**	**48**	*e*PKP	**PKPdf**	**10 31 00.7**	**-0.1**		
	baz=48								
TDK	**Taldyqorghan**	**149.26**	**48**	*e*PKHKP	PKPpre	10 31 00.6			
PDSI	**Padang**	**149.36**	**159**	PKP	**PKPbc**	**10 31 04.6**	**-1.7**		
PBSI	**Pulau Batu**	**149.40**	**155**	PKP	**PKPdf**	**10 31 03.8**	**+1.9**		
PPBI	**Pangkal Pinang**	**149.46**	**178**	PKP	**PKPbc**	**10 31 04.2**	**-2.3**		
KMSI	**Cibinong**	**149.80**	**207**	PKP	**PKPbc**	**10 31 05.4**	**-1.9**		
TARG	**Taragay, Kyrgy**	**149.91**	**55**	PKPdf	**PKPdf**	**10 31 03.6**	**+1.2**		
TARG				PKPbc	**PKiKP**	**10 31 08.6**	**+0.3**		
TARG				PKPab	**PKPab**	**10 31 13.9**	**+0.6**		
TARG	**Taragay, Kyrgy**	**149.91**	**55**	PKP2	**PKPab**	**10 31 13.9**	**+0.6**		
ZHN	**Zhinishke**	**149.93**	**52**	*e*PKP	**PKPdf**	**10 31 02.0**	**0.0**		
	baz=52								
ZHN				*e*PKPbc	**PKPbc**	**10 31 07.2**	**+0.3**		
	baz=52								
ZHN	**Zhinishke**	**149.93**	**52**	*e*PKHKP	PKPpre	10 31 02.0			
SATY	**Saty**	**149.94**	**52**	*e*PKP	**PKPdf**	**10 31 02.4**	**+0.4**		
	baz=52								
SATY				*e*PKPbc	**PKPbc**	**10 31 07.2**	**+0.2**		
	baz=52								
SATY	**Saty**	**149.94**	**52**	*e*PKHKP	PKPpre	10 31 02.4			
KPKS	**Kokpek**	**150.00**	**51**	*e*PKP	**PKPdf**	**10 31 02.5**	**+0.4**		
	baz=51								
KPKS				*e*PKPbc	**PKiKP**	**10 31 07.8**	**-0.1**		
	baz=51								
KPKS	**Kokpek**	**150.00**	**51**	*e*PKHKP	PKPpre	10 31 02.4			
JKA	**Kamikawa-asahi**	**150.11**	**311**	PKPdf	**PKPdf**	**10 31 02.3**	**+0.2**		
JKA				PKPbc	**PKiKP**	**10 31 08.1**	**+0.1**		
ASAJ	**Asahikawa**	**150.12**	**311**	PKIKP	**PKiKP**	**10 31 08.1**	**+0.1**		
BKB	**Balikpapan**	**150.14**	**192**	PKP	**PKiKP**	**10 31 10.0**	**+1.0**		
BOD	**Bodaibo**	**150.32**	**357**	*e*PKIKP	**PKPbc**	**10 31 07.0**	**-0.2**		
BOD				pmax	pmax				
	comp=Z,75nm,0.9s								
UZB	**Uzynbulak**	**150.34**	**51**	*e*PKP	**PKPdf**	**10 31 03.2**	**+0.5**		
	baz=51								
UZB				*e*PKPbc	**PKPbc**	**10 31 08.3**	**+0.3**		
	baz=51								
UZB	**Uzynbulak**	**150.34**	**51**	*e*PKIKP	**PKPdf**	**10 31 03.1**	**+0.5**		
GRNR	**Gornyy**	**150.34**	**326**	*i* PKIKP	**PKiKP**	**10 31 08.5**	**+0.2**		
GRNR				pmax	pmax				
	comp=Z,60nm,1.0s								
GSI	**Gununguitoli**	**150.37**	**152**	PKP	**PKPdf**	**10 31 06.0**	**+2.6**		
MRSI	**Marisa**	**150.46**	**203**	PKP	**PKiKP**	**10 31 10.2**	**+0.5**		
SHLS	**Shalkode**	**150.64**	**51**	*e*PKP	**PKPdf**	**10 31 03.9**	**+0.7**		
	baz=51								
SHLS				*e*PKPbc	**PKiKP**	**10 31 10.1**	**+0.8**		
	baz=51								
SHLS	**Shalkode**	**150.64**	**51**	*e*PKIKP	**PKPdf**	**10 31 03.8**	**+0.7**		
MK31	**Makanchi Array**	**150.93**	**43**	*i* PKIKP	**PKPdf**	**10 31 03.6**	**+0.3**		
MKAR	**Makanchi Array**	**150.93**	**43**	PKP	**PKPdf**	**10 31 03.6**	**+0.3**		
	comp=Z,2.4nm,0.7s,baz=334,slow=0.7,SNR=31								
MKAR				PKPbc	**PKiKP**	**10 31 09.5**	**-0.2**		
	comp=Z,111nm,0.8s,baz=293,slow=2.1,SNR=371								
MKAR				pPKPbc	**pPKPbc**	**10 31 40.5**	**+1.1**		
	comp=Z,13nm,0.6s,baz=287,slow=2.3,SNR=3.3								
MKAR				PP	**PP**	**10 34 45.0**	**-2.4**		
	comp=Z,1.2nm,0.8s,baz=314,slow=3.8,SNR=3.0								
ZEA	**Zeya**	**151.81**	**339**	*e*PKIKP	**PKPdf**	**10 31 04.6**	**+0.3**		
ZEA				pmax	pmax				
	comp=Z,20nm,0.8s								
ZSN	**Zaisan**	**152.08**	**39**	*e*PKP	**PKPdf**	**10 31 04.9**	**-0.2**		
	baz=40								
ZSN	**Zaisan**	**152.08**	**39**	*e*PKIKP	**PKPdf**	**10 31 04.8**	**-0.2**		
HEH	**HeiHe**	**154.65**	**335**	*e*PKPbc	**PKPdf**	**10 31 08.3**	**-0.2**		
HEH				AMB	AMB				
	comp=Z,190nm,4.1s								
KULM	**Kulim**	**155.21**	**155**	PKPdf	**PKPdf**	**10 31 10.3**	**-0.2**		
KULM				PKPbc	PKPbc	10 31 18.7			
KULM				PKPab	**PKPab**	**10 31 35.6**	**0.0**		
MOY	**Mondy**	**155.42**	**15**	*e*PKIKP	**PKPdf**	**10 31 11.6**	**+1.9**		
MOY				pmax	pmax				
	comp=Z,30nm,3.0s								
MJAR	**Matsushiro Arr**	**155.54**	**297**	PKP	**PKPdf**	**10 31 09.9**	**-0.4**		
	comp=Z,5.5nm,0.8s,baz=123,slow=1.4,SNR=14								
MJAR				PKPbc	PKPbc	10 31 19.6			
	comp=Z,3.3nm,0.7s,baz=121,slow=2.0,SNR=6.0								
MJAR				PKPab	**PKPab**	**10 31 37.7**	**+1.0**		
	comp=Z,13nm,0.9s,baz=100,slow=2.3,SNR=10								
MAJO	**Matsushiro**	**155.54**	**297**	PKPdf	**PKPdf**	**10 31 09.5**

W35A	Tecumseh	2.01 144		Pn	10 19 28.9 -0.9
WMOK	Wichita Mounta	2.08 190	Pn	Pn	10 19 31.1 +0.3
X34A	Smith Ranch, M	2.22 169	IAmb_Lg		10 20 08.6
	comp=Z,20nm,0.7s				
TUL3	Leonard	2.23 112	IAmb_Lg		10 20 05.7
	comp=Z,10nm,0.8s				
AMTX	Amarillo	3.32 236	IAmb_Lg		10 20 49.0
	comp=Z,8.0nm,0.9s				
S39A	Bolivar	4.09 76	IAmb_Lg		10 21 05.3
	comp=Z,6.2nm,0.9s				
OGNE	Ogallala	5.06 326	IAmb_Lg		10 21 36.7
	comp=Z,12nm,0.8s				
P40A	Paris	5.66 59	IAmb_Lg		10 21 56.6
	comp=Z,8.5nm,0.7s				
Z41A	Richland Creek	5.74 126	IAmb_Lg		10 22 04.5
	comp=Z,12nm,0.7s				
LCAR	Lake Charles	5.83 95	IAmb_Lg		10 22 15.1
	comp=Z,27nm,1.2s				
NATX	Nacogdoches	5.86 148	IAmb_Lg		10 21 58.7
	comp=Z,28nm,1.1s				
435B	Jarrell	6.02 174	IAmb_Lg		10 22 06.7
	comp=Z,11nm,0.9s				
JCT	Junction City	6.41 191	IAmb_Lg		10 22 31.1
	comp=Z,15nm,0.8s				
ANMO	Albuquerque	6.85 257	IAmb_Lg		10 22 47.4
	comp=Z,15nm,1.2s				
N41A	Harden Midland	7.03 54	IAmb_Lg		10 22 42.6
	comp=Z,16nm,0.7s				
Y22D	IRIS PASSCAL I	7.52 251	IAmb_Lg		10 22 48.7
	comp=Z,13nm,0.7s				
Q44A	Meyer Farm, Va	7.66 71	IAmb_Lg		10 23 10.9
	comp=Z,13nm,1.1s				
I37A	Lemond, Waseca	8.14 26	IAmb_Lg		10 23 14.6
	comp=Z,16nm,0.9s				
O20A	White River Ci	8.46 296	IAmb_Lg		10 23 24.9
	comp=Z,15nm,0.9s				
K22A	Casper	8.61 315	IAmb_Lg		10 23 24.3
	comp=Z,16nm,0.8s				
SPMN	Marine on St.	9.40 25	IAmb_Lg		10 23 56.0
	comp=Z,9.0nm,1.0s				
E28A	Huff	9.94 351	IAmb_Lg		10 24 19.9
	comp=Z,14nm,0.9s				

ASIES ***28*** *10:58:45.1,24.21N×120.90E,h32km,ML3.9,Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.76; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-1.34; $M_{r\theta}$-0.47; $M_{\theta\phi}$-0.50; $M_{\phi r}$-0.23; Fault plane solution: $M_0$1.74822×10^{21} NP1: ϕ_s213.35000°,δ52.52000°,λ101.45000°. NP2: ϕ_s14.94000°,δ38.94000°,λ75.49000°. Principal axes: T Plg78.5900°, Azm168.5190°; N Plg9.0600°, Azm26.3210°; P Plg6.8770°, Azm295.2190°;*

TAP 28 10:58:45.1,24.21N×120.90E,h32km,ML3.9,15C-33D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WHP	**Taichung City**	**0.08**	**33**	⇑	*i*	P	Pb	10 58 50.9	+0.1
WHP	baz=33				*i*	S	Sb	10 58 54.8	+0.2
WCS	**Beigang Elemen**	**0.15**	**175**	⇑	*i*	P	Pn	10 58 51.5	+0.2
WCS	baz=167				*i*	S	Sb	10 58 55.7	+0.5
DPDB	**Guoxing**	**0.18**	**171**	⇓	*i*	P	Pn	10 58 51.8	+0.1
DPDB	baz=164					S	Sb	10 58 56.2	+0.4
TWQ1	**Liyutan**	**0.18**	**321**	⇑	*i*	P	Pn	10 58 51.5	-0.1
TWQ1	baz=322				*i*	S	Sn	10 58 56.2	+0.6
WPL	**Puli Township**	**0.20**	**164**	⇓	*i*	P	Pn	10 58 52.0	0.0
WPL	baz=164					S	Sn	10 58 56.3	0.0
TCU	**Taichung**	**0.21**	**253**	⇓		P	Pn	10 58 52.2	+0.1
TCU	baz=252					S	Sn	10 58 57.3	+0.9
NSY	**Sanyi**	**0.24**	**329**	⇑		P	Pn	10 58 52.3	-0.2
TDCB	**Techi**	**0.24**	**80**	⇓	*i*	P	Pn	10 58 52.4	-0.2
TDCB	baz=74				*i*	S	Sb	10 58 56.8	-0.3
WWF	**Wufeng**	**0.25**	**228**			P	Pn	10 58 52.5	0.0
WWF	baz=228				*e*	S	Sn	10 58 58.2	+0.9
TWT	**Tachien**	**0.26**	**80**	⇓	*i*	P	Pb	10 58 52.5	+0.1
TWT	baz=75				*i*	S	Sb	10 58 57.2	-0.2
WDJ	**Dajia District**	**0.27**	**301**	⇓	*i*	P	Pn	10 58 52.8	-0.1
WDJ	baz=306				*i*	S	Sn	10 58 58.7	+0.7
CHGB	**Renai**	**0.29**	**120**	⇓	*i*	P	Pn	10 58 53.4	0.0
CHGB	baz=120				*i*	S	Sn	10 58 58.9	+0.1
WUSB	**Renai**	**0.29**	**137**	⇓	*i*	P	Pn	10 58 53.4	0.0
WUSB	baz=132				*i*	S	Sn	10 58 58.8	+0.1
TYC	**Yuchr**	**0.31**	**187**	⇓	*i*	P	Pn	10 58 53.3	-0.1
TYC	baz=180					S	Sn	10 58 59.1	+0.4
FUSS	**Fushou**	**0.32**	**83**	⇓		P	Pb	10 58 53.4	+0.2
FUSS	baz=78					S	Sb	10 58 59.0	+0.2
SMLT	**Sun Moon Lake**	**0.33**	**180**	⇓	*i*	P	Pn	10 58 53.6	-0.1
SMLT	baz=178				*i*	S	Sn	10 58 59.8	+0.4
WCHH	**Zhanghua**	**0.34**	**247**	⇓		P	Pn	10 58 53.6	-0.2
WCHH	baz=243					S	Sn	10 59 00.3	+0.8
NMLH	**Miaoli**	**0.34**	**344**	⇓	*i*	P	Pn	10 58 53.7	-0.2
NMLH	baz=343				*i*	S	Sn	10 58 59.9	+0.2
WHF	**Hehuan Shan**	**0.34**	**101**	⇓	*i*	P	Pn	10 58 54.4	+0.1
WHF	baz=100				*i*	S	Sn	10 59 00.6	+0.4
OWD	**Renai**	**0.36**	**135**	⇓	*i*	P	Pn	10 58 54.3	+0.1
OWD	baz=130				*e*	S	Sn	10 59 00.3	0.0
WNT1	**Nantou City**	**0.36**	**213**			P	Pn	10 58 54.1	0.0
WNT1	baz=214					S	Sn	10 59 00.5	+0.4
WYL	**Yuanlin Townsh**	**0.38**	**230**		*i*	P	Pn	10 58 54.3	-0.1
WYL	baz=230				*i*	S	Sn	10 59 01.4	+0.7
WNT	**Mingjian**	**0.38**	**211**			P	Pn	10 58 54.3	-0.1
WNT	baz=210					S	Sn	10 59 01.1	+0.5
WJS	**Zhushan**	**0.41**	**202**	⇑		P	Pn	10 58 54.8	-0.1
WJS	baz=210				*i*	S	Sn	10 59 02.0	+0.5
SSLB	**Suanglung**	**0.42**	**173**	⇓	*i*	P	Pb	10 58 54.5	0.0
SSLB	baz=173				*i*	S	Sb	10 59 01.1	+0.2
NSTT	**Nanjuang**	**0.43**	**13**			P	Pb	10 58 54.6	0.0
NSTT	baz=14					S	Sb	10 59 01.0	-0.1
LIOB	**Emei**	**0.45**	**14**	⇓		P	Pb	10 58 55.0	+0.1
LIOB	baz=14				*e*	S	Sb	10 59 01.9	+0.3
NFF	**Wufeng Townshi**	**0.47**	**25**		*e*	P	Pb	10 58 55.1	-0.1
NFF	baz=25					S	Sb	10 59 01.6	-0.5
NJN	**Zhunan**	**0.47**	**357**		*e*	P	Pb	10 58 55.1	-0.1
NJN	baz=357				*e*	S	Sn	10 59 02.8	-0.1
NNS	**Nan Shan**	**0.49**	**62**	⇓	*i*	P	Pb	10 58 55.5	-0.1
NNS	baz=57					S	Sb	10 59 02.4	-0.5
NNSB	**Datong**	**0.49**	**64**			P	Pb	10 58 55.3	-0.3
NNSB	baz=60				*e*	S	Sb	10 59 02.1	-0.8
NNSH	**Datong**	**0.49**	**64**		*e*	P	Pb	10 58 54.9	-0.7
VWDT	**VWDT**	**0.51**	**154**	⇓	*i*	P	Pn	10 58 56.4	+0.3
VWDT	baz=154				*i*	S	Sn	10 59 04.1	+0.4
LXIB	**Xiulin Townshi**	**0.51**	**112**	⇓	*i*	P	Pb	10 58 56.0	+0.1
LXIB	baz=114				*i*	S	Sn	10 59 04.0	0.0
WHYT	**Xinyi Township**	**0.51**	**184**	⇓	*e*	P	Pn	10 58 56.3	0.0
WHYT	baz=185				*i*	S	Sn	10 59 04.2	+0.3
ETLH	**Xiulin Townshi**	**0.53**	**90**	⇓		P	Pb	10 58 56.4	+0.1
ETLH	baz=87					S	Sb	10 59 04.2	+0.2
NJD	**Zhudong**	**0.55**	**18**		*e*	P	Pb	10 58 56.5	-0.1
WRL	**Guolierlin Hig**	**0.56**	**237**		*e*	P	Pb	10 58 56.7	0.0
WRL	baz=238					S	Sn	10 59 05.5	+0.3
HSN1	**Hsinchu**	**0.58**	**11**		*e*	P	Pb	10 58 56.6	-0.3
RLNB	**Erlin**	**0.58**	**237**			P	Pb	10 58 56.9	-0.1
RLNB	baz=238					S	Sn	10 59 05.8	+0.1
SBCB	**Hsinchu**	**0.59**	**8**		*e*	P	Pb	10 58 56.9	-0.2
HSN	**Hsinchu**	**0.59**	**6**		*e*	P	Pb	10 58 56.5	-0.7
ETM	**Tongmen**	**0.60**	**114**	⇓	*i*	P	Pb	10 58 57.1	-0.1
ETM	baz=114					S	Sb	10 59 05.7	+0.2
WGK	**Gukeng**	**0.60**	**211**	⇑	*i*	P	Pn	10 58 57.6	+0.1
WGK	baz=210				*i*	S	Sn	10 59 07.1	+0.9
WDLH	**Douliu**	**0.61**	**212**		*e*	P	Pn	10 58 57.6	0.0
WDLH	baz=213				*e*	S	Sn	10 59 07.3	+1.0
NSK	**Sanguang**	**0.63**	**42**	⇓	*e*	P	Pb	10 58 57.2	-0.6
NSK	baz=42					S	Sb	10 59 05.5	-0.9
ESL	**Shilin**	**0.63**	**129**	⇓	*i*	P	Pn	10 58 58.1	+0.2
ESL	baz=119				*e*	S	Sn	10 59 07.0	+0.2
YHNB	**Yeheng**	**0.63**	**43**	⇓	*i*	P	Pb	10 58 57.8	0.0
YHNB	baz=36					S	Sb	10 59 06.2	-0.4
NACB	**Ninganchiao**	**0.64**	**93**	⇓	*i*	P	Pb	10 58 57.7	-0.2
NACB	baz=93				*i*	S	Sb	10 59 06.2	-0.4
CHN5	**Tsauling**	**0.64**	**198**	⇑	*i*	P	Pb	10 58 58.0	0.0
CHN5	baz=199				*i*	S	Sn	10 59 07.6	+0.4
TWD	**Chiawan**	**0.65**	**101**	⇓		P	Pb	10 58 58.0	-0.1
TWD	baz=101				*e*	S	Sb	10 59 06.7	-0.3
LATG	**Datong**	**0.66**	**60**	⇓	*i*	P	Pb	10 58 58.1	-0.2
LATG	baz=54					S	Sb	10 59 06.9	-0.4
WTCT	**Ta-ch'eng**	**0.66**	**239**		*e*	P	Pn	10 58 57.8	-0.4
WTCT	baz=239				*e*	S	Sn	10 59 07.4	-0.1
WARBT	**Fenglin Townsh**	**0.66**	**137**	⇓	*i*	P	Pb	10 58 58.5	+0.2
WARBT	baz=131					S	Sb	10 59 07.2	-0.1
ETL	**Fush Village**	**0.67**	**94**	⇑		P	Pn	10 58 58.2	-0.1
ETL	baz=94					S	Sb	10 59 07.4	0.0
NDT	**Datong Townshi**	**0.69**	**55**	⇓		P	Pn	10 58 58.4	-0.2
NDT	baz=48				*e*	S	Sb	10 59 07.0	-0.9
HWA	**Hwalien**	**0.69**	**110**		*e*	P	Pb	10 58 59.1	+0.4
HWA	baz=101				*e*	S	Sn	10 59 08.6	+0.4
WTK	**Tuku**	**0.70**	**222**			P	Pn	10 58 58.6	-0.1
WTK	baz=222				*e*	S	Sn	10 59 09.5	+1.1
ALS	**Alishan**	**0.70**	**187**	⇑	*i*	P	Pb	10 58 59.2	+0.1
ALS	baz=194				*i*	S	Sn	10 59 09.7	+0.8
EGFH	**Guangfu**	**0.72**	**138**		*e*	P	Pb	10 58 59.5	+0.1
EGFH	baz=133				*e*	S	Sn	10 59 09.6	+0.5
WMLT	**Mailiao**	**0.74**	**237**		*e*	P	Pn	10 58 58.8	-0.5
SHUL	**Shoufeng**	**0.74**	**124**		*e*	P	Pb	10 59 00.1	+0.6
SHUL	baz=124					S	Sn	10 59 10.4	+0.9
ENTT	**Nioudou**	**0.75**	**55**			P	Pn	10 58 59.6	+0.1
ENTT	baz=49				*e*	S	Sb	10 59 08.6	-1.0
TEGC	**Jichi Village**	**0.77**	**130**		*e*	P	Pb	10 59 00.8	+0.7
CHN2	**Minshiung**	**0.78**	**210**			P	Pb	10 59 00.1	-0.1
CHN2	baz=210					S	Sb	10 59 11.7	+1.2
EHP	**Heping Village**	**0.78**	**82**		*e*	P	Pn	10 58 59.8	-0.1
EAHA	**Aohua**	**0.78**	**81**		*e*	P	Pb	10 59 00.1	-0.1
EAHA	baz=80				*e*	S	Sb	10 59 11.0	+0.5
NWLT	**Wulai**	**0.79**	**44**		*e*	P	Pn	10 58 59.8	-0.3
NWLT	baz=36				*e*	S	Sn	10 59 10.4	-0.4
ENA	**Nanau**	**0.80**	**74**		*e*	P	Pb	10 59 00.5	-0.1
ENA	baz=84				*e*	S	Sn	10 59 10.9	-0.1
NCUH	**Zhongli**	**0.80**	**19**		*e*	P	Pn	10 58 59.9	-0.3
EHY	**Hungye**	**0.80**	**151**	⇓	*i*	P	Pb	10 59 01.0	+0.3
EHY	baz=151					S	Sb	10 59 11.6	+0.4
NCU	**National Centr**	**0.80**	**19**		*e*	P	Pb	10 59 00.5	-0.2
NHW	**Xinwu Township**	**0.81**	**10**		*e*	P	Pn	10 58 60.0	-0.3
WCKO	**Fanlu**	**0.81**	**199**			P	Pn	10 59 00.5	+0.2
WCKO	baz=208					S	Sb	10 59 12.4	+0.9
CHY	**Chiayi**	**0.83**	**212**		*e*	P	Pn	10 59 00.5	-0.1
FUSB	**Fushanzhiwuyua**	**0.83**	**49**		*e*	P	Pn	10 59 01.0	+0.2
FUSB	baz=48					S	Sn	10 59 11.2	-0.8
EWUT	**Wuta**	**0.84**	**74**		*e*	P	Pb	10 59 01.2	0.0
EWUT	baz=83				*e*	S	Sb	10 59 12.1	-0.1
WSF	**Szhu**	**0.84**	**228**			P	Pn	10 59 00.5	-0.2
WSF	baz=228					S	Sb	10 59 12.4	+0.2
NDS	**Dongshan**	**0.86**	**60**		*e*	P	Pb	10 59 01.5	-0.1
NDS	baz=60				*e*	S	Sb	10 59 13.2	+0.5
HGSD	**Ruisui**	**0.86**	**146**	⇓	*i*	P	Pb	10 59 02.2	+0.6
HGSD	baz=153					S	Sb	10 59 14.0	+1.2
TWE	**Neicheng**	**0.87**	**54**		*i*	P	Pb	10 59 01.9	+0.2
TWE	baz=54				*e*	S	Sb	10 59 13.8	+0.8
YULB	**Yu-li**	**0.89**	**156**	⇑		P	Pb	10 59 02.1	-0.1
YULB	baz=156				*i*	S	Sb	10 59 14.0	+0.2
CHN4	**Tsaushan**	**0.90**	**198**	⇑	*i*	P	Pb	10 59 02.0	-0.3
CHN4	baz=207				*e*	S	Sb	10 59 14.0	+0.1
WSL	**Shuilin Townsh**	**0.92**	**222**		*e*	P	Pn	10 59 01.9	+0.1
TWF1	**Yuli**	**0.93**	**157**	⇑	*i*	P	Pb	10 59 03.0	+0.2
TWF1	baz=156				*i*	S	Sb	10 59 15.6	+0.8
TATO	**Taipei**	**0.93**	**35**			P	Pn	10 59 02.4	+0.4
TATO	baz=34				*e*	S	Sn	10 59 14.4	+0.1
ESAO	**Su ao**	**0.94**	**67**		*e*	P	Pb	10 59 02.6	-0.3
ESAO	baz=75				*e*	S	Sb	10 59 14.7	-0.3
TPUB	**Ta-pu**	**0.94**	**195**	⇑	*i*	P	Pn	10 59 02.4	+0.3
TPUB	baz=205				*e*	S	Sb	10 59 15.5	+0.4
EYUL	**Yuli**	**0.94**	**156**		*e*	P	Pb	10 59 03.0	0.0
EYUL	baz=156				*e*	S	Sb	10 59 15.9	+0.8
NHDH	**Xindian Distri**	**0.94**	**37**		*e*	P	Pb	10 59 03.1	+0.1
TWC	**Suao**	**0.95**	**65**		*e*	P	Pb	10 59 03.3	+0.1
TWC	baz=62					S	Sb	10 59 15.8	+0.2
WTP	**Ta-pu**	**0.99**	**195**	⇑	*i*	P	Pn	10 59 03.0	+0.2
WTP	baz=204				*e*	S	Sb	10 59 16.9	+0.3
TWS1	**Kuangyinshan**	**1.01**	**28**		*e*	P	Pn	10 59 02.8	-0.2
TWS1	baz=26				*e*	S	Sn	10 59 15.8	-0.2
TWK	**Hsinying**	**1.01**	**202**			P	Pn	10 59 03.4	+0.3
TWK	baz=214				*e*	S	Sb	10 59 17.4	+0.3
ICHU	**Yijhu**	**1.02**	**214**		*e*	P	Pn	10 59 03.4	+0.3
ICHU	baz=215				*e*	S	Sb	10 59 17.9	+0.7
ELDTW	**Lidau**	**1.02**	**174**		*e*	P	Pn	10 59 03.7	+0.3
ELDTW	baz=174				*e*	S	Sb	10 59 17.4	-0.1
ECBN	**Changbin**	**1.02**	**150**		*e*	P	Pb	10 59 04.9	+0.5
ECBN	baz=150				*e*	S	Sb	10 59 18.7	+1.3
STYH	**Taoyuan**	**1.04**	**186**		*e*	P	Pb	10 59 04.1	-0.5
STYH	baz=186				*e*	S	Sb	10 59 17.6	-0.3
STYT	**Tauyuan**	**1.05**	**187**	⇑		P	Pb	10 59 04.3	-0.5
STYT	baz=187				*e*	S	Sb	10 59 18.1	-0.2
SNST	**Tainan City**	**1.05**	**200**		*e*	P	Pn	10 59 04.1	+0.5
SNST	baz=214				*e*	S	Sb	10 59 18.8	+0.6
CHN8	**Yiju**	**1.06**	**216**		*e*	P	Pn	10 59 04.0	+0.2
CHN8	baz=217				*e*	S	Sb	10 59 19.0	+0.4
FULB	**Fuli**	**1.07**	**160**			P	Pb	10 59 05.8	+0.7
FULB	baz=160				*e*	S	Sb	10 59 20.9	+2.1
CHN1	**Nanshi**	**1.07**	**198**		*e*	P	Pn	10 59 04.2	+0.3
CHN1	baz=211				*e*	S	Sb	10 59 18.7	-0.3
EHD	**Haiduan**	**1.09**	**165**		*e*	P	Pb	10 59 05.3	-0.3
EHD	baz=172				*e*	S	Sb	10 59 19.6	+0.1
CHKH	**Chenggong**	**1.11**	**156**		*e*	P	Pb	10 59 05.7	-0.1
CHKH	baz=144				*e*	S	Sb	10 59 20.6	+0.6
ANP	**Anpu**	**1.13**	**30**		*e*	P	Pn	10 59 05.2	+0.4
TIPB	**Shuangxi**	**1.14**	**48**		*e*	P	Pn	10 59 05.5	+0.7
ECS	**Chishang**	**1.15**	**165**		*e*	P	Pn	10 59 05.5	+0.5
ECS	baz=172				*e*	S	Sb	10 59 22.1	+1.1
SGST	**Jiashian**	**1.16**	**194**		*e*	P	Pn	10 59 04.9	-0.3
SGST	baz=207				*e*	S	Sn	10 59 20.5	+0.7
YM08	**YM08**	**1.16**	**33**		*e*	P	Pn	10 59 05.3	+0.1
NWF	**Wu-fen Shan**	**1.18**	**43**		*e*	P	Pb	10 59 07.4	+0.4
WFSB	**Wu-fen Shan**	**1.18**	**43**		*e*	P	Pb	10 59 08.6	+1.7
CHKT	**Chengkung**	**1.19**	**159**		*e*	P	Pb	10 59 06.5	-0.5
CHKT	baz=145				*e*	S	Sb	10 59 22.7	+0.6
SSHA	**Shanhua**	**1.21**	**208**		*e*	P	Pn	10 59 06.0	+0.2
SCLT	**Jiali**	**1.21**	**212**		*e*	P	Pb	10 59 07.1	-0.4
SLGT	**Liugui**	**1.23**	**191**		*e*	P	Pn	10 59 06.7	+0.5
EOS2	**EOS2**	**1.24**	**80**		*e*	P	Pb	10 59 08.4	+0.6
SXI1	**Grass Mountain**	**1.25**	**45**		*e*	P	Pb	10 59 07.8	-0.5
TWB1	**Santiao Chiao**	**1.27**	**51**		*e*	P	Pn	10 59 06.4	-0.3
SHHT	**Tainan City**	**1.28**	**203**		*e*	P	Pn	10 59 07.7	+0.8
EDH	**Donghe**	**1.29**	**163**		*e*	P	Pn	10 59 07.5	+0.7
EDH	baz=163				*e*	S	Sb	10 59 25.4	+0.4
TSCK	**Chigu Township**	**1.29**	**215**		*e*	P	Pn	10 59 07.4	+0.4
EOS3	**EOS3**	**1.30**	**86**		*e*	P	Pb	10 59 09.8	+0.9
LONT	**Longtian**	**1.31**	**171**		*e*	P	Pb	10 59 08.3	-1.0
SCST	**Cishan**	**1.37**	**196**		*e*	P	Pn	10 59 08.8	+0.8
TWG	**Pinlang**	**1.39**	**173**		*e*	P	Pb	10 59 09.6	-1.0
TWG	baz=174				*e*	S	Sb	10 59 28.8	+0.8
TWGBT	**Beinan**	**1.40**	**173**		*e*	P	Pb	10 59 09.6	-1.0
TWGBT	baz=174				*e*	S	Sb	10 59 27.8	-0.2

PHUB	**P'eng-hu** baz=241	**1.40**	**241**	*e*P	Pn	10 59 07.6	-0.8
TWM1	**Shoushan** baz=201	**1.45**	**198**	*e*P	Pn	10 59 10.1	+1.0
SSD	**Sandimen** baz=204	**1.48**	**190**	*e*P	Pn	10 59 09.9	+0.4
WDGT	**Dungji** baz=231	**1.48**	**230**	*e*P	Pn	10 59 10.0	+0.6
TSMG	**Majia** baz=203	**1.52**	**189**	*e*P	Pn	10 59 11.1	+1.1
SGLT	**Jiouru** baz=197	**1.52**	**194**	*e*P	Pb	10 59 13.5	+0.8
VWUC	**VWUC** baz=300	**1.53**	**301**	*e*P	Pn	10 59 08.7	-1.5
ECL	**Taimali** baz=167	**1.60**	**178**	*e*P	Pn	10 59 12.2	+1.0
MASBT	**Mashibuluo** baz=203	**1.61**	**189**	*e*P	Pn	10 59 12.1	+0.8
LDUT	**Ludao** baz=164	**1.62**	**161**	*e*P	Pn	10 59 11.5	+0.1
VCHM	**Qimei** baz=237	**1.67**	**234**	*e*P	Pn	10 59 11.1	-1.1
VCHM	baz=237			S	Sn	10 59 31.1	-1.5
PTMZ	**Houxiangcun** baz=296	**1.82**	**297**	*e*P	Pn	10 59 12.7	-1.5
EAST	**Anshuo** baz=201	**1.82**	**181**	*e*P	Pn	10 59 14.5	+0.3
SCZT	**Fangliau** baz=192	**1.85**	**188**	*e*P	Pn	10 59 16.0	+1.5
TAWH	**Dawu Township** baz=199	**1.86**	**180**	*e*P	Pn	10 59 15.8	+1.1
YOJ	**Yonaguni jima** baz=85	**1.94**	**82**	*e*P	Pn	10 59 15.1	-0.8
SLIU	**Shizi** baz=200	**1.99**	**183**	*e*P	Pn	10 59 18.0	+1.5
MATB	**Ma-tsu** baz=333	**2.12**	**336**	P	Pn	10 59 16.6	-1.7
MATB	baz=333			*e*S	Sn	10 59 40.5	-3.0
MSUT	**Lienchiang** baz=332	**2.14**	**336**	*e*P	Pn	10 59 17.4	-1.3
HEN	**Hengchun** baz=188	**2.20**	**184**	*e*P	Pn	10 59 20.3	+0.9
LAY	**Lan-yu** baz=168	**2.24**	**164**	*e*P	Pn	10 59 20.4	+0.3
KNM	**Kinmen** baz=274	**2.26**	**276**	*e*P	Pn	10 59 20.6	+0.4
TWKBT	**Hengchun** baz=199	**2.26**	**182**	*e*P	Pn	10 59 20.9	+0.6
KNMB	**Chin-men Tao** baz=278	**2.30**	**277**	*e*P	Pn	10 59 19.5	-1.3
KNMB	baz=278			*e*S	Sn	10 59 44.4	-3.6
MHZQ	**Yeshan** baz=315	**2.53**	**318**	*e*P	Pn	10 59 22.4	-1.6
LYJJ	**Jianjiangzhen** baz=332	**2.55**	**336**	*e*P	Pn	10 59 22.9	-1.3
AXDP	**Jialang** baz=283	**2.75**	**285**	*e*P	Pn	10 59 25.9	-1.1
XPSS	**Dashiqiu** baz=341	**2.78**	**347**	*e*P	Pn	10 59 26.0	-1.5
ZPLA	**Ao Xicun** baz=264	**2.89**	**265**	*e*P	Pn	10 59 27.1	-1.8
SXFK	**Yanhouchang** baz=305	**3.66**	**307**	*e*P	Pn	10 59 38.6	-1.0
JOW	**Kunigami** baz=77	**7.16**	**67**	*e*P	Pn	11 00 27.4	-0.2

*SJA **28** 11:08:10.3±0.6,20.°12S×69.°20W,h103km±2km, ML3.5, MW3.6*
*GUC **28** 11:08:12.3±0.6,20.°14S×69.°15W,h92km±2km, ML3.3*
ISC 28 11:08:15.0±1.3,**20.°13S**±0.°03×**69.°27W**±0.°04,**h75**km±6km,
n38,σ1§98/67,2C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.11**	**94**		*e*P	**Pn**		**11 08 25.6**	**-0.8**
PB08					*e*S	**Sn**		**11 08 37.1**	**+2.2**
PB08					IAML			11 08 38.0	
	comp=Z,1μm,0.4s								
PB08	**IPOC Station P**	**0.11**	**94**		*i* P	**Pn**		**11 08 25.6**	**-0.8**
PB08					*e*S	**Sn**		**11 08 35.5**	**+0.7**
PB08					IAML			11 08 38.7	
	comp=N,2μm,0.1s								
PX03	**IPOC Station P**	**0.43**	**231**		*i* P	**Pn**		**11 08 26.2**	**-1.7**
PX03					*e*S	**Sn**		**11 08 38.4**	**+1.0**
PX03					IAML			11 08 39.0	
	comp=N,2μm,0.2s								
GO01	**Chusmiza**	**0.47**	**9**		*e*P	**Pn**		**11 08 27.2**	**-1.3**
GO01					*e*S	**Sn**		**11 08 40.1**	**+1.5**
GO01	**Chusmiza**	**0.47**	**9**		*i* P	**Pn**		**11 08 27.4**	**-1.3**
GO01					*e*S	**Sn**		**11 08 39.2**	**+0.6**
PB11	**IPOC Station P**	**0.52**	**316**		*e*P	**Pn**		**11 08 27.6**	**-1.1**
PB11					*e*S	**Sn**		**11 08 40.7**	**+2.0**
PB11					IAML			11 08 42.0	
	comp=Z,1μm,0.2s								
PB11	**IPOC Station P**	**0.52**	**316**		*i* P	**Pn**		**11 08 27.8**	**-0.9**
PB11					*e*S	**Sn**		**11 08 39.9**	**+1.2**
PB11					IAML			11 08 41.1	
	comp=E,4μm,0.2s								
HMBC	**Humberstone**	**0.60**	**256**		*e*P	**Pn**		**11 08 28.4**	**-1.0**
HMBC					*e*S	**Sn**		**11 08 41.9**	**+1.9**
HMBC	**Humberstone**	**0.60**	**256**	⇓	*i*P	**Pn**		**11 08 28.4**	**-1.0**
HMBC					*e*S	**Sn**		**11 08 41.2**	**+1.2**
HMBC					IAML			11 08 42.2	
	comp=E,3μm,0.1s								
TA02	**Huaiquique**	**0.82**	**260**		*e*P	**Pn**		**11 08 30.7**	**-0.9**
TA02					IAML			11 08 50.4	
	comp=Z,2μm,0.1s								
TA02	**Huaiquique**	**0.82**	**260**	⇑	*i*P	**Pn**		**11 08 30.7**	**-0.9**
TA02					*e*S	**Sn**		**11 08 45.2**	**+1.2**
PB01	**IPOC Station P**	**0.93**	**193**		*e*P	**Pn**		**11 08 31.3**	**-1.7**
PB01					*e*S	**Sn**		**11 08 46.9**	**+0.4**
PB01					IAML			11 08 51.7	
	comp=Z,618nm,0.3s								
PB01	**IPOC Station P**	**0.93**	**193**		*i* P	**Pn**		**11 08 31.3**	**-1.7**
PB01					*e*S	**Sn**		**11 08 46.0**	**-0.5**
PB01					IAML			11 08 47.5	
	comp=N,1μm,0.2s								
TA01	**Diego Aracena**	**0.96**	**243**		*e*P	**Pn**		**11 08 31.8**	**-1.4**
TA01					*e*S	**Sn**		**11 08 48.5**	**+1.6**
TA01					IAML			11 08 52.8	
	comp=Z,525nm,0.3s								
TA01	**Diego Aracena**	**0.96**	**243**		*i* P	**Pn**		**11 08 31.8**	**-1.4**
TA01					*e*S	**Sn**		**11 08 47.1**	**+0.2**
TA01					IAML			11 08 50.6	
	comp=N,556nm,0.4s								
PATCX	**Punta Patache**	**1.07**	**230**		*e*P	**Pn**		**11 08 33.1**	**-1.7**
PATCX					*e*S	**Sn**		**11 08 50.5**	**+0.9**
PATCX	**Punta Patache**	**1.07**	**230**		*i* P	**Pn**		**11 08 33.3**	**-1.5**
PATCX					*e*S	**Sn**		**11 08 49.8**	**+0.2**
PATCX					IAML			11 08 55.9	
	comp=E,838nm,0.3s								
PB02	**IPOC Station P**	**1.32**	**206**		*e*P	**Pn**		**11 08 36.1**	**-1.8**
PB02					*e*S	**Sn**		**11 08 56.9**	**+1.8**
PB02					IAML			11 09 01.2	
	comp=Z,960nm,0.3s								
PB02	**IPOC Station P**	**1.32**	**206**		*i* P	**Pn**		**11 08 36.0**	**-1.8**
PB02					*e*S	**Sn**		**11 08 54.3**	**-0.8**
PB02					IAML			11 08 59.4	
	comp=N,1μm,0.3s								
PX02	**IPOC Station P**	**1.46**	**323**		*i* P	**Pn**		**11 08 38.0**	**-1.7**
PB09	**IPOC Station P**	**1.66**	**179**		*e*P	**Pn**		**11 08 40.5**	**-1.9**
PB09					*e*S	**Sn**		**11 09 04.4**	**+1.3**
PB09					IAML			11 09 09.3	
	comp=Z,295nm,0.4s								
PB09	**IPOC Station P**	**1.66**	**179**		*i* P	**Pn**		**11 08 40.6**	**-1.9**
PB09					*e*S	**Sn**		**11 09 01.8**	**-1.3**
PB09					IAML			11 09 05.5	
	comp=N,380nm,0.4s								
PB07	**IPOC Station P**	**1.69**	**200**		*e*P	**Pn**		**11 08 40.6**	**-2.2**
PB07					*e*S	**Sn**		**11 09 07.4**	**+3.6**
PB07					IAML			11 09 09.2	
	comp=Z,367nm,0.1s								
PB07	**IPOC Station P**	**1.69**	**200**		*i* P	**Pn**		**11 08 40.6**	**-2.2**
PB07					*e*S	**Sn**		**11 09 03.2**	**-0.7**
PB07					IAML			11 09 11.1	
	comp=E,396nm,0.3s								
PB16	**IPOC Station P**	**1.80**	**353**		*e*P	**Pn**		**11 08 43.4**	**-1.3**
PB16					*e*S	**Sn**		**11 09 09.0**	**+1.8**
PB16	**IPOC Station P**	**1.80**	**353**		*i* P	**Pn**		**11 08 43.3**	**-1.4**
PB16					*e*S	**Sn**		**11 09 07.3**	**+0.2**
PB16					IAML			11 09 10.3	
	comp=E,186nm,0.4s								
PB12	**IPOC Station P**	**1.81**	**326**		*e*P	**Pn**		**11 08 42.1**	**-2.3**
PB12					*e*S	**Sn**		**11 09 09.8**	**+3.1**
PB12					IAML			11 09 13.0	
	comp=Z,347nm,0.2s								
PB12	**IPOC Station P**	**1.81**	**326**	⇑	*i*P	**Pn**		**11 08 42.0**	**-2.3**
AP01	**Chacalluta**	**2.02**	**330**		*e*P	**Pn**		**11 08 45.4**	**-1.8**
AP01					IAML			11 09 17.2	
	comp=E,554nm,0.1s								
PB04	**IPOC Station P**	**2.34**	**200**		*e*P	**Pn**		**11 08 50.3**	**-1.2**
PB04					*e*S	**Sn**		**11 09 24.8**	**+5.4**
PB04					IAML			11 09 30.6	
	comp=Z,236nm,0.2s								
LVC	**Limon Verde**	**2.49**	**172**		*e*P	**Pn**		**11 08 51.7**	**-2.0**
LVC					*e*S	**Sn**		**11 09 25.8**	**+2.5**
LVC					IAML			11 09 31.0	
	comp=Z,117nm,0.7s								
PB06	**IPOC Station P**	**2.58**	**186**		*e*P	**Pn**		**11 08 52.5**	**-2.2**
PB06					*e*S	**Sn**		**11 09 29.9**	**+4.7**
PB06					IAML			11 09 30.6	
	comp=Z,212nm,0.2s								
PB05	**IPOC Station P**	**2.84**	**198**		*e*P	**Pn**		**11 08 55.5**	**-2.8**
PB05					IAML			11 09 43.4	
	comp=Z,88nm,0.8s								
PB15	**IPOC Station P**	**3.07**	**183**		*e*P	**Pn**		**11 09 00.4**	**-1.0**
PB15					*e*S	**Sn**		**11 09 42.4**	**+5.2**
PB10	**IPOC Station P**	**3.57**	**199**		*e*P	**Pn**		**11 09 09.0**	**+1.0**
PB10					*e*S	Sn		11 10 01.5	+12
PB10					IAML			11 10 02.8	
	comp=Z,43nm,0.3s								
LPAZ	**La Paz**	**3.98**	**16**		*e*P	**Pn**		**11 09 13.3**	**-0.8**
YJA	**Yavi**	**4.05**	**121**		*e*P	**Pn**		**11 09 13.6**	**-1.4**
GO02	**Mina Guanaco**	**5.01**	**183**		*e*P	**Pn**		**11 09 25.0**	**-3.0**

*SJA **28** 11:15:24.3±0.9,23.°56S×70.°81W,h37km±2km, ML3.3, MW3.5*
*GUC **28** 11:15:26.6±0.5,23.°60S×70.°68W,h37km±1km, ML3.4*
ISC 28 11:15:26.1±1.3,**23.°59S**±0.°03×**70.°82W**±0.°07,**h30**km±8km,
n32,σ1§35/48,6C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.25**	**73**		*e*P	**Pb**		**11 15 33.0**	**+0.1**
PB10					*e*S	**Sb**		**11 15 37.4**	**-0.1**
PB10	**IPOC Station P**	**0.25**	**73**	⇑	*i*P	**Pb**		**11 15 33.1**	**+0.1**
PB10					*e*S	**Sb**		**11 15 37.3**	**-0.3**
PB10					IAML			11 15 37.7	
	comp=E,6μm,0.2s								
PB14	**IPOC Station P**	**1.10**	**160**		*e*P	**Pn**		**11 15 45.4**	**-0.4**
PB14					*e*S	**Sn**		**11 15 59.0**	**-1.2**
PB14					IAML			11 16 01.1	
	comp=Z,890nm,0.3s								
PB14	**IPOC Station P**	**1.10**	**160**	⇑	*i*P	**Pn**		**11 15 45.6**	**-0.2**
PB14					*e*S	**Sn**		**11 15 59.8**	**-0.3**
PB15	**IPOC Station P**	**1.29**	**73**		*e*P	**Pn**		**11 15 47.6**	**-0.8**
PB15					*e*S	**Sn**		**11 16 03.5**	**-1.3**
PB15					IAML			11 16 04.8	
	comp=Z,3μm,0.2s								
PB15	**IPOC Station P**	**1.29**	**73**		*e*P	**Pn**		**11 15 47.1**	**-1.3**
PB15					*e*S	**Sn**		**11 16 03.0**	**-1.9**
PB15					IAML			11 16 05.1	
	comp=N,4μm,0.2s								
PB04	**IPOC Station P**	**1.39**	**26**		*e*P	**Pn**		**11 15 49.0**	**-0.7**
PB04					*e*S	**Sn**		**11 16 06.9**	**-0.3**
PB04					IAML			11 16 14.9	
	comp=Z,363nm,0.4s								
PB04	**IPOC Station P**	**1.39**	**26**	⇑	*i*P	**Pn**		**11 15 49.1**	**-0.6**
PB04					IAML			11 16 10.3	
	comp=N,488nm,0.2s								
PB06	**IPOC Station P**	**1.45**	**53**		*e*P	**Pn**		**11 15 49.4**	**-1.1**
PB06					*e*S	**Sn**		**11 16 07.2**	**-1.3**
PB06					IAML			11 16 12.4	
	comp=Z,380nm,0.4s								
PB06	**IPOC Station P**	**1.45**	**53**	⇑	*i*P	**Pn**		**11 15 49.4**	**-1.1**
PB06					IAML	**Sn**		**11 16 07.4**	**-1.1**
	comp=E,683nm,0.4s								
PB06					*e*S	**Sn**		**11 16 07.4**	**-1.1**
GO02	**Mina Guanaco**	**1.93**	**145**		*e*P	**Pn**		**11 15 58.2**	**+1.1**
GO02					*e*S	**Sn**		**11 16 21.4**	**+0.8**
LVC	**Limon Verde**	**2.01**	**61**		*e*P	**Pn**		**11 15 58.4**	**0.0**
LVC					*e*S	**Sn**		**11 16 22.6**	**-0.1**
LVC					IAML			11 16 25.3	
	comp=Z,257nm,0.3s								
LVC	**Limon Verde**	**2.01**	**61**		*i* P	**Pn**		**11 15 57.5**	**-0.9**
LVC					*e*S	**Sn**		**11 16 21.8**	**-0.9**
LVC					IAML			11 16 23.4	
	comp=Z,2μm,0.2s								
PB07	**IPOC Station P**	**2.04**	**25**		*e*P	**Pn**		**11 15 58.2**	**-0.5**
PB07					IAML			11 16 34.2	
	comp=Z,243nm,0.5s								
PB07	**IPOC Station P**	**2.04**	**25**	⇑	*i*P	**Pn**		**11 15 57.9**	**-0.8**
PB07					IAML			11 16 31.5	
	comp=E,338nm,0.7s								
PB09	**IPOC Station P**	**2.30**	**40**		*e*P	**Pn**		**11 16 02.5**	**+0.3**
PB09					*e*S	**Sn**		**11 16 29.7**	**0.0**
PB09					IAML			11 16 44.2	
	comp=Z,204nm,0.8s								
PB09	**IPOC Station P**	**2.30**	**40**		*e*P	**Pn**		**11 16 02.2**	**0.0**
PB09					IAML			11 16 41.0	
	comp=E,236nm,0.7s								
PB02	**IPOC Station P**	**2.42**	**21**		*e*P	**Pn**		**11 16 03.3**	**-0.5**
PB02					IAML			11 16 45.6	
	comp=Z,236nm,0.3s								
PB02	**IPOC Station P**	**2.42**	**21**	⇑	*i*P	**Pn**		**11 16 03.2**	**-0.5**
AC01	**Pan de Azucar**	**2.56**	**176**		*e*P	**Pn**		**11 16 04.7**	**-0.9**
AC01					IAML			11 16 55.1	
	comp=Z,63nm,0.6s								
AC01	**Pan de Azucar**	**2.56**	**176**		*e*P	**Pn**		**11 16 05.3**	**-0.2**
PB01	**IPOC Station P**	**2.82**	**26**		*e*P	**Pn**		**11 16 08.6**	**-0.6**
PB01					IAML			11 16 58.5	
	comp=Z,83nm,0.3s								
PB01	**IPOC Station P**	**2.82**	**26**		*e*P	**Pn**		**11 16 08.9**	**-0.4**
PATCX	**Punta Patache**	**2.82**	**13**		*e*P	**Pn**		**11 16 08.5**	**-0.9**
TA01	**Diego Aracena**	**3.07**	**11**		*e*P	**Pn**		**11 16 11.6**	**-1.0**
TA01					IAML			11 17 06.6	
	comp=Z,57nm,0.8s								
PB08	**IPOC Station P**	**3.76**	**25**		*e*P	**Pn**		**11 16 22.7**	**+0.1**
PB08					*e*S	**Sb**		**11 17 23.7**	**+6.2**
PB08					IAML			11 17 24.7	
	comp=Z,47nm,0.8s								
PB11	**IPOC Station P**	**3.96**	**16**		*e*P	**Pn**		**11 16 23.7**	**-1.4**
PB11					IAML			11 17 57.6	
	comp=Z,34nm,0.7s								
GO03	**Copiap**	**4.02**	**173**		*e*P	**Pn**		**11 16 25.7**	**-0.1**
GO01	**Chusmiza**	**4.18**	**21**		*e*P	**Pn**		**11 16 29.1**	**+0.6**
AC04	**Llanos de Chal**	**4.60**	**183**		*e*P	**Pn**		**11 16 31.2**	**-2.5**
AC04					IAML			11 18 16.5	
	comp=Z,25nm,2.6s								
PB12	**IPOC Station P**	**4.97**	**5**		*e*P	**Pn**		**11 16 38.1**	**-0.8**
PB12					*e*S	**Sn**		**11 17 32.7**	**-2.8**
PB12					IAML			11 18 09.8	
	comp=Z,14nm,0.7s								
AC05	**El Transito**	**5.25**	**175**		*e*P	**Pn**		**11 16 42.5**	**-0.2**
AC05					IAML			11 18 22.9	
	comp=Z,22nm,0.9s								

*SOME **28** 11:17:37.4,42.°58N×75.°55E,h5km*
*KNET **28** 11:17:38.0±0.3,42.°61N×75.°53E,h0km,ml1.3, Error ellipse: s-maj=2.7km s-min=1.7km az=164.0*
*NNC **28** 11:17:38.1±0.7,42.°61N×75.°53E,h0km,mb2.8,mpv2.5, Error ellipse: s-maj=5.7km s-min=2.7km az=128.0*
ISC 28 11:17:38.3±1.1,**42.°62N**±0.°04×**75.°53E**±0.°02,**h9**km±10km,
n25,σ0§81/46,10C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2** 15nm,0.3s,SNR=44	**0.30**	**9**	⇑	P	**Pg**		**11 17 44.2**	**-0.2**
TKM2	46nm,0.2s			⇓	S	**Sg**		**11 17 49.1**	**+0.6**
TKM2	**Tokmak 2** 3.1nm,0.2s	**0.30**	**9**	⇑	P	**Pg**		**11 17 44.1**	**-0.3**
TKM2	9.9nm,0.6s			⇑	S	**Sg**		**11 17 49.0**	**+0.4**
KBK	**Karagaybulak** 14nm,0.3s,SNR=17	**0.43**	**275**	⇑	P	**Pg**		**11 17 47.0**	**+0.2**
KBK	7.7nm,0.2s			⇑	S	**Sg**		**11 17 53.2**	**+0.6**
KST	**Kastek** 12nm,0.8s	**0.53**	**37**		P	**Pg**		**11 17 47.0**	**-1.6**
KST	5.0nm,0.3s				S	**Sg**		**11 17 55.4**	**-0.2**
KST	**Kastek** 8.8nm,0.2s	**0.53**	**37**		*e*P	**Pg**		**11 17 47.9**	**-0.7**
KST	5.0nm,0.3s				*e*S	**Sg**		**11 17 55.4**	**-0.2**
DGS	**Degeres** 1.9nm,0.3s	**0.64**	**16**		P	**Pg**		**11 17 50.6**	**-0.2**
DGS	2.0nm,0.2s				S	**Sb**		**11 18 01.6**	**+0.6**
DGS	**Degeres** 1.9nm,0.3s	**0.64**	**16**		*e*P	**Pg**		**11 17 50.6**	**-0.2**
DGS	2.0nm,0.2s				*e*S	**Sg**		**11 18 00.1**	**+0.8**
ULHL	**Ulahol** 3.7nm,0.2s,SNR=22	**0.65**	**125**	⇑	P	**Pg**		**11 17 50.2**	**-0.6**
AAK	**Ala-Archa** 9.9nm,0.1s,SNR=19	**0.77**	**271**	⇑	P	**Pg**		**11 17 52.9**	**-0.3**
AAK	10nm,0.4s			⇑	S	**Sg**		**11 18 03.2**	**+0.1**
MTBS	**Maitube** 2.2nm,0.4s	**0.83**	**52**		P	**Pg**		**11 17 53.3**	**-1.0**
MTBS	6.2nm,0.3s				S	**Sb**		**11 18 06.0**	**-0.4**
MTBS	**Maitube** 2.2nm,0.4s	**0.83**	**52**		*e*P	**Pg**		**11 17 53.8**	**-0.6**
MTBS	6.2nm,0.3s				*e*S	**Sb**		**11 18 05.8**	**-0.6**
KRBS	**Karabastau** 0.7nm,0.2s	**1.08**	**6**		P	**Pg**		**11 17 58.3**	**-0.8**
KRBS	1.4nm,0.3s				S	**Sn**		**11 18 14.8**	**0.0**
KRBS	**Karabastau** 0.7nm,0.2s	**1.08**	**6**		*e*P	**Pg**		**11 17 58.3**	**-0.8**
KRBS	1.4nm,0.3s				*e*S	**Sg**		**11 18 13.2**	**+0.2**
EKS2	**Erkin-Say** 1.7nm,0.2s,SNR=6.7	**1.29**	**272**	⇑	P	**Pg**		**11 18 03.1**	**-0.1**
KOTS	**Kotyrbulak** 1.3nm,0.2s	**1.31**	**62**		P	**Pg**		**11 18 03.6**	**+0.1**
KOTS	4.7nm,0.4s				S	**Sg**		**11 18 23.8**	**+3.3**
KOTS	**Kotyrbulak** 1.0nm,0.3s	**1.31**	**62**		*e*P	**Pn**		**11 18 02.8**	**-0.2**
KOTS	5.8nm,0.3s				*e*S	**Sg**		**11 18 21.0**	**+0.5**
KTBS	**Karatobe** 3.3nm,0.4s	**1.38**	**37**		P	**Pn**		**11 18 03.7**	**-0.1**
KTBS	1.2nm,0.4s				S	**Sg**		**11 18 24.2**	**+1.6**
KTBS	**Karatobe** 3.3nm,0.4s	**1.38**	**37**		*e*P	**Pn**		**11 18 03.7**	**-0.1**
KTBS	2.9nm,0.4s				*e*S	**Sg**		**11 18 22.6**	**0.0**
AML	**Almayashu**	**1.45**	**251**	⇑	P	**Pb**		**11 18 05.4**	**-0.3**
AML	0.2nm,0.6s			⇓	S	**Sg**		**11 18 24.8**	**-0.1**
MRKS	**Merke** 5.3nm,0.4s	**1.70**	**275**		P	**Pb**		**11 18 09.7**	**-0.2**
MRKS	2.2nm,0.3s				S	**Sg**		**11 18 34.3**	**+1.1**
MRKS	**Merke** 2.9nm,0.3s	**1.70**	**275**		*e*P	**Pb**		**11 18 09.6**	**-0.2**
MRKS	2.7nm,0.2s				*e*S	**Sg**		**11 18 32.9**	**-0.2**
ARXS	**Arharly** 1.7nm,0.4s	**2.31**	**46**		Pg	**Pb**		**11 18 19.6**	**-0.6**
ARXS	3.2nm,0.4s				Lg	Lg		11 18 51.4	
ARXS	**Arharly** 1.7nm,0.4s	**2.31**	**46**		*e*P	**Pb**		**11 18 19.6**	**-0.6**
ARXS	3.2nm,0.4s				*e*S	**Sb**		**11 18 49.9**	**+1.1**
KPKS	**Kokpek** 2.4nm,0.5s	**2.46**	**69**		Pg	**Pb**		**11 18 22.9**	**+0.1**
KPKS	3.2nm,0.7s				Lg	Lg		11 18 57.3	
KPKS	**Kokpek** 3.0nm,0.2s	**2.46**	**69**		*e*P	**Pb**		**11 18 24.0**	**+1.2**
KPKS	4.7nm,0.4s				*e*S	**Sg**		**11 18 57.0**	**-0.4**

*GII **28** 11:28:02.4±1.1,35.°673N±0.°009×27.°348E±0.°003,h2km, Mws3.0, confirmed*
*IDC **28** 11:28:04.7±1.5,35.°98N×27.°32E,h0km,mb3.5/2, mbtmp3.7/6,ML3.7/4, Error ellipse: s-maj=37.5km s-min=21.1km az=151.0*
*ISK **28** 11:28:06.3,36.°01N×27.°33E,h8km,ML3.3/21*
*THE **28** 11:28:07.0,35.°98N×27.°39E,h5km±2km,ML3.3/4, Error ellipse: s-maj=3.0km s-min=0.9km az=120.0*
*ATH **28** 11:28:07.8,35.°94N×27.°40E,h22km±2km,ML3.3/6, Error ellipse: s-maj=2.2km s-min=1.0km az=125.0*
*AFAD **28** 11:28:09.0±0.0,36.°10N×27.°47E,h37km±2km,ML3.1*
ISC 28 11:28:06.2±1.1,**35.°92N**±0.°02×**27.°45E**±0.°02,**h18**km±5km,
n99,σ1§53/143,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.44**	**213**		Pg	**Pb**		**11 28 16.4**	**+0.9**
KARP					Sg	**Sn**		**11 28 23.4**	**-1.8**
KARP	**Karpathos**	**0.44**	**213**		P	**Pb**		**11 28 16.4**	**+0.9**
KARP					S	**Sb**		**11 28 23.1**	**+1.4**
	6μm,0.1s								
KARP	**Karpathos**	**0.44**	**213**		P	**Pb**		**11 28 16.5**	**+0.9**
KARP					S	**Sb**		**11 28 23.1**	**+1.4**
KARP					AML	AML		11 28 24.7	
	comp=N,13175μm,0.1s								
KARP					AML	AML		11 28 25.2	
	comp=E,12060μm,0.2s								
ARG	**Arkhangelos**	**0.62**	**61**		Pg	**Pn**		**11 28 19.7**	**-0.6**
ARG					Sg	**Sn**		**11 28 29.9**	**+0.2**
ARG	**Arkhangelos**	**0.62**	**61**		P	**Pn**		**11 28 19.6**	**-0.6**
ARG					S	**Sn**		**11 28 28.8**	**-1.0**
	comp=E,4μm,0.2s								
ARG	**Arkhangelos**	**0.62**	**61**		P	**Pn**		**11 28 19.6**	**-0.6**
ARG					S	**Sn**		**11 28 28.8**	**-1.0**
ARG					AML	AML		11 28 32.5	
	comp=N,6226μm,0.2s								
ARG					AML	AML		11 28 33.2	
	comp=E,11561μm,0.3s								
NISR	**Nisiros**	**0.74**	**340**		P	**Pb**		**11 28 21.7**	**+1.1**
NISR					S	**Sb**		**11 28 30.7**	**+0.3**
YAZI	**Mula-Dat§a-**	**0.76**	**0**		P	**Pb**		**11 28 20.9**	**-0.1**
YAZI					S	**Sb**		**11 28 30.5**	**-0.5**
YAZI					*i* AML	AML		11 28 34.0	
	comp=E,582nm,0.3s								
YAZI					*i* AML	AML		11 28 34.0	
	comp=E,662nm,0.4s								
DAT	**Datca**	**0.82**	**7**		Pg	**Pb**		**11 28 21.4**	**-0.6**
DAT	**Datca**	**0.82**	**7**		P	**Pb**		**11 28 22.0**	**0.0**
DAT					S	**Sb**		**11 28 32.4**	**-0.3**
DAT	**Datca**	**0.82**	**7**		P	**Pb**		**11 28 22.0**	**0.0**
DA

YER	Yerkesik	1.39	29	P	Pb	11 28 32.1	+0.4
YER				S	Sn	11 28 49.6	+0.9
MLSB	Milas	1.40	11	Pn	Pn	11 28 31.2	+0.3
FETY	Fethiye	1.50	61	Pn	Pg	11 28 35.1	-0.1
FETY	Fethiye	1.50	61	P	Pg	11 28 37.2	+2.0
FETY				S	Sg	11 28 56.3	+1.6
MULA	Mugla, Merkez-	1.51	27	P	Pn	11 28 33.8	+1.3
MULA				S	Sn	11 28 51.4	-0.3
MULA				*i* AML	AML	11 28 56.0	
	comp=E,148nm,0.7s						
MULA				*i* AML	AML	11 29 01.0	
	comp=E,309nm,0.7s						
SABU	Mula-Dalaman	1.52	53	P	Pg	11 28 35.7	+0.1
SABU				S	Sb	11 28 52.7	-0.3
SABU				*i* AML	AML	11 28 59.0	
	comp=E,221nm,0.4s						
SABU				*i* AML	AML	11 29 02.0	
	comp=E,413nm,0.7s						
IZZE	Mula-Seydike	1.53	70	P	Pg	11 28 36.2	+0.6
IZZE				S	Sg	11 28 54.4	-1.1
IZZE				*i* AML	AML	11 28 59.0	
	comp=E,464nm,0.3s						
IZZE				*i* AML	AML	11 29 04.0	
	comp=E,504nm,0.4s						
DDIM	Aydin, Didim	1.55	354	P	Pb	11 28 35.1	+0.8
DDIM				S	Sn	11 28 53.4	+0.9
FRMA	Ierapetra Chan	1.67	238	P	Pn	11 28 35.4	+0.9
FRMA				S	Sn	11 28 54.9	-0.5
	comp=E,450nm,0.4s						
FRMA	Ierapetra Chan	1.67	238	P	Pn	11 28 34.1	-0.4
FRMA				S	Sn	11 28 53.1	-2.3
FRMA				AML	AML	11 28 58.8	
	comp=N,1717µm,0.4s						
FRMA				AML	AML	11 29 02.5	
	comp=E,3017µm,0.4s						
THR8	Santorini-Mono	1.67	288	P	Pn	11 28 34.3	-0.2
THR6	Thira Island,	1.72	285	P	Pn	11 28 35.3	0.0
THR3	Thira Island,	1.73	287	P	Pn	11 28 35.2	-0.2
SNT5	Nea Kammeni, S	1.73	287	P	Pn	11 28 35.2	-0.2
CMBO	Columbo, Santo	1.74	289	P	Pn	11 28 35.7	+0.1
KSL	Kastellorizon	1.74	82	P	Pb	11 28 37.4	-0.3
KSL				S	Sn	11 28 56.8	-0.6
KSL				AML	AML	11 29 07.1	
	comp=E,447µm,0.7s						
KSL				AML	AML	11 29 10.5	
	comp=N,415µm,0.8s						
THR9	Santorini-Faro	1.75	285	P	Pn	11 28 34.7	-1.0
GCAM	G?zelcaml?	1.79	354	Pn	Pn	11 28 37.2	+1.0
GCAM	G?zelcaml?	1.79	354	P	Pb	11 28 39.3	+0.8
GCAM				S	Sb	11 29 03.7	+3.1
CAME	Cameli-Denizli	1.81	55	Pn	Pb	11 28 39.6	+0.6
SMG	Samos	1.85	345	P	Pn	11 28 36.5	-0.7
APE	Apeiranthos	1.93	307	Pn	Pn	11 28 38.7	+0.5
APE	Apeiranthos	1.93	307	P	Pn	11 28 37.8	-0.4
APE	Apeiranthos	1.93	307	P	Pn	11 28 37.7	-0.4
APE	Apeiranthos	1.93	307	P	Pn	11 28 37.0	-1.2
CAEL	Denizli, Camel	1.93	51	P	Pg	11 28 43.1	-0.2
CAEL				S	Sg	11 29 07.7	-0.7
CAEL				*i* AML	AML	11 29 17.0	
	comp=N,642nm,0.7s						
CAEL				*i* AML	AML	11 29 24.0	
	comp=N,431nm,0.6s						
TAVA	DENIZLI_Tavas	1.94	37	P	Pb	11 28 41.7	+0.5
TAVA				S	Sb	11 29 06.0	+0.9
TAVA				*i* AML	AML	11 29 08.0	
	comp=N,227nm,0.6s						
TAVA				*i* AML	AML	11 29 11.0	
	comp=N,212nm,0.3s						
KNIK	Mula-Seydike	1.95	61	P	Pb	11 28 42.2	+1.0
KNIK				S	Sb	11 29 06.5	+1.2
KNIK				*i* AML	AML	11 29 10.0	
	comp=N,95nm,0.5s						
KNIK				*i* AML	AML	11 29 10.0	
	comp=N,137nm,0.4s						
ESEN	Aydn-Nazilli	2.01	21	P	Pn	11 28 40.4	+1.2
ESEN				S	Sn	11 29 03.8	-0.2
ESEN				*i* AML	AML	11 29 16.0	
	comp=N,100nm,0.6s						
DNIZ	Denizli-Tavas-	2.13	36	P	Pb	11 28 43.8	-0.6
DNIZ				S	Sb	11 29 11.2	+0.7
DNIZ				*i* AML	AML	11 29 15.0	
	comp=N,324nm,0.3s						
DNIZ				*i* AML	AML	11 29 19.0	
	comp=N,524nm,0.3s						
APMY	Acipayam-Deniz	2.15	43	Pn	Pb	11 28 43.7	-1.0
GOLH	Golhisar	2.15	52	P	Pb	11 28 45.6	+0.9
GOLH				S	Sg	11 29 13.7	-1.8
GOLH				*i* AML	AML	11 29 18.0	
	comp=N,343nm,0.4s						
GOLH				*i* AML	AML	11 29 19.0	
	comp=N,262nm,0.4s						
ELL	Elmali	2.15	67	Pn	Pb	11 28 44.4	-0.3
IDI	Anoyia	2.18	254	Pn	Pn	11 28 42.3	+0.6
IDI	Anoyia	2.18	254	P	Pn	11 28 42.2	+0.6
IDI	Anoyia	2.18	254	P	Pn	11 28 41.9	+0.2
IDI				S	Sn	11 29 06.4	-1.9
IDI				AML	AML	11 29 15.8	
	comp=N,575µm,0.4s						
IDI				AML	AML	11 29 17.9	
	comp=E,461µm,0.3s						
IZMR	zmir-demi	2.25	10	P	Pn	11 28 42.6	0.0
IZMR				S	Sg	11 29 19.9	+1.2
IZMR				*i* AML	AML	11 29 24.0	
	comp=E,76nm,0.7s						
AKUM	Antalya-Kumluc	2.38	79	P	Pb	11 28 47.8	-0.7
AKUM				S	Sb	11 29 16.6	-0.9
INCE	Denizli-Bozkur	2.47	43	P	Pb	11 28 49.9	-0.3
INCE				S	Sb	11 29 19.8	-0.5
INCE				*i* AML	AML	11 29 26.0	
	comp=E,183nm,0.5s						
INCE				*i* AML	AML	11 29 26.0	
	comp=E,149nm,0.8s						
KORT	Korkueli	2.58	64	Pn	Pb	11 28 50.4	-1.6
KORT	Korkueli	2.58	64	P	Pb	11 28 51.7	-0.2
KORT				*i* AML	AML	11 29 37.0	
	comp=E,90nm,1.0s						
KORT				*i* AML	AML	11 29 38.0	
	comp=E,70nm,0.5s						
BRDR	BURDUR-Merkez	2.75	49	P	Pb	11 28 53.8	-1.0
BRDR				S	Sb	11 29 27.2	-1.0
BRDR				*i* AML	AML	11 29 47.0	
	comp=E,61nm,0.6s						
BRDR				*i* AML	AML	11 29 48.0	
	comp=E,69nm,1.0s						
ANTB	Antalya	2.76	68	Pn	Pb	11 28 53.1	-2.0
KULA	Kula-Manisa	2.77	20	Pn	Pn	11 28 51.5	+1.7
IMMV	Iera Moni Meta	2.86	262	P	Pn	11 28 52.1	+1.1
BASM	Basmaki-Afyon	2.89	45	Pn	Pn	11 28 54.3	+2.9
PASA	Karahalli, USA	2.92	33	P	Pn	11 28 54.5	+2.5
PASA				S	Sn	11 29 26.4	-0.2
USAK	Uak-Merkez	3.06	24	P	Pn	11 28 54.1	+0.4
USAK				S	Sn	11 29 27.4	-2.5
ISP	Isparta	3.11	51	P	Pn	11 28 54.2	-0.3
SEDI	Konya, Seydise	3.78	65	P	Pb	11 29 08.6	-3.9
SEDI				S	Sn	11 29 51.6	+3.7
AKMS	Akamas	4.09	101	P	Pn	11 29 10.4	+2.5
ALFC	Alefka	4.27	99	P	Pn	11 29 12.8	+2.5
NATA	Nata	4.33	104	P	Pn	11 29 14.4	+3.1
TROD	Troodos	4.53	101	P	Pn	11 29 16.0	+2.0
KKBE	Karaman, Kazim	4.61	72	P	Pn	11 29 19.3	+4.2
ASGA	Asgata	4.87	102	P	Pn	11 29 21.0	+2.3
CSS	Mathiatis	4.89	100	S	Sn	11 30 15.3	+0.1
CSS	Mathiatis	4.89	100	P	Pn	11 29 21.4	+2.4
BRTR	Keskin Array B	6.20	50	Pn	Pn	11 29 40.8	+3.8
	comp=E,0.3nm,0.3s,baz=240,slow=16,SNR=7.1						
BRTR				Sn	Sn	11 30 50.5	+3.1
	comp=E,0.1nm,0.3s,baz=227,slow=23,SNR=1.0						
	comp=E,0.6nm,0.4s						
MMA0B	Mount Meron ar	7.18	111	S	Sn	11 31 11.2	-0.3
MMAI	Mount Meron Ar	7.18	111	Pn	Pn	11 29 52.5	+2.1
	comp=E,3.4nm,0.3s,baz=296,slow=12,SNR=6.6						
MMAI				Sn	Sn	11 31 12.5	+1.0
	comp=E,4.0nm,0.3s,baz=292,slow=27,SNR=5.1						
	comp=E,2.2nm,0.3s						
GEM	Giv'at Ha'Em	7.29	109	S	Sn	11 31 13.7	-0.5
NATI	Neve Ativ	7.33	109	S	Sn	11 31 14.4	-0.6
YTIR	Yattir	7.84	123	S	Sn	11 31 26.6	-1.2
DSI	Dead Sea	7.90	121	P	Pn	11 29 57.6	-2.6
DSI	Dead Sea	7.90	121	S	Sn	11 31 27.8	-1.3
MSBI	Mazada	8.03	123	P	Pn	11 29 58.4	-3.7
MSBI	Mazada	8.03	123	S	Sn	11 31 29.4	-3.0
KRMI	Paran Flat	8.41	131	P	Pn	11 30 03.3	-3.9
KRMI	Paran Flat	8.41	131	S	Sn	11 31 39.0	-2.7
PRNI	Paran	8.42	129	P	Pn	11 30 04.1	-3.3
PRNI	Paran	8.42	129	S	Sn	11 31 39.4	-2.5
MBRI	Mt Berech	8.75	132	P	Pn	11 30 09.0	-3.0
EIL	Elat	8.87	133	Pn	Pn	11 30 14.8	+1.4
	comp=E,0.5nm,0.3s,baz=336,slow=19,SNR=1.9						
EIL				Sn	Sn	11 31 51.0	-2.0
	comp=E,0.5nm,0.3s,baz=166,slow=20,SNR=1.9						
	comp=E,1.7nm,0.4s						
KEST	Kesra	14.69	275	Pn	Pn	11 31 30.4	-2.9
	comp=E,0.9nm,0.3s,baz=46,slow=14,SNR=5.4						
	comp=E,3.0nm,0.4s						
TORD	Torodi Ar. Bea	32.42	232	P	P	11 34 36.5	+1.3
	comp=E,0.2nm,0.3s,baz=34,slow=8.9,SNR=5.4						
	comp=E,0.2nm,0.3s						
KURBB	Kurchatov Arra	39.19	52	P	P	11 35 34.6	+1.6
	comp=E,0.4nm,0.4s,baz=276,slow=8.6,SNR=5.0						
	comp=E,0.4nm,0.4s						

*TEH **28** 11:28:24.2, 33°.80N×45°.70E, h10km±118km, ML2.6*
*ISN **28** 11:28:24.5±0.6, 33°.68N×45°.51E, h25km, ML2.6*
ISC 28 11:28:21.2±2.3, 33°.72N±0°.07×45°.5E±0°.1, h13km, n6,
σ 0s 34/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.58	99			Pg	Pg	11 28 32.7	+0.1
ILBA						Sg	Sg	11 28 40.5	+0.1
IBDR	Badra	0.70	150	*e*Pg		Pn	Pn	11 28 37.0	+0.3
	baz=328								
IBDR				*e*Sg		Sn	Sn	11 28 47.0	-0.4
IGHG	Ghaleghazi	1.07	55	Pg		Pg	Pg	11 28 42.1	+0.3
IDHR	Dehrash	1.22	36	Pg		Pg	Pg	11 28 44.4	-0.2
ILIN	Lien	1.69	45	Pg		Pg	Pg	11 28 53.6	-0.2
IKFM	Kafar-mosalman	1.96	95	Pn		Pg	Pg	11 28 58.3	-0.4

*NEIC **28** 11:38:03.8±1.4, 55°.7N±0°.1×149°.3W±0°.1, h7km±8km, ML3.5/40, ML3.2(AEIC), Error ellipse: s-maj=14.7km s-min=9.2km az=171.0*
*AEIC **28** 11:38:08.8±1.6, 55°.66N±0°.08×149°.3W±0°.1, h12km±8km, Error ellipse: s-maj=12.8km s-min=9.2km az=155.0*
ISC 28 11:38:06.9±1.9, 55°.7N±0°.1×149°.32W±0°.07, h35km, n131,
σ 0s 77/129, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.68	306				Pn	11 38 47.5	0.0
OHAK							Sn	11 39 17.7	-1.0
OHAK	Old Harbor	2.68	306	P			Pn	11 38 47.5	0.0
	baz=124								
OHAK				S			Sn	11 39 17.7	-1.0
	baz=124								
KDAK	Kodiak Island	2.76	321				Pn	11 38 48.6	+0.1
KDAK	Kodiak Island	2.76	321				Sn	11 39 19.1	-1.5
KDAK	Kodiak Island	2.76	321	S			Sn	11 39 19.1	-1.5
	baz=138								
SII	Sitkinak Islan	2.86	290				Pn	11 38 49.9	-0.1
SII							Sn	11 39 21.9	-1.2
SII	Sitkinak Islan	2.86	290	IAML				11 39 27.6	
	comp=N,135nm,1.2s								
SII				IAML				11 40 42.5	
	comp=E,109nm,0.7s								
SII	Sitkinak Islan	2.86	290	P		Pn	Pn	11 38 49.9	-0.1
	baz=106								
SII				S			Sn	11 39 21.9	-1.2
	baz=106								
Q20K	Shuyak Island	3.37	331	P		Pn	Pn	11 38 57.2	+0.2
	baz=149								
Q20K				S			Sn	11 39 35.5	-0.1
	baz=149								
SYI	Shuyak Island	3.37	331				Pn	11 38 57.1	+0.2
SYI							Sn	11 39 35.5	-0.1
SYI	Shuyak Island	3.37	331	IAML				11 40 34.8	
	comp=E,30nm,1.0s								
CNPM	China Poot	3.98	346				Pn	11 39 05.2	-0.1
CNPM							Sn	11 39 50.5	-0.2
CNPM	China Poot	3.98	346	IAML				11 39 51.6	
	comp=N,30nm,1.0s								
KAHG	Katmai Hook Gl	4.00	317				Pn	11 39 06.5	+0.8
Q19K	Cape Douglas,	4.00	326				Pn	11 39 06.3	+0.7
Q19K	Cape Douglas,	4.00	326	IAML				11 39 56.7	
	comp=E,93nm,1.1s								
Q19K				IAML				11 40 53.9	
	comp=N,62nm,0.9s								
Q19K	Cape Douglas,	4.00	326	P		Pn	Pn	11 39 06.3	+0.7
	baz=142								
Q23K	Middleton Isla	4.07	22				Pn	11 39 06.3	-0.3
Q23K	Middleton Isla	4.07	22	IAML				11 39 35.3	
	comp=N,83nm,1.1s								
Q23K	Middleton Isla	4.07	22	P		Pn	Pn	11 39 06.3	-0.3
	baz=204								
MID	Middleton Isla	4.07	22				Pn	11 39 06.2	-0.4
MID	Middleton Isla	4.07	22	IAML				11 41 33.5	
	comp=N,82nm,1.1s								
BRSE	Bradley Lake S	4.13	350				Pn	11 39 06.9	-0.5
BRSE							Sn	11 39 53.6	-0.8
BRSE	Bradley Lake S	4.13	350	P			Pn	11 39 06.9	-0.5
	baz=169								
BRSE				S			Sn	11 39 53.6	-0.8
	baz=169								
HOM	Homer	4.16	344	Pn			Pn	11 39 07.0	-0.9
BRLK	Bradley Lake	4.16	349				Pn	11 39 07.3	-0.6
BRLK	Bradley Lake	4.16	349	IAML				11 39 57.7	
	comp=E,26nm,1.2s								
BRLK				IAML				11 40 00.5	
	comp=N,22nm,1.1s								
CNTC	Contact Creek	4.42	308				Pn	11 39 12.3	+0.8
Q17K	Contact Creek	4.42	308	P			Pn	11 39 12.3	+0.8
	baz=123								
P23K	Montague Islan	4.43	13				Pn	11 39 11.4	-0.2
P23K	Montague Islan	4.43	13	P			Pn	11 39 11.4	-0.2
	baz=194								
P19K	Oil Pt	4.49	334				Pn	11 39 12.7	+0.4
P19K	Oil Pt	4.49	334	IAML				11 40 18.1	
	comp=N,44nm,1.0s								
P19K				IAML				11 41 04.4	
	comp=E,57nm,1.1s								
P19K	Oil Pt	4.49	334	P			Pn	11 39 12.7	+0.4
	baz=151								
O20K	Slope Mountain	4.74	340				Pn	11 39 15.6	-0.2
O20K	Slope Mountain	4.74	340	P			Pn	11 39 15.6	-0.2
	baz=157								
IVE	Iliamna Volcan	4.76	337				Pn	11 39 15.9	-0.3
O22K	Cooper Landing	4.80	358				Pn	11 39 15.3	-1.3
P18K	Big Mountain,	4.88	322				Pn	11 39 18.1	+0.3
P18K	Big Mountain,	4.88	322	P			Pn	11 39 18.1	+0.3
	baz=137								
HIN	Hinchinbrook I	4.95	16				Pn	11 39 18.4	-0.2
HIN	Hinchinbrook I	4.95	16	IAML				11 40 16.6	
	comp=N,39nm,1.2s								
HIN				IAML				11 40 17.4	
	comp=E,30nm,0.6s								
KAIM	Kayak Island	4.99	30				Pn	11 39 18.9	-0.3
KAIM	Kayak Island	4.99	30	IAML				11 40 35.8	
	comp=N,38nm,1.2s								
KAIM				IAML				11 42 28.0	
	comp=E,39nm,1.1s								
KAIM	Kayak Island	4.99	30	P			Pn	11 39 18.9	-0.3
	baz=214								
RSO	Redoubt South	5.11	341				Pn	11 39 20.3	-0.9
CHGN	Chignik	5.14	281	Pn			Pn	11 39 21.9	+0.6
RDWB	Redoubt West	5.15	340				Pn	11 39 21.3	-0.3
CAPN	Captain Cook N	5.18	350	Pn			Pn	11 39 20.7	-1.1
EYAK	Cordova Ski Ar	5.22	20				Pn	11 39 21.9	-0.4
EYAK	Cordova Ski Ar	5.22	20	P			Pn	11 39 21.9	-0.4
	baz=203								
O18K	Koktuh Hills	5.22	325				Pn	11 39 22.4	-0.1
O18K	Koktuh Hills	5.22	325	P			Pn	11 39 22.4	-0.1
	baz=141								
O19K	Port Alsworth	5.24	332				Pn	11 39 22.5	-0.1
O19K	Port Alsworth	5.24	332	IAML				11 40 23.9	
	comp=E,41nm,0.4s								
O19K				IAML				11 41 20.1	
	comp=N,42nm,0.5s								
O19K	Port Alsworth	5.24	332	P			Pn	11 39 22.5	-0.1
	baz=147								
RAGM	Ragged Mountai	5.31	26	Pn			Pn	11 39 23.6	-0.1
RAGM				IAML				11 40 28.2	
	comp=E,28nm,1.2s								
RAGM				IAML				11 40 45.5	
	comp=N,43nm,1.1s								
RC01	Rabbit Creek A	5.41	358				Pn	11 39 24.3	-0.7
GOAT	Goat Mountain	5.47	25				Pn	11 39 25.8	-0.1
SNH	Sunshine Point	5.67	35				Pn	11 39 28.5	-0.1
N20K	Mount Spurr	5.72	346	P			Pn	11 39 29.5	+0.1
	baz=163								
SPCR	Spurr Chakacha	5.72	346				Pn	11 39 29.5	+0.1
KNK	Knik Glacier	5.75	4	Pn			Pn	11 39 32.0	+2.3
N19K	Bonanza Creek	5.81	334				Pn	11 39 30.2	-0.3
N19K	Bonanza Creek	5.81	334	P			Pn	11 39 30.2	-0.3
	baz=150								
SUA	Susitna One	5.83	353	Pn			Pn	11 39 31.8	+0.9
BMRM	Bremner River	5.84	23				Pn	11 39 31.2	+0.3
BMRM	Bremner River	5.84	23	P			Pn	11 39 31.2	+0.3
	baz=207								
PMR	Palmer	5.91	1	Pn			Pn	11 39 32.5	+0.6
STLK	Strandline Lak	5.96	348				Pn	11 39 32.5	-0.1
KLU	Klutina	6.08	16				Pn	11 39 34.1	-0.1
N18K	Kilae Creek	6.08	328				Pn	11 39 34.3	0.0
N18K	Kilae Creek	6.08	328	P			Pn	11 39 34.3	0.0
	baz=142								
GHO	Glory Hole Cre	6.10	2	Pn			Pn	11 39 35.4	+0.9
O16K	Kokwok River B	6.12	313	Pn			Pn	11 39 34.9	+0.2
SML	Sawmill	6.15	4	Pn			Pn	11 39 36.4	+1.2
SCM	Sheep Creek Mo	6.24	9				Pn	11 39 36.5	+0.1
VRDI	Verde Repeater	6.34	27				Pn	11 39 37.8	-0.2
N17K	Nushagak Hills	6.39	323	Pn			Pn	11 39 38.1	-0.3
KIAG	Kiagna River	6.39	32				Pn	11 39 38.6	-0.1
SKT	Skwentna	6.41	351	Pn			Pn	11 39 38.6	-0.1
N25K	Chitina, Valde	6.42	21				Pn	11 39 39.1	+0.2
N25K	Chitina, Valde	6.42	21	P			Pn	11 39 39.1	+0.2
	baz=204								
GLB	Gilahina Butte	6.44	24				Pn	11 39 39.3	+0.1
M20K	Styx River	6.51	344	Pn			Pn	11 39 40.3	+0.1
PCA	Pinnacle	6.54	44				Pn	11 39 40.5	-0.1
PINM	Pinnacle	6.54	44	P			Pn	11 39 40.5	-0.1
	baz=231								
M24K	Tolsona, Glenn	6.63	13	Pn			Pn	11 39 43.7	+1.8
PNL	Peninsula	6.64	49				Pn	11 39 41.8	-0.1
PNL	Peninsula	6.64	49	P			Pn	11 39 41.8	-0.1
	baz=237								
BCPM	Bancas Point	6.70	46				Pn	11 39 43.3	+0.6
BARN	Barnard Glacie	6.72	34				Pn	11 39 43.2	+0.1
M18K	Stony River	6.73	332				Pn	11 39 42.7	-0.4
M18K	Stony River	6.73	332	P			Pn	11 39 42.7	-0.4
	baz=147								
CTG	Chitna Glacier	6.75	35	P			Pn	11 39 43.4	-0.1
	baz=222								
CTGM	Chitina Glacie	6.75	35				Pn	11 39 43.4	-0.1
LOGN	Logan Glacier	6.76	37	Pn			Pn	11 39 43.3	-0.3
M19K	Big River Lodg	6.76	339	Pn			Pn	11 39 44.8	+1.3
M17K	Holitna River	7.12	327				Pn	11 39 48.8	+0.4
M17K	Holitna River	7.12	327	P			Pn	11 39 48.8	+0.4
	baz=140								
N15K	Kwethluk River	7.28	312	Pn			Pn	11 39 52.1	+1.5
O29M	Mount Kennedy	7.34	47				Pn	11 39 51.8	+0.3
O29M	Mount Kennedy	7.34	47	P			Pn	11 39 51.8	+0.3
	baz=236								
P29M	Windy Craggy	7.36	53				Pn	11 39 51.3	-0.4
P29M	Windy Craggy	7.36	53	P			Pn	11 39 51.3	-0.4
	baz=242								
O14K	Tigyukauivet M	7.36	304	Pn			Pn	11 39 52.9	+1.2
M16K	Timber Creek	7.36	320	Pn			Pn	11 39 53.0	+1.2
DHY	Denali Highway	7.47	7	Pn			Pn	11 39 54.7	+1.3
S31K	Pelican	7.53	67				Pn	11 39 52.1	-1.9
S31K	Pelican	7.53	67	P			Pn	11 39 52.1	-1.9
	baz=258								
M27K	Edge Creek, AK	7.70	27	Pn			Pn	11 39 57.1	+0.6
CAST	Castle Rocks	7.87	351	Pn			Pn	11 40 00.7	+1.9
L16K	Owhat River	8.01	323	Pn			Pn	11 40 01.9	+1.2
S32K	Killisnoo	8.33	72	Pn			Pn	11 40 03.4	-1.6
K17K	Iditarod	8.40	331	Pn			Pn	11 40 05.5	-0.5
O30N	Mendenhall	8.63	48	Pn			Pn	11 40 09.2	0.0
M29M	Somme Creek	8.77	35	Pn			Pn	11 40 12.2	+1.1
L14K	Kuka Creek	8.98	314	Pn			Pn	11 40 15.7	+1.8
WHY	Whitehorse	9.10	51	Pn			Pn	11 40 16.0	+0.4
N31M	Braeburn, Yuko	9.13	45	Pn			Pn	11 40 16.7	+0.6
P32M	Atlin	9.23	59	Pn			Pn	11 40 17.0	-0.3
J26L	Joseph Creek	9.28	16	Pn			Pn	11 40 19.0	+0.8
L29M	L29M	9.36	33	Pn			Pn	11 40 19.9	+0.7
M30M	Minto, Yukon	9.42	38	Pn			Pn	11 40 20.8	+0.8
P33M	Teslin, Yukon	9.86	56	Pn			Pn	11 40 26.1	0.0
K29M	Barlow Dome	10.09	31	Pn			Pn	11 40 30.3	+1.1
K13K	Kusilvak Mount	10.10	314	Pn			Pn	11 40 31.0	+1.8
H21K	Melozitna Rive	10.14	352	Pn			Pn	11 40 29.6	-0.2
FARO	Faro, Yukon	10.51	45	Pn			Pn	11 40 35.3	+0.4
DLBC	Dease Lake	10.85	67	Pn			Pn	11 40 40.0	+0.4
J30M	Hart River	10.98	31	Pn			Pn	11 40 43.0	+1.5

CATAC 28 11:48:41.3±0.4, 9°.62N×83°.82W, h8km±3km, MB6.1, ML2.2, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDM	Cerro de Muert	0.09	136	*i* P		Pg	Pg	11 48 44.4	+0.5
CDM				*i* S		Sg	Sg	11 48 46.1	+0.4
CDM				IAML				11 48 46.3	
	comp=Z,3µm,1.0s								
RIMA	Rio Macho	0.15	345	*i* P		Pg		11 48 45.6	+0.9
RIMA				*i* S		Sg		11 48 48.3	+1.3
RIMA				IAML				11 48 49.0	
	comp=Z,550nm,1.0s								
LCR2	La Lucha 2	0.22	305	*i* P		Pg		11 48 46.6	+0.8
LCR2				*

H08S3	**Diego Garcia H** baz=79,slow=75,SNR=9.8	**27.66**	**257**	T	T	12 27 05.6	
H08S1	**Diego Carcia H** baz=79,slow=75,SNR=14	**27.68**	**257**	T	T	12 27 05.0	
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=297,slow=8.1,SNR=2.2 0.7nm,0.9s	**38.38**	**120**	P	**P**	**12 00 04.6**	**-0.4**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=301,slow=7.2,SNR=2.6 0.4nm,0.8s	**39.63**	**126**	P	**P**	**12 00 13.1**	**-2.4**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=149,slow=8.3,SNR=6.7 0.5nm,0.5s	**50.78**	**345**	P	**P**	**12 01 44.0**	**+0.4**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=158,slow=6.7,SNR=5.1 0.6nm,0.3s	**56.95**	**350**	P	**P**	**12 02 28.5**	**0.0**
H04N2	**CROZET ISLANDS** baz=58,slow=75,SNR=146	**60.71**	**216**	T	T	13 08 27.1	
H04N1	**CROZET ISLANDS** baz=58,slow=75,SNR=136	**60.73**	**216**	T	T	13 08 31.4	
H04N3	**CROZET ISLANDS** baz=58,slow=75,SNR=114	**60.73**	**216**	T	T	13 08 36.1	
H04S1	**CROZET ISLANDS** baz=57,slow=75,SNR=8.7	**61.01**	**216**	T	T	13 08 51.6	
H04S3	**CROZET ISLANDS** baz=57,slow=75,SNR=15	**61.02**	**216**	T	T	13 08 52.5	
H04S2	**CROZET ISLANDS** baz=57,slow=75,SNR=7.5	**61.03**	**216**	T	T	13 08 54.9	
TXAR	**Lajitas Array** 0.5nm,0.8s,baz=323,slow=1.4,SNR=3.7	**144.79**	**37**	PKPbc	**PKPdf**	**12 12 20.6**	**-0.4**

*IDC **28** 12:09:52.6±0.8, 7°.35N×79°.66W, h0km, mb3.9/11, mbtmp4.1/14, ML3.7/3, MS4.0/43, Error ellipse: s-maj=30.2km s-min=16.6km az=46.0*

*UPA **28** 12:09:52.6±1.1, 7°.14N×79°.69W, h8km±7km, MW4.9, Fault plane solution: NP1:φs65.00000°, δ78.00000°, λ27.00000°.*

*NEIC **28** 12:09:55.3±2.6, 7°.35N±0°.06×79°.58W±0°.08, h10km±1km, mb4.4/33, Error ellipse: s-maj=13.0km s-min=9.2km az=250.0*

*RSNC **28** 12:09:55.2±1.8, 7°.09N×79°.69W, h32km±19km, ML4.2, Mw4.3*

*GCMT **28** 12:09:58.3±0.2, 7°.30N±0°.01×79°.55W±0°.02, h12km, MW4.8/96, Moment Tensor Solution. s11,c12; s96,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.61±.07; Mθθ=0.10±.06; Mφφ=0.70±.08; Mre=0.86±.22; Mθφ=1.90±.05; Mθr=0.95±.18; Best double couple: M0=2.19100×10^16 NP1:φs265.00000°, δ80.00000°, λ20.00000°. NP2: φs171.00000°, δ71.00000°, λ169.00000°. Principal axes: T 2.7360, Plg21.0000°, Azm129.0000°; N -1.0890, Plg68.0000°, Azm291.0000°; P -1.6460, Plg6.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 12:09:54.0±1.2, 7°.20N±0°.03×79°.63W±0°.03, h11km±8km, n179, σ2s09/178, mb4.3/29, MS4.1/39, 15C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEDA3	**Pedasi**	**0.51**	**310**	↑	*i*	P	**Pg**	**12 10 02.1**	**-1.8**
PEDA3						S	**Sg**	**12 10 11.3**	**+0.6**
TOSI3	**Tonosi**	**0.83**	**285**	↑	*i*	P	**Pg**	**12 10 07.5**	**-2.6**
TOSI3						S	**Sg**	**12 10 20.8**	**-0.2**
CACAO	**El Cacao, Vera**	**1.23**	**277**		*e*	P	Pn	12 10 13.4	-3.8
CACAO						S	**Sb**	**12 10 30.0**	**-3.1**
CACAO	**El Cacao, Vera**	**1.23**	**277**		*e*	P	Pn	12 10 13.4	-3.8
CACAO						S	**Sb**	**12 10 29.3**	**-3.9**
MARI3	**Mariato, Verag**	**1.42**	**288**	↓	*e*	P	**Pn**	**12 10 17.8**	**-2.0**
MARI3						S	**Sg**	**12 10 40.0**	**+0.2**
PNME	**Penonome**	**1.45**	**332**		*e*	S	**Sn**	**12 10 36.9**	**-2.5**
PNME	**Penonome**	**1.45**	**332**		*e*	S	**Sn**	**12 10 37.0**	**-2.3**
TABO3	**Taboga, Panama**	**1.59**	**3**	↑	*e*	P	**Pn**	**12 10 20.7**	**-1.3**
TABO3						S	**Sn**	**12 10 40.6**	**-2.0**
STIA3	**Santiago, Vera**	**1.60**	**304**	↑	*i*	P	**Pn**	**12 10 20.7**	**-1.6**
STIA3						S	**Sn**	**12 10 43.4**	**+0.4**
CALO3	**Calobre, Verag**	**1.64**	**313**	↑	*i*	P	**Pn**	**12 10 21.0**	**-1.8**
GMAL	**Guarumal, Vera**	**1.69**	**290**		*e*	P	**Pn**	**12 10 21.6**	**-1.9**
GMAL						S	**Sn**	**12 10 45.0**	**-0.1**
ARRA3	**Arraijan, Pana**	**1.76**	**359**	↑	*i*	P	**Pn**	**12 10 23.6**	**-0.9**
ARRA3						S	**Sn**	**12 10 46.7**	**-0.1**
ZANG	**Zanguenga, Cho**	**1.76**	**352**	↑	*e*	P	**Pn**	**12 10 23.7**	**-0.8**
ZANG						S	**Sb**	**12 10 48.7**	**+0.2**
UPA	**Univ. de Panam**	**1.77**	**3**	↓	*i*	P	**Pn**	**12 10 23.6**	**-1.1**
UPA						S	**Sn**	**12 10 45.7**	**-1.5**
UPA	**Univ. de Panam**	**1.77**	**3**		*e*	P	**Pn**	**12 10 23.7**	**-0.9**
UPA						S	**Sn**	**12 10 46.5**	**-0.8**
PTAC	**Punta Ardita,**	**1.81**	**92**		*e*	P	**Pn**	**12 10 22.6**	**-2.6**
PTAC	**Punta Ardita,**	**1.81**	**92**		*e*	P	**Pn**	**12 10 22.5**	**-2.6**
PTAC						S	**Sn**	**12 10 43.0**	**-5.1**
PTAC					*i*			12 10 44.1	
	comp=Z,3μm,0.5s								
BCIP	**Isla Barro Col**	**1.97**	**354**			P	**Pn**	**12 10 26.9**	**-0.4**
BCIP	**Isla Barro Col**	**1.97**	**354**	↑	*i*	P	**Pn**	**12 10 27.2**	**-0.1**
BCIP						S	**Sb**	**12 10 52.4**	**-2.0**
BCIP	**Isla Barro Col**	**1.97**	**354**		*e*	P	**Pn**	**12 10 26.8**	**-0.6**
BCIP						S	**Sn**	**12 10 52.2**	**+0.2**
BCIP					*i*			12 10 59.2	
	comp=Z,4μm,0.6s								
MLIR	**Monte Lirio**	**2.04**	**354**	↑	*e*	P	**Pn**	**12 10 28.3**	**0.0**
MLIR						S	**Sb**	**12 10 54.7**	**-1.8**
UPD2	**Meteti**	**2.09**	**50**	↓	*e*	P	**Pn**	**12 10 28.9**	**-0.1**
UPD2						S	**Sb**	**12 10 56.1**	**-1.7**
UPD2	**Meteti**	**2.09**	**50**		*e*	P	**Pn**	**12 10 29.4**	**+0.4**
UPD2						S	**Sb**	**12 10 56.6**	**-1.3**
UPD2					*i*			12 11 06.5	
	comp=Z,3μm,0.5s								
TOTI	**Torti**	**2.16**	**37**	↓	*i*	P	**Pn**	**12 10 29.5**	**-0.5**
TOTI						S	**Sb**	**12 10 58.6**	**-1.4**
SOLC	**Bahia Solano**	**2.41**	**114**		*e*	P	**Pn**	**12 10 30.8**	**-2.6**
SOLC						S	**Sn**	**12 10 57.2**	**-5.7**
CAPC	**Capurgana**	**2.67**	**58**		*e*	P	**Pn**	**12 10 37.6**	**+0.6**
CAPC						S	**Sn**	**12 11 10.4**	**+1.0**
CAPC					*i*			12 11 17.8	
	comp=Z,783nm,0.6s								
APAC	**Apartado, Choc**	**3.10**	**77**		*e*	P	**Pn**	**12 10 44.6**	**+1.6**
APAC						S	**Sn**	**12 11 21.4**	**+1.4**
APAC					*i*			12 11 28.3	
	comp=Z,878nm,0.5s								
PIZC	**Pizarro, Choco**	**3.17**	**134**		*e*	P	**Pn**	**12 10 41.1**	**-2.7**
BCO2	**Palmira**	**3.24**	**298**		*e*	P	**Pn**	**12 10 45.4**	**+0.4**
DBBC	**Dabeiba**	**3.40**	**93**	↑	*e*	P	**Pn**	**12 10 47.0**	**-0.1**
DBBC						S	**Sn**	**12 11 25.7**	**-1.8**
DBBC	**Dabeiba**	**3.40**	**93**		*e*	P	**Pn**	**12 10 47.0**	**-0.1**
DBBC						S	**Sn**	**12 11 25.8**	**-1.8**
DBBC					*i*			12 11 29.0	
	comp=Z,625nm,0.4s								
BRU2	**Volcan**	**3.42**	**298**			Pn	**Pn**	**12 10 47.4**	**-0.1**
BRU2	**Volcan**	**3.42**	**298**		*i*	P	**Pn**	**12 10 48.1**	**+0.6**
BRU2						S	**Sn**	**12 11 24.0**	**-4.1**
CDITO	**Canoas**	**3.49**	**293**			Pn	**Pn**	**12 10 48.1**	**-0.2**
CBOC	**Ciudad Bolivar**	**3.83**	**110**	↑	*e*	P	**Pn**	**12 10 51.8**	**-1.3**
CBOC						S	**Sn**	**12 11 33.4**	**-4.9**
CBOC	**Ciudad Bolivar**	**3.83**	**110**	↑	*e*	P	**Pn**	**12 10 51.8**	**-1.3**
CBOC						S	**Sn**	**12 11 33.6**	**-4.7**
CBOC					*i*			12 11 37.4	
	comp=Z,182nm,0.5s								
PLMC	**San Jos del P**	**4.03**	**124**		*e*	P	**Pn**	**12 10 53.3**	**-2.5**
PLMC						S	**Sn**	**12 11 40.2**	**-3.0**
PLMC					*i*			12 11 47.2	
	comp=Z,177nm,0.4s								
UREC	**San Jos de Ur**	**4.10**	**82**	↑	*i*	P	**Pn**	**12 10 57.6**	**+0.9**
UREC						S	**Sn**	**12 11 44.0**	**-0.7**
UREC	**San Jos de Ur**	**4.10**	**82**		*e*	P	**Pn**	**12 10 57.6**	**+0.9**
UREC						S	**Sn**	**12 11 43.9**	**-0.8**
UREC					*i*			12 11 48.0	
	comp=Z,499nm,0.8s								
DRK0	**Durika**	**4.12**	**300**			Pn	**Pn**	**12 10 57.4**	**+0.2**
PEZE	**Perez Zeledon,**	**4.56**	**299**			Pn	**Pn**	**12 11 03.5**	**+0.5**
YOTC	**Yotoco, Valle**	**4.57**	**134**		*e*	P	**Pn**	**12 11 01.0**	**-2.2**
YOTC						S	**Sn**	**12 11 52.4**	**-4.1**
GUY2C	**Guyana, Caldas**	**4.67**	**115**		*e*	P	**Pn**	**12 11 02.1**	**-2.9**
GUY2C					*i*			12 12 07.3	
	comp=Z,89nm,0.6s								
RIMA	**Rio Macho**	**4.90**	**302**			Pn	**Pn**	**12 11 09.5**	**+1.6**
JAMC	**Jamundi, Valle**	**4.93**	**143**		*e*	P	**Pn**	**12 11 06.6**	**-1.7**
LCR2	**La Lucha 2**	**5.01**	**301**			Pn	**Pn**	**12 11 10.0**	**+0.6**
SJCC	**San Jacinto, C**	**5.15**	**58**	↓	*e*	P	**Pn**	**12 11 12.3**	**+1.1**
SJCC						S	**Sn**	**12 12 08.2**	**-2.6**
SJCC	**San Jacinto, C**	**5.15**	**58**		*e*	P	**Pn**	**12 11 12.0**	**+0.8**
PTBC	**PUERTO BERRIO,**	**5.18**	**97**		*e*	P	**Pn**	**12 11 12.4**	**+0.9**
PTBC						S	**Sn**	**12 12 11.5**	**+0.1**
HDC	**Heredia**	**5.24**	**302**			Pn	**Pn**	**12 11 13.3**	**+0.9**
HDC	**Heredia**	**5.24**	**302**	↑	*e*	P	**Pn**	**12 11 13.7**	**+1.2**
ORTC	**Ortega, Tolima**	**5.45**	**127**		*e*	P	**Pn**	**12 11 15.5**	**+0.2**
ORTC						S	**Sn**	**12 12 20.5**	**+2.4**
ORTC					*i*			12 12 33.1	
	comp=Z,59nm,0.6s								
POPC	**Popayan, Colom**	**5.48**	**147**		*e*	P	**Pn**	**12 11 16.2**	**+0.3**
JACO	**JACO, Garabito**	**5.54**	**297**			P	**Pn**	**12 11 17.8**	**+1.2**
BBAC	**Balboa, Cauca**	**5.67**	**155**		*e*	P	**Pn**	**12 11 20.3**	**+1.9**
SPBC	**San Pablo de B**	**5.73**	**105**		*e*	P	**Pn**	**12 11 21.6**	**+2.4**
ROSC	**El Rosal**	**5.78**	**114**			Pn	**Pn**	**12 11 23.0**	**+2.9**
ROSC	**El Rosal**	**5.78**	**114**			Pn	**Pn**	**12 11 22.5**	**+2.4**
	comp=Z,12nm,0.3s,baz=295,slow=5.3,SNR=22								
ROSC						Sn	**Sn**	**12 12 21.9**	**-4.7**
	comp=Z,8.9nm,0.3s,baz=249,slow=23,SNR=1.6								
ROSC						LR	LR	12 13 42.9	
	comp=Z,3μm,19.4s,baz=286,slow=39								
	comp=Z,58nm,0.5s								
ROSC	**El Rosal**	**5.78**	**114**		*e*	P	**Pn**	**12 11 22.2**	**+2.2**
PRAC	**Prado**	**5.86**	**126**		*e*	P	**Pn**	**12 11 21.5**	**+0.7**
SOCE	**Pocosol**	**5.86**	**303**			P	**Pn**	**12 11 20.5**	**-0.4**
COVE	**Coope Vega, Sa**	**5.87**	**307**			P	**Pn**	**12 11 22.4**	**+1.3**
ARGC	**Ariguani, Magd**	**5.94**	**63**		*e*	P	**Pn**	**12 11 24.4**	**+2.3**
JTS	**Las Juntas de**	**6.09**	**301**		*e*	P	Pn	12 11 15.2	-8.9
BETC	**Betania**	**6.13**	**137**		*e*	P	**Pn**	**12 11 26.2**	**+1.5**
CVER	**Cruz Verde, Cu**	**6.13**	**115**		*e*	P	**Pn**	**12 11 28.4**	**+3.3**
OCAC	**Ocana**	**6.34**	**80**		*e*	P	**Pn**	**12 11 28.8**	**+1.2**
PRVC	**Isla de Provid**	**6.37**	**345**		*e*	S	**Sn**	**12 12 36.8**	**-3.9**
BARC	**Barichara**	**6.43**	**95**		*e*	P	**Pn**	**12 11 30.2**	**+1.3**
BARC						S	**Sn**	**12 12 41.1**	**-1.4**
BARC					*i*			12 12 59.2	
	comp=Z,208nm,0.7s								
GARC	**Garzon, Huila**	**6.46**	**140**		*e*	P	**Pn**	**12 11 30.6**	**+1.2**
SMRC	**Santa Marta, M**	**6.63**	**53**		*e*	P	**Pn**	**12 11 33.4**	**+1.9**
VILC	**Villavicencio,**	**6.66**	**117**		*e*	P	**Pn**	**12 11 35.4**	**+3.5**
TULM	**Tulcn-Chalpat**	**6.70**	**164**			P	**Pn**	**12 11 35.7**	**+2.9**
TULM	**Tulcn-Chalpat**	**6.70**	**164**		*e*	P	Pn	12 11 38.2	+5.4
ESPN	**Las Esperanzas**	**6.77**	**318**			Pn	**Pn**	**12 11 35.2**	**+1.8**
PAMC	**Pamplona, Colo**	**6.88**	**88**		*e*	P	**Pn**	**12 11 36.6**	**+1.3**
PAMC						S	**Sn**	**12 12 53.0**	**-0.8**
PAMC					*i*			12 13 10.4	
	comp=Z,105nm,0.5s								
OTAV	**Otavalo**	**7.01**	**170**			Pn	**Pn**	**12 11 39.8**	**+2.6**
ACON	**Acoyapa**	**7.24**	**311**				**Pn**	**12 11 40.3**	**+0.5**
ACON	**Acoyapa**	**7.24**	**311**		*e*	P	**Pn**	**12 11 40.7**	**+0.9**
CRJC	**Cerrejon, Guaj**	**7.67**	**60**		*e*	P	**Pn**	**12 11 47.3**	**+1.5**
CRJC						S	**Sn**	**12 13 11.8**	**-1.0**
CRJC					*i*			12 13 22.3	
	comp=Z,31nm,0.5s								
TAMC	**Tame, Arauca**	**7.82**	**95**		*e*	P	**Pn**	**12 11 49.6**	**+1.8**
BOAB	**BOACO BROADBAN**	**7.91**	**312**				**Pn**	**12 11 51.5**	**+2.4**
SLOR	**San Lorenzo -**	**7.96**	**172**				**Pn**	**12 11 54.8**	**+4.7**
MATN	**Matagalpa**	**8.42**	**313**				**Pn**	**12 11 57.7**	**+1.6**
PTLC	**Puerto Leguiza**	**8.48**	**145**		*e*	P	**Pn**	**12 11 59.9**	**+3.0**
CHSH	**Refugio Sur-Vo**	**8.67**	**175**				Pn	12 12 05.3	+5.3
TGUH	**Tegucigalpa,Un**	**10.14**	**313**			Pn	**Pn**	**12 12 24.5**	**+4.7**
MCRA	**Macar, Loja**	**11.50**	**182**				**Pn**	**12 12 41.8**	**+3.5**
BAUV	**El Baul**	**11.60**	**81**			Pn	**Pn**	**12 12 37.0**	**-2.7**
MTO3	**Montecristo**	**11.94**	**308**				**Pn**	**12 12 46.0**	**+1.5**
SDDR	**Presa de Saban**	**14.25**	**34**			Pn	**Pn**	**12 13 15.6**	**-0.3**
ATAH	**Atahualpa**	**14.29**	**175**			Pn	**Pn**	**12 13 21.3**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=316,slow=15,SNR=2.2								
ATAH						LR	LR	12 18 06.3	
	comp=Z,284nm,21.7s,baz=353,slow=34								
PCRV	**Puerto La Cruz**	**15.11**	**78**			Pn	**Pn**	**12 13 26.2**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=136,slow=5.4,SNR=2.1								
PCRV						Sn	**Sn**	**12 16 05.1**	**-10**
	comp=Z,0.2nm,0.3s,baz=1.9,slow=16,SNR=1.6								
PCRV						LR	LR	12 21 08.2	
	comp=Z,2μm,18.4s,slow=45								
	comp=Z,4.2nm,0.5s								
SJG	**San Juan**	**17.03**	**49**			Pn	**Pn**	**12 13 53.1**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=224,slow=12,SNR=1.8								
	comp=Z,15nm,0.9s								
CMIG	**Matias Romero**	**17.85**	**305**			LR	LR	12 21 45.2	
	comp=Z,638nm,20.8s,baz=140,slow=40								
ETMB	**Extrema**	**21.55**	**141**			P	**P**	**12 14 43.9**	**+0.3**
ETMB						IAmb	IAmb	12 15 03.8	
	comp=Z,10.0nm,0.8s								
SAML	**Samuel**	**22.93**	**134**			P	**P**	**12 14 57.2**	**-1.2**
LPAZ	**La Paz**	**25.96**	**154**			P	**P**	**12 15 29.7**	**+2.2**
GOGA	**Godfrey**	**26.32**	**353**			P	**P**	**12 15 27.1**	**-2.9**
GOGA						IAmb	IAmb	12 16 07.2	
	comp=Z,16nm,1.3s								
MDP	**Montagnes des**	**26.91**	**93**			LR	LR	12 26 32.5	
	comp=Z,656nm,19.5s,baz=282,slow=37								
PB16	**IPOC Station P**	**27.27**	**159**			P	**P**	**12 15 41.7**	**+2.5**
PB16						IAmb	IAmb	12 15 50.5	
	comp=Z,8.8nm,0.8s								
TKL	**Tuckaleechee C**	**28.58**	**353**			LR	LR	12 27 04.3	
	comp=Z,170nm,21.0s,baz=156,slow=36								
HNDO	**Hondo**	**28.91**	**323**			P	**P**	**12 15 52.4**	**-0.8**
HNDO						IAmb	IAmb	12 15 57.1	
	comp=Z,9.1nm,1.2s								
SIV	**San Ignacio**	**29.47**	**142**			LR	LR	12 27 55.9	
	comp=Z,931nm,20.4s,baz=324,slow=37								
BRDY	**Brady**	**30.04**	**325**			P	**P**	**12 16 02.2**	**-1.0**
LVC	**Limon Verde**	**31.43**	**161**			LR	LR	12 30 42.9	
	comp=Z,178nm,20.6s,baz=315,slow=40								
TXAR	**Lajitas Array**	**31.58**	**317**			P	**P**	**12 16 17.9**	**+1.0**
	comp=Z,1.0nm,1.0s,baz=119,slow=7.3,SNR=4.6								
TXAR						PcP	**PcP**	**12 19 10.2**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=142,slow=6.3,SNR=3.7								
	comp=Z,1.0nm,1.0s								
SGCY	**Sterling City**	**31.72**	**324**			P	**P**	**12 16 17.2**	**-0.9**
SGCY						IAmb	IAmb	12 16 18.3	
	comp=Z,5.4nm,0.9s								
MNHN	**Monahans**	**32.31**	**321**			P	**P**	**12 16 22.5**	**-0.8**
MNHN						IAmb	IAmb	12 16 24.5	
	comp=Z,4.9nm,0.8s								
CCM	**Cathedral Cave**	**32.47**	**343**			P	**P**	**12 16 23.6**	**-1.0**
LPIG	**La Paz**	**33.86**	**303**			LR	LR	12 30 35.6	
	comp=Z,198nm,20.4s,baz=132,slow=37								
ANMO	**Albuquerque**	**37.03**	**322**			P	**P**	**12 17 03.9**	**-0.3**
ANMO						IAmb	IAmb	12 17 07.1	
	comp=Z,6.6nm,0.9s								
ANMO	**Albuquerque**	**37.03**	**322**			LR	LR	12 35 17.2	
	comp=Z,70nm,20.1s,baz=222,slow=41								
SADO	**Sadowa**	**37.43**	**1**			LR	LR	12 33 07.1	
	comp=Z,219nm,19.2s,baz=286,slow=37								
KSCO	**Kaye Shedlock'**	**37.85**	**330**			P	**P**	**12 17 10.6**	**-0.5**
KSCO						IAmb	IAmb	12 17 13.2	
	comp=Z,6.7nm,0.8s								
SDCO	**Great Sand Dun**	**38.41**	**326**			P	**P**	**12 17 15.4**	**-0.6**
BDFB	**Brasilia**	**38.67**	**126**			P	**P**	**12 17 20.9**	**+2.7**
	comp=Z,1.1nm,0.5s,baz=263,slow=7.0,SNR=2.1								
BDFB						LR	LR	12 33 58.0	
	comp=Z,804nm,18.8s,baz=318,slow=37								
	comp=Z,1.1nm,0.5s								
X18A	**Snowflake**	**38.98**	**319**			P	**P**	**12 17 21.9**	**+1.2**
S22A	**4UR Ranch, Cre**	**39.15**	**325**			P	**P**	**12 17 22.4**	**+0.2**
K30B	**Basset**	**39.49**	**337**			P	**P**	**12 17 23.9**	**-0.8**
CPUP	**Villa Florida**	**39.74**	**148**			LR	LR	12 34 48.1	
	comp=Z,204nm,19.1s,baz=330,slow=38								
WUAZ	**Wupatki**	**40.51**	**319**			P	**P**	**12 17 34.5**	**+1.1**
WUAZ						IAmb	IAmb	12 17 36.6	
	comp=Z,5.6nm,0.8s								
HMU	**Henry Mountain**	**41.59**	**322**			P	**P**	**12 17 42.4**	**0.0**
HMU						IAmb	IAmb	12 17 45.3	
	comp=Z,6.3nm,0.9s								
RSSD	**Black Hills**	**42.52**	**334**			P	**P**	**12 17 50.4**	**+0.6**
RSSD						IAmb	IAmb	12 17 52.5	
	comp=Z,6.0nm,0.8s								
V12A	**Nelson**	**42.95**	**316**			P	**P**	**12 17 54.2**	**+0.9**
PMD	**Palm Desert**	**42.96**	**313**			P	**P**	**12 17 53.2**	**-0.1**
PFO	**Pinyon Flats O**	**43.00**	**313**			LR	LR	12 37 53.8	
	comp=Z,199nm,19.2s,baz=98,slow=39								
PD31	**Pinedale Array**	**44.16**	**328**			P	**P**	**12 18 01.6**	**-1.5**
PDAR	**Pinedale Array**	**44.16**	**328**			P	**P**	**12 18 02.5**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=129,slow=10,SNR=9.4								
PDAR						LR	LR	12 39 39.2	
	comp=Z,74nm,19.3s,baz=134,slow=41								
	comp=Z,1.4nm,0.9s								
RPN	**Rapa Nui**	**44.63**	**219**			LR	LR	12 31 43.2	
	comp=Z,306nm,21.6s,baz=61,slow=29								
CCAC	**Calif City Air**	**44.87**	**314**			P	**P**	**12 18 10.2**	**+1.4**
ULM	**Lac du Bonnet**	**45.01**	**345**			P	**P**	**12 18 08.1**	**-1.4**
ULM						IAmb	IAmb	12 18 10.8	
	comp=Z,7.3nm,1.1s								
ULM	**Lac du Bonnet**	**45.01**	**345**			P	**P**	**12 18 06.7**	**-2.8**
	comp=Z,4.5nm,0.9s,baz=153,slow=6.2,SNR=7.3								
	comp=Z,4.5nm,0.9s								
RCBR	**Riachuelo** comp=Z,241nm,18.1s,baz=313,slow=37	**45.51**	**105**			LR	LR	12 37 48.4	
RLMT	**Red Lodge**	**45.70**	**331**			P	**P**	**12 18 15.3**	**0.0**
RLMT						IAmb	IAmb	12 18 19.4	
	comp=Z,4.0nm,0.9s								
DGMT	**Dagmar**	**46.09**	**337**			P	**P**	**12 18 19.1**	**+1.0**
NV11	**Mina Array Sit**	**46.63**	**318**			P	**P**	**12 18 21.9**	**-0.8**
NV11						IAmb	IAmb	12 18 25.9	
	comp=Z,4.6nm,1.1s								
NVAR	**Mina Array Bea**	**46.73**	**318**			P	**P**	**12 18 23.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=129,slow=7.1,SNR=12								
NVAR						LR	LR	12 42 16.2	
	comp=Z,223nm,18.1s,baz=134,slow=42								
	comp=Z,1.7nm,0.8s								
BMN	**Battle Mountai**	**47.11**	**321**			P	**P**	**12 18 24.9**	**-1.6**
BMN						IAmb	IAmb	12 18 29.8	
	comp=Z,5.9nm,1.1s								
HLID	**Hailey**	**47.32**	**326**			P	**P**	**12 18 24.9**	**-3.1**
HLID						IAmb	IAmb	12 18 41.4	
	comp=Z,2.6nm,0.9s								
PLCA	**Paso Flores**	**48.42**	**171**			P	**P**	**12 18 37.2**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=352,slow=8.3,SNR=4.9								
	comp=Z,1.7nm,0.8s								
SCHQ	**Schefferville**	**48.60**	**10**			P	**P**	**12 18 37.3**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=351,slow=17,SNR=2.1								
SCHQ						LR	LR	12 40 31.4	
	comp=Z,60nm,20.1s,baz=270,slow=38								
	comp=Z,2.5nm,0.9s								
YBH	**Yreka Blue Hor**	**51.32**	**319**			LR	LR	12 45 32.3	
	comp=Z,218nm,18.2s,baz=154,slow=42								
NEW	**Newport**	**51.78**	**329**			LR	LR	12 45 23.4	
	comp=Z,119nm,18.3s,baz=138,slow=41								
FRB	**Frobisher Bay**	**57.01**	**6**			LR	LR	12 46 35.8	
	comp=Z,123nm,18.4s,baz=195,slow=39								
BBB	**Bella Bella**	**59.80**	**328**			LR	LR	12 49 05.2	
	comp=Z,70nm,18.9s,baz=132,slow=39								
YKA	**Yellowknife Ar**	**60.81**	**342**			P	**P**	**12 20 04.9**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=132,slow=7.0,SNR=29								
	comp=Z,2.1nm,0.8s								
SFJD	**Kangerlussuaq**	**62.90**	**12**			LR	LR	12 48 25.5	
	comp=Z,134nm,19.7s,baz=197,slow=37								
RES	**Resolute Bay**	**68.01**	**356**			LR	LR	12 52 44.7	
	comp=Z,107nm,18.5s,baz=168,slow=38								
SUMG	**Summit**	**69.90**	**12**		*i*	P	**P**	**12 21 08.0**	**+2.8**
SUMG						IAmb	IAmb	12 21 15.5	
	comp=Z,5.2nm,0.9s								
BORG	**Borgarnes**	**70.36**	**23**			LR	LR	12 47 21.2	
	comp=Z,115nm,22.0s,baz=154,slow=32								
A36M	**Sachs Harbour**	**70.47**	**346**			P	**P**	**12 21 07.4**	**-0.8**
INK	**Inuvik**	**70.55**	**341**			P	**P**	**12 21 07.9**	**-0.9**
INK						IAmb	IAmb	12 21 40.2	
	comp=Z,3.5nm,1.1s								
L27K	**Beaver Creek,**	**71.24**	**335**		

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATOM	**Hato Mayor del**	**0.10**	**6⇑**	***e*Pg**	**Pn**	**12 20 04.4**	**-0.6**
HATOM			⇑	*e*Sg	**Sn**	**12 20 13.4**	**-1.0**
HATOM				IAML		12 20 14.3	
	comp=Z,2μm,0.1s						
MIDR	**Miches**	**0.44**	**47⇑**	***e*Pg**	**Pn**	**12 20 06.2**	**-0.3**
MIDR			⇓	*e*Sg	**Sn**	**12 20 16.8**	**-0.3**
MIDR				IAML		12 20 20.5	
	comp=Z,2μm,0.3s						
SDD	**Santo Domingo**	**0.54**	**246⇑**	***e*Pg**	**Pn**	**12 20 07.2**	**-0.2**
SDD			⇑	*e*Sg	**Sn**	**12 20 18.6**	**+0.2**
SDD				IAML		12 20 20.5	
	comp=Z,542nm,0.3s						
SDD	**Santo Domingo**	**0.54**	**246**	***i*** P	**Pn**	**12 20 07.1**	**-0.2**
SDD				*e*S	**Sn**	**12 20 18.4**	**0.0**
SMDR	**Samana, DR**	**0.63**	**18⇑**	***e*Pg**	**Pn**	**12 20 08.1**	**-0.1**
SMDR			⇓	*e*Sg	**Sn**	**12 20 21.3**	**+1.4**
SMDR				IAML		12 20 23.2	
	comp=Z,3μm,0.6s						
DR08	**Loma La Naviza**	**0.66**	**295⇑**	***e*Pg**	**Pn**	**12 20 08.2**	**-0.3**
DR08			⇓	*e*Sg	**Sn**	**12 20 20.0**	**-0.3**
LOSC1	**San Cristbal**	**0.73**	**248**	***i*** P	**Pn**	**12 20 09.3**	**+0.2**
LOSC1				*e*S	**Sn**	**12 20 22.3**	**+0.7**
LOSC1				IAML		12 20 30.4	
	comp=Z,3μm,0.3s						
SADR	**Isla Saona**	**0.76**	**130⇓**	***e*Pg**	**Pn**	**12 20 09.4**	**0.0**
SADR			⇓	*e*Sg	**Sn**	**12 20 22.2**	**+0.1**
SADR				IAML		12 20 27.9	
	comp=Z,2μm,0.3s						
LONA1	**Toro Cenizo, N**	**0.82**	**327**	***i*** P	**Pn**	**12 20 10.5**	**+0.4**
LONA1				*e*S	**Sn**	**12 20 25.4**	**+2.2**
LONA1				IAML		12 20 29.6	
	comp=Z,11μm,0.4s						
PCDR	**Punta Cana, DR**	**0.97**	**100**		**Pn**	**12 20 11.4**	**-0.3**
PCDR	**Punta Cana, DR**	**0.97**	**100⇑**	***e*Pg**	**Pn**	**12 20 11.8**	**0.0**
PCDR			⇑	*e*Sg	**Sn**	**12 20 26.6**	**+0.4**
PCDR				IAML		12 20 46.9	
	comp=Z,2μm,0.5s						
PCDR	**Punta Cana, DR**	**0.97**	**100**	***i*** P	**Pn**	**12 20 11.7**	**0.0**
PCDR				*e*S	**Sn**	**12 20 26.6**	**+0.4**
PCDR				IAML		12 20 32.0	
	comp=Z,2μm,0.3s						
ABDR	**Alto Bandera**	**1.18**	**276⇑**	***e*Pg**	**Pn**	**12 20 14.9**	**+0.5**
ABDR			⇓	*e*Sg	**Sn**	**12 20 32.0**	**+1.0**
ABDR				IAML		12 20 40.6	
	comp=Z,1μm,0.5s						
SC01	**Santiago de lo**	**1.46**	**301⇓**	***e*Pg**	**Pn**	**12 20 19.0**	**+1.3**
SC01			⇓	*e*Sg	**Sn**	**12 20 40.7**	**+3.9**
SC01				IAML		12 20 50.4	
	comp=Z,3μm,0.9s						
SC01	**Santiago de lo**	**1.46**	**301**	***i*** P	**Pn**	**12 20 18.9**	**+1.2**
SC01				*e*S	**Sn**	**12 20 40.7**	**+3.9**
SC01				IAML		12 20 50.3	
	comp=Z,3μm,0.9s						
SODR	**Sosua Marina B**	**1.54**	**314⇓**	***e*Pg**	**Pn**	**12 20 19.9**	**+1.3**
SODR			⇑	*e*Sg	**Sn**	**12 20 41.0**	**+2.5**
SODR				IAML		12 20 54.5	
	comp=Z,10μm,0.7s						
SDDR	**Presa de Saban**	**1.82**	**280**	Pn	**Pn**	**12 20 23.6**	**+1.3**
SDDR	**Presa de Saban**	**1.82**	**280⇑**	***e*Pg**	**Pn**	**12 20 24.1**	**+1.8**
SDDR			⇓	*e*Sg	**Sn**	**12 20 48.2**	**+3.2**
SDDR				IAML		12 20 54.8	
	comp=Z,1μm,0.4s						
SDDR	**Presa de Saban**	**1.82**	**280**	***e*P**	**Pn**	**12 20 23.6**	**+1.3**
SDDR				*e*S	**Sn**	**12 20 47.6**	**+2.6**
SDDR				*i*		12 20 55.2	
	comp=Z,1μm,0.4s						
SDDR	**Presa de Saban**	**1.82**	**280**	***i*** P	**Pn**	**12 20 24.1**	**+1.8**
SDDR				*e*S	**Sn**	**12 20 47.9**	**+2.9**
SDDR				IAML		12 20 54.8	
	comp=Z,1μm,0.4s						
MADR	**Mao Valverde**	**1.84**	**299⇓**	***e*Pg**	**Pn**	**12 20 22.7**	**+0.2**
MADR			⇑	*e*Sg	**Sn**	**12 20 46.4**	**+1.1**
MADR				IAML		12 20 57.2	
	comp=Z,2μm,0.5s						
LUDR	**Luperon**	**1.90**	**309⇓**	***e*Pg**	**Pn**	**12 20 23.0**	**-0.3**
LUDR			⇓	*e*Sg	**Sn**	**12 20 48.0**	**+1.2**
LUDR				IAML		12 21 09.5	
	comp=Z,2μm,0.3s						
NEDR	**Neiba UASD**	**1.93**	**264**	***e*Pg**	**Pn**	**12 20 23.5**	**-0.2**
NEDR			⇑	*e*Sg	**Sn**	**12 20 50.5**	**+3.0**
NEDR				IAML		12 20 53.8	
	comp=Z,534nm,0.5s						
LOPP1	**Punta Rusia, P**	**2.06**	**305**	*e*S	**Sn**	**12 20 51.4**	**+0.7**
LOPP1				IAML		12 21 05.3	
	comp=Z,2μm,0.8s						
PRSN	**Puerto Rico Se**	**2.19**	**102**		**Pn**	**12 20 27.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.27**	**107**		**Pn**	**12 20 29.0**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.27**	**107⇓**	***e*Pg**	**Pn**	**12 20 29.0**	**+0.8**
CRPR				IAML		12 21 07.7	
	comp=Z,905nm,0.4s						
CRPR	**Cabo Rojo, PR**	**2.27**	**107**	***i*** P	**Pn**	**12 20 28.6**	**+0.4**
CRPR				IAML		12 21 07.5	
	comp=Z,905nm,0.4s						
LOPE2	**Hotel El Peder**	**2.33**	**254**	Sn	Sn	12 20 41.7	-15
LOPE2				*e*S	**Sn**	**12 20 57.2**	**+0.3**
LOPE2				IAML		12 21 07.5	
	comp=Z,311nm,0.6s						
MLPR	**Magueyes Islan**	**2.34**	**107**		**Pn**	**12 20 28.9**	**-0.2**
LODA1	**ITESIL, Dajabo**	**2.35**	**292**	***i*** P	**Pn**	**12 20 29.1**	**-0.1**
LODA1				*e*S	**Sn**	**12 20 58.0**	**+0.7**
LODA1				IAML		12 21 06.6	
	comp=Z,1μm,0.5s						
MCDR	**Montecristi**	**2.45**	**300⇓**	***e*Pg**	**Pn**	**12 20 29.4**	**-1.2**
MCDR			⇑	*e*Sg	**Sn**	**12 21 00.1**	**+0.2**
MCDR				IAML		12 21 13.2	
	comp=Z,832nm,0.4s						
AOPR	**Arecibo Observ**	**2.53**	**97**		**Pn**	**12 20 32.6**	**+1.0**
AOPR	**Arecibo Observ**	**2.53**	**97⇑**	***e*Pg**	**Pn**	**12 20 32.9**	**+1.2**
AOPR			⇓	*e*Sg	**Sn**	**12 21 07.4**	**+5.7**
AOPR				IAML		12 21 11.1	
	comp=Z,1μm,0.6s						
OBIP	**Obispado Ponce**	**2.72**	**103**		**Pn**	**12 20 33.5**	**-0.8**
CELP	**Cerrillos**	**2.74**	**102**		**Pn**	**12 20 35.0**	**+0.5**
CELP	**Cerrillos**	**2.74**	**102⇓**	***e*Pg**	**Pn**	**12 20 35.8**	**+1.3**
CELP			⇓	*e*Sg	**Sn**	**12 21 10.9**	**+4.1**
PAPH	**Port-au-Prince**	**2.76**	**267**	Pn	**Pn**	**12 20 35.1**	**+0.3**
PAPH	**Port-au-Prince**	**2.76**	**267⇓**	***e*Pg**	**Pn**	**12 20 36.1**	**+1.4**
PAPH				IAML		12 21 40.8	
	comp=Z,310nm,0.6s						
SJG	**San Juan**	**3.13**	**100**		**Pn**	**12 20 39.9**	**+0.1**
SJG	**San Juan**	**3.13**	**100**	P	**Pn**	**12 20 40.0**	**+0.3**
	comp=Z,119nm,0.3s,baz=304,slow=7.9,SNR=64						
SJG				S	**Sn**	**12 21 15.3**	**-0.9**
	comp=Z,91nm,0.3s,baz=271,slow=18,SNR=3.7						
SJG	**San Juan**	**3.13**	**100⇑**	***e*Pg**	**Pn**	**12 20 40.6**	**+0.8**
SJG				*e*Sg	**Sn**	**12 21 16.3**	**+0.1**
SJG	**San Juan**	**3.13**	**100**	***e*P**	**Pn**	**12 20 40.5**	**+0.8**
SJG				*e*S	**Sn**	**12 21 17.7**	**+1.4**
SJG				*i*		12 21 24.6	
	comp=Z,76nm,0.2s						
GCPR	**Guaynabo City**	**3.16**	**96**		**Pn**	**12 20 39.9**	**-0.2**
IGPR	**InterUniversit**	**3.20**	**102**		**Pn**	**12 20 41.0**	**+0.3**
HUMP	**Col San Antoni**	**3.41**	**99**		**Pn**	**12 20 44.1**	**+0.6**
GTBY	**Guantanamo Bay**	**5.54**	**284**	Pn	Pn	12 21 09.7	-2.8
MOAC	**Moa**	**5.60**	**291**	***e*P**	Pn	12 21 08.0	-5.3
MOAC				*e*S	**Sn**	**12 22 11.0**	**-5.3**
RCC	**Rio Carpintero**	**6.09**	**283**	***e*P**	Pn	12 21 16.4	-3.6
RCC				*e*S	**Sn**	**12 22 25.1**	**-3.2**
RCC				IVMs_BB	IVMs_BB	12 22 29.9	
	comp=E,1000nm,3.6s						
RCC				IVMs_BB	IVMs_BB	12 22 30.3	
	comp=N,453nm,3.2s						
AUA1	**Aruba**	**6.17**	**186**		**Pn**	**12 21 20.2**	**-0.9**
MARVS	**Santiago de Cu**	**6.28**	**283**	***e*P**	Pn	12 21 15.3	-7.2
MARVS				*e*S	**Sn**	**12 22 27.3**	**-5.7**
PINC	**Pinares de May**	**6.29**	**288**	***e*P**	Pn	12 21 16.3	-6.4
PINC				*e*S	Sn	12 22 27.4	-5.8
HATO	**Hato, Curacao**	**6.48**	**176**	Pn	**Pn**	**12 21 25.2**	**-0.1**
HLGC	**Holguin**	**6.65**	**290**	***e*P**	Pn	12 21 24.3	-3.4
HLGC			⇓	*e*S	**Sn**	**12 22 41.6**	**-0.4**
CHIV	**Chivirico**	**6.75**	**282**	***e*P**	Pn	12 21 23.0	-6.0
CHIV				*e*S	**Sn**	**12 22 40.5**	**-4.0**
LMGC	**Las Mercedes**	**7.32**	**282**	***e*P**	Pn	12 21 26.7	-10
PILO	**Pilon**	**7.66**	**280**	***e*P**	Pn	12 21 36.8	-4.6
CCCC	**Cccc**	**8.26**	**289**	***e*P**	Pn	12 21 34.9	-15
CRJC	**Cerrejon, Guaj**	**8.33**	**204**	***e*P**	**Pn**	**12 21 50.6**	**0.0**
FDF	**Fort de France**	**8.82**	**115**	Pn	Pn	12 21 54.4	-2.8
BIM	**Bigot**	**8.99**	**116**	Pn	**Pn**	**12 21 59.1**	**-0.5**
PCRV	**Puerto La Cruz**	**9.63**	**151**	P	**Pn**	**12 22 08.4**	**+0.1**
	comp=N,21nm,0.5s,baz=317,slow=3.1,SNR=15						
PCRV				S	Sn	12 23 44.9	-10
	comp=N,6.9nm,0.4s,baz=336,slow=8.2,SNR=1.9						
BAUV	**El Baul**	**9.77**	**172**	Pn	**Pn**	**12 22 09.9**	**-0.3**
PAMC	**Pamplona, Colo**	**11.73**	**196**	***e*P**	**Pn**	**12 22 37.0**	**-0.2**
UREC	**San Jos de Ur**	**12.40**	**210**	***e*P**	**Pn**	**12 22 47.8**	**+1.9**
BARC	**Barichara**	**12.57**	**198**	***e*P**	**Pn**	**12 22 47.5**	**-0.9**
PTBC	**PUERTO BERRIO,**	**13.04**	**203**	***e*P**	**Pn**	**12 22 54.0**	**-0.4**
SPBC	**San Pablo de B**	**13.73**	**200**	***e*P**	Pn	12 23 08.7	+5.1
CBOC	**Ciudad Bolivar**	**14.28**	**208**	***e*P**	**Pn**	**12 23 13.8**	**+2.9**
ROSC	**El Rosal**	**14.58**	**200**	P	**Pn**	**12 23 13.4**	**-1.4**
	comp=N,4.8nm,0.3s,baz=351,slow=22,SNR=1.8						
GUY2C	**Guyana, Caldas**	**14.59**	**204**	***e*P**	**Pn**	**12 23 17.1**	**+2.0**
ORTC	**Ortega, Tolima**	**15.76**	**202**	***e*P**	**Pn**	**12 23 33.3**	**+3.8**
Y60A	**Bolivia**	**17.17**	**334**	P	**Pn**	**12 23 46.4**	**-0.4**
Y58A	**Scranton**	**17.72**	**331**	P	**P**	**12 23 53.7**	**+0.6**
V61A	**Roper**	**18.19**	**341**	P	**P**	**12 23 59.1**	**+0.8**
BBAC	**Balboa, Cauca**	**18.26**	**206**	***e*P**	**P**	**12 24 00.3**	**+0.9**
GOGA	**Godfrey**	**19.33**	**322**	P	**P**	**12 24 10.9**	**+0.1**
GOGA				IAmb	IAmb	12 24 17.3	
	comp=Z,24nm,1.5s						
BG3	**Lake Jocassee**	**20.21**	**326**	P	**P**	**12 24 20.4**	**+0.1**
BG3				IAmb	IAmb	12 24 28.1	
	comp=Z,16nm,1.2s						
V53A	**Saluda**	**20.67**	**328**	P	**P**	**12 24 25.4**	**+0.1**
V53A				IAmb	IAmb	12 25 06.4	
	comp=Z,23nm,1.5s						
TKL	**Tuckaleechee C**	**21.16**	**326**	P	**P**	**12 24 30.4**	**-0.1**
TKL	**Tuckaleechee C**	**21.16**	**326**	P	**P**	**12 24 30.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=149,slow=7.9,SNR=6.0						
TKL				S	**S**	**12 28 17.7**	**-3.3**
	comp=Z,3.6nm,0.7s,baz=156,slow=11,SNR=2.0						
	comp=Z,1.5nm,0.6s						
S54A	**Dingess, Beckl**	**21.71**	**334**	P	**P**	**12 24 36.5**	**+0.1**
S54A				IAmb	IAmb	12 24 45.3	
	comp=Z,23nm,1.3s						
TZTN	**Tazewell**	**21.72**	**328**	P	**P**	**12 24 36.5**	**-0.1**
TZTN				IAmb	IAmb	12 25 20.1	
	comp=Z,30nm,1.4s						
Q52A	**Bidwell**	**23.09**	**334**	P	**P**	**12 24 50.0**	**-0.7**
Q52A				IAmb	IAmb	12 25 10.5	
	comp=Z,10nm,0.8s						
O53A	**New Philadelph**	**23.78**	**337**	P	**P**	**12 24 56.7**	**-0.3**
O53A				IAmb	IAmb	12 25 00.4	
	comp=Z,29nm,1.5s						
WVT	**Waverly**	**23.80**	**321**	P	**P**	**12 24 56.9**	**-0.4**
MCRA	**Macar, Loja**	**25.16**	**205**	P	**P**	**12 25 10.2**	**+0.4**
SAML	**Samuel**	**28.13**	**167**	P	P	12 25 34.7	-1.7
ETMB	**Extrema**	**28.49**	**173**	P	P	12 25 38.2	-1.4
ETMB				IAmb	IAmb	12 25 39.3	
	comp=Z,9.0nm,1.3s						
TXAR	**Lajitas Array**	**32.94**	**295**	P	P	12 26 18.7	-0.2
	comp=Z,0.5nm,0.4s,baz=121,slow=7.9,SNR=17						
TXAR				PcP	**PcP**	**12 29 00.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=137,slow=4.7,SNR=7.6						
TXAR				ScP	**ScP**	**12 32 37.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=107,slow=8.5,SNR=3.7						
	comp=Z,0.5nm,0.4s						
TX31	**Lajitas Ar. Si**	**32.95**	**295**	P	**P**	**12 26 19.4**	**+0.4**
RTBA	**Rita Blanca**	**34.22**	**308**	P	P	12 26 28.9	-1.0
RTBA				IAmb	IAmb	12 26 51.1	
	comp=Z,6.1nm,1.1s						
VHRN	**Van Horn**	**34.35**	**297**	P	**P**	**12 26 31.5**	**+0.3**
VHRN				IAmb	IAmb	12 26 41.5	
	comp=Z,3.7nm,1.2s						
PB12	**IPOC Station P**	**37.08**	**181**	P	P	12 26 51.7	-2.7
PDAR	**Pinedale Array**	**41.51**	**314**	P	P	12 27 30.9	-0.4
	comp=Z,0.4nm,0.5s,baz=109,slow=10.0,SNR=5.6						
PDAR				PcP	**PcP**	**12 29 26.1**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=145,slow=3.3,SNR=4.1						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**46.65**	**306**	P	**P**	**12 28 13.2**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=101,slow=6.5,SNR=10						
NVAR				pP	**pP**	**12 28 32.5**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=98,slow=11,SNR=4.8						
	comp=Z,0.6nm,0.5s						
NEW	**Newport**	**48.47**	**319**	P	P	12 28 25.5	-0.8
	comp=Z,1.2nm,0.6s,baz=113,slow=7.7,SNR=3.1						
NEW				pP	pP	12 28 46.5	-1.2
	comp=Z,3.4nm,0.8s,baz=138,slow=7.2,SNR=6.5						
	comp=Z,1.2nm,0.6s						
YKA	**Yellowknife Ar**	**53.70**	**336**	P	P	12 29 04.0	-1.0
	comp=Z,0.3nm,0.6s,baz=113,slow=7.1,SNR=8.8						
YKA				pP	pP	12 29 24.5	-2.2
	comp=Z,1.8nm,0.8s,baz=116,slow=7.1,SNR=18						
	comp=Z,0.3nm,0.6s						
DLBC	**Dease Lake**	**58.98**	**328**	P	P	12 29 42.0	-0.8
	comp=Z,1.3nm,0.7s,baz=162,slow=16,SNR=1.6						
	comp=Z,1.3nm,0.7s						
PLCA	**Paso Flores**	**59.12**	**181**	P	P	12 29 41.2	-2.6
	comp=Z,1.2nm,0.6s,baz=358,slow=7.1,SNR=7.2						
	comp=Z,1.2nm,0.6s						
ESDC	**Sonseca Array**	**59.56**	**55**	P	P	12 29 44.6	-2.4
	comp=Z,0.6nm,0.8s,baz=269,slow=6.2,SNR=2.7						
	comp=Z,0.6nm,0.8s						
INK	**Inuvik**	**63.30**	**338**	pP	pP	12 30 31.9	-2.1
	comp=Z,0.8nm,0.9s,baz=118,slow=6.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**68.21**	**83**	P	P	12 30 42.6	-1.6
	comp=Z,0.6nm,0.7s,baz=294,slow=7.0,SNR=3.5						
TORD				pP	pP	12 31 05.7	-1.1
	comp=Z,0.7nm,0.8s,baz=321,slow=5.1,SNR=3.0						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**74.36**	**21**	P	P	12 31 19.7	-0.6
	comp=Z,3.0nm,0.9s,baz=267,slow=4.5,SNR=2.0						
ARCES				pP	pP	12 31 42.7	-0.5
	comp=Z,3.1nm,0.8s,baz=282,slow=4.5,SNR=2.5						
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**76.36**	**29**	P	P	12 31 31.5	-0.4
	comp=Z,1.4nm,0.7s,baz=292,slow=4.4,SNR=6.3						
	comp=Z,1.4nm,0.7s						
BRTR	**Keskin Array B**	**87.83**	**49**	P	P	12 32 31.4	-1.1
	comp=Z,0.3nm,0.5s,baz=243,slow=4.4,SNR=1.9						
BRTR				pP	pP	12 32 55.5	-0.5
	comp=Z,0.8nm,0.8s,baz=253,slow=3.8,SNR=4.5						
	comp=Z,0.3nm,0.5s						
HHC	**Hu-ho-hao-te**	**120.77**	**359**	***e*P**	PKPdf	12 38 31.5	-3.3
STKA	**Stephens Creek**	**149.17**	**239**	PKPbc	**PKPdf**	**12 39 28.2**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=348,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**157.57**	**263**	PKPab	**PKPab**	**12 40 09.6**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=84,slow=4.2,SNR=5.0						
ASAR	**Alice Springs**	**157.73**	**253**	PKPab	**PKPab**	**12 40 10.7**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=109,slow=4.4,SNR=20						

*NEIC **28** 12:28:16.9±0.9,56.16N±0.09×148.6W±0.1,h21km±10km, ML3.5/44, ML3.3(AEIC), Error ellipse: s-maj=13.1km s-min=8.4km az=164.0*

*AEIC **28** 12:28:19.7±1.0,56.10N±0.09×148.5W±0.1,h12km±8km, Error ellipse: s-maj=13.5km s-min=9.5km az=169.0*

ISC 28 12:28:17.3±1.7, 56.15N±0.09×148.57W±0.06, h35km, n182, σ0 90/181, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.74**	**308**		**Pn**	**12 28 59.3**	**+0.7**
KDAK					**Sn**	**12 29 29.8**	**-0.7**
OHAK	**Old Harbor**	**2.81**	**294**		**Pn**	**12 29 00.1**	**+0.4**
OHAK					**Sn**	**12 29 31.1**	**-1.2**
OHAK	**Old Harbor**	**2.81**	**294**	P	Pn	12 28 50.3	-9.4
OHAK	**Old Harbor**	**2.81**	**294**	P	**Pn**	**12 29 00.1**	**+0.4**
	baz=110						
OHAK				S	**Sn**	**12 29 31.1**	**-1.2**
	baz=110						
SII	**Sitkinak Islan**	**3.15**	**280**		**Pn**	**12 29 04.8**	**+0.5**
SII					**Sn**	**12 29 39.7**	**-1.0**
SII	**Sitkinak Islan**	**3.15**	**280**	IAML		12 29 52.9	
	comp=N,127nm,1.1s						
SII	**Sitkinak Islan**	**3.15**	**280**	P	**Pn**	**12 29 04.8**	**+0.5**
	baz=95						
SII				S	**Sn**	**12 29 39.7**	**-1.0**
	baz=95						
SYI	**Shuyak Island**	**3.22**	**322**		**Pn**	**12 29 06.1**	**+0.9**
Q20K	**Shuyak Island**	**3.22**	**322**	P	**Pn**	**12 29 06.1**	**+0.9**
	baz=138						
Q23K	**Middleton Isla**	**3.50**	**19**		**Pn**	**12 29 09.5**	**+0.5**
Q23K	**Middleton Isla**	**3.50**	**19**	IAML		12 29 49.1	
	comp=E,108nm,1.1s						
Q23K				IAML		12 30 06.9	
	comp=N,112nm,1.1s						
Q23K	**Middleton Isla**	**3.50**	**19**	P	**Pn**	**12 29 09.5**	**+0.5**
	baz=201						
MID	**Middleton Isla**	**3.50**	**19**		**Pn**	**12 29 09.5**	**+0.5**
MID	**Middleton Isla**	**3.50**	**19**	IAML		12 29 48.5	
	comp=E,121nm,1.2s						
MID				IAML		12 30 06.8	
	comp=N,104nm,1.1s						
MID	**Middleton Isla**	**3.50**	**19**	P	Pn	12 29 16.7	+7.6
CNPM	**China Poot**	**3.67**	**338**		**Pn**	**12 29 12.0**	**+0.5**
CNPM					**Sn**	**12 29 53.1**	**-0.4**
CNPM	**China Poot**	**3.67**	**338**	IAML		12 29 59.5	
	comp=E,39nm,0.4s						
BRSE	**Bradley Lake S**	**3.78**	**343**		**Pn**	**12 29 13.5**	**+0.5**
BRSE					**Sn**	**12 29 55.7**	**-0.6**
BRSE	**Bradley Lake S**	**3.78**	**343**	P	**Pn**	**12 29 13.5**	**+0.5**
	baz=161						
BRSE				S	**Sn**	**12 29 55.7**	**-0.6**
	baz=161						
BRLK	**Bradley Lake**	**3.83**	**342**		**Pn**	**12 29 14.0**	**+0.4**
BRLK					**Sn**	**12 29 58.3**	**+0.9**
BRLK	**Bradley Lake**	**3.83**	**342**	IAML		12 30 02.9	
	comp=N,44nm,0.4s						
BRLK				IAML		12 30 03.1	
	comp=E,55nm,1.0s						
HOM	**Homer**	**3.88**	**336**		**Pn**	**12 29 15.1**	**+0.8**
HOM	**Homer**	**3.88**	**336**	P	**Pn**	**12 29 15.1**	**+0.8**
	baz=154						
P23K	**Montague Islan**	**3.91**	**9**		**Pn**	**12 29 15.3**	**+0.6**
P23K	**Montague Islan**	**3.91**	**9**	P	**Pn**	**12 29 15.3**	**+0.6**
	baz=190						
SEW	**Seward**	**3.99**	**354**		**Pn**	**12 29 16.6**	**+0.8**
SEW					**Sn**	**12 29 59.9**	**-1.5**
SEW	**Seward**	**3.99**	**354**	P	**Pn**	**12 29 16.6**	**+0.8**
	baz=173						
SEW				S	**Sn**	**12 29 59.9**	**-1.5**
	baz=173						
AU22	**Augustine Moun**	**4.12**	**324**		**Pn**	**12 29 19.0**	**+1.4**
P19K	**Oil Pt**	**4.30**	**327**		**Pn**	**12 29 21.5**	**+1.3**
P19K	**Oil Pt**	**4.30**	**327**	IAML		12 30 16.2	
	comp=E,104nm,0.5s						
P19K				IAML		12 30 22.9	
	comp=N,76nm,1.1s						
P19K	**Oil Pt**	**4.30**	**327**	P	**Pn**	**12 29 21.5**	**+1.3**
	baz=143						
KAIM	**Kayak Island**	**4.38**	**29**		**Pn**	**12 29 21.6**	**+0.3**
KAIM	**Kayak Island**	**4.38**	**29**	IAML		12 30 14.4	
	comp=N,98nm,0.8s						
KAIM				IAML		12 30 22.1	
	comp=E,99nm,1.1s						
KAIM	**Kayak Island**	**4.38**	**29**	P	**Pn**	**12 29 21.5**	**+0.3**
	baz=212						
O22K	**Cooper Landing**	**4.39**	**353**		**Pn**	**12 29 22.1**	**+0.9**
O22K	**Cooper Landing**	**4.39**	**353**	P	**Pn**	**12 29 22.1**	**+0.9**
	baz=172						
HIN	**Hinchinbrook I**	**4.40**	**14**		**Pn**	**12 29 22.4**	**+0.9**
HIN					**Sn**	**12 30 10.0**	**-1.4**
SLKM	**Skilak Lake**	**4.46**	**349**		**Pn**	**12 29 22.8**	**+0.6**
SLKM					**Sn**	**12 30 12.4**	**-0.4**
O20K	**Slope Mountain**	**4.49**	**333**		**Pn**	**12 29 23.4**	**+0.7**
O20K	**Slope Mountain**	**4.49**	**333**	P	**Pn**	**12 29 23.4**	**+0.7**
	baz=150						
IVE	**Illamna Volcan**	**4.54**	**331**		**Pn**	**12 29 24.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.66**	**17**		**Pn**	**12 29 25.5**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.66**	**17**	P	**Pn**	**12 29 25.5**	**+0.6**
	baz=200						
RAGM	**Ragged Mountai**	**4.72**	**24**		**Pn**	**12 29 26.2**	**+0.3**
FID	**Port Fidalgo**	**4.74**	**13**		**Pn**	**12 29 26.4**	**+0.2**
RED	**Redoubt Volcan**	**4.82**	**334**		**Pn**	**12 29 27.5**	**+0.2**
P18K	**Big Mountain,**	**4.82**	**315**		**Pn**	**12 29 27.9**	**+0.6**
P18K	**Big Mountain,**	**4.82**	**315**	P	**Pn**	**12 29 27.9**	**+0.6**
	baz=130						
CAPN	**Captain Cook N**	**4.83**	**345**	Pn	**Pn**	**12 29 28.3**	**+1.0**
RDSO	**Redoubt South**	**4.84**	**335**		**Pn**	**12 29 27.9**	**+0.2**
RSO	**Redoubt South**	**4.85**	**335**		**Pn**	**12 29 28.7**	**+0.8**
RDT	**Redoubt**	**4.87**	**337**		**Pn**	**12 29 28.2**	**+0.2**

M19K	**Big River Lodg** baz=150	**6.50**	**335**	P	**Pn**	**12 29 50.7**	**+0.3**
M18K	**Stony River**	**6.54**	**328**		**Pn**	**12 29 51.1**	**+0.2**
M18K	**Stony River** baz=142	**6.54**	**328**	P	**Pn**	**12 29 51.1**	**+0.2**
O29M	**Mount Kennedy**	**6.72**	**48**		**Pn**	**12 29 55.1**	**+1.6**
O29M	**Mount Kennedy** baz=236	**6.72**	**48**	P	**Pn**	**12 29 55.1**	**+1.6**
P29M	**Windy Craggy**	**6.75**	**54**		**Pn**	**12 29 54.8**	**+1.1**
P29M	**Windy Craggy** baz=244	**6.75**	**54**	P	**Pn**	**12 29 54.8**	**+1.1**
O15K	**Ungalikthiuk R**	**6.75**	**301**		**Pn**	**12 29 55.4**	**+1.6**
O15K	**Ungalikthiuk R** baz=112	**6.75**	**301**	P	**Pn**	**12 29 55.4**	**+1.6**
SDPT	**Sand Point**	**6.77**	**268**		**Pn**	**12 29 54.4**	**+0.4**
SDPT	**Sand Point** baz=78	**6.77**	**268**	P	**Pn**	**12 29 54.4**	**+0.4**
L19K	**White Mountain**	**6.86**	**335**		**Pn**	**12 29 54.9**	**-0.3**
M26K	**Nabesna, AK**	**6.89**	**22**	Pn	**Pn**	**12 29 57.7**	**+2.0**
N16K	**Nishlik Lake**	**6.90**	**313**		**Pn**	**12 29 56.7**	**+0.9**
N16K	**Nishlik Lake** baz=124	**6.90**	**313**	P	**Pn**	**12 29 56.7**	**+0.9**
S31K	**Pelican**	**6.97**	**70**		**Pn**	**12 29 56.6**	**-0.1**
S31K	**Pelican** baz=260	**6.97**	**70**	P	**Pn**	**12 29 56.6**	**-0.1**
DHY	**Denali Highway**	**6.97**	**4**		**Pn**	**12 29 55.9**	**-1.1**
M17K	**Holitna River**	**6.99**	**322**		**Pn**	**12 29 57.8**	**+0.7**
M17K	**Holitna River** baz=135	**6.99**	**322**	P	**Pn**	**12 29 57.8**	**+0.7**
M27K	**Edge Creek, AK**	**7.11**	**26**	Pn	**Pn**	**12 29 59.1**	**+0.4**
RND	**Reindeer**	**7.28**	**359**	Pn	**Pn**	**12 30 02.2**	**+1.1**
M16K	**Timber Creek**	**7.30**	**316**		**Pn**	**12 30 01.8**	**+0.6**
M16K	**Timber Creek** baz=128	**7.30**	**316**	P	**Pn**	**12 30 01.8**	**+0.6**
N15K	**Kwethluk River**	**7.30**	**308**		**Pn**	**12 30 03.4**	**+2.1**
SIT	**Sitka**	**7.37**	**77**	Pn	**Pn**	**12 30 01.4**	**-0.7**
SIT	**Sitka**	**7.37**	**77**	P	**Pn**	**12 30 01.9**	**-0.3**
TRF	**Thorofare Moun**	**7.38**	**354**	Pn	**Pn**	**12 30 02.4**	**0.0**
CAST	**Castle Rocks**	**7.50**	**348**	Pn	**Pn**	**12 30 04.0**	**-0.1**
KTH	**Kantishna Hill**	**7.52**	**352**	Pn	**Pn**	**12 30 04.6**	**+0.3**
PN7A	**Pavlof North-7**	**7.60**	**270**		**Pn**	**12 30 05.8**	**+0.3**
L27K	**Beaver Creek,**	**7.73**	**23**	Pn	**Pn**	**12 30 06.6**	**-0.5**
K20K	**Telida**	**7.74**	**341**	Pn	**Pn**	**12 30 07.2**	**-0.1**
TTA	**Tatalina**	**7.78**	**334**	Pn	**Pn**	**12 30 07.5**	**-0.3**
TTA	**Tatalina**	**7.78**	**334**	P	**Pn**	**12 30 08.0**	**+0.2**
S32K	**Killisnoo**	**7.80**	**74**		**Pn**	**12 30 08.0**	**0.0**
S32K	**Killisnoo** baz=266	**7.80**	**74**	P	**Pn**	**12 30 08.0**	**0.0**
SKAG	**Skagway**	**7.81**	**59**	P	**Pn**	**12 30 10.9**	**+2.7**
RIDG	**Independent Ri**	**7.84**	**12**		**Pn**	**12 30 10.9**	**+2.2**
L16K	**Owhat River**	**7.92**	**319**		**Pn**	**12 30 10.2**	**+0.4**
L16K	**Owhat River** baz=130	**7.92**	**319**	P	**Pn**	**12 30 10.9**	**+1.2**
N30M	**Aishikik Lake**	**7.99**	**43**	Pn	**Pn**	**12 30 12.1**	**+1.4**
JIS	**Juneau Island**	**7.99**	**69**	P	**Pn**	**12 30 11.9**	**+1.2**
O30N	**Mendenhall**	**8.01**	**50**	Pn	**Pn**	**12 30 11.1**	**+0.1**
K17K	**Iditarod**	**8.23**	**327**	Pn	**Pn**	**12 30 14.2**	**+0.2**
J18K	**Innoko River**	**8.40**	**334**	Pn	**Pn**	**12 30 16.3**	**0.0**
WHY	**Whitehorse**	**8.49**	**52**		**Pn**	**12 30 18.7**	**+1.1**
J20K	**Nowinta River**	**8.52**	**343**	Pn	**Pn**	**12 30 18.5**	**+0.6**
CCB	**Clear Creek Bu**	**8.54**	**2**	Pn	**Pn**	**12 30 18.1**	**0.0**
K27K	**Chicken**	**8.54**	**20**	Pn	**Pn**	**12 30 19.5**	**+1.2**
J19K	**Poorman**	**8.62**	**339**	Pn	**Pn**	**12 30 19.0**	**-0.2**
P32M	**Atlin**	**8.63**	**60**	Pn	**Pn**	**12 30 20.1**	**+0.5**
J25K	**Salcha River,**	**8.64**	**9**	Pn	**Pn**	**12 30 20.8**	**+1.2**
IL31		**8.69**	**5**	Pn	**Pn**	**12 30 20.2**	**0.0**
COLA	**College** comp=E,2.5nm,0.7s	**8.76**	**2**	P	**Pn**	**12 30 24.9**	**+3.7**
MDM	**Murphy Dome**	**8.84**	**1**	Pn	**Pn**	**12 30 24.1**	**+1.7**
M13K	**Dall Lake**	**8.87**	**305**	Pn	**Pn**	**12 30 24.3**	**+1.5**
L14K	**Kuka Creek**	**8.98**	**311**	Pn	**Pn**	**12 30 24.7**	**+0.4**
I21K	**Tanana**	**9.21**	**351**	Pn	**Pn**	**12 30 29.1**	**+1.7**
J16K	**Anvik River**	**9.37**	**325**	Pn	**Pn**	**12 30 29.6**	**0.0**
I26K	**Coal Creek Min**	**9.56**	**14**	Pn	**Pn**	**12 30 31.7**	**-0.5**
H21K	**Melozitna Rive**	**9.76**	**350**	Pn	**Pn**	**12 30 35.5**	**+0.6**
R33M	**Jennings River**	**9.94**	**64**	Pn	**Pn**	**12 30 38.7**	**+1.1**
H19K	**Roundabout Mou**	**10.15**	**341**	Pn	**Pn**	**12 30 40.9**	**+0.7**
IMAR	**Indian Mountai**	**10.18**	**348**	Pn	**Pn**	**12 30 41.0**	**+0.4**
H18K	**Honhosa River**	**10.21**	**336**	Pn	**Pn**	**12 30 40.7**	**-0.4**

ISC 28 12:50:47.7±2.2, 56.0N±0.1×150.02W±0.06, h10km, n28, σ1§12/30, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor** baz=125	**2.20**	**306**	P	**Pn**	**12 51 24.8**	**+0.6**
OHAK				S	**Sn**	**12 51 49.3**	**-2.1**
KDAK	**Kodiak Island** baz=142	**2.30**	**323**	S	**Sn**	**12 51 52.9**	**-1.0**
SII	**Sitkinak Islan** baz=104	**2.40**	**286**	P	**Pn**	**12 51 27.3**	**+0.3**
SII				S	**Sn**	**12 51 55.4**	**-1.0**
Q20K	**Shuyak Island** baz=153	**2.94**	**335**	P	**Pn**	**12 51 35.5**	**+1.1**
Q20K				S	**Sn**	**12 52 09.6**	**-0.1**
Q19K	**Cape Douglas,** baz=145	**3.55**	**328**	P	**Pn**	**12 51 44.5**	**+1.7**
BRSE	**Bradley Lake S** baz=174	**3.80**	**354**	P	Pn	12 51 46.6	+0.4
BRSE				S	**Sn**	**12 52 29.1**	**-1.8**
Q17K	**Contact Creek** baz=124	**3.94**	**308**	P	**Pn**	**12 51 49.2**	**+1.0**
Q23K	**Middleton Isla** baz=210	**3.98**	**28**	P	**Pn**	**12 51 49.1**	**+0.4**
P19K	**Oil Pt** baz=154	**4.07**	**336**	P	**Pn**	**12 51 52.0**	**+2.0**
SEW	**Seward** baz=184	**4.15**	**4**	P	**Pn**	**12 51 51.9**	**+0.9**
P23K	**Montague Islan** baz=199	**4.27**	**18**	P	Pn	12 51 53.1	+0.4
P23K				S	Sn	12 52 39.0	-3.4
P18K	**Big Mountain,** baz=139	**4.42**	**323**	P	**Pn**	**12 51 55.8**	**+1.0**
P18K				S	**Sn**	**12 52 44.8**	**-1.5**
O18K	**Koktuh Hills** baz=143	**4.77**	**327**	P	**Pn**	**12 52 00.6**	**+1.0**
KAIM	**Kayak Island** baz=218	**4.96**	**35**	P	**Pn**	**12 52 02.5**	**+0.4**
EYAK	**Cordova Ski Ar** baz=207	**5.11**	**24**	P	**Pn**	**12 52 04.9**	**+0.7**
N19K	**Bonanza Creek** baz=152	**5.39**	**336**	P	**Pn**	**12 52 09.4**	**+1.2**
KNK	**Knik Glacier** baz=189	**5.52**	**8**	P	**Pn**	**12 52 10.6**	**+0.8**
N18K	**Kilae Creek** baz=144	**5.64**	**329**	P	**Pn**	**12 52 12.5**	**+1.0**
BMRM	**Bremner River** baz=211	**5.76**	**27**	P	**Pn**	**12 52 13.8**	**+0.7**
M18K	**Stony River** baz=149	**6.30**	**334**	P	**Pn**	**12 52 21.3**	**+0.8**
N25K	**Chitina, Valde** baz=208	**6.31**	**24**	P	**Pn**	**12 52 21.6**	**+0.9**
PINM	**Pinnacle** baz=235	**6.63**	**47**	P	**Pn**	**12 52 25.6**	**+0.6**
M17K	**Holitna River** baz=142	**6.67**	**328**	P	**Pn**	**12 52 26.5**	**+0.9**
CTG	**Chitna Glacier** baz=225	**6.76**	**39**	P	**Pn**	**12 52 27.5**	**+0.5**
HARP	**HAARP** baz=203	**6.91**	**19**	P	**Pn**	**12 52 29.7**	**+0.8**
O29M	**Mount Kennedy** baz=239	**7.45**	**50**	P	**Pn**	**12 52 37.6**	**+1.2**
P29M	**Windy Craggy** baz=245	**7.51**	**56**	P	**Pn**	**12 52 37.7**	**+0.5**
S31K	**Pelican** baz=260	**7.79**	**70**	P	Pn	12 52 40.4	-0.6

PGC 28 12:55:06.8±5.2, 49.00N×129.75W, h10km, MLSn3.0/14, Mw3.6/14, 253km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEUTRINE Canada**	**1.12**	**156**	P	Pb	12 55 25.8	-2.3
NCHR				S	Sb	12 55 39.3	-3.1
KEMF	**NEPTUNE Canada**	**1.14**	**157**	P	Pb	12 55 26.1	-2.3
KEMF				S	Sb	12 55 40.2	-2.8
KEMO	**NEPTUNE Canada**	**1.16**	**158**	P	Pb	12 55 26.5	-2.2
KEMO				S	Sb	12 55 40.5	-3.1
EDB	**Eliza Dome**	**1.93**	**62**	Pn	Pn	12 55 37.0	-2.7
MAYB	**Maynard**	**2.19**	**49**	Pn	Pn	12 55 41.0	-2.4
PHC	**Port Hardy**	**2.28**	**40**	Pn	Pn	12 55 42.9	-1.6
PHC				Sn	Sn	12 56 07.3	-5.2
WOSB	**Woss**	**2.38**	**59**	Pn	Pn	12 55 44.2	-1.7
WOSB				Sn	Sn	12 56 10.5	-4.7
NCSB	**Newcastle Ridg**	**2.78**	**58**	Pn	Pn	12 55 50.5	-1.1
NCSB				Sn	Sn	12 56 21.3	-3.9
SPLB	**Strathcona Par**	**2.82**	**70**	Pn	Pn	12 55 51.3	-0.7
BBB	**Bella Bella**	**3.36**	**17**	Pn	Pn	12 55 58.2	-1.1
BBB				Sn	Sn	12 56 32.1	-7.0
OCP	**Olym-Cheeka Pk**	**3.47**	**100**	Pn	Pn	12 56 00.1	-0.8
PTRF	**Port Renfrew**	**3.56**	**95**	Pn	Pn	12 56 00.8	-1.3
LLLB	**Lillooet**	**5.35**	**69**	Pn	Pn	12 56 26.1	-0.6
HOPB	**Hope**	**5.48**	**83**	Pn	Pn	12 56 28.1	-0.4
RPW	**Rockport**	**5.48**	**93**	Pn	Pn	12 56 29.1	+0.5
LTY	**Liberty**	**6.32**	**103**	Pn	Pn	12 56 41.9	+1.7
FSJB	**Fort St James**	**6.43**	**30**	P	Pn	12 56 40.0	-1.7
NBC5	**NorthernBC 5**	**9.53**	**24**	P	Pn	12 57 23.9	-0.2

*TAP **28** 12:58:59.7, 24.66N×122.81E, h114km, ML3.9, C*
*JMA **28** 12:59:00.1±0.1, 25.1N±1.3×122.8E±0.5, h110km±1km, MV2.9/18, NW OFF ISHIGAKIJIMA IS*

ISC 28 12:59:00.1±1.2, 24.62N±0.03×122.78E±0.02, h112km±6km, n164, σ1§03/314, 57C-54D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.22**	**139**	P	**Pn**	**12 59 15.8**	**-0.1**
JYNG				*e*S	**Sn**	**12 59 27.6**	**0.0**
YOJ	**Yonaguni jima**	**0.26**	**128**	P	**Pn**	**12 59 14.8**	**-1.2**
YOJ	**Yonaguni jima**	**0.26**	**128**	P	**Pn**	**12 59 15.9**	**0.0**
YOJ				S	**Sn**	**12 59 28.0**	**+0.2**
YOJ	**Yonaguni jima** baz=145	**0.26**	**128**	⇓P	**Pn**	**12 59 15.8**	**-0.1**
YOJ				*i* S	**Sn**	**12 59 27.9**	**+0.1**
EOS3	**EOS3** baz=234	**0.54**	**232**	⇑*i*P	**Pn**	**12 59 17.9**	**+0.6**
EOS3				*i* S	**Sn**	**12 59 31.5**	**+1.4**
EOS2	**EOS2** baz=252	**0.54**	**248**	P	**Pn**	**12 59 18.4**	**+1.2**
EOS2				S	**Sn**	**12 59 31.8**	**+1.6**
EOS4	**EOS4** baz=219	**0.66**	**221**	⇓P	**Pn**	**12 59 18.2**	**+0.3**
EOS4				S	**Sn**	**12 59 32.0**	**+0.7**
TWB1	**Santiao Chiao** baz=292	**0.82**	**298**	P	**Pn**	**12 59 19.6**	**-0.1**
TWB1				S	**Sn**	**12 59 33.2**	**-1.3**
TWC	**Suao** baz=262	**0.85**	**269**	⇑P	**Pn**	**12 59 19.8**	**-0.2**
TWC				*i* S	**Sn**	**12 59 34.0**	**-1.0**
ESAO	**Su ao** baz=260	**0.86**	**267**	⇑P	**Pn**	**12 59 20.1**	**+0.1**
ESAO				S	**Sn**	**12 59 34.1**	**-1.0**
NTC	**Toucheng** baz=276	**0.90**	**285**	*i* S	**Sn**	**12 59 35.8**	**0.0**
EWUT	**Wuta** baz=253	**0.93**	**259**	⇑P	**Pn**	**12 59 21.1**	**+0.3**
EWUT				S	**Sn**	**12 59 36.2**	**-0.2**
TIPB	**Shuangxi** baz=283	**0.94**	**292**	⇑P	**Pn**	**12 59 21.1**	**+0.3**
TIPB				S	**Sn**	**12 59 35.9**	**-0.7**
SXI1	**Grass Mountain** baz=296	**0.95**	**300**	⇓P	**Pn**	**12 59 21.4**	**+0.3**
SXI1				*e*S	**Sn**	**12 59 36.4**	**-0.5**
ILA	**Ilan** baz=270	**0.95**	**279**	⇑P	**Pn**	**12 59 21.5**	**+0.5**
ILA				*i* S	**Sn**	**12 59 36.7**	**0.0**
ENA	**Nanau** baz=251	**0.97**	**259**	⇑P	**Pn**	**12 59 21.4**	**+0.2**
ENA				S	**Sn**	**12 59 37.1**	**+0.1**
NDS	**Dongshan** baz=267	**0.97**	**271**	⇓*i*P	**Pn**	**12 59 21.5**	**+0.3**
NDS				S	**Sn**	**12 59 36.9**	**-0.2**
EAHA	**Aohua** baz=246	**1.00**	**253**	⇑*i*P	**Pn**	**12 59 21.5**	**+0.1**
EAHA				S	**Sn**	**12 59 37.9**	**+0.4**
NWF	**Wu-fen Shan** baz=287	**1.02**	**296**	⇑P	**Pn**	**12 59 22.2**	**+0.5**
NWF				*e*S	**Sn**	**12 59 39.4**	**+1.3**
WFSB	**Wu-fen Shan** baz=288	**1.02**	**296**	⇑P	**Pn**	**12 59 22.0**	**+0.4**
WFSB				*e*S	**Sn**	**12 59 38.6**	**+0.7**
TWE	**Neicheng** baz=270	**1.02**	**276**	⇑P	**Pn**	**12 59 21.9**	**+0.2**
TWE				S	**Sn**	**12 59 37.6**	**-0.3**
HATJ	**Hateruma jima**	**1.09**	**121**	P	**Pn**	**12 59 23.1**	**+0.7**
HATJ				S	**Sn**	**12 59 39.7**	**+0.5**
FUSB	**Fushanzhiwuyua** baz=274	**1.10**	**277**	⇓P	**Pn**	**12 59 22.9**	**+0.3**
FUSB				*e*S	**Sn**	**12 59 38.9**	**-0.6**
ENTT	**Nioudou** baz=265	**1.11**	**271**	⇑P	**Pn**	**12 59 23.1**	**+0.5**
ENTT				*e*S	**Sn**	**12 59 39.2**	**-0.4**
LATG	**Datong** baz=259	**1.15**	**266**	⇓P	**Pn**	**12 59 23.4**	**+0.2**
LATG				*e*S	**Sn**	**12 59 40.7**	**+0.1**
ETL	**Fush Village** baz=238	**1.16**	**247**	⇓P	**Pn**	**12 59 22.8**	**-0.3**
ETL				*e*S	**Sn**	**12 59 39.7**	**-0.9**
NDT	**Datong Townshi** baz=264	**1.16**	**269**	⇑P	**Pn**	**12 59 23.7**	**+0.6**
NDT				S	**Sn**	**12 59 41.1**	**+0.6**
NACB	**Ninganchiao** baz=240	**1.17**	**248**	⇓P	**Pn**	**12 59 22.9**	**-0.4**
NACB				*i* S	**Sn**	**12 59 40.1**	**-0.7**
NWLT	**Wulai** baz=280	**1.18**	**278**	⇓P	**Pn**	**12 59 23.5**	**+0.1**
NWLT				S	**Sn**	**12 59 40.6**	**-0.3**
JKRS	**Kuro-shima**	**1.18**	**109**	P	**Pn**	**12 59 24.1**	**+0.7**
JKRS				S	**Sn**	**12 59 41.3**	**+0.3**
NHDH	**Xindian Distri** baz=276	**1.19**	**287**	*i*P	**Pn**	**12 59 23.7**	**+0.2**
NHDH				S	**Sn**	**12 59 40.4**	**-0.9**
TWD	**Chiawan** baz=235	**1.21**	**244**	⇑P	**Pn**	**12 59 23.3**	**-0.4**
TWD				S	**Sn**	**12 59 40.8**	**-0.8**
YM01	**YM01** baz=287	**1.22**	**296**	⇑P	**Pn**	**12 59 24.2**	**+0.3**
YM01				S	**Sn**	**12 59 41.8**	**-0.1**
YM08	**YM08** baz=289	**1.22**	**298**	P	**Pn**	**12 59 23.9**	**0.0**
YM08				S	**Sn**	**12 59 41.6**	**-0.3**
TATO	**Taipei**	**1.23**	**287**	P	**Pn**	**12 59 23.9**	**0.0**
TATO	**Taipei** baz=276	**1.23**	**287**	⇑P	**Pn**	**12 59 23.9**	**0.0**
TATO				S	**Sn**	**12 59 40.8**	**-1.1**
HWA	**Hwalien** baz=236	**1.25**	**239**	⇓*i*P	**Pn**	**12 59 24.4**	**+0.2**
HWA				S	**Sn**	**12 59 42.6**	**+0.2**
ETLH	**Xiulin Townshi** baz=248	**1.26**	**251**	⇑P	**Pn**	**12 59 24.2**	**-0.1**
ETLH				S	**Sn**	**12 59 42.0**	**-0.7**
JIJ	**Ishigaki jima**	**1.26**	**101**	P	**Pn**	**12 59 24.3**	**0.0**
JIJ				S	**Sn**	**12 59 41.7**	**-0.9**
ANP	**Anpu** baz=285	**1.28**	**296**	⇓P	**Pn**	**12 59 24.8**	**+0.2**
ANP				S	**Sn**	**12 59 43.1**	**0.0**
YHNB	**Yeheng** baz=263	**1.28**	**272**	⇑P	**Pn**	**12 59 25.2**	**+0.6**
YHNB				*i* S	**Sn**	**12 59 43.1**	**-0.1**
NNSB	**Datong** baz=252	**1.29**	**262**	⇓*i*P	**Pn**	**12 59 24.8**	**+0.1**
NNSB				S	**Sn**	**12 59 43.1**	**-0.3**
NNSH	**Datong** baz=254	**1.29**	**262**	⇓*i*P	**Pn**	**12 59 24.8**	**+0.1**
NNSH				S	**Sn**	**12 59 43.1**	**-0.2**
NNS	**Nan Shan** baz=253	**1.30**	**262**	⇓*i*P	**Pn**	**12 59 25.1**	**+0.2**
NNS				S	**Sn**	**12 59 42.9**	**-0.7**
NSK	**Sanguang** baz=263	**1.30**	**273**	⇑*i*P	**Pn**	**12 59 25.2**	**+0.4**
NSK				S	**Sn**	**12 59 43.2**	**-0.2**
NTST	**Danshui** baz=283	**1.33**	**294**	P	**Pn**	**12 59 25.4**	**+0.4**
NTST				S	**Sn**	**12 59 43.8**	**-0.1**
TWS1	**Kuangyinshan** baz=282	**1.33**	**291**	⇑*e*P	**Pn**	**12 59 25.4**	**+0.3**
TWS1				*e*S	**Sn**	**12 59 43.8**	**-0.2**
ETM	**Tongmen** baz=235	**1.35**	**241**	⇑*e*P	**Pn**	**12 59 25.0**	**-0.3**
ETM				S	**Sn**	**12 59 43.7**	**-0.7**
LXIB	**Xiulin Townshi** baz=242	**1.39**	**245**	⇓P	**Pn**	**12 59 25.5**	**-0.4**
LXIB				*e*S	**Sn**	**12 59 44.3**	**-1.1**
JISG	**Ishigakijimahi**	**1.39**	**91**	P	**Pn**	**12 59 25.7**	**0.0**
JISG				*e*S	**Sn**	**12 59 44.2**	**-0.9**
SHUL	**Shoufeng** baz=231	**1.39**	**234**	⇓P	**Pn**	**12 59 25.7**	**-0.1**
SHUL				S	**Sn**	**12 59 45.1**	**-0.1**
NTY	**Taoyuan** baz=279	**1.40**	**286**	*e*P	**Pn**	**12 59 26.2**	**+0.3**
NTY				*i* S	**Sn**	**12 59 45.1**	**-0.3**
FUSS	**Fushou** baz=248	**1.45**	**255**	⇓P	**Pn**	**12 59 27.1**	**+0.3**
FUSS				S	**Sn**	**12 59 46.7**	**-0.2**
TEGC	**Jichi Village** baz=236	**1.46**	**232**	⇓P	**Pn**	**12 59 26.5**	**0.0**
TEGC				*e*S	**Sn**	**12 59 46.0**	**-0.5**
WHF	**Hehuan Shan** baz=248	**1.46**	**251**	⇓P	**Pn**	**12 59 27.2**	**+0.2**
WHF				S	**Sn**	**12 59 46.5**	**-0.9**
ESL	**Shilin** baz=234	**1.47**	**237**	⇓P	**Pn**	**12 59 26.4**	**-0.4**
ESL				S	**Sn**	**12 59 45.7**	**-1.2**
NCU	**National Centr** baz=281	**1.49**	**284**	⇓*e*P	**Pn**	**12 59 27.5**	**+0.6**
NCU				*e*S	**Sn**	**12 59 47.7**	**+0.3**
NCUH	**Zhongli** baz=281	**1.49**	**284**	⇓P	**Pn**	**12 59 27.6**	**+0.7**
NCUH				S	**Sn**	**12 59 47.3**	**-0.1**
TWT	**Tachien** baz=250	**1.51**	**256**	⇑*e*P	**Pn**	**12 59 28.2**	**+0.8**
TWT				*e*S	**Sn**	**12 59 47.8**	**-0.2**
NFF	**Wufeng Townshi** baz=268	**1.52**	**271**	⇑P	**Pn**	**12 59 27.8**	**+0.5**
NFF				*e*S	**Sn**	**12 59 47.6**	**-0.4**
TDCB	**Techi** baz=251	**1.53**	**256**	⇑P	**Pn**	**12 59 28.3**	**+0.8**
TDCB				*e*S	**Sn**	**12 59 47.9**	**-0.4**
NJD	**Zhudong** baz=267	**1.55**	**275**	P	**Pn**	**12 59 28.5**	**+0.9**
NJD				S	**Sn**	**12 59 49.2**	**+0.7**
EGFH	**Guangfu** baz=234	**1.56**	**233**	⇓*i*P	**Pn**	**12 59 27.6**	**-0.2**
EGFH				S	**Sn**	**12 59 48.3**	**-0.5**
WARBT	**Fenglin Townsh** baz=233	**1.56**	**235**	⇑P	**Pn**	**12 59 27.3**	**-0.5**
WARBT				S	**Sn**	**12 59 47.5**	**-1.4**
CHGB	**Renai** baz=241	**1.57**	**250**	⇑P	**Pn**	**12 59 28.5**	**+0.3**
CHGB				S	**Sn**	**12 59 48.8**	**-0.6**
LIOB	**Emei** baz=268	**1.61**	**271**	⇑*i*P	**Pn**	**12 59 28.9**	**+0.5**
LIOB				S	**Sn**	**12 59 49.9**	**0.0**
OWD	**Renai** baz=239	**1.61**	**246**	⇑P	**Pn**	**12 59 28.7**	**+0.2**
OWD				*e*S	**Sn**	**12 59 49.5**	**-0.6**
HSN1	**Hsinchu** baz=273	**1.61**	**276**	P	**Pn**	**12 59 29.2**	**+0.8**
HSN1				*i* S	**Sn**	**12 59 50.4**	**+0.5**
NSTT	**Nanjuang** baz=268	**1.62**	**271**	⇑P	**Pn**	**12 59 29.0**	**+0.5**
NSTT				S	**Sn**	**12 59 49.9**	**-0.2**
NHW	**Xinwu Township** baz=286	**1.62**	**284**	⇓P	**Pn**	**12 59 29.2**	**+0.7**
NHW				S	**Sn**	**12 59 50.5**	**+0.4**
SBCB	**Hsinchu** baz=273	**1.65**	**276**	⇑P	**Pn**	**12 59 29.2**	**+0.5**
SBCB				S	**Sn**	**12 59 51.3**	**+0.7**
WUSB	**Renai** baz=241	**1.65**	**248**	⇑*i*P	**Pn**	**12 59 29.4**	**+0.4**
WUSB				*i* S	**Sn**	**12 59 50.6**	**-0.3**
HSN	**Hsinchu** baz=275	**1.66**	**277**	P	**Pn**	**12 59 29.4**	**+0.4**
HSN				S	**Sn**	**12 59 51.0**	**0.0**
HGSD	**Ruisui** baz=225	**1.68**	**228**	⇑P	**Pn**	**12 59 29.0**	**-0.2**
HGSD				*e*S	**Sn**	**12 59 50.7**	**-0.6**
WHP	**Taichung City** baz=254	**1.71**	**259**	⇑P	**Pn**	**12 59 31.3**	**+1.6**
WHP				S	**Sn**	**12 59 53.1**	**+1.0**
VWDT	**VWDT** baz=233	**1.73**	**240**	⇑P	**Pn**	**12 59 30.2**	**+0.4**
VWDT				S	**Sn**	**12 59 52.1**	**-0.3**
EHY	**Hungye** baz=235	**1.74**	**231**	⇑P	**Pn**	**12 59 29.4**	**-0.5**
NJN	**Zhunan** baz=270	**1.74**	**272**	*i* P	**Pn**	**12 59 30.5**	**+0.5**
NJN				S	**Sn**	**12 59 52.6**	**-0.1**
JTJ	**Tarama**	**1.75**	**89**	P	**Pn**	**12 59 30.3**	**+0.3**
JTJ				S	**Sn**	**12 59 52.9**	**+0.1**
WPL	**Puli Township** baz=246	**1.77**	**250**	⇓P	**Pn**	**12 59 31.2**	**+0.9**
WPL				*e*S	**Sn**	**12 59 53.9**	**+0.5**

baz=246
ECBN Changbin 1.78 223 *e*P Pn 12 59 31.0 +0.5
baz=216
ECBN S Sn 12 59 53.1 -0.5
baz=216
DPDB Guoxing 1.79 251⇑*i*P Pn 12 59 31.5 +0.8
baz=247
DPDB S Sn 12 59 54.6 +0.7
baz=247
WCS Beigang Elemen 1.80 252 ⇓P Pn 12 59 31.8 +1.1
baz=254
WCS S Sn 12 59 55.2 +1.2
baz=254
NMLH Miaoli 1.82 268 ⇑P Pn 12 59 31.5 +0.6
baz=272
NMLH *e*S Sn 12 59 54.2 -0.2
baz=272
YULB Yu-li 1.83 228 P Pn 12 59 30.5 -0.6
YULB Yu-li 1.83 228 ⇑P Pn 12 59 30.5 -0.6
baz=233
YULB S Sn 12 59 53.5 -1.2
baz=233
EYUL Yuli 1.84 227 ⇓P Pn 12 59 31.3 0.0
baz=232
EYUL S Sn 12 59 54.5 -0.5
baz=232
TWQ1 Liyutan 1.85 262⇑*i*P Pn 12 59 31.9 +0.6
baz=259
TWQ1 *e*S Sn 12 59 55.1 -0.1
baz=259
TWF1 Yuli 1.86 227 ⇑P Pn 12 59 31.1 -0.3
baz=232
TWF1 S Sn 12 59 54.1 -1.2
baz=232
SSLB Suanglung 1.87 244 P Pn 12 59 31.1 -0.5
SSLB Suanglung 1.87 244 ⇓P Pn 12 59 32.0 +0.4
baz=239
SSLB S Sn 12 59 55.2 -0.3
baz=239
SMLT Sun Moon Lake 1.87 247 ⇓P Pn 12 59 33.1 +1.4
baz=240
SMLT *e*S Sn 12 59 57.7 +2.0
baz=240
TYC Yuchr 1.90 248⇓*i*P Pn 12 59 32.9 +1.0
baz=241
TYC S Sn 12 59 57.6 +1.5
baz=241
CHKH Chenggong 1.91 222 ⇓P Pn 12 59 31.5 -0.6
baz=217
CHKH S Sn 12 59 54.8 -1.6
baz=217
FULB Fuli 1.97 224 ⇑P Pn 12 59 32.9 +0.1
baz=217
FULB *e*S Sn 12 59 57.2 -0.5
baz=217
WDJ Dajia District 1.97 263 *i* P Pn 12 59 33.3 +0.5
baz=260
WDJ *e*S Sn 12 59 57.6 -0.2
baz=260
TCU Taichung 1.98 257⇓*i*P Pn 12 59 33.5 +0.6
baz=263
TCU *e*S Sn 12 59 59.6 +1.6
baz=263
WWF Wufeng 1.99 254⇓*i*P Pn 12 59 34.1 +1.0
baz=261
WWF S Sn 12 59 59.4 +1.2
baz=261
WHYT Xinyi Township 1.99 243 ⇓P Pn 12 59 34.5 +1.3
baz=239
WHYT S Sn 12 59 59.3 +1.0
baz=239
CHKT Chengkung 2.00 221⇑*i*P Pn 12 59 32.7 -0.5
baz=214
CHKT S Sn 12 59 56.8 -1.6
baz=214
WJS Zhushan 2.04 247 ⇓P Pn 12 59 34.9 +1.2
baz=239
WJS S Sn 13 00 01.4 +2.0
baz=239
WNT1 Nantou City 2.05 250⇑*i*P Pn 12 59 35.1 +1.3
baz=247
WNT1 S Sn 13 00 01.0 +1.4
baz=247
WNT Mingjian 2.06 249 ⇑P Pn 12 59 35.0 +1.1
baz=246
WNT S Sn 13 00 01.3 +1.6
baz=246
EHD Haiduan 2.06 225 ⇓P Pn 12 59 33.4 -0.5
baz=230
EHD S Sn 12 59 58.9 -0.9
baz=230
ECS Chishang 2.09 224 P Pn 12 59 34.5 +0.2
baz=230
ECS *e*S Sn 13 00 00.8 +0.3
baz=230
WCHH Zhanghua 2.10 256 *e*P Pn 12 59 35.4 +0.9
baz=260
WCHH *e*S Sn 13 00 01.3 +0.5
baz=260
WYL Yuanlin Townsh 2.12 252 *e*P Pn 12 59 34.8 +0.2
baz=258
WYL *i* S Sn 13 00 02.5 +1.5
baz=258
ALS Alishan 2.12 239⇓*i*P Pn 12 59 36.2 +1.1
baz=236
ALS S Sn 13 00 02.5 +0.8
baz=236
EDH Donghe 2.13 220⇑*e*P Pn 12 59 33.3 -1.6
baz=212
EDH *e*S Sn 12 59 59.0 -2.4
baz=212
ELDTW Lidau 2.16 229⇓*i*P Pn 12 59 35.2 -0.1
baz=223
ELDTW S Sn 13 00 01.3 -0.9
baz=223
CHN5 Tsauling 2.18 243 ⇑P Pn 12 59 36.7 +1.1
baz=234
CHN5 *e*S Sn 13 00 04.8 +2.1
baz=234
JIRB Irabujima 2.18 84 P Pn 12 59 35.8 +0.3
JIRB S Sn 13 00 03.1 +0.5
WGK Gukeng 2.23 246 ⇓P Pn 12 59 38.0 +1.8
baz=234
WGK *e*S Sn 13 00 03.2 -0.6
baz=234
WDLH Douliu 2.25 246 P Pn 12 59 38.0 +1.6
baz=254
WDLH S Sn 13 00 06.7 +2.5
baz=254
JIKM Ikemajima 2.26 82 P Pn 12 59 36.9 +0.5
JIKM S Sn 13 00 05.0 +0.7
LDUT Ludao 2.28 212 ⇓P Pn 12 59 36.4 -0.4
baz=208
LDUT *e*S Sn 13 00 03.0 -1.9
baz=208
JMJ Miyako jima 2 2.29 85 P Pn 12 59 37.9 +1.0
JMJ Miyako jima 2 2.29 85 ⇓P Pn 12 59 37.8 +0.9
baz=88
JMJ *e*S Sn 13 00 05.5 +0.4
baz=88
WRL Guolierlin Hig 2.31 252 ⇑P Pn 12 59 37.4 +0.3
baz=250
WRL *e*S Sn 13 00 05.1 -0.5
baz=250
WCKO Fanlu 2.31 240 ⇓P Pn 12 59 38.8 +1.6
baz=237
WCKO S Sn 13 00 07.7 +2.0
baz=237
JMJ2 Miyako jima3 2.32 87 P Pn 12 59 37.7 +0.5
JMJ2 *e*S Sn 13 00 06.2 +0.6
RLNB Erlin 2.33 252 ⇑P Pn 12 59 37.9 +0.5
baz=249
RLNB S Sn 13 00 06.0 0.0
baz=249
STYT Tauyuan 2.36 232⇓*e*P Pn 12 59 39.2 +1.4
baz=226
STYT *e*S Sn 13 00 08.5 +1.7
baz=226
CHN4 Tsaushan 2.37 238 ⇓P Pn 12 59 39.2 +1.3
baz=235
CHN4 *e*S Sn 13 00 09.5 +2.5
baz=235
TPUB Ta-pu 2.37 237 P Pn 12 59 39.0 +1.0
TPUB Ta-pu 2.37 237⇑*e*P Pn 12 59 39.7 +1.7
baz=228
TPUB *e*S Sn 13 00 09.2 +2.2
baz=228
CHN2 Minshiung 2.37 243 *e*P Pn 12 59 39.6 +1.6
baz=251
CHN2 *e*S Sn 13 00 10.5 +3.5
baz=251
WTK Tuku 2.38 247⇑*e*P Pn 12 59 38.6 +0.6
baz=245
WTK *e*S Sn 13 00 07.9 +0.8
baz=245
TWGBT Beinan 2.38 221 P Pn 12 59 37.7 -0.4
TWGBT Beinan 2.38 221 ⇓P Pn 12 59 37.7 -0.4
baz=224
TWGBT *i* S Sn 13 00 06.0 -1.2
baz=224
TWG Pinlang 2.38 222⇑*e*P Pn 12 59 37.8 -0.3
baz=224
TWG *e*S Sn 13 00 06.7 -0.6
baz=224
JOGS Gusukube 2.39 86 P Pn 12 59 38.5 +0.3
JOGS *e*S Sn 13 00 07.9 +0.5
WTCT Ta-ch'eng 2.41 252 *e*P Pn 12 59 38.2 -0.2
baz=249
WTCT *e*S Sn 13 00 06.5 -1.2
baz=249
WTP Ta-pu 2.41 236 *e*P Pn 12 59 39.6 +1.0
baz=227
WTP *e*S Sn 13 00 10.8 +2.8
baz=227
TWK Hsinying 2.50 238 ⇓P Pn 12 59 40.7 +1.1
baz=235
TWK *e*S Sn 13 00 12.2 +2.2
baz=235
CHN1 Nanshi 2.51 236⇓*i*P Pn 12 59 40.9 +1.1
baz=233
CHN1 *e*S Sn 13 00 12.3 +2.1
baz=233
SNST Tainan City 2.52 237 ⇓P Pn 12 59 41.1 +1.2
baz=234
SNST *e*S Sn 13 00 13.0 +2.7
baz=234
SGST Jiashian 2.53 233⇓*e*P Pn 12 59 40.6 +0.6
baz=239
SGST *e*S Sn 13 00 13.3 +2.5
baz=239
WSF Szhu 2.54 248 ⇑P Pn 12 59 40.9 +0.8
baz=245
WSF *e*S Sn 13 00 12.1 +1.3
baz=245
SLGT Liugui 2.54 231 ⇓P Pn 12 59 41.7 +1.5
baz=234
SLGT *e*S Sn 13 00 13.6 +2.7
baz=234
ICHU Yijhu 2.61 242 ⇑P Pn 12 59 41.2 +0.1
baz=231
ICHU S Sn 13 00 13.5 +1.0
baz=231
ECL Taimali 2.62 220 *e*P Pn 12 59 41.4 +0.2
baz=217
ECL *e*S Sn 13 00 11.6 -1.2
baz=217
CHN8 Yiju 2.67 242 *e*P Pn 12 59 42.0 +0.1
baz=249
CHN8 *e*S Sn 13 00 16.2 +2.2
baz=249
SSD Sandimen 2.72 227⇑*e*P Pn 12 59 42.8 +0.3
baz=224
SSD *e*S Sn 13 00 14.9 -0.1
baz=224
SCST Cishan 2.72 231 ⇓P Pn 12 59 43.9 +1.4
baz=236
SCST *e*S Sn 13 00 19.5 +4.5
baz=236
TSMG Majia 2.74 226 ⇑P Pn 12 59 43.9 +1.2
baz=223
TSMG S Sn 13 00 17.1 +1.6
baz=223
SHHT Tainan City 2.74 235 *e*P Pn 12 59 44.7 +1.9
baz=242
MASBT Mashibuluo 2.81 225⇓*e*P Pn 12 59 44.7 +1.0
baz=233
MASBT *e*S Sn 13 00 17.6 +0.4
baz=233
LYUB Lan-yu 2.83 203 ⇑P Pn 12 59 43.0 -1.0
baz=196
LYUB *e*S Sn 13 00 13.1 -4.6
baz=196
EAST Anshuo 2.85 219⇓*i*P Pn 12 59 44.0 -0.3
baz=216
EAST *e*S Sn 13 00 17.7 -0.5
baz=216
TAWH Dawu Township 2.86 218⇑*e*P Pn 12 59 42.7 -1.7
baz=219
TAWH *e*S Sn 13 00 18.5 +0.1
baz=219
TSCK Chigu Township 2.87 240 *e*P Pn 12 59 45.1 +0.6
baz=237
TSCK *e*S Sn 13 00 18.9 +0.2
baz=237
MATB Ma-tsu 2.99 301 *e*P Pn 12 59 45.7 -0.2
baz=291
MATB *e*S Sn 13 00 21.3 -0.1
baz=291
SCZT Fangliau 2.99 222 ⇓P Pn 12 59 46.9 +0.8
baz=214
SCZT *e*S Sn 13 00 23.8 +2.3
baz=214
SLIU Shizi 3.01 218 *e*P Pn 12 59 47.0 +0.7
baz=218
SLIU *e*S Sn 13 00 21.5 -0.5
baz=218
VWUC VWUC 3.05 278 *e*P Pn 12 59 46.8 -0.1
baz=275
VWUC *e*S Sn 13 00 20.1 -2.8
baz=275
PHUB P'eng-hu 3.14 250 *e*P Pn 12 59 47.2 -0.8
baz=247
PHUB *e*S Sn 13 00 22.9 -2.0
baz=247
LYJJ Jianjiangzhen 3.34 306 *e*P Pn 12 59 50.0 -0.7
baz=295
PTMZ Houxiangcun 3.36 278 *e*P Pn 12 59 50.4 -0.5
baz=276
PTMZ *e*S Sn 13 00 28.3 -1.8
baz=276
MHZQ Yeshan 3.70 294 *e*P Pn 12 59 55.9 +0.4
baz=292
MHZQ *e*S Sn 13 00 36.7 -1.7
baz=292
KNM Kinmen 3.97 268 *e*P Pn 12 59 60.0 +0.9
baz=265
KNMB Chin-men Tao 4.01 269 *e*P Pn 12 59 58.6 -1.0
baz=266
KNMB *e*S Sn 13 00 43.6 -2.1
baz=266
AXDP Jialang 4.39 275 *e*P Pn 13 00 04.7 0.0
baz=272
JOW Kunigami 5.42 65 P Pn 13 00 16.9 -1.7

*NEIC **28** 13:04:56.7±1.3, 6.29S±0.08×154.80E±0.08, h35km±2km, mb4.7/168, Error ellipse: s-maj=15.5km s-min=10.1km az=228.0*
*IDC **28** 13:05:00.3±1.7, 6.24S×154.69E, h76km±15km, mb4.2/21, mbtmp4.5/24, MS3.6/24, Error ellipse: s-maj=13.2km s-min=11.0km az=65.0*
ISC 28 13:04:57.6±0.3, 6.28S±0.05×154.71E±0.05, h48km, n283, σ1s15/265, mb4.7/117, MS3.8/22, 2C-1D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.28**	**309**	Pn	**Pn**	**13 05 46.8**	**+0.2**
I40PG	**Keravat**	**3.33**	**306**	I	I	13 24 30.0	
	baz=122,slow=309,SNR=0.6						
HNR	**Honiara**	**6.06**	**121**	Pn	**Pn**	**13 06 22.0**	**-2.7**
HNR	**Honiara**	**6.06**	**121**	P	**Pn**	**13 06 27.5**	**+2.8**
	5μm,0.7s,baz=185,slow=4.7,SNR=6.8						
HNR				S	**Sn**	**13 07 37.7**	**+4.9**
	7μm,0.9s,baz=100,slow=23,SNR=1.5						
HNR				LR	LR	13 08 44.0	
	comp=Z,6μm,19.3s,baz=320,slow=37						
PMG	**Port Moresby**	**8.10**	**247**	P	**Pn**	**13 06 55.4**	**+2.6**
	136nm,0.7s,baz=51,slow=9.1,SNR=29						
PMG				S	**Sn**	**13 08 27.4**	**+4.3**
	93nm,0.9s,baz=211,slow=21,SNR=2.3						
PMG				LR	LR	13 09 58.0	
	comp=Z,489nm,21.1s,baz=58,slow=37						
PATS	**Pohnpei**	**13.52**	**15**	Pn	**Pn**	**13 08 07.1**	**+0.2**
COEN	**Coen**	**13.68**	**235**	Pn	**Pn**	**13 08 08.4**	**-0.7**

CTA Charters Tower 16.00 210 P Pn 13 08 40.2 +0.7
4.9nm,0.9s,baz=13,slow=16,SNR=2.2
CTA LR LR 13 13 54.9
comp=Z,205nm,21.5s,baz=62,slow=33
CTAO Charters Tower 16.00 210 Pn **Pn 13 08 39.1 -0.4**
LIFNC LIFOU 18.84 141 P P 13 09 11.4 -2.3
EIDS Eidsvold 19.30 190 P P 13 09 17.1 -1.5
DZM Mont Dzumac 19.36 145 Pn **P 13 09 19.7 +0.2**
DZM Mont Dzumac 19.36 145 P Pn 13 09 20.7 -0.3
24nm,0.8s,baz=318,slow=13,SNR=1.5
DZM LR LR 13 15 53.8
comp=Z,199nm,18.9s,baz=270,slow=34
ONTNC Ouen Toro 19.55 146 P P 13 09 20.1 -1.5
OUENC Ouen Island, N 19.86 145 P P 13 09 24.2 -0.7
OUENC IAmb IAmb 13 09 45.4
comp=Z,34nm,1.1s
GUMO Guam 22.03 334 LR LR 13 16 58.0
comp=Z,53nm,22.0s,baz=118,slow=33
FAKI Fak Fak 22.64 277 P P 13 09 55.0 +0.1
FAKI IAmb IAmb 13 09 58.5
comp=Z,33nm,0.8s
WR0 Warramunga Arr 23.85 233 P P 13 10 07.4 +0.7
WR0 IAmb IAmb 13 10 21.9
comp=Z,20nm,0.8s
WB0 Warramunga Arr 23.87 234 P P 13 10 07.5 +0.6
WB2 Warramunga Arr 23.99 234 P P 13 10 08.5 +0.5
WB2 IAmb IAmb 13 10 36.3
comp=Z,17nm,0.8s
WRA Warramunga Arr 24.00 234 P P 13 10 08.3 +0.2
WRA Warramunga Arr 24.00 234 P P 13 10 09.2 +1.1
comp=Z,4.5nm,0.5s,baz=59,slow=9.2,SNR=37
WRA PcP **PcP 13 13 49.4 0.0**
comp=Z,3.2nm,0.6s,baz=58,slow=2.3,SNR=8.7
WRA ScP **ScP 13 17 21.0 -3.0**
comp=Z,0.4nm,0.7s,baz=57,slow=3.1,SNR=1.6
comp=Z,4.5nm,0.5s
ARMA Armidale 24.18 187 P P 13 10 11.0 +1.2
AS31 Alice Springs 26.44 227 P P 13 10 30.5 +0.2
ASAR Alice Springs 26.44 227 P P 13 10 30.4 +0.1
ASAR Alice Springs 26.44 227 P P 13 10 30.7 +0.4
comp=Z,1.5nm,0.4s,baz=55,slow=9.2,SNR=67
ASAR PcP **PcP 13 13 54.9 0.0**
comp=Z,3.4nm,0.7s,baz=62,slow=2.4,SNR=12
ASAR ScP **ScP 13 17 26.6 -4.4**
comp=Z,0.3nm,0.8s,baz=50,slow=2.9,SNR=1.8
ASAR LR LR 13 20 24.5
comp=Z,147nm,21.3s,baz=120,slow=35
comp=Z,1.5nm,0.4s
H11S3 WAKE ISLAND Hy 27.31 25 T T 13 39 10.7
baz=202,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 27.31 25 T T 13 39 12.6
baz=202,slow=75,SNR=32
H11S1 WAKE ISLAND Hy 27.32 25 T T 13 39 13.6
baz=202,slow=75,SNR=19
LBMI Labuha 27.73 281 P P 13 10 33.2 -8.7
comp=Z,64nm,1.1s
TNTI Ternate 28.18 283 P P 13 10 37.9 -8.1
comp=Z,29nm,1.2s
STKA Stephens Creek 28.26 204 P P 13 10 46.3 -0.2
STKA Stephens Creek 28.26 204 P P 13 10 46.0 -0.5
comp=Z,1.9nm,0.7s,baz=27,slow=14,SNR=4.0
STKA PcP **PcP 13 13 58.9 -0.1**
comp=Z,2.9nm,0.7s,baz=196,slow=1.8,SNR=3.9
STKA LR LR 13 22 22.7
comp=Z,121nm,19.3s,baz=24,slow=37
comp=Z,1.9nm,0.7s
CAN Canberra 29.38 190 P P 13 10 57.2 +0.9
CAN IAmb IAmb 13 11 24.8
comp=Z,31nm,1.5s
FITZ Fitzroy Crossi 30.69 245 P P 13 11 08.3 +0.1
SGSI Sangihe 30.78 288 P P 13 11 03.2 -5.8
comp=Z,2μm,0.4s,comp=Z,41μm
BBOO Buckleboo 31.59 211 P P 13 11 15.6 -0.4
BBOO IAmb IAmb 13 11 48.6
comp=Z,20nm,1.3s
DAV Davao City (W) 31.95 294 LR LR 13 23 22.0
comp=Z,58nm,21.5s,baz=14,slow=34
TOO Toolangi 32.26 194 P P 13 11 22.9 +1.1
TOO IAmb IAmb 13 12 04.5
comp=Z,16nm,1.3s
EDFI Ende, Flores 32.82 264 P P 13 11 20.7 -6.4
comp=Z,41nm,0.9s
TOLI2 Tolitoli 34.66 281 P P 13 11 43.0 0.0
TOLI2 IAmb IAmb 13 11 43.8
comp=Z,13nm,1.1s
HIZ Hauiti 36.91 153 P P 13 12 03.2 +1.3
PSA00 Pilbara Seismi 36.98 242 P P 13 12 02.6 -0.1
PSA00 IAmb IAmb 13 12 37.0
comp=Z,11nm,1.2s
TAU Tasmania Unive 37.06 189 P P 13 12 03.7 +0.6
OMRZ Omania 37.28 151 P P 13 12 09.3 +4.2
HAZ Te Kaha 37.70 149 P P 13 12 09.8 +1.2
URZ Urewera 37.76 151 P P 13 12 09.1 +0.1
comp=Z,6.3nm,0.4s,baz=354,slow=3.4,SNR=15
comp=Z,6.3nm,0.4s
URZ Urewera 37.76 151 P P 13 12 11.4 +2.3
MUGZ Murupara 37.77 151 P P 13 12 12.1 +2.9
OTVZ Oturere 37.81 153 P P 13 12 15.1 +5.5
RUGZ Raukumara Rang 37.81 150 P P 13 12 10.5 +0.8
QRZ Quartz Range 37.91 158 P P 13 12 10.8 +0.5
WNVZ Wahianoa 37.91 153 P P 13 12 15.1 +4.6
RTZ Ruatahuna 37.98 151 P P 13 12 10.7 -0.4
MWZ Matawai 38.02 150 P P 13 12 12.4 +1.1
RAGZ Rawiri 38.10 151 P P 13 12 12.9 +0.8
MTHZ Maungataniwha 38.10 152 P P 13 12 12.9 +0.9
TWGZ Tauwhareparae 38.13 150 P P 13 12 13.2 +1.0
PUZ Puketiti 38.19 149 P P 13 12 12.7 0.0
BKZ Black Stump Fm 38.19 152 P P 13 12 12.5 -0.3
BKZ Black Stump Fm 38.19 152 P P 13 12 13.7 +1.0
BHHZ Black Hill Sta 38.25 153 P P 13 12 15.9 +2.6
TKGZ Te Karaka 38.27 150 P P 13 12 09.0 -4.3
RAHZ Arahi 38.27 151 P P 13 12 11.8 -1.6
NMHZ Naumai 38.28 152 P P 13 12 14.9 +1.4
KWHZ Kaweka Forest 38.36 153 P P 13 12 15.8 +1.5
RIGZ Rimuhau 38.43 150 P P 13 12 15.3 +0.5
WHHZ Waihua 38.47 151 P P 13 12 14.9 -0.1
CNGZ Carnagh Statio 38.48 150 P P 13 12 15.6 +0.5
MRNZ Matariki Terra 38.49 158 P P 13 12 15.7 +0.4
ARHZ Aropaoanui 38.50 152 P P 13 12 15.7 +0.4
MCHZ McNeill Hill 38.51 152 P P 13 12 16.2 +0.9
KRHZ Kereru 38.52 153 P P 13 12 15.6 +0.1
NNZ Nelson 38.57 157 P P 13 12 15.9 0.0
KNZ Kokohu 38.63 151 P P 13 12 16.6 +0.2
PRGZ Paritu Road 38.66 151 P P 13 12 18.4 +1.7
TSZ Takapari Road 38.67 154 P P 13 12 17.3 +0.6
MHGZ Mahia Peninsul 38.85 151 P P 13 12 18.7 +0.5
THZ Tophouse 38.86 158 P P 13 12 17.9 -0.5
THZ IAmb IAmb 13 12 22.5
comp=Z,12nm,0.9s
KAHZ Kahuranaki 38.87 152 P P 13 12 19.1 +0.6
TCW Tory Channel 38.92 156 P P 13 12 18.6 -0.2
TUWZ Tuamarina 38.97 157 P P 13 12 19.0 -0.2
MRZ Mangatainoka R 39.00 154 P P 13 12 18.7 -0.8
MRZ IAmb IAmb 13 12 37.2
comp=Z,32nm,1.3s
MRZ Mangatainoka R 39.00 154 P P 13 12 19.9 +0.5
PXZ Pawanui 39.05 153 P P 13 12 19.6 -0.3
CAW Cannon Point 39.15 155 P P 13 12 21.8 +1.1
ANWZ Angora Road 39.22 153 P P 13 12 21.2 -0.1
BFZ Birch Farm 39.30 154 P P 13 12 21.6 -0.4
BFZ IAmb IAmb 13 12 53.8
comp=Z,23nm,1.1s
BFZ Birch Farm 39.30 154 P P 13 12 22.0 0.0
LTZ Lake Taylor 39.53 160 P P 13 12 23.8 -0.1
LTZ IAmb IAmb 13 12 25.2
comp=Z,29nm,1.5s
KHZ Kahutara 39.66 158 P P 13 12 24.2 -0.7
KHZ IAmb IAmb 13 12 41.9
comp=Z,14nm,1.2s
OXZ Oxford 39.93 160 P P 13 12 26.0 -1.2
OXZ IAmb IAmb 13 12 33.7
comp=Z,20nm,1.2s
RPZ Rata Peaks 39.95 161 P P 13 12 27.1 -0.3
RPZ IAmb IAmb 13 12 28.0
comp=Z,11nm,0.7s
RPZ Rata Peaks 39.95 161 P P 13 12 27.0 -0.4
comp=Z,8.3nm,0.7s,baz=321,slow=3.5,SNR=11
RPZ LR LR 13 26 10.0
comp=Z,84nm,20.3s,baz=320,slow=32
comp=Z,8.3nm,0.7s
JAGI Jajag, Banyuwa 40.27 264 P P 13 12 29.6 -0.8
KKM Kota Kinabalu 40.33 287 P P 13 12 32.3 +1.3
KKM IAmb IAmb 13 13 16.6
comp=Z,33nm,1.3s

MQZ McQueen's Vall 40.47 160 P **P** 13 12 31.9 +0.2
MLZ Mavora Lakes 40.64 165 P **P** 13 12 32.8 -0.3
MLZ IAmb IAmb 13 12 33.2
comp=Z,15nm,1.1s
ODZ Otahua Downs 41.03 163 P **P** 13 12 35.3 -1.0
ODZ IAmb IAmb 13 12 45.0
comp=Z,22nm,1.5s
WHZ Wether Hill Ro 41.09 166 P **P** 13 12 36.3 -0.5
WHZ IAmb IAmb 13 12 50.3
comp=Z,17nm,1.2s
NWAO Narrogin (SRO) 43.76 228 LR LR 13 31 25.8
comp=Z,104nm,19.2s,baz=217,slow=36
UGM Wanagama 43.87 265 P P 13 12 55.0 -4.8
comp=Z,270nm,1.9s
YULB Yu-li 43.99 313 P **P** 13 13 01.5 +0.9
JMN Monobe 44.42 335 P **P** 13 13 05.0 +1.1
TPUB Ta-pu 44.42 313 P **P** 13 13 04.2 +0.1
SSLB Suanglung 44.48 313 P **P** 13 13 03.5 -1.1
YHNB Yeheng 44.73 315 P **P** 13 13 07.4 +0.8
KSM Kuching 44.99 278 P **P** 13 13 08.6 -0.2
KSM IAmb IAmb 13 13 10.9
comp=Z,11nm,0.7s
JNU Nakatsue 45.26 331 P **P** 13 13 10.3 -0.3
KSRS Korea Array 50.18 332 P **P** 13 13 48.4 -0.3
comp=Z,2.8nm,0.7s,baz=146,slow=6.6,SNR=9.4
KSRS LR LR 13 33 32.1
comp=Z,21nm,20.2s,baz=135,slow=34
comp=Z,2.8nm,0.7s
NJ2 Nanjing 51.19 320 *e*P **P** 13 13 59.8 +3.5
NJ2 pmax pmax
comp=Z,8.0nm,1.4s
ASAJ Asahikawa 51.34 349 LR LR 13 34 15.3
comp=Z,50nm,20.1s,baz=153,slow=34
USRK Ussuriysk Ar. 54.27 340 P **P** 13 14 19.7 +0.8
comp=Z,0.9nm,0.5s,baz=141,slow=5.0,SNR=4.3
comp=Z,0.9nm,0.5s
PDSI Padang 54.38 273 P **P** 13 14 18.9 -1.4
comp=Z,27nm,0.7s
KULM Kulim 55.18 281 P **P** 13 14 25.3 -0.8
KULM IAmb IAmb 13 14 26.4
comp=Z,7.6nm,0.7s
KULM Kulim 55.18 281 P **P** 13 14 25.7 -0.3
comp=Z,13nm,0.8s
JCUZ Jacuzzi 55.60 62 P **P** 13 14 29.3 +0.3
PBSI Pulau Batu 56.65 274 P **P** 13 14 34.8 -1.8
comp=Z,58nm,1.3s
GSI Gunungsitoli 57.53 276 P **P** 13 14 41.3 -1.5
GSI Gunungsitoli 57.53 276 P **P** 13 14 41.7 -1.1
comp=Z,17nm,0.8s
XAN Xi'an 59.00 316 ⇑P **P** 13 14 52.5 -0.3
XAN pP pP 13 14 58.5 -7.4
XAN pmax pmax
comp=Z,12nm,0.7s
PET Petropavlovsk 59.17 3 P **P** 13 14 53.6 +0.2
PETK Petropavlovsk- 59.22 2 P **P** 13 14 54.0 +0.2
PETK Petropavlovsk- 59.22 2 P **P** 13 14 54.2 +0.4
comp=Z,9.2nm,0.6s,baz=173,slow=6.6,SNR=20
comp=Z,9.2nm,0.6s
KMI Kunming 59.39 304 ⇑P **P** 13 14 57.8 +2.0
KMI pmax pmax
comp=Z,27nm,0.7s
CRAI Chiangrai 59.55 298 P **P** 13 14 57.6 +0.8
CM31 Chiang Mai Arr 60.23 295 P **P** 13 15 00.3 -1.1
CMAR Chiang Mai Arr 60.23 295 P **P** 13 15 00.4 -1.0
CMAR Chiang Mai Arr 60.23 295 P **P** 13 15 03.3 +1.9
comp=Z,17nm,0.8s,baz=119,slow=5.2,SNR=114
CHTO Chiang Mai 60.34 296 P **P** 13 15 01.4 -0.9
CHTO Chiang Mai 60.34 296 P **P** 13 15 03.2 +1.0
PZH PanZhiHua 60.78 305 P **P** 13 15 05.5 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,4.8s
XLT XiLinHaoTe 60.91 329 ⇓*i*P **P** 13 15 06.0 +0.3
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,98nm,4.4s
SHEM Shemya Is, Ala 61.05 13 LR LR 13 37 13.0
comp=Z,75nm,19.8s,baz=18,slow=32
HHC Hu-ho-hao-te 61.36 324 *e*P **P** 13 15 12.0 +3.2
HHC pmax pmax
comp=Z,23nm,0.5s
HHC pmax pmax
comp=Z,180nm,4.3s
KIWB Kanaga Island 62.71 19 P **P** 13 15 18.3 +0.8
ADK Adak 62.89 19 P **P** 13 15 19.8 +1.0
LZH Lanzhou 63.61 315 *e*P **P** 13 15 24.5 +0.4
LZH sP pP 13 15 39.5 +2.2
LZH pmax pmax
comp=Z,14nm,1.1s
LZH LR LR
comp=N,280nm,16.5s
LZH LR LR
comp=E,230nm,17.5s
MA2 Magadan 65.72 358 P **P** 13 15 37.4 +0.3
GTA Gaotai 68.03 317 *e*P **P** 13 15 53.3 +0.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 68.59 327 P **P** 13 15 55.6 -0.1
SONM Songino Array 68.59 327 P **P** 13 15 53.2 -2.5
comp=Z,1.8nm,0.4s,baz=145,slow=6.0,SNR=9.2
comp=Z,1.8nm,0.4s
YAK Yakutsk 70.81 348 LR LR 13 48 23.6
comp=Z,22nm,18.2s,baz=120,slow=37
VNDA Vanda 71.30 178 P **P** 13 16 11.7 0.0
VNDA Vanda 71.30 178 P **P** 13 16 11.0 -0.7
comp=Z,1.7nm,0.8s,baz=16,slow=14,SNR=2.4
comp=Z,1.7nm,0.8s
O14K Tigyukauivet M 74.10 22 P **P** 13 16 29.2 +0.7
M13K Dall Lake 74.18 20 P **P** 13 16 29.9 +0.9
M14K Bethel 74.90 20 P **P** 13 16 33.6 +0.4
L14K Kuka Creek 75.08 20 P **P** 13 16 34.8 +0.7
L14K IAmb IAmb 13 16 35.8
comp=Z,9.4nm,0.7s
N15K Kwethluk River 75.16 22 P **P** 13 16 35.1 +0.4
J14K Nanvaranak Lak 75.82 18 P **P** 13 16 39.5 +1.1
J14K IAmb IAmb 13 16 40.4
comp=Z,8.8nm,0.8s
K15K Wolf Creek Mou 76.14 19 P **P** 13 16 41.0 +0.7
M16K Timber Creek 76.15 21 P **P** 13 16 40.9 +0.6
L16K Owhat River 76.44 21 P **P** 13 16 42.5 +0.6
L16K IAmb IAmb 13 16 43.2
comp=Z,5.4nm,0.7s
ANM Nome 76.63 17 P **P** 13 16 43.6 +0.6
ANM IAmb IAmb 13 16 44.6
comp=Z,7.9nm,0.8s
KDAK Kodiak Island 76.65 26 LR LR 13 43 00.6
comp=Z,54nm,21.6s,baz=229,slow=30
O18K Koktuh Hills 76.81 23 P **P** 13 16 44.3 +0.2
Q19K Cape Douglas, 76.88 25 P **P** 13 16 44.4 -0.2
M17K Holitna River 76.96 21 P **P** 13 16 45.9 +1.0
N18K Kilae Creek 77.07 23 P **P** 13 16 45.9 +0.3
N18K IAmb IAmb 13 16 51.4
comp=Z,14nm,1.0s
J16K Anvik River 77.14 19 P **P** 13 16 46.8 +0.9
J16K IAmb IAmb 13 16 48.0
comp=Z,6.0nm,0.7s
P19K Oil Pt 77.48 24 P **P** 13 16 47.8 -0.1
K17K Iditarod 77.52 20 P **P** 13 16 47.6 -0.5
K17K IAmb IAmb 13 16 50.3
comp=Z,5.9nm,0.9s
N19K Bonanza Creek 77.69 23 P **P** 13 16 49.5 +0.4
N19K IAmb IAmb 13 16 52.5
comp=Z,7.0nm,1.0s
L18K Granite Mounta 77.76 21 P **P** 13 16 49.8 +0.4
L18K IAmb IAmb 13 16 51.5
comp=Z,8.7nm,0.9s
CNPM China Poot 78.23 25 P **P** 13 16 51.8 -0.3
M19K Big River Lodg 78.40 22 P **P** 13 16 53.0 +0.1
M19K IAmb IAmb 13 17 15.8
comp=Z,12nm,1.1s
L19K White Mountain 78.40 22 P **P** 13 16 53.2 +0.3
L19K IAmb IAmb 13 16 56.7
comp=Z,8.8nm,0.8s
TTA Tatalina 78.46 21 P **P** 13 16 53.4 +0.1
TTA IAmb IAmb 13 17 33.0
comp=Z,10nm,1.4s
H17K Granite Mounta 78.52 18 P **P** 13 16 54.1 +0.6
J18K Innoko River 78.56 20 P **P** 13 16 54.4 +0.6
H18K Honhosa River 79.14 18 P **P** 13 16 57.0 0.0
J19K Poorman 79.28 20 P **P** 13 16 58.0 +0.3
C16K Lisburne Hills 79.46 14 P **P** 13 16 58.1 -0.5
SKT Skwentna 79.53 23 P **P** 13 16 57.9 -1.2
SKT IAmb IAmb 13 17 38.5
comp=Z,8.0nm,1.2s
SUA Susitna One 79.54 23 P **P** 13 16 58.6 -0.7
SUA IAmb IAmb 13 17 01.7
comp=Z,8.7nm,1.0s
G18K Tagagawik 79.56 18 P **P** 13 16 59.0 -0.2
TIXI Tiksi 79.61 352 LR LR 13 51 01.2
comp=Z,9.0nm,21.1s,baz=206,slow=35
RC01 Rabbit Creek A 79.73 24 P **P** 13 16 60.0 -0.2
RC01 IAmb IAmb 13 17 01.9
comp=Z,7.5nm,0.8s
J20K Nowinta River 79.89 20 P **P** 13 17 01.4 +0.4
J20K IAmb IAmb 13 17 02.7
comp=Z,6.7nm,0.9s
CAST Castle Rocks 80.17 21 P **P** 13 17 01.8 -0.7
G19K Purcell Mounta 80.20 18 P **P** 13 17 03.0 +0.4
PMR Palmer 80.25 24 P **P** 13 17 02.8 -0.2
PMR IAmb IAmb 13 17 32.0
comp=Z,8.6nm,1.0s
GHO Glory Hole Cre 80.43 24 P **P** 13 17 04.4 +0.3
GHO IAmb IAmb 13 17 26.8
comp=Z,15nm,1.3s
F19K Shaleruckik Mo 80.45 17 P **P** 13 17 04.0 0.0
KTH Kantishna Hill 80.67 22 P **P** 13 17 04.3 -1.0
KTH IAmb IAmb 13 17 20.5
comp=Z,8.6nm,1.1s
SML Sawmill 80.69 24 P **P** 13 17 05.5 0.0
SML IAmb IAmb 13 17 27.9
comp=Z,12nm,0.9s
C18K Utukok River 80.77 15 P **P** 13 17 05.9 +0.1
TRF Thorofare Moun 80.84 22 P **P** 13 17 05.7 -0.7
TRF IAmb IAmb 13 17 28.7
comp=Z,12nm,1.1s
E19K Redstone River 81.03 17 P **P** 13 17 07.6 +0.5
E19K IAmb IAmb 13 17 08.6
comp=Z,7.9nm,0.7s
SCM Sheep Creek Mo 81.11 24 P **P** 13 17 08.0 +0.3
IMAR Indian Mountai 81.15 19 P **P** 13 17 07.5 -0.2
I21K Tanana 81.25 20 P **P** 13 17 08.1 -0.2
I21K IAmb IAmb 13 17 09.6
comp=Z,7.3nm,1.0s
H21K Melozitna Rive 81.26 19 P **P** 13 17 08.6 +0.2
RND Reindeer 81.36 22 P **P** 13 17 08.1 -0.9
RND IAmb IAmb 13 17 37.6
comp=Z,9.1nm,1.1s
D19K Kuna River 81.48 16 P **P** 13 17 09.5 0.0
D19K IAmb IAmb 13 17 10.0
comp=Z,4.5nm,0.6s
MLY Manley 81.59 20 P **P** 13 17 09.8 -0.4
DHY Denali Highway 81.74 23 P **P** 13 17 10.6 -0.5
DHY IAmb IAmb 13 17 13.8
comp=Z,6.5nm,1.0s
NEA2 Nenana 81.93 21 P **P** 13 17 10.8 -1.1
F21K Alatna River 82.00 18 P **P** 13 17 12.3 +0.1
F21K IAmb IAmb 13 17 43.7
comp=Z,10.0nm,1.4s
N25K Chitina, Valde 82.12 25 P **P** 13 17 13.4 +0.3
N25K IAmb IAmb 13 17 32.7
comp=Z,12nm,1.3s
I23K Minto, Yukon-K 82.13 21 P **P** 13 17 13.0 +0.1
GLB Gilahina Butte 82.37 25 P **P** 13 17 14.0 -0.3
GLB IAmb IAmb 13 17 19.4
comp=Z,13nm,1.3s
CCB Clear Creek Bu 82.42 21 P **P** 13 17 13.0 -1.4
MDM Murphy Dome 82.43 21 P **P** 13 17 13.2 -1.4
MDM IAmb IAmb 13 17 14.0
comp=Z,7.8nm,1.4s
HDA Harding Lake 82.61 22 P **P** 13 17 14.2 -1.2
MK31 Makanchi Array 82.69 319 P **P** 13 17 16.0 -0.3
MK31 IAmb IAmb 13 17 17.4
comp=Z,5.6nm,0.8s
MKAR Makanchi Array 82.69 319 P **P** 13 17 15.7 -0.6
MKAR Makanchi Array 82.69 319 P **P** 13 17 15.5 -0.8
comp=Z,3.9nm,0.6s,baz=99,slow=5.3,SNR=9.7
comp=Z,3.9nm,0.6s
G23K Bananza Creek 82.79 19 P **P** 13 17 15.9 -0.6
IL31 82.82 22 P **P** 13 17 15.1 -1.3
ILAR Eielson Array 82.82 22 P **P** 13 17 15.0 -1.6
ILAR Eielson Array 82.82 22 P **P** 13 17 15.1 -1.4
comp=Z,1.3nm,0.4s,baz=240,slow=5.3,SNR=44
ILAR LR LR 13 48 25.4
comp=Z,89nm,21.7s,baz=241,slow=32
comp=Z,1.3nm,0.4s
MAKZ Makanchi 82.90 319 P **P** 13 17 16.6 -0.8
MAKZ IAmb IAmb 13 17 18.4
comp=Z,6.0nm,0.8s
H24K Noodor Dome 83.03 20 P **P** 13 17 17.6 -0.1
RIDG Independent Ri 83.06 23 P **P** 13 17 17.4 -0.5
RIDG IAmb IAmb 13 17 53.7
comp=Z,5.1nm,0.8s
MENT Mentasta 83.12 24 P **P** 13 17 18.2 0.0
MENT IAmb IAmb 13 17 46.7
comp=Z,7.1nm,1.2s
BARN Barnard Glacie 83.12 26 P **P** 13 17 18.2 -0.2
BARN IAmb IAmb 13 17 41.3
comp=Z,6.6nm,1.0s
D22K Ayikyak River 83.25 17 P **P** 13 17 19.2 +0.5
D22K IAmb IAmb 13 17 20.3
comp=Z,7.7nm,0.9s
J25K Salcha River, 83.30 22 P **P** 13 17 18.4 -0.7
J25K IAmb IAmb 13 17 19.7
comp=Z,11nm,1.2s
L26K Log Cabin Wild 83.31 24 P **P** 13 17 19.0 -0.1
ZAA0 Zalesovo Array 83.44 326 P **P** 13 17 18.2 -1.7
ZAA0 IAmb IAmb 13 17 19.3
comp=Z,4.4nm,0.8s
ZALV Zalesovo Beam 83.44 326 P **P** 13 17 18.4 -1.5
ZALV Zalesovo Beam 83.44 326 P **P** 13 17 18.2 -1.7
comp=Z,5.7nm,0.8s,baz=104,slow=6.3,SNR=21
comp=Z,5.7nm,0.8s
SCRK Sand Creek 83.51 23 P **P** 13 17 19.9 -0.4
M27K Edge Creek, AK 83.61 25 P **P** 13 17 21.4 +0.5
M27K IAmb IAmb 13 17 44.6
comp=Z,12nm,1.0s
QSPA South Pole Qui 83.69 180 P **P** 13 17 20.5 -0.7
comp=Z,7.1nm,0.6s,baz=359,slow=0.6,SNR=11
comp=Z,7.1nm,0.6s
L27K Beaver Creek, 83.94 24 P **P** 13 17 22.5 +0.1
BCAR Beaver Creek A 83.96 24 P **P** 13 17 22.9 +0.3
O29M Mount Kennedy 84.18 27 P **P** 13 17 24.4 +0.7
O29M IAmb IAmb 13 17 42.0
comp=Z,7.3nm,1.1s
FYU Fort Yukon 84.33 20 P **P** 13 17 24.2 0.0
I26K Coal Creek Min 84.46 22 P **P** 13 17 25.5 +0.6
HYT Haines Junctio 84.87 27 P **P** 13 17 27.9 +0.7
HYT IAmb IAmb 13 17 50.9
comp=Z,8.5nm,1.1s
EGAK Eagle 84.97 23 P **P** 13 17 27.4 -0.1
EGAK IAmb IAmb 13 17 58.0
comp=Z,7.3nm,1.1s
BMAR Burnt Mountain 84.98 20 P **P** 13 17 27.7 +0.2
E25K Arctic Village 85.00 19 P **P** 13 17 27.8 +0.1
KSH Kashi 85.34 310 P **P** 13 17 31.5 +1.4
KSH sP sP 13 17 49.0 -0.2
KSH pmax pmax
comp=Z,7.0nm,0.8s
DAWY Dawson 85.36 24 P **P** 13 17 29.3 -0.3
L29M L29M 85.49 25 P **P** 13 17 30.9 +0.7
L29M IAmb IAmb 13 18 00.8
comp=Z,6.4nm,1.1s
I28M Miner Creek 85.73 22 P **P** 13 17 31.2 -0.2
M30M Minto, Yukon 85.85 26 P **P** 13 17 32.3 +0.3
M30M IAmb IAmb 13 17 32.9
comp=Z,11nm,1.5s
N31M Braeburn, Yuko 85.89 27 P **P** 13 17 33.1 +0.9
K29M Barlow Dome 86.03 24 P **P** 13 17 33.5 +0.5
K29M IAmb IAmb 13 17 34.8
comp=Z,7.6nm,1.1s
KURK Kurchatov 86.10 322 P **P** 13 17 32.5 -1.0
KURK IAmb IAmb 13 17 38.7
comp=Z,4.6nm,1.0s
KURBB Kurchatov Arra 86.13 322 P **P** 13 17 32.5 -1.1
comp=Z,1.4nm,0.5s,baz=98,slow=4.8,SNR=12
comp=Z,1.4nm,0.5s
F28M Old Crow 86.67 20 P **P** 13 17 36.0 0.0
F28M IAmb IAmb 13 17 37.3
comp=Z,4.1nm,0.9s
Q32M Nakina River 86.70 30 P **P** 13 17 36.6 +0.2
S34M Telegraph Cree 86.96 31 P **P** 13 17 38.4 +0.9
I30M Mount Dempster 87.01 23 P **P** 13 17 37.9 +0.1
I30M IAmb IAmb 13 18 07.5
comp=Z,6.9nm,1.3s
AAK Ala-Archa 87.06 313 P **P** 13 17 38.2 -0.4
AAK Ala-Archa 87.06 313 P **P** 13 17 38.3 -0.3
comp=Z,1.8nm,0.6s,baz=120,slow=6.7,SNR=5.2
comp=Z,1.8nm,0.6s
BBB Bella Bella 87.12 37 LR LR 13 49 47.1
comp=Z,56nm,19.5s,baz=162,slow=31
FARO Faro, Yukon 87.23 26 P **P** 13 17 38.7 -0.1
FARO IAmb IAmb 13 18 21.3
comp=Z,5.0nm,1.2s
EPYK Eagle Plains 87.31 22 P **P** 13 17 39.3 +0.2
EPYK IAmb IAmb 13 17 55.2
comp=Z,6.2nm,0.8s
R33M Jennings River 87.47 30 P **P** 13 17 40.5 +0.3
R33M IAmb IAmb 13 18 14.1
comp=Z,7.2nm,1.2s
G30M tAoh Zrail Nji 87.72 22 P **P** 13 17 40.9 -0.2
NRIK Noril'sk 87.97 341 P **P** 13 17 41.2 -1.0
NRIK IAmb IAmb 13 17 41.6
comp=Z,8.7nm,1.1s
NRIK Noril'sk 87.97 341 P **P** 13 17 40.8 -1.4
comp=Z,3.8nm,0.5s,baz=126,slow=4.8,SNR=12
comp=Z,3.8nm,0.5s
HUMO Hull Mountain 88.59 47 P **P** 13 17 46.2 +0.5
YBH Yreka Blue Hor 88.62 48 P **P** 13 17 45.5 -0.4
YBH Yreka Blue Hor 88.62 48 LR LR 13 51 54.5
comp=Z,92nm,19.6s,baz=253,slow=32
F31M Tsiigehtchic 88.79 21 P **P** 13 17 45.5 -0.5
F31M IAmb IAmb 13 17 50.1
comp=Z,8.7nm,1.5s
INK Inuvik 89.15 21 P **P** 13 17 46.8 -0.9
INK IAmb IAmb 13 17 48.1
comp=Z,4.8nm,1.2s
INK Inuvik 89.15 21 LR LR 13 54 11.8
comp=Z,64nm,20.0s,baz=186,slow=33
AFDM Forest Hills D 89.50 51 P **P** 13 17 49.8 -0.2
AFDM IAmb IAmb 13 17 54.3
comp=Z,5.8nm,1.2s
PNTR Pine Nut 90.58 51 P **P** 13 17 55.0 -0.3
PNTR IAmb IAmb 13 18 01.7
comp=Z,4.6nm,0.8s
NVAR Mina Array Bea 91.50 52 P **P** 13 17 59.9 +0.2
comp=Z,3.2nm,0.8s,baz=256,slow=6.8,SNR=29
comp=Z,3.2nm,0.8s
BVAR Borovoye Array 91.56 323 P **P** 13 17 57.5 -1.7
comp=Z,3.7nm,0.6s,baz=110,slow=5.3,SNR=14
comp=Z,3.7nm,0.6s
NV11 Mina Array Sit 91.62 52 P **P** 13 18 00.0 -0.1
NV11 IAmb IAmb 13 18 01.5
comp=Z,4.8nm,0.9s
KVN Kaiserville 91.73 51 P **P** 13 18 00.3 -0.4
KVN IAmb IAmb 13 18 01.9
comp=Z,4.1nm,0.8s
TPH Tonopah 92.31 52 P **P** 13 18 03.9 +0.5
RPN Rapa Nui 92.44 117 LR LR 13 53 50.8
comp=Z,26nm,19.8s,baz=64,slow=32
PFO Pinyon Flats O 92.46 57 LR LR 13 54 48.1
comp=Z,28nm,18.2s,baz=274,slow=32
A36M Sachs Harbour 92.86 18 P **P** 13 18 04.2 -0.6
A36M IAmb IAmb 13 18 04.9
comp=Z,3.4nm,0.8s
ELK Elko 94.09 50 LR LR 13 54 47.9
comp=Z,51nm,19.7s,baz=304,slow=32
HILA High Level 94.40 32 P **P** 13 18 11.9 -0.3
YKA Yellowknife Ar 95.84 28 P **P** 13 18 18.2 -0.4
comp=Z,1.0nm,0.6s,baz=269,slow=4.6,SNR=26
comp=Z,1.0nm,0.6s
LPIG La Paz 97.06 67 LR LR 13 54 21.1
comp=Z,37nm,21.3s,baz=22,slow=30
PDAR Pinedale Array 98.43 48 P **P** 13 18 30.1 -1.2
comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=4.4
PDAR LR LR 13 59 03.5
comp=Z,36nm,18.2s,baz=345,slow=33
comp=Z,0.4nm,0.6s
BOSA Boshof 120.24 232 PKP **PKPdf** 13 23 43.3 -1.1
comp=Z,1.5nm,0.6s,baz=88,slow=1.4,SNR=5.6
BDFB Brasilia 148.68 134 PKPbc **PKPbc** 13 24 39.3 -1.5
comp=Z,5.1nm,0.8s,baz=197,slow=5.9,SNR=6.6
TORD Torodi Ar. Bea 152.56 286 PKPbc **PKPbc** 13 24 48.5 -1.4
comp=Z,2.4nm,0.6s,baz=39,slow=3.6,SNR=15
DBIC Dimbokro 159.70 272 PKPab **PKPab** 13 25 29.4 -1.8
comp=Z,8.5nm,1.0s,baz=97,slow=5.3,SNR=7.7

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*IDC **28** 13:08:42.0±1.3,40°.21N×63°.12E,h0km,mb3.8/2, mbtmp3.6/8,ML3.2/6,MS3.7/1,Error ellipse: s-maj=18.3km s-min=10.7km az=160.0*
*NNC **28** 13:08:43.1±1.4,40°.52N×62°.90E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=19.0km s-min=9.2km az=131.0*
*ISU **28** 13:08:46.0,40°.15N×63°.15E,h6km*
ISC 28 13:08:43.5±0.6,40°.45N±0°.04×63°.16E±0°.03,h15km,n22,
σ2s48/37,4C-6D,Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZLY	**Gazly**	**0.39**	**146**	P	**Pg**	**13 08 51.1**	**-0.2**
GZLY				S	**Sg**	**13 08 54.9**	**-1.7**
BUXR	**Bukhara**	**1.15**	**128**	P	**Pg**	**13 09 05.9**	**+0.2**
BUXR				S	**Sn**	**13 09 20.6**	**+0.1**
AGL	**Agalyk**	**3.00**	**107**	P	**Pb**	**13 09 36.9**	**+0.2**
AGL				S	**Sg**	**13 10 19.5**	**-0.5**
PKMR	**Pachkamar**	**3.14**	**126**	P	**Pb**	**13 09 37.4**	**-1.6**
PKMR				S	**Sg**	**13 10 20.9**	**-3.4**
DZI	**Dzhizak**	**3.58**	**94**	P	**Pb**	**13 09 45.9**	**-0.6**
DZI				S	**Sg**	**13 10 36.7**	**-1.7**
BXML	**Bakhmal**	**3.81**	**100**	P	**Pn**	**13 09 45.6**	**+3.8**
BXML				S	**Sb**	**13 10 36.3**	**-0.3**
BAYS	**Baysun**	**3.85**	**124**	P	**Pb**	**13 09 47.7**	**-3.5**
BAYS				S	**Sb**	**13 10 40.1**	**+2.5**
GEYT	**Alibeck**	**4.66**	**239**	Pn	**Pn**	**13 09 53.7**	**+0.4**
	3.9nm,0.3s,baz=64,slow=13,SNR=20						
GEYT				Pg	**Pb**	**13 10 03.6**	**-1.3**
	10nm,0.3s,baz=62,slow=14,SNR=18						
GEYT				Sn	**Sn**	**13 10 45.5**	**-1.7**
	15nm,0.3s,baz=119,slow=20,SNR=8.8						
GEYT				Lg	Lg	13 11 04.8	
	12nm,0.3s,baz=87,slow=8.0,SNR=4.6						
	7.2nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**4.66**	**239**	⇑Pn	**Pn**	**13 09 54.3**	**+1.0**
GYA0B				⇓Sn	**Sn**	**13 10 46.6**	**-0.5**
GYA0B				⇓Lg	Lg	13 11 07.3	
KK31	**Karatay Array**	**6.10**	**62**	Pn	**Pn**	**13 10 14.9**	**+1.8**
	0.2nm,0.3s,baz=236,slow=17,SNR=10						
KK31				Pg	**Pg**	**13 10 38.3**	**-1.9**
	2.9nm,0.5s,baz=248,slow=17,SNR=9.7						
KK31				⇓Lg	Lg	13 12 00.2	
	42nm,0.9s,baz=244,slow=29,SNR=5.7						
FRG	**Fergana**	**6.58**	**88**	P	Pn	13 10 29.2	+9.5
FRG				S	**Sb**	**13 12 03.7**	**+7.6**
AAK	**Ala-Archa**	**8.78**	**72**	Pn	**Pn**	**13 10 51.0**	**+1.1**
	0.2nm,0.3s,baz=252,slow=20,SNR=2.1						
AAK				Sn	**Sn**	**13 12 28.3**	**-0.3**
	0.3nm,0.3s,baz=70,slow=18,SNR=1.8						
AAK				Lg	Lg	13 13 24.3	
	0.2nm,0.3s,baz=199,slow=23,SNR=2.0						
	0.5nm,0.3s						
AB31	**Akbulak array**	**9.10**	**347**	⇓Pn	**Pn**	**13 10 55.3**	**+1.2**
	0.3nm,0.2s,baz=157,slow=14,SNR=36						
AB31				⇑Sn	**Sn**	**13 12 37.0**	**+0.7**
	1.1nm,0.5s,baz=294,slow=42,SNR=4.2						
AB31				⇓Lg	Lg	13 13 27.3	
	6.1nm,0.7s						
AKTO	**Aktyubinsk**	**10.62**	**342**	⇑Pn	**Pn**	**13 11 16.9**	**+1.9**
	0.6nm,0.3s						
AKTO				⇑Sn	**Sn**	**13 13 10.5**	**-3.1**
	0.9nm,0.6s						
AKTO				⇓Lg	Lg	13 14 18.9	
	2.0nm,0.9s						
AKTO	**Aktyubinsk**	**10.62**	**342**	Pn	**Pn**	**13 11 17.4**	**+2.4**
	1.0nm,0.3s,baz=179,slow=9.2,SNR=14						
AKTO				Sn	**Sn**	**13 13 10.5**	**-3.1**
	0.3nm,0.3s,baz=185,slow=8.2,SNR=2.1						
AKTO				Lg	Lg	13 14 25.6	
	0.1nm,0.3s,baz=38,slow=12,SNR=1.5						
	2.2nm,0.3s						
BVAR	**Borovoye Array**	**13.51**	**19**	Pn	**Pn**	**13 11 54.3**	**-0.2**
	0.1nm,0.3s,baz=204,slow=8.9,SNR=7.8						
BVAR				Sn	**Sn**	**13 14 19.2**	**-5.1**
	baz=216,slow=9.1,SNR=1.7						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**14.79**	**41**	Pn	**Pn**	**13 12 09.6**	**-2.3**
	baz=223,slow=14,SNR=3.0						
KURBB				Lg	Lg	13 16 41.1	
	baz=247,slow=30,SNR=4.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**15.22**	**59**	Pn	**Pn**	**13 12 14.5**	**-3.3**
	baz=246,slow=13,SNR=1.6						
MKAR				Lg	Lg	13 16 53.2	
	baz=247,slow=29,SNR=2.1						
	0.3nm,0.7s						
KBZ	**Khabaz**	**15.40**	**289**	Pn	**Pn**	**13 12 20.0**	**-0.1**

0.2nm,0.3s,baz=128,slow=7.3,SNR=4.7
AKASG Malin Array Be 25.66 305 P **P** 13 14 13.0 **+0.5**
0.5nm,0.4s,baz=107,slow=8.3,SNR=2.5
0.5nm,0.4s
FINES FINESS Array B 30.77 325 P **P** 13 15 01.1 **+3.2**
2.2nm,0.9s,baz=160,slow=6.1,SNR=4.2
2.2nm,0.9s
KLR Kul'dur 47.88 55 LR LR 13 36 37.1
comp=Z,80nm,18.9s,baz=55,slow=35

*VIE **28** 13:13:22.7±0.2,50°.10N×16°.81E,h0km,mb2.2/4,ml2.3/8, Error ellipse: s-maj=1.9km s-min=1.4km az=58.0 61 km NNW of Olomouc Suspected Mining induced.*
*PRU **28** 13:13:23.2,50°.14N×16°.80E,h5km,Kralicky Sneznik*
IPEC 28 13:13:22.8±0.0,50°.16N×16°.82E,h16km,ML1.9/9,Error ellipse: s-maj=0.2km s-min=0.1km az=198.0,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRLC	**Kraliky**	**0.09**	**196**	*e*Pg	Pg	13 13 25.4	-0.7
KRLC				*e*SG	Sg	13 13 27.3	-0.9
	comp=Z,75nm,0.2s						
LIPC	**Lipinka**	**0.35**	**155**	*e*Pg	Pg	13 13 29.8	-0.2
	baz=154						
LIPC				*e*Sg	Sg	13 13 34.8	-0.1
	57nm,0.1s,baz=154						
LIPC	**Lipinka**	**0.35**	**155**	*e*Pg	Pn	13 13 33.5	+0.2
	baz=155						
LIPC				*e*Sg	Sn	13 13 38.4	-1.5
	40nm,0.2s,baz=155						
ANAC	**Anensky vrch**	**0.37**	**103**	*e*Pg	Pg	13 13 30.1	-0.3
	baz=103						
ANAC				*e*Sg	Sg	13 13 35.2	-0.4
	124nm,0.2s,baz=103						
ANAC	**Anensky vrch**	**0.37**	**103**	*e*Sg	Sn	13 13 38.9	-1.7
	72nm,0.2s,baz=104						
DPC	**Dobruska-Polom**	**0.37**	**301**	*e*PG	Pg	13 13 29.1	-1.3
DPC				*e*SG	Sg	13 13 35.4	-0.2
	comp=Z,31nm,0.2s						
MUVC	**Mutkov**	**0.47**	**140**	*e*Pg	Pg	13 13 31.9	-0.2
	baz=140						
MUVC				*e*Sg	Sg	13 13 38.2	-0.2
	43nm,0.3s,baz=140						
MUVC	**Mutkov**	**0.47**	**140**	*e*Pg	Pn	13 13 35.6	+0.7
	baz=141						
MUVC				*e*Sg	Sn	13 13 41.9	-1.0
	15nm,0.1s,baz=141						
LUKC	**Luka**	**0.52**	**169**	*e*Pg	Pg	13 13 32.7	-0.3
	baz=168						
MORC	**Moravsky Berou**	**0.60**	**129**	*e*Pg	Pg	13 13 34.3	-0.4
	baz=129						
MORC				*e*Sg	Sg	13 13 42.2	-0.5
	34nm,0.3s,baz=129						
MORC	**Moravsky Berou**	**0.60**	**129**	*e*Sg	Sn	13 13 45.9	-0.4
	19nm,0.2s,baz=129						
UPC	**Upice**	**0.62**	**304**	*e*PG	Pg	13 13 34.3	-0.8
UPC				*e*SG	Sg	13 13 43.3	-0.1
	comp=Z,18nm,0.4s						
KSP	**Ksiaz**	**0.76**	**334**	*e*Pg	Pn	13 13 39.0	0.0
KSP				*e*Sg	Sn	13 13 49.6	-0.5
VRAC	**Vranov**	**0.86**	**190**	*e*Pg	Pb	13 13 38.8	-0.7
	baz=190						
VRAC				*e*Sg	Sb	13 13 50.0	-0.8
	19nm,0.2s,baz=190						
OKC	**Ostrava-Krasne**	**0.92**	**110**	*e*PG	Pb	13 13 39.0	-1.3
OKC				*e*SG	Sb	13 13 52.0	-0.3
	comp=Z,25nm,0.5s						
MAUC	**Maruska**	**1.03**	**140**	*e*PG	Pb	13 13 41.3	-1.0
MAUC				*e*SG	Sn	13 13 56.6	-0.2
	comp=Z,20nm,0.5s						
KRUC	**Moravsky**	**1.13**	**194**	*e*Pg	Pb	13 13 43.5	-0.5
	baz=195						
KRUC				*e*Sg	Sb	13 13 57.9	-0.6
	18nm,0.4s,baz=195						
TREC	**Trest**	**1.22**	**225**	*e*PG	Pn	13 13 45.3	0.0
TREC				*e*SG	Sb	13 14 00.3	-0.8
	comp=Z,15nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.33**	**260**	*e*PG	Pb	13 13 47.2	-0.3
GOPC				*e*SG	Sb	13 14 04.8	+0.5
	comp=Z,17nm,0.2s						
PRU	**Pruhonice**	**1.48**	**264**	*e*PG	Pb	13 13 50.0	+0.1
PRU				*e*SG	Sg	13 14 09.5	-0.9
	comp=Z,11nm,0.6s						
PVCC	**Panska Ves**	**1.49**	**285**	*e*PG	Pb	13 13 50.2	+0.1
PVCC				*e*SG	Sg	13 14 10.0	-0.8
PRA	**Prague**	**1.54**	**268**	*e*SG	Sg	13 14 12.1	-0.3
	comp=Z,11nm,0.6s						
RICC	**Richard**	**1.79**	**283**	*e*PG	Pb	13 13 55.0	-0.1
RICC				*e*SG	Sg	13 14 18.9	-1.3
	comp=Z,13nm,0.7s						
ZVC	**Zvikov**	**1.85**	**248**	*e*PG	Pb	13 13 56.3	+0.1
ZVC				*e*SG	Sg	13 14 20.7	-1.6
	comp=Z,9.7nm,0.3s						
BRG	**Berggiesshubel**	**1.97**	**292**	Pg	Pb	13 13 59.1	+0.8
BRG				Sg	Sg	13 14 24.6	-1.6
BRG				Amp		13 14 30.1	
	comp=Z,7.8nm,0.4s						
LANS	**Liptovska Anna**	**2.00**	**119**	*e*SG	Sg	13 14 27.6	+0.6
LANS				*e*LG	Lg	13 14 28.2	
CKRC	**Cesky Krumlov**	**2.12**	**232**	*e*PG	Pb	13 14 01.1	+0.3
CKRC				*e*SG	Sb	13 14 28.8	+2.0
VYHS	**Vyhne**	**2.13**	**141**	*e*PN	Pn	13 13 58.8	+1.1
VYHS				*e*SN	Sb	13 14 27.7	+0.6
HSKC	**Hora Svate Kat**	**2.21**	**283**	*e*PG	Pb	13 14 03.1	+0.6
HSKC				*e*SG	Sg	13 14 32.5	-1.5
	comp=Z,5.8nm,0.5s						
CONA	**Conrad Observa**	**2.32**	**196**	*e*Pn	Pn	13 14 00.6	+0.1
	comp=Z,0.4nm,0.1s						
KHC	**Kasperske Hory**	**2.34**	**245**	*e*PG	Pb	13 14 05.7	+1.0
KHC				*e*SG	Sg	13 14 35.9	-2.2
	comp=Z,8.2nm,0.3s						
RONA	**Rosalia, Austr**	**2.49**	**188**	Pn	Pn	13 14 02.9	+0.2
	comp=Z,0.2nm,0.1s						
RONA				*e*Sn	Sn	13 14 33.7	+1.0
	comp=Z,0.6nm,0.2s						
NKC	**Novy Kostel**	**2.81**	**273**	*e*PG	Pb	13 14 14.1	+1.5
NKC				*e*SG	Sg	13 14 51.1	-1.9
	comp=Z,7.7nm,0.8s						
MOA	**Molln**	**2.86**	**217**	*e*Pn	Pn	13 14 08.1	+0.3
	comp=Z,0.4nm,0.2s						
ARSA	**Arzberg**	**3.04**	**197**	Pn	Pn	13 14 10.1	-0.1
	comp=Z,0.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	**3.24**	**222**	*e*Pn	Pn	13 14 14.6	+1.5
	comp=Z,0.3nm,0.2s						
KBA	**Koelnbreinsper**	**3.85**	**218**	Sg	Sg	13 15 25.2	-1.1
	comp=Z,1.9nm,0.6s						
LESA	**Schwarzleotal**	**3.87**	**227**	Sg	Sg	13 15 25.6	-1.5
	comp=Z,1.2nm,0.2s						

*KRSC **28** 13:26:04.9±0.9,54°.95N×162°.17E,h66km±24km,Ml4.4, Felt [III] at kordon Kronoki.*
*MOS **28** 13:26:07.1±0.8,54°.99N×161°.98E,h66km,mb4.4/5,Error ellipse: s-maj=8.1km s-min=4.3km az=78.4*
*NEIC **28** 13:26:09.2±1.0,55°.1N±0°.1×161°.6E±0°.2,h67km±8km, mb4.1/68,Error ellipse: s-maj=22.5km s-min=11.1km az=139.0*
*IDC **28** 13:26:10.0±2.0,55°.15N×161°.68E,h75km±19km,mb3.6/17, mbtmp3.9/20,MS3.6/10,Error ellipse: s-maj=16.8km s-min=11.7km az=146.0*
ISC 28 13:26:08.3±0.9,54°.98N±0°.03×161°.98E±0°.04,h62km±8km, n206,σ1§13/252,mb4.1/52,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.93**	**284**	*e*P	**Pn**	**13 26 24.6**	**-1.0**
TUMD				*e*S	**Sn**	**13 26 38.7**	**+0.3**
TUMR	**Tumrok**	**1.09**	**287**	PN	**Pn**	**13 26 27.5**	**-0.2**
TUMR				S	**Sn**	**13 26 42.8**	**+0.6**
TUMR	**Tumrok**	**1.09**	**287**	*e*P	**Pn**	**13 26 27.5**	**-0.2**
TUMR				*e*S	**Sn**	**13 26 42.8**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.21**	**323**	PN	**Pn**	**13 26 29.1**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.21**	**323**	*e*P	**Pn**	**13 26 29.1**	**0.0**
ZLN	**Zelenaya**	**1.23**	**328**	PN	**Pn**	**13 26 29.9**	**+0.4**
ZLN				S	**Sn**	**13 26 46.2**	**+0.8**
ZLN	**Zelenaya**	**1.23**	**328**	*e*P	**Pn**	**13 26 29.9**	**+0.4**
ZLN				*e*S	**Sn**	**13 26 46.2**	**+0.8**
BZP	**Bezymyannyi-Pe**	**1.24**	**319**	*e*P	**Pn**	**13 26 29.2**	**-0.5**
BZP				*e*S	**Sn**	**13 26 45.1**	**-0.5**
KMNR	**Kamenistaya**	**1.26**	**309**	PN	**Pn**	**13 26 29.9**	**0.0**
KMNR				S	**Sn**	**13 26 45.9**	**-0.1**
KMNR	**Kamenistaya**	**1.26**	**309**	*e*P	**Pn**	**13 26 29.9**	**0.0**
KMNR				*e*S	**Sn**	**13 26 45.9**	**-0.1**
BZMR	**Bezymyannaya**	**1.28**	**319**	PN	**Pn**	**13 26 29.8**	**-0.3**
BZMR				S	**Sn**	**13 26 46.0**	**-0.5**
BZMR	**Bezymyannaya**	**1.28**	**319**	*e*P	**Pn**	**13 26 29.8**	**-0.3**
BZMR				*e*S	**Sn**	**13 26 46.0**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.30**	**320**	PN	**Pn**	**13 26 30.2**	**-0.2**
BZWR	**Bezymyannyi-We**	**1.30**	**320**	*e*P	**Pn**	**13 26 30.2**	**-0.2**
CIRR	**Tsirk**	**1.33**	**329**	PN	**Pn**	**13 26 31.3**	**+0.4**
CIRR				S	**Sn**	**13 26 50.3**	**+2.5**
CIRR	**Tsirk**	**1.33**	**329**	*e*P	**Pn**	**13 26 31.3**	**+0.4**
CIRR				*e*S	**Sn**	**13 26 50.3**	**+2.5**
KBG	**Krutoberegovo**	**1.34**	**18**	PN	**Pn**	**13 26 30.3**	**-0.5**
KBG				S	**Sn**	**13 26 48.6**	**+0.9**
KBG	**Krutoberegovo**	**1.34**	**18**	*e*P	**Pn**	**13 26 30.3**	**-0.5**
KBG				*e*S	**Sn**	**13 26 48.6**	**+0.9**
KIRR	**Kirishev**	**1.35**	**317**	PN	**Pn**	**13 26 31.0**	**-0.1**
KIRR				S	**Sn**	**13 26 48.9**	**+0.7**
KIRR	**Kirishev**	**1.35**	**317**	*e*P	**Pn**	**13 26 31.0**	**-0.1**
KIRR				*e*S	**Sn**	**13 26 48.9**	**+0.7**
KPT	**Kopyto**	**1.40**	**315**	PN	**Pn**	**13 26 31.9**	**+0.1**
KPT	**Kopyto**	**1.40**	**315**	*e*P	**Pn**	**13 26 31.9**	**+0.1**
KLY	**Klyuchi**	**1.53**	**331**	PN	**Pn**	**13 26 32.7**	**-0.7**
KLY				S	**Sn**	**13 26 52.5**	**+0.2**
KLY	**Klyuchi**	**1.53**	**331**	*e*P	**Pn**	**13 26 32.7**	**-0.7**
KLY				*e*S	**Sn**	**13 26 52.5**	**+0.2**
KOZ	**Kozyrevsk**	**1.61**	**313**	PN	**Pn**	**13 26 35.1**	**+0.6**
KOZ				S	**Sn**	**13 26 55.6**	**+1.3**
KOZ	**Kozyrevsk**	**1.61**	**313**	*e*P	**Pn**	**13 26 35.1**	**+0.6**
KOZ				*e*S	**Sn**	**13 26 55.6**	**+1.3**
BDR	**Baidarnaya**	**1.65**	**345**	PN	**Pn**	**13 26 34.7**	**-0.4**
BDR	**Baidarnaya**	**1.65**	**345**	*e*P	**Pn**	**13 26 34.7**	**-0.4**
KII	**Karymskiy**	**1.75**	**238**	PN	**Pn**	**13 26 36.1**	**-0.4**
KII				S	**Sn**	**13 26 57.4**	**-0.4**
KII	**Karymskiy**	**1.75**	**238**	*e*P	**Pn**	**13 26 36.0**	**-0.4**
KII				*e*S	**Sn**	**13 26 57.4**	**-0.4**
SRDR	**Sredinnyy**	**1.85**	**317**	PN	**Pn**	**13 26 37.9**	**+0.1**
SRDR				S	**Sn**	**13 27 01.4**	**+1.2**
SRDR	**Sredinnyy**	**1.85**	**317**	*e*P	**Pn**	**13 26 37.9**	**+0.1**
SRDR				*e*S	**Sn**	**13 27 01.4**	**+1.2**
ESO	**Esso**	**2.09**	**298**	PN	**Pn**	**13 26 42.1**	**+1.1**
ESO	**Esso**	**2.09**	**298**	*e*P	**Pn**	**13 26 42.1**	**+1.1**
SPN	**Mys Shipunski**	**2.21**	**212**	PN	**Pn**	**13 26 41.5**	**-1.1**
SPN				S	**Sn**	**13 27 06.5**	**-2.3**
SPN	**Mys Shipunski**	**2.21**	**212**	*e*P	**Pn**	**13 26 41.5**	**-1.1**
SPN				*e*S	**Sn**	**13 27 06.5**	**-2.3**
BKI	**Bering**	**2.31**	**83**	PN	Pn	13 26 41.9	-1.9
BKI				S	Sn	13 27 06.7	-4.4
BKI	**Bering**	**2.31**	**83**	*e*P	Pn	13 26 41.9	-1.9
BKI				*e*S	Sn	13 27 06.7	-4.4
SMAR	**Somma**	**2.54**	**229**	PN	**Pn**	**13 26 47.3**	**0.0**
SMAR				S	**Sn**	**13 27 17.7**	**+0.5**
SMAR	**Somma**	**2.54**	**229**	*e*P	**Pn**	**13 26 47.3**	**0.0**
SMAR				*e*S	**Sn**	**13 27 17.7**	**+0.5**
KRX	**Arik**	**2.54**	**232**	PN	**Pn**	**13 26 47.2**	**-0.1**
KRX				S	**Sn**	**13 27 17.6**	**+0.4**
KRX	**Arik**	**2.54**	**232**	*e*P	**Pn**	**13 26 47.2**	**-0.1**
KRX				*e*S	**Sn**	**13 27 17.6**	**+0.4**
AVH	**Avacha**	**2.57**	**229**	PN	**Pn**	**13 26 47.9**	**+0.4**
AVH				S	**Sn**	**13 27 20.3**	**+2.6**
AVH	**Avacha**	**2.57**	**229**	*e*P	**Pn**	**13 26 47.9**	**+0.4**
AVH				*e*S	**Sn**	**13 27 20.3**	**+2.6**
UGLR	**Uglovaya**	**2.57**	**228**	PN	**Pn**	**13 26 47.8**	**+0.2**
UGLR				S	**Sn**	**13 27 19.8**	**+2.1**
UGLR	**Uglovaya**	**2.57**	**228**	*e*P	**Pn**	**13 26 47.8**	**+0.2**
UGLR				*e*S	**Sn**	**13 27 19.8**	**+2.1**
KOK	**Koryaka**	**2.60**	**231**	PN	**Pn**	**13 26 47.9**	**0.0**
KOK				S	**Sn**	**13 27 20.2**	**+1.9**
KOK	**Koryaka**	**2.60**	**231**	*e*P	**Pn**	**13 26 47.9**	**0.0**
KOK				*e*S	**Sn**	**13 27 20.2**	**+1.9**
DALK	**Dalny**	**2.73**	**226**	PN	**Pn**	**13 26 49.5**	**-0.1**
DALK				S	**Sn**	**13 27 21.8**	**+0.4**
DALK	**Dalny**	**2.73**	**226**	*e*P	**Pn**	**13 26 49.5**	**-0.1**
DALK				*e*S	**Sn**	**13 27 21.8**	**+0.4**
INSR	**Institute**	**2.77**	**227**	*e*P	**Pn**	**13 26 51.2**	**+1.1**
INSR				*e*S	**Sn**	**13 27 23.5**	**+1.2**
PET	**Petropavlovsk**	**2.78**	**226**		**Pn**	**13 26 50.2**	**-0.1**
PET	**Petropavlovsk**	**2.78**	**226**	*e*PN	**Pn**	**13 26 50.5**	**+0.2**
PET				*e*S	**Sn**	**13 27 23.2**	**+0.7**
PET				pmax	pmax		
	comp=Z,248nm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				smax	smax		
	comp=E,808nm,0.4s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
PET	**Petropavlovsk**	**2.78**	**226**	*e*P	**Pn**	**13 26 50.4**	**+0.1**
PET				*e*S	**Sn**	**13 27 23.3**	**+0.7**
KRMR	**Karymshinskiy**	**3.14**	**228**	PN	**Pn**	**13 26 55.4**	**+0.2**
KRMR				S	**Sn**	**13 27 33.4**	**+2.0**
KRMR	**Karymshinskiy**	**3.14**	**228**	*e*P	**Pn**	**13 26 55.4**	**+0.2**
KRMR				*e*S	**Sn**	**13 27 33.4**	**+2.0**
PEA0B	**Petropavlovsk-**	**3.15**	**235**		**Pn**	**13 26 55.7**	**+0.4**
PEA0B	**Petropavlovsk-**	**3.15**	**235**	*i* PN	**Pn**	**13 26 55.7**	**+0.4**
PETK	**Petropavlovsk-**	**3.15**	**235**		**Pn**	**13 26 55.3**	**0.0**
PETK	**Petropavlovsk-**	**3.15**	**235**	P	**Pn**	**13 26 54.9**	**-0.4**
	comp=Z,45nm,0.7s,baz=64,slow=18,SNR=112						
PETK				S	**Sn**	**13 27 34.2**	**+2.6**
	comp=Z,40nm,0.6s,baz=94,slow=18,SNR=2.5						
PETK				LR	LR	13 28 30.2	
	comp=Z,198nm,20.4s,baz=93,slow=45						
RUS	**Russkaya**	**3.28**	**220**	PN	**Pn**	**13 26 56.9**	**-0.3**
RUS				S	**Sn**	**13 27 33.4**	**-1.5**
RUS	**Russkaya**	**3.28**	**220**	*e*P	**Pn**	**13 26 56.9**	**-0.3**
RUS				*e*S	**Sn**	**13 27 33.4**	**-1.5**
TIGL	**Tigil**	**3.34**	**328**	*e*P	**Pn**	**13 26 58.2**	**+0.2**
GRL	**Gorelyy**	**3.36**	**225**	PN	**Pn**	**13 26 59.5**	**+1.1**
GRL				S	**Sn**	**13 27 38.8**	**+1.7**
GRL	**Gorelyy**	**3.36**	**225**	*e*P	**Pn**	**13 26 59.5**	**+1.1**
GRL				*e*S	**Sn**	**13 27 38.8**	**+1.7**
MTVR	**Mutnovka**	**3.37**	**224**	PN	**Pn**	**13 26 59.0**	**+0.5**
MTVR				S	**Sn**	**13 27 38.7**	**+1.4**
MTVR	**Mutnovka**	**3.37**	**224**	*e*P	**Pn**	**13 26 59.0**	**+0.5**
MTVR				*e*S	**Sn**	**13 27 38.7**	**+1.4**
APC	**Apacha**	**3.52**	**236**	PN	**Pn**	**13 27 01.5**	**+1.1**
APC				S	**Sn**	**13 27 42.7**	**+2.0**
APC	**Apacha**	**3.52**	**236**	*e*P	**Pn**	**13 27 01.5**	**+1.1**
APC				*e*S	**Sn**	**13 27 42.7**	**+2.0**
ASAK	**Asacha**	**3.56**	**225**	PN	**Pn**	**13 27 02.4**	**+1.3**
ASAK				S	**Sn**	**13 27 44.4**	**+2.5**
ASAK	**Asacha**	**3.56**	**225**	*e*P	**Pn**	**13 27 02.4**	**+1.3**
ASAK				*e*S	**Sn**	**13 27 44.4**	**+2.5**
KDTR	**Khodutka, Kamc**	**3.94**	**218**	PN	**Pn**	**13 27 05.8**	**-0.4**
KDTR				S	**Sn**	**13 27 49.3**	**-1.9**
KDTR	**Khodutka, Kamc**	**3.94**	**218**	*e*P	**Pn**	**13 27 05.8**	**-0.4**
KDTR				*e*S	**Sn**	**13 27 49.3**	**-1.9**
OSSR	**Ossora**	**4.32**	**7**	PN	**Pn**	**13 27 11.2**	**-0.1**
OSSR				S	**Sn**	**13 27 57.9**	**-2.4**
OSSR	**Ossora**	**4.32**	**7**	*e*P	**Pn**	**13 27 11.2**	**-0.1**
OSSR				*e*S	**Sn**	**13 27 57.9**	**-2.4**
PAU	**Pauzhetka**	**4.70**	**224**	PN	**Pn**	**13 27 19.0**	**+2.5**
PAU	**Pauzhetka**	**4.70**	**224**	*e*P	**Pn**	**13 27 19.0**	**+2.5**
SKR	**Severo-Kuril's**	**5.58**	**222**	PN	**Pn**	**13 27 29.0**	**+0.4**
SKR	**Severo-Kuril's**	**5.58**	**222**	*e*P	**Pn**	**13 27 29.0**	**+0.4**
MA2	**Magadan**	**7.62**	**312**	LR	LR	13 31 13.5	
	comp=Z,94nm,19.1s,baz=118,slow=41						
BILL	**Bilibino**	**13.26**	**7**	*i* PN	**Pn**	**13 29 13.8**	**+0.5**
JKA	**Kamikawa-asahi**	**16.56**	**237**	P	**P**	**13 29 57.7**	**-0.1**
JKA				lAmb	lAmb	13 30 40.9	
	comp=Z,29nm,1.3s						
ASAJ	**Asahikawa**	**16.56**	**237**	P	**P**	**13 29 57.7**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,29nm,1.3s						
ASAJ	**Asahikawa**	**16.56**	**237**	P	**P**	**13 29 56.5**	**-1.4**
	comp=Z,7.2nm,0.6s,baz=43,slow=12,SNR=7.3						
ERM	**Erimo**	**17.92**	**231**	P	**Pn**	**13 30 12.0**	**-1.0**
ERM	**Erimo**	**17.92**	**231**	*i* P	**Pn**	**13 30 12.2**	**-0.7**
YAK	**Yakutsk**	**18.13**	**306**	*i* P	**Pn**	**13 30 14.1**	**-1.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ANM	**Nome**	**18.80**	**46**	Pn	**Pn**	**13 30 25.3**	**+1.8**
ANM	**Nome**	**18.80**	**46**	P	**Pn**	**13 30 25.3**	**+1.8**
ANM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KLR	**Kul'dur**	**19.34**	**265**	P	**Pn**	**13 30 29.0**	**-1.0**
KLR	**Kul'dur**	**19.34**	**265**	P	**Pn**	**13 30 28.9**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=68,slow=11,SNR=5.8						
F15K	**North Star Dit**	**19.42**	**43**	Pn	**Pn**	**13 30 32.0**	**+1.2**
JTM	**Tenmabayashi**	**19.85**	**233**	P	**Pn**	**13 30 32.8**	**-3.2**
K15K	**Wolf Creek Mou**	**20.11**	**54**	P	**P**	**13 30 38.6**	**+1.9**
K15K				lAmb	lAmb	13 31 12.6	
	comp=Z,16nm,1.4s						
ZEA	**Zeya**	**20.16**	**281**	*e*P	Pn	13 30 45.1	+5.6
I17K	**Unalakleet**	**20.67**	**49**	P	**P**	**13 30 44.6**	**+2.0**
I17K				lAmb	lAmb	13 31 21.3	
	comp=Z,8.0nm,1.2s						
F17K	**Baldwin Pennin**	**20.96**	**42**	P	**P**	**13 30 47.3**	**+1.6**
K17K	**Iditarod**	**21.64**	**53**	P	**P**	**13 30 54.6**	**+1.6**
K17K				lAmb	lAmb	13 31 11.6	
	comp=Z,9.1nm,1.1s						
C18K	**Utukok River**	**21.66**	**36**	P	**P**	**13 30 54.1**	**+0.8**
H18K	**Honhosa River**	**21.85**	**46**	P	**P**	**13 30 57.5**	**+2.2**
H18K				lAmb	lAmb	13 31 16.7	
	comp=Z,9.0nm,1.3s						
G18K	**Tagagawik**	**21.86**	**44**		**P**	**13 30 57.2**	**+1.8**
TIXI	**Tiksi**	**21.87**	**332**	P	**P**	**13 30 54.7**	**-0.7**
	comp=Z,1.5nm,0.2s,baz=131,slow=9.2,SNR=8.2						
	comp=Z,1.5nm,0.2s						
C19K	**Lookout Ridge**	**22.37**	**36**	P	**P**	**13 31 01.5**	**+0.6**
C19K				lAmb	lAmb	13 31 02.2	
	comp=Z,3.9nm,0.8s						
F19K	**Shaleruckik Mo**	**22.40**	**42**	P	**P**	**13 31 01.9**	**+0.8**
F19K				lAmb	lAmb	13 31 03.7	
	comp=Z,4.6nm,0.8s						
G19K	**Purcell Mounta**	**22.54**	**44**	P	**P**	**13 31 03.6**	**+0.9**
D19K	**Kuna River**	**22.69**	**38**	P	**P**	**13 31 04.0**	**-0.2**
D19K				lAmb	lAmb	13 31 26.5	
	comp=Z,5.0nm,1.1s						
H19K	**Roundabout Mou**	**22.70**	**46**	P	**P**	**13 31 04.8**	**+0.4**
H19K				lAmb	lAmb	13 31 06.3	
	comp=Z,7.6nm,0.8s						
E19K	**Redstone River**	**22.74**	**41**		**P**	**13 31 05.3**	**+0.5**
J19K	**Poorman**	**22.91**	**50**	P	**P**	**13 31 08.0**	**+1.4**
F20K	**Avaraart Lake**	**23.23**	**42**	P	**P**	**13 31 09.9**	**+0.2**
B20K	**Meade River**	**23.47**	**34**	P	**P**	**13 31 12.0**	**+0.2**
B20K				lAmb	lAmb	13 31 12.6	
	comp=Z,7.1nm,0.6s						
J20K	**Nowinta River**	**23.57**	**49**	P	**P**	**13 31 12.7**	**-0.1**
J20K				lAmb	lAmb	13 31 34.3	
	comp=Z,12nm,1.4s						
IMAR	**Indian Mountai**	**23.86**	**45**	P	**P**	**13 31 15.6**	**+0.1**
G21K	**Allakaket**	**24.02**	**44**	P	**P**	**13 31 17.9**	**+1.0**
G21K				lAmb	lAmb	13 31 19.4	
	comp=Z,13nm,1.3s						
F21K	**Alatna River**	**24.13**	**42**	P	**P**	**13 31 18.3**	**+0.4**
H21K	**Melozitna Rive**	**24.22**	**46**	P	**P**	**13 31 19.2**	**+0.5**
H21K				lAmb	lAmb	13 31 38.4	
	comp=Z,7.7nm,1.3s						
I21K	**Tanana**	**24.54**	**47**	P	**P**	**13 31 22.2**	**+0.6**
I21K				lAmb	lAmb	13 31 38.7	
	comp=Z,7.8nm,1.4s						
MJAR	**Matsushiro Arr**	**24.60**	**231**	P	**P**	**13 31 22.4**	**0.0**
	comp=Z,0.8nm,0.5s,baz=34,slow=8.3,SNR=6.3						
MJAR				LR	LR	13 40 55.2	
	comp=Z,69nm,18.5s,baz=44,slow=36						
	comp=Z,0.8nm,0.5s						
D22K	**Ayikyak River**	**24.71**	**38**		**P**	**13 31 23.5**	**+0.4**
D22K				lAmb	lAmb	13 31 46.0	
	comp=Z,7.3nm,1.2s						
MLY	**Manley**	**25.06**	**47**	P	**P**	**13 31 26.8**	**+0.4**
TRF	**Thorofare Moun**	**25.28**	**51**	P	**P**	**13 31 28.4**	**-0.1**
TRF				lAmb	lAmb	13 31 45.0	
	comp=Z,8.6nm,1.0s						
CUT	**Chulitna**	**25.36**	**54**	P	**P**	**13 31 29.4**	**+0.3**
NEA2	**Nenana**	**25.77**	**48**	P	**P**	**13 31 33.7**	**+0.9**
H24K	**Noodor Dome**	**26.26**	**46**	P	**P**	**13 31 37.5**	**+0.2**
F24K	**Squaw Lake**	**26.31**	**42**	P	**P**	**13 31 37.4**	**-0.3**
G24K	**Hadweenzic Riv**	**26.44**	**44**	P	**P**	**13 31 39.7**	**+0.9**
G24K				lAmb	lAmb	13 31 40.5	
	comp=Z,7.2nm,1.1s						
DHY	**Denali Highway**	**26.62**	**52**	P	**P**	**13 31 40.9**	**+0.2**
DHY				lAmb	lAmb	13 31 47.0	
	comp=Z,8.0nm,1.4s						
ILAR	**Eielson Array**	**26.71**	**48**	*e*P	**P**	**13 31 41.2**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**26.71**	**48**	P	**P**	**13 31 40.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=256,slow=6.9,SNR=18						
	comp=Z,1.0nm,0.8s						

comp=Z,0.6nm,0.7s,baz=41,slow=2.7,SNR=2.3
BVAR LR LR 13 59 41.1
comp=Z,98nm,18.5s,baz=331,slow=40
comp=Z,0.5nm,0.5s
BMO Blue Mountains 50.17 66 P **P** **13 34 58.7 +1.4**
BMO IAmb IAmb 13 35 39.2
comp=Z,3.7nm,1.4s
BMO Blue Mountains 50.17 66 P **P** **13 34 58.7 +1.4**
BMO pmax pmax
comp=Z,4.0nm,1.5s
PLID Pearl Lake 50.70 65 P **P** **13 35 02.9 +1.4**
PLID IAmb IAmb 13 35 03.7
comp=Z,3.0nm,0.8s
BPMT Black Pine Rid 51.10 62 P **P** **13 35 05.6 +1.1**
FCC Fort Churchill 51.31 40 P **P** **13 35 05.2 -0.4**
FCC Fort Churchill 51.31 40 P **P** **13 35 05.2 -0.4**
FCC pmax pmax
comp=Z,13nm,1.4s
ARU Arti 52.76 317 *i* P **P** **13 35 17.2 +0.8**
ARU pmax pmax
comp=Z,3.0nm,1.1s
PNTR Pine Nut 52.90 73 P **P** **13 35 19.1 +1.2**
WAKR Walker 53.40 73 P **P** **13 35 24.0 +2.3**
RYN Ryan 53.82 73 P **P** **13 35 26.4 +1.7**
RYN IAmb IAmb 13 35 27.4
comp=Z,2.1nm,0.7s
NVAR Mina Array Bea 54.08 73 P **P** **13 35 28.3 +1.7**
NVAR Mina Array Bea 54.08 73 P **P** **13 35 27.7 +1.1**
comp=Z,2.0nm,0.7s,baz=301,slow=7.5,SNR=20
comp=Z,2.0nm,0.7s
NV11 Mina Array Sit 54.16 72 P **P** **13 35 28.6 +1.4**
PDAR Pinedale Array 55.65 63 P **P** **13 35 39.1 +1.2**
PDAR Pinedale Array 55.65 63 P **P** **13 35 38.8 +0.9**
comp=Z,1.1nm,0.7s,baz=336,slow=3.3,SNR=10
comp=Z,1.1nm,0.7s
QSM Queen of Sheba 56.65 74 P **P** **13 35 46.8 +1.9**
ULM Lac du Bonnet 56.72 49 LR LR 14 01 10.6
comp=Z,80nm,18.7s,baz=291,slow=37
HMU Henry Mountain 58.54 68 P **P** **13 36 00.1 +1.7**
FINES FINESS Array B 58.82 337 *eP* **P** **13 35 59.2 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 58.82 337 P **P** **13 35 58.3 -1.3**
comp=Z,1.7nm,0.5s,baz=41,slow=7.8,SNR=14
comp=Z,1.7nm,0.5s
CMAR Chiang Mai Arr 59.65 259 P **P** **13 36 04.9 -1.1**
comp=Z,0.3nm,0.3s,baz=30,slow=7.3,SNR=1.7
comp=Z,0.3nm,0.3s
OBN Obninsk 61.51 328 *i* P **P** **13 36 18.5 +0.4**
OBN pmax pmax
comp=Z,3.0nm,0.9s
HNR Honiara 64.19 182 LR LR 14 03 56.3
comp=Z,213nm,18.2s,baz=328,slow=35
AKASG Malin Array Be 67.55 330 P **P** **13 36 56.7 -0.9**
comp=Z,0.5nm,0.4s,baz=30,slow=7.5,SNR=3.3
comp=Z,0.5nm,0.4s
SADO Sadowa 67.96 42 LR LR 14 09 07.3
comp=Z,123nm,19.0s,baz=272,slow=38
TX31 Lajitas Ar. Si 68.89 69 P **P** **13 37 07.1 +0.7**
TX31 IAmb IAmb 13 37 08.6
comp=Z,4.7nm,1.3s
TXAR Lajitas Array 68.89 69 P **P** **13 37 07.4 +0.9**
TXAR Lajitas Array 68.89 69 P **P** **13 37 07.9 +1.4**
comp=Z,0.6nm,0.6s,baz=298,slow=4.3,SNR=9.6
comp=Z,0.6nm,0.6s
KBZ Khabaz 68.91 317 *i* P **P** **13 37 07.3 +1.1**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
BURAR Bucovina Array 71.48 331 P **P** **13 37 21.8 -0.2**
M57A Sunshine Farm, 71.65 43 P **P** **13 37 22.5 -0.5**
TKL Tuckaleechee C 73.65 51 LR LR 14 11 13.7
comp=Z,76nm,18.4s,baz=340,slow=37
WB0 Warramunga Arr 78.09 206 P **P** **13 38 00.0 -0.1**
WRA Warramunga Arr 78.27 206 P **P** **13 38 01.9 +0.7**
comp=Z,1.3nm,0.8s,baz=22,slow=6.0,SNR=7.9
comp=Z,1.3nm,0.8s
AS31 Alice Springs 81.94 206 P **P** **13 38 22.0 +1.1**
ASAR Alice Springs 81.94 206 P **P** **13 38 22.0 +1.1**
ASAR Alice Springs 81.94 206 P **P** **13 38 22.2 +1.3**
comp=Z,1.7nm,0.7s,baz=17,slow=4.9,SNR=23
comp=Z,1.7nm,0.7s
ESDC Sonseca Array 84.95 349 P **P** **13 38 36.8 +0.3**
ESDC IAmb IAmb 13 38 36.9
comp=Z,3.3nm,1.4s
ESDC Sonseca Array 84.95 349 P **P** **13 38 36.6 +0.3**
comp=Z,1.9nm,0.8s,baz=3.7,slow=4.6,SNR=13
comp=Z,1.9nm,0.8s
QSPA South Pole Qui 144.73 180 PKP **PKPdf** **13 45 34.9 -1.5**
comp=Z,5.1nm,0.9s,baz=352,slow=0.5,SNR=17

IDC 28 14:30:58.0±3.2, 28°45S×63°66E, h0km, mb3.7/3, mbtmp3.7/3, MS3.4/2, Error ellipse: s-maj=103.1km s-min=47.9km az=48.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**20.00**	**205**	T	T	14 57 24.2	
	baz=34,slow=74,SNR=201						
H04N1	**CROZET ISLANDS**	**20.01**	**205**	T	T	14 57 28.1	
	baz=34,slow=74,SNR=82						
H04N3	**CROZET ISLANDS**	**20.02**	**205**	T	T	14 57 25.2	
	baz=34,slow=74,SNR=112						
CMAR	**Chiang Mai Arr**	**57.78**	**40**	P	P	14 40 51.1	-0.1
	0.3nm,0.3s,baz=217,slow=5.7,SNR=1.4						
CMAR				LR	LR	15 03 52.5	
	comp=Z,17nm,18.1s,baz=20,slow=34						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**62.48**	**103**	P	P	14 41 23.7	+0.1
	0.7nm,0.7s,baz=248,slow=6.2,SNR=11						
	0.7nm,0.7s						
VNDA	**Vanda**	**64.20**	**166**	LR	LR	15 08 12.3	
	comp=Z,47nm,18.3s,baz=228,slow=35						
WRA	**Warramunga Arr**	**64.23**	**100**	P	P	14 41 35.2	-0.1
	0.6nm,0.9s,baz=250,slow=5.7,SNR=2.0						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**145.93**	**359**	PKPbc	PKPdf	14 50 38.0	-0.2
	0.1nm,0.5s,baz=350,slow=3.3,SNR=2.9						

*NEIC **28** 14:38:36.1±0.3, 37.07N±0.01×97.71W±0.006, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.9km az=291.0*
NEIC 28 14:38:36.4±0.3, 37.07N±0.01×97.717W±0.006, h6km±2km, mb_Lg2.3/26, ML2.6/18, ML2.8/50, Error ellipse: s-maj=1.6km s-min=0.4km az=199.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.05**	**237**	Pg	Pg	14 38 37.8	+0.1
KAN17				Sg	Sg	14 38 38.7	+0.1
KAN01	**Argonia South**	**0.09**	**338**	Pg	Pg	14 38 38.5	+0.1
KAN01				Sg	Sg	14 38 39.8	0.0
KAN01				IAML		14 38 40.2	
	comp=N,4μm,0.2s						
KAN01				IAML		14 38 40.3	
	comp=E,4μm,0.3s						
KAN09	**Caldwell North**	**0.10**	**49**		Pg	14 38 38.7	+0.1
KAN09				IAML		14 38 41.2	
	comp=E,4μm,0.2s						
KAN05	**Bluff City Nor**	**0.13**	**288**	Pg	Pg	14 38 39.3	+0.2
KAN05				Sg	Sg	14 38 41.3	+0.4
KAN05				IAML		14 38 43.9	
	comp=E,5μm,0.1s						
KAN13	**South Haven SW**	**0.20**	**106**	Pg	Pg	14 38 40.6	+0.3
KAN13				IAML		14 38 46.2	
	comp=E,2μm,0.3s						
KS21	**Milan North St**	**0.22**	**11**	IAML		14 38 44.5	
	comp=E,2μm,0.3s						
KS21	**Milan North St**	**0.22**	**11**	Pg	Pg	14 38 40.9	+0.2
KAN14	**Manchester OK**	**0.23**	**241**	Pg	Pg	14 38 41.0	+0.2
GC02	**Grant County #**	**0.24**	**208**	Pg	Pg	14 38 41.4	+0.2
KAN08	**Anthony NE Sta**	**0.26**	**308**		Pg	14 38 41.7	+0.3
KAN08				IAML		14 38 45.6	
	comp=N,2μm,0.3s						
KAN08				IAML		14 38 45.6	
	comp=E,2μm,0.3s						
KAN10	**Anthony SW Sta**	**0.31**	**280**		Pg	14 38 42.6	+0.2
KAN10				IAML		14 38 47.2	
	comp=N,1μm,0.2s						
KAN12	**Harper NE Stat**	**0.32**	**316**		Pg	14 38 42.9	+0.2
KAN12				IAML		14 38 51.6	
	comp=N,1μm,0.3s						
KAN12				IAML		14 38 52.3	
	comp=E,1μm,0.3s						
OK032	**Salt Plains WL**	**0.48**	**236**	Pg	Pg	14 38 45.7	+0.1
BLOK	**Blackwell**	**0.51**	**127**	Pg	Pg	14 38 46.2	0.0
BLOK					Sg	14 38 53.2	+0.5
BLOK				IAML		14 38 54.5	
	comp=E,515nm,0.2s						
CROK	**Carrier**	**0.60**	**201**	Pg	Pg	14 38 48.1	+0.1
CROK				IAML		14 38 57.8	
	comp=N,519nm,0.3s						
OK035	**E0210 Rd and N**	**0.87**	**246**	Pg	Pg	14 38 52.9	-0.2
OK035				IAML		14 39 12.0	
	comp=N,235nm,0.4s						
OK048	**Pawnee Station**	**0.90**	**136**	Pg	Pg	14 38 53.3	-0.3
OK051	**E0350 and S346**	**0.90**	**128**		Pg	14 38 53.4	-0.3
OK051				IAML		14 39 12.9	
	comp=N,321nm,0.2s						
T35A	**Sooner Cattle**	**0.98**	**99**		Pg	14 38 54.6	-0.5
T35A				IAML		14 39 09.7	
	comp=N,228nm,0.3s						
OK038	**West end E0370**	**1.01**	**235**		Pg	14 38 55.5	-0.3
OK033	**Mehan**	**1.20**	**148**		Pg	14 38 59.0	-0.3
OK033				IAML		14 39 18.1	
	comp=N,184nm,0.1s						
OK033				IAML		14 39 19.1	
	comp=N,288nm,0.1s						
QUOK	**Quay**	**1.21**	**138**		Pg	14 38 59.0	-0.6
U32A	**Winter Ranch,**	**1.24**	**237**		Pg	14 38 59.3	-0.8
U32A				IAML		14 39 24.1	
	comp=N,138nm,0.1s						
OK029	**Liberty Lake**	**1.29**	**170**		Pn	14 39 00.4	-0.6
OK029				IAML		14 39 21.1	
	comp=N,120nm,0.3s						
OK029				IAML		14 39 23.2	
	comp=N,132nm,0.5s						
OK052	**Battle Ridge R**	**1.30**	**145**		Pn	14 39 00.4	-0.7
OK052				IAML		14 39 21.5	
	comp=N,240nm,0.3s						
OK052				IAML		14 39 21.6	
	comp=N,237nm,0.3s						
R32A	**Long Quarter,**	**1.56**	**330**		Pn	14 39 04.9	+0.1
DEOK	**Depew**	**1.57**	**141**	Pg	Pn	14 39 04.8	0.0
CSTR	**Hydro, Custer**	**1.62**	**209**		Pn	14 39 06.1	+0.5
OKCSW	**OKLAHOMA CITY**	**1.68**	**172**		Pn	14 39 06.8	+0.5
ELIS	**Ellis County**	**1.70**	**234**		Pb	14 39 07.4	-0.7
FNO	**Franklin**	**1.83**	**172**		Pn	14 39 09.2	+0.8
TUL3	**Leonard**	**1.93**	**126**	IAmb_Lg		14 39 38.2	
	comp=Z,15nm,0.8s						
KSU1	**Kansas State U**	**2.21**	**23**		Pn	14 39 14.3	+0.7
RLO	**Rose Lookout**	**2.35**	**112**	Pn	Pn	14 39 16.2	+0.7
CBKS	**Cedar Bluff**	**2.36**	**318**	Pn	Pn	14 39 16.8	+0.9
X34A	**Smith Ranch, M**	**2.46**	**182**	Pn	Pn	14 39 17.8	+0.6
X34A				IAmb_Lg		14 39 59.3	
	comp=Z,11nm,0.8s						
WMOK	**Wichita Mounta**	**2.48**	**201**		Pn	14 39 17.7	+0.3
U38A	**Gravette**	**2.75**	**102**	Pn	Pn	14 39 22.1	+1.0
SMWD	**Samnorwood**	**2.83**	**227**	Pn	Pn	14 39 23.4	+1.1
S39A	**Bolivar**	**3.55**	**79**	Pn	Pn	14 39 32.7	+0.5
S39A				IAmb_Lg		14 40 33.5	
	comp=Z,6.6nm,0.8s						
N33A	**J Bar K, Exete**	**3.67**	**3**	Pn	Pn	14 39 34.1	+0.3
Z35A	**Perchaven, San**	**3.75**	**174**	Pn	Pn	14 39 35.6	+0.8
RTBA	**Rita Blanca**	**4.08**	**263**		Pn	14 39 40.4	+0.9
P38A	**Dawn**	**4.16**	**51**	IAmb_Lg		14 40 50.0	
	comp=Z,11nm,0.7s						
PLPT	**Palo Pinto**	**4.28**	**187**	Pn	Pn	14 39 42.6	+0.6
DKNS	**Dickens**	**4.29**	**219**	IAmb_Lg		14 41 02.8	
	comp=Z,5.0nm,0.8s						
MGMO	**Mountain Grove**	**4.36**	**87**	Pn	Pn	14 39 44.0	+0.8
R40A	**Maddies Statio**	**4.49**	**73**	IAmb_Lg		14 40 59.4	
	comp=Z,6.6nm,0.7s						
X40A	**Basin Creek Fa**	**4.73**	**122**	IAmb_Lg		14 41 14.7	
	comp=Z,5.2nm,0.7s						
SN05	**Snyder 5**	**4.92**	**213**	IAmb_Lg		14 41 24.5	
	comp=Z,4.9nm,0.8s						
SN01	**Snyder 1**	**4.94**	**213**	IAmb_Lg		14 41 23.7	
	comp=Z,4.0nm,0.8s						
T25A	**Trinidad**	**5.35**	**273**	IAmb_Lg		14 41 37.9	
	comp=Z,6.8nm,0.8s						
PBMO	**Poplar Bluff**	**5.84**	**91**	IAmb_Lg		14 41 49.0	
	comp=Z,7.0nm,0.8s						
BRDY	**Brady**	**5.87**	**191**	IAmb_Lg		14 41 44.6	
	comp=Z,4.3nm,1.0s						
SIUC	**Southern Illin**	**6.80**	**82**	IAmb_Lg		14 42 12.7	
	comp=Z,6.4nm,0.8s						
MNHN	**Monahans**	**7.08**	**218**	IAmb_Lg		14 42 22.0	
	comp=Z,2.8nm,0.8s						

*GII **28** 14:48:30.3±0.4, 36.792N±0.003×23.681E±0.001, h20km, Mws4.7, confirmed*
*IDC **28** 14:48:30.4±0.6, 37.13N×23.82E, h0km, mb4.0/22, mbtmp4.0/29, ML3.7/7, MS3.4/13, Error ellipse: s-maj=13.2km s-min=12.6km az=18.0*
*MOS **28** 14:48:31.3±1.0, 37.17N×23.77E, h13km, mb4.3/14, Error ellipse: s-maj=7.1km s-min=4.2km az=79.7*
*NEIC **28** 14:48:32.8±1.4, 37.24N±0.07×23.78E±0.07, h10km±1km, mb4.5/30, Error ellipse: s-maj=12.9km s-min=8.7km az=207.0*
*ISK **28** 14:48:32.5, 37.28N×23.89E, h16km, ML4.0/36*
*MED_RC **28** 14:48:33.0±0.7, 37.09N×23.91E, h16km±2km, MW4.4/10, Moment Tensor Solution. Mantle waves: s10, c11; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.41±.66; $M_{\theta\theta}$0.71±.37; $M_{\phi\phi}$2.69±.40; $M_{r\theta}$-0.39±.81; $M_{\theta\phi}$-2.92±.23; $M_{\phi r}$-2.08±.77; Best double couple: M_o4.73000×10^{15} NP1:φs348.00000°, δ60.00000°, λ-60.00000°. NP2:φs119.00000°, δ41.00000°, λ-131.00000°. Principal axes: T 5.0500, Plg10.0000°, Azm57.0000°; N -0.6400, Plg26.0000°, Azm152.0000°; P -4.4100, Plg62.0000°, Azm307.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*ATH **28** 14:48:34.8, 37.18N×23.78E, h23km, Mw4.1, Moment Tensor Solution. s10 Moment tensor: M_{rr}-1.86; $M_{\theta\theta}$0.56; $M_{\phi\phi}$1.30; $M_{r\theta}$0.33; $M_{\theta\phi}$-1.10; $M_{\phi r}$0.05; Fault plane solution: NP1:φs154.00000°, δ44.00000°, λ-75.00000°. NP2:φs315.00000°, δ48.00000°, λ-104.00000°.*
*AFAD **28** 14:48:34.6±0.0, 37.29N×23.93E, h15km±3km, MW4.3*
*THE **28** 14:48:34.0, 37.19N×23.81E, h9km±2km, ML4.2/14, Error ellipse: s-maj=2.0km s-min=0.9km az=25.0*
*NAO **28** 14:48:39.6, 38.60N×27.62E, h33km, mb3.8*
*BEO **28** 14:48:47.2±0.9, 38.02N×23.34E, h10km, ML3.6/5*
ISC 28 14:48:33.0±1.1, 37.17N±0.02×23.83E±0.02, h13km±7km, n367, σ1§65/395, mb4.3/54, MS3.6/7, 19C-12D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRND	**KRANIDI**	**0.59**	**292**	P	**Pb**	**14 48 44.3**	**-0.8**
KRND				S	**Sb**	**14 48 52.9**	**-0.4**
	35μm,0.5s						
MHLO	**Agia Marina, M**	**0.66**	**136**	P	**Pb**	**14 48 46.9**	**+0.5**
MHLO				S	**Sn**	**14 48 58.1**	**-0.2**
	41μm,0.3s						
MHLO	**Agia Marina, M**	**0.66**	**136**	P	**Pb**	**14 48 47.3**	**+0.9**
MHLO				S	**Sn**	**14 48 58.2**	**0.0**
MHLO				AML	AML	14 48 59.9	
	comp=N,78358μm,0.3s						
MHLO				AML	AML	14 49 00.3	
	comp=E,83311μm,0.4s						
VLY	**Voula,Athens**	**0.68**	**357**	P	**Pb**	**14 48 46.8**	**0.0**
VLY				S	**Sb**	**14 48 56.2**	**+0.1**
	comp=E,30μm,0.4s						
VLY	**Voula,Athens**	**0.68**	**357**	P	**Pb**	**14 48 47.1**	**+0.3**
VLY				S	**Sn**	**14 48 56.9**	**-2.0**
VLY				AML	AML	14 48 58.8	
	comp=N,69806μm,0.5s						
VLY				AML	AML	14 48 59.0	
	comp=E,49884μm,0.4s						
ATHU	**Athens Univers**	**0.80**	**357**	P	**Pb**	**14 48 48.4**	**-0.3**
ATHU				S	**Sb**	**14 48 58.8**	**-0.6**
	comp=E,7μm,0.4s						
ATH	**Athens Observa**	**0.81**	**353**	P	**Pn**	**14 48 49.0**	**-1.1**
ATH				S	**Sb**	**14 48 59.2**	**-0.5**
	comp=E,23μm,0.6s						
ATH	**Athens Observa**	**0.81**	**353**	P	**Pb**	**14 48 48.9**	**0.0**
ATH				S	**Sn**	**14 49 00.2**	**-1.7**
ATH				AML	AML	14 49 01.0	
	comp=N,53948μm,0.7s						
ATH				AML	AML	14 49 01.3	
	comp=E,37476μm,0.4s						
VLI	**Veliai**	**0.85**	**238**	P	**Pb**	**14 48 48.9**	**-0.7**
VLI				S	**Sb**	**14 49 01.0**	**+0.1**
	comp=E,15μm,0.5s						
VLI	**Veliai**	**0.85**	**238**	P	**Pg**	**14 48 49.6**	**+0.2**
VLI				S	**Sn**	**14 49 01.8**	**-1.1**
VLI				AML	AML	14 49 03.7	
	comp=N,35440μm,0.4s						
VLI				AML	AML	14 49 04.3	
	comp=E,23250μm,0.6s						
PTL	**Penteli**	**0.88**	**2**	P	**Pn**	**14 48 51.0**	**-0.1**
PTL				S	**Sn**	**14 49 02.7**	**-1.1**
	comp=E,23μm,0.5s						
PTL	**Penteli**	**0.88**	**2**	P	**Pn**	**14 48 51.3**	**+0.2**
PTL				S	**Sn**	**14 49 03.1**	**-0.7**
PTL				AML	AML	14 49 04.1	
	comp=E,38394μm,0.5s						
PTL				AML	AML	14 49 04.4	
	comp=N,53880μm,0.5s						
DION	**Dionisos Attik**	**0.91**	**5**	P	**Pn**	**14 48 51.4**	**-0.1**
DION				S	**Sn**	**14 49 04.2**	**-0.3**
	comp=N,37μm,0.7s						
DION	**Dionisos Attik**	**0.91**	**5**	P	**Pn**	**14 48 51.5**	**-0.1**
DION				S	**Sn**	**14 49 03.7**	**-0.9**
DION				AML	AML	14 49 05.7	
	comp=E,48249μm,0.5s						
DION				AML	AML	14 49 09.9	
	comp=N,50288μm,0.5s						
LOUT	**Loutraki**	**1.06**	**320**	P	**Pn**	**14 48 53.7**	**+0.1**
VILL	**Villia**	**1.08**	**338**	P	**Pg**	**14 48 53.9**	**+0.1**
VILL				S	**Sn**	**14 49 08.6**	**-0.1**
	comp=N,21μm,0.7s						
THAL	**Thalero**	**1.27**	**313**	P	**Pg**	**14 48 56.8**	**-0.7**
APE	**Apeiranthos**	**1.36**	**94**	P	**Pn**	**14 48 57.2**	**-0.6**
APE				S	**Sn**	**14 49 15.4**	**-0.3**
APE	**Apeiranthos**	**1.36**	**94**	Pn	**Pn**	**14 48 57.1**	**-0.6**
APE				Sn	**Sn**	**14 49 14.8**	**-0.8**
APE	**Apeiranthos**	**1.36**	**94**	P	**Pn**	**14 48 57.0**	**-0.7**
APE	**Apeiranthos**	**1.36**	**94**	P	**Pn**	**14 48 57.0**	**-0.7**
APE				S	**Sn**	**14 49 13.6**	**-2.0**
APE	**Apeiranthos**	**1.36**	**94**	P	**Pn**	**14 48 57.1**	**-0.6**
APE	**Apeiranthos**	**1.36**	**94**	P	**Pn**	**14 48 57.0**	**-0.7**
APE				AML	AML	14 49 20.5	
	comp=N,6813μm,0.2s						
APE				AML	AML	14 49 28.8	
	comp=E,4652μm,0.7s						
APE	**Apeiranthos**	**1.36**	**94**	P	**Pn**	**14 48 55.7**	**-2.0**
ANKY	**Antikythira Is**	**1.37**	**198**	P	**Pn**	**14 48 57.3**	**-0.5**
ANKY	**Antikythira Is**	**1.37**	**198**	P	**Pn**	**14 48 57.6**	**-0.2**
ANKY				S	**Sn**	**14 49 14.8**	**-1.0**
ANKY				AML	AML	14 49 22.2	
	comp=N,21129μm,0.9s						
ANKY				AML	AML	14 49 23.0	
	comp=E,18300μm,0.9s						
GUR	**Goura**	**1.41**	**303**	P	**Pg**	**14 48 59.2**	**-0.9**
GUR				S	**Sg**	**14 49 17.7**	**-0.8**
	comp=E,10μm,0.3s						
THR3	**Thira Island,**	**1.47**	**121**	P	**Pb**	**14 49 01.1**	**+1.0**
KYMI	**Kymi, Euboea I**	**1.48**	**8**	P	**Pn**	**14 48 58.9**	**-0.4**
KYMI				S	**Sb**	**14 49 18.3**	**-0.7**
	comp=E,8μm,0.8s						
KYMI	**Kymi, Euboea I**	**1.48**	**8**	P	**Pn**	**14 48 59.3**	**0.0**
KYMI				AML	AML	14 49 24.8	
	comp=N,17027μm,0.9s						
KYMI				AML	AML	14 49 26.7	
	comp=E,15476μm,0.7s						
KLV	**Kalavryta, Ach**	**1.60**	**304**	P	**Pb**	**14 49 01.9**	**-0.5**
KLV				S	**Sn**	**14 49 18.5**	**-3.0**
KLV				AML	AML	14 49 28.2	
	comp=E,6192μm,0.6s						
KLV				AML	AML	14 49 29.2	
	comp=N,5400μm,0.6s						
RODP	**Rodopos**	**1.61**	**182**	Pn	**Pb**	**14 49 02.7**	**+0.2**
RODP				Sn	**Sg**	**14 49 24.7**	**0.0**
RODP	**Rodopos**	**1.61**	**182**	P	**Pn**	**14 49 01.4**	**+0.3**
PYL	**PYLOS**	**1.70**	**261**	P	**Pb**	**14 49 03.8**	**-0.2**
IMMV	**Iera Moni Meta**	**1.71**	**176**	Pn	**Pb**	**14 49 03.9**	**-0.4**
IMMV	**Iera Moni Meta**	**1.71**	**176**	P	**Pn**	**14 49 02.6**	**+0.2**
IMMV				AML	AML	14 49 32.0	
	comp=E,13160μm,0.6s						
IMMV				AML	AML	14 49 32.6	
	comp=N,12398μm,0.6s						
AXAR	**Agios Charalam**	**1.84**	**330**	P	**Pb**	**14 49 05.0**	**-1.6**
DRO	**Drossia**	**1.86**	**296**	P	**Pb**	**14 49 06.1**	**-0.8**
EFP	**Efpalio**	**1.98**	**310**	P	**Pb**	**14 49 07.0**	**-1.8**
IDI	**Anoyia**	**2.06**	**155**	Pn	**Pn**	**14 49 07.2**	**-0.2**
IDI	**Anoyia**	**2.06**	**155**	LR	LR	14 49 48.9	
	comp=N,149nm,18.5s,baz=274,slow=39						
ANX	**Ano Chora**	**2.08**	**314**	P	**Pb**	**14 49 08.7**	**-1.9**
RLS	**Riolos of Patr**	**2.08**	**296**	P	**Pb**	**14 49 10.7**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.28**	**324**	P	**Pb**	**14 49 11.7**	**-2.3**
GVD	**Gavdhos**	**2.33**	**175**	Pn	**Pn**	**14 49 13.1**	**+2.0**
EVR	**Evrytania**	**2.37**	**318**	P	**Pn**	**14 49 11.3**	**-0.3**
EVR				AML	AML	14 49 57.6	
	comp=N,3070μm,0.7s						
EVR				AML	AML	14 49 57.6	
	comp=E,2322μm,1.1s						
ZEYE	**Izmir, Urla-Ze**	**2.37**	**62**	P	**Pn**	**14 49 11.4**	**-0.2**
URLA	**Izmir**	**2.49**	**61**	Pn	**Pn**	**14 49 12.5**	**-0.8**
URLA	**Izmir**	**2.49**	**61**	P	**Pn**	**14 49 12.0**	**-1.3**
KARB	**zmir-Karabur**	**2.53**	**53**	P	**Pn**	**14 49 11.8**	**-1.9**
KARB				S	**Sb**	**14 49 47.3**	**-1.9**
DGB	**zmir**	**2.58**	**69**	P	**Pn**	**14 49 14.1**	**-0.3**
DGB				S	**Sn**	**14 49 44.2**	**-1.4**
SIGR	**SIGRI**	**2.59**	**37**	Pn	**Pn**	**14 49 13.5**	**-1.0**
DDIM	**Aydin, Didim**	**2.73**	**83**	P	**Pg**	**14 49 26.4**	**+1.1**
GCAM	**G?zelcami?**	**2.76**	**78**	Pn	**Pn**	**14 49 16.5**	**-0.4**
GCAM	**G?zelcami?**	**2.76**	**78**	P	**Pn**	**14 49 18.1**	**+1.2**
PAIG	**Paliouri**	**2.76**	**358**	Pn	**Pn**	**14 49 16.1**	**-0.8**
BODT	**Bodrum**	**2.78**	**91**	Pn	**Pn**	**14 49 17.3**	**+0.1**
ZKR	**Zakros**	**2.81**	**136**	Pn	**Pn**	**14 49 18.8**	**+1.1**
BLCB	**Balcova**	**2.82**	**63**	Pn	**Pn**	**14 49 17.1**	**-0.6**
BDRM	**Kayabasi**	**2.89**	**91**	P	**Pn**	**14 49 19.2**	**+0.5**
YAZI	**Mula-Dat§a-**	**2.94**	**98**	P	**Pn**	**14 49 20.1**	**+0.7**
YAZI				S	**Sb**	**14 49 58.5**	**-2.6**
RFT7	**Candarli**	**3.02**	**53**	Pn	**Pn**	**14 49 19.9**	**-0.6**
DAT	**Datca**	**3.03**	**97**	Pn	**Pn**	**14 49 20.9**	**+0.1**
DKL	**Dikili**	**3.08**	**51**	Pn	**Pn**	**14 49 20.7**	**-0.6**
ZEDA	**zmir-Bergama**	**3.13**	**54**	P	**Pn**	**14 49 21.5**	**-0.5**
RFTAA	**Mazikoy-Bodrum**	**3.13**	**92**	Pn	**Pn**	**14 49 22.1**	**+0.1**
KARP	**Karpathos**	**3.13**	**120**	Pn	**Pn**	**14 49 22.8**	**+0.7**
KARP	**Karpathos**	**3.13**	**120**		**Pn**	**14 49 23.6**	**+1.5**
KARP	**Karpathos**	**3.13**	**120**	P	**Pn**	**14 49 20.9**	**-1.2**
OUR	**Ouranopolis**	**3.16**	**2**	Pn	**Pn**	**14 49 21.7**	**-0.7**
EZN	**Ezine**	**3.29**	**36**	Pn	**Pn**	**14 49 23.6**	**-0.7**
GADA	**Gvkgeada**	**3.42**	**28**	Pn	**Pn**	**14 49 25.2**	**-0.8**
HORT	**Hortiatis**	**3.47**	**351**	Pn	**Pn**	**14 49 26.4**	**-0.4**
TURN	**Turunc**	**3.55**	**95**	P	**Pn**	**14 49 28.0**	**+0.2**
ARG	**Arkhangelos**	**3.58**	**104**	Pn	**Pn**	**14 49 29.3**	**+1.1**
ARG	**Arkhangelos**	**3.58**	**104**		**Pn**	**14 49 29.3**	**+1.1**
**AR

CAEL Denizli, Camel 4.38 89 P **Pb** **14 49 46.2 -3.7**
CAEL S **Sb** **14 50 40.3 -2.4**
IZZE Mula-Seydike 4.39 98 P **Pn** **14 49 41.8 +2.5**
EDC Edincik 4.47 44 Pn **Pn** **14 49 40.6 +0.2**
UKOP Uzunkopru-Edir 4.51 28 Pn **Pn** **14 49 40.9 -0.1**
GOLH Golhisar 4.57 87 P **Pn** **14 49 43.2 +1.3**
RZN Rozhen 4.57 9 *e*P **Pn** **14 49 41.9 -0.1**
OHR Ohrid 4.59 330 *e*Pn **Pn** **14 49 44.0 +1.9**
OHR *e*Sn Sn 14 50 26.1 -9.2
OHR Ohrid 4.59 330 *i* Pn Pb 14 49 47.9 -5.5
KDZ Kurdzhali 4.61 14 Pn **Pn** **14 49 41.8 -0.5**
KDZ Kurdzhali 4.61 14 *e*P **Pn** **14 49 41.7 -0.5**
KNIK Mula-Seydike 4.61 92 P **Pn** **14 49 45.6 +3.2**
PASA Karahalli, USA 4.63 74 P **Pn** **14 49 42.3 -0.4**
STIP Stip 4.70 345 *i* Pn **Pn** **14 49 44.6 +1.1**
KKB Krupnik 4.70 354 P **Pn** **14 49 44.3 +0.7**
ELL Elmali 4.88 93 Pn **Pn** **14 49 48.3 +2.1**
ELL Elmali 4.88 93 P **Pn** **14 49 48.3 +2.1**
PLD Plovdiv 5.02 8 *e*P **Pn** **14 49 48.8 +0.8**
SCTE Santa Cesarea 5.11 306 Pn **Pn** **14 49 47.8 -1.3**
SKO Skopje 5.14 340 *e*Pn **Pn** **14 49 51.8 +2.1**
SKO Skopje 5.14 340 *i* Pn **Pn** **14 49 50.3 +0.7**
EDRB Edirne 5.18 25 Pn **Pn** **14 49 50.3 +0.1**
VTS Vitosha 5.46 355 P **Pn** **14 49 54.8 +0.6**
PRVS Prvonek 5.50 346 *e*Pn **Pn** **14 49 55.7 +1.1**
PRVS *e*Sn **Sn** **14 50 49.0 -8.8**
PUK Puka 5.74 329 Pn **Pn** **14 49 59.2 +1.3**
BARS Barje 5.85 345 *e*Pn **Pn** **14 50 00.7 +1.3**
TIP Timpagrande 5.92 292 ⇑P **Pn** **14 50 01.4 +0.9**
TIP Timpagrande 5.92 292 **Pn** **14 50 00.6 +0.1**
ELND Elena 5.96 15 ⇓P **Pn** **14 50 01.0 +0.1**
ZAPS Zavoj 6.17 352 *e*Pn **Pn** **14 50 05.1 +1.3**
MPEP Malo Peshtene 6.18 359 P **Pn** **14 50 04.8 +0.9**
PLVB Pleven 6.24 5 ⇓P **Pn** **14 50 05.6 +0.9**
CEL Celeste 6.39 282 **Pn** **14 50 06.8 -0.1**
SELS Selova 6.39 342 *e*Pn **Pn** **14 50 08.2 +1.4**
BLKB Belogradchik 6.51 353 ⇑P **Pn** **14 50 09.2 +0.8**
MATE Matera 6.55 304 ⇓P **Pn** **14 50 10.8 +1.7**
ZAGS Zajecar 6.75 350 *e*Pn **Pn** **14 50 12.4 +0.7**
SJES Sjenica 6.76 335 *e*Pn **Pn** **14 50 12.3 +0.3**
SJES *e*Sn Sn 14 51 17.6 -11
CUC Castrocucco 6.88 297 Pn **Pn** **14 50 13.9 +0.3**
IVAS Ivanjica 6.99 337 *e*Pn **Pn** **14 50 16.8 +1.7**
GRUS Gruza 7.12 341 *e*Pn **Pn** **14 50 18.2 +1.4**
BBLS Lazići 7.49 335 *e*Pn **Pn** **14 50 23.1 +1.1**
BBLS *e*Sn Sn 14 51 35.4 -11
DIVS Divibare 7.51 338 *e*Pn **Pn** **14 50 23.7 +1.4**
DIVS *e*Sn Sn 14 51 35.6 -12
TRUS Trudelj 7.51 341 *e*Pn **Pn** **14 50 23.3 +1.1**
VAE Valguarnera 7.51 275 Pn **Pn** **14 50 24.8 +2.5**
comp=E,1.0nm,0.3s,baz=342,slow=3.2,SNR=4.0
VAE Sn **Sn** **14 51 44.9 -2.5**
comp=E,2.2nm,0.3s,baz=164,slow=7.4,SNR=2.0
SGRT San Giovanni R 7.75 309 Pn **Pn** **14 50 25.6 +0.1**
MDVR Moldovita 7.77 349 ⇑P **Pn** **14 50 26.4 +0.6**
HERR Herculane 7.78 353 ⇑P **Pn** **14 50 25.9 +0.1**
CSS Mathiatis 8.00 103 Pn **Pn** **14 50 29.7 +0.8**
CSS Mathiatis 8.00 103 P **Pn** **14 50 26.0 -2.9**
CSS Mathiatis 8.00 103 P **Pn** **14 50 26.2 -2.7**
TIRR Tirgusor 8.06 24 ⇓P **Pn** **14 50 29.5 -0.3**
TIRR Tirgusor 8.06 24 Pn **Pn** **14 50 29.2 -0.5**
TIRR Tirgusor 8.06 24 P **Pn** **14 50 29.4 -0.3**
BR131 Keskin Array S 8.11 69 Pn **Pn** **14 50 32.7 +2.2**
BR131 Keskin Array S 8.11 69 P **Pn** **14 50 32.7 +2.2**
BRTR Keskin Array B 8.11 69 Pn **Pn** **14 50 30.9 +0.4**
BRTR Keskin Array B 8.11 69 *i* P **Pn** **14 50 33.2 +2.7**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 8.11 69 Pn **Pn** **14 50 32.9 +2.4**
comp=Z,0.3nm,0.3s,baz=254,slow=13,SNR=17
BRTR LR LR 14 54 25.0
comp=Z,169nm,21.8s,baz=252,slow=44
comp=Z,2.1nm,0.7s
HARR Harsova 8.13 21 ⇓P **Pn** **14 50 30.8 +0.2**
HARR Harsova 8.13 21 P **Pn** **14 50 30.8 +0.2**
PAOL Paolisi 8.17 301 Pn **Pn** **14 50 31.0 -0.3**
ARR Arges 8.21 4 ⇑P **Pn** **14 50 32.1 +0.3**
GZR Gura Zlata 8.26 355 ⇓P **Pn** **14 50 32.4 0.0**
GZR Gura Zlata 8.26 355 P **Pn** **14 50 32.4 0.0**
VOIR 8.31 6 ⇓P **Pn** **14 50 33.6 +0.3**
VOIR 8.31 6 P **Pn** **14 50 33.5 +0.3**
TPGR Topolog 8.42 23 ⇓P **Pn** **14 50 35.2 +0.5**
MLR Muntele Rosu 8.46 10 ⇑P **Pn** **14 50 36.8 +1.4**
MLR Muntele Rosu 8.46 10 P **Pn** **14 50 36.7 +1.4**
MLR Muntele Rosu 8.46 10 Pn **Pn** **14 50 34.6 -0.7**
comp=Z,0.8nm,0.3s,baz=203,slow=3.7,SNR=9.8
MLR LR LR 14 54 29.3
comp=Z,226nm,18.5s,baz=282,slow=42
comp=Z,5.5nm,0.6s
FRGS Fruska Gora 8.54 340 *e*Pn **Pn** **14 50 37.7 +1.4**
BZS Buzias 8.60 350 ⇑P **Pn** **14 50 37.5 +0.4**
BZS Buzias 8.60 350 P **Pn** **14 50 37.5 +0.4**
CFR Carcaliu 8.63 21 ⇑P **Pn** **14 50 37.7 +0.2**
CFR Carcaliu 8.63 21 P **Pn** **14 50 37.7 +0.2**
COVR Voineasa-Covas 8.85 11 ⇓P **Pn** **14 50 42.0 +1.4**
PLOR Plostina 8.93 13 ⇑P **Pn** **14 50 42.8 +1.2**
PLOR Plostina 8.93 13 P **Pn** **14 50 42.8 +1.2**
VRI Vrincioaia 8.96 13 ⇑P **Pn** **14 50 43.5 +1.4**
VRI Vrincioaia 8.96 13 P **Pn** **14 50 43.4 +1.4**
TURR Turia 9.03 10 ⇑P **Pn** **14 50 43.6 +0.6**
INTR Introdacqua 9.06 305 Pn **Pn** **14 50 42.5 -1.0**
TESR Tescani 9.57 12 ⇑P **Pn** **14 50 51.4 +1.0**
DRGR 9.65 355 ⇑P **Pn** **14 50 52.0 +0.4**
DRGR 9.65 355 P **Pn** **14 50 52.0 +0.4**
MORH Mrgy, Hungar 9.83 338 ⇓P **Pn** **14 50 55.0 +1.0**
NRCA Norcia 9.98 308 **Pn** **14 50 55.9 -0.2**
FDMO Fiordimonte 10.10 309 **Pn** **14 50 57.5 -0.3**
MMAI Mount Meron Ar 10.34 110 Pn **Pn** **14 50 58.0 -3.1**
comp=Z,1.8nm,0.3s,baz=300,slow=12,SNR=5.5
comp=Z,0.8nm,0.3s
GEM Giv'at Ha'Em 10.45 109 P **Pn** **14 50 59.8 -2.7**
NATI Neve Ativ 10.49 108 P **Pn** **14 50 59.7 -3.2**
BURAR Bucovina Array 10.49 5 Pn **Pn** **14 51 03.5 +0.4**
BUR08 Bucovina Ar. S 10.52 5 Pn **Pn** **14 51 03.8 +0.3**
MURB Monte Urbino 10.57 309 **Pn** **14 51 03.4 -0.8**
QRNJ Al-Qirein 10.79 113 P **Pn** **14 51 04.8 -2.4**
HMDT Nahal Hemdat 10.80 114 P **Pn** **14 51 05.8 -1.5**
HMDT Nahal Hemdat 10.80 114 P **Pn** **14 51 03.7 -3.6**
BALJ Balqa 10.96 114 P **Pn** **14 51 07.4 -2.2**
YTIR Yattir 10.98 119 P **Pn** **14 51 07.4 -2.5**
YTIR Yattir 10.98 119 P **Pn** **14 51 05.9 -4.0**
DSI Dead Sea 11.05 117 P **Pn** **14 51 08.6 -2.2**
DSI Dead Sea 11.05 117 P **Pn** **14 51 06.9 -3.8**
MSBI Mazada 11.18 118 P **Pn** **14 51 11.1 -1.4**
LISJ El Lisan 11.31 118 P **Pn** **14 51 11.9 -2.3**
KRMI Paran Flat 11.48 125 S **Sn** **14 53 19.0 -5.7**
KRMI Paran Flat 11.48 125 P Pn 14 51 11.3 -5.3
PRNI Paran 11.51 123 P Pn 14 51 12.4 -4.7
PRNI Paran 11.51 123 S **Sn** **14 53 20.2 -5.4**
SOKA Soboth 11.54 328 *e*Pn **Pn** **14 51 17.0 -0.4**
comp=Z,6.3nm,1.4s
OBKA Obir 11.61 326 *e*Pn **Pn** **14 51 18.5 +0.1**
comp=Z,2.7nm,0.9s
SABO M.te Sabotino 11.66 322 Pn **Pn** **14 51 16.6 -2.5**
HRFI Mount Harif 11.73 124 P **Pn** **14 51 17.2 -2.9**
HRFI Mount Harif 11.73 124 P **Pn** **14 51 15.7 -4.4**
KEST Kesra 11.76 267 Pn **Pn** **14 51 18.6 -1.9**
comp=Z,0.1nm,0.3s,baz=16,slow=19,SNR=1.6
comp=Z,2.7nm,0.9s
ARSA Arzberg 11.80 331 *e*Pn **Pn** **14 51 21.4 +0.4**
comp=Z,0.7nm,0.4s
MBRI Mt Berech 11.81 125 P **Pn** **14 51 19.0 -2.2**
MBRI Mt Berech 11.81 125 P Pn 14 51 16.3 -5.0
MBRI Mt Berech 11.81 125 S **Sn** **14 53 27.0 -6.0**
ASF Jabal al Asfar 11.85 111 Pn **Pn** **14 51 22.1 +0.4**
comp=Z,0.4nm,0.3s,baz=233,slow=20,SNR=2.0
comp=Z,1.3nm,0.4s
VYHS Vyhne 11.89 344 *e*P Pn 14 51 27.4 +5.2
VYHS Vyhne 11.89 344 *e*PN Pn 14 51 27.4 +5.2
RONA Rosalia, Austr 11.90 335 *e*Pn **Pn** **14 51 22.7 +0.3**
comp=Z,0.6nm,0.3s
EIL Elat 11.92 126 Pn **Pn** **14 51 19.8 -2.9**
comp=Z,0.3nm,0.3s,baz=340,slow=13,SNR=2.5
EIL Sn Sn 14 53 26.8 -8.6
comp=Z,0.4nm,0.3s,baz=360,slow=19,SNR=1.9
comp=Z,4.3nm,0.7s
EIL Elat 11.92 126 P **Pn** **14 51 19.9 -2.7**
EIL Elat 11.92 126 P **Pn** **14 51 18.5 -4.2**
EIL Elat 11.92 126 S **Sn** **14 53 28.2 -7.2**
KBA Koelnbreinsper 12.58 325 *e*Pn **Pn** **14 51 31.7 -0.1**
comp=Z,4.0nm,1.3s
ABTA Abfaltersbach 12.74 322 *e*Pn **Pn** **14 51 34.4 +0.6**
comp=Z,2.8nm,1.1s
VRAC Vranov 13.22 339 *e*PN **Pn** **14 51 43.6 +3.2**
MORC Moravsky Berou 13.40 342 *e*PN **Pn** **14 51 42.8 0.0**
WTTA Wattenberg 13.53 322 Pn **Pn** **14 51 45.9 +1.3**
comp=Z,4.2nm,1.1s
CKRC Cesky Krumlov 13.56 332 *e*P **P** **14 51 56.2 +2.2**
CKRC Cesky Krumlov 13.56 332 *e*P **P** **14 51 56.2 +2.2**
WATA Walderalm 13.61 322 *e*Pn **Pn** **14 51 46.6 +0.9**
comp=Z,8.5nm,1.3s
SOC Sochi 13.69 57 *e*P **Pn** **14 51 46.0 -0.7**
SOC *e* 14 54 19.3
SOC MLR MLR
comp=Z,122nm,16.0s
SQTA Sankt Quirin 13.71 321 *e*Pn **Pn** **14 51 48.5 +1.3**
comp=Z,3.2nm,0.9s
GERES GERESS Array B 13.81 331 Pn **Pn** **14 51 50.9 +2.4**
comp=Z,0.3nm,0.3s,baz=160,slow=3.1,SNR=2.2
comp=Z,1.0nm,0.6s
FETA Feichten 13.82 320 *e*Pn **Pn** **14 51 49.6 +0.9**
comp=Z,6.2nm,1.0s
MOTA Moosalm 13.85 321 Pn **Pn** **14 51 49.8 +0.7**
comp=Z,3.4nm,1.0s
AKASG Malin Array Be 14.07 14 Pn **Pn** **14 51 54.0 +2.1**
comp=Z,0.1nm,0.3s,baz=201,slow=12,SNR=4.0
AKASG LR LR 14 57 33.4
comp=Z,189nm,19.4s,baz=210,slow=38
AKBB Malin Array Si 14.07 14 *i* P **Pn** **14 51 53.7 +1.8**
KHC Kasperske Hory 14.09 331 *e*P **P** **14 52 01.4 +1.5**
KHC Kasperske Hory 14.09 331 *e*P **P** **14 52 01.4 +1.5**
ZVC Zvikov 14.11 333 *e*P **P** 14 52 04.5 +4.3
DAVOX Davos/Dischmat 14.12 317 Pn **Pn** **14 51 55.7 +2.9**
comp=Z,0.1nm,0.3s,baz=177,slow=19,SNR=2.0
TUE Stuetta 14.23 315 Pn **Pn** **14 51 51.5 -2.8**
DPC Dobruska-Polom 14.24 340 *e*P **P** **14 52 02.4 +0.8**
DPC Dobruska-Polom 14.24 340 *e*P **P** **14 52 02.4 +0.8**
DPC MLR MLR
comp=Z,8µm,20.3s
SENIN Lac Senin/Sane 15.36 312 **P** **14 52 12.7 -1.5**
BRG Berggiesshubel 15.42 336 *i* P **P** **14 52 15.4 +0.8**
BRG Amp 14 52 16.5
comp=Z,4.3nm,0.8s
BRG Berggiesshubel 15.42 336 *i* P **P** **14 52 15.4 +0.8**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,0.8s
GRA1 Grafenberg Arr 15.48 328 Pn **Pn** **14 52 10.2 -0.8**
GRA1 lAmb lAmb 14 52 38.7
comp=Z,14nm,0.7s
GRF Grafenberg Arr 15.48 328 P **Pn** **14 52 10.2 -0.8**
GRF pmax pmax
comp=Z,14nm,0.7s
GRFO Grafenberg 15.48 328 Pn **Pn** **14 52 10.2 -0.8**
GRFO lAmb lAmb 14 52 38.7
comp=Z,13nm,0.7s
GRFO Grafenberg 15.48 328 P **Pn** **14 52 10.2 -0.8**
GRFO pmax pmax
comp=Z,13nm,0.7s
KIV Kislovodsk 15.83 59 *e*P **Pn** **14 52 16.8 +1.2**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 15.91 60 Pn **P** **14 52 22.6 +2.6**
comp=Z,0.4nm,0.3s,baz=252,slow=9.5,SNR=18
KBZ LR LR 14 59 33.8
comp=Z,86nm,19.3s,baz=307,slow=42
CLL Collm 16.10 335 *e*P **Pn** **14 52 18.0 -0.9**
CLL Collm 16.10 335 *e*P **Pn** **14 52 18.0 -0.9**
CLL *es*P **P** **14 52 23.0 +0.8**
comp=Z,11nm,1.1s
ZEI Tsey 16.36 64 *e*P **P** **14 52 28.0 +2.6**
ZEI pmax pmax
comp=Z,20nm,1.2s
GNI Garni 16.60 73 LR LR 14 58 36.3
comp=Z,113nm,18.8s,baz=278,slow=36
SUW Suwalki 16.85 359 P **P** **14 52 29.7 -0.8**
SUW lAmb lAmb 14 52 35.7
comp=Z,74nm,1.0s
SUW Suwalki 16.85 359 P **P** **14 52 29.7 -0.8**
SUW pmax pmax
comp=Z,74nm,1.0s
SUW Suwalki 16.85 359 *e*P **P** **14 52 31.9 +1.4**
MNK Minsk 17.56 8 *i* P **P** **14 52 37.6 -0.7**
comp=E,2.0nm,0.8s
MNK *i* P **P** **14 52 37.6 -0.7**
comp=N,13nm,0.8s
MNK *i* P **P** **14 52 37.6 -0.7**
comp=Z,10.0nm,0.8s,baz=191
MNK *i* PP **PnPn** **14 52 47.9 +0.3**
MNK *i* S **Sn** **14 55 53.9 +1.4**
MNK *i* SS **SnSn** **14 56 08.8 +2.8**
MNK *i* LQ LQ 14 57 57.6
MNK *i* LR LR 14 59 10.4
MNK *i* LRM MLR 14 59 46.5
comp=Z,91nm,16.1s
MNK *i* LRM MLR 15 00 26.4
comp=E,43nm,16.8s
MNK *i* LRM MLR 15 00 37.0
comp=N,282nm,16.8s
MNK Minsk 17.56 8 *i* P **P** **14 52 37.6 -0.7**
MNK *i* S **Sn** **14 55 53.8 +1.4**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=N,13nm,0.8s
MNK MLR MLR
comp=Z,91nm,16.0s
MNK MLR MLR
comp=E,43nm,17.0s
MNK MLR MLR
comp=N,282nm,17.0s
VSR Storozhevoye 17.78 33 *e*P **P** **14 52 41.4 +0.6**
VSR pmax pmax
comp=Z,4.0nm,0.4s
NACGM Naroch 17.85 6 *e*P **P** **14 52 42.2 +0.7**
comp=Z,11nm,0.9s,baz=190
PABE Paberze 18.34 0 P **Pn** **14 52 45.4 -1.4**
PABE lAmb lAmb 14 52 54.3
comp=Z,35nm,1.1s
PABE Paberze 18.34 0 *e*P **P** **14 52 48.9 +2.0**
LPSR Galich'ya Gora 18.71 30 *e*P **Pn** **14 52 52.7 +1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSVD Vaisvydziai 18.82 0 *e*P **Pn** **14 52 53.8 +1.2**
VRH Novokhopyorsk 18.94 37 *e*P **Pn** **14 52 55.6 +1.4**
VRH pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 19.94 22 *i* P **Pn** **14 53 06.6 +0.5**
OBN pmax pmax
comp=Z,12nm,1.0s
MOS Moscow 20.79 22 *e*P **P** **14 53 14.1 +0.4**
ESDC Sonseca Array 21.89 285 P **P** **14 53 26.2 +0.5**
comp=Z,3.0nm,0.9s,baz=78,slow=9.8,SNR=12
comp=Z,3.0nm,0.9s
BELG Belogornoye 22.58 40 *i* P **P** **14 53 34.0 +1.1**
BELG pmax pmax
comp=Z,4.0nm,1.1s
RAYN Ar Rayn 23.05 120 P **P** **14 53 39.5 +1.3**
RAYN lAmb lAmb 14 53 46.8
comp=Z,11nm,0.9s
RAYN Ar Rayn 23.05 120 P **P** **14 53 39.5 +1.3**
RAYN pmax pmax
comp=Z,11nm,1.0s
HFS Hagfors 23.88 347 P **P** **14 53 44.7 -1.3**
comp=Z,11nm,0.9s,baz=148,slow=8.7,SNR=10
HFS LR LR 15 04 07.9
comp=Z,263nm,18.7s,baz=10.0,slow=39
comp=Z,11nm,0.9s
FINES FINESS Array B 24.34 3 P **P** **14 53 49.5 -0.7**
FINES FINESS Array B 24.34 3 P **P** **14 53 49.9 -0.3**
comp=Z,7.6nm,0.8s,baz=168,slow=11,SNR=15
comp=Z,7.6nm,0.8s
FIA1 FINESS Array S 24.34 3 P **P** **14 53 49.4 -0.9**
NC602 NORSAR Array S 24.84 346 P **P** **14 53 53.7 -1.1**
NAO01 NORSAR Array S 25.08 345 P **P** **14 53 55.9 -1.0**
NAO01 lAmb lAmb 14 54 27.4
comp=Z,23nm,1.2s
NC405 NORSAR Array S 25.16 346 P **P** **14 53 56.1 -1.6**
NB2 NORSAR Subarra 25.19 346 P **P** **14 53 56.7 -1.3**
comp=Z,1.7nm,0.6s,baz=148,slow=10
NOA NORSAR Array B 25.19 346 P **P** **14 53 57.0 -1.0**
comp=Z,3.8nm,0.9s,baz=150,slow=9.5,SNR=10
comp=Z,3.8nm,0.9s
NBO00 NORSAR Array S 25.27 345 P **P** **14 53 57.7 -0.9**
NBO00 lAmb lAmb 14 54 07.0
comp=Z,23nm,1.1s
NC303 NORSAR Array S 25.33 346 P **P** **14 53 58.1 -1.1**
NC303 lAmb lAmb 14 54 30.7
comp=Z,32nm,1.3s
KLMR Klimovskoe 25.70 18 *e*P **P** **14 54 01.3 -1.3**
KLMR pmax pmax
comp=Z,29nm,1.5s
EKA Eskdalemuir Ar 25.79 323 P **P** **14 54 03.2 -0.2**
comp=Z,5.5nm,0.7s,baz=114,slow=10,SNR=9.3
comp=Z,5.5nm,0.7s
ESK Eskdalemuir 25.80 323 P **P** **14 54 03.1 -0.4**
ESK Eskdalemuir 25.80 323 P **P** **14 54 03.2 -0.4**
ESK pmax pmax
comp=Z,37nm,1.4s
GEYT Alibeck 27.11 78 P **P** **14 54 16.5 +0.9**
comp=Z,0.4nm,0.3s,baz=224,slow=6.0,SNR=2.2
comp=Z,0.4nm,0.3s
AKTO Aktyubinsk 27.74 51 LR LR 15 09 48.0
comp=Z,87nm,18.3s,baz=58,slow=46
ARU Arti 30.12 39 *d* *i* P **P** **14 54 45.0 +2.8**
ARU 14 55 39.9
ARU S S 14 59 49.2 +8.8
ARU pmax pmax
comp=Z,3.0nm,0.8s
TOA0 Torodi Ar. Sit 31.05 225 P **P** **14 54 49.6 -1.1**
TOA0 lAmb lAmb 14 55 04.6
comp=Z,3.5nm,0.8s
TORD Torodi Ar. Bea 31.05 225 P **P** **14 54 50.0 -0.7**
TORD Torodi Ar. Bea 31.05 225 P **P** **14 54 50.3 -0.4**
comp=Z,2.8nm,0.8s,baz=32,slow=10,SNR=12
TORD LR LR 15 07 56.2
comp=Z,61nm,18.2s,baz=334,slow=38
comp=Z,2.8nm,0.8s
ARCES ARCESS Array B 32.44 1 P **P** **14 55 02.3 -0.1**
comp=Z,1.4nm,0.7s,baz=193,slow=6.5,SNR=5.3
ARCES LR LR 15 09 47.3
comp=Z,126nm,18.3s,baz=238,slow=39
comp=Z,1.4nm,0.7s
LODK Lodwar 35.22 160 P **P** **14 55 27.6 +0.4**
LODK lAmb lAmb 14 55 29.5
comp=Z,5.4nm,1.0s
BRVK Borovoye 35.72 49 *i* P **P** **14 55 32.3 +1.2**
BRVK pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 35.78 49 P **P** **14 55 32.7 +1.0**
comp=Z,1.0nm,0.9s,baz=268,slow=4.5,SNR=3.8
comp=Z,1.0nm,0.9s
KK31 Karatay Array 35.80 66 P **P** **14 55 31.9 -0.1**
KK31 Karatay Array 35.80 66 P **P** **14 55 31.9 -0.1**
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 35.80 66 P **P** **14 55 31.8 -0.2**
KKAR Karatay Array 35.80 66 P **P** **14 55 31.8 -0.2**
KKAR Karatay Array 35.80 66 P **P** **14 55 31.8 -0.2**
AAK Ala-Archa 38.77 66 *i* P **P** **14 55 57.7 +0.4**
AAK pmax pmax
comp=Z,3.0nm,1.0s
DBIC Dimbokro 40.05 228 P **P** **14 56 07.0 -1.0**
DBIC lAmb lAmb 14 56 14.3
comp=Z,7.7nm,0.9s
DBIC Dimbokro 40.05 228 P **P** **14 56 07.6 -0.4**
comp=Z,4.4nm,0.7s,baz=23,slow=10,SNR=7.9
comp=Z,4.4nm,0.7s
KMBO Kilima Mbogo 40.08 159 P **P** **14 56 07.1 -1.4**
comp=Z,1.3nm,0.7s,baz=355,slow=11,SNR=4.1
comp=Z,1.3nm,0.7s
TIC Toumodi 40.17 228 ⇑ *e*P **P** **14 56 08.4 -0.6**
comp=Z,6.2nm,0.6s
KIC Kosan Boka 40.23 227 ⇑ *i* P **P** **14 56 09.1 -0.4**
comp=Z,10nm,0.6s
LIC Lamto 40.51 228 ⇑ *i* P **P** **14 56 11.4 -0.4**
comp=Z,15nm,0.6s
KURBB Kurchatov Arra 40.73 53 P **P** **14 56 13.1 -0.2**
comp=Z,2.4nm,0.9s,baz=276,slow=8.6,SNR=11
KURBB LR LR 15 16 25.4
comp=Z,59nm,18.6s,baz=168,slow=41
comp=Z,2.4nm,0.9s
KURK Kurchatov 40.78 53 *i* P **P** **14 56 14.3 +0.6**
KURK pmax pmax
comp=Z,3.0nm,1.0s
SPITS Spitsbergen Ar 41.24 358 P **P** **14 56 17.3 +0.2**
comp=Z,2.9nm,0.8s,baz=152,slow=9.8,SNR=1.3
comp=Z,2.9nm,0.8s
MAKZ Makanchi 43.38 58 P **P** **14 56 34.3 -0.7**
MAKZ Makanchi 43.38 58 P **P** **14 56 34.3 -0.7**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 43.59 58 P **P** **14 56 36.0 -0.8**
MK31 Makanchi Array 43.59 58 P **P** **14 56 36.0 -0.8**
MK31 pmax pmax
comp=Z,4.0nm,1.2s
MKAR Makanchi Array 43.59 58 P **P** **14 56 36.3 -0.4**
MKAR Makanchi Array 43.59 58 P **P** **14 56 36.5 -0.3**
comp=Z,1.8nm,0.6s,baz=282,slow=6.7,SNR=29
MKAR LR LR 15 19 37.0
comp=Z,75nm,18.5s,baz=328,slow=43
comp=Z,1.8nm,0.6s
ZAA0 Zalesovo Array 44.42 48 P **P** **14 56 42.3 -0.9**
ZALV Zalesovo Beam 44.42 48 P **P** **14 56 42.2 -1.0**
ZALV Zalesovo Beam 44.42 48 *i* P **P** **14 56 45.9 +2.7**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 44.42 48 P **P** **14 56 42.6 -0.6**
comp=Z,1.4nm,0.4s,baz=278,slow=8.1,SNR=9.6
comp=Z,1.4nm,0.4s
DGZ Jazzator, Alta 46.52 53 *i* P **P** **14 57 01.4 +1.3**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
NRIK Noril'sk 46.53 26 *ce*P **P** **14 57 02.9 +3.2**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
NRIK Noril'sk 46.53 26 P **P** **14 57 00.4 +0.7**
comp=Z,2.7nm,0.7s,baz=333,slow=6.8,SNR=1.8
comp=Z,2.7nm,0.7s
GTA Gaotai 57.97 62 *e*P **P** **14 58 29.5 +4.1**
GTA sP sP 14 58 41.0 +10
GTA pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 59.67 21 *i* P **P** **14 58 40.3 +3.9**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
SCHQ Schefferville 60.97 319 P **P** **14 58 45.0 -0.7**
SCHQ Schefferville 60.97 319 P **P** **14 58 45.3 -0.3**
comp=Z,2.8nm,0.7s,baz=67,slow=4.5,SNR=5.1
comp=Z,2.8nm,0.7s
LZH Lanzhou 62.29 64 *e*P **P** **14 58 56.5 +1.4**
LZH pP sP 14 59 02.3 +1.8
LZH pmax pmax
comp=Z,17nm,1.0s
YAK Yakutsk 64.68 30 *i* P **P** **14 59 11.8 +1.6**
YAK pmax pmax
comp=Z,2.0nm,0.9s
PZH PanZhiHua 65.36 75 P **P** **14 59 18.3 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,230nm,4.8s
HHC Hu-ho-hao-te 65.42 56 *e*P **P** **14 59 14.8 -0.7**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,310nm,5.6s
CMAR Chiang Mai Arr 67.41 83 P **P** **14 59 27.7 -0.8**
comp=Z,0.5nm,0.7s,baz=303,slow=8.3,SNR=5.1
comp=Z,0.5nm,0.7s
A36M Sachs Harbour 68.99 350 P **P** **14 59 37.1 -0.4**
A36M lAmb lAmb 14 59 43.1
comp=Z,3.7nm,0.8s
SUR Sutherland 69.25 183 LR LR 15 32 46.9
comp=Z,67nm,19.3s,baz=328,slow=38
C36M Paulatuk 71.19 349 P **P** **14 59 50.6 -0.4**
C36M lAmb lAmb 14 59 57.6
comp=Z,6.7nm,1.5s
BILL Bilibino 71.38 14 *i* P **P** **14 59 55.1 +2.9**
E29M Blow River 73.87 353 P **P** **15 00 05.8 -1.2**
E29M lAmb lAmb 15 00 12.7
comp=Z,9.0nm,1.4s
F31M Tsiigehtchic 74.33 351 P **P** **15 00 08.9 -0.8**
F31M lAmb lAmb 15 00 15.4
comp=Z,12nm,1.5s
NJ2 Nanjing 75.03 61 *e*P **P** **15 00 12.8 -1.6**
NJ2 pmax pmax
comp=Z,8.0nm,1.6s
YKA Yellowknife Ar 75.21 341 P **P** **15 00 13.3 -1.6**
YKA Yellowknife Ar 75.21 341 P **P** **15 00 14.2 -0.7**
comp=Z,0.8nm,0.7s,baz=33,slow=5.5,SNR=16
comp=Z,0.8nm,0.7s

E19K	**Redstone River**	**75.69**	**0**	P	**P**	**15 00 16.0**	**-1.6**
E19K				IAmb	IAmb	15 00 18.6	
	comp=Z,3.7nm,1.1s						
H43A	**Windswept, Lux**	**77.91**	**317**	P	**P**	**15 00 28.4**	**-2.2**
ULM	**Lac du Bonnet**	**78.05**	**325**	P	**P**	**15 00 30.5**	**-0.7**
	comp=Z,3.4nm,1.1s,baz=43,slow=3.2,SNR=4.1						
	comp=Z,3.4nm,1.1s						
ILAR	**Eielson Array**	**78.13**	**356**	P	**P**	**15 00 31.1**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=341,slow=4.2,SNR=1.7						
	comp=Z,0.2nm,0.8s						
SKR	**Severo-Kuril's**	**82.98**	**28**	*ce*P	**P**	**15 01 01.2**	**+3.6**
PDAR	**Pinedale Array**	**89.83**	**328**	P	**P**	**15 01 30.5**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=64,slow=5.1,SNR=3.5						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**117.85**	**95**	PKP	**PKPdf**	**15 07 17.7**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=313,slow=2.0,SNR=4.8						
ASAR	**Alice Springs**	**119.44**	**99**	PKP	**PKPdf**	**15 07 21.4**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=312,slow=1.6,SNR=12						
QSPA	**South Pole Qui**	**127.02**	**180**	PKP	**PKPdf**	**15 07 35.2**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=354,slow=1.7,SNR=7.2						

*IDC **28** 14:51:44.2±0.9, 13°.18N×120°.23E, h0km, mb3.8/7, mbtmp3.8/7, MS3.3/3, Error ellipse: s-maj=19.1km s-min=12.2km az=118.0*

*NEIC **28** 14:51:46.4±1.1, 12°.7N±0°.1×119°.22E±0°.10, h10km±2km, mb4.3/9, Error ellipse: s-maj=23.1km s-min=6.4km az=318.0*

ISC 28 14:51:45.8±0.9, 13°25N±0°.09×120°.3E±0°.1, h10km, n21, σ1°05/18, mb4.0/11, MS3.4/3, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.07**	**38**		**Sn**	**14 52 22.1**	**+0.2**
TGY	**Tagaytay City**	**1.07**	**38**	Pg	**Pb**	**14 52 06.7**	**+0.2**
	879nm,0.3s,baz=230,slow=7.7,SNR=121						
TGY				Lg	Lg	14 52 22.1	
	788nm,0.3s,baz=12,slow=20,SNR=12						
TGY				LR	LR	14 52 22.3	
	comp=Z,235nm,19.8s,baz=110,slow=33						
CMAR	**Chiang Mai Arr**	**21.14**	**287**	P	**P**	**14 56 31.9**	**+0.8**
	0.8nm,0.7s,baz=98,slow=9.5,SNR=7.9						
	0.8nm,0.7s						
KSRS	**Korea Array**	**25.06**	**15**	LR	LR	15 08 54.1	
	comp=Z,25nm,18.9s,baz=340,slow=41						
JHJ	**Hachijo jima 2**	**26.62**	**39**	LR	LR	15 07 15.0	
	comp=Z,121nm,21.2s,baz=102,slow=35						
WB0	**Warramunga Arr**	**35.64**	**157**	P	**P**	**14 58 43.1**	**-1.0**
WRA	**Warramunga Arr**	**35.78**	**157**	P	**P**	**14 58 44.5**	**-0.8**
WRA	**Warramunga Arr**	**35.78**	**157**	P	**P**	**14 58 44.3**	**-1.0**
	2.7nm,0.7s,baz=334,slow=9.8,SNR=12						
	2.7nm,0.7s						
WB2	**Warramunga Arr**	**35.78**	**157**	P	**P**	**14 58 44.3**	**-1.0**
WR0	**Warramunga Arr**	**35.87**	**157**	P	**P**	**14 58 44.9**	**-1.2**
WR0				IAmb	IAmb	14 59 16.2	
	comp=Z,10.0nm,1.3s						
SONM	**Songino Array**	**36.37**	**344**	P	**P**	**14 58 49.4**	**-0.9**
SONM				IAmb	IAmb	14 58 50.1	
	comp=Z,1.8nm,0.9s						
SONM	**Songino Array**	**36.37**	**344**	P	**P**	**14 58 49.0**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=158,slow=8.4,SNR=9.1						
	comp=Z,1.9nm,0.8s						
AS31	**Alice Springs**	**39.04**	**160**	P	**P**	**14 59 12.9**	**-0.1**
ASAR	**Alice Springs**	**39.04**	**160**	P	**P**	**14 59 12.8**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=337,slow=6.7,SNR=36						
	comp=Z,2.7nm,0.7s						
MKAR	**Makanchi Array**	**46.14**	**324**	P	**P**	**15 00 09.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=138,slow=7.6,SNR=2.5						
	comp=Z,0.3nm,0.5s						
MAKZ	**Makanchi**	**46.33**	**324**	P	**P**	**15 00 12.5**	**+0.6**
MAKZ				IAmb	IAmb	15 00 29.7	
	comp=Z,3.5nm,1.4s						
KURBB	**Kurchatov Arra**	**50.32**	**327**	P	**P**	**15 00 42.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=117,slow=7.7,SNR=6.0						
	comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**50.33**	**327**	P	**P**	**15 00 42.2**	**-0.5**
KURK				IAmb	IAmb	15 00 53.9	
	comp=Z,4.1nm,0.8s						
ARMA	**Armidale**	**52.88**	**146**	P	**P**	**15 01 03.4**	**+1.2**
ARMA				IAmb	IAmb	15 01 45.9	
	comp=Z,11nm,1.2s						
BVAR	**Borovoye Array**	**55.90**	**326**	P	**P**	**15 01 26.1**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=111,slow=8.0,SNR=4.7						
	comp=Z,0.7nm,0.7s						
KMBO	**Kilima Mbogo**	**83.45**	**267**	LR	LR	15 36 23.0	
	comp=Z,18nm,20.9s,baz=88,slow=32						

*NEIC **28** 14:56:14.6±0.9, 10°.34S±0°.05×161°.3E±0°.1, h93km±10km, mb4.3/9, Error ellipse: s-maj=16.0km s-min=7.6km az=89.0*

*IDC **28** 14:56:15.7±2.2, 10°.43S×161°.24E, h97km±16km, mb3.4/4, mbtmp3.8/5, Error ellipse: s-maj=41.2km s-min=18.6km az=54.0*

ISC 28 14:56:14.9±0.9, 10°4S±0°.1×161°3E±0°.1, h100km, n19, σ1°01/22, mb4.1/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.61**	**306**		**Pn**	**14 56 41.8**	**-0.7**
HNR				Sn	**Sn**	**14 57 02.3**	**-1.2**
HNR	**Honiara**	**1.61**	**306**	P	**Pn**	**14 56 41.9**	**-0.7**
	5μm,0.3s,baz=166,slow=5.6,SNR=22						
HNR				S	**Sn**	**14 57 04.4**	**+0.9**
	14μm,0.4s,baz=26,slow=23,SNR=15						
LIFNC	**LIFOU**	**11.82**	**152**	Pn	**Pn**	**14 59 00.3**	**+0.1**
DZM	**Mont Dzumac**	**12.63**	**157**	Pn	**Pn**	**14 59 11.3**	**+0.2**
DZM	**Mont Dzumac**	**12.63**	**157**	P	**Pn**	**14 59 13.4**	**+2.3**
	4.3nm,0.9s,baz=39,slow=10.0,SNR=24						
DZM				S	**Sn**	**15 01 28.9**	**-1.2**
	2.7nm,0.4s,baz=323,slow=20,SNR=1.4						
PATS	**Pohnpei**	**17.37**	**350**	P	**P**	**15 00 10.2**	**-0.7**
RAO	**Raoul Island**	**27.04**	**137**	P	**P**	**15 01 47.1**	**-0.8**
WR0	**Warramunga Arr**	**27.45**	**247**	P	**P**	**15 01 51.7**	**0.0**
WR0				IAmb	IAmb	15 02 27.7	
	comp=Z,18nm,1.5s						
WB0	**Warramunga Arr**	**27.53**	**247**	P	**P**	**15 01 52.6**	**+0.2**
WB0				IAmb	IAmb	15 02 14.8	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**27.61**	**247**	P	**P**	**15 01 53.8**	**+0.6**
WB2				IAmb	IAmb	15 02 33.0	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**27.63**	**247**	P	**P**	**15 01 54.4**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=76,slow=8.9,SNR=7.2						
	comp=Z,0.9nm,0.6s						
AS31	**Alice Springs**	**29.23**	**240**	P	**P**	**15 02 06.6**	**-0.9**
ASAR	**Alice Springs**	**29.23**	**240**	P	**P**	**15 02 06.7**	**-0.9**
ASAR	**Alice Springs**	**29.23**	**240**	P	**P**	**15 02 07.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=62,slow=10.0,SNR=5.6						
	comp=Z,0.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**35.31**	**253**	P	**P**	**15 03 01.2**	**+0.5**
FITZ				IAmb	IAmb	15 03 20.6	
	comp=Z,4.7nm,1.1s						
CTZ	**Chatham Island**	**38.36**	**154**	P	**P**	**15 03 25.3**	**-0.9**
SONM	**Songino Array**	**75.58**	**325**	P	**P**	**15 07 50.4**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=141,slow=7.1,SNR=2.1						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**79.61**	**180**	P	**P**	**15 08 11.8**	**+0.8**
QSPA				IAmb	IAmb	15 08 26.7	
	comp=Z,5.6nm,1.2s						
QSPA	**South Pole Qui**	**79.61**	**180**	P	**P**	**15 08 12.1**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=188,slow=1.5,SNR=8.9						
	comp=Z,1.5nm,0.8s						

WEL 28 14:56:28.3±0.9, 35°S±10°×17°9E±1°0, h186km±19km, M3.7/13, ML4.0/15, MLv3.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=50.8, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.24**	**186**	P	Pn	14 57 08.2	-0.1
MXZ				S	Sn	14 57 39.2	-0.5
WMGZ	**Waiomatatini S**	**2.49**	**183**	P	Pn	14 57 11.5	+0.4
WMGZ				S	Sn	14 57 45.5	+0.8
HAZ	**Te Kaha**	**2.51**	**195**	P	Pn	14 57 11.3	-0.1
HAZ				S	Sn	14 57 45.0	0.0
PKGZ	**Pakihiroa**	**2.59**	**189**	P	Pn	14 57 13.0	+0.7
PKGZ				S	Sn	14 57 46.9	+0.1
RUGZ	**Raukumara Rang**	**2.73**	**196**	P	Pn	14 57 14.1	0.0
RUGZ				S	Sn	14 57 50.0	0.0
PUZ	**Puketiti**	**2.75**	**186**	P	Pn	14 57 13.9	-0.3
PUZ				S	Sn	14 57 50.2	0.0
TWGZ	**Tauwhareparae**	**2.88**	**190**	P	Pn	14 57 16.3	+0.5
TWGZ				S	Sn	14 57 54.6	+1.5
MWZ	**Matawai**	**3.12**	**196**	P	Pn	14 57 18.5	-0.2
MWZ				S	Sn	14 57 58.6	+0.5
URZ	**Urewera**	**3.16**	**202**	P	Pn	14 57 18.8	-0.3
URZ				S	Sn	14 57 59.2	+0.3
TKGZ	**Te Karaka**	**3.16**	**191**	P	Pn	14 57 18.7	-0.4
TKGZ				S	Sn	14 57 59.4	+0.5
CNGZ	**Carnagh Statio**	**3.16**	**186**	P	Pn	14 57 19.1	0.0
RAGZ	**Rawiri**	**3.30**	**196**	P	Pn	14 57 21.0	+0.1
RAGZ				S	Sn	14 58 03.2	+1.0
RIGZ	**Rimuhau**	**3.44**	**191**	P	Pn	14 57 21.8	-0.7
RIGZ				S	Sn	14 58 05.1	+0.1
RRRZ	**Republican Roa**	**3.44**	**209**	P	Pn	14 57 23.5	+1.0
TOZ	**Tahuroa Road**	**3.46**	**225**	P	Pn	14 57 26.3	+3.6
MUGZ	**Murupara**	**3.47**	**205**	P	Pn	14 57 22.9	0.0
MUGZ				S	Sn	14 58 05.3	-0.4
WCZ	**Waipu Caves**	**3.52**	**259**	P	Pn	14 57 23.1	-0.4
RTZ	**Ruatahuna**	**3.53**	**201**	P	Pn	14 57 23.0	-0.7
RTZ				S	Sn	14 58 06.4	-0.8
SNGZ	**Shannon Statio**	**3.59**	**196**	P	Pn	14 57 24.0	-0.4
SNGZ				S	Sn	14 58 09.4	+1.0
PRRZ	**Plateau Road**	**3.62**	**209**	P	Pn	14 57 25.6	+0.8
PRGZ	**Paritu Road**	**3.63**	**189**	P	Pn	14 57 24.3	-0.6
PRGZ				S	Sn	14 58 08.0	-1.4
ALRZ	**Allen Road**	**3.70**	**209**	P	Pn	14 57 26.3	+0.5
KNZ	**Kokohu**	**3.76**	**191**	P	Pn	14 57 25.3	-1.1
KNZ				S	Sn	14 58 08.2	-3.9
RAHZ	**Arahi**	**3.78**	**198**	P	Pn	14 57 26.5	-0.2
RAHZ				S	Sn	14 58 12.4	-0.3
MTHZ	**Maungataniwha**	**3.79**	**201**	P	Pn	14 57 26.7	-0.2
MTHZ				S	Sn	14 58 12.9	0.0
MHGZ	**Mahia Peninsul**	**3.86**	**188**	P	Pn	14 57 26.8	-0.9
MHGZ				S	Sn	14 58 09.8	-4.6
NMHZ	**Naumai**	**4.03**	**200**	P	Pn	14 57 29.5	-0.4
NMHZ				S	Sn	14 58 17.7	-0.6
OUZ	**Omahuta**	**4.10**	**270**	P	Pn	14 57 29.5	-1.3
ARHZ	**Aropaoanui**	**4.13**	**198**	P	Pn	14 57 30.2	-0.9
ARHZ				S	Sn	14 58 20.0	-0.6
HIZ	**Hauiti**	**4.37**	**222**	P	Pn	14 57 36.5	+2.2
MCHZ	**McNeill Hill**	**4.38**	**200**	P	Pn	14 57 33.4	-0.9
MCHZ				S	Sn	14 58 26.7	+0.4
NTVZ	**North Tongarir**	**4.43**	**211**	P	Pn	14 57 34.8	-0.3
KWHZ	**Kaweka Forest**	**4.44**	**202**	P	Pn	14 57 34.3	-0.9
ETVZ	**East Tongariro**	**4.45**	**210**	P	Pn	14 57 34.7	-0.6
SNVZ	**South Ngauruho**	**4.52**	**211**	P	Pn	14 57 35.7	-0.5
WNVZ	**Wahianoa**	**4.65**	**210**	P	Pn	14 57 37.3	-0.8
KRHZ	**Kereru**	**4.66**	**202**	P	Pn	14 57 36.2	-1.7
KAHZ	**Kahuranaki**	**4.66**	**197**	P	Pn	14 57 36.6	-1.4
PXZ	**Pawanui**	**4.89**	**196**	P	Pn	14 57 38.5	-2.3
PRHZ	**Porangahau**	**5.17**	**197**	P	Pn	14 57 42.0	-2.5
MRZ	**Mangatainoka R**	**5.83**	**203**	P	Pn	14 57 49.9	-3.2

*IDC **28** 15:30:50.2±1.1, 35°.37N×141°.37E, h0km, mb3.6/5, mbtmp3.6/8, ML3.2/3, MS2.8/3, Error ellipse: s-maj=32.1km s-min=19.3km az=88.0*

*JMA **28** 15:30:53.6±0.2, 35°.4N±0°.6×14°1E±°, h32km±2km, MV3.2/29, E OFF BOSO PENINSULA*

ISC 28 15:30:55.2±1.0, 35°41N±0°.07×141°2E±0°.1, h35km, n23, σ0°99/17, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.65**	**291**	P	**Pn**	**15 31 07.6**	**-0.3**
KTR	**Katsuura**	**0.76**	**250**	P	**Pn**	**15 31 08.8**	**-0.7**
KTR				*e*S	**Sn**	**15 31 19.7**	**-0.1**
BSO1	**Boso 1**	**0.78**	**193**	P	**Pn**	**15 31 08.3**	**-0.9**
JCN	**Nagara**	**0.81**	**271**	P	**Pn**	**15 31 10.3**	**+0.2**
BSO4	**Boso 4**	**0.82**	**239**	P	**Pn**	**15 31 09.6**	**-0.5**
BSO3	**Boso 3**	**0.83**	**223**	*i* P	**Pn**	**15 31 09.5**	**-0.7**
JYT	**Yasato**	**1.15**	**315**	*e*P	**Pn**	**15 31 14.2**	**-0.6**
JHJ	**Hachijo jima 2**	**2.57**	**207**	Pn	**Pn**	**15 31 34.7**	**+0.3**
	20nm,0.3s,baz=270,slow=20,SNR=8.4						
JHJ				Sn	**Sn**	**15 32 03.2**	**-1.2**
	58nm,0.3s,baz=80,slow=23,SNR=11						
	52nm,0.3s						
MJAR	**Matsushiro Arr**	**2.67**	**296**	Pn	**Pn**	**15 31 37.1**	**+1.4**
	0.4nm,0.3s,baz=43,slow=22,SNR=11						
MJAR				LR	LR	15 32 59.2	
	comp=Z,88nm,20.5s,baz=126,slow=46						
	2.6nm,0.3s						
ASAJ	**Asahikawa**	**8.76**	**7**	Pn	**Pn**	**15 32 57.0**	**-2.4**
	0.5nm,0.3s,baz=288,slow=9.1,SNR=6.3						
	3.0nm,0.4s						
JNU	**Nakatsue**	**8.84**	**258**	LR	LR	15 37 07.0	
	comp=Z,105nm,18.5s,baz=56,slow=42						
KSRS	**Korea Array**	**10.88**	**285**	LR	LR	15 37 54.2	
	comp=Z,54nm,18.8s,baz=340,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.51**	**118**	T	T	16 05 40.9	
	baz=310,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.52**	**118**	T	T	16 05 37.2	
	baz=310,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**27.53**	**118**	T	T	16 05 36.9	
	baz=310,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	16 06 31.2	
	baz=312,slow=75,SNR=52						
H11S3	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	16 06 14.6	
	baz=312,slow=75,SNR=47						
H11S2	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	16 06 20.4	
	baz=312,slow=75,SNR=17						
ZALV	**Zalesovo Beam**	**42.89**	**314**	P	**P**	**15 38 50.8**	**+0.8**
	0.5nm,0.4s,baz=88,slow=11,SNR=2.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**44.84**	**303**	P	**P**	**15 39 06.5**	**+0.5**
	0.4nm,0.6s,baz=83,slow=12,SNR=4.0						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**15 39 53.9**	**+0.9**
	0.3nm,0.7s,baz=267,slow=5.6,SNR=5.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**55.44**	**188**	P	**P**	**15 40 25.8**	**-0.5**
	1.6nm,0.6s,baz=4.4,slow=8.0,SNR=23						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**59.16**	**188**	P	**P**	**15 40 52.3**	**-0.3**
	0.4nm,0.7s,baz=0.4,slow=5.7,SNR=6.9						
	0.4nm,0.7s						

*UPP **28** 15:44:20.2±0.0, 67°.85N×20°.20E, h0km, ML2.5, Confirmed Induced event*

*HEL **28** 15:44:20.7±0.2, 67°.82N×20°.22E, h0km, ML1.5, Explosion*

ISC 28 15:44:19.4±0.9, 67°81N±0°.03×20°27E±0°.03, h0km, n18, σ0°63/26, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**10**	P	**Pg**	**15 44 22.7**	**+0.6**
KUA				S	**Sg**	**15 44 24.3**	**+0.3**
RATU	**Laukkuluspa**	**0.26**	**273**	P	**Pg**	**15 44 24.8**	**+0.5**
LANU	**Lannavaara**	**0.69**	**69**	*e*P	**Pg**	**15 44 33.4**	**+0.7**
LANU				*e*S	**Sg**	**15 44 42.4**	**+0.7**
LANU	**Lannavaara**	**0.69**	**69**	P	**Pg**	**15 44 33.5**	**+0.7**
DUNU	**Dundret**	**0.70**	**170**	P	**Pb**	**15 44 34.3**	**-0.2**
DUNU				S	**Sb**	**15 44 44.5**	**-0.2**
MASU	**Masugnsbyn**	**0.75**	**117**	P	**Pb**	**15 44 35.2**	**-0.1**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**15 44 35.4**	**+0.7**
PAJU	**Pajala**	**1.35**	**124**	*e*P	**Pg**	**15 44 45.1**	**-0.2**
PAJU				*e*S	**Sg**	**15 45 03.0**	**+0.3**
PAJU	**Pajala**	**1.35**	**124**	P	**Pb**	**15 44 45.7**	**+0.1**
HEF	**Hetta**	**1.41**	**63**	*e*P	**Pn**	**15 44 45.2**	**-1.0**
HEF	**Hetta**	**1.41**	**63**	*e*P	**Pn**	**15 44 45.7**	**-0.6**
HEF				MSG		15 45 00.8	
	comp=Z,3.1nm,0.2s						
HEF				*e*S	**Sg**	**15 45 04.0**	**-0.5**
KLF	**Kolari**	**1.54**	**110**	*e*PG	**Pg**	**15 44 48.8**	**+0.1**
KLF				MSG		15 45 05.2	
	comp=Z,3.2nm,0.2s						
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	**Pb**	**15 44 50.2**	**-0.1**
KTK1	**Kautokeino**	**1.63**	**41**	*e*PG	**Pb**	**15 44 50.1**	**-0.2**
TRO	**Tromso**	**1.89**	**346**	*e*SG	**Sb**	**15 45 18.6**	**-0.4**
TOF	**Tornio**	**2.36**	**136**	*e*PB	**Pb**	**15 45 02.3**	**-0.4**
TOF				MSG		15 45 30.8	
	comp=Z,2.4nm,0.2s						
TOF				*e*SG	**Sb**	**15 45 33.8**	**+1.5**
SGF	**Sodankyl**	**2.42**	**96**	*e*PB	**Pb**	**15 45 03.6**	**-0.1**
SGF				*e*SB	**Sb**	**15 45 34.4**	**+0.3**
RNF	**Rovaniemi**	**2.54**	**116**	*e*PB	**Pb**	**15 45 04.8**	**-1.0**
RNF				*e*SG	**Sb**	**15 45 38.5**	**+1.0**

*IDC **28** 15:54:18.5±4.9, 35°.82N×71°.58E, h75km±31km, mb3.5/8, mbtmp3.9/14, Error ellipse: s-maj=54.2km s-min=23.6km az=151.0*

*NEIC **28** 15:54:25.5±1.4, 36°.41N±0°.06×71°.32E±0°.10, h104km±5km, mb4.2/21, Error ellipse: s-maj=11.7km s-min=8.8km az=78.0*

*NNC **28** 15:54:30.3±4.3, 36°.82N×70°.78E, h101km±90km, mb3.3, mpv3.7, Error ellipse: s-maj=38.2km s-min=30.2km az=68.0*

ISC 28 15:54:24.5±0.5, 36°33N±0°.05×71°31E±0°.06, h114km, n65, σ2°30/75, mb4.1/17, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.57**	**227**		**Pn**	**15 55 06.6**	**+1.3**
SIMJ	**Simiganj**	**2.96**	**322**		**Pn**	**15 55 09.7**	**-0.5**
NIL	**Nilore**	**3.11**	**149**		**Pn**	**15 55 13.1**	**+1.0**
BTK	**Batken**	**3.74**	**354**	Pn	**Pn**	**15 55 20.9**	**+0.3**
JMU	**Jammu**	**4.66**	**140**	*e*P	**Pn**	**15 55 32.6**	**-0.2**
JMU				*e*S	**Sn**	**15 56 21.8**	**-4.2**
ARSB	**Arslanbob**	**5.16**	**14**		**Pn**	**15 55 39.4**	**-0.2**
THN	**Thein Dam**	**5.33**	**136**	*e*P	**Pn**	**15 55 41.9**	**+0.1**
THN				*e*S	**Sn**	**15 56 39.6**	**-2.3**
DHRM	**DHARAMSHALA**	**5.79**	**133**	*e*P	**Pn**	**15 55 47.6**	**-0.7**
DHRM				*e*S	**Sn**	**15 56 49.6**	**-4.0**
DHRM				IAML		15 56 54.0	
	comp=N,210nm,0.7s						
DHRM				IAML		15 56 54.4	
	comp=E,308nm,0.5s						
AML	**Almayashu**	**6.08**	**17**	⇓P	**Pn**	**15 55 52.7**	**+0.4**
	comp=E,0.6nm,0.4s						
AML				⇑S	**Sn**	**15 56 58.9**	**-1.9**
	comp=E,2.6nm,0.7s						
BHK	**Bhakra**	**6.48**	**138**	*e*P	**Pn**	**15 55 57.8**	**+0.4**
BHK				*e*S	**Sn**	**15 57 06.3**	**-3.7**
AAK	**Ala-Archa**	**6.76**	**20**		**Pn**	**15 56 01.8**	**+0.5**
AAK	**Ala-Archa**	**6.76**	**20**	P	**Pn**	**15 56 01.7**	**+0.4**
	comp=E,5.7nm,0.3s,baz=179,slow=4.3,SNR=20						
AAK				S	**Sn**	**15 57 14.7**	**-2.2**
	comp=E,3.4nm,0.4s,baz=163,slow=19,SNR=1.6						
KK31	**Karatay Array**	**6.79**	**355**	⇓P	**Pn**	**15 56 01.2**	**-0.4**
	comp=E,13nm,0.3s,baz=179,slow=12,SNR=426						
KK31				⇓S	**Sn**	**15 57 12.5**	**-5.0**
	comp=E,5.6nm,0.5s,baz=180,slow=20,SNR=7.4						
KK31	**Karatay Array**	**6.79**	**355**		**Pn**	**15 56 01.5**	**-0.1**
KKAR	**Karatay Array**	**6.79**	**355**		**Pn**	**15 56 01.6**	**0.0**
SMLA	**Simla**	**7.12**	**135**	*e*P	**Pn**	**15 56 04.6**	**-1.4**
SMLA				*e*S	**Sn**	**15 57 20.1**	**-5.3**
SMLA				IAML		15 57 28.6	
	comp=E,65nm,0.5s						
SMLA				IAML		15 57 31.0	
	comp=N,76nm,0.9s						
TARG	**Taragay, Kyrgy**	**7.39**	**41**	Pn	**Pn**	**15 56 10.0**	**0.0**
KHET	**Khetri**	**9.07**	**154**	*e*P	**Pn**	**15 56 30.4**	**-2.1**
KHET				*e*S	Sn	15 58 03.2	-10
GEYT	**Alibeck**	**10.66**	**283**		**Pn**	**15 56 52.0**	**-1.9**
GEYT	**Alibeck**	**10.66**	**283**	P	**Pn**	**15 56 51.6**	**-2.3**
	comp=N,2.2nm,0.3s,baz=118,slow=8.6,SNR=9.0						
GEYT				S	**Sn**	**15 58 45.5**	**-5.8**
	comp=N,8.0nm,0.5s,baz=149,slow=18,SNR=11						
GYA0B	**ALIBECK ARRAY**	**10.66**	**283**	Pn	**Pn**	**15 56 52.0**	**-2.0**
MAKZ	**Makanchi**	**13.15**	**34**	Pn	**Pn**	**15 57 27.3**	**+0.5**
MK31	**Makanchi Array**	**13.28**	**35**	Pn	**Pn**	**15 57 28.5**	**-0.1**
MKAR	**Makanchi Array**	**13.28**	**35**	P	**Pn**	**15 57 28.4**	**-0.1**
	comp=N,0.9nm,0.8s,baz=216,slow=12,SNR=8.1						
KURBB	**Kurchatov Arra**	**15.21**	**18**	P	**P**	**15 57 55.8**	**+0.5**
	comp=N,0.4nm,0.3s,baz=206,slow=10,SNR=2.3						
KURK	**Kurchatov**	**15.31**	**18**	Pn	**Pn**	**15 57 53.2**	**-1.1**
AB31	**Akbulak array**	**15.36**	**331**	⇓P	**Pn**	**15 57 53.8**	**-1.1**
	comp=N,1.9nm,0.3s,baz=145,slow=13,SNR=170						
AB31				S	Sn	16 00 31.1	-13
	comp=N,1.8nm,0.8s,baz=146,slow=22,SNR=6.1						
ABKAR	**Akbulak array**	**15.36**	**331**	Pn	**Pn**	**15 57 53.3**	**-1.6**
BVAR	**Borovoye Array**	**16.71**	**358**	P	**P**	**15 58 14.5**	**+2.6**
	comp=N,1.4nm,0.6s,baz=171,slow=12,SNR=4.0						
AKTO	**Aktyubinsk**	**17.05**	**330**	⇑P	**Pn**	**15 58 15.9**	**+0.1**
	comp=N,0.9nm,0.5s						
AKTO				S	**Sn**	**16 01 16.1**	**-9.4**
	comp=N,2.2nm,0.8s						
AKTO	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**15 58 17.7**	**+1.9**
	comp=N,5.9nm,0.7s,baz=142,slow=12,SNR=17						
ZAA0	**Zalesovo Array**	**19.97**	**24**	P	**P**	**15 58 47.7**	**+0.2**
ZALV	**Zalesovo Beam**	**19.97**	**24**	P

PB15	**IPOC Station P**	**0.63**	**348**	⇓*i*P	**Pn**	**15 59 11.4**	**-0.6**
PB15				*i* S	**Sn**	**15 59 22.8**	**-0.1**
PB06	**IPOC Station P**	**1.14**	**349**	*e*P	**Pn**	**15 59 17.1**	**-0.7**
PB06				*e*S	**Sn**	**15 59 33.4**	**+0.2**
PB06				IAML		15 59 35.4	
	comp=Z,450nm,0.4s						
PB06	**IPOC Station P**	**1.14**	**349**	⇓*i*P	**Pn**	**15 59 17.2**	**-0.6**
PB06				*i* S	**Sn**	**15 59 33.3**	**0.0**
PB10	**IPOC Station P**	**1.17**	**285**	*e*P	**Pn**	**15 59 18.1**	**+0.1**
PB10				*e*S	**Sn**	**15 59 35.5**	**+1.8**
PB10				IAML		15 59 38.1	
	comp=Z,937nm,0.3s						
PB10	**IPOC Station P**	**1.17**	**285**	⇑*i*P	**Pn**	**15 59 17.8**	**-0.2**
PB10				*i* S	**Sn**	**15 59 34.5**	**+0.8**
PB10				IAML		15 59 38.6	
	comp=N,982nm,0.5s						
PB05	**IPOC Station P**	**1.26**	**320**	*e*P	**Pn**	**15 59 19.0**	**-0.2**
PB05				*e*S	**Sn**	**15 59 37.4**	**+1.5**
PB05				IAML		15 59 39.3	
	comp=Z,362nm,0.4s						
PB05	**IPOC Station P**	**1.26**	**320**	*e*P	**Pn**	**15 59 19.0**	**-0.2**
PB05				*i* S	**Sn**	**15 59 36.5**	**+0.6**
PB05				IAML		15 59 40.1	
	comp=N,792nm,0.2s						
PB14	**IPOC Station P**	**1.26**	**231**	*e*P	**Pn**	**15 59 19.2**	**-0.2**
PB14				*e*S	**Sn**	**15 59 37.6**	**+1.3**
PB14				IAML		15 59 40.3	
	comp=Z,578nm,0.3s						
PB14	**IPOC Station P**	**1.26**	**231**	⇑*i*P	**Pn**	**15 59 19.3**	**-0.2**
PB14				*i* S	**Sn**	**15 59 36.8**	**+0.4**
LVC	**Limon Verde**	**1.27**	**18**	*e*P	**Pn**	**15 59 18.9**	**-0.8**
LVC				*e*S	**Sn**	**15 59 36.7**	**+0.2**
LVC	**Limon Verde**	**1.27**	**18**	*e*P	**Pn**	**15 59 18.9**	**-0.8**
LVC				*e*S	**Sn**	**15 59 36.1**	**-0.5**
LVC				IAML		15 59 38.1	
	comp=Z,3μm,0.2s						
GO02	**Mina Guanaco**	**1.35**	**190**	*e*P	**Pn**	**15 59 20.7**	**+0.1**
GO02				*e*S	**Sn**	**15 59 39.8**	**+1.4**
GO02	**Mina Guanaco**	**1.35**	**190**	⇑*i*P	**Pn**	**15 59 20.6**	**-0.1**
GO02				*i* S	**Sn**	**15 59 39.0**	**+0.7**
GO02				IAML		15 59 42.5	
	comp=E,1μm,0.1s						
AF01	**San Pedro de A**	**1.37**	**51**	*e*P	**Pn**	**15 59 20.8**	**-0.1**
AF01				*e*S	**Sn**	**15 59 39.5**	**+0.8**
AF01				IAML		15 59 40.5	
	comp=E,3μm,0.3s						
PB04	**IPOC Station P**	**1.67**	**333**	*e*P	**Pn**	**15 59 23.8**	**-0.9**
PB04				*e*S	**Pn**	**15 59 29.0**	**+4.4**
PB04				IAML		15 59 53.9	
	comp=Z,299nm,0.3s						
PB04	**IPOC Station P**	**1.67**	**333**	⇓*i*P	**Pn**	**15 59 23.8**	**-0.9**
PB04				*i* S	**Sn**	**15 59 45.7**	**+0.2**
PB04				IAML		15 59 52.4	
	comp=N,442nm,0.2s						
PB09	**IPOC Station P**	**2.02**	**2**	*e*P	**Pn**	**15 59 29.4**	**+0.1**
PB09				*e*S	**Sn**	**15 59 56.2**	**+2.3**
PB09				IAML		16 00 02.1	
	comp=Z,347nm,0.3s						
PB09	**IPOC Station P**	**2.02**	**2**	*e*P	**Pn**	**15 59 29.4**	**+0.1**
PB09				*i* S	**Sn**	**15 59 54.3**	**+0.4**
PB09				IAML		16 00 01.4	
	comp=E,266nm,0.2s						
PB07	**IPOC Station P**	**2.15**	**346**	*e*P	**Pn**	**15 59 30.0**	**-1.0**
PB07				IAML		16 00 03.5	
	comp=Z,192nm,0.2s						
PB07	**IPOC Station P**	**2.15**	**346**	⇓*i*P	**Pn**	**15 59 30.1**	**-1.0**
PB07				*i* S	**Sn**	**15 59 55.6**	**-1.5**
PB07				IAML		16 00 05.2	
	comp=E,243nm,0.4s						
PB02	**IPOC Station P**	**2.55**	**348**	*e*P	**Pn**	**15 59 35.2**	**-1.2**
PB02				*e*S	**Sn**	**16 00 14.2**	**+7.7**
PB02				IAML		16 00 21.8	
	comp=Z,404nm,0.3s						
PB02	**IPOC Station P**	**2.55**	**348**	*e*P	**Pn**	**15 59 35.1**	**-1.2**
PB02				*i* S	**Sn**	**16 00 06.1**	**-0.4**
PB02				IAML		16 00 16.8	
	comp=E,378nm,0.3s						
AC01	**Pan de Azucar**	**2.58**	**206**	*e*P	**Pn**	**15 59 36.1**	**-0.7**
AC01				*e*S	**Sn**	**16 00 00.1**	**-7.0**
AC01				IAML		16 00 14.4	
	comp=Z,188nm,0.6s						
AC01	**Pan de Azucar**	**2.58**	**206**	*e*P	**Pn**	**15 59 35.7**	**-1.1**
AC01				*e*S	**Sn**	**16 00 05.0**	**-2.2**
PB01	**IPOC Station P**	**2.77**	**357**	*e*P	**Pn**	**15 59 38.3**	**-1.1**
PB01				*e*S	**Sn**	**16 00 17.7**	**+5.7**
PB01				IAML		16 00 20.6	
	comp=Z,154nm,0.4s						
PB01	**IPOC Station P**	**2.77**	**357**	*e*P	**Pn**	**15 59 38.3**	**-1.1**
PB01				*i* S	**Sn**	**16 00 11.3**	**-0.6**
PB01				IAML		16 00 22.3	
	comp=N,247nm,0.2s						
PATCX	**Punta Patache**	**3.09**	**346**	*e*P	**Pn**	**15 59 42.5**	**-1.2**
PATCX	**Punta Patache**	**3.09**	**346**	*e*P	**Pn**	**15 59 41.4**	**-2.3**
PATCX				*e*S	**Sn**	**16 00 18.2**	**-1.3**
TA01	**Diego Aracena**	**3.34**	**346**	*e*P	**Pn**	**15 59 44.4**	**-2.6**
TA01				IAML		16 00 36.1	
	comp=Z,55nm,0.4s						
HMBC	**Humberstone**	**3.57**	**352**	*e*P	**Pn**	**15 59 48.1**	**-2.1**
PB08	**IPOC Station P**	**3.67**	**3**	*e*P	**Pn**	**15 59 51.3**	**-0.5**
PB08				IAML		16 00 46.8	
	comp=Z,38nm,0.5s						
GO03	**Copiap**	**3.84**	**192**	*e*P	**Pn**	**15 59 54.4**	**+0.6**
GO03				*e*S	**Sn**	**16 00 45.0**	**+7.1**
AC05	**El Transito**	**5.06**	**189**	*e*P	**Pn**	**16 00 09.3**	**-1.3**
AC05				IAML		16 01 29.0	
	comp=Z,33nm,0.5s						
PB12	**IPOC Station P**	**5.27**	**350**	*e*P	**Pn**	**16 00 11.1**	**-2.3**
PB12				IAML		16 01 31.5	
	comp=Z,28nm,0.6s						
LCO	**Las Campanas**	**5.31**	**193**	*e*P	**Pn**	**16 00 12.3**	**-1.8**
LCO				IAML		16 01 43.1	
	comp=Z,65nm,0.3s						

IDC ***28*** *16:03:02.0±0.4,53˚.04S×9˚.56E,h0km,mb5.5/18, mbtmp5.5/19,ML5.6/1,MS6.2/52,Error ellipse: s-maj=11.7km s-min=9.2km az=105.0*

MOS ***28*** *16:03:03.9±1.8,53˚.00S×9˚.60E,h10km,mb6.1/25, MS6.2/51,Error ellipse: s-maj=15.7km s-min=7.2km az=83.3*

NEIC ***28*** *16:03:04.0±1.2,53˚.06S±0˚.09×9˚.7E±0˚.2,h10km±1km, mb6.1/181,Ms_20 6.2/969,Mwb6.5/44,Mww6.6/32,Error ellipse: s-maj=16.1km s-min=15.3km az=125.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.48; Mθθ7.37; Mφφ-6.89; Mrθ0.49; Mθφ0.31; Mφr-0.13; Fault plane solution: M₀7.17000×10¹⁸ NP1:φs43.71000°, δ86.57000°,λ178.39000°. NP2:φs133.81000°,δ88.40000°, λ3.43000°. Principal axes: T 7.4064, Plg4.0000°, Azm359.0000°; N -0.5100, Plg86.0000°, Azm159.0000°; P -6.8965, Plg1.0000°, Azm269.0000°;*

IPGP ***28*** *16:03:03.0,53˚.05S×9˚.65E,h6km,Mw6.5,Fault plane solution: NP1:φs131.00000°,δ65.00000°,λ-12.00000°. NP2:φs226.00000°,δ79.00000°,λ-155.00000°.*

BJI ***28*** *16:03:04.4±0.0,53˚.05S×9˚.61E,h10km,mB6.2/59, Ms6.6/81,Ms7 6.4/78*

NEIC ***28*** *16:03:04,53˚.06S×9˚.68E,h10km*

NEIC ***28*** *16:03:04,53˚.06S×9˚.35E,h26km,Moment Tensor Solution. Duration: 11s9 Moment tensor: Scale 10¹⁸Nm; Mrr-3.01; Mθθ9.18; Mφφ-6.17; Mrθ-0.40; Mθφ0.46; Mφr5.27; Fault plane solution: M₀9.66000×10¹⁸ NP1: φs127.11000°,δ66.07000°,λ-28.67000°. NP2: φs229.61000°,δ63.99000°,λ-153.17000°. Principal axes: T 9.2019, Plg1.0000°, Azm179.0000°; N 0.9066, Plg53.0000°, Azm271.0000°; P -10.1085, Plg37.0000°, Azm88.0000°;*

NEIC ***28*** *16:03:04,53˚.06S×9˚.69E,h26km*

GCMT ***28*** *16:03:10.0±0.0,53˚.06S×9˚.95E,h12km,MW6.5/179, Moment Tensor Solution. s178,c440; s179,c786; Duration: 4s4 Moment tensor: Scale 10¹⁹Nm; Mrr-0.30±.00; Mθθ0.85±.00; Mφφ-0.55±.00; Mrθ0.21±.01; Mθφ0.07±.00; Mφr0.08±.01; Best double couple: M₀0.73600×10¹⁹ NP1:φs224.00000°,δ86.00000°, λ-161.00000°. NP2:φs132.00000°,δ71.00000°, λ-4.00000°. Principal axes: T 0.8960, Plg10.0000°, Azm357.0000°; N -0.3200, Plg71.0000°, Azm236.0000°; P -0.5760, Plg16.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 28 16:03:04.5±0.2,53˚.14S±0˚.03×9˚.55E±0˚.04,h10km,n1803, σ2s10/1490,mb6.1/186,MS6.2/619,99C-53D,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**17.72**	**178**	*e*P	**Pn**	**16 07 06.9**		**-4.1**
NVL				*e*S	**Sn**	**16 10 24.0**		**-4.2**
NVL				pmax	pmax			
	comp=Z,3μm,1.8s							
NVL				smax	smax			
	comp=E,10μm,10.0s							
TROLL	**Troll, Antarti**	**19.19**	**187**	⇑P	**Pn**	**16 07 28.9**		**-0.1**
	comp=Z,134μm,0.9s							
TROLL				⇓S	Sn	16 10 49.1		-15
	comp=Z,11μm,0.5s							
TROLL				⇓PKiKP	PKiKP	16 19 19.3		-21
	comp=Z,626nm,0.4s							
VNA1	**Neumayer--Stat**	**19.32**	**198**	⇑P	**Pn**	**16 07 30.1**		**-0.3**
	comp=Z,545nm,0.9s							
VNA1				⇓S	Sn	16 10 51.2		-16
	comp=Z,52nm,0.6s							
SNAA	**Sanae**	**19.38**	**192**	P	**Pn**	**16 07 30.8**		**-0.5**
SNAA	**Sanae**	**19.38**	**192**	⇑*i*P	**Pn**	**16 07 31.6**		**+0.4**
SNAA	**Sanae**	**19.38**	**192**	⇑P	**P**	**16 07 30.6**		**+0.4**
	comp=Z,27μm,0.9s							
SNAA				⇓S	Sn	16 10 49.1		-19
	comp=Z,733nm,0.4s							
SNAA				⇓PKiKP	PKiKP	16 19 19.0		-21
	comp=Z,192nm,0.8s							
SNAA	**Sanae**	**19.38**	**192**	⇑P	**P**	**16 07 30.3**		**+0.2**
SNAA	**Sanae**	**19.38**	**192**	*c* iP	**Pn**	**16 07 31.0**		**-0.3**
SNAA				pmax	pmax			
	comp=Z,2μm,1.1s							
SNAA				MLR	MLR			
	comp=Z,11μm,13.0s							
SNAA	**Sanae**	**19.38**	**192**	P	**P**	**16 07 30.3**		**+0.2**
	comp=Z,17nm,0.3s,baz=22,slow=10,SNR=286							
SNAA				S	Sn	16 10 50.9		-18
	comp=Z,37nm,0.8s,baz=17,slow=19,SNR=1.1							
SNAA				LR	LR	16 13 31.2		
	comp=Z,10μm,19.6s,baz=27,slow=32							
	comp=Z,856nm,0.8s							
VNA2	**Neumayer--Watz**	**19.40**	**197**	⇑P	**P**	**16 07 30.4**		**+0.2**
	comp=Z,686nm,0.5s,baz=26,slow=10.0							
VNA2				⇑S	Sn	16 10 52.3		-16
	comp=Z,111nm,0.8s,baz=33,slow=21							
VNA2				⇓PKiKP	PKiKP	16 19 19.3		-21
	comp=Z,6.9nm,0.7s,baz=24,slow=10.0							
ELIB	**Princess Elisa**	**19.82**	**167**	*d*P	**P**	**16 07 34.8**		**-0.2**
	comp=Z,586nm,1.3s							
ELIB				*d*PP	**PnPn**	**16 07 49.4**		**-0.7**
ELIB				*d*S	**Sn**	**16 11 20.2**		**+1.3**
CER	**Ceres**	**20.96**	**23**	⇑*i*P	**P**	**16 07 44.6**		**-3.0**
CER				IAmb	IAmb	16 07 53.6		
	comp=Z,1μm,1.1s							
CER				IAMs_20	IAMs_20	16 12 56.6		
	comp=Z,180μm,20.6s							
PRTV	**Porterville,We**	**21.20**	**23**	⇑*i*P	**P**	**16 07 47.8**		**-2.3**
PRTV				IAmb	IAmb	16 07 57.9		
	comp=Z,30μm,11.5s							
PRTV				IAMs_20	IAMs_20	16 13 08.9		
	comp=Z,174μm,21.7s							
MATJ	**Matjiesfontein**	**21.38**	**26**	⇑*i*P	**P**	**16 07 49.5**		**-2.7**
MATJ				IAmb	IAmb	16 07 59.9		
	comp=Z,4μm,1.3s							
MATJ				IAMs_20	IAMs_20	16 12 59.0		
	comp=Z,471μm,30.9s							
BUFB	**Buffelsbos**	**21.85**	**36**	*e*P	**P**	**16 07 56.5**		**-0.5**
BUFB				IAmb	IAmb	16 08 00.7		
	comp=Z,1μm,1.4s							
TRIS	**Tristan da Cun**	**22.14**	**308**	P	**P**	**16 07 59.2**		**-0.9**
TRIS				IAmb	IAmb	16 08 12.6		
	comp=Z,2μm,1.4s							
TRIS	**Tristan da Cun**	**22.14**	**308**	*e*P	**P**	**16 08 01.1**		**+1.0**
MERW	**Merweville**	**22.20**	**28**	⇑*i*P	**P**	**16 07 59.4**		**-1.5**
MERW				IAmb	IAmb	16 08 05.2		
	comp=Z,2μm,1.2s							
MERW				IAMs_20	IAMs_20	16 13 33.2		
	comp=Z,189μm,29.4s							
SUR	**Sutherland**	**22.28**	**26**	P	**P**	**16 07 59.8**		**-2.1**
SUR				IAmb	IAmb	16 08 06.8		
	comp=Z,2μm,1.4s							
SUR	**Sutherland**	**22.28**	**26**	IAMs_20	IAMs_20	16 14 21.8		
	comp=Z,128μm,20.0s							
SUR	**Sutherland**	**22.28**	**26**	*i* P	**P**	**16 08 00.5**		**-1.4**
SUR	**Sutherland**	**22.28**	**26**	⇑*i*P	**P**	**16 08 00.8**		**-1.1**
SUR				IAMs_20	IAMs_20	16 13 36.6		
	comp=Z,171μm,28.5s							
SUR	**Sutherland**	**22.28**	**26**	P	**P**	**16 08 00.4**		**-1.4**
	comp=Z,416nm,1.2s,baz=191,slow=9.9,SNR=43							
SUR				S	**S**	**16 11 58.9**		**-8.1**
	comp=Z,101nm,0.7s,baz=11,slow=18,SNR=8.4							
SUR				LR	LR	16 14 30.5		
	comp=Z,128μm,21.5s,baz=196,slow=31							
	comp=Z,416nm,1.2s							
SUR	**Sutherland**	**22.28**	**26**	P	**P**	**16 08 00.9**		**-1.0**
SUR				P	**P**	**16 08 00.9**		**-1.0**
SUR				S	**S**	**16 12 07.4**		**+0.4**
SUR				S	**S**	**16 12 07.4**		**+0.4**
NMMU	**Nelson Mandela**	**22.32**	**37**	⇑*i*P	**P**	**16 08 01.4**		**-0.6**
GRAN	**Grantham**	**22.73**	**29**	*e*P	**P**	**16 08 04.5**		**-2.1**
GRAN				IAmb	IAmb	16 08 12.4		
	comp=Z,396nm,1.0s							
GRAN				IAMs_20	IAMs_20	16 15 20.9		
	comp=Z,631nm,10.2s							
FRAZ	**Fraserburg**	**22.87**	**27**	*i* P	**P**	**16 08 07.0**		**-1.0**
FRAZ				IAmb	IAmb	16 08 23.6		
	comp=Z,740nm,1.1s							
FRAZ				IAMs_20	IAMs_20	16 13 53.0		
	comp=Z,173μm,27.0s							
CVNA	**Calvinia**	**22.88**	**23**	⇑*i*P	**P**	**16 08 04.8**		**-3.2**
CVNA				IAmb	IAmb	16 08 14.3		
	comp=Z,22μm,22.4s							
CVNA				IAMs_20	IAMs_20	16 13 55.9		
	comp=Z,182μm,29.7s							
ROOI	**Rooidraai Farm**	**22.96**	**32**	⇑*i*P	**P**	**16 08 08.0**		**-1.0**
ROOI				IAmb	IAmb	16 08 14.4		
	comp=Z,1μm,1.3s							
ROOI				IAMs_20	IAMs_20	16 13 59.9		
	comp=Z,160μm,20.9s							
GRHM	**Grahamstown, E**	**23.22**	**38**	P	**P**	**16 08 09.8**		**-1.9**
GRHM				IAmb	IAmb	16 08 31.7		
	comp=Z,487nm,1.0s							
GRHM				IAMs_20	IAMs_20	16 14 18.8		
	comp=Z,75μm,20.0s							
GRHM	**Grahamstown, E**	**23.22**	**38**	*e*P	**P**	**16 08 10.7**		**-0.9**
GRHM				IAmb	IAmb	16 08 31.3		
	comp=Z,400nm,0.9s							
GRHM				IAMs_20	IAMs_20	16 13 52.2		
	comp=Z,147μm,25.8s							
GRHM	**Grahamstown, E**	**23.22**	**38**	⇑P	**P**	**16 08 09.9**		**-1.7**
BRAK	**Brakfontein**	**23.43**	**30**	⇑*i*P	**P**	**16 08 12.4**		**-1.4**
BRAK				IAmb	IAmb	16 08 27.0		
	comp=Z,932nm,1.3s							
BRAK				IAMs_20	IAMs_20	16 14 10.0		
	comp=Z,183μm,30.7s							
SOE	**Somerset East**	**23.44**	**36**	P	**P**	**16 08 11.8**		**-2.0**
SOE				IAmb	IAmb	16 08 31.6		
	comp=Z,820nm,1.4s							
SOE				IAMs_20	IAMs_20	16 14 43.5		
	comp=Z,78μm,21.0s							
SOE	**Somerset East**	**23.44**	**36**	*e*P	**P**	**16 08 12.4**		**-1.4**
SOE				IAmb	IAmb	16 08 19.4		
	comp=Z,480nm,1.2s							
SOE				IAMs_20	IAMs_20	16 14 08.9		
	comp=Z,137μm,31.7s							
GRAF	**Camdeboo Natio**	**23.47**	**33**	⇑*i*P	**P**	**16 08 11.4**		**-2.7**
GRAF				IAmb	IAmb	16 08 19.3		
	comp=Z,19μm,4.8s							
GRAF				IAMs_20	IAMs_20	16 14 11.1		
	comp=Z,168μm,33.4s							
BFON	**Badsfontein, M**	**23.65**	**31**	⇑*i*P	**P**	**16 08 13.5**		**-2.5**
BFON				IAmb	IAmb	16 08 34.8		
	comp=Z,4μm,2.4s							
BFON				IAMs_20	IAMs_20	16 14 19.9		
	comp=Z,132μm,21.1s							
KOMG	**Komaggas**	**24.04**	**17**	⇑*i*P	**P**	**16 08 17.4**		**-2.1**
KOMG				IAmb	IAmb	16 08 24.5		
	comp=Z,19μm,3.0s							
KOMG				IAMs_20	IAMs_20	16 14 25.1		
	comp=Z,199μm,26.8s							
PKA	**Prieska**	**25.37**	**28**	*e*P	**P**	**16 08 30.6**		**-1.1**
PKA				IAmb	IAmb	16 09 04.5		
	comp=Z,154nm,1.1s							
KEIM	**Keimoes**	**25.82**	**24**	*e*P	**P**	**16 08 35.9**		**0.0**
KEIM				IAmb	IAmb	16 08 38.4		
	comp=Z,664nm,1.2s							
KEIM				IAMs_20	IAMs_20	16 16 30.8		
	comp=Z,90μm,15.8s							
UPI	**Upington**	**26.22**	**24**	⇑*i*P	**P**	**16 08 39.0**		**-0.5**
UPI				IAmb	IAmb	16 08 46.4		
	comp=Z,1μm,1.4s							
UPI				IAMs_20	IAMs_20	16 16 07.1		
	comp=Z,139μm,21.1s							
KSTD	**Kokstad**	**26.71**	**40**	*e*P	**P**	**16 08 44.6**		**+0.6**
KSTD				IAmb	IAmb	16 08 53.6		
	comp=Z,3μm,2.6s							
KSTD				IAMs_20	IAMs_20	16 15 31.2		
	comp=Z,170μm,31.3s							
HOPE	**Hope Point**	**26.91**	**249**	P	**P**	**16 08 46.0**		**+0.7**
HOPE				IAmb	IAmb	16 09 11.1		
	comp=Z,320nm,1.1s							
HOPE	**Hope Point**	**26.91**	**249**	⇓P	**P**	**16 08 49.1**		**+3.8**
HOPE	**Hope Point**	**26.91**	**249**	P	**P**	**16 08 46.0**		**+0.7**
HOPE				pmax	pmax			
	comp=Z,320nm,1.1s							
HOPE				MLR	MLR			
	comp=Z,20μm,20.0s							
BOSA	**Boshof**	**27.10**	**31**	P	**P**	**16 08 45.5**		**-2.0**
BOSA				IAMs_20	IAMs_20	16 16 59.3		
	comp=Z,101μm,21.0s							
BOSA	**Boshof**	**27.10**	**31**	*i* P	**P**	**16 08 46.2**		**-1.3**
BOSA				*i* S	**S**	**16 13 24.1**		**-1.5**
BOSA	**Boshof**	**27.10**	**31**	⇑*i*P	**P**	**16 08 44.5**		**-3.0**
BOSA				IAmb	IAmb	16 08 58.6		
	comp=Z,247nm,1.1s							
BOSA				IAMs_20	IAMs_20	16 16 49.7		
	comp=Z,99μm,19.9s							
BOSA	**Boshof**	**27.10**	**31**	⇑P	**P**	**16 08 45.9**		**-1.6**
BOSA	**Boshof**	**27.10**	**31**	P	**P**	**16 08 45.5**		**-2.0**
BOSA				pmax	pmax			
	comp=Z,268nm,1.1s							
BOSA	**Boshof**	**27.10**	**31**	P	**P**	**16 08 45.3**		**-2.2**
	comp=Z,92nm,1.0s,baz=203,slow=11,SNR=29							
BOSA				S	**S**	**16 13 18.8**		**-6.8**
	comp=Z,12nm,0.8s,baz=274,slow=16,SNR=1.2							
BOSA				LR	LR	16 17 21.5		
	comp=Z,88μm,21.7s,baz=202,slow=32							
	comp=Z,92nm,1.0s							
H04S2	**CROZET ISLANDS**	**27.61**	**94**	T	T	16 37 43.3		
	baz=242,slow=75,SNR=4021							
H04S3	**CROZET ISLANDS**	**27.61**	**94**	T	T	16 37 44.0		
	baz=242,slow=75,SNR=3456							
H04S1	**CROZET ISLANDS**	**27.63**	**94**	T	T	16 37 46.5		
	baz=242,slow=75,SNR=4078							
CRZF	**Crozet Islands**	**27.80**	**93**	P	**P**	**16 08 50.1**		**-3.3**
CRZF				IAmb	IAmb	16 09 01.4		
	comp=Z,492nm,1.3s							
CRZF				IAMs_20	IAMs_20	16 16 49.6		
	comp=Z,67μm,20.0s							
CRZF	**Crozet Islands**	**27.80**	**93**	⇓P	**P**	**16 08 53.5**		**0.0**
H04N3	**CROZET ISLANDS**	**27.88**	**93**	T	T	16 37 49.1		
	baz=235,slow=75,SNR=548							
H04N1	**CROZET ISLANDS**	**27.88**	**93**	T	T	16 37 50.8		
	baz=235,slow=75,SNR=605							
H04N2	**CROZET ISLANDS**	**27.89**	**93**	T	T	16 37 52.0		
	baz=235,slow=75,SNR=281							
SNKL	**Senekal, Frees**	**28.25**	**36**	⇑*i*P	**P**	**16 08 56.2**		**-1.7**
SNKL				IAmb	IAmb	16 09 30.8		
	comp=Z,481nm,1.3s							
SWZ	**Schweizer**	**28.46**	**31**	*e*P	**P**	**16 08 58.1**		**-1.5**
SWZ				IAmb	IAmb	16 09 03.7		
	comp=Z,512nm,1.5s							
SWZ				IAMs_20	IAMs_20	16 17 02.9		
	comp=Z,93μm,19.5s							
MAW	**Mawson**	**28.94**	**141**	P	**P**	**16 09 02.0**		**-1.3**
	comp=Z,55nm,1.1s,baz=333,slow=2.3,SNR=4.4							
MAW				S	**S**	**16 13 58.0**		**+4.5**
	comp=Z,18nm,0.9s,baz=252,slow=13,SNR=2.0							
MAW				LR	LR	16 18 26.0		
	comp=Z,78μm,21.2s,baz=286,slow=32							
	comp=Z,55nm,1.1s							
PRYS	**Parys**	**29.35**	**34**	⇑*i*P	**P**	**16 09 05.2**		**-2.4**
PRYS				IAmb	IAmb	16 09 11.7		
	comp=Z,390nm,1.3s							
PRYS				IAMs_20	IAMs_20	16 17 48.9		
	comp=Z,82μm,21.7s							
BELA	**Belgrano 2**	**29.37**	**197**	P	**P**	**16 09 06.3**		**-0.8**
BELA				IAmb	IAmb	16 09 08.9		
	comp=Z,230nm,0.8s							
NWCL	**Newcastle**	**29.52**	**39**	*e*P	**P**	**16 09 09.0**		**0.0**
NWCL				IAmb	IAmb	16 09 19.7		
	comp=Z,420nm,1.6s							
NWCL				IAMs_20	IAMs_20	16 16 47.1		
	comp=Z,281μm,47.2s							
KSR	**Koster**	**30.20**	**32**	⇑*i*P	**P**	**16 09 12.7**		**-2.4**
KSR				IAmb	IAmb	16 09 31.5		
	comp=Z,575nm,1.2s							
KSR				IAMs_20	IAMs_20	16 16 53.5		
	comp=Z,776μm,51.9s							
MRCO	**Marico , North**	**30.39**	**31**	⇑*i*P	**P**	**16 09 13.2**		**-3.5**
MRCO				IAMs_20	IAMs_20	16 18 22.4		
	comp=Z,111μm,28.0s							
HRAO	**HartRAO**	**30.42**	**34**	⇑*i*P	**P**	**16 09 15.7**		**-1.3**
POGA	**Pongola**	**30.57**	**41**	*e*P	**P**	**16 09 21.6**		**+3.4**
LBTB	**Lobatse**	**30.58**	**30**	P	**P**	**16 09 16.1**		**-2.3**
LBTB	**Lobatse**	**30.58**	**30**	*i* P	**P**	**16 09 16.6**		**-1.8**
LBTB				*i* S	**S**	**16 14 12.8**		**-7.4**
LBTB	**Lobatse**	**30.58**	**30**	*e*P	**P**	**16 09 16.6**		**-1.8**
LBTB				IAmb	IAmb	16 09 22.2		
	comp=Z,185nm,1.2s							
LBTB				IAMs_20	IAMs_20	16 19 44.7		
	comp=Z,86μm,14.9s							
LBTB	**Lobatse**	**30.58**	**30**	⇑P	**P**	**16 09 15.7**		**-2.6**
LBTB	**Lobatse**	**30.58**	**30**	P	**P**	**16 09 16.1**		**-2.3**
	comp=Z,57nm,0.9s,baz=200,slow=10,SNR=22							
L

comp=Z,712µm,55.5s
MPHEP **Siloam, Limpop** 34.02 35⇑*i*P P 16 09 46.7 -1.9
MPHEP IAmb IAmb 16 10 02.5
comp=Z,185nm,1.2s
MPHEP IAMs_20 IAMs_20 16 20 49.5
comp=Z,117µm,19.2s
TSUM Tsumeb 34.44 13 P P 16 09 50.7 -1.6
TSUM Tsumeb 34.44 13⇑*i*P P 16 09 51.4 -0.9
TSUM IAMs_20 IAMs_20 16 20 35.8
comp=Z,204µm,22.7s
TSUM Tsumeb 34.44 13⇑P P 16 09 51.0 -1.2
TSUM Tsumeb 34.44 13 P P 16 09 51.1 -1.2
comp=Z,154nm,1.0s,baz=181,slow=9.1,SNR=80
TSUM S S 16 15 14.6 -5.8
comp=Z,7.0nm,0.9s,baz=247,slow=18,SNR=1.9
TSUM LR LR 16 21 23.4
comp=Z,190µm,21.6s,baz=192,slow=32
comp=Z,154nm,1.0s
MUSN Musina, Limpop 34.48 35 *i*P P 16 09 48.7 -3.9
MUSN Musina, Limpop 34.48 35 *e*P P 16 09 50.0 -2.6
MUSN IAmb IAmb 16 10 20.2
comp=Z,311nm,1.6s
QSPA South Pole Qui 37.10 180 P P 16 10 14.1 -0.7
QSPA IAmb IAmb 16 10 26.8
comp=Z,746nm,1.2s
QSPA South Pole Qui 37.10 180 P P 16 10 14.9 +0.2
comp=Z,162nm,0.7s,baz=244,slow=3.9
QSPA LR LR 16 25 44.3
comp=Z,10µm,18.5s,baz=226,slow=37
comp=Z,162nm,0.7s
PAF Port-aux-Franc 37.17 109 IAMs_20 IAMs_20 16 21 23.7
comp=Z,46µm,22.0s
PMSA Palmer Station 37.44 223 LR LR 16 23 37.1
comp=Z,19µm,18.8s,baz=102,slow=33
PMSA Palmer Station 37.44 223 *e*P P 16 10 19.4 +2.1
SMAI San Martin Ant 37.62 217 P P 16 10 19.0 +0.2
SMAI IAmb IAmb 16 10 50.5
comp=Z,702nm,1.8s
SMAI IAMs_20 IAMs_20 16 23 48.8
comp=Z,22µm,18.0s
SHEL Horse Pasture 39.01 336 P P 16 10 30.4 -0.7
SHEL Horse Pasture 39.01 336 IAMs_20 IAMs_20 16 21 47.8
comp=Z,25µm,20.0s
SHEL Horse Pasture 39.01 336⇑*i*P P 16 10 29.7 -1.4
SHEL Horse Pasture 39.01 336 P P 16 10 30.4 -0.7
SHEL pmax pmax
comp=Z,270nm,1.2s
KRI Karoi 39.50 31 *i*P P 16 10 30.1 -5.2
KRI Karoi 39.50 31⇑*i*P P 16 10 33.3 -2.0
FOMA Nahampoana Res 39.70 60 IAMs_20 IAMs_20 16 21 51.5
comp=Z,57µm,21.0s
FOMA Nahampoana Res 39.70 60 P P 16 10 37.0 +0.2
EFI East Falkland 39.88 244 P P 16 10 38.0 0.0
EFI East Falkland 39.88 244⇑P P 16 10 38.3 +0.4
EFI East Falkland 39.88 244*c*i P P 16 10 38.4 +0.4
EFI pmax pmax
comp=Z,163nm,1.2s
EFI MLR MLR
comp=Z,8µm,16.0s
LSZ Lusaka 40.54 28 P P 16 10 41.4 -2.6
LSZ Lusaka 40.54 28 *i*P P 16 10 46.0 +2.1
LSZ Lusaka 40.54 28⇑P P 16 10 42.2 -1.7
LSZ Lusaka 40.54 28 P P 16 10 42.1 -1.9
comp=Z,13nm,0.8s,baz=201,slow=9.6,SNR=18
LSZ S S 16 16 47.3 -5.8
comp=Z,5.0nm,0.9s,baz=155,slow=13,SNR=1.4
LSZ LR LR 16 25 44.7
comp=Z,74µm,18.7s,baz=198,slow=34
LSZ Lusaka 40.54 28 P P 16 10 42.3 -1.7
LSZ P P 16 10 42.3 -1.7
LSZ S S 16 16 51.8 -1.3
LSZ S S 16 16 51.8 -1.3
VOI Vohitsoka 42.14 57 P P 16 10 53.9 -3.2
VOI IAMs_20 IAMs_20 16 27 00.2
comp=Z,33µm,18.0s
VOI Vohitsoka 42.14 57 P P 16 11 01.3 +4.2
VOI Vohitsoka 42.14 57⇓*i*P P 16 10 55.7 -1.4
VOI Vohitsoka 42.14 57⇓P P 16 10 56.6 -0.4
VOI Vohitsoka 42.14 57 P P 16 10 55.6 -1.4
SNR=6.8
USHA Ushuaia 43.65 235 LR LR 16 24 17.9
comp=Z,15µm,21.5s,baz=110,slow=29
ABPO Ambohimpanom 44.79 55 IAMs_20 IAMs_20 16 27 36.4
comp=Z,27µm,18.0s
ABPO Ambohimpanom 44.79 55⇓*i*P P 16 11 16.7 -1.9
ABPO IAmb IAmb 16 11 35.4
comp=Z,1µm,3.2s
MG02 Cerro Sombrero 45.15 237 P P 16 11 19.8 -1.0
GO10 Punta Arenas 45.86 236 P P 16 11 26.8 +0.2
MG04 Isla Riesco 46.29 236 P P 16 11 29.6 -0.2
CASY Casey 46.88 147 P P 16 11 34.4 +0.1
CASY IAmb IAmb 16 11 55.7
comp=Z,210nm,1.3s
CASY Casey 46.88 147⇓P P 16 11 35.5 +1.2
RER Riviere de l'E 47.49 66 P P 16 11 37.6 -2.1
RER IAMs_20 IAMs_20 16 26 50.6
comp=Z,29µm,19.0s
RER Riviere de l'E 47.49 66⇓P P 16 11 40.8 +1.1
RER Riviere de l'E 47.49 66 P P 16 11 40.6 +0.9
GO09 Cerro Castillo 47.59 237 P P 16 11 39.5 -0.6
GO09 IAmb IAmb 16 11 43.3
comp=Z,320nm,1.6s
GO09 Cerro Castillo 47.59 237 *e*P P 16 11 39.4 -0.6
AIS Amsterdam Isla 48.26 100 IAMs_20 IAMs_20 16 26 29.4
comp=Z,28µm,20.0s
VNDA Vanda 48.47 172 P P 16 11 46.7 +0.2
VNDA IAMs_20 IAMs_20 16 30 41.3
comp=Z,23µm,20.0s
VNDA Vanda 48.47 172 P P 16 11 46.7 +0.2
VNDA pmax pmax
comp=Z,467nm,1.2s
VNDA MLR MLR
comp=Z,23µm,20.0s
VNDA Vanda 48.47 172 P P 16 11 46.0 -0.5
comp=Z,317nm,1.2s,baz=226,slow=8.1,SNR=156
VNDA S S 16 18 42.4 -4.5
comp=Z,0.8nm,0.9s,baz=113,slow=15,SNR=0.7
VNDA LR LR 16 30 52.7
comp=Z,24µm,22.0s,baz=198,slow=34
comp=Z,317nm,1.2s
SBA Scott Base 48.52 174 P P 16 11 47.9 +1.1
SBA Scott Base 48.52 174 IAMs_20 IAMs_20 16 30 36.6
comp=Z,20µm,18.0s
SBA Scott Base 48.52 174 P P 16 11 47.9 +1.1
SBA pmax pmax
comp=Z,1µm,1.7s
SBA MLR MLR
comp=Z,20µm,18.0s
GO08 Villa O'Higgin 49.40 240 IAmb IAmb 16 11 59.2
comp=Z,560nm,1.6s
GO08 Villa O'Higgin 49.40 240 *e*P P 16 11 55.1 +1.1
PLTB Pedras Altas 49.47 269 P P 16 11 54.4 -0.4
PLTB IAmb IAmb 16 11 59.3
comp=Z,222nm,1.0s
PLTB IAMs_20 IAMs_20 16 31 20.6
comp=Z,14µm,18.0s
PLTB Pedras Altas 49.47 269 *e*P P 16 11 55.0 +0.2
CNLB Canela 49.56 274 *e*P P 16 11 55.7 +0.2
DUB01 Friburgo-RJ 49.99 288 *e*P P 16 11 58.8 -0.1
TRQA Tornquist 50.16 257 P P 16 11 59.7 -0.3
TRQA Tornquist 50.16 257 P P 16 11 59.7 -0.3
TRQA pmax pmax
comp=Z,805nm,1.7s
TRQA MLR MLR
comp=Z,14µm,22.0s
AY03 Cochrane 50.18 241 IAmb IAmb 16 12 04.9
comp=Z,325nm,1.6s
AY03 IAMs_20 IAMs_20 16 30 55.1
comp=Z,14µm,18.0s
AY03 Cochrane 50.18 241 *e*P P 16 12 01.7 +1.8
ALF01 Guarapari-ES 50.21 290 *e*P P 16 11 59.0 -1.3
CPSB Cacapava Do Su 50.34 271 *e*P P 16 12 01.9 +0.5
PARB Paraibuna 50.90 284 *e*P P 16 12 05.5 -0.3
COYC Coyhaique 50.98 243 IAmb IAmb 16 12 34.2
comp=Z,456nm,1.5s
COYC Coyhaique 50.98 243 IAMs_20 IAMs_20 16 29 04.2
comp=Z,29µm,22.0s
COYC Coyhaique 50.98 243⇑P P 16 12 07.2 +1.2
COYC Coyhaique 50.98 243 *e*P P 16 12 06.7 +0.8
AY02 Valle Explorad 50.99 242 *e*P P 16 12 11.9 +5.9
RIB01 Linhares ES 51.06 292 *e*P P 16 12 05.9 -1.0
PET01 Itanhaem-SP 51.15 281 *e*P P 16 12 07.8 +0.3
ABR01 Abrolhos, BA 51.20 294 *e*P P 16 12 07.5 -0.5
ALGR Alto Alegre (B 51.24 272 *e*P P 16 12 08.7 +0.4
RODS Rosario do Sul 51.44 269 *e*P P 16 12 09.2 -0.4
SPB Sao Paulo 51.77 282 P P 16 12 11.5 -0.7
SPB IAmb IAmb 16 12 16.5
comp=Z,452nm,1.9s
SPB Sao Paulo 51.77 282 *e*P P 16 12 12.4 +0.2
ITAB Concordia 51.85 275 *e*P P 16 12 13.3 +0.6
SJMB Sao Joao De Ma 51.99 291 *e*P P 16 12 12.4 -1.4
AY01 Puyuhuapi 52.03 244 IAmb IAmb 16 12 18.4
comp=Z,219nm,0.9s
AY01 IAMs_20 IAMs_20 16 29 50.1
comp=Z,16µm,22.0s
AY01 Puyuhuapi 52.03 244 *e*P P 16 12 13.6 -0.2
BSCB Bom Sucesso 52.22 286 *e*P P 16 12 14.7 -0.9
UNIS Unistalda (Bra 52.28 271 *e*P P 16 12 16.0 +0.1
LL02 Futaleuf 52.40 246 IAmb IAmb 16 12 29.1
comp=Z,442nm,1.4s
LL02 Futaleuf 52.40 246 ⇓P P 16 12 16.2 -0.4
LL02 Futaleuf 52.40 246 *e*P P 16 12 16.3 -0.4
RCLB Rio Claro- Sao 52.73 283 *e*P P 16 12 20.2 +0.8
ITQB Itaqui 52.78 269 *e*P P 16 12 19.5 -0.1
CRSM Crissiumal (Br 52.81 273 *e*P P 16 12 19.3 -0.5
GUA01 Guaratinga, BA 52.94 294 *e*P P 16 12 19.6 -1.3
FRTB Fartura 53.22 280 *e*P P 16 12 23.1 +0.1
LL01 San Ignacio de 53.25 246 *e*P P 16 12 24.1 +1.2
PLCA Paso Flores 53.31 249 P P 16 12 22.6 -0.9
PLCA IAmb IAmb 16 12 27.3
comp=Z,253nm,1.5s
PLCA Paso Flores 53.31 249 ⇓P P 16 12 23.1 -0.4
PLCA Paso Flores 53.31 249 P P 16 12 23.1 -0.4
comp=Z,30nm,0.9s,baz=127,slow=7.1,SNR=25
PLCA S S 16 19 54.2 -0.7
comp=Z,1.0nm,0.8s,baz=231,slow=17,SNR=2.1
PLCA LR LR 16 31 45.5
comp=Z,8µm,21.4s,baz=129,slow=32
PLCA PKPPKP P'P'df 16 42 43.2 -8.0
comp=Z,1.9nm,1.0s,baz=252,slow=6.4,SNR=1.9
comp=Z,30nm,0.9s
PLCA Paso Flores 53.31 249 *e*P P 16 12 23.2 -0.4
PLCA Paso Flores 53.31 249 *e*P P 16 12 23.1 -0.4
FRBT Francisco Belt 53.34 275 *e*P P 16 12 23.1 -0.8
LL07 Hotel Espejo d 53.53 245 IAMs_20 IAMs_20 16 32 33.8
comp=Z,15µm,19.0s
LL07 Hotel Espejo d 53.53 245 *e*P P 16 12 25.3 +0.3
PTGB Pitanga 53.68 277 *e*P P 16 12 26.7 +0.3
DIAM Diamantina, MG 53.72 289 *e*P P 16 12 25.0 -1.9
LL06 Loncomilla 54.02 246 *e*P P 16 12 29.1 +0.4
LDASE Londrina, Braz 54.11 279 *e*P P 16 12 29.6 +0.1
BB19B Bebedouro 54.36 283 *e*P P 16 12 30.9 -0.4
LR05 Currie 54.47 249 *e*P P 16 12 31.6 -0.2
LR05 IVmB_BB 16 12 36.8
comp=Z,6µm,2.5s
LL05 Los Muermos 54.49 247 IAmb IAmb 16 13 10.0
comp=Z,389nm,1.6s
LL05 Los Muermos 54.49 247 *e*P P 16 12 31.5 -0.5
GO06 Curarrehue 54.61 249 ⇑P P 16 12 32.1 -0.9
GO06 Curarrehue 54.61 249 *e*P P 16 12 32.9 -0.2
MCR1 Marechal Candi 55.05 275 *e*P P 16 12 36.8 +0.5
LR03 Panguipulli 55.07 249 *e*P P 16 12 36.1 -0.1
LR03 IVmB_BB 16 12 41.2
comp=Z,5µm,3.4s
PMNB Patos De Minas 55.12 287 *e*P P 16 12 35.7 -1.3
MBAR Mbarara 55.25 26 P P 16 12 36.2 -1.8
MBAR Mbarara 55.25 26 *i*P P 16 12 36.1 -1.8
MBAR *i*S S 16 20 10.7 -11
MBAR Mbarara 55.25 26⇑*i*P P 16 12 38.3 +0.3
MBAR IAMs_20 IAMs_20 16 34 02.3
comp=Z,117µm,20.9s
MBAR Mbarara 55.25 26⇑P P 16 12 38.1 +0.2
MBAR Mbarara 55.25 26 P P 16 12 38.2 +0.3
comp=Z,8.7nm,1.0s,baz=161,slow=5.8,SNR=30
MBAR S S 16 20 29.7 +8.2
comp=Z,1.6nm,0.2s,baz=202,slow=19,SNR=1.6
MBAR LR LR 16 34 34.0
comp=Z,106µm,20.4s,baz=178,slow=34
comp=Z,8.7nm,1.0s
MBAR Mbarara 55.25 26 P P 16 12 37.9 0.0
MBAR P P 16 12 37.9 0.0
MBAR S S 16 20 24.9 +3.3
MBAR S S 16 20 24.9 +3.3
MBAR Mbarara 55.25 26 *e*P P 16 12 37.5 -0.4
MBAR *e*S S 16 20 25.6 +4.1
LR04 Corral 55.50 248 *e*P P 16 12 40.4 +1.0
LR04 IVmB_BB 16 12 45.5
comp=Z,5µm,4.2s
PCMB Pacaembu 55.56 280 *e*P P 16 12 39.4 -0.6
CPUP Villa Florida 55.64 271 ⇑P P 16 12 39.6 -0.9
CPUP Villa Florida 55.64 271 P P 16 12 39.8 -0.7
comp=Z,73nm,0.8s,baz=131,slow=6.4,SNR=79
CPUP S S 16 20 31.2 +4.8
comp=Z,0.8nm,0.5s,baz=15,slow=20,SNR=1.2
CPUP LR LR 16 35 20.8
comp=Z,7µm,18.0s,baz=142,slow=35
comp=Z,73nm,0.8s
CPUP Villa Florida 55.64 271 *e*P P 16 12 39.9 -0.7
KIBK Kibwezi 55.84 35 S S 16 20 34.6 +5.2
KIBK P P 16 12 40.6 -1.5
KIBK Kibwezi 55.84 35 P P 16 12 42.8 +0.7
SNR=75
ITRB Iturama 56.49 282 *e*P P 16 12 46.6 -0.1
IPMB Ipameri, GO 56.58 285 *e*P P 16 12 46.4 -1.0
JANB Januaria 56.68 291 *e*P P 16 12 46.1 -2.0
KMBO Kilima Mbogo 56.71 34 P P 16 12 46.7 -1.8
KMBO Kilima Mbogo 56.71 34 *i*P P 16 12 44.9 -3.5
KMBO Kilima Mbogo 56.71 34 *i*P P 16 12 49.7 +1.3
SNR=17
KMBO Kilima Mbogo 56.71 34⇑*i*P P 16 12 50.0 +1.5
KMBO IAmb IAmb 16 12 57.0
comp=Z,6µm,3.6s
KMBO IAMs_20 IAMs_20 16 34 01.7
comp=Z,158µm,19.0s
KMBO Kilima Mbogo 56.71 34 ⇑P P 16 12 49.9 +1.4
KMBO Kilima Mbogo 56.71 34 P P 16 12 46.8 -1.6
comp=Z,7.0nm,1.1s,baz=193,slow=10,SNR=39
KMBO S S 16 20 44.5 +3.3
comp=Z,0.7nm,0.3s,baz=102,slow=17,SNR=2.1
KMBO LR LR 16 37 06.9
comp=Z,42µm,18.1s,baz=185,slow=36
KMBO Kilima Mbogo 56.71 34 P P 16 12 49.8 +1.3
KMBO P P 16 12 49.8 +1.3
KMBO S S 16 20 45.0 +3.8
KMBO S S 16 20 45.0 +3.8
KMBO Kilima Mbogo 56.71 34 *e*P P 16 12 51.0 +2.6
KMBO *e*S S 16 20 53.5 +12
VACA Villa Angela C 56.71 267 *e*P P 16 12 48.2 +0.1
EKNA AfricaArray - 57.16 360⇑*i*P P 16 12 49.7 -1.7
ML02 Panimavida 57.23 253 IAMs_20 IAMs_20 16 37 38.0
comp=Z,16µm,18.0s
ESFA Espinillo Form 57.36 271 *e*P P 16 12 53.3 +0.6
TICA Tres Isletas 57.44 269 *e*P P 16 12 52.9 -0.4
BO02 Sierra Bellavi 57.55 254 IAmb IAmb 16 13 16.3
comp=Z,480nm,1.4s
BO02 Sierra Bellavi 57.55 254 ⇑P P 16 12 54.2 +0.1
BI05 Punta Hualpn 57.55 251 IAmb IAmb 16 13 21.0
comp=Z,250nm,1.3s
RPRD Ribas do Rio P 57.87 279 *e*P P 16 12 56.8 +0.3
LMEL Las Melosas 57.88 255 IAmb IAmb 16 13 27.0
comp=Z,231nm,1.4s
MT13 San Alfonso 58.01 255 IAmb IAmb 16 13 09.3
comp=Z,403nm,1.7s
BO01 Tunca 58.01 254 IAmb IAmb 16 13 17.4
comp=Z,182nm,1.4s
BO04 La Punta 58.02 255 IAmb IAmb 16 13 20.5
comp=Z,211nm,1.1s
GO05 Huala 58.06 253 IAmb IAmb 16 13 49.5
comp=Z,209nm,1.6s
GO05 IAMs_20 IAMs_20 16 39 50.0
comp=Z,12µm,18.0s
GO05 Huala 58.06 253 ⇓P P 16 13 00.1 +2.5
GO05 Huala 58.06 253 *e*P P 16 12 54.2 -3.4
ANTJ Antonio Joao (58.09 276 *e*P P 16 12 57.0 -0.9
MT04 Ro Olivares 58.16 256 *e*P P 16 12 58.1 -0.5
MT04 IVmB_BB 16 13 05.0
comp=Z,3µm,3.2s
MT12 Pirque 58.17 255 *e*P P 16 12 58.8 +0.4
MT12 IVmB_BB 16 13 03.7
comp=Z,4µm,2.4s
MT03 Universidad Ad 58.31 255 IAmb IAmb 16 13 23.8
comp=Z,219nm,1.1s
MT03 IAMs_20 IAMs_20 16 39 15.9
comp=Z,11µm,18.0s
MT03 Universidad Ad 58.31 255 *e*P P 16 13 00.1 +0.6
MT03 IVmB_BB 16 13 04.8
comp=Z,4µm,2.5s
BDFB Brasilia 58.32 287 P P 16 12 58.6 -1.1
BDFB IAMs_20 IAMs_20 16 32 20.1
comp=Z,16µm,21.0s
BDFB Brasilia 58.32 287 P P 16 12 58.9 -0.8
comp=Z,95nm,1.1s,baz=141,slow=7.3,SNR=29
BDFB S S 16 20 55.3 -7.0
comp=Z,0.8nm,0.3s,baz=148,slow=19,SNR=1.5
BDFB LR LR 16 32 42.5
comp=Z,15µm,21.1s,baz=142,slow=30
comp=Z,95nm,1.1s
MT16 CCHEN 58.37 255 IAmb IAmb 16 13 28.2
comp=Z,214nm,1.1s
MT16 IAMs_20 IAMs_20 16 39 26.3
comp=Z,11µm,18.0s
MT16 CCHEN 58.37 255 *e*P P 16 12 57.0 -2.8
MT09 Talagante 58.39 255 IAmb IAmb 16 13 27.8
comp=Z,215nm,1.2s
MT09 Talagante 58.39 255 *e*P P 16 12 60.0 -0.1
MT09 IVmB_BB 16 13 04.7
comp=Z,4µm,2.2s
MT01 Popeta 58.48 254 IAmb IAmb 16 13 06.9
comp=Z,498nm,1.9s
MT01 Popeta 58.48 254 *e*P P 16 12 60.0 -0.6
MT01 IVmB_BB 16 13 05.2
comp=Z,3µm,2.4s
MT10 Hacienda Santa 58.49 255 *e*P P 16 13 01.0 +0.2
MT10 IVmB_BB 16 13 06.3
comp=Z,4µm,2.6s
MT05 Renca 58.52 255 IAMs_20 IAMs_20 16 39 38.3
comp=Z,11µm,18.0s
MT05 Renca 58.52 255 *e*P P 16 13 01.2 +0.3
MT05 IVmB_BB 16 13 05.9
comp=Z,4µm,2.2s
PEL Peldehue 58.67 255 IAMs_20 IAMs_20 16 40 10.0
comp=Z,11µm,18.0s
PEL Peldehue 58.67 255 ⇑P P 16 13 02.3 +0.4
VA05 Santo Domingo 58.84 254 *e*P P 16 13 04.0 +0.9
VA05 IVmB_BB 16 13 08.1
comp=Z,4µm,2.7s
MT02 Curacav 58.85 255 IAmb IAmb 16 13 20.9
comp=Z,348nm,1.9s
MT02 Curacav 58.85 255 *e*P P 16 13 04.0 +0.9
MT02 IVmB_BB 16 13 08.5
comp=Z,3µm,2.9s
VA03 San Esteban 58.86 256 IAmb IAmb 16 13 25.8
comp=Z,328nm,1.2s
VA03 IAMs_20 IAMs_20 16 37 29.4
comp=Z,15µm,18.0s
VA03 San Esteban 58.86 256 *e*P P 16 12 59.6 -3.7
AQDB Aquidauana 59.07 277 *e*P P 16 13 04.0 -0.8
MURT Porto Murtinho 59.31 274 *e*P P 16 13 04.3 -2.2
VA06 Catapilco 59.44 256 IAmb IAmb 16 13 36.5
comp=Z,533nm,1.9s
VA06 Catapilco 59.44 256 *e*P P 16 13 01.8 -5.4
BDQN Bodoquena, MS 59.72 276 *e*P P 16 13 07.5 -1.8
RVDE Rio Verde (Bra 59.73 279 *e*P P 16 13 09.2 -0.2
RCBR Riachuelo 59.94 305 LR LR 16 32 43.8
comp=Z,8µm,21.1s,baz=147,slow=30
RCBR Riachuelo 59.94 305 *e*P P 16 13 10.1 -0.8
CO02 Combarbal 60.25 257 P P 16 13 12.2 -0.8
CO02 IAmb IAmb 16 13 42.0
CO02 comp=Z,490nm,1.7s IAMs_20 IAMs_20 16 36 01.2
comp=Z,17µm,19.0s
CO02 Combarbal 60.25 257 ⇓P P 16 13 14.8 +1.9
CO03 El Pedregal 60.33 257 IAMs_20 IAMs_20 16 34 52.4
comp=Z,18µm,20.0s
LODK Lodwar 60.39 30 P P 16 13 12.4 -1.5
LODK IAmb IAmb 16 13 24.9
comp=Z,318nm,2.0s
LODK Lodwar 60.39 30 P P 16 13 15.2 +1.3
SNR=53
LODK Lodwar 60.39 30 *e*P P 16 13 13.5 -0.4
LODK *e*S S 16 21 30.0 +1.2
VCA Vinchina 60.40 261 *e*P P 16 13 14.8 +0.7
LIC Lamto 60.42 343⇑*e*P P 16 13 12.2 -1.8
comp=Z,269nm,1.2s
KIC Kosan Boka 60.50 344⇑*i*P P 16 13 12.9 -1.7
comp=Z,38nm,0.7s
CO01 Juntas del Tor 60.61 258 IAMs_20 IAMs_20 16 34 58.7
comp=Z,13µm,19.0s
PP1B Ponte de Pedra 60.80 280 *e*P P 16 13 16.8 +0.1
DBIC Dimbokro 60.82 344 P P 16 13 14.7 -2.0
DBIC Dimbokro 60.82 344⇑P P 16 13 13.0 -3.7
DBIC Dimbokro 60.82 344 ⇓P P 16 13 14.8 -1.9
DBIC Dimbokro 60.82 344 P P 16 13 14.9 -1.8
comp=Z,69nm,0.7s,baz=151,slow=8.0,SNR=78
DBIC S S 16 21 31.6 -2.5
comp=Z,1.2nm,0.6s,baz=270,slow=18,SNR=1.2
DBIC LR LR 16 33 47.5
comp=Z,34µm,21.7s,baz=129,slow=30
comp=Z,69nm,0.7s
TIC Toumodi 60.83 343⇑*e*P P 16 13 15.0 -1.8
comp=Z,159nm,0.7s
CO06 Fray Jorge 61.01 257 IAmb IAmb 16 13 30.2
comp=Z,191nm,1.4s
CO06 IAMs_20 IAMs_20 16 37 13.3
comp=Z,18µm,19.0s
MSEY Mahe Island 61.16 55 *e*P P 16 13 18.9 -0.4
MSEY Mahe Island 61.16 55 P P 16 13 21.0 +1.8
MSEY P P 16 13 21.0 +1.8
MSEY S S 16 21 44.3 +5.6
MSEY S S 16 21 44.3 +5.6
CO05 La Serena 61.33 258 IAmb IAmb 16 13 25.9
comp=Z,253nm,1.4s
CO05 IAMs_20 IAMs_20 16 35 22.7
comp=Z,11µm,20.0s
AC05 El Transito 61.55 259 P P 16 13 20.8 -1.1
AC05 IAmb IAmb 16 13 34.7
comp=Z,242nm,1.2s
LCO Las Campanas 61.68 259 P P 16 13 22.2 -0.7
LCO Las Campanas 61.68 259 ⇑P P 16 13 22.9 0.0
LCO Las Campanas 61.68 259 P P 16 13 22.2 -0.7
LCO pmax pmax
comp=Z,608nm,1.9s
LCO MLR MLR
comp=Z,7µm,18.0s
GO03 Copiap 62.45 260 IAmb IAmb 16 13 40.1
comp=Z,294nm,1.4s
GO03 Copiap 62.45 260 ⇑P P 16 13 27.8 -0.1
AC04 Llanos de Chal 62.49 259 IAMs_20 IAMs_20 16 36 03.6
comp=Z,11µm,21.0s
SALV Santo Antonio 62.61 280 *e*P P 16 13 29.0 +0.1
SNDB Serra Nova Dou 63.15 287 *e*P P 16 13 31.9 -0.6
BBRB Robore, Bolivi 63.22 275 *e*P P 16 13 32.1 -0.8
AC01 Pan de Azucar 63.74 261 IAmb IAmb 16 13 42.5
comp=Z,171nm,1.3s
AC01 Pan de Azucar 63.74 261 *e*P P 16 13 32.5 -3.8
GO02 Mina Guanaco 63.88 262 IAmb IAmb 16 13 50.4
comp=Z,219nm,1.2s
GO02 IAMs_20 IAMs_20 16 36 48.2
comp=Z,12µm,22.0s
GO02 Mina Guanaco 63.88 262 ⇓P P 16 13 37.7 +0.1
DILA Dilla 64.14 32 *e*P P 16 13 38.7 -0.5
DILA *e*S S 16 22 16.1 -0.1
BBSD Serra de San D 64.54 275 *e*P P 16 13 40.8 -0.9
PB14 IPOC Station P 64.76 262 IAMs_20 IAMs_20 16 37 01.8
comp=Z,11µm,22.0s
PB14 IPOC Station P 64.76 262 S S 16 22 25.1 +0.9
PB14 P P 16 13 42.9 -0.6
PTLB Pontes e Lacer 65.01 278 *e*P P 16 13 43.6 -1.2
LVC Limon Verde 65.39 265 P P 16 13 47.5 -0.1
LVC Limon Verde 65.39 265 ⇓P P 16 13 48.2 +0.6
LVC Limon Verde 65.39 265 P P 16 13 47.5 -0.1
LVC pmax pmax
comp=Z,558nm,1.6s
LVC MLR MLR
comp=Z,6µm,18.0s
LVC Limon Verde 65.39 265 LR LR 16 41 51.5
comp=Z,4µm,18.6s,baz=149,slow=36
LVC Limon Verde 65.39 265 *e*P P 16 13 47.8 +0.2
SIV San Ignacio 65.75 276 LR LR 16 37 23.4
comp=Z,15µm,21.8s,baz=152,slow=31
PB05 IPOC Station P 65.98 264 IAmb IAmb 16 14 04.0
comp=Z,232nm,1.3s
TOA0 Torodi Ar. Sit 66.36 352 IAmb IAmb 16 13 53.3
comp=Z,307nm,1.4s
TOA0 Torodi Ar. Sit 66.36 352 P P 16 13 51.2 -2.1
SNR=52
TOA0 S S 16 22 41.9 -1.1
TORD Torodi Ar. Bea 66.36 352 IAmb IAmb 16 13 53.3
comp=Z,293nm,1.5s
TORD Torodi Ar. Bea 66.36 352 P P 16 13 51.1 -2.2
comp=Z,72nm,1.2s,baz=165,slow=2.7,SNR=188
TORD S S 16 22 41.9 -1.1
comp=Z,0.7nm,1.0s,baz=161,slow=34,SNR=1.9
TORD LR LR 16 36 48.2
comp=Z,29µm,21.8s,baz=162,slow=31

TORD PKP2bc **P'P'ab** **16 42 29.8 +4.7**
comp=Z,0.8nm,1.0s,baz=28,slow=6.7,SNR=4.5
comp=Z,72nm,1.2s
FURI Furi 66.58 32 *e*P **P** **16 13 54.1 -1.0**
FURI *e*S **S** **16 22 47.9 +1.5**
FURI IAMs_20 IAMs_20 16 39 32.5
comp=Z,48µm,17.6s
PB07 IPOC Station P 66.65 265 P **P** **16 13 56.1 +0.6**
PB07 S **S** **16 22 46.8 -0.3**
WLRA Wolmera 66.78 32 *e*P **P** **16 13 55.3 -1.2**
WLRA *e*S **S** **16 22 51.9 +2.9**
PB01 IPOC Station P 66.93 265 IAmb IAmb 16 14 02.7
comp=Z,325nm,1.5s
PB01 IAMs_20 IAMs_20 16 43 16.1
comp=Z,9µm,18.0s
PB02 IPOC Station P 66.96 265 IAmb IAmb 16 14 02.9
comp=Z,220nm,1.3s
PB08 IPOC Station P 67.42 266 IAmb IAmb 16 14 18.9
comp=Z,105nm,1.1s
PB08 IPOC Station P 67.42 266 P **P** **16 14 03.1 +2.5**
PB08 S **S** **16 22 58.7 +2.0**
PATCX Punta Patache 67.50 265 IAmb IAmb 16 14 15.4
comp=Z,217nm,1.4s
GRD1 Great Renaissa 67.63 27⇑ *e*P **P** **16 14 00.8 -0.7**
GRD1 *e*S **S** **16 23 02.2 +3.7**
GO01 Chusmiza 67.80 267 IAmb IAmb 16 14 16.3
comp=Z,119nm,1.2s
GO01 IAMs_20 IAMs_20 16 42 25.3
comp=Z,8µm,18.0s
TA02 Huaiquique 67.90 265 IAmb IAmb 16 14 08.6
comp=Z,387nm,1.6s
TA02 IAMs_20 IAMs_20 16 45 37.0
comp=Z,10µm,18.0s
DGAR Diego Garcia 68.01 72*c* *i*P **P** **16 14 03.9 0.0**
DGAR pmax pmax
comp=Z,159nm,1.1s
DGAR MLR MLR
comp=Z,10µm,14.0s
PB11 IPOC Station P 68.01 266 IAmb IAmb 16 14 09.3
comp=Z,361nm,1.4s
HARA HARA 68.49 36 *e*P **P** **16 14 05.6 -1.5**
HARA *e*S **S** **16 23 11.7 +2.6**
DESE Dese 68.98 32 *e*P **P** **16 14 10.0 -0.2**
DESE *e*S **S** **16 23 16.5 +1.5**
PB16 IPOC Station P 69.01 267 IAMs_20 IAMs_20 16 42 30.4
comp=Z,9µm,19.0s
NPGB Novo Progresso 69.46 286 *e*P **P** **16 14 12.6 -0.4**
ATD Arta Tunnel 70.42 35 P **P** **16 14 17.5 -1.4**
ATD Arta Tunnel 70.42 35 ⇓P **P** **16 14 21.1 +2.2**
ATD Arta Tunnel 70.42 35 LR LR 16 42 40.8
comp=Z,1µm,21.9s,baz=192,slow=34
ATD Arta Tunnel 70.42 35 P **P** **16 14 20.2 +1.3**
SNR=19
ATD S **S** **16 23 37.2 +5.6**
ATD Arta Tunnel 70.42 35 *e*P **P** **16 14 16.9 -1.9**
ATD *e*S **S** **16 23 32.4 +0.8**
H01W2 Cape Leeuwin H 70.74 123 T T 17 32 03.5
baz=218,slow=75,SNR=2535
H01W3 Cape Leeuwin H 70.75 123 T T 17 32 06.0
baz=218,slow=75,SNR=2550
H01W1 Cape Leeuwin H 70.75 123 T T 17 32 06.4
baz=218,slow=75,SNR=2752
MBO M'Bour 71.02 333 P **P** **16 14 20.9 -1.4**
MBO IAMs_20 IAMs_20 16 37 50.1
comp=Z,18µm,22.0s
ITTB Itaituba 71.85 288 *e*P **P** **16 14 26.9 -0.6**
SAML Samuel 72.54 278 P **P** **16 14 30.7 -1.0**
SAML Samuel 72.54 278 IAMs_20 IAMs_20 16 40 39.0
comp=Z,9µm,21.0s
SAML Samuel 72.54 278 ⇑P **P** **16 14 30.9 -0.8**
SAML Samuel 72.54 278 P **P** **16 14 30.7 -1.0**
SAML pmax pmax
comp=Z,714nm,1.5s
SAML MLR MLR
comp=Z,9µm,21.0s
SAML Samuel 72.54 278 *e*P **P** **16 14 30.4 -1.3**
MALB Monte Alegre 73.06 290 *e*P **P** **16 14 33.5 -1.2**
SACV Santiago Islan 73.59 327 IAMs_20 IAMs_20 16 38 47.6
comp=Z,12µm,20.0s
ETMB Extrema 73.67 275 *e*P **P** **16 14 37.2 -1.2**
NWAO Narrogin (SRO) 73.86 123 P **P** **16 14 39.4 +0.1**
baz=74,SNR=11
NWAO P **P** **16 14 39.4 +0.1**
baz=74,SNR=11
NWAO Narrogin (SRO) 73.86 123 P **P** **16 14 38.5 -0.8**
NWAO Narrogin (SRO) 73.86 123 IAmb IAmb 16 14 44.1
comp=Z,411nm,1.0s
NWAO Narrogin (SRO) 73.86 123 P **P** **16 14 39.3 0.0**
NWAO Narrogin (SRO) 73.86 123 P **P** **16 14 38.5 -0.8**
NWAO pmax pmax
comp=Z,116nm,1.0s
NWAO MLR MLR
comp=Z,23µm,20.0s
NWAO Narrogin (SRO) 73.86 123 LR LR 16 42 19.5
comp=Z,20µm,18.1s,baz=210,slow=32
NWAO Narrogin (SRO) 73.86 123 P **P** **16 14 36.6 -2.7**
NWAO P **P** **16 14 36.6 -2.7**
NWAO S **S** **16 24 10.8 0.0**
NWAO S **S** **16 24 10.8 0.0**
MUN Mundaring 74.10 122 P **P** **16 14 40.2 -0.5**
baz=74,SNR=15
KAAM Kaadhehdhoo 74.78 68 IAMs_20 IAMs_20 16 40 21.0
comp=Z,17µm,21.0s
KAAM Kaadhehdhoo 74.78 68 P **P** **16 14 46.6 +1.9**
KAAM Kaadhehdhoo 74.78 68 P **P** **16 14 46.4 +1.6**
comp=Z,182nm,2.5s
KLBR Kellerberrin 75.20 123 P **P** **16 14 47.3 +0.2**
baz=75,SNR=13
BLDU Ballidu 75.45 122 P **P** **16 14 48.8 +0.2**
baz=75,SNR=8.5
TAM Tamanrasset 75.69 356 P **P** **16 14 48.7 -1.2**
TAM IAMs_20 IAMs_20 16 46 50.3
comp=Z,13µm,20.0s
TAM Tamanrasset 75.69 356 ⇑P **P** **16 14 49.9 -0.1**
TAM Tamanrasset 75.69 356 P **P** **16 14 48.7 -1.2**
TAM pmax pmax
comp=Z,71nm,1.2s
TAM MLR MLR
comp=Z,13µm,20.0s
MACA Manacapuru-AM 75.69 284 *e*P **P** **16 14 50.6 +0.5**
MORW Morawa 76.34 120 P **P** **16 14 54.0 +0.3**
baz=76,SNR=5.4
MORW Morawa 76.34 120 P **P** **16 14 53.2 -0.5**
MORW IAmb IAmb 16 15 02.1
comp=Z,261nm,1.6s
MORW Morawa 76.34 120 ⇓P **P** **16 14 53.0 -0.6**
KMBL Kambalda 77.43 126 P **P** **16 14 59.6 -0.1**
baz=77,SNR=19
TAU Tasmania Unive 77.66 150 P **P** **16 14 59.9 -0.9**
TAU IAmb IAmb 16 15 12.0
comp=Z,189nm,1.2s
TAU Tasmania Unive 77.66 150 P **P** **16 15 04.8 +4.0**
TAU Tasmania Unive 77.66 150 ⇓P **P** **16 15 05.1 +4.3**
TAU Tasmania Unive 77.66 150 P **P** **16 14 59.9 -0.9**
TAU pmax pmax
comp=Z,189nm,1.3s
TAU MLR MLR
comp=Z,20µm,19.0s
TEFE Tefe 77.74 281 *e*P **P** **16 15 02.6 +1.0**
MDP Montagnes des 77.91 296 LR LR 16 45 26.2
comp=Z,13µm,20.1s,baz=140,slow=33
MOO Moorlands 78.05 149 P **P** **16 15 04.1 +1.1**
baz=78,SNR=5.6
NNA Nana 78.36 266 P **P** **16 15 04.2 -1.0**
NNA Nana 78.36 266 ⇓P **P** **16 15 06.5 +1.3**
NNA Nana 78.36 266*d* *i*P **P** **16 15 06.6 +1.4**
NNA pmax pmax
comp=Z,360nm,2.0s
NNA MLR MLR
comp=Z,6µm,18.0s
NNA Nana 78.36 266 LR LR 16 49 52.7
comp=Z,4µm,18.2s,baz=138,slow=36
NNA Nana 78.36 266 *e*P **P** **16 15 06.8 +1.7**
COCO West Island 78.73 95 P **P** **16 15 10.3 +3.2**
comp=Z,0.0nm,0.9s
CZSB Cruzeiro do Su 79.22 272 IAmb IAmb 16 15 14.0
comp=Z,431nm,1.6s
CZSB Cruzeiro do Su 79.22 272 *e*P **P** **16 15 11.7 +1.8**
CZSB Cruzeiro do Su 79.22 272 *e*P **P** **16 15 08.5 -1.3**
WHZ Wether Hill Ro 79.63 165 P **P** **16 15 11.3 -0.3**
MEEK Meekatharra 79.64 121 P **P** **16 15 11.4 -0.7**
baz=80,SNR=12
ABTO Aybut 79.68 42 P **P** **16 15 12.8 +0.6**
SNR=19
ABTO P **P** **16 15 12.8 +0.6**
SNR=19
ABTO S **S** **16 25 17.1 +2.6**
ABTO S **S** **16 25 17.1 +2.6**
MLZ Mavora Lakes 80.17 165 IAmb IAmb 16 15 28.2
comp=Z,193nm,1.2s
MLZ IAMs_20 IAMs_20 16 48 26.2
comp=Z,14µm,20.0s
RBK Rabkut 80.19 43 P **P** **16 15 15.5 +0.6**
RBK P **P** **16 15 15.5 +0.6**
RBK S **S** **16 25 22.4 +2.6**
RBK S **S** **16 25 22.4 +2.6**
WHFO Wadi Hawf 80.39 42 P **P** **16 15 17.0 +1.0**
SNR=14
WHFO P **P** **16 15 17.0 +1.0**
SNR=14
WHFO S **S** **16 25 25.0 +3.2**
WHFO S **S** **16 25 25.0 +3.2**
GIRL Giralia 80.53 115 IAMs_20 IAMs_20 16 43 51.0
comp=Z,14µm,20.0s
DMTO DMTO 80.69 43 P **P** **16 15 17.9 +0.4**
DMTO P **P** **16 15 17.9 +0.4**
DMTO S **S** **16 25 27.8 +2.8**
DMTO S **S** **16 25 27.8 +2.8**
WKZ Wanaka 80.83 165 IAmb IAmb 16 15 38.7
comp=Z,601nm,1.6s
FORT Forrest 80.85 130 ⇑P **P** **16 15 22.6 +4.1**
ODZ Otahua Downs 80.86 167 ⇓P **P** **16 15 18.8 +0.5**
DOK Doka 81.16 42 P **P** **16 15 20.8 +0.7**
DOK P **P** **16 15 20.8 +0.7**
DOK S **S** **16 25 31.5 +1.7**
DOK S **S** **16 25 31.5 +1.7**
SHAO Shalim 81.24 44 P **P** **16 15 21.2 +0.7**
SHAO S **S** **16 25 33.6 +2.9**
MNCY Minicoy 81.24 64 *e*P **P** **16 15 16.8 -3.8**
ARPS Mount Arapiles 81.36 143 P **P** **16 15 22.0 +0.9**
baz=81,SNR=14
LBZ Lake Benmore 81.44 166 P **P** **16 15 21.1 -0.3**
LBZ IAmb IAmb 16 15 46.5
comp=Z,275nm,1.6s
TOO Toolangi 81.92 146 P **P** **16 15 24.7 +0.6**
baz=82,SNR=7.7
TOO Toolangi 81.92 146 P **P** **16 15 23.6 -0.5**
TOO IAMs_20 IAMs_20 16 52 02.3
comp=Z,7µm,18.0s
TOO Toolangi 81.92 146 ⇑P **P** **16 15 27.1 +3.0**
TOO Toolangi 81.92 146 P **P** **16 15 23.6 -0.5**
TOO pmax pmax
comp=Z,120nm,1.5s
TOO MLR MLR
comp=Z,8µm,18.0s
FOZ Fox Glacier 82.22 166 IAMs_20 IAMs_20 16 50 46.5
comp=Z,12µm,18.0s
RPZ Rata Peaks 82.22 167 IAMs_20 IAMs_20 16 49 06.5
comp=Z,13µm,20.0s
RPZ Rata Peaks 82.22 167 LR LR 16 49 07.4
comp=Z,16µm,21.9s,baz=202,slow=34
MQZ McQueen's Vall 82.44 168 IAMs_20 IAMs_20 16 52 15.4
comp=Z,10µm,18.0s
RAYN Ar Rayn 82.48 33 P **P** **16 15 26.1 -0.8**
RAYN IAmb IAmb 16 15 45.6
comp=Z,137nm,1.2s
RAYN Ar Rayn 82.48 33 *i* P **P** **16 15 28.2 +1.3**
SNR=22
RAYN Ar Rayn 82.48 33 P **P** **16 15 26.1 -0.8**
RAYN pmax pmax
comp=Z,137nm,1.3s
RAYN MLR MLR
comp=Z,26µm,19.0s
RAYN Ar Rayn 82.48 33 P **P** **16 15 28.9 +2.0**
RAYN S **S** **16 25 50.5 +7.1**
BBOO Buckleboo 82.61 137 P **P** **16 15 27.8 0.0**
baz=82,SNR=5.6
BBOO Buckleboo 82.61 137 IAmb IAmb 16 15 45.0
comp=Z,220nm,1.6s
BBOO IAMs_20 IAMs_20 16 46 15.6
comp=Z,11µm,20.0s
ATAH Atahualpa 83.11 267 LR LR 16 51 17.5
comp=Z,5µm,19.8s,baz=146,slow=35
HTT Hallett 83.22 139 P **P** **16 15 31.7 +0.8**
baz=83,SNR=12
HTT Hallett 83.22 139 ⇑P **P** **16 15 33.5 +2.5**
GVZ Greta Valley S 83.22 168 IAmb IAmb 16 15 43.3
comp=Z,182nm,1.0s
GVZ IAMs_20 IAMs_20 16 50 50.9
comp=Z,14µm,20.0s
INZ Inchbonnie 83.25 167 P **P** **16 15 29.9 -0.9**
INZ IAmb IAmb 16 15 42.5
comp=Z,161nm,1.0s
LTZ Lake Taylor 83.30 167 IAmb IAmb 16 15 44.1
comp=Z,109nm,1.0s
CTZ Chatham Island 83.36 176 IAMs_20 IAMs_20 16 51 50.8
comp=Z,8µm,20.0s
MILA Mila 83.58 149 P **P** **16 15 32.9 +0.1**
baz=84,SNR=3.7
TRD Trivandrum 83.59 67 *e*P **P** **16 15 29.2 -3.7**
TRD *e*S **S** **16 25 51.8 -1.2**
TRD */* SS **SS** **16 31 23.2 +1.7**
TRD *ex* x 16 37 33.0
DQM DQM 83.75 45 P **P** **16 15 33.1 -0.4**
DQM P **P** **16 15 33.1 -0.4**
DQM S **SKSac** **16 25 56.6 +0.4**
DQM S **SKSac** **16 25 56.6 +0.4**
EOSO Osorio 83.77 338 P **P** **16 15 35.2 +1.6**
KHZ Kahutara 83.83 168 ⇑P **P** **16 15 35.1 +1.3**
AUSMG Snowy Mountain 83.99 148 P P 16 15 43.6 +8.7
RPN Rapa Nui 84.11 232 LR LR 16 46 35.1
comp=Z,2µm,18.0s,baz=136,slow=31
DSZ Denniston Nort 84.26 167 IAmb IAmb 16 15 50.1
comp=Z,176nm,1.1s
THZ Tophouse 84.39 168 IAmb IAmb 16 15 50.4
comp=Z,172nm,1.1s
THZ IAMs_20 IAMs_20 16 51 24.9
comp=Z,12µm,20.0s
PSA00 Pilbara Seismi 84.42 119 IAmb IAmb 16 15 44.1
comp=Z,297nm,1.8s
MZR Muzera 84.85 40 P **P** **16 15 40.0 +0.9**
MHTO MHTO 84.87 45 P **P** **16 15 38.7 -0.5**
SNR=16
MHTO P **P** **16 15 38.7 -0.5**
SNR=16
MHTO S **S** **16 26 06.7 -0.7**
MHTO S **S** **16 26 06.7 -0.7**
BHW Baring Head 84.98 169 IAMs_20 IAMs_20 16 52 04.5
comp=Z,12µm,21.0s
NNZ Nelson 84.99 168 IAmb IAmb 16 16 06.5
comp=Z,110nm,1.2s
NNZ IAMs_20 IAMs_20 16 51 23.7
comp=Z,15µm,21.0s
TIO Tiouine 84.99 346 P **P** **16 15 40.1 +0.3**
CAN Canberra 85.12 148 IAmb IAmb 16 15 51.2
comp=Z,118nm,1.3s
CAN IAMs_20 IAMs_20 16 49 10.1
comp=Z,9µm,20.0s
CAN Canberra 85.12 148 ⇑P **P** **16 15 41.8 +1.2**
SLWR Sila 85.14 38 P **P** **16 15 42.3 +1.8**
SLWR P **P** **16 15 42.3 +1.8**
SLWR S **S** **16 26 09.5 -0.5**
SLWR S **S** **16 26 09.5 -0.5**
CNB Canberra Magne 85.24 148 P **P** **16 15 42.3 +1.1**
baz=85,SNR=8.8
UMZA Um Al Zommool 85.25 41 P **P** **16 15 41.9 +0.8**
UMZA P **P** **16 15 41.9 +0.8**
UMZA S **SKSac** **16 26 06.9 +1.1**
UMZA S **SKSac** **16 26 06.9 +1.1**
QRZ Quartz Range 85.26 167 IAMs_20 IAMs_20 16 50 25.9
comp=Z,14µm,21.0s
KOD Kodaikanal 85.29 66 *e*P **P** **16 15 41.1 -0.8**
KOD IAmb IAmb 16 15 44.9
comp=Z,50nm,1.0s
XMIS Christmas Isla 85.34 101 IAMs_20 IAMs_20 16 44 25.2
comp=Z,10µm,20.0s
EIL Elat 85.38 22 ⇑P **P** **16 15 42.0 +0.5**
EIL Elat 85.38 22 LR LR 16 53 25.4
comp=Z,39µm,18.2s,baz=198,slow=35
SMRA Abu-Samra 85.44 37 P **P** **16 15 42.1 +0.1**
SMRA S **S** **16 26 08.9 -4.1**
GHWR Ruwais 85.49 39 P **P** **16 15 41.7 -0.5**
GHWR P **P** **16 15 41.7 -0.5**
GHWR S **S** **16 26 09.9 -3.6**
GHWR S **S** **16 26 09.9 -3.6**
MALK Mahakanadarawa 85.50 70 P **P** **16 15 42.0 -0.5**
MALK Mahakanadarawa 85.50 70 ⇑P **P** **16 15 42.9 +0.3**
AUUHS Ulladulla High 85.55 149 P P 16 15 47.4 +4.8
TRNA Turayna 85.57 37 P **P** **16 15 41.9 -0.8**
STKA Stephens Creek 85.63 141 P **P** **16 15 42.2 -0.9**
baz=86,SNR=26
STKA Stephens Creek 85.63 141 P **P** **16 15 42.7 -0.4**
comp=Z,24nm,0.8s,baz=165,slow=4.1,SNR=19
STKA S **SKSac** **16 26 07.4 -1.1**
comp=Z,1.6nm,0.8s,baz=338,slow=19,SNR=1.0
STKA LR LR 16 49 21.1
comp=Z,5µm,18.9s,baz=203,slow=32
comp=Z,24nm,0.8s
MZWR Madinat Zayed 85.69 40 P **P** **16 15 44.9 +1.6**
MZWR P **P** **16 15 44.9 +1.6**
MZWR S **SKSac** **16 26 08.0 -0.5**
MZWR S **SKSac** **16 26 08.0 -0.5**
MRZ Mangatainoka R 85.80 169 IAmb IAmb 16 15 57.3
comp=Z,143nm,1.2s
WRKA Warakurna 85.81 127 P **P** **16 15 44.3 +0.2**
baz=86,SNR=16
WRKA Warakurna 85.81 127 ⇓P **P** **16 15 45.8 +1.6**
MNGI Mangalore 86.09 63 *e*P **P** **16 15 43.9 -1.5**
MNGI IAmb IAmb 16 15 48.2
comp=Z,121nm,1.4s
BSY Bisya 86.11 43 P **P** **16 15 45.6 +0.2**
SNR=45
BSY P **P** **16 15 45.6 +0.2**
SNR=45
BSY S **SKSac** **16 26 10.0 -1.2**
BSY S **SKSac** **16 26 10.0 -1.2**
JMDO Jabal Madar 86.15 44 P **P** **16 15 45.5 -0.1**
JMDO P **P** **16 15 45.5 -0.1**
JMDO S **SKSac** **16 26 11.3 -0.2**
JMDO S **SKSac** **16 26 11.3 -0.2**
MCRA Macar, Loja 86.24 268 *e*P **P** **16 15 45.2 -1.2**
ARQ Araqi 86.36 42 P **P** **16 15 46.8 +0.2**
SNR=20
ARQ P **P** **16 15 46.8 +0.2**
SNR=20
ARQ S **SKSac** **16 26 14.2 +1.4**
ARQ S **SKSac** **16 26 14.2 +1.4**
SAKB Bahrain 86.47 36 P **P** **16 15 47.5 +0.5**
MDT Midelt 86.48 348 LR LR 16 49 11.8
comp=Z,17µm,21.6s,baz=177,slow=32
JLN Jalan Bani Buh 86.51 45 P **P** **16 15 47.6 +0.3**
SNR=19
JLN P **P** **16 15 47.6 +0.3**
SNR=19
JLN S **SKSac** **16 26 15.7 +2.1**
JLN S **SKSac** **16 26 15.7 +2.1**
ALNE Al Ain 86.69 41 *i* P **P** **16 15 48.6 +0.4**
SNR=14
ALNE Al Ain 86.69 41 P **P** **16 15 49.0 +0.8**
SNR=10
ALNE P **P** **16 15 49.0 +0.8**
SNR=10
ALNE S **SKSac** **16 26 16.2 +1.4**
ALNE S **SKSac** **16 26 16.2 +1.4**
WBK Wadi Bani Khal 86.73 45 P **P** **16 15 49.0 +0.6**
SNR=18
WBK P **P** **16 15 49.0 +0.6**
SNR=18
WBK S **SKSac** **16 26 17.2 +2.1**
WBK S **SKSac** **16 26 17.2 +2.1**
PTLC Puerto Leguiza 86.74 275 *e*P **P** **16 15 46.4 -2.4**
SMDO Samad 86.74 44 P **P** **16 15 47.9 -0.7**
SNR=32
SMDO P **P** **16 15 47.9 -0.7**
SNR=32
SMDO S **S** **16 26 22.0 -4.0**
SMDO S **S** **16 26 22.0 -4.0**
AJN Ajban 86.85 41 P **P** **16 15 49.4 +0.6**
AJN P **P** **16 15 49.4 +0.6**
SALM Salem 86.86 66 *e*P **P** **16 15 48.0 -1.2**
SALM IAmb IAmb 16 15 52.0
comp=Z,101nm,1.5s
ASUD Al Ashush, Dub 87.04 41 P **P** **16 15 50.7 +0.9**
ASUD Al Ashush, Dub 87.04 41 P **P** **16 15 50.9 +1.1**
ASUD P **P** **16 15 50.9 +1.1**
ASUD S **SKSac** **16 26 16.4 -0.4**
ASUD S **SKSac** **16 26 16.4 -0.4**
SOHO SOHO 87.08 42 *i* P **P** **16 15 49.3 -0.7**
SNR=26
SOHO SOHO 87.08 42 P **P** **16 15 49.6 -0.4**
SOHO P **P** **16 15 49.6 -0.4**
SOHO S **SKSac** **16 26 16.2 -0.9**
SOHO S **SKSac** **16 26 16.2 -0.9**
WSAR Wadi Sarin 87.14 44 LR LR 16 47 14.1
comp=Z,8µm,21.8s,baz=228,slow=30
WSAR Wadi Sarin 87.14 44 P **P** **16 15 50.6 +0.1**
SNR=20
WSAR S **SKSac** **16 26 18.9 +1.3**
RIV Riverview 87.18 149 P **P** **16 15 51.4 +0.8**
baz=87,SNR=3.2
BIDO Bidbid 87.18 44 P **P** **16 15 50.9 +0.3**
SNR=25
BIDO P **P** **16 15 50.9 +0.3**
SNR=25
IFR Ifrane 87.24 348 P **P** **16 15 51.3 +0.5**
FAQ Al Faqa, Dubai 87.25 41 P **P** **16 15 51.0 +0.1**
FAQ Al Faqa, Dubai 87.25 41 P **P** **16 15 51.1 +0.3**
FAQ P **P** **16 15 51.1 +0.3**
FAQ S **SKSac** **16 26 19.2 +1.1**
FAQ S **SKSac** **16 26 19.2 +1.1**
COHC Cochancay 87.33 269 *e*P **P** **16 15 52.9 +1.3**
AVE Averroes 87.34 346 IAmb IAmb 16 16 09.8
comp=Z,184nm,1.2s
AVE Averroes 87.34 346 P **P** **16 15 51.3 +0.2**
BKZ Black Stump Fm 87.37 170 IAmb IAmb 16 16 04.7
comp=Z,97nm,1.2s
BKZ IAMs_20 IAMs_20 16 52 07.0
comp=Z,7µm,22.0s
ASHO Ashiyiah 87.38 41 *i* P **P** **16 15 51.7 +0.2**
SNR=19
ASHO Ashiyiah 87.38 41 P **P** **16 15 51.9 +0.3**
ASHO P **P** **16 15 51.9 +0.3**
ASHO P **pP** **16 15 52.1 -1.1**
SNR=20
ASHO P **pP** **16 15 52.1 -1.1**
SNR=20
ASHO S **SKSac** **16 26 21.0 +2.0**
ASHO S **SKSac** **16 26 21.0 +2.0**
EGSI Enggano, Bengk 87.39 95 P **P** **16 15 54.9 +2.9**
comp=Z,143nm,1.2s,comp=Z,5µm
CMSA Cobar Meteorol 87.45 144 P **P** **16 15 51.3 -0.7**
baz=87,SNR=13
NAZ Nazwa, Dubai 87.49 41 *i* P **P** **16 15 52.5 +0.5**
SNR=7.8
NAZ Nazwa, Dubai 87.49 41 P **P** **16 15 55.0 +3.0**
SNR=9.5
NAZ P **P** **16 15 55.0 +3.0**
SNR=9.5
NAZ S **SKSac** **16 26 22.5 +2.9**
NAZ S **SKSac** **16 26 22.5 +2.9**
HATD Hatta, Dubai 87.53 41 *i* P **P** **16 15 52.7 +0.4**
SNR=8.8
HATD Hatta, Dubai 87.53 41 P **P** **16 15 52.9 +0.6**
SNR=13
HATD P **P** **16 15 52.9 +0.6**
SNR=13
HATD S **SKSac** **16 26 20.6 +0.7**
HATD S **SKSac** **16 26 20.6 +0.7**
UOSS Minazif 87.67 41 P **P** **16 15 51.8 -1.1**
UOSS IAmb IAmb 16 16 10.8
comp=Z,264nm,1.4s
UOSS Minazif 87.67 41 *i* P **P** **16 15 52.4 -0.5**
SNR=7.3
UOSS Minazif 87.67 41 P **P** **16 15 52.8 -0.2**
UOSS P **P** **16 15 52.8 -0.2**
UOSS S **SKSac** **16 26 19.9 -0.8**
UOSS S **SKSac** **16 26 19.9 -0.8**
GOA Goa 87.69 60 *e*P **P** **16 15 51.9 -1.2**
GOA IAmb IAmb 16 16 00.1
comp=Z,56nm,0.5s
HIZ Hauiti 87.83 169 IAMs_20 IAMs_20 16 52 43.1
comp=Z,9µm,22.0s
CHSH Refugio Sur-Vo 87.87 270 IAMs_20 IAMs_20 16 52 31.2
comp=Z,7µm,20.0s
PIAT Ana Tenorio 87.89 271 *e*P **P** **16 15 55.4 +0.5**
RTC Rabat Centre 87.93 346 P **P** **16 15 51.7 -2.2**
RTZ Ruatahuna 87.97 170 IAmb IAmb 16 16 09.7
comp=Z,213nm,1.4s
RTZ IAMs_20 IAMs_20 16 53 42.7
comp=Z,10µm,21.0s
UMQ Umm Al-Quwin 87.97 41 P **P** **16 15 55.5 +1.1**
UMQ Umm Al-Quwin 87.97 41 S **SKSac** **16 26 24.9 +2.5**
MDH Madha 88.02 41 P **P** **16 15 53.8 -0.8**
MDH Madha 88.02 41 P **P** **16 15 53.8 -0.8**
MDH P **P** **16 15 53.8 -0.8**

MDH S **SKSac** **16 26 23.4 +0.6**
MDH S **SKSac** **16 26 23.4 +0.6**
MSFE Esma-Masafi **88.02 41** P **P** **16 15 54.2 -0.5**
MASF Masafi **88.03 41** P **P** **16 15 54.9 +0.3**
MASF P **P** **16 15 54.9 +0.3**
MASF S **SKSac** **16 26 24.4 +1.4**
MASF S **SKSac** **16 26 24.4 +1.4**
ASF Jabal al Asfar **88.23 23** LR LR 16 54 18.6
comp=Z,34µm,19.2s,baz=202,slow=35
URZ Urewera **88.34 170** ⇓P **P** **16 15 56.8 +0.7**
URZ Urewera **88.34 170** LR LR 16 55 28.9
comp=Z,4µm,18.6s,baz=298,slow=36
PTGC Puerto Gaitan, **88.35 279** *e*P **P** **16 15 55.5 -1.0**
KBD Kabd **88.44 33** P **P** **16 15 57.9 +1.5**
KBD S S 16 26 32.0 -10
KEST Kesra **88.50 360** P **P** **16 15 57.9 +1.2**
comp=Z,22nm,1.1s,baz=155,slow=3.8,SNR=18
KEST S **SKSac** **16 26 31.0 +5.7**
comp=Z,1.2nm,0.7s,baz=185,slow=12,SNR=1.4
KEST LR LR 16 52 53.9
comp=Z,14µm,19.7s,baz=124,slow=34
KEST Kesra **88.50 360** P **P** **16 15 54.9 -1.8**
SNR=25
KEST S **SKSac** **16 26 31.1 +5.8**
PMAR Madeira **88.56 338** *e*P **P** **16 16 01.5 +4.4**
comp=Z,450nm,1.6s
CHAS Isla Isabel II **88.57 350** P **P** **16 15 58.8 +1.9**
KASI Kota Agung **88.59 97** P **P** **16 16 01.0 +3.4**
BONI La Bonita **88.60 273** *e*P **P** **16 15 58.4 +0.4**
SHME Shamm **88.63 41** P **P** **16 15 57.2 -0.2**
SHME P **P** **16 15 57.2 -0.2**
SHME S **SKSac** **16 26 33.2 +6.8**
SHME S **SKSac** **16 26 33.2 +6.8**
SISI Saibi **88.67 90** P **P** **16 15 59.9 +1.9**
TOZ Tahuroa Road **88.68 169** IAMs_20 IAMs_20 16 52 47.6
comp=Z,11µm,22.0s
MMAI Mount Meron Ar **88.70 21** P **P** **16 15 58.8 +1.1**
comp=Z,7.2nm,1.0s,baz=224,slow=5.8,SNR=4.1
MMAI S **SKSac** **16 26 34.0 +7.3**
comp=Z,0.3nm,0.3s,baz=189,slow=25,SNR=1.3
MMAI LR LR 16 55 40.9
comp=Z,19µm,19.0s,baz=173,slow=36
PMOZ Porto Moniz, M **88.72 338** *e*P **P** **16 15 59.6 +1.8**
comp=Z,590nm,1.6s
PMOZ Porto Moniz, M **88.72 338** *e*S S 16 26 55.5 +11
PMOZ Porto Moniz, M **88.72 338** *e*LR LR 16 44 20.5
comp=Z,7µm,18.0s
PMOZ Porto Moniz, M **88.72 338** P **P** **16 15 59.1 +1.3**
LWLI Liwa **88.73 97** P **P** **16 15 59.8 +1.3**
comp=Z,185nm,1.7s,comp=Z,4µm
CNJI Cibinong **88.73 100** P **P** **16 16 02.3 +4.0**
EMLI Melilla **88.74 350** P **P** **16 15 57.3 -0.4**
GARC Garzon, Huila **88.75 275** *e*P **P** **16 15 58.2 -0.5**
PCRV Puerto La Cruz **88.77 289** LR LR 16 51 05.7
comp=Z,13µm,21.8s,slow=32
PVLZ Peæn de **88.77 349** P **P** **16 15 57.6 -0.2**
PULU Pululahua **88.85 272** IAMs_20 IAMs_20 16 58 27.2
comp=Z,12µm,20.0s
BBJI Bungbulang **88.92 101** P **P** **16 16 02.2 +2.9**
BBJI Bungbulang **88.92 101** P **P** **16 16 03.1 +3.8**
TULM Tulcn-Chalpat **88.97 273** *e*P **P** **16 16 02.6 +2.6**
OTAV Otavalo **88.99 272** P **P** **16 15 59.5 -0.6**
OTAV IAmb IAmb 16 16 06.8
comp=Z,276nm,1.8s
OTAV Otavalo **88.99 272** ⇑P **P** **16 16 00.7 +0.6**
OTAV Otavalo **88.99 272** P **P** **16 15 59.5 -0.6**
OTAV pmax pmax
comp=Z,276nm,1.8s
OTAV MLR MLR
comp=Z,3µm,18.0s
OTAV Otavalo **88.99 272** *e*P **P** **16 15 59.5 -0.6**
OTAV Otavalo **88.99 272** *e*P **P** **16 16 00.7 +0.6**
IDI Anoyia **89.07 12** P **P** **16 15 58.8 -0.5**
IDI Anoyia **89.07 12** LR LR 16 57 28.8
comp=Z,27µm,19.6s,baz=180,slow=37
GCUF Volcan Galeras **89.11 273** *e*P **P** **16 16 01.3 +0.6**
DBJI Dramaga **89.11 100** P **P** **16 16 03.3 +3.2**
BETC Betania **89.12 276** *e*P **P** **16 16 04.3 +4.1**
CRUC La Cruz **89.14 274** *e*P P 16 16 06.3 +5.6
MXZ Matakaoa Point **89.14 171** IAMs_20 IAMs_20 16 54 06.8
comp=Z,12µm,22.0s
MDRS Chennai **89.15 67** *e*P **P** **16 15 57.1 -3.1**
JASK Jask - Hormozg **89.16 42** P **P** **16 16 00.2 +0.3**
SNR=9.7
JASK S **SKSac** **16 26 34.2 +4.6**
PBSI Pulau Batu **89.19 89** P **P** **16 16 04.6 +4.1**
VILC Villavicencio, **89.21 278** *e*P **P** **16 16 00.7 0.0**
PAC1 Pacto, Paraso **89.21 271** *e*P **P** **16 16 00.9 +0.1**
CBJI Citeko **89.28 100** P **P** **16 16 02.4 +1.5**
EALB Alboran **89.38 350** P **P** **16 16 01.8 +1.2**
KAD Karad **89.39 60** *e*P **P** **16 16 00.9 -0.4**
KAD IAmb IAmb 16 16 03.5
comp=Z,66nm,0.8s
LEM Lembang **89.41 101** LR LR 16 47 33.9
comp=Z,16µm,21.8s,baz=218,slow=30
LEM Lembang **89.41 101** P **P** **16 16 03.4 +1.7**
comp=Z,421nm,1.5s,comp=Z,6µmcomp=Z,5µm
ANKY Antikythira Is **89.44 11** P **P** **16 16 04.3 +3.3**
KRJI Kerinci **89.49 93** P **P** **16 16 05.1 +3.1**
ASAR Alice Springs **89.61 131** P **P** **16 16 01.6 -0.8**
comp=Z,7.1nm,1.0s,baz=205,slow=4.7,SNR=25
ASAR PKKPbc **PKKPbc** **16 33 32.9 -0.7**
comp=Z,2.7nm,1.0s,baz=2.9,slow=3.7,SNR=4.8
ASAR PKPPKP **P'P'df** **16 41 42.4 -7.4**
comp=Z,5.4nm,1.2s,baz=57,slow=4.6,SNR=6.4
ASAR LR LR 16 49 03.0
comp=Z,19µm,21.4s,baz=216,slow=31
comp=Z,7.1nm,1.0s
PRAC Prado **89.61 277** *e*P **P** **16 16 01.0 -1.5**
AUPHS Peel High Scho **89.61 148** P P 16 16 11.8 +9.5
ECEU Ceuta **89.61 348** P **P** **16 16 01.6 -0.3**
CEU Ceuta **89.62 348** P **P** **16 16 02.0 +0.2**
BBAC Balboa, Cauca **89.68 274** *e*P **P** **16 16 03.5 +0.4**
BAUV El Baul **89.74 285** P **P** **16 16 01.6 -1.4**
POPC Popayan, Colom **89.75 275** *e*P **P** **16 16 03.1 -0.3**
KPJI Karang Pucung **89.78 102** P **P** **16 16 05.5 +2.3**
comp=Z,127nm,1.8s,comp=Z,3µm
TAMR Tamra **89.82 360** P **P** **16 16 02.6 -0.1**
PDSI Padang **89.82 91** P **P** **16 16 04.3 +0.8**
GSI Gunungsitoli **89.84 88** P **P** **16 16 03.5 -0.1**
GSI Gunungsitoli **89.84 88** P **P** **16 16 05.4 +1.9**
GSI Gunungsitoli **89.84 88** ⇑P **P** **16 16 05.2 +1.6**
GSI Gunungsitoli **89.84 88** P **P** **16 16 06.0 +2.5**
SNSI Sinabang, Aceh **89.97 86** P **P** **16 16 08.4 +4.3**
ORTC Ortega, Tolima **89.98 276** *e*P **P** **16 16 03.0 -1.2**
NGCH Negor - Chabah **90.07 45** P **P** **16 16 06.1 +1.9**
NGCH S **SKSac** **16 26 39.8 +4.9**
ROSC El Rosal **90.16 278** IAmb IAmb 16 16 20.0
comp=Z,128nm,1.2s
ROSC El Rosal **90.16 278** P **P** **16 16 04.2 -1.2**
comp=Z,24nm,0.7s,baz=120,slow=20,SNR=5.2
ROSC S **SKSac** **16 26 40.8 +3.8**
comp=Z,4.4nm,0.4s,baz=319,slow=19,SNR=1.3
ROSC LR LR 16 52 37.7
comp=Z,15µm,20.7s,baz=176,slow=33
comp=Z,24nm,0.7s
ROSC El Rosal **90.16 278** *e*P **P** **16 16 05.9 +0.4**
EMIJ Mijas **90.20 349** P **P** **16 16 05.0 +0.4**
POO Poona **90.24 59** *e*P **P** **16 16 03.6 -1.6**
POO IAmb IAmb 16 16 11.1
comp=Z,69nm,1.1s
UGM Wanagama **90.25 103** P **P** **16 16 07.7 +2.2**
comp=Z,276nm,1.8s
JAMC Jamundi, Valle **90.28 275** *e*P **P** **16 16 04.7 -1.1**
SFS San Fernando **90.28 347** P **P** **16 16 07.8 +3.0**
PYL PYLOS **90.29 10** P **P** **16 16 05.3 +0.4**
EBER Berja **90.32 350** P **P** **16 16 05.5 +0.2**
ENIJ Nijar **90.32 351** P **P** **16 16 06.8 +1.7**
VAE Valguarnera **90.34 4** LR LR 16 55 58.0
comp=Z,20µm,18.3s,baz=184,slow=35
EMAL Malaga-Limoner **90.35 349** P **P** **16 16 04.5 -0.7**
TUMC Tumaco **90.41 272** *e*P **P** **16 16 10.1 +4.0**
ARG Arkhangelos **90.44 15** P **P** **16 16 06.8 +1.2**
KSL Kastellorizon **90.61 16** P **P** **16 16 08.0 +1.6**
SPBC San Pablo de B **90.66 278** *e*P **P** **16 16 09.0 +1.6**
YOTC Yotoco, Valle **90.69 276** *e*P **P** **16 16 07.0 -0.7**
PMBI Palembang **90.82 96** P **P** **16 16 10.3 +2.2**
SMRI Semarang **90.90 103** IAMs_20 IAMs_20 16 47 40.5
comp=Z,11µm,21.0s
KRND KRANIDI **90.92 11** P **P** **16 16 09.5 +1.7**
GUY2C Guyana, Caldas **91.09 277** *e*P **P** **16 16 08.2 -1.7**
SJI Sawahan **91.12 104** P **P** **16 16 13.8 +4.2**
BKNI Bangkinang **91.15 91** P **P** **16 16 10.7 +1.1**
BKNI Bangkinang **91.15 91** P **P** **16 16 12.0 +2.4**

CEL Celeste **91.19 5** IAmb IAmb 16 16 35.6
comp=Z,301nm,1.8s
CEL Celeste **91.19 5** ⇑P **P** **16 16 10.1 +1.0**
SDV Santo Domingo **91.20 283** IAMs_20 IAMs_20 16 53 02.8
comp=Z,7µm,19.0s
ELL Elmali **91.25 16** ⇑P **P** **16 16 11.3 +1.8**
PBDV Barranco-do-Ve **91.28 346** *e*P **P** **16 16 11.0 +1.4**
comp=Z,223nm,2.0s
DRO Drossia **91.33 10** P **P** **16 16 11.2 +1.4**
GUR Goura **91.38 10** P **P** **16 16 12.3 +2.2**
QLP Quilpie **91.38 140** P **P** **16 16 06.1 -4.5**
baz=91,SNR=4.2
QLP Quilpie **91.38 140** ⇓P **P** **16 16 11.9 +1.3**
PLMC San Jos del P **91.39 276** *e*P **P** **16 16 09.1 -1.6**
PVAQ Vaqueiros **91.41 346** *e*SKS **SKSac** **16 26 42.1 +0.1**
PVAQ *e*S **ScS** **16 27 18.6 +6.8**
PVAQ *e*SS SS 16 33 31.0 +15
RLS Riolos of Patr **91.41 9** P **P** **16 16 12.6 +2.5**
MORF Marmelete **91.45 346** *e*P **P** **16 16 09.6 -0.8**
MORF *e*SKSac **SKSac** **16 26 42.8 +0.4**
MORF IAMs_20 IAMs_20 16 52 36.1
comp=Z,25µm,23.2s
MORF Marmelete **91.45 346** *e*P **P** **16 16 09.5 -0.8**
MORF *e* 16 26 42.7
KLV Kalavryta, Ach **91.47 10** P **P** **16 16 13.5 +3.0**
MLSI Meulaboh, Aceh **91.49 85** P **P** **16 16 14.2 +3.0**
ATHU Athens Univers **91.57 11** P **P** **16 16 14.4 +3.5**
PTBC PUERTO BERRIO, **91.59 279** *e*P **P** **16 16 09.1 -2.6**
LHI Lord Howe Isla **91.61 154** IAMs_20 IAMs_20 16 57 07.9
comp=Z,6µm,18.0s
PTL Penteli **91.66 11** P **P** **16 16 14.8 +3.5**
PCVE Castro Verde **91.68 346** *e*P **P** **16 16 12.3 +0.9**
comp=Z,116nm,1.6s
DION Dionisos Attik **91.70 11** P **P** **16 16 14.3 +2.8**
KCSI Kotacane, Aceh **91.72 86** P **P** **16 16 13.3 +1.0**
FSK Fiskardo **91.72 9** P **P** **16 16 14.3 +2.8**
RPSI Rantau Prapat **91.76 88** P **P** **16 16 10.7 -1.7**
RPSI IAmb IAmb 16 16 21.5
comp=Z,118nm,1.1s
RPSI IAMs_20 IAMs_20 16 48 11.5
comp=Z,6µm,21.0s
HYB Hyderabad **91.79 63** *e*P **P** **16 16 12.0 -0.5**
HYB IVmB_BB 16 16 15.7
comp=Z,1µm,5.2s
HYB *e*SKSac **SKSac** **16 26 43.6 -1.6**
HYB IVMs_BB IVMs_BB 16 51 42.2
comp=Z,3µm,16.6s
HYB Hyderabad **91.79 63** *e*P **P** **16 16 12.3 -0.1**
HYB IAmb IAmb 16 16 26.0
comp=Z,74nm,1.3s
EFP Efpalio **91.82 10** P **P** **16 16 14.0 +2.0**
PSI Prapat **91.84 88** P **P** **16 16 13.5 +0.5**
PSI Prapat **91.84 88** P **P** **16 16 10.7 -2.3**
PSI pmax pmax
comp=Z,118nm,1.1s
PSI MLR MLR
comp=Z,6µm,21.0s
PSI Prapat **91.84 88** P **P** **16 16 13.2 +0.2**
MESJ Messejana **91.91 346** *e*P **P** **16 16 17.0 +4.6**
comp=Z,182nm,1.9s
MESJ Messejana **91.91 346** *e*P **P** **16 16 11.6 -0.9**
MESJ *e*SKSac **SKSac** **16 26 45.3 +0.4**
MESJ IAMs_20 IAMs_20 16 53 04.2
comp=Z,18µm,20.0s
MESJ Messejana **91.91 346** *e*P **P** **16 16 11.5 -0.9**
MESJ *e* 16 26 45.2
JAGI Jajag, Banyuwa **91.92 107** IAMs_20 IAMs_20 16 47 59.5
comp=Z,10µm,22.0s
PVO Paravola **91.97 9** P **P** **16 16 13.8 +1.1**
ANX Ano Chora **91.99 10** P **P** **16 16 13.8 +0.9**
CBOC Ciudad Bolivar **91.99 277** *e*P **P** **16 16 13.9 +0.3**
PBEJ Beja **92.04 346** *e*P **P** **16 16 12.9 -0.2**
comp=Z,92nm,1.6s
LKD2 Lefkada island **92.06 9** P **P** **16 16 14.3 +1.2**
PBAR Barrancos **92.08 347** *e*P **P** **16 16 13.5 +0.3**
comp=Z,119nm,1.5s
PIZC Pizarro, Choco **92.08 275** *e*P **P** **16 16 16.6 +2.7**
TIP Timpagrande **92.16 6** IAmb IAmb 16 16 26.6
comp=Z,128nm,1.2s
TIP Timpagrande **92.16 6** ⇑P **P** **16 16 14.8 +1.1**
VJD Vijayawada **92.19 65** *e*P **P** **16 16 12.9 -1.3**
VJD IAmb IAmb 16 16 21.1
comp=Z,45nm,1.0s
VJD *i* x **S** **16 27 16.2 -0.6**
PNCL Nicolau / Gran **92.22 346** *e*P **P** **16 16 14.9 +1.0**
comp=Z,114nm,1.7s
AXAR Agios Charalam **92.23 10** P **P** **16 16 15.8 +1.9**
VSL Villasalto **92.26 360** IAmb IAmb 16 16 25.0
comp=Z,81nm,1.1s
VSL Villasalto **92.26 360** ⇓P **P** **16 16 15.1 +1.0**
EVR Evrytania **92.30 10** P **P** **16 16 17.8 +3.5**
ISP Isparta **92.40 16** IAmb IAmb 16 16 49.7
comp=Z,129nm,1.5s
BLCB Balcova **92.41 14** P **P** **16 16 15.7 +1.0**
MAKR Makrakomi, Fth **92.42 10** P **P** **16 16 19.3 +4.5**
EVO Evora **92.56 346** *e*P **P** **16 16 16.4 +1.0**
comp=Z,125nm,1.9s
LHMI Lhok Sumawe **92.58 85** IAMs_20 IAMs_20 16 51 57.3
comp=Z,9µm,18.0s
KULA Kula-Manisa **92.77 15** P **P** **16 16 17.0 +0.5**
MAHO Mahon **92.77 356** IAMs_20 IAMs_20 16 53 44.6
comp=Z,13µm,20.0s
PESTR Estremoz **92.83 347** *e*P **P** **16 16 17.3 +0.6**
comp=Z,79nm,1.4s
HATO Hato, Curacao **92.87 286** IAMs_20 IAMs_20 16 52 34.7
comp=Z,8µm,22.0s
KEK Kerkira **92.90 8** P **P** **16 16 15.9 -1.1**
LIS Lisbon **92.91 345** *e*P **P** **16 16 16.2 -0.8**
LIS *e*SKSac **SKSac** **16 26 50.7 +0.4**
LIS IAMs_20 IAMs_20 16 55 05.5
comp=N,32µm,16.7s
LIS Lisbon **92.91 345** *e*P **P** **16 16 16.2 -0.8**
LIS *e* 16 26 50.7
THL Klokotos Trika **92.96 10** P **P** **16 16 17.1 -0.1**
DBBC Dabeiba **93.02 278** *e*P **P** **16 16 16.2 -2.2**
WRA Warramunga Arr **93.02 129** P **P** **16 16 18.8 -1.5**
comp=N,5.4nm,1.2s,baz=213,slow=4.1,SNR=9.3
WRA PP **PP** **16 19 55.9 -4.6**
comp=N,3.2nm,1.0s,baz=205,slow=5.4,SNR=2.0
WRA PKKPbc **PKKPbc** **16 33 23.9 -1.1**
comp=N,2.1nm,1.2s,baz=25,slow=2.8,SNR=4.1
WRA LR LR 16 51 11.7
comp=N,21µm,21.6s,baz=212,slow=31
comp=N,5.4nm,1.2s
GAZ Gaziantep **93.09 22** IAmb IAmb 16 16 39.8
comp=Z,104nm,1.6s
PAB San Pablo **93.09 349** P **P** **16 16 17.3 -0.7**
PAB San Pablo **93.09 349** IAMs_20 IAMs_20 16 52 24.3
comp=Z,14µm,22.0s
PAB San Pablo **93.09 349** ⇓P **P** **16 16 18.9 +0.9**
PAB San Pablo **93.09 349** P **P** **16 16 17.3 -0.7**
PAB pmax pmax
comp=Z,65nm,1.3s
PAB MLR MLR
comp=Z,14µm,22.0s
PMTG Montargil **93.12 346** *e*P **P** **16 16 19.2 +1.2**
comp=Z,91nm,1.7s
ES12 SONSECA Array **93.14 350** IAMs_20 IAMs_20 16 54 20.5
comp=Z,11µm,20.0s
ES11 SONSECA Array **93.15 350** IAMs_20 IAMs_20 16 52 29.7
comp=Z,14µm,21.0s
ES10 SONSECA Array **93.16 350** IAMs_20 IAMs_20 16 52 30.9
comp=Z,14µm,21.0s
ES04 SONSECA Array **93.16 350** IAMs_20 IAMs_20 16 52 29.0
comp=Z,14µm,22.0s
ES03 SONSECA Array **93.17 350** IAMs_20 IAMs_20 16 52 31.2
comp=Z,14µm,21.0s
ES02 SONSECA Array **93.18 350** IAMs_20 IAMs_20 16 52 31.5
comp=Z,13µm,21.0s
ES06 SONSECA Array **93.18 350** IAMs_20 IAMs_20 16 54 20.5
comp=Z,13µm,21.0s
ESDC Sonseca Array **93.18 350** IAmb IAmb 16 16 29.1
comp=Z,70nm,1.2s
ESDC IAMs_20 IAMs_20 16 54 20.5
comp=Z,13µm,21.0s
ESDC Sonseca Array **93.18 350** P **P** **16 16 18.9 +0.5**
comp=Z,27nm,1.2s,baz=173,slow=4.0,SNR=43
ESDC LR LR 16 54 34.4
comp=Z,11µm,20.8s,baz=162,slow=33
comp=Z,27nm,1.2s
ESBB Sonseca Array **93.18 350** IAmb IAmb 16 16 29.1
comp=Z,82nm,1.2s
ESBB IAMs_20 IAMs_20 16 54 23.6
comp=Z,12µm,21.0s
ES07 SONSECA Array **93.19 350** IAMs_20 IAMs_20 16 54 21.8
comp=Z,13µm,21.0s
ES08 SONSECA Array **93.19 350** IAMs_20 IAMs_20 16 52 32.9
comp=Z,14µm,21.0s
ES16 SONSECA Array **93.19 350** IAMs_20 IAMs_20 16 52 29.9
comp=Z,14µm,22.0s
ES19 SONSECA Array **93.20 350** IAMs_20 IAMs_20 16 54 21.0
comp=Z,14µm,21.0s
UREC San Jos de Ur **93.20 279** *e*P **P** **16 16 18.1 -1.0**
ES18 SONSECA Array **93.21 350** IAMs_20 IAMs_20 16 52 33.4
comp=Z,13µm,21.0s
TWSI Taliwang, Sumb **93.26 109** P **P** **16 16 22.2 +2.8**
comp=Z,53nm,1.7s,comp=Z,2µmcomp=Z,3µm
KPRO Kipourio **93.28 9** P **P** **16 16 19.4 +0.6**
PMRV Marv??o **93.36 347** *e*P **P** **16 16 19.6 +0.5**
comp=Z,128nm,1.8s
PMRV Marv??o **93.36 347** *e*S S 16 27 35.5 +9.2
PMRV *e*SS **SS** **16 33 53.4 +10**
PMRV Marv??o **93.36 347** *e*LR LR 16 46 21.8
comp=Z,10µm,20.0s
PAIG Paliouri **93.50 11** P **P** **16 16 22.6 +2.9**
AKL Akola **93.69 60** *e*P **P** **16 16 19.7 -1.4**
PLAI Plampang **93.70 110** P **P** **16 16 23.5 +2.1**
comp=Z,61nm,1.1s,comp=Z,3µm
NEST Nestorio **93.71 9** P **P** **16 16 25.3 +4.5**
BALB Balikesir **93.76 14** IAmb IAmb 16 16 42.1
comp=Z,113nm,1.3s
KBN Korca **93.89 9** IAmb IAmb 16 16 49.6
comp=Z,99nm,1.3s
MYKOM Kota Tinggi **94.01 92** P **P** **16 16 21.8 -1.0**
MYKOM Kota Tinggi **94.01 92** P **P** **16 16 24.1 +1.3**
comp=Z,42nm,1.9s,comp=Z,1µmcomp=Z,3µm
FNA Florina **94.10 9** IAMs_20 IAMs_20 17 01 51.4
comp=Z,8µm,20.0s
FNA Florina **94.10 9** P **P** **16 16 22.6 0.0**
FNA Florina **94.10 9** ⇑P **P** **16 16 26.3 +3.7**
ARGC Ariguani, Magd **94.11 281** *e*P **P** **16 16 20.8 -2.4**
DBNI Kabupaten Domp **94.27 110** P **P** **16 16 25.4 +1.4**
comp=Z,96nm,1.6s
MTE Manteigas **94.33 347** *e*P **P** **16 16 27.2 +3.6**
comp=Z,56nm,1.8s
MTE Manteigas **94.33 347** *e*SKS **SKSac** **16 27 01.8 +3.6**
MTE *e*S **ScS** **16 27 43.1 +7.0**
MTE *e*SS **SS** **16 34 06.9 +9.3**
MTE *e*LQ LQ 16 40 58.4
MTE *e*LR LR 16 46 55.3
comp=Z,10µm,18.0s
OHR Ohrid **94.38 8** *i* P **P** **16 16 26.3 +2.5**
BNN Bunyan **94.41 20** IAmb IAmb 16 16 44.9
comp=Z,142nm,1.1s
PSMN Pico do Norte, **94.67 333** *e*P **P** **16 16 25.8 +0.6**
comp=Z,99nm,1.5s
PSMN Pico do Norte, **94.67 333** *i* LR LR 16 46 57.6
comp=Z,942nm,13.0s
PVIS Viseu **94.69 347** *e*P P 16 16 30.1 +4.8
VAY Valandovo **94.75 10** *i* P **P** **16 16 27.4 +2.0**
ANTO Ankara **94.79 18** P **P** **16 16 25.4 -0.4**
ANTO IAmb IAmb 16 17 18.0
comp=Z,96nm,1.6s
ANTO Ankara **94.79 18** P **P** **16 16 25.4 -0.4**
ANTO pmax pmax
comp=Z,96nm,1.6s
ANTO MLR MLR
comp=Z,21µm,20.0s
ANTO Ankara **94.79 18** P **P** **16 16 26.7 +0.9**
ANTO P **P** **16 16 26.7 +0.9**
BR131 Keskin Array S **94.81 18** *i* P **P** **16 16 25.3 -0.7**
BR131 Keskin Array S **94.81 18** P **P** **16 16 25.6 -0.4**
SNR=9.8
BR131 P **P** **16 16 25.6 -0.4**
SNR=9.8
BRTR Keskin Array B **94.81 18** P **P** **16 16 25.1 -0.9**
comp=Z,2.1nm,0.9s,baz=168,slow=7.0,SNR=11
BRTR PP **PP** **16 20 11.4 -3.8**
comp=Z,6.8nm,1.1s,baz=193,slow=5.1,SNR=9.4
BRTR S **SKSac** **16 27 00.2 -0.9**
comp=Z,0.3nm,0.9s,baz=152,slow=6.4,SNR=1.5
BRTR LR LR 16 59 47.2
comp=Z,16µm,22.0s,baz=200,slow=36
INTR Introdacqua **94.85 3** IAMs_20 IAMs_20 16 56 09.3
comp=Z,11µm,21.0s
KULM Kulim **94.85 88** IAMs_20 IAMs_20 16 50 41.6
comp=Z,12µm,20.0s
KULM Kulim **94.85 88** P **P** **16 16 28.7 +2.0**
comp=Z,25nm,1.1s,comp=Z,1µmcomp=Z,3µm
QIS Mount Isa **94.86 134** P **P** **16 16 27.3 +0.6**
baz=95,SNR=4.9
PHP Peshkopia **94.91 8** P **P** **16 16 29.6 +3.3**
RDO Rodhopi **94.92 12** P **P** **16 16 25.6 -0.6**
RDO Rodhopi **94.92 12** ⇑P **P** **16 16 29.5 +3.3**
EIDS Eidsvold **94.97 146** IAMs_20 IAMs_20 16 52 11.9
comp=Z,10µm,22.0s
MVO Moncorvo **95.02 348** *e*S S 16 27 50.4 +10
MVO *e*SS **SS** **16 34 17.9 +11**
MVO *e*LQ LQ 16 41 10.8
MVO *e*LR LR 16 46 48.0
SKO Skopje **95.29 9** *i* P **P** **16 16 29.9 +2.0**
POLO Lamas de Olo **95.32 347** *e*P **P** **16 16 32.8 +4.6**
comp=Z,27nm,1.6s
BART Pico Bartolome **95.42 333** *i* LR LR 16 47 34.5
comp=Z,795nm,12.5s
CMLA Cha da Macela **95.51 333** IAMs_20 IAMs_20 16 54 23.0
comp=Z,6µm,20.0s
CASP Castiglione de **95.56 1** IAMs_20 IAMs_20 16 54 18.1
comp=Z,9µm,21.0s
PBRG Braganca **95.61 348** *e*P P 16 16 35.2 +5.8
comp=Z,65nm,1.7s
PSET Sete Cidades **95.62 333** *e*P **P** **16 16 29.9 +0.4**
comp=Z,201nm,1.3s
PSET Sete Cidades **95.62 333** *i* LR LR 16 47 24.0
comp=Z,1µm,14.0s
FDMO Fiordimonte **95.85 3** IAMs_20 IAMs_20 17 04 50.7
comp=Z,9µm,19.0s
GUMA Gualdo di Mace **95.88 3** IAMs_20 IAMs_20 17 06 18.6
comp=Z,10µm,18.0s
PGAV Gavieira, Arco **95.97 347** *e*S S 16 28 07.3 +18
PGAV *e*SS **SS** **16 34 28.2 +7.2**
PGAV *e*LQ LQ 16 42 26.1
PGAV *e*LR LR 16 47 34.4
comp=Z,23µm,22.0s
SJG San Juan **96.03 292** LR LR 16 55 37.0
comp=Z,6µm,21.3s,baz=144,slow=33
MURB Monte Urbino **96.06 2** IAMs_20 IAMs_20 17 08 28.3
comp=Z,11µm,18.0s
OSSC Osservatorio P **96.30 1** IAMs_20 IAMs_20 16 57 29.6
comp=Z,12µm,21.0s
MMRI Maumere **96.35 113** IAMs_20 IAMs_20 16 51 28.0
comp=Z,12µm,22.0s
UPA Univ. de Panam **96.56 276** *e*P **P** **16 16 36.3 +1.8**
PAGU Agualva, Azore **96.91 332** *e*P **P** **16 16 34.7 -0.7**
comp=Z,108nm,1.5s
PAGU Agualva, Azore **96.91 332** *i* LR LR 16 47 39.8
comp=Z,926nm,17.0s
PICO Pico **97.02 331** *e*P **P** **16 16 31.4 -4.5**
comp=Z,238nm,2.0s
PICO Pico **97.02 331** *i* LR LR 16 47 47.7
comp=Z,963nm,14.9s
BLKB Belogradchik **97.04 10** ⇓P **PP** **16 20 30.9 -1.5**
MSSA Maissana **97.08 360** IAMs_20 IAMs_20 17 00 01.4
comp=Z,9µm,19.0s
ROSA Rosais **97.17 331** *e*P **P** **16 16 34.0 -2.5**
comp=Z,165nm,1.9s
ROSA Rosais **97.17 331** *i* LR LR 16 47 55.6
comp=Z,519nm,13.3s
ROSA Rosais **97.17 331** IAMs_20 IAMs_20 17 09 26.1
comp=Z,6µm,20.0s
AJM Ajmer **97.27 55** *e*P **P** **16 16 34.6 -2.7**
RAO Raoul Island **97.70 173** IAMs_20 IAMs_20 16 59 01.6
comp=Z,7µm,20.0s
RAO Raoul Island **97.70 173** LR LR 16 59 02.4
comp=Z,4µm,20.2s,baz=200,slow=34
GNI Garni **97.77 26** *i* P **P** **16 16 38.2 -1.2**
GNI pmax pmax
comp=Z,39nm,1.5s
GNI MLR MLR
comp=Z,18µm,18.0s
GNI Garni **97.77 26** LR LR 17 02 08.1
comp=Z,18µm,18.7s,baz=206,slow=36
GNI Garni **97.77 26** P Pdif 16 16 41.4 +2.0
GNI P Pdif 16 16 41.4 +2.0
KAPI Kappang **97.93 109** IAMs_20 IAMs_20 16 51 47.8
comp=Z,11µm,22.0s
KAPI Kappang **97.93 109** LR LR 16 52 11.0
comp=Z,11µm,21.8s,baz=208,slow=30
CTA Charters Tower **98.02 139** LR LR 16 54 36.4
comp=Z,10µm,21.2s,baz=206,slow=32
CTAO Charters Tower **98.02 139** IAMs_20 IAMs_20 16 54 11.9

comp=Z,12µm,22.0s
MDVR Moldovita 98.10 9 ⇓P **PP 16 20 39.4 -1.1**
SSB Saint Sauveur 98.13 356 IAMs_20 IAMs_20 17 01 19.4
comp=Z,10µm,19.0s
TEOL Teolo 98.14 2 IAMs_20 IAMs_20 17 00 13.4
comp=Z,10µm,20.0s
JHSG JHARSUGUGA 98.16 65 *e*P **P 16 16 40.2 -1.2**
HERR Herculane 98.26 9 ⇑P **PP 16 20 41.0 -0.6**
FRGS Fruska Gora 98.31 7 ⇑P **PP 16 20 40.0 -2.1**
SALO Salr 98.38 1 IAMs_20 IAMs_20 16 57 48.9
comp=Z,11µm,22.0s
TIRR Tirgusor 98.56 14 ⇑P **PP 16 20 45.4 +1.5**
CRES Cresnjev 98.72 4 *e*Pdiff Pdif 16 16 45.6 +2.3
CRES *e*PP **PP 16 20 41.8 -3.3**
CRES *e* 16 27 24.5
CRES *e* 16 28 28.7
CRES *e*PS **PS 16 29 42.0 +2.8**
CRES *e* 16 34 55.8
SABO M.te Sabotino 98.80 3 IAMs_20 IAMs_20 16 58 23.1
comp=Z,13µm,22.0s
GZR Gura Zlata 98.81 9 ⇑P **PP 16 20 45.2 -0.7**
LJU Ljubljana 98.90 4 *i* Pdiff Pdif 16 16 46.8 +2.6
LJU *e*PP **PP 16 20 42.5 -4.0**
LJU *e* 16 27 22.7
LJU *e* 16 28 25.1
LJU *i* PS PS 16 29 44.9 +3.8
LJU *e* 16 34 56.0
BZS Buzias 98.92 9 ⇓P **PP 16 20 45.3 -1.4**
TPGR Topolog 98.95 13 ⇑P **PP 16 20 45.3 -1.7**
ARR Arges 98.98 11 ⇓P **PP 16 20 45.2 -2.0**
VOIR 99.09 11 ⇓P **PP 16 20 45.1 -3.0**
SURR Surduc 99.10 9 ⇓P **PP 16 20 43.8 -4.2**
SENIN Lac Senin/Sane 99.14 358 IAmb IAmb 16 17 11.2
comp=Z,95nm,1.2s
CFR Carcaliu 99.23 13 ⇑P **PP 16 20 47.3 -1.7**
MLR Muntele Rosu 99.25 12 ⇓P **PP 16 20 46.7 -2.6**
MLR Muntele Rosu 99.25 12 LR LR 17 04 26.5
comp=Z,16µm,19.9s,baz=182,slow=37
CLUD Cludinico 99.26 2 IAMs_20 IAMs_20 17 07 24.0
comp=Z,12µm,20.0s
MORH Mrgy, Hungar 99.28 6 ⇑P **PP 16 20 48.6 -0.8**
DEV Deva 99.30 9 ⇑P **PP 16 20 49.0 -0.6**
OBKA Obir 99.36 3 *ep*Pdiff **Pdif 16 16 49.7 +3.4**
comp=Z,19nm,1.0s
OBKA *e*PP **PP 16 20 49.5 -0.7**
comp=Z,19nm,1.2s
FUORN Ofenpass-Fuorn 99.38 0 IAMs_20 IAMs_20 16 59 06.4
comp=Z,10µm,20.0s
MYKA Terra Mystica 99.45 3 *ep*Pdiff **Pdif 16 16 51.2 +4.5**
comp=Z,8.6nm,1.1s
MYKA *e*PP **PP 16 20 48.9 -1.9**
comp=Z,14nm,1.3s
ABTA Abfaltersbach 99.54 2 *ep*Pdiff **Pdif 16 16 51.8 +4.8**
comp=Z,13nm,1.1s
ABTA *e*PP **PP 16 20 51.7 +0.2**
comp=Z,29nm,1.2s
DAVOX Davos/Dischmat 99.54 0 LR LR 16 59 22.6
comp=Z,16µm,20.9s,baz=172,slow=34
SBUM Sibu 99.55 99 IAMs_20 IAMs_20 16 55 39.9
comp=Z,5µm,20.0s
SOKA Soboth 99.55 4 *ep*Pdiff **Pdif 16 16 50.3 +3.2**
comp=Z,18nm,1.4s
SOKA *e*PP **PP 16 20 46.8 -4.8**
comp=Z,14nm,1.2s
SIRR Siria 99.57 8 ⇓P **PP 16 20 49.6 -2.0**
SLCR Slobozia Conac 99.58 13 ⇓P **PP 16 20 44.8 -6.8**
COVR Voineasa-Covas 99.63 12 ⇓P **PP 16 20 44.8 -7.4**
VRI Vrincioaia 99.72 12 ⇑P **PP 16 20 51.2 -1.6**
SOC Sochi 99.78 22 *e*P **Pdif 16 16 46.8 -1.3**
SOC *e*PPP PPP 16 22 57.4
SOC *e*SSS SSS 16 39 05.0
SOC pmax pmax
comp=Z,14nm,0.7s
SOC MLR MLR
comp=Z,11µm,20.0s
FETA Feichten 99.79 1 *e*Pdiff **Pdif 16 16 49.0 +0.8**
comp=Z,17nm,1.1s
FETA *e*PP **PP 16 20 52.7 -0.8**
comp=Z,11nm,1.2s
KBA Koelnbreinsper 99.89 3 *ep*Pdiff **Pdif 16 16 52.7 +4.0**
comp=Z,9.4nm,1.1s
KBA *e*PP **PP 16 20 53.3 -1.0**
comp=Z,31nm,1.6s
SIM Simferopol' 99.95 17 *e*P **Pdif 16 16 58.7 +10**
SIM *e*S S 16 28 32.4 +10
SIM *e*SS **SS 16 35 22.9 +6.1**
SIM pmax pmax
comp=Z,37nm,1.2s
SIM pmax pmax
comp=Z,380nm,18.7s
SIM smax smax
comp=E,1µm,16.1s
SIM pmax pmax
comp=N,4µm,16.1s
SIM MLR MLR
comp=Z,8µm,18.7s
GEYT Alibeck 99.98 37 P **Pdif 16 16 50.1 +0.9**
comp=Z,1.2nm,0.8s,baz=64,slow=6.6,SNR=2.2
GEYT LR LR 17 05 06.8
comp=Z,13µm,18.5s,baz=226,slow=37
SQTA Sankt Quirin 99.99 1 *e*Pdiff **Pdif 16 16 50.1 +1.0**
comp=Z,22nm,1.8s
WTTA Wattenberg 100.04 1 *e*Pdiff **Pdif 16 16 49.9 +0.5**
comp=Z,16nm,1.3s
WTTA *e*PP **PP 16 20 52.1 -3.3**
comp=Z,16nm,1.3s
DAVA Damuels 100.05 0 Pdiff **Pdif 16 16 51.8 +2.4**
comp=Z,12nm,1.6s
DAVA PP **PP 16 20 52.0 -3.5**
comp=Z,29nm,1.3s
MARR Marisel-Cluj 100.11 9 ⇑P **PP 16 20 55.3 -0.5**
WATA Walderalm 100.11 1 *e*Pdiff **Pdif 16 16 50.1 +0.5**
comp=Z,15nm,1.6s
WATA PP **PP 16 20 54.5 -1.4**
comp=Z,14nm,1.4s
MOTA Moosalm 100.11 1 *e*Pdiff **Pdif 16 16 50.4 +0.7**
comp=Z,12nm,1.3s
ARSA Arzberg 100.14 4 *e*Pdiff **Pdif 16 16 50.7 +1.0**
comp=Z,11nm,1.5s
ARSA PP **PP 16 20 54.4 -1.6**
comp=Z,22nm,1.5s
DRGR 100.19 9 ⇑P **PP 16 20 53.5 -2.9**
LESA Schwarzleotal 100.22 2 *e*Pdiff **Pdif 16 16 51.9 +1.9**
comp=Z,8.3nm,1.1s
LESA *e*PP **PP 16 20 55.1 -1.6**
comp=Z,15nm,1.4s
RETA Reutte 100.25 1 *e*Pdiff **Pdif 16 16 51.5 +1.3**
comp=Z,8.1nm,1.2s
RETA *e*PP **PP 16 20 55.3 -1.6**
comp=Z,26nm,1.2s
TESR Tescani 100.34 12 ⇓P **PP 16 20 55.8 -1.7**
ANN Anapa 100.45 20 *i* P **Pdif 16 16 51.1 +0.1**
ANN 16 20 55.5
ANN *e* 16 27 29.6
ANN *e*SS SS 16 35 17.4 -6.2
ANN *e*SSS SSS 16 39 12.0
ANN pmax pmax
comp=Z,27nm,1.3s
ANN MLR MLR
comp=Z,9µm,18.0s
BIOA Bad Ischl, Aus 100.51 3 *e*Pdiff **Pdif 16 16 51.9 +0.6**
comp=Z,11nm,1.4s
BIOA *e*PP **PP 16 20 58.8 0.0**
comp=Z,37nm,2.1s
MESR Meseseni 100.56 9 ⇓P **PP 16 20 59.5 +0.4**
RONA Rosalia, Austr 100.63 5 *e*Pdiff **Pdif 16 16 51.8 0.0**
comp=Z,10nm,1.0s
RONA *e*PP **PP 16 20 56.5 -3.2**
comp=Z,26nm,1.7s
ARCR ARCALIA 100.64 10 ⇑P **PP 16 20 58.2 -1.6**
KBZ Khabaz 100.66 24 *i* P **Pdif 16 16 51.5 -0.4**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
KBZ MLR MLR
comp=Z,16µm,17.0s
KBZ Khabaz 100.66 24 P **Pdif 16 16 55.5 +3.6**
comp=Z,1.4nm,0.7s,baz=294,slow=4.8,SNR=2.5
MOA Molln 100.69 3 *e*Pdiff **Pdif 16 16 51.8 -0.3**
comp=Z,9.8nm,1.1s
MOA *e*PP **PP 16 20 58.9 -1.2**
comp=Z,30nm,1.4s
KIV Kislovodsk 100.82 24 *e*P **Pdif 16 16 53.7 +0.9**
KIV *e* 16 21 01.1
KIV *e* 16 27 32.7
KIV *e*SS SS 16 35 30.0 +1.0
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,22µm,20.0s
KIV Kislovodsk 100.82 24 P **Pdif 16 16 53.1 +0.3**
CONA Conrad Observa 100.83 4 *e*Pdiff **Pdif 16 16 53.2 +0.4**
comp=Z,13nm,1.6s
CONA *e*PP **PP 16 20 59.7 -1.6**
comp=Z,24nm,1.5s
JTS Las Juntas de 100.85 273 *i* P **Pdif 16 16 54.1 +0.4**
SRO Srobarova 100.85 6 *e*PP **PP 16 20 59.8 -1.5**
ECH Echery 101.00 358 IAMs_20 IAMs_20 16 59 19.2
comp=Z,9µm,21.0s
LABN Labinsk 101.01 22 *i* P **Pdif 16 16 57.1 +3.6**
LABN *e* 16 20 59.1
LABN *e* 16 27 32.2
LABN *e*SS SS 16 35 31.5 +0.1
LABN pmax pmax
comp=Z,35nm,0.6s
LABN MLR MLR
comp=Z,9µm,17.0s
MILM Milestii Mici 101.03 13 *e*P **Pdif 16 16 57.0 +3.5**
MILM Milestii Mici 101.03 13 *e*PP **PKiKP 16 21 23.0 +4.4**
MILM Milestii Mici 101.03 13 *e*P **Pdif 16 16 57.0 +3.5**
MILM *e* 16 30 06.0
MILM MLR MLR
comp=Z,15µm,19.0s
PSZ Piszkesteto 101.06 7 ⇑P **PP 16 20 58.5 -4.6**
PSZ Piszkesteto 101.06 7 IAMs_20 IAMs_20 17 05 02.6
comp=Z,8µm,20.0s
KIS Kishinev 101.11 13 *e*P **Pdif 16 16 54.0 +0.1**
KIS Kishinev 101.11 13 *e*PP **PKiKP 16 21 21.0 +2.3**
KIS Kishinev 101.11 13 *e*P **Pdif 16 16 54.0 +0.1**
KIS *e* 16 30 10.0
KIS *e* 16 35 28.0
KIS MLR MLR
comp=N,4µm,20.0s
KIS MLR MLR
comp=Z,6µm,20.0s
MAK Makhachkala 101.14 27 *e*P **Pdif 16 16 48.8 -5.3**
BURAR Bucovina Array 101.26 11 ⇓P **PP 16 21 04.2 -0.4**
MODS Modra-Piesok 101.35 5 *i* P **Pdif 16 17 03.1 +8.1**
MODS Modra-Piesok 101.35 5 *e*PDIFF **Pdif 16 17 03.1 +8.1**
KBL Kabul 101.42 47 IAMs_20 IAMs_20 17 02 31.7
comp=Z,6µm,20.0s
KBL Kabul 101.42 47 P **Pdif 16 16 55.9 0.0**
VYHS Vyhne 101.56 6 *i* P **Pdif 16 17 05.3 +9.4**
VYHS *e* 16 21 03.4
CKRC Cesky Krumlov 101.66 3 *e*PDIFF **Pdif 16 17 10.0 +14**
CKRC *e*PP **PP 16 21 03.4 -4.1**
CKRC *e*SS SS 16 35 31.1 -9.4
GERES GERESS Array B 101.67 3 PP **PP 16 21 03.6 -4.0**
comp=Z,11nm,1.1s,baz=198,slow=3.8,SNR=9.3
TBI Tubuai 101.68 200 *e*P **Pdif 16 16 57.1 -0.2**
comp=Z,588nm,31.5s
TBI Tubuai 101.68 200 *e*PP **PP 16 21 03.8 -2.8**
comp=Z,3µm,32.0s
TBI *e*S **Sdif 16 28 41.1 +2.6**
comp=Z,13µm,37.8s
TBI *e*SS **SS 16 35 40.3 +1.5**
comp=Z,18µm,33.8s
TBI Tubuai 101.68 200 *e*LQ LQ 16 45 48.5
comp=Z,66µm,40.5s
TBI *e*LR LR 16 49 59.4
comp=Z,13µm,35.2s
TBI *e*LR LR 16 50 02.8
comp=Z,66µm,33.8s
JAVC Velka Javorina 101.86 5 *e*PDIFF **Pdif 16 16 59.1 +1.8**
JAVC *e*PP **PP 16 21 05.3 -3.7**
KHC Kasperske Hory 101.95 3 *e*PDIFF **Pdif 16 16 58.0 +0.3**
KHC *e*PP **PP 16 21 06.4 -3.3**
KHC *e*SS SS 16 35 33.7 -11
KHC AMS AMS 17 04 20.0
comp=Z,12µm,19.0s
KHC Kasperske Hory 101.95 3 *i* P **Pdif 16 16 58.0 +0.3**
KHC *e* 16 21 06.4
KHC MLR MLR
comp=Z,12µm,19.0s
ERBR Yeremizino-Bor 101.97 22 *i* P **Pdif 16 16 54.5 -3.3**
ERBR *i* 16 21 16.9
ERBR *e* 16 27 33.5
ERBR pmax pmax
comp=Z,77nm,1.9s
KRUC Moravsky 101.99 5 *e*PDIFF **Pdif 16 16 59.5 +1.7**
KRUC *e* 16 17 13.6
KRUC *e*PP **PP 16 21 06.7 -3.2**
CRVS Cervenica-Dubn 102.17 8 *i* P **Pdif 16 17 11.6 +13**
CRVS *e* 16 21 10.3
TREC Trest 102.18 4 *e*PP **PP 16 21 06.4 -5.0**
TREC *e*SS SS 16 35 40.4 -7.3
TREC AMS AMS 17 00 50.0
comp=Z,10µm,20.9s
VRAC Vranov 102.25 5 ⇑P **PP 16 21 10.3 -1.6**
VRAC Vranov 102.25 5 *e*PDIFF **Pdif 16 17 00.0 +1.1**
VRAC *e* 16 17 14.0
VRAC *e*PP **PP 16 21 08.3 -3.5**
LANS Liptovska Anna 102.26 7 *i* P **Pdif 16 17 09.2 +10**
LANS *e* 16 21 08.7
KOLS Kolonicke sedl 102.27 9 *e*PP **PP 16 21 10.2 -1.8**
ZVC Zvikov 102.28 3 *e*PP **PP 16 21 06.4 -5.7**
ZVC AMS AMS 17 00 50.0
comp=Z,10µm,21.4s
SMLA Simla 102.35 54 *e*P **Pdif 16 17 00.0 +0.2**
MAUC Maruska 102.37 6 *e*PP PP 16 20 54.5 -18
MAUC *e*SS SS 16 35 40.5 -10
MAUC AMS AMS 17 03 20.0
comp=Z,15µm,20.0s
DZM Mont Dzumac 102.46 158 IAMs_20 IAMs_20 16 56 42.4
comp=Z,12µm,22.0s
DZM Mont Dzumac 102.46 158 *e*P **Pdif 16 16 59.0 -1.9**
comp=Z,70nm,1.5s
DZM Mont Dzumac 102.46 158 *e*PP **PP 16 21 10.6 -2.0**
comp=Z,1µm,26.6s
DZM Mont Dzumac 102.46 158 *e*SS SS 16 35 52.3 +2.3
comp=Z,15µm,29.1s
DZM Mont Dzumac 102.46 158 *e*LQ LQ 16 46 10.8
comp=Z,27µm,37.0s
GRF Grafenberg Arr 102.47 1 *e*PP **PP 16 21 06.6 -6.9**
GRF *e*L L 17 03 04.6
comp=Z,14µm,21.2s
NIL Nilore 102.56 50 P **Pdif 16 17 01.2 +0.4**
MTDJ Mount Denham 102.65 283 IAMs_20 IAMs_20 16 58 23.9
comp=Z,6µm,22.0s
STHS Stebnicka Huta 102.66 8 *e*PP **PP 16 21 10.6 -4.4**
MORC Moravsky Berou 102.76 5 IAMs_20 IAMs_20 17 06 21.6
comp=Z,8µm,21.0s
MORC Moravsky Berou 102.76 5 *e*PDIFF **Pdif 16 17 03.8 +2.5**
MORC *e* 16 17 17.4
MORC *e*PP **PP 16 21 10.9 -4.9**
GOPC GO Pecny, Ondr 102.77 3 *e*PP **PP 16 21 10.8 -5.0**
GOPC *e*SS SS 16 35 37.8 -18
GOPC AMS AMS 17 03 10.0
comp=Z,13µm,18.5s
PRU Pruhonice 102.84 3 *e*PP **PP 16 21 10.8 -5.5**
PRU *e*SS SS 16 35 36.1 -21
PRU AMS AMS 17 01 30.0
comp=Z,10µm,21.4s
DHRM DHARAMSHALA 102.84 53 *e*P **Pdif 16 17 03.7 +1.4**
OKC Ostrava-Krasne 102.86 6 *e*PP PP 16 21 03.4 -13
OKC *e*SS SS 16 35 44.2 -13
OKC AMS AMS 17 06 50.0
comp=Z,8µm,21.0s
LUWI Luwuk 102.89 110 IAMs_20 IAMs_20 16 56 23.3
comp=Z,8µm,20.0s
PRA Prague 102.92 3 *e*PP **PP 16 21 09.3 -7.5**
PRA *e*SS SS 16 35 47.8 -10
PRA AMS AMS 17 03 10.0
comp=Z,9µm,19.3s
BOAB BOACO BROADBAND 102.97 273 IAMs_20 IAMs_20 17 04 07.6
comp=Z,6µm,19.0s
KRLC Kraliky 103.02 5 *e*PP **PP 16 21 10.8 -6.9**
KRLC *e*SS SS 16 35 50.8 -8.5
KRLC AMS AMS 17 06 50.0
comp=Z,7µm,20.5s
NKC Novy Kostel 103.03 2 *e*PP **PP 16 21 15.3 -2.4**
NKC *e*SS SS 16 36 00.3 +1.0
NKC AMS AMS 17 04 40.0
comp=Z,9µm,18.8s
DPC Dobruska-Polom 103.27 4 *e*PP **PP 16 21 18.3 -1.3**
DPC *e*SS SS 16 35 47.3 -15
DPC AMS AMS 17 05 50.0
comp=Z,8µm,20.3s
LVV L'vov 103.31 10 *e*P **Pdif 16 17 02.7 -0.9**
LVV *e* 16 21 17.3
LVV *e* 16 27 37.2
LVV *e*S **Sdif 16 28 44.3 -6.2**
LVV *e*SS **SS 16 36 01.5 -1.7**
LVV MLR MLR
comp=Z,7µm,21.0s
PVCC Panska Ves 103.38 3 *e*PP **PP 16 21 16.8 -3.5**
PVCC *e*SS SS 16 36 02.4 -1.7
PVCC AMS AMS 17 03 20.0
comp=Z,10µm,18.9s
RICC Richard 103.38 3 *e*PP **PP 16 21 13.8 -6.5**
RICC *e*SS SS 16 35 56.0 -8.1
RICC AMS AMS 17 04 10.0
comp=Z,6µm,18.8s
UPC Upice 103.42 4 *e*PP **PP 16 21 13.8 -6.8**
UPC *e*SS SS 16 35 56.9 -7.7
UPC AMS AMS 16 59 40.0
comp=Z,11µm,23.1s
KOUNC Koumac, New Ca 103.42 156 IAMs_20 IAMs_20 16 58 52.7
comp=Z,9µm,22.0s
HSKC Hora Svate Kat 103.42 3 *e*PP **PKiKP 16 21 21.2 -1.7**
HSKC *e*SS SS 16 35 58.5 -6.3
HSKC AMS AMS 17 04 20.0
comp=Z,9µm,17.8s
MOX Moxa 103.42 1 *e*L L 17 04 09.0
comp=Z,9µm,19.0s
TOLI2 Tolitoli 103.50 107 IAMs_20 IAMs_20 16 55 52.5
comp=Z,7µm,22.0s
BRG Berggiesshubel 103.70 3 SP SP 16 30 38.0 +7.0
BRG Berggiesshubel 103.70 3 SS SS 16 36 06.0 -2.5
BRG Amp 17 10 59.0
comp=E,3.7nm,17.2s
BRG Amp 17 11 03.0
comp=Z,8.7nm,17.2s
BRG Amp 17 11 05.0
comp=N,2.4nm,14.8s
LIFNC LIFOU 103.89 159 IAMs_20 IAMs_20 17 03 20.2
comp=Z,8µm,18.0s
CLL Collm 104.11 2 IAMs_20 IAMs_20 17 03 48.2
comp=Z,9µm,20.0s
CLL Collm 104.11 2 *e*P **Pdif 16 17 18.0 +11**
CLL *e* 16 21 22.0
CLL *e* 16 27 52.0
CLL *e*S **Sdif 16 29 01.0 +4.0**
CMAR Chiang Mai Arr 104.19 78 Pdiff **Pdif 16 17 06.5 -1.9**
comp=Z,0.5nm,0.9s,baz=232,slow=3.5,SNR=5.6
CMAR PP PKiKP 16 21 14.4 -11
comp=Z,1.4nm,1.0s,baz=232,slow=5.9,SNR=4.7
CMAR PKKP **PKKPbc 16 32 58.8 +4.5**
comp=Z,0.7nm,0.7s,baz=354,slow=3.1,SNR=6.9
CHTO Chiang Mai 104.46 78 P **Pdif 16 17 10.5 +0.9**
CHTO Chiang Mai 104.46 78 P **Pdif 16 17 12.3 +2.7**
CMMT Chiang Mai 104.47 78 P **Pdif 16 17 12.3 +2.7**
KIEV Kiev 104.78 13 ⇑P **PKiKP 16 21 25.2 -0.1**
KIEV Kiev 104.78 13 IAMs_20 IAMs_20 17 06 18.8
comp=Z,10µm,20.0s
AKASG Malin Array Be 104.79 13 PP **PKiKP 16 21 21.1 -4.1**
comp=Z,7.5nm,1.1s,baz=202,slow=7.0,SNR=9.7
AKASG PKKP **PKKPdf 16 33 03.2 -1.1**
comp=Z,0.2nm,0.4s,baz=296,slow=0.3,SNR=1.2
KKM Kota Kinabalu 104.79 100 IAMs_20 IAMs_20 17 00 06.8
comp=Z,10µm,20.0s
RAR Rarotonga 105.39 190 IAMs_20 IAMs_20 17 06 53.6
comp=Z,6µm,19.0s
UBPT Khong Chiam 105.60 85 IAMs_20 IAMs_20 17 00 17.3
comp=Z,8µm,19.0s
PPT2 Papeete2 107.29 201 *e*P **Pdif 16 17 17.3 -5.1**
comp=Z,159nm,29.2s
PPT2 Papeete2 107.29 201 *e*S **Sdif 16 29 24.7 -0.9**
comp=Z,4µm,33.2s
PPT2 *e*SS **SS 16 37 04.5 +8.4**
comp=Z,7µm,31.0s
PPT2 Papeete2 107.29 201 *e*LQ LQ 16 47 51.5
comp=Z,22µm,49.5s
PPT2 *e*LR LR 16 52 37.2
comp=Z,7µm,35.2s
PPT2 *e*LR LR 16 52 54.6
comp=Z,11µm,30.2s
RGN Rugen 107.36 2 IAMs_20 IAMs_20 17 05 14.2
comp=Z,11µm,22.0s
SUW Suwalki 107.38 8 IAMs_20 IAMs_20 17 07 13.4
comp=Z,8µm,19.0s
NIUE Niue 108.09 181 IAMs_20 IAMs_20 17 05 26.9
comp=Z,6µm,20.0s
CHM Chimkent 108.20 43 *e*PKiKP **PKiKP 16 21 31.1 -0.9**
baz=42
CHM *e*PP **PP 16 21 53.7 -2.4**
baz=42
MNK Minsk 108.35 11 *i* P **Pdif 16 17 29.6 +3.7**
MNK *i* 16 21 59.6
MNK *i* PPP PPP 16 24 16.2
MNK *i* 16 27 59.1
MNK *i* SSS SSS 16 41 10.0
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK MLR MLR
comp=N,9µm,20.0s
MNK MLR MLR
comp=Z,10µm,20.0s
MNK MLR MLR
comp=E,2µm,20.0s
LSA Lhasa 108.47 65 IAMs_20 IAMs_20 17 02 24.9
comp=Z,7µm,19.0s
NACGM Naroch 108.62 10 PP **PP 16 21 58.7 -0.2**
baz=191
KSH Kashi 108.63 48 Pdif **Pdif 16 17 31.5 +3.8**
KSH PP **PP 16 22 00.3 +0.9**
KSH SS SS 16 37 13.5 -2.8
KSH AMB AMB
comp=Z,480nm,10.8s
KSH LR LR
comp=Z,5µm,19.3s
KSH LR LR
comp=Z,7µm,18.6s
KSH LR LR
comp=Z,11µm,20.1s
CAMR Camarioca 108.65 284 IAMs_20 IAMs_20 17 04 43.9
comp=Z,6µm,20.0s
PABE Paberze 108.93 9 IAMs_20 IAMs_20 17 09 47.5
comp=Z,9µm,21.0s
TNCH TengChong 109.02 74 Pdif **Pdif 16 17 30.5 +0.6**
TNCH S **Sdif 16 29 32.5 -7.2**
TNCH SS **SS 16 37 24.5 +2.6**
TNCH AMB AMB
comp=Z,760nm,4.9s
TNCH LR LR
comp=Z,2µm,20.3s
TNCH LR LR
comp=Z,4µm,20.2s
TNCH LR LR
comp=Z,9µm,21.0s
OBN Obninsk 110.18 16 *i* PKiKP **PKiKP 16 21 39.2 +4.1**
OBN *i* SS SS 16 37 36.7 +0.4
OBN *i* SSS SSS 16 41 38.5
OBN pmax pmax
comp=Z,11nm,1.5s
OBN MLR MLR
comp=Z,10µm,21.0s
061Z Ochoppi 110.53 286 IAMs_20 IAMs_20 17 04 03.6
comp=Z,5µm,22.0s
FRU1 Bishkek 110.71 46 IAMs_20 IAMs_20 17 07 59.2
comp=Z,9µm,20.0s
MOS Moscow 110.95 17 *i* PKiKP PKiKP 16 21 46.8 +10
MOS *e* 16 22 13.4
MOS *e* 16 28 20.1
MOS *e*PS **PS 16 31 44.2 -1.6**
MOS MLR MLR
comp=Z,7µm,21.0s
AKTO Aktyubinsk 110.98 31 PKKPab PKKPab 16 32 43.5 +2.5
comp=Z,4.2nm,1.2s,baz=32,slow=4.0,SNR=3.7
QIZ Qiongzhong 111.13 86 Pdif **Pdif 16 17 37.0 -2.2**
QIZ PP **PP 16 22 15.0 -2.4**
QIZ SS SS 16 37 51.3 +1.6
QIZ LR LR
comp=Z,7µm,17.7s
QIZ LR LR
comp=Z,5µm,18.5s
QIZ LR LR
comp=Z,8µm,17.7s
QIZ Qiongzhong 111.13 86 IAMs_20 IAMs_20 17 03 30.8
comp=Z,9µm,18.0s
KMI Kunming 111.55 77 ⇑Pdif **Pdif 16 17 37.0 -4.2**
TNSS Tian-Shan 111.90 47 *e*PKiKP **PKiKP 16 21 37.8 -1.7**

baz=47
TNSS Tian-Shan 111.90 47 *i* PKIKP **PKiKP** **16 21 37.7 -1.7**
PZH PanZhiHua 112.02 75 PKP **PKiKP** **16 21 37.5 -2.3**
PZH PP **PP** **16 22 24.5 +0.5**
PZH SKKS 16 29 21.0
PZH AMB AMB
comp=Z,650nm,9.9s
PZH LR LR
comp=Z,6μm,20.8s
PZH LR LR
comp=Z,5μm,19.8s
PZH LR LR
comp=Z,6μm,21.8s
BLS5 Blasjo 112.24 358 *e*SP SP 16 31 56.3 +0.2
BLS5 IVMs_BB IVMs_BB 17 07 48.5
comp=Z,6μm,4.1s
KONO Kongsberg 112.44 0 *e*PS PS 16 31 59.0 -0.3
KONO *e*SS SS 16 38 07.9 +1.6
KONO IVMs_BB IVMs_BB 17 02 34.2
comp=Z,5μm,5.4s
DWPF Disney Wildern 112.54 287 IAMs_20 IAMs_20 17 04 04.7
comp=Z,7μm,22.0s
CHKK Chushkaly 112.57 46 *e*PKiKP **PKiKP** **16 21 38.8 -1.4**
baz=46
CHKK Chushkaly 112.57 46 *i* PKIKP **PKiKP** **16 21 38.7 -1.4**
ODD1 Odda 112.72 358 *e*SP SP 16 31 58.7 -1.8
ODD1 *e*SS **SS** **16 38 09.6 -0.6**
ODD1 IVMs_BB IVMs_BB 17 05 52.2
comp=Z,7μm,4.6s
OSL Oslo 112.73 1 *e*SP SP 16 32 01.3 +0.8
OSL *e*SS **SS** **16 38 12.7 +2.5**
OSL IVMs_BB IVMs_BB 17 01 24.6
comp=Z,6μm,4.7s
HNR Honiara 112.76 148 IAMs_20 IAMs_20 17 05 53.2
comp=Z,7μm,20.0s
HFS Hagfors 112.97 2 PP **PP** **16 22 27.0 -3.2**
comp=Z,7.1nm,0.9s,baz=208,slow=12,SNR=3.6
KPKS Kokpek 113.01 48 *e*PKiKP **PKiKP** **16 21 39.7 -1.5**
baz=48
KPKS Kokpek 113.01 48 *i* PKIKP **PKiKP** **16 21 39.6 -1.5**
TAOE Nuku Hiva Isla 113.08 213 *e*S SKKSac 16 29 17.8 -16
comp=Z,1μm,31.6s
TAOE *e*SS **SS** **16 38 12.5 -1.6**
comp=Z,3μm,30.0s
TAOE Nuku Hiva Isla 113.08 213 *e*LQ LQ 16 49 47.6
comp=Z,5μm,32.4s
TAOE *e*LR LR 16 55 22.7
comp=Z,7μm,31.4s
AFI Afiamalu 113.22 179 IAMs_20 IAMs_20 17 08 57.9
comp=Z,4μm,21.0s
BER Bergen 113.22 358 *e*PS PS 16 32 06.2 -0.2
BER *e*SS SS 16 38 18.3 +1.6
BER IVMs_BB IVMs_BB 16 59 13.6
comp=Z,7μm,4.5s
SKAR Skarslia 113.47 359 *e*SP SP 16 32 10.5 +3.1
SKAR *e*SS **SS** **16 38 21.9 +1.7**
SKAR IVMs_BB IVMs_BB 17 08 07.4
comp=Z,7μm,22.2s
NC602 NORSAR Array S 113.54 1 *e*SP SP 16 32 08.6 +0.7
NC602 *e*SS **SS** **16 38 22.4 +1.5**
NC602 IVMs_BB IVMs_BB 16 57 49.2
comp=Z,4μm,17.5s
NB2 NORSAR Subarra 113.84 1 P **PP** **16 22 31.0 -5.4**
comp=Z,18nm,1.4s,baz=158,slow=6.9
NOA NORSAR Array B 113.84 1 PP **PP** **16 22 32.3 -4.1**
comp=Z,4.4nm,1.0s,baz=185,slow=6.3,SNR=6.6
NOA PKKP PKKPdf 16 32 38.3 -9.1
comp=Z,2.2nm,0.9s,baz=285,slow=4.8,SNR=3.5
SUE Sulen 113.91 357 *e*SP SP 16 32 11.9 +0.6
SUE *e*SS **SS** **16 38 25.2 -0.6**
SUE IVMs_BB IVMs_BB 17 00 35.2
comp=Z,11μm,5.3s
HYA Hoyanger 113.99 358 *e*SP SP 16 32 12.6 +0.6
HYA *e*SS **SS** **16 38 25.3 -1.5**
HYA IVMs_BB IVMs_BB 17 00 00.7
comp=Z,8μm,5.1s
TDK Taldyqorghan 114.10 46 *e*PKP PKPdf 16 21 42.2 -0.8
baz=46
TDK *e*PP **PP** **16 22 36.0 -2.5**
baz=46
TDK LR LR 17 11 51.4
comp=Z,7μm,18.6s,baz=46
TDK Taldyqorghan 114.10 46 *e*PKIKP PKPdf 16 21 42.2 -0.8
TDK *e* 16 22 35.9
656A Willston 114.12 287 IAMs_20 IAMs_20 17 04 50.9
comp=Z,5μm,22.0s
MANU Manus Island 114.70 132 IAMs_20 IAMs_20 17 04 27.8
comp=Z,8μm,22.0s
TLIG Tlapa 114.72 266 IAMs_20 IAMs_20 17 09 39.0
comp=Z,5μm,19.0s
RABL Rabaul 114.80 138 IAMs_20 IAMs_20 17 08 56.5
comp=Z,6μm,19.0s
DOMB Dombas 114.84 360 *e*SP SP 16 32 21.1 +1.3
DOMB *e*SS **SS** **16 38 38.6 +0.5**
DOMB IVMs_BB IVMs_BB 17 08 48.1
comp=Z,8μm,22.4s
GYA Guiyang 114.87 79 PKP **PKiKP** **16 21 47.8 +2.5**
GYA PP **PP** **16 22 49.0 +4.8**
GYA SKKS 16 29 43.8
GYA AMB AMB
comp=Z,960nm,14.6s
GYA LR LR
comp=Z,4μm,16.5s
GYA LR LR
comp=Z,3μm,17.2s
GYA LR LR
comp=Z,6μm,17.0s
FINES FINESS Array B 114.99 9 PKP PKPdf 16 21 43.2 -0.9
comp=Z,3.7nm,1.0s,baz=132,slow=2.1,SNR=2.1
FINES PP **PP** **16 22 41.4 -3.0**
comp=Z,6.5nm,1.0s,baz=186,slow=5.6,SNR=2.3
V61A Roper 115.57 296 IAMs_20 IAMs_20 17 02 44.0
comp=Z,4μm,21.0s
BRZS Berezniki 115.70 40 *e*PKP **PKPdf** **16 21 44.5 -1.5**
baz=40
BRZS *e*PP **PP** **16 22 47.5 -2.3**
baz=40
BRZS Berezniki 115.70 40 *e*PKIKP **PKPdf** **16 21 44.4 -1.5**
BRZS *e* 16 22 47.4
KLMR Klimovskoe 116.13 16 *e*PKIKP **PKPdf** **16 21 44.9 -1.5**
KLMR PS PKKPab 16 32 27.0 +9.2
KLMR *e*SP SP 16 32 28.5 -3.1
KLMR pmax pmax
comp=Z,33nm,1.9s
TIGA Tifton 116.26 288 IAMs_20 IAMs_20 17 10 17.6
comp=Z,4μm,20.0s
GZH Guangzhou 116.32 86 ⇓PKP **PKiKP** **16 21 49.0 +1.0**
GZH SS SS 16 39 09.8 +11
GZH LR LR
comp=Z,2μm,14.9s
GZH LR LR
comp=Z,2μm,17.4s
ARU Arti 116.37 28 *i* PKIKP **PKPdf** **16 21 46.1 -0.9**
ARU pmax pmax
comp=Z,10.0nm,1.1s
ARU MLR MLR
comp=Z,14μm,19.0s
ARU Arti 116.37 28 PKP **PKPdf** **16 21 45.9 -1.0**
comp=Z,1.0nm,0.3s,baz=56,slow=3.6,SNR=1.7
ARU PKKPab **PKKPab** **16 32 19.0 +1.8**
comp=Z,1.2nm,0.3s,baz=349,slow=5.2,SNR=1.6
UNM Universidad Na 116.44 267 IAMs_20 IAMs_20 17 06 18.7
comp=Z,5μm,21.0s
CD2 Chengdu 116.48 73 PKP **PKPdf** **16 21 48.0 -0.1**
CD2 SS SS 16 39 04.5 +3.9
CD2 LR LR
comp=Z,2μm,20.4s
CD2 LR LR
comp=Z,2μm,20.4s
CD2 LR LR
comp=Z,9μm,20.0s
DRLN Deer Lake 116.69 318 IAMs_20 IAMs_20 17 03 10.2
comp=Z,9μm,21.0s
M65A Busby, Falmout 116.78 304 IAMs_20 IAMs_20 17 04 35.5
comp=Z,5μm,20.0s
R61A Willards 116.79 299 IAMs_20 IAMs_20 17 02 27.1
comp=Z,5μm,22.0s
451A Vernon 116.90 286 IAMs_20 IAMs_20 17 08 00.5
comp=Z,5μm,22.0s
352A Blakely 117.06 287 IAMs_20 IAMs_20 17 06 52.8
comp=Z,7μm,22.0s
MAKZ Makanchi 117.07 47 PKPdf **PKPdf** **16 21 46.5 -2.2**
MAKZ Makanchi 117.07 47 PKIKP **PKPdf** **16 21 46.5 -2.2**
MAKZ MLR MLR
comp=Z,10μm,21.0s
L64A Middleborough 117.16 304 IAMs_20 IAMs_20 17 06 48.4
comp=Z,6μm,19.0s
MK31 Makanchi Array 117.20 48 *i* PKIKP **PKPdf** **16 21 47.6 -1.4**
MKAR Makanchi Array 117.20 48 PKPdf **PKPdf** **16 21 47.8 -1.2**
MKAR Makanchi Array 117.20 48 PKP **PKPdf** **16 21 48.2 -0.8**
comp=Z,4.3nm,0.9s,baz=257,slow=1.7,SNR=16
MKAR PKKPab **PKKPab** **16 32 17.3 +2.9**
comp=Z,2.1nm,1.1s,baz=45,slow=3.6,SNR=5.8
LMN Caledonia Moun 117.21 311 IAMs_20 IAMs_20 17 01 53.6
comp=Z,4μm,22.0s
BRVK Borovoye 117.29 36 PKPdf **PKPdf** **16 21 47.9 -1.0**
BRVK Borovoye 117.29 36 *i* PKIKP **PKPdf** **16 21 48.5 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK MLR MLR
comp=Z,11μm,21.0s
SVE Sverdlovsk 117.30 29 *i* PKIKP **PKiKP** **16 21 49.8 +1.0**
SVE *e*SS SS 16 39 22.3 +12
SVE pmax pmax
comp=Z,18nm,1.4s
SVE MLR MLR
comp=E,13μm,21.0s
SVE MLR MLR
comp=Z,22μm,21.0s
SVE MLR MLR
comp=N,11μm,21.0s
BVAR Borovoye Array 117.31 36 PKIKP **PKPdf** **16 21 48.0 -0.9**
BVAR Borovoye Array 117.31 36 PKP **PKPdf** **16 21 48.0 -0.9**
comp=N,3.9nm,0.8s,baz=229,slow=1.4,SNR=16
BVAR PKKPab **PKKPab** **16 32 15.8 +2.4**
comp=N,3.2nm,0.8s,baz=24,slow=3.2,SNR=8.7
NSS Namsos 117.35 1 *e*PKPdf **PKiKP** **16 21 49.3 +0.7**
NSS *e*SP SP 16 32 43.3 +0.9
NSS *e*SS **SS** **16 39 11.3 +0.5**
NSS IVMs_BB IVMs_BB 16 59 30.3
comp=Z,5μm,47.1s
M63A Gales Ferry 117.37 303 IAMs_20 IAMs_20 17 05 39.0
comp=Z,5μm,21.0s
WMQ Urumqi 117.46 53 *e*PKP **PKPdf** **16 21 49.3 -0.3**
WMQ PP **PP** **16 23 02.0 -0.2**
WMQ SS SS 16 39 15.0 +1.9
WMQ AMB AMB
comp=Z,780nm,4.7s
WMQ LR LR
comp=Z,11μm,18.9s
WMQ LR LR
comp=Z,7μm,19.7s
WMQ LR LR
comp=Z,9μm,23.9s
WES Weston 117.73 304 IAMs_20 IAMs_20 17 07 13.6
comp=Z,5μm,19.0s
N62A Naumsett State 117.74 302 IAMs_20 IAMs_20 17 02 60.0
comp=Z,4μm,22.0s
YLE Yale 117.75 302 IAMs_20 IAMs_20 17 06 19.2
comp=Z,4μm,20.0s
CBN Corbin Frederi 117.78 297 IAMs_20 IAMs_20 17 05 59.4
comp=Z,4μm,22.0s
CBN Corbin Frederi 117.78 297 PKiKP **PKPdf** **16 21 50.2 -0.1**
baz=137
152A Waverly Hall 117.82 288 IAMs_20 IAMs_20 17 12 18.7
comp=Z,4μm,18.0s
WSPT Westport, CT 117.84 302 IAMs_20 IAMs_20 17 06 32.8
comp=Z,5μm,22.0s
MOIG Morelia 117.92 266 IAMs_20 IAMs_20 17 05 23.7
comp=Z,4μm,22.0s
HRV Adam Dziewonsk 117.94 304 IAMs_20 IAMs_20 17 07 30.1
comp=Z,4μm,19.0s
HRV Adam Dziewonsk 117.94 304 PKiKP **PKPdf** **16 21 50.5 0.0**
baz=138
PAL Palisades 118.02 302 PKiKP **PKPdf** **16 21 50.6 0.0**
baz=137
BRAL Brewton 118.06 285 IAMs_20 IAMs_20 17 08 49.3
comp=Z,4μm,21.0s
BRAL Brewton 118.06 285 PKiKP **PKiKP** **16 21 51.4 +0.3**
baz=137
BRNJ Basking Ridge 118.12 301 IAMs_20 IAMs_20 17 11 57.2
comp=Z,3μm,19.0s
250A Grady 118.20 286 IAMs_20 IAMs_20 17 07 41.0
comp=Z,7μm,22.0s
KSCT Kent School, K 118.33 302 IAMs_20 IAMs_20 17 06 46.6
comp=Z,6μm,20.0s
K62A Royalston 118.39 304 IAMs_20 IAMs_20 17 07 52.1
comp=Z,5μm,19.0s
L61B Northampton 118.46 303 IAMs_20 IAMs_20 17 03 59.9
comp=Z,5μm,22.0s
L61B Northampton 118.46 303 PKiKP **PKiKP** **16 21 52.4 +0.9**
baz=137
WVL Waterville 118.53 307 IAMs_20 IAMs_20 17 03 54.5
comp=Z,6μm,20.0s
KURBB Kurchatov Arra 118.53 43 PKP **PKPdf** **16 21 50.0 -1.3**
comp=Z,1.6nm,0.8s,baz=227,slow=2.6,SNR=8.4
KURBB PKKPab **PKKPab** **16 32 10.8 +2.5**
comp=Z,4.1nm,0.9s,baz=36,slow=4.2,SNR=12
I63A Otisfield 118.59 306 IAMs_20 IAMs_20 17 05 44.4
comp=Z,5μm,19.0s
KURK Kurchatov 118.64 43 PKPdf **PKPdf** **16 21 50.4 -1.1**
KURK Kurchatov 118.64 43 *i* PKIKP **PKPdf** **16 21 51.0 -0.5**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK MLR MLR
comp=Z,6μm,18.0s
BLA Blacksburg 118.71 294 PKiKP **PKPdf** **16 21 52.1 -0.1**
baz=137
I62A Tamworth 118.83 305 IAMs_20 IAMs_20 17 05 17.7
comp=Z,5μm,20.0s
ZSN Zaisan 118.85 49 *e*PKP **PKPdf** **16 21 50.4 -1.8**
baz=48
ZSN Zaisan 118.85 49 *e*PKIKP **PKPdf** **16 21 50.3 -1.8**
F64A Sherman 118.86 309 IAMs_20 IAMs_20 17 02 41.3
comp=Z,6μm,22.0s
PKME Peaks-Kenny Pk 118.87 308 PKiKP **PKPdf** **16 21 51.7 -0.4**
baz=138
MOR8 Moi Rana 119.04 2 *e*SP SP 16 32 57.8 0.0
MOR8 *e*SS **SS** **16 39 36.6 +3.9**
MOR8 IVMs_BB IVMs_BB 17 00 44.4
comp=Z,5μm,48.9s
J61A Chester 119.05 304 IAMs_20 IAMs_20 17 08 11.5
comp=Z,6μm,19.0s
P57A Homestead Farm 119.06 298 IAMs_20 IAMs_20 17 06 24.1
comp=Z,4μm,22.0s
SEM Semipalatinsk 119.07 44 *e*PKP **PKPdf** **16 21 51.4 -1.3**
baz=44
SEM *e*PP **PP** **16 23 10.6 -2.8**
baz=44
SEM Semipalatinsk 119.07 44 *e*PKIKP **PKPdf** **16 21 51.4 -1.3**
SEM *e* 16 23 10.6
TRY Troy 119.16 303 IAMs_20 IAMs_20 17 06 52.5
comp=Z,5μm,21.0s
STOK Stokkvaagen 119.17 2 *e*SP SP 16 32 55.8 -3.0
STOK *e*SS **SS** **16 39 33.9 -0.4**
STOK IVMs_BB IVMs_BB 17 00 21.9
comp=Z,5μm,46.9s
HNH Hanover 119.18 305 IAMs_20 IAMs_20 17 07 47.9
comp=Z,5μm,20.0s
H62A Milan 119.26 306 IAMs_20 IAMs_20 17 05 22.9
comp=Z,5μm,20.0s
X51A Calhoun 119.28 289 IAMs_20 IAMs_20 17 09 34.3
comp=Z,5μm,22.0s
PQI Presque Isle 119.31 310 IAMs_20 IAMs_20 17 03 27.0
comp=Z,6μm,21.0s
ENH Enshi 119.36 78 IAMs_20 IAMs_20 17 06 49.8
comp=Z,8μm,20.0s
LBNH Lisbon 119.39 305 IAMs_20 IAMs_20 17 01 26.5
comp=Z,5μm,22.0s
LBNH Lisbon 119.39 305 PKiKP **PKiKP** **16 21 54.2 +0.9**
baz=137
LRAL Lakeview Retre 119.39 287 IAMs_20 IAMs_20 17 08 49.6
comp=Z,5μm,22.0s
LRAL Lakeview Retre 119.39 287 PKiKP **PKPdf** **16 21 53.3 -0.2**
baz=137
L59A Walton 119.47 302 IAMs_20 IAMs_20 17 07 52.7
comp=Z,5μm,22.0s
346A Big Creek Wild 119.63 284 IAMs_20 IAMs_20 17 08 13.9
comp=Z,5μm,22.0s
CPCT Cooper Cave 119.72 290 IAMs_20 IAMs_20 17 07 25.1
comp=Z,4μm,22.0s
SSPA Standing Stone 119.82 299 PKPdf **PKPdf** **16 21 53.0 -1.1**
SSPA Standing Stone 119.82 299 PKiKP **PKiKP** **16 21 55.0 +0.8**
baz=136
VT1 Waterbury 119.86 305 IAMs_20 IAMs_20 17 05 14.8
comp=Z,5μm,21.0s
BINY Binghamton 119.96 301 PKiKP **PKiKP** **16 21 55.3 +0.8**
baz=136
TZTN Tazewell 119.96 292 PKiKP **PKPdf** **16 21 54.6 0.0**
baz=136
E62A Clayton Lake 119.97 309 IAMs_20 IAMs_20 17 03 25.7
comp=Z,7μm,21.0s
D62A Allapoint, All 120.09 309 IAMs_20 IAMs_20 17 03 59.7
comp=Z,7μm,20.0s
Z47A Carrollton 120.13 286 IAMs_20 IAMs_20 17 08 15.0
comp=Z,6μm,22.0s
MCWV Mont Chateau 120.16 297 PKiKP **PKiKP** **16 21 55.3 +0.4**
baz=136
FAUS Fauske 120.28 3 *e*SP SP 16 33 09.3 +0.5
FAUS *e*SS **SKKSdf** **16 39 44.9 -2.3**
FAUS IVMs_BB IVMs_BB 17 01 16.6
comp=Z,5μm,48.0s
146A Union 120.30 285 IAMs_20 IAMs_20 17 09 34.5
comp=Z,6μm,21.0s
LZH Lanzhou 120.30 69 *e*PKP **PKiKP** **16 21 55.8 +0.2**
LZH SKKS 16 30 19.3
LZH SS **SS** **16 39 49.5 -0.7**
LZH AMB AMB
comp=Z,950nm,9.4s
LZH LR LR
comp=Z,5μm,17.6s
LZH LR LR
comp=Z,6μm,19.6s
LZH LR LR
comp=Z,10μm,22.0s
NCB Newcomb 120.34 304 IAMs_20 IAMs_20 17 09 11.6
comp=Z,5μm,20.0s
SWET Sewanee 120.36 289 IAMs_20 IAMs_20 17 08 21.9
comp=Z,4μm,22.0s
R53A Hurricane 120.36 294 IAMs_20 IAMs_20 17 07 58.7
comp=Z,4μm,22.0s
J58A Remsen 120.43 303 IAMs_20 IAMs_20 17 08 00.2
comp=Z,5μm,20.0s
GTA Gaotai 120.45 64 PKP **PKPdf** **16 21 55.3 -0.3**
GTA PP **PP** **16 23 23.0 0.0**
GTA SKKS 16 30 13.8
GTA SS **SKKSdf** **16 39 47.0 +1.5**
GTA AMB AMB
comp=Z,690nm,12.0s
GTA LR LR
comp=Z,4μm,21.8s
GTA LR LR
comp=Z,4μm,22.2s
GTA LR LR
comp=Z,7μm,24.7s
K57A Scipio Center 120.61 301 IAMs_20 IAMs_20 17 04 49.0
comp=Z,4μm,21.0s
FRNY Flat Rock 120.64 305 IAMs_20 IAMs_20 17 08 43.6
comp=Z,4μm,20.0s
STEI Steigen 120.82 2 *e*PKPdf **PKiKP** **16 21 56.0 +0.7**
STEI *e*PP **PP** **16 23 24.6 -0.1**
STEI *e*SP SP 16 33 13.7 +0.1
STEI *e*SS **SS** **16 39 53.7 -1.8**
STEI IVMs_BB IVMs_BB 17 06 35.3
comp=Z,4μm,23.5s
O54A Avella 120.83 297 IAMs_20 IAMs_20 17 08 00.9
comp=Z,5μm,21.0s
J57A Williamstown 120.83 302 IAMs_20 IAMs_20 17 08 32.8
comp=Z,5μm,21.0s
VBMS Vicksburg 120.85 284 PKiKP **PKiKP** **16 21 56.4 -0.1**
baz=136
TPUB Ta-pu 120.87 92 IAMs_20 IAMs_20 17 04 22.9
comp=Z,8μm,22.0s
LONY Lake Ozonia 120.98 304 **PKPdf** **16 21 55.4 -0.9**
LONY IAMs_20 IAMs_20 17 02 25.7
comp=Z,4μm,22.0s
LONY Lake Ozonia 120.98 304 PKiKP **PKiKP** **16 21 56.8 +0.3**
baz=136
LOF Lofoten 120.99 2 *e*PKPdf **PKiKP** **16 21 56.4 +0.8**
LOF *e*PP **PP** **16 23 25.8 -0.1**
LOF *e*SP SP 16 33 15.3 +0.3
LOF *e*SS **SS** **16 40 01.7 +4.1**
LOF IVMs_BB IVMs_BB 17 01 23.0
comp=Z,2μm,22.2s
LMQ La Malbaie 121.02 309 IAMs_20 IAMs_20 17 04 28.5
comp=Z,6μm,20.0s
ZAIG Zacatecas 121.10 267 IAMs_20 IAMs_20 17 06 13.0
comp=Z,4μm,21.0s
MNTQ Montreal, Queb 121.14 305 IAMs_20 IAMs_20 17 08 57.7
comp=Z,5μm,19.0s
J56A Wolcott 121.17 302 IAMs_20 IAMs_20 17 12 30.0
comp=Z,4μm,21.0s
O53A New Philadelph 121.32 296 IAMs_20 IAMs_20 17 08 29.1
comp=Z,4μm,21.0s
O53A New Philadelph 121.32 296 PKiKP **PKPdf** **16 21 56.7 -0.4**
baz=135
P52A Corning 121.39 295 PKiKP **PKPdf** **16 21 57.2 0.0**
baz=135
SSLB Suanglung 121.43 92 IAMs_20 IAMs_20 17 04 18.7
comp=Z,8μm,21.0s
Y45A Yeager Farm, C 121.46 286 IAMs_20 IAMs_20 17 08 59.4
comp=Z,7μm,22.0s
N53A Lisbon 121.51 297 IAMs_20 IAMs_20 17 10 40.2
comp=Z,4μm,19.0s
WBO Williamsburg 121.60 304 IAMs_20 IAMs_20 17 09 49.0
comp=Z,4μm,20.0s
DGZ Jazzator, Alta 121.66 48 *i* PKIKP **PKPdf** **16 21 56.1 -1.5**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
DGZ MLR MLR
comp=Z,12μm,20.0s
APA Apatity 121.71 11 ⇓*i* PKIKP **PKiKP** **16 22 02.8 +5.7**
APA *i* 16 23 34.0
APA *i* 16 29 06.0
APA *i* 16 33 22.0
APA *i* PPS PPS 16 34 50.0
APA *i* SS SS 16 40 13.0 +6.2
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,12μm,23.0s
XAN Xi'an 121.75 74 PKP **PKPdf** **16 21 57.5 -0.7**
XAN SKKS 16 30 23.0
XAN AMB AMB
comp=Z,1μm,8.6s
XAN LR LR
comp=Z,5μm,16.5s
XAN LR LR
comp=Z,8μm,19.7s
XAN LR LR
comp=Z,12μm,19.2s
LDAQ Lac Daran 121.75 309 IAMs_20 IAMs_20 17 05 00.8
comp=Z,5μm,20.0s
OXF Oxford 121.85 286 IAMs_20 IAMs_20 17 10 15.5
comp=Z,5μm,22.0s
OXF Oxford 121.85 286 PKiKP **PKiKP** **16 21 58.7 +0.3**
baz=136
M53A WI Miller and 121.87 298 IAMs_20 IAMs_20 17 09 01.7
comp=Z,4μm,22.0s
M53A WI Miller and 121.87 298 PKiKP **PKiKP** **16 21 58.8 +0.5**
baz=135
ERPA Erie 121.99 299 PKiKP **PKiKP** **16 21 58.5 0.0**
baz=135
WVT Waverly 122.09 289 PKPdf **PKPdf** **16 21 57.2 -1.5**
WVT Waverly 122.09 289 PKiKP **PKiKP** **16 21 58.8 0.0**
baz=135
WVT Waverly 122.09 289 PKIKP **PKPdf** **16 21 57.2 -1.5**
WVT MLR MLR
comp=Z,3μm,18.0s
KTK1 Kautokeino 122.25 6 *e*PKPdf **PKiKP** **16 21 58.1 0.0**
KTK1 *e*PP **PP** **16 23 34.4 -0.2**
KTK1 *e*SP SP 16 33 27.4 +1.0
KTK1 *e*SS **SS** **16 40 14.7 +0.9**
KTK1 IVMs_BB IVMs_BB 17 12 50.5
comp=Z,3μm,22.0s
ACSO Alum Creek Sta 122.27 295 PKiKP **PKiKP** **16 21 59.1 0.0**
baz=135
N51A Ashland 122.42 296 IAMs_20 IAMs_20 17 09 12.2
comp=Z,4μm,22.0s
WHN Wuhan 122.43 81 PKP **PKiKP** **16 22 03.8 +4.1**
WHN PP **PP** **16 23 38.5 +2.1**
DELO Deloro Mine 122.44 302 IAMs_20 IAMs_20 17 09 20.4
comp=Z,5μm,20.0s
MET Memphis--Engin 122.58 286 IAMs_20 IAMs_20 17 10 38.0
comp=Z,5μm,21.0s
JETT Jettan, Norway 122.64 5 *e*PKPdf **PKPdf** **16 21 58.7 0.0**
JETT *e*PS PS 16 33 32.1 +0.6
JETT *e*SS SS 16 40 19.9 +1.1
JETT IVMs_BB IVMs_BB 17 11 29.0
comp=Z,4μm,25.4s
TRO Tromso 122.65 4 *e*PKPdf **PKiKP** **16 21 59.5 +0.6**
TRO *e*PP **PP** **16 23 32.0 -5.2**
TRO *e*SP SP 16 33 30.9 +1.1
TRO *e*SS **SS** **16 40 16.7 -2.1**
TRO IVMs_BB IVMs_BB 17 08 50.2
comp=Z,4μm,26.6s
WCI Wyandotte Cave 122.70 291 PKPdf **PKPdf** **16 21 59.0 -0.8**
WCI Wyandotte Cave 122.70 291 IAMs_20 IAMs_20 17 08 02.8
comp=Z,5μm,22.0s

WCI **Wyandotte Cave** 122.70 291 PKiKP **PKiKP** **16 22 00.6 +0.7**
baz=135
WCI **Wyandotte Cave** 122.70 291 PKiKP **PKPdf** **16 21 59.0 -0.8**
WCI MLR MLR
comp=Z,5μm,22.0s
P49A **Miami Univ. Ec** 122.73 294 PKiKP **PKiKP** **16 22 00.7 +0.7**
baz=134
ARA0 **ARCESS Array S** 122.92 7 *e*PKPdf **PKiKP** **16 22 00.7 +1.3**
ARA0 *e*SP SP 16 33 31.1 -1.1
ARA0 *e*SS **SS** **16 40 21.1 -1.2**
ARA0 IVMs_BB IVMs_BB 17 11 25.3
comp=Z,4μm,31.9s
ARCES **ARCESS Array B** 122.92 7 PKPdf **PKPdf** **16 21 58.9 -0.3**
ARCES **ARCESS Array B** 122.92 7 PKiKP **PKPdf** **16 21 58.9 -0.3**
ARCES **ARCESS Array B** 122.92 7 PKP **PKPdf** **16 21 57.6 -1.6**
comp=Z,14nm,1.1s,baz=336,slow=2.7,SNR=6.2
Z41A **Richland Creek** 122.94 283 IAMs_20 IAMs_20 17 10 03.4
comp=Z,4μm,22.0s
NATX **Nacogdoches** 122.96 280 PKiKP **PKiKP** **16 22 00.6 -0.1**
baz=136
M50A **Fremont** 123.12 296 IAMs_20 IAMs_20 17 07 04.7
comp=Z,4μm,22.0s
GNAR **Gosnell** 123.23 287 IAMs_20 IAMs_20 17 10 31.0
comp=Z,5μm,21.0s
PEBM **Pemiscott Bayo** 123.24 287 IAMs_20 IAMs_20 17 10 32.4
comp=Z,4μm,21.0s
USIN **University of** 123.28 290 IAMs_20 IAMs_20 17 08 46.4
comp=Z,4μm,22.0s
HBAR **Harrisburg** 123.31 286 IAMs_20 IAMs_20 17 11 00.2
comp=Z,5μm,22.0s
833A **Chaparral WMA,** 123.31 274 PKiKP **PKPdf** **16 22 01.1 -0.2**
baz=137
SADO **Sadowa** 123.40 301 IAMs_20 IAMs_20 17 15 03.7
comp=Z,4μm,20.0s
O48B **Farmland** 123.48 294 PKiKP **PKiKP** **16 22 01.5 0.0**
baz=134
ZALV **Zalesovo Beam** 123.59 43 PKP **PKPdf** **16 21 58.8 -2.1**
comp=Z,1.1nm,0.4s,baz=298,slow=3.1,SNR=8.1
ZALV PKKPbc **PKKPbc** **16 31 50.2 +1.6**
comp=Z,3.4nm,0.9s,baz=31,slow=4.0,SNR=9.3
UALR **University of** 123.74 284 IAMs_20 IAMs_20 17 10 45.6
comp=Z,6μm,22.0s
VADS **Vadso** 123.79 8 *e*PKPdf **PKiKP** **16 22 01.4 +0.4**
VADS *e*PP **PP** **16 23 45.7 +0.8**
VADS *e*PS PS 16 33 41.0 -0.6
VADS *e*SS SS 16 40 34.0 +0.8
VADS IVMs_BB IVMs_BB 17 06 46.9
comp=Z,3μm,31.1s
HAMF **Hammerfest** 123.89 6 *e*PKPdf **PKPdf** **16 22 00.9 -0.1**
HAMF *e*SP SP 16 33 40.4 -0.4
HAMF *e*SS **SS** **16 40 31.7 -2.8**
HAMF IVMs_BB IVMs_BB 17 08 37.3
comp=Z,4μm,26.2s
LCAR **Lake Charles** 123.96 286 IAMs_20 IAMs_20 17 11 17.3
comp=Z,5μm,21.0s
SIUC **Southern Illin** 123.99 289 IAMs_20 IAMs_20 17 09 37.1
comp=Z,4μm,22.0s
S44A **Carbondale** 124.00 289 IAMs_20 IAMs_20 17 09 38.3
comp=Z,4μm,22.0s
435B **Jarrell** 124.00 277 PKiKP **PKPdf** **16 22 02.4 -0.1**
baz=136
PBMO **Poplar Bluff** 124.03 287 IAMs_20 IAMs_20 17 15 07.3
comp=Z,4μm,20.0s
OLIL **Olney** 124.06 291 IAMs_20 IAMs_20 17 12 14.0
comp=Z,4μm,22.0s
WHAR **Wooly Hollow** 124.07 285 IAMs_20 IAMs_20 17 12 55.4
comp=Z,5μm,21.0s
AAM **Ann Arbor** 124.07 297 IAMs_20 IAMs_20 17 08 35.9
comp=Z,4μm,22.0s
AAM **Ann Arbor** 124.07 297 PKiKP **PKiKP** **16 22 02.8 +0.2**
baz=133
LYN **LuoYang** 124.18 77 ⇑PKP **PKPdf** **16 22 02.5 -0.2**
LYN sPKP 16 22 07.5
LYN AMB AMB
comp=Z,1μm,5.2s
LYN LR LR
comp=Z,17μm,22.3s
LYN LR LR
comp=Z,11μm,22.0s
LYN LR LR
comp=Z,21μm,24.0s
L48A **N Adams** 124.25 296 IAMs_20 IAMs_20 17 07 09.6
comp=Z,4μm,22.0s
SFIN **Lafayette** 124.64 293 PKiKP **PKiKP** **16 22 03.8 +0.1**
baz=133
SCHQ **Schefferville** 124.68 317 PKP **PKPdf** **16 22 03.1 +0.1**
comp=Z,15nm,0.8s,baz=176,slow=3.2,SNR=11
WHTX **Lake Whitney,** 124.79 278 PKiKP **PKiKP** **16 22 04.3 0.0**
baz=136
JCT **Junction City** 125.11 275 PKiKP **PKPdf** **16 22 04.7 0.0**
baz=136
SLM **Saint Louis** 125.21 289 IAMs_20 IAMs_20 17 10 23.3
comp=Z,4μm,21.0s
L46A **Eue Claire** 125.31 295 IAMs_20 IAMs_20 17 24 37.7
comp=Z,4μm,21.0s
J47A **Sunmer** 125.34 297 IAMs_20 IAMs_20 17 24 06.4
comp=Z,3μm,20.0s
MGMO **Mountain Grove** 125.35 287 IAMs_20 IAMs_20 17 13 43.3
comp=Z,4μm,21.0s
CCM **Cathedral Cave** 125.38 288 PKPdf **PKPdf** **16 22 03.8 -1.1**
CCM **Cathedral Cave** 125.38 288 IAMs_20 IAMs_20 17 09 53.1
comp=Z,4μm,21.0s
CCM **Cathedral Cave** 125.38 288 PKiKP **PKiKP** **16 22 05.3 0.0**
baz=134
CCM **Cathedral Cave** 125.38 288 PKiKP **PKPdf** **16 22 03.8 -1.1**
CCM MLR MLR
comp=Z,4μm,21.0s
P43A **Skaggs, Pawnee** 125.49 291 IAMs_20 IAMs_20 17 10 02.7
comp=Z,6μm,21.0s
Z35A **Perchaven, San** 125.62 280 IAMs_20 IAMs_20 17 12 39.5
comp=Z,5μm,22.0s
HHAR **Hobbs** 125.72 285 IAMs_20 IAMs_20 17 13 03.1
comp=Z,4μm,21.0s
M44A **Midewin, Midew** 125.85 293 IAMs_20 IAMs_20 17 16 49.1
comp=Z,4μm,22.0s
HDIL **Hopedale** 125.98 292 PKiKP **PKPdf** **16 22 06.0 0.0**
baz=133
LOOK **Love County** 126.04 280 IAMs_20 IAMs_20 17 11 59.6
comp=Z,4μm,21.0s
U38A **Gravette** 126.09 284 IAMs_20 IAMs_20 17 13 04.9
comp=Z,5μm,22.0s
NJ2 **Nanjing** 126.20 83 *e*PKP **PKiKP** **16 22 07.0 -0.1**
NJ2 sPKP 16 22 11.3
NJ2 PKS 16 25 41.5
NJ2 SKKS 16 30 56.8
NJ2 AMB AMB
comp=Z,910nm,4.9s
NJ2 LR LR
comp=Z,5μm,17.1s
NJ2 LR LR
comp=Z,2μm,16.1s
NJ2 LR LR
comp=Z,7μm,20.8s
RLO **Rose Lookout** 126.27 284 IAMs_20 IAMs_20 17 14 28.9
comp=Z,6μm,21.0s
GLMI **Grayling** 126.29 298 IAMs_20 IAMs_20 17 07 29.6
comp=Z,4μm,22.0s
GLMI **Grayling** 126.29 298 PKiKP **PKiKP** **16 22 07.1 +0.2**
baz=132
L44A **Lake County Fo** 126.31 294 PKiKP **PKiKP** **16 22 06.8 -0.2**
baz=132
S39A **Bolivar** 126.33 286 IAMs_20 IAMs_20 17 12 28.2
comp=Z,5μm,22.0s
TIY **Taiyuan** 126.35 74 *e*PKP **PKPdf** **16 22 06.8 -0.1**
TIY SKKS 16 30 54.0
TIY SS **SS** **16 41 04.3 -2.4**
TIY LR LR
comp=Z,4μm,23.0s
TIY LR LR
comp=Z,4μm,20.6s
TIY LR LR
comp=Z,4μm,23.0s
ABTX **Abilene, Hawle** 126.54 277 PKiKP **PKPdf** **16 22 07.5 +0.1**
baz=135
TUL3 **Leonard** 126.55 283 IAMs_20 IAMs_20 17 15 40.1
comp=Z,3μm,19.0s
TUL3 **Leonard** 126.55 283 PKiKP **PKPdf** **16 22 06.8 -0.4**
baz=134
TARA **Tarawa** 126.57 159 IAMs_20 IAMs_20 17 08 33.4
comp=Z,6μm,22.0s
TXAR **Lajitas Array** 126.61 271 PKP **PKPdf** **16 22 07.4 -0.3**
comp=Z,24nm,1.1s,baz=151,slow=2.9,SNR=33
TXAR SKKPbc SKKPbc 16 35 26.8 -0.4
comp=Z,1.4nm,1.1s,baz=311,slow=4.7,SNR=4.4
I45A **Fountain** 126.63 297 IAMs_20 IAMs_20 17 12 37.7
comp=Z,4μm,20.0s
K43A **Burlington** 126.89 294 IAMs_20 IAMs_20 17 14 12.6
comp=Z,4μm,21.0s
SSE **Sheshan** 126.92 86 PKP **PKiKP** **16 22 08.8 +0.2**
SSE PP **PP** **16 24 05.5 -0.9**
SSE SS SS 16 41 12.5 -1.1
SSE AMB AMB
comp=Z,310nm,4.6s
SSE LR LR
comp=Z,2μm,20.1s
SSE LR LR
comp=Z,2μm,19.8s
BTO **Baotou** 126.93 69 *e*PKP **PKPdf** **16 22 05.3 -2.6**
BTO PP **PP** **16 24 05.3 -1.3**
BTO SS SS 16 41 13.5 -0.4
BTO LR LR
comp=Z,13μm,20.3s
BTO LR LR
comp=Z,8μm,20.0s
BTO LR LR
comp=Z,17μm,20.9s
N41A **Harden Midland** 126.96 291 IAMs_20 IAMs_20 17 10 46.7
comp=Z,4μm,22.0s
G45A **Suttons Bay** 126.99 298 IAMs_20 IAMs_20 17 08 32.0
comp=Z,3μm,20.0s
E46A **Sault Ste Mari** 127.15 300 IAMs_20 IAMs_20 17 09 03.2
comp=Z,3μm,20.0s
OK052 **Battle Ridge R** 127.20 282 IAMs_20 IAMs_20 17 15 19.3
comp=Z,4μm,21.0s
OK033 **Mehan** 127.31 282 IAMs_20 IAMs_20 17 15 22.4
comp=Z,4μm,21.0s
OK029 **Liberty Lake** 127.45 282 IAMs_20 IAMs_20 17 15 33.0
comp=Z,4μm,21.0s
HNS **HongShan** 127.45 76 ⇓PKP **PKPdf** **16 22 08.8 -0.1**
HNS AMB AMB
comp=Z,680nm,5.6s
HNS LR LR
comp=Z,9μm,20.7s
HNS LR LR
comp=Z,3μm,20.7s
HNS LR LR
comp=Z,11μm,22.0s
WMOK **Wichita Mounta** 127.50 280 **PKPdf** **16 22 06.5 -2.7**
WMOK **Wichita Mounta** 127.50 280 PKiKP **PKPdf** **16 22 09.2 +0.1**
baz=134
WMOK **Wichita Mounta** 127.50 280 PKIKP **PKPdf** **16 22 06.5 -2.7**
WMOK MLR MLR
comp=Z,3μm,22.0s
T35A **Sooner Cattle** 127.66 283 IAMs_20 IAMs_20 17 12 33.5
comp=Z,4μm,22.0s
H43A **Windswept, Lux** 127.75 296 IAMs_20 IAMs_20 17 08 53.2
comp=Z,4μm,22.0s
HHC **Hu-ho-hao-te** 127.96 70 *e*PKP **PKPdf** **16 22 08.5 -1.4**
HHC PP **PP** **16 24 12.0 -1.4**
HHC PKS 16 25 43.0
HHC SKKS 16 31 09.3
HHC SS **SS** **16 41 25.5 -1.3**
HHC AMB AMB
comp=Z,2μm,8.1s
HHC LR LR
comp=Z,10μm,20.0s
HHC LR LR
comp=Z,7μm,19.4s
HHC LR LR
comp=Z,10μm,17.6s
BLOK **Blackwell** 127.97 283 IAMs_20 IAMs_20 17 13 44.6
comp=Z,3μm,21.0s
I42A **Draeger Farm,** 127.99 295 IAMs_20 IAMs_20 17 10 16.7
comp=Z,5μm,22.0s
SFJD **Kangerlussuaq** 128.04 334 PKPdf **PKPdf** **16 22 08.7 -0.3**
SFJD **Kangerlussuaq** 128.04 334 IAMs_20 IAMs_20 17 11 44.1
comp=Z,6μm,21.0s
SFJD **Kangerlussuaq** 128.04 334 PKIKP **PKPdf** **16 22 08.7 -0.3**
SFJD MLR MLR
comp=Z,6μm,21.0s
TIA **Tai'an** 128.06 78 *e*PKP **PKPdf** **16 22 09.5 -0.6**
TIA LR LR
comp=Z,3μm,16.7s
TIA LR LR
comp=Z,2μm,19.1s
TIA LR LR
comp=Z,6μm,21.1s
JFWS **Jewell Farm** 128.09 293 IAMs_20 IAMs_20 17 11 23.3
comp=Z,4μm,22.0s
JFWS **Jewell Farm** 128.09 293 PKiKP **PKPdf** **16 22 09.9 -0.1**
baz=131
JOW **Kunigami** 128.10 95 IAMs_20 IAMs_20 17 08 23.4
comp=Z,6μm,21.0s
CROK **Carrier** 128.24 282 IAMs_20 IAMs_20 17 15 41.0
comp=Z,3μm,20.0s
N38A **Joes South For** 128.37 289 IAMs_20 IAMs_20 17 11 46.0
comp=Z,5μm,22.0s
OK038 **West end E0370** 128.67 281 IAMs_20 IAMs_20 17 16 18.4
comp=Z,4μm,20.0s
OK035 **E0210 Rd and N** 128.81 282 IAMs_20 IAMs_20 17 16 10.0
comp=Z,4μm,21.0s
I40A **Norwalk** 128.93 294 IAMs_20 IAMs_20 17 15 21.6
comp=Z,5μm,22.0s
SCIA **State Center** 129.09 290 IAMs_20 IAMs_20 17 14 06.0
comp=Z,4μm,22.0s
SCIA **State Center** 129.09 290 PKiKP **PKiKP** **16 22 12.6 0.0**
baz=131
KSU1 **Kansas State U** 129.19 285 IAMs_20 IAMs_20 17 13 56.8
comp=Z,4μm,22.0s
KSU1 **Kansas State U** 129.19 285 PKiKP **PKPdf** **16 22 12.4 +0.3**
baz=132
AMTX **Amarillo** 129.33 278 PKiKP **PKPdf** **16 22 13.0 +0.3**
baz=134
MNTX **Cornudas Mount** 129.34 272 PKiKP **PKPdf** **16 22 12.7 0.0**
baz=135
MOY **Mondy** 129.34 54 *e*PKIKP **PKPdf** **16 22 12.4 +0.2**
MOY pmax pmax
comp=Z,158nm,2.5s
MSTX **Muleshoe** 129.35 276 PKiKP **PKPdf** **16 22 12.9 +0.1**
baz=134
COWI **Conover** 129.54 297 IAMs_20 IAMs_20 17 10 05.5
comp=Z,3μm,20.0s
G40A **Rib Lake** 129.58 295 IAMs_20 IAMs_20 17 10 33.8
comp=Z,4μm,22.0s
SONM **Songino Array** 129.65 60 PKP **PKPdf** **16 22 10.1 -2.9**
comp=Z,1.9nm,0.7s,baz=200,slow=2.5,SNR=15
SONM PP **PP** **16 24 24.6 +0.2**
comp=Z,2.0nm,1.0s,baz=251,slow=7.5,SNR=2.7
SONM SKKPbc SKKPbc 16 35 17.7 -0.7
comp=Z,2.5nm,1.1s,baz=64,slow=5.9,SNR=4.6
ZAK **Zakamensk** 129.66 56 *e*PKIKP **PKPdf** **16 22 10.9 -1.9**
ZAK pmax pmax
comp=Z,32nm,1.4s
HOPEN **Hopen** 129.76 5 *e*PKPdf **PKiKP** **16 22 14.4 +1.5**
HOPEN *e*PP **PP** **16 24 22.0 -2.3**
HOPEN *e*SKPdf **SKPdf** **16 25 47.8 +0.7**
HOPEN *e*SS **SS** **16 41 51.6 +4.1**
HOPEN IVMs_BB IVMs_BB 17 07 04.9
comp=Z,3μm,37.7s
SUMG **Summit** 129.76 343 PKPdf **PKPdf** **16 22 12.0 -0.7**
SUMG **Summit** 129.76 343 PKIKP **PKPdf** **16 22 12.0 -0.7**
SUMG MLR MLR
comp=Z,10μm,22.0s
SUMG **Summit** 129.76 343 *i* P **PKPdf** **16 22 12.0 -0.7**
N35A **Tabor** 129.79 288 IAMs_20 IAMs_20 17 13 30.6
comp=Z,5μm,22.0s
D41A **Chassel** 129.84 298 IAMs_20 IAMs_20 17 21 50.5
comp=Z,4μm,22.0s
R32A **Long Quarter,** 129.96 283 IAMs_20 IAMs_20 17 14 04.4
comp=Z,4μm,22.0s
ULN **Ulaanbaatar** 130.02 61 **PKPdf** **16 22 12.9 -0.7**
ULN **Ulaanbaatar** 130.02 61 *i* PKIKP **PKPdf** **16 22 13.4 -0.3**
ULN **Ulaanbaatar** 130.02 61 P **PKPdf** **16 22 13.9 +0.3**
ULN **Ulaanbaatar** 130.02 61 PKP **PKiKP** **16 22 14.6 +0.1**
BJT **Baijiatuau** 130.05 74 IAMs_20 IAMs_20 17 13 17.8
comp=Z,6μm,20.0s
EPT **El Paso** 130.06 271 IAMs_20 IAMs_20 17 14 06.5
comp=Z,4μm,22.0s
BJI **Beijing** 130.07 74 PKP **PKPdf** **16 22 14.0 +0.2**
BJI sPKP 16 22 18.8
BJI SKP 16 25 34.0
BJI AMB AMB
comp=Z,340nm,4.6s
BJI LR LR
comp=Z,760nm,25.3s
BJI LR LR
comp=Z,3μm,22.7s
BJI LR LR
comp=Z,4μm,23.2s
N33A **J Bar K, Exete** 130.75 286 IAMs_20 IAMs_20 17 14 29.1
comp=Z,4μm,22.0s
CBKS **Cedar Bluff** 130.82 283 IAMs_20 IAMs_20 17 14 32.2
comp=Z,5μm,22.0s
CBKS **Cedar Bluff** 130.82 283 PKiKP **PKiKP** **16 22 15.8 -0.4**
baz=131
L34A **Svendsen Farm,** 130.92 288 IAMs_20 IAMs_20 17 12 24.7
comp=Z,5μm,22.0s
SPMN **Marine on St.** 130.98 294 IAMs_20 IAMs_20 17 15 33.9
comp=Z,4μm,20.0s
SPMN **Marine on St.** 130.98 294 PKiKP **PKiKP** **16 22 16.2 -0.1**
baz=129
SPA0 **Spitsbergen Ar** 131.12 2 *e*PKPdf **PKiKP** **16 22 15.9 +0.3**
SPA0 *e*PP **PP** **16 24 32.2 -0.9**
SPA0 *e*SKPdf **SKiKP** **16 25 51.1 -0.2**
SPA0 *e*PS PS 16 34 44.9 -0.8
SPA0 *e*SS **SS** **16 42 04.4 +0.2**
SPITS **Spitsbergen Ar** 131.12 2 PKhKP PKPpre 16 22 09.2
comp=Z,12nm,1.1s,baz=182,slow=4.3,SNR=1.6
E38A **The Farm, Brul** 131.16 296 IAMs_20 IAMs_20 17 11 19.5
comp=Z,3μm,19.0s
IRK **Irkutsk** 131.29 55 *e*PKIKP **PKPdf** **16 22 15.6 -0.1**
IRK *e* 16 24 37.0
IRK pmax pmax
comp=Z,139nm,2.3s
121A **Cookes Peak, D** 131.37 271 IAMs_20 IAMs_20 17 16 02.0
comp=Z,4μm,21.0s
121A **Cookes Peak, D** 131.37 271 PKiKP **PKPdf** **16 22 17.2 +0.4**
baz=135
BGNE **Belgrade** 131.59 287 IAMs_20 IAMs_20 17 14 32.2
comp=Z,4μm,20.0s
BGNE **Belgrade** 131.59 287 PKiKP **PKPdf** **16 22 17.1 +0.4**
baz=130
F36A **Milaca** 131.77 294 IAMs_20 IAMs_20 17 16 57.9
comp=Z,4μm,21.0s
KBS **Kingsbay** 131.81 1 *e*PKPdf **PKiKP** **16 22 18.1 +1.1**
KBS *e*PP **PP** **16 24 37.7 +0.1**
KBS *e*SP SP 16 34 49.0 -0.6
KBS *e*SS **SS** **16 42 12.7 +0.1**
KBS IVMs_BB IVMs_BB 17 06 37.0
comp=Z,3μm,47.0s
Y22D **IRIS PASSCAL I** 131.92 273 IAMs_20 IAMs_20 17 16 54.5
comp=Z,4μm,22.0s
Y22D **IRIS PASSCAL I** 131.92 273 PKiKP **PKPdf** **16 22 18.0 +0.3**
baz=134
Y22F **Passcal Instru** 131.92 273 PKiKP **PKiKP** **16 22 18.4 -0.4**
baz=134
EYMN **Ely** 131.95 297 IAMs_20 IAMs_20 17 12 30.3
comp=Z,4μm,21.0s
EYMN **Ely** 131.95 297 PKiKP **PKiKP** **16 22 18.0 -0.2**
baz=127
ANMO **Albuquerque** 132.23 274 PKPdf **PKPdf** **16 22 17.3 -1.1**
ANMO **Albuquerque** 132.23 274 PKiKP **PKPdf** **16 22 18.6 +0.3**
baz=133
ANMO **Albuquerque** 132.23 274 *i* PKIKP **PKPdf** **16 22 17.8 -0.6**
T25A **Trinidad** 132.48 278 PKiKP **PKPdf** **16 22 19.1 +0.3**
baz=132
XLT **XiLinHaoTe** 132.48 70 *e*PKP **PKiKP** **16 22 19.5 0.0**
XLT SS SS 16 42 23.8 +1.5
XLT AMB AMB
comp=Z,2μm,14.0s
XLT LR LR
comp=Z,440nm,22.1s
XLT LR LR
comp=Z,2μm,21.0s
XLT LR LR
comp=Z,4μm,22.2s
DL2 **Dalian** 132.52 79 PKP **PKPdf** **16 22 18.5 0.0**
DL2 PP **PP** **16 24 49.5 +6.6**
DL2 AMB AMB
comp=Z,1μm,6.5s
DL2 LR LR
comp=Z,4μm,16.4s
DL2 LR LR
comp=Z,3μm,19.9s
DL2 LR LR
comp=Z,5μm,19.0s
KSCO **Kaye Shedlock'** 132.66 281 IAMs_20 IAMs_20 17 17 33.8
comp=Z,5μm,21.0s
KSCO **Kaye Shedlock'** 132.66 281 PKiKP **PKiKP** **16 22 19.8 -0.3**
baz=131
TUC **Tucson** 133.02 268 **PKPdf** **16 22 18.5 -1.3**
TUC **Tucson** 133.02 268 PKiKP **PKiKP** **16 22 20.4 -0.5**
baz=135
TUC **Tucson** 133.02 268 PKIKP **PKPdf** **16 22 18.5 -1.3**
TUC MLR MLR
comp=Z,2μm,20.0s
K30B **Basset** 133.23 287 IAMs_20 IAMs_20 17 15 07.8
comp=Z,6μm,22.0s
F33A **5 Mile Ranch,** 133.29 292 IAMs_20 IAMs_20 17 18 11.1
comp=Z,4μm,21.0s
B35A **Bob, Littlefor** 133.39 297 IAMs_20 IAMs_20 17 14 37.6
comp=Z,4μm,22.0s
SDCO **Great Sand Dun** 133.53 278 IAMs_20 IAMs_20 17 32 36.2
comp=Z,3μm,19.0s
SDCO **Great Sand Dun** 133.53 278 PKiKP **PKPdf** **16 22 21.2 +0.4**
baz=131
OGNE **Ogallala** 133.55 284 IAMs_20 IAMs_20 17 15 50.3
comp=Z,4μm,22.0s
OGNE **Ogallala** 133.55 284 PKiKP **PKiKP** **16 22 21.2 -0.5**
baz=129
SUSD **Miller** 133.94 289 IAMs_20 IAMs_20 17 24 06.5
comp=Z,4μm,22.0s
SUSD **Miller** 133.94 289 PKiKP **PKiKP** **16 22 22.2 -0.1**
baz=128
214A **Organ Pipe Nat** 133.99 266 PKiKP **PKPdf** **16 22 21.9 +0.3**
baz=135
X18A **Snowflake** 134.05 271 IAMs_20 IAMs_20 17 17 44.1
comp=Z,4μm,20.0s
Q24A **Divide** 134.12 279 IAMs_20 IAMs_20 17 30 28.6
comp=Z,3μm,20.0s
Q24A **Divide** 134.12 279 PKiKP **PKPdf** **16 22 22.3 +0.4**
baz=130
W18A **Petrified Fore** 134.32 272 IAMs_20 IAMs_20 17 19 43.2
comp=Z,4μm,21.0s
S22A **4UR Ranch, Cre** 134.33 277 PKiKP **PKiKP** **16 22 23.0 -0.7**
baz=131
D32A **Dogwood Acres,** 134.47 294 IAMs_20 IAMs_20 17 20 58.2
comp=Z,4μm,22.0s
AGMN **Agassiz Nation** 134.51 295 PKiKP **PKiKP** **16 22 23.4 +0.1**
baz=125
NRIK **Noril'sk** 134.57 29 *i* PKIKP **PKPdf** **16 22 19.7 -1.7**
NRIK pmax pmax
comp=Z,12nm,1.3s
NRIK **Noril'sk** 134.57 29 PKhKP PKPpre 16 22 17.4
comp=Z,2.1nm,0.7s,baz=180,slow=3.3,SNR=6.1
BRIGG **Briggsdale** 134.66 282 IAMs_20 IAMs_20 17 18 15.9
comp=Z,3μm,21.0s
X16A **Lo Mia Camp, P** 134.87 270 IAMs_20 IAMs_20 17 21 41.8
comp=Z,3μm,19.0s
ISCO **Idaho Springs** 134.93 280 IAMs_20 IAMs_20 17 17 21.1
comp=Z,3μm,22.0s
ISCO **Idaho Springs** 134.93 280 PKiKP **PKPdf** **16 22 24.0 +0.6**
baz=130
MVCO **Mesa Verde** 134.98 275 IAMs_20 IAMs_20 17 31 17.2
comp=Z,4μm,20.0s
MVCO **Mesa Verde** 134.98 275 PKiKP **PKPdf** **16 22 24.2 +0.7**
baz=131
KSAR **Wonju Array Be** 135.29 85 PKPdf **PKPdf** **16 22 23.5 -0.2**
KSAR **Wonju Array Be** 135.29 85 PKiKP **PKPdf** **16 22 23.5 -0.2**
KSRS **Korea Array** 135.33 85 PKP **PKPdf** **16 22 23.4 -0.3**
comp=Z,2.1nm,0.9s,baz=204,slow=2.7,SNR=4.8
KSRS PP **PP** **16 24 58.1 -2.6**
comp=Z,13nm,1.2s,baz=231,slow=6.4,SNR=8.5
SMCO **Snowmass** 135.34 278 IAMs_20 IAMs_20 17 18 25.0
comp=Z,5μm,22.0s
SNY **Shenyang** 135.53 77 ⇓PKP **PKiKP** **16 22 29.8 +4.2**
SNY SS SS 16 42 59.8 +1.0
SNY AMB AMB
comp=Z,690nm,13.5s
SNY LR LR
comp=Z,4μm,22.0s
SNY LR LR
comp=Z,3μm,20.6s
SNY LR LR
comp=Z,5μm,23.2s
WUAZ **Wupatki** 135.58 271 PKiKP **PKPdf** **16 22 25.2 +0.6**
baz=132
ULM **Lac du Bonnet** 135.63 298 IAMs_20 IAMs_20 17 21 23.7
comp=Z,4μm,22.0s
ULM **Lac du Bonnet** 135.63 298 PKhKP PKPpre 16 22 19.5
comp=Z,9.0nm,1.0s,baz=175,slow=4.1,SNR=4.5
ULM PKP **PKPdf** **16 22 23.6 -0.4**
comp=Z,16nm,1.1s,baz=138,slow=2.5,SNR=13
PHWY **Pilot Hill** 135.78 282 IAMs_20 IAMs_20 17 18 40.6
comp=Z,4μm,22.0s
N23A **Red Feather La** 135.82 281 IAMs_20 IAMs_20 17 18 49.5
comp=Z,4μm,22.0s
N23A **Red Feather La** 135.82 281 PKiKP **PKPdf** **16 22 25.6 +0.6**
baz=129
E28A **Huff** 136.19 291 IAMs_20 IAMs_20 17 13 38.9
comp=Z,4μm,22.0s

BLYC	**Blythe**	**136.27**	**267**	IAMs_20	IAMs_20	17 04 46.9		
	comp=Z,4µm,19.0s							
MDND	**Maddock**	**136.31**	**293**	IAMs_20	IAMs_20	17 25 07.0		
	comp=Z,4µm,20.0s							
MDND	**Maddock**	**136.31**	**293**	PKiKP	**PKiKP**	**16 22 27.2**	**+0.1**	
	baz=124							
JMN	**Monobe**	**136.41**	**94**	IAMs_20	IAMs_20	17 25 46.3		
	comp=Z,7µm,21.0s							
RMX	**La Rumorosa**	**136.41**	**264**	IAMs_20	IAMs_20	17 18 05.8		
	comp=Z,3µm,19.0s							
PDMCI	**Parker Dam,Lak**	**136.42**	**268**	PKiKP	**PKiKP**	**16 22 27.5**	**-0.1**	
	baz=133							
IKP	**In-Ko-Pah, Jac**	**136.46**	**264**	PKiKP	**PKiKP**	**16 22 27.4**	**-0.5**	
	baz=135							
SWSC	**Sam W. Stewart**	**136.48**	**265**	PKiKP	**PKiKP**	**16 22 27.5**	**-0.3**	
	baz=134							
RSSD	**Black Hills**	**136.67**	**286**		PKPpre	16 22 15.8		
RSSD	**Black Hills**	**136.67**	**286**	IAMs_20	IAMs_20	17 34 34.8		
	comp=Z,4µm,20.0s							
RSSD	**Black Hills**	**136.67**	**286**	PKiKP	**PKiKP**	**16 22 27.8**	**-0.3**	
	baz=126							
RSSD	**Black Hills**	**136.67**	**286**	PKHKP	PKPpre	16 22 15.9		
RSSD				MLR	MLR			
	comp=Z,4µm,20.0s							
TKX	**Tecate**	**136.70**	**264**	IAMs_20	IAMs_20	17 35 39.2		
	comp=Z,3µm,19.0s							
O20A	**White River Ci**	**136.71**	**279**	IAMs_20	IAMs_20	17 17 50.1		
	comp=Z,4µm,20.0s							
O20A	**White River Ci**	**136.71**	**279**	PKiKP	**PKiKP**	**16 22 28.5**	**+0.2**	
	baz=129							
U15A	**North Rim**	**136.74**	**271**	IAMs_20	IAMs_20	17 19 29.2		
	comp=Z,3µm,21.0s							
BC3	**Big Chuckawall**	**136.77**	**266**	PKiKP	**PKiKP**	**16 22 28.3**	**-0.3**	
	baz=134							
HMU	**Henry Mountain**	**136.80**	**274**	IAMs_20	IAMs_20	17 20 47.7		
	comp=Z,5µm,22.0s							
MONP2	**Monument Peak**	**136.82**	**264**	PKiKP	**PKiKP**	**16 22 28.7**	**-0.1**	
	baz=135							
BAR	**Barrett**	**136.82**	**264**	IAMs_20	IAMs_20	17 18 12.3		
	comp=Z,4µm,21.0s							
IRM	**Iron Mountain**	**136.93**	**267**	PKiKP	**PKiKP**	**16 22 28.5**	**-0.3**	
	baz=134							
NEE2	**Needles Airpor**	**137.03**	**268**	PKiKP	**PKiKP**	**16 22 29.2**	**+0.3**	
	baz=133							
RWWY	**Rawlins**	**137.06**	**281**	IAMs_20	IAMs_20	17 18 15.4		
	comp=Z,3µm,21.0s							
109C	**Camp Elliot, M**	**137.22**	**264**	PKiKP	**PKiKP**	**16 22 29.0**	**-0.3**	
	baz=135							
K22A	**Casper**	**137.24**	**283**	IAMs_20	IAMs_20	17 19 21.1		
	comp=Z,4µm,22.0s							
K22A	**Casper**	**137.24**	**283**	PKiKP	**PKiKP**	**16 22 29.2**	**-0.1**	
	baz=127							
BELC	**Belle Mtn. Jos**	**137.33**	**266**	PKiKP	**PKiKP**	**16 22 29.4**	**-0.3**	
	baz=134							
TPFO	**Pinon Flats**	**137.33**	**265**	PKiKP	**PKiKP**	**16 22 29.0**	**-0.7**	
	baz=134							
PFO	**Pinyon Flats O**	**137.34**	**265**	PKiKP	**PKiKP**	**16 22 29.8**	**+0.1**	
	baz=134							
PFO	**Pinyon Flats O**	**137.34**	**265**	*i* PKiKP	**PKPdf**	**16 22 26.3**	**-1.6**	
PKCU	**Pink Cliffs**	**137.42**	**272**	IAMs_20	IAMs_20	17 23 24.2		
	comp=Z,3µm,20.0s							
P18A	**Preston Nutter**	**137.58**	**277**	IAMs_20	IAMs_20	17 21 30.4		
	comp=Z,4µm,19.0s							
GMRC	**Granite Mounta**	**137.66**	**267**	PKiKP	**PKiKP**	**16 22 30.5**	**+0.1**	
	baz=133							
HIA	**Hailar**	**137.67**	**66**	IAMs_20	IAMs_20	17 27 24.1		
	comp=Z,8µm,22.0s							
LCMT	**Little Creek M**	**137.70**	**271**	IAMs_20	IAMs_20	17 30 30.6		
	comp=Z,3µm,20.0s							
MTPU	**Mount Pierson**	**137.73**	**273**	IAMs_20	IAMs_20	17 21 57.5		
	comp=Z,4µm,22.0s							
RDMU	**Red Mountain**	**137.77**	**278**	IAMs_20	IAMs_20	17 20 38.3		
	comp=Z,4µm,20.0s							
MURC	**Murrieta**	**137.77**	**264**	PKiKP	**PKiKP**	**16 22 30.2**	**-0.3**	
	baz=134							
V12A	**Nelson**	**137.81**	**269**	IAMs_20	IAMs_20	17 20 07.7		
	comp=Z,3µm,22.0s							
CN2	**Changchun**	**137.82**	**76**	*e*PKP	**PKPdf**	**16 22 25.8**	**-2.4**	
CN2				*e*PP	**PP**	**16 25 18.0**	**+1.7**	
CN2				AMB	AMB			
	comp=Z,500nm,7.0s							
CN2				LR	LR			
	comp=Z,1µm,20.0s							
CN2				LR	LR			
	comp=Z,1µm,20.0s							
CN2				LR	LR			
	comp=Z,1µm,21.0s							
ELS	**Elsinore Mount**	**137.94**	**264**	IAMs_20	IAMs_20	17 23 01.2		
	comp=Z,4µm,19.0s							
SZCU	**Shurtz Canyon**	**137.99**	**272**	IAMs_20	IAMs_20	17 21 30.2		
	comp=Z,4µm,22.0s							
BBRC	**Big Bear Solar**	**138.06**	**265**	PKiKP	**PKiKP**	**16 22 31.4**	**+0.1**	
	baz=134							
HEC	**Hector,Ludlow**	**138.10**	**266**	PKiKP	**PKiKP**	**16 22 31.5**	**+0.3**	
	baz=133							
TCRU	**Three Creeks R**	**138.26**	**274**	IAMs_20	IAMs_20	17 33 00.3		
	comp=Z,4µm,21.0s							
TUQ	**Turquoise Moun**	**138.26**	**267**	PKiKP	**PKiKP**	**16 22 31.8**	**+0.3**	
	baz=132							
CIS	**Catalina Islan**	**138.37**	**263**	PKiKP	**PKiKP**	**16 22 32.0**	**+0.3**	
	baz=134							
BSUT	**Blindstream Ca**	**138.46**	**277**	IAMs_20	IAMs_20	17 21 39.6		
	comp=Z,3µm,20.0s							
BFSC	**Mount Baldy Ra**	**138.49**	**265**	PKiKP	**PKiKP**	**16 22 32.3**	**+0.2**	
	baz=134							
FMP	**Fort Macarthur**	**138.51**	**263**	PKiKP	**PKiKP**	**16 22 32.4**	**+0.5**	
	baz=134							
RRX	**Edison Barstow**	**138.53**	**266**	PKiKP	**PKiKP**	**16 22 32.1**	**+0.1**	
	baz=133							
MPU	**Maple Canyon**	**138.66**	**276**	IAMs_20	IAMs_20	17 21 55.9		
	comp=Z,3µm,21.0s							
GSC	**Goldstone, Bar**	**138.71**	**266**	IAMs_20	IAMs_20	17 22 39.3		
	comp=Z,3µm,20.0s							
GSC	**Goldstone, Bar**	**138.71**	**266**	PKiKP	**PKiKP**	**16 22 32.7**	**+0.3**	
	baz=133							
PASC	**Pasadena Art C**	**138.76**	**264**	IAMs_20	IAMs_20	17 36 49.8		
	comp=Z,3µm,18.0s							
SHOC	**Shoshone, Teco**	**138.79**	**268**	PKiKP	**PKiKP**	**16 22 32.7**	**+0.2**	
	baz=132							
NLU	**North Lily Min**	**138.88**	**276**	IAMs_20	IAMs_20	17 21 14.9		
	comp=Z,4µm,21.0s							
DECC	**Green Verdugo**	**138.91**	**264**	PKiKP	**PKiKP**	**16 22 32.9**	**+0.1**	
	baz=134							
SNCC	**San Nicolas Is**	**138.92**	**262**	PKiKP	**PKiKP**	**16 22 33.3**	**+0.5**	
	baz=135							
BOD	**Bodaibo**	**139.00**	**52**	*e*PKiKP	**PKPdf**	**16 22 29.3**	**-0.6**	
BOD				pmax	pmax			
	comp=Z,65nm,1.8s							
PRN	**Pahroc Range**	**139.05**	**270**	IAMs_20	IAMs_20	17 24 35.3		
	comp=Z,3µm,20.0s							
PDAR	**Pinedale Array**	**139.10**	**281**	PKhKP	PKPpre	16 22 20.6		
	comp=Z,1.3nm,0.7s,baz=125,slow=4.5,SNR=8.7							
BW06	**Boulder Array**	**139.10**	**281**	IAMs_20	IAMs_20	17 21 02.4		
	comp=Z,5µm,20.0s							
BW06	**Boulder Array**	**139.10**	**281**	PKiKP	**PKiKP**	**16 22 33.2**	**0.0**	
	baz=126							
EDW2	**Edwards Air Fo**	**139.13**	**265**	PKiKP	**PKiKP**	**16 22 33.4**	**+0.1**	
	baz=133							
CTU	**Camp Tracy**	**139.15**	**277**	IAMs_20	IAMs_20	17 24 14.8		
	comp=Z,4µm,21.0s							
TCUT	**Toone Canyon**	**139.21**	**277**	IAMs_20	IAMs_20	17 23 31.3		
	comp=Z,3µm,21.0s							
DGMT	**Dagmar**	**139.22**	**291**	IAMs_20	IAMs_20	17 20 09.0		
	comp=Z,6µm,22.0s							
DGMT	**Dagmar**	**139.22**	**291**	PKiKP	**PKiKP**	**16 22 34.1**	**+1.2**	
	baz=122							
CCAC	**Calif City Air**	**139.33**	**265**	IAMs_20	IAMs_20	17 19 45.9		
	comp=Z,3µm,22.0s							
LRMC	**Laurel Mtn Rad**	**139.35**	**266**	PKiKP	**PKiKP**	**16 22 34.3**	**+0.5**	
	baz=133							
OSI	**Osito Audit: C**	**139.39**	**264**	PKiKP	**PKiKP**	**16 22 34.2**	**+0.4**	
	baz=133							
LAO	**LASA Array**	**139.40**	**288**	IAMs_20	IAMs_20	17 27 50.0		
	comp=Z,3µm,21.0s							
LAO	**LASA Array**	**139.40**	**288**	PKiKP	**PKiKP**	**16 22 33.9**	**+0.5**	
	baz=124							
TPNV	**Topopah Spring**	**139.47**	**269**	IAMs_20	IAMs_20	17 31 58.5		
	comp=Z,3µm,22.0s							
TPNV	**Topopah Spring**	**139.47**	**269**	PKiKP	**PKiKP**	**16 22 34.1**	**+0.1**	
	baz=131							
DUG	**Dugway, Tooele**	**139.48**	**275**	IAMs_20	IAMs_20	17 22 46.6		
	comp=Z,4µm,20.0s							
DUG	**Dugway, Tooele**	**139.48**	**275**	PKiKP	**PKiKP**	**16 22 33.8**	**-0.2**	
	baz=128							
SCZ2	**Santa Cruz Isl**	**139.51**	**263**	PKiKP	**PKiKP**	**16 22 34.2**	**+0.1**	
	baz=134							
FURC	**Furnace Creek,**	**139.52**	**268**	PKiKP	**PKiKP**	**16 22 34.0**	**+0.1**	
	baz=132							
HWUT	**Hardware Ranch**	**139.60**	**278**	IAMs_20	IAMs_20	17 26 39.6		
	comp=Z,3µm,19.0s							
S11A	**Rachel**	**139.62**	**270**	IAMs_20	IAMs_20	17 20 15.5		
	comp=Z,4µm,22.0s							
MPMC	**Manual Prospec**	**139.62**	**267**	PKiKP	**PKiKP**	**16 22 34.0**	**-0.4**	
	baz=132							
SPR3	**Spring Creek 3**	**139.64**	**273**	IAMs_20	IAMs_20	17 22 47.9		
	comp=Z,3µm,22.0s							
JSG	**Sagara**	**139.64**	**96**	IAMs_20	IAMs_20	17 17 23.0		
	comp=Z,6µm,22.0s							
ARVC	**Arvin**	**139.80**	**265**	PKiKP	**PKiKP**	**16 22 34.7**	**+0.1**	
	baz=133							
SBC	**Santa Barbara**	**139.86**	**263**	PKiKP	**PKiKP**	**16 22 35.2**	**+0.5**	
	baz=134							
SPUT	**South Promonto**	**139.94**	**277**	IAMs_20	IAMs_20	17 21 50.9		
	comp=Z,3µm,20.0s							
ISA	**Isabella, Lake**	**139.95**	**265**	IAMs_20	IAMs_20	17 35 40.3		
	comp=Z,3µm,21.0s							
ISA	**Isabella, Lake**	**139.95**	**265**	PKiKP	**PKiKP**	**16 22 34.7**	**-0.2**	
	baz=132							
Q12A	**Willow Creek R**	**139.97**	**272**	IAMs_20	IAMs_20	17 22 50.6		
	comp=Z,3µm,21.0s							
R11B	**Troy Canyon, C**	**139.98**	**271**	IAMs_20	IAMs_20	17 21 49.0		
	comp=Z,3µm,21.0s							
R11B	**Troy Canyon, C**	**139.98**	**271**	PKiKP	**PKiKP**	**16 22 34.8**	**-0.2**	
	baz=130							
AHID	**Auburn Hatcher**	**140.01**	**280**	IAMs_20	IAMs_20	17 34 45.6		
	comp=Z,4µm,19.0s							
BCW	**Bitter Crk WRg**	**140.02**	**264**	IAMs_20	IAMs_20	17 28 57.2		
	comp=Z,3µm,21.0s							
BGU	**Big Grassy Mou**	**140.06**	**276**	IAMs_20	IAMs_20	17 22 23.8		
	comp=Z,6µm,20.0s							
BNX	**BinXian**	**140.07**	**75**	Pdif	**Pdif**	**16 19 51.5**	**+4.3**	
BNX				AMB	AMB			
	comp=Z,920nm,8.3s							
BNX				LR	LR			
	comp=Z,5µm,20.2s							
BNX				LR	LR			
	comp=Z,4µm,22.9s							
BNX				LR	LR			
	comp=Z,9µm,21.0s							
GRAC	**Grapevine Rang**	**140.17**	**268**	PKiKP	**PKiKP**	**16 22 35.2**	**-0.1**	
	baz=131							
LOHW	**Long Hollow**	**140.21**	**281**	IAMs_20	IAMs_20	17 18 29.9		
	comp=Z,5µm,22.0s							
SNOW	**Snow King Moun**	**140.22**	**281**	IAMs_20	IAMs_20	17 21 23.9		
	comp=Z,6µm,22.0s							
PKM	**Mcpherson Peak**	**140.23**	**263**	PKiKP	**PKiKP**	**16 22 35.6**	**-0.1**	
	baz=133							
CWC	**Cottonwood Cre**	**140.24**	**267**	PKiKP	**PKiKP**	**16 22 35.3**	**-0.3**	
	baz=132							
RLMT	**Red Lodge**	**140.29**	**284**	IAMs_20	IAMs_20	17 33 16.8		
	comp=Z,4µm,21.0s							
RLMT	**Red Lodge**	**140.29**	**284**	PKiKP	**PKiKP**	**16 22 35.2**	**-0.3**	
	baz=124							
TPAW	**Teton Pass**	**140.35**	**281**	IAMs_20	IAMs_20	17 21 29.5		
	comp=Z,5µm,21.0s							
MOOW	**Moose Ponds**	**140.38**	**281**	IAMs_20	IAMs_20	17 18 35.2		
	comp=Z,6µm,22.0s							
VES	**Vestal, Richgr**	**140.44**	**265**	PKiKP	**PKiKP**	**16 22 36.1**	**+0.2**	
	baz=132							
FLWY	**Flagg Ranch**	**140.54**	**282**	IAMs_20	IAMs_20	17 21 08.5		
	comp=Z,5µm,22.0s							
YMP	**Mirror Lake Pl**	**140.60**	**283**	IAMs_20	IAMs_20	17 20 38.9		
	comp=Z,5µm,22.0s							
SMMC	**Simmler**	**140.63**	**264**	PKiKP	**PKiKP**	**16 22 36.4**	**+0.1**	
	baz=133							
H17A	**Grant Village**	**140.65**	**282**	PKiKP	**PKiKP**	**16 22 36.5**	**+0.2**	
	baz=125							
MDJ	**Mudanjiang**	**140.72**	**78**	PKP	**PKPdf**	**16 22 33.8**	**+0.3**	
MDJ				PP	**PP**	**16 25 32.5**	**-1.7**	
MDJ				AMB	AMB			
	comp=Z,1µm,11.2s							
MDJ				LR	LR			
	comp=Z,6µm,22.1s							
MDJ				LR	LR			
	comp=Z,6µm,20.6s							
MDJ				LR	LR			
	comp=Z,7µm,20.5s							
TIN	**Tinemaha, Big**	**140.73**	**267**	PKiKP	**PKiKP**	**16 22 36.4**	**-0.2**	
	baz=131							
YNR	**Norris Junctio**	**140.89**	**282**	IAMs_20	IAMs_20	17 20 41.7		
	comp=Z,4µm,21.0s							
YNM	**Yellowstone No**	**140.91**	**282**	IAMs_20	IAMs_20	17 20 43.2		
	comp=Z,4µm,21.0s							
MAJO	**Matsushiro**	**140.91**	**94**	IAMs_20	IAMs_20	17 19 00.7		
	comp=Z,5µm,21.0s							
MJAR	**Matsushiro Arr**	**140.92**	**94**	PKhKP	PKPpre	16 22 28.4		
	comp=Z,11nm,1.1s,baz=234,slow=4.4,SNR=9.1							
FFC	**Flin Flon**	**141.12**	**301**	IAMs_20	IAMs_20	17 23 45.5		
	comp=Z,5µm,19.0s							
Q09A	**Carvers**	**141.25**	**270**	IAMs_20	IAMs_20	17 24 05.6		
	comp=Z,5µm,22.0s							
ELK	**Elko**	**141.27**	**274**	IAMs_20	IAMs_20	17 23 35.1		
	comp=Z,4µm,21.0s							
MLAC	**Mammoth, Mammb**	**141.47**	**267**	PKiKP	**PKiKP**	**16 22 37.5**	**-0.7**	
	baz=131							
OMMB	**Old Mammoth Mi**	**141.56**	**267**	IAMs_20	IAMs_20	17 37 12.9		
	comp=Z,4µm,19.0s							
NV11	**Mina Array Sit**	**141.58**	**269**	IAMs_20	IAMs_20	17 40 08.4		
	comp=Z,5µm,21.0s							
MDPB	**Davis Peak Pil**	**141.62**	**267**	IAMs_20	IAMs_20	17 22 58.5		
	comp=Z,4µm,22.0s							
NVAR	**Mina Array Bea**	**141.67**	**269**	PKhKP	PKPpre	16 22 30.9		
	comp=Z,4.6nm,0.8s,baz=136,slow=3.8,SNR=21							
PMPB	**Monarch Peak**	**141.72**	**264**	IAMs_20	IAMs_20	17 38 02.1		
	comp=Z,3µm,20.0s							
USA0B	**Ussuriysk Arra**	**141.90**	**80**	IAMs_20	IAMs_20	17 23 18.4		
	comp=Z,6µm,19.0s							
USRK	**Ussuriysk Ar.**	**141.90**	**80**	PKP	**PKPdf**	**16 22 32.6**	**-3.0**	
	comp=Z,2.5nm,0.8s,baz=314,slow=1.0,SNR=4.4							
RYN	**Ryan**	**141.93**	**269**	IAMs_20	IAMs_20	17 40 20.6		
	comp=Z,4µm,22.0s							
KVN	**Kaiserville**	**141.94**	**270**	IAMs_20	IAMs_20	17 23 40.9		
	comp=Z,4µm,21.0s							
BBGB	**Big Mountain B**	**142.10**	**264**	IAMs_20	IAMs_20	17 38 28.3		
	comp=Z,3µm,20.0s							
EGMT	**Eagleton**	**142.14**	**287**	IAMs_20	IAMs_20	17 30 38.6		
	comp=Z,4µm,20.0s							
EGMT	**Eagleton**	**142.14**	**287**	PKiKP	**PKiKP**	**16 22 39.7**	**+0.6**	
	baz=121							
BMN	**Battle Mountai**	**142.27**	**272**	IAMs_20	IAMs_20	17 36 03.6		
	comp=Z,3µm,20.0s							
WAKR	**Walker**	**142.40**	**268**	IAMs_20	IAMs_20	17 39 27.1		
	comp=Z,4µm,20.0s							
HEH	**HeiHe**	**142.44**	**69**	PKP	**PKPdf**	**16 22 32.5**	**-3.9**	
HEH				pPKP	**pPKPdf**	**16 22 36.0**	**-2.0**	
HEH				PP	**PP**	**16 25 47.8**	**+3.2**	
HEH				AMB	AMB			
	comp=Z,980nm,8.5s							
HEH				LR	LR			
	comp=Z,10µm,19.1s							
HEH				LR	LR			
	comp=Z,2µm,19.8s							
HEH				LR	LR			
	comp=Z,11µm,21.0s							
HLID	**Hailey**	**142.45**	**278**	IAMs_20	IAMs_20	17 21 49.1		
	comp=Z,5µm,22.0s							
HLID	**Hailey**	**142.45**	**278**	PKiKP	**PKiKP**	**16 22 40.2**	**+0.3**	
	baz=125							
YERR	**Yerington**	**142.59**	**269**	IAMs_20	IAMs_20	17 40 31.0		
	comp=Z,3µm,20.0s							
PNTR	**Pine Nut**	**142.87**	**269**	PKPdf	**PKPdf**	**16 22 36.6**	**-1.3**	
PNTR				IAMs_20	IAMs_20	17 35 40.5		
	comp=Z,3µm,20.0s							
EMB	**Emerald Bay**	**143.10**	**268**	IAMs_20	IAMs_20	17 40 37.6		
	comp=Z,5µm,22.0s							
PAHR	**Pah Rah Range**	**143.13**	**270**	IAMs_20	IAMs_20	17 22 38.4		
	comp=Z,4µm,22.0s							
MFID	**Camas Ranch**	**143.21**	**277**	IAMs_20	IAMs_20	17 23 53.2		
	comp=Z,5µm,22.0s							
MPK	**Martis Peak**	**143.26**	**269**	IAMs_20	IAMs_20	17 37 21.9		
	comp=Z,5µm,21.0s							
JMM	**Marumori**	**143.34**	**95**	IAMs_20	IAMs_20	17 19 55.8		
	comp=Z,5µm,20.0s							
AFDM	**Forest Hills D**	**143.61**	**267**	IAMs_20	IAMs_20	17 38 22.9		
	comp=Z,3µm,20.0s							
ZEA	**Zeya**	**143.94**	**63**	*i* PKiKP	PKPab	16 22 35.7	-0.5	
ZEA				*e*		16 44 43.7		
ZEA				*e*		16 50 04.1		
ZEA				pmax	pmax			
	comp=Z,700nm,4.6s							
ZEA				pmax	pmax			
	comp=E,10.0nm,1.5s							
ZEA				pmax	pmax			
	comp=Z,40nm,1.8s							
MSO	**Missoula**	**143.96**	**283**	IAMs_20	IAMs_20	17 28 34.7		
	comp=Z,4µm,20.0s							
MSO	**Missoula**	**143.96**	**283**	PKiKP	**PKiKP**	**16 22 43.3**	**+0.5**	
	baz=121							
RES	**Resolute Bay**	**144.04**	**334**	IAMs_20	IAMs_20	17 32 50.0		
	comp=Z,5µm,20.0s							
MCCM	**Marconi Confer**	**144.24**	**265**	IAMs_20	IAMs_20	17 39 16.8		
	comp=Z,4µm,20.0s							
PLID	**Pearl Lake**	**144.24**	**280**	IAMs_20	IAMs_20	17 23 15.6		
	comp=Z,4µm,21.0s							
NPOC	**North of Pu'u**	**144.28**	**205**	IAMs_20	IAMs_20	17 24 45.5		
	comp=Z,4µm,19.0s							
ORV	**Oroville**	**144.31**	**268**	IAMs_20	IAMs_20	17 34 01.6		
	comp=Z,3µm,22.0s							
WVOR	**Wild Horse Val**	**144.32**	**274**	IAMs_20	IAMs_20	17 36 15.9		
	comp=Z,3µm,20.0s							
UWB	**Uwekahuna B**	**144.35**	**205**	IAMs_20	IAMs_20	17 27 13.4		
	comp=Z,4µm,20.0s							
KLR	**Kul'dur**	**144.41**	**72**	*d i* PKHKP	PKPpre	16 22 35.4		
KLR				pmax	pmax			
	comp=Z,30nm,1.1s							
GDXM	**Geysers**	**144.61**	**266**	IAMs_20	IAMs_20	17 33 59.7		
	comp=Z,4µm,21.0s							
J08A	**Circle Bar Ran**	**144.76**	**275**	IAMs_20	IAMs_20	17 23 20.4		
	comp=Z,5µm,22.0s							
BMO	**Blue Mountains**	**144.89**	**278**	IAMs_20	IAMs_20	17 23 42.8		
	comp=Z,5µm,21.0s							
HOPS	**Hopland Field**	**144.90**	**266**	IAMs_20	IAMs_20	17 37 59.2		
	comp=Z,3µm,20.0s							
TEY	**Ternei**	**145.10**	**82**	*e*PKP2	**PKPbc**	**16 22 39.6**	**-1.1**	
TEY				*e*		16 38 36.2		
TEY				pmax	pmax			
	comp=N,10.0nm,1.4s							
TEY				pmax	pmax			
	comp=Z,40nm,1.7s							
F10A	**Beach Ranch, E**	**145.45**	**280**	IAMs_20	IAMs_20	17 40 50.4		
	comp=Z,4µm,20.0s							
KCPM	**Cahto Peak**	**145.64**	**266**	IAMs_20	IAMs_20	17 40 27.9		
	comp=Z,4µm,20.0s							
I07A	**Izee**	**145.78**	**276**	IAMs_20	IAMs_20	17 23 47.4		
	comp=Z,4µm,21.0s							
K05A	**Summer Lake**	**145.85**	**273**	IAMs_20	IAMs_20	17 26 22.3		
	comp=Z,5µm,21.0s							
KMRM	**Mail Ridge**	**146.05**	**267**	IAMs_20	IAMs_20	17 24 09.4		
	comp=Z,5µm,22.0s							
G08A	**Pilot Rock**	**146.12**	**278**	IAMs_20	IAMs_20	17 24 09.2		
	comp=Z,5µm,22.0s							
E09A	**Wood Farm, Sta**	**146.27**	**280**	IAMs_20	IAMs_20	17 24 56.2		
	comp=Z,5µm,21.0s							
K04D	**Chiloquin, OR**	**146.31**	**272**	IAMs_20	IAMs_20	17 39 28.5		
	comp=Z,4µm,22.0s							
YBH	**Yreka Blue Hor**	**146.36**	**270**	PKPdf	**PKPdf**	**16 22 43.1**	**-0.5**	
YBH				IAMs_20	IAMs_20	17 41 39.0		
	comp=Z,4µm,22.0s							
YBH	**Yreka Blue Hor**	**146.36**	**270**	PKiKP	**PKPdf**	**16 22 43.1**	**-0.5**	
YBH				MLR	MLR			
	comp=Z,4µm,22.0s							
J05D	**Fort Rock, OR**	**146.38**	**273**	IAMs_20	IAMs_20	17 34 11.2		
	comp=Z,4µm,22.0s							
KMPM	**Mount Pierce**	**146.42**	**267**	IAMs_20	IAMs_20	17 40 14.5		
	comp=Z,4µm,22.0s							
KHMM	**Horse Mountain**	**146.46**	**268**	IAMs_20	IAMs_20	17 36 11.7		
	comp=Z,5µm,21.0s							
PINE	**Pine Mountain**	**146.48**	**274**	IAMs_20	IAMs_20	17 24 31.0		
	comp=Z,4µm,22.0s							
NEW	**Newport**	**146.54**	**284**	IAMs_20	IAMs_20	17 30 51.1		
	comp=Z,4µm,20.0s							
NEW	**Newport**	**146.54**	**284**	PKiKP	**PKiKP**	**16 22 47.8**	**-0.2**	
	baz=119							
EDM	**Edmonton**	**146.57**	**294**	IAMs_20	IAMs_20	17 23 54.2		
	comp=Z,5µm,20.0s							
E08A	**Dider Farm, El**	**146.80**	**280**	IAMs_20	IAMs_20	17 25 24.3		
	comp=Z,5µm,21.0s							
KRMB	**Red Mountain**	**146.96**	**268**	IAMs_20	IAMs_20	17 32 42.8		
	comp=Z,4µm,21.0s							
C09A	**Chrisman Ranch**	**146.99**	**282**	IAMs_20	IAMs_20	17 43 50.1		
	comp=Z,5µm,22.0s							
D08A	**Wollman Farm,**	**147.01**	**281**	IAMs_20	IAMs_20	17 43 04.6		
	comp=Z,4µm,21.0s							
F07A	**Phinny Hill Vi**	**147.01**	**278**	IAMs_20	IAMs_20	17 24 54.9		
	comp=Z,4µm,22.0s							
I05D	**Terrebonne, OR**	**147.03**	**275**	IAMs_20	IAMs_20	17 30 34.4		
	comp=Z,3µm,21.0s							
HAWA	**Hanford**	**147.03**	**279**	IAMs_20	IAMs_20	17 23 51.4		
	comp=Z,5µm,22.0s							
G06A	**Carlson Farm,**	**147.09**	**277**	IAMs_20	IAMs_20	17 25 16.9		
	comp=Z,5µm,22.0s							
L02F	**Cave Junction**	**147.11**	**270**	IAMs_20	IAMs_20	17 32 26.8		
	comp=Z,4µm,21.0s							
KSXB	**Camp Six Broad**	**147.12**	**269**	IAMs_20	IAMs_20	17 32 38.1		
	comp=

GNW				IAMs_20	IAMs_20	17 43 19.6	
	comp=Z,4µm,21.0s						
RADR	Rader Ridge	149.59	276	IAMs_20	IAMs_20	17 43 48.3	
	comp=Z,6µm,21.0s						
YKAW1	Yellowknife Wh	149.71	310	IAMs_20	IAMs_20	17 28 07.9	
	comp=Z,5µm,22.0s						
YKA	Yellowknife Ar	149.76	310	PKP	PKPdf	16 22 44.9	-3.5
	comp=Z,12nm,1.1s,baz=85,slow=1.5,SNR=35						
YKA				PKPbc	PKPbc	16 22 52.1	-1.0
	comp=Z,118nm,1.0s,baz=96,slow=2.3,SNR=55						
YSS	Yuzh-Sakhalins	149.77	83	PKPbc	PKPbc	16 22 53.3	-0.4
YSS	Yuzh-Sakhalins	149.77	83	i PKHKP	PKPpre	16 22 52.5	
YSS				e		16 26 23.5	
YSS				eSS	SS	16 45 41.0	-2.5
YSS				pmax	pmax		
	comp=Z,2µm,2.5s						
YSS				pmax	pmax		
	comp=N,400nm,2.6s						
YSS				pmax	pmax		
	comp=E,800nm,3.2s						
YSS				pmax	pmax		
	comp=N,50nm,1.3s						
YSS				pmax	pmax		
	comp=Z,190nm,1.3s						
YSS				pmax	pmax		
	comp=E,60nm,1.4s						
YSS				MLR	MLR		
	comp=Z,3µm,19.0s						
YKAW3	Yellowknife Wh	149.78	310	IAMs_20	IAMs_20	17 44 29.7	
	comp=Z,5µm,22.0s						
NLWA	Neilton Lookou	150.11	278	IAMs_20	IAMs_20	17 45 57.9	
	comp=Z,5µm,21.0s						
UGL	Uglegorsk	150.35	78	ePKIKP	PKiKP	16 22 56.0	+0.3
UGL				pmax	pmax		
	comp=Z,160nm,1.7s						
PGC	Sidney	150.45	281	IAMs_20	IAMs_20	17 45 46.7	
	comp=Z,6µm,22.0s						
CLRS	Cowichan Lake	150.93	280	IAMs_20	IAMs_20	17 26 33.3	
	comp=Z,5µm,22.0s						
NKL	Nikolayevsk	151.14	70	i PKIKP	PKPdf	16 22 48.7	-2.1
NKL				i		16 22 53.9	
NKL				e		16 26 32.9	
TYV	Tymovskoe	151.44	75	ePKIKP	PKPbc	16 22 57.6	+0.1
TYV				pmax	pmax		
	comp=Z,2µm,3.0s						
TYV				pmax	pmax		
	comp=Z,138nm,1.4s						
KUR	Kuril'sk	151.97	89	PKIKP	PKPdf	16 22 50.7	-1.6
KUR				i		16 22 58.5	
KUR				SS	SS	16 46 07.1	-0.8
KUR				SSS	SSS	16 51 53.0	
KUR				pmax	pmax		
	comp=Z,465nm,1.6s						
KUR				pmax	pmax		
	comp=Z,2µm,3.6s						
A36M	Sachs Harbour	152.95	331	IAMs_20	IAMs_20	17 26 56.7	
	comp=Z,5µm,20.0s						
A36M	Sachs Harbour	152.95	331	PKiKP	PKiKP	16 23 02.2	+1.8
	baz=70						
C36M	Paulatuk	153.34	325	PKiKP	PKiKP	16 23 02.7	+1.4
	baz=76						
FLDN	Fort Liard	153.74	304	PKiKP	PKiKP	16 23 03.1	+0.7
	baz=95						
WRGLY	Wrigley	153.86	311	PKiKP	PKiKP	16 23 04.2	+1.7
	baz=89						
KOTAN	Kotaneelee Air	154.02	304	PKiKP	PKiKP	16 23 05.3	+2.3
	baz=95						
HOLB	Holberg	154.04	282	IAMs_20	IAMs_20	17 26 05.7	
	comp=Z,6µm,22.0s						
BBB	Bella Bella	154.57	285	IAMs_20	IAMs_20	17 46 22.6	
	comp=Z,5µm,20.0s						
WTLY	Watson Lake, Y	156.39	304	PKPab	PKPab	16 23 27.3	+0.6
	baz=91						
U35K	Hyder	156.62	293	IAMs_20	IAMs_20	17 46 36.9	
	comp=Z,6µm,22.0s						
T35M	Bob Quinn	156.90	296	IAMs_20	IAMs_20	17 30 24.3	
	comp=Z,5µm,20.0s						
T35M	Bob Quinn	156.90	296	PKPab	PKPab	16 23 29.5	+0.5
	baz=97						
INK	Inuvik	156.93	325	PKPab	PKPab	16 23 29.1	+0.4
	baz=67						
DLBC	Dease Lake	156.94	299	PKPab	PKPab	16 23 30.1	+0.9
	baz=94						
F31M	Tsiigehtchic	157.33	323	PKPab	PKPab	16 23 30.4	0.0
	baz=69						
V35K	Ketchikan	157.40	291	IAMs_20	IAMs_20	17 42 07.7	
	comp=Z,5µm,20.0s						
R33M	Jennings River	157.47	302	PKPab	PKPab	16 23 31.7	+0.1
	baz=91						
S34M	Telegraph Cree	157.48	298	IAMs_20	IAMs_20	17 48 54.4	
	comp=Z,5µm,20.0s						
S34M	Telegraph Cree	157.48	298	PKPab	PKPab	16 23 32.5	+1.1
	baz=94						
G31M	Satah River	157.70	322	PKPab	PKPab	16 23 31.8	-0.3
	baz=69						
WRAK	Wrangell Islan	157.98	294	IAMs_20	IAMs_20	17 31 03.8	
	comp=Z,6µm,21.0s						
WRAK	Wrangell Islan	157.98	294	PKPab	PKPab	16 23 34.4	+0.8
	baz=97						
F30M	Barrier River	157.99	324	PKPab	PKPab	16 23 33.4	0.0
	baz=66						
D28M	Stokes Point	158.15	330	PKPab	PKPab	16 23 34.9	+0.9
	baz=58						
CRAG	Craig	158.27	291	IAMs_20	IAMs_20	17 45 29.8	
	comp=Z,6µm,22.0s						
E29M	Blow River	158.35	327	PKPab	PKPab	16 23 35.3	+0.4
	baz=61						
T33K	Petersburg	158.36	295	PKPab	PKPab	16 23 36.3	+1.1
	baz=96						
U33K	Whale Pass	158.36	293	PKPab	PKPab	16 23 35.5	+0.3
	baz=98						
G30M	tAoh Zraii Nji	158.39	323	PKPab	PKPab	16 23 35.4	+0.2
	baz=67						
P33M	Teslin, Yukon	158.40	304	PKPab	PKPab	16 23 36.4	+0.9
	baz=87						
N32M	Quiet Lake	158.47	307	PKPab	PKPab	16 23 36.5	+0.8
	baz=85						
FARO	Faro, Yukon	158.47	310	PKPab	PKPab	16 23 36.4	+0.7
	baz=82						
E28M	Babbage River	158.77	329	PKPab	PKPab	16 23 37.2	+0.4
	baz=58						
EPYK	Eagle Plains	158.81	322	PKPab	PKPab	16 23 37.5	+0.5
	baz=67						
D27M	Malcolm River	158.85	331	PKPab	PKPab	16 23 37.5	+0.3
	baz=55						
P32M	Atlin	158.87	302	PKPab	PKPab	16 23 37.9	+0.4
	baz=88						
M31M	Drury Creek, Y	158.96	310	PKPab	PKPab	16 23 37.3	-0.5
M31M	Drury Creek, Y	158.96	310	PKPab	PKPab	16 23 38.2	+0.4
	baz=81						
G29M	Pine Creek	159.07	324	PKPab	PKPab	16 23 38.1	0.0
	baz=64						
I30M	Mount Dempster	159.09	319	PKPab	PKPab	16 23 38.5	+0.1
	baz=71						
J30M	Hart River	159.27	317	PKPab	PKPab	16 23 39.6	+0.4
	baz=72						
S32K	Killisnoo	159.29	296	IAMs_20	IAMs_20	17 36 01.4	
	comp=Z,6µm,22.0s						
S32K	Killisnoo	159.29	296	PKPab	PKPab	16 23 39.8	+0.5
	baz=93						
R32K	Eaglecrest	159.29	299	PKPab	PKPab	16 23 40.4	+1.1
	baz=91						
MAYO	Mayo, Yukon	159.35	314	PKPab	PKPab	16 23 40.3	+0.9
	baz=75						
F28M	Old Crow	159.38	326	PKPab	PKPab	16 23 39.9	+0.4
	baz=60						
WHY	Whitehorse	159.39	306	PKPab	PKPab	16 23 40.3	+0.4
	baz=84						
H29M	Whitestone	159.49	322	PKPab	PKPab	16 23 40.8	+0.9
	baz=66						
SIT	Sitka	159.67	295	IAMs_20	IAMs_20	17 32 33.6	
	comp=Z,5µm,22.0s						
SIT	Sitka	159.67	295	PKPab	PKPab	16 23 41.5	+0.6
	baz=94						
SKAG	Skagway	159.70	302	IAMs_20	IAMs_20	17 41 32.7	
	comp=Z,6µm,22.0s						
SKAG	Skagway	159.70	302	PKPab	PKPab	16 23 42.0	+1.0
	baz=87						
I29M	Ogilvie Camp,	159.80	320	PKPab	PKPab	16 23 41.6	+0.3
	baz=68						
O30N	Mendenhall	159.97	306	PKPab	PKPab	16 23 43.1	+0.8
	baz=83						
K29M	Barlow Dome	159.99	315	PKPab	PKPab	16 23 42.6	+0.3
	baz=73						
M30M	Minto, Yukon	159.99	311	PKPab	PKPab	16 23 42.8	+0.5
	baz=77						
J29N	Klondike Camp	160.08	317	PKPab	PKPab	16 23 43.3	+0.6
	baz=70						
S31K	Pelican	160.20	298	PKPab	PKPab	16 23 44.3	+1.1
	baz=90						
PLBC	Pleasant Camp	160.23	302	PKPab	PKPab	16 23 44.2	+0.9
	baz=86						
D25K	Kavik River	160.30	335	PKPab	PKPab	16 23 44.2	+0.8
	baz=46						
N30M	Aishikik Lake	160.35	308	PKPab	PKPab	16 23 44.1	+0.2
N30M	Aishikik Lake	160.35	308	PKPab	PKPab	16 23 44.2	+0.2
	baz=80						
I28M	Miner Creek	160.39	321	PKPab	PKPab	16 23 44.1	+0.1
	baz=65						
L29M	L29M	160.45	313	PKPab	PKPab	16 23 44.6	+0.3
	baz=74						
P30M	Million Dollar	160.47	304	PKPab	PKPab	16 23 45.3	+0.8
	baz=84						
C24K	Franklin Bluff	160.59	337	PKPab	PKPab	16 23 45.4	+0.8
	baz=42						
H27K	Steamboat Moun	160.63	324	PKPab	PKPab	16 23 45.2	+0.2
	baz=61						
HYT	Haines Junctio	160.65	306	PKPab	PKPab	16 23 46.1	+0.8
	baz=81						
DAWY	Dawson	160.70	317	PKPab	PKPab	16 23 45.5	+0.2
	baz=70						
F26K	Sheenjek River	160.71	329	PKPab	PKPab	16 23 46.4	+1.1
	baz=54						
A21K	Barrow	160.75	346	PKPab	PKPab	16 23 46.1	+0.9
	baz=26						
M29M	Somme Creek	160.78	312	PKPab	PKPab	16 23 46.1	+0.3
	baz=75						
E25K	Arctic Village	160.88	331	PKPab	PKPab	16 23 47.0	+1.0
	baz=50						
P29M	Windy Craggy	160.91	303	PKPab	PKPab	16 23 46.7	+0.3
	baz=84						
I27K	Kandik River	160.96	322	PKPab	PKPab	16 23 47.0	+0.5
	baz=62						
PETK	Petropavlovsk-	160.96	77	PKPab	PKPab	16 23 45.2	-1.5
	comp=Z,7.1nm,0.9s,baz=233,slow=0.7,SNR=5.3						
G26K	Porcupine Rive	161.03	327	PKPab	PKPab	16 23 47.3	+0.7
	baz=56						
D24K	Happy Valley	161.04	336	PKPab	PKPab	16 23 47.0	+0.4
	baz=43						
YUK6	Outpost Mounta	161.04	307	PKPab	PKPab	16 23 47.7	+0.5
	baz=80						
B22K	Teshekpuk Lake	161.09	342	PKPab	PKPab	16 23 47.8	+1.1
	baz=33						
YUK4	Talbot Arm	161.10	308	PKPab	PKPab	16 23 47.9	+0.5
	baz=78						
EGAK	Eagle	161.14	320	PKPab	PKPab	16 23 47.2	0.0
	baz=65						
F25K	Christian Rive	161.23	330	PKPab	PKPab	16 23 48.7	+1.2
	baz=51						
O29M	Mount Kennedy	161.25	305	PKPab	PKPab	16 23 48.6	+0.6
	baz=81						
PET	Petropavlovsk	161.50	78	i PKIKP	PKPdf	16 23 02.4	-1.9
PET				e		16 27 30.7	
PET				ePPS	PPS	16 41 03.7	
PET				eSS	SS	16 47 47.2	-3.0
PET				eSSS	SSS	16 54 01.5	
PET				pmax	pmax		
	comp=Z,1µm,11.8s						
PET				pmax	pmax		
	comp=Z,2µm,15.3s						
PET				MLR	MLR		
	comp=Z,6µm,19.0s						
D23K	Nanushuk River	161.62	337	PKPab	PKPab	16 23 50.2	+1.1
	baz=40						
YUK8	Steele Glacier	161.65	309	PKPab	PKPab	16 23 50.2	+0.3
	baz=77						
I26K	Coal Creek Min	161.66	322	PKPab	PKPab	16 23 50.0	+0.6
	baz=61						
K27K	Chicken	161.81	318	PKPab	PKPab	16 23 50.7	+0.6
	baz=66						
YUK3	Moose Creek	161.85	310	PKPab	PKPab	16 23 51.0	+0.4
	baz=75						
BVCY	Beaver Creek	161.86	312	PKPab	PKPab	16 23 50.9	+0.5
	baz=72						
G25K	Bearman Lake	161.88	328	PKPab	PKPab	16 23 51.2	+0.9
	baz=53						
F24K	Squaw Lake	161.94	332	PKPab	PKPab	16 23 51.6	+1.0
	baz=48						
B20K	Meade River	162.01	345	PKPab	PKPab	16 23 51.8	+1.0
	baz=26						
E23K	Chandalar	162.04	334	PKPab	PKPab	16 23 52.0	+0.8
	baz=44						
L27K	Beaver Creek,	162.07	315	PKPab	PKPab	16 23 51.5	+0.1
	baz=69						
D22K	Ayikyak River	162.14	339	PKPab	PKPab	16 23 52.2	+0.7
	baz=36						
J26L	Joseph Creek	162.19	320	PKPab	PKPab	16 23 52.3	+0.4
	baz=63						
M27K	Edge Creek, AK	162.33	313	PKPab	PKPab	16 23 53.2	+0.5
	baz=71						
C21K	Knifeblade Rid	162.34	341	PKPab	PKPab	16 23 52.5	+0.2
	baz=32						
A19K	Wainwright	162.35	349	PKPab	PKPab	16 23 52.8	+0.6
	baz=19						
G24K	Hadweenzic Riv	162.35	329	PKPab	PKPab	16 23 52.7	+0.3
	baz=50						
PRP	Porcupine Dome	162.41	324	PKPab	PKPab	16 23 53.5	+0.6
	baz=57						
CTG	Chitna Glacier	162.46	308	PKPab	PKPab	16 23 53.9	+0.7
	baz=76						
E22K	Anaktuvuk Pass	162.53	337	PKPab	PKPab	16 23 54.0	+0.8
	baz=40						
SCRK	Sand Creek	162.59	319	PKPab	PKPab	16 23 53.8	+0.1
	baz=63						
L26K	Log Cabin Wild	162.73	316	PKPab	PKPab	16 23 54.4	+0.1
L26K	Log Cabin Wild	162.73	316	PKPab	PKPab	16 23 54.3	+0.1
	baz=67						
E21K	Killik River	162.78	339	PKPab	PKPab	16 23 55.1	+0.9
	baz=35						
COLD	Coldfoot	162.79	333	PKPab	PKPab	16 23 55.4	+1.1
	baz=44						
M26K	Nabesna, AK	162.80	313	PKPab	PKPab	16 23 54.5	-0.1
	baz=70						
J25K	Salcha River,	162.83	322	PKPab	PKPab	16 23 55.1	+0.4
	baz=60						
H24K	Noodor Dome	163.02	327	PKPab	PKPab	16 23 55.8	+0.4
	baz=52						
RIDG	Independent Ri	163.04	319	PKPab	PKPab	16 23 56.4	+0.8
	baz=63						
D20K	Etivluk River	163.07	343	PKPab	PKPab	16 23 56.1	+0.5
	baz=29						
G23K	Bananza Creek	163.10	331	PKPab	PKPab	16 23 56.5	+0.7
	baz=46						
C19K	Lookout Ridge	163.19	346	PKPab	PKPab	16 23 56.4	+0.3
	baz=23						
B18K	Kokolik River	163.23	349	PKPab	PKPab	16 23 56.9	+0.7
	baz=18						
POKR	Poker Flat Res	163.30	325	PKPab	PKPab	16 23 56.7	0.0
	baz=55						
ILAR	Eielson Array	163.30	323	PKP	PKPdf	16 23 03.0	-2.8
	comp=Z,2.2nm,1.1s,baz=323,slow=2.0,SNR=11						
ILAR				PKPab	PKPab	16 23 55.5	-1.1
	comp=Z,28nm,1.0s,baz=31,slow=3.4,SNR=17						
ILAR				PP	PP	16 27 42.5	+0.1
	comp=Z,5.6nm,1.1s,baz=51,slow=3.1,SNR=4.0						
G22K	Bettles	163.37	333	PKPab	PKPab	16 23 57.0	+0.2
	baz=43						
K24K	Donnelly Dome	163.38	320	PKPab	PKPab	16 23 57.5	+0.4
	baz=61						
E20K	Nigu River	163.38	341	PKPab	PKPab	16 23 57.2	+0.2
	baz=31						
GLB	Gilahina Butte	163.48	311	PKPab	PKPab	16 23 56.6	-1.0
HDA	Harding Lake	163.52	322	PKPab	PKPab	16 23 57.7	+0.1
	baz=57						
D19K	Kuna River	163.52	344	PKPab	PKPab	16 23 58.0	+0.5
	baz=27						
COLA	College	163.58	325	PKPab	PKPab	16 23 57.4	-0.4
COLA	College	163.58	325	PKPab	PKPab	16 23 58.0	+0.1
	baz=54						
COLA	College	163.58	325	PKP2	PKPab	16 23 57.4	-0.4
PAX	Paxson	163.63	317	PKPab	PKPab	16 23 58.6	+0.3
	baz=64						
F21K	Alatna River	163.65	336	PKPab	PKPab	16 23 58.7	+0.6
	baz=38						
HARP	HAARP	163.74	315	PKPab	PKPab	16 23 59.3	+0.6
	baz=66						
N25K	Chitina, Valde	163.79	312	PKPab	PKPab	16 23 59.2	+0.2
N25K	Chitina, Valde	163.79	312	PKPab	PKPab	16 23 59.3	+0.3
	baz=70						
C18K	Utukok River	163.84	348	PKPab	PKPab	16 23 59.4	+0.5
	baz=20						
I23K	Minto, Yukon-K	163.93	327	PKPab	PKPab	16 23 59.4	+0.1
I23K	Minto, Yukon-K	163.93	327	PKPab	PKPab	16 23 59.6	+0.3
	baz=51						
BMRM	Bremner River	164.00	310	PKPab	PKPab	16 23 59.7	-0.2
	baz=72						
H22K	Ishtalitna Cre	164.07	331	PKPab	PKPab	16 24 00.8	+0.8
	baz=45						
NEA2	Nenana	164.17	325	PKPab	PKPab	16 23 58.9	-1.6
NEA2	Nenana	164.17	325	PKPab	PKPab	16 24 00.7	+0.2
	baz=53						
KAIM	Kayak Island	164.19	306	PKPab	PKPab	16 24 01.2	+0.5
	baz=76						
G21K	Allakaket	164.20	335	PKPab	PKPab	16 24 01.2	+0.7
	baz=40						
C17K	DeLong Mountai	164.23	350	PKPab	PKPab	16 24 01.1	+0.5
	baz=16						
E19K	Redstone River	164.28	341	PKPab	PKPab	16 24 01.6	+0.7
	baz=30						
M24K	Tolsona, Glenn	164.29	314	PKPab	PKPab	16 24 01.6	+0.5
	baz=66						
F20K	Avaraart Lake	164.31	338	PKPab	PKPab	16 24 01.6	+0.7
	baz=34						
DHY	Denali Highway	164.36	319	PKPab	PKPab	16 24 01.7	+0.1
	baz=61						
KLU	Klutina	164.42	312	PKPab	PKPab	16 24 01.0	-0.8
KLU	Klutina	164.42	312	PKPab	PKPab	16 24 02.2	+0.4
	baz=68						
MLY	Manley	164.46	328	PKPab	PKPab	16 24 01.2	-0.6
	baz=49						
C16K	Lisburne Hills	164.62	353	PKPab	PKPab	16 24 02.4	+0.1
	baz=11						
MCK	McKinley	164.62	322	PKPab	PKPab	16 24 02.8	+0.3
	baz=56						
H21K	Melozitna Rive	164.65	332	PKPab	PKPab	16 24 03.2	+0.7
	baz=43						
EYAK	Cordova Ski Ar	164.66	309	PKPab	PKPab	16 24 03.3	+0.6
	baz=72						
WAT6	Susitna Watana	164.74	317	PKPab	PKPab	16 24 03.0	-0.3
	baz=62						
I21K	Tanana	164.75	329	PKPab	PKPab	16 24 03.4	+0.5
	baz=46						
E18K	Tukpahlearik C	164.90	345	PKPab	PKPab	16 24 03.7	+0.1
	baz=23						
SCM	Sheep Creek Mo	164.90	314	PKPab	PKPab	16 24 04.2	+0.3
	baz=65						
F19K	Shaleruckik Mo	164.92	341	PKPab	PKPab	16 24 03.6	-0.1
	baz=30						
WAT1	Susitna Watana	164.95	319	PKPab	PKPab	16 24 04.5	+0.4
	baz=60						
D17K	Noatak River	164.97	349	PKPab	PKPab	16 24 04.1	+0.2
	baz=17						
M23K	Glacier View	165.09	314	PKPab	PKPab	16 24 04.3	-0.3
	baz=64						
BPAW	Bear Paw Mtn.	165.13	325	PKPab	PKPab	16 24 03.8	-1.0
	baz=51						
Q23K	Middleton Isla	165.26	305	PKPab	PKPab	16 24 06.2	+0.8
	baz=75						
TRF	Thorofare Moun	165.28	322	PKPab	PKPab	16 24 05.6	0.0
	baz=54						
SML	Sawmill	165.34	315	PKPab	PKPab	16 24 05.8	0.0
	baz=63						
H20K	Anotleneega Mo	165.35	334	PKPab	PKPab	16 24 06.2	+0.6
	baz=39						
G19K	Purcell Mounta	165.37	338	PKPab	PKPab	16 24 06.0	+0.3
	baz=33						
E17K	Hotham Inlet	165.39	347	PKPab	PKPab	16 24 05.6	-0.2
	baz=21						
F18K	Selawik	165.49	343	PKPab	PKPab	16 24 06.3	+0.2
	baz=26						
KNK	Knik Glacier	165.57	314	PKPab	PKPab	16 24 07.0	+0.2
	baz=64						
P23K	Montague Islan	165.62	308	PKPab	PKPab	16 24 07.1	+0.1
	baz=71						
H19K	Roundabout Mou	165.72	336	PKPab	PKPab	16 24 07.3	+0.1
	baz=36						
CHUM	Lake Minchumin	165.72	326	PKPab	PKPab	16 24 07.2	-0.1
	baz=49						
I20K	Naaghedeneel	165.76	331	PKPab	PKPab	16 24 07.8	+0.4
	baz=42						
PMR	Palmer	165.78	315	PKPab	PKPab	16 24 07.2	-0.4
	baz=63						
CUT	Chulitna	165.85	319	PKPab	PKPab	16 24 07.2	-0.7
	baz=58						
F17K	Baldwin Pennin	165.90	345	PKPab	PKPab	16 24 07.6	-0.3
	baz=23						
G18K	Tagagawik	165.91	340	PKPab	PKPab	16 24 08.4	+0.3
	baz=30						
CAST	Castle Rocks	165.94	324	PKPab	PKPab	16 24 07.3	-1.1
	baz=51						
J20K	Nowinta River	166.12	329	PKPab	PKPab	16 24 08.9	-0.1
	baz=44						
RC01	Rabbit Creek A	166.27	314	PKPab	PKPab	16 24 09.5	-0.3
	baz=63						
PPLA	Purkeypile	166.30	323	PKPab	PKPab	16 24 09.8	-0.3
	baz=52						
GCSA	Galena City Sc	166.46	335	PKPab	PKPab	16 24 10.6	+0.1
	baz=37						
H18K	Honhosa River	166.49	338	PKPab	PKPab	16 24 10.5	-0.2
H18K	Honhosa River	166.49	338	PKPab	PKPab	16 24 11.1	+0.5
	baz=32						
SUA	Susitna One	166.53	316	PKPab	PKPab	16 24 11.3	+0.2
	baz=60						
SEW	Seward	166.54	310	PKPab	PKPab	16 24 11.3	+0.3
	baz=68						
SKT	Skwentna	166.58	319	PKPab	PKPab	16 24 11.1	-0.1
SKT	Skwentna	166.58	319	PKPab	PKPab	16 24 10.8	-0.4
	baz=57						
G17K	Kiwalik Mounta	166.66	342	PKPab	PKPab	16 24 11.9	+0.6
	baz=26						
K20K	Telida	166.66	327	PKPab	PKPab	16 24 11.5	0.0
	baz=47						
J19K	Poorman	166.69	331	PKPab	PKPab	16 24 12.1	+0.5
	baz=42						
H17K	Granite Mounta	167.01	340	PKPab	PKPab	16 24 13.5	+0.5
	baz=29						
CAPN	Captain Cook N	167.03	314	PKPab	PKPab	16 24 13.3	+0.2
	baz=62						
G16K	Koyuk River	167.05	345	PKPab	PKPab	16 24 13.0	0.0
	baz=22						
F15K	North Star Dit	167.06	349	PKPab	PKPab	16 24 13.2	0.0
	baz=15						
L20K	Farewell, AK	167.17	323	PKPab	PKPab	16 24 13.0	-0.8
	baz=50						
M20K	Styx River	167.26	320	PKPab	PKPab	16 24 13.8	-0.5
	baz=54						
N20K	Mount Spurr	167.27	317	PKPab	PKPab	16 24 13.9	-0.5
	baz=58						
BRSE	Bradley Lake S	167.28	309	PKPab	PKPab	16 24 14.9	+0.5
	baz=67						
J18K	Innoko River	167.41	331	PKPab	PKPab	16 24 15.5	+0.7
	baz=40						
F14K	Arctic Creek	167.45	352	PKPab	PKPab	16 24 15.2	+0.3
	baz=11						
TNA	Tin City	167.47	355	PKPab	PKPab	16 24 15.4	+0.5
	baz=6.6						
TTA	Tatalina	167.59	328	PKPab	PKPab	16 24 16.1	+0.4
	baz=44						
G15K	Niukluk	167.67	347	PKPab	PKPab	16 24 16.1	+0.3
	baz=18						
L19K	White Mountain	167.72	324	PKPab	PKPab	16 24 17.1	+0.9
	baz=49						
M19K	Big River Lodg	167.72	322	PKPab	PKPab	16 24 16.9	+0.6
	baz=51						
H16K	Elim	167.73	343	PKPab	PKPab	16 24 17.0	+0.9
	baz=23						
HOM	Homer	167.74	310	PKPab	PKPab	16 24 17.0	+0.7
	baz=66						
O20K	Slope Mountain	168.00	312	PKPab	PKPab	16 24 17.6	0.0
	baz=62						
I17K	Unalakleet	168.10	339	PKPab	PKPab	16 24 18.6	+0.9
	baz=29						
ANM	Nome	168.25	349	PKPab	PKPab	16 24 17.3	-1.1
ANM	Nome	168.25	349	PKPab	PKPab	16 24 18.5	+0.1
	baz=15						
ANM	Nome	168.25	349	PKP2	PKPab	16 24 17.3	-1.1
L18K	Granite Mounta	168.32	327	PKPab	PKPab	16 24 19.4	+0.6
	baz=44						
N19K	Bonanza Creek	168.41	318	PKPab	PKPab	16 24 19.2	-0.2
	baz=55						
K17K	Iditarod	168.46	331	PKPab	PKPab	16 24 19.1	-0.3
	baz=39						
P19K	Oil Pt	168.47	311	PKPab	PKPab	16 24 18.3	-1.3
	baz=62						
Q20K	Shuyak Island	168.49	306	PKPab	PKPab	16 24 20.0	+0.3
	baz=69						
M18K	Stony River	168.51	323	PKPab	PKPab	16 24 19.9	+0.2
	baz=49						
J16K	Anvik River	168.60	337	PKPab	PKPab	16 24 20.4	+0.4
	baz=31						
O19K	Port Alsworth	168.68	315	PKPab	PKPab	16 24 21.2	+0.8
	baz=58						
KDAK	Kodiak Island	168.86	302	PKPab	PKPab	16 24 21.7	+0.3
	baz=72						

L17K	**Donlin** baz=41	**168.90**	**329**	PKPab	**PKPab**	**16 24 21.8**	**+0.4**
Q19K	**Cape Douglas,** baz=65	**168.97**	**308**	PKPab	**PKPab**	**16 24 21.5**	**-0.4**
N18K	**Kilae Creek** baz=52	**169.05**	**319**	PKPab	**PKPab**	**16 24 21.6**	**-0.5**
M17K	**Holitna River** baz=46	**169.15**	**325**	PKPab	**PKPab**	**16 24 23.1**	**+0.5**
O18K	**Koktuh Hills**	**169.24**	**315**		**PKPab**	**16 24 22.2**	**-0.8**
O18K	**Koktuh Hills** baz=57	**169.24**	**315**	PKPab	**PKPab**	**16 24 22.8**	**-0.2**
GAMB	**Gambell** baz=356	**169.31**	**3**	PKPab	**PKPab**	**16 24 22.8**	**-0.3**
P18K	**Big Mountain,** baz=59	**169.49**	**313**	PKPab	**PKPab**	**16 24 23.1**	**-1.1**
L16K	**Owhat River** baz=39	**169.58**	**330**	PKPab	**PKPab**	**16 24 24.7**	**+0.3**
N17K	**Nushagak Hills** baz=50	**169.64**	**321**	PKPab	**PKPab**	**16 24 25.0**	**+0.2**
K15K	**Wolf Creek Mou** baz=31	**169.67**	**336**	PKPab	**PKPab**	**16 24 25.4**	**+0.6**
J14K	**Nanvaranak Lak** baz=23	**169.70**	**342**	PKPab	**PKPab**	**16 24 25.2**	**+0.3**
M16K	**Timber Creek** baz=43	**169.94**	**326**	PKPab	**PKPab**	**16 24 26.6**	**+0.6**
O17K	**Koliganek Bris** baz=53	**170.07**	**317**	PKPab	**PKPab**	**16 24 26.9**	**+0.3**
P17K	**Kvichak River** baz=58	**170.12**	**313**	PKPab	**PKPab**	**16 24 26.3**	**-0.6**
L15K	**Ungalak Mounta** baz=33	**170.18**	**334**	PKPab	**PKPab**	**16 24 27.8**	**+0.8**
N16K	**Nishlik Lake** baz=46	**170.26**	**324**	PKPab	**PKPab**	**16 24 27.2**	**-0.3**
Q17K	**Contact Creek** baz=64	**170.32**	**308**	PKPab	**PKPab**	**16 24 27.7**	**-0.3**
Q16K	**King Salmon** baz=60	**170.48**	**311**	PKPab	**PKPab**	**16 24 28.4**	**-0.1**
O16K	**Kokwok River B** baz=51	**170.59**	**318**	PKPab	**PKPab**	**16 24 29.1**	**+0.2**
M15K	**Kasigluk River** baz=39	**170.75**	**329**	PKPab	**PKPab**	**16 24 29.8**	**+0.2**
L14K	**Kuka Creek** baz=30	**170.77**	**336**	PKPab	**PKPab**	**16 24 30.2**	**+0.6**
P16K	**Nushagak River** baz=54	**170.88**	**315**	PKPab	**PKPab**	**16 24 30.1**	**-0.1**
N15K	**Kwethluk River** baz=43	**170.94**	**325**	PKPab	**PKPab**	**16 24 31.6**	**+1.1**
M14K	**Bethel**	**171.08**	**332**	PKPab	**PKPab**	**16 24 30.2**	**-0.8**
M14K	**Bethel** baz=34	**171.08**	**332**	PKPab	**PKPab**	**16 24 31.7**	**+0.7**
R16K	**Pilot Point** baz=64	**171.43**	**306**	PKPab	**PKPab**	**16 24 32.3**	**-0.4**
O15K	**Ungalikthiuk R** baz=48	**171.54**	**320**	PKPab	**PKPab**	**16 24 33.0**	**-0.2**
N14K	**Kuskokwak Cree** baz=38	**171.66**	**328**	PKPab	**PKPab**	**16 24 33.2**	**-0.4**
M13K	**Dall Lake** baz=30	**171.74**	**335**	PKPab	**PKPab**	**16 24 33.3**	**-0.7**
O14K	**Tigyukauivet M** baz=43	**172.02**	**324**	PKPab	**PKPab**	**16 24 34.9**	**-0.4**
CHGN	**Chignik** baz=70	**172.35**	**299**	PKPab	**PKPab**	**16 24 37.2**	**+0.4**
S14K	**Fog Glacier** baz=67	**172.95**	**301**	PKPab	**PKPab**	**16 24 39.1**	**-0.6**
CHNA	**Chernabura Isl** baz=79	**173.38**	**289**	PKPab	**PKPab**	**16 24 41.8**	**+0.3**
SDPT	**Sand Point** baz=72	**173.75**	**295**	PKPab	**PKPab**	**16 24 43.3**	**+0.1**
SPIA	**Saint Paul Isl** baz=0.6	**175.95**	**358**	PKPab	**PKPab**	**16 24 52.4**	**-0.3**

*NEIC **28** 16:11:49.1±0.3, 15°.44S±0°.07×172°.7W±0°.2, h10km±2km, mb4.4/4, Error ellipse: s-maj=26.0km s-min=11.0km az=105.0*
*IDC **28** 16:11:52.6±5.3, 15°.61S×173°.45W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=217.5km s-min=52.9km az=136.0*
ISC 28 16:11:48.4±0.9, 15°.4S±0°.1×172°.7W±0°.1, h10km, n16, σ0s61/11, mb4.3/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.71**	**31**	Pn	**Pb**	**16 12 19.9**	**0.0**
AFI				Sn	**Sn**	**16 12 40.1**	**-0.2**
NIUE	**Niue**	**4.52**	**145**	Pn	**Pn**	**16 12 56.8**	**-0.1**
H11S2	**WAKE ISLAND Hy** baz=148,slow=75,SNR=14	**39.31**	**328**	T	T	17 01 25.2	
H11S3	**WAKE ISLAND Hy** baz=148,slow=75,SNR=12	**39.32**	**328**	T	T	17 01 22.1	
H11S1	**WAKE ISLAND Hy** baz=148,slow=75,SNR=10	**39.33**	**328**	T	T	17 01 26.6	
H11N3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=5.7	**40.24**	**329**	T	T	17 02 27.6	
H11N1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=4.0	**40.25**	**329**	T	T	17 02 21.9	
H11N2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=5.8	**40.26**	**329**	T	T	17 02 27.6	
STKA	**Stephens Creek** 3.9nm,0.9s,baz=76,slow=8.3,SNR=2.9 3.9nm,0.9s	**44.64**	**240**	P	**P**	**16 20 01.9**	**+0.5**
BBOO	**Buckleboo**	**49.42**	**240**	P	**P**	**16 20 38.4**	**-0.3**
WB0	**Warramunga Arr**	**50.48**	**257**	P	**P**	**16 20 46.6**	**-0.4**
WB0	comp=Z,11nm,1.1s			IAmb	IAmb	16 20 55.1	
WRA	**Warramunga Arr**	**50.52**	**257**	P	**P**	**16 20 46.5**	**-0.8**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.7s,baz=96,slow=7.7,SNR=10 comp=Z,0.8nm,0.7s	**50.52**	**257**	P	**P**	**16 20 46.9**	**-0.4**
AS31	**Alice Springs**	**50.77**	**252**	P	**P**	**16 20 48.9**	**-0.3**
AS31	comp=Z,1.8nm,0.9s			IAmb	IAmb	16 20 50.1	
ASAR	**Alice Springs** comp=Z,2.7nm,0.7s,baz=88,slow=8.0,SNR=23 comp=Z,2.7nm,0.7s	**50.77**	**252**	P	**P**	**16 20 48.8**	**-0.4**
BRTR	**Keskin Array B** comp=Z,1.9nm,0.6s,baz=113,slow=1.2,SNR=13	**146.57**	**322**	PKPbc	**PKiKP**	**16 31 34.8**	**+1.2**

*CATAC **28** 16:30:28.7±0.2, 8°.72N×83°.31W, h6km±2km, ML3.6*
*UCR **28** 16:30:28.9±0.8, 8°.68N×83°.31W, h21km±2km, MW3.9*
*UPA **28** 16:30:29.8±1.8, 8°.78N×83°.22W, h16km±5km, MW3.6*
ISC 28 16:30:28.8±1.0, 8°.72N±0°.02×83°.29W±0°.02, h18km±2km, n72, σ0s78/99, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDAD	**Golfito**	**0.14**	**117**	*e*P	**Pg**	**16 30 32.9**	**-0.1**
EDAD				*e*S	**Sg**	**16 30 36.3**	**+0.5**
JIME	**Puerto Jimenez**	**0.18**	**190**	*e*P	**Pg**	**16 30 33.4**	**-0.1**
JIME				*e*S	**Sg**	**16 30 37.8**	**+1.2**
EDPN	**Palmar Norte**	**0.29**	**326**	*e*P	**Pg**	**16 30 35.4**	**+0.1**
EDPN				*e*S	**Sb**	**16 30 40.9**	**+0.8**
PIRO	**Carate, Puerto**	**0.31**	**188**	*e*P	**Pg**	**16 30 35.0**	**-0.5**
PIRO	**Carate, Puerto**	**0.31**	**188**	*i*P	**Pg**	**16 30 34.9**	**-0.7**
PIRO				*i*S	**Sb**	**16 30 41.5**	**+0.9**
PIRO	comp=Z,17μm,1.0s			IAML		16 30 44.2	
VITO	**San Vito**	**0.34**	**72**	*e*P	**Pb**	**16 30 37.0**	**+0.6**
POTG	**Potrero Grande**	**0.38**	**27**	*e*P	**Pb**	**16 30 37.3**	**+0.3**
POTG	**Potrero Grande**	**0.38**	**27**	*i*P	**Pb**	**16 30 37.2**	**+0.2**
POTG	comp=Z,10μm,1.0s			IAML		16 30 37.9	
CDITO	**Canoas**	**0.44**	**109**	⇓*i*P	**Pg**	**16 30 37.6**	**-0.2**
CDITO				*e*S	**Sb**	**16 30 44.3**	**-0.1**
CDITO	**Canoas**	**0.44**	**109**	*i*P	**Pg**	**16 30 37.5**	**-0.3**
CDITO				*i*S	**Sb**	**16 30 44.5**	**+0.2**
CDITO	comp=Z,3μm,1.0s			IAML		16 30 50.4	
CCOL	**Caracol de Cor**	**0.44**	**134**	*e*P	**Pg**	**16 30 37.7**	**-0.1**
CCOL	**Caracol de Cor**	**0.44**	**134**	*i*P	**Pg**	**16 30 37.6**	**-0.2**
CCOL	comp=Z,7μm,1.0s			IAML		16 30 49.3	
EDBA	**Buenos Aires**	**0.44**	**2**	*e*P	**Pb**	**16 30 38.3**	**+0.2**
BURE	**Buenos Aires**	**0.46**	**354**	*e*P	**Pb**	**16 30 38.6**	**+0.2**
MLIR3	**Monte Lirio, C**	**0.47**	**81**	*e*P	**Pb**	**16 30 39.2**	**+0.6**
MLIR3				*e*S	**Sb**	**16 30 46.0**	**+0.7**
OCHAL	**Ojochal**	**0.52**	**317**	*i*P	**Pg**	**16 30 38.5**	**-0.7**
OCHAL				*i*S	**Sb**	**16 30 46.5**	**0.0**
OCHAL	comp=Z,80nm,1.0s			IAML		16 30 46.7	
SRBA	**San Rafael, Bu**	**0.52**	**353**	*e*P	**Pg**	**16 30 39.2**	**0.0**
SRBA	**San Rafael, Bu**	**0.52**	**353**	*i*P	**Pg**	**16 30 39.1**	**-0.2**
SRBA				*i*S	**Sb**	**16 30 47.1**	**+0.5**
SRBA	comp=Z,6μm,1.0s			IAML		16 30 47.6	
CTCR	**Cotoan**	**0.56**	**71**	*i*P	**Pb**	**16 30 40.0**	**-0.1**
CTCR	comp=Z,13μm,1.0s			IAML		16 30 50.6	
BRU2	**Volcan**	**0.60**	**83**	⇓*i*P	**Pb**	**16 30 40.8**	**-0.1**
BRU2				*e*S	**Sb**	**16 30 50.1**	**+1.1**
BRU2	**Volcan**	**0.60**	**83**	*e*P	**Pb**	**16 30 40.8**	**-0.1**
BRU2	**Volcan**	**0.60**	**83**	*i*P	**Pb**	**16 30 40.7**	**-0.1**
BRU2				*i*S	**Sn**	**16 30 50.6**	**-1.3**
BRU2	comp=Z,2μm,1.0s			IAML		16 30 51.4	
PTPM	**Petroterminale**	**0.65**	**141**	*e*P	**Pb**	**16 30 41.6**	**0.0**
PTPM				*e*S	**Sn**	**16 30 53.3**	**+0.3**
LIMO3	**Limones**	**0.74**	**145**	*e*P	**Pn**	**16 30 45.3**	**+0.9**
LIMO3				*e*S	**Sn**	**16 30 55.4**	**+0.2**
BCO2	**Palmira**	**0.76**	**90**	⇓*i*P	**Pb**	**16 30 43.2**	**-0.3**
BCO2				*e*S	**Sb**	**16 30 52.2**	**-1.4**
PEZE	**Perez Zeledon,**	**0.76**	**330**	*e*P	**Pb**	**16 30 43.1**	**-0.5**
PEZE	**Perez Zeledon,**	**0.76**	**330**	*i*P	**Pb**	**16 30 43.1**	**-0.5**
PEZE				*i*S	**Sb**	**16 30 53.6**	**-0.1**
PEZE	comp=Z,1μm,1.0s			IAML		16 30 55.4	
PTAR3	**Potrerillos Ar**	**0.79**	**92**	⇓*i*P	**Pb**	**16 30 43.7**	**-0.4**
PTAR3				*e*S	**Sb**	**16 30 53.9**	**-0.6**
LNBQ3	**Los Naranjos,**	**0.84**	**85**	⇑*i*P	**Pb**	**16 30 44.2**	**-0.8**
LNBQ3				*e*S	**Sg**	**16 30 56.2**	**-0.3**
DVD	**David**	**0.88**	**108**	*e*P	**Pb**	**16 30 44.8**	**-0.7**
DVD				*e*S	**Sn**	**16 30 58.0**	**-0.6**
PEDE3	**Pedregal, Chir**	**0.92**	**111**	*e*P	**Pb**	**16 30 45.5**	**-0.8**
PEDE3				*e*S	**Sb**	**16 30 58.4**	**+0.2**
BUS1	**Rivas**	**0.95**	**332**	*e*P	**Pb**	**16 30 46.1**	**-0.9**
CDM	**Cerro de Muert**	**0.95**	**331**	*e*P	**Pb**	**16 30 46.2**	**-0.9**
CDM	**Cerro de Muert**	**0.95**	**331**	*i*P	**Pb**	**16 30 46.0**	**-1.1**
CDM				*i*S	**Sb**	**16 30 59.8**	**+0.3**
CDM	comp=Z,410nm,1.0s			IAML		16 31 01.7	
GUAL3	**Gualaca, Chiri**	**1.00**	**100**	*e*P	**Pb**	**16 30 46.8**	**-0.8**
GUAL3				*e*S	**Sg**	**16 31 01.1**	**-0.3**
BRIBI	**Bribri**	**1.00**	**26**	*e*P	**Pg**	**16 30 49.6**	**+1.3**
CNI2	**El Empalme, Bo**	**1.07**	**49**	*e*P	**Pb**	**16 30 48.1**	**-0.8**
CNI2				*e*S	**Sb**	**16 31 02.2**	**-0.3**
LLNJ	**Naranjito**	**1.10**	**313**	*e*P	**Pb**	**16 30 48.0**	**-1.2**
CHGR2	**Aguacate**	**1.16**	**79**	*e*P	**Pn**	**16 30 49.5**	**-0.6**
CHGR2				*e*S	**Sb**	**16 31 03.2**	**-1.8**
RAZU	**San Marcos de**	**1.18**	**322**	*e*P	**Pn**	**16 30 50.7**	**+0.1**
ABE2	**San Pablo**	**1.24**	**323**	*e*P	**Pn**	**16 30 51.2**	**-0.3**
LCR2	**La Lucha 2**	**1.24**	**325**	*e*P	**Pn**	**16 30 50.8**	**-0.7**
LCR2	**La Lucha 2**	**1.24**	**325**	*i*P	**Pn**	**16 30 50.7**	**-0.7**
LCR2	comp=Z,600nm,1.0s			IAML		16 31 11.4	
REPA	**Paraso**	**1.24**	**333**	*e*P	**Pn**	**16 30 51.0**	**-0.4**
PCAYA	**Pacayas**	**1.30**	**337**	*e*P	**Pn**	**16 30 52.0**	**-0.2**
TBLN	**Tablon, Guarco**	**1.30**	**328**	*i*P	**Pn**	**16 30 51.6**	**-0.7**
TBLN	comp=Z,1μm,1.0s			IAML		16 31 15.0	
VTCV	**VTCV, Calle Va**	**1.33**	**341**	*e*P	**Pb**	**16 30 53.4**	**0.0**
OCM	**Ochomogo**	**1.34**	**331**	*e*P	**Pn**	**16 30 52.9**	**+0.1**
OCM	**Ochomogo**	**1.34**	**331**	*i*P	**Pn**	**16 30 52.7**	**-0.2**
OCM	comp=Z,720nm,1.0s			IAML		16 31 15.2	
CVTV	**Tajo**	**1.36**	**341**	*e*P	**Pb**	**16 30 53.9**	**0.0**
ICR3	**Volcano Irazu**	**1.36**	**337**	*e*P	**Pb**	**16 30 53.9**	**-0.1**
HAYA	**Volcan Irazu**	**1.37**	**337**	*i*P	**Pb**	**16 30 53.9**	**-0.2**
HAYA	comp=Z,1μm,1.0s			IAML		16 31 17.9	
VICA	**Volcano Irazu**	**1.37**	**337**	*e*P	**Pn**	**16 30 53.4**	**-0.1**
VTR0	**Volcan Turrial**	**1.37**	**340**	*e*P	**Pb**	**16 30 54.4**	**+0.2**
ACOS	**Acosta**	**1.38**	**321**	*e*P	**Pn**	**16 30 52.9**	**-0.4**
CVTR	**Volcan Turrial**	**1.38**	**340**	*e*P	**Pn**	**16 30 53.9**	**+0.4**
LCOCO	**El Coco**	**1.38**	**349**	*e*P	**Pn**	**16 30 53.3**	**0.0**
SJS3	**Mercedes San J**	**1.43**	**328**	*e*P	**Pn**	**16 30 53.1**	**-0.9**
HDC3	**Heredia 3**	**1.51**	**328**	*i*P	**Pn**	**16 30 55.7**	**+0.6**
HDC3	comp=Z,1μm,1.0s			IAML		16 31 20.2	
JACO	**JACO, Garabito**	**1.65**	**305**	*i*P	**Pn**	**16 30 57.5**	**+0.7**
JACO				*i*S	**Sb**	**16 31 20.1**	**+1.1**
JACO	comp=Z,210nm,1.0s			IAML		16 31 28.4	
RIFO	**Rio Frio, Sara**	**1.71**	**339**	*i*P	**Pb**	**16 31 00.4**	**+0.7**
RIFO	comp=Z,450nm,1.0s			IAML		16 31 28.0	
CPMI	**Catarata Coope**	**1.89**	**325**	*e*P	**Pn**	**16 31 01.2**	**+0.8**
CPMI	**Catarata Coope**	**1.89**	**325**	*i*P	**Pn**	**16 31 00.8**	**+0.4**
CPMI	comp=Z,260nm,1.0s			IAML		16 31 42.2	
SOCE	**Pocosol**	**2.11**	**322**	*e*P	**Pn**	**16 31 05.0**	**+1.7**
SOCE	**Pocosol**	**2.11**	**322**	*i*P	**Pb**	**16 31 05.3**	**-1.3**
SOCE	comp=Z,870nm,1.0s			IAML		16 31 40.1	
VACR	**Volcan Arenal**	**2.22**	**322**	*e*P	**Pb**	**16 31 07.3**	**-1.1**
ARE1	**Arenal 1**	**2.23**	**321**	*e*P	**Pb**	**16 31 07.2**	**-1.4**
GMAL	**Guarumal, Vera**	**2.25**	**115**	*e*P	**Pn**	**16 31 06.8**	**+1.7**
GMAL				*e*S	**Sb**	**16 31 35.3**	**-1.1**
JTS	**Las Juntas de**	**2.27**	**314**	*e*P	**Pn**	**16 31 07.1**	**+1.8**
JTS				*e*S	**Sn**	**16 31 33.9**	**+1.0**
JTS	**Las Juntas de**	**2.27**	**314**	*e*P	**Pn**	**16 31 06.8**	**+1.4**
INDI	**Punta indio, G**	**2.46**	**298**	*i*P	**Pn**	**16 31 07.9**	**-0.2**
INDI	comp=Z,130nm,1.0s			IAML		16 32 00.5	
CACAO	**El Cacao, Vera**	**2.77**	**119**	*e*P	**Pn**	**16 31 14.9**	**+2.6**
CACAO				*e*S	**Sn**	**16 31 44.6**	**-0.6**

*BEO **28** 16:36:30.9±0.5, 43°.39N×17°.23E, h0km, ML2.0/9*
*RHSSO **28** 16:36:31.4±0.3, 43°.39N×17°.36E, h5km±1km, ML2.1/13*
*VIE **28** 16:36:32.0±1.0, 43°.54N×17°.86E, h8km, mb2.5/4, ml2.1/4, Error ellipse: s-maj=22.5km s-min=5.1km az=30.0 55 km SW of Sarajevo*
ISC 28 16:36:30.7±1.1, 43°.40N±0°.02×17°.36E±0°.02, h0km±10km, n45, σ0s90/82, 4C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	**0.19**	**301**	*e*Pg	**Pg**	**16 36 34.4**	**+0.1**
RICI				Sg	**Sg**	**16 36 37.5**	**+0.7**
MAKA	**Makarska**	**0.27**	**246**	*i*Pg	**Pg**	**16 36 36.1**	**+0.2**
MAKA				Sg	**Sg**	**16 36 40.8**	**+1.5**
NEVS	**Nevesinje**	**0.55**	**100**	*e*Pg	**Pg**	**16 36 40.5**	**-0.8**
NEVS				*e*Sg	**Sg**	**16 36 49.2**	**+0.7**
STON	**Ston**	**0.58**	**154**	*e*Pg	**Pg**	**16 36 41.6**	**-0.3**
STON				*e*Sg	**Sg**	**16 36 51.0**	**+1.6**
STON	**Ston**	**0.58**	**154**	*e*Pg	**Pg**	**16 36 41.2**	**-0.6**
STON				Sg	**Sg**	**16 36 50.3**	**+0.9**
STON	**Ston**	**0.58**	**154**	*e*Pg	**Pg**	**16 36 41.5**	**-0.3**
STON				*e*Sg	**Sg**	**16 36 50.4**	**+1.0**
LSTV	**Lastovo**	**0.71**	**209**	*e*Pg	**Pg**	**16 36 43.7**	**-0.6**
LSTV				Sg	**Sg**	**16 36 53.6**	**0.0**
KUJV	**Kijevo**	**0.92**	**312**	*e*Pg	**Pg**	**16 36 47.1**	**-1.2**
KUJV				Sg	**Sg**	**16 37 00.4**	**+0.2**
KLINJ	**Klinje**	**0.93**	**104**	*e*Pg	**Pg**	**16 36 47.7**	**-0.8**
KLINJ				*e*Sg	**Sg**	**16 37 00.9**	**+0.4**
DBRK	**Dubrovnik**	**0.93**	**141**	*e*Pg	**Pg**	**16 36 47.7**	**-0.8**
DBRK				Sg	**Sg**	**16 37 00.8**	**+0.3**
TREB	**Trebinje**	**1.00**	**133**	*e*Pg	**Pg**	**16 36 48.7**	**-1.1**
TREB				*e*Sg	**Sb**	**16 37 04.1**	**-0.4**
TREB	**Trebinje**	**1.00**	**133**	⇓*i*Pg	**Pg**	**16 36 48.6**	**-1.2**
TREB				*e*Sg	**Sg**	**16 37 03.5**	**+0.8**
BRY	**Bratogost**	**1.00**	**119**	*e*Pg	**Pg**	**16 36 48.7**	**-1.1**
BRY				*e*Sg	**Sg**	**16 37 03.1**	**+0.4**
MGRS	**Mrkonjic Grad**	**1.04**	**349**	⇑*i*Pg	**Pg**	**16 36 50.2**	**-0.4**
MGRS				*e*Sg	**Sg**	**16 37 04.5**	**+0.4**
UPM	**Unac-Piva**	**1.15**	**99**	*e*Sg	**Sg**	**16 37 07.5**	**-0.1**
A050A	**Klekovaca**	**1.24**	**332**	⇑*i*Pg	**Pg**	**16 36 53.5**	**-0.9**
A050A				*e*Sg	**Sg**	**16 37 11.2**	**+0.8**
HCY	**Herceg Novi**	**1.27**	**138**	*e*Pg	**Pg**	**16 36 53.4**	**-1.5**
HCY				*e*Sg	**Sb**	**16 37 11.9**	**-0.3**
ZIRJ	**Zirje**	**1.27**	**282**	*e*Pn	**Pg**	**16 36 53.5**	**-1.5**
ZIRJ				Sg	**Sg**	**16 37 10.4**	**-1.1**
MORI	**Morici**	**1.28**	**292**	*e*Pn	**Pn**	**16 36 54.0**	**-1.9**
MORI				Sn	**Sg**	**16 37 12.3**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.35**	**59**	*e*Pg	**Pn**	**16 36 55.4**	**-1.4**
HAPS				*e*Sg	**Sn**	**16 37 16.0**	**+0.6**
HAPS	**Han Pijesak,Bl**	**1.35**	**59**	⇑*i*Pg	**Pn**	**16 36 56.1**	**-0.7**
HAPS				*e*Sg	**Sg**	**16 37 14.4**	**+0.5**
BLY	**Banja Luka**	**1.36**	**355**	*e*Pg	**Pn**	**16 36 56.2**	**-0.7**
BLY				*e*Sg	**Sb**	**16 37 14.5**	**-0.3**
BLY	**Banja Luka**	**1.36**	**355**	⇓*i*Pg	**Pn**	**16 36 56.0**	**-0.9**
BLY				*e*Sg	**Sb**	**16 37 14.7**	**-0.1**
RUDO	**Rudo**	**1.48**	**81**	*e*Pg	**Pn**	**16 36 57.6**	**-1.0**
RUDO				*e*Sg	**Sn**	**16 37 18.2**	**-0.4**
BBLS	**Lazići**	**1.56**	**72**	*e*Pg	**Pn**	**16 36 59.7**	**0.0**
BBLS				*e*Sg	**Sg**	**16 37 22.4**	**+1.6**
BBLS	**Lazići**	**1.56**	**72**	*e*Pn	**Pn**	**16 36 59.4**	**-0.3**
BBLS				*e*Sn	**Sb**	**16 37 20.8**	**0.0**
A051A	**Mrakovica**	**1.65**	**349**	⇓*i*Pn	**Pn**	**16 37 00.6**	**-0.3**
A051A				*e*Sn	**Sn**	**16 37 23.0**	**+0.2**
DRME	**Dracevica, Mon**	**1.81**	**131**	⇑*i*Pn	**Pn**	**16 37 03.7**	**+0.6**
DRME				*e*Sn	**Sn**	**16 37 26.0**	**-0.7**
SJES	**Sjenica**	**1.92**	**93**	*e*Pn	**Pb**	**16 37 07.0**	**+0.5**
SJES				*e*Sg	**Sg**	**16 37 33.9**	**+1.7**
SJES	**Sjenica**	**1.92**	**93**	*e*Pn	**Pn**	**16 37 04.2**	**-0.4**
SJES				*e*Sn	**Sn**	**16 37 28.4**	**-1.1**
TEKS	**Tekeris**	**1.95**	**53**	*e*Pn	**Pb**	**16 37 06.8**	**-0.2**
TEKS				*e*Sn	**Sb**	**16 37 32.7**	**+0.9**
TEKS	**Tekeris**	**1.95**	**53**	*e*Pn	**Pn**	**16 37 05.2**	**+0.2**
TEKS				*e*Sn	**Sn**	**16 37 30.4**	**+0.3**
DIVS	**Divibare**	**2.04**	**69**	*e*Pn	**Pb**	**16 37 08.7**	**+0.1**
DIVS				*e*Sn	**Sb**	**16 37 35.0**	**+0.6**
IVAS	**Ivanjica**	**2.04**	**84**	*e*Pn	**Pn**	**16 37 06.8**	**+0.4**
IVAS				*e*Sn	**Sg**	**16 37 35.9**	**-0.4**
GRUS	**Gruza**	**2.49**	**77**	*e*Pn	**Pn**	**16 37 13.9**	**+1.5**
GRUS				*e*Sn	**Sb**	**16 37 46.5**	**-0.9**
BOJS	**Bojanci**	**2.59**	**325**	*e*Pn	**Pn**	**16 37 14.4**	**+0.6**
BOJS				*e*Sn	**Sn**	**16 37 45.8**	**-0.1**
SELS	**Selova**	**2.75**	**92**	*e*Pn	**Pn**	**16 37 17.2**	**+1.1**
CRES	**Cresnjev**	**2.78**	**331**	*e*Pn	**Pn**	**16 37 17.1**	**+0.7**
CRES				*e*Sn	**Sn**	**16 37 50.7**	**0.0**
CEY	**Cerknica**	**3.14**	**319**	*e*Sn	**Sn**	**16 37 59.4**	**-0.2**
SKDS	**Skadanscina**	**3.21**	**313**	*e*Sn	**Sn**	**16 38 01.0**	**-0.4**
OBKA	**Obir** 0.5nm,0.3s	**3.69**	**328**	*e*Pn	**Pn**	**16 37 31.1**	**+2.0**
OBKA	**Obir**	**3.69**	**328**	*e*Pn	**Pn**	**16 37 29.2**	**+0.1**
OBKA				*e*Sn	**Sn**	**16 38 12.3**	**-1.0**
ARSA	**Arzberg** 0.7nm,0.3s	**4.06**	**342**	*e*Pn	**Pn**	**16 37 34.6**	**+0.5**
MOA	**Molln** 0.6nm,0.2s	**4.95**	**335**	*e*Pn	**Pn**	**16 37 48.0**	**+1.7**
LESA	**Schwarzleotal** 1.1nm,0.4s	**5.20**	**322**	*e*Pn	**Pn**	**16 37 52.1**	**+2.3**

*NEIC **28** 16:36:53.6±1.2, 55°.65N±0°.08×149°.2W±0°.1, h6km±5km, mb4.1/4, ML3.9/42, ML3.7(AEIC), Error ellipse: s-maj=11.1km s-min=8.7km az=167.0*
*IDC **28** 16:36:54.1±1.0, 55°.65N×149°.24W, h0km, mb3.8/10, mbtmp3.8/15, ML3.5/5, Error ellipse: s-maj=23.4km s-min=15.9km az=39.0*
*AEIC **28** 16:36:58.8±1.7, 55°.71N±0°.09×149°.1W±0°.1, h10km±5km, Error ellipse: s-maj=13.3km s-min=9.1km az=172.0*
ISC 28 16:36:58.4±0.7, 55°.77N±0°.07×149°.15W±0°.05, h35km, n244, σ1s21/250, mb4.0/12, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.72**	**304**	Pn	**Pn**	**16 37 37.6**	**-1.9**
OHAK	**Old Harbor** baz=123	**2.72**	**304**	P	**Pn**	**16 37 38.1**	**-1.4**
OHAK				S	**Sn**	**16 38 07.8**	**-3.2**
KDAK	**Kodiak Island**	**2.77**	**318**	Pn	**Pn**	**16 37 39.2**	**-0.9**
KDAK	**Kodiak Island**	**2.77**	**318**		**Sn**	**16 38 10.5**	**-1.7**
KDAK	**Kodiak Island** 3.4nm,0.3s,baz=144,slow=6.2,SNR=22	**2.77**	**318**	Pn	**Pn**	**16 37 39.2**	**-0.9**
KDAK	6.1nm,0.3s,baz=209,slow=9.3,SNR=6.4 9.1nm,0.2s			Sn	**Sn**	**16 38 10.4**	**-1.8**
SII	**Sitkinak Islan**	**2.93**	**288**	Pn	**Pn**	**16 37 40.1**	**-2.3**
SII	comp=N,233nm,0.7s			IAML		16 38 24.1	
SII	**Sitkinak Islan**	**2.93**	**288**		**Sn**	**16 38 14.5**	**-1.8**
SII	**Sitkinak Islan**	**2.93**	**288**	P	**Pn**	**16 37 41.2**	**-1.1**
SII	**Sitkinak Islan** baz=106	**2.93**	**288**	P	**Pn**	**16 37 40.8**	**-1.6**
SII	baz=106			S	**Sn**	**16 38 14.5**	**-1.8**
SYI	**Shuyak Island**	**3.35**	**330**	Pn	**Pn**	**16 37 47.4**	**-0.7**
SYI	**Shuyak Island**	**3.35**	**330**		**Sn**	**16 38 26.4**	**-0.2**
Q20K	**Shuyak Island** baz=148	**3.35**	**330**	P	**Pn**	**16 37 47.5**	**-0.7**
Q20K	baz=148			S	**Sn**	**16 38 26.4**	**-0.3**
CNPM	**China Poot**	**3.93**	**344**		**Pn**	**16 37 55.5**	**-0.7**
CNPM	comp=N,71nm,0.5s			IAML		16 38 42.7	
CNPM	comp=E,80nm,0.8s			IAML		16 38 57.4	
CNPM	**China Poot**	**3.

R16K IAML 16 39 19.8
comp=N,58nm,1.4s
R16K Pilot Point 4.99 295 P Pn **16 38 09.3 -1.2**
baz=109
RED Redoubt Volcan 5.04 339 Pn **16 38 10.5 -1.0**
RSO Redoubt South 5.08 339 Pn **16 38 10.3 -1.8**
RDT Redoubt 5.12 342 Pn **16 38 11.6 -0.9**
EYAK Cordova Ski Ar 5.12 19 Pn **16 38 11.6 -0.8**
EYAK Cordova Ski Ar 5.12 19 P Pn **16 38 12.3 -0.1**
EYAK Cordova Ski Ar 5.12 19 P Pn **16 38 11.6 -0.8**
baz=202
CAPN Captain Cook N 5.12 349 Pn Pn **16 38 13.7 +1.2**
DFR Drift River 5.19 340 Pn **16 38 12.2 -1.2**
FID Port Fidalgo 5.19 15 Pn **16 38 12.0 -1.5**
ANPB Aniakchak Plen 5.19 285 Pn **16 38 12.1 -1.4**
RAGM Ragged Mountai 5.20 25 Pn Pn **16 38 13.7 +0.1**
O18K Koktuh Hills 5.22 324 Pn **16 38 13.0 -0.9**
O18K IAML 16 39 20.6
comp=E,30nm,0.6s
O18K IAML 16 39 20.9
comp=N,42nm,0.7s
O18K Koktuh Hills 5.22 324 P Pn **16 38 12.4 -1.5**
baz=140
O19K Port Alsworth 5.22 330 Pn **16 38 13.3 -0.5**
O19K IAML 16 39 19.6
comp=E,141nm,0.5s
O19K IAML 16 39 22.7
comp=N,115nm,0.4s
P17K Kvichak River 5.22 314 Pn **16 38 13.0 -0.8**
P17K Kvichak River 5.22 314 P Pn **16 38 13.0 -0.8**
baz=129
CHGN Chignik 5.22 280 Pn Pn **16 38 10.3 -3.5**
CHGN IAML 16 39 09.5
comp=E,36nm,1.1s
CHGN IAML 16 40 05.2
comp=N,37nm,1.0s
RC01 Rabbit Creek A 5.35 357 Pn **16 38 14.9 -0.7**
RC01 Rabbit Creek A 5.35 357 P Pn **16 38 14.4 -1.2**
baz=177
GOAT Goat Mountain 5.36 24 Pn **16 38 15.8 0.0**
BERG Berg Lake 5.46 30 Pn **16 38 16.5 -0.7**
SNH Sunshine Point 5.55 35 Pn Pn **16 38 18.1 -0.3**
KNK Knik Glacier 5.67 3 Pn Pn **16 38 19.6 -0.4**
SPCP Crater Peak Br 5.73 345 Pn **16 38 20.1 -0.9**
BMRM Bremner River 5.74 23 Pn **16 38 19.6 -1.3**
BMRM Bremner River 5.74 23 P Pn **16 38 19.6 -1.3**
baz=206
SUA Susitna One 5.77 352 Pn **16 38 21.4 -0.1**
N19K Bonanza Creek 5.79 333 Pn **16 38 20.4 -1.2**
N19K Bonanza Creek 5.79 333 P Pn **16 38 20.5 -1.2**
baz=150
P16K Nushagak River 5.79 308 Pn **16 38 20.6 -1.0**
P16K Nushagak River 5.79 308 P Pn **16 38 20.6 -1.0**
baz=122
PMR Palmer 5.84 0 Pn **16 38 22.1 -0.3**
PMR Palmer 5.84 0 P Pn **16 38 22.4 +0.1**
PMR Palmer 5.84 0 P Pn **16 38 22.0 -0.3**
baz=180
O17K Koliganek Bris 5.85 317 Pn **16 38 21.1 -1.3**
O17K Koliganek Bris 5.85 317 P Pn **16 38 21.1 -1.3**
baz=131
S14K Fog Glacier 5.86 279 P Pn **16 38 21.4 -1.3**
baz=92
VNFG Fog Glacier, M 5.86 279 Pn **16 38 21.4 -1.3**
STLK Strandline Lak 5.92 347 Pn **16 38 22.7 -0.7**
KLU Klutina 5.98 15 Pn **16 38 24.1 -0.3**
KLU Klutina 5.98 15 P Pn **16 38 24.0 -0.3**
baz=198
GHO Glory Hole Cre 6.02 1 Pn **16 38 24.9 -0.1**
CHNA Chernabura Isl 6.04 265 P Pn **16 38 22.9 -2.1**
baz=78
CNBA Chernabura Isl 6.04 265 Pn Pn **16 38 22.9 -2.1**
SML Sawmill 6.07 4 Pn **16 38 25.5 0.0**
SML Sawmill 6.07 4 P Pn **16 38 25.6 0.0**
baz=185
N18K Kilae Creek 6.08 327 Pn **16 38 24.3 -1.3**
N18K Kilae Creek 6.08 327 P Pn **16 38 24.3 -1.3**
baz=142
O16K Kokwok River B 6.14 312 Pn **16 38 25.2 -1.2**
O16K Kokwok River B 6.14 312 P Pn **16 38 25.2 -1.2**
baz=126
SCM Sheep Creek Mo 6.16 8 Pn **16 38 26.7 -0.1**
SCM Sheep Creek Mo 6.16 8 P Pn **16 38 26.6 -0.1**
baz=190
VRDI Verde Repeater 6.24 26 Pn Pn **16 38 27.7 -0.2**
N25K Chitina, Valde 6.32 20 Pn **16 38 28.8 -0.1**
N25K Chitina, Valde 6.32 20 P Pn **16 38 28.7 -0.2**
baz=204
YKU2 Yakutat 6.32 50 Pn Pn **16 38 29.2 +0.3**
GLB Gilahina Butte 6.33 24 Pn Pn **16 38 29.1 -0.1**
SKT Skwentna 6.35 350 Pn **16 38 29.5 +0.1**
N17K Nushagak Hills 6.39 322 Pn Pn **16 38 29.4 -0.5**
PCA Pinnacle 6.42 44 Pn **16 38 29.6 -0.7**
PINM Pinnacle 6.42 44 P Pn **16 38 29.6 -0.7**
baz=231
SDPT Sand Point 6.44 271 Pn Pn **16 38 28.3 -2.3**
SDPT Sand Point 6.44 271 P Pn **16 38 28.8 -1.8**
SDPT Sand Point 6.44 271 P Pn **16 38 28.7 -1.8**
baz=83
M20K Styx River 6.47 343 Pn **16 38 30.1 -0.9**
M20K Styx River 6.47 343 P Pn **16 38 30.1 -0.9**
baz=160
PNL Peninsula 6.52 49 Pn **16 38 31.2 -0.5**
PNL Peninsula 6.52 49 P Pn **16 38 31.2 -0.5**
baz=237
M24K Tolsona, Glenn 6.54 12 Pn **16 38 32.9 +0.9**
M24K Tolsona, Glenn 6.54 12 P Pn **16 38 32.5 +0.5**
baz=195
BARN Barnard Glacie 6.60 33 Pn **16 38 32.6 -0.4**
LOGN Logan Glacier 6.64 37 Pn **16 38 33.0 -0.4**
CUT Chulitna 6.68 356 Pn Pn **16 38 33.8 0.0**
O15K Ungalikthiuk R 6.69 305 Pn **16 38 33.0 -1.1**
O15K Ungalikthiuk R 6.69 305 P Pn **16 38 33.0 -1.1**
baz=117
M18K Stony River 6.71 331 Pn **16 38 32.8 -1.4**
M18K Stony River 6.71 331 P Pn **16 38 32.8 -1.4**
baz=147
M19K Big River Lodg 6.73 338 Pn **16 38 33.2 -1.3**
M19K Big River Lodg 6.73 338 P Pn **16 38 33.2 -1.3**
baz=154
WAT6 Susitna Watana 6.87 5 Pn **16 38 36.3 -0.4**
WAT6 Susitna Watana 6.87 5 P Pn **16 38 36.3 -0.4**
baz=187
N16K Nishlik Lake 6.94 317 Pn **16 38 36.8 -0.6**
N16K Nishlik Lake 6.94 317 P Pn **16 38 36.8 -0.6**
baz=130
HARP HAARP 6.96 16 Pn **16 38 37.8 +0.1**
HARP HAARP 6.96 16 P Pn **16 38 37.8 +0.1**
baz=199
L19K White Mountain 7.07 338 Pn Pn **16 38 37.9 -1.4**
WAT7 Susitna Watana 7.09 1 Pn **16 38 39.2 -0.3**
M17K Holitna River 7.11 326 Pn **16 38 38.9 -0.9**
M17K Holitna River 7.11 326 P Pn **16 38 39.2 -0.6**
baz=140
O29M Mount Kennedy 7.22 47 Pn **16 38 41.5 +0.2**
O29M Mount Kennedy 7.22 47 P Pn **16 38 41.5 +0.2**
baz=235
P29M Windy Craggy 7.23 53 Pn **16 38 41.0 -0.5**
P29M Windy Craggy 7.23 53 P Pn **16 38 41.0 -0.5**
baz=242
PN7A Pavlof North-7 7.29 273 Pn **16 38 40.3 -2.0**
N15K Kwethluk River 7.30 312 Pn **16 38 40.9 -1.4**
M16K Timber Creek 7.37 320 Pn Pn **16 38 42.2 -1.0**
M16K Timber Creek 7.37 320 P Pn **16 38 43.1 -0.2**
baz=132
DHY Denali Highway 7.39 6 Pn **16 38 43.9 +0.3**
DHY Denali Highway 7.39 6 P Pn **16 38 44.0 +0.4**
baz=188
O14K Tigyukauivet M 7.40 303 Pn **16 38 43.8 +0.1**
O14K Tigyukauivet M 7.40 303 P Pn **16 38 43.8 +0.1**
baz=114
S31K Pelican 7.41 67 Pn **16 38 41.2 -2.7**
S31K Pelican 7.41 67 P Pn **16 38 41.2 -2.7**
baz=258
M27K Edge Creek, AK 7.59 27 Pn **16 38 46.9 +0.4**
M27K Edge Creek, AK 7.59 27 P Pn **16 38 46.9 +0.4**
baz=213
RND Reindeer 7.66 1 Pn Pn **16 38 47.8 +0.4**
MENT Mentasta 7.71 19 Pn Pn **16 38 46.2 -1.8**
TRF Thorofare Moun 7.73 356 P Pn **16 38 49.4 +1.0**
baz=176
SIT Sitka 7.78 75 Pn Pn **16 38 44.9 -4.0**
SIT Sitka 7.78 75 P Pn **16 38 45.5 -3.3**
SIT Sitka 7.78 75 P Pn **16 38 45.6 -3.3**
baz=265
PLBC Pleasant Camp 7.79 56 Pn **16 38 49.1 0.0**
PLBC Pleasant Camp 7.79 56 P Pn **16 38 49.1 0.0**
baz=247
CAST Castle Rocks 7.82 350 Pn **16 38 47.6 -1.9**
CAST Castle Rocks 7.82 350 P Pn **16 38 50.2 +0.8**
baz=168
L26K Log Cabin Wild 7.86 20 Pn **16 38 48.3 -1.7**
KTH Kantishna Hill 7.86 354 Pn Pn **16 38 48.2 -1.9**
HYT Haines Junctio 7.95 46 Pn Pn **16 38 51.3 -0.1**
TTA Tatalina 7.99 337 P Pn **16 38 52.2 +0.3**
L16K Owhat River 8.02 322 Pn Pn **16 38 49.5 -2.6**
S32K Killisnoo 8.22 72 Pn Pn **16 38 51.8 -3.1**
S32K Killisnoo 8.22 72 P Pn **16 38 51.9 -3.0**
baz=263
BCAR Beaver Creek A 8.22 24 Pn Pn **16 38 55.4 +0.3**
RIDG Independent Ri 8.29 13 Pn **16 38 56.1 +0.2**
SKAG Skagway 8.29 58 Pn Pn **16 38 54.9 -1.0**
SKAG Skagway 8.29 58 P Pn **16 38 55.4 -0.4**
ISLZ Isanotski Laza 8.39 269 Pn **16 38 54.9 -2.4**
K17K Iditarod 8.39 330 Pn Pn **16 38 55.3 -2.0**
ISNN Isanotski Nort 8.40 270 Pn **16 38 55.5 -2.0**
JIS Juneau Island 8.44 67 Pn Pn **16 38 56.5 -1.4**
JIS Juneau Island 8.44 67 P Pn **16 38 56.7 -1.2**
O30N Mendenhall 8.51 49 Pn Pn **16 38 59.2 +0.2**
SCRK Sand Creek 8.63 15 Pn **16 39 00.6 -0.1**
HDA Harding Lake 8.74 6 Pn **16 39 01.7 -0.3**
CCB Clear Creek Bu 8.93 4 Pn **16 39 04.1 -0.6**
U33K Whale Pass 9.00 81 Pn Pn **16 39 02.3 -3.4**
K27K Chicken 9.01 20 Pn Pn **16 39 05.7 -0.1**
N31M Braeburn, Yuko 9.02 45 Pn **16 39 06.0 +0.1**
N31M Braeburn, Yuko 9.02 45 P Pn **16 39 06.1 +0.2**
baz=236
IL31 9.10 6 Pn **16 39 07.1 +0.1**
ILAR Eielson Array 9.10 6 Pn Pn **16 39 07.3 +0.3**
ILAR Eielson Array 9.10 6 Pn Pn **16 39 07.8 +0.8**
comp=N,0.4nm,0.3s,baz=188,slow=14,SNR=17
ILAR Sn **Sn** **16 40 45.7 -2.4**
comp=N,0.3nm,0.3s,baz=183,slow=22,SNR=8.6
comp=N,1.1nm,0.4s
P32M Atlin 9.11 59 Pn Pn **16 39 06.6 -0.5**
P32M Atlin 9.11 59 P Pn **16 39 06.7 -0.5**
baz=251
COLA College 9.16 3 P Pn **16 39 08.9 +1.1**
MDM Murphy Dome 9.23 2 Pn **16 39 08.3 -0.6**
M30M Minto, Yukon 9.30 38 Pn **16 39 10.1 +0.2**
M30M Minto, Yukon 9.30 38 P Pn **16 39 10.1 +0.2**
baz=228
MLY Manley 9.33 356 Pn Pn **16 39 09.8 -0.3**
I23K Minto, Yukon-K 9.41 359 Pn Pn **16 39 11.1 -0.2**
I21K Tanana 9.54 353 Pn **16 39 12.8 -0.3**
I21K Tanana 9.54 353 P Pn **16 39 14.0 +0.9**
baz=171
DAWY Dawson 9.64 26 Pn Pn **16 39 14.7 +0.2**
P33M Teslin, Yukon 9.74 56 Pn **16 39 15.1 -0.7**
P33M Teslin, Yukon 9.74 56 P Pn **16 39 15.2 -0.7**
baz=249
PRP Porcupine Dome 9.94 9 Pn Pn **16 39 18.2 -0.5**
M31M Drury Creek, Y 9.96 44 Pn **16 39 18.9 +0.1**
H21K Melozitna Rive 10.08 351 Pn **16 39 20.3 -0.1**
J29N Klondike Camp 10.26 27 Pn **16 39 23.4 +0.5**
FARO Faro, Yukon 10.39 45 Pn Pn **16 39 24.6 -0.1**
R33M Jennings River 10.41 62 Pn Pn **16 39 24.4 -0.6**
IMAR Indian Mountai 10.49 350 Pn Pn **16 39 25.2 -0.7**
T35M Bob Quinn 10.55 76 Pn Pn **16 39 26.6 -0.3**
DLBC Dease Lake 10.73 68 Pn Pn **16 39 29.2 -0.2**
DLBC Dease Lake 10.73 68 Pn Pn **16 39 28.3 -1.1**
comp=N,1.0nm,0.3s,baz=276,slow=6.8,SNR=15
comp=N,1.7nm,0.3s
BMAR Burnt Mountain 11.90 9 Pn Pn **16 39 45.2 -0.1**
E29M Blow River 13.68 18 Pn Pn **16 40 09.8 +0.3**
F31M Tsiigehtchic 13.75 26 Pn **16 40 10.3 -0.2**
INK Inuvik 14.48 24 Pn **16 40 21.8 +1.4**
INK Inuvik 14.48 24 Pn Pn **16 40 22.8 +2.4**
comp=N,0.1nm,0.3s,baz=203,slow=14,SNR=16
comp=N,6.6nm,1.0s
C36M Paulatuk 17.65 30 P **16 41 01.6 -0.1**
YKA Yellowknife Ar 18.77 55 P Pn **16 41 14.5 -0.3**
YKA Yellowknife Ar 18.77 55 P Pn **16 41 15.7 +0.9**
comp=N,0.1nm,0.3s,baz=264,slow=10.0,SNR=8.5
comp=N,0.7nm,0.9s
A36M Sachs Harbour 19.12 23 P Pn **16 41 18.7 -0.2**
A36M IAmb IAmb 16 41 25.0
comp=Z,8.2nm,0.8s
NEW Newport 20.94 98 P Pn 16 41 40.3 -0.3
comp=Z,3.1nm,0.8s,baz=344,slow=6.3,SNR=6.8
comp=Z,3.1nm,0.8s
PNTR Pine Nut 25.75 118 P P **16 42 25.1 -0.6**
PNTR IAmb IAmb 16 42 47.9
comp=Z,7.4nm,1.3s
NVAR Mina Array Bea 26.91 117 P P **16 42 37.1 +1.0**
comp=Z,0.5nm,0.7s,baz=305,slow=8.5,SNR=4.6
comp=Z,0.5nm,0.7s
PDAR Pinedale Array 28.50 100 P P **16 42 50.3 -0.1**
PDAR Pinedale Array 28.50 100 P P **16 42 50.9 +0.6**
comp=Z,0.3nm,0.6s,baz=308,slow=3.0,SNR=2.2
comp=Z,0.3nm,0.6s
RSSD Black Hills 30.73 93 P P **16 43 09.6 -0.5**
H11N2 WAKE ISLAND Hy 48.69 241 T T 17 38 09.5
baz=32,slow=76,SNR=8.3
H11N3 WAKE ISLAND Hy 48.70 240 T T 17 38 03.3
baz=32,slow=76,SNR=6.3
H11N1 WAKE ISLAND Hy 48.71 241 T T 17 38 13.9
baz=32,slow=76,SNR=5.6
H11S1 WAKE ISLAND Hy 49.83 240 T T 17 40 38.7
baz=29,slow=74,SNR=8.8
H11S2 WAKE ISLAND Hy 49.84 240 T T 17 40 34.0
baz=29,slow=74,SNR=7.1
H11S3 WAKE ISLAND Hy 49.85 240 T T 17 40 23.4
baz=29,SNR=5.9
ARCES ARCESS Array B 54.94 2 P P **16 46 25.6 +0.6**
comp=Z,4.2nm,1.0s,baz=13,slow=5.6,SNR=3.7
comp=Z,4.2nm,1.0s
ZALV Zalesovo Beam 62.03 327 P P **16 47 16.5 +1.9**
comp=Z,0.6nm,0.7s,baz=59,slow=5.6,SNR=2.4
comp=Z,0.6nm,0.7s
HHC Hu-ho-hao-te 62.07 302 *e*P P **16 47 13.3 -2.0**
HHC pmax pmax
comp=Z,37nm,0.6s
HHC pmax pmax
comp=Z,870nm,5.3s
FINES FINESS Array B 63.07 3 P P **16 47 23.1 +1.7**
comp=Z,2.3nm,0.8s,baz=357,slow=8.7,SNR=7.9
comp=Z,2.3nm,0.8s
BVAR Borovoye Array 66.78 335 P P **16 47 47.5 +1.7**
comp=Z,0.6nm,0.7s,baz=28,slow=6.7,SNR=4.2
comp=Z,0.6nm,0.7s
MKAR Makanchi Array 69.06 325 P P **16 48 01.0 +0.8**
MKAR Makanchi Array 69.06 325 P P **16 48 01.1 +0.9**
comp=Z,0.3nm,0.5s,baz=30,slow=5.4,SNR=5.1
comp=Z,0.3nm,0.5s
ABKAR Akbulak array 72.56 340 P P **16 48 22.9 +1.6**
AKASG Malin Array Be 73.89 1 P P **16 48 30.9 +1.8**
comp=Z,1.0nm,0.6s,baz=2.3,slow=6.9,SNR=4.8
comp=Z,1.0nm,0.6s
PZH PanZhiHua 78.44 300 P P **16 48 56.0 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 86.59 298 P P **16 49 39.4 +1.4**
comp=Z,0.6nm,0.6s,baz=11,slow=5.9,SNR=6.2
comp=Z,0.6nm,0.6s
QSPA South Pole Qui 145.56 180 PKPbc **PKPab** **16 56 31.7 -0.1**
comp=Z,2.1nm,0.8s,baz=95,slow=3.4,SNR=4.3

*NEIC **28** 16:52:41.8±2.2, 17.7S±0.1×178.8W±0.1, h541km±5km, mb4.3/115, Error ellipse: s-maj=19.8km s-min=15.7km az=148.0*
*NOU **28** 16:52:43.2, 17.87S×178.65W, h551km, mb4.2/17, Fiji Islands Region*
*IDC **28** 16:52:43.2±2.2, 17.75S×178.82W, h560km±25km, mb3.6/16, mbtmp4.4/17, Error ellipse: s-maj=14.8km s-min=11.4km az=135.0*

ISC 28 16:52:41.8±0.4, 17.84S±0.08×178.71W±0.07, h550km, n258, σ1§04/261, mb4.3/79, 16C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**1.60**	**314**	P	**P**	**16 53 52.0**	**+2.1**
DGTI	**Dogotuki**	**2.13**	**316**	P	**P**	**16 53 53.5**	**+1.3**
YSA	**Yasawairara**	**3.73**	**287**	P	**P**	**16 54 03.4**	**+1.8**
NIUE	**Niue**	**8.42**	**100**	P	**P**	**16 54 40.2**	**-3.6**
NIUE	**Niue**	**8.42**	**100**	P	**P**	**16 54 45.0**	**+1.3**
RAO	**Raoul Island**	**11.38**	**176**	P	**P**	**16 55 11.5**	**-2.3**

DZM Mont Dzumac 14.58 251 P P **16 55 43.3 -3.7**
DZM Mont Dzumac 14.58 251 P P **16 55 48.5 +1.5**
DZM Mont Dzumac 14.58 251 P P **16 55 47.2 +0.2**
6.3nm,0.6s,baz=310,slow=23,SNR=11
KOUNC Koumac, New Ca 16.29 258 P P **16 56 05.6 +1.5**
OUZ Omahuta 18.62 200 P P **16 56 27.9 +2.8**
KUZ Kuaotunu 19.46 194 P P **16 56 34.3 +1.5**
TOZ Tahuroa Road 20.46 193 P P **16 56 43.1 +1.3**
URZ Urewera 20.67 189 P P **16 56 43.8 +0.1**
URZ Urewera 20.67 189 P P **16 56 43.4 -0.4**
3.8nm,0.3s,baz=6.5,slow=3.8,SNR=12
3.8nm,0.3s
BFZ Birch Farm 23.18 190 P P **16 57 06.4 +0.2**
QRZ Quartz Range 24.12 196 P P **16 57 15.4 +0.9**
QRZ Quartz Range 24.12 196 P P **16 57 16.1 +1.6**
NNZ Nelson 24.27 195 P P **16 57 16.1 +0.2**
BSWZ Blackbirch Sta 24.63 193 P P **16 57 19.6 +0.5**
KHZ Kahutara 25.37 193 P P **16 57 25.2 -0.4**
GVZ Greta Valley S 26.01 194 P P **16 57 30.6 -0.6**
LTZ Lake Taylor 26.02 195 P P **16 57 30.9 -0.5**
LTZ IAmb IAmb 16 57 32.1
comp=Z,9.4nm,0.9s
INZ Inchbonnie 26.18 197 P P **16 57 32.8 +0.1**
FOZ Fox Glacier 27.39 198 P P **16 57 43.5 +0.1**
JCZ Jackson Bay 28.20 199 P P **16 57 52.5 +2.0**
ODZ Otahua Downs 28.55 196 P P **16 57 52.4 -1.0**
ODZ IAmb IAmb 16 58 10.1
comp=Z,16nm,1.5s
ODZ Otahua Downs 28.55 196 P P **16 57 53.5 +0.1**
WKZ Wanaka 28.81 198 P P **16 57 55.3 -0.4**
MLZ Mavora Lakes 29.57 199 P P **16 58 03.5 +1.1**
ARMA Armidale 29.73 240 P P **16 58 05.7 +1.7**
WHZ Wether Hill Ro 30.09 199 P P **16 58 07.5 +0.6**
CTA Charters Tower 33.18 260 P P **16 58 34.4 +0.9**
comp=Z,17nm,2.7s
CTAO Charters Tower 33.18 260 P P **16 58 30.8 -2.7**
CTAO IAmb IAmb 16 59 08.6
comp=Z,9.8nm,1.2s
CNB Canberra Magne 33.24 232 P P **16 58 35.6 +1.7**
comp=Z,14nm,1.9s
CAN Canberra 33.52 232 P P **16 58 35.1 -1.1**
CAN IAmb IAmb 16 58 57.9
comp=Z,24nm,1.5s
CMSA Cobar Meteorol 34.94 240 P P **16 58 49.9 +1.8**
TOO Toolangi 36.99 231 P P **16 59 06.0 +1.0**
TOO IAmb IAmb 16 59 21.8
comp=Z,11nm,1.1s
STKA Stephens Creek 38.41 241 P P **16 59 17.2 +0.6**
STKA Stephens Creek 38.41 241 P P **16 59 18.1 +1.5**
comp=Z,2.0nm,0.3s,baz=91,slow=9.6,SNR=14
comp=Z,2.0nm,0.3s
BBOO Buckleboo 43.19 241 P P **16 59 55.4 +0.8**
BBOO IAmb IAmb 17 00 22.9
comp=Z,23nm,1.3s
WR0 Warramunga Arr 44.17 260 P P **17 00 01.8 -0.6**
WR0 IAmb IAmb 17 00 23.0
comp=Z,14nm,1.4s
WB0 Warramunga Arr 44.33 260 P P **17 00 03.0 -0.6**
WB0 IAmb IAmb 17 00 04.1
comp=Z,8.9nm,0.9s
WB2 Warramunga Arr 44.35 260 P P **17 00 03.2 -0.6**
WB2 IAmb IAmb 17 00 34.7
comp=Z,22nm,1.5s
WRA Warramunga Arr 44.36 259 P P **17 00 03.4 -0.5**
WRA Warramunga Arr 44.36 259 P P **17 00 03.9 0.0**
comp=Z,2.5nm,0.6s,baz=96,slow=7.3,SNR=49
WRA PcP **PcP** **17 01 36.1 +0.2**
comp=Z,1.2nm,0.5s,baz=95,slow=3.2,SNR=6.8
comp=Z,2.5nm,0.6s
AS31 Alice Springs 44.53 254 P P **17 00 05.4 +0.2**
AS31 IAmb IAmb 17 00 06.2
comp=Z,7.0nm,0.6s
ASAR Alice Springs 44.53 254 P P **17 00 05.5 +0.3**
ASAR Alice Springs 44.53 254 P P **17 00 05.7 +0.5**
comp=Z,26nm,0.5s,baz=89,slow=7.9,SNR=656
ASAR PcP **PcP** **17 01 36.9 +0.4**
comp=Z,2.3nm,0.5s,baz=102,slow=4.1,SNR=9.1
ASAR S **S** **17 05 58.9 -2.2**
comp=Z,1.5nm,1.0s,baz=78,slow=18,SNR=6.7
comp=Z,26nm,0.5s
FORT Forrest 49.78 245 P P **17 00 44.8 +0.3**
FAKI Fak Fak 50.28 281 P P **17 00 48.1 -0.3**
FITZ Fitzroy Crossi 52.76 261 P P **17 01 06.7 +0.6**
PSA00 Pilbara Seismi 57.65 255 P P **17 01 39.9 -0.3**
PSA00 Pilbara Seismi 57.65 255 P P **17 01 40.1 -0.1**
PSA00 IAmb IAmb 17 02 04.2
comp=Z,23nm,1.5s
MORW Morawa 60.25 246 P P **17 01 57.4 -0.1**
MORW IAmb IAmb 17 02 14.1
comp=Z,32nm,1.2s
TOLI2 Tolitoli 62.42 281 P P **17 02 12.5 +0.5**
TOLI2 IAmb IAmb 17 02 14.8
comp=Z,12nm,1.3s
GIRL Giralia 62.64 253 P P **17 02 14.7 +1.4**
JAGI Jajag, Banyuwa 65.76 269 P P **17 02 32.2 -0.9**
MJAR Matsushiro Arr 67.68 324 P P **17 02 44.2 -0.3**
comp=Z,5.8nm,0.7s,baz=154,slow=6.0,SNR=22
comp=Z,5.8nm,0.7s
MAJO Matsushiro 67.68 324 P P **17 02 42.7 -1.9**
MJB9 Matsu-Tunnel 67.69 324 P P **17 02 42.7 -1.9**
MJB9 IAmb IAmb 17 02 45.1
comp=Z,8.6nm,0.8s
KKM Kota Kinabalu 68.45 284 P P **17 02 50.1 +0.3**
KKM IAmb IAmb 17 02 53.5
comp=Z,16nm,1.0s
UGM Wanagama 69.36 268 P P **17 02 55.4 +0.2**
ADK Adak 69.45 1 P P **17 02 54.2 -0.5**
SBUM Sibu 70.91 279 P P **17 03 05.5 +1.1**
JKA Kamikawa-asahi 71.08 332 P P **17 03 05.8 +1.1**
SSLB Suanglung 71.96 303 P P **17 03 09.2 -1.1**
TPUB Ta-pu 71.98 303 P P **17 03 09.2 -1.2**
QSPA South Pole Qui 72.22 180 P P **17 03 13.0 +1.9**
comp=Z,2.8nm,0.6s,baz=230,slow=0.3,SNR=22
comp=Z,2.8nm,0.6s
KSM Kuching 72.39 277 P P **17 03 13.9 +0.9**
KSM IAmb IAmb 17 03 14.9
comp=Z,12nm,0.9s
PEA0B Petropavlovsk- 73.54 345 P P **17 03 18.2 -0.4**
PETK Petropavlovsk- 73.54 345 P P **17 03 18.2 -0.5**
PETK Petropavlovsk- 73.54 345 P P **17 03 18.6 0.0**
comp=Z,5.8nm,0.7s,baz=119,slow=6.4,SNR=12
comp=Z,5.8nm,0.7s
KSRS Korea Array 74.46 318 P P **17 03 24.6 +0.4**
comp=Z,1.1nm,0.9s,baz=128,slow=7.5,SNR=4.1
comp=Z,1.1nm,0.9s
SDPT Sand Point 74.53 11 P P **17 03 23.8 -0.4**
USRK Ussuriysk Ar. 76.40 326 P P **17 03 35.6 +0.8**
USRK Ussuriysk Ar. 76.40 326 P P **17 03 32.9 -2.0**
comp=Z,1.9nm,0.7s,baz=143,slow=4.2,SNR=7.2
comp=Z,1.9nm,0.7s
KMRM Mail Ridge 77.14 40 P P **17 03 40.1 +1.0**
KMRM IAmb IAmb 17 03 41.4
comp=Z,27nm,1.2s
CMB Columbia Colle 77.98 43 P P **17 03 44.1 +0.5**
KSXB Camp Six Broad 78.01 39 P P **17 03 44.8 +1.0**
KSXB IAmb IAmb 17 03 48.2
comp=Z,33nm,1.5s
AFDM Forest Hills D 78.12 42 P P **17 03 45.6 +1.2**
YUH Yuha Desert 78.23 50 P P **17 03 46.7 +1.7**
MDPB Devils Postpil 78.63 44 P P **17 03 47.9 +0.5**
YBH Yreka Blue Hor 78.65 39 P P **17 03 48.2 +1.0**
WAKR Walker 78.87 43 P P **17 03 48.5 0.0**
MPK Martis Peak 78.92 42 P P **17 03 49.9 +0.9**
MPK IAmb IAmb 17 03 50.8
comp=Z,6.6nm,0.7s
PNTR Pine Nut 79.08 43 P P **17 03 50.8 +1.1**
PNTR IAmb IAmb 17 03 51.7
comp=Z,6.1nm,0.8s
L04D Klamath Falls 79.18 39 P P **17 03 50.7 +0.6**
L04D IAmb IAmb 17 03 52.3
comp=Z,16nm,1.4s
YERR Yerington 79.26 43 P P **17 03 51.4 +0.8**
P18K Big Mountain, 79.31 12 P P **17 03 49.3 -0.9**
P18K IAmb IAmb 17 03 50.3
comp=Z,12nm,0.8s
LHV Little Huntoon 79.34 44 P P **17 03 52.1 +1.4**
PAHR Pah Rah Range 79.56 42 P P **17 03 53.0 +0.8**
NVAR Mina Array Bea 79.57 44 P P **17 03 53.4 +1.0**
NVAR Mina Array Bea 79.57 44 P P **17 03 53.1 +0.8**
comp=Z,2.0nm,0.7s,baz=226,slow=9.2,SNR=21
comp=Z,2.2nm,0.7s
NV11 Mina Array Sit 79.67 44 P P **17 03 53.2 +0.4**
O18K Koktuh Hills 79.74 12 P P **17 03 52.0 -0.4**
BNX BinXian 79.87 325 ⇓P P **17 03 53.8 +0.4**

BNX pmax pmax
comp=Z,17nm,0.8s

L14K Kuka Creek 79.95 8 P **P** 17 03 54.5 +1.1
P19K Oil Pt 79.96 13 P **P** 17 03 54.3 +0.7
KVN Kaiserville 80.04 44 P **P** 17 03 55.5 +0.8
K05A Summer Lake 80.33 39 P **P** 17 03 57.0 +0.8
K05A IAmb IAmb 17 03 57.8
comp=Z,6.9nm,0.9s

J05D Fort Rock, OR 80.44 39 P **P** 17 03 57.9 +1.2
J05D IAmb IAmb 17 03 58.4
comp=Z,7.5nm,0.6s

L16K Owhat River 80.75 9 P **P** 17 03 58.1 +0.5
L16K IAmb IAmb 17 03 58.6
comp=Z,9.4nm,1.1s

RSO Redoubt South 80.80 13 P **P** 17 03 57.1 -1.0
PINE Pine Mountain 80.91 38 P **P** 17 03 59.8 +0.6
PINE IAmb IAmb 17 04 01.2
comp=Z,5.4nm,0.8s

K15K Wolf Creek Mou 81.02 8 P **P** 17 03 59.7 +0.7
K15K IAmb IAmb 17 04 01.3
comp=Z,16nm,1.0s

PRN Pahroc Range 81.23 46 P **P** 17 04 01.9 +1.0
BMN Battle Mountai 81.35 43 P **P** 17 04 01.8 +0.3
WVOR Wild Horse Val 81.54 40 P **P** 17 04 03.1 +0.8
WVOR IAmb IAmb 17 04 04.7
comp=Z,5.3nm,0.9s

UBPT Khong Chiam 81.64 289 P **P** 17 04 03.6 +0.4
UBPT IAmb IAmb 17 04 04.9
comp=Z,14nm,1.4s

L18K Granite Mounta 81.68 10 P **P** 17 04 03.1 +0.8
L18K IAmb IAmb 17 04 03.9
comp=Z,22nm,1.4s

I07A Izee 81.93 39 P **P** 17 04 05.0 +0.8
SUA Susitna One 82.13 13 P **P** 17 04 04.6 -0.3
SUA IAmb IAmb 17 04 05.4
comp=Z,7.0nm,0.8s

J08A Circle Bar Ran 82.15 40 P **P** 17 04 06.3 +0.9
LCMT Little Creek M 82.29 47 P **P** 17 04 07.3 +1.0
TTA Tatalina 82.46 10 P **P** 17 04 06.4 -0.1
KNK Knik Glacier 82.60 14 P **P** 17 04 06.8 -0.3
U15A North Rim 82.69 48 P **P** 17 04 09.6 +1.1
U15A IAmb IAmb 17 04 10.9
comp=Z,6.9nm,0.9s

GHO Glory Hole Cre 82.81 14 P **P** 17 04 08.0 -0.3
GHO IAmb IAmb 17 04 08.6
comp=Z,12nm,0.8s

J18K Innoko River 82.84 10 P **P** 17 04 08.3 +0.1
J18K IAmb IAmb 17 04 09.2
comp=Z,7.1nm,0.8s

E07A Sunnyside 83.13 37 P **P** 17 04 11.2 +1.0
E07A IAmb IAmb 17 04 11.8
comp=Z,5.7nm,1.0s

HAWA Hanford 83.22 37 P **P** 17 04 11.1 +0.6
HAWA IAmb IAmb 17 04 12.2
comp=Z,7.5nm,1.1s

SCM Sheep Creek Mo 83.23 14 P **P** 17 04 10.1 -0.3
LYN LuoYang 83.56 309 ⇓P **P** 17 04 14.0 +1.5
LYN sP sP 17 07 13.8 +6.8
LYN pmax pmax
comp=Z,15nm,0.8s

CAST Castle Rocks 83.62 12 P **P** 17 04 10.6 -1.6
CAST IAmb IAmb 17 04 11.8
comp=Z,8.9nm,0.8s

VRDI Verde Repeater 83.69 16 P **P** 17 04 12.2 -0.6
VRDI IAmb IAmb 17 04 16.5
comp=Z,13nm,1.3s

N25K Chitina, Valde 83.71 16 P **P** 17 04 12.2 -0.5
N25K IAmb IAmb 17 04 13.4
comp=Z,11nm,0.8s

GLB Gilahina Butte 83.78 16 P **P** 17 04 12.6 -0.4
GLB IAmb IAmb 17 04 13.5
comp=Z,9.2nm,0.8s

TRF Thorofare Moun 84.00 12 P **P** 17 04 13.3 -0.9
TRF IAmb IAmb 17 04 15.2
comp=Z,12nm,0.9s

RND Reindeer 84.27 13 P **P** 17 04 15.1 -0.3
F10A Beach Ranch, E 84.32 38 P **P** 17 04 16.0 -0.2
F10A IAmb IAmb 17 04 17.3
comp=Z,7.8nm,1.1s

GSI Gunungsitoli 84.41 273 P **P** 17 04 18.8 +1.5
GSI IAmb IAmb 17 04 19.4
comp=Z,11nm,0.9s

HLID Hailey 84.77 41 P **P** 17 04 19.4 +0.9
TIY Taiyuan 85.01 312 ⇑P **P** 17 04 21.3 +1.6
M27K Edge Creek, AK 85.05 16 P **P** 17 04 19.7 +0.3
M27K IAmb IAmb 17 04 21.2
comp=Z,20nm,1.4s

S34M Telegraph Cree 85.09 23 P **P** 17 04 20.4 +0.9
S34M IAmb IAmb 17 04 21.3
comp=Z,7.9nm,0.8s

G19K Purcell Mounta 85.30 9 P **P** 17 04 20.0 -0.3
P32M Atlin 85.38 21 P **P** 17 04 21.4 +0.5
P32M IAmb IAmb 17 04 42.2
comp=Z,11nm,1.2s

RIDG Independent Ri 85.46 14 P **P** 17 04 20.8 -0.4
RIDG IAmb IAmb 17 04 21.3
comp=Z,3.8nm,0.9s

O30N Mendenhall 85.48 19 P **P** 17 04 20.9 -0.4
O30N IAmb IAmb 17 04 22.6
comp=Z,7.1nm,1.1s

CCB Clear Creek Bu 85.58 13 P **P** 17 04 20.6 -1.0
CCB IAmb IAmb 17 04 21.6
comp=Z,6.1nm,1.2s

IMAR Indian Mountai 85.66 10 P **P** 17 04 21.6 -0.5
F19K Shaleruckik Mo 85.85 8 P **P** 17 04 22.3 -0.5
F19K IAmb IAmb 17 04 47.3
comp=Z,6.2nm,1.5s

SCRK Sand Creek 85.87 15 P **P** 17 04 22.9 -0.3
IL31 85.88 13 P **P** 17 04 22.1 -1.0
IL31 IAmb IAmb 17 04 23.0
comp=Z,2.8nm,0.8s

ILAR Eielson Array 85.88 13 P **P** 17 04 22.5 -0.6
comp=Z,1.4nm,0.5s,baz=228,slow=4.9,SNR=26
comp=Z,1.4nm,0.5s

POKR Poker Plat Res 86.07 13 P **P** 17 04 23.1 -0.9
POKR IAmb IAmb 17 04 23.6
comp=Z,4.4nm,0.6s

J25K Salcha River, 86.08 14 P **P** 17 04 23.5 -0.6
J25K IAmb IAmb 17 04 26.0
comp=Z,11nm,1.5s

TX31 Lajitas Ar. Si 86.20 58 P **P** 17 04 27.1 +1.5
TX31 IAmb IAmb 17 04 28.1
comp=Z,4.2nm,0.9s

TXAR Lajitas Array 86.20 58 P **P** 17 04 27.2 +1.6
TXAR Lajitas Array 86.20 58 P **P** 17 04 27.5 +1.9
comp=Z,2.6nm,0.8s,baz=217,slow=5.9,SNR=30
comp=Z,2.6nm,0.8s

E19K Redstone River 86.51 8 P **P** 17 04 25.6 -0.5
E19K IAmb IAmb 17 04 27.4
comp=Z,3.2nm,0.8s

PRP Porcupine Dome 86.82 13 P **P** 17 04 26.8 -0.9
F21K Alatna River 86.84 10 P **P** 17 04 27.1 -0.6
HHC Hu-ho-hao-te 87.02 315 *e*P **P** 17 04 29.3 +0.1
HHC pmax pmax
comp=Z,26nm,0.6s

BW06 Boulder Array 87.50 44 P **P** 17 04 31.8 +0.3
BW06 IAmb IAmb 17 04 32.6
comp=Z,6.9nm,1.4s

PD31 Pinedale Array 87.50 44 P **P** 17 04 31.8 +0.2
PD31 IAmb IAmb 17 04 32.6
comp=Z,5.8nm,1.4s

PDAR Pinedale Array 87.50 44 P **P** 17 04 31.9 +0.4
PDAR Pinedale Array 87.50 44 P **P** 17 04 32.1 +0.5
comp=Z,1.1nm,0.5s,baz=221,slow=3.5,SNR=16
comp=Z,1.1nm,0.5s

D22K Ayikyak River 88.48 9 P **P** 17 04 35.1 -0.1
D22K IAmb IAmb 17 04 36.2
comp=Z,4.2nm,0.7s

CMAR Chiang Mai Arr 88.59 290 P **P** 17 04 38.3 +1.4
comp=Z,2.0nm,0.8s,baz=113,slow=2.9,SNR=16
comp=Z,2.0nm,0.8s

PZH PanZhiHua 88.87 298 P **P** 17 04 36.0 -2.2
PZH pmax pmax
comp=Z,10.0nm,0.5s

ELIB Princess Elisa 89.19 187 *d*P **P** 17 04 39.7 +0.8
comp=Z,4.2nm,0.8s

LZH Lanzhou 90.62 308 *e*P **P** 17 04 47.5 +1.3
LZH pmax pmax
comp=Z,8.0nm,1.0s

SNAA Sanae 90.67 179 P **P** 17 04 46.3 +0.6
comp=Z,1.3nm,0.5s,baz=186,slow=17,SNR=5.7
comp=Z,1.3nm,0.5s

YKA Yellowknife Ar 94.39 25 P **P** 17 05 02.1 -0.4
comp=Z,0.8nm,0.8s,baz=246,slow=4.6,SNR=9.2
comp=Z,0.8nm,0.8s

ZALV Zalesovo Beam 108.00 322 PKiKP **PKiKP** 17 10 05.4 -1.5
comp=Z,0.7nm,0.5s,baz=92,slow=2.4,SNR=5.2

MKAR Makanchi Array 108.88 314 PKiKP **PKiKP** 17 10 07.9 -0.9
comp=Z,0.7nm,0.5s,baz=188,slow=0.3,SNR=21

KURBB Kurchatov Arra 111.64 318 PKiKP **PKiKP** 17 10 12.9 -0.9
comp=Z,0.7nm,0.5s,baz=67,slow=1.9,SNR=5.3

BVAR Borovoye Array 116.61 321 PKP **PKPdf** 17 10 22.8 -0.6
comp=Z,1.6nm,0.3s,baz=108,slow=2.6,SNR=22

ARCES ARCESS Array B 126.20 350 PKP **PKPdf** 17 10 40.7 -0.6
comp=Z,4.6nm,1.0s,baz=96,slow=1.2,SNR=5.0

FINES FINESS Array B 133.04 344 PKP **PKPdf** 17 10 52.7 -1.8
comp=Z,0.8nm,0.5s,baz=43,slow=3.4,SNR=7.9

AKASG Malin Array Be 140.37 332 PKhKP PKPpre 17 11 01.4
comp=Z,0.2nm,0.3s,baz=39,slow=4.2,SNR=4.8

AKASG PKP **PKiKP** 17 11 10.4 -0.6
comp=Z,1.0nm,0.4s,baz=39,slow=3.0,SNR=5.2

SORM Soroca 142.59 330 ⇓P **PKPdf** 17 11 09.2 -3.1
BNN Bunyan 143.40 312 PKPdf PKPbc 17 11 13.0 +0.2
VASR Vaslui 143.90 329 ⇑P **PKPdf** 17 11 14.5 -0.2
VLDR Vladesti 144.30 327 ⇓P **PKPdf** 17 11 16.4 +1.0
BUR08 Bucovina Ar. S 144.40 332 **PKPab** 17 11 16.6 +0.5
BURAR Bucovina Array 144.42 332 ⇑P **PKPab** 17 11 16.0 -0.2
BURAR Bucovina Array 144.42 332 **PKPab** 17 11 16.7 +0.6
BR131 Keskin Array S 144.53 315 PKPbc **PKPdf** 17 11 16.3 0.0
BRTR Keskin Array B 144.53 315 PKP **PKPdf** 17 11 16.2 0.0
comp=Z,5.1nm,0.8s,baz=116,slow=2.8,SNR=36

TESR Tescani 144.55 329 ⇑P **PKPab** 17 11 16.2 -0.4
STHS Stebnicka Huta 144.62 337 *e*PKP **PKPab** 17 11 16.1 -0.7
KOLS Kolonicke sedl 144.62 336 *e*PKP **PKPab** 17 11 17.0 +0.2
CFR Carcaliu 144.72 326 ⇓P **PKPab** 17 11 17.2 0.0
TPGR Topolog 144.78 326 ⇓P **PKPab** 17 11 17.4 -0.1
CRVS Cervenica-Dubn 144.96 337 *e*PKP **PKPab** 17 11 17.6 -0.5
VRI Vrincioaia 144.97 328 ⇑P **PKPab** 17 11 18.2 0.0
TURR Turnu 145.19 329 ⇑P **PKiKP** 17 11 20.2 +1.0
OKC Ostrava-Krasne 145.31 341 *e*PKP **PKPbc** 17 11 18.2 0.0
CLL Collm 145.33 347 ⇑ *i*PKPbc **PKPbc** 17 11 18.1 -0.1
comp=Z,15nm,0.6s

CLL *ep*PKPdf **pPKPdf** 17 13 27.0 +1.0
UPC Upice 145.34 343 *e*PKP **PKPab** 17 11 18.6 -0.9
MANR Mangalia 145.37 324 ⇑P **PKPab** 17 11 19.0 -0.8
DPC Dobruska-Polom 145.40 343 *e*PKP **PKPab** 17 11 19.0 -0.8
LANS Liptovska Anna 145.47 339 *e*PKP **PKPab** 17 11 19.9 -0.2
BRG Berggiesshubel 145.53 346 *i*PKP **PKPbc** 17 11 19.1 +0.3
BRG Amp 17 11 20.7
comp=Z,7.3nm,0.8s

DOPR Dopca 145.55 330 ⇓P **PKPab** 17 11 20.0 -0.5
MORC Moravsky Berou 145.56 341 *e*PKP **PKPbc** 17 11 19.1 +0.1
PVCC Panska Ves 145.70 345 *e*PKP **PKPbc** 17 11 19.2 -0.1
CJR Cluj-Napoca 145.82 332 ⇑P **PKPab** 17 11 20.5 -1.1
MAUC Maruska 145.83 341 *e*PKP **PKPbc** 17 11 20.2 +0.5
MMAI Mount Meron Ar 145.87 303 PKPbc **PKPab** 17 11 21.4 -0.9
comp=Z,7.7nm,0.6s,baz=64,slow=5.7,SNR=13

HSKC Hora Svate Kat 145.90 346 *e*PKP **PKPbc** 17 11 20.1 +0.2
MARR Marisel-Cluj 146.06 333 ⇑P **PKPbc** 17 11 20.9 +0.4
VOIR 146.10 329 ⇓P **PKPbc** 17 11 21.1 +0.4
DRGR 146.15 333 ⇑P **PKPbc** 17 11 20.9 +0.2
PRA Prague 146.16 345 *e*PKP **PKiKP** 17 11 29.1 +6.1
PRU Pruhonice 146.20 345 *e*PKP **PKPbc** 17 11 20.9 +0.2
VYHS Vyhne 146.25 339 *e*PKP **PKPbc** 17 11 21.5 +0.6
VRAC Vranov 146.26 342 *e*PKP **PKPab** 17 11 21.9 -1.3
JAVC Velka Javorina 146.32 340 *e*PKP **PKPab** 17 11 22.5 -1.0
ARR Arges 146.35 330 ⇓P **PKPab** 17 11 22.7 -1.1
NKC Novy Kostel 146.46 347 *e*PKP **PKPbc** 17 11 25.1 +1.1
KRUC Moravsky 146.53 342 *e*PKP **PKPbc** 17 11 21.8 +0.1
ZVC Zvikov 146.80 345 *e*PKP **PKPbc** 17 11 22.4 0.0
CSS Mathiatis 146.81 307 **PKPbc** 17 11 22.4 -0.5
MODS Modra-Piesok 146.87 340 *e*PKP **PKiKP** 17 11 23.6 -0.9
BTNL Ternell 147.10 354 *d*PKP **PKPbc** 17 11 23.6 +0.4
BSTI Sart Tilman 147.15 355 *d*PKP **PKPbc** 17 11 23.3 +0.1
GZR Gura Zlata 147.20 332 ⇓P **PKPbc** 17 11 23.7 +0.1
SURR Surduc 147.21 333 ⇑P **PKPbc** 17 11 24.2 +0.6
KHC Kasperske Hory 147.24 345 **PKPbc** 17 11 23.9 +0.3
KHC Kasperske Hory 147.24 345 *e*PKP **PKPbc** 17 11 23.6 0.0
CKRC Cesky Krumlov 147.34 344 *e*PKP **PKPbc** 17 11 24.0 +0.2
GERES GERESS Array B 147.47 345 PKPbc **PKPbc** 17 11 24.6 +0.3
comp=Z,4.9nm,0.5s,baz=22,slow=3.1,SNR=8.3

BZS Buzias 147.54 333 ⇑P **PKPbc** 17 11 24.5 +0.1
CONA Conrad Observa 147.71 342 *i*PKP **PKiKP** 17 11 25.5 -0.9
comp=Z,5.3nm,0.5s

DOU Dourbes 147.71 356 *d*PKP **PKPbc** 17 11 24.9 +0.2
HERR Herculane 147.76 331 ⇑P **PKPbc** 17 11 25.1 +0.1
RONA Rosalia, Austr 147.78 341 *e*PKP **PKiKP** 17 11 25.5 -1.0
comp=Z,5.4nm,0.7s

WLF Walferdange 148.01 354 **PKPbc** 17 11 25.4 -0.1
WLF Walferdange 148.01 354 *d*PKP **PKPbc** 17 11 25.2 -0.3
MOA Molln 148.24 343 *i*PKP **PKPbc** 17 11 26.1 0.0
comp=Z,1.7nm,0.6s

MORH Mrgy, Hungar 148.26 337 ⇑P **PKPbc** 17 11 25.9 -0.2
BIOA Bad Ischl, Aus 148.55 344 *i*PKP **PKPbc** 17 11 26.7 -0.2
comp=Z,1.0nm,0.3s

BLKB Belogradchik 148.59 329 ⇓P **PKPbc** 17 11 25.6 -1.5
BOVS Bovan 149.04 331 ⇑P **PKPbc** 17 11 27.1 -1.1
LESA Schwarzleotal 149.05 345 *i*PKP **PKPbc** 17 11 28.3 +0.1
comp=Z,3.3nm,0.3s

OBKA Obir 149.38 342 *i*PKP **PKPbc** 17 11 28.5 -0.6
comp=Z,0.5nm,0.3s

WATA Walderalm 149.39 346 *i*PKP **PKPbc** 17 11 28.8 -0.3
comp=Z,5.5nm,0.6s

RETA Reutte 149.42 347 *i*PKP **PKPbc** 17 11 29.1 0.0
comp=Z,2.7nm,0.5s

WTTA Wattenberg 149.44 346 *i*PKP **PKPbc** 17 11 29.3 0.0
comp=Z,5.6nm,0.3s,SNR=6.3

MOTA Moosalm 149.49 347 *i*PKP **PKPbc** 17 11 29.1 -0.3
comp=Z,1.9nm,0.4s

MYKA Terra Mystica 149.53 343 *i*PKP **PKPbc** 17 11 28.7 -0.7
comp=Z,6.4nm,0.5s

SQTA Sankt Quirin 149.58 347 *i*PKP **PKPbc** 17 11 29.6 0.0
comp=Z,4.2nm,0.4s

ABTA Abfaltersbach 149.72 345 *i*PKP **PKPbc** 17 11 29.3 -0.6
comp=Z,6.6nm,0.5s,SNR=6.7

DAVA Damuels 149.79 348 *e*PKP **PKPbc** 17 11 30.0 -0.1
comp=Z,10nm,1.1s

LJU Ljubljana 149.80 342 *i*PKPbc **PKiKP** 17 11 30.1 -0.5
CRNS Crni Vrh 149.85 342 *i*PKPbc **PKPbc** 17 11 29.8 -0.3
FETA Feichten 149.88 347 *i*PKP **PKPbc** 17 11 30.4 +0.1
comp=Z,2.7nm,0.6s

STAL STALIGIAL 150.12 344 **PKPbc** 17 11 30.1 -0.6
FUORN Ofenpass-Fuorn 150.35 347 **PKiKP** 17 11 32.2 +0.1
CTI Castel Tesino 150.58 345 **PKPbc** 17 11 31.0 -0.9
PUK Puka 151.12 331 **PKPbc** 17 11 32.9 -0.3
FNA Florina 151.33 327 **PKPbc** 17 11 33.2 -0.6
ESDC Sonseca Array 157.77 11 PKPab **PKPab** 17 12 11.9 -0.1
comp=Z,0.7nm,0.9s,baz=355,slow=3.8,SNR=4.2

TORD Torodi Ar. Bea 175.32 185 PKP **PKPdf** 17 11 49.2 -0.4
comp=Z,0.1nm,0.4s,baz=28,slow=2.4,SNR=4.1

NEIC ***28*** *17:05:23.2±2.5, 15.76°N±0.06°×94.93°W±0.04, h41km±8km, mb4.4/75, Md4.7/36(MEX), Error ellipse: s-maj=8.2km s-min=5.7km az=184.0*

IDC ***28*** *17:05:24.5±2.4, 15.78°N×94.74W, h46km±21km, mb3.8/10, mbtmp4.1/12, ML4.0/2, Error ellipse: s-maj=36.8km s-min=14.1km az=56.0*

MEX ***28*** *17:05:24.8±0.7, 15.73°N×94.92W, h16km±37km, MD4.7*

ISC 28 17:05:23.7±0.9, 15.69°N±0.04°×94.96°W±0.03, h49km±9km, n142, σ2.9 02/170, mb4.4/37, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
HUIG	**Huatulco**	**1.10**	**274**		**Pn**	**17 05 42.6**	**-0.2**
HUIG					**Sn**	**17 05 56.1**	**-1.0**
HUIG	**Huatulco**	**1.10**	**274**	*i* P	**Pn**	**17 05 42.6**	**-0.2**
HUIG				*e*S	**Sn**	**17 05 56.1**	**-1.0**
CMIG	**Matias Romero**	**1.40**	**3**	P	**Pn**	**17 05 45.1**	**-1.7**
	485nm,0.3s,baz=188,slow=11,SNR=65						
CMIG				S	**Sn**	**17 06 00.6**	**-3.7**
	4μm,0.4s,baz=288,slow=20,SNR=27						
CMIG	**Matias Romero**	**1.40**	**3**	*i* P	**Pn**	**17 05 45.2**	**-1.7**
CMIG				*e*S	**Sn**	**17 06 00.6**	**-3.7**
PCIG		**1.68**	**89**		**Pn**	**17 05 49.4**	**-1.3**
PCIG					**Sn**	**17 06 08.5**	**-2.5**
PCIG		**1.68**	**89**	*i* P	**Pn**	**17 05 49.4**	**-1.3**
PCIG				*e*S	**Sn**	**17 06 08.5**	**-2.5**
UXUV	**UXUV**	**1.80**	**26**	*e*P	**Pn**	**17 05 51.4**	**-1.0**
UXUV				*e*S	**Sn**	**17 06 11.7**	**-2.4**
TGIG		**2.08**	**58**		**Pn**	**17 05 54.7**	**-1.5**
TGIG					**Sn**	**17 06 19.6**	**-1.3**
TGIG		**2.08**	**58**	*i* P	**Pn**	**17 05 54.7**	**-1.5**
TGIG				*e*S	**Sn**	**17 06 19.6**	**-1.3**
PEIG	**Puerto Escondi**	**2.12**	**279**		**Pn**	**17 05 56.5**	**-0.3**
PEIG					**Sn**	**17 06 19.0**	**-3.0**
PEIG	**Puerto Escondi**	**2.12**	**279**	*i* P	**Pn**	**17 05 56.5**	**-0.3**
PEIG				*e*S	**Sn**	**17 06 19.0**	**-3.0**
TUIG	**Tuzandepetl**	**2.39**	**12**	*i* P	**Pn**	**17 05 59.5**	**-1.0**
TUIG				*e*S	**Sn**	**17 06 24.0**	**-4.6**
PATR	**El Naranjo**	**2.69**	**102**	*e*P	**Pn**	**17 06 04.2**	**-0.6**
PATR				*e*S	**Sn**	**17 06 33.5**	**-2.9**
THIG		**2.72**	**106**		**Pn**	**17 06 04.0**	**-0.9**
THIG					**Sn**	**17 06 33.0**	**-3.5**
THIG		**2.72**	**106**	*e*P	**Pn**	**17 06 04.0**	**-0.9**
THIG				*e*S	**Sn**	**17 06 33.0**	**-3.5**
PAVE	**Pavencul**	**2.73**	**100**	*e*P	**Pn**	**17 06 05.1**	**-0.2**
PAVE				*e*S	**Sn**	**17 06 34.2**	**-3.0**
CCIG	**Comitan**	**2.78**	**77**		**Pn**	**17 06 05.1**	**-0.9**
CHUJ	**Union Juarez**	**2.82**	**102**	*e*P	**Pn**	**17 06 06.4**	**-0.1**
CHUJ				*e*S	**Sn**	**17 06 35.1**	**-4.3**
TXIG	**Tlaxiaco**	**3.11**	**300**		**Pn**	**17 06 12.2**	**+1.6**
TXIG					**Sn**	**17 06 42.8**	**-3.8**
TXIG	**Tlaxiaco**	**3.11**	**300**	*e*P	**Pn**	**17 06 12.2**	**+1.6**
TXIG				*e*S	**Sn**	**17 06 42.8**	**-3.8**
PNIG	**Pinotepa**	**3.12**	**283**		**Pn**	**17 06 10.7**	**+0.2**
PNIG					**Sn**	**17 06 42.6**	**-4.0**
PNIG	**Pinotepa**	**3.12**	**283**	*i* P	**Pn**	**17 06 10.7**	**+0.2**
PNIG				*e*S	**Sn**	**17 06 42.6**	**-4.0**
TOIG	**Toxpalan**	**3.13**	**320**		**Pn**	**17 06 13.0**	**+2.3**
TOIG					**Sn**	**17 06 48.7**	**+1.8**
TOIG	**Toxpalan**	**3.13**	**320**	*i* P	**Pn**	**17 06 13.0**	**+2.3**
TOIG				*e*S	**Sn**	**17 06 48.7**	**+1.8**
HUEH	**Huehuetenango**	**3.36**	**96**		**Pn**	**17 06 16.1**	**+2.2**
RTAL	**Retalhuleu**	**3.36**	**110**		**Pn**	**17 06 15.5**	**+1.7**
HLIG	**Huajuapan de L**	**3.46**	**308**		**Pn**	**17 06 17.1**	**+1.9**
HLIG					**Sn**	**17 06 53.3**	**-1.8**
HLIG	**Huajuapan de L**	**3.46**	**308**	*i* P	**Pn**	**17 06 17.1**	**+1.9**
HLIG				*e*S	**Sn**	**17 06 53.3**	**-1.8**
TLIG	**Tlapa**	**3.93**	**299**	Pn	**Pn**	**17 06 23.1**	**+1.5**
CRIG	**Cruz Grande**	**4.14**	**285**		**Pn**	**17 06 24.9**	**+0.5**
CRIG					**Sn**	**17 07 05.2**	**-6.4**
CRIG	**Cruz Grande**	**4.14**	**285**	*i* P	**Pn**	**17 06 24.9**	**+0.5**
CRIG				*e*S	**Sn**	**17 07 05.2**	**-6.4**
LVIG	**Laguna Verde**	**4.25**	**341**	*e*P	**Pn**	**17 06 24.2**	**-1.7**
LVIG				*e*S	Sn	17 07 02.0	-12
PPM	**Popocatepetl**	**4.85**	**314**	*e*P	**Pn**	**17 06 37.4**	**+2.7**
PPM				*e*S	Sn	17 07 49.6	+20
PPIG	**Popocatepetl**	**4.85**	**314**		**Pn**	**17 06 37.4**	**+2.7**
PETF	**Flores**	**5.04**	**75**		**Pn**	**17 06 36.6**	**-0.2**
UNM	**Universidad Na**	**5.41**	**313**	Pn	**Pn**	**17 06 44.5**	**+2.3**
MTO3	**Montecristo**	**5.56**	**103**		**Pn**	**17 06 44.6**	**+0.5**
MOIG	**Morelia**	**7.14**	**305**	Pn	**Pn**	**17 07 09.8**	**+4.0**
TGUH	**Tegucigalpa,Un**	**7.61**	**101**	Pn	**Pn**	**17 07 13.9**	**+1.7**
TEIG	**Tepich**	**7.80**	**54**	Pn	**Pn**	**17 07 12.0**	**-2.7**
CRIN	**San Cristobal**	**8.23**	**110**		**Pn**	**17 07 23.7**	**+3.1**
BOAB	**BOAOCO BROADBAN**	**8.58**	**108**		**Pn**	**17 07 41.1**	**+2.1**
HZTE	**Horizontes, Gu**	**10.37**	**117**		**Pn**	**17 07 53.4**	**+3.5**
ORTG	**Ortega, Santa**	**10.66**	**119**	Pn	**Pn**	**17 07 57.3**	**+3.3**
ESPN	**Las Esperanzas**	**10.92**	**107**	Pn	**Pn**	**17 07 56.8**	**-0.6**
JTS	**Las Juntas de**	**11.13**	**118**	Pn	**Pn**	**17 08 03.4**	**+3.0**
JTS	**Las Juntas de**	**11.13**	**118**	P	**Pn**	**17 08 00.7**	**+0.4**
	1.4nm,0.3s,baz=309,slow=18,SNR=3.2						
	8.0nm,0.6s						
JACO	**JACO, Garabito**	**11.70**	**120**		**Pn**	**17 08 12.8**	**+4.7**
LCR2	**La Lucha 2**	**12.21**	**118**		**Pn**	**17 08 17.9**	**+2.7**
PEZE	**Perez Zeledon,**	**12.67**	**118**		**Pn**	**17 08 22.8**	**+1.4**
SRBA	**San Rafael, Bu**	**13.02**	**118**		**Pn**	**17 08 27.9**	**+1.7**
DRK0	**Durika**	**13.10**	**118**		**Pn**	**17 08 29.6**	**+2.2**
833A	**Chaparral WMA,**	**13.23**	**343**	Pn	**Pn**	**17 08 30.6**	**+1.7**
HNDO	**Hondo**	**14.34**	**345**		**Pn**	**17 08 45.4**	**+1.4**
JCT	**Junction City**	**15.38**	**344**	P	**P**	**17 09 01.8**	**+0.4**
JCT				IAmb	IAmb	17 09 16.5	
	comp=Z,17nm,0.8s						
SAND	**Sanderson**	**15.65**	**336**	P	**P**	**17 09 05.7**	**+1.3**
TXAR	**Lajitas Array**	**15.77**	**331**	P	**P**	**17 09 05.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=6.8						
	comp=Z,0.7nm,0.6s						
BRDY	**Brady**	**15.96**	**347**	P	**P**	**17 09 08.1**	**+0.3**
WHTX	**Lake Whitney,**	**16.39**	**352**	P	**Pn**	**17 09 10.9**	**+0.5**
WHTX				IAmb	IAmb	17 09 30.8	
	comp=Z,18nm,0.8s						
ALPN	**Alpine**	**16.65**	**333**	P	**P**	**17 09 15.7**	**+0.1**
FW13	**Cleburne**	**16.74**	**353**	P	**Pn**	**17 09 14.8**	**0.0**
FW13				IAmb	IAmb	17 09 25.0	
	comp=Z,19nm,0.7s						
SGCY	**Sterling City**	**17.10**	**342**	P	**Pn**	**17 09 18.5**	**-0.9**
SGCY				IAmb	IAmb	17 09 35.6	
	comp=Z,14nm,0.6s						
FW07	**Weatherford**	**17.14**	**352**	P	**P**	**17 09 20.6**	**-0.2**
FW07				IAmb	IAmb	17 09 48.9	
	comp=Z,26nm,0.6s						
PLPT	**Palo Pinto**	**17.32**	**350**	P	**P**	**17 09 23.7**	**+0.8**
PLPT				IAmb	IAmb	17 09 40.8	
	comp=Z,18nm,0.6s						
FW03	**Perrin-Whitt E**	**17.50**	**351**	P	**Pn**	**17 09 23.7**	**-0.6**
FW03				IAmb	IAmb	17 09 30.1	
	comp=Z,24nm,0.7s						
VHRN	**Van Horn**	**17.61**	**330**	P	**P**	**17 09 26.1**	**-0.1**
Z47A	**Carrollton**	**18.52**	**18**	P	**P**	**17 09 33.2**	**-2.9**
LRAL	**Lakeview Retre**	**18.72**	**21**	P	**P**	**17 09 36.5**	**-1.7**
WMOK	**Wichita Mounta**	**19.28**	**350**	P	**Pn**	**17 09 44.9**	**-1.0**
W35A	**Tecumseh**	**19.46**	**355**	P	**P**	**17 09 43.9**	**-2.5**
W35A				IAmb	IAmb	17 09 49.8	
	comp=Z,16nm,0.7s						
Y49A	**Blount Mountai**	**19.67**	**22**	P	**P**	**17 09 45.6**	**-3.1**
MET	**Memphis--Engin**	**19.87**	**12**	P	**P**	**17 09 46.7**	**-4.2**
OK029	**Liberty Lake**	**20.15**	**354**		**P**	**17 09 53.4**	**-0.5**
TUL3	**Leonard**	**20.16**	**358**	P	**P**	**17 09 52.0**	**-1.9**
TUL3				IAmb	IAmb	17 10 31.6	
	comp=Z,12nm,0.7s						
OK052	**Battle Ridge R**	**20.29**	**356**		**P**	**17 09 52.7**	**-2.7**
319A	**Douglas**	**20.37**	**323**	P	**P**	**17 09 54.4**	**-2.0**
319A				IAmb	IAmb	17 10 14.8	
	comp=Z,21nm,1.3s						
QUOK	**Quay**	**20.46**	**356**	P	**P**	**17 09 55.2**	**-2.1**
FPAL	**Fort Paine**	**20.57**	**22**	P	**P**	**17 09 55.8**	**-2.7**
LCAR	**Lake Charles**	**20.58**	**9**	P	**P**	**17 09 56.9**	**-1.7**
SWET	**Sewanee**	**21.07**	**21**	P	**P**	**17 10 00.7**	**-3.1**
SWET				IAmb	IAmb	17 10 31.1	
	comp=Z,16nm,1.0s						
HODGE	**Hodges**	**21.73**	**29**	P	**P**	**17 10 11.1**	**+0.3**
HODGE				IAmb	IAmb	17 10 37.2	
	comp=Z,18nm,1.3s						
ANMO	**Albuquerque**	**21.78**	**334**	P	**P**	**17 10 14.5**	**+2.9**
	comp=Z,2.0nm,0.5s,baz=227,slow=13,SNR=3.6						
	comp=Z,0.7nm,0.5s						
RTBA	**Rita Blanca**	**21.80**	**343**	P	**P**	**17 10 12.7**	**+1.0**
RTBA				IAmb	IAmb	17 10 22.8	
	comp=Z,14nm,0.9s						
TUC	**Tucson**	**21.93**

YKA	**Yellowknife Ar**	**48.76**	**348**	P	**P**	**17 14 03.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=152,slow=7.1,SNR=11						
	comp=Z,0.6nm,0.7s						
BDFB	**Brasilia**	**55.84**	**122**	P	**P**	**17 14 57.2**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=228,slow=5.3,SNR=5.6						
	comp=Z,2.6nm,0.5s						
ILAR	**Eielson Array**	**60.17**	**337**	P	**P**	**17 15 26.5**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=135,slow=6.2,SNR=12						
	comp=Z,0.5nm,0.6s						
PLCA	**Paso Flores**	**60.53**	**159**	P	**P**	**17 15 29.8**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=324,slow=9.6,SNR=13						
	comp=Z,4.0nm,0.8s						
TRF	**Thorofare Moun**	**60.90**	**335**	P	**P**	**17 15 32.5**	**+1.1**
H24K	**Noodor Dome**	**61.06**	**338**	P	**P**	**17 15 31.3**	**-0.9**
G24K	**Hadweenzic Riv**	**61.33**	**339**	P	**P**	**17 15 32.3**	**-1.8**
G24K				IAmb	IAmb	17 15 41.5	
	comp=Z,6.6nm,1.3s						
E25K	**Arctic Village**	**61.43**	**341**	P	**P**	**17 15 33.4**	**-1.3**
E25K				IAmb	IAmb	17 15 48.7	
	comp=Z,3.6nm,1.3s						
BPAW	**Bear Paw Mtn.**	**61.46**	**336**	P	**P**	**17 15 33.7**	**-1.3**
CAST	**Castle Rocks**	**61.63**	**335**	P	**P**	**17 15 35.3**	**-0.8**
MLY	**Manley**	**61.76**	**337**	P	**P**	**17 15 37.3**	**+0.3**
MLY				IAmb	IAmb	17 15 53.0	
	comp=Z,6.9nm,1.4s						
TRQA	**Tornquist**	**61.78**	**151**	P	**P**	**17 15 37.6**	**+0.2**
I21K	**Tanana**	**62.30**	**336**	P	**P**	**17 15 40.8**	**+0.3**
I21K				IAmb	IAmb	17 15 56.7	
	comp=Z,4.3nm,1.2s						
D25K	**Kavik River**	**62.32**	**342**	P	**P**	**17 15 40.0**	**-0.7**
D25K				IAmb	IAmb	17 15 56.4	
	comp=Z,6.5nm,1.4s						
K20K	**Telida**	**62.43**	**334**	P	**P**	**17 15 41.0**	**-0.5**
K20K				IAmb	IAmb	17 15 56.5	
	comp=Z,4.4nm,0.9s						
J20K	**Nowinta River**	**62.76**	**335**	P	**P**	**17 15 42.7**	**-1.0**
J20K				IAmb	IAmb	17 16 04.6	
	comp=Z,5.1nm,1.1s						
TTA	**Tatalina**	**63.11**	**333**	P	**P**	**17 15 45.0**	**-1.1**
TTA				IAmb	IAmb	17 15 46.7	
	comp=Z,4.5nm,1.2s						
L18K	**Granite Mounta**	**63.18**	**332**	P	**P**	**17 15 45.1**	**-1.4**
IMAR	**Indian Mountai**	**63.29**	**337**	P	**P**	**17 15 45.9**	**-1.3**
J19K	**Poorman**	**63.30**	**335**	P	**P**	**17 15 46.6**	**-0.7**
F21K	**Alatna River**	**63.68**	**338**	P	**P**	**17 15 49.0**	**-0.7**
F21K				IAmb	IAmb	17 16 05.9	
	comp=Z,4.4nm,0.9s						
H19K	**Roundabout Mou**	**64.16**	**336**	P	**P**	**17 15 51.9**	**-1.0**
F20K	**Avaraart Lake**	**64.43**	**338**	P	**P**	**17 15 53.8**	**-0.8**
F20K				IAmb	IAmb	17 15 56.1	
	comp=Z,3.4nm,1.2s						
EUNU	**Eureka**	**64.52**	**2**	P	**P**	**17 15 54.6**	**-0.5**
EUNU				IAmb	IAmb	17 16 14.9	
	comp=Z,4.5nm,1.3s						
G19K	**Purcell Mounta**	**64.62**	**337**	P	**P**	**17 15 55.7**	**-0.1**
G19K				IAmb	IAmb	17 16 18.9	
	comp=Z,5.5nm,1.4s						
F19K	**Shaleruckik Mo**	**65.11**	**337**	P	**P**	**17 15 57.8**	**-1.2**
F19K				IAmb	IAmb	17 16 09.4	
	comp=Z,4.0nm,1.4s						
J16K	**Anvik River**	**65.21**	**333**	P	**P**	**17 15 59.5**	**-0.3**
J16K				IAmb	IAmb	17 16 41.6	
	comp=Z,6.1nm,1.4s						
SUMG	**Summit**	**65.40**	**16**	P	**P**	**17 16 00.0**	**-1.3**
M13K	**Dall Lake**	**65.84**	**330**	P	**P**	**17 16 04.2**	**+0.5**
B20K	**Meade River**	**66.00**	**341**	P	**P**	**17 16 05.1**	**+0.4**
B20K				IAmb	IAmb	17 16 06.3	
	comp=Z,4.7nm,0.8s						
G16K	**Koyuk River**	**66.48**	**335**	P	**P**	**17 16 08.3**	**+0.4**
G16K				IAmb	IAmb	17 16 32.3	
	comp=Z,3.7nm,1.4s						
F15K	**North Star Dit**	**67.48**	**335**	P	**P**	**17 16 14.3**	**+0.1**
ANM	**Nome**	**67.55**	**334**	P	**P**	**17 16 14.9**	**+0.2**
MTE	**Manteigas**	**78.08**	**51**	P	**P**	**17 17 16.1**	**-1.6**
EKA	**Eskdalemuir Ar**	**78.28**	**36**	P	**P**	**17 17 18.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=280,slow=4.2,SNR=3.7						
	comp=Z,2.0nm,0.8s						
SFS	**San Fernando**	**79.87**	**55**	P	**P**	**17 17 25.4**	**-2.0**
ESDC	**Sonseca Array**	**80.92**	**51**	P	**P**	**17 17 33.4**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=290,slow=5.4,SNR=9.6						
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**85.43**	**18**	P	**P**	**17 17 56.5**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=302,slow=5.2,SNR=2.8						
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**133.00**	**257**	PKP	**PKPdf**	**17 24 34.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=81,slow=2.3,SNR=5.2						
ASAR	**Alice Springs**	**133.49**	**252**	PKP	**PKiKP**	**17 24 36.6**	**0.0**
	comp=Z,0.7nm,0.8s,baz=92,slow=2.4,SNR=6.1						

*JMA **28** 17:22:26.9±0.3,35°N±1°×137°6E±0°.9, h308km±3km, MV2.7/58, ENSYUNADA*
*IDC **28** 17:22:28.4±4.8, 34°.25N×137°.77E, h262km±198km, mb2.7/2, mbtmp3.3/3, Error ellipse: s-maj=289.9km s-min=135.3km az=9.0*
ISC 28 17:22:28.3±1.1, 34°.7N±0°.1×137°.5E±0°.1, h300km, n20, σ0°.79/23, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HMMJ	**Hamamatsu 2**	**0.22**	**57**	*eP*		**Pn**	**17 23 06.1**	**-0.3**
JAO	**Obara**	**0.56**	**340**	P		**Pn**	**17 23 07.1**	**0.0**
JNY	**Yasuok**	**0.69**	**25**	P		**Pn**	**17 23 07.4**	**-0.1**
JIE	**Ise**	**0.74**	**243**	*eP*		**Pn**	**17 23 07.2**	**-0.4**
TK02	**Tokai 2**	**0.82**	**165**	*eP*		**Pn**	**17 23 07.8**	**+0.1**
JEG	**Eigenji**	**0.99**	**294**	*eP*		**Pn**	**17 23 08.6**	**-0.1**
JYTA	**Yamagatataniai**	**1.06**	**324**	P		**Pn**	**17 23 09.0**	**0.0**
JKN2	**Miekihoku**	**1.13**	**244**	P		**Pn**	**17 23 08.8**	**-0.5**
JWY	**Kouya**	**1.66**	**252**	P		**Pn**	**17 23 12.3**	**-0.4**
JRY	**Ryogami san**	**1.72**	**41**	P		**Pn**	**17 23 13.6**	**+0.7**
JRY				*eS*		**S**	**17 23 49.5**	**+1.1**
JWT	**Wachi**	**1.81**	**288**	P		**Pn**	**17 23 13.5**	**-0.1**
JTNC	**Tanabenakahech**	**1.81**	**240**	*eP*		**Pn**	**17 23 13.4**	**-0.3**
JHU	**Hanno**	**1.83**	**52**	P		**Pn**	**17 23 14.2**	**+0.5**
JHU				*eS*		**S**	**17 23 50.6**	**+0.7**
MAT	**Matsushiro**	**1.89**	**18**	*eP*		**Pn**	**17 23 14.5**	**+0.3**
MJAR	**Matsushiro Arr**	**1.89**	**18**	P		**Pn**	**17 23 14.6**	**+0.4**
	9.2nm,0.7s,baz=189,slow=9.6,SNR=36							
JAG	**Ashikaga**	**2.32**	**43**	*eP*		**Pn**	**17 23 17.3**	**-0.4**
JAG				*eS*		**S**	**17 23 54.2**	**-2.8**
JYT	**Yasato**	**2.66**	**55**	*eP*		**Pn**	**17 23 19.9**	**-0.8**
JHO	**Hitachi**	**3.12**	**52**	*eP*		**Pn**	**17 23 24.9**	**-0.3**
WRA	**Warramunga Arr**	**54.46**	**184**	P		**P**	**17 31 25.6**	**+0.2**
	0.6nm,1.0s,baz=0.9,slow=7.5,SNR=5.7							
	0.6nm,1.0s							
ASAR	**Alice Springs**	**58.18**	**184**	P		**P**	**17 31 52.2**	**+0.7**
	0.3nm,0.8s,baz=21,slow=5.2,SNR=1.9							
	0.3nm,0.8s							

*IDC **28** 17:27:36.4±0.9,33°.47N×91°.21E, h0km, mb3.7/9, mbtmp3.7/14, ML3.3/5, Error ellipse: s-maj=33.7km s-min=17.0km az=56.0*
ISC 28 17:27:41.6±0.8, 33°.5N±0°.1×91°.2E±0°.1, h35km, n14, σ0°.93/14, mb3.7/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.88**	**336**	Pn		**Pn**	**17 31 07.4**	**-1.9**
	baz=143,slow=12,SNR=13							
	1.6nm,0.9s							
AAK	**Ala-Archa**	**15.96**	**310**	Pn		**Pn**	**17 31 24.1**	**+0.7**
	0.2nm,0.3s,baz=135,slow=13,SNR=2.5							
	0.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**16.54**	**153**	Pn		**Pn**	**17 31 29.8**	**-1.1**
	0.1nm,0.3s,baz=337,slow=11,SNR=1.4							
	0.8nm,0.3s							
SONM	**Songino Array**	**18.32**	**34**	Pn		**Pn**	**17 31 54.0**	**+1.1**
	0.1nm,0.3s,baz=221,slow=6.2,SNR=5.8							
	0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**19.44**	**335**	P		**P**	**17 32 05.0**	**+0.1**
	0.1nm,0.3s,baz=144,slow=12,SNR=25							
	2.5nm,0.9s							
ZALV	**Zalesovo Beam**	**20.91**	**349**	P		**P**	**17 32 20.9**	**+0.2**
	6.9nm,0.8s,baz=166,slow=11,SNR=25							
	6.9nm,0.8s							
BVAR	**Borovoye Array**	**24.52**	**329**	P		**P**	**17 32 58.1**	**+0.6**
	1.6nm,0.8s,baz=132,slow=11,SNR=7.4							
	1.6nm,0.8s							
BRTR	**Keskin Array B**	**45.92**	**295**	P		**P**	**17 36 00.8**	**-0.2**
	0.4nm,0.7s,baz=80,slow=9.5,SNR=4.5							
	0.4nm,0.7s							
FINES	**FINESS Array B**	**49.38**	**325**	P		**P**	**17 36 28.0**	**+0.7**
	1.5nm,0.9s,baz=111,slow=7.6,SNR=3.8							
	1.5nm,0.9s							

WRA	**Warramunga Arr**	**67.24**	**136**	P		**P**	**17 38 33.9**	**+1.3**
	0.7nm,1.0s,baz=341,slow=5.9,SNR=2.0							
	0.7nm,1.0s							
ASAR	**Alice Springs**	**69.93**	**139**	P		**P**	**17 38 48.8**	**-0.5**
	0.7nm,0.7s,baz=327,slow=6.4,SNR=12							
	0.7nm,0.7s							
ILAR	**Eielson Array**	**72.10**	**22**	P		**P**	**17 39 01.6**	**-0.3**
	0.3nm,0.8s,baz=296,slow=2.6,SNR=4.2							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	**82.08**	**12**	P		**P**	**17 39 57.9**	**-0.1**
	0.3nm,0.9s,baz=332,slow=4.9,SNR=5.3							
	0.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**82.44**	**281**	P		**P**	**17 40 00.8**	**+0.1**
	0.6nm,0.7s,baz=40,slow=6.8,SNR=4.1							
	0.6nm,0.7s							

*TRN **28** 17:41:56.3, 10°.35N×62°.19W, h3km, MD3.4*
*FUNV **28** 17:41:59.5, 10°.19N×62°.30W, h5km, MW3.1*
ISC 28 17:41:56.1±1.9, 10°.42N±0°.06×62°.22W±0°.07, h11km±18km, n13, σ1°.50/18, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.77**	**97**	*eP*		**Pb**	**17 42 11.1**	**-0.4**
TRN	**Trinidad (W)**	**0.84**	**74**	*eP*		**Pg**	**17 42 11.9**	**-0.4**
TRN				*eS*		**Sg**	**17 42 23.6**	**+0.4**
CRUV	**Carupano**	**1.03**	**285**	*eP*		**Pn**	**17 42 17.2**	**+0.8**
CRUV				*eS*		**Sn**	**17 42 31.0**	**+0.2**
GRFF	**Grenada Fort F**	**1.69**	**16**	*eS*		**Sg**	**17 42 51.2**	**+0.6**
GRGR	**Grenville**	**1.79**	**18**	*eP*		**Pg**	**17 42 29.7**	**-0.8**
GRGR				*eS*		**Sg**	**17 42 53.6**	**-0.3**
GRHS	**Sauteurs**	**1.89**	**18**	*eP*		**Pb**	**17 42 30.2**	**-0.3**
GRHS				*eS*		**Sb**	**17 42 54.8**	**+0.7**
GCMP	**Grenada, Carri**	**2.20**	**21**	*eP*		**Pb**	**17 42 35.6**	**-0.3**
GCMP				*eS*		**Sb**	**17 43 03.1**	**-0.1**
PCRV	**Puerto La Cruz**	**2.39**	**264**	*eP*		**Pn**	**17 42 36.7**	**+1.5**
CACV	**CAICARA DEL OR**	**5.12**	**237**	*eP*		Pn	17 43 07.3	-5.5
CACV				*eS*		Sn	17 43 56.9	-15
BENV	**Beln**	**5.31**	**266**	*eP*		**Pn**	**17 43 16.9**	**+1.4**
BAUV	**El Baul**	**5.92**	**256**	*eP*		**Pn**	**17 43 24.4**	**+0.6**
BAUV				*eS*		**Sn**	**17 44 27.3**	**-4.4**
BAUV	**El Baul**	**5.92**	**256**	*eP*		**Pn**	**17 43 26.0**	**+2.2**
BAUV	**El Baul**	**5.92**	**256**	*eS*		**Sn**	**17 44 31.9**	**+0.2**

IDC 28 18:02:04.6±2.6, 5°.95S×130°.32E, h0km, mb3.2/1, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=146.8km s-min=33.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.45**	**165**	Pn		Pn	18 05 31.3	+0.7
	0.1nm,0.3s,baz=348,slow=14,SNR=12							
WRA						Sn	18 07 57.6	-14
	0.1nm,0.3s,baz=337,slow=20,SNR=1.2							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**17.95**	**169**	P		Pn	18 06 15.3	-0.5
	baz=341,slow=8.6,SNR=4.3							
	0.4nm,0.9s							
MKAR	**Makanchi Array**	**67.53**	**326**	P		P	18 13 02.8	0.0
	0.1nm,0.5s,baz=145,slow=7.9,SNR=2.1							
	0.1nm,0.5s							

*IDC **28** 18:09:43.5±0.5, 52°.97S×9°.73E, h0km, mb4.6/12, mbtmp4.6/13, ML4.5/1, MS4.4/8, Error ellipse: s-maj=22.3km s-min=15.6km az=86.0*
*NEIC **28** 18:09:44.6±1.9, 53°.1S±0°.1×9°.8E±0°.1, h10km±1km, mb5.0/35, Error ellipse: s-maj=21.7km s-min=3.3km az=141.0*
ISC 28 18:09:45.0±0.4, 53°.05S±0°.07×9°.72E±0°.10, h10km, n153, σ1°.78/139, mb5.0/40, MS4.5/7, 8C-4D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TROLL	**Troll, Antarti**	**19.29**	**187**	⇑P		**Pn**	**18 14 11.5**	**+0.8**
	comp=Z,3µm,0.8s							
TROLL				⇓S		Sn	18 17 25.1	-22
	comp=Z,584nm,0.6s							
VNA1	**Neumayer--Stat**	**19.43**	**198**	⇑P		**Pn**	**18 14 12.7**	**+0.5**
	comp=Z,38nm,0.7s							
SNAA	**Sanae**	**19.49**	**192**	P		**P**	**18 14 12.1**	**+0.3**
SNAA				IAmb		IAmb	18 14 15.1	
	comp=Z,84nm,0.9s							
SNAA	**Sanae**	**19.49**	**192**	⇑*i*P		**P**	**18 14 12.1**	**+0.3**
SNAA	**Sanae**	**19.49**	**192**	⇑P		**Pn**	**18 14 12.3**	**-0.7**
	comp=Z,1µm,0.8s							
SNAA				⇓S		Sn	18 17 33.6	-18
	comp=Z,87nm,0.7s							
SNAA	**Sanae**	**19.49**	**192**	P		**Pn**	**18 14 12.6**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=21,slow=11,SNR=54							
SNAA				S		Sn	18 17 34.0	-17
	comp=Z,3.2nm,0.9s,baz=0.0,slow=20,SNR=1.6							
SNAA				LR		LR	18 20 00.5	
	comp=Z,791nm,20.7s,baz=30,slow=32							
	comp=Z,56nm,0.8s							
VNA2	**Neumayer--Watz**	**19.51**	**197**	⇑P		**Pn**	**18 14 13.1**	**-0.1**
	comp=Z,33nm,0.7s,baz=28,slow=12							
VNA2				⇓S		Sn	18 17 37.8	-14
	comp=Z,5.2nm,0.9s,baz=34,slow=20							
VNA3	**Neumayer Olymp**	**20.19**	**198**	⇑P		**P**	**18 14 19.7**	**+0.4**
	comp=Z,75nm,0.9s							
CER	**Ceres**	**20.84**	**23**	*eP*		**P**	**18 14 24.9**	**-1.8**
PRTV	**Porterville,We**	**21.08**	**22**	*eP*		**P**	**18 14 30.6**	**+1.2**
MATJ	**Matjiesfontein**	**21.26**	**26**	*eP*		**P**	**18 14 30.6**	**-0.7**
MATJ				IAmb		IAmb	18 14 32.0	
	comp=Z,99nm,0.9s							
MERW	**Merweville**	**22.07**	**27**	*eP*		**P**	**18 14 39.6**	**-0.5**
MERW				IAmb		IAmb	18 14 40.5	
	comp=Z,77nm,1.0s							
SUR	**Sutherland**	**22.16**	**26**	IAmb		IAmb	18 14 42.3	
	comp=Z,34nm,1.1s							
SUR	**Sutherland**	**22.16**	**26**	LR		LR	18 21 07.8	
	comp=Z,678nm,21.7s,baz=222,slow=31							
GRAN	**Grantham**	**22.60**	**28**	*eP*		**P**	**18 14 45.3**	**-0.4**
GRAN				IAmb		IAmb	18 14 46.2	
	comp=Z,17nm,0.8s							
FRAZ	**Fraserburg**	**22.74**	**26**	*eP*		**P**	**18 14 45.7**	**-1.5**
FRAZ				IAmb		IAmb	18 14 53.9	
	comp=Z,30nm,1.0s							
CVNA	**Calvinia**	**22.75**	**23**	*eP*		**P**	**18 14 46.3**	**-1.0**
CVNA				IAmb		IAmb	18 15 07.6	
	comp=Z,41nm,1.1s							
GRHM	**Grahamstown, E**	**23.09**	**38**	P		**P**	**18 14 50.5**	**-0.3**
GRHM				IAmb		IAmb	18 15 01.6	
	comp=Z,53nm,1.2s							
GRHM	**Grahamstown, E**	**23.09**	**38**	*eP*		**P**	**18 14 50.5**	**-0.3**
GRHM				IAmb		IAmb	18 14 59.9	
	comp=Z,543nm,2.6s							
BRAK	**Brakfontein**	**23.30**	**29**	*eP*		**P**	**18 14 49.7**	**-3.3**
BRAK				IAmb		IAmb	18 15 27.3	
	comp=Z,646nm,3.1s							
SOE	**Somerset East**	**23.31**	**36**	P		**P**	**18 14 51.7**	**-1.3**
BFON	**Badsfontein, M**	**23.53**	**31**	*eP*		P	18 15 03.0	+7.7
BFON				IAmb		IAmb	18 15 10.0	
	comp=Z,298nm,2.6s							
KOMG	**Komaggas**	**23.92**	**17**	*eP*		**P**	**18 14 57.0**	**-2.0**
KOMG				IAmb		IAmb	18 15 00.3	
	comp=Z,48nm,0.8s							
UPI	**Upington**	**26.10**	**24**	*eP*		**P**	**18 15 17.3**	**-1.6**
UPI				IAmb		IAmb	18 15 20.9	
	comp=Z,12nm,0.8s							
BOSA	**Boshof**	**26.98**	**31**	P		**P**	**18 15 25.8**	**-1.0**
BOSA				IAmb		IAmb	18 15 27.7	
	comp=Z,52nm,1.9s							
BOSA	**Boshof**	**26.98**	**31**	*eP*		**P**	**18 15 26.1**	**-0.7**
BOSA				IAmb		IAmb	18 15 35.0	
	comp=Z,1µm,5.0s							
BOSA	**Boshof**	**26.98**	**31**	P		**P**	**18 15 26.6**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=200,slow=8.6,SNR=4.6							
BOSA				ScP		**ScP**	**18 22 28.0**	**-0.3**
	comp=Z,4.9nm,1.1s,baz=217,slow=5.1,SNR=3.7							
BOSA				LR		LR	18 23 59.9	
	comp=Z,597nm,21.7s,baz=193,slow=32							
	comp=Z,2.9nm,0.8s							
H04S2	**CROZET ISLANDS**	**27.52**	**94**	T		T	18 44 23.1	
	baz=242,slow=75,SNR=38							
H04S3	**CROZET ISLANDS**	**27.52**	**94**	T		T	18 44 24.4	
	baz=242,slow=75,SNR=38							
H04S1	**CROZET ISLANDS**	**27.53**	**94**	T		T	18 44 24.0	
	baz=242,slow=75,SNR=42							
BELA	**Belgrano 2**	**29.49**	**197**	P		**P**	**18 15 47.9**	**-0.8**
LBTB	**Lobatse**	**30.45**	**29**	P		**P**	**18 15 55.9**	**-1.9**

LBTB	**Lobatse**	**30.45**	**29**	*eP*		**P**	**18 15 56.5**	**-1.2**
LBTB				IAmb		IAmb	18 15 58.1	
	comp=Z,572nm,4.0s							
LBTB	**Lobatse**	**30.45**	**29**	LR		LR	18 26 50.1	
	comp=Z,476nm,18.1s,baz=214,slow=34							
TSWA	**Tswaing Meteor**	**30.85**	**34**	*eP*		**P**	**18 16 04.2**	**+2.9**
WIN	**Windhoek**	**30.95**	**13**	P		**P**	**18 16 01.7**	**-0.6**
WIN				IAmb		IAmb	18 16 09.7	
	comp=Z,47nm,1.7s							
LEPH	**Lephalale, Lim**	**32.21**	**32**	*eP*		**P**	**18 16 13.3**	**0.0**
LEPH				IAmb		IAmb	18 16 13.7	
	comp=Z,17nm,1.1s							
MOPA	**Mopani**	**33.77**	**38**	*eP*		**P**	**18 16 25.8**	**-1.0**
MOPA				IAmb		IAmb	18 16 30.0	
	comp=Z,100nm,1.3s							
TSUM	**Tsumeb**	**34.33**	**13**	P		**P**	**18 16 31.6**	**-0.2**
TSUM				IAmb		IAmb	18 16 32.9	
	comp=Z,22nm,1.0s							
TSUM	**Tsumeb**	**34.33**	**13**	LR		LR	18 28 10.8	
	comp=Z,958nm,21.2s,baz=205,slow=32							
QSPA	**South Pole Qui**	**37.19**	**180**	P		**P**	**18 16 56.3**	**+0.4**
	comp=Z,23nm,1.0s,baz=230,slow=3.9,SNR=26							
	comp=Z,23nm,1.0s							
EFI	**East Falkland**	**40.01**	**244**	P		**P**	**18 17 19.3**	**-0.3**
LSZ	**Lusaka**	**40.41**	**28**	LR		LR	18 32 23.1	
	comp=Z,592nm,18.4s,baz=27,slow=34							
VNDA	**Vanda**	**48.54**	**172**	P		**P**	**18 18 28.3**	**+0.8**
VNDA				IAmb		IAmb	18 18 31.7	
	comp=Z,19nm,1.0s							
VNDA	**Vanda**	**48.54**	**172**	P		**P**	**18 18 28.6**	**+1.1**
	comp=Z,11nm,0.8s,baz=227,slow=6.6,SNR=29							
	comp=Z,11nm,0.8s							
SBA	**Scott Base**	**48.59**	**174**	P		**P**	**18 18 28.8**	**+0.9**
PLTB	**Pedras Altas**	**49.57**	**269**	P		**P**	**18 18 36.9**	**+0.8**
TRQA	**Tornquist**	**50.28**	**257**	P		**P**	**18 18 41.1**	**-0.2**
AY01	**Puyuhuapi**	**52.16**	**244**	P		**P**	**18 18 53.3**	**-2.0**
AY01				IAmb		IAmb	18 19 06.8	
	comp=Z,16nm,0.9s							
LL02	**Futaleuf**	**52.52**	**246**	P		**P**	**18 18 56.6**	**-1.5**
PLCA	**Paso Flores**	**53.44**	**249**	P		**P**	**18 19 05.4**	**+0.5**
	comp=Z,4.2nm,1.0s,baz=116,slow=6.6,SNR=8.8							
	comp=Z,4.2nm,1.0s							
LR05	**Currie**	**54.59**	**248**	P		**P**	**18 19 12.2**	**-1.1**
LR05				IAmb		IAmb	18 19 23.1	
	comp=Z,23nm,0.9s							
KIBK	**Kibwezi**	**55.72**	**35**	P		**P**	**18 19 23.1**	**+1.4**
CPUP	**Villa Florida**	**55.74**	**271**	P		**P**	**18 19 20.8**	**-0.9**
CPUP				IAmb		IAmb	18 19 23.8	
	comp=Z,20nm,0.9s							
CPUP	**Villa Florida**	**55.74**	**271**	P		**P**	**18 19 21.5**	**-0.2**
	comp=Z,21nm,1.0s,baz=132,slow=6.8,SNR=15							
	comp=Z,21nm,1.0s							
KMBO	**Kilima Mbogo**	**56.58**	**34**	P		**P**	**18 19 27.1**	**-0.9**
ML02	**Panimavida**	**57.35**	**253**	P		**P**	**18 19 33.1**	**0.0**
BO02	**Sierra Bellavi**	**57.67**	**254**	P		**P**	**18 19 35.4**	**-0.1**
BO02				IAmb		IAmb	18 19 37.8	
	comp=Z,16nm,1.1s							
BDFB	**Brasilia**	**58.39**	**287**	P		**P**	**18 19 41.6**	**+0.9**
BDFB				IAmb		IAmb	18 19 42.9	
	comp=Z,12nm,1.0s							
BDFB	**Brasilia**	**58.39**	**287**	P		**P**	**18 19 40.3**	**-0.4**
	comp=Z,11nm,0.9s,baz=130,slow=4.8,SNR=12							
	comp=Z,11nm,0.9s							
MT16	**CCHEN**	**58.49**	**255**	P		**P**	**18 19 41.5**	**+0.3**
AQDB	**Aquidauana**	**59.16**	**277**	P		**P**	**18 19 45.8**	**-0.1**
AQDB				IAmb		IAmb	18 19 47.5	
	comp=Z,15nm,1.2s							
LIC	**Lamto**	**60.36**	**343**	⇑*i*P		**P**	**18 19 52.8**	**-1.3**
	comp=Z,29nm,0.7s							
KIC	**Kosan Boka**	**60.44**	**343**	⇓*e*P		**P**	**18 19 53.4**	**-1.3**
	comp=Z,11nm,0.8s							
CO01	**Juntas del Tor**	**60.73**	**258**	P		**P**	**18 19 58.0**	**+1.1**
CO01				IAmb		IAmb	18 20 00.6	
	comp=Z,16nm,1.1s							
DBIC	**Dimbokro**	**60.77**	**343**	P		**P**	**18 19 55.3**	**-1.5**
DBIC				IAmb		IAmb	18 19 58.4	
	comp=Z,20nm,0.9s							
DBIC	**Dimbokro**	**60.77**	**343**	P		**P**	**18 19 55.6**	**-1.2**
	comp=Z,15nm,0.7s,baz=143,slow=8.4,SNR=26							
	comp=Z,15nm,0.7s							
TIC	**Toumodi**	**60.77**	**343**	⇑*e*P		**P**	**18 19 55.7**	**-1.2**
	comp=Z,47nm,0.7s				

	comp=Z,0.9nm,0.8s,baz=142,slow=4.6,SNR=4.6						
PDAR				PKP	PKPdf	18 29 12.7	+1.1
	comp=Z,0.8nm,0.7s,baz=111,slow=3.3,SNR=6.1						
RES	Resolute Bay	144.00	334	PKPdf	PKPab	18 29 16.9	+0.5
PLID	Pearl Lake	144.33	280	PKPdf	PKPab	18 29 18.8	0.0
J05D	Fort Rock, OR	146.47	273		PKPbc	18 29 25.6	-0.1
TIXI	Tiksi	148.14	32		PKPbc	18 29 28.0	-1.2
YKA	Yellowknife Ar	149.78	310	PKP	PKPdf	18 29 29.0	+0.1
	comp=Z,12nm,0.9s,baz=92,slow=2.0,SNR=23						
YKA				PKPbc	sPKPdf	18 29 32.9	+1.5
	comp=Z,9.4nm,0.8s,baz=93,slow=2.7,SNR=45						
INK	Inuvik	156.91	325	P	PKPab	18 30 11.0	+1.8
	baz=67						
F31M	Tsiigehtchic	157.31	323	P	PKPab	18 30 11.0	+0.1
	baz=69						
G31M	Satah River	157.69	322	P	PKPab	18 30 14.6	+2.1
	baz=69						
F30M	Barrier River	157.97	325	P	PKPab	18 30 15.3	+1.5
	baz=66						
D28M	Stokes Point	158.12	330	P	PKPab	18 30 17.9	+3.5
	baz=58						
E29M	Blow River	158.34	327	P	PKPab	18 30 17.8	+2.4
	baz=61						
EPYK	Eagle Plains	158.81	322	P	PKPab	18 30 19.2	+1.7
	baz=67						
D27M	Malcolm River	158.83	331	P	PKPab	18 30 20.8	+3.3
	baz=55						
M31M	Drury Creek, Y	158.98	310	P	PKPab	18 30 21.2	+2.8
	baz=80						
F28M	Old Crow	159.37	327	P	PKPab	18 30 22.3	+2.4
	baz=60						
H29M	Whitestone	159.48	322	P	PKPab	18 30 22.7	+2.3
	baz=65						
K29M	Barlow Dome	159.99	315	P	PKPab	18 30 25.1	+2.3
	baz=73						
D25K	Kavik River	160.27	335	P	PKPab	18 30 26.8	+3.1
	baz=46						
I28M	Miner Creek	160.39	321	P	PKPab	18 30 25.3	+0.8
	baz=65						
L29M	L29M	160.47	314	P	PKPab	18 30 26.4	+1.5
	baz=74						
C24K	Franklin Bluff	160.55	337	P	PKPab	18 30 26.6	+1.7
	baz=42						
H27K	Steamboat Moun	160.62	324	P	PKPab	18 30 27.2	+1.8
	baz=61						
F26K	Sheenjek River	160.69	329	P	PKPab	18 30 28.5	+2.8
	baz=53						
DAWY	Dawson	160.70	317	P	PKPab	18 30 27.9	+2.1
	baz=70						
E25K	Arctic Village	160.85	331	P	PKPab	18 30 29.4	+3.0
	baz=50						
D24K	Happy Valley	161.00	336	P	PKPab	18 30 30.6	+3.7
	baz=42						
F25K	Christian Rive	161.21	330	P	PKPab	18 30 31.5	+3.5
	baz=51						
D23K	Nanushuk River	161.58	337	P	PKPab	18 30 31.6	+2.2
	baz=40						
I26K	Coal Creek Min	161.65	323	P	PKPab	18 30 32.3	+2.4
	baz=61						
G25K	Bearman Lake	161.86	329	P	PKPab	18 30 34.0	+3.3
	baz=52						
BVCY	Beaver Creek	161.87	313	P	PKPab	18 30 33.5	+2.5
	baz=72						
L27K	Beaver Creek,	162.08	315	P	PKPab	18 30 34.1	+2.2
	baz=69						
J26L	Joseph Creek	162.19	320	P	PKPab	18 30 34.7	+2.3
	baz=62						
G24K	Hadweenzic Riv	162.33	329	P	PKPab	18 30 36.0	+3.1
	baz=50						
M27K	Edge Creek, AK	162.34	313	P	PKPab	18 30 35.3	+2.1
	baz=71						
J25K	Salcha River,	162.82	322	P	PKPab	18 30 36.1	+1.0
	baz=59						
ILAR	Eielson Array	163.29	324	PKPab	PKPab	18 30 36.8	-0.3
	comp=Z,3.1nm,0.9s,baz=27,slow=2.4,SNR=22						
G22K	Bettles	163.33	334	P	PKPab	18 30 39.5	+2.3
	baz=42						
HDA	Harding Lake	163.51	323	P	PKPab	18 30 40.1	+2.1
	baz=57						
F21K	Alatna River	163.60	337	P	PKPab	18 30 41.8	+3.4
	baz=38						
PAX	Paxson	163.64	317	P	PKPab	18 30 40.0	+1.2
	baz=64						
HARP	HAARP	163.75	315	P	PKPab	18 30 41.7	+2.5
	baz=66						
C18K	Utukok River	163.77	348	P	PKPab	18 30 41.7	+2.6
	baz=20						

KRSC 28 18:21:09.3±0.2, 55°.56N×166°.07E, h33^{km}±1^{km}, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.36	189	eP	Pn	18 21 18.5	+0.3
BKI				eS	Sn	18 21 24.6	+0.8
TUMD	Tumrok D	3.26	266	eP	Pn	18 22 01.8	+3.8
TUMD				eS	Sn	18 22 40.1	+4.6
TUMR	Tumrok	3.39	268	eP	Pn	18 22 03.8	+3.9
SMAR	Somma	4.83	245	eP	Pn	18 22 24.0	+4.2
SMAR				eS	Sn	18 23 19.1	+4.6
UGLR	Uglovaya	4.85	244	eP	Pn	18 22 24.4	+4.5
KRX	Arik	4.86	246	eP	Pn	18 22 24.7	+4.6
KRX				eS	Sn	18 23 20.3	+5.1
AVH	Avacha	4.86	245	eP	Pn	18 22 24.8	+4.7
KOK	Koryaka	4.90	245	eP	Pn	18 22 25.1	+4.5
DALK	Dalny	4.98	242	eP	Pn	18 22 26.4	+4.8
MTVR	Mutnovka	5.58	240	eP	Pn	18 22 34.6	+4.7
MTVR				eS	Sn	18 23 37.9	+5.0
GRL	Gorelyy	5.59	241	eP	Pn	18 22 34.9	+4.8
ASAK	Asacha	5.78	240	eP	Pn	18 22 37.6	+5.0
ASAK				eS	Sn	18 23 42.8	+5.1

KRSC 28 18:22:52.1±0.4, 55°.31N×166°.43E, h33^{km}±1^{km}, Ml3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.28	248	eP	Pn	18 23 00.2	+0.4
BKI				eS	Sb	18 23 05.4	+0.7
TUMD	Tumrok D	3.45	271	eP	Pn	18 23 47.3	+3.7
TUMD				eS	Sn	18 24 28.4	+5.1
KMNR	Kamenistaya	3.55	280	eP	Pn	18 23 49.0	+4.1
KPT	Kopyto	3.58	283	eP	Pn	18 23 49.2	+3.9
TUMR	Tumrok	3.59	272	eP	Pn	18 23 49.7	+4.2
SMAR	Somma	4.92	248	eP	Pn	18 24 08.6	+4.8
SMAR				eS	Sn	18 25 04.3	+4.7
UGLR	Uglovaya	4.93	248	eP	Pn	18 24 08.5	+4.6
AVH	Avacha	4.95	249	eP	Pn	18 24 08.7	+4.6
AVH				eS	Sn	18 25 05.1	+4.9
KRX	Arik	4.96	250	eP	Pn	18 24 08.8	+4.5
KRX				eS	Sn	18 25 05.8	+5.4
KOK	Koryaka	4.99	249	eP	Pn	18 24 09.3	+4.6
DALK	Dalny	5.05	246	eP	Pn	18 24 10.3	+4.8
PET	Petropavlovsk	5.11	247	eP	Pn	18 24 11.1	+4.8
ASAK	Asacha	5.84	243	eP	Pn	18 24 21.4	+5.1
ASAK				eS	Sn	18 25 27.0	+4.8

TRN 28 18:28:24.0, 13°.49N×58°.84W, h80^{km}, MD4.0, 1C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCHC	Barbados, Cave	0.85	245	eP	Pn	18 28 43.1	+1.8
BCHC				eS	Sn	18 28 56.7	+2.5
SLBI	Saint Lucia, B	2.14	284	eP	Pn	18 28 58.0	+0.2
SLBI				eS	Sn	18 29 25.2	+1.6
SLCP	Castries, St.	2.15	284	eP	Pn	18 28 59.4	+1.4
SLCP				eS	Sn	18 29 24.8	+0.9
SLB	Belfond	2.17	279	eP	Pn	18 28 59.9	+1.6
MPOM	Morne Pois Mar	2.18	296	eP	Pn	18 28 58.8	+0.5
MPOM				eS	Sn	18 29 25.3	+0.8
MVM	Montagne Vaucl	2.26	298	eP	Pn	18 29 00.4	+1.0
SSV	Crater Summit	2.30	266	eP	Pn	18 29 00.8	+0.8
SSV				eS	Sn	18 29 29.4	+1.9
LPMF	Morne Lapointe	2.33	298	eP	Pn	18 29 01.1	+0.8
SVOC	Richmond Hill,	2.34	262	eP	Pn	18 29 01.3	+0.8
SVOC				eS	Sn	18 29 29.1	+0.6
SVB	Belmont	2.36	265	eP	Pn	18 29 01.6	+0.8
SVB				eS	Sn	18 29 30.4	+1.5
ZAM	Aeronautique	2.38	297⇑	eP	Pn	18 29 01.7	+0.7
TRMF	Trois Ilets	2.39	296	eP	Pn	18 29 02.0	+0.9
BIM	Bigot	2.40	295	eP	Pn	18 29 02.0	+0.8
BIM				eS	Sn	18 29 29.8	+0.1
FDF	Fort de France	2.56	299	eP	Pn	18 29 03.5	+0.1
FDF				eS	Sn	18 29 33.7	0.0
BAMF	Morne Balai	2.60	301	eP	Pn	18 29 05.4	+1.4
GBMF	Grand Be	2.60	300	eP	Pn	18 29 05.8	+1.7
PML	Morne Lenard	2.61	300	eP	Pn	18 29 06.3	+2.1
SVN	Savane Anatole	2.63	301	eP	Pn	18 29 05.9	+1.5
SVN				eS	Sn	18 29 36.4	+1.0
PCM	Pelee Case Pet	2.65	300	eP	Pn	18 29 06.2	+1.5
GCMP	Grenada, Carri	2.71	249	eP	Pn	18 29 06.5	+1.0
GCMP				eS	Sn	18 29 37.7	+0.3
GRSS	Sisters	2.96	247	eP	Pn	18 29 10.1	+1.3
GRHS	Sauteurs	3.01	246	eP	Pn	18 29 11.4	+1.9
GRHS				eS	Sn	18 29 45.5	+0.9
GRW	Mount Saint Ca	3.06	245	eP	Pn	18 29 11.8	+1.5
GRW				eS	Sn	18 29 46.6	+0.7
GRFF	Grenada Fort F	3.17	243	eP	Pn	18 29 13.6	+1.9
GRFF				eS	Sn	18 29 48.5	0.0
MAGL	Barre de l'ile	3.40	316	eP	Pn	18 29 16.2	+1.4
TDBA	Terre de Bas,	3.58	311	eP	Pn	18 29 19.4	+2.2
TBG	Guadaloupe-3	3.59	311	eP	Pn	18 29 18.1	+0.7
CBE	Ff, Capester	3.71	314	eP	Pn	18 29 20.5	+1.5
CBE				eS	Sn	18 30 03.2	+1.6
TRN	Trinidad (W)	3.78	222	eP	Pn	18 29 21.6	+1.7
ANBD	Bethesda, Anti	4.53	322	eP	Pn	18 29 31.5	+1.4
ANBD	Bethesda, Anti	4.53	322	eS	Sn	18 30 22.4	+0.9
BAUV	El Baul	10.10	244	eP	Pn	18 30 47.4	+1.2
BAUV	El Baul	10.10	244	eS	Sn	18 32 32.5	-5.3

*IDC **28** 18:35:17.1±1.7, 36°.70N×142°.50E, h0^{km}, mb3.7/9, mbtmp3.7/10, ML3.3/1, MS4.2/2, Error ellipse: s-maj=49.0km s-min=21.1km az=68.0*
*JMA **28** 18:35:22.3±0.4, 36°.6N±0°.8×14°2E±°, h50^{km}, MV3.4/34, FAR E OFF IBARAKI PREF*
ISC 28 18:35:24.0±1.2, **36°.62N**±0°.07×**142°.0E**±0°.1, **h35^{km}, n23,** σ**1.^{s}97**/25, **mb3.7**/9, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.07	297	eP	Pn	18 35 40.0	-2.6
JHO	Hitachi	1.15	270	eP	Pn	18 35 40.6	-2.9
JFK	Kawauchi	1.16	310	P	Pn	18 35 41.0	-2.8
JHYU	Hitachinakayam	1.17	256	P	Pn	18 35 40.9	-2.9
JHYU				eS	Sn	18 35 55.1	-3.4
JFFD	Fukushimafurud	1.24	293	eP	Pn	18 35 42.2	-2.6
JMM	Marumori	1.57	323	P	Pn	18 35 47.2	-2.1
JOTO	OTAMA OYAMA	1.62	306	P	Pn	18 35 49.0	-1.2
JIO	Ouri	1.90	345	P	Pn	18 35 52.2	-1.7
JIO				eS	Sn	18 36 14.7	-1.9
JFY	Yanaizu	1.99	294	eP	Pn	18 35 55.0	-0.2
JOU	Okura	2.03	329	eP	Pn	18 35 54.8	-1.0
JOU				eS	Sn	18 36 20.4	+0.5
JAG	Ashikaga	2.06	265	eP	Pn	18 35 54.4	-1.7
MJAR	Matsushiro Arr	3.05	270	Pn	Pn	18 36 10.6	+0.9
	2.6nm,0.3s,baz=112,slow=10,SNR=352						
MJAR				Sn	Sn	18 36 47.1	+2.2
	0.7nm,0.3s,baz=75,slow=22,SNR=7.7						
	39nm,0.6s						
SONM	Songino Array	28.40	304	P	P	18 41 16.2	+1.0
	1.7nm,0.7s,baz=108,slow=8.5,SNR=15						
	1.7nm,0.7s						
CMAR	Chiang Mai Arr	41.85	256	P	P	18 43 13.9	+3.2
	0.3nm,0.9s,baz=47,slow=6.8,SNR=1.5						
	0.3nm,0.9s						
ZALV	Zalesovo Beam	42.53	313	P	P	18 43 16.7	+0.8
	1.1nm,0.6s,baz=99,slow=8.5,SNR=5.6						
	1.1nm,0.6s						
MKAR	Makanchi Array	44.73	303	P	P	18 43 33.9	+0.1
	0.6nm,0.6s,baz=91,slow=9.4,SNR=8.4						
	0.6nm,0.6s						
BRDH	Bariadhala	45.43	267	LR	LR	19 03 32.6	
	comp=Z,310nm,18.6s,baz=32,slow=37						
KURBB	Kurchatov Arra	46.62	308	P	P	18 43 48.2	-0.3
	0.8nm,0.6s,baz=82,slow=7.7,SNR=14						
	0.8nm,0.6s						
BVAR	Borovoye Array	51.19	313	P	P	18 44 23.6	0.0
	0.5nm,0.5s,baz=83,slow=9.3,SNR=4.4						
	0.5nm,0.5s						
WRA	Warramunga Arr	56.72	189	P	P	18 45 03.5	-0.8
	0.4nm,0.5s,baz=5.0,slow=7.3,SNR=6.6						
	0.4nm,0.5s						
ASAR	Alice Springs	60.45	189	P	P	18 45 29.2	-1.0
	0.6nm,1.0s,baz=17,slow=7.9,SNR=5.0						
	0.6nm,1.0s						
YBH	Yreka Blue Hor	70.23	52	LR	LR	19 09 40.6	
	comp=Z,146nm,22.0s,baz=178,slow=30						
AKASG	Malin Array Be	74.91	323	P	P	18 47 01.1	+0.1
	0.5nm,0.5s,baz=46,slow=6.2,SNR=8.1						
	0.5nm,0.5s						

IDC 28 18:46:32.5±7.6, **5°.04S**×**152°.19E, h102^{km}**±53^{km}, **mb3.8**/2, **mbtmp4.2**/3, **Error ellipse: s-maj=114.9km s-min=47.2km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.61	229	P	Pn	18 48 07.2	+0.1
	9.6nm,0.4s,baz=83,slow=2.2,SNR=9.4						
PMG				S	Sn	18 49 21.6	+0.6
	39nm,0.6s,baz=144,slow=18,SNR=7.2						
WRA	Warramunga Arr	22.83	228	P	P	18 51 26.9	-0.2
	5.4nm,0.5s,baz=53,slow=9.9,SNR=58						
	5.4nm,0.5s						
ASAR	Alice Springs	25.56	222	P	P	18 51 52.4	+0.3
	1.6nm,0.6s,baz=54,slow=9.3,SNR=18						
	1.6nm,0.6s						
TORD	Torodi Ar. Bea	149.79	287	PKPbc	PKPbc	19 06 11.1	-0.5
	0.6nm,0.4s,baz=90,slow=2.4,SNR=10						

*CATAC **28** 18:50:44.8±0.5, 14°.55N×89°.15W, h3^{km}±2^{km}, ML3.6*
*SNET **28** 18:50:44.7±1.1, 14°.56N×89°.20W, h6^{km}, ML3.7*
ISC 28 18:50:44.2±1.4, **14°.58N**±0°.05×**89°.14W**±0°.04, **h9^{km}**±10^{km}, **n52,** σ**0.^{s}48**/62, **1C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	Esquipulas	0.20	263	i P	Pg	18 50 48.3	-0.1
ESQI				i S	Sg	18 50 51.7	+0.5
ESQI				IAML		18 50 53.2	
	comp=Z,12μm,1.0s						
MTO3	Montecristo	0.28	230⇑	eP	Pg	18 50 49.8	-0.2
MTO3				eS	Sg	18 50 53.9	+0.1
MTO3	Montecristo	0.28	230	i P	Pg	18 50 49.5	-0.5
MTO3				i S	Sg	18 50 53.7	-0.1
MTO3				IAML		18 50 54.2	
	comp=Z,8μm,1.0s						
LLGN	La Laguna	0.46	156	i P	Pg	18 50 53.0	-0.2
LLGN				i S	Sg	18 50 59.4	+0.1
LLGN				IAML		18 51 00.4	
	comp=Z,5μm,1.0s						
JAMO	Monjas	0.72	263	i P	Pg	18 50 58.1	-0.1
JAMO				IAML		18 50 58.6	
	comp=Z,3μm,1.0s						
JAMO				i S	Sb	18 51 08.7	-0.5
QUEZ	Alcaldia de Qu	0.76	190	i P	Pg	18 50 58.5	-0.3
QUEZ				IAML		18 51 15.4	
	comp=Z,4μm,1.0s						
CEDA	San Andres	0.81	198	eP	Pb	18 51 00.3	-0.3
CEDA				eS	Sb	18 51 11.9	+0.1
SLOZ	Alcaldia de Sa	0.83	229	eP	Pg	18 50 60.0	-0.4
SLOZ				eS	Sb	18 51 11.3	-1.0
PIC2	El Picacho	0.84	188	eP	Pb	18 51 01.1	-0.1
RTR	El Retiro	0.84	216	eP	Pg	18 51 00.3	-0.1
SNJE	San Jose	0.84	213	eP	Pg	18 51 00.2	-0.3
LOAL	Lomas de Alarc	0.85	227	i P	Pg	18 51 00.6	-0.1
LOAL				i S	Sb	18 51 12.2	-0.6
LOAL				IAML		18 51 17.7	
	comp=Z,3μm,1.0s						
BOQS	Boqueron	0.85	189	eP	Pb	18 51 01.2	-0.2
UDBS	Universidad Do	0.86	181	i P	Pg	18 51 00.8	-0.1
UDBS				IAML		18 51 17.7	
	comp=Z,1μm,1.0s						
UEES	Universidad Ev	0.87	186	eP	Pg	18 51 00.8	-0.2
UEES	Universidad Ev	0.87	186	i P	Pg	18 51 01.2	+0.2
UEES				IAML		18 51 19.0	
	comp=Z,1μm,1.0s						
SBLS	San Blas	0.88	212	eP	Pg	18 51 01.0	-0.2
PMON	Piamonte	0.88	191	i P	Pb	18 51 01.6	-0.2
PMON				IAML		18 51 19.9	
	comp=Z,2μm,1.0s						
CEVE	Cerro Verde	0.89	212	eP	Pg	18 51 01.2	-0.1
CEVE	Cerro Verde	0.89	212	i P	Pg	18 51 01.1	-0.2
CEVE				IAML		18 51 17.4	
	comp=Z,1μm,1.0s						
PAVA	Las Pavas	0.89	167	eP	Pg	18 51 01.2	-0.2
PAVA	Las Pavas	0.89	167	i P	Pg	18 51 01.3	0.0
PAVA				i S	Sg	18 51 13.4	+0.5
PAVA				IAML		18 51 14.4	
	comp=Z,3μm,1.0s						
NUBE	Las Nubes	0.92	223	eP	Pg	18 51 01.6	-0.3
NUBE	Las Nubes	0.92	223	i P	Pg	18 51 01.4	-0.5
NUBE				IAML		18 51 20.5	
	comp=Z,1μm,1.0s						
LOMA	Loma Larga	0.93	182	eP	Pg	18 51 02.0	-0.2
LOMA	Loma Larga	0.93	182	i P	Pg	18 51 02.3	+0.1
LOMA				IAML		18 51 21.2	
	comp=Z,670nm,1.0s						
LFRS	El Faro	0.96	176	eP	Pg	18 51 02.4	-0.2
SCLA	Alcaldia de Sa	0.96	156	eP	Pg	18 51 02.4	-0.3
SCLA	Alcaldia de Sa	0.96	156	i P	Pg	18 51 02.5	-0.3
SCLA				IAML		18 51 25.0	
	comp=Z,740nm,1.0s						
JAYA	Jayaque - finc	0.97	198	eP	Pg	18 51 02.6	-0.3
JAYA				eS	Sb	18 51 16.4	+0.1
JAYA	Jayaque - finc	0.97	198	i P	Pg	18 51 02.6	-0.3
JAYA				IAML		18 51 22.2	
	comp=Z,3μm,1.0s						
SJTE	Alcalda de S	0.97	172	eP	Pg	18 51 02.5	-0.5
SJTE	Alcalda de S	0.97	172	i P	Pg	18 51 02.9	0.0
SJTE				IAML		18 51 16.5	
	comp=Z,790nm,1.0s						
COEG	Centro de Oper	0.99	165	eP	Pg	18 51 03.3	0.0
COEG	Centro de Oper	0.99	165	i P	Pg	18 51 03.1	-0.2
COEG				IAML		18 51 20.5	
	comp=Z,880nm,1.0s						
UESV	Universidad de	1.00	160	i P	Pg	18 51 03.8	+0.3
UESV				IAML		18 51 21.2	
	comp=Z,1μm,1.0s						
TECO	Alcaldia de Te	1.10	161	eP	Pg	18 51 04.6	-0.7
TECO	Alcaldia de Te	1.10	161	i P	Pg	18 51 04.5	-0.8
TECO				IAML		18 51 22.9	
	comp=Z,510nm,1.0s						
LALI	Alcalda de L	1.10	189	i P	Pg	18 51 05.1	-0.3
LALI				IAML		18 51 25.0	
	comp=Z,290nm,1.0s						
PQSS	Presa 15 de Se	1.11	149	eP	Pg	18 51 04.8	-0.7
PQSS	Presa 15 de Se	1.11	149	i P	Pg	18 51 04.7	-0.8
PQSS				IAML		18 51 24.7	
	comp=Z,2μm,1.0s						
GUNB	GUNB	1.17	271	i P	Pg	18 51 06.0	-0.7
GUNB				IAML		18 51 06.3	
	comp=Z,2μm,1.0s						
TECA	Tecapa	1.25	150	eP	Pg	18 51 07.5	-0.7
GCG4	OSOP	1.35	270	i P	Pg	18 51 09.9	-0.3
GCG4				IAML		18 51 32.2	
	comp=Z,2μm,1.0s						
PACA	Pacayal	1.36	144	eP	Pn	18 51 09.6	+0.1
PACA	Pacayal	1.36	144	i P	Pn	18 51 09.5	-0.1
PACA				IAML		18 51 30.8	
	comp=Z,6μm,1.0s						
VSM	San Miguel	1.42	144	eP	Pn	18 51 10.7	+0.1
ESSG	Sabana Grande	1.65	263	i P	Pn	18 51 14.6	+1.1
ESSG				IAML		18 52 32.5	
	comp=Z,1μm,1.0s						
LCND	La Caada	1.75	136	eP	Pn	18 51 15.7	+0.8
CNCH	Conchagua	1.81	136	eP	Pn	18 51 17.1	+1.2
CNCH	Conchagua	1.81	136	i P	Pn	18 51 17.0	+1.2
CNCH				IAML		18 51 46.7	
	comp=Z,1μm,1.0s						
QUIS	Sacapulas	2.02	291	i P	Pb	18 51 20.8	-0.4
QUIS				IAML		18 51 23.6	
	comp=Z,1μm,1.0s						

IDC 28 19:06:16.0±3.0, **20°.13S**×**178°.15W, h0^{km}, mb3.7**/3, **mbtmp3.7**/3, **Error ellipse: s-maj=302.3km s-min=33.6km az=161.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.46	256	P	P	19 14 28.2	-1.1
	0.7nm,0.8s,baz=98,slow=6.7,SNR=12						
	0.7nm,0.8s						
WRA	Warramunga Arr	44.51	262	P	P	19 14 30.4	+0.7
	0.8nm,0.6s,baz=94,slow=8.3,SNR=18						
	0.8nm,0.6s						
TXAR	Lajitas Array	86.98	57	P	P	19 19 03.5	-0.1
	0.4nm,0.8s,baz=225,slow=6.2,SNR=4.1						
	0.4nm,0.8s						
AKASG	Malin Array Be	142.62	331	PKP	PKPdf	19 25 51.7	+0.7
	0.6nm,0.5s,baz=42,slow=4.2,SNR=7.4						

IDC 28 20:01:17.8±9.3, **11°.10N**×**92°.67E, h0^{km}, mb3.3**/2, **mbtmp3.3**/3, **ML3.9**/1, **MS4.0**/1, **Error ellipse: s-maj=153.2km s-min=65.3km az=1.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.51	39	Pn	Pn	20 03 36.5	+0.4
	0.3nm,0.3s,baz=233,slow=14,SNR=11						
	1.0nm,0.7s						
MKAR	Makanchi Array	36.65	348	P	P	20 08 26.4	+0.2
	0.3nm,0.6s,baz=163,slow=8.9,SNR=3.6						
	0.3nm,0.6s						
SONM	Songino Array	38.40	15	P	P	20 08 40.5	-0.6
	0.2nm,0.4s,baz=202,slow=7.4,SNR=1.7						
	0.2nm,0.4s						
YAK	Yakutsk	57.44	20	LR	LR	20 36 35.0	
	comp=Z,116nm,19.4s,baz=124,slow=37						

*IDC **28** 20:05:13.6±1.3, 3°.12S×131°.01E, h0^{km}, mb3.8/5, mbtmp3.9/7, ML4.1/2, Error ellipse: s-maj=59.1km s-min=20.4km az=69.0*
*DJA **28** 20:05:16.4±0.3, 3°S±2°×13°1E±°, h10^{km}, M3.9/10, MLv3.9/10*
ISC 28 20:05:18.5±0.8, **3°.40S**±0°.05×**130°.89E**±0°.07, **h30^{km}, n18,** σ**2.^{s}12**/17, **mb3.7**/5, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.44	71	P	Pb	20 05 46.4	+1.6
BNDI	Bandanaira	1.49	221	P	Pn	20 05 41.8	-1.4
BNDI				S	Sn	20 06 02.4	+0.8
KRAI	Karang Ratu	2.49	272	P	Pn	20 05 52.7	-4.3
SIJI	Sorong	2.54	9	P	Pn	20 05 57.3	-0.4
SWI	Sorong	2.54	8	P	Pn	20 05 56.4	-1.4
KMPI	Kaimana, Papua	2.83	95	P	Pb	20 06 05.8	-2.5
NLAI	Namlea	3.78	272	P	Pn	20 06 12.3	-2.5
LBMI	Labuha	4.35	309	P	Pn	20 06 16.3	-6.4
SAUI	Saumlaki	4.58	175	P	Pn	20 06 27.9	+2.2
SANI	Sanana	5.07	285	P	Pn	20 06 26.6	-5.9
KAPI	Kappang	11.22	261	Pn	Pn	20 07 58.0	+1.0
	1.1nm,0.3s,baz=55,slow=12,SNR=3.0						
	8.5nm,0.5s						
WRA	Warramunga Arr	16.79	169	P	P	20 09 14.4	+0.8
	0.7nm,0.3s,baz=349,slow=12,SNR=19						
WRA				S	Sn	20 12 12.4	-4.9
	0.7nm,0.5s,baz=360,slow=23,SNR=2.4						
	1.1nm,0.4s						
ASAR	Alice Springs	20.36	172	P	P	20 09 53.9	+1.0
	2.9nm,0.4s,baz=352,slow=11,SNR=60						
	2.9nm,0.4s						
STKA	Stephens Creek	30.07	162	P	P	20 11 26.8	+1.5
	0.5nm,0.3s,baz=338,slow=11,SNR=4.4						
	0.5nm,0.3s						
CMAR	Chiang Mai Arr	38.23	306	P	P	20 12 38.3	+2.2
	0.4nm,0.4s,baz=122,slow=6.5,SNR=1.5						
MKAR	Makanchi Array	65.74	326	P	P	20 15 58.9	-1.7
	0.5nm,0.3s,baz=112,slow=8.3,SNR=24						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	69.94	328	P	P	20 16 26.8	-0.1
	0.3nm,0.5s,baz=126,slow=5.6,SNR=2.5						
	0.3nm,0.5s						
BVAR	Borovoye Array	75.52	327	P	P	20 16 58.8	-1.3
	0.2nm,0.3s,baz=101,slow=7.5,SNR=4.6						
	0.2nm,0.3s						

*NEIC **28** 20:09:02.0±3.9, 43°.36N±0°.02×105°.09W±0°.05, h0^{km}±1^{km}, ML3.0/32, Error ellipse: s-maj=6.0km s-min=3.2km az=249.0*
*IDC **28** 20:09:03.8±2.5, 43°.56N×105°.24W, h0^{km}, mbtmp3.0/3,*

ML2.7/2, Error ellipse: s-maj=47.0km s-min=10.5km az=152.0

ISC 28 20:09:01.7±1.0, 43°46N±0°07×105°26W±0°05, h0km, n16, σ1§57/15, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.11**	**53**	Pg	**Pg**	**20 09 24.0**	**+1.1**
K22A	**Casper**	**1.23**	**229**		**Pn**	**20 09 29.1**	**+2.8**
K22A				IAML		20 09 58.0	
	comp=N,141nm,0.4s						
PHWY	**Pilot Hill**	**2.16**	**184**	Pn	**Pn**	**20 09 40.3**	**+1.1**
PHWY				IAML		20 10 28.0	
	comp=N,57nm,0.5s						
RWWY	**Rawlins**	**2.28**	**220**		**Pb**	**20 09 42.9**	**-0.9**
RWWY				IAML		20 10 23.2	
	comp=N,104nm,0.6s						
RWWY				IAML		20 10 23.2	
	comp=N,130nm,0.9s						
N23A	**Red Feather La**	**2.61**	**191**	Pn	**Pn**	**20 09 46.1**	**+0.8**
N23A				IAML		20 10 34.0	
	comp=N,70nm,0.7s						
N23A				IAML		20 10 42.5	
	comp=E,75nm,1.1s						
PD31	**Pinedale Array**	**3.22**	**259**	Pn	**Pn**	**20 09 56.4**	**+2.6**
PDAR	**Pinedale Array**	**3.22**	**259**	Pn	**Pb**	**20 09 58.5**	**-1.5**
PDAR	**Pinedale Array**	**3.22**	**259**	Pn	**Pb**	**20 09 58.8**	**-1.1**
	comp=E,0.8nm,0.3s,baz=83,slow=14,SNR=1.7						
PDAR				Lg	Lg	20 10 45.3	
	comp=E,11nm,0.3s,baz=74,slow=37,SNR=7.9						
	comp=E,1.4nm,0.4s						
LKWY	**Lake**	**3.87**	**288**		**Pn**	**20 10 03.4**	**+0.7**
H17A	**Grant Village**	**3.95**	**286**	Pg	**Pg**	**20 10 16.5**	**-0.9**
H17A				IAML		20 11 17.4	
	comp=E,24nm,2.1s						
H17A				IAML		20 11 19.5	
	comp=N,20nm,1.2s						
FLWY	**Flagg Ranch**	**3.99**	**281**	Pg	**Pg**	**20 10 18.7**	**+0.5**
K30B	**Bassett**	**4.21**	**99**		**Pn**	**20 10 05.8**	**-1.4**
YHH	**Holmes Hill**	**4.24**	**290**	Pn	**Pn**	**20 10 09.4**	**+1.6**
I10CA	**LAC DU BONNET**	**9.24**	**40**	I	I	21 04 45.0	
	comp=N,0.6nm,1.2s,baz=219,slow=342,SNR=27						
ULM	**Lac du Bonnet**	**9.35**	**40**	Pn	**Pn**	**20 11 16.6**	**-1.0**
	comp=N,0.2nm,0.3s,baz=230,slow=7.9,SNR=1.5						
ULM				Lg	Lg	20 13 47.5	
	comp=N,0.2nm,0.3s,baz=328,slow=16,SNR=1.8						
	comp=N,0.8nm,0.3s						
YKA	**Yellowknife Ar**	**19.84**	**347**	P	**Pn**	**20 13 36.1**	**+0.8**
	comp=N,0.3nm,0.9s,baz=162,slow=10,SNR=1.1						

*NEIC **28** 20:09:25.1±0.3, 36°849N±0°010×97°43W±0°01, h5km±3km, Error ellipse: s-maj=1.9km s-min=0.9km az=50.0*

TUL 28 20:09:25.1±0.4, 36°85N±0°01×97°43W±0°01, h5km±2km, ML3.0, mb_Lg2.5/24(NEIC), ML2.8/46(NEIC), Error ellipse: s-maj=2.2km s-min=0.7km az=221.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.16**	**347**	Pg	Pg	20 09 28.9	+0.6
KAN13				Sg	Sg	20 09 31.6	+1.1
KAN13				IAML		20 09 32.4	
	comp=N,2μm,0.2s						
BLOK	**Blackwell**	**0.20**	**118**	Pg	Pg	20 09 29.5	+0.5
BLOK				Sg	Sg	20 09 32.6	+1.1
BLOK				IAML		20 09 34.2	
	comp=E,3μm,0.2s						
KAN09	**Caldwell North**	**0.32**	**332**	Pg	Pg	20 09 31.9	+0.6
KAN09				IAML		20 09 39.5	
	comp=N,1μm,0.2s						
KAN17	**Caldwell West**	**0.33**	**305**	Pg	Pg	20 09 32.1	+0.7
KAN17				Sg	Sg	20 09 36.7	+0.9
KAN17				IAML		20 09 36.8	
	comp=E,1μm,0.2s						
GC02	**Grant County #**	**0.34**	**270**	Pg	Pg	20 09 32.1	+0.3
KAN01	**Argonia South**	**0.40**	**319**	Pg	Pg	20 09 33.3	+0.5
KAN01				IAML		20 09 39.2	
	comp=E,1μm,0.2s						
KAN01				IAML		20 09 39.2	
	comp=N,1μm,0.2s						
KAN14	**Manchester OK**	**0.44**	**284**	Pg	Pg	20 09 33.9	+0.3
KAN14				IAML		20 09 42.8	
	comp=N,524nm,0.1s						
KS21	**Milan North St**	**0.47**	**337**	IAML		20 09 41.5	
	comp=N,734nm,0.2s						
KS21				IAML		20 09 43.9	
	comp=N,575nm,0.1s						
KS21	**Milan North St**	**0.47**	**337**	Pg	Pg	20 09 34.5	+0.4
KS21				Sg	Sg	20 09 41.3	+1.0
CROK	**Carrier**	**0.56**	**232**	Pg	Pg	20 09 36.2	+0.3
OK048	**Pawnee Station**	**0.59**	**138**	Pg	Pg	20 09 36.6	+0.3
OK051	**E0350 and S346**	**0.59**	**126**		Pg	20 09 36.8	+0.4
OK051				IAML		20 09 49.7	
	comp=N,507nm,0.2s						
OK051				IAML		20 09 50.7	
	comp=N,437nm,0.2s						
KAN10	**Anthony SW Sta**	**0.60**	**297**	Pg	Pg	20 09 36.6	0.0
KAN10				IAML		20 09 47.7	
	comp=N,352nm,0.2s						
OK032	**Salt Plains WL**	**0.63**	**266**	Pg	Pg	20 09 37.3	+0.1
OK032				IAML		20 09 49.5	
	comp=N,383nm,0.2s						
KAN12	**Harper NE Stat**	**0.63**	**314**	Pg	Pg	20 09 37.8	+0.5
T35A	**Sooner Cattle**	**0.74**	**85**		Pg	20 09 39.3	0.0
QUOK	**Quay**	**0.90**	**139**	Pg	Pg	20 09 42.4	+0.1
QUOK				IAML		20 09 56.0	
	comp=N,352nm,0.3s						
QUOK				IAML		20 09 56.3	
	comp=E,270nm,0.2s						
OK033	**Mehan**	**0.90**	**154**	Pg	Pg	20 09 42.2	-0.2
OK033				IAML		20 10 01.4	
	comp=E,333nm,0.2s						
OK033				IAML		20 10 10.1	
	comp=E,272nm,0.1s						
OK035	**E0210 Rd and N**	**1.04**	**262**		Pg	20 09 44.6	-0.4
OK035				IAML		20 10 03.5	
	comp=E,198nm,0.3s						
OK035				IAML		20 10 09.8	
	comp=E,187nm,0.2s						
OK029	**Liberty Lake**	**1.06**	**181**		Pg	20 09 44.6	-0.8
OK038	**West end E0370**	**1.12**	**251**		Pg	20 09 46.2	-0.4
ADOK	**Arcadia Dam**	**1.20**	**178**		Pg	20 09 47.5	-0.6
DEOK	**Depew**	**1.26**	**143**	Pg	Pg	20 09 48.6	-0.7
DEOK				IAML		20 10 09.8	
	comp=N,267nm,0.4s						
U32A	**Winter Ranch,**	**1.35**	**250**		Pn	20 09 50.2	-0.4
OKCSW	**OKLAHOMA CITY**	**1.45**	**180**		Pn	20 09 51.2	-0.8
FNO	**Franklin**	**1.59**	**179**		Pn	20 09 54.3	+0.3
TUL3	**Leonard**	**1.62**	**125**		Pb	20 09 55.2	-0.4
TUL3				IAmb_Lg		20 10 19.8	
	comp=Z,23nm,0.9s						
W35A	**Tecumseh**	**1.76**	**165**		Pn	20 09 56.8	+0.6
R32A	**Long Quarter,**	**1.87**	**327**		Pb	20 09 59.0	-0.7
RLO	**Rose Lookout**	**2.06**	**109**	Pn	Pb	20 10 02.0	-1.0
X34A	**Smith Ranch, M**	**2.27**	**188**		Pn	20 10 04.5	+1.2
KSU1	**Kansas State U**	**2.33**	**16**	Pn	Pb	20 10 06.1	-1.6
WMOK	**Wichita Mounta**	**2.38**	**208**		Pn	20 10 05.8	+0.9
HHAR	**Hobbs**	**2.87**	**100**	Pn	Pn	20 10 12.5	+1.0
WTFS	**Witchita Falls**	**3.19**	**196**	Pn	Pn	20 10 17.3	+1.3
S39A	**Bolivar**	**3.38**	**74**		Pn	20 10 21.1	+2.6
S39A				IAmb_Lg		20 11 21.0	
	comp=Z,8.2nm,0.7s						
AMTX	**Amarillo**	**3.97**	**242**	IAmb_Lg		20 11 35.2	
	comp=Z,12nm,0.8s						
P38A	**Dawn**	**4.13**	**47**	IAmb_Lg		20 11 35.4	
	comp=Z,13nm,0.8s						
MGMO	**Mountain Grove**	**4.14**	**84**	IAmb_Lg		20 11 39.9	
	comp=Z,12nm,1.0s						
RTBA	**Rita Blanca**	**4.29**	**266**		Pn	20 10 32.8	+1.6
R40A	**Maddies Stadio**	**4.34**	**69**	IAmb_Lg		20 11 44.9	
	comp=Z,9.9nm,1.0s						
CCM	**Cathedral Cave**	**5.07**	**74**	IAmb_Lg		20 12 12.1	
	comp=Z,6.7nm,0.8s						
MSTX	**Muleshoe**	**5.23**	**238**	IAmb_Lg		20 12 21.6	
	comp=Z,6.5nm,0.9s						
T25A	**Trinidad**	**5.59**	**275**	IAmb_Lg		20 12 38.1	
	comp=Z,8.9nm,0.8s						
BRDY	**Brady**	**5.71**	**194**	IAmb_Lg		20 12 30.2	
	comp=Z,8.3nm,1.2s						
Q24A	**Divide**	**6.46**	**291**	IAmb_Lg		20 13 00.5	
	comp=Z,10nm,1.3s						

IDC 28 20:11:39.3±4.7, 32°47N×81°80E, h0km, mb3.5/3, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=167.9km

s-min=39.6km az=70.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.31**	**1**	Pn	Pn	20 15 02.1	-1.0
	baz=184,slow=15,SNR=6.6						
	0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.80**	**128**	P	P	20 16 22.6	+0.2
	0.6nm,0.6s,baz=312,slow=9.4,SNR=7.0						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**72.39**	**128**	P	P	20 23 06.4	-1.1
	0.9nm,1.1s,baz=326,slow=6.0,SNR=2.3						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**74.77**	**131**	P	P	20 23 22.5	+1.0
	0.4nm,0.7s,baz=316,slow=7.0,SNR=1.7						
	0.4nm,0.7s						

*KRSC **28** 20:15:07.8±0.9, 54°50N×162°71E, h40km±23km, Ml4.0*
*IDC **28** 20:15:11.5±4.0, 55°38N×160°97E, h0km, mb3.9/7, mbtmp3.9/7, ML2.4/1, MS3.4/1, Error ellipse: s-maj=92.3km s-min=25.2km az=118.0*

ISC 28 20:15:10.3±1.3, 54°53N±0°04×162°73E±0°06, h56km±12km, n44, σ0§93/72, mb4.1/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.51**	**298**	*eP*	**Pn**	**20 15 33.8**	**-1.2**
TUMD				*eS*	**Sn**	**20 15 52.6**	**-0.9**
TUMR	**Tumrok**	**1.67**	**298**	*eP*	**Pn**	**20 15 36.8**	**-0.5**
TUMR				*eS*	**Sn**	**20 15 57.3**	**-0.4**
KBG	**Krutoberegovo**	**1.73**	**360**	*eP*	**Pn**	**20 15 38.9**	**+0.9**
KBG				*eS*	**Sn**	**20 15 58.7**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.83**	**321**	*eS*	**Sn**	**20 16 02.0**	**+0.3**
ZLN	**Zelenaya**	**1.86**	**324**	*eP*	**Pn**	**20 15 40.1**	**+0.3**
ZLN				*eS*	**Sn**	**20 16 03.6**	**+1.4**
BZP	**Bezymyannyi-Pe**	**1.87**	**319**	*eP*	**Pn**	**20 15 39.7**	**-0.4**
BZP				*eS*	**Sn**	**20 16 02.3**	**-0.4**
KMNR	**Kamenistaya**	**1.89**	**312**	*eP*	**Pn**	**20 15 40.1**	**-0.2**
KMNR				*eS*	**Sn**	**20 16 03.0**	**+0.1**
BZMR	**Bezymyannaya**	**1.91**	**319**	*eP*	**Pn**	**20 15 40.1**	**-0.4**
BZMR				*eS*	**Sn**	**20 16 03.9**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.93**	**319**	*eP*	**Pn**	**20 15 41.0**	**+0.2**
BZWR				*eS*	**Sn**	**20 16 04.3**	**+0.3**
CIRR	**Tsirk**	**1.95**	**325**	*eP*	**Pn**	**20 15 41.3**	**+0.2**
CIRR				*eS*	**Sn**	**20 16 05.1**	**+0.5**
KIRR	**Kirishev**	**1.98**	**317**	*eP*	**Pn**	**20 15 41.7**	**+0.2**
KIRR				*eS*	**Sn**	**20 16 06.5**	**+1.3**
KII	**Karymskiy**	**1.99**	**257**	*eP*	**Pn**	**20 15 41.6**	**+0.1**
KII				*eS*	**Sn**	**20 16 04.8**	**-0.5**
BKI	**Bering**	**1.99**	**69**	*eS*	**Sn**	**20 16 04.8**	**-0.5**
KPT	**Kopyto**	**2.04**	**316**	*eP*	**Pn**	**20 15 42.4**	**+0.2**
KPT				*eS*	**Sn**	**20 16 07.2**	**+0.7**
KLY	**Klyuchi**	**2.15**	**327**	*eP*	**Pn**	**20 15 42.8**	**-0.9**
KLY				*eS*	**Sn**	**20 16 09.2**	**+0.1**
SPN	**Mys Shipunski**	**2.15**	**229**	*eP*	**Pn**	**20 15 43.0**	**-0.7**
SPN				*eS*	**Sn**	**20 16 07.7**	**-1.5**
SMKR	**Semkarok**	**2.18**	**341**	*eP*	**Pn**	**20 15 44.1**	**-0.1**
SMKR				*eS*	**Sn**	**20 16 10.8**	**+0.7**
BDR	**Baidarnaya**	**2.22**	**338**	*eP*	**Pn**	**20 15 45.3**	**+0.5**
BDR				*eS*	**Sn**	**20 16 12.5**	**+1.4**
KOZ	**Kozyrevsk**	**2.24**	**314**	*eP*	**Pn**	**20 15 45.2**	**+0.3**
KOZ				*eS*	**Sn**	**20 16 13.0**	**+1.6**
SRDR	**Sredinnyy**	**2.48**	**317**	*eP*	**Pn**	**20 15 48.1**	**-0.2**
SRDR				*eS*	**Sn**	**20 16 17.1**	**-0.3**
SMAR	**Somma**	**2.65**	**243**	*eP*	**Pn**	**20 15 51.3**	**+0.6**
SMAR				*eS*	**Sn**	**20 16 21.5**	**-0.2**
UGLR	**Uglovaya**	**2.66**	**242**	*eP*	**Pn**	**20 15 51.4**	**+0.6**
UGLR				*eS*	**Sn**	**20 16 22.2**	**+0.3**
AVH	**Avacha**	**2.68**	**243**	*eP*	**Pn**	**20 15 52.0**	**+1.0**
AVH				*eS*	**Sn**	**20 16 22.6**	**+0.4**
KRK	**Arik**	**2.68**	**246**	*eP*	**Pn**	**20 15 51.6**	**+0.5**
KRK				*eS*	**Sn**	**20 16 22.2**	**-0.2**
ESO	**Esso**	**2.70**	**303**	*eP*	**Pn**	**20 15 52.2**	**+0.9**
ESO				*eS*	**Sn**	**20 16 23.1**	**+0.4**
KOK	**Koryaka**	**2.72**	**245**	*eP*	**Pn**	**20 15 52.4**	**+0.8**
KOK				*eS*	**Sn**	**20 16 23.1**	**-0.2**
DALK	**Dalny**	**2.79**	**239**	*eP*	**Pn**	**20 15 53.1**	**+0.6**
DALK				*eS*	**Sn**	**20 16 24.1**	**-0.8**
PET	**Petropavlovsk**	**2.85**	**240**	*eP*	**Pn**	**20 15 54.0**	**+0.8**
PET				*eS*	**Sn**	**20 16 25.8**	**-0.5**
INSR	**Institute**	**2.85**	**241**	*eS*	**Sn**	**20 16 26.6**	**+0.3**
KRMR	**Karymshinskiy**	**3.22**	**240**	*eP*	**Pn**	**20 15 59.3**	**+0.9**
KRMR				*eS*	**Sn**	**20 16 36.0**	**+0.6**
RUS	**Russkaya**	**3.28**	**232**	*eS*	**Sn**	**20 16 36.7**	**-0.1**
PETK	**Petropavlovsk-**	**3.30**	**247**	Pn	**Pn**	**20 16 00.2**	**+0.8**
	2.8nm,0.3s,baz=75,slow=18,SNR=40						
PETK				Sn	**Sn**	**20 16 37.2**	**-0.3**
	6.6nm,0.3s,baz=262,slow=8.5,SNR=13						
MTVR	**Mutnovka**	**3.40**	**235**	*eP*	**Pn**	**20 16 01.6**	**+0.6**
GRL	**Gorelyy**	**3.41**	**236**	*eP*	**Pn**	**20 16 03.1**	**+2.0**
ASAK	**Asacha**	**3.60**	**235**	*eP*	**Pn**	**20 16 05.0**	**+1.4**
ASAK				*eS*	**Sn**	**20 16 46.0**	**+1.2**
APC	**Apacha**	**3.68**	**246**	*eS*	**Sn**	**20 16 49.9**	**+3.3**
ASAJ	**Asahikawa**	**16.69**	**240**	LR	LR	20 25 39.0	
	comp=Z,126nm,19.8s,baz=75,slow=38						
SPITS	**Spitsbergen Ar**	**45.97**	**351**	P	**P**	**20 23 27.8**	**+0.6**
	2.3nm,0.7s,baz=64,slow=10,SNR=9.9						
	2.3nm,0.7s						
KURBB	**Kuchatov Arra**	**48.40**	**302**	P	**P**	**20 23 45.4**	**-1.0**
	0.9nm,0.5s,baz=57,slow=7.6,SNR=9.3						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**48.94**	**296**	P	**P**	**20 23 48.9**	**-1.7**
	0.4nm,0.6s,baz=56,slow=7.8,SNR=6.0						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**50.72**	**309**	P	**P**	**20 24 01.5**	**-2.4**
	0.7nm,0.6s,baz=58,slow=8.8,SNR=4.0						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**59.41**	**337**	P	**P**	**20 25 07.4**	**+1.0**
	1.7nm,0.4s,baz=35,slow=7.3,SNR=24						
	1.7nm,0.4s						
AKASG	**Malin Array Be**	**68.17**	**330**	P	**P**	**20 26 04.2**	**0.0**
	0.7nm,0.3s,baz=26,slow=7.0,SNR=5.9						
	0.7nm,0.3s						
BRTR	**Keskin Array B**	**76.48**	**322**	P	**P**	**20 26 55.4**	**+1.3**
	0.4nm,0.6s,baz=50,slow=2.5,SNR=3.7						
	0.4nm,0.6s						

*IDC **28** 20:21:21.1±0.9, 39°43N×144°12E, h0km, mb3.7/10, mbtmp3.8/15, ML4.3/3, MS3.1/6, Error ellipse: s-maj=21.4km s-min=17.8km az=140.0*
*JMA **28** 20:21:27.5±0.2, 39°7N±0°7×143°7E±0°9, h52km, MV4.2/32, FAR E OFF SANRIKU*
*NIED **28** 20:21:27.5, 39°69N×143°74E, h52km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.74; Mθθ=2.76; Mφφ=-1.02; Mrθ=0.21; Mθφ=-0.21; Mφr=1.25; Fault plane solution: M0=2.74000×10^15 NP1: φs=242.00000°, δ=57.00000°, λ=-136.00000°. NP2: φs=124.00000°, δ=54.00000°, λ=-42.00000°.*
*NEIC **28** 20:21:43.0±2.6, 40°60N±0°07×142°9E±0°1, h35km±1km, mb4.4/36 Error ellipse: s-maj=18.6km s-min=5.3km az=126.0*

ISC 28 20:21:27.9±0.7, 39°61N±0°05×143°86E±0°06, h46km±6km, n79, σ2§28/71, mb4.3/27, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.57**	**283**	P	**Pn**	**20 21 52.1**	**-1.2**
JTH				S	**Sn**	**20 22 10.4**	**-2.1**
MIYJ	**Miyakonagasawa**	**1.57**	**269**	P	**Pn**	**20 21 52.5**	**-0.8**
MIYJ				S	**Sn**	**20 22 10.8**	**-1.8**
JKEN	**Kujiedanarisaw**	**1.75**	**291**	*i* P	**Pn**	**20 21 54.4**	**-1.5**
JKEN				*eS*	**Sn**	**20 22 14.2**	**-2.8**
JANG	**Nango**	**1.95**	**294**	*i* P	**Pn**	**20 21 57.2**	**-1.4**
JANG				S	**Sn**	**20 22 18.7**	**-3.2**
JOM	**Ohasama**	**1.99**	**267**	*i* P	**Pn**	**20 21 58.5**	**-0.5**
JOM				S	**Sn**	**20 22 21.6**	**-1.1**
JMK	**Ichinoseki**	**2.15**	**253**	*i* P	**Pn**	**20 22 00.5**	**-0.7**
JMK				S	**Sn**	**20 22 25.2**	**-1.5**
JTM	**Tenmabayashi**	**2.44**	**300**	Pn	**Pn**	**20 22 04.8**	**-0.4**
ERM	**Erimo**	**2.46**	**348**	Pn	**Pn**	**20 22 04.4**	**-1.2**
JOT	**Ohata**	**2.78**	**310**	P	**Pn**	**20 22 09.0**	**-0.9**
JOT				S	**Sn**	**20 22 40.0**	**-2.2**
JNBK	**Urakawa-nobuka**	**2.80**	**343**	*i* P	**Pn**	**20 22 09.6**	**-0.5**
JNBK				S	**Sn**	**20 22 41.9**	**-0.7**
JYK	**Kaneyama**	**2.80**	**257**	P	**Pn**	**20 22 09.9**	**-0.3**
JYK				*eS*	**Sn**	**20 22 41.9**	**-0.8**
JCH	**Churui**	**3.02**	**353**	*i* P	**Pn**	**20 22 12.2**	**-1.0**
JCH				S	**Sn**	**20 22 45.1**	**-3.2**
JOTO	**OTAMA OYAMA**	**3.44**	**235**	P	**Pn**	**20 22 18.2**	**-0.7**
JOTO				S	**Sn**	**20 22 56.3**	**-2.1**
JAK	**Akkeshi**	**3.44**	**10**	*i* P	**Pn**	**20 22 17.2**	**-1.8**
JAK				S	**Sn**	**20 22 55.2**	**-3.3**
JAR	**Ashorobuto**	**3.69**	**359**	*i* P	**Pn**	**20 22 20.6**	**-1.8**
JAR				S	**Sn**	**20 23 00.4**	**-4.1**
JEW	**Eniwo**	**3.70**	**331**	P	**Pn**	**20 22 22.7**	**+0.1**
JEW				*eS*	**Sn**	**20 23 03.6**	**-1.3**
NEM2	**Nemuro 2**	**4.01**	**20**	*i* P	**Pn**	**20 22 24.2**	**-2.6**
NEM2				S	**Sn**	**20 23 07.2**	**-5.3**
JKA	**Kamikawa-asahi**	**4.60**	**349**		**Pn**	**20 22 34.8**	**-0.1**
ASAJ	**Asahikawa**	**4.60**	**349**	Pn	**Pn**	**20 22 34.8**	**-0.1**
	26nm,0.3s,baz=200,slow=15,SNR=55						
ASAJ				Sn	**Sn**	**20 23 25.1**	**-1.9**
	3.6nm,0.3s,baz=356,slow=31,SNR=6.3						
	61nm,0.3s						
MJAR	**Matsushiro Arr**	**5.41**	**237**	Pn	**Pn**	**20 22 45.8**	**-0.2**
	6.2nm,0.9s,baz=82,slow=17,SNR=19						
MJAR				Sn	**Sn**	**20 23 51.3**	**+4.4**
	0.3nm,0.3s,baz=50,slow=7.6,SNR=6.9						
MJAR				LR	LR	20 25 09.7	
	comp=Z,136nm,21.1s,baz=60,slow=42						
JHJ	**Hachijo jima 2**	**7.26**	**208**	Pn	**Pn**	**20 23 08.0**	**-3.5**
	9.3nm,0.3s,baz=21,slow=21,SNR=6.3						
JHJ				Sn	**Sn**	**20 24 24.5**	**-8.0**
	21nm,0.3s,baz=265,slow=22,SNR=7.1						
JHJ				LR	LR	20 26 34.4	
	comp=Z,149nm,18.8s,baz=38,slow=44						
	61nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.38**	**354**	Pn	**Pn**	**20 23 14.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.96**	**301**	Pn	**Pn**	**20 23 49.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.96**	**301**	Pn	**Pn**	**20 23 50.0**	**+1.6**
	0.6nm,0.3s,baz=93,slow=13,SNR=9.0						
	9.7nm,1.0s						
JNU	**Nakatsue**	**12.29**	**242**	LR	LR	20 29 13.6	
	comp=Z,113nm,21.2s,baz=140,slow=38						
KSRS	**Korea Array**	**12.66**	**265**	LR	LR	20 28 49.3	
	comp=Z,84nm,21.0s,baz=80,slow=35						
KLR	**Kul'dur**	**12.92**	**322**	Pn	**Pn**	**20 24 27.8**	**-1.0**
	2.4nm,0.9s,baz=109,slow=13,SNR=6.4						
MA2	**Magadan**	**20.46**	**10**	P	**P**	**20 26 01.8**	**+0.4**
	8.2nm,0.8s,baz=199,slow=8.3,SNR=9.6						
	8.2nm,0.8s						
YOJ	**Yonaguni jima**	**23.16**	**236**	P	sP	20 26 45.7	-0.5
SONM	**Songino Array**	**28.07**	**299**	P	**P**	**20 27 19.0**	**+3.9**
SONM	**Songino Array**	**28.07**	**299**	P	**P**	**20 27 16.2**	**+1.1**
	0.2nm,0.5s,baz=79,slow=7.6,SNR=2.8						
	0.2nm,0.5s						
ANM	**Nome**	**38.40**	**33**	P	**pP**	**20 28 55.5**	**+0.4**
ANM				IAmb	IAmb	20 29 30.1	
	comp=Z,7.2nm,1.5s						
G18K	**Tagagawik**	**41.45**	**32**	P	**pP**	**20 29 21.5**	**+0.9**
G18K				IAmb	IAmb	20 29 22.8	
	comp=Z,5.1nm,0.7s						
ZALV	**Zalesovo Beam**	**41.66**	**310**	P	**P**	**20 29 11.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=101,slow=7.5,SNR=2.3						
	comp=Z,0.5nm,0.5s						
L18K	**Granite Mounta**	**41.85**	**37**	P	**pP**	**20 29 26.4**	**+2.5**
L18K				IAmb	IAmb	20 29 58.7	
	comp=Z,12nm,1.4s						
G19K	**Purcell Mounta**	**42.13**	**31**	P	pP	20 29 25.8	-0.2
N18K	**Kilae Creek**	**42.15**	**40**	P	**sP**	**20 29 32.0**	**+0.8**
N18K				IAmb	IAmb	20 29 33.1	
	comp=Z,8.1nm,1.0s						
TTA	**Tatalina**	**42.21**	**36**	P	**pP**	**20 29 30.0**	**+3.0**
TTA				IAmb	IAmb	20 29 58.4	
	comp=Z,8.4nm,1.4s						
E19K	**Redstone River**	**42.29**	**29**	P	**pP**	**20 29 27.8**	**+0.5**
E19K				IAmb	IAmb	20 29 29.5	
	comp=Z,6.3nm,0.9s						
H19K	**Roundabout Mou**	**42.30**	**32**	P	**pP**	**20 29 28.7**	**+1.4**
H19K				IAmb	IAmb	20 29 30.4	
	comp=Z,5.9nm,0.9s						
J19K	**Poorman**	**42.48**	**35**	P	**pP**	**20 29 29.4**	**+0.4**
J19K				IAmb	IAmb	20 29 41.7	
	comp=Z,11nm,1.4s						
J20K	**Nowinta River**	**43.14**	**34**	P	**pP**	**20 29 36.4**	**+2.1**
J20K				IAmb	IAmb	20 29 54.3	
	comp=Z,9.3nm,1.5s						
IMAR	**Indian Mountai**	**43.46**	**32**	P	pP	20 29 37.8	+1.0
M20K	**Styx River**	**43.51**	**38**	P	**pP**	**20 29 40.9**	**+3.4**
M20K				IAmb	IAmb	20 29 42.6	
	comp=Z,7.6nm,1.2s						
G21K	**Allakaket**	**43.61**	**31**	P	pP	20 29 39.1	+1.1
F21K	**Alatna River**	**43.70**	**30**	P	pP	20 29 39.2	+0.5
H21K	**Melozitna Rive**	**43.82**	**32**	P	pP	20 29 40.6	+0.8
KDAK	**Kodiak Island**	**43.91**	**44**	P	pP	20 29 43.8	+3.1
CAST	**Castle Rocks**	**44.02**	**36**	P	pP	20 29 43.8	+2.3
CMAR	**Chiang Mai Arr**	**44.02**	**255**	LR	LR	20 47 44.5	
	comp=Z,21nm,20.9s,baz=200,slow=36						
MKAR

*NEIC **28** 20:33:25.3±2.3,56.04N±0.08×149.46W±0.01,h22km±9km, ML3.5/40,ML3.2(AEIC),Error ellipse: s-maj=12.3km s-min=1.0km az=177.0*
*AEIC **28** 20:33:30.1±2.0,56.22N±0.06×149.58W±0.10,h7km±7km, Error ellipse: s-maj=11.7km s-min=2.6km az=139.0*

ISC 28 20:33:27.4±1.5,56.15N±0.09×149.52W±0.06,h35km, n163,σ0°75/157,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.34**	**299**		**Pn**	**20 34 03.3**	**0.0**
OHAK					**Sn**	**20 34 29.5**	**-1.3**
OHAK	**Old Harbor** baz=118	**2.34**	**299**	P	**Pn**	**20 34 03.3**	**0.0**
OHAK	baz=118			S	**Sn**	**20 34 29.8**	**-1.0**
KDAK	**Kodiak Island**	**2.35**	**316**		**Sn**	**20 34 30.1**	**-0.8**
KDAK	**Kodiak Island**	**2.35**	**316**		**Pn**	**20 34 03.7**	**+0.3**
KDAK	**Kodiak Island** 99nm,0.6s	**2.35**	**316**	IAML		20 34 31.0	
KDAK	78nm,0.2s			IAML		20 34 31.1	
KDAK	**Kodiak Island** baz=134	**2.35**	**316**	S	**Sn**	**20 34 30.8**	**-0.1**
SII	**Sitkinak Islan**	**2.63**	**281**		**Pn**	**20 34 07.3**	**0.0**
SII					**Sn**	**20 34 37.3**	**-0.6**
SII	**Sitkinak Islan** comp=N,179nm,2.6s	**2.63**	**281**	IAML		20 34 40.4	
SII	**Sitkinak Islan** baz=99	**2.63**	**281**	P	**Pn**	**20 34 07.3**	**0.0**
SYI	**Shuyak Island**	**2.92**	**329**		**Pn**	**20 34 11.7**	**+0.5**
SYI					**Sn**	**20 34 44.2**	**-0.8**
SYI	**Shuyak Island** comp=N,94nm,0.2s	**2.92**	**329**	IAML		20 34 47.2	
Q20K	**Shuyak Island** baz=147	**2.92**	**329**	P	**Pn**	**20 34 11.7**	**+0.5**
Q20K	baz=147			S	**Sn**	**20 34 44.6**	**-0.4**
R18K	**Karluk**	**3.06**	**300**		**Pn**	**20 34 13.6**	**+0.4**
R18K					**Sn**	**20 34 46.7**	**-1.7**
R18K	**Karluk** comp=N,112nm,0.5s	**3.06**	**300**	IAML		20 34 48.9	
R18K	comp=E,110nm,0.4s			IAML		20 34 49.2	
R18K	**Karluk** baz=117	**3.06**	**300**	P	**Pn**	**20 34 13.6**	**+0.4**
CNPM	**China Poot**	**3.51**	**346**		**Pn**	**20 34 19.5**	**+0.1**
CNPM					**Sn**	**20 34 59.6**	**0.0**
CNPM	**China Poot** comp=N,78nm,0.5s	**3.51**	**346**	IAML		20 35 01.6	
Q19K	**Cape Douglas,**	**3.57**	**323**		**Pn**	**20 34 21.7**	**+1.5**
Q19K	**Cape Douglas,** comp=N,128nm,1.2s	**3.57**	**323**	IAML		20 35 14.3	
KAHG	**Katmai Hook Gl**	**3.60**	**313**		**Pn**	**20 34 22.0**	**+1.3**
BRSE	**Bradley Lake S**	**3.66**	**350**		**Pn**	**20 34 21.1**	**-0.4**
BRSE					**Sn**	**20 35 02.4**	**-1.0**
BRSE	**Bradley Lake S** baz=169	**3.66**	**350**	P	**Pn**	**20 34 21.1**	**-0.4**
BRSE	baz=169			S	**Sn**	**20 35 02.4**	**-1.0**
HOM	**Homer**	**3.70**	**343**	Pn	**Pn**	**20 34 22.4**	**+0.5**
BRLK	**Bradley Lake**	**3.70**	**349**		**Pn**	**20 34 21.4**	**-0.6**
BRLK					**Sn**	**20 35 04.4**	**0.0**
Q23K	**Middleton Isla**	**3.70**	**26**		**Pn**	**20 34 21.4**	**-0.6**
Q23K	**Middleton Isla** baz=208	**3.70**	**26**	P	**Pn**	**20 34 21.6**	**-0.4**
MID	**Middleton Isla**	**3.71**	**26**		**Pn**	**20 34 21.3**	**-0.7**
PLK3	**Peulik 3**	**4.01**	**295**		**Pn**	**20 34 27.2**	**+1.0**
P23K	**Montague Islan**	**4.02**	**15**		**Pn**	**20 34 26.2**	**-0.2**
P23K	**Montague Islan** baz=196	**4.02**	**15**	P	**Pn**	**20 34 26.2**	**-0.2**
P19K	**Oil Pt**	**4.04**	**332**		**Pn**	**20 34 26.8**	**+0.2**
P19K	**Oil Pt** comp=E,109nm,0.4s	**4.04**	**332**	IAML		20 35 18.2	
P19K	comp=N,90nm,0.8s			IAML		20 35 18.4	
CNTC	**Contact Creek**	**4.06**	**304**		**Pn**	**20 34 27.5**	**+0.5**
O20K	**Slope Mountain**	**4.28**	**339**		**Pn**	**20 34 28.1**	**-1.8**
SLKM	**Skilak Lake**	**4.39**	**355**		**Pn**	**20 34 30.8**	**-0.7**
P18K	**Big Mountain,**	**4.46**	**319**		**Pn**	**20 34 32.7**	**+0.2**
P18K	**Big Mountain,** comp=E,27nm,3.1s	**4.46**	**319**	IAML		20 35 28.9	
P18K	**Big Mountain,** baz=135	**4.46**	**319**	P	**Pn**	**20 34 32.7**	**+0.2**
HIN	**Hinchinbrook I**	**4.55**	**19**		**Pn**	**20 34 33.5**	**-0.2**
HIN	**Hinchinbrook I** comp=N,98nm,1.5s	**4.55**	**19**	IAML		20 35 24.4	
HIN	comp=E,87nm,1.8s			IAML		20 37 25.0	
RED	**Redoubt Volcan**	**4.62**	**340**		**Pn**	**20 34 33.4**	**-1.2**
RSO	**Redoubt South**	**4.65**	**340**	Pn	**Pn**	**20 34 34.6**	**-0.6**
KAIM	**Kayak Island**	**4.66**	**33**		**Pn**	**20 34 35.4**	**+0.2**
KAIM	**Kayak Island** baz=217	**4.66**	**33**	P	**Pn**	**20 34 35.4**	**+0.2**
RDT	**Redoubt**	**4.69**	**342**		**Pn**	**20 34 35.4**	**-0.2**
O18K	**Koktuh Hills**	**4.79**	**323**		**Pn**	**20 34 37.0**	**0.0**
O18K	**Koktuh Hills** comp=E,26nm,2.4s	**4.79**	**323**	IAML		20 35 45.0	
O18K	comp=N,24nm,3.0s			IAML		20 36 47.1	
O18K	**Koktuh Hills** baz=139	**4.79**	**323**	P	**Pn**	**20 34 37.0**	**0.0**
P17K	**Kvichak River**	**4.81**	**312**		**Pn**	**20 34 37.9**	**+0.7**
P17K	**Kvichak River** baz=127	**4.81**	**312**	P	**Pn**	**20 34 37.9**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.84**	**23**		**Pn**	**20 34 37.9**	**+0.3**
EYAK	**Cordova Ski Ar** baz=205	**4.84**	**23**	P	**Pn**	**20 34 37.9**	**+0.3**
FID	**Port Fidalgo**	**4.88**	**18**		**Pn**	**20 34 37.8**	**-0.4**
FID	**Port Fidalgo** comp=N,29nm,2.3s	**4.88**	**18**	IAML		20 35 40.8	
FID	comp=E,30nm,2.4s			IAML		20 35 47.1	
RC01	**Rabbit Creek A** comp=E,23nm,0.6s	**4.96**	**359**	IAML		20 35 39.4	
RC01	comp=N,19nm,3.5s			IAML		20 35 58.5	
RC01	**Rabbit Creek A** baz=178	**4.96**	**359**	P	**Pn**	**20 34 39.1**	**-0.1**
CHGN	**Chignik**	**4.97**	**275**	Pn	**Pn**	**20 34 39.7**	**+0.4**
CHGN	comp=N,49nm,1.4s			IAML		20 35 25.0	
CHGN	comp=E,56nm,2.4s			IAML		20 35 58.6	
BERG	**Berg Lake**	**5.25**	**33**		**Pn**	**20 34 43.4**	**+0.1**
BERG	**Berg Lake** comp=E,57nm,0.6s	**5.25**	**33**	IAML		20 35 44.4	
KNK	**Knik Glacier** baz=186	**5.31**	**6**	P	**Pn**	**20 34 44.3**	**+0.2**
N19K	**Bonanza Creek**	**5.36**	**333**		**Pn**	**20 34 44.5**	**-0.3**
N19K	**Bonanza Creek** baz=149	**5.36**	**333**	P	**Pn**	**20 34 44.5**	**-0.3**
PMR	**Palmer**	**5.47**	**2**	Pn	**Pn**	**20 34 44.7**	**-1.5**
BMRM	**Bremner River**	**5.48**	**26**		**Pn**	**20 34 46.7**	**+0.3**
BMRM	**Bremner River** baz=209	**5.48**	**26**	P	**Pn**	**20 34 46.7**	**+0.3**
STLK	**Strandline Lak**	**5.50**	**348**		**Pn**	**20 34 46.7**	**0.0**
N18K	**Kilae Creek**	**5.64**	**326**		**Pn**	**20 34 48.6**	**-0.1**
N18K	**Kilae Creek** baz=141	**5.64**	**326**	P	**Pn**	**20 34 48.6**	**-0.1**
GHO	**Glory Hole Cre**	**5.65**	**3**		**Pn**	**20 34 49.2**	**+0.3**
KLU	**Klutina**	**5.68**	**18**		**Pn**	**20 34 49.5**	**+0.3**
KLU	**Klutina** baz=200	**5.68**	**18**	P	**Pn**	**20 34 49.5**	**+0.3**
SML	**Sawmill**	**5.71**	**6**		**Pn**	**20 34 49.6**	**0.0**
SML	**Sawmill** baz=186	**5.71**	**6**	P	**Pn**	**20 34 49.6**	**0.0**
M23K	**Glacier View**	**5.74**	**9**		**Pn**	**20 34 50.6**	**+0.7**
M23K	**Glacier View** baz=190	**5.74**	**9**	P	**Pn**	**20 34 50.7**	**+0.7**
SCM	**Sheep Creek Mo**	**5.82**	**10**		**Pn**	**20 34 52.0**	**+1.0**
SCM	**Sheep Creek Mo** baz=192	**5.82**	**10**	P	**Pn**	**20 34 52.0**	**+1.0**
CHNA	**Chernabura Isl** baz=74	**5.88**	**261**	P	**Pn**	**20 34 51.6**	**-0.2**
CNBA	**Chernabura Isl**	**5.88**	**261**		**Pn**	**20 34 51.6**	**-0.2**
SKT	**Skwentna**	**5.94**	**351**	Pn	Pn	20 34 49.4	-3.4
N17K	**Nushagak Hills**	**5.96**	**321**	Pn	**Pn**	**20 34 54.5**	**+1.4**
VRDI	**Verde Repeater**	**6.00**	**29**		**Pn**	**20 34 53.9**	**+0.2**
N25K	**Chitina, Valde**	**6.04**	**23**		**Pn**	**20 34 54.6**	**+0.4**
N25K	**Chitina, Valde** baz=206	**6.04**	**23**	P	**Pn**	**20 34 54.6**	**+0.4**
GLB	**Gilahina Butte**	**6.08**	**27**	Pn	**Pn**	**20 34 54.5**	**-0.2**
KIAG	**Kiagna River**	**6.08**	**35**		**Pn**	**20 34 55.1**	**+0.3**
M24K	**Tolsona, Glenn**	**6.22**	**15**		**Pn**	**20 34 57.2**	**+0.6**
M24K	**Tolsona, Glenn** baz=197	**6.22**	**15**	P	**Pn**	**20 34 57.2**	**+0.6**
SDPT	**Sand Point**	**6.24**	**267**		**Pn**	**20 34 57.1**	**+0.3**
SDPT	**Sand Point** baz=79	**6.24**	**267**	P	**Pn**	**20 34 57.1**	**+0.3**
MCARA	**McCarthy VSAT**	**6.24**	**30**		**Pn**	**20 34 56.9**	**0.0**
M18K	**Stony River**	**6.28**	**331**		**Pn**	**20 34 57.2**	**-0.2**
M18K	**Stony River** baz=146	**6.28**	**331**	P	**Pn**	**20 34 57.2**	**-0.2**
PCA	**Pinnacle**	**6.30**	**47**		**Pn**	**20 34 58.1**	**+0.3**
PINM	**Pinnacle** baz=234	**6.31**	**47**	P	**Pn**	**20 34 58.1**	**+0.3**
O15K	**Ungalikthiuk R**	**6.31**	**303**		**Pn**	**20 34 58.4**	**+0.6**
O15K	**Ungalikthiuk R** baz=115	**6.31**	**303**	P	**Pn**	**20 34 58.4**	**+0.6**
BARN	**Barnard Glacie**	**6.41**	**37**		**Pn**	**20 34 59.3**	**0.0**
WASW	**Wrangell South**	**6.42**	**23**		**Pn**	**20 34 59.4**	**-0.1**
PNL	**Peninsula**	**6.45**	**53**		**Pn**	**20 35 00.0**	**+0.4**
PNL	**Peninsula** baz=240	**6.45**	**53**	P	**Pn**	**20 35 00.0**	**+0.4**
CTGM	**Chitina Glacie**	**6.46**	**38**	Pn	**Pn**	**20 35 00.1**	**+0.2**
LOGN	**Logan Glacier**	**6.47**	**40**	Pn	**Pn**	**20 35 00.6**	**+0.4**
BCPM	**Bancas Point**	**6.49**	**50**	Pn	**Pn**	**20 35 00.9**	**+0.7**
WAT6	**Susitna Watana** baz=188	**6.52**	**7**	P	**Pn**	**20 35 00.8**	**0.0**
HARP	**HAARP**	**6.66**	**18**		**Pn**	**20 35 02.6**	**+0.1**
HARP	**HAARP** baz=201	**6.66**	**18**	P	**Pn**	**20 35 02.6**	**+0.1**
M17K	**Holitna River**	**6.68**	**325**	Pn	**Pn**	**20 35 03.8**	**+0.9**
N15K	**Kwethluk River**	**6.89**	**310**	Pn	**Pn**	**20 35 06.3**	**+0.6**
PS1A	**Pavlof South-1**	**6.93**	**269**		**Pn**	**20 35 06.5**	**+0.2**
M16K	**Timber Creek**	**6.94**	**319**	Pn	**Pn**	**20 35 08.0**	**+1.5**
O14K	**Tigyukauivet M**	**7.02**	**301**	Pn	**Pn**	**20 35 07.3**	**-0.2**
DHY	**Denali Highway**	**7.04**	**8**	Pn	**Pn**	**20 35 08.3**	**+0.4**
PN7A	**Pavlof North-7**	**7.07**	**269**		**Pn**	**20 35 08.7**	**+0.3**
M26K	**Nabesna, AK**	**7.11**	**25**	Pn	**Pn**	**20 35 07.7**	**-1.0**
O29M	**Mount Kennedy**	**7.12**	**50**		**Pn**	**20 35 09.5**	**+0.5**
O29M	**Mount Kennedy** baz=238	**7.12**	**50**	P	**Pn**	**20 35 09.5**	**+0.5**
P29M	**Windy Craggy**	**7.18**	**56**		**Pn**	**20 35 10.0**	**+0.2**
P29M	**Windy Craggy** baz=245	**7.18**	**56**	P	**Pn**	**20 35 10.0**	**+0.2**
RND	**Reindeer**	**7.29**	**2**	Pn	**Pn**	**20 35 12.5**	**+1.2**
TRF	**Thorofare Moun**	**7.34**	**357**	Pn	**Pn**	**20 35 12.8**	**+0.8**
M27K	**Edge Creek, AK**	**7.35**	**29**	Pn	**Pn**	**20 35 13.3**	**+1.1**
KTH	**Kantishna Hill**	**7.46**	**355**	Pn	**Pn**	**20 35 14.2**	**+0.5**
S31K	**Pelican**	**7.47**	**70**		**Pn**	**20 35 11.7**	**-2.0**
S31K	**Pelican** baz=261	**7.47**	**70**	P	**Pn**	**20 35 11.7**	**-2.0**
L16K	**Owhat River**	**7.59**	**321**	Pn	**Pn**	**20 35 15.6**	**+0.3**
R31K	**City Hall, Gus**	**7.81**	**67**		**Pn**	**20 35 17.6**	**-0.7**
R31K	**City Hall, Gus** baz=258	**7.81**	**67**	P	**Pn**	**20 35 17.6**	**-0.7**
SIT	**Sitka**	**7.89**	**77**	Pn	Pn	20 35 16.7	-2.7
RIDG	**Independent Ri**	**7.97**	**15**	Pn	**Pn**	**20 35 21.1**	**+0.6**
FALS	**False Pass**	**8.00**	**266**		**Pn**	**20 35 21.1**	**+0.2**
FALS	**False Pass** baz=76	**8.00**	**266**	P	**Pn**	**20 35 21.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**8.01**	**355**	Pn	**Pn**	**20 35 22.4**	**+1.3**
S32K	**Killisnoo**	**8.31**	**75**	Pn	**Pn**	**20 35 23.6**	**-1.5**
J20K	**Nowinda River**	**8.38**	**346**	Pn	**Pn**	**20 35 25.3**	**-0.8**
HDA	**Harding Lake**	**8.39**	**8**	Pn	**Pn**	**20 35 27.3**	**+1.1**
M29M	**Somme Creek**	**8.47**	**37**	Pn	**Pn**	**20 35 28.5**	**+1.1**
JIS	**Juneau Island**	**8.49**	**69**	Pn	**Pn**	**20 35 27.4**	**-0.2**
CCB	**Clear Creek Bu**	**8.57**	**5**	Pn	**Pn**	**20 35 30.2**	**+1.4**
L14K	**Kuka Creek**	**8.59**	**313**	Pn	**Pn**	**20 35 30.8**	**+1.7**
K27K	**Chicken**	**8.73**	**22**	Pn	**Pn**	**20 35 30.5**	**-0.5**
IL31		**8.75**	**7**	Pn	**Pn**	**20 35 32.4**	**+1.2**
ILAR	**Eielson Array**	**8.75**	**7**	Pn	**Pn**	**20 35 32.6**	**+1.4**
COLA	**College**	**8.79**	**5**	Pn	**Pn**	**20 35 33.0**	**+1.2**
MDM	**Murphy Dome**	**8.87**	**4**	Pn	**Pn**	**20 35 33.6**	**+0.8**
J26L	**Joseph Creek**	**8.88**	**17**	Pn	**Pn**	**20 35 33.8**	**+0.7**
N31M	**Braeburn, Yuko**	**8.90**	**47**	Pn	**Pn**	**20 35 34.9**	**+1.5**
WHY	**Whitehorse**	**8.91**	**53**	Pn	**Pn**	**20 35 34.9**	**+1.3**
MLY	**Manley**	**8.94**	**357**	Pn	**Pn**	**20 35 33.2**	**-0.6**
L29M	**L29M**	**9.04**	**35**	Pn	**Pn**	**20 35 35.3**	**0.0**
P32M	**Atlin**	**9.10**	**61**	Pn	**Pn**	**20 35 36.0**	**0.0**
I21K	**Tanana**	**9.14**	**353**	Pn	**Pn**	**20 35 36.6**	**0.0**
U33K	**Whale Pass**	**9.16**	**83**	Pn	Pn	20 35 33.4	-3.4
PRP	**Porcupine Dome**	**9.60**	**10**	Pn	**Pn**	**20 35 41.5**	**-1.5**
H21K	**Melozitna Rive**	**9.68**	**352**	Pn	**Pn**	**20 35 43.5**	**-0.3**
I26K	**Coal Creek Min**	**9.70**	**16**	Pn	**Pn**	**20 35 44.3**	**+0.1**
P33M	**Teslin, Yukon**	**9.71**	**58**	Pn	**Pn**	**20 35 43.7**	**-0.7**
J14K	**Nanvaranak Lak**	**9.72**	**319**	Pn	**Pn**	**20 35 44.4**	**-0.1**
K29M	**Barlow Dome**	**9.77**	**33**	Pn	**Pn**	**20 35 44.3**	**-0.9**
IMAR	**Indian Mountai**	**10.08**	**350**	Pn	**Pn**	**20 35 50.6**	**+1.2**
G21K	**Allakaket**	**10.58**	**351**	Pn	**Pn**	**20 35 57.6**	**+1.4**
G24K	**Hadweenzic Riv**	**10.64**	**4**	Pn	**Pn**	**20 35 58.2**	**+1.2**
J30M	**Hart River**	**10.66**	**32**	Pn	**Pn**	**20 35 58.5**	**+1.1**

*TEH **28** 20:33:49.4,31.70N×51.06E,h8km±101km,ML2.9*
*IDC **28** 20:33:52.0±2.6,31.77N×50.99E,h0km,mb3.5/3, mbtmp3.5/4,ML2.9/1,Error ellipse: s-maj=90.0km s-min=28.6km az=156.0*

ISC 28 20:33:51.2±1.0,31.72N±0.05×51.09E±0.05,h10km,n13, σ1°85/14,mb3.5/3,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBRJ	**Brojen**	**0.23**	**38**	Pg	**Pg**	**20 33 55.1**	**-1.1**
IBRJ				Sg	**Sg**	**20 33 59.1**	**-0.5**
ZNGN	**Zangian**	**0.44**	**333**	Pg	**Pg**	**20 33 58.7**	**-1.3**
JHBN	**Jahan bin**	**0.62**	**325**	Pg	**Pg**	**20 34 01.5**	**-1.9**
KLNJ	**Kolanjah**	**0.83**	**149**	Pg	**Pb**	**20 34 05.9**	**-2.1**
IPIR	**Pirpir**	**0.97**	**350**	Pg	**Pb**	**20 34 08.8**	**-1.6**
IGAR	**Gharneh**	**1.05**	**50**	Pg	**Pb**	**20 34 10.6**	**-1.1**
IRAM	**Ramesheh**	**1.10**	**85**	Pg	**Pg**	**20 34 10.8**	**-1.7**
IZEF	**Zefreh**	**1.57**	**42**	Pg	**Pg**	**20 34 20.4**	**-1.0**
QAMS	**Qamsar**	**2.02**	**7**	Pn	**Pg**	**20 34 28.2**	**-1.9**
BRTR	**Keskin Array B** baz=114,slow=14,SNR=3.8 0.3nm,0.3s	**16.25**	**304**	Pn	**P**	**20 37 42.9**	**0.0**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=237,slow=9.6,SNR=3.7 0.2nm,0.7s	**28.23**	**49**	P	**P**	**20 39 46.9**	**+2.6**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=222,slow=7.8,SNR=1.9 0.3nm,0.4s	**32.76**	**37**	P	**P**	**20 40 26.5**	**+2.3**
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=45,slow=7.8,SNR=4.5 0.5nm,0.5s	**48.81**	**259**	P	**P**	**20 42 38.6**	**+1.6**

IDC 28 20:40:27.4±2.6,10.28S×120.45E,h0km,mb3.7/3, mbtmp3.6/5,ML3.6/2,Error ellipse: s-maj=171.3km s-min=27.3km az=53.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=298,slow=13,SNR=8.5	**16.48**	**127**	Pn	Pn	20 44 18.7	-1.5
WRA	0.1nm,0.3s,baz=289,slow=21,SNR=1.3 0.5nm,0.5s			Sn	Sn	20 47 09.5	-15
ASAR	**Alice Springs** 0.3nm,0.3s,baz=319,slow=13,SNR=15 0.8nm,0.5s	**18.50**	**138**	P	Pn	20 44 46.1	+0.8
SONM	**Songino Array** 0.7nm,0.8s,baz=167,slow=7.4,SNR=5.3 0.7nm,0.8s	**59.18**	**349**	P	P	20 50 30.2	-0.1
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=148,slow=6.8,SNR=5.3 0.2nm,0.5s	**66.24**	**332**	P	P	20 51 16.6	-0.7
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=144,slow=5.9,SNR=2.7 0.7nm,0.5s	**70.74**	**339**	P	P	20 51 46.1	+0.9

*BER **28** 20:42:08.4±1.8,72.30N×1.52E,h12km±34km,mb(Pn)4.2, Confirmed Earthquake*
*KOLA **28** 20:42:10.7,71.99N×1.65E,h0km,ML2.6,Error ellipse: s-maj=37.1km s-min=32.9km az=140.0,Norwegian sea,Mohn ridge*

ISC 28 20:42:06.4±2.8,72.14N±0.09×2.1E±0.2,h10km,n23, σ1°82/32,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**5.61**	**130**	eP	**Pn**	**20 43 32.2**	**+2.5**
LOF				eS	**Sn**	**20 44 34.8**	**+0.7**
LOF				IAML		20 44 40.5	
	comp=Z,6.8nm,0.8s						
HSPB	**Hornsund (broa**	**6.05**	**30**	eP	Pn	20 43 33.7	-2.1
HSPB	comp=Z,3.1nm,0.6s			IAML		20 44 45.5	
TRO	**Tromso**	**6.08**	**106**	eP	**Pn**	**20 43 37.7**	**+1.6**
TRO				eS	**Sn**	**20 44 44.5**	**-1.0**
TRO	comp=Z,3.5nm,0.4s			IAML		20 44 47.9	
STEI	**Steigen**	**6.17**	**127**	eP	**Pn**	**20 43 38.4**	**+0.9**
STEI				eS	**Sn**	**20 44 47.5**	**-0.4**
STEI	comp=Z,6.5nm,0.5s			IAML		20 44 50.6	
JETT	**Jettan, Norway**	**6.56**	**104**	eP	**Pn**	**20 43 44.4**	**+1.6**
JETT				eS	**Sn**	**20 44 55.2**	**-2.3**
JETT	comp=Z,5.2nm,0.4s			IAML		20 45 00.7	
FAUS	**Fauske**	**6.61**	**130**	P	**Pn**	**20 43 45.0**	**+1.5**
FAUS				S	**Sn**	**20 44 57.1**	**-1.6**
FAUS	**Fauske**	**6.61**	**130**	eP	**Pn**	**20 43 45.0**	**+1.5**
FAUS				eS	**Sn**	**20 44 56.0**	**-2.7**
FAUS	comp=Z,3.4nm,0.4s			IAML		20 45 01.3	
KONS	**Konsvik**	**6.87**	**140**	eP	**Pn**	**20 43 48.7**	**+1.7**
KONS				eS	**Sn**	**20 45 03.4**	**-1.8**
KONS	comp=Z,4.0nm,0.4s			IAML		20 45 07.8	
KIF	**Kilpisjarvi**	**6.98**	**108**	eP	**Pn**	**20 43 50.4**	**+1.9**
HAMF	**Hammerfest**	**7.06**	**92**	eP	**Pn**	**20 43 50.6**	**+1.0**
SPA0	**Spitsbergen Ar**	**7.06**	**24**	eP	**Pn**	**20 43 48.9**	**-0.8**
KBS	**Kingsbay**	**7.24**	**15**	eP	Pn	20 43 48.7	-3.4
SALU	**Saltoluokta**	**7.42**	**122**	eP	**Pn**	**20 43 57.5**	**+3.0**
SALU				eS	**Sn**	**20 45 16.9**	**-1.7**
MOR8	**Moi Rana**	**7.43**	**138**	eP	**Pn**	**20 43 55.9**	**+1.2**
MOR8				eS	**Sn**	**20 45 16.4**	**-2.5**
MOR8	comp=Z,3.9nm,0.5s			IAML		20 45 20.4	
HOPEN	**Hopen**	**7.55**	**44**	eP	**Pn**	**20 43 56.1**	**-0.3**
KTK1	**Kautokeino**	**7.70**	**104**	eP	**Pn**	**20 44 00.1**	**+1.7**
KTK1	comp=Z,1.3nm,1.2s			IAML		20 45 29.3	
ARA0	**ARCESS Array S**	**8.11**	**97**	eP	**Pn**	**20 44 05.3**	**+1.2**
ARCES	**ARCESS Array B**	**8.11**	**97**	P	**Pn**	**20 44 05.9**	**+1.9**
ARCES				S	**Sn**	**20 45 35.1**	**-0.5**
HEF	**Hetta**	**8.18**	**107**	eP	**Pn**	**20 44 06.6**	**+1.7**
NSS	**Namsos**	**8.46**	**150**	eP	**Pn**	**20 44 10.6**	**+1.8**
NSS	comp=Z,2.8nm,0.8s			IAML		20 45 47.5	
KEV	**Kevo**	**8.47**	**94**	eP	**Pn**	**20 44 08.6**	**-0.3**
VADS	**Vadso**	**9.03**	**90**	eP	**Pn**	**20 44 16.8**	**+0.2**
APA0	**Apatity Array**	**11.47**	**98**	P	**Pn**	**20 44 54.1**	**+4.1**
APA0				S	**Sn**	**20 46 57.1**	**-0.9**

*NEIC **28** 20:45:05.8±2.3,20.7S±0.1×178.4W±0.1,h512km±7km, mb4.5/74,Error ellipse: s-maj=19.0km s-min=14.2km az=148.0*
*IDC **28** 20:45:09.2±2.9,20.73S×178.50W,h548km±31km, mb3.6/18,mbtmp4.4/19,Error ellipse: s-maj=17.7km s-min=13.6km az=138.0*

ISC 28 20:45:10.9±0.4,20.89S±0.09×178.48W±0.09,h579km, n194,σ1°93/187,mb4.5/59,33C-12D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.24**	**79**	P	P	20 47 06.4	-5.5
AFI	**Afiamalu**	**9.43**	**44**	P	P	20 47 15.4	-8.4
PINNC	**Pines Island,**	**13.19**	**260**	P	P	**20 47 57.5**	**-4.3**
LIFNC	**LIFOU**	**13.36**	**268**	P	P	20 47 58.0	-5.5
DZM	**Mont Dzumac** 7.3nm,0.7s,baz=98,slow=18,SNR=6.8	**14.09**	**262**	P	**P**	**20 48 10.2**	**-0.9**
TOZ	**Tahuroa Road**	**17.58**	**196**	P	**P**	**20 48 44.1**	**+0.7**
URZ	**Urewera** 18nm,0.7s,baz=104,slow=3.5,SNR=13	**17.73**	**191**	P	**P**	**20 48 42.3**	**-2.5**
RTZ	**Ruatahuna**	**18.10**	**192**	P	**P**	**20 48 46.8**	**-1.5**
RTZ	comp=Z,12nm,0.9s			IAmb	IAmb	20 48 48.6	
MRZ	**Mangatainoka R**	**20.35**	**193**	P	**P**	**20 49 07.9**	**-0.7**
MRZ	comp=Z,8.4nm,0.9s			IAmb	IAmb	20 49 16.8	
TCW	**Tory Channel**	**21.18**	**195**	P	**P**	**20 49 14.9**	**-1.1**
BHW	**Baring Head**	**21.22**	**194**	P	**P**	**20 49 13.6**	**-2.8**
BHW	comp=Z,13nm,1.0s			IAmb	IAmb	20 49 46.1	
PLWZ	**Palliser**	**21.29**	**193**	P	**P**	**20 49 15.0**	**-2.1**
QRZ	**Quartz Range**	**21.30**	**199**	P	**P**	**20 49 14.8**	**-2.3**
TKNZ	**Takaka Hill**	**21.36**	**198**	P	**P**	**20 49 15.8**	**-1.8**
NNZ	**Nelson**	**21.41**	**197**	P	**P**	**20 49 17.1**	**-1.0**
MRNZ	**Matariki Terra**	**21.76**	**198**	P	**P**	**20 49 19.1**	**-2.1**
THZ	**Tophouse**	**22.05**	**197**	P	**P**	**20 49 22.6**	**-1.3**
THZ	comp=Z,14nm,1.1s			IAmb	IAmb	20 49 32.7	
DSZ	**Denniston Nort**	**22.36**	**199**	P	**P**	**20 49 25.2**	**-1.4**
DSZ	comp=Z,12nm,0.9s			IAmb	IAmb	20 49 36.0	
LTZ	**Lake Taylor**	**23.17**	**198**	P	**P**	**20 49 31.1**	**-2.7**
LTZ	comp=Z,14nm,1.2s			IAmb	IAmb	20 49 38.6	
FOZ	**Fox Glacier**	**24.61**	**201**	P	**P**	**20 49 44.8**	**-1.6**
MLZ	**Mavora Lakes**	**26.80**	**201**	P	**P**	**20 50 05.7**	**-0.1**
MLZ	comp=Z,18nm,1.4s			IAmb	IAmb	20 50 45.4	
DCZ	**Deep Cove**	**27.22**	**202**	P	**P**	**20 50 08.0**	**-1.4**
WHZ	**Wether Hill Ro**	**27.32**	**201**	P	**P**	**20 50 08.6**	**-1.7**
WHZ	comp=Z,19nm,1.2s			IAmb	IAmb	20 50 21.2	
EIDS	**

NJ2	**Nanjing**	**79.78**	**310**	*e*P		**P**		**20 56 21.5**	**+1.7**
NJ2					pmax	pmax			
	comp=Z,6.0nm,1.4s								
CMB	**Columbia Colle**	**80.05**	**43**			**P**		**20 56 21.0**	**-0.2**
ORV	**Oroville**	**80.26**	**41**	P		**P**		**20 56 22.3**	**+0.1**
YBH	**Yreka Blue Hor**	**80.87**	**39**	P		**P**		**20 56 26.3**	**+0.9**
	comp=Z,4.8nm,0.7s,baz=110,slow=0.7,SNR=17								
	comp=Z,4.8nm,0.7s								
PNTR	**Pine Nut**	**81.17**	**42**			**P**		**20 56 27.4**	**+0.3**
PNTR					IAmb	IAmb		20 56 29.0	
	comp=Z,10nm,0.9s								
HUMO	**Hull Mountain**	**81.27**	**38**	P		**P**		**20 56 28.5**	**+1.1**
YERR	**Yerington**	**81.33**	**43**	P		**P**		**20 56 28.8**	**+0.8**
L04D	**Klamath Falls**	**81.41**	**39**			**P**		**20 56 27.8**	**-0.4**
L04D					IAmb	IAmb		20 56 30.6	
	comp=Z,24nm,1.2s								
NVAR	**Mina Array Bea**	**81.61**	**44**	P		**P**		**20 56 30.2**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=222,slow=8.7,SNR=7.6								
	comp=Z,3.0nm,0.8s								
KVN	**Kaiserville**	**82.10**	**43**			**P**		**20 56 31.1**	**-0.8**
J05D	**Fort Rock, OR**	**82.68**	**38**			**P**		**20 56 34.2**	**-0.4**
J05D					IAmb	IAmb		20 56 36.7	
	comp=Z,16nm,0.8s								
PINE	**Pine Mountain**	**83.16**	**38**	P		**P**		**20 56 37.2**	**+0.1**
PINE					IAmb	IAmb		20 56 39.3	
	comp=Z,17nm,1.0s								
GSI	**Gunungsitoli**	**84.80**	**273**	P		**P**		**20 56 47.0**	**+1.3**
ELK	**Elko**	**84.87**	**43**	P		**P**		**20 56 46.3**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=258,slow=5.6,SNR=5.5								
	comp=Z,0.9nm,0.6s								
HEH	**HeiHe**	**85.40**	**329**	*e*P		**P**		**20 56 48.0**	**+0.4**
HEH					pmax	pmax			
	comp=Z,11nm,1.2s								
HEH					pmax	pmax			
	comp=Z,250nm,6.6s								
HNS	**HongShan**	**85.48**	**313**	⇑P		**P**		**20 56 50.0**	**+1.7**
HNS					pmax	pmax			
	comp=Z,11nm,2.3s								
LYN	**LuoYang**	**85.65**	**309**	⇑P		**P**		**20 56 51.3**	**+2.1**
LYN				pP		pP		20 58 45.3	-7.5
LYN					pmax	pmax			
	comp=Z,16nm,0.7s								
LYN					pmax	pmax			
	comp=Z,270nm,3.9s								
CAST	**Castle Rocks**	**86.54**	**12**	P		**P**		**20 56 51.2**	**-1.5**
CAST					IAmb	IAmb		20 56 52.3	
	comp=Z,7.5nm,0.8s								
F10A	**Beach Ranch, E**	**86.58**	**38**	P		**P**		**20 56 52.0**	**-1.5**
F10A					IAmb	IAmb		20 56 54.7	
	comp=Z,12nm,0.8s								
PLID	**Pearl Lake**	**86.79**	**39**	P		**P**		**20 56 52.3**	**-2.3**
TRF	**Thorofare Moun**	**86.92**	**12**	P		**P**		**20 56 53.7**	**-1.0**
TRF					IAmb	IAmb		20 56 55.2	
	comp=Z,10nm,0.8s								
TXAR	**Lajitas Array**	**87.64**	**58**	P		**P**		**20 57 00.2**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=207,slow=5.3,SNR=10								
	comp=Z,1.7nm,0.9s								
H19K	**Roundabout Mou**	**87.77**	**9**		IAmb	IAmb		20 56 59.7	
	comp=Z,8.1nm,1.1s								
M27K	**Edge Creek, AK**	**87.90**	**16**	P		**P**		**20 56 58.8**	**-0.5**
M27K					IAmb	IAmb		20 57 01.6	
	comp=Z,15nm,1.2s								
NEW	**Newport**	**87.95**	**36**	P		**P**		**20 57 00.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=117,slow=6.8,SNR=4.4								
	comp=Z,2.0nm,0.8s								
ANMO	**Albuquerque**	**87.99**	**51**	P		**P**		**20 57 01.3**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=333,slow=4.4,SNR=3.8								
	comp=Z,1.3nm,0.9s								
HDA	**Harding Lake**	**88.46**	**13**		IAmb	IAmb		20 57 02.0	
	comp=Z,7.9nm,0.7s								
MDM	**Murphy Dome**	**88.68**	**12**	P		**P**		**20 57 01.4**	**-1.3**
MDM					IAmb	IAmb		20 57 02.8	
	comp=Z,9.2nm,0.9s								
SCRK	**Sand Creek**	**88.74**	**14**	IAmb		IAmb		20 57 04.1	
	comp=Z,7.9nm,1.3s								
IL31		**88.79**	**13**	IAmb		IAmb		20 57 03.0	
	comp=Z,4.8nm,0.8s								
ILAR	**Eielson Array**	**88.79**	**13**	P		**P**		**20 57 01.9**	**-1.3**
ILAR	**Eielson Array**	**88.79**	**13**	P		**P**		**20 57 02.5**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=222,slow=5.7,SNR=28								
	comp=Z,3.5nm,0.9s								
M29M	**Somme Creek**	**88.89**	**17**	IAmb		IAmb		20 57 05.2	
	comp=Z,6.4nm,0.8s								
E18K	**Tukpahlearik C**	**89.04**	**7**	P		**P**		**20 57 03.4**	**-1.0**
E18K					IAmb	IAmb		20 57 05.4	
	comp=Z,6.6nm,1.1s								
G21K	**Allakaket**	**89.14**	**10**	IAmb		IAmb		20 57 05.9	
	comp=Z,5.4nm,0.8s								
HHC	**Hu-ho-hao-te**	**89.30**	**315**	*e*P		**P**		**20 57 07.8**	**+1.5**
HHC					pmax	pmax			
	comp=Z,14nm,0.6s								
HHC					pmax	pmax			
	comp=Z,140nm,4.3s								
F20K	**Avaraart Lake**	**89.30**	**9**	IAmb		IAmb		20 57 07.1	
	comp=Z,6.9nm,1.1s								
E19K	**Redstone River**	**89.48**	**8**	IAmb		IAmb		20 57 07.5	
	comp=Z,9.1nm,0.9s								
L29M	**L29M**	**89.52**	**17**	IAmb		IAmb		20 57 08.4	
	comp=Z,7.3nm,0.8s								
PDAR	**Pinedale Array**	**89.55**	**43**	P		**P**		**20 57 07.8**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=220,slow=2.9,SNR=22								
	comp=Z,2.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**89.82**	**290**	P		**P**		**20 57 11.6**	**+2.5**
	comp=Z,3.0nm,0.9s,baz=124,slow=3.1,SNR=20								
	comp=Z,3.0nm,0.9s								
DAWY	**Dawson**	**89.95**	**16**	P		**P**		**20 57 07.0**	**-1.7**
DAWY					IAmb	IAmb		20 57 09.9	
	comp=Z,6.5nm,1.0s								
CHTO	**Chiang Mai**	**89.95**	**290**	P		**P**		**20 57 10.1**	**+0.4**
CHTO					IAmb	IAmb		20 57 12.6	
	comp=Z,4.4nm,0.7s								
EGAK	**Eagle**	**90.09**	**15**	P		**P**		**20 57 09.0**	**-0.3**
EGAK					IAmb	IAmb		20 57 10.3	
	comp=Z,5.1nm,0.8s								
K29M	**Barlow Dome**	**90.27**	**17**	P		**P**		**20 57 10.3**	**+0.1**
K29M					IAmb	IAmb		20 57 11.7	
	comp=Z,7.9nm,1.1s								
D19K	**Kuna River**	**90.35**	**7**	IAmb		IAmb		20 57 11.4	
	comp=Z,5.7nm,0.9s								
PZH	**PanZhiHua**	**90.49**	**298**	P		**P**		**20 57 14.0**	**+1.8**
PZH					pmax	pmax			
	comp=Z,10.0nm,1.3s								
PZH					pmax	pmax			
	comp=Z,140nm,4.9s								
SONM	**Songino Array**	**95.75**	**319**	P		**P**		**20 57 36.4**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=150,slow=6.0,SNR=2.7								
	comp=Z,0.5nm,0.9s								
YKA	**Yellowknife Ar**	**97.05**	**25**	P		Pdif		20 57 41.1	+0.1
	comp=Z,0.3nm,0.7s,baz=242,slow=4.3,SNR=5.3								
	comp=Z,0.3nm,0.7s								
ZALV	**Zalesovo Beam**	**110.51**	**321**	PKiKP		**PKiKP**		**21 02 37.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=185,slow=0.8,SNR=4.1								
MKAR	**Makanchi Array**	**111.14**	**313**	PKiKP		**PKiKP**		**21 02 39.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=170,slow=1.1,SNR=6.5								
KURBB	**Kurchatov Arra**	**114.02**	**317**	PKiKP	PKPdf			21 02 44.3	-0.4
BVAR	**Borovoye Array**	**119.08**	**320**	PKP		**PKPdf**		**21 02 54.3**	**0.0**
	comp=Z,2.1nm,0.3s,baz=112,slow=2.4,SNR=19								
ARU	**Arti**	**125.26**	**325**	PKP		**PKiKP**		**21 03 06.6**	**+0.1**
	comp=Z,3.7nm,0.5s,baz=332,slow=2.9,SNR=9.9								
AKTO	**Aktyubinsk**	**127.05**	**318**	PKP		**PKiKP**		**21 03 10.6**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=24,slow=2.6,SNR=4.7								
ARCES	**ARCESS Array B**	**129.22**	**349**	PKP		**PKPdf**		**21 03 13.3**	**0.0**
	comp=Z,3.3nm,1.0s,baz=30,slow=0.9,SNR=10								
FINES	**FINESS Array B**	**136.01**	**343**	PKP		**PKiKP**		**21 03 29.2**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=114,slow=4.6,SNR=8.1								
HFS	**Hagfors**	**139.84**	**351**	PKhKP		PKPpre		21 03 25.6	
	comp=Z,3.4nm,0.7s,baz=69,slow=3.9,SNR=12								
LODK	**Lodwar**	**142.78**	**247**	PKPdf		**PKPdf**		**21 03 39.5**	**-0.6**
AKASG	**Malin Array Be**	**143.13**	**330**	PKhKP		PKPpre		21 03 37.4	
	comp=Z,19nm,0.6s,baz=43,slow=4.2,SNR=106								
SORM	**Soroca**	**145.29**	**328**	⇑P		**PKPbc**		**21 03 44.3**	**-0.2**
EKA	**Eskdalemuir Ar**	**145.42**	**5**	PKPbc		**PKPbc**		**21 03 44.5**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=348,slow=3.6,SNR=5.5								
MILM	**Milestii Mici**	**145.86**	**326**	⇑P		**PKPbc**		**21 03 45.7**	**-0.4**
ASF	**Jabal al Asfar**	**146.55**	**297**	PKPbc		**PKPbc**		**21 03 49.3**	**+0.7**
	comp=Z,7.0nm,0.8s,baz=239,slow=19,SNR=12								
BR131	**Keskin Array S**	**146.76**	**312**			**PKPbc**		**21 03 49.9**	**+0.9**
BRTR	**Keskin Array B**	**146.76**	**312**	PKPbc		**PKPbc**		**21 03 49.5**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=135,slow=4.5,SNR=28								
VLDR	**Vladesti**	**146.94**	**325**	⇑P		**PKiKP**		**21 03 50.2**	**-0.7**
GHRR		**147.16**	**326**	⇑P		**PKiKP**		**21 03 51.9**	**+0.6**
BUR08	**Bucovina Ar. S**	**147.16**	**330**			**PKiKP**		**21 03 51.0**	**-0.5**
BURAR	**Bucovina Array**	**147.17**	**330**	⇑P		**PKiKP**		**21 03 50.9**	**-0.6**
BURAR	**Bucovina Array**	**147.17**	**330**			**PKiKP**		**21 03 51.1**	**-0.4**
TESR	**Tescani**	**147.25**	**327**	⇑P		**PKPbc**		**21 03 50.7**	**+0.8**
CFR	**Carcaliu**	**147.33**	**324**	⇑P		**PKPbc**		**21 03 50.4**	**+0.3**
TPGR	**Topolog**	**147.38**	**323**	⇓P		**PKiKP**		**21 03 51.7**	**-0.2**
KOLS	**Kolonicke sedl**	**147.47**	**334**	*e*PKP		**PKiKP**		**21 03 51.7**	**-0.2**
MMAI	**Mount Meron Ar**	**147.61**	**299**	PKPbc		**PKiKP**		**21 03 52.9**	**0.0**
	comp=Z,16nm,0.8s,baz=67,slow=4.6,SNR=22								
VRI	**Vrincioaia**	**147.64**	**326**	⇑P		**PKPbc**		**21 03 51.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**147.81**	**335**	*e*PKP		**PKPab**		**21 03 56.9**	**+1.0**
TURR	**Turia**	**147.88**	**327**	⇑P		**PKiKP**		**21 03 53.4**	**+0.5**
MANR	**Mangalia**	**147.92**	**322**	⇑P		**PKiKP**		**21 03 53.0**	**+0.1**
BOSR	**Bodos**	**148.04**	**327**	⇑P		**PKPab**		**21 03 55.4**	**-1.6**
ISR	**Istrita**	**148.23**	**325**	⇑P		**PKiKP**		**21 03 53.6**	**-0.2**
DOPR	**Dopca**	**148.25**	**328**	⇑P		**PKiKP**		**21 03 54.6**	**+0.9**
MLR	**Muntele Rosu**	**148.30**	**326**	PKPbc		**PKPbc**		**21 03 52.7**	**0.0**
	comp=Z,5.8nm,0.8s,baz=203,slow=8.6,SNR=6.2								
UPC	**Upice**	**148.30**	**342**	⇑*e*PKP		**PKPbc**		**21 03 53.0**	**+0.6**
UPC				*e*PKPAB		**PKPab**		**21 03 58.6**	**+0.8**
CLL	**Collm**	**148.33**	**346**	*e*PKPdf		**PKPbc**		**21 03 51.0**	**-1.5**
CLL				⇓*i*PKPbc		**PKiKP**		**21 03 53.0**	**-0.6**
	comp=Z,18nm,0.9s								
CLL				⇑*i*PKPab		**PKPab**		**21 03 58.0**	**+0.1**
	comp=Z,10.0nm,0.9s								
DPC	**Dobruska-Polom**	**148.35**	**342**	⇑*e*PKP		**PKPbc**		**21 03 53.2**	**+0.6**
DPC				*e*PKPAB		**PKPab**		**21 03 58.8**	**+0.7**
LANS	**Liptovska Anna**	**148.37**	**337**	*e*PKP		**PKiKP**		**21 03 54.5**	**+0.7**
KRLC	**Kraliky**	**148.46**	**341**	⇑*e*PKP		**PKiKP**		**21 03 53.6**	**-0.4**
MORC	**Moravsky Berou**	**148.49**	**340**	*e*PKP		**PKiKP**		**21 03 53.8**	**-0.3**
BRG	**Berggiesshubel**	**148.52**	**345**	*i* PKP		**PKiKP**		**21 03 54.0**	**0.0**
BRG				Amp				21 03 55.5	
	comp=Z,8.3nm,1.0s								
BRG	**Berggiesshubel**	**148.52**	**345**	P		**PKPab**		**21 03 59.2**	**+0.5**
BRG				Amp				21 03 59.8	
	comp=Z,5.2nm,0.8s								
CJR	**Cluj-Napoca**	**148.59**	**330**	⇓P		**PKiKP**		**21 03 54.2**	**-0.1**
EIL	**Elat**	**148.62**	**293**	PKPbc		**PKiKP**		**21 03 55.2**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=31,slow=7.9,SNR=4.2								
PVCC	**Panska Ves**	**148.68**	**344**	⇑*e*PKP		**PKPbc**		**21 03 53.6**	**+0.3**
PVCC				*e*PKPAB		**PKPab**		**21 04 00.3**	**+1.0**
MAUC	**Maruska**	**148.75**	**339**	⇑*e*PKP		**PKiKP**		**21 03 54.6**	**0.0**
VOIR		**148.79**	**327**	⇑P		**PKiKP**		**21 03 54.6**	**-0.3**
MARR	**Marisel-Cluj**	**148.83**	**331**	⇑P		**PKiKP**		**21 03 54.8**	**-0.1**
DRGR		**148.93**	**331**	⇑P		**PKPbc**		**21 03 54.2**	**0.0**
ARR	**Arges**	**149.05**	**327**	⇑P		**PKiKP**		**21 03 56.9**	**+1.5**
VYHS	**Vyhne**	**149.14**	**337**	*e*PKP		**PKiKP**		**21 03 55.6**	**+0.2**
PRU	**Pruhonice**	**149.18**	**344**	⇑*e*PKP		**PKPbc**		**21 03 54.8**	**+0.2**
PRU				*e*PKPAB		**PKPab**		**21 04 02.0**	**+0.6**
VRAC	**Vranov**	**149.19**	**341**	*e*PKP		**PKiKP**		**21 03 55.6**	**+0.1**
JAVC	**Velka Javorina**	**149.24**	**339**	*e*PKP		**PKiKP**		**21 03 56.7**	**+1.0**
KRUC	**Moravsky**	**149.47**	**341**	*e*PKP		**PKPbc**		**21 03 55.7**	**+0.4**
DEV	**Deva**	**149.52**	**330**	⇑P		**PKiKP**		**21 03 56.4**	**+0.1**
MODS	**Modra-Piesok**	**149.79**	**339**	*e*PKP		**PKiKP**		**21 03 57.5**	**+0.7**
GZR	**Gura Zlata**	**149.94**	**329**	⇓P		**PKPbc**		**21 03 57.0**	**+0.3**
SURR	**Surduc**	**149.98**	**330**	⇑P		**PKPbc**		**21 03 56.6**	**0.0**
ELND	**Elena**	**150.02**	**323**	⇑P		**PKiKP**		**21 03 57.8**	**+0.4**
MEM	**Membach**	**150.13**	**354**	*d*PKP		**PKPbc**		**21 03 57.0**	**+0.2**
BTNL	**Ternell**	**150.14**	**354**	*d*PKP		**PKiKP**		**21 03 57.4**	**0.0**
KHC	**Kasperske Hory**	**150.21**	**344**	⇑*e*PKP		**PKPbc**		**21 03 57.2**	**+0.1**
KHC				*e*PKPAB		**PKPab**		**21 04 06.5**	**+0.7**
CKRC	**Cesky Krumlov**	**150.30**	**343**	⇑*e*PKP		**PKiKP**		**21 03 57.8**	**0.0**
CKRC				*e*PKPAB		**PKPab**		**21 04 06.4**	**+0.2**
BCLA	**Clavier**	**150.38**	**355**	*d*PKP		**PKPab**		**21 04 05.7**	**-0.7**
PLVB	**Pleven**	**150.42**	**325**	⇑P		**PKiKP**		**21 03 58.6**	**+0.4**
GERES	**GERESS Array B**	**150.44**	**344**	PKPbc		**PKiKP**		**21 03 58.2**	**0.0**
	comp=Z,4.2nm,0.8s,baz=57,slow=4.9,SNR=5.9								
GERES				PKPab		**PKPab**		**21 04 07.1**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=22,slow=7.6,SNR=3.6								
HERR	**Herculane**	**150.50**	**329**	⇓P		**PKPbc**		**21 03 58.1**	**+0.3**
BMRD	**Maredsous**	**150.53**	**356**	*d*PKP		**PKiKP**		**21 03 58.1**	**0.0**
CONA	**Conrad Observa**	**150.64**	**340**	*e*PKP		**PKiKP**		**21 03 58.9**	**+0.3**
	comp=Z,5.2nm,0.7s								
RCHB	**Rochefort**	**150.64**	**355**	*d*PKP		**PKiKP**		**21 03 58.4**	**0.0**
RONA	**Rosalia, Austr**	**150.70**	**339**	*e*PKP		**PKiKP**		**21 03 59.0**	**+0.2**
	comp=Z,8.4nm,0.7s								
DOU	**Dourbes**	**150.75**	**356**	*d*PKiKP		**PKiKP**		**21 03 59.0**	**+0.4**
MORH	**Mrgy, Hungar**	**151.11**	**335**	⇓P		**PKiKP**		**21 03 59.5**	**0.0**
BLKB	**Belogradchik**	**151.28**	**327**	⇑P		**PKiKP**		**21 04 01.1**	**+1.1**
ARSA	**Arzberg**	**151.35**	**340**	*e*PKP		**PKPbc**		**21 03 59.4**	**-0.4**
	comp=Z,1.8nm,0.7s								
BIOA	**Bad Ischl, Aus**	**151.52**	**343**	*e*PKP		**PKPbc**		**21 03 60.0**	**-0.1**
	comp=Z,7.0nm,1.2s								
SOKA	**Soboth**	**152.01**	**340**	*i* PKP		**PKPbc**		**21 04 01.0**	**-0.3**
	comp=Z,4.9nm,1.2s								
LESA	**Schwarzleotal**	**152.02**	**344**	*i* PKP		**PKPbc**		**21 04 01.3**	**0.0**
	comp=Z,2.4nm,0.6s								
KBA	**Koelnbreinsper**	**152.16**	**343**	*i* PKP		**PKPbc**		**21 04 01.3**	**-0.5**
	comp=Z,4.1nm,0.8s,SNR=4.5								
OBKA	**Obir**	**152.31**	**340**	*i* PKP		**PKPbc**		**21 04 01.5**	**-0.5**
	comp=Z,2.4nm,0.8s								
WATA	**Walderalm**	**152.38**	**345**	*e*PKP		**PKPbc**		**21 04 02.0**	**-0.2**
	comp=Z,3.8nm,0.8s								
RETA	**Reutte**	**152.43**	**346**	*e*PKP		**PKPbc**		**21 04 02.3**	**+0.1**
	comp=Z,1.9nm,0.7s								
WTTA	**Wattenberg**	**152.43**	**345**	*e*PKP		**PKPbc**		**21 04 02.5**	**+0.2**
	comp=Z,7.3nm,0.9s								
MYKA	**Terra Mystica**	**152.48**	**342**	*i* PKP		**PKPbc**		**21 04 01.8**	**-0.6**
	comp=Z,1.4nm,0.5s								
MOTA	**Moosalm**	**152.48**	**346**	*e*PKP		**PKPbc**		**21 04 02.5**	**0.0**
	comp=Z,2.5nm,0.7s								
SQTA	**Sankt Quirin**	**152.57**	**346**	*e*PKP		**PKPbc**		**21 04 02.6**	**0.0**
	comp=Z,2.4nm,0.8s								
ABTA	**Abfaltersbach**	**152.69**	**343**	*e*PKP		**PKPbc**		**21 04 02.4**	**-0.5**
	comp=Z,6.0nm,0.7s,SNR=6.8								
FETA	**Feichten**	**152.87**	**346**	*e*PKP		**PKiKP**		**21 04 03.6**	**+0.2**
	comp=Z,3.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**172.30**	**181**	PKP		**PKPdf**		**21 04 14.3**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=149,slow=1.5,SNR=4.7								

*DJA **28** 21:14:19.2±0.4,3˚S±3˚×13˚1E±˚, h16km±3km, M4.1/9, mb4.6/1, mB4.7/1, MLv3.9/9, Mw(mB)4.0/1*
*NEIC **28** 21:14:21.9±1.1,3.3˚3S±0.˚09×130.˚62E±0.˚07, h41km±8km, mb4.1/17, Error ellipse: s-maj=13.7km s-min=10.3km az=171.0*
*IDC **28** 21:14:26.5±3.9,3.˚51S×130.˚39E, h88km±36km, mb3.5/11, mbtmp3.9/13, MS3.3/6, Error ellipse: s-maj=35.3km s-min=12.1km az=73.0*

ISC 28 21:14:20.0±0.5,3˚33S±0.˚04×130˚67E±0.˚04,h31km,n51,
σ1§69/52,mb4.0/14,MS3.2/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.41**	**213**	P	**Pb**	**21 14 45.1**	**-0.6**
BNDI				S	**Sb**	**21 15 05.3**	**+2.0**
FAKI	**Fak Fak**	**1.63**	**75**		**Pb**	**21 14 48.4**	**-1.1**
FAKI				Sn	**Sb**	**21 15 09.9**	**+0.2**
FAKI	**Fak Fak**	**1.63**	**75**	P	**Pn**	**21 14 48.1**	**+1.5**
FAKI				S	**Sb**	**21 15 11.5**	**+1.8**
KRAI	**Karang Ratu**	**2.27**	**270**	P	**Pn**	**21 14 54.7**	**-0.8**
SIJI	**Sorong**	**2.52**	**14**	P	**Pn**	**21 14 58.0**	**-0.9**
SIJI				S	**Sn**	**21 15 27.3**	**-1.3**
SWI	**Sorong**	**2.52**	**14**	P	**Pn**	**21 14 58.8**	**-0.1**
KMPI	**Kaimana, Papua**	**3.05**	**96**	P	**Pn**	**21 15 09.3**	**+3.2**
NLAI	**Namlea**	**3.24**	**271**	P	**Pn**	**21 15 12.7**	**-0.6**
LBMI	**Labuha**	**4.15**	**310**	P	**Pn**	**21 15 18.7**	**-2.6**
SANI	**Sanana**	**4.85**	**285**	P	**Pn**	**21 15 27.9**	**-3.0**
SGSI	**Sangihe**	**8.66**	**324**	P	**Pn**	**21 16 25.1**	**+1.8**
MTN	**Manton Dam**	**9.46**	**177**	Pn	**Pn**	**21 16 35.5**	**+1.2**
TOLI2	**Tolitoli**	**10.82**	**294**	Pn	**Pn**	**21 16 54.4**	**+1.4**
KAPI	**Kappang**	**11.02**	**261**	Pn	**Pn**	**21 16 57.9**	**+2.3**
KAPI	**Kappang**	**11.02**	**261**	P	**Pn**	**21 16 57.7**	**+2.1**
	8.7nm,0.7s,baz=90,slow=8.8,SNR=6.3						
KAPI				LR	LR	21 22 10.3	
	comp=Z,177nm,21.4s,baz=78,slow=43						
DAV	**Davao City (W)**	**11.52**	**334**	LR	LR	21 22 36.2	
	comp=Z,148nm,21.2s,baz=133,slow=42						
COEN	**Coen**	**16.24**	**121**	P	**Pn**	**21 18 06.8**	**+0.6**
WB0	**Warramunga Arr**	**16.73**	**168**	Pn	**Pn**	**21 18 12.7**	**+0.4**
WB0				IAmb	IAmb	21 18 13.9	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**16.89**	**168**		**P**	**21 18 16.6**	**+0.6**
WRAB				IAmb	IAmb	21 18 22.6	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**16.89**	**168**		**P**	**21 18 15.6**	**-0.5**
WRA	**Warramunga Arr**	**16.89**	**168**	P	**P**	**21 18 15.6**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=346,slow=12,SNR=26						
WRA				S	**Sn**	**21 21 14.5**	**-6.7**
	comp=Z,0.4nm,0.6s,baz=357,slow=21,SNR=2.1						
WB2	**Warramunga Arr**	**16.89**	**168**		**P**	**21 18 16.4**	**+0.3**
WB2				IAmb	IAmb	21 18 22.8	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**16.95**	**167**		**P**	**21 18 17.2**	**+0.4**
WR0				IAmb	IAmb	21 18 21.7	
	comp=Z,24nm,1.4s						
PMG	**Port Moresby**	**17.46**	**111**	LR	LR	21 25 54.4	
	comp=Z,79nm,20.8s,baz=263,slow=39						
AS31	**Alice Springs**	**20.45**	**171**	P	Pn	21 18 56.2	-1.2
AS31				IAmb	IAmb	21 18 58.9	
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**20.45**	**171**	P	Pn	21 18 56.3	-1.2
ASAR	**Alice Springs**	**20.45**	**171**	P	**P**	**21 18 55.0**	**-0.2**
	comp=Z,7.3nm,0.5s,baz=351,slow=11,SNR=77						
ASAR				S	**S**	**21 22 39.3**	**-3.5**
	comp=Z,0.5nm,0.7s,baz=352,slow=21,SNR=2.2						
	comp=Z,7.3nm,0.5s						
KSM	**Kuching**	**20.91**	**283**	P	**P**	**21 18 59.2**	**-1.0**
CTA	**Charters Tower**	**22.55**	**139**	LR	LR	21 28 21.9	
	comp=Z,83nm,18.7s,baz=311,slow=37						
STKA	**Stephens Creek**	**30.20**	**161**	P	**P**	**21 20 29.0**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=337,slow=9.5,SNR=3.2						
STKA				LR	LR	21 34 35.0	
	comp=Z,80nm,19.5s,baz=349,slow=40						
	comp=Z,1.0nm,0.6s						
KULM	**Kulim**	**31.19**	**286**	P	**P**	**21 20 36.0**	**-0.7**
KULM				IAmb	IAmb	21 20 36.1	
	comp=Z,9.3nm,1.2s						
GSI	**Gunungsitoli**	**33.40**	**277**	P	**P**	**21 20 54.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**38.02**	**306**	P	**P**	**21 21 35.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=121,slow=5.7,SNR=6.0						
	comp=Z,0.9nm,0.8s						
KSRS	**Korea Array**	**40.66**	**357**	P	**P**	**21 21 58.7**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=180,slow=9.3,SNR=1.8						
KSRS				LR	LR	21 38 32.7	
	comp=Z,18nm,21.7s,baz=185,slow=35						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**55

1933

OKCSW	**OKLAHOMA CITY** comp=Z,26nm,0.7s	6.28	101	IAmb_Lg	21 26 52.7
FNO	**Franklin** comp=Z,22nm,0.8s	6.34	102	IAmb_Lg	21 26 50.3
OK052	**Battle Ridge R** comp=Z,17nm,1.0s	6.66	95	IAmb_Lg	21 26 53.0
OZNA	**Ozona** comp=Z,22nm,0.7s	6.70	150	IAmb_Lg	21 26 50.5
PLPT	**Palo Pinto** comp=Z,17nm,0.8s	6.79	124	IAmb_Lg	21 26 58.0
KSU1	**Kansas State U** comp=Z,24nm,0.9s	7.01	68	IAmb_Lg	21 27 00.2
SAND	**Sanderson** comp=Z,16nm,0.9s	7.25	160	IAmb_Lg	21 27 16.4
BRDY	**Brady** comp=Z,23nm,0.8s	7.42	136	IAmb_Lg	21 27 13.4
JCT	**Junction City** comp=Z,24nm,0.8s	7.66	144	IAmb_Lg	21 27 33.7
FW13	**Cleburne** comp=Z,16nm,0.9s	7.66	123	IAmb_Lg	21 27 23.9
WHTX	**Lake Whitney,** comp=Z,14nm,1.0s	7.87	125	IAmb_Lg	21 27 36.6
RLO	**Rose Lookout** comp=Z,12nm,0.9s	8.06	92	IAmb_Lg	21 27 42.9
ECSD	**EROS Data Cent** comp=Z,14nm,0.9s	9.42	40	IAmb_Lg	21 28 17.7
833A	**Chaparral WMA,** comp=Z,14nm,0.8s	9.69	149	IAmb_Lg	21 28 42.6

*THE **28** 21:35:01.7,36.97N×27.37E,h10$^{km}_{\pm}$1^{km},ML3.0/3,Error ellipse: s-maj=1.2km s-min=0.7km az=236.0*
*ISK **28** 21:35:01.4,36.96N×27.37E,h6^{km},ML2.7/14*
*AFAD **28** 21:35:01.1±0.0,36.95N×27.35E,h10$^{km}_{\pm}$1^{km},ML2.6*
*ATH **28** 21:35:01.6,36.94N×27.37E,h12$^{km}_{\pm}$2^{km},ML2.9/3,Error ellipse: s-maj=2.3km s-min=1.0km az=236.0*

ISC 28 21:35:01.3±0.8,36.96N±0.02×27.35E±0.02,h12$^{km}_{\pm}$5^{km}, n44,σ0^{s}47/71,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.11**	**343**	Pg	**Pg**	**21 35 04.5**	**+0.1**
BODT				Sg	**Sg**	**21 35 06.6**	**-0.1**
BODT	**Bodrum**	**0.11**	**343**	P	**Pg**	**21 35 04.5**	**+0.1**
BODT				S	**Sg**	**21 35 06.5**	**-0.1**
BDRM	**Kayabasi**	**0.13**	**34**	P	**Pg**	**21 35 04.6**	**-0.1**
BDRM				S	**Sg**	**21 35 06.6**	**-0.5**
BDRM	comp=E,2μm,0.4s			*i* AML	AML	21 35 07.0	
YKAV	**Yalikavak-Bodr**	**0.18**	**341**	Pg	**Pg**	**21 35 05.2**	**-0.2**
YKAV				Sg	**Sg**	**21 35 08.3**	**+0.1**
YAZI	**Mula-Dat§a-**	**0.29**	**163**	P	**Pg**	**21 35 07.4**	**+0.2**
YAZI				S	**Sg**	**21 35 10.3**	**-0.9**
DAT	**Datca**	**0.29**	**141**	Pg	**Pg**	**21 35 07.6**	**+0.2**
DAT				Sg	**Sg**	**21 35 11.9**	**+0.5**
DAT	**Datca**	**0.29**	**141**	P	**Pg**	**21 35 07.5**	**+0.2**
DAT				S	**Sg**	**21 35 12.1**	**+0.7**
DAT	**Datca**	**0.29**	**141**	P	**Pg**	**21 35 07.0**	**-0.3**
DAT	comp=E,568nm,0.2s			*i* AML	AML	21 35 13.0	
DAT	comp=N,659nm,0.2s			*i* AML	AML	21 35 14.0	
KLNA	**Kalymnos**	**0.30**	**270**	P	**Pg**	**21 35 08.0**	**+0.5**
KLNA				S	**Sg**	**21 35 12.2**	**+0.5**
KLNA	comp=E,7480μm,0.2s			AML	AML	21 35 13.3	
KLNA	comp=N,3586μm,0.2s			AML	AML	21 35 14.1	
RFTAA	**Mazikoy-Bodrum**	**0.32**	**82**	Pg	**Pg**	**21 35 07.9**	**+0.1**
RFTAA				Sg	**Sg**	**21 35 12.5**	**+0.4**
NISR	**Nisiros**	**0.39**	**208**	P	**Pg**	**21 35 08.7**	**-0.3**
NISR				S	**Sg**	**21 35 14.7**	**+0.5**
MLSB	**Milas**	**0.48**	**45**	Pg	**Pg**	**21 35 10.6**	**-0.2**
DDIM	**Aydin, Didim**	**0.51**	**350**	P	**Pg**	**21 35 11.8**	**+0.4**
DDIM				S	**Sg**	**21 35 18.6**	**+0.6**
DDIM	comp=N,589nm,0.3s			*i* AML	AML	21 35 20.0	
DDIM	comp=N,689nm,0.4s			*i* AML	AML	21 35 20.0	
TURN	**Turunc**	**0.74**	**104**	Pg	**Pg**	**21 35 15.7**	**+0.1**
TURN	**Turunc**	**0.74**	**104**	P	**Pg**	**21 35 15.5**	**-0.2**
TURN				S	**Sb**	**21 35 26.2**	**+0.1**
TURN	comp=N,395nm,0.7s			*i* AML	AML	21 35 29.0	
TURN	comp=N,452nm,0.4s			*i* AML	AML	21 35 29.0	
GCAM	**G?zelcaml?**	**0.75**	**353**	Pg	**Pg**	**21 35 16.1**	**+0.2**
GCAM	**G?zelcaml?**	**0.75**	**353**	P	**Pg**	**21 35 15.8**	**0.0**
GCAM				S	**Sb**	**21 35 26.3**	**-0.1**
GCAM	comp=N,464nm,0.4s			*i* AML	AML	21 35 30.0	
GCAM	comp=N,250nm,0.4s			*i* AML	AML	21 35 32.0	
YER	**Yerkesik**	**0.77**	**76**	Pg	**Pb**	**21 35 16.5**	**-0.2**
YER	**Yerkesik**	**0.77**	**76**	P	**Pb**	**21 35 16.4**	**-0.2**
MULA	**Mugla, Merkez-**	**0.83**	**69**	P	**Pg**	**21 35 17.4**	**-0.1**
MULA				S	**Sg**	**21 35 27.9**	**-0.4**
SMG	**Samos**	**0.86**	**332**	P	**Pg**	**21 35 17.8**	**-0.1**
SMG	comp=N,1μm,0.3s			S	**Sg**	**21 35 29.6**	**+0.5**
SMG	**Samos**	**0.86**	**332**	P	**Pg**	**21 35 17.8**	**-0.1**
SMG				S	**Sb**	**21 35 30.0**	**+0.4**
SMG	comp=E,2528μm,0.4s			AML	AML	21 35 32.6	
SMG	comp=N,2639μm,0.3s			AML	AML	21 35 34.6	
ARG	**Arkhangelos**	**0.97**	**140**	P	**Pg**	**21 35 20.1**	**+0.1**
ARG				S	**Sb**	**21 35 33.4**	**+0.7**
ARG	comp=N,388nm,0.5s						
ARG	**Arkhangelos**	**0.97**	**140**	P	**Pg**	**21 35 19.2**	**-0.8**
ARG				S	**Sb**	**21 35 33.4**	**+0.7**
ARG	comp=E,650μm,0.4s			AML	AML	21 35 35.4	
ARG	comp=N,898μm,0.5s			AML	AML	21 35 37.5	
DALY	**Dalyan (Mula)**	**1.05**	**97**	Pg	**Pg**	**21 35 21.6**	**0.0**
DGB	**zmir**	**1.16**	**341**	P	**Pb**	**21 35 22.9**	**-0.3**
ESEN	**Aydn-Nazilli**	**1.16**	**43**	P	**Pb**	**21 35 22.8**	**-0.4**
ESEN				S	**Sb**	**21 35 37.1**	**-1.0**
ESEN	comp=N,76nm,0.3s			*i* AML	AML	21 35 44.0	
IZMR	**zmir-demi**	**1.27**	**22**	P	**Pn**	**21 35 24.9**	**0.0**
IZMR				S	**Sb**	**21 35 41.5**	**0.0**
IZMR	comp=N,120nm,0.6s			*i* AML	AML	21 35 49.0	
SABU	**Mula-Dalaman**	**1.30**	**95**	P	**Pg**	**21 35 26.4**	**0.0**
SABU				S	**Sn**	**21 35 42.8**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.35**	**67**	P	**Pb**	**21 35 26.6**	**+0.1**
TAVA				S	**Sn**	**21 35 44.2**	**+0.4**
KARP	**Karpathos**	**1.41**	**186**	P	**Pn**	**21 35 26.8**	**-0.1**
KARP	**Karpathos**	**1.41**	**186**	P	**Pn**	**21 35 25.6**	**-1.3**
FETY	**Fethiye**	**1.43**	**102**	Pn	**Pb**	**21 35 28.2**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**1.45**	**333**	P	**Pn**	**21 35 27.9**	**+0.6**
ZEYE				S	**Sn**	**21 35 46.4**	**+0.2**
ZEYE	comp=N,91nm,0.9s			*i* AML	AML	21 35 53.0	
BLCB	**Balcova**	**1.45**	**350**	Pn	**Pn**	**21 35 27.2**	**-0.1**
APE	**Apeiranthos**	**1.46**	**275**	P	**Pn**	**21 35 27.7**	**+0.2**
APE				S	**Sn**	**21 35 45.9**	**-0.7**
APE	**Apeiranthos**	**1.46**	**275**	P	**Pn**	**21 35 27.8**	**+0.2**
APE				S	**Sn**	**21 35 46.3**	**-0.3**
KIRA	**zmir-Kiraz**	**1.49**	**34**	P	**Pn**	**21 35 28.1**	**+0.1**
KIRA				S	**Sn**	**21 35 46.3**	**-1.2**
DNIZ	**Denizli-Tavas-**	**1.50**	**63**	P	**Pb**	**21 35 29.1**	**-0.1**
DNIZ				S	**Sg**	**21 35 49.7**	**0.0**
DNIZ	comp=N,63nm,0.4s			*i* AML	AML	21 35 56.0	
DNIZ	comp=N,149nm,0.4s			*i* AML	AML	21 35 58.0	
URLA	**Izmir**	**1.52**	**337**	Pn	**Pb**	**21 35 29.9**	**+0.4**
CAME	**Cameli-Denizli**	**1.56**	**90**	Pn	**Pb**	**21 35 30.1**	**-0.1**
APMY	**Acipayam-Deniz**	**1.64**	**71**	Pn	**Pb**	**21 35 31.4**	**-0.1**
SNT5	**Nea Kammeni, S**	**1.67**	**251**	P	**Pn**	**21 35 29.3**	**-1.0**
KSL	**Kastellorizon**	**1.97**	**113**	P	**Pn**	**21 35 35.8**	**+1.3**

*IDC **28** 21:56:31.3±0.5,18.08S×172.44W,h0^{km},mb4.6/15, mbtmp4.6/16,ML3.9/1,MS3.7/16,Error ellipse: s-maj=19.9km s-min=17.6km az=157.0*
*NEIC **28** 21:56:32.5±1.3,18.05S±0.08×172.4W±0.1,h10$^{km}_{\pm}$1^{km}, mb5.0/162,Error ellipse: s-maj=18.5km s-min=12.8km az=244.0*

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*MOS **28** 21:56:33.0±2.7,18.04S×172.24W,h10^{km},mb4.9/16, Error ellipse: s-maj=13.1km s-min=9.9km az=63.9*

ISC 28 21:56:33.7±0.3,18.17S±0.05×172.35W±0.06,h21^{km}, n346,σ1^{s}01/326,mb4.9/103,MS3.8/17,21C-15D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.47**	**112**	Pn	**Pn**	**21 57 14.3**	**+1.6**
AFI	**Afiamalu**	**4.28**	**7**	Pn	**Pn**	**21 57 35.8**	**-1.9**
AFI	**Afiamalu**	**4.28**	**7**	P	**Pn**	**21 57 35.8**	**-1.9**
GLKZ	**Green Lake**	**12.16**	**204**	P	**Pn**	**21 59 26.7**	**+1.0**
GLKZ				S	**Sn**	**22 01 36.1**	**-4.5**
RAR	**Rarotonga**	**12.22**	**106**		**Pn**	**21 59 27.2**	**+0.6**
RAR	**Rarotonga** 7.7nm,0.3s,baz=257,slow=8.7,SNR=27	**12.22**	**106**	Pn	**Pn**	**21 59 27.1**	**+0.5**
RAR	1.5nm,0.3s,baz=150,slow=8.0,SNR=1.5			Sn	**Sn**	**22 01 35.3**	**-7.1**
RAR	comp=Z,238nm,19.0s,baz=306,slow=33 108nm,0.6s			LR	LR	22 03 13.5	
DZM	**Mont Dzumac** comp=Z,199nm,18.3s,baz=300,slow=36	**20.28**	**255**	LR	LR	22 08 37.6	
HAZ	**Te Kaha**	**21.34**	**202**	P	P	22 01 27.5	+8.0
HAZ				S	**S**	**22 05 11.4**	**-4.1**
PKGZ	**Pakihiroa**	**21.36**	**201**	P	P	22 01 30.2	+11
RUGZ	**Raukumara Rang**	**21.57**	**202**	P	P	22 01 31.0	+9.0
RUGZ				S	**S**	**22 05 14.2**	**-5.9**
PPT	**Papeete** comp=Z,219nm,21.9s,baz=198,slow=30	**21.68**	**92**	LR	LR	22 07 22.2	
CNGZ	**Carnagh Statio**	**21.85**	**200**	P	P	22 01 35.8	+11
CNGZ				S	**S**	**22 05 23.9**	**-1.6**
MWZ	**Matawai**	**21.95**	**202**	P	P	22 01 35.4	+9.4
MWZ				S	**S**	**22 05 25.5**	**-2.0**
URZ	**Urewera**	**22.03**	**203**	P	P	22 01 35.1	+8.3
URZ				S	**S**	**22 05 28.7**	**-0.2**
TOZ	**Tahuroa Road** comp=Z,45nm,1.2s	**22.20**	**206**		P	**22 01 29.3**	**+0.7**
TOZ				IAmb	IAmb	22 01 47.9	
TOZ	**Tahuroa Road**	**22.20**	**206**	P	P	22 01 37.4	+8.7
MUGZ	**Murupara**	**22.35**	**203**	P	P	22 01 37.9	+7.7
RTZ	**Ruatahuna**	**22.39**	**202**	P	**P**	**22 01 32.1**	**+1.3**
RTZ	comp=Z,72nm,1.8s			IAmb	IAmb	22 01 43.5	
RTZ	**Ruatahuna**	**22.39**	**202**	P	P	22 01 38.6	+7.8
RTZ				S	**S**	**22 05 37.6**	**+1.7**
SNGZ	**Shannon Statio**	**22.41**	**202**	P	P	22 01 42.0	+11
SNGZ				S	**S**	**22 05 35.8**	**-0.3**
KNZ	**Kokohu**	**22.51**	**201**	P	P	22 01 42.8	+11
KNZ				S	**S**	**22 05 43.8**	**+5.9**
MTHZ	**Maungataniwha**	**22.65**	**202**	P	P	22 01 41.7	+8.1
MTHZ				S	**S**	**22 05 42.0**	**+1.5**
TLZ	**Tolley Road**	**22.70**	**205**	P	P	22 01 43.4	+9.4
TUWZ	**Tuamarina**	**25.98**	**204**	P	**P**	**22 02 06.2**	**+1.3**
LTZ	**Lake Taylor**	**27.79**	**205**	P	**P**	**22 02 20.4**	**-0.9**
LTZ	comp=Z,19nm,0.9s			IAmb	IAmb	22 02 36.2	
HNR	**Honiara** comp=Z,4μm,21.2s,baz=86,slow=33	**28.24**	**284**	LR	LR	22 11 54.1	
CTA	**Charters Tower** comp=Z,134nm,18.1s,baz=90,slow=36	**39.09**	**260**	LR	LR	22 20 01.1	
PMG	**Port Moresby** comp=Z,90nm,21.4s,baz=39,slow=32	**40.20**	**277**	LR	LR	22 17 40.1	
TOO	**Toolangi**	**41.56**	**233**	P	**P**	**22 04 19.4**	**-0.6**
TOO	**Toolangi** comp=Z,15nm,1.0s	**41.56**	**233**	P	**P**	**22 04 19.4**	**-0.6**
TOO				pmax	pmax		
H11N3	**WAKE ISLAND Hy** baz=159	**42.81**	**331**	T	T	22 48 41.6	
H11N1	**WAKE ISLAND Hy** baz=153	**42.81**	**331**	T	T	22 48 45.0	
H11N2	**WAKE ISLAND Hy** baz=153	**42.82**	**331**	T	T	22 48 39.6	
STKA	**Stephens Creek** comp=Z,129nm,18.8s,baz=34,slow=35	**43.59**	**243**	LR	LR	22 22 05.4	
WRA	**Warramunga Arr**	**50.25**	**259**	P	**P**	**22 05 26.9**	**-1.9**
WRA	**Warramunga Arr** comp=Z,6.9nm,0.8s,baz=98,slow=7.2,SNR=39	**50.25**	**259**	P	**P**	**22 05 28.8**	**0.0**
WRA				PcP	**PcP**	**22 06 48.9**	**+1.1**
AS31	**Alice Springs** comp=Z,1.8nm,0.9s,baz=104,slow=3.0,SNR=1.3	**50.27**	**254**	P	**P**	**22 05 28.8**	**-0.1**
ASAR	**Alice Springs** comp=Z,6.9nm,0.8s	**50.27**	**254**	P	**P**	**22 05 28.4**	**-0.5**
ASAR	**Alice Springs** comp=Z,8.2nm,0.6s,baz=88,slow=8.8,SNR=85	**50.27**	**254**	P	**P**	**22 05 29.3**	**+0.4**
ASAR	comp=Z,62nm,19.3s,baz=96,slow=35 comp=Z,8.2nm,0.6s			LR	LR	22 26 07.8	
GUMO	**Guam** comp=Z,33nm,19.2s,baz=134,slow=34	**52.69**	**304**	LR	LR	22 26 43.3	
RPN	**Rapa Nui** comp=Z,44nm,20.4s,baz=283,slow=31	**58.33**	**111**	LR	LR	22 26 31.1	
SBA	**Scott Base**	**60.59**	**185**	P	**P**	**22 06 41.7**	**-0.6**
SBA	**Scott Base**	**60.59**	**185**	P	**P**	**22 06 41.7**	**-0.6**
SBA	comp=Z,42nm,1.4s			pmax	pmax		
JCJ	**Chichijima** comp=Z,93nm,20.5s,baz=120,slow=32	**63.00**	**315**	LR	LR	22 29 36.0	
NWAO	**Narrogin (SRO)** comp=Z,73nm,18.3s,baz=249,slow=36	**64.17**	**242**	LR	LR	22 34 42.9	
DAV	**Davao City (W)** comp=Z,32nm,18.3s,baz=348,slow=36	**66.17**	**287**	LR	LR	22 36 16.9	
MJAR	**Matsushiro Arr** comp=Z,5.4nm,1.0s,baz=162,slow=5.0,SNR=6.5	**71.70**	**320**	P	**P**	**22 07 54.3**	**+0.1**
MJAR	comp=Z,72nm,21.0s,baz=124,slow=31 comp=Z,5.4nm,1.0s			LR	LR	22 33 19.8	
QSPA	**South Pole Qui**	**71.89**	**180**	P	**P**	**22 07 54.7**	**-0.4**
QSPA	comp=Z,8.9nm,1.0s			IAmb	IAmb	22 07 58.6	
QSPA	**South Pole Qui** comp=Z,5.6nm,0.8s,baz=56,slow=3.5,SNR=8.3 comp=Z,5.6nm,0.8s	**71.89**	**180**	P	**P**	**22 07 57.5**	**+2.4**
KMRM	**Mail Ridge**	**73.64**	**37**	P	**P**	**22 08 03.8**	**-1.9**
CMB	**Columbia Colle**	**74.19**	**40**	P	**P**	**22 08 08.3**	**-0.7**
CMB	**Columbia Colle**	**74.19**	**40**	P	**P**	**22 08 08.3**	**-0.7**
CMB	comp=Z,5.0nm,0.9s			pmax	pmax		
ASAJ	**Asahikawa** comp=Z,54nm,21.7s,baz=146,slow=31	**74.41**	**328**	LR	LR	22 34 52.3	
AFDM	**Forest Hills D**	**74.42**	**39**	P	**P**	**22 08 10.1**	**-0.2**
JNU	**Nakatsue** comp=Z,55nm,20.1s,baz=138,slow=31	**74.42**	**313**	LR	LR	22 35 09.0	
ORV	**Oroville**	**74.49**	**38**	P	**P**	**22 08 10.9**	**+0.3**
ORV	**Oroville**	**74.49**	**38**	P	**P**	**22 08 10.9**	**+0.3**
ORV	comp=Z,4.0nm,1.0s			pmax	pmax		
WAKR	**Walker**	**75.07**	**40**	P	**P**	**22 08 14.9**	**+0.6**
QSM	**Queen of Sheba**	**75.18**	**44**	P	**P**	**22 08 15.4**	**+0.7**
MPK	**Martis Peak**	**75.20**	**39**	P	**P**	**22 08 15.3**	**+0.2**
MPK	comp=Z,11nm,1.1s			IAmb	IAmb	22 08 17.3	
YBH	**Yreka Blue Hor**	**75.21**	**36**	P	**P**	**22 08 16.3**	**+1.4**
YBH	**Yreka Blue Hor**	**75.21**	**36**	P	**P**	**22 08 16.3**	**+1.4**
YBH	comp=Z,8.0nm,0.9s			pmax	pmax		
PNTR	**Pine Nut**	**75.33**	**40**	P	**P**	**22 08 17.1**	**+1.3**
PNTR	comp=Z,7.4nm,0.8s			IAmb	IAmb	22 08 18.1	
YERR	**Yerington**	**75.49**	**40**	P	**P**	**22 08 17.3**	**+0.6**
113A	**Mohawk Valley,**	**75.49**	**48**	P	**P**	**22 08 17.4**	**+0.9**
113A	comp=Z,22nm,1.8s			IAmb	IAmb	22 08 18.9	
PETK	**Petropavlovsk-** comp=Z,6.1nm,0.7s,baz=117,slow=8.3,SNR=8.3 comp=Z,6.1nm,0.7s	**75.56**	**342**	P	**P**	**22 08 16.6**	**+0.1**
GMN	**Gold Mountain**	**75.71**	**42**	P	**P**	**22 08 18.9**	**+0.9**
RYN	**Ryan**	**75.71**	**41**	P	**P**	**22 08 18.8**	**+0.9**
NVAR	**Mina Array Bea** comp=Z,3.9nm,0.7s,baz=225,slow=9.3,SNR=32 comp=Z,3.9nm,0.7s	**75.73**	**41**	P	**P**	**22 08 19.6**	**+1.5**
NV11	**Mina Array Sit** comp=Z,11nm,1.2s	**75.82**	**41**	P	**P**	**22 08 19.5**	**+0.9**
NV11				IAmb	IAmb	22 08 20.8	
PAHR	**Pah Rah Range**	**75.85**	**39**	P	**P**	**22 08 19.7**	**+1.0**
MZP	**Montezuma Peak**	**75.87**	**42**	P	**P**	**22 08 19.5**	**+0.5**
TPH	**Tonopah**	**76.19**	**42**	P	**P**	**22 08 20.6**	**-0.1**
TPH	**Tonopah** comp=Z,70nm,1.4s	**76.19**	**42**	P	**P**	**22 08 20.6**	**-0.1**
TPH				pmax	pmax		
KVN	**Kaiserville**	**76.23**	**41**	P	**P**	**22 08 21.8**	**+0.9**
KVN	**Kaiserville** comp=Z,5.0nm,0.8s	**76.23**	**41**	P	**P**	**22 08 21.8**	**+0.9**
KVN				pmax	pmax		
SHPR	**Sheep Range**	**76.62**	**44**	P	**P**	**22 08 24.9**	**+1.7**
Y14A	**Wickenburg**	**76.66**	**47**	P	**P**	**22 08 24.4**	**+1.1**
K05A	**Summer Lake**	**76.88**	**36**	P	**P**	**22 08 24.6**	**+0.1**
K05A	comp=Z,11nm,0.9s			IAmb	IAmb	22 08 27.1	
J05D	**Fort Rock, OR**	**77.05**	**36**	P	**P**	**22 08 24.7**	**-0.7**
J05D	comp=Z,9.6nm,0.8s			IAmb	IAmb	22 08 27.8	
PRN	**Pahroc Range**	**77.20**	**43**	P	**P**	**22 08 25.8**	**-0.6**
PINE	**Pine Mountain**	**77.55**	**35**	P	**P**	**22 08 28.7**	**+0.5**
PINE	comp=Z,14nm,0.8s			IAmb	IAmb	22 08 30.6	
BMN	**Battle Mountai**	**77.60**	**40**	P	**P**	**22 08 28.0**	**-0.6**
BMN	**Battle Mountai**	**77.60**	**40**	P	**P**	**22 08 28.0**	**-0.6**
BMN	comp=Z,5.0nm,0.8s			pmax	pmax		
WVOR	**Wild Horse Val**	**77.99**	**38**	P	**P**	**22 08 30.7**	**+0.1**
WVOR	comp=Z,16nm,1.7s			IAmb	IAmb	22 08 53.2	
WVOR	**Wild Horse Val**	**77.99**	**38**	P	**P**	**22 08 30.7**	**+0.1**
WVOR	comp=Z,16nm,1.7s			pmax	pmax		
X16A	**Lo Mia Camp, P**	**78.01**	**48**	P	**P**	**22 08 31.7**	**+0.7**
X16A	comp=Z,7.9nm,0.9s			IAmb	IAmb	22 08 33.9	
LCMT	**Little Creek M**	**78.17**	**45**	P	**P**	**22 08 32.3**	**+0.5**
KSM	**Kuching**	**78.44**	**275**	P	**P**	**22 08 34.1**	**+0.5**
U15A	**North Rim**	**78.50**	**45**	P	**P**	**22 08 34.3**	**+0.5**
I07A	**Izee**	**78.53**	**36**	P	**P**	**22 08 34.6**	**+1.1**
P18K	**Big Mountain,**	**78.55**	**9**	P	**P**	**22 08 33.3**	**+0.1**
M13K	**Dall Lake**	**78.65**	**5**	P	**P**	**22 08 34.1**	**+0.5**
J08A	**Circle Bar Ran**	**78.65**	**37**	P	**P**	**22 08 34.8**	**+0.5**
J08A	comp=Z,13nm,1.2s			IAmb	IAmb	22 08 36.4	
DUN6	**Lazy B Ranch**	**78.74**	**50**	P	**P**	**22 08 35.2**	**+0.2**
KSRS	**Korea Array** comp=Z,4.3nm,0.8s,baz=127,slow=5.7,SNR=8.3	**78.83**	**316**	P	**P**	**22 08 36.2**	**+1.0**
KSRS	comp=Z,26nm,21.7s,baz=10.0,slow=32 comp=Z,4.3nm,0.8s			LR	LR	22 38 07.7	
ELK	**Elko**	**79.01**	**41**	P	**P**	**22 08 37.1**	**+0.7**
ELK	**Elko**	**79.01**	**41**	P	**P**	**22 08 37.1**	**+0.7**
ELK	comp=Z,4.0nm,1.0s			pmax	pmax		
PKCU	**Pink Cliffs**	**79.03**	**45**	P	**P**	**22 08 36.7**	**-0.1**
PKCU	comp=Z,22nm,1.3s			IAmb	IAmb	22 08 40.4	
M14K	**Bethel**	**79.09**	**5**	P	**P**	**22 08 35.0**	**-1.0**
X18A	**Snowflake**	**79.12**	**48**	P	**P**	**22 08 38.1**	**+1.0**
MTPU	**Mount Pierson**	**79.44**	**44**	P	**P**	**22 08 39.8**	**+0.7**
M16K	**Timber Creek**	**79.65**	**7**	P	**P**	**22 08 40.2**	**+1.0**
MVU	**Marysvale**	**79.67**	**44**	P	**P**	**22 08 40.2**	**0.0**
121A	**Cookes Peak, D**	**79.69**	**51**	P	**P**	**22 08 40.9**	**+0.6**
MSU	**Marysvale**	**79.70**	**44**	P	**P**	**22 08 40.9**	**+0.6**
MSU	**Marysvale**	**79.70**	**44**	P	**P**	**22 08 40.9**	**+0.6**
E07A	**Sunnyside**	**79.92**	**34**	P	**P**	**22 08 39.7**	**-1.3**
N19K	**Bonanza Creek**	**80.02**	**9**	P	**P**	**22 08 40.9**	**-0.4**
N19K	comp=Z,25nm,1.2s			IAmb	IAmb	22 08 52.6	
M17K	**Holitna River**	**80.19**	**7**	P	**P**	**22 08 42.0**	**-0.1**
M17K	comp=Z,19nm,0.9s			IAmb	IAmb	22 08 44.1	
DUG	**Dugway, Tooele**	**80.22**	**42**	P	**P**	**22 08 42.3**	**-0.6**
DUG	**Dugway, Tooele**	**80.22**	**42**	P	**P**	**22 08 42.3**	**-0.6**
DUG	comp=Z,5.0nm,1.1s			pmax	pmax		
L16K	**Owhat River**	**80.27**	**6**	P	**P**	**22 08 42.5**	**+0.1**
HMU	**Henry Mountain**	**80.35**	**45**	P	**P**	**22 08 44.5**	**+0.7**
K15K	**Wolf Creek Mou**	**80.65**	**5**	P	**P**	**22 08 45.4**	**+0.9**
D08A	**Wollman Farm,**	**80.73**	**34**	P	**P**	**22 08 45.2**	**-0.1**
D08A	comp=Z,11nm,1.0s			IAmb	IAmb	22 08 47.3	
TMUT	**Trail Mountain**	**80.76**	**44**	P	**P**	**22 08 46.2**	**+0.1**
VHRN	**Van Horn**	**80.97**	**54**	P	**P**	**22 08 46.3**	**-0.8**
F10A	**Beach Ranch, E**	**80.97**	**35**	P	**P**	**22 08 45.7**	**-1.1**
L18K	**Granite Mounta**	**81.08**	**7**	P	**P**	**22 08 46.8**	**-0.1**
L18K	comp=Z,8.8nm,0.9s			IAmb	IAmb	22 09 00.0	
P17A	**Butcher Ranch,**	**81.16**	**44**	P	**P**	**22 08 48.3**	**+0.3**
TX31	**Lajitas Ar. Si**	**81.33**	**55**	P	**P**	**22 08 49.2**	**+0.2**
TX31	comp=Z,18nm,1.7s			IAmb	IAmb	22 09 03.7	
TXAR	**Lajitas Array**	**81.33**	**55**	P	**P**	**22 08 48.9**	**-0.1**
TXAR	**Lajitas Array** comp=Z,2.6nm,0.9s,baz=218,slow=8.8,SNR=21 comp=Z,2.6nm,0.9s	**81.33**	**55**	P	**P**	**22 08 51.0**	**+1.9**
TCUT	**Toone Canyon**	**81.61**	**42**	P	**P**	**22 08 50.1**	**-0.4**
TCUT	comp=Z,12nm,0.8s			IAmb	IAmb	22 08 52.9	
J16K	**Anvik River**	**81.71**	**5**	P	**P**	**22 08 50.3**	**+0.1**
J16K	comp=Z,14nm,0.9s			IAmb	IAmb	22 08 52.5	
ANMO	**Albuquerque**	**81.82**	**49**	P	**P**	**22 08 51.5**	**-0.1**
ANMO	**Albuquerque**	**81.82**	**49**	P	**P**	**22 08 51.5**	**-0.1**
ANMO	comp=Z,3.0nm,0.8s			pmax	pmax		
TTA	**Tatalina**	**81.85**	**7**	P	**P**	**22 08 52.1**	**+1.1**
TTA	comp=Z,8.4nm,1.0s			IAmb	IAmb	22 08 52.8	
TTA	**Tatalina**	**81.85**	**7**	P	**P**	**22 08 52.1**	**+1.1**
TTA	comp=Z,8.0nm,1.0s			pmax	pmax		
J18K	**Innoko River**	**82.28**	**7**	P	**P**	**22 08 54.1**	**+0.9**
J18K	comp=Z,11nm,0.9s			IAmb	IAmb	22 08 55.0	
K20K	**Telida**	**82.51**	**8**	P	**P**	**22 08 55.0**	**+0.6**
K20K	comp=Z,16nm,1.2s			IAmb	IAmb	22 09 06.5	
CTGM	**Chitina Glacie**	**82.71**	**15**	P	**P**	**22 08 56.2**	**+0.6**
CTGM	comp=Z,17nm,1.0s			IAmb	IAmb	22 09 07.3	
BARN	**Barnard Glacie**	**82.72**	**14**	P	**P**	**22 08 56.2**	**+0.5**
BARN	comp=Z,22nm,1.2s			IAmb	IAmb	22 08 57.2	
SAND	**Sanderson**	**82.81**	**55**	P	**P**	**22 08 56.5**	**-0.3**
SAND	comp=Z,13nm,1.6s			IAmb	IAmb	22 08 59.3	
H03S2	**Juan Fernandez** baz=250,slow=75,SNR=6.7	**82.84**	**123**	T	T	23 39 55.4	
H03S1	**Juan Fernandez** baz=250,slow=75,SNR=6.6	**82.86**	**123**	T	T	23 39 57.0	
H03S3	**Juan Fernandez** baz

LKWY					IAmb	IAmb	22 09 06.8		
	comp=Z,9.8nm,1.0s								
LKWY	**Lake**	**84.10**	**39**	P	**P**	**P**	**22 09 02.9**	**-0.4**	
LKWY					pmax	pmax			
	comp=Z,10.0nm,1.0s								
YMP	**Mirror Lake Pl**	**84.34**	**39**	P	**P**		**22 09 03.2**	**-1.4**	
NEA2	**Nenana**	**84.43**	**10**	P	**P**		**22 09 03.9**	**-0.3**	
NEA2					IAmb	IAmb	22 09 15.9		
	comp=Z,7.2nm,1.0s								
G18K	**Tagagawik**	**84.45**	**6**	P	**P**		**22 09 04.7**	**+0.4**	
G18K					IAmb	IAmb	22 09 05.7		
	comp=Z,6.5nm,0.9s								
MLY	**Manley**	**84.58**	**9**	P	**P**		**22 09 04.1**	**-0.9**	
MLY					IAmb	IAmb	22 09 15.9		
	comp=Z,7.1nm,1.0s								
HDA	**Harding Lake**	**84.62**	**11**	P	**P**		**22 09 04.6**	**-0.5**	
HDA					IAmb	IAmb	22 09 16.5		
	comp=Z,9.8nm,0.9s								
Q24A	**Divide**	**84.66**	**46**	P	**P**		**22 09 06.0**	**-0.4**	
M29M	**Somme Creek**	**84.69**	**15**	P	**P**		**22 09 04.6**	**-1.1**	
M29M					IAmb	IAmb	22 09 17.5		
	comp=Z,7.2nm,0.9s								
CCB	**Clear Creek Bu**	**84.69**	**10**	P	**P**		**22 09 05.0**	**-0.5**	
CCB					IAmb	IAmb	22 09 16.6		
	comp=Z,10nm,0.9s								
SCRK	**Sand Creek**	**84.79**	**12**	P	**P**		**22 09 05.9**	**-0.3**	
SCRK					IAmb	IAmb	22 09 18.3		
	comp=Z,7.0nm,1.0s								
G19K	**Purcell Mounta**	**84.84**	**6**	P	**P**		**22 09 06.1**	**-0.1**	
G19K					IAmb	IAmb	22 09 08.0		
	comp=Z,7.1nm,0.9s								
HNDO	**Hondo**	**84.88**	**57**	P	**P**		**22 09 08.0**	**+0.7**	
H21K	**Melozitna Rive**	**84.88**	**8**	P	**P**		**22 09 06.4**	**0.0**	
H21K					IAmb	IAmb	22 09 08.2		
	comp=Z,13nm,1.2s								
COLA	**College**	**84.89**	**10**	P	**P**		**22 09 06.4**	**-0.1**	
COLA	**College**	**84.89**	**10**	P	**P**		**22 09 06.4**	**-0.1**	
COLA					pmax	pmax			
	comp=Z,19nm,0.8s								
I23K	**Minto, Yukon-K**	**84.90**	**10**	P	**P**		**22 09 06.4**	**-0.1**	
I23K					IAmb	IAmb	22 09 07.5		
	comp=Z,9.5nm,1.1s								
MDM	**Murphy Dome**	**84.91**	**10**	P	**P**		**22 09 06.5**	**-0.2**	
MDM					IAmb	IAmb	22 09 18.4		
	comp=Z,14nm,1.1s								
IL31		**84.96**	**11**	P	**P**		**22 09 06.5**	**-0.3**	
IL31					IAmb	IAmb	22 09 19.4		
	comp=Z,6.7nm,0.9s								
ILAR	**Eielson Array**	**84.96**	**11**	P	**P**		**22 09 06.2**	**-0.7**	
ILAR	**Eielson Array**	**84.96**	**11**	P	**P**		**22 09 06.7**	**-0.2**	
	comp=Z,2.1nm,0.7s,baz=228,slow=5.8,SNR=34								
	comp=Z,2.1nm,0.7s								
SN01	**Snyder 1**	**85.01**	**53**	P	**P**		**22 09 07.0**	**-0.9**	
SN01					IAmb	IAmb	22 09 10.5		
	comp=Z,6.6nm,0.8s								
IMAR	**Indian Mountai**	**85.07**	**8**	P	**P**		**22 09 06.9**	**-0.5**	
N32M	**Quiet Lake**	**85.07**	**18**	P	**P**		**22 09 07.7**	**+0.1**	
N32M					IAmb	IAmb	22 09 09.7		
	comp=Z,13nm,0.9s								
J25K	**Salcha River,**	**85.09**	**11**	P	**P**		**22 09 07.6**	**-0.1**	
J25K					IAmb	IAmb	22 09 09.0		
	comp=Z,21nm,1.6s								
M30M	**Minto, Yukon**	**85.22**	**16**	P	**P**		**22 09 08.2**	**0.0**	
M30M					IAmb	IAmb	22 09 09.8		
	comp=Z,9.4nm,1.1s								
K27K	**Chicken**	**85.23**	**13**	P	**P**		**22 09 08.2**	**0.0**	
K27K					IAmb	IAmb	22 09 10.5		
	comp=Z,14nm,1.4s								
AMTX	**Amarillo**	**85.28**	**51**	P	**P**		**22 09 08.6**	**-0.7**	
AMTX					IAmb	IAmb	22 09 11.6		
	comp=Z,13nm,0.9s								
L29M	**L29M**	**85.33**	**15**	P	**P**		**22 09 08.1**	**-0.7**	
J26L	**Joseph Creek**	**85.34**	**12**	P	**P**		**22 09 08.9**	**0.0**	
J26L					IAmb	IAmb	22 09 21.8		
	comp=Z,11nm,0.9s								
F19K	**Shaleruckik Mo**	**85.45**	**6**	P	**P**		**22 09 09.2**	**-0.1**	
F19K					IAmb	IAmb	22 09 21.0		
	comp=Z,8.1nm,0.9s								
M31M	**Drury Creek, Y**	**85.55**	**17**	P	**P**		**22 09 09.8**	**-0.1**	
M31M					IAmb	IAmb	22 09 10.6		
	comp=Z,6.6nm,0.8s								
G21K	**Allakaket**	**85.61**	**7**	P	**P**		**22 09 10.1**	**0.0**	
E18K	**Tukpahlearik C**	**85.79**	**5**	P	**P**		**22 09 11.1**	**+0.2**	
E18K					IAmb	IAmb	22 09 14.1		
	comp=Z,7.2nm,0.8s								
APMT	**Aspermont**	**85.79**	**53**	P	**P**		**22 09 11.4**	**-0.4**	
BRDY	**Brady**	**85.81**	**55**	P	**P**		**22 09 11.0**	**-0.9**	
BRDY					IAmb	IAmb	22 09 14.3		
	comp=Z,9.5nm,1.2s								
DAWY	**Dawson**	**85.85**	**14**	P	**P**		**22 09 11.2**	**-0.2**	
DAWY					IAmb	IAmb	22 09 13.3		
	comp=Z,18nm,1.0s								
ABTX	**Abilene, Hawle**	**85.86**	**54**	P	**P**		**22 09 11.9**	**-0.2**	
ABTX					IAmb	IAmb	22 09 15.4		
	comp=Z,18nm,1.0s								
PRP	**Porcupine Dome**	**85.89**	**11**	P	**P**		**22 09 12.0**	**+0.4**	
EGAK	**Eagle**	**86.08**	**13**	P	**P**		**22 09 12.9**	**+0.5**	
EGAK					IAmb	IAmb	22 09 14.2		
	comp=Z,13nm,1.1s								
K29M	**Barlow Dome**	**86.10**	**15**	P	**P**		**22 09 13.2**	**+0.5**	
K29M					IAmb	IAmb	22 09 14.8		
	comp=Z,13nm,1.0s								
E19K	**Redstone River**	**86.11**	**6**	P	**P**		**22 09 13.1**	**+0.6**	
I26K	**Coal Creek Min**	**86.14**	**12**	P	**P**		**22 09 13.2**	**+0.5**	
G23K	**Bananza Creek**	**86.26**	**9**	P	**P**		**22 09 13.9**	**+0.5**	
G23K					IAmb	IAmb	22 09 25.7		
	comp=Z,6.6nm,0.9s								
F21K	**Alatna River**	**86.29**	**7**	P	**P**		**22 09 13.9**	**+0.4**	
F21K					IAmb	IAmb	22 09 15.1		
	comp=Z,16nm,1.6s								
J29N	**Klondike Camp**	**86.45**	**14**	P	**P**		**22 09 15.1**	**+0.7**	
J29N					IAmb	IAmb	22 09 16.8		
	comp=Z,13nm,0.8s								
PLCA	**Paso Flores**	**86.92**	**132**	P	**P**		**22 09 18.9**	**+1.5**	
	comp=Z,2.3nm,0.9s,baz=232,slow=10,SNR=5.3								
	comp=Z,2.3nm,0.9s								
I28M	**Miner Creek**	**86.92**	**13**	P	**P**		**22 09 17.1**	**+0.4**	
I28M					IAmb	IAmb	22 09 18.2		
	comp=Z,11nm,1.2s								
PLPT	**Palo Pinto**	**86.96**	**54**	P	**P**		**22 09 17.7**	**+0.1**	
J30M	**Hart River**	**87.00**	**15**	P	**P**		**22 09 17.8**	**+0.6**	
J30M					IAmb	IAmb	22 09 18.9		
	comp=Z,6.7nm,0.9s								
WTFS	**Witchita Falls**	**87.23**	**53**	P	**P**		**22 09 16.2**	**-2.6**	
FW03	**Perrin-Whitt E**	**87.24**	**54**	P	**P**		**22 09 17.8**	**-1.2**	
EDM	**Edmonton**	**87.32**	**31**	P	**P**		**22 09 18.5**	**-0.3**	
EDM	**Edmonton**	**87.32**	**31**	P	**P**		**22 09 18.5**	**-0.3**	
EDM					pmax	pmax			
	comp=Z,32nm,1.3s								
C19K	**Lookout Ridge**	**87.52**	**5**	P	**P**		**22 09 19.2**	**-0.3**	
C19K					IAmb	IAmb	22 09 22.1		
	comp=Z,7.4nm,1.2s								
I30M	**Mount Dempster**	**87.53**	**14**	P	**P**		**22 09 17.7**	**-2.0**	
I30M					IAmb	IAmb	22 09 21.4		
	comp=Z,14nm,1.1s								
RSSD	**Black Hills**	**87.83**	**42**	P	**P**		**22 09 20.4**	**-1.3**	
RSSD					IAmb	IAmb	22 09 22.6		
	comp=Z,5.2nm,1.0s								
RSSD	**Black Hills**	**87.83**	**42**	P	**P**		**22 09 20.4**	**-1.3**	
RSSD					pmax	pmax			
	comp=Z,5.0nm,1.0s								
D22K	**Ayikyak River**	**87.96**	**7**	P	**P**		**22 09 21.8**	**+0.2**	
Z35A	**Perchaven, San**	**87.98**	**54**	P	**P**		**22 09 21.9**	**-0.6**	
X34A	**Smith Ranch, M**	**88.04**	**53**	P	**P**		**22 09 22.7**	**-0.1**	
X34A					IAmb	IAmb	22 09 25.9		
	comp=Z,12nm,1.0s								
BJT	**Baijiatuau**	**88.09**	**313**	P	**P**		**22 09 21.8**	**-1.0**	
BJT	**Baijiatuau**	**88.09**	**313**	P	**P**		**22 09 21.8**	**-1.0**	
BJT					pmax	pmax			
	comp=Z,17nm,1.4s								
HNVL	**Huntsville, TX**	**88.40**	**57**	P	**P**		**22 09 23.8**	**-0.6**	
EPYK	**Eagle Plains**	**88.41**	**14**	P	**P**		**22 09 23.5**	**-0.2**	
B20K	**Meade River**	**88.60**	**5**	P	**P**		**22 09 24.5**	**+0.1**	
G30M	**tAoh Zraii Nji**	**89.03**	**13**	P	**P**		**22 09 26.7**	**+0.1**	
G31M	**Satah River**	**89.42**	**14**	P	**P**		**22 09 27.9**	**-0.5**	
G31M					IAmb	IAmb	22 09 29.4		
	comp=Z,11nm,0.9s								
RPSI	**Rantau Prapat**	**89.62**	**273**	P	**P**		**22 09 29.8**	**-0.8**	
RPSI					IAmb	IAmb	22 09 32.6		
	comp=Z,7.5nm,1.0s								
PSI	**Prapat**	**89.65**	**273**	P	**P**		**22 09 29.8**	**-1.1**	
PSI					pmax	pmax			
	comp=Z,7.0nm,1.0s								
F31M	**Tsiigehtchic**	**89.96**	**14**	P	**P**		**22 09 31.4**	**+0.5**	
D27M	**Malcolm River**	**90.02**	**11**	P	**P**		**22 09 31.6**	**+0.3**	
D27M					IAmb	IAmb	22 11 15.4		
	comp=Z,22nm,2.0s								
SNAA	**Sanae**	**90.10**	**177**	P	**P**		**22 09 32.7**	**+0.9**	
	comp=Z,5.1nm,0.9s,baz=317,slow=4.7,SNR=5.4								
	comp=Z,5.1nm,0.9s								
GSI	**Gunungsitoli**	**90.47**	**271**	P	**P**		**22 09 33.8**	**-0.8**	
JTS	**Las Juntas de**	**90.72**	**79**	P	**P**		**22 09 35.8**	**+0.1**	
JTS	**Las Juntas de**	**90.72**	**79**	P	**P**		**22 09 35.8**	**+0.1**	
JTS					pmax	pmax			
	comp=Z,15nm,0.8s								
YKA	**Yellowknife Ar**	**92.23**	**23**	P	**P**		**22 09 42.1**	**+0.5**	
	comp=Z,1.5nm,0.9s,baz=235,slow=4.7,SNR=16								
	comp=Z,1.5nm,0.9s								
MGMO	**Mountain Grove**	**93.19**	**52**	P	**P**		**22 09 46.5**	**-0.2**	
R40A	**Maddies Statio**	**93.58**	**51**	P	**P**		**22 09 46.7**	**-1.7**	
R40A					IAmb	IAmb	22 09 50.3		
	comp=Z,11nm,1.0s								
CMAR	**Chiang Mai Arr**	**94.43**	**288**	P	**P**		**22 09 53.6**	**+0.8**	
	comp=Z,0.8nm,0.4s,baz=124,slow=3.4,SNR=7.8								
	comp=Z,0.8nm,0.4s								
A36M	**Sachs Harbour**	**95.35**	**13**	P	**P**		**22 09 55.7**	**0.0**	
A36M					IAmb	IAmb	22 09 57.0		
	comp=Z,2.9nm,0.7s								
SONM	**Songino Array**	**97.57**	**318**	P	Pdif		22 10 06.9	+0.3	
	comp=Z,0.3nm,0.6s,baz=122,slow=7.1,SNR=2.6								
	comp=Z,0.3nm,0.6s								
MKAR	**Makanchi Array**	**113.47**	**314**	*i* PKIKP		**PKiKP**	**22 15 10.0**	**-0.3**	
MKAR	**Makanchi Array**	**113.47**	**314**	PKiKP		**PKiKP**	**22 15 09.9**	**-0.3**	
	comp=Z,0.7nm,0.7s,baz=75,slow=1.6,SNR=8.2								
KURK	**Kurchatov**	**115.87**	**318**	PKIKP		**PKPdf**	**22 15 14.7**	**+0.1**	
KURBB	**Kurchatov Arra**	**115.93**	**318**	PKP		**PKPdf**	**22 15 14.7**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=112,slow=1.8,SNR=4.6								
SPITS	**Spitsbergen Ar**	**119.81**	**358**	PKP		**PKiKP**	**22 15 22.3**	**+0.6**	
	comp=Z,4.9nm,0.9s,baz=270,slow=8.6,SNR=2.4								
BVAR	**Borovoye Array**	**120.67**	**321**	PKP		**PKiKP**	**22 15 24.0**	**0.0**	
	comp=Z,2.0nm,0.8s,baz=132,slow=1.7,SNR=8.4								
ARCES	**ARCESS Array B**	**127.48**	**352**	PKP		**PKPdf**	**22 15 36.3**	**-0.1**	
	comp=Z,4.6nm,0.8s,baz=29,slow=2.8,SNR=7.9								
BOSA	**Boshof**	**130.47**	**200**	PKP		**PKiKP**	**22 15 44.6**	**+0.1**	
	comp=Z,2.3nm,0.9s,baz=173,slow=12,SNR=3.1								
FINES	**FINESS Array B**	**134.85**	**348**	PKP		**PKPdf**	**22 15 51.1**	**+0.5**	
	comp=Z,4.4nm,0.9s,baz=26,slow=3.5,SNR=9.5								
AKASG	**Malin Array Be**	**143.27**	**337**	PKhKP		PKPpre	22 16 02.0		
	comp=Z,1.0nm,0.6s,baz=38,slow=4.1,SNR=8.7								
AKASG					PKP		**PKPdf**		**22 16 07.6**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=31,slow=2.4,SNR=5.0								
KMBO	**Kilima Mbogo**	**145.13**	**240**	PKPbc		**PKPbc**	**22 16 09.2**	**-1.3**	
	comp=Z,10nm,0.9s,baz=79,slow=4.4,SNR=36								
SORM	**Soroca**	**145.68**	**335**	⇓P		**PKPab**	**22 16 11.0**	**-0.1**	
LVV	**L'vov**	**145.79**	**341**	*e*PKiKP		**PKPab**	**22 16 11.7**	**+0.1**	
PURM	**Purcari**	**146.30**	**332**	⇑P		**PKiKP**	**22 16 16.3**	**+0.5**	
CLL	**Collm**	**146.67**	**354**	⇑*i*PKP2		**PKPbc**	**22 16 14.2**	**+0.5**	
CLL					pmax	pmax			
	comp=Z,43nm,1.1s								
CLL					MLR	MLR			
	comp=Z,600nm,19.3s								
CLL	**Collm**	**146.67**	**354**	⇑*i*PKPbc		**PKPbc**	**22 16 14.2**	**+0.5**	
	comp=Z,43nm,1.1s								
CLL				*i* x		x	22 16 25.4		
STHS	**Stebnicka Huta**	**146.96**	**344**	*e*PKP2		**PKiKP**	**22 16 17.0**	**-0.2**	
BRG	**Berggiesshubel**	**146.99**	**353**	*e*P		**PKPab**	**22 16 15.7**	**-0.4**	
BRG					Amp		22 16 17.8		
	comp=Z,8.7nm,0.9s								
BRG	**Berggiesshubel**	**146.99**	**353**	P		PKiKP	22 16 26.7	+9.5	
BRG					Amp		22 16 28.2		
	comp=Z,12nm,1.2s								
BRG	**Berggiesshubel**	**146.99**	**353**	*e*PKP2		**PKPab**	**22 16 15.6**	**-0.5**	
BRG					pmax	pmax			
	comp=Z,9.0nm,0.9s								
BRG					pmax	pmax			
	comp=Z,12nm,1.2s								
UPC	**Upice**	**147.06**	**350**	*e*PKP		**PKPab**	**22 16 15.7**	**-0.7**	
UPC	**Upice**	**147.06**	**350**	*e*PKP2		**PKPab**	**22 16 15.7**	**-0.7**	
KOLS	**Kolonicke sedl**	**147.11**	**342**	*e*PKP2		**PKPab**	**22 16 16.5**	**-0.2**	
DPC	**Dobruska-Polom**	**147.16**	**350**	*e*PKP		**PKPab**	**22 16 16.5**	**-0.3**	
DPC	**Dobruska-Polom**	**147.16**	**350**	*e*PKP2		**PKPab**	**22 16 16.5**	**-0.3**	
PVCC	**Panska Ves**	**147.25**	**352**	*e*PKP		**PKPab**	**22 16 16.6**	**-0.5**	
PVCC	**Panska Ves**	**147.25**	**352**	*e*PKP2		**PKPab**	**22 16 16.6**	**-0.5**	
BURAR	**Bucovina Array**	**147.30**	**338**	⇓P		**PKiKP**	**22 16 18.0**	**-0.1**	
BURAR	**Bucovina Array**	**147.30**	**338**	⇓PKP2		**PKiKP**	**22 16 18.0**	**-0.1**	
HSKC	**Hora Svate Kat**	**147.31**	**353**	*e*PKP		**PKPab**	**22 16 16.7**	**-0.7**	
KRLC	**Kraliky**	**147.34**	**349**	*e*PKP		**PKPab**	**22 16 17.4**	**-0.2**	
KRLC	**Kraliky**	**147.34**	**349**	*e*PKP2		**PKPab**	**22 16 17.4**	**-0.2**	
CRVS	**Cervenica-Dubn**	**147.37**	**343**	*e*PKP2		**PKiKP**	**22 16 19.2**	**+1.1**	
MORC	**Morasky Berou**	**147.48**	**348**	*e*PKP		**PKPbc**	**22 16 16.8**	**+0.7**	
LANS	**Liptovska Anna**	**147.65**	**345**	*e*PKP2		**PKiKP**	**22 16 18.6**	**-0.1**	
TESR	**Tescani**	**147.68**	**335**	⇓P		**PKiKP**	**22 16 18.8**	**0.0**	
GHRR		**147.73**	**334**	⇓P		**PKiKP**	**22 16 18.8**	**-0.1**	
PRU	**Pruhonice**	**147.78**	**352**	*e*PKP		**PKPbc**	**22 16 17.5**	**+0.6**	
PRU	**Pruhonice**	**147.78**	**352**	*e*PKP2		**PKPbc**	**22 16 17.5**	**+0.6**	
NKC	**Novy Kostel**	**147.78**	**354**	*e*PKP		**PKPbc**	**22 16 17.4**	**+0.5**	
NKC	**Novy Kostel**	**147.78**	**354**	*e*PKP2		**PKPbc**	**22 16 17.4**	**+0.5**	
SCTR	**Scanteiesti**	**147.78**	**333**	⇑P		**PKiKP**	**22 16 19.0**	**0.0**	
MAUC	**Maruska**	**147.82**	**347**	*e*PKP		**PKPbc**	**22 16 17.9**	**+0.8**	
GOPC	**GO Pecny, Ondr**	**147.82**	**351**	*e*PKP		**PKPbc**	**22 16 17.8**	**+0.8**	
GOPC	**GO Pecny, Ondr**	**147.82**	**351**	*e*PKP2		**PKPbc**	**22 16 17.8**	**+0.8**	
PANC	**Panciu**	**147.99**	**334**	⇓P		**PKiKP**	**22 16 19.1**	**-0.3**	
SCHLR	**Schela**	**148.02**	**333**	⇑P		**PKPab**	**22 16 20.1**	**-0.2**	
VRAC	**Vranov**	**148.11**	**349**	*e*PKP		**PKiKP**	**22 16 19.1**	**-0.5**	
VRI	**Vrincioaia**	**148.17**	**334**	⇑P		**PKPbc**	**22 16 18.0**	**-0.1**	
VRI	**Vrincioaia**	**148.17**	**334**	⇑PKiKP		**PKPbc**	**22 16 18.0**	**-0.1**	
TPGR	**Topolog**	**148.23**	**331**	⇑P		**PKiKP**	**22 16 19.9**	**-0.1**	
TURR	**Turia**	**148.30**	**335**	⇑P		**PKiKP**	**22 16 20.5**	**+0.4**	
JAVC	**Velka Javorina**	**148.33**	**347**	*e*PKP		**PKiKP**	**22 16 20.2**	**+0.1**	
OZUR		**148.36**	**336**	⇓P		**PKiKP**	**22 16 20.2**	**-0.1**	
ZVC	**Zvikov**	**148.37**	**352**	*e*PKP		**PKiKP**	**22 16 19.6**	**-0.5**	
KRUC	**Moravsky**	**148.38**	**349**	*e*PKP		**PKPbc**	**22 16 19.2**	**+0.7**	
VYHS	**Vyhne**	**148.42**	**346**	*e*PKP2		**PKiKP**	**22 16 19.7**	**-0.6**	
HARR	**Harsova**	**148.58**	**332**	⇑P		**PKiKP**	**22 16 20.7**	**0.0**	
HARR	**Harsova**	**148.58**	**332**	⇑PKP2		**PKiKP**	**22 16 20.7**	**0.0**	
DOPR	**Dopca**	**148.62**	**336**	⇓P		**PKiKP**	**22 16 21.0**	**+0.2**	
CJR	**Cluj-Napoca**	**148.65**	**339**	⇑P		**PKiKP**	**22 16 20.3**	**-0.6**	
CJR	**Cluj-Napoca**	**148.65**	**339**	⇑PKP2		**PKiKP**	**22 16 20.3**	**-0.5**	
PSZ	**Piszkesteto**	**148.69**	**344**	⇓P		**PKiKP**	**22 16 21.9**	**+1.0**	
PSZ	**Piszkesteto**	**148.69**	**344**	⇓PKP2		**PKiKP**	**22 16 21.9**	**+1.0**	
KHC	**Kasperske Hory**	**148.75**	**352**	*e*PKP		**PKPbc**	**22 16 20.1**	**+0.6**	
KHC					ex		x 22 16 23.5		
KHC	**Kasperske Hory**	**148.75**	**352**	*e*PKP2		**PKPbc**	**22 16 20.1**	**+0.6**	
MARR	**Marisel-Cluj**	**148.84**	**339**	⇑P		**PKiKP**	**22 16 20.6**	**-0.7**	
MODS	**Modra-Piesok**	**148.87**	**348**	*e*PKP2		**PKiKP**	**22 16 21.3**	**+0.1**	
DRGR		**148.88**	**340**	⇑P		**PKiKP**	**22 16 20.8**	**-0.6**	
DRGR		**148.88**	**340**	⇑PKP2		**PKiKP**	**22 16 20.8**	**-0.5**	
BRTR	**Keskin Array B**	**148.92**	**319**	PKPbc		**PKPbc**	**22 16 20.2**	**-0.2**	
	comp=Z,7.6nm,0.9s,baz=119,slow=1.5,SNR=23								
CKRC	**Cesky Krumlov**	**148.96**	**351**	*e*PKP		**PKPbc**	**22 16 20.6**	**+0.6**	
CKRC	**Cesky Krumlov**	**148.96**	**351**	*e*PKP2		**PKPbc**	**22 16 20.6**	**+0.6**	
GERES	**GERESS Array B**	**149.01**	**352**	PKPbc		**PKiKP**	**22 16 21.1**	**-0.5**	
	comp=Z,4.1nm,0.7s,baz=20,slow=4.3,SNR=14								
VOIR		**149.19**	**336**	⇓P		**PKiKP**	**22 16 22.3**	**+0.3**	
VOIR		**149.19**	**336**	⇓PKP2		**PKiKP**	**22 16 22.3**	**+0.3**	
CONA	**Conrad Observa**	**149.57**	**349**	*e*PKP		**PKiKP**	**22 16 22.8**	**+0.1**	
	comp=Z,15nm,1.0s,SNR=7.4								
SIRR	**Siria**	**149.68**	**341**	⇓P		**PKiKP**	**22 16 23.2**	**+0.3**	
RONA	**Rosalia, Austr**	**149.71**	**348**	*e*PKP		**PKiKP**	**22 16 23.1**	**+0.1**	
	comp=Z,14nm,1.0s,SNR=5.1								
SGRR	**Singureni**	**149.81**	**333**	⇑P		**PKPbc**	**22 16 21.2**	**-1.0**	
MOA	**Molln**	**149.91**	**351**	*e*PKP		**PKiKP**	**22 16 23.1**	**-0.3**	
	comp=Z,6.3nm,0.9s								
SURR	**Surduc**	**149.98**	**340**	⇑P		**PKiKP**	**22 16 23.2**	**-0.4**	
GZR	**Gura Zlata**	**150.07**	**338**	⇓P		**PKiKP**	**22 16 23.6**	**-0.3**	
GZR	**Gura Zlata**	**150.07**	**338**	⇓PKIKP		**PKiKP**	**22 16 23.6**	**-0.2**	
BIOA	**Bad Ischl, Aus**	**150.15**	**352**	*e*PKP		**PKiKP**	**22 16 23.7**	**-0.2**	
	comp=Z,10nm,1.2s								
ARSA	**Arzberg**	**150.29**	**349**	*e*PKP		**PKPbc**	**22 16 23.7**	**+0.4**	
	comp=Z,7.9nm,1.1s								
LESA	**Schwarzleotal**	**150.54**	**353**	*i* PKP		**PKPbc**	**22 16 24.2**	**+0.2**	
	comp=Z,5.5nm,1.1s								
MORH	**Mrgy, Hungar**	**150.59**	**344**	⇑P		**PKiKP**	**22 16 24.6**	**-0.1**	
HERR	**Herculane**	**150.65**	**338**	⇑P		**PKPbc**	**22 16 22.3**	**-1.9**	
RETA	**Reutte**	**150.65**	**356**	*i* PKP		**PKiKP**	**22 16 24.9**	**-0.1**	
	comp=Z,7.2nm,1.0s								
WATA	**Walderalm**	**150.74**	**355**	*e*PKP		**PKiKP**	**22 16 25.0**	**-0.3**	
	comp=Z,9.3nm,0.9s,SNR=7.2								
MOTA	**Moosalm**	**150.77**	**355**	*i* PKP		**PKiKP**	**22 16 25.0**	**-0.3**	
	comp=Z,15nm,1.0s,SNR=7.3								
KBA	**Koelnbreinsper**	**150.79**	**352**	*i* PKP		**PKPbc**	**22 16 24.7**	**-0.1**	
	comp=Z,4.3nm,0.7s								
WTTA	**Wattenberg**	**150.80**	**354**	*e*PKP		**PKiKP**	**22 16 25.4**	**0.0**	
	comp=Z,18nm,0.8s,SNR=9.3								
SQTA	**Sankt Quirin**	**150.88**	**355**	*e*PKP		**PKiKP**	**22 16 25.5**	**0.0**	
	comp=Z,9.8nm,0.8s,SNR=5.5								
DAVA	**Damuels**	**150.91**	**357**	*i* PKP		**PKiKP**	**22 16 25.7**	**+0.1**	
	comp=Z,15nm,1.0s,SNR=5.2								
SOKA	**Soboth**	**150.93**	**350**	*e*PKP		**PKPbc**	**22 16 25.0**	**0.0**	
	comp=Z,8.5nm,0.9s,SNR=5.7								
MMAI	**Mount Meron Ar**	**151.05**	**306**	PKPbc		**PKiKP**	**22 16 27.5**	**+1.2**	
	comp=Z,11nm,0.8s,baz=72,slow=3.7,SNR=22								
MMAI				PKPab		**PKPab**	**22 16 35.0**	**+1.8**	
	comp=Z,5.8nm,0.8s,baz=56,slow=8.1,SNR=7.3								
PLVB	**Pleven**	**151.06**	**334**	⇑P		**PKiKP**	**22 16 25.7**	**-0.1**	
FETA	**Feichten**	**151.12**	**356**	*i* PKP		**PKiKP**	**22 16 26.2**	**+0.1**	
	comp=Z,11nm,0.9s,SNR=6.4								
OBKA	**Obir**	**151.17**	**350**	*i* PKP		**PKPbc**	**22 16 25.5**	**0.0**	
	comp=Z,4.8nm,0.8s								
ABTA	**Abfaltersbach**	**151.22**	**353**	*i* PKP		**PKPbc**	**22 16 25.8**	**+0.1**	
	comp=Z,17nm,0.7s,SNR=11								
LJU	**Ljubljana**	**151.63**	**350**	*i* PKPbc		**PKiKP**	**22 16 27.1**	**+0.2**	
CRNS	**Crni Vrh**	**151.64**	**350**	*i* PKPbc		**PKPbc**	**22 16 26.7**	**+0.1**	
CRES	**Cresnjev**	**151.67**	**348**	*i* PKPbc		**PKiKP**	**22 16 27.1**	**0.0**	
ESDC	**Sonseca Array**	**156.33**	**23**	PKPab		**PKPab**	**22 16 55.7**	**+0.4**	
	comp=Z,0.9nm,1.0s,baz=320,slow=3.4,SNR=4.1								
TORD	**Torodi Ar. Bea**	**172.39**	**130**	PKP		**PKPdf**	**22 16 41.5**	**-0.5**	
	comp=Z,1.7nm,0.9s,baz=259,slow=1.5,SNR=9.0								
TORD				PKPab		**PKPab**	**22 18 08.4**	**

ANPB	Aniakchak Plen	4.81	282			Pn	22 13 42.8	-0.6
CHGN	Chignik	4.87	276	Pn		Pn	22 13 43.4	-0.6
CHGN						Sn	22 14 39.1	-0.9
CHGN				IAML			22 14 42.3	
	comp=E,88nm,0.7s							
CHGN				IAML			22 15 21.5	
	comp=N,76nm,2.3s							
EYAK	Cordova Ski Ar	4.93	23			Pn	22 13 44.8	-0.1
EYAK	Cordova Ski Ar	4.93	23	P		Pn	22 13 44.8	-0.1
RC01	Rabbit Creek A	5.01	360			Pn	22 13 45.5	-0.5
RC01	Rabbit Creek A	5.01	360	IAML			22 14 43.4	
	comp=E,68nm,0.6s							
RC01				IAML			22 14 44.6	
	comp=N,74nm,0.5s							
RC01	Rabbit Creek A	5.01	360	P		Pn	22 13 45.5	-0.5
	baz=179							
GOAT	Goat Mountain	5.20	28			Pn	22 13 48.4	-0.4
N20K	Mount Spurr	5.28	347	P		Pn	22 13 49.2	-0.6
	baz=164							
SPCR	Spurr Chakacha	5.28	347			Pn	22 13 49.2	-0.6
P16K	Nushagak River	5.34	307			Pn	22 13 51.2	+0.7
P16K	Nushagak River	5.34	307	P		Pn	22 13 51.2	+0.7
	baz=121							
BERG	Berg Lake	5.35	34			Pn	22 13 50.4	-0.3
BERG	Berg Lake	5.35	34	IAML			22 15 01.6	
	comp=N,96nm,0.8s							
N19K	Bonanza Creek	5.35	334			Pn	22 13 50.0	-0.8
N19K	Bonanza Creek	5.35	334	P		Pn	22 13 50.0	-0.8
	baz=150							
KNK	Knik Glacier	5.37	6			Pg	22 14 14.4	+0.2
KNK				IAML			22 14 57.1	
	comp=E,46nm,0.8s							
KNK				IAML			22 14 58.1	
	comp=N,39nm,0.5s							
KNK	Knik Glacier	5.37	6			Pn	22 13 50.5	-0.5
KNK	Knik Glacier	5.37	6	P		Pn	22 13 50.5	-0.5
	baz=187							
O17K	Koliganek Bris	5.39	316			Pn	22 13 50.8	-0.4
O17K	Koliganek Bris	5.39	316	P		Pn	22 13 50.8	-0.4
	baz=131							
SUA	Susitna One	5.41	355			Pn	22 13 51.4	-0.2
SUA	Susitna One	5.41	355	P		Pn	22 13 51.4	-0.2
	baz=179							
SNH	Sunshine Point	5.47	39			Pn	22 13 52.3	-0.1
PMR	Palmer	5.52	3			Pn	22 13 52.4	-0.6
PMR	Palmer	5.52	3	P		Pn	22 13 52.4	-0.6
	baz=183							
STLK	Strandline Lak	5.53	349			Pn	22 13 52.5	-0.8
N18K	Kilae Creek	5.63	327			Pn	22 13 53.9	-0.6
N18K	Kilae Creek	5.63	327	P		Pn	22 13 53.9	-0.6
	baz=142							
O16K	Kokwok River B	5.68	312			Pn	22 13 55.4	+0.2
O16K	Kokwok River B	5.68	312	P		Pn	22 13 55.4	+0.2
	baz=125							
KLU	Klutina	5.76	18	Pn		Pn	22 13 56.6	+0.2
KLU	Klutina	5.76	18	P		Pn	22 13 56.5	+0.2
	baz=200							
SML	Sawmill	5.77	7			Pn	22 13 56.7	+0.2
SML	Sawmill	5.77	7	P		Pn	22 13 56.7	+0.2
	baz=187							
M23K	Glacier View	5.80	9			Pn	22 13 57.5	+0.5
M23K	Glacier View	5.80	9	P		Pn	22 13 57.5	+0.5
	baz=190							
SCM	Sheep Creek Mo	5.88	11			Sn	22 15 05.2	0.0
SCM	Sheep Creek Mo	5.88	11			Pn	22 13 58.2	+0.1
SCM	Sheep Creek Mo	5.88	11	P		Pn	22 13 58.2	+0.1
	baz=192							
N17K	Nushagak Hills	5.94	322			Pn	22 13 58.6	-0.2
N17K	Nushagak Hills	5.94	322	P		Pn	22 13 58.6	-0.2
	baz=136							
SKT	Skwentna	5.97	352			Sn	22 15 07.4	0.0
VRDI	Verde Repeater	6.09	30			Pn	22 14 00.8	-0.2
N25K	Chitina, Valde	6.13	24			Pn	22 14 01.5	+0.1
N25K	Chitina, Valde	6.13	24	P		Pn	22 14 01.5	+0.1
	baz=207							
SDPT	Sand Point	6.13	267			Pn	22 14 00.3	-1.1
SDPT	Sand Point	6.13	267	P		Pn	22 14 00.9	-0.5
SDPT	Sand Point	6.13	267	P		Pn	22 14 00.3	-1.1
	baz=80							
GLB	Gilahina Butte	6.17	27			Pn	22 14 02.1	+0.1
KIAG	Kiagna River	6.18	35			Pn	22 14 02.1	-0.2
O15K	Ungalikthiuk R	6.25	304			Pn	22 14 03.4	+0.4
O15K	Ungalikthiuk R	6.25	304	P		Pn	22 14 03.4	+0.4
	baz=116							
M18K	Stony River	6.27	332			Pn	22 14 02.7	-0.6
M18K	Stony River	6.27	332	P		Pn	22 14 02.7	-0.6
	baz=147							
M24K	Tolsona, Glenn	6.29	15			Pn	22 14 04.3	+0.5
M24K	Tolsona, Glenn	6.29	15	P		Pn	22 14 04.3	+0.5
	baz=197							
MCARA	McCarthy VSAT	6.34	31			Pn	22 14 04.5	+0.3
MCARA	McCarthy VSAT	6.34	31	P		Pn	22 14 04.5	+0.3
	baz=215							
PTPK	Patty Peak	6.35	34			Pn	22 14 04.8	+0.3
PCA	Pinnacle	6.41	47			Pn	22 14 05.6	+0.3
PINM	Pinnacle	6.42	47	P		Pn	22 14 05.6	+0.2
	baz=234							
BARN	Barnard Glacie	6.51	37			Pn	22 14 06.7	-0.1
BARN						Sn	22 15 18.9	-2.0
CTG	Chitna Glacier	6.55	38	P		Pn	22 14 06.6	-0.8
	baz=224							
CTGM	Chitina Glacie	6.56	38			Pn	22 14 06.6	-0.8
CTGM	Chitina Glacie	6.56	38			Sn	22 15 20.1	-1.8
PNL	Peninsula	6.56	53			Pn	22 14 07.1	-0.2
PNL	Peninsula	6.56	53	P		Pn	22 14 07.1	-0.2
	baz=240							
LOGN	Logan Glacier	6.58	40			Pn	22 14 07.1	-0.6
WAT6	Susitna Watana	6.58	8			Pn	22 14 07.7	0.0
WAT6	Susitna Watana	6.58	8	P		Pn	22 14 07.7	0.0
	baz=189							
WAZA	Wrangell Mount	6.64	23			Pn	22 14 09.0	+0.4
M17K	Holitna River	6.66	326			Pn	22 14 08.9	+0.2
WAT7	Susitna Watana	6.77	3			Pn	22 14 10.7	+0.4
WAT1	Susitna Watana	6.78	5			Pn	22 14 10.9	+0.6
WAT1	Susitna Watana	6.78	5	P		Pn	22 14 10.9	+0.6
	baz=185							
N15K	Kwethluk River	6.84	311			Pn	22 14 11.9	+0.7
M16K	Timber Creek	6.91	319			Pn	22 14 12.2	+0.1
M16K	Timber Creek	6.91	319	P		Pn	22 14 12.2	+0.1
	baz=132							
O14K	Tigyukauivet M	6.96	302			Pn	22 14 12.6	-0.1
O14K	Tigyukauivet M	6.96	302	P		Pn	22 14 12.6	-0.1
	baz=113							
PN7A	Pavlof North-7	6.97	270			Pn	22 14 11.8	-1.2
DHY	Denali Highway	7.10	9			Pn	22 14 15.3	+0.5
DHY	Denali Highway	7.10	9	P		Pn	22 14 15.3	+0.5
	baz=190							
PAX	Paxson	7.22	16			Pn	22 14 17.2	+0.7
PAX	Paxson	7.22	16	P		Pn	22 14 17.2	+0.7
	baz=198							
O29M	Mount Kennedy	7.23	50			Pn	22 14 16.7	0.0
O29M	Mount Kennedy	7.23	50	P		Pn	22 14 16.7	0.0
	baz=238							
P29M	Windy Craggy	7.30	56			Pn	22 14 17.1	-0.4
P29M	Windy Craggy	7.30	56	P		Pn	22 14 17.1	-0.4
	baz=245							
M15K	Kasigluk River	7.38	313			Pn	22 14 18.9	+0.4
M15K	Kasigluk River	7.38	313	P		Pn	22 14 18.9	+0.4
	baz=124							
M27K	Edge Creek, AK	7.45	29			Pn	22 14 20.4	+0.8
M27K	Edge Creek, AK	7.45	29	P		Pn	22 14 20.4	+0.8
	baz=215							
L17K	Donlin	7.49	327			Pn	22 14 20.4	+0.4
L17K	Donlin	7.49	327	P		Pn	22 14 20.4	+0.4
	baz=140							
KTH	Kantishna Hill	7.50	356	Pn		Pn	22 14 20.6	+0.3
L16K	Owhat River	7.56	322	Pn		Pn	22 14 20.5	-0.4
S31K	Pelican	7.59	70			Pn	22 14 19.1	-2.2
S31K	Pelican	7.59	70	P		Pn	22 14 19.1	-2.2
	baz=260							
L26K	Log Cabin Wild	7.66	22			Pn	22 14 22.5	+0.1
PLBC	Pleasant Camp	7.88	59			Pn	22 14 24.4	-1.1
PLBC	Pleasant Camp	7.88	59	P		Pn	22 14 24.4	-1.1
	baz=249							
M14K	Bethel	7.94	311			Pn	22 14 26.4	+0.3
K17K	Iditarod	7.95	330			Pn	22 14 25.9	-0.4
K17K	Iditarod	7.95	330	P		Pn	22 14 25.9	-0.4
	baz=143							
ISLZ	Isanotski Laza	8.09	266			Pn	22 14 26.8	-1.5
ISNN	Isanotski Nort	8.10	267			Pn	22 14 27.5	-0.9
L15K	Ungalak Mounta	8.27	317			Pn	22 14 30.6	0.0
L15K	Ungalak Mounta	8.27	317	P		Pn	22 14 30.6	0.0
	baz=128							
M13K	Dall Lake	8.39	307	Pn		Pn	22 14 32.2	-0.2
N30M	Aishikik Lake	8.47	45			Pn	22 14 33.3	-0.2
N30M	Aishikik Lake	8.47	45	P		Pn	22 14 33.3	-0.2
	baz=235							
L14K	Kuka Creek	8.55	313			Pn	22 14 34.9	+0.4
M29M	Somme Creek	8.57	37			Pn	22 14 35.1	+0.1
CCB	Clear Creek Bu	8.63	5			Pn	22 14 36.2	+0.6
K15K	Wolf Creek Mou	8.67	321			Pn	22 14 36.3	+0.1
IL31		8.81	8			Pn	22 14 38.4	+0.3
ILAR	Eielson Array	8.81	8	Pn		Pn	22 14 38.9	+0.7
	comp=N,0.4nm,0.3s,baz=191,slow=13,SNR=6.7							
ILAR						Sn	22 16 14.8	-2.3
	comp=N,0.6nm,0.3s,baz=270,slow=5.5,SNR=6.7							
ILAR					LR	LR	22 17 51.0	
	comp=N,47nm,19.8s,baz=264,slow=36							
J26L	Joseph Creek	8.96	17			Pn	22 14 39.6	-0.7
J26L	Joseph Creek	8.96	17	P		Pn	22 14 39.6	-0.7
	baz=202							
N31M	Braeburn, Yuko	9.02	47	Pn		Pn	22 14 40.9	-0.1
WHY	Whitehorse	9.02	53			Pn	22 14 41.2	0.0
J16K	Anvik River	9.06	327			Pn	22 14 41.4	-0.1
L29M	L29M	9.14	35			Pn	22 14 43.1	+0.4
I21K	Tanana	9.18	354			Pn	22 14 42.9	-0.2
I21K	Tanana	9.18	354	P		Pn	22 14 42.9	-0.2
	baz=172							
M30M	Minto, Yukon	9.24	40			Pn	22 14 44.2	+0.1
J14K	Nanvaranak Lak	9.69	319			Pn	22 14 50.7	+0.6
H21K	Melozitna Rive	9.71	352			Pn	22 14 50.4	0.0
P33M	Teslin, Yukon	9.82	58	Pn		Pn	22 14 51.6	-0.4
K29M	Barlow Dome	9.86	33			Pn	22 14 51.5	-1.2
K29M	Barlow Dome	9.86	33	P		Pn	22 14 51.5	-1.2
	baz=223							
G23K	Bananza Creek	10.65	359			Pn	22 15 03.5	+0.2
G24K	Hadweenzic Riv	10.69	5			Pn	22 15 04.6	+0.7
J30M	Hart River	10.75	32			Pn	22 15 06.2	+1.4
DLBC	Dease Lake	10.90	69	Pn		Pn	22 15 07.8	+1.0
	comp=N,0.2nm,0.3s,baz=236,slow=26,SNR=1.3							
	comp=N,1.5nm,0.2s							
F17K	Baldwin Pennin	11.74	337	Pn		Pn	22 15 18.7	+0.5
G31M	Satah River	13.07	28	Pn		Pn	22 15 36.9	+0.6
BBB	Bella Bella	13.23	98	Pn		Pn	22 15 36.9	-1.8
	comp=N,0.3nm,0.3s,baz=146,slow=13,SNR=3.9							
INK	Inuvik	14.31	25	Pn		Pn	22 15 53.0	-0.3
INK	Inuvik	14.31	25	Pn		Pn	22 15 54.1	+0.8
	comp=N,0.1nm,0.3s,baz=211,slow=13,SNR=5.2							
	comp=N,5.5nm,1.2s							
B20K	Meade River	14.35	350	Pn		Pn	22 15 53.5	-0.2
B22K	Teshekpuk Lake	14.39	355	Pn		Pn	22 15 53.8	-0.5
YKA	Yellowknife Ar	18.84	56	P		P	22 16 49.9	-0.6
YKA	Yellowknife Ar	18.84	56	P		P	22 16 51.2	+0.7
	comp=N,0.1nm,0.3s,baz=266,slow=10,SNR=10							
	comp=N,1.1nm,0.9s							
A36M	Sachs Harbour	18.94	23	Pn		Pn	22 16 53.0	+0.8
A36M				IAmb		IAmb	22 16 58.5	
	comp=Z,8.5nm,0.8s							
NVAR	Mina Array Bea	27.34	117	P		P	22 18 17.0	+1.2
	comp=Z,0.5nm,0.8s,baz=289,slow=11,SNR=2.6							
	comp=Z,0.5nm,0.8s							
RES	Resolute Bay	27.84	28	LR		LR	22 28 59.6	
	comp=Z,33nm,18.3s,baz=352,slow=36							
PDAR	Pinedale Array	28.86	100	P		P	22 18 30.1	+0.7
	comp=Z,0.2nm,0.5s,baz=325,slow=5.5,SNR=1.5							
	comp=Z,0.2nm,0.5s							
FRB	Frobisher Bay	38.73	45	LR		LR	22 35 38.6	
	comp=Z,78nm,19.2s,baz=315,slow=36							
TXAR	Lajas Array	41.98	110	LR		LR	22 36 56.4	
	comp=Z,31nm,18.3s,baz=226,slow=35							
SFJD	Kangerlussuaq	43.38	34	LR		LR	22 38 40.9	
	comp=Z,41nm,18.1s,baz=9.0,slow=36							
H11N2	WAKE ISLAND Hy	48.58	240	T		T	23 13 36.2	
	baz=31,slow=76,SNR=13							
H11N3	WAKE ISLAND Hy	48.59	240	T		T	23 13 35.0	
	baz=31,slow=76,SNR=13							
H11N1	WAKE ISLAND Hy	48.60	240	T		T	23 13 36.3	
	baz=31,slow=76,SNR=12							
H11S1	WAKE ISLAND Hy	49.73	239	T		T	23 15 27.9	
	baz=30,slow=76,SNR=13							
H11S2	WAKE ISLAND Hy	49.74	239	T		T	23 15 04.2	
	baz=30,slow=76,SNR=14							
H11S3	WAKE ISLAND Hy	49.74	239	T		T	23 15 03.7	
	baz=30,slow=76,SNR=14							
SONM	Songino Array	58.58	310	P		P	22 22 25.4	-1.9
SONM				IAmb		IAmb	22 22 29.9	
	comp=Z,1.3nm,1.0s							
SONM	Songino Array	58.58	310	P		P	22 22 29.1	+1.8
	comp=Z,0.9nm,0.8s,baz=41,slow=7.9,SNR=6.4							
	comp=Z,0.9nm,0.8s							
ZALV	Zalesovo Beam	61.59	327	P		P	22 22 49.2	+1.5
	comp=Z,0.7nm,0.5s,baz=34,slow=11,SNR=4.4							
	comp=Z,0.7nm,0.5s							
NOA	NORSAR Array B	62.24	10	P		P	22 22 53.9	+1.9
	comp=Z,0.3nm,0.7s,baz=261,slow=5.5,SNR=3.5							
	comp=Z,0.3nm,0.7s							
FINES	FINESS Array B	62.75	2	P		P	22 22 55.8	+0.5
	comp=Z,0.6nm,0.6s,baz=323,slow=16,SNR=1.0							
	comp=Z,0.6nm,0.6s							
BRVK	Borovoye	66.34	335	P		P	22 23 20.1	+1.1
BVAR	Borovoye Array	66.35	335	P		P	22 23 20.2	+1.2
	comp=Z,0.9nm,0.7s,baz=39,slow=7.6,SNR=6.8							
	comp=Z,0.9nm,0.7s							
KURBB	Kurchatov Arra	66.37	329	P		P	22 23 20.1	+1.0
	comp=Z,0.6nm,0.6s,baz=30,slow=6.6,SNR=4.4							
	comp=Z,0.6nm,0.6s							
MK31	Makanchi Array	68.61	324	P		P	22 23 31.9	-1.6
MK31				IAmb		IAmb	22 23 35.9	
	comp=Z,3.2nm,1.4s							
MKAR	Makanchi Array	68.61	324	P		P	22 23 33.2	-0.2
MKAR	Makanchi Array	68.61	324	P		P	22 23 34.4	+1.0
	comp=Z,0.3nm,0.5s,baz=33,slow=6.2,SNR=10.0							
	comp=Z,0.3nm,0.5s							
MAKZ	Makanchi	68.70	325	P		P	22 23 35.0	+1.1
MAKZ				IAmb		IAmb	22 23 38.8	
	comp=Z,1.2nm,1.1s							
ABKAR	Akbulak array	72.14	340	P		P	22 23 56.6	+1.6
ABKAR	Akbulak array	72.14	340	P		P	22 23 55.4	+0.4
ABKAR				IAmb		IAmb	22 23 56.8	
	comp=Z,0.7nm,0.6s							

IDC ***28*** *22:22:16.6±0.8, 34°.46N×136°.09E, h388km±10km, mb2.7/6, mbtmp3.5/11, Error ellipse: s-maj=18.6km s-min=15.3km az=46.0*

JMA ***28*** *22:22:16.5±0.1, 34°.5N±0°.8×136°.1E±0°.7, h373km±1km, MV2.7/27, NORTHERN NARA PREF*

ISC 28 22:22:16.3±0.8, 34°.48N±0°.09×136°.10E±0°.07, h400km, n23, σ2s85/28, mb2.9/6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.51	100	P	Pn	22 23 03.8	-2.3
JIE				S	S	22 23 41.0	-5.3
JTNC	Tanabenakahech	0.77	212	P	Pn	22 23 04.1	-2.7
JTNC				eS	S	22 23 41.2	-6.2
JWT	Wachi	0.99	325	P	Pn	22 23 04.6	-2.7
JYTA	Yamagatataniai	1.23	25	P	Pn	22 23 06.0	-2.2
JYTA				eS	S	22 23 45.4	-4.8
TK02	Tokai 2	1.47	111	P	Pn	22 23 07.5	-1.6
JAI	Aioi	1.53	244	P	Pn	22 23 07.1	-2.5
JKG	Kaga	1.81	6	P	Pn	22 23 08.6	-2.4
JMN	Monobe	1.99	249	eP	Pn	22 23 10.0	-2.2
JYN	Shimob	2.25	62	P	Pn	22 23 11.6	-2.3
JHS	Saijyo	2.51	283	eP	Pn	22 23 13.6	-2.1
MAT	Matsushiro	2.68	39	eP	Pn	22 23 14.8	-2.1
MJAR	Matsushiro Arr	2.68	39	P	Pn	22 23 15.2	-1.7
	9.1nm,0.5s,baz=197,slow=9.0,SNR=47						
JRY	Ryogami san	2.76	55	P	Pn	22 23 15.8	-1.8
JRY				eS	S	22 24 02.1	-5.1
JHJ	Hachijo jima 2	3.35	113	P	Pn	22 23 20.8	-1.7
	84nm,0.6s,baz=77,slow=20,SNR=1.9						
JHJ				S	S	22 24 17.4	+1.4
	95nm,0.8s,baz=69,slow=23,SNR=2.0						
JNU	Nakatsue	4.55	254	P	Pn	22 23 32.5	-1.3
	13nm,0.7s,baz=104,slow=1.4,SNR=8.9						
KSRS	Korea Array	7.26	296	P	P	22 24 03.0	-0.3
	1.2nm,0.6s,baz=116,slow=11,SNR=2.5						
USRK	Ussuriysk Ar.	10.21	343	P	P	22 24 35.9	-0.1
	1.6nm,0.8s,baz=134,slow=11,SNR=2.7						
MKAR	Makanchi Array	41.88	304	P	P	22 29 31.2	+2.0
	0.2nm,0.5s,baz=86,slow=11,SNR=5.4						
	0.2nm,0.5s						
BVAR	Borovoye Array	49.13	313	P	P	22 30 27.2	+2.1
	0.2nm,0.4s,baz=127,slow=9.4,SNR=2.4						
	0.2nm,0.4s						
ILAR	Eielson Array	53.94	31	P	P	22 31 01.4	+1.4
	0.4nm,0.8s,baz=261,slow=5.3,SNR=4.3						
	0.4nm,0.8s						
WRA	Warramunga Arr	54.14	182	P	P	22 31 02.9	+0.8
	0.3nm,0.3s,baz=0.4,slow=7.7,SNR=8.4						
	0.3nm,0.3s						
SPITS	Spitsbergen Ar	62.16	348	P	P	22 31 58.7	+2.5
	4.7nm,1.0s,baz=115,slow=6.8,SNR=1.5						
	4.7nm,1.0s						
YKA	Yellowknife Ar	68.14	28	P	P	22 32 34.5	+0.3
	0.1nm,0.4s,baz=309,slow=3.9,SNR=2.1						
	0.1nm,0.4s						

IDC ***28*** *22:23:33.8±0.5, 52°.85S×10°.04E, h0km, mb4.9/15, mbtmp5.0/16, ML4.8/1, MS4.6/29, Error ellipse: s-maj=19.4km s-min=13.8km az=97.0*

MOS ***28*** *22:23:35.8±2.4, 52°.90S×10°.20E, h10km, mb5.4/16, Error ellipse: s-maj=20.5km s-min=9.4km az=79.8*

NEIC ***28*** *22:23:35.9±1.4, 53°.0S±0°.1×10°.3E±0°.2, h10km±1km, mb5.3/75, Mww5.2/8, Error ellipse: s-maj=20.6km s-min=16.3km az=113.0*

GCMT ***28*** *22:23:37.9±0.2, 52°.97S±0°.01×10°.18E±0°.02, h12km, MW5.2/133, Moment Tensor Solution. s52,c66; s133,c220; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.45±.02; $M_{\theta\theta}$0.83±.01; $M_{\phi\phi}$-0.37±.01; $M_{r\theta}$0.53±.04; $M_{\theta\phi}$0.04±.01; $M_{r\phi}$0.16±.05; Best double couple: $M_0$0.86600×10^{17} NP1:ϕ_s249.00000°,δ68.00000°, λ-112.00000°. NP2:ϕ_s117.00000°,δ31.00000°, λ-47.00000°. Principal axes: T 1.0260, Plg20.0000°, Azm356.0000°; N -0.3190, Plg20.0000°, Azm258.0000°; P -0.7070, Plg61.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***28*** *22:23:37.1, 53°.02S×10°.27E, h18km*

NEIC ***28*** *22:23:37.1, 53°.02S×10°.27E, h18km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.32; $M_{\theta\theta}$8.46; $M_{\phi\phi}$-4.14; $M_{r\theta}$-2.33; $M_{\theta\phi}$0.49; $M_{r\phi}$4.89; Fault plane solution: $M_0$9.12000×10^{16} NP1: ϕ_s123.27000°,δ67.85000°,λ-43.67000°. NP2: ϕ_s233.06000°,δ50.24000°,λ-150.63000°. Principal axes: T 8.8843, Plg11.0000°, Azm182.0000°; N 0.4685, Plg42.0000°, Azm282.0000°; P -9.3528, Plg46.0000°, Azm81.0000°;*

ISC 28 22:23:36.5±0.3, 52°.93S±0°.06×10°.02E±0°.07, h12km, n267, σ1s66/234, mb5.3/74, MS4.7/37, 10C-5D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVL	N'lazarevskaya	17.92	178	eP	Pn	22 27 43.1	-2.1
NVL				pmax	pmax		
	comp=Z,155nm,1.4s						
NVL				MLR	MLR		
	comp=Z,4μm,21.0s						
TROLL	Troll, Antarti	19.43	187	⇑P	P	22 28 03.1	+0.6
	comp=Z,12μm,0.9s						
TROLL				⇑S	Sn	22 31 20.0	-21
	comp=Z,1μm,0.6s						
VNA1	Neumayer--Stat	19.61	198	⇑P	Pn	22 28 05.5	-0.1
	comp=Z,143nm,1.0s						
SNAA	Sanae	19.65	192	P	P	22 28 04.0	-0.8
SNAA	Sanae	19.65	192	eP	P	22 28 03.8	-1.0
SNAA	Sanae	19.65	192	⇑P	P	22 28 05.3	+0.5
	comp=Z,5μm,0.9s						
SNAA				⇓S	S	22 31 31.3	-15
	comp=Z,285nm,0.7s						
SNAA	Sanae	19.65	192	*i* P	P	22 28 05.3	+0.5
SNAA				pmax	pmax		
	comp=Z,307nm,1.0s						
SNAA	Sanae	19.65	192	P	P	22 28 05.1	+0.3
	comp=Z,3.1nm,0.3s,baz=22,slow=11,SNR=57						
SNAA				S	S	22 31 32.4	-14
	comp=Z,12nm,0.7s,baz=351,slow=22,SNR=10						
SNAA				LR	LR	22 33 53.6	
	comp=Z,1μm,20.5s,baz=24,slow=31						
	comp=Z,243nm,0.9s						
VNA2	Neumayer--Watz	19.68	197	⇑P	P	22 28 05.5	+0.4
	comp=Z,107nm,0.8s,baz=25,slow=13						
VNA2				⇓S	S	22 31 28.1	-18
	comp=Z,3.8nm,1.1s,baz=31,slow=21						
ELIB	Princess Elisa	19.96	168	dP	Pn	22 28 09.3	-0.7
	comp=Z,98nm,1.3s						
ELIB				dS	S	22 31 37.5	-15
VNA3	Neumayer Olymp	20.36	198	⇑P	P	22 28 12.6	+0.1
	comp=Z,134nm,0.8s						
CER	Ceres	20.66	22	eP	P	22 28 15.7	-0.4
CER				IAmb	IAmb	22 28 16.6	
	comp=Z,125nm,1.0s						
PRTV	Porterville,We	20.90	22	eP	P	22 28 18.4	-0.2
PRTV				IAmb	IAmb	22 28 22.4	
	comp=Z,192nm,1.0s						
MERW	Merweville	21.88	27	eP	P	22 28 26.3	-3.0
SUR	Sutherland	21.97	25	P	P	22 28 29.4	-0.9
SUR				IAmb	IAmb	22 28 31.1	
	comp=Z,153nm,1.2s						
SUR	Sutherland	21.97	25	P	P	22 28 29.0	-1.3
	comp=Z,72nm,1.0s,baz=209,slow=8.2,SNR=13						
SUR				S	S	22 32 29.2	-3.4
	comp=Z,12nm,0.6s,baz=290,slow=22,SNR=5.9						
SUR				LR

comp=Z,34nm,1.0s
WIN Windhoek 30.79 13 P **P** **22 29 52.0 -0.1**
WIN pmax pmax
comp=Z,34nm,1.0s
LEPH Lephalale, Lim 32.01 32 *e*P **P** **22 30 00.9 -1.8**
LEPH IAmb IAmb 22 30 11.8
comp=Z,105nm,1.5s
MOPA Mopani 33.56 37 *e*P **P** **22 30 15.3 -0.9**
MOPA IAmb IAmb 22 30 38.3
comp=Z,63µm,4.1s
MUSN Musina, Limpop 34.15 34 *e*P **P** **22 30 19.3 -2.1**
TSUM Tsumeb 34.17 13 P **P** **22 30 21.4 -0.3**
TSUM IAmb IAmb 22 30 22.6
comp=Z,53nm,1.1s
TSUM Tsumeb 34.17 13 LR LR 22 41 48.7
comp=Z,2µm,21.5s,baz=189,slow=32
QSPA South Pole Qui 37.31 180 P **P** **22 30 47.6 -0.6**
QSPA South Pole Qui 37.31 180 P **P** **22 30 48.0 -0.2**
comp=Z,28nm,1.1s,baz=237,slow=8.3,SNR=30
QSPA LR LR 22 45 10.4
comp=Z,2µm,20.5s,baz=218,slow=35
comp=Z,28nm,1.1s
PMSA Palmer Station 37.78 222 LR LR 22 44 25.6
comp=Z,353nm,19.1s,baz=100,slow=33
KRI Karoi 39.17 31 *e*P P 22 31 09.2 +4.9
LSZ Lusaka 40.22 28 P **P** **22 31 12.8 -0.2**
LSZ Lusaka 40.22 28 P **P** **22 31 12.8 -0.2**
LSZ pmax pmax
comp=Z,36nm,1.9s
LSZ Lusaka 40.22 28 LR LR 22 45 51.0
comp=Z,670nm,19.9s,baz=199,slow=33
EFI East Falkland 40.23 243 *i* P **P** **22 31 16.2 +3.6**
EFI pmax pmax
comp=Z,33nm,1.1s
H10S2 ASCENSION HYDR 48.19 326 T T 23 23 50.8
baz=159,slow=74,SNR=5.1
H10S3 ASCENSION HYDR 48.20 326 T T 23 23 52.3
baz=61,slow=74,SNR=9.5
VNDA Vanda 48.64 172 P **P** **22 32 16.6 -2.9**
VNDA IAmb IAmb 22 32 21.1
comp=Z,34nm,0.9s
VNDA Vanda 48.64 172 P **P** **22 32 20.0 +0.5**
comp=Z,22nm,0.8s,baz=229,slow=8.1,SNR=40
VNDA LR LR 22 52 11.5
comp=Z,2µm,19.0s,baz=190,slow=35
comp=Z,22nm,0.8s
SBA Scott Base 48.70 174 P **P** **22 32 18.7 -1.3**
SBA IAmb IAmb 22 32 22.3
comp=Z,53nm,1.3s
SBA Scott Base 48.70 174 P **P** **22 32 18.7 -1.3**
SBA pmax pmax
comp=Z,53nm,1.3s
PLTB Pedras Altas 49.76 269 P **P** **22 32 28.6 -0.1**
TRQA Tornquist 50.48 257 P **P** **22 32 34.1 0.0**
TRQA IAmb IAmb 22 32 36.7
comp=Z,53nm,1.1s
TRQA Tornquist 50.48 257 P **P** **22 32 34.1 0.0**
TRQA pmax pmax
comp=Z,53nm,1.1s
AY01 Puyuhuapi 52.37 244 P **P** **22 32 48.6 +0.5**
AY01 IAmb IAmb 22 32 52.9
comp=Z,47nm,1.0s
LL02 Futaleuf 52.74 245 P **P** **22 32 50.1 -0.8**
LL02 IAmb IAmb 22 32 53.7
comp=Z,39nm,0.9s
ITQB Itaqui 53.07 268 P **P** **22 32 54.7 +1.3**
ITQB IAmb IAmb 22 32 55.7
comp=Z,45nm,1.1s
PLCA Paso Flores 53.65 249 P **P** **22 32 57.5 -0.2**
PLCA Paso Flores 53.65 249 *e*P **P** **22 32 58.4 +0.7**
PLCA pmax pmax
comp=Z,12nm,0.9s
PLCA Paso Flores 53.65 249 P **P** **22 32 57.0 -0.8**
comp=Z,12nm,0.9s,baz=134,slow=6.5,SNR=21
PLCA LR LR 22 52 12.1
comp=Z,460nm,21.4s,baz=132,slow=32
comp=Z,12nm,0.9s
LR05 Currie 54.80 248 P **P** **22 33 06.6 +0.6**
MBAR Mbarara 54.93 26 IAmb IAmb 22 34 30.9
comp=Z,19nm,0.2s
MBAR Mbarara 54.93 26 *i* P **P** **22 33 10.9 +3.5**
MBAR pmax pmax
comp=Z,12nm,2.3s
MBAR Mbarara 54.93 26 LR LR 22 54 48.8
comp=Z,981nm,21.3s,baz=179,slow=34
GO06 Curarrehue 54.94 249 P **P** **22 33 07.6 +0.4**
KIBK Kibwezi 55.51 35 P **P** **22 33 09.7 -1.8**
CPUP Villa Florida 55.92 271 P **P** **22 33 13.1 -1.1**
CPUP IAmb IAmb 22 33 16.1
comp=Z,46nm,1.0s
CPUP Villa Florida 55.92 271 P **P** **22 33 13.1 -1.1**
comp=Z,31nm,0.9s,baz=127,slow=6.4,SNR=21
CPUP LR LR 22 52 54.9
comp=Z,472nm,21.9s,baz=150,slow=32
comp=Z,31nm,0.9s
KMBO Kilima Mbogo 56.38 33 P **P** **22 33 14.8 -3.1**
comp=Z,0.2nm,0.3s,baz=244,slow=16,SNR=1.6
KMBO LR LR 22 54 45.8
comp=Z,330nm,20.4s,baz=182,slow=33
BO02 Sierra Bellavi 57.88 254 P **P** **22 33 28.4 +0.3**
BO01 Tunca 58.34 254 P **P** **22 33 31.6 +0.3**
BO01 IAmb IAmb 22 33 36.2
comp=Z,27nm,1.1s
BO04 La Punta 58.34 254 P **P** **22 33 31.0 -0.4**
BO04 IAmb IAmb 22 33 54.0
comp=Z,29nm,1.1s
BDFB Brasilia 58.53 287 P **P** **22 33 31.9 -1.0**
BDFB IAmb IAmb 22 33 35.1
comp=Z,32nm,1.1s
BDFB Brasilia 58.53 287 P **P** **22 33 31.9 -1.0**
BDFB pmax pmax
comp=Z,32nm,1.1s
BDFB Brasilia 58.53 287 P **P** **22 33 31.5 -1.4**
comp=Z,17nm,1.1s,baz=138,slow=5.0,SNR=13
BDFB LR LR 22 53 41.0
comp=Z,857nm,19.2s,baz=144,slow=31
comp=Z,17nm,1.1s
MT03 Universidad Ad 58.64 255 P **P** **22 33 33.6 +0.1**
MT16 CCHEN 58.69 255 P **P** **22 33 34.8 +0.9**
MT09 Talagante 58.72 254 P **P** **22 33 35.0 +0.9**
MT01 Popeta 58.81 254 P **P** **22 33 35.8 +1.2**
MT01 IAmb IAmb 22 33 40.7
comp=Z,35nm,1.2s
VA03 San Esteban 59.19 255 P **P** **22 33 38.0 +0.7**
VA03 IAmb IAmb 22 33 40.0
comp=Z,37nm,1.1s
AQDB Aquidauana 59.32 276 P **P** **22 33 38.4 +0.1**
AQDB IAmb IAmb 22 33 47.9
comp=Z,53nm,1.7s
RCBR Riachuelo 60.05 304 LR LR 22 55 36.0
comp=Z,344nm,18.1s,baz=122,slow=32
LIC Lamto 60.30 343⇑ *e*P **P** **22 33 43.0 -1.9**
comp=Z,64nm,0.8s
KIC Kosan Boka 60.38 343⇑ *e*P **P** **22 33 43.0 -2.4**
comp=Z,16nm,0.8s
DBIC Dimbokro 60.70 343 P **P** **22 33 46.3 -1.3**
DBIC Dimbokro 60.70 343⇑ *i* P **P** **22 33 45.4 -2.2**
DBIC Dimbokro 60.70 343 P **P** **22 33 46.3 -1.3**
DBIC pmax pmax
comp=Z,34nm,0.9s
DBIC Dimbokro 60.70 343 P **P** **22 33 45.8 -1.9**
comp=Z,31nm,0.8s,baz=154,slow=7.8,SNR=36
DBIC LR LR 22 54 13.8
comp=Z,559nm,21.6s,baz=166,slow=30
comp=Z,31nm,0.8s
TIC Toumodi 60.70 343⇑ *e*P **P** **22 33 45.7 -2.0**
comp=Z,78nm,0.8s
CO01 Juntas del Tor 60.93 258 P **P** **22 33 49.9 +0.4**
AC05 El Transito 61.87 259 P **P** **22 33 55.8 +0.1**
AC05 IAmb IAmb 22 34 03.9
comp=Z,29nm,1.1s
LCO Las Campanas 61.99 258 P **P** **22 33 56.1 -0.7**
LCO Las Campanas 61.99 258 P **P** **22 33 56.1 -0.7**
LCO pmax pmax
comp=Z,131nm,1.9s
GO02 Mina Guanaco 64.18 262 P **P** **22 34 11.4 0.0**
GO02 IAmb IAmb 22 34 13.8
comp=Z,29nm,1.1s
PB15 IPOC Station P 65.58 263 P **P** **22 34 20.2 -0.1**
LVC Limon Verde 65.69 264 P **P** **22 34 21.7 +0.4**
LVC Limon Verde 65.69 264 P **P** **22 34 21.7 +0.4**
LVC pmax pmax
comp=Z,86nm,1.8s
LVC Limon Verde 65.69 264 LR LR 22 59 49.3
comp=Z,262nm,21.0s,baz=134,slow=33
SIV San Ignacio 66.01 275 LR LR 22 58 57.7
comp=Z,1µm,20.6s,baz=122,slow=32
TOA0 Torodi Ar. Sit 66.19 351 P **P** **22 34 22.6 -1.4**
TOA0 IAmb IAmb 22 34 23.3
comp=Z,18nm,1.1s
TORD Torodi Ar. Bea 66.19 351 P **P** **22 34 22.2 -1.7**
TORD Torodi Ar. Bea 66.19 351 P **P** **22 34 22.1 -1.9**
comp=Z,9.9nm,1.0s,baz=172,slow=4.9,SNR=40
TORD LR LR 22 57 25.3
comp=Z,330nm,21.4s,baz=152,slow=31
comp=Z,9.9nm,1.0s
PB09 IPOC Station P 66.50 265 P **P** **22 34 26.8 +0.6**
PB04 IPOC Station P 66.64 264 P **P** **22 34 26.8 -0.3**
PB07 IPOC Station P 66.95 264 P **P** **22 34 28.4 -0.6**
PB07 IAmb IAmb 22 34 31.9
comp=Z,25nm,1.0s
PB01 IPOC Station P 67.22 265 P **P** **22 34 29.4 -1.3**
PB01 IAmb IAmb 22 34 39.9
comp=Z,45nm,1.4s
DGAR Diego Garcia 67.68 72 *i* P **P** **22 34 36.7 +3.2**
GO01 Chusmiza 68.09 266 P **P** **22 34 36.2 -0.5**
PB11 IPOC Station P 68.30 266 P **P** **22 34 37.2 -0.5**
PB11 IAmb IAmb 22 34 39.6
comp=Z,42nm,1.4s
PB16 IPOC Station P 69.30 267 IAmb IAmb 22 34 54.9
comp=Z,42nm,1.5s
ATD Arta Tunnel 70.09 34 P **P** **22 34 47.8 -0.7**
ATD IAmb IAmb 22 34 52.4
comp=Z,53nm,1.6s
ATD Arta Tunnel 70.09 34 LR LR 23 03 16.2
comp=Z,8.2nm,21.7s,baz=187,slow=34
H01W2 Cape Leeuwin H 70.61 122 T T 23 52 37.6
baz=218,slow=75,SNR=24
H01W3 Cape Leeuwin H 70.63 122 T T 23 52 38.6
baz=218,slow=75,SNR=29
H01W1 Cape Leeuwin H 70.63 122 T T 23 52 38.7
baz=218,slow=75,SNR=37
SAML Samuel 72.79 278 P **P** **22 35 03.8 -1.1**
SAML IAmb IAmb 22 35 07.2
comp=Z,28nm,1.4s
SAML Samuel 72.79 278 P **P** **22 35 03.8 -1.1**
SAML pmax pmax
comp=Z,28nm,1.5s
NWAO Narrogin (SRO) 73.75 123 LR LR 23 02 45.3
comp=Z,530nm,18.0s,baz=236,slow=32
KAAM Kaadhehdhoo 74.44 68 P **P** **22 35 18.2 +3.7**
comp=Z,116nm,1.6s
TAM Tamanrasset 75.50 356 P **P** **22 35 20.9 +0.4**
TAM Tamanrasset 75.50 356 P **P** **22 35 20.9 +0.4**
TAM pmax pmax
comp=Z,15nm,1.2s
COCO West Island 78.47 95 P P 22 35 43.7 +6.3
comp=Z,0.0nm,0.8s
NNA Nana 78.66 265 *i* P **P** **22 35 39.9 +1.4**
NNA pmax pmax
comp=Z,17nm,1.0s
NNA Nana 78.66 265 LR LR 23 06 40.4
comp=Z,181nm,21.9s,baz=284,slow=33
MLZ Mavora Lakes 80.30 165 P **P** **22 35 46.1 -0.9**
MLZ IAmb IAmb 22 35 50.7
comp=Z,49nm,1.3s
WKZ Wanaka 80.97 165 P **P** **22 35 49.3 -1.3**
WKZ IAmb IAmb 22 36 05.3
comp=Z,52nm,1.3s
RAYN Ar Rayn 82.15 33 P **P** **22 35 56.3 -0.6**
RAYN IAmb IAmb 22 36 10.5
comp=Z,33nm,1.6s
RAYN Ar Rayn 82.15 33 P **P** **22 35 56.3 -0.6**
RAYN pmax pmax
comp=Z,33nm,1.6s
RPZ Rata Peaks 82.36 166 LR LR 23 09 45.2
comp=Z,646nm,21.3s,baz=166,slow=34
INZ Inchbonnie 83.39 166 P **P** **22 36 01.3 -2.0**
LTZ Lake Taylor 83.45 167 IAmb IAmb 22 36 13.5
comp=Z,24nm,1.1s
PSA00 Pilbara Seismi 84.27 118 P **P** **22 36 06.7 -1.5**
PSA00 IAmb IAmb 22 36 08.8
comp=Z,37nm,1.5s
DSZ Denniston Nrt 84.40 166 IAmb IAmb 22 36 06.4
comp=Z,19nm,0.9s
THZ Tophouse 84.53 167 IAmb IAmb 22 36 21.4
comp=Z,29nm,1.0s
EIL Elat 85.08 22 LR LR 23 13 51.0
comp=Z,429nm,18.1s,baz=206,slow=36
STKA Stephens Creek 85.61 140 P **P** **22 36 13.7 -1.0**
STKA Stephens Creek 85.61 140 *e*P **P** **22 36 15.4 +0.6**
STKA pmax pmax
comp=Z,10.0nm,1.0s
STKA Stephens Creek 85.61 140 P **P** **22 36 13.8 -1.0**
comp=Z,13nm,1.1s,baz=186,slow=3.9,SNR=9.4
comp=Z,13nm,1.1s
MDT Midelt 86.33 348 P **P** **22 36 18.8 +0.8**
comp=Z,14nm,1.2s,baz=234,slow=2.8,SNR=4.1
MDT LR LR 23 11 30.9
comp=Z,249nm,19.5s,baz=219,slow=33
comp=Z,14nm,1.2s
EGSI Enggano, Bengk 87.13 95 P **P** **22 36 26.5 +4.1**
comp=Z,104nm,1.5s
ASF Jabal al Asfar 87.93 23 LR LR 23 15 40.3
comp=Z,326nm,18.0s,baz=155,slow=36
KEST Kesra 88.29 359 IAmb IAmb 22 36 43.3
comp=Z,15nm,1.0s
KEST Kesra 88.29 359 P **P** **22 36 27.7 +0.3**
comp=Z,12nm,1.1s,baz=154,slow=8.3,SNR=5.2
comp=Z,12nm,1.1s
MMAI Mount Meron Ar 88.40 21 LR LR 23 16 06.6
comp=Z,285nm,18.5s,baz=198,slow=36
IDI Anoyia 88.80 12 LR LR 23 17 44.3
comp=Z,277nm,19.6s,baz=290,slow=37
LEM Lembang 89.17 100 LR LR 23 08 22.2
comp=Z,294nm,22.0s,baz=215,slow=30
OTAV Otavalo 89.26 271 P **P** **22 36 33.2 +0.2**
OTAV IAmb IAmb 22 36 45.8
comp=Z,29nm,1.6s
OTAV Otavalo 89.26 271 P **P** **22 36 33.3 +0.2**
OTAV pmax pmax
comp=Z,29nm,1.7s
ASAR Alice Springs 89.53 130 P **P** **22 36 32.3 -1.5**
ASAR Alice Springs 89.53 130 P **P** **22 36 33.1 -0.7**
comp=Z,4.0nm,1.1s,baz=202,slow=5.3,SNR=13
ASAR PP **PP** **22 40 08.0 +3.4**
comp=Z,1.3nm,0.9s,baz=224,slow=7.0,SNR=4.3
comp=Z,4.0nm,1.1s
APE Apeiranthos 90.64 12 *i* P P 22 36 43.9 +5.6
APE pmax pmax
comp=Z,35nm,1.1s
CEL Celeste 90.96 5 P **P** **22 36 39.8 0.0**
CEL IAmb IAmb 22 36 45.3
comp=Z,14nm,1.0s
RPSI Rantau Prapat 91.47 88 P **P** **22 36 41.1 -1.6**
RPSI IAmb IAmb 22 36 44.9
comp=Z,18nm,1.1s
PSI Prapat 91.55 87 P **P** **22 36 41.1 -2.2**
PSI pmax pmax
comp=Z,18nm,1.1s
TIP Timpagrande 91.92 5 P **P** **22 36 44.3 0.0**
TIP IAmb IAmb 22 36 49.9
comp=Z,24nm,1.2s
WRA Warramunga Arr 92.94 129 P **P** **22 36 48.0 -1.6**
WRA Warramunga Arr 92.94 129 P **P** **22 36 48.0 -1.6**
comp=Z,1.0nm,0.9s,baz=211,slow=4.5,SNR=3.0
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 93.02 349 IAmb IAmb 22 36 53.4
comp=Z,11nm,1.2s
ESDC Sonseca Array 93.02 349 P **P** **22 36 48.9 -0.4**
comp=Z,9.0nm,1.2s,baz=171,slow=4.2,SNR=13
comp=Z,9.0nm,1.2s
BRTR Keskin Array B 94.52 18 *e*P **P** **22 36 57.8 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 94.52 18 P **P** **22 36 56.8 +0.4**
comp=Z,0.5nm,0.7s,baz=179,slow=8.4,SNR=4.2
KIV Kislovodsk 100.51 23 *e*P **Pdif** **22 37 26.8 +3.6**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,222nm,20.0s
VYHS Vyhne 101.32 6 *i* P **Pdif** **22 37 33.1 +6.5**
TBI Tubuai 101.97 199 *e*LR LR 23 11 02.1
comp=Z,2µm,30.5s
PPT2 Papeete2 107.59 200 *e*LR LR 23 13 05.2
comp=Z,591nm,27.2s
PPT2 *e*LR LR 23 13 07.4
comp=Z,411nm,30.0s
TNCH TengChong 108.69 73 Pdif **Pdif** **22 37 59.8 -0.4**
TNCH PP **PP** **22 42 34.5 +2.7**
TNCH S **Sdif** **22 50 09.5 +1.0**
TNCH AMB AMB
comp=Z,170nm,5.9s
TNCH LR LR
comp=Z,210nm,10.4s
TNCH LR LR
comp=Z,200nm,10.8s
QIZ Qiongzhong 110.84 86 Pdif **Pdif** **22 38 08.3 -1.3**
QIZ S **Sdif** **22 50 24.0 -2.2**
QIZ SS **SS** **22 58 18.0 +0.7**
QIZ LR LR
comp=Z,320nm,22.7s
QIZ LR LR
comp=Z,570nm,21.0s
QIZ LR LR
comp=Z,340nm,10.3s
PZH PanZhiHua 111.69 75 PKP **PKiKP** **22 42 12.0 +1.1**
MK31 Makanchi Array 116.85 47 PKPdf **PKPdf** **22 42 18.6 -1.4**
MK31 Makanchi Array 116.85 47 PKIKP **PKPdf** **22 42 18.6 -1.4**
MKAR Makanchi Array 116.85 47 PKP **PKPdf** **22 42 18.7 -1.3**
comp=Z,1.1nm,0.9s,baz=241,slow=2.5,SNR=9.4
BRVK Borovoye 116.96 36 *i* PKIKP **PKiKP** **22 42 24.3 +4.3**
BVAR Borovoye Array 116.97 36 PKP **PKPdf** **22 42 19.0 -1.0**
comp=Z,2.0nm,0.9s,baz=284,slow=3.0,SNR=9.2
WMQ Urumqi 117.11 53 *e*PKP **PKPdf** **22 42 19.8 -0.8**
WMQ LR LR
comp=Z,720nm,15.7s
WMQ LR LR
comp=Z,820nm,21.7s
WMQ LR LR
comp=Z,520nm,18.1s
KURBB Kurchatov Arra 118.19 42 PKP **PKPdf** **22 42 20.9 -1.4**
comp=Z,0.5nm,0.8s,baz=225,slow=2.7,SNR=5.5
KURK Kurchatov 118.29 42 PKIKP **PKPdf** **22 42 20.9 -1.7**
LZH Lanzhou 119.97 69 *e*PKP **PKPdf** **22 42 26.0 -0.5**
LZH LR LR
comp=Z,650nm,16.8s
LZH LR LR
comp=Z,740nm,19.6s
LZH LR LR
comp=Z,760nm,18.1s
GTA Gaotai 120.11 64 *e*PKP **PKPdf** **22 42 26.3 -0.3**
GTA LR LR
comp=Z,620nm,22.2s
GTA LR LR
comp=Z,670nm,23.6s
GTA LR LR
comp=Z,580nm,20.7s
DGZ Jazzator, Alta 121.31 48 *i* PKIKP **PKiKP** **22 42 33.0 +4.2**
DGZ pmax pmax
comp=Z,1.0nm,1.1s
ZALV Zalesovo Beam 123.24 43 PKP **PKPdf** **22 42 30.3 -1.7**
comp=Z,1.7nm,0.8s,baz=285,slow=2.9,SNR=7.0
NJ2 Nanjing 125.90 83 *e*PKP **PKiKP** **22 42 38.0 -0.2**
BTO Baotou 126.59 69 *e*PKP **PKPdf** **22 42 37.3 -1.7**
BTO PP **PP** **22 44 38.0 +1.9**
BTO SS SS 23 01 44.8 +3.6
BTO AMB AMB
comp=Z,430nm,5.4s
BTO LR LR
comp=Z,910nm,16.4s
BTO LR LR
comp=Z,2µm,19.9s
BTO LR LR
comp=Z,860nm,22.6s
TXAR Lajitas Array 126.89 271 PKP **PKPdf** **22 42 38.6 -1.3**
comp=Z,2.3nm,1.2s,baz=160,slow=4.0,SNR=7.1
HNS HongShan 127.13 75 *e*PKP **PKPdf** **22 42 36.8 -3.2**
HNS LR LR
comp=Z,580nm,16.5s
HNS LR LR
comp=Z,280nm,18.1s
HHC Hu-ho-hao-te 127.63 70 *e*PKP **PKiKP** **22 42 41.5 0.0**
SONM Songino Array 129.31 60 *e*PKIKP **PKPdf** **22 42 43.5 -0.5**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 129.31 60 PKP **PKPdf** **22 42 42.3 -1.7**
comp=Z,0.9nm,0.7s,baz=224,slow=3.1,SNR=7.8
NRIK Noril'sk 134.25 29 *i* PKIKP **PKiKP** **22 42 53.6 -0.2**
NRIK pmax pmax
comp=Z,2.0nm,1.1s
ULM Lac du Bonnet 135.78 298 PKP **PKPdf** **22 42 56.1 +0.2**
comp=Z,0.7nm,0.5s,baz=137,slow=7.4,SNR=3.1
PHWY Pilot Hill 136.01 282 **PKPdf** **22 42 57.0 -0.1**
PDAR Pinedale Array 139.33 281 PKhKP PKPpre 22 42 54.8
comp=Z,0.7nm,0.8s,baz=123,slow=5.5,SNR=4.7
GWY Greenwater Val 139.50 267 PKPdf **PKPdf** **22 43 03.3 -0.2**
NVAR Mina Array Bea 141.95 269 PKhKP PKPpre 22 43 03.0
comp=Z,1.5nm,0.8s,baz=136,slow=4.6,SNR=9.4
HLID Hailey 142.69 278 P **PKPdf** **22 43 05.5 -3.5**
baz=125
MSO Missoula 144.18 283 P **PKPab** **22 43 09.0 -0.2**
baz=121
J05D Fort Rock, OR 146.64 273 PKPdf **PKPdf** **22 43 16.4 +0.6**
YBH Yreka Blue Hor 146.65 270 PKPbc **PKPdf** **22 43 16.0 +0.2**
comp=Z,5.7nm,0.9s,baz=296,slow=1.4,SNR=10
NEW Newport 146.76 284 PKPdf **PKPdf** **22 43 16.2 +0.5**
NEW Newport 146.76 284 P **PKPbc** **22 43 17.5 0.0**
baz=118
NEW Newport 146.76 284 PKIKP **PKPdf** **22 43 16.2 +0.5**
D08A Wollman Farm, 147.24 281 PKPdf **PKPdf** **22 43 16.2 -0.3**
HAWA Hanford 147.28 279 PKPdf **PKPdf** **22 43 16.5 -0.1**
YAK Yakutsk 147.48 50 *e*PKIKP **PKPdf** **22 43 16.9 +0.5**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.3s
TIXI Tiksi 147.94 32 PKPdf **PKPdf** **22 43 16.9 0.0**
TIXI Tiksi 147.94 32 PKIKP **PKPdf** **22 43 16.9 0.0**
YKA Yellowknife Ar 149.84 310 PKPdf **PKPdf** **22 43 21.5 +1.3**
YKA Yellowknife Ar 149.84 310 PKPbc **PKPbc** **22 43 23.3 -1.7**
comp=N,7.0nm,0.9s,baz=94,slow=2.2,SNR=7.7
A36M Sachs Harbour 152.90 331 P **PKPbc** **22 43 31.3 -0.5**
baz=69
WRGLY Wrigley 153.93 312 P **PKPab** **22 43 49.6 +1.8**
baz=88
KOTAN Kotaneelee Air 154.13 304 P **PKPab** **22 43 51.6 +2.8**
baz=94
TGTN Hyland Airport 156.23 308 P **PKPab** **22 43 59.5 +1.7**
baz=88
WTLY Watson Lake, Y 156.50 304 P **PKPab** **22 44 01.5 +2.5**
baz=90
INK Inuvik 156.91 326 PKPab **PKPab** **22 44 02.1 +1.7**
INK Inuvik 156.91 326 PKP2 **PKPab** **22 44 02.1 +1.7**
MMPY Sheldon Lake, 157.54 311 P **PKPab** **22 44 03.0 -0.4**
baz=82
G31M Satah River 157.71 323 P **PKPab** **22 44 05.3 +1.4**
baz=68
FARO Faro, Yukon 158.55 310 P **PKPab** **22 44 10.5 +2.8**
baz=81
E28M Babbage River 158.74 329 P **PKPab** **22 44 09.6 +1.3**
baz=58
D27M Malcolm River 158.81 331 P **PKPab** **22 44 11.4 +2.7**
baz=54
M31M Drury Creek, Y 159.04 310 P **PKPab** **22 44 10.5 +0.6**
baz=80
I30M Mount Dempster 159.11 319 P **PKPab** **22 44 12.0 +1.8**
baz=70
K29M Barlow Dome 160.03 316 P **PKPab** **22 44 15.7 +1.5**
baz=72
M30M Minto, Yukon 160.06 312 P **PKPab** **22 44 16.4 +2.1**
baz=76
N30M Aishikik Lake 160.44 309 P **PKPab** **22 44 16.5 +0.5**
baz=79
H27K Steamboat Moun 160.62 324 P **PKPab** **22 44 18.1 +1.5**
baz=60
F26K Sheenjek River 160.67 330 P **PKPab** **22 44 18.5 +1.7**
baz=53
DAWY Dawson 160.74 317 PKPab **PKPab** **22 44 17.2 -0.1**
M29M Somme Creek 160.84 312 P **PKPab** **22 44 20.4 +2.6**
baz=74
D24K Happy Valley 160.96 337 P **PKPab** **22 44 19.8 +1.8**
baz=42
B22K Teshekpuk Lake 160.97 343 P **PKPab** **22 44 20.6 +2.7**
baz=32
G26K Porcupine Rive 161.00 328 P **PKPab** **22 44 20.4 +2.2**
baz=55
D23K Nanushuk River 161.54 338 P **PKPab** **22 44 23.7 +3.2**
baz=39
G25K Bearman Lake 161.85 329 P **PKPab** **22 44 24.4 +2.5**
baz=52
F24K Squaw Lake 161.88 332 P **PKPab** **22 44 25.9 +3.8**
baz=47
YUK3 Moose Creek 161.93 311 P **PKPab** **22 44 25.4 +2.7**
baz=74
L27K Beaver Creek, 162.12 316 P **PKPab** **22 44 25.6 +2.3**
baz=68

M27K	**Edge Creek, AK**	**162.39**	**313**	P	**PKPab**	**22 44**	**25.1 +0.5**
	baz=70						
L26K	**Log Cabin Wild**	**162.77**	**316**	P	**PKPab**	**22 44**	**28.7 +2.6**
	baz=66						
J25K	**Salcha River,**	**162.83**	**323**	P	**PKPab**	**22 44**	**27.0 +0.6**
	baz=58						
B18K	**Kokolik River**	**163.07**	**350**	P	**PKPab**	**22 44**	**29.9 +2.7**
	baz=17						
MCARA	**McCarthy VSAT**	**163.22**	**311**	P	**PKPab**	**22 44**	**31.0 +2.9**
	baz=72						
ILAR	**Eielson Array**	**163.29**	**324**	PKPab	**PKPab**	**22 44**	**28.0 -0.3**
ILAR	**Eielson Array**	**163.29**	**324**	PKP2	**PKPab**	**22 44**	**28.0 -0.3**
ILAR	**Eielson Array**	**163.29**	**324**	PKPab	**PKPab**	**22 44**	**27.9 -0.5**
	comp=N,2.6nm,1.0s,baz=41,slow=3.2,SNR=11						
D19K	**Kuna River**	**163.40**	**345**	P	**PKPab**	**22 44**	**30.7 +2.0**
	baz=25						
C18K	**Utukok River**	**163.69**	**349**		**PKPab**	**22 44**	**29.1 -0.8**
N25K	**Chitina, Valde**	**163.85**	**313**	P	**PKPab**	**22 44**	**33.7 +2.7**
	baz=69						
C17K	**DeLong Mountai**	**164.07**	**351**	P	**PKPab**	**22 44**	**32.2 +0.6**
	baz=15						
G21K	**Allakaket**	**164.13**	**335**	P	**PKPab**	**22 44**	**34.2 +2.2**
	baz=38						
MLY	**Manley**	**164.42**	**329**	P	**PKPab**	**22 44**	**34.5 +1.2**
	baz=48						
E18K	**Tukpahlearik C**	**164.76**	**346**	P	**PKPab**	**22 44**	**34.6 0.0**
	baz=22						
WAT6	**Susitna Watana**	**164.78**	**318**	P	**PKPab**	**22 44**	**37.7 +2.5**
	baz=60						
H17K	**Granite Mounta**	**166.91**	**341**	P	**PKPab**	**22 44**	**44.0 -0.2**
	baz=27						
L20K	**Farewell, AK**	**167.17**	**325**	P	**PKPab**	**22 44**	**46.2 +0.7**
	baz=49						
J18K	**Innoko River**	**167.36**	**332**	P	**PKPab**	**22 44**	**48.5 +2.2**
	baz=39						

IDC ***28*** *22:46:15.2±0.9, 43˚.65N×127˚.45W, h0km, mb3.9/15, mbtmp4.0/21, ML3.9/7, MS4.5/68, Error ellipse: s-maj=18.3km s-min=9.8km az=40.0*

NEIC ***28*** *22:46:16.2±1.5, 43˚.55N±0˚.06×127˚.5W±0˚.1, h10km±1km, mb4.9/186, ML4.4/90, Ms_20 4.7/230, Mwb5.4/15, Mww5.5/42, Error ellipse: s-maj=14.7km s-min=10.2km az=250.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.10; Mθθ-1.08; Mϕϕ 1.18; Mrθ-0.36; Mθϕ-0.75; Mϕr-0.23; Fault plane solution: M0 1.42000×10¹⁷ NP1:ϕs27.00000°, δ81.11000°, λ-15.51000°. NP2: ϕs119.45000°, δ74.68000°, λ-170.78000°. Principal axes: T 1.4151, Plg4.0000°, Azm74.0000°; N 0.0151, Plg72.0000°, Azm178.0000°; P -1.4301, Plg17.0000°, Azm343.0000°;*

GCMT ***28*** *22:46:20.2±0.1, 43˚.42N±0˚.01×127˚.68W±0˚.01, h22km, MW5.5/157, Moment Tensor Solution. s109,c171; s157,c293; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.03±.04; Mθθ-1.90±.03; Mϕϕ 1.93±.03; Mrθ-0.21±.06; Mθϕ-1.62±.03; Mϕr0.15±.05; Best double couple: M0 2.52200×10¹⁷ NP1:ϕs295.00000°, δ89.00000°, λ174.00000°. NP2:ϕs25.00000°, δ84.00000°, λ1.00000°. Principal axes: T 2.5420, Plg5.0000°, Azm250.0000°; N -0.0430, Plg84.0000°, Azm104.0000°; P -2.5020, Plg3.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***28*** *22:46:20.0±0.0, 43˚.60N×127˚.00W, h10km, mb4.6/15, mB5.4/9, Ms5.3/11, Ms7 4.9/11*

NEIC ***28*** *22:46:22.8, 43˚.61N×126˚.82W, h18km*

NEIC ***28*** *22:46:22.8, 43˚.51N×128˚.06W, h18km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10¹⁷Nm; Mrr-0.02; Mθθ-1.76; Mϕϕ 1.78; Mrθ-0.09; Mθϕ-1.51; Mϕr0.68; Fault plane solution: M0 2.42000×10¹⁷ NP1:ϕs25.62000°, δ82.27000°, λ13.36000°. NP2:ϕs293.79000°, δ76.77000°, λ172.06000°. Principal axes: T 2.5097, Plg15.0000°, Azm250.0000°; N -0.1891, Plg75.0000°, Azm55.0000°; P -2.3206, Plg4.0000°, Azm159.0000°;*

NEIC ***28*** *22:46:22.8, 43.61N×126˚.82W, h10km*

ISC 28 22:46:19.4±0.5, 43˚.62N±0˚.06×127˚.42W±0˚.05, h15km, n815, σ2s61/605, mb4.8/94, MS4.7/178, 1D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.37**	**107**		**Pn**	**22 46 53.4**	**-4.4**
J01E	**Myrtle Point**	**2.58**	**99**		**Pn**	**22 46 56.5**	**-4.1**
J01E				IAML		22 47 43.1	
	comp=N,2µm,1.8s						
KBO	**Bosley Butte**	**2.73**	**120**		**Pn**	**22 46 58.5**	**-4.2**
KBO				IAML		22 47 50.7	
	comp=N,1µm,2.3s						
K02D	**Willamette Mer**	**2.90**	**107**		**Pn**	**22 47 00.6**	**-4.4**
K02D				IAML		22 47 40.2	
	comp=N,896nm,1.2s						
K02D				IAML		22 47 40.8	
	comp=E,1µm,0.8s						
I03D	**Drain, OR**	**2.95**	**87**		**Pn**	**22 47 03.0**	**-2.7**
I03D				IAML		22 47 45.0	
	comp=N,1µm,1.3s						
I03D				IAML		22 47 51.6	
	comp=E,1µm,2.0s						
HEBO	**Mount Hebo**	**3.07**	**57**		**Pn**	**22 47 05.5**	**-1.9**
HEBO				IAML		22 47 48.1	
	comp=E,1µm,0.4s						
HEBO				IAML		22 47 56.3	
	comp=N,920nm,1.3s						
DBO	**Dodson Butte**	**3.08**	**98**		**Pn**	**22 47 04.2**	**-3.4**
DBO				IAML		22 48 02.3	
	comp=N,1µm,1.9s						
COR	**Corvallis**	**3.12**	**70**		**Pn**	**22 47 05.7**	**-2.2**
KSXB	**Camp Six Broad**	**3.16**	**123**		**Pn**	**22 47 04.6**	**-4.1**
KSXB				IAML		22 47 46.2	
	comp=N,960nm,1.8s						
KSXB				IAML		22 47 59.9	
	comp=E,1µm,2.4s						
L02F	**Cave Junction**	**3.20**	**117**		**Pn**	**22 47 05.6**	**-3.5**
L02F				IAML		22 47 51.4	
	comp=N,1µm,1.9s						
L02F				IAML		22 47 53.5	
	comp=E,1µm,2.1s						
BUCK	**Buck Mountain**	**3.25**	**78**		**Pn**	**22 47 08.2**	**-1.8**
BUCK				IAML		22 47 55.6	
	comp=E,791nm,2.2s						
BUCK				IAML		22 48 21.8	
	comp=N,703nm,2.0s						
KRMB	**Red Mountain**	**3.33**	**128**		**Pn**	**22 47 06.7**	**-4.3**
KRMB				IAML		22 47 49.1	
	comp=N,675nm,2.4s						
G03D	**McMinnville, O**	**3.38**	**60**		**Pn**	**22 47 09.2**	**-2.3**
G03D				IAML		22 47 59.8	
	comp=E,821nm,1.1s						
G03D				IAML		22 48 00.4	
	comp=N,1µm,0.9s						
HUMO	**Hull Mountain**	**3.42**	**106**	Pn	**Pn**	**22 47 08.7**	**-3.4**
HUMO				IAML		22 47 54.0	
	comp=N,863nm,2.4s						
H04D	**Lebanon**	**3.49**	**73**		**Pn**	**22 47 11.5**	**-1.6**
H04D				IAML		22 47 59.2	
	comp=N,561nm,1.5s						
H04D				IAML		22 48 09.3	
	comp=E,812nm,1.2s						
KRPM	**Rodgers**	**3.51**	**133**		**Pn**	**22 47 10.0**	**-3.5**
KRPM				IAML		22 47 58.4	
	comp=E,543nm,2.2s						
F03A	**Seaside**	**3.59**	**49**		**Pn**	**22 47 13.0**	**-1.5**
I04A	**Tendick Farm,**	**3.63**	**85**		**Pn**	**22 47 13.3**	**-1.8**
I04A				IAML		22 48 05.0	
	comp=N,755nm,1.8s						
I04A				IAML		22 48 06.9	
	comp=E,889nm,2.2s						
JCC	**Jacoby Creek,**	**3.76**	**137**		**Pn**	**22 47 13.9**	**-2.9**
RADR	**Rader Ridge**	**3.80**	**41**		**Pn**	**22 47 15.3**	**-2.1**
RADR				IAML		22 48 11.8	
	comp=E,398nm,1.5s						
RADR				IAML		22 48 16.9	
	comp=N,395nm,1.5s						
KHMM	**Horse Mountain**	**3.87**	**134**	Pn	**Pn**	**22 47 15.0**	**-3.5**
H04A	**Detroit Lake**	**3.91**	**72**	Pn	**Pn**	**22 47 17.5**	**-1.5**
H04A				IAML		22 48 09.8	
	comp=N,445nm,0.5s						
H04A				IAML		22 48 11.0	
	comp=E,521nm,0.4s						
YBH	**Yreka Blue Hor**	**3.95**	**117**	Pn	**Pn**	**22 47 17.1**	**-2.4**
YBH				IAML		22 48 09.3	
	comp=E,396nm,2.0s						
YBH	**Yreka Blue Hor**	**3.95**	**117**	Pn	**Pn**	**22 47 17.8**	**-1.7**
	comp=E,15nm,0.3s,baz=279,slow=12,SNR=100						
YBH				Sn	**Sn**	**22 48 05.3**	**-0.3**
	comp=E,7.4nm,0.3s,baz=94,slow=7.3,SNR=20						
YBH				LR	LR	22 48 41.1	
	comp=E,7µm,21.9s,baz=300,slow=37 comp=E,40nm,0.3s						
F04D	**Rainier, OR**	**3.99**	**50**		**Pn**	**22 47 18.4**	**-1.5**
E03A	**Lebam**	**4.00**	**42**	Pn	**Pn**	**22 47 18.3**	**-1.8**
E03A				IAML		22 48 10.8	
	comp=N,449nm,0.6s						
E03A				IAML		22 48 13.6	
	comp=E,506nm,0.5s						
L04D	**Klamath Falls**	**4.01**	**109**	Pn	**Pn**	**22 47 18.1**	**-2.3**
KMPM	**Mount Pierce**	**4.03**	**141**		**Pn**	**22 47 16.6**	**-4.0**
KMPM				IAML		22 49 52.1	
	comp=N,408nm,4.6s						
F04A	**Amboy**	**4.25**	**55**		**Pn**	**22 47 22.5**	**-0.9**
K04D	**Chiloquin, OR**	**4.26**	**101**		**Pn**	**22 47 21.8**	**-2.0**
WISH	**Wishkah**	**4.34**	**35**		**Pn**	**22 47 23.2**	**-1.6**
WISH				IAML		22 49 01.3	
	comp=N,405nm,2.0s						
KMRM	**Mail Ridge**	**4.38**	**140**	Pn	**Pn**	**22 47 22.4**	**-3.0**
I05D	**Terrebonne, OR**	**4.45**	**79**	Pn	**Pn**	**22 47 24.9**	**-1.4**
I05D				IAML		22 49 05.7	
	comp=E,470nm,1.8s						
I05D				IAML		22 49 21.9	
	comp=N,331nm,2.5s						
HOOD	**Mount Hood Mea**	**4.46**	**66**		**Pn**	**22 47 25.2**	**-1.4**
J05D	**Fort Rock, OR**	**4.51**	**92**	Pn	**Pn**	**22 47 25.3**	**-2.0**
J05D				IAML		22 48 32.2	
	comp=E,403nm,1.5s						
J05D				IAML		22 49 18.8	
	comp=N,387nm,3.2s						
NLWA	**Neilton Lookou**	**4.53**	**32**		**Pn**	**22 47 25.5**	**-1.8**
G05A	**Wamic**	**4.66**	**67**	Pn	**Pn**	**22 47 28.4**	**-0.8**
G05A				IAML		22 49 50.6	
	comp=N,306nm,2.1s						
PINE	**Pine Mountain**	**4.70**	**86**	Pn	**Pn**	**22 47 28.1**	**-1.8**
PINE				IAML		22 48 48.1	
	comp=N,234nm,2.3s						
PINE				IAML		22 49 45.5	
	comp=E,232nm,3.4s						
C03A	**Quillayute Air**	**4.77**	**24**	Pn	**Pn**	**22 47 28.8**	**-1.8**
C03A				IAML		22 50 11.1	
	comp=N,243nm,3.6s						
C03A				IAML		22 50 37.8	
	comp=E,265nm,4.2s						
K05A	**Summer Lake**	**4.85**	**98**	Pn	**Pn**	**22 47 30.1**	**-1.9**
KCPM	**Cahto Peak**	**4.86**	**143**		**Pn**	**22 47 28.4**	**-3.7**
LON	**Longmire**	**5.05**	**50**		**Pn**	**22 47 34.1**	**-0.5**
LON				IAML		22 48 38.5	
	comp=N,270nm,1.2s						
LON				IAML		22 48 47.2	
	comp=E,208nm,1.1s						
GNW	**Green Mountain**	**5.10**	**38**	Pn	**Pn**	**22 47 33.5**	**-1.7**
GNW				IAML		22 48 36.0	
	comp=N,188nm,0.4s						
D05A	**Enumclaw**	**5.23**	**45**		**Pn**	**22 47 37.0**	**0.0**
HOPS	**Hopland Field**	**5.66**	**143**		**Pn**	**22 47 41.4**	**-1.5**
CLRS	**Cowichan Lake**	**5.68**	**22**	Pn	**Pn**	**22 47 41.2**	**-2.0**
PGC	**Sidney**	**5.74**	**27**	Pn	**Pn**	**22 47 42.5**	**-1.4**
I07A	**Izee**	**5.74**	**83**		**Pn**	**22 47 42.9**	**-1.2**
F07A	**Phinny Hill Vi**	**5.80**	**64**		**Pn**	**22 47 43.3**	**-1.5**
MXC	**Moxie City**	**5.85**	**57**		**Pn**	**22 47 44.8**	**-0.8**
GDXM	**Geysers**	**5.93**	**142**		**Pn**	**22 47 44.3**	**-2.5**
LTY	**Liberty**	**5.98**	**50**		**Pn**	**22 47 46.7**	**-0.7**
ORV	**Oroville**	**6.01**	**130**	Pn	**Pn**	**22 47 45.8**	**-1.9**
E07A	**Sunnyside**	**6.11**	**59**	Pn	**Pn**	**22 47 47.6**	**-1.5**
HAWA	**Hanford**	**6.24**	**61**	Pn	**Pn**	**22 47 49.4**	**-1.5**
G08A	**Pilot Rock**	**6.28**	**72**	Pn	**Pn**	**22 47 50.2**	**-1.3**
J08A	**Circle Bar Ran**	**6.51**	**89**	Pn	**Pn**	**22 47 53.5**	**-1.2**
WVOR	**Wild Horse Val**	**6.54**	**97**		**Pn**	**22 47 52.4**	**-2.8**
E08A	**Dider Farm, El**	**6.58**	**61**		**Pn**	**22 47 54.5**	**-1.1**
PLTX	**Planet X, Gerl**	**6.58**	**113**	Pn	**Pn**	**22 47 53.2**	**-2.5**
AFDM	**Forest Hills D**	**6.73**	**132**	Pn	**Pn**	**22 47 55.0**	**-2.6**
D08A	**Wollman Farm,**	**6.91**	**57**	Pn	**Pn**	**22 47 58.6**	**-1.4**
MPK	**Martis Peak**	**7.03**	**125**		**Pn**	**22 47 58.4**	**-3.6**
PAHR	**Pah Rah Range**	**7.17**	**120**		**Pn**	**22 48 00.2**	**-3.6**
E09A	**Wood Farm, Sta**	**7.18**	**63**	Pn	**Pn**	**22 48 01.5**	**-2.2**
BMO	**Blue Mountains**	**7.37**	**77**	Pn	**Pn**	**22 48 04.4**	**-2.1**
PNTR	**Pine Nut**	**7.42**	**125**	Pn	**Pn**	**22 48 03.6**	**-3.6**
F10A	**Beach Ranch, E**	**7.62**	**68**		**Pn**	**22 48 06.7**	**-3.2**
C09A	**Chrisman Ranch**	**7.64**	**54**	Pn	**Pn**	**22 48 09.1**	**-1.1**
YERR	**Yerington**	**7.70**	**124**		**Pn**	**22 48 08.4**	**-2.7**
CMB	**Columbia Colle**	**7.71**	**134**	Pn	**Pn**	**22 48 08.4**	**-2.7**
WAKR	**Walker**	**7.90**	**128**		**Pn**	**22 48 10.6**	**-3.3**
SAO	**San Andreas Ge**	**8.23**	**144**	Pn	**Pn**	**22 48 13.6**	**-4.6**
BMN	**Battle Mountai**	**8.23**	**109**	Pn	**Pn**	**22 48 15.7**	**-2.6**
PLID	**Pearl Lake**	**8.31**	**76**	Pn	**Pn**	**22 48 17.8**	**-1.7**
RYN	**Ryan**	**8.36**	**124**		**Pn**	**22 48 17.6**	**-2.5**
KVN	**Kaiserville**	**8.36**	**120**	Pn	**Pn**	**22 48 17.8**	**-2.3**
MFID	**Camas Ranch**	**8.43**	**87**	Pn	**Pn**	**22 48 18.5**	**-2.5**
NEW	**Newport**	**8.55**	**53**	Pn	**Pn**	**22 48 21.2**	**-1.3**
NEW	**Newport**	**8.55**	**53**	P	**Pn**	**22 48 21.2**	**-1.3**
	baz=241,SNR=21						
NEW	**Newport**	**8.55**	**53**	Pn	**Pn**	**22 48 21.5**	**-1.0**
	comp=N,1.6nm,0.3s,baz=236,slow=12,SNR=22						
NEW				Sn	**Sn**	**22 49 57.8**	**-0.8**
	baz=301,slow=22 comp=N,12nm,0.6s						
BBGB	**Big Mountain B**	**8.56**	**143**		**Pn**	**22 48 19.0**	**-3.8**
BBB	**Bella Bella**	**8.59**	**357**	Pn	**Pn**	**22 48 22.8**	**-0.2**
	comp=N,0.5nm,0.3s,baz=339,slow=23,SNR=0.8						
BBB				Sn	**Sn**	**22 49 54.5**	**-5.0**
	comp=N,0.2nm,0.3s,baz=107,slow=23,SNR=1.7						
BBB				LR	LR	22 51 10.4	
	comp=N,5µm,21.4s,baz=176,slow=34						
NVAR	**Mina Array Bea**	**8.62**	**124**		**Pn**	**22 48 20.5**	**-3.2**
NVAR	**Mina Array Bea**	**8.62**	**124**	Pn	**Pn**	**22 48 23.8**	**+0.1**
	comp=N,0.4nm,0.3s,baz=295,slow=12,SNR=29						
NVAR				LR	LR	22 51 19.8	
	comp=N,2µm,20.4s,baz=306,slow=35 comp=N,5.5nm,0.9s						
NV11	**Mina Array Sit**	**8.70**	**123**	Pn	**Pn**	**22 48 22.1**	**-2.8**
MDPB	**Devils Postpil**	**8.71**	**131**		**Pn**	**22 48 22.1**	**-2.9**
MLAC	**Mammoth, Mammo**	**8.85**	**130**	P	**Pn**	**22 48 25.4**	**-1.5**
	baz=315						
PMPB	**Monarch Peak**	**8.97**	**143**	Pn	**Pn**	**22 48 26.2**	**-2.2**
HLID	**Hailey**	**9.44**	**86**	P	**Pn**	**22 48 33.7**	**-1.2**
	baz=274,SNR=36						
ELK	**Elko**	**9.48**	**103**	Pn	**Pn**	**22 48 36.6**	**+1.0**
	comp=N,0.4nm,0.3s,baz=293,slow=12,SNR=22 comp=N,9.7nm,0.9s						
VOG	**Valley Oaks Go**	**9.54**	**137**	P	**Pn**	**22 48 36.3**	**+0.1**
	baz=322,SNR=5.8						
TIN	**Tinemaha, Big**	**9.59**	**130**	P	**Pn**	**22 48 37.0**	**0.0**
	baz=316,SNR=8.4						
MSO	**Missoula**	**10.04**	**67**	P	**Pn**	**22 48 41.3**	**-1.7**
	baz=256,SNR=54						
VES	**Vestal, Richgr**	**10.07**	**138**	P	**Pn**	**22 48 43.3**	**-0.1**
	baz=323,SNR=52						
SMMC	**Simmler**	**10.08**	**143**	P	**Pn**	**22 48 42.9**	**-0.7**
	baz=327						
CWC	**Cottonwood Cre**	**10.12**	**132**	P	**Pn**	**22 48 42.1**	**-2.2**
	baz=318						
GRAC	**Grapevine Rang**	**10.12**	**127**	P	**Pn**	**22 48 42.8**	**-1.5**
	baz=314,SNR=39						
R11B	**Troy Canyon, C**	**10.37**	**116**	P	**Pn**	**22 48 46.0**	**-1.7**
	baz=304,SNR=8.9						
ISA	**Isabella, Lake**	**10.51**	**136**	Pn	**Pn**	**22 48 49.0**	**-0.5**
ISA	**Isabella, Lake**	**10.51**	**136**	P	**Pn**	**22 48 49.5**	**0.0**
	baz=322,SNR=40						
PKM	**Mcpherson Peak**	**10.52**	**143**	P	**Pn**	**22 48 49.6**	**-0.1**
	baz=328						
OVMT	**Ovando**	**10.72**	**66**		Pn	22 48 47.3	-5.1
ARVC	**Arvin**	**10.77**	**139**	P	**Pn**	**22 48 50.9**	**-2.0**
	baz=324,SNR=30						
FURC	**Furnace Creek,**	**10.78**	**128**	P	**Pn**	**22 48 53.2**	**0.0**
	baz=314,SNR=16						
SBC	**Santa Barbara**	**10.94**	**144**	P	**Pn**	**22 48 53.7**	**-1.6**
	baz=329						
LRMC	**Laurel Mtn Rad**	**11.06**	**134**	P	**Pn**	**22 48 56.0**	**-1.1**
	baz=320						
OSI	**Osito Audit: C**	**11.23**	**140**	P	**Pn**	**22 48 57.9**	**-1.5**
	baz=326						
SCZ2	**Santa Cruz Isl**	**11.36**	**145**	P	**Pn**	**22 49 00.1**	**-0.9**
	baz=330						
EDW2	**Edwards Air Fo**	**11.37**	**137**	P	**Pn**	**22 49 00.9**	**-0.4**
	baz=323,SNR=18						
DUG	**Dugway, Tooele**	**11.41**	**102**	P	**Pn**	**22 48 59.4**	**-2.4**
	baz=292,SNR=20						
SHOC	**Shoshone, Teco**	**11.52**	**128**	P	**Pn**	**22 49 03.5**	**+0.2**
	baz=315,SNR=11						
GSC	**Goldstone, Bar**	**11.66**	**132**	Pn	**Pn**	**22 49 02.7**	**-2.5**
GSC	**Goldstone, Bar**	**11.66**	**132**	P	**Pn**	**22 49 07.7**	**+2.4**
	baz=318,SNR=23						
DECC	**Green Verdugo**	**11.71**	**140**	P	**Pn**	**22 49 04.0**	**-2.0**
	baz=325						
SHPR	**Sheep Range**	**11.77**	**123**		**Pn**	**22 49 04.2**	**-2.6**
PASC	**Pasadena Art C**	**11.85**	**140**	Pn	**Pn**	**22 49 05.2**	**-2.6**
HWUT	**Hardware Ranch**	**11.85**	**94**	Pn	**Pn**	**22 49 05.9**	**-2.1**
RRX	**Edison Barstow**	**11.88**	**134**	P	**Pn**	**22 49 06.4**	**-1.9**
	baz=320						
AHID	**Auburn Hatcher**	**11.95**	**88**		**Pn**	**22 49 06.6**	**-2.6**
YHH	**Holmes Hill**	**11.95**	**79**	Pn	**Pn**	**22 49 07.3**	**-2.1**
TPAW	**Teton Pass**	**11.95**	**85**		**Pn**	**22 49 06.1**	**-3.3**
YFT	**Old Faithful**	**11.97**	**80**		**Pn**	**22 49 07.2**	**-2.4**
NLU	**North Lily Min**	**12.02**	**102**	Pn	**Pn**	**22 49 08.6**	**-1.7**
V35K	**Ketchikan**	**12.03**	**348**	P	**Pn**	**22 49 13.8**	**+3.6**
	baz=166						
REDW	**Red Top Meadow**	**12.04**	**85**		**Pn**	**22 49 06.5**	**-4.0**
BFSC	**Mount Baldy Ra**	**12.05**	**138**	P	**Pn**	**22 49 07.0**	**-3.6**
	baz=324						
TUQ	**Turquoise Moun**	**12.05**	**129**	P	**Pn**	**22 49 13.3**	**+2.7**
	baz=316,SNR=12						
SNCC	**San Nicolas Is**	**12.05**	**147**	P	**Pn**	**22 49 08.7**	**-1.9**
	baz=331						
YNM	**Yellowstone No**	**12.06**	**79**	Pn	**Pn**	**22 49 07.5**	**-3.3**
WTNK	**Soaring Height**	**12.06**	**124**		**Pn**	**22 49 07.3**	**-3.4**
MOOW	**Moose Ponds**	**12.08**	**84**	Pn	**Pn**	**22 49 08.8**	**-2.3**
FLWY	**Flagg Ranch**	**12.08**	**82**		**Pn**	**22 49 08.3**	**-2.8**
SNOW	**Snow King Moun**	**12.10**	**85**		**Pn**	**22 49 08.9**	**-2.4**
TCUT	**Toone Canyon**	**12.10**	**96**		**Pn**	**22 49 09.0**	**-2.5**
H17A	**Grant Village**	**12.16**	**81**		**Pn**	**22 49 09.3**	**-2.9**
H17A	**Grant Village**	**12.16**	**81**	P	**Pn**	**22 49 12.2**	**+0.1**
	baz=272,SNR=47						
FMP	**Fort Macarthur**	**12.18**	**141**	P	**Pn**	**22 49 10.4**	**-1.8**
	baz=327						
LOHW	**Long Hollow**	**12.19**	**84**		**Pn**	**22 49 10.4**	**-2.3**
HEC	**Hector,Ludlow**	**12.27**	**132**	P	**Pn**	**22 49 14.9**	**+1.3**
	baz=319,SNR=41						
LKWY	**Lake**	**12.28**	**80**		**Pn**	**22 49 11.3**	**-2.6**
MPU	**Maple Canyon**	**12.31**	**102**		**Pn**	**22 49 11.2**	**-3.1**
TCRU	**Three Creeks R**	**12.34**	**109**		**Pn**	**22 49 11.9**	**-2.9**
CIS	**Catalina Islan**	**12.39**	**142**	P	**Pn**	**22 49 14.7**	**-0.4**
	baz=328						
BBRC	**Big Bear Solar**	**12.40**	**135**	P	**Pn**	**22 49 14.4**	**-1.1**
	baz=322						
CRAG	**Craig**	**12.42**	**345**	P	**Pn**	**22 49 19.1**	**+3.7**
	baz=161						
U35K	**Hyder**	**12.43**	**353**	P	**Pn**	**22 49 18.6**	**+3.1**
	baz=171						
SZCU	**Shurtz Canyon**	**12.43**	**114**		**Pn**	**22 49 12.5**	**-3.4**
YMP	**Mirror Lake Pl**	**12.45**	**79**		**Pn**	**22 49 13.2**	**-3.0**
V12A	**Nelson**	**12.47**	**125**		**Pn**	**22 49 12.4**	**-4.0**
MVU	**Marysvale**	**12.56**	**109**		**Pn**	**22 49 12.9**	**-4.8**
MSU	**Marysvale**	**12.58**	**109**	Pn	**Pn**	**22 49 14.7**	**-3.2**
ELS	**Elsinore Mount**	**12.64**	**139**		**Pn**	**22 49 13.9**	**-4.7**
LCMT	**Little Creek M**	**12.66**	**117**		**Pn**	**22 49 16.3**	**-2.7**
GMRC	**Granite Mounta**	**12.67**	**130**	P	**Pn**	**22 49 19.4**	**+0.2**
	baz=317,SNR=29						
BSUT	**Blindstream Ca**	**12.75**	**98**	Pn	**Pn**	**22 49 17.6**	**-2.9**
MURC	**Murrieta**	**12.79**	**138**	P	**Pn**	**22 49 19.2**	**-1.4**
	baz=324						
MTPU	**Mount Pierson**	**12.80**	**111**	Pn	**Pn**	**22 49 18.3**	**-2.9**
U33K	**Whale Pass**	**13.04**	**346**	P	**Pn**	**22 49 28.6**	**+4.7**
	baz=162						
BW06	**Boulder Array**	**13.06**	**88**	P	**Pn**	**22 49 26.5**	**+1.9**
	baz=280,SNR=49						
PDAR	**Pinedale Array**	**13.06**	**88**	Pn	**Pn**	**22 49 25.4**	**+0.8**
	comp=N,0.2nm,0.3s,baz=278,slow=8.2,SNR=70						
RLMT	**Red Lodge**	**13.08**	**77**	Pn	**Pn**	**22 49 22.1**	**-2.6**
RLMT	**Red Lodge**	**13.08**	**77**	P	**Pn**	**22 49 22.9**	**-1.8**
	baz=270,SNR=11						
EGMT	**Eagleton**	**13.08**	**64**	P	**Pn**	**22 49 26.1**	**+1.5**
	baz=257,SNR=9.0						
BELC	**Belle Mtn. Jos**	**13.08**	**133**	P	**Pn**	**22 49 25.0**	**+0.2**
	baz=320						
PFO	**Pinyon Flats O**	**13.15**	**136**	Pn	**Pn**	**22 49 22.3**	**-3.3**
PFO	**Pinyon Flats O**	**13.15**	**136**	P	**Pn**	**22 49 25.1**	**-0.5**
	baz=322						
PFO	**Pinyon Flats O**	**13.15**	**136**	Pn	**Pn**	**22 49 26.2**	**+0.6**
	comp=N,0.1nm,0.3s,baz=322,slow=15,SNR=5.8 comp=N,2.2nm,0.7s						
TPFO	**Pinon Flats**	**13.15**	**136**	P	**Pn**	**22 49 25.4**	**-0.3**
	baz=322						
WRAK	**Wrangell Islan**	**13.20**	**348**	P	**Pn**	**22 49 23.6**	**-2.4**
	baz=164						
NEE2	**Needles Airpor**	**13.28**	**127**	P	**Pn**	**22 49 27.9**	**+0.7**
	baz=315						
EDM	**Edmonton**	**13.38**	**39**	Pn	**Pn**	**22 49 26.8**	**-1.8**
109C	**Camp Elliot, M**	**13.42**	**140**	P	**Pn**	**22 49 25.8**	**-3.3**
	baz=326						
IRM	**Iron Mountain**	**13.42**	**131**	P	**Pn**	**22 49 30.8

KOTAN	Kotaneelee Air	16.67	6	P		P		22 50 13.3	-1.2		
	baz=189										
ISCO	Idaho Springs	16.71	96	IAmb		IAmb		22 50 19.7			
	comp=Z,77nm,1.1s										
ISCO	Idaho Springs	16.71	96	P		Pn		22 50 10.2	-3.0		
	baz=290,SNR=48										
ISCO	Idaho Springs	16.71	96	P		Pn		22 50 13.2	0.0		
	baz=290,SNR=48										
ISCO				S		Sn		22 53 22.4	+3.8		
	baz=290										
PLBC	Pleasant Camp	16.79	344	P		P		22 50 17.6	+1.8		
	baz=157										
DGMT	Dagmar	16.81	65	P		Pn		22 50 14.1	0.0		
DGMT				IAmb		IAmb		22 50 16.7			
	comp=Z,125nm,1.6s										
DGMT	Dagmar	16.81	65	P		Pn		22 50 13.7	-0.4		
	baz=262,SNR=11										
DGMT	Dagmar	16.81	65	P		P		22 50 15.1	-1.1		
	baz=262,SNR=11										
FLDN	Fort Liard	16.82	7	P		P		22 50 16.2	0.0		
	baz=190										
RSSD	Black Hills	16.86	80			Pn		22 50 11.7	-3.3		
RSSD				IAmb		IAmb		22 50 20.8			
	comp=Z,95nm,1.6s										
RSSD	Black Hills	16.86	80	P		Pn		22 50 12.0	-2.9		
	baz=276										
RSSD	Black Hills	16.86	80	P		Pn		22 50 12.3	-2.7		
	baz=276,SNR=23										
RSSD				S		S		22 53 39.3	+6.7		
	baz=276										
P33M	Teslin, Yukon	16.94	351	Pn		Pn		22 50 12.6	-3.1		
P33M	Teslin, Yukon	16.94	351	P		P		22 50 18.8	+1.2		
	baz=167										
P29M	Windy Craggy	17.23	342	P		P		22 50 20.3	-0.5		
	baz=154										
TUC	Tucson	17.27	125	P		Pn		22 50 19.8	-0.2		
	baz=315										
Q24A	Divide	17.35	98	IAmb		IAmb		22 50 27.2			
	comp=Z,113nm,1.1s										
Q24A	Divide	17.35	98	P		Pn		22 50 20.7	-0.6		
	baz=292,SNR=66										
P30M	Million Dollar	17.52	344	P		P		22 50 26.4	+2.4		
	baz=157										
SDCO	Great Sand Dun	17.61	102	IAmb		IAmb		22 50 27.0			
	comp=Z,61nm,1.1s										
SDCO	Great Sand Dun	17.61	102	P		P		22 50 24.4	-0.9		
	baz=296,SNR=89										
SDCO	Great Sand Dun	17.61	102	P		Pn		22 50 22.4	-1.9		
	baz=296,SNR=89										
SDCO				S		S		22 53 45.0	-2.9		
	baz=296										
WHY	Whitehorse	17.65	348	P		P		22 50 25.2	-0.3		
	baz=162										
N32M	Quiet Lake	17.89	351	P		P		22 50 27.9	-0.2		
	baz=167										
TGTN	Hyland Airport	17.95	359	P		Pn		22 50 28.1	-0.1		
	baz=178										
O30N	Mendenhall	17.96	346	P		P		22 50 31.3	+2.5		
	baz=159										
O29M	Mount Kennedy	18.03	342	P		P		22 50 31.4	+1.8		
	baz=153										
HYT	Haines Junctio	18.27	344			Pn		22 50 30.6	-1.6		
HYT	Haines Junctio	18.27	344	P		P		22 50 34.0	+1.6		
	baz=156										
ANMO	Albuquerque	18.36	111	P		Pn		22 50 31.2	-2.3		
ANMO	Albuquerque	18.36	111	P		Pn		22 50 32.9	-0.6		
	baz=304										
ANMO	Albuquerque	18.36	111	P		P		22 50 33.2	-0.3		
	baz=304,SNR=19										
ANMO				S		Sn		22 53 59.4	+1.1		
	baz=304										
ANMO	Albuquerque	18.36	111	P		Pn		22 50 32.6	-0.9		
	comp=Z,0.1nm,0.3s,baz=39,slow=11,SNR=21										
ANMO				LR		LR		22 57 01.3			
	comp=Z,2µm,18.8s,baz=29,slow=35										
	comp=Z,12nm,1.0s										
Y22D	IRIS PASSCAL I	18.55	114	P		P		22 50 33.1	-2.5		
	baz=307										
Y22F	Passcal Instru	18.55	114	P		P		22 50 30.1	-5.5		
	baz=307										
YUK6	Outpost Mounta	18.55	343	P		Pn		22 50 35.9	+0.1		
	baz=154										
N31M	Braeburn, Yuko	18.58	347	P		Pn		22 50 36.6	+0.7		
	baz=161										
Y22A	Socorro	18.60	114	P		Pn		22 50 37.6	+1.1		
	baz=307,SNR=16										
Y22A				S		S		22 54 12.8	+4.8		
	baz=307										
T25A	Trinidad	18.65	102	P		P		22 50 32.9	-3.9		
	baz=297,SNR=11										
N30M	Aishikik Lake	18.78	345	P		Pn		22 50 40.2	+1.9		
	baz=158										
319A	Douglas	18.83	124	IAmb		IAmb		22 50 43.6			
	comp=Z,70nm,1.3s										
OGNE	Ogallala	18.95	89	IAmb		IAmb		22 50 44.6			
	comp=Z,56nm,1.2s										
OGNE	Ogallala	18.95	89	P		P		22 50 35.7	-4.2		
	baz=286										
OGNE	Ogallala	18.95	89	S		S		22 54 23.3	+8.6		
	baz=286										
121A	Cookes Peak, D	18.96	119	IAmb		IAmb		22 50 46.7			
	comp=Z,114mm,1.8s										
121A	Cookes Peak, D	18.96	119	P		P		22 50 37.7	-2.5		
	baz=311,SNR=11										
121A	Cookes Peak, D	18.96	119	P		P		22 50 40.0	-0.2		
	baz=311,SNR=11										
121A				S		S		22 54 15.6	+0.4		
	baz=311										
FARO	Faro, Yukon	18.97	351	P		P		22 50 37.3	-2.7		
FARO	Faro, Yukon	18.97	351	P		Pn		22 50 43.3	+2.7		
	baz=167										
YUK4	Talbot Arm	18.98	343	P		Pn		22 50 42.5	+1.6		
	baz=155										
E28A	Huff	19.07	72	P		Pn		22 50 42.7	+0.9		
	baz=271,SNR=12										
M31M	Drury Creek, Y	19.07	350	P		Pn		22 50 43.1	+1.3		
	baz=164										
KSCO	Kaye Shedlock'	19.15	95	IAmb		IAmb		22 50 47.6			
	comp=Z,80nm,1.1s										
KSCO	Kaye Shedlock'	19.15	95	P		P		22 50 40.0	-2.2		
	baz=292,SNR=9.3										
KSCO	Kaye Shedlock'	19.15	95	P		Pn		22 50 44.1	+1.0		
	baz=292,SNR=9.3										
KSCO				S		S		22 54 22.7	+3.8		
	baz=292										
YUK8	Steele Glacier	19.17	342	P		Pn		22 50 44.4	+1.1		
	baz=152										
CTG	Chitna Glacier	19.27	339	P		Pn		22 50 44.0	-0.4		
	baz=148										
KAIM	Kayak Island	19.33	334	P		Pn		22 50 44.8	-0.1		
	baz=140										
YUK3	Moose Creek	19.76	341	P		Pn		22 50 51.1	+0.9		
	baz=151										
M30M	Minto, Yukon	19.77	347	P		P		22 50 46.9	-1.7		
M30M	Minto, Yukon	19.77	347	P		Pn		22 50 50.3	+0.1		
	baz=160										
MDND	Maddock	19.82	68	IAmb		IAmb		22 50 56.2			
	comp=Z,51nm,0.9s										
MDND	Maddock	19.82	68	P		P		22 50 49.0	-0.3		
	baz=268										
FFC	Flin Flon	19.89	47	P		P		22 50 49.0	-1.0		
FFC				IAmb		IAmb		22 50 54.2			
	comp=Z,122nm,1.2s										
M29M	Somme Creek	19.94	345	P		P		22 50 51.3	+0.7		
	baz=156										
MCARA	McCarthy VSAT	20.07	338	P		Pn		22 50 54.1	+0.3		
	baz=146										
BMRM	Bremner River	20.20	335	P		Pn		22 50 54.5	-0.8		
	baz=142										
EYAK	Cordova Ski Ar	20.23	333	P		Pn		22 50 55.3	-0.3		
	baz=139										
EPT	El Paso	20.27	119	IAMs_20		IAMs_20		22 58 50.7			
	comp=Z,4µm,21.0s										
KIDD	KIDD Seismic O	20.27	119	S		Sn		22 54 49.3	+4.8		
	baz=312										
K30B	Basset	20.28	83			P		22 50 54.0	-0.3		
K30B	Basset	20.28	83	P		Pn		22 50 56.5	+0.1		
	baz=282,SNR=13										
K30B				S		Sn		22 54 42.1	-2.2		
	baz=282										
YKA	Yellowknife Ar	20.34	17			P		22 50 53.5	-1.4		
YKA	Yellowknife Ar	20.34	17	P		P		22 50 53.6	-1.2		
	comp=Z,1.8nm,0.8s,baz=204,slow=11,SNR=19										
	comp=Z,1.8nm,0.8s										
HIN	Hinchinbrook I	20.37	332	IAMs_20		IAMs_20		22 56 33.1			
	comp=Z,4µm,22.0s										
P23K	Montague Islan	20.40	330	P		Pn		22 50 58.9	+1.4		
	baz=135										
BVCY	Beaver Creek	20.41	342	P		Pn		22 50 58.8	+1.1		
	baz=151										
SUSD	Miller	20.44	78	P		P		22 50 53.6	-2.5		
	baz=278										
SUSD	Miller	20.44	78	S		Sn		22 54 50.3	+2.0		
	baz=278										
L29M	L29M	20.49	346	IAMs_20		IAMs_20		22 57 32.8			
	comp=Z,3µm,21.0s										
L29M	L29M	20.49	346	P		Pn		22 50 58.5	-0.2		
	baz=158										
M27K	Edge Creek, AK	20.60	341	IAMs_20		IAMs_20		22 57 22.4			
	comp=Z,3µm,20.0s										
M27K	Edge Creek, AK	20.60	341	P		Pn		22 50 59.6	-0.5		
	baz=149										
N25K	Chitina, Valde	20.70	336	P		Pn		22 51 01.2	0.0		
	baz=143										
M26K	Nabesna, AK	20.91	339	P		Pn		22 51 02.7	-0.9		
	baz=147										
KLU	Klutina	21.01	335	P		P		22 50 59.2	-3.0		
KLU	Klutina	21.01	335	P		P		22 51 05.9	+3.8		
	baz=140										
MNTX	Cornudas Mount	21.05	117	P		P		22 51 01.3	-1.4		
	baz=311,SNR=9.6										
MNTX	Cornudas Mount	21.05	117	P		P		22 51 05.2	+2.5		
	baz=311,SNR=9.6										
MNTX				S		Sn		22 55 04.4	+1.5		
	baz=311										
K29M	Barlow Dome	21.08	348	IAMs_20		IAMs_20		22 58 03.2			
	comp=Z,3µm,20.0s										
K29M	Barlow Dome	21.08	348	P		P		22 51 05.7	+2.8		
	baz=159										
KDAK	Kodiak Island	21.16	321	P		P		22 51 05.9	+2.2		
	baz=121										
KDAK	Kodiak Island	21.16	321	LR		LR		22 57 11.2			
	comp=Z,3µm,21.6s,baz=140,slow=31										
L27K	Beaver Creek,	21.20	342	IAMs_20		IAMs_20		22 57 41.3			
	comp=Z,3µm,21.0s										
L27K	Beaver Creek,	21.20	342	P		P		22 51 05.0	+0.9		
	baz=150										
OHAK	Old Harbor	21.21	319	P		P		22 51 07.8	+3.6		
	baz=119										
SEW	Seward	21.22	329	P		P		22 51 07.5	+3.2		
	baz=131										
CBKS	Cedar Bluff	21.32	93	P		P		22 51 01.8	-3.9		
CBKS				IAmb		IAmb		22 51 22.1			
	comp=Z,54nm,1.1s										
CBKS	Cedar Bluff	21.32	93	P		P		22 51 02.5	-3.1		
	baz=292,SNR=6.4										
CBKS	Cedar Bluff	21.32	93	P		P		22 51 07.6	+1.9		
	baz=292,SNR=6.4										
CBKS				S		Sn		22 55 06.1	-3.4		
	baz=292										
SII	Sitkinak Islan	21.34	317	P		P		22 51 08.3	+2.6		
	baz=116										
MSTX	Muleshoe	21.42	108	IAmb		IAmb		22 51 20.4			
	comp=Z,39nm,1.2s										
MSTX	Muleshoe	21.42	108	P		P		22 51 03.4	-3.5		
	baz=304										
MSTX	Muleshoe	21.42	108	P		P		22 51 08.3	+1.5		
	baz=304										
MSTX				S		Sn		22 55 10.5	-1.5		
	baz=304										
BRSE	Bradley Lake S	21.49	327	P		P		22 51 10.2	+2.9		
	baz=126										
HARP	HAARP	21.49	337	P		P		22 51 09.4	+2.1		
	baz=143										
Q20K	Shuyak Island	21.52	323	P		P		22 51 11.3	+3.7		
	baz=124										
L26K	Log Cabin Wild	21.53	340	IAmb		IAmb		22 51 21.1			
	comp=Z,74nm,1.9s										
L26K				IAMs_20		IAMs_20		22 57 49.9			
	comp=Z,3µm,21.0s										
L26K	Log Cabin Wild	21.53	340	P		P		22 51 09.9	+2.3		
	baz=147										
MENT	Mentasta	21.55	340	P		P		22 51 05.4	-2.5		
CNPM	China Poot	21.56	326	IAMs_20		IAMs_20		22 57 15.3			
	comp=Z,4µm,21.0s										
M24K	Tolsona, Glenn	21.56	336	P		P		22 51 12.1	+4.1		
	baz=141										
BRLK	Bradley Lake	21.56	327	IAMs_20		IAMs_20		22 57 14.4			
	comp=Z,3µm,20.0s										
D32A	Dogwood Acres,	21.57	70	P		P		22 51 05.2	-3.0		
D32B	Dogwood Acres,	21.57	70	P		P		22 51 11.4	+3.2		
	baz=272										
D32B				S		Sn		22 55 10.7	-4.7		
	baz=272										
DAWY	Dawson	21.60	346	P		P		22 51 04.8	-3.6		
DAWY	Dawson	21.60	346	P		P		22 51 08.4	0.0		
	baz=156										
J30M	Hart River	21.60	350	IAmb		IAmb		22 51 22.8			
	comp=Z,58nm,1.9s										
J30M	Hart River	21.60	350	P		P		22 51 08.2	-0.3		
	baz=162										
BGNE	Belgrade	21.64	86	P		P		22 51 06.6	-2.5		
	baz=286										
AMTX	Amarillo	21.69	105	P		P		22 51 06.1	-3.6		
AMTX				IAmb		IAmb		22 51 24.0			
	comp=Z,47nm,0.9s										
AMTX				IAMs_20		IAMs_20		23 00 33.5			
	comp=Z,2µm,18.0s										
AMTX	Amarillo	21.69	105	P		P		22 51 07.8	-1.9		
	baz=301										
AMTX	Amarillo	21.69	105	P		P		22 51 11.4	+1.8		
	baz=301										
AMTX				S		S		22 55 12.4	+3.1		
	baz=301										
SCM	Sheep Creek Mo	21.70	334	P		P		22 51 12.4	+2.8		
	baz=138										
J29N	Klondike Camp	21.76	347	IAmb		IAmb		22 51 22.4			
	comp=Z,29nm,1.4s										
J29N				IAMs_20		IAMs_20		22 58 34.2			
	comp=Z,4µm,18.0s										
J29N	Klondike Camp	21.76	347	P		P		22 51 13.0	+2.9		
	baz=159										
KNK	Knik Glacier	21.77	332	P		P		22 51 11.6	+1.3		
	baz=136										
HOM	Homer	21.80	326	IAMs_20		IAMs_20		22 57 22.8			
	comp=Z,3µm,21.0s										
HOM	Homer	21.80	326	P		P		22 51 13.9	+3.3		
	baz=127										
M23K	Glacier View	21.80	334	P		P		22 51 12.8	+2.2		
	baz=138										
VHRN	Van Horn	21.90	118	IAmb		IAmb		22 51 30.1			
	comp=Z,43nm,1.4s										
R18K	Karluk	21.93	319	P		P		22 51 16.1	+4.2		
	baz=118										
RC01	Rabbit Creek A	21.99	330	IAMs_20		IAMs_20		22 57 31.8			
	comp=Z,3µm,19.0s										
RC01	Rabbit Creek A	21.99	330	P		P		22 51 18.3	+5.7		
	baz=133										
SML	Sawmill	22.01	333	IAMs_20		IAMs_20		22 57 39.4			
	comp=Z,3µm,20.0s										
SML	Sawmill	22.01	333	P		P		22 51 16.1	+3.2		
	baz=136										
PAX	Paxson	22.04	338	P		P		22 51 16.5	+3.3		
	baz=143										
K27K	Chicken	22.10	343	P		P		22 51 17.5	+3.8		
	baz=151										
PMR	Palmer	22.12	332	P		P		22 51 18.0	+4.0		
	baz=135										
F33A	5 Mile Ranch,	22.16	73	P		P		22 51 15.5	+1.0		
	baz=275,SNR=18										
F33A				S		S		22 55 22.7	+4.7		
	baz=275										
R32A	Long Quarter,	22.21	94	IAmb		IAmb		22 51 25.7			
	comp=Z,58nm,1.1s										
R32A	Long Quarter,	22.21	94	P		P		22 51 17.7	+2.5		
	baz=293,SNR=8.5										
R32A				S		S		22 55 21.6	+2.3		
	baz=293										
ECSD	EROS Data Cent	22.22	79	P		P		22 51 14.7	-0.6		
I30M	Mount Dempster	22.23	350	IAMs_20		IAMs_20		22 59 02.8			
	comp=Z,3µm,18.0s										
I30M	Mount Dempster	22.23	350	P		P		22 51 16.2	+0.9		
	baz=163										
Q19K	Cape Douglas,	22.24	323	IAMs_20		IAMs_20		22 57 37.2			
	comp=Z,3µm,20.0s										
Q19K	Cape Douglas,	22.24	323	P		P		22 51 18.3	+3.0		
	baz=122										
PECS	Pecos	22.24	115	IAmb		IAmb		22 51 33.6			
	comp=Z,58nm,1.4s										
CAPN	Captain Cook N	22.30	329	P		P		22 51 19.0	+3.1		
	baz=130										
N33B	J Bar K, Exete	22.34	87	S		S		22 55 23.4	+1.9		
	baz=287										
AGMN	Agassiz Nation	22.34	67	P		P		22 51 14.7	-1.7		
AGMN	Agassiz Nation	22.34	67	P		P		22 51 15.6	-0.9		
	baz=270,SNR=44										
AGMN				S		S		22 55 18.0	-3.4		
	baz=270										
WAT6	Susitna Watana	22.39	335	P		P		22 51 18.4	+1.3		
	baz=139										
ULM	Lac du Bonnet	22.42	62	P		P		22 51 15.3	-2.0		
ULM				IAmb		IAmb		22 51 36.2			
	comp=Z,45nm,1.1s										
ULM	Lac du Bonnet	22.42	62	P		P		22 51 15.6	-1.8		
	comp=Z,22nm,1.0s,baz=278,slow=10,SNR=21										
	comp=Z,22nm,1.0s										
O20K	Slope Mountain	22.45	326	P		P		22 51 19.8	+2.1		
	baz=126										
P19K	Oil Pt	22.46	325	P		P		22 51 17.2	-0.5		
	baz=124										
SCRK	Sand Creek	22.49	341	IAMs_20		IAMs_20		22 58 19.3			
	comp=Z,3µm,22.0s										
SCRK	Sand Creek	22.49	341	P		P		22 51 19.4	+1.4		
	baz=147										
RIDG	Independent Ri	22.50	340	IAMs_20		IAMs_20		22 58 17.6			
	comp=Z,4µm,21.0s										
RIDG	Independent Ri	22.50	340	P		P		22 51 20.0	+1.9		
	baz=146										
EGAK	Eagle	22.57	345	IAMs_20		IAMs_20		22 58 35.7			
	comp=Z,3µm,21.0s										
EGAK	Eagle	22.57	345	P		P		22 51 19.2	+0.4		
	baz=153										
SUA	Susitna One	22.60	330	IAMs_20		IAMs_20		22 57 53.0			
	comp=Z,2µm,20.0s										
SUA	Susitna One	22.60	330	P		P		22 51 20.1	+0.9		
	baz=132										
DHY	Denali Highway	22.66	336	P		P		22 51 20.5	+0.6		
	baz=140										
L34A	Svendsen Farm,	22.78	83	IAmb		IAmb		22 51 37.9			
	comp=Z,47nm,0.8s										
L34A	Svendsen Farm,	22.78	83	S		Sn		22 55 36.6	-7.7		
	baz=285										
K24K	Donnelly Dome	22.79	339	P		P		22 51 22.8	+1.6		
	baz=144										
POST	Post	22.81	109	IAmb		IAmb		22 51 24.5			
	comp=Z,33nm,1.0s										
WAT1	Susitna Watana	22.83	335	P		P		22 51 22.0	+0.4		
	baz=138										
J26L	Joseph Creek	22.84	342	IAMs_20		IAMs_20		22 58 41.5			
	comp=Z,3µm,20.0s										
J26L	Joseph Creek	22.84	342	P		P		22 51 22.4	+0.7		
	baz=149										
U32A	Winter Ranch,	22.86	99	S		Sn		22 55 40.6	-5.8		
	baz=297										
DKNS	Dickens	22.87	107	IAmb		IAmb		22 51 25.6			
	comp=Z,42nm,1.2s										
OK035	E0210 Rd and N	22.93	98	IAMs_20		IAMs_20		23 00 34.4			
	comp=Z,3µm,19.0s										
Q17K	Contact Creek	22.93	320	P		P		22 51 23.7	+1.0		
	baz=118										
I28M	Miner Creek	22.96	347	IAMs_20		IAMs_20		22 59 11.1			
	comp=Z,3µm,20.0s										
I28M	Miner Creek	22.96	347	P		P		22 51 22.2	-0.8		
	baz=156										
N20K	Mount Spurr	22.97	329	P		P		22 51 25.8	+2.7		
	baz=129										
MNHN	Monahans	22.99	114	IAmb		IAmb		22 51 27.5			
	comp=Z,40nm,1.7s										
OK038	West end E0370	23.00	98	IAMs_20		IAMs_20		23 00 37.5			
	comp=Z,3µm,18.0s										
ALPN	Alpine	23.04	117	IAmb		IAmb		22 51 36.7			
	comp=Z,38nm,1.3s										
P18K	Big Mountain,	23.18	323	P		P		22 51 26.5	+1.3		
	baz=121										
O19K	Port Alsworth	23.22	325	IAMs_20		IAMs_20		22 58 18.1			
	comp=Z,3µm,20.0s										
O19K	Port Alsworth	23.22	325	P		P		22 51 26.2	+0.7		
	baz=124										
SKT	Skwentna	23.23	331	IAMs_20		IAMs_20		22 58 12.5			
	comp=Z,3µm,21.0s										
SKT	Skwentna	23.23	331	P		P		22 51 27.0	+1.4		
	baz=131										
OK032	Salt Plains WL	23.24	97	IAMs_20		IAMs_20		23 00 21.8			
	comp=Z,3µm,22.0s										
SN01	Snyder 1	23.34	108	IAmb		IAmb		22 51 30.1			
	comp=Z,41nm,1.2s										
RND	Reindeer	23.35	335	IAMs_20		IAMs_20		22 58 43.0			
	comp=Z,2µm,19.0s										
J25K	Salcha River,	23.35	340	IAMs_20		IAMs_20		22 58 56.2			
	comp=Z,3µm,21.0s										
J25K	Salcha River,	23.35	340	P		P		22 51 27.2	+0.3		
	baz=146										
EPYK	Eagle Plains	23.37	351	IAMs_20		IAMs_20		22 59 48.9			
	comp=Z,3µm,18.0s										
EPYK	Eagle Plains	23.37	351	P		P		22 51 27.2	+0.1		
	baz=163										
I27K	Kandik River	23.40	345	P		P		22 51 27.2	-0.2		
	baz=154										
CHGN	Chignik	23.41	314	P		P		22 51 29.6	+2.1		
	baz=110										
O18K	Koktuh Hills	23.41	324	IAMs_20		IAMs_20		22 58 24.1			
	comp=Z,3µm,20.0s										
O18K	Koktuh Hills	23.41	324	P		P		22 51 29.6	+2.1		
	baz=122										
H29M	Whitestone	23.44	349	IAMs_20		IAMs_20		22 59 47.7			
	comp=Z,3µm,18.0s										
H29M	Whitestone	23.44	349	P		P		22 51 26.4	-1.4		
	baz=160										
I26K	Coal Creek Min	23.44	343	IAMs_20		IAMs_20		22 59 12.6			
	comp=Z,2µm,20.0s										
I26K	Coal Creek Min	23.44	343	P		P		22 51 29.3	+1.6		
	baz=150										
R16K	Pilot Point	23.44	317	P		P		22 51 29.5	+1.7

	comp=Z,2µm,18.0s								
WMOK	**Wichita Mounta**	23.81	102	P	**P**	**22 51 29.6**	**-2.0**
	baz=300								
WMOK	**Wichita Mounta**	23.81	102	S	**S**	**22 55 48.4**	**+1.6**
	baz=300								
TRF	**Thorofare Moun**	23.82	334	IAmb	IAmb	22 51 42.2	
	comp=Z,67nm,1.9s								
TRF				IAMs_20	IAMs_20	22 58 47.4	
	comp=Z,3µm,19.0s								
TRF	**Thorofare Moun**	23.82	334	P	**P**	**22 51 30.0**	**-1.7**
	baz=136								
ILAR	**Eielson Array**	23.86	339	P	**P**	**22 51 29.9**	**-1.9**
	comp=Z,3.4nm,1.0s,baz=149,slow=8.7,SNR=20								
ILAR				LR	LR	22 59 31.0	
	comp=Z,2µm,20.1s,baz=138,slow=33								
	comp=Z,3.4nm,1.0s								
G30M	**tAoh Zraii Nji**	23.90	351	IAMs_20	IAMs_20	23 00 15.0	
	comp=Z,2µm,18.0s								
G30M	**tAoh Zraii Nji**	23.90	351	P	**P**	**22 51 29.2**	**-3.0**
	baz=164								
H27K	**Steamboat Moun**	23.95	346	P	**P**	**22 51 31.3**	**-1.4**
	baz=154								
S14K	**Fog Glacier**	24.00	313	P	**P**	**22 51 35.3**	**+2.0**
	baz=108								
CCB	**Clear Creek Bu**	24.00	338	IAmb	IAmb	22 51 43.5	
	comp=Z,51nm,2.0s								
LPIG	**La Paz**	24.01	139	LR	LR	22 59 59.3	
	comp=Z,2µm,20.1s,baz=322,slow=34								
G29M	**Pine Creek**	24.05	350	IAMs_20	IAMs_20	23 00 09.8	
	comp=Z,3µm,18.0s								
G29M	**Pine Creek**	24.05	350	P	**P**	**22 51 33.0**	**-0.6**
	baz=161								
PPLA	**Purkeypile**	24.06	332	P	**P**	**22 51 34.9**	**+1.0**
	baz=132								
F36A	**Milaca**	24.08	73	P	**P**	**22 51 31.0**	**-3.1**
F36A	**Milaca**	24.08	73	P	**P**	**22 51 33.8**	**-0.3**
	baz=277,SNR=35								
F36A				S	**S**	**22 55 54.2**	**+3.4**
	baz=277								
KTH	**Kantishna Hill**	24.10	334	IAMs_20	IAMs_20	22 59 03.7	
	comp=Z,2µm,20.0s								
F31M	**Tsiigehtchic**	24.12	354	IAmb	IAmb	22 51 59.0	
	comp=Z,21nm,1.1s								
F31M				IAMs_20	IAMs_20	23 00 27.9	
	comp=Z,3µm,18.0s								
F31M	**Tsiigehtchic**	24.12	354	P	**P**	**22 51 35.1**	**+0.9**
	baz=169								
N18K	**Kilae Creek**	24.13	325	IAMs_20	IAMs_20	22 58 57.3	
	comp=Z,3µm,20.0s								
N18K	**Kilae Creek**	24.13	325	P	**P**	**22 51 37.5**	**+3.0**
	baz=122								
PRP	**Porcupine Dome**	24.14	342	IAMs_20	IAMs_20	22 59 22.1	
	comp=Z,3µm,21.0s								
PRP	**Porcupine Dome**	24.14	342	P	**P**	**22 51 36.2**	**+1.6**
	baz=147								
O17K	**Koliganek Bris**	24.19	322	P	**P**	**22 51 37.4**	**+2.5**
	baz=119								
COLA	**College**	24.19	339	P	**P**	**22 51 36.8**	**+2.0**
	baz=142								
HPIG		24.23	126	P	**P**	**22 51 34.0**	**-1.8**
HPIG				IAmb	IAmb	22 51 45.8	
	comp=Z,27nm,1.2s								
M19K	**Big River Lodg**	24.23	328	IAMs_20	IAMs_20	22 58 53.0	
	comp=Z,2µm,19.0s								
M19K	**Big River Lodg**	24.23	328	P	**P**	**22 51 36.9**	**+1.6**
	baz=127								
SDPT	**Sand Point**	24.23	311	P	**P**	**22 51 37.2**	**+1.8**
	baz=105								
OK029	**Liberty Lake**	24.24	99	IAMs_20	IAMs_20	23 01 25.2	
	comp=Z,2µm,18.0s								
P16K	**Nushagak River**	24.26	320	P	**P**	**22 51 36.1**	**+0.6**
	baz=116								
POKR	**Poker Plat Res**	24.28	339	P	**P**	**22 51 36.9**	**+1.2**
	baz=143								
SAND	**Sanderson**	24.30	116	IAmb	IAmb	22 51 46.6	
	comp=Z,40nm,1.3s								
NEA2	**Nenana**	24.31	337	IAmb	IAmb	22 51 57.0	
	comp=Z,24nm,1.3s								
NEA2	**Nenana**	24.31	337	P	**P**	**22 51 36.9**	**+0.9**
	baz=140								
ABTX	**Abilene, Hawle**	24.34	107	P	**P**	**22 51 32.4**	**-4.2**
	baz=305,SNR=7.0								
ABTX	**Abilene, Hawle**	24.34	107	P	**P**	**22 51 37.0**	**+0.4**
	baz=305,SNR=7.0								
ABTX				S	**S**	**22 55 57.3**	**+2.0**
	baz=305								
OZNA	**Ozona**	24.34	113	IAmb	IAmb	22 51 49.3	
	comp=Z,34nm,1.2s								
OK051	**E0350 and S346**	24.36	96	IAMs_20	IAMs_20	23 01 41.5	
	comp=Z,3µm,18.0s								
CAST	**Castle Rocks**	24.38	333	IAMs_20	IAMs_20	22 59 02.1	
	comp=Z,2µm,21.0s								
CAST	**Castle Rocks**	24.38	333	P	**P**	**22 51 37.4**	**+0.7**
	baz=133								
L20K	**Farewell, AK**	24.39	330	P	**P**	**22 51 38.3**	**+1.5**
	baz=129								
T35A	**Sooner Cattle**	24.42	95	IAmb	IAmb	22 51 55.8	
	comp=Z,64nm,1.2s								
T35B	**Sooner Cattle**	24.42	95	P	**P**	**22 51 38.7**	**+1.4**
	baz=296,SNR=7.3								
T35B				S	**S**	**22 55 58.6**	**+2.1**
	baz=296								
I37B	**Waseca**	24.45	77	P	**P**	**22 51 38.1**	**+0.6**
	baz=281,SNR=36								
I37B				S	**S**	**22 55 58.8**	**+1.9**
	baz=281								
F30M	**Barrier River**	24.46	352	P	**P**	**22 51 38.0**	**+0.6**
	baz=165								
BPAW	**Bear Paw Mtn.**	24.51	335	P	**P**	**22 51 36.2**	**-1.7**
	baz=136								
SLBS	**Sierra La Lagu**	24.54	138	P	**P**	**22 51 36.2**	**-2.3**
SLBS				IAmb	IAmb	22 51 42.4	
	comp=Z,41nm,1.2s								
SLBS				IAMs_20	IAMs_20	23 00 04.1	
	comp=Z,3µm,20.0s								
WTFS	**Witchita Falls**	24.54	104	P	**P**	**22 51 35.7**	**-2.6**
WTFS				IAmb	IAmb	22 51 48.2	
	comp=Z,56nm,1.1s								
M18K	**Stony River**	24.55	327	P	**P**	**22 51 39.2**	**+1.0**
	baz=124								
X34A	**Smith Ranch, M**	24.55	101	IAmb	IAmb	22 51 53.9	
	comp=Z,48nm,1.1s								
O16K	**Kokwok River B**	24.56	321	P	**P**	**22 51 39.1**	**+0.8**
	baz=117								
L19K	**White Mountain**	24.57	329	IAMs_20	IAMs_20	22 59 13.0	
	comp=Z,2µm,19.0s								
L19K	**White Mountain**	24.57	329	P	**P**	**22 51 38.3**	**-0.1**
	baz=127								
N17K	**Nushagak Hills**	24.60	324	IAMs_20	IAMs_20	22 58 59.7	
	comp=Z,2µm,21.0s								
N17K	**Nushagak Hills**	24.60	324	P	**P**	**22 51 38.1**	**-0.6**
	baz=120								
QUOK	**Quay**	24.61	97		**P**	**22 51 34.2**	**-4.8**
SPMN	**Marine on St.**	24.67	74	P	**P**	**22 51 39.2**	**-0.2**
	baz=279,SNR=23								
SPMN	**Marine on St.**	24.67	74	P	**P**	**22 51 42.9**	**+3.4**
	baz=279,SNR=23								
SPMN				S	**S**	**22 56 09.0**	**+8.6**
	baz=279								
CHUM	**Lake Minchumin**	24.77	334	P	**P**	**22 51 40.6**	**+0.4**
	baz=133								
I23K	**Minto, Yukon-K**	24.81	338	IAmb	IAmb	22 52 07.2	
	comp=Z,82nm,1.8s								
I23K	**Minto, Yukon-K**	24.81	338	P	**P**	**22 51 40.8**	**+0.3**
	baz=140								
F28M	**Old Crow**	24.96	349	IAmb	IAmb	22 52 08.0	
	comp=Z,24nm,1.6s								
F28M				IAMs_20	IAMs_20	23 00 44.9	
	comp=Z,2µm,19.0s								
F28M	**Old Crow**	24.96	349	P	**P**	**22 51 42.6**	**+0.8**
	baz=158								
INK	**Inuvik**	24.96	355	IAmb	IAmb	22 52 07.5	
	comp=Z,28nm,1.6s								
INK	**Inuvik**	24.96	355	P	**P**	**22 51 41.7**	**-0.1**
	baz=170								
INK	**Inuvik**	24.96	355	LR	LR	23 01 05.6	
	comp=Z,2µm,20.5s,baz=176,slow=36								
FYU	**Fort Yukon**	24.97	343	IAMs_20	IAMs_20	22 59 59.9	
	comp=Z,3µm,21.0s								
H24K	**Noodor Dome**	24.97	340	IAMs_20	IAMs_20	22 59 44.8	
	comp=Z,3µm,22.0s								
H24K	**Noodor Dome**	24.97	340	P	**P**	**22 51 42.1**	**+0.1**
	baz=143								
G26K	**Porcupine Rive**	25.01	345	P	**P**	**22 51 43.3**	**+1.0**
	baz=151								
K20K	**Telida**	25.01	331	P	**P**	**22 51 46.2**	**+3.8**
	baz=130								
SCIA	**State Center**	25.07	82	P	**P**	**22 51 40.5**	**-2.5**
	baz=285								
MLY	**Manley**	25.11	337	IAmb	IAmb	22 52 03.5	
	comp=Z,53nm,1.8s								
MLY	**Manley**	25.11	337	P	**P**	**22 51 46.4**	**+3.1**
	baz=138,SNR=12								
M17K	**Holitna River**	25.16	326	IAMs_20	IAMs_20	22 59 30.3	
	comp=Z,2µm,21.0s								
M17K	**Holitna River**	25.16	326	P	**P**	**22 51 45.7**	**+2.0**
	baz=121								
O15K	**Ungalikthiuk R**	25.18	320	P	**P**	**22 51 47.4**	**+3.6**
	baz=114								
K38A	**Parkersburg**	25.20	80	S	**S**	**22 56 17.0**	**+8.1**
	baz=284								
N16K	**Nishlik Lake**	25.26	323	P	**P**	**22 51 43.1**	**-1.6**
	baz=118								
EYMN	**Ely**	25.27	67	P	**P**	**22 51 43.2**	**-1.6**
EYMN	**Ely**	25.27	67	P	**P**	**22 51 41.8**	**-3.1**
	baz=274								
EYMN	**Ely**	25.27	67	P	**P**	**22 51 46.4**	**+1.6**
	baz=274								
EYMN				S	**S**	**22 56 11.9**	**+1.9**
	baz=274								
L18K	**Granite Mounta**	25.30	328	IAmb	IAmb	22 52 07.5	
	comp=Z,52nm,1.8s								
L18K				IAMs_20	IAMs_20	22 59 47.1	
	comp=Z,2µm,19.0s								
L18K	**Granite Mounta**	25.30	328	P	**P**	**22 51 44.6**	**-0.3**
	baz=124								
G25K	**Bearman Lake**	25.32	343	P	**P**	**22 51 45.2**	**+0.1**
	baz=147								
LOOK	**Love County**	25.33	102	IAmb	IAmb	22 51 53.9	
	comp=Z,48nm,1.1s								
E38A	**The Farm, Brul**	25.35	71	P	**P**	**22 51 47.1**	**+1.6**
	baz=276,SNR=5.5								
E38A				S	**S**	**22 56 15.8**	**+4.5**
	baz=276								
N38A	**Joes South For**	25.37	85	S	**S**	**22 56 20.1**	**+8.3**
	baz=288								
TUL3	**Leonard**	25.39	97	IAmb	IAmb	22 51 54.4	
	comp=Z,30nm,1.1s								
TUL3				IAMs_20	IAMs_20	23 02 13.6	
	comp=Z,3µm,21.0s								
TUL3	**Leonard**	25.39	97	P	**P**	**22 51 43.6**	**-2.4**
	baz=297								
TUL3	**Leonard**	25.39	97	P	**P**	**22 51 46.6**	**+0.6**
	baz=297								
TUL3				S	**S**	**22 56 15.4**	**+3.4**
	baz=297								
E29M	**Blow River**	25.44	351	IAMs_20	IAMs_20	23 01 22.6	
	comp=Z,3µm,18.0s								
E29M	**Blow River**	25.44	351	P	**P**	**22 51 44.9**	**-1.3**
	baz=162								
TTA	**Tatalina**	25.45	329	P	**P**	**22 51 44.2**	**-2.2**
TTA	**Tatalina**	25.45	329	P	**P**	**22 51 46.5**	**+0.2**
	baz=126								
FCC	**Fort Churchill**	25.46	42	IAmb	IAmb	22 51 58.7	
	comp=Z,32nm,1.0s								
JCT	**Junction City**	25.51	112	IAmb	IAmb	22 51 59.9	
	comp=Z,27nm,1.1s								
JCT	**Junction City**	25.51	112	P	**P**	**22 51 45.2**	**-2.0**
	baz=309								
JCT	**Junction City**	25.51	112	S	**S**	**22 56 20.2**	**+6.1**
	baz=309								
P38A	**Dawn**	25.54	87	S	**S**	**22 56 10.7**	**-3.6**
	baz=290								
BRDY	**Brady**	25.57	109	IAmb	IAmb	22 51 56.7	
	comp=Z,22nm,1.0s								
J20K	**Nowinta River**	25.57	333	P	**P**	**22 51 45.2**	**-2.2**
J20K	**Nowinta River**	25.57	333	P	**P**	**22 51 47.9**	**+0.5**
	baz=131								
G24K	**Hadweenzic Riv**	25.57	342	P	**P**	**22 51 44.4**	**-3.0**
G24K				IAMs_20	IAMs_20	23 00 16.9	
	comp=Z,3µm,21.0s								
G24K	**Hadweenzic Riv**	25.57	342	P	**P**	**22 51 46.5**	**-0.9**
	baz=145								
BMAR	**Burnt Mountain**	25.58	345	P	**P**	**22 51 45.6**	**-1.9**
I21K	**Tanana**	25.58	336	IAmb	IAmb	22 52 11.6	
	comp=Z,58nm,1.6s								
I21K				IAMs_20	IAMs_20	23 00 13.0	
	comp=Z,2µm,18.0s								
I21K	**Tanana**	25.58	336	P	**P**	**22 51 46.8**	**-0.6**
	baz=136,SNR=6.1								
FW06	**Azle**	25.60	104	IAmb	IAmb	22 51 51.7	
	comp=Z,34nm,1.2s								
M16K	**Timber Creek**	25.61	324	IAMs_20	IAMs_20	22 59 43.2	
	comp=Z,2µm,22.0s								
M16K	**Timber Creek**	25.61	324	P	**P**	**22 51 49.2**	**+1.4**
	baz=119								
Z35A	**Perchaven, San**	25.62	103	IAmb	IAmb	22 51 51.8	
	comp=Z,64nm,1.4s								
Z35A	**Perchaven, San**	25.62	103	P	**P**	**22 51 48.6**	**+0.5**
	baz=302								
Z35A				S	**S**	**22 56 20.9**	**+5.1**
	baz=302								
DRIO	**Del Rio**	25.64	115	IAmb	IAmb	22 52 06.5	
	comp=Z,22nm,1.0s								
N15K	**Kwethluk River**	25.71	322	IAMs_20	IAMs_20	22 59 48.0	
	comp=Z,2µm,20.0s								
N15K	**Kwethluk River**	25.71	322	P	**P**	**22 51 52.6**	**+3.8**
	baz=116								
F26K	**Sheenjek River**	25.73	345	P	**P**	**22 51 49.1**	**+0.2**
	baz=151								
RLO	**Rose Lookout**	25.83	96	IAmb	IAmb	22 51 58.0	
	comp=Z,39nm,1.2s								
E28M	**Babbage River**	25.84	350	IAMs_20	IAMs_20	23 01 25.2	
	comp=Z,3µm,18.0s								
E28M	**Babbage River**	25.84	350	P	**P**	**22 51 48.9**	**-0.9**
	baz=160								
C36M	**Paulatuk**	25.86	3	P	**P**	**22 51 47.3**	**-2.6**
C36M	**Paulatuk**	25.86	3	P	**P**	**22 51 49.4**	**-0.5**
	baz=186								
L17K	**Donlin**	25.89	326	P	**P**	**22 51 50.6**	**+0.3**
	baz=122								
O14K	**Tigyukauivet M**	25.89	319	IAMs_20	IAMs_20	22 59 37.6	
	comp=Z,2µm,20.0s								
O14K	**Tigyukauivet M**	25.89	319	P	**P**	**22 51 50.6**	**+0.3**
	baz=112								
F25K	**Christian Rive**	25.93	344	P	**P**	**22 51 51.0**	**+0.2**
	baz=149								
H22K	**Ishtalitna Cre**	25.93	338	P	**P**	**22 51 51.6**	**+0.9**
	baz=138								
J19K	**Poorman**	25.95	332	IAMs_20	IAMs_20	22 59 59.6	
	comp=Z,2µm,20.0s								
J19K	**Poorman**	25.95	332	P	**P**	**22 51 50.4**	**-0.5**
	baz=128								
J18K	**Innoko River**	26.02	330	P	**P**	**22 51 49.4**	**-2.1**
J18K				IAmb	IAmb	22 52 13.7	
	comp=Z,31nm,1.8s								
J18K				IAMs_20	IAMs_20	23 00 01.4	
	comp=Z,2µm,20.0s								
J18K	**Innoko River**	26.02	330	P	**P**	**22 51 50.0**	**-1.5**
	baz=126								
FW13	**Cleburne**	26.04	105	IAmb	IAmb	22 52 02.0	
	comp=Z,45nm,1.1s								
I20K	**Naaghedeneel**	26.09	334	P	**P**	**22 51 51.8**	**-0.2**
	baz=132								
L16K	**Owhat River**	26.15	325	IAMs_20	IAMs_20	23 00 10.7	
	comp=Z,2µm,19.0s								
L16K	**Owhat River**	26.15	325	P	**P**	**22 51 51.4**	**-1.3**
	baz=119								
H21K	**Melozitna Rive**	26.16	336	P	**P**	**22 51 51.1**	**-1.7**
	baz=135								
U38A	**Gravette**	26.16	95	P	**P**	**22 51 50.2**	**-2.9**
U38A				IAmb	IAmb	22 52 14.5	
	comp=Z,25nm,1.0s								
U38A	**Gravette**	26.16	95	P	**P**	**22 51 54.3**	**+1.2**
	baz=296,SNR=5.3								
U38A				S	**S**	**22 56 30.9**	**+6.5**
	baz=296								
G23K	**Bananza Creek**	26.19	340	P	**P**	**22 51 53.2**	**+0.1**
	baz=141								
K17K	**Iditarod**	26.20	328	IAMs_20	IAMs_20	23 00 14.9	
	comp=Z,2µm,20.0s								
K17K	**Iditarod**	26.20	328	P	**P**	**22 51 55.7**	**+2.6**
	baz=123								
WHTX	**Lake Whitney,**	26.22	106	IAmb	IAmb	22 52 03.7	
	comp=Z,45nm,1.2s								
WHTX	**Lake Whitney,**	26.22	106	P	**P**	**22 51 51.8**	**-1.8**
	baz=305								
WHTX	**Lake Whitney,**	26.22	106	S	**S**	**22 56 27.0**	**+1.8**
	baz=305								
F24K	**Squaw Lake**	26.34	342	IAMs_20	IAMs_20	23 00 52.1	
	comp=Z,3µm,20.0s								
F24K	**Squaw Lake**	26.34	342	P	**P**	**22 51 57.4**	**+3.0**
	baz=145								
E25K	**Arctic Village**	26.37	345	IAMs_20	IAMs_20	23 00 57.0	
	comp=Z,2µm,22.0s								
E25K	**Arctic Village**	26.37	345	P	**P**	**22 51 57.2**	**+2.6**
	baz=150								
S39A	**Bolivar**	26.41	91	IAmb	IAmb	22 52 12.9	
	comp=Z,46nm,1.6s								
S39A	**Bolivar**	26.41	91	P	**P**	**22 51 56.1**	**+0.8**
	baz=294								
S39A				S	**S**	**22 56 35.7**	**+7.5**
	baz=294								
D28M	**Stokes Point**	26.43	351	P	**P**	**22 51 57.2**	**+2.0**
	baz=161								
I40A	**Norwalk**	26.45	77	IAmb	IAmb	22 52 06.2	
	comp=Z,33nm,1.1s								
I40A	**Norwalk**	26.45	77	P	P	22 52 03.9	+8.3
	baz=282,SNR=6.7								
I40A				S	**S**	**22 56 38.0**	**+9.3**
	baz=282								
L40A	**Anamosa**	26.46	81	P	P	22 52 02.5	+6.9
	baz=286,SNR=19								
L40A				S	**S**	**22 56 36.6**	**+7.8**
	baz=286								
HNDO	**Hondo**	26.46	113	IAmb	IAmb	22 52 09.3	
	comp=Z,19nm,1.1s								
G40A	**Rib Lake**	26.47	73	S	**S**	**22 56 30.9**	**+1.8**
	baz=280								
HHAR	**Hobbs**	26.56	95	IAmb	IAmb	22 52 10.4	
	comp=Z,18nm,1.0s								
D27M	**Malcolm River**	26.63	349	P	**P**	**22 51 58.7**	**+1.7**
	baz=158								
COLD	**Coldfoot**	26.64	340	P	**P**	**22 51 56.5**	**-0.5**
	baz=141								
P40A	**Paris**	26.65	87	IAmb	IAmb	22 52 06.3	
	comp=Z,40nm,1.2s								
P40A	**Paris**	26.65	87	P	**P**	**22 52 01.1**	**+3.7**
	baz=290,SNR=13								
P40A				S	**S**	**22 56 40.7**	**+8.8**
	baz=290								
H20K	**Anotleneega Mo**	26.68	335	P	**P**	**22 51 57.1**	**-0.4**
	baz=132								
G22K	**Bettles**	26.73	339	P	**P**	**22 51 56.8**	**-1.1**
	baz=139								
M14K	**Bethel**	26.80	322	IAMs_20	IAMs_20	23 00 19.7	
	comp=Z,2µm,21.0s								
JFWS	**Jewell Farm**	26.93	78	IAmb	IAmb	22 52 10.6	
	comp=Z,54nm,1.2s								
JFWS	**Jewell Farm**	26.93	78	P	**P**	**22 51 59.7**	**-0.2**
	baz=284,SNR=6.5								
JFWS	**Jewell Farm**	26.93	78	P	P	22 52 07.4	+7.4
	baz=284,SNR=6.5								
JFWS				S	**S**	**22 56 44.7**	**+8.4**
	baz=284								
R40A	**Maddies Statio**	26.94	89	S	**S**	**22 56 45.1**	**+8.6**
	baz=293								
G21K	**Allakaket**	26.98	337	P	**P**	**22 52 02.3**	**+2.2**
	baz=135								
COWI	**Conover**	27.08	71	IAmb	IAmb	22 52 13.4	
	comp=Z,28nm,1.1s								
N41A	**Harden Midland**	27.12	83	IAmb	IAmb	22 52 16.0	
	comp=Z,23nm,1.0s								
N41A	**Harden Midland**	27.12	83	S	**S**	**22 56 43.7**	**+4.5**
	baz=288								
E23K	**Chandalar**	27.16	342	P	**P**	**22 52 01.8**	**-0.1**
	baz=143								
833A	**Chaparral WMA,**	27.17	115	S	**S**	**22 56 49.1**	**+8.9**
	baz=312								
H19K	**Roundabout Mou**	27.20	334	P	**P**	**22 52 03.8**	**+1.7**
	baz=130								
K15K	**Wolf Creek Mou**	27.29	325	IAMs_20	IAMs_20	23 01 23.7	
	comp=Z,2µm,18.0s								
M13K	**Dall Lake**	27.30	321	P	**P**	**22 52 05.2**	**+2.2**
	baz=112								
U40A	**Yellville**	27.31	94	P	**P**	**22 52 05.2**	**+1.8**
	baz=296,SNR=6.7								
U40A				P	**P**	**22 52 05.2**	**+1.8**
	baz=296,SNR=6.7								
U40A				S	**S**	**22 56 50.0**	**+7.6**
	baz=296								
U40A				S	**S**	**22 56 50.0**	**+7.6**
	baz=296								
L14K	**Kuka Creek**	27.36	323	IAMs_20	IAMs_20	23 00 37.6	
	comp=Z,2µm,20.0s								
L14K	**Kuka Creek**	27.36	323	P	**P**	**22 52 06.7**	**+3.1**
	baz=114								
J16K	**Anvik River**	27.39	327	P	**P**	**22 52 04.7**	**+0.9**
	baz=120								
MGMO	**Mountain Grove**	27.39	92	IAmb	IAmb	22 52 13.7	
	comp=Z,53nm,1.6s								
UNV	**Unalaska Valle**	27.41	306	P	**P**	**22 52 07.9**	**+3.9**
	baz=96								
F21K	**Alatna River**	27.48	338	IAMs_20	IAMs_20	23 00 59.2	
	comp=Z,2µm,22.0s								
F21K	**Alatna River**	27.48	338	P	**P**	**22 52 07.4**	**+2.8**
	baz=136								
D25K	**Kavik River**	27.56	346	IAMs_20	IAMs_20	23 01 58.5	
	comp=Z,2µm,21.0s								
D25K	**Kavik River**	27.56	346	P	**P**	**22 52 09.8**	**+4.5**
	baz=150								
L42A	**Oliver, Polo**	27.59	80	P	P	22 52 12.6	+6.8
	baz=286,SNR=6.8								
H18K	**Honhosa River**	27.60	332	P	**P**	**22 52 08.1**	**+2.4**
	baz=126								
I42A	**Draeger Farm,**	27.65	76	S	**S**	**22 56 49.1**	**+1.5**
	baz=283								
I17K	**Unalakleet**	27.73	329	IAMs_20	IAMs_20	23 01 22.6	
	comp=Z,2µm,18.0s								
I17K	**Unalakleet**	27.73	329	P	**P**	**22 52 10.4**	**+3.5**
	baz=121								
CCM	**Cathedral Cave**	27.77	89	P	**P**	**22 52 04.2**	**-3.3**
CCM				IAmb	IAmb	22 52 24.1	
	comp=Z,20nm,1.0s								
CCM	**Cathedral Cave**	27.77	89	IAMs_20	IAMs_20	23 03 30.9	
	comp=Z,2µm,20.0s								
CCM	**Cathedral Cave**	27.77	89	P	**P**	**22 52 08.7**	**+1.1**
	baz=293								
CCM	**Cathedral Cave**	27.77	89	P	**P**	**22 52 07.1**	**-0.4**
	baz=293,SNR=7.9								
G19K	**Purcell Mounta**	27.79	334	IAmb	IAmb	22 52 37.7	
	comp=Z,47nm,1.9s								
G19K				IAMs_20	IAMs_20	23 01 21.4	
	comp=Z,2µm,20.0s								
G19K	**Purcell Mounta**	27.79	334	P	**P**	**22 52 10.7**	**+3.3**
	baz=130								
D24K	**Happy Valley**	27.89	344	IAMs_20	IAMs_20	23 01 56.1	
	comp=Z,3µm,22.0s								
D24K	**Happy Valley**	27.89	344	P	**P**	**22 52 09.5**	**+1.3**
	baz=146								
F20K	**Avaraart Lake**	27.98	337	P	**P**	**22 52 13.3**	**+4.2**
	baz=133								
H17K	**Granite Mounta**	28.01	331	IAMs_20	IAMs_20	23 01 16.1	
	comp=Z,2µm,20.0s								
H17K	**Granite Mounta**	28.01	331	P	**P**	**22 52 10.8**	**+1

	baz=137							
F17K	**Baldwin Pennin**	**29.32**	**333**	IAMs_20	IAMs_20	23 02 45.6		
	comp=Z,1μm,18.0s							
F17K	**Baldwin Pennin**	**29.32**	**333**	P	**P**	**22 52 21.6**	**+0.7**	
	baz=124							
D20K	**Etivluk River**	**29.37**	**339**	P	**P**	**22 52 20.9**	**-0.6**	
	baz=134							
P08K	**Saint George I**	**29.47**	**311**	P	**P**	**22 52 25.1**	**+2.7**	
	baz=98							
D19K	**Kuna River**	**29.63**	**338**	P	**P**	**22 52 23.9**	**+0.1**	
	baz=132							
E18K	**Tukpahlearik C**	**29.68**	**335**	IAMs_20	IAMs_20	23 02 41.3		
	comp=Z,2μm,19.0s							
E18K	**Tukpahlearik C**	**29.68**	**335**	P	**P**	**22 52 24.8**	**+0.6**	
	baz=127							
B22K	**Teshekpuk Lake**	**29.80**	**343**	IAMs_20	IAMs_20	23 03 15.7		
	comp=Z,2μm,20.0s							
B22K	**Teshekpuk Lake**	**29.80**	**343**	P	**P**	**22 52 25.1**	**0.0**	
	baz=140							
ANM	**Nome**	**29.86**	**328**	IAMs_20	IAMs_20	23 02 40.6		
	comp=Z,2μm,20.0s							
ANM	**Nome**	**29.86**	**328**	P	**P**	**22 52 27.9**	**+2.1**	
	baz=116							
SFIN	**Lafayette**	**29.93**	**82**	P	**P**	**22 52 25.1**	**-1.5**	
	baz=290							
F15K	**North Star Dit**	**30.11**	**330**	IAMs_20	IAMs_20	23 02 48.5		
	comp=Z,2μm,19.0s							
F15K	**North Star Dit**	**30.11**	**330**	P	**P**	**22 52 30.4**	**+2.4**	
	baz=119							
B20K	**Meade River**	**30.42**	**340**	IAMs_20	IAMs_20	23 03 33.0		
	comp=Z,2μm,20.0s							
B20K	**Meade River**	**30.42**	**340**	P	**P**	**22 52 31.3**	**+0.7**	
	baz=135							
C19K	**Lookout Ridge**	**30.44**	**338**	IAMs_20	IAMs_20	23 03 42.3		
	comp=Z,1μm,18.0s							
C19K	**Lookout Ridge**	**30.44**	**338**	P	**P**	**22 52 30.9**	**0.0**	
	baz=130							
C18K	**Utukok River**	**30.60**	**336**	IAmb	IAmb	22 52 57.7		
	comp=Z,27nm,1.8s							
C18K	**Utukok River**	**30.60**	**336**	P	**P**	**22 52 32.4**	**0.0**	
	baz=128							
F14K	**Arctic Creek**	**30.62**	**329**	P	**P**	**22 52 33.9**	**+1.4**	
	baz=117							
OXF	**Oxford**	**30.66**	**94**	P	**P**	**22 52 34.0**	**+0.9**	
	baz=299							
WVT	**Waverly**	**31.06**	**90**	P	**P**	**22 52 34.5**	**-2.2**	
	baz=296							
C17K	**DeLong Mountai**	**31.09**	**335**	P	**P**	**22 52 40.1**	**+3.4**	
	baz=125							
B18K	**Kokolik River**	**31.22**	**337**	P	**P**	**22 52 41.4**	**+3.7**	
	baz=128							
A21K	**Barrow**	**31.24**	**342**	P	**P**	22 52 42.8	+4.9	
	baz=137							
WCI	**Wyandotte Cave**	**31.30**	**86**	P	**P**	**22 52 37.2**	**-1.6**	
	baz=293							
O48B	**Farmland**	**31.37**	**81**	IAMs_20	IAMs_20	23 05 43.1		
	comp=Z,2μm,20.0s							
O48B	**Farmland**	**31.37**	**81**	P	**P**	**22 52 39.5**	**+0.1**	
	baz=290							
PLAL	**Pickwick Lake**	**31.40**	**92**	IAmb	IAmb	22 52 58.9		
	comp=Z,28nm,1.4s							
C16K	**Lisburne Hills**	**31.65**	**334**	IAMs_20	IAMs_20	23 04 23.3		
	comp=Z,1μm,18.0s							
C16K	**Lisburne Hills**	**31.65**	**334**	P	**P**	**22 52 43.4**	**+1.9**	
	baz=122							
ACSO	**Alum Creek Sta**	**32.94**	**80**	IAMs_20	IAMs_20	23 06 23.6		
	comp=Z,2μm,18.0s							
ACSO	**Alum Creek Sta**	**32.94**	**80**	P	**P**	**22 52 53.2**	**0.0**	
	baz=291							
LRAL	**Lakeview Retre**	**33.13**	**95**	IAmb	IAmb	22 52 57.4		
	comp=Z,14nm,1.2s							
LRAL	**Lakeview Retre**	**33.13**	**95**	P	**P**	**22 52 55.7**	**+0.9**	
	baz=300							
P52A	**Corning**	**33.76**	**81**	IAMs_20	IAMs_20	23 06 42.4		
	comp=Z,2μm,21.0s							
UNM	**Universidad Na**	**33.86**	**127**	IAMs_20	IAMs_20	23 08 18.4		
	comp=Z,1μm,19.0s							
M53A	**WI Miller and**	**34.16**	**77**	IAMs_20	IAMs_20	23 06 53.1		
	comp=Z,1μm,19.0s							
RES	**Resolute Bay**	**34.37**	**15**	P	**P**	**22 53 03.6**	**-1.5**	
ERPA	**Erie**	**34.43**	**76**	IAMs_20	IAMs_20	23 07 27.0		
	comp=Z,2μm,21.0s							
MCWV	**Mont Chateau**	**35.39**	**80**	IAMs_20	IAMs_20	23 07 33.5		
	comp=Z,1μm,19.0s							
GOGA	**Godfrey**	**35.50**	**92**	IAmb	IAmb	22 53 25.6		
	comp=Z,15nm,0.9s							
GOGA	**Godfrey**	**35.50**	**92**	P	**P**	**22 53 14.9**	**-0.5**	
	baz=300							
BLA	**Blacksburg**	**35.96**	**84**	P	**P**	**22 53 17.7**	**-1.7**	
	baz=295							
SSPA	**Standing Stone**	**36.42**	**77**	IAMs_20	IAMs_20	23 08 13.8		
	comp=Z,2μm,21.0s							
CBN	**Corbin Frederi**	**37.74**	**81**	IAMs_20	IAMs_20	23 09 41.6		
	comp=Z,2μm,20.0s							
CMIG	**Matias Romero**	**38.15**	**124**	LR	LR	23 09 49.1		
	comp=Z,1μm,21.7s,baz=314,slow=37							
SHEM	**Shemya Is, Ala**	**39.05**	**305**	LR	LR	23 07 14.5		
	comp=Z,342nm,20.0s,baz=129,slow=32							
WSPT	**Westport, CT**	**39.43**	**74**	IAMs_20	IAMs_20	23 09 41.4		
	comp=Z,2μm,21.0s							
TEIG	**Tepich**	**40.07**	**113**	IAMs_20	IAMs_20	23 13 33.2		
	comp=Z,953nm,18.0s							
TULEG	**Thule**	**40.81**	**18**	IAMs_20	IAMs_20	23 07 36.0		
	comp=Z,1μm,22.0s							
BILL	**Bilibino**	**41.70**	**329**	IAMs_20	IAMs_20	23 10 51.9		
	comp=Z,788nm,18.0s							
EMMW	**East Machias**	**42.17**	**67**	IAMs_20	IAMs_20	23 11 08.7		
	comp=Z,2μm,21.0s							
SNET	**Serv Nac Est T**	**44.23**	**121**	IAMs_20	IAMs_20	23 12 13.4		
	comp=Z,1μm,20.0s							
NEEM	**North Greenlan**	**44.91**	**18**	*i* P	P	22 54 38.5	+5.3	
NEEM				IAmb	IAmb	22 54 50.7		
	comp=Z,12nm,0.9s							
TGUH	**Tegucigalpa,Un**	**45.20**	**118**	IAMs_20	IAMs_20	23 14 01.9		
	comp=Z,844nm,22.0s							
SFJD	**Kangerlussuaq**	**45.79**	**32**	LR	LR	23 13 55.6		
	comp=Z,815nm,18.8s,baz=279,slow=36							
SEY	**Seymchan**	**48.10**	**323**	LR	LR	23 15 04.0		
	comp=Z,858nm,18.1s,baz=82,slow=36							
PETK	**Petropavlovsk-**	**48.50**	**309**	LR	LR	23 13 37.8		
	comp=Z,243nm,20.5s,baz=72,slow=34							
SUMG	**Summit**	**48.75**	**24**	P	**P**	**22 54 59.7**	**-3.7**	
SUMG				IAmb	IAmb	22 55 32.0		
	comp=Z,13nm,1.0s							
SUMG	**Summit**	**48.75**	**24**	*i* P	**P**	**22 55 07.0**	**+3.6**	
SUMG				IAmb	IAmb	22 55 19.0		
	comp=Z,6.2nm,0.8s							
JTS	**Las Juntas de**	**49.51**	**119**	LR	LR	23 19 11.2		
	comp=Z,515nm,19.7s,baz=315,slow=40							
MA2	**Magadan**	**49.88**	**319**	LR	LR	23 15 16.4		
	comp=Z,655nm,20.2s,baz=78,slow=35							
TIXI	**Tiksi**	**53.31**	**337**	IAMs_20	IAMs_20	23 18 47.0		
	comp=Z,835nm,19.0s							
TIXI	**Tiksi**	**53.31**	**337**	LR	LR	23 18 58.3		
	comp=Z,848nm,20.7s,baz=88,slow=37							
SPITS	**Spitsbergen Ar**	**56.51**	**8**	LR	LR	23 23 30.0		
	comp=Z,427nm,18.0s,baz=289,slow=40							
SJG	**San Juan**	**57.01**	**96**	LR	LR	23 20 30.9		
	comp=Z,971nm,21.6s,baz=286,slow=36							
BORG	**Borgarnes**	**57.68**	**29**	LR	LR	23 19 60.0		
	comp=Z,598nm,20.8s,baz=299,slow=35							
JMIC	**Jan Mayen**	**57.70**	**20**	LR	LR	23 20 28.1		
	comp=Z,475nm,18.9s,baz=315,slow=36							
YAK	**Yakutsk**	**58.01**	**327**	IAMs_20	IAMs_20	23 21 38.9		
	comp=Z,684nm,18.0s							
YAK	**Yakutsk**	**58.01**	**327**	LR	LR	23 21 21.8		
	comp=Z,593nm,18.2s,baz=65,slow=36							
H11N3	**WAKE ISLAND Hy**	**59.18**	**268**	T	T	00 00 18.2		
	baz=50,slow=75,SNR=261							
H11N2	**WAKE ISLAND Hy**	**59.18**	**268**	T	T	00 00 20.6		
	baz=50,slow=75,SNR=222							
H11N1	**WAKE ISLAND Hy**	**59.19**	**268**	T	T	00 00 18.9		
	baz=50,slow=75,SNR=174							
H11S1	**WAKE ISLAND Hy**	**60.10**	**268**	T	T	00 01 26.7		
	baz=50,slow=75,SNR=1687							
H11S2	**WAKE ISLAND Hy**	**60.11**	**268**	T	T	00 01 37.5		
	baz=50,slow=75,SNR=1253							
H11S3	**WAKE ISLAND Hy**	**60.12**	**268**	T	T	00 01 27.4		
	baz=50,slow=75,SNR=921							
ROSC	**El Rosal**	**60.52**	**114**	LR	LR	23 28 08.5		
	comp=Z,281nm,18.5s,baz=354,slow=42							
OTAV	**Otavalo**	**61.34**	**121**	P	**P**	**22 56 33.7**	**-1.4**	
ASAJ	**Asahikawa**	**61.51**	**305**	LR	LR	23 20 34.6		
	comp=Z,102nm,20.8s,baz=180,slow=34							
COHC	**Cochancay**	**62.96**	**123**	P	**P**	**22 56 43.4**	**-2.0**	
PCRV	**Puerto La Cruz**	**63.40**	**102**	LR	LR	23 26 57.8		
	comp=Z,616nm,19.7s,slow=38							
MCRA	**Macar, Loja**	**64.05**	**125**	P	**P**	**22 56 50.0**	**-2.7**	
PPT	**Papeete**	**64.19**	**204**	LR	LR	23 15 20.3		
	comp=Z,130nm,22.0s,baz=9.0,slow=27							
NRIK	**Noril'sk**	**64.44**	**347**	LR	LR	23 25 51.9		
	comp=Z,333nm,20.9s,baz=30,slow=37							
ARCES	**ARCESS Array B**	**65.42**	**10**	LR	LR	23 24 16.1		
	comp=Z,345nm,21.6s,baz=338,slow=35							
HEH	**HeiHe**	**66.11**	**317**	*e*P	P	22 57 14.0	+8.4	
HEH				pmax	pmax			
	comp=Z,7.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**67.57**	**310**	LR	LR	23 25 32.4		
	comp=Z,200nm,20.6s,baz=42,slow=35							
NOA	**NORSAR Array B**	**70.42**	**20**	P	**P**	**22 57 32.2**	**-0.3**	
	comp=Z,1.3nm,1.0s,baz=337,slow=10,SNR=2.4							
NOA				LR	LR	23 25 46.2		
	comp=Z,240nm,21.9s,baz=330,slow=34							
	comp=Z,1.3nm,1.0s							
HIA	**Hailar**	**70.45**	**320**	IAMs_20	IAMs_20	23 28 43.6		
	comp=Z,468nm,19.0s							
RAR	**Rarotonga**	**71.02**	**212**	LR	LR	23 19 27.6		
	comp=Z,519nm,20.9s,baz=358,slow=28							
HFS	**Hagfors**	**71.81**	**19**	P	**P**	**22 57 37.7**	**-3.2**	
	comp=Z,2.3nm,1.0s,baz=54,slow=7.5,SNR=1.3							
HFS				LR	LR	23 27 24.5		
	comp=Z,472nm,19.9s,baz=334,slow=34							
	comp=Z,2.3nm,1.0s							
NNA	**Nana**	**71.97**	**127**	LR	LR	23 26 28.0		
	comp=Z,170nm,19.3s,baz=318,slow=34							
JCJ	**Chichijima**	**72.13**	**291**	LR	LR	23 21 02.5		
	comp=Z,231nm,21.8s,baz=113,slow=29							
FINES	**FINESS Array B**	**73.11**	**13**	P	**P**	**22 57 45.9**	**-2.7**	
	comp=Z,4.5nm,1.1s,baz=302,slow=6.4,SNR=1.7							
FINES				LR	LR	23 27 57.3		
	comp=Z,480nm,20.8s,baz=356,slow=34							
	comp=Z,4.5nm,1.1s							
MDP	**Montagnes des**	**75.48**	**97**	LR	LR	23 34 45.1		
	comp=Z,591nm,19.3s,baz=314,slow=38							
ETMB	**Extrema**	**76.80**	**117**	P	**P**	**22 58 08.2**	**-2.4**	
ETMB				IAmb	IAmb	22 58 26.3		
	comp=Z,18nm,1.3s							
SONM	**Songino Array**	**77.35**	**326**	P	**P**	**22 58 10.5**	**-2.9**	
	comp=Z,0.7nm,0.7s,baz=86,slow=2.1,SNR=3.8							
SONM				LR	LR	23 32 22.1		
	comp=Z,461nm,18.4s,baz=30,slow=36							
	comp=Z,0.7nm,0.7s							
KIRV	**Kirov**	**78.13**	**2**	LR	LR	23 36 04.6		
	comp=Z,114nm,19.9s,baz=0.9,slow=38							
ZALV	**Zalesovo Beam**	**78.97**	**341**	P	**P**	**22 58 21.2**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=29,slow=3.3,SNR=1.6							
ZALV				LR	LR	23 36 36.1		
	comp=Z,198nm,19.7s,baz=34,slow=38							
	comp=Z,0.2nm,0.3s							
GUMO	**Guam**	**79.13**	**278**	LR	LR	23 25 00.5		
	comp=Z,284nm,21.0s,baz=70,slow=29							
ARU	**Arti**	**80.20**	**357**	LR	LR	23 37 34.8		
	comp=Z,257nm,18.1s,baz=1.0,slow=38							
HHC	**Hu-ho-hao-te**	**80.56**	**319**	*e*P	**P**	**22 58 32.5**	**+1.3**	
HHC				*e*S	**S**	**23 08 40.3**	**+2.8**	
HHC				pmax	pmax			
	comp=Z,14nm,0.7s							
HHC				pmax	pmax			
	comp=Z,190nm,5.1s							
HHC				LR	LR			
	comp=Z,380nm,14.3s							
HHC				LR	LR			
	comp=Z,620nm,14.9s							
HHC				LR	LR			
	comp=Z,910nm,21.2s							
OBN	**Obninsk**	**80.70**	**9**	LR	LR	23 36 00.8		
	comp=Z,217nm,18.3s,baz=344,slow=37							
JOW	**Kunigami**	**81.48**	**299**	LR	LR	23 30 04.6		
	comp=Z,87nm,19.0s,baz=32,slow=32							
HNS	**HongShan**	**81.65**	**315**	*e*P	**P**	**22 58 41.5**	**+4.7**	
GERES	**GERESS Array B**	**81.81**	**25**	P	**P**	**22 58 36.8**	**-0.8**	
	comp=Z,0.4nm,0.6s,baz=305,slow=3.5,SNR=2.0							
GERES				LR	LR	23 35 08.0		
	comp=Z,286nm,18.6s,baz=328,slow=36							
	comp=Z,0.4nm,0.6s							
RETA	**Reutte**	**82.07**	**27**	PcP	**PcP**	**22 58 49.2**	**+4.8**	
	comp=Z,2.6nm,1.1s							
VRAC	**Vranov**	**82.24**	**23**	LR	LR	23 34 49.9		
	comp=Z,348nm,20.1s,baz=330,slow=36							
PB11	**IPC Station P**	**82.31**	**126**	P	**P**	**22 58 38.0**	**-2.5**	
DAVOX	**Davos/Dischmat**	**82.38**	**28**	LR	LR	23 34 44.0		
	comp=Z,529nm,19.1s,baz=322,slow=35							
FETA	**Feichten**	**82.46**	**27**	*e*PcP	**PcP**	**22 58 50.0**	**+3.7**	
	comp=Z,6.2nm,1.2s							
BRVK	**Borovoye**	**82.51**	**349**	P	**P**	**22 58 38.2**	**-2.9**	
BRVK				IAmb	IAmb	22 58 54.9		
	comp=Z,6.8nm,0.9s							
BVAR	**Borovoye Array**	**82.52**	**349**	P	**P**	**22 58 37.8**	**-3.4**	
	comp=Z,0.9nm,0.7s,baz=15,slow=6.2,SNR=5.4							
BVAR				LR	LR	23 37 45.4		
	comp=Z,364nm,21.7s,baz=7.7,slow=38							
	comp=Z,0.9nm,0.7s							
ESDC	**Sonseca Array**	**82.64**	**40**	P	**P**	**22 58 40.3**	**-1.8**	
	comp=Z,0.8nm,1.1s,baz=297,slow=3.9,SNR=2.4							
ESDC				LR	LR	23 32 58.5		
	comp=Z,298nm,18.7s,baz=324,slow=34							
	comp=Z,0.8nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**82.65**	**28**	P	**P**	**22 58 40.2**	**-2.1**	
FUORN				IAmb	IAmb	22 59 05.6		
	comp=Z,6.9nm,1.2s							
LESA	**Schwarzleotal**	**82.74**	**26**	*e*PcP	**PcP**	**22 58 49.9**	**+2.5**	
	comp=Z,4.1nm,1.4s							
KBA	**Koelnbreinsper**	**83.26**	**26**	PcP	**PcP**	**22 58 50.4**	**+0.6**	
	comp=Z,3.8nm,1.0s							
CONA	**Conrad Observa**	**83.27**	**24**	*e*PcP	**PcP**	**22 58 51.2**	**+1.5**	
	comp=Z,5.6nm,1.2s							
ABTA	**Abfaltersbach**	**83.29**	**26**	*e*pP	pP	22 58 49.2	-0.2	
	comp=Z,3.6nm,1.4s							
KURK	**Kurchatov**	**83.35**	**344**	P	**P**	**22 58 42.5**	**-3.0**	
KURK				IAmb	IAmb	22 59 05.6		
	comp=Z,11nm,1.4s							
KURBB	**Kurchatov Arra**	**83.46**	**344**	P	**P**	**22 58 42.7**	**-3.4**	
	comp=Z,0.8nm,0.2s,baz=16,slow=5.0,SNR=6.3							
KURBB				LR	LR	23 39 08.5		
	comp=Z,236nm,18.7s,baz=14,slow=38							
	comp=Z,0.8nm,0.2s							
RONA	**Rosalia, Austr**	**83.60**	**24**	*e*PcP	**PcP**	**22 58 51.8**	**+0.7**	
	comp=Z,0.5nm,0.3s							
ARSA	**Arzberg**	**83.78**	**24**	*e*PcP	**PcP**	**22 58 52.5**	**+0.6**	
	comp=Z,3.5nm,1.0s							
AKASG	**Malin Array Be**	**83.89**	**15**	P	**P**	**22 58 47.9**	**-0.3**	
	comp=Z,1.1nm,0.8s,baz=336,slow=3.8,SNR=2.5							
AKASG				LR	LR	23 35 38.2		
	comp=Z,420nm,21.5s,baz=340,slow=35							
	comp=Z,1.1nm,0.8s							
OBKA	**Obir**	**84.15**	**25**	*e*PcP	**PcP**	**22 58 54.9**	**+1.3**	
	comp=Z,3.5nm,1.0s							
PSZ	**Piszkesteto**	**84.41**	**21**	P	**P**	**22 58 48.1**	**-2.9**	
PSZ				IAmb	IAmb	22 59 33.4		
	comp=Z,17nm,1.4s							
PSZ				IAMs_20	IAMs_20	23 24 58.6		
	comp=Z,307nm,20.0s							
CART	**Cartagena**	**85.70**	**40**	IAMs_20	IAMs_20	23 28 20.5		
	comp=Z,367nm,18.0s							
RAO	**Raoul Island**	**86.01**	**223**	LR	LR	23 28 25.5		
	comp=Z,302nm,21.4s,baz=132,slow=29							
AKTO	**Aktyubinsk**	**86.21**	**357**	LR	LR	23 40 08.1		
	comp=Z,230nm,19.0s,baz=334,slow=38							
MKAR	**Makanchi Array**	**86.22**	**340**	P	**P**	**22 58 59.6**	**-0.4**	
	comp=Z,0.1nm,0.6s,baz=32,slow=7.1,SNR=2.5							
MKAR				LR	LR	23 39 26.8		
	comp=Z,331nm,19.7s,baz=20,slow=37							
	comp=Z,0.1nm,0.6s							
GTA	**Gaotai**	**86.99**	**325**	*e*P	**P**	**22 59 08.5**	**+4.4**	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
ABKAR	**Akbulak array**	**87.29**	**355**	P	**P**	**22 59 02.7**	**-2.5**	
WMQ	**Urumqi**	**87.47**	**335**	*e*P	**P**	**22 59 09.0**	**+2.7**	
WMQ				LR	LR			
	comp=Z,640nm,18.1s							
WMQ				LR	LR			
	comp=Z,500nm,15.9s							
MDT	**Midelt**	**87.75**	**45**	LR	LR	23 36 58.1		
	comp=Z,259nm,19.1s,baz=339,slow=35							
LZH	**Lanzhou**	**88.00**	**321**	*e*P	**P**	**22 59 13.0**	**+3.9**	
LZH				sP	pwP	22 59 21.8	+4.8	
LZH				pmax	pmax			
	comp=Z,7.0nm,1.0s							
LZH				LR	LR			
	comp=Z,650nm,17.9s							
LZH				LR	LR			
	comp=Z,740nm,18.2s							
LZH				LR	LR			
	comp=Z,760nm,18.9s							
DZM	**Mont Dzumac**	**89.10**	**238**	LR	LR	23 30 34.8		
	comp=Z,466nm,21.8s,baz=162,slow=30							
KEST	**Kesra**	**91.77**	**34**	LR	LR	23 39 56.3		
	comp=Z,307nm,19.4s,baz=242,slow=35							
AAK	**Ala-Archa**	**91.91**	**344**	LR	LR	23 44 06.6		
	comp=Z,306nm,19.7s,baz=20,slow=38							
VAE	**Valguarnera**	**92.17**	**29**	LR	LR	23 41 12.7		
	comp=Z,434nm,18.3s,baz=1.0,slow=36							
PMG	**Port Moresby**	**93.12**	**260**	LR	LR	23 37 18.4		
	comp=Z,181nm,18.8s,baz=73,slow=33							
RCBR	**Riachuelo**	**95.07**	**93**	LR	LR	23 41 20.8		
	comp=Z,252nm,20.8s,baz=305,slow=35							
BRTR	**Keskin Array B**	**95.29**	**15**	LR	LR	23 44 28.8		
	comp=Z,368nm,20.2s,baz=354,slow=37							
TGY	**Tagaytay City**	**95.37**	**295**	LR	LR	23 37 20.6		
	comp=Z,102nm,19.6s,baz=160,slow=32							
URZ	**Urewera**	**95.73**	**221**	LR	LR	23 34 44.8		
	comp=Z,450nm,20.6s,baz=122,slow=30							
GNI	**Garni**	**96.32**	**6**	LR	LR	23 44 53.4		
	comp=Z,175nm,21.7s,baz=351,slow=36							
ISP	**Isparta**	**96.51**	**17**	IAMs_20	IAMs_20	23 49 00.9		
	comp=Z,343nm,20.0s							
ARPR	**Arapgir-MALATY**	**96.67**	**11**	IAMs_20	IAMs_20	23 45 57.2		
	comp=Z,310nm,21.0s							
PZH	**PanZhiHua**	**96.92**	**317**	P	**P**	**22 59 52.5**	**+2.1**	
PZH				pmax	pmax			
	comp=Z,150nm,4.9s							
DAV	**Davao City (W)**	**97.28**	**287**	LR	LR	23 37 07.0		
	comp=Z,183nm,20.5s,baz=56,slow=31							
IDI	**Amoyia**	**97.52**	**23**	LR	LR	23 47 18.8		
	comp=Z,171nm,19.1s,baz=322,slow=38							
GEYT	**Alibeck**	**98.68**	**356**	LR	LR	23 49 28.3		
	comp=Z,247nm,18.6s,baz=26,slow=38							
ELIB	**Princess Elisa**	**148.29**	**163**	*d*PKP	**PKPab**	**23 06 13.3**	**+6.4**	

NEIC ***28*** *23:17:38.3±2.6, 39.78N±0.05×20.61E±0.07, h10km±2km, mb4.0/8, Error ellipse: s-maj=9.8km s-min=7.5km az=131.0*

BEO ***28*** *23:17:39.6±0.7, 39.75N×20.62E, h19km±3km, ML3.1/10*

PDG ***28*** *23:17:39.0±0.5, 39.82N×20.60E, h21km, ML3.3/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

THE ***28*** *23:17:39.0, 39.79N×20.72E, h0km±3km, ML3.2/6, Error ellipse: s-maj=3.0km s-min=0.8km az=201.0*

IDC ***28*** *23:17:41.3±2.3, 39.86N×20.47E, h56km±27km, mb3.4/7, mbtmp3.6/11, ML2.9/4, Error ellipse: s-maj=22.3km s-min=14.7km az=138.0*

AFAD ***28*** *23:17:48.7±0.0, 41.26N×22.17E, h6km±5km, ML2.7*

ISC 28 23:17:38.8±0.7, 39.78N±0.02×20.70E±0.02, h21km±2km, n169,σ1ᵎ53/203, mb3.8/9, 16C-12D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
JAN	**Janina**	**0.17**	**136**	P		**Pb**	**23**	**17**	**43.9**	**-0.7**
JAN				S		**Sb**	**23**	**17**	**46.9**	**-1.8**
	32μm,0.3s									
IGT	**Igoumenitsa**	**0.37**	**229**	P		**Pb**	**23**	**17**	**45.7**	**-0.9**
IGT				S		**Sb**	**23**	**17**	**52.3**	**+0.4**
	4μm,0.5s									
LSK	**Leskovik**	**0.38**	**349**	P		**Pb**	**23**	**17**	**46.1**	**-0.6**
LSK				S		**Sb**	**23**	**17**	**51.3**	**-0.8**
	6μm,0.5s									
KPRO	**Kipourio**	**0.54**	**71**	P		**Pb**	**23**	**17**	**48.8**	**-0.9**
KPRO				S		**Sb**	**23**	**17**	**57.0**	**-0.1**
	5μm,0.4s									
SRN	**Sarande**	**0.54**	**281**	P		**Pb**	**23**	**17**	**48.7**	**-1.0**
SRN				S		**Sb**	**23**	**17**	**57.9**	**+0.8**
	2μm,0.5s									
NEST	**Nestorio**	**0.69**	**23**	P		**Pb**	**23**	**17**	**51.6**	**-0.6**
NEST				S		**Sb**	**23**	**18**	**02.2**	**+0.9**
	1μm,0.6s									
KEK	**Kerkira**	**0.69**	**265**	Pg		**Pb**	**23**	**17**	**49.3**	**-2.9**
KBN	**Korca**	**0.84**	**5**			**Pb**	**23**	**17**	**54.4**	**-0.4**
KBN	**Korca**	**0.84**	**5**	P		**Pb**	**23**	**17**	**54.0**	**-0.8**
TSLK	**Tsoukalades, L**	**0.95**	**182**	P		**Pb**	**23**	**17**	**56.7**	**+0.1**
LKD2	**Lefkada island**	**0.99**	**182**	P		**Pn**	**23**	**17**	**57.4**	**-0.1**
THL	**Klokotos Trika**	**1.04**	**102**	P		**Pb**	**23**	**17**	**56.8**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.07**	**180**	P		**Pn**	**23**	**17**	**58.7**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.10**	**185**	P		**Pb**	**23**	**17**	**59.2**	**+0.1**
FNA	**Florina**	**1.13**	**27**			**Pb**	**23**	**17**	**59.7**	**0.0**
FNA	**Florina**	**1.13**	**27**	P		**Pn**	**23**	**17**	**59.4**	**0.0**
FNA	**Florina**	**1.13**	**27**	*e*Pg		**Pb**	**23**	**17**	**59.6**	**0.0**
FNA				*e*Sg		**Sn**	**23**	**18**	**17.2**	**+2.8**
VLO	**Vlora**	**1.15**	**307**			**Pb**	**23**	**18**	**01.3**	**+1.4**
VLO	**Vlora**	**1.15**	**307**	P		**Pb**	**23**	**18**	**01.4**	**+1.5**
VLO				S		**Sn**	**23**	**18**	**18.8**	**+4.1**
EVGI	**Lefkada island**	**1.16**	**182**	P		**Pb**	**23**	**18**	**00.3**	**+0.2**
EVR	**Evrytania**	**1.22**	**135**	P		**Pb**	**23**	**18**	**01.6**	**+0.4**
KTI	**Kastanea**	**1.25**	**60**	P		**Pn**	**23**	**18**	**01.1**	**-0.1**
PVO	**Paravola**	**1.33**	**151**

CUC	**Castrococco**	**3.76**	**275**	Pn		**Pn**	**23 18 36.1**	**+0.5**
ZAPS	**Zavoj**	**3.78**	**22**	*e*Pn		**Pn**	**23 18 38.2**	**+2.3**
IVAS	**Ivanjica**	**3.81**	**354**	*e*Pn		**Pn**	**23 18 38.0**	**+1.7**
IVAS				*e*Sn		**Sn**	**23 19 20.1**	**-0.5**
STON	**Ston**	**3.82**	**325**	*e*Pn		**Pn**	**23 18 35.3**	**-1.1**
BOVS	**Bovan**	**3.92**	**11**	⇓P		**Pn**	**23 18 39.5**	**+1.7**
BOVS	**Bovan**	**3.92**	**11**	*e*Pn		**Pn**	**23 18 39.1**	**+1.3**
BOVS				*e*Sn		**Sn**	**23 19 23.4**	**+0.2**
RDO	**Rodhopi**	**3.94**	**68**	Pn		**Pn**	**23 18 39.3**	**+1.3**
RUDO	**Rudo**	**3.96**	**346**	*e*Pn		**Pn**	**23 18 39.0**	**+0.7**
NEVS	**Nevesinje**	**4.02**	**332**	*e*Pn		**Pn**	**23 18 39.7**	**+0.6**
GOAD	**anakkale-G¶**	**4.03**	**83**	P		**Pn**	**23 18 40.8**	**+1.6**
GOAD				S		**Sn**	**23 19 20.4**	**-5.3**
GOAD				*i* AML	AML		23 19 57.0	
	comp=N,22nm,1.3s							
CEL	**Celeste**	**4.04**	**249**			**Pn**	**23 18 38.6**	**-0.8**
GRUS	**Gruza**	**4.11**	**0**	*e*Pn		**Pn**	**23 18 42.3**	**+2.0**
BLKB	**Belogradchik**	**4.12**	**20**	⇓P		**Pn**	**23 18 42.5**	**+2.0**
ZAGS	**Zajecar**	**4.19**	**15**	*e*Pn		**Pn**	**23 18 43.2**	**+1.8**
BBLS	**Lazići**	**4.20**	**347**	*e*Pn		**Pn**	**23 18 42.9**	**+1.4**
BBLS	**Lazići**	**4.20**	**347**	*e*Pn		**Pn**	**23 18 43.0**	**+1.4**
ALN	**Alexandroupoli**	**4.24**	**73**	Pn		**Pn**	**23 18 43.8**	**+1.7**
SGRT	**San Giovanni R**	**4.25**	**299**			**Pn**	**23 18 42.2**	**-0.1**
DIVS	**Divibare**	**4.35**	**353**	*e*Pn		**Pn**	**23 18 44.5**	**+0.8**
DIVS				*e*Sn		**Sn**	**23 19 33.6**	**-0.1**
CNKL	**anakkale-Mer**	**4.39**	**84**	P		**Pn**	**23 18 45.0**	**+0.8**
CNKL				*i* AML	AML		23 19 54.0	
	comp=E,22nm,2.0s							
CNKL				*i* AML	AML		23 19 58.0	
	comp=N,22nm,1.5s							
TRUS	**Trudelj**	**4.45**	**357**	*e*Pn		**Pn**	**23 18 47.0**	**+2.0**
HAPS	**Han Pijesak,Bl**	**4.50**	**344**	*e*Pn		**Pn**	**23 18 46.5**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**4.51**	**89**	P		**Pn**	**23 18 47.8**	**+2.0**
BAYC				S		**Sn**	**23 19 33.7**	**-4.0**
PLVB	**Pleven**	**4.65**	**38**	⇑P		**Pn**	**23 18 49.8**	**+2.0**
KUBS	**Kucevo**	**4.69**	**9**	*e*Pn		**Pn**	**23 18 49.0**	**+0.7**
PAOL	**Paolisi**	**4.84**	**287**	Pn		**Pn**	**23 18 51.3**	**+0.9**
TEKS	**Tekeris**	**4.84**	**350**	*e*Pn		**Pn**	**23 18 51.2**	**+0.8**
TEKS	**Tekeris**	**4.84**	**350**	*e*Pn		**Pn**	**23 18 49.8**	**-0.6**
ELND	**Elena**	**5.01**	**49**	⇓P		**Pn**	**23 18 54.9**	**+2.2**
SART	**Tekirdag**	**5.04**	**78**	P		**Pn**	**23 18 54.5**	**+1.2**
SART				*i* AML	AML		23 19 43.0	
	comp=N,13nm,1.1s							
SART				S		**Sn**	**23 19 43.8**	**-7.2**
MDVR	**Moldovita**	**5.05**	**8**	⇑P		**Pn**	**23 18 55.3**	**+2.0**
MGRS	**Mrkonjic Grad**	**5.36**	**331**	*e*Pn		**Pn**	**23 18 57.3**	**-0.2**
FRGS	**Fruska Gora**	**5.41**	**353**	⇑P		**Pn**	**23 18 59.4**	**+1.1**
FRGS	**Fruska Gora**	**5.41**	**353**	*e*Pn		**Pn**	**23 18 58.6**	**+0.3**
FRGS	**Fruska Gora**	**5.41**	**353**	*e*Pn		**Pn**	**23 18 55.3**	**-3.0**
VAE	**Valguarnera**	**5.43**	**247**	P		**Pn**	**23 18 58.6**	**+0.1**
	0.3nm,0.3s,baz=354,slow=10,SNR=2.2							
VAE				S		**Sn**	**23 19 59.2**	**-1.2**
	4.5nm,0.9s,baz=17,slow=14,SNR=1.7							
	4.4nm,0.8s							
BLY	**Banja Luka**	**5.61**	**333**	*e*Pn		**Pn**	**23 19 03.0**	**+2.1**
INTR	**Introdacqua**	**5.61**	**296**	Pn		**Pn**	**23 19 01.9**	**+0.9**
A050A	**Klekovaca**	**5.62**	**328**	*e*Pn		**Pn**	**23 19 02.1**	**+0.9**
GZR	**Gura Zlata**	**5.82**	**15**	⇑P		**Pn**	**23 19 05.9**	**+2.1**
A051A	**Mrakovica**	**5.93**	**333**	*e*Pn		**Pn**	**23 19 05.1**	**-0.3**
ARR	**Arges**	**6.29**	**26**	⇑P		**Pn**	**23 19 12.8**	**+2.4**
NRCA	**Norcia**	**6.47**	**301**			**Pn**	**23 19 13.3**	**+0.4**
VOIR		**6.50**	**28**	⇑P		**Pn**	**23 19 15.1**	**+1.8**
FDMO	**Fiordimonte**	**6.58**	**302**			**Pn**	**23 19 14.8**	**+0.6**
MORH	**Mrgy, Hungar**	**6.60**	**348**	⇓P		**Pn**	**23 19 15.0**	**+0.4**
CESX	**Cesi**	**6.74**	**297**	Pn		**Pn**	**23 19 17.8**	**+1.3**
MLR	**Muntele Rosu**	**6.89**	**32**	⇓P		**Pn**	**23 19 20.1**	**+1.4**
MLR	**Muntele Rosu**	**6.89**	**32**			Pn	23 19 24.1	+5.4
MLR	**Muntele Rosu**	**6.89**	**32**	P		**Pn**	**23 19 21.5**	**+2.8**
	0.2nm,0.3s,baz=145,slow=12,SNR=3.6							
	2.5nm,0.5s							
BOJS	**Bojanci**	**6.99**	**327**	*e*Pn		**Pn**	**23 19 19.8**	**0.0**
MURB	**Monte Urbino**	**7.05**	**302**			**Pn**	**23 19 21.0**	**+0.2**
CRES	**Cresnjev**	**7.16**	**329**	*e*Pn		**Pn**	**23 19 21.8**	**-0.5**
PLOR	**Plostina**	**7.48**	**34**	⇑P		**Pn**	**23 19 29.5**	**+2.8**
VRI	**Vrincioaia**	**7.52**	**34**	⇑P		**Pn**	**23 19 29.3**	**+2.0**
CEY	**Cerknica**	**7.53**	**324**	*e*Pn		**Pn**	**23 19 26.8**	**-0.5**
SKDS	**Skadanscina**	**7.58**	**322**	*e*Pn		**Pn**	**23 19 26.5**	**-1.5**
CASP	**Castiglione de**	**7.99**	**295**			**Pn**	**23 19 33.3**	**-0.3**
OBKA	**Obir**	**8.09**	**328**	*e*Pn		**Pn**	**23 19 35.4**	**+0.3**
	0.9nm,0.2s							
OBKA	**Obir**	**8.09**	**328**	*e*Pn		**Pn**	**23 19 35.3**	**+0.3**
SABO	**M.te Sabotino**	**8.09**	**322**	Pn		**Pn**	**23 19 34.8**	**-0.2**
PRED	**Cave del Predi**	**8.46**	**324**	Pn		**Pn**	**23 19 38.7**	**-1.3**
TEOL	**Teolo**	**8.68**	**313**	Pn		**Pn**	**23 19 42.9**	**-0.2**
KBA	**Koelnbreinsper**	**9.04**	**326**	*e*Pn		**Pn**	**23 19 49.0**	**+0.8**
	0.3nm,0.3s							
CTI	**Castel Tesino**	**9.12**	**316**	Pn		**Pn**	**23 19 48.0**	**-1.2**
ABTA	**Abfaltersbach**	**9.17**	**322**	*e*Pn		**Pn**	**23 19 50.4**	**+0.6**
	0.2nm,0.2s							
MOA	**Molln**	**9.30**	**332**	*e*Pn		**Pn**	**23 19 53.4**	**+1.8**
	0.3nm,0.2s							
LESA	**Schwarzleotal**	**9.60**	**325**	*e*Pn		**Pn**	**23 19 57.3**	**+1.6**
	0.6nm,0.2s							
WTTA	**Wattenberg**	**9.96**	**322**	*e*Pn		**Pn**	**23 20 01.3**	**+0.6**
	0.6nm,0.3s							
BRTR	**Keskin Array B**	**9.97**	**86**	P		**Pn**	**23 20 03.4**	**+2.5**
	0.1nm,0.3s,baz=267,slow=14,SNR=1.9							
	0.2nm,0.4s							
WATA	**Walderalm**	**10.04**	**322**	*e*Pn		**Pn**	**23 20 02.5**	**+0.7**
	0.3nm,0.2s							
SQTA	**Sankt Quirin**	**10.13**	**320**	*e*Pn		**Pn**	**23 20 03.8**	**+0.7**
	0.6nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**10.23**	**315**	Pn		**Pn**	**23 20 05.4**	**+0.9**
MOTA	**Moosalm**	**10.27**	**321**	*e*Pn		**Pn**	**23 20 05.6**	**+0.6**
	0.4nm,0.4s							
DAVOX	**Davos/Dischmat**	**10.54**	**315**	P		**Pn**	**23 20 07.3**	**-1.3**
	0.1nm,0.3s,baz=330,slow=20,SNR=1.9							
DAVOX				S		**Sn**	**23 22 02.3**	**-3.8**
	0.4nm,0.3s,baz=311,slow=20,SNR=1.8							
	0.4nm,0.3s							
SENIN	**Lac Senin/Sane**	**11.79**	**308**	Pn		**Pn**	**23 20 25.5**	**-0.4**
HFS	**Hagfors**	**20.84**	**350**	P		**P**	**23 22 16.5**	**-2.4**
	6.8nm,1.1s,baz=144,slow=13,SNR=4.2							
	6.8nm,1.1s							
FINES	**FINESS Array B**	**21.94**	**7**	P		**P**	**23 22 29.6**	**-1.1**
FINES	**FINESS Array B**	**21.94**	**7**	P		**P**	**23 22 29.0**	**-1.6**
	0.9nm,0.4s,baz=173,slow=12,SNR=13							
	0.9nm,0.4s							
FIA1	**FINESS Array S**	**21.94**	**7**	P		**P**	**23 22 29.4**	**-1.2**
NC405	**NORSAR Array S**	**22.07**	**348**			**P**	**23 22 32.1**	**0.0**
NB201	**NORSAR Array S**	**22.08**	**348**			**P**	**23 22 31.6**	**-0.6**
NB201				IAmb	IAmb		23 22 40.4	
	comp=Z,9.9nm,1.0s							
NOA	**NORSAR Array B**	**22.08**	**348**	P		**P**	**23 22 31.0**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=165,slow=11,SNR=2.6							
	comp=Z,0.5nm,0.6s							
NC303	**NORSAR Array S**	**22.23**	**348**	P		**P**	**23 22 34.7**	**+0.9**
NC303				IAmb	IAmb		23 22 37.6	
	comp=Z,14nm,1.4s							
NC204	**NORSAR Array S**	**22.38**	**347**	P		**P**	**23 22 35.4**	**-0.1**
ARCES	**ARCESS Array B**	**29.93**	**3**	P		**P**	**23 23 42.8**	**-2.1**
	comp=Z,4.8nm,1.1s,baz=192,slow=9.9,SNR=4.8							
	comp=Z,4.8nm,1.1s							
TOA0	**Torodi Ar. Sit**	**31.37**	**218**	P		**P**	**23 23 58.5**	**+0.4**
TOA0				IAmb	IAmb		23 24 07.1	
	comp=Z,1.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**31.37**	**218**	P		**P**	**23 23 56.9**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=25,slow=8.6,SNR=4.7							
	comp=Z,0.3nm,0.6s							
MAKZ	**Makanchi**	**44.15**	**60**			**P**	**23 25 48.7**	**+2.9**
MK31	**Makanchi Array**	**44.36**	**60**	P		**P**	**23 25 46.9**	**-0.6**
MKAR	**Makanchi Array**	**44.36**	**60**	P		**P**	**23 25 46.9**	**-0.6**
MKAR	**Makanchi Array**	**44.36**	**60**	P		**P**	**23 25 46.7**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=278,slow=7.4,SNR=20							
	comp=Z,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**44.53**	**49**	P		**P**	**23 25 47.3**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=278,slow=7.2,SNR=2.0							
	comp=Z,0.5nm,0.3s							

*CATAC **28** 23:20:43.3±0.9, 8°.07N×83°.00W, h8km±3km, ML3.5*
*UCR **28** 23:20:43.6±1.0, 8°.02N×83°.01W, h15km±6km, MW3.8*
*UPA **28** 23:20:44.7±4.7, 8°.01N×82°.80W, h26km±22km, MW3.6*
ISC 28 23:20:42.5±1.2, 8°.01N±0°.05×82°.98W±0°.03, h16km±7km, n86, σ1°64/99, 3C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.22**	**26**	*e*P	**Pb**	**23 20 49.4**	**+1.2**
PTPM				*e*S	**Sg**	**23 20 51.8**	**+0.8**
PIRO	**Carate, Puerto**	**0.53**	**318**	*e*P	**Pg**	**23 20 53.4**	**+0.3**
PIRO				*e*S	**Sb**	**23 21 00.9**	**-0.2**
PIRO	**Carate, Puerto**	**0.53**	**318**	*i* P	**Pg**	**23 20 52.7**	**-0.4**
PIRO				*i* S	**Sg**	**23 21 00.6**	**+0.3**
PIRO				IAML		23 21 03.0	
	comp=Z,4μm,1.0s						
CDITO	**Canoas**	**0.57**	**10**	⇓*i*P	**Pg**	**23 20 54.0**	**+0.1**
CDITO	**Canoas**	**0.57**	**10**	*e*P	**Pg**	**23 20 54.0**	**+0.1**
CDITO				*e*S	**Sg**	**23 21 02.0**	**+0.4**
CDITO	**Canoas**	**0.57**	**10**	*i* P	**Pg**	**23 20 53.9**	**0.0**
CDITO				IAML		23 20 54.3	
	comp=Z,2μm,1.0s						
JIME	**Puerto Jimenez**	**0.63**	**327**	*e*P	**Pg**	**23 20 53.9**	**-1.1**
PEDE3	**Pedregal, Chir**	**0.67**	**56**	*e*P	**Pg**	**23 20 55.9**	**+0.3**
EDAD	**Golfito**	**0.67**	**344**	*e*P	**Pg**	**23 20 54.9**	**-0.8**
DVD	**David**	**0.67**	**51**	⇑*i*P	**Pg**	**23 20 56.2**	**+0.4**
DVD				*e*S	**Sg**	**23 21 05.3**	**+0.6**
MLIR3	**Monte Lirio, C**	**0.80**	**11**	*e*P	**Pg**	**23 20 58.2**	**+0.1**
MLIR3				*e*S	**Sb**	**23 21 10.2**	**+1.5**
PTAR3	**Potrerillos Ar**	**0.83**	**35**	*e*P	**Pg**	**23 20 58.9**	**+0.1**
PTAR3				*e*S	**Sg**	**23 21 07.4**	**-2.4**
BRU2	**Volcan**	**0.83**	**20**	⇓*i*P	**Pg**	**23 20 58.6**	**-0.2**
BRU2				*e*S	**Sg**	**23 21 09.9**	**+0.1**
BRU2	**Volcan**	**0.83**	**20**	*e*P	**Pg**	**23 20 58.6**	**-0.2**
BRU2	**Volcan**	**0.83**	**20**	*i* P	**Pg**	**23 20 58.6**	**-0.2**
BRU2				*i* S	**Sg**	**23 21 09.7**	**-0.1**
BRU2				IAML		23 21 21.0	
	comp=Z,1μm,1.0s						
BCO2	**Palmira**	**0.83**	**32**	⇓*i*P	**Pg**	**23 20 58.8**	**-0.1**
BCO2				*e*S	**Sg**	**23 21 08.6**	**-1.3**
BC3P	**Paso Ancho**	**0.88**	**24**	*e*P	**Pn**	**23 21 02.5**	**+1.9**
BC3P				*e*S	**Sg**	**23 21 10.8**	**-0.6**
LNBQ3	**Los Naranjos,**	**0.94**	**34**	*e*P	**Pb**	**23 21 00.1**	**-0.6**
LNBQ3				*e*S	**Sb**	**23 21 12.5**	**-0.5**
POTG	**Potrero Grande**	**1.05**	**352**	*e*P	**Pb**	**23 21 02.0**	**-0.5**
POTG	**Potrero Grande**	**1.05**	**352**	*i* P	**Pb**	**23 21 01.8**	**-0.6**
POTG				*i* S	**Sb**	**23 21 15.5**	**-0.5**
POTG				IAML		23 21 23.6	
	comp=Z,1μm,1.0s						
EDPN	**Palmar Norte**	**1.06**	**333**	*e*P	**Pb**	**23 21 02.0**	**-0.6**
CHGR2	**Aguacate**	**1.24**	**42**	*e*P	**Pn**	**23 21 04.6**	**-0.7**
CHGR2				*e*S	**Sb**	**23 21 19.7**	**-1.7**
NANC3	**Nancito, Chiri**	**1.25**	**79**	*e*P	**Pn**	**23 21 05.3**	**-0.2**
NANC3				*e*S	**Sb**	**23 21 16.6**	**-5.2**
OCHAL	**Ojochal**	**1.27**	**329**	*i* P	**Pn**	**23 21 05.2**	**-0.5**
OCHAL				IAML		23 21 25.4	
	comp=Z,16nm,1.0s						
DRK0	**Durika**	**1.28**	**348**	*e*P	**Pn**	**23 21 05.4**	**-0.6**
CNI2	**El Empalme, Bo**	**1.49**	**19**	*e*P	**Pn**	**23 21 09.2**	**+0.4**
CNI2				*e*S	**Sn**	**23 21 27.7**	**-0.3**
PEZE	**Perez Zeledon,**	**1.53**	**333**	*e*P	**Pn**	**23 21 09.4**	**-0.1**
PEZE	**Perez Zeledon,**	**1.53**	**333**	*i* P	**Pn**	**23 21 09.3**	**-0.1**
PEZE				IAML		23 21 10.1	
	comp=Z,610nm,1.0s						
CDM	**Cerro de Muert**	**1.72**	**333**	*e*P	**Pn**	**23 21 12.5**	**+0.1**
CDM	**Cerro de Muert**	**1.72**	**333**	*i* P	**Pn**	**23 21 12.3**	**-0.1**
CDM				*i* S	**Sn**	**23 21 34.2**	**-0.1**
CDM				IAML		23 21 40.0	
	comp=Z,240nm,1.0s						
GMAL	**Guarumal, Vera**	**1.74**	**98**	*e*P	**Pn**	**23 21 12.9**	**+0.7**
GMAL	**Guarumal, Vera**	**1.74**	**98**	*e*P	**Pn**	**23 21 13.0**	**+0.8**
GMAL				*e*S	Sg	23 22 07.2	+28
GMAL	**Guarumal, Vera**	**1.74**	**98**	*e*P	**Pn**	**23 21 12.9**	**+0.7**
MESA3	**La Mesa, Verag**	**1.78**	**85**	*e*S	Sg	23 22 09.1	+29
STIA3	**Santiago, Vera**	**1.99**	**87**	*e*P	**Sb**	**23 21 43.1**	**+0.2**
STIA3				*e*S	Sg	23 22 03.6	+17
ABE2	**San Pablo**	**2.00**	**328**	*e*P	**Pn**	**23 21 17.1**	**+1.2**
MARI3	**Mariato, Verag**	**2.00**	**100**	*e*S	Sg	23 21 57.5	+10
LCR2	**La Lucha 2**	**2.00**	**330**	*e*P	**Pn**	**23 21 16.5**	**+0.5**
LCR2	**La Lucha 2**	**2.00**	**330**	*i* P	**Pn**	**23 21 16.5**	**+0.5**
LCR2				IAML		23 21 44.8	
	comp=Z,430nm,1.0s						
TBLN	**Tablon, Guarco**	**2.07**	**331**	*i* P	**Pn**	**23 21 17.1**	**+0.2**
TBLN				IAML		23 21 45.4	
	comp=Z,410nm,1.0s						
VTCV	**VTCV, Calle Va**	**2.10**	**339**	*e*P	**Pn**	**23 21 18.6**	**+1.3**
OCM	**Ochomogo**	**2.11**	**333**	*e*P	**Pn**	**23 21 18.3**	**+0.8**
OCM	**Ochomogo**	**2.11**	**333**	*i* P	**Pn**	**23 21 17.7**	**+0.2**
OCM				IAML		23 21 21.3	
	comp=Z,230nm,1.0s						
CVTV	**Tajo**	**2.13**	**339**	*e*P	**Pn**	**23 21 18.1**	**+0.3**
ICR3	**Volcano Irazu**	**2.13**	**337**	*e*P	**Pn**	**23 21 19.3**	**+1.3**
CALO3	**Calobre, Verag**	**2.14**	**81**	*e*P	**Sb**	**23 21 44.1**	**-3.2**
CALO3				*e*S	Sg	23 22 03.5	+12
HAYA	**Volcan Irazu**	**2.14**	**336**	*i* P	**Pn**	**23 21 18.7**	**+0.6**
HAYA				IAML		23 21 54.0	
	comp=Z,450nm,1.0s						
LCOCO	**El Coco**	**2.14**	**345**	*e*P	**Pn**	**23 21 19.7**	**+1.9**
VICA	**Volcano Irazu**	**2.14**	**336**	*e*P	**Pn**	**23 21 19.7**	**+1.5**
VTLO	**VTLO**	**2.16**	**340**	*e*P	**Pn**	**23 21 19.4**	**+1.2**
CACAO	**El Cacao, Vera**	**2.20**	**107**	*e*P	**Pn**	**23 21 19.4**	**+1.0**
JACO	**JACO, Garabito**	**2.34**	**315**	*e*P	**Pn**	**23 21 20.2**	**-0.2**
CRIS3	**El Cristo, Coc**	**2.35**	**84**	*e*P	Sn	23 21 39.5	-10
CRIS3				*e*S	**Sg**	**23 21 58.3**	**+0.2**
CHIT3	**Chitre**	**2.53**	**91**	*e*P	**Pg**	**23 21 34.0**	**+2.8**
CHIT3				*e*S	Sn	23 21 46.3	-7.4
TOSI3	**Tonosi**	**2.58**	**103**	*e*P	**Pn**	**23 21 22.6**	**-1.2**
TOSI3				*e*S	Sn	23 21 38.5	-16
CPMI	**Catarata Coope**	**2.65**	**329**	*e*P	**Pn**	**23 21 24.9**	**0.0**
ACHO3	**Achotines, Los**	**2.84**	**102**	⇑*i*P	**Pn**	**23 21 24.9**	**-2.4**
ACHO3				*e*S	Pg	23 21 33.3	-3.7
SOCE	**Pocosol**	**2.86**	**326**	*e*P	**Pn**	**23 21 29.3**	**+1.6**
SOCE	**Pocosol**	**2.86**	**326**	*i* P	**Pn**	**23 21 30.7**	**+3.0**
SOCE				IAML		23 21 34.1	
	comp=Z,220nm,1.0s						
PEDA3	**Pedasi**	**2.96**	**99**	*e*P	Pn	23 21 23.7	-5.3
PEDA3				*e*S	Pb	23 21 30.7	-4.3
VACR	**Volcan Arenal**	**2.97**	**326**	*e*P	**Pn**	**23 21 32.8**	**+3.6**
JTS	**Las Juntas de**	**2.99**	**319**	*e*P	**Pn**	**23 21 31.2**	**+1.8**
JTS				*e*S	**Sn**	**23 22 06.1**	**+1.0**
JTS	**Las Juntas de**	**2.99**	**319**	*e*P	**Pn**	**23 21 31.0**	**+1.5**
INDI	**Punta indio, G**	**3.10**	**307**	*i* P	**Pn**	**23 21 30.6**	**-0.4**
INDI				IAML		23 22 39.6	
	comp=Z,54nm,1.0s						
ZANG	**Zanguenga, Cho**	**3.22**	**73**	*e*P	**Pg**	**23 21 47.4**	**+3.2**
ZANG				*e*S	**Sn**	**23 22 10.4**	**-0.2**
BCIP	**Isla Barro Col**	**3.31**	**69**	*i* P	**Pg**	**23 21 48.8**	**+2.7**
BCIP				*e*S	**Sg**	**23 22 13.6**	**+0.9**
BCIP	**Isla Barro Col**	**3.31**	**69**	*e*P	**Pg**	**23 21 48.0**	**+1.9**
BCIP				*e*S	**Sn**	**23 22 14.5**	**+1.6**
BCIP				*i*		23 22 16.9	
	comp=Z,253nm,0.3s						
MLIR	**Monte Lirio**	**3.32**	**68**	*e*P	**Pg**	**23 21 49.7**	**+3.4**
MLIR				*e*S	**Sn**	**23 22 17.7**	**+4.6**
ORTG	**Ortega, Santa**	**3.39**	**314**	*i* P	**Pn**	**23 21 35.6**	**+0.6**
ORTG				IAML		23 23 16.0	
	comp=Z,78nm,1.0s						
SAJU	**San Juanillo,**	**3.39**	**307**	*i* P	**Pn**	**23 21 34.4**	**-0.5**
SAJU				IAML		23 23 18.1	
	comp=Z,51nm,1.0s						
ARRA3	**Arraijan, Pana**	**3.42**	**74**	*e*P	**Pb**	**23 21 45.5**	**+2.7**
ARRA3				*e*S	**Sn**	**23 22 08.7**	**-6.9**
FRIJ	**El Hiral**	**3.43**	**69**	*e*P	**Pg**	**23 21 49.3**	**+0.9**
FRIJ				*e*S	**Sn**	**23 22 15.8**	**-0.1**
TABO3	**Taboga, Panama**	**3.48**	**77**	*e*S	Sn	23 22 03.9	-13
FLAM	**Flamenco Islan**	**3.52**	**75**	*e*S	Sn	23 22 07.1	-11
UPA	**Univ. de Panam**	**3.54**	**74**	*e*P	**Pb**	**23 21 45.9**	**+1.0**
UPA				*e*S	Sn	23 22 07.0	-12
UPA	**Univ. de Panam**	**3.54**	**74**	*e*P	**Pb**	**23 21 45.5**	**+0.6**
UPA				*e*S	Sn	23 22 08.9	-10
HZTE	**Horizontes, Gu**	**3.73**	**316**	*i* P	**Pn**	**23 21 41.8**	**+2.2**
HZTE				IAML		23 23 22.4	
	comp=Z,130nm,1.0s						
CHPO	**Chepo, Panama**	**3.99**	**73**	*e*P	**Pb**	**23 21 49.9**	**-2.6**
CHPO				*e*S	Sn	23 22 16.6	-13
CNTA3	**Canitas, Panam**	**4.22**	**73**	*e*S	Sn	23 22 16.0	-19
TOTI	**Torti**	**4.71**	**78**	*e*P	**Pn**	**23 21 51.2**	**-1.8**
TOTI				*e*S	Sn	23 22 21.1	-26
UPD2	**Meteti**	**4.94**	**83**	⇑*e*P	**Pn**	**23 21 52.7**	**-3.5**
UPD2				*e*S	**Pg**	**23 22 17.5**	**+0.2**
PTAC	**Punta Ardita,**	**5.19**	**99**	*e*S	Pb	23 22 04.9	-8.2
APAC	**Apartado, Choc**	**6.34**	**91**	*e*P	Pn	23 22 07.2	-8.2
APAC				*e*S	Pg	23 22 40.2	-3.7
DBBC	**Dabeiba**	**6.78**	**98**	*e*P	Pn	23 22 09.0	-13
DBBC				*e*S	Pg	23 22 48.6	-3.8
DBBC				*i*		23 22 51.0	
	comp=Z,17nm,0.5s						
CBOC	**Ciudad Bolivar**	**7.23**	**107**	*e*P	Pn	23 22 13.0	-15
CBOC				*e*S	Pg	23 22 54.6	-6.5
UREC	**San Jos de Ur**	**7.38**	**91**	*e*P	Pn	23 22 19.4	-10

*IDC **28** 23:27:54.2±2.1, 59°.84N×153°.33W, h92km±32km, mb3.2/2, mbtmp3.5/6, Error ellipse: s-maj=40.2km s-min=17.2km az=106.0*

*NEIC **28** 23:27:56.4±1.0, 59°.82N±0°.03×152°.98W±0°.03, h110km±4km, Error ellipse: s-maj=4.9km s-min=1.4km az=160.0*
*AEIC **28** 23:27:57.3±1.1, 59°.82N±0°.03×153°.00W±0°.07, h108km±4km, ML2.9, ML3.0/144(NEIC), Error ellipse: s-maj=5.1km s-min=4.7km az=136.0*
ISC 28 23:27:55.9±0.9, 59°.82N±0°.04×152°.96W±0°.04, h116km±6km, n169, σ0°92/183, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.20**	**352**		**Pn**	**23 28 11.8**	**-0.4**
IVE					**Sn**	**23 28 23.5**	**-1.0**
P19K	**Oil Pt**	**0.22**	**220**		**Pn**	**23 28 11.9**	**-0.2**
P19K				Sn	**Sn**	**23 28 23.2**	**-1.1**
O20K	**Slope Mountain**	**0.31**	**32**		**Pn**	**23 28 12.4**	**-0.1**
O20K					**Sn**	**23 28 24.7**	**-0.4**
AU22	**Augustine Moun**	**0.49**	**205**		**Pn**	**23 28 13.5**	**+0.1**
AU22					**Sn**	**23 28 25.7**	**-0.7**
AUL	**Augustine Lava**	**0.50**	**209**		**Pn**	**23 28 13.3**	**-0.1**
AUL					**Sn**	**23 28 25.9**	**-0.6**
RED	**Redoubt Volcan**	**0.61**	**9**		**Pn**	**23 28 14.1**	**-0.1**
RED					**Sn**	**23 28 27.1**	**-1.0**
RDSO	**Redoubt South**	**0.65**	**9**		**Sn**	**23 28 27.9**	**-0.9**
RSO	**Redoubt South**	**0.66**	**9**		**Pn**	**23 28 14.8**	**+0.1**
RSO				Sn	**Sn**	**23 28 27.4**	**-1.6**
RDWB	**Redoubt West**	**0.68**	**5**		**Sn**	**23 28 28.1**	**-1.0**
HOM	**Homer**	**0.69**	**103**	Pn	**Pn**	**23 28 14.7**	**0.0**
HOM				Sn	**Sn**	**23 28 28.8**	**0.0**
HOM				IAML		23 28 32.1	
	comp=E,665nm,0.6s						
O19K	**Port Alsworth**	**0.78**	**300**	Pn	**Pn**	**23 28 15.4**	**-0.1**
O19K				Sn	**Sn**	**23 28 29.4**	**-0.8**
O19K				IAML		23 28 30.2	
	comp=E,385nm,0.4s						
O19K				IAML		23 28 30.2	
	comp=N,388nm,0.5s						

	comp=E,12nm,1.4s								
WAT7	Susitna Watana	3.62	31			Pn		23 28 50.7	+0.5
CAST	Castle Rocks	3.64	6			Pn		23 28 50.9	+0.5
CAST					IAML			23 29 58.3	
	comp=E,8.2nm,1.2s								
EYAK	Cordova Ski Ar	3.67	75			Pn		23 28 51.0	+0.2
WAT1	Susitna Watana	3.69	33			Pn		23 28 51.4	+0.2
L16K	Owhat River	3.72	304	Pn		Pn		23 28 52.0	+0.5
KLU	Klutina	3.85	61	Pn		Pn		23 28 53.2	0.0
KLU				Sn		Sn		23 29 35.4	-2.4
TRF	Thorofare Moun	3.86	18			Pn		23 28 53.9	+0.4
TRF					IAML			23 29 40.1	
	comp=N,17nm,1.3s								
TRF					IAML			23 30 01.3	
	comp=E,12nm,0.7s								
KTH	Kantishna Hill	3.87	14			Pn		23 28 53.8	+0.2
KTH					IAML			23 29 44.9	
	comp=E,13nm,1.2s								
KTH					IAML			23 30 14.2	
	comp=N,17nm,1.1s								
K17K	Iditarod	3.89	321	Pn		Pn		23 28 54.2	+0.6
K17K					IAML			23 29 40.7	
	comp=N,8.2nm,1.0s								
K17K					IAML			23 30 18.4	
	comp=E,8.0nm,1.4s								
M24K	Tolsona, Glenn	4.03	52	Pn		Pn		23 28 55.9	+0.3
J18K	Innoko River	4.08	336			Pn		23 28 56.5	+0.3
RND	Reindeer	4.10	27			Pn		23 28 56.8	+0.2
RND					IAML			23 29 44.7	
	comp=N,14nm,0.6s								
RND					IAML			23 29 47.1	
	comp=E,16nm,0.3s								
DHY	Denali Highway	4.22	37	Pn		Pn		23 28 58.5	+0.2
DHY					IAML			23 29 49.3	
	comp=E,31nm,0.3s								
DHY					IAML			23 29 50.0	
	comp=N,22nm,0.8s								
O14K	Tigyukauivet M	4.27	266	Pn		Pn		23 29 00.1	+1.3
O14K					IAML			23 30 04.7	
	comp=N,11nm,1.5s								
O14K					IAML			23 30 32.7	
	comp=E,5.7nm,1.4s								
KAIM	Kayak Island	4.31	85	Pn		Pn		23 29 00.1	+0.8
MCK	McKinley	4.37	24	Pn		Pn		23 29 00.6	+0.4
J19K	Poorman	4.38	344			Pn		23 29 00.8	+0.6
BPAW	Bear Paw Mtn.	4.40	11			Pn		23 29 01.2	+0.7
BPAW					IAML			23 29 57.6	
	comp=E,5.2nm,1.3s								
BPAW					IAML			23 30 02.2	
	comp=N,6.9nm,1.3s								
J20K	Nowinta River	4.41	353			Pn		23 29 01.6	+0.9
J20K					IAML			23 30 45.2	
	comp=N,4.8nm,1.1s								
N25K	Chitina, Valde	4.48	63			Pn		23 29 02.8	+1.0
N25K					IAML			23 29 54.3	
	comp=N,26nm,0.3s								
N25K					IAML			23 29 55.1	
	comp=E,34nm,0.5s								
CHGN	Chignik	4.56	222	Pn		Pn		23 29 03.2	+0.4
M14K	Bethel	4.58	286	Pn		Pn		23 29 03.7	+0.8
M14K					IAML			23 30 14.5	
	comp=N,8.6nm,1.5s								
M14K					IAML			23 31 32.4	
	comp=E,10nm,1.5s								
HARP	HAARP	4.58	52			Pn		23 29 04.5	+1.5
BERG	Berg Lake	4.67	79	Pn		Pn		23 29 04.4	+0.3
BWN	Browne	4.67	19			Pn		23 29 04.9	+0.8
BWN					IAML			23 30 53.1	
	comp=E,17nm,1.3s								
BWN					IAML			23 32 07.0	
	comp=N,18nm,1.5s								
GLB	Gilahina Butte	4.79	66	Pn		Pn		23 29 06.4	+0.5
GLB					IAML			23 30 01.5	
	comp=E,25nm,0.3s								
K15K	Wolf Creek Mou	4.85	304	Pn		Pn		23 29 07.5	+0.9
VRDI	Verde Repeater	4.90	69	Pn		Pn		23 29 08.4	+0.9
VRDI						Sn		23 30 01.4	-1.8
VRDI					IAML			23 30 01.9	
	comp=N,27nm,0.3s								
VRDI					IAML			23 30 02.7	
	comp=E,16nm,0.6s								
L14K	Kuka Creek	5.03	292	Pn		Pn		23 29 10.3	+1.2
L14K					IAML			23 31 11.8	
	comp=E,6.7nm,1.3s								
L14K					IAML			23 31 34.6	
	comp=N,9.2nm,1.5s								
J16K	Anvik River	5.04	317	Pn		Pn		23 29 09.4	+0.2
I20K	Naaghedeneel	5.05	353			Pn		23 29 09.9	+0.7
I20K					IAML			23 30 46.0	
	comp=N,13nm,1.3s								
I20K					IAML			23 31 26.2	
	comp=E,16nm,1.3s								
SNH	Sunshine Point	5.09	82	Pn		Pn		23 29 10.5	+0.5
NEA2	Nenana	5.13	19			Pn		23 29 10.2	0.0
NEA2					IAML			23 30 28.9	
	comp=N,3.1nm,1.0s								
NEA2					IAML			23 31 16.3	
	comp=E,4.6nm,1.5s								
MCARA	McCarthy VSAT	5.14	68	Pn		Pn		23 29 12.0	+1.5
M13K	Dall Lake	5.23	281	Pn		Pn		23 29 13.1	+1.4
M13K					IAML			23 30 21.0	
	comp=N,8.6nm,1.5s								
M13K					IAML			23 32 21.1	
	comp=E,4.3nm,0.9s								
K24K	Donnelly Dome	5.25	37			Pn		23 29 13.0	+0.9
MLY	Manley	5.33	10			Pn		23 29 13.3	+0.2
MLY					IAML			23 30 50.0	
	comp=N,3.8nm,1.5s								
PTPK	Patty Peak	5.37	71			Pn		23 29 14.3	+0.6
HDA	Harding Lake	5.40	29			Pn		23 29 13.9	-0.1
I21K	Tanana	5.40	4			Pn		23 29 14.3	+0.3
CCB	Clear Creek Bu	5.41	24			Pn		23 29 13.9	-0.2
MENT	Mentasta	5.43	51			Pn		23 29 16.0	+1.6
M26K	Nabesna, AK	5.48	58			Pn		23 29 16.6	+1.4
RIDG	Independent Ri	5.50	41	Pn		Pn		23 29 16.1	+0.7
COLA	College	5.60	23			Pn		23 29 16.6	0.0
I23K	Minto, Yukon-K	5.60	16			Pn		23 29 16.9	+0.2
MDM	Murphy Dome	5.61	21			Pn		23 29 16.6	-0.2
L26K	Log Cabin Wild	5.62	51			Pn		23 29 18.3	+1.3
IL31		5.72	27	Pn		Pn		23 29 18.0	-0.2
ILAR	Eielson Array	5.72	27	Pn		Pn		23 29 18.0	-0.3
ILAR	Eielson Array	5.72	27	P		Pn		23 29 17.4	-0.9
	comp=N,3.6nm,0.4s,baz=217,slow=14,SNR=67								
ILAR				S		Sn		23 30 18.1	-4.4
	comp=N,1.0nm,0.4s,baz=205,slow=15,SNR=2.0								
IL03	Eielson Array	5.73	27	Pn		Pn		23 29 18.3	-0.1
BARN	Barnard Glacie	5.73	73	Pn		Pn		23 29 19.9	+1.2
H21K	Melozitna Rive	5.86	1			Pn		23 29 20.9	+0.6
CTGM	Chitina Glacie	5.88	74	Pn		Pn		23 29 21.9	+1.4
POKR	Poker Plat Res	5.90	23	Pn		Pn		23 29 20.9	+0.2
H18K	Honhosa River	5.91	337	Pn		Pn		23 29 21.4	+0.5
SCRK	Sand Creek	5.95	42	Pn		Pn		23 29 21.3	-0.2
M27K	Edge Creek, AK	5.95	60	Pn		Pn		23 29 22.9	+1.4
J25K	Salcha River,	5.98	33			Pn		23 29 21.8	-0.1
LOGN	Logan Glacier	6.03	75	Pn		Pn		23 29 24.1	+1.5
H17K	Granite Mounta	6.07	331	Pn		Pn		23 29 23.5	+0.5
IMAR	Indian Mountai	6.20	357	Pn		Pn		23 29 25.7	+1.0
L27K	Beaver Creek,	6.25	54	Pn		Pn		23 29 26.8	+1.3
BCAR	Beaver Creek A	6.27	54	Pn		Pn		23 29 27.1	+1.3
BVCY	Beaver Creek	6.41	61			Pn		23 29 28.9	+1.2
J26L	Joseph Creek	6.43	39			Pn		23 29 28.1	0.0
H24K	Noodor Dome	6.47	19	Pn		Pn		23 29 28.4	-0.1
G19K	Purcell Mounta	6.62	345	Pn		Pn		23 29 31.3	+0.9
G18K	Tagagawik	6.63	339	Pn		Pn		23 29 30.1	-0.5
K27K	Chicken	6.65	46	Pn		Pn		23 29 31.8	+1.0
PRP	Porcupine Dome	6.66	28	Pn		Pn		23 29 31.4	+0.2
G21K	Allakaket	6.73	358			Pn		23 29 32.8	+0.9
G23K	Bananza Creek	7.04	10			Pn		23 29 36.7	+0.5
I26K	Coal Creek Min	7.12	35			Pn		23 29 37.8	+0.5
O29M	Mount Kennedy	7.22	80	Pn		Pn		23 29 40.7	+2.1
G24K	Hadweenzic Riv	7.33	17	Pn		Pn		23 29 40.0	-0.1
F20K	Avaraart Lake	7.36	352			Pn		23 29 41.7	+1.2
F19K	Shaleruckik Mo	7.37	345	Pn		Pn		23 29 41.3	+0.8
EGAK	Eagle	7.41	43	Pn		Pn		23 29 40.5	-0.6
F21K	Alatna River	7.44	358	Pn		Pn		23 29 42.5	+1.0
M29M	Somme Creek	7.49	63			Pn		23 29 43.3	+1.0
COLD	Coldfoot	7.54	8	Pn		Pn		23 29 43.1	+0.3
FYU	Fort Yukon	7.61	24	Pn		Pn		23 29 43.5	-0.4
F17K	Baldwin Pennin	7.63	334	Pn		Pn		23 29 46.2	+2.2
DAWY	Dawson	7.68	51	Pn		Pn		23 29 45.9	+1.1
P29M	Windy Craggy	7.70	85	Pn		Pn		23 29 46.4	+1.3
L29M	L29M	7.83	59	Pn		Pn		23 29 47.8	+1.0
N30M	Aishikik Lake	7.97	71	Pn		Pn		23 29 49.0	+0.2
F24K	Squaw Lake	8.05	14			Pn		23 29 50.3	+0.5
I28M	Miner Creek	8.23	41	Pn		Pn		23 29 53.1	+0.8
M30M	Minto, Yukon	8.28	64	Pn		Pn		23 29 53.7	+0.8
K29M	Barlow Dome	8.34	54	Pn		Pn		23 29 54.9	+1.1
O30N	Mendenhall	8.43	76	Pn		Pn		23 29 56.3	+1.3
BMAR	Burnt Mountain	8.49	22	Pn		Pn		23 29 55.7	-0.1
N31M	Braeburn, Yuko	8.60	71	Pn		Pn		23 29 58.9	+1.6
E25K	Arctic Village	8.94	18	Pn		Pn		23 30 01.6	-0.2
WHY	Whitehorse	9.03	77	Pn		Pn		23 30 05.4	+2.2
J30M	Hart River	9.10	51	Pn		Pn		23 30 06.0	+1.9
H29M	Whitestone	9.21	40	Pn		Pn		23 30 06.8	+1.4
I30M	Mount Dempster	9.37	48	Pn		Pn		23 30 13.1	+5.4
INK	Inuvik	11.97	37	P		P		23 30 42.2	-0.2
	comp=N,1.0nm,0.7s,baz=247,slow=7.7,SNR=3.1								
YKA	Yellowknife Ar	18.51	65	P		P		23 32 04.3	+1.6
	comp=N,0.2nm,0.4s,baz=278,slow=10,SNR=7.9								
ZALV	Zalesovo Beam	57.53	324	P		P		23 37 33.2	+0.7
	comp=N,0.3nm,0.4s,baz=28,slow=6.5,SNR=2.3								
	comp=N,0.3nm,0.4s								
MKAR	Makanchi Array	64.59	321	P		P		23 38 19.9	-0.4
	comp=N,0.2nm,0.5s,baz=45,slow=6.6,SNR=2.9								
	comp=N,0.2nm,0.5s								

IDC ***28*** *23:31:26.5±0.7,56˚.51N×148˚.57W,h0km,mb4.2/22, mbtmp4.3/26,ML4.4/4,MS3.6/5,Error ellipse: s-maj=21.8km s-min=11.4km az=27.0*

MOS ***28*** *23:31:26.4±0.8,56˚.49N×148˚.47W,h13km,mb4.6/41, Error ellipse: s-maj=11.4km s-min=5.1km az=101.3*

NEIC ***28*** *23:31:28.9±1.3,56˚.44N±0˚.05×148˚.53W±0˚.07,h17km±4km, mb4.5/159,ML4.7/66,Mwr4.1/14,ML4.4(AEIC),Error ellipse: s-maj=7.8km s-min=5.5km az=207.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.09; Mθθ-0.15; Mϕϕ0.24; Mrθ-1.14; Mθϕ1.62; Mϕr0.24; Fault plane solution: M₀2.01000×10¹⁵ NP1: ϕs179.38000°,δ56.17000°,λ-173.32000°. NP2: ϕs85.65000°,δ84.45000°,λ-34.01000°. Principal axes: T 1.8742, Plg19.0000°, Azm137.0000°; N 0.2438, Plg56.0000°, Azm257.0000°; P -2.1180, Plg28.0000°, Azm37.0000°;*

NEIC ***28*** *23:31:29.7,56˚.45N×148˚.54W,h23km*

AEIC ***28*** *23:31:33.0±1.5,56˚.48N±0˚.06×148˚.49W±0˚.09,h12km±4km, Error ellipse: s-maj=9.0km s-min=7.2km az=179.0*

ISC 28 23:31:31.1±0.4,56˚46N±0˚.05×148˚46W±0˚.04,h35km, n855,₀0ᵍ99/856,mb4.4/122,10C,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.61	302		Pn	23 32 09.8	-1.0
KDAK				Sn	Sn	23 32 38.3	-2.9
KDAK	Kodiak Island	2.61	302	P	Pn	23 32 09.8	-1.0
	baz=119						
KDAK	Kodiak Island	2.61	302	*c iP*	Pn	23 32 09.7	-1.0
KDAK	Kodiak Island	2.61	302	Pn	Pn	23 32 08.8	-2.0
	58nm,0.3s,baz=155,slow=5.1,SNR=119						
KDAK				Sn	Sn	23 32 38.0	-3.3
	73nm,0.3s,baz=134,slow=7.4,SNR=6.8						
KDAK				LR	LR	23 32 59.8	
	comp=Z,273nm,18.6s,baz=201,slow=37						
	140nm,0.3s						
OHAK	Old Harbor	2.76	288	Pn	Pn	23 32 11.4	-1.4
OHAK				Sn	Sn	23 32 41.0	-3.9
OHAK				IAML		23 32 41.6	
	comp=E,1μm,0.3s						
OHAK	Old Harbor	2.76	288	P	Pn	23 32 11.2	-1.6
OHAK	Old Harbor	2.76	288	P	Pn	23 32 11.4	-1.4
	baz=104						
SYI	Shuyak Island	3.02	317		Pn	23 32 15.7	-0.7
SYI				Sn	Sn	23 32 50.0	-1.4
SYI				IAML		23 32 51.8	
	comp=E,1μm,0.7s						
Q20K	Shuyak Island	3.03	317	P	Pn	23 32 16.0	-0.5
	baz=134						
SII	Sitkinak Islan	3.18	274	Pn	Pn	23 32 17.2	-1.4
SII				Sn	Sn	23 32 51.7	-3.5
SII				IAML		23 32 52.1	
	comp=N,2μm,0.7s						
SII	Sitkinak Islan	3.18	274	P	Pn	23 32 17.0	-1.6
	baz=89						
MID	Middleton Isla	3.18	20	Pn	Pn	23 32 17.9	-0.8
MID				IAML		23 32 53.5	
	comp=E,1μm,0.4s						
MID	Middleton Isla	3.18	20	P	Pn	23 32 17.8	-0.8
MID	Middleton Isla	3.18	20	P	Pn	23 32 17.9	-0.8
Q23K	Middleton Isla	3.18	20		Pn	23 32 17.6	-1.0
Q23K					Sn	23 32 52.4	-2.9
Q23K	Middleton Isla	3.18	20	IAML		23 32 53.5	
	comp=E,1μm,0.4s						
Q23K	Middleton Isla	3.18	20	P	Pn	23 32 17.7	-0.9
	baz=202						
CNPM	China Poot	3.41	335		Pn	23 32 21.0	-0.8
CNPM					Sn	23 32 58.4	-2.6
R18K	Karluk	3.46	291		Pn	23 32 21.6	-0.8
R18K					Sn	23 32 58.8	-3.3
R18K	Karluk	3.46	291	IAML		23 33 00.6	
	comp=N,3μm,0.3s						
R18K				IAML		23 33 02.3	
	comp=E,2μm,0.3s						
R18K	Karluk	3.46	291	P	Pn	23 32 21.6	-0.8
	baz=106						
BRSE	Bradley Lake S	3.51	341		Pn	23 32 22.1	-1.0
BRSE	Bradley Lake S	3.51	341	P	Pn	23 32 22.1	-1.0
	baz=159						
BRLK	Bradley Lake	3.56	340		Pn	23 32 22.8	-1.0
BRLK				IAML		23 33 04.3	
	comp=N,735nm,0.8s						
P23K	Montague Islan	3.59	8		Pn	23 32 23.2	-1.1
P23K					Sn	23 33 02.9	-2.5
P23K	Montague Islan	3.59	8	P	Pn	23 32 23.4	-0.9
	baz=190						
HOM	Homer	3.63	333		Pn	23 32 24.6	-0.1
HOM				IAML		23 33 11.1	
	comp=N,1μm,0.6s						
HOM				IAML		23 33 17.0	
	comp=E,1μm,0.5s						
HOM	Homer	3.63	333	P	Pn	23 32 24.6	-0.1
	baz=151						
SEW	Seward	3.69	352		Sn	23 33 04.5	-3.3
SEW	Seward	3.69	352	P	Pn	23 32 24.4	-1.2
	baz=172						
Q19K	Cape Douglas,	3.73	314		Pn	23 32 25.8	-0.3
Q19K				IAML		23 33 13.7	
	comp=N,2μm,1.0s						
Q19K	Cape Douglas,	3.73	314	P	Pn	23 32 25.9	-0.3
	baz=130						
KAHG	Katmai Hook Gl	3.87	304		Pn	23 32 28.4	+0.2
AU22	Augustine Moun	3.92	320		Pn	23 32 28.3	-0.4
AU22					Sn	23 33 11.3	-2.0
AUCH	Augustine Cone	3.94	320		Pn	23 32 29.0	-0.1
AUL	Augustine Lava	3.95	320		Pn	23 32 29.2	-0.1
HIN	Hinchinbrook I	4.08	14		Pn	23 32 30.4	-0.6
HIN	Hinchinbrook I	4.08	14		Sn	23 33 15.3	-2.2
HIN	Hinchinbrook I	4.08	14	IAML		23 33 15.9	
	comp=E,1μm,0.7s						
HIN				IAML		23 33 15.9	
	comp=N,3μm,0.5s						
KAIM	Kayak Island	4.08	30	Pn	Pn	23 32 30.5	-0.4
KAIM				IAML		23 33 20.9	
	comp=N,2μm,0.5s						
KAIM				IAML		23 33 24.6	
	comp=E,1μm,0.6s						
KAIM	Kayak Island	4.08	30	P	Pn	23 32 30.8	-0.1
	baz=214						
P19K	Oil Pt	4.08	324		Pn	23 32 30.7	-0.3
P19K	Oil Pt	4.08	324	P	Pn	23 32 30.8	-0.3
	baz=140						
O22K	Cooper Landing	4.09	351		Pn	23 32 30.2	-0.8
O22K	Cooper Landing	4.09	351	P	Pn	23 32 30.2	-0.8
	baz=170						
ACHA	Angle Creek He	4.12	298		Pn	23 32 31.5	-0.1
SLKM	Skilak Lake	4.17	348		Pn	23 32 31.1	-1.0
ANCK	Angle Creek	4.20	297		Pn	23 32 33.0	+0.4
O20K	Slope Mountain	4.25	331		Pn	23 32 32.5	-0.8
O20K	Slope Mountain	4.25	331	P	Pn	23 32 32.7	-0.6
	baz=147						
IVE	Iliamna Volcan	4.30	328		Pn	23 32 33.1	-1.1
EYAK	Cordova Ski Ar	4.34	18		Pn	23 32 34.2	-0.3
EYAK	Cordova Ski Ar	4.34	18	P	Pn	23 32 34.3	-0.2
RAGM	Ragged Mountai	4.41	25		Pn	23 32 35.3	-0.2
Q17K	Contact Creek	4.41	297	P	Pn	23 32 35.6	-0.1
	baz=111						
FID	Port Fidalgo	4.42	13		Pn	23 32 34.6	-1.1
FID	Port Fidalgo	4.42	13	IAML		23 33 23.0	
	comp=E,859nm,0.4s						
FID				IAML		23 33 27.6	
	comp=N,566nm,0.4s						
PLK3	Peulik 3	4.44	289		Pn	23 32 35.5	-0.4
CAPN	Captain Cook N	4.55	343		Pn	23 32 37.7	+0.4
CAPN				IAML		23 33 31.9	
	comp=E,1μm,1.1s						
CAPN	Captain Cook N	4.55	343	P	Pn	23 32 37.6	+0.3
	baz=161						
GOAT	Goat Mountain	4.57	24		Pn	23 32 37.8	0.0
RDSO	Redoubt South	4.59	332		Pn	23 32 36.8	-1.4
RSO	Redoubt South	4.61	332		Pn	23 32 37.1	-1.2
PLK1	Peulik 1	4.64	290		Pn	23 32 37.8	-0.8
P18K	Big Mountain,	4.66	312		Pn	23 32 37.9	-1.1
P18K	Big Mountain,	4.66	312	P	Pn	23 32 38.0	-0.9
	baz=126						
BERG	Berg Lake	4.67	30		Pn	23 32 38.7	-0.3
BERG				IAML		23 33 32.5	
	comp=E,1μm,0.3s						
BERG				IAML		23 33 34.7	
	comp=N,1μm,0.5s						
RC01	Rabbit Creek A	4.69	352	Pn	Pn	23 32 38.6	-0.8
RC01				IAML		23 33 30.9	
	comp=N,986nm,0.4s						
RC01	Rabbit Creek A	4.69	352	P	Pn	23 32 39.0	-0.4
	baz=172						
SNH	Sunshine Point	4.76	36		Pn	23 32 40.4	+0.1
SNH				IAML		23 33 34.3	
	comp=E,307nm,0.6s						
SNH				IAML		23 33 37.9	
	comp=N,336nm,0.5s						
FIS	Fire Island	4.79	350	Pn	Pn	23 32 39.9	-0.7
CYK	Cape Yakataga	4.81	38		Pn	23 32 40.6	-0.3
O19K	Port Alsworth	4.86	323	Pn	Pn	23 32 40.6	-1.0
O19K	Port Alsworth	4.86	323	P	Pn	23 32 40.6	-1.0
	baz=138						
DIV	Divide	4.89	15		Pn	23 32 41.5	-0.6
O18K	Koktuh Hills	4.94	316	Pn	Pn	23 32 41.7	-1.1
O18K				IAML		23 33 52.5	
	comp=N,296nm,0.6s						
O18K	Koktuh Hills	4.94	316	P	Pn	23 32 41.8	-0.9
	baz=131						
Q16K	King Salmon	4.94	300		Pn	23 32 42.6	-0.1
Q16K	King Salmon	4.94	300	P	Pn	23 32 42.8	0.0
	baz=113						
BMRM	Bremner River	4.95	22	P	Pn	23 32 42.8	-0.2
	baz=206						
KNK	Knik Glacier	4.97	360		Pn	23 32 42.5	-0.7
KNK				IAML		23 33 37.0	
	comp=E,504nm,0.6s						
KNK				IAML		23 33 40.4	
	comp=N,384nm,0.5s						
KNK	Knik Glacier	4.97	360	P	Pn	23 32 43.0	-0.2
	baz=180						
BARK	Barkley Ridge	5.04	36		Pn	23 32 44.3	0.0
P17K	Kvichak River	5.07	306		Pn	23 32 44.1	-0.4
P17K	Kvichak River	5.07	306	P	Pn	23 32 44.3	-0.3
	baz=120						
R16K	Pilot Point	5.11	286		Pn	23 32 44.0	-1.0
R16K	Pilot Point	5.11	286	IAML		23 33 51.1	
	comp=N,374nm,0.9s						
R16K	Pilot Point	5.11	286	P	Pn	23 32 45.2	+0.1
	baz=99						
N20K	Mount Spurr	5.14	339	P	Pn	23 32 44.5	-1.1
	baz=156						
SPCR	Spurr Chakacha	5.14	339		Pn	23 32 44.4	-1.1
SUA	Susitna One	5.16	348	Pn	Pn	23 32 45.1	-0.7
SUA				IAML		23 33 44.6	
	comp=E,262nm,0.7s						
SUA				IAML		23 33 51.5	
	comp=N,225nm,0.7s						
SUA	Susitna One	5.16	348	P	Pn	23 32 45.0	-0.8
	baz=166						
PMR	Palmer	5.16	356	Pn	Pn	23 32 45.2	-0.6
PMR				IAML		23 33 41.6	
	comp=N,430nm,0.8s						
PMR				IAML		23 33 41.7	
	comp=E,546nm,0.7s						
PMR	Palmer	5.16	356	P	Pn	23 32 45.6	-0.2
PMR	Palmer	5.16	356	P	Pn	23 32 45.4	-0.4
	baz=176						
PMR	Palmer	5.16	356	P	Pn	23 32 45.2	-0.6
SPCP	Crater Peak Br	5.19	340		Pn	23 32 45.3	-1.0
CP2	Crater Peak Tw	5.20	339		Pn	23 32 45.4	-1.2
KLU	Klutina	5.21	13	Pn	Pn	23 32 46.5	-0.2
KLU				IAML		23 33 44.8	
	comp=N,496nm,0.7s						
KLU				IAML		23 33 45.8	
	comp=E,404nm,0.5s						
KLU	Klutina	5.21	13	P	Pn	23 32 46.4	-0.2
	baz=196						
GHO	Glory Hole Cre	5.33	358		Pn	23 32 48.5	+0.2
GHO				IAML		23 33 50.3	
	comp=N,660nm,0.8s						
M23K	Glacier View	5.36	4		Pn	23 32 48.5	-0.1
M23K	Glacier View	5.36	4	P	Pn	23 32 48.9	+0.3
	baz=185						
SML	Sawmill	5.37	1		Pn	23 32 48.7	+0.1
SML				IAML		23 33 49.4	
	comp=E,514nm,0.9s						
SML	Sawmill	5.37	1	P	Pn	23 32 48.6	0.0
	baz=181						
N19K	Bonanza Creek	5.38	327		Pn	23 32 47.6	-1.3
N19K	Bonanza Creek	5.38	327	P	Pn	23 32 47.7	-1.2
	baz=142						
ANNW	Aniakchak Nort	5.40	279		Pn	23 32 48.2	-0.9
SCM	Sheep Creek Mo	5.42	6		Pn	23 32 49.7	+0.3
SCM	Sheep Creek Mo	5.42	6	P	Pn	23 32 50.0	+0.6
	baz=187						
SCM	Sheep Creek Mo	5.42	6	P	Pn	23 32 49.7	+0.3
ANPB	Aniakchak Plen	5.44	278		Pn	23 32 49.0	-0.6
VRDI	Verde Repeater	5.44	26	Pn	Pn	23 32 49.4

WAT6 Susitna Watana 6.15 3 P Pn 23 32 59.4 -0.2
baz=184
S14K Fog Glacier 6.17 273 P Pn 23 32 59.7 0.0
baz=84
VNFG Fog Glacier, M 6.17 273 Pn 23 32 59.5 -0.2
HARP HAARP 6.19 14 Pn 23 33 00.3 +0.4
HARP HAARP 6.19 14 P Pn 23 33 00.3 +0.4
baz=197
M19K Big River Lodg 6.25 333 Pn 23 32 59.4 -1.4
M19K Big River Lodg 6.25 333 P Pn 23 32 59.4 -1.4
baz=148
M18K Stony River 6.32 326 P Pn 23 33 00.2 -1.5
baz=140,SNR=54
WAT1 Susitna Watana 6.39 360 Pn 23 33 02.8 +0.1
WAT1 Susitna Watana 6.39 360 P Pn 23 33 02.7 +0.1
baz=180
O29M Mount Kennedy 6.47 49 Pn Pn 23 33 04.3 +0.5
O29M Mount Kennedy 6.47 49 P Pn 23 33 04.5 +0.6
baz=238
CHNA Chernabura Isl 6.51 260 P Pn 23 33 03.2 -1.1
baz=71,SNR=11
CNBA Chernabura Isl 6.51 260 Pn 23 33 03.1 -1.2
P29M Windy Craggy 6.52 56 Pn 23 33 04.3 -0.1
P29M Windy Craggy 6.52 56 P Pn 23 33 04.7 +0.3
baz=246
M26K Nabesna, AK 6.58 23 Pn 23 33 04.9 -0.4
M26K Nabesna, AK 6.58 23 P Pn 23 33 05.2 0.0
baz=208
L19K White Mountain 6.61 333 Pn Pn 23 33 04.2 -1.4
L19K White Mountain 6.61 333 P Pn 23 33 04.2 -1.4
baz=148,SNR=32
YUK8 Steele Glacier 6.61 39 P Pn 23 33 07.3 +1.4
baz=227,SNR=39
L20K Farewell, AK 6.64 338 Pn 23 33 05.1 -1.0
L20K Farewell, AK 6.64 338 P Pn 23 33 05.7 -0.4
baz=153
O15K Ungalikthiuk R 6.66 299 Pn 23 33 06.1 -0.2
O15K Ungalikthiuk R 6.66 299 P Pn 23 33 06.5 +0.2
baz=109
DHY Denali Highway 6.66 4 Pn 23 33 06.1 -0.4
DHY Denali Highway 6.66 4 P Pn 23 33 06.8 +0.3
baz=185,SNR=39
PAX Paxson 6.70 12 Pn 23 33 07.0 0.0
PAX Paxson 6.70 12 P Pn 23 33 07.6 +0.6
baz=195,SNR=31
PAX Paxson 6.70 12 P Pn 23 33 07.0 0.0
PPLA Purkeypile 6.73 345 Pn 23 33 06.9 -0.6
PPLA Purkeypile 6.73 345 P Pn 23 33 08.3 +0.9
baz=162
YUK3 Moose Creek 6.73 34 P Pn 23 33 08.4 +0.9
baz=221,SNR=116
N16K Nishlik Lake 6.74 311 Pn 23 33 07.0 -0.5
N16K Nishlik Lake 6.74 311 P Pn 23 33 06.9 -0.5
baz=122
M17K Holitna River 6.79 321 Pn 23 33 06.8 -1.3
M17K Holitna River 6.79 321 P Pn 23 33 07.5 -0.7
baz=133,SNR=51
M27K Edge Creek, AK 6.80 27 Pn 23 33 08.6 +0.1
M27K Edge Creek, AK 6.80 27 P Pn 23 33 08.5 +0.1
baz=213
S31K Pelican 6.81 72 Pn 23 33 06.4 -2.0
S31K Pelican 6.81 72 P Pn 23 33 06.5 -1.8
baz=262,SNR=30
SDPT Sand Point 6.85 266 Pn 23 33 08.2 -0.7
SDPT Sand Point 6.85 266 P Pn 23 33 08.4 -0.6
YUK6 Outpost Mounta 6.91 45 P Pn 23 33 11.0 +0.9
baz=234,SNR=155
MENT Mentasta 6.92 18 Pn 23 33 10.1 +0.1
MENT Mentasta 6.92 18 P Pn 23 33 11.6 +1.6
RND Reindeer 6.97 359 Pn 23 33 10.7 0.0
RND Reindeer 6.97 359 P Pn 23 33 10.7 0.0
YUK4 Talbot Arm 7.05 42 P Pn 23 33 14.7 +2.8
baz=230,SNR=135
L26K Log Cabin Wild 7.07 19 P Pn 23 33 12.9 +0.9
baz=204,SNR=8.8
TRF Thorofare Moun 7.07 353 Pn 23 33 12.1 -0.1
TRF Thorofare Moun 7.07 353 P Pn 23 33 12.7 +0.5
baz=172,SNR=12
P30M Million Dollar 7.08 54 Pn 23 33 12.9 +0.7
P30M Million Dollar 7.08 54 P Pn 23 33 12.9 +0.7
baz=244
PLBC Pleasant Camp 7.10 60 P Pn 23 33 12.7 +0.3
baz=250,SNR=163
BVCY Beaver Creek 7.11 30 P Pn 23 33 13.2 +0.5
baz=216,SNR=34
M16K Timber Creek 7.12 314 Pn 23 33 11.9 -0.9
M16K Timber Creek 7.12 314 P Pn 23 33 12.4 -0.3
baz=126,SNR=40
R31K City Hall, Gus 7.14 69 Pn 23 33 11.6 -1.3
R31K City Hall, Gus 7.14 69 P Pn 23 33 12.2 -0.7
baz=260
L18K Granite Mounta 7.14 327 Pn 23 33 11.4 -1.6
L18K Granite Mounta 7.14 327 P Pn 23 33 11.4 -1.6
baz=140
N15K Kwethluk River 7.17 306 Pn Pn 23 33 13.2 -0.1
N15K Kwethluk River 7.17 306 P Pn 23 33 13.4 +0.1
baz=116,SNR=26
HYT Haines Junctio 7.19 48 Pn 23 33 13.8 0.0
HYT Haines Junctio 7.19 48 P Pn 23 33 14.0 +0.2
baz=238,SNR=19
CAST Castle Rocks 7.21 347 Pn 23 33 13.6 -0.4
CAST Castle Rocks 7.21 347 P Pn 23 33 13.5 -0.5
baz=164,SNR=15
KTH Kantishna Hill 7.22 351 Pn 23 33 14.3 +0.2
SIT Sitka 7.25 80 Pn 23 33 11.2 -3.2
SIT Sitka 7.25 80 P Pn 23 33 11.3 -3.1
baz=271
SIT Sitka 7.25 80 P Pn 23 33 11.2 -3.2
MCK McKinley 7.30 358 Pn 23 33 15.7 +0.5
MCK McKinley 7.30 358 P Pn 23 33 15.9 +0.8
baz=178,SNR=23
MCK McKinley 7.30 358 P Pn 23 33 15.7 +0.5
O14K Tigyukauivet M 7.38 298 Pn Pn 23 33 16.6 +0.3
O14K Tigyukauivet M 7.38 298 P Pn 23 33 16.3 0.0
baz=107,SNR=14
L27K Beaver Creek, 7.42 24 Pn Pn 23 33 16.5 -0.2
L27K Beaver Creek, 7.42 24 P Pn 23 33 16.7 0.0
baz=210
BCAR Beaver Creek A 7.43 24 Pn Pn 23 33 16.7 -0.2
K20K Telida 7.47 340 Pn 23 33 17.1 -0.3
K20K Telida 7.47 340 P Pn 23 33 16.9 -0.5
baz=156
K24K Donnelly Dome 7.49 9 Pn 23 33 17.6 -0.1
K24K Donnelly Dome 7.49 9 P Pn 23 33 18.6 +0.8
baz=192,SNR=14
RIDG Independent Ri 7.52 12 Pn Pn 23 33 18.5 +0.3
RIDG Independent Ri 7.52 12 P Pn 23 33 18.2 0.0
baz=196,SNR=36
TTA Tatalina 7.53 333 Pn Pn 23 33 16.8 -1.5
TTA Tatalina 7.53 333 P Pn 23 33 17.1 -1.2
TTA Tatalina 7.53 333 P Pn 23 33 16.9 -1.5
baz=146,SNR=13
TTA Tatalina 7.53 333 P Pn 23 33 16.8 -1.5
PS1A Pavlof South-1 7.54 268 Pn 23 33 17.2 -1.2
PVV Pavlof Volcano 7.57 267 Pn 23 33 17.5 -1.4
L17K Donlin 7.59 323 Pn 23 33 17.8 -1.4
L17K Donlin 7.59 323 P Pn 23 33 17.8 -1.4
baz=134
SKAG Skagway 7.60 61 Pn 23 33 18.7 -0.5
SKAG Skagway 7.60 61 P Pn 23 33 19.7 +0.5
SKAG Skagway 7.60 61 P Pn 23 33 19.3 +0.1
baz=252,SNR=34
BESE Bessie Mountai 7.62 68 Pn 23 33 18.6 -1.0
S32K Killisnoo 7.66 77 Pn 23 33 18.2 -1.8
S32K Killisnoo 7.66 77 P Pn 23 33 18.4 -1.6
baz=268
M15K Kasigluk River 7.67 309 Pn 23 33 19.3 -0.9
M15K Kasigluk River 7.67 309 P Pn 23 33 19.8 -0.4
baz=118
PN7A Pavlof North-7 7.67 268 Pn 23 33 20.0 -0.4
CHUM Lake Minchumin 7.69 347 Pn 23 33 19.8 -0.7
CHUM Lake Minchumin 7.69 347 P Pn 23 33 20.0 -0.4
baz=164,SNR=16
N30M Aishikik Lake 7.72 45 Pn 23 33 21.3 +0.4
N30M Aishikik Lake 7.72 45 P Pn 23 33 21.5 +0.5
baz=235,SNR=40
L16K Owhat River 7.74 317 Pn Pn 23 33 20.1 -1.0
L16K Owhat River 7.74 317 P Pn 23 33 19.8 -1.3
baz=128,SNR=21
R32K Eaglecrest 7.75 71 Pn 23 33 20.5 -0.9
R32K Eaglecrest 7.75 71 P Pn 23 33 20.4 -0.9
baz=262
BWN Browne 7.75 357 Pn 23 33 21.5 +0.2
O30N Mendenhall 7.76 51 Pn 23 33 21.6 +0.1
O30N Mendenhall 7.76 51 P Pn 23 33 22.0 +0.5
baz=242,SNR=33
BPAW Bear Paw Mtn. 7.77 352 Pn Pn 23 33 20.6 -1.0
BPAW Bear Paw Mtn. 7.77 352 P Pn 23 33 21.0 -0.5
baz=170,SNR=10
N14K Kuskokwak Cree 7.80 302 P Pn 23 33 22.1 +0.1
baz=111,SNR=14
JIS Juneau Island 7.82 71 Pn 23 33 21.8 -0.5
JIS Juneau Island 7.82 71 P Pn 23 33 22.2 -0.1
SCRK Sand Creek 7.86 15 Pn 23 33 22.7 -0.2
SCRK Sand Creek 7.86 15 P Pn 23 33 24.0 +1.0
baz=199,SNR=13
M29M Somme Creek 7.86 36 Pn 23 33 23.4 +0.5
M29M Somme Creek 7.86 36 P Pn 23 33 23.5 +0.5
baz=225,SNR=58
DT1 Dutton Round H 7.91 266 Pn 23 33 22.6 -1.0
HDA Harding Lake 8.01 5 Pn 23 33 24.0 -0.8
HDA Harding Lake 8.01 5 P Pn 23 33 24.8 0.0
baz=186,SNR=9.5
K17K Iditarod 8.01 326 Pn 23 33 23.5 -1.4
K17K Iditarod 8.01 326 P Pn 23 33 23.6 -1.2
baz=137
WRH Wood River Hil 8.04 1 Pn Pn 23 33 24.6 -0.6
J18K Innoko River 8.15 333 Pn Pn 23 33 25.6 -1.2
J18K Innoko River 8.15 333 P Pn 23 33 26.2 -0.6
baz=146
NEA2 Nenana 8.17 358 Pn 23 33 25.9 -1.1
NEA2 Nenana 8.17 358 P Pn 23 33 27.1 +0.1
baz=178,SNR=12
CCB Clear Creek Bu 8.22 2 Pn 23 33 27.0 -0.7
K27K Chicken 8.22 20 Pn 23 33 27.9 +0.1
J20K Nowinta River 8.24 342 Pn 23 33 27.5 -0.4
J20K Nowinta River 8.24 342 P Pn 23 33 27.8 -0.1
baz=158
WHY Whitehorse 8.25 54 Pn 23 33 28.1 -0.1
WHY Whitehorse 8.25 54 P Pn 23 33 28.9 +0.7
baz=245,SNR=92
M14K Bethel 8.25 307 Pn 23 33 27.2 -1.0
M14K Bethel 8.25 307 P Pn 23 33 28.3 +0.1
baz=116,SNR=5.7
N31M Braeburn, Yuko 8.26 47 Pn 23 33 28.3 0.0
N31M Braeburn, Yuko 8.26 47 P Pn 23 33 29.0 +0.7
baz=238,SNR=52
J25K Salcha River, 8.32 9 Pn 23 33 28.5 -0.7
J25K Salcha River, 8.32 9 P Pn 23 33 28.4 -0.8
baz=192
J19K Poorman 8.35 338 Pn 23 33 28.5 -1.1
J19K Poorman 8.35 338 P Pn 23 33 28.4 -1.1
baz=152,SNR=14
IL31 8.38 5 Pn Pn 23 33 29.7 -0.1
ILAR Eielson Array 8.38 5 Pn 23 33 30.1 +0.2
ILAR Eielson Array 8.38 5 P Pn 23 33 30.1 +0.2
ILAR Eielson Array 8.38 5 Pn Pn 23 33 28.1 -1.8
comp=E,1.1nm,0.3s,baz=191,slow=14,SNR=23
ILAR Sn Sn 23 34 58.7 -4.3
comp=E,5.8nm,0.3s,baz=188,slow=22,SNR=18
ILAR LR LR 23 36 55.9
comp=E,280nm,19.6s,baz=130,slow=40
J26L Joseph Creek 8.42 15 Pn 23 33 30.6 0.0
J26L Joseph Creek 8.42 15 P Pn 23 33 31.2 +0.6
baz=199,SNR=50
P32M Atlin 8.43 62 Pn 23 33 30.8 +0.2
P32M Atlin 8.43 62 P Pn 23 33 30.6 0.0
baz=255,SNR=46
COLA College 8.45 2 Pn 23 33 30.6 -0.2
COLA College 8.45 2 P Pn 23 33 31.7 +0.9
COLA College 8.45 2 P Pn 23 33 31.4 +0.6
baz=182
COLA College 8.45 2 P Pn 23 33 30.6 -0.2
L29M L29M 8.45 34 Pn 23 33 31.2 +0.2
L29M L29M 8.45 34 P Pn 23 33 31.4 +0.5
baz=223,SNR=35
L15K Ungalak Mounta 8.50 313 Pn 23 33 30.9 -0.6
L15K Ungalak Mounta 8.50 313 P Pn 23 33 31.1 -0.5
baz=122
M30M Minto, Yukon 8.52 39 Pn 23 33 32.2 +0.4
M30M Minto, Yukon 8.52 39 P Pn 23 33 32.5 +0.6
baz=229,SNR=22
MDM Murphy Dome 8.53 1 Pn 23 33 31.5 -0.5
U33K Whale Pass 8.54 86 Pn Pn 23 33 29.5 -2.6
U33K Whale Pass 8.54 86 P Pn 23 33 29.3 -2.8
baz=279
FALS False Pass 8.61 266 P Pn 23 33 32.6 -0.5
FALS False Pass 8.61 266 P Pn 23 33 32.3 -0.8
baz=73
CRAG Craig 8.66 90 Pn Pn 23 33 31.1 -2.7
MLY Manley 8.67 354 Pn 23 33 33.7 -0.3
MLY Manley 8.67 354 P Pn 23 33 33.7 -0.3
baz=172,SNR=10
POKR Poker Plat Res 8.70 3 Pn 23 33 34.1 -0.2
POKR Poker Plat Res 8.70 3 P Pn 23 33 34.3 0.0
baz=184,SNR=8.0
I23K Minto, Yukon-K 8.73 357 Pn 23 33 33.9 -0.8
I23K Minto, Yukon-K 8.73 357 P Pn 23 33 34.6 -0.1
baz=177,SNR=12
M13K Dall Lake 8.76 303 Pn 23 33 35.1 +0.1
M13K Dall Lake 8.76 303 P Pn 23 33 35.2 +0.1
baz=110
ISNN Isanotski Nort 8.82 266 Pn 23 33 35.5 -0.5
L14K Kuka Creek 8.83 309 Pn Pn 23 33 35.5 -0.5
L14K Kuka Creek 8.83 309 P Pn 23 33 35.8 -0.3
baz=117,SNR=15
DAWY Dawson 8.85 27 Pn Pn 23 33 36.3 -0.1
DAWY Dawson 8.85 27 P Pn 23 33 36.4 -0.1
baz=215,SNR=28
BRPK Brown Peak 8.86 265 Pn 23 33 35.5 -0.9
K15K Wolf Creek Mou 8.86 317 Pn 23 33 35.7 -0.8
K15K Wolf Creek Mou 8.86 317 P Pn 23 33 36.0 -0.5
baz=126
I20K Naaghedeneel 8.87 343 Pn 23 33 37.0 +0.4
I20K Naaghedeneel 8.87 343 P Pn 23 33 36.8 +0.2
baz=158
I21K Tanana 8.92 350 Pn 23 33 37.0 -0.3
I21K Tanana 8.92 350 P Pn 23 33 36.9 -0.3
baz=167,SNR=13
WRAK Wrangell Islan 8.93 84 Pn Pn 23 33 35.9 -1.5
WRAK Wrangell Islan 8.93 84 P Pn 23 33 36.0 -1.5
baz=277
SSLS Shishaldin Sou 8.98 265 Pn 23 33 35.1 -3.1
Q32M Nakina River 9.02 67 Pn 23 33 38.5 -0.4
Q32M Nakina River 9.02 67 P Pn 23 33 39.0 +0.2
baz=261
P33M Teslin, Yukon 9.04 59 Pn 23 33 39.3 +0.3
P33M Teslin, Yukon 9.04 59 P Pn 23 33 39.1 +0.1
baz=252,SNR=138
EGAK Eagle 9.07 20 Pn 23 33 39.6 +0.3
EGAK Eagle 9.07 20 P Pn 23 33 39.7 +0.3
baz=207,SNR=16
J16K Anvik River 9.16 323 Pn 23 33 38.9 -1.6
J16K Anvik River 9.16 323 P Pn 23 33 39.0 -1.6
baz=133
K29M Barlow Dome 9.18 32 Pn 23 33 41.5 +0.5
K29M Barlow Dome 9.18 32 P Pn 23 33 41.6 +0.6
baz=221
M31M Drury Creek, Y 9.20 45 Pn 23 33 42.2 +1.1
M31M Drury Creek, Y 9.20 45 P Pn 23 33 42.4 +1.2
baz=238,SNR=37
PRP Porcupine Dome 9.20 8 Pn 23 33 41.3 +0.1
PRP Porcupine Dome 9.20 8 P Pn 23 33 41.4 +0.1
baz=190
I26K Coal Creek Min 9.24 14 Pn 23 33 41.9 +0.2
I26K Coal Creek Min 9.24 14 P Pn 23 33 42.5 +0.8
baz=199
N32M Quiet Lake 9.25 53 Pn Pn 23 33 42.5 +0.6
N32M Quiet Lake 9.25 53 P Pn 23 33 42.8 +0.9
baz=246
H24K Noodor Dome 9.41 1 Pn Pn 23 33 45.9 +1.7
H24K Noodor Dome 9.41 1 P Pn 23 33 45.4 +1.2
baz=182,SNR=7.2
WEBT Westdahl Beart 9.43 265 Pn 23 33 44.1 -0.3
H21K Melozitna Rive 9.46 349 Pn 23 33 44.0 -0.8
H21K Melozitna Rive 9.46 349 P Pn 23 33 44.3 -0.5
baz=165,SNR=19
WECS Westdahl Cape 9.46 265 Pn 23 33 44.0 -0.8
J29N Klondike Camp 9.46 28 Pn 23 33 45.1 +0.3
J29N Klondike Camp 9.46 28 P Pn 23 33 45.5 +0.7
baz=217,SNR=35
MAYO Mayo, Yukon 9.51 36 Pn 23 33 45.5 +0.1
MAYO Mayo, Yukon 9.51 36 P Pn 23 33 45.9 +0.5
baz=227
S34M Telegraph Cree 9.52 74 Pn 23 33 45.7 +0.2
S34M Telegraph Cree 9.52 74 P Pn 23 33 45.7 +0.2
baz=269
V35K Ketchikan 9.53 90 Pn Pn 23 33 44.0 -1.6
V35K Ketchikan 9.53 90 P Pn 23 33 43.7 -2.0
baz=284
H22K Ishtalitna Cre 9.57 353 P Pn 23 33 46.1 -0.2
baz=170
H20K Anotleneega Mo 9.58 344 Pn 23 33 45.4 -1.0
H20K Anotleneega Mo 9.58 344 P Pn 23 33 45.9 -0.4
baz=158
I17K Unalakleet 9.61 326 Pn Pn 23 33 45.7 -1.0
I17K Unalakleet 9.61 326 P Pn 23 33 45.8 -1.0
baz=135,SNR=8.7
FARO Faro, Yukon 9.63 47 Pn 23 33 47.9 +0.9
FARO Faro, Yukon 9.63 47 P Pn 23 33 47.5 +0.5
baz=240,SNR=28
I27K Kandik River 9.75 17 Pn 23 33 49.0 +0.3
I27K Kandik River 9.75 17 P Pn 23 33 48.8 +0.1
baz=203
R33M Jennings River 9.75 65 Pn 23 33 49.1 +0.3
R33M Jennings River 9.75 65 P Pn 23 33 48.5 -0.3
baz=260,SNR=31
H19K Roundabout Mou 9.88 340 P Pn 23 33 50.4 0.0
baz=153
IMAR Indian Mountai 9.89 347 Pn 23 33 50.0 -0.6
J14K Nanvaranak Lak 9.90 316 Pn Pn 23 33 50.5 -0.1
J14K Nanvaranak Lak 9.90 316 P Pn 23 33 50.5 -0.1
baz=123,SNR=6.3
I28M Miner Creek 9.91 21 Pn Pn 23 33 51.4 +0.4
I28M Miner Creek 9.91 21 P Pn 23 33 52.3 +1.4
baz=209
H18K Honhosa River 9.96 335 Pn 23 33 50.2 -1.4
H18K Honhosa River 9.96 335 P Pn 23 33 50.3 -1.3
baz=147
T35M Bob Quinn 10.02 79 Pn Pn 23 33 52.2 -0.2
T35M Bob Quinn 10.02 79 P Pn 23 33 51.6 -0.8
baz=275
J30M Hart River 10.08 31 Pn Pn 23 33 53.7 +0.4
J30M Hart River 10.08 31 P Pn 23 33 54.0 +0.8
baz=222
M11K Mekoryuk 10.09 300 P Pn 23 33 53.7 +0.3
baz=105
DLBC Dease Lake 10.12 71 Pn 23 33 53.4 -0.5
DLBC Dease Lake 10.12 71 P Pn 23 33 54.4 +0.5
baz=267,SNR=10
DLBC Dease Lake 10.12 71 Pn Pn 23 33 53.9 0.0
comp=E,4.9nm,0.3s,baz=271,slow=6.7,SNR=46
DLBC Sn Sn 23 35 41.3 -4.8
comp=E,1.0nm,0.3s,baz=198,slow=20,SNR=1.0
comp=E,27nm,0.6s
AKUT Akutan 10.14 264 Pn Pn 23 33 53.1 -1.0
H17K Granite Mounta 10.17 331 Pn 23 33 52.7 -1.7
H17K Granite Mounta 10.17 331 P Pn 23 33 53.4 -1.1
baz=142
FYU Fort Yukon 10.26 7 Pn 23 33 54.5 -1.0
G24K Hadweenzic Riv 10.29 2 Pn 23 33 55.7 -0.3
G24K Hadweenzic Riv 10.29 2 P Pn 23 33 56.1 +0.1
baz=183
G23K Bananza Creek 10.31 357 Pn 23 33 55.9 -0.5
G23K Bananza Creek 10.31 357 P Pn 23 33 56.2 -0.2
baz=175
H27K Steamboat Moun 10.34 16 P Pn 23 33 57.0 +0.1
baz=202
G21K Allakaket 10.37 349 Pn 23 33 56.6 -0.6
G21K Allakaket 10.37 349 P Pn 23 33 56.9 -0.3
baz=164
G25K Bearman Lake 10.40 5 P Pn 23 33 57.5 0.0
baz=187
G19K Purcell Mounta 10.55 341 Pn 23 34 00.0 +0.4
G19K Purcell Mounta 10.55 341 P Pn 23 34 00.3 +0.7
baz=153
I30M Mount Dempster 10.56 29 Pn 23 34 00.7 +0.9
I30M Mount Dempster 10.56 29 P Pn 23 34 01.3 +1.5
baz=219
G22K Bettles 10.60 353 P Pn 23 33 59.3 -0.9
baz=171
H16K Elim 10.62 326 P Pn 23 33 59.6 -1.0
baz=134,SNR=8.7
G18K Tagagawik 10.65 337 Pn 23 34 00.5 -0.5
G18K Tagagawik 10.65 337 P Pn 23 34 00.3 -0.7
baz=148
UNV Unalaska Valle 10.65 263 P Pn 23 33 59.3 -1.8
baz=68
G17K Kiwalik Mounta 10.81 332 P Pn 23 34 02.8 -0.3
baz=141
COLD Coldfoot 10.84 356 P Pn 23 34 03.4 -0.1
baz=175
H29M Whitestone 10.90 22 Pn 23 34 04.7 +0.3
H29M Whitestone 10.90 22 P Pn 23 34 04.8 +0.3
baz=211
WTLY Watson Lake, Y 10.96 62 Pn 23 34 06.2 +0.9
WTLY Watson Lake, Y 10.96 62 P Pn 23 34 05.9 +0.6
baz=259,SNR=13
F21K Alatna River 11.05 350 Pn 23 34 06.2 -0.3
F21K Alatna River 11.05 350 P Pn 23 34 06.5 0.0
baz=165
F24K Squaw Lake 11.10 1 Pn 23 34 07.9 +0.7
F24K Squaw Lake 11.10 1 P Pn 23 34 07.6 +0.4
baz=182
BMAR Burnt Mountain 11.16 8 Pn Pn 23 34 08.5 +0.6
F20K Avaraart Lake 11.16 345 Pn 23 34 06.9 -1.0
F20K Avaraart Lake 11.16 345 P Pn 23 34 07.7 -0.2
baz=159,SNR=12
G16K Koyuk River 11.19 329 Pn 23 34 07.5 -0.8
G16K Koyuk River 11.19 329 P Pn 23 34 07.6 -0.8
baz=137
F25K Christian Rive 11.25 6 P Pn 23 34 09.0 -0.2
baz=188
F19K Shaleruckik Mo 11.29 341 Pn 23 34 09.8 +0.1
F19K Shaleruckik Mo 11.29 341 P Pn 23 34 10.1 +0.3
baz=153
EPYK Eagle Plains 11.39 25 Pn 23 34 10.8 -0.4
EPYK Eagle Plains 11.39 25 P Pn 23 34 11.3 +0.1
baz=215
G15K Niukluk 11.43 325 P Pn 23 34 11.9 +0.3
baz=131,SNR=14
F26K Sheenjek River 11.45 8 P Pn 23 34 11.9 0.0
baz=192
F18K Selawik 11.46 337 P Pn 23 34 12.2 +0.1
baz=147
TGTN Hyland Airport 11.55 56 P Pn 23 34 13.6 +0.1
baz=253,SNR=57
G29M Pine Creek 11.57 21 Pn 23 34 14.2 +0.6
G29M Pine Creek 11.57 21 P Pn 23 34 15.0 +1.4
baz=210
ANM Nome 11.60 321 Pn 23 34 13.6 -0.4
ANM Nome 11.60 321 P Pn 23 34 13.5 -0.4
baz=127,SNR=11
ANM Nome 11.60 321 P Pn 23 34 13.6 -0.4
E23K Chandalar 11.65 358 P Pn 23 34 15.1 +0.3
baz=177
F17K Baldwin Pennin 11.70 334 Pn Pn 23 34 14.0 -1.4
F17K Baldwin Pennin 11.70 334 P Pn 23 34 13.9 -1.4
baz=143
E19K Redstone River 11.77 343 Pn 23 34 16.4 +0.2
E19K Redstone River 11.77 343 P Pn 23 34 15.8 -0.5
baz=156
E25K Arctic Village 11.78 5 Pn 23 34 16.2 -0.2
E25K Arctic Village 11.78 5 P Pn 23 34 16.1 -0.4
baz=188
F28M Old Crow 11.88 16 Pn 23 34 18.6 +0.9
F28M Old Crow 11.88 16 P Pn 23 34 18.2 +0.5
baz=204
G30M tAoh Zraii Nji 12.01 24 Pn 23 34 20.5 +0.9
G30M tAoh Zraii Nji 12.01 24 P Pn 23 34 20.4 +0.9
baz=214
F15K North Star Dit 12.10 327 Pn 23 34 19.4 -1.4
F15K North Star Dit 12.10 327 P Pn 23 34 19.7 -1.0
baz=132
E21K Killik River 12.29 350 P Pn 23 34 23.2 -0.2
baz=166
NIKH Nikolski High 12.29 262 P Pn 23 34 22.4 -1.1
baz=65
E17K Hotham Inlet 12.35 335 P Pn 23 34 24.0 -0.2
baz=143
E20K Nigu River 12.36 346 P Pn 23 34 24.9 +0.6
baz=160
E18K Tukpahlearik C 12.36 338 Pn 23 34 24.2 -0.1
E18K Tukpahlearik C 12.36 338 P Pn 23 34 24.5 +0.2
baz=147
G31M Satah River 12.43 27 Pn 23 34 25.7 +0.5
G31M Satah River 12.43 27 P Pn 23 34 25.4 +0.2
baz=219
F14K Arctic Creek 12.48 324 P Pn 23 34 26.1 +0.2
baz=128
D23K Nanushuk River 12.59 356 P Pn 23 34 29.3 +1.8
baz=174
BBB Bella Bella 12.61 101 Sn Sn 23 36 40.9 -5.8
comp=E,0.7nm,0.3s,baz=15,slow=20,SNR=2.3
D22K Ayikyak River 12.61 353 Pn 23 34 27.5 -0.2
D22K Ayikyak River 12.61 353 P Pn 23 34 29.7 +1.9

baz=169
F30M Barrier River 12.63 23 P Pn 23 34 28.1 +0.1
baz=214
D24K Happy Valley 12.74 359 Pn 23 34 27.5 -2.0
D24K Happy Valley 12.74 359 P Pn 23 34 30.0 +0.5
baz=179
D20K Etivluk River 12.84 347 P Pn 23 34 30.8 -0.1
baz=159
E28M Babbage River 12.84 15 Pn 23 34 33.1 +2.2
E28M Babbage River 12.84 15 P Pn 23 34 31.6 +0.7
baz=203
D19K Kuna River 12.85 344 Pn 23 34 31.1 +0.1
D19K Kuna River 12.85 344 P Pn 23 34 30.9 -0.2
baz=155
E29M Blow River 12.90 18 Pn 23 34 33.3 +1.7
E29M Blow River 12.90 18 P Pn 23 34 32.8 +1.1
baz=207
CLES Cleveland East 12.92 263 Pn Pn 23 34 31.6 -0.4
D25K Kavik River 12.95 3 Pn 23 34 32.0 -0.4
D25K Kavik River 12.95 3 P Pn 23 34 33.5 +1.1
baz=185
F31M Tsiigehtchic 12.96 26 Pn 23 34 32.4 0.0
F31M Tsiigehtchic 12.96 26 P Pn 23 34 32.7 +0.2
baz=219
C21K Knifeblade Rid 13.06 350 P Pn 23 34 34.4 +0.6
baz=164
TNA Tin City 13.06 322 P Pn 23 34 34.9 +1.0
baz=125
D27M Malcolm River 13.26 12 Pn 23 34 36.9 +0.3
D27M Malcolm River 13.26 12 P Pn 23 34 37.5 +0.8
baz=198
C24K Franklin Bluff 13.31 360 P Pn 23 34 38.5 +1.2
baz=180
KOTAN Kotaneelee Air 13.32 64 P Pn 23 34 37.7 +0.3
baz=265
C18K Utukok River 13.52 340 Pn Pn 23 34 40.6 +0.4
C18K Utukok River 13.52 340 P Pn 23 34 41.0 +0.8
baz=149
FLDN Fort Liard 13.61 64 Pn 23 34 43.5 +2.0
FLDN Fort Liard 13.61 64 P Pn 23 34 42.7 +1.2
baz=265
D28M Stokes Point 13.62 15 P Pn 23 34 43.0 +1.5
baz=204
C19K Lookout Ridge 13.64 343 P Pn 23 34 42.7 +1.0
baz=153
GAMB Gambell 13.64 312 P Pn 23 34 42.8 +1.0
baz=112
INK Inuvik 13.69 24 Pn 23 34 42.8 +0.3
INK Inuvik 13.69 24 P Pn 23 34 43.0 +0.5
baz=217
INK Inuvik 13.69 24 P Pn 23 34 42.8 +0.3
INK Inuvik 13.69 24 Pn Pn 23 34 43.0 +0.5
comp=E,0.5nm,0.3s,baz=209,slow=15,SNR=36
INK LR LR 23 40 24.0
comp=E,301nm,20.0s,baz=188,slow=39
comp=E,17nm,0.9s
C17K DeLong Mountai 13.79 337 P Pn 23 34 44.1 +0.3
baz=144
B22K Teshekpuk Lake 14.10 353 Pn 23 34 48.0 0.0
B22K Teshekpuk Lake 14.10 353 P Pn 23 34 48.3 +0.3
baz=169
B20K Meade River 14.13 348 Pn 23 34 47.0 -1.3
B20K Meade River 14.13 348 P Pn 23 34 48.2 -0.2
baz=160
C16K Lisburne Hills 14.13 334 Pn 23 34 48.5 0.0
C16K Lisburne Hills 14.13 334 P Pn 23 34 48.0 -0.4
baz=139
WRGLY Wrigley 14.20 51 Pn Pn 23 34 51.1 +1.7
WRGLY Wrigley 14.20 51 P Pn 23 34 50.0 +0.6
baz=253
B18K Kokolik River 14.25 341 P Pn 23 34 49.9 -0.2
baz=149
C36M Paulatuk 16.85 30 P Pn 23 35 22.6 -1.3
C36M IAmb IAmb 23 35 23.7
comp=Z,42nm,1.2s
C36M Paulatuk 16.85 30 P Pn 23 35 22.2 -1.7
baz=232
HILA High Level 16.94 70 P P 23 35 27.8 +1.0
PGC Sidney 17.02 107 Pn Pn 23 35 24.5 -1.7
PGC IAmb IAmb 23 35 53.7
comp=Z,38nm,1.4s
ADK Adak 17.08 266 Pn Pn 23 35 25.8 -1.1
ADK IAmb IAmb 23 35 27.8
comp=Z,62nm,1.2s
ADK Adak 17.08 266 P Pn 23 35 25.8 -1.1
ADK pmax pmax
comp=Z,62nm,1.3s
KIWB Kanaga Island 17.36 267 Pn Pn 23 35 27.4 -2.9
YKA Yellowknife Ar 18.06 57 P P 23 35 39.8 +0.7
comp=Z,1.0nm,0.3s,baz=265,slow=13,SNR=51
comp=Z,10.0nm,0.8s
A36M Sachs Harbour 18.34 23 P Pn 23 35 42.3 +0.1
A36M Sachs Harbour 18.34 23 P Pn 23 35 42.1 -0.1
baz=224
E07A Sunnyside 20.23 107 P P 23 36 04.0 +1.1
H04A Detroit Lake 20.28 114 Pn 23 36 05.8 +0.1
C09A Chrisman Ranch 20.31 102 P P 23 36 03.6 -0.2
EDM Edmonton 20.33 84 P P 23 36 05.1 +1.0
EDM IAmb IAmb 23 36 17.6
comp=Z,19nm,1.2s
EDM Edmonton 20.33 84 P P 23 36 05.1 +1.0
EDM pmax pmax
comp=Z,19nm,1.2s
F07A Phinny Hill Vi 20.62 109 P P 23 36 07.1 -0.1
NEW Newport 20.66 100 P P 23 36 09.0 +1.3
NEW Newport 20.66 100 P P 23 36 08.5 +0.8
baz=305
NEW Newport 20.66 100 P P 23 36 09.0 +1.3
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 20.66 100 P Pn 23 36 09.4 -0.7
comp=Z,5.6nm,0.9s,baz=310,slow=8.6,SNR=9.6
comp=Z,5.6nm,0.9s
E08A Dider Farm, El 20.69 106 P P 23 36 08.2 +0.3
I04A Tendick Farm, 20.80 116 P P 23 36 08.0 -1.3
I04A IAmb IAmb 23 36 14.9
comp=Z,19nm,1.0s
I05D Terrebonne, OR 20.95 114 P P 23 36 12.1 +1.3
I05D IAmb IAmb 23 36 16.5
comp=Z,16nm,0.9s
K02D Willamette Mer 21.01 120 P P 23 36 11.7 +0.1
K02D IAmb IAmb 23 36 16.0
comp=Z,28nm,1.1s
E09A Wood Farm, Sta 21.17 105 P P 23 36 11.9 -1.2
HUMO Hull Mountain 21.42 120 P P 23 36 15.0 -0.8
HUMO IAmb IAmb 23 36 19.3
comp=Z,17nm,0.8s
G08A Pilot Rock 21.53 109 P P 23 36 16.6 -0.5
PINE Pine Mountain 21.54 114 P P 23 36 17.9 +0.5
PINE IAmb IAmb 23 36 20.4
comp=Z,14nm,1.0s
KSXB Camp Six Broad 21.58 122 P P 23 36 17.6 0.0
KSXB IAmb IAmb 23 36 21.4
comp=Z,38nm,1.4s
J05D Fort Rock, OR 21.76 116 P P 23 36 19.1 -0.6
J05D IAmb IAmb 23 36 22.8
comp=Z,20nm,1.0s
K04D Chiloquin, OR 21.99 118 P P 23 36 22.5 +0.4
K04D IAmb IAmb 23 36 26.8
comp=Z,20nm,0.8s
F10A Beach Ranch, E 22.00 105 P P 23 36 22.0 -0.1
F10A IAmb IAmb 23 36 26.0
comp=Z,11nm,0.9s
I07A Izee 22.07 112 P P 23 36 23.1 +0.2
I07A IAmb IAmb 23 36 25.6
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 22.20 121 P P 23 36 25.0 +0.7
YBH IAmb IAmb 23 36 27.6
comp=Z,15nm,1.3s
YBH Yreka Blue Hor 22.20 121 P P 23 36 25.0 +0.7
YBH pmax pmax
comp=Z,15nm,1.3s
K05A Summer Lake 22.34 116 P P 23 36 24.9 -1.0
K05A IAmb IAmb 23 36 30.6
comp=Z,23nm,1.0s
BMO Blue Mountains 22.70 108 P P 23 36 29.8 +0.2
BMO Blue Mountains 22.70 108 P P 23 36 29.8 +0.2
BMO pmax pmax
comp=Z,5.0nm,1.0s
J08A Circle Bar Ran 23.11 112 P P 23 36 33.9 0.0
J08A IAmb IAmb 23 36 52.8
comp=Z,12nm,1.3s
PLID Pearl Lake 23.23 105 P P 23 36 35.4 +0.1
MSO Missoula 23.25 100 P P 23 36 36.2 +0.9
baz=307
BILL Bilibino 23.42 318 *i* P P 23 36 37.0 +0.4

OVMT Ovando 23.63 98 P P 23 36 39.9 +1.0
WVOR Wild Horse Val 23.69 114 P P 23 36 39.8 +0.2
WVOR IAmb IAmb 23 36 42.4
comp=Z,17nm,0.9s
WVOR Wild Horse Val 23.69 114 P P 23 36 39.8 +0.2
WVOR pmax pmax
comp=Z,17nm,0.9s
BPMT Black Pine Rid 23.76 100 P P 23 36 40.5 +0.2
MFID Camas Ranch 24.45 108 P P 23 36 46.6 +0.1
ORV Oroville 24.48 122 P P 23 36 47.4 +0.7
ORV Oroville 24.48 122 P P 23 36 47.4 +0.7
ORV pmax pmax
comp=Z,3.0nm,0.8s
LRM Limekiln Ridge 24.68 100 P P 23 36 49.7 +0.9
EGMT Eagleton 24.86 93 P P 23 36 50.2 0.0
EGMT IAmb IAmb 23 36 59.5
comp=Z,7.0nm,0.9s
EGMT Eagleton 24.86 93 P P 23 36 50.7 +0.5
baz=304
HLID Hailey 25.10 106 P P 23 36 53.4 +0.9
HLID Hailey 25.10 106 P P 23 36 53.7 +1.2
baz=313
MCMT McKenzie Canyo 25.10 102 P P 23 36 52.3 -0.3
AFDM Forest Hills D 25.21 122 P P 23 36 54.3 +1.0
PAHR Pah Rah Range 25.37 119 P P 23 36 54.8 -0.2
PAHR IAmb IAmb 23 36 57.4
comp=Z,7.4nm,0.9s
MPK Martis Peak 25.38 120 P P 23 36 55.0 -0.2
MPK IAmb IAmb 23 36 57.9
comp=Z,20nm,1.3s
EMB Emerald Bay 25.60 121 P P 23 36 57.4 +0.3
PNTR Pine Nut 25.75 120 P P 23 36 59.7 +1.2
PNTR IAmb IAmb 23 37 01.3
comp=Z,12nm,0.9s
QLMT Earthquake Lak 25.87 101 P P 23 37 00.3 +0.8
BMN Battle Mountai 25.89 115 P P 23 36 59.6 0.0
BMN Battle Mountai 25.89 115 P P 23 36 59.7 0.0
BMN pmax pmax
comp=Z,5.0nm,0.8s
YHL Hebgen Lake 25.99 101 P P 23 37 02.1 +1.3
YHL IAmb IAmb 23 37 19.3
comp=Z,14nm,1.5s
YERR Yerington 26.00 120 P P 23 37 01.7 +0.9
YERR IAmb IAmb 23 37 05.8
comp=Z,19nm,1.5s
YHH Holmes Hill 26.21 100 P P 23 37 03.1 +0.4
CMB Columbia Colle 26.22 123 P P 23 37 03.6 +1.1
CMB Columbia Colle 26.22 123 P P 23 37 03.6 +1.1
CMB pmax pmax
comp=Z,4.0nm,1.1s
WAKR Walker 26.29 121 P P 23 37 03.8 +0.5
KVN Kaiserville 26.51 118 P P 23 37 05.7 +0.4
KVN Kaiserville 26.51 118 P P 23 37 05.7 +0.4
KVN pmax pmax
comp=Z,6.0nm,1.0s
H17A Grant Village 26.62 101 P P 23 37 06.6 +0.3
H17A Grant Village 26.62 101 P P 23 37 07.7 +1.3
baz=311
RYN Ryan 26.63 119 P P 23 37 06.9 +0.5
ELK Elko 26.66 112 P P 23 37 06.6 -0.2
ELK Elko 26.66 112 P P 23 37 06.6 -0.2
ELK pmax pmax
comp=Z,7.0nm,1.2s
FLWY Flagg Ranch 26.75 101 P P 23 37 08.4 +0.9
FLWY IAmb IAmb 23 37 10.6
comp=Z,5.1nm,0.6s
RLMT Red Lodge 26.87 98 P P 23 37 09.5 +1.0
baz=309
NVAR Mina Arroy Bea 26.89 119 P P 23 37 09.3 +0.5
NVAR Mina Arroy Bea 26.89 119 P P 23 37 10.4 +1.6
comp=Z,4.6nm,0.8s,baz=304,slow=9.2,SNR=29
NVAR PcP PcP 23 40 31.2 +0.9
comp=Z,0.9nm,0.7s,baz=299,slow=2.6,SNR=7.4
comp=Z,4.6nm,0.8s
NV11 Mina Arroy Sit 26.96 119 P P 23 37 08.8 -0.6
MDPB Devils Postpil 27.15 121 P P 23 37 11.5 +0.3
MDPB IAmb IAmb 23 37 14.2
comp=Z,8.2nm,0.9s
OMMB Old Mammoth Mi 27.21 121 P P 23 37 12.7 +0.9
OMMB IAmb IAmb 23 37 14.9
comp=Z,7.9nm,1.0s
LAO LASA Array 27.59 93 P P 23 37 15.9 +1.1
baz=306
BGU Big Grassy Mou 27.68 109 P P 23 37 15.2 -0.6
DGMT Dagmar 27.70 88 P P 23 37 18.2 +2.5
baz=304
TPH Tonopah 27.70 118 P P 23 37 16.5 +0.5
TPH Tonopah 27.70 118 P P 23 37 16.5 +0.5
TPH pmax pmax
comp=Z,20nm,0.8s
MZP Montezuma Peak 27.91 119 P P 23 37 18.6 +0.6
Q12A Willow Creek R 28.15 114 P P 23 37 19.9 -0.1
Q12A IAmb IAmb 23 37 22.1
comp=Z,5.6nm,0.8s
PDAR Pinedale Array 28.25 102 P P 23 37 21.6 +0.7
comp=Z,1.1nm,0.6s,baz=336,slow=3.3,SNR=4.5
comp=Z,1.1nm,0.6s
GMN Gold Mountain 28.29 119 P P 23 37 20.9 -0.4
R11B Troy Canyon, C 28.29 116 P P 23 37 21.4 +0.1
R11B IAmb IAmb 23 37 23.7
comp=Z,5.9nm,0.9s
R11B Troy Canyon, C 28.29 116 P P 23 37 22.7 +1.4
baz=321
DUG Dugway, Tooele 28.32 110 P P 23 37 22.7 +1.2
baz=317
SPR3 Spring Creek 3 28.43 113 P P 23 37 21.7 -1.0
SPR3 IAmb IAmb 23 37 26.2
comp=Z,6.5nm,1.0s
CWC Cottonwood Cre 28.59 122 P P 23 37 25.0 +1.1
baz=324
VES Vestal, Richgr 28.61 124 P P 23 37 25.9 +2.0
baz=325
WCT Wildcat Mounta 29.00 119 P P 23 37 27.8 +0.3
WCT IAmb IAmb 23 37 30.4
comp=Z,6.6nm,1.1s
ISA Isabella, Lake 29.03 123 P P 23 37 29.3 +1.6
baz=325
PKM Mcpherson Peak 29.06 126 P P 23 37 29.9 +1.7
baz=327
FURC Furnace Creek, 29.15 120 P P 23 37 29.5 +0.9
baz=323
PRN Pahroc Range 29.29 116 P P 23 37 30.0 -0.1
PRN IAmb IAmb 23 37 33.5
comp=Z,12nm,1.1s
GWY Greenwater Val 29.46 120 P P 23 37 31.9 +0.3
GWY IAmb IAmb 23 37 34.3
comp=Z,6.9nm,0.8s
QSM Queen of Sheba 29.55 120 P P 23 37 32.8 +0.6
QSM IAmb IAmb 23 37 35.1
comp=Z,12nm,1.1s
LRMC Laurel Mtn Rad 29.55 122 P P 23 37 32.8 +0.3
baz=325
SEY Seymchan 29.56 307 *i* P P 23 37 32.4 +0.3
SEY pmax pmax
comp=Z,2.0nm,0.9s
SHOC Shoshone, Teco 29.88 120 P P 23 37 36.4 +1.1
baz=324
MVU Marysvale 29.89 111 P P 23 37 36.7 +1.1
EDW2 Edwards Air Fo 29.90 123 P P 23 37 36.7 +1.2
baz=326
MSU Marysvale 29.90 111 P P 23 37 36.2 +0.6
MSU Marysvale 29.90 111 P P 23 37 36.2 +0.6
K22A Casper 29.98 99 P P 23 37 36.5 +0.2
baz=312
GSC Goldstone, Bar 30.11 121 P P 23 37 38.3 +1.0
baz=325
Q16A Castle Valley 30.12 110 P P 23 37 38.2 +0.6
Q16A IAmb IAmb 23 37 41.2
comp=Z,4.6nm,1.0s
SZCU Shurtz Canyon 30.13 114 P P 23 37 37.2 -0.5
SZCU IAmb IAmb 23 37 40.0
comp=Z,5.2nm,1.0s
MTPU Mount Pierson 30.25 112 P P 23 37 37.1 -1.8
MTPU IAmb IAmb 23 37 42.0
comp=Z,8.1nm,1.3s
SRU San Rafael Swe 30.32 109 P P 23 37 39.9 +0.7
SRU San Rafael Swe 30.32 109 P P 23 37 39.9 +0.7
SRU pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 30.39 95 P P 23 37 39.8 -0.1
RSSD IAmb IAmb 23 37 42.2
comp=Z,5.9nm,0.8s
RSSD Black Hills 30.39 95 P P 23 37 39.8 -0.1
RSSD pmax pmax
comp=Z,6.0nm,0.8s

LCMT Little Creek M 30.50 115 P P 23 37 40.7 -0.1
SNCC San Nicolas Is 30.57 127 P P 23 37 43.3 +2.0
baz=328
BFSC Mount Baldy Ra 30.59 124 P P 23 37 43.5 +2.0
baz=326
MDND Maddock 30.59 85 P P 23 37 42.5 +1.1
baz=305
PKCU Pink Cliffs 30.64 113 P P 23 37 42.6 +0.3
PKCU IAmb IAmb 23 37 46.7
comp=Z,12nm,1.3s
KNB Kanab 30.71 114 P P 23 37 43.5 +0.8
KNB IAmb IAmb 23 37 45.6
comp=Z,7.6nm,1.1s
KNB Kanab 30.71 114 P P 23 37 43.5 +0.8
KNB pmax pmax
comp=Z,8.0nm,1.1s
V12A Nelson 30.71 118 P P 23 37 43.1 +0.5
V12A IAmb IAmb 23 37 45.3
comp=Z,7.8nm,0.8s
HEC Hector,Ludlow 30.72 121 P P 23 37 44.4 +1.7
baz=325
FMP Fort Macarthur 30.73 125 P P 23 37 44.7 +2.1
baz=327
O20A White River Ci 30.79 105 P P 23 37 43.2 -0.2
O20A IAmb IAmb 23 37 45.5
comp=Z,8.4nm,0.8s
O20A White River Ci 30.79 105 P P 23 37 45.3 +1.8
baz=316
BBRC Big Bear Solar 30.91 123 P P 23 37 45.0 +0.5
baz=326
GMRC Granite Mounta 31.08 120 P P 23 37 47.3 +1.4
baz=324
HMU Henry Mountain 31.08 110 P P 23 37 46.7 +0.7
HMU IAmb IAmb 23 37 49.2
comp=Z,5.5nm,0.8s
ULM Lac du Bonnet 31.32 79 P P 23 37 47.9 +0.2
comp=Z,1.8nm,0.7s,baz=315,slow=11,SNR=3.7
ULM LR LR 23 50 12.2
comp=Z,147nm,18.1s,baz=172,slow=36
comp=Z,1.8nm,0.7s
MURC Murrieta 31.33 124 P P 23 37 48.9 +0.9
baz=326
U15A North Rim 31.44 114 P P 23 37 48.0 -1.3
U15A IAmb IAmb 23 37 51.9
comp=Z,5.4nm,1.1s
BELC Belle Mtn. Jos 31.56 122 P P 23 37 51.2 +1.0
baz=325
PV23 Carpenter Rdg 31.60 108 P P 23 37 50.2 -0.5
PV14 Lion Creek, Pa 31.66 108 P P 23 37 48.8 -2.3
PV14 IAmb IAmb 23 37 53.2
comp=Z,5.7nm,0.9s
PV22 Blue Mesa, Par 31.66 107 P P 23 37 51.5 +0.4
PV22 IAmb IAmb 23 37 53.2
comp=Z,7.8nm,1.0s
PFO Pinyon Flats O 31.66 123 P P 23 37 52.5 +1.4
baz=326
TPFO Pinon Flats 31.67 123 P P 23 37 51.9 +0.8
baz=326
W13A Hualapai Mount 31.69 118 P P 23 37 52.3 +0.9
W13A IAmb IAmb 23 37 54.2
comp=Z,4.7nm,0.8s
PV04 Paradox Valley 31.70 108 P P 23 37 51.3 -0.2
PV04 IAmb IAmb 23 37 53.6
comp=Z,7.2nm,0.8s
PV17 East Wray Mesa 31.76 108 P P 23 37 53.0 +1.1
PV17 IAmb IAmb 23 38 07.3
comp=Z,4.1nm,0.9s
PV11 David Mesa, Pa 31.79 108 P P 23 37 52.4 +0.2
PV07 Paradox Valley 31.81 107 P P 23 37 51.7 -0.7
PV18 Skein Mesa, Pa 31.81 108 P P 23 37 52.2 -0.2
PV12 Saucer Basin, 31.81 108 P P 23 37 51.8 -0.7
PV12 IAmb IAmb 23 37 54.7
comp=Z,5.7nm,0.9s
PV05 Paradox Valley 31.83 108 P P 23 37 52.6 0.0
PV05 IAmb IAmb 23 37 54.8
comp=Z,5.4nm,0.7s
PV03 Paradox Valley 31.84 108 P P 23 37 52.0 -0.6
PV03 IAmb IAmb 23 37 54.7
comp=Z,6.2nm,1.0s
IRM Iron Mountain 31.84 120 P P 23 37 54.1 +1.7
baz=325
PV02 Paradox Valley 31.93 108 P P 23 37 53.2 -0.3
PV02 IAmb IAmb 23 37 55.7
comp=Z,5.8nm,0.9s
109C Camp Elliot, M 31.96 124 P P 23 37 55.1 +1.6
baz=327
PV15 Paradox Valley 31.96 107 P P 23 37 53.6 -0.2
PV01 Paradox Valley 32.07 108 P P 23 37 53.8 -0.9
PV01 IAmb IAmb 23 37 56.9
comp=Z,6.5nm,0.8s
BC3 Big Chuckawall 32.10 121 P P 23 37 56.1 +1.2
baz=325
PDMCI Parker Dam,Lak 32.20 119 P P 23 37 57.4 +1.8
baz=324
MONP2 Monument Peak 32.27 123 P P 23 37 58.0 +1.4
baz=327
WUAZ Wupatki 32.61 114 P P 23 38 00.3 +0.8
WUAZ Wupatki 32.61 114 P P 23 38 00.8 +1.4
baz=322
IKP In-Ko-Pah, Jac 32.62 123 P P 23 38 01.7 +2.3
baz=327
YUH Yuha Desert 32.71 123 P P 23 38 00.5 +0.4
YUH IAmb IAmb 23 38 02.8
comp=Z,5.5nm,1.0s
MVCO Mesa Verde 32.80 109 P P 23 38 02.3 +1.2
baz=319
Y14A Wickenburg 33.05 118 P P 23 38 02.5 -0.7
Y14A IAmb IAmb 23 38 05.8
comp=Z,7.4nm,0.9s
S22A 4UR Ranch, Cre 33.28 106 P P 23 38 07.0 +1.6
baz=318
Q24A Divide 33.30 103 P P 23 38 06.6 +1.0
baz=316
X16A Lo Mia Camp, P 33.44 115 P P 23 38 06.5 -0.2
X16A IAmb IAmb 23 38 09.9
comp=Z,5.9nm,0.8s
OGNE Ogallala 33.60 97 P P 23 38 07.8 -0.2
OGNE Ogallala 33.60 97 P P 23 38 08.3 +0.3
baz=314
113A Mohawk Valley, 33.63 120 P P 23 38 08.1 0.0
113A IAmb IAmb 23 38 10.1
comp=Z,5.1nm,1.0s
K30B Basset 33.78 93 P P 23 38 09.6 +0.2
SDCO Great Sand Dun 33.99 105 P P 23 38 11.4 -0.2
SDCO IAmb IAmb 23 38 14.1
comp=Z,6.2nm,1.2s
SDCO Great Sand Dun 33.99 105 P P 23 38 13.6 +2.0
baz=318
X18A Snowflake 34.11 114 P P 23 38 12.5 0.0
KSCO Kaye Shedlock' 34.63 100 P P 23 38 17.7 +0.8
KSCO Kaye Shedlock' 34.63 100 P P 23 38 18.0 +1.1
baz=316
214A Organ Pipe Nat 34.76 120 P P 23 38 18.8 +0.9
baz=326
EYMN Ely 34.99 79 P P 23 38 20.7 +0.9
baz=306
T25A Trinidad 35.02 105 P P 23 38 20.0 -0.4
T25A IAmb IAmb 23 38 23.0
comp=Z,4.6nm,0.8s
T25A Trinidad 35.02 105 P P 23 38 21.6 +1.1
baz=318
BGNE Belgrade 35.44 93 P P 23 38 25.1 +1.4
baz=313
TUC Tucson 35.46 117 P P 23 38 25.7 +1.6
baz=324
ANMO Albuquerque 35.59 109 P P 23 38 26.7 +1.4
baz=320
TIXI Tiksi 35.77 327 *ce* P P 23 38 24.4 -1.8
TIXI pmax pmax
comp=Z,9.0nm,2.5s
SPMN Marine on St. 35.92 84 P P 23 38 29.8 +2.0
baz=309
LENM Lemitar 35.92 111 P P 23 38 29.6 +1.5
Y22D IRIS PASSCAL I 36.02 111 P P 23 38 29.5 +0.5
baz=321
Y22F Passcal Instru 36.02 111 P P 23 38 31.1 +2.2
baz=321
DUN6 Lazy B Ranch 36.11 115 P P 23 38 30.3 +0.6
CBKS Cedar Bluff 36.36 98 P P 23 38 33.1 +1.5
baz=315
I37A Lemond, Waseca 36.36 86 P P 23 38 32.3 +0.8
RTBA Rita Blanca 36.45 104 P P 23 38 32.1 -0.4
RTBA IAmb IAmb 23 38 34.8
comp=Z,7.9nm,0.9s
121A Cookes Peak, D 36.79 113 P P 23 38 35.5 0.0
121A IAmb IAmb 23 38 38.6

comp=Z,4.7nm,0.8s
121A Cookes Peak, D 36.79 113 P P 23 38 37.6 +2.1
baz=323
HMH Humu'ula Sheep 37.17 191 P P 23 38 38.8 -0.2
N35A Tabor 37.20 92 P P 23 38 39.1 +0.4
AMTX Amarillo 38.18 104 P P 23 38 47.9 +0.8
AMTX IAmb IAmb 23 38 49.6
comp=Z,11nm,1.0s
MSTX Muleshoe 38.29 106 P P 23 38 48.7 +0.6
MSTX IAmb IAmb 23 38 50.2
comp=Z,7.1nm,0.8s
MSTX Muleshoe 38.29 106 P P 23 38 49.3 +1.2
baz=320
KAN10 Anthony SW Sta 38.47 98 P P 23 38 48.1 -1.4
ELIS Ellis County 38.52 101 P P 23 38 50.1 +0.1
KAN05 Bluff City Nor 38.60 98 P P 23 38 51.4 +0.8
MNTX Cornudas Mount 38.69 111 P P 23 38 52.8 +1.4
baz=323
JFWS Jewell Farm 38.81 85 P P 23 38 52.4 +0.1
JFWS Jewell Farm 38.81 85 P P 23 38 52.5 +0.2
baz=311
JFWS Jewell Farm 38.81 85 P P 23 38 52.4 +0.1
JFWS pmax pmax
comp=Z,20nm,1.4s
CLN7 Carlsbad 7 38.94 109 P P 23 38 54.0 +0.4
P38A Dawn 39.22 92 P P 23 38 55.1 -0.6
P38A IAmb IAmb 23 38 57.3
comp=Z,6.6nm,0.8s
DKNS Dickens 39.51 105 P P 23 38 58.0 -0.2
YAK Yakutsk 39.59 313 *i* P P 23 38 58.1 -0.4
YAK pmax pmax
comp=Z,6.0nm,0.8s
VHRN Van Horn 39.62 112 P P 23 38 59.6 +0.3
POST Post 39.66 106 P P 23 39 00.0 +0.5
ODSA Odessa 39.84 108 P P 23 39 00.7 -0.3
ODSA IAmb IAmb 23 39 02.6
comp=Z,14nm,1.1s
WMOK Wichita Mounta 39.86 102 P P 23 39 00.8 -0.3
WMOK IAmb IAmb 23 39 03.4
comp=Z,6.2nm,0.9s
WMOK Wichita Mounta 39.86 102 P P 23 39 00.8 -0.3
WMOK pmax pmax
comp=Z,6.0nm,1.0s
N41A Harden Midland 39.96 88 P P 23 39 01.6 -0.2
L44A Lake County Fo 40.59 84 P P 23 39 08.6 +1.5
baz=312
TUL3 Leonard 40.62 98 P P 23 39 08.2 +0.8
baz=317
GLMI Grayling 40.66 79 P P 23 39 08.7 +1.0
baz=310
R40A Maddies Statio 40.85 92 P P 23 39 09.0 -0.3
HDIL Hopedale 40.93 87 P P 23 39 09.5 -0.4
HDIL Hopedale 40.93 87 P P 23 39 10.1 +0.2
baz=313
ABTX Abilene, Hawle 40.99 105 P P 23 39 10.5 0.0
ABTX IAmb IAmb 23 39 12.3
comp=Z,7.3nm,0.9s
ABTX Abilene, Hawle 40.99 105 P P 23 39 11.4 +0.9
baz=321
U38A Gravette 41.01 96 P P 23 39 10.4 -0.2
U38A IAmb IAmb 23 39 11.9
comp=Z,9.7nm,1.2s
TX31 Lajitas Ar. Si 41.46 112 P P 23 39 14.4 -0.1
TXAR Lajitas Array 41.46 112 P P 23 39 14.0 -0.5
TXAR Lajitas Array 41.46 112 P P 23 39 14.0 -0.5
TXAR Lajitas Array 41.46 112 P P 23 39 15.8 +1.4
comp=Z,1.7nm,0.8s,baz=312,slow=6.8,SNR=13
TXAR PcP **PcP** 23 41 12.3 +0.6
comp=Z,0.3nm,0.6s,baz=221,slow=1.8,SNR=3.5
comp=Z,1.7nm,0.8s
OZNA Ozona 41.53 108 P P 23 39 14.6 -0.4
OZNA IAmb IAmb 23 39 16.8
comp=Z,6.7nm,0.7s
FW03 Perrin-Whitt E 41.53 103 P P 23 39 14.6 -0.3
FW03 IAmb IAmb 23 39 16.4
comp=Z,5.8nm,0.7s
PLPT Palo Pinto 41.56 103 P P 23 39 14.6 -0.6
PLPT IAmb IAmb 23 39 16.3
comp=Z,10nm,1.2s
CCM Cathedral Cave 41.59 91 P P 23 39 15.5 +0.2
CCM Cathedral Cave 41.59 91 P P 23 39 15.0 -0.3
baz=315
CCM Cathedral Cave 41.59 91 P P 23 39 15.5 +0.2
CCM pmax pmax
comp=Z,3.0nm,0.8s
Z35A Perchaven, San 41.75 102 P P 23 39 17.0 +0.3
SAND Sanderson 41.77 110 P P 23 39 17.8 +0.9
SFIN Lafayette 42.27 85 P P 23 39 20.7 -0.1
baz=314
JCT Junction City 42.58 107 P P 23 39 23.9 +0.4
JCT Junction City 42.58 107 P P 23 39 24.3 +0.8
baz=322
JCT Junction City 42.58 107 P P 23 39 23.9 +0.4
JCT pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 42.61 25 P P 23 39 23.9 +0.2
SUMG Summit 42.61 25 P P 23 39 23.9 +0.2
SUMG pmax pmax
comp=Z,21nm,1.4s
SUMG Summit 42.61 25 *i* P P 23 39 24.0 +0.2
WHTX Lake Whitney, 42.66 103 P P 23 39 23.6 -0.6
WHTX Lake Whitney, 42.66 103 P P 23 39 24.9 +0.8
baz=321
DRIO Del Rio 42.98 108 P P 23 39 26.5 -0.3
SCHQ Schefferville 43.51 56 P P 23 39 31.5 +0.7
comp=Z,2.5nm,0.7s,baz=317,slow=19,SNR=2.4
comp=Z,2.5nm,0.7s
435B Jarrell 43.52 104 P P 23 39 32.3 +1.2
baz=321
P49A Miami Univ. Ec 44.17 84 P P 23 39 37.8 +1.6
baz=314
ACSO Alum Creek Sta 44.64 82 P P 23 39 40.6 +0.6
baz=314
WVT Waverly 44.87 90 P P 23 39 43.1 +1.2
baz=317
OXF Oxford 45.18 93 P P 23 39 45.2 +1.0
baz=318
PLAL Pickwick Lake 45.57 92 P P 23 39 47.5 +0.1
PLAL IAmb IAmb 23 39 48.4
comp=Z,6.6nm,0.9s
O53A New Philadelph 45.60 81 P P 23 39 46.6 -1.0
baz=314
KLR Kul'dur 46.16 297 *ce* P P 23 39 52.0 +0.1
KLR pmax pmax
comp=Z,3.0nm,1.0s
KLR Kul'dur 46.16 297 P P 23 39 51.5 -0.4
comp=Z,1.9nm,0.8s,baz=53,slow=7.5,SNR=6.7
comp=Z,1.9nm,0.8s
NRIK Noril'sk 48.13 337 P P 23 40 06.8 -0.1
NRIK Noril'sk 48.13 337 *ce* P P 23 40 07.5 +0.6
NRIK pmax pmax
comp=Z,4.0nm,0.7s
NRIK Noril'sk 48.13 337 P P 23 40 07.0 0.0
comp=Z,3.7nm,0.7s,baz=28,slow=7.1,SNR=9.7
NRIK LR LR 00 02 59.3
comp=Z,165nm,18.8s,baz=358,slow=39
comp=Z,3.7nm,0.7s
BOD Bodaibo 48.42 315 *eP* P 23 40 09.8 +0.5
BOD pmax pmax
comp=Z,11nm,1.0s
KMSC Kings Mountain 49.19 86 P P 23 40 15.3 -0.2
baz=318
HRV Adam Dziewonsk 49.23 72 P P 23 40 15.2 -0.6
baz=315
GOGA Godfrey 49.29 89 P P 23 40 16.8 +0.4
baz=319
H11N2 WAKE ISLAND Hy 49.37 241 T T 00 33 25.6
baz=31,slow=76,SNR=24
H11N3 WAKE ISLAND Hy 49.38 241 T T 00 33 23.6
baz=31,slow=76,SNR=23
H11N1 WAKE ISLAND Hy 49.39 241 T T 00 33 27.3
baz=31,slow=76
USA0B Ussuriysk Arra 49.44 291 P P 23 40 14.7 -2.6
USA0B Ussuriysk Arra 49.44 291 P P 23 40 14.7 -2.6
USA0B pmax pmax
comp=Z,11nm,0.7s
H11S1 WAKE ISLAND Hy 50.51 240 T T 00 34 49.7
baz=30,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 50.52 240 T T 00 34 50.0
baz=30,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 50.53 240 T T 00 34 51.0
baz=30,slow=76,SNR=15
ARCES ARCESS Array B 54.23 3 P P 23 40 52.5 -0.2
comp=Z,2.1nm,0.8s,baz=358,slow=8.5,SNR=6.6
comp=Z,2.1nm,0.8s
ULN Ulaanbaatar 58.57 310 P P 23 41 24.4 +0.3
ULN IAmb IAmb 23 41 37.8
comp=Z,3.6nm,0.9s
ULN Ulaanbaatar 58.57 310 *i* P P 23 41 25.1 +1.0
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 58.88 311 P P 23 41 26.4 +0.2
SONM Songino Array 58.88 311 P P 23 41 26.4 +0.2
SONM pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 58.88 311 P P 23 41 27.2 +1.1
comp=Z,4.1nm,0.8s,baz=42,slow=6.7,SNR=23
comp=Z,4.1nm,0.8s
ZAA0 Zalesovo Array 61.66 327 P P 23 41 45.4 +0.4
ZALV Zalesovo Beam 61.66 327 P P 23 41 44.9 -0.1
ZALV Zalesovo Beam 61.66 327 *i* P P 23 41 45.4 +0.5
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 61.66 327 P P 23 41 45.0 +0.1
comp=Z,3.6nm,0.7s,baz=31,slow=7.2,SNR=15
comp=Z,3.6nm,0.7s
NB2 NORSAR Subarra 61.75 11 P P 23 41 45.4 -0.1
comp=Z,0.7nm,0.7s,baz=346,slow=6.9
NOA NORSAR Array B 61.75 11 P P 23 41 45.6 +0.1
comp=Z,1.1nm,0.7s,baz=348,slow=6.6,SNR=3.9
comp=Z,1.1nm,0.7s
HHC Hu-ho-hao-te 62.03 302 *eP* P 23 41 52.3 +4.5
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.4s
FINES FINESS Array B 62.36 3 *ce* P P 23 41 50.0 +0.5
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 62.36 3 P P 23 41 49.7 +0.3
comp=Z,1.1nm,0.6s,baz=1.4,slow=8.0,SNR=7.8
comp=Z,1.1nm,0.6s
KLMR Klimovskoe 62.86 356 *eP* P 23 41 52.3 -0.5
KLMR pmax pmax
comp=Z,44nm,2.0s
DGZ Jazzator, Alta 64.50 323 *i* P P 23 42 04.6 +0.5
DGZ pmax pmax
comp=Z,2.0nm,1.1s
ARU Arti 65.36 344 P P 23 42 09.2 -0.1
ARU Arti 65.36 344 *c i* P P 23 42 09.8 +0.5
ARU 23 42 40.9
ARU S S 23 50 53.9 +3.5
ARU SS SS 23 55 04.4 +1.7
BRVK Borovoye 66.31 336 P P 23 42 15.6 +0.1
BRVK Borovoye 66.31 336 P P 23 42 15.6 +0.1
BRVK pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 66.31 329 *ce* P P 23 42 15.7 +0.2
KURK pmax pmax
comp=Z,8.0nm,2.5s
BVAR Borovoye Array 66.31 336 P P 23 42 15.5 0.0
comp=Z,3.9nm,0.7s,baz=38,slow=7.5,SNR=22
comp=Z,3.9nm,0.7s
KURBB Kurchatov Arra 66.42 329 P P 23 42 16.3 +0.1
comp=Z,1.4nm,0.5s,baz=29,slow=6.5,SNR=5.5
comp=Z,1.4nm,0.5s
OBN Obninsk 68.71 357 P P 23 42 30.8 +0.3
OBN Obninsk 68.71 357 *i* P P 23 42 30.1 -0.4
OBN *i* 23 42 40.2
OBN pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 68.71 325 P P 23 42 30.8 0.0
MK31 Makanchi Array 68.71 325 P P 23 42 30.8 0.0
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 68.71 325 P P 23 42 30.7 -0.1
MKAR Makanchi Array 68.71 325 P P 23 42 31.0 +0.2
comp=Z,1.2nm,0.6s,baz=26,slow=6.0,SNR=23
comp=Z,1.2nm,0.6s
MAKZ Makanchi 68.80 325 P P 23 42 31.1 -0.3
MAKZ IAmb IAmb 23 42 44.6
comp=Z,3.1nm,0.8s
MAKZ Makanchi 68.80 325 P P 23 42 31.1 -0.3
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 69.51 320 *eP* P 23 42 43.5 +7.7
BELG Belogornoye 70.70 350 *i* P P 23 42 42.9 0.0
BELG pmax pmax
comp=Z,3.0nm,1.0s
ABKAR Akbulak array 72.03 341 P P 23 42 51.5 +0.5
ABKAR IAmb IAmb 23 42 52.6
comp=Z,4.4nm,0.8s
AKASG Malin Array Be 73.19 2 P P 23 42 58.0 +0.2
comp=Z,2.5nm,0.6s,baz=360,slow=6.0,SNR=9.3
comp=Z,2.5nm,0.6s
AKBB Malin Array Si 73.19 2 *i* P P 23 42 56.8 -1.0
AKBB pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 74.84 329 *ce* P P 23 43 08.0 +0.2
AAK pmax pmax
comp=Z,8.0nm,2.5s
MODS Modra-Piesok 74.86 10 *eP* P 23 43 09.8 +2.1
MODS Modra-Piesok 74.86 10 *eP* P 23 43 09.8 +2.1
WTTA Wattenberg 75.31 14 *eP* P 23 43 11.5 +1.0
comp=Z,0.4nm,0.3s
FETA Feichten 75.43 15 *eP* P 23 43 12.2 +1.1
comp=Z,0.8nm,0.7s
KBA Koelnbreinsper 75.71 13 *eP* P 23 43 13.7 +0.9
comp=Z,1.1nm,0.4s
OBKA Obir 76.42 12 *eP* P 23 43 17.2 +0.5
comp=Z,2.7nm,0.7s
PZH PanZhiHua 78.42 301 P P 23 43 31.3 +3.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,160nm,6.0s
KIV Kislovodsk 79.52 352 *eP* P 23 43 34.8 +0.9
KIV pmax pmax
comp=Z,7.0nm,1.1s
ESDC Sonseca Array 79.62 27 P P 23 43 35.5 +0.9
comp=Z,1.9nm,0.8s,baz=334,slow=5.5,SNR=9.7
comp=Z,1.9nm,0.8s
KBZ Khabaz 79.72 352 *i* P P 23 43 36.5 +1.6
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 79.72 352 P P 23 43 35.8 +0.8
comp=Z,3.4nm,0.8s,baz=326,slow=3.7,SNR=7.5
comp=Z,3.4nm,0.8s
GEYT Alibeck 83.31 339 P P 23 43 54.7 +0.6
comp=Z,4.2nm,0.7s,baz=54,slow=3.8,SNR=13
comp=Z,4.2nm,0.7s
BRTR Keskin Array B 84.17 358 *ce* P P 23 43 59.7 +1.1
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 84.17 358 P P 23 43 59.1 +0.6
comp=Z,1.9nm,0.9s,baz=358,slow=1.9,SNR=13
comp=Z,1.9nm,0.8s
CMAR Chiang Mai Arr 86.60 299 *ce* P P 23 44 11.6 +0.8
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 86.60 299 P P 23 44 11.2 +0.4
comp=Z,1.2nm,0.4s,baz=13,slow=5.0,SNR=10.0
comp=Z,1.2nm,0.4s
QSPA South Pole Qui 146.25 180 PKPbc **PKPbc** 23 51 06.7 +0.3
comp=Z,7.9nm,1.0s,baz=17,slow=0.2,SNR=19
BOSA Boshof 151.81 12 PKPbc **PKPbc** 23 51 21.2 -0.6
comp=Z,4.1nm,0.5s,baz=350,slow=1.6,SNR=15

NEIC ***28*** *23:33:23.8±0.6,35.667°N±0.010°×97.171°W±0.009, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=277.0*

TUL 28 23:33:24.1±0.5, 35.660°N±0.010°×97.16°W±0.01, h5km±2km**, ML2.7, mb_Lg2.1**/17(NEIC)**, ML2.3**/30(NEIC)**, Error ellipse: s-maj=1.4km s-min=1.3km az=185.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADOK	**Arcadia Dam**	**0.17**	**267**	Pg	Pg	23 33 27.8	+0.3
ADOK				Sg	Sg	23 33 30.5	+0.7
OK029	**Liberty Lake**	**0.28**	**300**	Pg	Pg	23 33 29.8	+0.3
OK029				Sg	Sg	23 33 33.8	+0.7
OK029				IAML		23 33 34.1	
	392nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.34**	**222**	Pg	Pg	23 33 31.0	+0.3
OKCSW				Sg	Sg	23 33 36.1	+1.0
OKCSW				IAML		23 33 36.3	
	comp=E,460nm,0.1s						
OKCSW				IAML		23 33 38.3	
	comp=N,329nm,0.3s						
OK052	**Battle Ridge R**	**0.44**	**41**	Pg	Pg	23 33 33.0	+0.3
OK052				Sg	Sg	23 33 39.4	+1.0
OK052				IAML		23 33 39.8	
	comp=N,196nm,0.2s						
FNO	**Franklin**	**0.45**	**206**	Pg	Pg	23 33 32.9	+0.2
FNO				Sg	Sg	23 33 39.3	+0.8
FNO				IAML		23 33 39.7	
	comp=N,444nm,0.4s						
W35A	**Tecumseh**	**0.56**	**155**	Pg	Pg	23 33 34.8	0.0
W35A				IAmb_Lg		23 33 41.6	
	comp=Z,20nm,1.0s						
DEOK	**Depew**	**0.57**	**71**		Pg	23 33 35.2	+0.2
DEOK				IAML		23 33 43.8	
	comp=E,234nm,0.2s						
QUOK	**Quay**	**0.63**	**36**	Pg	Pg	23 33 36.2	0.0
QUOK				IAML		23 33 45.5	
	comp=E,240nm,0.2s						
QUOK				IAML		23 33 49.3	
	comp=N,135nm,0.2s						
OK048	**Pawnee Station**	**0.78**	**13**	Pg	Pg	23 33 38.8	-0.2
OK048				IAML		23 33 52.6	
	comp=N,89nm,0.1s						
OK051	**E0350 and S346**	**0.88**	**17**	Pg	Pg	23 33 40.8	-0.3
CROK	**Carrier**	**1.07**	**322**	Pg	Pg	23 33 43.8	-0.9
TUL3	**Leonard**	**1.14**	**77**	Pg	Pg	23 33 44.8	-1.2
TUL3				IAML		23 34 06.5	
	comp=N,70nm,0.4s						
TUL3				IAML		23 34 07.1	
	comp=E,49nm,0.3s						
X34A	**Smith Ranch, M**	**1.19**	**208**	Pg	Pg	23 33 46.6	-0.4
X34A				IAML		23 34 04.5	
	comp=E,92nm,0.6s						
X34A				IAML		23 34 04.7	
	comp=N,86nm,0.5s						
KAN13	**South Haven SW**	**1.37**	**349**	IAmb_Lg		23 34 07.3	
	comp=Z,13nm,0.9s						
OK032	**Salt Plains WL**	**1.42**	**324**		Pn	23 33 49.6	-1.0
KAN14	**Manchester OK**	**1.45**	**334**		Pn	23 33 50.2	-0.8
KAN17	**Caldwell West**	**1.47**	**341**		Pn	23 33 51.0	-0.3
KAN09	**Caldwell North**	**1.52**	**346**	Pg	Pn	23 33 52.2	+0.2
KAN09				Sg	Sg	23 34 12.7	-0.3
OK038	**West end E0370**	**1.52**	**303**		Pn	23 33 51.2	-0.8
WMOK	**Wichita Mounta**	**1.61**	**236**		Pn	23 33 52.9	-0.4
WMOK				IAmb_Lg		23 34 18.6	
	comp=Z,9.9nm,0.8s						
OK035	**E0210 Rd and N**	**1.63**	**310**		Pn	23 33 52.4	-1.2
U32A	**Winter Ranch,**	**1.66**	**296**		Pn	23 33 53.0	-0.9
RLO	**Rose Lookout**	**1.81**	**73**	Pn	Pn	23 33 55.9	-0.1
Z35A	**Perchaven, San**	**2.33**	**182**	IAmb_Lg		23 34 40.6	
	comp=Z,7.6nm,0.8s						
DKNS	**Dickens**	**3.68**	**238**	IAmb_Lg		23 35 29.8	
	comp=Z,6.5nm,1.0s						
AMTX	**Amarillo**	**3.78**	**259**	Pn	Pn	23 34 19.9	-3.3
AMTX				IAmb_Lg		23 35 31.3	
	comp=Z,7.6nm,0.7s						
WHAR	**Wooly Hollow**	**3.99**	**94**	Pn	Pn	23 34 24.2	-1.8
WHAR				IAmb_Lg		23 35 40.7	
	comp=Z,5.5nm,0.9s						
MGMO	**Mountain Grove**	**4.22**	**68**	IAmb_Lg		23 35 44.9	
	comp=Z,6.3nm,0.8s						
BRDY	**Brady**	**4.62**	**200**	Pn	Pn	23 34 31.7	-3.0

JMA ***28*** *23:41:32.1±0.1,24.2°N±0.5°×121.8°E±0.6, h66km±1km, MV2.9/14, TAIWAN REGION*
TAP ***28*** *23:41:32.5,24.26°N×121.79°E, h63km, ML3.7, B*
ISC 28 23:41:32.5±1.2, 24.26°N±0.02°×121.83°E±0.02, h66km±4km**, n162, σ1°12/308, 26C-24D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**301**	*i* P	**Pn**	**23 41 42.1**	**-0.1**
	baz=338						
EHP				S	**Sn**	**23 41 49.9**	**+0.6**
	baz=338						
EAHA	**Aohua**	**0.10**	**310**	⇑*i* P	**Pn**	**23 41 42.0**	**-0.2**
	baz=334						
EAHA				S	**Sn**	**23 41 49.3**	**0.0**
	baz=334						
ENA	**Nanau**	**0.18**	**335**	⇑P	**Pn**	**23 41 42.3**	**-0.3**
	baz=355						
ENA				S	**Sn**	**23 41 49.9**	**0.0**
	baz=355						
EWUT	**Wuta**	**0.19**	**347**	⇑*i* P	**Pn**	**23 41 42.5**	**-0.1**
	baz=4.0						
EWUT				*i* S	**Sn**	**23 41 50.1**	**+0.2**
	baz=4.0						
ETL	**Fush Village**	**0.21**	**241**	P	**Pn**	**23 41 42.3**	**-0.5**
	baz=250						
ETL				*i* S	**Sn**	**23 41 49.9**	**-0.2**
	baz=250						
NACB	**Ninganchiao**	**0.23**	**247**	⇑P	**Pn**	**23 41 42.2**	**-0.6**
	baz=244						
NACB				S	**Sn**	**23 41 49.8**	**-0.5**
	baz=244						
TWD	**Chiawan**	**0.28**	**229**	*i* P	**Pn**	**23 41 42.6**	**-0.4**
	baz=235						
ESAO	**Su ao**	**0.31**	**3**	⇑P	**Pn**	**23 41 43.5**	**+0.2**
	baz=14						
ESAO				S	**Sn**	**23 41 51.4**	**+0.2**
	baz=14						
ETLH	**Xiulin Townshi**	**0.32**	**260**	P	**Pn**	**23 41 43.1**	**-0.3**
	baz=260						
ETLH				S	**Sn**	**23 41 50.6**	**-0.9**
	baz=260						
TWC	**Suao**	**0.35**	**4**	⇑P	**Pn**	**23 41 43.8**	**+0.3**
	baz=18						
TWC				S	**Sn**	**23 41 52.4**	**+0.7**
	baz=18						
HWA	**Hwalien**	**0.35**	**215**	*i* P	**Pn**	**23 41 43.5**	**-0.1**
	baz=200						
HWA				S	**Sn**	**23 41 52.3**	**+0.6**
	baz=200						
NDS	**Dongshan**	**0.38**	**345**	⇓*i* P	**Pn**	**23 41 44.1**	**+0.2**
	baz=343						
NDS				S	**Sn**	**23 41 53.0**	**+0.8**
	baz=343						
LATG	**Datong**	**0.39**	**315**	⇓P	**Pn**	**23 41 43.8**	**-0.2**
	baz=316						
LATG				*i* S	**Sn**	**23 41 52.4**	**0.0**
	baz=316						
EOS2	**EOS2**	**0.40**	**67**	⇑*e* P	**Pn**	**23 41 44.7**	**+0.8**
	baz=72						
EOS2				*e* S	**Sn**	**23 41 54.1**	**+1.9**
	baz=72						
ETM	**Tongmen**	**0.42**	**226**	P	**Pn**	**23 41 43.8**	**-0.5**
	baz=230						
ETM				S	**Sn**	**23 41 51.5**	**-1.4**
	baz=230						
NNSB	**Datong**	**0.44**	**292**	⇓P	**Pn**	**23 41 44.3**	**-0.2**
	baz=291						
NNSB				S	**Sn**	**23 41 53.0**	**-0.3**
	baz=291						
NNSH	**Datong**	**0.44**	**292**	⇑P	**Pn**	**23 41 44.3**	**-0.2**
	baz=294						
NNSH				S	**Sn**	**23 41 52.9**	**-0.3**
	baz=294						
NDT	**Datong Townshi**	**0.44**	**320**	⇓P	**Pn**	**23 41 45.1**	**+0.7**
	baz=316						
NDT				S	**Sn**	**23 41 52.9**	**-0.3**
	baz=316						
ENTT	**Nioudou**	**0.44**	**328**	*i* P	**Pn**	**23 41 44.5**	**+0.1**
	baz=334						
ENTT				S	**Sn**	**23 41 53.5**	**+0.3**
	baz=334						
LXIB	**Xiulin Townshi**	**0.45**	**238**	⇑P	**Pn**	**23 41 43.9**	**-0.7**
	baz=226						
LXIB				S	**Sn**	**23 41 52.6**	**-0.8**
	baz=226						
EOS3	**EOS3**	**0.45**	**87**	⇑*e* P	**Pn**	**23 41 45.0**	**+0.8**
	baz=86						
EOS3				*e* S	**Sn**	**23 41 54.5**	**+1.6**
	baz=86						
NNS	**Nan Shan**	**0.45**	**293**	⇓*i* P	**Pn**	**23 41 44.5**	**-0.1**
	baz=296						
NNS				S	**Sn**	**23 41 53.1**	**-0.3**
	baz=296						
EOS4	**EOS4**	**0.47**	**107**	⇑P	**Pn**	**23 41 44.4**	**+0.1**
	baz=106						
EOS4				S	**Sn**	**23 41 53.3**	**+0.5**
	baz=106						
TWE	**Neicheng**	**0.48**	**342**	*i* P	**Pn**	**23 41 45.0**	**+0.2**
	baz=343						
TWE				S	**Sn**	**23 41 54.9**	**+1.2**
	baz=343						
ILA	**Ilan**	**0.51**	**352**	*i* P	**Pn**	**23 41 45.8**	**+0.7**
	baz=353						
ILA				*e* S	**Sn**	**23 41 56.3**	**+2.2**
	baz=353						

WHF	**Hehuan Shan**	**0.53**	**257**	*i*	P	**Pn**	**23 41 45.5**	**-0.2**	NCUH				*i*	S	**Sn**	**23 42 02.8**	**+0.3**	**WRL**	**Guolierlin Hig**	**1.37**	**255**	⇑	P	**Pn**	**23 41 56.0**	**+0.3**
	baz=253									baz=324									baz=253							
WHF					S	**Sn**	**23 41 54.6**	**-0.7**	**TWS1**	**Kuangyinshan**	**0.91**	**336**	*i*	P	**Pn**	**23 41 49.9**	**+0.2**	WRL				*e*	S	**Sn**	**23 42 13.1**	**+0.1**
	baz=253									baz=341									baz=253							
FUSS	**Fushou**	**0.53**	**269**	⇓	P	**Pn**	**23 41 45.6**	**0.0**	TWS1				*e*	S	**Sn**	**23 42 03.1**	**+0.7**	**WCKO**	**Fanlu**	**1.39**	**234**	*e*	P	**Pn**	**23 41 57.1**	**+1.3**
	baz=268									baz=341									baz=229							
FUSS					S	**Sn**	**23 41 54.6**	**-0.5**	**SMLT**	**Sun Moon Lake**	**0.93**	**246**		P	**Pn**	**23 41 51.1**	**+1.1**	WCKO				*e*	S	**Sn**	**23 42 16.4**	**+3.0**
	baz=268									baz=238									baz=229							
SHUL	**Shoufeng**	**0.53**	**207**	⇓	*i* P	**Pn**	**23 41 45.2**	**-0.1**	SMLT				*e*	S	**Sn**	**23 42 05.5**	**+2.6**	**RLNB**	**Erlin**	**1.39**	**255**	*i*	P	**Pn**	**23 41 56.3**	**+0.4**
	baz=196									baz=238									baz=252							
SHUL					S	**Sn**	**23 41 55.1**	**+0.6**	**SSLB**	**Suanglung**	**0.93**	**239**	⇓	P	**Pn**	**23 41 50.8**	**+0.9**	RLNB					S	**Sn**	**23 42 14.2**	**+0.8**
	baz=196									baz=234									baz=252							
FUSB	**Fushanzhiwuyua**	**0.54**	**336**	⇓	P	**Pn**	**23 41 45.7**	**+0.2**	SSLB				*e*	S	**Sn**	**23 42 05.3**	**+2.5**	**CHN2**	**Minshiung**	**1.43**	**240**	*e*	S	**Sn**	**23 42 18.0**	**+3.5**
	baz=332									baz=234									baz=235							
FUSB					S	**Sn**	**23 41 55.5**	**+0.6**	**SBCB**	**Hsinchu**	**0.93**	**305**		P	**Pn**	**23 41 50.6**	**+0.7**	**WTK**	**Tuku**	**1.43**	**247**	*e*	P	**Pn**	**23 41 56.9**	**+0.5**
	baz=332									baz=320									baz=257							
ESL	**Shilin**	**0.57**	**219**	*e*	P	**Pn**	**23 41 46.1**	**+0.4**	SBCB					S	**Sn**	**23 42 03.4**	**+0.6**	WTK				*e*	S	**Sn**	**23 42 15.8**	**+1.3**
	baz=222									baz=320									baz=257							
ESL					S	**Sn**	**23 41 53.6**	**-1.8**	**YM08**	**YM08**	**0.95**	**347**	⇓	P	**Pn**	**23 41 49.7**	**-0.5**	**CHN4**	**Tsaushan**	**1.45**	**231**		P	**Pn**	**23 41 58.1**	**+1.5**
	baz=222									baz=341									baz=226							
YHNB	**Yeheng**	**0.58**	**315**	⇑	P	**Pn**	**23 41 46.0**	**+0.1**	YM08				*e*	S	**Sn**	**23 42 02.5**	**-0.7**	CHN4				*e*	S	**Sn**	**23 42 16.0**	**+1.2**
	baz=318									baz=341									baz=226							
YHNB					*e*	S	**Sn**	**23 41 55.2**	**-0.4**	**HSN**	**Hsinchu**	**0.95**	**305**	⇑	P	**Pn**	**23 41 50.2**	**+0.1**	**STYH**	**Taoyuan**	**1.45**	**222**	⇑	P	**Pn**	**23 41 57.9**	**+1.2**
	baz=318									baz=310									baz=208							
NTC	**Toucheng**	**0.59**	**0**	*e*	P	**Pn**	**23 41 46.4**	**+0.5**	HSN					S	**Sn**	**23 42 03.5**	**+0.3**	STYH				*e*	S	**Sn**	**23 42 16.5**	**+1.6**
	baz=14									baz=310									baz=208							
NTC					S	**Sn**	**23 41 57.4**	**+1.7**	**NWRT**	**Kuosheng**	**0.95**	**351**	*e*	P	**Pn**	**23 41 51.0**	**+0.9**	**TPUB**	**Ta-pu**	**1.46**	**229**	*e*	S	**Sn**	**23 42 17.4**	**+2.4**
	baz=14									baz=346									baz=223							
NWLT	**Wulai**	**0.59**	**330**	⇓	*i* P	**Pn**	**23 41 46.0**	**+0.1**	NWRT					S	**Sn**	**23 42 04.2**	**+1.0**	**WTCT**	**Ta-ch'eng**	**1.47**	**255**	*i*	S	**Sn**	**23 42 16.0**	**+0.8**
	baz=326									baz=346									baz=252							
NWLT					S	**Sn**	**23 41 55.8**	**0.0**	**TYC**	**Yuchr**	**0.95**	**248**		P	**Pn**	**23 41 51.1**	**+0.9**	**STYT**	**Tauyuan**	**1.47**	**222**	*e*	P	**Pn**	**23 41 58.5**	**+1.5**
	baz=326									baz=240									baz=216							
NSK	**Sanguang**	**0.59**	**314**	*i*	P	**Pn**	**23 41 46.0**	**+0.1**	TYC				*e*	S	**Sn**	**23 42 04.0**	**+0.6**	STYT				*e*	S	**Sn**	**23 42 17.6**	**+2.2**
	baz=318									baz=240									baz=216							
NSK					*e*	S	**Sn**	**23 41 55.5**	**-0.3**	**ANP**	**Anpu**	**0.96**	**343**	*i*	P	**Pn**	**23 41 50.2**	**-0.2**	**LONT**	**Longtian**	**1.49**	**205**	*e*	P	**Pn**	**23 41 57.3**	**0.0**
	baz=318									baz=339									baz=190							
TWT	**Tachien**	**0.59**	**269**	*i*	P	**Pn**	**23 41 46.7**	**+0.6**	ANP					S	**Sn**	**23 42 03.7**	**+0.1**	LONT				*e*	S	**Sn**	**23 42 16.2**	**+0.3**
	baz=264									baz=339									baz=190							
TWT					S	**Sn**	**23 41 56.3**	**+0.3**	**NTST**	**Danshui**	**0.96**	**339**	⇑	P	**Pn**	**23 41 50.3**	**0.0**	**WTP**	**Ta-pu**	**1.50**	**228**	*e*	P	**Pn**	**23 41 59.1**	**+1.7**
	baz=264									baz=343									baz=221							
TDCB	**Techi**	**0.61**	**269**	⇓	P	**Pn**	**23 41 46.5**	**+0.2**	NTST					S	**Sn**	**23 42 04.0**	**+0.5**	WTP				*e*	S	**Sn**	**23 42 18.9**	**+2.7**
	baz=264									baz=343									baz=221							
TDCB					*e*	S	**Sn**	**23 41 56.2**	**-0.1**	**TWQ1**	**Liyutan**	**0.96**	**275**	*i*	P	**Pn**	**23 41 50.7**	**+0.4**	**TWK**	**Hsinying**	**1.58**	**231**	*e*	P	**Pn**	**23 41 59.8**	**+1.4**
	baz=264									baz=275									baz=225							
TEGC	**Jichi Village**	**0.61**	**205**	*e*	P	**Pn**	**23 41 46.9**	**+0.8**	TWQ1				*e*	S	**Sn**	**23 42 04.5**	**+0.9**	TWK				*e*	S	**Sn**	**23 42 19.9**	**+1.9**
	baz=194									baz=275									baz=225							
TEGC					*e*	S	**Sn**	**23 41 57.0**	**+0.9**	**NJN**	**Zhunan**	**0.97**	**296**	*e*	P	**Pn**	**23 41 50.8**	**+0.4**	**TWG**	**Pinlang**	**1.59**	**206**	*e*	P	**Pn**	**23 41 59.4**	**+0.8**
	baz=194									baz=305									baz=190							
CHGB	**Renai**	**0.63**	**251**	⇓	P	**Pn**	**23 41 46.5**	**0.0**	NJN				*e*	S	**Sn**	**23 42 04.5**	**+1.0**	TWG				*e*	S	**Sn**	**23 42 16.5**	**-1.8**
	baz=245									baz=305									baz=190							
CHGB					S	**Sn**	**23 41 56.2**	**-0.6**	**NMLH**	**Miaoli**	**0.98**	**286**	*i*	P	**Pn**	**23 41 51.0**	**+0.5**	**TWGBT**	**Beinan**	**1.59**	**206**	*e*	P	**Pn**	**23 41 57.7**	**-0.9**
	baz=245									baz=287									baz=190							
OWD	**Renai**	**0.67**	**243**	⇑	P	**Pn**	**23 41 46.9**	**0.0**	NMLH				*e*	S	**Sn**	**23 42 04.5**	**+0.5**	TWGBT				*e*	S	**Sn**	**23 42 15.7**	**-2.6**
	baz=237									baz=287									baz=190							
OWD				*i*	S	**Sn**	**23 41 56.7**	**-0.8**	**NSY**	**Sanyi**	**0.98**	**279**	*e*	P	**Pn**	**23 41 51.7**	**+1.1**	**WSF**	**Szhu**	**1.59**	**247**		P	**Pn**	**23 41 59.6**	**+1.0**
	baz=237									baz=280									baz=254							
WARBT	**Fenglin Townsh**	**0.68**	**217**	⇑	P	**Pn**	**23 41 45.5**	**-1.3**	NSY				*e*	S	**Sn**	**23 42 04.8**	**+0.7**	WSF					S	**Sn**	**23 42 19.6**	**+1.3**
	baz=213									baz=280									baz=254							
WARBT					S	**Sn**	**23 41 55.8**	**-1.6**	**YULB**	**Yu-li**	**0.99**	**209**		P	**Pn**	**23 41 49.3**	**-1.4**	**SNST**	**Tainan City**	**1.60**	**230**	*e*	P	**Pn**	**23 41 59.6**	**+0.9**
	baz=213									baz=205									baz=224							
EGFH	**Guangfu**	**0.69**	**212**	⇑	P	**Pn**	**23 41 47.0**	**-0.1**	**ECBN**	**Changbin**	**1.00**	**200**		P	**Pn**	**23 41 51.3**	**+0.4**	SNST				*e*	S	**Sn**	**23 42 19.6**	**+1.2**
	baz=214									baz=184									baz=224							
EGFH					S	**Sn**	**23 41 56.6**	**-1.1**	ECBN					S	**Sn**	**23 42 04.5**	**+0.1**	**CHN1**	**Nanshi**	**1.60**	**228**		P	**Pn**	**23 41 60.0**	**+1.2**
	baz=214									baz=184									baz=222							
WUSB	**Renai**	**0.70**	**248**	⇓	P	**Pn**	**23 41 47.3**	**0.0**	**EYUL**	**Yuli**	**1.02**	**207**	*e*	P	**Pn**	**23 41 51.8**	**+0.7**	CHN1					S	**Sn**	**23 42 20.6**	**+2.0**
	baz=240									baz=209									baz=222							
WUSB					S	**Sn**	**23 41 57.7**	**-0.4**	EYUL				*e*	S	**Sn**	**23 42 05.7**	**+0.9**	**LDUT**	**Ludao**	**1.61**	**192**	*e*	P	**Pn**	**23 41 58.5**	**-0.4**
	baz=240									baz=209									baz=180							
TIPB	**Shuangxi**	**0.71**	**360**		P	**Pn**	**23 41 48.2**	**+0.9**	**NHW**	**Xinwu Township**	**1.02**	**316**	*e*	P	**Pn**	**23 41 51.4**	**+0.3**	LDUT				*e*	S	**Sn**	**23 42 17.4**	**-1.4**
	baz=356									baz=328									baz=180							
TIPB					S	**Sn**	**23 41 59.4**	**+1.4**	NHW				*e*	S	**Sn**	**23 42 05.7**	**+0.7**	**SGST**	**Jiashian**	**1.64**	**224**	*e*	P	**Pn**	**23 41 59.4**	**+0.2**
	baz=356									baz=328									baz=218							
NFF	**Wufeng Townshi**	**0.74**	**300**	⇓	*i* P	**Pn**	**23 41 48.2**	**+0.5**	**TWF1**	**Yuli**	**1.03**	**208**	*e*	P	**Pn**	**23 41 52.4**	**+1.3**	SGST				*e*	S	**Sn**	**23 42 20.4**	**+1.0**
	baz=309									baz=209									baz=218							
NFF					S	**Sn**	**23 41 59.0**	**+0.1**	TWF1				*e*	S	**Sn**	**23 42 05.7**	**+0.7**	**SLGT**	**Liugui**	**1.66**	**221**		P	**Pn**	**23 42 00.9**	**+1.3**
	baz=309									baz=209									baz=207							
NHDH	**Xindian Distri**	**0.75**	**339**	⇓	*i* P	**Pn**	**23 41 47.8**	**+0.1**	**TWY**	**Chenhua**	**1.03**	**349**	*e*	P	**Pn**	**23 41 51.4**	**+0.2**	SLGT					S	**Sn**	**23 42 22.7**	**+2.7**
	baz=334									baz=343									baz=207							
NHDH				*i*	S	**Sn**	**23 41 58.9**	**0.0**	TWY					S	**Sn**	**23 42 06.2**	**+1.2**	**ICHU**	**Yijhu**	**1.68**	**238**		P	**Pn**	**23 42 01.1**	**+1.4**
	baz=334									baz=343									baz=222							
TWB1	**Santiao Chiao**	**0.76**	**11**		P	**Pn**	**23 41 48.9**	**+1.1**	**JYNG**	**Yonagunijimaku**	**1.04**	**79**		P	**Pn**	**23 41 51.6**	**+0.4**	ICHU					S	**Sn**	**23 42 21.6**	**+1.4**
	baz=27								JYNG					S	**Sn**	**23 42 05.3**	**+0.1**									
TWB1					*e*	S	**Sn**	**23 42 00.0**	**+1.0**	**WHYT**	**Xinyi Township**	**1.05**	**238**	*e*	P	**Pn**	**23 41 52.8**	**+1.3**									
	baz=27									baz=234									baz=222							
TATO	**Taipei**	**0.77**	**337**	⇓	*i* P	**Pn**	**23 41 47.8**	**-0.2**	WHYT				*e*	S	**Sn**	**23 42 07.6**	**+1.9**	**HATJ**	**Hateruma jima**	**1.82**	**96**	*e*	P	**Pn**	**23 42 02.6**	**+1.0**
	baz=341									baz=234									baz=193							
TATO				*i*	S	**Sn**	**23 41 59.3**	**-0.1**	**WWF**	**Wufeng**	**1.05**	**258**	⇑	P	**Pn**	**23 41 52.6**	**+1.2**	HATJ					S	**Sn**	**23 42 24.6**	**+0.9**
	baz=341									baz=269									baz=193							
WHP	**Taichung City**	**0.80**	**271**	⇓	P	**Pn**	**23 41 49.7**	**+1.2**	WWF				*e*	S	**Sn**	**23 42 07.4**	**+1.8**	**ECL**	**Taimali**	**1.84**	**206**	*e*	P	**Pn**	**23 42 03.6**	**+1.7**
	baz=271									baz=269									baz=193							
WHP					*e*	S	**Sn**	**23 42 01.3**	**+1.1**	**TCU**	**Taichung**	**1.06**	**264**	⇑	P	**Pn**	**23 41 52.3**	**+0.8**	ECL				*e*	S	**Sn**	**23 42 23.1**	**-1.1**
	baz=271									baz=274									baz=193							
VWDT	**VWDT**	**0.81**	**231**	⇑	P	**Pn**	**23 41 48.5**	**+0.1**	TCU				*e*	S	**Sn**	**23 42 07.0**	**+1.3**	**SSD**	**Sandimen**	**1.86**	**216**	*e*	P	**Pn**	**23 42 03.8**	**+1.5**
	baz=223									baz=274									baz=219							
VWDT					*e*	S	**Sn**	**23 42 00.0**	**0.0**	**WDJ**	**Dajia District**	**1.08**	**275**	*i*	P	**Pn**	**23 41 52.2**	**+0.3**	SSD				*e*	S	**Sn**	**23 42 26.7**	**+1.8**
	baz=223									baz=275									baz=219							
NWF	**Wu-fen Shan**	**0.81**	**357**	⇓	P	**Pn**	**23 41 49.1**	**+0.6**	WDJ				*e*	S	**Sn**	**23 42 07.4**	**+1.1**	**TSMG**	**Majia**	**1.89**	**215**	*e*	P	**Pn**	**23 42 04.1**	**+1.5**
	baz=350									baz=275									baz=219							
NWF					S	**Sn**	**23 42 01.0**	**+0.8**	**WJS**	**Zhushan**	**1.09**	**247**		P	**Pn**	**23 41 53.3**	**+1.3**	TSMG					S	**Sn**	**23 42 27.0**	**+1.5**
	baz=350									baz=235									baz=219							
WFSB	**Wu-fen Shan**	**0.81**	**357**	*i*	P	**Pn**	**23 41 49.1**	**+0.7**	WJS				*i*	S	**Sn**	**23 42 09.0**	**+2.5**	**TSCK**	**Chigu Township**	**1.94**	**235**	*e*	P	**Pn**	**23 42 04.1**	**+0.8**
	baz=349									baz=235									baz=228							
WFSB				*i*	S	**Sn**	**23 42 01.1**	**+1.0**	**YOJ**	**Yonaguni jima**	**1.10**	**79**		P	**Pn**	**23 41 52.4**	**+0.4**	TSCK				*e*	S	**Sn**	**23 42 27.5**	**+0.8**
	baz=349								YOJ					S	**Sn**	**23 42 06.5**	**-0.1**									
NHY	**Taipei**	**0.81**	**343**		S	**Sn**	**23 42 01.1**	**+0.9**	**YOJ**	**Yonaguni jima**	**1.10**	**79**	*i*	P	**Pn**	**23 41 52.6**	**+0.6**									
	baz=337									baz=80									baz=228							
NJD	**Zhudong**	**0.82**	**305**	⇓	P	**Pn**	**23 41 49.3**	**+0.7**	YOJ				*e*	S	**Sn**	**23 42 07.1**	**+0.5**	**TAI**	**Tainan**	**1.96**	**230**	*e*	P	**Pn**	**23 42 03.4**	**-0.1**
	baz=308									baz=80									baz=224							
NJD					*e*	S	**Sn**	**23 42 02.2**	**+1.8**	**WNT1**	**Nantou City**	**1.11**	**252**	*i*	P	**Pn**	**23 41 53.2**	**+1.1**	**MASBT**	**Mashibuluo**	**1.98**	**214**	*e*	P	**Pn**	**23 42 05.4**	**+1.7**
	baz=308									baz=249									baz=218							
TAP	**Taipei**	**0.83**	**339**	*e*	P	**Pn**	**23 41 48.6**	**0.0**	WNT1				*e*	S	**Sn**	**23 42 09.2**	**+2.5**	MASBT				*e*	S	**Sn**	**23 42 29.5**	**+2.0**
	baz=344									baz=249									baz=218							
TAP					*e*	S	**Sn**	**23 42 01.2**	**+0.7**	**WNT**	**Mingjian**	**1.11**	**250**	⇓	*i* P	**Pn**	**23 41 53.3**	**+1.0**	**JKRS**	**Kuro-shima**	**1.99**	**90**	*e*	P	**Pn**	**23 42 04.7**	**+0.7**
	baz=344									baz=247									baz=191							
SXI1	**Grass Mountain**	**0.83**	**3**	⇑	P	**Pn**	**23 41 49.5**	**+0.7**	WNT					S	**Sn**	**23 42 09.5**	**+2.5**	JKRS					S	**Sn**	**23 42 28.6**	**+0.6**
	baz=357									baz=247									baz=191							
SXI1				*i*	S	**Sn**	**23 42 02.7**	**+2.0**	**CHKH**	**Chenggong**	**1.14**	**200**	*e*	P	**Pn**	**23 41 52.9**	**+0.4**	**EAST**	**Anshuo**	**2.08**	**206**	*e*	P	**Pn**	**23 42 06.6**	**+1.4**
	baz=357									baz=185									baz=191							
LIOB	**Emei**	**0.83**	**297**		P	**Pn**	**23 41 49.2**	**+0.5**	CHKH				*e*	S	**Sn**	**23 42 06.9**	**-0.6**	EAST				*e*	S	**Sn**	**23 42 30.0**	**0.0**
	baz=300									baz=185									baz=191							
LIOB					*e*	S	**Sn**	**23 42 01.7**	**+1.0**	**FULB**	**Fuli**	**1.17**	**205**	*e*	P	**Pn**	**23 41 54.4**	**+1.4**	**TAWH**	**Dawu Township**	**2.10**	**204**	*e*	P	**Pn**	**23 42 06.4**	**+1.0**
	baz=300									baz=207									baz=191							
WPL	**Puli Township**	**0.83**	**253**	*i*	P	**Pn**	**23 41 49.0**	**+0.3**	FULB				*e*	S	**Sn**	**23 42 09.4**	**+1.2**	TAWH				*e*	S	**Sn**	**23 42 27.3**	**-3.2**
	baz=244									baz=207									baz=191							
WPL					*e*	S	**Sn**	**23 42 01.5**	**+0.8**	**WCHH**	**Zhanghua**	**1.17**	**261**	⇓	P	**Pn**	**23 41 53.5**	**+0.5**	**JIJ**	**Ishigaki jima**	**2.12**	**87**		P	**Pn**	**23 42 05.8**	**+0.1**
	baz=244									baz=269																	
NSTT	**Nanjuang**	**0.84**	**296**	*i*	P	**Pn**	**23 41 49.2**	**+0.5**	WCHH				*i*	S	**Sn**	**23 42 09.5**	**+1.2**	JIJ					S	**Sn**	**23 42 30.0**	**-0.9**
	baz=298									baz=269																	
NSTT					*e*	S	**Sn**	**23 42 01.3**	**+0.5**	**WYL**	**Yuanlin Townsh**	**1.18**	**255**		P	**Pn**	**23 41 53.5**	**+0.4**	**SCZT**	**Fangliau**	**2.18**	**211**	*e*	P	**Pn**	**23 42 08.3**	**+1.7**
	baz=298									baz=253									baz=214							
HGSD	**Ruisui**	**0.85**	**206**	*e*	P	**Pn**	**23 41 48.9**	**0.0**	WYL				*e*	S	**Sn**	**23 42 10.1**	**+1.7**	SCZT				*e*	S	**Sn**	**23 42 34.3**	**+1.8**
	baz=210									baz=253									baz=214							
HGSD					*e*	S	**Sn**	**23 42 01.6**	**+0.6**	**ALS**	**Alishan**	**1.20**	**231**		P	**Pn**	**23 41 54.7**	**+1.1**	**PNG**	**Penghu**	**2.19**	**252**	*e*	P	**Pn**	**23 42 06.0**	**-0.6**
	baz=210									baz=219									baz=248							
DPDB	**Guoxing**	**0.85**	**255**	⇓	*i* P	**Pn**	**23 41 49.4**	**+0.4**	ALS				*e*	S	**Sn**	**23 42 09.9**	**+0.6**	PNG				*e*	S	**Sn**	**23 42 31.3**	**-1.4**
	baz=247									baz=219									baz=248							
DPDB					*e*	S	**Sn**	**23 42 02.5**	**+1.3**	**CHKT**	**Chengkung**	**1.23**	**200**	*e*	P	**Pn**	**23 41 54.3**	**+0.5**	**PHUB**	**P'eng-hu**	**2.19**	**251**	*e*	P	**Pn**	**23 42 06.2**	**-0.4**
	baz=247									baz=186									baz=246							
WCS	**Beigang Elemen**	**0.86**	**256**	*e*	P	**Pn**	**23 41 49.4**	**+0.3**	CHKT				*e*	S	**Sn**	**23 42 08.2**	**-1.5**	PHUB				*e*	S	**Sn**	**23 42 31.8**	**-1.0**
	baz=249									baz=186									baz=246							
WCS					*e*	S	**Sn**	**23 42 02.7**	**+1.4**	**CHN5**	**Tsauling**	**1.24**	**238**		P	**Pn**	**23 41 55.0**	**+1.0**	**LYUB**	**Lan-yu**	**2.26**	**186**	*e*	P	**Pn**	**23 42 06.8**	**-0.8**
	baz=249									baz=225									baz=177							
NTY	**Taoyuan**	**0.88**	**327**	*e*	P	**Pn**	**23 41 49.5**	**+0.3**	CHN5				*e*	S	**Sn**	**23 42 11.1**	**+1.0**	LYUB				*e*	S	**Sn**	**23 42 29.9**	**-4.5**
	baz=331									baz=225									baz=177							
NTY				*i*	S	**Sn**	**23 42 02.7**	**+1.1**	**EHD**	**Haiduan**	**1.25**	**207**	⇑	P	**Pn**	**23 41 54.1**	**+0.1**	**VWUC**	**VWUC**	**2.28**	**289**	*e*	P	**Pn**	**23 42 06.8**	**-1.1**
	baz=331									baz=207									baz=291							
EHY	**Hungye**	**0.88**	**212**	⇑	*e* P	**Pn**	**23 41 50.1**	**+0.8**	EHD				*e*	S	**Sn**	**23 42 10.0**	**-0.1**	VWUC				*e*	S	**Sn**	**23 42 32.6**	**-2.3**
	baz=206									baz=207									baz=291							
EHY					*e*	S	**Sn**	**23 42 02.2**	**+0.4**	**ECS**	**Chishang**	**1.29**	**206**	*e*	P	**Pn**	**23 41 55.3**	**+0.7**	**JISG**	**Ishigakijimahi**	**2.29**	**81**		P	**Pn**	**23 42 08.6**	**+0.6**
	baz=206									baz=207																	
TNOU	**National Taiwa**	**0.89**	**357**	*e*	P	**Pn**	**23 41 49.5**	**+0.1**	ECS				*e*	S	**Sn**	**23 42 11.9**	**+0.8**	JISG					S	**Sn**	**23 42 34.5**	**-0.5**
	baz=350									baz=207																	
TNOU				*i*	S	**Sn**	**23 42 02.6**	**+0.8**	**WGK**	**Gukeng**	**1.29**	**244**	*e*	P	**Pn**	**23 41 55.6**	**+1.1**	**MATB**	**Ma-tsu**	**2.54**	**318**	*e*	P	**Pn**	**23 42 10.1**	**-1.3**
	baz=350									baz=240									baz=320							
HSN1	**Hsinchu**	**0.90**	**305**	*i*	P	**Pn**	**23 41 49.9**	**+0.4**	WGK				*e*	S	**Sn**	**23 42 13.7**	**+2.7**	**MSUT**	**Lienchiang**	**2.56**	**318**	*e*	P	**Pn**	**23 42 10.6**	**-1.1**
	baz=308									baz=240									baz=322							
HSN1					*e*	S	**Sn**	**23 42 03.8**	**+1.8**	**ELDTW**	**Lidau**	**1.30**	**215**	*e*	P	**Pn**	**23 41 54.9**	**0.0**	MSUT				*e*	S	**Sn**	**23 42 39.4**	**-2.4**
	baz=308									baz=203									baz=322							
YM01	**YM01**	**0.91**	**345**	⇓	*i* P	**Pn**	**23 41 49.6**	**-0.1**	ELDTW				*e*	S	**Sn**	**23 42 11.7**	**+0.2**	**PTMZ**	**Houxiangcun**	**2.58**	**288**	*e*	P	**Pn**	**23 42 10.7**	**-1.2**
	baz=340									baz=203									baz=290							
YM01					*e*	S	**Sn**	**23 42 02.5**	**+0.1**	**WDLH**	**Douliu**	**1.31**	**244**	*e*	P	**Pn**	**23 41 54.6**	**-0.2**	**JTJ**	**Tarama**	**2.65**	**81**	S		**Sn**	**23 42 43.4**	**-0.4**
	baz=340									baz=241																	
NCU	**National Centr**	**0.91**	**321**	*e*	P	**Pn**	**23 41 49.9**	**+0.2**	WDLH				*e*	S	**Sn**	**23 42 12.7**	**+1.2**	**LYJJ**	**Jianjiangzhen**	**2.95**	**321**	*e*	P	**Pn**	**23 42 15.9**	**-1.0**
	baz=325									baz=241									baz=326							
NCU					*e*	S	**Sn**	**23 42 03.1**	**+0.7**	**EDH**	**Donghe**	**1.37**	**201**	*e*	P	**Pn**	**23 41 53.6**	**-2.1**	LYJJ				*e*	S	**Sn**	**23 42 49.0**	**-2.1**
	baz=325									baz=196									baz=326							
NCUH	**Zhongli**	**0.91**	**320**	⇑	*i* P	**Pn**	**23 41 49.9**	**+0.1**	EDH				*e*	S	**Sn**	**23 42 10.9**	**-2.0**	**XPSS**	**Dashiqiu**	**3.04**	**331**	*e*	P	**Pn**	**23 42 17.2**	**-0.9**
	baz=324									baz=196									baz=336							
																		XPSS				*e*	S	**Sn**	**23 42 51.5**	**-1.9**
																			baz=336							
																		KNM	**Kinmen**	**3.10**	**274**	*e*	P	**Pn**	**23 42 19.6**	**+0.6**
																			baz=275							
																		MHZQ	**Yeshan**	**3.12**	**306**	*e*	P	**Pn**	**23 42 18.3**	**-1.0**
																			baz=309							
																		KNMB	**Chin-men Tao**	**3.14**	**274**	*e*	P	**Pn**	**23 42 18.2**	**-1.4**
																			baz=275							
																		AXDP	**Jialang**	**3.57**	**281**	*e*	P	**Pn**	**23 42 24.3**	**-1.1**
																			baz=283							
																		ZPLA	**Ao Xicun**	**3.74**	**266**	*e*	P	**Pn**	**23 42 26.7**	**

baz=303

*IDC **28** 23:44:43.9±0.7,4˙46S×143˙80E,h89km±5km, mb3.5/9, mbtmp3.9/12, Error ellipse: s-maj=27.5km s-min=15.4km az=81.0*

*NEIC **28** 23:44:46.8±1.4,4˙5S±0˙1×143˙86E±0˙07,h108km±9km, mb4.1/15, Error ellipse: s-maj=18.1km s-min=6.5km az=204.0*

ISC 28 23:44:44.6±0.5,**4˙46S**±0˙07×**143˙85E**±0˙10,**h100**km,**n36,** σ1§**80**/44,**mb4.0**/13,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91**	**146**	Pn		**Pn**		**23 46 09.8**	**+0.1**
PMG	**Port Moresby**	**5.91**	**146**	P		**Pn**		**23 46 09.4**	**-0.3**
	32nm,0.7s,baz=20,slow=9.5,SNR=8.9								
PMG				S		**Sn**		**23 47 13.7**	**-2.4**
	14nm,0.4s,baz=139,slow=20,SNR=1.4								
COEN	**Coen**	**9.46**	**184**	Pn		**Pn**		**23 46 59.6**	**+1.5**
CTA	**Charters Tower**	**15.71**	**172**	P		**Pn**		**23 48 22.0**	**+1.7**
	10nm,1.1s,baz=359,slow=16,SNR=3.5								
CTAO	**Charters Tower**	**15.71**	**172**	P		**Pn**		**23 48 23.1**	**+2.7**
CTAO				IAmb		IAmb		23 48 26.1	
	comp=Z,19nm,1.2s								
HNR	**Honiara**	**16.72**	**108**	P		**Pn**		**23 48 32.3**	**-0.7**
	comp=Z,3μm,0.7s,baz=227,slow=18,SNR=1.6								
WB0	**Warramunga Arr**	**17.79**	**210**			**P**		**23 48 45.9**	**+0.6**
WB0				IAmb		IAmb		23 49 21.1	
	comp=Z,24nm,1.4s								
WR0	**Warramunga Arr**	**17.88**	**210**			**P**		**23 48 46.5**	**+0.2**
WR0				IAmb		IAmb		23 49 26.7	
	comp=Z,30nm,1.4s								
WB2	**Warramunga Arr**	**17.96**	**210**			**P**		**23 48 47.3**	**+0.2**
WB2				IAmb		IAmb		23 48 55.8	
	comp=Z,9.3nm,1.1s								
WRA	**Warramunga Arr**	**17.96**	**210**			**P**		**23 48 46.7**	**-0.6**
WRA	**Warramunga Arr**	**17.96**	**210**	P		**P**		**23 48 46.9**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=28,slow=12,SNR=33								
WRA				S		**S**		**23 52 00.6**	**-7.8**
	comp=Z,2.5nm,0.9s,baz=30,slow=23,SNR=5.6								
AS31	**Alice Springs**	**21.37**	**206**	P		**P**		**23 49 24.4**	**+0.3**
ASAR	**Alice Springs**	**21.37**	**206**	P		**P**		**23 49 25.0**	**+0.8**
ASAR	**Alice Springs**	**21.37**	**206**	P		**P**		**23 49 23.6**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=33,slow=10,SNR=10								
	comp=Z,0.9nm,0.6s								
FITZ	**Fitzroy Crossi**	**22.38**	**231**	P		**P**		**23 49 36.1**	**+1.2**
FITZ				IAmb		IAmb		23 49 39.3	
	comp=Z,10.0nm,1.4s								
TOLI2	**Tolitoli**	**23.70**	**283**	P		**P**		**23 49 48.5**	**+0.9**
TOLI2				IAmb		IAmb		23 50 13.8	
	comp=Z,6.0nm,0.8s								
BBOO	**Buckleboo**	**29.13**	**194**	P		**P**		**23 50 37.1**	**+0.9**
TUWZ	**Tuamarina**	**45.61**	**148**	P		**P**		**23 52 54.8**	**-0.1**
TCW	**Tory Channel**	**45.63**	**148**	P		**P**		**23 52 55.7**	**+0.6**
BSWZ	**Blackbirch Sta**	**45.78**	**148**	P		**P**		**23 52 56.3**	**+0.1**
BFZ	**Birch Farm**	**46.34**	**146**	P		**P**		**23 53 02.0**	**+1.3**
PLWZ	**Palliser**	**46.40**	**147**	P		**P**		**23 53 02.3**	**+1.1**
PETK	**Petropavlovsk-**	**58.53**	**10**	P		**P**		**23 54 32.0**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=158,slow=7.4,SNR=6.5								
	comp=Z,1.1nm,0.5s								
SONM	**Songino Array**	**61.56**	**332**	P		**P**		**23 54 52.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=156,slow=7.3,SNR=2.6								
	comp=Z,0.2nm,0.3s								
VNDA	**Vanda**	**73.64**	**176**	P		**P**		**23 56 08.0**	**+1.3**
VNDA				IAmb		IAmb		23 56 09.7	
	comp=Z,6.5nm,1.5s								
MK31	**Makanchi Array**	**74.33**	**321**	P		**P**		**23 56 11.8**	**+0.5**
MKAR	**Makanchi Array**	**74.33**	**321**	P		**P**		**23 56 12.9**	**+1.5**
MKAR	**Makanchi Array**	**74.33**	**321**	P		**P**		**23 56 11.8**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=102,slow=8.2,SNR=6.6								
MKAR				pP		**pP**		**23 56 35.2**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=110,slow=7.0,SNR=7.4								
MKAR				sP		**sP**		**23 56 45.0**	**-2.7**
	comp=Z,0.6nm,0.7s,baz=117,slow=6.9,SNR=3.4								
	comp=Z,0.2nm,0.4s								
MAKZ	**Makanchi**	**74.53**	**321**	P		**P**		**23 56 14.0**	**+1.4**
MAKZ				IAmb		IAmb		23 56 37.8	
	comp=Z,2.5nm,1.0s								
ZALV	**Zalesovo Beam**	**76.06**	**329**	P		**P**		**23 56 21.6**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=120,slow=8.8,SNR=4.5								
ZALV				pP		**pP**		**23 56 43.8**	**-2.9**
	comp=Z,0.8nm,0.6s,baz=90,slow=5.9,SNR=2.8								
	comp=Z,0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**78.13**	**324**	P		**P**		**23 56 32.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=106,slow=6.4,SNR=3.2								
KURBB				pP		**pP**		**23 56 56.6**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=111,slow=6.8,SNR=4.1								
	comp=Z,0.3nm,0.8s								
BVAR	**Borovoye Array**	**83.69**	**324**	P		**P**		**23 57 01.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=104,slow=7.1,SNR=5.2								
BVAR				pP		**pP**		**23 57 26.6**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=95,slow=7.1,SNR=6.9								
	comp=Z,0.8nm,0.6s								
ILAR	**Eielson Array**	**85.33**	**24**	P		**P**		**23 57 09.8**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=246,slow=4.4,SNR=4.6								
ILAR				pP		**pP**		**23 57 34.0**	**-2.4**
	comp=Z,0.5nm,0.7s,baz=257,slow=4.9,SNR=4.0								
	comp=Z,0.3nm,0.8s								
QSPA	**South Pole Qui**	**85.50**	**180**	P		**P**		**23 57 12.4**	**+1.2**
QSPA				IAmb		IAmb		23 57 45.2	
	comp=Z,2.1nm,0.8s								
QSPA	**South Pole Qui**	**85.50**	**180**	P		**P**		**23 57 12.3**	**+1.0**
	comp=Z,2.7nm,0.5s,baz=297,slow=1.2,SNR=17								
	comp=Z,2.7nm,0.5s								
VRDI	**Verde Repeater**	**85.65**	**28**	P		**P**		**23 57 11.9**	**-0.3**

*VAO **28** 23:53:03.3±0.3,31˙47S×69˙21W,h10km, mb5.3*

*NEIC **28** 23:53:14.1,31˙27S×68˙67W,h90km*

*NEIC **28** 23:53:14.1,31˙27S×68˙67W,h90km, Moment Tensor Solution. Duration: 2§5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32; $M_{\theta\theta}$1.06; $M_{\phi\phi}$0.26; $M_{r\theta}$0.05; $M_{\theta\phi}$0.71; $M_{r\phi}$0.28; Fault plane solution: $M_0$1.43000×10^{17} NP1: ϕ_s229.77000°,δ49.75000°,λ-103.37000°. NP2: ϕ_s69.97000°,δ42.05000°,λ-74.73000°. Principal axes: T 1.4895, Plg4.0000°, Azm329.0000°; N -0.1217, Plg10.0000°, Azm239.0000°; P -1.3678, Plg79.0000°, Azm80.0000°;*

*NEIC **28** 23:53:14.0±2.1,31˙27S±0˙05×68˙67W±0˙07,h87km±3km, mb5.6/669,Mww5.4/33 Error ellipse: s-maj=8.9km s-min=6.6km az=85.0*

*IDC **28** 23:53:15.5±0.3,31˙18S×68˙68W,h106km±2km, mb5.1/20, mbtmp5.4/23,MS4.1/21,Error ellipse: s-maj=12.3km s-min=9.2km az=80.0*

*GUC **28** 23:53:15.8±0.8,31˙27S×69˙27W,h183km±8km,ML5.5*

*SJA **28** 23:53:15.1±1.1,31˙30S×68˙82W,h110km±3km,ML5.4, MW5.3*

*GCMT **28** 23:53:19.0±0.1,31˙25S±0˙01×68˙78W±0˙01,h120km, MW5.4/135, Moment Tensor Solution. s123,c184; s135,c221; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.30±.02; $M_{\theta\theta}$0.78±.03; $M_{\phi\phi}$0.52±.03; $M_{r\theta}$-0.18±.02; $M_{\theta\phi}$0.75±.02; $M_{r\phi}$0.19±.02; Best double couple: $M_0$1.38400×10^{17} NP1:ϕ_s61.00000°,δ47.00000°, λ-74.00000°. NP2:ϕ_s218.00000°,δ46.00000°, λ-107.00000°. Principal axes: T 1.4130, Plg0.0000°, Azm140.0000°; N -0.0520, Plg12.0000°, Azm230.0000°; P -1.3550, Plg78.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 23:53:15.4±0.3,**31˙27S**±0˙03×**68˙84W**±0˙03,**h107**km±2km, **h108**km:**pP-P,n1442,**σ1§**15**/1403,**mb5.6**/343,**36C-19D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.32**	**100**		*eP*		**Pn**	**23 53 31.6**	**+0.6**
RTLL					*i* S		**Sn**	**23 53 43.6**	**+0.8**
SJA	**San Juan**	**0.35**	**136**		*eP*		**Pn**	**23 53 31.8**	**+0.6**
SJA					*eS*		**Sn**	**23 53 43.6**	**+0.6**
SJA					IAML			23 54 00.6	
	comp=Z,64μm,1.3s								
DOCA	**Reserva Natura**	**0.38**	**328**		*eP*		**Pn**	**23 53 32.4**	**+0.6**
DOCA					*eS*		**Sn**	**23 53 45.1**	**+1.1**
RTCV	**Cerro Valdivia**	**0.64**	**156**		*eP*		**Pn**	**23 53 33.5**	**+0.3**
RTLS	**Leoncito**	**0.65**	**216**		*eP*		**Pn**	**23 53 34.5**	**+1.0**
RTLS					*i* S		**Sn**	**23 53 48.3**	**+1.3**
RTLS					IAML			23 53 52.0	
	comp=Z,130μm,0.4s								
ACCO	**Cerro Coronel**	**0.71**	**344**		*eP*		**Pn**	**23 53 35.1**	**+1.1**
ACDV	**Cuesta del Vie**	**1.12**	**348**		*eP*		**Pn**	**23 53 39.2**	**+1.3**
ACDV					*i* S		**Sn**	**23 53 56.9**	**+2.0**
ACDV					IAML			23 53 57.2	
	comp=Z,38μm,0.7s								
AROD	**Rodeo**	**1.23**	**334**		*eP*		**Pn**	**23 53 40.7**	**+1.4**
ASAL	**Salagasta**	**1.31**	**180**		*eP*		**Pn**	**23 53 41.1**	**+1.1**
AVFE	**Valle Fertil**	**1.34**	**63**		*eP*		**Pn**	**23 53 41.1**	**+0.8**
AVFE					*eS*		**Sn**	**23 53 59.9**	**+0.8**
AVFE					IAML			23 54 01.5	
	comp=Z,30μm,0.4s								
ARCO	**CERRO ARCO**	**1.57**	**183**		*eP*		**Pn**	**23 53 44.4**	**+1.3**
ARCO					*eS*		**Sn**	**23 54 04.8**	**+0.8**
ARCO					IAML			23 54 07.3	
	comp=Z,66μm,0.9s								
CO03	**El Pedregal**	**1.64**	**285**				**Pn**	**23 53 45.3**	**+1.4**
CO03						Sn	**Sn**	**23 54 06.0**	**+0.5**
CO03	**El Pedregal**	**1.64**	**285**		*eP*		**Pn**	**23 53 45.2**	**+1.4**
CO03					*eS*		**Sn**	**23 54 08.1**	**+2.5**
CO03					IAML			23 54 08.9	
	comp=Z,36μm,0.3s								
CO03	**El Pedregal**	**1.64**	**285**	⇑	*iP*		**Pn**	**23 53 45.4**	**+1.5**
CO03					*i* S		**Sn**	**23 54 07.5**	**+1.9**
CO01	**Juntas del Tor**	**1.68**	**320**				**Pn**	**23 53 45.2**	**+0.6**
CO01						Sn	**Sn**	**23 54 07.2**	**+0.6**
CO01	**Juntas del Tor**	**1.68**	**320**		*eP*		**Pn**	**23 53 46.5**	**+2.0**
CO01	**Juntas del Tor**	**1.68**	**320**	⇑	*iP*		**Pn**	**23 53 46.8**	**+2.2**
CO01					*i* S		**Sn**	**23 54 07.3**	**+0.6**
CO01					IAML			23 54 11.2	
	comp=N,24μm,0.5s								
AGUA	**GUANDACOL**	**1.81**	**10**		*eP*		**Pn**	**23 53 47.6**	**+1.6**
AGUA					*eS*		**Sn**	**23 54 10.7**	**+1.5**
AGUA					IAML			23 54 15.5	
	comp=Z,29μm,0.4s								
AAGR	**Agrelo**	**1.81**	**180**		*eP*		**Pn**	**23 53 47.1**	**+1.1**
CO02	**Combarbal**	**1.85**	**272**			Pn	**Pn**	**23 53 47.7**	**+1.2**
CO02						Sn	**Sn**	**23 54 11.7**	**+1.5**
CO02	**Combarbal**	**1.85**	**272**		*eP*		**Pn**	**23 53 47.5**	**+1.0**
CO02					*eS*		**Sn**	**23 54 12.3**	**+2.1**
CO02					IAML			23 54 13.5	
	comp=Z,68μm,0.8s								
CO02	**Combarbal**	**1.85**	**272**	⇑	*iP*		**Pn**	**23 53 47.6**	**+1.2**
CO02					*i* S		**Sn**	**23 54 11.5**	**+1.4**
ACHE	**Chepes**	**1.87**	**87**		*eP*		**Pn**	**23 53 47.6**	**+0.8**
GO04	**Tololo Observa**	**2.01**	**303**				**Pn**	**23 53 49.5**	**+0.9**
GO04						Sn	**Sn**	**23 54 15.4**	**+1.4**
GO04	**Tololo Observa**	**2.01**	**303**		*eP*		**Pn**	**23 53 49.5**	**+0.9**
GO04					*eS*		**Sn**	**23 54 16.3**	**+2.3**
GO04	**Tololo Observa**	**2.01**	**303**	⇑	*iP*		**Pn**	**23 53 49.6**	**+0.9**
GO04					*i* S		**Sn**	**23 54 15.2**	**+1.1**
VA03	**San Esteban**	**2.08**	**224**			Pn	**Pn**	**23 53 50.5**	**+1.1**
VA03						Sn	**Sn**	**23 54 17.2**	**+1.9**
VA03	**San Esteban**	**2.08**	**224**		*eP*		**Pn**	**23 53 50.0**	**+0.7**
VA03					IAML			23 54 23.8	
	comp=Z,20μm,0.8s								
VA03	**San Esteban**	**2.08**	**224**		*eP*		**Pn**	**23 53 50.6**	**+1.3**
VA03					*i* S		**Sn**	**23 54 17.4**	**+2.1**
VA03					IAML			23 54 18.7	
	comp=N,39μm,0.4s								
AVIZ	**Vizcacheras**	**2.21**	**173**		*eP*		**Pn**	**23 53 52.3**	**+1.2**
FCH	**Farellones**	**2.39**	**210**	⇑	*iP*		**Pn**	**23 53 55.2**	**+1.7**
MT04	**Ro Olivares**	**2.39**	**207**	⇑	*iP*		**Pn**	**23 53 55.3**	**+1.8**
MT04					*i* S		**Sn**	**23 54 25.8**	**+3.0**
PEL	**Peldehue**	**2.43**	**219**				**Pn**	**23 53 54.3**	**+0.4**
PEL						Sn	**Sn**	**23 54 21.4**	**-2.0**
PEL	**Peldehue**	**2.43**	**219**		*eP*		**Pn**	**23 53 54.8**	**+0.8**
PEL	**Peldehue**	**2.43**	**219**	⇑	*iP*		**Pn**	**23 53 54.6**	**+0.7**
PEL					*i* S		**Sn**	**23 54 20.6**	**-2.8**
MT10	**Hacienda Santa**	**2.46**	**215**	⇑	*iP*		**Pn**	**23 53 55.6**	**+1.3**
MT10					*i* S		**Sn**	**23 54 25.1**	**+1.0**
ACLC	**CERRO LA CRUZ**	**2.46**	**42**		*eP*		**Pn**	**23 53 55.1**	**+0.7**
ACLC					IAML			23 54 56.1	
	comp=Z,15μm,0.9s								
CO05	**La Serena**	**2.47**	**303**				**Pn**	**23 53 54.3**	**0.0**
CO05	**La Serena**	**2.47**	**303**	⇑	*iP*		**Pn**	**23 53 54.4**	**0.0**
CO05					*i* S		**Sn**	**23 54 22.9**	**-1.2**
CO05					IAML			23 54 24.9	
	comp=E,28μm,0.4s								
CO06	**Fray Jorge**	**2.47**	**283**				**Pn**	**23 53 53.7**	**-0.7**
CO06	**Fray Jorge**	**2.47**	**283**	⇑	*iP*		**Pn**	**23 53 53.7**	**-0.7**
CO06					*i* S		**Sn**	**23 54 21.5**	**-2.7**
CO06					IAML			23 54 29.4	
	comp=E,15μm,0.2s								
ROCH	**El Roble**	**2.50**	**227**	⇓	*iP*		**Pn**	**23 53 55.1**	**+0.2**
ROCH					*i* S		**Sn**	**23 54 26.2**	**+1.0**
ROCH					IAML			23 54 31.7	
	comp=N,9μm,0.4s								
MT14	**Cerro Cal¡n**	**2.56**	**214**	⇑	*iP*		**Pn**	**23 53 56.8**	**+1.2**
MT14					*i* S		**Sn**	**23 54 27.9**	**+1.6**
MT14					IAML			23 54 35.5	
	comp=N,24μm,0.5s								
MT16	**CCHEN**	**2.58**	**213**				**Pn**	**23 53 56.7**	**+0.9**
MT16	**CCHEN**	**2.58**	**213**	⇑	*iP*		**Pn**	**23 53 57.0**	**+1.2**
VCA	**Vinchina**	**2.59**	**13**		*eP*		**Pn**	**23 53 57.3**	**+1.2**
VCA					IAML			23 55 15.4	
	comp=Z,12μm,1.2s								
MT03	**Universidad Ad**	**2.62**	**212**				**Pn**	**23 53 57.0**	**+0.5**
MT03	**Universidad Ad**	**2.62**	**212**		*eP*		**Pn**	**23 53 57.5**	**+1.0**
MT03					IAML			23 54 38.4	
	comp=Z,9μm,0.7s								
MT03	**Universidad Ad**	**2.62**	**212**	⇑	*iP*		**Pn**	**23 53 57.5**	**+1.0**
MT03					*i* S		**Sn**	**23 54 28.8**	**+0.8**
MT03					IAML			23 54 35.8	
	comp=N,16μm,0.3s								
MT05	**Renca**	**2.65**	**217**		Pn		**Pn**	**23 53 57.3**	**+0.5**
MT05	**Renca**	**2.65**	**217**		*eP*		**Pn**	**23 53 57.5**	**+0.7**
MT05					IAML			23 54 33.5	
	comp=Z,11μm,1.0s								
MT05	**Renca**	**2.65**	**217**	⇑	*iP*		**Pn**	**23 53 57.5**	**+0.7**
MT05					*i* S		**Sn**	**23 54 28.7**	**+0.1**
MT15	**Las Vizcachas**	**2.71**	**211**	⇑	*iP*		**Pn**	**23 53 58.6**	**+1.0**
MT15					*i* S		**Sn**	**23 54 30.8**	**+0.8**
MT15					IAML			23 54 42.7	
	comp=N,20μm,0.4s								
AC05	**El Transito**	**2.73**	**333**		Pn		**Pn**	**23 53 59.6**	**+1.7**
AC05	**El Transito**	**2.73**	**333**		*eP*		**Pn**	**23 53 59.6**	**+1.7**
AC05					IAML			23 55 13.2	
	comp=Z,6μm,0.8s								
AC05	**El Transito**	**2.73**	**333**	⇑	*iP*		**Pn**	**23 53 59.7**	**+1.8**
AC05					*i* S		**Sn**	**23 54 27.1**	**-3.4**
AC05					IAML			23 54 35.8	
	comp=E,14μm,0.3s								
MT13	**San Alfonso**	**2.75**	**206**				**Pn**	**23 53 59.2**	**+1.1**
MT13	**San Alfonso**	**2.75**	**206**	⇑	*iP*		**Pn**	**23 53 59.2**	**+1.1**
MT13					*i* S		**Sn**	**23 54 29.3**	**-1.7**
MT13					IAML			23 54 42.8	
	comp=E,8μm,0.4s								
LCO	**Las Campanas**	**2.77**	**324**				**Pn**	**23 53 59.2**	**+0.7**
LCO	**Las Campanas**	**2.77**	**324**		*eP*		**Pn**	**23 53 59.3**	**+0.7**
LCO					IAML			23 55 04.1	
	comp=Z,20μm,1.0s								
LCO	**Las Campanas**	**2.77**	**324**	⇑	*iP*		**Pn**	**23 53 59.1**	**+0.5**
LCO					*i* S		**Sn**	**23 54 30.2**	**-1.5**
MT02	**Curacav**	**2.77**	**224**				**Pn**	**23 53 58.0**	**-0.3**
MT02	**Curacav**	**2.77**	**224**		*eP*		**Pn**	**23 53 58.0**	**-0.3**
MT02					IAML			23 55 05.5	
	comp=Z,5μm,0.7s								
MT02	**Curacav**	**2.77**	**224**	⇑	*iP*		**Pn**	**23 53 58.0**	**-0.3**
MT02					*i* S		**Sn**	**23 54 28.7**	**-2.7**
LMEL	**Las Melosas**	**2.81**	**204**				**Pn**	**23 53 59.9**	**+0.9**
LMEL	**Las Melosas**	**2.81**	**204**	⇑	*iP*		**Pn**	**23 54 00.1**	**+1.1**
MT12	**Pirque**	**2.84**	**210**	⇑	*iP*		**Pn**	**23 54 00.2**	**+0.9**
MT12					*i* S		**Sn**	**23 54 32.4**	**-0.8**
AANI	**Anillaco**	**2.96**	**34**		*eP*		**Pn**	**23 54 03.1**	**+2.2**
MT09	**Talagante**	**3.08**	**215**				**Pn**	**23 54 02.3**	**-0.3**
MT09	**Talagante**	**3.08**	**215**	⇑	*iP*		**Pn**	**23 54 02.3**	**-0.3**
MT09					*i* S		**Sn**	**23 54 33.4**	**-5.6**
BO04	**La Punta**	**3.09**	**208**				**Pn**	**23 54 02.7**	**+0.1**
BO04	**La Punta**	**3.09**	**208**	⇑	*iP*		**Pn**	**23 54 03.4**	**+0.8**
MT01	**Popeta**	**3.29**	**218**				**Pn**	**23 54 04.1**	**-1.0**
MT01	**Popeta**	**3.29**	**218**		*eP*		**Pn**	**23 54 04.5**	**-0.6**
MT01	**Popeta**	**3.29**	**218**	⇑	*iP*		**Pn**	**23 54 04.2**	**-1.0**
MT01					*i* S		Sn	23 54 34.5	-9.1
VA05	**Santo Domingo**	**3.34**	**224**				**Pn**	**23 54 04.9**	**-0.9**
VA05	**Santo Domingo**	**3.34**	**224**		*eP*		**Pn**	**23 54 04.8**	**-1.0**
VA05					*i* S		**Sn**	**23 54 36.3**	**-8.4**
TINO	**Tinogasta**	**3.39**	**19**		*eP*		**Pn**	**23 54 08.2**	**+1.5**
RFA	**San Rafael**	**3.50**	**175**		*eP*		**Pn**	**23 54 08.0**	**-0.1**
RFA					IAML			23 55 12.4	
	comp=Z,8μm,0.5s								
AC04	**Llanos de Chal**	**3.62**	**327**				**Pn**	**23 54 09.3**	**-0.4**
AC04	**Llanos de Chal**	**3.62**	**327**		*eP*		**Pn**	**23 54 09.2**	**-0.4**
AC04					IAML			23 55 22.1	
	comp=Z,6μm,0.7s								
AC04	**Llanos de Chal**	**3.62**	**327**	⇑	*iP*		**Pn**	**23 54 09.3**	**-0.4**
BO01	**Tunca**	**3.64**	**211**		Pn		**Pn**	**23 54 08.9**	**-0.9**
BO01	**Tunca**	**3.64**	**211**		*eP*		**Pn**	**23 54 08.8**	**-0.9**
BO01					*i* S		Sn	23 54 40.7	-11
BO01	**Tunca**	**3.64**	**211**	⇑	*iP*		**Pn**	**23 54 08.9**	**-0.9**
TCA	**Tanti**	**3.64**	**92**		*eP*		**Pn**	**23 54 10.0**	**+0.1**
TCA					*eSA*			23 54 51.4	
TCA					IAML			23 55 08.4	
	comp=Z,10μm,1.0s								
GO03	**Copiap**	**3.86**	**341**				**Pn**	**23 54 13.2**	**+0.2**
GO03	**Copiap**	**3.86**	**341**		*eP*		**Pn**	**23 54 13.7**	**+0.7**
BO02	**Sierra Bellavi**	**3.87**	**204**				**Pn**	**23 54 13.1**	**+0.1**
BO02	**Sierra Bellavi**	**3.87**	**204**		*eP*		**Pn**	**23 54 13.3**	**+0.3**
BO02					*i* S		Sn	23 54 44.3	-13
BO02	**Sierra Bellavi**	**3.87**	**204**	⇑	*iP*		**Pn**	**23 54 13.2**	**+0.1**
BO03	**Pichilemu**	**4.15**	**218**		*eP*		**Pn**	**23 54 14.0**	**-2.7**
EDS3	**Malargue**	**4.51**	**186**		*i* P		**Pn**	**23 54 21.9**	**+0.2**
GO05	**Huala**	**4.54**	**214**				**Pn**	**23 54 19.5**	**-2.4**
ML02	**Panimavida**	**4.97**	**205**				**Pn**	**23 54 26.1**	**-1.7**
AC01	**Pan de Azucar**	**5.33**	**343**		Pn		**Pn**	**23 54 32.2**	**-0.5**
AC01	**Pan de Azucar**	**5.33**	**343**		*i* P		**Pn**	**23 54 32.3**	**-0.5**
AC01					*i* S		Sn	23 55 55.7	+23
AC01					IAML			23 56 05.5	
	comp=Z,2μm,1.6s								
GO02	**Mina Guanaco**	**6.12**	**354**		Pn		**Pn**	**23 54 43.2**	**-0.6**
BI05	**Punta Hualpn**	**6.54**	**212**		Pn		**Pn**	**23 54 45.3**	**-3.8**
PB14	**IPOC Station P**	**6.76**	**348**		Pn		**Pn**	**23 54 50.4**	**-2.1**
PB12	**IPOC Station P**	**7.88**	**348**		Pn		**Pn**	**23 55 04.0**	**-3.3**
PB15	**IPOC Station P**	**8.05**	**356**				**Pn**	**23 55 07.9**	**-2.0**
PB05	**IPOC Station P**	**8.47**	**351**				**Pn**	**23 55 11.6**	**-3.9**
PB06	**IPOC Station P**	**8.56**	**355**				**Pn**	**23 55 13.7**	**-2.9**
GO06	**Curarrehue**	**8.56**	**194**		Pn		**Pn**	**23 55 13.6**	**-3.0**
LVC	**Limon Verde**	**8.63**	**360**		Pn		**Pn**	**23 55 15.6**	**-2.2**
LVC	**Limon Verde**	**8.63**	**360**		P		**Pn**	**23 55 15.3**	**-2.6**
	comp=Z,141nm,0.3s,baz=188,slow=8.4,SNR=267								
LVC					S		**Sn**	**23 56 48.5**	**-5.1**
	comp=Z,240nm,0.7s,baz=218,slow=12,SNR=3.2								
VA04	**Juan Fernndez**	**8.76**	**252**				**Pn**	**23 55 18.4**	**-0.8**
TRQA	**Tornquist**	**8.82**	**142**				**Pn**	**23 55 18.7**	**-1.3**
TRQA	**Tornquist**	**8.82**	**142**		*eP*		Pn	23 55 12.4	-7.6
TICA	**Tres Isletas**	**8.87**	**59**		*eP*		**Pn**	**23 55 17.9**	**-2.8**
PB08	**IPOC Station P**	**8.98**	**352**				**Pn**	**23 55 18.2**	**-4.2**
LR05	**Currie**	**9.30**	**195**				**Pn**	**23 55 24.2**	**-2.2**
PB09	**IPOC Station P**	**9.45**	**358**				**Pn**	**23 55 26.5**	**-2.2**
PLCA	**Paso Flores**	**9.54**	**188**				**Pn**	**23 55 27.7**	**-2.1**
PLCA	**Paso Flores**	**9.54**	**188**		P		**Pn**	**23 55 28.6**	**-1.2**
	comp=Z,63nm,0.8s,baz=2.1,slow=13,SNR=170								
PB07	**IPOC Station P**	**9.55**	**354**				**Pn**	**23 55 28.2**	**-2.0**
PB02	**IPOC Station P**	**9.96**	**354**				**Pn**	**23 55 32.8**	**-2.9**
PB01	**IPOC Station P**	**10.20**	**357**				**Pn**	**23 55 36.8**	**-

comp=Z,24nm,0.9s
SNDB Serra Nova Dou 25.13 44 *e*P **P 23 58 30.3 -0.2**
DUB01 Friburgo-RJ 25.31 75 *e*P **P 23 58 32.4 +0.2**
DIAM Diamantina, MG 26.18 66 *e*P **P 23 58 40.4 +0.2**
ALF01 Guarapari-ES 27.35 74 *e*P **P 23 58 50.4 0.0**
JANB Januaria 27.64 60 *e*P **P 23 58 53.4 +0.2**
TEFE Tefe 27.90 9 *e*P **P 23 58 56.1 +0.7**
SJMB Sao Joao De Ma 27.93 70 *e*P **P 23 58 56.3 +0.6**
RIB01 Linhares ES 28.26 72 *e*P **P 23 58 58.3 -0.3**
MCRA Macar, Loja 28.73 336 PcP **PcP 00 02 10.5 -0.2**
MCRA Macar, Loja 28.73 336 *e*P P 23 58 56.0 -6.8
MACA Manacapuru-AM 29.00 17 P **P 23 59 04.1 -1.0**
MACA Manacapuru-AM 29.00 17 *e*P **P 23 59 05.4 +0.2**
ITTB Itaituba 29.47 27 *e*P **P 23 59 09.0 -0.4**
ARNL Arenillas 29.54 337 PcP 00 02 13.5 +0.8
GUA01 Guaratinga, BA 30.19 68 *e*P **P 23 59 15.9 +0.2**
COHC Cochancay 30.29 339 PcP **PcP 00 02 15.8 +1.2**
CHSH Refugio Sur-Vo 31.10 340 P **P 23 59 25.3 +0.9**
PIAT Ana Tenorio 31.41 342 *e*P **P 23 59 22.3 -4.6**
PTLC Puerto Leguiza 31.78 349 *e*P **P 23 59 26.5 -3.2**
MALB Monte Alegre 32.35 28 *e*P **P 23 59 34.7 +0.1**
OTAV Otavalo 32.64 342 PcP **PcP 00 02 22.1 +0.5**
CUSE Cuicocha Este 32.69 342 *e*P **P 23 59 38.5 +0.4**
GCUF Volcan Galeras 33.31 344 *e*P **P 23 59 43.2 -0.5**
BBAC Balboa, Cauca 34.06 345 *e*P **P 23 59 51.5 +1.7**
BETC Betania 34.34 348 *e*P **P 23 59 53.4 +1.3**
BOAV Boa Vista 34.41 15 P **P 23 59 51.8 -0.7**
POPC Popayan, Colom 34.44 346 *e*P **P 23 59 55.2 +2.1**
MCPB Macapa, AP 34.62 31 *e*P **P 23 59 55.1 +0.8**
JAMC Jamundi, Valle 35.10 346 *e*P **P 23 59 58.9 +0.2**
PRAC Prado 35.27 350 *e*P **P 23 59 59.9 -0.1**
VILC Villavicencio, 35.49 352 *e*P **P 00 00 02.6 +0.6**
ORTC Ortega, Tolima 35.51 349 *e*P **P 00 00 02.6 +0.5**
ROSC El Rosal 36.29 351 P **P 00 00 10.3 +1.2**
ROSC El Rosal 36.29 351 P **P 00 00 09.1 0.0**
comp=Z,13nm,0.7s,baz=343,slow=19,SNR=2.6
comp=Z,13nm,0.7s
PLMC San Jos del P 36.67 348 *e*P **P 00 00 13.3 +1.3**
GUY2C Guyana, Caldas 36.82 349 *e*P **P 00 00 15.6 +1.9**
SPBC San Pablo de B 37.05 351 *e*P **P 00 00 15.6 +0.4**
CBOC Ciudad Bolivar 37.56 348 *e*P **P 00 00 19.3 -0.3**
TAMC Tame, Arauca 37.60 355 *e*P P 00 00 12.8 -7.0
PTBC PUERTO BERRIO, 37.98 351 *e*P **P 00 00 19.1 -3.8**
PAMC Pamplona, Colo 38.57 354 *e*P **P 00 00 27.7 -0.8**
DBBC Dabeiba 38.72 348 *e*P **P 00 00 29.5 +0.3**
PTAC Punta Ardita, 39.15 346 *e*P **P 00 00 34.9 +2.2**
RCBR Riachuelo 39.91 57 LR LR 00 19 06.5
comp=Z,264nm,19.6s,baz=236,slow=39
RCBR Riachuelo 39.91 57 *e*P **P 00 00 39.8 +0.5**
BAUV El Baul 39.99 1 P **P 00 00 38.5 -1.3**
SJCC San Jacinto, C 41.38 351 *e*P **P 00 00 50.8 -0.4**
BCIP Isla Barro Col 41.57 344 P **P 00 00 52.4 -0.2**
BCIP IAmb IAmb 00 00 55.4
comp=Z,89nm,1.0s
CDITO Canoas 41.84 339 P **P 00 00 57.2 +2.3**
CDITO IAmb IAmb 00 00 58.5
comp=Z,113nm,1.3s
BRU2 Volcan 41.99 339 P **P 00 00 58.1 +1.8**
BRU2 IAmb IAmb 00 01 00.5
comp=Z,102nm,1.2s
DRK0 Durika 42.60 339 P **P 00 01 01.3 0.0**
DRK0 IAmb IAmb 00 01 04.5
comp=Z,144nm,1.1s
PEZE Perez Zeledon, 42.85 338 P **P 00 01 02.5 -0.7**
RIMA Rio Macho 43.27 338 P **P 00 01 08.6 +1.9**
LCR2 La Lucha 2 43.29 338 P **P 00 01 07.7 +0.8**
JACO JACO, Garabito 43.44 337 P **P 00 01 08.4 +0.7**
HDC Heredia 43.57 338 P **P 00 01 11.2 +2.2**
HDC IAmb IAmb 00 01 12.9
comp=Z,80nm,1.0s
HDC Heredia 43.57 338 *e*P **P 00 01 09.3 +0.2**
GRGR Grenville 43.70 10 P **P 00 01 09.2 -0.7**
SOCE Pocosol 44.09 337 P **P 00 01 14.7 +1.6**
SOCE IAmb IAmb 00 01 16.9
comp=Z,142nm,1.1s
DUNO Dulce Nombre, 44.11 336 P **P 00 01 14.0 +0.8**
JTS Las Juntas de 44.12 337 P **P 00 01 14.5 +1.2**
JTS Las Juntas de 44.12 337 *e*P **P 00 01 14.9 +1.6**
JTS Las Juntas de 44.12 337 P **P 00 01 15.6 +2.3**
ARE1 Arenal 1 44.20 337 P **P 00 01 14.7 +0.8**
ARE1 IAmb IAmb 00 01 17.7
comp=Z,137nm,1.5s
COVE Coope Vega, Sa 44.34 338 P **P 00 01 16.8 +1.8**
COVE IAmb IAmb 00 01 18.1
comp=Z,131nm,0.9s
ORTG Ortega, Santa 44.36 336 P **P 00 01 16.5 +1.3**
ORTG IAmb IAmb 00 01 18.6
comp=Z,83nm,1.0s
HZTE Horizontes, Gu 44.73 336 P **P 00 01 19.6 +1.5**
HZTE IAmb IAmb 00 01 21.9
comp=Z,157nm,1.0s
BIM Bigot 46.13 10 P **P 00 01 28.1 -1.1**
FDF Fort de France 46.34 10 P **P 00 01 30.1 -0.7**
BOAB BOACO BROADBAN 46.38 337 P **P 00 01 30.6 -0.4**
MATN Matagalpa 46.81 337 P **P 00 01 36.3 +1.0**
TGUH Tegucigalpa,Un 48.42 336 P **P 00 01 47.9 +0.9**
TGUH Tegucigalpa,Un 48.42 336 *e*P **P 00 01 45.5 -1.5**
SNET Serv Nac Est T 48.80 333 P **P 00 01 51.1 +1.2**
SEUS St. Eustatius 48.81 7 P **P 00 01 50.6 +0.7**
SABA Saba 48.91 7 P **P 00 01 49.9 -0.7**
MLPR Magueyes Islan 48.99 2 P **P 00 01 49.2 -2.0**
IGPR InterUniversit 49.03 3 P **P 00 01 51.0 -0.5**
OBIP Obispado Ponce 49.08 3 P **P 00 01 50.6 -1.3**
CELP Cerrillos 49.11 3 P **P 00 01 51.2 -1.0**
BELA Belgrano 2 49.11 171 P **P 00 01 51.9 +0.4**
BELA IAmb IAmb 00 01 53.8
comp=Z,94nm,0.9s
SJG San Juan 49.17 3 P **P 00 01 51.4 -1.2**
SJG pP **pP 00 02 17.8 -0.6**
SJG sP **sP 00 02 30.1 -0.5**
MTO3 Montecristo 49.50 333 P **P 00 01 56.8 +1.4**
MTO3 IAmb IAmb 00 01 57.8
comp=Z,45nm,0.9s
PAPH Port-au-Prince 49.62 356 P **P 00 01 55.9 -0.1**
ESQI Esquipulas 49.64 334 P **P 00 01 57.7 +1.3**
ESQI IAmb IAmb 00 01 59.1
comp=Z,96nm,1.0s
SDDR Presa de Saban 50.02 357 P **P 00 02 00.2 +1.1**
VNA3 Neumayer Olymp 50.90 159 ⇓P **P 00 02 05.9 +0.8**
comp=Z,5.4nm,0.8s
VNA1 Neumayer--Stat 51.16 158 ⇓P **P 00 02 08.2 +1.2**
VNA2 Neumayer--Watz 51.38 158 ⇓P **P 00 02 10.3 +0.7**
comp=Z,93nm,0.7s,baz=287,slow=8.0
PETF Flores 52.00 334 P **P 00 02 14.4 +0.6**
PETF IAmb IAmb 00 02 15.9
comp=Z,128nm,1.1s
CCIG Comitan 52.31 331 P **P 00 02 16.6 +0.2**
CCIG IAmb IAmb 00 02 18.4
comp=Z,86nm,1.4s
SNAA Sanae 53.12 159 P **P 00 02 21.8 +0.3**
SNAA Sanae 53.12 159 ⇓P **P 00 02 22.2 +0.6**
comp=Z,20nm,0.3s
SNAA Sanae 53.12 159 P **P 00 02 22.1 +0.6**
comp=Z,88nm,0.9s,baz=285,slow=6.6,SNR=80
comp=Z,88nm,0.9s
TEIG Tepich 54.50 337 P **P 00 02 32.5 +0.4**
TEIG Tepich 54.50 337 ⇓P **P 00 02 32.6 +0.5**
TEIG pP **pP 00 02 59.7 +0.8**
TEIG sP **sP 00 03 11.5 +0.4**
TROLL Troll, Antarti 54.83 159 ⇓P **P 00 02 34.9 +0.8**
comp=Z,9.4nm,0.1s
CAMR Camarioca 55.34 346 P **P 00 02 38.0 -0.1**
CAMR IAmb IAmb 00 02 39.6
comp=Z,128nm,0.9s
SOR Soroa 55.45 344 P **P 00 02 39.2 +0.3**
SOR IAmb IAmb 00 02 40.1
comp=Z,102nm,0.9s
ASCN Ascension 55.70 77 P **P 00 02 40.4 -0.6**
TLIG Tlapa 56.33 325 P **P 00 02 46.6 +1.1**
061Z Ochoppi 57.98 347 P **P 00 02 57.9 +1.2**
UNM Universidad Na 58.13 326 P **P 00 03 00.8 +2.5**
QSPA South Pole Qui 58.96 180 P **P 00 03 04.3 +1.0**
QSPA South Pole Qui 58.96 180 P **P 00 03 04.2 +1.0**
comp=Z,148nm,0.7s,baz=155,slow=2.1,SNR=327
comp=Z,148nm,0.7s
QSPA South Pole Qui 58.96 180 ⇓P **P 00 03 04.5 +1.2**
MOIG Morelia 59.42 324 P **P 00 03 07.8 +0.7**
JRQG Juriquilla Cam 59.92 325 P **P 00 03 12.2 +1.6**
DWPF Disney Wildern 60.26 347 P **P 00 03 12.2 -0.2**
baz=168
ELIB Princess Elisa 61.27 159 *d*P **P 00 03 19.5 +0.5**
comp=Z,50nm,1.1s
656A Willston 61.70 346 P **P 00 03 22.7 +0.6**
656A Willston 61.70 346 P **P 00 03 22.5 +0.3**
baz=167,SNR=5.6
ZAIG Zacatecas 62.71 325 P **P 00 03 30.7 +1.3**
456A Hilliard 62.91 347 P **P 00 03 30.5 +0.3**
456A Hilliard 62.91 347 P **P 00 03 30.4 +0.3**
baz=167
BBSR BB Station 63.42 4 P **P 00 03 33.2 -0.3**
BBSR IAmb IAmb 00 03 34.9
comp=Z,62nm,0.8s
BBSR BB Station 63.42 4 P **P 00 03 33.4 -0.1**
BBSR pP **pP 00 04 01.8 +1.3**
BBSR sP **sP 00 04 13.8 +1.4**
TIGA Tifton 63.92 346 P **P 00 03 36.9 0.0**
TIGA IAmb IAmb 00 03 37.8
comp=Z,75nm,0.8s
TIGA Tifton 63.92 346 P **P 00 03 36.8 0.0**
baz=166,SNR=7.3
TIGA Tifton 63.92 346 P **P 00 03 37.0 +0.2**
baz=166,SNR=7.3
255A Hazlehurst 64.17 347 P **P 00 03 38.8 +0.3**
255A IAmb IAmb 00 03 39.6
comp=Z,121nm,1.2s
255A Hazlehurst 64.17 347 P **P 00 03 38.3 -0.1**
baz=167
352A Blakely 64.25 345 P **P 00 03 39.3 +0.3**
352A Blakely 64.25 345 P **P 00 03 38.9 -0.1**
baz=165,SNR=17
BRAL Brewton 64.46 343 P **P 00 03 41.0 +0.6**
BRAL Brewton 64.46 343 P **P 00 03 41.0 +0.6**
baz=163,SNR=10
BRAL Brewton 64.46 343 P **P 00 03 40.9 +0.5**
baz=163,SNR=10
HBVL Hebbronville 64.62 331 P **P 00 03 43.2 +1.7**
KVTX Kingsville 64.72 332 P **P 00 03 44.4 +2.2**
KVTX Kingsville 64.72 332 P **P 00 03 44.2 +2.0**
baz=153,SNR=6.2
NHSC New Hope 64.92 350 P **P 00 03 43.8 +0.5**
NHSC New Hope 64.92 350 P **P 00 03 44.3 +1.0**
baz=169,SNR=7.7
NHSC New Hope 64.92 350 P **P 00 03 43.9 +0.6**
baz=169,SNR=7.7
154A Montrose 64.96 347 P **P 00 03 43.2 -0.4**
154A Montrose 64.96 347 P **P 00 03 43.8 +0.2**
baz=166,SNR=12
250A Grady 65.04 344 P **P 00 03 43.9 -0.2**
250A IAmb IAmb 00 03 45.1
comp=Z,95nm,0.8s
250A Grady 65.04 344 P **P 00 03 44.3 +0.2**
baz=164,SNR=14
346A Big Creek Wild 65.31 341 P **P 00 03 46.0 +0.1**
346A IAmb IAmb 00 03 47.8
comp=Z,116nm,0.8s
346A Big Creek Wild 65.31 341 P **P 00 03 46.6 +0.7**
baz=161,SNR=8.2
152A Waverly Hall 65.34 345 P **P 00 03 45.6 -0.5**
152A IAmb IAmb 00 03 46.9
comp=Z,62nm,0.9s
152A Waverly Hall 65.34 345 P **P 00 03 45.8 -0.3**
baz=165,SNR=24
HAW Hawthorne Fire 65.41 348 P **P 00 03 46.5 0.0**
baz=168,SNR=13
Y60A Bolivia 65.53 351 P **P 00 03 47.8 +0.6**
Y60A Bolivia 65.53 351 P **P 00 03 48.0 +0.8**
baz=171
Y60A P **P 00 03 48.0 +0.8**
baz=171
Y58A Scranton 65.63 350 P **P 00 03 48.4 +0.5**
Y58A Scranton 65.63 350 P **P 00 03 48.6 +0.8**
baz=170,SNR=5.3
Y58A P **P 00 03 48.6 +0.8**
baz=170,SNR=5.3
GOGA Godfrey 65.80 347 P **P 00 03 48.7 -0.4**
GOGA IAmb IAmb 00 03 49.9
comp=Z,59nm,1.1s
GOGA Godfrey 65.80 347 P **P 00 03 49.0 -0.1**
baz=166,SNR=14
GOGA Godfrey 65.80 347 P **P 00 03 48.6 -0.4**
baz=166,SNR=14
Y57A Sumter 65.85 350 P **P 00 03 49.2 -0.1**
Y57A IAmb IAmb 00 03 50.6
comp=Z,85nm,0.9s
Y57A Sumter 65.85 350 P **P 00 03 49.4 +0.2**
baz=169,SNR=7.9
Y57A P **P 00 03 49.4 +0.2**
baz=169,SNR=7.9
735A Kenedy 65.85 332 P **P 00 03 51.2 +1.9**
735A Kenedy 65.85 332 P **P 00 03 51.3 +1.9**
baz=153,SNR=12
441A DeRidder 65.87 337 P **P 00 03 51.6 +2.1**
baz=157,SNR=8.9
833A Chaparral WMA, 66.03 331 P **P 00 03 51.8 +1.3**
833A Chaparral WMA, 66.03 331 P **P 00 03 52.4 +1.8**
baz=152,SNR=50
833A Chaparral WMA, 66.03 331 P **P 00 03 52.2 +1.6**
baz=152,SNR=50
Z51A Franklin 66.07 345 P **P 00 03 50.2 -0.5**
Z51A Franklin 66.07 345 P **P 00 03 50.7 0.0**
baz=165,SNR=11
HKT Hockley 66.07 334 P **P 00 03 51.6 +0.9**
HKT IAmb IAmb 00 03 53.6
comp=Z,116nm,1.4s
HKT Hockley 66.07 334 P **P 00 03 52.2 +1.5**
baz=155
HKT Hockley 66.07 334 P **P 00 03 52.0 +1.2**
HKT pP **PcP 00 04 20.0 -0.3**
HKT sP **sP 00 04 33.1 +3.1**
X58A Rowland 66.22 351 P **P 00 03 51.9 +0.2**
X58A Rowland 66.22 351 P **P 00 03 52.0 +0.4**
baz=170,SNR=19
X58A P **P 00 03 52.0 +0.4**
baz=170,SNR=19
LRAL Lakeview Retre 66.22 343 P **P 00 03 51.7 0.0**
LRAL IAmb IAmb 00 03 52.9
comp=Z,76nm,1.1s
LRAL Lakeview Retre 66.22 343 P **P 00 03 51.8 0.0**
baz=163,SNR=16
LRAL Lakeview Retre 66.22 343 P **P 00 03 51.6 -0.2**
baz=163,SNR=16
JSC Jenkinsville 66.25 349 P **P 00 03 51.9 0.0**
JSC IAmb IAmb 00 03 53.1
comp=Z,57nm,0.9s
JSC Jenkinsville 66.25 349 P **P 00 03 51.8 0.0**
baz=168,SNR=11
SBA Scott Base 66.27 191 P **P 00 03 51.6 0.0**
SBA IAmb IAmb 00 03 54.7
comp=Z,78nm,1.4s
EF01 Eagle Ford 01 66.32 332 P **P 00 03 53.4 +1.0**
EF01 IAmb IAmb 00 03 54.0
comp=Z,60nm,0.8s
Y52A Lilburn 66.36 346 P **P 00 03 51.8 -0.8**
Y52A IAmb IAmb 00 03 53.6
comp=Z,81nm,0.9s
Y52A Lilburn 66.36 346 P **P 00 03 52.5 -0.1**
baz=166,SNR=21
Y52A P **P 00 03 52.5 -0.1**
baz=166,SNR=21
HODGE Hodges 66.37 348 P **P 00 03 52.9 +0.2**
HODGE Hodges 66.37 348 P **P 00 03 52.3 -0.3**
baz=167,SNR=7.3
146A Union 66.38 341 P **P 00 03 52.8 +0.1**
146A Union 66.38 341 P **P 00 03 53.5 +0.7**
baz=161,SNR=17
VBMS Vicksburg 66.40 340 P **P 00 03 53.7 +0.8**
VBMS Vicksburg 66.40 340 P **P 00 03 54.4 +1.5**
baz=160,SNR=17
VBMS Vicksburg 66.40 340 P **P 00 03 54.2 +1.3**
baz=160,SNR=17
BIRD Birdtown, Kers 66.47 350 P **P 00 03 53.5 +0.2**
BIRD Birdtown, Kers 66.47 350 P **P 00 03 53.7 +0.4**
baz=169,SNR=8.8
Z47A Carrollton 66.65 342 P **P 00 03 54.8 +0.4**
Z47A Carrollton 66.65 342 P **P 00 03 54.5 +0.1**
baz=162,SNR=31
HNVL Huntsville, TX 66.67 335 P **P 00 03 55.7 +1.1**
HNVL IAmb IAmb 00 03 57.5
comp=Z,134nm,1.1s
W59A Clinton 66.70 351 P **P 00 03 54.9 +0.2**
CNNC Cliffs of the 66.71 352 P **P 00 03 54.9 +0.2**
CNNC IAmb IAmb 00 03 56.4
comp=Z,79nm,0.8s
CNNC Cliffs of the 66.71 352 P **P 00 03 55.5 +0.8**
baz=171,SNR=6.3
CNNC Cliffs of the 66.71 352 P **P 00 03 55.8 +1.1**
baz=171,SNR=6.3
PAULI Pauline 66.87 348 P **P 00 03 55.6 -0.2**
PAULI IAmb IAmb 00 03 57.2
comp=Z,71nm,1.1s
PAULI Pauline 66.87 348 P **P 00 03 56.1 +0.3**
baz=168,SNR=13
Y49A Blount Mountai 66.87 344 P **P 00 03 55.9 +0.1**
Y49A IAmb IAmb 00 03 56.9
comp=Z,70nm,0.9s
Y49A Blount Mountai 66.87 344 P **P 00 03 55.7 -0.1**
baz=164,SNR=18
W57A Gilead 66.90 350 P **P 00 03 55.8 -0.2**
W57A IAmb IAmb 00 03 57.2
comp=Z,51nm,0.8s
W57A Gilead 66.90 350 P **P 00 03 56.2 +0.3**
baz=170,SNR=11
W57A P **P 00 03 56.2 +0.3**
baz=170,SNR=11
HNDO Hondo 67.04 331 P **P 00 03 58.1 +1.1**
KMSC Kings Mountain 67.10 349 P **P 00 03 56.9 -0.3**
KMSC IAmb IAmb 00 03 58.5
comp=Z,58nm,1.0s
KMSC Kings Mountain 67.10 349 P **P 00 03 57.5 +0.2**
baz=168,SNR=16
KMSC Kings Mountain 67.10 349 P **P 00 03 57.2 0.0**
baz=168,SNR=16
X51A Calhoun 67.20 346 P **P 00 03 58.0 +0.1**
X51A Calhoun 67.20 346 P **P 00 03 58.3 +0.3**
baz=165,SNR=33
X51A P **P 00 03 58.3 +0.3**
baz=165,SNR=33
BG3 Lake Jocassee 67.23 347 P **P 00 03 58.2 +0.1**
BG3 IAmb IAmb 00 03 59.5
comp=Z,57nm,1.0s
CASEE Lake Jocassee 67.23 347 P **P 00 03 58.1 0.0**
baz=167,SNR=16
VNDA Vanda 67.28 191 P **P 00 03 59.4 +1.4**
VNDA Vanda 67.28 191 P **P 00 03 59.5 +1.6**
comp=Z,25nm,0.9s,baz=139,slow=5.5,SNR=41
comp=Z,25nm,0.9s
VNDA Vanda 67.28 191 P **P 00 03 59.7 +1.7**
VNDA pP **pP 00 04 27.9 +2.4**
NATX Nacogdoches 67.29 336 P **P 00 03 59.7 +1.1**
NATX Nacogdoches 67.29 336 P **P 00 04 00.0 +1.5**
baz=156,SNR=26
NATX Nacogdoches 67.29 336 P **P 00 04 00.2 +1.6**
baz=156,SNR=26
FPAL Fort Paine 67.34 345 P **P 00 03 58.6 -0.2**
FPAL IAmb IAmb 00 03 59.9
comp=Z,66nm,0.9s
SLBS Sierra La Lagu 67.35 319 P **P 00 04 00.3 +1.2**
MBO M'Bour 67.39 56 P **P 00 03 59.8 +0.4**
V58A Windy Hill, Pi 67.41 351 P **P 00 03 58.8 -0.3**
V58A IAmb IAmb 00 04 00.5
comp=Z,53nm,0.8s
V58A Windy Hill, Pi 67.41 351 P **P 00 03 59.4 +0.2**
baz=170,SNR=12
V58A P **P 00 03 59.4 +0.2**
baz=170,SNR=12
435B Jarrell 67.48 333 P **P 00 04 00.9 +1.2**
baz=154
435B Jarrell 67.48 333 P **P 00 04 01.3 +1.5**
baz=154,SNR=7.5
DRIO Del Rio 67.51 330 P **P 00 04 00.7 +0.7**
W52A Murphy 67.52 347 P **P 00 03 59.3 -0.6**
W52A IAmb IAmb 00 04 01.2
comp=Z,60nm,0.9s
W52A Murphy 67.52 347 P **P 00 04 00.0 +0.1**
baz=166,SNR=15
X48A Hartselle 67.59 344 P **P 00 04 00.2 -0.2**
X48A Hartselle 67.59 344 P **P 00 04 00.4 +0.1**
baz=163,SNR=57
Y45A Yeager Farm, C 67.67 341 P **P 00 04 01.4 +0.6**
Y45A Yeager Farm, C 67.67 341 P **P 00 04 01.9 +1.1**
baz=161,SNR=35
HPIG 67.72 325 P **P 00 04 02.5 +0.9**
HPIG IAmb IAmb 00 04 04.3
comp=Z,79nm,1.1s
V55A Taylorsville 67.78 349 P **P 00 04 01.1 -0.3**
V55A IAmb IAmb 00 04 03.0
comp=Z,66nm,0.9s
V55A Taylorsville 67.78 349 P **P 00 04 01.7 +0.2**
baz=168,SNR=15
V55A P **P 00 04 01.7 +0.2**
baz=168,SNR=15
U59A Littleton 67.79 352 P **P 00 04 02.2 +0.7**
U59A IAmb IAmb 00 04 03.5
comp=Z,84nm,1.2s
U59A Littleton 67.79 352 P **P 00 04 02.3 +0.7**
baz=172,SNR=11
U59A P **P 00 04 02.3 +0.7**
baz=172,SNR=11
V53A Saluda 67.87 348 P **P 00 04 02.2 0.0**
V53A IAmb IAmb 00 04 03.2
comp=Z,57nm,0.9s
V53A Saluda 67.87 348 P **P 00 04 02.2 0.0**
baz=167,SNR=21
V53A P **P 00 04 02.2 0.0**
baz=167,SNR=21
W50A Signal Mountai 67.91 345 P **P 00 04 02.5 +0.1**
W50A IAmb IAmb 00 04 03.7
comp=Z,125nm,0.8s
W50A Signal Mountai 67.91 345 P **P 00 04 02.7 +0.2**
baz=165,SNR=32
237A Washetta, Mont 67.92 335 P **P 00 04 03.7 +1.3**
237A Washetta, Mont 67.92 335 P **P 00 04 03.8 +1.3**
baz=155,SNR=23
CPCT Cooper Cave 67.99 346 P **P 00 04 02.7 -0.2**
CPCT IAmb IAmb 00 04 04.0
comp=Z,73nm,0.9s
TKL Tuckaleechee C 68.04 347 P **P 00 04 02.8 -0.3**
TKL IAmb IAmb 00 04 04.0
comp=Z,94nm,1.1s
TKL Tuckaleechee C 68.04 347 P **P 00 04 02.9 -0.3**
baz=166,SNR=13
TKL Tuckaleechee C 68.04 347 P **P 00 04 02.9 -0.3**
comp=Z,49nm,0.9s,baz=165,slow=7.1,SNR=46
comp=Z,49nm,0.9s
Z41A Richland Creek 68.06 338 P **P 00 04 04.5 +1.2**
Z41A IAmb IAmb 00 04 05.2
comp=Z,107nm,0.9s
SWET Sewanee 68.06 345 P **P 00 04 03.1 -0.2**
JCT Junction City 68.09 331 P **P 00 04 04.3 +0.7**
JCT Junction City 68.09 331 P **P 00 04 04.9 +1.3**
baz=152,SNR=50
JCT Junction City 68.09 331 P **P 00 04 05.0 +1.3**
baz=152,SNR=50
U56A King 68.13 350 P **P 00 04 03.6 -0.1**
U56A IAmb IAmb 00 04 05.0
comp=Z,49nm,0.8s
U56A King 68.13 350 P **P 00 04 04.5 +0.8**
baz=169,SNR=11
U56A P **P 00 04 04.5 +0.8**
baz=169,SNR=11
V52A Sevierville 68.18 347 P **P 00 04 03.5 -0.6**
V52A IAmb IAmb 00 04 04.4
comp=Z,54nm,0.8s
V52A Sevierville 68.18 347 P **P 00 04 03.7 -0.4**
baz=166,SNR=14
OXF Oxford 68.24 342 P **P 00 04 04.6 +0.1**
baz=161,SNR=16
OXF Oxford 68.24 342 P **P 00 04 04.3 -0.2**
baz=161,SNR=16
V51A Loudon 68.30 346 P **P 00 04 04.3 -0.4**
V51A IAmb IAmb 00 04 05.6
comp=Z,61nm,0.9s
V51A Loudon 68.30 346 P **P 00 04 04.5 -0.2**
baz=166,SNR=20
PLAL Pickwick Lake 68.34 343 P **P 00 04 04.9 -0.1**
PLAL IAmb IAmb 00 04 06.0
comp=Z,73nm,0.8s
CCAR Cane Creek 68.35 340 P **P 00 04 06.0 +0.9**
CCAR Cane Creek 68.35 340 P **P 00 04 05.9 +0.8**
baz=159,SNR=8.7
T59A Double "B" Far 68.38 353 P **P 00 04 05.7 +0.5**
T59A IAmb IAmb 00 04 07.2
comp=Z,135nm,1.4s
T59A Double "B" Far 68.38 353 P **P 00 04 05.9 +0.7**
baz=172,SNR=12
T59A P **P 00 04 05.9 +0.7**
baz=172,SNR=12
T60A Surry 68.46 353 P **P 00 04 06.2 +0.5**
T60A IAmb IAmb 00 04 07.7
comp=Z,121nm,0.9s
T60A Surry 68.46 353 P **P 00 04 06.9 +1.2**
baz=173,SNR=8.6
T60A P **P 00 04 06.9 +1.2**
baz=173,SNR=8.6
BRDY Brady 68.47 332 P **P 00 04 06.7 +0.7**

BRDY IAmb IAmb 00 04 08.0
comp=Z,122nm,1.1s
WHTX Lake Whitney, 68.51 334 P **P** **00 04 06.9 +0.7**
WHTX IAmb IAmb 00 04 07.6
comp=Z,62nm,0.8s
WHTX Lake Whitney, 68.51 334 P **P** **00 04 07.2 +1.0**
baz=154,SNR=18
WHTX Lake Whitney, 68.51 334 P **P** **00 04 07.1 +1.0**
baz=154,SNR=18
U54A Nelsons Funny 68.53 349 P **P** **00 04 06.0 -0.2**
U54A IAmb IAmb 00 04 07.4
comp=Z,102nm,0.8s
U54A Nelsons Funny 68.53 349 P **P** **00 04 06.1 -0.2**
baz=168,SNR=21
U54A P **P** **00 04 06.1 -0.2**
baz=168,SNR=21
T57A Hurt 68.61 351 P **P** **00 04 06.8 +0.1**
T57A Hurt 68.61 351 P **P** **00 04 06.9 +0.2**
baz=170,SNR=8.0
T57A P **P** **00 04 06.9 +0.2**
baz=170,SNR=8.0
SAND Sanderson 68.62 329 P **P** **00 04 07.9 +0.9**
SAND IAmb IAmb 00 04 09.6
comp=Z,156nm,1.1s
TREL Terrell 68.67 336 P **P** **00 04 08.6 +1.4**
TREL IAmb IAmb 00 04 09.6
comp=Z,184nm,1.4s
FW16 Waxahatchie 68.74 335 P **P** **00 04 08.3 +0.7**
FW16 IAmb IAmb 00 04 09.9
comp=Z,78nm,0.9s
V48A Smith Brothers 68.77 344 P **P** **00 04 08.1 +0.4**
baz=163,SNR=51
Z38A Mt. Pleasant 68.77 337 IAmb IAmb 00 04 10.2
comp=Z,180nm,1.1s
Z38A Mt. Pleasant 68.77 337 P **P** **00 04 09.0 +1.2**
baz=156,SNR=14
FW14 Alvarado 68.78 334 P **P** **00 04 09.1 +1.3**
FW14 IAmb IAmb 00 04 09.9
comp=Z,149nm,1.4s
TXAR Lajitas Array 68.78 328 P **P** **00 04 09.2 +1.2**
comp=Z,20nm,0.7s,baz=151,slow=8.1,SNR=224
TXAR pP **PcP** **00 04 33.2 +1.3**
comp=Z,12nm,0.8s,baz=156,slow=6.4,SNR=5.9
TXAR PKPPKP **P'P'df** **00 32 19.8 +0.4**
comp=Z,1.2nm,0.9s,baz=317,slow=5.2,SNR=4.4
comp=Z,20nm,0.7s
TX31 Lajitas Ar. Si 68.78 328 P **P** **00 04 09.5 +1.5**
baz=148,SNR=57
TZTN Tazewell 68.86 347 P **P** **00 04 07.8 -0.4**
baz=166,SNR=6.5
TZTN Tazewell 68.86 347 P **P** **00 04 08.0 -0.2**
baz=166,SNR=6.5
MET Memphis--Engin 68.96 342 P **P** **00 04 08.9 0.0**
BLA Blacksburg 68.98 350 P **P** **00 04 09.6 +0.5**
baz=169
CLTN Cedars of Leba 68.99 345 IAmb IAmb 00 04 10.2
comp=Z,72nm,0.9s
FW07 Weatherford 69.27 334 P **P** **00 04 11.6 +0.7**
FW07 IAmb IAmb 00 04 12.6
comp=Z,68nm,0.9s
U49A Red Boiling Sp 69.28 345 P **P** **00 04 10.6 -0.2**
baz=164,SNR=14
UALR University of 69.32 339 IAmb IAmb 00 04 12.7
comp=Z,72nm,0.9s
S57A Dark Hollow, R 69.32 351 P **P** **00 04 11.5 +0.4**
S57A IAmb IAmb 00 04 12.9
comp=Z,81nm,0.9s
S57A Dark Hollow, R 69.32 351 P **P** **00 04 11.8 +0.7**
baz=171,SNR=14
S57A P **P** **00 04 11.8 +0.7**
baz=171,SNR=14
WVT Waverly 69.38 344 P **P** **00 04 11.3 -0.1**
WVT Waverly 69.38 344 P **P** **00 04 11.6 +0.2**
baz=163
WVT Waverly 69.38 344 P **P** **00 04 11.7 +0.3**
baz=163,SNR=157
WVT Waverly 69.38 344 ⇓P **P** **00 04 11.4 -0.1**
WVT pP **pP** **00 04 39.0 +0.1**
R58B Mineral 69.39 352 IAmb IAmb 00 04 13.7
comp=Z,129nm,1.1s
R58B Mineral 69.39 352 P **P** **00 04 12.4 +0.9**
baz=172,SNR=22
R58B P **P** **00 04 12.4 +0.9**
baz=172,SNR=22
R61A Willards 69.51 355 P **P** **00 04 13.3 +1.1**
HBAR Harrisburg 69.56 341 P **P** **00 04 12.9 +0.3**
PLPT Palo Pinto 69.56 334 IAmb IAmb 00 04 14.6
comp=Z,108nm,0.8s
CBN Corbin Frederi 69.58 353 P **P** **00 04 13.6 +1.0**
CBN IAmb IAmb 00 04 14.7
comp=Z,132nm,1.4s
CBN Corbin Frederi 69.58 353 P **P** **00 04 13.3 +0.7**
baz=172,SNR=5.4
CBN Corbin Frederi 69.58 353 P **P** **00 04 13.6 +1.0**
baz=172,SNR=5.4
Z35A Perchaven, San 69.63 335 P **P** **00 04 14.1 +1.0**
baz=154,SNR=42
ALPN Alpine 69.65 328 P **P** **00 04 14.1 +0.7**
FW03 Perrin-Whitt E 69.67 334 IAmb IAmb 00 04 15.3
comp=Z,114nm,0.8s
S54A Dingess, Beckl 69.70 349 IAmb IAmb 00 04 14.5
comp=Z,81nm,0.9s
S54A Dingess, Beckl 69.70 349 P **P** **00 04 13.3 -0.1**
baz=168,SNR=17
S54A P **P** **00 04 13.3 -0.1**
baz=168,SNR=17
LNXT Lenox 69.77 342 P **P** **00 04 15.0 +1.2**
WHAR Wooly Hollow 69.78 340 IAmb IAmb 00 04 15.7
comp=Z,106nm,1.0s
SGCY Sterling City 69.89 331 IAmb IAmb 00 04 16.5
comp=Z,101nm,1.0s
ABTX Abilene, Hawle 69.91 333 P **P** **00 04 15.8 +0.9**
baz=152,SNR=71
ABTX Abilene, Hawle 69.91 333 P **P** **00 04 15.6 +0.7**
baz=152,SNR=71
S51A Beattyville 69.93 348 IAmb IAmb 00 04 15.8
comp=Z,64nm,0.9s
S51A Beattyville 69.93 348 P **P** **00 04 14.7 -0.1**
baz=166,SNR=14
S51A P **P** **00 04 14.7 -0.1**
baz=166,SNR=14
R55A Marlinton 69.99 351 IAmb IAmb 00 04 17.4
comp=Z,114nm,0.8s
R55A Marlinton 69.99 351 P **P** **00 04 16.3 +1.1**
baz=170,SNR=26
R55A P **P** **00 04 16.3 +1.1**
baz=170,SNR=26
T47A Sharon Grove 70.03 345 IAmb IAmb 00 04 16.3
comp=Z,118nm,1.1s
T47A Sharon Grove 70.03 345 P **P** **00 04 15.4 0.0**
baz=163,SNR=25
LCAR Lake Charles 70.19 341 P **P** **00 04 16.6 +0.2**
baz=160,SNR=151
R53A Hurricane 70.32 349 IAmb IAmb 00 04 18.2
comp=Z,52nm,0.8s
R53A Hurricane 70.32 349 P **P** **00 04 17.3 +0.1**
baz=168,SNR=8.0
R53A P **P** **00 04 17.3 +0.1**
baz=168,SNR=8.0
T45B Paducah 70.42 343 P **P** **00 04 17.9 +0.1**
baz=162,SNR=21
WTFS Witchita Falls 70.47 334 IAmb IAmb 00 04 20.0
comp=Z,120nm,1.0s
TBI Tubuai 70.62 254 *e*S **S** **00 13 23.0 -2.0**
comp=Z,819nm,28.8s
TBI Tubuai 70.62 254 *e*LR LR 00 25 54.6
comp=Z,3µm,36.5s
SN01 Snyder 1 70.62 332 IAmb IAmb 00 04 21.0
comp=Z,66nm,0.9s
PBMO Poplar Bluff 70.65 342 P **P** **00 04 19.6 +0.4**
baz=160,SNR=91
R50A Paris 70.69 347 P **P** **00 04 18.9 -0.5**
baz=166,SNR=18
R50A P **P** **00 04 18.9 -0.5**
baz=166,SNR=18
SDMD Soldier's Deli 70.72 353 P **P** **00 04 20.0 +0.5**
baz=173,SNR=11
APMT Aspermont 70.72 333 IAmb IAmb 00 04 21.7
comp=Z,126nm,0.8s
Q54A Coxs Mills 70.78 350 IAmb IAmb 00 04 20.9
comp=Z,45nm,0.7s
Q54A Coxs Mills 70.78 350 P **P** **00 04 19.6 -0.4**
baz=169,SNR=12
Q54A P **P** **00 04 19.6 -0.4**
baz=169,SNR=12
P61A Hammonton 70.80 355 P **P** **00 04 21.0 +1.0**
P61A IAmb IAmb 00 04 22.1
comp=Z,110nm,0.9s
R49A Shelbyville 70.86 346 P **P** **00 04 20.3 -0.2**
baz=165,SNR=15
R49A P **P** **00 04 20.3 -0.2**
baz=165,SNR=15
P57A Homestead Farm 70.91 353 IAmb IAmb 00 04 23.1
comp=Z,110nm,0.9s
P57A Homestead Farm 70.91 353 P **P** **00 04 22.2 +1.5**
baz=172,SNR=27
P57A P **P** **00 04 22.2 +1.5**
baz=172,SNR=27
CGM3 Cape Girardeau 70.94 343 IAmb IAmb 00 04 21.6
comp=Z,59nm,0.9s
U40A Yellville 70.94 340 P **P** **00 04 21.6 +0.6**
baz=158,SNR=108
U40A P **P** **00 04 21.6 +0.6**
baz=158,SNR=108
Q52A Bidwell 70.99 349 IAmb IAmb 00 04 22.3
comp=Z,107nm,1.1s
Q52A Bidwell 70.99 349 P **P** **00 04 21.3 +0.1**
baz=168,SNR=18
Q52A P **P** **00 04 21.3 +0.1**
baz=168,SNR=18
GEDE Greenville 71.00 354 P **P** **00 04 21.4 +0.1**
baz=174,SNR=6.0
WCI Wyandotte Cave 71.04 346 P **P** **00 04 21.0 -0.5**
WCI IAmb IAmb 00 04 22.1
comp=Z,99nm,0.8s
WCI Wyandotte Cave 71.04 346 P **P** **00 04 21.1 -0.5**
baz=164
WCI Wyandotte Cave 71.04 346 P **P** **00 04 21.1 -0.4**
baz=164,SNR=29
WCI Wyandotte Cave 71.04 346 ⇓P **P** **00 04 21.1 -0.4**
WCI pP **pP** **00 04 49.0 -0.1**
POST Post 71.05 331 IAmb IAmb 00 04 23.4
comp=Z,57nm,0.8s
T42A Van Buren 71.07 341 IAmb IAmb 00 04 23.0
comp=Z,88nm,1.2s
T42A Van Buren 71.07 341 P **P** **00 04 21.4 -0.3**
baz=160
USIN University of 71.09 344 IAmb IAmb 00 04 22.4
comp=Z,118nm,0.9s
WUPA West Chester U 71.12 355 P **P** **00 04 22.8 +0.9**
W35A Tecumseh 71.14 336 IAmb IAmb 00 04 23.2
comp=Z,74nm,1.0s
HHAR Hobbs 71.20 339 IAmb IAmb 00 04 24.2
comp=Z,136nm,0.9s
S44A Carbondale 71.21 343 IAmb IAmb 00 04 23.6
comp=Z,95nm,0.8s
S44A Carbondale 71.21 343 P **P** **00 04 22.6 0.0**
baz=162,SNR=26
SIUC Southern Illin 71.22 343 IAmb IAmb 00 04 23.7
comp=Z,190nm,1.2s
Q51A Peebles 71.23 348 IAmb IAmb 00 04 23.8
comp=Z,95nm,1.0s
Q51A Peebles 71.23 348 P **P** **00 04 22.6 -0.1**
baz=167,SNR=25
Q51A P **P** **00 04 22.6 -0.1**
baz=167,SNR=25
MCWV Mont Chateau 71.31 351 IAmb IAmb 00 04 24.8
comp=Z,80nm,1.1s
MCWV Mont Chateau 71.31 351 P **P** **00 04 23.7 +0.6**
baz=170,SNR=12
MCWV Mont Chateau 71.31 351 P **P** **00 04 23.5 +0.4**
baz=170,SNR=12
DKNS Dickens 71.33 332 IAmb IAmb 00 04 25.1
comp=Z,70nm,0.8s
LIC Lamto 71.34 70 *e*P **P** **00 04 23.6 -0.3**
comp=Z,231nm,0.9s
P53A Whipple 71.36 350 IAmb IAmb 00 04 24.9
comp=Z,112nm,1.1s
P53A Whipple 71.36 350 P **P** **00 04 23.5 +0.1**
baz=169,SNR=17
P53A P **P** **00 04 23.5 +0.1**
baz=169,SNR=17
RLO Rose Lookout 71.44 338 IAmb IAmb 00 04 25.6
comp=Z,123nm,0.9s
WMOK Wichita Mounta 71.45 334 P **P** **00 04 24.3 +0.2**
baz=153
TUL3 Leonard 71.46 337 P **P** **00 04 24.4 +0.3**
baz=156,SNR=51
TUL3 Leonard 71.46 337 P **P** **00 04 24.8 +0.7**
baz=156,SNR=51
U38A Gravette 71.49 338 IAmb IAmb 00 04 25.8
comp=Z,80nm,0.9s
U38A Gravette 71.49 338 P **P** **00 04 24.5 +0.2**
baz=157,SNR=46
PANJ Princeton 71.50 355 P **P** **00 04 25.0 +0.8**
baz=175,SNR=6.0
MGMO Mountain Grove 71.51 340 IAmb IAmb 00 04 26.1
comp=Z,135nm,0.9s
MNTX Cornudas Mount 71.56 328 P **P** **00 04 25.1 +0.2**
baz=148,SNR=81
MNTX Cornudas Mount 71.56 328 P **P** **00 04 24.8 -0.1**
baz=148,SNR=81
TIC Toumodi 71.59 70 *e*P **P** **00 04 24.9 -0.6**
comp=Z,132nm,0.9s
P52A Corning 71.62 349 IAmb IAmb 00 04 25.9
comp=Z,117nm,0.9s
P52A Corning 71.62 349 P **P** **00 04 24.9 -0.1**
baz=156,SNR=32
P51A Williamsport 71.62 348 IAmb IAmb 00 04 25.9
comp=Z,110nm,1.0s
P51A Williamsport 71.62 348 P **P** **00 04 24.8 -0.2**
baz=167,SNR=24
P51A P **P** **00 04 24.8 -0.2**
baz=167,SNR=24
KIC Kosan Boka 71.65 70 *e*P **P** **00 04 25.1 -0.7**
comp=Z,278nm,0.8s
DBIC Dimbokro 71.74 70 P **P** **00 04 26.4 +0.1**
DBIC IAmb IAmb 00 04 27.7
comp=Z,139nm,0.8s
DBIC Dimbokro 71.74 70 P **P** **00 04 26.7 +0.4**
comp=Z,116nm,0.8s,baz=221,slow=5.9,SNR=102
DBIC LR LR 00 32 22.6
comp=Z,139nm,21.9s,baz=203,slow=33
comp=Z,116nm,0.8s
DBIC Dimbokro 71.74 70 ⇓P **P** **00 04 26.7 +0.4**
DBIC pP **pP** **00 04 53.9 +0.3**
DBIC sP **sP** **00 05 06.9 +1.6**
FVM French Village 71.79 342 P **P** **00 04 26.3 +0.2**
baz=161,SNR=84
BRNJ Basking Ridge 71.79 355 IAmb IAmb 00 04 28.1
comp=Z,63nm,0.8s
BRNJ Basking Ridge 71.79 355 P **P** **00 04 26.8 +0.8**
baz=175,SNR=6.1
O54A Avella 71.89 351 P **P** **00 04 26.5 -0.1**
baz=170,SNR=6.5
O54A P **P** **00 04 26.5 -0.1**
baz=170,SNR=6.5
OLIL Olney 71.92 344 IAmb IAmb 00 04 27.5
comp=Z,136nm,1.1s
OLIL Olney 71.92 344 P **P** **00 04 26.2 -0.6**
baz=163,SNR=18
N62A Caumsett State 71.97 356 IAmb IAmb 00 04 28.9
comp=Z,70nm,0.9s
N62A Caumsett State 71.97 356 P **P** **00 04 27.8 +0.8**
baz=176,SNR=6.6
N62A P **P** **00 04 27.8 +0.8**
baz=176,SNR=6.6
P49A Miami Univ. Ec 71.98 347 IAmb IAmb 00 04 27.8
comp=Z,89nm,0.9s
P49A Miami Univ. Ec 71.98 347 P **P** **00 04 26.7 -0.4**
baz=166,SNR=17
P49A Miami Univ. Ec 71.98 347 P **P** **00 04 27.2 0.0**
baz=166,SNR=17
BLO Bloomington 71.99 346 IAmb IAmb 00 04 27.8
comp=Z,91nm,0.7s
CPRX Cap Rock 72.01 330 P **P** **00 04 28.2 +0.5**
SSPA Standing Stone 72.04 353 P **P** **00 04 28.2 +0.8**
SSPA IAmb IAmb 00 04 29.3
comp=Z,78nm,1.2s
SSPA Standing Stone 72.04 353 P **P** **00 04 28.3 +0.8**
baz=172
SSPA Standing Stone 72.04 353 P **P** **00 04 27.6 +0.1**
baz=172,SNR=11
P48A Milroy 72.04 347 IAmb IAmb 00 04 28.1
comp=Z,94nm,0.9s
P48A Milroy 72.04 347 P **P** **00 04 26.8 -0.7**
baz=165,SNR=24
P48A P **P** **00 04 26.8 -0.7**
baz=165,SNR=24
O52A Adamsville 72.04 350 IAmb IAmb 00 04 28.5
comp=Z,78nm,0.8s
O52A Adamsville 72.04 350 P **P** **00 04 27.2 -0.3**
baz=168,SNR=16
O52A P **P** **00 04 27.2 -0.3**
baz=168,SNR=16
PAL Palisades 72.07 356 P **P** **00 04 28.3 +0.6**
baz=175
CCM Cathedral Cave 72.07 342 P **P** **00 04 28.1 +0.4**
CCM Cathedral Cave 72.07 342 P **P** **00 04 28.3 +0.5**
baz=160
CCM Cathedral Cave 72.07 342 P **P** **00 04 28.3 +0.5**
baz=160,SNR=91
O53A New Philadelph 72.08 350 P **P** **00 04 27.9 +0.1**
baz=169,SNR=13
N58A Sunbury 72.12 354 P **P** **00 04 28.1 +0.1**
baz=173,SNR=10
N58A P **P** **00 04 28.1 +0.1**
baz=173,SNR=10
ODNJ Ogdensburg 72.19 355 P **P** **00 04 29.1 +0.8**
baz=175,SNR=10
Q44A Meyer Farm, Va 72.30 344 IAmb IAmb 00 04 29.6
comp=Z,61nm,0.9s
Q44A Meyer Farm, Va 72.30 344 P **P** **00 04 28.5 -0.5**
baz=162,SNR=10
S39A Bolivar 72.32 340 P **P** **00 04 29.8 +0.5**
baz=158,SNR=190
YLE Yale 72.33 357 P **P** **00 04 30.3 +1.2**
YLE IAmb IAmb 00 04 31.5
comp=Z,75nm,1.0s
ACSO Alum Creek Sta 72.34 349 IAmb IAmb 00 04 30.3
comp=Z,137nm,0.8s
ACSO Alum Creek Sta 72.34 349 P **P** **00 04 29.4 +0.1**
baz=167,SNR=33
ACSO Alum Creek Sta 72.34 349 P **P** **00 04 29.3 0.0**
baz=167,SNR=33
SLM Saint Louis 72.35 343 IAmb IAmb 00 04 30.6
comp=Z,107nm,1.0s
SLM Saint Louis 72.35 343 P **P** **00 04 29.7 +0.3**
baz=161,SNR=5.3
MSTX Muleshoe 72.35 331 P **P** **00 04 30.5 +0.8**
baz=150,SNR=69
MSTX Muleshoe 72.35 331 P **P** **00 04 30.7 +1.0**
baz=150,SNR=69
M65A Busby, Falmout 72.49 359 P **P** **00 04 30.7 +0.6**
M65A IAmb IAmb 00 04 31.3
comp=Z,45nm,0.7s
M65A Busby, Falmout 72.49 359 P **P** **00 04 30.5 +0.4**
baz=178
O49A Covington 72.54 348 IAmb IAmb 00 04 31.4
comp=Z,149nm,1.0s
O49A Covington 72.54 348 P **P** **00 04 30.2 -0.2**
baz=166,SNR=34
O49A P **P** **00 04 30.2 -0.2**
baz=166,SNR=34
P46A Rosedale 72.57 345 IAmb IAmb 00 04 31.1
comp=Z,138nm,0.9s
P46A Rosedale 72.57 345 P **P** **00 04 30.0 -0.6**
baz=164,SNR=29
N53A Lisbon 72.57 350 IAmb IAmb 00 04 32.2
comp=Z,79nm,1.2s
N53A Lisbon 72.57 350 P **P** **00 04 31.2 +0.5**
baz=169,SNR=7.8
N53A P **P** **00 04 31.2 +0.5**
baz=169,SNR=7.8
R40A Maddies Statio 72.57 341 P **P** **00 04 31.2 +0.4**
baz=159,SNR=207
T35A Sooner Cattle 72.61 337 IAmb IAmb 00 04 32.9
comp=Z,145nm,0.9s
T35B Sooner Cattle 72.61 337 P **P** **00 04 32.0 +1.0**
baz=155,SNR=53
M57A Sunshine Farm, 72.65 353 P **P** **00 04 31.8 +0.7**
baz=172,SNR=8.0
M57A P **P** **00 04 31.8 +0.7**
baz=172,SNR=8.0
AMTX Amarillo 72.70 332 IAmb IAmb 00 04 33.7
comp=Z,128nm,0.9s
AMTX Amarillo 72.70 332 P **P** **00 04 32.5 +0.8**
baz=151
AMTX Amarillo 72.70 332 P **P** **00 04 32.9 +1.2**
baz=151,SNR=18
KSPA Keystone Colle 72.75 355 P **P** **00 04 32.4 +0.7**
baz=174,SNR=5.7
O48B Farmland 72.76 347 IAmb IAmb 00 04 32.5
comp=Z,125nm,0.9s
O48B Farmland 72.76 347 P **P** **00 04 31.3 -0.5**
baz=165,SNR=23
O48B Farmland 72.76 347 P **P** **00 04 31.4 -0.4**
baz=165,SNR=23
KSCT Kent School, K 72.76 356 P **P** **00 04 32.5 +0.7**
NPNY Mohonk Preserv 72.83 356 P **P** **00 04 32.9 +0.7**
baz=175,SNR=13
L64A Middleborough 72.87 358 P **P** **00 04 32.9 +0.6**
N51A Ashland 72.91 349 IAmb IAmb 00 04 33.6
comp=Z,96nm,0.9s
N51A Ashland 72.91 349 P **P** **00 04 32.6 -0.1**
baz=168,SNR=15
N51A P **P** **00 04 32.6 -0.1**
baz=168,SNR=15
M55A Ridgway 72.96 352 IAmb IAmb 00 04 34.5
comp=Z,103nm,0.8s
M55A Ridgway 72.96 352 P **P** **00 04 33.0 0.0**
baz=171,SNR=24
M55A P **P** **00 04 33.0 0.0**
baz=171,SNR=24
U32A Winter Ranch, 73.00 335 P **P** **00 04 34.5 +1.2**
baz=153,SNR=42
KAN13 South Haven SW 73.03 336 **P** **00 04 34.4 +0.9**
OK032 Salt Plains WL 73.09 336 IAmb IAmb 00 04 35.7
comp=Z,134nm,0.9s
P43A Skaggs, Pawnee 73.12 343 P **P** **00 04 33.7 -0.2**
baz=162,SNR=34
KAN14 Manchester OK 73.14 336 IAmb IAmb 00 04 36.0
comp=Z,133nm,1.1s
319A Douglas 73.16 325 P **P** **00 04 35.8 +1.4**
319A IAmb IAmb 00 04 37.5
comp=Z,129nm,0.9s
KAN17 Caldwell West 73.16 336 P **P** **00 04 35.0 +0.8**
M53A WI Miller and 73.17 351 IAmb IAmb 00 04 35.4
comp=Z,80nm,0.9s
M53A WI Miller and 73.17 351 P **P** **00 04 34.4 +0.2**
baz=169,SNR=14
KAN09 Caldwell North 73.19 336 P **P** **00 04 34.6 +0.2**
N49A Columbus Grove 73.22 348 P **P** **00 04 34.4 -0.1**
baz=166,SNR=40
N49A P **P** **00 04 34.4 -0.1**
baz=166,SNR=40
KAN01 Argonia South 73.25 336 P **P** **00 04 35.4 +0.7**
QUA2 Belchertown 73.26 357 P **P** **00 04 35.1 +0.5**
QUA2 Belchertown 73.26 357 P **P** **00 04 35.5 +0.9**
baz=177,SNR=5.7
SFIN Lafayette 73.27 346 P **P** **00 04 34.2 -0.6**
baz=164,SNR=12
SFIN Lafayette 73.27 346 P **P** **00 04 33.9 -0.9**
baz=164,SNR=12
ALLY Alegheny Colle 73.31 351 IAmb IAmb 00 04 36.3
comp=Z,69nm,0.9s
ALLY Alegheny Colle 73.31 351 P **P** **00 04 35.3 +0.3**
baz=170,SNR=13
L59A Walton 73.32 355 IAmb IAmb 00 04 37.3
comp=Z,106nm,1.0s
L59A Walton 73.32 355 P **P** **00 04 36.5 +1.4**
baz=174,SNR=16
L59A P **P** **00 04 36.5 +1.4**
baz=174,SNR=16
PPTF Pamatai, Papee 73.33 259 P **P** **00 04 37.4 +1.5**
WES Weston 73.33 358 P **P** **00 04 35.2 +0.2**
KS21 Milan North St 73.34 336 P **P** **00 04 36.1 +0.8**
PPT2 Papeete2 73.34 259 *e*P **P** **00 04 31.9 -4.0**
comp=Z,45nm,21.8s
PPT2 *e*S **S** **00 13 53.6 -2.9**
comp=Z,168nm,25.0s
PPT2 Papeete2 73.34 259 *e*LR LR 00 27 08.5
comp=Z,240nm,33.0s
PPT2 *e*LR LR 00 27 09.3
comp=Z,315nm,31.2s
PPT Papeete 73.35 259 P **P** **00 04 37.8 +1.9**
comp=Z,174nm,0.9s,baz=94,slow=5.2,SNR=13
PPT LR LR 00 30 40.2
comp=Z,66nm,18.4s,baz=160,slow=30
comp=Z,174nm,0.9s
O44A Mansfield 73.36 344 IAmb IAmb 00 04 35.8
comp=Z,102nm,0.8s
O44A Mansfield 73.36 344 P **P** **00 04 34.7 -0.6**
baz=162,SNR=20
M52A Chesterland 73.37 350 IAmb IAmb 00 04 36.5
comp=Z,101nm,0.9s
M52A Chesterland 73.37 350 P **P** **00 04 35.1 -0.2**
baz=169,SNR=12
M52A P **P** **00 04 35.1 -0.2**
baz=169,SNR=12
KAN06 Argonia West S 73.37 336 P **P** **00 04 36.2 +0.8**
121A Cookes Peak, D 73.38 326 IAmb IAmb 00 04 39.0
comp=Z,143nm,1.1s

121A	Cookes Peak, D	73.38	326	P	P	00 04 37.8	+2.0
	baz=146,SNR=75						
121A	Cookes Peak, D	73.38	326	P	P	00 04 37.4	+1.6
	baz=146,SNR=75						
KAN08	Anthony NE Sta	73.39	336	P	P	00 04 35.3	-0.3
BINY	Binghamton	73.41	354	P	P	00 04 36.3	+0.8
BINY	Binghamton	73.41	354	P	P	00 04 36.4	+0.8
	baz=174,SNR=10						
BINY	Binghamton	73.41	354	P	P	00 04 36.7	+1.1
	baz=174,SNR=10						
L61B	Northampton	73.45	357	IAmb	IAmb	00 04 37.7	
	comp=Z,76nm,0.9s						
L61B	Northampton	73.45	357	P	P	00 04 36.6	+0.8
	baz=176,SNR=15						
L61B	Northampton	73.45	357	P	P	00 04 36.9	+1.2
	baz=176,SNR=15						
HRV	Adam Dziewonsk	73.46	358	P	P	00 04 36.8	+1.0
HRV	Adam Dziewonsk	73.46	358	P	P	00 04 36.9	+1.0
	baz=177						
HRV	Adam Dziewonsk	73.46	358	P	P	00 04 37.0	+1.2
	baz=177,SNR=10.0						
N47A	Urbana	73.47	347	IAmb	IAmb	00 04 35.9	
	comp=Z,107nm,0.8s						
N47A	Urbana	73.47	347	P	P	00 04 35.4	-0.5
	baz=165,SNR=24						
N47A				P	P	00 04 35.4	-0.5
	baz=165,SNR=24						
L56A	Greenwood	73.49	353	P	P	00 04 36.5	+0.4
L56A				IAmb	IAmb	00 04 37.8	
	comp=Z,77nm,0.9s						
L56A	Greenwood	73.49	353	P	P	00 04 36.7	+0.6
	baz=172,SNR=19						
L56A				P	P	00 04 36.7	+0.6
	baz=172,SNR=19						
M50A	Fremont	73.50	349	IAmb	IAmb	00 04 37.0	
	comp=Z,109nm,0.8s						
M50A	Fremont	73.50	349	P	P	00 04 35.9	-0.2
	baz=167,SNR=17						
M50A				P	P	00 04 35.9	-0.2
	baz=167,SNR=17						
K62A	Royalston	73.64	357	P	P	00 04 37.8	+0.9
K62A	Royalston	73.64	357	P	P	00 04 38.2	+1.3
	baz=177,SNR=7.2						
K62A				P	P	00 04 38.2	+1.3
	baz=177,SNR=7.2						
P40A	Paris	73.67	341	P	P	00 04 37.8	+0.7
	baz=159,SNR=115						
ERPA	Erie	73.75	351	IAmb	IAmb	00 04 38.9	
	comp=Z,99nm,0.9s						
ERPA	Erie	73.75	351	P	P	00 04 37.9	+0.3
	baz=170,SNR=22						
ERPA	Erie	73.75	351	P	P	00 04 37.5	0.0
	baz=170,SNR=22						
SUR	Sutherland	73.76	118	P	P	00 04 38.9	+0.6
SUR				IAmb	IAmb	00 04 40.8	
	comp=Z,65nm,0.9s						
SUR	Sutherland	73.76	118	LR	LR	00 31 43.4	
	comp=Z,159nm,20.1s,baz=202,slow=31						
SUR	Sutherland	73.76	118	P	P	00 04 39.6	+1.2
TRY	Troy	73.78	356	IAmb	IAmb	00 04 40.0	
	comp=Z,117nm,1.1s						
TRY	Troy	73.78	356	P	P	00 04 38.8	+1.1
	baz=176,SNR=14						
HCNY	Howe Caverns	73.78	356	P	P	00 04 38.1	+0.4
	baz=175,SNR=12						
WVNY	West Valley, N	73.86	352	IAmb	IAmb	00 04 40.0	
	comp=Z,115nm,0.9s						
WVNY	West Valley, N	73.86	352	P	P	00 04 38.7	+0.5
	baz=171,SNR=19						
HDIL	Hopedale	73.94	344	P	P	00 04 38.7	0.0
	baz=162,SNR=22						
HDIL	Hopedale	73.94	344	P	P	00 04 38.5	-0.2
	baz=162,SNR=22						
K57A	Scipio Center	73.98	354	P	P	00 04 39.3	+0.4
	baz=173,SNR=9.4						
Y22A	Socorro	74.16	328	P	P	00 04 42.1	+1.7
	baz=147,SNR=24						
P38A	Dawn	74.17	340	IAmb	IAmb	00 04 40.9	
	comp=Z,92nm,0.8s						
P38A	Dawn	74.17	340	P	P	00 04 40.3	+0.2
	baz=158,SNR=32						
Y22D	IRIS PASSCAL I	74.25	328	P	P	00 04 42.5	+1.6
Y22D	IRIS PASSCAL I	74.25	328	P	P	00 04 42.9	+2.0
	baz=147						
Y22F	Passca Instru	74.25	328	P	P	00 04 42.9	+2.0
	baz=147						
L48A	N Adams	74.26	348	IAmb	IAmb	00 04 41.2	
	comp=Z,90nm,0.8s						
L48A	N Adams	74.26	348	P	P	00 04 39.7	-0.8
	baz=166,SNR=17						
L48A				P	P	00 04 39.7	-0.8
	baz=166,SNR=17						
J61A	Chester	74.33	357	P	P	00 04 42.1	+1.2
J61A				IAmb	IAmb	00 04 43.4	
	comp=Z,63nm,1.0s						
J61A	Chester	74.33	357	P	P	00 04 42.3	+1.4
	baz=177,SNR=11						
J61A				P	P	00 04 42.3	+1.4
	baz=177,SNR=11						
ACCN	Adirondack Com	74.43	356	P	P	00 04 42.1	+0.7
	baz=176,SNR=7.5						
M44A	Midewin, Midew	74.44	345	IAmb	IAmb	00 04 42.4	
	comp=Z,116nm,0.9s						
M44A	Midewin, Midew	74.44	345	P	P	00 04 41.4	-0.2
	baz=163,SNR=11						
N41A	Harden Midland	74.46	343	P	P	00 04 41.9	+0.1
	baz=160,SNR=16						
AAM	Ann Arbor	74.47	349	P	P	00 04 41.3	-0.4
	baz=167						
J58A	Remsen	74.50	355	P	P	00 04 42.0	+0.1
	baz=174,SNR=6.3						
J58A				P	P	00 04 42.0	+0.1
	baz=174,SNR=6.3						
J56A	Wolcott	74.55	354	IAmb	IAmb	00 04 43.4	
	comp=Z,92nm,0.8s						
J56A	Wolcott	74.55	354	P	P	00 04 42.4	+0.2
	baz=173,SNR=9.2						
J56A				P	P	00 04 42.4	+0.2
	baz=173,SNR=9.2						
J59A	Piesco	74.56	356	P	P	00 04 43.2	+0.9
	baz=175						
J59A				P	P	00 04 43.2	+0.9
	baz=175						
MEDO	Medina	74.60	353	P	P	00 04 43.1	+0.6
J57A	Williamstown	74.61	355	IAmb	IAmb	00 04 44.0	
	comp=Z,69nm,0.9s						
J57A	Williamstown	74.61	355	P	P	00 04 42.6	+0.1
	baz=174,SNR=13						
J57A				P	P	00 04 42.6	+0.1
	baz=174,SNR=13						
KSU1	Kansas State U	74.63	338	IAmb	IAmb	00 04 44.1	
	comp=Z,84nm,0.8s						
KSU1	Kansas State U	74.63	338	P	P	00 04 43.1	+0.4
	baz=156,SNR=21						
KSU1	Kansas State U	74.63	338	P	P	00 04 43.2	+0.4
	baz=156,SNR=21						
J55A	Hilton	74.63	353	P	P	00 04 42.3	-0.3
TUC	Tucson	74.66	324	P	P	00 04 44.7	+1.5
	baz=144						
L46A	Eue Claire	74.68	347	IAmb	IAmb	00 04 43.3	
	comp=Z,220nm,1.4s						
L46A	Eue Claire	74.68	347	P	P	00 04 42.3	-0.6
	baz=164,SNR=6.6						
L46A				P	P	00 04 42.3	-0.6
	baz=164,SNR=6.6						
HNH	Hanover	74.68	357	IAmb	IAmb	00 04 45.5	
	comp=Z,83nm,1.0s						
R32A	Long Quarter,	74.72	336	P	P	00 04 44.0	+0.7
	baz=154,SNR=26						
J54A	Appleton	74.72	353	P	P	00 04 43.5	+0.3
J54A	Appleton	74.72	353	P	P	00 04 43.5	+0.3
	baz=171						
J54A				P	P	00 04 43.5	+0.3
	baz=171						
K50A	Casco	74.77	350	P	P	00 04 43.5	+0.1
	baz=168,SNR=8.9						
K50A				P	P	00 04 43.5	+0.1
	baz=168,SNR=8.9						
ANMO	Albuquerque	74.77	329	P	P	00 04 45.4	+1.5
ANMO				IAmb	IAmb	00 04 46.9	
	comp=Z,167nm,1.5s						
ANMO	Albuquerque	74.77	329	P	P	00 04 45.6	+1.7
	baz=147						
ANMO	Albuquerque	74.77	329	P	P	00 04 45.8	+1.9
	baz=147,SNR=78						
HQIL	Hanson Quary C	74.80	345		pP	00 05 07.5	-4.0
I62A	Tamworth	74.82	358	P	P	00 04 44.4	+0.7
I62A	Tamworth	74.82	358	P	P	00 04 44.9	+1.2
	baz=178,SNR=5.1						
I62A				P	P	00 04 44.9	+1.2
	baz=178,SNR=5.1						
MCVT	Middlebury Col	74.96	357	P	P	00 04 45.8	+1.2
	baz=176,SNR=6.5						
I63A	Otisfield	74.98	359	IAmb	IAmb	00 04 47.4	
	comp=Z,118nm,1.1s						
I63A	Otisfield	74.98	359	P	P	00 04 45.8	+1.2
	baz=178,SNR=11						
I63A				P	P	00 04 45.8	+1.2
	baz=178,SNR=11						
MAW	Mawson	75.00	163	P	P	00 04 45.2	+0.6
	comp=Z,73nm,0.8s,baz=187,slow=8.3,SNR=14						
MAW				LR	LR	00 36 25.7	
	comp=Z,176nm,21.6s,baz=230,slow=34 comp=Z,73nm,0.8s						
NCB	Newcomb	75.04	356	P	P	00 04 45.6	+0.5
	baz=175,SNR=7.4						
WCNY	West Carthage	75.15	355	P	P	00 04 46.1	+0.5
	baz=174,SNR=12						
L44A	Lake County Fo	75.17	345	P	P	00 04 45.7	-0.1
	baz=163,SNR=6.4						
L44A	Lake County Fo	75.17	345	P	P	00 04 45.4	-0.3
	baz=163,SNR=6.4						
N38A	Joes South For	75.17	341	IAmb	IAmb	00 04 47.0	
	comp=Z,116nm,0.7s						
N38A	Joes South For	75.17	341	P	P	00 04 45.9	+0.1
	baz=158,SNR=25						
LBNH	Lisbon	75.20	358	P	P	00 04 47.1	+1.3
	baz=177,SNR=11						
LBNH	Lisbon	75.20	358	P	P	00 04 47.2	+1.3
	baz=177,SNR=11						
WIN	Windhoek	75.34	108	P	P	00 04 48.2	+0.6
L42A	Oliver, Polo	75.40	344	IAmb	IAmb	00 04 48.1	
	comp=Z,104nm,1.2s						
L42A	Oliver, Polo	75.40	344	P	P	00 04 46.8	-0.2
	baz=162,SNR=12						
214A	Organ Pipe Nat	75.42	322	IAmb	IAmb	00 04 50.7	
	comp=Z,137nm,1.2s						
214A	Organ Pipe Nat	75.42	322	P	P	00 04 49.6	+2.1
	baz=142,SNR=25						
CBKS	Cedar Bluff	75.43	336	P	P	00 04 48.7	+1.3
	baz=153,SNR=43						
CBKS	Cedar Bluff	75.43	336	P	P	00 04 48.6	+1.2
	baz=153,SNR=43						
PIX	Pinacate	75.45	322	P	P	00 04 49.0	+1.4
H62A	Milan	75.51	358	P	P	00 04 48.7	+1.0
J47A	Sunmer	75.58	348	P	P	00 04 47.3	-0.8
J47A				IAmb	IAmb	00 04 48.8	
	comp=Z,79nm,0.8s						
J47A	Sunmer	75.58	348	P	P	00 04 47.6	-0.5
	baz=166,SNR=11						
J47A				P	P	00 04 47.6	-0.5
	baz=166,SNR=11						
EMMW	East Machias	75.63	1	P	P	00 04 49.2	+0.9
EMMW				IAmb	IAmb	00 04 50.6	
	comp=Z,70nm,0.8s						
HAL	Halifax	75.70	4	IAmb	IAmb	00 04 50.9	
	comp=Z,93nm,0.9s						
LONY	Lake Ozonia	75.71	356	P	P	00 04 49.5	+0.7
	baz=175,SNR=13						
T25A	Trinidad	75.76	331	IAmb	IAmb	00 04 52.5	
	comp=Z,166nm,1.1s						
T25A	Trinidad	75.76	331	P	P	00 04 51.2	+1.6
	baz=149,SNR=55						
K43A	Burlington	75.76	345	IAmb	IAmb	00 04 50.3	
	comp=Z,119nm,1.1s						
K43A	Burlington	75.76	345	P	P	00 04 48.8	-0.3
	baz=163,SNR=6.9						
SFX	San Felipe	75.79	320	P	P	00 04 50.3	+0.7
L40A	Anamosa	75.83	343	P	P	00 04 49.9	+0.3
	baz=160,SNR=88						
FRNY	Flat Rock	75.87	357	IAmb	IAmb	00 04 51.5	
	comp=Z,68nm,1.0s						
FRNY	Flat Rock	75.87	357	P	P	00 04 50.3	+0.6
	baz=176,SNR=21						
BMNY	Brushton-Moira	75.93	356	P	P	00 04 50.4	+0.4
	baz=175,SNR=16						
I49A	Point Hope	75.94	350	IAmb	IAmb	00 04 50.8	
	comp=Z,92nm,0.9s						
N35A	Tabor	75.94	339	P	P	00 04 50.8	+0.6
	baz=156,SNR=43						
X18A	Snowflake	76.04	326	P	P	00 04 52.8	+1.6
X18A				IAmb	IAmb	00 04 54.3	
	comp=Z,124nm,1.5s						
GGN	Saint George	76.05	1	P	P	00 04 51.9	+1.2
GGN				IAmb	IAmb	00 04 53.0	
	comp=Z,66nm,0.9s						
G65A	Princeton	76.12	1	IAmb	IAmb	00 04 53.5	
	comp=Z,57nm,0.8s						
G65A	Princeton	76.12	1	P	P	00 04 52.6	+1.5
	baz=181,SNR=6.5						
G65A				P	P	00 04 52.6	+1.5
	baz=181,SNR=6.5						
WBO	Williamsburg	76.14	355	IAmb	IAmb	00 04 52.8	
	comp=Z,80nm,0.8s						
G62A	West of Eustis	76.14	359	IAmb	IAmb	00 04 53.7	
	comp=Z,90nm,0.9s						
G62A	West of Eustis	76.14	359	P	P	00 04 52.4	+1.1
	baz=178,SNR=18						
G62A				P	P	00 04 52.4	+1.1
	baz=178,SNR=18						
PKME	Peaks-Kenny Pk	76.18	360	P	P	00 04 51.5	+0.1
PKME				IAmb	IAmb	00 04 53.6	
	comp=Z,82nm,1.1s						
PKME	Peaks-Kenny Pk	76.18	360	P	P	00 04 52.7	+1.3
	baz=179,SNR=9.7						
PKME	Peaks-Kenny Pk	76.18	360	P	P	00 04 52.4	+1.0
	baz=179,SNR=9.7						
SCIA	State Center	76.20	342	P	P	00 04 52.2	+0.5
	baz=159,SNR=12						
SCIA	State Center	76.20	342	P	P	00 04 52.0	+0.3
	baz=159,SNR=12						
SADO	Sadowa	76.26	352	IAmb	IAmb	00 04 53.1	
	comp=Z,62nm,0.9s						
JFWS	Jewell Farm	76.40	344	IAmb	IAmb	00 04 54.1	
	comp=Z,184nm,1.4s						
JFWS	Jewell Farm	76.40	344	P	P	00 04 53.1	+0.4
	baz=161,SNR=22						
JFWS	Jewell Farm	76.40	344	P	P	00 04 52.9	+0.2
	baz=161,SNR=22						
W18A	Petrified Fore	76.42	326	IAmb	IAmb	00 04 56.3	
	comp=Z,157nm,1.1s						
W18A	Petrified Fore	76.42	326	P	P	00 04 55.2	+1.9
	baz=145,SNR=30						
MNTQ	Montreal, Queb	76.53	357	IAmb	IAmb	00 04 55.3	
	comp=Z,61nm,0.9s						
F63A	Nahmakanta, Br	76.61	360	IAmb	IAmb	00 04 56.3	
	comp=Z,66nm,0.9s						
F63A	Nahmakanta, Br	76.61	360	P	P	00 04 55.5	+1.6
	baz=180,SNR=10						
F63A				P	P	00 04 55.5	+1.6
	baz=180,SNR=10						
KSCO	Kaye Shedlock'	76.67	334	P	P	00 04 56.2	+1.6
	baz=151,SNR=19						
KSCO	Kaye Shedlock'	76.67	334	P	P	00 04 56.1	+1.6
	baz=151,SNR=19						
X16A	Lo Mia Camp, P	76.68	325	IAmb	IAmb	00 04 57.9	
	comp=Z,112nm,1.1s						
SDCO	Great Sand Dun	76.72	331	P	P	00 04 56.7	+1.6
	baz=148,SNR=55						
SDCO	Great Sand Dun	76.72	331	P	P	00 04 56.8	+1.6
	baz=148,SNR=55						
F64A	Sherman	76.78	0	IAmb	IAmb	00 04 57.1	
	comp=Z,100nm,0.9s						
F64A	Sherman	76.78	0	P	P	00 04 55.8	+1.1
	baz=180,SNR=13						
F64A				P	P	00 04 55.8	+1.1
	baz=180,SNR=13						
K38A	Parkersburg	76.78	342	IAmb	IAmb	00 04 55.9	
	comp=Z,113nm,0.7s						
K38A	Parkersburg	76.78	342	P	P	00 04 54.9	0.0
	baz=159,SNR=20						
LMN	Caledonia Moun	76.85	3	IAmb	IAmb	00 04 57.1	
	comp=Z,84nm,0.9s						
I42A	Draeger Farm,	77.02	345	IAmb	IAmb	00 04 57.5	
	comp=Z,120nm,1.1s						
I42A	Draeger Farm,	77.02	345	P	P	00 04 56.4	+0.2
	baz=162,SNR=17						
GLMI	Grayling	77.09	349	IAmb	IAmb	00 04 57.5	
	comp=Z,107nm,0.9s						
GLMI	Grayling	77.09	349	P	P	00 04 56.6	0.0
	baz=166,SNR=8.2						
GLMI	Grayling	77.09	349	P	P	00 04 56.5	-0.1
	baz=166,SNR=8.2						
SOE	Somerset East	77.15	120	IAmb	IAmb	00 04 59.5	
	comp=Z,123nm,1.0s						
L34A	Svendsen Farm,	77.17	339	P	P	00 04 57.6	+0.5
	baz=156,SNR=15						
BGNE	Belgrade	77.22	338	P	P	00 04 58.3	+0.9
	baz=154,SNR=26						
BGNE	Belgrade	77.22	338	P	P	00 04 58.5	+1.0
	baz=154,SNR=26						
S22A	4UR Ranch, Cre	77.29	330	P	P	00 04 59.9	+1.7
	baz=147,SNR=44						
TRQ	Mont Tremblant	77.31	356	IAmb	IAmb	00 04 59.3	
	comp=Z,91nm,1.0s						
TSUM	Tsumeb	77.33	105	P	P	00 04 59.5	+0.7
TSUM				IAmb	IAmb	00 05 00.9	
	comp=Z,87nm,1.0s						
TSUM	Tsumeb	77.33	105	LR	LR	00 34 53.9	
	comp=Z,194nm,21.1s,baz=182,slow=32						
E63A	Oxbow	77.33	0	P	P	00 04 59.0	+1.1
	baz=180,SNR=10.0						
E63A				P	P	00 04 59.0	+1.1
	baz=180,SNR=10.0						
H43A	Windswept, Lux	77.33	346	IAmb	IAmb	00 04 59.1	
	comp=Z,76nm,0.8s						
H43A	Windswept, Lux	77.33	346	P	P	00 04 58.5	+0.6
	baz=163,SNR=6.3						
I40A	Norwalk	77.41	344	IAmb	IAmb	00 04 59.5	
	comp=Z,73nm,0.8s						
I40A	Norwalk	77.41	344	P	P	00 04 58.3	-0.1
	baz=161,SNR=19						
GRHM	Grahamstown, E	77.48	121	P	P	00 05 00.3	+0.9
GRHM				IAmb	IAmb	00 05 01.2	
	comp=Z,136nm,1.1s						
WUAZ	Wupatki	77.53	326	IAmb	IAmb	00 05 02.6	
	comp=Z,115nm,1.1s						
WUAZ	Wupatki	77.53	326	P	P	00 05 01.4	+1.9
	baz=144,SNR=68						
E62A	Clayton Lake	77.53	360	IAmb	IAmb	00 05 01.3	
	comp=Z,90nm,0.8s						
E62A	Clayton Lake	77.53	360	P	P	00 05 00.4	+1.4
	baz=179,SNR=25						
E62A				P	P	00 05 00.4	+1.4
	baz=179,SNR=25						
MVCO	Mesa Verde	77.57	329	IAmb	IAmb	00 05 02.6	
	comp=Z,158nm,1.3s						
MVCO	Mesa Verde	77.57	329	P	P	00 05 01.4	+1.6
	baz=146,SNR=66						
PQI	Presque Isle	77.58	1	IAmb	IAmb	00 05 01.4	
	comp=Z,63nm,0.9s						
Q24A	Divide	77.62	332	IAmb	IAmb	00 05 02.8	
	comp=Z,117nm,0.8s						
Q24A	Divide	77.62	332	P	P	00 05 01.8	+1.7
	baz=149,SNR=62						
RMX	La Rumorosa	77.66	321	IAmb	IAmb	00 05 03.0	
	comp=Z,87nm,1.0s						
IKP	In-Ko-Pah, Jac	77.71	321	P	P	00 05 02.6	+2.1
	baz=140,SNR=16						
BLYC	Blythe	77.72	322	IAmb	IAmb	00 05 03.4	
	comp=Z,65nm,0.9s						
CBX	Cerro Bola	77.76	320	P	P	00 05 03.3	+2.6
CBX				IAmb	IAmb	00 05 04.0	
	comp=Z,109nm,1.2s						
SWSC	Sam W. Stewart	77.77	321	P	P	00 05 02.6	+1.9
	baz=140,SNR=12						
PDMCI	Parker Dam,Lak	77.95	323	P	P	00 05 03.2	+1.6
	baz=142						
D62A	Allapoint, All	77.99	360	IAmb	IAmb	00 05 03.6	
	comp=Z,100nm,0.9s						
D62A	Allapoint, All	77.99	360	P	P	00 05 02.5	+1.0
	baz=180,SNR=23						
D62A				P	P	00 05 02.5	+1.0
	baz=180,SNR=23						
BAR	Barrett	78.04	320	IAmb	IAmb	00 05 05.1	
	comp=Z,92nm,1.1s						
MONP2	Monument Peak	78.07	321	P	P	00 05 04.6	+2.0
	baz=140,SNR=16						
BC3	Big Chuckawall	78.13	322	P	P	00 05 04.6	+1.8
	baz=140,SNR=27						
OGNE	Ogallala	78.14	335	IAmb	IAmb	00 05 05.1	
	comp=Z,105nm,1.1s						
OGNE	Ogallala	78.14	335	P	P	00 05 04.1	+1.5
	baz=151,SNR=13						
OGNE	Ogallala	78.14	335	P	P	00 05 03.8	+1.2
	baz=151,SNR=13						
I37B	Waseca	78.22	342	P	P	00 05 03.4	+0.5
	baz=159,SNR=74						
BATG	Bathurst New B	78.23	2	P	P	00 05 04.2	+1.4
IRM	Iron Mountain	78.36	322	P	P	00 05 05.7	+1.8
	baz=141,SNR=26						
109C	Camp Elliot, M	78.44	320	P	P	00 05 06.2	+1.9
	baz=139						
ISCO	Idaho Springs	78.52	332	P	P	00 05 06.6	+1.5
	baz=148,SNR=63						
ISCO	Idaho Springs	78.52	332	P	P	00 05 06.5	+1.5
	baz=148,SNR=63						
E46A	Sault Ste Mari	78.53	349	P	P	00 05 04.5	0.0
	baz=166						
SMCO	Snowmass	78.55	331	IAmb	IAmb	00 05 08.5	
	comp=Z,117nm,0.9s						
G40A	Rib Lake	78.62	345	P	P	00 05 05.0	0.0
	baz=161,SNR=14						
PMD	Palm Desert	78.62	321	IAmb	IAmb	00 05 08.5	
	comp=Z,82nm,1.3s						
TPFO	Pinon Flats	78.63	321	P	P	00 05 07.5	+2.0
	baz=140,SNR=28						
PFO	Pinyon Flats O	78.64	321	P	P	00 05 07.5	+1.9
PFO				IAmb	IAmb	00 05 08.8	
	comp=Z,95nm,1.1s						
PFO	Pinyon Flats O	78.64	321	P	P	00 05 07.6	+2.0
	baz=140,SNR=26						
BRIGG	Briggsdale	78.68	333	IAmb	IAmb	00 05 08.1	
	comp=Z,77nm,0.9s						
BELC	Belle Mtn. Jos	78.69	322	P	P	00 05 07.8	+2.0
	baz=140						
U15A	North Rim	78.70	326	IAmb	IAmb	00 05 09.2	
	comp=Z,74nm,1.1s						
K30B	Basset	78.83	337	P	P	00 05 07.8	+1.4
	baz=153,SNR=35						
LDAQ	Lac Daran	78.90	358	IAmb	IAmb	00 05 08.3	
	comp=Z,123nm,1.5s						
BOSA	Boshof	78.91	117	IAmb	IAmb	00 05 08.7	
	comp=Z,102nm,0.9s						
BOSA	Boshof	78.91	117	P	P	00 05 07.6	+0.2
	comp=Z,77nm,0.8s,baz=247,slow=4.6,SNR=96 comp=Z,77nm,0.8s						
E43A	Lone Tree Farm	79.01	347	IAmb	IAmb	00 05 08.6	
	comp=Z,64nm,0.8s						
E43A	Lone Tree Farm	79.01	347	P	P	00 05 07.8	+0.6
	baz=164,SNR=8.6						
MURC	Murrieta	79.02	321	P	P	00 05 09.6	+2.0
	baz=139,SNR=24						
GMRC	Granite Mounta	79.11	322	P	P	00 05 10.2	+2.0
	baz=140,SNR=16						
HMU	Henry Mountain	79.18	327	IAmb	IAmb	00 05 11.2	
	comp=Z,64nm,1.0s						
ELS	Elsinore Mount	79.19	320	IAmb	IAmb	00 05 11.5	
	comp=Z,66nm,1.0s						
SPMN	Marine on St.	79.19	343	P	P	00 05 08.1	-0.1
	baz=159,SNR=15						
SPMN	Marine on St.	79.19	343	P	P	00 05 07.8	-0.4
	baz=159,SNR=15						
BBRC	Big Bear Solar	79.38	321	P	P	00 05 12.1	+2.3
	baz=140						
VLDQ	Val d'Or	79.40	354	IAmb	IAmb	00 05 10.8	
	comp=Z,81nm,1.0s						
V12A	Nelson	79.42	323	IAmb	IAmb	00 05 12.4	
	comp=Z,62nm,1.0s						
HEC	Hector,Ludlow	79.50	322	P	P	00 05 12.2	+1.9
	baz=140,SNR=37						
PKCU	Pink Cliffs	79.52	326	IAmb	IAmb	00 05 13.4	
	comp=Z,60nm,0.9s						
CIS	Catalina Islan	79.55	320	P	P	00 05 12.2	+1.8
	baz=138,SNR=8.3						
N23A	Red Feather La	79.58	332	IAmb	IAmb	00 05 13.6	
	comp=Z,114nm,1.2s						
N23A	Red Feather La	79.58	332	P	P	00 05 12.4	+1.6
	baz=148,SNR=33						
PHWY	Pilot Hill	79.74	333	IAmb	IAmb

	comp=Z,108nm,1.1s						
SZCU	**Shurtz Canyon**	**80.01**	**326**	IAmb	IAmb	00 05 16.2	
	comp=Z,82nm,1.2s						
SRU	**San Rafael Swe**	**80.04**	**328**	IAmb	IAmb	00 05 15.4	
	comp=Z,72nm,0.9s						
RAR	**Rarotonga**	**80.05**	**251**	LR	LR	00 33 39.3	
	comp=Z,100nm,21.8s,baz=116,slow=30						
SNCC	**San Nicolas Is**	**80.05**	**319**	IAmb	IAmb	00 05 16.0	
	comp=Z,118nm,1.1s						
SNCC	**San Nicolas Is**	**80.05**	**319**	P	**P**	**00 05 14.8**	**+1.6**
	baz=138,SNR=5.3						
GSC	**Goldstone, Bar**	**80.11**	**322**	IAmb	IAmb	00 05 16.6	
	comp=Z,106nm,1.4s						
GSC	**Goldstone, Bar**	**80.11**	**322**	P	**P**	**00 05 15.3**	**+1.8**
	baz=140,SNR=30						
DECC	**Green Verdugo**	**80.14**	**320**	P	**P**	**00 05 15.6**	**+2.0**
	baz=139,SNR=9.6						
Q16A	**Castle Valley**	**80.17**	**328**	IAmb	IAmb	00 05 16.7	
	comp=Z,101nm,1.1s						
E38A	**The Farm, Brul**	**80.19**	**344**	IAmb	IAmb	00 05 14.7	
	comp=Z,53nm,0.8s						
E38A	**The Farm, Brul**	**80.19**	**344**	P	**P**	**00 05 13.5**	**0.0**
	baz=160,SNR=15						
SUSD	**Miller**	**80.21**	**339**	IAmb	IAmb	00 05 15.1	
	comp=Z,152nm,1.0s						
SUSD	**Miller**	**80.21**	**339**	P	**P**	**00 05 14.2**	**+0.5**
	baz=154,SNR=11						
SUSD	**Miller**	**80.21**	**339**	P	**P**	**00 05 13.7**	**0.0**
	baz=154,SNR=11						
SHOC	**Shoshone, Teco**	**80.29**	**323**	P	**P**	**00 05 16.0**	**+1.6**
	baz=140,SNR=7.2						
P18A	**Preston Nutter**	**80.34**	**329**	IAmb	IAmb	00 05 17.6	
	comp=Z,125nm,1.1s						
PMAR	**Madeira**	**80.38**	**42**	*e*P	**P**	**00 05 16.3**	**+1.2**
	comp=Z,234nm,1.4s						
EDW2	**Edwards Air Fo**	**80.42**	**321**	P	**P**	**00 05 16.5**	**+1.4**
	baz=139,SNR=33						
P17A	**Butcher Ranch,**	**80.43**	**328**	IAmb	IAmb	00 05 17.7	
	comp=Z,115nm,1.2s						
OSI	**Osito Audit: C**	**80.62**	**320**	P	**P**	**00 05 18.1**	**+1.9**
	baz=138,SNR=7.1						
CCAC	**Calif City Air**	**80.64**	**321**	IAmb	IAmb	00 05 19.1	
	comp=Z,109nm,1.1s						
SCZ2	**Santa Cruz Isl**	**80.67**	**319**	P	**P**	**00 05 18.3**	**+1.8**
	baz=138,SNR=12						
F33A	**5 Mile Ranch,**	**80.69**	**341**	IAmb	IAmb	00 05 17.2	
	comp=Z,91nm,1.3s						
F33A	**5 Mile Ranch,**	**80.69**	**341**	P	**P**	**00 05 16.0**	**-0.2**
	baz=156,SNR=21						
LRMC	**Laurel Mtn Rad**	**80.71**	**321**	P	**P**	**00 05 18.4**	**+1.6**
	baz=139,SNR=15						
TOA0	**Torodi Ar. Sit**	**80.73**	**69**	P	**P**	**00 05 17.8**	**+0.6**
	SNR=50						
TORD	**Torodi Ar. Bea**	**80.73**	**69**	P	**P**	**00 05 17.3**	**+0.1**
	comp=Z,138nm,0.9s,baz=276,slow=3.6,SNR=484						
TORD				pP	**pP**	**00 05 42.6**	**-2.4**
	comp=Z,31nm,0.8s,baz=286,slow=6.2,SNR=2.8						
TORD				PKKPbc	**PKKPbc**	**00 23 55.6**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=29,slow=4.0,SNR=13						
TORD				PKPPKP	**P'P'df**	**00 32 00.0**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=23,slow=3.9,SNR=3.5						
TORD				LR	LR	00 38 49.7	
	comp=Z,172nm,20.5s,baz=236,slow=34						
	comp=Z,138nm,0.9s						
DRLN	**Deer Lake**	**80.80**	**7**	IAmb	IAmb	00 05 17.9	
	comp=Z,64nm,0.8s						
RDMU	**Red Mountain**	**80.81**	**330**	IAmb	IAmb	00 05 19.6	
	comp=Z,102nm,0.9s						
PRN	**Pahroc Range**	**80.83**	**324**	IAmb	IAmb	00 05 20.6	
	comp=Z,122nm,1.1s						
LBTB	**Lobatse**	**80.96**	**114**	IAmb	IAmb	00 05 19.6	
	comp=Z,81nm,0.9s						
LBTB	**Lobatse**	**80.96**	**114**	LR	LR	00 35 51.7	
	comp=Z,204nm,21.7s,baz=193,slow=32						
FURC	**Furnace Creek,**	**81.03**	**323**	P	**P**	**00 05 20.2**	**+2.0**
	baz=140,SNR=17						
SBC	**Santa Barbara**	**81.04**	**320**	P	**P**	**00 05 20.4**	**+2.1**
	baz=138						
ARVC	**Arvin**	**81.06**	**321**	P	**P**	**00 05 20.1**	**+1.6**
	baz=138,SNR=6.6						
BCW	**Bitter Crk WRg**	**81.24**	**320**	IAmb	IAmb	00 05 22.8	
	comp=Z,176nm,1.1s						
ISA	**Isabella, Lake**	**81.27**	**321**	IAmb	IAmb	00 05 22.8	
	comp=Z,79nm,1.1s						
ISA	**Isabella, Lake**	**81.27**	**321**	P	**P**	**00 05 21.6**	**+1.9**
	baz=139,SNR=39						
K22A	**Casper**	**81.30**	**333**	P	**P**	**00 05 21.2**	**+1.5**
	baz=148,SNR=53						
K22A	**Casper**	**81.30**	**333**	P	**P**	**00 05 21.4**	**+1.6**
	baz=148,SNR=53						
PKM	**Mcpherson Peak**	**81.42**	**320**	P	**P**	**00 05 22.7**	**+2.1**
	baz=138,SNR=72						
EYMN	**Ely**	**81.44**	**345**	IAmb	IAmb	00 05 21.3	
	comp=Z,70nm,0.9s						
EYMN	**Ely**	**81.44**	**345**	P	**P**	**00 05 20.2**	**+0.1**
	baz=160,SNR=21						
EYMN	**Ely**	**81.44**	**345**	P	**P**	**00 05 20.0**	**-0.2**
	baz=160,SNR=21						
RSSD	**Black Hills**	**81.63**	**335**	P	**P**	**00 05 22.4**	**+0.8**
RSSD				IAmb	IAmb	00 05 23.6	
	comp=Z,78nm,1.0s						
RSSD	**Black Hills**	**81.63**	**335**	P	**P**	**00 05 22.5**	**+0.9**
	baz=150						
RSSD	**Black Hills**	**81.63**	**335**	P	**P**	**00 05 22.7**	**+1.2**
	baz=150,SNR=52						
CWC	**Cottonwood Cre**	**81.64**	**322**	P	**P**	**00 05 23.4**	**+1.7**
	baz=139						
GRAC	**Grapevine Rang**	**81.69**	**323**	P	**P**	**00 05 23.7**	**+1.9**
	baz=140,SNR=7.9						
SPR3	**Spring Creek 3**	**81.72**	**326**	IAmb	IAmb	00 05 24.7	
	comp=Z,109nm,1.2s						
VES	**Vestal, Richgr**	**81.73**	**321**	P	**P**	**00 05 23.7**	**+1.7**
	baz=138,SNR=53						
R11B	**Troy Canyon, C**	**81.83**	**325**	IAmb	IAmb	00 05 25.7	
	comp=Z,93nm,1.2s						
R11B	**Troy Canyon, C**	**81.83**	**325**	P	**P**	**00 05 24.4**	**+1.7**
	baz=141,SNR=86						
SMMC	**Simmler**	**81.84**	**320**	P	**P**	**00 05 24.6**	**+2.0**
	baz=138,SNR=6.7						
GMN	**Gold Mountain**	**81.87**	**323**	IAmb	IAmb	00 05 25.7	
	comp=Z,90nm,1.4s						
DUG	**Dugway, Tooele**	**81.95**	**328**	P	**P**	**00 05 24.5**	**+1.2**
	baz=143,SNR=45						
TCUT	**Toone Canyon**	**82.06**	**329**	IAmb	IAmb	00 05 26.4	
	comp=Z,149nm,1.5s						
D32A	**Dogwood Acres,**	**82.08**	**341**	IAmb	IAmb	00 05 25.0	
	comp=Z,188nm,1.2s						
D32B	**Dogwood Acres,**	**82.08**	**341**	P	**P**	**00 05 23.9**	**+0.4**
	baz=156,SNR=11						
TIN	**Tinemaha, Big**	**82.19**	**322**	P	**P**	**00 05 26.5**	**+2.0**
	baz=139,SNR=16						
VOG	**Valley Oaks Go**	**82.25**	**321**	P	**P**	**00 05 25.4**	**+0.8**
	baz=138						
B35A	**Bob, Littlefor**	**82.35**	**344**	IAmb	IAmb	00 05 26.0	
	comp=Z,80nm,0.8s						
B35A	**Bob, Littlefor**	**82.35**	**344**	P	**P**	**00 05 24.8**	**-0.1**
	baz=159,SNR=57						
PDAR	**Pinedale Array**	**82.62**	**331**	P	**P**	**00 05 27.2**	**+0.4**
	comp=Z,24nm,0.8s,baz=136,slow=5.4,SNR=103						
PDAR				pP	**pP**	**00 05 54.6**	**-0.7**
	comp=Z,10nm,0.7s,baz=124,slow=4.8,SNR=6.6						
PDAR				PKKPbc	**PKKPbc**	**00 23 50.5**	**-2.5**
	comp=Z,1.7nm,0.7s,baz=101,slow=0.9,SNR=12						
	comp=Z,24nm,0.8s						
BW06	**Boulder Array**	**82.62**	**331**	P	**P**	**00 05 27.4**	**+0.6**
	baz=146,SNR=48						
E28A	**Huff**	**82.66**	**338**	P	**P**	**00 05 27.4**	**+0.8**
	baz=153,SNR=16						
MLAC	**Mammoth, Mammo**	**82.94**	**322**	P	**P**	**00 05 30.2**	**+1.7**
	baz=139,SNR=20						
PMPB	**Monarch Peak**	**82.94**	**320**	IAmb	IAmb	00 05 31.8	
	comp=Z,79nm,1.1s						
OMMB	**Old Mammoth Mi**	**83.01**	**322**	IAmb	IAmb	00 05 31.6	
	comp=Z,98nm,1.1s						
HVU	**Hansel Valley**	**83.20**	**328**	IAmb	IAmb	00 05 31.5	
	comp=Z,47nm,0.9s						
LHV	**Little Huntoon**	**83.23**	**323**	IAmb	IAmb	00 05 32.8	
	comp=Z,82nm,1.1s						
NVAR	**Mina Array Bea**	**83.26**	**323**	P	**P**	**00 05 31.4**	**+1.2**
	comp=Z,27nm,0.9s,baz=155,slow=5.9,SNR=151						
NVAR				pP	**pP**	**00 05 58.2**	**-0.7**
	comp=Z,8.5nm,0.8s,baz=125,slow=2.3,SNR=4.7						
NVAR				PKPPKP	**P'P'df**	**00 31 55.4**	**+1.4**
	comp=Z,1.0nm,1.0s,baz=277,slow=1.5,SNR=3.1						
NVAR				LR	LR	00 36 27.8	
	comp=Z,56nm,21.3s,baz=130,slow=31						
	comp=Z,27nm,0.9s						
BBGB	**Big Mountain B**	**83.34**	**320**	IAmb	IAmb	00 05 35.5	
	comp=Z,124nm,0.9s						
MDND	**Maddock**	**83.47**	**340**	P	**P**	**00 05 31.4**	**+0.8**
	baz=154,SNR=9.4						
MDND	**Maddock**	**83.47**	**340**	P	**P**	**00 05 31.5**	**+0.8**
	baz=154,SNR=9.4						
ELK	**Elko**	**83.52**	**326**	IAmb	IAmb	00 05 33.5	
	comp=Z,52nm,1.0s						
ELK	**Elko**	**83.52**	**326**	LR	LR	00 39 58.7	
	comp=Z,75nm,18.3s,baz=137,slow=34						
RYN	**Ryan**	**83.52**	**323**	IAmb	IAmb	00 05 34.0	
	comp=Z,73nm,1.2s						
KVN	**Kaiserville**	**83.62**	**324**	IAmb	IAmb	00 05 34.2	
	comp=Z,65nm,1.1s						
WAKR	**Walker**	**83.90**	**322**	IAmb	IAmb	00 05 36.7	
	comp=Z,114nm,1.2s						
YERR	**Yerington**	**84.16**	**323**	IAmb	IAmb	00 05 37.6	
	comp=Z,117nm,1.2s						
FLWY	**Flagg Ranch**	**84.17**	**331**	IAmb	IAmb	00 05 37.2	
	comp=Z,132nm,1.4s						
H17A	**Grant Village**	**84.38**	**331**	P	**P**	**00 05 37.5**	**+1.7**
	baz=145,SNR=15						
RLMT	**Red Lodge**	**84.45**	**333**	IAmb	IAmb	00 05 37.6	
	comp=Z,44nm,0.8s						
RLMT	**Red Lodge**	**84.45**	**333**	P	**P**	**00 05 36.9**	**+0.8**
	baz=146,SNR=45						
YMP	**Mirror Lake Pl**	**84.49**	**332**	IAmb	IAmb	00 05 48.0	
	comp=Z,55nm,1.0s						
LAO	**LASA Array**	**84.62**	**335**	IAmb	IAmb	00 05 38.5	
	comp=Z,85nm,0.9s						
LAO	**LASA Array**	**84.62**	**335**	P	**P**	**00 05 37.4**	**+0.7**
	baz=148,SNR=47						
LAO	**LASA Array**	**84.62**	**335**	P	**P**	**00 05 37.3**	**+0.7**
	baz=148,SNR=47						
ULM	**Lac du Bonnet**	**84.63**	**343**	IAmb	IAmb	00 05 37.6	
	comp=Z,90nm,0.9s						
ULM	**Lac du Bonnet**	**84.63**	**343**	P	**P**	**00 05 36.5**	**-0.1**
	comp=Z,60nm,0.8s,baz=158,slow=5.0,SNR=130						
ULM				pP	**pP**	**00 06 03.6**	**-1.4**
	comp=Z,36nm,0.8s,baz=163,slow=5.5,SNR=8.4						
ULM				PKKPbc	**PKKPbc**	**00 23 45.4**	**-3.0**
	comp=Z,4.8nm,0.7s,baz=343,slow=3.9,SNR=12						
	comp=Z,60nm,0.8s						
PAHR	**Pah Rah Range**	**84.77**	**323**	IAmb	IAmb	00 05 40.6	
	comp=Z,148nm,1.3s						
AFDM	**Forest Hills D**	**85.04**	**322**	IAmb	IAmb	00 05 41.2	
	comp=Z,86nm,1.3s						
HLID	**Hailey**	**85.35**	**329**	IAmb	IAmb	00 05 43.2	
	comp=Z,111nm,1.1s						
HLID	**Hailey**	**85.35**	**329**	P	**P**	**00 05 42.0**	**+1.5**
	baz=142,SNR=141						
DGMT	**Dagmar**	**85.46**	**337**	P	**P**	**00 05 42.0**	**+1.2**
	baz=150,SNR=52						
DGMT	**Dagmar**	**85.46**	**337**	P	**P**	**00 05 41.8**	**+1.0**
	baz=150,SNR=52						
MCCM	**Marconi Confer**	**85.48**	**320**	IAmb	IAmb	00 05 43.7	
	comp=Z,91nm,1.1s						
PLTX	**Planet X, Gerl**	**85.56**	**324**	IAmb	IAmb	00 05 44.1	
	comp=Z,104nm,1.0s						
ORV	**Oroville**	**85.76**	**322**	IAmb	IAmb	00 05 45.2	
	comp=Z,111nm,1.2s						
SCHQ	**Schefferville**	**85.77**	**1**	IAmb	IAmb	00 05 43.2	
	comp=Z,105nm,1.2s						
SCHQ					pP	00 06 10.2	-0.5
SCHQ	**Schefferville**	**85.77**	**1**	P	**P**	**00 05 41.6**	**-0.5**
	comp=Z,53nm,1.0s,baz=174,slow=6.8,SNR=30						
	comp=Z,53nm,1.0s						
HOPS	**Hopland Field**	**86.20**	**321**	IAmb	IAmb	00 05 47.7	
	comp=Z,58nm,1.2s						
WVOR	**Wild Horse Val**	**86.45**	**325**	IAmb	IAmb	00 05 48.3	
	comp=Z,75nm,1.2s						
BFZ	**Birch Farm**	**86.49**	**224**	IAmb	IAmb	00 05 49.1	
	comp=Z,57nm,0.9s						
BHW	**Bang Head**	**86.84**	**222**	IAmb	IAmb	00 05 50.4	
	comp=Z,42nm,1.0s						
MRZ	**Mangatainoka R**	**86.90**	**223**	IAmb	IAmb	00 05 50.9	
	comp=Z,54nm,1.0s						
KHZ	**Kahutara**	**86.95**	**221**	IAmb	IAmb	00 05 50.9	
	comp=Z,136nm,1.5s						
SNZO	**South Karori**	**87.00**	**222**	P	**P**	**00 05 50.6**	**+1.9**
SNZO				IAmb	IAmb	00 05 51.3	
	comp=Z,50nm,0.8s						
EGMT	**Eagleton**	**87.05**	**334**	P	**P**	**00 05 49.1**	**+0.4**
	baz=138,SNR=53						
RTZ	**Ruatahuna**	**87.34**	**226**	IAmb	IAmb	00 05 53.8	
	comp=Z,79nm,1.1s						
LTZ	**Lake Taylor**	**87.42**	**220**	IAmb	IAmb	00 05 53.3	
	comp=Z,98nm,1.0s						
RPZ	**Rata Peaks**	**87.46**	**219**	IAmb	IAmb	00 05 53.2	
	comp=Z,81nm,1.1s						
RPZ	**Rata Peaks**	**87.46**	**219**	LR	LR	00 37 46.0	
	comp=Z,99nm,19.3s,baz=172,slow=30						
URZ	**Urewera**	**87.48**	**226**	P	**P**	**00 05 51.2**	**+0.1**
	comp=Z,10.0nm,0.8s,baz=218,slow=19,SNR=4.3						
URZ				LR	LR	00 39 45.5	
	comp=Z,90nm,18.0s,baz=301,slow=32						
	comp=Z,10.0nm,0.8s						
WHZ	**Wether Hill Ro**	**87.58**	**216**	IAmb	IAmb	00 05 53.6	
	comp=Z,55nm,1.2s						
THZ	**Tophouse**	**87.73**	**221**	IAmb	IAmb	00 05 55.2	
	comp=Z,83nm,1.0s						
MSO	**Missoula**	**87.74**	**331**	P	**P**	**00 05 53.1**	**+1.1**
	baz=143,SNR=23						
KHMM	**Horse Mountain**	**87.89**	**322**	IAmb	IAmb	00 05 55.8	
	comp=Z,86nm,1.1s						
INZ	**Inchbonnie**	**87.91**	**220**	IAmb	IAmb	00 06 00.3	
	comp=Z,51nm,1.0s						
YBH	**Yreka Blue Hor**	**87.97**	**323**	IAmb	IAmb	00 05 54.5	
	comp=Z,38nm,0.9s						
MDT	**Midelt**	**88.01**	**49**	LR	LR	00 43 54.2	
	comp=Z,88nm,21.3s,baz=232,slow=35						
LSZ	**Lusaka**	**88.05**	**107**	P	**P**	**00 05 55.6**	**+1.2**
LSZ				IAmb	IAmb	00 05 57.2	
	comp=Z,40nm,0.9s						
LSZ	**Lusaka**	**88.05**	**107**	P	**P**	**00 05 56.1**	**+1.8**
I07A	**Izee**	**88.11**	**326**	IAmb	IAmb	00 05 56.5	
	comp=Z,92nm,1.1s						
L04D	**Klamath Falls**	**88.12**	**323**	IAmb	IAmb	00 05 55.8	
	comp=Z,83nm,1.1s						
KRMB	**Red Mountain**	**88.45**	**322**	IAmb	IAmb	00 05 58.3	
	comp=Z,65nm,1.3s						
PTEO	**Sao Teotonio**	**88.53**	**44**	*e*P	**P**	**00 05 56.5**	**+0.7**
	comp=Z,69nm,1.5s						
QRZ	**Quartz Range**	**88.56**	**222**	IAmb	IAmb	00 05 58.4	
	comp=Z,61nm,1.1s						
KSXB	**Camp Six Broad**	**88.65**	**322**	IAmb	IAmb	00 06 00.1	
	comp=Z,62nm,1.3s						
HIZ	**Hauiti**	**88.70**	**225**	IAmb	IAmb	00 05 59.1	
	comp=Z,76nm,1.1s						
L02F	**Cave Junction**	**88.70**	**323**	IAmb	IAmb	00 05 58.6	
	comp=Z,51nm,1.1s						
PBDV	**Barranco-do-Ve**	**88.80**	**44**	*e*P	**P**	**00 05 58.6**	**+1.4**
	comp=Z,97nm,1.8s						
TOZ	**Tahuroa Road**	**88.80**	**226**	IAmb	IAmb	00 05 59.8	
	comp=Z,50nm,1.0s						
PCVE	**Castro Verde**	**89.00**	**44**	*e*P	**P**	**00 05 58.7**	**+0.7**
	comp=Z,75nm,1.7s						
PNCL	**Nicolau / Gran**	**89.03**	**43**	*e*P	**P**	**00 05 58.3**	**+0.2**
	comp=Z,72nm,1.5s						
K02D	**Willamette Mer**	**89.16**	**323**	IAmb	IAmb	00 06 01.5	
	comp=Z,81nm,1.1s						
DBO	**Dodson Butte**	**89.25**	**323**	IAmb	IAmb	00 06 01.9	
	comp=Z,85nm,1.1s						
I04A	**Tendick Farm,**	**89.31**	**324**	IAmb	IAmb	00 06 01.2	
	comp=Z,56nm,0.9s						
PBEJ	**Beja**	**89.36**	**44**	*e*P	**P**	**00 06 00.5**	**+0.8**
	comp=Z,24nm,1.3s						
G06A	**Carlson Farm,**	**89.50**	**326**	IAmb	IAmb	00 06 03.1	
	comp=Z,77nm,1.2s						
EVO	**Evora**	**89.61**	**43**	*e*P	**P**	**00 06 01.3**	**+0.4**
	comp=Z,34nm,2.0s						
F07A	**Phinny Hill Vi**	**89.66**	**327**	IAmb	IAmb	00 06 03.5	
	comp=Z,38nm,1.0s						
I03D	**Drain, OR**	**89.71**	**324**	IAmb	IAmb	00 06 03.6	
	comp=Z,64nm,1.3s						
PSBE	**So Bento**	**89.81**	**42**	*e*P	**P**	**00 06 02.3**	**+0.5**
	comp=Z,64nm,1.7s						
PMTG	**Montargil**	**89.84**	**43**	*e*P	**P**	**00 06 02.2**	**+0.3**
	comp=Z,54nm,1.8s						
H04A	**Detroit Lake**	**89.85**	**325**	IAmb	IAmb	00 06 03.6	
	comp=Z,75nm,0.9s						
HAWA	**Hanford**	**89.85**	**328**	IAmb	IAmb	00 06 04.1	
	comp=Z,55nm,1.1s						
H04D	**Lebanon**	**90.00**	**325**	IAmb	IAmb	00 06 21.5	
	comp=Z,50nm,1.0s						
HOOD	**Mount Hood Mea**	**90.05**	**326**	IAmb	IAmb	00 06 05.3	
	comp=Z,74nm,1.0s						
D08A	**Wollman Farm,**	**90.07**	**328**	IAmb	IAmb	00 06 04.8	
	comp=Z,33nm,1.0s						
PESTR	**Estremoz**	**90.08**	**43**	*e*P	**P**	**00 06 03.5**	**+0.4**
	comp=Z,28nm,1.4s						
E07A	**Sunnyside**	**90.12**	**328**	IAmb	IAmb	00 06 05.2	
	comp=Z,31nm,0.9s						
NEW	**Newport**	**90.20**	**330**	P	**P**	**00 06 03.4**	**-0.1**
	baz=140,SNR=9.1						
NEW	**Newport**	**90.20**	**330**	LR	LR	00 43 54.7	
	comp=Z,84nm,20.4s,baz=116,slow=34						
FFC	**Flin Flon**	**90.28**	**342**	P	**P**	**00 06 03.6**	**0.0**
FFC				IAmb	IAmb	00 06 04.9	
	comp=Z,56nm,1.1s						
COR	**Corvallis**	**90.33**	**324**	P	**P**	**00 06 06.2**	**+2.2**
MXC	**Moxie City**	**90.34**	**327**	IAmb	IAmb	00 06 06.4	
	comp=Z,33nm,0.9s						
C09A	**Chrisman Ranch**	**90.35**	**329**	IAmb	IAmb	00 06 05.9	
	comp=Z,67nm,1.2s						
PMRV	**Marv??o**	**90.56**	**43**	*e*P	**P**	**00 06 05.3**	**0.0**
	comp=Z,25nm,2.2s						
LTY	**Liberty**	**91.02**	**328**	IAmb	IAmb	00 06 08.8	
	comp=Z,30nm,0.9s						
MTE	**Manteigas**	**91.12**	**42**	*e*P	**P**	**00 06 08.5**	**+0.6**
	comp=Z,40nm,1.4s						
PVRL	**Vila Real**	**91.60**	**41**	*e*P	**P**	**00 06 10.2**	**+0.1**
	comp=Z,38nm,1.6s						
E03A	**Lebam**	**91.86**	**326**	IAmb	IAmb	00 06 13.8	
	comp=Z,48nm,1.0s						
MVO	**Moncorvo**	**91.91**	**42**	*e*P	**P**	**00 06 11.9**	**+0.3**
	comp=Z,33nm,1.8s						
GNW	**Green Mountain**	**92.24**	**327**	IAmb	IAmb	00 06 14.0	
	comp=Z,25nm,1.1s						
PAB	**San Pablo**	**92.44**	**44**	P	**P**	**00 06 14.7**	**+0.6**
PAB				IAmb	IAmb	00 06 15.5	
	comp=Z,29nm,1.4s						
PBRG	**Braganca**	**92.50**	**41**	*e*P	**P**	**00 06 14.5**	**+0.2**
	comp=Z,35nm,1.4s						
EDM	**Edmonton**	**92.61**	**335**	IAmb	IAmb	00 06 14.3	
	comp=Z,27nm,0.9s						
ESDC	**Sonseca Array**	**92.75**	**44**	P	**P**	**00 06 14.8**	**-0.7**
	comp=Z,5.2nm,0.9s,baz=240,slow=4.1,SNR=22						
	comp=Z,5.2nm,0.9s						
FRB	**Frobisher Bay**	**94.70**	**0**	LR	LR	00 49 21.7	
	comp=Z,77nm,20.8s,baz=189,slow=36						
MBAR	**Mbarara**	**97.88**	**95**	LR	LR	00 46 09.8	
	comp=Z,86nm,21.4s,baz=195,slow=32						
SFJD	**Kangerlussuaq**	**98.94**	**7**	LR	LR	00 55 09.5	
	comp=Z,38nm,18.9s,baz=201,slow=38						
KEST	**Kesra**	**99.08**	**54**	LR	LR	00 54 39.1	
	comp=Z,89nm,19.1s,baz=274,slow=37						
YKA	**Yellowknife Ar**	**100.38**	**340**	P	**Pdif**	**00 06 49.4**	**0.0**
	comp=Z,6.5nm,1.0s,baz=140,slow=4.4,SNR=65						
YKA				pP	**pPdif**	**00 07 16.9**	**-1.4**
	comp=Z,3.5nm,0.9s,baz=138,slow=4.6,SNR=5.3						
YKA				PP	**PP**	**00 10 55.5**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=139,slow=7.5,SNR=5.6						
YKA				PKiKP	**PKiKP**	**00 11 16.2**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=143,slow=1.9,SNR=4.1						
KOTAN	**Kotaneelee Air**	**101.69**	**335**	P	**Pdif**	**00 06 56.4**	**+1.1**
	baz=134						
U33K	**Whale Pass**	**102.70**	**329**	P	**Pdif**	**00 07 01.3**	**+1.5**
	baz=128						
DLBC	**Dease Lake**	**102.84**	**332**	P	**Pdif**	**00 07 01.8**	**+1.3**
	baz=130						
S34M	**Telegraph Cree**	**102.96**	**331**	P	**Pdif**	**00 07 02.3**	**+1.3**
	baz=129						
WTLY	**Watson Lake, Y**	**103.44**	**334**	P	**Pdif**	**00 07 04.8**	**+1.7**
	baz=130						
R33M	**Jennings River**	**103.83**	**332**	P	**Pdif**	**00 07 05.6**	**+0.6**
	baz=129						
DZM	**Mont Dzumac**	**105.03**	**232**	*e*LR	LR	00 42 05.8	
	comp=Z,395nm,31.6s						
DAVA	**Damuels**	**105.33**	**44**	*i* PKKP	**PKKPbc**	**00 22 51.7**	**-0.5**
	comp=Z,7.6nm,1.3s						
FETA	**Feichten**	**105.71**	**44**	*i* PKKP	**PKKPbc**	**00 22 50.5**	**-0.6**
	comp=Z,7.1nm,1.2s						
RETA	**Reutte**	**105.95**	**44**	*e*PKKP	**PKKPbc**	**00 22 48.3**	**-1.9**
	comp=Z,3.9nm,1.1s						
MOTA	**Moosalm**	**106.09**	**44**	*i* PKKP	**PKKPbc**	**00 22 49.4**	**-0.5**
	comp=Z,4.0nm,0.9s						
WTTA	**Wattenberg**	**106.37**	**44**	*e*PKKP	**PKKPbc**	**00 22 48.6**	**-0.4**
	comp=Z,4.4nm,0.7s						
ABTA	**Abfaltersbach**	**106.65**	**45**	*e*PKKP	**PKKPbc**	**00 22 46.4**	**-1.6**
	comp=Z,2.6nm,0.7s						
P29M	**Windy Craggy**	**106.75**	**330**	P	**PKiKP**	**00 11 28.2**	**+0.7**
	baz=123						
N31M	**Braeburn, Yuko**	**106.99**	**333**	P	**PKiKP**	**00 11 28.8**	**+1.0**
	baz=124						
LESA	**Schwarzleotal**	**107.07**	**45**	*e*PKKP	**PKKPbc**	**00 22 46.2**	**-0.5**
	comp=Z,3.4nm,0.7s						
KBA	**Koelnbreinsper**	**107.31**	**45**	*i* PKKP	**PKKPbc**	**00 22 44.8**	**-1.2**
	comp=Z,5.7nm,1.4s						
HYT	**Haines Junctio**	**107.32**	**331**	P	**PKiKP**	**00 11 29.1**	**+0.5**
	baz=125						
BIOA	**Bad Ischl, Aus**	**107.77**	**45**	*e*PKKP	**PKKPbc**	**00 22 40.2**	**-4.2**
	comp=Z,1.4nm,0.7s						
M30M	**Minto, Yukon**	**108.00**	**333**	P	**PKiKP**	**00 11 30.7**	**+1.0**
	baz=123						
MOA	**Molln**	**108.22**	**45**	*i* PKKP	**PKKPbc**	**00 22 41.5**	**-1.6**
	comp=Z,3.0nm,1.2s						
GERES	**GERESS Array B**	**108.33**	**44**	PKiKP	**PKiKP**	**00 11 31.1**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=210,slow=3.4,

SCRK Sand Creek 111.52 333 P PKiKP 00 11 36.9 +0.5
baz=121
baz=117
M24K Tolsona, Glenn 111.57 330 P PKiKP 00 11 37.0 +0.6
baz=116
J26L Joseph Creek 111.59 333 P PKiKP 00 11 37.1 +0.6
baz=117
H27K Steamboat Moun 111.65 335 P PKiKP 00 11 37.4 +0.9
baz=118
PAX Paxson 111.66 331 P PKiKP 00 11 36.6 -0.1
baz=116
RIDG Independent Ri 111.75 332 P PKiKP 00 11 36.6 -0.1
baz=116
F28M Old Crow 111.75 337 P PKiKP 00 11 37.0 +0.3
baz=119
I26K Coal Creek Min 111.81 334 P PKiKP 00 11 37.2 +0.4
baz=117
SCM Sheep Creek Mo 111.94 330 P PKiKP 00 11 37.5 +0.3
baz=115
M23K Glacier View 112.09 330 P PKiKP 00 11 37.2 -0.2
baz=115
E28M Babbage River 112.13 338 P PKiKP 00 11 37.3 0.0
baz=119
D28M Stokes Point 112.23 339 P PKiKP 00 11 37.9 +0.5
baz=120
SURR Surduc 112.27 49 ⇑P PKiKP 00 11 38.6 +0.4
J25K Salcha River, 112.34 333 P PKiKP 00 11 38.5 +0.6
baz=116
SML Sawmill 112.36 330 P PKiKP 00 11 38.3 +0.3
baz=114
WAT6 Susitna Watana 112.43 331 P PKiKP 00 11 38.5 +0.2
baz=114
DHY Denali Highway 112.48 331 P PKiKP 00 11 39.2 +0.9
baz=115
RC01 Rabbit Creek A 112.68 329 P PKiKP 00 11 38.8 +0.2
baz=114
G26K Porcupine Rive 112.78 336 P PKiKP 00 11 38.7 +0.2
baz=116
PRP Porcupine Dome 112.79 334 P PKiKP 00 11 39.1 +0.2
baz=115
HDA Harding Lake 112.87 333 P PKiKP 00 11 39.6 +0.7
baz=114
WAT1 Susitna Watana 112.87 331 P PKiKP 00 11 39.7 +0.8
baz=114
D27M Malcolm River 112.89 338 P PKiKP 00 11 39.1 +0.3
baz=118
Q20K Shuyak Island 112.94 326 P PKiKP 00 11 39.3 +0.2
baz=112
ILAR Eielson Array 113.00 333 PKiKP PKiKP 00 11 39.0 0.0
comp=Z,4.8nm,0.9s,baz=188,slow=0.8,SNR=35
ILAR PKKPbc PKKPbc 00 22 25.1 -2.8
comp=Z,0.8nm,0.8s,baz=301,slow=3.8,SNR=6.9
DRGR 113.03 48 ⇑P PKiKP 00 11 39.5 -0.2
HFS Hagfors 113.05 33 PKiKP PKiKP 00 11 37.7 -1.6
comp=Z,6.8nm,0.9s,baz=184,slow=4.5,SNR=4.6
SII Sitkinak Islan 113.06 323 P PKiKP 00 11 40.0 +0.6
baz=112
F26K Sheenjek River 113.24 336 P PKiKP 00 11 40.0 +0.5
baz=116
POKR Poker Plat Res 113.35 333 P PKiKP 00 11 39.6 -0.1
baz=114
MCK McKinley 113.39 331 P PKiKP 00 11 40.7 +0.8
baz=113
COLA College 113.42 333 P PKiKP 00 11 40.6 +0.8
baz=114
CUT Chulitna 113.43 330 P PKiKP 00 11 41.0 +1.1
baz=113
G25K Bearman Lake 113.53 335 P PKiKP 00 11 41.5 +1.5
baz=114
R18K Karluk 113.57 324 P PKiKP 00 11 41.0 +0.7
baz=111
F25K Christian Rive 113.71 336 P PKiKP 00 11 41.1 +0.7
baz=114
NEA2 Nenana 113.79 332 P PKiKP 00 11 41.2 +0.6
baz=113,SNR=5.3
H24K Noodor Dome 113.81 334 P PKiKP 00 11 41.5 +0.8
baz=113
SKT Skwentna 113.82 329 P PKiKP 00 11 40.8 +0.1
baz=112
TRF Thorofare Moun 113.84 331 P PKiKP 00 11 41.0 0.0
baz=112,SNR=5.7
E25K Arctic Village 113.90 336 P PKiKP 00 11 41.6 +0.9
baz=114
G24K Hadweenzic Riv 114.00 335 P PKiKP 00 11 41.7 +0.8
baz=113
VOIR 114.06 50 ⇓P PKiKP 00 11 42.2 +0.4
I23K Minto, Yukon-K 114.11 333 P PKiKP 00 11 41.6 +0.5
baz=112
BPAW Bear Paw Mtn. 114.37 331 P PKiKP 00 11 41.9 +0.1
baz=111,SNR=8.9
O19K Port Alsworth 114.44 327 P PKPdf 00 11 41.7 -0.2
baz=110
PPLA Purkeypile 114.44 330 P PKiKP 00 11 42.5 +0.4
baz=111
F24K Squaw Lake 114.47 335 P PKiKP 00 11 42.6 +0.7
baz=112
M20K Styx River 114.49 329 P PKiKP 00 11 42.2 +0.1
baz=110
Q17K Contact Creek 114.53 325 P PKPdf 00 11 42.1 -0.2
baz=110
CAST Castle Rocks 114.58 331 P PKPdf 00 11 42.0 -0.1
baz=111,SNR=6.2
P18K Big Mountain, 114.59 326 P PKPdf 00 11 42.2 -0.1
baz=110
MLY Manley 114.61 332 P PKiKP 00 11 42.4 +0.2
baz=111
D25K Kavik River 114.66 338 P PKiKP 00 11 42.6 +0.4
baz=113
N19K Bonanza Creek 114.73 327 P PKiKP 00 11 42.6 0.0
baz=110
CHUM Lake Minchumin 114.84 331 P PKPdf 00 11 42.5 0.0
baz=110,SNR=6.6
G23K Bananza Creek 114.95 334 P PKiKP 00 11 43.4 +0.6
baz=111
L20K Farewell, AK 115.03 329 P PKPdf 00 11 44.0 +1.0
baz=110
Q16K King Salmon 115.05 325 P PKiKP 00 11 43.7 +0.6
baz=109
M19K Big River Lodg 115.06 329 P PKiKP 00 11 43.5 +0.4
baz=109
P17K Kvichak River 115.11 325 P PKPdf 00 11 42.9 -0.3
baz=109
I21K Tanana 115.16 332 P PKPdf 00 11 43.5 +0.3
baz=110
CHGN Chignik 115.17 322 P PKiKP 00 11 44.1 +0.7
baz=109
H22K Ishtalitna Cre 115.17 333 P PKPdf 00 11 44.1 +0.9
baz=110
COLD Coldfoot 115.20 335 P PKPdf 00 11 44.3 +1.1
baz=110,SNR=7.5
PLOR Plostina 115.26 50 ⇓P PKPdf 00 11 43.6 -0.5
E23K Chandalar 115.28 336 P PKPdf 00 11 44.0 +0.6
baz=111
VRI Vrincioaia 115.32 50 ⇑P PKPdf 00 11 42.8 -1.3
L19K White Mountain 115.36 329 P PKiKP 00 11 44.7 +1.0
baz=109
K20K Telida 115.40 330 P PKiKP 00 11 43.9 +0.2
baz=109
D24K Happy Valley 115.41 337 P PKPdf 00 11 44.0 +0.5
baz=111
TESR Tescani 115.48 50 ⇑P PKPdf 00 11 42.8 -1.6
C24K Franklin Bluff 115.57 338 P PKiKP 00 11 45.0 +1.2
baz=111
M18K Stony River 115.57 328 P PKiKP 00 11 44.7 +0.6
baz=108
G22K Bettles 115.57 334 P PKiKP 00 11 45.5 +1.6
baz=110
O17K Koliganek Bris 115.62 326 P PKiKP 00 11 44.5 +0.4
baz=108
H21K Melozitna Rive 115.64 333 P PKiKP 00 11 44.6 +0.5
baz=109
J20K Nowinta River 115.70 331 P PKiKP 00 11 44.7 +0.5
baz=109
HARR Harsova 115.73 52 ⇑P PKiKP 00 11 45.5 +0.6
SUW Suwalki 115.78 41 eP PKiKP 00 11 45.6 +0.9
N17K Nushagak Hills 115.90 327 P PKiKP 00 11 45.3 +0.6
baz=108
D23K Nanushuk River 115.97 337 P PKiKP 00 11 45.6 +0.9
baz=109
SDPT Sand Point 115.97 321 P PKiKP 00 11 45.8 +0.8
baz=108
CFR Carcaliu 116.03 51 ⇑P PKPdf 00 11 44.8 -0.6
I20K Naaghedeneel 116.03 332 P PKiKP 00 11 45.8 +1.0
baz=108
O16K Kokwok River B 116.04 326 P PKiKP 00 11 46.8 +1.8
baz=108
TTA Tatalina 116.10 329 P PKiKP 00 11 45.9 +0.8
baz=108,SNR=5.2
L18K Granite Mounta 116.19 329 P PKiKP 00 11 45.9 +0.6
baz=107
G21K Allakaket 116.19 334 P PKiKP 00 11 46.0 +0.9
baz=108
J19K Poorman 116.26 331 P PKiKP 00 11 46.0 +0.7
baz=108
M17K Holitna River 116.28 328 P PKiKP 00 11 46.6 +1.2
baz=107
F21K Alatna River 116.40 334 P PKiKP 00 11 46.8 +1.3
baz=108
H20K Anotleneega Mo 116.41 332 P PKiKP 00 11 46.3 +0.7
baz=107
J18K Innoko River 116.57 330 P PKiKP 00 11 47.2 +1.2
baz=107
D22K Ayikyak River 116.62 336 P PKiKP 00 11 47.4 +1.4
baz=108,SNR=7.2
PABE Paberze 116.66 39 PKiKP 00 11 46.5 +0.2
PABE Paberze 116.66 39 eP PKiKP 00 11 46.4 +0.1
O15K Ungalikthiuk R 116.77 325 P PKiKP 00 11 48.3 +1.9
baz=106
M16K Timber Creek 116.87 327 P PKiKP 00 11 48.2 +1.6
baz=106
L17K Donlin 116.88 328 P PKiKP 00 11 48.2 +1.6
baz=106
E21K Killik River 116.94 336 P PKiKP 00 11 47.8 +1.2
baz=107
GCSA Galena City Sc 117.00 331 P PKiKP 00 11 47.6 +1.0
baz=106
MILM Milestii Mici 117.02 50 ⇑P PKPdf 00 11 46.4 -0.9
K17K Iditarod 117.05 329 P PKiKP 00 11 47.6 +0.7
baz=106
H19K Roundabout Mou 117.05 332 P PKiKP 00 11 47.5 +0.7
baz=106
RAF Rauma 117.11 33 eP PKPdf 00 11 46.6 -0.4
N15K Kwethluk River 117.17 326 P PKiKP 00 11 48.1 +0.9
baz=106
F20K Avaraart Lake 117.19 334 P PKiKP 00 11 48.2 +1.2
baz=106
MMAI Mount Meron Ar 117.21 66 PKP PKiKP 00 11 48.3 +0.1
comp=Z,4.7nm,0.7s,baz=292,slow=0.8,SNR=9.4
MMAI pPKP pPKPdf 00 12 16.6 -1.3
comp=Z,4.3nm,0.8s,baz=282,slow=1.6,SNR=4.4
MMAI PKKPab PKKPab 00 22 14.6 -0.7
comp=Z,8.4nm,1.0s,baz=83,slow=4.6,SNR=8.1
L16K Owhat River 117.30 328 P PKiKP 00 11 49.0 +1.6
baz=105
B22K Teshekpuk Lake 117.30 338 P PKiKP 00 11 47.9 +0.7
baz=106
C21K Knifeblade Rid 117.43 336 P PKiKP 00 11 48.6 +1.1
baz=106
G19K Purcell Mounta 117.47 333 P PKiKP 00 11 48.5 +0.9
baz=105
MTSE Matsula 117.48 36 eP PKiKP 00 11 47.8 +0.1
O14K Tigyukauivet M 117.50 325 P PKiKP 00 11 48.8 +1.0
baz=105
ANTO Ankara 117.57 58 PKiKP 00 11 49.2 +0.5
ANTO Ankara 117.57 58 P PKiKP 00 11 49.1 +0.5
M15K Kasigluk River 117.60 326 P PKiKP 00 11 48.5 +0.5
baz=105
E20K Nigu River 117.68 335 P PKiKP 00 11 48.8 +0.8
baz=105
H18K Honhosa River 117.72 331 P PKiKP 00 11 49.8 +1.6
baz=105
E19K Redstone River 117.86 334 P PKiKP 00 11 49.5 +1.1
baz=104
N14K Kuskokwak Cree 117.88 325 P PKiKP 00 11 49.7 +1.1
baz=104
F19K Shaleruckik Mo 117.91 333 P PKiKP 00 11 49.5 +1.1
baz=104
D20K Etivluk River 117.95 336 P PKiKP 00 11 50.4 +1.9
baz=104
G18K Tagagawik 118.02 332 P PKiKP 00 11 50.1 +1.4
baz=104
BR131 Keskin Array S 118.14 59 P PKiKP 00 11 50.1 +0.2
SNR=7.0
BRTR Keskin Array B 118.14 59 PKP PKPdf 00 11 49.5 -0.4
comp=Z,7.4nm,0.8s,baz=188,slow=3.1,SNR=53
BRTR pPKP pPKPdf 00 12 18.6 -1.0
comp=Z,5.7nm,0.8s,baz=198,slow=3.4,SNR=11
BRTR PKKPbc PKKPbc 00 22 05.2 -4.1
comp=Z,0.4nm,0.5s,baz=336,slow=2.7,SNR=3.8
BRTR PKKPab PKKPab 00 22 10.3 -0.5
comp=Z,2.4nm,0.8s,baz=98,slow=3.6,SNR=9.8
BRTR SKKP SKKPdf 00 26 03.2 -1.0
comp=Z,0.3nm,0.3s,baz=62,slow=6.3,SNR=4.1
MEF Metsahovi 118.15 34 eP PKPdf 00 11 49.0 0.0
J16K Anvik River 118.21 329 P PKiKP 00 11 50.3 +1.2
baz=104
M14K Bethel 118.22 326 P PKiKP 00 11 50.5 +1.4
baz=104
L15K Ungalak Mounta 118.22 327 P PKiKP 00 11 50.5 +1.3
baz=104
H17K Granite Mounta 118.31 331 P PKiKP 00 11 50.7 +1.4
baz=103
KIEV Kiev 118.35 46 ⇓P PKPdf 00 11 48.8 -0.9
KIEV Kiev 118.35 46 PKPdf PKPdf 00 11 48.9 -0.8
KIEV Kiev 118.35 46 i PKPdf PKPdf 00 11 49.0 -0.8
SNR=13
AKASG Malin Array Be 118.36 46 PKP PKPdf 00 11 48.8 -1.0
comp=Z,9.0nm,0.7s,baz=262,slow=2.8,SNR=36
AKASG pPKP pPKPdf 00 12 18.4 -1.0
comp=Z,7.5nm,0.8s,baz=264,slow=2.9,SNR=10
AKASG PKKPbc PKKPbc 00 22 08.0 -0.6
comp=Z,1.4nm,0.6s,baz=60,slow=3.9,SNR=6.0
K15K Wolf Creek Mou 118.39 328 P PKiKP 00 11 51.5 +2.0
baz=103
I17K Unalakleet 118.39 330 P PKiKP 00 11 50.7 +1.3
baz=103,SNR=5.8
D19K Kuna River 118.44 335 P PKiKP 00 11 50.4 +0.9
baz=103
B20K Meade River 118.45 337 P PKiKP 00 11 50.9 +1.6
baz=103
A21K Barrow 118.58 338 P PKiKP 00 11 50.7 +1.1
baz=103
F18K Selawik 118.58 333 P PKiKP 00 11 51.1 +1.4
baz=103
L14K Kuka Creek 118.70 327 P PKiKP 00 11 51.2 +1.1
baz=103
G17K Kiwalik Mounta 118.74 332 P PKiKP 00 11 50.8 +0.7
baz=102,SNR=9.9
M13K Dall Lake 118.81 326 P PKiKP 00 11 51.3 +1.0
baz=103
VSU Vasula 118.89 37 eP PKPdf 00 11 50.4 -0.1
C19K Lookout Ridge 119.09 336 P PKiKP 00 11 51.9 +1.2
baz=101,SNR=22
E18K Tukpahlearik C 119.12 334 P PKiKP 00 11 52.0 +1.2
baz=101
F17K Baldwin Pennin 119.17 333 P PKiKP 00 11 51.9 +1.0
baz=101
H16K Elim 119.21 330 P PKiKP 00 11 51.9 +0.8
baz=102,SNR=12
FINES FINESS Array B 119.23 33 PKP PKPdf 00 11 50.1 -0.9
comp=Z,6.5nm,0.9s,baz=281,slow=1.0,SNR=8.8
FINES pPKP pPKPdf 00 12 19.3 -1.6
comp=Z,5.5nm,0.9s,baz=128,slow=3.1,SNR=3.6
FINES PKKPab PKKPab 00 22 04.0 -0.6
comp=Z,3.7nm,0.9s,baz=54,slow=5.5,SNR=4.5
SPITS Spitsbergen Ar 119.39 14 PKP PKPdf 00 11 50.3 -0.7
comp=Z,13nm,1.1s,baz=195,slow=4.8,SNR=6.5
SPITS PKKPbc PKKPab 00 22 03.9 +0.5
comp=Z,5.3nm,0.8s,baz=90,slow=12,SNR=2.8
J14K Nanvaranak Lak 119.40 328 P PKiKP 00 11 52.6 +1.1
baz=102
G16K Koyuk River 119.41 331 P PKiKP 00 11 52.7 +1.3
baz=101
E17K Hotham Inlet 119.52 333 P PKiKP 00 11 52.1 +0.6
baz=100,SNR=6.2
C18K Utukok River 119.57 335 P PKiKP 00 11 52.2 +0.5
baz=100,SNR=11
B18K Kokolik River 119.91 336 P PKiKP 00 11 53.4 +1.1
baz=99
G15K Niukluk 120.03 331 P PKiKP 00 11 53.8 +1.1
baz=100
NIKH Nikolski High 120.09 316 P PKiKP 00 11 53.8 +0.7
baz=103
M11K Mekoryuk 120.19 325 P PKiKP 00 11 53.8 +0.8
baz=101
C17K DeLong Mountai 120.26 335 P PKiKP 00 11 53.4 +0.4
baz=98
F15K North Star Dit 120.41 331 P PKiKP 00 11 54.2 +0.9
baz=99
ARCES ARCESS Array B 120.42 24 PKP PKPdf 00 11 51.9 -1.3
comp=Z,3.1nm,0.7s,baz=250,slow=2.2,SNR=8.7
ARCES PKKPbc PKKPab 00 21 59.8 +0.6
comp=Z,1.7nm,0.7s,baz=357,slow=6.1,SNR=3.7
ANM Nome 120.53 330 P PKiKP 00 11 53.9 +0.3
baz=99
C16K Lisburne Hills 121.03 334 P PKPdf 00 11 54.1 -0.3
baz=97
F14K Arctic Creek 121.06 331 P PKiKP 00 11 55.5 +0.8
baz=98
ASAR Alice Springs 121.19 204 PKP PKPdf 00 11 55.3 -1.0
comp=Z,14nm,0.7s,baz=139,slow=2.0,SNR=105
ASAR PKKPbc PKKPbc 00 21 57.1 -0.9
comp=Z,5.1nm,0.8s,baz=343,slow=3.4,SNR=28
SPIA Saint Paul Isl 121.70 321 P PKiKP 00 11 56.8 +0.7
baz=99
TNA Tin City 121.73 331 P PKiKP 00 11 56.0 0.0
baz=96
RAYN Ar Rayn 121.94 80 PKiKP 00 11 58.0 +0.3
RAYN Ar Rayn 121.94 80 i PKiKP PKiKP 00 11 58.5 +0.8
SNR=12
RAYN Ar Rayn 121.94 80 P PKiKP 00 11 58.2 +0.4
GAMB Gambell 123.19 329 P PKiKP 00 11 59.3 +0.5
baz=94
OBN Obninsk 123.61 42 ⇑P PKPdf 00 11 59.6 0.0
OBN Obninsk 123.61 42 PKPdf PKPdf 00 11 59.4 -0.3
WRA Warramunga Arr 124.42 207 PKP PKPdf 00 12 01.9 -0.7
comp=Z,35nm,0.7s,baz=165,slow=1.7,SNR=220
WRA pPKP pPKPdf 00 12 31.1 -1.2
comp=Z,4.5nm,0.7s,baz=161,slow=1.7,SNR=2.9
WRA PKKPbc PKKPbc 00 21 45.3 -0.1
comp=Z,5.1nm,0.9s,baz=345,slow=3.8,SNR=15
WRAB Tennant Creek 124.43 207 PKPdf 00 12 01.9 -0.6
KIV Kislovodsk 125.75 56 ⇓P PKiKP 00 12 04.7 0.0
KIV Kislovodsk 125.75 56 PKPdf PKiKP 00 12 04.8 0.0
KIV Kislovodsk 125.75 56 i PKPdf PKiKP 00 12 04.9 +0.1
SNR=12
KIV Kislovodsk 125.75 56 P PKPdf 00 12 04.5 +0.2
KBZ Khabaz 125.86 56 PKP PKPdf 00 12 03.9 -0.5
comp=Z,15nm,1.0s,baz=223,slow=2.3,SNR=16
KBZ pPKP pPKPdf 00 12 34.1 +0.1
comp=Z,12nm,0.9s,baz=210,slow=3.1,SNR=5.0
ABTO Aybut 126.03 91 P PKPdf 00 12 05.4 -0.2
GNI Garni 126.47 61 PKPdf PKiKP 00 12 06.9 +0.5
GNI Garni 126.47 61 PKPdf PKiKP 00 12 06.6 +0.2
GNI Garni 126.47 61 P PKiKP 00 12 06.9 +0.5
WHFO Wadi Hawf 126.68 90 P PKPdf 00 12 06.8 0.0
TRNA Turayna 127.22 81 P PKPdf 00 12 07.2 -0.4
DOK Doka 127.29 90 P PKPdf 00 12 07.8 -0.1
SNR=5.1
DMTO DMTO 127.60 91 P PKPdf 00 12 08.2 -0.3
SHAO Shalim 128.31 91 PKPdf PKiKP 00 12 10.4 -0.1
SHAO Shalim 128.31 91 P PKPdf 00 12 10.2 +0.3
FITZ Fitzroy Crossi 128.98 198 PKPdf PKPdf 00 12 11.3 +0.1
UMZA Um Al Zommool 129.83 85 P PKiKP 00 12 13.3 -0.1
ASUD Al Ashush, Dub 130.68 83 PKPdf PKiKP 00 12 15.0 0.0
ASUD Al Ashush, Dub 130.68 83 P PKPdf 00 12 12.8 -1.4
DQM DQM 130.76 90 P PKPdf 00 12 14.7 +0.3
SNR=6.1
ALNE Al Ain 130.83 84 i PKPdf PKiKP 00 12 15.2 -0.2
SNR=7.1
ALNE Al Ain 130.83 84 P PKPdf 00 12 14.6 +0.1
FAQ Al Faqa, Dubai 130.94 83 PKPdf PKPdf 00 12 15.0 +0.3
FAQ Al Faqa, Dubai 130.94 83 P PKPdf 00 12 14.4 -0.3
NAZ Nazwa, Dubai 131.09 83 PKPdf PKPdf 00 12 15.1 +0.2
ARQ Araqi 131.22 85 P PKPdf 00 12 14.7 -0.6
ASHO Ashiyiah 131.32 83 PKPdf PKPdf 00 12 15.4 -0.1
ASHO Ashiyiah 131.32 83 P PKPdf 00 12 14.6 -0.9
BILL Bilibino 131.52 336 PKPdf 00 12 11.0 -3.4
SOHO SOHO 131.53 84 i PKPdf PKPdf 00 12 15.4 -0.3
SNR=11
SOHO SOHO 131.53 84 P PKPdf 00 12 15.5 -0.3
UOSS Minazif 131.53 83 PKPdf PKPdf 00 12 14.7 -1.1
UOSS Minazif 131.53 83 P PKPdf 00 12 14.8 -1.1
MHTO MHTO 131.56 89 P PKPdf 00 12 15.8 -0.1
SNR=7.0
MDH Madha 131.74 83 P PKPdf 00 12 15.8 -0.3
JMDO Jabal Madar 132.21 87 P PKPdf 00 12 16.4 -0.8
SMDO Samad 132.43 86 P PKPdf 00 12 17.4 -0.3
SNR=6.9
WBK Wadi Bani Khal 133.04 87 P PKPdf 00 12 18.8 0.0
SNR=5.1
JLN Jalan Bani Buh 133.25 88 P PKPdf 00 12 19.4 +0.3
ARU Arti 135.93 39 PKPdf PKPdf 00 12 23.6 +0.6
GEYT Alibeck 136.33 66 PKhKP PKPpre 00 12 19.9
comp=Z,5.6nm,0.9s,baz=236,slow=1.6,SNR=7.2
GEYT PKP PKPdf 00 12 24.1 -0.3
comp=Z,13nm,0.8s,baz=256,slow=4.4,SNR=7.9
TIXI Tiksi 138.45 352 PKPpre 00 12 17.7
SEY Seymchan 138.93 333 PKhKP PKPpre 00 12 19.8
comp=Z,2.3nm,0.3s,baz=97,slow=5.1,SNR=10
SEY PKP PKPdf 00 12 29.1 +0.7
comp=Z,55nm,0.7s,baz=104,slow=2.5,SNR=59
SEY pPKP pPKPdf 00 12 57.3 -1.1
comp=Z,26nm,0.8s,baz=115,slow=2.5,SNR=5.2
NRIK Noril'sk 139.59 13 PKhKP PKPpre 00 12 21.5
comp=Z,2.7nm,0.8s,baz=53,slow=2.4,SNR=7.1
NRIK PKP PKPdf 00 12 29.4 0.0
comp=Z,5.4nm,0.6s,baz=81,slow=1.2,SNR=10
PETK Petropavlovsk- 140.10 317 PKhKP PKPpre 00 12 22.0
comp=Z,3.7nm,0.6s,baz=108,slow=4.8,SNR=5.9
PETK PKP PKPdf 00 12 31.5 +0.7
comp=Z,25nm,0.9s,baz=134,slow=4.3,SNR=14
PETK pPKP pPKPdf 00 12 58.7 -2.3
comp=Z,10nm,0.8s,baz=79,slow=7.7,SNR=3.0
JAGI Jajag, Banyuwa 140.38 185 PKPdf PKPdf 00 12 31.2 -1.4
MA2 Magadan 141.29 329 PKPpre 00 12 26.7
MA2 Magadan 141.29 329 PKhKP PKPpre 00 12 26.0
comp=Z,6.8nm,0.3s,baz=74,slow=4.6,SNR=6.9
MA2 PKP PKPdf 00 12 32.9 +0.1
comp=Z,6.8nm,0.3s,baz=48,slow=2.0,SNR=10
BRVK Borovoye 143.38 41 PKPdf PKPbc 00 12 34.9 +0.7
BVAR Borovoye Array 143.46 41 PKP PKPbc 00 12 34.8 +0.3
comp=Z,9.3nm,0.8s,baz=317,slow=1.9,SNR=46
BVAR pPKP pPKPdf 00 13 04.9 -1.9
comp=Z,6.4nm,0.7s,baz=306,slow=2.4,SNR=3.2
GUMO Guam 144.41 248 PKPbc 00 12 38.4 +0.1
KBL Kabul 144.68 73 PKPdf PKPab 00 12 37.7 -1.1
KBL Kabul 144.68 73 P PKPab 00 12 38.5 -0.4
SNR=31
SIMJ Simiganj 144.93 66 PKPdf PKPbc 00 12 39.3 -0.2
BRZS Berezniki 145.82 46 ePKPbc PKPdf 00 12 41.4 +0.3
baz=46
TNTI Ternate 146.00 210 PKPdf 00 12 42.8 +0.3
DZA Taraz 146.47 58 ePKPbc PKPbc 00 12 43.4 -0.6
baz=58
YAK Yakutsk 146.96 344 PKPdf PKPdf 00 12 43.1 +0.6
YAK Yakutsk 146.96 344 PKPbc PKPdf 00 12 43.3 +0.8
comp=Z,414nm,0.7s,baz=9.6,slow=0.2,SNR=104
YAK pPKPbc pPKPbc 00 13 13.6 -0.7
comp=Z,190nm,0.8s,baz=73,slow=2.0,SNR=5.0
HYB Hyderabad 147.39 107 ePKPdf PKPdf 00 12 45.0 +0.4
HYB ePKPbc PKPbc 00 12 47.0 -0.3
BTLS Baital 148.04 54 ePKP PKPdf 00 12 45.6 +0.7
baz=54
BTLS ePKPbc PKPbc 00 12 48.6 +0.4
baz=54
BTLS i PKPab PKPab 00 12 51.5 +0.3
baz=54
NIL Nilore 148.05 76 PKPdf 00 12 45.9 +0.6
EKS2 Erkin-Say 148.29 58 P PKPdf 00 12 46.9 +1.3
SNR=62
AML Almayashu 148.30 59 P PKPdf 00 12 46.9 +1.0
SNR=29
USP Ospenovka 148.71 57 P PKPdf 00 12 47.0 +0.9
SNR=68
SGDS Sogindy 148.77 57 ePKP PKPdf 00 12 46.4 +0.2
baz=57
SGDS ePKPbc PKPbc 00 12 50.7 +0.4
baz=57
AAK Ala-Archa 148.81 58 P PKPdf 00 12 47.7 +1.3
SNR=101
AAK Ala-Archa 148.81 58 PKPdf 00 12 47.7 +1.3
AAK Ala-Archa 148.81 58 i PKPdf PKPdf 00 12 47.8 +1.3
SNR=138
UCH Uchtor 148.89 59 P PKPdf 00 12 48.3 +1.3
SNR=47
KURBB Kurchatov Arra 149.04 42 PKPbc PKPdf 00 12 48.0 +1.6
comp=Z,57nm,0.9s,baz=299,slow=3.2,SNR=59
KURBB pPKPbc pPKPbc 00 13 18.3 -1.8
comp=Z,52nm,0.8s,baz=298,slow=3.0,SNR=12
KURK Kurchatov 149.05 42 PKPdf PKPdf 00 12 46.9 +0.6
KBK Karagaybulak 149.14 58 P PKPdf 00 12 47.1 +0.1
SNR=70
TKM2 Tokmak 2 149.56 57 P PKPdf 00 12 48.8 +1.1
SNR=32
SEM Semipalatinsk 150.12 41 ePKP PKPdf 00 12 48.0 -0.3
baz=41
SEM i PKPbc PKPbc 00 12 53.4 -0.2
baz=41
ULHL Ulahol 150.15 59 P PKiKP 00 12 55.2 +0.6
SNR=15
KSH Kashi 150.31 64 PKPbc PKPdf 00 12 49.5 +0.6

KSH					sPKP			00 13 24.5	
KSH					PP	**PP**		**00 16 29.8**	**-1.1**
CHKK	**Chushkaly**	**150.36**	**55**	*e*PKP	**PKPdf**			**00 12 47.8**	**-0.9**
	baz=55								
CHKK				*i* PKPbc	**PKPbc**			**00 12 54.0**	**0.0**
	baz=55								
AAA	**Alma-Ata**	**150.45**	**57**	*e*PKP	**PKPdf**			**00 12 49.3**	**+0.3**
	baz=57								
AAA				*e*PKPbc	**PKiKP**			**00 12 54.9**	**-0.1**
	baz=57								
ZALV	**Zalesovo Beam**	**150.49**	**32**	PKP	**PKPdf**			**00 12 48.3**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=273,slow=2.8,SNR=24								
ZALV				PKPbc	**PKPbc**			**00 12 53.8**	**-0.2**
	comp=Z,175nm,0.8s,baz=311,slow=3.2,SNR=250								
ZALV				pPKPbc	**pPKPbc**			**00 13 22.7**	**-0.8**
	comp=Z,166nm,0.8s,baz=304,slow=3.0,SNR=16								
TNSS	**Tian-Shan**	**150.51**	**57**	*e*PKP	**PKPdf**			**00 12 49.4**	**-0.1**
	baz=57								
TNSS				*i* PKPbc	**PKiKP**			**00 12 55.6**	**-0.1**
	baz=57								
MDOK	**Medeo**	**150.56**	**57**	*e*PKP	**PKPdf**			**00 12 49.1**	**-0.1**
	baz=57								
MDOK				*i* PKPbc	**PKPbc**			**00 12 55.0**	**+0.2**
	baz=57								
TDK	**Taldyqorghan**	**151.04**	**52**	*e*PKP	**PKPdf**			**00 12 49.7**	**0.0**
	baz=52								
TDK				*e*PKPbc	**PKPbc**			**00 12 55.6**	**0.0**
	baz=52								
YSS	**Yuzh-Sakhalins**	**151.15**	**312**		**PKiKP**			**00 12 56.1**	**-0.1**
ZHN	**Zhinishke**	**151.54**	**56**	*i* PKPbc	**PKPbc**			**00 12 56.7**	**-0.2**
	baz=56								
SATY	**Saty**	**151.55**	**56**	*i* PKPbc	**PKPbc**			**00 12 57.0**	**+0.1**
	baz=56								
KPKS	**Kokpek**	**151.65**	**55**	*e*PKP	**PKPdf**			**00 12 50.8**	**0.0**
	baz=56								
KPKS				*i* PKPbc	**PKiKP**			**00 12 57.5**	**-0.1**
	baz=56								
UZB	**Uzynbulak**	**151.97**	**56**	*i* PKPbc	**PKPbc**			**00 12 58.1**	**+0.1**
	baz=56								
ASAJ	**Asahikawa**	**152.19**	**306**	PKPbc	**PKPbc**			**00 12 58.0**	**-0.2**
	comp=Z,68nm,1.0s,baz=254,slow=7.4,SNR=12								
SHLS	**Shalkode**	**152.28**	**56**	*e*PKP	**PKPdf**			**00 12 52.5**	**+0.7**
	baz=56								
SHLS				*i* PKPbc	**PKiKP**			**00 12 59.8**	**+0.9**
	baz=56								
MAKZ	**Makanchi**	**152.74**	**47**		**PKPdf**			**00 12 51.9**	**-0.3**
MK31	**Makanchi Array**	**152.94**	**47**	PKPbc	**PKPbc**			**00 12 59.9**	**0.0**
MK31				PKPab	**PKPab**			**00 13 11.8**	**+0.3**
MK31				pPKPab	**pPKPbc**			**00 13 30.0**	**+0.5**
MKAR	**Makanchi Array**	**152.94**	**47**	PKP	**PKPdf**			**00 12 51.5**	**-1.0**
	comp=Z,4.9nm,0.9s,baz=294,slow=1.4,SNR=35								
MKAR				PKPbc	**PKPbc**			**00 12 59.9**	**+0.1**
	comp=Z,63nm,0.8s,baz=303,slow=2.4,SNR=138								
MKAR				PKPab	**PKPab**			**00 13 11.3**	**-0.2**
	comp=Z,47nm,0.7s,baz=293,slow=4.1,SNR=16								
MKAR				pPKPbc	**pPKPbc**			**00 13 28.6**	**-0.8**
	comp=Z,63nm,0.8s,baz=308,slow=2.1,SNR=12								
ZSN	**Zaisan**	**154.21**	**44**	*e*PKP	**PKPdf**			**00 12 53.3**	**-1.0**
	baz=44								
SRIT	**Nakonsritamara**	**155.00**	**152**	PKPdf	**PKPdf**			**00 12 56.5**	**+0.1**
SRIT					**PKPab**			**00 13 21.2**	**+0.3**
KLR	**Kul'dur**	**156.28**	**325**	PKP	**PKPdf**			**00 12 55.8**	**-1.2**
	comp=Z,14nm,1.2s,baz=5.8,slow=3.2,SNR=13								
KLR				PKPab	**PKPab**			**00 13 26.1**	**+0.5**
	comp=Z,9.6nm,0.8s,baz=1.2,slow=2.7,SNR=7.5								
MJAR	**Matsushiro Arr**	**156.98**	**291**	PKP	**PKPdf**			**00 12 56.6**	**-1.8**
	comp=Z,1.9nm,0.5s,baz=209,slow=1.3,SNR=6.9								
MJAR				PKPab	**PKPab**			**00 13 29.7**	**+0.6**
	comp=Z,30nm,0.7s,baz=104,slow=2.4,SNR=28								
MJAR				pPKPab	**pPKPab**			**00 13 58.7**	**+0.7**
	comp=Z,8.4nm,0.8s,baz=117,slow=2.4,SNR=2.8								
MAJO	**Matsushiro**	**156.98**	**291**	PKPab	**PKPab**			**00 13 30.3**	**+1.2**
HEH	**HeiHe**	**157.48**	**332**	*e*PKP	**PKPdf**			**00 12 57.5**	**-1.0**
WMQ	**Urumqi**	**157.66**	**49**	PKP	**PKPdf**			**00 13 00.0**	**+1.0**
WMQ				PKPab	**PKPab**			**00 13 32.8**	**+0.9**
WMQ				PP	**PP**			**00 17 14.0**	**+2.3**
WMQ				AMB	AMB				
	comp=Z,310nm,5.5s								
USRK	**Ussuriysk Ar.**	**159.14**	**314**	PKPdf	**PKPdf**			**00 13 00.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**159.14**	**314**	PKPab	**PKPab**			**00 13 39.2**	**+1.1**
	comp=Z,35nm,0.8s,baz=60,slow=3.4,SNR=18								
USRK				pPKPab	**pPKPab**			**00 14 07.4**	**-0.1**
	comp=Z,11nm,0.9s,baz=46,slow=5.5,SNR=3.2								
LSA	**Lhasa**	**162.68**	**90**	*i* PKPdf	**PKPdf**			**00 13 06.9**	**+1.3**
	SNR=11								
LSA	**Lhasa**	**162.68**	**90**	P	**PKPdf**			**00 13 06.8**	**+1.3**
SONM	**Songino Array**	**163.06**	**11**	PKP	**PKPdf**			**00 13 04.7**	**-0.2**
	comp=Z,6.9nm,0.9s,baz=247,slow=0.2,SNR=25								
SONM				pPKP	**pPKPdf**			**00 13 33.6**	**-1.3**
	comp=Z,3.2nm,0.9s,baz=310,slow=0.9,SNR=1.9								
SONM				PKPab	**PKPab**			**00 13 55.0**	**-0.2**
	comp=Z,16nm,0.8s,baz=322,slow=4.7,SNR=24								
SONM				pPKPab	**pPKPab**			**00 14 22.7**	**-1.3**
	comp=Z,6.0nm,1.0s,baz=20,slow=2.4,SNR=2.1								
SONM				PP	**PP**			**00 17 39.1**	**-0.7**
	comp=Z,1.8nm,1.1s,baz=333,slow=6.1,SNR=3.9								
CMAR	**Chiang Mai Arr**	**163.12**	**136**	PKP	**PKPdf**			**00 13 05.8**	**+0.1**
	comp=Z,13nm,1.0s,baz=252,slow=2.5,SNR=63								
CMAR				pPKP	**pPKPdf**			**00 13 34.5**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=257,slow=3.0,SNR=1.6								
CMAR				PKPab	**PKPab**			**00 13 55.9**	**-0.3**
	comp=Z,8.7nm,0.8s,baz=238,slow=4.6,SNR=12								
ULN	**Ulaanbaatar**	**163.13**	**10**		**PKPdf**			**00 13 05.0**	**0.0**
ULN				PKPab	**PKPab**			**00 13 56.7**	**+1.1**
CN2	**Changchun**	**163.15**	**322**	*e*PKP	**PKPdf**			**00 13 09.3**	**+4.3**
CHTO	**Chiang Mai**	**163.40**	**135**		**PKPdf**			**00 13 06.1**	**+0.2**
CHTO				PKPab	**PKPab**			**00 13 57.0**	**-0.3**
MND	**Mandalay**	**163.71**	**121**	PKPdf	**PKPdf**			**00 13 06.4**	**+0.2**
KSRS	**Korea Array**	**164.85**	**299**	PKP	**PKPdf**			**00 13 06.6**	**-0.1**
	comp=Z,8.3nm,0.9s,baz=151,slow=0.3,SNR=20								
KSRS				pPKP	**pPKPdf**			**00 13 36.1**	**-0.7**
	comp=Z,9.0nm,1.1s,baz=124,slow=0.9,SNR=3.6								
KSRS				PKPab	**PKPab**			**00 14 04.5**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=83,slow=4.0,SNR=6.2								
GOMU	**GeErMu**	**165.55**	**66**	PKP	**PKPdf**			**00 13 09.3**	**+1.5**
GOMU				pPKP	pPKPdf			00 13 39.5	+1.7
XLT	**XiLinHaoTe**	**166.81**	**344**	*e*PKP	**PKPdf**			**00 13 07.8**	**-0.4**
TNCH	**TengChong**	**167.24**	**116**	PKP	**PKPdf**			**00 13 07.8**	**-1.4**
TNCH				PKPab	**PKPab**			**00 14 14.8**	**+0.3**
TNCH				AMB	AMB				
	comp=Z,160nm,5.1s								
GTA	**Gaotai**	**167.69**	**46**	⇓PKP	**PKPdf**			**00 13 09.8**	**+0.7**
GTA				pPKP	pPKPdf			00 13 39.5	+0.4
GTA				PKPab	**PKPab**			**00 14 17.0**	**+1.0**
GTA				PP	**PP**			**00 18 04.5**	**-0.3**
BJI	**Beijing**	**170.35**	**336**	PKP	**PKPdf**			**00 13 11.0**	**+0.5**
KMI	**Kunming**	**170.38**	**127**	⇓PKP	**PKPdf**			**00 13 11.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**170.44**	**358**	*e*PKP	**PKPdf**			**00 13 11.3**	**+0.6**
PZH	**PanZhiHua**	**170.48**	**118**	PKP	**PKPdf**			**00 13 10.8**	**-0.4**
PZH				pPKP	**pPKPdf**			**00 13 41.3**	**+0.1**
PZH				PKPab	**PKPab**			**00 14 28.5**	**-0.3**
PZH				PP	**PP**			**00 18 19.3**	**0.0**
PZH				AMB	AMB				
	comp=Z,110nm,5.3s								
BTO	**Baotou**	**170.64**	**5**	*e*PKP	**PKPdf**			**00 13 10.8**	**0.0**
BTO				PP	**PP**			**00 18 20.0**	**+1.4**
LZH	**Lanzhou**	**172.24**	**50**	*e*PKP	**PKPdf**			**00 13 11.3**	**-0.5**
LZH				pPKP	pPKPdf			00 13 43.3	+1.5
TIA	**Tai'an**	**173.00**	**316**	PKP	**PKPdf**			**00 13 12.3**	**+0.4**
HNS	**HongShan**	**173.22**	**335**	⇓PKP	**PKPdf**			**00 13 12.5**	**+0.6**
HNS				pPKP	**pPKPdf**			**00 13 42.5**	**+0.3**
HNS				PKPab	**PKPab**			**00 14 40.5**	**+0.3**
HNS				PP	**PP**			**00 18 29.8**	**-1.7**
NJ2	**Nanjing**	**173.39**	**279**	*e*PKP	**PKPdf**			**00 13 12.5**	**+0.3**
TIY	**Taiyuan**	**173.49**	**351**	PKP	**PKPdf**			**00 13 13.0**	**+0.8**
TIY				PKPab	**PKPab**			**00 14 42.0**	**+0.5**
CD2	**Chengdu**	**173.65**	**91**	PKP	**PKPdf**			**00 13 13.5**	**+1.1**
CD2				PP	**PP**			**00 18 38.8**	**+3.5**
LYN	**LuoYang**	**176.55**	**342**	⇑PKP	**PKPdf**			**00 13 13.0**	**0.0**
LYN				sPKP				00 13 48.5	
LYN				PKPab	**PKPab**			**00 14 55.3**	**+0.2**
LYN				PP	**PP**			**00 18 46.5**	**-0.8**
LYN				AMB	AMB				
	comp=Z,410nm,3.7s								
WHN	**Wuhan**	**177.16**	**256**	PKP	**PKPdf**			**00 13 13.5**	**+0.3**
WHN				pPKP	**pPKPdf**			**00 13 42.8**	**-0.7**
ENH	**Enshi**	**178.25**	**124**		**PKPdf**			**00 13 13.2**	**-0.3**

*IDC **28** 23:56:13.1±1.5,41˚.44S×174˚.26E,h0km,mb4.2/2, mbtmp3.9/4,ML3.2/2,MS3.5/2,Error ellipse: s-maj=40.9km s-min=25.0km az=140.0*
*NOU **28** 23:56:16.6,41˚.76S×174˚.55E,h20km,MLv4.4/12,Cook Strait, New Zealand*

*NEIC **28** 23:56:18.3±1.7,41˚.60S±0˚.03×174˚.32E±0˚.02,h26km±6km, mb4.7/10,Error ellipse: s-maj=4.1km s-min=2.4km az=186.0*
*WEL **28** 23:56:18.1±0.3,42˚.5±2˚×17˚.4E±˚,h16km±3km,M4.1/13, ML4.4/13,MLv4.1/13,Error ellipse: s-maj=0.0km s-min=0.0km az=150.5,confirmed*
*WEL **28** 23:56:18.5,41˚.53S×174˚.28E,h30km,ML4.1,Mw3.9, Moment Tensor Solution. s3 Moment tensor: Mrr33.63; Mθθ6.12; Mϕϕ-39.75; Mrθ-1.08; Mθϕ13.15; Mϕr-67.89; Fault plane solution: NP1:φ215.00000°,δ17.00000°, λ123.00000°. Principal axes: T -81.5500, Plg58.0000°, Azm258.0000°; N 6.5800, Plg9.0000°, Azm2.0000°; P 74.9700, Plg30.0000°, Azm98.0000°; SOUTH ISLAND*
ISC 28 23:56:18.3±0.7,41˚.57S±0˚.02×174˚.32E±0˚.02,h30km±5km, n192,σ1§24/222,mb4.8/11,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNS	**Seddon**	**0.17**	**237**	P	**Pb**	**23 56 24.4**	**+0.2**
SDNS				S	**Sn**	**23 56 29.2**	**+0.5**
CMWZ	**Cape Campbell**	**0.19**	**205**		**Pb**	**23 56 23.5**	**-1.0**
CMWZ				Sg	**Sb**	**23 56 28.8**	**0.0**
CMWZ	**Cape Campbell**	**0.19**	**205**	P	**Pb**	**23 56 24.7**	**+0.2**
CMWZ				S	**Sn**	**23 56 30.2**	**+0.8**
SEDS	**Seddon Fire St**	**0.21**	**242**	P	**Pb**	**23 56 24.6**	**0.0**
SEDS				S	**Sb**	**23 56 29.6**	**+0.6**
TUWZ	**Tuamarina**	**0.32**	**297**		**Pb**	**23 56 25.3**	**-0.7**
TUWZ				Sg	**Sb**	**23 56 30.1**	**-1.1**
TUWZ	**Tuamarina**	**0.32**	**297**	P	**Pb**	**23 56 25.3**	**-0.7**
TUWZ				S	**Sb**	**23 56 30.3**	**-1.0**
BSWZ	**Blackbirch Sta**	**0.36**	**247**		**Pb**	**23 56 26.5**	**-0.1**
BSWZ				Sg	**Sb**	**23 56 31.3**	**-1.0**
BSWZ	**Blackbirch Sta**	**0.36**	**247**	P	**Pb**	**23 56 26.6**	**-0.1**
BSWZ				S	**Sb**	**23 56 32.6**	**+0.3**
TCW	**Tory Channel**	**0.36**	**355**		**Pb**	**23 56 26.0**	**-0.6**
TCW				Sg	**Sb**	**23 56 31.4**	**-1.0**
TCW	**Tory Channel**	**0.36**	**355**	P	**Pb**	**23 56 26.0**	**-0.6**
TCW				S	**Sb**	**23 56 31.4**	**-1.0**
SNZO	**South Karori**	**0.39**	**48**		**Pb**	**23 56 26.9**	**-0.2**
SNZO				Sg	**Sb**	**23 56 33.1**	**+0.1**
SNZO	**South Karori**	**0.39**	**48**	P	**Pb**	**23 56 26.8**	**-0.2**
MKVS	**Makara Village**	**0.42**	**43**	P	**Pb**	**23 56 26.0**	**-1.5**
WEL	**Wellington**	**0.44**	**49**	P	**Pb**	**23 56 27.8**	**0.0**
WEL				S	**Sn**	**23 56 35.1**	**-0.4**
BHW	**Baring Head**	**0.45**	**68**		**Pb**	**23 56 27.9**	**+0.1**
BHW				Sg	**Sb**	**23 56 34.4**	**0.0**
BHW	**Baring Head**	**0.45**	**68**	P	**Pb**	**23 56 27.9**	**+0.1**
BHW				S	**Sn**	**23 56 35.2**	**-0.4**
WCFS	**Wellington Cen**	**0.45**	**51**	P	**Pb**	**23 56 26.7**	**-1.2**
WCFS				S	**Sb**	**23 56 33.4**	**-1.0**
BOWS	**Bowen St Turnb**	**0.45**	**49**	P	**Pb**	**23 56 27.1**	**-0.8**
BOWS				S	**Sb**	**23 56 34.2**	**-0.4**
VUWS	**Victoria Unive**	**0.45**	**50**	P	**Pb**	**23 56 26.8**	**-1.1**
VUWS				S	**Sb**	**23 56 33.9**	**-0.6**
KEKS	**Kekerengu Vall**	**0.46**	**214**	P	**Pn**	**23 56 28.9**	**0.0**
KEKS				S	**Sn**	**23 56 37.6**	**+1.6**
NEWS	**Newlands**	**0.51**	**48**	P	**Pb**	**23 56 28.9**	**0.0**
NEWS				S	**Sn**	**23 56 36.9**	**-0.2**
FAIS	**Fairfield**	**0.59**	**52**	P	**Pb**	**23 56 30.2**	**0.0**
PLWZ	**Palliser**	**0.70**	**90**		**Pb**	**23 56 32.3**	**+0.2**
PLWZ				Sn	**Sn**	**23 56 43.0**	**+1.1**
PLWZ	**Palliser**	**0.70**	**90**	P	**Pb**	**23 56 32.3**	**+0.2**
PLWZ				S	**Sn**	**23 56 43.6**	**+1.7**
MSWZ	**Moikau Station**	**0.71**	**78**		**Pb**	**23 56 32.6**	**+0.3**
MSWZ					**Sn**	**23 56 43.4**	**+1.1**
MSWZ	**Moikau Station**	**0.71**	**78**	P	**Pb**	**23 56 32.9**	**+0.6**
MSWZ				S	**Sn**	**23 56 43.8**	**+1.5**
CAW	**Cannon Point**	**0.73**	**51**	P	**Pn**	**23 56 32.5**	**0.0**
CAW				S	**Sn**	**23 56 43.5**	**+0.9**
NNZ	**Nelson**	**0.79**	**296**		**Pn**	**23 56 33.4**	**0.0**
NNZ				Sn	**Sn**	**23 56 44.6**	**+0.4**
NNZ	**Nelson**	**0.79**	**296**	P	**Pn**	**23 56 33.3**	**-0.1**
NNZ				S	**Sn**	**23 56 44.1**	**-0.1**
DUWZ	**D'Urville Isla**	**0.83**	**339**	P	**Pn**	**23 56 33.9**	**0.0**
DUWZ				S	**Sn**	**23 56 44.5**	**-0.6**
KIW	**Kapiti Island**	**0.84**	**32**	P	**Pn**	**23 56 33.8**	**-0.2**
KIW				S	**Sb**	**23 56 46.6**	**+1.3**
PAWZ	**Paruwai Farm**	**0.85**	**77**	P	**Pn**	**23 56 34.2**	**0.0**
MTW	**Mount Morrison**	**0.98**	**65**	P	**Pn**	**23 56 36.0**	**0.0**
OGWZ	**Otaki Gorge**	**0.99**	**41**	P	**Pn**	**23 56 36.7**	**-0.2**
KHZ	**Kahutara**	**1.02**	**214**	Pn	**Pn**	**23 56 37.1**	**+0.5**
KHZ	**Kahutara**	**1.02**	**214**	P	**Pn**	**23 56 36.7**	**+0.1**
KHZ	**Kahutara**	**1.02**	**214**	P	**Pn**	**23 56 37.0**	**+0.5**
TRWZ	**Traveller**	**1.04**	**81**	P	**Pn**	**23 56 36.6**	**-0.2**
THZ	**Tophouse**	**1.08**	**259**	Pn	**Pn**	**23 56 37.6**	**+0.3**
THZ	**Tophouse**	**1.08**	**259**	P	**Pn**	**23 56 37.7**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.13**	**54**	P	**Pn**	**23 56 38.1**	**+0.1**
TKNZ	**Takaka Hill**	**1.16**	**297**		**Pn**	**23 56 39.0**	**+0.6**
TKNZ	**Takaka Hill**	**1.16**	**297**	P	**Pn**	**23 56 39.1**	**+0.7**
MRNZ	**Matariki Terra**	**1.19**	**278**		**Pn**	**23 56 39.4**	**+0.6**
MRNZ	**Matariki Terra**	**1.19**	**278**	P	**Pn**	**23 56 39.6**	**+0.8**
TMWZ	**Te Maipa**	**1.27**	**69**	P	**Pn**	**23 56 39.6**	**-0.4**
MRZ	**Mangatainoka R**	**1.32**	**47**		**Pn**	**23 56 40.6**	**0.0**
MRZ	**Mangatainoka R**	**1.32**	**47**	P	**Pn**	**23 56 40.9**	**+0.3**
TIWZ	**Tintock**	**1.43**	**57**	P	**Pn**	**23 56 42.0**	**-0.1**
QRZ	**Quartz Range**	**1.54**	**298**		**Pn**	**23 56 44.4**	**+0.7**
QRZ	**Quartz Range**	**1.54**	**298**	P	**Pn**	**23 56 45.8**	**+0.5**
QRZ	**Quartz Range**	**1.54**	**298**	P	**Pn**	**23 56 45.3**	**-1.0**
OHWZ	**Ohakea**	**1.56**	**29**	P	**Pn**	**23 56 46.0**	**-0.5**
CPWZ	**Castlepoint**	**1.56**	**66**	P	**Pn**	**23 56 44.0**	**+0.1**
POWZ	**Post Office Ro**	**1.61**	**43**	P	**Pn**	**23 56 44.9**	**+0.2**
PRWZ	**Pori Road**	**1.61**	**51**	P	**Pn**	**23 56 44.6**	**0.0**
GVZ	**Greta Valley S**	**1.69**	**214**		**Pn**	**23 56 45.9**	**+0.1**
GVZ	**Greta Valley S**	**1.69**	**214**	P	**Pn**	**23 56 45.8**	**+0.1**
BFZ	**Birch Farm**	**1.71**	**59**		**Pn**	**23 56 45.5**	**-0.4**
BFZ	**Birch Farm**	**1.71**	**59**	P	**Pn**	**23 56 45.2**	**-0.7**
BFZ	**Birch Farm**	**1.71**	**59**	P	**Pn**	**23 56 45.0**	**-0.9**
WAZ	**Wanganui**	**1.89**	**16**	P	**Pb**	**23 56 51.2**	**-0.9**
DVHZ	**Dannevirke**	**1.89**	**48**	P	**Pn**	**23 56 48.0**	**-0.5**
DSZ	**Denniston Nort**	**1.89**	**264**		**Pn**	**23 56 48.8**	**+0.3**
DSZ	**Denniston Nort**	**1.89**	**264**	P	**Pn**	**23 56 49.8**	**+1.2**
LTZ	**Lake Taylor**	**1.94**	**231**	Pn	**Pn**	**23 56 49.6**	**+0.3**
LTZ	**Lake Taylor**	**1.94**	**231**	P	**Pn**	**23 56 49.5**	**+0.3**
TSZ	**Takapari Road**	**1.96**	**40**	P	**Pn**	**23 56 49.5**	**0.0**
ANWZ	**Angora Road**	**1.97**	**56**	P	**Pn**	**23 56 48.9**	**-0.7**
AMCZ	**Amberley**	**2.02**	**217**		**Pn**	**23 56 51.0**	**+0.7**
AMCZ	**Amberley**	**2.02**	**217**	P	**Pn**	**23 56 50.0**	**-0.3**
PRHZ	**Porangahau**	**2.19**	**54**	P	**Pn**	**23 56 51.6**	**-1.0**
PNHZ	**Pukenui**	**2.19**	**41**	P	**Pn**	**23 56 52.3**	**-0.4**
WPHZ	**Waipukurau**	**2.20**	**48**	P	**Pn**	**23 56 52.6**	**-0.2**
PREZ	**Palmer Road**	**2.23**	**357**	P	**Pb**	**23 56 56.6**	**-1.4**
KHEZ	**Kahui Hut**	**2.29**	**354**	P	**Pb**	**23 56 56.9**	**-2.1**
KHEZ	**Kahui Hut**	**2.29**	**354**	P	**Pb**	**23 56 57.3**	**-1.7**
NEZ	**North Egmont**	**2.31**	**356**	P	**Pb**	**23 56 57.7**	**-1.6**
NBEZ	**Newall Road No**	**2.33**	**351**	P	**Pb**	**23 56 57.6**	**-1.9**
MTVZ	**Mangateitei**	**2.36**	**22**	P	**Pn**	**23 56 57.2**	**+2.2**
DREZ	**Durham Road**	**2.38**	**358**	P	**Pb**	**23 56 58.4**	**-2.1**
PKE	**Pukeiti**	**2.39**	**354**	P	**Pb**	**23 56 58.2**	**-2.5**
PKVZ	**Pokaka**	**2.41**	**19**	P	**Pn**	**23 56 57.9**	**+2.1**
MOVZ	**Moawhango**	**2.42**	**27**	P	**Pn**	**23 56 56.5**	**+0.6**
INZ	**Inchbonnie**	**2.43**	**241**	Pn	**Pn**	**23 56 56.3**	**+0.5**
INZ	**Inchbonnie**	**2.43**	**241**	P	**Pn**	**23 56 53.9**	**-1.9**
OXZ	**Oxford**	**2.43**	**223**		**Pn**	**23 56 54.6**	**-1.4**
OXZ	**Oxford**	**2.43**	**223**	P	**Pn**	**23 56 54.8**	**-1.1**
WNVZ	**Wahianoa**	**2.45**	**24**	P	**Pn**	**23 56 57.5**	**+1.2**
TRVZ	**Turoa**	**2.46**	**23**	P	**Pn**	**23 56 58.1**	**+1.6**
MQZ	**McQueen's Vall**	**2.46**	**209**	Pn	**Pn**	**23 56 54.4**	**-1.9**
MQZ	**McQueen's Vall**	**2.46**	**209**	P	**Pn**	**23 56 54.7**	**-1.6**
BHHZ	**Black Hill Sta**	**2.47**	**33**	P	**Pn**	**23 56 56.8**	**+0.3**
PXZ	**Pawanui**	**2.47**	**52**	P	**Pn**	**23 56 55.2**	**-1.2**
VRZ	**Vera Road**	**2.47**	**8**	P	**Pn**	**23 56 58.8**	**+2.4**
KRHZ	**Kereru**	**2.48**	**40**	P	**Pn**	**23 56 56.1**	**-0.5**
WHVZ	**Whangaehu Hut**	**2.48**	**23**	P	**Pn**	**23 56 58.3**	**+1.5**
MAVZ	**Matarangi**	**2.49**	**23**	P	**Pn**	**23 56 58.8**	**+1.8**
FWVZ	**Far West T-bar**	**2.50**	**22**	P	**Pn**	**23 56 58.8**	**+1.7**
TUVZ	**Tukino**	**2.52**	**24**	P	**Pn**	**23 56 58.7**	**+1.4**
AKCZ	**Akaroa Harbour**	**2.52**	**204**	P	**Pn**	**23 56 56.1**	**-1.1**
COVZ	**Chateau Observ**	**2.55**	**22**	P	**Pn**	**23 56 59.3**	**+1.6**
NGZ	**Ngauruhoe**	**2.59**	**23**	P	**Pn**	**23 56 59.7**	**+1.5**
SNVZ	**South Ngauruho**	**2.59**	**23**	P	**Pn**	**23 56 59.6**	**+1.3**
OTVZ	**Oturere**	**2.62**	**24**	P	**Pn**	**23 56 59.9**	**+1.3**
NNVZ	**North Ngauruho**	**2.63**	**22**	P	**Pn**	**23 57 00.5**	**+1.7**
WTVZ	**West Tongariro**	**2.64**	**22**	P	**Pn**	**23 57 00.3**	**+1.4**
TWVZ	**Taurewa**	**2.64**	**19**	P	**Pn**	**23 57 00.4**	**+1.5**
ETVZ	**East Tongariro**	**2.66**	**24**	P	**Pn**	**23 57 00.2**	**+1.1**
TMVZ	**Te Maari**	**2.67**	**24**	P	**Pn**	**23 57 00.5**	**+1.1**
KRVZ	**Karewarewa**	**2.67**	**23**	P	**Pn**	**23 57 01.1**	**+1.7**
KWHZ	**Kaweka Forest**	**2.68**	**37**	P	**Pn**	**23 56 58.9**	**-0.5**
NTVZ	**North Tongarir**	**2.68**	**23**	P	**Pn**	**23 57 00.7**	**+1.2**
RACZ	**Rakaia**	**2.69**	**216**	P	**Pn**	**23 56 58.1**	**-1.3**
KATZ	**Kakaramea**	**2.80**	**22**	P	**Pn**	**23 57 03.3**	**+2.1**
MHCZ	**Mount Hutt**	**2.82**	**225**	P	**Pn**	**23 57 00.1**	**-1.3**
RITZ	**Rihia Road**	**2.85**	**25**	P	**Pb**	**23 57 05.9**	**-2.5**
BKZ	**Black Stump Fm**	**2.92**	**35**		**Pn**	**23 57 02.1**	**-0.6**
BKZ	**Black Stump Fm**	**2.92**	**35**	P	**Pn**	**23 57 02.8**	**+0.1**
BKZ	**Black Stump Fm**	**2.92**	**35**	P	**Pn**	**23 57 02.3**	**-0.4**
RATZ	**Rangitukua**	**2.92**	**23**	P	**Pb**	**23 57 08.6**	**-1.2**
WACZ	**Wakanui South**	**2.99**	**217**	P	**Pn**	**23 57 02.4**	**-1.2**
WVZ	**Waitaha Valley**	**3.05**	**239**	P	**Pn**	**23 57 04.6**	**+0.2**
WATZ	**Wairara**	**3.06**	**21**	P	**Pb**	**23 57 10.2**	**-1.9**
HIZ	**Hauiti**	**3.08**	**8**		**Pn**	**23 57 07.2**	**+2.3**
HIZ	**Hauiti**	**3.08**	**8**	P	**Pn**	**23 57 07.2**	**+2.3**
HIZ	**Hauiti**	**3.08**	**8**	P	**Pn**	**23 57 07.3**	**+2.3**
MRHZ	**Matea Rd**	**3.17**	**31**	P	**Pn**	**23 57 05.4**	**-0.7**
RPZ	**Rata Peaks**	**3.22**	**227**	Pn	**Pn**	**23 57 09.0**	**+2.1**
RPZ	**Rata Peaks**	**3.22**	**227**	P	**Pn**	**23 57 05.9**	**-1.0**
RPZ	**Rata Peaks**	**3.22**	**227**	Pn	**Pn**	**23 57 05.8**	**-1.0**
	4.1nm,0.3s,baz=14,slow=3.7,SNR=12						
RPZ					Sn	**Sn**	**23 57 41.3**	**-2.9**
	19nm,0.3s,baz=328,slow=22,SNR=18						
	7.9nm,0.3s						
RPZ	**Rata Peaks**	**3.22**	**227**	P	**Pn**	**23 57 06.1**	**-0.7**
ARCZ	**Arundel**	**3.31**	**223**	P	**Pn**

	20nm,0.4s							
WRA	**Warramunga Arr**	**20.75**	**230**	P	P	00 30 55.7	-0.7	
	1.9nm,0.7s,baz=55,slow=11,SNR=9.8							
	1.9nm,0.7s							
ASAR	**Alice Springs**	**23.40**	**223**	P	P	00 31 24.3	-0.3	
	0.8nm,0.7s,baz=58,slow=9.0,SNR=5.1							
	0.8nm,0.7s							
ILAR	**Eielson Array**	**84.85**	**22**	P	P	00 38 49.7	-0.5	
	0.7nm,0.7s,baz=249,slow=5.5,SNR=9.2							
	0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.35**	**284**	PKPbc	PKiKP	00 46 06.8	-0.3	
	0.4nm,0.5s,baz=56,slow=3.7,SNR=4.2							

*AUST **29** 00:30:25.8±3.8, 15°.56S×130°.46E, h10km, Error ellipse: s-maj=81.1km s-min=14.8km az=132.0*
*IDC **29** 00:30:27.4±2.0, 15°.60S×130°.04E, h0km, mb3.4/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=44.7km s-min=19.1km az=57.0*
ISC 29 00:30:26.6±0.7, 15°.35S±0°.05×130°.32E±0°.05, h10km, n15, σ1§94/24, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KNRA	**Kununurra**	**1.53**	**258**	P		**Pg**	**00 30 56.6**	**+0.7**
	baz=1.6							
KNRA				S		**Sg**	**00 31 16.3**	**+0.4**
	baz=1.6							
MTN	**Manton Dam**	**2.62**	**18**	P		**Pb**	**00 31 12.4**	**-1.2**
	baz=2.7							
MTN				S		**Sb**	**00 31 45.2**	**-0.7**
	baz=2.7							
KDU	**Kakadu**	**3.38**	**39**	P		**Pn**	**00 31 20.6**	**+1.2**
	baz=3.4							
KDU				S		**Sn**	**00 31 59.3**	**-0.3**
	baz=3.4							
FITZ	**Fitzroy Crossi**	**5.25**	**238**	P		**Pn**	**00 31 45.9**	**+0.8**
	baz=5.2							
FITZ				S		**Sn**	**00 32 44.2**	**-1.4**
	baz=5.2							
WRA	**Warramunga Arr**	**5.96**	**141**	Pn		**Pn**	**00 31 56.5**	**+1.4**
	1.7nm,0.3s,baz=316,slow=14,SNR=97							
WRA				Sn		**Sn**	**00 33 06.6**	**+3.2**
	1.1nm,0.3s,baz=321,slow=24,SNR=6.9							
WRA				Lg		Lg	00 33 35.6	
	1.2nm,0.3s,baz=312,slow=26,SNR=2.4							
	2.8nm,0.4s							
WB2	**Warramunga Arr**	**5.97**	**140**	P		**Pn**	**00 31 56.5**	**+1.4**
	baz=5.9							
WB2				S		**Sn**	**00 33 03.2**	**-0.4**
	baz=5.9							
WC3	**Warramunga Arr**	**5.99**	**140**	P		**Pn**	**00 31 56.8**	**+1.4**
	baz=5.9							
ASAR	**Alice Springs**	**8.94**	**158**	Pn		**Pn**	**00 32 37.4**	**+1.5**
	1.0nm,0.3s,baz=335,slow=14,SNR=19							
ASAR				Sn		**Sn**	**00 34 16.9**	**+0.3**
	0.5nm,0.3s,baz=329,slow=16,SNR=5.3							
ASAR				Lg		Lg	00 35 07.8	
	0.5nm,0.3s,baz=334,slow=31,SNR=5.0							
	1.8nm,0.3s							
WRKA	**Warakurna**	**9.82**	**191**	P		**Pn**	**00 32 49.9**	**+1.9**
	baz=9.8							
WRKA				S		**Sn**	**00 34 35.0**	**-3.3**
	baz=9.8							
QIS	**Mount Isa**	**10.24**	**122**	P		**Pn**	**00 32 54.5**	**+0.7**
	baz=10							
COEN	**Coen**	**12.52**	**85**	P		**Pn**	**00 33 23.8**	**-1.2**
	baz=12							
COEN				S		Sn	00 35 34.2	-11
	baz=12							
OOD	**Oodnadatta**	**13.35**	**159**	P		**Pn**	**00 33 35.7**	**-0.5**
	baz=13							
OOD				S		**Sn**	**00 35 59.4**	**-5.3**
	baz=13							
MTSU	**Mount Surprise**	**13.69**	**104**	P		**Pn**	**00 33 40.3**	**-0.7**
	baz=14							
MULG	**Mulgathing**	**15.25**	**168**	P		**Pn**	**00 34 01.5**	**-0.6**
	baz=15							
MKAR	**Makanchi Array**	**75.39**	**328**	P		**P**	**00 42 13.3**	**+2.8**
	0.4nm,0.9s,baz=131,slow=4.4,SNR=2.3							
	0.4nm,0.9s							

*IDC **29** 00:36:27.7±9.6, 7°.83S×127°.68E, h118km±98km, mb3.9/7, mbtmp4.2/9, ML4.0/2, Error ellipse: s-maj=103.7km s-min=20.5km az=81.0*
*NEIC **29** 00:36:31.7±2.6, 7°.59S±0°.09×128°.36E±0°.07, h165km±8km, mb4.0/13, Error ellipse: s-maj=13.2km s-min=10.4km az=163.0*
ISC 29 00:36:30.0±0.6, 7°.61S±0°.07×128°.36E±0°.07, h150km, n37, σ1§69/39, mb4.0/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.93**	**97**	Pn		**Pn**	**00 37 18.7**	**+2.2**
SOEI	**Soe**	**4.58**	**242**			**Pn**	**00 37 39.7**	**+1.7**
SOEI				Sn		**Sn**	**00 38 33.4**	**+2.6**
MTN	**Manton Dam**	**5.87**	**153**	Pn		**Pn**	**00 37 56.8**	**+1.8**
FAKI	**Fak Fak**	**6.06**	**40**	Pn		**Pn**	**00 37 56.8**	**-0.7**
MMRI	**Maumere**	**6.15**	**260**	Pn		**Pn**	**00 37 59.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.76**	**194**	Pn		**Pn**	**00 38 58.9**	**-1.2**
WB0	**Warramunga Arr**	**13.43**	**155**	Pn		**Pn**	**00 39 34.7**	**0.0**
WRA	**Warramunga Arr**	**13.56**	**155**			**Pn**	**00 39 36.0**	**-0.4**
WRA	**Warramunga Arr**	**13.56**	**155**	P		**Pn**	**00 39 35.4**	**-1.0**
	0.7nm,0.3s,baz=324,slow=14,SNR=17							
WRA				S		Sn	00 41 58.7	-7.9
	2.0nm,0.4s,baz=330,slow=23,SNR=7.1							
	1.1nm,0.5s							
WB2	**Warramunga Arr**	**13.56**	**155**	Pn		**Pn**	**00 39 35.6**	**-0.9**
WR0	**Warramunga Arr**	**13.66**	**155**	Pn		**Pn**	**00 39 36.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**14.10**	**266**	Pn		**Pn**	**00 39 42.6**	**-0.7**
COEN	**Coen**	**15.85**	**115**			**Pn**	**00 40 06.6**	**+1.6**
PSA00	**Pilbara Seismi**	**16.13**	**210**	P		**Pn**	**00 40 10.0**	**+1.5**
PSA00	**Pilbara Seismi**	**16.13**	**210**	P		**Pn**	**00 40 08.9**	**+0.5**
PSA00				IAmb		IAmb	00 40 40.5	
	comp=Z,14nm,1.5s							
ASAR	**Alice Springs**	**16.83**	**162**	P		**P**	**00 40 18.4**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=342,slow=11,SNR=16							
ASAR				S		**S**	**00 43 16.6**	**-7.4**
	comp=Z,0.4nm,0.3s,baz=316,slow=26,SNR=2.6							
	comp=Z,2.4nm,0.6s							
STKA	**Stephens Creek**	**27.11**	**155**	P		**P**	**00 42 00.6**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=333,slow=13,SNR=3.1							
	comp=Z,0.7nm,0.3s							
RTZ	**Ruatahuna**	**53.48**	**133**	P		**P**	**00 45 34.5**	**-0.5**
SONM	**Songino Array**	**58.52**	**343**	P		**P**	**00 46 11.1**	**+0.4**
SONM	**Songino Array**	**58.52**	**343**	P		**P**	**00 46 12.2**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=162,slow=5.7,SNR=2.6							
	comp=Z,0.3nm,0.4s							
MK31	**Makanchi Array**	**67.86**	**328**	P		**P**	**00 47 12.6**	**+0.5**
MKAR	**Makanchi Array**	**67.86**	**328**	P		**P**	**00 47 12.3**	**+0.2**
MKAR	**Makanchi Array**	**67.86**	**328**	P		**P**	**00 47 12.8**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=121,slow=8.3,SNR=41							
	comp=Z,0.9nm,0.4s							
MAKZ	**Makanchi**	**68.03**	**328**	P		**P**	**00 47 13.6**	**+0.4**
AAK	**Ala-Archa**	**69.97**	**321**	P		**P**	**00 47 25.7**	**+0.3**
AAK				IAmb		IAmb	00 47 59.0	
	comp=Z,2.3nm,1.0s							
BTK	**Batken**	**71.10**	**317**	P		**P**	**00 47 31.1**	**-1.1**
BTK				IAmb		IAmb	00 47 43.4	
	comp=Z,6.7nm,1.5s							
ZAA0	**Zalesovo Array**	**71.42**	**335**			**P**	**00 47 33.6**	**-0.1**
ZAA0				IAmb		IAmb	00 47 34.0	
	comp=Z,1.3nm,0.6s							
ZALV	**Zalesovo Beam**	**71.42**	**335**	P		**P**	**00 47 33.8**	**+0.1**
ZALV	**Zalesovo Beam**	**71.42**	**335**	P		**P**	**00 47 33.7**	**0.0**
	comp=Z,1.4nm,0.4s,baz=124,slow=5.8,SNR=7.8							
	comp=Z,1.4nm,0.4s							
SMY	**Shemya**	**71.56**	**27**	P		**P**	**00 47 34.2**	**-0.3**
SIMJ	**Simiganj**	**71.72**	**315**	P		**P**	**00 47 34.3**	**-1.7**
SIMJ				IAmb		IAmb	00 47 41.9	
	comp=Z,3.1nm,1.2s							
VNDA	**Vanda**	**72.05**	**173**			**P**	**00 47 37.8**	**+0.7**
VNDA				IAmb		IAmb	00 48 08.1	
	comp=Z,5.3nm,1.5s							
KURBB	**Kurchatov Arra**	**72.19**	**329**	P		**P**	**00 47 38.9**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=129,slow=4.9,SNR=28							
	comp=Z,2.1nm,0.6s							
KURK	**Kurchatov**	**72.20**	**329**	P		**P**	**00 47 39.1**	**+0.7**
KURK				IAmb		IAmb	00 47 40.4	
	comp=Z,4.2nm,0.9s							
MAW	**Mawson**	**73.79**	**201**	P		**P**	**00 47 46.2**	**-1.3**
	comp=Z,6.2nm,0.3s,baz=76,slow=17,SNR=11							
	comp=Z,6.2nm,0.3s							
BVAR	**Borovoye Array**	**77.72**	**328**	P		**P**	**00 48 10.5**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=127,slow=9.1,SNR=9.2							
	comp=Z,1.1nm,0.6s							
ABKAR	**Akbulak array**	**81.98**	**322**	P		**P**	**00 48 32.1**	**-1.0**

*MOS **29** 00:38:45.8±1.0, 55°.99N×149°.11W, h10km, mb4.5/24, Error ellipse: s-maj=12.3km s-min=5.2km az=94.1*
*IDC **29** 00:38:45.4±0.8, 55°.93N×149°.21W, h0km, mb4.0/22, mbtmp4.1/26, ML4.5/4, MS3.6/16, Error ellipse: s-maj=23.1km s-min=12.4km az=32.0*
*NEIC **29** 00:38:46.5±1.2, 55°.92N±0°.06×149°.23W±0°.07, h5km±5km, mb4.3/81, ML4.8/50, ML4.5(AEIC), Error ellipse: s-maj=9.9km s-min=2.4km az=146.0*
*AEIC **29** 00:38:51.5±1.6, 55°.90N±0°.07×149°.22W±0°.10, h11km±5km, Error ellipse: s-maj=10.8km s-min=8.1km az=173.0*
ISC 29 00:38:47.8±0.4, 55°.97N±0°.06×149°.15W±0°.04, h10km, n695, σ1§06/660, mb4.3/81, MS3.5/13, 4C-2D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.61**	**300**			**Pn**	**00 39 28.3**	**-1.7**
OHAK				Sn		**Sn**	**00 39 58.7**	**-3.0**
OHAK	**Old Harbor**	**2.61**	**300**	P		**Pn**	**00 39 28.4**	**-1.6**
KDAK	**Kodiak Island**	**2.62**	**315**			**Pn**	**00 39 29.1**	**-1.0**
KDAK	**Kodiak Island**	**2.62**	**315**	P		**Pn**	**00 39 29.1**	**-1.0**
	baz=134							
KDAK	**Kodiak Island**	**2.62**	**315**	P		**Pn**	**00 39 29.1**	**-1.0**
KDAK							00 39 58.5	
KDAK	**Kodiak Island**	**2.62**	**315**	Pn		**Pn**	**00 39 29.1**	**-1.0**
	121nm,0.3s,baz=168,slow=5.3,SNR=1183							
KDAK				Sn		**Sn**	**00 39 58.0**	**-3.9**
	93nm,0.3s,baz=222,slow=23,SNR=14							
KDAK				LR		LR	00 40 41.2	
	comp=Z,843nm,19.3s,baz=278,slow=44							
	327nm,0.3s							
SII	**Sitkinak Islan**	**2.87**	**284**			**Pn**	**00 39 31.5**	**-2.1**
SII				Sn		**Sn**	**00 40 03.9**	**-4.3**
SII				IAML			00 40 05.2	
	comp=N,4μm,0.9s							
SII	**Sitkinak Islan**	**2.87**	**284**	P		**Pn**	**00 39 31.5**	**-2.1**
SII	**Sitkinak Islan**	**2.87**	**284**	P		**Pn**	**00 39 31.4**	**-2.2**
	baz=102,SNR=6.7							
SYI	**Shuyak Island**	**3.17**	**328**	Pn		**Pn**	**00 39 37.0**	**-0.8**
SYI	**Shuyak Island**	**3.17**	**328**			**Sn**	**00 40 13.3**	**-2.3**
Q20K	**Shuyak Island**	**3.18**	**328**	P		**Pn**	**00 39 37.0**	**-0.8**
	baz=146,SNR=14							
R18K	**Karluk**	**3.33**	**301**			**Pn**	**00 39 38.9**	**-0.9**
R18K						**Sn**	**00 40 16.3**	**-3.1**
R18K	**Karluk**	**3.33**	**301**	IAML			00 40 18.6	
	comp=E,974nm,0.2s							
R18K				IAML			00 40 23.2	
	comp=N,1μm,0.6s							
R18K	**Karluk**	**3.33**	**301**	P		**Pn**	**00 39 39.0**	**-0.9**
	baz=118,SNR=24							
CNPM	**China Poot**	**3.73**	**343**			**Pn**	**00 39 44.9**	**-0.6**
CNPM				IAML			00 40 31.5	
	comp=E,730nm,0.6s							
CNPM	**China Poot**	**3.73**	**343**			**Sn**	**00 40 26.6**	**-2.9**
MID	**Middleton Isla**	**3.78**	**22**			**Pn**	**00 39 45.6**	**-0.5**
MID				IAML			00 40 28.7	
	comp=E,1μm,1.3s							
MID				IAML			00 40 28.8	
	comp=N,1μm,0.9s							
MID	**Middleton Isla**	**3.78**	**22**	P		**Pn**	**00 39 45.6**	**-0.5**
MID	**Middleton Isla**	**3.78**	**22**	P		**Pn**	**00 39 45.6**	**-0.5**
Q23K	**Middleton Isla**	**3.78**	**22**			**Pn**	**00 39 45.6**	**-0.4**
Q23K				IAML			00 40 28.2	
	comp=N,975nm,1.1s							
Q23K				IAML			00 40 28.7	
	comp=E,1μm,1.0s							
Q23K	**Middleton Isla**	**3.78**	**22**	P		**Pn**	**00 39 45.5**	**-0.6**
	baz=205							
Q19K	**Cape Douglas,**	**3.83**	**323**	Pn		**Pn**	**00 39 46.9**	**+0.1**
Q19K				IAML			00 40 33.7	
	comp=N,1μm,0.7s							
Q19K				IAML			00 40 39.1	
	comp=E,2μm,1.1s							
Q19K	**Cape Douglas,**	**3.83**	**323**			**Sn**	**00 40 29.1**	**-2.8**
Q19K	**Cape Douglas,**	**3.83**	**323**	P		**Pn**	**00 39 46.8**	**-0.1**
	baz=140,SNR=56							
BRSE	**Bradley Lake S**	**3.87**	**348**			**Pn**	**00 39 46.5**	**-1.0**
BRSE						**Sn**	**00 40 29.6**	**-3.4**
BRSE	**Bradley Lake S**	**3.87**	**348**	P		**Pn**	**00 39 46.4**	**-1.0**
	baz=168,SNR=34							
BRLK	**Bradley Lake**	**3.91**	**347**			**Pn**	**00 39 47.2**	**-0.7**
BRLK				IAML			00 40 33.8	
	comp=E,601nm,0.3s							
BRLK				IAML			00 40 36.1	
	comp=N,710nm,0.3s							
HOM	**Homer**	**3.93**	**341**			**Pn**	**00 39 47.3**	**-0.8**
HOM				IAML			00 40 37.5	
	comp=N,2μm,0.7s							
HOM				IAML			00 40 37.6	
	comp=E,2μm,0.4s							
HOM	**Homer**	**3.93**	**341**	P		**Pn**	**00 39 47.6**	**-0.5**
	baz=160							
ACHA	**Angle Creek He**	**4.05**	**306**			**Pn**	**00 39 49.4**	**-0.4**
AUCH	**Augustine Cone**	**4.11**	**328**			**Pn**	**00 39 50.4**	**-0.3**
ANCK	**Angle Creek**	**4.12**	**305**			**Pn**	**00 39 50.5**	**-0.2**
AUL	**Augustine Lava**	**4.12**	**328**			**Pn**	**00 39 50.6**	**-0.2**
KVTA	**Katmai Vly 10**	**4.12**	**308**			**Pn**	**00 39 50.7**	**-0.1**
P23K	**Montague Islan**	**4.14**	**12**			**Pn**	**00 39 50.5**	**-0.5**
P23K	**Montague Islan**	**4.14**	**12**	P		**Pn**	**00 39 50.6**	**-0.5**
	baz=194,SNR=8.6							
SEW	**Seward**	**4.15**	**358**			**Pn**	**00 39 49.9**	**-1.2**
SEW	**Seward**	**4.15**	**358**	P		**Pn**	**00 39 50.0**	**-1.2**
	baz=178,SNR=12							
KAHC	**Katmai Hardscr**	**4.16**	**313**			**Pn**	**00 39 51.2**	**-0.2**
PLK3	**Peulik 3**	**4.27**	**297**			**Pn**	**00 39 51.8**	**-1.0**
P19K	**Oil Pt**	**4.29**	**331**			**Pn**	**00 39 52.4**	**-0.7**
P19K				IAML			00 40 46.3	
	comp=N,1μm,0.4s							
P19K				IAML			00 40 46.4	
	comp=E,1μm,0.6s							
P19K	**Oil Pt**	**4.29**	**331**	P		**Pn**	**00 39 52.6**	**-0.5**
	baz=149,SNR=12							
CNTC	**Contact Creek**	**4.33**	**305**			**Pn**	**00 39 53.1**	**-0.7**
Q17K	**Contact Creek**	**4.33**	**305**	P		**Pn**	**00 39 53.2**	**-0.5**
	baz=120,SNR=40							
KELA	**Mount Kelaz**	**4.35**	**307**			**Pn**	**00 39 53.6**	**-0.4**
O20K	**Slope Mountain**	**4.51**	**337**			**Pn**	**00 39 55.3**	**-0.9**
O20K	**Slope Mountain**	**4.51**	**337**	P		**Pn**	**00 39 55.4**	**-0.9**
	baz=155,SNR=9.7							
O22K	**Cooper Landing**	**4.53**	**356**			**Pn**	**00 39 56.1**	**-0.3**
O22K	**Cooper Landing**	**4.53**	**356**	P		**Pn**	**00 39 55.7**	**-0.7**
	baz=176							
IVE	**Iliamna Volcan**	**4.55**	**335**			**Pn**	**00 39 55.6**	**-1.1**
SLKM	**Skilak Lake**	**4.58**	**353**			**Pn**	**00 39 55.9**	**-1.3**
HIN	**Hinchinbrook I**	**4.65**	**16**			**Pn**	**00 39 57.7**	**-0.4**
HIN	**Hinchinbrook I**	**4.65**	**16**	IAML			00 40 52.1	
	comp=E,981nm,1.0s							
HIN				IAML			00 40 53.5	
	comp=N,1μm,0.9s							
KAIM	**Kayak Island**	**4.70**	**30**			**Pn**	**00 39 58.8**	**0.0**
KAIM	**Kayak Island**	**4.70**	**30**	P		**Pn**	**00 39 58.7**	**0.0**
	baz=214,SNR=17							
P18K	**Big Mountain,**	**4.73**	**319**			**Pn**	**00 39 58.1**	**-1.1**
P18K	**Big Mountain,**	**4.73**	**319**	P		**Pn**	**00 39 58.2**	**-1.1**
	baz=135,SNR=35							
Q16K	**King Salmon**	**4.89**	**307**			**Pn**	**00 40 00.5**	**-0.8**
Q16K	**King Salmon**	**4.89**	**307**	P		**Pn**	**00 40 00.7**	**-0.6**
	baz=122,SNR=47							
RSO	**Redoubt South**	**4.89**	**339**			**Pn**	**00 40 00.3**	**-1.2**
R16K	**Pilot Point**	**4.90**	**293**			**Pn**	**00 40 00.3**	**-1.2**
R16K	**Pilot Point**	**4.90**	**293**	IAML			00 41 14.7	
	comp=N,435nm,0.9s							
R16K				IAML			00 41 18.2	
	comp=E,480nm,1.4s							
R16K	**Pilot Point**	**4.90**	**293**	P		**Pn**	**00 40 00.3**	**-1.2**
	baz=106,SNR=5.9							
CAPN	**Captain Cook N**	**4.92**	**348**			**Pn**	**00 40 01.7**	**-0.1**
CAPN	**Captain Cook N**	**4.92**	**348**	P		**Pn**	**00 40 02.0**	**+0.2**
	baz=167							
EYAK	**Cordova Ski Ar**	**4.93**	**20**			**Pn**	**00 40 01.6**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.93**	**20**	P		**Pn**	**00 40 01.8**	**+0.1**
FID	**Port Fidalgo**	**4.99**	**15**			**Pn**	**00 40 02.2**	**-0.5**
NCT	**North Crescent**	**5.01**	**338**			Pn	00 40 00.9	-2.3
RAGM	**Ragged Mountai**	**5.02**	**26**			**Pn**	**00 40 03.2**	**+0.1**
O19K	**Port Alsworth**	**5.04**	**329**			**Pn**	**00 40 01.9**	**-1.5**
O19K	**Port Alsworth**	**5.04**	**329**	IAML			00 41 05.4	
	comp=N,697nm,0.4s							
O19K	**Port Alsworth**	**5.04**	**329**	P		**Pn**	**00 40 02.1**	**-1.3**
	baz=146,SNR=42							
O18K	**Koktuh Hills**	**5.06**	**323**	Pn		**Pn**	**00 40 02.7**	**-1.0**
	baz=139,SNR=24							
P17K	**Kvichak River**	**5.08**	**312**			**Pn**	**00 40 03.3**	**-0.7**
P17K	**Kvichak River**	**5.08**	**312**	P		**Pn**	**00 40 03.7**	**-0.2**
	baz=127,SNR=72							
ANNW	**Aniakchak Nort**	**5.12**	**285**			**Pn**	**00 40 03.4**	**-1.2**
ANPB	**Aniakchak Plen**	**5.14**	**283**			**Pn**	**00 40 03.5**	**-1.3**
RC01	**Rabbit Creek A**	**5.14**	**357**			**Pn**	**00 40 04.2**	**-0.7**
RC01					IAML		00 41 03.1	
	comp=E,751nm,0.4s							
RC01					IAML		00 41 04.7	
	comp=N,669nm,0.4s							
RC01	**Rabbit Creek A**	**5.14**	**357**	P		**Pn**	**00 40 04.1**	**-0.7**
	baz=177,SNR=17							
GOAT	**Goat Mountain**	**5.18**	**25**			**Pn**	**00 40 05.6**	**+0.3**
CHGN	**Chignik**	**5.19**	**277**			**Pn**	**00 40 03.5**	**-1.9**
CHGN	**Chignik**	**5.19**	**277**	IAML			00 41 05.0	
	comp=N,660nm,0.7s							
CHGN				IAML			00 41 05.1	
	comp=E,574nm,0.6s							
CHGN	**Chignik**	**5.19**	**277**	P		**Pn**	**00 40 03.8**	**-1.7**
	baz=91,SNR=6.1							
FIS	**Fire Island**	**5.22**	**354**	Pn		**Pn**	**00 40 06.2**	**+0.4**
FIS					IAML		00 41 16.6	
	comp=E,922nm,0.6s							
BERG	**Berg Lake**	**5.29**	**31**			**Pn**	**00 40 06.8**	**0.0**
SNH	**Sunshine Point**	**5.38**	**36**			**Pn**	**00 40 08.0**	**-0.2**
CYK	**Cape Yakataga**	**5.43**	**38**			**Pn**	**00 40 09.0**	**+0.2**
DIV	**Divide**	**5.46**	**17**			**Pn**	**00 40 08.8**	**-0.5**
KNK	**Knik Glacier**	**5.47**	**3**			**Pn**	**00 40 08.5**	**-0.8**
KNK	**Knik Glacier**	**5.47**	**3**	P		**Pn**	**00 40 09.0**	**-0.3**
	baz=184							
N20K	**Mount Spurr**	**5.48**	**344**	P		**Pn**	**00 40 08.1**	**-1.4**
	baz=162,SNR=26							
SPCP	**Crater Peak Br**	**5.54**	**345**			**Pn**	**00 40 09.5**	**-0.9**
SPCG	**Spurr Capps Gl**	**5.54**	**346**			**Pn**	**00 40 09.2**	**-1.2**
BMRM	**Bremner River**	**5.55**	**24**	Pn		**Pn**	**00 40 10.2**	**-0.3**
BMRM	**Bremner River**	**5.55**	**24**	P		**Pn**	**00 40 10.5**	**+0.1**
	baz=208,SNR=44							
SPBG	**Spurr Blockage**	**5.56**	**344**			**Pn**	**00 40 09.8**	**-0.8**
BGL	**Barrier Glacie**	**5.57**	**344**			**Pn**	**00 40 10.0**	**-0.8**
SUA	**Susitna One**	**5.57**	**352**	Pn		**Pn**	**00 40 10.8**	**+0.1**
SUA	**Susitna One**	**5.57**	**352**	P		**Pn**	**00 40 09.8**	**-1.0**
	baz=171							
N19K	**Bonanza Creek**	**5.61**	**332**			**Pn**	**00 40 09.8**	**-1.4**
N19K	**Bonanza Creek**	**5.61**	**332**	P		**Pn**	**00 40 10.0**	**-1.3**
	baz=148,SNR=15							
PMR	**Palmer**	**5.64**	**0**	Pn		**Pn**	**00 40 11.8**	**+0.2**
PMR	**Palmer**	**5.64**	**0**	P		**Pn**	**00 40 11.4**	**-0.2**
PMR	**Palmer**	**5.64**	**0**	P		**Pn**	**00 40 11.8**	**+0.2**
P16K	**Nushagak River**	**5.67**	**306**			**Pn**	**00 40 10.9**	**-1.1**
P16K	**Nushagak River**	**5.67**	**306**	P		**Pn**	**00 40 11.6**	**-0.3**
	baz=120,SNR=61							
BARK	**Barkley Ridge**	**5.67**	**36**			**Pn**	**00 40 12.2**	**+0.1**
O17K	**Koliganek Bris**	**5.70**	**315**			**Pn**	**00 40 11.4**	**-1.0**
O17K	**Koliganek Bris**	**5.70**	**315**	P		**Pn**	**00 40 11.8**	**-0.6**
	baz=129,SNR=36							
STLK	**Strandline Lak**	**5.71**	**347**			**Pn**	**00 40 11.8**	**-0.9**
KLU	**Klutina**	**5.79**	**16**			**Pn**	**00 40 13.8**	**+0.1**
KLU	**Klutina**	**5.79**	**16**	P		**Pn**	**00 40 14.0**	**+0.3**
	baz=198,SNR=47							
GHO	**Glory Hole Cre**	**5.82**	**1**			**Pn**	**00 40 14.2**	**0.0**
S14K	**Fog Glacier**	**5.83**	**277**	P		**Pn**	**00 40 13.1**	**-1.2**
	baz=90							
VNFG	**Fog Glacier, M**	**5.83**	**277**			**Pn**	**00 40 13.0**	**-1.3**
SML	**Sawmill**	**5.87**	**4**	Pn		**Pn**	**00 40 14.4**	**-0.4**
SML	**Sawmill**	**5.87**	**4**	P		**Pn**	**00 40 15.2**	**+0.3**
	baz=185,SNR=19							
M23K	**Glacier View**	**5.88**	**7**			**Pn**	**00 40 15.3**	**+0.3**
M23K	**Glacier View**	**5.88**	**7**	P		**Pn**	**00 40 15.4**	**+0.4**
	baz=188,SNR=18							
N18K	**Kilae Creek**	**5.90**	**326**			**Pn**	**00 40 14.0**	**-1.3**
N18K	**Kilae Creek**	**5.90**	**326**	P		**Pn**	**00 40 14.1**	**-1.3**
	baz=141,SNR=21							
SCM	**Sheep Creek Mo**	**5.95**	**8**	Pn		**Pn**	**00 40 15.6**	**-0.4**
SCM	**Sheep Creek Mo**	**5.95**	**8**	P		**Pn**	**00 40 16.9**	**+0.9**
	baz=190,SNR=13							
SCM	**Sheep Creek Mo**	**5.95**	**8**	P		**Pn**	**00 40 15.6**	**-0.4**
O16K	**Kokwok River B**	**6.00**	**311**			**Pn**	**00 40 15.6**	**-1.0**
O16K	**Kokwok River B**	**6.00**	**311**	P		**Pn**	**00 40 16.0**	**-0.6**

P29M	Windy Craggy baz=244	7.11	54	P		Pn	00 40 32.1	+0.2
PPLA	Purkeypile	7.12	349			Pn	00 40 31.3	-0.7
PPLA	Purkeypile baz=166	7.12	349	P		Pn	00 40 32.2	+0.2
PS1A	Pavlof South-1	7.14	271			Pn	00 40 29.7	-2.5
N15K	Kwethluk River	7.16	310			Pn	00 40 31.2	-1.3
N15K	Kwethluk River baz=122,SNR=55	7.16	310	P		Pn	00 40 32.6	0.0
M26K	Nabesna, AK	7.18	24			Pn	00 40 32.9	+0.1
M26K	Nabesna, AK baz=209	7.18	24	P		Pn	00 40 33.5	+0.7
DHY	Denali Highway	7.18	6	Pn		Pn	00 40 33.3	+0.4
DHY	Denali Highway baz=188,SNR=33	7.18	6	P		Pn	00 40 33.4	+0.4
M16K	Timber Creek	7.21	319			Pn	00 40 32.5	-0.7
M16K	Timber Creek baz=131,SNR=24	7.21	319	P		Pn	00 40 32.9	-0.3
YUK8	Steele Glacier baz=227,SNR=28	7.23	39	P		Pn	00 40 35.4	+1.7
PAX	Paxson	7.26	13			Pn	00 40 33.9	-0.1
PAX	Paxson baz=197,SNR=16	7.26	13	P		Pn	00 40 34.9	+0.9
PAX	Paxson	7.26	13	P		Pn	00 40 33.9	-0.1
PN7A	Pavlof North-7	7.28	271			Pn	00 40 32.1	-2.1
O14K	Tigyukauivet M	7.29	302			Pn	00 40 32.9	-1.3
O14K	Tigyukauivet M baz=112,SNR=19	7.29	302	P		Pn	00 40 33.8	-0.4
S31K	Pelican	7.34	69	Pn		Pn	00 40 32.9	-2.0
S31K	Pelican baz=259,SNR=25	7.34	69	P		Pn	00 40 32.8	-2.1
YUK3	Moose Creek	7.35	34			Pn	00 40 35.7	+0.4
YUK3	Moose Creek baz=222,SNR=38	7.35	34	P		Pn	00 40 36.6	+1.3
L18K	Granite Mounta	7.37	331			Pn	00 40 33.6	-1.7
L18K	Granite Mounta baz=146	7.37	331	P		Pn	00 40 33.4	-1.9
YUK7	Dusty Glacier	7.39	47			Pn	00 40 36.0	+0.3
M27K	Edge Creek, AK	7.41	27			Pn	00 40 36.2	+0.2
M27K	Edge Creek, AK baz=213,SNR=29	7.41	27	P		Pn	00 40 36.8	+0.7
RND	Reindeer	7.46	1			Pn	00 40 37.5	+0.9
RND	Reindeer	7.46	1	P		Pn	00 40 37.6	+0.9
TRF	Thorofare Moun	7.52	356			Pn	00 40 37.5	-0.1
TRF	Thorofare Moun baz=175	7.52	356	P		Pn	00 40 37.8	+0.2
YUK6	Outpost Mounta baz=233	7.53	44	P		Pn	00 40 39.0	+1.1
CAST	Castle Rocks	7.62	350			Pn	00 40 37.8	-1.0
CAST	Castle Rocks baz=168,SNR=31	7.62	350	P		Pn	00 40 38.6	-0.1
KTH	Kantishna Hill	7.66	354			Pn	00 40 38.9	-0.4
L26K	Log Cabin Wild	7.66	20			Pn	00 40 39.9	+0.5
L26K	Log Cabin Wild baz=205,SNR=25	7.66	20	P		Pn	00 40 41.2	+1.8
YUK4	Talbot Arm baz=230,SNR=107	7.68	41	P		Pn	00 40 42.8	+3.0
PLBC	Pleasant Camp	7.68	58			Pn	00 40 39.7	0.0
PLBC	Pleasant Camp baz=248,SNR=151	7.68	58	P		Pn	00 40 39.8	+0.2
R31K	City Hall, Gus baz=257,SNR=7.2	7.68	66	P		Pn	00 40 39.0	-0.7
P30M	Million Dollar	7.69	52			Pn	00 40 40.4	+0.6
P30M	Million Dollar baz=242	7.69	52	P		Pn	00 40 40.7	+0.9
M15K	Kasigluk River	7.69	313			Pn	00 40 38.9	-0.9
M15K	Kasigluk River baz=124,SNR=41	7.69	313	P		Pn	00 40 39.3	-0.5
SIT	Sitka	7.73	76	Pn		Pn	00 40 38.1	-2.2
SIT	Sitka baz=267,SNR=6.1	7.73	76	P		Pn	00 40 36.8	-3.4
SIT	Sitka	7.73	76	P		Pn	00 40 38.1	-2.1
BVCY	Beaver Creek	7.73	30			Pn	00 40 41.2	+0.9
BVCY	Beaver Creek baz=217,SNR=26	7.73	30	P		Pn	00 40 41.3	+0.9
N14K	Kuskokwak Cree	7.75	306			Pn	00 40 40.3	-0.2
N14K	Kuskokwak Cree baz=116	7.75	306	P		Pn	00 40 40.2	-0.3
L17K	Donlin	7.77	326			Pn	00 40 39.7	-1.1
L17K	Donlin baz=139	7.77	326	P		Pn	00 40 39.6	-1.1
MCK	McKinley	7.79	1			Pn	00 40 41.6	+0.5
MCK	McKinley baz=181,SNR=12	7.79	1	P		Pn	00 40 42.1	+1.0
MCK	McKinley	7.79	1	P		Pn	00 40 41.6	+0.5
TTA	Tatalina	7.80	336			Pn	00 40 39.6	-1.8
TTA	Tatalina	7.80	336	P		Pn	00 40 40.2	-1.1
TTA	Tatalina baz=151,SNR=5.3	7.80	336	P		Pn	00 40 39.2	-2.1
TTA	Tatalina	7.80	336	P		Pn	00 40 39.6	-1.7
HYT	Haines Junctio	7.81	47	Pn		Pn	00 40 41.5	0.0
HYT	Haines Junctio baz=236,SNR=34	7.81	47	P		Pn	00 40 42.0	+0.5
K20K	Telida	7.81	343			Pn	00 40 39.7	-1.7
K20K	Telida baz=160	7.81	343	P		Pn	00 40 39.6	-1.9
YUK5	Granite Creek	7.84	44			Pn	00 40 43.3	+1.3
L16K	Owhat River	7.85	321			Pn	00 40 40.9	-1.1
L16K	Owhat River baz=133	7.85	321	P		Pn	00 40 40.9	-1.1
L27K	Beaver Creek,	8.02	25			Pn	00 40 44.9	+0.6
L27K	Beaver Creek, baz=211	8.02	25	P		Pn	00 40 44.7	+0.4
K24K	Donnelly Dome	8.04	11			Pn	00 40 45.2	+0.7
K24K	Donnelly Dome baz=194,SNR=12	8.04	11	P		Pn	00 40 46.1	+1.5
RIDG	Independent Ri	8.09	14	Pn		Pn	00 40 45.5	+0.3
RIDG	Independent Ri baz=198,SNR=18	8.09	14	P		Pn	00 40 45.9	+0.7
CHUM	Lake Minchumin	8.09	350			Pn	00 40 44.6	-0.6
CHUM	Lake Minchumin baz=168,SNR=19	8.09	350	P		Pn	00 40 44.9	-0.4
S32K	Killisnoo	8.16	73	Pn		Pn	00 40 45.2	-1.0
S32K	Killisnoo baz=265,SNR=7.2	8.16	73	P		Pn	00 40 44.1	-2.0
BESE	Bessie Mountai	8.18	65			Pn	00 40 45.1	-1.3
SKAG	Skagway	8.18	59			Pn	00 40 46.8	+0.3
SKAG	Skagway	8.18	59	P		Pn	00 40 46.8	+0.3
SKAG	Skagway baz=250,SNR=22	8.18	59	P		Pn	00 40 46.7	+0.3
FALS	False Pass	8.20	268			Pn	00 40 44.2	-2.5
FALS	False Pass	8.20	268	P		Pn	00 40 44.5	-2.2
FALS	False Pass baz=77,SNR=6.0	8.20	268	P		Pn	00 40 44.2	-2.5
BPAW	Bear Paw Mtn.	8.21	354			Pn	00 40 45.5	-1.3
BPAW	Bear Paw Mtn. baz=173,SNR=7.3	8.21	354	P		Pn	00 40 45.7	-1.2
K17K	Iditarod	8.21	329			Pn	00 40 45.3	-1.6
K17K	Iditarod baz=142	8.21	329	P		Pn	00 40 45.6	-1.3
M14K	Bethel	8.26	311	Pn		Pn	00 40 46.0	-1.5
M14K	Bethel baz=120,SNR=16	8.26	311	P		Pn	00 40 47.6	+0.1
R32K	Eaglecrest	8.29	68			Pn	00 40 46.9	-1.1
R32K	Eaglecrest baz=260,SNR=9.5	8.29	68	P		Pn	00 40 46.8	-1.1
N30M	Aishikik Lake	8.34	44			Pn	00 40 49.3	+0.6
N30M	Aishikik Lake baz=234	8.34	44	P		Pn	00 40 49.2	+0.5
JIS	Juneau Island	8.36	68			Pn	00 40 47.7	-1.2
JIS	Juneau Island	8.36	68	P		Pn	00 40 48.3	-0.6
O30N	Mendenhall	8.37	50			Pn	00 40 49.1	-0.1
O30N	Mendenhall baz=240,SNR=24	8.37	50	P		Pn	00 40 49.6	+0.5
ISLZ	Isanotski Laza	8.39	267			Pn	00 40 47.0	-2.5
ISNN	Isanotski Nort	8.40	268			Pn	00 40 47.5	-2.0
J18K	Innoko River	8.43	336			Pn	00 40 48.5	-1.3
J18K	Innoko River baz=150	8.43	336	P		Pn	00 40 48.7	-1.1
SCRK	Sand Creek	8.43	16	Pn		Pn	00 40 50.6	+0.6
SCRK	Sand Creek baz=200,SNR=10.0	8.43	16	P		Pn	00 40 50.6	+0.6
M29M	Somme Creek	8.48	36			Pn	00 40 51.8	+1.1
M29M	Somme Creek baz=225	8.48	36	P		Pn	00 40 51.8	+1.1
SSLN	Shishaldin Nor	8.53	268			Pn	00 40 49.2	-2.1
HDA	Harding Lake	8.53	6			Pn	00 40 51.4	+0.1
HDA	Harding Lake baz=189,SNR=21	8.53	6	P		Pn	00 40 52.6	+1.3
L15K	Ungalak Mounta	8.57	317			Pn	00 40 51.5	-0.3
L15K	Ungalak Mounta baz=127,SNR=17	8.57	317	P		Pn	00 40 51.6	-0.3
J20K	Nowinta River baz=161	8.60	345	P		Pn	00 40 51.4	-0.8
NEA2	Nenana	8.65	0			Pn	00 40 52.0	-0.9
NEA2	Nenana baz=181,SNR=8.3	8.65	0	P		Pn	00 40 53.5	+0.6
J19K	Poorman	8.67	341	P		Pn	00 40 51.7	-1.5
M13K	Dall Lake baz=115	8.71	307	P		Pn	00 40 53.5	-0.2
CCB	Clear Creek Bu	8.73	4			Pn	00 40 54.2	+0.2
K27K	Chicken	8.82	21			Pn	00 40 55.8	+0.6
K27K	Chicken baz=207,SNR=9.5	8.82	21	P		Pn	00 40 56.3	+1.1
WHY	Whitehorse	8.85	52			Pn	00 40 56.4	+0.6
WHY	Whitehorse baz=244,SNR=6.3	8.85	52	P		Pn	00 40 56.4	+0.6
L14K	Kuka Creek	8.86	313			Pn	00 40 55.3	-0.5
L14K	Kuka Creek baz=122	8.86	313	P		Pn	00 40 55.3	-0.5
J25K	Salcha River, baz=194	8.87	11	P		Pn	00 40 56.1	+0.2
N31M	Braeburn, Yuko	8.87	46			Pn	00 40 56.9	+0.9
N31M	Braeburn, Yuko baz=237,SNR=33	8.87	46	P		Pn	00 40 56.9	+0.9
ILAR	Eielson Array	8.90	6	Pn		Pn	00 40 56.2	-0.1
ILAR	Eielson Array	8.90	6	P		Pn	00 40 56.2	-0.1
ILAR	Eielson Array comp=E,1.8nm,0.3s,baz=189,slow=13,SNR=69	8.90	6	Pn		Pn	00 40 55.6	-0.7
ILAR	comp=E,4.2nm,0.3s,baz=203,slow=15,SNR=10					Sn	Sn	00 42 31.4 -5.1
ILAR	comp=E,559nm,18.9s,baz=181,slow=39					LR	LR	00 44 37.5
IL03	Eielson Array	8.90	6			Pn	00 40 56.4	+0.1
COLA	College	8.95	4			Pn	00 40 58.3	+1.3
COLA	College	8.95	4	P		Pn	00 40 57.7	+0.7
COLA	College baz=185	8.95	4	P		Pn	00 40 58.9	+1.9
COLA	College	8.95	4	P		Pn	00 40 58.3	+1.3
K15K	Wolf Creek Mou	8.97	320			Pn	00 40 57.0	-0.3
K15K	Wolf Creek Mou baz=130	8.97	320	P		Pn	00 40 57.4	+0.2
U33K	Whale Pass baz=275	8.98	82	P		Pn	00 40 54.4	-2.9
J26L	Joseph Creek	8.99	16			Pn	00 40 58.1	+0.4
J26L	Joseph Creek baz=201,SNR=24	8.99	16	P		Pn	00 40 58.4	+0.8
P32M	Atlin	9.00	60			Pn	00 40 57.8	0.0
P32M	Atlin baz=253,SNR=67	9.00	60	P		Pn	00 40 57.8	0.0
MDM	Murphy Dome	9.03	2			Pn	00 40 58.1	0.0
WECS	Westdahl Cape	9.04	267			Pn	00 40 56.6	-1.8
CRAG	Craig baz=279	9.06	87	P		Pn	00 40 55.2	-3.3
L29M	L29M	9.07	33			Pn	00 40 59.5	+0.8
L29M	L29M baz=223	9.07	33	P		Pn	00 40 59.8	+1.1
MLY	Manley baz=175,SNR=8.6	9.12	356	P		Pn	00 40 58.5	-0.9
M30M	Minto, Yukon	9.14	39	Pn		Pn	00 40 60.0	+0.2
M30M	Minto, Yukon baz=229,SNR=16	9.14	39	P		Pn	00 41 00.4	+0.7
I23K	Minto, Yukon-K	9.21	359			Pn	00 41 00.3	-0.2
I23K	Minto, Yukon-K baz=180,SNR=8.7	9.21	359	P		Pn	00 41 00.8	+0.4
POKR	Poker Plat Res	9.21	5			Pn	00 41 00.7	0.0
POKR	Poker Plat Res baz=186	9.21	5	P		Pn	00 41 00.7	0.0
I20K	Naaghedeneel	9.23	346	Pn		Pn	00 41 00.3	-0.5
I20K	Naaghedeneel baz=161	9.23	346	P		Pn	00 41 01.3	+0.5
J16K	Anvik River	9.33	326			Pn	00 41 00.9	-1.3
J16K	Anvik River baz=137	9.33	326	P		Pn	00 41 01.1	-1.1
I21K	Tanana	9.34	353			Pn	00 41 01.7	-0.7
I21K	Tanana baz=170,SNR=16	9.34	353	P		Pn	00 41 02.8	+0.5
WRAK	Wrangell Islan baz=274	9.38	80	P		Pn	00 41 02.1	-0.8
DAWY	Dawson	9.46	27	Pn		Pn	00 41 03.9	-0.1
DAWY	Dawson baz=215,SNR=15	9.46	27	P		Pn	00 41 04.4	+0.3
Q32M	Nakina River baz=259	9.57	65	P		Pn	00 41 05.4	-0.3
GCSA	Galena City Sc baz=153	9.59	340	P		Pn	00 41 04.2	-1.5
P33M	Teslin, Yukon	9.63	57	Pn		Pn	00 41 05.9	-0.5
P33M	Teslin, Yukon baz=251,SNR=64	9.63	57	P		Pn	00 41 06.3	0.0
EGAK	Eagle	9.67	21			Pn	00 41 07.5	+0.6
EGAK	Eagle baz=208,SNR=7.8	9.67	21	P		Pn	00 41 08.0	+1.2
PRP	Porcupine Dome	9.74	9	Pn		Pn	00 41 08.1	+0.2
PRP	Porcupine Dome baz=192	9.74	9	P		Pn	00 41 08.0	+0.1
K29M	Barlow Dome baz=222,SNR=58	9.80	32	P		Pn	00 41 09.6	+0.8
I17K	Unalakleet	9.81	329	Pn		Pn	00 41 08.0	-0.8
I17K	Unalakleet baz=139	9.81	329	P		Pn	00 41 07.5	-1.3
I26K	Coal Creek Min	9.81	15			Pn	00 41 09.6	+0.9
I26K	Coal Creek Min baz=200,SNR=6.9	9.81	15	P		Pn	00 41 09.7	+0.9
M31M	Drury Creek, Y	9.82	44			Pn	00 41 09.6	+0.7
M31M	Drury Creek, Y baz=237,SNR=29	9.82	44	P		Pn	00 41 10.3	+1.4
N32M	Quiet Lake baz=245,SNR=20	9.86	52	P		Pn	00 41 10.2	+0.7
H21K	Melozitna Rive baz=168,SNR=32	9.88	351	P		Pn	00 41 10.2	+0.5
H24K	Noodor Dome	9.92	3			Pn	00 41 10.1	-0.2
H24K	Noodor Dome baz=184,SNR=9.1	9.92	3	P		Pn	00 41 11.6	+1.3
V35K	Ketchikan baz=280	9.93	86	P		Pn	00 41 09.0	-1.5
H20K	Anotleneega Mo baz=161	9.95	346	P		Pn	00 41 11.4	+0.7
J14K	Nanvaranak Lak	9.99	319			Pn	00 41 10.4	-0.8
J14K	Nanvaranak Lak baz=127,SNR=9.7	9.99	319	P		Pn	00 41 10.7	-0.5
H22K	Ishtalitna Cre baz=173	10.01	355	P		Pn	00 41 11.2	-0.3
M11K	Mekoryuk	10.02	303			Pn	00 41 11.3	-0.3
M11K	Mekoryuk baz=109,SNR=11	10.02	303	P		Pn	00 41 10.9	-0.7
S34M	Telegraph Cree	10.03	71			Pn	00 41 12.1	+0.2
S34M	Telegraph Cree baz=266,SNR=6.0	10.03	71	P		Pn	00 41 11.6	-0.3
J29N	Klondike Camp	10.08	28			Pn	00 41 13.0	+0.5
J29N	Klondike Camp baz=218,SNR=21	10.08	28	P		Pn	00 41 13.6	+1.1
MAYO	Mayo, Yukon	10.13	36			Pn	00 41 13.4	+0.2
MAYO	Mayo, Yukon baz=227	10.13	36	P		Pn	00 41 15.0	+1.8
UNV	Unalaska Valle	10.22	265	P		Pn	00 41 11.2	-3.1
H19K	Roundabout Mou baz=157	10.22	343	P		Pn	00 41 14.6	+0.2
FARO	Faro, Yukon	10.24	46	Pn		Pn	00 41 14.9	+0.1
FARO	Faro, Yukon baz=239,SNR=26	10.24	46	P		Pn	00 41 16.0	+1.2
H18K	Honhosa River baz=150	10.25	338	P		Pn	00 41 14.4	-0.5
IMAR	Indian Mountai	10.29	349	Pn		Pn	00 41 14.4	-0.9
R33M	Jennings River	10.31	63	Pn		Pn	00 41 15.5	-0.3
R33M	Jennings River baz=258,SNR=31	10.31	63	P		Pn	00 41 15.9	+0.1
I27K	Kandik River baz=204	10.33	18	P		Pn	00 41 17.4	+1.5
H17K	Granite Mounta baz=145	10.43	334	P		Pn	00 41 15.9	-1.3
T35M	Bob Quinn	10.50	77	Pn		Pn	00 41 18.0	-0.3
T35M	Bob Quinn baz=272	10.50	77	P		Pn	00 41 18.1	-0.3
I28M	Miner Creek	10.51	22			Pn	00 41 18.6	+0.2
I28M	Miner Creek baz=210	10.51	22	P		Pn	00 41 19.9	+1.5
DLBC	Dease Lake	10.66	69	Pn		Pn	00 41 19.9	-0.6
DLBC	Dease Lake baz=264,SNR=13	10.66	69	P		Pn	00 41 19.8	-0.7
DLBC	Dease Lake comp=E,8.8nm,0.3s,baz=253,slow=10,SNR=118 comp=E,18nm,0.3s	10.66	69	Pn		Pn	00 41 20.0	-0.4
J30M	Hart River	10.70	31			Pn	00 41 21.3	+0.3
J30M	Hart River baz=222	10.70	31	P		Pn	00 41 22.7	+1.7
G21K	Allakaket baz=167	10.78	351	P		Pn	00 41 21.8	-0.3
G23K	Bananza Creek baz=178	10.78	358	P		Pn	00 41 22.0	-0.1
G24K	Hadweenzic Riv	10.79	4	P		Pn	00 41 23.5	+1.2
H16K	Elim baz=138,SNR=7.0	10.82	329	P		Pn	00 41 22.1	-0.5
G19K	Purcell Mounta baz=156	10.89	343	P		Pn	00 41 24.6	+1.1
H27K	Steamboat Moun baz=203,SNR=6.4	10.92	16	P		Pn	00 41 25.0	+1.0
G25K	Bearman Lake baz=189	10.93	6	P		Pn	00 41 24.7	+0.6
G18K	Tagagawik baz=151	10.96	339	P		Pn	00 41 24.0	-0.5
G17K	Kiwalik Mounta baz=145	11.07	334	P		Pn	00 41 26.5	+0.5
HG4B	Hotspring	11.15	102	Pn		Pn	00 41 27.3	+0.1
I30M	Mount Dempster baz=220	11.17	29	P		Pn	00 41 29.2	+1.6
G26K	Porcupine Rive baz=196	11.30	11	P		Pn	00 41 30.4	+1.2
COLD	Coldfoot	11.31	358	Pn		Pn	00 41 28.8	-0.4
COLD	Coldfoot baz=177,SNR=7.0	11.31	358	P		Pn	00 41 29.2	0.0
G16K	Koyuk River baz=140	11.42	331	P		Pn	00 41 29.4	-1.4
F21K	Alatna River baz=168,SNR=7.8	11.47	351	P		Pn	00 41 31.4	-0.1
H29M	Whitestone baz=212	11.50	22	P		Pn	00 41 32.6	+0.7
WTLY	Watson Lake, Y	11.54	61			Pn	00 41 33.0	+0.5
WTLY	Watson Lake, Y baz=258,SNR=8.4	11.54	61	P		Pn	00 41 32.7	+0.2
F20K	Avaraart Lake	11.54	347			Pn	00 41 31.2	-1.1
F20K	Avaraart Lake baz=162,SNR=7.1	11.54	347	P		Pn	00 41 31.8	-0.6
F24K	Squaw Lake baz=184	11.60	2	P		Pn	00 41 34.0	+0.6
G15K	Niukluk baz=135	11.62	327	P		Pn	00 41 33.0	-0.5
F19K	Shaleruckik Mo baz=156	11.64	343	P		Pn	00 41 33.7	0.0
SPIA	Saint Paul Isl baz=87	11.69	285	P		Pn	00 41 32.9	-1.6
ANM	Nome	11.75	324	Pn		Pn	00 41 33.4	-1.9
ANM	Nome baz=130,SNR=12	11.75	324	P		Pn	00 41 35.1	-0.2
ANM	Nome	11.75	324	P		Pn	00 41 33.4	-1.9
F18K	Selawik baz=150	11.77	339	P		Pn	00 41 35.6	0.0
F25K	Christian Rive baz=190	11.78	7	P		Pn	00 41 36.4	+0.7
NIKH	Nikolski High	11.84	264	P		Pn	00 41 34.5	-2.1
F17K	Baldwin Pennin baz=146	11.98	336	P		Pn	00 41 38.5	+0.1
F26K	Sheenjek River baz=194	11.99	9	P		Pn	00 41 39.6	+1.0
EPYK	Eagle Plains	12.00	25	Pn		Pn	00 41 38.9	+0.2
EPYK	Eagle Plains baz=216,SNR=9.1	12.00	25	P		Pn	00 41 40.2	+1.5
E19K	Redstone River baz=158	12.13	345	P		Pn	00 41 40.8	+0.4
E23K	Chandalar baz=179	12.13	359	P		Pn	00 41 41.7	+1.1
G29M	Pine Creek baz=211	12.17	21	P		Pn	00 41 41.6	+0.5
F15K	North Star Dit baz=136	12.30	329	P		Pn	00 41 42.4	-0.4
E25K	Arctic Village	12.30	6	Pn		Pn	00 41 42.5	-0.3
E25K	Arctic Village baz=190	12.30	6	P		Pn	00 41 43.5	+0.7
F28M	Old Crow	12.46	17	Pn		Pn	00 41 44.5	-0.4
F28M	Old Crow baz=205,SNR=12	12.46	17	P		Pn	00 41 46.6	+1.6
G30M	tAoh Zraii Nji baz=215	12.61	24	P		Pn	00 41 48.7	+1.6
E17K	Hotham Inlet baz=146,SNR=6.8	12.64	337	P		Pn	00 41 47.4	0.0
F14K	Arctic Creek baz=131	12.65	326	P		Pn	00 41 47.3	-0.3
E18K	Tukpahlearik C baz=150	12.67	340	P		Pn	00 41 47.3	-0.6
E21K	Killik River baz=168	12.71	352	P		Pn	00 41 48.7	+0.3
E20K	Nigu River baz=162	12.75	348	P		Pn	00 41 49.2	+0.2
G31M	Satah River baz=220	13.04	27	P		Pn	00 41 54.0	+1.2
D22K	Ayikyak River baz=171	13.05	354	P		Pn	00 41 53.3	+0.2
D23K	Nanushuk River baz=176,SNR=19	13.06	358	P		Pn	00 41 54.6	+1.4
D19K	Kuna River baz=158	13.22	345	P		Pn	00 41 55.1	-0.3
TNA	Tin City baz=128	13.22	324	P		Pn	00 41 55.1	-0.2
F30M	Barrier River baz=25	13.23	23	P		Pn	00 41 56.9	+1.4
D20K	Etivluk River baz=162	13.23	348	P		Pn	00 41 55.9	+0.4
D24K	Happy Valley	13.23	1			Pn	00 41 54.7	-0.8
D24K	Happy Valley baz=181	13.23	1	P		Pn	00 41 56.5	+1.1
E28M	Babbage River baz=204	13.41	15	P		Pn	00 41 59.7	+1.7
D25K	Kavik River baz=187	13.46	4	P		Pn	00 41 59.7	+1.0
C21K	Knifeblade Rid baz=166	13.47	351	P		Pn	00 41 58.5	-0.3
E29M	Blow River baz=208	13.48	18	P		Pn	00 42 00.4	+1.5
F31M	Tsiigehtchic	13.57	26	Pn		Pn	00 42 00.4	+0.4
F31M	Tsiigehtchic baz=220,SNR=11	13.57	26	P		Pn	00 42 00.9	+0.9
GAMB	Gambell baz=115	13.69	314	P		Pn	00 42 01.0	-0.8
C24K	Franklin Bluff baz=181	13.80	1	P		Pn	00 42 03.2	0.0
D27M	Malcolm River baz=200	13.82	12	P		Pn	00 42 04.3	+0.8
C18K	Utukok River baz=151	13.85	341	P		Pn	00 42 03.6	-0.4
KOTAN	Kotaneelee Air baz=263,SNR=23	13.88	62	P		Pn	00 42 05.7	+1.2
C19K	Lookout Ridge baz=155	14.00	344	P		Pn	00 42 05.4	-0.5
C17K	DeLong Mountai baz=146,SNR=7.7	14.09	338	P		Pn	00 42 06.8	-0.3
FLDN	Fort Liard	14.18	62	P		Pn	00 42 10.1	+1.6
FLDN	Fort Liard baz=264,SNR=6.3	14.18	62	P		Pn	00 42 10.1	+1.6
D28M	Stokes Point baz=204	14.20	15	P		Pn	00 42 10.6	+1.9
INK	Inuvik	14.30	24	Pn		Pn	00 42 10.6	+0.6
INK	Inuvik baz=218,SNR=59	14.30	24	P		Pn	00 42 11.1	+1.0
INK	Inuvik	14.30	24	P		Pn	00 42 10.6	+0.6
INK	Inuvik comp=E,0.5nm,0.3s,baz=208,slow=15,SNR=92 comp=E,44nm,1.0s	14.30	24	Pn		Pn	00 42 10.3	+0.3
C16K	Lisburne Hills	14.40	335			Pn	00 42 10.6	-0.9
C16K	Lisburne Hills baz=141	14.40	335	P		Pn	00 42 10.1	-1.4
B20K	Meade River baz=162	14.53	349	P		Pn	00 42 11.6	-1.6
B22K	Teshekpuk Lake baz=171	14.54	354	P	

F04A IAmb IAmb 00 43 21.9
comp=Z,25nm,1.4s
LTY Liberty 19.60 104 P **P** **00 43 15.3 -0.7**
B08A Colville Reser 19.69 100 P **P** **00 43 16.6 -0.4**
MXC Moxie City 20.22 106 P **P** **00 43 23.6 +0.8**
HOOD Mount Hood Mea 20.30 110 P **P** **00 43 23.2 -0.5**
HOOD IAmb IAmb 00 43 28.6
comp=Z,21nm,1.1s
BUCK Buck Mountain 20.37 114 P **P** **00 43 23.3 -1.1**
H04A Detroit Lake 20.45 112 P **P** **00 43 24.5 -0.7**
E07A Sunnyside 20.47 105 **P** **00 43 25.0 -0.4**
E07A IAmb IAmb 00 43 29.1
comp=Z,13nm,1.0s
KEBM Edson Butte 20.65 119 P **P** **00 43 27.2 -0.3**
D08A Wollman Farm, 20.67 103 **P** **00 43 27.4 -0.2**
HAWA Hanford 20.74 105 P **P** **00 43 28.7 +0.3**
HAWA IAmb IAmb 00 43 29.3
comp=Z,17nm,1.4s
EDM Edmonton 20.78 83 P **P** **00 43 29.2 +0.4**
EDM IAmb IAmb 00 43 57.7
comp=Z,24nm,1.4s
EDM Edmonton 20.78 83 P **P** **00 43 29.2 +0.4**
EDM pmax pmax
comp=Z,25nm,1.4s
F07A Phinny Hill Vi 20.84 107 P **P** **00 43 29.2 -0.3**
F07A IAmb IAmb 00 43 33.7
comp=Z,13nm,0.9s
E08A Dider Farm, El 20.94 104 P **P** **00 43 30.4 -0.1**
I04A Tendick Farm, 20.95 114 P **P** **00 43 30.3 -0.4**
I04A IAmb IAmb 00 43 34.6
comp=Z,18nm,1.0s
NEW Newport 20.97 98 **P** **00 43 31.0 +0.1**
NEW Newport 20.97 98 P **P** **00 43 30.9 +0.1**
baz=303
NEW Newport 20.97 98 P **P** **00 43 31.0 +0.1**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 20.97 98 P **P** **00 43 30.6 -0.3**
comp=Z,3.6nm,0.8s,baz=295,slow=9.0,SNR=8.7
comp=Z,3.6nm,0.8s
K02D Willamette Mer 21.11 118 P **P** **00 43 31.3 -1.2**
K02D IAmb IAmb 00 43 47.6
comp=Z,30nm,1.3s
I05D Terrebonne, OR 21.12 112 P **P** **00 43 33.0 +0.4**
I05D IAmb IAmb 00 43 36.7
comp=Z,23nm,1.2s
E09A Wood Farm, Sta 21.43 103 P **P** **00 43 35.4 -0.4**
E09A IAmb IAmb 00 43 39.5
comp=Z,17nm,1.4s
HUMO Hull Mountain 21.53 117 P **P** **00 43 36.2 -0.7**
HUMO IAmb IAmb 00 43 37.8
comp=Z,17nm,1.2s
PINE Pine Mountain 21.71 112 P **P** **00 43 38.9 -0.2**
G08A Pilot Rock 21.75 107 P **P** **00 43 38.7 -0.7**
J05D Fort Rock, OR 21.91 114 P **P** **00 43 40.9 -0.3**
K04D Chiloquin, OR 22.12 116 P **P** **00 43 43.6 +0.3**
L04D Klamath Falls 22.14 117 P **P** **00 43 43.1 -0.5**
L04D IAmb IAmb 00 43 46.2
comp=Z,21nm,1.2s
F10A Beach Ranch, E 22.26 103 P **P** **00 43 44.3 -0.5**
I07A Izee 22.26 110 P **P** **00 43 44.4 -0.5**
I07A IAmb IAmb 00 43 58.5
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 22.30 119 P **P** **00 43 43.5 -1.8**
YBH Yreka Blue Hor 22.30 119 P **P** **00 43 44.9 -0.4**
comp=Z,3.5nm,0.9s,baz=330,slow=8.1,SNR=7.8
comp=Z,3.5nm,0.8s
KHMM Horse Mountain 22.46 122 P **P** **00 43 46.8 -0.2**
K05A Summer Lake 22.49 114 P **P** **00 43 47.6 +0.2**
BMO Blue Mountains 22.93 106 P **P** **00 43 51.4 -0.5**
BMO Blue Mountains 22.93 106 P **P** **00 43 51.4 -0.5**
BMO pmax pmax
comp=Z,7.0nm,1.4s
KMRM Mail Ridge 22.98 123 P **P** **00 43 51.2 -1.3**
J08A Circle Bar Ran 23.30 110 P **P** **00 43 55.8 0.0**
J08A IAmb IAmb 00 44 18.7
comp=Z,12nm,1.3s
BILL Bilibino 23.52 319 *i* P **P** **00 43 57.6 0.0**
MSO Missoula 23.56 98 P **P** **00 43 57.1 -1.2**
baz=306
WVOR Wild Horse Val 23.86 112 P **P** **00 44 00.9 -0.4**
WVOR IAmb IAmb 00 44 02.3
comp=Z,11nm,1.1s
WVOR Wild Horse Val 23.86 112 P **P** **00 44 00.9 -0.4**
WVOR pmax pmax
comp=Z,11nm,1.1s
MFID Camas Ranch 24.68 106 P **P** **00 44 07.5 -1.3**
MFID IAmb IAmb 00 44 10.3
comp=Z,9.6nm,1.4s
PLTX Planet X, Gerl 24.69 116 P **P** **00 44 08.0 -1.0**
AFDM Forest Hills D 25.29 120 P **P** **00 44 14.3 +0.1**
AFDM IAmb IAmb 00 44 14.4
comp=Z,10nm,1.5s
HLID Hailey 25.34 105 P **P** **00 44 13.3 -1.6**
baz=312
MPK Martis Peak 25.48 119 P **P** **00 44 15.2 -1.0**
MPK IAmb IAmb 00 44 16.8
comp=Z,11nm,1.1s
PAHR Pah Rah Range 25.48 117 P **P** **00 44 13.9 -2.2**
PAHR IAmb IAmb 00 44 16.7
comp=Z,5.5nm,1.0s
PNTR Pine Nut 25.85 118 P **P** **00 44 19.0 -0.5**
PNTR IAmb IAmb 00 44 22.3
comp=Z,12nm,1.1s
YERR Yerington 26.11 118 P **P** **00 44 20.6 -1.2**
YERR IAmb IAmb 00 44 22.5
comp=Z,5.5nm,1.0s
YHH Holmes Hill 26.52 99 P **P** **00 44 25.8 +0.1**
KVN Kaiserville 26.63 116 P **P** **00 44 25.1 -1.5**
KVN IAmb IAmb 00 44 27.4
comp=Z,7.7nm,1.3s
KVN Kaiserville 26.63 116 P **P** **00 44 25.1 -1.5**
KVN pmax pmax
comp=Z,8.0nm,1.3s
ELK Elko 26.85 110 P **P** **00 44 28.2 -0.4**
ELK Elko 26.85 110 P **P** **00 44 28.2 -0.4**
ELK pmax pmax
comp=Z,5.0nm,1.2s
NVAR Mina Array Bea 27.00 118 P **P** **00 44 28.6 -1.4**
NVAR Mina Array Bea 27.00 118 P **P** **00 44 29.4 -0.6**
comp=Z,2.5nm,0.9s,baz=301,slow=8.6,SNR=16
NVAR LR LR 00 53 20.2
comp=Z,102nm,19.9s,baz=172,slow=32
comp=Z,2.5nm,0.9s
NV11 Mina Array Sit 27.07 117 P **P** **00 44 29.8 -0.7**
NV11 IAmb IAmb 00 44 46.2
comp=Z,6.0nm,1.1s
RLMT Red Lodge 27.19 97 P **P** **00 44 29.8 -1.9**
baz=308
OMMB Old Mammoth Mi 27.29 120 P **P** **00 44 32.2 -0.5**
OMMB IAmb IAmb 00 44 33.3
comp=Z,4.7nm,1.0s
RES Resolute Bay 27.80 28 P **P** **00 44 36.1 -0.3**
RES Resolute Bay 27.80 28 P **P** **00 44 36.2 -0.3**
RES pmax pmax
comp=Z,4.0nm,1.0s
LAO LASA Array 27.96 91 P **P** **00 44 37.7 -0.7**
LAO IAmb IAmb 00 44 51.9
comp=Z,4.0nm,0.9s
MZP Montezuma Peak 28.03 117 P **P** **00 44 37.9 -1.3**
Q12A Willow Creek R 28.31 112 P **P** **00 44 41.4 -0.2**
Q12A IAmb IAmb 00 44 42.6
comp=Z,7.7nm,1.2s
R11B Troy Canyon, C 28.44 114 P **P** **00 44 42.1 -0.7**
R11B Troy Canyon, C 28.44 114 P **P** **00 44 41.6 -1.2**
baz=319,SNR=6.9
BW06 Boulder Array 28.53 101 P **P** **00 44 41.7 -1.9**
baz=311
PDAR Pinedale Array 28.53 101 P **P** **00 44 42.6 -1.0**
comp=Z,0.3nm,0.4s,baz=324,slow=2.6,SNR=4.5
comp=Z,0.3nm,0.4s
GRAC Grapevine Rang 28.58 118 P **P** **00 44 43.1 -0.8**
GRAC IAmb IAmb 00 44 45.2
comp=Z,10nm,1.1s
GRAC Grapevine Rang 28.58 118 P **P** **00 44 42.9 -1.0**
baz=322
SPR3 Spring Creek 3 28.60 112 P **P** **00 44 43.8 -0.6**
SPR3 IAmb IAmb 00 44 46.2
comp=Z,5.3nm,1.3s
CWC Cottonwood Cre 28.67 120 P **P** **00 44 43.9 -0.9**
baz=323
PKM Mcpherson Peak 29.10 124 P **P** **00 44 48.0 -0.7**
baz=325
NLU North Lily Min 29.10 108 P **P** **00 44 47.4 -1.3**
ISA Isabella, Lake 29.10 121 P **P** **00 44 47.9 -0.7**
baz=324
WCT Wildcat Mounta 29.11 117 P **P** **00 44 48.6 0.0**
FCC Fort Churchill 29.12 61 P **P** **00 44 48.1 -0.3**
FCC IAmb IAmb 00 44 49.5
comp=Z,6.8nm,0.8s
FCC Fort Churchill 29.12 61 P **P** **00 44 48.1 -0.3**
FCC pmax pmax
comp=Z,7.0nm,0.9s
MPMC Manual Prospec 29.26 120 P **P** **00 44 49.1 -1.1**
baz=323
PRN Pahroc Range 29.43 115 P **P** **00 44 50.5 -1.0**
PRN IAmb IAmb 00 44 52.4
comp=Z,7.1nm,1.1s
SEY Seymchan 29.55 308 *i* P **P** **00 44 51.7 -0.5**
SEY pmax pmax
comp=Z,4.0nm,1.0s
GWY Greenwater Val 29.57 118 P **P** **00 44 51.9 -0.9**
GWY IAmb IAmb 00 44 57.1
comp=Z,7.8nm,1.4s
LRMC Laurel Mtn Rad 29.63 120 P **P** **00 44 51.9 -1.5**
baz=324
QSM Queen of Sheba 29.64 119 P **P** **00 44 52.1 -1.2**
QSM IAmb IAmb 00 44 54.1
comp=Z,6.4nm,1.3s
EDW2 Edwards Air Fo 29.96 122 P **P** **00 44 54.9 -1.3**
baz=324
PETK Petropavlovsk- 30.34 287 P **P** **00 44 58.6 -0.7**
comp=Z,2.1nm,0.8s,baz=73,slow=14,SNR=1.6
comp=Z,2.1nm,0.8s
SRU San Rafael Swe 30.54 107 P **P** **00 45 00.6 -0.8**
SRU IAmb IAmb 00 45 02.4
comp=Z,3.8nm,0.9s
SRU San Rafael Swe 30.54 107 P **P** **00 45 00.6 -0.8**
SRU pmax pmax
comp=Z,4.0nm,0.9s
HEC Hector,Ludlow 30.81 119 P **P** **00 45 03.0 -0.7**
baz=324
V12A Nelson 30.84 117 P **P** **00 45 03.5 -0.5**
V12A IAmb IAmb 00 45 05.0
comp=Z,3.8nm,1.0s
O20A White River Ci 31.05 103 P **P** **00 45 05.1 -0.8**
baz=314
MA2 Magadan 31.28 302 *i* P **P** **00 45 06.4 -1.1**
MA2 pmax pmax
comp=Z,4.0nm,1.0s
PFO Pinyon Flats O 31.73 121 P **P** **00 45 11.5 -0.4**
baz=325
PFO Pinyon Flats O 31.73 121 *i* P **P** **00 45 11.3 -0.6**
PFO pmax pmax
comp=Z,4.0nm,1.2s
PFO Pinyon Flats O 31.73 121 LR LR 00 55 01.9
comp=Z,77nm,19.8s,baz=352,slow=31
TPFO Pinon Flats 31.74 121 P **P** **00 45 11.8 -0.2**
baz=325
ULM Lac du Bonnet 31.80 78 LR LR 00 57 49.2
comp=Z,105nm,18.9s,baz=314,slow=36
W13A Hualapai Mount 31.81 116 P **P** **00 45 11.5 -1.2**
W13A IAmb IAmb 00 45 14.2
comp=Z,6.1nm,1.3s
IRM Iron Mountain 31.93 119 P **P** **00 45 13.1 -0.4**
baz=324
109C Camp Elliot, M 32.02 123 P **P** **00 45 13.8 -0.4**
baz=326
BC3 Big Chuckawall 32.19 120 P **P** **00 45 14.3 -1.6**
baz=324
MONP2 Monument Peak 32.34 122 P **P** **00 45 16.5 -0.8**
baz=325
ISCO Idaho Springs 32.73 101 P **P** **00 45 20.7 -0.1**
baz=314
WUAZ Wupatki 32.77 113 P **P** **00 45 20.8 -0.3**
WUAZ IAmb IAmb 00 45 22.1
comp=Z,6.6nm,1.1s
WUAZ Wupatki 32.77 113 P **P** **00 45 21.3 +0.2**
baz=320
SDCO Great Sand Dun 34.25 104 P **P** **00 45 34.1 +0.1**
baz=316
214A Organ Pipe Nat 34.86 118 P **P** **00 45 39.4 +0.4**
baz=324
KSCO Kaye Shedlock' 34.93 99 P **P** **00 45 39.1 -0.7**
baz=314
T25A Trinidad 35.29 103 P **P** **00 45 42.3 -0.6**
baz=317
EYMN Ely 35.47 78 P **P** **00 45 44.4 +0.3**
baz=305
TUC Tucson 35.59 115 P **P** **00 45 45.2 -0.3**
baz=323
ANMO Albuquerque 35.80 108 P **P** **00 45 46.4 -1.0**
baz=319
TIXI Tiksi 35.98 328 *ce* P **P** **00 45 47.5 -0.7**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
121A Cookes Peak, D 36.96 112 P **P** **00 45 56.0 -1.3**
baz=322
FRB Frobisher Bay 38.60 45 LR LR 01 02 11.3
comp=Z,115nm,19.5s,baz=340,slow=36
MNTX Cornudas Mount 38.88 110 P **P** **00 46 13.3 +0.1**
baz=322
OK032 Salt Plains WL 38.95 98 P **P** **00 46 12.9 -0.9**
YAK Yakutsk 39.64 313 *i* P **P** **00 46 19.1 -0.1**
YAK pmax pmax
comp=Z,7.0nm,0.8s
HDIL Hopedale 41.35 86 P P 00 46 31.7 -1.9
baz=313
TXAR Lajitas Array 41.65 110 P **P** **00 46 35.8 -0.5**
comp=Z,1.1nm,0.9s,baz=324,slow=6.2,SNR=7.3
comp=Z,1.1nm,0.9s
CCM Cathedral Cave 41.97 90 P **P** **00 46 37.4 -1.4**
baz=315
JCT Junction City 42.81 105 P **P** **00 46 44.6 -1.2**
baz=321
SUMG Summit 43.22 24 P **P** **00 46 48.6 -0.3**
SUMG Summit 43.22 24 P **P** **00 46 48.7 -0.3**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 43.22 24 *i* P **P** **00 46 48.0 -0.9**
SFJD Kangerlussuaq 43.31 35 P **P** **00 46 49.4 +0.2**
SFJD Kangerlussuaq 43.31 35 P **P** **00 46 49.4 +0.2**
SFJD pmax pmax
comp=Z,28nm,1.4s
SFJD Kangerlussuaq 43.31 35 LR LR 01 04 19.3
comp=Z,111nm,18.8s,baz=316,slow=35
SCHQ Schefferville 44.11 55 LR LR 01 03 28.4
comp=Z,53nm,18.4s,baz=272,slow=34
SPITS Spitsbergen Ar 45.81 4 P **P** **00 47 08.7 -0.4**
comp=Z,7.1nm,1.0s,baz=2.7,slow=6.2,SNR=5.3
comp=Z,7.1nm,1.0s
KLR Kul'dur 46.03 297 *i* P **P** **00 47 11.4 +0.2**
KLR pmax pmax
comp=Z,9.0nm,1.1s
LONY Lake Ozonia 46.70 71 P **P** **00 47 16.0 -0.5**
baz=312
SSPA Standing Stone 47.63 77 P P 00 47 21.6 -2.2
baz=314
LRAL Lakeview Retre 47.99 92 P P 00 47 24.0 -2.6
baz=318
NRIK Noril'sk 48.42 337 *i* P **P** **00 47 29.6 +0.1**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
NRIK Noril'sk 48.42 337 P **P** **00 47 28.5 -1.0**
comp=Z,1.1nm,0.5s,baz=58,slow=7.2,SNR=2.0
NRIK LR LR 01 10 35.3
comp=Z,130nm,18.2s,baz=352,slow=39
comp=Z,1.1nm,0.5s
H11N2 WAKE ISLAND Hy 48.79 240 T T 01 40 00.8
baz=31,slow=74
H11N3 WAKE ISLAND Hy 48.80 240 T T 01 40 05.5
baz=31
H11N1 WAKE ISLAND Hy 48.81 240 T T 01 40 05.8
baz=31,slow=74
H11S1 WAKE ISLAND Hy 49.93 240 T T 01 41 28.1
baz=30,slow=76,SNR=35
H11S2 WAKE ISLAND Hy 49.94 240 T T 01 41 52.0
baz=30,slow=76,SNR=30
H11S3 WAKE ISLAND Hy 49.95 240 T T 01 41 22.1
baz=30,slow=76,SNR=28
MSHR Mys Shultsa 50.81 290 *i* P **P** **00 47 49.0 +0.9**
MSHR pmax pmax
comp=Z,6.0nm,1.1s
BORG Borgarnes 53.19 25 LR LR 01 12 00.2
comp=Z,70nm,18.9s,baz=322,slow=38
ARCES ARCESS Array B 54.74 2 P **P** **00 48 15.9 -0.9**
comp=Z,4.3nm,1.1s,baz=353,slow=6.8,SNR=9.2
comp=Z,4.3nm,1.1s
DWPF Disney Wildern 54.84 91 P **P** **00 48 16.9 -1.1**
baz=320
SONM Songino Array 58.90 310 P **P** **00 48 46.7 -0.1**
comp=Z,1.4nm,0.8s,baz=40,slow=6.9,SNR=6.3
comp=Z,1.4nm,0.8s
ZALV Zalesovo Beam 61.86 327 P **P** **00 49 06.5 -0.3**
comp=Z,1.4nm,0.5s,baz=28,slow=6.7,SNR=4.6
ZALV LR LR 01 20 01.7
comp=Z,104nm,18.9s,baz=1.0,slow=40
comp=Z,1.4nm,0.5s
HHC Hu-ho-hao-te 61.96 302 *e* P **P** **00 49 11.5 +3.7**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,270nm,5.9s
NOA NORSAR Array B 62.30 11 P **P** **00 49 08.6 -1.1**
comp=Z,1.9nm,0.9s,baz=349,slow=6.5,SNR=3.9
NOA LR LR 01 16 47.3
comp=Z,28nm,20.2s,baz=0.0,slow=37
comp=Z,1.9nm,0.9s
FINES FINESS Array B 62.86 3 *ce* P **P** **00 49 17.2 +3.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 62.86 3 P **P** **00 49 12.6 -0.7**
comp=Z,1.3nm,0.6s,baz=15,slow=7.9,SNR=7.5
comp=Z,1.3nm,0.6s
DGZ Jazzator, Alta 64.66 323 *i* P **P** **00 49 26.0 +0.4**
DGZ pmax pmax
comp=Z,5.0nm,1.2s
NJ2 Nanjing 65.16 291 *e* P **P** **00 49 30.8 +2.0**
NJ2 pP **pP** **00 49 33.5 +2.9**
NJ2 sP **sP** **00 49 36.3 +5.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,400nm,4.5s
ARU Arti 65.72 344 *d* P **P** **00 49 34.5 +2.4**
ARU 00 51 53.7
ARU S **S** **00 58 21.2 +3.5**
ARU SS **SS** **01 02 30.9 +0.1**
ARU pmax pmax
comp=Z,6.0nm,1.6s
KURK Kurchatov 66.53 329 *ce* P **P** **00 49 39.9 +2.5**
KURK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 66.59 335 *ce* P **P** **00 49 39.1 +1.4**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BVAR Borovoye Array 66.59 335 P **P** **00 49 36.5 -1.3**
comp=Z,0.7nm,0.8s,baz=35,slow=5.3,SNR=2.7
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 66.64 329 P **P** **00 49 37.6 -0.5**
comp=Z,0.9nm,0.5s,baz=28,slow=6.5,SNR=4.9
comp=Z,0.9nm,0.5s
JTS Las Juntas de 67.19 106 LR LR 01 20 26.2
comp=Z,32nm,19.8s,baz=105,slow=37
MK31 Makanchi Array 68.89 325 *i* P **P** **00 49 51.5 -0.9**
MKAR Makanchi Array 68.89 325 P **P** **00 49 51.2 -1.1**
comp=Z,1.0nm,0.7s,baz=22,slow=6.8,SNR=7.5
comp=Z,1.0nm,0.7s
OBN Obninsk 69.17 356 ↓↓ *e* P **P** **00 49 55.0 +1.1**
OBN *i* *PP **pP** **00 49 58.9 +3.2**
OBN *e* *SP **pwP** **00 50 02.1 +0.5**
OBN *e* PPP PPP 00 54 10.3
OBN pmax pmax
comp=Z,3.0nm,0.9s
PPT2 Papeete2 73.27 180 *e* LR LR 01 12 39.4
comp=Z,99nm,27.2s
PPT2 *e* LR LR 01 12 42.5
comp=Z,81nm,22.2s
AKASG Malin Array Be 73.69 1 P **P** **00 50 20.3 -0.9**
comp=Z,1.1nm,0.6s,baz=360,slow=5.9,SNR=5.9
AKASG LR LR 01 24 07.5
comp=Z,32nm,18.4s,baz=16,slow=37
comp=Z,1.1nm,0.6s
AKBB Malin Array Si 73.69 1 *i* P **P** **00 50 20.2 -1.0**
AKBB pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 74.28 12 *i* P **P** **00 50 24.4 -0.4**
KHC pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 74.57 12 P **P** **00 50 25.6 -1.1**
comp=Z,0.9nm,0.7s,baz=344,slow=10,SNR=3.6
comp=Z,0.9nm,0.7s
LANS Liptovska Anna 74.81 8 *e* P **P** **00 50 28.7 +0.8**
LANS Liptovska Anna 74.81 8 *e* P **P** **00 50 28.7 +0.8**
MODS Modra-Piesok 75.40 9 *e* P **P** **00 50 31.9 +0.6**
MODS Modra-Piesok 75.40 9 *e* P **P** **00 50 31.9 +0.6**
VYHS Vyhne 75.42 8 *e* P **P** **00 50 32.4 +1.0**
VYHS Vyhne 75.42 8 *e* P **P** **00 50 32.4 +1.0**
BIOA Bad Ischl, Aus 75.70 12 *i* pP **P** **00 50 32.6 -0.5**
comp=Z,1.4nm,0.6s
CONA Conrad Observa 75.71 10 *e* P **P** **00 50 32.3 -0.9**
comp=Z,2.0nm,0.7s
MOTA Moosalm 75.73 14 *e* P **P** **00 50 32.4 -1.0**
comp=Z,5.4nm,1.2s
WATA Walderalm 75.80 13 *i* pP **P** **00 50 33.6 -0.1**
comp=Z,6.1nm,1.3s
SQTA Sankt Quirin 75.86 14 *i* pP **P** **00 50 33.9 -0.2**
comp=Z,3.4nm,0.9s
WTTA Wattenberg 75.88 13 *i* pP **P** **00 50 34.5 +0.3**
comp=Z,4.1nm,0.8s
RONA Rosalia, Austr 75.98 10 *i* P **P** **00 50 33.6 -1.0**
comp=Z,1.8nm,0.9s
FETA Feichten 76.00 14 *e* pP **P** **00 50 35.2 +0.3**
comp=Z,3.8nm,1.1s
KBA Koelnbreinsper 76.27 12 *i* pP **P** **00 50 37.0 +0.5**
comp=Z,4.1nm,0.8s
SOKA Soboth 76.86 11 *i* pP **P** **00 50 39.5 -0.2**
comp=Z,5.2nm,1.4s
OBKA Obir 76.97 11 *i* pP **P** **00 50 40.1 -0.2**
comp=Z,7.9nm,0.8s
TBI Tubuai 79.00 180 *e* LR LR 01 15 24.1
comp=Z,796nm,29.0s
TBI *e* LR LR 01 15 30.5
comp=Z,652nm,21.5s
KBZ Khabaz 80.15 351 *i* P **P** **00 50 58.5 +0.8**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 80.23 27 P **P** **00 50 58.1 -0.3**
comp=Z,1.7nm,0.9s,baz=343,slow=4.5,SNR=7.7
comp=Z,1.7nm,0.9s
SIMJ Simiganj 80.30 331 P **P** **00 51 03.3 +4.4**
RDO Rodhopi 83.14 4 P **P** **00 51 14.4 +0.8**
GEYT Alibeck 83.62 339 P **P** **00 51 15.5 -0.8**
comp=Z,0.2nm,0.3s,baz=50,slow=2.3,SNR=3.0
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 84.64 358 P **P** **00 51 20.9 -0.7**
comp=Z,0.3nm,0.8s,baz=0.0,slow=1.4,SNR=1.7
comp=Z,0.3nm,0.8s
CMAR Chiang Mai Ar 86.49 298 P **P** **00 51 29.4 -1.5**
comp=Z,0.6nm,0.3s,baz=22,slow=5.9,SNR=1.0
comp=Z,0.6nm,0.3s
IDI Anoyia 88.96 5 LR LR 01 31 28.8
comp=Z,14nm,21.9s,baz=94,slow=36
QSPA South Pole Qui 145.76 180 PKPbc **PKPdf** **00 58 23.3 -1.8**
comp=Z,7.1nm,1.0s,baz=70,slow=1.5,SNR=11

RSNC 29 00:44:09.8±4.1, 1°17N×77°47W, h0km, ML3.5, Mw3.8, 2C, Probable volcanic, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GCUF	**Volcan Galeras**	**0.14**	**66**	↑ *iP*		Pg	00 44 13.0	+0.6
GCUF				*eS*		Sg	00 44 16.1	+1.9
GCUF				*i*			00 44 17.2	
	comp=Z,6μm,0.3s							
CMBC	**Cumbal**	**0.42**	**237**	*eP*		Pg	00 44 16.2	-1.7
CMBC				*eS*		Sg	00 44 21.6	-1.7
TULM	**Tulcn-Chalpat**	**0.55**	**215**	*eP*		Pg	00 44 18.5	-1.9
TULM				*eS*		Sg	00 44 25.1	-2.4
TULM				*i*			00 44 26.6	
	comp=Z,5μm,0.4s							
CRUC	**La Cruz**	**0.65**	**53**	*eP*		Pg	00 44 22.1	-0.2
CRUC				*eS*		Sb	00 44 32.5	-1.6
BONI	**La Bonita**	**0.71**	**185**	*eP*		Pg	00 44 21.0	-2.6
BONI				*eS*		Sg	00 44 30.0	-2.8
BONI				*i*			00 44 30.8	
	comp=Z,3μm,0.3s							
BBAC	**Balboa, Cauca**	**0.88**	**151**	↑ *eP*		Pg	00 44 25.8	-0.8
BBAC				*eS*		Sb	00 44 40.0	-0.3
BBAC				*i*			00 44 42.0	
	comp=Z,3μm,0.9s							
CUSE	**Cuicocha Este**	**1.27**	**227**	*eP*		Pg	00 44 32.2	-1.9
CUSE				*eS*		Sg	00 44 50.4	-0.1
CUSE				*i*			00 44 51.3	
	comp=Z,1μm,0.4s							
OTAV	**Otavalo**	**1.35**	**227**	*eP*		Pg	00 44 32.9	-2.9
OTAV				*eS*		Sg	00 44 51.4	-1.9
TUMC	**Tumaco**	**1.41**	**297**	*eP*		Pn	00 44 34.2	-2.6

TUMC					*e*S	Sg	00 44 53.8	-1.5
TUMC					*i*		00 44 58.4	
	comp=Z,399nm,0.5s							
POPC	**Popayan, Colom**	**1.58**	**30**		*e*P	Pn	00 44 37.6	-1.6
POPC					*e*S	Sn	00 44 59.7	-0.8
PAC1	**Pacto, Paraso**	**1.60**	**236**		*e*P	Pn	00 44 36.8	-2.7
PAC1					*i*		00 45 03.4	
	comp=Z,985nm,0.3s							
PAC1					*e*S	Sg	00 45 03.6	+2.4
GR1C	**Gorgona, Isla**	**1.95**	**339**		*e*P	Pn	00 44 41.9	-2.3
GR1C					*e*S	Sn	00 45 05.9	-3.5
JAMC	**Jamundi, Valle**	**2.18**	**21**		*e*P	Pn	00 44 47.5	-0.1
JAMC					*e*S	Sb	00 45 17.7	-0.3
JAMC					*i*		00 45 21.4	
	comp=Z,170nm,0.6s							
GARC	**Garzon, Huila**	**2.22**	**63**		*e*P	Pb	00 44 49.9	-1.1
GARC					*e*S	Sg	00 45 21.2	-0.1
PIAT	**Ana Tenorio**	**2.29**	**200**		*e*P	Pn	00 44 48.9	-0.3
PIAT					*e*S	Sn	00 45 17.5	-1.0
BETC	**Betania**	**2.52**	**53**		*e*P	Pg	00 44 57.3	-0.9
BETC					*e*S	Sg	00 45 32.7	+1.7
MALC	**Bahia Malaga**	**2.83**	**3**		*e*P	Pn	00 44 58.3	+2.1
MALC					*e*S	Sb	00 45 35.0	-1.4
MALC					*i*		00 45 44.1	
	comp=Z,107nm,0.4s							
PTLC	**Puerto Leguiza**	**2.85**	**110**		*e*P	Pn	00 44 58.2	+1.5
PTLC					*e*S	Sg	00 45 41.0	-0.5
PTLC					*i*		00 45 41.8	
	comp=Z,326nm,0.4s							
YOTC	**Yotoco, Valle**	**3.01**	**22**		*e*P	Pn	00 45 01.6	+2.6
YOTC					*e*S	Sb	00 45 41.9	0.0
YOTC					*i*		00 45 49.7	
	comp=Z,58nm,0.6s							
PRAC	**Prado**	**3.61**	**46**		*e*P	Pn	00 45 08.6	+1.5
PRAC					*e*S	Sn	00 45 52.4	+1.9
PRAC					*i*		00 46 23.8	
	comp=Z,29nm,0.6s							
PLMC	**San Jos del P**	**3.90**	**18**		*e*P	Pn	00 45 11.6	+0.5
PLMC					*e*S	Sn	00 45 57.9	+0.3
PLMC					*i*		00 46 16.2	
	comp=Z,45nm,0.6s							
GUY2C	**Guyana, Caldas**	**4.54**	**28**		*e*P	Pn	00 45 21.7	+1.4
CVER	**Cruz Verde, Cu**	**4.75**	**45**		*e*P	Pb	00 45 29.8	-4.5
ROSC	**El Rosal**	**4.81**	**41**		*e*P	Pb	00 45 29.8	-5.6
CBOC	**Ciudad Bolivar**	**4.88**	**17**		*e*P	Pn	00 45 25.6	+0.8
CBOC					*e*S	Sn	00 46 19.0	-3.1
SPBC	**San Pablo de B**	**5.60**	**37**		*e*P	Pn	00 45 37.6	+3.1
DBBC	**Dabeiba**	**5.94**	**12**		*e*P	Pn	00 45 40.0	+0.7
MCRA	**Macar, Loja**	**6.04**	**204**		*e*P	Pn	00 45 40.0	-0.5
PTBC	**PUERTO BERRIO,**	**6.12**	**29**		*e*P	Pn	00 45 42.0	+0.3
UREC	**San Jos de Ur**	**6.82**	**16**		*e*P	Pn	00 45 51.5	+0.3

*CATAC **29** 00:51:58.1±1.1, 13°.17N×89°.83W, h20km±7km, ML3.4*
*SNET **29** 00:51:59.1±1.6, 13°.22N×89°.82W, h34km, ML3.5*
*GCG **29** 00:52:02.4±0.3, 13°.88N×89°.97W, h142km±16km, MD3.9*
ISC 29 00:51:58.6±1.7, 13°.18N±0°.07×89°.83W±0°.04, h30km±12km, n51, σ0°51/68, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.58**	**59**	*e*P	**Pb**	**00 52 10.7**	**+0.3**
LALI				*e*S	**Sn**	**00 52 18.9**	**-0.5**
LALI	**Alcalda de L**	**0.58**	**59**	*i* P	**Pb**	**00 52 10.5**	**+0.1**
LALI				IAML		00 52 19.0	
	comp=Z,1μm,1.0s						
LALI				*i* S	**Sn**	**00 52 19.1**	**-0.3**
JAYA	**Jayaque - finc**	**0.60**	**39**	*e*P	**Pb**	**00 52 11.3**	**+0.5**
JAYA				*e*S	**Sn**	**00 52 19.6**	**-0.5**
JAYA	**Jayaque - finc**	**0.60**	**39**	*i* P	**Pb**	**00 52 11.1**	**+0.3**
JAYA				*i* S	**Sn**	**00 52 19.6**	**-0.5**
JAYA				IAML		00 52 21.5	
	comp=Z,12μm,1.0s						
CEVE	**Cerro Verde**	**0.67**	**18**	*e*P	**Pn**	**00 52 12.6**	**+0.3**
CEVE				*e*S	**Sn**	**00 52 23.2**	**+1.2**
CEVE	**Cerro Verde**	**0.67**	**18**	*i* P	**Pb**	**00 52 12.4**	**+0.3**
CEVE				IAML		00 52 32.1	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**0.69**	**17**	*e*P	**Pb**	**00 52 12.7**	**+0.4**
NUBE	**Las Nubes**	**0.72**	**4**	*e*P	**Pn**	**00 52 12.9**	**+0.1**
NUBE				*e*S	**Sb**	**00 52 21.7**	**-0.7**
NUBE	**Las Nubes**	**0.72**	**4**	*i* P	**Pn**	**00 52 12.7**	**-0.2**
NUBE				*i* S	**Sn**	**00 52 23.1**	**+0.1**
NUBE				IAML		00 52 25.0	
	comp=Z,1μm,1.0s						
SNJE	**San Jose**	**0.72**	**18**	*e*P	**Pb**	**00 52 12.8**	**0.0**
PMON	**Piamonte**	**0.73**	**44**	*i* P	**Pn**	**00 52 12.9**	**-0.1**
PMON				*i* S	**Sn**	**00 52 24.5**	**+1.3**
PMON				IAML		00 52 27.6	
	comp=Z,2μm,1.0s						
RTR	**El Retiro**	**0.73**	**14**	*e*P	**Pn**	**00 52 13.4**	**+0.3**
RTR				*e*S	**Sb**	**00 52 22.7**	**-0.2**
CEDA	**San Andres**	**0.75**	**35**	*i* P	**Pb**	**00 52 14.2**	**+1.0**
CEDA				IAML		00 52 33.7	
	comp=Z,2μm,1.0s						
PANCS	**Alcalda de**	**0.77**	**56**	*i* P	**Pn**	**00 52 12.9**	**-0.5**
PANCS				*i* S	**Sn**	**00 52 23.8**	**-0.2**
PANCS				IAML		00 52 24.2	
	comp=Z,5μm,1.0s						
BOQS	**Boqueron**	**0.77**	**44**	*e*P	**Pb**	**00 52 14.0**	**+0.3**
BOQS				*e*S	**Sn**	**00 52 24.2**	**-0.1**
UEES	**Universidad Ev**	**0.79**	**47**	*e*P	**Pn**	**00 52 13.7**	**0.0**
UEES	**Universidad Ev**	**0.79**	**47**	*i* P	**Pn**	**00 52 13.1**	**-0.6**
UEES				IAML		00 52 25.8	
	comp=Z,740nm,1.0s						
LOMA	**Loma Larga**	**0.79**	**54**	*e*P	**Pn**	**00 52 13.6**	**-0.2**
LOMA				*e*S	**Sb**	**00 52 23.9**	**-0.6**
LOMA	**Loma Larga**	**0.79**	**54**	*i* P	**Pn**	**00 52 13.5**	**-0.4**
LOMA				IAML		00 52 26.4	
	comp=Z,2μm,1.0s						
PIC2	**El Picacho**	**0.79**	**45**	*e*P	**Pn**	**00 52 14.2**	**+0.2**
LOAL	**Lomas de Alarc**	**0.81**	**4**	*i* P	**Pn**	**00 52 14.6**	**+0.5**
LOAL				IAML		00 52 20.7	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.84**	**3**	*e*P	**Pn**	**00 52 14.9**	**+0.5**
SLOZ				*e*S	**Sn**	**00 52 24.9**	**-1.0**
UNIC	**Universidad Ca**	**0.84**	**19**	*i* P	**Pn**	**00 52 14.6**	**+0.1**
UNIC				IAML		00 52 28.2	
	comp=Z,340nm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.85**	**40**	*i* P	**Pn**	**00 52 14.3**	**-0.3**
QUEZ				IAML		00 52 27.8	
	comp=Z,3μm,1.0s						
LFRS	**El Faro**	**0.87**	**60**	*e*P	**Pn**	**00 52 14.8**	**-0.1**
LFRS				*e*S	**Sn**	**00 52 25.8**	**-0.8**
LFU	**La Fuente**	**0.90**	**51**	*e*P	**Pn**	**00 52 15.5**	**+0.3**
SJTE	**Alcalda de S**	**0.91**	**62**	*e*P	**Pn**	**00 52 15.4**	**0.0**
SJTE	**Alcalda de S**	**0.91**	**62**	*i* P	**Pn**	**00 52 15.3**	**-0.2**
SJTE				IAML		00 52 30.9	
	comp=Z,560nm,1.0s						
PAVA	**Las Pavas**	**1.02**	**59**	*e*P	**Pn**	**00 52 17.5**	**+0.5**
PAVA	**Las Pavas**	**1.02**	**59**	*i* P	**Pb**	**00 52 17.8**	**0.0**
PAVA				IAML		00 52 34.3	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**1.02**	**65**	*e*P	**Pn**	**00 52 16.7**	**-0.3**
COEG	**Centro de Oper**	**1.02**	**65**	*i* P	**Pn**	**00 52 16.9**	**-0.1**
COEG				IAML		00 52 35.9	
	comp=Z,610nm,1.0s						
TECO	**Alcaldia de Te**	**1.08**	**71**	*e*P	**Pn**	**00 52 17.6**	**-0.2**
TECO	**Alcaldia de Te**	**1.08**	**71**	*i* P	**Pn**	**00 52 17.4**	**-0.4**
TECO				IAML		00 52 34.9	
	comp=Z,520nm,1.0s						
UESV	**Universidad de**	**1.11**	**66**	*i* P	**Pn**	**00 52 18.2**	**0.0**
UESV				IAML		00 52 38.7	
	comp=Z,740nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.19**	**64**	*e*P	**Pn**	**00 52 20.1**	**+0.8**
MTO3	**Montecristo**	**1.29**	**21**	*e*P	**Pn**	**00 52 21.6**	**+0.7**
MTO3	**Montecristo**	**1.29**	**21**	*i* P	**Pn**	**00 52 21.4**	**+0.5**
MTO3				IAML		00 52 43.7	
	comp=Z,260nm,1.0s						
PQSS	**Presa 15 de Se**	**1.31**	**70**	*e*P	**Pn**	**00 52 21.3**	**+0.4**
PQSS	**Presa 15 de Se**	**1.31**	**70**	*i* P	**Pn**	**00 52 21.1**	**+0.2**
PQSS				IAML		00 52 38.9	
	comp=Z,380nm,1.0s						
TECA	**Tecapa**	**1.33**	**76**	*e*P	**Pn**	**00 52 21.4**	**0.0**
TECA				*e*S	**Sn**	**00 52 38.1**	**-0.1**
NBG	**Las Nubes**	**1.48**	**340**	*e*P	**Pb**	**00 52 25.8**	**0.0**
GUNB	**GUNB**	**1.49**	**341**	*i* P	**Pn**	**00 52 23.7**	**+0.1**
GUNB				IAML		00 52 44.7	
	comp=Z,220nm,1.0s						
PACA	**Pacayal**	**1.50**	**79**	*e*P	**Pn**	**00 52 24.6**	**+1.1**
PACA	**Pacayal**	**1.50**	**79**	*i* P	**Pn**	**00 52 24.7**	**+1.1**
PACA				IAML		00 52 49.5	
	comp=Z,3μm,1.0s						
ESSG	**Sabana Grande**	**1.54**	**321**	*i* P	**Pn**	**00 52 23.8**	**-0.3**
ESSG				IAML		00 52 50.9	
	comp=Z,490nm,1.0s						
FUG	**Fuego 3**	**1.59**	**322**	*e*P	**Pb**	**00 52 27.3**	**-0.3**
FUG				*e*S	**Sn**	**00 52 44.8**	**+0.2**
CNCH	**Conchagua**	**1.95**	**87**	*e*P	**Pn**	**00 52 30.5**	**+0.8**
CNCH	**Conchagua**	**1.95**	**87**	*i* P	**Pn**	**00 52 29.9**	**+0.1**
CNCH				IAML		00 52 58.9	
	comp=Z,580nm,1.0s						
STG3	**Santiaguito 3,**	**2.27**	**312**	*e*P	**Pn**	**00 52 35.2**	**+0.9**
STG3				*e*S	**Sn**	**00 53 00.8**	**-0.6**
LIMN	**Finca el Limon**	**3.38**	**92**	*i* P	**Pn**	**00 52 49.4**	**0.0**

*ISK **29** 00:59:16.9, 36°.93N×27°.32E, h7km, ML3.1/24*
*AFAD **29** 00:59:18.1±0.0, 36°.94N×27°.33E, h8km, ML3.2*
*THE **29** 00:59:18.0, 36°.97N×27°.38E, h8km±1km, ML3.5/3, Error ellipse: s-maj=1.5km s-min=0.6km az=238.0*
*ATH **29** 00:59:18.3, 36°.97N×27°.36E, h8km±1km, ML3.4/3, Error ellipse: s-maj=1.8km s-min=0.9km az=226.0*
*IDC **29** 00:59:28.3±6.8, 36°.84N×28°.03E, h67km±45km, mb3.2/3, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=56.8km s-min=25.6km az=87.0*
ISC 29 00:59:17.9±0.8, 36°.97N±0°.02×27°.36E±0°.02, h13km±4km, n81, σ0°88/115, mb3.3/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.10**	**338**	Pg	**Pg**	**00 59 20.6**	**-0.4**
BODT				Sg	**Sg**	**00 59 22.9**	**-0.2**
BODT	**Bodrum**	**0.10**	**338**	P	**Pg**	**00 59 20.8**	**-0.2**
BODT				S	**Sg**	**00 59 22.9**	**-0.2**
BDRM	**Kayabasi**	**0.12**	**35**	P	**Pg**	**00 59 21.0**	**-0.2**
BDRM				S	**Sg**	**00 59 22.9**	**-0.6**
BDRM				*i* AML	AML	00 59 23.0	
	comp=E,10μm,0.4s						
YKAV	**Yalikavak-Bodr**	**0.17**	**338**	Pg	**Pg**	**00 59 21.4**	**-0.5**
YAZI	**Mula-Dat§a-**	**0.29**	**165**	P	**Pg**	**00 59 23.7**	**-0.3**
YAZI				S	**Sg**	**00 59 27.8**	**-0.3**
DAT	**Datca**	**0.30**	**143**	Pg	**Pg**	**00 59 23.5**	**-0.6**
DAT				Sg	**Sg**	**00 59 28.1**	**-0.1**
DAT	**Datca**	**0.30**	**143**	P	**Pg**	**00 59 23.9**	**-0.2**
DAT				S	**Sg**	**00 59 28.3**	**+0.1**
DAT	**Datca**	**0.30**	**143**	P	**Pg**	**00 59 23.9**	**-0.2**
DAT				S	**Sg**	**00 59 27.3**	**-0.9**
KLNA	**Kalymnos**	**0.31**	**268**	P	**Pg**	**00 59 24.4**	**+0.2**
KLNA				S	**Sg**	**00 59 28.6**	**+0.1**
KLNA				AML	AML	00 59 29.7	
	comp=E,28037μm,0.3s						
KLNA				AML	AML	00 59 30.5	
	comp=N,13082μm,0.2s						
RFTAA	**Mazikoy-Bodrum**	**0.31**	**84**	Pg	**Pg**	**00 59 24.1**	**-0.2**
NISR	**Nisiros**	**0.40**	**208**	P	**Pg**	**00 59 26.1**	**+0.2**
NISR				S	**Sg**	**00 59 31.7**	**+0.4**
NISR	**Nisiros**	**0.40**	**208**	P	**Pg**	**00 59 26.1**	**+0.2**
NISR				S	**Sg**	**00 59 31.7**	**+0.4**
DIDI	**Didim-Aydin**	**0.42**	**347**	Pg	**Pg**	**00 59 26.3**	**0.0**
MLSB	**Milas**	**0.47**	**45**	Pg	**Pg**	**00 59 26.8**	**-0.4**
DDIM	**Aydin, Didim**	**0.50**	**349**	P	**Pg**	**00 59 27.8**	**+0.1**
DDIM				S	**Sg**	**00 59 35.4**	**+1.0**
DDIM				*i* AML	AML	00 59 38.0	
	comp=N,2μm,0.4s						
DDIM				*i* AML	AML	00 59 38.0	
	comp=N,2μm,0.3s						
TURN	**Turunc**	**0.74**	**105**	Pg	**Pg**	**00 59 31.7**	**-0.5**
TURN	**Turunc**	**0.74**	**105**	P	**Pg**	**00 59 31.8**	**-0.5**
TURN				S	**Sb**	**00 59 42.8**	**+0.2**
TURN				*i* AML	AML	00 59 45.0	
	comp=N,1μm,0.7s						
TURN				*i* AML	AML	00 59 46.0	
	comp=N,1μm,0.4s						
GCAM	**G?zelcami?**	**0.74**	**352**	Pg	**Pg**	**00 59 32.1**	**-0.2**
GCAM	**G?zelcami?**	**0.74**	**352**	P	**Pg**	**00 59 32.3**	**0.0**
GCAM				S	**Sg**	**00 59 42.5**	**+0.5**
GCAM				*i* AML	AML	00 59 46.0	
	comp=N,2μm,0.4s						
GCAM				*i* AML	AML	00 59 48.0	
	comp=N,1μm,0.4s						
YER	**Yerkesik**	**0.76**	**77**	Pg	**Pg**	**00 59 32.5**	**-0.1**
YER	**Yerkesik**	**0.76**	**77**	P	**Pg**	**00 59 32.6**	**-0.1**
YER				S	**Sg**	**00 59 42.9**	**+0.3**
MULA	**Mugla, Merkez-**	**0.82**	**69**	P	**Pg**	**00 59 33.9**	**+0.1**
SMG	**Samos**	**0.85**	**331**	P	**Pg**	**00 59 33.9**	**-0.5**
SMG				S	**Sg**	**00 59 46.2**	**+0.8**
	comp=N,5μm,0.3s						
SMG	**Samos**	**0.85**	**331**	P	**Pg**	**00 59 34.2**	**-0.2**
SMG				S	**Sg**	**00 59 46.3**	**+0.8**
SMG				AML	AML	00 59 49.0	
	comp=E,9272μm,0.4s						
SMG				AML	AML	00 59 51.0	
	comp=N,9008μm,0.3s						
ARG	**Arkhangelos**	**0.97**	**140**	Pg	**Pg**	**00 59 35.8**	**-0.8**
ARG	**Arkhangelos**	**0.97**	**140**	P	**Pg**	**00 59 36.0**	**-0.7**
ARG				S	**Sb**	**00 59 50.4**	**+1.0**
	comp=N,1μm,0.5s						
ARG	**Arkhangelos**	**0.97**	**140**	P	**Pg**	**00 59 35.8**	**-0.8**
ARG				S	**Sb**	**00 59 50.3**	**+1.0**
ARG				AML	AML	00 59 52.0	
	comp=E,2377μm,0.4s						
ARG				AML	AML	00 59 53.8	
	comp=N,3211μm,0.5s						
DALY	**Dalyan (Mula)**	**1.05**	**98**	Pg	**Pg**	**00 59 37.5**	**-0.6**
ESEN	**Aydn-Nazilli**	**1.15**	**43**	P	**Pg**	**00 59 39.2**	**-0.8**
ESEN				S	**Sg**	**00 59 54.3**	**-0.6**
ESEN				*i* AML	AML	01 00 01.0	
	comp=N,306nm,0.3s						
DGB	**zmir**	**1.15**	**341**	P	**Pg**	**00 59 38.5**	**-1.5**
DGB				S	**Sg**	**00 59 53.0**	**-2.0**
GMLD	**Gumuldur**	**1.16**	**343**	Pn	**Pb**	**00 59 40.1**	**+0.2**
IZMR	**zmir-demi**	**1.26**	**22**	P	**Pn**	**00 59 41.1**	**-0.1**
IZMR				P	**Pn**	**00 59 41.1**	**-0.1**
IZMR				S	**Sb**	**00 59 57.5**	**-0.2**
IZMR				*i* AML	AML	01 00 06.0	
	comp=N,462nm,0.6s						
IZMR				*i* AML	AML	01 00 06.0	
	comp=N,440nm,0.5s						
SABU	**Mula-Dalaman**	**1.30**	**96**	P	**Pn**	**00 59 42.5**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.34**	**68**	P	**Pn**	**00 59 43.0**	**+0.6**
TAVA				S	**Sb**	**00 59 59.6**	**-0.4**
FETI	**Fethiye-Mugla**	**1.42**	**101**	Pn	**Pb**	**00 59 44.9**	**+0.6**
FETY	**Fethiye**	**1.42**	**103**	Pn	**Pb**	**00 59 44.7**	**+0.3**
KARP	**Karpathos**	**1.43**	**186**	Pn	**Pn**	**00 59 42.8**	**-0.7**
KARP	**Karpathos**	**1.43**	**186**	P	**Pn**	**00 59 42.9**	**-0.7**
KARP				S	**Sn**	**01 00 02.7**	**+0.5**
BLCB	**Balcova**	**1.44**	**350**	Pn	**Pn**	**00 59 43.5**	**-0.2**
BLCB	**Balcova**	**1.44**	**350**	P	**Pn**	**00 59 43.0**	**-0.7**
BLCB				S	**Sn**	**01 00 03.1**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**1.44**	**332**	P	**Pn**	**00 59 44.6**	**+0.9**
ZEYE				S	**Sn**	**01 00 02.6**	**+0.1**
ZEYE				*i* AML	AML	01 00 08.0	
	comp=N,281nm,0.7s						
APE	**Apeiranthos**	**1.47**	**275**	Pn	**Pn**	**00 59 43.9**	**-0.2**
APE	**Apeiranthos**	**1.47**	**275**	P	**Pn**	**00 59 44.0**	**-0.2**
APE				S	**Sn**	**01 00 03.3**	**+0.1**
KIRA	**zmir-Kiraz**	**1.48**	**34**	P	**Pn**	**00 59 44.4**	**0.0**
KIRA				S	**Sn**	**01 00 02.5**	**-1.2**
DNIZ	**Denizli-Tavas-**	**1.49**	**63**	P	**Pn**	**00 59 45.4**	**+0.9**
DNIZ				*i* AML	AML	01 00 15.0	
	comp=N,244nm,0.5s						
DNIZ				*i* AML	AML	01 00 15.0	
	comp=N,584nm,0.4s						
URLA	**Izmir**	**1.52**	**337**	Pn	**Pn**	**00 59 44.6**	**-0.2**
URLA	**Izmir**	**1.52**	**337**	P	**Pn**	**00 59 44.9**	**+0.1**
URLA				*i* AML	AML	01 00 14.0	
	comp=N,254nm,0.5s						
URLA				*i* AML	AML	01 00 15.0	
	comp=N,221nm,0.6s						
CAME	**Cameli-Denizli**	**1.56**	**90**	Pn	**Pn**	**00 59 46.6**	**+1.1**
CAEL	**Denizli, Camel**	**1.58**	**84**	P	**Pn**	**00 59 47.1**	**+1.3**
IZZE	**Mula-Seydike**	**1.59**	**109**	P	**Pb**	**00 59 47.4**	**+0.2**
IZZE				S	**Sb**	**01 00 07.8**	**+0.6**
IZZE				*i* AML	AML	01 00 14.0	
	comp=N,655nm,0.4s						
APMY	**Acipayam-Deniz**	**1.63**	**71**	Pn	**Pn**	**00 59 47.5**	**+1.1**
KNIK	**Mula-Seydike**	**1.78**	**93**	P	**Pb**	**00 59 50.7**	**+0.2**
GOLH	**Golhisar**	**1.78**	**81**	P	**Pb**	**00 59 50.3**	**-0.2**
GOLH				S	**Sb**	**01 00 13.8**	**+1.0**
GOMA	**Golmarmara-Man**	**1.79**	**14**	Pn	**Pn**	**00 59 49.5**	**+0.9**
TNSA	**Tinos**	**1.84**	**289**	P	**Pn**	**00 59 49.0**	**-0.2**
KARB	**zmir-Karabur**	**1.85**	**336**	P	**Pn**	**00 59 49.2**	**-0.2**
KARB				S	**Sn**	**01 00 11.0**	**-1.7**
KULA	**Kula-Manisa**	**1.86**	**33**	Pn	**Pn**	**00 59 49.6**	**0.0**
KULA	**Kula-Manisa**	**1.86**	**33**	P	**Pn**	**00 59 49.5**	**0.0**
KULA				S	**Sn**	**01 00 12.8**	**-0.2**
INCE	**Denizli-Bozkur**	**1.92**	**67**	P	**Pn**	**00 59 51.1**	**+0.8**
AKHS	**Akhisar**	**1.94**	**11**	P	**Pn**	**00 59 50.2**	**-0.4**
KSL	**Kastellorizon**	**1.97**	**114**	P	**Pn**	**00 59 52.3**	**+1.3**
ZEDA	**zmir-Bergama**	**2.01**	**354**	P	**Pn**	**00 59 51.3**	**-0.3**
RFT7	**Candarli**	**2.02**	**350**	Pn	**Pn**	**00 59 52.2**	**+0.5**
ELL	**Elmali**	**2.06**	**95**	Pn	**Pn**	**00 59 53.5**	**+1.2**
ZKR	**Zakros**	**2.07**	**207**	Pn	**Pn**	**00 59 52.5**	**+0.1**
PSRA	**Psara**	**2.12**	**318**	P	**Pn**	**00 59 54.1**	**+1.0**
DKL	**Dikili**	**2.13**	**350**	Pn	**Pn**	**00 59 54.3**	**+1.1**
PASA	**Karahalli, USA**	**2.18**	**50**	P	**Pn**	**00 59 54.5**	**+0.5**
USAK	**Uak-Merkez**	**2.18**	**36**	P	**Pn**	**00 59 54.1**	**+0.1**
BRDR	**BURDUR-Merkez**	**2.27**	**71**	P	**Pn**	**00 59 56.5**	**+1.2**
PRK	**Paraskevi**	**2.43**	**340**	P	**Pn**	**00 59 57.6**	**+0.2**
IDI	**Anoyia**	**2.61**	**231**	P	**Pn**	**01 00 00.2**	**+0.4**
KYMI	**Kymi, Euboea I**	**3.07**	**304**	P	**Pn**	**01 00 07.2**	**+1.0**
LIA	**Limnos Island**	**3.39**	**330**	P	**Pn**	**01 00 11.2**	**+0.7**
SMTH	**Samothraki Isl**	**3.78**	**338**	P	**Pn**	**01 00 16.3**	**+0.3**
THAS	**Thassos island**	**4.18**	**331**	P	**Pn**	**01 00 21.8**	**+0.4**
BRTR	**Keskin Array B**	**5.65**	**59**	P	**Pn**	**01 00 44.3**	**+2.5**
	comp=N,0.3nm,0.3s,baz=237,slow=16,SNR=8.3						
BRTR				S	**Sn**	**01 01 44.6**	**-2.0**
	comp=N,0.2nm,0.3s,baz=232,slow=33,SNR=1.0						
	comp=N,0.8nm,0.4s						
MMAI	**Mount Meron Ar**	**7.69**	**118**	P	**Pn**	**01 01 10.1**	**+0.4**
	comp=N,1.1nm,0.3s,baz=299,slow=13,SNR=9.2						
MMAI				S	**Sn**	**01 02 31.3**	**-5.4**
	comp=N,0.6nm,0.3s,baz=313,slow=25,SNR=8.9						
	comp=N,0.4nm,0.2s						
KURBB	**Kurchatov Arra**	**38.61**	**53**	P	**P**	**01 06 41.2**	**+0.6**
	comp=N,0.3nm,0.5s,baz=279,slow=8.6,SNR=3.8						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**41.30**	**58**	P	**P**	**01 07 04.2**	**+1.1**
	comp=N,0.3nm,0.4s,baz=271,slow=9.1,SNR=9.2						
	comp=N,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**42.47**	**48**	P	**P**	**01 07 13.3**	**+0.8**
	comp=N,0.2nm,0.3s,baz=253,slow=9.8,SNR=2.4						
	comp=N,0.2nm,0.3s						

*ISK **29** 01:03:00.6, 36°.94N×27°.33E, h6km, ML2.9/19*
*THE **29** 01:03:01.6, 36°.96N×27°.38E, h9km±1km, ML3.3/3, Error ellipse: s-maj=1.1km s-min=0.5km az=253.0*
*AFAD **29** 01:03:01.2±0.0, 36°.96N×27°.35E, h10km±1km, ML2.8*
*GII **29** 01:03:02.4±0.8, 36°.452N±0°.008×27°.211E±0°.003, h20km, Mws2.9, confirmed*
ISC 29 01:03:00.9±0.8, 36°.95N±0°.02×27°.35E±0°.03, h16km±5km, n59, σ1°28/80, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.12**	**346**	Pg	**Pg**	**01 03 04.3**	**-0.3**
BODT				Sg	**Sg**	**01 03 06.5**	**-0.5**
BODT	**Bodrum**	**0.12**	**346**	P	**Pg**	**01 03 04.5**	**-0.1**
BODT				S	**Sg**	**01 03 06.6**	**-0.5**
BDRM	**Kayabasi**	**0.14**	**34**	P	**Pg**	**01 03 04.6**	**-0.3**
BDRM				S	**Sg**	**01 03 06.6**	**-1.0**
BDRM				*i* AML	AML	01 03 07.0	
	comp=E,4μm,0.5s						
YKAV	**Yalikavak-Bodr**	**0.18**	**343**	Pg	**Pg**	**01 03 04.9**	**-0.5**
YAZI	**Mula-Dat§a-**	**0.28**	**162**	P	**Pg**	**01 03 07.5**	**+0.5**
YAZI				S	**Sg**	**01 03 10.9**	**-0.2**
DAT	**Datca**	**0.29**	**140**	Pg	**Pg**	**01 03 07.2**	**0.0**
DAT	**Datca**	**0.29**	**140**	P	**Pg**	**01 03 07.4**	**+0.2**
DAT				S	**Sg**	**01 03 12.0**	**+0.6**
DAT	**Datca**	**0.29**	**140**	P	**Pg**	**01 03 07.2**	**0.0**
DAT				*i* AML	AML	01 03 13.0	
	comp=E,1μm,0.2s						
DAT				*i* AML	AML	01 03 14.0	
	comp=N,1μm,0.2s						
RFTAA	**Mazikoy-Bodrum**	**0.32**	**81**	Pg	**Pg**	**01 03 07.8**	**+0.1**
RFTAA				Sg	**Sg**	**01 03 12.9**	**+0.5**
NISR	**Nisiros**	**0.38**	**207**	P	**Pg**	**01 03 09.7**	**+1.0**
NISR				S	**Sb**	**01 03 15.7

CSS	Mathiatis	5.24	110	P	Pn	01 04 19.6	+0.9
GEM	Giv'at Ha'Em	7.77	116	S	Sn	01 06 18.4	-2.5
GEM	Giv'at Ha'Em	7.77	116	P	Pn	01 04 53.6	+0.3
MMLI	Mount Malkishu	8.03	122	P	Pn	01 04 59.6	+2.7
HMDT	Nahal Hemdat	8.21	122	P	Pn	01 04 58.9	-0.4
HMDT	Nahal Hemdat	8.21	122	S	Sn	01 06 29.9	-1.8
DSI	Dead Sea	8.54	127	P	Pn	01 05 03.2	-0.7
PRNI	Paran	9.16	134	S	Sn	01 06 49.7	-5.6
PRNI	Paran	9.16	134	P	Pn	01 05 10.9	-1.6
MBRI	Mt Berech	9.53	136	P	Pn	01 05 17.4	-0.2
MBRI	Mt Berech	9.53	136	S	Sn	01 06 59.7	-4.7

IDC ***29*** *01:07:27.4±0.8,25°.32S×174°.70W,h0km,mb4.2/7, mbtmp4.3/9,ML3.6/2,MS3.6/11,Error ellipse: s-maj=41.4km s-min=22.3km az=151.0*

ISC 29 01:07:28.6±0.7,25°.4S±0°.2×174°.7W±0°.1,h10km,n22, σ1§12/13,mb4.1/7,MS3.7/9,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.29**	**76**	Pn	**Pn**	**01 10 51.0**	**-0.2**
	7.2nm,0.3s,baz=235,slow=7.0,SNR=13						
RAR				Sn	Sn	01 13 17.9	-12
	1.4nm,0.3s,baz=127,slow=20,SNR=1.6						
RAR				LR	LR	01 15 40.0	
	comp=Z,241nm,19.3s,baz=246,slow=34 20nm,0.4s						
URZ	**Urewera**	**14.56**	**207**	Pn	**Pn**	**01 10 54.0**	**-0.7**
	0.1nm,0.3s,baz=308,slow=7.5,SNR=3.8 9.2nm,0.9s						
DZM	**Mont Dzumac**	**17.63**	**277**	LR	LR	01 17 11.7	
	comp=Z,115nm,19.1s,baz=196,slow=33						
PPT	**Papeete**	**24.58**	**76**	LR	LR	01 20 33.6	
	comp=Z,138nm,20.3s,baz=242,slow=32						
CTA	**Charters Tower**	**36.35**	**270**	LR	LR	01 28 50.3	
	comp=Z,54nm,18.2s,baz=85,slow=35						
STKA	**Stephens Creek**	**38.73**	**250**	LR	LR	01 29 24.7	
	comp=Z,117nm,19.3s,baz=27,slow=34						
ASAR	**Alice Springs**	**46.59**	**261**	P	**P**	**01 15 56.9**	**-0.3**
	1.9nm,1.0s,baz=94,slow=7.4,SNR=5.8 1.9nm,1.0s						
WRA	**Warramunga Arr**	**47.16**	**266**	P	**P**	**01 16 00.5**	**-1.1**
	3.3nm,0.8s,baz=100,slow=8.3,SNR=32 3.3nm,0.8s						
MAW	**Mawson**	**77.96**	**199**	P	**P**	**01 19 28.0**	**+1.3**
	6.3nm,0.3s,baz=115,slow=7.3,SNR=9.7 6.3nm,0.3s						
NVAR	**Mina Array Bea**	**82.58**	**41**	P	**P**	**01 19 51.9**	**-0.3**
	0.7nm,0.8s,baz=213,slow=6.8,SNR=5.3						
NVAR				LR	LR	01 48 22.7	
	comp=Z,49nm,21.3s,baz=256,slow=30 0.7nm,0.8s						
KSRS	**Korea Array**	**82.61**	**317**	LR	LR	01 51 35.1	
	comp=Z,17nm,21.7s,baz=110,slow=32						
PLCA	**Paso Flores**	**83.66**	**132**	LR	LR	01 54 26.4	
	comp=Z,32nm,18.0s,baz=197,slow=34						
ELK	**Elko**	**85.88**	**41**	LR	LR	01 50 14.0	
	comp=Z,44nm,21.2s,baz=234,slow=30						
TXAR	**Lajitas Array**	**87.19**	**56**	P	**P**	**01 20 15.5**	**0.0**
	0.3nm,1.1s,baz=229,slow=6.9,SNR=1.3 0.3nm,1.1s						
ANMO	**Albuquerque**	**88.15**	**50**	LR	LR	01 54 08.4	
	comp=Z,76nm,18.0s,baz=358,slow=32						
PDAR	**Pinedale Array**	**90.49**	**42**	P	**P**	**01 20 30.7**	**-0.2**
	0.8nm,1.1s,baz=207,slow=1.8,SNR=2.6 0.8nm,1.1s						
LVC	**Limon Verde**	**93.63**	**117**	LR	LR	01 54 14.7	
	comp=Z,34nm,20.8s,baz=254,slow=30						
CMAR	**Chiang Mai Arr**	**94.63**	**288**	P	**P**	**01 20 51.5**	**+1.2**
	1.7nm,0.4s,baz=131,slow=3.1,SNR=21 1.7nm,0.4s						
BVAR	**Borovoye Array**	**124.82**	**318**	PKP	**PKiKP**	**01 26 28.2**	**-0.6**
	0.7nm,0.9s,baz=70,slow=1.7,SNR=3.1						
AKASG	**Malin Array Be**	**148.82**	**330**	PKPbc	**PKPbc**	**01 27 14.4**	**-1.8**
	1.7nm,0.7s,baz=38,slow=3.0,SNR=8.7						
BRTR	**Keskin Array B**	**152.38**	**308**	PKPbc	**PKiKP**	**01 27 26.1**	**+0.6**
	1.6nm,1.0s,baz=84,slow=4.5,SNR=8.1						
MMAI	**Mount Meron Ar**	**152.78**	**293**	PKPbc	**PKiKP**	**01 27 28.3**	**+1.8**
	3.7nm,0.9s,baz=74,slow=6.2,SNR=4.6						

NOU ***29*** *01:23:34.6,39°.31S×175°.19E,h159km,MLv3.9/14,North Island, New Zealand*
WEL ***29*** *01:23:37.6±1.0,39°.S±12°×17°.5E±1°.5,h123km±9km, M2.7/18,ML2.9/8,MLv2.7/18,Error ellipse: s-maj=0.0km s-min=0.0km az=114.5,confirmed*

ISC 29 01:23:34.2±1.5,39°.27S±0°.04×175°.15E±0°.04,h152km±8km, n149,σ1§23/160,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.15**	**99**	P	**Pn**	**01 23 55.5**	**+0.8**
PKVZ				S	Sn	01 24 09.3	-1.0
TWVZ	**Taurewa**	**0.30**	**49**	P	**Pn**	**01 23 55.8**	**+0.6**
TWVZ				S	Sn	01 24 09.6	-1.4
TRVZ	**Turoa**	**0.31**	**96**	P	**Pn**	**01 23 56.2**	**+0.9**
TRVZ				S	Sn	01 24 10.1	-1.2
COVZ	**Chateau Observ**	**0.31**	**78**	P	**Pn**	**01 23 55.9**	**+0.7**
FWVZ	**Far West T-bar**	**0.31**	**88**	P	**Pn**	**01 23 56.1**	**+0.8**
FWVZ				S	Sn	01 24 10.0	-1.4
MAVZ	**Matarangi**	**0.32**	**90**	P	**Pn**	**01 23 56.2**	**+0.7**
MAVZ				S	Sn	01 24 10.3	-1.2
VRZ	**Vera Road**	**0.34**	**295**	P	**Pn**	**01 23 56.0**	**+1.0**
WHVZ	**Whangaehu Hut**	**0.34**	**93**	P	**Pn**	**01 23 56.3**	**+0.9**
WHVZ				S	Sn	01 24 10.3	-1.2
WNVZ	**Wahianoa**	**0.35**	**100**	P	**Pn**	**01 23 56.2**	**+0.8**
WNVZ				S	Sn	01 24 10.2	-1.3
NGZ	**Ngauruhoe**	**0.36**	**76**	P	**Pn**	**01 23 56.2**	**+0.8**
NGZ				S	Sn	01 24 10.2	-1.2
WTVZ	**West Tongariro**	**0.37**	**66**	P	**Pn**	**01 23 56.1**	**+0.7**
WTVZ				S	Sn	01 24 10.2	-1.3
NNVZ	**North Ngauruho**	**0.39**	**70**	P	**Pn**	**01 23 56.2**	**+0.7**
NNVZ				S	Sn	01 24 10.6	-1.1
TUVZ	**Tukino**	**0.39**	**90**	P	**Pn**	**01 23 56.4**	**+1.0**
OTVZ	**Oturere**	**0.41**	**76**	P	**Pn**	**01 23 56.2**	**+0.6**
KRVZ	**Karewarewa**	**0.42**	**66**	P	**Pn**	**01 23 53.7**	**-1.9**
KRVZ				S	Sn	01 24 10.6	-1.2
NTVZ	**North Tongariro**	**0.44**	**68**	P	**Pn**	**01 23 56.6**	**+0.9**
ETVZ	**East Tongariro**	**0.46**	**74**	P	**Pn**	**01 23 56.4**	**+0.6**
TMVZ	**Te Maari**	**0.46**	**71**	P	**Pn**	**01 23 56.5**	**+0.8**
TMVZ				S	Sn	01 24 11.2	-0.9
MOVZ	**Moawhango**	**0.49**	**107**	P	**Pn**	**01 23 56.4**	**+0.6**
WAZ	**Wanganui**	**0.50**	**194**	P	**Pn**	**01 23 57.4**	**+1.6**
KATZ	**Kakaramea**	**0.52**	**56**	P	**Pn**	**01 23 56.7**	**+0.7**
RITZ	**Rihia Road**	**0.62**	**63**	P	**Pn**	**01 23 57.5**	**+1.0**
RATZ	**Rangitukua**	**0.63**	**51**	P	**Pn**	**01 23 57.3**	**+0.8**
WATZ	**Wairara**	**0.72**	**39**	P	**Pn**	**01 23 58.1**	**+0.9**
BHHZ	**Black Hill Sta**	**0.74**	**108**	P	**Pn**	**01 23 58.0**	**+0.8**
PREZ	**Palmer Road**	**0.77**	**264**	P	**Pn**	**01 23 59.2**	**+1.7**
HIZ	**Hauiti**	**0.79**	**343**	P	**Pn**	**01 23 58.5**	**+1.0**
NEZ	**North Egmont**	**0.82**	**269**	P	**Pn**	**01 23 59.5**	**+1.7**
WHTZ	**Whakaora**	**0.87**	**47**	P	**Pn**	**01 23 59.3**	**+1.1**
KHEZ	**Kahui Hut**	**0.88**	**268**	P	**Pn**	**01 23 59.9**	**+1.6**
KHEZ	**Kahui Hut**	**0.88**	**268**	P	**Pn**	**01 23 60.0**	**+1.6**
PKE	**Pukeiti**	**0.91**	**274**	P	**Pn**	**01 23 60.0**	**+1.5**
KUTZ	**Kaahu Road**	**0.94**	**34**	P	**Pn**	**01 23 59.7**	**+1.0**
OHWZ	**Ohakea**	**0.95**	**172**	P	**Pn**	**01 24 00.9**	**+2.2**
TLZ	**Tolley Road**	**0.98**	**18**	P	**Pn**	**01 23 59.8**	**+0.6**
NBEZ	**Newall Road No**	**0.99**	**270**	P	**Pn**	**01 24 00.8**	**+1.7**
NMEZ	**Namu Road**	**1.00**	**261**	P	Pn	01 23 53.7	-5.4
KWHZ	**Kaweka Forest**	**1.00**	**99**	P	**Pn**	**01 24 00.7**	**+1.5**
TSZ	**Takapari Road**	**1.01**	**142**	P	**Pn**	**01 24 00.8**	**+1.6**
KRHZ	**Kereru**	**1.02**	**112**	P	**Pn**	**01 24 00.7**	**+1.3**
PNHZ	**Pukenui**	**1.04**	**129**	P	**Pn**	**01 24 00.9**	**+1.4**
BKZ	**Black Stump Fm**	**1.05**	**85**	P	**Pn**	**01 24 00.3**	**+0.7**
BKZ	**Black Stump Fm**	**1.05**	**85**	P	**Pn**	**01 24 00.4**	**+0.8**
MRHZ	**Matea Rd**	**1.08**	**67**	P	**Pn**	**01 24 00.2**	**+0.3**
WPRZ	**Whakapapatarin**	**1.09**	**47**	P	**Pn**	**01 24 00.6**	**+0.6**
ALRZ	**Allen Road**	**1.17**	**53**	P	**Pn**	**01 24 01.2**	**+0.6**
GRRZ	**Galatos Road**	**1.18**	**40**	P	**Pn**	**01 24 01.8**	**+1.0**
MCHZ	**McNeill Hill**	**1.21**	**99**	P	**Pn**	**01 24 03.1**	**+2.1**
POWZ	**Post Office Ro**	**1.22**	**157**	P	**Pn**	**01 24 02.6**	**+1.4**
PRRZ	**Plateau Road**	**1.24**	**52**	P	**Pn**	**01 24 01.8**	**+0.5**
WPHZ	**Waipukurau**	**1.28**	**129**	P	**Pn**	**01 24 03.3**	**+1.6**
HSRZ	**Hossack Road**	**1.28**	**42**	P	**Pn**	**01 24 02.3**	**+0.5**
DVHZ	**Dannevirke**	**1.29**	**143**	P	**Pn**	**01 24 03.2**	**+1.4**
NMHZ	**Naumai**	**1.30**	**83**	P	**Pn**	**01 24 03.9**	**+1.9**
MTHZ	**Maungatanwha**	**1.38**	**73**	P	**Pn**	**01 24 03.5**	**+0.7**
HLRZ	**Highlands Stat**	**1.38**	**43**	P	**Pn**	**01 24 04.2**	**+1.4**
RRRZ	**Republican Roa**	**1.41**	**49**	P	**Pn**	**01 24 03.7**	**+0.6**
NGRZ	**Ngongotaha**	**1.42**	**35**	P	**Pn**	**01 24 04.2**	**+1.1**
MRZ	**Mangatainoka R**	**1.43**	**167**	P	**Pn**	**01 24 04.6**	**+1.4**
ARHZ	**Aropaoanui**	**1.43**	**90**	P	**Pn**	**01 24 04.8**	**+1.6**
PRWZ	**Pori Road**	**1.43**	**154**	P	**Pn**	**01 24 05.0**	**+1.8**
KAHZ	**Kahuranaki**	**1.44**	**112**	P	**Pn**	**01 24 05.0**	**+1.7**
TARZ	**Mount Tarawera**	**1.48**	**46**	P	**Pn**	**01 24 04.7**	**+0.9**
MUGZ	**Murupara**	**1.49**	**59**	P	**Pn**	**01 24 04.1**	**+0.3**
OMRZ	**Omania**	**1.50**	**40**	P	**Pn**	**01 24 04.9**	**+0.9**
KARZ	**Kaharoa**	**1.51**	**35**	P	**Pn**	**01 24 05.0**	**+1.0**
PRHZ	**Porangahau**	**1.52**	**132**	P	**Pn**	**01 24 05.7**	**+1.6**
MKRZ	**Makatiti**	**1.53**	**43**	P	**Pn**	**01 24 05.6**	**+1.3**
PXZ	**Pawanui**	**1.53**	**121**	P	**Pn**	**01 24 05.7**	**+1.5**
CKHZ	**Cape Kidnapper**	**1.54**	**105**	P	**Pn**	**01 24 06.2**	**+1.9**
RAHZ	**Arahi**	**1.55**	**78**	P	**Pn**	**01 24 05.8**	**+1.4**
KMRZ	**Kaimai**	**1.55**	**24**	P	**Pn**	**01 24 05.8**	**+1.3**
OGWZ	**Otaki Gorge**	**1.55**	**179**	P	**Pn**	**01 24 06.2**	**+1.8**
TOZ	**Tahuroa Road**	**1.56**	**10**	P	**Pn**	**01 24 05.4**	**+0.9**
ANWZ	**Angora Road**	**1.57**	**140**	P	**Pn**	**01 24 06.4**	**+1.8**
RTZ	**Ruatahuna**	**1.57**	**66**	P	**Pn**	**01 24 05.1**	**+0.4**
KIW	**Kapiti Island**	**1.60**	**187**	P	**Pn**	**01 24 06.4**	**+1.4**
TIWZ	**Tintock**	**1.61**	**160**	P	**Pn**	**01 24 06.5**	**+1.5**
WHHZ	**Waihua**	**1.63**	**84**	P	**Pn**	**01 24 06.8**	**+1.5**
BFZ	**Birch Farm**	**1.65**	**150**	P	**Pn**	**01 24 06.6**	**+1.2**
BFZ	**Birch Farm**	**1.65**	**150**	P	**Pn**	**01 24 06.7**	**+1.3**
HOWZ	**Holdsworth Sta**	**1.65**	**170**	P	**Pn**	**01 24 06.9**	**+1.4**
EDRZ	**Edgecumbe**	**1.70**	**48**	P	**Pn**	**01 24 06.6**	**+0.5**
TGRZ	**Tauranga**	**1.77**	**30**	P	**Pn**	**01 24 07.9**	**+1.1**
SNGZ	**Shannon Statio**	**1.77**	**75**	P	**Pn**	**01 24 07.9**	**+1.0**
DUWZ	**D'Urville Isla**	**1.80**	**211**	P	**Pn**	**01 24 08.7**	**+1.6**
CPWZ	**Castlepoint**	**1.83**	**154**	P	**Pn**	**01 24 09.3**	**+1.9**
URZ	**Urewera**	**1.83**	**57**	P	**Pn**	**01 24 07.6**	**+0.1**
URZ	**Urewera**	**1.83**	**57**	P	**Pn**	**01 24 07.7**	**+0.1**
CAW	**Cannon Point**	**1.84**	**182**	P	**Pn**	**01 24 09.0**	**+1.5**
MTW	**Mount Morrison**	**1.91**	**172**	P	**Pn**	**01 24 09.5**	**+1.1**
TMWZ	**Te Maipa**	**1.92**	**163**	P	**Pn**	**01 24 09.9**	**+1.3**
RAGZ	**Rawiri**	**1.93**	**67**	P	**Pn**	**01 24 09.4**	**+0.7**
KNZ	**Kokohu**	**1.98**	**84**	P	**Pn**	**01 24 10.0**	**+0.9**
WEL	**Wellington**	**2.04**	**188**	P	**Pn**	**01 24 11.1**	**+1.3**
TCW	**Tory Channel**	**2.05**	**199**	P	**Pn**	**01 24 11.5**	**+1.5**
SNZO	**South Karori**	**2.07**	**189**	P	**Pn**	**01 24 11.3**	**+1.1**
MWZ	**Matawai**	**2.08**	**64**	P	**Pn**	**01 24 10.7**	**+0.3**
RIGZ	**Rimuhau**	**2.11**	**75**	P	**Pn**	**01 24 11.5**	**+0.7**
PAWZ	**Paruwai Farm**	**2.12**	**174**	P	**Pn**	**01 24 12.0**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.15**	**88**	P	**Pn**	**01 24 12.5**	**+1.4**
BHW	**Baring Head**	**2.15**	**186**	P	**Pn**	**01 24 12.3**	**+1.2**
PRGZ	**Paritu Road**	**2.15**	**82**	P	**Pn**	**01 24 12.2**	**+1.0**
MKAZ	**Moumakai**	**2.16**	**0**	P	**Pn**	**01 24 12.6**	**+1.3**
MYRZ	**Mayor Island**	**2.16**	**24**	P	**Pn**	**01 24 15.0**	**+3.6**
TRWZ	**Traveller**	**2.17**	**169**	P	**Pn**	**01 24 12.5**	**+1.1**
TKGZ	**Te Karaka**	**2.26**	**69**	P	**Pn**	**01 24 13.5**	**+1.0**
PLWZ	**Palliser**	**2.30**	**178**	P	**Pn**	**01 24 13.9**	**+0.9**
TUWZ	**Tuamarina**	**2.30**	**203**	P	**Pn**	**01 24 14.6**	**+1.1**
RUGZ	**Raukumara Rang**	**2.37**	**58**	P	**Pn**	**01 24 13.6**	**-0.4**
NNZ	**Nelson**	**2.37**	**214**	P	**Pn**	**01 24 15.1**	**+1.3**
TKNZ	**Takaka Hill**	**2.44**	**223**	P	**Pn**	**01 24 15.5**	**+0.9**
TWGZ	**Tauwhareparae**	**2.47**	**65**	P	**Pn**	**01 24 15.8**	**+0.8**
CNGZ	**Carnagh Statio**	**2.51**	**73**	P	**Pn**	**01 24 16.5**	**+0.9**
RVAZ	**Riverhead Bore**	**2.53**	**350**	P	**Pn**	**01 24 17.6**	**+1.8**
QRZ	**Quartz Range**	**2.54**	**231**	P	**Pn**	**01 24 16.5**	**+0.6**
QRZ	**Quartz Range**	**2.54**	**231**	P	**Pn**	**01 24 16.6**	**+0.7**
KUZ	**Kuaotunu**	**2.56**	**10**	P	**Pn**	**01 24 17.6**	**+1.5**
KUZ	**Kuaotunu**	**2.56**	**10**	P	**Pn**	**01 24 17.7**	**+1.5**
HAZ	**Te Kaha**	**2.56**	**55**	P	**Pn**	**01 24 15.6**	**-0.4**
CMWZ	**Cape Campbell**	**2.58**	**196**	P	**Pn**	**01 24 18.2**	**+1.8**
BSWZ	**Blackbirch Sta**	**2.63**	**201**	P	**Pn**	**01 24 18.4**	**+1.4**
PKGZ	**Pakihiroa**	**2.68**	**60**	P	**Pn**	**01 24 18.1**	**+0.5**
PUZ	**Puketiti**	**2.71**	**65**	P	**Pn**	**01 24 18.1**	**+0.1**
MRNZ	**Matariki Terra**	**2.81**	**220**	P	**Pn**	**01 24 20.0**	**+0.9**
WMGZ	**Waiomatatini S**	**2.94**	**62**	P	**Pn**	**01 24 20.0**	**+0.2**
MXZ	**Matakaoa Point**	**3.01**	**57**	P	**Pn**	**01 24 22.1**	**+0.4**
MXZ	**Matakaoa Point**	**3.01**	**57**	P	**Pn**	**01 24 22.3**	**+0.6**
THZ	**Tophouse**	**3.02**	**214**	P	**Pn**	**01 24 22.8**	**+0.9**
KHZ	**Kahutara**	**3.38**	**201**	P	**Pn**	**01 24 27.5**	**+1.2**
KHZ	**Kahutara**	**3.38**	**201**	P	**Pn**	**01 24 27.6**	**+1.2**
DSZ	**Denniston Nort**	**3.55**	**225**	P	**Pn**	**01 24 29.0**	**+0.3**
GVZ	**Greta Valley S**	**4.03**	**203**	P	**Pn**	**01 24 35.4**	**+0.6**
LTZ	**Lake Taylor**	**4.13**	**211**	P	**Pn**	**01 24 36.2**	**0.0**
OUZ	**Omahuta**	**4.22**	**342**	P	**Pn**	**01 24 39.8**	**+2.4**
OUZ	**Omahuta**	**4.22**	**342**	P	**Pn**	**01 24 39.7**	**+2.2**
AMCZ	**Amberley**	**4.34**	**205**	P	**Pn**	**01 24 39.1**	**+0.3**
OXZ	**Oxford**	**4.68**	**209**	P	**Pn**	**01 24 42.7**	**-0.7**
OKCZ	**Okains Bay**	**4.72**	**199**	P	**Pn**	**01 24 44.1**	**+0.2**
RACZ	**Rakaia**	**5.00**	**206**	P	**Pn**	**01 24 46.9**	**-0.6**
MHCZ	**Mount Hutt**	**5.04**	**211**	P	**Pn**	**01 24 47.5**	**-0.7**
WACZ	**Wakanui South**	**5.29**	**207**	P	**Pn**	**01 24 51.3**	**-0.1**
RPZ	**Rata Peaks**	**5.40**	**213**	P	**Pn**	**01 24 53.1**	**+0.2**
RPZ	**Rata Peaks**	**5.40**	**213**	P	**Pn**	**01 24 53.0**	**+0.1**
ARCZ	**Arundel**	**5.54**	**211**	P	**Pn**	**01 24 54.6**	**-0.2**
ODZ	**Otahua Downs**	**6.67**	**209**	P	**Pn**	**01 25 09.7**	**-0.1**
ODZ	**Otahua Downs**	**6.67**	**209**	P	**Pn**	**01 25 09.6**	**-0.2**
JCZ	**Jackson Bay**	**6.76**	**223**	P	**Pn**	**01 25 09.7**	**-1.4**
CTZ	**Chatham Island**	**7.62**	**128**	P	**Pn**	**01 25 26.1**	**+3.7**

KRNET ***29*** *01:31:01.8±0.1,39°.64N×77°.74E,mb3.5*
SOME ***29*** *01:31:02.4,39°.78N×77°.70E,h5km*
NNC ***29*** *01:31:04.4±1.1,39°.80N×77°.71E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=8.1km s-min=6.0km az=155.0*

ISC 29 01:31:06.5±1.7,39°.83N±0°.08×77°.57E±0°.04,h10km,n66, σ1§99/100,28C-13D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.90**	**3**	⇓*i*P	**Pb**	**01 31 39.9**	**-1.6**
	baz=1.0						
TARG				⇓*i*S	**Sg**	**01 32 07.8**	**+0.2**
	baz=1.0						
NRN	**Naryn**	**2.04**	**322**	⇑*i*P	**Pb**	**01 31 42.0**	**-1.9**
	baz=24						
NRN				⇑*i*S	**Sb**	**01 32 11.2**	**+1.6**
	baz=24						
KDJ	**Kajisay**	**2.33**	**351**	⇑*i*P	**Pb**	**01 31 45.8**	**-2.9**
	baz=51						
KDJ				⇑*i*S	**Sb**	**01 32 17.8**	**+0.3**
	baz=51						
ULHL	**Ulahol**	**2.64**	**336**	P	**Pb**	**01 31 53.4**	**-0.6**
	SNR=28						
ULHL	**Ulahol**	**2.64**	**336**	⇑*i*P	**Pb**	**01 31 50.4**	**-3.7**
	baz=37						
ULHL				⇑*i*S	**Sb**	**01 32 25.6**	**-1.1**
	baz=37						
PRZ	**Przheval'sk**	**2.71**	**11**	⇑*e*P	**Pb**	**01 31 51.1**	**-4.0**
	baz=10.0						
PRZ				⇑*e*S	**Sb**	**01 32 27.6**	**-0.9**
	baz=10.0						
ANVS	**Anan'yevo**	**2.95**	**360**	⇑*e*P	**Pb**	**01 31 54.9**	**-4.4**
	baz=59						
ANVS				⇑*e*S	**Sb**	**01 32 32.9**	**-2.6**
	baz=59						
SFK	**Sufi-Kurgan**	**3.21**	**275**	⇑*i*P	**Pn**	**01 31 56.1**	**-1.1**
	baz=78						
SFK				⇑*i*S	**Sn**	**01 32 36.4**	**+0.7**
	baz=78						
TNSS	**Tian-Shan**	**3.25**	**351**	Pg	**Pb**	**01 32 04.7**	**+0.2**
	22nm,0.4s						
TNSS				Lg	Lg	01 32 49.6	
	67nm,0.7s						
TNSS	**Tian-Shan**	**3.25**	**351**	*e*P	**Pb**	**01 32 04.7**	**+0.2**
	22nm,0.3s						
TNSS				*e*S	**Sg**	**01 32 49.6**	**-1.3**
	67nm,0.7s						
ARLS	**Aral**	**3.25**	**310**	⇓*i*P	**Pn**	**01 31 58.2**	**+0.5**
	baz=12						
ARLS				⇓*i*S	**Sn**	**01 32 39.1**	**+2.6**
	baz=12						
SATY	**Saty**	**3.27**	**9**	Pg	**Pb**	**01 32 04.6**	**-0.1**
	15nm,0.2s						
SATY				Lg	Lg	01 32 49.8	
	67nm,0.3s						
SATY	**Saty**	**3.27**	**9**	*e*P	**Pb**	**01 32 04.6**	**-0.1**
	19nm,0.4s						
SATY				*e*S	**Sg**	**01 32 49.8**	**-1.9**
	67nm,0.3s						
MDOK	**Medeo**	**3.36**	**352**	Pg	**Pb**	**01 32 07.3**	**+1.0**
	9.6nm,0.5s						
MDOK				⇑Lg	Lg	01 32 53.1	
	79nm,0.6s						
MDOK	**Medeo**	**3.36**	**352**	*e*P	**Pb**	**01 32 05.3**	**-1.0**
	11nm,0.4s						
MDOK				*e*S	**Sb**	**01 32 49.9**	**+2.6**
	90nm,0.5s						
UCH	**Uchtor**	**3.38**	**316**	P	**Pb**	**01 32 05.4**	**-1.4**
	SNR=11						
UCH	**Uchtor**	**3.38**	**316**	⇑*i*P	**Pn**	**01 32 00.5**	**+0.7**
	baz=18						
UCH				⇑*i*S	**Sn**	**01 32 43.3**	**+3.1**
	baz=18						
ZHN	**Zhinishke**	**3.38**	**10**	Pg	**Pb**	**01 32 07.1**	**+0.4**
	9.3nm,0.2s						
ZHN				Lg	Lg	01 32 53.3	
	59nm,0.3s						
ZHN	**Zhinishke**	**3.38**	**10**	*e*P	**Pb**	**01 32 07.1**	**+0.4**
	9.3nm,0.2s						
ZHN				*e*S	**Sg**	**01 32 53.3**	**-1.9**
	59nm,0.3s						
AAA	**Alma-Ata**	**3.42**	**351**	Pg	**Pb**	**01 32 08.3**	**+1.1**
	35nm,0.2s						
AAA				Lg	Lg	01 32 55.9	
	240nm,0.6s						
AAA	**Alma-Ata**	**3.42**	**351**	*e*P	**Pb**	**01 32 08.3**	**+1.1**
	35nm,0.2s						
AAA				*e*S	**Sg**	**01 32 55.9**	**-0.5**
	240nm,0.6s						
KOTS	**Kotyrbulak**	**3.43**	**353**	Pg	**Pb**	**01 32 07.8**	**+0.4**
	14nm,0.3s						
KOTS				Lg	Lg	01 32 54.6	
	205nm,0.5s						
KOTS	**Kotyrbulak**	**3.43**	**353**	*e*P	**Pb**	**01 32 07.8**	**+0.4**
	14nm,0.3s						
KOTS				*e*S	**Sg**	**01 32 54.6**	**-2.0**
	234nm,0.3s						
MTBS	**Maitube**	**3.43**	**345**	Pg	**Pb**	**01 32 07.7**	**+0.4**
	8.3nm,0.4s						
MTBS				Lg	Lg	01 32 54.3	
	78nm,0.9s						
MTBS	**Maitube**	**3.43**	**345**	*e*P	**Pb**	**01 32 07.7**	**+0.4**
	8.2nm,0.2s						
MTBS				*e*S	**Sg**	**01 32 54.3**	**-2.2**
	78nm,0.4s						
TKM2	**Tokmak 2**	**3.46**	**334**	P	**Pb**	**01 32 09.0**	**+1.0**
	SNR=5.4						
TKM2	**Tokmak 2**	**3.46**	**334**	⇑Pg	**Pb**	**01 32 06.9**	**-1.1**
	5.9nm,0.3s						
TKM2				⇓Lg	Lg	01 32 56.2	
	30nm,0.6s						
TKM2	**Tokmak 2**	**3.46**	**334**	⇓*i*P	**Pn**	**01 32 01.7**	**+1.1**
	baz=35						
TKM2				⇓*i*S	**Sn**	**01 32 45.3**	**+3.5**
	baz=35						
UZB	**Uzynbulak**	**3.47**	**17**	Pg	**Pb**	**01 32 07.9**	**-0.2**
	12nm,0.3s						
UZB				Lg	Lg	01 32 54.6	
	20nm,0.3s						
UZB	**Uzynbulak**	**3.47**	**17**	*e*P	**Pb**	**01 32 07.9**	**-0.2**
	12nm,0.3s						
UZB				*e*S	**Sb**	**01 32 54.6**	**+4.3**
	20nm,0.2s						
KBK	**Karagaybulak**	**3.49**	**325**	P	**Pb**	**01 32 07.9**	**-0.6**
	SNR=26						
KBK	**Karagaybulak**	**3.49**	**325**	⇑*i*P	**Pn**	**01 32 01.9**	**+0.9**
	baz=26						
KBK				⇑*i*S	**Sn**	**01 32 46.0**	**+3.5**
	baz=26						
SHLS	**Shalkode**	**3.58**	**21**	Pg	**Pg**	**01 32 12.5**	**-2.7**
	28n

	5.8nm,0.3s							
DJR				*e*S		**Sg**	**01 33 34.6**	**-4.9**
	19nm,0.5s							
BTLS	**Baital**	**5.86**	**334**	Pg		**Pb**	**01 32 51.1**	**+2.4**
	1.5nm,0.4s							
BTLS				Lg		Lg	01 34 09.3	
	8.7nm,0.8s							
BTLS	**Baital**	**5.86**	**334**	*e*P		**Pb**	**01 32 51.7**	**+3.0**
	2.4nm,0.5s							
BTLS				*e*S		**Sg**	**01 34 09.5**	**-5.0**
	8.7nm,0.4s							
KK31	**Karatay Array**	**6.29**	**304**	⇑Pg		**Pb**	**01 32 57.2**	**+1.1**
	0.9nm,0.4s,baz=125,slow=16,SNR=12							
KK31				⇑Lg		Lg	01 34 22.6	
	4.5nm,0.9s,baz=116,slow=28,SNR=4.1							
MK31	**Makanchi Array**	**7.73**	**24**	⇑Pn		**Pn**	**01 33 00.1**	**+1.0**
	0.4nm,0.5s,baz=204,slow=14,SNR=4.0							
MK31				⇑Lg		Lg	01 35 16.1	
	1.8nm,0.7s							

*IDC **29** 01:44:22.6±8.2, 36°.69N×71°.15E, h176km±108km, mbtmp3.4/5, Error ellipse: s-maj=134.9km s-min=39.4km az=158.0*
*NNC **29** 01:44:24.7±4.4, 37°.06N×70°.42E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=34.7km s-min=30.8km az=157.0*
ISC 29 01:44:24.9±2.3, 36°.8N±0°.2×70°.8E±0°.1, h200km, n15, σ2§52/15, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.77**	**22**	P	**Pn**	**01 45 51.0**	**+1.5**
	SNR=48						
AML	**Almayashu**	**5.77**	**22**	⇓Pn	**Pn**	**01 45 51.0**	**+1.5**
	3.3nm,0.5s						
AML				⇓Sn	**Sn**	**01 46 58.6**	**+2.3**
	7.5nm,0.6s						
UCH	**Uchtor**	**6.12**	**27**	P	**Pn**	**01 45 56.2**	**+2.0**
	SNR=21						
EKS2	**Erkin-Say**	**6.28**	**21**	P	**Pn**	**01 45 57.9**	**+2.1**
	SNR=26						
KK31	**Karatay Array**	**6.29**	**358**	⇑Pn	**Pn**	**01 45 55.4**	**-0.4**
	3.7nm,0.3s,baz=183,slow=12,SNR=134						
KK31				⇑Sn	**Sn**	**01 47 05.5**	**-2.4**
	1.9nm,0.4s,baz=178,slow=23						
AAK	**Ala-Archa**	**6.48**	**25**	P	Pn	01 46 00.9	+2.4
	SNR=5.4						
KBK	**Karagaybulak**	**6.66**	**27**	P	Pn	01 46 03.6	+2.8
	SNR=5.1						
USP	**Ospenovka**	**7.05**	**23**	P	**Pn**	**01 46 07.2**	**+1.5**
	SNR=16						
TKM2	**Tokmak 2**	**7.13**	**30**	P	Pn	01 46 09.3	+2.3
	SNR=8.1						
TKM2	**Tokmak 2**	**7.13**	**30**	⇑Pn	**Pn**	**01 46 08.8**	**+1.8**
	8.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**01 47 31.6**	**+3.6**
	8.1nm,1.1s						
GEYT	**Alibeck**	**10.15**	**280**	P	**Pn**	**01 46 47.7**	**+1.6**
	1.5nm,0.5s,baz=91,slow=12,SNR=2.8						
GEYT				S	Sn	01 48 26.4	-13
	0.6nm,0.4s,baz=279,slow=2.9,SNR=1.6						
MKAR	**Makanchi Array**	**13.14**	**37**	P	**Pn**	**01 47 21.2**	**-2.8**
	0.2nm,0.8s,baz=213,slow=12,SNR=4.5						
KURBB	**Kurchatov Arra**	**14.88**	**20**	P	**P**	**01 47 43.8**	**-2.5**
	0.3nm,0.4s,baz=208,slow=12,SNR=4.1						
BVAR	**Borovoye Array**	**16.21**	**359**	P	**Pn**	**01 48 01.8**	**+0.2**
	0.9nm,0.4s,baz=178,slow=9.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**19.70**	**25**	P	**Pn**	**01 48 38.7**	**-4.2**
	0.6nm,0.4s,baz=211,slow=10,SNR=1.7						

*NEIC **29** 01:46:56.7±1.7, 38°.75N±0°.03×115°.61W±0°.02, h1km±2km, Error ellipse: s-maj=3.8km s-min=2.5km az=162.0*
REN 29 01:46:59.2±2.0, 38°.68N±0°.02×115°.60W±0°.02, h2km±5km, ML2.9/9, ML2.7/116(NEIC), Error ellipse: s-maj=3.6km s-min=2.5km az=162.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	**Troy Canyon, C**	**0.33**	**178**		Pg	01 47 05.8	+0.2
R11B					Sg	01 47 10.2	+0.2
Q12A	**Willow Creek R**	**0.70**	**59**	Pg	Pg	01 47 12.1	-0.7
Q12A				Sg	Sg	01 47 22.5	+0.6
Q12A				IAML		01 47 24.3	
	comp=E,466nm,0.3s						
Q12A				IAML		01 47 24.6	
	comp=N,457nm,0.6s						
S11A	**Rachel**	**1.04**	**186**	Pg	Pg	01 47 18.5	-0.6
S11A				Sg	Sg	01 47 32.9	+0.3
SPR3	**Spring Creek 3**	**1.04**	**72**	Pg	Pg	01 47 18.3	-0.9
SPR3				Sg	Sg	01 47 31.6	-1.2
SPR3				IAML		01 47 34.8	
	comp=E,197nm,0.6s						
SPR3				IAML		01 47 35.5	
	comp=N,216nm,0.9s						
Q09A	**Carvers**	**1.24**	**278**	Pg	Pg	01 47 21.9	-1.2
Q09A				Sg	Sg	01 47 38.0	-1.2
PRN	**Pahroc Range**	**1.34**	**161**		Pg	01 47 23.8	-1.2
PRN				IAML		01 47 53.6	
	comp=E,165nm,0.4s						
TPH	**Tonopah**	**1.41**	**245**		Pn	01 47 24.9	-1.2
TPH	**Tonopah**	**1.41**	**245**		Pn	01 47 24.1	-1.9
TPH					Sg	01 47 43.3	-1.2
TPH				IAML		01 47 44.7	
	comp=E,862nm,0.5s						
TPH				IAML		01 47 46.6	
	comp=N,592nm,0.3s						
MZP	**Montezuma Peak**	**1.71**	**236**		Pn	01 47 28.6	-1.7
MZP				IAML		01 47 54.0	
	comp=E,59nm,0.5s						
GMN	**Gold Mountain**	**1.90**	**224**	Pn	Pn	01 47 32.3	-0.6
GMN				IAML		01 48 03.5	
	comp=N,49nm,0.6s						
KVN	**Kaiserville**	**1.98**	**282**	Pn	Pn	01 47 32.0	-1.9
NSP	**Numbskull Pass**	**2.01**	**194**		Pn	01 47 34.5	+0.3
NV11	**Mina Array Sit**	**2.02**	**264**	Pn	Pn	01 47 32.9	-1.5
NV11				IAML		01 48 03.1	
	comp=N,62nm,0.8s						
ICU	**Indian Springs**	**2.02**	**138**		Pb	01 47 37.0	+0.1
MCY	**Mercury**	**2.03**	**188**		Pb	01 47 36.5	-0.5
SGV	**South Grapevin**	**2.04**	**214**		Pb	01 47 36.3	-0.8
WCT	**Wildcat Mounta**	**2.05**	**204**	Pn	Pn	01 47 34.3	-0.5
ELK	**Elko**	**2.08**	**8**	Pn	Pn	01 47 33.0	-2.4
NVAR	**Mina Array Bea**	**2.13**	**264**	Pn	Pn	01 47 34.8	-1.3
BMN	**Battle Mountai**	**2.15**	**325**	Pn	Pn	01 47 35.0	-1.2
GRAC	**Grapevine Rang**	**2.18**	**220**	Pn	Pn	01 47 36.2	-0.4
GRAC				IAML		01 48 11.3	
	comp=E,77nm,0.3s						
SHPR	**Sheep Range**	**2.20**	**171**	Pn	Pn	01 47 35.7	-1.2
SZCU	**Shurtz Canyon**	**2.26**	**118**	Pn	Pn	01 47 37.1	-0.7
SZCU				IAML		01 48 16.8	
	comp=E,71nm,0.3s						
SZCU				IAML		01 48 17.0	
	comp=N,71nm,0.4s						
RYN	**Ryan**	**2.29**	**270**	Pn	Pn	01 47 36.6	-1.5
LHV	**Little Huntoon**	**2.32**	**260**	Pn	Pn	01 47 37.6	-0.8
TCRU	**Three Creeks R**	**2.47**	**91**	Pn	Pn	01 47 37.8	-3.0
TCRU				IAML		01 48 21.0	
	comp=N,39nm,0.5s						
TCRU				IAML		01 48 21.5	
	comp=E,32nm,0.6s						
LCMT	**Little Creek M**	**2.50**	**131**	Pn	Pn	01 47 39.2	-1.9
LCMT				IAML		01 48 21.1	
	comp=E,27nm,0.5s						
BENR	**Benton**	**2.53**	**249**		Pb	01 47 44.4	-1.1
GWY	**Greenwater Val**	**2.63**	**199**	Pn	Pn	01 47 42.6	-0.3
DUG	**Dugway, Tooele**	**2.64**	**54**	Pn	Pn	01 47 41.5	-1.5
DUG				IAML		01 48 25.4	
	comp=E,27nm,0.8s						
DUG				IAML		01 48 27.9	
	comp=E,22nm,0.6s						
MVU	**Marysvale**	**2.66**	**93**	Pn	Pn	01 47 42.2	-1.2
MSU	**Marysvale**	**2.69**	**92**	Pn	Pn	01 47 41.3	-2.4
KNB	**Kanab**	**2.76**	**126**	Pn	Pn	01 47 43.5	-1.1
KNB				IAML		01 48 26.8	
	comp=E,23nm,2.9s						
KNB				IAML		01 48 26.8	
	comp=N,33nm,0.8s						
MTPU	**Mount Pierson**	**2.76**	**102**	Pn	Pn	01 47 43.8	-1.0
YERR	**Yerington**	**2.86**	**277**	Pn	Pn	01 47 44.3	-1.7
PKCU	**Pink Cliffs**	**2.88**	**114**	Pn	Pn	01 47 45.3	-1.1
OMMB	**Old Mammoth Mi**	**2.88**	**249**	Pn	Pn	01 47 45.9	-0.5
QSM	**Queen of Sheba**	**2.89**	**201**	Pn	Pn	01 47 45.4	-0.9
MDPB	**Devils Postpil**	**2.93**	**250**	Pn	Pn	01 47 45.9	-1.2
MDPB				IAML		01 48 32.1	
	comp=E,17nm,0.3s						
BGU	**Big Grassy Mou**	**2.99**	**41**	Pn	Pn	01 47 46.7	-1.1
BGU				IAML		01 48 39.4	
	comp=E,15nm,0.8s						
V12A	**Nelson**	**3.01**	**168**	Pn	Pn	01 47 47.1	-0.9
V12A				IAML		01 48 43.2	
	comp=N,16nm,0.8s						
WAKR	**Walker**	**3.01**	**268**	Pn	Pn	01 47 47.3	-0.8
WAKR				IAML		01 48 34.6	
	comp=E,21nm,0.6s						
WAKR				IAML		01 48 35.5	
	comp=N,18nm,0.4s						
NLU	**North Lily Min**	**3.02**	**64**	Pn	Pn	01 47 47.0	-1.3
PAHR	**Pah Rah Range**	**3.11**	**290**	Pn	Pn	01 47 48.5	-0.9
PAHR				IAML		01 48 37.1	
	comp=E,30nm,0.8s						
PAHR				IAML		01 48 37.8	
	comp=N,17nm,0.7s						
PNTR	**Pine Nut**	**3.15**	**279**	Pn	Pn	01 47 49.0	-1.0
PNTR				IAML		01 48 42.2	
	comp=E,26nm,0.8s						
U15A	**North Rim**	**3.46**	**129**	Pn	Pn	01 47 53.0	-1.3
U15A				IAML		01 48 50.1	
	comp=E,15nm,0.9s						
U15A				IAML		01 48 53.3	
	comp=N,14nm,0.5s						
Q16A	**Castle Valley**	**3.47**	**85**	Pn	Pn	01 47 54.1	-0.3
Q16A				IAML		01 48 47.8	
	comp=E,13nm,0.7s						
MPK	**Martis Peak**	**3.50**	**281**	Pn	Pn	01 47 52.9	-2.1
MPK				IAML		01 48 51.4	
	comp=N,21nm,0.6s						
GSC	**Goldstone, Bar**	**3.51**	**196**	Pn	Pn	01 47 52.8	-2.0
GSC				IAML		01 49 03.4	
	comp=E,11nm,2.0s						
PEAR	**Peavine Mounta**	**3.51**	**287**		Pb	01 48 01.2	-1.1
EMB	**Emerald Bay**	**3.53**	**276**	Pn	Pn	01 47 53.8	-1.4
EMB				IAML		01 48 53.5	
	comp=N,19nm,0.6s						
EMB				IAML		01 49 05.2	
	comp=E,14nm,4.9s						
SPUT	**South Promonto**	**3.57**	**42**	Pn	Pn	01 47 54.3	-1.5
SPUT				IAML		01 48 35.7	
	comp=E,11nm,4.8s						
SPUT				IAML		01 48 55.9	
	comp=N,15nm,0.7s						
LOY	**Loyalton**	**3.73**	**287**		Pb	01 48 07.1	+1.2
HVU	**Hansel Valley**	**3.78**	**34**	Pn	Pn	01 47 56.9	-1.8
HVU				IAML		01 49 00.8	
	comp=E,18nm,0.7s						
HVU				IAML		01 49 04.5	
	comp=N,14nm,0.8s						
CMB	**Columbia Colle**	**3.81**	**262**	Pn	Pn	01 47 59.1	+0.1
CMB				IAML		01 49 14.9	
	comp=N,7.7nm,4.8s						
W13A	**Hualapai Mount**	**3.83**	**158**	Pn	Pn	01 47 59.3	-0.1
P17A	**Butcher Ranch,**	**3.87**	**77**	Pn	Pn	01 47 59.7	-0.1
P17A				IAML		01 49 00.4	
	comp=N,9.4nm,1.2s						
P17A				IAML		01 49 02.1	
	comp=E,12nm,0.6s						
HMU	**Henry Mountain**	**3.90**	**99**	Pn	Pn	01 48 00.5	+0.2
HMU				IAML		01 49 10.3	
	comp=N,14nm,0.8s						
HMU				IAML		01 49 15.8	
	comp=E,13nm,1.1s						
SRU	**San Rafael Swe**	**3.99**	**82**	Pn	Pn	01 48 01.1	-0.4
BSUT	**Blindstream Ca**	**4.17**	**62**	Pn	Pn	01 48 02.6	-1.7
BSUT				IAML		01 49 17.6	
	comp=N,6.8nm,4.5s						
BSUT				IAML		01 50 23.3	
	comp=E,6.8nm,4.6s						
AFDM	**Forest Hills D**	**4.20**	**275**	Pn	Pn	01 48 03.5	-0.9
AFDM				IAML		01 49 28.7	
	comp=E,6.8nm,4.8s						
AFDM				IAML		01 49 40.4	
	comp=N,6.2nm,4.5s						
WVOR	**Wild Horse Val**	**4.41**	**329**	Pn	Pn	01 48 07.8	+0.6
WVOR				IAML		01 49 19.4	
	comp=N,9.3nm,0.8s						
WVOR				IAML		01 49 31.9	
	comp=N,12nm,4.1s						
HLID	**Hailey**	**4.96**	**10**	Pn	Pn	01 48 14.5	-0.4
HLID				IAML		01 48 57.4	
	comp=N,5.8nm,4.3s						
HLID				IAML		01 49 52.2	
	comp=N,6.1nm,4.9s						
J08A	**Circle Bar Ran**	**5.15**	**336**	Pn	Pn	01 48 17.4	-0.1

IDC 29 01:47:23.3±15.0, 12°.06N×144°.37E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=473.4km s-min=273.5km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.71**	**326**	P	P	01 56 01.7	-0.3
	0.3nm,0.6s,baz=130,slow=6.4,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**62.26**	**317**	P	P	01 57 47.3	+0.2
	0.2nm,0.4s,baz=116,slow=6.6,SNR=4.8						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**62.59**	**325**	P	P	01 57 49.4	+0.2
	0.2nm,0.3s,baz=106,slow=5.1,SNR=1.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**65.48**	**320**	P	P	01 58 08.2	0.0
	0.6nm,0.2s,baz=104,slow=6.5,SNR=5.3						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**70.83**	**322**	P	P	01 58 41.7	-0.1
	0.8nm,0.4s,baz=108,slow=7.3,SNR=6.8						
	0.8nm,0.4s						

*IDC **29** 01:47:54.4±2.3, 5°.69S×130°.54E, h0km, mb4.0/6, mbtmp4.0/8, ML4.1/2, MS3.3/1, Error ellipse: s-maj=250.4km s-min=20.5km az=72.0*
*DJA **29** 01:48:03.4±0.3, 6°.S×3°×13°.1E, h67km±12km, M4.4/9, mb4.0/4, mB5.3/1, MLv4.6/9, Mw(mB)4.7/1*
*NEIC **29** 01:48:04.6±1.1, 5°.66S±0°.06×131°.1E±0°.1, h89km±7km, mb4.1/10, Error ellipse: s-maj=20.2km s-min=8.3km az=98.0*
ISC 29 01:48:03.6±0.6, 5°.63S±0°.05×131°.07E±0°.07, h100km, n39, σ2§68/39, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.60**	**313**	P	**Pn**	**01 48 29.5**	**-1.6**
BNDI				S	Sn	**01 48 48.7**	**-3.3**
SAUI	**Saumlaki**	**2.35**	**175**	Pn	**Pn**	**01 48 41.9**	**+1.2**
SAUI	**Saumlaki**	**2.35**	**175**	P	**Pn**	**01 48 41.3**	**+0.6**
FAKI	**Fak Fak**	**2.94**	**24**	Pn	**Pn**	**01 48 48.3**	**-0.2**
FAKI	**Fak Fak**	**2.94**	**24**	P	**Pn**	**01 48 47.9**	**-0.6**
FAKI				S	**Sn**	**01 49 21.3**	**-1.8**
KMPI	**Kaimana, Papua**	**3.27**	**53**	P	**Pn**	**01 48 52.5**	**-0.4**
KRAI	**Karang Ratu**	**3.52**	**311**	P	**Pn**	**01 48 55.6**	**-0.7**
SIJI	**Sorong**	**4.73**	**2**	P	**Pn**	**01 49 11.6**	**-1.1**
SWI	**Sorong**	**4.74**	**2**	P	**Pn**	**01 49 12.1**	**-0.7**
SANI	**Sanana**	**6.20**	**305**	P	**Pn**	**01 49 32.0**	**-0.6**
	23nm,1.0s,0.1nm						
MTN	**Manton Dam**	**7.17**	**180**	Pn	**Pn**	**01 49 44.8**	**-1.0**
SOEI	**Soe**	**7.89**	**238**	Pn	**Pn**	**01 49 57.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**13.48**	**203**	Pn	Pn	01 51 06.7	-4.1
WB0	**Warramunga Arr**	**14.42**	**167**	Pn	**Pn**	**01 51 19.9**	**-3.1**
COEN	**Coen**	**14.51**	**126**	Pn	**Pn**	**01 51 24.4**	**+0.2**
WRA	**Warramunga Arr**	**14.58**	**168**	Pn	**Pn**	**01 51 20.7**	**-4.3**
WRA	**Warramunga Arr**	**14.58**	**168**	Pn	**Pn**	**01 51 23.2**	**-1.8**
	0.9nm,0.3s,baz=342,slow=13,SNR=29						
WRA				Sn	Sn	01 53 53.2	-13
	2.1nm,0.3s,baz=333,slow=22,SNR=11						
	2.1nm,0.6s						
WB2	**Warramunga Arr**	**14.58**	**168**	Pn	Pn	01 51 20.4	-4.7
WR0	**Warramunga Arr**	**14.64**	**167**	Pn	**Pn**	**01 51 21.8**	**-4.0**
AS31	**Alice Springs**	**18.14**	**172**	P	**Pn**	**01 52 09.1**	**+0.1**
ASAR	**Alice Springs**	**18.14**	**172**	P	**P**	**01 52 08.6**	**+0.5**
ASAR	**Alice Springs**	**18.14**	**172**	P	**P**	**01 52 08.9**	**+0.8**
	0.8nm,0.3s,baz=348,slow=8.8,SNR=29						
ASAR				S	**S**	**01 55 20.6**	**-10**
	1.5nm,0.5s,baz=356,slow=28,SNR=7.6						
	2.5nm,0.4s						
PSA00	**Pilbara Seismi**	**19.22**	**213**	P	**P**	**01 52 20.9**	**+1.0**
LEM	**Lembang**	**23.35**	**266**	LR	LR	02 03 03.6	
	comp=Z,84nm,21.6s,baz=262,slow=40						
SONM	**Songino Array**	**57.50**	**341**	P	**P**	**01 57 45.3**	**+2.8**
SONM				IAmb	IAmb	01 57 45.7	
	comp=Z,1.6nm,1.2s						
SONM	**Songino Array**	**57.50**	**341**	P	**P**	**01 57 45.2**	**+2.7**
	comp=Z,0.5nm,0.5s,baz=161,slow=6.8,SNR=5.2						
	comp=Z,0.5nm,0.5s						
MK31	**Makanchi Array**	**67.68**	**326**	P	**P**	**01 58 52.4**	**+2.3**
MK31				IAmb	IAmb	01 58 53.1	
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**67.68**	**326**	P	**P**	**01 58 52.5**	**+2.4**
MKAR	**Makanchi Array**	**67.68**	**326**	P	**P**	**01 58 52.7**	**+2.6**
	comp=Z,2.2nm,0.8s,baz=114,slow=8.4,SNR=35						
	comp=Z,2.2nm,0.6s						
MAKZ	**Makanchi**	**67.86**	**326**	P	**P**	**01 58 53.8**	**+2.6**
MAKZ				IAmb	IAmb	01 58 54.4	
	comp=Z,1.8nm,0.6s						
ARSB	**Arslanbob**	**70.60**	**317**	P	**P**	**01 59 10.3**	**+1.8**
ZALV	**Zalesovo Beam**	**70.84**	**333**	P	**P**	**01 59 11.0**	**+1.7**
ZALV	**Zalesovo Beam**	**70.84**	**333**	P	**P**	**01 59 11.4**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=133,slow=4.9,SNR=4.6						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**71.92**	**328**	P	**P**	**01 59 17.7**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=127,slow=4.9,SNR=5.5						
	comp=Z,0.6nm,0.5s						
KK31	**Karatay Array**	**73.03**	**318**	P	**P**	**01 59 20.7**	**-2.1**
KK31				IAmb	IAmb	01 59 55.2	
	comp=Z,4.9nm,1.4s						
KKAR	**Karatay Array**	**73.03**	**318**	P	**P**	**01 59 20.4**	**-2.3**
KKAR				IAmb	IAmb	01 59 55.2	
	comp=Z,4.9nm,1.4s						
VNDA	**Vanda**	**73.67**	**173**	P	**P**	**01 59 27.1**	**+1.2**
VNDA				IAmb	IAmb	01 59 45.4	
	comp=Z,6.2nm,1.4s						
VNDA	**Vanda**	**73.67**	**173**	P	**P**	**01 59 29.2**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=59,slow=2.7,SNR=7.5						
	comp=Z,0.4nm,0.3s						
BVAR	**Borovoye Array**	**77.49**	**327**	P	**P**	**01 59 49.6**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=163,slow=6.0,SNR=2.3						
	comp=Z,0.5nm,0.5s						

*ISN **29** 01:52:43.7±1.4, 32°.72N×47°.38E, h26km±9km, ML2.5*
*TEH **29** 01:52:44.5, 32°.71N×47°.23E, h10km±678km, ML2.5*
ISC 29 01:52:45.1±1.3, 32°.71N±0°.06×47°.20E±0°.06, h10km, n7, σ1§05/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**1.14**	**291**	*e*Pg	**Pg**	**01 53 07.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**01 53 24.0**	**+1.1**
IBDR				AML	AML	01 53 28.4	
	comp=E,102nm,0.5s						
IBDR				AML	AML	01 53 41.0	
	comp=N,82nm,0.5s						
ILBA	**Ilam Banvizeh**	**1.23**	**318**	Pg	**Pn**	**01 53 08.2**	**-0.3**
ILBA				Sg	**Sn**	**01 53 27.0**	**+1.7**
RAFI	**Al-Rafai**	**1.35**	**223**	*e*Pg	**Pg**	**01 53 11.0**	**-0.1**
RAFI				*e*Sg	**Sg**	**01 53 29.0**	**+0.4**
IGHG	**Ghaleghazi**	**1.70**	**342**	Pg	**Pg**	**01 53 17.8**	**0.0**
HSAM	**Samen**	**1.90**	**38**	Pn	**Pg**	**01 53 21.3**	**-0.3**
IALM	**Almabolaq**	**2.29**	**20**	Pn	**Pb**	**01 53 26.8**	**+0.1**
BHD	**Baghdad**	**2.44**	**284**	*e*Pn	**Pn**	**01 53 25.0**	**0.0**
BHD				*e*Sn	**Sb**	**01 53 57.0**	**-2.1**

*RSNC **29** 02:06:40.3±2.4, 7°.13N×79°.72W, h4km±11km, ML2.8*
*UPA **29** 02:06:41.6±1.4, 7°.17N×79°.86W, h8km±6km, MW3.7*
ISC 29 02:06:39.1±1.4, 7°.22N±0°.04×79°.71W±0°.02, h3km±11km, n40, σ1§64/70, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEDA3	**Pedasi**	**0.44**	**314**	*e*P	**Pg**	**02 06 49.1**	**+1.5**
ACHO3	**Achotines, Los**	**0.50**	**293**	*e*P	**Pg**	**02 06 50.0**	**+1.2**
TOSI3	**Tonosi**	**0.75**	**285**	*e*P	**Pg**	**02 06 53.8**	**+0.2**
CHIT3	**Chitre**	**1.02**	**316**	*e*P	**Pg**	**02 06 58.6**	**0.0**
CHIT3				*e*S	**Sg**	**02 07 11.5**	**-0.4**
CACAO	**El Cacao, Vera**	**1.15**	**276**	*e*P	**Pb**	**02 06 60.0**	**-1.8**
CACAO				*e*S	**Sb**	**02 07 14.4**	**-2.6**
CACAO	**El Cacao, Vera**	**1.15**	**276**	*e*P	**Pb**	**02 06 59.9**	**-1.8**
CACAO				*e*S	**Sb**	**02 07 14.4**	**-2.6**
CACAO				*i*		02 07 26.3	
	comp=Z,174nm,0.7s						
CRIS3	**El Cristo, Coc**	**1.37**	**319**	*e*P	**Pn**	**02 07 05.1**	**0.0**
CRIS3				*e*S	**Sb**	**02 07 23.0**	**-0.3**
PNME	**Penonome**	**1.40**	**334**	*e*P	**Pn**	**02 07 05.5**	**-0.1**
PNME				*e*S	**Sb**	**02 07 23.8**	**-0.5**
PNME	**Penonome**	**1.40**	**334**	*e*P	**Pn**	**02 07 05.6**	**-0.1**
PNME				*e*S	**Sg**	**02 07 24.5**	**+0.2**
PNME				*i*		02 07 26.5	
	comp=Z,260nm,0.6s						
STIA3	**Santiago, Vera**	**1.53**	**305**	*e*P	**Pn**	**02 07 06.6**	**-0.8**
STIA3				*e*S	**Sb**	**02 07 28.8**	**+0.8**
GMAL	**Guarumal, Vera**	**1.61**	**290**	*e*P	**Pn**	**02 07 08.3**	**-0.1**
GMAL				*e*S	**Sb**	**02 07 32.2**	**+2.0**
GMAL	**Guarumal, Vera**	**1.61**	**290**	*e*P	**Pn**	**02 07 08.8**	**+0.4**
GMAL				*e*S	**Sg**	**02 07 32.4**	**+1.5**
GMAL				*i*		02 07 45.3	
	comp=Z,90nm,0.2s						
RSUS3	**Rio de Jesus,**	**1.63**	**298**	*e*P	**Pn**	**02 07 08.5**	**-0.2**
RSUS3				*e*S	**Sb**	**02 07 31.7**	**+0.8**
FLAM	**Flamenco Islan**	**1.69**	**6**	*e*S	**Sg**	**02 07 33.6**	**0.0**
ZANG	**Zanguenga, Cho**	**1.74**	**355**	*e*P	**Pb**	**02 07 11.6**	**0.0**
ZANG				*e*S	**Sg**	**02 07 36.1**	**+1.2**
UPA	**Univ. de Panam**	**1.76**	**6**	*e*P	**Pb**	**02 07 12.0**	**0.0**
UPA				*e*S	**Sg**	**02 07 34.9**	**-0.8**
UPA	**Univ. de Panam**	**1.76**	**6**	*e*P	**Pb**	**02 07 11.9**	**-0.2**
UPA				*e*S	**Sg**	**02 07 34.9**	**-0.8**
PTAC	**Punta Ardita,**	**1.88**	**92**	*e*P	**Pn**	**02 07 12.0**	**-0.2**
PTAC				*e*S	**Sn**	**02 07 32.8**	**-3.7**
PTAC	**Punta Ardita,**	**1.88**	**92**	*e*P	**Pn**	**02 07 11.6**	**-0.

*JMA **29** 02:37:29.5±0.3,24°N±1°×122°5E±0°7,h12km±4km, MV2.4/11,NW OFF ISHIGAKIJIMA IS*
*TAP **29** 02:37:30.2,24°12N×122°51E,h22km,ML2.9,C*
ISC 29 02:37:29.8±1.0,24°00N±0°03×122°52E±0°02,h23km±8km, n57,σ0§84/105,4C-5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.22**	**303**	*i* P	**Pb**	**02 37 35.1**	**-0.1**
	baz=270						
EOS4				*i* S	**Sb**	**02 37 39.0**	**+0.1**
	baz=270						
EOS3	**EOS3**	**0.34**	**327**	⇑*i*P	**Pb**	**02 37 37.1**	**-0.1**
	baz=311						
EOS3				S	**Sb**	**02 37 42.5**	**+0.3**
	baz=311						
EOS2	**EOS2**	**0.49**	**327**	⇓P	**Pn**	**02 37 40.1**	**-1.3**
	baz=311						
EOS2				S	**Sn**	**02 37 47.6**	**-1.7**
	baz=311						
JYNG	**Yonagunijimaku**	**0.59**	**41**	P	**Pb**	**02 37 40.9**	**-0.7**
JYNG				S	**Sb**	**02 37 48.6**	**-0.9**
YOJ	**Yonaguni jima**	**0.64**	**44**	P	**Pb**	**02 37 41.9**	**-0.5**
YOJ				S	**Sb**	**02 37 50.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.64**	**44**	*e*P	**Pn**	**02 37 44.3**	**+0.8**
	baz=60						
YOJ				*e*S	**Sb**	**02 37 50.2**	**-0.7**
	baz=60						
EAHA	**Aohua**	**0.79**	**295**	P	**Pb**	**02 37 44.6**	**-0.3**
	baz=295						
EAHA				S	**Sn**	**02 37 55.2**	**-1.5**
	baz=295						
EWUT	**Wuta**	**0.81**	**303**	P	**Pb**	**02 37 44.8**	**-0.5**
	baz=304						
EWUT				*e*S	**Sb**	**02 37 54.6**	**-1.2**
	baz=304						
ENA	**Nanau**	**0.83**	**301**	P	**Pb**	**02 37 44.8**	**-0.8**
	baz=302						
ENA				*e*S	**Sb**	**02 37 54.7**	**-1.7**
	baz=302						
ETL	**Fush Village**	**0.84**	**281**	P	**Pn**	**02 37 46.3**	**-0.1**
	baz=274						
ETL				*e*S	**Sn**	**02 37 57.7**	**-0.2**
	baz=274						
ESAO	**Su ao**	**0.84**	**313**	P	**Pb**	**02 37 45.0**	**-0.8**
	baz=307						
ESAO				*e*S	**Sn**	**02 37 56.2**	**-1.9**
	baz=307						
TWD	**Chiawan**	**0.85**	**276**	S	**Sn**	**02 37 57.8**	**-0.4**
	baz=268						
TWC	**Suao**	**0.86**	**315**	P	**Pb**	**02 37 45.3**	**-0.8**
	baz=304						
TWC				*e*S	**Sn**	**02 37 57.2**	**-1.4**
	baz=304						
NACB	**Ninganchiao**	**0.87**	**282**	P	**Pb**	**02 37 46.1**	**-0.1**
	baz=275						
NACB				S	**Sn**	**02 37 58.9**	**+0.3**
	baz=275						
SHUL	**Shoufeng**	**0.91**	**257**	S	**Sb**	**02 37 59.9**	**+1.4**
	baz=250						
ETM	**Tongmen**	**0.94**	**268**	P	**Pb**	**02 37 46.8**	**-0.7**
	baz=249						
ETM				S	**Sn**	**02 38 00.8**	**+0.2**
	baz=249						
NDS	**Dongshan**	**0.97**	**311**	P	**Pn**	**02 37 47.5**	**-0.6**
	baz=301						
NDS				*e*S	**Sn**	**02 38 00.7**	**-0.5**
	baz=301						
ETLH	**Xiulin Townshi**	**0.97**	**282**	*e*P	**Pb**	**02 37 47.8**	**-0.3**
	baz=277						
ETLH				*e*S	**Sn**	**02 38 01.4**	**-0.1**
	baz=277						
LXIB	**Xiulin Townshi**	**1.02**	**271**	*e*P	**Pb**	**02 37 48.5**	**-0.3**
	baz=265						
LATG	**Datong**	**1.05**	**301**	P	**Pn**	**02 37 49.2**	**-0.2**
	baz=305						
LATG				S	**Sn**	**02 38 03.8**	**+0.4**
	baz=305						
EGFH	**Guangfu**	**1.06**	**252**	*e*S	**Sb**	**02 38 02.8**	**0.0**
	baz=246						
TWE	**Neicheng**	**1.06**	**313**	*e*P	**Pn**	**02 37 49.7**	**+0.4**
	baz=304						
TWE				*e*S	**Sn**	**02 38 01.4**	**-2.0**
	baz=304						
WARBT	**Fenglin Townsh**	**1.08**	**255**	*e*P	**Pn**	**02 37 48.2**	**-1.4**
	baz=238						
WARBT				S	**Sb**	**02 38 03.7**	**+0.2**
	baz=238						
ENTT	**Nioudou**	**1.08**	**306**	P	**Pn**	**02 37 49.8**	**+0.2**
	baz=302						
ENTT				S	**Sn**	**02 38 03.4**	**-0.6**
	baz=302						
NDT	**Datong Townshi**	**1.10**	**303**	P	**Pn**	**02 37 50.1**	**+0.2**
	baz=299						
NDT				*e*S	**Sn**	**02 38 03.4**	**-1.1**
	baz=299						
TWB1	**Santiao Chiao**	**1.12**	**334**	*e*P	**Pn**	**02 37 51.1**	**+1.0**
	baz=344						
NNSB	**Datong**	**1.13**	**292**	P	**Pb**	**02 37 50.7**	**0.0**
	baz=288						
NNSB				S	**Sn**	**02 38 05.1**	**-0.1**
	baz=288						
NNSH	**Datong**	**1.13**	**292**	*e*P	**Pb**	**02 37 51.2**	**+0.5**
	baz=288						
NNSH				*e*S	**Sn**	**02 38 05.2**	**-0.1**
	baz=288						
HGSD	**Ruisui**	**1.13**	**244**	*e*P	**Pn**	**02 37 49.1**	**-1.2**
	baz=238						
HGSD				*e*S	**Sb**	**02 38 04.6**	**-0.3**
	baz=238						
NNS	**Nan Shan**	**1.14**	**293**	P	**Pb**	**02 37 51.0**	**0.0**
	baz=289						
NNS				S	**Sn**	**02 38 05.4**	**-0.2**
	baz=289						
FUSB	**Fushanzhiwuyua**	**1.14**	**312**	⇓P	**Pb**	**02 37 51.0**	**0.0**
	baz=308						
FUSB				S	**Sn**	**02 38 05.5**	**0.0**
	baz=308						
TIPB	**Shuangxi**	**1.16**	**327**	⇓*e*P	**Pb**	**02 37 51.2**	**0.0**
	baz=324						
TIPB				*e*S	**Sn**	**02 38 05.9**	**0.0**
	baz=324						
WHF	**Hehuan Shan**	**1.16**	**277**	P	**Pn**	**02 37 50.7**	**-0.4**
	baz=272						
WHF				S	**Sn**	**02 38 06.4**	**-0.1**
	baz=272						
FUSS	**Fushou**	**1.20**	**282**	⇓P	**Pb**	**02 37 51.9**	**0.0**
	baz=278						
FUSS				*e*S	**Sn**	**02 38 10.5**	**+3.4**
	baz=278						
EHY	**Hungye**	**1.21**	**246**	P	**Pn**	**02 37 50.8**	**-0.5**
	baz=241						
EHY				*e*S	**Sn**	**02 38 06.2**	**-0.9**
	baz=241						
NWLT	**Wulai**	**1.21**	**310**	⇓P	**Pb**	**02 37 52.1**	**0.0**
	baz=307						
NWLT				*e*S	**Sn**	**02 38 08.4**	**+1.2**
	baz=307						
OWD	**Renai**	**1.23**	**268**	P	**Pn**	**02 37 51.2**	**-0.6**
	baz=263						
CHGB	**Renai**	**1.24**	**273**	P	**Pn**	**02 37 51.9**	**-0.1**
	baz=268						
CHGB				*e*S	**Sb**	**02 38 09.0**	**+0.7**
	baz=268						
SXI1	**Grass Mountain**	**1.24**	**332**	⇑P	**Pb**	**02 37 51.7**	**-0.9**
	baz=346						
SXI1				*e*S	**Sn**	**02 38 08.5**	**+0.6**
	baz=346						
YHNB	**Yeheng**	**1.24**	**303**	⇑P	**Pb**	**02 37 52.7**	**0.0**
	baz=299						
YHNB				S	**Sn**	**02 38 08.2**	**+0.2**
	baz=299						
TWT	**Tachien**	**1.26**	**282**	P	**Pb**	**02 37 53.3**	**+0.3**
	baz=277						
TWT				*e*S	**Sb**	**02 38 10.2**	**+1.4**
	baz=277						
NSK	**Sanguang**	**1.26**	**303**	*e*P	**Pb**	**02 37 52.8**	**-0.2**
	baz=299						
NSK				*e*S	**Sn**	**02 38 08.5**	**0.0**
	baz=299						
NWF	**Wu-fen Shan**	**1.26**	**328**	*e*P	**Pb**	**02 37 52.5**	**-0.5**
	baz=342						
NWF				*e*S	**Sn**	**02 38 09.9**	**+1.3**
	baz=342						
WFSB	**Wu-fen Shan**	**1.26**	**328**	P	**Pb**	**02 37 52.5**	**-0.5**
	baz=342						
WFSB				*e*S	**Sn**	**02 38 09.4**	**+0.9**
	baz=342						
TDCB	**Techi**	**1.27**	**282**	*e*P	**Pb**	**02 37 53.6**	**+0.4**
	baz=278						
TDCB				S	**Sb**	**02 38 09.6**	**+0.4**
	baz=278						
YULB	**Yu-li**	**1.28**	**242**	⇑P	**Pn**	**02 37 52.0**	**-0.4**
	baz=237						
YULB				*e*S	**Sn**	**02 38 08.4**	**-0.4**
	baz=237						
WUSB	**Renai**	**1.29**	**270**	P	**Pn**	**02 37 52.2**	**-0.3**
	baz=265						
WUSB				*e*S	**Sb**	**02 38 10.6**	**+1.0**
	baz=265						
VWDT	**VWDT**	**1.29**	**259**	P	**Pn**	**02 37 52.5**	**0.0**
	baz=254						
VWDT				S	**Sn**	**02 38 09.5**	**+0.4**
	baz=254						
TWF1	**Yuli**	**1.30**	**240**	*e*P	**Pn**	**02 37 52.1**	**-0.5**
	baz=235						
NHDH	**Xindian Distri**	**1.32**	**317**	*e*P	**Pb**	**02 37 54.8**	**+0.8**
	baz=315						
NHDH				*e*S	**Sb**	**02 38 11.7**	**+1.2**
	baz=315						
TATO	**Taipei**	**1.35**	**316**	*e*P	**Pb**	**02 37 55.1**	**+0.5**
	baz=314						
TATO				*e*S	**Sb**	**02 38 12.3**	**+0.9**
	baz=314						
JKRS	**Kuro-shima**	**1.38**	**80**	P	**Pb**	**02 37 55.4**	**+0.5**
NFF	**Wufeng Townshi**	**1.43**	**296**	*e*P	**Pb**	**02 37 56.2**	**+0.4**
	baz=294						
NFF				*e*S	**Sb**	**02 38 15.7**	**+2.1**
	baz=294						
YM01	**YM01**	**1.43**	**323**	*e*P	**Pb**	**02 37 56.2**	**+0.3**
	baz=322						
YM08	**YM08**	**1.46**	**324**	*e*P	**Pb**	**02 37 57.2**	**+0.9**
	baz=336						
YM08				*e*S	**Sb**	**02 38 15.1**	**+0.7**
	baz=336						
JIJ	**Ishigaki jima**	**1.52**	**76**	P	**Pn**	**02 37 56.2**	**+0.5**
JIJ				*e*S	**Sb**	**02 38 16.3**	**+0.1**
JISG	**Ishigakijimahi**	**1.73**	**70**	P	**Pn**	**02 37 59.5**	**+1.0**
JISG				*e*S	**Sb**	**02 38 22.3**	**0.0**

NEIC 29 02:51:04.3±1.8,43°16N±0°07×126°5W±0°2,h10km±2km, ML2.9/66,Error ellipse: s-maj=19.4km s-min=11.6km az=266.0,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.59**	**100**	Pn	Pn	02 51 31.4	-1.2
KEBM				IAML		02 51 57.8	
	comp=E,90nm,1.7s						
KEBM				IAML		02 51 59.0	
	comp=N,85nm,2.2s						
J01E	**Myrtle Point**	**1.85**	**89**	Pn	Pn	02 51 34.8	-1.3
J01E				IAML		02 52 05.4	
	comp=E,95nm,0.2s						
J01E				IAML		02 52 05.7	
	comp=N,64nm,0.2s						
KBO	**Bosley Butte**	**1.90**	**119**	Pn	Pn	02 51 35.2	-1.7
KBO				IAML		02 51 54.3	
	comp=E,90nm,2.4s						
KBO				IAML		02 52 29.4	
	comp=N,110nm,4.5s						
K02D	**Willamette Mer**	**2.11**	**102**	Pn	Pn	02 51 39.1	-0.6
KSXB	**Camp Six Broad**	**2.33**	**124**	Pn	Pn	02 51 41.7	-1.1
I03D	**Drain, OR**	**2.33**	**76**	Pn	Pn	02 51 42.1	-0.6
DBO	**Dodson Butte**	**2.36**	**90**	Pn	Pn	02 51 42.7	-0.5
KRMB	**Red Mountain**	**2.50**	**130**	Pn	Pn	02 51 43.5	-1.6
HUMO	**Hull Mountain**	**2.64**	**101**	Pn	Pn	02 51 46.8	-0.1
COR	**Corvallis**	**2.70**	**57**	Pn	Pn	02 51 47.3	-0.4
COR				IAML		02 52 33.6	
	comp=N,42nm,4.9s						
COR				IAML		02 52 56.4	
	comp=N,29nm,3.6s						
BUCK	**Buck Mountain**	**2.73**	**66**	Pn	Pn	02 51 48.4	+0.2
BUCK				IAML		02 52 07.4	
	comp=N,56nm,4.5s						
BUCK				IAML		02 52 13.3	
	comp=E,37nm,4.4s						
HEBO	**Mount Hebo**	**2.84**	**43**	Pn	Pn	02 51 48.3	-1.4
I04A	**Tendick Farm,**	**3.02**	**76**	Pn	Pn	02 51 52.6	+0.4
I04A				IAML		02 52 31.4	
	comp=N,27nm,0.3s						
I04A				IAML		02 52 34.9	
	comp=E,24nm,0.4s						
H04D	**Lebanon**	**3.02**	**62**	Pn	Pn	02 51 52.7	+0.5
H04D				IAML		02 52 39.0	
	comp=N,28nm,1.3s						
H04D				IAML		02 52 52.5	
	comp=E,38nm,3.7s						
G03D	**McMinnville, O**	**3.09**	**47**	Pn	Pn	02 51 52.4	-0.7
G03D				IAML		02 52 33.8	
	comp=N,45nm,1.3s						
G03D				IAML		02 52 36.0	
	comp=E,47nm,1.6s						
YBH	**Yreka Blue Hor**	**3.12**	**116**	Pn	Pn	02 51 54.2	+0.5
L04D	**Klamath Falls**	**3.21**	**106**	Pn	Pn	02 51 55.4	+0.5
L04D				IAML		02 52 40.3	
	comp=E,40nm,4.3s						
L04D				IAML		02 53 37.0	
	comp=N,25nm,4.8s						
H04A	**Detroit Lake**	**3.45**	**62**	Pn	Pn	02 51 58.6	+0.5
H04A				IAML		02 52 42.5	
	comp=N,18nm,2.2s						
H04A				IAML		02 52 57.5	
	comp=E,23nm,4.3s						
K04D	**Chiloquin, OR**	**3.50**	**97**	Pn	Pn	02 51 59.8	+0.8
K04D				IAML		02 54 00.9	
	comp=E,39nm,3.5s						
KMRM	**Mail Ridge**	**3.58**	**144**	Pn	Pn	02 52 00.7	+0.7
KMRM				IAML		02 53 15.5	
	comp=N,27nm,5.0s						
J05D	**Fort Rock, OR**	**3.83**	**86**	Pn	Pn	02 52 02.6	-0.7
J05D				IAML		02 52 56.4	
	comp=N,25nm,5.0s						
J05D				IAML		02 54 35.5	
	comp=E,27nm,4.9s						
I05D	**Terrebonne, OR**	**3.90**	**71**	Pn	Pn	02 52 04.2	-0.1
F04A	**Amboy**	**4.01**	**45**	Pn	Pn	02 52 05.3	-0.5
F04A				IAML		02 52 57.0	
	comp=E,26nm,0.7s						
F04A				IAML		02 53 44.5	
	comp=N,19nm,4.5s						
PINE	**Pine Mountain**	**4.07**	**79**	Pn	Pn	02 52 07.5	+0.7
PINE				IAML		02 52 46.2	
	comp=E,21nm,4.9s						
PINE				IAML		02 52 58.6	
	comp=N,24nm,4.9s						
HOOD	**Mount Hood Mea**	**4.08**	**56**	Pn	Pn	02 52 08.0	+1.1
K05A	**Summer Lake**	**4.11**	**94**	Pn	Pn	02 52 07.0	-0.4
G05A	**Wamic**	**4.25**	**59**	Pn	Pn	02 52 09.7	+0.6
G06A	**Carlson Farm,**	**4.68**	**62**	Pn	Pn	02 52 15.0	0.0
G06A				IAML		02 53 36.0	
	comp=E,17nm,5.0s						
G06A				IAML		02 55 19.9	
	comp=N,13nm,4.1s						
LON	**Longmire**	**4.88**	**41**	Pn	Pn	02 52 18.2	+0.4
LON				IAML		02 53 18.4	
	comp=N,14nm,4.3s						
LON				IAML		02 54 06.8	
	comp=E,14nm,4.4s						
D05A	**Enumclaw**	**5.13**	**37**	Pn	Pn	02 52 20.7	-0.4
I07A	**Izee**	**5.14**	**77**	Pn	Pn	02 52 22.1	+0.7
F07A	**Phinny Hill Vi**	**5.42**	**57**	Pn	Pn	02 52 25.1	0.0
MXC	**Moxie City**	**5.56**	**50**	Pn	Pn	02 52 27.3	+0.2
LTY	**Liberty**	**5.80**	**43**	Pn	Pn	02 52 30.7	+0.3
G08A	**Pilot Rock**	**5.80**	**66**	Pn	Pn	02 52 26.9	-3.5
E07A	**Sunnyside**	**5.80**	**52**	Pn	Pn	02 52 31.1	+0.7
WVOR	**Wild Horse Val**	**5.81**	**94**	Pn	Pn	02 52 30.2	-0.3
HAWA	**Hanford**	**5.90**	**54**	Pn	Pn	02 52 32.1	+0.4

*SJA **29** 02:56:51.5±0.7,22°05S×68°70W,h109km±4km, ML3.4, MW3.5*
*GUC **29** 02:56:53.3±0.5,22°02S×68°77W,h107km±3km, ML3.3*
ISC 29 02:56:53.5±1.8,22°06S±0°03×68°73W±0°08, h100km±11km,n30,σ1§40/57,1C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.54**	**299**	*e*P	**Sn**	**02 57 22.9**	**+0.9**
PB09	**IPOC Station P**	**0.54**	**299**	⇓*i*P	**Pn**	**02 57 09.8**	**0.0**
PB09				*e*S	**Sn**	**02 57 21.7**	**-0.2**
	comp=N,1μm,0.5s			IAML		02 57 23.7	
LVC	**Limon Verde**	**0.57**	**197**	*e*P	**Sn**	**02 57 23.0**	**+0.2**
LVC				*e*S	**Sn**	**02 57 23.5**	**+0.7**
LVC				*e*P	**Sn**	**02 57 23.5**	**+0.7**
LVC				IAML		02 57 23.8	
	comp=Z,2μm,0.4s						
LVC	**Limon Verde**	**0.57**	**197**	*i* P	**Pn**	**02 57 09.9**	**-0.3**
LVC				*e*S	**Sn**	**02 57 22.6**	**-0.2**
PB06	**IPOC Station P**	**1.01**	**230**	*e*P	**Pn**	**02 57 14.3**	**+0.1**
PB06				*e*S	**Sn**	**02 57 31.2**	**+1.4**
PB06				IAML		02 57 31.4	
	comp=Z,804nm,0.3s						
PB06	**IPOC Station P**	**1.01**	**230**	⇑*i*P	**Pn**	**02 57 14.3**	**+0.1**
PB06				*e*S	**Sn**	**02 57 30.5**	**+0.7**
PB06				IAML		02 57 31.7	
	comp=E,2μm,0.1s						
PB07	**IPOC Station P**	**1.12**	**287**	*e*P	**Pn**	**02 57 15.2**	**-0.3**
PB07				*e*S	**Sn**	**02 57 32.5**	**+0.5**
PB07				IAML		02 57 33.4	
	comp=Z,650nm,0.1s						
PB07	**IPOC Station P**	**1.12**	**287**	*i* P	**Pn**	**02 57 15.1**	**-0.3**
PB07				*e*S	**Sn**	**02 57 31.6**	**-0.3**
PB01	**IPOC Station P**	**1.23**	**325**	*e*P	**Pn**	**02 57 13.7**	**-2.9**
PB01				*e*P	**Pn**	**02 57 16.7**	**+0.1**
PB01				*e*S	**Sn**	**02 57 34.7**	**+0.6**
PB01				IAML		02 57 40.1	
	comp=Z,260nm,0.2s						
PB01	**IPOC Station P**	**1.23**	**325**	*i* P	**Pn**	**02 57 16.3**	**-0.3**
PB01				*e*S	**Sn**	**02 57 33.0**	**-1.0**
PB01				IAML		02 57 36.3	
	comp=E,695nm,0.1s						
PB02	**IPOC Station P**	**1.31**	**304**	*e*P	**Pn**	**02 57 13.7**	**-3.9**
PB02				*e*P	**Pn**	**02 57 17.2**	**-0.4**
PB02				*e*S	**Sn**	**02 57 36.0**	**+0.4**
PB02				IAML		02 57 36.6	
	comp=Z,841nm,0.4s						
PB02	**IPOC Station P**	**1.31**	**304**	*i* P	**Pn**	**02 57 17.1**	**-0.4**
PB02				IAML		02 57 36.1	
	comp=E,604nm,0.4s						
PB15	**IPOC Station P**	**1.33**	**211**	*e*P	**Pn**	**02 57 13.7**	**-4.3**
PB15				*e*P	**Pn**	**02 57 18.1**	**+0.1**
PB15				*e*S	**Sn**	**02 57 38.2**	**+1.7**
PB15	**IPOC Station P**	**1.33**	**211**	*i* P	**Pn**	**02 57 18.1**	**+0.1**
PB15				*e*S	**Sn**	**02 57 37.3**	**+0.9**
PB04	**IPOC Station P**	**1.34**	**258**	*e*P	**Pn**	**02 57 17.8**	**-0.2**
PB04				*e*S	**Sn**	**02 57 37.5**	**+0.9**
PB04				IAML		02 57 40.9	
	comp=Z,510nm,0.2s						
PB04	**IPOC Station P**	**1.34**	**258**	*i* P	**Pn**	**02 57 17.5**	**-0.5**
PB04				IAML		02 57 41.1	
	comp=N,920nm,0.8s						
PB05	**IPOC Station P**	**1.57**	**239**	*e*P	**Pn**	**02 57 20.4**	**-0.4**
PB05				*e*S	**Sn**	**02 57 42.6**	**+1.1**
PB05				IAML		02 57 50.2	
	comp=Z,194nm,0.4s						
PB05	**IPOC Station P**	**1.57**	**239**	*i* P	**Pn**	**02 57 20.6**	**-0.2**
PB05				*e*S	**Sn**	**02 57 41.5**	**0.0**
PB05				IAML		02 57 47.1	
	comp=E,378nm,0.2s						
PATCX	**Punta Patache**	**1.81**	**313**	*e*P	**Pn**	**02 57 22.9**	**-0.8**
PATCX				*e*P	**Pn**	**02 57 23.2**	**-0.5**
PATCX				*e*S	**Sn**	**02 57 48.3**	**+1.6**
PATCX				IAML		02 57 49.4	
	comp=Z,124nm,0.3s						
PATCX	**Punta Patache**	**1.81**	**313**	*i* P	**Pn**	**02 57 23.0**	**-0.7**
PATCX				*e*S	**Sn**	**02 57 45.2**	**-1.4**
PATCX				IAML		02 57 52.4	
	comp=N,307nm,0.5s						
PB08	**IPOC Station P**	**1.95**	**348**	*e*P	Pn	02 57 13.7	-12
PB08				*e*S	**Sn**	**02 57 52.5**	**+2.2**
PB08	**IPOC Station P**	**1.95**	**348**	*i* P	**Pn**	**02 57 25.9**	**+0.2**
PB08				*e*S	**Sn**	**02 57 50.6**	**+0.3**
PB08				IAML		02 57 55.1	
	comp=E,240nm,0.5s						
TA01	**Diego Aracena**	**2.01**	**317**	*e*P	**Pn**	**02 57 25.8**	**-0.4**
TA01				*e*S	**Sn**	**02 57 51.2**	**+0.1**
HMBC	**Humberstone**	**2.07**	**328**	*e*P	Pn	02 57 13.7	-13
HMBC				*e*S	**Sn**	**02 57 52.8**	**0.0**
HMBC				IAML		02 57 55.0	
	comp=Z,226nm,0.4s						
HMBC	**Humberstone**	**2.07**	**328**	*i* P	**Pn**	**02 57 26.5**	**-0.6**
HMBC				*e*S	**Sn**	**02 57 51.8**	**-1.0**
HMBC				IAML		02 57 55.7	
	comp=N,337nm,0.2s						
TA02	**Huaiquique**	**2.21**	**323**	*e*P	Pn	02 57 15.2	-14
TA02				*e*S	**Sn**	**02 58 01.7**	**+6.0**
TA02				IAML		02 58 06.4	
	comp=Z,212nm,0.1s						
PB10	**IPOC Station P**	**2.22**	**229**	*e*P	**Pn**	**02 57 28.6**	**-0.3**
PB10				*e*S	**Sn**	**02 57 55.4**	**-0.6**
GO01	**Chusmiza**	**2.42**	**350**	*e*P	Pn	02 57 22.9	-9.1
GO01				IAML		02 58 07.6	
	comp=Z,78nm,0.3s						
GO01	**Chusmiza**	**2.42**	**350**	*i* P	**Pn**	**02 57 31.8**	**-0.1**
GO01				*e*S	**Sn**	**02 58 01.2**	**-0.1**
PB11	**IPOC Station P**	**2.44**	**339**	*e*P	**Pn**	**02 57 31.5**	**-0.5**
PB11				*e*S	**Sn**	**02 58 01.5**	**0.0**
PB11				IAML		02 58 11.5	
	comp=Z,82nm,0.3s						

*TEH **29** 02:58:42.6,33°73N×45°70E,h8km,ML2.5*
*ISN **29** 02:58:42.3±0.4,33°71N×45°76E,h10km±2km,ML2.6*
ISC 29 02:58:42.9±1.2,33°69N±0°04×45°75E±0°04,h13km,n9, σ0§65/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.39**	**99**	Pg	**Pb**	**02 58 51.5**	**-0.2**
ILBA				Sg	**Sb**	**02 58 58.3**	**+0.7**
IBDR	**Badra**	**0.60**	**165**	*e*Pg	**Pg**	**02 58 54.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**02 59 03.0**	**+0.6**
IBDR				AML	AML	02 59 09.9	
	comp=N,107nm,0.5s						
IBDR				AML	AML	02 59 10.3	
	comp=E,201nm,0.5s						
IGHG	**Ghaleghazi**	**0.94**	**47**	Pg	**Pg**	**02 59 00.1**	**-0.9**
IDHR	**Dehrash**	**1.14**	**28**	Pg	**Pg**	**02 59 05.1**	**+0.2**
BHD	**Baghdad**	**1.22**	**250**	*e*Pg	**Pg**	**02 59 06.0**	**-0.2**
BHD				*e*Sg	**Sg**	**02 59 23.0**	**+0.9**
BHD				AML	AML	02 59 26.5	
	comp=E,434nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.23**	**61**	Pg	**Pg**	**02 59 06.4**	**-0.1**
ILIN	**Lien**	**1.59**	**39**	Pg	**Pg**	**02 59 12.8**	**-0.6**
IKFM	**Kafar-mosalman**	**1.76**	**95**	Pg	**Pg**	**02 59 16.9**	**+0.2**
RAFI	**Al-Rafai**	**1.98**	**171**	*e*Pn	**Pb**	**02 59 18.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**02 59 44.0**	**+0.6**

*NEIC **29** 03:06:40.9±2.0,55°95N±0°07×150°24W±0°10,h7km±7km, mb4.1/1,ML3.9/48,ML3.6(AEIC),Error ellipse: s-maj=11.1km s-min=5.6km az=144.0*
*IDC **29** 03:06:41.5±2.0,55°97N×150°24W,h0km,mb3.2/2, mbtmp3.4/7,ML3.4/5,MS2.8/3,Error ellipse: s-maj=33.0km s-min=21.4km az=42.0*
*AEIC **29** 03:06:47.2±2.0,56°03N±0°09×150°3W±0°1,h10km±7km, Error ellipse: s-maj=12.9km s-min=8.6km az=164.0*
ISC 29 03:06:42.8±1.0,56°07N±0°08×150°29W±0°06,h10km, n229,σ0§91/231,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.02**	**306**	Pn	**Pn**	**03 07 16.0**	**-0.8**
OHAK					**Sn**	**03 07 40.2**	**-1.9**
OHAK	**Old Harbor**	**2.02**	**306**	P	**Pn**	**03 07 16.3**	**-0.6**
OHAK	**Old Harbor**	**2.02**	**306**	P	**Pn**	**03 07 16.2**	**-0.6**
	baz=126						
OHAK				S	**S

SII	**Sitkinak Islan**	**2.23**	**284**	P	**Pn**	**03 07 18.5**	**-1.3**
	baz=104							
SII				S	**Sn**	**03 07 44.5**	**-2.7**
	baz=104							
R18K	**Karluk**	**2.74**	**305**		**Pn**	**03 07 26.1**	**-0.5**
R18K				Sn	**Sn**	**03 07 58.4**	**-1.3**
R18K				IAML		03 07 59.7		
	comp=E,228nm,0.5s							
R18K				IAML		03 08 06.1		
	comp=N,312nm,0.5s							
R18K	**Karluk**	**2.74**	**305**	P	**Pn**	**03 07 26.8**	**+0.1**
	baz=123							
R18K				S	**Sn**	**03 07 58.6**	**-1.2**
	baz=123							
SYI	**Shuyak Island**	**2.79**	**337**	Pn	**Pn**	**03 07 27.0**	**-0.4**
SYI				Sn	**Sn**	**03 08 00.9**	**-0.1**
SYI				IAML		03 08 03.8		
	comp=E,227nm,0.4s							
SYI				IAML		03 08 03.9		
	comp=N,228nm,0.4s							
Q20K	**Shuyak Island**	**2.79**	**337**	P	**Pn**	**03 07 27.4**	**0.0**
	baz=155							
Q20K				S	**Sn**	**03 08 00.5**	**-0.5**
	baz=155							
KAHG	**Katmai Hook Gl**	**3.35**	**318**		**Pn**	**03 07 36.5**	**+1.2**
Q19K	**Cape Douglas,**	**3.39**	**329**	Pn	**Pn**	**03 07 36.4**	**+0.7**
Q19K				Sn	**Sn**	**03 08 16.8**	**+0.8**
Q19K				IAML		03 08 25.3		
	comp=N,419nm,0.8s							
Q19K	**Cape Douglas,**	**3.39**	**329**	P	**Pn**	**03 07 36.7**	**+1.0**
	baz=147							
Q19K				S	**Sn**	**03 08 13.0**	**-3.0**
	baz=147							
KCE	**Katmai Mt Cerb**	**3.44**	**311**		**Pn**	**03 07 37.9**	**+1.5**
ACHA	**Angle Creek He**	**3.48**	**310**		**Pn**	**03 07 37.7**	**+0.7**
CNPM	**China Poot**	**3.50**	**352**	Pn	**Pn**	**03 07 36.3**	**-0.9**
CNPM				Sn	**Sn**	**03 08 18.6**	**-0.1**
CNPM				IAML		03 08 20.0		
	comp=E,153nm,0.4s							
CNPM				IAML		03 08 20.6		
	comp=N,126nm,0.4s							
ANCK	**Angle Creek**	**3.55**	**309**		**Pn**	**03 07 38.8**	**+0.9**
KAHC	**Katmai Hardscr**	**3.63**	**317**	P	**Pn**	**03 07 40.3**	**+1.1**
	baz=134							
PLK3	**Peulik 3**	**3.66**	**299**		**Pn**	**03 07 39.7**	**+0.3**
HOM	**Homer**	**3.67**	**349**	Pn	**Pn**	**03 07 39.6**	**+0.1**
HOM				IAML		03 08 25.0		
	comp=N,286nm,0.8s							
HOM				IAML		03 08 26.9		
	comp=E,334nm,1.7s							
BRSE	**Bradley Lake S**	**3.69**	**356**		**Pn**	**03 07 38.9**	**-0.9**
BRSE	**Bradley Lake S**	**3.69**	**356**	P	**Pn**	**03 07 38.9**	**-0.9**
	baz=176							
BRLK	**Bradley Lake**	**3.72**	**355**	Pn	**Pn**	**03 07 39.3**	**-0.9**
BRLK				IAML		03 08 25.1		
	comp=E,99nm,0.9s							
AUL	**Augustine Lava**	**3.72**	**334**		**Pn**	**03 07 41.4**	**+1.1**
Q17K	**Contact Creek**	**3.76**	**308**	P	**Pn**	**03 07 41.3**	**+0.5**
	baz=125							
PLK1	**Peulik 1**	**3.87**	**299**		**Pn**	**03 07 43.1**	**+0.8**
P19K	**Oil Pt**	**3.92**	**338**	Pn	**Pn**	**03 07 43.5**	**+0.5**
P19K	**Oil Pt**	**3.92**	**338**	P	**Pn**	**03 07 43.7**	**+0.8**
	baz=155							
Q23K	**Middleton Isla**	**3.97**	**30**	Pn	**Pn**	**03 07 42.0**	**-1.6**
Q23K				IAML		03 09 28.9		
	comp=N,242nm,2.6s							
Q23K	**Middleton Isla**	**3.97**	**30**	P	**Pn**	**03 07 41.9**	**-1.8**
	baz=213							
MID	**Middleton Isla**	**3.97**	**31**	Pn	**Pn**	**03 07 42.4**	**-1.2**
MID				IAML		03 09 26.0		
	comp=N,206nm,2.8s							
MID	**Middleton Isla**	**3.97**	**31**	P	**Pn**	**03 07 43.2**	**-0.5**
O20K	**Slope Mountain**	**4.21**	**344**		**Pn**	**03 07 46.9**	**-0.1**
O20K	**Slope Mountain**	**4.21**	**344**	P	**Pn**	**03 07 46.9**	**-0.1**
	baz=162							
IVE	**Iliamna Volcan**	**4.21**	**341**		**Pn**	**03 07 47.0**	**-0.1**
P23K	**Montague Islan**	**4.22**	**20**		**Pn**	**03 07 46.2**	**-1.0**
P23K	**Montague Islan**	**4.22**	**20**	P	**Pn**	**03 07 46.2**	**-1.0**
	baz=202							
P18K	**Big Mountain,**	**4.25**	**324**	Pn	**Pn**	**03 07 47.4**	**-0.2**
P18K	**Big Mountain,**	**4.25**	**324**	P	**Pn**	**03 07 47.5**	**-0.1**
	baz=140							
R16K	**Pilot Point**	**4.28**	**294**	Pn	**Pn**	**03 07 47.3**	**-0.5**
R16K				IAML		03 10 28.2		
	comp=N,199nm,3.5s							
R16K				IAML		03 10 29.3		
	comp=E,178nm,3.9s							
R16K	**Pilot Point**	**4.28**	**294**	P	**Pn**	**03 07 48.3**	**+0.5**
	baz=109							
Q16K	**King Salmon**	**4.32**	**310**		**Pn**	**03 07 48.8**	**+0.3**
Q16K	**King Salmon**	**4.32**	**310**	P	**Pn**	**03 07 48.7**	**+0.3**
	baz=126							
O22K	**Cooper Landing**	**4.43**	**4**	Pn	**Pn**	**03 07 49.9**	**-0.1**
O22K				IAML		03 08 46.6		
	comp=N,172nm,0.5s							
O22K				IAML		03 08 48.8		
	comp=E,174nm,0.7s							
O22K	**Cooper Landing**	**4.43**	**4**	P	**Pn**	**03 07 49.7**	**-0.3**
	baz=184							
SLKM	**Skilak Lake**	**4.45**	**0**		**Pn**	**03 07 49.5**	**-0.7**
CHGN	**Chignik**	**4.55**	**276**	Pn	**Pn**	**03 07 51.6**	**0.0**
CHGN				IAML		03 08 43.7		
	comp=E,83nm,1.1s							
CHGN				IAML		03 09 00.1		
	comp=N,80nm,0.8s							
P17K	**Kvichak River**	**4.55**	**316**		**Pn**	**03 07 52.6**	**+0.9**
P17K	**Kvichak River**	**4.55**	**316**	P	**Pn**	**03 07 52.6**	**+0.9**
	baz=132							
RSO	**Redoubt South**	**4.59**	**345**	Pn	**Pn**	**03 07 53.0**	**+0.6**
O18K	**Koktuh Hills**	**4.61**	**327**	Pn	**Pn**	**03 07 52.0**	**-0.5**
O18K				IAML		03 08 47.5		
	comp=N,52nm,0.8s							
O18K				IAML		03 08 49.0		
	comp=E,65nm,0.5s							
O18K	**Koktuh Hills**	**4.61**	**327**	P	**Pn**	**03 07 52.7**	**+0.2**
	baz=144							
RDWB	**Redoubt West**	**4.63**	**344**		**Pn**	**03 07 52.5**	**-0.4**
O19K	**Port Alsworth**	**4.65**	**334**	Pn	**Pn**	**03 07 52.6**	**-0.4**
O19K	**Port Alsworth**	**4.65**	**334**	P	**Pn**	**03 07 52.8**	**-0.2**
	baz=151							
CAPN	**Captain Cook N**	**4.73**	**355**	Pn	**Pn**	**03 07 53.9**	**-0.1**
CAPN	**Captain Cook N**	**4.73**	**355**	P	**Pn**	**03 07 54.8**	**+0.7**
	baz=174							
HIN	**Hinchinbrook I**	**4.78**	**23**	Pn	**Pn**	**03 07 54.4**	**-0.4**
HIN				IAML		03 08 52.8		
	comp=E,86nm,1.9s							
HIN				IAML		03 08 59.8		
	comp=N,71nm,2.9s							
KAIM	**Kayak Island**	**4.97**	**36**	Pn	**Pn**	**03 07 56.3**	**-1.0**
KAIM	**Kayak Island**	**4.97**	**36**	P	**Pn**	**03 07 55.3**	**-2.0**
	baz=220							
RC01	**Rabbit Creek A**	**5.04**	**3**	Pn	**Pn**	**03 07 57.9**	**-0.4**
RC01				IAML		03 09 01.2		
	comp=E,52nm,0.3s							
EYAK	**Cordova Ski Ar**	**5.09**	**26**	P	**Pn**	**03 07 58.9**	**0.0**
EYAK	**Cordova Ski Ar**	**5.09**	**26**	P	**Pn**	**03 07 58.1**	**-0.9**
	baz=209							
P16K	**Nushagak River**	**5.10**	**309**	P	**Pn**	**03 07 59.8**	**+0.6**
	baz=123							
VNFG	**Fog Glacier, M**	**5.18**	**276**		**Pn**	**03 08 01.0**	**+0.6**
O17K	**Koliganek Bris**	**5.19**	**318**		**Pn**	**03 08 00.7**	**+0.3**
O17K	**Koliganek Bris**	**5.19**	**318**	P	**Pn**	**03 08 00.7**	**+0.3**
	baz=133							
N19K	**Bonanza Creek**	**5.24**	**337**	Pn	**Pn**	**03 08 00.3**	**-0.9**
RAGM	**Ragged Mountai**	**5.24**	**32**	Pn	**Pn**	**03 08 00.6**	**-0.6**
RAGM				IAML		03 09 03.1		
	comp=E,74nm,0.6s							
GOAT	**Goat Mountain**	**5.39**	**31**		**Pn**	**03 08 02.9**	**-0.2**
KNK	**Knik Glacier**	**5.44**	**9**	Pn	**Pn**	**03 08 02.8**	**-1.0**
KNK	**Knik Glacier**	**5.44**	**9**	P	**Pn**	**03 08 03.1**	**-0.8**
	baz=190							
CNBA	**Chernabura Isl**	**5.44**	**261**	Pn	Pn	03 08 01.7	-2.1
O16K	**Kokwok River B**	**5.46**	**313**	Pn	**Pn**	**03 08 04.3**	**+0.2**
O16K	**Kokwok River B**	**5.46**	**313**	P	**Pn**	**03 08 04.7**	**+0.5**
	baz=128							
N18K	**Kilae Creek**	**5.48**	**330**	Pn	**Pn**	**03 08 04.1**	**-0.3**
N18K	**Kilae Creek**	**5.48**	**330**	P	**Pn**	**03 08 04.6**	**+0.2**
	baz=146							
STLK	**Strandline Lak**	**5.50**	**352**		**Pn**	**03 08 04.4**	**-0.3**
BERG	**Berg Lake**	**5.55**	**36**	Pn	**Pn**	**03 08 04.0**	**-1.4**
PMR	**Palmer**	**5.57**	**6**	Pn	**Pn**	**03 08 04.6**	**-0.9**
SNH	**Sunshine Point**	**5.70**	**41**	Pn	**Pn**	**03 08 06.1**	**-1.3**
N17K	**Nushagak Hills**	**5.76**	**324**	Pn	**Pn**	**03 08 08.4**	**+0.2**
N17K	**Nushagak Hills**	**5.76**	**324**	P	**Pn**	**03 08 08.2**	**0.0**
	baz=138							

SML	**Sawmill**	**5.84**	**9**	Pn	**Pn**	**03 08 08.9**	**-0.5**
SML	**Sawmill**	**5.84**	**9**	P	**Pn**	**03 08 09.2**	**-0.2**
	baz=190							
KLU	**Klutina**	**5.89**	**21**	Pn	**Pn**	**03 08 10.4**	**+0.4**
KLU	**Klutina**	**5.89**	**21**	P	**Pn**	**03 08 09.8**	**-0.2**
	baz=204							
SKT	**Skwentna**	**5.96**	**354**	Pn	**Pn**	**03 08 11.6**	**+0.6**
SCM	**Sheep Creek Mo**	**5.98**	**14**	Pn	**Pn**	**03 08 11.9**	**+0.6**
SCM	**Sheep Creek Mo**	**5.98**	**14**	P	**Pn**	**03 08 11.7**	**+0.4**
	baz=196							
O15K	**Ungalikthiuk R**	**5.99**	**305**		**Pn**	**03 08 11.9**	**+0.5**
O15K	**Ungalikthiuk R**	**5.99**	**305**	P	**Pn**	**03 08 12.0**	**+0.5**
	baz=118							
M20K	**Styx River**	**6.01**	**347**	Pn	**Pn**	**03 08 11.1**	**-0.6**
M19K	**Big River Lodg**	**6.22**	**342**	Pn	**Pn**	**03 08 13.8**	**-0.8**
VRDI	**Verde Repeater**	**6.28**	**32**	Pn	**Pn**	**03 08 14.4**	**-1.2**
N25K	**Chitina, Valde**	**6.29**	**26**	Pn	**Pn**	**03 08 15.6**	**+0.1**
N25K	**Chitina, Valde**	**6.29**	**26**	P	**Pn**	**03 08 15.6**	**+0.1**
	baz=210							
GLB	**Gilahina Butte**	**6.35**	**29**	Pn	**Pn**	**03 08 15.6**	**-0.8**
M24K	**Tolsona, Glenn**	**6.41**	**18**	Pn	**Pn**	**03 08 17.9**	**+0.7**
SAMH	**Samovar Hills**	**6.47**	**47**		**Pn**	**03 08 18.2**	**+0.1**
M17K	**Holitna River**	**6.51**	**328**		**Pn**	**03 08 18.7**	**+0.2**
M17K	**Holitna River**	**6.51**	**328**	P	**Pn**	**03 08 18.7**	**+0.2**
	baz=142							
MCARA	**McCarthy VSAT**	**6.53**	**32**	Pn	**Pn**	**03 08 18.3**	**-0.4**
MCARA	**McCarthy VSAT**	**6.53**	**32**	P	**Pn**	**03 08 18.9**	**+0.1**
	baz=218							
PTPK	**Patty Peak**	**6.55**	**35**		**Pn**	**03 08 19.2**	**-0.1**
N15K	**Kwethluk River**	**6.62**	**312**	Pn	**Pn**	**03 08 20.9**	**+0.9**
N15K	**Kwethluk River**	**6.62**	**312**	P	**Pn**	**03 08 21.3**	**+1.3**
	baz=125							
PN7A	**Pavlof North-7**	**6.64**	**269**		**Pn**	**03 08 19.0**	**-1.4**
WAT6	**Susitna Watana**	**6.66**	**10**		**Pn**	**03 08 20.6**	**-0.1**
WAT6	**Susitna Watana**	**6.66**	**10**	P	**Pn**	**03 08 20.6**	**-0.1**
	baz=192							
PCA	**Pinnacle**	**6.67**	**49**	Pn	**Pn**	**03 08 20.4**	**-0.4**
PINM	**Pinnacle**	**6.67**	**49**	P	**Pn**	**03 08 20.6**	**-0.3**
	baz=236							
WACK	**Wrangell Chich**	**6.68**	**25**		**Pn**	**03 08 21.0**	**0.0**
O14K	**Tigyukauivet M**	**6.70**	**303**	Pn	**Pn**	**03 08 21.6**	**+0.6**
O14K	**Tigyukauivet M**	**6.70**	**303**	P	**Pn**	**03 08 21.7**	**+0.7**
	baz=114							
M16K	**Timber Creek**	**6.72**	**321**	Pn	**Pn**	**03 08 22.0**	**+0.6**
M16K	**Timber Creek**	**6.72**	**321**	P	**Pn**	**03 08 22.2**	**+0.8**
	baz=134							
BARN	**Barnard Glacie**	**6.73**	**38**	Pn	**Pn**	**03 08 21.2**	**-0.6**
CTG	**Chitna Glacier**	**6.78**	**40**	P	**Pn**	**03 08 22.3**	**0.0**
	baz=227							
CTGM	**Chitina Glacie**	**6.78**	**40**	Pn	**Pn**	**03 08 21.4**	**-1.0**
LOGN	**Logan Glacier**	**6.81**	**42**	Pn	**Pn**	**03 08 21.9**	**-0.9**
WAT7	**Susitna Watana**	**6.82**	**6**		**Pn**	**03 08 23.5**	**+0.6**
PNL	**Peninsula**	**6.83**	**54**		**Pn**	**03 08 22.8**	**-0.2**
M15K	**Kasigluk River**	**7.16**	**315**		**Pn**	**03 08 27.9**	**+0.5**
M15K	**Kasigluk River**	**7.16**	**315**	P	**Pn**	**03 08 27.9**	**+0.5**
	baz=126							
DHY	**Denali Highway**	**7.18**	**11**	Pn	**Pn**	**03 08 28.9**	**+1.1**
DHY	**Denali Highway**	**7.18**	**11**	P	**Pn**	**03 08 28.5**	**+0.7**
	baz=193							
N14K	**Kuskokwak Cree**	**7.18**	**307**		**Pn**	**03 08 28.4**	**+0.8**
N14K	**Kuskokwak Cree**	**7.18**	**307**	P	**Pn**	**03 08 28.4**	**+0.8**
	baz=118							
L17K	**Donlin**	**7.34**	**329**		**Pn**	**03 08 30.2**	**+0.3**
L17K	**Donlin**	**7.34**	**329**	P	**Pn**	**03 08 30.2**	**+0.3**
	baz=143							
L16K	**Owhat River**	**7.38**	**324**	Pn	**Pn**	**03 08 30.4**	**0.0**
L16K	**Owhat River**	**7.38**	**324**	P	**Pn**	**03 08 31.0**	**+0.5**
	baz=136							
TRF	**Thorofare Moun**	**7.40**	**360**	Pn	**Pn**	**03 08 33.1**	**+2.2**
CAST	**Castle Rocks**	**7.43**	**354**	Pn	**Pn**	**03 08 31.7**	**+0.7**
TTA	**Tatalina**	**7.47**	**339**	Pn	**Pn**	**03 08 31.6**	**-0.1**
TTA	**Tatalina**	**7.47**	**339**	P	**Pn**	**03 08 32.9**	**+1.2**
O29M	**Mount Kennedy**	**7.50**	**51**	P	**Pn**	**03 08 32.3**	**+0.1**
	baz=240							
KTH	**Kantishna Hill**	**7.51**	**358**	Pn	**Pn**	**03 08 33.8**	**+1.5**
YUK2	**White River**	**7.53**	**37**		**Pn**	**03 08 33.1**	**+0.5**
K20K	**Telida**	**7.55**	**347**	Pn	**Pn**	**03 08 32.4**	**-0.4**
P29M	**Windy Craggy**	**7.58**	**57**	Pn	**Pn**	**03 08 32.6**	**-0.6**
P29M	**Windy Craggy**	**7.58**	**57**	P	**Pn**	**03 08 32.4**	**-0.8**
	baz=246							
M27K	**Edge Creek, AK**	**7.63**	**31**	P	**Pn**	**03 08 34.8**	**+0.7**
	baz=217							
YUK3	**Moose Creek**	**7.65**	**38**		**Pn**	**03 08 34.9**	**+0.6**
YUK3	**Moose Creek**	**7.65**	**38**	P	**Pn**	**03 08 34.9**	**+0.6**
	baz=225							
M14K	**Bethel**	**7.71**	**312**	Pn	**Pn**	**03 08 35.5**	**+0.5**
ISLZ	**Isanotski Laza**	**7.76**	**266**		**Pn**	**03 08 34.1**	**-1.6**
ISNN	**Isanotski Nort**	**7.77**	**266**		**Pn**	**03 08 34.7**	**-1.2**
L26K	**Log Cabin Wild**	**7.81**	**24**	Pn	**Pn**	**03 08 37.8**	**+1.5**
K17K	**Iditarod**	**7.81**	**332**	Pn	**Pn**	**03 08 35.5**	**-0.8**
S31K	**Pelican**	**7.90**	**70**	Pn	Pn	03 08 35.1	-2.5
YUK6	**Outpost Mounta**	**7.92**	**47**		**Pn**	**03 08 38.7**	**+0.6**
YUK6	**Outpost Mounta**	**7.92**	**47**	P	**Pn**	**03 08 38.7**	**+0.6**
	baz=236							
BVCY	**Beaver Creek**	**7.98**	**33**		**Pn**	**03 08 39.6**	**+0.9**
BVCY	**Beaver Creek**	**7.98**	**33**	P	**Pn**	**03 08 39.6**	**+0.9**
	baz=221							
BPAW	**Bear Paw Mtn.**	**8.06**	**358**	Pn	**Pn**	**03 08 40.0**	**+0.2**
L15K	**Ungalak Mounta**	**8.07**	**319**		**Pn**	**03 08 40.5**	**+0.6**
L15K	**Ungalak Mounta**	**8.07**	**319**	P	**Pn**	**03 08 40.5**	**+0.6**
	baz=130							
M13K	**Dall Lake**	**8.14**	**308**	Pn	**Pn**	**03 08 41.4**	**+0.6**
M13K	**Dall Lake**	**8.14**	**308**	P	**Pn**	**03 08 41.7**	**+0.8**
	baz=117							
RIDG	**Independent Ri**	**8.16**	**17**	Pn	**Pn**	**03 08 41.9**	**+0.8**
L27K	**Beaver Creek,**	**8.21**	**28**	Pn	**Pn**	**03 08 41.9**	**0.0**
L27K	**Beaver Creek,**	**8.21**	**28**	P	**Pn**	**03 08 42.5**	**+0.6**
	baz=215							
HYT	**Haines Junctio**	**8.22**	**49**	Pn	**Pn**	**03 08 42.1**	**0.0**
BCAR	**Beaver Creek A**	**8.23**	**28**	Pn	**Pn**	**03 08 41.9**	**-0.2**
SIT	**Sitka**	**8.32**	**77**	Pn	Pn	03 08 39.1	-4.2
SIT	**Sitka**	**8.32**	**77**	P	Pn	03 08 40.1	-3.2
L14K	**Kuka Creek**	**8.33**	**314**	Pn	**Pn**	**03 08 44.4**	**+1.0**
J20K	**Nowinta River**	**8.35**	**348**	Pn	**Pn**	**03 08 44.2**	**+0.5**
J19K	**Poorman**	**8.38**	**344**	Pn	**Pn**	**03 08 43.9**	**-0.2**
K15K	**Wolf Creek Mou**	**8.49**	**322**	Pn	**Pn**	**03 08 47.1**	**+1.5**
HDA	**Harding Lake**	**8.53**	**10**	Pn	**Pn**	**03 08 46.6**	**+0.5**
NEA2	**Nenana**	**8.57**	**4**	Pn	**Pn**	**03 08 46.5**	**-0.2**
SKAG	**Skagway**	**8.68**	**61**	Pn	**Pn**	**03 08 46.7**	**-1.5**
SKAG	**Skagway**	**8.68**	**61**	P	**Pn**	**03 08 48.8**	**+0.5**
CCB	**Clear Creek Bu**	**8.69**	**7**	Pn	**Pn**	**03 08 48.2**	**-0.1**
N30M	**Aishikik Lake**	**8.72**	**46**	Pn	**Pn**	**03 08 47.6**	**-1.2**
S32K	**Killisnoo**	**8.74**	**74**	Pn	Pn	03 08 45.4	-3.7
M29M	**Somme Creek**	**8.79**	**39**	Pn	**Pn**	**03 08 49.4**	**-0.5**
O30N	**Mendenhall**	**8.80**	**52**	Pn	**Pn**	**03 08 49.8**	**-0.2**
IL31		**8.89**	**9**	Pn	**Pn**	**03 08 51.6**	**+0.6**
ILAR	**Eielson Array**	**8.89**	**9**	Pn	**Pn**	**03 08 52.0**	**+1.0**
ILAR	**Eielson Array**	**8.89**	**9**	Pn	**Pn**	**03 08 49.5**	**-1.6**
	comp=E,0.4nm,0.3s,baz=194,slow=13,SNR=17							
ILAR				Sn	**Sn**	**03 10 27.2**	**-3.9**
	comp=E,0.3nm,0.3s,baz=206,slow=24,SNR=3.4							
	comp=E,0.6nm,0.3s							
J16K	**Anvik River**	**8.91**	**328**	Pn	**Pn**	**03 08 50.4**	**-0.9**
COLA	**College**	**8.91**	**7**	P	**Pn**	**03 08 52.2**	**+0.8**
K27K	**Chicken**	**8.97**	**24**	Pn	**Pn**	**03 08 53.6**	**+1.4**
MDM	**Murphy Dome**	**8.97**	**6**	Pn	**Pn**	**03 08 53.1**	**+0.9**
MLY	**Manley**	**8.99**	**359**	Pn	**Pn**	**03 08 53.3**	**+0.7**
J26L	**Joseph Creek**	**9.09**	**19**	Pn	**Pn**	**03 08 53.3**	**-0.6**
I21K	**Tanana**	**9.18**	**356**	Pn	**Pn**	**03 08 55.0**	**0.0**
N31M	**Braeburn, Yuko**	**9.27**	**48**	Pn	**Pn**	**03 08 55.8**	**-0.6**
WHY	**Whitehorse**	**9.30**	**54**	Pn	**Pn**	**03 08 55.6**	**-1.3**
L29M	**L29M**	**9.36**	**36**	Pn	**Pn**	**03 08 57.6**	**+0.1**
I17K	**Unalakleet**	**9.40**	**331**	Pn	**Pn**	**03 08 56.6**	**-1.5**
M30M	**Minto, Yukon**	**9.48**	**41**	Pn	**Pn**	**03 08 59.5**	**+0.3**
J14K	**Nanvaranak Lak**	**9.50**	**320**	Pn	**Pn**	**03 09 00.5**	**+1.1**
P32M	**Atlin**	**9.51**	**61**	Pn	**Pn**	**03 08 58.0**	**-1.7**
DAWY	**Dawson**	**9.68**	**30**	Pn	**Pn**	**03 09 02.1**	**+0.2**
H21K	**Melozitna Rive**	**9.70**	**354**	Pn	**Pn**	**03 09 00.8**	**-1.3**
EGAK	**Eagle**	**9.82**	**23**	Pn	**Pn**	**03 09 02.9**	**-0.9**
H18K	**Honhosa River**	**9.93**	**340**	Pn	**Pn**	**03 09 06.2**	**+0.9**
K29M	**Barlow Dome**	**10.06**	**34**	Pn	**Pn**	**03 09 07.7**	**+0.3**
IMAR	**Indian Mountai**	**10.08**	**352**	Pn	**Pn**	**03 09 08.0**	**+0.5**
P33M	**Teslin, Yukon**	**10.11**	**59**	Pn	Pn	03 09 05.4	-2.5
M31M	**Drury Creek, Y**	**10.20**	**46**	Pn	**Pn**	**03 09 09.2**	**+0.1**
FARO	**Faro, Yukon**	**10.64**	**48**	Pn	**Pn**	**03 09 15.1**	**-0.1**
G23K	**Bananza Creek**	**10.68**	**1**	Pn	**Pn**	**03 09 15.9**	**+0.3**
G24K	**Hadweenzic Riv**	**10.75**	**6**	Pn	**Pn**	**03 09 17.3**	**+0.7**
DLBC	**Dease Lake**	**11.22**	**69**	Pn	**Pn**	**03 09 22.4**	**-0.6**
DLBC	**Dease Lake**	**11.22**	**69**	Pn	**Pn**	**03 09 22.3**	**-0.7**
	comp=E,0.2nm,0.3s,baz=180,slow=19,SNR=2.2							
	comp=E,2.3nm,0.7s							
ANM	**Nome**	**11.30**	**325**	Pn	**Pn**	**03 09 24.9**	**+0.8**
BMAR	**Burnt Mountain**	**11.71**	**11**	Pn	**Pn**	**03 09 29.3**	**-0.3**

F15K	**North Star Dit**	**11.89**	**330**	Pn	**Pn**	**03 09 34.4**	**+2.3**
E25K	**Arctic Village**	**12.29**	**8**	Pn	**Pn**	**03 09 38.6**	**+1.0**
E18K	**Tukpahlearik C**	**12.37**	**341**	Pn	**Pn**	**03 09 41.1**	**+2.5**
G31M	**Satah River**	**13.24**	**28**	Pn	**Pn**	**03 09 50.5**	**-0.1**
INK	**Inuvik**	**14.47**	**25**	Pn	**Pn**	**03 10 08.1**	**+0.7**
	comp=E,0.1nm,0.3s,baz=223,slow=9.0,SNR=3.9							
INK				LR	LR	03 15 38.0		
	comp=E,42nm,18.1s,baz=182,slow=37							
	comp=E,1.5nm,0.9s							
A36M	**Sachs Harbour**	**19.10**	**24**	Pn	**P**	**03 11 06.4**	**+1.2**
A36M				IAmb	IAmb	03 11 16.5		
	comp=Z,14nm,1.3s							
YKA	**Yellowknife Ar**	**19.12**	**56**	P	**P**	**03 11 06.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=266,slow=9.5,SNR=7.1							
	comp=Z,0.3nm,0.6s							
YBH	**Yreka Blue Hor**	**22.91**	**117**	LR	LR	03 18 23.6		
	comp=Z,35nm,19.5s,baz=334,slow=31							
TXAR	**Lajitas Array**	**42.28**	**109**	P	**P**	**03 14 36.6**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=317,slow=4.9,SNR=3.5							
	comp=Z,0.4nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**48.29**	**239**	T	T	04 07 24.8		
	baz=31,slow=76,SNR=11							
H11N3	**WAKE ISLAND Hy**	**48.30**	**239**	T	T	04 07 23.3		
	baz=31,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hy**	**48.31**	**239**	T	T	04 07 24.7		
	baz=31,slow=76,SNR=14							
MKAR	**Makanchi Array**	**68.44**	**324**	P	**P**	**03 17 45.1**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=38,slow=5.2,SNR=2.0							
	comp=Z,0.1nm,0.5s							

*NEIC **29** 03:09:54.2±3.0,51°.31N±0°.07×173°.6W±0°.2, h10km±2km, mb3.8/41, ML4.0/6, ML3.4(AEIC), Error ellipse: s-maj=21.3km s-min=9.8km az=246.0*
*IDC **29** 03:09:55.1±1.4,51°.92N×173°.58W, h0km, mb3.8/16, mbtmp3.8/19, ML3.6/3, MS2.6/1, Error ellipse: s-maj=39.1km s-min=15.8km az=178.0*
*AEIC **29** 03:09:59.5±3.3,51°.6N±0°.1×173°.7W±0°.1, h26km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=102.0*

ISC 29 03:09:54.2±0.7,51°.33N±0°.09×173°.68W±0°.06,h10km,n86,
σ1§55/82,mb3.8/21,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.94**	**340**		**Pg**	**03 10 11.6**	**-0.6**
ATKA				Sg	**Sg**	**03 10 25.5**	**+1.1**
ATKA				IAML		03 10 26.2	
	comp=N,2μm,0.1s						
GSTR	**Great Sitkin T**	**1.67**	**298**		**Pn**	**03 10 24.6**	**+1.1**
ADK	**Adak**	**1.96**	**288**	Pn	**Pn**	**03 10 29.1**	**+1.7**
ADK				Sn	**Sn**	**03 10 50.1**	**-1.9**
ADK				IAML		03 11 02.7	
	comp=N,2μm,0.4s						
ADK				IAML		03 11 05.5	
	comp=N,1μm,0.4s						
KIWB	**Kana

YKA	Yellowknife Ar	32.93	47	PcP	PcP	03 19 13.4	+1.2	
	comp=Z,0.1nm,0.4s,baz=179,slow=5.4,SNR=4.6							
H11N2	WAKE ISLAND Hy	35.04	213	T	T	03 54 48.1		
	baz=21,slow=76,SNR=20							
H11N3	WAKE ISLAND Hy	35.05	213	T	T	03 54 48.4		
	baz=21,slow=76,SNR=23							
H11N1	WAKE ISLAND Hy	35.06	213	T	T	03 54 47.7		
	baz=21,slow=76,SNR=17							
H11S1	WAKE ISLAND Hy	36.24	213	T	T	03 56 03.4		
	baz=20,slow=76,SNR=31							
H11S2	WAKE ISLAND Hy	36.26	213	T	T	03 56 07.3		
	baz=20,slow=76,SNR=37							
H11S3	WAKE ISLAND Hy	36.26	213	T	T	03 56 07.2		
	baz=20,slow=76,SNR=18							
USRK	Ussuriysk Ar.	36.48	281	P	P	03 17 01.0	+1.8	
	comp=Z,0.8nm,0.6s,baz=62,slow=9.5,SNR=2.2							
	comp=Z,0.8nm,0.6s							
KSRS	Korea Array	42.85	275	LR	LR	03 32 42.0		
	comp=Z,8.3nm,21.9s,baz=40,slow=32							
PDAR	Pinedale Array	43.24	75	P	P	03 17 57.3	+1.6	
	comp=Z,0.9nm,0.4s,baz=317,slow=3.0,SNR=21							
	comp=Z,0.9nm,0.4s							
ULM	Lac du Bonnet	46.99	59	P	P	03 18 24.9	-0.2	
	comp=Z,0.7nm,0.4s,baz=297,slow=8.0,SNR=5.3							
	comp=Z,0.7nm,0.4s							
SONM	Songino Array	49.51	299	P	P	03 18 45.7	+1.0	
	comp=Z,0.3nm,0.6s,baz=78,slow=8.5,SNR=1.8							
	comp=Z,0.3nm,0.6s							
SPITS	Spitsbergen Ar	50.62	357	P	P	03 18 51.1	-1.5	
	comp=Z,4.0nm,1.0s,baz=62,slow=14,SNR=1.1							
	comp=Z,4.0nm,1.0s							
TXAR	Lajitas Array	55.47	85	P	P	03 19 29.8	+0.6	
	comp=Z,0.2nm,0.8s,baz=304,slow=2.1,SNR=2.2							
	comp=Z,0.2nm,0.8s							
ZALV	Zalesovo Beam	56.35	316	P	P	03 19 36.4	+1.4	
	comp=Z,0.3nm,0.4s,baz=38,slow=2.6,SNR=1.4							
ZALV				PcP	PcP	03 20 33.1	+1.0	
	comp=Z,0.4nm,0.4s,baz=35,slow=3.6,SNR=2.1							
	comp=Z,0.3nm,0.4s							
ARCES	ARCESS Array B	58.64	352	P	P	03 19 49.4	-1.5	
	comp=Z,2.1nm,0.8s,baz=23,slow=6.6,SNR=3.6							
ARCES				PcP	PcP	03 20 41.1	+0.2	
	comp=Z,2.2nm,0.9s,baz=1.6,slow=4.2,SNR=5.0							
	comp=Z,2.1nm,0.8s							
KURBB	Kurchatov Arra	61.44	316	P	P	03 20 10.2	-0.2	
	comp=Z,0.3nm,0.3s,baz=44,slow=6.9,SNR=2.3							
KURBB				PcP	PcP	03 20 52.9	+0.5	
	comp=Z,0.3nm,0.4s,baz=45,slow=3.2,SNR=4.5							
	comp=Z,0.3nm,0.3s							
MKAR	Makanchi Array	62.53	311	P	P	03 20 17.5	-0.3	
	comp=Z,0.2nm,0.3s,baz=48,slow=6.0,SNR=9.3							
MKAR				PcP	PcP	03 20 57.6	+0.7	
	comp=Z,0.2nm,0.4s,baz=32,slow=5.8,SNR=2.0							
	comp=Z,0.2nm,0.3s							
BVAR	Borovoye Array	62.95	322	P	P	03 20 20.4	-0.1	
	comp=Z,0.6nm,0.5s,baz=55,slow=5.6,SNR=5.8							
	comp=Z,0.6nm,0.5s							
FINES	FINESS Array B	66.48	350	P	P	03 20 41.4	-1.9	
	comp=Z,0.6nm,0.6s,baz=18,slow=6.8,SNR=3.7							
	comp=Z,0.6nm,0.6s							
NOA	NORSAR Array B	67.92	357	P	P	03 20 51.5	-1.1	
	comp=Z,0.6nm,0.9s,baz=68,slow=9.6,SNR=1.2							
	comp=Z,0.6nm,0.9s							
HFS	Hagfors	68.74	356	P	P	03 20 56.2	-1.4	
	comp=Z,0.6nm,0.4s,baz=305,slow=5.2,SNR=8.7							
	comp=Z,0.6nm,0.4s							
AKASG	Malin Array Be	76.50	345	P	P	03 21 42.5	-1.5	
	comp=Z,0.3nm,0.3s,baz=17,slow=6.1,SNR=2.8							
	comp=Z,0.3nm,0.3s							
H03N2	Juan Fernandez	118.07	109	T	T	05 38 12.4		
	baz=317,slow=77,SNR=4.7							
H03N1	Juan Fernandez	118.08	109	T	T	05 38 14.2		
	baz=317,slow=77,SNR=4.7							
H03N3	Juan Fernandez	118.08	109	T	T	05 38 13.4		
	baz=317,slow=77,SNR=6.3							

*IDC **29** 03:48:06.0±0.7,56.07N×149.54W,h0km,mb4.2/22, mbtmp4.1/26,ML3.7/4,MS3.3/20,Error ellipse: s-maj=19.3km s-min=12.6km az=30.0*

*MOS **29** 03:48:07.2±0.8,56.27N×149.78W,h10km,mb4.6/29, Error ellipse: s-maj=16.7km s-min=5.2km az=92.7*

*NEIC **29** 03:48:07.9±2.1,56.09N±0.07×149.73W±0.09,h15km±5km, mb4.7/42,ML4.1/48,ML3.9(AEIC),Error ellipse: s-maj=10.7km s-min=7.5km az=172.0*

*AEIC **29** 03:48:11.5±2.2,56.07N±0.07×149.60W±0.09,h11km±4km, Error ellipse: s-maj=10.2km s-min=7.5km az=171.0*

ISC 29 03:48:08.0±0.4,56.10N±0.07×149.73W±0.05,h10km, n584,σ0.95/542,mb4.5/75,MS3.3/15,11C,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHAK	Old Harbor	2.26	301			Pn	03 48 44.2	-1.3
OHAK						Sn	03 49 10.3	-3.1
OHAK				IAML			03 49 12.1	
	comp=N,764nm,0.7s							
OHAK	Old Harbor	2.26	301	P		Pn	03 48 44.9	-0.5
KDAK	Kodiak Island	2.30	318			Pn	03 48 44.9	-1.0
KDAK	Kodiak Island	2.30	318	Sn		Sn	03 49 10.9	-3.3
KDAK	Kodiak Island	2.30	318	P		Pn	03 48 45.3	-0.6
	baz=135							
KDAK	Kodiak Island	2.30	318	P		Pn	03 48 44.9	-1.0
KDAK							03 49 10.9	
KDAK	Kodiak Island	2.30	318	Pn		Pn	03 48 44.9	-1.0
	comp=N,20nm,0.3s,baz=147,slow=3.8,SNR=166							
KDAK				Sn		Sn	03 49 12.1	-2.2
	comp=N,34nm,0.3s,baz=144,slow=19,SNR=20							
KDAK				LR		LR	03 49 34.8	
	comp=N,191nm,20.3s,baz=176,slow=37							
	comp=N,46nm,0.3s							
SII	Sitkinak Islan	2.52	282	Pn		Pn	03 48 48.2	-0.9
SII				Sn		Sn	03 49 15.7	-4.1
SII				IAML			03 49 24.4	
	comp=N,631nm,0.6s							
SII				IAML			03 49 46.2	
	comp=E,824nm,0.7s							
SII	Sitkinak Islan	2.52	282	P		Pn	03 48 49.1	+0.1
SII	Sitkinak Islan	2.52	282	P		Pn	03 48 48.1	-0.9
	baz=99							
SYI	Shuyak Island	2.90	331	Pn		Pn	03 48 53.2	-1.0
SYI				Sn		Sn	03 49 27.6	-1.5
Q20K	Shuyak Island	2.90	331	P		Pn	03 48 53.7	-0.5
	baz=148							
R18K	Karluk	2.98	302			Pn	03 48 55.2	-0.1
R18K						Sn	03 49 29.1	-1.9
R18K	Karluk	2.98	302	P		Pn	03 48 55.4	+0.1
	baz=117							
CNPM	China Poot	3.53	347	Pn		Pn	03 49 01.4	-1.4
CNPM				Sn		Sn	03 49 41.2	-3.4
Q19K	Cape Douglas,	3.54	325	Pn		Pn	03 49 03.4	+0.4
Q19K	Cape Douglas,	3.54	325	P		Pn	03 49 03.4	+0.4
	baz=141,SNR=10							
KAHG	Katmai Hook Gl	3.55	315			Pn	03 49 04.0	+0.9
KCE	Katmai Mt Cerb	3.67	308			Pn	03 49 05.8	+1.1
BRSE	Bradley Lake S	3.69	352	P		Pn	03 49 03.7	-1.3
	baz=170,SNR=15							
ACHA	Angle Creek He	3.71	307			Pn	03 49 05.9	+0.5
ACHA						Sn	03 49 48.2	-1.0
HOM	Homer	3.71	345			Pn	03 49 03.6	-1.7
HOM				IAML			03 49 55.6	
	comp=E,416nm,1.2s							
HOM				IAML			03 50 04.6	
	comp=N,530nm,1.1s							
HOM	Homer	3.71	345	P		Pn	03 49 05.1	-0.2
	baz=162							
BRLK	Bradley Lake	3.73	351	Pn		Pn	03 49 03.9	-1.7
ANCK	Angle Creek	3.78	306			Pn	03 49 06.9	+0.6
KVTA	Katmai Vly 10	3.79	309			Pn	03 49 06.9	+0.4
Q23K	Middleton Isla	3.80	27	Pn		Pn	03 49 04.9	-1.5
Q23K				IAML			03 50 06.5	
	comp=N,270nm,2.1s							
Q23K				IAML			03 50 07.7	
	comp=E,273nm,1.8s							
Q23K	Middleton Isla	3.80	27	P		Pn	03 49 05.1	-1.4
	baz=209							
MID	Middleton Isla	3.80	27	Pn		Pn	03 49 04.7	-1.8
MID				IAML			03 50 06.2	
	comp=E,290nm,2.3s							
MID				IAML			03 50 06.5	
	comp=N,271nm,1.5s							
MID	Middleton Isla	3.80	27	P		Pn	03 49 05.0	-1.5
MID	Middleton Isla	3.80	27	P		Pn	03 49 04.7	-1.8
AUL	Augustine Lava	3.84	330			Pn	03 49 07.8	+0.6
CNTC	Contact Creek	3.99	305			Pn	03 49 09.2	-0.1
Q17K	Contact Creek	3.99	305	P		Pn	03 49 09.6	+0.3
	baz=120,SNR=26							
KELA	Mount Kelaz	4.02	308			Pn	03 49 09.7	+0.1
SEW	Seward	4.02	2	Pn		Pn	03 49 07.6	-2.0
SEW	Seward	4.02	2	P		Pn	03 49 08.0	-1.5
	baz=181							
P19K	Oil Pt	4.02	334	Pn		Pn	03 49 08.9	-0.7
P19K	Oil Pt	4.02	334	P		Pn	03 49 09.5	-0.2
	baz=150							
P23K	Montague Islan	4.10	17			Pn	03 49 09.2	-1.4
P23K	Montague Islan	4.10	17	P		Pn	03 49 09.5	-1.2
	baz=197							
O20K	Slope Mountain	4.28	340			Pn	03 49 11.9	-1.2
O20K	Slope Mountain	4.28	340	P		Pn	03 49 12.5	-0.7
	baz=157							
IVE	Iliamna Volcan	4.30	337			Pn	03 49 12.2	-1.2
O22K	Cooper Landing	4.40	0	Pn		Pn	03 49 13.0	-1.7
O22K	Cooper Landing	4.40	0	P		Pn	03 49 13.3	-1.4
	baz=179,SNR=20							
P18K	Big Mountain,	4.42	321	Pn		Pn	03 49 14.4	-0.8
P18K	Big Mountain,	4.42	321	P		Pn	03 49 14.7	-0.4
	baz=136,SNR=6.8							
Q16K	King Salmon	4.55	307			Pn	03 49 16.7	-0.1
Q16K	King Salmon	4.55	307	P		Pn	03 49 16.9	+0.1
	baz=121,SNR=18							
R16K	Pilot Point	4.55	292			Pn	03 49 17.0	+0.2
R16K	Pilot Point	4.55	292	IAML			03 49 52.1	
R16K	comp=E,241nm,3.0s			IAML			03 52 19.6	
	comp=N,222nm,3.6s							
R16K	Pilot Point	4.55	292	P		Pn	03 49 17.3	+0.4
	baz=106							
HIN	Hinchinbrook I	4.63	20	Pn		Pn	03 49 15.5	-2.5
HIN				IAML			03 50 10.9	
	comp=E,222nm,0.9s							
HIN				IAML			03 50 18.0	
	comp=N,160nm,0.9s							
RSO	Redoubt South	4.66	341	Pn		Pn	03 49 17.1	-1.4
RDWB	Redoubt West	4.70	341			Pn	03 49 17.5	-1.5
CAPN	Captain Cook N	4.74	352	Pn		Pn	03 49 18.8	-0.6
P17K	Kvichak River	4.76	314			Pn	03 49 20.1	+0.5
P17K	Kvichak River	4.76	314	P		Pn	03 49 20.1	+0.5
	baz=128,SNR=38							
O18K	Koktuh Hills	4.76	325	Pn		Pn	03 49 16.6	-3.1
O18K				IAML			03 50 16.8	
O18K	comp=N,165nm,0.8s			IAML			03 50 17.0	
	comp=E,125nm,0.7s							
O18K	Koktuh Hills	4.76	325	P		Pn	03 49 19.4	-0.3
	baz=139							
KAIM	Kayak Island	4.76	34	Pn		Pn	03 49 18.9	-0.9
KAIM				IAML			03 50 17.9	
	comp=E,183nm,0.8s							
KAIM				IAML			03 50 18.4	
	comp=N,235nm,1.9s							
KAIM	Kayak Island	4.76	34	P		Pn	03 49 19.0	-0.8
	baz=218							
O19K	Port Alsworth	4.77	331			Pn	03 49 19.2	-0.7
O19K	Port Alsworth	4.77	331	P		Pn	03 49 19.1	-0.7
	baz=147							
ANNW	Aniakchak Nort	4.78	284			Pn	03 49 20.7	+0.7
NCT	North Crescent	4.78	341			Pn	03 49 18.9	-1.2
CHGN	Chignik	4.85	276	Pn		Pn	03 49 19.7	-1.3
CHGN				IAML			03 50 17.3	
	comp=N,111nm,0.8s							
CHGN				IAML			03 50 21.2	
	comp=E,94nm,0.6s							
EYAK	Cordova Ski Ar	4.93	24			Pn	03 49 21.0	-1.0
EYAK	Cordova Ski Ar	4.93	24	P		Pn	03 49 21.3	-0.7
EYAK	Cordova Ski Ar	4.93	24	P		Pn	03 49 20.8	-1.3
	baz=206,SNR=13							
RC01	Rabbit Creek A	5.01	360	Pn		Pn	03 49 21.5	-1.5
RC01				IAML			03 50 21.0	
	comp=E,115nm,0.4s							
RC01	Rabbit Creek A	5.01	360	P		Pn	03 49 21.8	-1.3
	baz=179,SNR=8.9							
RAGM	Ragged Mountai	5.06	30	Pn		Pn	03 49 22.6	-1.3
GOAT	Goat Mountain	5.21	28			Pn	03 49 25.1	-0.8
N20K	Mount Spurr	5.28	347	P		Pn	03 49 25.1	-1.8
	baz=164							
SPCR	Spurr Chakacha	5.28	347			Pn	03 49 24.9	-2.0
P16K	Nushagak River	5.33	307			Pn	03 49 27.7	+0.2
P16K	Nushagak River	5.33	307	P		Pn	03 49 27.8	+0.3
	baz=120,SNR=14							
SPCP	Crater Peak Br	5.33	347			Pn	03 49 26.7	-1.0
SPCG	Spurr Capps Gl	5.34	348			Pn	03 49 26.6	-1.2
N19K	Bonanza Creek	5.34	334			Pn	03 49 26.7	-1.1
N19K	Bonanza Creek	5.34	334	P		Pn	03 49 26.8	-1.1
	baz=150							
BERG	Berg Lake	5.35	34			Pn	03 49 26.9	-1.0
BERG	Berg Lake	5.35	34	IAML			03 50 29.0	
BERG	comp=N,128nm,0.6s			IAML			03 50 29.7	
	comp=E,152nm,0.8s							
KNK	Knik Glacier	5.37	7	Pn		Pn	03 49 26.8	-1.3
KNK				IAML			03 50 31.7	
KNK	comp=E,68nm,0.6s			IAML			03 50 37.3	
	comp=N,55nm,0.7s							
KNK	Knik Glacier	5.37	7	P		Pn	03 49 27.7	-0.4
	baz=187							
O17K	Koliganek Bris	5.38	316			Pn	03 49 28.1	-0.1
O17K	Koliganek Bris	5.38	316	P		Pn	03 49 28.3	+0.1
	baz=130,SNR=10							
SNH	Sunshine Point	5.48	39	Pn		Pn	03 49 28.1	-1.6
S14K	Fog Glacier	5.49	276	P		Pn	03 49 30.5	+0.7
	baz=88							
VNFG	Fog Glacier, M	5.49	276			Pn	03 49 30.1	+0.3
PMR	Palmer	5.52	3	Pn		Pn	03 49 28.8	-1.3
PMR	Palmer	5.52	3	P		Pn	03 49 29.2	-0.9
PMR	Palmer	5.52	3	P		Pn	03 49 28.8	-1.3
BMRM	Bremner River	5.57	27			Pn	03 49 29.8	-1.1
BMRM	Bremner River	5.57	27	P		Pn	03 49 30.0	-0.9
	baz=210,SNR=8.4							
N18K	Kilae Creek	5.62	327			Pn	03 49 30.6	-1.0
N18K	Kilae Creek	5.62	327	P		Pn	03 49 30.8	-0.8
	baz=142							
O16K	Kokwok River B	5.67	312	Pn		Pn	03 49 31.9	-0.3
O16K	Kokwok River B	5.67	312	P		Pn	03 49 32.3	0.0
	baz=124							
GHO	Glory Hole Cre	5.71	4	Pn		Pn	03 49 32.0	-0.8
CHNA	Chernabura Isl	5.75	261	P		Pn	03 49 32.3	-1.0
	baz=74							
CNBA	Chernabura Isl	5.75	261	Pn		Pn	03 49 31.5	-1.8
KLU	Klutina	5.76	19	Pn		Pn	03 49 32.3	-1.2
KLU	Klutina	5.76	19	P		Pn	03 49 32.7	-0.8
	baz=201,SNR=21							
BARK	Barkley Ridge	5.76	39			Pn	03 49 32.3	-1.3
SML	Sawmill	5.77	7	Pn		Pn	03 49 33.1	-0.5
SML	Sawmill	5.77	7	P		Pn	03 49 33.2	-0.5
	baz=187,SNR=10							
M23K	Glacier View	5.80	9			Pn	03 49 33.6	-0.5
M23K	Glacier View	5.80	9	P		Pn	03 49 33.7	-0.3
	baz=190,SNR=9.8							
SCM	Sheep Creek Mo	5.88	11	Pn		Pn	03 49 34.6	-0.6
SCM	Sheep Creek Mo	5.88	11	P		Pn	03 49 34.8	-0.4
	baz=192,SNR=5.6							
SCM	Sheep Creek Mo	5.88	11	P		Pn	03 49 34.6	-0.6
N17K	Nushagak Hills	5.93	322	Pn		Pn	03 49 35.0	-0.7
N17K	Nushagak Hills	5.93	322	P		Pn	03 49 35.3	-0.4
	baz=135,SNR=6.6							
SKT	Skwentna	5.97	352	Pn		Pn	03 49 35.3	-1.1
SKT	Skwentna	5.97	352	P		Pn	03 49 35.3	-1.1
	baz=170							
M20K	Styx River	6.06	345			Pn	03 49 36.2	-1.3
M20K	Styx River	6.06	345	P		Pn	03 49 36.3	-1.3
	baz=161							
VRDI	Verde Repeater	6.10	30	Pn		Pn	03 49 37.2	-1.0
SDPT	Sand Point	6.12	267	Pn		Pn	03 49 37.6	-0.7
SDPT	Sand Point	6.12	267	P		Pn	03 49 37.7	-0.7
SDPT	Sand Point	6.12	267	P		Pn	03 49 37.8	-0.5
	baz=79							
N25K	Chitina, Valde	6.13	24	Pn		Pn	03 49 37.7	-0.9
N25K	Chitina, Valde	6.13	24	P		Pn	03 49 37.7	-0.9
	baz=207,SNR=21							
GLB	Gilahina Butte	6.18	27	Pn		Pn	03 49 38.3	-1.0
KIAG	Kiagna River	6.19	36			Pn	03 49 38.2	-1.3
SAMH	Samovar Hills	6.23	46			Pn	03 49 39.5	-0.4
O15K	Ungalikthiuk R	6.24	304			Pn	03 49 40.3	+0.4
O15K	Ungalikthiuk R	6.24	304	P		Pn	03 49 40.8	+0.8
	baz=115							
M18K	Stony River	6.26	332			Pn	03 49 39.2	-1.1
M18K	Stony River	6.26	332	P		Pn	03 49 39.2	-1.1
	baz=147							
M24K	Tolsona, Glenn	6.30	15	Pn		Pn	03 49 40.9	0.0
M24K	Tolsona, Glenn	6.30	15	P		Pn	03 49 40.6	-0.2
	baz=198,SNR=11							
M19K	Big River Lodg	6.30	339			Pn	03 49 40.1	-0.8
M19K	Big River Lodg	6.30	339	P		Pn	03 49 40.3	-0.5
	baz=155							
MCARA	McCarthy VSAT	6.34	31	Pn		Pn	03 49 40.6	-0.8
MCARA	McCarthy VSAT	6.34	31	P		Pn	03 49 41.0	-0.5
	baz=216,SNR=13							
PCA	Pinnacle	6.42	47			Pn	03 49 42.1	-0.5
PINM	Pinnacle	6.42	48	P		Pn	03 49 42.1	-0.5
	baz=235							
N16K	Nishlik Lake	6.47	316	P		Pn	03 49 43.4	+0.1
	baz=128							
BARN	Barnard Glacie	6.52	37	Pn		Pn	03 49 43.1	-1.0
WACK	Wrangell Chich	6.53	23			Pn	03 49 43.2	-1.0
CTG	Chitna Glacier	6.56	39	P		Pn	03 49 43.7	-0.9
	baz=225							
CTGM	Chitina Glacier	6.56	39	Pn		Pn	03 49 43.2	-1.5
WAT6	Susitna Watana	6.58	8			Pn	03 49 44.0	-0.8
WAT6	Susitna Watana	6.58	8	P		Pn	03 49 44.3	-0.5
	baz=189,SNR=9.1							
LOGN	Logan Glacier	6.59	40	Pn		Pn	03 49 43.9	-1.0
L19K	White Mountain	6.64	339	P		Pn	03 49 44.6	-1.0
	baz=154							
M17K	Holitna River	6.66	326			Pn	03 49 45.5	-0.2
M17K	Holitna River	6.66	326	P		Pn	03 49 45.6	-0.2
	baz=139							
HARP	HAARP	6.74	18			Pn	03 49 46.4	-0.5
HARP	HAARP	6.74	18	P		Pn	03 49 46.7	-0.2
	baz=202,SNR=11							
L20K	Farewell, AK	6.74	343			Pn	03 49 45.3	-1.6
L20K	Farewell, AK	6.74	343	P		Pn	03 49 45.7	-1.2
	baz=159							
WAT7	Susitna Watana	6.77	3			Pn	03 49 47.0	-0.4
WAT1	Susitna Watana	6.78	5			Pn	03 49 47.1	-0.3
WAT1	Susitna Watana	6.78	5	P		Pn	03 49 47.4	0.0
	baz=185							
PS1A	Pavlof South-1	6.81	269			Pn	03 49 47.6	-0.3
N15K	Kwethluk River	6.83	311	Pn		Pn	03 49 48.6	+0.4
N15K	Kwethluk River	6.83	311	P		Pn	03 49 49.1	+1.0
	baz=122,SNR=30							
M16K	Timber Creek	6.90	319	Pn		Pn	03 49 48.5	-0.5
M16K	Timber Creek	6.90	319	P		Pn	03 49 49.2	+0.1
	baz=131,SNR=9.4							
PPLA	Purkeypile	6.93	351	P		Pn	03 49 49.7	+0.1
	baz=168							
O14K	Tigyukauivet M	6.95	302	Pn		Pn	03 49 50.0	+0.3
O14K	Tigyukauivet M	6.95	302	P		Pn	03 49 50.4	+0.7
	baz=112							
PN7A	Pavlof North-7	6.96	270			Pn	03 49 49.1	-0.8
DHY	Denali Highway	7.10	9	Pn		Pn	03 49 51.2	-0.7
DHY	Denali Highway	7.10	9	P		Pn	03 49 51.6	-0.3
	baz=190,SNR=8.3							
L18K	Granite Mounta	7.10	333			Pn	03 49 50.6	-1.2
L18K	Granite Mounta	7.10	333	P		Pn	03 49 50.7	-1.2
	baz=146							
M26K	Nabesna, AK	7.20	26	P		Pn	03 49 52.8	-0.4
	baz=211							
PAX	Paxson	7.22	16			Pn	03 49 53.2	-0.4
PAX	Paxson	7.22	16	P		Pn	03 49 53.1	-0.5
	baz=199							
PAX	Paxson	7.22	16	P		Pn	03 49 53.2	-0.4
O29M	Mount Kennedy	7.24	50			Pn	03 49 52.5	-1.3
O29M	Mount Kennedy	7.24	50	P		Pn	03 49 53.4	-0.5
	baz=239							
P29M	Windy Craggy	7.31	56			Pn	03 49 53.4	-1.3
P29M	Windy Craggy	7.31	56	P		Pn	03 49 53.7	-1.0
	baz=246							
YUK2	White River	7.32	35			Pn	03 49 55.1	+0.1
YUK8	Steele Glacier	7.34	41	P		Pn	03 49 55.9	+0.5
	baz=229,SNR=13							
RND	Reindeer	7.34	3	Pn		Pn	03 49 55.5	+0.3
RND	Reindeer	7.34	3	P		Pn	03 49 55.5	+0.3
M15K	Kasigluk River	7.37	313			Pn	03 49 55.9	+0.4
M15K	Kasigluk River	7.37	313	P		Pn	03 49 56.1	+0.6
	baz=124							
TRF	Thorofare Moun	7.38	358	Pn		Pn	03 49 54.7	-1.1
TRF	Thorofare Moun	7.38	358	P		Pn	03 49 55.3	-0.5
	baz=177							
N14K	Kuskokwak Cree	7.42	306			Pn	03 49 56.7	+0.6
N14K	Kuskokwak Cree	7.42	306	P		Pn	03 49 56.6	+0.5
	baz=116							
YUK3	Moose Creek	7.44	36	P		Pn	03 49 56.5	-0.2
	baz=224,SNR=14							
CAST	Castle Rocks	7.44	352	Pn		Pn	03 49 54.8	-1.7
CAST	Castle Rocks	7.44	352	P		Pn	03 49 57.0	+0.5
	baz=169,SNR=9.8							
M27K	Edge Creek, AK	7.45	29			Pn	03 49 56.1	-0.6
M27K	Edge Creek, AK	7.45	29	P		Pn	03 49 57.1	+0.3
	baz=216							
L17K	Donlin	7.48	327			Pn	03 49 56.5	-0.5
L17K	Donlin	7.48	327	P		Pn	03 49 56.3	-0.7
	baz=140							
KTH	Kantishna Hill	7.50	356	Pn		Pn	03 49 56.9	-0.5
MENT	Mentasta	7.51	22	Pn		Pn	03 49 57.1	-0.4
MENT	Mentasta	7.51	22	P		Pn	03 49 58.1	+0.7
L16K	Owhat River	7.55	322			Pn	03 49 57.7	-0.3
L16K	Owhat River	7

J20K	**Nowinta River**	**8.40**	**347**	P		**Pn**	**03 50 08.2**	**-1.4**
	baz=162								
SKAG	**Skagway**	**8.40**	**60**	P		**Pn**	**03 50 09.5**	**-0.1**
SCRK	**Sand Creek**	**8.41**	**18**	Pn		**Pn**	**03 50 08.5**	**-1.3**
SCRK	**Sand Creek**	**8.41**	**18**	P		**Pn**	**03 50 08.9**	**-0.9**
	baz=202								
J19K	**Poorman**	**8.45**	**342**	Pn		Pn	03 50 07.8	-2.4	
J19K	**Poorman**	**8.45**	**342**	P		Pn	03 50 08.7	-1.6	
	baz=157								
HDA	**Harding Lake**	**8.45**	**8**	Pn		**Pn**	**03 50 10.2**	**-0.1**	
HDA	**Harding Lake**	**8.45**	**8**	P		**Pn**	**03 50 11.0**	**+0.7**	
	baz=190,SNR=14								
N30M	**Aishikik Lake**	**8.48**	**45**			**Pn**	**03 50 09.4**	**-1.3**	
N30M	**Aishikik Lake**	**8.48**	**45**	P		**Pn**	**03 50 10.0**	**-0.7**	
	baz=236								
NEA2	**Nenana**	**8.53**	**2**	Pn		**Pn**	**03 50 09.8**	**-1.6**	
NEA2	**Nenana**	**8.53**	**2**	P		**Pn**	**03 50 11.1**	**-0.3**	
	baz=182,SNR=6.7								
L14K	**Kuka Creek**	**8.54**	**313**			**Pn**	**03 50 12.0**	**+0.5**	
L14K	**Kuka Creek**	**8.54**	**313**	P		**Pn**	**03 50 12.2**	**+0.7**	
	baz=122								
O30N	**Mendenhall**	**8.54**	**51**	Pn		**Pn**	**03 50 10.2**	**-1.5**	
O30N	**Mendenhall**	**8.54**	**51**	P		**Pn**	**03 50 12.5**	**+0.9**	
	baz=242								
R32K	**Eaglecrest**	**8.54**	**69**	P		**Pn**	**03 50 11.0**	**-0.6**	
	baz=261								
M29M	**Somme Creek**	**8.58**	**38**	P		**Pn**	**03 50 12.1**	**0.0**	
	baz=227								
CCB	**Clear Creek Bu**	**8.63**	**6**	Pn		**Pn**	**03 50 11.6**	**-1.1**	
WESE	**West Dahl East**	**8.64**	**265**			**Pn**	**03 50 12.5**	**-0.4**	
K15K	**Wolf Creek Mou**	**8.66**	**321**			**Pn**	**03 50 14.1**	**+0.8**	
K15K	**Wolf Creek Mou**	**8.66**	**321**	P		**Pn**	**03 50 13.5**	**+0.3**	
	baz=130								
J25K	**Salcha River,**	**8.81**	**12**	Pn		**Pn**	**03 50 14.3**	**-0.9**	
J25K	**Salcha River,**	**8.81**	**12**	P		**Pn**	**03 50 14.7**	**-0.6**	
	baz=196								
IL31		**8.81**	**8**	Pn		**Pn**	**03 50 14.6**	**-0.6**	
ILAR	**Eielson Array**	**8.81**	**8**	Pn		**Pn**	**03 50 15.6**	**+0.3**	
ILAR	**Eielson Array**	**8.81**	**8**	P		**Pn**	**03 50 15.6**	**+0.3**	
ILAR	**Eielson Array**	**8.81**	**8**	Pn		Pn	03 50 11.1	-4.2	
	comp=N,1.5nm,0.3s,baz=191,slow=14,SNR=59								
ILAR					Sn	Sn	03 51 48.2	-6.4	
	comp=N,0.4nm,0.3s,baz=206,slow=16,SNR=4.6 comp=N,1.3nm,0.6s								
K27K	**Chicken**	**8.82**	**22**	P		**Pn**	**03 50 15.3**	**-0.1**	
	baz=209								
COLA	**College**	**8.85**	**5**	Pn		**Pn**	**03 50 15.9**	**+0.1**	
COLA	**College**	**8.85**	**5**	P		**Pn**	**03 50 15.8**	**0.0**	
COLA	**College**	**8.85**	**5**	P		**Pn**	**03 50 16.7**	**+0.9**	
	baz=186								
COLA	**College**	**8.85**	**5**	P		**Pn**	**03 50 15.9**	**+0.1**	
MDM	**Murphy Dome**	**8.92**	**4**	Pn		**Pn**	**03 50 15.8**	**-1.0**	
J26L	**Joseph Creek**	**8.96**	**17**	P		**Pn**	**03 50 17.3**	**-0.1**	
	baz=202								
MLY	**Manley**	**8.98**	**357**	Pn		**Pn**	**03 50 16.0**	**-1.6**	
MLY	**Manley**	**8.98**	**357**	P		**Pn**	**03 50 16.7**	**-0.9**	
	baz=176								
N31M	**Braeburn, Yuko**	**9.02**	**48**	Pn		**Pn**	**03 50 18.3**	**0.0**	
N31M	**Braeburn, Yuko**	**9.02**	**48**	P		**Pn**	**03 50 18.2**	**0.0**	
	baz=239								
I20K	**Naaghedeneel**	**9.03**	**347**	P		**Pn**	**03 50 17.8**	**-0.4**	
	baz=162								
WHY	**Whitehorse**	**9.03**	**54**	Pn		**Pn**	**03 50 18.3**	**-0.1**	
WHY	**Whitehorse**	**9.03**	**54**	P		**Pn**	**03 50 18.4**	**0.0**	
	baz=246								
J16K	**Anvik River**	**9.05**	**327**	Pn		**Pn**	**03 50 17.8**	**-0.7**	
J16K	**Anvik River**	**9.05**	**327**	P		**Pn**	**03 50 17.8**	**-0.7**	
	baz=138								
I23K	**Minto, Yukon-K**	**9.08**	**1**	Pn		Pn	03 50 17.1	-1.8	
I23K	**Minto, Yukon-K**	**9.08**	**1**	P		**Pn**	**03 50 17.7**	**-1.2**	
	baz=181,SNR=7.4								
POKR	**Poker Plat Res**	**9.12**	**6**	P		**Pn**	**03 50 18.8**	**-0.7**	
	baz=188								
L29M	**L29M**	**9.15**	**35**			**Pn**	**03 50 19.4**	**-0.6**	
L29M	**L29M**	**9.15**	**35**	P		**Pn**	**03 50 19.6**	**-0.3**	
	baz=225								
I21K	**Tanana**	**9.18**	**354**	Pn		**Pn**	**03 50 19.9**	**-0.4**	
I21K	**Tanana**	**9.18**	**354**	P		**Pn**	**03 50 20.3**	**0.0**	
	baz=172,SNR=7.7								
P32M	**Atlin**	**9.22**	**61**	Pn		**Pn**	**03 50 19.2**	**-1.7**	
P32M	**Atlin**	**9.22**	**61**	P		**Pn**	**03 50 19.3**	**-1.7**	
	baz=254								
M30M	**Minto, Yukon**	**9.25**	**40**	Pn		**Pn**	**03 50 20.6**	**-0.7**	
M30M	**Minto, Yukon**	**9.25**	**40**	P		**Pn**	**03 50 20.9**	**-0.4**	
	baz=231								
U33K	**Whale Pass**	**9.28**	**83**	Pn		Pn	03 50 17.8	-3.9	
DAWY	**Dawson**	**9.50**	**29**	Pn		**Pn**	**03 50 24.4**	**-0.3**	
DAWY	**Dawson**	**9.50**	**29**	P		**Pn**	**03 50 24.7**	**0.0**	
	baz=217								
K13K	**Kusilvak Mount**	**9.65**	**313**	P		**Pn**	**03 50 27.5**	**+0.8**	
	baz=120								
EGAK	**Eagle**	**9.67**	**22**	Pn		**Pn**	**03 50 27.9**	**+0.8**	
EGAK	**Eagle**	**9.67**	**22**	P		**Pn**	**03 50 27.0**	**0.0**	
	baz=209								
M11K	**Mekoryuk**	**9.68**	**303**	P		**Pn**	**03 50 27.8**	**+0.7**	
	baz=109								
J14K	**Nanvaranak Lak**	**9.68**	**319**	Pn		**Pn**	**03 50 28.0**	**+0.9**	
J14K	**Nanvaranak Lak**	**9.68**	**319**	P		**Pn**	**03 50 27.8**	**+0.7**	
	baz=127								
H21K	**Melozitna Rive**	**9.71**	**352**	Pn		Pn	03 50 25.3	-2.2	
H21K	**Melozitna Rive**	**9.71**	**352**	P		**Pn**	**03 50 26.3**	**-1.2**	
	baz=169,SNR=12								
H20K	**Anotleneega Mo**	**9.75**	**347**	P		**Pn**	**03 50 28.7**	**+0.6**	
	baz=162								
I26K	**Coal Creek Min**	**9.78**	**16**	P		**Pn**	**03 50 28.1**	**-0.3**	
	baz=202								
H24K	**Nogdor Dome**	**9.81**	**4**	P		**Pn**	**03 50 29.5**	**+0.5**	
	baz=186								
P33M	**Teslin, Yukon**	**9.83**	**58**	Pn		**Pn**	**03 50 27.9**	**-1.4**	
P33M	**Teslin, Yukon**	**9.83**	**58**	P		**Pn**	**03 50 28.5**	**-0.9**	
	baz=252,SNR=6.5								
H22K	**Ishtalitna Cre**	**9.86**	**356**	P		**Pn**	**03 50 29.8**	**+0.1**	
	baz=174								
K29M	**Barlow Dome**	**9.87**	**33**	P		**Pn**	**03 50 29.6**	**-0.3**	
	baz=223								
UNV	**Unalaska Valle**	**9.90**	**264**	P		**Pn**	**03 50 29.2**	**-1.0**	
M31M	**Drury Creek, Y**	**9.96**	**46**	Pn		**Pn**	**03 50 30.6**	**-0.4**	
M31M	**Drury Creek, Y**	**9.96**	**46**	P		**Pn**	**03 50 31.2**	**+0.2**	
	baz=239								
H19K	**Roundabout Mou**	**10.01**	**344**	P		**Pn**	**03 50 32.2**	**+0.6**	
	baz=158								
H18K	**Honhosa River**	**10.01**	**339**	Pn		**Pn**	**03 50 30.1**	**-1.6**	
H18K	**Honhosa River**	**10.01**	**339**	P		**Pn**	**03 50 31.7**	**0.0**	
	baz=151								
IMAR	**Indian Mountai**	**10.11**	**351**	Pn		**Pn**	**03 50 32.2**	**-0.7**	
J29N	**Klondike Camp**	**10.12**	**29**	Pn		**Pn**	**03 50 33.7**	**+0.4**	
J29N	**Klondike Camp**	**10.12**	**29**	P		**Pn**	**03 50 33.0**	**-0.3**	
	baz=219								
H17K	**Granite Mounta**	**10.17**	**335**	P		**Pn**	**03 50 33.0**	**-0.9**	
	baz=146								
I27K	**Kandik River**	**10.31**	**19**	P		**Pn**	**03 50 35.9**	**0.0**	
	baz=206								
FARO	**Faro, Yukon**	**10.39**	**47**	Pn		**Pn**	**03 50 36.2**	**-0.8**	
FARO	**Faro, Yukon**	**10.39**	**47**	P		**Pn**	**03 50 36.6**	**-0.4**	
	baz=241								
I28M	**Miner Creek**	**10.51**	**23**	Pn		**Pn**	**03 50 38.6**	**-0.1**	
I28M	**Miner Creek**	**10.51**	**23**	P		**Pn**	**03 50 38.3**	**-0.3**	
	baz=211								
H16K	**Elim**	**10.54**	**329**	P		**Pn**	**03 50 38.7**	**-0.2**	
	baz=138								
R33M	**Jennings River**	**10.55**	**64**	P		**Pn**	**03 50 38.5**	**-0.7**	
	baz=260								
G21K	**Allakaket**	**10.61**	**352**	P		**Pn**	**03 50 39.7**	**-0.1**	
	baz=168								
G23K	**Bananza Creek**	**10.65**	**359**	P		**Pn**	**03 50 40.1**	**-0.3**	
	baz=179								
G19K	**Purcell Mounta**	**10.68**	**344**	P		**Pn**	**03 50 41.4**	**+0.6**	
	baz=157								
G24K	**Hadweenzic Riv**	**10.69**	**5**	P		**Pn**	**03 50 41.2**	**+0.2**	
	baz=186								
G18K	**Tagagawik**	**10.72**	**340**	P		**Pn**	**03 50 41.9**	**+0.4**	
	baz=152								
J30M	**Hart River**	**10.76**	**32**	Pn		**Pn**	**03 50 42.2**	**+0.1**	
J30M	**Hart River**	**10.76**	**32**	P		**Pn**	**03 50 42.9**	**+0.9**	
	baz=224								
G25K	**Bearman Lake**	**10.84**	**8**	P		**Pn**	**03 50 43.1**	**+0.1**	
	baz=190								
G22K	**Bettles**	**10.89**	**356**	P		**Pn**	**03 50 43.9**	**+0.1**	
	baz=174								
H27K	**Steamboat Moun**	**10.90**	**18**	P		**Pn**	**03 50 43.8**	**0.0**	
	baz=205								
DLBC	**Dease Lake**	**10.92**	**69**	P		**Pn**	**03 50 44.6**	**+0.4**	
	baz=266								
DLBC	**Dease Lake**	**10.92**	**69**	Pn		Pn	03 50 41.1	-3.0	
	comp=N,0.5nm,0.3s,baz=236,slow=11,SNR=1.8								
DLBC					LR	LR	03 54 19.9		
	comp=N,203nm,19.2s,baz=310,slow=34 comp=N,1.0nm,0.3s								
G16K	**Koyuk River**	**11.15**	**332**	P		**Pn**	**03 50 48.1**	**+0.8**	
	baz=140								
COLD	**Coldfoot**	**11.17**	**359**	P		**Pn**	**03 50 47.1**	**-0.5**	
	baz=178								
I30M	**Mount Dempster**	**11.22**	**30**	P		**Pn**	**03 50 48.6**	**+0.2**	
	baz=221								
G26K	**Porcupine Rive**	**11.24**	**12**	P		**Pn**	**03 50 48.8**	**+0.3**	
	baz=197								
F21K	**Alatna River**	**11.30**	**353**	P		**Pn**	**03 50 49.3**	**0.0**	
	baz=169								
G15K	**Niukluk**	**11.33**	**328**	P		**Pn**	**03 50 49.3**	**-0.5**	
	baz=135								
F20K	**Avaraart Lake**	**11.35**	**348**	Pn		**Pn**	**03 50 49.5**	**-0.4**	
F20K	**Avaraart Lake**	**11.35**	**348**	P		**Pn**	**03 50 50.4**	**+0.5**	
	baz=222								
F19K	**Shaleruckik Mo**	**11.42**	**344**	Pn		**Pn**	**03 50 50.5**	**-0.4**	
F19K	**Shaleruckik Mo**	**11.42**	**344**	P		**Pn**	**03 50 50.5**	**-0.4**	
	baz=156								
ANM	**Nome**	**11.46**	**324**	Pn		**Pn**	**03 50 51.6**	**+0.1**	
ANM	**Nome**	**11.46**	**324**	P		**Pn**	**03 50 51.9**	**+0.5**	
	baz=130								
ANM	**Nome**	**11.46**	**324**	P		**Pn**	**03 50 51.6**	**+0.1**	
F24K	**Squaw Lake**	**11.49**	**4**	P		**Pn**	**03 50 51.8**	**-0.1**	
	baz=185								
BMAR	**Burnt Mountain**	**11.62**	**10**	Pn		**Pn**	**03 50 53.0**	**-0.8**	
F25K	**Christian Rive**	**11.69**	**8**	P		**Pn**	**03 50 55.0**	**+0.3**	
	baz=191								
F17K	**Baldwin Pennin**	**11.74**	**337**	P		**Pn**	**03 50 55.8**	**+0.6**	
	baz=146								
F26K	**Sheenjek River**	**11.92**	**10**	P		**Pn**	**03 50 57.7**	**-0.1**	
	baz=195								
E19K	**Redstone River**	**11.92**	**346**	P		**Pn**	**03 50 58.1**	**+0.3**	
	baz=159								
E23K	**Chandalar**	**12.00**	**0**	P		**Pn**	**03 51 00.1**	**+1.1**	
	baz=180								
EPYK	**Eagle Plains**	**12.02**	**26**	P		**Pn**	**03 50 59.6**	**+0.4**	
	baz=217								
F15K	**North Star Dit**	**12.03**	**329**	P		**Pn**	**03 50 60.0**	**+0.8**	
	baz=136								
E22K	**Anaktuvuk Pass**	**12.12**	**356**	P		**Pn**	**03 51 01.8**	**+1.3**	
	baz=174								
G29M	**Pine Creek**	**12.17**	**22**	P		**Pn**	**03 51 02.4**	**+1.2**	
	baz=212								
E25K	**Arctic Village**	**12.22**	**7**	Pn		**Pn**	**03 51 01.9**	**0.0**	
E25K	**Arctic Village**	**12.22**	**7**	P		**Pn**	**03 51 02.9**	**+1.0**	
	baz=191								
F14K	**Arctic Creek**	**12.37**	**326**	P		**Pn**	**03 51 04.2**	**+0.4**	
	baz=131								
E17K	**Hotham Inlet**	**12.40**	**338**	P		**Pn**	**03 51 03.9**	**-0.4**	
	baz=147								
F28M	**Old Crow**	**12.43**	**18**	P		**Pn**	**03 51 05.0**	**+0.3**	
	baz=206								
E18K	**Tukpahlearik C**	**12.44**	**340**	P		**Pn**	**03 51 04.8**	**0.0**	
	baz=150								
E20K	**Nigu River**	**12.56**	**349**	P		**Pn**	**03 51 06.8**	**+0.3**	
	baz=163								
G30M	**tAoh Zraii Nji**	**12.63**	**25**	P		**Pn**	**03 51 07.9**	**+0.4**	
	baz=216								
D22K	**Ayikyak River**	**12.90**	**355**	P		**Pn**	**03 51 11.0**	**-0.1**	
	baz=172								
D23K	**Nanushuk River**	**12.92**	**358**	P		**Pn**	**03 51 12.8**	**+1.3**	
	baz=177								
D19K	**Kuna River**	**13.02**	**346**	P		**Pn**	**03 51 11.7**	**-1.0**	
	baz=158								
D20K	**Etivluk River**	**13.04**	**349**	P		**Pn**	**03 51 12.1**	**-1.0**	
	baz=162								
G31M	**Satah River**	**13.07**	**28**	P		**Pn**	**03 51 14.2**	**+0.7**	
	baz=221								
D24K	**Happy Valley**	**13.11**	**1**	P		**Pn**	**03 51 15.4**	**+1.4**	
	baz=182								
F30M	**Barrier River**	**13.24**	**24**	P		**Pn**	**03 51 17.1**	**+1.3**	
	baz=216								
BBB	**Bella Bella**	**13.25**	**98**	LR		LR	03 55 06.4		
	comp=N,145nm,18.9s,baz=243,slow=32								
C21K	**Knifeblade Rid**	**13.30**	**352**	P		**Pn**	**03 51 17.6**	**+1.0**	
	baz=167								
E28M	**Babbage River**	**13.38**	**16**	P		**Pn**	**03 51 19.3**	**+1.6**	
	baz=205								
E29M	**Blow River**	**13.47**	**19**	Pn		**Pn**	**03 51 20.4**	**+1.5**	
E29M	**Blow River**	**13.47**	**19**	P		Pn	03 51 16.7	-2.2	
	baz=209								
F31M	**Tsiigehtchic**	**13.60**	**27**	Pn		**Pn**	**03 51 20.3**	**-0.3**	
F31M	**Tsiigehtchic**	**13.60**	**27**	P		**Pn**	**03 51 20.8**	**+0.2**	
	baz=221								
C18K	**Utukok River**	**13.63**	**342**	P		**Pn**	**03 51 21.4**	**+0.3**	
	baz=152								
C24K	**Franklin Bluff**	**13.68**	**2**	P		**Pn**	**03 51 22.7**	**+0.9**	
	baz=182								
D27M	**Malcolm River**	**13.77**	**13**	P		**Pn**	**03 51 23.9**	**+0.9**	
	baz=201								
C19K	**Lookout Ridge**	**13.79**	**345**	P		**Pn**	**03 51 22.9**	**-0.3**	
	baz=156								
HOLB	**Holberg**	**13.98**	**104**			**P**	**03 51 33.5**	**-0.5**	
KOTAN	**Kotaneelee Air**	**14.11**	**63**	P		Pn	03 51 25.4	-2.3	
	baz=264								
C16K	**Lisburne Hills**	**14.15**	**336**	P		**Pn**	**03 51 28.8**	**+0.5**	
	baz=142								
D28M	**Stokes Point**	**14.16**	**16**	P		**Pn**	**03 51 30.9**	**+2.6**	
	baz=206								
INK	**Inuvik**	**14.32**	**25**	Pn		Pn	03 51 28.3	-2.1	
INK	**Inuvik**	**14.32**	**25**	P		**Pn**	**03 51 31.0**	**+0.6**	
	baz=219								
INK	**Inuvik**	**14.32**	**25**	P		Pn	03 51 28.3	-2.1	
INK	**Inuvik**	**14.32**	**25**	Pn		Pn	03 51 26.9	-3.6	
	comp=N,0.1nm,0.3s,baz=215,slow=25,SNR=3.0								
INK					LR	LR	03 56 32.8		
	comp=N,61nm,19.4s,baz=177,slow=35								
B18K	**Kokolik River**	**14.37**	**343**	P		**Pn**	**03 51 32.4**	**+1.3**	
	baz=152								
B22K	**Teshekpuk Lake**	**14.39**	**355**	P		**Pn**	**03 51 31.6**	**+0.2**	
	baz=171								
WRGLY	**Wrigley**	**14.98**	**51**	P		**Pn**	**03 51 39.3**	**-0.2**	
	baz=253								
A19K	**Wainwright**	**15.01**	**345**	P		**Pn**	**03 51 39.1**	**-0.8**	
	baz=155								
A21K	**Barrow**	**15.56**	**352**	P		**Pn**	**03 51 45.8**	**-1.3**	
	baz=165								
ADK	**Adak**	**16.35**	**266**	Pn		**Pn**	**03 51 55.8**	**-1.6**	
ADK					lAmb	lAmb	03 52 00.9		
	comp=Z,81nm,1.2s								
ADK	**Adak**	**16.35**	**266**	P		**Pn**	**03 51 55.8**	**-1.6**	
ADK					pmax	pmax			
	comp=Z,81nm,1.3s								
C36M	**Paulatuk**	**17.53**	**31**			**Pn**	**03 52 11.3**	**-0.7**	
C36M	**Paulatuk**	**17.53**	**31**	P		**Pn**	**03 52 11.1**	**-1.0**	
	baz=233								
YKA	**Yellowknife Ar**	**18.85**	**56**	P		**P**	**03 52 26.9**	**-0.9**	
YKA	**Yellowknife Ar**	**18.85**	**56**	P		**P**	**03 52 26.9**	**-0.9**	
YKA	**Yellowknife Ar**	**18.85**	**56**	P		**P**	**03 52 27.3**	**-0.4**	
	comp=Z,0.1nm,0.3s,baz=265,slow=9.7,SNR=24								
YKA					PcP	**PcP**	**03 56 51.6**	**-2.2**	
	comp=Z,0.1nm,0.5s,baz=280,slow=1.8,SNR=4.8								
YKA					LR	LR	03 59 26.7		
	comp=Z,111nm,18.9s,baz=3.5,slow=36 comp=Z,1.8nm,0.9s								
A36M	**Sachs Harbour**	**18.95**	**23**	P		**P**	**03 52 29.4**	**+0.7**	
A36M	**Sachs Harbour**	**18.95**	**23**	P		**P**	**03 52 29.9**	**+1.2**	
	baz=225,SNR=23								
NEW	**Newport**	**21.31**	**98**	LR		LR	03 59 39.4		
	comp=Z,105nm,20.0s,baz=276,slow=33								
J05D	**Fort Rock, OR**	**22.26**	**113**	P		**P**	**03 53 05.0**	**-0.1**	
YBH	**Yreka Blue Hor**	**22.65**	**118**	LR		LR	03 59 41.9		
	comp=Z,71nm,20.5s,baz=322,slow=31								
BILL	**Bilibino**	**23.21**	**318**	*i* P		**P**	**03 53 14.9**	**+0.2**	
ELK	**Elko**	**27.20**	**110**	LR		LR	04 02 26.9		
	comp=Z,56nm,21.8s,baz=324,slow=32								
NVAR	**Mina Array Bea**	**27.35**	**117**	P		**P**	**03 53 52.6**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=304,slow=9.0,SNR=4.5								
NVAR					LR	LR	04 02 49.2		
	comp=Z,82nm,19.2s,baz=298,slow=32 comp=Z,0.4nm,0.6s								
RES	**Resolute Bay**	**27.84**	**28**	P		**P**	**03 53 56.8**	**-0.2**	
RES	**Resolute Bay**	**27.84**	**28**	P		**P**	**03 53 56.8**	**-0.2**	
RES					pmax	pmax			
	comp=Z,3.0nm,1.5s								
R11B	**Troy Canyon, C**	**28.79**	**114**	P		**P**	**03 54 05.7**	**-0.4**	
R11B	**Troy Canyon, C**	**28.79**	**114**	P		**P**	**03 54 06.1**	**0.0**	
	baz=319								
BW06	**Boulder Array**	**28.88**	**100**	P		**P**	**03 54 06.9**	**0.0**	
	baz=312								
PDAR	**Pinedale Array**	**28.88**	**100**	P		**P**	**03 54 05.6**	**-1.3**	
PDAR	**Pinedale Array**	**28.88**	**100**	P		**P**	**03 54 04.8**	**-2.0**	
	comp=Z,0.5nm,0.7s,baz=324,slow=3.0,SNR=6.0								
PDAR					LR	LR	04 04 55.8		
	comp=Z,42nm,18.4s,baz=320,slow=35								
SEY	**Seymchan**	**29.22**	**307**	*i* P		**P**	**03 54 08.9**	**-0.5**	
SEY					pmax	pmax			
	comp=Z,2.0nm,1.0s								
PETK	**Petropavlovsk-**	**29.99**	**287**	P		**P**	**03 54 16.8**	**+0.5**	
	comp=Z,3.6nm,0.9s,baz=83,slow=12,SNR=1.8 comp=Z,3.6nm,0.9s								
MA2	**Magadan**	**30.94**	**301**	*i* P		**P**	**03 54 25.4**	**+0.7**	
MA2					pmax	pmax			
	comp=Z,3.0nm,0.9s								
PFO	**Pinyon Flats O**	**32.08**	**120**	LR		LR	04 04 46.9		
	comp=Z,46nm,19.0s,baz=298,slow=31								
ULM	**Lac du Bonnet**	**32.09**	**77**	P		**P**	**03 54 35.1**	**+0.3**	
	comp=Z,0.9nm,0.6s,baz=292,slow=6.9,SNR=2.1								
ULM					LR	LR	04 07 05.4		
	comp=Z,102nm,19.0s,baz=8.0,slow=36 comp=Z,0.9nm,0.6s								
SUSD	**Miller**	**33.72**	**88**	P		**P**	**03 54 50.1**	**+0.9**	
TIXI	**Tiksi**	**35.69**	**328**	*i* P		**P**	**03 55 05.3**	**-0.6**	
TIXI					pmax	pmax			
	comp=Z,4.0nm,1.1s								
ANMO	**Albuquerque**	**36.15**	**107**	LR		LR	04 07 43.2		
	comp=Z,37nm,20.2s,baz=8.0,slow=33								
FRB	**Frobisher Bay**	**38.74**	**45**	LR		LR	04 11 14.4		
	comp=Z,74nm,19.7s,baz=359,slow=36								
KAN08	**Anthony NE Sta**	**39.12**	**97**	P		P	03 55 32.8	-2.6	
MNTX	**Cornudas Mount**	**39.23**	**110**	P		**P**	**03 55 37.2**	**+0.9**	
	baz=322								
YAK	**Yakutsk**	**39.32**	**313**	*ce* P		**P**	**03 55 37.7**	**+1.0**	
YAK					pmax	pmax			
	comp=Z,7.0nm,0.6s								
N41A	**Harden Midland**	**40.69**	**87**	P		**P**	**03 55 47.0**	**-1.3**	
N41A					lAmb	lAmb	03 55 53.2		
	comp=Z,19nm,1.3s								
GLMI	**Grayling**	**41.44**	**77**	P		**P**	**03 55 54.2**	**-0.2**	
	baz=310								
ABTX	**Abilene, Hawle**	**41.60**	**103**	P		**P**	**03 55 56.1**	**+0.2**	
	baz=320								
HDIL	**Hopedale**	**41.66**	**86**	P		**P**	**03 55 55.2**	**-1.1**	
HDIL					lAmb	lAmb	03 55 56.1		
	comp=Z,13nm,0.6s								
HDIL	**Hopedale**	**41.66**	**86**	P		**P**	**03 55 55.8**	**-0.5**	
	baz=313								
TXAR	**Lajitas Array**	**42.00**	**110**	P		**P**	**03 55 57.7**	**-1.6**	
	comp=Z,0.5nm,0.8s,baz=317,slow=5.8,SNR=5.8								
TXAR					PcP	**PcP**	**03 57 51.8**	**-2.5**	
	comp=Z,0.3nm,0.8s,baz=183,slow=2.5,SNR=3.7 comp=Z,0.5nm,0.8s								
CCM	**Cathedral Cave**	**42.30**	**90**	P		**P**	**03 56 00.5**	**-1.0**	
	baz=315								
SFIN	**Lafayette**	**43.01**	**84**	P		**P**	**03 56 06.2**	**-1.1**	
	baz=313								
JCT	**Junction City**	**43.16**	**105**	P		**P**	**03 56 08.5**	**-0.2**	
	baz=321								
SUMG	**Summit**	**43.24**	**24**	P		**P**	**03 56 09.4**	**+0.2**	
SUMG	**Summit**	**43.24**	**24**	P		**P**	**03 56 09.4**	**+0.2**	
SUMG					pmax	pmax			
	comp=Z,7.0nm,0.9s								
SFJD	**Kangerlussuaq**	**43.39**	**34**	LR		LR	04 13 22.0		
	comp=Z,33nm,19.1s,baz=3.0,slow=35								
SCHQ	**Schefferville**	**44.30**	**55**	LR		LR	04 13 29.9		
	comp=Z,56nm,18.7s,baz=276,slow=34								
SADO	**Sadowa**	**44.44**	**74**	LR		LR	04 12 42.0		
	comp=Z,51nm,20.8s,baz=96,slow=33								
P49A	**Miami Univ. Ec**	**44.91**	**83**	P		**P**	**03 56 21.7**	**-0.9**	
	baz=314								
WCI	**Wyandotte Cave**	**44.95**	**86**	P		**P**	**03 56 21.8**	**-1.1**	
	baz=315								
KLR	**Kul'dur**	**45.69**	**296**	*ce* P		**P**	**03 56 29.4**	**+0.8**	
KLR					pmax	pmax			
	comp=Z,8.0nm,1.4s								
OXF	**Oxford**	**45.

FINES	**FINES Array B**	**62.75**	**2**	*ce*P		**P**	**03 58 33.0**	**+0.3**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.6s							
FINES	**FINES Array B**	**62.75**	**2**	P		**P**	**03 58 32.4**	**-0.3**
	comp=Z,3.4nm,0.5s,baz=0.2,slow=8.0,SNR=26							
	comp=Z,3.4nm,0.5s							
HFS	**Hagfors**	**63.37**	**9**	P		**P**	**03 58 36.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=45,slow=2.3,SNR=9.4							
	comp=Z,1.6nm,0.5s							
DGZ	**Jazzator, Alta**	**64.37**	**323**	*i* P		**P**	**03 58 44.3**	**+0.5**
DGZ				pmax	pmax			
	comp=Z,2.0nm,1.2s							
NJ2	**Nanjing**	**64.81**	**290**	*e*P		**P**	**03 58 45.8**	**-0.9**
NJ2				pP		**pP**	**03 58 49.3**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
ARU	**Arti**	**65.51**	**343**	*c i* P		**P**	**03 58 50.8**	**-0.1**
ARU				S		**S**	**04 07 35.8**	**+0.5**
ARU				SS		**SS**	**04 11 47.8**	**+0.2**
ARU				pmax	pmax			
	comp=Z,5.0nm,0.7s							
LYN	**LuoYang**	**66.12**	**297**	*e*P		**P**	**03 58 56.0**	**+0.8**
LYN				pmax	pmax			
	comp=Z,14nm,0.7s							
KURK	**Kurchatov**	**66.26**	**329**	P		P	03 58 54.0	-1.8
KURK				IAmb		IAmb	03 58 57.0	
	comp=Z,3.4nm,0.8s							
KURK	**Kurchatov**	**66.26**	**329**	P		**P**	**03 58 54.0**	**-1.8**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BRVK	**Borovoye**	**66.34**	**335**	P		**P**	**03 58 56.3**	**0.0**
BRVK				IAmb		IAmb	03 58 57.5	
	comp=Z,7.7nm,1.1s							
BRVK	**Borovoye**	**66.34**	**335**	*ce*P		**P**	**03 58 55.9**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BVAR	**Borovoye Array**	**66.34**	**335**	P		**P**	**03 58 56.1**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=29,slow=6.8,SNR=21							
	comp=Z,5.0nm,0.7s							
KURBB	**Kurchatov Arra**	**66.37**	**329**	P		**P**	**03 58 56.9**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=30,slow=6.6,SNR=16							
	comp=Z,3.0nm,0.6s							
MK31	**Makanchi Array**	**68.60**	**324**	P		**P**	**03 59 10.4**	**-0.3**
MK31	**Makanchi Array**	**68.60**	**324**	*ce*P		**P**	**03 59 10.3**	**-0.4**
MKAR	**Makanchi Array**	**68.60**	**324**	P		**P**	**03 59 10.7**	**0.0**
MKAR	**Makanchi Array**	**68.60**	**324**	P		**P**	**03 59 10.7**	**0.0**
MKAR	**Makanchi Array**	**68.60**	**324**	P		**P**	**03 59 10.9**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=28,slow=5.9,SNR=30							
	comp=Z,1.9nm,0.6s							
MAKZ	**Makanchi**	**68.69**	**325**	P		**P**	**03 59 10.9**	**-0.4**
MAKZ				IAmb		IAmb	03 59 12.5	
	comp=Z,4.0nm,0.8s							
MAKZ	**Makanchi**	**68.69**	**325**	P		**P**	**03 59 10.9**	**-0.4**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
OBN	**Obninsk**	**69.03**	**356**	⇑*e*P		**P**	**03 59 13.5**	**+0.4**
OBN				*PP		**pP**	**03 59 18.0**	**+3.1**
OBN				*SP		**sP**	**03 59 21.0**	**+5.5**
OBN							03 59 39.0	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WMQ	**Urumqi**	**69.32**	**319**	*e*P		**P**	**03 59 15.0**	**-0.3**
ABKAR	**Akbulak array**	**72.14**	**340**	P		**P**	**03 59 32.8**	**+0.5**
ABKAR	**Akbulak array**	**72.14**	**340**	IAmb		IAmb	03 59 33.6	
	comp=Z,5.4nm,0.8s							
AKASG	**Malin Array Be**	**73.56**	**1**	*ce*P		**P**	**03 59 40.4**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**73.56**	**1**	P		**P**	**03 59 40.0**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=359,slow=5.6,SNR=9.7							
	comp=Z,1.8nm,0.5s							
AKBB	**Malin Array Si**	**73.56**	**1**	P		**P**	**03 59 40.4**	**-0.3**
AKBB				IAmb		IAmb	03 59 41.2	
	comp=Z,4.4nm,0.8s							
AKBB	**Malin Array Si**	**73.56**	**1**	P		**P**	**03 59 40.4**	**-0.3**
AKBB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KIEV	**Kiev**	**73.57**	**1**	P		**P**	**03 59 40.2**	**-0.4**
KIEV				IAmb		IAmb	03 59 41.3	
	comp=Z,3.9nm,0.7s							
KIEV	**Kiev**	**73.57**	**1**	P		**P**	**03 59 40.3**	**-0.4**
KIEV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KHC	**Kasperske Hory**	**74.22**	**11**	*i* P		**P**	**03 59 44.7**	**+0.1**
KHC				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VRAC	**Vranov**	**74.34**	**9**	*e*P		**P**	**03 59 46.1**	**+0.8**
GERES	**GERESS Array B**	**74.51**	**11**	P		**P**	**03 59 45.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=357,slow=8.0,SNR=2.6							
	comp=Z,0.6nm,0.5s							
KRUC	**Moravsky**	**74.57**	**9**	*e*P		**P**	**03 59 47.0**	**+0.4**
STHS	**Stebnicka Huta**	**74.58**	**6**	*e*P		**P**	**03 59 47.2**	**+0.5**
STHS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
STHS	**Stebnicka Huta**	**74.58**	**6**	*e*P		**P**	**03 59 47.2**	**+0.5**
LANS	**Liptovska Anna**	**74.73**	**7**	*e*P		**P**	**03 59 49.2**	**+1.6**
LANS				pmax	pmax			
	comp=Z,4.0nm,1.0s							
LANS	**Liptovska Anna**	**74.73**	**7**	*e*P		**P**	**03 59 49.2**	**+1.6**
AAK	**Ala-Archa**	**74.77**	**328**	*ce*P		**P**	**03 59 48.4**	**+0.3**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
MODS	**Modra-Piesok**	**75.33**	**9**	*e*P		**P**	**03 59 52.2**	**+1.2**
MODS	**Modra-Piesok**	**75.33**	**9**	*e*P		**P**	**03 59 52.2**	**+1.2**
VYHS	**Vyhne**	**75.34**	**8**	*e*P		**P**	**03 59 52.0**	**+0.9**
VYHS	**Vyhne**	**75.34**	**8**	*e*P		**P**	**03 59 52.0**	**+0.9**
KK31	**Karatay Array**	**75.48**	**331**	P		**P**	**03 59 52.9**	**+0.9**
KK31				IAmb		IAmb	03 59 53.4	
	comp=Z,4.5nm,0.8s							
KK31	**Karatay Array**	**75.48**	**331**	P		**P**	**03 59 52.9**	**+0.9**
KK31				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**75.48**	**331**	P		**P**	**03 59 52.4**	**+0.4**
KKAR	**Karatay Array**	**75.48**	**331**	P		**P**	**03 59 52.4**	**+0.4**
CONA	**Conrad Observa**	**75.64**	**10**	*i* pP		**P**	**03 59 53.7**	**+0.7**
	comp=Z,5.5nm,1.4s							
BIOA	**Bad Ischl, Aus**	**75.64**	**12**	*i* pP		**P**	**03 59 53.3**	**+0.4**
	comp=Z,6.3nm,1.3s							
MOTA	**Moosalm**	**75.68**	**13**	*e*P		**P**	**03 59 51.7**	**-1.5**
	comp=Z,6.5nm,1.3s							
WATA	**Walderalm**	**75.75**	**13**	*i* pP		**P**	**03 59 54.5**	**+0.8**
	comp=Z,8.0nm,1.3s							
SQTA	**Sankt Quirin**	**75.82**	**13**	*i* pP		**P**	**03 59 55.0**	**+1.0**
	comp=Z,3.7nm,0.8s							
WTTA	**Wattenberg**	**75.83**	**13**	*i* pP		**P**	**03 59 54.9**	**+0.8**
	comp=Z,8.0nm,1.2s							
FETA	**Feichten**	**75.95**	**14**	*e*pP		**P**	**03 59 55.1**	**+0.3**
	comp=Z,2.0nm,0.9s							
KBA	**Koelnbreinsper**	**76.22**	**12**	*i* pP		**P**	**03 59 57.3**	**+1.0**
	comp=Z,5.5nm,0.8s							
ARSA	**Arzberg**	**76.28**	**10**	*i* pP		**P**	**03 59 57.9**	**+1.4**
	comp=Z,5.0nm,1.2s							
BUR08	**Bucovina Ar. S**	**76.54**	**4**	P		**P**	**03 59 58.0**	**-0.1**
BUR08				IAmb		IAmb	04 00 08.4	
	comp=Z,8.5nm,1.4s							
BURAR	**Bucovina Array**	**76.57**	**4**	P		**P**	**03 59 58.1**	**-0.1**
SOKA	**Soboth**	**76.80**	**11**	*i* pP		**P**	**04 00 00.5**	**+1.0**
	comp=Z,2.2nm,0.7s							
OBKA	**Obir**	**76.91**	**11**	*i* pP		**P**	**04 00 00.5**	**+0.3**
	comp=Z,7.1nm,0.8s							
PZH	**PanZhiHua**	**77.99**	**300**	P		**P**	**04 00 05.3**	**-1.3**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,160nm,5.3s							
BTK	**Batken**	**78.22**	**329**	IAmb		IAmb	04 00 09.2	
	comp=Z,5.4nm,0.9s							
KBZ	**Khabaz**	**79.97**	**351**	*i* P		**P**	**04 00 17.4**	**+0.5**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SIMJ	**Simiganj**	**80.03**	**330**	P		**P**	**04 00 17.7**	**+0.1**
SIMJ				IAmb		IAmb	04 00 18.9	
	comp=Z,8.2nm,0.8s							
ESDC	**Sonseca Array**	**80.26**	**26**	P		**P**	**04 00 18.2**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=340,slow=5.4,SNR=10							
	comp=Z,1.6nm,0.8s							
RDO	**Rodhopi**	**83.04**	**4**	P		**P**	**04 00 33.6**	**+0.4**
RDO				IAmb		IAmb	04 00 35.0	
	comp=Z,7.0nm,1.0s							
ALN	**Alexandroupoli**	**83.31**	**3**	P		**P**	**04 00 34.5**	**-0.1**
ALN	**Alexandroupoli**	**83.31**	**3**	P		**P**	**04 00 34.5**	**-0.1**
ALN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
GEYT	**Alibeck**	**83.38**	**338**	P		**P**	**04 00 35.8**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=36,slow=7.9,SNR=5.8							
	comp=Z,2.5nm,0.6s							

BRTR	**Keskin Array B**	**84.50**	**357**	P		**P**	**04 00 40.8**	**-0.1**
BRTR	**Keskin Array B**	**84.50**	**357**	*ce*P		**P**	**04 00 41.5**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**84.50**	**357**	P		**P**	**04 00 41.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=11,slow=1.2,SNR=8.4							
	comp=Z,1.0nm,0.7s							
LIFNC	**LIFOU**	**84.77**	**220**	P		P	04 00 37.4	-4.7
	comp=Z,236nm,0.7s							
CMAR	**Chiang Mai Arr**	**86.15**	**298**	P		**P**	**04 00 49.4**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=8.5,slow=5.1,SNR=7.0							
	comp=Z,1.2nm,0.4s							
MDP	**Montagnes des**	**89.75**	**81**	LR		LR	04 41 13.1	
	comp=Z,22nm,20.7s,baz=46,slow=36							
QSPA	**South Pole Qui**	**145.89**	**180**	PKPbc		**PKPdf**	**04 07 45.5**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=146,slow=2.8,SNR=18							
BOSA	**Boshof**	**152.30**	**10**	PKPbc		**PKPdf**	**04 08 03.0**	**+6.0**
	comp=Z,2.9nm,0.7s,baz=297,slow=2.8,SNR=6.4							

IDC ***29*** *03:59:51.8±0.5,41.00N×142.39E,h0km,mb4.5/29, mbtmp4.4/35,ML2.7/4,MS3.7/46,Error ellipse: s-maj=13.9km s-min=12.1km az=120.0*

MOS ***29*** *03:59:56.5±1.0,41.02N×142.37E,h44km,mb4.9/38,Error ellipse: s-maj=6.3km s-min=4.1km az=110.7*

NIED ***29*** *03:59:58.3,40.99N×142.42E,h37km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr3.38; Mθθ1.27; Mφφ-4.64; Mrθ2.77; Mθφ-0.08; Mφr4.12; Fault plane solution: M0 6.48000×10^15 NP1:φs27.00000°, δ73.00000°,λ112.00000°. NP2:φs153.00000°,δ28.00000°, λ40.00000°.*

BJI ***29*** *03:59:58.4±0.0,40.91N×142.37E,h70km,mb4.7/66, mB5.0/24,Ms4.2/9,Ms7 4.0/9*

JMA ***29*** *03:59:58.3±0.2,41.0N±0.4×142.4E±0.9,h37km±4km, MD4.4/39,MV4.5/39,E OFF AOMORI PREF*

JMA Felt I J1 at E OFF AOMORI PREF .

NEIC ***29*** *03:59:59.1±1.8,41.02N±0.04×142.37E±0.05,h50km±7km, mb4.8/87, Error ellipse: s-maj=6.0km s-min=4.9km az=154.0*

ISC 29 03:59:58.3±0.4, 40.98N±0.03×142.47E±0.04, h49km±2km, h49km:pP-P,n554,σ1s49/553, mb4.7/137, MS3.8/45, 21C-36D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.83**	**273**	⇓P	**Pn**	**04 00 13.2**	**-0.5**
JARK				⇓*e*S	**Sn**	**04 00 23.5**	**-1.5**
JARK	**Aomorirokkasho**	**0.83**	**273**	A	A	04 00 13.2	
	comp=E,13nm,0.9s,comp=N,13nm,1.8s						
JAHD	**Aomorihigashid**	**0.90**	**289**	⇓P	**Pn**	**04 00 14.0**	**-0.6**
JAHD				⇓*e*S	**Sn**	**04 00 25.3**	**-1.3**
JAHD	**Aomorihigashid**	**0.90**	**289**	A	A	04 00 14.0	
	comp=E,26nm,1.3s,comp=N,25nm,1.2s						
JANG	**Nango**	**0.94**	**231**	⇓*i* P	**Pn**	**04 00 14.9**	**-0.3**
JANG				⇓S	**Sn**	**04 00 26.9**	**-0.7**
JANG	**Nango**	**0.94**	**231**	A	A	04 00 14.9	
	comp=E,11nm,1.7s,comp=N,16nm,2.9s						
JKEN	**Kujiedanarisaw**	**0.96**	**217**	*i* P	**Pn**	**04 00 15.0**	**-0.4**
JKEN				S	**Sn**	**04 00 27.3**	**-0.7**
JKEN	**Kujiedanarisaw**	**0.96**	**217**	A	A	04 00 15.0	
	comp=E,21nm,0.7s,comp=N,24nm,0.9s						
JTM	**Tenmabayashi**	**1.08**	**260**		**Pn**	**04 00 17.0**	**+0.1**
JTM				Sn	**Sn**	**04 00 30.2**	**-0.7**
JTM	**Tenmabayashi**	**1.08**	**260**	⇓P	**Pn**	**04 00 17.1**	**+0.1**
JTM				⇓S	**Sn**	**04 00 30.6**	**-0.2**
JTM	**Tenmabayashi**	**1.08**	**260**	A	A	04 00 17.1	
	comp=E,30nm,0.9s,comp=N,40nm,1.0s						
JTH	**Tanohata**	**1.13**	**204**	A	A	04 00 18.1	
	comp=E,6.0nm,5.4s,comp=N,5.0nm,0.4s						
JOT	**Ohata**	**1.15**	**291**	⇓P	**Pn**	**04 00 17.5**	**-0.4**
JOT				⇓S	**Sn**	**04 00 31.4**	**-1.1**
JOT	**Ohata**	**1.15**	**291**	A	A	04 00 17.5	
	comp=E,9.0nm,0.5s,comp=N,9.0nm,1.8s						
ERM	**Erimo**	**1.16**	**26**	Pn	**Pn**	**04 00 18.9**	**+0.8**
ERM				Sn	**Sn**	**04 00 33.5**	**+0.7**
ERM	**Erimo**	**1.16**	**26**	P	**Pn**	**04 00 18.9**	**+0.8**
ERM						04 00 33.5	
JEM	**Erimo**	**1.16**	**26**	*i* P	**Pn**	**04 00 19.1**	**+1.0**
JEM	**Erimo**	**1.16**	**26**	A	A	04 00 19.1	
	comp=E,7.0nm,2.1s,comp=N,6.0nm,0.8s						
JKZ	**Kuzumaki**	**1.32**	**222**	A	A	04 00 20.7	
	comp=E,18nm,1.3s,comp=N,16nm,2.6s						
JNBK	**Urakawa-nobuka**	**1.32**	**9**	*i* P	**Pn**	**04 00 21.2**	**+0.9**
JNBK				S	**Sn**	**04 00 39.3**	**+2.5**
JNBK	**Urakawa-nobuka**	**1.32**	**9**	A	A	04 00 21.2	
	comp=E,19nm,3.0s,comp=N,19nm,0.6s						
JKB	**Kayabe**	**1.41**	**311**	⇓*i*P	**Pn**	**04 00 21.2**	**-0.4**
JKB				⇓S	**Sn**	**04 00 38.0**	**-1.0**
JKB	**Kayabe**	**1.41**	**311**	A	A	04 00 21.2	
	comp=E,9.0nm,1.5s,comp=N,8.0nm,1.5s						
JSHD	**Hidakashinhida**	**1.43**	**360**	A	A	04 00 22.4	
	comp=E,13nm,3.1s,comp=N,14nm,1.5s						
JTHR	**Tohachihiroo**	**1.45**	**25**	A	A	04 00 23.0	
	comp=E,8.0nm,4.2s,comp=N,7.0nm,0.8s						
MIYJ	**Miyakonagasawa**	**1.48**	**200**	A	A	04 00 23.4	
	comp=E,9.0nm,2.9s,comp=N,7.0nm,0.9s						
JSI2	**Shiura 2**	**1.56**	**274**	A	A	04 00 23.9	
	comp=E,10.0nm,1.7s,comp=N,9.0nm,0.9s						
JAH	**Hinai**	**1.60**	**241**	⇓*i*P	**Pn**	**04 00 24.8**	**+0.6**
JAH				⇓S	**Sn**	**04 00 44.8**	**+1.1**
JAH	**Hinai**	**1.60**	**241**	A	A	04 00 24.8	
	comp=E,10.0nm,1.1s,comp=N,10.0nm,0.9s						
JHHS	**Hirosakihyakuz**	**1.63**	**259**	A	A	04 00 25.0	
	comp=E,13nm,2.9s,comp=N,17nm,3.2s						
JSR	**Shiriuchi**	**1.64**	**290**	⇓*i*P	**Pn**	**04 00 24.9**	**+0.2**
JSR				⇓S	**Sn**	**04 00 45.0**	**+0.4**
JSR	**Shiriuchi**	**1.64**	**290**	A	A	04 00 24.9	
	comp=E,12nm,2.9s,comp=N,7.0nm,1.6s						
JSZI	**Iwateshizukuis**	**1.69**	**224**	A	A	04 00 26.1	
	comp=E,19nm,1.6s,comp=N,20nm,1.5s						
JIAM	**Iburiatsuma**	**1.70**	**346**	P	**Pn**	**04 00 27.0**	**+1.6**
JIAM				S	**Sn**	**04 00 47.5**	**+1.6**
JIAM	**Iburiatsuma**	**1.70**	**346**	A	A	04 00 27.0	
	comp=E,29nm,0.8s,comp=N,33nm,0.8s						
JOM	**Ohasama**	**1.75**	**211**	*i* P	**Pn**	**04 00 27.3**	**+1.1**
JOM				*e*S	**Sn**	**04 00 48.8**	**+1.6**
JOM	**Ohasama**	**1.75**	**211**	A	A	04 00 27.3	
	comp=E,21nm,0.8s,comp=N,16nm,0.6s						
JCH	**Churui**	**1.77**	**22**	*i* P	**Pn**	**04 00 27.6**	**+1.2**
JCH				S	**Sn**	**04 00 48.9**	**+1.2**
JCH	**Churui**	**1.77**	**22**	A	A	04 00 27.6	
	comp=E,6.0nm,2.0s,comp=N,7.0nm,2.7s						
JBT2	**Biratori 2**	**1.80**	**358**	P	**Pn**	**04 00 28.1**	**+1.2**
JBT2				*e*S	**Sn**	**04 00 50.8**	**+2.2**
JBT2	**Biratori 2**	**1.80**	**358**	A	A	04 00 28.1	
	comp=E,5.0nm,2.0s,comp=N,4.0nm,1.6s						
JNB	**Noboribetsu**	**1.84**	**325**	⇓*i*P	**Pn**	**04 00 26.8**	**-0.5**
JNB				⇓S	**Sn**	**04 00 48.6**	**-0.8**
JIW	**Iwasaki**	**1.91**	**259**	A	A	04 00 29.0	
	comp=E,5.0nm,2.9s,comp=N,4.0nm,1.7s						
JOMM	**Oshimamatsumae**	**1.94**	**287**	*e*P	**Pn**	**04 00 29.2**	**+0.5**
JYM2	**Yakumo 2**	**1.94**	**307**	A	A	04 00 29.5	
	comp=E,4.0nm,5.2s,comp=N,4.0nm,1.6s						
OFUJ	**Ofunato**	**1.99**	**198**	A	A	04 00 30.7	
	comp=E,6.0nm,1.2s,comp=N,5.0nm,0.5s						
JEW	**Eniwo**	**2.01**	**338**	⇓*i*P	**Pn**	**04 00 30.6**	**+0.9**
JEW				⇓S	**Sn**	**04 00 55.1**	**+1.4**
JEW	**Eniwo**	**2.01**	**338**	A	A	04 00 30.6	
	comp=E,24nm,3.4s,comp=N,12nm,0.9s						
JRG	**Rokugo**	**2.11**	**222**	A	A	04 00 32.2	
	comp=E,11nm,0.7s,comp=N,9.0nm,0.6s						
JOB	**Onbets**	**2.18**	**27**	A	A	04 00 33.5	
	comp=E,7.0nm,4.7s,comp=N,7.0nm,3.2s						
JYW	**Yuwa**	**2.25**	**231**	A	A	04 00 34.1	
	comp=E,10.0nm,1.9s,comp=N,12nm,1.8s						
JAB	**Ashibetsu**	**2.53**	**356**	A	A	04 00 38.2	
	comp=E,7.0nm,5.4s,comp=N,10.0nm,3.6s						
JYK	**Kaneyama**	**2.62**	**219**	A	A	04 00 39.5	
	comp=E,5.0nm,2.2s,comp=N,4.0nm,3.1s						
JOFO	**Osakifurukawao**	**2.66**	**207**	A	A	04 00 40.1	
	comp=E,22nm,2.2s,comp=N,16nm,1.8s						
JOU	**Okura**	**2.96**	**209**	A	A	04 00 44.4	
	comp=E,5.0nm,1.4s,comp=N,5.0nm,1.9s						
ASAJ	**Asahikawa**	**3.14**	**2**	Pn	**Pn**	**04 00 44.2**	**-1.0**
	comp=N,87nm,0.5s,baz=218,slow=9.6,SNR=113						
ASAJ				Sn	**Sn**	**04 01 20.9**	**-0.6**
	comp=N,20nm,0.3s,baz=92,slow=28,SNR=4.8						
JKA	**Kamikawa-asahi**	**3.14**	**2**	Pn	**Pn**	**04 00 46.1**	**+0.9**
JYA	**Atsumi**	**3.19**	**223**	A	A	04 00 47.5	
	comp=E,7.0nm,4.7s,comp=N,5.0nm,1.3s						
JYS	**Shirataka**	**3.32**	**215**	A	A	04 00 49.5	
	comp=E,9.0nm,1.7s,comp=N,8.0nm,1.7s						
JMM	**Marumori**	**3.37**	**203**	Pn	**Pn**	**04 00 49.8**	**+1.5**

NMR	**Nemuro--Hokkai**	**3.40**	**44**	*e*P		**Pn**	**04 00 48.1**	**-0.7**
NMR				*e*S		**Sn**	**04 01 26.0**	**-1.9**
JMST	**Minamisoumatoc**	**3.47**	**201**	A		A	04 00 51.8	
	comp=E,4.0nm,3.4s,comp=N,4.0nm,2.4s							
JYAR	**Yonezawaarcadi**	**3.55**	**211**	A		A	04 00 52.8	
	comp=E,10.0nm,1.0s,comp=N,9.0nm,1.2s							
RUSJ	**Misakicho**	**3.74**	**32**	*e*P		**Pn**	**04 00 54.2**	**+0.8**
RUSJ				*e*S		**Sn**	**04 01 36.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**3.95**	**38**	*e*P		**Pn**	**04 00 56.9**	**+0.6**
YUK				*e*S		**Sn**	**04 01 39.9**	**-1.5**
YUK				smax	smax			
	comp=N,3μm,0.4s							
YUK				smax	smax			
	comp=E,3μm,0.4s							
SHO	**Shikotan**	**4.33**	**47**	*e*P		**Pn**	**04 01 00.5**	**-1.1**
SHO				*e*S		**Sn**	**04 01 46.5**	**-4.3**
SHO				smax	smax			
	comp=N,661nm,0.3s							
SHO				smax	smax			
	comp=E,601nm,0.3s							
MJB9	**Matsu-Tunnel**	**5.54**	**218**	Pn		**Pn**	**04 01 20.9**	**+2.8**
MAJO	**Matsushiro**	**5.54**	**218**	Pn		**Pn**	**04 01 21.1**	**+2.9**
MAJO	**Matsushiro**	**5.54**	**218**	P		**Pn**	**04 01 21.1**	**+2.9**
MJAR	**Matsushiro Arr**	**5.54**	**218**	Pn		**Pn**	**04 01 17.3**	**-0.9**
	comp=E,0.1nm,0.3s,baz=130,slow=51,SNR=5.1							
MJAR				LR		LR	04 03 51.3	
	comp=E,437nm,18.6s,baz=38,slow=43							
	comp=E,11nm,0.6s							
KUR	**Kuril'sk**	**5.81**	**41**	*e*P		**Pn**	**04 01 19.9**	**-1.8**
KUR				*e*S		**Sn**	**04 02 25.4**	**-1.5**
KUR				pmax	pmax			
	comp=Z,286nm,0.4s							
KUR				pmax	pmax			
	comp=E,78nm,0.5s							
KUR				smax	smax			
	comp=N,185nm,0.7s							
KUR				smax	smax			
	comp=E,321nm,0.7s							
TEY	**Ternei**	**5.91**	**315**	⇑*e*P		**Pn**	**04 01 23.6**	**+0.4**
TEY				pmax	pmax			
	comp=E,20nm,0.9s							
TEY				pmax	pmax			
	comp=N,20nm,0.8s							
TEY				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**5.98**	**2**	Pn		**Pn**	**04 01 25.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.98**	**2**	⇓*i*P		**Pn**	**04 01 25.8**	**+1.7**
YSS				*e*S		**Sn**	**04 02 32.2**	**+1.0**
YSS				smax	smax			
	comp=N,70nm,1.1s							
YSS				smax	smax			
	comp=E,20nm,0.8s							
YSS				MLR	MLR			
	comp=Z,600nm,16.0s							
JHJ	**Hachijo jima 2**	**8.13**	**196**	Pn		**Pn**	**04 01 52.9**	**-0.8**
	comp=Z,84nm,0.8s,baz=79,slow=23,SNR=7.2							
JHJ				Sn		**Sn**	**04 03 19.7**	**-4.4**
	comp=Z,18nm,0.3s,baz=78,slow=18,SNR=2.0							
JHJ2	**Mitsune**	**8.13**	**196**	Pn		**Pn**	**04 01 53.9**	**+0.2**
USA0B	**Ussuriysk Arra**	**8.38**	**296**	Pn		**Pn**	**04 01 57.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**8.38**	**296**	P		**Pn**	**04 01 57.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**8.38**	**296**	Pn		**Pn**	**04 01 58.2**	**+1.2**
USRK	**Ussuriysk Ar.**	**8.38**	**296**	P		**Pn**	**04 01 58.2**	**+1.2**
USRK	**Ussuriysk Ar.**	**8.38**	**296**	Pn		**Pn**	**04 01 53.4**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=189,slow=16,SNR=1.8							
USRK				LR		LR	04 05 08.6	
	comp=Z,425nm,19.9s,baz=109,slow=38							
MSHR	**Mys Shultsa**	**8.60**	**284**	*i* P		**Pn**	**04 01 59.3**	**-0.8**
MSHR				pmax	pmax			
	comp=Z,12nm,1.0s							
TYV	**Tymovskoe**	**9.89**	**1**	*e*P		**Pn**	**04 02 19.2**	**+1.6**
TYV				*e*S		**Sn**	**

comp=Z,13nm,0.7s
NJ2 Nanjing 20.92 252 ⇓P **P** **04 04 36.5 -0.1**
NJ2 pP **pP** **04 04 47.5 -0.4**
NJ2 pmax pmax
comp=Z,25nm,0.8s
NJ2 pmax pmax
comp=Z,700nm,4.0s
HNS HongShan 21.77 270 ⇑P **P** **04 04 46.3 +0.5**
HNS pP **sP** **04 04 59.8 -3.3**
HNS pmax pmax
comp=Z,22nm,1.2s
YAK Yakutsk 22.45 344 P **P** **04 04 49.7 -3.1**
YAK Yakutsk 22.45 344 *e*P **P** **04 04 50.1 -2.7**
YAK *e**PP **pP** **04 05 03.4 -0.5**
YAK *e*S **S** **04 08 51.9 -4.0**
YAK *e**SS Sn 04 09 10.5 -0.7
YAK pmax pmax
comp=Z,31nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=E,37nm,2.3s
YAK smax smax
comp=N,54nm,2.5s
YAK Yakutsk 22.45 344 LR LR 04 13 34.8
comp=N,96nm,20.7s,baz=118,slow=37
SEY Seymchan 22.77 12 *i* P **P** **04 04 55.5 -0.7**
SEY pmax pmax
comp=Z,8.0nm,0.9s
HHC Hu-ho-hao-te 23.30 280 *e*P **P** **04 05 02.8 +0.9**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,280nm,5.1s
HHC LR LR
comp=Z,270nm,7.3s
HHC LR LR
comp=Z,490nm,9.9s
HHC LR LR
comp=Z,480nm,14.6s
LYN LuoYang 24.49 265 *e*P **P** **04 05 14.0 +1.2**
LYN S **S** **04 09 28.5 -1.3**
LYN pmax pmax
comp=Z,19nm,0.5s
BTO Baotou 24.50 280 *e*P **P** **04 05 13.0 0.0**
BTO pP **pP** **04 05 27.5 +2.3**
BTO sP **sP** **04 05 34.8 +3.9**
BTO PP **PnPn** **04 05 50.5 +4.9**
BTO S **S** **04 09 27.0 -3.0**
BTO SS **SnSn** **04 10 23.5 +5.7**
BTO pmax pmax
comp=Z,58nm,1.0s
BTO pmax pmax
comp=Z,430nm,4.8s
BTO LR LR
comp=Z,280nm,12.0s
BTO LR LR
comp=Z,430nm,19.8s
BTO LR LR
comp=Z,510nm,20.4s
BOD Bodaibo 24.77 322 *e*P **P** **04 05 14.4 -0.7**
BOD pmax pmax
comp=Z,11nm,0.9s
WHN Wuhan 24.98 254 ⇓P **P** **04 05 18.0 +0.7**
WHN pP **pP** **04 05 31.0 +1.4**
WHN pmax pmax
comp=Z,52nm,0.9s
ULN Ulaanbaatar 26.05 297 P **P** **04 05 25.6 -1.4**
ULN Ulaanbaatar 26.05 297 P **P** **04 05 25.6 -1.4**
ULN pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 26.49 297 P **P** **04 05 29.8 -1.1**
SONM Songino Array 26.49 297 P **P** **04 05 30.4 -0.6**
comp=Z,3.6nm,0.7s,baz=85,slow=8.5,SNR=23
SONM LR LR 04 16 44.7
comp=Z,207nm,18.5s,baz=322,slow=38
comp=Z,3.6nm,0.7s
GUMO Guam 27.36 175 LR LR 04 15 33.3
comp=Z,59nm,20.8s,baz=12,slow=34
XAN Xi'an 27.38 266 ⇓P **P** **04 05 39.0 0.0**
XAN pmax pmax
comp=Z,12nm,1.4s
ZAK Zakamensk 28.66 302 *e*P **P** **04 05 49.3 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
H11N2 WAKE ISLAND Hy 29.70 128 T T 04 37 03.0
baz=319,slow=75,SNR=254
H11N1 WAKE ISLAND Hy 29.71 128 T T 04 37 09.6
baz=319,slow=75,SNR=176
H11N3 WAKE ISLAND Hy 29.72 128 T T 04 37 08.5
baz=319,slow=75,SNR=204
BILL Bilibino 30.02 18 *i* P **P** **04 06 03.2 +1.2**
MOY Mondy 30.19 305 *e*P **P** **04 06 04.0 +0.2**
MOY pmax pmax
comp=Z,26nm,2.1s
LZH Lanzhou 30.43 273 *e*P **P** **04 06 01.8 -4.4**
LZH pmax pmax
comp=Z,9.0nm,1.1s
H11S1 WAKE ISLAND Hy 30.54 130 T T 04 38 42.5
baz=322,slow=76,SNR=129
H11S3 WAKE ISLAND Hy 30.54 130 T T 04 38 45.2
baz=322,slow=76,SNR=96
H11S2 WAKE ISLAND Hy 30.55 130 T T 04 38 44.1
baz=322,slow=76,SNR=121
TIXI Tiksi 31.49 352 P **P** **04 06 12.9 -2.0**
TIXI Tiksi 31.49 352 *ce*P **P** **04 06 14.0 -0.9**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 31.49 352 LR LR 04 20 32.1
comp=Z,51nm,19.1s,baz=198,slow=39
GTA Gaotai 32.39 281 P **P** **04 06 22.8 -0.6**
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA LR LR
comp=Z,110nm,18.5s
GTA LR LR
comp=Z,210nm,17.1s
GTA LR LR
comp=Z,210nm,18.5s
GYA Guiyang 32.86 255 ⇑P **P** **04 06 28.0 +0.4**
GYA pmax pmax
comp=Z,20nm,1.0s
PZH PanZhiHua 36.47 260 P **P** **04 06 59.5 +0.7**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,140nm,4.4s
KMI Kunming 36.52 257 ⇑P **P** **04 06 59.8 +0.5**
KMI pmax pmax
comp=Z,13nm,0.7s
M11K Mekoryuk 36.69 40 P **P** **04 07 02.2 +2.2**
baz=262
TNA Tin City 37.05 32 P **P** **04 07 04.9 +1.9**
baz=253
GOMU GeErMu 37.19 278 P **P** **04 07 04.8 -0.3**
GOMU pP sP 04 07 25.5 +2.3
GOMU pmax pmax
comp=Z,11nm,0.7s
F14K Arctic Creek 37.66 32 P **P** **04 07 10.5 +2.2**
baz=255
ANM Nome 37.84 34 P **P** **04 07 11.4 +1.6**
baz=257
F15K North Star Dit 38.40 32 P **P** **04 07 15.2 +0.7**
baz=257
G15K Niukluk 38.49 33 P **P** **04 07 17.4 +2.2**
baz=258
M14K Bethel 38.81 40 P **P** **04 07 20.2 +2.3**
baz=265
C16K Lisburne Hills 38.82 28 P **P** **04 07 18.6 +0.6**
baz=253
DGZ Jazzator, Alta 38.87 302 *i* P **P** **04 07 18.3 -0.6**
DGZ pmax pmax
comp=Z,18nm,1.0s
K15K Wolf Creek Mou 39.16 38 P **P** **04 07 22.5 +1.6**
baz=264
H16K Elim 39.17 34 P **P** **04 07 22.7 +1.7**
baz=260,SNR=6.5
G16K Koyuk River 39.26 33 P **P** **04 07 23.6 +1.9**
baz=259
M15K Kasigluk River 39.43 40 P **P** **04 07 24.5 +1.4**
baz=267
C17K DeLong Mountai 39.65 28 P **P** **04 07 25.8 +0.9**
baz=255
J16K Anvik River 39.70 36 P **P** **04 07 26.7 +1.3**
baz=264
TNCH TengChong 39.70 260 P **P** **04 07 26.5 +0.4**
TNCH pP pP 04 07 40.0 +1.3
TNCH pmax pmax
comp=Z,200nm,3.0s
I17K Unalakleet 39.73 35 P **P** **04 07 26.9 +1.3**
baz=263
F17K Baidwin Pennin 39.91 31 P **P** **04 07 28.6 +1.6**
baz=259
WMQ Urumqi 39.93 293 *e*P **P** **04 07 27.5 -0.1**
WMQ pmax pmax
comp=Z,18nm,1.7s
ZAA0 Zalesovo Array 39.97 309 P **P** **04 07 27.6 -0.1**
ZAA0 IAmb IAmb 04 07 28.7
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 39.97 309 P **P** **04 07 27.2 -0.5**
comp=Z,15nm,0.8s,baz=88,slow=7.7,SNR=71
ZALV PcP **PcP** **04 09 33.0 +0.9**
comp=Z,0.7nm,0.4s,baz=112,slow=5.3,SNR=3.4
ZALV LR LR 04 24 22.3
comp=Z,126nm,19.1s,baz=80,slow=37
comp=Z,15nm,0.8s
G17K Kiwalik Mounta 39.98 33 P **P** **04 07 30.0 +2.3**
baz=261,SNR=6.8
L16K Owhat River 40.08 39 P **P** **04 07 30.3 +1.8**
baz=266
NRIK Noril'sk 40.08 333 P **P** **04 07 27.2 -1.2**
NRIK IAmb IAmb 04 07 29.9
comp=Z,10nm,0.9s
NRIK Noril'sk 40.08 333 P **P** **04 07 28.3 -0.1**
comp=Z,6.8nm,0.8s,baz=111,slow=10,SNR=13
NRIK LR LR 04 25 11.0
comp=Z,162nm,19.4s,baz=140,slow=38
comp=Z,6.8nm,0.8s
H17K Granite Mounta 40.21 34 P **P** **04 07 31.7 +2.1**
baz=262
M16K Timber Creek 40.29 40 P **P** **04 07 32.4 +2.2**
baz=268
B18K Kokolik River 40.36 27 P **P** **04 07 32.7 +1.9**
baz=255
C18K Utukok River 40.40 28 P **P** **04 07 32.0 +0.8**
baz=257
F18K Selawik 40.57 31 P **P** **04 07 33.8 +1.3**
baz=261
L17K Donlin 40.66 38 P **P** **04 07 34.6 +1.3**
baz=267
K17K Iditarod 40.69 37 P **P** **04 07 33.9 +0.3**
baz=266
A19K Wainwright 40.83 26 P **P** **04 07 34.7 +0.1**
baz=255
G18K Tagagawik 40.86 33 P **P** **04 07 35.9 +1.0**
baz=262
H18K Honhosa River 40.89 34 P **P** **04 07 37.0 +1.8**
baz=264
ZSN Zaisan 40.97 299 *e*P **P** **04 07 37.0 +0.8**
comp=Z,8.8nm,0.7s,baz=299
ZSN Zaisan 40.97 299 *e*P **P** **04 07 36.9 +0.8**
ZSN pmax pmax
comp=Z,9.0nm,0.7s
C19K Lookout Ridge 41.07 28 P **P** **04 07 37.2 +0.5**
baz=258
F19K Shaleruckik Mo 41.34 31 P **P** **04 07 40.0 +1.1**
baz=262
L18K Granite Mounta 41.42 38 P **P** **04 07 41.1 +1.5**
baz=268
J18K Innoko River 41.46 36 P **P** **04 07 41.1 +1.2**
baz=267
GCSA Galena City Sc 41.47 34 P **P** **04 07 40.6 +0.7**
baz=265
D19K Kuna River 41.48 29 P **P** **04 07 41.4 +1.4**
baz=260
G19K Purcell Mounta 41.52 32 P **P** **04 07 41.3 +0.9**
baz=264
E19K Redstone River 41.64 30 P **P** **04 07 42.8 +1.5**
baz=262
H19K Roundabout Mou 41.72 33 P **P** **04 07 44.1 +2.1**
baz=265
Q17K Contact Creek 41.88 44 P **P** **04 07 44.4 +0.9**
baz=274
SVW2 Sparrevohn 41.93 40 P **P** **04 07 44.5 +0.7**
J19K Poorman 41.97 36 P **P** **04 07 45.5 +1.5**
baz=267
D20K Etivluk River 42.05 28 P **P** **04 07 46.1 +1.4**
baz=261
E20K Nigu River 42.14 29 P **P** **04 07 46.6 +1.1**
baz=262
O18K Koktuh Hills 42.15 42 P **P** **04 07 46.8 +1.2**
baz=272
F20K Avaraart Lake 42.17 31 P **P** **04 07 47.4 +1.8**
baz=264
H20K Anotleneega Mo 42.37 33 P **P** **04 07 49.2 +1.9**
baz=266
A21K Barow 42.52 25 P **P** **04 07 49.0 +0.6**
baz=258
J20K Nowinta River 42.62 35 P **P** **04 07 51.0 +1.7**
baz=268,SNR=6.9
K20K Telida 42.64 37 P **P** **04 07 51.9 +2.3**
baz=270
R18K Karluk 42.69 45 P **P** **04 07 51.2 +1.2**
baz=276
L20K Farewell, AK 42.73 38 P **P** **04 07 52.0 +1.7**
baz=271
C21K Knifeblade Rid 42.77 28 P **P** **04 07 51.9 +1.4**
baz=262
MK31 Makanchi Array 42.83 299 P **P** **04 07 50.7 -0.6**
MK31 IAmb IAmb 04 07 52.3
comp=Z,12nm,0.7s
MK31 Makanchi Array 42.83 299 *i* P **P** **04 07 50.9 -0.4**
MKAR Makanchi Array 42.83 299 P **P** **04 07 51.3 0.0**
MKAR Makanchi Array 42.83 299 *ce*P **P** **04 07 51.5 +0.2**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 42.83 299 P **P** **04 07 51.1 -0.2**
comp=Z,9.0nm,0.6s,baz=84,slow=9.7,SNR=126
MKAR LR LR 04 26 41.7
comp=Z,118nm,19.8s,baz=65,slow=38
comp=Z,9.0nm,0.6s
G21K Allakaket 43.00 32 P **P** **04 07 54.7 +2.3**
baz=267
MAKZ Makanchi 43.04 299 P **P** **04 07 52.7 -0.3**
MAKZ IAmb IAmb 04 07 54.1
comp=Z,13nm,0.8s
MAKZ Makanchi 43.04 299 P **P** **04 07 52.7 -0.3**
MAKZ pmax pmax
comp=Z,13nm,0.9s
MAKZ Makanchi 43.04 299 ⇑P **P** **04 07 53.1 +0.1**
MAKZ sP **sP** **04 08 12.2 +0.9**
F21K Alatna River 43.06 31 P **P** **04 07 54.8 +2.0**
baz=266
CHTO Chiang Mai 43.16 252 P **P** **04 07 55.3 +1.0**
CHTO Chiang Mai 43.16 252 P **P** **04 07 55.3 +1.0**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
H21K Melozitna Rive 43.24 33 P **P** **04 07 56.1 +1.7**
baz=268
SEM Semipalatinsk 43.30 304 *e*P **P** **04 07 53.9 -1.4**
baz=304
SEM Semipalatinsk 43.30 304 *e*P **P** **04 07 53.8 -1.4**
CMAR Chiang Mai Arr 43.39 252 P **P** **04 07 56.7 +0.6**
CMAR Chiang Mai Arr 43.39 252 P **P** **04 07 55.6 -0.5**
comp=Z,2.2nm,0.3s,baz=45,slow=6.8,SNR=7.8
CMAR PcP **PcP** **04 09 45.1 +1.2**
comp=Z,1.2nm,0.3s,baz=23,slow=3.6,SNR=4.6
CMAR LR LR 04 26 15.4
comp=Z,49nm,20.1s,baz=75,slow=36
comp=Z,2.2nm,0.3s
B22K Teshekpuk Lake 43.40 26 P **P** **04 07 56.8 +1.3**
baz=263
CHUM Lake Minchumin 43.43 36 P **P** **04 07 57.9 +2.1**
baz=270
D22K Ayikyak River 43.49 28 P **P** **04 07 57.7 +1.4**
baz=265
PPLA Purkeypile 43.50 37 P **P** **04 07 58.8 +2.2**
baz=272
CAST Castle Rocks 43.54 36 P **P** **04 07 58.5 +1.7**
CAST Castle Rocks 43.54 36 P **P** **04 07 59.1 +2.3**
baz=271
I21K Tanana 43.58 34 P **P** **04 07 59.6 +2.6**
baz=269
E22K Anaktuvuk Pass 43.76 30 P **P** **04 08 00.3 +1.8**
baz=266
G22K Bettles 43.81 31 P **P** **04 08 00.6 +1.7**
baz=268
H22K Ishtalitna Cre 43.84 33 P **P** **04 08 01.4 +2.3**
baz=269
BPAW Bear Paw Mtn. 44.01 35 P **P** **04 08 02.3 +1.7**
baz=272
KTH Kantishna Hill 44.05 36 P **P** **04 08 02.8 +1.8**
KTH IAmb IAmb 04 08 04.8
comp=Z,18nm,1.1s
MLY Manley 44.10 34 IAmb IAmb 04 08 23.5
comp=Z,14nm,1.3s
MLY Manley 44.10 34 P **P** **04 08 02.9 +1.6**
baz=271
D23K Nanushuk River 44.22 28 P **P** **04 08 04.1 +1.9**
baz=267
KURK Kurchatov 44.24 305 P **P** **04 08 01.8 -0.8**
KURK Kurchatov 44.24 305 P **P** **04 08 03.1 +0.5**
KURK 04 09 47.4
KURK Kurchatov 44.24 305 P **P** **04 08 02.5 -0.1**
KURBB Kurchatov Arra 44.32 305 P **P** **04 08 03.1 0.0**
comp=Z,29nm,0.9s,baz=79,slow=8.6,SNR=56
KURBB PcP **PP** **04 09 47.4 +0.4**
comp=Z,1.1nm,0.3s,baz=83,slow=3.3,SNR=2.3
KURBB LR LR 04 27 08.9
comp=Z,79nm,18.1s,baz=172,slow=37
comp=Z,29nm,0.9s
COLD Coldfoot 44.33 31 P **P** **04 08 04.6 +1.6**
baz=269
TRF Thorofare Moun 44.34 36 P **P** **04 08 04.9 +1.5**
baz=273
G23K Bananza Creek 44.39 32 P **P** **04 08 05.5 +1.8**
baz=270,SNR=7.0
E23K Chandalar 44.58 30 P **P** **04 08 06.4 +1.3**
baz=269
I23K Minto, Yukon-K 44.68 34 P **P** **04 08 07.9 +2.0**
baz=272
RC01 Rabbit Creek A 44.77 40 P **P** **04 08 08.1 +1.4**
baz=276
NEA2 Nenana 44.83 35 IAmb IAmb 04 08 30.6
comp=Z,12nm,0.8s
NEA2 Nenana 44.83 35 P **P** **04 08 08.5 +1.5**
baz=273,SNR=5.3
D24K Happy Valley 44.90 28 P **P** **04 08 09.2 +1.6**
baz=268
MCK McKinley 44.93 36 P **P** **04 08 09.0 +1.1**
baz=274
C24K Franklin Bluff 44.96 27 P **P** **04 08 09.7 +1.7**
baz=268
SEW Seward 45.01 41 P **P** **04 08 08.9 +0.3**
baz=277
MDM Murphy Dome 45.17 34 IAmb IAmb 04 08 31.3
comp=Z,9.2nm,0.9s
WAT1 Susitna Watana 45.17 37 P **P** **04 08 10.6 +0.8**
baz=275
F24K Squaw Lake 45.23 31 P **P** **04 08 11.6 +1.3**
baz=271
H24K Noodor Dome 45.28 33 P **P** **04 08 12.5 +1.8**
baz=272
COLA College 45.34 34 P **P** **04 08 12.1 +1.1**
COLA College 45.34 34 P **P** **04 08 12.1 +1.1**
COLA pmax pmax
comp=Z,27nm,1.1s
COLA College 45.34 34 P **P** **04 08 12.3 +1.3**
KNK Knik Glacier 45.35 39 P **P** **04 08 13.5 +2.3**
baz=276
G24K Hadweenzic Riv 45.41 32 P **P** **04 08 13.9 +2.2**
baz=272
POKR Poker Plat Res 45.50 34 P **P** **04 08 14.9 +2.5**
baz=274
WAT6 Susitna Watana 45.56 37 P **P** **04 08 14.3 +1.2**
baz=276
DHY Denali Highway 45.68 37 IAmb IAmb 04 08 35.5
comp=Z,6.6nm,0.8s
DHY Denali Highway 45.68 37 P **P** **04 08 15.0 +0.9**
baz=276
IL31 45.75 34 IAmb IAmb 04 08 36.4
comp=Z,15nm,0.9s
ILAR Eielson Array 45.75 34 P **P** **04 08 15.3 +0.9**
comp=Z,3.0nm,0.7s,baz=268,slow=5.6,SNR=54
ILAR LR LR 04 27 58.2
comp=Z,27nm,20.6s,baz=2.0,slow=37
comp=Z,3.0nm,0.7s
HDA Harding Lake 45.76 35 IAmb IAmb 04 09 55.0
comp=Z,14nm,0.7s
HDA Harding Lake 45.76 35 P **P** **04 08 15.2 +0.8**
baz=275
D25K Kavik River 45.77 28 P **P** **04 08 15.8 +1.3**
baz=270
SHLS Shalkode 45.84 295 *e*P **P** **04 08 12.3 -3.2**
baz=294
SHLS Shalkode 45.84 295 *e*P **P** **04 08 12.3 -3.2**
TDK Taldyqorghan 45.95 297 *e*P **P** **04 08 16.0 -0.2**
baz=297
TDK Taldyqorghan 45.95 297 *e*P **P** **04 08 16.0 -0.2**
G25K Bearman Lake 45.95 32 P **P** **04 08 17.7 +1.8**
baz=273
P23K Montague Islan 46.05 41 P **P** **04 08 18.7 +2.0**
baz=279
F25K Christian Rive 46.09 30 P **P** **04 08 18.9 +1.8**
baz=273
E25K Arctic Village 46.09 30 P **P** **04 08 19.2 +2.1**
baz=272
UZB Uzynbulak 46.14 295 *e*P **P** **04 08 17.4 -0.6**
baz=295
UZB Uzynbulak 46.14 295 *e*P **P** **04 08 17.3 -0.6**
KPKS Kokpek 46.27 295 *e*P **P** **04 08 18.3 -0.5**
baz=295
KPKS Kokpek 46.27 295 *e*P **P** **04 08 18.3 -0.5**
K24K Donnelly Dome 46.32 36 P **P** **04 08 20.0 +1.0**
baz=276
BMAR Burnt Mountain 46.51 31 P **P** **04 08 22.2 +1.9**
ZHN Zhinishke 46.54 295 *e*P **P** **04 08 20.8 -0.3**
comp=Z,6.4nm,0.7s,baz=295
ZHN Zhinishke 46.54 295 *e*P **P** **04 08 20.7 -0.3**
ZHN pmax pmax
comp=Z,6.0nm,0.7s
ARXS Arharly 46.60 297 *e*P **P** **04 08 21.4 0.0**
SATY Saty 46.60 295 *e*P **P** **04 08 21.4 -0.1**
baz=295
SATY Saty 46.60 295 *e*P **P** **04 08 21.4 -0.1**
F26K Sheenjek River 46.65 30 P **P** **04 08 23.6 +2.1**
baz=274
WUS Wushi 46.70 292 P **P** **04 08 23.1 +0.7**
RIDG Independent Ri 46.74 36 P **P** **04 08 23.8 +1.6**
baz=277
G26K Porcupine Rive 46.85 31 P **P** **04 08 25.0 +2.1**
baz=275
SCRK Sand Creek 47.09 35 IAmb IAmb 04 08 26.7
comp=Z,5.9nm,0.8s
SCRK Sand Creek 47.09 35 P **P** **04 08 26.3 +1.3**
baz=278,SNR=6.6
N25K Chitina, Valde 47.16 39 P **P** **04 08 26.9 +1.3**
baz=279
J26L Joseph Creek 47.20 35 P **P** **04 08 27.9 +2.0**
baz=278
I26K Coal Creek Min 47.28 33 P **P** **04 08 27.9 +1.6**
baz=277
CHKK Chushkaly 47.29 296 *e*P **P** **04 08 26.2 -0.5**
baz=296
CHKK Chushkaly 47.29 296 *e*P **P** **04 08 26.2 -0.5**
MDOK Medeo 47.49 295 *e*P **P** **04 08 28.5 0.0**
baz=295
MDOK Medeo 47.49 295 *e*P **P** **04 08 28.5 0.0**
L26K Log Cabin Wild 47.51 37 P **P** **04 08 30.4 +2.2**
baz=279
TNSS Tian-Shan 47.60 295 *e*P **P** **04 08 29.9 +0.2**
baz=295
TNSS Tian-Shan 47.60 295 *e*P **P** **04 08 29.8 +0.2**
D27M Malcolm River 47.70 28 P **P** **04 08 31.1 +1.5**
baz=275
M26K Nabesna, AK 47.77 37 P **P** **04 08 32.3 +2.0**
baz=280
H27K Steamboat Moun 47.83 32 P **P** **04 08 33.3 +2.7**
baz=278
K27K Chicken 47.92 35 P **P** **04 08 33.5 +2.2**
baz=279
BRZS Berezniki 48.11 306 ⇑*i* P **P** **04 08 33.0 0.0**
comp=Z,6.7nm,0.6s,baz=305
BRZS Berezniki 48.11 306 *c i* P **P** **04 08 33.0 0.0**
BRZS pmax pmax
comp=Z,7.0nm,0.6s
L27K Beaver Creek, 48.19 36 P **P** **04 08 35.3 +1.8**
baz=280
E28M Babbage River 48.28 29 P **P** **04 08 36.0 +1.9**
baz=277
F28M Old Crow 48.29 30 P **P** **04 08 36.8 +2.6**
baz=278,SNR=7.1
M27K Edge Creek, AK 48.29 37 P **P** **04 08 35.7 +1.4**
baz=281
D28M Stokes Point 48.48 28 P **P** **04 08 37.7 +2.2**
baz=277
TKM2 Tokmak 2 48.57 296 P **P** **04 08 36.9 0.0**
I28M Miner Creek 48.59 33 P **P** **04 08 38.6 +2.0**
baz=280

BVA0 Borovoye Array 48.60 310 *i* P **P** **04 08 36.6 -0.1**
BVAR Borovoye Array 48.60 310 P **P** **04 08 36.6 -0.1**
comp=Z,31nm,0.6s,baz=76,slow=8.1,SNR=149
BVAR PcP **PcP** **04 10 02.9 +1.3**
comp=Z,3.3nm,0.8s,baz=63,slow=10,SNR=2.1
comp=Z,31nm,0.6s
BRVK Borovoye 48.65 310 P **P** **04 08 36.8 -0.3**
BRVK Borovoye 48.65 310 *ce*P **P** **04 08 37.7 +0.6**
BRVK pmax pmax
comp=Z,27nm,0.8s
BRVK Borovoye 48.65 310 P **P** **04 08 37.6 +0.5**
BTLS Baital 48.84 299 *e*P **P** **04 08 38.5 -0.3**
baz=299
BTLS Baital 48.84 299 *e*P **P** **04 08 38.4 -0.3**
OTUK Ortayu 48.86 303 P **P** **04 08 38.6 -0.2**
E29M Blow River 48.91 29 P **P** **04 08 41.1 +2.2**
baz=279
YUK3 Moose Creek 49.06 38 P **P** **04 08 42.0 +1.6**
baz=282
H29M Whitestone 49.09 32 P **P** **04 08 42.7 +2.4**
baz=280
G29M Pine Creek 49.11 31 P **P** **04 08 43.1 +2.7**
baz=280
AAK Ala-Archa 49.43 296 P **P** **04 08 43.0 -0.3**
AAK IAmb IAmb 04 08 47.6
comp=Z,6.7nm,0.8s
AAK Ala-Archa 49.43 296 P **P** **04 08 43.1 -0.3**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 49.43 296 LR LR 04 30 51.0
comp=Z,134nm,18.7s,baz=90,slow=38
AAK Ala-Archa 49.43 296 P **P** **04 08 43.4 0.0**
KSH Kashi 49.64 291 P **P** **04 08 49.0 +4.0**
KSH pmax pmax
comp=Z,6.0nm,0.8s
EPYK Eagle Plains 49.72 31 P **P** **04 08 47.6 +2.5**
baz=282,SNR=10
G30M tAoh Zraii Nji 49.79 31 P **P** **04 08 48.0 +2.3**
baz=282
L29M L29M 49.83 36 P **P** **04 08 48.6 +2.7**
baz=283
F30M Barrier River 49.83 30 P **P** **04 08 48.9 +3.0**
baz=281
K29M Barlow Dome 49.93 35 P **P** **04 08 49.4 +2.6**
baz=283
I30M Mount Dempster 50.10 33 P **P** **04 08 50.7 +2.5**
baz=283
INK Inuvik 50.52 29 IAmb IAmb 04 08 54.2
comp=Z,12nm,0.9s
INK Inuvik 50.52 29 P **P** **04 08 53.0 +2.0**
baz=283,SNR=12
INK Inuvik 50.52 29 LR LR 04 32 00.5
comp=Z,31nm,18.8s,baz=180,slow=38
M30M Minto, Yukon 50.55 36 P **P** **04 08 53.7 +2.2**
baz=285
G31M Satah River 50.55 30 P **P** **04 08 53.5 +2.1**
baz=283
F31M Tsiigehtchic 50.64 30 P **P** **04 08 53.8 +1.8**
baz=283,SNR=6.5
HYT Haines Junctio 50.68 39 P **P** **04 08 54.9 +2.4**
N31M Braeburn, Yuko 51.30 37 P **P** **04 08 59.3 +2.2**
baz=286
DZA Taraz 51.47 297 *e*P **P** **04 08 58.1 -0.5**
baz=297
DZA Taraz 51.47 297 *e*P **P** **04 08 58.1 -0.5**
M31M Drury Creek, Y 51.73 36 P **P** **04 09 01.8 +1.5**
baz=287
KK31 Karatay Array 51.94 298 IAmb IAmb 04 09 02.9
comp=Z,10nm,1.0s
KK31 Karatay Array 51.94 298 *i* P **P** **04 09 01.6 -0.5**
KKAR Karatay Array 51.94 298 P **P** **04 09 01.7 -0.4**
KKAR Karatay Array 51.94 298 P **P** **04 09 01.7 -0.4**
A36M Sachs Harbour 52.31 23 P **P** **04 09 06.7 +2.4**
baz=287,SNR=9.4
SVE Sverdlovsk 52.78 317 *e*P **P** **04 09 08.9 +0.8**
SVE pmax pmax
comp=Z,37nm,0.8s
C36M Paulatuk 53.52 26 P **P** **04 09 14.8 +1.4**
baz=290,SNR=8.9
ARU Arti 54.00 317 P **P** **04 09 16.7 -0.3**
ARU Arti 54.00 317 *c* P **P** **04 09 17.2 +0.2**
ARU *PP **pP** **04 09 30.8 +0.7**
ARU 04 10 19.9
ARU S **S** **04 16 51.0 +1.9**
ARU SS **SS** **04 20 33.2 +2.9**
ARU pmax pmax
comp=Z,30nm,0.9s
ARU Arti 54.00 317 LR LR 04 34 51.4
comp=Z,172nm,18.5s,baz=66,slow=39
NIL Nilore 54.24 286 P **P** **04 09 19.9 +0.7**
NIL Nilore 54.24 286 P **P** **04 09 19.9 +0.7**
NIL pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 54.24 286 P **P** **04 09 20.6 +1.4**
NIL pP **pP** **04 09 33.4 +1.1**
NIL sP **sP** **04 09 39.0 +1.2**
SIMJ Simiganj 54.89 293 P **P** **04 09 23.5 -0.5**
SIMJ Simiganj 54.89 293 P **P** **04 09 23.8 -0.2**
SIMJ pP **pP** **04 09 37.2 +0.1**
SIMJ sP **sP** **04 09 42.1 -0.5**
AB31 Akbulak array 56.08 308 *i* P **P** **04 09 32.4 +0.2**
ABKAR Akbulak array 56.08 308 P **P** **04 09 31.5 -0.7**
AKTO Aktyubinsk 56.70 310 P **P** **04 09 36.2 -0.4**
AKTO Aktyubinsk 56.70 310 LR LR 04 36 03.4
comp=Z,99nm,19.0s,baz=75,slow=38
SPITS Spitsbergen Ar 56.83 349 P **P** **04 09 36.8 -0.3**
comp=Z,2.4nm,0.6s,baz=37,slow=2.1,SNR=2.0
comp=Z,2.4nm,0.6s
KBL Kabul 56.84 289 P **P** **04 09 36.8 -1.3**
KBL IAmb IAmb 04 09 38.9
comp=Z,13nm,0.9s
KBL Kabul 56.84 289 P **P** **04 09 36.8 -1.3**
KBL pmax pmax
comp=Z,13nm,0.9s
KIRV Kirov 57.63 322 LR LR 04 36 05.5
comp=Z,60nm,18.0s,baz=50,slow=38
RES Resolute Bay 58.59 15 LR LR 04 36 29.9
comp=Z,26nm,20.8s,baz=56,slow=38
BBB Bella Bella 58.70 46 LR LR 04 33 18.4
comp=Z,21nm,21.3s,baz=7.5,slow=34
YKA Yellowknife Ar 60.01 32 P **P** **04 10 00.2 +0.8**
comp=Z,1.1nm,0.9s,baz=299,slow=6.8,SNR=12
comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 60.61 339 LR LR 04 38 17.8
comp=Z,103nm,18.4s,baz=70,slow=38
KLMR Klimovskoe 60.89 327 *e*P **P** **04 10 03.0 -2.4**
KLMR *e* 04 12 15.7
KLMR pmax pmax
comp=Z,23nm,1.6s
WRA Warramunga Arr 61.08 189 *ce*P **P** **04 10 07.5 +0.4**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 61.08 189 P **P** **04 10 07.3 +0.1**
comp=Z,2.3nm,0.6s,baz=6.3,slow=6.8,SNR=17
comp=Z,2.3nm,0.6s
BELG Belogornoye 61.51 316 *i* P **P** **04 10 09.8 0.0**
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 61.51 316 LR LR 04 39 05.5
comp=Z,145nm,19.4s,baz=162,slow=38
HRA Herat 61.73 292 P **P** **04 10 11.3 -0.6**
HRA IAmb IAmb 04 10 13.3
comp=Z,4.2nm,0.8s
GEYT Alibeck 62.69 298 IAmb IAmb 04 10 19.1
comp=Z,9.8nm,1.0s
GEYT Alibeck 62.69 298 P **P** **04 10 17.3 -0.7**
comp=Z,7.9nm,1.0s,baz=35,slow=3.6,SNR=10
comp=Z,7.9nm,1.0s
GYA0B ALIBECK ARRAY 62.69 298 P **P** **04 10 17.2 -0.9**
GYA0B IAmb IAmb 04 10 22.2
comp=Z,8.5nm,0.9s
ASAR Alice Springs 64.80 189 P **P** **04 10 32.2 +0.4**
comp=Z,2.5nm,0.8s,baz=14,slow=6.2,SNR=14
comp=Z,2.5nm,0.8s
VRH Novokhopyorsk 65.23 317 *e*P **P** **04 10 32.9 -1.5**
VRH pmax pmax
comp=Z,30nm,0.7s
OBN Obninsk 65.45 323 ⇓*e*P **P** **04 10 34.9 -0.8**
OBN *e*PP **pP** **04 10 48.2 -0.9**
OBN *SP **sP** **04 10 55.0 +0.5**
OBN *e*SS SS 04 23 35.1 +5.5
OBN *e*SSS SSS 04 26 29.0
OBN pmax pmax
comp=Z,31nm,2.5s
OBN MLR MLR
comp=Z,105nm,16.0s

FINES FINESS Array B 65.72 332 P **P** **04 10 36.8 -0.6**
FINES FINESS Array B 65.72 332 P **P** **04 10 37.5 +0.1**
comp=Z,6.5nm,0.8s,baz=39,slow=8.1,SNR=18
FINES LR LR 04 40 09.7
comp=Z,158nm,18.2s,baz=22,slow=37
comp=Z,6.5nm,0.8s
LPSR Galich'ya Gora 65.83 319 *e*P **P** **04 10 37.4 -0.8**
LPSR pmax pmax
comp=Z,30nm,0.8s
VORR Voronezh 66.24 319 *e*P **P** **04 10 39.3 -1.6**
VORR pmax pmax
comp=Z,60nm,0.4s
VSR Storozhevoye 66.53 318 *e*P **P** **04 10 40.6 -2.1**
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 66.61 318 *e*P **P** **04 10 41.7 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 66.75 0 P **P** **04 10 44.9 +0.6**
SUMG IAmb IAmb 04 10 46.4
comp=Z,13nm,0.8s
SUMG Summit 66.75 0 P **P** **04 10 44.9 +0.6**
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 66.75 0 *i* P **P** **04 10 45.0 +0.7**
NEW Newport 66.76 46 LR LR 04 38 09.4
comp=Z,27nm,21.9s,baz=298,slow=34
GOF Gofitskoye 68.10 311 *ce*P **P** **04 10 54.0 +1.2**
ZEI Tsey 68.96 309 *e*P **P** **04 10 57.8 -0.7**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 68.97 310 ⇓P **P** **04 11 00.1 +1.7**
KIV Kislovodsk 68.97 310 P **P** **04 10 58.0 -0.4**
KIV Kislovodsk 68.97 310 *e*P **P** **04 10 58.2 -0.2**
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR
comp=Z,42nm,17.0s
KIV Kislovodsk 68.97 310 ⇓P **P** **04 11 00.0 +1.7**
KBZ Khabaz 68.98 310 P **P** **04 10 58.8 +0.5**
comp=Z,15nm,0.8s,baz=52,slow=4.2,SNR=21
KBZ LR LR 04 46 43.6
comp=Z,78nm,18.2s,baz=48,slow=41
comp=Z,15nm,0.8s
MNK Minsk 69.70 326 *i* P **P** **04 11 03.7 +1.1**
MNK *i* *PP **pP** **04 11 17.9 +1.9**
MNK *i* *SP **PcP** **04 11 25.4 +0.3**
MNK *i* 04 13 38.6
MNK *i* PPP PPP 04 15 19.6
MNK *i* S **S** **04 20 08.8 +1.4**
MNK *i* SS **SS** **04 24 36.2 +0.9**
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=N,328nm,19.0s
MNK MLR MLR
comp=E,154nm,19.0s
MNK MLR MLR
comp=Z,147nm,19.0s
FFC Flin Flon 69.96 34 P **P** **04 11 04.6 +0.4**
FFC IAmb IAmb 04 11 06.1
comp=Z,5.5nm,0.8s
FFC Flin Flon 69.96 34 P **P** **04 11 04.6 +0.4**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 69.96 34 P **P** **04 11 05.4 +1.2**
FFC pP **pP** **04 11 18.6 +1.1**
FFC sP **PcP** **04 11 24.4 -1.9**
GNI Garni 70.03 306 *i* P **P** **04 11 05.2 +0.1**
GNI pmax pmax
comp=Z,8.0nm,1.1s
HFS Hagfors 70.84 336 P **P** **04 11 09.3 -0.1**
comp=Z,2.1nm,0.3s,baz=39,slow=5.7,SNR=16
HFS LR LR 04 47 42.7
comp=Z,59nm,18.2s,baz=38,slow=41
comp=Z,2.1nm,0.3s
NB2 NORSAR Subarra 70.87 337 P **P** **04 11 09.5 -0.2**
comp=Z,8.7nm,0.9s,baz=36,slow=6.2
NOA NORSAR Array B 70.87 337 P **P** **04 11 09.7 0.0**
comp=Z,2.2nm,0.7s,baz=37,slow=6.1,SNR=7.5
NOA LR LR 04 45 11.9
comp=Z,39nm,21.3s,baz=25,slow=38
comp=Z,2.2nm,0.7s
YERR Yerington 71.08 55 IAmb IAmb 04 11 39.8
comp=Z,21nm,1.8s
AKASG Malin Array Be 71.69 322 P **P** **04 11 14.7 0.0**
comp=Z,9.0nm,0.9s,baz=44,slow=6.1,SNR=24
AKASG LR LR 04 45 43.8
comp=Z,72nm,19.8s,baz=36,slow=38
comp=Z,9.0nm,0.9s
AKBB Malin Array Si 71.69 322 IAmb IAmb 04 11 30.6
comp=Z,12nm,0.8s
AKBB Malin Array Si 71.69 322 *i* P **P** **04 11 14.9 +0.2**
AKBB pmax pmax
comp=Z,12nm,0.9s
KIEV Kiev 71.70 322 ⇓P **P** **04 11 15.0 +0.2**
KIEV Kiev 71.70 322 P **P** **04 11 14.0 -0.8**
KIEV IAmb IAmb 04 11 30.6
comp=Z,11nm,0.8s
KIEV Kiev 71.70 322 P **P** **04 11 14.0 -0.8**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 71.70 322 P **P** **04 11 15.0 +0.2**
KIEV pP **pP** **04 11 28.7 +0.3**
KIEV sP **sP** **04 11 33.4 -0.3**
KVN Kaiserville 71.74 54 P **P** **04 11 17.3 +1.7**
KVN Kaiserville 71.74 54 P **P** **04 11 17.3 +1.7**
KVN pmax pmax
comp=Z,3.0nm,0.8s
SFJD Kangerlussuaq 71.89 5 LR LR 04 45 01.6
comp=Z,74nm,19.0s,baz=352,slow=38
NVAR Mina Array Bea 72.00 55 P **P** **04 11 18.8 +1.7**
NVAR Mina Array Bea 72.00 55 P **P** **04 11 18.4 +1.3**
comp=Z,1.6nm,0.8s,baz=285,slow=6.2,SNR=10
comp=Z,1.6nm,0.8s
H17A Grant Village 72.71 46 P **P** **04 11 24.0 +2.6**
baz=311
SORM Soroca 73.87 320 ⇓P **P** **04 11 28.0 +0.3**
PD31 Pinedale Array 74.34 47 P **P** **04 11 31.1 +0.2**
PDAR Pinedale Array 74.34 47 P **P** **04 11 31.9 +1.1**
comp=Z,1.7nm,0.7s,baz=278,slow=2.5,SNR=15
comp=Z,1.7nm,0.7s
LVV L'vov 74.69 324 *e*P **P** **04 11 34.0 +1.6**
BUR08 Bucovina Ar. S 75.72 322 P **P** **04 11 38.6 0.0**
BUR08 IAmb IAmb 04 11 55.3
comp=Z,7.6nm,0.8s
BURAR Bucovina Array 75.73 322 ⇑P **P** **04 11 38.9 +0.3**
BURAR Bucovina Array 75.73 322 P **P** **04 11 38.2 -0.4**
BURAR IAmb IAmb 04 11 55.8
comp=Z,8.5nm,0.8s
ULM Lac du Bonnet 75.78 34 P **P** **04 11 38.5 -0.2**
comp=Z,1.5nm,0.6s,baz=303,slow=5.7,SNR=4.3
comp=Z,1.5nm,0.6s
TESR Tescani 75.84 320 ⇓P **P** **04 11 40.2 +1.1**
K22A Casper 76.07 45 P **P** **04 11 41.7 +0.9**
baz=313
KOLS Kolonicke sedl 76.12 324 *e*P **P** **04 11 41.7 +1.0**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 76.12 324 *e*P **P** **04 11 41.7 +1.0**
PFO Pinyon Flats O 76.20 57 LR LR 04 38 44.8
comp=Z,31nm,21.6s,baz=280,slow=31
STHS Stebnicka Huta 76.21 325 *e*P **P** **04 11 42.1 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 76.21 325 *e*P **P** **04 11 42.1 +0.9**
SRU San Rafael Swe 76.23 50 P **P** **04 11 42.7 +1.0**
SRU San Rafael Swe 76.23 50 P **P** **04 11 42.7 +1.0**
SRU pmax pmax
comp=Z,7.0nm,1.4s
OJC Ojcow 76.23 326 *e*P **P** **04 11 42.3 +1.0**
OJC Ojcow 76.23 326 IAmb IAmb 04 11 58.9
comp=Z,18nm,0.9s
VRI Vrinacioaia 76.26 320 ⇑P **P** **04 11 42.9 +1.3**
TURR Turia 76.47 320 ⇓P **P** **04 11 44.6 +1.8**
CRVS Cervenica-Dubn 76.50 324 *e*P **P** **04 11 44.0 +1.1**
CRVS *e* 04 11 59.6
CRVS Cervenica-Dubn 76.50 324 *e*P **P** **04 11 44.0 +1.1**
CRVS *e* 04 11 59.6
DOPR Dopca 76.84 320 ⇑P **P** **04 11 47.4 +2.5**
BRTR Keskin Array B 76.86 311 P **P** **04 11 44.9 -0.3**

BRTR Keskin Array B 76.86 311 *ce*P **P** **04 11 45.9 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 76.86 311 P **P** **04 11 45.5 +0.2**
comp=Z,2.1nm,0.6s,baz=82,slow=3.8,SNR=17
BRTR PP **PP** **04 14 36.6 -1.4**
comp=Z,0.8nm,0.8s,baz=140,slow=6.4,SNR=4.0
comp=Z,2.1nm,0.6s
MLR Muntele Rosu 76.91 320 LR LR 04 49 46.5
comp=Z,88nm,18.6s,baz=276,slow=39
ICOR Ion Corvin 76.97 318 ⇓P **P** **04 11 47.1 +1.6**
LANS Liptovska Anna 77.18 326 *e*P **P** **04 11 48.3 +1.6**
LANS *e* 04 12 04.0
LANS pmax pmax
comp=Z,2.0nm,0.8s
LANS Liptovska Anna 77.18 326 *e*P **P** **04 11 48.3 +1.6**
LANS *e* 04 12 04.0
ANTO Ankara 77.24 312 P **P** **04 11 48.0 +0.7**
ANTO IAmb IAmb 04 11 49.2
comp=Z,9.9nm,0.8s
ANTO Ankara 77.24 312 P **P** **04 11 48.0 +0.7**
ANTO pmax pmax
comp=Z,10.0nm,0.8s
VOIR 77.39 320 ⇓P **P** **04 11 49.3 +1.3**
MORC Moravsky Berou 77.51 327 IAmb IAmb 04 11 50.5
comp=Z,8.3nm,0.9s
MORC Moravsky Berou 77.51 327 *e*P **P** **04 11 49.4 +0.9**
MORC *e* 04 12 04.9
DPC Dobruska-Polom 77.56 328 *e*P **P** **04 11 50.3 +1.5**
DPC *e*pP **sP** **04 12 05.6 -2.2**
DPC Dobruska-Polom 77.56 328 *e*P **P** **04 11 50.3 +1.5**
DPC *e**PP **sP** **04 12 05.6 -2.2**
MAUC Maruska 77.71 327 *e*P **P** **04 11 51.4 +1.8**
PSZ Piszkesteto 77.93 325 P **P** **04 11 50.6 -0.3**
PSZ IAmb IAmb 04 12 08.4
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 77.93 325 P **P** **04 11 50.6 -0.3**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 77.95 326 *e*P **P** **04 11 52.4 +1.4**
VYHS *e* 04 12 07.8
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 77.95 326 *e*P **P** **04 11 52.4 +1.4**
VYHS *e* 04 12 07.8
CLL Collm 78.09 330 *i* P **P** **04 11 51.6 -0.1**
CLL *i* *PP **pP** **04 12 07.0 +1.7**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 78.09 330 *i* P **P** **04 11 51.6 -0.1**
comp=Z,8.0nm,0.9s
CLL *i* pP **pP** **04 12 07.0 +1.7**
comp=Z,8.0nm,1.0s
JAVC Velka Javorina 78.16 326 *e*P **P** **04 11 53.9 +1.7**
VRAC Vranov 78.26 327 ⇓P **P** **04 11 54.2 +1.5**
VRAC Vranov 78.26 327 *e*P **P** **04 11 53.3 +0.6**
VRAC *e* 04 12 09.3
VRAC Vranov 78.26 327 P **P** **04 11 53.3 +0.6**
comp=Z,4.8nm,0.8s,baz=39,slow=7.7,SNR=4.9
VRAC LR LR 04 49 02.0
comp=Z,75nm,18.2s,baz=31,slow=38
comp=Z,4.8nm,0.8s
GZR Gura Zlata 78.51 321 ⇓P **P** **04 11 55.2 +1.0**
KRUC Moravsky 78.53 327 *e*P **P** **04 11 54.7 +0.5**
KRUC *e* 04 12 10.5
SURR Surduc 78.55 322 ⇓P **P** **04 11 55.4 +1.1**
PRU Pruhonice 78.55 329 *e*P **P** **04 11 55.4 +1.1**
PRU *e*pP **sP** **04 12 11.0 -2.2**
PRU Pruhonice 78.55 329 *e*P **P** **04 11 55.4 +1.1**
PRU *e**PP **sP** **04 12 11.0 -2.2**
SUSD Miller 78.67 40 IAmb IAmb 04 11 58.1
comp=Z,19nm,1.1s
SUSD Miller 78.67 40 P **P** **04 11 55.5 +0.5**
baz=318
SRO Srobarova 78.70 325 *e*P **P** **04 11 56.9 +1.8**
SRO Srobarova 78.70 325 *e*P **P** **04 11 56.9 +1.8**
TREC Trest 78.72 328 *e*P **P** **04 11 56.4 +1.1**
TREC Trest 78.72 328 *e*P **P** **04 11 56.4 +1.1**
ZVC Zvikov 79.12 329 *e*P **P** **04 11 57.2 -0.2**
S22A 4UR Ranch, Cre 79.28 49 P **P** **04 12 00.9 +2.0**
baz=314
Q24A Divide 79.38 47 P **P** **04 11 59.6 +0.2**
baz=315
MDVR Moldovita 79.47 322 ⇑P **P** **04 11 57.7 -1.7**
CKRC Cesky Krumlov 79.57 328 *e*P **P** **04 12 00.9 +1.0**
CKRC *e*pP **sP** **04 12 16.7 -2.2**
CKRC Cesky Krumlov 79.57 328 *e*P **P** **04 12 00.9 +1.0**
CKRC *e**PP **sP** **04 12 16.7 -2.2**
KHC Kasperske Hory 79.61 329 IAmb IAmb 04 12 02.0
comp=Z,5.2nm,0.7s
KHC Kasperske Hory 79.61 329 *e*P **P** **04 12 01.2 +1.1**
KHC *e*pP **sP** **04 12 16.2 -3.0**
KHC Kasperske Hory 79.61 329 *e*P **P** **04 12 01.2 +1.1**
KHC *e**PP **sP** **04 12 16.2 -3.0**
RONA Rosalia, Austr 79.64 326 *i* P **P** **04 11 59.3 -1.0**
comp=Z,6.4nm,1.0s
RONA *i* pP **sP** **04 12 16.8 -2.6**
comp=Z,8.8nm,1.0s
CONA Conrad Observa 79.64 327 *i* P **P** **04 11 59.4 -1.0**
comp=Z,4.3nm,1.0s
CONA *i* pP **pP** **04 12 15.6 +1.5**
comp=Z,6.1nm,0.9s
EKA Eskdalemuir Ar 79.69 341 P **P** **04 12 00.1 -0.3**
comp=Z,1.5nm,0.7s,baz=23,slow=4.5,SNR=3.5
comp=Z,1.5nm,0.7s
GERES GERESS Array B 79.79 328 P **P** **04 12 01.6 +0.4**
comp=Z,1.3nm,0.5s,baz=25,slow=7.1,SNR=4.8
GERES LR LR 04 49 50.3
comp=Z,55nm,18.3s,baz=280,slow=38
comp=Z,1.3nm,0.5s
RAYN Ar Rayn 79.92 292 P **P** **04 12 02.0 -0.3**
RAYN IAmb IAmb 04 12 03.3
comp=Z,18nm,1.6s
RAYN Ar Rayn 79.92 292 P **P** **04 12 02.0 -0.3**
RAYN pmax pmax
comp=Z,18nm,1.6s
ARSA Arzberg 80.32 326 *e*P **P** **04 12 02.6 -1.4**
comp=Z,3.2nm,1.0s
ARSA *e*pP **sP** **04 12 20.0 -3.0**
comp=Z,5.0nm,1.2s
ECSD EROS Data Cent 80.33 39 P **P** **04 12 03.4 -0.7**
MMAI Mount Meron Ar 80.36 305 P **P** **04 12 05.0 +0.5**
comp=Z,4.4nm,0.7s,baz=38,slow=5.5,SNR=10.0
MMAI LR LR 04 50 46.6
comp=Z,43nm,18.8s,baz=22,slow=38
comp=Z,4.4nm,0.7s
BIOA Bad Ischl, Aus 80.74 328 *i* P **P** **04 12 07.0 +0.7**
comp=Z,3.5nm,0.7s
BIOA *i* pP **sP** **04 12 22.6 -2.7**
comp=Z,8.7nm,1.0s
GROS Grobnik 80.95 326 *i* P **P** **04 12 07.8 +0.3**
GROS *i* pP **pP** **04 12 23.2 +2.0**
SOKA Soboth 80.98 326 *i* P **P** **04 12 08.1 +0.6**
comp=Z,9.8nm,0.7s,SNR=6.3
SOKA *i* pP **sP** **04 12 23.6 -3.0**
comp=Z,15nm,1.0s
T25A Trinidad 81.08 48 P **P** **04 12 09.1 +0.7**
baz=315
OBKA Obir 81.31 327 *e*P **P** **04 12 09.3 -0.1**
comp=Z,5.6nm,0.7s,SNR=6.7
OBKA *i* pP **pP** **04 12 24.7 +1.6**
comp=Z,6.5nm,0.8s
SCHQ Schefferville 81.33 17 P **P** **04 12 09.1 -0.1**
comp=Z,5.1nm,0.9s,baz=338,slow=6.2,SNR=5.2
SCHQ LR LR 04 54 05.0
comp=Z,25nm,18.4s,baz=278,slow=40
comp=Z,5.1nm,0.9s
LESA Schwarzleotal 81.34 328 *i* P **P** **04 12 10.1 +0.6**
comp=Z,6.5nm,1.0s
LESA *i* pP **sP** **04 12 25.7 -2.9**
comp=Z,14nm,1.1s
KBA Koelnbreinsper 81.35 328 *i* P **P** **04 12 09.6 -0.1**
comp=Z,5.5nm,0.8s
KBA *i* pP **sP** **04 12 26.2 -2.5**
comp=Z,13nm,1.3s
ANMO Albuquerque 81.44 51 LR LR 04 45 44.9
comp=Z,14nm,21.8s,baz=148,slow=34
PDKS Podkum 81.48 326 *i* P **P** **04 12 10.6 +0.3**
MYKA Terra Mystica 81.59 327 *i* P **P** **04 12 10.2 -0.7**
comp=Z,3.4nm,0.6s
MYKA *i* pP **pP** **04 12 25.2 +0.6**
comp=Z,7.8nm,1.0s
WATA Walderalm 81.85 329 *i* P **P** **04 12 11.5 -0.8**
comp=Z,2.9nm,0.5s
WATA *i* pP **sP** **04 12 28.2 -3.1**
comp=Z,13nm,1.3s

WTTA	**Wattenberg**	**81.89**	**329**	*i* P		**P**	**04 12 11.5**	**-1.0**
	comp=Z,4.8nm,0.7s							
WTTA				*i* pP		**sP**	**04 12 28.6**	**-3.0**
	comp=Z,7.4nm,0.8s							
ABTA	**Abfaltersbach**	**81.96**	**328**	*i* P		**P**	**04 12 12.1**	**-0.7**
	comp=Z,3.7nm,0.8s							
ABTA				*e*pP		**pP**	**04 12 26.4**	**-0.1**
	comp=Z,7.1nm,1.2s							
CEY	**Cerknica**	**81.98**	**326**	*i* P		**P**	**04 12 12.8**	**0.0**
CEY				*i* pP		**pP**	**04 12 28.2**	**+1.6**
JAVS	**Javornik**	**82.01**	**326**	*i* pP		pP	04 12 28.0	+1.2
MOTA	**Moosalm**	**82.03**	**329**	*i* P		**P**	**04 12 12.7**	**-0.5**
	comp=Z,9.2nm,0.8s							
MOTA				*i* pP		**pP**	**04 12 28.4**	**+1.4**
	comp=Z,18nm,1.0s							
RETA	**Reutte**	**82.05**	**329**	*i* P		**P**	**04 12 12.8**	**-0.4**
	comp=Z,10nm,0.9s							
RETA				*i* pP		**pP**	**04 12 28.5**	**+1.6**
	comp=Z,14nm,1.0s							
SQTA	**Sankt Quirin**	**82.09**	**329**	*i* P		**P**	**04 12 12.8**	**-0.7**
	comp=Z,4.9nm,0.7s							
SQTA				*i* pP		**pP**	**04 12 28.6**	**+1.3**
	comp=Z,10nm,1.1s							
STAL	**STALIGIAL**	**82.27**	**327**	P		**P**	**04 12 13.2**	**-1.2**
STAL				IAmb		IAmb	04 12 30.0	
	comp=Z,17nm,1.2s							
FETA	**Feichten**	**82.44**	**329**	*i* P		**P**	**04 12 14.6**	**-0.8**
	comp=Z,4.4nm,0.7s							
FETA				*i* pP		**pP**	**04 12 30.5**	**+1.4**
	comp=Z,9.3nm,1.0s							
DAVA	**Damuels**	**82.55**	**330**	*i* P		**P**	**04 12 15.7**	**-0.2**
	comp=Z,10nm,0.9s							
DAVA				*i* pP		**pP**	**04 12 30.9**	**+1.2**
	comp=Z,14nm,0.9s							
CTI	**Castel Tesino**	**82.87**	**328**	P		**P**	**04 12 16.4**	**-1.2**
CTI				IAmb		IAmb	04 12 33.5	
	comp=Z,8.0nm,1.0s							
CTI	**Castel Tesino**	**82.87**	**328**	P		**P**	**04 12 16.4**	**-1.2**
CTI				pmax		pmax		
	comp=Z,8.0nm,1.0s							
EIL	**Elat**	**82.91**	**303**	LR		LR	04 53 43.0	
	comp=Z,25nm,18.8s,baz=260,slow=39							
DAVOX	**Davos/Dischmat**	**82.97**	**329**	LR		LR	04 54 29.3	
	comp=Z,75nm,18.1s,baz=38,slow=40							
TEOL	**Teolo**	**83.43**	**328**	P		**P**	**04 12 19.9**	**-0.4**
TEOL				IAmb		IAmb	04 12 37.0	
	comp=Z,13nm,0.9s							
VLDQ	**Val d'Or**	**84.51**	**26**	IAmb		IAmb	04 12 26.1	
	comp=Z,7.6nm,0.8s							
FDMO	**Fiordimonte**	**84.72**	**325**	P		**P**	**04 12 27.2**	**+0.2**
FDMO				IAmb		IAmb	04 12 28.6	
	comp=Z,8.5nm,0.7s							
OSSC	**Osservatorio P**	**85.11**	**327**	IAmb		IAmb	04 12 45.8	
	comp=Z,5.9nm,0.9s							
INTR	**Introdacqua**	**85.19**	**324**	P		**P**	**04 12 29.2**	**-0.2**
INTR				IAmb		IAmb	04 12 46.6	
	comp=Z,11nm,0.9s							
DKNS	**Dickens**	**85.55**	**48**	IAmb		IAmb	04 12 34.6	
	comp=Z,4.8nm,0.7s							
POST	**Post**	**85.66**	**49**	IAmb		IAmb	04 12 34.6	
	comp=Z,5.7nm,0.8s							
PPT	**Papeete**	**85.69**	**118**	LR		LR	04 42 09.1	
	comp=Z,49nm,21.6s,baz=238,slow=30							
TUL3	**Leonard**	**86.67**	**44**	P		**P**	**04 12 37.2**	**+0.5**
	baz=320							
ABTX	**Abilene, Hawle**	**87.04**	**48**	P		**P**	**04 12 39.3**	**+0.7**
	baz=318							
TX31	**Lajitas Ar. Si**	**87.08**	**53**	P		**P**	**04 12 40.6**	**+1.6**
TX31				IAmb		IAmb	04 14 43.0	
	comp=Z,12nm,1.9s							
TXAR	**Lajitas Array**	**87.08**	**53**	P		**P**	**04 12 39.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=294,slow=3.9,SNR=13							
	comp=Z,0.9nm,0.7s							
RPZ	**Rata Peaks**	**88.15**	**160**	LR		LR	04 47 13.9	
	comp=Z,36nm,20.0s,baz=301,slow=32							
VAE	**Valguarnera**	**88.60**	**321**	LR		LR	04 57 41.0	
	comp=Z,54nm,20.1s,baz=146,slow=39							
P49A	**Miami Univ. Ec**	**89.07**	**35**	P		**P**	**04 12 48.6**	**+0.4**
	baz=326							
O53A	**New Philadelph**	**89.92**	**32**	P		**P**	**04 12 53.0**	**+0.9**
	baz=329							
TKL	**Tuckaleechee C**	**92.71**	**36**	LR		LR	04 55 40.3	
	comp=Z,25nm,21.9s,baz=352,slow=36							
ESDC	**Sonseca Array**	**94.10**	**335**	P		**P**	**04 13 10.6**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=32,slow=7.5,SNR=2.3							
	comp=Z,0.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**115.07**	**317**	PKP		**PKiKP**	**04 18 33.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=34,slow=2.7,SNR=1.9							
TORD				PP		**PP**	**04 19 31.9**	**-1.5**
	comp=Z,1.2nm,1.0s,baz=28,slow=7.6,SNR=4.6							
QSPA	**South Pole Qui**	**130.71**	**180**	PKP		**PKPdf**	**04 19 03.2**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=275,slow=0.5,SNR=8.7							
SNAA	**Sanae**	**144.75**	**198**	PKP		PKPbc	04 19 27.6	+0.1
	comp=Z,4.7nm,0.6s,baz=193,slow=6.1,SNR=16							
H03N2	**Juan Fernandez**	**146.43**	**91**	T		T	07 04 36.1	
	baz=300,slow=76,SNR=4.8							
H03N3	**Juan Fernandez**	**146.44**	**91**	T		T	07 04 38.4	
	baz=300,slow=76,SNR=6.7							
H03N1	**Juan Fernandez**	**146.44**	**91**	T		T	07 04 32.9	
	baz=300,slow=76,SNR=6.0							

*RSPR **29** 04:33:01.6, 18°.84N×66°.65W, h64km±4km, MD3.2/10*
*SDD **29** 04:33:01.1±2.5, 18°.91N×66°.49W, h33km±326km, MD3.6, ML3.1, MW3.2*
*NEIC **29** 04:33:01.1±1.3, 18°.8N±0°.1×66°.64W±0°.04, h56km±23km, ML3.3/22, Md3.2/10(RSPR), Error ellipse: s-maj=17.2km s-min=4.8km az=191.0*
ISC 29 04:32:58.8±1.6, 18°.91N±0°.06×66°.64W±0°.03, h15km±10km, n51, σ0°61/68, 26C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.63**	**225**	↑	*e*P	**Pn**	**04 33 13.8**	**+0.6**
AGPR	**Aguadilla, PR**	**0.63**	**225**		*e*S	**Sn**	**04 33 24.0**	**+1.0**
AGPR	**Aguadilla, PR**	**0.63**	**225**			**Pn**	**04 33 13.6**	**+0.4**
AGPR						**Sn**	**04 33 22.9**	**-0.1**
AGPR					IAML		04 33 24.3	
	comp=N,989nm,0.5s							
AGPR					IAML		04 33 24.5	
	comp=E,2μm,0.4s							
AGPR	**Aguadilla, PR**	**0.63**	**225**	↑	*e*Pg	**Pn**	**04 33 13.8**	**+0.6**
AGPR					IAML		04 33 38.2	
	comp=N,283nm,0.4s							
AGPR	**Aguadilla, PR**	**0.63**	**225**	↓	*e*Pg	**Pn**	**04 33 13.7**	**+0.6**
AGPR				↑	*e*Sg	**Sn**	**04 33 22.7**	**-0.4**
AGPR					IAML		04 33 24.1	
	comp=N,1μm,0.8s							
AGPR					IAML		04 33 24.4	
	comp=E,1μm,0.3s							
GCPR	**Guaynabo City**	**0.80**	**139**	↑	*e*P	**Pn**	**04 33 15.8**	**+0.3**
GCPR	**Guaynabo City**	**0.80**	**139**		*e*S	**Sn**	**04 33 26.7**	**-0.5**
GCPR	**Guaynabo City**	**0.80**	**139**		Pn	**Pn**	**04 33 15.2**	**-0.4**
GCPR					Sn	**Sb**	**04 33 26.0**	**+0.9**
CELP	**Cerrillos**	**0.83**	**176**	↑	*e*P	**Pn**	**04 33 16.3**	**+0.3**
CELP	**Cerrillos**	**0.83**	**176**		*e*S	**Sn**	**04 33 27.3**	**-0.8**
CELP	**Cerrillos**	**0.83**	**176**		Pn	**Pn**	**04 33 16.1**	**+0.1**
CELP					Sn	**Sb**	**04 33 26.5**	**+0.4**
CELP					IAML		04 33 27.6	
	comp=E,667nm,0.4s							
CELP					IAML		04 33 27.6	
	comp=N,1μm,0.4s							
CELP	**Cerrillos**	**0.83**	**176**	↑	*e*Pg	**Pn**	**04 33 16.4**	**+0.3**
CELP					IAML		04 33 51.1	
	comp=N,87nm,1.2s							
CELP	**Cerrillos**	**0.83**	**176**	↑	*e*Pg	**Pn**	**04 33 16.3**	**+0.3**
CELP					IAML		04 33 27.5	
	comp=N,589nm,0.5s							
PRSN	**Puerto Rico Se**	**0.84**	**215**	↑	*e*P	**Pn**	**04 33 16.4**	**+0.3**
PRSN	**Puerto Rico Se**	**0.84**	**215**		*e*S	**Sn**	**04 33 28.5**	**+0.2**
PRSN	**Puerto Rico Se**	**0.84**	**215**		Pn	**Pn**	**04 33 15.9**	**-0.2**
PRSN					Sn	**Sb**	**04 33 27.1**	**+0.9**
PRSN					IAML		04 33 29.7	
	comp=E,1μm,0.2s							
PRSN	**Puerto Rico Se**	**0.84**	**215**	↑	*e*Pg	**Pn**	**04 33 16.5**	**+0.3**
PRSN				↓	*e*Sg	**Sn**	**04 33 28.5**	**+0.2**
PRSN					IAML		04 33 29.6	
	comp=E,1μm,0.2s							
PRSN					IAML		04 33 31.8	
	comp=N,2μm,0.2s							
LSP	**Las Mesas**	**0.85**	**210**	↑	*e*P	**Pn**	**04 33 16.6**	**+0.4**
LSP	**Las Mesas**	**0.85**	**210**		*e*S	**Sn**	**04 33 28.6**	**+0.1**
LSP	**Las Mesas**	**0.85**	**210**			**Pn**	**04 33 16.6**	**+0.4**
LSP						**Sn**	**04 33 28.6**	**+0.1**
OBIP	**Obispado Ponce**	**0.87**	**178**	↑	*e*P	**Pb**	**04 33 15.7**	**+0.1**
OBIP	**Obispado Ponce**	**0.87**	**178**		*e*S	**Sg**	**04 33 27.0**	**+0.1**
OBIP	**Obispado Ponce**	**0.87**	**178**		Pn	**Pg**	**04 33 15.4**	**-0.2**
OBIP					Sn	**Sg**	**04 33 26.3**	**-0.6**
OBIP					IAML		04 33 27.2	
	comp=E,1μm,0.1s							
OBIP					IAML		04 33 27.5	
	comp=N,1μm,0.5s							
GBPR	**Guanica, Bosqu**	**0.96**	**194**	↓	*e*P	**Pn**	**04 33 18.3**	**+0.6**
GBPR	**Guanica, Bosqu**	**0.96**	**194**		*e*S	**Sn**	**04 33 18.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.01**	**206**	↑	*e*P	**Pn**	**04 33 18.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.01**	**206**		*e*S	**Sg**	**04 33 31.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.01**	**206**		Pn	**Pg**	**04 33 18.3**	**+0.1**
CRPR					Sn	**Sb**	**04 33 30.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.01**	**206**	↑	*e*Pg	**Pn**	**04 33 18.8**	**+0.4**
CRPR					IAML		04 33 58.5	
	comp=N,123nm,3.0s							
CRPR	**Cabo Rojo, PR**	**1.01**	**206**	↓	*e*Pg	**Pn**	**04 33 18.6**	**+0.2**
CRPR				↑	*e*Sg	**Sg**	**04 33 31.8**	**+0.4**
CRPR					IAML		04 33 32.8	
	comp=E,328nm,0.2s							
CRPR					IAML		04 33 39.1	
	comp=N,251nm,0.6s							
MLPR	**Magueyes Islan**	**1.01**	**202**	↑	*e*P	**Pb**	**04 33 17.9**	**-0.2**
MLPR	**Magueyes Islan**	**1.01**	**202**		*e*S	**Sb**	**04 33 30.7**	**-0.5**
MLPR	**Magueyes Islan**	**1.01**	**202**		Pn	**Pb**	**04 33 17.3**	**-0.8**
MLPR					Sn	**Sb**	**04 33 30.4**	**-0.8**
MLPR					IAML		04 33 31.7	
	comp=N,599nm,0.2s							
MLPR	**Magueyes Islan**	**1.01**	**202**	↓	*e*Pg	**Pb**	**04 33 17.8**	**-0.2**
MLPR				↑	*e*Sg	**Sb**	**04 33 30.8**	**-0.5**
MLPR					IAML		04 33 31.5	
	comp=E,358nm,0.3s							
MLPR					IAML		04 33 31.7	
	comp=N,552nm,0.1s							
IGPR	**InterUniversit**	**1.07**	**152**	↑	*e*P	**Pn**	**04 33 19.5**	**+0.2**
IGPR	**InterUniversit**	**1.07**	**152**		*e*S	**Sb**	**04 33 32.8**	**0.0**
IGPR	**InterUniversit**	**1.07**	**152**		Pn	**Pb**	**04 33 19.1**	**+0.1**
IGPR					Sn	**Sb**	**04 33 31.8**	**-1.0**
HUMP	**Col San Antoni**	**1.07**	**136**	↑	*e*P	**Pn**	**04 33 19.5**	**+0.2**
HUMP	**Col San Antoni**	**1.07**	**136**		*e*S	**Sn**	**04 33 34.2**	**+0.2**
HUMP	**Col San Antoni**	**1.07**	**136**		Pn	**Pb**	**04 33 19.1**	**0.0**
HUMP					Sn	**Sn**	**04 33 34.0**	**0.0**
HUMP					IAML		04 33 34.1	
	comp=E,504nm,0.2s							
HUMP					IAML		04 33 35.2	
	comp=N,419nm,0.2s							
PCDR	**Punta Cana, DR**	**1.70**	**257**	↑	*e*P	**Pb**	**04 33 29.4**	**-0.3**
PCDR	**Punta Cana, DR**	**1.70**	**257**		Pn	**Pn**	**04 33 26.3**	**-1.6**
PCDR					IAML		04 34 04.0	
	comp=E,182nm,2.6s							
PCDR					IAML		04 34 35.2	
	comp=N,389nm,2.4s							
PCDR	**Punta Cana, DR**	**1.70**	**257**	↑	*e*Pg	**Pb**	**04 33 29.3**	**-0.4**
PCDR					IAML		04 34 26.7	
	comp=N,712nm,2.0s							
PCDR	**Punta Cana, DR**	**1.70**	**257**		*e*Pg	**Pb**	**04 33 29.7**	**0.0**
PCDR					IAML		04 34 00.0	
	comp=E,132nm,1.6s							
PCDR					IAML		04 34 26.7	
	comp=N,712nm,2.0s							
SADR	**Isla Saona**	**2.15**	**251**	↑	*e*Pg	**Pb**	**04 33 38.4**	**+0.9**
SADR					IAML		04 34 28.3	
	comp=N,210nm,1.6s							
SADR	**Isla Saona**	**2.15**	**251**	↑	*e*Pg	**Pn**	**04 33 35.2**	**+1.0**
SADR					*e*Pg	**Pb**	**04 33 36.2**	**-1.3**
SADR					IAML		04 34 02.4	
	comp=E,201nm,1.9s							
SADR					*e*Sg	**Sb**	**04 34 03.3**	**-0.8**
SADR					IAML		04 34 17.3	
	comp=N,248nm,1.4s							
MIDR	**Miches**	**2.28**	**272**	↑	*e*Pg	**Pn**	**04 33 36.5**	**+0.5**
MIDR	**Miches**	**2.28**	**272**		*e*Pg	**Pn**	**04 33 36.6**	**+0.7**
MIDR				↑	*e*Sg	**Sn**	**04 34 02.7**	**-1.2**
MIDR					IAML		04 34 03.0	
	comp=N,87nm,2.6s							
HATOM	**Hato Mayor del**	**2.60**	**268**	↑	*e*Pg	**Pn**	**04 33 41.4**	**+1.1**
HATOM					IAML		04 34 38.4	
	comp=N,27nm,2.4s							
HATOM	**Hato Mayor del**	**2.60**	**268**	↑	*e*Pg	**Pn**	**04 33 42.0**	**+1.6**
HATOM					IAML		04 34 25.3	
	comp=E,28nm,0.3s							
HATOM					IAML		04 34 29.0	
	comp=N,37nm,1.8s							
SDDR	**Presa de Saban**	**4.40**	**272**	Pn		**Pn**	**04 34 05.6**	**+0.4**

*NEIC **29** 04:35:13.5±1.3, 7°.0S±0°.1×127°.84E±0°.08, h295km±11km, mb4.1/9, Error ellipse: s-maj=15.9km s-min=10.8km az=158.0*
*IDC **29** 04:35:17.9±6.0, 7°.17S×127°.61E, h340km±69km, mb3.2/4, mbtmp4.2/6, Error ellipse: s-maj=168.2km s-min=18.9km az=67.0*
ISC 29 04:35:13.6±0.7, 6°.99S±0°.08×127°.83E±0°.08, h300km, n41, σ1§02/43, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**3.58**	**106**			**Pn**	**04 36 14.6**	**-0.7**
SOEI	**Soe**	**4.47**	**232**			**Pn**	**04 36 24.7**	**-0.5**
SOEI	**Soe**	**4.47**	**232**	P		**Pn**	**04 36 24.8**	**-0.3**
MMRI	**Maumere**	**5.77**	**253**	Pn		**Pn**	**04 36 40.1**	**-0.2**
FAKI	**Fak Fak**	**5.98**	**48**	Pn		**Pn**	**04 36 40.9**	**-1.8**
FAKI	**Fak Fak**	**5.98**	**48**	P		**Pn**	**04 36 42.6**	**-0.1**
MTN	**Manton Dam**	**6.66**	**151**	Pn		**Pn**	**04 36 49.5**	**-1.4**
MTN	**Manton Dam**	**6.66**	**151**	P		**Pn**	**04 36 52.0**	**+1.1**
PLAI	**Plampang**	**10.12**	**259**	P		**Pn**	**04 37 31.4**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.24**	**191**	Pn		**Pn**	**04 37 46.3**	**-0.7**
WB0	**Warramunga Arr**	**14.21**	**154**			**P**	**04 38 22.0**	**0.0**
WRA	**Warramunga Arr**	**14.34**	**154**			**P**	**04 38 22.7**	**-0.7**
WRA	**Warramunga Arr**	**14.34**	**154**	P		**P**	**04 38 23.9**	**+0.5**
	9.1nm,0.5s,baz=329,slow=12,SNR=95							
WRA				S		**S**	**04 41 00.2**	**-1.0**
	1.1nm,0.6s,baz=334,slow=20,SNR=5.6							
WB2	**Warramunga Arr**	**14.35**	**154**			**P**	**04 38 24.0**	**+0.5**
WR0	**Warramunga Arr**	**14.44**	**154**			**P**	**04 38 25.1**	**+0.5**
PSA00	**Pilbara Seismi**	**16.42**	**207**	P		**P**	**04 38 45.4**	**-0.8**
PSA00				IAmb		IAmb	04 38 47.0	
	comp=Z,8.5nm,1.1s							
COEN	**Coen**	**16.60**	**116**	P		**Pn**	**04 38 49.9**	**-0.9**
COEN				IAmb		IAmb	04 38 58.2	
	comp=Z,6.9nm,1.1s							
AS31	**Alice Springs**	**17.58**	**161**	P		**P**	**04 39 00.0**	**+1.2**
ASAR	**Alice Springs**	**17.58**	**161**	P		**P**	**04 39 00.4**	**+1.6**
ASAR	**Alice Springs**	**17.58**	**161**	P		**P**	**04 39 00.2**	**+1.4**
	comp=Z,18nm,0.3s,baz=343,slow=12,SNR=277							
ASAR				S		**S**	**04 42 05.3**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=338,slow=20,SNR=4.3							
AS01	**Alice Springs**	**17.59**	**161**	P		**P**	**04 39 00.4**	**+1.5**
QIS	**Mount Isa**	**17.66**	**141**	P		**P**	**04 39 01.3**	**+1.5**
WRKA	**Warakurna**	**17.95**	**179**	P		**P**	**04 39 04.1**	**+1.3**
MEEK	**Meekatharra**	**21.42**	**203**	P		**P**	**04 39 38.9**	**+0.5**
OOD	**Oodnadatta**	**21.99**	**161**	P		**P**	**04 39 44.5**	**+1.0**
FORT	**Forrest**	**23.66**	**180**	P		**P**	**04 39 59.0**	**+0.3**
FORT	**Forrest**	**23.66**	**180**	P		**P**	**04 39 59.5**	**+0.8**
MULG	**Mulgathing**	**23.90**	**167**	P		**P**	**04 40 02.2**	**+1.4**
MORW	**Morawa**	**24.61**	**205**	P		**P**	**04 40 07.2**	**-0.1**
MORW				IAmb		IAmb	04 40 34.7	
	comp=Z,16nm,1.1s							
BBOO	**Buckleboo**	**26.80**	**164**	P		**P**	**04 40 27.6**	**+0.7**
BBOO				IAmb		IAmb	04 40 42.2	
	comp=Z,9.0nm,1.1s							
BBOO	**Buckleboo**	**26.80**	**164**	P		**P**	**04 40 27.9**	**+1.0**
STKA	**Stephens Creek**	**27.89**	**154**	P		**P**	**04 40 37.2**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=331,slow=12,SNR=4.1							
	comp=Z,1.3nm,0.4s							
HTT	**Hallett**	**28.25**	**160**	P		**P**	**04 40 41.7**	**+2.0**
SONM	**Songino Array**	**57.78**	**343**	P		**P**	**04 44 35.7**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=168,slow=7.4,SNR=2.2							
	comp=Z,0.4nm,0.5s							
MK31	**Makanchi Array**	**67.06**	**328**	P		**P**	**04 45 35.0**	**0.0**
MKAR	**Makanchi Array**	**67.06**	**328**	P		**P**	**04 45 34.5**	**-0.5**
MKAR	**Makanchi Array**	**67.06**	**328**	P		**P**	**04 45 35.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=116,slow=8.6,SNR=7.9							
	comp=Z,0.5nm,0.6s							
MAKZ	**Makanchi**	**67.23**	**328**	P		**P**	**04 45 35.9**	**-0.1**
ZALV	**Zalesovo Beam**	**70.64**	**335**	P		**P**	**04 45 56.6**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=133,slow=7.4,SNR=2.4							
	comp=Z,0.5nm,0.4s							
KURK	**Kurchatov**	**71.40**	**329**	P		**P**	**04 46 01.5**	**+0.2**
KURK				IAmb		IAmb	04 46 06.0	
	comp=Z,1.7nm,1.0s							
ABKAR	**Akbulak array**	**81.17**	**322**	P		**P**	**04 46 56.2**	**+0.1**

*IDC **29** 05:01:13.6±1.1, 55°.00N×163°.05W, h67km±9km, mb3.8/20, mbtmp4.0/23, MS3.0/4, Error ellipse: s-maj=22.0km s-min=13.2km az=10.0*
*NEIC **29** 05:01:14.9±2.2, 54°.66N±0°.07×162°.88W±0°.07, h85km±4km, mb4.2/66, ML3.9/12, ML3.9(AEIC), Error ellipse: s-maj=10.6km s-min=4.5km az=153.0*
*AEIC **29** 05:01:15.4±4.1, 54°.45N±0°.06×162°.67W±0°.06, h60km±5km, Error ellipse: s-maj=8.8km s-min=4.4km az=157.0*
ISC 29 05:01:14.5±0.6, 54°.71N±0°.07×162°.78W±0°.04, h83km±5km, n355, σ1§43/357, mb4.2/49, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FALS	**False Pass**	**0.40**	**291**			**Pn**	**05 01 27.5**	**-0.2**
FALS	**False Pass**	**0.40**	**291**			**Sn**	**05 01 37.6**	**+0.1**
FALS	**False Pass**	**0.40**	**291**	P		**Pn**	**05 01 27.5**	**-0.2**
FALS	**False Pass**	**0.40**	**291**	P		**Pn**	**05 01 27.5**	**-0.2**
	baz=114							
FALS				S		**Sn**	**05 01 37.6**	**+0.1**
	baz=114							
DT1	**Dutton Round H**	**0.49**	**36**			**Pn**	**05 01 28.7**	**+0.2**
ISLZ	**Isanotski Laza**	**0.54**	**272**			**Pn**	**05 01 28.5**	**-0.5**
ISLZ						**Sn**	**05 01 39.3**	**-0.4**
BRPK	**Brown Peak**	**0.56**	**263**			**Pn**	**05 01 28.6**	**-0.6**
ISNN	**Isanotski Nort**	**0.59**	**282**			**Pn**	**05 01 29.8**	**+0.4**
ISNN						**Sn**	**05 01 42.0**	**+1.5**
SSLS	**Shishaldin Sou**	**0.71**	**270**			**Pn**	**05 01 30.5**	**-0.1**
SSLS						**Sn**	**05 01 42.9**	**+0.4**
SSLN	**Shishaldin Nor**	**0.71**	**278**			**Pn**	**05 01 31.0**	**+0.4**
PN7A	**Pavlof North-7**	**0.85**	**32**			**Pn**	**05 01 33.4**	**+1.3**
PN7A						**Sn**	**05 01 48.3**	**+3.1**
PS1A	**Pavlof South-1**	**0.93**	**40**			**Pn**	**05 01 34.5**	**+1.6**
WESE	**West Dahl East**	**1.08**	**258**			**Pn**	**05 01 34.7**	**-0.1**
WEBT	**Westdahl Beart**	**1.16**	**265**			**Pn**	**05 01 35.3**	**-0.3**
WEBT						**Sn**	**05 01 51.6**	**+0.2**
WECS	**Westdahl Cape**	**1.18**	**262**			**Pn**	**05 01 35.6**	**-0.3**
WECS						**Sn**	**05 01 52.1**	**+0.1**
SDPT	**Sand Point**	**1.47**	**63**			**Pn**	**05 01 40.5**	**+1.0**
SDPT	**Sand Point**	**1.47**	**63**	P		**Pn**	**05 01 40.6**	**+1.0**
SDPT	**Sand Point**	**1.47**	**63**	P		**Pn**	**05 01 40.5**	**+1.0**
	baz=245							
AKSA	**Akutan Strait**	**1.80**	**252**			**Pn**	**05 01 43.6**	**-0.2**
AKSA						**Sn**	**05 02 05.9**	**-0.3**
AKUT	**Akutan**	**1.84**	**253**			**Pn**	**05 01 44.4**	**0.0**
AKUT					IAML		05 02 07.5	
	comp=N,1μm,0.6s							
AKUT					IAML		05 02 12.7	
	comp=E,916nm,0.6s							
AKUT	**Akutan**	**1.84**	**253**	P		**Pn**	**05 01 44.1**	**-0.3**
CHNA	**Chernabura Isl**	**1.85**	**85**	P		**Pn**	**05 01 44.5**	**+0.1**
	baz=267							
CNBA	**Chernabura Isl**	**1.85**	**85**	Pn		**Pn**	**05 01 44.5**	**0.0**
AHB	**Akutan Harbor**	**1.87**	**253**			**Pn**	**05 01 44.7**	**-0.1**
AKBBA	**Akutan Broad B**	**1.94**	**253**			**Pn**	**05 01 45.5**	**-0.2**
AKV	**Akutan Volcano**	**1.95**	**254**			**Pn**	**05 01 45.6**	**-0.3**
ZRO	**Akutan Zero**	**1.97**	**253**			**Pn**	**05 01 45.9**	**-0.2**
LVA	**Lava Point**	**1.98**	**255**			**Pn**	**05 01 46.2**	**0.0**
AKRB	**Akutan Reef Bi**	**2.01**	**254**			**Pn**	**05 01 46.4**	**-0.2**
UNV	**Unalaska Valle**	**2.35**	**250**			**Pn**	**05 01 50.5**	**-0.7**
UNV	**Unalaska Valle**	**2.35**	**250**	P		**Pn**	**05 01 50.4**	**-0.7**
UNV	**Unalaska Valle**	**2.35**	**250**	P		**Pn**	**05 01 50.5**	**-0.7**
	baz=67							
S14K	**Fog Glacier**	**2.42**	**48**	P		**Pn**	**05 01 54.2**	**+2.1**
	baz=231							
VNFG	**Fog Glacier, M**	**2.42**	**48**			**Pn**	**05 01 54.2**	**+2.1**
MNAT	**Makushin Natee**	**2.44**	**252**			**Pn**	**05 01 51.7**	**-0.6**
MSW	**Makushin Switc**	**2.48**	**253**			**Pn**	**05 01 52.5**	**-0.4**
MGOD	**Makushin Gods**	**2.57**	**251**			**Pn**	**05 01 53.9

	baz=215						
O19K	Port Alsworth	7.14	36	Pn	Pn	05 02 59.0	+2.9
O19K	Port Alsworth	7.14	36	P	Pn	05 02 58.9	+2.9
	baz=223						
P19K	Oil Pt	7.17	42	Pn	Pn	05 02 59.8	+3.3
P19K	Oil Pt	7.17	42	P	Pn	05 02 58.6	+2.1
	baz=230						
L16K	Owhat River	7.23	13		Pn	05 02 58.9	+1.6
L16K	Owhat River	7.23	13	P	Pn	05 02 59.0	+1.6
	baz=196						
ATKA	Atka Island	7.27	254	Pn	Pn	05 02 58.8	+0.9
M17K	Holitna River	7.28	21		Pn	05 03 00.1	+2.0
M17K	Holitna River	7.28	21	P	Pn	05 03 00.1	+2.0
	baz=205						
IVE	Iliamna Volcan	7.49	41		Pn	05 03 03.0	+2.0
N19K	Bonanza Creek	7.55	33	Pn	Pn	05 03 04.4	+2.6
N19K	Bonanza Creek	7.55	33	P	Pn	05 03 04.2	+2.4
	baz=220						
K15K	Wolf Creek Mou	7.63	4	Pn	Pn	05 03 04.6	+1.8
K15K	Wolf Creek Mou	7.63	4	P	Pn	05 03 04.6	+1.8
	baz=186						
M18K	Stony River	7.72	26		Pn	05 03 05.7	+1.6
M18K	Stony River	7.72	26	P	Pn	05 03 05.7	+1.6
	baz=212						
L17K	Donlin	7.80	16		Pn	05 03 06.0	+0.9
L17K	Donlin	7.80	16	P	Pn	05 03 06.0	+0.9
	baz=200						
RSO	Redoubt South	7.88	39	Pn	Pn	05 03 08.1	+1.7
NCT	North Crescent	7.89	38		Pn	05 03 08.5	+2.1
CNPM	China Poot	7.91	48	Pn	Pn	05 03 07.4	+0.7
DFR	Drift River	8.00	38		Pn	05 03 10.4	+2.6
J14K	Nanvaranak Lak	8.07	357		Pn	05 03 10.3	+1.6
J14K	Nanvaranak Lak	8.07	357	P	Pn	05 03 10.5	+1.8
	baz=177						
RDT	Redoubt	8.08	39		Pn	05 03 11.0	+1.9
L18K	Granite Mounta	8.17	20	Pn	Pn	05 03 11.9	+1.7
L18K	Granite Mounta	8.17	20	P	Pn	05 03 12.1	+1.9
	baz=206						
BRLK	Bradley Lake	8.19	47	Pn	Pn	05 03 10.4	-0.1
BRSE	Bradley Lake S	8.24	47		Pn	05 03 11.0	-0.1
BRSE	Bradley Lake S	8.24	47	P	Pn	05 03 11.0	-0.1
	baz=238						
K17K	Iditarod	8.36	14	Pn	Pn	05 03 14.2	+1.5
K17K	Iditarod	8.36	14	P	Pn	05 03 14.0	+1.3
	baz=198						
M19K	Big River Lodg	8.45	28	Pn	Pn	05 03 15.4	+1.5
M19K	Big River Lodg	8.45	28	P	Pn	05 03 16.1	+2.1
	baz=215						
L19K	White Mountain	8.56	26		Pn	05 03 16.7	+1.2
L19K	White Mountain	8.56	26	P	Pn	05 03 16.7	+1.2
	baz=213						
N20K	Mount Spurr	8.59	37	P	Pn	05 03 18.6	+2.7
	baz=226						
SPCR	Spurr Chakacha	8.59	37		Pn	05 03 18.6	+2.6
J16K	Anvik River	8.67	7		Pn	05 03 18.6	+1.7
J16K	Anvik River	8.67	7	P	Pn	05 03 18.6	+1.7
	baz=189						
M20K	Styx River	8.79	31	Pn	Pn	05 03 21.8	+3.1
M20K	Styx River	8.79	31	P	Pn	05 03 21.6	+2.9
	baz=220						
ADK	Adak	8.80	257	Pn	Pn	05 03 18.6	-0.2
SLKM	Skilak Lake	8.89	44		Pn	05 03 20.6	+0.7
STLK	Strandline Lak	8.93	36		Pn	05 03 22.3	+1.7
TTA	Tatalina	8.95	20	Pn	Pn	05 03 21.9	+1.1
TTA	Tatalina	8.95	20	P	Pn	05 03 22.0	+1.1
	baz=206						
SEW	Seward	8.99	48	Pn	Pn	05 03 21.4	+0.2
SEW	Seward	8.99	48	P	Pn	05 03 21.0	-0.2
	baz=239						
L20K	Farewell, AK	9.06	27		Pn	05 03 24.0	+1.7
L20K	Farewell, AK	9.06	27	P	Pn	05 03 24.0	+1.7
	baz=215						
O22K	Cooper Landing	9.07	45		Pn	05 03 23.6	+1.1
O22K	Cooper Landing	9.07	45	P	Pn	05 03 23.2	+0.8
	baz=236						
I17K	Unalakleet	9.26	6	Pn	Pn	05 03 26.8	+1.7
I17K	Unalakleet	9.26	6	P	Pn	05 03 26.5	+1.5
	baz=188						
J18K	Innoko River	9.31	17		Pn	05 03 27.7	+2.0
J18K	Innoko River	9.31	17	P	Pn	05 03 27.5	+1.8
	baz=202						
SKT	Skwentna	9.37	34	Pn	Pn	05 03 28.8	+2.2
SKT	Skwentna	9.37	34	P	Pn	05 03 28.5	+1.9
	baz=224						
RC01	Rabbit Creek A	9.42	42	Pn	Pn	05 03 27.1	-0.2
RC01	Rabbit Creek A	9.42	42	P	Pn	05 03 27.2	0.0
	baz=233						
K20K	Telida	9.75	24		Pn	05 03 33.0	+1.3
K20K	Telida	9.75	24	P	Pn	05 03 33.0	+1.3
	baz=211						
P23K	Montague Islan	9.84	51		Pn	05 03 32.3	-0.6
P23K	Montague Islan	9.84	51	P	Pn	05 03 32.3	-0.6
	baz=244						
PPLA	Purkeypile	9.86	29	Pn	Pn	05 03 36.0	+2.7
PPLA	Purkeypile	9.86	29	P	Pn	05 03 35.5	+2.2
	baz=219						
PMR	Palmer	9.96	41	Pn	Pn	05 03 35.4	+0.9
ANM	Nome	9.97	354	Pn	Pn	05 03 36.5	+1.8
J19K	Poorman	9.99	18		Pn	05 03 36.3	+1.3
CUT	Chulitna	10.09	35		Pn	05 03 37.4	+1.1
KNK	Knik Glacier	10.11	43	Pn	Pn	05 03 35.3	-1.4
GAMB	Gambell	10.16	337	Pn	Pn	05 03 37.6	+0.4
CAST	Castle Rocks	10.30	28	Pn	Pn	05 03 40.2	+1.0
H17K	Granite Mounta	10.36	7	Pn	Pn	05 03 41.7	+1.7
SML	Sawmill	10.39	41	Pn	Pn	05 03 40.1	-0.5
HIN	Hinchinbrook I	10.42	50	Pn	Pn	05 03 40.4	-0.4
J20K	Nowinta River	10.45	21	Pn	Pn	05 03 42.3	+1.2
H18K	Honhosa River	10.70	10		Pn	05 03 46.9	+2.3
G16K	Koyuk River	10.72	1		Pn	05 03 46.9	+2.1
SCM	Sheep Creek Mo	10.80	42		Pn	05 03 44.7	-1.4
TRF	Thorofare Moun	10.84	31	Pn	Pn	05 03 47.2	+0.5
F15K	North Star Dit	11.07	356	Pn	Pn	05 03 51.4	+1.8
TNA	Tin City	11.18	349	Pn	Pn	05 03 53.4	+2.4
KLU	Klutina	11.18	46	Pn	Pn	05 03 50.3	-1.0
KAIM	Kayak Island	11.20	55	Pn	Pn	05 03 52.5	+1.1
RAGM	Ragged Mountai	11.24	52	Pn	Pn	05 03 51.6	-0.4
RND	Reindeer	11.26	34	Pn	Pn	05 03 52.5	+0.3
H19K	Roundabout Mou	11.29	14		Pn	05 03 54.1	+1.6
M24K	Tolsona, Glenn	11.40	43	Pn	Pn	05 03 53.1	-1.2
MCK	McKinley	11.46	32	Pn	Pn	05 03 56.3	+1.3
BMRM	Bremner River	11.51	50	Pn	Pn	05 03 54.6	-1.1
DHY	Denali Highway	11.53	37	Pn	Pn	05 03 54.3	-1.7
I21K	Tanana	11.79	23		Pn	05 04 01.6	+2.3
F17K	Baldwin Pennin	11.79	3	Pn	Pn	05 04 01.5	+2.1
N25K	Chitina, Valde	11.79	47		Pn	05 03 59.1	-0.4
G19K	Purcell Mounta	11.80	11	Pn	Pn	05 04 00.8	+1.3
MLY	Manley	11.96	25		Pn	05 04 03.3	+1.6
H21K	Melozitna Rive	12.03	20		Pn	05 04 04.1	+1.6
SNH	Sunshine Point	12.03	55	Pn	Pn	05 04 03.0	+0.4
NEA2	Nenana	12.06	29	Pn	Pn	05 04 04.0	+1.0
GLB	Gilahina Butte	12.06	48	Pn	Pn	05 04 02.0	-1.1
VRDI	Verde Repeater	12.13	50	Pn	Pn	05 04 03.1	-1.0
IMAR	Indian Mountai	12.14	18	Pn	Pn	05 04 05.6	+1.5
PAX	Paxson	12.16	40	Pn	Pn	05 04 04.4	-0.1
MCARA	McCarthy VSAT	12.38	49	Pn	Pn	05 04 06.5	-0.9
F19K	Shaleruckik Mo	12.40	9		Pn	05 04 08.3	+0.7
I23K	Minto, Yukon-K	12.40	27		Pn	05 04 08.2	+0.6
HDA	Harding Lake	12.56	33	Pn	Pn	05 04 08.8	-1.0
MDM	Murphy Dome	12.57	29	Pn	Pn	05 04 08.9	-1.0
E18K	Tukpahlearik C	12.79	4	Pn	Pn	05 04 15.7	+2.8
MENT	Mentasta	12.81	42	Pn	Pn	05 04 14.5	+1.3
F20K	Avaraart Lake	12.83	13		Pn	05 04 15.6	+2.2
IL31		12.83	32	Pn	Pn	05 04 11.3	-2.1
ILAR	Eielson Array	12.83	32	Pn	Pn	05 04 12.8	-0.6
ILAR	Eielson Array	12.83	32	P	Pn	05 04 09.4	-4.0
	comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=2.9						
ILAR				S	Sn	05 06 25.5	-8.6
	comp=E,0.3nm,0.4s,baz=201,slow=7.4,SNR=1.0						
ILAR				LR	LR	05 09 02.9	
	comp=E,40nm,19.9s,baz=270,slow=37						
M26K	Nabesna, AK	12.84	45	Pn	Pn	05 04 12.9	-0.6
RIDG	Independent Ri	12.84	38	Pn	Pn	05 04 13.7	+0.2
BARN	Barnard Glacie	12.87	52	Pn	Pn	05 04 13.8	-0.3
CTGM	Chitina Glacie	12.99	53	Pn	Pn	05 04 15.6	0.0
L26K	Log Cabin Wild	13.00	42		Pn	05 04 15.6	-0.1
E19K	Redstone River	13.06	9	Pn	Pn	05 04 18.4	+2.0
LOGN	Logan Glacier	13.09	53	Pn	Pn	05 04 16.8	-0.3
M27K	Edge Creek, AK	13.28	46		Pn	05 04 19.6	+0.1
SCRK	Sand Creek	13.29	38		Pn	05 04 19.0	-0.6
F21K	Alatna River	13.31	16	Pn	Pn	05 04 21.6	+1.8
H24K	Noodor Dome	13.33	27		Pn	05 04 21.0	+0.9
G23K	Bananza Creek	13.51	22	Pn	Pn	05 04 23.8	+1.3
L27K	Beaver Creek,	13.62	44		Pn	05 04 23.6	-0.4
BCAR	Beaver Creek A	13.64	44	Pn	Pn	05 04 23.6	-0.6
C16K	Lisburne Hills	13.66	356		Pn	05 04 26.4	+2.1
J26L	Joseph Creek	13.75	37		Pn	05 04 24.7	-0.9
COLD	Coldfoot	13.91	21	Pn	Pn	05 04 29.3	+1.7
K27K	Chicken	14.02	40	Pn	Pn	05 04 31.3	+2.3
O29M	Mount Kennedy	14.11	57	Pn	Pn	05 04 31.1	+0.7
I26K	Coal Creek Min	14.38	35	Pn	Pn	05 04 32.8	-0.8
E22K	Anaktuvuk Pass	14.41	17	Pn	Pn	05 04 36.4	+2.3
F24K	Squaw Lake	14.66	23		Pn	05 04 38.9	+1.6
HYT	Haines Junctio	14.74	55	Pn	Pn	05 04 39.9	+1.3
EGAK	Eagle	14.76	38	Pn	Pn	05 04 38.9	+0.3
M29M	Somme Creek	14.78	49	Pn	Pn	05 04 38.8	-0.1
D22K	Ayikyak River	14.96	14		Pn	05 04 45.0	+3.8
D22K					IAmb	IAmb	05 04 47.9
	comp=Z,21nm,1.5s						
DAWY	Dawson	15.06	42	Pn	Pn	05 04 42.8	+0.4
DAWY					IAmb	IAmb	05 04 49.5
	comp=Z,9.4nm,0.6s						
N30M	Aishikik Lake	15.10	53	Pn	Pn	05 04 43.0	0.0
N30M					IAmb	IAmb	05 04 50.8
	comp=Z,16nm,1.2s						
L29M	L29M	15.16	46	Pn	Pn	05 04 44.0	+0.1
L29M					IAmb	IAmb	05 05 01.0
	comp=Z,22nm,1.5s						
BMAR	Burnt Mountain	15.40	27	Pn	Pn	05 04 48.3	+1.6
O30N	Mendenhall	15.41	56	Pn	Pn	05 04 46.5	-0.4
I28M	Miner Creek	15.56	37		Pn	05 04 49.4	+0.6
E25K	Arctic Village	15.67	24	Pn	Pn	05 04 52.1	+1.9
K29M	Barlow Dome	15.71	44		Pn	05 04 51.2	+0.5
D24K	Happy Valley	15.84	18	P	Pn	05 04 54.2	+2.0
D24K					IAmb	IAmb	05 04 58.1
	comp=Z,24nm,1.4s						
B22K	Teshekpuk Lake	16.23	11		Pn	05 04 58.0	+0.9
B22K					IAmb	IAmb	05 05 08.3
	comp=Z,7.6nm,0.6s						
J30M	Hart River	16.48	43	P	Pn	05 05 01.9	+1.5
H29M	Whitestone	16.52	36		Pn	05 05 00.5	-0.2
F28M	Old Crow	16.85	31	Pn	Pn	05 05 04.9	+0.1
FARO	Faro, Yukon	17.00	52		P	05 05 09.4	+2.1
FARO					IAmb	IAmb	05 05 12.3
	comp=Z,22nm,1.1s						
G29M	Pine Creek	17.01	34		Pn	05 05 07.1	+0.3
G29M					IAmb	IAmb	05 05 09.2
	comp=Z,12nm,0.7s						
EPYK	Eagle Plains	17.16	37	Pn	Pn	05 05 08.4	-0.3
EPYK	Eagle Plains	17.16	37		Pn	05 05 08.6	-0.1
EPYK					IAmb	IAmb	05 05 15.2
	comp=Z,7.6nm,0.5s						
E28M	Babbage River	17.59	29	P	Pn	05 05 13.4	-0.4
G31M	Satah River	18.29	37	P	P	05 05 20.1	-1.3
G31M					IAmb	IAmb	05 05 45.7
	comp=Z,15nm,1.3s						
DLBC	Dease Lake	18.31	65	P	P	05 05 20.8	-1.0
DLBC					IAmb	IAmb	05 05 28.7
	comp=Z,20nm,1.5s						
F31M	Tsiigehtchic	18.72	36	P	P	05 05 25.0	-1.1
INK	Inuvik	19.22	34	P	P	05 05 30.4	-1.1
INK	Inuvik	19.22	34	P	P	05 05 29.6	-1.9
	comp=Z,3.1nm,0.4s,baz=239,slow=14,SNR=32						
INK					LR	LR	05 12 46.6
	comp=Z,54nm,20.5s,baz=183,slow=36						
C36M	Paulatuk	22.77	35	P	P	05 06 08.9	-0.6
C36M					IAmb	IAmb	05 06 10.9
	comp=Z,4.3nm,0.4s						
PEA0B	Petropavlovsk-	23.13	282	P	P	05 06 12.0	-1.3
PETK	Petropavlovsk-	23.13	282	P	P	05 06 11.2	-2.1
PETK	Petropavlovsk-	23.13	282	P	P	05 06 10.8	-2.5
	comp=Z,3.6nm,0.5s,baz=82,slow=14,SNR=22						
	comp=Z,3.6nm,0.5s						
A36M	Sachs Harbour	23.48	28	P	P	05 06 15.6	-0.7
A36M					IAmb	IAmb	05 06 20.6
	comp=Z,19nm,0.7s						
MA2	Magadan	25.24	300	LR	LR	05 17 33.5	
	comp=Z,20nm,18.7s,baz=220,slow=39						
YKA	Yellowknife Ar	25.71	53	P	P	05 06 37.7	+1.2
YKA	Yellowknife Ar	25.71	53	P	P	05 06 36.3	-0.2
	comp=Z,1.1nm,0.6s,baz=280,slow=7.6,SNR=26						
YKA					pP	pP	05 06 51.3 -4.2
	comp=Z,0.3nm,0.4s,baz=281,slow=9.4,SNR=2.9						
	comp=Z,1.1nm,0.6s						
PAHR	Pah Rah Range	32.49	99	P	P	05 07 37.6	+0.5
RES	Resolute Bay	32.52	27	P	P	05 07 36.6	-0.2
PNTR	Pine Nut	32.78	100	P	P	05 07 41.5	+1.8
PNTR					IAmb	IAmb	05 07 45.2
	comp=Z,3.9nm,0.7s						
TIXI	Tiksi	32.83	327	P	P	05 07 39.1	-0.4
TIXI					IAmb	IAmb	05 07 40.1
	comp=Z,5.1nm,1.1s						
YERR	Yerington	33.06	100	P	P	05 07 43.1	+1.0
YERR					IAmb	IAmb	05 07 46.1
	comp=Z,3.8nm,1.2s						
MCMT	McKenzie Canyo	33.07	86	P	P	05 07 43.9	+1.7
WAKR	Walker	33.27	101	P	P	05 07 45.5	+1.5
WAKR					IAmb	IAmb	05 07 47.8
	comp=Z,2.3nm,0.8s						
RYN	Ryan	33.71	100	P	P	05 07 48.0	+0.2
NVAR	Mina Array Bea	33.97	100	P	P	05 07 52.6	+2.5
	comp=Z,0.8nm,0.6s,baz=300,slow=8.1,SNR=7.8						
NVAR					pP	pP	05 08 09.3 -0.1
	comp=Z,0.8nm,0.6s,baz=309,slow=8.2,SNR=6.0						
	comp=Z,0.8nm,0.6s						
YHL	Hebgen Lake	34.02	85	P	P	05 07 53.3	+2.8
NV11	Mina Array Sit	34.05	100	P	P	05 07 51.4	+0.6
YHH	Holmes Hill	34.25	85	P	P	05 07 54.0	+1.4
TPH	Tonopah	34.83	99	P	P	05 07 58.8	+1.3
PDAR	Pinedale Array	36.21	87	P	P	05 08 11.2	+1.9
	comp=Z,0.3nm,0.5s,baz=281,slow=4.9,SNR=6.4						
PDAR					pP	pP	05 08 28.1 -0.7
	comp=Z,0.2nm,0.4s,baz=300,slow=3.4,SNR=2.5						
	comp=Z,0.3nm,0.5s						
FCC	Fort Churchill	36.39	55	P	P	05 08 11.7	+1.3
FCC					IAmb	IAmb	05 08 12.5
	comp=Z,4.8nm,1.1s						
RSSD	Black Hills	38.57	81	P	P	05 08 30.3	+1.1
RSSD					IAmb	IAmb	05 08 35.1
	comp=Z,2.7nm,1.0s						
ULM	Lac du Bonnet	39.59	68	P	P	05 08 39.6	+2.2
ULM					IAmb	IAmb	05 09 03.7
	comp=Z,3.1nm,1.1s						
H11N2	WAKE ISLAND Hy	41.83	225	T	T	05 53 29.8	
	baz=26,slow=76,SNR=44						
H11N3	WAKE ISLAND Hy	41.84	225	T	T	05 53 31.0	
	baz=26,slow=76,SNR=40						
H11N1	WAKE ISLAND Hy	41.85	225	T	T	05 53 31.2	
	baz=26,slow=76,SNR=30						
H11S1	WAKE ISLAND Hy	43.01	225	T	T	05 55 06.4	
	baz=29						
H11S2	WAKE ISLAND Hy	43.02	225	T	T	05 54 37.4	
	baz=29,slow=74						
H11S3	WAKE ISLAND Hy	43.02	225	T	T	05 55 05.6	
	baz=29,slow=74						
SUMG	Summit	47.31	20	P	P	05 09 40.3	+0.8
SUMG					IAmb	IAmb	05 09 40.6
	comp=Z,4.3nm,0.7s						
SUMG	Summit	47.31	20	*i* P	P	05 09 39.0	-0.5
SPITS	Spitsbergen Ar	47.37	0	P	P	05 09 38.1	-1.4
	comp=Z,0.7nm,0.3s,baz=39,slow=5.5,SNR=21						
SPITS					PcP	PcP	05 11 08.8 +0.1
	comp=Z,1.8nm,0.5s,baz=74,slow=3.0,SNR=7.0						
	comp=Z,0.7nm,0.3s						
SFJD	Kangerlussuaq	48.48	29	P	P	05 09 49.0	+0.9
SFJD					IAmb	IAmb	05 10 06.4
	comp=Z,6.8nm,0.9s						
TX31	Lajitas Ar. Si	48.92	96	P	P	05 09 54.1	+1.9
TX31					IAmb	IAmb	05 10 22.6
	comp=Z,4.0nm,1.4s						
TXAR	Lajitas Array	48.92	96	P	P	05 09 53.9	+1.8
	comp=Z,1.3nm,0.6s,baz=301,slow=5.6,SNR=16						
	comp=Z,1.3nm,0.6s						
U38A	Gravette	49.16	82	P	P	05 09 54.2	+0.4
U38A					IAmb	IAmb	05 09 57.7
	comp=Z,5.7nm,1.1s						
BRDY	Brady	50.18	91	P	P	05 10 02.3	+0.7
BRDY					IAmb	IAmb	05 10 09.7
	comp=Z,2.3nm,1.0s						
SCHQ	Schefferville	50.98	48	P	P	05 10 08.3	+1.0
SCHQ					IAmb	IAmb	05 10 20.7
	comp=Z,3.5nm,1.1s						
SCHQ	Schefferville	50.98	48	P	P	05 10 07.4	+0.1
	comp=Z,0.9nm,0.3s,baz=311,slow=7.7,SNR=12						
	comp=Z,0.9nm,0.3s						
WLAR	White Oak Lake	51.85	84	P	P	05 10 13.3	-0.7
SONM	Songino Array	53.40	303	P	P	05 10 25.0	-0.5
	comp=Z,0.7nm,0.7s,baz=60,slow=3.5,SNR=2.6						
	comp=Z,0.7nm,0.7s						
D62A	Allapoint, All	55.33	56	P	P	05 10 40.7	+1.5
HHC	Hu-ho-hao-te	55.67	294	*e*P	P	05 10 44.0	+2.1
HHC				pmax	pmax		
	comp=Z,26nm,0.9s						
HHC				pmax	pmax		
	comp=Z,230nm,5.9s						
L59A	Walton	55.81	64	P	P	05 10 45.0	+2.2
ARCES	ARCESS Array B	55.91	356	P	P	05 10 41.6	-1.5
	comp=Z,2.6nm,0.9s,baz=17,slow=6.5,SNR=7.8						
ARCES				PcP	PcP	05 11 40.4	-0.3
	comp=Z,2.1nm,0.7s,baz=20,slow=3.9,SNR=8.1						
	comp=Z,2.6nm,0.9s						
F64A	Sherman	56.54	57	P	P	05 10 46.8	-1.1
BATG	Bathurst New B	56.62	54	P	P	05 10 49.1	+0.7
TRNY	Table Rock, Ra	56.98	64	P	P	05 10 51.5	+0.4
WUPA	West Chester U	57.13	66	P	P	05 10 54.1	+2.0
ZALV	Zalesovo Beam	58.25	320	LR	LR	05 38 57.2	
	comp=Z,23nm,18.2s,baz=22,slow=39						
KURBB	Kurchatov Arra	63.23	321	P	P	05 11 32.7	-0.9
	comp=Z,0.8nm,0.7s,baz=31,slow=6.9,SNR=6.6						
	comp=Z,0.8nm,0.7s						
BVAR	Borovoye Array	63.96	327	P	P	05 11 37.5	-0.9
	comp=Z,2.4nm,0.6s,baz=41,slow=6.9,SNR=12						
	comp=Z,2.4nm,0.6s						
BRVK	Borovoye	63.97	328	P	P	05 11 39.1	+0.6
BRVK					IAmb	IAmb	05 11 39.4
	comp=Z,1.6nm,0.6s						
FIA1	FINESS Array S	63.97	355	P	P	05 11 37.9	-0.4
FINES	FINESS Array B	63.98	355	P	P	05 11 37.9	-0.5
FINES	FINESS Array B	63.98	355	P	P	05 11 37.3	-1.1
	comp=Z,2.4nm,0.6s,baz=14,slow=7.6,SNR=18						
	comp=Z,2.4nm,0.6s						
NC204	NORSAR Array S	64.24	3	P	P	05 11 41.1	+0.9
NB201	NORSAR Array S	64.49	3	P	P	05 11 42.6	+0.8
NOA	NORSAR Array B	64.49	3	P	P	05 11 40.6	-1.2
	comp=Z,1.2nm,0.8s,baz=357,slow=6.7,SNR=3.5						
	comp=Z,1.2nm,0.8s						
MK31	Makanchi Array	64.93	317	P	P	05 11 44.0	-0.8
MKAR	Makanchi Array	64.93	317	P	P	05 11 44.3	-0.6
MKAR	Makanchi Array	64.93	317	P	P	05 11 43.4	-1.5
	comp=Z,0.8nm,0.5s,baz=42,slow=6.4,SNR=15						
	comp=Z,0.8nm,0.5s						
HFS	Hagfors	65.47	2	P	P	05 11 47.0	-1.0
	comp=Z,2.0nm,0.5s,baz=19,slow=3.2,SNR=25						
	comp=Z,2.0nm,0.5s						
EKA	Eskdalemuir Ar	69.05	12	P	P	05 12 10.6	-0.2
	comp=Z,1.8nm,0.6s,baz=336,slow=4.1,SNR=6.2						
	comp=Z,1.8nm,0.6s						
ABKAR	Akbulak array	70.37	332	P	P	05 12 18.8	-0.2
KK31	Karatay Array	72.51	322	P	P	05 12 31.7	-0.4
KK31					IAmb	IAmb	05 12 42.6
	comp=Z,3.9nm,1.4s						
KKAR	Karatay Array	72.51	322	P	P	05 12 31.7	-0.4
KKAR					IAmb	IAmb	05 12 42.6
	comp=Z,3.8nm,1.4s						
AKASG	Malin Array Be	74.48	352	P	P	05 12 41.8	-1.5
	comp=Z,1.1nm,0.4s,baz=10.0,slow=5.7,SNR=7.5						
	comp=Z,1.1nm,0.4s						
SIMJ	Simiganj	76.96	321	P	P	05 12 57.3	-0.6
SIMJ					IAmb	IAmb	05 12 58.6
	comp=Z,4.1nm,1.0s						
CONA	Conrad Observa	77.72	1	*e*P	P	05 13 00.3	-1.7
	comp=Z,4.9nm,1.6s						
MOTA	Moosalm	78.18	4	*e*P	P	05 13 03.6	-1.0
	comp=Z,2.1nm,0.5s						
WTTA	Wattenberg	78.29	4	*e*P	P	05 13 05.7	+0.5
	comp=Z,3.0nm,0.5s						
SQTA	Sankt Quirin	78.31	4	*e*P	P	05 13 05.7	+0.4
	comp=Z,4.1nm,1.1s						
FETA	Feichten	78.49	5	*e*P	P	05 13 06.9	+0.6
	comp=Z,2.4nm,0.8s						
KBA	Koelnbreinsper	78.53	3	*i* P	P	05 13 06.6	+0.1
	comp=Z,1.7nm,0.4s						
FUORN	Ofenpass-Fuorn	78.87	5	P	P	05 13 09.6	+1.1
FUORN					IAmb	IAmb	05 13 12.4
	comp=Z,1.8nm,0.8s						
SOKA	Soboth	78.97	2	*e*P	P	05 13 08.8	0.0
	comp=Z,0.9nm,0.5s						
OBKA	Obir	79.13	2	*i* P	P	05 13 09.7	0.0
	comp=Z,5.8nm,0.5s						
PRED	Cave del Predi	79.17	3	P	P	05 13 09.9	-0.1
NIL	Nilore	79.70	315	P	P	05 13 13.2	+0.2
CMAR	Chiang Mai Arr	79.81	287	P	P	05 13 13.7	0.0
CMAR	Chiang Mai Arr	79.81	287

DAV	Davao City (W)	4.23	113	LR	LR	05 41 43.8	
	comp=Z,1µm,19.3s,baz=263,slow=46						
TOLI2	Tolitoli	7.61	187		Pn	05 40 29.6	+0.6
TOLI2				Sn	Sn	05 41 50.5	-3.6
KAPI	Kappang	13.77	188	LR	LR	05 47 34.1	
	comp=Z,40nm,19.2s,baz=24,slow=38						
GUMO	Guam	23.29	76	LR	LR	05 53 12.0	
	comp=Z,32nm,19.2s,baz=78,slow=38						
MTN	Manton Dam	23.41	156	P	P	05 43 47.9	+1.3
CMAR	Chiang Mai Arr	24.07	296	P	P	05 43 53.9	+1.0
	1.6nm,0.3s,baz=122,slow=8.0,SNR=17						
CMAR				LR	LR	05 53 34.8	
	comp=Z,111nm,18.1s,baz=110,slow=37 1.6nm,0.3s						
CHTO	Chiang Mai	24.20	297	P	P	05 43 55.0	+1.0
GSI	Gunungsitoli	25.07	254	P	P	05 44 01.7	-0.3
KNRA	Kununurra	25.24	164	P	P	05 44 04.9	+1.4
WB0	Warramunga Arr	30.97	156	P	P	05 44 54.8	+0.1
COEN	Coen	31.05	136	P	P	05 44 54.2	-1.2
COEN				IAmb	IAmb	05 45 01.2	
	comp=Z,21nm,1.4s						
WRAB	Tennant Creek	31.10	156	P	P	05 44 55.7	-0.1
WRAB				IAmb	IAmb	05 44 59.4	
	comp=Z,22nm,1.3s						
WRA	Warramunga Arr	31.10	156	P	P	05 44 55.6	-0.3
WRA	Warramunga Arr	31.10	156	P	P	05 44 55.8	-0.1
	comp=Z,4.2nm,0.7s,baz=330,slow=11,SNR=28						
	comp=Z,4.2nm,0.7s						
WB2	Warramunga Arr	31.11	156	P	P	05 44 56.1	+0.2
WB2				IAmb	IAmb	05 44 56.7	
	comp=Z,7.3nm,0.7s						
PMG	Port Moresby	31.14	125	P	P	05 44 55.2	-1.1
PMG	Port Moresby	31.14	125	LR	LR	06 00 00.9	
	comp=Z,49nm,18.5s,baz=226,slow=41						
WR0	Warramunga Arr	31.20	156	P	P	05 44 55.2	-1.6
WR0				IAmb	IAmb	05 44 56.3	
	comp=Z,16nm,1.4s						
AS31	Alice Springs	34.35	160	P	P	05 45 25.2	+0.9
ASAR	Alice Springs	34.35	160	P	P	05 45 25.2	+0.9
ASAR	Alice Springs	34.35	160	P	P	05 45 24.7	+0.4
	comp=Z,5.0nm,0.6s,baz=340,slow=7.4,SNR=50						
	comp=Z,5.0nm,0.6s						
CTA	Charters Tower	37.50	140	LR	LR	06 05 05.8	
	comp=Z,26nm,18.1s,baz=106,slow=42						
CTAO	Charters Tower	37.50	140	P	P	05 45 52.2	+0.9
CTAO				IAmb	IAmb	05 46 16.7	
	comp=Z,20nm,1.4s						
FORT	Forrest	39.75	171	P	P	05 46 11.5	+1.5
SONM	Songino Array	41.07	344	P	P	05 46 19.5	-1.4
	comp=Z,0.4nm,0.8s,baz=170,slow=5.0,SNR=2.5						
SONM				LR	LR	06 03 54.1	
	comp=Z,34nm,18.6s,baz=145,slow=37						
	comp=Z,0.4nm,0.8s						
HNR	Honiara	42.19	114	LR	LR	06 03 10.4	
	comp=Z,383nm,20.7s,baz=294,slow=35						
BBOO	Buckleboo	43.52	162	P	P	05 46 41.7	+0.7
EIDS	Eidsvold	44.38	141	P	P	05 46 47.4	-0.5
EIDS				IAmb	IAmb	05 46 48.2	
	comp=Z,9.3nm,0.8s						
STKA	Stephens Creek	44.65	156	P	P	05 46 51.1	+1.1
STKA	Stephens Creek	44.65	156	P	P	05 46 50.7	+0.7
	comp=Z,5.9nm,0.7s,baz=334,slow=7.1,SNR=9.5						
	comp=Z,5.9nm,0.7s						
MK31	Makanchi Array	50.61	326	P	P	05 47 36.3	+0.2
MK31				IAmb	IAmb	05 47 49.1	
	comp=Z,4.5nm,0.9s						
MKAR	Makanchi Array	50.61	326	P	P	05 47 36.1	0.0
MKAR	Makanchi Array	50.61	326	P	P	05 47 35.7	-0.4
	comp=Z,1.2nm,0.7s,baz=131,slow=8.6,SNR=13						
MKAR				LR	LR	06 09 53.7	
	comp=Z,115nm,18.4s,baz=86,slow=37						
	comp=Z,1.2nm,0.7s						
CAN	Canberra	50.85	151	P	P	05 47 39.5	+1.5
NIL	Nilore	50.90	307	P	P	05 47 39.6	+1.0
ZALV	Zalesovo Beam	53.90	334	P	P	05 47 58.3	-2.0
	comp=Z,0.5nm,0.3s,baz=138,slow=8.5,SNR=2.1						
	comp=Z,0.5nm,0.3s						
KBL	Kabul	54.50	306	P	P	05 48 04.7	-0.8
KBL				IAmb	IAmb	05 48 18.8	
	comp=Z,4.1nm,0.8s						
KURBB	Kurchatov Arra	54.85	328	P	P	05 48 06.1	-1.2
	comp=Z,0.6nm,0.7s,baz=127,slow=7.0,SNR=7.6						
	comp=Z,0.6nm,0.7s						
KURK	Kurchatov	54.85	328	P	P	05 48 06.4	-0.9
SIMJ	Simiganj	55.71	311	P	P	05 48 13.3	-0.6
KK31	Karatay Array	56.16	317	P	P	05 48 17.2	+0.3
KK31				IAmb	IAmb	05 48 30.1	
	comp=Z,5.0nm,1.1s						
KKAR	Karatay Array	56.16	317	P	P	05 48 17.2	+0.3
BVAR	Borovoye Array	60.41	327	P	P	05 48 45.5	-0.9
	comp=Z,0.5nm,0.5s,baz=139,slow=7.5,SNR=2.5						
	comp=Z,0.5nm,0.5s						
NRIK	Noril'sk	64.44	347	P	P	05 49 14.3	+1.2
NRIK				IAmb	IAmb	05 49 24.9	
	comp=Z,7.3nm,1.1s						
ABKAR	Akbulak array	65.11	321	P	P	05 49 17.8	0.0
RTZ	Ruatahuna	69.70	137	P	P	05 49 46.8	-0.3
ANM	Nome	74.88	25	P	P	05 50 16.1	-1.4
F15K	North Star Dit	75.41	24	P	P	05 50 20.0	-0.5
C16K	Lisburne Hills	75.68	22	P	P	05 50 21.7	-0.3
C16K				IAmb	IAmb	05 50 22.0	
	comp=Z,5.2nm,1.0s						
G16K	Koyuk River	76.30	25	P	P	05 50 25.5	0.0
F17K	Baldwin Pennin	76.90	24	P	P	05 50 28.3	-0.6
F17K				IAmb	IAmb	05 50 41.4	
	comp=Z,4.0nm,0.8s						
H17K	Granite Mounta	77.25	25	P	P	05 50 30.9	-0.1
H17K				IAmb	IAmb	05 50 31.6	
	comp=Z,5.9nm,0.9s						
C18K	Utukok River	77.25	21	P	P	05 50 30.5	-0.6
C18K				IAmb	IAmb	05 50 42.9	
	comp=Z,3.7nm,0.7s						
K17K	Iditarod	77.74	28	P	P	05 50 33.7	0.0
K17K				IAmb	IAmb	05 50 38.8	
	comp=Z,11nm,1.4s						
G18K	Tagagawik	77.88	24	P	P	05 50 34.2	-0.3
G18K				IAmb	IAmb	05 50 46.5	
	comp=Z,4.4nm,1.1s						
C19K	Lookout Ridge	77.90	21	P	P	05 50 34.7	+0.1
C19K				IAmb	IAmb	05 50 49.1	
	comp=Z,4.6nm,0.8s						
H18K	Honhosa River	77.93	25	P	P	05 50 34.0	-0.8
F19K	Shaleruckik Mo	78.33	23	P	P	05 50 36.5	-0.4
D19K	Kuna River	78.36	22	P	P	05 50 36.8	-0.4
D19K				IAmb	IAmb	05 50 37.4	
	comp=Z,5.6nm,0.8s						
L18K	Granite Mounta	78.45	28	P	P	05 50 38.6	+0.9
L18K				IAmb	IAmb	05 50 58.8	
	comp=Z,15nm,1.4s						
J18K	Innoko River	78.51	27	P	P	05 50 37.7	-0.3
G19K	Purcell Mounta	78.54	24	P	P	05 50 37.9	-0.2
E19K	Redstone River	78.59	23	P	P	05 50 38.1	-0.3
E19K				IAmb	IAmb	05 50 52.4	
	comp=Z,3.8nm,0.8s						
H19K	Roundabout Mou	78.76	25	P	P	05 50 39.1	-0.2
H19K				IAmb	IAmb	05 50 52.0	
	comp=Z,6.5nm,0.7s						
TTA	Tatalina	78.80	28	P	P	05 50 39.4	-0.3
F20K	Avaraart Lake	79.15	23	P	P	05 50 41.2	-0.2
IMAR	Indian Mountai	79.89	24	P	P	05 50 45.2	-0.3
B22K	Teshekpuk Lake	80.14	20	P	P	05 50 46.7	-0.1
B22K				IAmb	IAmb	05 50 52.6	
	comp=Z,6.7nm,1.1s						
H21K	Melozitna River	80.28	25	P	P	05 50 47.5	-0.1
H21K				IAmb	IAmb	05 51 00.3	
	comp=Z,3.3nm,0.8s						
D22K	Ayikyak River	80.36	22	P	P	05 50 48.1	+0.1
D22K				IAmb	IAmb	05 51 10.8	
	comp=Z,9.7nm,1.4s						
CAST	Castle Rocks	80.59	27	P	P	05 50 49.0	-0.4
CAST				IAmb	IAmb	05 51 09.0	
	comp=Z,4.0nm,0.7s						
I21K	Tanana	80.62	25	P	P	05 50 49.6	+0.2
I21K				IAmb	IAmb	05 51 02.2	
	comp=Z,3.8nm,0.8s						
E22K	Anaktuvuk Pass	80.68	22	P	P	05 50 49.9	+0.1
MLY	Manley	81.15	25	P	P	05 50 52.1	-0.3
MLY				IAmb	IAmb	05 51 04.7	
	comp=Z,3.8nm,0.7s						
G23K	Bananza Creek	81.39	24	P	P	05 50 54.0	+0.4
F24K	Squaw Lake	82.19	23	P	P	05 50 57.6	-0.1
F24K				IAmb	IAmb	05 51 12.4	
	comp=Z,3.6nm,0.9s						
MDM	Murphy Dome	82.22	25	P	P	05 50 58.1	+0.2
MDM				IAmb	IAmb	05 51 15.5	
	comp=Z,3.9nm,0.8s						
G24K	Hadweenzic Riv	82.41	24	P	P	05 50 59.0	+0.1
G24K				IAmb	IAmb	05 50 59.6	
	comp=Z,6.2nm,1.1s						
E25K	Arctic Village	83.01	22	P	P	05 51 02.4	+0.4
BMAR	Burnt Mountain	83.46	23	P	P	05 51 05.2	+0.8
D27M	Malcolm River	84.53	21	P	P	05 51 10.2	+0.4
D27M				IAmb	IAmb	05 51 22.9	
	comp=Z,4.5nm,0.9s						
AKASG	Malin Array Be	84.86	320	P	P	05 51 11.6	-0.1
	comp=Z,0.3nm,0.5s,baz=69,slow=0.9,SNR=1.6						
	comp=Z,0.3nm,0.5s						
FINES	FINESS Array B	85.07	331	P	P	05 51 12.7	+0.2
FINES	FINESS Array B	85.07	331	P	P	05 51 12.3	-0.2
	comp=Z,1.5nm,0.9s,baz=78,slow=5.6,SNR=1.6						
	comp=Z,1.5nm,0.9s						
F28M	Old Crow	85.22	22	P	P	05 51 13.6	+0.3
EGAK	Eagle	85.24	25	P	P	05 51 13.2	-0.1
EGAK				IAmb	IAmb	05 51 26.1	
	comp=Z,4.8nm,0.8s						
I28M	Miner Creek	85.62	24	P	P	05 51 16.0	+0.6
E29M	Blow River	85.79	21	P	P	05 51 17.4	+1.3
E29M				IAmb	IAmb	05 51 35.4	
	comp=Z,3.2nm,0.9s						
H29M	Whitestone	86.09	24	P	P	05 51 17.5	-0.1
DAWY	Dawson	86.13	26	P	P	05 51 18.3	+0.4
DAWY				IAmb	IAmb	05 51 30.6	
	comp=Z,3.8nm,0.8s						
G30M	tAoh Zrail Nji	86.75	23	P	P	05 51 20.5	-0.3
I30M	Mount Dempster	87.13	24	P	P	05 51 22.4	-0.4
I30M				IAmb	IAmb	05 51 50.3	
	comp=Z,4.4nm,1.1s						
J30M	Hart River	87.31	25	P	P	05 51 24.1	+0.4
INK	Inuvik	87.38	21	P	P	05 51 23.1	-0.7
INK				IAmb	IAmb	05 51 39.9	
	comp=Z,4.0nm,1.1s						
G31M	Satah River	87.50	23	P	P	05 51 25.0	+0.6
F31M	Tsiigehtchic	87.55	22	P	P	05 51 23.3	-1.3
A36M	Sachs Harbour	88.71	17	P	P	05 51 30.3	+0.2
YKA	Yellowknife Ar	96.98	23	P	P	05 52 07.6	-0.9
	comp=Z,0.4nm,0.9s,baz=300,slow=4.4,SNR=4.1						
	comp=Z,0.4nm,0.9s						
PLCA	Paso Flores	146.32	163	PKPbc	PKPdf	05 58 18.2	+1.3
	comp=Z,2.2nm,0.8s,baz=220,slow=5.4,SNR=7.9						

IDC ***29*** *05:49:01.3±1.6, 55.°86N×149.°32W, h0km, mb3.6/5, mbtmp3.7/10, ML3.6/5, MS3.0/3, Error ellipse: s-maj=33.4km s-min=21.9km az=19.0*
NEIC ***29*** *05:49:07.2±1.5, 56.°15N±0.°08×149.°26W±0.°07, h24km±8km, mb4.1/2, ML3.9/46, ML3.6(AEIC), Error ellipse: s-maj=11.5km s-min=5.6km az=174.0*
AEIC ***29*** *05:49:09.6±1.5, 56.°14N±0.°07×149.°2W±0.°1, h7km±6km, Error ellipse: s-maj=11.0km s-min=8.1km az=168.0*

ISC 29 05:49:04.6±0.8, 56.°13N±0.°09×149.°28W±0.°06, h10km, n280, σ1s08/279, mb3.7/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.45	314	Pn	Pn		05 49 45.3	+0.7
KDAK	Kodiak Island	2.45	314		Sn		05 50 13.0	-1.7
KDAK	Kodiak Island	2.45	314	Pn	Pn		05 49 45.0	+0.4
	7.1nm,0.3s,baz=134,slow=4.2,SNR=58							
KDAK				Sn	Sn		05 50 12.0	-2.6
	11nm,0.3s,baz=44,slow=14,SNR=5.4							
KDAK				LR	LR		05 50 47.5	
	comp=Z,240nm,19.9s,baz=206,slow=40 17nm,0.4s							
OHAK	Old Harbor	2.47	298	Pn	Pn		05 49 45.4	+0.5
OHAK				Sn	Sn		05 50 13.0	-1.9
OHAK	Old Harbor	2.47	298	P	Pn		05 49 45.1	+0.3
OHAK	Old Harbor	2.47	298	P	Pn		05 49 45.1	+0.3
	baz=115							
OHAK				S	Sn		05 50 13.1	-1.9
	baz=115							
SII	Sitkinak Islan	2.76	281	Pn	Pn		05 49 47.2	-1.7
SII				Sn	Sn		05 50 21.4	-0.9
SII				IAML			05 50 38.5	
	comp=N,295nm,1.1s							
SII	Sitkinak Islan	2.76	281	P	Pn		05 49 49.9	+1.0
SYI	Shuyak Island	3.00	327	Pn	Pn		05 49 52.9	+0.7
SYI				IAML			05 50 28.8	
	comp=E,298nm,0.5s							
SYI				IAML			05 50 29.0	
	comp=N,227nm,0.5s							
Q20K	Shuyak Island	3.00	327	P	Pn		05 49 52.7	+0.5
	baz=144							
Q20K				S	Sn		05 50 27.7	-0.5
	baz=144							
R18K	Karluk	3.19	299		Pn		05 49 55.3	+0.6
R18K					Sn		05 50 30.9	-1.7
R18K				IAML			05 50 32.8	
	comp=N,266nm,0.4s							
R18K				IAML			05 50 37.5	
	comp=E,294nm,0.4s							
R18K	Karluk	3.19	299	P	Pn		05 49 55.5	+0.8
	baz=115							
R18K				S	Sn		05 50 30.8	-1.9
	baz=115							
CNPM	China Poot	3.56	344	Pn	Pn		05 50 00.3	+0.4
CNPM					Sn		05 50 41.5	-0.5
CNPM				IAML			05 50 42.8	
	comp=E,156nm,0.3s							
Q19K	Cape Douglas,	3.66	322	Pn	Pn		05 50 02.7	+1.4
Q19K	Cape Douglas,	3.66	322	P	Pn		05 50 01.8	+0.6
	baz=138							
Q23K	Middleton Isla	3.66	24	Pn	Pn		05 50 01.2	-0.1
Q23K				IAML			05 50 46.6	
	comp=E,237nm,1.2s							
Q23K				IAML			05 51 55.8	
	comp=N,157nm,1.1s							
Q23K	Middleton Isla	3.66	24	P	Pn		05 50 01.0	-0.2
	baz=206							
MID	Middleton Isla	3.66	24	Pn	Pn		05 50 01.1	-0.1
MID				IAML			05 50 46.5	
	comp=E,216nm,1.2s							
MID				IAML			05 51 59.0	
	comp=N,153nm,1.1s							
MID	Middleton Isla	3.66	24	P	Pn		05 50 00.9	-0.3
BRSE	Bradley Lake S	3.71	348		Pn		05 50 01.8	0.0
BRSE	Bradley Lake S	3.71	348	P	Pn		05 50 01.8	0.0
	baz=167							
KAHG	Katmai Hook Gl	3.71	312		Pn		05 50 03.4	+1.4
BRLK	Bradley Lake	3.74	347		Pn		05 50 02.6	+0.2
BRLK				IAML			05 50 48.7	
	comp=N,143nm,0.8s							
BRLK				IAML			05 50 48.8	
	comp=E,177nm,0.6s							
HOM	Homer	3.76	341	Pn	Pn		05 50 03.7	+1.2
HOM	Homer	3.76	341	P	Pn		05 50 03.0	+0.5
	baz=159							
ACHA	Angle Creek He	3.90	305		Pn		05 50 06.0	+1.4
AUL	Augustine Lava	3.95	327		Pn		05 50 04.2	-1.0
KVTA	Katmai Vly 10	3.97	307		Pn		05 50 06.9	+1.4
SEW	Seward	3.99	359		Pn		05 50 05.7	+0.1
SEW	Seward	3.99	359	P	Pn		05 50 05.3	-0.3
	baz=178							
P23K	Montague Islan	4.00	14		Pn		05 50 05.9	-0.1
P23K	Montague Islan	4.00	14	P	Pn		05 50 05.9	-0.1
	baz=195							
P19K	Oil Pt	4.11	331	Pn	Pn		05 50 08.5	+1.0
P19K				IAML			05 50 59.2	
	comp=E,229nm,0.3s							
P19K	Oil Pt	4.11	331	P	Pn		05 50 08.6	+1.0
	baz=147							
CNTC	Contact Creek	4.18	304		Pn		05 50 09.8	+1.3
Q17K	Contact Creek	4.18	303	P	Pn		05 50 09.8	+1.3
	baz=178							
KELA	Mount Kelaz	4.20	306		Pn		05 50 10.4	+1.6
O22K	Cooper Landing	4.37	357	Pn	Pn		05 50 11.3	+0.3
IVE	Iliamna Volcan	4.37	335		Pn		05 50 11.3	+0.2
HIN	Hinchinbrook I	4.52	18	Pn	Pn		05 50 13.5	+0.3
HIN				IAML			05 51 05.4	
	comp=N,126nm,0.6s							
HIN				IAML			05 51 05.7	
	comp=E,93nm,0.5s							
P18K	Big Mountain,	4.57	318	Pn	Pn		05 50 14.3	+0.7
P18K	Big Mountain,	4.57	318	P	Pn		05 50 14.2	+0.5
	baz=133							
KAIM	Kayak Island	4.60	32	Pn	Pn		05 50 14.6	+0.4
KAIM				IAML			05 51 15.9	
	comp=N,100nm,0.7s							
KAIM				IAML			05 51 19.4	
	comp=E,81nm,1.1s							
KAIM	Kayak Island	4.60	32	P	Pn		05 50 14.5	+0.4
	baz=216							
Q16K	King Salmon	4.74	306		Pn		05 50 17.3	+1.3
Q16K	King Salmon	4.74	306	P	Pn		05 50 17.3	+1.3
	baz=120							
R16K	Pilot Point	4.78	291	P	Pn		05 50 17.6	+1.1
	baz=104							
EYAK	Cordova Ski Ar	4.81	21		Pn		05 50 17.4	+0.5
EYAK	Cordova Ski Ar	4.81	21	P	Pn		05 50 17.5	+0.5
O19K	Port Alsworth	4.87	329	Pn	Pn		05 50 18.3	+0.5
O19K	Port Alsworth	4.87	329	P	Pn		05 50 18.1	+0.3
	baz=145							
O18K	Koktuh Hills	4.89	322	Pn	Pn		05 50 18.8	+0.7
O18K				IAML			05 51 14.6	
	comp=N,53nm,0.8s							
O18K	Koktuh Hills	4.89	322	P	Pn		05 50 18.6	+0.5
	baz=137							
RAGM	Ragged Mountai	4.91	28		Pn		05 50 19.1	+0.7
RAGM				IAML			05 51 27.4	
	comp=E,122nm,1.0s							
P17K	Kvichak River	4.92	312		Pn		05 50 19.9	+1.4
P17K	Kvichak River	4.92	312	P	Pn		05 50 19.9	+1.4
	baz=126							
GOAT	Goat Mountain	5.07	26		Pn		05 50 21.3	+0.7
CHGN	Chignik	5.10	276	Pn	Pn		05 50 22.4	+1.4
CHGN				IAML			05 53 44.8	
	comp=E,90nm,0.1s							
BERG	Berg Lake	5.19	32		Pn		05 50 22.6	+0.4
BERG				IAML			05 51 23.4	
	comp=N,86nm,0.4s							
BERG				IAML			05 51 45.7	
	comp=E,102nm,1.1s							
SNH	Sunshine Point	5.30	37	Pn	Pn		05 50 24.5	+0.7
SNH				IAML			05 51 37.0	
	comp=E,43nm,1.2s							
KNK	Knik Glacier	5.32	4		Pn		05 50 24.5	+0.5
KNK				IAML			05 51 30.2	
	comp=E,49nm,1.2s							
DIV	Divide	5.34	19		Pn		05 50 24.8	+0.5
CYK	Cape Yakataga	5.36	39		Pn		05 50 24.8	+0.3
N19K	Bonanza Creek	5.43	332		Pn		05 50 25.8	+0.1
BMRM	Bremner River	5.43	25		Pn		05 50 25.6	0.0
BMRM	Bremner River	5.43	25	P	Pn		05 50 26.0	+0.3
	baz=208							
PMR	Palmer	5.48	1		Pn		05 50 25.9	-0.3
PMR	Palmer	5.48	1	P	Pn		05 50 27.6	+1.4
PMR	Palmer	5.48	1	P	Pn		05 50 27.0	+0.8
	baz=181							
P16K	Nushagak River	5.51	305		Pn		05 50 28.1	+1.5
P16K	Nushagak River	5.51	305	P	Pn		05 50 28.1	+1.5
	baz=118							
BARK	Barkley Ridge	5.58	37		Pn		05 50 28.3	+0.5
KLU	Klutina	5.65	17		Pn		05 50 29.5	+0.8
KLU	Klutina	5.65	17	P	Pn		05 50 29.2	+0.6
	baz=199							
GHO	Glory Hole Cre	5.66	2	Pn	Pn		05 50 29.1	+0.3
SML	Sawmill	5.72	5	Pn	Pn		05 50 30.2	+0.7
SML	Sawmill	5.72	5	P	Pn		05 50 30.3	+0.8
	baz=185							
N18K	Kilae Creek	5.73	325	Pn	Pn		05 50 29.6	-0.1
M23K	Glacier View	5.74	7		Pn		05 50 30.7	+0.9
M23K	Glacier View	5.74	7	P	Pn		05 50 30.7	+0.9
	baz=188							
S14K	Fog Glacier	5.74	276	P	Pn		05 50 31.4	+1.6
	baz=88							
VNFG	Fog Glacier, M	5.74	276		Pn		05 50 31.3	+1.4
SCM	Sheep Creek Mo	5.81	9		Pn		05 50 31.7	+0.9
SCM	Sheep Creek Mo	5.81	9	P	Pn		05 50 31.9	+1.1
	baz=190							
O16K	Kokwok River B	5.85	310	Pn	Pn		05 50 32.5	+1.3
O16K	Kokwok River B	5.85	310	P	Pn		05 50 32.3	+1.1
	baz=123							
VRDI	Verde Repeater	5.95	28	Pn	Pn		05 50 33.4	+0.6
SKT	Skwentna	5.98	350	Pn	Pn		05 50 31.1	-2.0
N25K	Chitina, Valde	6.00	22		Pn		05 50 34.1	+0.7
N25K	Chitina, Valde	6.00	22	P	Pn		05 50 34.2	+0.8
	baz=206							
CNBA	Chernabura Isl	6.01	262	Pn	Pn		05 50 34.9	+1.5
KIAG	Kiagna River	6.02	34		Pn		05 50 33.8	0.0
SAMH	Samovar Hills	6.03	45		Pn		05 50 34.4	+0.6
GLB	Gilahina Butte	6.04	26	Pn	Pn		05 50 34.5	+0.6
N17K	Nushagak Hills	6.06	320	Pn	Pn		05 50 34.4	+0.2
M20K	Styx River	6.10	343	Pn	Pn		05 50 35.4	+0.5
MCARA	McCarthy VSAT	6.19	29		Pn		05 50 36.3	+0.3
MCARA	McCarthy VSAT	6.19	29	P	Pn		05 50 36.2	+0.3
	baz=214							
PTPK	Patty Peak	6.19	32		Pn		05 50 36.7	+0.6
M24K	Tolsona, Glenn	6.20	14		Pn		05 50 37.7	+1.5
M24K	Tolsona, Glenn	6.20	14	P	Pn		05 50 36.5	+0.3
	baz=196							
PCA	Pinnacle	6.22	47		Pn		05 50 37.3	+0.9
PINM	Pinnacle	6.22	47	P	Pn		05 50 36.5	+0.1
	baz=234							
CUT	Chulitna	6.32	356	Pn	Pn		05 50 38.2	+0.6
BARN	Barnard Glacie	6.35	36		Pn		05 50 39.0	+0.7
PNL	Peninsula	6.35	52		Pn		05 50 38.5	+0.3
PNL	Peninsula	6.35	52	P	Pn		05 50 38.5	+0.3
	baz=240							
M18K	Stony River	6.36	330		Pn		05 50 38.1	-0.1
M18K	Stony River	6.36	330	P	Pn		05 50 38.1	-0.1
	baz=145							
M19K	Big River Lodg	6.36	338	Pn	Pn		05 50 38.8	+0.5
CTG	Chitna Glacier	6.38	37	P	Pn		05 50 39.1	+0.4
	baz=224							
WASW	Wrangell South	6.38	22		Pn		05 50 39.7	+0.9
CTGM	Chitina Glacie	6.38	37		Pn		05 50 39.4	+0.6
BCPM	Bancas Point	6.39	49	Pn	Pn		05 50 39.9	+1.1
LOGN	Logan Glacier	6.40	39		Pn		05 50 39.4	+0.4
WACK	Wrangell Chich	6.40	21		Pn		05 50 39.7	+0.6
O15K	Ungalikthiuk R	6.43	303		Pn		05 50 40.8	+1.6
O15K	Ungalikthiuk R	6.43	303	P	Pn		05 50 40.8	+1.6
	baz=114							
WAT6	Susitna Watana	6.

M15K **Kasigluk River** 7.53 312 P Pn 05 50 55.7 +1.3
baz=122
L26K **Log Cabin Wild** 7.54 21 Pn 05 50 56.5 +2.0
L26K **Log Cabin Wild** 7.54 21 P Pn 05 50 55.8 +1.4
baz=206
YUK4 **Talbot Arm** 7.61 42 P Pn 05 50 58.3 +2.8
baz=231
MCK **McKinley** 7.63 1 Pn 05 50 55.5 -0.2
MCK **McKinley** 7.63 1 P Pn 05 50 55.2 -0.5
baz=181
BVCY **Beaver Creek** 7.63 31 Pn 05 50 56.9 +1.2
BVCY **Beaver Creek** 7.63 31 P Pn 05 50 56.9 +1.2
baz=218
PLBC **Pleasant Camp** 7.66 59 Pn 05 50 56.5 +0.4
PLBC **Pleasant Camp** 7.66 59 P Pn 05 50 56.5 +0.4
baz=250
L16K **Owhat River** 7.69 321 Pn Pn 05 50 57.5 +1.1
L16K **Owhat River** 7.69 321 P Pn 05 50 57.2 +0.7
baz=132
SIT **Sitka** 7.76 77 P Pn 05 50 55.7 -1.8
YUK5 **Granite Creek** 7.78 45 Pn 05 50 59.4 +1.4
L27K **Beaver Creek,** 7.91 25 Pn 05 51 00.1 +0.6
BCAR **Beaver Creek A** 7.92 26 Pn Pn 05 51 01.2 +1.4
RIDG **Independent Ri** 7.95 14 Pn 05 51 01.8 +1.7
RIDG **Independent Ri** 7.95 14 P Pn 05 51 01.0 +0.8
baz=198
BPAW **Bear Paw Mtn.** 8.04 355 Pn Pn 05 51 00.6 -0.7
K17K **Iditarod** 8.04 329 Pn Pn 05 51 00.9 -0.4
SKAG **Skagway** 8.16 60 Pn Pn 05 51 03.2 +0.2
SKAG **Skagway** 8.16 60 P Pn 05 51 03.4 +0.4
S32K **Killisnoo** 8.18 74 Pn Pn 05 51 02.6 -0.6
J16K **Innoko River** 8.25 336 Pn Pn 05 51 05.1 +0.9
N30M **Aishikik Lake** 8.28 45 Pn 05 51 05.5 +0.9
N30M **Aishikik Lake** 8.28 45 P Pn 05 51 05.3 +0.7
baz=235
R32K **Eaglecrest** 8.30 69 Pn Pn 05 51 04.0 -0.9
SCRK **Sand Creek** 8.30 16 Pn 05 51 05.9 +0.8
SCRK **Sand Creek** 8.30 16 P Pn 05 51 05.8 +0.8
baz=201
O30N **Mendenhall** 8.33 51 Pn 05 51 06.4 +1.1
O30N **Mendenhall** 8.33 51 P Pn 05 51 06.0 +0.7
baz=242
ISLZ **Isanotski Laza** 8.33 266 Pn 05 51 06.4 +1.1
JIS **Juneau Island** 8.37 69 Pn Pn 05 51 06.2 +0.4
JIS **Juneau Island** 8.37 69 P Pn 05 51 06.5 +0.7
HDA **Harding Lake** 8.39 7 Pn 05 51 07.9 +1.9
HDA **Harding Lake** 8.39 7 P Pn 05 51 07.2 +1.1
baz=189
WRH **Wood River Hil** 8.39 4 Pn Pn 05 51 06.9 +0.8
M29M **Somme Creek** 8.40 37 Pn 05 51 07.7 +1.3
M29M **Somme Creek** 8.40 37 P Pn 05 51 07.4 +1.0
baz=226
J20K **Nowinta River** 8.43 345 Pn Pn 05 51 07.6 +1.0
NEA2 **Nenana** 8.49 1 Pn Pn 05 51 08.1 +0.6
J19K **Poorman** 8.50 341 Pn Pn 05 51 07.4 -0.2
M13K **Dall Lake** 8.56 306 Pn Pn 05 51 10.7 +2.2
CCB **Clear Creek Bu** 8.58 4 Pn 05 51 09.8 +1.1
K27K **Chicken** 8.70 21 Pn 05 51 11.5 +1.2
L14K **Kuka Creek** 8.70 312 Pn 05 51 12.7 +2.4
J25K **Salcha River,** 8.73 11 Pn 05 51 11.9 +1.1
IL31 8.73 7 Pn 05 51 11.7 +0.7
ILAR **Eielson Airpay** 8.75 7 Pn Pn 05 51 11.6 +0.6
ILAR **Eielson Airpay** 8.75 7 Pn Pn 05 51 11.0 0.0
comp=E,0.9nm,0.3s,baz=188,slow=13,SNR=41
ILAR Sn Sn 05 52 41.8 -7.8
comp=E,0.1nm,0.3s,baz=191,slow=15,SNR=2.8
comp=E,2.0nm,0.4s
COLA **College** 8.80 4 Pn Pn 05 51 11.7 0.0
COLA **College** 8.80 4 P Pn 05 51 13.4 +1.7
K15K **Wolf Creek Mou** 8.80 320 Pn Pn 05 51 13.5 +1.7
WHY **Whitehorse** 8.81 53 Pn Pn 05 51 13.0 +1.0
N31M **Braeburn, Yuko** 8.82 47 Pn 05 51 13.4 +1.5
J25L **Joseph Creek** 8.86 16 Pn 05 51 13.1 +0.4
MDM **Murphy Dome** 8.87 3 Pn Pn 05 51 12.6 -0.2
MLY **Manley** 8.96 356 Pn Pn 05 51 14.4 +0.5
L29M **L29M** 8.98 34 Pn 05 51 15.4 +1.1
P32M **Atlin** 8.99 61 Pn Pn 05 51 14.9 +0.6
U33K **Whale Pass** 9.03 83 Pn Pn 05 51 13.4 -1.4
I23K **Minto, Yukon-K** 9.05 360 Pn Pn 05 51 16.9 +1.8
POKR **Poker Plat Res** 9.06 5 Pn Pn 05 51 16.7 +1.3
M30M **Minto, Yukon** 9.07 39 Pn Pn 05 51 16.3 +0.9
J16K **Anvik River** 9.16 326 Pn Pn 05 51 17.0 +0.3
I21K **Tanana** 9.18 353 Pn Pn 05 51 18.1 +1.3
DAWY **Dawson** 9.36 28 Pn Pn 05 51 20.8 +1.4
WRAK **Wrangell Islan** 9.43 81 Pn Pn 05 51 20.9 +0.6
EGAK **Eagle** 9.55 21 Pn Pn 05 51 23.9 +1.9
P33M **Teslin, Yukon** 9.60 58 Pn Pn 05 51 23.3 +0.5
I26K **Coal Creek Min** 9.68 15 Pn Pn 05 51 25.4 +1.7
K29M **Barlow Dome** 9.71 32 Pn Pn 05 51 25.6 +1.3
H21K **Melozitna Rive** 9.71 351 Pn 05 51 25.5 +1.3
M31M **Drury Creek, Y** 9.76 45 Pn 05 51 26.4 +1.5
H24K **Noodor Dome** 9.77 3 Pn Pn 05 51 27.2 +2.2
N32M **Quiet Lake** 9.82 53 Pn Pn 05 51 27.1 +1.4
J14K **Nanvaranak Lak** 9.82 318 Pn Pn 05 51 27.4 +1.7
J29N **Klondike Camp** 9.97 29 Pn Pn 05 51 27.7 -0.2
S34M **Telegraph Cree** 10.05 72 Pn Pn 05 51 29.7 +0.9
H18K **Honhosa River** 10.08 338 Pn Pn 05 51 28.6 -0.6
IMAR **Indian Mountai** 10.12 350 Pn Pn 05 51 30.3 +0.5
FARO **Faro, Yukon** 10.19 47 Pn 05 51 30.1 -0.6
H17K **Granite Mounta** 10.25 334 Pn Pn 05 51 30.9 -0.6
R33M **Jennings River** 10.31 64 Pn Pn 05 51 33.3 +0.8
T35M **Bob Quinn** 10.54 77 Pn Pn 05 51 35.0 -0.5
J30M **Hart River** 10.60 32 Pn 05 51 36.2 -0.3
G21K **Allakaket** 10.62 351 Pn Pn 05 51 37.4 +0.8
G23K **Bananza Creek** 10.62 358 Pn Pn 05 51 38.0 +1.3
G24K **Hadweenzic Riv** 10.64 4 Pn Pn 05 51 38.6 +1.6
DLBC **Dease Lake** 10.67 70 Pn Pn 05 51 38.6 +1.2
DLBC **Dease Lake** 10.67 70 P Pn Pn 05 51 36.8 -0.6
comp=E,0.4nm,0.3s,baz=254,slow=7.3,SNR=6.7
comp=E,1.6nm,0.4s
G19K **Purcell Mounta** 10.72 343 Pn Pn 05 51 38.1 +0.1
F21K **Alatna River** 11.31 352 Pn Pn 05 51 47.0 +1.0
F20K **Avaraart Lake** 11.37 347 Pn Pn 05 51 48.2 +1.4
F24K **Squaw Lake** 11.45 3 Pn Pn 05 51 49.7 +1.7
F19K **Shaleruckik Mo** 11.46 343 Pn Pn 05 51 50.4 +2.3
BMAR **Burnt Mountain** 11.55 9 Pn Pn 05 51 50.7 +1.3
ANM **Nome** 11.58 323 Pn Pn 05 51 51.2 +1.5
F17K **Baldwin Pennin** 11.81 336 Pn Pn 05 51 51.6 -1.2
E19K **Redstone River** 11.96 345 Pn Pn 05 51 55.8 +0.9
E22K **Anaktuvuk Pass** 12.11 355 Pn Pn 05 51 57.1 +0.1
F15K **North Star Dit** 12.13 329 Pn Pn 05 51 58.6 +1.4
E25K **Arctic Village** 12.16 7 Pn Pn 05 51 57.8 +0.1
G31M **Satah River** 12.93 27 Pn Pn 05 52 08.4 +0.4
D19K **Kuna River** 13.05 345 Pn Pn 05 52 09.7 -0.1
INK **Inuvik** 14.18 24 Pn Pn 05 52 25.7 +0.5
comp=E,0.2nm,0.3s,baz=121,slow=19,SNR=6.5
INK LR LR 05 58 13.5
comp=E,39nm,19.4s,baz=191,slow=38
comp=E,5.7nm,1.1s
B22K **Teshekpuk Lake** 14.38 354 Pn Pn 05 52 29.1 +1.1
YKA **Yellowknife Ar** 18.62 56 P P 05 53 21.4 -0.5
YKA **Yellowknife Ar** 18.62 56 P P 05 53 21.1 -0.8
comp=E,0.1nm,0.3s,baz=264,slow=11,SNR=15
comp=E,1.3nm,0.8s
A36M **Sachs Harbour** 18.82 23 P P 05 53 24.3 +0.3
A36M IAmb IAmb 05 53 45.0
comp=Z,8.8nm,0.8s
DBO **Dodson Butte** 21.14 117 P P 05 53 48.1 -1.5
DBO IAmb IAmb 05 53 57.4
comp=Z,11nm,1.0s
YBH **Yreka Blue Hor** 22.44 119 LR LR 06 00 36.9
comp=Z,58nm,20.3s,baz=278,slow=31
NVAR **Mina Array Bea** 27.14 118 P P 05 54 46.4 -1.6
comp=Z,0.3nm,0.6s,baz=300,slow=7.2,SNR=2.0
comp=Z,0.3nm,0.6s
H11N2 **WAKE ISLAND Hy** 48.81 240 T T 06 50 35.7
baz=31,slow=76,SNR=22
H11N3 **WAKE ISLAND Hy** 48.81 240 T T 06 50 29.3
baz=31,slow=76,SNR=20
H11N1 **WAKE ISLAND Hy** 48.83 240 T T 06 50 33.1
baz=31,slow=76,SNR=18
H11S1 **WAKE ISLAND Hy** 49.95 239 T T 06 52 19.1
baz=30,slow=76,SNR=23
H11S2 **WAKE ISLAND Hy** 49.96 239 T T 06 52 12.5
baz=30,slow=76,SNR=24
H11S3 **WAKE ISLAND Hy** 49.97 239 T T 06 51 58.6
baz=30,slow=76,SNR=18
SONM **Songino Array** 58.74 310 P P 05 59 01.8 -0.6
comp=Z,0.2nm,0.3s,baz=57,slow=5.3,SNR=1.6
comp=Z,0.2nm,0.3s
ZALV **Zalesovo Beam** 61.69 327 P P 05 59 21.2 -1.1
comp=Z,0.3nm,0.4s,baz=31,slow=8.7,SNR=2.0
comp=Z,0.3nm,0.4s

FINES **FINESS Array B** 62.71 3 P P 05 59 29.9 +0.9
comp=Z,1.7nm,0.8s,baz=36,slow=7.3,SNR=4.2
comp=Z,1.7nm,0.8s
MKAR **Makanchi Array** 68.72 325 P P 06 00 06.1 -2.0
comp=Z,0.2nm,0.5s,baz=30,slow=6.8,SNR=2.0
comp=Z,0.2nm,0.5s

IDC ***29*** *05:49:41.6±0.8, 7°.37N×79°.64W, h0km, mb3.9/12, mbtmp4.0/16, ML3.2/2, MS4.2/42, Error ellipse: s-maj=27.1km s-min=14.5km az=44.0*
UPA ***29*** *05:49:46.0±2.4, 7°.17N×79°.66W, h8km±11km, MW5.2, Fault plane solution: NP1:ϕs110.00000°, δ45.00000°, λ64.00000°.*
NEIC ***29*** *05:49:47.3, 7°.27N×79°.57W, h10km*
RSNC ***29*** *05:49:47.7±1.2, 7°.08N×79°.66W, h32km±12km, ML4.3, Mw4.6, Fault plane solution: NP1:ϕs83.00000°, δ88.00000°, λ4.00000°.*
NEIC ***29*** *05:49:47.3±1.9, 7°.27N±0°.05×79°.57W±0°.06, h10km±1km, mb4.9/179, Mwr5.0/8, Error ellipse: s-maj=10.0km s-min=9.0km az=246.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.18; Mθθ-1.14; Mϕϕ0.96; Mrθ-2.70; Mθϕ2.23; Mϕr-0.63; Fault plane solution: Ms3.71000×10¹⁶ NP1:ϕs166.37000°, δ41.56000°, λ177.18000°. NP2:ϕs258.48000°, δ88.13000°, λ48.47000°. Principal axes: T 3.7057, Plg34.0000°, Azm134.0000°; N 0.0056, Plg41.0000°, Azm260.0000°; P -3.7113, Plg30.0000°, Azm21.0000°;*
GCMT ***29*** *05:49:50.3±0.2, 7°.29N±0°.01×79°.56W±0°.02, h12km, MW5.0/121, Moment Tensor Solution. s31,c38; s121,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.25±.10; Mθθ-0.32±.10; Mϕϕ1.58±.12; Mrθ-0.20±.29; Mθϕ3.18±.07; Mϕr0.03±.25; Best double couple: Ms3.33200×10¹⁶ NP1:ϕs81.00000°, δ86.00000°, λ-6.00000°. NP2:ϕs172.00000°, δ84.00000°, λ-176.00000°. Principal axes: T 3.9500, Plg1.0000°, Azm127.0000°; N -1.2290, Plg83.0000°, Azm225.0000°; P -2.7130, Plg7.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
CATAC ***29*** *05:50:55.9±0.5, 9°.67N×83°.78W, h30km±4km, ML3.2*
ISC 29 05:49:46.1±1.1, **7°.20N**±0°.03×**79°.62W**±0°.02, **h13**km±7km, **n398**, σ1§**82**/371, **mb4.9**/114, **MS4.2**/39, **37C-7D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PEDA3	**Pedasi**	**0.52**	**309**	*i*P		**Pg**	**05 49 55.7**	**-0.6**
PEDA3				eS		**Sg**	**05 50 02.9**	**-0.4**
ACHO3	**Achotines, Los**	**0.59**	**292**	⇑*i*P		**Pg**	**05 49 57.1**	**-0.6**
ACHO3				eS		**Sg**	**05 50 05.9**	**+0.3**
TOSI3	**Tonosi**	**0.84**	**284**	⇑*i*P		**Pg**	**05 50 01.2**	**-1.2**
TOSI3				eS		**Sg**	**05 50 13.1**	**-0.4**
CHIT3	**Chitre**	**1.10**	**314**	⇑*i*P		**Pb**	**05 50 05.1**	**-1.8**
CHIT3				eS		**Sb**	**05 50 19.3**	**-1.9**
CACAO	**El Cacao, Vera**	**1.24**	**277**	⇑*i*P		**Pn**	**05 50 07.0**	**-2.2**
CACAO				eS		**Sb**	**05 50 23.0**	**-2.4**
CACAO	**El Cacao, Vera**	**1.24**	**277**	⇑*i*P		**Pn**	**05 50 07.0**	**-2.2**
CACAO				eS		**Sb**	**05 50 22.9**	**-2.6**
MARI3	**Mariato, Verag**	**1.44**	**288**	⇑*e*P		**Pn**	**05 50 10.6**	**-1.2**
MARI3				eS		**Sn**	**05 50 30.8**	**+0.2**
PNME	**Penonome**	**1.46**	**331**	⇑*i*P		**Pn**	**05 50 11.5**	**-0.8**
PNME				eS		**Sn**	**05 50 30.2**	**-1.1**
PNME				*i*			05 50 38.1	
comp=Z,2μm,0.3s								
CALO3	**Calobre, Verag**	**1.65**	**313**	⇑*i*P		**Pn**	**05 50 14.5**	**-0.3**
GMAL	**Guarumal, Vera**	**1.70**	**289**	⇑*i*P		**Pn**	**05 50 14.9**	**-0.5**
GMAL				eS		**Sn**	**05 50 37.5**	**+0.3**
GMAL	**Guarumal, Vera**	**1.70**	**289**	⇑*e*P		**Pn**	**05 50 15.0**	**-0.5**
GMAL				eS		**Sn**	**05 50 36.2**	**-1.0**
UPA	**Univ. de Panam**	**1.78**	**3**	⇓*i*P		**Pn**	**05 50 16.6**	**0.0**
UPA				eS		**Sn**	**05 50 39.0**	**0.0**
UPA	**Univ. de Panam**	**1.78**	**3**	⇓*e*P		**Pn**	**05 50 16.9**	**+0.3**
UPA				eS		**Sn**	**05 50 39.1**	**+0.1**
PTAC	**Punta Ardita,**	**1.79**	**91**	⇑*i*P		**Pn**	**05 50 15.1**	**-1.7**
PTAC	**Punta Ardita,**	**1.79**	**91**	⇑*e*P		**Pn**	**05 50 15.1**	**-1.7**
PTAC				eS		**Sn**	**05 50 34.8**	**-4.7**
PTAC				*i*			05 50 36.2	
comp=Z,3μm,0.4s								
BCIP	**Isla Barro Col**	**1.97**	**354**			**Pn**	**05 50 19.5**	**+0.3**
BCIP				Sn		**Sb**	**05 50 45.1**	**-1.3**
BCIP	**Isla Barro Col**	**1.97**	**354**	⇑*i*P		**Pn**	**05 50 19.9**	**+0.7**
BCIP				eS		**Sb**	**05 50 45.8**	**-0.6**
BCIP	**Isla Barro Col**	**1.97**	**354**	⇑*i*P		**Pn**	**05 50 19.9**	**+0.7**
BCIP				eS		**Sn**	**05 50 44.9**	**+1.0**
BCIP				*i*			05 50 51.1	
comp=Z,4μm,0.7s								
CHPO	**Chepo, Panama**	**2.02**	**14**	⇑*i*P		**Pn**	**05 50 20.5**	**+0.6**
CHPO				eS		**Sb**	**05 50 47.0**	**-0.9**
UPD2	**Meteti**	**2.08**	**50**	⇓*i*P		**Pn**	**05 50 21.5**	**+0.8**
UPD2				eS		**Sn**	**05 50 47.5**	**+1.0**
UPD2	**Meteti**	**2.08**	**50**	⇓*e*P		**Pn**	**05 50 21.3**	**+0.6**
UPD2				eS		**Sb**	**05 50 48.7**	**-0.8**
UPD2				*i*			05 50 58.1	
comp=Z,4μm,0.7s								
CNTA3	**Canitas, Panam**	**2.14**	**20**	⇑*i*P		**Pn**	**05 50 22.2**	**+0.7**
TOTI	**Torti**	**2.15**	**37**	⇓*i*P		**Pn**	**05 50 22.3**	**+0.5**
TOTI				eS		**Sb**	**05 50 50.6**	**-1.1**
SOLC	**Bahia Solano**	**2.39**	**114**	⇑*e*P		**Pn**	**05 50 23.1**	**-2.0**
SOLC				eS		**Sn**	**05 50 49.9**	**-4.4**
CAPC	**Capurgana**	**2.66**	**57**	*e*P		**Pn**	**05 50 28.6**	**-0.1**
CAPC				eS		**Sb**	**05 51 04.7**	**-1.6**
CAPC				*i*			05 51 10.0	
comp=Z,697nm,0.5s								
CAP2	**Capurgana**	**2.66**	**57**	Pn		**Pn**	**05 50 28.3**	**-0.5**
APAC	**Apartado, Choc**	**3.09**	**77**	*e*P		**Pn**	**05 50 36.3**	**+1.6**
APAC				eS		**Sn**	**05 51 11.4**	**-0.1**
APAC				*i*			05 51 20.4	
comp=Z,1μm,0.5s								
PIZC	**Pizarro, Choco**	**3.15**	**135**	*e*P		**Pn**	**05 50 34.1**	**-1.4**
PIZC				eS		**Sn**	**05 51 08.5**	**-4.6**
DBBC	**Dabeiba**	**3.38**	**93**	⇑*e*P		**Pn**	**05 50 39.3**	**+0.5**
DBBC				eS		**Sn**	**05 51 15.6**	**-3.3**
PTPM	**Petroterminale**	**3.39**	**287**	⇑*e*P		**Pn**	**05 50 39.2**	**+0.5**
PTPM				eS		**Sg**	**05 51 37.4**	**+2.5**
BRU2	**Volcan**	**3.44**	**298**	Pn		**Pn**	**05 50 40.8**	**+1.3**
BRU2	**Volcan**	**3.44**	**298**	⇑*e*P		**Pn**	**05 50 41.1**	**+1.5**
CDITO	**Canoas**	**3.50**	**293**	Pn		**Pn**	**05 50 42.2**	**+1.9**
CDITO	**Canoas**	**3.50**	**293**	⇑*e*P		**Pn**	**05 50 41.8**	**+1.5**
CNI2	**El Empalme, Bo**	**3.59**	**308**	⇑*e*P		**Pn**	**05 50 44.4**	**+2.9**
CNI2				eS		**Sb**	**05 51 36.4**	**+3.4**
CBOC	**Ciudad Bolivar**	**3.82**	**110**	⇑*i*P		**Pn**	**05 50 43.9**	**-0.9**
CBOC				eS		**Sn**	**05 51 21.7**	**-8.0**
MALC	**Bahia Malaga**	**3.89**	**144**	*e*P		**Pn**	**05 50 44.6**	**-1.1**
MALC				eS		**Sn**	**05 51 26.6**	**-4.7**
PLMC	**San Jos del P**	**4.02**	**124**	⇑*i*P		**Pn**	**05 50 45.8**	**-1.7**
PLMC				eS		**Sn**	**05 51 32.6**	**-2.0**
PLMC				*i*			05 51 39.4	
comp=Z,380nm,0.4s								
UREC	**San Jos de Ur**	**4.09**	**82**	⇑*i*P		**Pn**	**05 50 50.0**	**+1.6**
UREC				eS		**Sn**	**05 51 35.5**	**-0.7**
UREC	**San Jos de Ur**	**4.09**	**82**	*e*P		**Pn**	**05 50 49.7**	**+1.3**
UREC				eS		**Sn**	**05 51 35.2**	**-0.9**
UREC				*i*			05 51 39.0	
comp=Z,385nm,0.5s								
DRK0	**Durika**	**4.14**	**300**	Pn		**Pn**	**05 50 50.8**	**+1.6**
YOTC	**Yotoco, Valle**	**4.56**	**134**	⇑*i*P		**Pn**	**05 50 53.6**	**-1.3**
YOTC				eS		**Sn**	**05 51 45.5**	**-2.4**
PEZE	**Perez Zeledon,**	**4.57**	**299**	Pn		**Pn**	**05 50 56.5**	**+1.4**
PEZE	**Perez Zeledon,**	**4.57**	**299**	*i* PA			05 51 07.4	
PEZE				IAML			05 51 08.3	
comp=Z,1μm,1.0s								
CMAN1	**Manizales, Cal**	**4.58**	**117**	*e*P		**Pn**	**05 50 56.5**	**+1.0**
CMAN1				eS		**Sn**	**05 51 52.0**	**+3.2**
NIZA	**Niza - Manizal**	**4.64**	**117**	*e*P		**Pn**	**05 50 58.0**	**+1.8**
NIZA				eS		**Sn**	**05 51 51.8**	**+1.7**
GUY2C	**Guyana, Caldas**	**4.66**	**115**	⇑*i*P		**Pn**	**05 50 56.9**	**+0.2**
CDM	**Cerro de Muert**	**4.73**	**300**	*i* P		**Pn**	**05 51 00.0**	**+2.4**
CDM				IAML			05 51 15.8	
comp=Z,900nm,1.0s								
RIMA	**Rio Macho**	**4.92**	**302**			**Pn**	**05 51 02.5**	**+2.6**
RIMA	**Rio Macho**	**4.92**	**302**	*i* P		**Pn**	**05 51 02.6**	**+2.6**
RIMA				IAML			05 51 16.3	
comp=Z,2μm,1.0s								
JAMC	**Jamundi, Valle**	**4.92**	**143**	*e*P		**Pn**	**05 50 59.0**	**-1.1**
ANIL	**Santa Ana**	**4.98**	**122**	⇑*e*P		**Pn**	**05 51 01.1**	**+0.2**
ANIL				eS		**Sn**	**05 52 00.4**	**+1.8**
ANIL				*i*			05 52 03.9	
comp=Z,398nm,0.4s								
HAYA	**Volcan Irazu**	**5.01**	**304**	*i* P		**Pn**	**05 51 04.5**	**+3.0**
HAYA				IAML			05 51 21.6	
comp=Z,1μm,1.0s								
LCR2	**La Lucha 2**	**5.03**	**301**	Pn		**Pn**	**05 51 03.8**	**+2.3**
LCR2	**La Lucha 2**	**5.03**	**301**	*i* P		**Pn**	**05 51 04.0**	**+2.5**
LCR2				IAML			05 51 18.7	
comp=Z,850nm,1.0s								
OCM	**Ochomogo**	**5.07**	**302**	*i* P		**Pn**	**05 51 05.2**	**+3.2**
OCM				IAML			05 51 18.6	
comp=Z,2μm,1.0s								
SJCC	**San Jacinto, C**	**5.14**	**58**	⇑*i*P		**Pn**	**05 51 06.1**	**+3.1**
SJCC				eS		**Sn**	**05 52 03.8**	**+1.6**
SJCC	**San Jacinto, C**	**5.14**	**58**	*e*P		**Pn**	**05 51 05.8**	**+2.9**
PTBC	**PUERTO BERRIO,**	**5.16**	**97**	*e*P		**Pn**	**05 51 04.3**	**+1.1**
PTBC				eS		**Sn**	**05 52 02.0**	**-0.7**
PTBC				*i*			05 52 11.7	
comp=Z,105nm,0.6s								
HDC3	**Heredia 3**	**5.25**	**302**	*i* P		**Pn**	**05 51 06.2**	**+1.7**
HDC3				IAML			05 51 22.9	
comp=Z,2μm,1.0s								
HDC	**Heredia**	**5.25**	**302**	Pn		**Pn**	**05 51 06.2**	**+1.7**
HDC	**Heredia**	**5.25**	**302**	⇑*i*P		**Pn**	**05 51 08.1**	**+3.6**
HDC				eS		**Sb**	**05 52 23.9**	**+2.9**
HDC	**Heredia**	**5.25**	**302**	*e*P		**Pn**	**05 51 08.0**	**+3.6**
HDC	**Heredia**	**5.25**	**302**	*i* P		**Pn**	**05 51 07.9**	**+3.4**
HDC				IAML			05 51 22.9	
comp=Z,2μm,1.0s								
RIFO	**Rio Frio, Sara**	**5.27**	**306**	*i* P		**Pn**	**05 51 08.4**	**+3.8**
RIFO				IAML			05 51 48.3	
comp=Z,690nm,1.0s								
TCS1	**Tacares**	**5.43**	**302**	*i* PA			05 51 10.3	
TCS1				IAML			05 52 45.0	
comp=Z,5μm,1.0s								
ORTC	**Ortega, Tolima**	**5.44**	**127**	⇑*e*P		**Pn**	**05 51 07.8**	**+0.9**
ORTC				eS		**Sn**	**05 52 18.2**	**+3.3**
ORTC				*i*			05 52 18.4	
comp=Z,96nm,0.6s								
POPC	**Popayan, Colom**	**5.47**	**148**	*e*P		**Pn**	**05 51 08.1**	**+0.4**
JACO	**JACO, Garabito**	**5.56**	**297**	Pn		**Pn**	**05 51 10.2**	**+1.6**
JACO	**JACO, Garabito**	**5.56**	**297**	*i* PA			05 51 11.5	
JACO				IAML			05 53 04.7	
comp=Z,740nm,1.0s								
BBAC	**Balboa, Cauca**	**5.66**	**155**	*e*P		**Pn**	**05 51 11.1**	**+1.0**
SPBC	**San Pablo de B**	**5.72**	**105**	⇑*e*P		**Pn**	**05 51 12.9**	**+2.0**
ROSC	**El Rosal**	**5.76**	**114**	Pn		**Pn**	**05 51 14.0**	**+2.2**
ROSC	**El Rosal**	**5.76**	**114**	Pn		**Pn**	**05 51 10.5**	**-1.3**
comp=Z,31nm,0.5s,baz=298,slow=23,SNR=3.9								
ROSC				Sn		**Sn**	**05 52 17.3**	**-0.7**
comp=Z,4.8nm,0.3s,baz=35,slow=18,SNR=3.8								
ROSC				LR		LR	05 53 34.9	
comp=Z,5μm,19.5s,baz=290,slow=40								
ROSC	**El Rosal**	**5.76**	**114**	⇑*e*P		**Pn**	**05 51 14.8**	**+3.0**
PRAC	**Prado**	**5.84**	**126**	*e*P		**Pn**	**05 51 13.9**	**+1.3**
PRAC				eS		**Sn**	**05 52 22.1**	**+2.6**
PRAC				*i*			05 52 27.0	
comp=Z,147nm,0.4s								
LAFE	**Finca La Fe, P**	**5.84**	**297**	*i* P		**Pn**	**05 51 15.6**	**+3.1**
LAFE				IAML			05 51 42.0	
comp=Z,2.2nm,1.0s								
SOCE	**Pocosol**	**5.87**	**303**	Pn		**Pn**	**05 51 15.7**	**+2.8**
SOCE	**Pocosol**	**5.87**	**303**	*i* PA			05 51 16.2	
SOCE				IAML			05 51 31.8	
comp=Z,520nm,1.0s								
COVE	**Coope Vega, Sa**	**5.88**	**307**	Pn		**Pn**	**05 51 14.9**	**+1.9**
ARGC	**Ariguani, Magd**	**5.93**	**63**	*e*P		**Pn**	**05 51 16.8**	**+3.0**
ARGC				eS		**Sn**	**05 52 24.3**	**+2.6**
ARE1	**Arenal 1**	**6.00**	**303**	Pn		**Pn**	**05 51 16.8**	**+2.1**
JTS	**Las Juntas de**	**6.11**	**301**	Pn		**Pn**	**05 51 18.7**	**+2.5**
JTS	**Las Juntas de**	**6.11**	**301**	*e*P		**Pn**	**05 51 21.6**	**+5.4**
JTS				eS		**Sb**	**05 52 41.0**	**-4.5**
JTS	**Las Juntas de**	**6.11**	**301**	Pn		**Pn**	**05 51 11.3**	**-4.8**
comp=Z,0.6nm,0.3s,baz=342,slow=20,SNR=3.7								
JTS				Lg		Lg	05 52 48.5	
baz=204,slow=20								
comp=Z,4.9nm,0.9s								
JTS	**Las Juntas de**	**6.11**	**301**	*e*P		**Pn**	**05 51 19.6**	**+3.5**
BETC	**Betania**	**6.12**	**137**	*e*P		**Pn**	**05 51 18.2**	**+1.9**
BETC				eS		**Sn**	**05 52 30.3**	**+4.0**
BETC				*i*			05 52 33.9	
comp=Z,170nm,0.8s								
CVER	**Cruz Verde, Cu**	**6.12**	**115**	*e*P		**Pn**	**05 51 20.4**	**+3.6**
CRUC	**La Cruz**	**6.19**	**154**	*e*P		**Pn**	**05 51 18.3**	**+0.7**
OCAC	**Ocana**	**6.33**	**80**	⇓*e*P		**Pn**	**05 51 20.6**	**+1.3**
OCAC				eS		**Sn**	**05 52 29.6**	**-2.0**
GCUF	**Volcan Galeras**	**6.35**	**159**	*e*P		**Pn**	**05 51 22.3**	**+2.4**
PRVC	**Isla de Provid**	**6.38**	**345**	*e*P		**Pn**	**05 51 24.4**	**+4.6**
PRVC				eS		**Sn**	**05 52 29.1**	**-3.6**
PRVC	**Isla de Provid**	**6.38**	**345**	*e*P		**Pn**	**05 51 21.0**	**+1.2**
PRVC				eS		**Sn**	**05 52 29.9**	**-2.8**
PRVC				*i*			05 52 36.6	
comp=Z,71nm,0.6s								
INDI	**Punta indio, G**	**6.40**	**295**	*i* PA			05 51 22.2	
INDI				IAML			05 53 18.9	
comp=Z,310nm,1.0s								
BARC	**Barichara**	**6.42**	**95**	*e*P		**Pn**	**05 51 22.7**	**+2.1**
BARC				eS		**Sn**	**05 52 32.6**	**-1.3**
BARC				*i*			05 52 37.1	
comp=Z,254nm,0.7s								
GARC	**Garzon, Huila**	**6.45**	**140**	⇑*i*P		**Pn**	**05 51

comp=Z,653nm,20.7s,baz=357,slow=36
comp=Z,3.1nm,0.7s
TBTG Tabatinga, AM 14.89 139 Pn **Pn 05 53 15.2 -1.3**
PCRV Puerto La Cruz 15.10 78 Pn **Pn 05 53 17.8 -1.6**
comp=Z,32nm,1.1s,baz=259,slow=7.4,SNR=3.9
PCRV LR LR 06 01 00.3
comp=Z,3µm,18.5s,slow=45
CCIG Comitan 15.22 308 Pn **Pn 05 53 23.0 +2.0**
CCIG IAmb IAmb 05 53 27.8
comp=Z,82nm,1.8s
CZSB Cruzeiro do Su 16.35 155 Pn **Pn 05 53 35.0 -0.6**
CZSB Cruzeiro do Su 16.35 155 *e*P **P 05 53 40.8 +2.4**
CZSB Cruzeiro do Su 16.35 155 *e*P **Pn 05 53 35.4 -0.2**
GCPR Guaynabo City 17.20 49 Pn **Pn 05 53 43.0 -3.2**
CMIG Matias Romero 17.86 305 LR LR 06 01 38.8
comp=Z,1µm,20.8s,baz=141,slow=40
NNA Nana 19.26 172 P **P 05 54 06.9 -3.6**
comp=Z,1.6nm,0.3s,baz=282,slow=8.8,SNR=1.5
BOAV Boa Vista 19.61 103 P **P 05 54 15.0 +0.6**
BOAV Boa Vista 19.61 103 *e*P **Pn 05 54 15.6 -0.2**
BOAV Boa Vista 19.61 103 *e*P **Pn 05 54 15.7 -0.2**
TLIG Tlapa 21.16 301 P **P 05 54 32.1 +0.7**
MACA Manacapuru-AM 21.51 118 P **P 05 54 36.1 +1.0**
MACA Manacapuru-AM 21.51 118 *e*P **P 05 54 36.0 +0.9**
ETMB Extrema 21.54 142 P **P 05 54 35.3 0.0**
ETMB Extrema 21.54 142 *e*P **P 05 54 35.7 +0.4**
SAML Samuel 22.92 134 P **P 05 54 50.9 +0.8**
SAML IAmb IAmb 05 54 52.6
comp=Z,34nm,0.8s
SAML Samuel 22.92 134 *e*P **P 05 54 50.6 +0.5**
152A Waverly Hall 25.79 350 P **P 05 55 17.9 +0.9**
152A IAmb IAmb 05 55 23.9
comp=Z,40nm,1.4s
LPAZ La Paz 25.95 154 P **P 05 55 21.0 +1.7**
GOGA Godfrey 26.33 353 P **P 05 55 23.1 +1.3**
GOGA IAmb IAmb 05 55 33.0
comp=Z,28nm,1.2s
ITTB Itaituba 26.46 115 *e*P **P 05 55 24.3 +1.1**
Z51A Franklin 26.50 350 P **P 05 55 22.0 -1.4**
Z51A IAmb IAmb 05 55 51.5
comp=Z,37nm,1.4s
LRAL Lakeview Retre 26.61 346 P **P 05 55 25.7 +1.3**
MALB Monte Alegre 26.85 109 *e*P **P 05 55 28.5 +1.8**
MDP Montagnes des 26.90 93 LR LR 06 06 24.0
comp=Z,1µm,19.1s,baz=276,slow=37
HODGE Hodges 27.02 355 P **P 05 55 28.7 +0.7**
HODGE IAmb IAmb 05 55 37.8
comp=Z,71nm,1.8s
Z47A Carrollton 27.04 344 P **P 05 55 28.2 0.0**
Z47A IAmb IAmb 05 55 54.4
comp=Z,47nm,1.1s
PB16 IPOC Station P 27.26 159 P **P 05 55 31.3 +0.4**
HKT Hockley 27.29 328 P **P 05 55 30.5 +0.1**
HKT IAmb IAmb 05 55 38.1
comp=Z,28nm,1.4s
VILB Vilhena 27.80 136 P **P 05 55 36.9 +1.7**
VILB Vilhena 27.80 136 *e*P **P 05 55 36.9 +1.7**
NPGB Novo Progresso 28.03 120 *e*P **P 05 55 38.6 +1.3**
Y45A Yeager Farm, C 28.08 342 P **P 05 55 38.4 +0.8**
NATX Nacogdoches 28.19 332 P **P 05 55 37.5 -1.1**
NATX IAmb IAmb 05 56 22.5
comp=Z,16nm,1.1s
CPCT Cooper Cave 28.48 352 P **P 05 55 42.8 +1.8**
CPCT IAmb IAmb 05 56 12.3
comp=Z,22nm,1.3s
TKL Tuckaleechee C 28.58 353 LR LR 06 06 46.6
comp=Z,262nm,21.2s,baz=161,slow=36
GO01 Chusmiza 28.60 159 P **P 05 55 44.5 +1.7**
GO01 IAmb IAmb 05 56 13.7
comp=Z,36nm,1.4s
V52A Sevierville 28.74 353 P **P 05 55 44.9 +1.5**
HNDO Hondo 28.92 323 P **P 05 55 44.7 -0.4**
PB08 IPOC Station P 29.05 159 P **P 05 55 48.0 +1.3**
PB08 IAmb IAmb 05 56 00.2
comp=Z,24nm,1.5s
V48A Smith Brothers 29.17 348 P **P 05 55 46.9 -0.4**
SIV San Ignacio 29.46 142 LR LR 06 07 48.3
comp=Z,2µm,20.5s,baz=332,slow=37
CLDB Colider 29.74 127 *e*P **P 05 55 53.2 +0.7**
WVT Waverly 29.76 347 P **P 05 55 51.9 -0.6**
WVT IAmb IAmb 05 56 02.4
comp=Z,34nm,1.8s
UALR University of 29.85 339 P **P 05 55 53.0 -0.2**
UALR IAmb IAmb 05 55 59.6
comp=Z,22nm,1.1s
JCT Junction City 29.91 323 IAmb IAmb 05 55 59.0
comp=Z,31nm,1.8s
BRDY Brady 30.05 325 P **P 05 55 54.9 -0.2**
T50A Nancy 30.07 352 P **P 05 55 56.5 +1.3**
T50A IAmb IAmb 05 56 05.1
comp=Z,44nm,1.6s
WHAR Wooly Hollow 30.29 339 P **P 05 55 58.6 +1.4**
PTLB Pontes e Lacer 30.30 138 P **P 05 55 57.9 +0.6**
PTLB Pontes e Lacer 30.30 138 *e*P **P 05 55 58.8 +1.5**
T47A Sharon Grove 30.43 348 P **P 05 55 58.6 +0.2**
T47A IAmb IAmb 05 56 04.4
comp=Z,33nm,1.4s
S51A Beattyville 30.52 354 P **P 05 56 00.8 +1.6**
S51A IAmb IAmb 05 56 07.8
comp=Z,12nm,0.9s
LCAR Lake Charles 30.62 341 P **P 05 56 01.0 +1.0**
LCAR IAmb IAmb 05 56 05.4
comp=Z,21nm,1.2s
BBSD Serra de San D 30.66 142 *e*P **P 05 56 01.4 +0.8**
PLPT Palo Pinto 30.85 328 P **P 05 56 02.5 +0.4**
PLPT IAmb IAmb 05 56 07.8
comp=Z,40nm,1.6s
FW03 Perrin-Whitt E 30.89 329 IAmb IAmb 05 56 07.6
comp=Z,25nm,1.4s
R50A Paris 31.24 353 IAmb IAmb 05 56 15.8
comp=Z,27nm,1.4s
CGM3 Cape Girardeau 31.33 344 P **P 05 56 07.4 +1.1**
CGM3 IAmb IAmb 05 56 14.1
comp=Z,36nm,1.7s
LVC Limon Verde 31.42 161 LR LR 06 10 25.2
comp=Z,376nm,20.9s,baz=315,slow=39
TXAR Lajitas Array 31.59 317 P P 05 56 02.2 -6.7
comp=Z,0.3nm,0.7s,baz=64,slow=8.4,SNR=2.7
TXAR LR LR 06 09 48.1
comp=Z,141nm,20.7s,baz=128,slow=38
TX31 Lajitas Ar. Si 31.59 317 P **P 05 56 09.8 +1.0**
S44A Carbondale 31.60 345 P **P 05 56 09.7 +1.0**
S44A IAmb IAmb 05 56 14.2
comp=Z,30nm,1.3s
Q51A Peebles 31.87 354 P **P 05 56 10.1 -0.9**
MGMO Mountain Grove 31.97 341 P **P 05 56 11.7 -0.3**
MGMO IAmb IAmb 05 56 17.3
comp=Z,11nm,1.1s
U38A Gravette 32.08 337 P **P 05 56 13.2 +0.2**
SN05 Snyder 5 32.30 325 P **P 05 56 16.0 +1.0**
OLIL Olney 32.32 348 P **P 05 56 14.6 -0.4**
MNHN Monahans 32.32 321 P **P 05 56 15.4 +0.1**
MNHN IAmb IAmb 05 57 26.5
comp=Z,30nm,1.8s
CCM Cathedral Cave 32.48 343 P **P 05 56 15.9 -0.5**
CCM IAmb IAmb 05 56 21.4
comp=Z,16nm,0.9s
WMOK Wichita Mounta 32.60 330 P **P 05 56 17.3 -0.2**
OK052 Battle Ridge R 32.70 334 IAmb IAmb 05 56 25.6
comp=Z,25nm,1.2s
POST Post 32.78 325 P **P 05 56 19.5 +0.2**
POST IAmb IAmb 05 56 23.9
comp=Z,13nm,1.1s
QUOK Quay 32.81 334 P **P 05 56 18.8 -0.5**
QUOK IAmb IAmb 05 56 36.5
comp=Z,27nm,1.1s
S39A Bolivar 32.81 340 P **P 05 56 19.2 -0.1**
S39A IAmb IAmb 05 56 26.3
comp=Z,14nm,1.4s
DKNS Dickens 32.90 326 IAmb IAmb 05 56 25.3
comp=Z,18nm,1.4s
SALV Santo Antonio 32.98 134 *e*P **P 05 56 21.8 +0.8**
CROK Carrier 33.65 333 P **P 05 56 27.4 +0.7**
CROK IAmb IAmb 05 56 30.4
comp=Z,16nm,1.0s
LPIG La Paz 33.88 303 LR LR 06 10 28.8
comp=Z,327nm,20.8s,baz=134,slow=37
SNDB Serra Nova Dou 34.00 124 *e*P **P 05 56 30.6 +0.6**
MSTX Muleshoe 34.17 324 P **P 05 56 31.2 -0.2**
MSTX IAmb IAmb 05 56 35.9
comp=Z,16nm,1.1s
P38A Dawn 34.63 341 IAmb IAmb 05 56 39.4
comp=Z,14nm,1.1s
PP1B Ponte de Pedra 34.70 135 *e*P **P 05 56 37.1 +1.1**

N38A Joes South For 35.60 342 P **P 05 56 44.1 +0.6**
N38A IAmb IAmb 05 56 48.3
comp=Z,19nm,0.8s
MURT Porto Murtinho 35.89 144 *e*P **P 05 56 46.3 +0.1**
RTBA Rita Blanca 35.96 327 IAmb IAmb 05 56 51.9
comp=Z,24nm,1.4s
AQDB Aquidauana 36.18 140 IAmb IAmb 05 57 11.0
comp=Z,23nm,1.5s
AQDB Aquidauana 36.18 140 *e*P **P 05 56 49.1 +0.4**
ANMO Albuquerque 37.04 322 P **P 05 56 56.3 +0.2**
ANMO Albuquerque 37.04 322 LR LR 06 16 46.4
comp=Z,151nm,18.2s,baz=222,slow=44
ANTJ Antonio Joao (37.12 142 *e*P **P 05 56 56.4 -0.3**
T25A Trinidad 37.38 326 IAmb IAmb 05 57 06.3
comp=Z,38nm,1.6s
SADO Sadowa 37.43 1 LR LR 06 12 59.9
comp=Z,395nm,19.0s,baz=52,slow=38
RPRD Ribas do Rio P 37.49 138 *e*P **P 05 57 00.8 +0.9**
KSCO Kaye Shedlock' 37.86 330 P **P 05 57 04.1 +1.2**
TICA Tres Isletas 38.25 151 *e*P **P 05 57 08.0 +1.8**
SDCO Great Sand Dun 38.42 326 P **P 05 57 09.7 +1.8**
BDFB Brasilia 38.66 126 IAmb IAmb 05 57 12.1
comp=Z,32nm,1.6s
BDFB Brasilia 38.66 126 P **P 05 57 08.0 -2.0**
comp=Z,2.8nm,0.8s,baz=290,slow=9.0,SNR=4.6
BDFB LR LR 06 13 50.0
comp=Z,1µm,18.6s,baz=319,slow=37
comp=Z,2.8nm,0.8s
X18A Snowflake 38.99 318 P **P 05 57 12.7 0.0**
ITRB Iturama 39.30 133 *e*P **P 05 57 15.8 +0.7**
ECSD EROS Data Cent 39.33 340 P **P 05 57 15.7 +0.7**
K30B Basset 39.50 337 P **P 05 57 16.4 -0.1**
SDBA SAO DESIDERIO 39.62 119 *e*P **P 05 57 18.9 +0.9**
CPUP Villa Florida 39.73 148 LR LR 06 15 01.6
comp=Z,358nm,18.6s,baz=330,slow=38
IPMB Ipameri, GO 39.84 129 *e*P **P 05 57 20.3 +0.6**
PCMB Pacaembu 39.91 136 *e*P **P 05 57 20.4 +0.2**
E62A Clayton Lake 40.23 11 IAmb IAmb 05 57 31.8
comp=Z,30nm,1.2s
VLDQ Val d'Or 40.81 2 P **P 05 57 27.5 +0.2**
VLDQ IAmb IAmb 05 57 36.4
comp=Z,56nm,1.9s
LMQ La Malbaie 40.98 10 P **P 05 57 30.0 +1.3**
LDASE Londrina, Braz 41.23 138 *e*P **P 05 57 30.7 -0.4**
LDAQ Lac Daran 41.25 9 P **P 05 57 30.1 -0.9**
JANB Januaria 41.40 122 *e*P **P 05 57 34.9 +2.3**
BB19B Bebedouro 41.48 133 *e*P **P 05 57 33.8 +0.6**
PMNB Patos De Minas 41.53 128 *e*P **P 05 57 34.9 +1.2**
PTGB Pitanga 41.55 141 *e*P **P 05 57 33.4 -0.4**
HMU Henry Mountain 41.60 322 P **P 05 57 34.3 0.0**
HMU IAmb IAmb 05 57 40.9
comp=Z,28nm,1.4s
U15A North Rim 41.66 319 P **P 05 57 35.1 +0.4**
CRSM Crissiumal (Br 42.44 145 *e*P **P 05 57 40.6 -0.4**
RSSD Black Hills 42.52 334 P **P 05 57 41.6 0.0**
RSSD IAmb IAmb 05 57 48.0
comp=Z,35nm,1.4s
PFO Pinyon Flats O 43.01 313 LR LR 06 17 46.8
comp=Z,453nm,18.1s,baz=114,slow=39
BSUT Blindstream Ca 43.30 325 P **P 05 57 49.0 +0.8**
ML02 Panimavida 43.42 170 P **P 05 57 48.8 +0.1**
MPU Maple Canyon 43.47 324 P **P 05 57 51.0 +1.7**
DIAM Diamantina, MG 43.58 126 *e*P **P 05 57 51.8 +1.3**
SHPR Sheep Range 43.60 317 P **P 05 57 50.2 -0.2**
NLU North Lily Min 43.69 323 P **P 05 57 50.6 -0.6**
TCUT Toone Canyon 44.05 325 IAmb IAmb 05 58 01.1
comp=Z,16nm,1.1s
GSC Goldstone, Bar 44.10 315 P **P 05 57 56.0 +1.6**
GSC IAmb IAmb 05 58 01.5
comp=Z,28nm,1.4s
PD31 Pinedale Array 44.16 328 P **P 05 57 55.6 +0.7**
PDAR Pinedale Array 44.16 328 P **P 05 57 55.0 0.0**
PDAR Pinedale Array 44.16 328 P **P 05 57 50.6 -4.4**
comp=Z,0.1nm,0.5s,baz=131,slow=9.0,SNR=1.4
PDAR LR LR 06 19 11.2
comp=Z,138nm,21.4s,baz=134,slow=40
comp=Z,0.1nm,0.5s
DUG Dugway, Tooele 44.28 323 P **P 05 57 56.3 +0.5**
GWY Greenwater Val 44.46 316 P **P 05 57 58.7 +1.4**
HWUT Hardware Ranch 44.46 325 P **P 05 57 57.8 +0.4**
HWUT IAmb IAmb 05 58 03.2
comp=Z,27nm,1.8s
RPN Rapa Nui 44.64 219 LR LR 06 11 45.5
comp=Z,492nm,18.3s,baz=58,slow=30
BGU Big Grassy Mou 44.87 324 IAmb IAmb 05 58 06.7
comp=Z,18nm,1.5s
ULM Lac du Bonnet 45.02 345 IAmb IAmb 05 58 06.1
comp=Z,14nm,1.1s
ULM Lac du Bonnet 45.02 345 P **P 05 57 57.5 -3.8**
comp=Z,6.3nm,1.0s,baz=146,slow=6.6,SNR=7.9
comp=Z,6.3nm,1.0s
LOHW Long Hollow 45.30 328 IAmb IAmb 05 58 10.0
comp=Z,18nm,1.4s
ISA Isabella, Lake 45.46 314 P **P 05 58 06.7 +1.5**
ISA IAmb IAmb 05 58 12.3
comp=Z,12nm,1.2s
MOOW Moose Ponds 45.47 328 IAmb IAmb 05 58 11.2
comp=Z,18nm,1.6s
RCBR Riachuelo 45.49 105 LR LR 06 18 21.5
comp=Z,489nm,18.6s,baz=304,slow=38
RLMT Red Lodge 45.70 331 IAmb IAmb 05 58 13.5
comp=Z,13nm,1.1s
ELK Elko 46.08 322 LR LR 06 21 42.9
comp=Z,123nm,18.1s,baz=143,slow=42
YHL Hebgen Lake 46.47 329 IAmb IAmb 05 58 20.2
comp=Z,18nm,1.2s
NV11 Mina Array Sit 46.64 318 P **P 05 58 15.3 +0.7**
NV11 IAmb IAmb 05 58 21.5
comp=Z,23nm,1.4s
NVAR Mina Array Bea 46.74 318 P **P 05 58 17.3 +1.8**
NVAR Mina Array Bea 46.74 318 P **P 05 58 11.7 -3.8**
comp=Z,0.2nm,0.6s,baz=77,slow=12,SNR=1.8
NVAR LR LR 06 19 07.1
comp=Z,321nm,21.2s,baz=134,slow=38
comp=Z,0.2nm,0.6s
KVN Kaiserville 46.93 318 IAmb IAmb 05 58 23.3
comp=Z,12nm,1.3s
BMN Battle Mountai 47.12 321 P **P 05 58 18.7 +0.4**
HLID Hailey 47.33 326 P **P 05 58 20.2 +0.3**
HLID IAmb IAmb 05 58 26.2
comp=Z,21nm,1.8s
YERR Yerington 47.66 318 P **P 05 58 23.9 +1.3**
PNTR Pine Nut 47.95 318 P **P 05 58 24.4 -0.5**
PNTR IAmb IAmb 05 58 34.9
comp=Z,14nm,1.3s
MFID Camas Ranch 48.04 325 P **P 05 58 24.1 -1.2**
MPK Martis Peak 48.34 318 IAmb IAmb 05 58 34.8
comp=Z,19nm,1.2s
PLCA Paso Flores 48.42 171 P **P 05 58 27.1 -1.0**
comp=Z,2.6nm,0.8s,baz=347,slow=6.8,SNR=8.6
comp=Z,2.6nm,0.8s
SCHQ Schefferville 48.60 10 P **P 05 58 25.5 -3.9**
comp=Z,2.2nm,1.0s,baz=164,slow=15,SNR=1.4
SCHQ LR LR 06 18 19.7
comp=Z,172nm,21.9s,baz=262,slow=36
comp=Z,2.2nm,1.0s
PLID Pearl Lake 49.18 326 IAmb IAmb 05 58 39.4
comp=Z,16nm,1.5s
MSO Missoula 49.22 329 P **P 05 58 34.5 +0.1**
MSO IAmb IAmb 05 58 40.3
comp=Z,20nm,1.6s
ORV Oroville 49.46 317 P **P 05 58 36.8 +0.6**
J08A Circle Bar Ran 49.56 323 P **P 05 58 38.0 +1.0**
J08A IAmb IAmb 05 58 42.6
comp=Z,16nm,1.4s
I07A Izee 50.59 323 P **P 05 58 44.5 -0.4**
I07A IAmb IAmb 05 59 11.1
comp=Z,24nm,1.9s
FFC Flin Flon 50.68 343 P **P 05 58 46.0 +0.8**
E09A Wood Farm, Sta 51.24 327 P **P 05 58 50.7 +1.1**
E09A IAmb IAmb 05 58 55.2
comp=Z,30nm,1.5s
L04D Klamath Falls 51.31 320 P **P 05 58 51.1 +0.7**
L04D IAmb IAmb 05 58 55.9
comp=Z,22nm,1.3s
YBH Yreka Blue Hor 51.33 319 LR LR 06 25 16.4
comp=Z,358nm,18.4s,baz=150,slow=42
NEW Newport 51.79 329 P **P 05 58 54.4 +0.6**
NEW Newport 51.79 329 P **P 05 58 52.7 -1.0**
comp=Z,0.9nm,0.5s,baz=147,slow=5.7,SNR=2.7
NEW LR LR 06 24 46.2
comp=Z,190nm,18.5s,baz=132,slow=41
FCC Fort Churchill 52.63 351 P **P 05 58 59.4 -0.3**
FCC IAmb IAmb 05 59 04.7
comp=Z,31nm,1.8s

EDM Edmonton 53.45 335 P **P 05 59 06.3 +0.4**
EDM IAmb IAmb 05 59 11.6
comp=Z,24nm,1.1s
YKA Yellowknife Ar 60.81 342 P **P 05 59 56.6 -1.2**
YKA Yellowknife Ar 60.81 342 P **P 05 59 57.0 -0.8**
comp=Z,3.0nm,0.9s,baz=130,slow=7.4,SNR=28
SFJD Kangerlussuaq 62.90 12 LR LR 06 30 09.9
comp=Z,141nm,18.7s,baz=208,slow=39
RES Resolute Bay 68.02 356 IAmb IAmb 06 00 49.7
comp=Z,18nm,1.8s
RES Resolute Bay 68.02 356 LR LR 06 32 37.5
comp=Z,162nm,18.4s,baz=174,slow=38
J30M Hart River 69.68 337 P **P 06 00 56.8 +1.4**
J30M IAmb IAmb 06 01 02.7
comp=Z,22nm,1.8s
K29M Barlow Dome 69.81 336 P **P 06 00 56.7 +0.4**
K29M IAmb IAmb 06 01 04.1
comp=Z,19nm,1.6s
SUMG Summit 69.90 12 P **P 06 00 57.0 0.0**
SUMG Summit 69.90 12 *i* P **P 06 00 57.0 0.0**
I30M Mount Dempster 70.00 338 P **P 06 00 58.0 +0.6**
I30M IAmb IAmb 06 01 05.1
comp=Z,17nm,1.4s
F31M Tsiigehtchic 70.18 341 P **P 06 00 59.4 +1.2**
BORG Borgarnes 70.36 23 LR LR 06 27 24.1
comp=Z,152nm,21.8s,baz=230,slow=32
A36M Sachs Harbour 70.48 346 P **P 06 00 59.6 -0.5**
A36M IAmb IAmb 06 01 28.0
comp=Z,10nm,0.8s
INK Inuvik 70.56 341 P **P 06 01 01.2 +0.6**
INK Inuvik 70.56 341 P **P 06 00 58.5 -2.1**
comp=Z,5.5nm,1.1s,baz=72,slow=3.2,SNR=7.2
INK LR LR 06 34 27.5
comp=Z,153nm,18.1s,baz=183,slow=38
comp=Z,5.5nm,1.1s
PCAS Casmilo, Conde 70.96 50 *e*P **P 06 01 05.7 +2.1**
comp=Z,45nm,1.5s
PMTG Montargil 71.06 51 *e*P P 06 01 09.3 +5.1
comp=Z,20nm,1.3s
H29M Whitestone 71.19 339 P **P 06 01 06.2 +1.7**
H29M IAmb IAmb 06 01 56.0
comp=Z,20nm,1.4s
BCAR Beaver Creek A 71.23 335 P **P 06 01 05.4 +0.6**
L27K Beaver Creek, 71.25 335 P **P 06 01 06.5 +1.5**
L27K IAmb IAmb 06 01 12.8
comp=Z,8.7nm,1.1s
PESTR Estremoz 71.53 52 *e*P **P 06 01 08.3 +1.2**
comp=Z,37nm,1.6s
POLO Lamas de Olo 71.64 49 *e*P **P 06 01 10.3 +2.4**
comp=Z,14nm,1.9s
E29M Blow River 72.01 341 P **P 06 01 09.9 +0.5**
MVO Moncorvo 72.19 49 *e*P **P 06 01 13.8 +2.7**
comp=Z,32nm,1.4s
SCRK Sand Creek 72.48 335 P **P 06 01 13.8 +1.3**
J26L Joseph Creek 72.50 336 P **P 06 01 13.5 +1.0**
E28M Babbage River 72.65 341 IAmb IAmb 06 01 19.8
comp=Z,19nm,1.6s
RIDG Independent Ri 72.76 335 P **P 06 01 16.1 +2.1**
PPT2 Papeete2 73.33 249 *e*LR LR 06 23 47.1
comp=Z,661nm,15.5s
PPT2 *e*LR LR 06 23 57.1
comp=Z,526nm,15.0s
D27M Malcolm River 73.39 341 IAmb IAmb 06 01 58.8
comp=Z,26nm,2.0s
MDT Midelt 73.55 58 LR LR 06 28 21.7
comp=Z,91nm,21.1s,baz=341,slow=32
HDA Harding Lake 73.85 335 IAmb IAmb 06 02 06.8
comp=Z,14nm,0.9s
BMAR Burnt Mountain 73.93 339 P **P 06 01 21.4 +0.6**
ILAR Eielson Array 73.94 336 P **P 06 01 21.0 +0.1**
ILAR Eielson Array 73.94 336 P **P 06 01 17.1 -3.8**
comp=Z,0.7nm,0.9s,baz=39,slow=7.5,SNR=2.8
ILAR LR LR 06 38 23.1
comp=Z,166nm,18.5s,baz=101,slow=40
comp=Z,0.7nm,0.9s
DBIC Dimbokro 74.13 85 P **P 06 01 23.2 +0.2**
comp=Z,8.1nm,0.9s,baz=262,slow=6.0,SNR=6.9
DBIC LR LR 06 31 30.2
comp=Z,94nm,20.0s,baz=236,slow=34
RND Reindeer 74.37 334 P **P 06 01 24.4 +0.9**
ESDC Sonseca Array 74.40 51 P **P 06 01 25.4 +1.2**
ESDC IAmb IAmb 06 01 32.7
comp=Z,27nm,1.7s
ESDC Sonseca Array 74.40 51 P **P 06 01 23.6 -0.6**
comp=Z,8.9nm,1.1s,baz=274,slow=5.6,SNR=13
ESDC LR LR 06 28 18.3
comp=Z,167nm,21.8s,baz=290,slow=31
TBI Tubuai 74.62 243 *e*LR LR 06 24 22.0
comp=Z,2µm,22.5s
TBI *e*LR LR 06 24 26.0
comp=Z,1µm,23.8s
NEA2 Nenana 74.78 335 P **P 06 01 26.9 +1.0**
D25K Kavik River 75.20 340 P **P 06 01 29.6 +1.4**
MLY Manley 75.59 336 P **P 06 01 31.3 +0.8**
MLY IAmb IAmb 06 01 54.6
comp=Z,8.4nm,1.1s
G23K Bananza Creek 75.73 337 P **P 06 01 33.5 +2.2**
G23K IAmb IAmb 06 01 38.5
comp=Z,29nm,1.8s
D24K Happy Valley 75.98 340 P **P 06 01 33.5 +0.9**
D24K IAmb IAmb 06 02 05.9
comp=Z,23nm,1.8s
G21K Allakaket 77.04 337 P **P 06 01 40.9 +2.2**
JMIC Jan Mayen 77.12 19 LR LR 06 33 12.0
comp=Z,52nm,21.9s,baz=252,slow=34
F21K Alatna River 77.18 337 P **P 06 01 40.6 +1.2**
B22K Teshekpuk Lake 77.83 341 P **P 06 01 44.9 +1.9**
B22K IAmb IAmb 06 02 13.4
comp=Z,15nm,1.1s
G19K Purcell Mounta 78.39 336 P **P 06 01 48.9 +2.7**
G18K Tagagawik 78.99 336 IAmb IAmb 06 01 57.2
comp=Z,18nm,1.6s
D19K Kuna River 79.13 338 IAmb IAmb 06 02 00.6
comp=Z,22nm,1.7s
E18K Tukpahlearik C 79.93 337 P **P 06 01 55.9 +1.3**
E18K IAmb IAmb 06 02 02.9
comp=Z,19nm,1.8s
TOA0 Torodi Ar. Sit 79.97 78 P **P 06 01 55.0 -0.8**
TOA0 IAmb IAmb 06 02 03.9
comp=Z,19nm,1.8s
TORD Torodi Ar. Bea 79.97 78 P **P 06 01 56.5 +0.7**
TORD Torodi Ar. Bea 79.97 78 P **P 06 01 52.2 -3.6**
comp=Z,0.4nm,0.6s,baz=254,slow=8.9,SNR=1.1
TORD LR LR 06 38 03.4
comp=Z,85nm,18.8s,baz=316,slow=36
comp=Z,0.4nm,0.6s
C18K Utukok River 80.27 338 P **P 06 01 57.8 +1.3**
C18K IAmb IAmb 06 02 03.2
comp=Z,33nm,1.9s
C16K Lisburne Hills 81.78 338 P **P 06 02 05.8 +1.4**
TAM Tamanrasset 82.79 68 P **P 06 02 11.2 +0.3**
RAR Rarotonga 83.48 248 LR LR 06 30 52.9
comp=Z,85nm,18.7s,baz=116,slow=30
NOA NORSAR Array B 84.16 29 P **P 06 02 13.3 -3.7**
comp=Z,0.6nm,0.9s,baz=274,slow=5.3,SNR=3.5
comp=Z,0.6nm,0.9s
SPITS Spitsbergen Ar 84.24 12 LR LR 06 41 16.9
comp=Z,90nm,19.1s,baz=256,slow=37
DAVA Damuels 84.43 43 *e*pP pP 06 02 21.2 -1.2
comp=Z,6.6nm,1.2s
RETA Reutte 85.01 43 *i* P **P 06 02 21.3 -0.3**
comp=Z,5.2nm,1.4s
KEST Kesra 85.01 55 P **P 06 02 18.7 -3.2**
comp=Z,1.4nm,0.8s,baz=333,slow=6.7,SNR=1.7
comp=Z,1.4nm,0.8s
FETA Feichten 85.03 43 *i* P **P 06 02 23.3 +1.5**
comp=Z,5.6nm,1.2s
MOTA Moosalm 85.25 43 *e*P **P 06 02 24.1 +1.2**
comp=Z,4.0nm,0.9s
WTTA Wattenberg 85.62 43 *e*pP pP 06 02 28.7 +0.3
comp=Z,6.6nm,1.3s
CLL Collm 86.08 39 *i* Px Px 06 02 30.5
comp=Z,6.0nm,0.9s
CLL *i* x x 06 02 40.7
CLL AMS AMS 06 36 00.0
comp=Z,200nm,20.2s
ABTA Abfaltersbach 86.27 44 *i* PcP **PcP 06 02 30.5 -0.1**
comp=Z,6.0nm,1.4s
LESA Schwarzleotal 86.31 43 *e*PcP **PcP 06 02 30.4 -0.3**
comp=Z,7.5nm,1.1s
GERES GERESS Array B 86.82 41 P **P 06 02 30.4 -0.1**
GERES GERESS Array B 86.82 41 P **P 06 02 27.6 -3.0**
comp=Z,0.3nm,0.4s,baz=309,slow=6.2,SNR=1.7
comp=Z,0.3nm,0.4s
BIOA Bad Ischl, Aus 86.92 42 *e*pP pP 06 02 35.6 +1.0
comp=Z,6.9nm,0.9s
MYKA Terra Mystica 87.06 44 *i* PcP **PcP 06 02 33.9 0.0**

	comp=Z,6.7nm,1.1s								
OBKA	**Obir**	**87.69**	**44**	*e*pP		pP	06 02 38.8	+0.4	
	comp=Z,5.3nm,1.4s								
SOKA	**Soboth**	**88.00**	**43**	*i* pP		pP	06 02 41.6	+1.7	
	comp=Z,3.7nm,1.2s								
CONA	**Conrad Observa**	**88.37**	**42**	*e*pP		pP	06 02 42.2	+0.6	
	comp=Z,4.9nm,1.3s								
ARCES	**ARCESS Array B**	**88.54**	**20**	LR		LR	06 40 01.6		
	comp=Z,92nm,20.2s,baz=284,slow=34								
FINES	**FINESS Array B**	**91.14**	**28**	LR		LR	06 41 51.8		
	comp=Z,141nm,20.5s,baz=250,slow=34								
SHEM	**Shemya Is, Ala**	**94.04**	**324**	LR		LR	06 45 19.8		
	comp=Z,51nm,21.5s,baz=62,slow=36								
MLR	**Muntele Rosu**	**95.67**	**43**	LR		LR	06 43 26.2		
	comp=Z,139nm,20.2s,baz=286,slow=34								
AKASG	**Malin Array Be**	**96.18**	**37**	LR		LR	06 43 16.4		
	comp=Z,158nm,19.4s,baz=276,slow=34								
IDI	**Anoyia**	**97.57**	**53**	LR		LR	06 44 59.2		
	comp=Z,18nm,20.5s,baz=295,slow=34								
TSUM	**Tsumeb**	**99.10**	**108**	LR		LR	06 44 50.7		
	comp=Z,205nm,21.5s,baz=314,slow=33								
ELIB	**Princess Elisa**	**100.81**	**162**	*d*PP		**PP**	**06 07 45.6**	**+3.6**	
DZM	**Mont Dzumac**	**114.83**	**249**	*e*LR		LR	06 43 03.4		
	comp=Z,118nm,25.1s								
SONM	**Songino Array**	**124.95**	**355**	PKP		**PKPdf**	**06 08 44.6**	**-1.9**	
	comp=Z,0.3nm,0.5s,baz=324,slow=5.2,SNR=2.3								
ASAR	**Alice Springs**	**143.91**	**239**	PKP		PKPab	06 09 19.5	+0.1	
	comp=Z,2.8nm,0.8s,baz=109,slow=3.6,SNR=8.5								
WRA	**Warramunga Arr**	**144.73**	**246**	PKP		**PKPab**	**06 09 21.2**	**-1.3**	
	comp=Z,9.6nm,0.9s,baz=103,slow=2.8,SNR=20								

*NEIC **29** 06:06:55.6±1.8,55.98N±0.08×150.32W±0.10,h10km±2km, mb3.7/1,ML3.4/32,ML3.1(AEIC),Error ellipse: s-maj=13.0km s-min=9.3km az=169.0*

*AEIC **29** 06:07:00.1±2.0,55.98N±0.09×150.2W±0.1,h11km±7km, Error ellipse: s-maj=13.0km s-min=7.6km az=160.0*

ISC 29 06:06:56.1±1.5,56.0N±0.1×150.36W±0.06,h10km,n119, σ0s96/121,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.02**	**308**		**Pn**	**06 07 29.4**	**-0.7**
OHAK					**Sn**	**06 07 53.0**	**-2.4**
OHAK				IAML		06 07 54.2	
	comp=E,138nm,0.4s						
OHAK	**Old Harbor**	**2.02**	**308**	P	**Pn**	**06 07 29.5**	**-0.7**
	baz=125						
OHAK				S	**Sn**	**06 07 53.3**	**-2.1**
	baz=125						
KDAK	**Kodiak Island**	**2.15**	**326**	Pn	**Pn**	**06 07 31.0**	**-1.0**
KDAK				Sn	**Sn**	**06 07 57.6**	**-1.0**
SII	**Sitkinak Islan**	**2.20**	**286**	Pn	**Pn**	**06 07 31.7**	**-1.0**
SII				Sn	**Sn**	**06 07 58.2**	**-1.7**
SII				IAML		06 07 59.1	
	comp=N,265nm,1.4s						
SII	**Sitkinak Islan**	**2.20**	**286**	S	**Sn**	**06 07 58.4**	**-1.5**
	baz=103						
R18K	**Karluk**	**2.73**	**306**	Pn	**Pn**	**06 07 39.8**	**-0.2**
R18K				IAML		06 08 13.4	
	comp=N,119nm,0.5s						
R18K				IAML		06 08 16.1	
	comp=E,85nm,0.5s						
R18K	**Karluk**	**2.73**	**306**	P	**Pn**	**06 07 40.2**	**+0.2**
	baz=123						
SYI	**Shuyak Island**	**2.82**	**338**	Sn	**Sn**	**06 08 14.1**	**-1.1**
Q20K	**Shuyak Island**	**2.82**	**338**	P	**Pn**	**06 07 41.2**	**0.0**
	baz=155						
Q20K				S	**Sn**	**06 08 15.2**	**0.0**
	baz=155						
KAHG	**Katmai Hook Gl**	**3.37**	**319**		**Pn**	**06 07 49.7**	**+1.0**
Q19K	**Cape Douglas,**	**3.41**	**330**	P	**Pn**	**06 07 50.0**	**+0.6**
	baz=147						
ACHA	**Angle Creek He**	**3.49**	**311**		**Pn**	**06 07 50.9**	**+0.5**
CNPM	**China Poot**	**3.55**	**353**	Pn	**Pn**	**06 07 50.5**	**-0.8**
CNPM				Sn	**Sn**	**06 08 30.2**	**-2.9**
CNPM				IAML		06 08 37.1	
	comp=N,64nm,1.5s						
CNPM				IAML		06 08 37.8	
	comp=E,50nm,1.0s						
ANCK	**Angle Creek**	**3.55**	**310**		**Pn**	**06 07 52.4**	**+1.1**
KVTA	**Katmai Vly 10**	**3.58**	**313**		**Pn**	**06 07 52.4**	**+0.8**
KAHC	**Katmai Hardscr**	**3.65**	**318**		**Pn**	**06 07 53.2**	**+0.6**
KAHC	**Katmai Hardscr**	**3.65**	**318**	P	**Pn**	**06 07 53.2**	**+0.6**
	baz=134						
BRSE	**Bradley Lake S**	**3.74**	**357**		**Pn**	**06 07 52.5**	**-1.3**
BRSE	**Bradley Lake S**	**3.74**	**357**	P	**Pn**	**06 07 52.5**	**-1.3**
	baz=176						
CNTC	**Contact Creek**	**3.76**	**309**		**Pn**	**06 07 54.8**	**+0.6**
Q17K	**Contact Creek**	**3.76**	**309**	P	**Pn**	**06 07 54.8**	**+0.6**
	baz=124						
BRLK	**Bradley Lake**	**3.77**	**356**	Pn	**Pn**	**06 07 52.6**	**-1.6**
BRLK				IAML		06 08 39.0	
	comp=N,36nm,1.1s						
BRLK				IAML		06 08 49.7	
	comp=E,29nm,1.1s						
P19K	**Oil Pt**	**3.95**	**338**	P	**Pn**	**06 07 57.2**	**+0.4**
	baz=155						
Q23K	**Middleton Isla**	**4.04**	**30**	P	**Pn**	**06 07 57.3**	**-0.6**
	baz=213						
MID	**Middleton Isla**	**4.04**	**31**	Pn	**Pn**	**06 07 56.1**	**-1.8**
O20K	**Slope Mountain**	**4.25**	**344**		**Pn**	**06 08 01.4**	**+0.5**
O20K	**Slope Mountain**	**4.25**	**344**	P	**Pn**	**06 08 01.4**	**+0.5**
	baz=162						
IVE	**Iliamna Volcan**	**4.25**	**342**		**Pn**	**06 08 01.6**	**+0.7**
P18K	**Big Mountain,**	**4.27**	**324**	Pn	**Pn**	**06 08 01.4**	**+0.2**
P18K	**Big Mountain,**	**4.27**	**324**	P	**Pn**	**06 08 01.3**	**+0.2**
	baz=140						
P23K	**Montague Islan**	**4.29**	**20**		**Pn**	**06 08 00.9**	**-0.4**
P23K	**Montague Islan**	**4.29**	**20**	P	**Pn**	**06 08 00.9**	**-0.4**
	baz=202						
O22K	**Cooper Landing**	**4.49**	**4**	Pn	**Pn**	**06 08 04.0**	**-0.1**
RSO	**Redoubt South**	**4.63**	**345**	Pn	**Pn**	**06 08 05.3**	**-0.9**
O18K	**Koktuh Hills**	**4.63**	**328**	Pn	**Pn**	**06 08 05.3**	**-0.8**
O18K				IAML		06 09 14.0	
	comp=N,26nm,1.4s						
O18K				IAML		06 09 21.0	
	comp=E,17nm,1.3s						
O19K	**Port Alsworth**	**4.68**	**335**	Pn	**Pn**	**06 08 07.2**	**+0.5**
HIN	**Hinchinbrook I**	**4.84**	**23**	Pn	Pn	06 08 05.8	-3.1
HIN				IAML		06 11 03.6	
	comp=N,49nm,1.2s						
KAIM	**Kayak Island**	**5.03**	**36**	Pn	**Pn**	**06 08 10.1**	**-1.4**
KAIM				IAML		06 08 47.7	
	comp=E,59nm,1.5s						
KAIM				IAML		06 09 43.6	
	comp=N,65nm,1.5s						
RC01	**Rabbit Creek A**	**5.09**	**3**	Pn	**Pn**	**06 08 11.9**	**-0.5**
RC01				IAML		06 09 09.5	
	comp=E,21nm,1.5s						
RC01				IAML		06 09 12.4	
	comp=N,18nm,1.0s						
N19K	**Bonanza Creek**	**5.27**	**337**	Pn	**Pn**	**06 08 14.5**	**-0.4**
RAGM	**Ragged Mountai**	**5.31**	**32**	Pn	**Pn**	**06 08 15.4**	**0.0**
RAGM				IAML		06 09 19.4	
	comp=E,41nm,1.3s						
CNBA	**Chernabura Isl**	**5.39**	**261**	Pn	**Pn**	**06 08 14.9**	**-1.6**
KNK	**Knik Glacier**	**5.50**	**10**	Pn	**Pn**	**06 08 16.8**	**-1.2**
N18K	**Kilae Creek**	**5.50**	**330**	Pn	**Pn**	**06 08 17.6**	**-0.5**
BERG	**Berg Lake**	**5.62**	**36**	Pn	**Pn**	**06 08 19.3**	**-0.3**
SNH	**Sunshine Point**	**5.77**	**41**	Pn	**Pn**	**06 08 21.3**	**-0.4**
N17K	**Nushagak Hills**	**5.78**	**324**	Pn	**Pn**	**06 08 21.1**	**-0.7**
SML	**Sawmill**	**5.90**	**9**	Pn	**Pn**	**06 08 23.6**	**+0.1**
KLU	**Klutina**	**5.95**	**21**	Pn	**Pn**	**06 08 25.5**	**+1.2**
SKT	**Skwentna**	**6.01**	**355**	Pn	**Pn**	**06 08 23.9**	**-1.1**
SCM	**Sheep Creek Mo**	**6.04**	**14**	Pn	**Pn**	**06 08 26.1**	**+0.6**
M20K	**Styx River**	**6.05**	**347**	Pn	**Pn**	**06 08 24.0**	**-1.6**
VRDI	**Verde Repeater**	**6.34**	**32**	Pn	**Pn**	**06 08 29.4**	**-0.4**
N25K	**Chitina, Valde**	**6.35**	**26**	Pn	**Pn**	**06 08 29.9**	**+0.1**
CUT	**Chulitna**	**6.41**	**0**	Pn	**Pn**	**06 08 30.9**	**+0.5**
GLB	**Gilahina Butte**	**6.42**	**29**	Pn	**Pn**	**06 08 29.5**	**-1.1**
KIAG	**Kiagna River**	**6.46**	**37**		**Pn**	**06 08 31.5**	**+0.2**
M24K	**Tolsona, Glenn**	**6.47**	**18**	Pn	**Pn**	**06 08 30.9**	**-0.5**
M17K	**Holitna River**	**6.53**	**329**	Pn	Pn	06 08 29.1	-3.1
MCARA	**McCarthy VSAT**	**6.59**	**32**	Pn	**Pn**	**06 08 32.3**	**-0.7**
L19K	**White Mountain**	**6.60**	**341**	Pn	**Pn**	**06 08 32.2**	**-0.9**
PTPK	**Patty Peak**	**6.62**	**35**		**Pn**	**06 08 33.5**	**0.0**
O14K	**Tigyukauivet M**	**6.69**	**303**	Pn	**Pn**	**06 08 34.0**	**-0.3**
M16K	**Timber Creek**	**6.74**	**322**	Pn	**Pn**	**06 08 35.5**	**+0.6**
BARN	**Barnard Glacie**	**6.80**	**38**	Pn	**Pn**	**06 08 35.3**	**-0.7**
CTGM	**Chitina Glacie**	**6.85**	**40**	Pn	**Pn**	**06 08 36.0**	**-0.6**
LOGN	**Logan Glacier**	**6.88**	**42**	Pn	**Pn**	**06 08 36.0**	**-1.0**
BCPM	**Bancas Point**	**6.93**	**51**	Pn	**Pn**	**06 08 37.4**	**-0.2**
L16K	**Owhat River**	**7.40**	**324**	Pn	**Pn**	**06 08 43.6**	**-0.5**
TRF	**Thorofare Moun**	**7.46**	**0**	Pn	**Pn**	**06 08 45.1**	**+0.2**
CAST	**Castle Rocks**	**7.47**	**354**	Pn	**Pn**	**06 08 45.2**	**+0.1**
KTH	**Kantishna Hill**	**7.56**	**358**	Pn	**Pn**	**06 08 47.4**	**+1.1**
O29M	**Mount Kennedy**	**7.56**	**51**	Pn	**Pn**	**06 08 45.4**	**-1.0**
YUK2	**White River**	**7.59**	**36**		**Pn**	**06 08 48.2**	**+1.4**
P29M	**Windy Craggy**	**7.65**	**57**	Pn	**Pn**	**06 08 46.5**	**-0.9**
M27K	**Edge Creek, AK**	**7.70**	**31**	Pn	**Pn**	**06 08 48.4**	**+0.1**
M14K	**Bethel**	**7.72**	**313**	Pn	**Pn**	**06 08 49.5**	**+1.1**
K17K	**Iditarod**	**7.84**	**332**	Pn	**Pn**	**06 08 50.3**	**+0.2**
S31K	**Pelican**	**7.96**	**70**	Pn	Pn	06 08 47.8	-3.8
J18K	**Innoko River**	**8.12**	**339**	Pn	**Pn**	**06 08 53.0**	**-1.0**
M13K	**Dall Lake**	**8.14**	**308**	Pn	**Pn**	**06 08 54.8**	**+0.6**
RIDG	**Independent Ri**	**8.22**	**17**	Pn	**Pn**	**06 08 55.4**	**0.0**
L27K	**Beaver Creek,**	**8.28**	**28**	Pn	**Pn**	**06 08 57.0**	**+0.9**
L14K	**Kuka Creek**	**8.34**	**315**	Pn	**Pn**	**06 08 57.9**	**+1.0**
J20K	**Nowinta River**	**8.40**	**349**	Pn	**Pn**	**06 08 58.1**	**+0.4**
J19K	**Poorman**	**8.42**	**344**	Pn	**Pn**	**06 08 58.0**	**0.0**
K15K	**Wolf Creek Mou**	**8.51**	**322**	Pn	**Pn**	**06 09 00.1**	**+0.9**
HDA	**Harding Lake**	**8.59**	**10**	Pn	**Pn**	**06 08 59.3**	**-1.0**
SKAG	**Skagway**	**8.74**	**61**	Pn	**Pn**	**06 09 01.7**	**-0.7**
CCB	**Clear Creek Bu**	**8.75**	**7**	Pn	**Pn**	**06 09 03.0**	**+0.5**
N30M	**Aishikik Lake**	**8.79**	**46**	Pn	Pn	06 09 01.1	-2.0
M29M	**Somme Creek**	**8.86**	**39**	Pn	**Pn**	**06 09 04.1**	**0.0**
J16K	**Anvik River**	**8.93**	**329**	Pn	**Pn**	**06 09 03.7**	**-1.3**
IL31		**8.95**	**10**	Pn	**Pn**	**06 09 05.6**	**+0.4**
ILAR	**Eielson Array**	**8.95**	**10**	Pn	**Pn**	**06 09 06.1**	**+0.9**
MDM	**Murphy Dome**	**9.03**	**6**	Pn	**Pn**	**06 09 06.7**	**+0.3**
J26L	**Joseph Creek**	**9.15**	**19**	Pn	**Pn**	**06 09 07.5**	**-0.5**
I21K	**Tanana**	**9.23**	**356**	Pn	**Pn**	**06 09 10.3**	**+1.3**
N31M	**Braeburn, Yuko**	**9.34**	**48**	Pn	**Pn**	**06 09 10.4**	**-0.2**
WHY	**Whitehorse**	**9.36**	**54**	Pn	**Pn**	**06 09 10.4**	**-0.7**
L29M	**L29M**	**9.42**	**36**	Pn	**Pn**	**06 09 11.4**	**-0.3**
M30M	**Minto, Yukon**	**9.54**	**41**	Pn	**Pn**	**06 09 13.1**	**-0.3**
H21K	**Melozitna Rive**	**9.74**	**354**	Pn	**Pn**	**06 09 16.4**	**+0.3**
H18K	**Honhosa River**	**9.96**	**340**	Pn	**Pn**	**06 09 18.2**	**-1.0**
H17K	**Granite Mounta**	**10.10**	**336**	Pn	**Pn**	**06 09 21.1**	**+0.1**
IMAR	**Indian Mountai**	**10.13**	**352**	Pn	**Pn**	**06 09 21.1**	**-0.4**
K29M	**Barlow Dome**	**10.13**	**34**	Pn	**Pn**	**06 09 20.5**	**-1.1**
P33M	**Teslin, Yukon**	**10.18**	**58**	Pn	**Pn**	**06 09 20.9**	**-1.2**
G23K	**Bananza Creek**	**10.73**	**1**	Pn	**Pn**	**06 09 30.1**	**+0.5**
G24K	**Hadweenzic Riv**	**10.81**	**6**	Pn	**Pn**	**06 09 32.0**	**+1.3**
J30M	**Hart River**	**11.02**	**33**	Pn	**Pn**	**06 09 35.4**	**+1.7**
ANM	**Nome**	**11.32**	**325**	Pn	**Pn**	**06 09 39.6**	**+1.9**
BMAR	**Burnt Mountain**	**11.77**	**11**	Pn	**Pn**	**06 09 42.8**	**-1.0**
E19K	**Redstone River**	**11.92**	**347**	Pn	**Pn**	**06 09 47.0**	**+1.2**
C16K	**Lisburne Hills**	**14.09**	**337**	P	**P**	**06 10 25.5**	**+2.3**
INK	**Inuvik**	**14.54**	**25**	Pn	**Pn**	**06 10 23.2**	**+1.7**
A36M	**Sachs Harbour**	**19.16**	**24**	P	**P**	**06 11 19.4**	**+0.2**
A36M				IAmb	IAmb	06 11 29.7	
	comp=Z,3.8nm,0.8s						
YKAB2	**New Yellowknif**	**19.18**	**56**	P	**P**	**06 11 19.1**	**-0.4**
YKA	**Yellowknife Ar**	**19.19**	**56**	P	**P**	**06 11 20.4**	**+0.8**

*IDC **29** 06:22:54.2±0.7,56.46N×149.00W,h0km,mb4.0/18, mbtmp4.0/22,ML4.1/4,MS3.5/9,Error ellipse: s-maj=20.9km s-min=12.1km az=31.0*

*NEIC **29** 06:22:56.1±1.1,56.53N±0.07×149.00W±0.09,h10km±1km, mb4.3/63,ML4.4/66,Mwr4.2/24,ML4.3(AEIC),Error ellipse: s-maj=12.1km s-min=7.9km az=339.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.25; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$0.29; $M_{r\theta}$0.18; $M_{\theta\phi}$0.14; $M_{\phi r}$-1.61; Fault plane solution: M_o2.16000×10^{15} NP1:ϕ_s248.59000°, δ45.62000°,λ37.53000°. NP2:ϕ_s130.35000°,δ64.19000°, λ129.02000°. Principal axes: T 2.4496, Plg53.0000°, Azm89.0000°; N -0.8366, Plg35.0000°, Azm291.0000°; P -1.6130, Plg11.0000°, Azm193.0000°;*

*NEIC **29** 06:22:57.1,56.51N×149.01W,h16km*

*AEIC **29** 06:23:00.9±1.7,56.50N±0.08×148.95W±0.09,h12km±5km, Error ellipse: s-maj=11.5km s-min=7.0km az=166.0*

ISC 29 06:22:56.2±0.4,56.58N±0.06×148.97W±0.04,h10km, n614,σ1s14/585,mb4.3/45,MS3.5/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.31**	**303**		**Pn**	**06 23 34.3**	**+0.1**
KDAK				IAML		06 24 01.3	
	2μm,0.2s						
KDAK	**Kodiak Island**	**2.31**	**303**		**Sn**	**06 24 00.4**	**-2.2**
KDAK	**Kodiak Island**	**2.31**	**303**	P	**Pn**	**06 23 34.6**	**+0.4**
	baz=122						
KDAK	**Kodiak Island**	**2.31**	**303**	Pn	**Pn**	**06 23 34.6**	**+0.4**
	23nm,0.3s,baz=116,slow=5.9,SNR=164						
KDAK				Sn	**Sn**	**06 24 00.9**	**-1.7**
	163nm,0.3s,baz=247,slow=23,SNR=13						
KDAK				LR	LR	06 24 30.4	
	comp=Z,356nm,18.2s,baz=107,slow=41						
	51nm,0.3s						
OHAK	**Old Harbor**	**2.46**	**287**	Pn	**Pn**	**06 23 35.6**	**-0.5**
OHAK				Sn	**Sn**	**06 24 02.6**	**-3.6**
OHAK				IAML		06 24 04.5	
	comp=N,1μm,0.5s						
OHAK	**Old Harbor**	**2.46**	**287**	P	**Pn**	**06 23 36.0**	**-0.2**
OHAK	**Old Harbor**	**2.46**	**287**	P	**Pn**	**06 23 36.1**	**-0.2**
	baz=105,SNR=23						
SYI	**Shuyak Island**	**2.75**	**319**		**Pn**	**06 23 41.2**	**+1.0**
SYI				IAML		06 24 14.6	
	comp=E,2μm,0.4s						
SYI				IAML		06 24 14.6	
	comp=N,2μm,0.5s						
Q20K	**Shuyak Island**	**2.75**	**319**	P	**Pn**	**06 23 41.1**	**+0.9**
	baz=137,SNR=7.2						
SII	**Sitkinak Islan**	**2.88**	**272**		**Pn**	**06 23 41.6**	**-0.6**
SII				IAML		06 24 14.1	
	comp=N,2μm,0.6s						
SII	**Sitkinak Islan**	**2.88**	**272**	P	**Pn**	**06 23 41.4**	**-0.7**
SII	**Sitkinak Islan**	**2.88**	**272**	P	**Pn**	**06 23 41.5**	**-0.7**
	baz=89						
R18K	**Karluk**	**3.15**	**291**	Pn	**Pn**	**06 23 45.7**	**-0.1**
R18K				Sn	**Sn**	**06 24 20.2**	**-3.2**
R18K	**Karluk**	**3.15**	**291**	P	**Pn**	**06 23 46.2**	**+0.5**
	baz=107						
Q23K	**Middleton Isla**	**3.19**	**25**		**Pn**	**06 23 46.5**	**+0.3**
Q23K				IAML		06 24 25.9	
	comp=E,674nm,1.1s						
Q23K	**Middleton Isla**	**3.19**	**25**	P	**Pn**	**06 23 46.5**	**+0.3**
	baz=206						
MID	**Middleton Isla**	**3.19**	**25**		**Pn**	**06 23 46.0**	**-0.2**
MID				Sn	**Sn**	**06 24 21.5**	**-2.7**
MID				IAML		06 24 25.9	
	comp=E,685nm,0.8s						
MID	**Middleton Isla**	**3.19**	**25**	P	**Pn**	**06 23 46.7**	**+0.5**
CNPM	**China Poot**	**3.19**	**339**		**Pn**	**06 23 47.0**	**+0.6**
CNPM				Sn	**Sn**	**06 24 23.4**	**-1.1**
CNPM				IAML		06 24 27.8	
	comp=E,680nm,0.5s						
CNPM				IAML		06 24 28.0	
	comp=N,725nm,0.5s						
BRSE	**Bradley Lake S**	**3.31**	**344**		**Pn**	**06 23 48.2**	**+0.2**
BRSE					**Sn**	**06 24 25.6**	**-1.8**
BRSE	**Bradley Lake S**	**3.31**	**344**	P	**Pn**	**06 23 48.3**	**+0.3**
	baz=163,SNR=42						
BRLK	**Bradley Lake**	**3.35**	**343**		**Pn**	**06 23 48.8**	**+0.2**
BRLK				IAML		06 24 30.1	
	comp=N,650nm,0.5s						
HOM	**Homer**	**3.40**	**336**		**Pn**	**06 23 50.4**	**+1.1**
HOM				IAML		06 24 32.0	
	comp=E,1μm,0.4s						
HOM				IAML		06 24 46.3	
	comp=N,1μm,1.0s						
HOM	**Homer**	**3.40**	**336**	P	**Pn**	**06 23 50.0**	**+0.8**
	baz=154						
Q19K	**Cape Douglas,**	**3.44**	**315**		**Pn**	**06 23 51.5**	**+1.7**
Q19K	**Cape Douglas,**	**3.44**	**315**	P	**Pn**	**06 23 51.2**	**+1.4**
	baz=132,SNR=12						
P23K	**Montague Islan**	**3.53**	**13**	P	**Pn**	**06 23 51.5**	**+0.5**
	baz=194,SNR=9.0						
SEW	**Seward**	**3.55**	**356**	Pn	**Pn**	**06 23 51.1**	**-0.1**
SEW	**Seward**	**3.55**	**356**	P	**Pn**	**06 23 51.5**	**+0.3**
	baz=176,SNR=45						
KAHG	**Katmai Hook Gl**	**3.57**	**305**		**Pn**	**06 23 53.1**	**+1.5**
AU22	**Augustine Moun**	**3.65**	**322**		**Pn**	**06 23 53.8**	**+1.2**
AUCH	**Augustine Cone**	**3.67**	**321**		**Pn**	**06 23 54.4**	**+1.4**
KCE	**Katmai Mt Cerb**	**3.75**	**299**		**Pn**	**06 23 56.1**	**+2.0**
ACHA	**Angle Creek He**	**3.81**	**298**		**Pn**	**06 23 56.2**	**+1.3**
P19K	**Oil Pt**	**3.82**	**326**		**Pn**	**06 23 56.3**	**+1.3**
P19K	**Oil Pt**	**3.82**	**326**	P	**Pn**	**06 23 56.1**	**+1.1**
	baz=142,SNR=14						
KAHC	**Katmai Hardscr**	**3.85**	**305**		**Pn**	**06 23 56.8**	**+1.3**
KVTA	**Katmai Vly 10**	**3.86**	**301**		**Pn**	**06 23 57.3**	**+1.7**
ANCK	**Angle Creek**	**3.89**	**297**		**Pn**	**06 23 57.4**	**+1.5**
O22K	**Cooper Landing**	**3.94**	**355**		**Pn**	**06 23 57.1**	**+0.6**
O22K	**Cooper Landing**	**3.94**	**355**	P	**Pn**	**06 23 57.0**	**+0.4**
	baz=174,SNR=24						
O20K	**Slope Mountain**	**4.01**	**333**		**Pn**	**06 23 58.1**	**+0.4**
O20K	**Slope Mountain**	**4.01**	**333**	P	**Pn**	**06 23 58.2**	**+0.6**
	baz=150,SNR=9.4						
HIN	**Hinchinbrook I**	**4.05**	**18**		**Pn**	**06 23 58.8**	**+0.6**
HIN				IAML		06 24 48.8	
	comp=N,653nm,0.6s						
HIN				IAML		06 24 50.0	
	comp=E,538nm,0.5s						
KELA	**Mount Kelaz**	**4.10**	**300**		**Pn**	**06 24 00.0**	**+1.1**
Q17K	**Contact Creek**	**4.10**	**297**	P	**Pn**	**06 24 00.1**	**+1.1**
	baz=112,SNR=19						
KAIM	**Kayak Island**	**4.13**	**34**		**Pn**	**06 24 00.3**	**+1.0**
KAIM				IAML		06 24 51.2	
	comp=E,1μm,0.4s						
KAIM	**Kayak Island**	**4.13**	**34**	P	**Pn**	**06 24 00.3**	**+1.0**
	baz=217,SNR=27						
EYAK	**Cordova Ski Ar**	**4.33**	**22**	Pn	**Pn**	**06 24 02.2**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.33**	**22**	P	**Pn**	**06 24 02.9**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.33**	**22**	P	**Pn**	**06 24 02.8**	**+0.9**
	baz=204,SNR=29						
RED	**Redoubt Volcan**	**4.34**	**334**		**Pn**	**06 24 01.9**	**-0.3**
CAPN	**Captain Cook N**	**4.36**	**346**	Pn	**Pn**	**06 24 02.9**	**+0.6**
CAPN				IAML		06 25 00.8	
	comp=E,974nm,0.6s						
RDSO	**Redoubt South**	**4.36**	**335**		**Pn**	**06 24 02.5**	**-0.1**
P18K	**Big Mountain,**	**4.37**	**313**		**Pn**	**06 24 03.0**	**+0.5**
P18K				IAML		06 24 53.6	
	comp=N,253nm,0.5s						
P18K	**Big Mountain,**	**4.37**	**313**	P	**Pn**	**06 24 03.0**	**+0.5**
	baz=128,SNR=7.6						
RSO	**Redoubt South**	**4.37**	**335**		**Pn**	**06 24 02.9**	**+0.1**
RDT	**Redoubt**	**4.39**	**337**		**Pn**	**06 24 02.5**	**-0.5**
RDWB	**Redoubt West**	**4.42**	**334**		**Pn**	**06 24 03.0**	**-0.3**
RAGM	**Ragged Mountai**	**4.44**	**29**	Pn	**Pn**	**06 24 03.8**	**+0.3**
DFR	**Drift River**	**4.47**	**336**		**Pn**	**06 24 03.9**	**-0.2**
RDJH	**Redoubt Jeurge**	**4.50**	**335**		**Pn**	**06 24 04.5**	**+0.1**
NCT	**North Crescent**	**4.50**	**334**		**Pn**	**06 24 04.3**	**-0.2**
RC01	**Rabbit Creek A**	**4.55**	**355**		**Pn**	**06 24 05.4**	**+0.4**
RC01				IAML		06 24 57.9	
	comp=N,258nm,0.4s						
RC01				IAML		06 25 00.6	
	comp=E,299nm,0.5s						
RC01	**Rabbit Creek A**	**4.55**	**355**	P	**Pn**	**06 24 05.5**	**+0.6**
	baz=175,SNR=40						
GOAT	**Goat Mountain**	**4.59**	**27**		**Pn**	**06 24 06.6**	**+1.0**
O19K	**Port Alsworth**	**4.59**	**324**	Pn	**Pn**	**06 24 05.4**	**-0.1**
O19K	**Port Alsworth**	**4.59**	**324**	P	**Pn**	**06 24 05.9**	**+0.4**
	baz=140,SNR=30						
Q16K	**King Salmon**	**4.64**	**300**		**Pn**	**06 24 07.2**	**+1.0**
Q16K	**King Salmon**	**4.64**	**300**	P	**Pn**	**06 24 07.4**	**+1.3**
	baz=114,SNR=23						
O18K	**Koktuh Hills**	**4.66**	**318**	Pn	**Pn**	**06 24 06.6**	**+0.1**
O18K				IAML		06 25 06.8	
	comp=E,271nm,0.8s						
O18K				IAML		06 25 12.9	
	comp=N,300nm,0.7s						
O18K	**Koktuh Hills**	**4.66**	**318**	P	**Pn**	**06 24 07.2**	**+0.7**
	baz=133,SNR=8.9						
BERG	**Berg Lake**	**4.72**	**34**	Pn	**Pn**	**06 24 07.5**	**+0.1**
P17K	**Kvichak River**	**4.77**	**306**		**Pn**	**06 24 09.3**	**+1.3**
P17K	**Kvichak River**	**4.77**	**306**	P	**Pn**	**06 24 09.3**	**+

PINM Pinnacle 5.79 49 P Pn 06 24 23.6 +1.5
baz=236
N17K Nushagak Hills 5.84 316 Pn 06 24 23.2 +0.4
N17K Nushagak Hills 5.84 316 P Pn 06 24 23.4 +0.7
baz=130
S14K Fog Glacier 5.88 272 P Pn 06 24 24.2 +0.8
baz=84
VNFG Fog Glacier, M 5.88 272 Pn 06 24 23.9 +0.5
BARN Barnard Glacie 5.88 37 Pn Pn 06 24 24.2 +0.8
CUT Chulitna 5.88 354 Pn 06 24 24.5 +1.2
CUT Chulitna 5.88 354 P Pn 06 24 24.6 +1.3
baz=173,SNR=12
WASW Wrangell South 5.91 23 Pn 06 24 25.1 +1.3
WACK Wrangell Chich 5.92 22 Pn 06 24 25.4 +1.3
CTG Chitna Glacier 5.93 39 P Pn 06 24 25.2 +1.2
baz=225,SNR=37
PNL Peninsula 5.95 55 Pn 06 24 25.5 +1.4
PNL Peninsula 5.95 55 P Pn 06 24 25.5 +1.4
baz=242
LOGN Logan Glacier 5.95 41 Pn 06 24 25.3 +1.0
BCPM Bancas Point 5.98 52 Pn 06 24 26.3 +1.7
M19K Big River Lodg 6.02 335 Pn 06 24 25.2 0.0
M19K Big River Lodg 6.02 335 P Pn 06 24 25.0 -0.2
baz=150
WAZA Wrangell Mount 6.04 22 Pn 06 24 27.1 +1.4
WAT6 Susitna Watana 6.06 5 P Pn 06 24 26.9 +1.1
baz=186,SNR=27
M18K Stony River 6.07 327 P Pn 06 24 25.7 0.0
baz=142,SNR=17
HARP HAARP 6.16 17 Pn 06 24 28.9 +1.9
HARP HAARP 6.16 17 P Pn 06 24 28.8 +1.8
baz=200,SNR=17
CHNA Chernabura Isl 6.25 258 P Pn 06 24 27.9 -0.4
baz=70,SNR=7.3
WAT1 Susitna Watana 6.28 2 Pn 06 24 30.1 +1.3
WAT1 Susitna Watana 6.28 2 P Pn 06 24 29.9 +1.2
baz=182
WAT7 Susitna Watana 6.28 1 Pn 06 24 29.9 +1.0
O15K Ungalikthiuk R 6.35 299 P Pn 06 24 31.2 +1.5
baz=110,SNR=19
L19K White Mountain 6.37 334 Pn 06 24 29.9 -0.2
L19K White Mountain 6.37 334 P Pn 06 24 30.0 0.0
baz=150
L20K Farewell, AK 6.42 339 Pn 06 24 30.6 -0.1
L20K Farewell, AK 6.42 339 P Pn 06 24 30.7 -0.1
baz=155
N16K Nishlik Lake 6.45 311 P Pn 06 24 31.9 +0.8
baz=124
M17K Holitna River 6.52 321 Pn 06 24 32.7 +0.7
M17K Holitna River 6.52 321 P Pn 06 24 32.7 +0.7
baz=134
PPLA Purkeypile 6.55 347 Pn 06 24 34.1 +1.6
PPLA Purkeypile 6.55 347 P Pn 06 24 33.9 +1.4
baz=164
DHY Denali Highway 6.57 6 P Pn 06 24 34.4 +1.5
baz=188,SNR=36
SDPT Sand Point 6.58 264 Pn 06 24 32.8 0.0
SDPT Sand Point 6.58 264 P Pn 06 24 33.0 +0.2
M26K Nabesna, AK 6.59 25 Pn 06 24 34.5 +1.5
M26K Nabesna, AK 6.59 25 P Pn 06 24 34.8 +1.8
baz=210
O29M Mount Kennedy 6.61 51 Pn Pn 06 24 34.8 +1.3
O29M Mount Kennedy 6.61 51 P Pn 06 24 35.3 +1.9
baz=240
PAX Paxson 6.65 14 Pn 06 24 35.4 +1.4
PAX Paxson 6.65 14 P Pn 06 24 35.3 +1.4
baz=197,SNR=26
YUK2 White River 6.69 35 Pn 06 24 36.5 +2.1
P29M Windy Craggy 6.69 58 Pn 06 24 35.2 +0.7
P29M Windy Craggy 6.69 58 P Pn 06 24 35.8 +1.3
baz=247,SNR=27
YUK8 Steele Glacier 6.71 41 Pn 06 24 37.0 +2.2
YUK8 Steele Glacier 6.71 41 P Pn 06 24 37.2 +2.4
baz=229,SNR=28
YUK3 Moose Creek 6.80 36 P Pn 06 24 38.4 +2.3
baz=223,SNR=36
M27K Edge Creek, AK 6.83 29 Pn 06 24 38.0 +1.5
M27K Edge Creek, AK 6.83 29 P Pn 06 24 37.9 +1.5
baz=215
M16K Timber Creek 6.84 315 Pn 06 24 37.3 +1.0
M16K Timber Creek 6.84 315 P Pn 06 24 37.4 +1.0
baz=127
RND Reindeer 6.85 0 Pn 06 24 37.9 +1.2
N15K Kwethluk River 6.87 306 Pn 06 24 38.3 +1.5
N15K Kwethluk River 6.87 306 P Pn 06 24 38.7 +1.9
baz=117
L18K Granite Mounta 6.89 328 P Pn 06 24 37.8 +0.7
baz=142
MENT Mentasta 6.91 20 Pn Pn 06 24 38.5 +1.1
TRF Thorofare Moun 6.93 355 Pn 06 24 38.5 +0.7
TRF Thorofare Moun 6.93 355 P Pn 06 24 39.0 +1.2
baz=174,SNR=29
CAST Castle Rocks 7.04 349 Pn 06 24 39.3 +0.1
CAST Castle Rocks 7.04 349 P Pn 06 24 39.6 +0.4
baz=166,SNR=30
YUK6 Outpost Mounta 7.04 47 P Pn 06 24 41.4 +2.0
baz=236,SNR=64
S31K Pelican 7.05 73 P Pn 06 24 38.2 -1.0
baz=263,SNR=18
L26K Log Cabin Wild 7.06 21 Pn 06 24 41.9 +2.4
L26K Log Cabin Wild 7.06 21 P Pn 06 24 41.6 +2.2
baz=206,SNR=9.3
KTH Kantishna Hill 7.07 353 Pn 06 24 40.1 +0.5
O14K Tigyukauivet M 7.08 297 Pn 06 24 41.0 +1.3
O14K Tigyukauivet M 7.08 297 P Pn 06 24 40.6 +1.0
baz=108
BVCY Beaver Creek 7.16 32 Pn 06 24 42.5 +1.7
BVCY Beaver Creek 7.16 32 P Pn 06 24 42.6 +1.7
baz=218,SNR=18
YUK4 Talbot Arm 7.16 44 P Pn 06 24 44.4 +3.4
baz=232,SNR=54
MCK McKinley 7.18 0 Pn 06 24 42.7 +1.6
MCK McKinley 7.18 0 P Pn 06 24 42.9 +1.8
baz=180,SNR=29
P30M Million Dollar 7.25 56 P Pn 06 24 43.7 +1.6
baz=245
PS1A Pavlof South-1 7.26 266 Pn 06 24 42.2 +0.1
K20K Telida 7.27 342 P Pn 06 24 42.3 0.0
baz=157,SNR=21
PLBC Pleasant Camp 7.29 61 Pn 06 24 43.6 +1.0
PLBC Pleasant Camp 7.29 61 P Pn 06 24 43.8 +1.2
baz=252,SNR=20
TTA Tatalina 7.29 334 Pn 06 24 42.8 +0.1
TTA Tatalina 7.29 334 P Pn 06 24 42.4 -0.3
baz=148
L17K Donlin 7.33 323 Pn 06 24 43.1 0.0
L17K Donlin 7.33 323 P Pn 06 24 43.3 +0.2
baz=136
HYT Haines Junctio 7.33 50 P Pn 06 24 45.0 +1.7
baz=239,SNR=7.5
R31K City Hall, Gus 7.37 70 Pn 06 24 43.9 +0.3
R31K City Hall, Gus 7.37 70 P Pn 06 24 44.0 +0.5
baz=261
M15K Kasigluk River 7.38 309 Pn 06 24 45.0 +1.2
M15K Kasigluk River 7.38 309 P Pn 06 24 45.0 +1.2
baz=119
K24K Donnelly Dome 7.42 11 Pn 06 24 46.3 +1.8
K24K Donnelly Dome 7.42 11 P Pn 06 24 46.6 +2.1
baz=194,SNR=22
L27K Beaver Creek, 7.43 26 Pn Pn 06 24 44.8 +0.3
L27K Beaver Creek, 7.43 26 P Pn 06 24 45.5 +0.9
baz=212
L16K Owhat River 7.46 318 Pn 06 24 45.0 +0.2
L16K Owhat River 7.46 318 P Pn 06 24 45.5 +0.6
baz=129
RIDG Independent Ri 7.47 14 Pn Pn 06 24 45.9 +0.8
RIDG Independent Ri 7.47 14 P Pn 06 24 46.5 +1.3
baz=198,SNR=52
N14K Kuskokwak Cree 7.50 302 Pn 06 24 47.0 +1.6
N14K Kuskokwak Cree 7.50 302 P Pn 06 24 47.0 +1.6
baz=112
SIT Sitka 7.51 81 P Pn 06 24 42.9 -2.6
CHUM Lake Minchumin 7.52 349 Pn 06 24 46.4 +0.7
CHUM Lake Minchumin 7.52 349 P Pn 06 24 46.3 +0.7
baz=166,SNR=56
BPAW Bear Paw Mtn. 7.62 353 Pn 06 24 47.2 +0.1
BPAW Bear Paw Mtn. 7.62 353 P Pn 06 24 47.1 +0.1
baz=172,SNR=13
BWN Browne 7.63 358 Pn Pn 06 24 47.6 +0.5
K17K Iditarod 7.76 326 Pn 06 24 49.1 +0.1
K17K Iditarod 7.76 326 P Pn 06 24 49.1 +0.1
baz=139
SKAG Skagway 7.80 63 P Pn 06 24 50.8 +1.3
SKAG Skagway 7.80 63 P Pn 06 24 51.3 +1.8
baz=254,SNR=7.2

SCRK Sand Creek 7.83 16 Pn 06 24 51.0 +0.9
SCRK Sand Creek 7.83 16 P Pn 06 24 51.0 +0.9
baz=200,SNR=7.4
N30M Aishikik Lake 7.84 46 Pn 06 24 51.6 +1.5
N30M Aishikik Lake 7.84 46 P Pn 06 24 51.7 +1.5
baz=236
BESE Bessie Mountai 7.85 69 Pn 06 24 50.6 +0.3
S32K Killisnoo 7.91 78 Pn 06 24 49.5 -1.6
S32K Killisnoo 7.91 78 P Pn 06 24 49.8 -1.2
baz=269
O30N Mendenhall 7.92 53 Pn 06 24 52.5 +1.2
O30N Mendenhall 7.92 53 P Pn 06 24 52.6 +1.4
baz=243,SNR=12
J18K Innoko River 7.92 334 Pn Pn 06 24 50.8 -0.5
J18K Innoko River 7.92 334 P Pn 06 24 51.4 +0.2
baz=147
HDA Harding Lake 7.92 6 Pn Pn 06 24 51.8 +0.5
HDA Harding Lake 7.92 6 P Pn 06 24 52.9 +1.6
baz=188,SNR=25
M29M Somme Creek 7.94 38 Pn 06 24 53.6 +1.9
M29M Somme Creek 7.94 38 P Pn 06 24 53.5 +1.8
baz=226
M14K Bethel 7.96 307 P Pn 06 24 53.1 +1.4
baz=116
R32K Eaglecrest 7.99 72 Pn 06 24 52.6 +0.4
R32K Eaglecrest 7.99 72 P Pn 06 24 52.5 +0.4
baz=263
J20K Nowinta River 8.04 344 Pn Pn 06 24 52.6 -0.3
J20K Nowinta River 8.04 344 P Pn 06 24 53.6 +0.7
baz=159
NEA2 Nenana 8.04 360 Pn 06 24 52.8 -0.2
NEA2 Nenana 8.04 360 P Pn 06 24 53.7 +0.8
baz=180,SNR=34
JIS Juneau Island 8.06 72 Pn 06 24 53.1 +0.1
JIS Juneau Island 8.06 72 P Pn 06 24 53.3 +0.2
CCB Clear Creek Bu 8.12 4 Pn 06 24 55.2 +1.3
J19K Poorman 8.14 339 Pn 06 24 54.1 -0.1
J19K Poorman 8.14 339 P Pn 06 24 54.2 0.0
baz=153
L15K Ungalak Mounta 8.21 314 Pn 06 24 56.0 +0.7
L15K Ungalak Mounta 8.21 314 P Pn 06 24 56.1 +0.8
baz=123
K27K Chicken 8.22 22 Pn Pn 06 24 56.3 +1.0
K27K Chicken 8.22 22 P Pn 06 24 57.0 +1.7
baz=207
J25K Salcha River, 8.26 11 Pn 06 24 56.2 +0.3
J25K Salcha River, 8.26 11 P Pn 06 24 56.2 +0.3
baz=194
IL31 8.29 6 Pn Pn 06 24 56.5 +0.3
ILAR Eielson Array 8.29 6 Pn Pn 06 24 55.4 -0.8
comp=E,3.5nm,0.3s,baz=188,slow=14,SNR=101
ILAR Sn Sn 06 26 25.9 -3.9
comp=E,2.0nm,0.3s,baz=186,slow=24,SNR=5.8
ILAR LR LR 06 28 24.2
comp=E,112nm,19.9s,baz=172,slow=39
comp=E,8.6nm,0.4s
FALS False Pass 8.34 264 Pn 06 24 56.6 -0.3
FALS False Pass 8.34 264 P Pn 06 24 57.1 +0.2
FALS False Pass 8.34 264 P Pn 06 24 57.2 +0.2
baz=73,SNR=7.5
COLA College 8.35 3 Pn 06 24 58.2 +1.2
COLA College 8.35 3 P Pn 06 24 58.4 +1.4
COLA College 8.35 3 P Pn 06 24 58.5 +1.5
baz=184
J26L Joseph Creek 8.38 16 Pn 06 24 58.7 +1.0
J26L Joseph Creek 8.38 16 P Pn 06 24 59.2 +1.5
baz=201
N31M Braeburn, Yuko 8.39 49 Pn 06 24 59.5 +1.8
N31M Braeburn, Yuko 8.39 49 P Pn 06 24 59.4 +1.8
baz=240,SNR=18
WHY Whitehorse 8.41 55 P Pn 06 24 59.4 +1.4
baz=247,SNR=7.3
MDM Murphy Dome 8.42 2 Pn 06 24 59.1 +1.0
M13K Dall Lake 8.45 303 Pn Pn 06 25 00.5 +2.1
M13K Dall Lake 8.45 303 P Pn 06 24 59.6 +1.2
baz=111
L29M L29M 8.52 35 Pn 06 25 01.0 +1.6
L29M L29M 8.52 35 P Pn 06 25 01.1 +1.6
baz=224,SNR=56
MLY Manley 8.53 355 Pn 06 24 59.9 +0.3
MLY Manley 8.53 355 P Pn 06 25 00.7 +1.1
baz=173,SNR=17
L14K Kuka Creek 8.54 310 Pn 06 25 01.1 +1.4
L14K Kuka Creek 8.54 310 P Pn 06 25 01.0 +1.4
baz=118
ISNN Isanotski Nort 8.54 264 Pn 06 24 59.9 +0.1
K15K Wolf Creek Mou 8.58 317 Pn 06 25 01.7 +1.4
K15K Wolf Creek Mou 8.58 317 P Pn 06 25 01.8 +1.5
baz=127
POKR Poker Plat Res 8.60 4 Pn 06 25 02.5 +1.9
POKR Poker Plat Res 8.60 4 P Pn 06 25 02.3 +1.7
baz=186
I23K Minto, Yukon-K 8.61 359 Pn Pn 06 25 00.9 +0.4
I23K Minto, Yukon-K 8.61 359 P Pn 06 25 01.8 +1.2
baz=178,SNR=20
M30M Minto, Yukon 8.62 41 Pn 06 25 02.2 +1.4
M30M Minto, Yukon 8.62 41 P Pn 06 25 02.5 +1.7
baz=231,SNR=7.7
P32M Atlin 8.63 63 Pn 06 25 01.6 +0.7
P32M Atlin 8.63 63 P Pn 06 25 01.7 +0.7
baz=256
SSLN Shishaldin Nor 8.67 265 Pn 06 25 02.0 +0.5
I20K Naaghedeneel 8.68 344 Pn 06 25 03.3 +1.8
I20K Naaghedeneel 8.68 344 P Pn 06 25 02.4 +0.9
baz=160
SSLS Shishaldin Sou 8.70 264 Pn 06 25 02.1 +0.1
I21K Tanana 8.76 352 P Pn 06 25 03.4 +0.8
baz=169,SNR=20
DAWY Dawson 8.88 28 Pn 06 25 04.8 +0.4
DAWY Dawson 8.88 28 P Pn 06 25 05.8 +1.4
baz=216,SNR=7.4
J16K Anvik River 8.90 324 Pn 06 25 04.4 -0.2
J16K Anvik River 8.90 324 P Pn 06 25 04.4 -0.2
baz=134
CRAG Craig 8.95 90 P Pn 06 25 02.3 -3.0
CRAG Craig 8.95 90 P Pn 06 25 03.9 -1.4
baz=283
GCSA Galena City Sc 9.06 338 P Pn 06 25 07.1 +0.3
baz=151
EGAK Eagle 9.07 22 Pn 06 25 08.6 +1.6
EGAK Eagle 9.07 22 P Pn 06 25 08.4 +1.4
baz=208
WRAK Wrangell Islan 9.20 84 P Pn 06 25 09.0 +0.2
baz=277
I26K Coal Creek Min 9.20 15 Pn 06 25 10.5 +1.7
I26K Coal Creek Min 9.20 15 P Pn 06 25 09.9 +1.2
baz=200
P33M Teslin, Yukon 9.23 60 Pn 06 25 10.1 +1.0
P33M Teslin, Yukon 9.23 60 P Pn 06 25 10.2 +1.0
baz=253,SNR=14
Q32M Nakina River 9.24 68 Pn 06 25 10.6 +1.1
Q32M Nakina River 9.24 68 P Pn 06 25 10.8 +1.3
baz=262
K29M Barlow Dome 9.24 33 Pn 06 25 11.0 +1.6
K29M Barlow Dome 9.24 33 P Pn 06 25 10.9 +1.5
baz=223
H21K Melozitna Rive 9.30 350 P Pn 06 25 10.3 +0.2
baz=167
H24K Noodor Dome 9.31 3 Pn Pn 06 25 12.1 +1.8
H24K Noodor Dome 9.31 3 P Pn 06 25 12.5 +2.2
baz=184
M31M Drury Creek, Y 9.32 47 Pn 06 25 12.5 +2.0
M31M Drury Creek, Y 9.32 47 P Pn 06 25 12.7 +2.2
baz=239,SNR=18
I17K Unalakleet 9.35 326 Pn 06 25 11.4 +0.6
I17K Unalakleet 9.35 326 P Pn 06 25 11.1 +0.3
baz=136
H20K Anotleneega Mo 9.39 345 Pn 06 25 12.9 +1.6
H20K Anotleneega Mo 9.39 345 P Pn 06 25 12.9 +1.6
baz=160
N32M Quiet Lake 9.41 54 Pn 06 25 13.4 +1.7
N32M Quiet Lake 9.41 54 P Pn 06 25 13.4 +1.7
baz=248
H22K Ishtalitna Cre 9.42 354 P Pn 06 25 12.7 +0.9
baz=172
J29N Klondike Camp 9.50 29 P Pn 06 25 14.5 +1.5
baz=218,SNR=9.4
MAYO Mayo, Yukon 9.59 37 P Pn 06 25 16.3 +2.2
baz=228,SNR=7.2
J14K Nanvaranak Lak 9.61 316 P Pn 06 25 15.9 +1.5
baz=124
K13K Kusilvak Mount 9.65 310 P Pn 06 25 16.5 +1.7
baz=117
H19K Roundabout Mou 9.68 341 Pn Pn 06 25 15.6 +0.4
H19K Roundabout Mou 9.68 341 P Pn 06 25 15.8 +0.6
baz=155
I27K Kandik River 9.72 18 P Pn 06 25 18.2 +2.2
baz=205
H18K Honhosa River 9.73 336 P Pn 06 25 15.9 -0.2
baz=148,SNR=7.5
FARO Faro, Yukon 9.76 48 Pn Pn 06 25 17.9 +1.5
FARO Faro, Yukon 9.76 48 P Pn 06 25 18.6 +2.1
baz=241,SNR=15
S34M Telegraph Cree 9.76 75 P Pn 06 25 16.9 +0.4
baz=269
M11K Mekoryuk 9.79 300 P Pn 06 25 17.0 +0.2
baz=106
I28M Miner Creek 9.91 22 P Pn 06 25 20.5 +1.9
baz=210
H17K Granite Mounta 9.93 332 Pn Pn 06 25 18.1 -0.7
H17K Granite Mounta 9.93 332 P Pn 06 25 18.6 -0.2
baz=143,SNR=5.4
R33M Jennings River 9.96 66 P Pn 06 25 20.4 +1.0
baz=261
J30M Hart River 10.13 32 P Pn 06 25 23.6 +2.0
baz=223
G23K Bananza Creek 10.19 358 Pn Pn 06 25 22.3 0.0
G23K Bananza Creek 10.19 358 P Pn 06 25 23.7 +1.4
baz=177
G24K Hadweenzic Riv 10.19 3 P Pn 06 25 23.8 +1.6
baz=185
G21K Allakaket 10.20 350 Pn Pn 06 25 21.8 -0.7
G21K Allakaket 10.20 350 P Pn 06 25 23.2 +0.7
baz=166
T35M Bob Quinn 10.28 80 P Pn 06 25 24.3 +0.6
baz=275
H27K Steamboat Moun 10.31 17 P Pn 06 25 25.2 +1.1
baz=203,SNR=11
G25K Bearman Lake 10.32 6 P Pn 06 25 25.1 +1.1
baz=189
G19K Purcell Mounta 10.35 341 P Pn 06 25 24.6 +0.1
baz=154
DLBC Dease Lake 10.36 72 Pn 06 25 25.2 +0.5
DLBC Dease Lake 10.36 72 P Pn 06 25 25.6 +0.9
baz=267
DLBC Dease Lake 10.36 72 Pn Pn 06 25 25.1 +0.3
comp=E,2.8nm,0.3s,baz=272,slow=6.5,SNR=52
DLBC Sn Sn 06 27 13.0 -7.7
comp=E,0.7nm,0.3s,baz=311,slow=9.2,SNR=1.4
comp=E,6.5nm,0.3s
H16K Elim 10.36 327 P Pn 06 25 25.0 +0.3
baz=135
UNV Unalaska Valle 10.38 262 P Pn 06 25 23.9 -1.0
UNV Unalaska Valle 10.38 262 P Pn 06 25 23.7 -1.2
baz=68
G18K Tagagawik 10.43 338 P Pn 06 25 26.2 +0.5
baz=149
G22K Bettles 10.45 354 P Pn 06 25 27.2 +1.3
baz=172
G17K Kiwalik Mounta 10.57 333 P Pn 06 25 28.7 +1.2
baz=142
I30M Mount Dempster 10.60 30 P Pn 06 25 30.1 +2.1
baz=221
G26K Porcupine Rive 10.69 11 P Pn 06 25 28.4 -0.7
baz=196
COLD Coldfoot 10.71 357 P Pn 06 25 30.5 +1.2
baz=176,SNR=9.2
F21K Alatna River 10.89 351 Pn Pn 06 25 32.2 +0.3
F21K Alatna River 10.89 351 P Pn 06 25 33.0 +1.1
baz=167
H29M Whitestone 10.91 23 P Pn 06 25 33.8 +1.7
baz=212
G16K Koyuk River 10.95 329 P Pn 06 25 33.8 +1.2
baz=138
F20K Avaraart Lake 10.97 346 P Pn 06 25 33.4 +0.4
baz=160
F24K Squaw Lake 11.00 2 Pn Pn 06 25 33.7 +0.4
F24K Squaw Lake 11.00 2 P Pn 06 25 34.6 +1.3
baz=183
BMAR Burnt Mountain 11.08 9 Pn 06 25 35.2 +0.7
F19K Shaleruckik Mo 11.09 342 P Pn 06 25 35.2 +0.7
baz=154
F25K Christian Rive 11.17 7 P Pn 06 25 36.8 +1.1
baz=189
G15K Niukluk 11.17 325 P Pn 06 25 36.2 +0.6
baz=132
ANM Nome 11.33 322 Pn Pn 06 25 38.5 +0.6
ANM Nome 11.33 322 P Pn 06 25 38.7 +0.8
baz=128,SNR=6.9
F26K Sheenjek River 11.38 9 P Pn 06 25 39.7 +1.1
baz=194
EPYK Eagle Plains 11.41 26 Pn 06 25 41.1 +2.1
EPYK Eagle Plains 11.41 26 P Pn 06 25 40.8 +1.8
baz=216
F17K Baldwin Pennin 11.47 335 Pn Pn 06 25 40.3 +0.5
F17K Baldwin Pennin 11.47 335 P Pn 06 25 39.5 -0.3
baz=144
E23K Chandalar 11.53 359 P Pn 06 25 42.2 +1.6
baz=178
G29M Pine Creek 11.57 22 P Pn 06 25 43.4 +2.2
baz=211
E19K Redstone River 11.57 344 Pn Pn 06 25 41.3 +0.1
E19K Redstone River 11.57 344 P Pn 06 25 42.4 +1.2
baz=157
SPIA Saint Paul Isl 11.65 282 P Pn 06 25 44.4 +2.2
E25K Arctic Village 11.69 6 Pn 06 25 44.3 +1.5
E25K Arctic Village 11.69 6 P Pn 06 25 44.1 +1.3
baz=189,SNR=9.4
F15K North Star Dit 11.84 327 P Pn 06 25 45.3 +0.4
baz=133
F28M Old Crow 11.85 17 P Pn 06 25 45.7 +0.7
baz=205,SNR=6.5
G30M tAoh Zraii Nji 12.02 25 P Pn 06 25 49.3 +1.9
baz=216,SNR=6.1
NIKH Nikolski High 12.02 261 Pn 06 25 47.0 -0.4
NIKH Nikolski High 12.02 261 P Pn 06 25 46.8 -0.6
baz=65
E17K Hotham Inlet 12.13 336 P Pn 06 25 49.5 +0.7
baz=144,SNR=5.7
E18K Tukpahlearik C 12.15 338 P Pn 06 25 49.9 +0.9
baz=148
E20K Nigu River 12.18 347 P Pn 06 25 50.7 +1.2
baz=161
F14K Arctic Creek 12.21 324 P Pn 06 25 50.6 +0.7
baz=129
G31M Satah River 12.45 28 P Pn 06 25 54.9 +1.8
baz=220
D23K Nanushuk River 12.46 357 P Pn 06 25 56.1 +2.7
baz=176
D22K Ayikyak River 12.46 354 Pn Pn 06 25 54.7 +1.3
D22K Ayikyak River 12.46 354 P Pn 06 25 54.8 +1.5
baz=170
D24K Happy Valley 12.63 0 P Pn 06 25 57.5 +2.0
baz=180
F30M Barrier River 12.64 24 P Pn 06 25 57.8 +2.1
baz=215
D19K Kuna River 12.66 344 P Pn 06 25 56.9 +0.9
baz=156
D20K Ettivluk River 12.66 347 P Pn 06 25 57.0 +0.9
baz=160
TNA Tin City 12.80 322 P Pn 06 25 58.8 +1.0
baz=126
E28M Babbage River 12.81 16 P Pn 06 26 01.2 +3.2
baz=204
D25K Kavik River 12.85 4 P Pn 06 26 01.5 +2.9
baz=186
E29M Blow River 12.88 19 Pn Pn 06 26 01.7 +2.7
E29M Blow River 12.88 19 P Pn 06 26 00.9 +1.9
baz=208
C21K Knifeblade Rid 12.89 351 P Pn 06 26 00.2 +1.0
baz=166
BBB Bella Bella 12.91 101 Sn Sn 06 28 12.6 -10
comp=E,0.2nm,0.3s,baz=235,slow=15,SNR=2.0
F31M Tsiigehtchic 12.98 27 P Pn 06 26 01.9 +1.6
baz=220
C24K Franklin Bluff 13.20 0 P Pn 06 26 05.3 +2.0
baz=181
D27M Malcolm River 13.21 13 P Pn 06 26 05.4 +1.9
baz=200
C18K Utukok River 13.31 340 Pn Pn 06 26 05.2 +0.2
C18K Utukok River 13.31 340 P Pn 06 26 06.5 +1.5
baz=150
GAMB Gambell 13.35 312 P Pn 06 26 06.2 +0.8
baz=112
C19K Lookout Ridge 13.44 343 Pn Pn 06 26 06.0 -0.7
C19K Lookout Ridge 13.44 343 P Pn 06 26 06.8 +0.1
baz=154
KOTAN Kotaneelee Air 13.52 64 P Pn 06 26 09.4 +1.5
baz=265
C17K DeLong Mountai 13.57 337 P Pn 06 26 09.5 +1.1
baz=145
D28M Stokes Point 13.59 16 P Pn 06 26 10.7 +2.1

baz=205
INK Inuvik 13.71 25 Pn **Pn** **06 26 08.6 -1.6**
INK Inuvik 13.71 25 P **Pn** **06 26 09.4 -0.9**
baz=218,SNR=13
INK Inuvik 13.71 25 Pn Pn 06 26 07.6 -2.6
comp=E,0.4nm,0.3s,baz=360,slow=29,SNR=14
C16K Lisburne Hills 13.90 334 Pn **Pn** **06 26 14.0 +1.1**
C16K Lisburne Hills 13.90 334 P **Pn** **06 26 13.3 +0.4**
baz=140
B22K Teshekpuk Lake 13.95 354 P **Pn** **06 26 14.6 +1.0**
baz=170
B18K Kokolik River 14.05 341 P **Pn** **06 26 15.3 +0.4**
baz=150
WRGLY Wrigley 14.35 52 P **Pn** **06 26 20.4 +1.3**
baz=254
A19K Wainwright 14.66 344 P **Pn** **06 26 23.6 +0.3**
baz=153
A21K Barrow 15.16 351 P **Pn** **06 26 28.5 -1.4**
baz=164,SNR=9.7
ATKA Atka Island 15.29 264 P **Pn** **06 26 30.5 -1.3**
ADK Adak 16.81 265 Pn **Pn** **06 26 50.2 -1.1**
ADK Adak 16.81 265 P **Pn** **06 26 50.8 -0.5**
C36M Paulatuk 16.90 31 P **Pn** **06 26 52.7 +0.4**
baz=233,SNR=6.1
HILA High Level 17.17 70 **Pn** **06 26 57.9 +2.1**
YKAB2 New Yellowknif 18.23 57 P **Pn** **06 27 09.7 +0.8**
YKA Yellowknife Ar 18.23 57 P **Pn** **06 27 09.3 +0.4**
YKA Yellowknife Ar 18.23 57 P **Pn** **06 27 09.8 +0.8**
comp=E,0.2nm,0.3s,baz=267,slow=11,SNR=33
YKA PcP **PcP** **06 31 39.4 -1.5**
comp=E,0.3nm,0.8s,baz=269,slow=1.7,SNR=4.2
comp=E,7.2nm,1.1s
A36M Sachs Harbour 18.34 23 P **Pn** **06 27 10.9 +0.6**
A36M IAmb IAmb 06 27 26.5
comp=Z,19nm,0.8s
A36M Sachs Harbour 18.34 23 P **Pn** **06 27 11.3 +1.1**
baz=225
MXC Moxie City 20.29 107 P **P** **06 27 31.6 -0.2**
E07A Sunnyside 20.54 107 P **P** **06 27 34.3 -0.2**
E07A IAmb IAmb 06 27 36.2
comp=Z,13nm,1.0s
H04A Detroit Lake 20.59 114 IAmb IAmb 06 27 36.7
comp=Z,13nm,0.9s
EDM Edmonton 20.61 84 P **P** **06 27 36.1 +0.9**
EDM IAmb IAmb 06 27 40.0
comp=Z,18nm,1.2s
D08A Wollman Farm, 20.72 105 IAmb IAmb 06 27 37.8
comp=Z,16nm,1.2s
HAWA Hanford 20.81 107 P **P** **06 27 36.9 -0.5**
NEW Newport 20.97 100 P **P** **06 27 40.0 +0.8**
NEW Newport 20.97 100 P **P** **06 27 39.9 +0.7**
baz=305
NEW Newport 20.97 100 P **P** **06 27 39.2 +0.1**
comp=Z,4.5nm,0.8s,baz=321,slow=7.8,SNR=8.5
comp=Z,4.5nm,0.8s
I04A Tendick Farm, 21.11 116 P **P** **06 27 40.6 -0.2**
I04A IAmb IAmb 06 27 42.3
comp=Z,15nm,1.0s
I05D Terrebonne, OR 21.26 113 IAmb IAmb 06 27 46.3
comp=Z,9.1nm,0.8s
K02D Willamette Mer 21.32 120 IAmb IAmb 06 27 45.2
comp=Z,19nm,1.1s
E09A Wood Farm, Sta 21.48 105 IAmb IAmb 06 27 48.1
comp=Z,9.2nm,0.8s
HUMO Hull Mountain 21.73 119 P **P** **06 27 46.9 -0.5**
HUMO IAmb IAmb 06 27 50.2
comp=Z,24nm,1.4s
PINE Pine Mountain 21.85 114 IAmb IAmb 06 27 52.7
comp=Z,12nm,1.1s
J05D Fort Rock, OR 22.07 115 P **P** **06 27 51.0 -0.2**
J05D IAmb IAmb 06 27 54.9
comp=Z,13nm,1.0s
F10A Beach Ranch, E 22.31 105 P **P** **06 27 53.0 -0.7**
F10A IAmb IAmb 06 27 56.2
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 22.51 120 P **P** **06 27 56.0 +0.2**
YBH IAmb IAmb 06 27 59.4
comp=Z,9.8nm,1.3s
BMO Blue Mountains 23.00 107 P **P** **06 27 59.8 -1.3**
MSO Missoula 23.55 99 P **P** **06 28 06.6 0.0**
baz=307
WVOR Wild Horse Val 24.00 113 P **P** **06 28 09.3 -1.6**
WVOR IAmb IAmb 06 28 13.3
comp=Z,7.9nm,0.8s
MFID Camas Ranch 24.76 108 IAmb IAmb 06 28 20.0
comp=Z,6.4nm,1.1s
ORV Oroville 24.78 122 P **P** **06 28 17.0 -0.9**
EGMT Eagleton 25.16 93 P **P** **06 28 19.9 -1.4**
baz=304
HLID Hailey 25.41 106 P **P** **06 28 23.0 -0.7**
baz=313
PAHR Pah Rah Range 25.68 118 IAmb IAmb 06 28 27.4
comp=Z,5.1nm,0.9s
MPK Martis Peak 25.69 120 P **P** **06 28 26.1 -0.3**
MPK IAmb IAmb 06 28 27.9
comp=Z,13nm,1.3s
PNTR Pine Nut 26.06 120 IAmb IAmb 06 28 36.6
comp=Z,7.3nm,0.8s
YHH Holmes Hill 26.52 100 P **P** **06 28 33.9 0.0**
H17A Grant Village 26.92 100 P **P** **06 28 37.5 0.0**
baz=311
RYN Ryan 26.94 119 P **P** **06 28 37.0 -0.6**
RLMT Red Lodge 27.17 98 P **P** **06 28 40.2 +0.5**
baz=309
NVAR Mina Array Bea 27.20 119 P **P** **06 28 40.2 +0.2**
comp=Z,2.6nm,0.8s,baz=308,slow=9.2,SNR=20
comp=Z,2.6nm,0.8s
MLAC Mammoth, Mammo 27.58 121 P **P** **06 28 43.6 +0.1**
baz=323
LAO LASA Array 27.89 92 P **P** **06 28 46.3 +0.3**
baz=306
BW06 Boulder Array 28.55 102 P **P** **06 28 51.3 -0.9**
baz=313
PDAR Pinedale Array 28.56 102 P **P** **06 28 51.8 -0.4**
comp=Z,1.0nm,0.6s,baz=319,slow=4.0,SNR=13
comp=Z,1.0nm,0.6s
R11B Troy Canyon, C 28.60 115 P **P** **06 28 52.3 -0.2**
baz=320,SNR=5.7
DUG Dugway, Tooele 28.63 109 P **P** **06 28 52.5 -0.2**
baz=317
SPR3 Spring Creek 3 28.74 113 IAmb IAmb 06 28 56.1
comp=Z,4.7nm,1.1s
CWC Cottonwood Cre 28.89 121 P **P** **06 28 55.2 +0.1**
baz=324
FURC Furnace Creek, 29.45 119 P **P** **06 28 59.8 -0.1**
baz=323
BSUT Blindstream Ca 29.47 107 IAmb IAmb 06 29 08.5
comp=Z,6.1nm,1.3s
MPMC Manual Prospec 29.48 121 P **P** **06 29 00.5 +0.2**
baz=324
PRN Pahroc Range 29.60 116 P **P** **06 29 01.4 +0.1**
PRN IAmb IAmb 06 29 04.0
comp=Z,8.8nm,1.2s
ARVC Arvin 29.61 124 P **P** **06 29 01.8 +0.5**
baz=326
SBC Santa Barbara 29.78 126 P **P** **06 29 02.4 -0.4**
baz=327
LRMC Laurel Mtn Rad 29.86 122 P **P** **06 29 04.1 +0.4**
baz=325
SHOC Shoshone, Teco 30.19 119 P **P** **06 29 06.7 +0.2**
baz=324
PETK Petropavlovsk- 30.26 286 P **P** **06 29 08.3 +1.5**
comp=Z,2.6nm,0.6s,baz=63,slow=9.3,SNR=1.6
comp=Z,2.6nm,0.6s
GSC Goldstone, Bar 30.42 121 P **P** **06 29 08.5 -0.1**
baz=324
SRU San Rafael Swe 30.63 108 IAmb IAmb 06 29 11.9
comp=Z,6.3nm,0.9s
RSSD Black Hills 30.68 95 P **P** **06 29 10.0 -1.0**
RSSD IAmb IAmb 06 29 11.6
comp=Z,3.0nm,0.7s
RSSD Black Hills 30.68 95 P **P** **06 29 10.5 -0.5**
baz=310
MDND Maddock 30.87 85 P **P** **06 29 11.9 -0.4**
baz=305
V12A Nelson 31.02 118 IAmb IAmb 06 29 15.6
comp=Z,3.4nm,0.7s
HEC Hector,Ludlow 31.03 121 P **P** **06 29 13.8 -0.1**
baz=325
O20A White River Ci 31.10 104 P **P** **06 29 13.8 -0.9**
baz=316
GMRC Granite Mounta 31.39 120 P **P** **06 29 17.5 +0.4**
baz=324
ULM Lac du Bonnet 31.58 79 P **P** **06 29 18.3 -0.2**
comp=Z,3.9nm,0.8s,baz=299,slow=8.9,SNR=8.6
ULM LR LR 06 41 25.4
comp=Z,87nm,19.8s,baz=245,slow=35
comp=Z,3.9nm,0.8s
N23A Red Feather La 31.80 101 P **P** **06 29 20.4 -0.5**
baz=314
PFO Pinyon Flats O 31.96 122 LR LR 06 39 40.8
comp=Z,57nm,18.8s,baz=21,slow=32
TPFO Pinon Flats 31.97 122 P **P** **06 29 22.5 +0.2**
baz=326
IRM Iron Mountain 32.14 120 P **P** **06 29 23.8 +0.1**
baz=325
PDMCI Parker Dam,Lak 32.51 118 P **P** **06 29 26.4 -0.4**
baz=324
BLYC Blythe 32.77 119 P **P** **06 29 29.3 +0.2**
WUAZ Wupatki 32.92 114 P **P** **06 29 30.7 +0.1**
baz=322
IKP In-Ko-Pah, Jac 32.92 123 P **P** **06 29 30.6 0.0**
baz=326
MVCO Mesa Verde 33.11 108 P **P** **06 29 31.5 -0.8**
baz=319
SUSD Miller 33.29 90 P **P** **06 29 33.4 -0.2**
SUSD Miller 33.29 90 P **P** **06 29 33.3 -0.3**
baz=309
S22A 4UR Ranch, Cre 33.59 106 P **P** **06 29 37.2 +0.6**
baz=318
OGNE Ogallala 33.90 97 P **P** **06 29 38.7 -0.4**
baz=314
W18A Petrified Fore 34.07 112 P **P** **06 29 41.3 +0.6**
baz=321
SDCO Great Sand Dun 34.30 105 P **P** **06 29 42.7 0.0**
baz=318
KSCO Kaye Shedlock' 34.94 100 P **P** **06 29 48.0 0.0**
KSCO Kaye Shedlock' 34.94 100 P **P** **06 29 48.6 +0.6**
baz=316
214A Organ Pipe Nat 35.06 119 P **P** **06 29 48.3 -0.8**
baz=325
EYMN Ely 35.25 79 P **P** **06 29 50.8 +0.2**
baz=306
TUC Tucson 35.77 116 P **P** **06 29 56.4 +1.1**
baz=324
ANMO Albuquerque 35.90 109 P **P** **06 29 57.0 +0.6**
baz=320
L34A Svendsen Farm, 36.33 91 P **P** **06 29 58.9 -1.0**
121A Cookes Peak, D 37.10 113 P **P** **06 30 06.7 0.0**
baz=323
N35A Tabor 37.49 92 P **P** **06 30 09.8 +0.1**
FRB Frobisher Bay 38.10 45 LR LR 06 46 13.3
comp=Z,96nm,18.0s,baz=282,slow=37
AMTX Amarillo 38.48 104 P **P** **06 30 18.9 +0.6**
baz=319
MSTX Muleshoe 38.59 106 P **P** **06 30 19.4 +0.1**
baz=320
MNTX Cornudas Mount 39.00 111 P **P** **06 30 22.6 +0.1**
baz=323
P38A Dawn 39.51 91 P **P** **06 30 26.2 -0.5**
WMOK Wichita Mounta 40.16 101 P **P** **06 30 31.5 -0.7**
WMOK IAmb IAmb 06 30 33.2
comp=Z,5.3nm,0.9s
TUL3 Leonard 40.92 97 P **P** **06 30 37.6 -0.9**
baz=318
R40A Maddies Statio 41.15 92 IAmb IAmb 06 30 39.4
comp=Z,4.3nm,0.6s
HDIL Hopedale 41.21 87 P **P** **06 30 39.5 -1.3**
baz=314
ABTX Abilene, Hawle 41.30 104 P **P** **06 30 40.8 -0.8**
baz=320
TX31 Lajitas Ar. Si 41.77 111 P **P** **06 30 44.3 -1.3**
TXAR Lajitas Array 41.77 111 P **P** **06 30 45.3 -0.3**
TXAR Lajitas Array 41.77 111 P **P** **06 30 45.4 -0.2**
comp=Z,1.7nm,0.8s,baz=323,slow=6.7,SNR=12
comp=Z,1.7nm,0.8s
CCM Cathedral Cave 41.88 91 P **P** **06 30 44.9 -1.3**
baz=316
SUMG Summit 42.63 25 *i* P P 06 31 01.0 +8.5
LPIG La Paz 42.85 123 LR LR 06 46 36.6
comp=Z,54nm,19.3s,baz=24,slow=33
JCT Junction City 42.88 106 P **P** **06 30 54.1 -0.5**
JCT Junction City 42.88 106 P **P** **06 30 54.0 -0.5**
baz=322,SNR=6.1
WHTX Lake Whitney, 42.97 103 P **P** **06 30 54.1 -1.1**
baz=321
DRIO Del Rio 43.29 108 P **P** **06 30 56.1 -1.7**
DRIO IAmb IAmb 06 30 58.0
comp=Z,6.4nm,0.8s
435B Jarrell 43.83 104 P **P** **06 31 01.9 -0.3**
435B Jarrell 43.83 104 P **P** **06 31 02.8 +0.6**
baz=321
SADO Sadowa 43.90 75 LR LR 06 47 50.4
comp=Z,56nm,20.1s,baz=322,slow=34
ACSO Alum Creek Sta 44.91 82 P **P** **06 31 10.2 -0.5**
baz=314
WVT Waverly 45.16 90 P **P** **06 31 12.4 -0.3**
baz=317
ERPA Erie 45.24 78 P **P** **06 31 13.2 -0.1**
baz=313
M53A WI Miller and 45.33 79 P **P** **06 31 13.8 -0.2**
baz=314
OXF Oxford 45.47 93 P **P** **06 31 14.8 -0.4**
baz=318
P52A Corning 45.79 82 P **P** **06 31 17.5 -0.2**
baz=315
SSFO Shawnee State 45.87 84 P **P** **06 31 17.9 -0.5**
LONY Lake Ozonia 46.42 72 P **P** **06 31 21.8 -0.8**
baz=313
X48A Hartselle 46.82 91 P **P** **06 31 24.1 -1.8**
MCWV Mont Chateau 47.03 80 P **P** **06 31 27.3 -0.1**
baz=315
BINY Binghamton 47.33 75 P **P** **06 31 29.7 -0.1**
baz=314
SSPA Standing Stone 47.40 78 P **P** **06 31 29.6 -0.7**
baz=315
TKL Tuckaleechee C 47.74 87 LR LR 06 51 38.9
comp=Z,97nm,18.3s,baz=328,slow=36
PKME Peaks-Kenny Pk 48.72 68 P **P** **06 31 40.3 -0.1**
baz=314
H11N2 WAKE ISLAND Hy 49.18 240 T T 07 24 38.5
baz=31,slow=76,SNR=22
H11N3 WAKE ISLAND Hy 49.18 240 T T 07 24 38.2
baz=31,slow=76,SNR=27
H11N1 WAKE ISLAND Hy 49.20 240 T T 07 24 38.1
baz=31,slow=76,SNR=19
BRAL Brewton 49.29 94 P **P** **06 31 44.6 -0.4**
baz=320
KMSC Kings Mountain 49.47 86 P **P** **06 31 46.4 +0.1**
baz=318
MDJ Mudanjiang 50.07 293 P P 06 31 48.8 -2.0
MDJ pmax pmax
comp=Z,14nm,2.4s
MDJ pmax pmax
comp=Z,380nm,5.5s
H11S1 WAKE ISLAND Hy 50.32 239 T T 07 26 03.9
baz=30,slow=76,SNR=9.3
H11S2 WAKE ISLAND Hy 50.34 239 T T 07 26 05.4
baz=30,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 50.34 239 T T 07 26 03.1
baz=30,slow=76,SNR=9.9
CNNC Cliffs of the 51.30 83 P **P** **06 31 59.4 -0.7**
baz=318
ARCES ARCESS Array B 54.13 2 P **P** **06 32 22.4 +1.8**
comp=Z,2.4nm,0.9s,baz=19,slow=7.7,SNR=4.3
comp=Z,2.4nm,0.9s
SONM Songino Array 58.58 310 P **P** **06 32 53.3 +0.4**
comp=Z,0.4nm,0.6s,baz=46,slow=6.8,SNR=2.0
comp=Z,0.4nm,0.6s
ZALV Zalesovo Beam 61.41 327 P **P** **06 33 12.6 +0.6**
comp=Z,0.4nm,0.4s,baz=28,slow=6.5,SNR=1.8
comp=Z,0.4nm,0.4s
HHC Hu-ho-hao-te 61.73 302 *e*P **P** **06 33 14.5 0.0**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,230nm,4.9s
FINES FINESS Array B 62.26 3 P **P** **06 33 17.5 -0.1**
comp=Z,1.6nm,0.8s,baz=16,slow=9.9,SNR=4.1
comp=Z,1.6nm,0.8s
NJ2 Nanjing 65.04 291 *e*P **P** **06 33 35.8 -0.5**
NJ2 pP **sP** **06 33 41.8 +3.0**
NJ2 sP **pwP** **06 33 45.5 +1.6**
NJ2 pmax pmax
comp=Z,16nm,0.7s
NJ2 pmax pmax
comp=Z,520nm,5.0s
BVAR Borovoye Array 66.09 335 P **P** **06 33 42.9 +0.1**
comp=Z,0.6nm,0.6s,baz=59,slow=5.6,SNR=2.1
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 66.18 329 P **P** **06 33 43.5 +0.1**
comp=Z,0.1nm,0.3s,baz=28,slow=5.9,SNR=2.5
comp=Z,0.1nm,0.3s
MKAR Makanchi Array 68.45 325 P **P** **06 33 57.5 -0.5**
comp=Z,0.3nm,0.7s,baz=34,slow=4.8,SNR=2.8
comp=Z,0.3nm,0.7s
LZH Lanzhou 69.14 304 *e*P **P** **06 34 01.5 -1.1**
LZH pP sP 06 34 09.3 +4.2
LZH pmax pmax
comp=Z,17nm,1.1s
AKASG Malin Array Be 73.08 1 P **P** **06 34 25.1 -0.9**
comp=Z,1.6nm,0.6s,baz=0.9,slow=5.9,SNR=7.7
comp=Z,1.6nm,0.6s
PPT2 Papeete2 73.88 181 *e*LR LR 06 57 04.3
comp=Z,39nm,24.2s
GERES GERESS Array B 73.96 12 P **P** **06 34 30.7 -0.7**
comp=Z,0.5nm,0.6s,baz=20,slow=3.1,SNR=2.2
comp=Z,0.5nm,0.6s
PZH PanZhiHua 78.12 300 P **P** **06 34 56.3 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.5s
ESDC Sonseca Array 79.65 27 P **P** **06 35 03.3 -0.2**
comp=Z,2.2nm,0.8s,baz=334,slow=5.7,SNR=11
comp=Z,2.2nm,0.8s
DAV Davao City (W) 81.64 270 LR LR 07 06 12.2
comp=Z,50nm,20.6s,baz=337,slow=32
BRTR Keskin Array B 84.04 358 P **P** **06 35 26.1 -0.6**
comp=Z,0.9nm,0.7s,baz=12,slow=6.3,SNR=4.3
comp=Z,0.9nm,0.7s
CMAR Chiang Mai Arr 86.30 298 P **P** **06 35 38.4 +0.2**
comp=Z,1.0nm,0.3s,baz=18,slow=5.1,SNR=1.3
comp=Z,1.0nm,0.3s
QSPA South Pole Qui 146.37 180 PKPbc **PKPdf** **06 42 34.0 -0.4**
comp=Z,2.3nm,0.2s,baz=58,slow=2.9,SNR=7.9
BOSA Boshof 151.75 11 PKPbc **PKPdf** **06 42 48.9 +4.5**
comp=Z,6.0nm,1.1s,baz=42,slow=1.1,SNR=6.4

*JMA **29** 06:25:32.4±0.1,37°.1N±0°.4×141°.5E±0°.9,h54km±1km, MV3.5/40,E OFF FUKUSHIMA PREF*
*IDC **29** 06:25:33.9±2.4,37°.95N×140°.72E,h0km,mb3.5/4, mbtmp3.4/5,ML2.0/1,Error ellipse: s-maj=46.2km s-min=29.2km az=89.0*
ISC 29 06:25:27.7±2.1,37°.08N±0°.05×141°.77E±0°.08,h20km±9km, n22,σ0s72/26,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.77**	**292**	*i* P	**Pn**	**06 25 44.6**	**+1.1**
JFK				S	**Sg**	**06 25 53.2**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.78**	**272**	*i* P	**Pn**	**06 25 44.7**	**+1.1**
ONAJ				S	**Sg**	**06 25 53.5**	**+0.2**
JMST	**Minamisoumatoc**	**0.95**	**313**	*i* P	**Pn**	**06 25 47.3**	**+1.3**
JMST				S	**Sg**	**06 25 58.2**	**-0.8**
JFFD	**Fukushimafurud**	**0.96**	**271**	*i* P	**Pg**	**06 25 47.1**	**+0.5**
JFFD				S	**Sb**	**06 25 57.5**	**-0.6**
JHO	**Hitachi**	**1.07**	**245**	*i* P	**Pg**	**06 25 48.6**	**+0.1**
JHO				S	**Sb**	**06 26 00.3**	**-0.8**
JMM	**Marumori**	**1.11**	**316**	*i* P	**Pg**	**06 25 49.5**	**+0.3**
JMM				S	**Sb**	**06 26 02.2**	**0.0**
JOTO	**OTAMA OYAMA**	**1.24**	**293**	*i* P	**Pg**	**06 25 51.7**	**0.0**
JOTO				*e*S	**Sb**	**06 26 05.7**	**-0.4**
JIO	**Ouri**	**1.42**	**347**	*i* P	**Pg**	**06 25 54.9**	**-0.2**
JIO				*e*S	**Sb**	**06 26 11.2**	**+0.2**
JOU	**Okura**	**1.56**	**326**	P	**Pg**	**06 25 57.3**	**-0.5**
JOU				S	**Sb**	**06 26 15.7**	**+0.5**
JFY	**Yanaizu**	**1.68**	**282**	P	**Pb**	**06 25 57.4**	**-0.6**
JFY				S	**Sn**	**06 26 16.5**	**-0.5**
JYS	**Shirataka**	**1.77**	**311**	*e*S	**Sn**	**06 26 19.9**	**+0.7**
MJAR	**Matsushiro Arr**	**2.91**	**260**	Pn	**Pn**	**06 26 14.4**	**+1.6**
	0.4nm,0.3s,baz=81,slow=15,SNR=7.9						
MJAR				Sn	**Sn**	**06 26 47.2**	**0.0**
	0.5nm,0.3s,baz=89,slow=28,SNR=8.0						
	1.9nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.93**	**121**	T	T	07 00 56.4	
	baz=314,slow=75,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**27.93**	**121**	T	T	07 00 57.6	
	baz=314,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.95**	**121**	T	T	07 00 59.5	
	baz=314,slow=75,SNR=10						
SONM	**Songino Array**	**28.00**	**304**	P	**P**	**06 31 17.2**	**-0.1**
	0.4nm,0.5s,baz=119,slow=7.6,SNR=2.5						
	0.4nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**28.64**	**123**	T	T	07 02 23.0	
	baz=311,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.65**	**123**	T	T	07 02 24.9	
	baz=311,slow=74,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**28.66**	**123**	T	T	07 02 21.7	
	baz=311,SNR=7.0						
MKAR	**Makanchi Array**	**44.34**	**302**	P	**P**	**06 33 35.7**	**-0.7**
	0.3nm,0.6s,baz=79,slow=9.5,SNR=5.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.20**	**308**	P	**P**	**06 33 50.3**	**-0.8**
	0.5nm,0.5s,baz=80,slow=7.7,SNR=5.8						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**57.14**	**188**	P	P	06 35 27.8	+15
	0.4nm,0.7s,baz=3.4,slow=7.2,SNR=1.7						
	0.4nm,0.7s						

*NNC **29** 06:34:19.6±2.3,41°.52N×74°.33E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=22.1km s-min=8.1km az=161.0*
*SOME **29** 06:34:20.0,41°.60N×74°.27E,h10km*
ISC 29 06:34:20.4±3.1,41°.6N±0°.2×74°.33E±0°.07,h6km±19km,n12, σ1s06/18,1C-1D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**1.42**	**325**	*e*P	**Pn**	**06 34 45.8**	**-1.0**
	2.0nm,0.2s						
MRKS				*e*S	**Sb**	**06 35 04.6**	**-1.0**
	4.8nm,0.4s						
KST	**Kastek**	**1.89**	**39**	Pg	**Pb**	**06 34 55.7**	**+0.3**
	3.9nm,0.4s						
KST				Lg	Lg	06 35 22.5	
	7.5nm,0.6s						
KST	**Kastek**	**1.89**	**39**	*e*P	**Pb**	**06 34 55.7**	**+0.3**
	1.5nm,0.2s						
KST				*e*S	**Sg**	**06 35 21.4**	**+0.3**
	7.4nm,0.4s						
DGS	**Degeres**	**1.96**	**32**	Pg	**Pg**	**06 34 57.6**	**-0.4**
	2.2nm,0.2s						
DGS				Lg	Lg	06 35 26.5	
	5.5nm,0.6s						
DGS	**Degeres**	**1.96**	**32**	*e*P	**Pg**	**06 34 57.9**	**-0.2**
	2.2nm,0.1s						
DGS				*e*S	**Sg**	**06 35 25.2**	**+1.7**
	5.5nm,0.5s						
MTBS	**Maitube**	**2.19**	**45**	Pg	**Pb**	**06 35 00.3**	**0.0**
	4.1nm,0.2s						
MTBS				Lg	Lg	06 35 30.7	
	3.3nm,0.4s						
MTBS	**Maitube**	**2.19**	**45**	*e*P	**Pb**	**06 35 01.0**	**+0.6**
	4.1nm,0.2s						
MTBS				*e*S	**Sg**	**06 35 30.7**	**0.0**
	3.3nm,0.4s						
KRBS	**Karabastau**	**2.33**	**25**	Pg	**Pb**	**06 35 02.2**	**-0.5**
	2.9nm,0.2s						
KRBS				Lg	Lg	06 35 34.0	
	2.4nm,0.4s						
KRBS	**Karabastau**	**2.33**	**25**	*e*P	**Pb**	**06 35 02.9**	**+0.2**
	2.9nm,0.2s						
KRBS				*e*S	**Sb**	**06 35 34.0**	**+2.2**
	2.6nm,0.2s						
KTBS	**Karatobe**	**2.74**	**38**	Pg	**Pb**	**06 35 09.8**	**0.0**
	1.2nm,0.2s						
KTBS				Lg	Lg	06 35 46.8	
	6.1nm,0.4s						
KTBS	**Karatobe**	**2.74**	**38**	*e*P	**Pb**	**06 35 10.5**	**+0.7**
	1.0nm,0.1s						
KTBS				*e*S	**Sg**	**06 35 46.8**	**-1.6**
	6.1nm,0.4s						
KK31	**Karatay Array**	**3.21**	**299**	⇑Pg	**Pb**	**06 35 19.1**	**+1.4**
	0.6nm,0.5s,baz=123,slow=16,SNR=10						
KK31				⇓Lg	Lg	06 36 02.2	
	0.6nm,0.4s,baz=121,slow=27,SNR=3.2						

*NEIC **29** 06:35:38.8±1.4,6°.58S±0°.08×105°.24E±0°.09,h98km±9km, mb4.4/25,Error ellipse: s-maj=14.1km s-min=10.2km az=63.0*
*DJA **29** 06:35:39.0±0.2,7°.3S±3°×10°.5E±°,h120km±3km,M4.8/18, mB5.5/7,mb4.7/18,MLv4.7/18,Mw(mB)5.0/7*
*IDC **29** 06:35:41.0±2.4,6°.45S×105°.40E,h121km±18km,mb4.0/16, mbtmp4.3/16,MS2.5/1,Error ellipse: s-maj=31.9km s-min=13.1km az=54.0*
ISC 29 06:35:38.1±0.5,6°.66S±0°.06×105°.30E±0°.05,h100km,n102,

σ1§65/103, **mb4.4**/28, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.98**	**57**	P	**Pn**	**06 36 00.4**	**+2.1**
SKJI	**Sukabumi**	**1.30**	**106**	P	**Pn**	**06 36 04.6**	**+2.7**
SKJI				S	**Sn**	**06 36 21.7**	**+1.8**
KASI	**Kota Agung**	**1.38**	**325**	P	**Pn**	**06 36 06.5**	**+3.6**
KASI				S	**Sn**	**06 36 25.5**	**+3.9**
TNG	**Tangerang**	**1.42**	**70**	P	**Pn**	**06 36 05.1**	**+1.7**
DBJI	**Dramaga**	**1.45**	**86**	P	**Pn**	**06 36 05.8**	**+2.1**
CBJI	**Citeko**	**1.56**	**81**	P	**Pn**	**06 36 08.3**	**+3.2**
CNJI	**Cibinong**	**1.93**	**110**	P	**Pn**	**06 36 11.6**	**+1.8**
CNJI				S	**Sn**	**06 36 35.9**	**+1.9**
LWLI	**Liwa**	**2.04**	**323**	P	**Pn**	**06 36 13.5**	**+2.2**
LEM	**Lembang**	**2.31**	**94**	P	**Pn**	**06 36 17.9**	**+3.0**
	2µm,0.4s,baz=319,slow=3.0,SNR=103						
LEM				S	**Sn**	**06 36 46.6**	**+3.5**
	447nm,0.6s,baz=1.4,slow=21,SNR=3.7						
LEM				LR	LR	06 37 07.0	
	comp=Z,105nm,18.1s,baz=60,slow=38						
LEM	**Lembang**	**2.31**	**94**	P	**Pn**	**06 36 16.6**	**+1.7**
BBJI	**Bungbulang**	**2.47**	**109**	P	**Pn**	**06 36 18.6**	**+1.8**
JCJI	**Jatiwangi**	**2.96**	**87**	P	**Pn**	**06 36 24.3**	**+1.0**
EGSI	**Enggano, Bengk**	**3.27**	**293**	P	Pn	06 36 33.8	+6.3
LHSI	**Lahat**	**3.32**	**328**	P	**Pn**	**06 36 29.8**	**+1.7**
CMJI	**Cimerak**	**3.32**	**110**	P	**Pn**	**06 36 29.4**	**+1.3**
KPJI	**Karang Pucung**	**3.67**	**101**	P	**Pn**	**06 36 35.1**	**+2.3**
XMIS	**Christmas Isla**	**3.82**	**175**	Pn	**Pn**	**06 36 37.0**	**+2.1**
XMIS				Sn	**Sn**	**06 37 20.1**	**+1.4**
PPBI	**Pangkal Pinang**	**4.54**	**11**	P	**Pn**	**06 36 46.4**	**+1.8**
UGM	**Wanagama**	**5.33**	**104**	Pn	**Pn**	**06 36 56.6**	**+1.3**
UGM	**Wanagama**	**5.33**	**104**	P	**Pn**	**06 36 56.5**	**+1.1**
	282nm,2.0s,1.3nm						
KRJI	**Kerinci**	**5.93**	**320**	P	**Pn**	**06 37 04.5**	**+0.9**
	264nm,0.8s,19µm2.3nm						
PPSI	**Pulau Pagai**	**6.54**	**306**	P	**Pn**	**06 37 13.4**	**+1.7**
	389nm,0.6s,5µm1.5nm						
PDSI	**Padang**	**7.47**	**320**	P	**Pn**	**06 37 25.8**	**+1.3**
	39nm,0.5s,4µm0.4nm						
BKNI	**Bangkinang**	**8.13**	**328**	Pn	**Pn**	**06 37 32.8**	**-0.7**
SISI	**Saibi**	**8.15**	**310**	P	**Pn**	**06 37 35.1**	**+1.5**
	149nm,0.8s,2µm						
GMJI	**Gumukmas**	**8.24**	**102**	P	**Pn**	**06 37 36.7**	**+1.9**
	93nm,1.5s						
BLJI	**Banyuglugur**	**8.30**	**98**	P	**Pn**	**06 37 36.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**8.96**	**102**	Pn	**Pn**	**06 37 45.6**	**+0.9**
JAGI	**Jajag, Banyuwa**	**8.96**	**102**	P	**Pn**	**06 37 45.3**	**+0.6**
	273nm,0.8s,3µm						
KSM	**Kuching**	**9.50**	**32**	Pn	**Pn**	**06 37 51.9**	**-0.1**
PBSI	**Pulau Batu**	**9.59**	**313**	P	**Pn**	**06 37 53.5**	**+0.2**
	103nm,0.7s						
SRBI	**Singaraja**	**9.94**	**99**	P	**Pn**	**06 37 58.8**	**+0.8**
	120nm,0.6s						
GSI	**Gunungsitoli**	**11.04**	**315**	Pn	**Pn**	**06 38 12.0**	**-1.1**
GSI	**Gunungsitoli**	**11.04**	**315**	P	**Pn**	**06 38 11.9**	**-1.1**
	159nm,0.6s						
MTKI	**Muara Teweh, K**	**11.13**	**60**	P	Pn	06 38 09.9	-4.3
RPSI	**Rantau Prapat**	**11.26**	**325**	Pn	**Pn**	**06 38 15.0**	**-0.9**
SBUM	**Sibu**	**11.38**	**38**	Pn	**Pn**	**06 38 19.6**	**+2.0**
SBUM	**Sibu**	**11.38**	**38**	P	**Pn**	**06 38 17.7**	**+0.1**
	11nm,1.1s						
TWSI	**Taliwang, Sumb**	**11.67**	**101**	P	**Pn**	**06 38 19.4**	**-2.0**
	49nm,0.9s						
PLAI	**Plampang**	**12.55**	**101**	P	**Pn**	**06 38 30.9**	**-2.3**
	38nm,1.0s						
KCSI	**Kotacane, Aceh**	**12.60**	**323**	P	**Pn**	**06 38 34.2**	**+0.4**
	30nm,1.0s,4µm						
SNSI	**Sinabang, Aceh**	**12.70**	**315**	P	**Pn**	**06 38 34.7**	**-0.4**
	53nm,0.9s						
MPSI	**Mapaga**	**16.14**	**65**	P	**Pn**	**06 39 19.6**	**+0.4**
	21nm,1.0s						
EDFI	**Ende, Flores**	**16.38**	**98**	P	**Pn**	**06 39 19.9**	**-2.4**
	25nm,1.3s						
TOLI2	**Tolitoli**	**17.27**	**64**		**P**	**06 39 33.8**	**+0.7**
TOLI2				IAmb	IAmb	06 39 39.3	
	comp=Z,9.6nm,0.9s						
SOEI	**Soe**	**19.02**	**101**	P	**P**	**06 39 53.4**	**+0.9**
SOEI	**Soe**	**19.02**	**101**	P	**P**	**06 39 51.2**	**-1.3**
PSA00	**Pilbara Seismi**	**20.44**	**138**	P	**P**	**06 40 08.6**	**+1.0**
PSA00				IAmb	IAmb	06 40 32.2	
	comp=Z,30nm,1.4s						
FITZ	**Fitzroy Crossi**	**22.86**	**122**	P	**P**	**06 40 32.7**	**-0.5**
H01W3	**Cape Leeuwin H**	**29.25**	**165**	T	T	07 12 12.5	
	baz=344,slow=76,SNR=18						
H01W1	**Cape Leeuwin H**	**29.26**	**165**	T	T	07 12 13.5	
	baz=344,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**29.26**	**165**	T	T	07 12 13.5	
	baz=344,slow=76,SNR=29						
WB0	**Warramunga Arr**	**31.11**	**118**	P	**P**	**06 41 48.9**	**+1.6**
WB0				IAmb	IAmb	06 42 07.7	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**31.12**	**118**	P	**P**	**06 41 48.5**	**+1.0**
WRA	**Warramunga Arr**	**31.12**	**118**	P	**P**	**06 41 47.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=299,slow=11,SNR=12						
WRA				PP	PnPn	06 42 41.3	-12
	comp=Z,1.1nm,0.7s,baz=288,slow=13,SNR=5.2						
WRA				PcP	**PcP**	**06 44 41.2**	**+0.5**
	comp=Z,1.2nm,1.1s,baz=311,slow=1.8,SNR=2.1						
WRA				S	**S**	**06 46 42.4**	**-3.7**
	comp=Z,0.8nm,1.0s,baz=293,slow=17,SNR=1.5						
	comp=Z,0.7nm,0.8s						
WB2	**Warramunga Arr**	**31.14**	**118**	P	**P**	**06 41 48.7**	**+1.2**
WB2				IAmb	IAmb	06 42 16.1	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**31.31**	**118**	P	**P**	**06 41 50.1**	**+1.0**
AS31	**Alice Springs**	**32.27**	**125**	P	**P**	**06 41 58.1**	**+0.6**
ASAR	**Alice Springs**	**32.27**	**125**	P	**P**	**06 41 57.7**	**+0.2**
ASAR	**Alice Springs**	**32.27**	**125**	P	**P**	**06 41 58.2**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=312,slow=8.0,SNR=8.3						
ASAR				PP	**PnPn**	**06 43 01.9**	**-5.8**
	comp=Z,1.3nm,0.6s,baz=295,slow=12,SNR=11						
ASAR				PcP	**PcP**	**06 44 43.7**	**0.0**
	comp=Z,0.8nm,1.0s,baz=320,slow=3.6,SNR=2.6						
ASAR				S	**S**	**06 47 01.8**	**-2.1**
	comp=Z,2.4nm,0.9s,baz=293,slow=16,SNR=6.2						
	comp=Z,0.6nm,0.8s						
H08S2	**Diego Garcia H**	**32.56**	**266**	T	T	07 16 04.9	
	baz=88,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**32.57**	**266**	T	T	07 16 04.9	
	baz=88,slow=76,SNR=16						
H08S1	**Diego Garcia H**	**32.58**	**266**	T	T	07 16 05.5	
	baz=88,slow=76,SNR=15						
COEN	**Coen**	**37.92**	**104**	P	**P**	**06 42 46.6**	**+0.5**
COEN				IAmb	IAmb	06 43 15.5	
	comp=Z,9.9nm,1.1s						
JOW	**Kunigami**	**40.05**	**33**	P	**P**	**06 43 03.3**	**-0.3**
PMG	**Port Moresby**	**41.52**	**97**	P	**P**	**06 43 16.9**	**+0.9**
STKA	**Stephens Creek**	**42.13**	**131**	P	**P**	**06 43 23.3**	**+2.6**
STKA	**Stephens Creek**	**42.13**	**131**	P	**P**	**06 43 22.3**	**+1.6**
	comp=Z,2.5nm,0.4s,baz=310,slow=7.4,SNR=8.9						
	comp=Z,2.5nm,0.4s						
LZH	**Lanzhou**	**42.54**	**358**	*e*P	**P**	**06 43 24.5**	**+0.4**
LZH				sP	sP	06 44 00.0	+1.3
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC	**Hu-ho-hao-te**	**47.62**	**6**	*e*P	**P**	**06 44 07.3**	**+3.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,7.6s						
KSRS	**Korea Array**	**48.70**	**24**	P	**P**	**06 44 11.4**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=218,slow=7.9,SNR=6.1						
	comp=Z,1.8nm,0.6s						
JSD	**Sado**	**54.02**	**32**	P	**P**	**06 44 53.2**	**+1.1**
SONM	**Songino Array**	**54.26**	**1**	P	**P**	**06 44 54.0**	**+0.2**
SONM				IAmb	IAmb	06 44 54.2	
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**54.26**	**1**	P	**P**	**06 44 53.7**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=180,slow=9.8,SNR=22						
SONM				PcP	**PcP**	**06 45 57.2**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=186,slow=3.9,SNR=9.0						
SONM				ScP	**ScP**	**06 49 44.3**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=182,slow=2.8,SNR=3.6						
	comp=Z,2.9nm,0.5s						
USRK	**Ussuriysk Ar.**	**56.06**	**23**	P	**P**	**06 45 05.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**56.06**	**23**	P	**P**	**06 45 05.5**	**-1.2**
	comp=Z,12nm,0.6s,baz=205,slow=6.7,SNR=14						
	comp=Z,12nm,0.6s						
MK31	**Makanchi Array**	**57.01**	**341**	P	**P**	**06 45 12.8**	**-0.5**
MK31				IAmb	IAmb	06 45 13.3	
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**57.01**	**341**	P	**P**	**06 45 13.0**	**-0.4**
MKAR	**Makanchi Array**	**57.01**	**341**	P	**P**	**06 45 12.8**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=149,slow=8.2,SNR=14						
	comp=Z,2.3nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEH	**HeiHe**	**59.84**	**16**	*e*P	**P**	**06 45 32.0**	**-0.9**
HEH				pmax	pmax		
	comp=Z,23nm,0.7s						
HEH				pmax	pmax		
	comp=Z,120nm,6.9s						
H04N2	**CROZET ISLANDS**	**60.43**	**220**	T	T	07 51 23.4	
	baz=68,slow=75,SNR=4.1						
H04N1	**CROZET ISLANDS**	**60.44**	**220**	T	T	07 51 21.7	
	baz=68,slow=75,SNR=4.0						
H04N3	**CROZET ISLANDS**	**60.45**	**220**	T	T	07 51 21.7	
	baz=68,slow=75,SNR=4.1						
KURBB	**Kurchatov Arra**	**61.56**	**341**	P	**P**	**06 45 44.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=153,slow=6.3,SNR=6.5						
KURBB				PcP	**PcP**	**06 46 26.1**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=160,slow=4.2,SNR=4.5						
	comp=Z,1.3nm,0.6s						
GEYT	**Alibeck**	**62.39**	**319**	P	**P**	**06 45 50.7**	**+0.1**
GEYT				IAmb	IAmb	06 46 04.7	
	comp=Z,3.4nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**62.39**	**319**	P	**P**	**06 45 50.1**	**-0.4**
ZAA0	**Zalesovo Array**	**62.79**	**347**	P	**P**	**06 45 52.0**	**-0.8**
ZAA0				IAmb	IAmb	06 45 52.5	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**62.79**	**347**	P	**P**	**06 45 51.6**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=150,slow=5.1,SNR=11						
	comp=Z,1.9nm,0.3s						
BVAR	**Borovoye Array**	**66.40**	**338**	P	**P**	**06 46 16.1**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=146,slow=8.9,SNR=10.0						
	comp=Z,1.6nm,0.5s						
BRVK	**Borovoye**	**66.47**	**338**	P	**P**	**06 46 16.6**	**-0.1**
ABKAR	**Akbulak array**	**68.26**	**330**	P	**P**	**06 46 28.8**	**+0.7**
PETK	**Petropavlovsk-**	**74.13**	**30**	P	**P**	**06 47 01.8**	**-1.6**
	comp=Z,2.4nm,0.6s,baz=149,slow=2.1,SNR=6.0						
	comp=Z,2.4nm,0.6s						
NRIK	**Noril'sk**	**76.81**	**354**	P	**P**	**06 47 16.4**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=169,slow=8.9,SNR=3.8						
	comp=Z,1.5nm,0.3s						
TIXI	**Tiksi**	**79.68**	**7**	P	**P**	**06 47 32.2**	**-2.0**
TIXI				IAmb	IAmb	06 47 33.3	
	comp=Z,5.4nm,0.6s						
BRTR	**Keskin Array B**	**80.34**	**312**	P	**P**	**06 47 38.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=130,slow=7.7,SNR=5.2						
	comp=Z,0.7nm,0.6s						
BURAR	**Bucovina Array**	**88.22**	**318**	P	**P**	**06 48 19.6**	**+1.3**
BURAR				IAmb	IAmb	06 48 23.6	
	comp=Z,1.8nm,0.8s						
BUR08	**Bucovina Ar. S**	**88.24**	**318**	P	**P**	**06 48 18.9**	**+0.6**
BUR08				IAmb	IAmb	06 48 24.3	
	comp=Z,5.5nm,1.2s						
FINES	**FINESS Array B**	**90.67**	**332**	P	**P**	**06 48 30.6**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=61,slow=4.0,SNR=4.2						
	comp=Z,1.5nm,0.8s						
ARCES	**ARCESS Array B**	**92.63**	**340**	P	**P**	**06 48 38.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=85,slow=5.1,SNR=9.4						
	comp=Z,0.6nm,0.4s						
SPITS	**Spitsbergen Ar**	**96.25**	**348**	P	**P**	**06 48 54.1**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=156,slow=7.3,SNR=5.3						
	comp=Z,4.1nm,0.8s						
PDAR	**Pinedale Array**	**132.70**	**35**	PKP	**PKPdf**	**06 54 41.7**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=327,slow=4.3,SNR=1.8						
TXAR	**Lajitas Array**	**144.59**	**47**	PKP	PKPbc	06 55 03.8	+1.1
	comp=Z,3.7nm,0.6s,baz=295,slow=0.9,SNR=41						

NNC 29 06:41:20.0±4.2, **49.88N**×**88.08E**, **h0**km, **mb3.5, mpv3.1, 9C-2D, Error ellipse: s-maj=29.6km s-min=18.0km az=70.0, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.94**	**234**	⇑Pn	Pn	06 42 36.2	+0.7
	0.7nm,0.4s,baz=55,slow=13,SNR=39						
MK31				⇓Sn	Sn	06 43 34.7	+1.3
	0.3nm,0.3s,baz=53,slow=16,SNR=5.8						
MK31				⇑Lg	Lg	06 43 54.1	
	1.0nm,0.4s,baz=53,slow=28,SNR=5.8						
MAKZ	**Makanchi**	**5.10**	**235**	⇑Pn	Pn	06 42 38.3	+0.7
	4.7nm,1.4s						
MAKZ				⇑Sn	Sn	06 43 39.2	+2.0
	1.0nm,0.6s						
MAKZ				⇑Lg	Lg	06 44 00.8	
	4.6nm,1.2s						
KURK	**Kurchatov**	**6.12**	**281**	⇑Sn	Sn	06 44 02.7	+0.4
	0.9nm,0.6s						
KURK				⇑Lg	Lg	06 44 32.6	
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**6.17**	**281**	⇑Pn	Pn	06 42 52.0	-0.4
	2.2nm,0.7s						
KURBB				⇑Sn	Sn	06 44 03.4	-0.2
	3.8nm,0.7s						
KURBB				⇓Lg	Lg	06 44 39.3	
	5.0nm,0.6s						

*IDC **29** 06:49:56.8±2.2, 8.30S×74.32W, h147km±24km, mb3.5/10, mbtmp4.0/13, Error ellipse: s-maj=26.3km s-min=12.3km az=58.0*

*NEIC **29** 06:50:00.5±2.9, 8.31S±0.07×74.30W±0.08, h172km±6km, mb4.3/44, Error ellipse: s-maj=11.7km s-min=9.8km az=121.0*

ISC 29 06:49:57.7±0.4, **8.33S**±0.05×**74.37W**±0.05, **h150**km, **n101**, σ1§**32**/91, **mb4.2**/27, **1C, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.75**	**70**		**Pn**	**06 50 32.6**	**+2.6**
CZSB				Sn	**Sn**	**06 50 58.6**	**+3.8**
CZSB	**Cruzeiro do Su**	**1.75**	**70**	⇑*i*P	**Pn**	**06 50 32.7**	**+2.6**
ATAH	**Atahualpa**	**4.16**	**286**	P	**Pn**	**06 51 01.2**	**+0.7**
	64nm,0.3s,baz=65,slow=4.6,SNR=385						
ATAH				S	**Sn**	**06 51 49.4**	**+0.2**
	53nm,0.3s,baz=23,slow=22,SNR=7.3						
NNA	**Nana**	**4.37**	**214**	Pn	**Pn**	**06 51 05.8**	**+2.8**
NNA	**Nana**	**4.37**	**214**	P	**Pn**	**06 51 04.2**	**+1.3**
	5.1nm,0.3s,baz=353,slow=6.4,SNR=9.2						
NNA				S	**Sn**	**06 51 52.8**	**-1.0**
	58nm,0.4s,baz=338,slow=19,SNR=7.6						
NNA	**Nana**	**4.37**	**214**	*e*P	**Pn**	**06 51 05.3**	**+2.4**
TBTG	**Tabatinga, AM**	**5.05**	**47**	Pn	**Pn**	**06 51 25.6**	**+0.4**
BOSC	**San Juan Bosco**	**6.58**	**321**	Pn	Pn	06 51 28.8	-3.6
MCRA	**Macar, Loja**	**6.80**	**305**	Pn	Pn	06 51 31.6	-3.7
MCRA	**Macar, Loja**	**6.80**	**305**	*e*P	Pn	06 51 29.8	-5.4
ARNL	**Arenillas**	**7.39**	**310**	Pn	Pn	06 51 40.5	-2.6
COHC	**Cochancay**	**7.58**	**320**		**Pn**	**06 51 45.0**	**-0.7**
COHC	**Cochancay**	**7.58**	**320**	*e*P	**Pn**	**06 51 44.1**	**-1.6**
CHSH	**Refugio Sur-Vo**	**8.13**	**326**		**Pn**	**06 51 54.0**	**+0.4**
ETMB	**Extrema**	**8.19**	**101**		**Pn**	**06 51 53.0**	**-0.8**
PIAT	**Ana Tenorio**	**8.25**	**332**	*e*P	Pn	**06 51 54.8**	**-0.1**
PTLC	**Puerto Leguiza**	**8.46**	**357**	*e*P	Pn	06 51 48.7	-8.6
SLOR	**San Lorenzo -**	**8.60**	**331**	Pn	**Pn**	**06 51 59.3**	**-0.3**
SALI	**Salinas**	**8.98**	**312**	Pn	**Pn**	**06 52 04.5**	**+0.2**
PPLP	**Puerto Lpez**	**9.28**	**316**	*e*P	Pn	06 52 06.3	-2.0
OTAV	**Otavalo**	**9.43**	**334**	Pn	**Pn**	**06 52 10.9**	**+0.3**
OTAV	**Otavalo**	**9.43**	**334**	*e*P	**Pn**	**06 52 11.0**	**+0.3**
GARC	**Garzon, Huila**	**10.51**	**354**	*e*P	Pn	06 52 18.6	-6.1
BBAC	**Balboa, Cauca**	**10.67**	**344**	*e*P	Pn	06 52 23.3	-3.7
POPC	**Popayan, Colom**	**11.04**	**348**	*e*P	Pn	06 52 29.1	-2.7
SAML	**Samuel**	**11.08**	**94**		**Pn**	**06 52 30.5**	**-1.5**
SAML	**Samuel**	**11.08**	**94**	*e*P	Pn	06 52 28.8	-3.3
PLMC	**San Jos del P**	**13.28**	**352**	*e*P	**P**	**06 53 06.0**	**+0.9**
GUY2C	**Guyana, Caldas**	**13.50**	**356**	*e*P	**P**	**06 53 10.3**	**+2.4**
CBOC	**Ciudad Bolivar**	**14.19**	**353**	*e*P	Pn	06 53 02.5	-10
MACA	**Manacapuru-AM**	**14.55**	**70**		**Pn**	**06 53 14.6**	**-2.1**
VILB	**Vilhena**	**14.66**	**109**		**Pn**	**06 53 18.9**	**+0.8**
PTBC	**PUERTO BERRIO,**	**14.77**	**360**	*e*P	**Pn**	**06 53 18.3**	**-1.2**
PB06	**IPOC Station P**	**15.02**	**163**	Pn	**Pn**	**06 53 21.9**	**-0.8**
PB06				IAmb	IAmb	06 53 24.9	
	comp=Z,10nm,0.9s						
SIV	**San Ignacio**	**15.06**	**122**	P	**Pn**	**06 53 23.6**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=295,slow=12,SNR=28						
SIV				S	**Sn**	**06 56 06.2**	**-4.3**
	comp=Z,2.2nm,0.8s,baz=279,slow=10,SNR=2.6						
DBBC	**Dabeiba**	**15.36**	**353**	*e*P	**Pn**	**06 53 27.9**	**+1.1**
PTLB	**Pontes e Lacer**	**16.50**	**117**	P	**Pn**	**06 53 40.1**	**-0.5**
GO02	**Mina Guanaco**	**17.35**	**165**	P	**P**	**06 53 52.5**	**+2.2**
GO02				IAmb	IAmb	06 54 08.1	
	comp=Z,19nm,1.4s						
BOAV	**Boa Vista**	**17.44**	**53**	P	**P**	**06 53 52.0**	**+0.9**
BOAV				IAmb	IAmb	06 54 15.2	
	comp=Z,11nm,1.4s						
BOAV	**Boa Vista**	**17.44**	**53**	*e*P	**P**	**06 53 52.6**	**+1.5**
SDV	**Santo Domingo**	**17.50**	**12**	P	**P**	**06 53 54.0**	**+2.1**
ARGC	**Ariguani, Magd**	**18.07**	**0**	*e*P	**P**	**06 53 56.9**	**-0.9**
SJCC	**San Jacinto, C**	**18.12**	**357**	*e*P	**P**	**06 53 57.4**	**-1.2**
BAUV	**El Baul**	**18.28**	**20**	P	**P**	**06 53 59.8**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**19.28**	**4**	*e*P	**P**	**06 54 08.4**	**-2.7**
AQDB	**Aquidauana**	**21.71**	**126**	P	**P**	**06 54 38.4**	**+1.2**
AQDB				IAmb	IAmb	06 54 41.3	
	comp=Z,5.0nm,0.7s						
CPUP	**Villa Florida**	**24.14**	**140**	P	**P**	**06 55 00.6**	**+0.7**
CPUP				IAmb	IAmb	06 55 02.4	
	comp=Z,9.4nm,1.4s						
CPUP	**Villa Florida**	**24.14**	**140**	P	**P**	**06 54 58.7**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=335,slow=5.9,SNR=7.3						
	comp=Z,1.9nm,0.6s						
CRIN	**San Cristobal**	**24.40**	**329**	P	**P**	**06 55 02.6**	**+0.1**
CRIN	**San Cristobal**	**24.40**	**329**	*e*P	P	06 55 13.1	+11
ITQB	**Itaqui**	**26.98**	**144**	P	**P**	**06 55 26.0**	**+0.5**
HNDO	**Hondo**	**44.63**	**328**	P	**P**	**06 57 57.1**	**+1.7**
HNDO				IAmb	IAmb	06 57 57.6	
	comp=Z,12nm,0.8s						
U54A	**Nelsons Funny**	**45.16**	**352**	P	**P**	**06 57 58.8**	**-0.7**
U54A				IAmb	IAmb	06 58 16.7	
	comp=Z,15nm,1.1s						
T59A	**Double "B" Far**	**45.16**	**356**	P	**P**	**06 57 59.2**	**-0.2**
DRIO	**Del Rio**	**45.25**	**327**	P	**P**	**06 58 00.2**	**-0.2**
DRIO				IAmb	IAmb	06 58 01.9	
	comp=Z,5.9nm,0.7s						
T57A	**Hurt**	**45.32**	**355**	P	**P**	**06 58 01.1**	**+0.4**
TZTN	**Tazewell**	**45.46**	**350**	P	**P**	**06 58 01.4**	**-0.5**
S57A	**Dark Hollow, R**	**46.05**	**355**	P	**P**	**06 58 06.8**	**+0.3**
S57A				IAmb	IAmb	06 58 09.0	
	comp=Z,10nm,1.1s						
FW13	**Cleburne**	**46.05**	**333**	P	**P**	**06 58 05.8**	**-0.8**
UALR	**University of**	**46.12**	**339**	P	**P**	**06 58 06.0**	**-1.1**
UALR				IAmb	IAmb	06 58 21.9	
	comp=Z,12nm,1.2s						
SAND	**Sanderson**	**46.48**	**326**	P	**P**	**06 58 09.1**	**-1.0**
OZNA	**Ozona**	**46.70**	**328**	P	**P**	**06 58 12.5**	**+0.8**
PLPT	**Palo Pinto**	**46.84**	**332**	P	**P**	**06 58 13.7**	**+1.0**
TXAR	**Lajitas Array**	**46.89**	**324**	P	**P**	**06 58 14.3**	**+1.0**
TXAR	**Lajitas Array**	**46.89**	**324**	P	**P**	**06 58 14.0**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=150,slow=8.6,SNR=9.9						
	comp=Z,0.5nm,0.5s						
TX31	**Lajitas Ar. Si**	**46.89**	**324**	P	**P**	**06 58 14.0**	**+0.8**
APMT	**Aspermont**	**48.12**	**331**	P	**P**	**06 58 23.6**	**+1.0**
SMWD	**Samnorwood**	**49.63**	**332**	P	**P**	**06 58 34.1**	**-0.1**
M55A	**Ridgway**	**49.72**	**356**	P	**P**	**06 58 35.1**	**+0.4**
M55A				IAmb	IAmb	06 58 52.3	
	comp=Z,14nm,1.4s						
RTBA	**Rita Blanca**	**51.90**	**331**	P	**P**	**06 58 52.0**	**+0.9**
RTBA				IAmb	IAmb	06 58 53.7	
	comp=Z,7.6nm,1.3s						
SDCO	**Great Sand Dun**	**54.28**	**330**	P	**P**	**06 59 09.7**	**+0.9**
SDCO				IAmb	IAmb	06 59 10.5	
	comp=Z,4.2nm,1.1s						
PDAR	**Pinedale Array**	**60.12**	**331**	P	P	06 59 45.6	-4.0
	comp=Z,0.1nm,0.3s,baz=137,slow=9.4,SNR=2.2						
ULM	**Lac du Bonnet**	**61.27**	**344**	P	P	06 59 54.2	-2.7
	comp=Z,1.6nm,0.6s,baz=172,slow=7.8,SNR=4.3						
	comp=Z,1.6nm,0.6s						
YHL	**Hebgen Lake**	**62.46**	**331**	P	**P**	**07 00 07.2**	**+1.8**
SCHQ	**Schefferville**	**63.24**	**5**	P	**P**	**07 00 09.0**	**-1.0**
SCHQ	**Schefferville**	**63.24**	**5**	P	**

SYI	Shuyak Island	3.52	331	Pn		Pn	07 00 43.3	+0.3
R18K	Karluk	3.56	306			Pn	07 00 43.8	+0.3
R18K						Sn	07 01 24.6	-1.0
R18K	Karluk	3.56	306	IAML			07 01 29.3	
	comp=E,389nm,0.4s							
R18K	Karluk	3.56	306	P		Pn	07 00 43.8	+0.3
	baz=124							
R18K				S		Sn	07 01 24.5	-1.0
	baz=124							
CNPM	China Poot	4.12	345			Pn	07 00 51.4	+0.2
CNPM				IAML			07 01 41.2	
	comp=N,156nm,0.4s							
MID	Middleton Isla	4.14	20	Pn		Pn	07 00 51.4	-0.1
MID				IAML			07 01 46.3	
	comp=N,268nm,1.1s							
MID				IAML			07 02 11.1	
	comp=E,215nm,1.3s							
MID	Middleton Isla	4.14	20	P		Pn	07 00 51.5	+0.1
Q23K	Middleton Isla	4.14	20	Pn		Pn	07 00 51.3	-0.1
Q23K				IAML			07 01 46.0	
	comp=E,390nm,1.1s							
Q23K				IAML			07 01 51.4	
	comp=N,237nm,1.1s							
Q23K	Middleton Isla	4.14	20	P		Pn	07 00 50.8	-0.7
	baz=203							
Q23K				S		Sn	07 01 37.0	-2.8
	baz=203							
Q19K	Cape Douglas,	4.16	326			Pn	07 00 53.2	+1.4
Q19K	Cape Douglas,	4.16	326	P		Pn	07 00 51.8	-0.1
	baz=143							
Q19K				S		Sn	07 01 39.1	-1.3
	baz=143							
KAHG	Katmai Hook Gl	4.16	317			Pn	07 00 52.8	+1.0
BRSE	Bradley Lake S	4.26	349			Pn	07 00 51.6	-1.6
BRSE	Bradley Lake S	4.26	349	P		Pn	07 00 51.6	-1.6
	baz=169							
KCE	Katmai Mt Cerb	4.26	311			Pn	07 00 54.4	+1.2
BRLK	Bradley Lake	4.30	348			Pn	07 00 52.3	-1.5
BRLK				IAML			07 01 47.6	
	comp=E,172nm,0.6s							
BRLK				IAML			07 01 47.8	
	comp=N,137nm,1.3s							
ACHA	Angle Creek He	4.30	310			Pn	07 00 54.6	+0.7
HOM	Homer	4.31	343	Pn		Pn	07 00 53.1	-0.7
HOM				IAML			07 02 03.2	
	comp=N,356nm,1.3s							
ANCK	Angle Creek	4.37	309			Pn	07 00 55.6	+0.9
KVTA	Katmai Vly 10	4.39	312			Pn	07 00 55.9	+0.9
KAHC	Katmai Hardscr	4.44	316			Pn	07 00 56.8	+0.9
KAHC	Katmai Hardscr	4.44	316	P		Pn	07 00 56.8	+0.9
	baz=133							
P23K	Montague Islan	4.52	11			Pn	07 00 55.5	-1.2
P23K	Montague Islan	4.52	11	P		Pn	07 00 55.5	-1.2
	baz=193							
SEW	Seward	4.54	358			Pn	07 00 56.8	-0.1
SEW	Seward	4.54	358	P		Pn	07 00 56.1	-0.9
	baz=178							
CNTC	Contact Creek	4.58	309			Pn	07 00 58.2	+0.6
Q17K	Contact Creek	4.58	309	P		Pn	07 00 58.2	+0.6
	baz=124							
KELA	Mount Kelaz	4.62	311			Pn	07 00 58.9	+0.7
P19K	Oil Pt	4.64	333			Pn	07 00 59.1	+0.7
P19K	Oil Pt	4.64	333	P		Pn	07 00 59.2	+0.7
	baz=151							
O20K	Slope Mountain	4.88	339			Pn	07 01 02.3	+0.5
O20K	Slope Mountain	4.88	339	P		Pn	07 01 02.3	+0.5
	baz=157							
IVE	Iliamna Volcan	4.91	336			Pn	07 01 02.5	+0.3
O22K	Cooper Landing	4.92	357			Pn	07 01 02.2	-0.1
O22K	Cooper Landing	4.92	357	P		Pn	07 01 02.7	+0.5
	baz=177							
HIN	Hinchinbrook I	5.02	15	Pn		Pn	07 01 03.1	-0.6
HIN				IAML			07 02 00.5	
	comp=N,236nm,0.4s							
KAIM	Kayak Island	5.03	28	Pn		Pn	07 01 04.2	+0.4
KAIM				IAML			07 02 01.9	
	comp=E,169nm,1.0s							
KAIM				IAML			07 02 04.0	
	comp=N,196nm,0.5s							
KAIM	Kayak Island	5.03	28	P		Pn	07 01 03.4	-0.3
	baz=212							
P18K	Big Mountain,	5.04	322	Pn		Pn	07 01 03.4	-0.6
P18K	Big Mountain,	5.04	322	P		Pn	07 01 03.6	-0.4
	baz=138							
R16K	Pilot Point	5.08	297			Pn	07 01 04.8	+0.4
R16K	Pilot Point	5.08	297	IAML			07 02 22.4	
	comp=E,103nm,1.2s							
R16K				IAML			07 02 27.0	
	comp=N,116nm,1.4s							
R16K	Pilot Point	5.08	297	P		Pn	07 01 04.8	+0.4
	baz=111							
Q16K	King Salmon	5.14	310			Pn	07 01 05.8	+0.5
Q16K	King Salmon	5.14	310	P		Pn	07 01 05.8	+0.5
	baz=125							
RSO	Redoubt South	5.26	340			Pn	07 01 07.2	+0.1
ANPB	Aniakchak Plen	5.26	287			Pn	07 01 06.8	-0.2
CHGN	Chignik	5.28	282	Pn		Pn	07 01 06.5	-0.5
CHGN				IAML			07 04 24.9	
	comp=N,112nm,0.4s							
CHGN				IAML			07 04 27.9	
	comp=E,94nm,0.6s							
EYAK	Cordova Ski Ar	5.29	18			Pn	07 01 08.3	+1.0
EYAK	Cordova Ski Ar	5.29	18	P		Pn	07 01 08.0	+0.7
EYAK	Cordova Ski Ar	5.29	18	P		Pn	07 01 07.1	-0.2
	baz=202							
RDT	Redoubt	5.30	342			Pn	07 01 06.8	-0.7
RDWB	Redoubt West	5.30	340			Pn	07 01 07.2	-0.4
RAGM	Ragged Mountai	5.37	24			Pn	07 01 08.7	+0.3
O18K	Koktuh Hills	5.38	325			Pn	07 01 09.1	+0.4
O18K	Koktuh Hills	5.38	325	P		Pn	07 01 09.0	+0.4
	baz=141							
O19K	Port Alsworth	5.39	331			Pn	07 01 08.7	0.0
GOAT	Goat Mountain	5.53	23			Pn	07 01 10.5	-0.1
RC01	Rabbit Creek A	5.53	357			Pn	07 01 11.1	+0.4
RC01	Rabbit Creek A	5.53	357	P		Pn	07 01 11.0	+0.4
	baz=177							
BERG	Berg Lake	5.62	29			Pn	07 01 12.2	+0.4
SNH	Sunshine Point	5.70	33			Pn	07 01 13.7	+0.8
KNK	Knik Glacier	5.86	3	Pn		Pn	07 01 15.8	+0.7
BMRM	Bremner River	5.90	22			Pn	07 01 16.2	+0.5
BMRM	Bremner River	5.90	22	P		Pn	07 01 16.0	+0.2
	baz=206							
P16K	Nushagak River	5.92	309			Pn	07 01 16.7	+0.7
P16K	Nushagak River	5.92	309	P		Pn	07 01 16.7	+0.7
	baz=123							
SUA	Susitna One	5.96	352	Pn		Pn	07 01 16.5	-0.1
N19K	Bonanza Creek	5.96	334	Pn		Pn	07 01 15.2	-1.4
BARK	Barkley Ridge	5.98	33			Pn	07 01 16.7	-0.1
O17K	Koliganek Bris	5.99	318			Pn	07 01 17.1	+0.1
O17K	Koliganek Bris	5.99	318	P		Pn	07 01 17.1	+0.1
	baz=132							
PMR	Palmer	6.03	360			Pn	07 01 18.6	+1.2
CNBA	Chernabura Isl	6.04	267	Pn		Pn	07 01 15.7	-2.0
STLK	Strandline Lak	6.10	348			Pn	07 01 18.7	+0.2
KLU	Klutina	6.16	14			Pn	07 01 19.6	+0.3
KLU	Klutina	6.16	14	P		Pn	07 01 19.3	0.0
	baz=198							
N18K	Kilae Creek	6.24	328	Pn		Pn	07 01 20.6	+0.2
N18K	Kilae Creek	6.24	328	P		Pn	07 01 20.4	+0.1
	baz=143							
SML	Sawmill	6.26	3			Pn	07 01 22.0	+1.3
O16K	Kokwok River B	6.28	313	Pn		Pn	07 01 21.8	+1.0
O16K	Kokwok River B	6.28	313	P		Pn	07 01 21.2	+0.3
	baz=127							
SCM	Sheep Creek Mo	6.34	8			Pn	07 01 23.3	+1.5
SCM	Sheep Creek Mo	6.34	8	P		Pn	07 01 22.1	+0.3
	baz=190							
SAMH	Samovar Hills	6.37	41			Pn	07 01 22.6	+0.4
VRDI	Verde Repeater	6.39	25			Pn	07 01 23.1	+0.4
YKU2	Yakutat	6.43	48	Pn		Pn	07 01 24.2	+1.3
YKU2	Yakutat	6.43	48	P		Pn	07 01 23.3	+0.4
KIAG	Kiagna River	6.43	31			Pn	07 01 23.5	+0.3
SDPT	Sand Point	6.46	273	Pn		Pn	07 01 21.8	-1.6
N25K	Chitina, Valde	6.49	19			Pn	07 01 24.9	+1.1
N25K	Chitina, Valde	6.49	19	P		Pn	07 01 24.4	+0.6
	baz=204							
GLB	Gilahina Butte	6.50	23			Pn	07 01 24.6	+0.7
SKT	Skwentna	6.54	350			Pn	07 01 26.3	+1.9
PCA	Pinnacle	6.54	43			Pn	07 01 25.4	+0.8
PINM	Pinnacle	6.54	43	P		Pn	07 01 25.2	+0.6
	baz=230							
N17K	Nushagak Hills	6.55	323	Pn		Pn	07 01 24.1	-0.4
PTPK	Patty Peak	6.62	29			Pn	07 01 26.1	+0.4
PNL	Peninsula	6.63	48			Pn	07 01 26.0	+0.2
PNL	Peninsula	6.63	48	P		Pn	07 01 26.0	+0.2
	baz=236							
MCARA	McCarthy VSAT	6.63	26			Pn	07 01 26.5	+0.7
MCARA	McCarthy VSAT	6.63	26	P		Pn	07 01 26.1	+0.3
	baz=212							
M20K	Styx River	6.65	343			Pn	07 01 26.1	-0.1
BCPM	Bancas Point	6.70	45	Pn		Pn	07 01 27.8	+1.1
M24K	Tolsona, Glenn	6.72	12	Pn		Pn	07 01 26.2	-0.8
BARN	Barnard Glacier	6.75	32			Pn	07 01 28.2	+0.7
CTG	Chitna Glacier	6.78	34	P		Pn	07 01 28.4	+0.5
	baz=221							
CTGM	Chitina Glacie	6.78	34			Pn	07 01 28.5	+0.6
LOGN	Logan Glacier	6.78	36			Pn	07 01 28.5	+0.6
O15K	Ungalikthiuk R	6.81	306			Pn	07 01 28.9	+0.7
O15K	Ungalikthiuk R	6.81	306	P		Pn	07 01 28.9	+0.7
	baz=118							
CUT	Chulitna	6.87	356	Pn		Pn	07 01 29.9	+1.0
M19K	Big River Lodg	6.91	339	Pn		Pn	07 01 29.5	0.0
L19K	White Mountain	7.25	338	Pn		Pn	07 01 33.7	-0.6
M17K	Holitna River	7.28	327	Pn		Pn	07 01 34.2	-0.4
M17K	Holitna River	7.28	327	P		Pn	07 01 34.9	+0.3
	baz=140							
P29M	Windy Craggy	7.33	52			Pn	07 01 35.9	+0.5
P29M	Windy Craggy	7.33	52	P		Pn	07 01 35.7	+0.3
	baz=241							
O29M	Mount Kennedy	7.33	46			Pn	07 01 36.4	+0.9
O29M	Mount Kennedy	7.33	46	P		Pn	07 01 35.5	0.0
	baz=234							
N15K	Kwethluk River	7.44	313			Pn	07 01 37.9	+1.1
N15K	Kwethluk River	7.44	313	P		Pn	07 01 37.9	+1.1
	baz=124							
O14K	Tigyukauivet M	7.52	304			Pn	07 01 38.6	+0.8
O14K	Tigyukauivet M	7.52	304	P		Pn	07 01 38.6	+0.8
	baz=115							
M16K	Timber Creek	7.52	321			Pn	07 01 38.5	+0.6
M16K	Timber Creek	7.52	321	P		Pn	07 01 38.5	+0.6
	baz=133							
M26K	Nabesna, AK	7.53	22	Pn		Pn	07 01 39.9	+1.8
YUK8	Steele Glacier	7.53	37			Pn	07 01 39.5	+1.3
YUK8	Steele Glacier	7.53	37	P		Pn	07 01 39.5	+1.3
	baz=225							
YUK2	White River	7.56	31			Pn	07 01 40.0	+1.4
DHY	Denali Highway	7.57	6			Pn	07 01 40.0	+1.3
L18K	Granite Mounta	7.72	333	Pn		Pn	07 01 39.9	-0.8
M27K	Edge Creek, AK	7.75	26			Pn	07 01 42.3	+1.1
SIT	Sitka	7.81	73	P		Pn	07 01 38.9	-3.0
RND	Reindeer	7.85	1	Pn		Pn	07 01 43.0	+0.5
MENT	Mentasta	7.88	18	Pn		Pn	07 01 43.0	+0.2
M15K	Kasigluk River	7.98	315			Pn	07 01 44.5	+0.4
M15K	Kasigluk River	7.98	315	P		Pn	07 01 44.6	+0.4
	baz=126							
N14K	Kuskokwak Cree	8.00	308			Pn	07 01 45.4	+1.0
N14K	Kuskokwak Cree	8.00	308	P		Pn	07 01 45.4	+1.0
	baz=118							
CAST	Castle Rocks	8.00	350			Pn	07 01 45.4	+0.8
CAST	Castle Rocks	8.00	350	P		Pn	07 01 45.3	+0.8
	baz=168							
L26K	Log Cabin Wild	8.02	19	Pn		Pn	07 01 44.9	0.0
KTH	Kantishna Hill	8.05	354	Pn		Pn	07 01 44.9	-0.3
HYT	Haines Junctio	8.07	45	Pn		Pn	07 01 47.0	+1.4
TTA	Tatalina	8.17	337	Pn		Pn	07 01 46.6	-0.3
TTA	Tatalina	8.17	337	P		Pn	07 01 47.3	+0.5
L16K	Owhat River	8.17	323	Pn		Pn	07 01 47.1	+0.3
K20K	Telida	8.19	344			Pn	07 01 46.3	-0.8
S32K	Killisnoo	8.26	71	Pn		Pn	07 01 46.9	-1.1
S32K	Killisnoo	8.26	71	P		Pn	07 01 46.2	-1.8
	baz=262							
BESE	Bessie Mountai	8.33	63			Pn	07 01 48.5	-0.5
L27K	Beaver Creek,	8.37	23	Pn		Pn	07 01 50.0	+0.4
SKAG	Skagway	8.37	57	Pn		Pn	07 01 50.2	+0.6
BCAR	Beaver Creek A	8.38	23	Pn		Pn	07 01 50.1	+0.3
RIDG	Independent Ri	8.46	13			Pn	07 01 52.9	+2.0
JIS	Juneau Island	8.50	65	P		Pn	07 01 50.6	-0.7
M14K	Bethel	8.53	313	Pn		Pn	07 01 52.0	+0.3
M14K	Bethel	8.53	313	P		Pn	07 01 52.0	+0.3
	baz=122							
K17K	Iditarod	8.56	330			Pn	07 01 52.1	-0.1
K17K	Iditarod	8.56	330	P		Pn	07 01 51.9	-0.3
	baz=143							
N30M	Aishikik Lake	8.61	42	Pn		Pn	07 01 54.1	+1.1
O30N	Mendenhall	8.62	48			Pn	07 01 54.0	+1.0
J18K	Innoko River	8.79	337	Pn		Pn	07 01 55.2	-0.1
J18K	Innoko River	8.79	337	P		Pn	07 01 56.3	+1.0
	baz=151							
M29M	Somme Creek	8.79	34	Pn		Pn	07 01 57.2	+1.7
SCRK	Sand Creek	8.81	15	Pn		Pn	07 01 57.1	+1.5
L15K	Ungalak Mounta	8.87	319			Pn	07 01 57.4	+0.9
L15K	Ungalak Mounta	8.87	319	P		Pn	07 01 57.4	+0.9
	baz=129							
HDA	Harding Lake	8.92	6			Pn	07 01 59.7	+2.6
M13K	Dall Lake	8.97	308			Pn	07 01 57.7	0.0
M13K	Dall Lake	8.97	308	P		Pn	07 01 58.4	+0.7
	baz=117							
J20K	Nowinta River	8.98	346	Pn		Pn	07 01 59.1	+1.2
NEA2	Nenana	9.04	0			Pn	07 01 58.7	-0.1
J19K	Poorman	9.05	341	Pn		Pn	07 01 58.4	-0.4
WHY	Whitehorse	9.08	50	Pn		Pn	07 02 00.7	+1.3
CCB	Clear Creek Bu	9.12	4			Pn	07 02 01.9	+2.1
N31M	Braeburn, Yuko	9.14	44	Pn		Pn	07 02 01.4	+1.3
L14K	Kuka Creek	9.14	315			Pn	07 02 01.4	+1.2
L14K	Kuka Creek	9.14	315	P		Pn	07 02 00.8	+0.6
	baz=124							
P32M	Atlin	9.19	58	Pn		Pn	07 02 01.1	+0.3
J25K	Salcha River,	9.25	10	Pn		Pn	07 02 02.8	+1.2
K15K	Wolf Creek Mou	9.28	321			Pn	07 02 03.6	+1.6
K15K	Wolf Creek Mou	9.28	321	P		Pn	07 02 02.7	+0.7
	baz=132							
IL31		9.29	6			Pn	07 02 03.7	+1.7
ILAR	Eielson Array	9.29	6	Pn		Pn	07 02 03.4	+1.3
	comp=E,0.3nm,0.3s,baz=184,slow=14,SNR=11							
ILAR				LR		LR	07 05 12.4	
	comp=E,44nm,18.4s,baz=236,slow=35							
	comp=E,0.5nm,0.4s							
J26L	Joseph Creek	9.36	15	Pn		Pn	07 02 05.2	+2.0
L29M	L29M	9.39	32	Pn		Pn	07 02 05.0	+1.4
MDM	Murphy Dome	9.42	2			Pn	07 02 06.2	+2.2
M30M	Minto, Yukon	9.44	37	Pn		Pn	07 02 05.8	+1.6
MLY	Manley	9.51	356			Pn	07 02 05.3	+0.1
I23K	Minto, Yukon-K	9.60	359			Pn	07 02 07.8	+1.4
I20K	Naaghedeneel	9.62	346	Pn		Pn	07 02 07.4	+0.8
J16K	Anvik River	9.67	328			Pn	07 02 07.5	+0.2
I21K	Tanana	9.73	353			Pn	07 02 08.5	+0.4
DAWY	Dawson	9.80	26	Pn		Pn	07 02 10.8	+1.6
P33M	Teslin, Yukon	9.83	55	Pn		Pn	07 02 09.8	+0.1
EGAK	Eagle	10.03	20			Pn	07 02 12.7	+0.5
M31M	Drury Creek, Y	10.09	43			Pn	07 02 15.2	+2.1
K29M	Barlow Dome	10.13	30	Pn		Pn	07 02 14.6	+0.9
J29N	Klondike Camp	10.42	27	Pn		Pn	07 02 17.6	0.0
FARO	Faro, Yukon	10.51	44			Pn	07 02 21.2	+2.3
IMAR	Indian Mountai	10.67	350			Pn	07 02 22.4	+1.3
H17K	Granite Mounta	10.79	335	Pn		Pn	07 02 22.7	+0.1
DLBC	Dease Lake	10.79	67	Pn		Pn	07 02 23.1	+0.3
DLBC	Dease Lake	10.79	67	Pn		Pn	07 02 22.1	-0.7
	comp=E,0.6nm,0.3s,baz=248,slow=9.1,SNR=6.7							
DLBC				LR		LR	07 05 48.6	
	comp=E,147nm,21.1s,baz=298,slow=34							
	comp=E,1.5nm,0.3s							
I28M	Miner Creek	10.87	21	Pn		Pn	07 02 26.0	+2.2
J30M	Hart River	11.02	30	Pn		Pn	07 02 27.4	+1.4
G21K	Allakaket	11.17	351	Pn		Pn	07 02 28.9	+1.1
G23K	Bananza Creek	11.18	358	Pn		Pn	07 02 28.9	+1.0
F21K	Alatna River	11.86	352	Pn		Pn	07 02 38.4	+1.0
F20K	Avaraart Lake	11.92	347	Pn		Pn	07 02 39.0	+0.9
F19K	Shaleruckik Mo	12.02	343	Pn		Pn	07 02 39.0	-0.4
ANM	Nome	12.08	325	Pn		Pn	07 02 40.7	+0.4
BBB	Bella Bella	12.84	97	Pn		Pn	07 02 51.2	+0.5
	comp=E,0.3nm,0.3s,baz=18,slow=2.4,SNR=3.2							
	comp=E,24nm,0.9s							
E18K	Tukpahlearik C	13.05	340	Pn		Pn	07 02 54.5	+1.0
G31M	Satah River	13.38	26	Pn		Pn	07 03 00.6	+2.6
F31M	Tsiigehtchic	13.91	25			Pn	07 03 04.6	-0.6
INK	Inuvik	14.65	23	Pn		Pn	07 03 16.1	+0.8
INK	Inuvik	14.65	23	Pn		Pn	07 03 16.4	+1.1
	comp=E,0.1nm,0.3s,baz=199,slow=13,SNR=15							
INK				LR		LR	07 08 59.5	
	comp=E,55nm,18.9s,baz=180,slow=38							
	comp=E,4.1nm,0.8s							
B22K	Teshekpuk Lake	14.94	354			Pn	07 03 17.3	-1.8
B22K				IAmb		IAmb	07 03 21.2	
	comp=Z,14nm,1.3s							
C36M	Paulatuk	17.80	29	Pn		Pn	07 03 55.5	-0.2
YKAB2	New Yellowknif	18.86	55	P		Pn	07 04 09.0	+0.3
YKA	Yellowknife Ar	18.86	54	P		Pn	07 04 08.2	-0.1
YKA	Yellowknife Ar	18.86	54	P		Pn	07 04 09.3	+0.5
	comp=Z,0.1nm,0.3s,baz=262,slow=9.8,SNR=14							
YKA				LR		LR	07 11 08.1	
	comp=Z,76nm,20.8s,baz=332,slow=36							
	comp=Z,0.9nm,0.8s							
A36M	Sachs Harbour	19.29	22	P		Pn	07 04 15.2	+1.3
NEW	Newport	20.90	97	P		P	07 04 30.2	-0.5
	comp=Z,2.7nm,0.8s,baz=297,slow=18,SNR=2.5							
	comp=Z,2.7nm,0.8s							
HUMO	Hull Mountain	21.34	117	P		P	07 04 36.9	+1.5
HUMO				IAmb		IAmb	07 04 37.9	
	comp=Z,5.5nm,0.9s							
YBH	Yreka Blue Hor	22.10	118	P		P	07 04 42.2	-1.4
	comp=Z,1.0nm,0.8s,baz=295,slow=13,SNR=1.7							
YBH				LR		LR	07 11 06.1	
	comp=Z,113nm,19.0s,baz=317,slow=31							
	comp=Z,1.0nm,0.8s							
ELK	Elko	26.70	110	LR		LR	07 15 32.4	
	comp=Z,21nm,18.6s,baz=339,slow=36							
NVAR	Mina Array Bea	26.81	117	P		P	07 05 28.2	-0.5
	comp=Z,0.9nm,0.8s,baz=303,slow=7.8,SNR=6.7							
NVAR				LR		LR	07 14 13.6	
	comp=Z,93nm,18.7s,baz=288,slow=32							
	comp=Z,0.9nm,0.8s							
RES	Resolute Bay	28.14	27	LR		LR	07 17 22.3	
	comp=Z,48nm,18.7s,baz=348,slow=37							
MA2	Magadan	31.51	302	LR		LR	07 20 09.7	
	comp=Z,57nm,19.6s,baz=62,slow=39							
PFO	Pinyon Flats O	31.52	121	LR		LR	07 16 09.7	
	comp=Z,62nm,18.8s,baz=256,slow=31							
TIXI	Tiksi	36.31	328	LR		LR	07 24 34.2	
	comp=Z,29nm,19.6s,baz=22,slow=41							
FRB	Frobisher Bay	38.86	44	LR		LR	07 22 58.8	
	comp=Z,71nm,19.5s,baz=298,slow=36							
TXAR	Lajitas Array	41.49	110	P		P	07 07 35.0	-0.5
	comp=Z,0.3nm,0.8s,baz=337,slow=13,SNR=1.8							
	comp=Z,0.3nm,0.8s							
LPIG	La Paz	42.39	122	LR		LR	07 22 36.7	
	comp=Z,39nm,18.1s,baz=26,slow=32							
SFJD	Kangerlussuaq	43.62	34	LR		LR	07 25 34.8	
	comp=Z,67nm,19.7s,baz=347,slow=35							
SCHQ	Schefferville	44.31	55	LR		LR	07 26 09.9	
	comp=Z,45nm,19.1s,baz=288,slow=36							
H11N2	WAKE ISLAND Hy	48.62	241	T		T	08 00 50.9	
	baz=32,slow=76,SNR=28							
H11N3	WAKE ISLAND Hy	48.62	241	T		T	08 00 56.8	
	baz=32,slow=76,SNR=23							
H11N1	WAKE ISLAND Hy	48.63	241	T		T	08 00 47.5	
	baz=32,slow=76,SNR=14							
NRIK	Noril'sk	48.79	337	LR		LR	07 30 36.6	
	comp=Z,68nm,20.5s,baz=330,slow=38							
H11S1	WAKE ISLAND Hy	49.75	240	T		T	08 03 04.8	
	baz=28,slow=76,SNR=17							
H11S2	WAKE ISLAND Hy	49.76	240	T		T	08 03 09.7	
	baz=28,slow=76,SNR=18							
H11S3	WAKE ISLAND Hy	49.77	240	T		T	08 03 10.3	
	baz=28,slow=76,SNR=15							
JMIC	Jan Mayen	50.66	16	LR		LR	07 31 52.7	
	comp=Z,32nm,18.9s,baz=74,slow=38							
BORG	Borgarnes	53.53	25	LR		LR	07 30 54.5	
	comp=Z,18nm,20.6s,baz=4.1,slow=35							
ARCES	ARCESS Array B	55.13	2	P		P	07 09 20.5	+0.4
	comp=Z,1.2nm,0.8s,baz=10,slow=7.4,SNR=5.6							
	comp=Z,1.2nm,0.8s							
CMIG	Matias Romero	56.09	111	LR		LR	07 33 52.6	
	comp=Z,39nm,18.9s,baz=334,slow=36							
ZALV	Zalesovo Beam	62.20	327	P		P	07 10 10.7	+1.2
	comp=Z,0.3nm,0.4s,baz=15,slow=6.0,SNR=1.6							
ZALV				LR		LR	07 42 10.0	
	comp=Z,17nm,18.4s,baz=338,slow=41							
	comp=Z,0.3nm,0.4s							
FINES	FINESS Array B	63.25	3	P		P	07 10 17.2	+0.9
	comp=Z,2.7nm,0.9s,baz=356,slow=9.6,SNR=8.6							
	comp=Z,2.7nm,0.9s							
BVAR	Borovoye Array	66.96	335	P		P	07 10 40.6	0.0
	comp=Z,0.8nm,0.8s,baz=355,slow=7.4,SNR=3.8							
	comp=Z,0.8nm,0.8s							
KURBB	Kurchatov Arra	66.99	329	P		P	07 10 41.3	+0.5
	comp=Z,0.3nm,0.3s,baz=29,slow=6.1,SNR=1.9							
	comp=Z,0.3nm,0.3s							
JTS

P19K			IAML			07 03 39.8
	comp=N,107nm,1.2s					
P19K			IAML			07 03 47.6
	comp=E,132nm,0.6s					
P19K	**Oil Pt**	**4.13 327**	P	**Pn**		**07 02 50.9 +2.2**
	baz=143					
O22K	**Cooper Landing**	**4.24 354**	P	**Pn**		**07 02 51.4 +1.2**
	baz=173					
HIN	**Hinchinbrook I**	**4.29 15**	Pn	**Pn**		**07 02 51.7 +0.7**
HIN			IAML			07 03 41.0
	comp=N,118nm,0.4s					
HIN			IAML			07 03 42.2
	comp=E,100nm,1.1s					
SLKM	**Skilak Lake**	**4.30 350**		**Pn**		**07 02 52.4 +1.3**
O20K	**Slope Mountain**	**4.32 333**		**Pn**		**07 02 52.8 +1.5**
O20K	**Slope Mountain**	**4.32 333**	P	**Pn**		**07 02 52.8 +1.5**
	baz=150					
KAIM	**Kayak Island**	**4.32 31**	Pn	**Pn**		**07 02 53.0 +1.6**
CNTC	**Contact Creek**	**4.34 300**		**Pn**		**07 02 54.3 +2.7**
Q17K	**Contact Creek**	**4.34 300**	P	**Pn**		**07 02 54.3 +2.6**
	baz=114					
IVE	**Iliamna Volcan**	**4.37 331**		**Pn**		**07 02 53.2 +1.2**
P18K	**Big Mountain,**	**4.65 315**	Pn	**Pn**		**07 02 57.0 +1.1**
P18K	**Big Mountain,**	**4.65 315**	P	**Pn**		**07 02 57.1 +1.3**
	baz=129					
RAGM	**Ragged Mountai**	**4.65 26**	Pn	**Pn**		**07 02 57.3 +1.5**
RED	**Redoubt Volcan**	**4.65 335**		**Pn**		**07 02 57.0 +1.1**
RSO	**Redoubt South**	**4.68 335**	Pn	**Pn**		**07 02 57.2 +0.7**
RDWB	**Redoubt West**	**4.73 335**		**Pn**		**07 02 58.1 +1.0**
NCT	**North Crescent**	**4.81 335**		**Pn**		**07 02 59.3 +1.2**
O19K	**Port Alsworth**	**4.89 326**	Pn	**Pn**		**07 03 00.8 +1.6**
O19K	**Port Alsworth**	**4.89 326**	P	**Pn**		**07 03 00.4 +1.2**
	baz=141					
BERG	**Berg Lake**	**4.91 31**	Pn	**Pn**		**07 03 00.8 +1.3**
O18K	**Koktuh Hills**	**4.95 319**	Pn	**Pn**		**07 03 01.2 +1.3**
O18K			IAML			07 03 57.5
	comp=N,22nm,1.2s					
O18K	**Koktuh Hills**	**4.95 319**	P	**Pn**		**07 03 01.5 +1.6**
	baz=134					
SNH	**Sunshine Point**	**5.01 36**	Pn	**Pn**		**07 03 02.5 +1.7**
SNH			IAML			07 04 02.2
	comp=N,32nm,0.9s					
SNH			IAML			07 04 15.0
	comp=E,57nm,1.3s					
KLU	**Klutina**	**5.43 15**	Pn	**Pn**		**07 03 08.2 +1.5**
N19K	**Bonanza Creek**	**5.44 329**	Pn	**Pn**		**07 03 07.5 +0.8**
VRDI	**Verde Repeater**	**5.68 27**	Pn	**Pn**		**07 03 11.3 +1.2**
N25K	**Chitina, Valde**	**5.76 20**	Pn	**Pn**		**07 03 13.4 +2.3**
N18K	**Kilae Creek**	**5.77 323**	Pn	**Pn**		**07 03 12.4 +1.2**
GLB	**Gilahina Butte**	**5.78 24**	Pn	**Pn**		**07 03 12.8 +1.5**
MCARA	**McCarthy VSAT**	**5.92 28**	Pn	**Pn**		**07 03 15.3 +2.1**
BARN	**Barnard Glacie**	**6.06 35**	Pn	**Pn**		**07 03 17.3 +2.0**
CTGM	**Chitina Glacie**	**6.09 37**	Pn	**Pn**		**07 03 16.4 +0.6**
LOGN	**Logan Glacier**	**6.10 39**	Pn	**Pn**		**07 03 16.5 +0.6**
P29M	**Windy Craggy**	**6.76 56**	Pn	**Pn**		**07 03 26.8 +2.0**
M17K	**Holitna River**	**6.82 322**	Pn	**Pn**		**07 03 27.1 +1.5**
S31K	**Pelican**	**7.03 71**	Pn	**Pn**		**07 03 28.1 -0.4**
M27K	**Edge Creek, AK**	**7.04 27**	Pn	**Pn**		**07 03 30.8 +2.1**
M16K	**Timber Creek**	**7.12 316**	Pn	**Pn**		**07 03 30.1 +0.4**
O14K	**Tigyukauivet M**	**7.31 299**	Pn	**Pn**		**07 03 34.2 +1.9**
SIT	**Sitka**	**7.45 78**	Pn	**Pn**		**07 03 32.7 -1.5**
S32K	**Killisnoo**	**7.87 75**	Pn	**Pn**		**07 03 41.2 +1.2**
K29M	**Barlow Dome**	**9.43 32**	Pn	**Pn**		**07 04 04.4 +2.9**
M31M	**Drury Creek, Y**	**9.45 45**	Pn	**Pn**		**07 04 04.5 +2.9**
DLBC	**Dease Lake**	**10.35 70**	Pn	**Pn**		**07 04 15.8 +1.7**
G24K	**Hadweenzic Riv**	**10.47 3**	Pn	**Pn**		**07 04 17.7 +2.0**

IDC 29 07:06:02.6±4.2, 5°54S×131°47E, h0km, mb4.0/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=299.6km s-min=31.4km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.59**	**169**	Pn	Pn	07 09 31.0	+0.5
	0.1nm,0.3s,baz=349,slow=14,SNR=6.5						
WRA				Sn	Sn	07 12 00.3	-13
	0.3nm,0.3s,baz=334,slow=22,SNR=1.7 0.2nm,0.4s						
ASAR	**Alice Springs**	**18.18**	**173**	P	Pn	07 10 16.2	-0.4
	baz=0.0,slow=9.3,SNR=1.9						
ASAR				S	Sn	07 13 25.5	-15
	0.3nm,0.6s,baz=354,slow=26,SNR=2.0 0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.82**	**326**	P	P	07 17 02.6	0.0
	0.9nm,0.5s,baz=114,slow=8.1,SNR=13 0.9nm,0.5s						

IDC 29 07:14:40.1±3.8, 53°76N×88°19E, h0km, mbtmp2.6/3, ML2.1/3, Error ellipse: s-maj=36.4km s-min=21.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**277**	I	I	07 28 40.0	
	0.1nm,1.9s,baz=92,slow=334,SNR=3.5						
ZALV	**Zalesovo Beam**	**2.00**	**277**	Pn	Pb	07 15 16.4	-1.1
	0.6nm,0.3s,baz=96,slow=15,SNR=7.4						
ZALV				Lg	Lg	07 15 43.2	
	1.7nm,0.3s,baz=92,slow=26,SNR=8.6 1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**6.72**	**246**	Pn	Pn	07 16 20.4	+0.5
	0.1nm,0.3s,baz=61,slow=14,SNR=3.2 0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.93**	**211**	Pn	Pn	07 16 37.4	+0.8
	0.1nm,0.3s,baz=27,slow=14,SNR=1.1						
MKAR				Lg	Lg	07 18 45.2	
	baz=28,slow=28,SNR=2.1 0.1nm,0.3s						

IDC 29 07:15:29.6±2.3, 6°87S×129°16E, h0km, mb3.3/1, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=116.2km s-min=33.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.93**	**159**	Pn	Pn	07 18 47.5	-1.0
	0.3nm,0.3s,baz=338,slow=13,SNR=18						
WRA				Sn	Sn	07 21 09.4	-15
	0.4nm,0.3s,baz=332,slow=23,SNR=7.0 0.3nm,0.3s						
ASAR	**Alice Springs**	**17.31**	**165**	P	P	07 19 33.6	-0.7
	0.2nm,0.3s,baz=344,slow=9.3,SNR=11						
ASAR				S	Sn	07 22 34.0	-12
	0.3nm,0.6s,baz=252,slow=29,SNR=1.5 0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	07 26 28.6	0.0
	0.2nm,0.4s,baz=124,slow=7.7,SNR=2.4 0.2nm,0.4s						

*NEIC **29** 07:25:14.5±0.6, 5°.41S±0°.07×147°.5E±0°.3, h155km±13km, mb4.3/10, Error ellipse: s-maj=39.7km s-min=7.8km az=98.0*

*IDC **29** 07:25:15.3±6.5, 5°.54S×147°.48E, h166km±60km, mb3.7/1, mbtmp4.1/3, Error ellipse: s-maj=93.8km s-min=52.5km az=123.0*

ISC 29 07:25:13.0±1.8, 5°.3S±0°.1×147°.4E±0°.3, h150km, n16, σ0§60/18, mb4.2/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.05**	**184**	Pn	**Pn**	**07 26 14.2**	**+0.2**
PMG				Sn	**Sn**	**07 27 01.4**	**0.0**
PMG	**Port Moresby**	**4.05**	**184**	P	**Pn**	**07 26 14.5**	**+0.5**
	19nm,0.8s,baz=342,slow=18,SNR=1.6						
PMG				S	**Sn**	**07 27 00.2**	**-1.1**
	26nm,0.4s,baz=342,slow=20,SNR=1.0						
WB0	**Warramunga Arr**	**19.15**	**220**	P	**P**	**07 29 25.2**	**+0.4**
WB0				IAmb	IAmb	07 29 47.6	
	comp=Z,23nm,1.5s						
WR0	**Warramunga Arr**	**19.20**	**220**	P	**P**	**07 29 25.8**	**+0.4**
WR0				IAmb	IAmb	07 29 26.2	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**19.30**	**220**	P	**P**	**07 29 26.9**	**+0.4**
WRAB				IAmb	IAmb	07 29 31.4	
	comp=Z,22nm,1.4s						
WB2	**Warramunga Arr**	**19.30**	**220**	P	**P**	**07 29 26.9**	**+0.4**
WB2				IAmb	IAmb	07 29 31.5	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**19.31**	**220**	P	**P**	**07 29 25.4**	**-1.2**
WRA	**Warramunga Arr**	**19.31**	**220**	P	**P**	**07 29 26.8**	**+0.2**
	comp=Z,3.3nm,0.4s,baz=50,slow=12,SNR=39						

EIDS	**Eidsvold**	**20.22**	**170**	P	**P**	**07 29 36.6 +0.2**
AS31	**Alice Springs**	**22.40**	**214**	P	**P**	**07 29 59.8 +0.5**
ASAR	**Alice Springs**	**22.40**	**214**	P	**P**	**07 29 59.3 0.0**
ASAR	**Alice Springs**	**22.40**	**214**	P	**P**	**07 29 59.5 +0.1**
	comp=Z,4.1nm,0.6s,baz=49,slow=8.5,SNR=66 comp=Z,4.1nm,0.6s					
FITZ	**Fitzroy Crossi**	**24.78**	**237**	P	**P**	**07 30 21.0 0.0**
FITZ				IAmb	IAmb	07 30 28.2
	comp=Z,11nm,1.4s					
ARMA	**Armidale**	**25.26**	**171**	P	**P**	**07 30 24.9 -0.6**
VNDA	**Vanda**	**72.54**	**177**	P	**P**	**07 36 23.6 +0.5**
VNDA				IAmb	IAmb	07 36 42.5
	comp=Z,9.7nm,1.5s					
TORD	**Torodi Ar. Bea**	**145.34**	**285**	PKPbc	**PKPdf**	**07 44 33.1 -0.9**
	comp=Z,0.2nm,0.3s,baz=88,slow=4.0,SNR=2.1					

IDC 29 07:52:43.0±3.9, 9°06N×91°49E, h0km, mb3.6/4, mbtmp3.6/4, MS3.7/1, Error ellipse: s-maj=144.2km s-min=32.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**22.52**	**134**	LR	LR	08 07 06.1	
	comp=Z,217nm,22.0s,baz=169,slow=38						
H08S3	**Diego Garcia H**	**25.17**	**229**	T	T	08 24 28.6	
	baz=51,slow=74,SNR=2.9						
H08S2	**Diego Garcia H**	**25.17**	**229**	T	T	08 24 29.7	
	baz=51,slow=74						
H08S1	**Diego Garcia H**	**25.19**	**229**	T	T	08 24 29.1	
	baz=51						
MKAR	**Makanchi Array**	**38.41**	**350**	P	P	08 00 06.8	+0.5
	0.2nm,0.4s,baz=174,slow=8.8,SNR=6.1 0.2nm,0.4s						
SONM	**Songino Array**	**40.65**	**15**	P	P	08 00 24.4	-0.6
	0.3nm,0.8s,baz=187,slow=10,SNR=2.1 0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**42.80**	**348**	P	P	08 00 41.8	-0.6
	1.1nm,0.2s,baz=160,slow=8.6,SNR=1.9 1.1nm,0.2s						
WRA	**Warramunga Arr**	**51.08**	**125**	P	P	08 01 47.7	0.0
	0.7nm,0.9s,baz=298,slow=9.2,SNR=2.2 0.7nm,0.9s						
H04N2	**CROZET ISLANDS**	**65.43**	**209**	T	T	09 14 37.3	
	baz=46						
H04N1	**CROZET ISLANDS**	**65.44**	**209**	T	T	09 14 34.9	
	baz=46,slow=75,SNR=5.7						
H04N3	**CROZET ISLANDS**	**65.45**	**209**	T	T	09 14 29.9	
	baz=46,slow=75,SNR=4.3						

*NEIC **29** 08:00:04.6±0.3, 17°.5N±0°.3×68°.79W±0°.08, h89km±61km, ML2.8/8, Md2.7/5(RSPR), Error ellipse: s-maj=50.2km s-min=8.6km az=189.0*

*SDD **29** 08:00:08.7±0.7, 18°.08N×68°.45W, h129km±13km, MD3.0, ML2.8, MW2.2*

*RSPR **29** 08:00:08.1, 18°.38N×68°.49W, h140km±1km, MD2.6/5*

ISC 29 08:00:07.7±2.3, 17°9N±0°.3×68°.6W±0°.1, h113km±29km, n18, σ0§91/26, 6C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.70**	**18**	*e*P	**Pn**	**08 00 26.7**	**+0.4**
PCDR	**Punta Cana, DR**	**0.70**	**18**	*e*S	**Sn**	**08 00 41.5**	**+1.2**
PCDR	**Punta Cana, DR**	**0.70**	**18**		**Pn**	**08 00 25.6**	**-0.7**
PCDR					**Sn**	**08 00 41.4**	**+1.1**
HATOM	**Hato Mayor del**	**1.19**	**322**	*e*Pg	**Pn**	**08 00 31.5**	**+0.4**
HATOM				*e*Sg	**Sn**	**08 00 48.5**	**-0.4**
MIDR	**Miches**	**1.20**	**340**	*e*Pg	**Pn**	**08 00 30.7**	**-0.6**
MIDR				*e*Sg	**Sn**	**08 00 47.7**	**-1.4**
CRPR	**Cabo Rojo, PR**	**1.44**	**84**	*e*S	**Sn**	**08 00 54.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.44**	**84**	*e*Pg	**Pn**	**08 00 33.6**	**-0.3**
CRPR				*e*Sg	**Sn**	**08 00 51.2**	**-2.6**
CRPR				IAML		08 01 06.4	
	comp=Z,97nm,2.5s						
PRSN	**Puerto Rico Se**	**1.44**	**75**	Pn	**Pn**	**08 00 33.3**	**-0.7**
PRSN				IAML		08 01 17.3	
	comp=N,82nm,0.1s						
LSP	**Las Mesas**	**1.48**	**77**	*e*P	**Pn**	**08 00 35.0**	**+0.5**
LSP	**Las Mesas**	**1.48**	**77**	*e*S	**Sn**	**08 00 55.1**	**+0.2**
LSP	**Las Mesas**	**1.48**	**77**		**Pn**	**08 00 35.0**	**+0.5**
LSP					**Sn**	**08 00 55.1**	**+0.2**
MLPR	**Magueyes Islan**	**1.50**	**85**	*e*P	**Pn**	**08 00 34.5**	**0.0**
MLPR	**Magueyes Islan**	**1.50**	**85**	*e*S	**Sn**	**08 00 54.8**	**-0.2**
MLPR	**Magueyes Islan**	**1.50**	**85**		**Pn**	**08 00 33.0**	**-1.5**
MLPR					**Sn**	**08 00 55.0**	**0.0**
MLPR				IAML		08 01 09.8	
	comp=N,80nm,4.0s						
DR08	**Loma La Naviza**	**1.74**	**310**	*e*Pg	**Pn**	**08 00 38.1**	**+0.5**
DR08				*e*Sg	**Sn**	**08 01 00.4**	**0.0**
CELP	**Cerrillos**	**1.94**	**83**	*e*P	**Pn**	**08 00 40.7**	**+0.6**
CELP	**Cerrillos**	**1.94**	**83**	*e*S	**Sn**	**08 01 04.9**	**0.0**
CELP	**Cerrillos**	**1.94**	**83**		**Pn**	**08 00 40.5**	**+0.5**
CELP					**Sn**	**08 01 05.6**	**+0.7**
CELP				IAML		08 02 01.2	
	comp=N,48nm,4.1s						
CELP				IAML		08 02 02.7	
	comp=E,55nm,3.6s						

*SJA **29** 08:15:32.8±0.8, 19°.34S×70°.28W, h32km±1km, ML3.4, MW3.5*

*GUC **29** 08:15:35.7±0.5, 19°.32S×70°.26W, h35km±2km, ML3.4*

ISC 29 08:15:33.5±1.5, 19°33S±0°.02×70°28W±0°.04, h12km±12km, n31, σ1§10/58, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**0.71**	**356**	*e*P	**Pg**	**08 15 47.8**	**+0.4**
PB12				*e*S	**Sb**	**08 15 58.2**	**+0.5**
PB12				IAML		08 15 58.7	
	comp=Z,1μm,0.2s						
PB12	**IPOC Station P**	**0.71**	**356**	*i* P	**Pb**	**08 15 48.1**	**+0.2**
PB12				*e*S	**Sb**	**08 15 57.9**	**+0.2**
PB11	**IPOC Station P**	**0.73**	**126**	*e*P	**Pb**	**08 15 48.4**	**+0.2**
PB11				*e*S	**Sb**	**08 15 58.6**	**+0.3**
PB11				IAML		08 16 00.1	
	comp=Z,2μm,0.3s						
PB11	**IPOC Station P**	**0.73**	**126**	*i* P	**Pb**	**08 15 48.5**	**+0.2**
PB11				*e*S	**Sb**	**08 15 59.0**	**+0.7**
PB11				IAML		08 15 59.5	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**0.95**	**171**	*e*P	**Pb**	**08 15 51.9**	**0.0**
TA02				*e*S	**Sb**	**08 16 04.8**	**+0.4**
TA02				IAML		08 16 05.3	
	comp=Z,1μm,0.3s						
TA02	**Huaiquique**	**0.95**	**171**	*e*P	**Pb**	**08 15 51.9**	**0.0**
TA02				*e*S	**Sb**	**08 16 05.1**	**+0.7**
TA02				IAML		08 16 05.3	
	comp=N,3μm,0.3s						
AP01	**Chacalluta**	**0.95**	**357**	*e*P	**Pb**	**08 15 51.7**	**-0.2**
AP01				*e*S	**Sb**	**08 16 04.5**	**0.0**
AP01				IAML		08 16 05.4	
	comp=Z,2μm,0.2s						
AP01	**Chacalluta**	**0.95**	**357**	*e*P	**Pb**	**08 15 51.9**	**-0.1**
AP01				*e*S	**Sn**	**08 16 05.7**	**-0.5**
AP01				IAML		08 16 06.1	
	comp=N,4μm,0.3s						
HMBC	**Humberstone**	**1.01**	**159**	*e*P	**Pb**	**08 15 52.6**	**-0.5**
HMBC				*e*S	**Sb**	**08 16 06.7**	**+0.2**
HMBC				IAML		08 16 07.3	
	comp=Z,971nm,0.2s						
HMBC	**Humberstone**	**1.01**	**159**	*e*P	**Pb**	**08 15 52.7**	**-0.5**
GO01	**Chusmiza**	**1.08**	**108**	*e*P	**Pb**	**08 15 54.0**	**-0.4**
GO01				*e*S	**Sn**	**08 16 09.9**	**-0.1**
GO01	**Chusmiza**	**1.08**	**108**	*e*P	**Pn**	**08 15 55.0**	**+0.1**
GO01				*e*S	**Sn**	**08 16 09.9**	**-0.1**
PB16	**IPOC Station P**	**1.23**	**37**	*e*P	**Pn**	**08 15 56.0**	**-1.0**
PB16				*e*S	**Sn**	**08 16 14.2**	**+0.3**
PB16	**IPOC Station P**	**1.23**	**37**	*e*P	**Pg**	**08 15 57.5**	**+0.2**
PB16				*e*S	**Sn**	**08 16 13.9**	**0.0**
TA01	**Diego Aracena**	**1.23**	**176**	*e*P	**Pn**	**08 15 56.0**	**-0.5**
TA01				*e*S	**Sb**	**08 16 12.7**	**+0.1**
TA01				IAML		08 16 12.9	
	comp=Z,514nm,0.6s						
TA01	**Diego Aracena**	**1.23**	**176**	*e*P	**Pn**	**08 15 56.1**	**-0.5**
TA01				*e*S	**Sb**	**08 16 12.2**	**-0.5**
TA01				IAML		08 16 13.1	
	comp=E,844nm,0.3s						
PB08	**IPOC Station P**	**1.33**	**127**	*e*P	**Pn**	**08 15 57.7**	**-0.6**
PB08				*e*S	**Sb**	**08 16 15.8**	**-0.2**
PB08				IAML		08 16 16.0	
	comp=Z,460nm,0.2s						
PB08	**IPOC Station P**	**1.33**	**127**	*e*P	**Pn**	**08 15 58.3**	**0.0**
PB08				IAML		08 16 16.2	
	comp=E,953nm,0.2s						
PB08				*e*S	**Sn**	**08 16 16.3**	**+0.1**
PATCX	**Punta Patache**	**1.49**	**175**	*e*P	**Pn**	**08 15 59.6**	**-0.6**
PATCX				*e*S	**Sn**	**08 16 18.8**	**-0.8**
PATCX				IAML		08 16 26.3	
	comp=Z,229nm,0.5s						
PB01	**IPOC Station P**	**1.86**	**157**	*e*P	Pn	08 15 59.0	-6.3
PB01				*e*P	**Pb**	**08 16 04.4**	**-3.1**
PB01				*e*S	**Sn**	**08 16 27.3**	**-1.5**
PB01				IAML		08 16 31.8	
	comp=Z,272nm,0.2s						
PB01	**IPOC Station P**	**1.86**	**157**	*e*P	**Pn**	**08 16 04.9**	**-0.4**
PB02	**IPOC Station P**	**2.01**	**170**	*e*P	**Pn**	**08 16 07.1**	**-0.4**
PB02				*e*S	**Sb**	**08 16 36.9**	**+1.7**
PB02				IAML		08 16 43.9	
	comp=Z,327nm,0.3s						
PB02	**IPOC Station P**	**2.01**	**170**	*e*P	**Pn**	**08 16 07.2**	**-0.2**
PB07	**IPOC Station P**	**2.41**	**171**	*e*P	**Pn**	**08 16 13.3**	**+0.3**
PB07				*e*S	**Sn**	**08 16 38.5**	**-4.1**
PB07				IAML		08 17 01.9	
	comp=Z,116nm,0.5s						
PB07	**IPOC Station P**	**2.41**	**171**	*e*P	**Pn**	**08 16 13.3**	**+0.3**
PB07				IAML		08 16 54.3	
	comp=E,205nm,0.7s						
PB09	**IPOC Station P**	**2.64**	**159**	*e*P	**Pn**	**08 16 16.8**	**+0.7**
PB09				*e*S	**Sn**	**08 16 50.0**	**+1.8**
PB09				IAML		08 17 00.7	
	comp=Z,213nm,0.7s						
PB09	**IPOC Station P**	**2.64**	**159**	*e*P	**Pn**	**08 16 16.8**	**+0.7**
PB09				*e*S	**Sn**	**08 16 49.4**	**+1.2**
PB04	**IPOC Station P**	**2.99**	**178**	*e*P	**Pn**	**08 16 20.5**	**-0.4**
PB04				*e*S	**Sn**	**08 16 59.0**	**+2.2**
PB04				IAML		08 17 18.8	
	comp=Z,105nm,0.5s						
PB06	**IPOC Station P**	**3.42**	**169**	*e*P	**Pn**	**08 16 26.8**	**-0.1**
PB06				*e*S	**Sn**	**08 17 11.0**	**+3.5**
LVC	**Limon Verde**	**3.51**	**159**	*e*P	**Pn**	**08 16 29.3**	**+1.1**
LVC				*e*S	**Sb**	**08 17 17.5**	**-0.9**
PB05	**IPOC Station P**	**3.51**	**179**	*e*P	**Pn**	**08 16 27.1**	**-0.9**
PB05				*e*S	**Sb**	**08 17 19.5**	**+1.3**

*IDC **29** 08:16:40.0±2.0, 55°.68N×149°.67W, h0km, mb3.3/2, mbtmp3.3/5, ML3.2/3, MS3.1/9, Error ellipse: s-maj=43.5km s-min=26.1km az=36.0*

*NEIC **29** 08:16:43.2±1.4, 55°.95N±0°.08×150°.17W±0°.06, h10km±2km, mb3.7/2, ML3.7/46, ML3.6(AEIC), Error ellipse: s-maj=12.8km s-min=5.9km az=184.0*

*AEIC **29** 08:16:47.9±1.3, 55°.94N±0°.06×150°.2W±0°.1, h12km±7km, Error ellipse: s-maj=10.8km s-min=5.9km az=133.0*

ISC 29 08:16:42.1±1.1, 55°.93N±0°.09×150°.15W±0°.06, h10km, n203, σ1§24/200, MS3.1/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.17**	**308**	Pn	**Pn**	**08 17 18.4**	**+0.1**
OHAK	**Old Harbor**	**2.17**	**308**	P	**Pn**	**08 17 18.4**	**+0.1**
	baz=125						
OHAK				S	**Sn**	**08 17 42.7**	**-2.5**
	baz=125						
KDAK	**Kodiak Island**	**2.29**	**325**		**Pn**	**08 17 20.4**	**+0.5**
KDAK					Sn	**08 17 46.2**	**-1.9**
KDAK	**Kodiak Island**	**2.29**	**325**	Pn	**Pn**	**08 17 20.4**	**+0.5**
	6.4nm,0.3s,baz=146,slow=7.0,SNR=22						
KDAK					Sn	**08 17 45.2**	**-3.0**
	3.7nm,0.3s,baz=205,slow=22,SNR=7.7						
KDAK					LR	08 18 31.2	
	comp=Z,304nm,20.1s,baz=169,slow=42 70nm,0.9s						
SII	**Sitkinak Islan**	**2.34**	**287**	Pn	**Pn**	**08 17 21.0**	**+0.4**
SII				IAML		08 17 58.5	
	comp=N,426nm,0.7s						
R18K	**Karluk**	**2.88**	**306**		**Pn**	**08 17 28.7**	**+0.7**
R18K					**Sn**	**08 18 01.1**	**-1.7**
R18K	**Karluk**	**2.88**	**306**	IAML		08 18 03.8	
	comp=N,184nm,0.5s						
R18K				IAML		08 18 11.2	
	comp=E,151nm,0.7s						
R18K	**Karluk**	**2.88**	**306**	P	**Pn**	**08 17 28.7**	**+0.7**
	baz=123						
R18K				S	**Sn**	**08 18 01.1**	**-1.7**
	baz=123						
Q20K	**Shuyak Island**	**2.95**	**336**	P	**Pn**	**08 17 29.6**	**+0.6**
	baz=155						
Q20K				S	**Sn**	**08 18 03.0**	**-1.5**
	baz=155						
SYI	**Shuyak Island**	**2.95**	**337**	Pn	**Pn**	**08 17 29.6**	**+0.6**
SYI					**Sn**	**08 18 03.1**	**-1.3**
KAHG	**Katmai Hook Gl**	**3.51**	**319**		**Pn**	**08 17 38.4**	**+1.6**
Q19K	**Cape Douglas,**	**3.55**	**329**		**Pn**	**08 17 39.3**	**+2.0**
Q19K	**Cape Douglas,**	**3.55**	**329**	P	**Pn**	**08 17 38.7**	**+1.4**
	baz=146						
KCE	**Katmai Mt Cerb**	**3.60**	**312**		**Pn**	**08 17 39.7**	**+1.8**
ACHA	**Angle Creek He**	**3.64**	**311**		**Pn**	**08 17 39.7**	**+1.2**
CNPM	**China Poot**	**3.65**	**351**	Pn	**Pn**	**08 17 38.7**	**0.0**
CNPM				IAML		08 18 22.1	
	comp=E,88nm,0.7s						
CNPM				IAML		08 18 22.4	
	comp=N,64nm,0.6s						
ANCK	**Angle Creek**	**3.70**	**310**		**Pn**	**08 17 41.1**	**+1.7**
ANCK					**Sn**	**08 18 21.2**	**-1.8**
KVTA	**Katmai Vly 10**	**3.73**	**313**		**Pn**	**08 17 41.3**	**+1.6**
KAHC	**Katmai Hardscr**	**3.79**	**318**		**Pn**	**08 17 41.9**	**+1.2**
KAHC	**Katmai Hardscr**	**3.79**	**318**	P	**Pn**	**08 17 41.9**	**+1.2**
	baz=134						
HOM	**Homer**	**3.82**	**349**	Pn	**Pn**	**08 17 40.7**	**-0.3**
BRSE	**Bradley Lake S**	**3.84**	**355**		**Pn**	**08 17 41.1**	**-0.1**
BRSE					**Sn**	**08 18 23.6**	**-2.7**
BRSE	**Bradley Lake S**	**3.84**	**355**	P	**Pn**	**08 17 41.1**	**-0.1**
	baz=175						
BRSE				S	**Sn**	**08 18 23.6**	**-2.7**
	baz=175						
BRLK	**Bradley Lake**	**3.87

comp=N,37nm,1.1s
O18K Koktuh Hills 4.77 328 P Pn 08 17 55.0 +0.9
baz=143
O19K Port Alsworth 4.82 334 Pn Pn 08 17 54.8 +0.2
O19K IAML 08 19 06.1
comp=N,91nm,0.5s
O19K Port Alsworth 4.82 334 P Pn 08 17 56.0 +1.3
baz=151
HIN Hinchinbrook I 4.88 22 Pn Pn 08 17 55.9 +0.4
HIN IAML 08 18 53.4
comp=E,76nm,1.3s
HIN IAML 08 18 57.5
comp=N,94nm,1.4s
KAIM Kayak Island 5.04 35 Pn 08 17 58.4 +0.7
KAIM IAML 08 18 56.0
comp=E,63nm,1.4s
KAIM IAML 08 21 08.2
comp=N,70nm,1.5s
KAIM Kayak Island 5.04 35 P Pn 08 17 58.1 +0.5
baz=220
RC01 Rabbit Creek A 5.18 2 Pn Pn 08 17 59.8 +0.2
RC01 IAML 08 19 01.2
comp=E,22nm,0.7s
RC01 IAML 08 19 04.2
comp=N,22nm,0.9s
EYAK Cordova Ski Ar 5.18 25 Pn Pn 08 18 00.3 +0.7
EYAK Cordova Ski Ar 5.18 25 P Pn 08 17 59.8 +0.2
baz=208
P16K Nushagak River 5.25 310 Pn 08 18 01.8 +1.2
P16K Nushagak River 5.25 310 P Pn 08 18 01.8 +1.2
baz=123
RAGM Ragged Mountai 5.32 31 Pn 08 18 02.3 +0.6
RAGM IAML 08 19 19.6
comp=E,54nm,0.7s
O17K Koliganek Bris 5.35 319 Pn 08 18 02.4 +0.5
O17K Koliganek Bris 5.35 319 P Pn 08 18 02.4 +0.5
baz=133
N19K Bonanza Creek 5.40 337 Pn Pn 08 18 03.3 +0.5
N19K Bonanza Creek 5.40 337 P Pn 08 18 03.1 +0.3
baz=153
GOAT Goat Mountain 5.47 29 Pn 08 18 04.6 +0.9
CNBA Chernabura Isl 5.50 262 Pn Pn 08 18 04.8 +0.8
KNK Knik Glacier 5.57 8 Pn Pn 08 18 05.2 +0.2
KNK Knik Glacier 5.57 8 P Pn 08 18 05.7 +0.7
baz=190
O16K Kokwok River B 5.62 314 Pn 08 18 06.3 +0.7
BERG Berg Lake 5.62 35 Pn 08 18 06.3 +0.6
N18K Kilae Creek 5.64 330 Pn Pn 08 18 06.2 +0.2
DIV Divide 5.70 22 Pn Pn 08 18 07.7 +0.9
PMR Palmer 5.70 5 Pn Pn 08 18 07.3 +0.5
SNH Sunshine Point 5.76 39 Pn Pn 08 18 08.4 +0.7
BMRM Bremner River 5.83 28 Pn 08 18 09.5 +1.0
BMRM Bremner River 5.83 28 P Pn 08 18 09.0 +0.5
baz=212
SML Sawmill 5.97 8 Pn Pn 08 18 11.2 +0.7
KLU Klutina 6.00 20 Pn 08 18 11.6 +0.7
KLU Klutina 6.00 20 P Pn 08 18 11.4 +0.5
baz=203
BARK Barkley Ridge 6.04 39 Pn 08 18 12.1 +0.6
SCM Sheep Creek Mo 6.10 13 Pn Pn 08 18 13.5 +1.2
SKT Skwentna 6.11 354 Pn Pn 08 18 12.9 +0.5
O15K Ungalikthiuk R 6.14 306 Pn 08 18 14.1 +1.2
O15K Ungalikthiuk R 6.14 306 P Pn 08 18 14.1 +1.2
baz=118
M20K Styx River 6.17 347 Pn Pn 08 18 13.3 0.0
VRDI Verde Repeater 6.36 31 Pn 08 18 16.8 +0.8
N25K Chitina, Valde 6.38 25 Pn 08 18 17.1 +0.9
N25K Chitina, Valde 6.38 25 P Pn 08 18 16.8 +0.6
baz=209
M19K Big River Lodg 6.38 342 Pn Pn 08 18 16.8 +0.7
GLB Gilahina Butte 6.44 28 Pn 08 18 17.8 +0.9
KIAG Kiagna River 6.46 36 Pn 08 18 17.9 +0.5
SAMH Samovar Hills 6.51 46 Pn 08 18 19.2 +1.2
M24K Tolsona, Glenn 6.52 17 Pn Pn 08 18 19.9 +1.8
M24K Tolsona, Glenn 6.52 17 P Pn 08 18 19.6 +1.5
baz=200
MCARA McCarthy VSAT 6.61 31 Pn 08 18 20.1 +0.8
MCARA McCarthy VSAT 6.61 31 P Pn 08 18 20.0 +0.8
baz=217
PTPK Patty Peak 6.62 34 Pn 08 18 20.5 +0.9
M17K Holitna River 6.67 328 Pn Pn 08 18 21.3 +1.2
M17K Holitna River 6.67 328 P Pn 08 18 20.9 +0.8
baz=142
PCA Pinnacle 6.71 47 Pn 08 18 22.6 +1.9
PINM Pinnacle 6.71 47 P Pn 08 18 21.5 +0.8
baz=236
L19K White Mountain 6.72 341 Pn Pn 08 18 21.4 +0.6
WASW Wrangell South 6.76 25 Pn 08 18 22.3 +0.8
N15K Kwethluk River 6.77 313 Pn Pn 08 18 23.8 +2.3
N15K Kwethluk River 6.77 313 P Pn 08 18 22.9 +1.4
baz=124
WACK Wrangell Chich 6.78 24 Pn 08 18 23.0 +1.2
WAT6 Susitna Watana 6.78 9 Pn 08 18 22.6 +0.8
WAT6 Susitna Watana 6.78 9 P Pn 08 18 22.5 +0.8
baz=192
BARN Barnard Glacie 6.80 37 Pn 08 18 23.1 +1.2
CTG Chitna Glacier 6.84 39 P Pn 08 18 23.0 +0.4
baz=226
O14K Tigyukauivet M 6.84 304 Pn 08 18 23.9 +1.5
O14K Tigyukauivet M 6.84 304 P Pn 08 18 23.7 +1.3
baz=114
CTGM Chitina Glacie 6.84 39 Pn Pn 08 18 23.5 +0.9
PNL Peninsula 6.86 52 Pn 08 18 23.5 +0.8
PNL Peninsula 6.86 52 P Pn 08 18 23.5 +0.8
baz=242
LOGN Logan Glacier 6.87 41 Pn 08 18 23.6 +0.7
M16K Timber Creek 6.88 321 Pn 08 18 23.6 +0.6
M16K Timber Creek 6.88 321 P Pn 08 18 24.1 +1.2
baz=134
DHY Denali Highway 7.30 10 Pn Pn 08 18 30.1 +1.2
M15K Kasigluk River 7.32 315 Pn 08 18 30.2 +1.3
M15K Kasigluk River 7.32 315 P Pn 08 18 30.2 +1.3
baz=126
N14K Kuskokwak Cree 7.33 308 Pn 08 18 30.4 +1.3
N14K Kuskokwak Cree 7.33 308 P Pn 08 18 30.4 +1.3
baz=118
L17K Donlin 7.50 329 Pn 08 18 32.7 +1.2
L17K Donlin 7.50 329 P Pn 08 18 32.7 +1.2
baz=142
O29M Mount Kennedy 7.53 50 Pn Pn 08 18 33.6 +1.7
O29M Mount Kennedy 7.53 50 P Pn 08 18 33.4 +1.5
baz=240
RND Reindeer 7.53 4 Pn Pn 08 18 32.8 +0.8
TRF Thorofare Moun 7.54 360 Pn Pn 08 18 33.3 +1.1
L16K Owhat River 7.55 324 Pn 08 18 33.3 +1.2
P29M Windy Craggy 7.60 56 Pn 08 18 33.7 +0.9
P29M Windy Craggy 7.60 56 P Pn 08 18 33.6 +0.8
baz=246
TTA Tatalina 7.63 339 Pn Pn 08 18 32.1 -1.2
KTH Kantishna Hill 7.66 357 Pn Pn 08 18 35.3 +1.6
K20K Telida 7.71 347 Pn Pn 08 18 34.7 +0.4
M27K Edge Creek, AK 7.72 30 Pn Pn 08 18 35.7 +1.2
M27K Edge Creek, AK 7.72 30 P Pn 08 18 35.9 +1.4
baz=217
ISLZ Isanotski Laza 7.83 267 Pn 08 18 36.2 +0.1
M14K Bethel 7.87 313 Pn 08 18 37.0 +0.6
M14K Bethel 7.87 313 P Pn 08 18 36.9 +0.4
baz=123
S31K Pelican 7.88 69 Pn Pn 08 18 36.1 -0.5
L26K Log Cabin Wild 7.91 23 Pn Pn 08 18 39.4 +2.3
YUK6 Outpost Mounta 7.96 46 Pn 08 18 39.6 +1.6
YUK6 Outpost Mounta 7.96 46 P Pn 08 18 39.6 +1.6
baz=236
K17K Iditarod 7.98 332 Pn Pn 08 18 37.4 -0.6
SSLS Shishaldin Sou 8.00 267 Pn 08 18 36.9 -1.4
BVCY Beaver Creek 8.06 32 Pn 08 18 40.5 +1.4
BVCY Beaver Creek 8.06 32 P Pn 08 18 40.5 +1.4
baz=220
P30M Million Dollar 8.16 54 Pn 08 18 42.3 +1.8
P30M Million Dollar 8.16 54 P Pn 08 18 42.3 +1.8
baz=245
J18K Innoko River 8.25 339 Pn Pn 08 18 41.4 -0.4
HYT Haines Junctio 8.25 48 Pn Pn 08 18 43.1 +1.2
RIDG Independent Ri 8.27 17 Pn Pn 08 18 43.4 +1.3
M13K Dall Lake 8.29 308 Pn Pn 08 18 44.4 +2.0
L27K Beaver Creek, 8.30 27 Pn Pn 08 18 43.9 +1.4
BCAR Beaver Creek A 8.32 27 Pn Pn 08 18 43.7 +1.0
L14K Kuka Creek 8.49 315 Pn Pn 08 18 46.5 +1.5
J20K Nowinta River 8.51 348 Pn Pn 08 18 46.4 +1.1
J19K Poorman 8.54 344 Pn Pn 08 18 46.1 +0.5
SCRK Sand Creek 8.64 18 Pn Pn 08 18 48.9 +1.8
K15K Wolf Creek Mou 8.65 322 Pn Pn 08 18 49.1 +1.9
SKAG Skagway 8.68 60 Pn Pn 08 18 49.0 +1.4
N30M Aishikik Lake 8.76 45 Pn Pn 08 18 49.1 +0.3

R32K Eaglecrest 8.82 68 Pn Pn 08 18 51.0 +1.4
O30N Mendenhall 8.83 51 Pn Pn 08 18 50.7 +0.9
M29M Somme Creek 8.86 38 Pn Pn 08 18 51.6 +1.5
JIS Juneau Island 8.89 68 Pn Pn 08 18 52.4 +1.8
ILAR Eielson Array 9.02 9 Pn Pn 08 18 49.6 -2.6
comp=E,0.1nm,0.3s,baz=185,slow=14,SNR=2.4
ILAR Sn Sn 08 20 25.1 -8.6
baz=206,slow=12
ILAR LR LR 08 22 42.5
comp=E,51nm,18.5s,baz=328,slow=39
comp=E,0.3nm,0.6s
J25K Salcha River, 9.03 13 Pn Pn 08 18 52.9 +0.5
K27K Chicken 9.07 23 Pn Pn 08 18 52.8 -0.1
J16K Anvik River 9.07 329 Pn Pn 08 18 53.6 +0.7
MLY Manley 9.14 358 Pn Pn 08 18 52.9 -1.0
J26L Joseph Creek 9.20 18 Pn Pn 08 18 55.5 +0.8
N31M Braeburn, Yuko 9.31 47 Pn Pn 08 18 58.0 +1.7
L29M L29M 9.42 35 Pn Pn 08 18 58.7 +0.8
P32M Atlin 9.51 61 Pn Pn 08 18 59.9 +0.9
M30M Minto, Yukon 9.53 40 Pn Pn 08 19 00.9 +1.6
J14K Nanvaranak Lak 9.66 320 Pn Pn 08 19 02.8 +1.8
DAWY Dawson 9.76 29 Pn Pn 08 19 02.8 +0.3
EGAK Eagle 9.92 23 Pn Pn 08 19 03.8 -0.8
H24K Noodor Dome 10.00 5 Pn Pn 08 19 04.2 -1.5
I26K Coal Creek Min 10.01 17 Pn Pn 08 19 07.6 +1.9
Q32M Nakina River 10.10 65 Pn Pn 08 19 08.6 +1.4
P33M Teslin, Yukon 10.12 58 Pn Pn 08 19 08.2 +0.8
K29M Barlow Dome 10.14 33 Pn Pn 08 19 08.9 +1.2
H17K Granite Mounta 10.23 336 Pn Pn 08 19 10.6 +1.8
M31M Drury Creek, Y 10.24 46 Pn Pn 08 19 10.8 +1.8
BBB Bella Bella 13.46 97 LR LR 08 23 51.3
comp=E,64nm,18.3s,baz=290,slow=33
INK Inuvik 14.57 25 LR LR 08 25 41.7
comp=E,64nm,18.8s,baz=19,slow=37
C36M Paulatuk 17.79 31 P 08 20 50.9 +0.7
C36M IAmb IAmb 08 20 53.9
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 19.14 55 P P 08 21 05.8 +0.7
YKA Yellowknife Ar 19.14 55 P P 08 21 05.5 +0.4
comp=Z,0.1nm,0.3s,baz=265,slow=9.8,SNR=16
comp=Z,0.6nm,0.7s
A36M Sachs Harbour 19.20 23 P Pn 08 21 08.4 +1.9
A36M IAmb IAmb 08 21 09.9
comp=Z,6.1nm,0.9s
NEW Newport 21.52 97 LR LR 08 28 08.7
comp=Z,38nm,18.9s,baz=285,slow=32
NVAR Mina Array Bea 27.48 116 P P 08 22 23.6 -5.0
comp=Z,0.1nm,0.3s,baz=299,slow=10,SNR=1.6
NVAR LR LR 08 31 42.1
comp=Z,40nm,19.8s,baz=302,slow=33
comp=Z,0.1nm,0.3s
MA2 Magadan 30.83 302 LR LR 08 36 56.2
comp=Z,40nm,19.0s,baz=154,slow=39
FRB Frobisher Bay 39.02 44 LR LR 08 40 09.3
comp=Z,50nm,19.9s,baz=22,slow=36
H11N2 WAKE ISLAND Hy 48.29 239 T T 09 17 22.8
baz=31,slow=76,SNR=8.9
H11N3 WAKE ISLAND Hy 48.29 239 T T 09 17 25.1
baz=31,slow=76,SNR=8.4
H11N1 WAKE ISLAND Hy 48.30 239 T T 09 17 27.6
baz=31,slow=76,SNR=8.1
H11S1 WAKE ISLAND Hy 49.43 239 T T 09 18 51.2
baz=30,slow=76,SNR=12
H11S2 WAKE ISLAND Hy 49.44 239 T T 09 18 52.5
baz=30,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 49.45 239 T T 09 18 52.6
baz=30,slow=76,SNR=10
JMIC Jan Mayen 50.48 15 LR LR 08 49 25.1
comp=Z,29nm,18.4s,baz=72,slow=39
SONM Songino Array 58.49 310 P P 08 26 41.2 +3.0
comp=Z,0.6nm,0.7s,baz=49,slow=7.9,SNR=4.0
comp=Z,0.6nm,0.7s

*NNC **29** 08:26:37.9±0.8, 44°.35N×81°.21E, h0km, mb3.4, mpv3.3,*
Error ellipse: s-maj=8.1km s-min=4.0km az=129.0
*SOME **29** 08:26:38.3, 44°.33N×81°.17E, h5km*
ISC 29 08:26:34.8±1.4, 44°.31N±0°.04×81°.46E±0°.05, h5km±12km, n43, σ1§81/68, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.18**	**223**	***e*P**	**Pg**	**08 26 59.3**	**+1.9**
KTMS	20nm,0.1s			*e*S	**Sn**	**08 27 14.6**	**-0.2**
	35nm,0.1s						
DJR	**Jarkent**	**1.20**	**271**	***e*P**	**Pg**	**08 26 59.1**	**+1.3**
DJR				*e*S	**Sb**	**08 27 14.0**	**+0.1**
KNOS	**Konyrlen**	**1.64**	**272**	**P**	**Pg**	**08 27 06.5**	**+0.3**
KNOS	86nm,0.2s			S	**Sb**	**08 27 27.1**	**+0.4**
	52nm,0.3s						
PDGK	**Podgornoye**	**1.73**	**236**	**P**	**Pb**	**08 27 07.8**	**+0.6**
PDGK	5.5nm,0.2s			S	**Sb**	**08 27 29.2**	**-0.2**
	89nm,0.5s						
KAPS	**Kapalarasan**	**1.78**	**304**	***e*P**	**Pg**	**08 27 09.5**	**+0.5**
KAPS	55nm,0.2s			*e*S	**Sb**	**08 27 31.2**	**+0.4**
SHLS	**Shalkode**	**1.85**	**232**	**P**	**Pn**	**08 27 06.6**	**-0.9**
SHLS	57nm,0.2s			S	**Sn**	**08 27 27.7**	**-3.6**
	142nm,0.4s						
SHLS	**Shalkode**	**1.85**	**232**	***e*P**	**Pn**	**08 27 06.6**	**-0.9**
SHLS	52nm,0.1s			*e*S	**Sn**	**08 27 27.7**	**-3.6**
	140nm,0.2s						
UZB	**Uzynbulak**	**2.12**	**237**	**Pg**	**Pb**	**08 27 14.1**	**+0.3**
UZB	13nm,0.3s			Lg	Lg	08 27 40.5	
	83nm,0.2s						
UZB	**Uzynbulak**	**2.12**	**237**	***e*P**	**Pb**	**08 27 14.1**	**+0.3**
UZB	13nm,0.3s			*e*S	**Sb**	**08 27 40.5**	**0.0**
	83nm,0.2s						
BLB	**Baldybastay**	**2.15**	**265**	**Pg**	**Pb**	**08 27 14.9**	**+0.5**
BLB	31nm,0.3s			Lg	Lg	08 27 42.1	
	91nm,0.2s						
KPKS	**Kokpek**	**2.18**	**248**	**Pg**	**Pb**	**08 27 14.4**	**-0.4**
KPKS	14nm,0.1s			Lg	Lg	08 27 40.7	
	243nm,0.3s						
KPKS	**Kokpek**	**2.18**	**248**	***e*P**	**Pb**	**08 27 14.4**	**-0.4**
KPKS	14nm,0.1s			*e*S	**Sn**	**08 27 40.7**	**+1.4**
	239nm,0.2s						
TDK	**Taldyqorghan**	**2.29**	**289**	***e*P**	**Pb**	**08 27 17.4**	**+0.8**
TDK	46nm,0.4s			*e*S	**Sb**	**08 27 46.1**	**+0.9**
	103nm,0.5s						
ZHN	**Zhinishke**	**2.47**	**243**	**Pg**	**Pb**	**08 27 20.5**	**+0.7**
ZHN	4.6nm,0.1s			Lg	Lg	08 27 51.3	
	165nm,0.2s						
ZHN	**Zhinishke**	**2.47**	**243**	***e*P**	**Pb**	**08 27 20.5**	**+0.7**
ZHN	4.6nm,0.1s			*e*S	**Sb**	**08 27 51.3**	**+0.6**
	165nm,0.2s						
MAKZ	**Makanchi**	**2.52**	**8**	**⇑Pg**	**Pg**	**08 27 24.6**	**+1.5**
MAKZ	3.5nm,0.7s			⇑Lg	Lg	08 27 54.1	
	4.9nm,0.5s						
SATY	**Saty**	**2.55**	**242**	**Pg**	**Pb**	**08 27 21.6**	**+0.5**
SATY	3.9nm,0.1s			Lg	Lg	08 27 52.8	
	131nm,0.1s						
SATY	**Saty**	**2.55**	**242**	***e*P**	**Pb**	**08 27 21.6**	**+0.5**
SATY	3.9nm,0.1s			*e*S	**Sb**	**08 27 52.8**	**0.0**
	131nm,0.1s						
MK31	**Makanchi Array**	**2.55**	**13**	**⇑Pg**	**Pg**	**08 27 25.2**	**+1.6**
MK31	2.5nm,0.5s,baz=196,slow=16,SNR=14			⇑Lg	Lg	08 27 54.6	
	3.5nm,0.3s,baz=197,slow=27,SNR=3.7						
ARXS	**Arharly**	**2.61**	**269**	**Pg**	**Pb**	**08 27 23.0**	**+0.8**
ARXS	12nm,0.3s			Lg	Lg	08 27 55.4	
	37nm,0.4s						
ARXS	**Arharly**	**2.61**	**269**	***e*P**	**Pb**	**08 27 23.0**	**+0.8**
ARXS	12nm,0.3s			*e*S	**Sb**	**08 27 55.4**	**+0.8**
	37nm,0.2s						
CHKK	**Chushkaly**	**3.25**	**263**	**Pg**	**Pb**	**08 27 33.8**	**+0.7**
CHKK	2.3nm,0.3s			Lg	Lg	08 28 13.9	
	20nm,0.3s						
CHKK	**Chushkaly**	**3.25**	**263**	***e*P**	**Pb**	**08 27 33.8**	**+0.7**
CHKK	1.4nm,0.1s			*e*S	**Sb**	**08 28 13.9**	**+0.8**
	20nm,0.4s						
KOTS	**Kotyrbulak**	**3.33**	**253**	**Pg**	**Pb**	**08 27 35.8**	**+1.3**
KOTS	5.1nm,0.4s			Lg	Lg	08 28 17.3	
	26nm,0.4s						
KOTS	**Kotyrbulak**	**3.33**	**253**	***e*P**	**Pb**	**08 27 35.8**	**+1.3**
KOTS	5.1nm,0.4s			*e*S	**Sb**	**08 28 17.2**	**+1.9**
	26nm,0.4s						
MDOK	**Medeo**	**3.40**	**252**	**Pg**	**Pb**	**08 27 37.0**	**+1.4**
MDOK	2.8nm,0.3s			Lg	Lg	08 28 19.0	
	6.2nm,0.4s						
MDOK	**Medeo**	**3.40**	**252**	***e*P**	**Pb**	**08 27 37.0**	**+1.4**
MDOK	2.8nm,0.3s			*e*S	**Sb**	**08 28 19.1**	**+1.7**
	6.2nm,0.4s						
KTBS	**Karatobe**	**3.50**	**262**	**Pg**	**Pb**	**08 27 38.4**	**+1.1**
KTBS	1.5nm,0.4s			Lg	Lg	08 28 21.6	
	9.6nm,0.4s						
KTBS	**Karatobe**	**3.50**	**262**	***e*P**	**Pb**	**08 27 38.4**	**+1.1**
KTBS	1.5nm,0.4s			*e*S	**Sb**	**08 28 21.6**	**+1.5**
	9.6nm,0.4s						
TNSS	**Tian-Shan**	**3.51**	**250**	**Pg**	**Pb**	**08 27 38.7**	**+0.9**
TNSS	2.9nm,0.4s			Lg	Lg	08 28 22.6	
	4.5nm,0.4s						
TNSS	**Tian-Shan**	**3.51**	**250**	***e*P**	**Pb**	**08 27 38.7**	**+0.9**
TNSS	2.9nm,0.3s			*e*S	**Sb**	**08 28 22.6**	**+1.7**
	4.5nm,0.3s						
IZV	**Izvestkoviy**	**3.74**	**252**	**Pg**	**Pb**	**08 27 44.2**	**+2.7**
IZV	0.4nm,0.2s			Lg	Lg	08 28 31.7	
	9.6nm,0.6s						
IZV	**Izvestkoviy**	**3.74**	**252**	***e*P**	**Pb**	**08 27 44.2**	**+2.7**
IZV	0.3nm,0.0s			*e*S	**Sb**	**08 28 31.7**	**+4.5**
	8.6nm,0.2s						
MTBS	**Maitube**	**3.83**	**254**	**Pg**	**Pb**	**08 27 44.4**	**+1.4**
MTBS	2.2nm,0.6s			Lg	Lg	08 28 31.9	
	8.8nm,0.2s						
MTBS	**Maitube**	**3.83**	**254**	***e*P**	**Pb**	**08 27 44.4**	**+1.4**
MTBS	2.2nm,0.3s			*e*S	**Sb**	**08 28 31.9**	**+2.1**
	8.8nm,0.2s						
ZSN	**Zaisan**	**3.94**	**36**	***e*P**	**Pg**	**08 27 48.7**	**-1.6**
ZSN	2.5nm,0.4s			*e*S	**Sg**	**08 28 39.7**	**-1.5**
	6.7nm,0.5s						
KST	**Kastek**	**4.18**	**254**	**Pg**	**Pb**	**08 27 51.9**	**+2.8**
KST	1.7nm,0.6s			Lg	Lg	08 28 44.7	
	7.0nm,0.4s						
KST	**Kastek**	**4.18**	**254**	***e*P**	**Pb**	**08 27 51.9**	**+2.8**
KST	1.7nm,0.4s			*e*S	**Sb**	**08 28 44.7**	**+4.8**
	6.8nm,0.4s						
KRBS	**Karabastau**	**4.22**	**264**	**Pg**	**Pb**	**08 27 50.7**	**+1.2**
KRBS	1.6nm,0.7s			Lg	Lg	08 28 42.8	
	2.6nm,0.2s						
KRBS	**Karabastau**	**4.22**	**264**	***e*P**	**Pb**	**08 27 50.8**	**+1.2**
KRBS	1.5nm,0.4s			*e*S	**Sb**	**08 28 42.8**	**+2.0**
	2.6nm,0.2s						
DGS	**Degeres**	**4.26**	**257**	**Pg**	**Pb**	**08 27 52.5**	**+2.2**
DGS	2.1nm,0.6s			Lg	Lg	08 28 45.9	
	20nm,0.6s						
DGS	**Degeres**	**4.26**	**257**	***e*P**	**Pb**	**08 27 52.5**	**+2.2**
DGS	2.1nm,0.3s			*e*S	**Sb**	**08 28 45.9**	**+4.0**
	20nm,0.6s						
MRKS	**Merke**	**6.19**	**258**	***e*P**	**Pg**	**08 28 29.8**	**-3.5**
MRKS	2.2nm,0.4s			*e*S	**Sg**	**08 29 50.8**	**-2.7**
	5.2nm,0.5s						

*IDC **29** 08:42:09.2±1.4, 3°.24S×130°.73E, h0km, mb4.0/4,*
mbtmp4.0/5, ML4.0/1, MS3.3/4, Error ellipse: s-maj=96.5km
s-min=21.8km az=64.0
*DJA **29** 08:42:12.4±0.4, 3°.3S±4°×13°.1E±°, h10km, M4.0/8, mb4.4/1,*
MLv3.8/8
ISC 29 08:42:10.9±0.8, 3°.23S±0°.06×130°.58E±0°.05, h10km, n16, σ1§52/15, mb3.9/3, MS3.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.45**	**207**	**P**	**Pn**	**08 42 39.4**	**+2.2**
FAKI	**Fak Fak**	**1.70**	**80**	**P**	**Pn**	**08 42 41.8**	**+1.2**
FAKI				S	**Sb**	**08 43 05.4**	**+1.7**
KRAI	**Karang Ratu**	**2.18**	**268**	**P**	**Pn**	**08 42 48.8**	**+1.5**
SIJI	**Sorong**	**2.44**	**16**	**P**	**Pn**	**08 42 51.6**	**+0.7**
SWI	**Sorong**	**2.45**	**16**	**P**	**Pn**	**08 42 51.9**	**+1.0**
NLAI	**Namlea**	**3.47**	**270**	**P**	**Pn**	**08 43 06.7**	**+1.7**
LBMI	**Labuha**	**4.01**	**310**	**P**	**Pn**	**08 43 13.1**	**+0.7**
LBMI				S	**Sn**	**08 43 59.5**	**0.0**
SANI	**Sanana**	**4.73**	**284**	**P**	**Pn**	**08 43 22.1**	**-0.2**
KAPI	**Kappang**	**10.94**	**260**	LR	LR	08 50 14.1	
	comp=Z,168nm,20.1s,baz=72,slow=44						
WRA	**Warramunga Arr**	**17.02**	**168**	**Pn**	**Pn**	**08 46 06.2**	**-3.0**
	0.6nm,0.3s,baz=349,slow=11,SNR=16						
WRA				Sn	Sn	08 49 06.0	-13
	0.1nm,0.3s,baz=355,slow=20,SNR=2.1						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**20.57**	**171**	**P**	**P**	**08 46 50.1**	**0.0**
	9.8nm,0.5s,baz=352,slow=11,SNR=85						
	9.8nm,0.5s						
CTA	**Charters Tower**	**22.69**	**139**	**P**	**P**	**08 47 11.4**	**-1.5**
	3.3nm,0.9s,baz=321,slow=16,SNR=2.4						
CTA				LR	LR	08 57 52.8	
	comp=Z,56nm,18.6s,baz=272,slow=42						
	3.3nm,0.9s						
STKA	**Stephens Creek**	**30.33**	**161**	**P**	**P**	**08 48 22.5**	**-0.3**
	1.2nm,0.7s,baz=349,slow=11,SNR=3.3						
	1.2nm,0.7s						
URZ	**Urewera**	**54.89**	**136**	LR	LR	09 15 55.3	
	comp=Z,35nm,18.2s,baz=306,slow=37						
MKAR	**Makanchi Array**	**65.43**	**326**	**P**	**P**	**08 52 54.5**	**+0.5**
	1.1nm,0.5s,baz=118,slow=7.8,SNR=19						
	1.1nm,0.5s						
SPITS	**Spitsbergen Ar**	**98.00**	**349**	LR	LR	09 42 33.6	
	comp=Z,16nm,20.2s,baz=148,slow=37						

IDC 29 08:42:54.6±3.9, 55°.92N×86°.24E, h0km, mbtmp2.6/3, ML2.1/3, Error ellipse: s-maj=34.6km s-min=31.3km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.14**	**203**	**I**	**I**	08 56 20.0	
	baz=22,slow=354,SNR=4.1						
ZALV	**Zalesovo Beam**	**2.14**	**203**	Pn	Pn	08 43 32.0	+0.4
	1.6nm,0.3s,baz=20,slow=15,SNR=23						
ZALV				Lg	Lg	08 44 02.7	
	3.4nm,0.3s,baz=24,slow=32,SNR=14						
	4.3nm,0.5s						
KURBB	**Kurchatov Arra**	**7.04**	**224**	Pn	Pn	08 44 38.4	-0.3
	0.1nm,0.3s,baz=40,slow=14,SNR=2.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**9.47**	**197**	Pn	Pn	08 45 11.9	-0.2
	baz=14,slow=11,SNR=1.8						
	0.1nm,0.4s						

*IDC **29** 09:26:35.1±0.6, 59°.08S×24°.99W, h0km, mb4.3/9,*
mbtmp4.3/9, MS3.7/15, Error ellipse: s-maj=23.9km
s-min=18.9km az=80.0
*NEIC **29** 09:26:39.4±1.4, 59°.1S±0°.1×25°.0W±0°.2, h28km±4km,*
mb4.7/33, Error ellipse: s-maj=17.2km s-min=16.5km
az=52.0
ISC 29 09:26:37.5±0.4, 59°.15S±0°.09×25°.0W±0°.1, h18km, n135, σ0§88/118, mb4.6/21, MS3.7/14, 2C-7D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.47**	**156**	**⇓P**	**Pn**	**09 29 46.4**	**-1.0**

comp=Z,16nm,0.4s
VNA3 Neumayer Olymp 13.66 159 ⇓P Pn 09 29 48.1 -2.0
comp=Z,26nm,0.4s
VNA3 ⇑S Sn 09 32 05.0 -16
comp=Z,10nm,0.6s
VNA2 Neumayer--Watz 13.87 156 ⇓P Pn 09 29 51.0 -1.8
comp=Z,21nm,0.5s,baz=317,slow=14
VNA2 ⇓S Sn 09 32 10.3 -16
comp=Z,15nm,0.7s,baz=322,slow=19
SNAA Sanae 15.42 153 Pn Pn 09 30 11.7 -2.2
SNAA Sanae 15.42 153 ⇓P Pn 09 30 11.8 -2.1
comp=Z,105nm,0.5s
SNAA ⇓S Sn 09 32 48.1 -16
comp=Z,72nm,0.4s
SNAA Sanae 15.42 153 Pn Pn 09 30 11.6 -2.3
comp=Z,6.5nm,0.3s,baz=318,slow=14,SNR=110
SNAA Sn Sn 09 32 44.4 -20
comp=Z,0.3nm,0.3s,baz=314,slow=13,SNR=2.0
TROLL Troll, Antarti 16.94 151 ⇓P Pn 09 30 32.5 -0.9
comp=Z,731nm,0.4s
TROLL ⇑S Sn 09 33 27.1 -14
comp=Z,159nm,0.4s
PMSA Palmer Station 18.97 236 LR LR 09 37 48.0
comp=Z,598nm,18.2s,baz=56,slow=35
BELA Belgrano 2 19.09 186 P P 09 30 59.1 +0.4
EFI East Falkland 20.05 277 P Pn 09 31 10.5 -0.7
EFI IAmb IAmb 09 31 27.2
comp=Z,47nm,0.9s
H09N1 TRISTAN DA CUN 23.57 26 T T 09 55 30.2
SNR=11
MG02 Cerro Sombrero 25.19 265 P P 09 32 00.3 -1.2
GO08 Villa O'Higgin 29.44 270 P P 09 32 39.8 +0.1
QSPA South Pole Qui 31.09 180 P P 09 32 55.5 +1.0
QSPA IAmb IAmb 09 33 08.2
comp=Z,8.7nm,0.8s
QSPA South Pole Qui 31.09 180 P P 09 32 55.9 +1.5
comp=Z,6.0nm,0.8s,baz=214,slow=2.6,SNR=25
QSPA LR LR 09 45 04.2
comp=Z,99nm,18.5s,baz=192,slow=36
comp=Z,6.0nm,0.8s
TRQA Tornquist 31.69 295 P P 09 32 59.6 -0.2
TRQA IAmb IAmb 09 33 07.3
comp=Z,10nm,1.1s
PLCA Paso Flores 33.79 283 P P 09 33 18.0 -0.2
PLCA IAmb IAmb 09 33 47.4
comp=Z,6.7nm,1.1s
PLCA Paso Flores 33.79 283 P P 09 33 17.9 -0.2
comp=Z,3.2nm,0.8s,baz=172,slow=5.0,SNR=8.6
PLCA LR LR 09 45 38.3
comp=Z,111nm,20.4s,baz=138,slow=34
comp=Z,3.2nm,0.8s
GO06 Curarrehue 35.12 283 P P 09 33 29.7 -0.1
GO06 IAmb IAmb 09 34 03.8
comp=Z,7.7nm,1.4s
MAW Mawson 36.96 140 LR LR 09 47 00.2
comp=Z,105nm,19.6s,baz=240,slow=33
BO02 Sierra Bellavi 38.52 289 P P 09 33 58.8 +0.1
BO02 IAmb IAmb 09 34 19.2
comp=Z,11nm,0.9s
GO05 Huala 38.91 287 P P 09 34 01.9 0.0
BO01 Tunca 38.99 289 P P 09 34 02.6 +0.1
BO01 IAmb IAmb 09 34 03.5
comp=Z,22nm,1.1s
BO04 La Punta 39.09 290 P P 09 34 03.4 0.0
MT09 Talagante 39.44 289 P P 09 34 06.7 +0.2
CPUP Villa Florida 39.76 311 P P 09 34 07.3 -1.7
comp=Z,2.1nm,0.9s,baz=113,slow=8.6,SNR=3.1
CPUP LR LR 09 51 04.8
comp=Z,74nm,19.0s,baz=168,slow=37
comp=Z,2.1nm,0.9s
PEL Peldehue 39.81 290 P P 09 34 10.3 +0.9
SUR Sutherland 40.45 69 LR LR 09 47 26.3
comp=Z,135nm,19.6s,baz=196,slow=31
CO01 Juntas del Tor 42.14 294 P P 09 34 29.4 +0.5
CO01 IAmb IAmb 09 34 32.7
comp=Z,9.4nm,0.7s
AC05 El Transito 43.18 294 P P 09 34 37.7 +0.4
AC05 IAmb IAmb 09 34 38.7
comp=Z,18nm,0.9s
LCO Las Campanas 43.24 294 P P 09 34 38.3 +0.5
LCO IAmb IAmb 09 34 43.5
comp=Z,20nm,1.2s
VNDA Vanda 43.52 182 P P 09 34 40.6 +1.3
VNDA Vanda 43.52 182 P P 09 34 40.7 +1.5
comp=Z,3.1nm,0.8s,baz=186,slow=6.2,SNR=6.7
VNDA PcP PcP 09 36 28.0 +1.4
comp=Z,1.8nm,1.0s,baz=125,slow=5.7,SNR=1.6
comp=Z,3.1nm,0.8s
H04S2 CROZET ISLANDS 45.27 110 T T 10 23 41.1
baz=225,slow=75,SNR=6.6
H04S3 CROZET ISLANDS 45.28 110 T T 10 23 45.5
baz=225,slow=75,SNR=4.9
H04S1 CROZET ISLANDS 45.29 110 T T 10 23 42.7
baz=225,slow=75,SNR=5.0
BOSA Boshof 45.71 71 P P 09 34 57.2 -0.2
BOSA IAmb IAmb 09 35 08.4
comp=Z,9.0nm,1.1s
BOSA Boshof 45.71 71 P P 09 34 57.3 -0.2
comp=Z,2.9nm,0.8s,baz=204,slow=5.8,SNR=5.8
BOSA LR LR 09 51 08.4
comp=Z,83nm,18.2s,baz=198,slow=32
comp=Z,2.9nm,0.8s
BDFB Brasilia 46.65 329 P P 09 35 05.7 +0.8
comp=Z,3.1nm,0.6s,baz=141,slow=6.5,SNR=5.1
BDFB PcP PcP 09 36 39.5 +1.0
comp=Z,3.0nm,0.7s,baz=239,slow=5.9,SNR=4.4
comp=Z,3.1nm,0.6s
LVC Limon Verde 47.90 300 P P 09 35 14.7 -0.1
LVC IAmb IAmb 09 35 18.5
comp=Z,6.9nm,1.0s
LVC Limon Verde 47.90 300 LR LR 09 58 05.1
comp=Z,70nm,18.6s,baz=172,slow=40
LBTB Lobatse 48.89 68 LR LR 09 53 30.3
comp=Z,75nm,18.0s,baz=198,slow=33
PB07 IPOC Station P 49.11 300 P P 09 35 24.8 +0.9
PB07 IAmb IAmb 09 35 27.0
comp=Z,7.3nm,0.9s
TSUM Tsumeb 50.28 56 LR LR 09 53 40.4
comp=Z,80nm,18.2s,baz=156,slow=32
PTLB Pontes e Lacer 50.36 315 P P 09 35 32.1 -1.1
H10N1 ASCENSION HYDR 51.81 13 T T 10 31 45.2
baz=185
H10N3 ASCENSION HYDR 51.81 13 T T 10 31 46.1
baz=185
H10N2 ASCENSION HYDR 51.82 13 T T 10 31 44.4
baz=185
PB16 IPOC Station P 51.92 302 P P 09 35 44.9 -0.8
LPAZ La Paz 53.14 305 P P 09 35 54.4 -0.4
SAML Samuel 57.83 314 P P 09 36 27.1 -0.6
SAML IAmb IAmb 09 36 33.9
comp=Z,5.6nm,1.4s
ETMB Extrema 58.20 310 P P 09 36 29.3 -1.1
LSZ Lusaka 58.48 65 LR LR 09 57 33.8
comp=Z,65nm,21.9s,baz=158,slow=32
NNA Nana 60.78 298 LR LR 10 00 56.2
comp=Z,53nm,21.9s,baz=159,slow=34
BOAV Boa Vista 67.46 321 P P 09 37 31.3 -0.7
BOAV IAmb IAmb 09 37 32.2
comp=Z,5.6nm,0.7s
DBIC Dimbokro 67.55 22 P P 09 37 32.4 -0.1
comp=Z,4.2nm,0.9s,baz=217,slow=6.1,SNR=3.2
comp=Z,4.2nm,0.9s
MDP Montagnes des 67.73 330 LR LR 10 05 38.6
comp=Z,48nm,18.1s,baz=146,slow=35
MCRA Macar, Loja 68.92 299 P P 09 37 40.6 -0.7
ARNL Arenilias 69.70 299 P P 09 37 46.4 +0.3
COHC Cochancay 70.30 300 P P 09 37 49.9 +0.2
MBAR Mbarara 72.58 60 LR LR 10 06 26.0
comp=Z,73nm,19.1s,baz=203,slow=33
ROSC El Rosal 74.77 308 LR LR 10 11 13.0
comp=Z,75nm,21.9s,baz=241,slow=36
TOA0 Torodi Ar. Sit 75.22 27 P P 09 38 19.9 +1.1
TOA0 IAmb IAmb 09 38 21.1
comp=Z,6.7nm,0.8s
TORD Torodi Ar. Bea 75.22 27 P P 09 38 19.8 +1.0
TORD IAmb IAmb 09 38 21.0
comp=Z,5.7nm,0.8s
TORD Torodi Ar. Bea 75.22 27 P P 09 38 20.1 +1.3
comp=Z,6.4nm,0.7s,baz=190,slow=5.0,SNR=39
comp=Z,6.4nm,0.7s
ASAR Alice Springs 95.66 161 P P 09 40 01.4 -0.5
comp=Z,0.6nm,0.8s,baz=179,slow=4.1,SNR=6.2
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 122.96 299 PKP PKPdf 09 45 31.4 -0.5
comp=Z,0.5nm,0.9s,baz=143,slow=3.7,SNR=3.7
ULM Lac du Bonnet 123.29 313 PKP PKPdf 09 45 30.9 -1.1
comp=Z,1.2nm,0.7s,baz=135,slow=1.4,SNR=3.8

DAV Davao City (W) 123.38 144 PKP PKPdf 09 45 32.9 -0.4
comp=Z,309nm,0.5s,baz=234,slow=19,SNR=3.9
NVAR Mina Array Bea 123.65 290 PKP PKiKP 09 45 34.7 +1.0
comp=Z,0.8nm,0.7s,baz=154,slow=4.6,SNR=8.5
FINES FINESS Array B 126.57 28 PKP PKPdf 09 45 37.9 +0.1
comp=Z,2.8nm,1.1s,baz=194,slow=2.3,SNR=4.0
ARCES ARCESS Array B 133.38 22 PKP PKPdf 09 45 50.4 -0.2
comp=Z,2.1nm,0.9s,baz=223,slow=3.7,SNR=1.8
BVAR Borovoye Array 135.39 59 PKP PKPdf 09 45 54.6 -0.3
comp=Z,1.2nm,0.8s,baz=222,slow=2.0,SNR=5.4
MKAR Makanchi Array 136.69 73 PKP PKPdf 09 45 55.8 -1.8
comp=Z,0.3nm,0.8s,baz=245,slow=3.0,SNR=2.9
KURBB Kurchatov Arra 137.49 66 PKP PKPdf 09 45 59.0 +0.2
comp=Z,0.3nm,0.3s,baz=230,slow=2.3,SNR=1.6
YKA Yellowknife Ar 139.25 315 PKhKP PKPpre 09 45 54.2
comp=Z,0.4nm,0.8s,baz=118,slow=2.4,SNR=7.2
YKA PKP PKPdf 09 46 02.4 +0.7
comp=Z,1.8nm,0.8s,baz=125,slow=2.4,SNR=20
ZALV Zalesovo Beam 142.59 66 PKP PKPdf 09 46 07.4 -0.6
comp=Z,0.3nm,0.4s,baz=248,slow=0.8,SNR=1.8
M31M Drury Creek, Y 146.86 306 P PKPab 09 46 18.1 -0.4
baz=117,SNR=8.4
O30N Mendenhall 146.91 303 P PKiKP 09 46 19.7 -0.2
baz=118
N31M Braeburn, Yuko 147.12 304 P PKPab 09 46 18.8 -0.8
baz=118
N30M Aishikik Lake 147.66 304 P PKiKP 09 46 21.1 -0.3
baz=117
M30M Minto, Yukon 148.03 306 P PKPbc 09 46 21.0 +0.7
baz=115,SNR=8.1
MAYO Mayo, Yukon 148.09 308 P PKiKP 09 46 21.6 -0.5
baz=114,SNR=6.3
YUK4 Talbot Arm 148.28 303 P PKiKP 09 46 22.7 -0.2
baz=116
J30M Hart River 148.66 309 P PKiKP 09 46 23.2 -0.2
baz=113,SNR=11
M29M Somme Creek 148.68 305 P PKiKP 09 46 23.0 -0.5
baz=115
F31M Tsiigehtchic 148.72 315 P PKiKP 09 46 22.6 -0.6
baz=110,SNR=15
G31M Satah River 148.73 314 P PKPbc 09 46 22.3 +0.4
baz=110,SNR=13
YUK8 Steele Glacier 148.74 302 P PKiKP 09 46 24.6 +0.7
baz=116
L29M 148.81 306 P PKiKP 09 46 23.7 0.0
baz=114
K29M Barlow Dome 148.85 308 P PKiKP 09 46 23.4 -0.4
baz=113
I30M Mount Dempster 148.92 311 P PKiKP 09 46 24.1 +0.1
baz=112
INK Inuvik 148.93 317 P PKiKP 09 46 23.2 -0.5
baz=109,SNR=20
CTG Chitna Glacier 149.29 301 P PKiKP 09 46 25.2 +0.4
baz=115
J29N Klondike Camp 149.37 309 P PKPbc 09 46 23.7 0.0
baz=112,SNR=5.0
EPYK Eagle Plains 149.46 313 P PKiKP 09 46 24.7 -0.2
baz=110,SNR=13
G30M tAoh Zraii Nji 149.48 314 P PKiKP 09 46 24.9 0.0
baz=109
F30M Barrier River 149.52 315 P PKiKP 09 46 24.7 -0.3
baz=108
SONM Songino Array 149.62 90 PKPbc PKPbc 09 46 25.1 +0.1
comp=Z,1.0nm,0.5s,baz=213,slow=3.2,SNR=8.5
BVCY Beaver Creek 149.68 304 P PKiKP 09 46 25.7 +0.2
baz=113
DAWY Dawson 149.70 307 P PKiKP 09 46 25.3 -0.2
baz=112
H29M Whitestone 150.04 312 P PKiKP 09 46 26.1 +0.1
baz=109
M27K Edge Creek, AK 150.10 303 P PKiKP 09 46 26.5 0.0
baz=113
G29M Pine Creek 150.13 313 P PKiKP 09 46 26.4 +0.1
baz=108
MCARA McCarthy VSAT 150.21 301 P PKiKP 09 46 26.6 0.0
baz=114
L27K Beaver Creek, 150.34 305 P PKiKP 09 46 27.1 +0.3
baz=112
I28M Miner Creek 150.40 310 P PKiKP 09 46 27.0 0.0
baz=109
E29M Blow River 150.51 316 P PKiKP 09 46 27.0 0.0
baz=105
M26K Nabesna, AK 150.60 303 P PKiKP 09 46 27.7 +0.3
baz=112
EGAK Eagle 150.67 308 P PKiKP 09 46 27.4 0.0
baz=109
K27K Chicken 150.79 307 P PKiKP 09 46 28.7 +1.0
baz=110
L26K Log Cabin Wild 150.98 304 P PKiKP 09 46 28.8 +0.6
baz=111,SNR=12
N25K Chena, Valde 150.99 301 P PKiKP 09 46 29.5 +1.2
baz=112
F28M Old Crow 151.02 314 P PKiKP 09 46 28.4 +0.3
baz=105
D28M Stokes Point 151.03 318 P PKiKP 09 46 28.9 +0.9
baz=103
I27K Kandik River 151.12 310 P PKiKP 09 46 29.0 +0.6
baz=108
E28M Babbage River 151.15 316 P PKiKP 09 46 28.4 +0.1
baz=104
H27K Steamboat Moun 151.26 311 P PKiKP 09 46 29.2 +0.6
baz=106
KLU Klutina 151.54 300 P PKiKP 09 46 31.5 +2.1
baz=112,SNR=6.1
J26L Joseph Creek 151.56 307 P PKiKP 09 46 29.7 +0.3
baz=108,SNR=11
SCRK Sand Creek 151.57 306 P PKiKP 09 46 30.3 +0.9
baz=109,SNR=9.2
I26K Coal Creek Min 151.64 309 P PKiKP 09 46 29.7 +0.3
baz=107
D27M Malcolm River 151.79 317 P PKiKP 09 46 31.5 +1.8
baz=102
RIDG Independent Ri 151.85 305 P PKiKP 09 46 31.0 +1.0
baz=109,SNR=12
PAX Paxson 151.87 303 P PKiKP 09 46 31.4 +1.4
baz=110
M24K Tolsona, Glenn 151.87 301 P PKiKP 09 46 30.9 +0.9
baz=111
J25K Salcha River, 152.34 307 P PKiKP 09 46 32.5 +1.6
baz=107
F26K Sheenjek River 152.62 314 P PKiKP 09 46 32.9 +1.5
baz=102
WAT6 Susitna Watana 152.72 302 P PKiKP 09 46 33.7 +1.7
baz=109
HDA Harding Lake 152.94 306 P PKiKP 09 46 32.6 +0.5
baz=106
ILAR Eielson Array 153.01 307 PKPbc PKiKP 09 46 32.8 +0.5
comp=Z,6.0nm,1.0s,baz=141,slow=0.8,SNR=31
F25K Christian Rive 153.17 313 P PKiKP 09 46 33.9 +1.3
baz=101
H24K Noodor Dome 153.68 309 P PKiKP 09 46 33.8 +0.1
baz=103
G16K Koyuk River 159.56 306 P PKPab 09 47 13.0 +1.2
baz=92
C17K DeLong Mountai 159.77 315 P PKPab 09 47 12.8 +0.2
baz=83

IDC 29 09:37:45.9±5.5, 4°48S×134°46E, h0km, mb3.6/1, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=298.3km s-min=31.1km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.37**	**180**	Pn	Pn	09 41 22.4	-1.9
	0.2nm,0.3s,baz=358,slow=13,SNR=7.0			Sn	Sn	09 44 02.4	-13
WRA	0.1nm,0.3s,baz=360,slow=23,SNR=1.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**19.08**	**182**	P	Pn	09 42 11.0	0.0
	0.2nm,0.3s,baz=8.5,slow=9.3,SNR=18						
ASAR	0.2nm,0.5s,baz=11,slow=26,SNR=1.1			S	Sn	09 45 28.7	-17
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.67**	**324**	P	P	09 48 51.2	0.0
	0.3nm,0.5s,baz=108,slow=7.7,SNR=5.7						
	0.3nm,0.5s						

*IDC **29** 09:50:14.7±4.3, 16°83N×94°43W, h0km, mb3.5/2, mbtmp3.5/3, ML3.8/1, MS3.0/3, Error ellipse: s-maj=107.5km s-min=14.4km az=20.0*
*MEX **29** 09:50:19.0±0.7, 16°76N×94°61W, h10km, MD4.3*
ISC 29 09:50:14.9±1.1, 16°72N±0°03×94°61W±0°02, h6km±8km, n49, σ1°93/85, Oaxaca

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

NILT Santiago Nilte 0.15 182 eP Pg 09 50 16.6 -1.4
NILT eS **Sg 09 50 18.1 -2.0**
CMIG Matias Romero 0.46 325 Pg **Pg 09 50 24.3 +0.5**
baz=145,slow=16
CMIG Lg Lg 09 50 31.3
1µm,0.3s,baz=160,slow=13,SNR=42
CMIG LR LR 09 50 53.4
comp=Z,304nm,20.4s,baz=256,slow=77
CMIG Matias Romero 0.46 325 *i* P **Pg 09 50 24.5 +0.7**
CMIG eS **Sg 09 50 31.3 +1.6**
UXUV UXUV 0.75 37 *i* P **Pg 09 50 30.4 +1.1**
UXUV eS **Sb 09 50 41.0 +0.2**
CARR Arriaga 0.82 125 eP **Pg 09 50 29.9 -0.7**
CARR eS **Sg 09 50 40.1 -1.1**
TGIG 1.43 87 eP **Pn 09 50 41.5 0.0**
TGIG *i* S **Sb 09 51 01.0 +0.5**
TGBT Tuxtla Gutierr 1.46 87 eP **Pn 09 50 42.2 +0.3**
TGBT *i* S **Sn 09 51 00.5 -0.8**
NEUV Arroyo Zacate 1.51 311 eP **Pn 09 50 42.7 +0.1**
NEUV eS **Sn 09 51 03.8 +1.2**
PCIG 1.67 127 eP **Pn 09 50 44.8 +0.1**
PCIG eS **Sn 09 51 06.9 +0.4**
HUIG Huatulco 1.72 237 eP **Pn 09 50 44.3 -1.1**
HUIG eS **Sn 09 51 06.4 -1.3**
PMUV Sontecomapan 1.88 345 eP **Pn 09 50 47.0 -0.8**
PMUV *i* S **Sn 09 51 10.6 -1.3**
VHO Vista Hermosa 2.06 280 eP **Pn 09 50 50.6 +0.3**
VHO eS **Sn 09 51 17.8 +1.3**
CCIG Comitan 2.41 100 eP **Pb 09 50 58.8 -0.1**
CCIG *i* S **Sb 09 51 28.9 -0.1**
PEIG Puerto Escondi 2.54 254 eP **Pn 09 50 54.8 -1.9**
PEIG *i* S **Sn 09 51 29.2 +1.3**
TOIG Toxpalan 2.71 301 eP **Pn 09 50 60.0 +0.8**
TOIG eS **Sn 09 51 34.2 +1.7**
PATR El Naranjo 2.79 124 eP **Pn 09 51 03.6 +3.3**
PATR eS **Sb 09 51 39.3 -0.5**
PAVE Pavencul 2.79 123 eP **Pn 09 51 02.5 +2.2**
PAVE eS **Sb 09 51 39.7 -0.2**
YOIG Yosondua 2.81 273 eP **Pn 09 51 01.6 +0.9**
YOIG eS **Sn 09 51 37.0 +1.8**
THIG 2.89 128 eP **Pn 09 51 05.0 +3.5**
THIG eS **Sb 09 51 41.8 -0.6**
CHUJ Union Juarez 2.90 123 eP **Pn 09 51 05.2 +3.3**
CHUJ eS **Sb 09 51 43.0 0.0**
TXIG Tlaxiaco 3.07 280 eP **Pn 09 51 05.6 +1.4**
TXIG eS **Sn 09 51 44.4 +3.0**
TPIG Tehuac#an 3.12 303 eP **Pn 09 51 04.1 -0.8**
TPIG eS **Sn 09 51 39.3 -3.3**
SMSP San Marcos 3.23 122 *i* P **Pn 09 51 07.5 +1.1**
SMSP eS **Sb 09 51 50.1 -2.5**
HLIG Huajuapan de L 3.25 290 eP **Pn 09 51 08.1 +1.5**
HUEH Huehuetenango 3.30 114 eP **Pn 09 51 10.8 +3.5**
HUEH eS **Sb 09 51 51.8 -2.7**
JAUV Jalcomulco 3.36 322 eP **Pn 09 51 07.5 -0.6**
JAUV eS **Sn 09 51 46.6 -1.7**
PNIG Pinotepa 3.39 265 eP **Pn 09 51 07.8 -0.6**
PNIG *i* S **Sn 09 51 50.4 +1.4**
LVIG Laguna Verde 3.45 330 eP **Pn 09 51 08.6 -0.6**
LVIG eS **Sn 09 51 45.7 -4.7**
RTAL Retalhuleu 3.56 127 eP Pn 09 51 15.9 +5.2
RTAL eS **Sn 09 51 52.3 -0.7**
FTIG Fresnillo de T 3.57 290 eP **Pn 09 51 12.8 +1.8**
FTIG eS **Sn 09 51 55.5 +2.0**
TLIG Tlapa 3.87 283 eP **Pn 09 51 16.4 +1.2**
TLIG eS **Sn 09 52 01.0 -0.1**
MGIG Malinaltepec 3.88 278 eP **Pn 09 51 16.0 +0.7**
MGIG eS **Sn 09 52 02.4 +1.0**
SCIG Sabancuy 3.96 55 eP **Pn 09 51 17.9 +1.6**
SCIG eS **Sn 09 52 02.5 -0.5**
CRIG Cruz Grande 4.33 271 eP **Pn 09 51 20.5 -0.8**
CRIG eS **Sn 09 52 08.6 -3.6**
PPM Popocatepetl 4.48 302 eP **Pn 09 51 25.9 +2.1**
PPM eS **Sn 09 52 13.8 -2.8**
PETF Flores 4.55 87 eP **Pn 09 51 25.6 +1.2**
PETF *i* S **Sn 09 52 13.3 -4.3**
YAIG Yautepec 4.75 297 eP **Pn 09 51 29.6 +2.3**
YAIG *i* S **Sn 09 52 21.0 -1.8**
DAIG Los Arroyos 4.83 274 eP **Pn 09 51 27.8 -0.5**
DAIG eS **Sn 09 52 22.5 -2.1**
MEIG Mezcala 4.93 285 *i* P **Pn 09 51 30.8 +1.1**
MEIG *i* S **Sn 09 52 29.5 +2.3**
PLIG Platanillo 4.96 290 eP **Pn 09 51 31.8 +1.7**
PLIG eS **Sn 09 52 25.5 -2.2**
AOVM Tlapan 5.15 300 eP **Pn 09 51 32.8 -0.2**
AOVM *i* S **Sn 09 52 28.8 -4.3**
CAIG El Cayaco 5.42 274 eP **Pn 09 51 36.2 -0.2**
CAIG *i* S **Sn 09 52 44.4 +5.2**
ARIG Puente Sto Nin 5.69 287 eP **Pn 09 51 41.7 +1.6**
ARIG eS **Sn 09 52 42.2 -3.6**
TXAR Lajitas Array 15.06 328 Pn **P 09 53 53.1 -0.8**
0.1nm,0.3s,baz=155,slow=13,SNR=8.6
0.7nm,0.7s
LPIG La Paz 16.44 299 LR LR 10 00 17.9
comp=Z,19nm,21.7s,baz=24,slow=36
TKL Tuckaleechee C 21.19 25 LR LR 10 04 31.4
comp=Z,26nm,18.1s,baz=101,slow=41
NVAR Mina Array Bea 29.99 321 P **P 09 56 26.0 +1.4**
0.5nm,0.7s,baz=139,slow=9.6,SNR=5.6
0.5nm,0.7s
YKA Yellowknife Ar 47.83 348 P **P 09 58 52.7 -0.5**
0.4nm,0.7s,baz=153,slow=7.1,SNR=7.2
0.4nm,0.7s
BORG Borgarnes 67.89 26 LR LR 10 30 47.2
comp=Z,42nm,18.3s,baz=178,slow=36

*CATAC **29** 09:53:37.0±0.5, 12°72N×90°15W, h7km±4km, mb3.9, ML3.5*
*IDC **29** 09:53:38.4±3.1, 13°64N×89°48W, h0km, mb3.2/3, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=152.5km s-min=31.2km az=43.0*
*SNET **29** 09:53:42.7±1.9, 12°90N×89°92W, h35km, ML3.5*
ISC 29 09:53:39.7±1.7, 12°81N±0°06×90°07W±0.06, h33km±12km, n60, σ0°99/71, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**1.00**	**47**	eP	**Pn**	**09 53 56.6**	**-0.8**
LALI	**Alcalda de L**	**1.00**	**47**	*i* P	**Pb**	**09 53 58.2**	**-0.3**
LALI				IAML		09 54 19.1	
	comp=Z,140nm,1.0s						
JAYA	**Jayaque - finc**	**1.04**	**36**	eP	**Pn**	**09 53 58.4**	**+0.3**
JAYA				eS	**Sn**	**09 54 11.4**	**-0.2**
JAYA	**Jayaque - finc**	**1.04**	**36**	*i* P	**Pn**	**09 53 58.4**	**+0.3**
JAYA				*i* S	**Sb**	**09 54 14.7**	**+2.0**
JAYA				IAML		09 54 21.0	
	comp=Z,1µm,1.0s						
CEVE	**Cerro Verde**	**1.10**	**23**	*i* P	**Pb**	**09 54 00.0**	**-0.5**
CEVE				IAML		09 54 23.2	
	comp=Z,680nm,1.0s						
NUBE	**Las Nubes**	**1.13**	**15**	eP	**Pn**	**09 53 59.3**	**0.0**
NUBE				eS	**Sn**	**09 54 13.3**	**-0.5**
NUBE	**Las Nubes**	**1.13**	**15**	*i* P	**Pn**	**09 53 59.6**	**+0.3**
NUBE				IAML		09 53 59.9	
	comp=Z,410nm,1.0s						
NUBE				*i* S	**Sb**	**09 54 17.1**	**+1.9**
SNJE	**San Jose**	**1.15**	**23**	eP	**Pn**	**09 53 60.0**	**+0.3**
PMON	**Piamonte**	**1.16**	**39**	*i* P	**Pn**	**09 54 00.2**	**+0.4**
PMON				IAML		09 54 24.6	
	comp=Z,690nm,1.0s						
PANCS	**Alcalda de**	**1.18**	**47**	*i* P	**Pn**	**09 54 00.4**	**+0.4**
PANCS				IAML		09 54 24.1	
	comp=Z,2µm,1.0s						
CEDA	**San Andres**	**1.19**	**34**	eP	**Pb**	**09 54 00.8**	**-0.9**
CEDA	**San Andres**	**1.19**	**34**	*i* P	**Pb**	**09 54 00.9**	**-0.9**
CEDA				IAML		09 54 27.9	
	comp=Z,1µm,1.0s						
SNET	**Serv Nac Est T**	**1.20**	**43**	*i* P	**Pn**	**09 54 00.7**	**+0.4**
SNET				IAML		09 54 11.2	
	comp=Z,670nm,1.0s						
LOMA	**Loma Larga**	**1.21**	**46**	eP	**Pn**	**09 54 00.9**	**+0.4**
LOMA	**Loma Larga**	**1.21**	**46**	*i* P	**Pn**	**09 54 01.0**	**+0.5**
LOMA				IAML		09 54 03.7	
	comp=Z,590nm,1.0s						
UEES	**Universidad Ev**	**1.22**	**42**	eP	**Pn**	**09 54 00.8**	**+0.3**
UEES	**Universidad Ev**	**1.22**	**42**	*i* P	**Pn**	**09 54 01.0**	**+0.5**
UEES				IAML		09 54 27.7	
	comp=Z,250nm,1.0s						
LOAL	**Lomas de Alarc**	**1.22**	**13**	*i* P	**Pb**	**09 54 01.4**	**-0.9**
LOAL				IAML		09 54 59.6	
	comp=Z,2µm,1.0s						
UTEC	**Universidad Te**	**1.23**	**44**	*i* P	**Pn**	**09 54 01.2**	**+0.5**

UTEC					IAML			09 54 25.5
	comp=Z,430nm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.25**	**13**	*eP*		**Pn**	**09 54 01.3**	**+0.4**
SLOZ				*eS*		**Sb**	**09 54 18.1**	**-0.4**
IGN	**Direccin Gen**	**1.26**	**44**	*i P*		**Pb**	**09 54 01.8**	**-1.2**
IGN					IAML		09 54 17.5	
	comp=Z,4µm,1.0s							
UDBS	**Universidad Do**	**1.27**	**45**	*i P*		**Pn**	**09 54 01.8**	**+0.6**
UDBS					IAML		09 54 29.6	
	comp=Z,590nm,1.0s							
UNIC	**Universidad Ca**	**1.27**	**24**	*i P*		**Pb**	**09 54 02.3**	**-0.9**
UNIC					IAML		09 54 26.7	
	comp=Z,260nm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.28**	**37**	*i P*		**Pn**	**09 54 02.1**	**+0.7**
QUEZ					IAML		09 54 16.0	
	comp=Z,3µm,1.0s							
SJTE	**Alcalda de S**	**1.31**	**52**	*eP*		**Pn**	**09 54 02.3**	**+0.5**
SJTE				*eS*		**Sn**	**09 54 18.7**	**+0.5**
SJTE	**Alcalda de S**	**1.31**	**52**	*i P*		**Pn**	**09 54 02.4**	**+0.5**
SJTE					IAML		09 54 22.3	
	comp=Z,320nm,1.0s							
COEG	**Centro de Oper**	**1.42**	**55**	*eP*		**Pn**	**09 54 03.5**	**+0.3**
COEG	**Centro de Oper**	**1.42**	**55**	*i P*		**Pn**	**09 54 03.6**	**+0.3**
COEG				*i S*		**Sb**	**09 54 24.7**	**+1.4**
COEG					IAML		09 54 36.9	
	comp=Z,260nm,1.0s							
PAVA	**Las Pavas**	**1.43**	**51**	*eP*		**Pn**	**09 54 04.0**	**+0.6**
PAVA				*eS*		**Sb**	**09 54 23.1**	**-0.6**
PAVA	**Las Pavas**	**1.43**	**51**	*i P*		**Pb**	**09 54 04.4**	**-1.4**
PAVA					IAML		09 54 26.3	
	comp=Z,1µm,1.0s							
TECO	**Alcaldia de Te**	**1.45**	**60**	*eP*		**Pn**	**09 54 03.9**	**+0.2**
TECO	**Alcaldia de Te**	**1.45**	**60**	*i P*		**Pn**	**09 54 03.6**	**-0.1**
TECO					IAML		09 54 12.5	
	comp=Z,120nm,1.0s							
UESV	**Universidad de**	**1.50**	**56**	*i P*		**Pn**	**09 54 05.0**	**+0.6**
UESV				*i S*		**Sb**	**09 54 27.1**	**+1.4**
UESV					IAML		09 54 36.8	
	comp=Z,280nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.58**	**56**	*eP*		**Pn**	**09 54 06.7**	**+1.1**
SCLA	**Alcaldia de Sa**	**1.58**	**56**	*i P*		**Pb**	**09 54 06.8**	**-1.6**
SCLA				*i S*		**Sb**	**09 54 29.1**	**+1.0**
SCLA					IAML		09 54 44.4	
	comp=Z,190nm,1.0s							
PQSS	**Presa 15 de Se**	**1.68**	**61**	*eP*		**Pn**	**09 54 07.5**	**+0.7**
PQSS	**Presa 15 de Se**	**1.68**	**61**	*i P*		**Pn**	**09 54 07.3**	**+0.5**
PQSS					IAML		09 54 39.0	
	comp=Z,140nm,1.0s							
JAMO	**Monjas**	**1.69**	**6**	*i P*		**Pn**	**09 54 08.2**	**+1.2**
JAMO					IAML		09 55 00.8	
	comp=Z,810nm,1.0s							
MTO3	**Montecristo**	**1.73**	**24**	*i P*		**Pn**	**09 54 08.7**	**+1.0**
MTO3				*i S*		**Sb**	**09 54 32.5**	**+0.1**
MTO3					IAML		09 54 40.4	
	comp=Z,170nm,1.0s							
ESSG	**Sabana Grande**	**1.73**	**335**	*i P*		**Pn**	**09 54 06.4**	**-1.2**
ESSG					IAML		09 54 35.7	
	comp=Z,370nm,1.0s							
LLGN	**La Laguna**	**1.74**	**39**	*i P*		**Pn**	**09 54 08.9**	**+1.2**
LLGN					IAML		09 54 19.4	
	comp=Z,1µm,1.0s							
GUNB	**GUNB**	**1.80**	**352**	*i P*		**Pn**	**09 54 09.2**	**+0.5**
GUNB					IAML		09 54 34.1	
	comp=Z,240nm,1.0s							
PACA	**Pacayal**	**1.83**	**69**	*i P*		**Pb**	**09 54 10.7**	**-1.9**
PACA				*i S*		**Sb**	**09 54 35.5**	**+0.3**
PACA					IAML		09 54 41.0	
	comp=Z,2µm,1.0s							
ESQI	**Esquipulas**	**1.88**	**22**	*i P*		**Pn**	**09 54 11.1**	**+1.4**
ESQI					IAML		09 54 41.7	
	comp=Z,320nm,1.0s							
SARH	**Santa Rosa de**	**2.34**	**33**	*i P*		**Pn**	**09 54 17.5**	**+1.6**
AMPH	**Amapala**	**2.40**	**78**	*eP*		**Pn**	**09 54 17.2**	**+0.5**
AMPH	**Amapala**	**2.40**	**78**	*i P*		**Pn**	**09 54 17.9**	**+1.2**
AMPH				*i S*		**Sb**	**09 54 49.6**	**-1.9**
QUIS	**Sacapulas**	**2.66**	**338**	*i P*		**Pn**	**09 54 22.1**	**+1.6**
QUIS					IAML		09 54 22.3	
	comp=Z,280nm,1.0s							
CRIN	**San Cristobal**	**2.95**	**92**	*i P*		**Pn**	**09 54 25.0**	**+0.6**
CRIN					IAML		09 55 16.9	
	comp=Z,230nm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.99**	**65**	*i P*		**Pn**	**09 54 26.6**	**+1.6**
TGUH					IAML		09 54 50.3	
	comp=Z,95nm,1.0s							
CNGN	**Cerro Negro**	**3.31**	**95**	*i P*		**Pn**	**09 54 29.7**	**+0.5**
CNGN					IAML		09 55 15.2	
	comp=Z,77nm,1.0s							
MACN	**El Madrono**	**3.33**	**95**	*i P*		**Pn**	**09 54 30.2**	**+0.6**
MACN					IAML		09 55 16.6	
	comp=Z,32nm,1.0s							
COPN	**Copaltepe**	**3.46**	**100**	*i PA*			09 54 31.2	
COPN					IAML		09 55 20.2	
	comp=Z,62nm,1.0s							
LIMN	**Finca el Limon**	**3.62**	**86**	*i PA*			09 54 34.3	
LIMN					IAML		09 55 25.5	
	comp=Z,41nm,1.0s							
SAJU	**San Juanillo,**	**5.07**	**122**	*i P*		**Pn**	**09 54 54.8**	**+1.4**
SAJU					IAmb	IAmb	09 54 59.7	
	comp=Z,13nm,1.4s							
SAJU					IAML		09 55 06.8	
	comp=Z,28nm,1.0s							
INDI	**Punta indio, G**	**5.35**	**123**	*i P*		**Pn**	**09 54 58.8**	**+1.5**
INDI					IAmb	IAmb	09 55 06.9	
	comp=Z,19nm,0.9s							
INDI					IAML		09 55 30.1	
	comp=Z,34nm,1.0s							
JTS	**Las Juntas de**	**5.61**	**116**	Pn		**Pn**	**09 55 02.5**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=300,slow=20,SNR=4.6							
	comp=Z,3.3nm,0.6s							
TXAR	**Lajitas Array**	**20.74**	**325**	P		**P**	**09 58 18.0**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=139,slow=12,SNR=6.6							
	comp=Z,0.7nm,0.7s							
NVAR	**Mina Array Bea**	**35.78**	**321**	P		**P**	**10 00 37.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=127,slow=8.5,SNR=5.0							
	comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**52.62**	**346**	P		**P**	**10 02 48.7**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=146,slow=7.2,SNR=4.3							
	comp=Z,0.2nm,0.7s							

*IDC **29** 10:01:47.3±1.8, 17°.91S×69°.24W, h117km±17km, mb3.5/11, mbtmp4.0/15, Error ellipse: s-maj=20.6km s-min=14.2km az=39.0*

*NEIC **29** 10:01:48.9±1.7, 18°.02S±0°.06×69°.45W±0°.08, h135km±8km, mb4.5/26, Error ellipse: s-maj=11.3km s-min=8.6km az=97.0*

*VAO **29** 10:01:48.6±0.4, 17°.89S×69°.22W, h103km, mb4.1*

*GUC **29** 10:01:49.6±0.7, 18°.07S×69°.40W, h125km±3km, ML4.2*

ISC 29 10:01:48.3±0.6, 17°.99S±0°.04×69°.34W±0°.05, h132km±5km, n108, σ1°.31/113, mb3.9/14, 2C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB16	**IPOC Station P**	**0.38**	**204**			**Pn**	**10 02 08.6**	**+0.9**
PB16	**IPOC Station P**	**0.38**	**204**	⇑ *iP*		**Pn**	**10 02 08.6**	**+0.9**
PB16				*eS*		**Sn**	**10 02 23.1**	**+0.7**
PB16					IAML		10 02 24.1	
	comp=E,2µm,0.4s							
PB18	**Visviri**	**0.42**	**342**	⇓ *iP*		**Pn**	**10 02 09.7**	**+1.8**
PB18				*eS*		**Sn**	**10 02 24.9**	**+2.4**
AP01	**Chacalluta**	**1.02**	**248**			**Pn**	**10 02 11.9**	**+0.3**
AP01	**Chacalluta**	**1.02**	**248**	*i P*		**Pn**	**10 02 11.8**	**+0.3**
AP01				*eS*		**Sn**	**10 02 29.1**	**-0.1**
AP01					IAML		10 02 29.9	
	comp=E,10µm,0.3s							
PB12	**IPOC Station P**	**1.12**	**236**			**Pn**	**10 02 12.4**	**-0.2**
PB12	**IPOC Station P**	**1.12**	**236**	⇓ *iP*		**Pn**	**10 02 12.5**	**-0.2**
PB12				*eS*		**Sn**	**10 02 30.4**	**-0.8**
PB12					IAML		10 02 35.6	
	comp=N,1µm,0.4s							
GO01	**Chusmiza**	**1.68**	**175**			**Pn**	**10 02 20.2**	**+1.2**
GO01	**Chusmiza**	**1.68**	**175**	⇑ *iP*		**Pn**	**10 02 20.2**	**+1.2**
GO01				*eS*		**Sn**	**10 02 43.7**	**+1.2**
GO01					IAML		10 02 46.8	
	comp=N,6µm,0.1s							
PB11	**IPOC Station P**	**1.79**	**189**	Pn		**Pn**	**10 02 20.2**	**+0.2**
PB11	**IPOC Station P**	**1.79**	**189**	*i P*		**Pn**	**10 02 20.2**	**+0.2**
PB11				*eS*		**Sn**	**10 02 44.0**	**-0.3**
PB11					IAML		10 02 46.9	
	comp=E,3µm,0.2s							
LPAZ	**La Paz**	**2.05**	**35**	Pn		**Pn**	**10 02 25.8**	**+2.1**
PB08	**IPOC Station P**	**2.15**	**175**			**Pn**	**10 02 25.7**	**+1.1**
PB08	**IPOC Station P**	**2.15**	**175**	*i P*		**Pn**	**10 02 25.6**	**+1.1**
PB08				*eS*		**Sn**	**10 02 52.8**	**+0.4**
PB08					IAML		10 02 57.4	
	comp=E,1µm,0.2s							
HMBC	**Humberstone**	**2.33**	**193**	*i P*		**Pn**	**10 02 26.8**	**+0.2**
HMBC					IAML		10 03 03.8	
	comp=N,2µm,0.4s							
TA02	**Huaiquique**	**2.39**	**198**			**Pn**	**10 02 27.0**	**-0.2**
TA01	**Diego Aracena**	**2.68**	**197**			**Pn**	**10 02 30.4**	**-0.5**
PATCX	**Punta Patache**	**2.92**	**195**	Pn		**Pn**	**10 02 33.9**	**-0.2**
PATCX	**Punta Patache**	**2.92**	**195**	*i P*		**Pn**	**10 02 34.5**	**+0.5**
PATCX					IAML		10 03 22.1	
	comp=N,955nm,0.4s							
PB01	**IPOC Station P**	**3.04**	**183**			**Pn**	**10 02 35.8**	**+0.2**
PB01	**IPOC Station P**	**3.04**	**183**	*i P*		**Pn**	**10 02 35.7**	**+0.1**
PB01					IAML		10 03 17.6	
	comp=N,860nm,0.3s							
PB02	**IPOC Station P**	**3.35**	**189**			**Pn**	**10 02 40.1**	**+0.4**
PB07	**IPOC Station P**	**3.75**	**188**			**Pn**	**10 02 44.8**	**-0.2**
PB09	**IPOC Station P**	**3.79**	**179**			**Pn**	**10 02 46.0**	**+0.5**
PB04	**IPOC Station P**	**4.39**	**190**			**Pn**	**10 02 52.8**	**-0.6**
LVC	**Limon Verde**	**4.62**	**175**	Pn		**Pn**	**10 02 57.6**	**+1.0**
LVC	**Limon Verde**	**4.62**	**175**	P		**Pn**	**10 02 57.4**	**+0.8**
	comp=N,68nm,0.4s,baz=34,slow=10.0,SNR=113							
LVC				S		**Sn**	**10 03 46.8**	**-2.9**
	comp=N,71nm,0.4s,baz=66,slow=20,SNR=3.3							
LVC	**Limon Verde**	**4.62**	**175**	*eP*		**Pn**	**10 02 57.7**	**+1.1**
PB06	**IPOC Station P**	**4.70**	**183**			**Pn**	**10 02 56.7**	**-0.8**
PB05	**IPOC Station P**	**4.91**	**189**			**Pn**	**10 02 59.1**	**-1.1**
PB15	**IPOC Station P**	**5.20**	**181**			**Pn**	**10 03 03.6**	**-0.6**
PB10	**IPOC Station P**	**5.61**	**191**	Pn		**Pn**	**10 03 07.7**	**-2.0**
PB14	**IPOC Station P**	**6.68**	**188**	Pn		**Pn**	**10 03 21.6**	**-2.6**
GO02	**Mina Guanaco**	**7.14**	**182**	Pn		**Pn**	**10 03 28.8**	**-1.7**
SIV	**San Ignacio**	**8.16**	**77**	P		**Pn**	**10 03 41.5**	**-2.4**
	comp=N,8.7nm,0.3s,baz=259,slow=7.8,SNR=62							
SIV				S		**Sn**	**10 05 08.7**	**-6.0**
	comp=N,7.5nm,0.6s,baz=349,slow=22,SNR=6.4							
BBSD	**Serra de San D**	**8.37**	**86**	*eP*		**Pn**	**10 03 45.3**	**-1.4**
ETMB	**Extrema**	**8.67**	**21**	Pn		**Pn**	**10 03 49.7**	**-1.1**
ETMB	**Extrema**	**8.67**	**21**	*eP*		**Pn**	**10 03 49.5**	**-1.3**
BBRB	**Robore, Bolivi**	**9.07**	**93**	*eP*		**Pn**	**10 03 56.0**	**-0.1**
NNA	**Nana**	**9.38**	**308**	P		**Pn**	**10 03 59.2**	**-1.2**
	comp=N,22nm,0.4s,baz=156,slow=11,SNR=14							
NNA				S		**Sn**	**10 05 43.1**	**-1.2**
	comp=N,2.9nm,0.3s,baz=218,slow=22,SNR=1.0							
PTLB	**Pontes e Lacer**	**10.10**	**77**	Pn		**Pn**	**10 04 09.2**	**-0.8**
PTLB	**Pontes e Lacer**	**10.10**	**77**	*eP*		**Pn**	**10 04 09.4**	**-0.6**
VILB	**Vilhena**	**10.13**	**62**	Pn		**Pn**	**10 04 09.9**	**-0.6**
VILB	**Vilhena**	**10.13**	**62**	*eP*		**Pn**	**10 04 09.6**	**-0.9**
CZSB	**Cruzeiro do Su**	**10.71**	**342**	Pn		**Pn**	**10 04 18.5**	**+0.3**
CZSB	**Cruzeiro do Su**	**10.71**	**342**	*eP*		**Pn**	**10 04 18.0**	**-0.2**
SAML	**Samuel**	**10.80**	**34**	Pn		**Pn**	**10 04 17.0**	**-2.3**
SAML	**Samuel**	**10.80**	**34**	*eP*		**Pn**	**10 04 16.7**	**-2.6**
LCO	**Las Campanas**	**11.04**	**186**	Pn		Pn	10 04 18.4	-4.4
CO02	**Combarbal**	**13.24**	**186**	Pn		**Pn**	**10 04 51.3**	**0.0**
CPUP	**Villa Florida**	**13.88**	**129**	Pn		**Pn**	**10 04 59.5**	**+0.2**
CPUP	**Villa Florida**	**13.88**	**129**	P		**Pn**	**10 04 56.7**	**-2.7**
	comp=N,1.9nm,0.7s,baz=283,slow=14,SNR=3.1							
CPUP	**Villa Florida**	**13.88**	**129**	*eP*		**Pn**	**10 04 59.1**	**-0.3**
ATAH	**Atahualpa**	**13.94**	**320**	P		**Pn**	**10 04 57.5**	**-3.1**
	comp=N,1.6nm,0.5s,baz=73,slow=21,SNR=1.6							
CLDB	**Colider**	**14.90**	**63**	*eP*		**Pn**	**10 05 13.0**	**+0.6**
MT02	**Curacav**	**15.29**	**186**	Pn		**Pn**	**10 05 16.6**	**-0.6**
MT02					IAmb	IAmb	10 05 30.5	
	comp=Z,54nm,1.5s							
MT09	**Talagante**	**15.79**	**185**			**Pn**	**10 05 24.6**	**+1.1**
MT09					IAmb	IAmb	10 06 03.4	
	comp=Z,36nm,1.4s							
MT01	**Popeta**	**15.90**	**186**	Pn		**Pn**	**10 05 22.8**	**-1.9**
MT01					IAmb	IAmb	10 06 05.0	
	comp=Z,30nm,1.4s							
CRSM	**Crissiumal (Br**	**16.98**	**127**	*eP*		**Pn**	**10 05 39.2**	**+1.3**
MACA	**Manacapuru-AM**	**17.00**	**31**	P		**Pn**	**10 05 38.0**	**-0.3**
MACA					IAmb	IAmb	10 05 38.6	
	comp=Z,12nm,0.9s							
MACA	**Manacapuru-AM**	**17.00**	**31**	*eP*		**Pn**	**10 05 38.2**	**-0.1**
FRBT	**Francisco Belt**	**17.05**	**121**	*eP*		**Pn**	**10 05 40.1**	**+1.3**
UNIS	**Unistalda (Bra**	**17.09**	**133**	*eP*		**Pn**	**10 05 42.2**	**+2.9**
BOSC	**San Juan Bosco**	**17.26**	**328**	P		**P**	**10 05 40.5**	**-0.5**
PTGB	**Pitanga**	**17.42**	**116**	*eP*		**Pn**	**10 05 44.8**	**+1.4**
NPGB	**Novo Progresso**	**17.44**	**53**	*eP*		**Pn**	**10 05 43.7**	**+0.1**
ARNL	**Arenillas**	**17.79**	**323**	IAmb		IAmb	10 05 51.4	
	comp=Z,29nm,1.1s							
RODS	**Rosario do Sul**	**17.81**	**136**	*eP*		**P**	**10 05 47.5**	**+0.7**
LDASE	**Londrina, Braz**	**17.87**	**111**	*eP*		**Pn**	**10 05 49.8**	**+1.0**
COHC	**Cochancay**	**18.23**	**327**	P		**P**	**10 05 51.5**	**-0.1**
ITAB	**Concordia**	**18.34**	**123**	P		**P**	**10 05 53.3**	**+0.6**
ITAB					IAmb	IAmb	10 05 54.9	
	comp=Z,35nm,1.5s							
ITAB	**Concordia**	**18.34**	**123**	*eP*		**Pn**	**10 05 55.0**	**+0.8**
ALGR	**Alto Alegre (B**	**18.42**	**129**	*eP*		**P**	**10 05 54.9**	**+1.4**
SNDB	**Serra Nova Dou**	**18.43**	**74**	*eP*		**Pn**	**10 05 54.5**	**-0.8**
CHSH	**Refugio Sur-Vo**	**18.87**	**329**	IAmb		IAmb	10 06 08.1	
	comp=Z,25nm,0.6s							
ITTB	**Itaituba**	**18.99**	**46**	*eP*		**P**	**10 05 59.6**	**-0.2**
CPSB	**Cacapava Do Su**	**19.03**	**133**	*eP*		**Pn**	**10 06 03.6**	**+1.3**
SLOR	**San Lorenzo -**	**19.37**	**331**	IAmb		IAmb	10 06 08.9	
	comp=Z,10nm,0.8s							
PLTB	**Pedras Altas**	**19.77**	**137**	P		**P**	**10 06 07.1**	**-1.0**
PLTB					IAmb	IAmb	10 06 11.8	
	comp=Z,13nm,1.2s							
OTAV	**Otavalo**	**20.21**	**333**	P		**P**	**10 06 13.1**	**-0.3**
OTAV					IAmb	IAmb	10 06 26.5	
	comp=Z,16nm,1.4s							
OTAV	**Otavalo**	**20.21**	**333**	*eP*		Pn	10 06 16.7	+0.1
BDFB	**Brasilia**	**20.55**	**87**	P		**P**	**10 06 17.3**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=204,slow=16,SNR=1.6							
	comp=Z,1.6nm,0.6s							
TRQA	**Tornquist**	**21.01**	**164**	P		**P**	**10 06 21.1**	**-0.2**
BOAV	**Boa Vista**	**22.04**	**24**	P		**P**	**10 06 32.9**	**+0.4**
BOAV	**Boa Vista**	**22.04**	**24**	*eP*		**P**	**10 06 33.4**	**+0.9**
PLCA	**Paso Flores**	**22.69**	**182**	P		**P**	**10 06 40.0**	**+1.3**
PLCA	**Paso Flores**	**22.69**	**182**	P		**P**	**10 06 39.9**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=358,slow=8.1,SNR=7.3							
	comp=Z,2.1nm,0.7s							
PLCA	**Paso Flores**	**22.69**	**182**	*eP*		**P**	**10 06 41.6**	**+2.9**
MCPB	**Macapa, AP**	**24.41**	**46**	*eP*		**P**	**10 06 54.4**	**-0.2**
BAUV	**El Baul**	**26.79**	**3**	P		**P**	**10 07 15.3**	**-0.8**
BAUV					IAmb	IAmb	10 07 22.4	
	comp=Z,16nm,1.2s							
TEIG	**Tepich**	**42.28**	**333**	P		**P**	**10 09 29.5**	**+0.6**
HNDO	**Hondo**	**55.37**	**328**	P		**P**	**10 11 10.2**	**+1.4**
HNDO					IAmb	IAmb	10 11 11.1	
	comp=Z,6.6nm,0.6s							
TXAR	**Lajitas Array**	**57.54**	**324**	P		**P**	**10 11 25.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=148,slow=6.4,SNR=3.1							
	comp=Z,0.3nm,0.7s							
LCAR	**Lake Charles**	**57.59**	**339**	P		**P**	**10 11 24.5**	**+0.2**
LCAR					IAmb	IAmb	10 11 25.1	
	comp=Z,5.5nm,0.7s							
R40A	**Maddies Statio**	**59.98**	**339**	P		**P**	**10 11 40.5**	**-0.3**
R40A					IAmb	IAmb	10 11 41.7	
	comp=Z,5.8nm,0.7s							
BGNE	**Belgrade**	**64.85**	**336**	P		**P**	**10 12 13.6**	**+0.4**
DBIC	**Dimbokro**	**68.17**	**75**	P		**P**	**10 12 34.2**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=248,slow=4.9,SNR=4.3							
	comp=Z,2.7nm,0.7s							
PDAR	**Pinedale Array**	**70.88**	**330**	P		**P**	**10 12 51.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=123,slow=5.5,SNR=3.1							
	comp=Z,0.4nm,0.8s							
ULM	**Lac du Bonnet**	**71.86**	**342**	P		**P**	**10 12 56.1**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=140,slow=5.8,SNR=7.1							
	comp=Z,2.3nm,0.5s							
NVAR	**Mina Array Bea**	**72.50**	**322**	P		**P**	**10 13 03.1**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=130,slow=6.1,SNR=5.1							
	comp=Z,0.6nm,0.8s							
SCHQ	**Schefferville**	**72.56**	**2**	P		**P**	**10 13 00.6**	**0.0**
	comp=Z,1.9nm,0.8s,baz=178,slow=14,SNR=1.3							
	comp=Z,1.9nm,0.8s							
TORD	**Tordi Ar. Bea**	**76.59**	**71**	P		**P**	**10 13 24.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=256,slow=5.1,SNR=12							
	comp=Z,1.2nm,0.6s							
ESDC	**Sonseca Array**	**83.64**	**45**	P		**P**	**10 14 02.8**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=213,slow=9.2,SNR=1.7							
	comp=Z,0.5nm,0.9s							
YKA	**Yellowknife Ar**	**87.75**	**341**	P		**P**	**10 14 23.0**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=133,slow=4.7,SNR=24							
	comp=Z,1.1nm,0.7s							
STKA	**Stephens Creek**	**122.22**	**211**	PKP		**PKPdf**	**10 20 27.9**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=180,slow=5.1,SNR=3.5							
ASAR	**Alice Springs**	**132.78**	**210**	PKP		**PKPdf**	**10 20 47.6**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=151,slow=2.1,SNR=4.1							
WRA	**Warramunga Arr**	**135.72**	**213**	PKP		**PKiKP**	**10 20 56.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=154,slow=2.0,SNR=2.3							
SONM	**Songino Array**	**150.03**	**6**	PKPbc		**PKPbc**	**10 21 24.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=319,slow=0.7,SNR=2.7							

*MOS **29** 10:21:31.9±1.1, 42°.10N×142°.45E, h75km, mb4.5/1, Error ellipse: s-maj=12.7km s-min=8.4km az=69.3*

*NIED **29** 10:21:32.8, 42°.05N×142°.48E, h64km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.82; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$-1.77; $M_{r\theta}$-0.40; $M_{\theta\phi}$-2.61; $M_{\phi r}$4.72; Fault plane solution: $M_0$5.92000×10^{14} NP1 ϕ_s7.00000°, δ75.00000°, λ64.00000°. NP2 ϕ_s249.00000°, δ30.00000°, λ148.00000°.*

*JMA **29** 10:21:32.8±0.2, 42°.1N±0°.9×142°.5E±0°.8, h64km±1km, MD3.9/40, MV4.0/40, S OFF URAKAWA*

JMA Felt I J1 at S OFF URAKAWA .

*IDC **29** 10:21:33.6±1.5, 42°.10N×142°.45E, h73km±12km, mb3.6/19, mbtmp3.9/23, MS3.1/4, Error ellipse: s-maj=16.2km s-min=10.7km az=110.0*

ISC 29 10:21:32.4±0.7, 42°.05N±0°.04×142°.47E±0°.03, h66km±6km, n75, σ1°.22/70, mb3.9/19, 13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNBK	**Urakawa-nobuka**	**0.31**	**42**	P		**Pn**	**10 21 43.2**	**-0.1**
JNBK				*eS*		**Sn**	**10 21 50.6**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.31**	**42**	A		A	10 21 43.2	
	comp=E,26nm,0.4s,comp=N,39nm,0.5s							
JSHD	**Hidakashinhida**	**0.36**	**360**	⇓ P		**Pn**	**10 21 43.9**	**+0.2**
JSHD				⇓ *eS*		**Sn**	**10 21 52.1**	**+0.3**
JSHD	**Hidakashinhida**	**0.36**	**360**	A		A	10 21 43.9	
	comp=E,30nm,0.4s,comp=N,19nm,0.9s							
JEM	**Erimo**	**0.51**	**93**	P		**Pn**	**10 21 45.5**	**+0.5**
JEM				*eS*		**Sn**	**10 21 54.5**	**+0.3**
JEM	**Erimo**	**0.51**	**93**	A		A	10 21 45.5	
	comp=E,4.0nm,2.6s,comp=N,4.0nm,0.8s							
JTHR	**Tokachihiroo**	**0.66**	**68**	P		**Pn**	**10 21 47.0**	**+0.4**
JTHR				*eS*		**Sn**	**10 21 57.6**	**+0.6**
JTHR	**Tokachihiroo**	**0.66**	**68**	A		A	10 21 47.0	
	comp=E,9.0nm,0.4s,comp=N,8.0nm,0.3s							
JIAM	**Iburiatsuma**	**0.70**	**325**	⇓ P		**Pn**	**10 21 48.0**	**+0.9**
JIAM	**Iburiatsuma**	**0.70**	**325**	A		A	10 21 48.0	
	comp=E,23nm,1.3s,comp=N,19nm,0.4s							
JBT2	**Biratori 2**	**0.73**	**354**	⇓ P		**Pn**	**10 21 47.5**	**0.0**
JBT2	**Biratori 2**	**0.73**	**354**	A		A	10 21 47.5	
	comp=E,7.0nm,2.7s,comp=N,4.0nm,0.4s							
JCH	**Churui**	**0.87**	**49**	*eP*		**Pn**	**10 21 49.3**	**+0.2**
JCH	**Churui**	**0.87**	**49**	A		A	10 21 49.3	
	comp=E,4.0nm,4.0s,comp=N,4.0nm,2.2s							
JKB	**Kayabe**	**1.08**	**262**	⇓ P		**Pn**	**10 21 52.0**	**+0.2**
JKB				⇓ *eS*		**Sn**	**10 22 06.3**	**+0.2**
JKB	**Kayabe**	**1.08**	**262**	A		A	10 21 52.0	
	comp=E,5.0nm,0.4s,comp=N,6.0nm,0.4s							
JEW	**Eniwo**	**1.09**	**317**	⇓ P		**Pn**	**10 21 52.4**	**+0.5**
JFR	**Furan**	**1.12**	**5**	⇓ P		**Pn**

YKA	**Yellowknife Ar**	**59.09**	**32**	P		**P**	**10 31 25.5**	**+0.1**
	comp=N,0.2nm,0.7s,baz=303,slow=7.1,SNR=4.9							
	comp=N,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**59.61**	**339**	P		**P**	**10 31 27.5**	**-1.4**
	comp=N,1.4nm,0.9s,baz=38,slow=10,SNR=2.3							
	comp=N,1.4nm,0.9s							
WRA	**Warramunga Arr**	**62.13**	**189**	P		**P**	**10 31 46.4**	**-0.2**
	comp=N,0.5nm,0.7s,baz=4.7,slow=7.0,SNR=5.7							
	comp=N,0.5nm,0.7s							
GEYT	**Alibeck**	**62.20**	**297**	P		**P**	**10 31 46.8**	**-0.3**
	comp=N,1.0nm,0.5s,baz=36,slow=13,SNR=2.9							
	comp=N,1.0nm,0.5s							
FINES	**FINESS Array B**	**64.78**	**332**	P		**P**	**10 32 03.1**	**-0.4**
	comp=N,1.9nm,0.5s,baz=37,slow=8.2,SNR=7.7							
	comp=N,1.9nm,0.5s							
ASAR	**Alice Springs**	**65.86**	**189**	P		**P**	**10 32 11.4**	**+0.4**
	comp=N,0.9nm,1.2s,baz=5.0,slow=7.9,SNR=1.4							
	comp=N,0.9nm,1.2s							
HFS	**Hagfors**	**69.87**	**335**	P		**P**	**10 32 35.6**	**-0.1**
	comp=N,1.1nm,0.3s,baz=52,slow=9.6,SNR=9.3							
	comp=N,1.1nm,0.3s							
NB2	**NORSAR Subarra**	**69.89**	**337**	P		**P**	**10 32 35.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**69.89**	**337**	P		**P**	**10 32 35.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=36,slow=6.2,SNR=5.2							
	comp=Z,1.1nm,0.6s							
AKASG	**Malin Array Be**	**70.85**	**322**	P		**P**	**10 32 41.6**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=43,slow=6.5,SNR=6.5							
	comp=Z,0.9nm,0.4s							
NVAR	**Mina Array Bea**	**71.38**	**55**	P		**P**	**10 32 46.8**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=304,slow=6.4,SNR=2.3							
	comp=Z,0.2nm,0.7s							
PDAR	**Pinedale Array**	**73.61**	**47**	P		**P**	**10 33 00.1**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=222,slow=2.0,SNR=2.6							
	comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**86.44**	**53**	P		**P**	**10 34 09.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.6,SNR=2.9							
	comp=Z,0.3nm,0.6s							
SNAA	**Sanae**	**145.76**	**199**	PKPbc		**PKPbc**	**10 41 02.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=186,slow=18,SNR=1.0							
H03N2	**Juan Fernandez**	**146.42**	**89**	T		T	13 24 30.1	
	baz=300,slow=77,SNR=6.0							
H03N3	**Juan Fernandez**	**146.44**	**89**	T		T	13 24 30.8	
	baz=300,slow=77,SNR=6.9							
H03N1	**Juan Fernandez**	**146.44**	**89**	T		T	13 24 31.3	
	baz=300,slow=77,SNR=8.3							

*NEIC **29** 10:23:36.0±2.2,56˚.26N±0˚.09×149˚.40W±0˚.05,*
h23km±10km,ML3.5/52,ML3.3(AEIC),Error ellipse:
s-maj=13.5km s-min=1.3km az=165.0
*AEIC **29** 10:23:39.2±2.0,56˚.30N±0˚.09×149˚.4W±0˚.1,h10km±8km,*
Error ellipse: s-maj=13.8km s-min=9.3km az=161.0

ISC 29 10:23:33.4±1.8,56˚.28N±0˚.10×149˚.35W±0˚.06,h10km,
n158,σ1°37/152,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.32**	**312**		**Pn**	**10 24 12.4**	**+0.8**
KDAK					**Sn**	**10 24 38.5**	**-1.8**
OHAK	**Old Harbor**	**2.36**	**295**		**Pn**	**10 24 12.4**	**+0.2**
OHAK					**Sn**	**10 24 39.0**	**-2.2**
OHAK	**Old Harbor**	**2.36**	**295**	P	**Pn**	**10 24 12.4**	**+0.2**
	baz=112						
OHAK				S	**Sn**	**10 24 39.0**	**-2.2**
	baz=112						
SII	**Sitkinak Islan**	**2.70**	**278**		**Pn**	**10 24 17.2**	**+0.4**
SII					**Sn**	**10 24 47.7**	**-1.8**
SII	**Sitkinak Islan**	**2.70**	**278**	IAML		10 25 01.1	
	comp=N,182nm,1.2s						
SII	**Sitkinak Islan**	**2.70**	**278**	P	**Pn**	**10 24 17.3**	**+0.4**
	baz=94						
SII				S	**Sn**	**10 24 47.7**	**-1.8**
	baz=94						
Q20K	**Shuyak Island**	**2.86**	**326**	P	**Pn**	**10 24 19.6**	**+0.6**
	baz=144						
Q20K				S	**Sn**	**10 24 52.4**	**-1.0**
	baz=144						
SYI	**Shuyak Island**	**2.86**	**326**		**Pn**	**10 24 19.6**	**+0.7**
SYI					**Sn**	**10 24 52.4**	**-1.0**
SYI	**Shuyak Island**	**2.86**	**326**	IAML		10 24 54.2	
	comp=E,108nm,0.5s						
R18K	**Karluk**	**3.08**	**297**		**Pn**	**10 24 23.3**	**+1.3**
R18K	**Karluk**	**3.08**	**297**	IAML		10 25 02.7	
	comp=E,82nm,1.2s						
R18K				IAML		10 25 49.3	
	comp=N,82nm,1.4s						
R18K	**Karluk**	**3.08**	**297**	P	**Pn**	**10 24 23.3**	**+1.3**
	baz=112						
CNPM	**China Poot**	**3.41**	**344**		**Pn**	**10 24 27.1**	**+0.5**
CNPM					**Sn**	**10 25 05.3**	**-1.7**
CNPM	**China Poot**	**3.41**	**344**	IAML		10 25 07.5	
	comp=E,86nm,1.5s						
CNPM				IAML		10 25 10.6	
	comp=N,63nm,1.2s						
Q19K	**Cape Douglas,**	**3.52**	**321**		**Pn**	**10 24 29.5**	**+1.3**
Q19K	**Cape Douglas,**	**3.52**	**321**	IAML		10 25 15.9	
	comp=E,171nm,1.1s						
Q19K				IAML		10 25 20.4	
	comp=N,159nm,1.1s						
Q19K	**Cape Douglas,**	**3.52**	**321**	P	**Pn**	**10 24 29.5**	**+1.3**
	baz=137						
Q23K	**Middleton Isla**	**3.54**	**26**		**Pn**	**10 24 28.5**	**+0.1**
Q23K	**Middleton Isla**	**3.54**	**26**	P	**Pn**	**10 24 28.5**	**+0.1**
	baz=208						
MID	**Middleton Isla**	**3.54**	**26**	Pn	**Pn**	**10 24 28.9**	**+0.5**
BRSE	**Bradley Lake S**	**3.55**	**349**		**Pn**	**10 24 28.8**	**+0.2**
BRSE					**Sn**	**10 25 08.5**	**-2.1**
BRSE	**Bradley Lake S**	**3.55**	**349**	P	**Pn**	**10 24 28.8**	**+0.2**
	baz=167						
BRSE				S	**Sn**	**10 25 08.5**	**-2.1**
	baz=167						
KAHG	**Katmai Hook Gl**	**3.58**	**310**		**Pn**	**10 24 30.8**	**+1.8**
BRLK	**Bradley Lake**	**3.59**	**348**		**Pn**	**10 24 29.2**	**+0.1**
BRLK	**Bradley Lake**	**3.59**	**348**	IAML		10 25 12.9	
	comp=E,56nm,1.2s						
HOM	**Homer**	**3.60**	**341**		**Pn**	**10 24 30.2**	**+1.0**
HOM	**Homer**	**3.60**	**341**	IAML		10 25 13.4	
	comp=E,177nm,0.8s						
HOM	**Homer**	**3.60**	**341**	P	**Pn**	**10 24 30.2**	**+1.0**
	baz=159						
KCE	**Katmai Mt Cerb**	**3.73**	**304**		**Pn**	**10 24 33.0**	**+1.9**
ACHA	**Angle Creek He**	**3.78**	**303**		**Pn**	**10 24 33.2**	**+1.4**
KVTA	**Katmai Vly 10**	**3.85**	**306**		**Pn**	**10 24 34.9**	**+2.2**
KAHC	**Katmai Hardscr**	**3.87**	**310**		**Pn**	**10 24 34.3**	**+1.3**
KAHC	**Katmai Hardscr**	**3.87**	**310**	P	**Pn**	**10 24 34.3**	**+1.3**
	baz=125						
P23K	**Montague Islan**	**3.87**	**15**		**Pn**	**10 24 33.5**	**+0.5**
P23K	**Montague Islan**	**3.87**	**15**	P	**Pn**	**10 24 33.5**	**+0.5**
	baz=196						
P19K	**Oil Pt**	**3.96**	**330**		**Pn**	**10 24 35.4**	**+1.1**
P19K	**Oil Pt**	**3.96**	**330**	IAML		10 25 24.7	
	comp=E,104nm,0.7s						
P19K				IAML		10 25 24.9	
	comp=N,84nm,0.7s						
P19K	**Oil Pt**	**3.96**	**330**	P	**Pn**	**10 24 35.4**	**+1.1**
	baz=147						
CNTC	**Contact Creek**	**4.07**	**302**		**Pn**	**10 24 37.3**	**+1.5**
Q17K	**Contact Creek**	**4.07**	**302**	P	**Pn**	**10 24 37.3**	**+1.5**
	baz=116						
Q22K	**Cooper Landing**	**4.22**	**358**		**Pn**	**10 24 37.9**	**+0.2**
Q22K	**Cooper Landing**	**4.22**	**358**	IAML		10 25 32.9	
	comp=N,104nm,0.6s						
Q22K	**Cooper Landing**	**4.22**	**358**	P	**Pn**	**10 24 37.9**	**+0.2**
	baz=177						
IVE	**Iliamna Volcan**	**4.22**	**334**		**Pn**	**10 24 36.7**	**-1.2**
SLKM	**Skilak Lake**	**4.27**	**354**		**Pn**	**10 24 38.6**	**+0.2**
HIN	**Hinchinbrook I**	**4.39**	**19**		**Pn**	**10 24 40.8**	**+0.6**
HIN	**Hinchinbrook I**	**4.39**	**19**	IAML		10 25 18.4	
	comp=E,58nm,1.4s						
HIN				IAML		10 27 40.2	
	comp=N,49nm,1.5s						
P18K	**Big Mountain,**	**4.43**	**317**	P	**Pn**	**10 24 41.5**	**+0.9**
	baz=132						
KAIM	**Kayak Island**	**4.50**	**34**		**Pn**	**10 24 42.4**	**+0.8**
KAIM	**Kayak Island**	**4.50**	**34**	IAML		10 27 39.9	
	comp=E,59nm,1.5s						
KAIM	**Kayak Island**	**4.50**	**34**	P	**Pn**	**10 24 42.4**	**+0.8**
	baz=218						
RSO	**Redoubt South**	**4.56**	**338**	Pn	**Pn**	**10 24 43.1**	**+0.5**
RDWB	**Redoubt West**	**4.60**	**338**		**Pn**	**10 24 43.1**	**0.0**
EYAK	**Cordova Ski Ar**	**4.68**	**22**		**Pn**	**10 24 44.8**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.68**	**22**	P	**Pn**	**10 24 44.8**	**+0.7**
	baz=206						
R16K	**Pilot Point**	**4.69**	**289**		**Pn**	**10 24 45.3**	**+1.2**
R16K	**Pilot Point**	**4.69**	**289**	P	**Pn**	**10 24 45.3**	**+1.2**
	baz=102						
O19K	**Port Alsworth**	**4.72**	**328**		**Pn**	**10 24 45.2**	**+0.6**
O19K	**Port Alsworth**	**4.72**	**328**	P	**Pn**	**10 24 45.0**	**+0.3**
	baz=144						
O18K	**Koktuh Hills**	**4.74**	**322**		**Pn**	**10 24 45.5**	**+0.6**
O18K	**Koktuh Hills**	**4.74**	**322**	P	**Pn**	**10 24 45.5**	**+0.6**
	baz=136						
RAGM	**Ragged Mountai**	**4.80**	**29**		**Pn**	**10 24 46.4**	**+0.6**
RAGM	**Ragged Mountai**	**4.80**	**29**	IAML		10 25 43.4	
	comp=E,55nm,1.3s						
RC01	**Rabbit Creek A**	**4.83**	**358**		**Pn**	**10 24 46.5**	**+0.4**
RC01	**Rabbit Creek A**	**4.83**	**358**	IAML		10 25 40.2	
	comp=E,40nm,0.6s						
RC01				IAML		10 25 42.4	
	comp=N,27nm,0.3s						
RC01	**Rabbit Creek A**	**4.83**	**358**	P	**Pn**	**10 24 46.5**	**+0.4**
	baz=177						
GOAT	**Goat Mountain**	**4.95**	**27**		**Pn**	**10 24 49.0**	**+1.2**
BERG	**Berg Lake**	**5.09**	**33**		**Pn**	**10 24 50.3**	**+0.7**
BERG	**Berg Lake**	**5.09**	**33**	IAML		10 25 44.4	
	comp=E,48nm,1.3s						
BERG				IAML		10 25 47.9	
	comp=N,50nm,0.9s						
KNK	**Knik Glacier**	**5.17**	**5**		**Pn**	**10 24 51.4**	**+0.6**
KNK	**Knik Glacier**	**5.17**	**5**	IAML		10 25 59.4	
	comp=E,17nm,1.5s						
KNK	**Knik Glacier**	**5.17**	**5**	P	**Pn**	**10 24 51.4**	**+0.6**
	baz=186						
SNH	**Sunshine Point**	**5.21**	**39**		**Pn**	**10 24 52.2**	**+0.9**
SNH	**Sunshine Point**	**5.21**	**39**	IAML		10 26 05.4	
	comp=N,39nm,1.3s						
SNH				IAML		10 28 15.2	
	comp=E,37nm,1.4s						
N19K	**Bonanza Creek**	**5.28**	**332**		**Pn**	**10 24 52.6**	**+0.3**
N19K	**Bonanza Creek**	**5.28**	**332**	P	**Pn**	**10 24 52.6**	**+0.3**
	baz=147						
BMRM	**Bremner River**	**5.32**	**26**		**Pn**	**10 24 54.0**	**+1.2**
BMRM	**Bremner River**	**5.32**	**26**	P	**Pn**	**10 24 54.0**	**+1.2**
	baz=210						
PMR	**Palmer**	**5.33**	**1**	Pn	**Pn**	**10 24 54.1**	**+1.2**
PMR				IAML		10 25 56.7	
	comp=N,16nm,1.4s						
PMR				IAML		10 25 57.0	
	comp=E,15nm,1.5s						
P16K	**Nushagak River**	**5.40**	**304**	P	**Pn**	**10 24 55.8**	**+2.0**
	baz=117						
KLU	**Klutina**	**5.52**	**17**		**Pn**	**10 24 56.9**	**+1.1**
KLU	**Klutina**	**5.52**	**17**	P	**Pn**	**10 24 56.8**	**+1.1**
	baz=200						
SML	**Sawmill**	**5.57**	**5**		**Pn**	**10 24 57.5**	**+1.1**
SML	**Sawmill**	**5.57**	**5**	P	**Pn**	**10 24 57.5**	**+1.1**
	baz=186						
N18K	**Kilae Creek**	**5.59**	**325**		**Pn**	**10 24 56.8**	**+0.3**
N18K	**Kilae Creek**	**5.59**	**325**	P	**Pn**	**10 24 56.8**	**+0.3**
	baz=139						
M23K	**Glacier View**	**5.59**	**8**	P	**Pn**	**10 24 58.0**	**+1.4**
	baz=189						
SCM	**Sheep Creek Mo**	**5.67**	**10**		**Pn**	**10 24 59.0**	**+1.3**
SCM	**Sheep Creek Mo**	**5.67**	**10**	P	**Pn**	**10 24 59.0**	**+1.3**
	baz=192						
S14K	**Fog Glacier**	**5.68**	**274**	P	**Pn**	**10 24 59.6**	**+1.7**
	baz=86						
VNFG	**Fog Glacier, M**	**5.68**	**274**		**Pn**	**10 24 59.6**	**+1.7**
O16K	**Kokwok River B**	**5.72**	**309**	Pn	**Pn**	**10 24 59.6**	**+1.4**
SKT	**Skwentna**	**5.83**	**350**	Pn	**Pn**	**10 25 01.7**	**+1.9**
VRDI	**Verde Repeater**	**5.83**	**29**		**Pn**	**10 25 01.0**	**+0.9**
N25K	**Chitina, Valde**	**5.88**	**23**		**Pn**	**10 25 01.6**	**+0.9**
N25K	**Chitina, Valde**	**5.88**	**23**	P	**Pn**	**10 25 01.6**	**+0.9**
	baz=207						
KIAG	**Kiagna River**	**5.92**	**35**		**Pn**	**10 25 01.9**	**+0.7**
GLB	**Gilahina Butte**	**5.92**	**27**		**Pn**	**10 25 02.0**	**+0.8**
M20K	**Styx River**	**5.95**	**342**		**Pn**	**10 25 02.2**	**+0.7**
M20K	**Styx River**	**5.95**	**342**	P	**Pn**	**10 25 02.2**	**+0.7**
	baz=159						
SAMH	**Samovar Hills**	**5.95**	**46**		**Pn**	**10 25 03.0**	**+1.4**
CNBA	**Chernabura Isl**	**5.99**	**260**	Pn	**Pn**	**10 25 03.3**	**+1.3**
M24K	**Tolsona, Glenn**	**6.07**	**14**		**Pn**	**10 25 04.9**	**+1.7**
M24K	**Tolsona, Glenn**	**6.07**	**14**	P	**Pn**	**10 25 04.9**	**+1.7**
	baz=197						
MCARA	**McCarthy VSAT**	**6.08**	**30**		**Pn**	**10 25 04.7**	**+1.4**
MCARA	**McCarthy VSAT**	**6.08**	**30**	P	**Pn**	**10 25 04.7**	**+1.4**
	baz=216						
PTPK	**Patty Peak**	**6.09**	**33**		**Pn**	**10 25 04.8**	**+1.2**
PCA	**Pinnacle**	**6.15**	**48**		**Pn**	**10 25 05.8**	**+1.5**
PINM	**Pinnacle**	**6.15**	**48**	P	**Pn**	**10 25 05.8**	**+1.5**
	baz=236						
M18K	**Stony River**	**6.21**	**330**		**Pn**	**10 25 05.2**	**+0.2**
M18K	**Stony River**	**6.21**	**330**	P	**Pn**	**10 25 05.2**	**+0.2**
	baz=144						
BARN	**Barnard Glacie**	**6.25**	**37**		**Pn**	**10 25 06.8**	**+1.1**
WACK	**Wrangell Chich**	**6.28**	**22**		**Pn**	**10 25 07.7**	**+1.5**
CTG	**Chitna Glacier**	**6.29**	**38**	P	**Pn**	**10 25 07.3**	**+1.1**
	baz=225						
CTGM	**Chitina Glacie**	**6.29**	**38**		**Pn**	**10 25 07.3**	**+1.0**
LOGN	**Logan Glacier**	**6.31**	**40**		**Pn**	**10 25 07.4**	**+0.8**
SDPT	**Sand Point**	**6.34**	**266**	Pn	**Pn**	**10 25 08.4**	**+1.6**
WAT6	**Susitna Watana**	**6.38**	**7**		**Pn**	**10 25 09.0**	**+1.5**
WAT6	**Susitna Watana**	**6.38**	**7**	P	**Pn**	**10 25 09.0**	**+1.5**
	baz=188						
L19K	**White Mountain**	**6.56**	**337**	Pn	**Pn**	**10 25 10.2**	**+0.4**
N15K	**Kwethluk River**	**6.88**	**309**		**Pn**	**10 25 16.1**	**+1.9**
N15K	**Kwethluk River**	**6.88**	**309**	P	**Pn**	**10 25 16.1**	**+1.9**
	baz=120						
DHY	**Denali Highway**	**6.89**	**8**	Pn	**Pn**	**10 25 15.7**	**+1.2**
M16K	**Timber Creek**	**6.91**	**317**		**Pn**	**10 25 15.8**	**+1.3**
M16K	**Timber Creek**	**6.91**	**317**	P	**Pn**	**10 25 15.8**	**+1.3**
	baz=129						
O29M	**Mount Kennedy**	**6.96**	**50**		**Pn**	**10 25 17.0**	**+1.5**
O29M	**Mount Kennedy**	**6.96**	**50**	P	**Pn**	**10 25 17.0**	**+1.5**
	baz=239						
O14K	**Tigyukauivet M**	**7.03**	**300**		**Pn**	**10 25 18.2**	**+1.9**
O14K	**Tigyukauivet M**	**7.03**	**300**	P	**Pn**	**10 25 18.2**	**+1.9**
	baz=110						
P29M	**Windy Craggy**	**7.03**	**57**		**Pn**	**10 25 17.3**	**+0.9**
P29M	**Windy Craggy**	**7.03**	**57**	P	**Pn**	**10 25 17.3**	**+0.9**
	baz=247						
YUK2	**White River**	**7.05**	**35**		**Pn**	**10 25 18.9**	**+2.2**
PN7A	**Pavlof North-7**	**7.17**	**268**		**Pn**	**10 25 19.9**	**+1.6**
M27K	**Edge Creek, AK**	**7.19**	**29**	Pn	**Pn**	**10 25 21.0**	**+2.3**
TRF	**Thorofare Moun**	**7.21**	**357**	Pn	**Pn**	**10 25 21.6**	**+2.6**
CAST	**Castle Rocks**	**7.29**	**350**	Pn	**Pn**	**10 25 21.7**	**+1.8**
KTH	**Kantishna Hill**	**7.39**	**354**	Pn	**Pn**	**10 25 22.9**	**+2.3**
S31K	**Pelican**	**7.34**	**71**	Pn	**Pn**	**10 25 20.6**	**+0.1**
M15K	**Kasigluk River**	**7.40**	**311**		**Pn**	**10 25 23.5**	**+2.1**
M15K	**Kasigluk River**	**7.40**	**311**	P	**Pn**	**10 25 23.5**	**+2.1**
	baz=122						
N14K	**Kuskokwak Cree**	**7.48**	**304**		**Pn**	**10 25 24.6**	**+2.1**
N14K	**Kuskokwak Cree**	**7.48**	**304**	P	**Pn**	**10 25 24.6**	**+2.1**
	baz=114						
HYT	**Haines Junctio**	**7.69**	**49**	Pn	**Pn**	**10 25 27.4**	**+2.0**
L27K	**Beaver Creek,**	**7.79**	**26**	Pn	**Pn**	**10 25 28.5**	**+1.7**
BCAR	**Beaver Creek A**	**7.81**	**26**	Pn	**Pn**	**10 25 28.9**	**+1.9**
RIDG	**Independent Ri**	**7.82**	**15**	Pn	**Pn**	**10 25 29.4**	**+2.3**
BPAW	**Bear Paw Mtn.**	**7.89**	**355**	Pn	**Pn**	**10 25 29.9**	**+1.8**
K17K	**Iditarod**	**7.89**	**329**	Pn	**Pn**	**10 25 28.4**	**+0.3**
Q30N	**Mendenhall**	**8.27**	**52**	Pn	**Pn**	**10 25 36.2**	**+2.9**
M29M	**Somme Creek**	**8.31**	**37**	Pn	**Pn**	**10 25 36.0**	**+2.2**
CCB	**Clear Creek Bu**	**8.43**	**5**	Pn	**Pn**	**10 25 36.3**	**+0.8**
ILAR	**Eielson Array**	**8.61**	**7**	Pn	**Pn**	**10 25 40.5**	**+2.6**
J26L	**Joseph Creek**	**8.73**	**17**	Pn	**Pn**	**10 25 40.2**	**+0.5**
N31M	**Braeburn, Yuko**	**8.75**	**48**	Pn	**Pn**	**10 25 42.1**	**+2.3**
WHY	**Whitehorse**	**8.76**	**54**	Pn	**Pn**	**10 25 41.8**	**+1.7**
I21K	**Tanana**	**9.02**	**353**	Pn	**Pn**	**10 25 45.7**	**+2.1**
DAWY	**Dawson**	**9.24**	**28**	Pn	**Pn**	**10 25 48.2**	**+1.6**
IMAR	**Indian Mountai**	**9.96**	**350**	Pn	**Pn**	**10 25 57.8**	**+1.3**

*SOME **29** 10:30:01.3,42˚.18N×79˚.75E,h20km*
*NNC **29** 10:30:01.2±0.9,42˚.25N×79˚.73E,h0km,mb3.5,mpv3.5,*
Error ellipse: s-maj=6.0km s-min=3.4km az=153.0
*KRNET **29** 10:30:02.6±0.1,42˚.20N×79˚.67E,h16km,mb2.5*

ISC 29 10:30:00.7±1.7,42˚.21N±0˚.05×79˚.72E±0˚.05,h4km±11km,
n49,σ1°18/83,10C-7D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.97**	**349**	P	**Pb**	**10 30 19.4**	**-0.7**
	120nm,0.1s						
SHLS				S	**Sb**	**10 30 32.5**	**-0.9**
	59nm,0.2s						
SHLS	**Shalkode**	**0.97**	**349**	*e*P	**Pb**	**10 30 19.4**	**-0.7**
	120nm,0.1s						
SHLS				*e*S	**Sb**	**10 30 32.5**	**-0.9**
	59nm,0.2s						
PRZ	**Przheval'sk**	**1.02**	**286**	⇓*i*P	**Pn**	**10 30 21.2**	**-0.8**
	baz=88						
PRZ				⇓*i*S	**Sn**	**10 30 34.9**	**-1.9**
	baz=88						
UZB	**Uzynbulak**	**1.07**	**331**	P	**Pb**	**10 30 21.0**	**-1.0**
	12nm,0.1s						
UZB				S	**Sb**	**10 30 35.2**	**-1.2**
	22nm,0.1s						
UZB	**Uzynbulak**	**1.07**	**331**	*e*P	**Pb**	**10 30 21.0**	**-1.0**
	12nm,0.1s						
UZB				*e*S	**Sb**	**10 30 35.2**	**-1.2**
	22nm,0.1s						
PDGK	**Podgornoye**	**1.13**	**351**	P	**Pb**	**10 30 22.0**	**-0.9**
	19nm,0.1s						
PDGK				S	**Sb**	**10 30 37.4**	**-0.7**
SATY	**Saty**	**1.29**	**312**	P	**Pg**	**10 30 25.9**	**+0.5**
	8.4nm,0.1s						
SATY				S	**Sg**	**10 30 43.8**	**+1.6**
	66nm,0.1s						
SATY	**Saty**	**1.29**	**312**	*e*P	**Pg**	**10 30 25.9**	**+0.5**
	8.4nm,0.1s						
SATY				*e*S	**Sg**	**10 30 43.8**	**+1.6**
	66nm,0.1s						
KTMS	**Ketmen**	**1.32**	**20**	P	**Pn**	**10 30 25.3**	**-0.8**
	7.2nm,0.2s						
KTMS				S	**Sb**	**10 30 42.2**	**-1.3**
	21nm,0.2s						
KTMS	**Ketmen**	**1.32**	**20**	*e*P	**Pn**	**10 30 25.3**	**-0.8**
	7.2nm,0.2s						
KTMS				*e*S	**Sb**	**10 30 42.2**	**-1.3**
	21nm,0.2s						
ZHN	**Zhinishke**	**1.35**	**316**	P	**Pb**	**10 30 26.3**	**-0.3**
	12nm,0.1s						
ZHN				S	**Sg**	**10 30 45.1**	**+1.0**
	74nm,0.1s						
ZHN	**Zhinishke**	**1.35**	**316**	*e*P	**Pb**	**10 30 26.3**	**-0.3**
	12nm,0.1s						
ZHN				*e*S	**Sg**	**10 30 45.1**	**+1.0**
	74nm,0.1s						
KPKS	**Kokpek**	**1.47**	**329**	P	**Pb**	**10 30 28.5**	**-0.2**
	15nm,0.1s						
KPKS				S	**Sg**	**10 30 48.4**	**+0.4**
	57nm,0.3s						
KPKS	**Kokpek**	**1.47**	**329**	*e*P	**Pb**	**10 30 28.5**	**-0.2**
	15nm,0.1s						
KPKS				*e*S	**Sg**	**10 30 48.4**	**+0.4**
	57nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.51**	**252**	⇓*i*P	**Pg**	**10 30 29.9**	**+0.2**
	baz=52						
TARG				⇓*i*S	**Sg**	**10 30 50.1**	**+0.9**
	baz=52						
ANVS	**Anan'yevo**	**1.62**	**291**	⇑*e*P	**Pg**	**10 30 32.3**	**+0.4**
	baz=92						
ANVS				⇑*e*S	**Sg**	**10 30 53.6**	**+0.6**
	baz=92						
KURS	**Kuram**	**1.71**	**319**	*e*P	**Pb**	**10 30 32.3**	**-0.6**
	5.5nm,0.1s						
KURS				*e*S	**Sb**	**10 30 54.9**	**+0.1**
	28nm,0.3s						
KDJ	**Kajisay**	**1.89**	**268**	⇑*i*P	**Pb**	**10 30 36.6**	**+0.7**
	baz=68						
KDJ				⇑*i*S	**Sg**	**10 31 01.4**	**-0.1**
	baz=68						
BLB	**Baldybastay**	**2.10**	**335**	Pg	**Pb**	**10 30 39.1**	**-0.3**
	40nm,0.2s						
BLB				Lg	Lg	10 31 06.4	
	19nm,0.5s						
DJR	**Jarkent**	**2.12**	**1**	Pg	**Pb**	**10 30 39.3**	**-0.5**
	11nm,0.1s						
DJR				Lg	Lg	10 31 06.7	
	89nm,0.3s						
DJR	**Jarkent**	**2.12**	**1**	*e*P	**Pb**	**10 30 39.3**	**-0.5**
	11nm,0.1s						
DJR				*e*S	**Sb**	**10 31 06.7**	**+0.2**
	89nm,0.3s						
KOTS	**Kotyrbulak**	**2.18**	**299**	Pg	**Pb**	**10 30 41.0**	**+0.2**
	5.4nm,0.2s						
KOTS				Lg	Lg	10 31 09.9	
	40nm,0.2s						
KOTS	**Kotyrbulak**	**2.18**	**299**	*e*P	**Pb**	**10 30 41.0**	**+0.2**
	5.4nm,0.2s						
KOTS				*e*S	**Sg**	**10 31 09.8**	**-0.9**
	40nm,0.2s						
KNOS	**Konyrlen**	**2.19**	**350**	Pg	**Pb**	**10 30 40.8**	**-0.1**
	35nm,0.1s						
KNOS				Lg	Lg	10 31 09.4	
	39nm,0.2s						
MDOK	**Medeo**	**2.19**	**297**	Pg	**Pb**	**10 30 41.3**	**+0.3**
	5.3nm,0.2s						
MDOK				Lg	Lg	10 31 09.6	
	15nm,0.7s						
MDOK	**Medeo**	**2.19**	**297**	*e*P	**Pb**	**10 30 41.3**	**+0.3**
	5.3nm,0.2s						
MDOK				*e*S	**Sb**	**10 31 09.6**	**+1.1**
	15nm,0.7s						
TNSS	**Tian-Shan**	**2.21**	**293**	Pg	**Pb**	**10 30 41.6**	**+0.2**
	2.9nm,0.1s						
TNSS				Lg	Lg	10 31 10.8	
	16nm,0.3s						
TNSS	**Tian-Shan**	**2.21**	**293**	*e*P	**Pb**	**10 30 41.6**	**+0.2**
	2.9nm,0.1s					

1.3nm,0.2s
KRBS eS Sb 10 31 42.4 +1.4
12nm,0.3s
MRKS Merke 4.83 279 Pg Pb 10 31 28.5 +2.5
6.2nm,0.6s
MRKS Lg Lg 10 32 29.2
29nm,0.4s
MRKS Merke 4.83 279 eP Pb 10 31 28.2 +2.2
6.2nm,0.6s
MRKS eS Sg 10 32 30.3 -5.7
29nm,0.4s
MAKZ Makanchi 4.87 19 ⇑Pn Pn 10 31 16.7 +1.9
2.8nm,1.1s
MAKZ ⇑Sn Sn 10 32 12.6 +0.9
1.6nm,0.8s
MAKZ ⇓Lg Lg 10 32 31.3
1.9nm,0.9s
MK31 Makanchi Array 4.94 21 ⇑Pn Pn 10 31 17.5 +1.8
0.2nm,0.2s,baz=202,slow=13,SNR=26
MK31 Sn Sn 10 32 13.6 +0.3
0.4nm,0.3s,baz=204,slow=25,SNR=4.9
MK31 ⇑Lg Lg 10 32 31.6
1.7nm,0.6s

IDC ***29*** *10:47:11.5±1.5,5.°99S×147.°34E,h67km±13km,mb4.4/23, mbtmp4.8/27,MS3.5/32,Error ellipse: s-maj=17.6km s-min=7.7km az=96.0*
DJA ***29*** *10:47:11.9±0.4,6.°5S±2.°×14.°8E±.°,h70km±4km,M5.1/36, mB5.5/9,mb5.1/36,MLv5.3/3,Mw(mB)5.0/9*
NEIC ***29*** *10:47:12.9±1.5,5.°98S±0.°06×147.°49E±0.°08,h73km±6km, mb4.8/68,Error ellipse: s-maj=12.2km s-min=9.1km az=98.0*
ISC 29 10:47:12.6±0.4,6.°06S±0.°04×147.°51E±0.°05,h79km±3km, h80km:pP-P,n253,σ1$41/251,mb4.9/70,3C-2D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**186**	Pn	**Pn**		**10 48 02.0**	**-0.7**
PMG	**Port Moresby**	**3.34**	**186**	P	**Pn**		**10 48 01.8**	**-0.8**
	320nm,0.5s,baz=21,slow=5.3,SNR=189							
PMG				S	**Sn**		**10 48 41.9**	**+0.6**
	490nm,0.3s,baz=30,slow=20,SNR=11							
PMG				LR	LR		10 49 45.7	
	comp=Z,2μm,19.4s,baz=34,slow=45							
MANU	**Manus Island**	**3.99**	**358**		**Pn**		**10 48 10.1**	**-1.4**
MANU	**Manus Island**	**3.99**	**358**	P	**Pn**		**10 48 10.1**	**-1.4**
KAVG	**Kavieng**	**4.77**	**44**	P	**Pn**		**10 48 22.4**	**+0.3**
RABL	**Rabaul**	**4.99**	**68**		**Pn**		**10 48 24.3**	**-0.8**
RABL	**Rabaul**	**4.99**	**68**	P	**Pn**		**10 48 24.6**	**-0.5**
MMPI	**Merauke**	**7.47**	**251**	P	**Pn**		**10 48 58.0**	**-0.9**
MMPI				S	**Sn**		**10 50 23.9**	**+1.8**
GENI	**Genyem**	**8.09**	**295**	P	**Pn**		**10 49 07.1**	**-0.4**
GENI	**Genyem**	**8.09**	**295**	P	**Pn**		**10 49 06.8**	**-0.7**
	332nm,0.7s							
GENI				S	**Sn**		**10 50 38.2**	**+0.7**
	332nm,0.7s							
COEN	**Coen**	**8.93**	**208**	P	**Pn**		**10 49 19.6**	**+0.6**
	baz=9.0							
COEN				S	**Sn**		**10 50 54.7**	**-3.3**
	baz=9.0							
COEN	**Coen**	**8.93**	**208**	Pn	**Pn**		**10 49 19.0**	**0.0**
COEN	**Coen**	**8.93**	**208**	P	**Pn**		**10 49 18.1**	**-0.9**
MTSU	**Mount Surprise**	**12.40**	**194**	P	**Pn**		**10 50 06.1**	**-0.2**
	baz=12,SNR=38							
MTSU	**Mount Surprise**	**12.40**	**194**	P	**Pn**		**10 50 06.3**	**+0.1**
HNR	**Honiara**	**12.77**	**106**	LR	LR		10 54 46.8	
	comp=Z,480nm,21.1s,baz=274,slow=35							
CTA	**Charters Tower**	**14.00**	**185**	P	**Pn**		**10 50 28.1**	**+0.7**
CTA	**Charters Tower**	**14.00**	**185**	P	**Pn**		**10 50 27.8**	**+0.3**
	6.1nm,0.6s,baz=1.9,slow=13,SNR=13							
CTA				PcP	**PcP**		**10 55 43.9**	**+0.9**
	2.7nm,0.5s,baz=354,slow=3.1,SNR=2.5							
CTAO	**Charters Tower**	**14.00**	**185**	Pn	**Pn**		**10 50 28.4**	**+1.0**
CTAO	**Charters Tower**	**14.00**	**185**	P	**Pn**		**10 50 29.5**	**+2.1**
FAKI	**Fak Fak**	**15.53**	**281**	Pn	**Pn**		**10 50 46.4**	**-0.8**
FAKI				IAmb	IAmb		10 50 53.3	
	comp=Z,33nm,0.9s							
FAKI	**Fak Fak**	**15.53**	**281**	P	**Pn**		**10 50 48.3**	**+1.0**
FAKI	**Fak Fak**	**15.53**	**281**	P	**Pn**		**10 50 48.2**	**+1.0**
	comp=Z,45nm,0.8s							
KDU	**Kakadu**	**16.23**	**245**	P	**Pn**		**10 50 55.0**	**-0.9**
	baz=16,SNR=38							
KDU	**Kakadu**	**16.23**	**245**	P	**Pn**		**10 50 55.6**	**-0.3**
QIS	**Mount Isa**	**16.33**	**207**	P	**Pn**		**10 50 56.4**	**-0.7**
	baz=16,SNR=26							
QIS	**Mount Isa**	**16.33**	**207**	P	**P**		**10 50 58.6**	**-0.1**
SIJI	**Sorong**	**17.01**	**287**	P	**Pn**		**10 51 04.2**	**-1.5**
	comp=Z,36nm,1.1s							
SWI	**Sorong**	**17.02**	**287**	P	**Pn**		**10 51 05.6**	**-0.2**
	comp=Z,60nm,1.2s							
MTN	**Manton Dam**	**17.50**	**246**	P	**P**		**10 51 12.5**	**+0.8**
	baz=18,SNR=4.2							
MTN	**Manton Dam**	**17.50**	**246**		**P**		**10 51 11.8**	**+0.1**
MTN				IAmb	IAmb		10 51 16.4	
	comp=Z,116nm,1.4s							
MTN	**Manton Dam**	**17.50**	**246**	P	**P**		**10 51 11.8**	**+0.1**
BNDI	**Bandanaira**	**17.60**	**274**	P	**Pn**		**10 51 13.2**	**+0.3**
BNDI	**Bandanaira**	**17.60**	**274**	P	**Pn**		**10 51 13.9**	**+1.0**
	comp=Z,314nm,0.6s,comp=Z,1μm							
WB0	**Warramunga Arr**	**18.66**	**222**	P	**P**		**10 51 25.1**	**+0.6**
WB0				IAmb	IAmb		10 51 30.6	
	comp=Z,74nm,0.8s							
WR0	**Warramunga Arr**	**18.70**	**221**	P	**P**		**10 51 25.2**	**+0.3**
WR0				IAmb	IAmb		10 51 31.2	
	comp=Z,83nm,1.1s							
WRAB	**Tennant Creek**	**18.81**	**222**	P	**Pn**		**10 51 26.8**	**-0.6**
WRAB				IAmb	IAmb		10 51 32.2	
	comp=Z,81nm,1.1s							
WB2	**Warramunga Arr**	**18.82**	**222**	P	**P**		**10 51 26.0**	**-0.1**
WB2				IAmb	IAmb		10 51 32.3	
	comp=Z,77nm,1.1s							
WRA	**Warramunga Arr**	**18.82**	**222**	P	**P**		**10 51 26.4**	**+0.2**
WRA	**Warramunga Arr**	**18.82**	**222**	P	**P**		**10 51 25.9**	**-0.3**
	comp=Z,45nm,0.7s,baz=49,slow=11,SNR=135							
WRA				S	**S**		**10 54 54.9**	**-1.2**
	comp=Z,4.2nm,0.8s,baz=44,slow=21,SNR=5.6							
WRA				PcP	**PcP**		**10 55 51.9**	**+1.5**
	comp=Z,12nm,0.6s,baz=18,slow=1.6,SNR=15							
WRA				ScP	**ScP**		**10 59 21.4**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=45,slow=1.8,SNR=2.3							
EIDS	**Eidsvold**	**19.50**	**170**	P	**P**		**10 51 34.7**	**+1.1**
	baz=20,SNR=8.5							
EIDS	**Eidsvold**	**19.50**	**170**	P	**Pn**		**10 51 35.0**	**-0.6**
EIDS				IAmb	IAmb		10 51 37.6	
	comp=Z,28nm,0.9s							
EIDS	**Eidsvold**	**19.50**	**170**	P	**Pn**		**10 51 34.8**	**-0.7**
GUMO	**Guam**	**19.70**	**352**	P	**P**		**10 51 35.7**	**0.0**
	comp=Z,93nm,0.6s,baz=217,slow=18,SNR=3.6							
GUMO				LR	LR		10 59 11.5	
	comp=Z,86nm,18.3s,baz=168,slow=37							
NLAI	**Namlea**	**20.54**	**277**	P	**P**		**10 51 45.6**	**+0.7**
	comp=Z,36nm,0.5s,comp=Z,2μm							
QLP	**Quilpie**	**20.65**	**188**	P	**P**		**10 51 47.0**	**+1.0**
	baz=21,SNR=8.9							
QLP	**Quilpie**	**20.65**	**188**	P	**P**		**10 51 47.1**	**+1.2**
LBMI	**Labuha**	**20.68**	**284**	P	**P**		**10 51 45.4**	**-1.1**
	comp=Z,46nm,0.7s,comp=Z,2μm							
SANI	**Sanana**	**21.83**	**280**	P	**P**		**10 52 00.1**	**+1.3**
SANI	**Sanana**	**21.83**	**280**	P	**P**		**10 52 00.7**	**+1.9**
	comp=Z,73nm,0.6s,comp=Z,825nm							
AS31	**Alice Springs**	**21.86**	**215**	P	**P**		**10 51 59.5**	**+0.5**
AS31				IAmb	IAmb		10 52 03.2	
	comp=Z,22nm,0.6s							
ASAR	**Alice Springs**	**21.86**	**215**	P	**P**		**10 51 59.7**	**+0.7**
ASAR					**S**		**10 55 57.2**	**+0.9**
ASAR	**Alice Springs**	**21.86**	**215**	P	**P**		**10 51 59.4**	**+0.3**
	comp=Z,56nm,0.6s,baz=46,slow=9.0,SNR=225							
ASAR				PcP	**S**		**10 55 57.2**	**+0.9**
	comp=Z,7.0nm,0.9s,baz=351,slow=1.8,SNR=6.0							
ASAR				ScP	**ScP**		**10 59 29.9**	**+3.5**
	comp=Z,0.9nm,0.8s,baz=22,slow=0.7,SNR=1.5							
ASAR				LR	LR		11 02 08.2	
	comp=Z,260nm,18.9s,baz=30,slow=41							
	comp=Z,56nm,0.6s							
INKA	**Innaminka**	**22.50**	**196**	P	**P**		**10 52 06.8**	**+1.0**
SOEI	**Soe**	**23.31**	**259**	P	**P**		**10 52 14.6**	**+0.4**
SOEI	**Soe**	**23.31**	**259**	P	**P**		**10 52 15.5**	**+1.3**
SOEI	**Soe**	**23.31**	**259**	P	**P**		**10 52 14.6**	**+0.4**
	comp=Z,143nm,0.9s							
DZM	**Mont Dzumac**	**24.25**	**133**	eS	**S**		**10 56 26.8**	**-9.0**
	comp=Z,217nm,28.0s							
DZM				eLR	LR		10 58 25.2	
	comp=Z,494nm,25.6s							

OOD	**Oodnadatta**	**24.36**	**206**	P	**P**	**10 52 24.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.47**	**239**	P	**P**	**10 52 24.8**	**+0.3**
	baz=25,SNR=199						
FITZ	**Fitzroy Crossi**	**24.47**	**239**	P	**P**	**10 52 25.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.47**	**239**	P	**P**	**10 52 25.3**	**+0.9**
ARMA	**Armidale**	**24.54**	**171**	P	**P**	**10 52 26.0**	**+0.9**
	baz=25,SNR=19						
ARMA	**Armidale**	**24.54**	**171**	P	**P**	**10 52 26.7**	**+1.7**
ARMA				IAmb	IAmb	10 52 27.2	
	comp=Z,33nm,0.9s						
ARMA	**Armidale**	**24.54**	**171**	P	**P**	**10 52 26.4**	**+1.4**
LUWI	**Luwuk**	**25.18**	**280**	P	**P**	**10 52 29.9**	**-1.1**
LUWI				IAmb	IAmb	10 52 48.7	
	comp=Z,67nm,0.8s						
LUWI	**Luwuk**	**25.18**	**280**	P	**P**	**10 52 30.5**	**-0.5**
	comp=Z,75nm,0.9s,comp=Z,3μm						
MMRI	**Maumere**	**25.20**	**263**	P	**P**	**10 52 31.9**	**+0.8**
	comp=Z,184nm,0.7s						
CMSA	**Cobar Meteorol**	**25.40**	**184**	P	**P**	**10 52 34.2**	**+1.4**
	baz=26,SNR=11						
CMSA	**Cobar Meteorol**	**25.40**	**184**	P	**P**	**10 52 34.9**	**+2.1**
DAV	**Davao City (W)**	**25.48**	**300**	LR	LR	11 03 50.7	
	comp=Z,25nm,18.2s,baz=158,slow=40						
EDFI	**Ende, Flores**	**25.74**	**262**	P	**P**	**10 52 34.6**	**-1.6**
	comp=Z,71nm,0.5s,comp=Z,1μm						
LCRK	**Leigh Creek**	**25.79**	**199**	P	**P**	**10 52 37.5**	**+1.2**
STKA	**Stephens Creek**	**26.27**	**191**	P	**P**	**10 52 41.4**	**+0.7**
	baz=26,SNR=16						
STKA	**Stephens Creek**	**26.27**	**191**	P	**P**	**10 52 41.2**	**+0.6**
STKA	**Stephens Creek**	**26.27**	**191**	P	**P**	**10 52 41.6**	**+0.9**
STKA	**Stephens Creek**	**26.27**	**191**	P	**P**	**10 52 41.0**	**+0.4**
	comp=Z,10nm,0.6s,baz=0.5,slow=8.4,SNR=21						
	comp=Z,10nm,0.6s						
MRSI	**Marisa**	**26.34**	**283**	P	**P**	**10 52 41.5**	**0.0**
	comp=Z,18nm,0.5s						
WRKA	**Warakurna**	**26.36**	**222**	P	**P**	**10 52 42.6**	**+1.0**
	baz=26,SNR=44						
WRKA	**Warakurna**	**26.36**	**222**	P	**P**	**10 52 42.4**	**+0.8**
BASI	**Baing, Sumba**	**26.98**	**259**	P	**P**	**10 52 47.3**	**+0.1**
	comp=Z,384nm,1.1s						
MULG	**Mulgathing**	**27.22**	**206**	P	**P**	**10 52 50.0**	**+0.8**
BKSI	**Bulukumba**	**27.27**	**270**	P	**P**	**10 52 49.5**	**-0.3**
	comp=Z,60nm,0.6s						
TOLI2	**Tolitoli**	**27.62**	**284**	P	**P**	**10 52 53.1**	**+0.1**
KAPI	**Kappang**	**27.65**	**271**	P	**P**	**10 52 52.9**	**-0.3**
	comp=Z,18nm,0.5s,baz=128,slow=8.6,SNR=2.0						
KAPI				LR	LR	11 06 21.9	
	comp=Z,62nm,19.2s,baz=86,slow=42						
	comp=Z,18nm,0.5s						
TTSI	**Tana Toraja**	**27.77**	**275**	P	**P**	**10 52 54.7**	**+0.4**
	comp=Z,27nm,0.8s						
YNG	**Young**	**28.11**	**178**	P	**P**	**10 52 59.4**	**+2.3**
HTT	**Hallett**	**28.38**	**195**	P	**P**	**10 53 01.0**	**+1.4**
	baz=28,SNR=14						
HTT	**Hallett**	**28.38**	**195**	P	**P**	**10 53 01.6**	**+2.0**
BBOO	**Buckleboo**	**28.68**	**200**	P	**P**	**10 53 03.5**	**+1.3**
	baz=29,SNR=11						
BBOO	**Buckleboo**	**28.68**	**200**	P	**P**	**10 53 04.5**	**+2.4**
CAN	**Canberra**	**29.15**	**178**	P	**P**	**10 53 07.7**	**+1.3**
PLAI	**Plampang**	**29.61**	**263**	P	**P**	**10 53 10.2**	**-0.4**
FORT	**Forrest**	**30.63**	**214**	P	**P**	**10 53 20.6**	**+1.1**
	baz=31,SNR=11						
FORT	**Forrest**	**30.63**	**214**	P	**P**	**10 53 20.0**	**+0.5**
FORT				IAmb	IAmb	10 53 24.3	
	comp=Z,36nm,0.7s						
FORT	**Forrest**	**30.63**	**214**	P	**P**	**10 53 22.4**	**+2.9**
MILA	**Mila**	**30.89**	**177**	P	**P**	**10 53 23.3**	**+1.6**
	baz=31,SNR=5.3						
PSA00	**Pilbara Seismi**	**30.89**	**237**	P	**P**	**10 53 21.8**	**-0.1**
PSA00				IAmb	IAmb	10 53 23.3	
	comp=Z,23nm,0.9s						
PSA00	**Pilbara Seismi**	**30.89**	**237**	P	**P**	**10 53 22.6**	**+0.7**
ARPS	**Mount Arapiles**	**31.00**	**189**	P	**P**	**10 53 24.0**	**+1.3**
	baz=31,SNR=7.2						
ARPS	**Mount Arapiles**	**31.00**	**189**	P	**P**	**10 53 25.0**	**+2.3**
H11N1	**WAKE ISLAND Hy**	**31.93**	**36**	T	T	11 26 43.1	
	baz=218,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**31.95**	**36**	T	T	11 26 44.4	
	baz=218,slow=76,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**31.95**	**36**	T	T	11 26 44.1	
	baz=218,slow=76,SNR=5.5						
JCJ	**Chichijima**	**33.36**	**351**	P	**P**	**10 53 43.0**	**-0.4**
JCJ	**Chichijima**	**33.36**	**351**	P	**P**	**10 53 44.4**	**+1.0**
JCJ	**Chichijima**	**33.36**	**351**	P	P	10 53 37.9	-5.5
	comp=Z,91nm,0.6s,baz=124,slow=18,SNR=1.9						
MEEK	**Meekatharra**	**34.31**	**230**	P	**P**	**10 53 52.6**	**+0.8**
	baz=34,SNR=34						
MEEK	**Meekatharra**	**34.31**	**230**	P	**P**	**10 53 52.5**	**+0.8**
KMBL	**Kambalda**	**34.79**	**220**	P	**P**	**10 53 56.5**	**+0.7**
	baz=35,SNR=25						
KMBL	**Kambalda**	**34.79**	**220**	P	**P**	**10 53 56.8**	**+1.0**
GIRL	**Giralia**	**36.08**	**239**	P	**P**	**10 54 08.2**	**+1.3**
	baz=36,SNR=3.7						
GIRL	**Giralia**	**36.08**	**239**	P	**P**	**10 54 08.0**	**+1.0**
GIRL	**Giralia**	**36.08**	**239**	P	**P**	**10 54 08.0**	**+1.0**
UGM	**Wanagama**	**36.76**	**265**	P	**P**	**10 54 12.0**	**-0.9**
UGM	**Wanagama**	**36.76**	**265**	P	**P**	**10 54 13.2**	**+0.3**
MORW	**Morawa**	**37.51**	**229**	P	**P**	**10 54 19.9**	**+0.8**
	baz=38,SNR=5.7						
MORW	**Morawa**	**37.51**	**229**	P	**P**	**10 54 19.3**	**+0.2**
MORW	**Morawa**	**37.51**	**229**	P	**P**	**10 54 20.1**	**+1.0**
KLBR	**Kellerberrin**	**37.68**	**224**	P	**P**	**10 54 20.8**	**+0.3**
	baz=38,SNR=33						
KLBR	**Kellerberrin**	**37.68**	**224**	P	**P**	**10 54 21.1**	**+0.6**
BLDU	**Ballidu**	**37.86**	**226**	P	**P**	**10 54 22.6**	**+0.6**
	baz=38,SNR=9.8						
BLDU	**Ballidu**	**37.86**	**226**	P	**P**	**10 54 22.8**	**+0.8**
NWAO	**Narrogin (SRO)**	**38.83**	**223**	P	**P**	**10 54 30.6**	**+0.5**
	baz=39,SNR=11						
NWAO				P	**P**	**10 54 30.6**	**+0.5**
	baz=39,SNR=11						
NWAO	**Narrogin (SRO)**	**38.83**	**223**	P	**P**	**10 54 30.8**	**+0.8**
NWAO	**Narrogin (SRO)**	**38.83**	**223**	P	**P**	**10 54 30.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**38.83**	**223**	P	**P**	**10 54 30.1**	**0.0**
	comp=Z,17nm,0.6s,baz=49,slow=7.2,SNR=14						
NWAO				LR	LR	11 11 49.3	
	comp=Z,172nm,21.1s,baz=359,slow=38						
	comp=Z,17nm,0.6s						
NWAO	**Narrogin (SRO)**	**38.83**	**223**	P	**P**	**10 54 30.6**	**+0.5**
NWAO				pP	**pP**	**10 54 48.7**	**-1.3**
NWAO				sP	**sP**	**10 54 57.8**	**-1.6**
YULB	**Yu-li**	**38.89**	**320**	P	**P**	**10 54 30.4**	**-0.3**
MUN	**Mundaring**	**38.98**	**225**	P	**P**	**10 54 32.2**	**+0.9**
	baz=39,SNR=9.2						
MUN	**Mundaring**	**38.98**	**225**	P	**P**	**10 54 32.3**	**+1.0**
SSLB	**Suanglung**	**39.40**	**320**	P	**P**	**10 54 35.1**	**+0.2**
SSLB	**Suanglung**	**39.40**	**320**	P	**P**	**10 54 36.1**	**+1.2**
BBJI	**Bungbulang**	**39.60**	**266**	P	**P**	**10 54 36.1**	**-0.8**
BBJI	**Bungbulang**	**39.60**	**266**	P	**P**	**10 54 36.3**	**-0.6**
	comp=Z,141nm,0.7s						
LEM	**Lembang**	**39.65**	**267**	LR	LR	11 15 02.5	
	comp=Z,38nm,18.9s,baz=108,slow=42						
YHNB	**Yeheng**	**39.76**	**321**	P	**P**	**10 54 38.1**	**+0.1**
RKGY	**Rocky Gully**	**40.02**	**221**	P	**P**	**10 54 41.5**	**+1.5**
	baz=40,SNR=12						
RKGY	**Rocky Gully**	**40.02**	**221**	P	**P**	**10 54 40.7**	**+0.7**
CNJI	**Cibinong**	**40.12**	**266**	P	**P**	**10 54 40.8**	**-0.3**
	comp=Z,92nm,0.9s,comp=Z,876nm						
QRZ	**Quartz Range**	**41.22**	**151**	P	**P**	**10 54 51.8**	**+2.1**
QRZ				IAmb	IAmb	10 55 20.8	
	comp=Z,47nm,1.3s						
URZ	**Urewera**	**41.80**	**144**	P	**P**	**10 54 56.6**	**+2.1**
URZ	**Urewera**	**41.80**	**144**	LR	LR	11 11 06.1	
	comp=Z,131nm,19.4s,baz=120,slow=34						
JNU	**Nakatsue**	**42.05**	**339**	P	**P**	**10 54 56.9**	**+0.3**
JNU				IAmb	IAmb	10 55 18.6	
	comp=Z,27nm,1.1s						
JNU	**Nakatsue**	**42.05**	**339**	P	**P**	**10 54 57.4**	**+0.8**
JNU	**Nakatsue**	**42.05**	**339**	P	**P**	**10 54 56.1**	**-0.5**
	comp=Z,17nm,0.8s,baz=189,slow=10,SNR=7.0						
JNU				LR	LR	11 09 17.3	
	comp=Z,64nm,19.0s,baz=152,slow=32						
	comp=Z,17nm,0.8s						
THZ	**Tophouse**	**42.12**	**151**	P	**P**	**10 54 58.5**	**+1.3**
THZ				IAmb	IAmb	10 55 01.8	
	comp=Z,20nm,0.9s						
INZ	**Inchbonnie**	**42.21**	**154**	P	**P**	**10 54 58.5**	**+0.8**
INZ				IAmb	IAmb	10 55 02.9	
	comp=Z,21nm,1.2s						
JCZ	**Jackson Bay**	**42.21**	**157**	P	**P**	**10 55 00.6**	**+2.7**
LTZ	**Lake Taylor**	**42.62**	**153**	P	**P**	**10 55 02.8**	**+1.6**
LTZ				IAmb	IAmb	10 55 19.0	
	comp=Z,15nm,1.1s						
RPZ	**Rata Peaks**	**42.84**	**155**	P	**P**	**10 55 03.9**	**+1.0**
RPZ				IAmb	IAmb	10 55 05.0	

	comp=Z,19nm,0.7s						
RPZ	**Rata Peaks**	**42.84**	**155**	P	**P**	**10 55 05.6**	**+2.7**
RPZ	**Rata Peaks**	**42.84**	**155**	LR	LR	11 11 06.6	
	comp=Z,146nm,19.8s,baz=312,slow=33						
KHZ	**Kahutara**	**42.92**	**152**	P	**P**	**10 55 04.9**	**+1.3**
MJAR	**Matsushiro Arr**	**43.27**	**349**	P	**P**	**10 55 05.5**	**-0.9**
	comp=Z,9.6nm,0.9s,baz=175,slow=7.9,SNR=12						
MJAR				LR	LR	11 12 39.0	
	comp=Z,24nm,18.9s,baz=159,slow=35						
	comp=Z,9.6nm,0.9s						
MAJO	**Matsushiro**	**43.27**	**349**	P	**P**	**10 55 06.2**	**-0.2**
MAJO				IAmb	IAmb	10 55 07.0	
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**43.27**	**349**	P	**P**	**10 55 07.0**	**+0.6**
MAJO	**Matsushiro**	**43.27**	**349**	P	**P**	**10 55 06.2**	**-0.2**
MAJO				pP	**pP**	**10 55 24.8**	**-0.5**
MJB9	**Matsu-Tunnel**	**43.27**	**349**	P	**P**	**10 55 06.6**	**+0.2**
MJB9				IAmb	IAmb	10 55 07.0	
	comp=Z,18nm,0.8s						
JMM	**Marumori**	**44.15**	**352**	P	**P**	**10 55 14.8**	**+1.4**
NJ2	**Nanjing**	**46.72**	**326**	eP	**P**	**10 55 35.3**	**+1.5**
NJ2				pP	**pP**	**10 55 53.3**	**+0.5**
NJ2				sP	**sP**	**10 56 00.5**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JTM	**Tenmabayashi**	**46.99**	**353**	P	**P**	**10 55 36.2**	**+0.4**
JTM	**Tenmabayashi**	**46.99**	**353**	P	**P**	**10 55 36.6**	**+0.8**
KSRS	**Korea Array**	**46.99**	**339**	P	**P**	**10 55 35.3**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=156,slow=8.9,SNR=11						
KSRS				PcP	**PcP**	**10 57 07.7**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=181,slow=1.7,SNR=4.1						
KSRS				LR	LR	11 13 55.5	
	comp=Z,27nm,21.8s,baz=155,slow=34						
	comp=Z,4.8nm,0.8s						
KULM	**Kulim**	**48.13**	**283**	P	**P**	**10 55 44.1**	**-0.9**
KULM				IAmb	IAmb	10 55 49.2	
	comp=Z,8.4nm,1.2s						
WHN	**Wuhan**	**48.30**	**321**	⇓P	**P**	**10 55 48.3**	**+2.2**
ASAJ	**Asahikawa**	**50.14**	**355**	P	**P**	**10 56 00.3**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=208,slow=10,SNR=6.1						
ASAJ				LR	LR	11 15 44.2	
	comp=Z,17nm,21.4s,baz=168,slow=34						
	comp=Z,4.2nm,0.5s						
GSI	**Gunungsitoli**	**50.39**	**277**	P	**P**	**10 56 01.2**	**-1.2**
USRK	**Ussuriysk Ar.**	**51.95**	**346**	P	**P**	**10 56 14.0**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=156,slow=7.7,SNR=16						
USRK				PcP	**PcP**	**10 57 23.8**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=90,slow=19,SNR=0.9						
USRK				LR	LR	11 17 07.5	
	comp=Z,21nm,18.4s,baz=124,slow=35						
	comp=Z,3.5nm,0.5s						
RAR	**Rarotonga**	**53.14**	**112**	LR	LR	11 16 21.5	
	comp=Z,34nm,20.3s,baz=169,slow=33						
CMAR	**Chiang Mai Arr**	**53.73**	**298**	P	**P**	**10 56 26.6**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=122,slow=5.8,SNR=8.5						
CMAR				LR	LR	11 21 14.9	
	comp=Z,7.0nm,20.6s,baz=125,slow=38						
	comp=Z,1.4nm,0.4s						
XAN	**Xi'an**	**54.05**	**320**	⇑P	**P**	**10 56 29.0**	**-0.2**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**54.05**	**320**	P	**P**	**10 56 28.9**	**-0.4**
BNX	**BinXian**	**54.61**	**343**	⇑P	**P**	**10 56 33.5**	**+0.5**
BNX				pmax	pmax		
	comp=Z,13nm,1.3s						
BNX				pmax	pmax		
	comp=Z,190nm,6.6s						
PZH	**PanZhiHua**	**54.90**	**308**	P	**P**	**10 56 37.3**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
KLR	**Kul'dur**	**56.76**	**348**	P	**P**	**10 56 48.2**	**0.0**
	comp=Z,6.2nm,0.8s,baz=190,slow=4.2,SNR=23						
KLR				LR	LR	11 18 58.9	
	comp=Z,32nm,20.1s,baz=170,slow=34						
	comp=Z,6.2nm,0.8s						
TNCH	**TengChong**	**56.78**	**305**	⇑P	**P**	**10 56 51.0**	**+1.8**
TNCH				pP	pP	10 57 09.0	-0.2
TNCH				S	**S**	**11 04 29.3**	**-7.4**
TNCH				sS	pS	11 05 02.0	+2.9
TNCH				pmax	pmax		
	comp=Z,71nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,130nm,4.5s						
HHC	**Hu-ho-hao-

comp=Z,4.2nm,0.5s
ZALV Zalesovo Beam 79.33 328 P P 10 59 08.0 -1.7
ZALV Zalesovo Beam 79.33 328 P P 10 59 07.7 -1.9
comp=Z,4.0nm,0.4s,baz=117,slow=6.5,SNR=16
ZALV LR LR 11 33 33.5
comp=Z,24nm,20.4s,baz=40,slow=35
comp=Z,4.0nm,0.4s
KDAK Kodiak Island 79.71 28 LR LR 11 28 06.6
comp=Z,60nm,21.0s,baz=261,slow=31
KSH Kashi 79.80 312 P P 10 59 14.0 +1.3
KSH pP pP 10 59 34.3 +0.6
KSH pmax pmax
comp=Z,4.0nm,1.5s
KURK Kurchatov 81.56 323 P P 10 59 21.4 -0.3
KURBB Kurchatov Arra 81.59 323 P P 10 59 20.4 -1.4
comp=Z,1.7nm,0.8s,baz=107,slow=4.1,SNR=7.8
comp=Z,1.7nm,0.8s
AAK Ala-Archa 81.75 315 P P 10 59 23.2 +0.2
MAW Mawson 82.39 203 P P 10 59 23.9 -1.8
comp=Z,15nm,0.8s,baz=140,slow=4.5,SNR=2.3
MAW LR LR 11 34 34.4
comp=Z,56nm,19.6s,baz=107,slow=34
QSPA South Pole Qui 83.91 180 P P 10 59 34.6 +0.9
QSPA South Pole Qui 83.91 180 P P 10 59 34.2 +0.5
comp=Z,42nm,0.6s,baz=334,slow=1.4,SNR=94
comp=Z,42nm,0.6s
MLY Manley 83.98 22 P P 10 59 33.8 -0.2
MLY IAmb IAmb 10 59 35.5
comp=Z,5.7nm,0.9s
KKAR Karatay Array 84.70 314 P P 10 59 37.2 -0.8
SIMJ Simiganj 84.84 310 P P 10 59 40.1 +1.1
IL31 85.33 23 P P 10 59 38.8 -1.8
ILAR Eielson Array 85.33 23 P P 10 59 39.6 -1.1
comp=Z,3.2nm,0.7s,baz=252,slow=4.6,SNR=48
ILAR LR LR 11 32 02.1
comp=Z,26nm,21.7s,baz=252,slow=32
comp=Z,3.2nm,0.7s
NRIK Noril'sk 85.49 342 IAmb IAmb 10 59 42.7
comp=Z,8.4nm,0.8s
NRIK Noril'sk 85.49 342 P P 10 59 40.2 -1.1
comp=Z,7.9nm,0.7s,baz=98,slow=4.4,SNR=20
comp=Z,7.9nm,0.7s
J25K Salcha River, 85.87 23 IAmb IAmb 10 59 44.4
comp=Z,5.8nm,0.6s
BVAR Borovoye Array 87.12 324 P P 10 59 47.5 -2.2
comp=Z,2.5nm,0.5s,baz=106,slow=5.3,SNR=14
comp=Z,2.5nm,0.5s
K29M Barlow Dome 88.83 25 IAmb IAmb 10 59 59.8
comp=Z,5.5nm,0.8s
F28M Old Crow 89.03 21 IAmb IAmb 11 00 00.4
comp=Z,4.0nm,0.8s
EPYK Eagle Plains 89.85 23 IAmb IAmb 11 00 03.8
comp=Z,6.1nm,0.8s
BBB Bella Bella 91.30 38 LR LR 11 36 10.3
comp=Z,25nm,18.9s,baz=346,slow=32
ABKAR Akbulak array 92.96 319 P P 11 00 16.1 -1.0
ABKAR IAmb IAmb 11 00 17.5
comp=Z,4.0nm,1.3s
GEYT Alibeck 93.21 308 P P 11 00 16.6 -2.0
comp=Z,1.2nm,0.7s,baz=48,slow=2.1,SNR=1.8
comp=Z,1.2nm,0.7s
YBH Yreka Blue Hor 93.82 49 LR LR 11 34 18.6
comp=Z,57nm,21.0s,baz=313,slow=30
ELIB Princess Elisa 94.27 195 *d*P **P 11 00 23.5 +0.5**
comp=Z,5.9nm,0.8s
A36M Sachs Harbour 94.86 18 IAmb IAmb 11 00 26.9
comp=Z,6.2nm,0.8s
BELA Belgrano 2 96.18 180 P P 11 00 31.9 +0.6
NEW Newport 98.06 42 LR LR 11 39 28.1
comp=Z,30nm,18.6s,baz=236,slow=32
PFO Pinyon Flats O 98.33 57 LR LR 11 37 15.7
comp=Z,38nm,19.8s,baz=264,slow=30
YKA Yellowknife Ar 98.99 28 P Pdif 11 00 44.3 +0.1
comp=Z,0.8nm,1.0s,baz=271,slow=5.0,SNR=10
YKA PKKPbc **PKKPbc 11 17 09.5 -3.5**
comp=Z,0.2nm,0.5s,baz=88,slow=5.0,SNR=8.7
comp=Z,0.8nm,1.0s
KIRV Kirov 99.36 328 LR LR 11 46 08.3
comp=Z,42nm,21.2s,baz=72,slow=36
ELK Elko 99.41 50 LR LR 11 39 03.0
comp=Z,24nm,20.4s,baz=262,slow=31
SNAA Sanae 100.02 189 P Pdif 11 00 48.7 -0.1
comp=Z,1.9nm,0.9s,baz=174,slow=16,SNR=2.3
PDAR Pinedale Array 103.58 48 PKKPbc PKKPbc 11 16 58.2 -1.1
comp=Z,0.3nm,0.5s,baz=95,slow=3.1,SNR=5.1
ARCES ARCESS Array B 106.47 342 PKiKP **PKiKP 11 05 25.9 -2.0**
comp=Z,3.4nm,0.9s,baz=357,slow=3.6,SNR=2.4
ARCES PKKPbc **PKKPbc 11 16 47.8 -3.3**
comp=Z,4.1nm,1.0s,baz=270,slow=2.2,SNR=3.8
ANMO Albuquerque 106.58 55 PKKPab PKKPab 11 17 04.0 -0.7
comp=Z,0.8nm,0.8s,baz=141,slow=6.5,SNR=4.2
TXAR Lajitas Array 109.34 61 PKKPab PKKPab 11 16 52.7 +0.3
comp=Z,1.2nm,0.9s,baz=132,slow=5.2,SNR=5.2
FINES FINESS Array B 109.95 334 PKiKP **PKiKP 11 05 34.0 -0.6**
comp=Z,1.5nm,0.9s,baz=95,slow=4.2,SNR=4.1
BOSA Boshof 114.63 235 PKP **PKiKP 11 05 44.7 0.0**
comp=Z,2.3nm,0.6s,baz=125,slow=4.0,SNR=6.5
PLCA Paso Flores 121.79 147 PKP **PKiKP 11 05 58.9 +0.7**
comp=Z,3.9nm,0.5s,baz=253,slow=3.0,SNR=31
GERES GERESS Array B 122.25 326 PKP **PKPdf 11 05 56.4 -2.2**
comp=Z,1.7nm,0.5s,baz=99,slow=2.5,SNR=3.6
EKA Eskdalemuir Ar 125.56 340 PKP **PKPdf 11 06 03.4 -1.2**
comp=Z,2.8nm,0.8s,baz=32,slow=3.8,SNR=5.1
CPUP Villa Florida 139.78 144 PKhKP PKPpre 11 06 26.6
comp=Z,1.5nm,0.5s,baz=172,slow=1.7,SNR=3.8
CPUP PKP **PKPdf 11 06 33.2 +0.9**
comp=Z,3.5nm,0.6s,baz=284,slow=4.2,SNR=7.2
TORD Torodi Ar. Bea 145.60 284 PKPbc **PKPdf 11 06 42.2 -0.6**
comp=Z,5.7nm,0.5s,baz=62,slow=4.1,SNR=52
DBIC Dimbokro 152.53 273 PKPbc **PKPbc 11 07 00.2 -0.8**
comp=Z,3.5nm,0.4s,baz=55,slow=1.4,SNR=9.4
BDFB Brasilia 153.51 145 PKP **PKPdf 11 06 56.3 +0.8**
comp=Z,2.3nm,0.5s,baz=262,slow=2.1,SNR=13
BDFB PKPbc **PKiKP 11 07 04.0 +0.6**
comp=Z,25nm,0.5s,baz=207,slow=0.9,SNR=28

*INMG **29** 11:01:37.6±1.4, 41°.61N×8°.45W, h8km±3km, ML2.2, Error ellipse: s-maj=4.1km s-min=1.6km az=97.0*
MDD 29 11:01:37.0±0.4, 41°.61N×8°.48W, h12km, mb_Lg2.6/12, 3C-2D, Error ellipse: s-maj=3.5km s-min=1.9km az=93.0, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCAB	**Cabril**	**0.36**	**73**	*e*Pg	Pg	11 01 43.0	-1.1
PCAB	**Cabril**	**0.36**	**73**	↑*e*Pg	Pg	11 01 44.2	+0.1
PCAB				*e*Sg	Sg	11 01 48.8	-0.1
PCAB				A	A	11 01 49.4	
	343nm,0.1s						
PGAV	**Gavieira, Arco**	**0.39**	**24**	*e*Pg	Pg	11 01 43.5	-1.3
PGAV	**Gavieira, Arco**	**0.39**	**24**	↑*e*Pg	Pg	11 01 44.7	-0.1
PGAV				*e*Sg	Sg	11 01 49.8	-0.2
PGAV				A	A	11 01 50.9	
	57nm,0.3s						
ELOB	**Lobios**	**0.41**	**51**	↑Pg	Pg	11 01 43.8	-1.3
ELOB				Sg	Sg	11 01 50.1	-0.4
ELOB				*i* Vmb_Lg		11 01 51.0	
PTO	**Porto**	**0.48**	**191**	*e*Pg	Pg	11 01 46.5	+0.1
PTO				*e*Sg	Sg	11 01 52.5	-0.2
PTO				A	A	11 01 53.3	
	155nm,0.1s						
EZAM	**Zamans**	**0.56**	**344**	Pg	Pg	11 01 46.7	-1.3
EZAM				Sg	Sg	11 01 55.2	-0.2
EZAM				*i* Vmb_Lg		11 01 56.8	
POLO	**Lamas de Olo**	**0.57**	**114**	*e*Pg	Pg	11 01 46.8	-1.3
POLO	**Lamas de Olo**	**0.57**	**114**	↓*e*Pg	Pg	11 01 48.1	0.0
POLO				*e*Sg	Sg	11 01 55.0	-0.6
POLO				A	A	11 01 55.4	
	18nm,0.4s						
PVRL	**Vila Real**	**0.67**	**120**	*e*Pg	Pg	11 01 48.7	-1.2
PVRL	**Vila Real**	**0.67**	**120**	↓*e*Pg	Pg	11 01 49.8	-0.1
PVRL				*e*Sg	Sg	11 01 58.0	-0.7
PVRL				A	A	11 02 01.6	
	69nm,0.1s						
PVIS	**Viseu**	**1.00**	**153**	*e*P	Pg	11 01 55.8	-0.4
PVIS				*e*S	Sg	11 02 08.9	-0.3
PVIS				A	A	11 02 11.2	
	52nm,0.1s						
MVO	**Moncorvo**	**1.18**	**112**	*e*P	Pb	11 01 58.3	-1.1
MVO	**Moncorvo**	**1.18**	**112**	*e*P	Pb	11 01 58.9	-0.5
MVO				*e*S	Sb	11 02 13.6	-1.1
MVO				A	A	11 02 16.1	
	25nm,0.1s						
EAGO	**Agolada(Pontev**	**1.23**	**14**	Pn	Pn	11 01 58.7	-1.4
EAGO				Pg	Pb	11 01 58.7	-1.5

EAGO				Sg	Sb	11 02 15.4	-0.6
EAGO				*i* Vmb_Lg		11 02 18.0	
PBRG	**Braganca**	**1.32**	**81**	*e*S	Sb	11 02 18.4	-0.3
PBRG				A	A	11 02 19.1	
	32nm,0.3s						
ECAL	**Calabor**	**1.35**	**75**	Pg	Pn	11 02 01.5	-0.2
ECAL				Sg	Sb	11 02 18.5	-1.0
ECAL				*i* Vmb_Lg		11 02 21.3	
EMAZ	**Mazaricos**	**1.39**	**345**	Pn	Pn	11 02 01.9	-0.4
EMAZ				Sg	Sn	11 02 19.9	-0.6
EMAZ				*i* Vmb_Lg		11 02 22.5	
COI	**Coimbra**	**1.40**	**178**	S	Sb	11 02 21.2	+0.2
COI				A	A	11 02 23.7	
	37nm,0.3s						
MTE	**Manteigas**	**1.40**	**149**	*e*P	Pn	11 02 01.8	-0.7
MTE	**Manteigas**	**1.40**	**149**	*e*P	Pn	11 02 01.9	-0.6
MTE				*e*S	Sn	11 02 20.7	-0.3
MTE				A	A	11 02 25.2	
	30nm,0.4s						
PCAS	**Casmilo, Conde**	**1.56**	**180**	*e*P	Pn	11 02 04.8	+0.3
PCAS				*e*S	Sb	11 02 25.6	+0.2
PCAS				A	A	11 02 27.1	
	17nm,0.4s						
PCBR	**Castelo Branco**	**1.93**	**156**	*e*Pg	Pb	11 02 12.8	+0.7
PCBR				A	A	11 02 40.4	
	10nm,0.4s						
EPON	**Pontenova**	**1.98**	**29**	Pn	Pn	11 02 09.2	-1.3
EPON				Pg	Pb	11 02 12.2	-0.8
EPON				Sn	Sn	11 02 33.6	-1.5
EPON				Sg	Sb	11 02 37.7	0.0
EPON				*i* Vmb_Lg		11 02 43.5	
EJUZ	**Juzbado, Salam**	**2.02**	**104**	Pn	Pn	11 02 09.9	-1.2
EJUZ				Sn	Sn	11 02 35.0	-1.3
EJUZ				Sg	Sb	11 02 38.9	0.0
PSBE	**So Bento**	**2.11**	**187**	*e*Sg	Sg	11 02 44.4	-0.3
PMRV	**Marv??o**	**2.33**	**159**	*e*P	Pn	11 02 15.6	+0.4
PMRV	**Marv??o**	**2.33**	**159**	*e*Pg	Pg	11 02 20.8	-0.9
PMRV				*e*Sg	Sb	11 02 49.5	+1.7
PMRV				A	A	11 02 52.7	
	10nm,0.3s						
PMTG	**Montargil**	**2.54**	**175**	*e*P	Pn	11 02 18.0	-0.1
PMTG	**Montargil**	**2.54**	**175**	*e*Pn	Pn	11 02 18.0	-0.1
PMTG				*e*Sn	Sn	11 02 47.4	-1.7
PMTG				*e*Sg	Sg	11 02 58.7	-0.1
PMTG				A	A	11 02 58.9	
	2.7nm,0.1s						
PESTR	**Estremoz**	**2.82**	**166**	*e*Pn	Pn	11 02 21.7	-0.3
PESTR				*e*Sn	Sn	11 02 54.4	-1.6
PESTR				*e*Sg	Sg	11 03 07.1	-0.6
PESTR				A	A	11 03 09.3	
	7.0nm,0.5s						
EARI	**Arriondas**	**2.95**	**54**	Pn	Pn	11 02 23.4	-0.4
EARI				Sn	Sn	11 02 56.9	-2.3
EARI				Sg	Sg	11 03 08.9	-3.0
EARI				*i* Vmb_Lg		11 03 13.7	
EBAD	**Badajoz**	**3.06**	**158**	Pn	Pn	11 02 24.5	-0.8
EBAD				Sn	Sn	11 02 58.5	-3.4
EBAD				Sg	Sg	11 03 12.5	-2.9
EBAD				*i* Vmb_Lg		11 03 15.5	
GUD	**Guadarrama**	**3.41**	**105**	Pn	Pn	11 02 28.9	-1.2
GUD				Sn	Sn	11 03 08.0	-2.7
GUD				Sg	Sg	11 03 22.9	-3.6
GUD				*i* Vmb_Lg		11 03 27.7	
PBAR	**Barrancos**	**3.61**	**162**	*e*Pn	Pn	11 02 32.4	-0.3
PBAR				*e*Sn	Sn	11 03 12.3	-3.0
PBAR				*e*Sg	Sg	11 03 32.5	-0.3
PBAR				A	A	11 03 36.5	
	4.6nm,0.9s						
PAB	**San Pablo**	**3.76**	**122**	Pn	Pn	11 02 33.8	-1.2
PAB				Sn	Sn	11 03 15.8	-3.5
PAB				Sg	Sg	11 03 33.8	-4.0
PAB				*i* Vmb_Lg		11 03 38.7	
MESJ	**Messejana**	**3.77**	**177**	*e*Pn	Pn	11 02 34.7	-0.3
MESJ				*e*Sn	Sn	11 03 17.0	-2.3
PCVE	**Castro Verde**	**3.99**	**175**	*e*Sn	Sn	11 03 22.6	-2.1
EMIN	**Mina Concepcio**	**4.08**	**159**	Pn	Pn	11 02 38.3	-1.0
EMIN				Sn	Sn	11 03 22.4	-4.6
EMIN				Sg	Sb	11 03 42.0	+3.8
EMIN				*i* Vmb_Lg		11 03 48.9	
PVAQ	**Vaqueiros**	**4.24**	**172**	*e*Sn	Sn	11 03 28.4	-2.5
ECAB	**El Cabril**	**4.25**	**145**	Pn	Pn	11 02 40.2	-1.3
ECAB				Sn	Sn	11 03 27.3	-3.8
ECAB				Sg	Sg	11 03 50.0	-3.3
ECAB				*i* Vmb_Lg		11 03 57.2	

*DJA **29** 11:08:47.7±0.8, 10°.5S×12°.5E±°, h50km±6km, M3.4/7, MLv3.4/7*
*IDC **29** 11:08:53.9±2.1, 10°.55S×124°.95E, h0km, mb3.3/1, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=119.8km s-min=27.7km az=54.0*
ISC 29 11:08:47.6±1.0, 10°.27S±0°.09×124°.3E±0°.1, h35km, n6, σ2s 04/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.52**	**354**	P	**Pn**	**11 08 58.7**	**0.0**
SOEI				S	**Sn**	**11 09 05.7**	**-0.6**
MMRI	**Maumere**	**2.62**	**308**	P	**Pn**	**11 09 27.8**	**+0.3**
MMRI				S	**Sn**	**11 09 57.0**	**-1.2**
EDFI	**Ende, Flores**	**3.01**	**300**	P	**Pn**	**11 09 32.8**	**-0.1**
WRA	**Warramunga Arr**	**13.63**	**136**	Pn	**Pn**	**11 12 00.8**	**+2.3**
	0.1nm,0.3s,baz=318,slow=14,SNR=6.1						
WRA				Sn	**Sn**	**11 14 25.1**	**-3.7**
	0.4nm,0.3s,baz=314,slow=27,SNR=10						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.16**	**147**	Pn	**P**	**11 12 36.0**	**+0.9**
	0.1nm,0.3s,baz=322,slow=12,SNR=6.3						
ASAR				Sn	**Sn**	**11 15 28.5**	**-1.9**
	0.1nm,0.3s,baz=323,slow=24,SNR=1.4						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**68.07**	**330**	P	P	11 19 58.8	+15
	0.3nm,0.8s,baz=126,slow=7.3,SNR=3.1						
	0.3nm,0.8s						

*IDC **29** 11:13:01.2±3.8, 55°.41N×149°.49W, h0km, mb3.3/1, mbtmp3.2/5, ML3.0/4, Error ellipse: s-maj=63.7km s-min=30.8km az=7.0*
*NEIC **29** 11:13:10.0±1.9, 56°.14N±0°.08×149°.4W±0°.1, h20km±8km, ML3.7/38, ML3.4(AEIC), Error ellipse: s-maj=12.3km s-min=7.6km az=145.0*
*AEIC **29** 11:13:13.9±1.9, 56°.22N±0°.10×149°.4W±0°.1, h7km±8km, Error ellipse: s-maj=13.9km s-min=10.2km az=168.0*
ISC 29 11:13:07.7±1.3, 56°.19N±0°.09×149°.43W±0°.06, h10km, n163, σ1s 72/157, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.36**	**314**	Pn	**Pn**	**11 13 48.2**	**+1.8**
	0.7nm,0.3s,baz=140,slow=7.1,SNR=23						
KDAK				Sn	**Sn**	**11 14 15.2**	**-0.2**
	6.7nm,0.3s,baz=233,slow=20,SNR=37						
	12nm,0.9s						
OHAK	**Old Harbor**	**2.37**	**298**		**Pn**	**11 13 48.1**	**+1.5**
OHAK	**Old Harbor**	**2.37**	**298**		**Sn**	**11 14 14.9**	**-0.8**
OHAK	**Old Harbor**	**2.37**	**298**	P	**Pn**	**11 13 48.1**	**+1.5**
	baz=116						
OHAK				S	**Sn**	**11 14 14.9**	**-0.8**
	baz=116						
SII	**Sitkinak Islan**	**2.67**	**280**		**Sn**	**11 14 22.6**	**-0.6**
SII	**Sitkinak Islan**	**2.67**	**280**	Pn	**Pn**	**11 13 50.7**	**-0.2**
SII	**Sitkinak Islan**	**2.67**	**280**	IAML		11 14 39.9	
	comp=N,326nm,3.2s						
SII	**Sitkinak Islan**	**2.67**	**280**	S	**Sn**	**11 14 22.6**	**-0.6**
	baz=97						
SYI	**Shuyak Island**	**2.91**	**328**		**Pn**	**11 13 55.1**	**+1.0**
SYI	**Shuyak Island**	**2.91**	**328**		**Sn**	**11 14 29.5**	**+0.4**
SYI	**Shuyak Island**	**2.91**	**328**	IAML		11 14 27.9	
	comp=N,123nm,2.8s						
SYI	**Shuyak Island**	**2.91**	**328**	IAML		11 14 32.3	
	comp=E,141nm,3.3s						
Q20K	**Shuyak Island**	**2.91**	**328**	P	**Pn**	**11 13 55.1**	**+1.0**
	baz=146						
Q20K				S	**Sn**	**11 14 29.5**	**+0.4**
	baz=146						
R18K	**Karluk**	**3.09**	**299**		**Pn**	**11 13 57.9**	**+1.4**
R18K	**Karluk**	**3.09**	**299**	IAML		11 14 45.9	
	comp=E,153nm,2.9s						
R18K				IAML		11 15 27.6	
	comp=N,189nm,3.0s						
R18K	**Karluk**	**3.09**	**299**	P	**Pn**	**11 13 57.9**	**+1.4**

	baz=115						
CNPM	**China Poot**	**3.49**	**345**		**Pn**	**11 14 03.6**	**+1.6**
CNPM	**China Poot**	**3.49**	**345**	IAML		11 15 50.2	
	comp=N,114nm,3.0s						
Q19K	**Cape Douglas,**	**3.57**	**322**		**Pn**	**11 14 05.3**	**+2.2**
Q19K	**Cape Douglas,**	**3.57**	**322**	IAML		11 14 33.0	
	comp=E,244nm,2.3s						
Q19K				IAML		11 15 39.1	
	comp=N,144nm,3.1s						
Q19K	**Cape Douglas,**	**3.57**	**322**	P	**Pn**	**11 14 05.3**	**+2.2**
	baz=139						
KAHG	**Katmai Hook Gl**	**3.61**	**312**		**Pn**	**11 14 06.6**	**+2.8**
BRSE	**Bradley Lake S**	**3.63**	**349**		**Pn**	**11 14 04.9**	**+0.9**
BRSE					**Sn**	**11 14 45.5**	**-1.5**
BRSE	**Bradley Lake S**	**3.63**	**349**	P	**Pn**	**11 14 04.9**	**+0.9**
	baz=168						
BRSE				S	**Sn**	**11 14 45.5**	**-1.5**
	baz=168						
BRLK	**Bradley Lake**	**3.67**	**348**		**Pn**	**11 14 05.2**	**+0.6**
BRLK	**Bradley Lake**	**3.67**	**348**	IAML		11 15 26.1	
	comp=E,96nm,3.0s						
HOM	**Homer**	**3.68**	**342**		**Pn**	**11 14 04.9**	**+0.3**
HOM	**Homer**	**3.68**	**342**	P	**Pn**	**11 14 04.9**	**+0.3**
	baz=160						
ACHA	**Angle Creek He**	**3.80**	**305**		**Pn**	**11 14 08.9**	**+2.5**
ANCK	**Angle Creek**	**3.87**	**304**		**Pn**	**11 14 09.9**	**+2.6**
P23K	**Montague Islan**	**3.97**	**15**		**Pn**	**11 14 09.4**	**+0.8**
P23K	**Montague Islan**	**3.97**	**15**	P	**Pn**	**11 14 09.4**	**+0.8**
	baz=196						
P19K	**Oil Pt**	**4.03**	**331**		**Pn**	**11 14 12.0**	**+2.6**
P19K	**Oil Pt**	**4.03**	**331**	IAML		11 14 59.6	
	comp=N,154nm,2.6s						
P19K				IAML		11 15 39.2	
	comp=E,103nm,3.1s						
P19K	**Oil Pt**	**4.03**	**331**	P	**Pn**	**11 14 12.0**	**+2.6**
	baz=148						
CNTC	**Contact Creek**	**4.08**	**303**		**Pn**	**11 14 12.5**	**+2.2**
Q17K	**Contact Creek**	**4.08**	**303**	P	**Pn**	**11 14 12.5**	**+2.2**
	baz=118						
O22K	**Cooper Landing**	**4.31**	**358**		**Pn**	**11 14 13.1**	**-0.1**
O22K				IAML		11 15 06.6	
	comp=E,118nm,0.8s						
P18K	**Big Mountain,**	**4.47**	**318**		**Pn**	**11 14 17.1**	**+1.6**
P18K	**Big Mountain,**	**4.47**	**318**	IAML		11 14 59.8	
	comp=E,50nm,3.0s						
P18K				IAML		11 17 01.3	
	comp=N,60nm,3.7s						
P18K	**Big Mountain,**	**4.47**	**318**	P	**Pn**	**11 14 17.1**	**+1.6**
	baz=134						
HIN	**Hinchinbrook I**	**4.50**	**19**	IAML		11 15 06.2	
	comp=N,74nm,0.3s						
HIN				IAML		11 16 04.8	
	comp=E,95nm,3.2s						
KAIM	**Kayak Island**	**4.60**	**33**		**Pn**	**11 14 18.3**	**+1.1**
KAIM	**Kayak Island**	**4.60**	**33**	P	**Pn**	**11 14 18.3**	**+1.1**
	baz=217						
RSO	**Redoubt South**	**4.63**	**339**		**Pn**	**11 14 17.1**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.78**	**22**		**Pn**	**11 14 20.9**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.78**	**22**	P	**Pn**	**11 14 20.9**	**+1.2**
	baz=205						
RAGM	**Ragged Mountai**	**4.90**	**29**	Pn	**Pn**	**11 14 22.9**	**+1.4**
RAGM				IAML		11 17 03.4	
	comp=E,72nm,3.0s						
RC01	**Rabbit Creek A**	**4.92**	**358**		**Pn**	**11 14 22.4**	**+0.7**
RC01				IAML		11 15 18.6	
	comp=E,42nm,0.2s						
RC01				IAML		11 15 32.2	
	comp=N,43nm,4.0s						
GOAT	**Goat Mountain**	**5.05**	**27**		**Pn**	**11 14 24.8**	**+1.3**
BERG	**Berg Lake**	**5.19**	**33**		**Pn**	**11 14 26.3**	**+1.0**
BERG	**Berg Lake**	**5.19**	**33**	IAML		11 15 55.7	
	comp=N,57nm,3.7s						
KNK	**Knik Glacier**	**5.27**	**5**		**Pn**	**11 14 27.9**	**+1.4**
KNK	**Knik Glacier**	**5.27**	**5**	IAML		11 15 27.6	
	comp=E,33nm,3.2s						
KNK				IAML		11 16 49.4	
	comp=N,30nm,3.6s						
KNK	**Knik Glacier**	**5.27**	**5**	P	**Pn**	**11 14 27.9**	**+1.4**
	baz=186						
SNH	**Sunshine Point**	**5.31**	**38**		**Pn**	**11 14 28.3**	**+1.3**
BMRM	**Bremner River**	**5.42**	**26**	P	**Pn**	**11 14 29.8**	**+1.3**
	baz=210						
PMR	**Palmer**	**5.43**	**1**	Pn	**Pn**	**11 14 28.7**	**+0.1**
BARK	**Barkley Ridge**	**5.59**	**38**		**Pn**	**11 14 32.3**	**+1.3**
KLU	**Klutina**	**5.62**	**17**		**Pn**	**11 14 33.0**	**+1.6**
KLU	**Klutina**	**5.62**	**17**	P	**Pn**	**11 14 32.7**	**+1.4**
	baz=200						
N18K	**Kilae Creek**	**5.64**	**326**	Pn	**Pn**	**11 14 32.6**	**+1.1**
SML	**Sawmill**	**5.67**	**5**		**Pn**	**11 14 33.4**	**+1.4**
SML	**Sawmill**	**5.67**	**5**	P	**Pn**	**11 14 33.4**	**+1.4**
	baz=186						
M23K	**Glacier View**	**5.69**	**8**		**Pn**	**11 14 33.9**	**+1.6**
M23K	**Glacier View**	**5.69**	**8**	P	**Pn**	**11 14 33.9**	**+1.6**
	baz=190						
SCM	**Sheep Creek Mo**	**5.77**	**10**		**Pn**	**11 14 34.9**	**+1.6**
SCM	**Sheep Creek Mo**	**5.77**	**10**	P	**Pn**	**11 14 34.9**	**+1.6**
	baz=192						
SKT	**Skwentna**	**5.91**	**350**		**Pn**	**11 14 35.5**	**+0.2**
CNBA	**Chernabura Isl**	**5.94**	**261**	Pn	**Pn**	**11 14 35.8**	**+0.2**
VRDI	**Verde Repeater**	**5.94**	**29**		**Pn**	**11 14 36.9**	**+1.1**
N25K	**Chitina, Valde**	**5.98**	**23**		**Pn**	**11 14 37.6**	**+1.3**
N25K	**Chitina, Valde**	**5.98**	**23**	P	**Pn**	**11 14 37.6**	**+1.3**
	baz=207						
GLB	**Gilahina Butte**	**6.02**	**27**		**Pn**	**11 14 37.8**	**+1.0**
M20K	**Styx River**	**6.03**	**343**	Pn	**Pn**	**11 14 37.3**	**+0.4**
SAMH	**Samovar Hills**	**6.05**	**46**		**Pn**	**11 14 39.0**	**+1.8**
M24K	**Tolsona, Glenn**	**6.17**	**14**		**Pn**	**11 14 40.8**	**+2.0**
M24K	**Tolsona, Glenn**	**6.17**	**14**	P	**Pn**	**11 14 40.8**	**+2.0**
	baz=197						
MCARA	**McCarthy VSAT**	**6.18**	**30**		**Pn**	**11 14 40.5**	**+1.5**
MCARA	**McCarthy VSAT**	**6.18**	**30**	P	**Pn**	**11 14 40.5**	**+1.5**
	baz=215						
PTPK	**Patty Peak**	**6.19**	**33**		**Pn**	**11 14 40.7**	**+1.4**
PCA	**Pinnacle**	**6.24**	**47**		**Pn**	**11 14 41.0**	**+1.2**
PINM	**Pinnacle**	**6.24**	**47**	P	**Pn**	**11 14 41.0**	**+1.2**
	baz=235						
M19K	**Big River Lodg**	**6.28**	**338**	Pn	**Pn**	**11 14 42.5**	**+2.2**
BARN	**Barnard Glacie**	**6.35**	**36**		**Pn**	**11 14 42.8**	**+1.3**
PNL	**Peninsula**	**6.38**	**53**		**Pn**	**11 14 43.1**	**+1.4**
PNL	**Peninsula**	**6.38**	**53**	P	**Pn**	**11 14 43.1**	**+1.4**
	baz=241						
WACK	**Wrangell Chich**	**6.38**	**22**		**Pn**	**11 14

baz=219
P30M Million Dollar 7.68 54 Pn Pn 11 15 01.1 +1.5
P30M Million Dollar 7.68 54 P **Pn 11 15 01.1 +1.5**
baz=244
HYT Haines Junctio 7.78 48 Pn **Pn 11 15 02.1 +1.1**
K24K Donnelly Dome 7.86 12 Pn 11 15 03.6 +1.6
K24K Donnelly Dome 7.86 12 P **Pn 11 15 03.6 +1.6**
baz=195
L27K Beaver Creek, 7.89 26 Pn **Pn 11 15 03.9 +1.5**
BCAR Beaver Creek A 7.91 26 Pn **Pn 11 15 04.6 +1.9**
RIDG Independent Ri 7.92 15 Pn 11 15 05.5 +2.7
SCRK Sand Creek 8.27 17 Pn **Pn 11 15 08.8 +1.1**
N30M Aishikik Lake 8.29 45 Pn **Pn 11 15 09.3 +1.3**
J20K Nowinta River 8.35 346 Pn **Pn 11 15 10.9 +2.2**
O30N Mendenhall 8.36 51 Pn **Pn 11 15 10.0 +1.2**
M29M Somme Creek 8.41 37 Pn 11 15 11.8 +2.2
CCB Clear Creek Bu 8.53 5 Pn **Pn 11 15 12.7 +1.6**
K27K Chicken 8.68 22 Pn **Pn 11 15 15.1 +1.9**
J25K Salcha River, 8.69 12 Pn **Pn 11 15 14.8 +1.4**
ILAR Eielson Array 8.71 7 Pn **Pn 11 15 16.1 +2.5**
ILAR Eielson Array 8.71 7 Pn **Pn 11 15 15.2 +1.6**
comp=N,0.1nm,0.3s,baz=193,slow=11,SNR=10
ILAR Sn **Sn 11 16 48.1 -3.6**
comp=N,0.3nm,0.3s,baz=182,slow=23,SNR=8.2
comp=N,0.5nm,0.5s
MDM Murphy Dome 8.82 3 Pn **Pn 11 15 16.8 +1.6**
J26L Joseph Creek 8.83 17 Pn 11 15 17.0 +1.7
J26L Joseph Creek 8.83 17 P **Pn 11 15 17.0 +1.7**
baz=202
N31M Braeburn, Yuko 8.84 47 Pn **Pn 11 15 17.4 +2.0**
WHY Whitehorse 8.85 54 Pn **Pn 11 15 17.8 +2.2**
L29M L29M 8.98 35 Pn 11 15 19.5 +2.1
P32M Atlin 9.03 61 Pn **Pn 11 15 18.7 +0.6**
M30M Minto, Yukon 9.08 40 Pn **Pn 11 15 20.4 +1.8**
I21K Tanana 9.11 353 Pn **Pn 11 15 21.4 +2.3**
DAWY Dawson 9.34 28 Pn **Pn 11 15 23.6 +1.3**
Q32M Nakina River 9.62 66 Pn **Pn 11 15 27.6 +1.3**
P33M Teslin, Yukon 9.64 58 Pn **Pn 11 15 27.2 +0.8**
H21K Melozitna Rive 9.64 352 Pn **Pn 11 15 28.4 +2.0**
I26K Coal Creek Min 9.65 16 Pn **Pn 11 15 29.2 +2.8**
K29M Barlow Dome 9.70 33 Pn **Pn 11 15 29.4 +2.1**
H24K Noodor Dome 9.71 4 Pn **Pn 11 15 29.9 +2.5**
N32M Quiet Lake 9.85 53 Pn **Pn 11 15 31.3 +2.0**
IMAR Indian Mountai 10.05 350 Pn **Pn 11 15 33.8 +1.8**
FARO Faro, Yukon 10.21 47 Pn **Pn 11 15 35.8 +1.6**
R33M Jennings River 10.36 64 Pn **Pn 11 15 37.9 +1.6**
J30M Hart River 10.60 32 Pn **Pn 11 15 42.3 +2.7**
DLBC Dease Lake 10.73 70 Pn **Pn 11 15 41.2 -0.1**
comp=N,0.3nm,0.3s,baz=246,slow=12,SNR=6.2
comp=N,1.1nm,0.3s
BMAR Burnt Mountain 11.51 9 Pn **Pn 11 15 54.9 +3.0**
YKA Yellowknife Ar 18.66 56 P **P 11 17 25.7 +0.3**
baz=264,slow=10,SNR=1.7
comp=N,0.1nm,0.7s
MKAR Makanchi Array 68.63 325 P **P 11 24 09.0 -1.6**
comp=N,0.3nm,0.7s,baz=34,slow=5.4,SNR=2.5
comp=N,0.3nm,0.7s

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*GUC **29** 11:25:17.9±2.9, 15°.44S×74°.02W, h42km±205km, ML4.7*
*NEIC **29** 11:25:17.9±1.2, 15°.73S±0°.08×74°.2W±0°.1, h60km±9km, mb4.7/37, Error ellipse: s-maj=16.4km s-min=9.6km az=54.0*
*IDC **29** 11:25:18.4±0.5, 15°.58S×74°.10W, h67km±3km, mb4.0/14, mbtmp4.3/18, MS3.1/4, Error ellipse: s-maj=20.9km s-min=9.8km az=55.0*
*VAO **29** 11:25:19.2±1.0, 15°.71S×74°.01W, h57km±9km, mb4.4*
ISC 29 11:25:18.0±0.4, **15°.73S**±0°.06×**74°.16W**±0°.07, **h71**km, **n120, s44**/119, **mb4.5**/30, **2C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**4.49**	**126**	Pn	**Pn**	**11 26 23.8**	**+0.1**
NNA	**Nana**	**4.55**	**325**	Pn	**Pn**	**11 26 22.9**	**-1.6**
NNA	**Nana**	**4.55**	**325**	P	**Pn**	**11 26 22.7**	**-1.7**
	55nm,0.4s,baz=138,slow=12,SNR=25						
NNA				S	**Sn**	**11 27 13.7**	**-2.4**
	226nm,0.3s,baz=235,slow=17,SNR=7.6						
PB12	**IPOC Station P**	**4.65**	**129**	Pn	**Pn**	**11 26 25.9**	**0.0**
PB12	**IPOC Station P**	**4.65**	**129**	↑P	**Pn**	**11 26 25.8**	**-0.1**
PB16	**IPOC Station P**	**5.14**	**121**		**Pn**	**11 26 33.9**	**+0.8**
PB11	**IPOC Station P**	**5.87**	**134**	↑P	**Pn**	**11 26 42.8**	**+0.2**
PB11				*e*S	**Sn**	**11 27 43.0**	**-5.5**
TA01	**Diego Aracena**	**6.11**	**142**		**Pn**	**11 26 45.7**	**-0.1**
GO01	**Chusmiza**	**6.14**	**130**		**Pn**	**11 26 47.5**	**+0.9**
PATCX	**Punta Patache**	**6.33**	**144**	Pn	**Pn**	**11 26 48.1**	**-0.8**
PB08	**IPOC Station P**	**6.47**	**133**	*i* P	**Pn**	**11 26 51.3**	**+0.3**
PB08				*e*S	**Sn**	**11 28 00.2**	**-3.5**
CZSB	**Cruzeiro do Su**	**8.08**	**10**	Pn	**Pn**	**11 27 12.8**	**+0.1**
CZSB	**Cruzeiro do Su**	**8.08**	**10**	*e*P	**Pn**	**11 27 12.7**	**-0.1**
LVC	**Limon Verde**	**8.45**	**145**	Pn	**Pn**	**11 27 19.4**	**+1.4**
LVC	**Limon Verde**	**8.45**	**145**	P	**Pn**	**11 27 19.2**	**+1.2**
	19nm,0.2s,baz=354,slow=8.3,SNR=84						
LVC				S	**Sn**	**11 28 49.0**	**-3.0**
	54nm,0.4s,baz=263,slow=10,SNR=14						
ATAH	**Atahualpa**	**9.50**	**334**	P	**Pn**	**11 27 33.3**	**+0.8**
	4.1nm,0.4s,baz=106,slow=8.2,SNR=4.7						
ATAH				S	**Sn**	**11 29 14.7**	**-3.2**
	8.5nm,0.8s,baz=96,slow=20,SNR=1.2						
ETMB	**Extrema**	**9.72**	**54**	Pn	**Pn**	**11 27 36.1**	**+0.9**
ETMB	**Extrema**	**9.72**	**54**	*e*P	**Pn**	**11 27 35.5**	**+0.4**
GO02	**Mina Guanaco**	**10.31**	**156**		**Pn**	**11 27 43.2**	**-0.2**
AC01	**Pan de Azucar**	**10.88**	**163**		**Pn**	**11 27 49.6**	**-1.4**
AC06	**Mina Casimiro**	**12.10**	**164**		**Pn**	**11 28 07.1**	**-0.4**
SIV	**San Ignacio**	**12.59**	**93**	P	**Pn**	**11 28 12.5**	**-1.9**
	0.4nm,0.3s,baz=267,slow=18,SNR=1.2						
SIV				LR	LR	11 34 09.0	
	comp=Z,37nm,21.7s,baz=287,slow=42						
SAML	**Samuel**	**12.66**	**59**	Pn	**Pn**	**11 28 13.2**	**-2.0**
SAML	**Samuel**	**12.66**	**59**	*e*P	**Pn**	**11 28 12.9**	**-2.3**
BBSD	**Serra de San D**	**13.08**	**98**	*e*P	**Pn**	**11 28 21.1**	**+0.3**
BOSC	**San Juan Bosco**	**13.21**	**341**		Pn	11 28 15.3	-7.6
AC05	**El Transito**	**13.53**	**165**		**Pn**	**11 28 29.3**	**+2.4**
LCO	**Las Campanas**	**13.60**	**167**		**Pn**	**11 28 27.6**	**-0.3**
BBRB	**Robore, Bolivi**	**13.96**	**102**	*e*P	**Pn**	**11 28 31.6**	**-0.9**
TEFE	**Tefe**	**15.34**	**39**	*e*P	**Pn**	**11 28 52.5**	**+1.9**
OTAV	**Otavalo**	**16.43**	**345**	P	**Pn**	**11 29 05.3**	**+0.7**
OTAV	**Otavalo**	**16.43**	**345**	*e*P	**P**	**11 29 06.9**	**+0.6**
TICA	**Tres Isletas**	**16.65**	**132**	*e*P	**Pn**	**11 29 08.0**	**+1.1**
H03N1	**Juan Fernandez**	**18.15**	**193**	T	T	11 48 01.7	
	baz=15,slow=74,SNR=1148						
H03N2	**Juan Fernandez**	**18.15**	**193**	T	T	11 48 01.0	
	baz=15,slow=74,SNR=2118						
H03N3	**Juan Fernandez**	**18.17**	**193**	T	T	11 48 00.4	
	baz=15,slow=74,SNR=2048						
MACA	**Manacapuru-AM**	**18.22**	**48**		sP	11 29 50.1	-0.4
CPUP	**Villa Florida**	**18.90**	**127**	LR	LR	11 37 52.3	
	comp=Z,63nm,20.1s,baz=268,slow=40						
ORTC	**Ortega, Tolima**	**19.55**	**357**	*e*P	**Pn**	**11 29 45.1**	**+3.1**
VILC	**Villavicencio,**	**19.72**	**1**	*e*P	**Pn**	**11 29 49.3**	**+5.1**
NPGB	**Novo Progresso**	**20.33**	**67**	*e*P	**P**	**11 29 48.5**	**-0.2**
ROSC	**El Rosal**	**20.44**	**360**	P	**P**	**11 29 48.7**	**-1.5**
	6.6nm,0.4s,baz=221,slow=20,SNR=3.6						
	6.6nm,0.4s						
PLMC	**San Jos del P**	**20.61**	**354**	*e*P	Pn	11 30 00.4	+5.8
GUY2C	**Guyana, Caldas**	**20.86**	**357**	*e*P	Pn	11 29 57.6	-0.3
SPBC	**San Pablo de B**	**21.25**	**0**	*e*P	**P**	**11 30 02.9**	**+4.4**
CBOC	**Ciudad Bolivar**	**21.54**	**355**	*e*P	**P**	**11 30 02.9**	**+1.2**
PTBC	**PUERTO BERRIO,**	**22.13**	**359**	*e*P	**P**	**11 30 08.0**	**+0.1**
BARC	**Barichara**	**22.20**	**3**	*e*P	**P**	**11 30 06.7**	**-2.3**
BOAV	**Boa Vista**	**22.50**	**38**	P	**P**	**11 30 12.3**	**+0.4**
BOAV	**Boa Vista**	**22.50**	**38**	*e*P	**P**	**11 30 11.6**	**-0.3**
PAMC	**Pamplona, Colo**	**22.97**	**4**	*e*P	**P**	**11 30 16.6**	**-0.7**
LDASE	**Londrina, Braz**	**22.99**	**113**	*e*P	**P**	**11 30 18.7**	**+1.7**
ITRB	**Iturama**	**23.00**	**103**	*e*P	**P**	**11 30 19.4**	**+2.2**
UREC	**San Jos de Ur**	**23.37**	**357**	*e*P	**P**	**11 30 21.4**	**+0.8**
FRTB	**Fartura**	**24.36**	**112**	*e*P	**P**	**11 30 31.2**	**+1.6**
IPMB	**Ipameri, GO**	**24.92**	**99**	*e*P	**P**	**11 30 35.4**	**+0.6**
PLCA	**Paso Flores**	**25.11**	**174**	P	**P**	**11 30 38.0**	**+1.7**
PLCA	**Paso Flores**	**25.11**	**174**	P	**P**	**11 30 37.8**	**+1.6**
	2.7nm,0.9s,baz=343,slow=9.7,SNR=8.0						
PLCA				LR	LR	11 38 36.7	
	comp=Z,55nm,20.1s,baz=228,slow=32						
	2.7nm,0.9s						
PLCA	**Paso Flores**	**25.11**	**174**	*e*P	**P**	**11 30 38.1**	**+1.8**
BDFB	**Brasilia**	**25.16**	**93**	P	**P**	**11 30 37.5**	**+0.4**
	3.5nm,0.6s,baz=274,slow=11,SNR=4.9						
	3.5nm,0.6s						
BAUV	**El Baul**	**25.25**	**14**	P	**P**	**11 30 38.2**	**+0.5**
JANB	**Januaria**	**28.77**	**93**	*e*P	**P**	**11 31 10.1**	**+0.7**
DIAM	**Diamantina, MG**	**29.25**	**99**	*e*P	**P**	**11 31 14.6**	**+0.9**
MDP	**Montagnes des**	**29.70**	**47**	LR	LR	11 44 01.4	
	comp=Z,88nm,20.5s,baz=282,slow=38						
HNDO	**Hondo**	**51.12**	**332**	P	**P**	**11 34 14.7**	**+0.9**
BRDY	**Brady**	**52.49**	**333**	P	**P**	**11 34 23.3**	**-0.7**
BRDY				IAmb	IAmb	11 34 24.7	
	comp=Z,4.8nm,0.9s						
TX31	**Lajitas Ar. Si**	**53.10**	**327**	P	**P**	**11 34 28.4**	**-0.1**
TX31				IAmb	IAmb	11 34 29.9	
	comp=Z,4.5nm,0.8s						
TXAR	**Lajitas Array**	**53.10**	**327**	P	**P**	**11 34 28.9**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=147,slow=8.9,SNR=22						
	comp=Z,2.6nm,0.7s						
OZNA	**Ozona**	**53.14**	**331**	P	**P**	**11 34 28.4**	**-0.4**
OZNA				IAmb	IAmb	11 34 29.6	
	comp=Z,17nm,1.4s						
PLPT	**Palo Pinto**	**53.52**	**335**	P	**P**	**11 34 31.7**	**+0.2**
MNHN	**Monahans**	**54.27**	**330**	P	**P**	**11 34 37.2**	**+0.2**
APMT	**Aspermont**	**54.72**	**333**	P	**P**	**11 34 40.3**	**0.0**
TUL3	**Leonard**	**55.30**	**339**		**P**	**11 34 43.7**	**-0.6**
SMWD	**Samnorwood**	**56.30**	**334**	P	**P**	**11 34 51.9**	**+0.3**
MSTX	**Muleshoe**	**56.45**	**331**	P	**P**	**11 34 52.6**	**-0.1**
MSTX				IAmb	IAmb	11 34 53.4	
	comp=Z,5.7nm,0.9s						
T35A	**Sooner Cattle**	**56.45**	**339**	P	**P**	**11 34 52.1**	**-0.5**
T35A				IAmb	IAmb	11 34 53.8	
	comp=Z,12nm,1.0s						
121A	**Cookes Peak, D**	**57.78**	**326**	P	**P**	**11 35 02.3**	**0.0**
121A				IAmb	IAmb	11 35 04.3	
	comp=Z,5.9nm,0.8s						
ANMO	**Albuquerque**	**59.00**	**329**	P	**P**	**11 35 10.2**	**-0.5**
ANMO				IAmb	IAmb	11 35 12.1	
	comp=Z,3.7nm,0.8s						
SDCO	**Great Sand Dun**	**60.81**	**332**	P	**P**	**11 35 23.5**	**+0.3**
SDCO				IAmb	IAmb	11 35 24.8	
	comp=Z,8.5nm,0.8s						
X16A	**Lo Mia Camp, P**	**61.20**	**325**	P	**P**	**11 35 25.6**	**-0.1**
X16A				IAmb	IAmb	11 35 27.9	
	comp=Z,4.8nm,0.7s						
Y14A	**Wickenburg**	**61.72**	**324**	P	**P**	**11 35 29.3**	**+0.2**
Y14A				IAmb	IAmb	11 35 31.2	
	comp=Z,4.4nm,0.8s						
WUAZ	**Wupatki**	**61.98**	**326**	P	**P**	**11 35 30.5**	**-0.5**
WUAZ				IAmb	IAmb	11 35 33.2	
	comp=Z,6.0nm,0.9s						
SMCO	**Snowmass**	**62.64**	**332**	P	**P**	**11 35 34.7**	**-0.9**
PMD	**Palm Desert**	**63.49**	**321**	P	**P**	**11 35 40.5**	**-0.3**
KNB	**Kanab**	**63.88**	**326**	P	**P**	**11 35 44.4**	**+0.8**
KNB				IAmb	IAmb	11 35 46.0	
	comp=Z,6.7nm,0.9s						
SRU	**San Rafael Swe**	**64.28**	**329**	P	**P**	**11 35 45.8**	**-0.3**
SRU				IAmb	IAmb	11 35 47.8	
	comp=Z,7.1nm,1.1s						
MSU	**Marysvale**	**64.66**	**328**	P	**P**	**11 35 50.0**	**+1.3**
ISA	**Isabella, Lake**	**66.13**	**322**	P	**P**	**11 35 58.4**	**+0.3**
DUG	**Dugway, Tooele**	**66.25**	**328**	P	**P**	**11 35 59.9**	**+1.1**
DUG				IAmb	IAmb	11 36 01.1	
	comp=Z,6.9nm,0.9s						
PDAR	**Pinedale Array**	**66.69**	**332**	P	**P**	**11 36 02.8**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=125,slow=7.4,SNR=3.5						
PDAR				pP	**pP**	**11 36 21.1**	**0.0**
	comp=Z,0.4nm,0.9s,baz=137,slow=14,SNR=2.1						
PDAR				sP	**sP**	**11 36 28.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=152,slow=9.6,SNR=3.7						
	comp=Z,0.2nm,0.5s						
HVU	**Hansel Valley**	**67.42**	**330**	P	**P**	**11 36 06.6**	**+0.3**
OMMB	**Old Mammoth Mi**	**67.76**	**323**	P	**P**	**11 36 09.6**	**+0.9**
OMMB				IAmb	IAmb	11 36 10.9	
	comp=Z,5.7nm,0.9s						
NVAR	**Mina Array Bea**	**67.92**	**324**	P	**P**	**11 36 10.4**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=164,slow=7.2,SNR=7.9						
NVAR				pP	**pP**	**11 36 26.9**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=164,slow=13,SNR=2.6						
	comp=Z,1.1nm,0.8s						
ULM	**Lac du Bonnet**	**68.42**	**345**	P	**P**	**11 36 11.2**	**-1.0**
ULM	**Lac du Bonnet**	**68.42**	**345**	P	**P**	**11 36 11.3**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=161,slow=6.8,SNR=8.3						
ULM				pP	**pP**	**11 36 29.4**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=186,slow=12,SNR=1.7						
ULM				sP	**PcP**	**11 36 37.1**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=156,slow=5.4,SNR=4.0						
	comp=Z,3.8nm,0.8s						
SNAA	**Sanae**	**69.32**	**161**	P	**P**	**11 36 19.1**	**+1.5**
	comp=Z,4.2nm,0.9s,baz=266,slow=10,SNR=9.8						
SNAA				pP	**pP**	**11 36 36.7**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=277,slow=5.7,SNR=2.1						
	comp=Z,4.2nm,0.9s						
ORV	**Oroville**	**70.51**	**323**	P	**P**	**11 36 25.8**	**+0.5**
ORV				IAmb	IAmb	11 36 28.0	
	comp=Z,6.8nm,0.9s						
ORV					**PcP**	**11 36 46.5**	**+0.3**
SCHQ	**Schefferville**	**70.56**	**4**	P	**P**	**11 36 24.3**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=190,slow=6.1,SNR=2.9						
	comp=Z,4.2nm,0.9s						
TBI	**Tubuai**	**70.69**	**250**	*e*LR	LR	11 57 53.9	
	comp=Z,309nm,41.0s						
PPT2	**Papeete2**	**71.81**	**256**	*e*LR	LR	11 58 23.5	
	comp=Z,44nm,25.8s						
DBIC	**Dimbokro**	**72.12**	**78**	P	**P**	**11 36 35.5**	**0.0**
	comp=Z,4.0nm,0.6s,baz=232,slow=6.6,SNR=8.2						
	comp=Z,4.0nm,0.6s						
TOA0	**Torodi Ar. Sit**	**80.31**	**73**	P	**P**	**11 37 22.3**	**+0.3**
TOA0				IAmb	IAmb	11 37 23.4	
	comp=Z,8.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.31**	**73**	P	**P**	**11 37 22.5**	**+0.6**
TORD				IAmb	IAmb	11 37 23.4	
	comp=Z,7.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.31**	**73**	P	**P**	**11 37 22.3**	**+0.3**
	comp=Z,7.0nm,0.7s,baz=265,slow=4.8,SNR=43						
TORD				pP	**pP**	**11 37 40.7**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=264,slow=4.6,SNR=3.9						
	comp=Z,7.0nm,0.7s						
VNDA	**Vanda**	**81.61**	**191**	P	**P**	**11 37 29.9**	**+2.1**
	comp=Z,2.1nm,0.9s,baz=67,slow=2.4,SNR=2.8						
	comp=Z,2.1nm,0.9s						
YKA	**Yellowknife Ar**	**84.17**	**342**	P	**P**	**11 37 40.8**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=139,slow=5.4,SNR=34						
YKA				pP	**pP**	**11 37 59.2**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=138,slow=5.2,SNR=4.7						
YKA				sP	**sP**	**11 38 06.8**	**-2.3**
	comp=Z,1.3nm,0.9s,baz=143,slow=5.1,SNR=5.3						
	comp=Z,1.6nm,0.7s						
ESDC	**Sonseca Array**	**85.38**	**47**	P	**P**	**11 37 48.9**	**+1.1**
	comp=Z,1.6nm,1.0s,baz=268,slow=3.6,SNR=6.0						
	comp=Z,1.6nm,1.0s						
SUMG	**Summit**	**91.22**	**10**	P	**P**	**11 38 16.0**	**+0.7**
H11N3	**WAKE ISLAND Hyl**	**21.96**	**284**	T	T	13 57 48.9	
	baz=96						
H11N2	**WAKE ISLAND Hyl**	**21.97**	**284**	T	T	13 58 07.6	
	baz=96						
H11N1	**WAKE ISLAND Hyl**	**21.97**	**284**	T	T	13 57 51.4	
	baz=96						
H11S2	**WAKE ISLAND Hyl**	**22.00**	**282**	T	T	13 58 18.8	
	baz=92,slow=74						
H11S1	**WAKE ISLAND Hyl**	**22.01**	**282**	T	T	13 58 15.1	
	baz=92						
H11S3	**WAKE ISLAND Hyl**	**22.02**	**282**	T	T	13 58 15.0	
	baz=92,slow=74						
ASAR	**Alice Springs**	**132.19**	**216**	PKP	**PKPdf**	**11 44 24.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=124,slow=1.7,SNR=16						
WRA	**Warramunga Arr**	**134.82**	**219**	PKP	**PKPdf**	**11 44 30.3**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=136,slow=1.8,SNR=12						
ZALV	**Zalesovo Beam**	**138.48**	**19**	PKP	**PKPdf**	**11 44 34.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=298,slow=3.2,SNR=6.4						
ZALV				pPKP	**pPKPdf**	**11 44 55.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=318,slow=2.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**138.83**	**26**	PKP	**PKPdf**	**11 44 36.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=307,slow=3.1,SNR=4.6						
MKAR	**Makanchi Array**	**143.35**	**27**	PKhKP	PKPpre	11 44 40.1	
	comp=Z,0.5nm,0.6s,baz=336,slow=2.7,SNR=8.0						
SONM	**Songino Array**	**147.99**	**359**	PKPbc	**PKPbc**	**11 44 55.5**	**0.0**
	comp=Z,2.1nm,0.7s,baz=344,slow=1.2,SNR=15						
SONM				pPKPbc	**pPKPdf**	**11 45 15.1**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=340,slow=2.1,SNR=5.6						

IDC 29 11:54:03.2±8.0, 11°.91N×143°.72E, h0km, mb3.8/5, mbtmp3.8/5, MS2.6/1, Error ellipse: s-maj=298.4km s-min=44.6km az=16.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**29.12**	**334**	LR	LR	12 10 54.9	
	comp=Z,11nm,20.8s,baz=0.0,slow=35						
SONM	**Songino Array**	**47.48**	**326**	P	P	12 02 40.0	0.0
	0.2nm,0.4s,baz=138,slow=7.1,SNR=2.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**61.93**	**317**	P	P	12 04 25.4	+0.6
	0.3nm,0.6s,baz=100,slow=8.1,SNR=4.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**65.19**	**320**	P	P	12 04 45.8	-0.5
	1.1nm,0.6s,baz=105,slow=6.7,SNR=7.8						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**70.55**	**322**	P	P	12 05 20.0	0.0
	0.8nm,0.4s,baz=103,slow=8.0,SNR=6.0						
	0.8nm,0.4s						
NVAR	**Mina Array Bea**	**88.84**	**51**	P	P	12 06 59.9	0.0
	1.1nm,0.8s,baz=259,slow=6.2,SNR=8.8						
	1.1nm,0.8s						

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*ROM **29** 11:57:43.5±0.5, 42°.14N±0°.01×16°.16E±0°.02, h6km±3km, ML2.5/65, Error ellipse: s-maj=1.6km s-min=1.0km az=297.0*
ISC 29 11:57:43.0±1.1, **42°.19N**±0°.02×**16°.12E**±0°.03, **h14**km±9km, **n46, s66**/61, **1D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAG	**Monte S. Angel**	**0.51**	**198**	↓P	**Pb**	**11 57 54.0**	**+0.2**
MSAG				S	**Sb**	**11 58 01.1**	**+0.1**
MSAG				AML	AML		
	comp=E,701μm,0.1s						
MSAG				AML	AML		
	comp=E,1690μm,0.1s						
MSAG				AML	AML		
	comp=N,1100μm,0.6s						
MSAG				AML	AML		
	comp=E,1685μm,0.1s						
MSAG				AML	AML		
	comp=N,2600μm,1.5s						
MSAG				AML	AML		
	comp=N,2504μm,0.2s						
MSAG				AML	AML		
	comp=N,1073μm,0.2s						
MSAG				AML	AML		
	comp=E,701μm,0.1s						
MSAG				AML	AML		
	comp=E,1686μm,0.1s						
SGRT	**San Giovanni R**	**0.52**	**213**	P	**Pb**	**11 57 54.1**	**0.0**
SGRT				S	**Sb**	**11 58 01.5**	**0.0**
SGRT				AML	AML		
	comp=N,3850μm,0.4s						
SGRT				AML	AML		
	comp=E,5080μm,0.2s						
SGRT				AML	AML		
	comp=N,2467μm,0.1s						
SGRT				AML	AML		
	comp=E,5076μm,0.2s						
APRC	**Apricena**	**0.61**	**225**	P	**Pb**	**11 57 55.4**	**-0.1**
APRC				S	**Sb**	**11 58 03.8**	**-0.3**
APRC				AML	AML		
	comp=N,1980μm,0.7s						
APRC				AML	AML		
	comp=E,1775μm,0.8s						
APRC				AML	AML		
	comp=E,1424μm,0.2s						
APRC				AML	AML		
	comp=N,1939μm,0.1s						
APRC				AML	AML		
	comp=E,1519μm,0.2s						
LSTV	**Lastovo**	**0.81**	**44**	*e*Pg	**Pn**	**11 58 01.3**	**+1.2**
LSTV				Sg	**Sn**	**11 58 12.3**	**+0.5**
MELA	**Melanico ??? S**	**0.89**	**237**	P	**Pb**	**11 58 00.3**	**+0.1**
MELA				S	**Sb**	**11 58 12.1**	**+0.2**
MELA				AML	AML		
	comp=N,768μm,0.8s						
MELA				AML	AML		
	comp=E,1210μm,0.6s						
MELA				AML	AML		
	comp=E,1204μm,0.4s						
MELA				AML	AML		
	comp=N,697μm,0.3s						
MELA				AML	AML		
	comp=N,696μm,0.3s						
MELA				AML	AML		
	comp=E,1208μm,0.4s						
HVAR	**Hvar**	**1.01**	**14**	P	**Pn**	**11 58 03.9**	**+1.1**
HVAR				S	**Sn**	**11 58 18.2**	**+1.3**
CIGN	**Sant'Elia a Pi**	**1.06**	**240**	P	**Pg**	**11 58 02.9**	**-0.5**
CIGN				S	**Sn**	**11 58 18.6**	**+0.6**
MOCO	**Biccari - m.te**	**1.09**	**222**	P	**Pb**	**11 58 03.6**	**-0.2**
MOCO				S	**Sn**	**11 58 19.8**	**+0.8**
MOCO				AML	AML		
	comp=E,137μm,0.4s						
MOCO				AML	AML		
	comp=N,71μm,0.7s						
MOCO				AML	AML		
	comp=N,66μm,0.4s						
MOCO				AML	AML		
	comp=N,65μm,0.4s						
MOCO				AML	AML		
	comp=E,128μm,0.4s						
MOCO				AML	AML		
	comp=E,137μm,0.4s						
MRVN	**Minervino Murg**	**1.13**	**177**	P	**Pb**	**11 58 03.5**	**-0.9**
MRVN				AML	AML		
	comp=E,191μm,0.2s						
MRVN				AML	AML		
	comp=N,180μm,0.3s						
MRVN				AML	AML		
	comp=E,191μm,0.2s						
MRVN				AML	A

comp=N,153μm,0.8s
LPEL AML AML
comp=E,186μm,0.2s
LPEL AML AML
comp=N,148μm,0.2s
RICI Ricice 1.50 29 *e*Pn **Pg 11 58 11.0 -0.8**
RICI Sn **Sg 11 58 30.4 -0.9**
MIDA Miranda 1.50 249 P **Pn 11 58 09.2 -0.4**
MIDA S **Sg 11 58 31.6 +0.3**
ZIRJ Zirje 1.50 347 *e*Pn **Pn 11 58 09.9 +0.3**
ZIRJ Sn **Sn 11 58 28.1 -0.9**
RNI2 Rionero Sannit 1.55 252 P **Pg 11 58 13.0 +0.2**
RNI2 S **Sg 11 58 33.2 +0.3**
RNI2 AML AML
comp=N,120μm,0.4s
RNI2 AML AML
comp=E,139μm,0.4s
RNI2 AML AML
comp=N,121μm,0.4s
RNI2 AML AML
comp=N,120μm,0.4s
RNI2 AML AML
comp=E,139μm,0.4s
RNI2 AML AML
comp=E,149μm,0.4s
NOCI Noci 1.57 153 P **Pn 11 58 10.6 +0.1**
NOCI AML AML
comp=E,160μm,0.1s
NOCI AML AML
comp=N,176μm,0.6s
NOCI AML AML
comp=N,172μm,0.2s
NOCI AML AML
comp=E,160μm,0.1s
DBRK Dubrovnik 1.57 72 *e*Pn **Pg 11 58 13.7 +0.5**
DBRK Sn **Sg 11 58 33.1 -0.6**
MATE Matera 1.60 164 P **Pg 11 58 14.2 +0.5**
VAGA Valle Agricola 1.61 242 P **Pb 11 58 13.2 +0.6**
VAGA AML AML
comp=N,95μm,1.2s
VAGA AML AML
comp=E,93μm,1.1s
VAGA AML AML
comp=E,71μm,0.3s
VAGA AML AML
comp=E,82μm,0.4s
VAGA AML AML
comp=E,82μm,1.6s
VAGA AML AML
comp=N,94μm,0.3s
VAGA AML AML
comp=N,93μm,0.2s
INTR Introdacqua 1.66 264 P **Pg 11 58 14.8 -0.1**
INTR AML AML
comp=N,232μm,0.5s
INTR AML AML
comp=E,81μm,0.5s
INTR AML AML
comp=E,81μm,0.5s
INTR AML AML
comp=N,232μm,0.5s
INTR AML AML
comp=N,212nm,0.5s
INTR AML AML
comp=E,124nm,0.8s
PTRP Pietrapertosa 1.67 182 P **Pg 11 58 14.5 -0.6**
PTRP AML AML
comp=E,150μm,0.5s
PTRP AML AML
comp=N,130μm,0.4s
PTRP AML AML
comp=E,149μm,0.5s
PTRP AML AML
comp=N,130μm,0.4s
MORI Morici 1.70 350 *e*Pn **Pn 11 58 13.0 +0.7**
MORI Sn **Sn 11 58 32.6 -1.2**
VCEL Villa Celiera 1.71 278 P **Pg 11 58 15.9 +0.1**
VCEL AML AML
comp=N,124μm,0.4s
VCEL AML AML
comp=E,155μm,0.4s
VCEL AML AML
comp=E,155μm,0.4s
VCEL AML AML
comp=N,123μm,0.4s
T0110 Collepietro 1.74 272 P **Pg 11 58 16.2 -0.3**
T0110 AML AML
comp=E,110μm,0.5s
T0110 AML AML
comp=N,114μm,0.7s
T0110 AML AML
comp=E,109μm,0.5s
T0110 AML AML
comp=E,109μm,1.5s
T0110 AML AML
comp=N,104μm,0.6s
CDRU Civita di Ruta 1.81 200 P **Pn 11 58 14.3 +0.4**
CDRU AML AML
comp=E,64μm,1.3s
CDRU AML AML
comp=N,44μm,0.2s
CDRU AML AML
comp=N,44μm,0.2s
CDRU AML AML
comp=E,59μm,0.2s
KIJV Kijevo 1.82 6 *e*Pn **Pb 11 58 15.8 -0.4**
KIJV Sn **Sn 11 58 36.2 -0.8**
FAGN Fagnano 1.89 273 P **Pg 11 58 18.7 -0.5**
FAGN AML AML
comp=E,151μm,0.5s
FAGN AML AML
comp=N,130μm,0.4s
FAGN AML AML
comp=N,130μm,0.4s
TERO Teramo 1.92 284 P **Pn 11 58 15.7 +0.4**
TERO AML AML
comp=E,40μm,0.8s
TERO AML AML
comp=N,50μm,0.4s
TERO AML AML
comp=E,37μm,0.3s
TERO AML AML
comp=N,50μm,0.4s
TERO AML AML
comp=E,37μm,1.7s
DUGI Dugi Otok 1.96 337 *e*Pn **Pn 11 58 16.5 +0.6**
DUGI Sn **Sn 11 58 39.8 -0.5**
VIRC Vir 2.24 340 *e*Pn **Pn 11 58 20.7 +1.0**
VIRC Sn **Sn 11 58 45.1 -2.0**
NRCA Norcia 2.31 287 P **Pn 11 58 21.5 +0.7**
NRCA AML AML
comp=E,77μm,0.1s
NRCA AML AML
comp=N,73μm,0.9s
SALB San Lorenzo Be 2.32 176 P **Pn 11 58 21.5 +0.6**
SALB AML AML
comp=E,44μm,1.2s
SALB AML AML
comp=N,28μm,0.8s
SALB AML AML
comp=E,37μm,0.3s
SALB AML AML
comp=N,27μm,0.3s
FDMO Fiordimonte 2.39 292 P **Pn 11 58 22.4 +0.6**
FDMO AML AML
comp=E,28μm,0.6s
FDMO AML AML
comp=N,31μm,1.5s
FDMO AML AML
comp=E,27μm,0.3s
FDMO AML AML
comp=N,26μm,0.5s
EL6 Elcito 2.50 298 AML AML
comp=N,52μm,0.6s
EL6 AML AML
comp=E,47μm,0.2s
EL6 AML AML
comp=N,52μm,1.4s
CESX Cesi 2.66 280 AML AML
comp=N,28μm,0.3s
CESX AML AML
comp=E,28μm,0.6s
CESX AML AML
comp=N,28μm,1.7s
PIEI Pieia 2.96 298 AML AML
comp=N,11μm,0.2s
PIEI AML AML

comp=E,22μm,0.2s
SERS Sersale 3.18 172 AML AML
comp=N,12μm,1.2s
SERS AML AML
comp=N,12μm,0.8s

*IDC **29** 11:59:35.8±2.3, 35°.93N×140°.82E, h0km, mb3.7/4, mbtmp3.7/6, ML3.1/2, Error ellipse: s-maj=61.1km s-min=22.8km az=68.0*
*JMA **29** 11:59:43.7±0.1, 35°.8N±0°.4×140°.2E±0°.5, h55km±1km, MV3.0/38, NORTHERN CHIBA PREF*
ISC 29 11:59:44.2±1.0, 35°.70N±0°.04×140°.25E±0°.06, h52km±10km, n20, σ0s74/23, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.17**	**108**	P	**Pn**	**11 59 53.2**	**+0.7**
JIHU	**Itakohorinouch**	**0.35**	**39**	P	**Pn**	**11 59 54.0**	**0.0**
JYT	**Yasato**	**0.53**	**355**	*i* P	**Pn**	**11 59 55.1**	**-0.9**
JYT				S	**Sn**	**12 00 03.5**	**-0.9**
BSO3	**Boso 3**	**0.92**	**167**	P	**Pn**	**12 00 00.7**	**+0.1**
JAG	**Ashikaga**	**0.97**	**319**	P	**Pn**	**12 00 01.2**	**-0.4**
JOD2	**Odawara 2**	**1.04**	**246**	*i* P	**Pn**	**12 00 02.4**	**-0.2**
JOD2				S	**Sn**	**12 00 15.5**	**-0.6**
JRY	**Ryogami san**	**1.14**	**287**	*i* P	**Pn**	**12 00 04.0**	**+0.1**
JIM2	**Oshima 3**	**1.19**	**215**	P	**Pn**	**12 00 04.0**	**-0.5**
JKT	**Katashina**	**1.34**	**323**	P	**Pn**	**12 00 06.4**	**-0.3**
JFNN	**Fujinakano**	**1.37**	**249**	P	**Pn**	**12 00 07.0**	**-0.1**
JFNN				S	**Sn**	**12 00 24.1**	**0.0**
JYN	**Shimob**	**1.41**	**262**	P	**Pn**	**12 00 07.6**	**+0.1**
JYN				S	**Sn**	**12 00 24.8**	**-0.2**
MJAR	**Matsushiro Arr** 1.0nm,0.3s,baz=103,slow=15,SNR=47	**1.86**	**298**	Pn	**Pn**	**12 00 13.5**	**-0.2**
MJAR	1.9nm,0.3s,baz=177,slow=39,SNR=3.9 7.0nm,0.4s			Sn	**Sn**	**12 00 37.4**	**+1.5**
JHJ	**Hachijo jima 2** 30nm,0.3s,baz=294,slow=19,SNR=8.5	**2.60**	**189**	Pn	**Pn**	**12 00 23.1**	**-0.7**
JHJ	31nm,0.3s,baz=73,slow=19,SNR=2.1 75nm,0.2s			Sn	**Sn**	**12 00 53.1**	**-1.0**
H11N2	**WAKE ISLAND Hy** baz=311	**28.32**	**117**	T	T	12 34 53.7	
H11N1	**WAKE ISLAND Hy** baz=311	**28.33**	**117**	T	T	12 35 13.0	
H11N3	**WAKE ISLAND Hy** baz=311	**28.34**	**117**	T	T	12 35 31.1	
ZALV	**Zalesovo Beam** 0.5nm,0.6s,baz=105,slow=9.5,SNR=1.9 0.5nm,0.6s	**42.14**	**313**	P	**P**	**12 07 31.4**	**+0.2**
KURBB	**Kurchatov Arra** 1.8nm,0.2s,baz=91,slow=7.8,SNR=5.7 1.8nm,0.2s	**46.10**	**309**	P	**P**	**12 08 02.4**	**-0.5**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=0.8,slow=7.4,SNR=1.4 0.3nm,0.5s	**55.62**	**187**	P	**P**	**12 09 14.3**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=13,slow=8.6,SNR=1.7 0.4nm,0.9s	**59.34**	**187**	P	**P**	**12 09 42.7**	**+1.8**

*SOME **29** 12:04:20.9, 42°.28N×79°.65E, h10km*
*NNC **29** 12:04:21.0±0.7, 42°.29N×79°.69E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=4.4km s-min=2.6km az=154.0*
*KRNET **29** 12:04:21.4±0.1, 42°.27N×79°.70E, h20km, mb3.2*
ISC 29 12:04:21.3±1.6, 42°.31N±0°.04×79°.67E±0°.04, h2km±10km, n60, σ0s95/115, 16C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode** 113nm,0.2s	**0.86**	**350**	P	**Pg**	**12 04 38.3**	**+0.4**
SHLS	113nm,0.2s			P	**Pg**	**12 04 38.3**	**+0.4**
SHLS	279nm,0.3s			S	**Sb**	**12 04 51.1**	**0.0**
SHLS	258nm,0.3s			S	**Sn**	**12 04 51.4**	**-2.5**
SHLS	**Shalkode** 113nm,0.2s	**0.86**	**350**	*e*P	**Pg**	**12 04 38.2**	**+0.4**
SHLS	279nm,0.3s			*e*S	**Sb**	**12 04 51.1**	**0.0**
SHLS	**Shalkode** baz=8.0	**0.86**	**350**	*e*P	**Pg**	**12 04 38.3**	**+0.4**
SHLS	baz=8.0			*e*S	**Sb**	**12 04 51.2**	**0.0**
PRZ	**Przheval'sk** baz=84	**0.96**	**281**	⇑*i*P	**Pb**	**12 04 40.0**	**-0.8**
PRZ	baz=84			⇑*i*S	**Sg**	**12 04 52.8**	**+0.7**
UZB	**Uzynbulak** 20nm,0.1s	**0.96**	**331**	P	**Pg**	**12 04 39.7**	**-0.1**
UZB	19nm,0.1s			P	**Pg**	**12 04 39.7**	**-0.1**
UZB	44nm,0.1s			S	**Sb**	**12 04 53.5**	**-0.6**
UZB	45nm,0.2s			S	**Sg**	**12 04 53.7**	**+1.4**
UZB	**Uzynbulak** 19nm,0.1s	**0.96**	**331**	*e*P	**Pg**	**12 04 39.8**	**-0.1**
UZB	44nm,0.1s			*e*S	**Sb**	**12 04 53.5**	**-0.6**
UZB	**Uzynbulak** baz=30	**0.96**	**331**	*e*P	**Pg**	**12 04 39.8**	**-0.1**
UZB	baz=30			*e*S	**Sb**	**12 04 53.6**	**-0.6**
PDGK	**Podgornoye** 11nm,0.1s	**1.03**	**353**	P	**Pg**	**12 04 40.9**	**-0.2**
PDGK	26nm,0.2s			S	**Sb**	**12 04 55.2**	**-0.7**
SATY	**Saty** 5.8nm,0.1s	**1.20**	**309**	P	**Pg**	**12 04 44.5**	**+0.2**
SATY	104nm,0.1s			S	**Sn**	**12 05 01.4**	**-0.7**
SATY	**Saty** 5.8nm,0.1s	**1.20**	**309**	*e*P	**Pg**	**12 04 44.5**	**+0.2**
SATY	104nm,0.1s			*e*S	**Sn**	**12 05 01.5**	**-0.7**
SATY	**Saty** baz=10.0	**1.20**	**309**	*e*P	**Pg**	**12 04 44.5**	**+0.2**
SATY	baz=10.0			*e*S	**Sn**	**12 05 01.4**	**-0.7**
KTMS	**Ketmen** 9.1nm,0.2s	**1.24**	**24**	P	**Pn**	**12 04 44.2**	**-1.6**
KTMS	9.7nm,0.1s			P	**Pn**	**12 04 44.2**	**-1.6**
KTMS	15nm,0.2s			S	**Sb**	**12 05 01.3**	**-0.8**
KTMS	25nm,0.1s			S	**Sb**	**12 05 01.4**	**-0.7**
KTMS	**Ketmen** 9.7nm,0.1s	**1.24**	**24**	*e*P	**Pn**	**12 04 44.2**	**-1.6**
KTMS	25nm,0.1s			*e*S	**Sb**	**12 05 01.4**	**-0.7**
KTMS	**Ketmen** baz=22	**1.24**	**24**	*e*P	**Pn**	**12 04 44.2**	**-1.6**
KTMS	baz=22			*e*S	**Sb**	**12 05 01.4**	**-0.7**
ZHN	**Zhinishke** 16nm,0.1s	**1.25**	**314**	P	**Pn**	**12 04 44.9**	**-1.0**
ZHN	115nm,0.2s			S	**Sn**	**12 05 02.6**	**-0.8**
ZHN	**Zhinishke** 16nm,0.1s	**1.25**	**314**	*e*P	**Pn**	**12 04 45.0**	**-1.0**
ZHN	115nm,0.2s			*e*S	**Sn**	**12 05 02.6**	**-0.8**
ZHN	**Zhinishke** baz=14	**1.25**	**314**	*e*P	**Pn**	**12 04 45.0**	**-1.0**
ZHN	baz=14			*e*S	**Sn**	**12 05 02.7**	**-0.8**
KPKS	**Kokpek** 26nm,0.2s	**1.36**	**328**	P	**Pn**	**12 04 46.9**	**-0.6**
KPKS	20nm,0.1s			P	**Pb**	**12 04 47.3**	**-0.4**
KPKS	118nm,0.3s			S	**Sg**	**12 05 06.0**	**+0.8**
KPKS	56nm,0.2s			S	**Sg**	**12 05 06.0**	**+0.8**
KPKS	**Kokpek** 20nm,0.1s	**1.36**	**328**	*e*P	**Pb**	**12 04 47.3**	**-0.4**
KPKS	118nm,0.3s			*e*S	**Sg**	**12 05 06.0**	**+0.8**
KPKS	**Kokpek** baz=28	**1.36**	**328**	*e*P	**Pb**	**12 04 47.3**	**-0.4**
KPKS				*e*S	**Sg**	**12 05 06.0**	**+0.8**

baz=28
TARG Taragay, Kyrgy baz=50 **1.51 248** ⇑*i*P **Pb 12 04 49.3 -0.9**
TARG ⇑*i*S **Sg 12 05 09.6 -0.1**
ANVS Anan'yevo baz=90 **1.56 288** ⇓*e*P **Pb 12 04 50.6 -0.3**
ANVS ⇓*e*S **Sg 12 05 11.6 +0.3**
KURS Kuram 5.1nm,0.1s **1.61 317** *e*P **Pb 12 04 51.8 -0.1**
KURS *e*S **Sg 12 05 13.9 +0.7**
KURS Kuram baz=18 **1.61 317** *e*P **Pb 12 04 51.8 -0.1**
KURS *e*S **Sg 12 05 13.9 +0.7**
KDJ Kajisay baz=66 **1.86 265** ⇑*i*P **Pb 12 04 55.0 -1.1**
KDJ ⇑*i*S **Sb 12 05 19.2 -0.7**
BLB Baldybastay 61nm,0.3s **1.99 334** Pg **Pb 12 04 57.9 -0.4**
BLB 72nm,0.4s Pg **Pg 12 04 58.1 -1.3**
BLB 49nm,0.5s Lg Lg 12 05 25.2
BLB 134nm,0.3s Lg Lg 12 05 25.3
DJR Jarkent 21nm,0.1s **2.02 2** Pg **Pb 12 04 58.4 -0.5**
DJR Lg Lg 12 05 25.2
DJR Jarkent 21nm,0.1s **2.02 2** *e*P **Pb 12 04 58.4 -0.5**
DJR *e*S **Sb 12 05 25.2 +0.6**
KNOS Konyrlen 40nm,0.1s **2.08 350** Pg **Pb 12 04 59.5 -0.4**
KNOS 21nm,0.2s Pg **Pg 12 04 59.9 -1.3**
KNOS 94nm,0.1s Lg Lg 12 05 27.4
KNOS 33nm,0.2s Lg Lg 12 05 28.3
KOTS Kotyrbulak 8.5nm,0.2s **2.10 297** Pg **Pb 12 04 60.0 -0.2**
KOTS 54nm,0.3s Lg Lg 12 05 28.8
KOTS Kotyrbulak 8.5nm,0.2s **2.10 297** *e*P **Pb 12 04 60.0 -0.2**
KOTS 54nm,0.3s *e*S **Sg 12 05 28.8 0.0**
MDOK Medeo 12nm,0.5s **2.11 295** ⇓Pn **Pb 12 04 60.0 -0.4**
MDOK 5.4nm,0.2s Pg **Pb 12 05 00.0 -0.4**
MDOK 23nm,0.4s Lg Lg 12 05 28.1
MDOK 26nm,0.8s Lg Lg 12 05 28.2
MDOK Medeo 5.4nm,0.2s **2.11 295** *e*P **Pb 12 05 00.0 -0.4**
MDOK 23nm,0.4s *e*S **Sg 12 05 28.1 -1.1**
TNSS Tian-Shan 3.7nm,0.1s **2.14 291** Pg **Pb 12 05 00.3 -0.6**
TNSS 16nm,0.4s Lg Lg 12 05 29.1
TNSS Tian-Shan 3.7nm,0.1s **2.14 291** *e*P **Pb 12 05 00.3 -0.6**
TNSS 16nm,0.4s *e*S **Sg 12 05 29.1 -0.9**
IZV Izvestkoviy 2.6nm,0.1s **2.37 289** Pg **Pb 12 05 04.8 -0.1**
IZV 82nm,0.5s Lg Lg 12 05 36.4
IZV Izvestkoviy 2.6nm,0.1s **2.37 289** *e*P **Pb 12 05 04.8 -0.1**
IZV 82nm,0.5s *e*S **Sg 12 05 36.4 -1.1**
CHKK Chushkaly 7.1nm,0.3s **2.50 309** Pg **Pb 12 05 07.1 +0.2**
CHKK 83nm,0.3s Lg Lg 12 05 40.5
CHKK Chushkaly 7.1nm,0.3s **2.50 309** *e*P **Pb 12 05 07.1 +0.2**
CHKK 83nm,0.3s *e*S **Sg 12 05 40.5 -1.1**
MTBS Maitube 5.0nm,0.1s **2.53 290** Pg **Pb 12 05 07.3 -0.1**
MTBS 24nm,0.3s Lg Lg 12 05 40.9
MTBS Maitube 5.0nm,0.1s **2.53 290** *e*P **Pb 12 05 07.3 -0.1**
MTBS 24nm,0.3s *e*S **Sg 12 05 41.0 -1.5**
ULHL Ulahol baz=71 **2.54 270** ⇓*i*P **Pn 12 05 04.6 +0.8**
ULHL ⇓*i*S **Sn 12 05 36.3 +0.8**
KTBS Karatobe 11nm,0.3s **2.60 304** Pg **Pb 12 05 08.7 -0.1**
KTBS 89nm,0.3s Lg Lg 12 05 42.9
KTBS Karatobe 11nm,0.3s **2.60 304** *e*P **Pb 12 05 08.7 -0.1**
KTBS 89nm,0.3s *e*S **Sb 12 05 42.9 +1.7**
KST Kastek 6.3nm,0.2s **2.83 286** Pg **Pb 12 05 13.0 +0.3**
KST 23nm,0.6s Lg Lg 12 05 50.3
KST Kastek 6.3nm,0.2s **2.83 286** *e*P **Pb 12 05 13.0 +0.3**
KST 23nm,0.6s *e*S **Sg 12 05 50.3 -2.0**
TDK Taldyqorghan 7.3nm,0.1s **2.84 342** Pg **Pb 12 05 12.9 0.0**
TDK 75nm,0.4s Lg Lg 12 05 50.2
TDK Taldyqorghan 7.3nm,0.1s **2.84 342** *e*P **Pb 12 05 12.9 0.0**
TDK 75nm,0.4s *e*S **Sb 12 05 50.2 +2.1**
NRN Naryn baz=54 **2.88 254** ⇓*e*P **Pn 12 05 09.5 +1.0**
NRN ⇓*e*S **Sn 12 05 44.3 +0.5**
KAPS Kapalarasan 7.4nm,0.3s **2.98 356** *e*P **Pb 12 05 15.4 +0.2**
KAPS 61nm,0.4s *e*S **Sb 12 05 54.5 +2.3**
DGS Degeres 4.0nm,0.3s **3.02 289** Pg **Pb 12 05 15.0 -0.8**
DGS 14nm,0.4s Lg Lg 12 05 53.7
DGS Degeres 4.0nm,0.3s **3.02 289** *e*P **Pb 12 05 15.8 -0.1**
DGS 14nm,0.4s *e*S **Sb 12 05 55.0 +1.8**
TKM2 Tokmak 2 17nm,1.2s **3.07 283** ⇑Pg **Pb 12 05 15.5 -1.3**
TKM2 8.9nm,0.5s ⇑Lg Lg 12 05 57.2
KRBS Karabastau 1.9nm,0.2s **3.24 297** Pg **Pb 12 05 18.7 -0.9**
KRBS 21nm,0.4s Lg Lg 12 05 59.9
KRBS Karabastau 1.9nm,0.2s **3.24 297** *e*P **Pb 12 05 19.9 +0.3**
KRBS 21nm,0.4s *e*S **Sb 12 06 02.1 +2.6**
AAK Ala-Archa baz=77 **3.84 277** ⇓*i*P **Pn 12 05 22.9 +1.3**
AAK baz=77 ⇓*i*S **Sn 12 06 07.3 -0.1**
ARLS Aral baz=66 **4.00 265** ⇑*e*P **Pn 12 05 24.7 +0.9**
ARLS baz=66 ⇑*e*S **Sn 12 06 11.0 -0.4**
MAKZ Makanchi 0.4nm,0.2s **4.79 19** ⇑Pn **Pn 12 05 35.2 +0.7**
MAKZ 1.2nm,0.6s ⇑Sn **Sn 12 06 32.6 +2.0**
MAKZ 1.2nm,0.5s ⇑Lg Lg 12 06 50.7
MK31 Makanchi Array 0.3nm,0.2s,baz=197,slow=12,SNR=53 **4.86 22** Pn **Pn 12 05 36.1 +0.7**

MK31			⇑Pg		**Pb**	**12 05 50.2**	**+3.1**
	1.1nm,0.5s,baz=206,slow=14,SNR=10							
MK31			⇑Sn		**Sn**	**12 06 32.1**	**-0.1**
	0.7nm,0.4s							
MK31			⇑Lg		Lg	12 06 54.2		
	2.4nm,0.6s,baz=194,slow=26,SNR=5.4							
KK31	**Karatay Array**	**6.79**	**280**	⇓Pg		Pg	12 06 25.7	-5.7
	1.4nm,1.0s,baz=88,slow=15,SNR=6.0							
KK31			⇓Lg		Lg	12 07 55.6		
	0.4nm,0.4s,baz=100,slow=27,SNR=6.5							

IDC ***29*** *12:14:39.5±0.6,53.˚60N×35.˚15W,h0km,mb4.0/26, mbtmp4.0/30,ML3.5/4,Error ellipse: s-maj=17.1km s-min=10.8km az=6.0*

NEIC ***29*** *12:14:42.0±1.3,53.˚7N±0.˚1×35.˚1W±0.˚2,h10km±1km, mb4.6/79,Error ellipse: s-maj=21.4km s-min=16.7km az=192.0*

DNK ***29*** *12:14:43.7±3.7,53.˚69N×35.˚21W,h10km,MS4.6, Probable volcanic*

GCMT ***29*** *12:14:43.0±0.2,53.˚80N±0.˚02×35.˚17W±0.˚02,h12km, MW5.2/122,Moment Tensor Solution. s59,c73; s122,c187; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.31±.19; $M_{\theta\theta}$-0.67±.22; $M_{\phi\phi}$6.97±.15; $M_{r\theta}$2.21±.51; $M_{\theta\phi}$0.72±.17; $M_{\phi r}$-0.77±.47; Best double couple: $M_0$7.10100×10^{16} NP1:ϕ_s347.00000°,δ51.00000°, λ-116.00000°. NP2:ϕ_s204.00000°,δ46.00000°, λ-62.00000°. Principal axes: T 7.0630, Plg3.0000°, Azm95.0000°; N 0.0690, Plg19.0000°, Azm4.0000°; P -7.1390, Plg70.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 12:14:41.9±0.4,53.˚64N±0.˚07×35.˚17W±0.˚05,h12km,n155, σ1§12/152,mb4.5/92,MS4.8/5,2D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**9.34**	**328**	IAMs_20	IAMs_20	12 19 28.7	
	comp=Z,6μm,15.0s						
NRS				IVMs_BB	IVMs_BB	12 19 44.6	
	comp=Z,2μm,6.1s						
NUUK	**Nuuk**	**13.54**	**328**	IVMs_BB	IVMs_BB	12 22 07.8	
	comp=Z,3μm,12.5s						
DY2G	**Dye2**	**13.98**	**341**	*e*P	**Pn**	**12 18 01.2**	**+1.6**
DY2G				IVMs_BB	IVMs_BB	12 22 16.3	
	comp=Z,1μm,4.6s						
SFJD	**Kangerlussuaq**	**15.35**	**337**	P	**P**	**12 18 22.1**	**-0.6**
SFJD				IAmb	IAmb	12 18 27.9	
	comp=Z,26nm,0.9s						
SFJD	**Kangerlussuaq**	**15.35**	**337**	Pn	**Pn**	**12 18 19.5**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=151,slow=8.7,SNR=8.3						
	comp=Z,12nm,0.8s						
SFJD	**Kangerlussuaq**	**15.35**	**337**	*e*P	**P**	**12 18 20.2**	**-2.5**
ICESG	**Greenland Ices**	**15.64**	**354**	*e*P	**P**	**12 18 26.6**	**+0.2**
SCHQ	**Schefferville**	**18.47**	**287**	P	**P**	**12 18 55.7**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=88,slow=5.2,SNR=12						
	comp=Z,5.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**18.59**	**72**	P	**P**	**12 18 58.4**	**-0.2**
	baz=284,slow=8.6						
	comp=Z,2.9nm,0.8s						
SUMG	**Summit**	**19.06**	**357**		**P**	**12 19 03.0**	**-1.0**
SUMG	**Summit**	**19.06**	**357**	*i* P	**Pn**	**12 19 05.0**	**+0.2**
SUMG				IAMs_20	IAMs_20	12 24 54.3	
	comp=Z,2μm,7.1s						
FRB	**Frobisher Bay**	**19.83**	**314**	P	**P**	**12 19 11.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=121,slow=9.8,SNR=6.1						
	comp=Z,2.8nm,0.7s						
BATG	**Bathurst New B**	**20.56**	**265**	P	Pn	12 19 22.4	0.0
BATG				IAmb	IAmb	12 19 36.0	
	comp=Z,36nm,1.3s						
UPNV	**Upernavik**	**21.16**	**343**	*e*P	**P**	**12 19 27.4**	**+0.9**
PGAV	**Gavieira, Arco**	**21.37**	**112**	*e*P	**P**	**12 19 31.8**	**+2.7**
	comp=Z,67nm,2.1s						
POLO	**Lamas de Olo**	**22.04**	**113**	*e*P	**P**	**12 19 39.1**	**+2.9**
	comp=Z,27nm,1.7s						
GGN	**Saint George**	**22.16**	**260**	P	**P**	**12 19 36.9**	**-0.5**
PBRG	**Braganca**	**22.33**	**110**	*e*P	**P**	**12 19 41.2**	**+1.9**
	comp=Z,52nm,1.7s						
MVO	**Moncorvo**	**22.60**	**112**	*e*P	**P**	**12 19 45.3**	**+3.1**
	comp=Z,48nm,1.8s						
F64A	**Sherman**	**22.64**	**263**	P	**P**	**12 19 45.0**	**+2.4**
PCBR	**Castelo Branco**	**23.28**	**115**	*e*P	**P**	**12 19 51.0**	**+1.8**
	comp=Z,50nm,1.7s						
LDAQ	**Lac Daran**	**23.32**	**271**	P	**P**	**12 19 48.5**	**-1.1**
LDAQ				IAmb	IAmb	12 20 17.4	
	comp=Z,33nm,1.4s						
NEEM	**North Greenlan**	**24.60**	**352**	*e*P	**P**	**12 20 01.8**	**0.0**
ESDC	**Sonseca Array**	**25.32**	**111**	P	**P**	**12 20 08.4**	**+0.1**
ESDC	**Sonseca Array**	**25.32**	**111**	P	**P**	**12 20 07.2**	**-1.1**
	comp=Z,7.9nm,1.0s,baz=307,slow=8.2,SNR=19						
	comp=Z,7.9nm,1.0s						
NOA	**NORSAR Array B**	**25.61**	**55**	P	**P**	**12 20 10.5**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=271,slow=9.7,SNR=4.7						
	comp=Z,2.3nm,0.9s						
CLL	**Collm**	**28.99**	**75**	*e*P	**P**	**12 20 41.0**	**-0.1**
	comp=Z,8.0nm,0.9s						
CLL				*e*PPP	PPP	12 21 43.0	
CLL				*e*S	**S**	**12 25 29.0**	**-2.6**
CLL				AMS	AMS	12 31 00.0	
	comp=N,900nm,18.9s						
CLL				AMS	AMS	12 31 00.0	
	comp=E,400nm,19.8s						
CLL				AMS	AMS	12 31 00.0	
	comp=Z,700nm,19.8s						
DAVOX	**Davos/Dischmat**	**29.22**	**85**	P	**P**	**12 20 41.6**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=321,slow=14,SNR=1.7						
	comp=Z,0.8nm,0.4s						
RETA	**Reutte**	**29.39**	**83**	*e*pP	pP	12 20 50.1	+2.2
	comp=Z,10nm,1.8s						
FETA	**Feichten**	**29.61**	**84**	*e*pP	**P**	**12 20 48.7**	**+1.9**
	comp=Z,12nm,2.2s						
MOTA	**Moosalm**	**29.66**	**83**	*e*pP	**P**	**12 20 49.2**	**+1.9**
	comp=Z,0.3nm,0.3s						
SQTA	**Sankt Quirin**	**29.79**	**83**	*e*pP	pP	12 20 52.1	+0.7
	comp=Z,2.1nm,0.7s						
WTTA	**Wattenberg**	**30.02**	**83**	*e*pP	pP	12 20 54.5	+0.9
	comp=Z,2.3nm,0.6s						
LESA	**Schwarzleotal**	**30.55**	**82**	*e*P	**P**	**12 20 56.1**	**+1.0**
	comp=Z,11nm,2.2s						
ABTA	**Abfaltersbach**	**30.80**	**83**	*e*P	**P**	**12 20 57.5**	**+0.3**
	comp=Z,4.4nm,1.0s						
KBA	**Koelnbreinsper**	**31.12**	**82**	*e*pP	**P**	**12 21 01.8**	**+1.6**
	comp=Z,4.0nm,1.3s						
ARCES	**ARCESS Array B**	**31.28**	**36**	P	**P**	**12 21 00.4**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=252,slow=6.3,SNR=5.9						
	comp=Z,1.9nm,0.9s						
RES	**Resolute Bay**	**31.32**	**334**	P	**P**	**12 21 00.8**	**-0.6**
RES				IAmb	IAmb	12 21 06.8	
	comp=Z,6.1nm,0.8s						
MYKA	**Terra Mystica**	**31.53**	**83**	*e*P	**P**	**12 21 05.1**	**+1.4**
	comp=Z,4.5nm,1.3s						
OBKA	**Obir**	**32.12**	**82**	*e*pP	pP	12 21 11.8	-0.2
	comp=Z,1.6nm,0.6s						
FCC	**Fort Churchill**	**32.23**	**303**	P	**P**	**12 21 09.4**	**-0.2**
FCC				IAmb	IAmb	12 21 27.9	
	comp=Z,12nm,1.2s						
SOKA	**Soboth**	**32.32**	**82**	*e*P	**P**	**12 21 10.4**	**-0.3**
	comp=Z,3.8nm,1.3s						
RONA	**Rosalia, Austr**	**32.54**	**79**	*e*pP	**P**	**12 21 15.1**	**+2.6**
	comp=Z,7.6nm,1.4s						
FINES	**FINESS Array B**	**32.62**	**51**	P	**P**	**12 21 12.2**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=280,slow=8.2,SNR=6.5						
	comp=Z,2.6nm,0.7s						
NACGM	**Naroch**	**35.16**	**62**	*e*P	**P**	**12 21 36.1**	**+1.0**
	comp=Z,8.0nm,0.9s,baz=295						
EYMN	**Ely**	**35.24**	**284**	P	**P**	**12 21 35.5**	**-0.4**
EYMN				IAmb	IAmb	12 21 39.7	
	comp=Z,20nm,1.3s						
KEST	**Kesra**	**35.65**	**102**	P	**P**	**12 21 39.8**	**+0.1**
KEST	**Kesra**	**35.65**	**102**	P	**P**	**12 21 38.1**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=280,slow=6.1,SNR=4.3						
	comp=Z,2.7nm,0.7s						
ULM	**Lac du Bonnet**	**36.58**	**290**	P	**P**	**12 21 46.5**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=72,slow=14,SNR=6.0						
	comp=Z,2.9nm,0.7s						
AKASG	**Malin Array Be**	**38.40**	**67**	P	**P**	**12 22 01.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=295,slow=8.6,SNR=6.6						
	comp=Z,0.1nm,0.3s						
V48A	**Smith Brothers**	**39.85**	**265**	P	**P**	**12 22 15.3**	**+0.3**
A36M	**Sachs Harbour**	**40.24**	**331**	P	**P**	**12 22 17.1**	**-0.8**
YKA	**Yellowknife Ar**	**40.34**	**315**	P	**P**	**12 22 19.2**	**+0.5**
YKA	**Yellowknife Ar**	**40.34**	**315**	P	**P**	**12 22 17.8**	**-0.9**
	comp=Z,2.8nm,1.0s,baz=61,slow=8.9,SNR=15						
YKA				PcP	**PcP**	**12 24 20.2**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=62,slow=3.7,SNR=4.6						
	comp=Z,2.8nm,1.0s						
ECSD	**EROS Data Cent**	**40.56**	**282**	P	**P**	**12 22 20.8**	**0.0**
TAM	**Tamanrasset**	**43.44**	**119**	P	**P**	**12 22 45.1**	**+0.4**
TAM				IAmb	IAmb	12 22 57.3	
	comp=Z,16nm,1.4s						
X40A	**Basin Creek Fa**	**44.28**	**268**	P	**P**	**12 22 51.9**	**+0.7**
X40A				IAmb	IAmb	12 23 08.4	
	comp=Z,11nm,1.4s						
F31M	**Tsiigehtchic**	**45.01**	**327**	P	**P**	**12 22 56.5**	**-0.1**
F31M				IAmb	IAmb	12 23 01.4	
	comp=Z,10nm,0.9s						
EGMT	**Eagleton**	**45.43**	**295**	P	**P**	**12 23 00.9**	**+0.5**
G31M	**Satah River**	**45.47**	**327**	P	**P**	**12 22 59.4**	**-0.8**
E28M	**Babbage River**	**46.12**	**330**	P	**P**	**12 23 04.6**	**-0.8**
E28M				IAmb	IAmb	12 23 10.4	
	comp=Z,8.8nm,1.2s						
D27M	**Malcolm River**	**46.14**	**332**	P	**P**	**12 23 05.8**	**+0.1**
D27M				IAmb	IAmb	12 23 10.8	
	comp=Z,4.3nm,0.9s						
K22A	**Casper**	**46.94**	**287**	P	**P**	**12 23 13.0**	**+0.7**
BRTR	**Keskin Array B**	**47.36**	**78**	P	**P**	**12 23 15.8**	**+0.2**
BRTR	**Keskin Array B**	**47.36**	**78**	P	**P**	**12 23 15.7**	**0.0**
	comp=Z,1.5nm,0.8s,baz=282,slow=4.5,SNR=7.1						
	comp=Z,1.5nm,0.8s						
D25K	**Kavik River**	**47.58**	**333**	P	**P**	**12 23 16.7**	**-0.2**
N23A	**Red Feather La**	**47.73**	**285**	P	**P**	**12 23 19.3**	**+0.6**
I28M	**Miner Creek**	**48.20**	**327**	P	**P**	**12 23 20.6**	**-1.2**
I28M				IAmb	IAmb	12 23 33.5	
	comp=Z,11nm,1.4s						
ISCO	**Idaho Springs**	**48.26**	**283**	P	**P**	**12 23 23.4**	**+0.6**
ISCO				IAmb	IAmb	12 23 28.5	
	comp=Z,3.9nm,0.8s						
D24K	**Happy Valley**	**48.34**	**334**	P	**P**	**12 23 21.8**	**-0.8**
D24K				IAmb	IAmb	12 23 27.2	
	comp=Z,8.3nm,1.1s						
BW06	**Boulder Array**	**48.58**	**289**	P	**P**	**12 23 24.5**	**-0.7**
BW06				IAmb	IAmb	12 23 25.5	
	comp=Z,3.2nm,0.8s						
PD31	**Pinedale Array**	**48.58**	**289**	P	**P**	**12 23 24.7**	**-0.5**
PDAR	**Pinedale Array**	**48.58**	**289**	P	**P**	**12 23 24.5**	**-0.7**
PDAR	**Pinedale Array**	**48.58**	**289**	P	**P**	**12 23 24.4**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=61,slow=8.1,SNR=25						
	comp=Z,1.8nm,0.6s						
B22K	**Teshekpuk Lake**	**48.65**	**337**	P	**P**	**12 23 24.8**	**-0.2**
DAWY	**Dawson**	**48.91**	**326**	P	**P**	**12 23 28.0**	**+0.8**
DAWY				IAmb	IAmb	12 24 00.5	
	comp=Z,12nm,1.5s						
P33M	**Teslin, Yukon**	**48.96**	**319**	P	**P**	**12 23 28.9**	**+1.2**
P33M				IAmb	IAmb	12 24 09.7	
	comp=Z,13nm,1.4s						
F24K	**Squaw Lake**	**49.22**	**332**	P	**P**	**12 23 29.6**	**+0.2**
F24K				IAmb	IAmb	12 23 35.5	
	comp=Z,4.3nm,1.1s						
AHID	**Auburn Hatcher**	**49.45**	**290**	P	**P**	**12 23 32.2**	**+0.4**
TOA0	**Torodi Ar. Sit**	**49.79**	**130**	P	**P**	**12 23 33.3**	**-1.1**
TOA0				IAmb	IAmb	12 23 34.8	
	comp=Z,7.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**49.79**	**130**	P	**P**	**12 23 33.4**	**-0.9**
TORD				IAmb	IAmb	12 23 34.8	
	comp=Z,7.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**49.79**	**130**	P	**P**	**12 23 33.4**	**-0.9**
	comp=Z,4.5nm,0.7s,baz=338,slow=8.7,SNR=27						
	comp=Z,4.5nm,0.7s						
KBZ	**Khabaz**	**50.01**	**68**	P	**P**	**12 23 34.9**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=300,slow=7.9,SNR=2.1						
	comp=Z,2.0nm,0.9s						
HYT	**Haines Junctio**	**50.35**	**322**	P	**P**	**12 23 38.6**	**+0.3**
HYT				IAmb	IAmb	12 24 10.3	
	comp=Z,14nm,1.3s						
BCAR	**Beaver Creek A**	**50.38**	**325**	P	**P**	**12 23 39.0**	**+0.6**
G23K	**Bananza Creek**	**50.38**	**332**	P	**P**	**12 23 38.4**	**+0.1**
G23K				IAmb	IAmb	12 23 44.5	
	comp=Z,9.1nm,1.1s						
NRIK	**Norii'sk**	**50.44**	**23**	P	**P**	**12 23 38.1**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=349,slow=7.7,SNR=4.7						
	comp=Z,0.8nm,0.3s						
HWUT	**Hardware Ranch**	**50.47**	**289**	P	**P**	**12 23 39.8**	**+0.2**
HWUT				IAmb	IAmb	12 23 59.1	
	comp=Z,8.6nm,0.8s						
SCRK	**Sand Creek**	**50.48**	**327**	P	**P**	**12 23 39.8**	**+0.6**
SCRK				IAmb	IAmb	12 23 57.5	
	comp=Z,12nm,1.3s						
PLID	**Pearl Lake**	**50.63**	**295**	P	**P**	**12 23 41.8**	**+1.0**
PLID				IAmb	IAmb	12 23 46.1	
	comp=Z,5.2nm,0.9s						
TCUT	**Toone Canyon**	**50.70**	**289**	P	**P**	**12 23 41.2**	**-0.2**
ILAR	**Eielson Array**	**50.84**	**329**	P	**P**	**12 23 41.8**	**0.0**
	comp=Z,0.7nm,0.9s,baz=47,slow=5.4,SNR=7.8						
	comp=Z,0.7nm,0.9s						
F21K	**Alatna River**	**50.95**	**334**	P	**P**	**12 23 41.9**	**-0.6**
F21K				IAmb	IAmb	12 23 47.7	
	comp=Z,5.2nm,1.0s						
C19K	**Lookout Ridge**	**51.01**	**338**	P	**P**	**12 23 43.0**	**0.0**
C19K				IAmb	IAmb	12 23 48.1	
	comp=Z,4.3nm,0.8s						
D19K	**Kuna River**	**51.14**	**337**	P	**P**	**12 23 44.1**	**0.0**
D19K				IAmb	IAmb	12 23 48.5	
	comp=Z,7.3nm,1.0s						
SPUT	**South Promonto**	**51.16**	**289**	P	**P**	**12 23 44.4**	**-0.3**
SPUT				IAmb	IAmb	12 23 48.8	
	comp=Z,13nm,1.5s						
I23K	**Minto, Yukon-K**	**51.31**	**330**	P	**P**	**12 23 45.1**	**-0.2**
I23K				IAmb	IAmb	12 23 56.5	
	comp=Z,5.1nm,0.8s						
SRU	**San Rafael Swe**	**51.55**	**286**	P	**P**	**12 23 47.3**	**-0.4**
E19K	**Redstone River**	**51.73**	**335**	P	**P**	**12 23 48.5**	**+0.1**
E19K				IAmb	IAmb	12 23 54.3	
	comp=Z,7.5nm,0.8s						
C18K	**Utukok River**	**51.73**	**338**	P	**P**	**12 23 48.2**	**-0.2**
ANMO	**Albuquerque**	**52.05**	**279**	P	**P**	**12 23 52.2**	**+0.7**
Q16A	**Castle Valley**	**52.05**	**286**	P	**P**	**12 23 52.3**	**+0.9**
Q16A				IAmb	IAmb	12 24 21.7	
	comp=Z,10nm,1.5s						
DUG	**Dugway, Tooele**	**52.12**	**289**	P	**P**	**12 23 52.1**	**+0.3**
DUG				IAmb	IAmb	12 23 54.0	
	comp=Z,11nm,1.4s						
F19K	**Shalerockik Mo**	**52.34**	**335**	P	**P**	**12 23 52.2**	**-0.7**
HMU	**Henry Mountain**	**52.47**	**285**	P	**P**	**12 23 55.6**	**+1.0**
E18K	**Tukpahlearik C**	**52.57**	**337**	P	**P**	**12 23 55.0**	**+0.4**
DBIC	**Dimbokro**	**52.90**	**141**	P	**P**	**12 23 56.5**	**-1.1**
	comp=Z,4.0nm,0.8s,baz=322,slow=7.8,SNR=6.7						
	comp=Z,4.0nm,0.8s						
MVU	**Marysvale**	**52.92**	**287**	P	**P**	**12 23 58.1**	**+0.2**
C16K	**Lisburne Hills**	**52.94**	**339**	P	**P**	**12 23 56.8**	**-0.5**
SAND	**Sanderson**	**53.03**	**272**	P	**P**	**12 23 58.5**	**-0.2**
SAND				IAmb	IAmb	12 23 59.0	
	comp=Z,4.3nm,0.8s						
F17K	**Baldwin Pennin**	**53.51**	**336**	P	**P**	**12 24 01.2**	**-0.3**
F17K				IAmb	IAmb	12 24 04.8	
	comp=Z,8.5nm,1.3s						
SPR3	**Spring Creek 3**	**53.79**	**288**	P	**P**	**12 24 04.1**	**-0.3**
SPR3				IAmb	IAmb	12 24 09.6	
	comp=Z,10nm,1.5s						
WVOR	**Wild Horse Val**	**53.83**	**294**	P	**P**	**12 24 04.3**	**-0.1**
WVOR				IAmb	IAmb	12 24 10.3	
	comp=Z,4.4nm,0.8s						
SZCU	**Shurtz Canyon**	**54.05**	**286**	P	**P**	**12 24 06.0**	**-0.2**
TXAR	**Lajitas Array**	**54.40**	**272**	P	**P**	**12 24 08.8**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=58,slow=7.5,SNR=4.9						
TXAR				PcP	**PcP**	**12 25 11.8**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=58,slow=3.8,SNR=4.2						
	comp=Z,0.8nm,0.9s						
TIXI	**Tiksi**	**54.50**	**6**	P	**P**	**12 24 09.1**	**+0.4**
J05D	**Fort Rock, OR**	**54.64**	**297**	P	**P**	**12 24 11.2**	**+0.8**
K05A	**Summer Lake**	**54.84**	**296**	P	**P**	**12 24 12.1**	**+0.2**
K05A				IAmb	IAmb	12 24 17.6	
	comp=Z,7.0nm,0.8s						
F15K	**North Star Dit**	**54.91**	**337**	P	**P**	**12 24 12.3**	**+0.5**
F15K				IAmb	IAmb	12 24 16.2	
	comp=Z,8.7nm,1.3s						
X16A	**Lo Mia Camp, P**	**55.33**	**282**	P	**P**	**12 24 15.7**	**+0.2**
S11A	**Rachel**	**55.53**	**288**	P	**P**	**12 24 17.2**	**+0.4**
KVN	**Kaiserville**	**55.86**	**291**	P	**P**	**12 24 19.4**	**+0.1**
KVN				IAmb	IAmb	12 24 40.8	
	comp=Z,6.8nm,1.2s						
TPH	**Tonopah**	**56.06**	**290**	P	**P**	**12 24 20.5**	**-0.2**
NVAR	**Mina Array Bea**	**56.41**	**291**	P	**P**	**12 24 22.1**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=55,slow=6.3,SNR=4.6						
	comp=Z,0.6nm,0.7s						
GMN	**Gold Mountain**	**56.62**	**289**	P	**P**	**12 24 25.0**	**+0.2**
BVAR	**Borovoye Array**	**57.05**	**44**	P	**P**	**12 24 27.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=322,slow=9.4,SNR=6.3						
	comp=Z,0.9nm,0.6s						
ROSC	**El Rosal**	**58.17**	**228**	P	**P**	**12 24 37.0**	**+0.9**
	comp=Z,7.7nm,0.4s,baz=28,slow=5.6,SNR=5.3						
	comp=Z,7.7nm,0.4s						
CCAC	**Calif City Air**	**58.58**	**288**	P	**P**	**12 24 40.1**	**+1.8**
ZALV	**Zalesovo Beam**	**61.83**	**36**	P	**P**	**12 25 01.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=311,slow=7.1,SNR=1.9						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**62.16**	**41**	P	**P**	**12 25 02.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=320,slow=6.5,SNR=6.9						
	comp=Z,0.3nm,0.3s						
GEYT	**Ailbeck**	**62.30**	**63**	P	**P**	**12 25 04.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=319,slow=4.0,SNR=2.2						
	comp=Z,0.7nm,0.3s						
KKAR	**Karatay Array**	**64.58**	**51**	P	**P**	**12 25 18.5**	**-0.2**
MKAR	**Makanchi Array**	**66.72**	**42**	P	**P**	**12 25 32.3**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=329,slow=5.3,SNR=6.7						
	comp=Z,0.2nm,0.4s						
ARSB	**Arslanbob**	**67.12**	**51**	P	**P**	**12 25 35.6**	**+0.3**
BOSC	**San Juan Bosco**	**67.13**	**228**	P	**P**	**12 25 35.2**	**-0.4**
KSH	**Kashi**	**69.94**	**50**	P	**P**	**12 25 54.8**	**+2.0**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KSH				LR	LR		
	comp=N,420nm,20.4s						
KSH				LR	LR		
	comp=E,850nm,16.9s						
KSH				LR	LR		
	comp=Z,1μm,17.4s						
WMQ	**Urumqi**	**71.31**	**40**	*e*P	**P**	**12 26 03.8**	**+2.7**
WMQ				LR	LR		
	comp=N,440nm,11.9s						
WMQ				LR	LR		
	comp=E,640nm,19.3s						
WMQ				LR	LR		
	comp=Z,330nm,20.9s						
SONM	**Songino Array**	**73.77**	**26**	P	**P**	**12 26 15.8**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=326,slow=8.1,SNR=7.8						
	comp=Z,1.9nm,0.9s						
HEH	**HeiHe**	**75.44**	**11**	*e*P	**P**	**12 26 25.3**	**+0.1**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HEH				pmax	pmax		
	comp=Z,190nm,5.7s						
GTA	**Gaotai**	**79.52**	**34**	*e*P	**P**	**12 26 48.5**	**+0.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.8s						
GTA				LR	LR		
	comp=N,85nm,19.3s						
GTA				LR	LR		
	comp=E,150nm,20.4s						
GTA				LR	LR		
	comp=Z,130nm,18.9s						
XLT	**XiLinHaoTe**	**79.76**	**21**	*e*P	**P**	**12 26 50.5**	**+1.0**
XLT				pP	sP	12 26 54.5	+0.4
XLT				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,300nm,6.2s						
BTO	**Baotou**	**81.45**	**26**	*e*P	**P**	**12 26 58.3**	**-0.4**
BTO				pP	**sP**	**12 27 03.0**	**-0.3**
BTO				sP	**PcP**	**12 27 05.3**	**+0.6**
BTO				PP	**PP**	**12 30 05.3**	**+1.4**
BTO	**Baotou**	**81.45**	**26**	S	**S**	**12 37 06.0**	**-3.7**
BTO	**Baotou**	**81.45**	**26**	sS	sS	12 37 18.0	+2.7
BTO	**Baotou**	**81.45**	**26**	SS	SS	12 42 23.8	-0.8
BTO				pmax	pmax		
	comp=Z,24nm,1.6s						
BTO				pmax	pmax		
	comp=Z,400nm,6.0s						
BTO				LR	LR		
	comp=N,490nm,17.8s						
BTO				LR	LR		
	comp=E,320nm,11.7s						
BTO				LR	LR		
	comp=Z,690nm,15.1s						
HHC	**Hu-ho-hao-te**	**81.61**	**25**	*e*P	**P**	**12 26 58.8**	**-0.8**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,5.7s						
USRK	**Ussurisk Ar.**	**81.91**	**9**	P	**P**	**12 27 01.9**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=349,slow=2.9,SNR=3.6						
	comp=Z,2.4nm,0.8s						
LZH	**Lanzhou**	**83.85**	**32**	*e*P	**P**	**12 27 15.8**	**+4.4**
LZH				pP	pwP	12 27 21.3	+4.1
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LYN	**LuoYang**	**87.79**	**26**	⇓P	**P**	**12 27 30.8**	**+0.1**
LYN				pmax	pmax		
	comp=Z,13nm,1.0s						
NJ2	**Nanjing**	**91.73**	**22**	*e*P	**P**	**12 27 50.0**	**+0.9**
NJ2				pP	**pP**	**12 27 52.0**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,380nm,4.3s						
PZH	**PanZhiHua**	**91.89**	**38**	P	**P**	**12 27 50.5**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH

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SUMG Summit 19.02 357 *i* P **P** 12 22 59.0 -0.1
FRB Frobisher Bay 19.76 314 P **P** 12 23 06.9 +0.1
comp=Z,0.2nm,0.3s,baz=108,slow=9.3,SNR=5.7
FRB LR LR 12 29 15.2
comp=Z,3µm,18.7s,baz=102,slow=32
comp=Z,2.1nm,0.7s
HAL Halifax 20.50 255 P Pn 12 23 16.1 -1.0
BATG Bathurst New B 20.51 264 P **P** 12 23 14.5 -0.6
BATG IAmb IAmb 12 23 21.0
comp=Z,39nm,1.1s
JMIC Jan Mayen 21.01 24 LR LR 12 29 23.7
comp=Z,2µm,18.7s,baz=237,slow=31
UPNV Upernavik 21.11 343 *e*P **P** 12 23 20.3 -1.1
PGAV Gavieira, Arco 21.44 112 *e*P **P** 12 23 26.9 +1.6
comp=Z,90nm,1.9s
POLO Lamas de Olo 22.10 113 *e*P **P** 12 23 34.3 +1.9
comp=Z,29nm,1.9s
D62A Allapoint, All 22.38 267 P **P** 12 23 35.6 +0.4
PBRG Braganca 22.39 110 *e*P **P** 12 23 36.6 +1.1
comp=Z,81nm,1.8s
G65A Princeton 22.49 261 P **P** 12 23 36.3 -0.1
PVIS Viseu 22.50 114 *e*P **P** 12 23 37.5 +0.8
F64A Sherman 22.59 263 P **P** 12 23 39.5 +2.0
MVO Moncorvo 22.67 112 *e*P **P** 12 23 41.6 +3.2
comp=Z,71nm,1.6s
E62A Clayton Lake 22.89 266 P **P** 12 23 44.6 +4.0
E62A IAmb IAmb 12 23 50.9
comp=Z,43nm,1.0s
MTE Manteigas 22.91 114 *e*P **P** 12 23 44.2 +3.2
comp=Z,56nm,2.0s
F63A Nahmakanta, Br 23.12 264 P **P** 12 23 43.8 +0.7
F63A IAmb IAmb 12 23 47.6
comp=Z,22nm,0.9s
LDAQ Lac Daran 23.26 270 P **P** 12 23 48.3 +3.7
PCBR Castelo Branco 23.35 115 *e*P **P** 12 23 47.0 +1.6
comp=Z,86nm,1.6s
PMTG Montargil 23.51 117 *e*P **P** 12 23 46.4 -0.6
comp=Z,44nm,1.6s
PNCL Nicolau / Gran 24.06 119 *e*P **P** 12 23 52.8 +0.5
comp=Z,67nm,1.7s
NEEM North Greenlan 24.55 352 *e*P **P** 12 23 57.2 +0.4
BMRD Maredsous 24.65 81 *d*P **P** 12 23 56.9 -0.7
comp=Z,9.7nm,0.8s
PBAR Barrancos 24.79 117 *e*P **P** 12 23 59.7 +0.7
comp=Z,52nm,1.6s
BCLA Clavier 24.92 81 *d*PP **PnPn** 12 24 33.1 +0.5
PAB San Pablo 25.26 111 P **P** 12 24 01.8 -1.5
PAB IAmb IAmb 12 24 07.7
comp=Z,62nm,1.8s
ESBB Sonseca Array 25.39 111 P **P** 12 24 04.9 +0.5
ESBB IAmb IAmb 12 24 08.1
comp=Z,19nm,1.1s
ESDC Sonseca Array 25.39 111 P **P** 12 24 03.2 -1.2
ESDC IAmb IAmb 12 24 08.9
comp=Z,27nm,1.7s
ESDC Sonseca Array 25.39 111 P **P** 12 24 03.4 -1.0
comp=Z,9.9nm,0.9s,baz=314,slow=8.6,SNR=25
ESDC LR LR 12 31 54.3
comp=Z,3µm,19.5s,baz=310,slow=32
comp=Z,9.9nm,0.9s
NB2 NORSAR Array B 25.63 55 P **P** 12 24 05.9 -0.6
comp=Z,5.8nm,0.9s,baz=274,slow=9.3
NOA NORSAR Array B 25.63 55 P **P** 12 24 05.5 -1.0
comp=Z,2.8nm,0.8s,baz=275,slow=9.7,SNR=5.3
NOA LR LR 12 32 45.8
comp=Z,1µm,19.0s,baz=270,slow=33
comp=Z,2.8nm,0.8s
VLDQ Val d'Or 26.88 275 P **P** 12 24 20.3 +2.5
VLDQ IAmb IAmb 12 24 31.6
comp=Z,14nm,0.9s
HFS Hagfors 26.95 56 P **P** 12 24 18.5 +0.2
comp=Z,2.5nm,0.8s,baz=263,slow=12,SNR=1.8
HFS LR LR 12 33 45.7
comp=Z,2µm,19.1s,baz=278,slow=34
comp=Z,2.5nm,0.8s
SENIN Lac Senin/Sane 27.96 88 P **P** 12 24 30.4 +2.7
CLL Collm 29.04 75 *e*P **P** 12 24 37.0 0.0
comp=Z,5.0nm,0.8s
TUE Stuetta 29.12 86 P **P** 12 24 39.5 +1.5
TUE IAmb IAmb 12 24 50.5
comp=Z,19nm,1.3s
DAVOX Davos/Dischmat 29.27 85 P **P** 12 24 39.5 +0.1
comp=Z,1.1nm,0.4s,baz=290,slow=3.9,SNR=3.0
DAVOX LR LR 12 35 12.6
comp=Z,2µm,21.7s,baz=266,slow=34
comp=Z,1.1nm,0.4s
RETA Reutte 29.45 83 *i* P **P** 12 24 41.3 +0.5
comp=Z,10nm,1.1s
SADO Sadowa 29.59 271 LR LR 12 35 41.7
comp=Z,4µm,18.7s,baz=84,slow=35
FETA Feichten 29.66 84 *e*P **P** 12 24 43.7 +1.0
comp=Z,7.0nm,1.4s
MOTA Moosalm 29.72 83 *e*P **P** 12 24 43.7 +0.4
comp=Z,11nm,1.3s
BRG Berggiesshubel 29.76 75 *e*P **P** 12 24 42.5 -0.9
BRG Amp 12 24 48.2
comp=Z,3.1nm,0.7s
BRG Amp 12 37 31.0
comp=N,0.8nm,12.8s
BRG Amp 12 37 33.0
comp=Z,2.2nm,15.7s
BRG Amp 12 37 37.0
comp=E,1.4nm,14.4s
SQTA Sankt Quirin 29.84 83 *e*P **P** 12 24 45.0 +0.7
comp=E,2.3nm,0.5s
WTTA Wattenberg 30.07 83 *e*P **P** 12 24 44.4 -2.1
comp=E,12nm,1.5s
MDT Midelt 30.18 121 P **P** 12 24 47.1 -0.3
comp=E,5.9nm,0.9s,baz=352,slow=8.6,SNR=2.9
comp=E,5.9nm,0.9s
SPITS Spitsbergen Ar 30.38 19 LR LR 12 34 11.4
comp=E,304nm,21.3s,baz=208,slow=31
GERES GERESS Array B 30.52 79 P **P** 12 24 49.9 -0.4
comp=E,2.0nm,0.8s,baz=316,slow=11,SNR=2.6
GERES LR LR 12 36 41.3
comp=E,2µm,18.4s,baz=282,slow=36
comp=E,2.0nm,0.8s
LESA Schwarzleotal 30.61 82 *e*pP pP 12 24 52.4 -1.1
comp=E,11nm,1.7s
ABTA Abfaltersbach 30.85 83 *e*P **P** 12 24 53.6 +0.4
comp=E,2.0nm,0.6s
BIOA Bad Ischl, Aus 31.04 81 *e*pP pP 12 24 56.3 -0.9
comp=E,0.5nm,0.3s
EUNU Eureka 31.08 345 P **P** 12 24 55.6 +0.7
EUNU IAmb IAmb 12 25 02.7
comp=Z,16nm,1.4s
KBA Koelnbreinsper 31.17 82 *i* P **P** 12 24 55.7 -0.4
comp=Z,9.0nm,1.4s
CLUD Cludinico 31.22 83 P **P** 12 24 57.6 +1.2
RES Resolute Bay 31.26 334 P **P** 12 24 57.1 +0.8
RES IAmb IAmb 12 25 01.7
comp=Z,24nm,1.4s
RES Resolute Bay 31.26 334 LR LR 12 35 58.7
comp=Z,941nm,21.6s,baz=88,slow=33
ARCES ARCESS Array B 31.28 36 P **P** 12 24 55.7 -1.0
comp=Z,3.5nm,0.9s,baz=258,slow=4.5,SNR=3.7
ARCES LR LR 12 35 03.4
comp=Z,195nm,21.9s,baz=276,slow=32
comp=Z,3.5nm,0.9s
MOA Molln 31.33 80 *e*pP pP 12 24 58.9 -0.9
comp=Z,11nm,1.5s
MYKA Terra Mystica 31.58 83 *e*P **P** 12 25 00.2 +0.6
comp=Z,11nm,1.4s
VRAC Vranov 31.98 76 *e*P **P** 12 25 04.1 +1.0
VRAC Vranov 31.98 76 LR LR 12 37 22.0
comp=Z,2µm,18.3s,baz=303,slow=35
KRUC Moravsky 31.98 77 *e*P **P** 12 25 03.8 +0.7
FCC Fort Churchill 32.16 303 P **P** 12 25 04.9 +0.4
FCC IAmb IAmb 12 25 13.8
comp=Z,11nm,1.1s
OBKA Obir 32.17 82 *i* P **P** 12 25 04.7 -0.1
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 32.31 75 *e*P **P** 12 25 01.6 -4.4
ARSA Arzberg 32.37 80 *i* P **P** 12 25 06.9 +0.4
comp=Z,7.1nm,1.2s
SOKA Soboth 32.37 82 *e*P **P** 12 25 05.9 -0.7
comp=Z,3.2nm,1.0s
RONA Rosalia, Austr 32.59 79 *e*P **P** 12 25 09.3 +0.9
comp=Z,4.6nm,1.1s
FINES FINESS Array B 32.64 51 P **P** 12 25 07.8 -0.9
comp=Z,4.2nm,0.8s,baz=298,slow=5.6,SNR=8.8
FINES LR LR 12 37 05.9
comp=Z,1µm,18.8s,baz=275,slow=34
comp=Z,4.2nm,0.8s
FDMO Fiordimonte 33.23 89 P **P** 12 25 13.5 -0.6
FDMO IAmb IAmb 12 25 34.3
comp=Z,16nm,1.3s

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LANS Liptovska Anna 33.71 75 *e*P **P** 12 25 19.8 +1.5
P51A Williamsport 35.08 266 P **P** 12 25 30.3 +0.2
NACGM Naroch 35.19 62 *e*P **P** 12 25 32.3 +1.5
comp=Z,11nm,0.9s,baz=295
Q51A Peebles 35.55 266 P **P** 12 25 34.6 +0.4
Q51A IAmb IAmb 12 25 43.2
comp=Z,20nm,0.9s
SSFO Shawnee State 35.67 265 P **P** 12 25 35.6 +0.4
KEST Kesra 35.72 102 P **P** 12 25 34.9 -0.8
KEST IAmb IAmb 12 25 40.3
comp=Z,35nm,1.6s
KEST Kesra 35.72 102 P **P** 12 25 35.5 -0.3
comp=Z,6.5nm,0.9s,baz=258,slow=4.8,SNR=6.3
KEST LR LR 12 38 33.3
comp=Z,753nm,20.9s,baz=278,slow=34
comp=Z,6.5nm,0.9s
ULM Lac du Bonnet 36.51 290 P **P** 12 25 42.0 -0.3
ULM Lac du Bonnet 36.51 290 P **P** 12 25 41.4 -0.9
comp=Z,5.0nm,0.8s,baz=71,slow=7.1,SNR=11
ULM LR LR 12 39 19.7
comp=Z,2µm,18.3s,baz=66,slow=34
comp=Z,5.0nm,0.8s
R50A Paris 36.61 265 P **P** 12 25 44.1 +0.8
CUC Castrocucco 36.71 91 P **P** 12 25 43.5 -0.6
CLTB Caltabellotta 36.73 96 P **P** 12 25 44.9 +0.4
VAE Valguarnera 37.51 95 LR LR 12 39 54.5
comp=Z,903nm,18.4s,baz=338,slow=34
FFC Flin Flon 37.70 299 P **P** 12 25 52.9 +0.5
BURAR Bucovina Array 37.79 74 P **P** 12 25 53.7 +0.4
TKL Tuckaleechee C 38.05 262 LR LR 12 40 46.1
comp=Z,2µm,18.7s,baz=60,slow=35
KIEV Kiev 38.43 67 P **P** 12 25 57.2 -1.3
AKASG Malin Array Be 38.44 67 P **P** 12 25 57.0 -1.6
comp=Z,3.5nm,0.8s,baz=302,slow=8.3,SNR=10
AKASG PcP **PcP** 12 28 09.2 -2.3
comp=Z,0.3nm,0.3s,baz=290,slow=4.0,SNR=2.5
AKASG LR LR 12 40 05.6
comp=Z,650nm,21.2s,baz=283,slow=34
comp=Z,3.5nm,0.8s
AKBB Malin Array Si 38.44 67 P **P** 12 25 56.8 -1.7
U49A Red Boiling Sp 38.65 265 P **P** 12 26 00.1 -0.4
U49A IAmb IAmb 12 26 13.7
comp=Z,39nm,1.4s
MLR Muntele Rosu 39.39 76 LR LR 12 41 07.2
comp=Z,1µm,20.5s,baz=296,slow=34
SIUC Southern Illin 39.89 269 P **P** 12 26 11.1 +0.2
SIUC IAmb IAmb 12 26 23.9
comp=Z,30nm,1.1s
S44A Carbondale 39.93 269 P **P** 12 26 11.1 -0.1
S44A IAmb IAmb 12 26 20.0
comp=Z,28nm,1.1s
OBN Obninsk 40.14 58 LR LR 12 41 37.3
comp=Z,820nm,20.0s,baz=301,slow=34
A36M Sachs Harbour 40.18 331 P **P** 12 26 12.4 -0.5
YKA Yellowknife Ar 40.27 315 P **P** 12 26 14.7 +1.0
YKA Yellowknife Ar 40.27 315 P **P** 12 26 12.9 -0.8
comp=Z,1.9nm,0.9s,baz=61,slow=9.1,SNR=13
YKA PcP **PcP** 12 28 15.6 -1.6
comp=Z,0.9nm,0.8s,baz=58,slow=4.0,SNR=7.0
YKA LR LR 12 41 24.1
comp=Z,1µm,18.3s,baz=82,slow=34
comp=Z,1.9nm,0.9s
ECSD EROS Data Cent 40.49 282 P **P** 12 26 15.7 -0.1
Y49A Blount Mountai 40.86 262 P **P** 12 26 20.4 +1.4
E28A Huff 41.19 288 P **P** 12 26 22.7 +1.2
PBMO Poplar Bluff 41.24 269 P **P** 12 26 22.2 +0.2
PBMO IAmb IAmb 12 26 34.8
comp=Z,28nm,1.3s
SUSD Miller 41.43 284 P **P** 12 26 24.5 +1.0
SUSD IAmb IAmb 12 26 30.9
comp=Z,18nm,1.1s
LCAR Lake Charles 42.15 269 P **P** 12 26 29.4 -0.1
S39A Bolivar 42.35 272 P **P** 12 26 30.7 -0.4
S39A IAmb IAmb 12 26 43.1
comp=Z,20nm,1.4s
Y45A Yeager Farm, C 42.71 265 P **P** 12 26 34.2 +0.2
SJG San Juan 42.79 226 LR LR 12 42 34.5
comp=Z,327nm,18.8s,baz=52,slow=34
WHAR Wooly Hollow 43.35 269 P **P** 12 26 41.4 +2.1
WHAR IAmb IAmb 12 26 51.0
comp=Z,42nm,1.5s
KSU1 Kansas State U 43.38 276 P **P** 12 26 39.8 +0.4
KSU1 IAmb IAmb 12 26 47.2
comp=Z,18nm,0.9s
TAM Tamanrasset 43.51 119 P **P** 12 26 41.0 +0.2
TAM IAmb IAmb 12 26 50.3
comp=Z,18nm,1.2s
WRGLY Wrigley 43.52 319 P **P** 12 26 40.9 +0.7
LAO LASA Array 44.22 291 P **P** 12 26 47.5 +1.3
X40A Basin Creek Fa 44.23 268 P **P** 12 26 47.5 +1.2
X40A IAmb IAmb 12 26 58.0
comp=Z,33nm,1.6s
INK Inuvik 44.40 328 P **P** 12 26 47.4 +0.2
INK Inuvik 44.40 328 LR LR 12 45 09.0
comp=Z,700nm,18.8s,baz=4.5,slow=36
F31M Tsiigehtchic 44.95 327 P **P** 12 26 50.6 -0.9
F31M IAmb IAmb 12 26 58.7
comp=Z,17nm,1.1s
IDI Anoyia 45.21 89 LR LR 12 46 16.8
comp=Z,701nm,20.2s,baz=337,slow=37
G31M Satah River 45.41 327 P **P** 12 26 54.5 -0.7
E29M Blow River 45.70 330 P **P** 12 26 57.5 -0.1
E28M Babbage River 46.05 330 P **P** 12 26 59.9 -0.5
D27M Malcolm River 46.08 332 P **P** 12 27 00.3 -0.4
W35A Tecumseh 46.17 272 P **P** 12 27 02.1 +0.4
G29M Pine Creek 46.62 328 P **P** 12 27 04.4 -0.4
G29M IAmb IAmb 12 27 14.8
comp=Z,14nm,1.2s
F28M Old Crow 46.76 329 P **P** 12 27 06.1 +0.1
F28M IAmb IAmb 12 27 10.6
comp=Z,7.4nm,1.1s
RLMT Red Lodge 46.86 291 P **P** 12 27 08.2 +0.9
K22A Casper 46.87 287 P **P** 12 27 07.8 +0.4
K22A IAmb IAmb 12 27 14.3
comp=Z,11nm,0.8s
I30M Mount Dempster 47.10 326 P **P** 12 27 09.0 +0.2
I30M IAmb IAmb 12 27 11.2
comp=Z,24nm,1.8s
BELG Belogornoye 47.13 56 LR LR 12 46 34.2
comp=Z,1µm,18.1s,baz=314,slow=36
H29M Whitestone 47.15 327 P **P** 12 27 09.1 +0.1
BR131 Keskin Array S 47.40 78 P **P** 12 27 12.2 +0.7
BR131 IAmb IAmb 12 27 15.7
comp=Z,6.9nm,0.9s
BRTR Keskin Array B 47.40 78 P **P** 12 27 12.0 +0.5
BRTR Keskin Array B 47.40 78 P **P** 12 27 11.2 -0.3
comp=Z,3.8nm,0.8s,baz=313,slow=5.2,SNR=14
BRTR LR LR 12 48 50.7
comp=Z,1µm,18.4s,baz=307,slow=38
comp=Z,3.8nm,0.8s
J30M Hart River 47.48 325 P **P** 12 27 12.8 +1.0
D25K Kavik River 47.52 333 P **P** 12 27 11.7 -0.3
D25K IAmb IAmb 12 27 19.5
comp=Z,9.6nm,0.8s
N23A Red Feather La 47.67 285 P **P** 12 27 14.2 +0.5
N23A IAmb IAmb 12 27 16.7
comp=Z,13nm,0.9s
I28M Miner Creek 48.14 327 P **P** 12 27 16.9 +0.1
I28M IAmb IAmb 12 27 19.1
comp=Z,11nm,1.2s
ISCO Idaho Springs 48.19 283 P **P** 12 27 18.4 +0.5
ISCO IAmb IAmb 12 27 20.8
comp=Z,5.1nm,0.8s
D24K Happy Valley 48.28 334 P **P** 12 27 18.2 +0.4
BPMT Black Pine Rid 48.33 295 P **P** 12 27 19.6 +0.9
N32M Quiet Lake 48.41 320 P **P** 12 27 19.5 +0.5
PD31 Pinedale Array 48.52 289 P **P** 12 27 19.6 -0.6
PDAR Pinedale Array 48.52 289 P **P** 12 27 19.9 -0.3
PDAR Pinedale Array 48.52 289 P **P** 12 27 19.6 -0.6
comp=Z,1.7nm,0.6s,baz=60,slow=7.0,SNR=20
PDAR LR LR 12 46 37.5
comp=Z,1µm,18.4s,baz=48,slow=35
comp=Z,1.7nm,0.6s
BW06 Boulder Array 48.52 289 P **P** 12 27 19.9 -0.3
LOHW Long Hollow 48.56 290 P **P** 12 27 20.5 0.0
LOHW IAmb IAmb 12 28 01.5
comp=Z,15nm,1.6s
B22K Teshekpuk Lake 48.59 337 P **P** 12 27 20.3 +0.2
DLBC Dease Lake 48.88 316 LR LR 12 46 56.1
comp=Z,997nm,19.4s,baz=94,slow=35
NEW Newport 49.13 299 LR LR 12 46 41.6
comp=Z,1µm,19.5s,baz=52,slow=34
F24K Squaw Lake 49.15 332 P **P** 12 27 25.2 +0.7
PCRV Puerto La Cruz 49.35 220 LR LR 12 44 06.0
comp=Z,264nm,21.7s,slow=31

29d 12h

AHID Auburn Hatcher 49.38 290 P **P** 12 27 30.5 +3.7
D22K Ayikyak River 49.47 335 P **P** 12 27 27.0 +0.1
O20A White River Ci 49.49 285 P **P** 12 27 27.8 +0.1
O20A IAmb IAmb 12 27 35.5
comp=Z,10nm,0.9s
G24K Hadweenzic Riv 49.60 331 P **P** 12 27 28.5 +0.5
G24K IAmb IAmb 12 27 37.5
comp=Z,11nm,1.1s
B20K Meade River 49.71 337 P **P** 12 27 29.0 +0.4
B20K IAmb IAmb 12 28 03.2
comp=Z,20nm,1.5s
ARU Arti 49.73 47 P **P** 12 27 28.8 -0.3
ARU IAmb IAmb 12 27 29.5
comp=Z,8.6nm,1.1s
ARU Arti 49.73 47 LR LR 12 47 09.2
comp=Z,1µm,18.3s,baz=288,slow=34
TOA0 Torodi Ar. Sit 49.86 130 P **P** 12 27 29.5 -0.9
TORD Torodi Ar. Bea 49.86 130 P **P** 12 27 29.3 -1.1
TORD IAmb IAmb 12 27 33.9
comp=Z,17nm,1.1s
TORD Torodi Ar. Bea 49.86 130 P **P** 12 27 28.9 -1.5
comp=Z,9.7nm,0.8s,baz=339,slow=8.3,SNR=41
TORD LR LR 12 46 41.0
comp=Z,623nm,18.3s,baz=329,slow=34
comp=Z,9.7nm,0.8s
C09A Chrisman Ranch 50.02 299 P **P** 12 27 32.0 +0.6
C09A IAmb IAmb 12 27 41.3
comp=Z,8.6nm,1.1s
KBZ Khabaz 50.05 68 P **P** 12 27 32.4 +0.8
comp=Z,4.5nm,0.9s,baz=306,slow=9.9,SNR=4.7
KBZ LR LR 12 49 48.3
comp=Z,645nm,19.5s,baz=313,slow=37
comp=Z,4.5nm,0.9s
BRDY Brady 50.15 270 P **P** 12 27 32.4 -0.2
BRDY IAmb IAmb 12 27 35.2
comp=Z,9.5nm,1.1s
G23K Bananza Creek 50.32 332 P **P** 12 27 33.8 +0.4
G23K IAmb IAmb 12 27 39.4
comp=Z,13nm,1.2s
HWUT Hardware Ranch 50.40 289 P **P** 12 27 35.1 +0.6
SCRK Sand Creek 50.42 327 P **P** 12 27 35.0 +0.8
NRIK Noril'sk 50.42 23 P **P** 12 27 34.1 +0.1
comp=Z,6.1nm,1.0s,baz=306,slow=5.7,SNR=6.3
NRIK LR LR 12 47 24.1
comp=Z,186nm,21.3s,baz=326,slow=34
comp=Z,6.1nm,1.0s
MDP Montagnes des 50.47 203 LR LR 12 44 06.4
comp=Z,221nm,20.5s,baz=338,slow=30
MSTX Muleshoe 50.49 276 P **P** 12 27 36.0 +0.8
MSTX IAmb IAmb 12 27 41.1
comp=Z,16nm,1.1s
PLID Pearl Lake 50.57 295 P **P** 12 27 36.9 +1.1
TCUT Toone Canyon 50.64 288 P **P** 12 27 37.5 +1.1
TCUT IAmb IAmb 12 27 54.0
comp=Z,12nm,1.0s
ILAR Eielson Array 50.78 329 P **P** 12 27 36.9 0.0
comp=Z,1.3nm,1.0s,baz=42,slow=4.4,SNR=7.1
ILAR PcP **PcP** 12 28 52.9 -0.7
comp=Z,1.5nm,1.0s,baz=15,slow=0.9,SNR=6.7
ILAR LR LR 12 47 25.3
comp=Z,617nm,21.5s,baz=42,slow=34
comp=Z,1.3nm,1.0s
F21K Alatna River 50.88 334 P **P** 12 27 38.0 +0.3
D19K Kuna River 51.08 337 P **P** 12 27 39.0 -0.1
D19K IAmb IAmb 12 27 44.2
comp=Z,19nm,1.2s
JCT Junction City 51.21 270 P **P** 12 27 41.2 +0.6
JCT IAmb IAmb 12 27 43.6
comp=Z,9.8nm,1.0s
E19K Redstone River 51.66 335 P **P** 12 27 43.6 +0.1
E19K IAmb IAmb 12 27 45.8
comp=Z,8.4nm,0.8s
BAUV El Baul 51.81 223 P **P** 12 27 46.8 +1.7
IMAR Indian Mountai 51.88 333 P **P** 12 27 45.0 -0.1
ANMO Albuquerque 51.98 279 LR LR 12 49 22.4
comp=Z,4µm,18.2s,baz=141,slow=36
BBB Bella Bella 52.03 309 LR LR 12 48 42.8
comp=Z,695nm,18.3s,baz=50,slow=35
TEIG Tepich 52.24 252 LR LR 12 50 20.3
comp=Z,5µm,18.7s,baz=178,slow=36
E18K Tukpahlearik C 52.51 337 P **P** 12 27 49.9 +0.1
C16K Lisburne Hills 52.88 339 P **P** 12 27 52.4 0.0
C16K IAmb IAmb 12 27 57.8
comp=Z,14nm,1.1s
DBIC Dimbokro 52.96 141 P **P** 12 27 52.2 -1.5
DBIC IAmb IAmb 12 28 01.6
comp=Z,20nm,1.2s
DBIC Dimbokro 52.96 141 P **P** 12 27 52.0 -1.6
comp=Z,7.5nm,0.8s,baz=329,slow=7.1,SNR=11
DBIC LR LR 12 47 27.5
comp=Z,1µm,20.6s,baz=338,slow=33
comp=Z,7.5nm,0.8s
MMAI Mount Meron Ar 53.03 83 P **P** 12 27 53.3 -0.8
comp=Z,0.4nm,0.3s,baz=298,slow=9.3,SNR=2.0
MMAI LR LR 12 51 20.0
comp=Z,452nm,20.1s,baz=266,slow=37
comp=Z,0.4nm,0.3s
ELK Elko 53.04 291 LR LR 12 49 41.9
comp=Z,1µm,18.3s,baz=54,slow=35
AKTO Aktyubinsk 53.40 53 LR LR 12 49 26.3
comp=Z,655nm,21.7s,baz=281,slow=35
GNI Garni 53.46 70 P **P** 12 27 57.3 0.0
comp=Z,6.2nm,0.7s,baz=5.7,slow=10,SNR=3.5
GNI LR LR 12 50 54.5
comp=Z,626nm,21.7s,baz=324,slow=36
comp=Z,6.2nm,0.7s
WVOR Wild Horse Lak 53.76 294 P **P** 12 27 59.7 +0.3
WVOR IAmb IAmb 12 28 07.8
comp=Z,13nm,0.9s
K20K Telida 53.96 331 P **P** 12 28 00.6 +0.1
K20K IAmb IAmb 12 28 09.0
comp=Z,8.4nm,1.0s
X18A Snowflake 54.32 281 P **P** 12 28 03.9 +0.2
TXAR Lajitas Array 54.34 272 P **P** 12 28 03.4 -0.4
comp=Z,0.5nm,0.7s,baz=58,slow=7.5,SNR=2.7
TXAR PcP **PcP** 12 29 07.2 -0.4
comp=Z,1.4nm,0.8s,baz=55,slow=5.5,SNR=5.6
TXAR LR LR 12 50 45.2
comp=Z,914nm,19.4s,baz=41,slow=36
comp=Z,0.5nm,0.7s
TIXI Tiksi 54.46 6 P **P** 12 28 04.4 +0.4
TIXI IAmb IAmb 12 28 09.3
comp=Z,13nm,1.1s
TIXI Tiksi 54.46 6 LR LR 12 48 17.2
comp=Z,222nm,21.0s,baz=14,slow=33
EIL Elat 55.17 86 P **P** 12 28 10.2 +0.5
comp=Z,2.5nm,0.6s,baz=294,slow=10.0,SNR=1.9
EIL LR LR 12 54 58.6
comp=Z,232nm,19.5s,baz=249,slow=40
comp=Z,2.5nm,0.6s
X16A Lo Mia Camp, P 55.27 282 P **P** 12 28 11.0 +0.4
X16A IAmb IAmb 12 28 19.1
comp=Z,6.2nm,0.8s
TPH Tonopah 55.99 289 P **P** 12 28 16.6 +0.8
PAHR Pah Rah Range 56.05 292 P **P** 12 28 16.9 +0.8
PAHR IAmb IAmb 12 28 24.2
comp=Z,9.6nm,0.9s
MZP Montezuma Peak 56.34 289 P **P** 12 28 19.0 +0.6
NVAR Mina Array Bea 56.34 291 P **P** 12 28 17.9 -0.4
comp=Z,0.9nm,0.7s,baz=70,slow=6.3,SNR=6.8
NVAR LR LR 12 51 46.9
comp=Z,1µm,18.4s,baz=50,slow=35
comp=Z,0.9nm,0.7s
YBH Yreka Blue Hor 56.43 296 LR LR 12 51 36.5
comp=Z,1µm,18.7s,baz=45,slow=35
GRAC Grapevine Rang 56.83 289 P **P** 12 28 22.5 +0.9
GRAC IAmb IAmb 12 28 29.7
comp=Z,12nm,0.9s
BVAR Borovoye Array 57.06 44 P **P** 12 28 22.8 -0.2
comp=Z,3.0nm,0.8s,baz=302,slow=8.3,SNR=12
BVAR LR LR 12 51 13.2
comp=Z,688nm,21.8s,baz=300,slow=34
comp=Z,3.0nm,0.8s
BLYC Blythe 57.53 284 P **P** 12 28 27.4 +1.0
BLYC IAmb IAmb 12 28 34.7
comp=Z,11nm,0.8s
KDAK Kodiak Island 57.82 326 LR LR 12 52 52.8
comp=Z,599nm,18.2s,baz=76,slow=36
ROSC El Rosal 58.15 228 P **P** 12 28 32.6 +1.2
comp=Z,4.6nm,0.4s,baz=64,slow=6.8,SNR=6.8
ROSC LR LR 12 50 54.2
comp=Z,162nm,20.4s,baz=54,slow=33
comp=Z,4.6nm,0.4s
CMIG Matias Romero 58.50 255 LR LR 12 53 21.9
comp=Z,379nm,21.2s,baz=36,slow=36
JTS Las Juntas de 58.58 242 LR LR 12 51 54.8
comp=Z,513nm,19.5s,baz=3.5,slow=34

PFO	**Pinyon Flats O**	**58.74**	**285**	LR	LR	12 53 04.0		
	comp=Z,492nm,21.9s,baz=68,slow=35							
ZALV	**Zalesovo Beam**	**61.83**	**35**	P	**P**	**12 28 56.4**	**+0.6**	
	comp=Z,0.8nm,0.6s,baz=330,slow=8.3,SNR=2.5							
ZALV				LR	LR	12 55 05.9		
	comp=Z,269nm,20.2s,baz=311,slow=35							
	comp=Z,0.8nm,0.6s							
KURK	**Kurchatov**	**62.13**	**41**	P	**P**	**12 28 57.8**	**-0.1**	
KURBB	**Kurchatov Arra**	**62.17**	**41**	P	**P**	**12 28 57.2**	**-0.9**	
	comp=Z,1.3nm,0.9s,baz=320,slow=7.6,SNR=7.4							
KURBB				LR	LR	12 54 16.4		
	comp=Z,413nm,21.4s,baz=288,slow=34							
	comp=Z,1.3nm,0.9s							
LPIG	**La Paz**	**62.18**	**273**	LR	LR	12 55 45.9		
	comp=Z,1μm,19.3s,baz=28,slow=36							
GEYT	**Alibeck**	**62.33**	**63**	P	**P**	**12 28 59.7**	**+0.2**	
	comp=Z,3.3nm,1.0s,baz=338,slow=1.6,SNR=4.6							
GEYT				LR	LR	12 56 12.3		
	comp=Z,466nm,18.3s,baz=342,slow=36							
	comp=Z,3.3nm,1.0s							
SAML	**Samuel**	**66.73**	**210**	P	**P**	**12 29 27.2**	**-1.1**	
SAML				IAmb	IAmb	12 29 31.5		
	comp=Z,9.9nm,1.4s							
MKAR	**Makanchi Array**	**66.73**	**42**	P	**P**	**12 29 26.9**	**-1.1**	
	comp=Z,0.5nm,0.7s,baz=316,slow=5.1,SNR=4.4							
MKAR				LR	LR	12 57 40.6		
	comp=Z,334nm,20.8s,baz=324,slow=35							
	comp=Z,0.5nm,0.7s							
MA2	**Magadan**	**66.99**	**357**	LR	LR	12 57 33.6		
	comp=Z,320nm,21.8s,baz=10.0,slow=35							
BOSC	**San Juan Bosco**	**67.12**	**228**	P	**P**	**12 29 31.8**	**+0.8**	
MCRA	**Macar, Loja**	**68.85**	**229**	P	**P**	**12 29 41.6**	**-0.1**	
BDFB	**Brasilia**	**69.91**	**193**	P	**P**	**12 29 47.7**	**-0.5**	
	comp=Z,1.2nm,0.3s,baz=32,slow=11,SNR=1.8							
BDFB				LR	LR	12 54 58.6		
	comp=Z,204nm,20.5s,baz=334,slow=31							
	comp=Z,1.2nm,0.3s							
KSH	**Kashi**	**69.95**	**50**	P	**P**	**12 29 50.3**	**+1.8**	
KSH				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KSH				LR	LR			
	comp=N,420nm,19.7s							
KSH				LR	LR			
	comp=E,850nm,17.2s							
KSH				LR	LR			
	comp=Z,1μm,17.5s							
ATAH	**Atahualpa**	**70.63**	**226**	LR	LR	13 01 44.7		
	comp=Z,103nm,19.4s,baz=3.1,slow=37							
SHEM	**Shemya Is, Ala**	**71.17**	**342**	LR	LR	13 03 30.2		
	comp=Z,178nm,19.2s,baz=122,slow=38							
WMQ	**Urumqi**	**71.31**	**40**	*e*P	**P**	**12 29 59.8**	**+3.2**	
WMQ				LR	LR			
	comp=N,510nm,15.9s							
WMQ				LR	LR			
	comp=E,650nm,20.7s							
WMQ				LR	LR			
	comp=Z,330nm,19.1s							
PTLB	**Pontes e Lacer**	**71.83**	**204**	P	**P**	**12 30 00.1**	**+0.3**	
SIV	**San Ignacio**	**72.84**	**206**	LR	LR	12 57 22.6		
	comp=Z,229nm,21.6s,baz=79,slow=32							
ATD	**Arta Tunnel**	**73.75**	**93**	LR	LR	13 02 55.1		
	comp=Z,6.3nm,19.0s,baz=358,slow=36							
SONM	**Songino Array**	**73.76**	**26**	P	**P**	**12 30 11.3**	**+0.1**	
SONM				IAmb	IAmb	12 30 16.3		
	comp=Z,7.6nm,1.1s							
SONM	**Songino Array**	**73.76**	**26**	P	**P**	**12 30 10.2**	**-1.0**	
	comp=Z,3.8nm,1.0s,baz=335,slow=6.7,SNR=17							
SONM				LR	LR	13 05 56.3		
	comp=Z,126nm,18.2s,baz=358,slow=38							
	comp=Z,3.8nm,1.0s							
WSAR	**Wadi Sarin**	**73.85**	**73**	LR	LR	13 05 34.5		
	comp=Z,352nm,19.7s,baz=316,slow=38							
ULN	**Ulaanbaatar**	**73.90**	**25**	P	**P**	**12 30 12.3**	**+0.2**	
ULN				IAmb	IAmb	12 30 20.4		
	comp=Z,13nm,1.1s							
NNA	**Nana**	**74.36**	**222**	LR	LR	13 01 18.9		
	comp=Z,150nm,21.6s,baz=343,slow=34							
HEH	**HeiHe**	**75.41**	**11**	*e*P	**P**	**12 30 20.8**	**+0.2**	
HEH				pmax	pmax			
	comp=Z,11nm,0.9s							
HEH				pmax	pmax			
	comp=Z,240nm,6.0s							
LODK	**Lodwar**	**75.84**	**104**	P	**P**	**12 30 23.6**	**0.0**	
AQDB	**Aquidauana**	**75.93**	**200**	P	**P**	**12 30 24.5**	**+0.7**	
MBAR	**Mbarara**	**76.50**	**110**	LR	LR	13 03 55.6		
	comp=Z,719nm,19.3s,baz=313,slow=36							
KLR	**Kul'dur**	**76.88**	**9**	LR	LR	13 02 01.4		
	comp=Z,198nm,21.9s,baz=8.5,slow=34							
PB16	**IPOC Station P**	**77.54**	**213**	P	**P**	**12 30 32.5**	**-1.1**	
GTA	**Gaotai**	**79.51**	**34**	P	**P**	**12 30 44.0**	**+0.1**	
GTA				pP	PcP	12 30 51.8	-0.1	
GTA	**Gaotai**	**79.51**	**34**	SKS	**S**	**12 40 52.5**	**+7.3**	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GTA				LR	LR			
	comp=N,240nm,19.3s							
GTA				LR	LR			
	comp=E,190nm,17.8s							
GTA				LR	LR			
	comp=Z,340nm,18.2s							
BNX	**BinXian**	**79.86**	**12**	⇑P	**P**	**12 30 45.5**	**+0.1**	
BNX				pmax	pmax			
	comp=Z,7.0nm,0.9s							
BNX				pmax	pmax			
	comp=Z,180nm,3.7s							
KMBO	**Kilima Mbogo**	**80.62**	**105**	LR	LR	13 06 36.6		
	comp=Z,263nm,20.0s,baz=276,slow=36							
LVC	**Limon Verde**	**81.36**	**211**	LR	LR	13 05 36.4		
	comp=Z,94nm,19.2s,baz=351,slow=35							
BTO	**Baotou**	**81.44**	**26**	*e*P	**P**	**12 30 53.3**	**-0.9**	
BTO				pP	**sP**	**12 30 58.0**	**+0.1**	
BTO				sP	**PcP**	**12 31 00.3**	**+0.1**	
BTO				PP	**PP**	**12 33 59.5**	**+0.2**	
BTO	**Baotou**	**81.44**	**26**	S	**S**	**12 41 02.5**	**-2.8**	
BTO	**Baotou**	**81.44**	**26**	sS	sS	12 41 08.5	-1.3	
BTO	**Baotou**	**81.44**	**26**	SS	SS	12 46 18.3	-1.8	
BTO				pmax	pmax			
	comp=Z,17nm,1.0s							
BTO				pmax	pmax			
	comp=Z,240nm,3.9s							
BTO				LR	LR			
	comp=N,710nm,15.4s							
BTO				LR	LR			
	comp=E,560nm,16.2s							
BTO				LR	LR			
	comp=Z,630nm,16.9s							
HHC	**Hu-ho-hao-te**	**81.60**	**25**	*e*P	**P**	**12 30 53.5**	**-1.5**	
HHC				pmax	pmax			
	comp=Z,20nm,1.1s							
HHC				pmax	pmax			
	comp=Z,160nm,5.3s							
USRK	**Ussuriysk Ar.**	**81.88**	**9**	LR	LR	13 07 48.2		
	comp=Z,106nm,19.3s,baz=352,slow=36							
CPUP	**Villa Florida**	**81.95**	**200**	LR	LR	13 04 11.9		
	comp=Z,56nm,18.7s,baz=5.5,slow=33							
ASAJ	**Asahikawa**	**82.56**	**2**	LR	LR	13 06 13.4		
	comp=Z,179nm,21.4s,baz=6.5,slow=35							
LZH	**Lanzhou**	**83.85**	**32**	*e*P	**P**	**12 31 07.5**	**+0.6**	
LZH				sP	pwP	12 31 19.3	+7.0	
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
LZH				LR	LR			
	comp=N,420nm,17.2s							
LZH				LR	LR			
	comp=E,490nm,16.1s							
LZH				LR	LR			
	comp=Z,470nm,16.8s							
TSUM	**Tsumeb**	**85.60**	**131**	LR	LR	13 06 52.5		
	comp=Z,235nm,18.8s,baz=328,slow=34							
XAN	**Xi'an**	**87.29**	**29**	⇑P	**P**	**12 31 23.8**	**-0.1**	
XAN				pP	pwP	12 31 29.0	-0.3	
XAN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
LSZ	**Lusaka**	**87.36**	**120**	LR	LR	13 11 23.4		
	comp=Z,320nm,19.1s,baz=335,slow=36							
LYN	**LuoYang**	**87.78**	**26**	⇓P	**P**	**12 31 26.3**	**+0.1**	
LYN				pmax	pmax			
	comp=Z,17nm,0.9s							
KSRS	**Korea Array**	**88.07**	**13**	LR	LR	13 12 50.9		
	comp=Z,102nm,18.5s,baz=340,slow=37							
MJAR	**Matsushiro Arr**	**89.97**	**5**	LR	LR	13 10 00.3		
	comp=Z,121nm,21.6s,baz=2.5,slow=34							
BRDH	**Bariadhala**	**91.25**	**48**	LR	LR	13 15 39.6		
	comp=Z,744nm,18.9s,baz=353,slow=38							
NJ2	**Nanjing**	**91.72**	**22**	⇑P	**P**	**12 31 44.3**	**-0.3**	
NJ2				pP	**pP**	**12 31 47.8**	**+0.6**	
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,250nm,3.6s							
PZH	**PanZhiHua**	**91.90**	**38**	P	**P**	**12 31 45.5**	**-0.2**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,6.5s							
LBTB	**Lobatse**	**94.31**	**127**	LR	LR	13 11 55.6		
	comp=Z,274nm,20.1s,baz=324,slow=34							
BOSA	**Boshof**	**97.22**	**130**	LR	LR	13 15 14.6		
	comp=Z,429nm,18.2s,baz=338,slow=35							
CMAR	**Chiang Mai Arr**	**98.09**	**43**	P	**P**	**12 32 13.1**	**-0.9**	
	comp=Z,0.5nm,0.4s,baz=316,slow=5.7,SNR=6.4							
CMAR				LR	LR	13 18 25.4		
	comp=Z,220nm,21.1s,baz=315,slow=37							
	comp=Z,0.5nm,0.4s							
SUR	**Sutherland**	**98.48**	**135**	LR	LR	13 13 05.9		
	comp=Z,198nm,19.2s,baz=332,slow=33							
PLCA	**Paso Flores**	**98.83**	**206**	LR	LR	13 14 50.8		
	comp=Z,132nm,20.1s,baz=15,slow=34							
TAOE	**Nuku Hiva Isla**	**105.90**	**277**	*e*LR	LR	13 07 27.4		
	comp=Z,723nm,26.3s							
PPT2	**Papeete2**	**118.36**	**279**	*e*SS	SS	12 55 02.9	+5.5	
	comp=Z,140nm,27.5s							
PPT2	**Papeete2**	**118.36**	**279**	*e*LR	LR	13 13 17.9		
	comp=Z,877nm,29.8s							
PPT2				*e*LR	LR	13 13 20.1		
	comp=Z,546nm,32.5s							
TBI	**Tubuai**	**122.74**	**275**	*e*SS	SS	12 55 46.6	-6.9	
	comp=Z,609nm,39.0s							
TBI	**Tubuai**	**122.74**	**275**	*e*LR	LR	13 15 28.3		
	comp=Z,2μm,25.2s							
SNAA	**Sanae**	**127.14**	**168**	PKP	**PKPdf**	**12 37 38.7**	**-1.2**	
	comp=Z,2.5nm,0.9s,baz=307,slow=5.1,SNR=3.0							
QSPA	**South Pole Qui**	**143.57**	**180**	PKhKP	PKPpre	12 38 06.7		
	comp=Z,3.6nm,0.4s,baz=215,slow=2.6,SNR=8.8							
WRA	**Warramunga Arr**	**145.38**	**17**	PKPbc	**PKPbc**	**12 38 13.9**	**-1.1**	
	comp=Z,3.8nm,1.0s,baz=345,slow=3.1,SNR=5.9							
ASAR	**Alice Springs**	**148.93**	**20**	PKPbc	**PKPbc**	**12 38 23.8**	**-1.2**	
	comp=Z,2.2nm,0.7s,baz=358,slow=2.3,SNR=14							

KRSC 29 12:20:38.8±0.8, 53.91N×168.35E, h19km±26km, MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.90**	**314**	*e*S	Sb	12 21 35.6	-0.4
TUMR	**Tumrok**	**4.97**	**289**	*e*P	Pn	12 21 56.8	+4.5
UGLR	**Uglovaya**	**5.72**	**267**	*e*P	Pn	12 22 07.2	+4.5
SMAR	**Somma**	**5.72**	**267**	*e*P	Pn	12 22 07.1	+4.3
AVH	**Avacha**	**5.76**	**267**	*e*P	Pn	12 22 07.8	+4.6
KRX	**Arik**	**5.80**	**268**	*e*P	Pn	12 22 08.1	+4.3
KOK	**Koryaka**	**5.82**	**268**	*e*P	Pn	12 22 08.2	+4.2
PET	**Petropavlovsk**	**5.86**	**265**	*e*P	Pn	12 22 09.3	+4.8
KRMR	**Karymshinskiy**	**6.21**	**264**	*e*S	Sn	12 23 24.6	+4.9
MTVR	**Mutnovka**	**6.28**	**261**	*e*P	Pn	12 22 14.6	+4.2
MTVR				*e*S	Sn	12 23 25.8	+4.4
GRL	**Gorelyy**	**6.32**	**262**	*e*P	Pn	12 22 16.1	+5.2
ASAK	**Asacha**	**6.47**	**261**	*e*P	Pn	12 22 18.3	+5.3

*SKO **29** 12:29:51.9, 40.85N×22.86E, h15km, ML3.2*
*BEO **29** 12:29:53.7±0.6, 40.97N×22.76E, h2km±2km, ML2.8/14*
*ATH **29** 12:29:54.6, 40.95N×22.74E, h7km±1km, ML2.8/22, Error ellipse: s-maj=1.6km s-min=0.7km az=18.0*
*SOF **29** 12:29:54.2, 41.00N±0.01×22.77E±0.01, h5km±1km, MD3.3/9*
*THE **29** 12:29:54.5, 40.95N×22.75E, h7km±1km, ML2.9/11, Error ellipse: s-maj=1.3km s-min=0.6km az=210.0*

ISC 29 12:29:54.4±0.9, 40.95N±0.02×22.74E±0.02, h11km±7km, n103, σ1‰07/158, 14C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNT	**Kendrikon**	**0.24**	**30**	P	**Pg**	**12 29 59.4**	**0.0**
KNT				S	**Sg**	**12 30 02.4**	**-0.4**
KNT				AML	AML	12 30 02.7	
	comp=E,15746μm,0.3s						
KNT				AML	AML	12 30 02.8	
	comp=N,15404μm,0.3s						
GRG	**Griva**	**0.26**	**271**	P	**Pg**	**12 29 59.5**	**-0.2**
GRG				S	**Sg**	**12 30 03.3**	**0.0**
	comp=N,5μm,0.3s						
GRG	**Griva**	**0.26**	**271**	P	**Pg**	**12 29 59.6**	**-0.2**
GRG				S	**Sg**	**12 30 03.1**	**-0.2**
GRG				AML	AML	12 30 03.8	
	comp=N,11389μm,0.4s						
GRG				AML	AML	12 30 04.3	
	comp=E,9996μm,0.3s						
GRG	**Griva**	**0.26**	**271**	⇓*i*Pg	**Pg**	**12 29 59.6**	**-0.2**
THE	**Thessaloniki**	**0.36**	**152**	P	**Pg**	**12 30 01.6**	**0.0**
THE				S	**Sg**	**12 30 06.4**	**-0.1**
	comp=E,3μm,0.2s						
THE	**Thessaloniki**	**0.36**	**152**	P	**Pg**	**12 30 01.7**	**0.0**
THE				S	**Sg**	**12 30 06.6**	**0.0**
THE				AML	AML	12 30 08.2	
	comp=E,4837μm,0.2s						
THE				AML	AML	12 30 08.5	
	comp=N,5384μm,0.3s						
THE	**Thessaloniki**	**0.36**	**152**	⇓*i*Pg	**Pg**	**12 30 01.7**	**0.0**
VAY	**Valandovo**	**0.39**	**341**	*e*Pg	**Pg**	**12 30 01.9**	**-0.2**
VAY				*e*Sg	**Sg**	**12 30 07.1**	**-0.3**
VAY	**Valandovo**	**0.39**	**341**	⇑*i*Pg	**Pg**	**12 30 02.0**	**-0.2**
VAY				*i* Sg	**Sg**	**12 30 07.3**	**0.0**
VAY				*e*Lg	Lg	12 30 07.7	
	comp=N,3μm,0.3s						
VAY				*e*Lg	Lg	12 30 07.8	
	comp=E,2μm,0.3s						
HORT	**Hortiatis**	**0.45**	**142**	P	**Pg**	**12 30 03.1**	**-0.2**
HORT				S	**Sg**	**12 30 09.3**	**+0.1**
	comp=E,1μm,0.2s						
HORT	**Hortiatis**	**0.45**	**142**	P	**Pg**	**12 30 03.1**	**-0.2**
HORT				S	**Sg**	**12 30 09.0**	**-0.2**
HORT				AML	AML	12 30 11.1	
	comp=N,2920μm,0.3s						
HORT				AML	AML	12 30 11.2	
	comp=E,2535μm,0.3s						
SOH	**Sokhos**	**0.48**	**106**	P	**Pg**	**12 30 04.0**	**+0.1**
SOH				S	**Sb**	**12 30 10.9**	**-1.2**
	comp=E,2μm,0.3s						
SOH	**Sokhos**	**0.48**	**106**	P	**Pg**	**12 30 04.0**	**+0.1**
SOH				S	**Sg**	**12 30 10.1**	**-0.2**
SOH				AML	AML	12 30 12.1	
	comp=E,4284μm,0.4s						
SOH				AML	AML	12 30 14.9	
	comp=N,4272μm,0.4s						
SRS	**Serrai**	**0.66**	**76**	P	**Pg**	**12 30 06.9**	**-0.4**
SRS				S	**Sg**	**12 30 15.5**	**-0.5**
SRS				AML	AML	12 30 21.1	
	comp=E,964μm,0.2s						
SRS				AML	AML	12 30 25.6	
	comp=N,1119μm,0.4s						
KTI	**Kastanea**	**0.73**	**220**	P	**Pg**	**12 30 08.4**	**-0.3**
KKB	**Krupnik**	**0.93**	**18**	⇑*i*Pg	**Pg**	**12 30 11.6**	**-0.8**
KKB				Sg	**Sg**	**12 30 23.6**	**-1.0**
KKB	**Krupnik**	**0.93**	**18**	⇑*i*Pg	**Pg**	**12 30 11.7**	**-0.8**
KKB				*i* Sg	**Sg**	**12 30 23.8**	**-0.8**
NVR	**Nevrokopi**	**0.93**	**65**	P	**Pb**	**12 30 12.9**	**+0.2**
NVR				S	**Sb**	**12 30 25.5**	**+0.4**
	comp=N,410nm,0.2s						
NVR	**Nevrokopi**	**0.93**	**65**	P	**Pb**	**12 30 12.9**	**+0.2**
NVR				S	**Sb**	**12 30 25.2**	**+0.1**
NVR				AML	AML	12 30 32.7	
	comp=E,1075μm,0.3s						
NVR				AML	AML	12 30 33.1	
	comp=N,769μm,0.4s						
KOKK	**Kokkinochori,**	**0.96**	**98**	P	**Pg**	**12 30 12.6**	**-0.4**
KOKK				S	**Sb**	**12 30 26.6**	**+0.7**
	comp=N,230nm,0.6s						
KOKK	**Kokkinochori,**	**0.96**	**98**	P	**Pg**	**12 30 11.8**	**-1.2**
KOKK				S	**Sb**	**12 30 26.6**	**+0.7**
MMB	**Musomishta**	**0.96**	**52**	⇑*i*Pg	**Pg**	**12 30 12.6**	**-0.4**
MMB				Sg	**Sg**	**12 30 25.3**	**-0.3**
MMB	**Musomishta**	**0.96**	**52**	*i* Pg	**Pg**	**12 30 12.3**	**-0.7**
MMB				*i* Sg	**Sb**	**12 30 25.7**	**-0.3**
FNA	**Florina**	**1.05**	**261**	P	**Pg**	**12 30 13.6**	**-1.0**
FNA				S	**Sb**	**12 30 28.7**	**+0.3**
	comp=N,398nm,0.6s						
FNA	**Florina**	**1.05**	**261**	P	**Pg**	**12 30 13.5**	**-1.1**
FNA				AML	AML	12 30 32.3	
	comp=E,706μm,0.3s						
FNA				AML	AML	12 30 34.5	
	comp=N,955μm,0.5s						
OUR	**Ouranopolis**	**1.13**	**123**	P	**Pb**	**12 30 15.9**	**-0.1**
OUR				S	**Sb**	**12 30 30.4**	**-0.2**
	comp=N,960nm,0.5s						
OUR	**Ouranopolis**	**1.13**	**123**	P	**Pb**	**12 30 15.8**	**-0.1**
OUR				AML	AML	12 30 33.8	
	comp=E,2147μm,0.4s						
OUR				AML	AML	12 30 35.4	
	comp=N,1734μm,0.6s						
KVLA	**Kavala**	**1.25**	**90**	P	**Pb**	**12 30 17.5**	**-0.5**
PAIG	**Paliouri**	**1.25**	**145**	P	**Pb**	**12 30 17.6**	**-0.4**
PAIG				S	**Sn**	**12 30 35.5**	**+0.9**
	comp=N,422nm,0.5s						
KAVA	**Kavala**	**1.34**	**88**	P	**Pn**	**12 30 19.1**	**0.0**
KAVA				S	**Sg**	**12 30 36.9**	**-0.8**
	comp=N,652nm,0.7s						
KAVA	**Kavala**	**1.34**	**88**	P	**Pn**	**12 30 18.8**	**-0.3**
NEST	**Nestorio**	**1.40**	**248**	P	**Pn**	**12 30 20.4**	**+0.4**
NEST				AML	AML	12 30 45.5	
	comp=N,271μm,0.8s						
NEST				AML	AML	12 30 48.4	
	comp=E,249μm,0.5s						
SKO	**Skopje**	**1.41**	**317**	*e*Pg	**Pn**	**12 30 19.7**	**-0.4**
SKO				*e*Sg	**Sb**	**12 30 37.9**	**-0.9**
SKO	**Skopje**	**1.41**	**317**	*i* Pg	**Pn**	**12 30 19.8**	**-0.2**
SKO				*i* Sg	**Sb**	**12 30 38.4**	**-0.4**
PENT	**Pentalofos**	**1.44**	**239**	P	**Pn**	**12 30 20.7**	**+0.2**
KPRO	**Kipourio**	**1.45**	**227**	P	**Pn**	**12 30 21.1**	**+0.5**
KPRO	**Kipourio**	**1.45**	**227**	P	**Pn**	**12 30 21.2**	**+0.5**
KPRO				AML	AML	12 30 49.7	
	comp=E,352μm,0.5s						
KPRO				AML	AML	12 30 53.4	
	comp=N,389μm,0.6s						
OHR	**Ohrid**	**1.48**	**277**	*e*Pg	**Pn**	**12 30 21.0**	**0.0**
OHR				*e*Sg	**Sb**	**12 30 41.7**	**+1.0**
OHR	**Ohrid**	**1.48**	**277**	*i* Pg	**Pn**	**12 30 21.8**	**+0.8**
OHR				*i* Sg	**Sg**	**12 30 42.0**	**0.0**
OHR				*e*Lg	Lg	12 30 42.6	
	comp=N,54nm,0.5s						
OHR				*e*Lg	Lg	12 30 46.5	
	comp=E,87nm,0.7s						
THL	**Klokotos Trika**	**1.50**	**202**	P	**Pn**	**12 30 21.4**	**+0.2**
THL	**Klokotos Trika**	**1.50**	**202**	P	**Pn**	**12 30 20.3**	**-0.9**
THL				AML	AML	12 30 48.6	
	comp=N,367μm,0.7s						
THL				AML	AML	12 30 51.7	
	comp=E,408μm,0.9s						
THAS	**Thassos island**	**1.54**	**102**	P	**Pn**	**12 30 21.6**	**-0.2**
THAS				S	**Sn**	**12 30 41.4**	**-0.4**
	comp=E,215nm,0.3s						
THAS	**Thassos island**	**1.54**	**102**	P	**Pn**	**12 30 21.0**	**-0.8**
THAS				AML	AML	12 30 45.1	
	comp=N,428μm,0.3s						
THAS				AML	AML	12 30 45.6	
	comp=E,425μm,0.4s						
BOSS	**Bosilegrad**	**1.55**	**353**	*e*Pg	**Pn**	**12 30 21.6**	**-0.4**
BOSS				*e*Sg	**Sn**	**12 30 42.3**	**+0.1**
PLNA	**Plana**	**1.60**	**18**	⇑*i*P	**Pb**	**12 30 24.2**	**0.0**
PLNA				Sg	**Sb**	**12 30 44.9**	**+0.4**
XOR	**Xorichti**	**1.62**	**168**	P	**Pn**	**12 30 22.6**	**-0.4**
XOR				AML	AML	12 30 45.2	
	comp=N,436μm,0.5s						
XOR				AML	AML	12 30 45.2	
	comp=E,494μm,0.3s						
PRVS	**Prvonek**	**1.63**	**342**	*e*Pg	**Pn**	**12 30 22.3**	**-0.8**
PRVS				*e*Sg	**Sn**	**12 30 43.3**	**-0.8**
RZN	**Rozhen**	**1.68**	**63**	*i* P	**Pb**	**12 30 24.7**	**-0.7**
RZN				S	**Sb**	**12 30 47.0**	**+0.4**
NEO	**Neokhori**	**1.69**	**167**	P	**Pn**	**12 30 23.5**	**-0.4**
NEO	**Neokhori**	**1.69**	**167**	P	**Pn**	**12 30 23.5**	**-0.4**
NEO				S	**Sn**	**12 30 44.0**	**-1.4**
NEO				AML	AML	12 30 48.0	
	comp=E,651μm,0.3s						
NEO				AML	AML	12 30 51.0	
	comp=N,438μm,0.6s						
VTS	**Vitosha**	**1.70**	**12**	P	**Pb**	**12 30 25.9**	**0.0**
VTS				S	**Sb**	**12 30 47.2**	**-0.1**
VTS	**Vitosha**	**1.70**	**12**	*e*Pg	**Pn**	**12 30 24.2**	**0.0**
VTS				*e*Sg	**Sn**	**12 30 45.6**	**-0.5**
PHP	**Peshkopia**	**1.88**	**294**	P	**Pn**	**12 30 26.7**	**+0.1**
PGB	**Panagyurishte**	**1.89**	**34**	*i* P	**Pb**	**12 30 24.8**	**-0.2**
PGB				Sg	**Sg**	**12 30 54.2**	**-1.1**
PLD	**Plovdiv**	**1.92**	**51**	P	**Pb**	**12 30 28.7**	**-0.8**
PLD				Sg	**Sg**	**12 30 55.3**	**-0.9**
PLD	**Plovdiv**	**1.92**	**51**	*e*Pn	**Pn**	**12 30 26.9**	**-0.2**
PLD				*e*Sn	**Sn**	**12 30 51.2**	**0.0**
AGG	**Agios Georgios**	**1.96**	**189**	P	**Pn**	**12 30 27.5**	**0.0**
BARS	**Barje**	**1.98**	**340**	*e*Pn	**Pn**	**12 30 27.2**	**-0.8**
BARS				*e*Sn	**Sn**	**12 30 54.1**	**+1.3**
BARS	**Barje**	**1.98**	**340**	*i* Pn	**Pn**	**12 30 27.6**	**-0.4**
BARS				*i* Sg	**Sb**	**12 30 56.0**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.99**	**194**	P	**Pn**	**12 30 28.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.99**	**194**	P	**Pn**	**12 30 28.6**	**+0.5**
MAKR				AML	AML	12 31 05.1	
	comp=N,644μm,0.5s						
MAKR				AML	AML	12 31 05.8	
	comp=E,716μm,0.5s						
KDZ	**Kurdzhali**	**2.07**	**70**	P	**Pb**	**12 30 31.7**	**-0.3**
KDZ				S	**Sg**	**12 30 59.9**	**-1.1**
RDO	**Rodhopi**	**2.12**	**84**	P	**Pn**	**12 30 29.8**	**0.0**
RDO	**Rodhopi**	**2.12**	**84**	P	**Pn**	**12 30 29.7**	**-0.1**
RDO				AML	AML	12 31 06.5	
	comp=E,296μm,0.2s						
RDO				AML	AML	12 31 12.2	
	comp=N,221μm,0.4s						
LIA	**Limnos Island**	**2.14**	**119**	P	**Pn**	**12 30 30.9**	**+0.8**
LIA				AML	AML	12 31 06.7	
	comp=N,391μm,0.6s						
LIA				AML	AML	12 31 08.4	
	comp=E,484μm,0.6s						
EVR	**Evrytania**	**2.16**	**200**	P	**Pn**	**12 30 31.

KUBS	Kucevo	3.54	348	*e*Pn		Pn	12 30 48.7	-0.7
TRUS	Trudelj	3.69	333	*e*Pn		Pn	12 30 50.9	-0.5
DIVS	Divibare	3.74	328	*e*Pn		Pn	12 30 51.6	-0.6
DIVS				*e*Sn		Sn	12 31 36.6	+0.3
MDVR	Moldovita	3.90	349	⇓P		Pn	12 30 53.9	-0.4
HERR	Herculane	3.93	357	⇓P		Pn	12 30 53.8	-0.9
HERR				⇓S		Sg	12 31 56.2	-4.5
GZR	Gura Zlata	4.44	0	⇑P		Pn	12 31 01.5	-0.3
GZR				⇓S		Sg	12 32 13.9	-3.0
BZS	Buzias	4.73	350	⇑P		Pn	12 31 04.7	-1.0
BZS				⇑S		Sb	12 32 18.5	+4.2
VOIR		4.79	20	⇑P		Pn	12 31 09.8	+3.2
ISR	Istrita	5.01	33	⇓P		Pn	12 31 13.9	+4.3
MLR	Muntele Rosu	5.10	26	⇓P		Pn	12 31 17.4	+6.5
PLOR	Plostina	5.66	29	⇑P		Pn	12 31 23.0	+4.5
VRI	Vrincioaia	5.70	29	⇓P		Pn	12 31 23.9	+4.9

*IDC **29** 12:30:00.2±0.8,53°.72N×35°.04W,h0km,mb3.7/14, mbtmp3.8/16,ML2.9/2,MS3.9/12,Error ellipse: s-maj=26.9km s-min=15.7km az=13.0*

*NEIC **29** 12:30:02.1±1.1,53°.64N±0°.06×35°.3W±0°.2,h10km±1km, mb4.5/20,Error ellipse: s-maj=18.4km s-min=5.9km az=64.0*

ISC 29 12:30:02.0±0.6,53°.6N±0°.1×35°.22W±0°.07,h12km,n45, σ0s94/38,mb4.1/22,MS3.8/10,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRLN	Deer Lake	14.54	262	Pn	Pn	12 33 26.4	-1.0
SFJD	Kangerlussuaq	15.37	337	Pn	Pn	12 33 38.3	-0.1
	0.2nm,0.3s,baz=134,slow=15,SNR=3.1 4.0nm,0.8s						
SCHQ	Schefferville	18.45	287	P	P	12 34 16.9	-0.3
SCHQ	Schefferville	18.45	287	P	Pn	12 34 17.4	+0.1
	0.2nm,0.3s,baz=64,slow=13,SNR=3.9						
SCHQ				LR	LR	12 40 00.8	
	comp=Z,251nm,20.4s,baz=90,slow=32 5.6nm,1.1s						
FRB	Frobisher Bay	19.83	314	LR	LR	12 40 20.7	
	comp=Z,398nm,18.8s,baz=121,slow=31						
JMIC	Jan Mayen	21.07	24	LR	LR	12 40 24.1	
	comp=Z,207nm,18.2s,baz=242,slow=30						
ESDC	Sonseca Array	25.34	111	P	P	12 35 28.9	+0.3
	2.6nm,1.0s,baz=311,slow=9.0,SNR=9.6						
ESDC				LR	LR	12 42 45.6	
	comp=Z,229nm,21.2s,baz=16,slow=30 2.6nm,1.0s						
NOA	NORSAR Array B	25.66	55	LR	LR	12 43 49.4	
	comp=Z,141nm,18.5s,baz=265,slow=32						
SSB	Saint Sauveur	26.86	92	P	P	12 35 44.8	+2.5
HFS	Hagfors	26.97	56	LR	LR	12 44 39.6	
	comp=Z,191nm,18.0s,baz=239,slow=33						
LONY	Lake Ozonia	26.98	267	P	P	12 35 43.1	-0.2
LONY				IAmb	IAmb	12 36 02.8	
	comp=Z,14nm,1.4s						
DAVOX	Davos/Dischmat	29.26	85	LR	LR	12 45 47.7	
	comp=Z,209nm,19.0s,baz=266,slow=32						
SADO	Sadowa	29.61	271	LR	LR	12 47 06.0	
	comp=Z,340nm,18.3s,baz=70,slow=34						
SSPA	Standing Stone	31.30	263	P	P	12 36 21.4	-0.3
SSPA				IAmb	IAmb	12 36 52.3	
	comp=Z,12nm,1.1s						
ARCES	ARCESS Array B	31.32	36	P	P	12 36 21.6	-0.1
ARCES	ARCESS Array B	31.32	36	LR	LR	12 45 48.4	
	comp=Z,206nm,19.9s,baz=264,slow=30						
RES	Resolute Bay	31.33	334	P	P	12 36 21.6	0.0
VRAC	Vranov	31.98	76	LR	LR	12 49 13.3	
	comp=Z,187nm,19.5s,baz=242,slow=36						
FINES	FINESS Array B	32.67	51	P	P	12 36 33.5	0.0
	comp=Z,1.3nm,0.9s,baz=287,slow=14,SNR=1.2						
FINES				LR	LR	12 48 08.0	
	comp=Z,250nm,18.2s,baz=218,slow=34 comp=Z,1.3nm,0.9s						
YKA	Yellowknife Ar	40.34	315	P	P	12 37 38.6	-0.3
	comp=Z,0.5nm,0.9s,baz=59,slow=9.4,SNR=1.7						
YKA				LR	LR	12 53 21.8	
	comp=Z,146nm,18.7s,baz=113,slow=35 comp=Z,0.5nm,0.9s						
BRTR	Keskin Array B	47.39	78	P	P	12 38 35.0	-1.0
	comp=Z,0.9nm,0.8s,baz=318,slow=6.2,SNR=3.0 comp=Z,0.9nm,0.8s						
D25K	Kavik River	47.60	333	P	P	12 38 36.9	-0.2
D25K				IAmb	IAmb	12 38 42.4	
	comp=Z,5.4nm,1.1s						
PDAR	Pinedale Array	48.56	289	P	P	12 38 44.8	-0.4
PDAR	Pinedale Array	48.56	289	P	P	12 38 44.0	-1.2
	comp=Z,0.3nm,0.5s,baz=66,slow=7.6,SNR=6.2 comp=Z,0.3nm,0.5s						
B22K	Teshekpuk Lake	48.67	337	P	P	12 38 45.3	0.0
TOA0	Torodi Ar. Sit	49.79	130	P	P	12 38 54.6	+0.1
TOA0				IAmb	IAmb	12 38 55.8	
	comp=Z,6.1nm,1.1s						
TORD	Torodi Ar. Bea	49.79	130	P	P	12 38 54.4	-0.1
TORD				IAmb	IAmb	12 38 55.8	
	comp=Z,7.5nm,1.4s						
TORD	Torodi Ar. Bea	49.79	130	P	P	12 38 54.0	-0.4
	comp=Z,2.0nm,0.9s,baz=339,slow=8.7,SNR=9.8 comp=Z,2.0nm,0.9s						
NRIK	Noril'sk	50.48	23	P	P	12 38 58.1	-1.0
	comp=Z,0.8nm,0.3s,baz=350,slow=5.9,SNR=3.9 comp=Z,0.8nm,0.3s						
ILAR	Eielson Array	50.85	329	P	P	12 39 01.8	-0.2
	comp=Z,0.5nm,0.9s,baz=32,slow=7.5,SNR=5.2						
ILAR				PcP	PcP	12 40 18.4	0.0
	comp=Z,0.6nm,0.9s,baz=11,slow=3.2,SNR=4.4 comp=Z,0.5nm,0.9s						
C19K	Lookout Ridge	51.03	338	P	P	12 39 04.0	+0.7
C19K				IAmb	IAmb	12 39 05.5	
	comp=Z,5.0nm,1.1s						
E19K	Redstone River	51.74	335		P	12 39 08.7	+0.1
TXAR	Lajitas Array	54.37	272	P	P	12 39 31.1	+2.6
	comp=Z,0.4nm,0.9s,baz=61,slow=7.3,SNR=2.3 comp=Z,0.4nm,0.9s						
TIXI	Tiksi	54.53	6	P	P	12 39 29.6	+0.5
TIXI				IAmb	IAmb	12 39 31.5	
	comp=Z,5.1nm,1.1s						
ANM	Nome	56.05	337	P	P	12 39 40.9	+0.8
ANM				IAmb	IAmb	12 39 41.8	
	comp=Z,10.0nm,1.4s						
NVAR	Mina Array Bea	56.40	291	P	P	12 39 45.6	+2.3
	comp=Z,0.5nm,0.7s,baz=71,slow=6.4,SNR=4.1 comp=Z,0.5nm,0.7s						
BVAR	Borovoye Array	57.10	44	P	P	12 39 46.8	-0.9
	comp=Z,0.7nm,0.8s,baz=336,slow=9.7,SNR=2.6 comp=Z,0.7nm,0.8s						
KURBB	Kurchatov Array	62.21	41	P	P	12 40 22.1	-0.8
	comp=Z,0.8nm,0.3s,baz=338,slow=7.0,SNR=2.1 comp=Z,0.8nm,0.3s						
KK31	Karatay Array	64.63	51	P	P	12 40 39.9	+0.8
MAKZ	Makanchi	66.64	42	P	P	12 40 52.1	+0.1
MAKZ				IAmb	IAmb	12 40 53.8	
	comp=Z,3.4nm,1.2s						
MKAR	Makanchi Array	66.77	42	P	P	12 40 51.7	-1.2
	comp=Z,0.2nm,0.5s,baz=318,slow=1.9,SNR=2.3 comp=Z,0.2nm,0.5s						
BTK	Batken	67.14	53	P	P	12 40 55.6	+0.2
PAYG	Puerto Ayora	70.62	240	P	P	12 41 16.1	-1.1
SONM	Songino Array	73.81	26	P	P	12 41 35.7	-0.4
	comp=Z,2.1nm,1.1s,baz=311,slow=4.9,SNR=8.5 comp=Z,2.1nm,1.1s						
ASAR	Alice Springs	148.99	20	PKPbc	PKPdf	12 49 46.6	+1.0
	comp=Z,0.8nm,0.9s,baz=353,slow=2.4,SNR=7.6						

*NEIC **29** 12:33:24.4±1.5,56°.13N±0°.09×149°.9W±0°.1,h21km±10km, ML3.5/46,ML3.3(AEIC),Error ellipse: s-maj=13.3km s-min=7.5km az=162.0*

*AEIC **29** 12:33:27.4±1.7,56°.12N±0°.10×149°.80W±0°.10,h11km±8km, Error ellipse: s-maj=14.3km s-min=7.5km az=169.0*

ISC 29 12:33:23.2±1.4,56°.18N±0°.09×149°.93W±0°.06,h10km, n155,σ0s84/145,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.13	301		Pn	12 33 59.1	+0.4
OHAK					Sn	12 34 24.0	-1.2
OHAK	Old Harbor	2.13	301	IAML		12 34 24.2	
	comp=N,199nm,0.2s						
OHAK	Old Harbor	2.13	301	P	Pn	12 33 59.3	+0.6
OHAK	Old Harbor	2.13	301	P	Pn	12 33 59.1	+0.4
	baz=119						
OHAK				S	Sn	12 34 24.0	-1.2
	baz=119						
KDAK	Kodiak Island	2.17	319		Pn	12 34 00.1	+0.8
KDAK					Sn	12 34 25.2	-0.9
SII	Sitkinak Islan	2.40	281		Pn	12 34 02.9	+0.5
SII					Sn	12 34 30.3	-1.6
SII	Sitkinak Islan	2.40	281	IAML		12 34 36.1	
	comp=N,132nm,0.7s						
SII	Sitkinak Islan	2.40	281	P	Pn	12 34 02.9	+0.5
SII	Sitkinak Islan	2.40	281	P	Pn	12 34 02.9	+0.5
	baz=98						
SII				S	Sn	12 34 30.3	-1.6
	baz=98						
Q20K	Shuyak Island	2.78	332	P	Pn	12 34 08.2	+0.6
	baz=150						
Q20K				S	Sn	12 34 40.7	-0.5
	baz=150						
SYI	Shuyak Island	2.78	332		Pn	12 34 08.2	+0.6
SYI					Sn	12 34 40.7	-0.5
R18K	Karluk	2.84	301		Pn	12 34 09.3	+0.8
R18K					Sn	12 34 41.8	-1.0
R18K	Karluk	2.84	301	IAML		12 34 43.3	
	comp=N,111nm,0.3s						
R18K				IAML		12 34 44.9	
	comp=E,108nm,0.7s						
R18K	Karluk	2.84	301	P	Pn	12 34 09.3	+0.8
	baz=118						
R18K				S	Sn	12 34 41.8	-1.0
	baz=118						
Q19K	Cape Douglas,	3.41	326		Pn	12 34 17.2	+0.9
Q19K	Cape Douglas,	3.41	326	IAML		12 35 05.0	
	comp=E,170nm,0.9s						
Q19K				IAML		12 35 09.2	
	comp=N,151nm,1.4s						
Q19K	Cape Douglas,	3.41	326	P	Pn	12 34 17.2	+0.9
	baz=143						
KAHG	Katmai Hook Gl	3.41	315		Pn	12 34 17.8	+1.3
CNPM	China Poot	3.43	349		Pn	12 34 16.8	+0.2
CNPM					Sn	12 34 56.1	-1.2
CNPM	China Poot	3.43	349	IAML		12 34 57.9	
	comp=E,60nm,0.7s						
BRSE	Bradley Lake S	3.60	353		Pn	12 34 18.6	-0.3
BRSE	Bradley Lake S	3.60	353	P	Pn	12 34 18.6	-0.3
	baz=173						
HOM	Homer	3.60	346		Pn	12 34 20.2	+1.2
HOM	Homer	3.60	346	IAML		12 35 55.4	
	comp=N,237nm,1.2s						
HOM	Homer	3.60	346	P	Pn	12 34 20.2	+1.2
	baz=164						
BRLK	Bradley Lake	3.63	352		Pn	12 34 18.9	-0.5
BRLK	Bradley Lake	3.63	352	IAML		12 35 01.9	
	comp=E,49nm,1.5s						
BRLK				IAML		12 35 04.8	
	comp=N,40nm,0.9s						
ANCK	Angle Creek	3.64	306		Pn	12 34 21.1	+1.4
Q23K	Middleton Isla	3.78	29	Pn	Pn	12 34 21.2	-0.2
MID	Middleton Isla	3.78	29	Pn	Pn	12 34 21.6	+0.2
MID				IAML		12 36 40.1	
	comp=N,199nm,1.4s						
CNTC	Contact Creek	3.85	305		Pn	12 34 24.1	+1.6
Q17K	Contact Creek	3.85	305	P	Pn	12 34 24.1	+1.6
	baz=121						
P19K	Oil Pt	3.90	335		Pn	12 34 24.4	+1.3
P19K	Oil Pt	3.90	335	IAML		12 35 12.8	
	comp=N,90nm,1.4s						
P19K				IAML		12 35 13.1	
	comp=E,125nm,1.4s						
P19K	Oil Pt	3.90	335	P	Pn	12 34 24.4	+1.3
	baz=152						
SEW	Seward	3.94	3		Pn	12 34 23.2	-0.4
SEW	Seward	3.94	3	P	Pn	12 34 23.2	-0.4
	baz=184						
P23K	Montague Islan	4.05	18		Pn	12 34 25.1	-0.1
P23K	Montague Islan	4.05	18	P	Pn	12 34 25.1	-0.1
	baz=200						
O20K	Slope Mountain	4.16	341		Pn	12 34 27.2	+0.4
O20K	Slope Mountain	4.16	341	P	Pn	12 34 27.2	+0.4
	baz=159						
IVE	Iliamna Volcan	4.18	338		Pn	12 34 27.2	+0.2
P18K	Big Mountain,	4.29	321		Pn	12 34 29.1	+0.7
P18K	Big Mountain,	4.29	321	P	Pn	12 34 29.2	+0.7
	baz=137						
O22K	Cooper Landing	4.31	1		Pn	12 34 28.8	0.0
O22K	Cooper Landing	4.31	1	IAML		12 37 10.3	
	comp=E,106nm,0.8s						
O22K	Cooper Landing	4.31	1	P	Pn	12 34 28.8	0.0
	baz=181						
SLKM	Skilak Lake	4.34	358		Pn	12 34 28.7	-0.5
RED	Redoubt Volcan	4.51	342		Pn	12 34 31.1	-0.4
RSO	Redoubt South	4.54	342		Pn	12 34 30.0	-2.2
RDWB	Redoubt West	4.58	342		Pn	12 34 32.1	-0.5
HIN	Hinchinbrook I	4.60	22	Pn	Pn	12 34 32.6	0.0
HIN				IAML		12 35 25.2	
	comp=N,70nm,0.4s						
HIN				IAML		12 35 29.0	
	comp=E,61nm,1.5s						
O19K	Port Alsworth	4.65	332		Pn	12 34 33.7	+0.4
O19K	Port Alsworth	4.65	332	IAML		12 35 30.1	
	comp=E,75nm,0.4s						
O19K				IAML		12 35 31.8	
	comp=N,60nm,0.5s						
O19K	Port Alsworth	4.65	332	P	Pn	12 34 33.7	+0.4
	baz=148						
DFR	Drift River	4.66	343		Pn	12 34 33.8	+0.3
KAIM	Kayak Island	4.76	36		Pn	12 34 35.0	+0.1
KAIM	Kayak Island	4.76	36	P	Pn	12 34 35.0	+0.1
	baz=220						
EYAK	Cordova Ski Ar	4.90	25		Pn	12 34 37.0	+0.2
EYAK	Cordova Ski Ar	4.90	25	P	Pn	12 34 38.1	+1.3
EYAK	Cordova Ski Ar	4.90	25	P	Pn	12 34 37.0	+0.2
	baz=208						
RC01	Rabbit Creek A	4.92	1		Pn	12 34 37.1	0.0
RC01	Rabbit Creek A	4.92	1	IAML		12 35 34.7	
	comp=N,23nm,0.4s						
RC01				IAML		12 35 36.1	
	comp=E,26nm,0.3s						
RC01	Rabbit Creek A	4.92	1	P	Pn	12 34 37.1	0.0
	baz=181						
FID	Port Fidalgo	4.93	20		Pn	12 34 37.0	-0.2
RAGM	Ragged Mountai	5.04	31		Pn	12 34 39.0	+0.1
GOAT	Goat Mountain	5.19	30		Pn	12 34 41.3	+0.4
N19K	Bonanza Creek	5.22	335		Pn	12 34 41.4	+0.1
N19K	Bonanza Creek	5.22	335	P	Pn	12 34 41.4	+0.1
	baz=151						
KNK	Knik Glacier	5.30	8		Pn	12 34 42.3	-0.1
KNK	Knik Glacier	5.30	8	IAML		12 35 54.6	
	comp=E,19nm,1.3s						
KNK				IAML		12 35 55.6	
	comp=N,16nm,1.4s						
KNK	Knik Glacier	5.30	8	P	Pn	12 34 42.3	-0.1
	baz=189						
SUA	Susitna One	5.32	356	Pn	Pn	12 34 42.2	-0.4
SUA				IAML		12 35 29.6	
	comp=E,11nm,1.1s						
SUA				IAML		12 35 49.4	
	comp=N,11nm,1.1s						
BERG	Berg Lake	5.35	35		Pn	12 34 43.2	+0.2
PMR	Palmer	5.44	4	Pn	Pn	12 34 44.4	+0.2
SNH	Sunshine Point	5.49	40		Pn	12 34 45.1	+0.2
N18K	Kilae Creek	5.49	328		Pn	12 34 45.5	+0.6
N18K	Kilae Creek	5.49	328	P	Pn	12 34 45.5	+0.6
	baz=143						
BMRM	Bremner River	5.55	28		Pn	12 34 46.4	+0.6
BMRM	Bremner River	5.55	28	P	Pn	12 34 46.3	+0.6
	baz=212						
CNBA	Chernabura Isl	5.66	260	Pn	Pn	12 34 46.4	-0.8
SML	Sawmill	5.70	8		Pn	12 34 48.7	+0.8
SML	Sawmill	5.70	8	P	Pn	12 34 48.7	+0.8
	baz=189						
KLU	Klutina	5.72	20		Pn	12 34 48.9	+0.7
KLU	Klutina	5.72	20	P	Pn	12 34 48.9	+0.7
	baz=203						
BARK	Barkley Ridge	5.77	40		Pn	12 34 49.5	+0.7
SCM	Sheep Creek Mo	5.83	12		Pn	12 34 50.5	+0.9
SCM	Sheep Creek Mo	5.83	12	P	Pn	12 34 50.5	+0.9
	baz=194						
SKT	Skwentna	5.88	353		Pn	12 34 49.9	-0.3
M20K	Styx River	5.95	345		Pn	12 34 51.5	+0.2
M20K	Styx River	5.95	345	P	Pn	12 34 51.5	+0.2
	baz=162						
SDPT	Sand Point	6.01	266		Pn	12 34 53.2	+1.1
SDPT	Sand Point	6.01	266	P	Pn	12 34 53.1	+1.0
SDPT	Sand Point	6.01	266	P	Pn	12 34 53.2	+1.1
	baz=78						
VRDI	Verde Repeater	6.08	31		Pn	12 34 53.6	+0.4
N25K	Chitina, Valde	6.10	25		Pn	12 34 54.0	+0.6
N25K	Chitina, Valde	6.10	25	P	Pn	12 34 54.0	+0.6
	baz=209						

GLB	Gilahina Butte	6.16	29			Pn	12 34 54.4	+0.3
M19K	Big River Lodg	6.18	340	Pn		Pn	12 34 55.9	+1.5
KIAG	Kiagna River	6.19	37			Pn	12 34 55.0	+0.3
M24K	Tolsona, Glenn	6.25	16			Pn	12 34 56.3	+1.0
M24K	Tolsona, Glenn	6.25	16	P		Pn	12 34 56.3	+1.0
	baz=199							
SAMH	Samovar Hills	6.25	47			Pn	12 34 56.5	+1.1
MCARA	McCarthy VSAT	6.33	32			Pn	12 34 57.4	+0.9
MCARA	McCarthy VSAT	6.33	32	P		Pn	12 34 57.4	+0.9
	baz=217							
PTPK	Patty Peak	6.35	35			Pn	12 34 57.7	+0.8
PCA	Pinnacle	6.45	49			Pn	12 34 58.7	+0.5
PINM	Pinnacle	6.45	49	P		Pn	12 34 58.7	+0.5
	baz=236							
WAT6	Susitna Watana	6.52	9			Pn	12 34 59.6	+0.5
WAT6	Susitna Watana	6.52	9	P		Pn	12 34 59.6	+0.5
	baz=191							
BARN	Barnard Glacie	6.52	38			Pn	12 34 59.9	+0.7
CTG	Chitna Glacier	6.57	40	P		Pn	12 35 00.5	+0.7
	baz=226							
CTGM	Chitina Glacie	6.57	40			Pn	12 35 00.5	+0.6
LOGN	Logan Glacier	6.60	41			Pn	12 35 00.5	+0.3
PNL	Peninsula	6.61	54			Pn	12 35 00.9	+0.6
PNL	Peninsula	6.61	54	P		Pn	12 35 00.9	+0.6
	baz=242							
N15K	Kwethluk River	6.70	311	Pn		Pn	12 35 02.7	+1.3
M16K	Timber Creek	6.77	320	Pn		Pn	12 35 03.3	+0.9
DHY	Denali Highway	7.04	10			Pn	12 35 07.5	+1.2
DHY	Denali Highway	7.04	10	P		Pn	12 35 07.5	+1.2
	baz=192							
O29M	Mount Kennedy	7.27	51			Pn	12 35 10.6	+1.1
O29M	Mount Kennedy	7.27	51	P		Pn	12 35 10.6	+1.1
	baz=240							
TRF	Thorofare Moun	7.29	359	Pn		Pn	12 35 10.9	+1.1
P29M	Windy Craggy	7.36	57			Pn	12 35 10.9	+0.4
P29M	Windy Craggy	7.36	57	P		Pn	12 35 10.9	+0.4
	baz=247							
KTH	Kantishna Hill	7.41	357			Pn	12 35 11.9	+0.5
M27K	Edge Creek, AK	7.44	30	Pn		Pn	12 35 12.9	+1.1
K17K	Iditarod	7.81	330	Pn		Pn	12 35 16.8	0.0
BPAW	Bear Paw Mtn.	7.96	357	Pn		Pn	12 35 19.4	+0.6
HYT	Haines Junctio	7.99	49	Pn		Pn	12 35 19.5	+0.1
RIDG	Independent Ri	8.00	16	Pn		Pn	12 35 18.9	-0.4
BCAR	Beaver Creek A	8.04	27	Pn		Pn	12 35 18.8	-1.1
SIT	Sitka	8.10	78	P		Pn	12 35 18.1	-2.6
J20K	Nowinta River	8.29	347	Pn		Pn	12 35 21.8	-1.5
HDA	Harding Lake	8.38	9	Pn		Pn	12 35 26.5	+1.9
NEA2	Nenana	8.45	3			Pn	12 35 26.8	+1.3
N30M	Aishikik Lake	8.50	46	Pn		Pn	12 35 26.4	+0.2
CCB	Clear Creek Bu	8.56	6	Pn		Pn	12 35 27.8	+0.8
O30N	Mendenhall	8.58	52	Pn		Pn	12 35 29.7	+2.3
M29M	Somme Creek	8.58	38	Pn		Pn	12 35 28.5	+1.1
IL31		8.75	9	Pn		Pn	12 35 31.6	+2.1
ILAR	Eielson Array	8.75	9	Pn		Pn	12 35 30.6	+1.0
J25K	Salcha River,	8.75	13	Pn		Pn	12 35 30.2	+0.5
COLA	College	8.78	6	P		Pn	12 35 32.7	+2.7
MDM	Murphy Dome	8.85	5	Pn		Pn	12 35 30.7	-0.3
J26L	Joseph Creek	8.92	18	Pn		Pn	12 35 32.6	+0.6
N31M	Braeburn, Yuko	9.05	48	Pn		Pn	12 35 34.4	+0.7
I21K	Tanana	9.09	355	Pn		Pn	12 35 35.7	+1.5
L29M	L29M	9.15	36	Pn		Pn	12 35 35.7	+0.6
P32M	Atlin	9.28	62	Pn		Pn	12 35 36.8	-0.1
H21K	Melozitna Rive	9.61	353	Pn		Pn	12 35 41.8	+0.4
UNV	Unalaska Valle	9.80	263	P		Pn	12 35 43.9	-0.1
K29M	Barlow Dome	9.86	34	Pn		Pn	12 35 45.2	+0.3
IMAR	Indian Mountai	10.01	351	Pn		Pn	12 35 47.7	+0.9
G23K	Bananza Creek	10.57	360	Pn		Pn	12 35 54.7	+0.2

IDC 29 12:33:57.1±1.5,53°.67N×35°.09W,h0km,mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=117.0km s-min=34.3km az=30.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	Pinedale Array	48.62	289	P	P	12 42 42.5	-0.1
	0.4nm,0.5s,baz=56,slow=6.7,SNR=5.4 0.4nm,0.5s						
TORD	Torodi Ar. Bea	49.77	130	P	P	12 42 51.3	-0.1
	0.7nm,0.8s,baz=338,slow=8.1,SNR=4.4 0.7nm,0.8s						
ASAR	Alice Springs	148.90	20	PKPbc	PKPbc	12 53 46.1	-0.6
	0.3nm,0.7s,baz=340,slow=2.3,SNR=1.8						

*NEIC **29** 12:42:05.7±0.8,52°.2N±0°.3×175°.2W±0°.1,h101km±6km, ML3.5/6,ML2.8(AEIC),Error ellipse: s-maj=47.3km s-min=4.7km az=169.0*

AEIC 29 12:42:06.5±0.5,52°.1N±0°.2×175°.16W±0°.08,h84km±6km, Error ellipse: s-maj=32.7km s-min=4.5km az=169.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	Great Sitkin T	0.55	270		Pn	12 42 21.8	+0.7
GSMY	Great Sitkin M	0.55	264		Pn	12 42 21.7	+0.6
ATKA	Atka Island	0.60	80		Pn	12 42 21.8	+0.2
ATKA	Atka Island	0.60	80	IAML		12 42 34.2	
	comp=E,379nm,0.3s						
GSCK	Great Sitkin C	0.62	262		Pn	12 42 22.4	+0.7
GSSP	Great Sitkin S	0.62	270		Pn	12 42 22.4	+0.7
GSSP					Sn	12 42 34.7	+1.7
KOKL	Mount Kliuchef	0.63	69		Pn	12 42 22.6	+0.7
KOFP	Korovin Flat P	0.68	75		Pn	12 42 22.8	+0.5
KOFP					Sn	12 42 35.8	+1.7
KOSE	Korovin Southe	0.73	70		Pn	12 42 23.5	+0.7
ADK	Adak	0.96	258		Pn	12 42 26.0	+0.6
ADK					Sn	12 42 40.9	+1.5
ADK	Adak	0.96	258	IAML		12 42 41.4	
	comp=E,954nm,0.4s						
ADK				IAML		12 42 41.4	
	comp=E,672nm,0.4s						
KINC

baz=100
Q20K **Shuyak Island** 2.90 332 P Pn 12 43 20.1 -0.3
baz=150
Q20K S Sn 12 43 53.5 -0.8
baz=150
SYI **Shuyak Island** 2.90 332 Pn 12 43 19.8 -0.7
SYI Sn 12 43 53.5 -0.8
R18K **Karluk** 2.97 302 Pn 12 43 21.0 -0.4
R18K **Karluk** 2.97 302 IAML 12 44 00.9
comp=E,352nm,0.6s
R18K IAML 12 44 06.7
comp=N,400nm,0.5s
R18K **Karluk** 2.97 302 P Pn 12 43 21.1 -0.3
baz=119
Q19K **Cape Douglas,** 3.53 325 Pn 12 43 28.9 -0.2
Q19K **Cape Douglas,** 3.53 325 P Pn 12 43 29.0 -0.2
baz=143
CNPM **China Poot** 3.53 348 Pn Pn 12 43 28.5 -0.6
CNPM IAML 12 44 09.7
comp=E,201nm,0.9s
CNPM **China Poot** 3.53 348 Sn 12 44 08.6 -1.5
KAHG **Katmai Hook Gl** 3.54 315 Pn 12 43 29.6 +0.3
KCE **Katmai Mt Cerb** 3.66 308 Pn 12 43 31.4 +0.5
BRSE **Bradley Lake S** 3.70 352 Pn 12 43 30.0 -1.4
BRSE Sn 12 44 12.4 -1.7
BRSE **Bradley Lake S** 3.70 352 P Pn 12 43 30.3 -1.2
baz=172
ACHA **Angle Creek He** 3.70 307 Pn 12 43 31.3 -0.3
HOM **Homer** 3.71 345 Pn Pn 12 43 30.2 -1.5
HOM IAML 12 44 28.0
comp=E,523nm,2.3s
HOM IAML 12 44 33.9
comp=N,419nm,0.9s
HOM **Homer** 3.71 345 P Pn 12 43 30.9 -0.7
baz=164
BRLK **Bradley Lake** 3.73 351 Pn 12 43 30.6 -1.3
BRLK **Bradley Lake** 3.73 351 IAML 12 44 16.9
comp=N,202nm,1.3s
BRLK IAML 12 44 20.0
comp=E,185nm,0.6s
ANCK **Angle Creek** 3.77 306 Pn 12 43 32.6 +0.1
KVTA **Katmai Vly 10** 3.78 310 Pn 12 43 33.0 +0.4
Q23K **Middleton Isla** 3.81 27 Pn Pn 12 43 32.1 -0.9
Q23K IAML 12 44 23.5
comp=E,330nm,3.6s
Q23K IAML 12 45 17.5
comp=N,281nm,3.3s
MID **Middleton Isla** 3.81 27 Pn Pn 12 43 32.3 -0.7
MID IAML 12 44 23.5
comp=E,342nm,3.6s
MID IAML 12 45 19.0
comp=N,270nm,3.9s
MID **Middleton Isla** 3.81 27 P Pn 12 43 32.3 -0.7
KAHC **Katmai Hardscr** 3.83 314 Pn 12 43 33.7 +0.4
KAHC **Katmai Hardscr** 3.83 314 P Pn 12 43 33.7 +0.4
baz=131
AUCH **Augustine Cone** 3.83 330 Pn 12 43 33.5 +0.2
AUL **Augustine Lava** 3.84 331 Pn 12 43 33.7 +0.3
CNTC **Contact Creek** 3.98 306 Pn 12 43 35.1 -0.3
Q17K **Contact Creek** 3.98 306 P Pn 12 43 35.1 -0.3
baz=121
KELA **Mount Kelaz** 4.01 308 Pn 12 43 35.9 +0.1
P19K **Oil Pt** 4.02 334 Pn Pn 12 43 35.2 -0.7
P19K IAML 12 44 27.5
comp=N,459nm,0.6s
P19K IAML 12 44 27.7
comp=E,378nm,0.6s
P19K **Oil Pt** 4.02 334 P Pn 12 43 35.8 -0.1
baz=152
SEW **Seward** 4.03 2 Pn 12 43 35.4 -0.6
P23K **Montague Islan** 4.11 17 Pn 12 43 36.3 -0.8
P23K **Montague Islan** 4.11 17 P Pn 12 43 36.8 -0.3
baz=199
PLK1 **Peulik 1** 4.12 297 Pn 12 43 36.7 -0.5
O20K **Slope Mountain** 4.28 340 Pn 12 43 38.1 -1.4
O20K **Slope Mountain** 4.28 340 P Pn 12 43 38.5 -1.0
baz=159
IVE **Iliamna Volcan** 4.30 338 Pn 12 43 38.6 -1.1
O22K **Cooper Landing** 4.40 0 Pn 12 43 40.4 -0.7
O22K **Cooper Landing** 4.40 0 P Pn 12 43 40.4 -0.7
baz=181
P18K **Big Mountain,** 4.42 321 Pn 12 43 40.3 -1.0
P18K **Big Mountain,** 4.42 321 P Pn 12 43 40.6 -0.8
baz=137
SLKM **Skilak Lake** 4.43 357 Pn 12 43 40.0 -1.6
R16K **Pilot Point** 4.54 292 Pn 12 43 43.3 +0.4
Q16K **King Salmon** 4.54 308 Pn 12 43 43.1 +0.1
Q16K **King Salmon** 4.54 308 P Pn 12 43 43.2 +0.2
baz=122
RED **Redoubt Volcan** 4.62 341 Pn 12 43 42.5 -1.7
HIN **Hinchinbrook I** 4.65 20 Pn 12 43 44.0 -0.5
HIN **Hinchinbrook I** 4.65 20 IAML 12 44 43.4
comp=E,215nm,1.0s
HIN IAML 12 44 46.5
comp=N,233nm,1.5s
RSO **Redoubt South** 4.66 341 Pn 12 43 44.8 0.0
RDWB **Redoubt West** 4.70 341 Pn 12 43 43.6 -1.7
RDT **Redoubt** 4.71 344 Pn 12 43 43.6 -1.7
O18K **Koktuh Hills** 4.76 325 Pn 12 43 46.0 0.0
O18K IAML 12 44 42.1
comp=N,101nm,0.8s
O18K IAML 12 45 07.5
comp=E,80nm,3.2s
O18K **Koktuh Hills** 4.76 325 P Pn 12 43 45.5 -0.5
baz=141
DFR **Drift River** 4.77 342 Pn 12 43 44.9 -1.3
O19K **Port Alsworth** 4.77 331 Pn 12 43 45.7 -0.4
O19K **Port Alsworth** 4.77 331 P Pn 12 43 45.3 -0.8
baz=148
KAIM **Kayak Island** 4.78 34 Pn Pn 12 43 45.9 -0.4
KAIM IAML 12 45 43.4
comp=E,230nm,2.8s
NCT **North Crescent** 4.78 341 Pn 12 43 44.6 -1.8
CHGN **Chignik** 4.84 276 Pn Pn 12 43 47.2 +0.1
CHGN IAML 12 44 45.0
comp=E,96nm,0.8s
CHGN IAML 12 44 46.1
comp=N,124nm,2.0s
EYAK **Cordova Ski Ar** 4.94 24 Pn 12 43 47.7 -0.8
EYAK **Cordova Ski Ar** 4.94 24 P Pn 12 43 48.3 -0.2
EYAK **Cordova Ski Ar** 4.94 24 P Pn 12 43 48.5 0.0
baz=207
RC01 **Rabbit Creek A** 5.01 0 Pn 12 43 48.3 -1.1
RC01 IAML 12 44 48.7
comp=E,85nm,0.8s
RC01 IAML 12 44 50.6
comp=N,54nm,0.7s
RC01 **Rabbit Creek A** 5.01 0 P Pn 12 43 48.7 -0.7
baz=181
RAGM **Ragged Mountai** 5.08 30 Pn 12 43 50.5 +0.1
GOAT **Goat Mountain** 5.22 28 Pn 12 43 52.3 -0.1
N20K **Mount Spurr** 5.28 347 P Pn 12 43 51.9 -1.4
baz=166
SPCR **Spurr Chakacha** 5.28 347 Pn 12 43 51.7 -1.5
P16K **Nushagak River** 5.32 307 Pn 12 43 53.4 -0.2
P16K **Nushagak River** 5.32 307 P Pn 12 43 54.1 +0.5
baz=121
SPCP **Crater Peak Br** 5.34 347 Pn 12 43 54.5 +0.4
N19K **Bonanza Creek** 5.34 334 Pn 12 43 53.0 -1.1
SPCG **Spurr Capps Gl** 5.35 348 Pn 12 43 53.1 -1.0
BERG **Berg Lake** 5.37 34 Pn 12 43 54.2 -0.1
KNK **Knik Glacier** 5.38 7 Pn 12 43 54.3 -0.2
DIV **Divide** 5.46 21 Pn 12 43 55.4 -0.3
SNH **Sunshine Point** 5.50 39 Pn Pn 12 43 55.4 -0.7
PMR **Palmer** 5.53 3 Pn 12 43 56.9 +0.5
PMR **Palmer** 5.53 3 P Pn 12 43 57.3 +0.8
STLK **Strandline Lak** 5.53 350 Pn 12 43 55.7 -0.9
BMRM **Bremner River** 5.58 27 Pn 12 43 57.0 -0.4
BMRM **Bremner River** 5.58 27 P Pn 12 43 57.5 +0.1
baz=211
N18K **Kilae Creek** 5.62 328 Pn 12 43 57.2 -0.6
N18K **Kilae Creek** 5.62 328 P Pn 12 43 57.1 -0.6
baz=143
O16K **Kokwok River B** 5.67 312 Pn 12 43 58.5 0.0
CNBA **Chernabura Isl** 5.74 261 Pn Pn 12 43 58.7 -0.7
KLU **Klutina** 5.77 19 Pn Pn 12 44 00.1 +0.1
KLU **Klutina** 5.77 19 P Pn 12 43 60.0 0.0
baz=202
BARK **Barkley Ridge** 5.78 39 Pn 12 43 59.9 -0.2
SML **Sawmill** 5.78 7 Pn 12 44 00.1 0.0
SML **Sawmill** 5.78 7 P Pn 12 44 00.2 +0.1
baz=188
SCM **Sheep Creek Mo** 5.89 11 Pn 12 44 02.3 +0.7
SCM **Sheep Creek Mo** 5.89 11 P Pn 12 44 02.5 +0.8

baz=194
N17K **Nushagak Hills** 5.92 322 Pn 12 44 01.1 -0.8
SKT **Skwentna** 5.98 352 Pn 12 44 01.8 -0.9
SKT **Skwentna** 5.98 352 P Pn 12 44 02.0 -0.7
baz=171
M20K **Styx River** 6.06 345 Pn 12 44 02.6 -1.3
SDPT **Sand Point** 6.10 267 Pn Pn 12 44 03.4 -1.0
SDPT **Sand Point** 6.10 267 P Pn 12 44 03.7 -0.7
VRDI **Verde Repeater** 6.11 30 Pn 12 44 04.4 -0.3
N25K **Chitina, Valde** 6.14 24 Pn 12 44 05.0 -0.1
GLB **Gilahina Butte** 6.19 28 Pn 12 44 05.4 -0.3
KIAG **Kiagna River** 6.20 36 Pn 12 44 05.7 -0.3
O15K **Ungalikthiuk R** 6.22 304 Pn 12 44 06.3 +0.2
SAMH **Samovar Hills** 6.25 46 Pn 12 44 07.4 +0.9
M18K **Stony River** 6.26 332 Pn 12 44 05.6 -1.0
M19K **Big River Lodg** 6.30 340 Pn 12 44 07.8 +0.7
M24K **Tolsona, Glenn** 6.31 16 Pn 12 44 08.1 +0.8
CUT **Chulitna** 6.34 358 Pn Pn 12 44 08.3 +0.6
MCARA **McCarthy VSAT** 6.36 31 Pn 12 44 08.1 +0.2
PTPK **Patty Peak** 6.37 34 Pn 12 44 08.1 -0.2
PCA **Pinnacle** 6.44 48 Pn 12 44 09.7 +0.5
N16K **Nishlik Lake** 6.47 316 Pn 12 44 10.1 +0.7
BARN **Barnard Glacie** 6.54 37 Pn 12 44 10.5 0.0
CTGM **Chitina Glacie** 6.58 39 Pn 12 44 11.2 0.0
PNL **Peninsula** 6.59 53 Pn 12 44 11.4 +0.3
WAT6 **Susitna Watana** 6.59 8 Pn 12 44 11.5 +0.3
LOGN **Logan Glacier** 6.60 40 Pn 12 44 11.5 0.0
L19K **White Mountain** 6.64 339 Pn Pn 12 44 09.9 -1.9
M17K **Holitna River** 6.65 326 Pn 12 44 11.2 -0.8
WAT7 **Susitna Watana** 6.78 4 Pn 12 44 13.6 -0.2
N15K **Kwethluk River** 6.83 311 Pn 12 44 14.7 +0.4
M16K **Timber Creek** 6.89 320 Pn Pn 12 44 15.1 -0.2
O14K **Tigyukauivet M** 6.93 302 Pn 12 44 16.0 +0.2
PN7A **Pavlof North-7** 6.94 270 Pn 12 44 15.8 -0.1
DHY **Denali Highway** 7.11 9 Pn 12 44 19.2 +0.8
M26K **Nabesna, AK** 7.21 26 Pn 12 44 19.8 +0.1
O29M **Mount Kennedy** 7.26 50 Pn 12 44 20.9 +0.5
P29M **Windy Craggy** 7.33 56 Pn 12 44 21.2 0.0
M15K **Kasigluk River** 7.36 313 Pn 12 44 21.8 +0.1
TRF **Thorofare Moun** 7.39 358 Pn Pn 12 44 22.0 -0.2
N14K **Kuskokwak Cree** 7.41 306 Pn 12 44 22.5 +0.3
CAST **Castle Rocks** 7.44 352 Pn 12 44 22.7 -0.1
YUK3 **Moose Creek** 7.45 36 Pn 12 44 24.0 +0.8
M27K **Edge Creek, AK** 7.47 29 Pn 12 44 23.9 +0.7
L17K **Donlin** 7.48 328 Pn 12 44 23.6 +0.3
KTH **Kantishna Hill** 7.51 356 Pn 12 44 23.6 -0.1
L16K **Owhat River** 7.55 322 Pn Pn 12 44 24.9 +0.7
TTA **Tatalina** 7.56 338 Pn Pn 12 44 22.5 -2.0
TTA **Tatalina** 7.56 338 P Pn 12 44 23.7 -0.7
YUK7 **Dusty Glacier** 7.56 49 Pn 12 44 25.3 +0.7
K20K **Telida** 7.60 345 Pn 12 44 23.1 -1.9
S31K **Pelican** 7.62 70 Pn Pn 12 44 23.1 -2.1
L26K **Log Cabin Wild** 7.67 22 Pn 12 44 27.6 +1.6
YUK6 **Outpost Mounta** 7.69 46 Pn 12 44 27.4 +0.9
BVCY **Beaver Creek** 7.80 32 Pn 12 44 28.2 +0.4
PLBC **Pleasant Camp** 7.91 59 Pn 12 44 29.5 +0.2
M14K **Bethel** 7.92 311 Pn 12 44 29.8 +0.5
K17K **Iditarod** 7.94 330 Pn 12 44 28.6 -1.0
HYT **Haines Junctio** 7.98 49 Pn Pn 12 44 30.2 -0.1
SIT **Sitka** 8.03 77 P Pn 12 44 28.5 -2.4
BPAW **Bear Paw Mtn.** 8.06 356 Pn 12 44 30.5 -0.7
RIDG **Independent Ri** 8.06 16 Pn 12 44 32.3 +1.0
ISLZ **Isanotski Laza** 8.06 266 Pn 12 44 30.4 -0.9
L27K **Beaver Creek,** 8.06 27 Pn 12 44 31.7 +0.3
BCAR **Beaver Creek A** 8.07 27 Pn Pn 12 44 30.6 -0.9
J18K **Innoko River** 8.18 338 Pn Pn 12 44 32.0 -0.9
L15K **Ungalak Mounta** 8.25 318 Pn 12 44 34.0 +0.1
M13K **Dall Lake** 8.37 307 Pn 12 44 35.7 +0.3
J20K **Nowinta River** 8.40 347 Pn Pn 12 44 35.3 -0.6
SKAG **Skagway** 8.42 60 P Pn 12 44 35.9 -0.2
SCRK **Sand Creek** 8.42 18 Pn Pn 12 44 36.2 -0.1
J19K **Poorman** 8.45 342 Pn 12 44 35.1 -1.4
HDA **Harding Lake** 8.46 8 Pn 12 44 38.4 +1.6
N30M **Aishikik Lake** 8.49 46 Pn 12 44 38.0 +0.8
L14K **Kuka Creek** 8.53 313 Pn 12 44 37.9 +0.3
O30N **Mendenhall** 8.56 51 Pn Pn 12 44 37.8 -0.4
R32K **Eaglecrest** 8.56 69 Pn Pn 12 44 38.2 0.0
M29M **Somme Creek** 8.59 38 Pn 12 44 39.2 +0.5
JIS **Juneau Island** 8.63 69 Pn Pn 12 44 38.9 -0.2
JIS **Juneau Island** 8.63 69 P Pn 12 44 38.9 -0.2
CCB **Clear Creek Bu** 8.64 6 Pn 12 44 39.8 +0.6
K15K **Wolf Creek Mou** 8.66 321 Pn 12 44 40.0 +0.6
IL31 8.82 8 Pn 12 44 42.3 +0.6
ILAR **Eielson Array** 8.82 8 Pn Pn 12 44 42.7 +1.0
ILAR **Eielson Array** 8.82 8 Pn Pn 12 44 41.4 -0.3
comp=N,0.4nm,0.3s,baz=192,slow=13,SNR=28
ILAR Sn Sn 12 46 19.1 -0.9
comp=N,0.8nm,0.3s,baz=193,slow=23,SNR=7.9
comp=N,1.1nm,0.4s
COLA **College** 8.86 5 Pn 12 44 42.8 +0.6
COLA **College** 8.86 5 P Pn 12 44 43.4 +1.2
MDM **Murphy Dome** 8.93 4 Pn 12 44 43.9 +0.7
J25L **Joseph Creek** 8.97 17 Pn 12 44 44.9 +1.1
MLY **Manley** 8.98 357 Pn 12 44 43.6 -0.3
N31M **Braeburn, Yuko** 9.04 48 Pn Pn 12 44 45.8 +1.1
J16K **Anvik River** 9.05 327 Pn 12 44 43.7 -1.1
WHY **Whitehorse** 9.05 54 Pn Pn 12 44 46.4 +1.5
POKR **Poker Plat Res** 9.13 6 Pn 12 44 47.2 +1.4
L29M **L29M** 9.17 35 Pn 12 44 47.1 +0.7
I21K **Tanana** 9.18 354 Pn 12 44 47.5 +0.9
P32M **Atlin** 9.24 61 Pn Pn 12 44 47.1 -0.4
M30M **Minto, Yukon** 9.27 40 Pn Pn 12 44 48.9 +1.1
DAWY **Dawson** 9.52 29 Pn 12 44 52.0 +0.8
J14K **Nanvaranak Lak** 9.68 319 Pn Pn 12 44 54.1 +0.8
EGAK **Eagle** 9.68 22 Pn Pn 12 44 53.6 +0.1
H21K **Melozitna Rive** 9.71 353 Pn 12 44 51.9 -2.0
H24K **Noodor Dome** 9.82 5 Pn 12 44 57.6 +2.2
P33M **Teslin, Yukon** 9.85 58 Pn Pn 12 44 56.1 +0.2
K29M **Barlow Dome** 9.88 33 Pn Pn 12 44 57.5 +1.1
UNV **Unalaska Valle** 9.89 264 P Pn 12 44 54.7 -1.6
M31M **Drury Creek, Y** 9.97 46 Pn Pn 12 44 58.1 +0.6
H18K **Honhosa River** 10.01 339 Pn 12 44 56.9 -1.1
IMAR **Indian Mountai** 10.11 351 Pn Pn 12 44 58.8 -0.5
G23K **Bananza Creek** 10.66 359 Pn Pn 12 45 06.2 -0.7
G24K **Hadweenzic Riv** 10.70 5 Pn 12 45 08.4 +1.0
J30M **Hart River** 10.78 32 Pn Pn 12 45 10.8 +2.2
DLBC **Dease Lake** 10.93 69 Pn Pn 12 45 10.4 -0.3
DLBC **Dease Lake** 10.93 69 Pn Pn 12 45 09.8 -0.9
comp=N,0.3nm,0.3s,baz=243,slow=9.1,SNR=6.4
DLBC Sn Sn 12 47 06.8 -5.2
baz=275,slow=18
comp=N,2.7nm,0.8s
F21K **Alatna River** 11.31 353 Pn Pn 12 45 15.8 +0.1
ANM **Nome** 11.45 324 Pn Pn 12 45 18.9 +1.2
NIKH **Nikolski High** 11.52 262 P Pn 12 45 17.4 -1.2
BMAR **Burnt Mountain** 11.63 10 Pn Pn 12 45 20.1 -0.1
E25K **Arctic Village** 12.23 7 Pn Pn 12 45 28.4 +0.1
INK **Inuvik** 14.33 25 Pn Pn 12 45 58.4 +1.5
comp=N,0.1nm,0.3s,baz=215,slow=9.9,SNR=3.1
comp=N,2.9nm,0.9s
B22K **Teshekpuk Lake** 14.39 355 Pn 12 45 56.8 -0.9
YKA **Yellowknife Ar** 18.87 56 P P 12 46 53.6 -0.2
YKA **Yellowknife Ar** 18.87 56 P P 12 46 54.5 +0.6
comp=N,0.1nm,0.3s,baz=264,slow=10,SNR=17
comp=N,2.3nm,1.0s
A36M **Sachs Harbour** 18.96 23 P 12 46 56.9 +2.1
NVAR **Mina Array Bea** 27.36 117 P P 12 48 20.1 +1.0
comp=N,0.4nm,0.8s,baz=309,slow=9.1,SNR=3.0
comp=N,0.4nm,0.8s
PDAR **Pinedale Array** 28.89 100 P P 12 48 34.5 +1.8
comp=N,0.1nm,0.4s,baz=322,slow=8.6,SNR=1.6
comp=N,0.1nm,0.4s
TXAR **Lajitas Array** 42.01 110 P P 12 50 23.3 -1.8
comp=N,0.1nm,0.5s,baz=289,slow=8.5,SNR=1.7
comp=N,0.1nm,0.5s
SFJD **Kangerlussuaq** 43.40 34 LR LR 13 07 46.2
comp=N,104nm,18.2s,baz=208,slow=35
H11N2 **WAKE ISLAND Hy** 48.55 240 T T 13 43 38.5
baz=31,slow=76,SNR=12
H11N3 **WAKE ISLAND Hy** 48.56 240 T T 13 43 38.9
baz=31,slow=76,SNR=14
H11N1 **WAKE ISLAND Hy** 48.57 240 T T 13 43 41.6
baz=31,slow=76,SNR=11
H11S1 **WAKE ISLAND Hy** 49.70 239 T T 13 45 25.8
baz=29,slow=76,SNR=19
H11S2 **WAKE ISLAND Hy** 49.71 239 T T 13 45 26.9
baz=29,slow=76,SNR=16
H11S3 **WAKE ISLAND Hy** 49.71 239 T T 13 45 01.1
baz=29,slow=76,SNR=19
SONM **Songino Array** 58.56 310 P P 12 52 31.7 +1.7
comp=N,1.3nm,0.9s,baz=67,slow=6.6,SNR=8.9
comp=N,1.3nm,0.9s

ZALV **Zalesovo Beam** 61.57 327 P P 12 52 51.9 +1.5
comp=N,0.4nm,0.4s,baz=30,slow=9.9,SNR=2.3
comp=N,0.4nm,0.4s
BVAR **Borovoye Array** 66.34 335 P P 12 53 23.1 +1.3
comp=N,0.8nm,0.7s,baz=46,slow=6.2,SNR=4.1
comp=N,0.8nm,0.7s
KURBB **Kurchatov Arra** 66.36 329 P P 12 53 23.1 +1.2
comp=N,0.5nm,0.6s,baz=30,slow=6.4,SNR=4.6
comp=N,0.5nm,0.6s
MKAR **Makanchi Array** 68.59 324 P P 12 53 36.8 +0.6
comp=N,0.4nm,0.6s,baz=28,slow=6.2,SNR=5.9
comp=N,0.4nm,0.6s

IDC 29 12:48:41.2±1.3, 53°36.3N×35°00.2W, h0km, mb3.4/3, mbtmp3.6/4, ML2.5/1, Error ellipse: s-maj=85.4km s-min=27.0km az=30.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.56**	**287**	P	P	12 52 58.9	-0.4
	0.2nm,0.3s,baz=101,slow=10,SNR=3.6						
	3.1nm,0.8s						
YKA	**Yellowknife Ar**	**40.41**	**315**	P	P	12 56 20.6	+0.1
	0.3nm,0.9s,baz=62,slow=9.2,SNR=1.3						
	0.3nm,0.9s						
PDAR	**Pinedale Array**	**48.67**	**289**	P	P	12 57 26.9	-0.2
	0.3nm,0.5s,baz=64,slow=10,SNR=5.0						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**49.71**	**130**	P	P	12 57 34.9	-0.1
	0.8nm,0.8s,baz=336,slow=8.7,SNR=4.6						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**148.93**	**20**	PKPbc	PKPbc	13 08 30.2	-0.6
	0.4nm,0.8s,baz=350,slow=2.4,SNR=5.3						

IDC 29 12:50:30.6±1.4, 53°57N×35°31W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=109.9km s-min=28.6km az=27.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.38**	**110**	P	P	12 55 59.5	+0.1
	1.3nm,0.9s,baz=318,slow=8.0,SNR=4.6						
	1.3nm,0.9s						
PDAR	**Pinedale Array**	**48.52**	**289**	P	P	12 59 15.2	-0.1
	0.2nm,0.5s,baz=62,slow=8.3,SNR=3.7						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**49.81**	**130**	P	P	12 59 24.9	-0.2
	1.0nm,0.7s,baz=332,slow=8.8,SNR=5.8						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**149.05**	**19**	PKPbc	PKPbc	13 10 19.8	-0.7
	0.5nm,1.0s,baz=344,slow=2.0,SNR=1.9						

IDC 29 12:55:58.4±1.3, 53°.71N×35°.14W, h0km, mb3.5/7, mbtmp3.5/7, MS3.5/12, Error ellipse: s-maj=42.9km s-min=26.3km az=24.0

ISC 29 12:56:00.1±1.2, 53°.7N±0°.3×35°.2W±0°.2, h12km, n20, σ0.67/8, mb3.6/7, MS3.4/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.12**	**27**	LR	LR	13 02 30.4	
	comp=Z,130nm,19.5s,baz=262,slow=30						
SCHQ	**Schefferville**	**18.46**	**286**	LR	LR	13 05 56.5	
	comp=Z,201nm,18.3s,baz=132,slow=32						
NOA	**NORSAR Array B**	**25.58**	**55**	LR	LR	13 09 23.4	
	comp=Z,68nm,19.8s,baz=275,slow=32						
HFS	**Hagfors**	**26.90**	**56**	LR	LR	13 11 06.9	
	comp=Z,78nm,19.4s,baz=344,slow=34						
DAVOX	**Davos/Dischmat**	**29.22**	**85**	LR	LR	13 13 23.1	
	comp=Z,112nm,18.5s,baz=252,slow=36						
GERES	**GERESS Array B**	**30.46**	**79**	LR	LR	13 14 03.2	
	comp=Z,68nm,19.4s,baz=269,slow=36						
VRAC	**Vranov**	**31.92**	**76**	LR	LR	13 15 12.1	
	comp=Z,65nm,18.6s,baz=325,slow=36						
ULM	**Lac du Bonnet**	**36.57**	**290**	LR	LR	13 16 21.9	
	comp=Z,73nm,21.7s,baz=69,slow=34						
YKA	**Yellowknife Ar**	**40.31**	**315**	P	**P**	**13 03 36.5**	**-0.2**
	0.2nm,0.7s,baz=64,slow=9.0,SNR=1.4						
	0.2nm,0.7s						
IDI	**Anoyia**	**45.15**	**89**	LR	LR	13 23 48.1	
	comp=Z,47nm,18.1s,baz=300,slow=37						
BRTR	**Keskin Array B**	**47.34**	**78**	LR	LR	13 25 50.2	
	comp=Z,62nm,18.6s,baz=242,slow=38						
PDAR	**Pinedale Array**	**48.57**	**289**	P	**P**	**13 04 43.2**	**-0.1**
	0.4nm,0.6s,baz=54,slow=8.3,SNR=5.2						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**49.81**	**130**	P	**P**	**13 04 52.7**	**-0.1**
	1.5nm,0.9s,baz=335,slow=8.8,SNR=4.5						
	1.5nm,0.9s						
KBZ	**Khabaz**	**49.99**	**68**	LR	LR	13 26 29.6	
	comp=Z,42nm,18.3s,baz=19,slow=37						
ILAR	**Eielson Array**	**50.81**	**329**	P	**P**	**13 05 00.1**	**+0.4**
	0.2nm,0.8s,baz=49,slow=6.0,SNR=2.0						
	0.2nm,0.8s						
ANMO	**Albuquerque**	**52.04**	**279**	LR	LR	13 26 36.0	
	comp=Z,96nm,20.1s,baz=133,slow=35						
KURBB	**Kurchatov Arra**	**62.13**	**41**	P	**P**	**13 06 21.1**	**+0.5**
	0.2nm,0.4s,baz=332,slow=5.7,SNR=1.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**66.69**	**42**	P	**P**	**13 06 50.9**	**+0.4**
	0.5nm,1.0s,baz=330,slow=7.0,SNR=2.4						
	0.5nm,1.0s						
SONM	**Songino Array**	**73.73**	**26**	P	**P**	**13 07 32.7**	**-1.1**
	1.1nm,1.1s,baz=319,slow=5.9,SNR=5.5						
	1.1nm,1.1s						
ASAR	**Alice Springs**	**148.91**	**20**	PKPbc	**PKPbc**	**13 15 48.3**	**+0.7**
	0.5nm,0.7s,baz=341,slow=3.2,SNR=4.9						

IDC 29 13:01:03.2±1.1, 53°.33N×35°.38W, h0km, mb3.5/6, mbtmp3.5/7, ML2.4/1, MS3.4/2, Error ellipse: s-maj=49.6km s-min=20.5km az=25.0

ISC 29 13:01:04.3±0.9, 53°.3N±0°.3×35°.4W±0°.1, h10km, n11, σ1.29/9, mb3.6/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.44**	**288**	P	**Pn**	**13 05 19.9**	**+0.1**
	0.1nm,0.3s,baz=56,slow=11,SNR=2.0						
	2.7nm,0.9s						
FRB	**Frobisher Bay**	**19.99**	**315**	LR	LR	13 11 03.5	
	comp=Z,106nm,18.3s,baz=232,slow=30						
ESDC	**Sonseca Array**	**25.33**	**110**	P	**P**	**13 06 32.7**	**+1.6**
	1.8nm,1.0s,baz=317,slow=9.5,SNR=6.1						
	1.8nm,1.0s						
RES	**Resolute Bay**	**31.60**	**334**	LR	LR	13 19 51.7	
	comp=Z,68nm,18.5s,baz=24,slow=36						
YKA	**Yellowknife Ar**	**40.51**	**315**	P	**P**	**13 08 43.3**	**+0.4**
	0.1nm,0.6s,baz=64,slow=8.8,SNR=3.4						
	0.1nm,0.6s						
BRTR	**Keskin Array B**	**47.59**	**77**	P	**P**	**13 09 40.5**	**+0.3**
	0.5nm,0.7s,baz=298,slow=3.1,SNR=2.2						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**48.57**	**289**	P	**P**	**13 09 48.7**	**+0.9**
	0.2nm,0.6s,baz=50,slow=8.4,SNR=3.4						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**49.66**	**130**	P	**P**	**13 09 56.1**	**0.0**
	1.2nm,0.9s,baz=340,slow=8.5,SNR=6.5						
	1.2nm,0.9s						
SONM	**Songino Array**	**74.18**	**26**	P	**P**	**13 12 40.4**	**-0.5**
	0.4nm,0.8s,baz=325,slow=7.0,SNR=2.6						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**143.15**	**180**	PKP	**PKPdf**	**13 20 35.0**	**-2.0**
	1.2nm,0.9s,baz=204,slow=4.0,SNR=2.5						
ASAR	**Alice Springs**	**149.36**	**19**	PKPbc	**PKiKP**	**13 20 53.0**	**-1.5**
	0.4nm,0.6s,baz=1.1,slow=2.4,SNR=8.0						

RHSSO 29 13:04:02.6±0.6, 44°.88N×16°.85E, h4km±4km, ML1.2/3, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A051A	**Mrakovica**	**0.14**	**16**	↑*i*Pg	Pg	13 04 05.7	+0.3
A051A				*e*Sg	Sg	13 04 07.9	+0.6
BLY	**Banja Luka**	**0.27**	**119**	*e*Pg	Pg	13 04 07.0	-0.8
BLY				*e*Sg	Sg	13 04 11.9	+0.6
A050A	**Klekovaca**	**0.46**	**210**	*e*Pg	Pg	13 04 10.8	-0.6
A050A				*e*Sg	Sg	13 04 17.7	+0.3
MGRS	**Mrkonjic Grad**	**0.49**	**160**	*e*Pg	Pg	13 04 11.5	-0.5
MGRS				*e*Sg	Sg	13 04 19.1	+0.8

VIE 29 13:04:34.2±0.6, 46°.19N×15°.89E, h0km, mb1.7/1, ml1.5/2, Error ellipse: s-maj=4.0km s-min=1.6km az=85.0 36

km WSW of Varazdin Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.98**	**289**	*e*Pg	Pg	13 04 53.4	+0.4
	0.7nm,0.2s						
OBKA				*i* Sg	Sg	13 05 06.2	+0.4
	5.0nm,0.3s						
ARSA	**Arzberg**	**1.09**	**347**	*e*Sg	Sb	13 05 10.7	0.0
	0.4nm,0.2s						

*TEH **29** 13:08:58.8, 33˚.65N×45˚.68E, h10km±87km, ML2.8*
*ISN **29** 13:08:58.4±0.6, 33˚.65N×45˚.67E, h12km±3km, ML3.0*
ISC 29 13:08:59.5±1.1**, 33˚.63N**±0˚.04×**45˚.73E**±0˚.04**, h13**km**, n9, σ0s81/13, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**90**	Pg	**Pg**	**13 09 07.6**	**+0.1**
ILBA				Sg	**Sb**	**13 09 14.6**	**0.0**
IBDR	**Badra**	**0.54**	**162**	*e*Pg	**Pg**	**13 09 10.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**13 09 18.0**	**+0.7**
IGHG	**Ghaleghazi**	**0.99**	**45**	Pg	**Pb**	**13 09 17.7**	**-1.0**
BHD	**Baghdad**	**1.18**	**253**	*e*Pn	**Pg**	**13 09 22.0**	**-0.2**
BHD				AML	AML	13 09 35.6	
	comp=E,343nm,0.3s						
BHD				*e*Sn	**Sn**	**13 09 39.0**	**+1.4**
IDHR	**Dehrash**	**1.20**	**27**	Pg	**Pg**	**13 09 22.3**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.27**	**59**	Pg	**Pg**	**13 09 24.4**	**+0.5**
ILIN	**Lien**	**1.65**	**38**	Pg	**Pb**	**13 09 29.4**	**-0.4**
IKFM	**Kafar-mosalman**	**1.77**	**93**	Pn	**Pg**	**13 09 33.5**	**0.0**
RAFI	**Al-Rafai**	**1.93**	**170**	*e*Pn	**Pb**	**13 09 33.0**	**-1.4**
RAFI				*e*Sn	**Sb**	**13 09 59.0**	**+0.6**

*NEIC **29** 13:09:08.8±1.0, 56˚.37N±0˚.09×149˚.1W±0˚.1, h10km±2km, ML3.5/44, ML3.3(AEIC), Error ellipse: s-maj=14.7km s-min=10.0km az=174.0*
*AEIC **29** 13:09:12.3±1.4, 56˚.30N±0˚.08×148˚.98W±0˚.09, h8km±8km, Error ellipse: s-maj=13.0km s-min=1.9km az=148.0*
ISC 29 13:09:08.2±2.0**, 56˚.4N**±0˚.1×**149˚.06W**±0˚.06**, h10**km**, n135, σ0s90/136, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.38**	**308**		**Pn**	**13 09 48.0**	**+0.7**
KDAK					**Sn**	**13 10 15.3**	**-1.2**
OHAK	**Old Harbor**	**2.47**	**292**		**Pn**	**13 09 49.0**	**+0.4**
OHAK					**Sn**	**13 10 17.1**	**-1.6**
OHAK	**Old Harbor**	**2.47**	**292**	P	**Pn**	**13 09 49.0**	**+0.4**
	baz=108						
OHAK				S	**Sn**	**13 10 17.1**	**-1.6**
	baz=108						
Q20K	**Shuyak Island**	**2.87**	**323**	P	**Pn**	**13 09 54.8**	**+0.8**
	baz=140						
Q20K				S	**Sn**	**13 10 28.7**	**+0.1**
	baz=140						
SYI	**Shuyak Island**	**2.87**	**323**		**Pn**	**13 09 54.8**	**+0.8**
SYI					**Sn**	**13 10 28.7**	**+0.2**
CNPM	**China Poot**	**3.36**	**341**		**Pn**	**13 10 01.6**	**+0.8**
CNPM					**Sn**	**13 10 38.9**	**-1.8**
CNPM	**China Poot**	**3.36**	**341**	IAML		13 10 50.1	
	comp=N,57nm,1.4s						
BRSE	**Bradley Lake S**	**3.49**	**346**		**Pn**	**13 10 02.9**	**+0.4**
BRSE					**Sn**	**13 10 42.5**	**-1.3**
BRSE	**Bradley Lake S**	**3.49**	**346**	P	**Pn**	**13 10 02.9**	**+0.4**
	baz=164						
BRSE				S	**Sn**	**13 10 42.5**	**-1.3**
	baz=164						
BRLK	**Bradley Lake**	**3.53**	**345**		**Pn**	**13 10 03.2**	**+0.1**
BRLK					**Sn**	**13 10 43.5**	**-1.5**
BRLK	**Bradley Lake**	**3.53**	**345**	IAML		13 10 49.0	
	comp=N,40nm,1.3s						
BRLK				IAML		13 10 51.1	
	comp=E,49nm,1.4s						
Q19K	**Cape Douglas,**	**3.55**	**318**		**Pn**	**13 10 03.9**	**+0.5**
Q19K	**Cape Douglas,**	**3.55**	**318**	IAML		13 10 54.8	
	comp=N,133nm,1.3s						
Q19K	**Cape Douglas,**	**3.55**	**318**	P	**Pn**	**13 10 03.9**	**+0.5**
	baz=134						
HOM	**Homer**	**3.56**	**338**		**Pn**	**13 10 04.8**	**+1.3**
HOM					**Sn**	**13 10 46.0**	**+0.4**
HOM	**Homer**	**3.56**	**338**	P	**Pn**	**13 10 04.8**	**+1.3**
	baz=156						
HOM				S	**Sn**	**13 10 46.0**	**+0.4**
	baz=156						
KAHG	**Katmai Hook Gl**	**3.65**	**308**		**Pn**	**13 10 06.5**	**+1.7**
P23K	**Montague Islan**	**3.73**	**13**		**Pn**	**13 10 06.2**	**+0.3**
P23K	**Montague Islan**	**3.73**	**13**	P	**Pn**	**13 10 06.2**	**+0.3**
	baz=194						
SEW	**Seward**	**3.74**	**357**		**Pn**	**13 10 06.2**	**+0.3**
SEW	**Seward**	**3.74**	**357**	P	**Pn**	**13 10 06.2**	**+0.3**
	baz=177						
ANCK	**Angle Creek**	**3.94**	**300**		**Pn**	**13 10 10.7**	**+2.0**
P19K	**Oil Pt**	**3.96**	**328**		**Pn**	**13 10 10.8**	**+1.8**
P19K	**Oil Pt**	**3.96**	**328**	IAML		13 10 58.8	
	comp=N,82nm,0.8s						
P19K				IAML		13 11 01.7	
	comp=E,72nm,1.4s						
P19K	**Oil Pt**	**3.96**	**328**	P	**Pn**	**13 10 10.8**	**+1.8**
	baz=144						
Q22K	**Cooper Landing**	**4.13**	**355**	Pn	**Pn**	**13 10 11.8**	**+0.5**
CNTC	**Contact Creek**	**4.15**	**300**		**Pn**	**13 10 12.8**	**+1.1**
Q17K	**Contact Creek**	**4.15**	**300**	P	**Pn**	**13 10 12.8**	**+1.1**
	baz=114						
O20K	**Slope Mountain**	**4.16**	**335**		**Pn**	**13 10 13.0**	**+1.2**
O20K	**Slope Mountain**	**4.16**	**335**	P	**Pn**	**13 10 13.0**	**+1.2**
	baz=152						
SLKM	**Skilak Lake**	**4.19**	**352**		**Pn**	**13 10 11.9**	**-0.2**
IVE	**Iliamna Volcan**	**4.21**	**332**		**Pn**	**13 10 12.6**	**+0.2**
HIN	**Hinchinbrook I**	**4.25**	**17**		**Pn**	**13 10 13.3**	**+0.3**
HIN	**Hinchinbrook I**	**4.25**	**17**	IAML		13 11 02.0	
	comp=N,62nm,1.1s						
HIN				IAML		13 11 32.8	
	comp=E,62nm,1.2s						
KAIM	**Kayak Island**	**4.33**	**33**		**Pn**	**13 10 14.0**	**0.0**
KAIM	**Kayak Island**	**4.33**	**33**	IAML		13 11 11.2	
	comp=E,96nm,1.4s						
KAIM				IAML		13 11 50.1	
	comp=N,94nm,1.4s						
KAIM	**Kayak Island**	**4.33**	**33**	P	**Pn**	**13 10 14.0**	**0.0**
	baz=217						
P18K	**Big Mountain,**	**4.47**	**315**		**Pn**	**13 10 16.2**	**+0.3**
P18K	**Big Mountain,**	**4.47**	**315**	P	**Pn**	**13 10 16.3**	**+0.3**
	baz=130						
RED	**Redoubt Volcan**	**4.50**	**336**		**Pn**	**13 10 16.4**	**0.0**
EYAK	**Cordova Ski Ar**	**4.53**	**21**		**Pn**	**13 10 16.6**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.53**	**21**	P	**Pn**	**13 10 16.6**	**-0.2**
	baz=204						
RSO	**Redoubt South**	**4.53**	**336**	Pn	**Pn**	**13 10 15.3**	**-1.7**
RAGM	**Ragged Mountai**	**4.64**	**28**	Pn	**Pn**	**13 10 18.8**	**+0.5**
RAGM				IAML		13 11 25.5	
	comp=E,72nm,1.3s						
O19K	**Port Alsworth**	**4.73**	**326**		**Pn**	**13 10 19.8**	**+0.4**
O19K	**Port Alsworth**	**4.73**	**326**	IAML		13 11 15.1	
	comp=E,69nm,0.5s						
O19K	**Port Alsworth**	**4.73**	**326**	P	**Pn**	**13 10 19.8**	**+0.4**
	baz=142						
RC01	**Rabbit Creek A**	**4.74**	**356**		**Pn**	**13 10 19.7**	**+0.1**
RC01				IAML		13 11 14.6	
	comp=E,27nm,0.5s						
RC01				IAML		13 11 16.9	
	comp=N,22nm,1.1s						
RC01	**Rabbit Creek A**	**4.74**	**356**	P	**Pn**	**13 10 20.3**	**+0.6**
	baz=176						
BERG	**Berg Lake**	**4.92**	**33**		**Pn**	**13 10 22.2**	**+0.1**
SNH	**Sunshine Point**	**5.03**	**38**		**Pn**	**13 10 24.3**	**+0.6**
SNH	**Sunshine Point**	**5.03**	**38**	IAML		13 13 10.4	
	comp=E,57nm,1.4s						
KNK	**Knik Glacier**	**5.06**	**3**		**Pn**	**13 10 25.2**	**+1.1**
KNK	**Knik Glacier**	**5.06**	**3**	IAML		13 11 29.1	
	comp=N,20nm,1.3s						
KNK				IAML		13 11 36.9	
	comp=E,24nm,1.5s						
KNK	**Knik Glacier**	**5.06**	**3**	P	**Pn**	**13 10 25.2**	**+1.1**
	baz=184						
BMRM	**Bremner River**	**5.16**	**25**		**Pn**	**13 10 26.0**	**+0.5**
BMRM	**Bremner River**	**5.16**	**25**	P	**Pn**	**13 10 26.0**	**+0.5**
	baz=209						
CHGN	**Chignik**	**5.20**	**273**	Pn	**Pn**	**13 10 26.4**	**+0.4**
CHGN				IAML		13 13 41.5	
	comp=N,53nm,1.2s						
PMR	**Palmer**	**5.23**	**360**	Pn	**Pn**	**13 10 27.4**	**+1.0**
PMR				IAML		13 11 25.6	
	comp=N,17nm,0.9s						
PMR				IAML		13 11 27.8	
	comp=E,14nm,0.9s						
N19K	**Bonanza Creek**	**5.27**	**330**		**Pn**	**13 10 27.9**	**+0.8**
N19K	**Bonanza Creek**	**5.27**	**330**	P	**Pn**	**13 10 27.9**	**+0.8**
	baz=145						
BARK	**Barkley Ridge**	**5.31**	**38**		**Pn**	**13 10 28.1**	**+0.4**
KLU	**Klutina**	**5.38**	**16**		**Pn**	**13 10 29.2**	**+0.7**
KLU	**Klutina**	**5.38**	**16**	IAML		13 11 32.3	
	comp=N,24nm,0.7s						
KLU				IAML		13 11 34.0	
	comp=E,20nm,0.4s						
KLU	**Klutina**	**5.38**	**16**	P	**Pn**	**13 10 29.2**	**+0.7**
	baz=199						
SCM	**Sheep Creek Mo**	**5.54**	**9**		**Pn**	**13 10 31.6**	**+0.8**
SCM	**Sheep Creek Mo**	**5.54**	**9**	P	**Pn**	**13 10 31.6**	**+0.8**
	baz=190						
N18K	**Kilae Creek**	**5.60**	**323**		**Pn**	**13 10 32.3**	**+0.7**
N18K	**Kilae Creek**	**5.60**	**323**	P	**Pn**	**13 10 32.3**	**+0.7**
	baz=137						
VRDI	**Verde Repeater**	**5.67**	**29**		**Pn**	**13 10 33.2**	**+0.6**
N25K	**Chitina, Valde**	**5.73**	**22**		**Pn**	**13 10 34.2**	**+0.8**
N25K	**Chitina, Valde**	**5.73**	**22**	P	**Pn**	**13 10 34.2**	**+0.8**
	baz=206						
KIAG	**Kiagna River**	**5.75**	**35**		**Pn**	**13 10 33.9**	**+0.3**
GLB	**Gilahina Butte**	**5.76**	**26**		**Pn**	**13 10 34.4**	**+0.6**
SKT	**Skwentna**	**5.76**	**348**	Pn	**Pn**	**13 10 34.9**	**+1.1**
SAMH	**Samovar Hills**	**5.77**	**46**		**Pn**	**13 10 34.4**	**+0.5**
O16K	**Kokwok River B**	**5.78**	**308**	Pn	**Pn**	**13 10 34.3**	**+0.3**
M20K	**Styx River**	**5.90**	**341**	Pn	**Pn**	**13 10 36.0**	**+0.2**
YKU2	**Yakutat**	**5.91**	**54**	Pn	**Pn**	**13 10 35.7**	**+0.1**
MCARA	**McCarthy VSAT**	**5.92**	**29**		**Pn**	**13 10 36.8**	**+1.0**
MCARA	**McCarthy VSAT**	**5.92**	**29**	P	**Pn**	**13 10 36.8**	**+1.0**
	baz=214						
PTPK	**Patty Peak**	**5.92**	**33**		**Pn**	**13 10 36.2**	**+0.2**
PCA	**Pinnacle**	**5.96**	**48**		**Pn**	**13 10 37.2**	**+0.7**
PINM	**Pinnacle**	**5.96**	**48**	P	**Pn**	**13 10 37.2**	**+0.7**
	baz=235						
BARN	**Barnard Glacie**	**6.07**	**36**		**Pn**	**13 10 38.7**	**+0.5**
CTG	**Chitna Glacier**	**6.11**	**38**	P	**Pn**	**13 10 38.9**	**+0.3**
	baz=224						
CTGM	**Chitina Glacie**	**6.11**	**38**		**Pn**	**13 10 38.9**	**+0.2**
LOGN	**Logan Glacier**	**6.13**	**40**		**Pn**	**13 10 39.3**	**+0.3**
BCPM	**Bancas Point**	**6.14**	**50**	Pn	**Pn**	**13 10 39.5**	**+0.6**
WAT6	**Susitna Watana**	**6.26**	**6**		**Pn**	**13 10 42.1**	**+1.5**
WAT6	**Susitna Watana**	**6.26**	**6**	P	**Pn**	**13 10 42.1**	**+1.5**
	baz=187						
HARP	**HAARP**	**6.36**	**17**		**Pn**	**13 10 43.7**	**+1.8**
HARP	**HAARP**	**6.36**	**17**	P	**Pn**	**13 10 43.7**	**+1.8**
	baz=200						
L19K	**White Mountain**	**6.53**	**335**	Pn	**Pn**	**13 10 44.7**	**+0.4**
O29M	**Mount Kennedy**	**6.78**	**50**		**Pn**	**13 10 47.3**	**-0.4**
O29M	**Mount Kennedy**	**6.78**	**50**	P	**Pn**	**13 10 47.3**	**-0.4**
	baz=239						
P29M	**Windy Craggy**	**6.84**	**57**		**Pn**	**13 10 48.7**	**+0.2**
P29M	**Windy Craggy**	**6.84**	**57**	P	**Pn**	**13 10 48.7**	**+0.2**
	baz=246						
YUK3	**Moose Creek**	**6.99**	**36**		**Pn**	**13 10 52.7**	**+1.9**
YUK3	**Moose Creek**	**6.99**	**36**	P	**Pn**	**13 10 52.7**	**+1.9**
	baz=223						
M27K	**Edge Creek, AK**	**7.03**	**28**	Pn	**Pn**	**13 10 52.2**	**+1.0**
TRF	**Thorofare Moun**	**7.12**	**356**	Pn	**Pn**	**13 10 53.2**	**+0.7**
S31K	**Pelican**	**7.16**	**72**	Pn	**Pn**	**13 10 51.8**	**-1.0**
YUK6	**Outpost Mounta**	**7.21**	**46**		**Pn**	**13 10 55.5**	**+1.7**
YUK6	**Outpost Mounta**	**7.21**	**46**	P	**Pn**	**13 10 55.5**	**+1.7**
	baz=235						
CAST	**Castle Rocks**	**7.22**	**349**	Pn	**Pn**	**13 10 54.4**	**+0.6**
TTA	**Tatalina**	**7.45**	**335**	Pn	**Pn**	**13 10 57.7**	**+0.8**
HYT	**Haines Junctio**	**7.50**	**49**	Pn	**Pn**	**13 10 58.2**	**+0.6**
YUK5	**Granite Creek**	**7.52**	**46**		**Pn**	**13 10 59.9**	**+1.9**
L16K	**Owhat River**	**7.57**	**319**	Pn	**Pn**	**13 10 59.3**	**+0.8**
RIDG	**Independent Ri**	**7.68**	**14**	Pn	**Pn**	**13 11 01.2**	**+1.2**
BPAW	**Bear Paw Mtn.**	**7.81**	**354**	Pn	**Pn**	**13 11 02.7**	**+1.0**
K17K	**Iditarod**	**7.89**	**327**	Pn	**Pn**	**13 11 03.6**	**+0.6**
SKAG	**Skagway**	**7.94**	**61**	Pn	**Pn**	**13 11 04.2**	**+0.7**
N30M	**Aishikik Lake**	**8.02**	**46**	Pn	**Pn**	**13 11 05.4**	**+0.7**
J18K	**Innoko River**	**8.07**	**335**	Pn	**Pn**	**13 11 05.9**	**+0.4**
O30N	**Mendenhall**	**8.08**	**52**	Pn	**Pn**	**13 11 06.1**	**+0.6**
M29M	**Somme Creek**	**8.13**	**37**	Pn	**Pn**	**13 11 07.1**	**+0.9**
JIS	**Juneau Island**	**8.17**	**70**	Pn	**Pn**	**13 11 06.6**	**-0.1**
J20K	**Nowinta River**	**8.22**	**344**	Pn	**Pn**	**13 11 07.9**	**+0.5**
J19K	**Poorman**	**8.30**	**340**	Pn	**Pn**	**13 11 07.8**	**-0.7**
N31M	**Braeburn, Yuko**	**8.56**	**48**	Pn	**Pn**	**13 11 12.9**	**+0.8**
WHY	**Whitehorse**	**8.57**	**54**	Pn	**Pn**	**13 11 13.2**	**+0.9**
J26L	**Joseph Creek**	**8.59**	**16**	Pn	**Pn**	**13 11 13.7**	**+1.1**
MDM	**Murphy Dome**	**8.62**	**2**	Pn	**Pn**	**13 11 13.9**	**+1.0**
L14K	**Kluka Creek**	**8.63**	**311**	Pn	**Pn**	**13 11 13.9**	**+0.9**
L29M	**L29M**	**8.71**	**35**	Pn	**Pn**	**13 11 15.1**	**+0.9**
MLY	**Manley**	**8.72**	**355**	Pn	**Pn**	**13 11 14.7**	**+0.4**
P32M	**Atlin**	**8.76**	**62**	Pn	**Pn**	**13 11 15.0**	**+0.1**
M30M	**Minto, Yukon**	**8.80**	**40**	Pn	**Pn**	**13 11 15.5**	**+0.1**
J16K	**Anvik River**	**9.03**	**325**	Pn	**Pn**	**13 11 19.2**	**+0.7**
P33M	**Teslin, Yukon**	**9.37**	**59**	Pn	**Pn**	**13 11 23.4**	**+0.2**
H21K	**Melozitna Rive**	**9.48**	**351**	Pn	**Pn**	**13 11 24.9**	**+0.2**
H18K	**Honhosa River**	**9.89**	**337**	Pn	**Pn**	**13 11 30.4**	**0.0**
H17K	**Granite Mounta**	**10.09**	**333**	Pn	**Pn**	**13 11 33.0**	**0.0**

*NEIC **29** 13:22:23.7±1.6, 19˚.15N±0˚.04×155˚.50W±0˚.04, h52km±4km, Error ellipse: s-maj=6.5km s-min=3.7km az=137.0*
HVO 29 13:22:24.4±1.9**, 19˚.11N**±0˚.03×**155˚.48W**±0˚.04**, h49**km±3km**, ML2.1**/11**, ML2.5**/34(NEIC)**, Error ellipse: s-maj=7.2km s-min=3.2km az=125.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.07**	**255**		Pn	13 22 32.6	+0.6
HTC	**Hot Caves**	**0.15**	**30**		Pn	13 22 31.9	-0.4
KHU	**Kahuku**	**0.19**	**317**		Pn	13 22 32.8	0.0
KHU					Sn	13 22 37.6	-1.2
KHU	**Kahuku**	**0.19**	**317**	IAML		13 22 38.1	
	comp=N,263nm,0.6s						
KHU				IAML		13 22 40.0	
	comp=E,368nm,1.2s						
HLP	**Hilina Pali**	**0.25**	**41**		Pn	13 22 33.0	0.0
HLP	**Hilina Pali**	**0.25**	**41**	IAML		13 22 43.2	
	comp=N,284nm,1.2s						
HLP				IAML		13 22 46.3	
	comp=E,384nm,0.8s						
SDHHI	**Sand Hill**	**0.33**	**32**		Pn	13 22 33.8	-0.1
SDHHI	**Sand Hill**	**0.33**	**32**	IAML		13 22 40.6	
	comp=N,547nm,0.6s						
SDHHI				IAML		13 22 46.3	
	comp=E,421nm,1.3s						
KKO	**Keanakako`i**	**0.35**	**35**		Pn	13 22 33.6	-0.4
KKO	**Keanakako`i**	**0.35**	**35**	IAML		13 22 40.4	
	comp=E,470nm,1.2s						
KKO				IAML		13 22 50.4	
	comp=N,689nm,1.3s						
OBL	**Observatory Le**	**0.36**	**31**		Pn	13 22 33.9	-0.2
PUH	**Pauahi**	**0.36**	**43**		Pn	13 22 33.6	-0.6
PUH	**Pauahi**	**0.36**	**43**	IAML		13 22 41.2	
	comp=E,155nm,1.5s						
PUH				IAML		13 22 50.4	
	comp=N,174nm,1.5s						
BYL	**Byron's Ledge**	**0.36**	**34**		Pn	13 22 33.9	-0.3
BYL	**Byron's Ledge**	**0.36**	**34**	IAML		13 22 43.3	
	comp=E,244nm,1.2s						
BYL				IAML		13 22 52.3	
	comp=N,357nm,1.4s						
SBLHI	**Steaming Bluff**	**0.37**	**32**		Pn	13 22 33.8	-0.5
SBLHI	**Steaming Bluff**	**0.37**	**32**	IAML		13 22 50.3	
	comp=E,268nm,1.3s						
SBLHI				IAML		13 22 51.9	
	comp=N,252nm,0.6s						
MWH	**Moku'aweowe**	**0.39**	**343**		Pn	13 22 33.3	-1.6
MWH	**Moku'aweowe**	**0.39**	**343**		Sn	13 22 41.0	-1.4
MWH	**Moku'aweowe**	**0.39**	**343**	IAML		13 22 41.6	
	comp=E,300nm,0.8s						
MWH				IAML		13 22 46.6	
	comp=N,261nm,1.2s						
MLH	**Mauna Loa**	**0.39**	**13**		Pn	13 22 33.4	-1.2
MLH	**Mauna Loa**	**0.39**	**13**	IAML		13 22 40.9	
	comp=E,213nm,1.3s						
MLH				IAML		13 22 41.3	
	comp=N,230nm,0.5s						
STCH	**Steam Cracks**	**0.43**	**50**	Pn	Pn	13 22 34.2	-0.7
JCUZ	**Jacuzzi**	**0.45**	**52**	Pn	Pn	13 22 34.9	-0.2
JCUZ				IAML		13 22 55.2	
	comp=E,279nm,0.8s						
ALEP	**Alea Permanent**	**0.46**	**340**		Pn	13 22 35.4	-0.1
ALEP					Sn	13 22 41.7	-1.7
HMH	**Humu'ula Sheep**	**0.49**	**359**		Pn	13 22 34.6	-1.2
HMH					Sn	13 22 42.2	-1.7
HMH	**Humu'ula Sheep**	**0.49**	**359**	IAML		13 22 43.4	
	comp=N,256nm,0.6s						
HMH				IAML		13 22 43.5	
	comp=E,398nm,0.7s						
CPH	**Captain Cook**	**0.56**	**312**		Pn	13 22 34.7	-1.6
KHLU	**Kahalu`u**	**0.62**	**321**		Pn	13 22 37.3	+0.1
KHLU					Sn	13 22 43.8	-2.6
KHLU	**Kahalu`u**	**0.62**	**321**	IAML		13 22 44.4	
	comp=E,165nm,1.2s						
KHLU				IAML		13 22 44.5	
	comp=N,172nm,1.1s						
POHA	**Pohakuloa**	**0.65**	**355**	Pn	Pn	13 22 35.9	-1.7
POHA				IAML		13 22 49.2	
	comp=N,150nm,0.4s						
HUH	**Hualalai**	**0.67**	**330**	Pn	Pn	13 22 36.3	-1.6
HUH				IAML		13 22 52.9	
	comp=E,231nm,1.4s						
HPAH	**Hawaii Prepara**	**0.94**	**347**		Sn	13 22 50.3	-3.5
HPAH	**Hawaii Prepara**	**0.94**	**347**	Pn	Pn	13 22 39.5	-1.9
MHA	**Mahukona**	**1.15**	**340**	Pn	Pn	13 22 42.4	-1.7
OPA	**Opana**	**3.50**	**318**	Pn	Pn	13 23 15.8	-0.5

*NEIC **29** 13:28:09.1±1.2, 56˚.00N±0˚.07×150˚.26W±0˚.10, h10km±2km, ML3.6/42, ML3.5(AEIC), Error ellipse: s-maj=12.3km s-min=9.4km az=174.0*
*AEIC **29** 13:28:12.1±1.5, 55˚.87N±0˚.09×150˚.1W±0˚.1, h11km±7km, Error ellipse: s-maj=13.9km s-min=9.1km az=167.0*
ISC 29 13:28:08.0±1.8**, 56˚.0N**±0˚.1×**150˚.29W**±0˚.06**, h10**km**, n197, σ0s82/169, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.09**	**309**		**Pn**	**13 28 44.0**	**+0.9**
OHAK					**Sn**	**13 29 07.0**	**-2.1**
OHAK	**Old Harbor**	**2.09**	**309**	P	**Pn**	**13 28 43.8**	**+0.8**
OHAK	**Old Harbor**	**2.09**	**309**	P	**Pn**	**13 28 43.9**	**+0.9**
	baz=125						
OHAK				S	**Sn**	**13 29 07.0**	**-2.1**
	baz=125						
KDAK	**Kodiak Island**	**2.23**	**326**		**Pn**	**13 28 45.3**	**+0.4**
KDAK					**Sn**	**13 29 10.4**	**-2.0**
SII	**Sitkinak Islan**	**2.26**	**287**		**Pn**	**13 28 45.3**	**-0.1**
SII					**Sn**	**13 29 12.4**	**-0.8**
SII	**Sitkinak Islan**	**2.26**	**287**	IAML		13 29 38.3	
	comp=N,172nm,1.5s						
SII	**Sitkinak Islan**	**2.26**	**287**	P	**Pn**	**13 28 45.7**	**+0.3**
SII	**Sitkinak Islan**	**2.26**	**287**	P	**Pn**	**13 28 45.3**	**-0.1**
	baz=103						
SII				S	**Sn**	**13 29 12.4**	**-0.8**
	baz=103						
R18K	**Karluk**	**2.81**	**307**		**Pn**	**13 28 54.1**	**+1.2**
R18K					**Sn**	**13 29 25.2**	**-1.5**
R18K	**Karluk**	**2.81**	**307**	IAML		13 29 26.7	
	comp=E,148nm,0.6s						
R18K				IAML		13 29 26.8	
	comp=N,221nm,0.4s						
R18K	**Karluk**	**2.81**	**307**	P	**Pn**	**13 28 54.1**	**+1.2**
	baz=122						
R18K				S	**Sn**	**13 29 25.2**	**-1.5**
	baz=122						
SYI	**Shuyak Island**	**2.90**	**338**		**Pn**	**13 28 54.6**	**+0.4**
SYI					**Sn**	**13 29 28.0**	**-1.0**
SYI	**Shuyak Island**	**2.90**	**338**	IAML		13 29 30.6	
	comp=E,74nm,0.5s						
Q20K	**Shuyak Island**	**2.90**	**338**	P	**Pn**	**13 28 54.6**	**+0.4**
	baz=155						
Q20K				S	**Sn**	**13 29 28.0**	**-1.1**
	baz=155						
KAHG	**Katmai Hook Gl**	**3.44**	**320**		**Pn**	**13 29 03.5**	**+1.9**
KAHG					**Sn**	**13 29 43.5**	**+1.0**
Q19K	**Cape Douglas,**	**3.49**	**330**		**Pn**	**13 29 03.8**	**+1.5**
Q19K					**Sn**	**13 29 44.6**	**+0.9**
Q19K	**Cape Douglas,**	**3.49**	**330**	IAML		13 29 46.1	
	comp=N,203nm,1.3s						
Q19K				IAML		13 29 49.7	
	comp=E,301nm,1.3s						
Q19K	**Cape Douglas,**	**3.49**	**330**	P	**Pn**	**13 29 03.8**	**+1.5**
	baz=147						
Q19K				S	**Sn**	**13 29 44.6**	**+0.9**
	baz=147						
CNPM	**China Poot**	**3.62**	**352**		Pn	13 29 03.8	-0.3
CNPM	**China Poot**	**3.62**	**352**	IAML		13 29 50.6	
	comp=E,48nm,1.4s						
CNPM				IAML		13 29 57.6	
	comp=N,36nm,1.4s						
KVTA	**Katmai Vly 10**	**3.65**	**314**		**Pn**	**13 29 06.1**	**+1.5**
KAHC	**Katmai Hardscr**	**3.72**	**319**		**Pn**	**13 29 07.3**	**+1.7**
KAHC	**Katmai Hardscr**	**3.72**	**319**	P	**Pn**	**13 29 07.3**	**+1.7**
	baz=134						
HOM	**Homer**	**3.79**	**350**		**Pn**	**13 29 06.7**	**+0.3**
HOM	**Homer**	**3.79**	**350**	IAML		13 30 14.3	
	comp=E,220nm,1.5s						
HOM	**Homer**	**3.79**	**350**	P	**Pn**	**13 29 06.7**

*IDC **29** 13:38:30.2±1.1,55˚.79N×149˚.81W,h0km,mb3.6/7, mbtmp3.7/12,ML3.5/5,MS3.3/16,Error ellipse: s-maj=24.6km s-min=17.3km az=43.0*

*NEIC **29** 13:38:30.6±2.1,55˚.98N±0˚.08×150˚.2W±0˚.1,h10km±2km, mb4.1/2,ML4.0/44,ML3.9(AEIC),Error ellipse: s-maj=14.6km s-min=9.3km az=155.0*

*AEIC **29** 13:38:35.6±1.4,56˚.0N±0˚.1×150˚.1W±0˚.1,h12km±6km, Error ellipse: s-maj=16.3km s-min=9.6km az=168.0*

ISC 29 13:38:30.8±4.1,55˚.95N±0˚.07×150˚.08W±0˚.06, h11km±27km,n201,σ1s25/183,mb3.6/7,MS3.3/13,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**307**	Pn	**Pn**	**13 39 05.9**	**-1.1**
OHAK	**Old Harbor**	**2.18**	**307**		**Sn**	**13 39 29.8**	**-4.2**
OHAK	**Old Harbor**	**2.18**	**307**	P	**Pn**	**13 39 06.1**	**-0.9**
OHAK	**Old Harbor** baz=124	**2.18**	**307**	P	**Pn**	**13 39 06.0**	**-1.0**
OHAK	baz=124			S	**Sn**	**13 39 29.8**	**-4.2**
KDAK	**Kodiak Island**	**2.29**	**324**		**Pn**	**13 39 08.0**	**-0.5**
KDAK	**Kodiak Island**	**2.29**	**324**		**Sn**	**13 39 33.9**	**-2.8**
KDAK	**Kodiak Island** 12nm,0.3s,baz=139,slow=4.6,SNR=297	**2.29**	**324**	Pn	**Pn**	**13 39 08.2**	**-0.3**
KDAK	18nm,0.3s,baz=172,slow=14,SNR=16 33nm,0.4s			Sn	**Sn**	**13 39 33.6**	**-3.1**
SII	**Sitkinak Islan**	**2.37**	**287**	Pn	**Pn**	**13 39 08.0**	**-1.6**
SII	comp=N,426nm,0.7s			IAML		13 39 51.3	
SII	**Sitkinak Islan**	**2.37**	**287**	P	**Pn**	**13 39 08.2**	**-1.4**
SII	**Sitkinak Islan** baz=103	**2.37**	**287**	P	**Pn**	**13 39 08.4**	**-1.2**
SII	baz=103			S	**Sn**	**13 39 35.4**	**-3.2**
R18K	**Karluk**	**2.90**	**306**		**Pn**	**13 39 16.0**	**-0.8**
R18K					**Sn**	**13 39 48.1**	**-3.6**
R18K	**Karluk** comp=N,389nm,0.6s	**2.90**	**306**	IAML		13 39 52.3	
R18K	comp=E,470nm,0.4s			IAML		13 40 04.7	
R18K	**Karluk** baz=122	**2.90**	**306**	P	**Pn**	**13 39 16.0**	**-0.8**
R18K	baz=122			S	**Sn**	**13 39 48.1**	**-3.6**
Q20K	**Shuyak Island** baz=154	**2.94**	**336**	P	**Pn**	**13 39 17.5**	**0.0**
Q20K	baz=154			S	**Sn**	**13 39 50.8**	**-1.9**
SYI	**Shuyak Island**	**2.94**	**336**		**Pn**	**13 39 17.2**	**-0.2**
SYI	**Shuyak Island**	**2.94**	**336**		**Sn**	**13 39 49.7**	**-3.0**
KAHG	**Katmai Hook Gl**	**3.52**	**318**		**Pn**	**13 39 26.3**	**+0.8**
KAHG					**Sn**	**13 40 04.8**	**-2.2**
Q19K	**Cape Douglas,**	**3.55**	**329**		**Pn**	**13 39 26.5**	**+0.7**
Q19K	**Cape Douglas,** baz=146	**3.55**	**329**	P	**Pn**	**13 39 26.5**	**+0.7**
KCE	**Katmai Mt Cerb**	**3.61**	**312**		**Pn**	**13 39 27.4**	**+0.7**
CNPM	**China Poot**	**3.64**	**351**	Pn	**Pn**	**13 39 26.5**	**-0.4**
CNPM	comp=N,150nm,1.0s			IAML		13 40 16.1	
ACHA	**Angle Creek He**	**3.65**	**310**		**Pn**	**13 39 27.3**	**+0.1**
ANCK	**Angle Creek**	**3.71**	**310**		**Pn**	**13 39 28.8**	**+0.7**
KVTA	**Katmai Vly 10**	**3.74**	**313**		**Pn**	**13 39 29.1**	**+0.6**
KAHC	**Katmai Hardscr**	**3.80**	**317**		**Pn**	**13 39 29.9**	**+0.6**
KAHC	**Katmai Hardscr** baz=134	**3.80**	**317**	P	**Pn**	**13 39 30.2**	**+0.8**
HOM	**Homer**	**3.81**	**348**		**Pn**	**13 39 29.7**	**+0.4**
HOM	**Homer** comp=N,374nm,0.6s	**3.81**	**348**	IAML		13 40 22.0	
HOM	comp=E,432nm,1.1s			IAML		13 40 24.6	
BRSE	**Bradley Lake S** baz=175	**3.82**	**355**	P	**Pn**	**13 39 28.8**	**-0.6**
BRLK	**Bradley Lake**	**3.85**	**354**	Pn	**Pn**	**13 39 29.1**	**-0.8**
BRLK	comp=E,119nm,0.7s			IAML		13 40 17.3	
AU22	**Augustine Moun**	**3.85**	**334**		**Pn**	**13 39 30.5**	**+0.6**
AUL	**Augustine Lava**	**3.88**	**334**		**Pn**	**13 39 31.1**	**+0.8**
Q17K	**Contact Creek** baz=124	**3.92**	**309**	P	**Pn**	**13 39 31.4**	**+0.4**
Q23K	**Middleton Isla**	**4.02**	**28**		**Pn**	**13 39 30.5**	**-1.6**
Q23K	**Middleton Isla** comp=E,197nm,0.9s	**4.02**	**28**	IAML		13 40 17.8	
Q23K	comp=N,189nm,1.4s			IAML		13 41 50.7	
MID	**Middleton Isla**	**4.02**	**28**	P	**Pn**	**13 39 30.7**	**-1.5**
P19K	**Oil Pt**	**4.08**	**337**		**Pn**	**13 39 33.3**	**+0.3**
P19K	**Oil Pt** comp=E,399nm,0.6s	**4.08**	**337**	IAML		13 40 30.3	
P19K	comp=N,418nm,0.6s			IAML		13 40 30.5	
SEW	**Seward**	**4.18**	**4**		**Pn**	**13 39 33.7**	**-0.6**
SEW	**Seward** baz=186	**4.18**	**4**	P	**Pn**	**13 39 33.8**	**-0.5**
P23K	**Montague Islan**	**4.30**	**18**		**Pn**	**13 39 35.2**	**-0.9**
P23K	**Montague Islan** baz=201	**4.30**	**18**	P	**Pn**	**13 39 35.5**	**-0.5**
O20K	**Slope Mountain**	**4.36**	**343**		**Pn**	**13 39 36.7**	**-0.2**
IVE	**Iliamna Volcan**	**4.36**	**340**		**Pn**	**13 39 36.9**	**-0.2**
P18K	**Big Mountain,**	**4.42**	**323**	Pn	**Pn**	**13 39 37.7**	**0.0**
P18K	**Big Mountain,** baz=139	**4.42**	**323**	P	**Pn**	**13 39 37.8**	**0.0**
R16K	**Pilot Point**	**4.43**	**295**		**Pn**	**13 39 38.0**	**+0.2**
R16K	**Pilot Point** comp=N,132nm,1.2s	**4.43**	**295**	IAML		13 40 50.3	
R16K	comp=E,164nm,1.5s			IAML		13 41 35.9	
Q16K	**King Salmon**	**4.49**	**310**		**Pn**	**13 39 38.7**	**0.0**
O22K	**Cooper Landing**	**4.54**	**2**		**Pn**	**13 39 38.6**	**-0.8**
O22K	comp=E,327nm,0.8s			IAML		13 40 57.6	
O22K	**Cooper Landing** baz=183	**4.54**	**2**	P	**Pn**	**13 39 39.6**	**+0.2**
ANPB	**Aniakchak Plen**	**4.64**	**284**		**Pn**	**13 39 40.1**	**-0.7**
RSO	**Redoubt South**	**4.74**	**344**		**Pn**	**13 39 41.6**	**-0.7**
O18K	**Koktuh Hills**	**4.77**	**327**		**Pn**	**13 39 41.8**	**-0.8**
O18K	comp=E,78nm,0.8s			IAML		13 40 42.4	
O18K	comp=N,101nm,0.7s			IAML		13 40 43.6	
O18K	**Koktuh Hills** baz=143	**4.77**	**327**	P	**Pn**	**13 39 42.8**	**+0.2**
RDWB	**Redoubt West**	**4.78**	**343**		**Pn**	**13 39 41.6**	**-1.2**
O19K	**Port Alsworth**	**4.81**	**334**		**Pn**	**13 39 42.3**	**-0.8**
O19K	**Port Alsworth** baz=151	**4.81**	**334**	P	**Pn**	**13 39 43.5**	**+0.4**
HIN	**Hinchinbrook I**	**4.84**	**22**		**Pn**	**13 39 42.6**	**-0.9**
HIN	comp=N,250nm,0.6s			IAML		13 40 40.5	
KAIM	**Kayak Island**	**5.00**	**35**		**Pn**	**13 39 44.7**	**-0.9**
EYAK	**Cordova Ski Ar**	**5.14**	**25**		**Pn**	**13 39 46.8**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.14**	**25**	P	**Pn**	**13 39 47.0**	**-0.6**
RC01	**Rabbit Creek A**	**5.15**	**2**		**Pn**	**13 39 47.2**	**-0.6**
RC01	comp=N,68nm,0.6s			IAML		13 40 45.2	
RC01	comp=E,74nm,0.6s			IAML		13 40 50.4	
RC01	**Rabbit Creek A** baz=183	**5.15**	**2**	P	**Pn**	**13 39 47.6**	**-0.2**
P16K	**Nushagak River**	**5.26**	**309**		**Pn**	**13 39 48.8**	**-0.5**
P16K	**Nushagak River** baz=123	**5.26**	**309**	P	**Pn**	**13 39 49.8**	**+0.5**
RAGM	**Ragged Mountai**	**5.29**	**31**		**Pn**	**13 39 48.1**	**-1.5**
VNFG	**Fog Glacier, M**	**5.31**	**278**		**Pn**	**13 39 49.8**	**-0.3**
VNFG	**Fog Glacier, M** comp=N,206nm,1.4s	**5.31**	**278**	IAML		13 40 27.8	
N20K	**Mount Spurr** baz=168	**5.38**	**349**	P	**Pn**	**13 39 52.2**	**+1.2**
SPCR	**Spurr Chakacha**	**5.38**	**349**		**Pn**	**13 39 49.7**	**-1.3**
N19K	**Bonanza Creek**	**5.40**	**336**		**Pn**	**13 39 50.4**	**-0.8**
N19K	**Bonanza Creek** comp=N,42nm,1.2s	**5.40**	**336**	IAML		13 41 10.1	
N19K	comp=E,41nm,1.5s			IAML		13 41 17.6	
GOAT	**Goat Mountain**	**5.43**	**29**		**Pn**	**13 39 50.9**	**-0.8**
SPCG	**Spurr Capps Gl**	**5.45**	**350**		**Pn**	**13 39 51.0**	**-1.0**
KNK	**Knik Glacier**	**5.54**	**8**		**Pn**	**13 39 53.0**	**-0.2**
KNK	**Knik Glacier** baz=190	**5.54**	**8**	P	**Pn**	**13 39 53.9**	**+0.8**
O16K	**Kokwok River B**	**5.63**	**314**		**Pn**	**13 39 54.0**	**-0.3**
STLK	**Strandline Lak**	**5.64**	**351**		**Pn**	**13 39 53.7**	**-0.7**
N18K	**Kilae Creek**	**5.64**	**330**		**Pn**	**13 39 54.2**	**-0.3**
N18K	**Kilae Creek** baz=145	**5.64**	**330**	P	**Pn**	**13 39 54.5**	**0.0**
PMR	**Palmer**	**5.68**	**5**	Pn	**Pn**	**13 39 55.1**	**+0.2**
PMR	**Palmer**	**5.68**	**5**	P	**Pn**	**13 39 57.0**	**+2.1**
SNH	**Sunshine Point**	**5.72**	**39**		**Pn**	**13 39 54.5**	**-1.1**
BMRM	**Bremner River**	**5.79**	**27**		**Pn**	**13 39 55.5**	**-1.0**
BMRM	**Bremner River** baz=213	**5.79**	**27**	P	**Pn**	**13 39 55.9**	**-0.7**
SDPT	**Sand Point**	**5.92**	**268**	P	**Pn**	**13 39 57.9**	**-0.4**
SML	**Sawmill** baz=190	**5.94**	**8**	P	**Pn**	**13 39 59.3**	**+0.7**
KLU	**Klutina**	**5.96**	**20**	Pn	**Pn**	**13 39 58.7**	**-0.2**
KLU	**Klutina** baz=204	**5.96**	**20**	P	**Pn**	**13 39 58.6**	**-0.4**
M23K	**Glacier View**	**5.98**	**11**		**Pn**	**13 39 59.8**	**+0.6**
M23K	**Glacier View** baz=193	**5.98**	**11**	P	**Pn**	**13 40 00.0**	**+0.8**
SCM	**Sheep Creek Mo**	**6.07**	**12**		**Pn**	**13 40 00.8**	**+0.4**
SCM	**Sheep Creek Mo** baz=195	**6.07**	**12**	P	**Pn**	**13 40 01.5**	**+1.1**
SKT	**Skwentna**	**6.09**	**354**		**Pn**	**13 39 59.8**	**-0.9**
M20K	**Styx River**	**6.15**	**346**		**Pn**	**13 40 01.0**	**-0.6**
O15K	**Ungalikthiuk R**	**6.16**	**306**		**Pn**	**13 40 01.9**	**+0.3**
M18K	**Stony River**	**6.31**	**334**		**Pn**	**13 40 03.0**	**-0.5**
VRDI	**Verde Repeater**	**6.32**	**30**		**Pn**	**13 40 02.9**	**-1.0**
N25K	**Chitina, Valde**	**6.34**	**24**		**Pn**	**13 40 03.5**	**-0.7**
M19K	**Big River Lodg**	**6.37**	**341**		**Pn**	**13 40 03.5**	**-1.0**
GLB	**Gilahina Butte**	**6.40**	**28**		**Pn**	**13 40 03.9**	**-1.0**
KIAG	**Kiagna River**	**6.42**	**36**		**Pn**	**13 40 04.0**	**-1.3**
SAMH	**Samovar Hills**	**6.47**	**46**		**Pn**	**13 40 05.3**	**-0.6**
M24K	**Tolsona, Glenn**	**6.49**	**16**		**Pn**	**13 40 06.5**	**+0.3**
MCARA	**McCarthy VSAT**	**6.57**	**31**		**Pn**	**13 40 06.7**	**-0.5**
PTPK	**Patty Peak**	**6.58**	**34**		**Pn**	**13 40 06.7**	**-1.0**
PCA	**Pinnacle**	**6.67**	**47**		**Pn**	**13 40 07.5**	**-1.1**
M17K	**Holitna River**	**6.67**	**328**		**Pn**	**13 40 08.2**	**-0.4**
WASW	**Wrangell South**	**6.72**	**25**		**Pn**	**13 40 09.0**	**-0.5**
WAT6	**Susitna Watana**	**6.75**	**9**		**Pn**	**13 40 10.3**	**+0.4**
PN7A	**Pavlof North-7**	**6.76**	**271**		**Pn**	**13 40 09.5**	**-0.5**
N15K	**Kwethluk River**	**6.79**	**313**		**Pn**	**13 40 11.0**	**+0.8**
LOGN	**Logan Glacier**	**6.82**	**41**		**Pn**	**13 40 09.3**	**-1.6**
L20K	**Farewell, AK**	**6.83**	**345**		**Pn**	**13 40 09.7**	**-1.2**
BCPM	**Bancas Point**	**6.85**	**50**		**Pn**	**13 40 09.9**	**-1.2**
O14K	**Tigyukauivet M**	**6.86**	**303**		**Pn**	**13 40 11.4**	**+0.3**
WAT7	**Susitna Watana**	**6.93**	**5**		**Pn**	**13 40 12.6**	**+0.3**
HARP	**HAARP**	**6.94**	**19**		**Pn**	**13 40 13.0**	**+0.7**
DHY	**Denali Highway**	**7.28**	**10**		**Pn**	**13 40 17.3**	**+0.3**
M15K	**Kasigluk River**	**7.33**	**315**		**Pn**	**13 40 18.0**	**+0.4**
N14K	**Kuskokwak Cree**	**7.35**	**308**		**Pn**	**13 40 18.2**	**+0.3**
M26K	**Nabesna, AK**	**7.42**	**26**		**Pn**	**13 40 18.6**	**-0.2**
PAX	**Paxson**	**7.42**	**17**		**Pn**	**13 40 19.4**	**+0.5**
O29M	**Mount Kennedy**	**7.49**	**50**		**Pn**	**13 40 19.2**	**-0.7**
L17K	**Donlin**	**7.50**	**329**		**Pn**	**13 40 20.2**	**+0.2**
TRF	**Thorofare Moun**	**7.52**	**359**		**Pn**	**13 40 20.5**	**+0.1**
P29M	**Windy Craggy**	**7.55**	**56**		**Pn**	**13 40 19.3**	**-1.5**
YUK2	**White River**	**7.55**	**35**		**Pn**	**13 40 20.5**	**-0.3**
YUK8	**Steele Glacier**	**7.58**	**41**		**Pn**	**13 40 21.3**	**-0.1**
TTA	**Tatalina**	**7.62**	**339**	P	**Pn**	**13 40 22.5**	**+0.8**
KTH	**Kantishna Hill**	**7.64**	**357**		**Pn**	**13 40 22.2**	**+0.3**
M27K	**Edge Creek, AK**	**7.68**	**30**		**Pn**	**13 40 22.5**	**0.0**
YUK7	**Dusty Glacier**	**7.79**	**49**		**Pn**	**13 40 23.5**	**-0.6**
MCK	**McKinley**	**7.83**	**4**		**Pn**	**13 40 25.4**	**+0.9**
S31K	**Pelican**	**7.83**	**69**		**Pn**	**13 40 20.9**	**-3.6**
ISLZ	**Isanotski Laza**	**7.87**	**267**		**Pn**	**13 40 24.3**	**-0.8**
L26K	**Log Cabin Wild**	**7.87**	**23**		**Pn**	**13 40 25.4**	**+0.3**
ISNN	**Isanotski Nort**	**7.88**	**267**		**Pn**	**13 40 24.7**	**-0.6**
YUK6	**Outpost Mounta**	**7.92**	**46**		**Pn**	**13 40 25.6**	**-0.4**
BVCY	**Beaver Creek**	**8.02**	**32**		**Pn**	**13 40 27.3**	**+0.3**
P30M	**Million Dollar**	**8.11**	**54**		**Pn**	**13 40 28.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**8.19**	**357**		**Pn**	**13 40 28.8**	**-0.6**
YUK5	**Granite Creek**	**8.23**	**46**		**Pn**	**13 40 30.1**	**0.0**
SIT	**Sitka**	**8.24**	**76**	P	**Pn**	**13 40 27.6**	**-2.5**
L27K	**Beaver Creek,**	**8.27**	**27**		**Pn**	**13 40 30.1**	**-0.4**
M13K	**Dall Lake**	**8.31**	**308**		**Pn**	**13 40 31.0**	**0.0**
J20K	**Nowinta River**	**8.49**	**348**		**Pn**	**13 40 33.4**	**-0.2**
L14K	**Kuka Creek**	**8.50**	**315**		**Pn**	**13 40 34.5**	**+0.9**
SKAG	**Skagway**	**8.64**	**60**	P	**Pn**	**13 40 34.7**	**-0.9**
JIS	**Juneau Island**	**8.85**	**68**	P	**Pn**	**13 40 37.2**	**-1.2**
IL31		**8.99**	**9**		**Pn**	**13 40 40.9**	**+0.6**
ILAR	**Eielson Array** comp=E,1.1nm,0.3s,baz=194,slow=13,SNR=48	**8.99**	**9**	Pn	**Pn**	**13 40 41.5**	**+1.2**
ILAR	comp=E,0.6nm,0.3s,baz=190,slow=23,SNR=6.7			Sn	**Sn**	**13 42 16.5**	**-4.8**
ILAR	comp=E,75nm,21.1s,baz=140,slow=38 comp=E,3.4nm,0.5s			LR	LR	13 44 20.2	
COLA	**College**	**9.02**	**6**		**Pn**	**13 40 41.1**	**+0.4**
COLA	**College**	**9.02**	**6**	P	**Pn**	**13 40 41.1**	**+0.4**
MDM	**Murphy Dome**	**9.08**	**5**		**Pn**	**13 40 41.5**	**-0.2**
MLY	**Manley**	**9.11**	**358**		**Pn**	**13 40 42.1**	**0.0**
WHY	**Whitehorse**	**9.28**	**53**		**Pn**	**13 40 43.8**	**-0.6**
I21K	**Tanana**	**9.30**	**355**		**Pn**	**13 40 44.8**	**+0.1**
M30M	**Minto, Yukon**	**9.49**	**40**		**Pn**	**13 40 47.1**	**-0.1**
UNV	**Unalaska Valle**	**9.70**	**264**	P	**Pn**	**13 40 49.2**	**-0.8**
EGAK	**Eagle**	**9.88**	**23**		**Pn**	**13 40 52.8**	**+0.2**
H24K	**Noodor Dome**	**9.97**	**5**		**Pn**	**13 40 54.8**	**+0.9**
P33M	**Teslin, Yukon**	**10.08**	**58**		**Pn**	**13 40 54.2**	**-1.2**
DLBC	**Dease Lake** comp=E,0.3nm,0.3s,baz=329,slow=5.3,SNR=7.1	**11.15**	**69**	Pn	**Pn**	**13 41 09.2**	**-0.8**
DLBC	comp=E,122nm,20.6s,baz=278,slow=33 comp=E,1.1nm,0.5s			LR	LR	13 44 32.8	
BBB	**Bella Bella** comp=E,99nm,20.7s,baz=252,slow=32	**13.42**	**97**	LR	LR	13 45 35.9	
F31M	**Tsiigehtchic**	**13.82**	**27**		**Pn**	**13 41 47.1**	**+0.8**
C16K	**Lisburne Hills**	**14.21**	**336**	Pn	**Pn**	**13 41 51.3**	**-0.3**
INK	**Inuvik**	**14.53**	**25**		**Pn**	**13 41 55.5**	**-0.6**
INK	**Inuvik** comp=E,0.1nm,0.3s,baz=207,slow=13,SNR=12 comp=E,6.9nm,1.1s	**14.53**	**25**	Pn	**Pn**	**13 41 57.8**	**+1.8**
C36M	**Paulatuk**	**17.75**	**31**		**P**	**13 42 38.0**	**-0.3**
C36M	comp=Z,8.7nm,1.0s			IAmb	IAmb	13 42 41.5	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.3s,baz=267,slow=10,SNR=7.3 comp=Z,0.8nm,1.0s	**19.09**	**55**	P	**Pn**	**13 42 55.7**	**+1.8**
A36M	**Sachs Harbour**	**19.16**	**23**	P	**Pn**	**13 42 55.1**	**+0.4**
A36M	comp=Z,15nm,0.8s			IAmb	IAmb	13 43 06.8	
NEW	**Newport** comp=Z,48nm,21.7s,baz=312,slow=34	**21.49**	**97**	LR	LR	13 50 33.9	
YBH	**Yreka Blue Hor** comp=Z,81nm,19.4s,baz=334,slow=31	**22.75**	**117**	LR	LR	13 50 11.9	
ELK	**Elko** comp=Z,64nm,20.1s,baz=328,slow=33	**27.34**	**109**	LR	LR	13 53 20.7	
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.8s,baz=325,slow=9.3,SNR=1.9	**27.46**	**116**	P	**P**	**13 44 14.4**	**-2.5**
NVAR	comp=Z,81nm,18.2s,baz=304,slow=32 comp=Z,0.3nm,0.8s			LR	LR	13 53 18.7	
RES	**Resolute Bay** comp=Z,28nm,19.6s,baz=22,slow=35	**28.06**	**28**	LR	LR	13 54 50.1	
PDAR	**Pinedale Array** comp=Z,0.3nm,0.7s,baz=318,slow=5.3,SNR=2.9 comp=Z,0.3nm,0.7s	**29.04**	**100**	P	**P**	**13 44 31.5**	**+0.6**
MA2	**Magadan** comp=Z,49nm,18.0s,baz=110,slow=39	**30.85**	**302**	LR	LR	13 58 35.4	
PFO	**Pinyon Flats O** comp=Z,79nm,18.6s,baz=16,slow=31	**32.17**	**120**	LR	LR	13 54 52.0	
TXAR	**Lajitas Array** comp=Z,0.5nm,0.9s,baz=346,slow=6.5,SNR=1.6 comp=Z,0.5nm,0.9s	**42.13**	**109**	P	**P**	**13 46 22.3**	**-0.8**
SFJD	**Kangerlussuaq** comp=Z,35nm,18.3s,baz=351,slow=36	**43.62**	**34**	LR	LR	14 04 50.9	
H11N2	**WAKE ISLAND Hy** baz=31,slow=76,SNR=30	**48.33**	**239**	T	T	14 39 11.2	
H11N3	**WAKE ISLAND Hy** baz=31,slow=76,SNR=31	**48.34**	**239**	T	T	14 39 12.2	
H11N1	**WAKE ISLAND Hy** baz=31,slow=76,SNR=31	**48.35**	**239**	T	T	14 39 14.2	
TKL	**Tuckaleechee C** comp=Z,73nm,18.2s,baz=346,slow=36	**48.40**	**86**	LR	LR	14 07 11.7	
USRK	**Ussuriysk Ar.** comp=Z,32nm,19.0s,baz=67,slow=37	**48.77**	**291**	LR	LR	14 08 40.1	
H11S1	**WAKE ISLAND Hy** baz=30,slow=76,SNR=61	**49.47**	**239**	T	T	14 40 38.3	
H11S2	**WAKE ISLAND Hy** baz=30,slow=76,SNR=38	**49.48**	**239**	T	T	14 40 41.8	
H11S3	**WAKE ISLAND Hy** baz=30,slow=76,SNR=47	**49.49**	**239**	T	T	14 40 42.6	
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=46,slow=4.2,SNR=2.4 comp=Z,0.3nm,0.5s	**58.51**	**310**	P	**P**	**13 48 30.4**	**+3.6**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=28,slow=16,SNR=2.6	**61.59**	**327**	P	**P**	**13 48 50.8**	**+3.1**

	comp=Z,0.5nm,0.3s						
NOA	**NORSAR Array B**	**62.42**	**10**	LR	LR	14 15 49.6	
	comp=Z,18nm,20.4s,baz=15,slow=36						
FINES	**FINESS Array B**	**62.90**	**2**	P	**P**	**13 48 57.9**	**+1.6**
	comp=Z,6.0nm,1.1s,baz=336,slow=9.4,SNR=1.6						
	comp=Z,6.0nm,1.1s						
KIRV	**Kirov**	**64.75**	**349**	LR	LR	14 19 28.6	
	comp=Z,26nm,18.3s,baz=307,slow=38						
ARU	**Arti**	**65.59**	**343**	LR	LR	14 20 10.9	
	comp=Z,22nm,19.9s,baz=154,slow=38						
MKAR	**Makanchi Array**	**68.60**	**324**	P	**P**	**13 49 33.9**	**+0.5**
MKAR	**Makanchi Array**	**68.60**	**324**	P	**P**	**13 49 35.6**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=28,slow=3.7,SNR=6.0						
	comp=Z,0.2nm,0.5s						
ABKAR	**Akbulak array**	**72.21**	**340**	P	**P**	**13 49 56.0**	**+0.6**
QSPA	**South Pole Qui**	**145.74**	**180**	PKPbc	**PKPab**	**13 58 08.8**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=29,slow=0.8,SNR=1.7						

*NAO **29** 13:53:03.3±1.8, 74.59N×8.20E, ML2.8*
*BER **29** 13:53:09.1±2.1, 74.61N×9.47E, h15km±24km, mb(Pn)3.5, ML2.8(NAO), Confirmed Earthquake*

ISC 29 13:53:07.0±2.7, 74.67N±0.10×9.8E±0.2, h10km, n14, σ2s00/26, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.46**	**90**	*e*P	**Pn**	**13 53 48.9**	**+2.0**
BJO1				*e*S	**Sn**	**13 54 16.9**	**0.0**
BJO1				IAML		13 54 24.2	
	comp=Z,13nm,0.6s						
HSPB	**Hornsund (broa**	**2.73**	**28**	*e*P	**Pn**	**13 53 51.7**	**+1.0**
HSPB				*e*S	**Sn**	**13 54 23.6**	**-0.2**
HSPB				IAML		13 54 28.1	
	comp=Z,3.2nm,0.5s						
BRBA	**Barentsburg A**	**3.56**	**15**	Pn	**Pn**	**13 54 02.6**	**+0.5**
BRBA	**Barentsburg A**	**3.56**	**15**	*e*P	**Pn**	**13 54 02.8**	**+0.7**
BRBB	**Barentsburg B**	**3.59**	**15**	Pn	**Pn**	**13 54 03.0**	**+0.4**
BRBB				Sn	**Sn**	**13 54 44.7**	**-0.3**
BRBB	**Barentsburg B**	**3.59**	**15**	*e*P	**Pn**	**13 54 03.2**	**+0.6**
BRBB				*e*S	**Sn**	**13 54 44.5**	**-0.5**
SPA0	**Spitsbergen Ar**	**3.85**	**20**	Pn	**Pn**	**13 54 07.5**	**+1.4**
	baz=201,slow=14						
SPA0				Sn	**Sn**	**13 54 50.0**	**-1.2**
	baz=201,slow=28						
SPA0	**Spitsbergen Ar**	**3.85**	**20**	Pn	**Pn**	**13 54 07.5**	**+1.4**
	baz=201,slow=14						
SPA0				Sn	**Sn**	**13 54 50.0**	**-1.2**
	baz=201,slow=28						
HOPEN	**Hopen**	**4.21**	**57**	Pn	**Pn**	**13 54 13.0**	**+1.9**
HOPEN				Sn	**Sn**	**13 55 00.6**	**+0.4**
HOPEN	**Hopen**	**4.21**	**57**	*e*P	**Pn**	**13 54 12.9**	**+1.9**
HOPEN				*e*S	**Sn**	**13 54 59.8**	**-0.5**
HOPEN				IAML		13 55 02.1	
	comp=Z,4.1nm,0.5s						
KBS	**Kingsbay**	**4.31**	**5**	Pn	**Pn**	**13 54 11.8**	**-0.6**
KBS				Sn	**Sn**	**13 55 00.4**	**-2.2**
KBS	**Kingsbay**	**4.31**	**5**	*e*P	**Pn**	**13 54 11.8**	**-0.6**
KBS				*e*S	**Sn**	**13 55 01.4**	**-1.2**
KBS				IAML		13 55 19.4	
	comp=Z,2.4nm,0.7s						
ARA0	**ARCESS Array S**	**7.04**	**129**	Pn	**Pn**	**13 54 52.2**	**+2.3**
	baz=322,slow=11						
ARA0				Sn	**Sn**	**13 56 04.7**	**-5.2**
	baz=325,slow=22						
ARA0	**ARCESS Array S**	**7.04**	**129**	Pn	**Pn**	**13 54 52.2**	**+2.3**
	baz=322,slow=11						
ARA0				Sn	**Sn**	**13 56 04.7**	**-5.2**
	baz=325,slow=22						

*IDC **29** 14:00:04.6±0.7, 3.07S×141.95E, h0km, mb4.2/14, mbtmp4.2/16, ML4.3/1, MS3.7/7, Error ellipse: s-maj=30.0km s-min=15.1km az=82.0*
*NEIC **29** 14:00:11.1±1.6, 3.07S±0.09×141.7E±0.1, h40km±7km, mb4.7/76, Error ellipse: s-maj=15.2km s-min=12.6km az=101.0*

ISC 29 14:00:10.5±0.4, 3.21S±0.05×141.66E±0.07, h35km, n119, σ1s33/116, mb4.7/54, MS3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.61**	**292**	P	**Pn**	**14 00 36.5**	**+0.1**
MANU	**Manus Island**	**5.81**	**79**	Pn	**Pn**	**14 01 33.9**	**-0.4**
PMG	**Port Moresby**	**8.23**	**139**	Pn	**Pn**	**14 02 06.4**	**-1.1**
	15nm,0.9s,baz=276,slow=7.1,SNR=2.2						
PMG				Sn	**Sn**	**14 03 37.8**	**-1.5**
	0.2nm,0.3s,baz=9.1,slow=19,SNR=1.4						
PMG				LR	LR	14 06 20.7	
	comp=Z,525nm,18.8s,baz=72,slow=46						
RABL	**Rabaul**	**10.52**	**96**	Pn	**Pn**	**14 02 39.0**	**+0.1**
COEN	**Coen**	**10.79**	**172**	Pn	**Pn**	**14 02 45.6**	**+3.0**
MTN	**Manton Dam**	**14.15**	**227**	Pn	**Pn**	**14 03 26.3**	**-2.2**
GUMO	**Guam**	**16.99**	**11**	LR	LR	14 10 15.1	
	comp=Z,114nm,18.6s,baz=178,slow=36						
CTA	**Charters Tower**	**17.37**	**165**	P	**Pn**	**14 04 12.4**	**+2.2**
	3.8nm,1.1s,baz=348,slow=5.9,SNR=1.7						
CTA				LR	LR	14 10 40.8	
	comp=Z,252nm,20.1s,baz=0.5,slow=36						
CTAO	**Charters Tower**	**17.37**	**165**	Pn	**Pn**	**14 04 10.6**	**+0.3**
WB0	**Warramunga Arr**	**17.93**	**203**	P	**Pn**	**14 04 17.9**	**+0.8**
WR0	**Warramunga Arr**	**18.05**	**202**	P	**Pn**	**14 04 19.1**	**+0.5**
WB2	**Warramunga Arr**	**18.10**	**203**	P	**P**	**14 04 19.8**	**+0.4**
WRA	**Warramunga Arr**	**18.11**	**203**	P	**P**	**14 04 19.6**	**+0.1**
WRA	**Warramunga Arr**	**18.11**	**203**	P	**P**	**14 04 20.7**	**+1.2**
	1.0nm,0.3s,baz=12,slow=11,SNR=43						
WRA				S	**Sn**	**14 07 35.1**	**-5.4**
	2.4nm,1.1s,baz=24,slow=21,SNR=2.6						
	11nm,0.7s						
SOEI	**Soe**	**18.46**	**249**		**P**	**14 04 21.9**	**-1.7**
TOLI2	**Tolitoli**	**21.31**	**281**	P	**P**	**14 04 53.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.58**	**226**	P	**P**	**14 04 57.1**	**-0.2**
AS31	**Alice Springs**	**21.68**	**200**	P	**P**	**14 04 58.6**	**+0.3**
ASAR	**Alice Springs**	**21.68**	**200**	P	**P**	**14 04 57.2**	**-1.2**
ASAR	**Alice Springs**	**21.68**	**200**	P	**P**	**14 04 59.0**	**+0.7**
	5.7nm,0.7s,baz=30,slow=10.0,SNR=31						
ASAR				S	**S**	**14 08 57.1**	**+0.4**
	0.5nm,0.7s,baz=65,slow=39,SNR=1.2						
	5.7nm,0.7s						
EIDS	**Eidsvold**	**23.83**	**159**	P	**P**	**14 05 21.3**	**+0.8**
PSA00	**Pilbara Seismi**	**27.98**	**228**	P	**P**	**14 05 58.2**	**+0.1**
STKA	**Stephens Creek**	**28.52**	**180**	P	**P**	**14 06 03.4**	**+0.6**
STKA	**Stephens Creek**	**28.52**	**180**	P	**P**	**14 06 03.2**	**+0.4**
	2.5nm,0.7s,baz=1.7,slow=7.3,SNR=5.8						
	2.5nm,0.7s						
FORT	**Forrest**	**30.29**	**204**	P	**P**	**14 06 20.1**	**+1.7**
DZM	**Mont Dzumac**	**30.50**	**130**	*e*LR	LR	14 14 22.9	
	275nm,28.2s						
CAN	**Canberra**	**32.67**	**169**	P	**P**	**14 06 40.9**	**+1.4**
H11N1	**WAKE ISLAND Hy**	**33.66**	**46**	T	T	14 41 47.0	
	baz=230,slow=76,SNR=152						
H11N2	**WAKE ISLAND Hy**	**33.68**	**46**	T	T	14 41 51.6	
	baz=230,slow=76,SNR=228						
H11N3	**WAKE ISLAND Hy**	**33.68**	**46**	T	T	14 41 51.6	
	baz=230,slow=76,SNR=109						
TOO	**Toolangi**	**34.38**	**175**	P	**P**	**14 06 55.9**	**+1.6**
MORW	**Morawa**	**35.42**	**221**	P	**P**	**14 07 04.1**	**+0.8**
NWAO	**Narrogin (SRO)**	**37.38**	**215**	LR	LR	14 23 51.7	
	comp=Z,180nm,18.1s,baz=212,slow=38						
MAJO	**Matsushiro**	**39.67**	**356**	P	**P**	**14 07 37.0**	**-2.2**
MAJO				IAmb	IAmb	14 08 05.7	
	comp=Z,16nm,1.4s						
MJB9	**Matsu-Tunnel**	**39.68**	**356**	P	**P**	**14 07 37.0**	**-2.3**
MJB9				IAmb	IAmb	14 08 05.6	
	comp=Z,16nm,1.4s						
NJ2	**Nanjing**	**41.22**	**330**	*e*P	**P**	**14 07 52.8**	**+0.8**
NJ2				pP	**pP**	**14 08 03.8**	**+1.4**
NJ2				sP	**sP**	**14 08 09.5**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,410nm,4.3s						
RPSI	**Rantau Prapat**	**43.12**	**277**	P	**P**	**14 08 07.4**	**-0.5**
RPSI				IAmb	IAmb	14 08 09.1	
	comp=Z,16nm,1.0s						
JTM	**Tenmabayashi**	**43.78**	**359**	P	**P**	**14 08 11.2**	**-1.6**
GSI	**Gunungsitoli**	**44.30**	**275**	P	**P**	**14 08 16.4**	**-1.0**
JKA	**Kamikawa-asahi**	**47.12**	**1**	P	**P**	**14 08 38.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**47.25**	**299**	P	**P**	**14 08 40.4**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=120,slow=6.0,SNR=8.0						
	comp=Z,1.0nm,0.5s						
NNZ	**Nelson**	**47.37**	**147**	P	**P**	**14 08 42.2**	**+1.0**
NNZ				IAmb	IAmb	14 08 42.3	
	comp=Z,17nm,1.1s						
RTZ	**Ruatahuna**	**47.72**	**142**	P	**P**	**14 08 44.0**	**-0.1**
TUWZ	**Tuamarina**	**47.83**	**147**	P	**P**	**14 08 43.8**	**-0.9**
MLZ	**Mavora Lakes**	**47.97**	**155**	P	**P**	**14 08 46.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**47.98**	**351**	P	**P**	**14 08 43.7**	**-2.2**
	comp=Z,4.0nm,0.8s,baz=186,slow=9.9,SNR=5.1						
	comp=Z,4.0nm,0.8s						
PZH	**PanZhiHua**	**48.58**	**310**	P	**P**	**14 08 54.0**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,170nm,4.9s						
HHC	**Hu-ho-hao-te**	**51.75**	**331**	*e*P	**P**	**14 09 16.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,6.5s						
LZH	**Lanzhou**	**52.68**	**321**	*e*P	**P**	**14 09 22.0**	**+0.2**
LZH				sP	sP	14 09 37.5	+0.8
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA	**Gaotai**	**57.24**	**322**	P	**P**	**14 09 56.3**	**+1.6**
GTA				sP	sP	14 10 14.8	+5.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PEA0B	**Petropavlovsk-**	**57.71**	**11**	P	**P**	**14 09 56.7**	**-0.9**
PETK	**Petropavlovsk-**	**57.71**	**11**	P	**P**	**14 09 56.4**	**-1.1**
PETK	**Petropavlovsk-**	**57.71**	**11**	P	**P**	**14 09 55.8**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=150,slow=4.6,SNR=5.5						
PETK				LR	LR	14 37 51.2	
	comp=Z,36nm,18.0s,baz=147,slow=39						
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**59.46**	**333**	P	**P**	**14 10 08.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=156,slow=8.1,SNR=3.7						
	comp=Z,0.4nm,0.6s						
PPT2	**Papeete2**	**68.80**	**108**	*e*LR	LR	14 32 03.5	
	comp=Z,98nm,29.2s						
PPT2				*e*LR	LR	14 32 12.4	
	comp=Z,107nm,26.0s						
MKAR	**Makanchi Array**	**71.99**	**322**	P	**P**	**14 11 31.4**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=116,slow=7.4,SNR=11						
	comp=Z,1.5nm,0.8s						
MAKZ	**Makanchi**	**72.19**	**321**	P	**P**	**14 11 31.6**	**-0.3**
ZALV	**Zalesovo Beam**	**73.86**	**329**	P	**P**	**14 11 43.0**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=1.4						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**75.84**	**324**	P	**P**	**14 11 53.2**	**+0.1**
	comp=Z,1.2nm,0.2s,baz=109,slow=5.2,SNR=2.0						
	comp=Z,1.2nm,0.2s						
O14K	**Tigukauivet M**	**76.63**	**26**	P	**P**	**14 11 55.5**	**-1.9**
M14K	**Bethel**	**77.11**	**25**	P	**P**	**14 11 58.3**	**-1.8**
M14K				IAmb	IAmb	14 12 10.4	
	comp=Z,16nm,1.2s						
L14K	**Kuka Creek**	**77.12**	**24**	P	**P**	**14 11 57.9**	**-2.2**
K15K	**Wolf Creek Mou**	**78.09**	**24**	P	**P**	**14 12 04.6**	**-0.9**
K15K				IAmb	IAmb	14 12 06.3	
	comp=Z,9.2nm,1.2s						
M16K	**Timber Creek**	**78.51**	**25**	P	**P**	**14 12 06.6**	**-1.3**
KK31	**Karatay Array**	**78.56**	**315**	P	**P**	**14 12 08.6**	**0.0**
KKAR	**Karatay Array**	**78.56**	**315**	P	**P**	**14 12 08.6**	**0.0**
J16K	**Anvik River**	**78.97**	**23**	P	**P**	**14 12 10.1**	**-0.2**
J16K				IAmb	IAmb	14 12 46.1	
	comp=Z,8.2nm,1.4s						
K17K	**Iditarod**	**79.60**	**24**	P	**P**	**14 12 13.3**	**-0.5**
K17K				IAmb	IAmb	14 12 14.8	
	comp=Z,15nm,1.1s						
H17K	**Granite Mounta**	**80.07**	**22**	P	**P**	**14 12 16.0**	**-0.3**
H17K				IAmb	IAmb	14 12 16.9	
	comp=Z,4.6nm,0.8s						
C16K	**Lisburne Hills**	**80.08**	**18**	P	**P**	**14 12 15.0**	**-1.3**
F17K	**Baldwin Pennin**	**80.38**	**20**	P	**P**	**14 12 17.6**	**-0.3**
TTA	**Tatalina**	**80.63**	**24**	P	**P**	**14 12 19.3**	**-0.2**
TTA				IAmb	IAmb	14 12 19.8	
	comp=Z,12nm,1.3s						
G18K	**Tagagawik**	**81.00**	**21**	P	**P**	**14 12 19.7**	**-1.7**
NRIK	**Noril'sk**	**81.04**	**343**	P	**P**	**14 12 20.9**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=99,slow=4.4,SNR=1.3						
	comp=Z,1.2nm,0.4s						
E18K	**Tukpahlearik C**	**81.11**	**19**	P	**P**	**14 12 21.2**	**-0.6**
E18K				IAmb	IAmb	14 12 22.4	
	comp=Z,5.0nm,0.8s						
BVAR	**Borovoye Array**	**81.41**	**325**	P	**P**	**14 12 24.3**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=103,slow=6.4,SNR=8.1						
	comp=Z,1.2nm,0.5s						
C18K	**Utukok River**	**81.56**	**18**	P	**P**	**14 12 23.6**	**-0.8**
BRLK	**Bradley Lake**	**81.61**	**28**	P	**P**	**14 12 23.4**	**-1.3**
K20K	**Telida**	**81.61**	**24**	P	**P**	**14 12 24.5**	**-0.1**
K20K				IAmb	IAmb	14 12 25.3	
	comp=Z,6.7nm,0.9s						
G19K	**Purcell Mounta**	**81.69**	**21**	P	**P**	**14 12 24.3**	**-0.7**
G19K				IAmb	IAmb	14 12 25.6	
	comp=Z,5.9nm,0.8s						
J20K	**Nowinta River**	**81.92**	**23**	P	**P**	**14 12 26.1**	**-0.1**
J20K				IAmb	IAmb	14 12 27.1	
	comp=Z,15nm,1.2s						
E19K	**Redstone River**	**82.25**	**20**	P	**P**	**14 12 27.5**	**-0.4**
E19K				IAmb	IAmb	14 12 28.4	
	comp=Z,7.9nm,0.8s						
C19K	**Lookout Ridge**	**82.30**	**18**	P	**P**	**14 12 27.8**	**-0.4**
C19K				IAmb	IAmb	14 12 29.0	
	comp=Z,5.7nm,1.0s						
CAST	**Castle Rocks**	**82.46**	**25**	P	**P**	**14 12 28.1**	**-1.0**
CAST				IAmb	IAmb	14 12 35.5	
	comp=Z,8.5nm,1.4s						
D19K	**Kuna River**	**82.46**	**19**	P	**P**	**14 12 28.3**	**-0.7**
IMAR	**Indian Mountai**	**82.84**	**22**	P	**P**	**14 12 30.0**	**-0.9**
KTH	**Kantishna Hill**	**82.99**	**25**	P	**P**	**14 12 30.1**	**-1.8**
KTH				IAmb	IAmb	14 12 31.5	
	comp=Z,10nm,1.2s						
MLY	**Manley**	**83.61**	**23**	P	**P**	**14 12 34.0**	**-1.1**
MLY				IAmb	IAmb	14 12 35.2	
	comp=Z,7.7nm,1.2s						
DHY	**Denali Highway**	**84.33**	**26**	P	**P**	**14 12 37.7**	**-1.2**
DHY				IAmb	IAmb	14 12 38.7	
	comp=Z,7.1nm,0.9s						
G23K	**Bananza Creek**	**84.51**	**22**	P	**P**	**14 12 38.9**	**-0.7**
G23K				IAmb	IAmb	14 12 40.0	
	comp=Z,5.9nm,1.1s						
MDM	**Murphy Dome**	**84.59**	**24**	P	**P**	**14 12 38.1**	**-1.9**
CCB	**Clear Creek Bu**	**84.66**	**24**	P	**P**	**14 12 38.0**	**-2.3**
CCB				IAmb	IAmb	14 12 39.0	
	comp=Z,5.3nm,0.8s						
H24K	**Noodor Dome**	**85.02**	**23**	P	**P**	**14 12 41.1**	**-1.1**
H24K				IAmb	IAmb	14 12 42.4	
	comp=Z,3.3nm,0.9s						
IL31		**85.07**	**24**	P	**P**	**14 12 39.7**	**-2.6**
IL31				IAmb	IAmb	14 12 40.6	
	comp=Z,5.8nm,0.8s						
ILAR	**Eielson Array**	**85.07**	**24**	P	**P**	**14 12 39.8**	**-2.6**
	comp=Z,3.6nm,0.7s,baz=259,slow=4.6,SNR=45						
ILAR				LR	LR	14 42 27.3	
	comp=Z,41nm,22.0s,baz=230,slow=30						
	comp=Z,3.6nm,0.7s						
RIDG	**Independent Ri**	**85.61**	**25**	P	**P**	**14 12 43.6**	**-1.6**
RIDG				IAmb	IAmb	14 13 13.2	
	comp=Z,7.4nm,1.2s						
J25K	**Salcha River,**	**85.64**	**24**	P	**P**	**14 12 43.2**	**-2.1**
J25K				IAmb	IAmb	14 12 45.0	
	comp=Z,13nm,1.5s						
J26L	**Joseph Creek**	**86.36**	**25**	P	**P**	**14 12 47.8**	**-1.1**
J26L				IAmb	IAmb	14 12 49.4	
	comp=Z,7.0nm,1.2s						
M27K	**Edge Creek, AK**	**86.57**	**27**	P	**P**	**14 12 49.2**	**-0.8**
E25K	**Arctic Village**	**86.60**	**21**	P	**P**	**14 12 49.4**	**-0.5**
E25K				IAmb	IAmb	14 12 51.5	
	comp=Z,8.7nm,1.3s						
LOGN	**Logan Glacier**	**86.63**	**29**	P	**P**	**14 12 49.7**	**-0.7**
QSPA	**South Pole Qui**	**86.74**	**180**	P	**P**	**14 12 50.8**	**0.0**
QSPA				IAmb	IAmb	14 12 52.9	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**86.74**	**180**	P	**P**	**14 12 50.5**	**-0.3**
	comp=Z,4.9nm,1.0s,baz=167,slow=0.6,SNR=10						
	comp=Z,4.9nm,1.0s						
L27K	**Beaver Creek,**	**86.75**	**26**	P	**P**	**14 12 50.0**	**-0.8**
L27K				IAmb	IAmb	14 12 51.2	
	comp=Z,4.8nm,1.1s						
BMAR	**Burnt Mountain**	**86.76**	**22**	P	**P**	**14 12 50.7**	**0.0**
BCAR	**Beaver Creek A**	**86.77**	**26**	P	**P**	**14 12 50.2**	**-0.7**
DAWY	**Dawson**	**88.03**	**26**	P	**P**	**14 12 56.5**	**-0.4**
DAWY				IAmb	IAmb	14 12 57.5	
	comp=Z,7.2nm,1.0s						
I28M	**Miner Creek**	**88.08**	**24**	P	**P**	**14 12 56.5**	**-0.7**
L29M	**L29M**	**88.41**	**27**	P	**P**	**14 12 58.6**	**-0.2**
L29M				IAmb	IAmb	14 13 03.4	
	comp=Z,7.3nm,1.2s						
F28M	**Old Crow**	**88.56**	**22**	P	**P**	**14 12 59.3**	**0.0**
F28M				IAmb	IAmb	14 13 00.2	
	comp=Z,3.7nm,1.1s						
K29M	**Barlow Dome**	**88.81**	**26**	P	**P**	**14 13 00.4**	**-0.3**
K29M				IAmb	IAmb	14 13 01.8	
	comp=Z,8.1nm,1.1s						
M30M	**Minto, Yukon**	**88.92**	**27**	P	**P**	**14 13 00.5**	**-0.7**
M30M				IAmb	IAmb	14 13 12.2	
	comp=Z,5.3nm,1.3s						
J30M	**Hart River**	**89.44**	**25**	P	**P**	**14 13 03.1**	**-0.6**
J30M				IAmb	IAmb	14 13 03.8	
	comp=Z,3.0nm,0.9s						
I30M	**Mount Dempster**	**89.51**	**25**	P	**P**	**14 13 02.9**	**-1.1**
I30M				IAmb	IAmb	14 13 04.3	
	comp=Z,5.8nm,1.3s						
INK	**Inuvik**	**91.03**	**22**	LR	LR	14 48 38.1	
	comp=Z,51nm,21.0s,baz=184,slow=32						
K04D	**Chiloquin, OR**	**97.00**	**48**	P	**P**	**14 13 39.0**	**-0.1**
YKA	**Yellowknife Ar**	**99.16**	**27**	P	**Pdif**	**14 13 46.6**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=289,slow=3.8,SNR=4.1						
	comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**139.22**	**286**	PKP	**PKPdf**	**14 19 36.5**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=80,slow=2.5,SNR=2.9						
DBIC	**Dimbokro**	**146.47**	**277**	PKPbc	**PKPbc**	**14 19 49.1**	**0.0**
	comp=Z,3.4nm,0.7s,baz=38,slow=2.5,SNR=5.4						

*IDC **29** 14:01:04.8±4.5, 2.82S×131.46E, h0km, mb4.0/2, mbtmp4.1/3, ML4.2/1, Error ellipse: s-maj=305.7km s-min=28.6km az=73.0*
*DJA **29** 14:01:09.0±0.2, 3°S±2°×13°1E±°, h10km, M4.0/9, mb4.4/5, MLv3.8/9*

ISC 29 14:01:10.4±0.9, 3.12S±0.05×130.58E±0.06, h24km, n13, σ0s40/16, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.55**	**206**	P	**Pn**	**14 01 36.8**	**+0.3**
BNDI				S	**Sb**	**14 01 57.9**	**+0.3**
FAKI	**Fak Fak**	**1.68**	**83**	P	**Pn**	**14 01 38.2**	**-0.1**
FAKI				S	**Sb**	**14 02 01.5**	**+0.1**
KRAI	**Karang Ratu**	**2.19**	**265**	P	**Pn**	**14 01 45.5**	**+0.1**
SIJI	**Sorong**	**2.34**	**17**	P	**Pn**	**14 01 47.4**	**0.0**
SWI	**Sorong**	**2.34**	**17**	P	**Pn**	**14 01 47.4**	**-0.1**
SWI				S	**Sn**	**14 02 16.3**	**+0.8**
KMPI	**Kaimana, Papua**	**3.16**	**100**	P	**Pn**	**14 01 59.1**	**+0.3**
NLAI	**Namlea**	**3.48**	**268**	P	**Pn**	**14 02 03.3**	**+0.2**
LBMI	**Labuha**	**3.94**	**309**	P	**Pn**	**14 02 09.6**	**+0.1**
SANI	**Sanana**	**4.71**	**283**	P	**Pn**	**14 02 20.3**	**+0.3**
MRSI	**Marisa**	**9.35**	**292**	P	**Pn**	**14 03 23.4**	**-0.4**
	10nm,0.6s						
WRA	**Warramunga Arr**	**17.12**	**168**	P	**Pn**	**14 05 08.2**	**0.0**
	0.8nm,0.3s,baz=351,slow=11,SNR=4.7						
	2.6nm,0.5s						
ASAR	**Alice Springs**	**20.68**	**171**	P	**P**	**14 05 47.9**	**-1.0**
	6.2nm,0.6s,baz=352,slow=10,SNR=10.0						
	6.2nm,0.6s						
MKAR	**Makanchi Array**	**65.34**	**326**	P	**P**	**14 11 50.8**	**0.0**
	0.8nm,0.5s,baz=119,slow=8.4,SNR=5.8						
	0.8nm,0.5s						

IDC 29 14:15:34.1±2.2, 4.18S×127.99E, h0km, mb3.2/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=152.4km s-min=30.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.85**	**159**	Pn	Pn	14 19 30.6	-0.9
	0.2nm,0.3s,baz=337,slow=13,SNR=5.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**20.20**	**164**	P	P	14 20 11.0	+0.4
	0.6nm,0.6s,baz=351,slow=11,SNR=18						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**64.79**	**327**	P	P	14 26 14.6	0.0
	0.2nm,0.4s,baz=122,slow=7.6,SNR=2.5						
	0.2nm,0.4s						

*IDC **29** 14:23:53.6±3.7, 30.66N×83.65E, h0km, mb3.3/4, mbtmp3.4/5, MS3.4/1, Error ellipse: s-maj=86.3km s-min=31.3km az=53.0*

ISC 29 14:23:56.3±3.1, 30.7N±0.3×83.7E±0.5, h18km, n7, σ0s29/6, mb3.2/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.15**	**357**	Pn	**P**	**14 27 45.1**	**-0.3**
	0.1nm,0.3s,baz=182,slow=12,SNR=6.1						
CMAR	**Chiang Mai Arr**	**18.42**	**128**	P	**Pn**	**14 28 10.7**	**0.0**
	0.5nm,0.6s,baz=306,slow=11,SNR=5.3						
KURBB	**Kurchatov Arra**	**20.31**	**351**	P	**P**	**14 28 31.0**	**-0.1**
	2.3nm,0.7s,baz=173,slow=10,SNR=11						
	2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**23.29**	**2**	P	**P**	**14 29 03.1**	**+0.3**
	0.4nm,0.3s,baz=183,slow=8.7,SNR=3.6						
	0.4nm,0.3s						
BVAR	**Borovoye Array**

WB2	**Warramunga Arr**	**48.52**	**257**	P		**P**		**14 36 19.9**	**-1.3**
WRAB	**Tennant Creek**	**48.53**	**257**	P		**P**		**14 36 19.9**	**-1.4**
WRA	**Warramunga Arr**	**48.54**	**257**	P		**P**		**14 36 19.4**	**-1.9**
WRA	**Warramunga Arr**	**48.54**	**257**	P		**P**		**14 36 20.0**	**-1.3**
	comp=Z,16nm,0.7s,baz=94,slow=8.3,SNR=144								
	comp=Z,16nm,0.7s								
AS01	**Alice Springs**	**48.79**	**252**	P		**P**		**14 36 22.7**	**-0.5**
AS31	**Alice Springs**	**48.83**	**252**	P		**P**		**14 36 22.9**	**-0.6**
ASAR	**Alice Springs**	**48.83**	**252**	P		**P**		**14 36 22.9**	**-0.6**
ASAR	**Alice Springs**	**48.83**	**252**	P		**P**		**14 36 22.9**	**-0.7**
	comp=Z,152nm,0.6s,baz=86,slow=7.9,SNR=1735								
ASAR				PcP		**PcP**		**14 37 43.8**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=93,slow=3.7,SNR=1.4								
MULG	**Mulgathing**	**49.01**	**243**	P		**P**		**14 36 24.0**	**-0.7**
KDU	**Kakadu**	**51.14**	**266**	P		**P**		**14 36 41.0**	**+0.2**
MTN	**Manton Dam**	**52.40**	**266**	P		**P**		**14 36 49.8**	**-0.3**
WRKA	**Warakurna**	**53.93**	**250**	P		**P**		**14 37 01.0**	**-0.2**
FORT	**Forrest**	**54.21**	**243**	P		**P**		**14 37 02.2**	**-0.8**
FORT	**Forrest**	**54.21**	**243**	P		**P**		**14 37 03.3**	**+0.2**
SOEI	**Soe**	**59.59**	**268**	P		**P**		**14 37 41.5**	**+0.4**
VNDA	**Vanda**	**63.21**	**186**	P		**P**		**14 38 05.1**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=17,slow=9.6,SNR=3.1								
VNDA				PcP		**PcP**		**14 38 40.2**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=11,slow=5.2,SNR=6.4								
	comp=Z,2.7nm,1.0s								
MJAR	**Matsushiro Arr**	**68.11**	**321**	P		**P**		**14 38 35.1**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=154,slow=5.8,SNR=6.8								
	comp=Z,1.1nm,0.5s								
PETK	**Petropavlovsk-**	**72.27**	**343**	P		**P**		**14 38 59.9**	**-0.7**
	comp=Z,6.8nm,0.6s,baz=106,slow=9.0,SNR=23								
	comp=Z,6.8nm,0.6s								
YBH	**Yreka Blue Hor**	**74.44**	**38**	P		**P**		**14 39 14.7**	**+1.0**
GSC	**Goldstone, Bar**	**74.57**	**46**	IAmb		IAmb		14 39 16.2	
	comp=Z,9.2nm,1.2s								
QSPA	**South Pole Qui**	**74.61**	**180**	P		**P**		**14 39 15.5**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=28,slow=1.8,SNR=4.5								
	comp=Z,1.7nm,0.6s								
MPK	**Martis Peak**	**74.63**	**41**	P		**P**		**14 39 15.0**	**0.0**
PNTR	**Pine Nut**	**74.79**	**41**	P		**P**		**14 39 16.4**	**+0.6**
PNTR				IAmb		IAmb		14 39 23.8	
	comp=Z,13nm,1.3s								
NVAR	**Mina Array Bea**	**75.25**	**43**	P		**P**		**14 39 19.1**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=229,slow=8.5,SNR=16								
	comp=Z,2.6nm,0.8s								
KSRS	**Korea Array**	**75.26**	**316**	P		**P**		**14 39 19.1**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=124,slow=4.9,SNR=4.2								
	comp=Z,2.0nm,0.8s								
GMN	**Gold Mountain**	**75.33**	**44**	IAmb		IAmb		14 39 20.7	
	comp=Z,6.2nm,1.1s								
NV11	**Mina Array Sit**	**75.35**	**43**	P		**P**		**14 39 19.6**	**+0.6**
NV11				IAmb		IAmb		14 39 21.0	
	comp=Z,6.8nm,1.2s								
KVN	**Kaiserville**	**75.73**	**42**	P		**P**		**14 39 21.6**	**+0.4**
Y14A	**Wickenburg**	**76.58**	**49**	IAmb		IAmb		14 39 27.8	
	comp=Z,6.6nm,0.9s								
USRK	**Ussuriysk Ar.**	**76.62**	**324**	P		**P**		**14 39 26.6**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=116,slow=6.6,SNR=2.2								
	comp=Z,1.4nm,0.7s								
X16A	**Lo Mia Camp, P**	**77.94**	**49**	IAmb		IAmb		14 39 36.0	
	comp=Z,6.8nm,0.9s								
U15A	**North Rim**	**78.30**	**47**	IAmb		IAmb		14 39 38.0	
	comp=Z,5.5nm,0.9s								
ELK	**Elko**	**78.50**	**42**	P		**P**		**14 39 36.9**	**+0.3**
WUAZ	**Wupatki**	**78.51**	**48**	IAmb		IAmb		14 39 39.0	
	comp=Z,6.8nm,1.1s								
J16K	**Anvik River**	**79.24**	**6**	P		**P**		**14 39 41.0**	**+1.3**
J16K				IAmb		IAmb		14 39 41.9	
	comp=Z,6.9nm,0.7s								
VHRN	**Van Horn**	**81.27**	**55**	IAmb		IAmb		14 39 53.5	
	comp=Z,5.8nm,0.8s								
TX31	**Lajitas Ar. Si**	**81.74**	**57**	IAmb		IAmb		14 39 56.3	
	comp=Z,8.4nm,1.3s								
TXAR	**Lajitas Array**	**81.74**	**57**	P		**P**		**14 39 55.0**	**+1.0**
	comp=Z,2.1nm,1.0s,baz=216,slow=6.2,SNR=13								
	comp=Z,2.1nm,1.0s								
ANMO	**Albuquerque**	**81.85**	**50**	P		**P**		**14 39 54.7**	**+0.2**
ANMO				IAmb		IAmb		14 39 56.6	
	comp=Z,7.5nm,1.4s								
TPAW	**Teton Pass**	**82.64**	**41**	IAmb		IAmb		14 40 00.2	
	comp=Z,5.5nm,0.7s								
ILAR	**Eielson Array**	**82.75**	**12**	P		**P**		**14 39 57.8**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=214,slow=5.3,SNR=20								
	comp=Z,1.0nm,0.5s								
S22A	**4UR Ranch, Cre**	**82.78**	**48**	IAmb		IAmb		14 40 01.5	
	comp=Z,6.0nm,0.8s								
F19K	**Shaleruckik Mo**	**83.00**	**7**	IAmb		IAmb		14 40 00.5	
	comp=Z,4.5nm,0.8s								
YHL	**Hebgen Lake**	**83.16**	**40**	IAmb		IAmb		14 40 03.6	
	comp=Z,7.7nm,0.8s								
BW06	**Boulder Array**	**83.19**	**42**	IAmb		IAmb		14 40 02.2	
	comp=Z,4.5nm,0.7s								
PD31	**Pinedale Array**	**83.19**	**42**	IAmb		IAmb		14 40 02.2	
	comp=Z,3.9nm,0.7s								
PDAR	**Pinedale Array**	**83.19**	**42**	P		**P**		**14 40 01.3**	**0.0**
	comp=Z,5.1nm,0.8s,baz=210,slow=3.3,SNR=40								
	comp=Z,5.1nm,0.8s								
E18K	**Tukpahlearik C**	**83.28**	**5**	IAmb		IAmb		14 40 02.2	
	comp=Z,6.6nm,0.8s								
E19K	**Redstone River**	**83.66**	**7**	IAmb		IAmb		14 40 04.5	
	comp=Z,10nm,1.2s								
K29M	**Barlow Dome**	**84.08**	**16**	P		**P**		**14 40 05.8**	**+0.7**
D19K	**Kuna River**	**84.56**	**6**	IAmb		IAmb		14 40 08.4	
	comp=Z,4.1nm,0.8s								
HHC	**Hu-ho-hao-te**	**88.08**	**313**	*e*P		**P**		**14 40 25.3**	**+0.2**
HHC				pmax		pmax			
	comp=Z,18nm,0.9s								
HHC				pmax		pmax			
	comp=Z,240nm,7.6s								
YKA	**Yellowknife Ar**	**90.67**	**24**	P		**P**		**14 40 39.5**	**+3.0**
	comp=Z,0.1nm,0.7s,baz=241,slow=5.1,SNR=5.0								
CMAR	**Chiang Mai Arr**	**91.36**	**289**	P		**P**		**14 40 42.2**	**+1.5**
	comp=Z,4.6nm,0.8s,baz=91,slow=2.5,SNR=27								
	comp=Z,4.6nm,0.8s								
CHTO	**Chiang Mai**	**91.46**	**289**	P		**P**		**14 40 41.5**	**+0.3**
SONM	**Songino Array**	**93.99**	**319**	P		**P**		**14 40 51.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=134,slow=6.2,SNR=2.9								
	comp=Z,0.4nm,0.6s								
MKAR	**Makanchi Array**	**109.90**	**315**	PKiKP		**PKiKP**		**14 46 02.8**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=27,slow=2.7,SNR=3.3								
KURBB	**Kurchatov Arra**	**112.35**	**319**	PKiKP		**PKiKP**		**14 46 07.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=88,slow=1.9,SNR=3.8								
BVAR	**Borovoye Array**	**117.09**	**322**	PKP		**PKPdf**		**14 46 17.1**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=141,slow=1.4,SNR=8.5								
ARCES	**ARCESS Array B**	**124.45**	**351**	PKP		**PKPdf**		**14 46 30.9**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=350,slow=1.5,SNR=14								
FINES	**FINESS Array B**	**131.68**	**347**	PKP		**PKPdf**		**14 46 45.1**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=1.9,slow=5.7,SNR=7.4								
HFS	**Hagfors**	**134.94**	**354**	PKP		**PKPdf**		**14 46 49.9**	**-1.6**
	comp=Z,3.3nm,0.9s,baz=349,slow=1.5,SNR=1.9								
DPC	**Dobruska-Polom**	**144.03**	**348**	*e*PKP		PKPbc		14 47 07.5	+0.5
KMBO	**Kilima Mbogo**	**144.31**	**245**	PKhKP		PKPpre		14 47 06.8	
	comp=Z,5.0nm,0.8s,baz=63,slow=2.7,SNR=9.3								
MORC	**Moravsky Berou**	**144.31**	**346**	*e*PKP		PKPbc		14 47 07.6	-0.2
LANS	**Liptovska Anna**	**144.41**	**344**	*e*PKP		**PKPdf**		**14 47 09.0**	**0.0**
PRU	**Pruhonice**	**144.72**	**350**	*e*PKP		PKPbc		14 47 08.7	-0.3
VRAC	**Vranov**	**144.96**	**347**	*e*PKP		**PKPab**		**14 47 10.0**	**0.0**
JAVC	**Velka Javorina**	**145.14**	**346**	*e*PKP		**PKPab**		**14 47 11.8**	**+1.1**
VYHS	**Vyhne**	**145.18**	**344**	*e*PKP		**PKPab**		**14 47 11.1**	**+0.3**
KRUC	**Moravsky**	**145.24**	**347**	*e*PKP		**PKPab**		**14 47 10.8**	**-0.2**
ZVC	**Zvikov**	**145.31**	**350**	*e*PKP		**PKPab**		**14 47 11.7**	**+0.4**
BRTR	**Keskin Array B**	**145.34**	**320**	PKPbc		**PKPbc**		**14 47 11.4**	**0.0**
	comp=Z,3.7nm,0.6s,baz=87,slow=2.9,SNR=20								
MODS	**Modra-Piesok**	**145.69**	**346**	*e*PKP		**PKPab**		**14 47 12.7**	**-0.1**
KHC	**Kasperske Hory**	**145.71**	**350**	*e*PKP		**PKPbc**		**14 47 11.9**	**-0.2**
GERES	**GERESS Array B**	**145.96**	**350**	PKPbc		**PKPbc**		**14 47 12.7**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=22,slow=6.0,SNR=4.4								
CONA	**Conrad Observa**	**146.43**	**347**	*i* PKP		**PKPab**		**14 47 15.1**	**-0.6**
	comp=Z,7.5nm,0.7s								
RONA	**Rosalia, Austr**	**146.55**	**346**	*i* PKP		**PKPab**		**14 47 15.4**	**-0.7**
	comp=Z,13nm,1.3s								
MOA	**Molln**	**146.82**	**349**	*i* PKP		**PKPbc**		**14 47 15.8**	**+0.5**
	comp=Z,2.0nm,0.5s								
BIOA	**Bad Ischl, Aus**	**147.09**	**350**	*i* PKP		**PKPbc**		**14 47 16.2**	**+0.1**
	comp=Z,4.6nm,0.7s								
MMAI	**Mount Meron Ar**	**147.55**	**308**	PKPbc		**PKPbc**		**14 47 18.6**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=57,slow=6.3,SNR=7.6								
RETA	**Reute**	**147.71**	**353**	*i* PKP		**PKPbc**		**14 47 18.1**	**+0.3**
	comp=Z,3.9nm,0.8s								
KBA	**Koelnbreinsper**	**147.74**	**350**	*i* PKP		**PKPbc**		**14 47 17.7**	**-0.4**
	comp=Z,4.2nm,0.5s								
WATA	**Walderalm**	**147.76**	**352**	*i* PKP		**PKPbc**		**14 47 18.1**	**+0.1**
	comp=Z,2.1nm,0.5s								
SOKA	**Soboth**	**147.79**	**347**	*i* PKP		**PKPbc**		**14 47 17.8**	**-0.3**
	comp=Z,4.3nm,1.0s								
MOTA	**Moosalm**	**147.81**	**352**	*i* PKP		**PKPbc**		**14 47 18.3**	**+0.1**
	comp=Z,6.7nm,1.0s								
WTTA	**Wattenberg**	**147.82**	**352**	*i* PKP		**PKPbc**		**14 47 18.6**	**+0.4**
	comp=Z,5.8nm,0.5s								
DAVA	**Damuels**	**148.01**	**354**	*i* PKP		**PKPbc**		**14 47 19.1**	**+0.4**
	comp=Z,7.2nm,0.8s								
OBKA	**Obir**	**148.05**	**348**	*i* PKP		**PKPbc**		**14 47 18.4**	**-0.4**
	comp=Z,1.6nm,0.6s								
MYKA	**Terra Mystica**	**148.12**	**349**	*i* PKP		**PKPbc**		**14 47 18.4**	**-0.5**
	comp=Z,3.8nm,0.5s								
ABTA	**Abfaltersbach**	**148.19**	**350**	*i* PKP		**PKPbc**		**14 47 18.9**	**-0.2**
	comp=Z,4.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**175.90**	**123**	PKPab		**PKPab**		**14 49 23.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=265,slow=3.5,SNR=5.5								

*IDC **29** 14:36:30.9±1.0, 43.24N×77.58E, h0km, mb3.3/5, mbtmp3.4/9, ML2.8/3, Error ellipse: s-maj=14.4km s-min=8.8km az=142.0*
*KRNET **29** 14:36:32.8±0.1, 43.21N×77.59E, h17km, mb4.5*
*NNC **29** 14:36:32.5±0.3, 43.20N×77.60E, h0km, mb4.3, mpv4.7, Error ellipse: s-maj=3.9km s-min=1.3km az=170.0*
*SOME **29** 14:36:33.1, 43.22N×77.57E, h15km, MS2.6*
*MOS **29** 14:36:34.1±1.4, 43.31N×77.63E, h32km, mb4.1/1, Error ellipse: s-maj=6.8km s-min=5.2km az=53.6*
*KNET **29** 14:36:35.2±0.7, 43.21N×77.35E, h16km±5km, ml3.6, Error ellipse: s-maj=6.3km s-min=5.0km az=130.0*
*NEIC **29** 14:36:35.6±1.5, 43.20N±0.05×77.75E±0.07, h29km±6km, mb4.5/4, Error ellipse: s-maj=8.0km s-min=7.1km az=215.0*

ISC 29 14:36:32.7±0.7, 43.22N±0.02×77.59E±0.01, h12km±4km, n174, σ1°32/260, mb4.4/10, 46C-32D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTS	**Kotyrbulak**	**0.35**	**273**	P	**Pb**	**14 36 40.2**	**-0.7**
	3μm,0.2s						
KOTS				S	**Sb**	**14 36 45.7**	**-0.9**
	15μm,0.4s						
KOTS	**Kotyrbulak**	**0.35**	**273**	*e*P	**Pb**	**14 36 40.2**	**-0.7**
	3μm,0.2s						
KOTS				*e*S	**Sb**	**14 36 45.6**	**-0.9**
	15μm,0.4s						
KOTS	**Kotyrbulak**	**0.35**	**273**	*e*P	**Pb**	**14 36 40.2**	**-0.7**
	baz=74						
KOTS				*e*S	**Sb**	**14 36 45.6**	**-0.9**
	baz=74						
MDOK	**Medeo**	**0.40**	**262**	⇓P	**Pb**	**14 36 40.6**	**-1.2**
	354nm,0.5s						
MDOK				Pg	**Pb**	**14 36 40.8**	**-1.0**
	706nm,0.1s						
MDOK				⇑S	**Sg**	**14 36 45.4**	**-0.8**
	2μm,0.5s						
MDOK				Lg	Lg	14 36 46.3	
	3μm,0.3s						
MDOK	**Medeo**	**0.40**	**262**	*i* P	**Pb**	**14 36 40.7**	**-1.2**
	baz=255						
MDOK	**Medeo**	**0.40**	**262**	*e*P	**Pb**	**14 36 40.8**	**-1.0**
	706nm,0.1s						
MDOK				*e*S	**Sb**	**14 36 46.3**	**-1.6**
	3μm,0.3s						
MDOK	**Medeo**	**0.40**	**262**	*i* PG	**Pb**	**14 36 40.6**	**-1.2**
MDOK	**Medeo**	**0.40**	**262**	*e*P	**Pb**	**14 36 40.8**	**-1.0**
	baz=63						
MDOK				*e*S	**Sb**	**14 36 46.3**	**-1.6**
	baz=63						
ANVS	**Anan'yevo**	**0.44**	**173**	⇓*e*P	**Pb**	**14 36 41.3**	**-1.1**
	baz=72						
ANVS				⇓*e*S	**Sb**	**14 36 47.0**	**-2.0**
	baz=72						
KNDC	**Almaty**	**0.46**	**270**	⇑P	**Pb**	**14 36 42.0**	**-0.6**
	934nm,0.3s						
KNDC				⇑S	**Sb**	**14 36 49.0**	**-0.5**
	4μm,0.4s						
AAA	**Alma-Ata**	**0.50**	**269**	P	**Pb**	**14 36 43.1**	**-0.2**
	7μm,0.1s						
AAA				S	**Sb**	**14 36 50.2**	**-0.3**
	2μm,0.2s						
AAA	**Alma-Ata**	**0.50**	**269**	⇓*i*P	**Pb**	**14 36 43.1**	**-0.2**
	baz=262						
AAA	**Alma-Ata**	**0.50**	**269**	*e*P	**Pb**	**14 36 43.1**	**-0.2**
	7μm,0.1s						
AAA				*e*S	**Sb**	**14 36 50.2**	**-0.3**
	2μm,0.2s						
AAA	**Alma-Ata**	**0.50**	**269**	*e*PG	**Pb**	**14 36 43.0**	**-0.3**
KURS	**Kuram**	**0.50**	**57**	*e*P	**Pb**	**14 36 42.8**	**-0.6**
	89nm,0.1s						
KURS				*e*S	**Sb**	**14 36 49.7**	**-1.0**
	333nm,0.1s						
KURS	**Kuram**	**0.50**	**57**	*e*P	**Pb**	**14 36 42.8**	**-0.6**
	baz=57						
KURS				*e*S	**Sb**	**14 36 49.7**	**-1.0**
	baz=57						
TNSS	**Tian-Shan**	**0.51**	**249**	P	**Pb**	**14 36 42.6**	**-1.2**
	562nm,0.1s						
TNSS				S	**Sg**	**14 36 49.2**	**-0.3**
	1μm,0.2s						
TNSS	**Tian-Shan**	**0.51**	**249**	⇓*i*P	**Pb**	**14 36 42.5**	**-1.2**
	baz=245						
TNSS	**Tian-Shan**	**0.51**	**249**	*e*P	**Pb**	**14 36 42.6**	**-1.2**
	562nm,0.1s						
TNSS				*e*S	**Sg**	**14 36 49.2**	**-0.3**
	1μm,0.2s						
TNSS	**Tian-Shan**	**0.51**	**249**	⇓*i*PG	**Pb**	**14 36 42.4**	**-1.3**
TNSS	**Tian-Shan**	**0.51**	**249**	*e*P	**Pb**	**14 36 42.6**	**-1.2**
	baz=50						
TNSS				*e*S	**Sg**	**14 36 49.2**	**-0.3**
	baz=50						
SATY	**Saty**	**0.62**	**105**	P	**Pb**	**14 36 44.8**	**-0.7**
	2μm,0.1s						
SATY				S	**Sb**	**14 36 53.3**	**-0.8**
	9μm,0.1s						
SATY	**Saty**	**0.62**	**105**	⇓*i*P	**Pb**	**14 36 44.7**	**-0.7**
	baz=113						
SATY	**Saty**	**0.62**	**105**	*e*P	**Pb**	**14 36 44.8**	**-0.7**
	2μm,0.1s						
SATY				*e*S	**Sb**	**14 36 53.3**	**-0.8**
	9μm,0.1s						
SATY	**Saty**	**0.62**	**105**	*d i*PG	**Pb**	**14 36 44.7**	**-0.7**
SATY	**Saty**	**0.62**	**105**	*e*P	**Pb**	**14 36 44.8**	**-0.7**
	baz=4.0						
SATY				*e*S	**Sb**	**14 36 53.3**	**-0.8**
	baz=4.0						
ZHN	**Zhinishke**	**0.62**	**94**	P	**Pb**	**14 36 44.6**	**-0.8**
	1μm,0.2s						
ZHN				S	**Sb**	**14 36 53.3**	**-0.8**
	6μm,0.2s						
ZHN	**Zhinishke**	**0.62**	**94**	*e*P	**Pb**	**14 36 44.6**	**-0.8**
	1μm,0.2s						
ZHN				*e*S	**Sb**	**14 36 53.3**	**-0.8**
	6μm,0.2s						
ZHN	**Zhinishke**	**0.62**	**94**	*d i*PG	**Pb**	**14 36 44.6**	**-0.8**
ZHN	**Zhinishke**	**0.62**	**94**	*e*P	**Pb**	**14 36 44.6**	**-0.8**
	baz=94						
ZHN				*e*S	**Sb**	**14 36 53.3**	**-0.8**
	baz=94						
CHKK	**Chushkaly**	**0.77**	**325**	P	**Pb**	**14 36 47.6**	**-0.4**
	689nm,0.2s						
CHKK				S	**Sb**	**14 36 57.9**	**-0.6**
	3μm,0.3s						
CHKK	**Chushkaly**	**0.77**	**325**	⇓*i*P	**Pb**	**14 36 47.6**	**-0.4**
	baz=319						
CHKK	**Chushkaly**	**0.77**	**325**	*e*P	**Pb**	**14 36 47.6**	**-0.4**
	689nm,0.2s						
CHKK				*e*S	**Sb**	**14 36 57.9**	**-0.6**
	3μm,0.3s						
CHKK	**Chushkaly**	**0.77**	**325**	⇓*i*PG	**Pb**	**14 36 47.5**	**-0.5**
CHKK	**Chushkaly**	**0.77**	**325**	*e*P	**Pb**	**14 36 47.6**	**-0.4**
	baz=26						
CHKK				*e*S	**Sb**	**14 36 57.9**	**-0.6**
	baz=26						
KTBS	**Karatobe**	**0.83**	**307**	P	**Pb**	**14 36 48.6**	**-0.3**
	436nm,0.1s						
KTBS				S	**Sb**	**14 36 59.6**	**-0.4**
	959nm,0.2s						
KTBS	**Karatobe**	**0.83**	**307**	*e*P	**Pb**	**14 36 48.6**	**-0.3**
	436nm,0.1s						
KTBS				*e*S	**Sb**	**14 36 59.6**	**-0.4**
	959nm,0.2s						
KTBS	**Karatobe**	**0.83**	**307**	*e*P	**Pb**	**14 36 48.6**	**-0.3**
	baz=7.0						
KTBS				*e*S	**Sb**	**14 36 59.6**	**-0.4**
	baz=7.0						
KPKS	**Kokpek**	**0.83**	**72**	P	**Pb**	**14 36 48.7**	**-0.5**
	1μm,0.2s						
KPKS				S	**Sb**	**14 37 00.1**	**-0.2**
	2μm,0.3s						
KPKS	**Kokpek**	**0.83**	**72**	⇓*i*P	**Pb**	**14 36 48.6**	**-0.5**
	baz=78						
KPKS	**Kokpek**	**0.83**	**72**	*e*P	**Pb**	**14 36 48.7**	**-0.5**
	1μm,0.2s						
KPKS				*e*S	**Sb**	**14 37 00.1**	**-0.2**
	2μm,0.3s						
KPKS	**Kokpek**	**0.83**	**72**	*d i*PG	**Pb**	**14 36 48.6**	**-0.5**
KPKS	**Kokpek**	**0.83**	**72**	*e*P	**Pb**	**14 36 48.7**	**-0.5**
	baz=72						
KPKS				*e*S	**Sb**	**14 37 00.1**	**-0.2**
	baz=72						
MTBS	**Maitube**	**0.86**	**264**	P	**Pb**	**14 36 49.0**	**-0.5**
	806nm,0.2s						
MTBS				S	**Sb**	**14 37 00.3**	**-0.7**
	783nm,0.2s						
MTBS	**Maitube**	**0.86**	**264**	*e*P	**Pb**	**14 36 49.0**	**-0.5**
	806nm,0.2s						
MTBS				*e*S	**Sb**	**14 37 00.3**	**-0.7**
	783nm,0.2s						
MTBS	**Maitube**	**0.86**	**264**	*e*P	**Pb**	**14 36 49.0**	**-0.5**
	baz=65						
MTBS				*e*S	**Sb**	**14 37 00.3**	**-0.7**
	baz=65						
PRZ	**Przheval'sk**	**0.94**	**141**		**Pn**	**14 36 51.4**	**-0.5**
PRZ				Sn	**Sb**	**14 37 03.5**	**-0.1**
PRZ	**Przheval'sk**	**0.94**	**141**	*i* PG	**Pn**	**14 36 51.6**	**-0.3**
PRZ				*i* S	**Sn**	**14 37 04.7**	**-0.7**
PRZ	**Przheval'sk**	**0.94**	**141**	⇑*i*P	**Pb**	**14 36 50.6**	**-0.5**
	baz=40						
PRZ				⇑*i*S	**Sb**	**14 37 03.1**	**-0.5**
	baz=40						
ARXS	**Arharly**	**1.01**	**10**	P	**Pn**	**14 36 51.9**	**-0.7**
	38nm,0.1s						
ARXS				S	**Sb**	**14 37 05.3**	**-0.1**
ARXS	**Arharly**	**1.01**	**10**	*e*P	**Pn**	**14 36 51.9**	**-0.7**
	38nm,0.1s						
ARXS				*e*S	**Sb**	**14 37 05.3**	**-0.1**
ARXS	**Arharly**	**1.01**	**10**	*e*PG	**Pn**	**14 36 51.9**	**-0.7**
UZB	**Uzunbulak**	**1.05**	**93**	P	**Pb**	**14 36 52.2**	**-0.6**
	539nm,0.2s						
UZB				S	**Sb**	**14 37 06.0**	**-0.5**
	1μm,0.2s						
UZB	**Uzunbulak**	**1.05**	**93**	⇓*i*P	**Pb**	**14 36 52.2**	**-0.6**
	baz=98						
UZB	**Uzunbulak**	**1.05**	**93**	*e*P	**Pb**	**14 36 52.2**	**-0.6**
	539nm,0.2s						
UZB				*e*S	**Sb**	**14 37 06.0**	**-0.5**
	1μm,0.2s						
UZB	**Uzunbulak**	**1.05**	**93**	*d i*PG	**Pb**	**14 36 52.1**	**-0.6**
UZB	**Uzunbulak**	**1.05**	**93**	*e*P	**Pb**	**14 36 52.2**	**-0.6**
	baz=93						
UZB				*e*S	**Sb**	**14 37 06.0**	**-0.5**
	baz=93						
BLB	**Baldybastay**	**1.09**	**36**	P	**Pn**	**14 36 53.4**	**-0.5**
	269nm,0.2s						
BLB				S	**Sb**	**14 37 08.0**	**+0.4**
	896nm,0.2s						
KST	**Kastek**	**1.21**	**262**	P	**Pn**	**14 36 55.0**	**-0.4**
	742nm,0.2s						
KST				S	**Sn**	**14 37 11.1**	**-0.6**
	495nm,0.2s						
KST	**Kastek**	**1.21**	**262**	*e*P	**Pn**	**14 36 55.0**	**-0.4**
	742nm,0.2s						
KST				*e*S	**Sn**	**14 37 11.1**	**-0.6**
	495nm,0.2s						
KST	**Kastek**	**1.21**	**262**	*e*P	**Pn**	**14 36 55.0**	**-0.4**
	baz=62						
KST				*e*S	**Sn**	**14 37 11.1**	**-0.6**
	baz=62						
DGS	**Degeres**	**1.33**	**272**	P	**Pg**	**14 36 57.3**	**-0.9**
	870nm,0.3s						
DGS				S	**Sn**	**14 37 15.0**	**+0.2**
	2μm,0.4s						
DGS	**Degeres**	**1.33**	**272**	*e*P	**Pg**	**14 36 57.3**	**-0.9**
	870nm,0.3s						
DGS				*e*S	**Sn**	**14 37 15.0**	**+0.2**
	2μm,0.4s						
DGS	**Degeres**	**1.33**	**272**	*e*P	**Pg**	**14 36 57.3**	**-0.9**
	baz=72						
DGS				*e*S	**Sn**	**14 37 15.0**	**+0.2**
	baz=72						
SHLS	**Shalkode**	**1.37**	**92**	P	Pg	14 37

	93nm,0.2s								
KTMS					Lg	Lg	14 37 35.5		
	381nm,0.2s								
KTMS	**Ketmen**	**2.03**	**83**	*e*P	**Pb**	**14 37 09.4**	**-0.1**		
	93nm,0.2s								
KTMS				*e*S	**Sg**	**14 37 35.5**	**-2.3**		
	381nm,0.2s								
KTMS	**Ketmen**	**2.03**	**83**	*e*P	**Pb**	**14 37 09.4**	**-0.1**		
	baz=82								
KTMS				*e*S	**Sg**	**14 37 35.5**	**-2.3**		
	baz=82								
CHMS	**Chumysh**	**2.09**	**265**	⇓P	**Pb**	**14 37 09.7**	**-0.8**		
	123nm,0.2s,SNR=51								
CHMS				⇑S	**Sb**	**14 37 37.1**	**+0.6**		
	353nm,0.2s								
CHMS	**Chumysh**	**2.09**	**265**	*e*PN	**Pb**	**14 37 09.6**	**-0.9**		
CHMS	**Chumysh**	**2.09**	**265**	⇑*i*P	**Pb**	**14 37 09.6**	**-0.9**		
	baz=65								
CHMS				⇑*i*S	**Sb**	**14 37 36.4**	**-0.1**		
	baz=65								
NRN	**Naryn**	**2.14**	**214**		**Pg**	**14 37 11.6**	**-2.1**		
NRN	**Naryn**	**2.14**	**214**	PN	**Pg**	**14 37 11.6**	**-2.1**		
NRN	**Naryn**	**2.14**	**214**	⇓*i*P	**Pb**	**14 37 10.9**	**-0.6**		
	baz=14								
NRN				⇓*i*S	**Sb**	**14 37 38.4**	**+0.3**		
	baz=14								
SGDS	**Sogindy**	**2.17**	**277**	*e*Pn	**Pb**	**14 37 10.4**	**-1.6**		
	baz=275								
SGDS	**Sogindy**	**2.17**	**277**	*e*PN	**Pb**	**14 37 10.3**	**-1.6**		
USP	**Ospenovka**	**2.26**	**272**	⇓P	**Pb**	**14 37 12.1**	**-1.3**		
	190nm,0.2s,SNR=39								
USP				⇓S	**Sb**	**14 37 40.8**	**-0.5**		
	337nm,0.2s								
USP	**Ospenovka**	**2.26**	**272**	*e*PN	**Pb**	**14 37 12.2**	**-1.2**		
USP	**Ospenovka**	**2.26**	**272**	⇑*i*P	**Pb**	**14 37 12.2**	**-1.2**		
	baz=72								
USP				⇑*i*S	**Sb**	**14 37 40.8**	**-0.5**		
	baz=72								
AAK	**Ala-Archa**	**2.35**	**257**	⇑P	**Pb**	**14 37 14.0**	**-0.9**		
	121nm,0.2s,SNR=174								
AAK				⇓S	**Sb**	**14 37 44.3**	**+0.3**		
	308nm,0.3s								
AAK	**Ala-Archa**	**2.35**	**257**		**Pb**	**14 37 14.1**	**-0.9**		
AAK	**Ala-Archa**	**2.35**	**257**	Pn	**Pb**	**14 37 14.3**	**-0.7**		
	103nm,0.3s,baz=109,slow=8.2,SNR=443								
AAK				Lg	Lg	14 37 45.7			
	64nm,0.3s,baz=249,slow=19,SNR=22								
AAK	**Ala-Archa**	**2.35**	**257**	⇑*i*P	**Pb**	**14 37 13.6**	**-1.4**		
	baz=57								
AAK				⇑*i*S	**Sb**	**14 37 42.9**	**-1.1**		
	baz=57								
UCH	**Uchtor**	**2.48**	**247**	⇑P	**Pb**	**14 37 16.6**	**-0.7**		
	240nm,0.5s,SNR=345								
UCH				⇑del		14 37 50.2			
	544nm,0.6s								
UCH	**Uchtor**	**2.48**	**247**	*e*PN	**Pb**	**14 37 15.4**	**-1.9**		
UCH	**Uchtor**	**2.48**	**247**	⇑*i*P	**Pb**	**14 37 15.4**	**-1.9**		
	baz=48								
UCH				⇑*i*S	**Sb**	**14 37 46.2**	**-1.7**		
	baz=48								
ARLS	**Aral**	**2.77**	**242**	*e*PN	**Pb**	**14 37 19.5**	**-2.7**		
ARLS	**Aral**	**2.77**	**242**	⇑*i*P	**Pb**	**14 37 19.5**	**-2.7**		
	baz=42								
ARLS				⇑*i*S	**Sb**	**14 37 53.2**	**-2.9**		
	baz=42								
BTLS	**Baital**	**3.14**	**307**	Pg	**Pb**	**14 37 29.6**	**+1.3**		
	45nm,0.2s								
BTLS				Lg	Lg	14 38 08.3			
	45nm,0.2s								
BTLS	**Baital**	**3.14**	**307**	*e*Pn	**Pn**	**14 37 22.8**	**+0.9**		
	baz=305								
BTLS				*e*Pb	**Pb**	**14 37 27.6**	**-0.7**		
	baz=305								
BTLS	**Baital**	**3.14**	**307**	*e*P	**Pb**	**14 37 29.6**	**+1.3**		
	50nm,0.2s								
BTLS				*e*S	**Sg**	**14 38 10.2**	**-3.2**		
	58nm,0.4s								
BTLS	**Baital**	**3.14**	**307**	*e*PN	**Pn**	**14 37 22.7**	**+0.9**		
MRKS	**Merke**	**3.24**	**263**	Pg	**Pb**	**14 37 31.2**	**+1.1**		
	104nm,0.4s								
MRKS				Lg	Lg	14 38 11.2			
	89nm,0.3s								
MRKS	**Merke**	**3.24**	**263**	*e*P	**Pb**	**14 37 31.2**	**+1.1**		
	104nm,0.4s								
MRKS				*e*S	**Sg**	**14 38 12.7**	**-4.0**		
	89nm,0.3s								
KSH	**Kashi**	**3.90**	**199**	P	**Pb**	**14 37 41.0**	**-0.3**		
KSH				sP	Pg	14 37 52.5	+5.2		
KSH				S	**Sb**	**14 38 30.5**	**+2.1**		
KSH				pmax	pmax				
	comp=Z,2.0nm,1.7s								
KSH				smax	smax				
	comp=N,43nm,0.9s								
KSH				smax	smax				
	comp=E,43nm,1.1s								
OHH	**Osh**	**4.49**	**235**	*e*PN	**Pn**	**14 37 43.2**	**+2.7**		
OHH	**Osh**	**4.49**	**235**	⇑*i*P	**Pn**	**14 37 43.2**	**+2.7**		
	baz=35								
OHH				⇑*i*S	**Sn**	**14 38 34.3**	**+1.7**		
	baz=35								
DZA	**Taraz**	**4.60**	**268**	*e*Pb	**Pb**	**14 37 53.3**	**+0.1**		
	baz=267								
DZA	**Taraz**	**4.60**	**268**	*e*PN	**Pb**	**14 37 53.3**	**+0.1**		
MAKZ	**Makanchi**	**4.75**	**39**	⇑Pn	**Pn**	**14 37 46.3**	**+2.3**		
	comp=E,1.8nm,0.3s								
MAKZ				⇑Pg	**Pg**	**14 38 02.7**	**-0.8**		
	comp=E,6.4nm,0.8s								
MAKZ				⇑Lg	Lg	14 39 05.5			
	comp=E,31nm,1.0s								
MAKZ	**Makanchi**	**4.75**	**39**		**Pn**	**14 37 45.9**	**+1.9**		
MAKZ	**Makanchi**	**4.75**	**39**	PN	**Pn**	**14 37 45.9**	**+1.9**		
MK31	**Makanchi Array**	**4.88**	**41**	Pn	**Pn**	**14 37 47.6**	**+1.7**		
	comp=E,6.1nm,0.6s,baz=215,slow=15,SNR=86								
MK31				⇓Sn	**Sn**	**14 38 44.8**	**+2.5**		
	comp=E,9.2nm,0.4s,baz=215,slow=24,SNR=6.7								
MK31				⇓Lg	Lg	14 39 11.5			
	comp=E,26nm,0.7s,baz=215,slow=29,SNR=6.0								
MK31	**Makanchi Array**	**4.88**	**41**		**Pn**	**14 37 47.4**	**+1.5**		
MK31	**Makanchi Array**	**4.88**	**41**	*c*PN	**Pn**	**14 37 47.4**	**+1.5**		
MKAR	**Makanchi Array**	**4.88**	**41**		**Pn**	**14 37 47.4**	**+1.5**		
MKAR	**Makanchi Array**	**4.88**	**41**	Pn	**Pn**	**14 37 47.6**	**+1.7**		
	comp=E,0.5nm,0.3s,baz=220,slow=14,SNR=32								
MKAR				Pg	**Pg**	**14 38 01.7**	**-4.4**		
	comp=E,2.1nm,0.3s,baz=222,slow=16,SNR=13								
MKAR				Sn	**Sn**	**14 38 42.6**	**+0.3**		
	comp=E,5.5nm,0.3s,baz=217,slow=24,SNR=12								
MKAR				Lg	Lg	14 39 02.5			
	comp=E,5.7nm,0.3s,baz=218,slow=32,SNR=11								
	comp=E,0.9nm,0.3s								
TRKS	**Terek-Say**	**5.07**	**253**	*i* PN	**Pn**	**14 37 51.2**	**+2.6**		
TRKS	**Terek-Say**	**5.07**	**253**	⇑*i*P	**Pn**	**14 37 51.2**	**+2.6**		
	baz=52								
TRKS				⇑*i*S	**Sn**	**14 38 48.1**	**+1.0**		
	baz=52								
KK31	**Karatay Array**	**5.18**	**271**	⇑Pg	**Pb**	**14 38 04.0**	**+0.8**		
	comp=E,7.3nm,0.4s,baz=87,slow=16,SNR=27								
KK31				⇓Lg	Lg	14 39 18.1			
	comp=E,14nm,0.4s,baz=84,slow=24,SNR=7.4								
BTK	**Batken**	**5.98**	**240**		**Pn**	**14 38 03.7**	**+2.7**		
BTK	**Batken**	**5.98**	**240**	PN	**Pn**	**14 38 03.7**	**+2.7**		
ZSN	**Zaisan**	**6.64**	**48**	*e*Pn	Pn	14 38 05.2	-4.8		
	baz=46								
ZSN				*e*Pg	**Pb**	**14 38 27.6**	**-0.5**		
	baz=46								
ZSN	**Zaisan**	**6.64**	**48**	*e*PN	Pn	14 38 05.2	-4.8		
WMQ	**Urumqi**	**7.37**	**82**	Pn	Pn	14 38 25.3	+5.3		
WMQ				Sn	**Sn**	**14 39 48.3**	**+4.7**		
WMQ				smax	smax				
	comp=N,20nm,0.9s								
WMQ				smax	smax				
	comp=E,20nm,0.7s								
SEM	**Semipalatinsk**	**7.42**	**13**	*e*Pn	**Pn**	**14 38 19.8**	**-1.1**		
	baz=13								
SEM				*e*Pb	**Pb**	**14 38 38.7**	**-2.6**		
	baz=13								
SEM	**Semipalatinsk**	**7.42**	**13**	*e*P	**Pn**	**14 38 19.7**	**-1.1**		
KURBB	**Kurchatov Arra**	**7.43**	**5**	⇑Pn	**Pn**	**14 38 21.3**	**+0.5**		
	comp=E,1.9nm,0.7s								
KURBB				⇑Lg	Lg	14 40 33.8			
	comp=E,33nm,0.6s								
KURBB	**Kurchatov Arra**	**7.43**	**5**	Pn	**Pn**	**14 38 21.6**	**+0.8**		
	comp=E,0.2nm,0.3s,baz=183,slow=9.6,SNR=7.2								
KURBB				Sn	**Sn**	**14 39 43.5**	**-1.5**		
	comp=E,0.2nm,0.3s,baz=164,slow=19,SNR=1.8								
KURBB				Lg	Lg	14 40 25.1			
	comp=E,0.4nm,0.3s,baz=188,slow=28,SNR=8.3								
	comp=E,0.5nm,0.4s								
KURK	**Kurchatov**	**7.53**	**5**	⇑Pn	**Pn**	**14 38 22.1**	**0.0**		
	comp=E,1.8nm,0.8s								
KURK				⇑Lg	Lg	14 40 34.9			
	comp=E,23nm,0.6s								
KURK	**Kurchatov**	**7.53**	**5**	Pn	**Pn**	**14 38 22.8**	**+0.6**		
KURK	**Kurchatov**	**7.53**	**5**	P	**Pn**	**14 38 21.6**	**-0.6**		
KURK						14 39 43.5			
BRZS	**Berezniki**	**7.56**	**335**	*e*Pn	**Pn**	**14 38 22.5**	**-0.2**		
	baz=335								
BRZS				*i* Sn	**Sn**	**14 39 48.9**	**+0.7**		
	baz=335								
BRZS				*i* Lg	Lg	14 40 31.7			
	baz=335								
BRZS	**Berezniki**	**7.56**	**335**	*e*P	**Pn**	**14 38 22.4**	**-0.2**		
DGZ	**Jazzator, Alta**	**9.38**	**43**	⇑*e*P	**Pn**	**14 38 47.5**	**-0.2**		
BVA0	**Borovoye Array**	**10.92**	**336**	⇑Pn	**Pn**	**14 39 09.3**	**+0.7**		
	comp=E,4.0nm,1.4s,baz=147,slow=13,SNR=8.3								
BVA0				⇑Lg	Lg	14 42 24.4			
	comp=E,12nm,0.8s,baz=170,slow=27,SNR=5.5								
BVAR	**Borovoye Array**	**10.92**	**336**	Pn	**Pn**	**14 39 08.1**	**-0.5**		
	baz=145,slow=13,SNR=6.6								
BVAR				Sn	**Sn**	**14 41 04.8**	**-5.8**		
	comp=E,0.1nm,0.3s,baz=142,slow=24,SNR=8.4								
BVAR				Lg	Lg	14 42 12.7			
	comp=E,0.1nm,0.3s,baz=157,slow=24,SNR=2.0								
	comp=E,0.5nm,0.3s								
BRVK	**Borovoye**	**10.98**	**336**	⇑Pn	**Pn**	**14 39 11.8**	**+2.4**		
	comp=E,4.7nm,1.3s								
BRVK				⇑Lg	Lg	14 42 25.3			
	comp=E,17nm,1.1s								
BRVK	**Borovoye**	**10.98**	**336**	Pn	**Pn**	**14 39 08.5**	**-0.9**		
BRVK	**Borovoye**	**10.98**	**336**	P	**Pn**	**14 39 08.5**	**-0.9**		
ZALV	**Zalesovo Beam**	**11.75**	**21**	Pn	**Pn**	**14 39 16.3**	**-3.6**		
	comp=E,0.1nm,0.3s,baz=201,slow=20,SNR=1.6								
ZALV				Lg	Lg	14 42 34.9			
	comp=E,0.3nm,0.3s,baz=15,slow=8.8,SNR=1.6								
ABKAR	**Akbulak array**	**13.61**	**302**	Pn	**Pn**	**14 39 44.5**	**-0.9**		
SONM	**Songino Array**	**20.64**	**67**	P	Pn	14 41 12.8	-1.4		
	comp=E,0.5nm,0.8s,baz=272,slow=11,SNR=4.2								
	comp=E,0.5nm,0.8s								
ULN	**Ulaanbaatar**	**21.08**	**67**	⇑*e*P	**P**	**14 41 17.9**	**+1.1**		
KBZ	**Khabaz**	**25.08**	**283**	⇑*e*P	**P**	**14 41 58.8**	**+2.0**		
KBZ				pmax	pmax				
	comp=Z,12nm,1.8s								
HHC	**Hu-ho-hao-te**	**25.25**	**84**	*e*P	**P**	**14 41 58.3**	**-0.2**		
HHC				pmax	pmax				
	comp=Z,20nm,0.8s								
HHC				pmax	pmax				
	comp=Z,220nm,5.8s								
PZH	**PanZhiHua**	**25.76**	**122**	P	**P**	**14 42 04.0**	**+0.7**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,170nm,5.5s								
CMAR	**Chiang Mai Arr**	**30.57**	**137**	P	**P**	**14 42 46.7**	**+0.6**		
	comp=Z,0.2nm,0.3s,baz=327,slow=9.8,SNR=2.5								
	comp=Z,0.2nm,0.3s								
NJ2	**Nanjing**	**34.21**	**95**	*e*P	**P**	**14 43 18.0**	**0.0**		
NJ2				pP	**sP**	**14 43 23.8**	**-0.8**		
NJ2				sP	**pP**	**14 43 27.0**	**+4.5**		
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,110nm,4.0s								
FINES	**FINESS Array B**	**35.21**	**319**	P	**P**	**14 43 27.1**	**+0.8**		
FINES	**FINESS Array B**	**35.21**	**319**	P	**P**	**14 43 27.1**	**+0.8**		
YAK	**Yakutsk**	**35.56**	**40**	⇑*e*P	**P**	**14 43 30.5**	**+1.2**		
YAK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
NC405	**NORSAR Array S**	**42.13**	**319**	P	**P**	**14 44 25.2**	**+0.8**		
NC405				IAmb	IAmb	14 44 25.6			
	comp=Z,23nm,1.2s								
NOA	**NORSAR Array B**	**42.38**	**319**	P	**P**	**14 44 27.0**	**+0.5**		
	comp=Z,0.3nm,0.5s,baz=83,slow=10,SNR=1.9								
	comp=Z,0.3nm,0.5s								
D19K	**Kuna River**	**61.16**	**20**	P	**P**	**14 46 46.7**	**+0.2**		
IMAR	**Indian Mountai**	**64.17**	**21**	P	**P**	**14 47 06.1**	**-0.4**		
K15K	**Wolf Creek Mou**	**64.67**	**26**	P	**P**	**14 47 09.2**	**-0.7**		
ILAR	**Eielson Array**	**66.86**	**19**	P	**P**	**14 47 23.2**	**-0.7**		
	comp=Z,0.3nm,0.7s,baz=317,slow=3.8,SNR=2.8								
	comp=Z,0.3nm,0.7s								
YKA	**Yellowknife Ar**	**74.18**	**6**	*i* P	**P**	**14 48 09.6**	**+1.0**		
YKA	**Yellowknife Ar**	**74.18**	**6**	P	**P**	**14 48 07.4**	**-1.2**		
	comp=Z,0.2nm,0.8s,baz=354,slow=5.7,SNR=4.2								
	comp=Z,0.2nm,0.8s								

TAP ***29*** *15:00:47.9,23.88N×122.72E,h27km,ML2.8,D*
JMA ***29*** *15:00:47.5±0.3,24.N±1.1×122.7E±0.6,h21km±4km, MV2.5/13,NW OFF ISHIGAKIJIMA IS*

ISC 29 15:00:46.6±3.0,23.78N±0.03×122.71E±0.02,h17km±22km, n78,σ0.68/113,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.49**	**313**	*i* P	**Pb**	**15 00 56.9**	**+0.3**
	baz=300						
EOS3	**EOS3**	**0.62**	**324**	*i* P	**Pb**	**15 00 59.4**	**+0.5**
	baz=322						
EOS3				*e*S	**Sb**	**15 01 07.9**	**+0.7**
	baz=322						
JYNG	**Yonagunijimaku**	**0.70**	**18**	*e*S	**Sb**	**15 01 08.3**	**-1.4**
YOJ	**Yonaguni jima**	**0.73**	**22**	P	**Pb**	**15 01 00.7**	**-0.2**
YOJ				*e*S	**Sb**	**15 01 09.2**	**-1.4**
EOS2	**EOS2**	**0.77**	**325**	*i* P	**Pn**	**15 01 02.5**	**-0.1**
	baz=323						
EOS2				*e*S	**Sn**	**15 01 13.5**	**-0.2**
	baz=323						
HATJ	**Hateruma jima**	**1.04**	**75**	P	**Pb**	**15 01 06.1**	**0.0**
HATJ				S	**Sb**	**15 01 19.3**	**-0.1**
TWD	**Chiawan**	**1.06**	**286**	*e*P	**Pb**	**15 01 06.2**	**-0.3**
	baz=282						
EWUT	**Wuta**	**1.08**	**308**	*i* P	**Pb**	**15 01 06.6**	**-0.2**
	baz=305						
EWUT				*e*S	**Sn**	**15 01 20.9**	**-0.6**
	baz=305						
NACB	**Ninganchiao**	**1.09**	**291**	*e*P	**Pn**	**15 01 06.4**	**-0.8**
	baz=287						
ENA	**Nanau**	**1.09**	**306**	*i* P	**Pn**	**15 01 07.0**	**-0.2**
	baz=303						
ENA				*e*S	**Sb**	**15 01 21.2**	**+0.1**
	baz=303						
ESAO	**Su ao**	**1.12**	**315**	P	**Pn**	**15 01 07.2**	**-0.3**
	baz=312						
ESAO				S	**Sb**	**15 01 21.6**	**-0.2**
	baz=312						
ETM	**Tongmen**	**1.13**	**279**	*e*P	**Pn**	**15 01 07.1**	**-0.6**
	baz=276						
ETM				*e*S	**Sn**	**15 01 22.9**	**+0.1**
	baz=276						
TWC	**Suao**	**1.14**	**316**	*i* P	**Pn**	**15 01 07.6**	**-0.2**
	baz=314						
TWC				S	**Sb**	**15 01 21.5**	**-0.9**
	baz=314						
ESL	**Shilin**	**1.17**	**272**	P	**Pn**	**15 01 07.3**	**-0.9**
	baz=255						
ESL				*e*S	**Sn**	**15 01 24.1**	**+0.2**
	baz=255						
EGFH	**Guangfu**	**1.18**	**265**	P	**Pn**	**15 01 08.4**	**0.0**
	baz=261						
EGFH				*e*S	**Sb**	**15 01 23.9**	**+0.3**
	baz=261						
ETLH	**Xiulin Townshi**	**1.20**	**291**	*e*P	**Pn**	**15 01 08.5**	**-0.2**
	baz=287						
LXIB	**Xiulin Townshi**	**1.21**	**281**	*e*P	**Pn**	**15 01 08.5**	**-0.4**
	baz=264						
LXIB				*e*S	**Sb**	**15 01 24.8**	**+0.2**
	baz=264						
HGSD	**Ruisui**	**1.22**	**256**	*i* P	**Pn**	**15 01 08.3**	**-0.6**
	baz=253						
HGSD				*i* S	**Sb**	**15 01 24.6**	**0.0**
	baz=253						
WARBT	**Fenglin Townsh**	**1.22**	**267**	P	**Pn**	**15 01 08.0**	**-0.9**
	baz=251						
WARBT				*e*S	**Sb**	**15 01 24.8**	**+0.2**
	baz=251						
NDS	**Dongshan**	**1.24**	**313**	P	**Pb**	**15 01 09.7**	**0.0**
	baz=310						
ECBN	**Changbin**	**1.25**	**248**	*e*P	**Pn**	**15 01 09.4**	**+0.1**
	baz=246						
JKRS	**Kuro-shima**	**1.27**	**69**	P	**Pb**	**15 01 10.2**	**+0.1**
JKRS				S	**Sb**	**15 01 26.6**	**+0.5**
EHY	**Hungye**	**1.30**	**258**	*i* P	**Pn**	**15 01 10.0**	**-0.1**
	baz=255						
EHY				*i* S	**Sb**	**15 01 28.2**	**+1.0**
	baz=255						
LATG	**Datong**	**1.31**	**305**	*e*P	**Pn**	**15 01 10.7**	**+0.3**
	baz=302						
TWE	**Neicheng**	**1.33**	**315**	*e*P	**Pb**	**15 01 11.1**	**0.0**
	baz=312						
ENTT	**Nioudou**	**1.35**	**309**	*e*P	**Pb**	**15 01 11.7**	**+0.2**
	baz=307						
EYUL	**Yuli**	**1.35**	**251**	*e*P	**Pn**	**15 01 10.6**	**-0.2**
	baz=237						
EYUL				*e*S	**Sb**	**15 01 29.3**	**+0.8**
	baz=237						
YULB	**Yu-li**	**1.35**	**254**	*i* P	**Pn**	**15 01 10.8**	**0.0**
	baz=251						
YULB				S	**Sb**	**15 01 29.4**	**+0.8**
	baz=251						
NDT	**Datong Townshi**	**1.36**	**307**	*e*P	**Pb**	**15 01 11.6**	**-0.1**
	baz=304						
TWF1	**Yuli**	**1.37**	**252**	P	**Pn**	**15 01 10.8**	**-0.2**
	baz=249						
TWF1				*e*S	**Sn**	**15 01 28.9**	**+0.2**
	baz=249						
WHF	**Hehuan Shan**	**1.37**	**285**	P	**Pn**	**15 01 11.5**	**+0.1**
	baz=283						
NNSB	**Datong**	**1.37**	**298**	*e*P	**Pn**	**15 01 11.5**	**+0.4**
	baz=295						
NNS	**Nan Shan**	**1.39**	**298**	P	**Pb**	**15 01 11.9**	**-0.2**
	baz=295						
FUSB	**Fushanzhiwuyua**	**1.41**	**314**	P	**Pb**	**15 01 12.9**	**+0.4**
	baz=311						
FUSS	**Fushou**	**1.42**	**289**	P	**Pn**	**15 01 12.2**	**+0.3**
	baz=287						
FULB	**Fuli**	**1.43**	**246**	*e*P	**Pn**	**15 01 11.4**	**-0.4**
	baz=231						
FULB				*e*S	**Sn**	**15 01 28.8**	**-1.4**
	baz=231						
JIJ	**Ishigaki jima**	**1.43**	**66**	P	**Pn**	**15 01 12.3**	**+0.5**
JIJ				*e*S	**Sn**	**15 01 30.0**	**-0.3**
TIPB	**Shuangxi**	**1.43**	**326**	*e*P	**Pb**	**15 01 13.2**	**+0.4**
	baz=335						
CHGB	**Renai**	**1.43**	**281**	*e*P	**Pn**	**15 01 11.9**	**-0.2**
	baz=267						
VWDT	**VWDT**	**1.44**	**269**	P	**Pn**	**15 01 12.1**	**+0.2**
	baz=267						
VWDT				*e*S	**Sn**	**15 01 29.8**	**-0.6**
	baz=267						
WUSB	**Renai**	**1.47**	**278**	P	**Pn**	**15 01 12.9**	**+0.3**
	baz=276						
WUSB				*e*S	**Sn**	**15 01 31.5**	**0.0**
	baz=276						
NWLT	**Wulai**	**1.48**	**312**	*e*P	**Pb**	**15 01 14.2**	**+0.5**
	baz=310						
YHNB	**Yeheng**	**1.50**	**306**	P	**Pb**	**15 01 13.6**	**-0.5**
	baz=304						
EHD	**Haiduan**	**1.52**	**246**	P	**Pn**	**15 01 12.9**	**-0.2**
	baz=233						
EHD				*e*S	**Sn**	**15 01 31.9**	**-0.6**
	baz=233						
NSK	**Sanguang**	**1.52**	**306**	*e*P	**Pb**	**15 01 13.9**	**-0.5**
	baz=305						
NSK				*e*S	**Sn**	**15 01 32.0**	**-0.6**
	baz=305						
EDH	**Donghe**	**1.52**	**238**	*e*P	**Pn**	**15 01 10.8**	**-2.3**
	baz=226						
ECS	**Chishang**	**1.53**	**244**	*e*P	**Pn**	**15 01 13.3**	**+0.1**
	baz=231						
SSLB	**Suanglung**	**1.61**	**270**	*e*P	**Pn**	**15 01 14.4**	**+0.1**
	baz=268						
SMLT	**Sun Moon Lake**	**1.66**	**274**	*e*P	**Pn**	**15 01 15.3**	**+0.2**
	baz=261						
ELDTW	**Lidau**	**1.66**	**249**	*e*P	**Pn**	**15 01 14.8**	**-0.3**
	baz=247						
ELDTW				*e*S	**Sn**	**15 01 35.3**	**-0.9**
	baz=247						
JISG	**Ishigakijimahi**	**1.67**	**61**	P	**Pn**	**15 01 15.5**	**+0.4**
JISG				*e*S	**Sn**	**15 01 36.2**	**+0.2**
WCS	**Beigang Elemen**	**1.67**	**280**	*e*P	**Pn**	**15 01 15.7**	**+0.6**
	baz=278						
NFF	**Wufeng Townshi**	**1.68**	**300**	*e*P	**Pb**	**15 01 17.1**	**-0.1**
	baz=298						
WHP	**Taichung City**	**1.69**	**287**	*e*P	**Pb**	**15 01 17.8**	**+0.5**
	baz=275						
TYC	**Yuchr**	**1.70**	**274**	*e*P	**Pn**	**15 01 15.8**	**+0.3**
	baz=272						
WHYT	**Xinyi Township**	**1.70**	**267**	*e*P	**Pn**	**15 01 16.5**	**+0.9**
	baz=257						
ALS	**Alishan**	**1.77**	**262**	*e*P	**Pn**	**15 01 17.8**	**+1.1**
	baz=249						
LIOB	**Emei**	**1.77**	**299**	*e*P	**Pb**	**15 01 18.5**	**-0.2**
	baz=298						
NSTT	**Nanjuang**	**1.77**	**299**	*e*P	**Pb**	**15 01 18.6**	**-0.1**
	baz=297						
TWGBT	**Beinan**	**1.78**	**238**	*e*P	**Pn**	**15 01 16.7**	**0.0**
	baz=225						
TWGBT				*e*S	**Sn**	**15 01 39.5**	**+0.5**
	baz=225						
TWG	**Pinlang**	**1.79**	**238**	*e*P	**Pn**	**15 01 16.9**	**+0.2**
	baz=226						
WNT	**Mingjian**	**1.86**	**273**	*e*P	**Pb**	**15 01 19.6**	**-0.6**
	baz=272						
CHN5	**Tsauling**	**1.87**	**265**	*e*P	**Pb**	**15 01 19.8**	**-0.6**
	baz=263						
STYH	**Taoyuan**	**1.88**	**251**	*e*P	**Pn**	**15 01 18.8**	**+0.8**
	baz=240						
STYH				*e*S	**Sn**	**15 01 42.2**	**+0.9**
	baz=240						
WCKO	**Fanlu**	**1.96**	**260**	*e*P	**Pb**	**15 01 21.0**	**-0.9**
	baz=248						
WCKO				*e*S	**Sb

EWUT	**Wuta**	**1.06**	**306**	*eP*	**Pn**	**15 01 48.4 +0.1**
	baz=306					
ENA	**Nanau**	**1.08**	**304**	P	**Pn**	**15 01 48.8 +0.3**
	baz=304					
TWC	**Suao**	**1.11**	**315**	P	**Pn**	**15 01 49.3 +0.2**
	baz=314					
TWC				*eS*	**Sn**	**15 02 03.2 -0.3**
	baz=314					
ESL	**Shilin**	**1.18**	**270**	*eP*	**Pn**	**15 01 49.3 -0.7**
	baz=271					
ESL				*eS*	**Sb**	**15 02 06.5 +0.8**
	baz=271					
EGFH	**Guangfu**	**1.19**	**263**	*eS*	**Sb**	**15 02 07.6 +1.4**
	baz=264					
NDS	**Dongshan**	**1.22**	**312**	P	**Pb**	**15 01 51.8 +0.2**
	baz=311					
WARBT	**Fenglin Townsh**	**1.23**	**265**	*eP*	**Pn**	**15 01 50.4 -0.3**
	baz=266					
WARBT				*eS*	**Sb**	**15 02 06.8 -0.3**
	baz=266					
HGSD	**Ruisui**	**1.23**	**255**	*eP*	**Pn**	**15 01 50.0 -0.7**
	baz=256					
HGSD				*eS*	**Sn**	**15 02 06.6 +0.1**
	baz=256					
JKRS	**Kuro-shima**	**1.25**	**71**	P	**Pb**	**15 01 52.6 +0.5**
JKRS				*eS*	**Sb**	**15 02 08.6 +0.8**
EHY	**Hungye**	**1.32**	**256**	*eP*	**Pn**	**15 01 51.7 -0.2**
	baz=257					
EHY				*eS*	**Sb**	**15 02 10.2 +0.4**
	baz=257					
EYUL	**Yuli**	**1.37**	**250**	*eP*	**Pn**	**15 01 52.6 0.0**
	baz=251					
YULB	**Yu-li**	**1.37**	**252**	*eP*	**Pn**	**15 01 52.9 +0.2**
	baz=253					
YULB				*eS*	**Sn**	**15 02 10.7 +0.7**
	baz=253					
TWF1	**Yuli**	**1.39**	**250**	P	**Pn**	**15 01 53.0 +0.1**
	baz=251					
TWF1				S	**Sb**	**15 02 11.4 -0.3**
	baz=251					
JIJ	**Ishigaki jima**	**1.41**	**67**	P	**Pb**	**15 01 54.5 -0.3**
JIJ				S	**Sb**	**15 02 12.3 0.0**
EHD	**Haiduan**	**1.54**	**244**	*eP*	**Pn**	**15 01 54.8 -0.3**
	baz=245					
JISG	**Ishigakijimahi**	**1.64**	**62**	*eS*	**Sb**	**15 02 18.2 -0.8**
WHP	**Taichung City**	**1.68**	**286**	*eP*	**Pb**	**15 02 00.3 +0.8**
	baz=286					
LIOB	**Emei**	**1.76**	**298**	*eP*	**Pb**	**15 02 00.8 0.0**
	baz=298					
TWGBT	**Beinan**	**1.81**	**237**	*eP*	**Pn**	**15 01 58.9 +0.2**
	baz=238					
TWG	**Pinlang**	**1.81**	**237**	*eP*	**Pn**	**15 01 58.9 +0.2**
	baz=238					
STYH	**Taoyuan**	**1.90**	**250**	*eP*	**Pn**	**15 02 01.0 +1.1**
	baz=251					
STYH				*eS*	**Sb**	**15 02 25.2 -1.2**
	baz=251					
WTP	**Ta-pu**	**2.02**	**254**	*eP*	**Pb**	**15 02 03.9 -1.3**
	baz=254					

IDC ***29*** *15:10:24.8±1.6, 55°.92N×148°.31W, h0km, mb3.5/5, mbtmp3.4/10, ML3.2/5, MS3.4/3, Error ellipse: s-maj=34.0km s-min=22.7km az=22.0*

NEIC ***29*** *15:10:27.3±0.9, 56°.21N±0°.07×148°.64W±0°.10, h10km±2km, ML3.7/48, ML3.5(AEIC), Error ellipse: s-maj=12.5km s-min=7.3km az=149.0*

AEIC ***29*** *15:10:31.2±1.5, 56°.15N±0°.09×148°.6W±0°.1, h10km±7km, Error ellipse: s-maj=13.2km s-min=9.2km az=175.0*

ISC 29 15:10:27.3±0.9, 56°.24N±0°.08×148°.53W±0°.05, h10km, n248, σ1℘03/243, mb3.6/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.71**	**307**	Pn	**Pn**	**15 11 10.5**	**-0.3**
	10nm,0.3s,baz=148,slow=4.8,SNR=103						
KDAK				Sn	**Sn**	**15 11 41.1**	**-2.5**
	3.2nm,0.3s,baz=277,slow=22,SNR=1.7						
KDAK				LR	LR	15 12 27.2	
	comp=Z,218nm,18.7s,baz=149,slow=41 17nm,0.3s						
OHAK	**Old Harbor**	**2.80**	**293**		**Pn**	**15 11 11.0**	**-1.1**
OHAK					**Sn**	**15 11 42.2**	**-3.8**
OHAK	**Old Harbor**	**2.80**	**293**	P	**Pn**	**15 11 11.0**	**-1.1**
OHAK	**Old Harbor**	**2.80**	**293**	P	**Pn**	**15 11 11.0**	**-1.1**
	baz=110						
OHAK				S	**Sn**	**15 11 42.2**	**-3.8**
	baz=110						
SII	**Sitkinak Islan**	**3.16**	**278**	Pn	**Pn**	**15 11 16.1**	**-1.1**
SII				IAML		15 12 03.2	
	comp=N,145nm,1.3s						
SII	**Sitkinak Islan**	**3.16**	**278**	P	**Pn**	**15 11 16.0**	**-1.1**
SYI	**Shuyak Island**	**3.17**	**320**		**Pn**	**15 11 17.3**	**+0.2**
SYI					**Sn**	**15 11 53.7**	**-1.2**
Q20K	**Shuyak Island**	**3.17**	**320**	P	**Pn**	**15 11 17.3**	**+0.2**
	baz=138						
Q20K				S	**Sn**	**15 11 53.7**	**-1.2**
	baz=138						
MID	**Middleton Isla**	**3.41**	**19**	Pn	**Pn**	**15 11 20.5**	**+0.1**
MID				IAML		15 12 00.3	
	comp=E,193nm,1.5s						
MID				IAML		15 12 05.9	
	comp=N,246nm,1.5s						
Q23K	**Middleton Isla**	**3.41**	**19**		**Pn**	**15 11 20.4**	**0.0**
Q23K					**Sn**	**15 11 58.5**	**-2.2**
Q23K	**Middleton Isla**	**3.41**	**19**	IAML		15 12 05.9	
	comp=N,257nm,1.5s						
Q23K				IAML		15 13 20.9	
	comp=E,208nm,1.3s						
Q23K	**Middleton Isla**	**3.41**	**19**	P	**Pn**	**15 11 20.4**	**0.0**
	baz=202						
Q23K				S	**Sn**	**15 11 58.5**	**-2.2**
	baz=202						
R18K	**Karluk**	**3.51**	**295**		**Pn**	**15 11 21.2**	**-0.7**
R18K				IAML		15 12 03.9	
	comp=N,102nm,1.0s						
R18K				IAML		15 12 13.7	
	comp=E,100nm,1.0s						
R18K	**Karluk**	**3.51**	**295**	P	**Pn**	**15 11 21.7**	**-0.2**
	baz=111						
CNPM	**China Poot**	**3.60**	**337**		**Pn**	**15 11 23.2**	**+0.1**
CNPM					**Sn**	**15 12 04.2**	**-1.4**
CNPM	**China Poot**	**3.60**	**337**	IAML		15 12 11.9	
	comp=E,69nm,0.9s						
CNPM				IAML		15 12 14.8	
	comp=N,62nm,1.5s						
BRSE	**Bradley Lake S**	**3.71**	**342**		**Pn**	**15 11 24.6**	**0.0**
BRSE					**Sn**	**15 12 06.6**	**-1.6**
BRSE	**Bradley Lake S**	**3.71**	**342**	P	**Pn**	**15 11 24.6**	**0.0**
	baz=162						
BRSE				S	**Sn**	**15 12 06.6**	**-1.6**
	baz=162						
BRLK	**Bradley Lake**	**3.75**	**341**		**Pn**	**15 11 24.9**	**-0.4**
BRLK	**Bradley Lake**	**3.75**	**341**	IAML		15 12 13.9	
	comp=N,69nm,1.5s						
HOM	**Homer**	**3.81**	**335**		**Pn**	**15 11 26.6**	**+0.6**
HOM	**Homer**	**3.81**	**335**	P	**Pn**	**15 11 26.6**	**+0.6**
	baz=154						
P23K	**Montague Islan**	**3.82**	**9**		**Pn**	**15 11 26.5**	**+0.4**
P23K					**Sn**	**15 12 08.7**	**-2.3**
P23K	**Montague Islan**	**3.82**	**9**	P	**Pn**	**15 11 26.5**	**+0.4**
	baz=190						
P23K				S	**Sn**	**15 12 08.7**	**-2.3**
	baz=190						
Q19K	**Cape Douglas,**	**3.86**	**317**		**Pn**	**15 11 27.1**	**+0.5**
Q19K	**Cape Douglas,**	**3.86**	**317**	IAML		15 12 51.5	
	comp=N,166nm,1.3s						
Q19K				IAML		15 13 47.6	
	comp=E,188nm,1.4s						
Q19K	**Cape Douglas,**	**3.86**	**317**	P	**Pn**	**15 11 27.1**	**+0.5**
	baz=133						
SEW	**Seward**	**3.91**	**353**		**Pn**	**15 11 27.2**	**-0.1**
SEW	**Seward**	**3.91**	**353**	P	**Pn**	**15 11 27.2**	**-0.1**
	baz=173						
KAHG	**Katmai Hook Gl**	**3.97**	**307**		**Pn**	**15 11 29.0**	**+0.8**
KCG	**Knife Ck. Glac**	**4.13**	**303**		**Pn**	**15 11 31.1**	**+0.6**
ACHA	**Angle Creek He**	**4.19**	**301**		**Pn**	**15 11 32.2**	**+0.9**
P19K	**Oil Pt**	**4.24**	**326**		**Pn**	**15 11 32.1**	**+0.1**
P19K				IAML		15 12 25.5	
	comp=N,108nm,0.5s						
P19K				IAML		15 12 29.4	
	comp=E,116nm,0.8s						
P19K	**Oil Pt**	**4.24**	**326**	P	**Pn**	**15 11 32.7**	**+0.7**
	baz=143						
KAHC	**Katmai Hardscr**	**4.25**	**307**		**Pn**	**15 11 33.1**	**+0.9**
	baz=123						
KAIM	**Kayak Island**	**4.29**	**29**		**Pn**	**15 11 33.0**	**+0.3**
KAIM	**Kayak Island**	**4.29**	**29**	IAML		15 12 26.6	
	comp=E,137nm,0.9s						
KAIM				IAML		15 12 26.8	
	comp=N,101nm,0.9s						
KAIM	**Kayak Island**	**4.29**	**29**	P	**Pn**	**15 11 33.0**	**+0.3**
	baz=213						
O22K	**Cooper Landing**	**4.30**	**352**		**Pn**	**15 11 32.9**	**+0.2**
O22K	**Cooper Landing**	**4.30**	**352**	P	**Pn**	**15 11 33.4**	**+0.7**
	baz=172						
HIN	**Hinchinbrook I**	**4.30**	**14**		**Pn**	**15 11 33.3**	**+0.5**
HIN	**Hinchinbrook I**	**4.30**	**14**	IAML		15 12 22.4	
	comp=N,114nm,1.1s						
SLKM	**Skilak Lake**	**4.37**	**349**		**Pn**	**15 11 33.9**	**+0.1**
O20K	**Slope Mountain**	**4.42**	**332**		**Pn**	**15 11 34.4**	**0.0**
O20K	**Slope Mountain**	**4.42**	**332**	P	**Pn**	**15 11 34.4**	**0.0**
	baz=150						
IVE	**Iliamna Volcan**	**4.47**	**330**		**Pn**	**15 11 34.9**	**-0.3**
CNTC	**Contact Creek**	**4.48**	**300**		**Pn**	**15 11 35.8**	**+0.5**
Q17K	**Contact Creek**	**4.48**	**300**	P	**Pn**	**15 11 35.8**	**+0.4**
	baz=115						
EYAK	**Cordova Ski Ar**	**4.56**	**18**		**Pn**	**15 11 36.9**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.56**	**18**	P	**Pn**	**15 11 37.2**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.56**	**18**	P	**Pn**	**15 11 36.9**	**+0.6**
	baz=200						
RAGM	**Ragged Mountai**	**4.63**	**24**	Pn	**Pn**	**15 11 37.4**	**+0.1**
FID	**Port Fidalgo**	**4.65**	**12**		**Pn**	**15 11 37.5**	**0.0**
RED	**Redoubt Volcan**	**4.75**	**334**		**Pn**	**15 11 38.7**	**-0.3**
RDSO	**Redoubt South**	**4.78**	**334**		**Pn**	**15 11 39.0**	**-0.4**
P18K	**Big Mountain,**	**4.78**	**314**		**Pn**	**15 11 38.9**	**-0.4**
P18K	**Big Mountain,**	**4.78**	**314**	P	**Pn**	**15 11 38.9**	**-0.4**
	baz=129						
RSO	**Redoubt South**	**4.79**	**334**		**Pn**	**15 11 39.4**	**-0.2**
GOAT	**Goat Mountain**	**4.79**	**23**		**Pn**	**15 11 40.2**	**+0.7**
RDT	**Redoubt**	**4.80**	**336**		**Pn**	**15 11 39.3**	**-0.4**
RDWB	**Redoubt West**	**4.83**	**334**		**Pn**	**15 11 39.8**	**-0.4**
BERG	**Berg Lake**	**4.88**	**29**		**Pn**	**15 11 41.2**	**+0.5**
DFR	**Drift River**	**4.88**	**335**		**Pn**	**15 11 40.6**	**-0.2**
RC01	**Rabbit Creek A**	**4.91**	**353**		**Pn**	**15 11 40.9**	**-0.2**
RC01	**Rabbit Creek A**	**4.91**	**353**	IAML		15 12 38.1	
	comp=E,45nm,0.6s						
RC01				IAML		15 12 51.4	
	comp=N,39nm,1.4s						
RC01	**Rabbit Creek A**	**4.91**	**353**	P	**Pn**	**15 11 40.9**	**-0.2**
	baz=173						
RDJH	**Redoubt Jeurge**	**4.91**	**335**		**Pn**	**15 11 40.6**	**-0.6**
NCT	**North Crescent**	**4.92**	**334**		**Pn**	**15 11 41.0**	**-0.3**
SNH	**Sunshine Point**	**4.96**	**35**		**Pn**	**15 11 42.4**	**+0.5**
SNH	**Sunshine Point**	**4.96**	**35**	IAML		15 12 37.2	
	comp=E,55nm,1.1s						
SNH				IAML		15 13 24.2	
	comp=N,61nm,1.4s						
O19K	**Port Alsworth**	**5.01**	**325**		**Pn**	**15 11 42.1**	**-0.3**
O19K	**Port Alsworth**	**5.01**	**325**	P	**Pn**	**15 11 42.4**	**-0.1**
	baz=141						
Q16K	**King Salmon**	**5.02**	**302**		**Pn**	**15 11 42.2**	**-0.4**
Q16K	**King Salmon**	**5.02**	**302**	P	**Pn**	**15 11 42.2**	**-0.4**
	baz=116						
O18K	**Koktuh Hills**	**5.07**	**318**		**Pn**	**15 11 43.3**	**-0.1**
O18K	**Koktuh Hills**	**5.07**	**318**	P	**Pn**	**15 11 43.3**	**-0.1**
	baz=134						
R16K	**Pilot Point**	**5.14**	**289**		**Pn**	**15 11 43.5**	**-0.7**
R16K	**Pilot Point**	**5.14**	**289**	IAML		15 12 27.2	
	comp=E,36nm,1.2s						
R16K	**Pilot Point**	**5.14**	**289**	P	**Pn**	**15 11 43.5**	**-0.7**
	baz=102						
BMRM	**Bremner River**	**5.17**	**22**		**Pn**	**15 11 45.2**	**+0.6**
BMRM	**Bremner River**	**5.17**	**22**	P	**Pn**	**15 11 45.2**	**+0.6**
	baz=206						
KNK	**Knik Glacier**	**5.19**	**0**		**Pn**	**15 11 45.4**	**+0.5**
KNK	**Knik Glacier**	**5.19**	**0**	IAML		15 12 49.3	
	comp=E,30nm,0.8s						
KNK				IAML		15 12 56.0	
	comp=N,32nm,1.4s						
KNK	**Knik Glacier**	**5.19**	**0**	P	**Pn**	**15 11 45.4**	**+0.5**
	baz=181						
BARK	**Barkley Ridge**	**5.25**	**35**		**Pn**	**15 11 46.4**	**+0.5**
N20K	**Mount Spurr**	**5.33**	**340**	P	**Pn**	**15 11 47.0**	**0.0**
	baz=158						
SPCR	**Spurr Chakacha**	**5.33**	**340**		**Pn**	**15 11 47.0**	**0.0**
PMR	**Palmer**	**5.38**	**357**	Pn	**Pn**	**15 11 48.0**	**+0.5**
PMR	**Palmer**	**5.38**	**357**	P	**Pn**	**15 11 49.3**	**+1.8**
SPCP	**Crater Peak Br**	**5.38**	**341**		**Pn**	**15 11 48.6**	**+0.8**
KLU	**Klutina**	**5.44**	**13**		**Pn**	**15 11 49.1**	**+0.6**
KLU	**Klutina**	**5.44**	**13**	P	**Pn**	**15 11 49.1**	**+0.6**
	baz=196						
N19K	**Bonanza Creek**	**5.55**	**328**		**Pn**	**15 11 49.7**	**-0.2**
N19K	**Bonanza Creek**	**5.55**	**328**	P	**Pn**	**15 11 49.7**	**-0.2**
	baz=144						
STLK	**Strandline Lak**	**5.55**	**343**		**Pn**	**15 11 50.2**	**+0.3**
SML	**Sawmill**	**5.59**	**1**		**Pn**	**15 11 51.7**	**+1.2**
SML	**Sawmill**	**5.59**	**1**	P	**Pn**	**15 11 51.7**	**+1.2**
	baz=182						
SCM	**Sheep Creek Mo**	**5.65**	**6**		**Pn**	**15 11 52.3**	**+1.0**
SCM	**Sheep Creek Mo**	**5.65**	**6**	P	**Pn**	**15 11 52.3**	**+1.0**
	baz=187						
SAMH	**Samovar Hills**	**5.66**	**43**		**Pn**	**15 11 52.4**	**+1.0**
VRDI	**Verde Repeater**	**5.66**	**26**		**Pn**	**15 11 51.8**	**+0.3**
KIAG	**Kiagna River**	**5.70**	**32**		**Pn**	**15 11 52.6**	**+0.6**
N25K	**Chitina, Valde**	**5.75**	**19**		**Pn**	**15 11 53.6**	**+0.8**
N25K	**Chitina, Valde**	**5.75**	**19**	P	**Pn**	**15 11 53.6**	**+0.8**
	baz=203						
GLB	**Gilahina Butte**	**5.76**	**23**		**Pn**	**15 11 53.3**	**+0.4**
O17K	**Koliganek Bris**	**5.77**	**311**		**Pn**	**15 11 53.0**	**+0.2**
O17K	**Koliganek Bris**	**5.77**	**311**	P	**Pn**	**15 11 53.0**	**+0.2**
	baz=125						
P16K	**Nushagak River**	**5.80**	**303**		**Pn**	**15 11 53.8**	**+0.4**
P16K	**Nushagak River**	**5.80**	**303**	P	**Pn**	**15 11 53.7**	**+0.4**
	baz=115						
PCA	**Pinnacle**	**5.84**	**45**		**Pn**	**15 11 54.6**	**+0.7**
PINM	**Pinnacle**	**5.84**	**45**	P	**Pn**	**15 11 54.6**	**+0.7**
	baz=232						
PTPK	**Patty Peak**	**5.88**	**30**		**Pn**	**15 11 55.3**	**+0.7**
N18K	**Kilae Creek**	**5.89**	**322**		**Pn**	**15 11 54.3**	**-0.3**
N18K	**Kilae Creek**	**5.89**	**322**	P	**Pn**	**15 11 54.3**	**-0.3**
	baz=137						
MCARA	**McCarthy VSAT**	**5.90**	**27**		**Pn**	**15 11 55.3**	**+0.7**
MCARA	**McCarthy VSAT**	**5.90**	**27**	P	**Pn**	**15 11 55.3**	**+0.7**
	baz=212						
PNL	**Peninsula**	**5.95**	**51**		**Pn**	**15 11 56.2**	**+0.8**
PNL	**Peninsula**	**5.95**	**51**	P	**Pn**	**15 11 56.2**	**+0.8**
	baz=239						
SKT	**Skwentna**	**5.96**	**346**		**Pn**	**15 11 55.9**	**+0.4**
SKT	**Skwentna**	**5.96**	**346**	P	**Pn**	**15 11 55.9**	**+0.4**
	baz=164						
BCPM	**Bancas Point**	**6.01**	**48**		**Pn**	**15 11 57.0**	**+0.9**
BARN	**Barnard Glacie**	**6.02**	**34**		**Pn**	**15 11 57.2**	**+0.8**
CTG	**Chitna Glacier**	**6.04**	**35**	P	**Pn**	**15 11 57.5**	**+0.7**
	baz=222						
CTGM	**Chitina Glacie**	**6.05**	**35**		**Pn**	**15 11 57.3**	**+0.4**
LOGN	**Logan Glacier**	**6.05**	**37**		**Pn**	**15 11 57.5**	**+0.5**
O16K	**Kokwok River B**	**6.11**	**307**	Pn	**Pn**	**15 11 57.0**	**-0.5**
WASW	**Wrangell South**	**6.13**	**20**		**Pn**	**15 11 59.1**	**+1.0**
M20K	**Styx River**	**6.14**	**339**	Pn	**Pn**	**15 11 58.0**	**-0.1**
N17K	**Nushagak Hills**	**6.26**	**317**	Pn	**Pn**	**15 11 59.2**	**-0.4**
WAT6	**Susitna Watana**	**6.38**	**3**		**Pn**	**15 12 02.6**	**+1.3**
WAT6	**Susitna Watana**	**6.38**	**3**	P	**Pn**	**15 12 02.6**	**+1.3**
	baz=184						
M19K	**Big River Lodg**	**6.43**	**334**		**Pn**	**15 12 01.7**	**-0.3**
M19K	**Big River Lodg**	**6.43**	**334**	P	**Pn**	**15 12 01.7**	**-0.3**
	baz=150						
M18K	**Stony River**	**6.48**	**327**		**Pn**	**15 12 02.4**	**-0.3**
M18K	**Stony River**	**6.48**	**327**	P	**Pn**	**15 12 02.4**	**-0.3**
	baz=142						
WAT7	**Susitna Watana**	**6.62**	**359**		**Pn**	**15 12 05.8**	**+1.1**
O29M	**Mount Kennedy**	**6.64**	**48**		**Pn**	**15 12 06.1**	**+1.2**
O29M	**Mount Kennedy**	**6.64**	**48**	P	**Pn**	**15 12 06.1**	**+1.2**
	baz=237						
P29M	**Windy Craggy**	**6.67**	**55**		**Pn**	**15 12 05.3**	**-0.1**
P29M	**Windy Craggy**	**6.67**	**55**	P	**Pn**	**15 12 05.3**	**-0.1**
	baz=244						
O15K	**Ungalikthiuk R**	**6.73**	**301**		**Pn**	**15 12 06.3**	**+0.2**
O15K	**Ungalikthiuk R**	**6.73**	**301**	P	**Pn**	**15 12 06.3**	**+0.2**
	baz=112						
L19K	**White Mountain**	**6.79**	**334**	Pn	**Pn**	**15 12 06.5**	**-0.4**
M26K	**Nabesna, AK**	**6.80**	**22**	Pn	**Pn**	**15 12 06.7**	**-0.3**
SDPT	**Sand Point**	**6.80**	**267**	P	**Pn**	**15 12 06.3**	**-0.7**
L20K	**Farewell, AK**	**6.83**	**339**		**Pn**	**15 12 07.4**	**0.0**
L20K	**Farewell, AK**	**6.83**	**339**	P	**Pn**	**15 12 07.4**	**0.0**
	baz=155						
DHY	**Denali Highway**	**6.88**	**4**		**Pn**	**15 12 09.7**	**+1.4**
DHY	**Denali Highway**	**6.88**	**4**	P	**Pn**	**15 12 09.9**	**+1.6**
	baz=186						
M17K	**Holitna River**	**6.94**	**322**		**Pn**	**15 12 09.2**	**+0.3**
M17K	**Holitna River**	**6.94**	**322**	P	**Pn**	**15 12 09.2**	**+0.3**
	baz=135						
M27K	**Edge Creek, AK**	**7.01**	**26**		**Pn**	**15 12 11.3**	**+1.2**
M27K	**Edge Creek, AK**	**7.01**	**26**	P	**Pn**	**15 12 11.3**	**+1.2**
	baz=212						
PLBC	**Pleasant Camp**	**7.25**	**59**		**Pn**	**15 12 14.0**	**+0.9**
PLBC	**Pleasant Camp**	**7.25**	**59**	P	**Pn**	**15 12 14.0**	**+0.9**
	baz=249						
P30M	**Million Dollar**	**7.25**	**53**		**Pn**	**15 12 14.4**	**+1.2**
P30M	**Million Dollar**	**7.25**	**53**	P	**Pn**	**15 12 13.6**	**+0.4**
	baz=243						
M16K	**Timber Creek**	**7.25**	**316**		**Pn**	**15 12 13.6**	**+0.3**
M16K	**Timber Creek**	**7.25**	**316**	P	**Pn**	**15 12 13.6**	**+0.3**
	baz=127						
TRF	**Thorofare Moun**	**7.29**	**354**		**Pn**	**15 12 14.2**	**+0.3**
TRF	**Thorofare Moun**	**7.29**	**354**	P	**Pn**	**15 12 15.4**	**+1.5**
	baz=173						
HYT	**Haines Junctio**	**7.37**	**47**	Pn	**Pn**	**15 12 15.7**	**+0.6**
CAST	**Castle Rocks**	**7.42**	**348**		**Pn**	**15 12 15.8**	**+0.3**
CAST	**Castle Rocks**	**7.42**	**348**	P	**Pn**	**15 12 17.1**	**+1.6**
	baz=165						
KTH	**Kantishna Hill**	**7.44**	**352**		**Pn**	**15 12 15.0**	**-0.8**
O14K	**Tigyukauivet M**	**7.46**	**299**		**Pn**	**15 12 15.2**	**-0.8**
O14K	**Tigyukauivet M**	**7.46**	**299**	P	**Pn**	**15 12 16.6**	**+0.7**
	baz=109						
MCK	**McKinley**	**7.52**	**359**		**Pn**	**15 12 18.8**	**+1.8**
MCK	**McKinley**	**7.52**	**359**	P	**Pn**	**15 12 18.8**	**+1.8**
	baz=179						
L27K	**Beaver Creek,**	**7.63**	**24**		**Pn**	**15 12 19.2**	**+0.7**
L27K	**Beaver Creek,**	**7.63**	**24**	P	**Pn**	**15 12 20.1**	**+1.6**
	baz=210						
K20K	**Telida**	**7.67**	**341**		**Pn**	**15 12 18.6**	**-0.3**
K20K	**Telida**	**7.67**	**341**	P	**Pn**	**15 12 19.5**	**+0.6**
	baz=157						
TTA	**Tatalina**	**7.71**	**334**	Pn	**Pn**	**15 12 19.0**	**-0.5**
TTA	**Tatalina**	**7.71**	**334**	P	**Pn**	**15 12 19.2**	**-0.3**
SKAG	**Skagway**	**7.74**	**60**	Pn	**Pn**	**15 12 21.5**	**+1.6**
SKAG	**Skagway**	**7.74**	**60**	P	**Pn**	**15 12 21.5**	**+1.6**
RIDG	**Independent Ri**	**7.75**	**12**	Pn	**Pn**	**15 12 20.9**	**+0.8**
M15K	**Kasigluk River**	**7.78**	**310**		**Pn**	**15 12 21.3**	**+0.8**
M15K	**Kasigluk River**	**7.78**	**310**	P	**Pn**	**15 12 21.3**	**+0.8**
	baz=120						
L16K	**Owhat River**	**7.87**	**319**		**Pn**	**15 12 21.9**	**+0.2**
L16K	**Owhat River**	**7.87**	**319**	P	**Pn**	**15 12 21.9**	**+0.2**
	baz=130						
N14K	**Kuskokwak Cree**	**7.89**	**303**		**Pn**	**15 12 22.6**	**+0.6**
N14K	**Kuskokwak Cree**	**7.89**	**303**	P	**Pn**	**15 12 22.6**	**+0.6**
	baz=113						
O30N	**Mendenhall**	**7.94**	**50**		**Pn**	**15 12 23.6**	**+1.0**
O30N	**Mendenhall**	**7.94**	**50**	P	**Pn**	**15 12 23.7**	**+1.0**
	baz=241						
JIS	**Juneau Island**	**7.94**	**69**	Pn	**Pn**	**15 12 22.4**	**-0.2**
JIS	**Juneau Island**	**7.94**	**69**	P	**Pn**	**15 12 22.5**	**-0.1**
BPAW	**Bear Paw Mtn.**	**7.98**	**352**	Pn	**Pn**	**15 12 23.6**	**+0.4**
M29M	**Somme Creek**	**8.06**	**35**		**Pn**	**15 12 25.4**	**+0.9**
M29M	**Somme Creek**	**8.06**	**35**	P	**Pn**	**15 12 25.7**	**+1.2**
	baz=224						
K17K	**Iditarod**	**8.18**	**327**	Pn	**Pn**	**15 12 25.6**	**-0.3**
J18K	**Innoko River**	**8.33**	**334**	Pn	**Pn**	**15 12 27.8**	**-0.2**
NEA2	**Nenana**	**8.39**	**358**		**Pn**	**15 12 29.8**	**+1.0**
NEA2	**Nenana**	**8.39**	**358**	P	**Pn**	**15 12 29.8**	**+1.0**
	baz=178						
WHY	**Whitehorse**	**8.41**	**53**	Pn	**Pn**	**15 12 30.5**	**+1.3**
N31M	**Braeburn, Yuko**	**8.44**	**46**		**Pn**	**15 12 30.8**	**+1.3**
N31M	**Braeburn, Yuko**	**8.44**	**46**	P	**Pn**	**15 12 30.8**	**+1.3**
	baz=237						
J20K	**Nowinta River**	**8.44**	**343**		**Pn**	**15 12 29.9**	**+0.5**
CCB	**Clear Creek Bu**	**8.44**	**2**		**Pn**	**15 12 30.6**	**+1.0**
K27K	**Chicken**	**8.45**	**20**	Pn	**Pn**	**15 12 31.2**	**+1.6**
J19K	**Poorman**	**8.54**	**338**	Pn	**Pn**	**15 12 30.7**	**-0.2**
J25K	**Salcha River,**	**8.54**	**9**	Pn	**Pn**	**15 12 31.6**	**+0.7**
P32M	**Atlin**	**8.57**	**61**	Pn	**Pn**	**15 12 31.6**	**+0.3**
IL31		**8.60**	**5**		**Pn**	**15 12 32.7**	**+1.0**
ILAR	**Eielson Array**	**8.60**	**5**	Pn	**Pn**	**15 12 32.8**	**+1.1**
	comp=N,0.3nm,0.3s,baz=190,slow=13,SNR=12						
ILAR				Sn	**Sn**	**15 14 05.6**	**-3.0**
	comp=N,0.2nm,0.3s,baz=187,slow=23,SNR=7.8 comp=N,0.5nm,0.4s						
J26L	**Joseph Creek**	**8.64**	**14**		**Pn**	**15 12 33.5**	**+1.1**
L29M	**L29M**	**8.66**	**33**		**Pn**	**15 12 33.4**	**+0.8**
COLA	**College**	**8.67**	**2**	P	**Pn**	**15 12 34.1**	**+1.5**
CRAG	**Craig**	**8.70**	**89**	Pn	**Pn**	**15 12 34.8**	**+1.7**
M30M	**Minto, Yukon**	**8.72**	**38**		**Pn**	**15

DGTI	**Dogotuki**	1.94	306	P		**P**	15 16 03.1	+1.3	
AFI	**Afiamalu**	7.48	63	P		**P**	15 16 43.4	-1.9	
NIUE	**Niue**	8.43	102	P		**P**	15 16 53.1	-1.3	
NIUE	**Niue**	8.43	102	P		P	15 16 38.9	-16	
DZM	**Mont Dzumac**	14.78	249	P		**P**	15 17 59.5	-0.4	
KOUNC	**Koumac, New Ca**	16.45	257	P		**P**	15 18 14.0	-2.4	
KOUNC	**Koumac, New Ca**	16.45	257	P		**P**	15 18 17.7	+1.3	
URZ	**Urewera**	21.06	189	P		**P**	15 18 56.9	-1.3	
	6.8nm,0.8s,baz=74,slow=18,SNR=2.2								
	6.8nm,0.8s								
QRZ	**Quartz Range**	24.51	196	P		**P**	15 19 29.6	+0.7	
QRZ				IAmb		IAmb	15 19 35.9		
	comp=Z,22nm,1.1s								
QRZ	**Quartz Range**	24.51	196	P		**P**	15 19 29.6	+0.7	
THZ	**Tophouse**	25.29	195	P		**P**	15 19 36.0	+0.1	
THZ				IAmb		IAmb	15 20 15.5		
	comp=Z,13nm,1.3s								
DSZ	**Denniston Nort**	25.56	197	P		**P**	15 19 38.5	+0.2	
DSZ				IAmb		IAmb	15 19 44.0		
	comp=Z,27nm,1.4s								
FOZ	**Fox Glacier**	27.78	198	P		**P**	15 19 57.0	-0.6	
JCZ	**Jackson Bay**	28.58	199	P		**P**	15 20 04.6	-0.2	
WKZ	**Wanaka**	29.19	198	P		**P**	15 20 09.0	-1.0	
MLZ	**Mavora Lakes**	29.95	199	P		**P**	15 20 17.1	+0.5	
MLZ				IAmb		IAmb	15 20 33.7		
	comp=Z,18nm,1.2s								
ARMA	**Armidale**	29.99	239	P		**P**	15 20 17.9	+0.6	
ARMA				IAmb		IAmb	15 20 18.6		
	comp=Z,7.8nm,0.7s								
ARMA	**Armidale**	29.99	239	P		**P**	15 20 18.0	+0.8	
MGCD	**Mangrove Creek**	31.38	234	P		**P**	15 20 30.2	+1.2	
CTAO	**Charters Tower**	33.31	260	P		**P**	15 20 44.9	-0.7	
CNB	**Canberra Magne**	33.54	232	P		**P**	15 20 48.1	+0.8	
CAN	**Canberra**	33.81	232	P		**P**	15 20 49.5	-0.1	
CAN				IAmb		IAmb	15 21 03.7		
	comp=Z,13nm,1.1s								
CMSA	**Cobar Meteorol**	35.19	240	P		**P**	15 21 01.4	+0.3	
COEN	**Coen**	36.89	270	P		**P**	15 21 15.7	+0.3	
COEN				IAmb		IAmb	15 21 20.3		
	comp=Z,38nm,1.5s								
TOO	**Toolangi**	37.29	230	P		**P**	15 21 19.1	+0.6	
TOO				IAmb		IAmb	15 21 21.0		
	comp=Z,19nm,1.2s								
TOO	**Toolangi**	37.29	230	P		**P**	15 21 19.0	+0.6	
STKA	**Stephens Creek**	38.66	241	P		**P**	15 21 29.9	+0.3	
STKA	**Stephens Creek**	38.66	241	P		**P**	15 21 29.9	+0.3	
	comp=Z,5.6nm,0.5s,baz=90,slow=9.9,SNR=32								
	comp=Z,5.6nm,0.5s								
BBOO	**Buckleboo**	43.44	241	P		**P**	15 22 07.6	+0.1	
WR0	**Warramunga Arr**	44.32	259	P		**P**	15 22 13.4	-1.1	
WR0				IAmb		IAmb	15 22 30.2		
	comp=Z,20nm,1.4s								
WB0	**Warramunga Arr**	44.47	259	P		**P**	15 22 14.6	-1.1	
WB2	**Warramunga Arr**	44.50	259	P		**P**	15 22 14.9	-1.0	
WB2				IAmb		IAmb	15 22 19.6		
	comp=Z,12nm,1.1s								
WRA	**Warramunga Arr**	44.51	259			**P**	15 22 14.9	-1.1	
WRA	**Warramunga Arr**	44.51	259	P		**P**	15 22 14.8	-1.2	
	comp=Z,4.0nm,0.5s,baz=97,slow=7.1,SNR=70								
	comp=Z,4.0nm,0.5s								
AS31	**Alice Springs**	44.71	254			**P**	15 22 17.1	-0.4	
AS31				IAmb		IAmb	15 22 17.8		
	comp=Z,13nm,0.5s								
ASAR	**Alice Springs**	44.71	254	P		**P**	15 22 17.2	-0.3	
	comp=Z,40nm,0.5s,baz=89,slow=7.9,SNR=1054								
ASAR				PcP		**PcP**	15 23 48.0	-0.2	
	comp=Z,0.7nm,0.5s,baz=96,slow=4.0,SNR=2.8								
ASAR				ScP		**ScP**	15 26 50.6	+2.0	
	comp=Z,0.8nm,0.9s,baz=110,slow=5.0,SNR=4.1								
PTCN	**Pitcairn Islan**	45.67	108	P		**P**	15 22 25.2	+0.4	
FORT	**Forrest**	50.01	244	P		**P**	15 22 56.5	-0.6	
FORT				IAmb		IAmb	15 23 09.6		
	comp=Z,35nm,1.1s								
FAKI	**Fak Fak**	50.28	281	P		**P**	15 22 58.7	-0.7	
FITZ	**Fitzroy Crossi**	52.89	260	P		**P**	15 23 17.7	-0.4	
PSA00	**Pilbara Seismi**	57.82	255	P		**P**	15 23 51.6	-0.8	
PSA00				IAmb		IAmb	15 24 26.0		
	comp=Z,33nm,1.2s								
MORW	**Morawa**	60.47	246	P		**P**	15 24 09.6	-0.4	
MORW				IAmb		IAmb	15 24 38.4		
	comp=Z,32nm,1.4s								
GIRL	**Giralia**	62.82	253	P		**P**	15 24 26.2	+0.8	
JAGI	**Jajag, Banyuwa**	65.84	268	P		**P**	15 24 43.4	-1.3	
MJAR	**Matsushiro Arr**	67.42	323	P		**P**	15 24 53.1	-0.8	
	comp=Z,1.3nm,0.6s,baz=111,slow=10,SNR=5.1								
	comp=Z,1.3nm,0.6s								
KKM	**Kota Kinabalu**	68.43	284	P		**P**	15 25 00.6	0.0	
KKM				IAmb		IAmb	15 25 01.2		
	comp=Z,15nm,1.1s								
ASAJ	**Asahikawa**	70.78	331	P		**P**	15 25 13.3	-0.6	
	comp=Z,5.0nm,0.8s,baz=233,slow=9.5,SNR=4.6								
	comp=Z,5.0nm,0.8s								
QSPA	**South Pole Qui**	72.60	180	P		**P**	15 25 25.5	+1.1	
QSPA	**South Pole Qui**	72.60	180	P		**P**	15 25 25.2	+0.8	
	comp=Z,0.7nm,0.5s,baz=328,slow=1.7,SNR=7.1								
	comp=Z,0.7nm,0.5s								
SEY	**Seymchan**	83.29	347	P		**P**	15 26 21.3	-0.2	
	comp=Z,1.7nm,0.6s,baz=154,slow=4.9,SNR=7.0								
	comp=Z,1.7nm,0.6s								
GSI	**Gunungsitoli**	84.47	273	P		**P**	15 26 29.3	+0.8	
GSI				IAmb		IAmb	15 26 30.4		
	comp=Z,8.9nm,0.7s								
ILAR	**Eielson Array**	85.50	13	P		**P**	15 26 31.8	-0.5	
	comp=Z,0.1nm,0.4s,baz=221,slow=5.9,SNR=1.5								
	comp=Z,0.1nm,0.4s								
TXAR	**Lajitas Array**	85.93	58	P		**P**	15 26 37.7	+2.4	
	comp=Z,0.7nm,0.7s,baz=224,slow=5.0,SNR=7.2								
	comp=Z,0.7nm,0.7s								
CMAR	**Chiang Mai Arr**	88.53	290	P		**P**	15 26 49.1	+1.5	
	comp=Z,0.3nm,0.3s,baz=98,slow=3.0,SNR=4.9								
	comp=Z,0.3nm,0.3s								
MKAR	**Makanchi Array**	108.67	314	PKiKP		**PKiKP**	15 32 18.7	-0.9	
	comp=Z,0.1nm,0.5s,baz=31,slow=3.4,SNR=1.3								
BRTR	**Keskin Array B**	144.31	315	PKP		**PKPab**	15 33 26.8	-0.4	
	comp=Z,0.8nm,0.6s,baz=97,slow=6.3,SNR=4.5								
MMAI	**Mount Meron Ar**	145.72	303	PKPbc		**PKPbc**	15 33 31.4	+0.3	
	comp=Z,1.7nm,0.5s,baz=82,slow=6.0,SNR=5.0								

*IDC **29** 15:18:26.3±0.7,52.˙35N×168.˙71W,h0km,mb4.3/30, mbtmp4.3/31,ML3.3/1,MS3.5/13,Error ellipse: s-maj=20.2km s-min=12.0km az=179.0*

*MOS **29** 15:18:26.0±1.3,52.˙32N×168.˙64W,h8km,mb4.7/27,Error ellipse: s-maj=14.2km s-min=8.0km az=104.0*

*AEIC **29** 15:18:27.6±2.5,52.˙13N±0.˙03×168.˙43W±0.˙06,h9km±4km, Error ellipse: s-maj=6.2km s-min=1.8km az=51.0*

*NEIC **29** 15:18:28.5±2.3,52.˙20N±0.˙04×168.˙53W±0.˙04,h10km±1km, mb4.2/62,ML3.9/8,ML3.9(AEIC),Error ellipse: s-maj=6.9km s-min=4.4km az=168.0*

ISC 29 15:18:29.9±1.4,52˙21N±0˙.06×168˙56W±0˙.04,h26km±8km, n216,σ1$34/192,mb4.5/78,MS3.6/13,8C-12D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.79	347	Pn	**Pb**	15 18 44.6	-0.3
NIKH					**Sb**	15 18 53.7	-1.5
NIKH	**Nikolski High**	0.79	347	P	**Pn**	15 18 45.0	-0.3
NIKH	**Nikolski High**	0.79	347	P	**Pb**	15 18 44.2	-0.7
	baz=163						
NIKH				S	**Sn**	15 18 57.7	+1.5
	baz=163						
CLCO	**Concord Point,**	0.92	310		**Pn**	15 18 46.8	-0.3
CLCO					**Sn**	15 19 02.1	+2.7
CLES	**Cleveland East**	1.02	308	Pn	**Pb**	15 18 48.2	-0.7
CLES				IAML		15 19 22.2	
	comp=E,5μm,0.7s						
CLES	**Cleveland East**	1.02	308		**Sn**	15 19 04.3	+2.3
OKCE	**Okmok Cone E**	1.24	11		**Pn**	15 18 51.4	-0.2
OKCE					**Sb**	15 19 10.0	+1.6
OKFG	**Magazine Ridge**	1.27	18		**Pn**	15 18 51.4	-0.5
OKNC	**Okmok New Cone**	1.28	12		**Pn**	15 18 51.8	-0.3
OKER	**Okmok East Rim**	1.28	14		**Pn**	15 18 52.1	-0.1
MAPS	**Pakushin South**	1.88	31		**Pn**	15 18 59.9	-0.4
MAPS					**Sn**	15 19 23.3	+0.2
MGOD	**Makushin Gods**	1.89	32		**Pn**	15 19 00.0	-0.5
MSW	**Makushin Switc**	2.02	31		**Pn**	15 19 01.9	-0.3
MNAT	**Makushin Natee**	2.02	33		**Pn**	15 19 01.8	-0.5
UNV	**Unalaska Valle**	2.06	36		**Sn**	15 19 28.0	+0.5
UNV	**Unalaska Valle**	2.06	36	Pn	**Pn**	15 19 02.2	-0.5
UNV	**Unalaska Valle**	2.06	36	P	**Pn**	15 19 02.5	-0.2
UNV	**Unalaska Valle**	2.06	36	P	**Pn**	15 19 02.1	-0.6
	baz=215						
UNV				S	**Sn**	15 19 28.0	+0.5
AKBBA	**Akutan Broad B**	2.47	39		**Pn**	15 19 08.4	0.0
AHB	**Akutan Harbor**	2.52	40		**Pn**	15 19 09.3	+0.1
AKUT	**Akutan**	2.56	40	Pn	**Pn**	15 19 09.8	+0.3
AKUT				IAML		15 19 55.8	
	comp=E,416nm,1.0s						
KOFP	**Korovin Flat P**	3.41	273		**Pn**	15 19 22.7	+1.3
ATKA	**Atka Island**	3.47	272	Pn	**Pn**	15 19 22.8	+0.7
ATKA				IAML		15 20 22.3	
	comp=E,180nm,1.1s						
ATKA	**Atka Island**	3.47	272	P	**Pn**	15 19 23.5	+1.4
GSTR	**Great Sitkin T**	4.62	272	Pn	**Pn**	15 19 38.5	+0.6
ADAG	**Mount Adagdak**	4.96	271		**Pn**	15 19 44.2	+1.5
ADK	**Adak**	5.03	269	Pn	**Pn**	15 19 44.5	+1.0
ADK				IAML		15 21 08.9	
	comp=E,122nm,0.7s						
ADK	**Adak**	5.03	269	P	**Pn**	15 19 44.2	+0.7
ADK	**Adak**	5.03	269	P	**Pn**	15 19 44.5	+1.0
KIWB	**Kanaga Island**	5.32	270	Pn	**Pn**	15 19 48.2	+0.7
SDPT	**Sand Point**	5.73	54	Pn	**Pn**	15 19 53.5	+0.3
SDPT	**Sand Point**	5.73	54	P	**Pn**	15 19 54.2	+1.0
CNBA	**Chernabura Isl**	5.96	60	Pn	**Pn**	15 19 54.9	-1.4
S14K	**Fog Glacier**	6.67	49	P	**Pn**	15 20 08.3	+2.2
	baz=235						
VNFG	**Fog Glacier, M**	6.67	49		**Pn**	15 20 08.3	+2.2
O14K	**Tigyukauivet M**	8.17	27		**Pn**	15 20 28.7	+2.1
O14K	**Tigyukauivet M**	8.17	27	P	**Pn**	15 20 28.7	+2.1
	baz=213						
M11K	**Mekoryuk**	8.30	8		**Pn**	15 20 30.8	+2.5
M11K	**Mekoryuk**	8.30	8	P	**Pn**	15 20 30.8	+2.5
	baz=190						
O15K	**Ungalikthiuk R**	8.54	32		**Pn**	15 20 34.6	+2.9
O15K	**Ungalikthiuk R**	8.54	32	P	**Pn**	15 20 34.6	+2.9
	baz=218						
N14K	**Kuskokwak Cree**	8.63	24		**Pn**	15 20 36.1	+3.2
N14K	**Kuskokwak Cree**	8.63	24	P	**Pn**	15 20 36.1	+3.2
	baz=209						
M14K	**Bethel**	9.30	20	Pn	**Pn**	15 20 43.7	+1.6
M14K	**Bethel**	9.30	20	P	**Pn**	15 20 44.6	+2.5
	baz=205						
Q17K	**Contact Creek**	9.44	45	P	**Pn**	15 20 46.0	+1.9
	baz=235						
CNTC	**Contact Creek**	9.44	45		**Pn**	15 20 46.0	+1.9
ANCK	**Angle Creek**	9.57	46		**Pn**	15 20 47.0	+1.1
OHAK	**Old Harbor**	10.15	54	P	**Pn**	15 20 53.0	-0.8
KDAK	**Kodiak Island**	10.73	52	Pn	**Pn**	15 21 00.1	-1.5
	comp=E,19nm,0.3s,baz=251,slow=7.2,SNR=17						
K17K	**Iditarod**	11.87	24		**Pn**	15 21 18.2	+0.9
ANM	**Nome**	12.50	6		**Pn**	15 21 28.1	+2.3
ANM	**Nome**	12.50	6	P	**Pn**	15 21 28.1	+2.3
O22K	**Cooper Landing**	13.29	44		**Pn**	15 21 35.7	-0.9
H18K	**Honhosa River**	13.99	18	Pn	**Pn**	15 21 47.4	+1.2
CAST	**Castle Rocks**	14.20	31	P	**P**	15 21 55.9	-0.3
G18K	**Tagagawik**	14.61	16	Pn	**Pn**	15 21 54.0	-0.6
KTH	**Kantishna Hill**	14.67	32		**Pn**	15 21 56.3	+0.8
BPAW	**Bear Paw Mtn.**	15.03	31	Pn	**Pn**	15 22 00.7	+0.4
BPAW				IAmb	IAmb	15 22 07.0	
	comp=Z,15nm,0.9s						
RAGM	**Ragged Mountai**	15.51	49	P	**P**	15 22 09.9	-0.8
I21K	**Tanana**	15.52	27	Pn	**Pn**	15 22 07.8	+1.2
I21K				IAmb	IAmb	15 22 12.4	
	comp=Z,23nm,1.1s						
H21K	**Melozitna Rive**	15.67	25	IAmb	IAmb	15 22 14.7	
	comp=Z,17nm,0.9s						
MLY	**Manley**	15.77	29		**Pn**	15 22 11.4	+1.5
I23K	**Minto, Yukon-K**	16.26	30	IAmb	IAmb	15 22 29.6	
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	16.81	33	Pn	**Pn**	15 22 21.1	-2.0
	comp=Z,0.1nm,0.3s,baz=239,slow=12,SNR=13						
	comp=Z,1.5nm,0.8s						
L26K	**Log Cabin Wild**	17.18	41	IAmb	IAmb	15 22 34.0	
	comp=Z,7.4nm,0.7s						
H24K	**Noodor Dome**	17.19	29	IAmb	IAmb	15 22 30.3	
	comp=Z,16nm,1.1s						
CTGM	**Chitina Glacie**	17.25	49	IAmb	IAmb	15 22 44.7	
	comp=Z,16nm,0.8s						
LOGN	**Logan Glacier**	17.36	49	IAmb	IAmb	15 22 44.9	
	comp=Z,23nm,1.0s						
M27K	**Edge Creek, AK**	17.50	44	IAmb	IAmb	15 22 35.5	
	comp=Z,21nm,1.1s						
EGAK	**Eagle**	18.86	38	P	**P**	15 22 47.5	-0.2
HYT	**Haines Junctio**	19.01	51		**Pn**	15 22 51.9	+1.5
HYT				IAmb	IAmb	15 23 05.9	
	comp=Z,19nm,0.8s						
DAWY	**Dawson**	19.23	41	P	**P**	15 22 51.1	-0.6
DAWY				IAmb	IAmb	15 22 53.3	
	comp=Z,15nm,1.4s						
L29M	**L29M**	19.39	44	IAmb	IAmb	15 22 58.3	
	comp=Z,18nm,1.1s						
E25K	**Arctic Village**	19.42	26	IAmb	IAmb	15 22 56.9	
	comp=Z,12nm,0.9s						
I28M	**Miner Creek**	19.64	37	IAmb	IAmb	15 23 11.0	
	comp=Z,5.8nm,0.7s						
O30N	**Mendenhall**	19.68	51	IAmb	IAmb	15 23 22.1	
	comp=Z,19nm,0.9s						
PET	**Petropavlovsk**	19.84	285	⇑*e*P	**P**	15 22 57.6	-0.8
PET				pmax	pmax		
	comp=Z,32nm,1.2s						
SKAG	**Skagway**	19.85	55	P	**P**	15 22 56.2	-2.3
J29N	**Klondike Camp**	19.85	40	IAmb	IAmb	15 23 07.4	
	comp=Z,40nm,0.3s						
BILL	**Bilibino**	19.98	332	P	**P**	15 23 00.6	+0.8
BILL				IAmb	IAmb	15 23 06.5	
	comp=Z,17nm,1.2s						
BILL	**Bilibino**	19.98	332	*e*P	**Pn**	15 23 01.2	-0.4
N31M	**Braeburn, Yuko**	19.98	50	Pn	**Pn**	15 23 02.0	+0.2
WHY	**Whitehorse**	20.25	52	Pn	Pn	15 23 05.7	+0.7
WHY				IAmb	IAmb	15 23 26.2	
	comp=Z,19nm,1.1s						
PETK	**Petropavlovsk-**	20.38	286	P	**P**	15 23 03.6	-0.8
	comp=Z,8.2nm,0.5s,baz=84,slow=14,SNR=30						
	comp=Z,8.2nm,0.5s						
J30M	**Hart River**	20.65	41	IAmb	IAmb	15 23 25.5	
	comp=Z,6.1nm,0.8s						
M31M	**Drury Creek, Y**	20.78	48	IAmb	IAmb	15 23 15.7	
	comp=Z,9.5nm,0.8s						
F28M	**Old Crow**	20.79	31	P	**P**	15 23 07.4	-1.3
P33M	**Teslin, Yukon**	21.20	54	IAmb	IAmb	15 23 17.7	
	comp=Z,13nm,1.0s						
FARO	**Faro, Yukon**	21.26	48	P	**P**	15 23 14.5	+0.6
FARO				IAmb	IAmb	15 23 20.1	
	comp=Z,13nm,0.9s						
G30M	**tAoh Zraii Nji**	21.69	35	IAmb	IAmb	15 23 18.5	
	comp=Z,18nm,1.1s						
F31M	**Tsiigehtchic**	22.76	35	P	**P**	15 23 28.2	-1.5
F31M				IAmb	IAmb	15 23 36.0	
	comp=Z,6.0nm,0.9s						
SEY	**Seymchan**	23.14	313	⇓*e*P	**P**	15 23 33.1	-0.6
SEY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SEY	**Seymchan**	23.14	313	P	**P**	15 23 32.6	-1.1
	comp=Z,7.3nm,1.0s,baz=84,slow=23,SNR=10						
	comp=Z,7.3nm,1.0s						
INK	**Inuvik**	23.21	33	P	**P**	15 23 31.5	-2.8
INK				IAmb	IAmb	15 23 48.9	
	comp=Z,12nm,1.4s						
INK	**Inuvik**	23.21	33	P	**P**	15 23 31.5	-2.8
INK				pmax	pmax		
	comp=Z,12nm,1.4s						
INK	**Inuvik**	23.21	33	P	**P**	15 23 32.4	-1.9
	comp=Z,1.6nm,0.4s,baz=224,slow=11,SNR=12						
	comp=Z,1.6nm,0.4s						
C36M	**Paulatuk**	26.78	33	IAmb	IAmb	15 24 11.0	
	comp=Z,4.9nm,0.9s						
A36M	**Sachs Harbour**	27.32	28	IAmb	IAmb	15 24 22.6	
	comp=Z,5.4nm,0.8s						
YKA	**Yellowknife Ar**	29.97	49	*i* P	**P**	15 24 36.5	+0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	29.97	49	P	**P**	15 24 35.8	+0.1
	comp=Z,0.8nm,0.8s,baz=271,slow=5.8,SNR=12						
YKA				PcP	**PcP**	15 27 35.7	-1.6
	comp=Z,0.3nm,0.7s,baz=271,slow=2.8,SNR=4.9						
	comp=Z,0.8nm,0.8s						
YBH	**Yreka Blue Hor**	32.48	90	P	**P**	15 25 00.6	+2.5
	comp=Z,1.1nm,0.8s,baz=272,slow=4.4,SNR=3.6						
	comp=Z,1.1nm,0.8s						
TIXI	**Tiksi**	33.13	329	P	**P**	15 25 02.4	-0.9
TIXI				IAmb	IAmb	15 25 03.9	
	comp=Z,2.9nm,0.8s						
TIXI	**Tiksi**	33.13	329	⇓*e*P	**P**	15 25 02.9	-0.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	33.13	329	LR	LR	15 38 49.3	
	comp=Z,57nm,18.0s,baz=188,slow=37						
YAK	**Yakutsk**	33.65	311	⇓*e*P	**P**	15 25 06.2	-1.7
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YAK	**Yakutsk**	33.65	311	P	**P**	15 25 05.9	-2.0
	comp=Z,6.2nm,0.3s,baz=66,slow=16,SNR=4.1						
YAK				LR	LR	15 39 37.0	
	comp=Z,100nm,18.6s,baz=101,slow=38						
	comp=Z,6.2nm,0.3s						
RES	**Resolute Bay**	36.30	26	LR	LR	15 43 59.0	
	comp=Z,63nm,18.4s,baz=21,slow=42						
KLR	**Kul'dur**	36.98	290	⇓*e*P	**P**	15 25 35.2	-1.5
KLR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KLR	**Kul'dur**	36.98	290	P	**P**	15 25 34.6	-2.1
	comp=Z,4.7nm,1.1s,baz=63,slow=8.6,SNR=8.8						
KLR				LR	LR	15 42 42.5	
	comp=Z,95nm,18.1s,baz=54,slow=40						
	comp=Z,4.7nm,1.1s						
NVAR	**Mina Array Bea**	37.16	91	P	**P**	15 25 41.1	+2.4
	comp=Z,0.3nm,0.7s,baz=312,slow=6.7,SNR=2.4						
	comp=Z,0.3nm,0.7s						
ZEA	**Zeya**	37.51	299	*e*P	**P**	15 25 40.6	-0.6
H11N2	**WAKE ISLAND Hy**	37.64	220	T	T	16 06 32.4	
	baz=24,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	37.65	220	T	T	16 06 23.2	
	baz=24,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	37.66	220	T	T	16 06 33.8	
	baz=24,slow=76,SNR=15						
HVU	**Hansel Valley**	38.55	83	P	**P**	15 25 52.1	+1.8
HVU				IAmb	IAmb	15 26 01.4	
	comp=Z,5.1nm,1.3s						
HVU	**Hansel Valley**	38.55	83	P	**P**	15 25 52.1	+1.8
HVU				pmax	pmax		
	comp=Z,5.0nm,1.3s						
RLMT	**Red Lodge**	38.81	76	IAmb	IAmb	15 26 10.2	
	comp=Z,8.6nm,1.2s						
H11S1	**WAKE ISLAND Hy**	38.83	219	T	T	16 07 44.1	
	baz=23,slow=76,SNR=51						
H11S2	**WAKE ISLAND Hy**	38.84	219	T	T	16 07 52.5	
	baz=23,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	38.84	219	T	T	16 07 50.8	
	baz=23,slow=76,SNR=39						
USRK	**Ussuriysk Ar.**	39.41	283	LR	LR	15 41 44.0	
	comp=Z,47nm,21.4s,baz=29,slow=36						
BW06	**Boulder Array**	39.94	79	P	**P**	15 26 02.7	+0.7
BW06				IAmb	IAmb	15 26 03.9	
	comp=Z,4.2nm,1.0s						
PD31	**Pinedale Array**	39.94	79	P	**P**	15 26 02.6	+0.6
PD31				IAmb	IAmb	15 26 03.8	
	comp=Z,3.7nm,1.0s						
PDAR	**Pinedale Array**	39.94	79	P	**P**	15 26 02.7	+0.6
PDAR	**Pinedale Array**	39.94	79	P	**P**	15 26 03.0	+1.0
	comp=Z,3.4nm,0.9s,baz=304,slow=4.6,SNR=24						
	comp=Z,3.4nm,0.9s						
FCC	**Fort Churchill**	40.66	50	P	**P**	15 26 08.0	+0.6
FCC	**Fort Churchill**	40.66	50	P	**P**	15 26 08.0	+0.6
FCC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
RDMU	**Red Mountain**	41.22	82	P	**P**	15 26 13.8	+1.3
RDMU				IAmb	IAmb	15 26 35.4	
	comp=Z,6.4nm,1.0s						
O20A	**White River Ci**	42.29	82	P	**P**	15 26 21.4	+0.1
BOD	**Bodaibo**	42.48	309	*e*P	**P**	15 26 20.6	-1.7
BOD				pmax	pmax		
	comp=Z,8.0nm,1.8s						
KSRS	**Korea Array**	45.92	277	P	**P**	15 26 50.9	+0.9
	comp=Z,5.9nm,0.9s,baz=52,slow=7.0,SNR=11						
	comp=Z,5.9nm,0.9s						
KSAR	**Wonju Array Be**	45.95	277	P	**P**	15 26 49.8	-0.5
KSAR	**Wonju Array Be**	45.95	277	P	**P**	15 26 49.8	-0.5
NRIK	**Noril'sk**	46.80	332	⇓*e*P	**P**	15 26 55.8	-0.8
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NRIK	**Noril'sk**	46.80	332	P	**P**	15 26 55.0	-1.6
	comp=Z,1.5nm,0.4s,baz=61,slow=12,SNR=3.7						
	comp=Z,1.5nm,0.4s						
JNU	**Nakatsue**	46.96	271	LR	LR	15 46 50.7	
	comp=Z,32nm,20.4s,baz=7.0,slow=36						
SPITS	**Spitsbergen Ar**	49.84	359	P

	comp=Z,24nm,2.0s							
FINES	**FINESS Array B**	**66.10**	**352**	P		**P**	**15 29 13.5**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=12,slow=6.8,SNR=29							
	comp=Z,6.2nm,0.7s							
NB2	**NORSAR Subarra**	**67.10**	**0**	P		**P**	**15 29 19.8**	**-0.8**
	comp=Z,7.6nm,0.8s,baz=0.2,slow=6.5							
NOA	**NORSAR Array B**	**67.10**	**0**	P		**P**	**15 29 19.8**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=359,slow=6.2,SNR=5.5							
	comp=Z,2.7nm,0.8s							
HFS	**Hagfors**	**68.00**	**359**	P		**P**	**15 29 25.7**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=14,slow=3.1,SNR=22							
	comp=Z,3.5nm,0.5s							
VSU	**Vasula**	**68.99**	**351**	*e*P		**P**	**15 29 32.5**	**+0.2**
VSU				pmax	pmax			
	comp=Z,55nm,2.5s							
PZH	**PanZhiHua**	**69.34**	**287**	P		**P**	**15 29 36.0**	**+0.8**
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,120nm,6.9s							
AAK	**Ala-Archa**	**70.96**	**316**	*de*P		**P**	**15 29 45.6**	**+0.6**
AAK				pmax	pmax			
	comp=Z,9.0nm,1.3s							
AAK	**Ala-Archa**	**70.96**	**316**	LR		LR	16 02 47.5	
	comp=Z,49nm,18.9s,baz=24,slow=38							
OBN	**Obninsk**	**71.03**	**345**	*e*P		**P**	**15 29 43.4**	**-1.5**
OBN				*e*			15 30 09.6	
OBN				S		**S**	**15 38 59.0**	**+0.1**
OBN				pmax	pmax			
	comp=Z,5.0nm,0.5s							
PPT	**Papeete**	**71.42**	**161**	LR		LR	15 55 18.7	
	comp=Z,9.5nm,20.9s,baz=10,slow=31							
BELG	**Belogornoye**	**71.43**	**338**	*de*P		**P**	**15 29 47.6**	**+0.3**
BELG				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KSH	**Kashi**	**72.85**	**313**	P		**P**	**15 29 59.5**	**+3.2**
KSH				pP		PcP	15 30 11.3	-2.0
KSH				pmax	pmax			
	comp=Z,11nm,0.9s							
AKASG	**Malin Array Be**	**76.37**	**348**	P		**P**	**15 30 15.5**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=10,slow=5.8,SNR=11							
	comp=Z,2.9nm,0.7s							
CMAR	**Chiang Mai Arr**	**77.14**	**283**	*i* P		**P**	**15 30 22.2**	**+1.0**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**77.14**	**283**	P		**P**	**15 30 21.7**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=26,slow=6.3,SNR=22							
	comp=Z,3.3nm,0.7s							
HSKC	**Hora Svate Kat**	**77.55**	**359**	*e*P		**P**	**15 30 25.6**	**+2.6**
DPC	**Dobruska-Polom**	**77.73**	**357**	*e*P		**P**	**15 30 25.0**	**+0.9**
DPC	**Dobruska-Polom**	**77.73**	**357**	*e*P		**P**	**15 30 25.0**	**+0.9**
MORC	**Moravsky Berou**	**78.26**	**356**	*e*P		**P**	**15 30 28.2**	**+1.2**
VRAC	**Vranov**	**78.77**	**357**	*e*P		**P**	**15 30 30.0**	**+0.2**
KRUC	**Moravsky**	**79.02**	**357**	*e*P		**P**	**15 30 32.5**	**+1.4**
KHC	**Kasperske Hory**	**79.02**	**359**	*e*P		**P**	**15 30 32.9**	**+1.7**
KHC	**Kasperske Hory**	**79.02**	**359**	*e*P		**P**	**15 30 32.9**	**+1.7**
JAVC	**Velka Javorina**	**79.17**	**356**	*e*P		**P**	**15 30 34.2**	**+2.2**
CONA	**Conrad Observa**	**80.17**	**357**	*e*PcP		**P**	**15 30 39.4**	**+1.9**
	comp=Z,9.9nm,1.3s							
MOA	**Molln**	**80.29**	**358**	*e*P		**P**	**15 30 39.6**	**+1.5**
	comp=Z,8.5nm,1.7s							
RONA	**Rosalia, Austr**	**80.38**	**357**	*i* PcP		**P**	**15 30 40.8**	**+2.2**
	comp=Z,6.3nm,1.2s							
BIOA	**Bad Ischl, Aus**	**80.46**	**358**	*e*P		**P**	**15 30 40.3**	**+1.3**
	comp=Z,6.9nm,1.0s							
KIV	**Kislovodsk**	**80.49**	**338**	*e*P		**P**	**15 30 40.6**	**+1.3**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KBZ	**Khabaz**	**80.65**	**337**	*e*P		**P**	**15 30 40.5**	**+0.5**
KBZ				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KBZ	**Khabaz**	**80.65**	**337**	P		**P**	**15 30 41.3**	**+1.3**
	comp=Z,5.1nm,0.9s,baz=294,slow=4.9,SNR=5.7							
	comp=Z,5.1nm,0.9s							
LESA	**Schwarzleotal**	**80.74**	**359**	*i* P		**P**	**15 30 41.7**	**+1.1**
	comp=Z,3.9nm,0.9s							
MOTA	**Moosalm**	**80.83**	**0**	*i* P		**P**	**15 30 41.5**	**+0.4**
	comp=Z,13nm,1.3s							
WATA	**Walderalm**	**80.83**	**360**	*i* P		**P**	**15 30 42.2**	**+1.0**
	comp=Z,3.7nm,0.5s							
ARSA	**Arzberg**	**80.86**	**357**	*i* P		**P**	**15 30 42.6**	**+1.4**
	comp=Z,6.0nm,1.1s							
WTTA	**Wattenberg**	**80.91**	**360**	*i* P		**P**	**15 30 42.9**	**+1.3**
	comp=Z,3.2nm,0.6s							
SQTA	**Sankt Quirin**	**80.95**	**0**	*e*P		**P**	**15 30 42.5**	**+0.7**
	comp=Z,10nm,0.9s							
KBA	**Koelnbreinsper**	**81.08**	**359**	*e*PcP		**P**	**15 30 44.1**	**+1.6**
	comp=Z,21nm,1.1s							
FETA	**Feichten**	**81.15**	**0**	*i* P		**P**	**15 30 43.9**	**+1.0**
	comp=Z,10nm,1.1s							
ABTA	**Abfaltersbach**	**81.42**	**359**	*i* P		**P**	**15 30 45.0**	**+0.8**
	comp=Z,7.9nm,1.2s							
SOKA	**Soboth**	**81.44**	**358**	*e*P		**P**	**15 30 45.4**	**+1.1**
	comp=Z,14nm,1.2s							
GEYT	**Alibeck**	**81.45**	**324**	P		**P**	**15 30 44.7**	**+0.2**
	comp=Z,9.4nm,1.0s,baz=343,slow=4.6,SNR=15							
	comp=Z,9.4nm,1.0s							
MYKA	**Terra Mystica**	**81.52**	**358**	*i* PcP		**P**	**15 30 46.3**	**+1.5**
	comp=Z,6.0nm,1.6s							
OBKA	**Obir**	**81.62**	**358**	*i* P		**P**	**15 30 46.3**	**+1.0**
	comp=Z,7.6nm,1.3s							
BR131	**Keskin Array S**	**86.42**	**343**	*e*P		**P**	**15 31 11.6**	**+1.6**
BRTR	**Keskin Array B**	**86.42**	**343**	P		**P**	**15 31 10.8**	**+0.9**
	comp=Z,2.1nm,1.0s,baz=52,slow=2.0,SNR=7.0							
	comp=Z,2.1nm,1.0s							
WRA	**Warramunga Arr**	**87.30**	**232**	P		**P**	**15 31 13.2**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=31,slow=6.6,SNR=3.0							
	comp=Z,0.6nm,0.6s							
ESDC	**Sonseca Array**	**87.52**	**12**	P		**P**	**15 31 15.2**	**0.0**
	comp=Z,1.4nm,0.8s,baz=343,slow=4.6,SNR=8.7							
	comp=Z,1.4nm,0.8s							
ASAR	**Alice Springs**	**90.68**	**231**	P		**P**	**15 31 30.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=30,slow=4.1,SNR=8.6							
	comp=Z,1.5nm,0.8s							

DJA 29 15:26:44.9±0.2,2°S±2°×12°1E±°,h10km,M4.0/12,mb4.5/1, MLv3.8/12,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.65**	**250**	P	Pn	15 27 13.9	0.0
TTSI				S	Sb	15 27 35.8	-0.4
LUWI	**Luwuk**	**2.00**	**44**	P	Pn	15 27 18.1	-0.7
LUWI				S	Sn	15 27 44.8	+0.9
PMSI	**Majene**	**2.65**	**247**	P	Pn	15 27 28.1	+0.3
PMSI				S	Sn	15 28 00.9	+0.8
MRSI	**Marisa**	**2.99**	**11**	P	Pn	15 27 32.6	+0.2
MRSI				S	Sn	15 28 09.3	+0.9
BKSI	**Bulukumba**	**3.08**	**204**	P	Pn	15 27 34.7	+1.0
BKSI				S	Sn	15 28 11.7	+1.0
MPSI	**Mapaga**	**3.16**	**332**	P	Pn	15 27 35.3	+0.5
BBSI	**Bau Bau**	**3.22**	**158**	P	Pn	15 27 34.7	-0.9
BBSI				S	Sn	15 28 14.4	+0.4
MKS	**Makassar**	**3.31**	**215**	P	Pn	15 27 37.0	+0.1
KMSI	**Cibinong**	**4.00**	**41**	P	Pn	15 27 46.1	-0.2
SANI	**Sanana**	**4.63**	**85**	P	Pn	15 27 54.9	-0.1
LBMI	**Labuha**	**6.40**	**73**	P	Pn	15 28 19.4	+0.1

NEIC 29 15:34:02.7±1.5,43°64N±0°02×126°4W±0°2,h10km±2km, ML2.8/54,Error ellipse: s-maj=20.1km s-min=3.1km az=263.0,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.66**	**117**	Pn	Pb	15 34 33.0	-0.4
KEBM				IAML		15 34 56.8	
	comp=N,139nm,1.3s						
KEBM				IAML		15 34 57.6	
	comp=E,172nm,0.7s						
J01E	**Myrtle Point**	**1.83**	**104**	Pn	Pn	15 34 34.9	+0.6
KBO	**Bosley Butte**	**2.12**	**132**	Pn	Pb	15 34 40.1	-1.1
KBO				IAML		15 35 18.2	
	comp=E,52nm,1.7s						
K02D	**Willamette Mer**	**2.18**	**115**	Pn	Pn	15 34 40.7	+1.6
I03D	**Drain, OR**	**2.18**	**87**	Pn	Pn	15 34 40.1	+1.1
I03D				IAML		15 35 04.3	
	comp=E,66nm,0.6s						
I03D				IAML		15 35 04.4	
	comp=N,61nm,0.5s						
DBO	**Dodson Butte**	**2.33**	**102**	Pn	Pn	15 34 42.4	+1.3
COR	**Corvallis**	**2.40**	**66**	Pn	Pn	15 34 43.2	+1.2
COR				IAML		15 35 05.6	
	comp=N,51nm,1.8s						
COR				IAML		15 35 17.8	
	comp=N,52nm,1.1s						
HEBO	**Mount Hebo**	**2.44**	**49**	Pn	Pn	15 34 43.9	+1.2
HEBO				IAML		15 35 24.7	
	comp=N,74nm,1.8s						
BUCK	**Buck Mountain**	**2.50**	**76**	Pn	Pn	15 34 44.5	+0.9
BUCK				IAML		15 35 14.7	
	comp=E,39nm,1.6s						
BUCK				IAML		15 35 21.9	
	comp=N,34nm,1.7s						
L02F	**Cave Junction**	**2.55**	**126**	Pn	Pb	15 34 46.5	-2.0
G03D	**McMinnville, O**	**2.72**	**54**	Pn	Pn	15 34 48.7	+2.3
G03D				IAML		15 35 16.9	
	comp=E,47nm,1.8s						
G03D				IAML		15 35 19.1	
	comp=N,59nm,0.6s						
H04D	**Lebanon**	**2.75**	**70**		Pn	15 34 49.1	+2.2
H04D				IAML		15 35 31.5	
	comp=N,37nm,1.7s						
H04D				IAML		15 35 34.2	
	comp=E,43nm,1.6s						
I04A	**Tendick Farm,**	**2.87**	**85**	Pn	Pn	15 34 50.5	+1.9
I04A				IAML		15 35 27.3	
	comp=E,31nm,1.5s						
I04A				IAML		15 35 28.6	
	comp=N,25nm,1.7s						
H04A	**Detroit Lake**	**3.18**	**69**		Pn	15 34 55.1	+2.3
H04A				IAML		15 35 30.1	
	comp=N,24nm,0.9s						
H04A				IAML		15 35 31.5	
	comp=E,20nm,0.4s						
F04D	**Rainier, OR**	**3.41**	**43**	Pn	Pn	15 34 58.8	+2.9
E03A	**Lebam**	**3.52**	**33**	Pn	Pn	15 35 00.1	+2.7
I05D	**Terrebonne, OR**	**3.69**	**77**		Pn	15 35 02.5	+2.6
I05D				IAML		15 35 44.4	
	comp=E,13nm,2.0s						
I05D				IAML		15 36 25.3	
	comp=N,12nm,1.9s						
J05D	**Fort Rock, OR**	**3.75**	**94**		Pn	15 35 02.9	+2.2
HOOD	**Mount Hood Mea**	**3.77**	**62**		Pn	15 35 04.0	+3.1
PINE	**Pine Mountain**	**3.93**	**86**	Pn	Pn	15 35 05.6	+2.3
G05A	**Wamic**	**3.95**	**64**		Pn	15 35 06.4	+3.0
G05A				IAML		15 36 36.8	
	comp=E,22nm,1.9s						
G06A	**Carlson Farm,**	**4.40**	**67**		Pn	15 35 11.6	+2.1
D05A	**Enumclaw**	**4.70**	**39**	Pn	Pn	15 35 16.4	+2.8
MXC	**Moxie City**	**5.20**	**53**		Pn	15 35 22.9	+2.3
MXC				IAML		15 37 07.2	
	comp=E,5.1nm,1.8s						
MXC				IAML		15 38 41.5	
	comp=N,4.8nm,2.0s						
LTY	**Liberty**	**5.40**	**46**		Pn	15 35 26.2	+2.9
LTY				IAML		15 36 40.0	
	comp=N,5.6nm,1.4s						
LTY				IAML		15 38 00.3	
	comp=E,7.9nm,1.9s						
E07A	**Sunnyside**	**5.45**	**55**	Pn	Pn	15 35 26.7	+2.6
G08A	**Pilot Rock**	**5.55**	**70**	Pn	Pn	15 35 27.6	+2.1
E08A	**Dider Farm, El**	**5.90**	**59**		Pn	15 35 32.1	+1.9

*NEIC **29** 15:46:56.6±1.3,56°15N±0°09×149°6W±0°1,h10km±2km, ML3.6/46,ML3.4(AEIC),Error ellipse: s-maj=15.2km s-min=9.6km az=161.0*
*AEIC **29** 15:47:01.5±1.3,56°2N±0°1×149°6W±0°1,h11km±8km, Error ellipse: s-maj=15.8km s-min=9.5km az=164.0*
ISC 29 15:46:55.9±1.7,56°12N±0°10×149°68W±0°06,h10km, n141,σ1°18/138,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.28**	**300**		**Pn**	**15 47 34.6**	**+1.1**
OHAK					**Sn**	**15 48 00.4**	**-1.2**
OHAK	**Old Harbor**	**2.28**	**300**	IAML		15 48 01.1	
	comp=N,151nm,0.7s						
OHAK	**Old Harbor**	**2.28**	**300**	P	**Pn**	**15 47 34.6**	**+1.1**
OHAK	**Old Harbor**	**2.28**	**300**	P	**Pn**	**15 47 34.6**	**+1.1**
	baz=116						
OHAK				S	**Sn**	**15 48 00.4**	**-1.2**
	baz=116						
KDAK	**Kodiak Island**	**2.30**	**317**		**Pn**	**15 47 35.0**	**+1.2**
KDAK					**Sn**	**15 48 01.2**	**-1.0**
SII	**Sitkinak Islan**	**2.55**	**282**		**Pn**	**15 47 38.2**	**+0.9**
SII					**Sn**	**15 48 07.3**	**-0.9**
SII	**Sitkinak Islan**	**2.55**	**282**	IAML		15 48 10.7	
	comp=N,204nm,1.3s						
SII	**Sitkinak Islan**	**2.55**	**282**	P	**Pn**	**15 47 37.7**	**+0.4**
SII	**Sitkinak Islan**	**2.55**	**282**	P	**Pn**	**15 47 38.2**	**+0.9**
	baz=97						
SII				S	**Sn**	**15 48 07.3**	**-0.9**
	baz=97						
Q20K	**Shuyak Island**	**2.89**	**331**	P	**Pn**	**15 47 43.4**	**+1.4**
	baz=147						
Q20K				S	**Sn**	**15 48 15.6**	**-1.2**
	baz=147						
SYI	**Shuyak Island**	**2.89**	**331**		**Pn**	**15 47 43.4**	**+1.4**
SYI					**Sn**	**15 48 15.6**	**-1.2**
SYI	**Shuyak Island**	**2.89**	**331**	IAML		15 48 18.0	
	comp=E,109nm,0.5s						
R18K	**Karluk**	**3.00**	**301**		**Pn**	**15 47 45.1**	**+1.8**
R18K					**Sn**	**15 48 18.1**	**-1.1**
R18K	**Karluk**	**3.00**	**301**	IAML		15 48 21.7	
	comp=E,108nm,0.5s						
R18K				IAML		15 48 22.0	
	comp=N,160nm,0.5s						
R18K	**Karluk**	**3.00**	**301**	P	**Pn**	**15 47 45.1**	**+1.8**
	baz=116						
R18K				S	**Sn**	**15 48 18.1**	**-1.1**
	baz=116						
CHIR	**Chirikof Islan**	**3.35**	**267**	Pn	**Pn**	**15 47 49.4**	**+1.1**
CNPM	**China Poot**	**3.51**	**347**		**Pn**	**15 47 51.0**	**+0.5**
CNPM					**Sn**	**15 48 30.8**	**-1.3**
CNPM	**China Poot**	**3.51**	**347**	IAML		15 48 32.6	
	comp=E,65nm,0.3s						
Q19K	**Cape Douglas,**	**3.53**	**324**		**Pn**	**15 47 52.6**	**+1.8**
Q19K	**Cape Douglas,**	**3.53**	**324**	IAML		15 48 40.1	
	comp=N,161nm,1.3s						
Q19K	**Cape Douglas,**	**3.53**	**324**	P	**Pn**	**15 47 52.6**	**+1.8**
	baz=140						
KAHG	**Katmai Hook Gl**	**3.55**	**314**		**Pn**	**15 47 53.1**	**+2.0**
BRSE	**Bradley Lake S**	**3.67**	**352**		**Pn**	**15 47 52.7**	**-0.1**
BRSE	**Bradley Lake S**	**3.67**	**352**	P	**Pn**	**15 47 52.7**	**-0.1**
	baz=170						
KCG	**Knife Ck. Glac**	**3.68**	**309**		**Pn**	**15 47 54.9**	**+2.0**
HOM	**Homer**	**3.70**	**344**	Pn	**Pn**	**15 47 53.9**	**+0.9**
BRLK	**Bradley Lake**	**3.71**	**351**		**Pn**	**15 47 53.1**	**-0.1**
BRLK	**Bradley Lake**	**3.71**	**351**	IAML		15 48 37.8	
	comp=E,55nm,1.1s						
BRLK				IAML		15 48 40.3	
	comp=N,59nm,1.4s						
ACHA	**Angle Creek He**	**3.72**	**307**		**Pn**	**15 47 55.4**	**+1.9**
Q23K	**Middleton Isla**	**3.76**	**27**		**Pn**	**15 47 54.1**	**+0.2**
Q23K	**Middleton Isla**	**3.76**	**27**	IAML		15 48 31.8	
	comp=N,186nm,1.5s						
Q23K	**Middleton Isla**	**3.76**	**27**	P	**Pn**	**15 47 54.1**	**+0.2**
	baz=209						
MID	**Middleton Isla**	**3.77**	**27**	Pn	**Pn**	**15 47 53.9**	**0.0**
MID				IAML		15 48 54.1	
	comp=N,190nm,1.4s						
MID				IAML		15 49 46.5	
	comp=E,185nm,1.1s						
ANCK	**Angle Creek**	**3.79**	**306**		**Pn**	**15 47 56.0**	**+1.6**
SEW	**Seward**	**3.99**	**2**	P	**Pn**	**15 47 56.8**	**-0.3**
	baz=181						
CNTC	**Contact Creek**	**4.00**	**305**		**Pn**	**15 47 59.0**	**+1.7**
Q17K	**Contact Creek**	**4.00**	**305**	P	**Pn**	**15 47 59.0**	**+1.7**
	baz=119						
P19K	**Oil Pt**	**4.01**	**333**		**Pn**	**15 47 58.6**	**+1.2**
P19K	**Oil Pt**	**4.01**	**333**	IAML		15 48 49.2	
	comp=N,132nm,0.7s						
P19K				IAML		15 48 49.3	
	comp=E,128nm,0.4s						
P19K	**Oil Pt**	**4.01**	**333**	P	**Pn**	**15 47 58.6**	**+1.2**
	baz=150						
P23K	**Montague Islan**	**4.07**	**16**		**Pn**	**15 47 58.2**	**+0.1**
P23K	**Montague Islan**	**4.07**	**16**	P	**Pn**	**15 47 58.2**	**+0.1**
	baz=198						
O20K	**Slope Mountain**	**4.27**	**340**		**Pn**	**15 48 01.1**	**+0.2**
O20K	**Slope Mountain**	**4.27**	**340**	P	**Pn**	**15 48 01.1**	**+0.2**
	baz=157						
IVE	**Iliamna Volcan**	**4.29**	**337**		**Pn**	**15 48 01.0**	**-0.2**
P18K	**Big Mountain,**	**4.42**	**320**	Pn	**Pn**	**15 48 03.7**	**+0.6**
HIN	**Hinchinbrook I**	**4.60**	**20**	IAML		15 49 05.7	
	comp=E,60nm,1.3s						
HIN				IAML		15 49 50.9	
	comp=N,45nm,1.4s						
RSO	**Redoubt South**	**4.64**	**341**	Pn	**Pn**	**15 48 06.7**	**+0.4**
KAIM	**Kayak Island**	**4.73**	**34**		**Pn**	**15 48 07.6**	**+0.4**
KAIM	**Kayak Island**	**4.73**	**34**	P	**Pn**	**15 48 07.6**	**+0.4**
	baz=218						
O19K	**Port Alsworth**	**4.76**	**331**	Pn	**Pn**	**15 48 08.3**	**+0.6**
O19K				IAML		15 49 06.5	
	comp=N,82nm,0.4s						
O19K				IAML		15 49 07.0	
	comp=E,89nm,0.5s						
EYAK	**Cordova Ski Ar**	**4.90**	**23**		**Pn**	**15 48 10.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.90**	**23**	P	**Pn**	**15 48 10.5**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.90**	**23**	P	**Pn**	**15 48 10.1**	**+0.6**
	baz=206						
FID	**Port Fidalgo**	**4.94**	**19**		**Pn**	**15 48 09.9**	**-0.2**
FID	**Port Fidalgo**	**4.94**	**19**	IAML		15 49 06.9	
	comp=E,31nm,1.5s						
FID				IAML		15 49 08.8	
	comp=N,25nm,1.3s						
RC01	**Rabbit Creek A**	**4.98**	**360**	IAML		15 49 07.6	
	comp=E,35nm,1.4s						
RC01				IAML		15 49 09.7	
	comp=N,23nm,0.6s						
RC01	**Rabbit Creek A**	**4.98**	**360**	P	**Pn**	**15 48 10.9**	**+0.2**
	baz=179						
RAGM	**Ragged Mountai**	**5.03**	**30**		**Pn**	**15 48 11.4**	**0.0**
RAGM				IAML		15 49 17.0	
	comp=E,46nm,1.2s						
GOAT	**Goat Mountain**	**5.17**	**28**		**Pn**	**15 48 14.2**	**+0.9**
BERG	**Berg Lake**	**5.32**	**34**		**Pn**	**15 48 15.3**	**0.0**
N19K	**Bonanza Creek**	**5.34**	**334**	Pn	**Pn**	**15 48 16.0**	**+0.4**
KNK	**Knik Glacier**	**5.34**	**6**		**Pn**	**15 48 15.7**	**+0.1**
KNK	**Knik Glacier**	**5.34**	**6**	IAML		15 49 18.5	
	comp=E,18nm,1.4s						
KNK	**Knik Glacier**	**5.34**	**6**	P	**Pn**	**15 48 15.7**	**+0.1**
	baz=187						
SNH	**Sunshine Point**	**5.45**	**39**		**Pn**	**15 48 17.8**	**+0.7**
PMR	**Palmer**	**5.49**	**3**	Pn	**Pn**	**15 48 18.4**	**+0.8**
PMR	**Palmer**	**5.49**	**3**	P	**Pn**	**15 48 19.6**	**+1.9**
BMRM	**Bremner River**	**5.54**	**27**		**Pn**	**15 48 19.1**	**+0.8**
BMRM	**Bremner River**	**5.54**	**27**	P	**Pn**	**15 48 19.1**	**+0.8**
	baz=211						
N18K	**Kilae Creek**	**5.62**	**327**	Pn	**Pn**	**15 48 20.3**	**+0.9**
BARK	**Barkley Ridge**	**5.73**	**38**		**Pn**	**15 48 21.9**	**+1.0**
KLU	**Klutina**	**5.73**	**18**		**Pn**	**15 48 21.6**	**+0.6**
KLU	**Klutina**	**5.73**	**18**	P	**Pn**	**15 48 21.6**	**+0.6**
	baz=201						
SML	**Sawmill**	**5.74**	**6**	P	**Pn**	**15 48 21.7**	**+0.5**
	baz=187						
M23K	**Glacier View**	**5.78**	**9**		**Pn**	**15 48 22.8**	**+1.2**
M23K	**Glacier View**	**5.78**	**9**	P	**Pn**	**15 48 22.8**	**+1.2**
	baz=190						
CNBA	**Chernabura Isl**	**5.79**	**261**	Pn	**Pn**	**15 48 22.7**	**+1.0**
SCM	**Sheep Creek Mo**	**5.86**	**11**		**Pn**	**15 48 23.8**	**+1.0**
SCM	**Sheep Creek Mo**	**5.86**	**11**	P	**Pn**	**15 48 23.8**	**+1.0**
	baz=193						
SKT	**Skwentna**	**5.95**	**352**	Pn	**Pn**	**15 48 24.4**	**+0.4**
M20K	**Styx River**	**6.04**	**344**		**Pn**	**15 48 25.6**	**+0.3**
M20K	**Styx River**	**6.04**	**344**	P	**Pn**	**15 48 25.7**	**+0.3**
	baz=161						
VRDI	**Verde Repeater**	**6.06**	**30**		**Pn**	**15 48 26.3**	**+0.7**
N25K	**Chitina, Valde**	**6.10**	**23**		**Pn**	**15 48 26.9**	**+0.9**
N25K	**Chitina, Valde**	**6.10**	**23**	P	**Pn**	**15 48 27.0**	**+0.9**
	baz=208						
GLB	**Gilahina Butte**	**6.14**	**27**		**Pn**	**15 48 27.5**	**+0.8**
SAMH	**Samovar Hills**	**6.19**	**46**		**Pn**	**15 48 28.4**	**+1.0**
O15K	**Ungaliktbiuk R**	**6.25**	**304**		**Pn**	**15 48 30.2**	**+2.2**
O15K	**Ungaliktbiuk R**	**6.25**	**304**	P	**Pn**	**15 48 30.2**	**+2.2**
	baz=115						
M24K	**Tolsona, Glenn**	**6.27**	**15**		**Pn**	**15 48 29.6**	**+1.3**
M24K	**Tolsona, Glenn**	**6.27**	**15**	P	**Pn**	**15 48 29.6**	**+1.3**
	baz=198						
MCARA	**McCarthy VSAT**	**6.31**	**31**		**Pn**	**15 48 30.0**	**+1.1**
MCARA	**McCarthy VSAT**	**6.31**	**31**	P	**Pn**	**15 48 30.0**	**+1.1**
	baz=216						
PTPK	**Patty Peak**	**6.32**	**34**		**Pn**	**15 48 30.0**	**+0.8**
PCA	**Pinnacle**	**6.38**	**48**		**Pn**	**15 48 31.3**	**+1.3**
PINM	**Pinnacle**	**6.39**	**48**	P	**Pn**	**15 48 31.3**	**+1.2**
	baz=235						
BARN	**Barnard Glacie**	**6.48**	**37**		**Pn**	**15 48 32.3**	**+0.8**
WACK	**Wrangell Chich**	**6.49**	**23**		**Pn**	**15 48 32.8**	**+1.2**
CTG	**Chitna Glacier**	**6.53**	**39**	P	**Pn**	**15 48 32.8**	**+0.9**
	baz=225						
PNL	**Peninsula**	**6.53**	**53**		**Pn**	**15 48 33.0**	**+1.1**
PNL	**Peninsula**	**6.53**	**53**	P	**Pn**	**15 48 33.0**	**+1.1**
	baz=241						
LOGN	**Logan Glacier**	**6.55**	**40**		**Pn**	**15 48 33.1**	**+0.7**
WAT6	**Susitna Watana**	**6.55**	**8**		**Pn**	**15 48 33.2**	**+0.8**
WAT6	**Susitna Watana**	**6.55**	**8**	P	**Pn**	**15 48 33.2**	**+0.8**
	baz=189						
HARP	**HAARP**	**6.71**	**18**		**Pn**	**15 48 35.1**	**+0.8**
HARP	**HAARP**	**6.71**	**18**	P	**Pn**	**15 48 35.1**	**+0.8**
	baz=202						
WAT7	**Susitna Watana**	**6.74**	**3**		**Pn**	**15 48 36.2**	**+1.3**
DHY	**Denali Highway**	**7.07**	**9**		**Pn**	**15 48 40.6**	**+1.1**
DHY	**Denali Highway**	**7.07**	**9**	P	**Pn**	**15 48 40.6**	**+1.1**

ILIN	**Lien**	**1.65**	**39**	Pg	**Pb**	**15 59 17.1**	**-0.9**
IKFM	**Kafar-mosalman**	**1.81**	**93**	Pn	**Pb**	**15 59 20.0**	**-0.4**
RAFI	**Al-Rafai**	**1.95**	**169**	*e*Pn	**Pb**	**15 59 22.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**15 59 47.0**	**-0.5**
IBZA	**Bozab**	**1.98**	**65**	Pn	**Pb**	**15 59 22.1**	**-1.4**
HSAM	**Samen**	**2.49**	**76**	Pn	**Pn**	**15 59 28.7**	**+0.3**
HAGD	**Aghdareh**	**3.09**	**67**	Pn	**Pn**	**15 59 37.1**	**+0.5**

IDC 29 16:11:08.1±2.3, 7°84S×128°25E, h0km, mb3.6/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=282.7km s-min=31.2km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.40**	**155**	Pn	Pn	16 14 19.2	-0.5
	0.3nm,0.3s,baz=334,slow=13,SNR=18						
WRA				Sn	Sn	16 16 40.5	-9.0
	0.3nm,0.3s,baz=341,slow=21,SNR=6.6						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**16.64**	**162**	Pn	Pn	16 15 03.5	+0.5
	0.1nm,0.3s,baz=334,slow=9.0,SNR=7.3						
ASAR				Sn	Sn	16 17 58.7	-10
	baz=348,slow=26,SNR=2.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**67.99**	**328**	P	P	16 22 09.2	0.0
	0.3nm,0.5s,baz=126,slow=7.9,SNR=12						
	0.3nm,0.5s						

*NEIC **29** 16:18:31.7±1.7, 56°2N±0°1×150°6W±0°1, h4km±16km, ML2.9/24, ML3.1(AEIC), Error ellipse: s-maj=14.7km s-min=9.7km az=173.0*

*AEIC **29** 16:18:32.6±1.1, 56°0N±0°1×150°3W±0°1, h0km±9km, Error ellipse: s-maj=20.6km s-min=11.2km az=163.0*

ISC 29 16:18:32.4±2.7, 56°2N±0°1×150°53W±0°08, h10km, n34, σ0°89/36, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.84**	**305**		**Pn**	**16 19 03.5**	**-0.5**
OHAK					**Sb**	**16 19 28.2**	**-0.8**
OHAK	**Old Harbor**	**1.84**	**305**	P	**Pn**	**16 19 03.5**	**-0.5**
	baz=123						
OHAK				S	**Sb**	**16 19 28.2**	**-0.8**
	baz=123						
KDAK	**Kodiak Island**	**1.95**	**326**		**Pn**	**16 19 03.4**	**-2.1**
KDAK	**Kodiak Island**	**1.95**	**326**		**Sb**	**16 19 31.4**	**-0.9**
SII	**Sitkinak Islan**	**2.07**	**282**	Pn	**Pn**	**16 19 06.6**	**-0.5**
SII				IAML		16 19 18.0	
	comp=N,120nm,1.4s						
R18K	**Karluk**	**2.55**	**304**		**Pn**	**16 19 13.5**	**-0.3**
R18K	**Karluk**	**2.55**	**304**	IAML		16 19 49.1	
	comp=N,75nm,1.2s						
R18K				IAML		16 19 55.5	
	comp=E,85nm,1.5s						
R18K	**Karluk**	**2.55**	**304**	P	**Pn**	**16 19 13.5**	**-0.3**
	baz=121						
SYI	**Shuyak Island**	**2.62**	**338**		**Pn**	**16 19 15.2**	**+0.4**
SYI					**Sn**	**16 19 47.2**	**+0.6**
SYI	**Shuyak Island**	**2.62**	**338**	IAML		16 20 09.2	
	comp=E,43nm,1.5s						
SYI				IAML		16 20 11.4	
	comp=N,38nm,1.5s						
Q20K	**Shuyak Island**	**2.62**	**338**	P	**Pn**	**16 19 15.2**	**+0.4**
	baz=157						
Q20K				S	**Sn**	**16 19 47.2**	**+0.6**
	baz=157						
KAHG	**Katmai Hook Gl**	**3.17**	**318**		**Pn**	**16 19 22.2**	**-0.2**
Q19K	**Cape Douglas,**	**3.21**	**330**		**Pn**	**16 19 21.1**	**-1.8**
Q19K	**Cape Douglas,**	**3.21**	**330**	P	**Pn**	**16 19 22.7**	**-0.2**
	baz=148						
CNPM	**China Poot**	**3.36**	**354**		**Pn**	**16 19 24.1**	**-0.8**
CNPM				IAML		16 20 12.4	
	comp=E,32nm,1.3s						
CNPM	**China Poot**	**3.36**	**354**		**Sn**	**16 20 04.1**	**-0.8**
KAHC	**Katmai Hardscr**	**3.45**	**317**		**Pn**	**16 19 26.4**	**+0.1**
KAHC	**Katmai Hardscr**	**3.45**	**317**	P	**Pn**	**16 19 26.4**	**+0.1**
	baz=134						
CNTC	**Contact Creek**	**3.57**	**308**		**Pn**	**16 19 28.2**	**+0.3**
CNTC					**Sn**	**16 20 12.0**	**+1.8**
Q17K	**Contact Creek**	**3.57**	**308**	P	**Pn**	**16 19 28.2**	**+0.3**
	baz=123						
Q17K				S	**Sn**	**16 20 12.0**	**+1.8**
	baz=123						
P19K	**Oil Pt**	**3.75**	**339**		**Pn**	**16 19 30.9**	**+0.6**
P19K	**Oil Pt**	**3.75**	**339**	P	**Pn**	**16 19 30.9**	**+0.6**
	baz=157						
O20K	**Slope Mountain**	**4.05**	**345**		**Pn**	**16 19 35.8**	**+1.3**
O20K	**Slope Mountain**	**4.05**	**345**	P	**Pn**	**16 19 35.8**	**+1.3**
	baz=164						
IVE	**Iliamna Volcan**	**4.05**	**342**		**Pn**	**16 19 35.1**	**+0.5**
P18K	**Big Mountain,**	**4.07**	**324**		**Pn**	**16 19 35.5**	**+0.7**
P18K	**Big Mountain,**	**4.07**	**324**	IAML		16 20 25.5	
	comp=E,9.8nm,1.1s						
P18K	**Big Mountain,**	**4.07**	**324**	P	**Pn**	**16 19 35.5**	**+0.7**
	baz=140						
O18K	**Koktuh Hills**	**4.43**	**328**		**Pn**	**16 19 39.7**	**0.0**
O18K	**Koktuh Hills**	**4.43**	**328**	IAML		16 20 35.2	
	comp=E,16nm,1.1s						
O18K				IAML		16 20 56.7	
	comp=N,16nm,1.5s						
O18K	**Koktuh Hills**	**4.43**	**328**	P	**Pn**	**16 19 39.7**	**0.0**
	baz=144						
RSO	**Redoubt South**	**4.44**	**346**	Pn	**Pn**	**16 19 39.5**	**-0.4**
N19K	**Bonanza Creek**	**5.07**	**338**	Pn	**Pn**	**16 19 49.0**	**+0.4**
N19K				IAML		16 20 24.4	
	comp=N,6.1nm,1.4s						
N19K				IAML		16 20 56.5	
	comp=E,7.6nm,1.5s						
RAGM	**Ragged Mountai**	**5.21**	**34**	Pn	**Pn**	**16 19 50.4**	**0.0**

*AEIC **29** 16:20:15.9±1.0, 56°0N±0°1×149°8W±0°2, h10km±9km, Error ellipse: s-maj=14.4km s-min=12.3km az=151.0*

NEIC 29 16:20:18.2±2.0, 56°57N±0°04×150°1W±0°1, h10km±2km, ML2.9/23, ML3.0 (AEIC), **Error ellipse: s-maj=11.5km s-min=6.1km az=67.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.81**	**313**		Pn	16 20 49.8	+0.4
KDAK					Sg	16 21 16.4	+0.1
OHAK	**Old Harbor**	**1.85**	**292**		Pn	16 20 48.4	-1.6
OHAK					Sn	16 21 14.0	+0.5
SYI	**Shuyak Island**	**2.38**	**330**		Pn	16 20 58.2	+0.9
SYI				IAML		16 21 43.2	
	comp=E,43nm,1.3s						
SYI	**Shuyak Island**	**2.38**	**330**		Sb	16 21 31.5	+0.9
SYI	**Shuyak Island**	**2.38**	**330**	IAML		16 21 15.6	
	comp=N,24nm,1.4s						
R18K	**Karluk**	**2.57**	**295**		Pn	16 20 58.7	-1.1
R18K	**Karluk**	**2.57**	**295**	IAML		16 21 35.9	
	comp=E,53nm,1.4s						
R18K				IAML		16 22 41.0	
	comp=N,57nm,1.5s						
CNPM	**China Poot**	**3.02**	**349**		Pn	16 21 06.7	+0.6
CNPM				IAML		16 22 35.4	
	comp=E,22nm,1.5s						
CNPM	**China Poot**	**3.02**	**349**		Sb	16 21 47.7	-1.3
Q19K	**Cape Douglas,**	**3.02**	**323**		Pn	16 21 07.7	+1.5
Q19K	**Cape Douglas,**	**3.02**	**323**	IAML		16 22 03.2	
	comp=N,114nm,1.2s						
KAHG	**Katmai Hook Gl**	**3.06**	**311**		Pn	16 21 07.3	+0.6
BRSE	**Bradley Lake S**	**3.19**	**354**		Pn	16 21 08.9	+0.5
BRSE					Sb	16 21 51.0	-3.0
BRLK	**Bradley Lake**	**3.23**	**353**		Pn	16 21 09.0	+0.1
BRLK	**Bradley Lake**	**3.23**	**353**	IAML		16 21 55.9	
	comp=N,25nm,1.3s						
BRLK				IAML		16 22 07.7	
	comp=E,19nm,1.5s						
ANCK	**Angle Creek**	**3.33**	**302**		Pn	16 21 10.1	-0.3
CNTC	**Contact Creek**	**3.55**	**301**		Pn	16 21 13.1	-0.4
IVE	**Iliamna Volcan**	**3.78**	**337**		Pn	16 21 17.9	+1.3
P18K	**Big Mountain,**	**3.92**	**318**		Pn	16 21 19.0	+0.5
P18K	**Big Mountain,**	**3.92**	**318**	IAML		16 22 05.2	
	comp=N,9.4nm,1.3s						
HIN	**Hinchinbrook I**	**4.28**	**25**	Pn	Pn	16 21 21.9	-1.5
HIN				IAML		16 22 41.4	
	comp=N,43nm,1.1s						
KAIM	**Kayak Island**	**4.51**	**39**	Pn	Pn	16 21 24.0	-2.6
RAGM	**Ragged Mountai**	**4.77**	**35**	Pn	Pn	16 21 28.3	-1.9
RAGM				IAML		16 23 02.7	
	comp=E,39nm,1.5s						
KLU	**Klutina**	**5.39**	**22**	Pn	Pn	16 21 38.2	-0.5
KLU					IAML	16 22 45.4	
	comp=E,8.3nm,1.5s						
KLU					IAML	16 23 01.4	
	comp=N,4.8nm,1.4s						
N25K	**Chitina, Valde**	**5.79**	**27**	Pn	Pn	16 21 44.1	-0.1
GLB	**Gilahina Butte**	**5.87**	**31**	Pn	Pn	16 21 44.2	-1.1
MCARA	**McCarthy VSAT**	**6.06**	**34**	Pn	Pn	16 21 46.5	-1.3
N15K	**Kwethluk River**	**6.36**	**309**	Pn	Pn	16 21 53.6	+1.7
M16K	**Timber Creek**	**6.40**	**318**	Pn	Pn	16 21 55.0	+2.6
BCPM	**Bancas Point**	**6.49**	**54**	Pn	Pn	16 21 49.9	-3.7
O29M	**Mount Kennedy**	**7.12**	**54**	Pn	Pn	16 21 59.2	-3.2

*DJA **29** 16:25:52.5±0.2, 3°S±2°×14°0E±°, h82km±3km, M4.9/49, mb4.8/49, mB5.3/12, MLv5.3/6, Mw5.7/3, Mw(mB)4.7/12*

*NEIC **29** 16:25:53.2±1.3, 2°81S±0°08×139°46E±0°09, h94km±6km, mb5.0/69, Error ellipse: s-maj=12.8km s-min=11.9km az=83.0*

*GCMT **29** 16:25:54.2±0.3, 2°70S±0°02×139°63E±0°03, h91km±4km, MW4.9/76, Moment Tensor Solution. s27,c27; s76,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.18±.09; Mθθ0.04±.10; Mϕϕ-2.22±.10; Mrθ0.79±.07; Mrϕ0.48±.10; Mθϕ-0.36±.10; Best double couple: M₀2.41300×10¹⁶ NP1:ϕs152.00000°, δ54.00000°, λ69.00000°. NP2: ϕs4.00000°, δ41.00000°, λ116.00000°. Principal axes: T 2.4480, Plg72.0000°, Azm8.0000°; N -0.0740, Plg16.0000°, Azm165.0000°; P -2.3790, Plg7.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **29** 16:25:54.7±3.7, 2°86S×139°52E, h113km±36km, mb4.1/16, mbtmp4.5/19, MS3.5/26 Error ellipse: s-maj=23.8km s-min=14.4km az=78.0*

ISC 29 16:25:53.4±0.3, 2°86S±0°04×139°53E±0°05, h100km, n411, σ1°19/395, mb4.9/72, 3C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.69**	**67**	P	**Pn**	**16 26 09.8**	**-0.9**
GENI	**Genyem**	**0.69**	**67**	P	**Pn**	**16 26 09.1**	**-1.6**
GENI				S	**Sn**	**16 26 21.4**	**-2.3**
MMPI	**Merauke**	**5.63**	**171**	P	**Pn**	**16 27 16.1**	**+1.4**
	620nm,0.5s,11nm						
MMPI				S	**Sn**	**16 28 20.4**	**+2.3**
	620nm,0.5s,11nm						
KMPI	**Kaimana, Papua**	**5.87**	**262**	P	**Pn**	**16 27 15.8**	**-2.1**
	468nm,0.9s,1.5nm						
FAKI	**Fak Fak**	**7.27**	**269**	Pn	**Pn**	**16 27 36.2**	**-0.8**
FAKI	**Fak Fak**	**7.27**	**269**	P	**Pn**	**16 27 36.5**	**-0.5**
FAKI	**Fak Fak**	**7.27**	**269**	P	**Pn**	**16 27 35.3**	**-1.7**
	97nm,0.8s,0.4nm						
MANU	**Manus Island**	**7.87**	**84**		**Pn**	**16 27 47.1**	**+1.9**
SIJI	**Sorong**	**8.49**	**283**	P	**Pn**	**16 27 52.3**	**-1.4**
	71nm,1.1s,2μm						
SWI	**Sorong**	**8.50**	**283**	P	**Pn**	**16 27 53.7**	**0.0**
	89nm,1.1s,1μm						
SAUI	**Saumlaki**	**9.64**	**238**	Pn	**Pn**	**16 28 09.1**	**-0.2**
PMG	**Port Moresby**	**9.99**	**131**	P	**Pn**	**16 28 14.2**	**+0.2**
	39nm,0.8s,baz=305,slow=15,SNR=2.1						
PMG				S	**Sn**	**16 30 02.5**	**-1.7**
	25nm,0.8s,baz=343,slow=18,SNR=1.8						
PMG				LR	LR	16 32 48.0	
	comp=Z,186nm,21.2s,baz=316,slow=41						
COEN	**Coen**	**11.60**	**162**	Pn	**Pn**	**16 28 35.0**	**-0.7**
COEN	**Coen**	**11.60**	**162**	P	**Pn**	**16 28 35.1**	**-0.7**
KDU	**Kakadu**	**12.00**	**215**	P	**Pn**	**16 28 38.9**	**-2.3**
	baz=12,SNR=40						
KDU	**Kakadu**	**12.00**	**215**	P	**Pn**	**16 28 38.9**	**-2.3**
LBMI	**Labuha**	**12.22**	**280**	P	**Pn**	**16 28 43.3**	**-0.8**
	241nm,1.3s,3μm						
NLAI	**Namlea**	**12.42**	**268**	P	**Pn**	**16 28 46.4**	**-0.3**
	21nm,0.5s,3μm						
TNTI	**Ternate**	**12.68**	**286**	P	**Pn**	**16 28 51.3**	**+1.1**
	38nm,1.3s,695nm						
MTN	**Manton Dam**	**12.94**	**220**	P	**Pn**	**16 28 51.9**	**-1.6**
	baz=13,SNR=11						
MTN	**Manton Dam**	**12.94**	**220**		**Pn**	**16 28 51.9**	**-1.6**
MTN	**Manton Dam**	**12.94**	**220**	P	**Pn**	**16 28 52.1**	**-1.4**
SANI	**Sanana**	**13.55**	**273**	P	**Pn**	**16 29 03.0**	**+1.4**
SANI	**Sanana**	**13.55**	**273**	P	**Pn**	**16 29 00.5**	**-1.1**
	82nm,1.0s,745nm						
SGSI	**Sangihe**	**15.43**	**295**	P	**Pn**	**16 29 24.5**	**-1.2**
	267nm,0.5s						
MTSU	**Mount Surprise**	**15.88**	**163**	P	**Pn**	**16 29 32.7**	**+1.3**
	baz=16,SNR=24						
KMSI	**Cibinong**	**15.91**	**282**	P	**P**	**16 29 31.6**	**-1.8**
	173nm,0.9s,2μm						
SOEI	**Soe**	**16.64**	**245**	P	**P**	**16 29 41.2**	**-0.3**
SOEI	**Soe**	**16.64**	**245**	P	**P**	**16 29 42.6**	**+1.1**
	197nm,0.8s						
LUWI	**Luwuk**	**16.84**	**276**		**P**	**16 29 43.1**	**-0.6**
LUWI	**Luwuk**	**16.84**	**276**	P	**P**	**16 29 42.5**	**-1.2**
	68nm,1.4s,777nm						
BBSI	**Bau Bau**	**17.11**	**261**	P	**P**	**16 29 47.5**	**+0.8**
	94nm,1.1s,2μm						
GUMO	**Guam**	**17.18**	**18**	P	**Pn**	**16 29 46.4**	**-0.9**
GUMO	**Guam**	**17.18**	**18**	LR	LR	16 36 06.2	
	comp=Z,137nm,18.5s,baz=208,slow=36						
WB0	**Warramunga Arr**	**17.53**	**196**	P	**P**	**16 29 49.9**	**-1.4**
QIS	**Mount Isa**	**17.59**	**180**	P	**P**	**16 29 51.2**	**-0.6**
	baz=18,SNR=13						
QIS	**Mount Isa**	**17.59**	**180**	P	**Pn**	**16 29 52.5**	**+0.3**
WR0	**Warramunga Arr**	**17.68**	**196**	P	**P**	**16 29 51.9**	**-0.9**
WRAB	**Tennant Creek**	**17.70**	**196**	P	**P**	**16 29 52.9**	**-0.2**
WB2	**Warramunga Arr**	**17.71**	**196**	P	**P**	**16 29 52.4**	**-0.8**
WRA	**Warramunga Arr**	**17.71**	**196**	P	**P**	**16 29 51.9**	**-1.4**
WRA	**Warramunga Arr**	**17.71**	**196**	P	**P**	**16 29 52.9**	**-0.4**
	14nm,0.7s,baz=16,slow=12,SNR=73						
WRA				S	Sn	16 32 56.2	-15
	18nm,1.1s,baz=16,slow=21,SNR=5.5						
MRSI	**Marisa**	**17.89**	**280**	P	**Pn**	**16 29 55.2**	**-0.8**
	31nm,1.2s,465nm						
CTA	**Charters Tower**	**18.33**	**160**	P	**Pn**	**16 30 02.1**	**+0.9**
CTA	**Charters Tower**	**18.33**	**160**	P	**P**	**16 29 59.8**	**-0.2**
	4.1nm,0.6s,baz=339,slow=11,SNR=12						
CTA					LR	16 37 32.7	
	comp=Z,102nm,19.7s,baz=339,slow=38						
CTAO	**Charters Tower**	**18.33**	**160**	P	**P**	**16 30 00.5**	**+0.5**
CTAO	**Charters Tower**	**18.33**	**160**	P	**Pn**	**16 30 02.7**	**+1.5**
EDFI	**Ende, Flores**	**18.68**	**251**	P	**Pn**	**16 30 04.6**	**-0.9**
	32nm,1.1s						
TOLI2	**Tolitoli**	**19.15**	**282**	P	**Pn**	**16 30 09.0**	**-2.0**
TOLI2	**Tolitoli**	**19.15**	**282**	P	**Pn**	**16 30 11.6**	**+0.6**
BKSI	**Bulukumba**	**19.51**	**262**	P	**P**	**16 30 12.9**	**0.0**
	31nm,1.2s						
TTSI	**Tana Toraja**	**19.68**	**269**	P	**Pn**	**16 30 15.6**	**-1.6**
	46nm,1.4s						
MPSI	**Mapaga**	**19.88**	**279**	P	**Pn**	**16 30 18.0**	**-1.5**
	12nm,0.9s						
MKS	**Makassar**	**20.14**	**263**	P	**P**	**16 30 19.8**	**0.0**
	62nm,1.0s						
BASI	**Baing, Sumba**	**20.18**	**248**	P	Pn	16 30 21.5	-1.5
	159nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.36**	**221**	P	**P**	**16 30 23.1**	**+1.0**
	baz=20,SNR=7.2						
FITZ	**Fitzroy Crossi**	**20.36**	**221**		**P**	**16 30 22.2**	**+0.1**
PMSI	**Majene**	**20.59**	**268**	P	**P**	**16 30 24.2**	**-0.5**
	74nm,1.0s						
WBSI	**Waikabubak, Su**	**21.11**	**250**	P	**P**	**16 30 29.8**	**-0.4**
	0.1nm,0.9s						
HNR	**Honiara**	**21.31**	**109**	LR	LR	16 39 35.3	
	comp=Z,450nm,18.9s,baz=122,slow=38						
AS01	**Alice Springs**	**21.37**	**194**	P	**P**	**16 30 33.9**	**+1.0**
AS31	**Alice Springs**	**21.38**	**194**	P	**P**	**16 30 33.7**	**+0.6**
ASAR	**Alice Springs**	**21.38**	**194**	P	**P**	**16 30 33.4**	**+0.3**
ASAR	**Alice Springs**	**21.38**	**194**	P	**P**	**16 30 34.0**	**+1.0**
	16nm,0.8s,baz=27,slow=10,SNR=112						
ASAR				S	**S**	**16 34 21.6**	**-3.4**
	2.6nm,0.7s,baz=9.3,slow=29,SNR=2.0						
ASAR				LR	LR	16 39 10.0	
	comp=Z,313nm,18.2s,baz=26,slow=37						
	16nm,0.8s						
DBNI	**Kabupaten Domp**	**21.84**	**254**	P	**P**	**16 30 37.4**	**-0.5**
	35nm,1.7s,5μm						
PLAI	**Plampang**	**22.43**	**254**	P	**P**	**16 30 46.7**	**+2.5**
PLAI	**Plampang**	**22.43**	**254**	P	**P**	**16 30 45.6**	**+1.4**
	44nm,1.6s						
TWSI	**Taliwang, Sumb**	**23.27**	**255**	P	**P**	**16 30 53.7**	**+1.3**
	41nm,1.3s						
QLP	**Quilpie**	**24.01**	**170**	P	**P**	**16 31 01.1**	**+2.1**
	baz=24,SNR=25						
QLP	**Quilpie**	**24.01**	**170**	P	**P**	**16 31 01.8**	**+2.8**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRKA	**Warakurna**	**24.56**	**205**	P	**P**	**16 31 05.2**	**+1.1**
	baz=25,SNR=8.3						
WRKA	**Warakurna**	**24.56**	**205**	P	**P**	**16 31 05.2**	**+1.1**
MTKI	**Muara Teweh, K**	**24.69**	**274**	P	**P**	**16 31 05.7**	**+0.3**
	22nm,1.0s,3μm						
INKA	**Innaminka**	**24.77**	**177**	P	**P**	**16 31 08.9**	**+3.1**
KKM	**Kota Kinabalu**	**24.91**	**291**	P	**P**	**16 31 06.2**	**-1.2**
	17nm,1.7s						
EIDS	**Eidsvold**	**24.99**	**155**	P	**P**	**16 31 10.0**	**+2.1**
	baz=25,SNR=16						
EIDS	**Eidsvold**	**24.99**	**155**	P	**P**	**16 31 08.8**	**+0.9**
EIDS	**Eidsvold**	**24.99**	**155**	P	**P**	**16 31 10.8**	**+2.9**
OOD	**Oodnadatta**	**25.06**	**188**	P	**P**	**16 31 10.5**	**+2.0**
PSA00	**Pilbara Seismi**	**26.69**	**224**	P	**P**	**16 31 23.2**	**-0.1**
PSA00	**Pilbara Seismi**	**26.69**	**224**	P	**P**	**16 31 23.5**	**+0.2**
PSA00				IAmb	IAmb	16 31 31.3	
	comp=Z,147nm,1.8s						
LCRK	**Leigh Creek**	**27.46**	**182**	P	**P**	**16 31 31.9**	**+1.8**
MULG	**Mulgathing**	**27.76**	**190**	P	**P**	**16 31 34.5**	**+1.7**
STKA	**Stephens Creek**	**28.93**	**176**	P	**P**	**16 31 44.6**	**+1.5**
	baz=29,SNR=5.7						
STKA	**Stephens Creek**	**28.93**	**176**	P	**P**	**16 31 43.9**	**+0.8**
STKA	**Stephens Creek**	**28.93**	**176**	P	**P**	**16 31 44.6**	**+1.5**
STKA	**Stephens Creek**	**28.93**	**176**	P	**P**	**16 31 43.9**	**+0.8**
	comp=Z,112nm,0.9s,baz=3.5,slow=6.8,SNR=11						
STKA				LR	LR	16 45 21.4	
	comp=Z,148nm,19.5s,baz=11,slow=40						
	comp=Z,11nm,0.9s						
CMSA	**Cobar Meteorol**	**29.11**	**169**	P	**P**	**16 31 47.3**	**+2.6**
	baz=29,SNR=15						
SMRI	**Semarang**	**29.27**	**261**	P	**P**	**16 31 45.8**	**-0.6**
	comp=Z,142nm,2.1s						
UGM	**Wanagama**	**29.30**	**259**	P	**P**	**16 31 48.0**	**+1.3**
	comp=Z,169nm,2.8s						
FORT	**Forrest**	**29.81**	**200**	P	**P**	**16 31 51.8**	**+0.9**
FORT	**Forrest**	**29.81**	**200**	P	**P**	**16 31 53.1**	**+2.1**
BBOO	**Buckleboo**	**29.97**	**186**	P	**P**	**16 31 53.9**	**+1.6**
	baz=30,SNR=5.6						
BBOO	**Buckleboo**	**29.97**	**186**	P	**P**	**16 31 52.8**	**+0.4**
BBOO				IAmb	IAmb	16 31 54.5	
	comp=Z,36nm,1.0s						
BBOO	**Buckleboo**	**29.97**	**186**	P	**P**	**16 31 53.5**	**+1.1**
HTT	**Hallett**	**30.41**	**181**	P	**P**	**16 31 58.0**	**+1.7**
	baz=31,SNR=4.5						
HTT	**Hallett**	**30.41**	**181**	P	**P**	**16 31 58.0**	**+1.7**
MEEK	**Meekatharra**	**31.00**	**218**	P	**P**	**16 32 03.1**	**+1.5**
	baz=31,SNR=4.0						
MEEK	**Meekatharra**	**31.00**	**218**	P	**P**	**16 32 03.3**	**+1.7**
TPUB	**Ta-pu**	**31.87**	**326**	P	**P**	**16 32 08.0**	**-1.2**
DZM	**Mont Dzumac**	**32.37**	**128**	*e*LR	LR	16 40 49.0	
	comp=Z,441nm,28.8s						
DZM	**Mont Dzumac**	**32.37**	**128**	P	**P**	**16 32 10.3**	**-3.4**
CAN	**Canberra**	**33.47**	**166**	P	**P**	**16 32 24.9**	**+1.8**
ARPS	**Mount Arapiles**	**33.81**	**177**	P	**P**	**16 32 28.4**	**+2.5**
	baz=34,SNR=5.2						
ARPS	**Mount Arapiles**	**33.81**	**177**	P	**P**	**16 32 28.2**	**+2.3**
H11S3	**WAKE ISLAND Hy**	**34.14**	**51**	T	T	17 07 42.4	
	baz=231,slow=75,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**34.15**	**51**	T	T	17 07 44.4	
	baz=231,slow=75,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**34.16**	**51**	T	T	17 07 45.0	
	baz=231,slow=75,SNR=6.8						
MORW	**Morawa**	**34.32**	**218**	P	**P**	**16 32 31.7**	**+1.2**
	baz=34,SNR=3.2						
MORW	**Morawa**	**34.32**	**218**	P	**P**	**16 32 29.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**36.48**	**212**	P	**P**	**16 32 47.9**	**-1.1**
NWAO	**Narrogin (SRO)**	**36.48**	**212**	P	**P**	**16 32 50.9**	**+1.9**
NWAO	**Narrogin (SRO)**	**36.48**	**212**	LR	LR	16 50 29.5	
	comp=Z,65nm,19.7s,baz=35,slow=40						
JNU	**Nakatsue**	**36.72**	**348**	P	**P**	**16 32 49.1**	**-1.9**
JNU	**Nakatsue**	**36.72**	**348**	LR	LR	16 45 56.3	
	comp=Z,41nm,19.8s,baz=175,slow=33						
MJAR	**Matsushiro Arr**	**39.22**	**358**	LR	LR	16 47 51.5	
	comp=Z,46nm,18.1s,baz=178,slow=34						
NJ2	**Nanjing**	**39.89**	**332**	*e*P	**P**	**16 33 19.5**	**+2.0**
NJ2				pP	**pP**	**16 33 40.3**	**-0.4**
NJ2				sP	**sP**	**16 33 51.0**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,350nm,4.3s						
SKLT	**Songkhla**	**40.09**	**285**	P	**P**	**16 33 20.3**	**+0.8**
	comp=Z,50nm,1.1s						
SISI	**Saibi**	**40.44**	**271**	P	**P**	**16 33 22.2**	**-0.2**
	comp=Z,33nm,1.3s						
RPSI	**Rantau Prapat**	**40.96**	**277**	P	**P**	**16 33 24.4**	**-2.3**
RPSI				IAmb	IAmb	16 33 53.4	
	comp=Z,33nm,1.2s						
PSI	**Prapat**	**40.98**	**278**	P	**P**	**16 33 27.1**	**+0.1**
	comp=Z,24nm,1.3s						
KSRS	**Korea Array**	**41.54**	**346**	P	**P**	**16 33 31.7**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=154,slow=9.3,SNR=4.3						

HEH pmax pmax
comp=Z,180nm,4.2s
GTA Gaotai 55.68 323 P **P** **16 35 20.3 +0.7**
GTA pmax pmax
comp=Z,4.0nm,1.1s
PETK Petropavlovsk- 57.82 13 P **P** **16 35 34.6 +0.3**
comp=Z,5.5nm,0.9s,baz=188,slow=8.7,SNR=4.4
PETK LR LR 17 02 45.4
comp=Z,28nm,18.3s,baz=160,slow=38
comp=Z,5.5nm,0.9s
SONM Songino Array 58.21 334 P **P** **16 35 36.1 -1.2**
comp=Z,0.6nm,0.8s,baz=142,slow=7.2,SNR=4.2
SONM LR LR 17 02 54.1
comp=Z,32nm,18.3s,baz=282,slow=38
comp=Z,0.6nm,0.8s
RAR Rarotonga 61.71 112 LR LR 16 59 47.0
comp=Z,19nm,21.8s,baz=166,slow=33
YAK Yakutsk 65.16 355 P **P** **16 36 23.4 0.0**
YAK Yakutsk 65.16 355 LR LR 17 03 32.8
comp=Z,20nm,19.6s,baz=104,slow=35
YAK Yakutsk 65.16 355 P **P** **16 36 23.5 0.0**
WMQ Urumqi 65.64 321 *e*P **P** **16 36 28.5 +1.4**
WMQ pP PcP 16 36 55.5 -2.3
WMQ sP sP 16 37 02.5 -0.7
WMQ pmax pmax
comp=Z,17nm,1.1s
KIWB Kanaga Island 65.68 28 P **P** **16 36 27.6 +0.5**
MK31 Makanchi Array 70.41 322 P **P** **16 36 56.5 -0.3**
MKAR Makanchi Array 70.41 322 P **P** **16 36 56.5 -0.3**
MKAR Makanchi Array 70.41 322 P **P** **16 36 57.0 +0.1**
comp=Z,4.4nm,1.0s,baz=116,slow=7.4,SNR=27
comp=Z,4.4nm,1.0s
MAKZ Makanchi 70.61 322 P **P** **16 36 57.8 -0.2**
MAKZ Makanchi 70.61 322 P **P** **16 36 58.0 0.0**
PPT Papeete 70.93 107 LR LR 17 05 47.3
comp=Z,28nm,19.2s,baz=222,slow=34
PPT2 Papeete2 70.93 108 *e*S **S** **16 46 06.3 -2.5**
comp=Z,41nm,26.2s
PPT2 Papeete2 70.93 108 *e*LR LR 16 58 42.7
comp=Z,128nm,29.5s
PPT2 *e*LR LR 16 58 45.0
comp=Z,78nm,28.5s
TBI Tubuai 71.44 114 *e*LR LR 16 58 56.7
comp=Z,2µm,38.8s
KSH Kashi 71.78 313 P **P** **16 37 07.5 +2.1**
KSH pP sP 16 37 38.0 -4.0
KSH S **S** **16 46 19.5 +1.4**
KSH pmax pmax
comp=Z,9.0nm,1.6s
NIL Nilore 72.07 307 P **P** **16 37 05.8 -1.4**
NIL IAmb IAmb 16 37 08.5
comp=Z,25nm,1.2s
ZALV Zalesovo Beam 72.48 330 P **P** **16 37 08.2 -0.9**
ZALV Zalesovo Beam 72.48 330 P **P** **16 37 07.9 -1.1**
comp=Z,0.6nm,0.4s,baz=87,slow=6.1,SNR=6.4
comp=Z,0.6nm,0.4s
AAK Ala-Archa 73.89 316 P **P** **16 37 17.0 -0.8**
KURK Kurchatov 74.31 325 P **P** **16 37 19.4 -0.5**
KURBB Kurchatov Arra 74.33 325 P **P** **16 37 19.3 -0.6**
comp=Z,5.1nm,1.2s,baz=115,slow=5.4,SNR=14
comp=Z,5.1nm,1.2s
VNDA Vanda 75.56 175 P **P** **16 37 28.0 +1.4**
VNDA IAmb IAmb 16 39 43.9
comp=Z,27nm,1.9s
VNDA Vanda 75.56 175 LR LR 17 09 55.6
comp=Z,69nm,18.4s,baz=344,slow=35
KBL Kabul 75.68 307 P **P** **16 37 27.4 -1.0**
SIMJ Simiganj 76.71 311 P **P** **16 37 33.7 -0.4**
M13K Dall Lake 76.94 25 P **P** **16 37 36.1 +1.5**
baz=240
O14K Tigyukauivet M 77.28 27 P **P** **16 37 38.3 +1.7**
baz=242
L14K Kuka Creek 77.69 25 P **P** **16 37 39.9 +1.1**
baz=240
M14K Bethel 77.70 25 P **P** **16 37 39.7 +0.9**
M14K IAmb IAmb 16 40 02.4
comp=Z,56nm,1.6s
M14K Bethel 77.70 25 P **P** **16 37 39.0 +0.1**
baz=241
O15K Ungalikthiuk R 77.90 27 P **P** **16 37 41.3 +1.2**
baz=243
TNA Tin City 78.02 20 P **P** **16 37 41.1 +0.5**
baz=234
J14K Nanvaranak Lak 78.06 23 P **P** **16 37 41.9 +1.1**
baz=239
M15K Kasigluk River 78.22 26 P **P** **16 37 43.1 +1.3**
baz=242
N15K Kwethluk River 78.24 26 P **P** **16 37 43.2 +1.3**
baz=242
ANM Nome 78.34 21 P **P** **16 37 43.2 +0.8**
ANM Nome 78.34 21 P **P** **16 37 43.4 +1.0**
baz=237
L15K Ungalak Mounta 78.36 25 P **P** **16 37 42.8 +0.3**
baz=241
F14K Arctic Creek 78.52 20 P **P** **16 37 44.5 +1.2**
baz=236
K15K Wolf Creek Mou 78.64 24 P **P** **16 37 44.9 +0.9**
K15K IAmb IAmb 16 37 46.6
comp=Z,27nm,1.2s
K15K Wolf Creek Mou 78.64 24 P **P** **16 37 45.2 +1.1**
baz=241
P16K Nushagak River 78.69 28 P **P** **16 37 45.0 +0.6**
baz=245
O16K Kokwok River B 78.88 27 P **P** **16 37 46.4 +1.0**
baz=244
N16K Nishlik Lake 78.97 26 P **P** **16 37 47.1 +1.1**
baz=244
G15K Niukluk 79.06 21 P **P** **16 37 47.4 +1.2**
baz=238
M16K Timber Creek 79.13 26 P **P** **16 37 47.8 +1.1**
baz=243
L16K Owhat River 79.22 25 P **P** **16 37 48.2 +1.0**
baz=243
F15K North Star Dit 79.23 20 P **P** **16 37 48.4 +1.1**
baz=237
Q17K Contact Creek 79.37 29 P **P** **16 37 49.0 +0.8**
baz=247
O17K Koliganek Bris 79.42 27 P **P** **16 37 49.2 +0.8**
baz=245
J16K Anvik River 79.49 23 P **P** **16 37 49.7 +1.0**
J16K IAmb IAmb 16 37 51.3
comp=Z,20nm,1.1s
J16K Anvik River 79.49 23 P **P** **16 37 49.6 +0.9**
baz=242
H16K Elim 79.53 22 P **P** **16 37 49.8 +0.9**
baz=240
N17K Nushagak Hills 79.69 27 P **P** **16 37 51.5 +1.6**
baz=245
I17K Unalakleet 79.75 23 P **P** **16 37 50.8 +0.7**
I17K IAmb IAmb 16 37 52.9
comp=Z,22nm,1.1s
I17K Unalakleet 79.75 23 P **P** **16 37 51.3 +1.2**
baz=241
G16K Koyuk River 79.87 21 P **P** **16 37 52.0 +1.3**
baz=240
BVAR Borovoye Array 79.91 325 P **P** **16 37 51.0 -0.2**
comp=Z,6.0nm,0.9s,baz=104,slow=6.3,SNR=26
comp=Z,6.0nm,0.9s
L17K Donlin 79.91 25 P **P** **16 37 52.0 +1.1**
baz=244
M17K Holitna River 79.95 26 P **P** **16 37 52.4 +1.2**
baz=245
BRVK Borovoye 79.98 325 P **P** **16 37 51.2 -0.3**
NRIK Noril'sk 80.10 344 P **P** **16 37 52.0 +0.1**
NRIK Noril'sk 80.10 344 P **P** **16 37 51.6 -0.3**
comp=Z,3.8nm,0.8s,baz=144,slow=6.7,SNR=5.0
comp=Z,3.8nm,0.8s
K17K Iditarod 80.16 24 P **P** **16 37 53.5 +1.2**
baz=244
N18K Kilae Creek 80.34 27 P **P** **16 37 54.6 +1.2**
baz=246
C16K Lisburne Hills 80.41 18 P **P** **16 37 53.9 +0.4**
C16K Lisburne Hills 80.41 18 P **P** **16 37 54.8 +1.3**
baz=236
G17K Kiwalik Mounta 80.55 21 P **P** **16 37 55.8 +1.4**
baz=241
H17K Granite Mounta 80.55 22 P **P** **16 37 56.1 +1.8**
baz=242
L18K Granite Mounta 80.62 25 P **P** **16 37 55.1 +0.2**
L18K IAmb IAmb 16 37 57.3
comp=Z,30nm,1.3s
L18K Granite Mounta 80.62 25 P **P** **16 37 56.4 +1.6**
baz=245
M18K Stony River 80.70 26 P **P** **16 37 56.8 +1.6**
baz=246
F17K Baldwin Pennin 80.79 20 P **P** **16 37 56.8 +1.3**
baz=240
E17K Hotham Inlet 80.92 20 P **P** **16 37 57.5 +1.2**
baz=240,SNR=11
N19K Bonanza Creek 81.03 27 P **P** **16 37 57.9 +0.8**
baz=248
J18K Innoko River 81.14 24 P **P** **16 37 58.4 +0.9**
baz=245
C17K DeLong Mountai 81.20 18 P **P** **16 37 59.5 +1.8**
baz=238,SNR=10
TTA Tatalina 81.21 25 P **P** **16 37 58.3 +0.3**
TTA Tatalina 81.21 25 P **P** **16 37 59.5 +1.5**
baz=246
L19K White Mountain 81.40 26 P **P** **16 37 59.4 +0.4**
L19K IAmb IAmb 16 38 01.1
comp=Z,21nm,1.1s
L19K White Mountain 81.40 26 P **P** **16 38 00.3 +1.3**
baz=247
F18K Selawik 81.43 21 P **P** **16 37 60.0 +1.0**
baz=242
G18K Tagagawik 81.46 21 P **P** **16 38 00.0 +0.8**
baz=243
M19K Big River Lodg 81.49 26 P **P** **16 38 00.6 +1.2**
baz=247
E18K Tukpahlearik C 81.50 20 P **P** **16 38 01.0 +1.7**
baz=241
GCSA Galena City Sc 81.62 23 P **P** **16 38 01.1 +1.1**
baz=245
J19K Poorman 81.80 24 P **P** **16 38 02.1 +1.1**
baz=246
C18K Utukok River 81.91 19 P **P** **16 38 01.8 +0.2**
C18K Utukok River 81.91 19 P **P** **16 38 02.1 +0.6**
baz=240,SNR=8.4
L20K Farewell, AK 81.93 26 P **P** **16 38 02.8 +1.1**
baz=248
M20K Styx River 82.03 26 P **P** **16 38 03.5 +1.1**
baz=249
B18K Kokolik River 82.08 18 P **P** **16 38 03.7 +1.3**
baz=240
H19K Roundabout Mou 82.12 22 P **P** **16 38 03.7 +1.1**
baz=245
G19K Purcell Mounta 82.15 22 P **P** **16 38 03.5 +0.7**
baz=244
K20K Telida 82.19 25 P **P** **16 38 04.0 +1.0**
baz=248
N20K Mount Spurr 82.20 27 P **P** **16 38 03.7 +0.4**
baz=250
F19K Shaleruckik Mo 82.20 21 P **P** **16 38 03.8 +0.7**
baz=244
MAW Mawson 82.29 202 LR LR 17 12 59.4
comp=Z,56nm,18.1s,baz=126,slow=34
J20K Nowinta River 82.47 24 P **P** **16 38 05.4 +0.9**
baz=247
CAPN Captain Cook N 82.54 28 P **P** **16 38 06.0 +1.1**
baz=250
I20K Naaghedeneel 82.58 23 P **P** **16 38 06.4 +1.4**
baz=247
C19K Lookout Ridge 82.64 18 P **P** **16 38 06.6 +1.2**
baz=242
E19K Redstone River 82.67 20 P **P** **16 38 05.9 +0.4**
E19K Redstone River 82.67 20 P **P** **16 38 06.5 +1.0**
baz=244,SNR=14
H20K Anotleneega Mo 82.70 23 P **P** **16 38 06.9 +1.2**
baz=246
A19K Wainwright 82.73 17 P **P** **16 38 07.1 +1.5**
baz=240
D19K Kuna River 82.83 19 P **P** **16 38 06.6 +0.2**
D19K IAmb IAmb 16 38 08.1
comp=Z,18nm,1.1s
D19K Kuna River 82.83 19 P **P** **16 38 07.2 +0.9**
baz=243,SNR=11
F20K Avaraart Lake 83.02 21 P **P** **16 38 08.8 +1.5**
baz=246
CAST Castle Rocks 83.04 25 P **P** **16 38 07.4 -0.1**
CAST IAmb IAmb 16 38 17.6
comp=Z,37nm,2.0s
CAST Castle Rocks 83.04 25 P **P** **16 38 08.4 +0.9**
baz=249
CHUM Lake Minchumin 83.11 24 P **P** **16 38 09.3 +1.6**
baz=249
RC01 Rabbit Creek A 83.30 28 P **P** **16 38 08.5 -0.4**
RC01 IAmb IAmb 16 38 09.7
comp=Z,22nm,1.0s
RC01 Rabbit Creek A 83.30 28 P **P** **16 38 09.0 +0.2**
baz=252
IMAR Indian Mountai 83.32 22 P **P** **16 38 08.9 +0.1**
E20K Nigu River 83.37 20 P **P** **16 38 10.3 +1.2**
baz=245
D20K Etivluk River 83.43 19 P **P** **16 38 10.6 +1.2**
baz=245
H21K Melozitna Rive 83.56 23 P **P** **16 38 11.2 +1.1**
baz=248
I21K Tanana 83.71 23 P **P** **16 38 11.4 +0.6**
I21K IAmb IAmb 16 38 12.9
comp=Z,25nm,1.4s
I21K Tanana 83.71 23 P **P** **16 38 11.7 +0.9**
baz=249
PMR Palmer 83.73 27 P **P** **16 38 11.3 +0.3**
baz=252
BPAW Bear Paw Mtn. 83.73 24 P **P** **16 38 12.2 +1.1**
baz=250
TRF Thorofare Moun 83.81 25 P **P** **16 38 12.2 +0.6**
baz=251
B20K Meade River 83.82 18 P **P** **16 38 12.2 +1.0**
baz=244
F21K Alatna River 83.90 21 P **P** **16 38 12.8 +0.9**
baz=248
KNK Knik Glacier 83.98 27 P **P** **16 38 13.0 +0.6**
KNK IAmb IAmb 16 38 14.2
comp=Z,26nm,1.0s
KNK Knik Glacier 83.98 27 P **P** **16 38 12.8 +0.4**
baz=253
P23K Montague Islan 84.07 29 P **P** **16 38 13.4 +0.7**
baz=254
MLY Manley 84.15 24 P **P** **16 38 13.9 +0.7**
MLY IAmb IAmb 16 38 16.6
comp=Z,15nm,1.2s
MLY Manley 84.15 24 P **P** **16 38 14.4 +1.3**
baz=250,SNR=9.7
SML Sawmill 84.16 27 P **P** **16 38 13.5 +0.3**
SML Sawmill 84.16 27 P **P** **16 38 13.9 +0.6**
baz=253
H22K Ishtalitna Cre 84.20 23 P **P** **16 38 14.8 +1.5**
baz=250
C21K Knifeblade Rid 84.21 19 P **P** **16 38 14.5 +1.1**
baz=246
WAT1 Susitna Watana 84.36 26 P **P** **16 38 15.0 +0.7**
baz=253
BWN Browne 84.39 25 P **P** **16 38 15.0 +0.7**
RND Reindeer 84.41 25 P **P** **16 38 14.3 -0.3**
RND IAmb IAmb 16 40 14.4
comp=Z,17nm,0.8s
M23K Glacier View 84.43 27 P **P** **16 38 15.6 +1.0**
baz=254
MCK McKinley 84.47 25 P **P** **16 38 15.6 +0.8**
baz=252
G22K Bettles 84.51 22 P **P** **16 38 16.2 +1.3**
baz=250
A21K Barrow 84.56 17 P **P** **16 38 16.4 +1.4**
baz=244
SCM Sheep Creek Mo 84.62 27 P **P** **16 38 15.7 0.0**
SCM Sheep Creek Mo 84.62 27 P **P** **16 38 16.5 +0.9**
baz=254
WAT6 Susitna Watana 84.65 26 P **P** **16 38 16.3 +0.4**
baz=253
NEA2 Nenana 84.68 24 P **P** **16 38 15.8 0.0**
NEA2 Nenana 84.68 24 P **P** **16 38 17.0 +1.1**
baz=252
I23K Minto, Yukon-K 84.74 24 P **P** **16 38 16.7 +0.7**
I23K IAmb IAmb 16 38 17.6
comp=Z,16nm,1.1s
I23K Minto, Yukon-K 84.74 24 P **P** **16 38 17.5 +1.5**
baz=252,SNR=5.0
D22K Ayikyak River 84.80 20 P **P** **16 38 17.5 +1.2**
baz=248
E22K Anaktuvuk Pass 84.83 21 P **P** **16 38 17.5 +1.0**
baz=249
DHY Denali Highway 84.95 26 P **P** **16 38 17.8 +0.5**
baz=254,SNR=6.1
GEYT Alibeck 84.98 308 P **P** **16 38 17.9 -0.1**
GEYT IAmb IAmb 16 38 19.8
comp=Z,26nm,1.4s
GEYT Alibeck 84.98 308 P **P** **16 38 18.0 +0.1**
comp=Z,15nm,1.2s,baz=113,slow=3.3,SNR=16
comp=Z,15nm,1.2s
GYA0B ALIBECK ARRAY 84.98 308 P **P** **16 38 17.8 -0.2**
GYA0B IAmb IAmb 16 38 19.8
comp=Z,26nm,1.4s
G23K Bananza Creek 84.99 22 P **P** **16 38 18.8 +1.4**
baz=251
COLD Coldfoot 85.09 22 P **P** **16 38 19.4 +1.6**
baz=251
B22K Teshekpuk Lake 85.12 18 P **P** **16 38 19.2 +1.4**
baz=247
MDM Murphy Dome 85.14 24 P **P** **16 38 17.4 -0.8**
MDM IAmb IAmb 16 40 52.7
comp=Z,25nm,1.9s
KLU Klutina 85.17 28 P **P** **16 38 19.2 +0.7**
baz=255
CCB Clear Creek Bu 85.22 24 P **P** **16 38 17.4 -1.1**
CCB IAmb IAmb 16 38 19.2
comp=Z,14nm,0.9s
M24K Tolsona, Glenn 85.22 27 P **P** **16 38 19.7 +1.1**
baz=255
ABKAR Akbulak array 85.37 320 P **P** **16 38 18.1 -1.5**
HDA Harding Lake 85.51 25 P **P** **16 38 19.3 -0.6**
HDA IAmb IAmb 16 38 20.9
comp=Z,12nm,1.0s
HDA Harding Lake 85.51 25 P **P** **16 38 21.0 +1.1**
baz=254,SNR=6.5
POKR Poker Plat Res 85.51 24 P **P** **16 38 20.9 +1.0**
baz=253
D23K Nanushuk River 85.51 20 P **P** **16 38 21.1 +1.3**
baz=250
H24K Noodor Dome 85.54 23 P **P** **16 38 20.3 +0.1**
H24K IAmb IAmb 16 38 21.8
comp=Z,12nm,1.1s
H24K Noodor Dome 85.54 23 P **P** **16 38 21.2 +1.1**
baz=253
E23K Chandalar 85.58 21 P **P** **16 38 21.6 +1.3**
baz=251
IL31 85.63 24 P **P** **16 38 18.9 -1.6**
ILAR Eielson Array 85.63 24 P **P** **16 38 18.9 -1.7**
ILAR Eielson Array 85.63 24 P **P** **16 38 19.2 -1.3**
comp=Z,6.2nm,0.8s,baz=261,slow=4.9,SNR=36
ILAR LR LR 17 14 21.2
comp=Z,38nm,19.3s,baz=276,slow=34
comp=Z,6.2nm,0.8s
BMRM Bremner River 85.66 28 P **P** **16 38 21.8 +1.0**
baz=256
PAX Paxson 85.76 26 P **P** **16 38 22.1 +0.7**
baz=255
N25K Chitina, Valde 85.82 28 P **P** **16 38 22.7 +1.1**
baz=256
K24K Donnelly Dome 85.84 25 P **P** **16 38 22.8 +1.1**
baz=255
G24K Hadweenzic Riv 85.95 22 P **P** **16 38 23.4 +1.3**
baz=253
F24K Squaw Lake 86.03 22 P **P** **16 38 23.6 +1.1**
baz=253
GLB Gilahina Butte 86.15 28 P **P** **16 38 23.3 +0.1**
GLB IAmb IAmb 16 38 24.6
comp=Z,17nm,1.1s
D24K Happy Valley 86.20 20 P **P** **16 38 24.5 +1.3**
baz=252
J25K Salcha River, 86.22 25 P **P** **16 38 23.8 +0.3**
baz=255
RIDG Independent Ri 86.22 26 P **P** **16 38 24.2 +0.7**
baz=256
VRDI Verde Repeater 86.27 28 P **P** **16 38 24.1 +0.2**
C24K Franklin Bluff 86.42 19 P **P** **16 38 25.6 +1.3**
baz=252
G25K Bearman Lake 86.49 23 P **P** **16 38 25.8 +1.1**
baz=255
MCARA McCarthy VSAT 86.50 28 P **P** **16 38 25.3 +0.4**
baz=258
SCRK Sand Creek 86.65 25 P **P** **16 38 26.6 +0.9**
baz=257
L26K Log Cabin Wild 86.71 26 P **P** **16 38 27.0 +1.1**
baz=257
M26K Nabesna, AK 86.73 27 P **P** **16 38 27.4 +1.3**
baz=258
F25K Christian Rive 86.88 22 P **P** **16 38 28.2 +1.5**
baz=255
J26L Joseph Creek 86.95 25 P **P** **16 38 28.5 +1.4**
baz=257
E25K Arctic Village 87.05 21 P **P** **16 38 28.3 +0.8**
E25K Arctic Village 87.05 21 P **P** **16 38 29.2 +1.8**
baz=255,SNR=14
BARN Barnard Glacie 87.08 29 P **P** **16 38 28.3 +0.3**
QSPA South Pole Qui 87.08 180 P **P** **16 38 26.9 -0.9**
comp=Z,2.2nm,1.1s,baz=277,slow=1.0,SNR=6.3
QSPA LR LR 17 17 54.3
comp=Z,61nm,19.7s,baz=24,slow=36
comp=Z,2.2nm,1.1s
D25K Kavik River 87.09 20 P **P** **16 38 29.4 +1.7**
baz=254
CTG Chitna Glacier 87.22 29 P **P** **16 38 29.7 +1.1**
baz=259
CTGM Chitina Glacie 87.22 29 P **P** **16 38 28.5 0.0**
M27K Edge Creek, AK 87.24 27 P **P** **16 38 29.8 +1.2**
baz=259
ARU Arti 87.37 327 P **P** **16 38 28.2 -1.0**
ARU IAmb IAmb 16 39 37.8
comp=Z,27nm,1.9s
L27K Beaver Creek, 87.40 27 P **P** **16 38 29.8 +0.5**
L27K IAmb IAmb 16 38 31.8
comp=Z,15nm,1.1s
L27K Beaver Creek, 87.40 27 P **P** **16 38 30.6 +1.3**
baz=259
BCAR Beaver Creek A 87.42 27 P **P** **16 38 30.4 +1.0**
G26K Porcupine Rive 87.42 23 P **P** **16 38 31.0 +1.8**
baz=257
F26K Sheenjek River 87.46 22 P **P** **16 38 31.3 +1.8**
baz=256
K27K Chicken 87.48 26 P **P** **16 38 30.5 +0.9**
K27K Chicken 87.48 26 P **P** **16 38 31.4 +1.8**
baz=258,SNR=10
BVCY Beaver Creek 87.71 27 P **P** **16 38 32.4 +1.6**
baz=260
YUK3 Moose Creek 87.78 28 P **P** **16 38 31.9 +0.6**
baz=260,SNR=5.2
I27K Kandik River 87.99 24 P **P** **16 38 32.9 +0.8**
baz=259
EGAK Eagle 88.02 25 P **P** **16 38 33.1 +1.0**
baz=259,SNR=6.1
YUK8 Steele Glacier 88.03 28 P **P** **16 38 33.5 +1.0**
baz=261
H27K Steamboat Moun 88.15 23 P **P** **16 38 34.2 +1.4**
baz=259
YUK4 Talbot Arm 88.57 29 P **P** **16 38 36.2 +1.2**
baz=262
YUK6 Outpost Mounta 88.65 29 P **P** **16 38 36.3 +0.9**
baz=262
DAWY Dawson 88.65 26 P **P** **16 38 35.3 +0.1**
DAWY Dawson 88.65 26 P **P** **16 38 36.3 +1.1**
baz=261,SNR=10
I28M Miner Creek 88.65 24 P **P** **16 38 35.4 +0.2**
I28M IAmb IAmb 16 38 37.2
comp=Z,16nm,1.2s
I28M Miner Creek 88.65 24 P **P** **16 38 36.0 +0.8**
baz=260
P29M Windy Craggy 88.77 30 P **P** **16 38 36.7 +0.9**
baz=262
M29M Somme Creek 88.82 27 P **P** **16 38 37.4 +1.4**
baz=262
D27M Malcolm River 88.94 21 P **P** **16 38 37.5 +1.1**
baz=259
F28M Old Crow 89.05 22 P **P** **16 38 37.9 +1.0**
baz=260
HYT Haines Junctio 89.05 29 P **P** **16 38 38.2 +1.0**
baz=263
L29M L29M 89.06 27 P **P** **16 38 37.9 +0.7**
L29M IAmb IAmb 16 38 40.2
comp=Z,25nm,1.4s
L29M L29M 89.06 27 P **P** **16 38 38.2 +1.1**
baz=262,SNR=5.4
J29N Klondike Camp 89.22 25 P **P** **16 38 39.1 +1.2**
baz=262
P30M Million Dollar 89.22 30 P **P** **16 38 39.0 +1.0**
baz=263
N30M Aishikik Lake 89.33 28 P **P** **16 38 39.4 +0.9**
baz=263
E28M Babbage River 89.34 21 P **P** **16 38 39.4 +1.1**
baz=261
K29M Barlow Dome 89.44 26 P **P** **16 38 40.0 +1.0**
baz=262
PLBC Pleasant Camp 89.44 31 P **P** **16 38 40.0 +1.1**
baz=264
M30M Minto, Yukon 89.60 27 P **P** **16 38 41.0 +1.3**
baz=263
G29M Pine Creek 89.65 23 P **P** **16 38 40.9 +1.2**
baz=262
D28M Stokes Point 89.74 21 P **P** **16 38 41.1 +1.1**
baz=261
SKAG Skagway 89.97 31 P **P** **16 38 41.3 0.0**
baz=264

J30M	**Hart River**	**90.04**	**25**	P	**P**	**16 38 42.2 +0.4**
J30M				IAmb	IAmb	16 39 35.2
	comp=Z,34nm,2.0s					
J30M	**Hart River**	**90.04**	**25**	P	**P**	**16 38 42.3 +0.5**
	baz=264					
EPYK	**Eagle Plains**	**90.09**	**24**	P	**P**	**16 38 43.1 +1.2**
	baz=263					
I30M	**Mount Dempster**	**90.10**	**25**	P	**P**	**16 38 42.8 +0.8**
	baz=264					
G30M	**tAoh Zraii Nji**	**90.36**	**23**	P	**P**	**16 38 44.0 +0.9**
	baz=264					
M31M	**Drury Creek, Y**	**90.68**	**28**	P	**P**	**16 38 45.8 +1.2**
	baz=265					
P32M	**Atlin**	**90.80**	**31**	P	**P**	**16 38 46.7 +1.3**
	baz=266					
U33K	**Whale Pass**	**90.87**	**34**	P	**P**	**16 38 47.0 +1.4**
	baz=266					
G31M	**Satah River**	**91.12**	**23**	P	**P**	**16 38 48.1 +1.6**
	baz=266					
FARO	**Faro, Yukon**	**91.17**	**28**	P	**P**	**16 38 48.0 +1.0**
	baz=266					
N32M	**Quiet Lake**	**91.22**	**29**	P	**P**	**16 38 48.1 +0.9**
	baz=266					
P33M	**Teslin, Yukon**	**91.29**	**30**	P	**P**	**16 38 48.8 +1.2**
	baz=267					
F31M	**Tsiigehtchic**	**91.36**	**23**	P	**P**	**16 38 48.9 +1.2**
	baz=266					
INK	**Inuvik**	**91.51**	**22**	P	**P**	**16 38 49.1 +0.8**
	baz=266					
A36M	**Sachs Harbour**	**94.33**	**18**	P	**P**	**16 39 01.1 -0.1**
	baz=274					
YBH	**Yreka Blue Hor**	**97.69**	**48**	LR	LR	17 19 28.4
	comp=Z,20nm,18.4s,baz=9.0,slow=33					
YKA	**Yellowknife Ar**	**99.83**	**27**	P	**Pdif**	**16 39 26.0 -0.3**
	comp=Z,0.3nm,0.8s,baz=289,slow=3.8,SNR=2.3					
YKA				LR	LR	17 22 32.3
	comp=Z,36nm,19.3s,baz=290,slow=34					
	comp=Z,0.3nm,0.8s					
NVAR	**Mina Array Bea**	**101.31**	**52**	P	**Pdif**	**16 39 34.3 +0.6**
	comp=Z,0.3nm,0.6s,baz=233,slow=7.2,SNR=3.9					
KIC	**Kosan Boka**	**144.22**	**277**	⇑*i*PKP1	PKPbc	16 45 16.9 -0.3
	comp=Z,12nm,0.5s					
DBIC	**Dimbokro**	**144.32**	**277**	PKP	PKPbc	16 45 17.2 -0.3
	comp=Z,10nm,0.5s,baz=79,slow=4.1,SNR=18					
TIC	**Toumodi**	**144.48**	**277**	⇑*i*PKP1	PKPbc	16 45 17.6 -0.4
	comp=Z,12nm,0.4s					
LIC	**Lamto**	**144.52**	**277**	⇑*i*PKP1	PKPbc	16 45 17.7 -0.4
	comp=Z,11nm,0.4s					
ROSC	**El Rosal**	**146.17**	**86**	PKPbc	**PKPab**	**16 45 24.5 -0.1**
	comp=Z,8.3nm,0.4s,baz=149,slow=9.6,SNR=4.5					

*NEIC **29** 16:33:10.4±1.4,55°.99N±0°.10×150°.1W±0°.1, h6km±8km, ML3.5/30,ML3.4(AEIC),Error ellipse: s-maj=14.8km s-min=8.6km az=162.0*
*AEIC **29** 16:33:15.0±1.1,55°.9N±0°.1×150°.1W±0°.1, h11km±8km, Error ellipse: s-maj=18.1km s-min=10.8km az=175.0*

ISC 29 16:33:10.1±2.4,56°.0N±0°.1×150°.11W±0°.06,h10km,n101, σ1§06/106,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.15**	**307**			**Pn**	**16 33 45.9**	**-0.1**
OHAK						**Sn**	**16 34 11.1**	**-1.7**
OHAK	**Old Harbor**	**2.15**	**307**	P		**Pn**	**16 33 45.9**	**-0.1**
	baz=124							
OHAK				S		**Sn**	**16 34 11.1**	**-1.7**
	baz=124							
KDAK	**Kodiak Island**	**2.26**	**324**			**Pn**	**16 33 48.0**	**+0.5**
KDAK						**Sn**	**16 34 14.7**	**-0.7**
R18K	**Karluk**	**2.87**	**305**			**Pn**	**16 33 56.7**	**+0.8**
R18K						**Sn**	**16 34 29.3**	**-1.2**
R18K	**Karluk**	**2.87**	**305**	IAML			16 34 39.1	
	comp=E,109nm,0.5s							
R18K				IAML			16 34 43.7	
	comp=N,111nm,0.6s							
R18K	**Karluk**	**2.87**	**305**	P		**Pn**	**16 33 56.7**	**+0.8**
	baz=122							
R18K				S		**Sn**	**16 34 29.3**	**-1.2**
	baz=122							
SYI	**Shuyak Island**	**2.91**	**336**			**Pn**	**16 33 57.0**	**+0.6**
SYI						**Sn**	**16 34 31.2**	**-0.2**
Q20K	**Shuyak Island**	**2.91**	**336**	P		**Pn**	**16 33 57.0**	**+0.6**
	baz=154							
Q20K				S		**Sn**	**16 34 31.2**	**-0.2**
	baz=154							
KAHG	**Katmai Hook Gl**	**3.49**	**318**			**Pn**	**16 34 06.2**	**+1.8**
Q19K	**Cape Douglas,**	**3.52**	**329**			**Pn**	**16 34 04.5**	**-0.3**
Q19K				IAML			16 34 55.0	
	comp=N,221nm,1.4s							
Q19K	**Cape Douglas,**	**3.52**	**329**	P		**Pn**	**16 34 06.7**	**+1.9**
	baz=146							
CNPM	**China Poot**	**3.61**	**351**			**Pn**	**16 34 06.2**	**+0.2**
CNPM						**Sn**	**16 34 47.9**	**-0.7**
CNPM	**China Poot**	**3.61**	**351**	IAML			16 34 54.8	
	comp=E,45nm,1.4s							
CNPM				IAML			16 36 15.9	
	comp=N,33nm,1.4s							
ACHA	**Angle Creek He**	**3.62**	**310**			**Pn**	**16 34 07.5**	**+1.3**
ANCK	**Angle Creek**	**3.69**	**309**			**Pn**	**16 34 08.9**	**+1.8**
KAHC	**Katmai Hardscr**	**3.77**	**317**			**Pn**	**16 34 09.8**	**+1.5**
KAHC	**Katmai Hardscr**	**3.77**	**317**	P		**Pn**	**16 34 09.8**	**+1.5**
	baz=133							
BRSE	**Bradley Lake S**	**3.79**	**355**			**Pn**	**16 34 08.3**	**-0.2**
BRSE	**Bradley Lake S**	**3.79**	**355**	P		**Pn**	**16 34 08.3**	**-0.2**
	baz=175							
BRLK	**Bradley Lake**	**3.82**	**354**			**Pn**	**16 34 08.6**	**-0.3**
BRLK						**Sn**	**16 34 52.9**	**-0.9**
BRLK	**Bradley Lake**	**3.82**	**354**	IAML			16 34 54.3	
	comp=N,29nm,0.7s							
BRLK				IAML			16 34 57.6	
	comp=E,46nm,1.3s							
CNTC	**Contact Creek**	**3.89**	**308**			**Pn**	**16 34 10.6**	**+0.6**
CNTC						**Sn**	**16 34 53.6**	**-2.2**
Q17K	**Contact Creek**	**3.89**	**308**	P		**Pn**	**16 34 10.6**	**+0.6**
	baz=124							
Q17K				S		**Sn**	**16 34 53.6**	**-2.2**
	baz=124							
Q23K	**Middleton Isla**	**4.00**	**29**			**Pn**	**16 34 11.6**	**+0.2**
Q23K	**Middleton Isla**	**4.00**	**29**	P		**Pn**	**16 34 11.6**	**+0.2**
	baz=212							
MID	**Middleton Isla**	**4.00**	**29**	Pn		**Pn**	**16 34 11.6**	**+0.2**
MID				IAML			16 36 50.2	
	comp=N,154nm,1.5s							
P19K	**Oil Pt**	**4.04**	**337**	P		**Pn**	**16 34 13.8**	**+1.8**
	baz=154							
P23K	**Montague Islan**	**4.28**	**19**			**Pn**	**16 34 16.0**	**+0.8**
P23K	**Montague Islan**	**4.28**	**19**	P		**Pn**	**16 34 16.0**	**+0.8**
	baz=201							
O20K	**Slope Mountain**	**4.33**	**343**			**Pn**	**16 34 18.0**	**+2.1**
O20K	**Slope Mountain**	**4.33**	**343**	P		**Pn**	**16 34 18.0**	**+2.1**
	baz=161							
IVE	**Iliamna Volcan**	**4.33**	**340**			**Pn**	**16 34 17.5**	**+1.4**
P18K	**Big Mountain,**	**4.39**	**323**			**Pn**	**16 34 17.4**	**+0.7**
P18K	**Big Mountain,**	**4.39**	**323**	IAML			16 35 11.2	
	comp=N,16nm,1.4s							
P18K	**Big Mountain,**	**4.39**	**323**	P		**Pn**	**16 34 17.5**	**+0.7**
	baz=139							
O22K	**Cooper Landing**	**4.52**	**2**			**Sn**	**16 35 09.7**	**-1.3**
O22K				IAML			16 35 37.2	
	comp=E,88nm,0.9s							
O22K	**Cooper Landing**	**4.52**	**2**			**Pn**	**16 34 18.3**	**-0.2**
O22K	**Cooper Landing**	**4.52**	**2**	P		**Pn**	**16 34 18.3**	**-0.2**
	baz=183							
SLKM	**Skilak Lake**	**4.54**	**359**			**Pn**	**16 34 18.8**	**0.0**
HIN	**Hinchinbrook I**	**4.82**	**22**			**Pn**	**16 34 23.1**	**+0.4**
HIN	**Hinchinbrook I**	**4.82**	**22**	IAML			16 35 17.5	
	comp=E,73nm,1.3s							
HIN				IAML			16 35 19.2	
	comp=N,66nm,1.1s							
KAIM	**Kayak Island**	**4.98**	**35**			**Pn**	**16 34 25.1**	**+0.3**
KAIM	**Kayak Island**	**4.98**	**35**	IAML			16 35 12.9	
	comp=E,99nm,1.2s							
KAIM	**Kayak Island**	**4.98**	**35**	P		**Pn**	**16 34 25.1**	**+0.3**
	baz=220							
RAGM	**Ragged Mountai**	**5.27**	**31**	Pn		**Pn**	**16 34 29.5**	**+0.7**
RAGM				IAML			16 35 46.7	
	comp=E,62nm,1.5s							
N19K	**Bonanza Creek**	**5.36**	**336**	Pn		**Pn**	**16 34 30.9**	**+0.6**
N19K				IAML			16 35 49.1	
	comp=E,9.1nm,1.4s							
N19K				IAML			16 35 52.2	
	comp=N,9.4nm,1.4s							
KNK	**Knik Glacier**	**5.52**	**8**	Pn		**Pn**	**16 34 32.9**	**+0.7**
BERG	**Berg Lake**	**5.57**	**35**	Pn		**Pn**	**16 34 33.1**	**+0.1**
N18K	**Kilae Creek**	**5.61**	**330**			**Pn**	**16 34 34.5**	**+1.0**
N18K	**Kilae Creek**	**5.61**	**330**	P		**Pn**	**16 34 34.5**	**+1.0**
	baz=145							
SNH	**Sunshine Point**	**5.71**	**39**	Pn		**Pn**	**16 34 34.8**	**0.0**
BMRM	**Bremner River**	**5.77**	**28**			**Pn**	**16 34 36.2**	**+0.4**
BMRM	**Bremner River**	**5.77**	**28**	P		**Pn**	**16 34 36.2**	**+0.4**
	baz=212							
SML	**Sawmill**	**5.92**	**8**	Pn		**Pn**	**16 34 38.7**	**+1.0**
KLU	**Klutina**	**5.94**	**20**			**Pn**	**16 34 38.6**	**+0.5**
KLU	**Klutina**	**5.94**	**20**	P		**Pn**	**16 34 38.6**	**+0.5**
	baz=203							
BARK	**Barkley Ridge**	**5.99**	**39**			**Pn**	**16 34 38.9**	**+0.2**
SCM	**Sheep Creek Mo**	**6.04**	**13**	Pn		**Pn**	**16 34 40.6**	**+1.1**
SKT	**Skwentna**	**6.06**	**354**	Pn		**Pn**	**16 34 40.5**	**+0.8**
M20K	**Styx River**	**6.12**	**346**	Pn		**Pn**	**16 34 41.2**	**+0.6**
O15K	**Ungalikthiuk R**	**6.13**	**306**			**Pn**	**16 34 42.0**	**+1.4**
O15K	**Ungalikthiuk R**	**6.13**	**306**	P		**Pn**	**16 34 42.0**	**+1.4**
	baz=117							
VRDI	**Verde Repeater**	**6.30**	**31**			**Pn**	**16 34 43.5**	**+0.4**
N25K	**Chitina, Valde**	**6.32**	**25**			**Pn**	**16 34 44.0**	**+0.6**
N25K	**Chitina, Valde**	**6.32**	**25**	P		**Pn**	**16 34 43.9**	**+0.6**
	baz=209							
GLB	**Gilahina Butte**	**6.38**	**28**			**Pn**	**16 34 44.9**	**+0.8**
KIAG	**Kiagna River**	**6.41**	**36**			**Pn**	**16 34 44.8**	**+0.2**
MCARA	**McCarthy VSAT**	**6.55**	**31**			**Pn**	**16 34 47.3**	**+0.9**
MCARA	**McCarthy VSAT**	**6.55**	**31**	P		**Pn**	**16 34 47.3**	**+0.9**
	baz=218							
PTPK	**Patty Peak**	**6.57**	**34**			**Pn**	**16 34 47.3**	**+0.5**
M17K	**Holitna River**	**6.64**	**328**			**Pn**	**16 34 48.3**	**+0.6**
PCA	**Pinnacle**	**6.66**	**48**			**Pn**	**16 34 48.5**	**+0.6**
PINM	**Pinnacle**	**6.66**	**48**	P		**Pn**	**16 34 48.5**	**+0.6**
	baz=236							
L19K	**White Mountain**	**6.68**	**341**	Pn		**Pn**	**16 34 48.8**	**+0.6**
WASW	**Wrangell South**	**6.71**	**25**			**Pn**	**16 34 50.0**	**+1.3**
BARN	**Barnard Glacie**	**6.74**	**37**			**Pn**	**16 34 49.7**	**+0.5**
N15K	**Kwethluk River**	**6.76**	**313**	P		**Pn**	**16 34 51.3**	**+2.1**
	baz=124							
CTG	**Chitna Glacier**	**6.79**	**39**	P		**Pn**	**16 34 50.2**	**+0.4**
	baz=227							
CTGM	**Chitina Glacie**	**6.79**	**39**			**Pn**	**16 34 50.1**	**+0.4**
LOGN	**Logan Glacier**	**6.81**	**41**			**Pn**	**16 34 50.4**	**+0.2**
BCPM	**Bancas Point**	**6.84**	**50**	Pn		**Pn**	**16 34 51.4**	**+1.0**
M16K	**Timber Creek**	**6.86**	**321**			**Pn**	**16 34 52.4**	**+1.8**
M16K	**Timber Creek**	**6.86**	**321**	P		**Pn**	**16 34 52.4**	**+1.8**
	baz=134							
M15K	**Kasigluk River**	**7.30**	**315**			**Pn**	**16 34 58.5**	**+1.9**
M15K	**Kasigluk River**	**7.30**	**315**	P		**Pn**	**16 34 58.5**	**+1.9**
	baz=126							
N14K	**Kuskokwak Cree**	**7.32**	**307**			**Pn**	**16 34 59.3**	**+2.4**
N14K	**Kuskokwak Cree**	**7.32**	**307**	P		**Pn**	**16 34 59.3**	**+2.4**
	baz=118							
M26K	**Nabesna, AK**	**7.40**	**27**	Pn		**Pn**	**16 34 58.3**	**+0.2**
O29M	**Mount Kennedy**	**7.48**	**50**			**Pn**	**16 34 59.6**	**+0.4**
O29M	**Mount Kennedy**	**7.48**	**50**	P		**Pn**	**16 34 59.6**	**+0.4**
	baz=240							
P29M	**Windy Craggy**	**7.55**	**56**			**Pn**	**16 35 00.3**	**+0.2**
P29M	**Windy Craggy**	**7.55**	**56**	P		**Pn**	**16 35 00.3**	**+0.2**
	baz=246							
M27K	**Edge Creek, AK**	**7.66**	**30**	Pn		**Pn**	**16 35 02.7**	**+1.0**
K17K	**Iditarod**	**7.94**	**332**	Pn		**Pn**	**16 35 06.1**	**+0.6**
HYT	**Haines Junctio**	**8.20**	**49**	Pn		**Pn**	**16 35 09.8**	**+0.7**
BCAR	**Beaver Creek A**	**8.26**	**27**	Pn		**Pn**	**16 35 10.7**	**+0.8**
M13K	**Dall Lake**	**8.28**	**308**	Pn		**Pn**	**16 35 11.1**	**+1.0**
L14K	**Kuka Creek**	**8.47**	**315**	Pn		**Pn**	**16 35 14.1**	**+1.5**
J19K	**Poorman**	**8.50**	**343**	Pn		**Pn**	**16 35 14.3**	**+1.3**
N30M	**Aishikik Lake**	**8.71**	**46**	Pn		**Pn**	**16 35 17.0**	**+1.0**
O30N	**Mendenhall**	**8.78**	**51**	Pn		**Pn**	**16 35 17.8**	**+0.8**

SJA 29 16:39:09.8±0.6,30°.84S×65°.53W,h186km±3km,ML3.4, MW3.5,Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.94**	**122**	*e*P		Pn	16 39 38.2	+0.5
TCA				*e*S		Sn	16 39 59.1	-0.3
AVFE	**Valle Fertil**	**1.67**	**276**	*e*P		Pn	16 39 44.6	+0.7
AVFE				*e*S		Sn	16 40 10.0	-0.3
ACLC	**CERRO LA CRUZ**	**1.87**	**319**	*e*P		Pn	16 39 46.8	+0.6
CYA	**Choya**	**2.40**	**354**	*e*P		Pn	16 39 52.4	+0.5
CYA				*e*S		Sn	16 40 23.7	-0.8
CYA					IAML		16 40 24.3	
	comp=Z,155nm,0.7s							
RTLL	**Cerro Villicun**	**2.57**	**258**	*e*P		Pn	16 39 54.2	+0.6
RTLL				*e*S		Sn	16 40 27.5	-0.3
RTLL					IAML		16 40 29.2	
	comp=Z,125nm,0.3s							
RTCV	**Cerro Valdivia**	**2.77**	**248**	*e*P		Pn	16 39 56.4	+0.4
RTCV				*e*S		Sn	16 40 31.5	-0.5
AGUA	**GUANDACOL**	**2.90**	**297**	*e*P		Pn	16 39 59.2	+1.6
GUSE	**Guasayan**	**3.01**	**12**	*e*P		Pn	16 39 59.7	+0.8
ACCO	**Cerro Coronel**	**3.05**	**274**	*e*P		Pn	16 40 00.5	+0.8
ACCO				*e*S		Sn	16 40 38.6	+0.1
ACCO					IAML		16 40 40.2	
	comp=Z,52nm,0.4s							
DOCA	**Reserva Natura**	**3.05**	**267**	*e*P		Pn	16 40 00.3	+0.6
DOCA				*e*S		Sn	16 40 38.1	-0.5
VCA	**Vinchina**	**3.13**	**311**	*e*P		Pn	16 39 50.3	-10
VCA				*e*P		Pn	16 40 02.7	+2.2
VCA					IAML		16 40 50.8	
	comp=Z,48nm,0.7s							
ASAL	**Salagasta**	**3.31**	**237**	*e*P		Pn	16 40 02.7	+0.1
ASAL				*e*S		Sn	16 40 41.5	-2.3
ASAL					IAML		16 40 43.4	
	comp=Z,81nm,0.4s							
RTLS	**Leoncito**	**3.36**	**253**	*e*P		Pn	16 40 04.0	+0.6
RTLS				*e*S		Sn	16 40 46.2	+1.0
RTLS					IAML		16 40 48.1	
	comp=Z,85nm,0.4s							
AROD	**Rodeo**	**3.47**	**280**	*e*P		Pn	16 40 06.3	+1.5
AROD				*e*S		Sn	16 40 49.8	+2.2
ARCO	**CERRO ARCO**	**3.51**	**235**	*e*P		Pn	16 40 05.3	+0.2
ARCO					IAML		16 40 49.4	
	comp=Z,131nm,0.3s							
AAGR	**Agrelo**	**3.58**	**231**	*e*P		Pn	16 40 06.0	+0.1
AAGR				*e*S		Sn	16 40 47.0	-2.9
AAGR					IAML		16 40 51.5	
	comp=Z,83nm,0.2s							
CO01	**Juntas del Tor**	**4.03**	**281**	*e*P		Pn	16 40 13.8	+2.0
CO01				*e*S		Sn	16 40 55.8	-4.4
AHML	**Horco Molle**	**4.05**	**3**	*e*P		Pn	16 40 12.3	+0.5
AHML				*e*S		Sn	16 40 56.5	-3.8
AHML					IAML		16 41 00.8	
	comp=Z,30nm,0.8s							
CO03	**El Pedregal**	**4.43**	**269**	*e*P		Pn	16 40 17.6	+1.0
AC05	**El Transito**	**4.58**	**295**	*e*P		Pn	16 40 19.9	+1.3
RFA	**San Rafael**	**4.63**	**211**	*e*P		Pn	16 40 19.1	0.0
RFA				*e*S		Sn	16 41 04.0	-10
RFA				*e*S		Sn	16 41 11.7	-1.9
RFA					IAML		16 41 12.1	
	comp=Z,20nm,0.5s							
VA03	**San Esteban**	**4.68**	**245**	*e*P		Pn	16 40 20.6	+0.8
VA03				*e*S		Sn	16 41 16.6	+1.7
CO02	**Combarbal**	**4.71**	**264**	*e*P		Pn	16 40 20.8	+0.6
CO02				*e*S		Sn	16 41 15.7	+0.2
LCO	**Las Campanas**	**4.84**	**291**	*e*P		Pn	16 40 23.3	+1.2
LCO					IAML		16 42 01.3	
	comp=Z,25nm,2.5s							
MT03	**Universidad Ad**	**4.98**	**237**	*e*P		Pn	16 40 24.9	+1.3
MT05	**Renca**	**5.09**	**239**	*e*P		Pn	16 40 26.0	+0.8
GO03	**Copiap**	**5.23**	**307**	*e*P		Pn	16 40 27.9	+1.0
MT02	**Curacav**	**5.33**	**242**	*e*P		Pn	16 40 18.0	-10

*KRNET **29** 16:41:05.4±0.1,40°.68N×77°.59E,h14km, mb2.7*
*SOME **29** 16:41:06.1,40°.73N×77°.55E,h5km*
*NNC **29** 16:41:06.7±1.5,40°.73N×77°.57E,h0km, mb3.6,mpv3.2, Error ellipse: s-maj=9.8km s-min=7.4km az=11.0*

ISC 29 16:41:05.8±2.1,40°.74N±0°.09×77°.58E±0°.03,h18km±4km, n47,σ1§33/75,13C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.01**	**10**	⇑*i*P		**Pn**	**16 41 25.9**	**+0.5**
	baz=9.0							
TARG				⇑*i*S		**Sn**	**16 41 40.7**	**+1.4**
	baz=9.0							
NRN	**Naryn**	**1.38**	**301**	⇓*e*P		**Pg**	**16 41 32.4**	**-0.1**
	baz=2.0							
NRN				⇓*e*S		**Sg**	**16 41 52.5**	**+1.9**
	baz=2.0							
KDJ	**Kajisay**	**1.42**	**348**	⇓*i*P		**Pg**	**16 41 33.7**	**+0.4**
	baz=49							
KDJ				⇓*i*S		**Sg**	**16 41 54.2**	**+2.3**
	baz=49							
ULHL	**Ulahol**	**1.81**	**327**	⇑*i*P		**Pg**	**16 41 40.6**	**-0.1**
	baz=28							
ULHL				⇑*i*S		**Sg**	**16 42 06.0**	**+1.8**
	baz=28							
PRZ	**Przheval'sk**	**1.85**	**19**	⇓*e*P		**Pg**	**16 41 41.4**	**0.0**
	baz=18							
PRZ				⇓*e*S		**Sg**	**16 42 07.6**	**+2.1**
	baz=18							
ANVS	**Anan'yevo**	**2.04**	**2**	⇑*e*P		**Pg**	**16 41 44.3**	**-0.8**
	baz=2.0							
ANVS				⇑*e*S		**Sg**	**16 42 12.3**	**+0.6**
	baz=2.0							
TNSS	**Tian-Shan**	**2.35**	**349**	Pg		**Pg**	**16 41 50.5**	**-0.4**
	10nm,0.4s							
TNSS				Lg		Lg	16 42 22.2	
	14nm,0.6s							
TNSS	**Tian-Shan**	**2.35**	**349**	*e*P		**Pg**	**16 41 50.5**	**-0.4**
	10nm,0.4s							
TNSS				*e*S		**Sg**	**16 42 22.2**	**+0.9**
	14nm,0.6s							
SATY	**Saty**	**2.40**	**15**	Pg		**Pg**	**16 41 50.9**	**-1.0**
	3.3nm,0.3s							
SATY				Lg		Lg	16 42 23.1	
	8.8nm,0.2s							
SATY	**Saty**	**2.40**	**15**	*e*P		**Pg**	**16 41 50.9**	**-1.0**
	3.3nm,0.3s							
SATY				*e*S		**Sg**	**16 42 23.1**	**0.0**
	8.8nm,0.2s							
IZV	**Izvestkoviy**	**2.41**	**343**	*e*P		**Pg**	**16 41 52.6**	**+0.5**
	3.2nm,0.1s							
IZV				*e*S		**Sg**	**16 42 25.9**	**+2.7**
	38nm,0.6s							
MDOK	**Medeo**	**2.46**	**351**	Pg		**Pg**	**16 41 52.4**	**-0.5**
	9.9nm,0.3s							
MDOK				Lg		Lg	16 42 25.6	
	22nm,0.7s							
MDOK	**Medeo**	**2.46**	**351**	*e*P		**Pg**	**16 41 52.4**	**-0.5**
	9.9nm,0.3s							
MDOK				*e*S		**Sg**	**16 42 25.6**	**+0.7**
	22nm,0.7s							
KOTS	**Kotyrbulak**	**2.52**	**352**	Pg		**Pg**	**16 41 53.6**	**-0.5**
	13nm,0.2s							
KOTS				Lg		Lg	16 42 27.5	
	25nm,0.6s							
KOTS	**Kotyrbulak**	**2.52**	**352**	*e*P		**Pg**	**16 41 53.6**	**-0.5**
	13nm,0.2s							
KOTS				*e*S		**Sg**	**16 42 27.5**	**+0.7**
	25nm,0.6s							
KNDC	**Almaty**	**2.52**	**350**	⇑Pg		**Pb**	**16 41 50.4**	**-0.1**
	9.8nm,0.5s							
KNDC				⇓Lg		Lg	16 42 27.8	
	125nm,0.8s							
MTBS	**Maitube**	**2.54**	**341**	Pg		**Pg**	**16 41 54.1**	**-0.4**
	6.4nm,0.4s							
MTBS				Lg		Lg	16 42 28.4	
	15nm,0.4s							
MTBS	**Maitube**	**2.54**	**341**	*e*P		**Pg**	**16 41 54.1**	**-0.4**
	6.4nm,0.4s							
MTBS				*e*S		**Sg**	**16 42 28.4**	**+0.9**
	15nm,0.4s							
KASK	**Kaskelen**	**2.58**	**345**	⇓Pg		**Pb**	**16 41 51.2**	**-0.3**
KASK				⇓Lg		Lg	16 42 29.3	
KST	**Kastek**	**2.60**	**333**	Pg		**Pg**	**16 41 55.2**	**-0.5**
	3.3nm,0.2s							
KST				Lg		Lg	16 42 30.6	
	9.6nm,0.5s							
KST	**Kastek**	**2.60**	**333**	*e*P		**Pg**	**16 41 55.2**	**-0.5**
	3.3nm,0.2s							
KST				*e*S		**Sg**	**16 42 30.6**	**+1.2**
	9.6nm,0.5s							
UZB	**Uzynbulak**	**2.64**	**24**	*e*P		**Pg**	**16 41 55.1**	**-1.4**
	3.4nm,0.2s							
UZB				*e*S		**Sg**	**16 42 30.0**	**-0.6**
	5.5nm,0.3s							
ARLS	**Aral**	**2.70**	**296**	⇑*e*P		**Pb**	**16 41 52.9**	**-0.7**
	baz=97							
ARLS				⇑*e*S		**Sb**	**16 42 27.4**	**+1.0**
	baz=97							
KBK	**Karagaybulak**	**2.75**	**315**	⇑*i*P		**Pb**	**16 41 54.2**	**-0.3**
	baz=16							
KBK				⇑*i*S		**Sb**	**16 42 29.4**	**+1.5**
	baz=16							
KURS	**Kuram**	**2.78**	**9**	*e*P		**Pg**	**16 41 58.1**	**-1.1**
	1.3nm,0.2s							
KURS				*e*S		**Sg**	**16 42 35.4**	**+0.1**
	6.2nm,0.6s							
SHLS	**Shalkode**	**2.80**	**30**	Pg		**Pg**	**16 42 00.7**	**+1.2**
	2.4nm,0.2s							
SHLS				Lg		Lg	16 42 39.8	
	7.9nm,0.5s							
SHLS	**Shalkode**	**2.80**	**30**	*e*P		**Pg**	**16 42 00.7**	**+1.2**
	2.4nm,0.2s							
SHLS				*e*S		**Sg**	**16 42 39.8**	**+4.1**
	7.9nm,0.5s							
DGS	**Degeres**	**2.84**	**332**	Pg		**Pg**	**16 41 58.9**	**-1.4**
	8.0nm,0.5s							
DGS				Lg		Lg	16 42 36.8	
	13nm,0.4s							
DGS	**Degeres**	**2.84**	**332**	*e

DJR	**Jarkent**	**3.95**	**24**	Pg	**Pg**	**16 42 19.3 -2.1**
	1.1nm,0.1s					
DJR				Lg	Lg	16 43 11.2
	4.3nm,0.4s					
DJR	**Jarkent**	**3.95**	**24**	*e*P	**Pg**	**16 42 19.3 -2.1**
	1.1nm,0.1s					
DJR				*e*S	**Sg**	**16 43 11.2 -1.3**
	4.3nm,0.4s					

IDC ***29*** *16:57:41.2±4.0,55°.36N×150°.47W, h0km, mb3.2/1, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=61.7km s-min=44.2km az=1.0*

NEIC ***29*** *16:57:47.4±1.1,56°.08N±0°.08×150°.2W±0°.1, h10km±2km, ML3.5/38, ML3.4(AEIC), Error ellipse: s-maj=13.4km s-min=9.8km az=166.0*

AEIC ***29*** *16:57:50.9±1.3,56°.05N±0°.09×150°.3W±0°.1, h4km±8km, Error ellipse: s-maj=14.0km s-min=8.0km az=163.0*

ISC 29 16:57:47.1±1.5,56°.12N±0°.10×150°.21W±0°.06,h10km, n126,σ0§97/130,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.03**	**304**	Pn	**Pn**	**16 58 20.5**	**-0.8**
OHAK	**Old Harbor**	**2.03**	**304**	P	**Pn**	**16 58 20.7**	**-0.6**
	baz=123						
OHAK				S	**Sn**	**16 58 44.8**	**-1.9**
	baz=123						
KDAK	**Kodiak Island**	**2.12**	**323**	Pn	**Pn**	**16 58 22.9**	**+0.4**
KDAK	**Kodiak Island**	**2.12**	**323**		**Sn**	**16 58 49.0**	**+0.1**
KDAK	**Kodiak Island**	**2.12**	**323**	Pn	**Pn**	**16 58 22.9**	**+0.4**
	13nm,0.3s,baz=164,slow=6.4,SNR=143						
KDAK				Sn	**Sn**	**16 58 47.9**	**-0.9**
	3.8nm,0.3s,baz=309,slow=22,SNR=7.7						
	35nm,0.3s						
SII	**Sitkinak Islan**	**2.26**	**283**	Pn	**Pn**	**16 58 24.3**	**-0.2**
SII				IAML		16 58 57.6	
	comp=N,290nm,0.7s						
SII	**Sitkinak Islan**	**2.26**	**283**		**Sn**	**16 58 51.7**	**-0.7**
SII	**Sitkinak Islan**	**2.26**	**283**	S	**Sn**	**16 58 51.7**	**-0.7**
	baz=101						
R18K	**Karluk**	**2.75**	**304**		**Pn**	**16 58 31.4**	**+0.3**
R18K					**Sn**	**16 59 03.4**	**-1.0**
R18K	**Karluk**	**2.75**	**304**	IAML		16 59 10.8	
	comp=N,126nm,0.6s						
R18K				IAML		16 59 18.7	
	comp=E,137nm,1.3s						
R18K	**Karluk**	**2.75**	**304**	P	**Pn**	**16 58 31.4**	**+0.3**
	baz=121						
R18K				S	**Sn**	**16 59 03.4**	**-1.0**
	baz=121						
SYI	**Shuyak Island**	**2.77**	**336**	Pn	**Pn**	**16 58 32.2**	**+0.8**
SYI	**Shuyak Island**	**2.77**	**336**		**Sn**	**16 59 05.3**	**+0.5**
Q20K	**Shuyak Island**	**2.77**	**336**	P	**Pn**	**16 58 32.2**	**+0.7**
	baz=154						
Q20K				S	**Sn**	**16 59 05.3**	**+0.5**
	baz=154						
KAHG	**Katmai Hook Gl**	**3.35**	**317**		**Pn**	**16 58 40.8**	**+1.3**
Q19K	**Cape Douglas,**	**3.38**	**328**	Pn	**Pn**	**16 58 41.3**	**+1.4**
Q19K				IAML		16 59 30.4	
	comp=N,250nm,1.0s						
Q19K	**Cape Douglas,**	**3.38**	**328**	P	**Pn**	**16 58 41.2**	**+1.4**
	baz=146						
KCE	**Katmai Mt Cerb**	**3.45**	**310**		**Pn**	**16 58 42.6**	**+1.7**
CNPM	**China Poot**	**3.46**	**351**	Pn	**Pn**	**16 58 41.5**	**+0.4**
CNPM				IAML		16 59 24.4	
	comp=N,69nm,1.5s						
CNPM				IAML		16 59 25.5	
	comp=E,78nm,1.3s						
CNPM	**China Poot**	**3.46**	**351**		**Sn**	**16 59 23.0**	**+0.9**
ACHA	**Angle Creek He**	**3.49**	**309**		**Pn**	**16 58 42.1**	**+0.6**
ANCK	**Angle Creek**	**3.56**	**308**		**Pn**	**16 58 43.4**	**+1.0**
KVTA	**Katmai Vly 10**	**3.58**	**312**		**Pn**	**16 58 43.8**	**+1.2**
KAHC	**Katmai Hardscr**	**3.63**	**316**		**Pn**	**16 58 44.2**	**+0.7**
KAHC	**Katmai Hardscr**	**3.63**	**316**	P	**Pn**	**16 58 44.2**	**+0.7**
	baz=133						
HOM	**Homer**	**3.63**	**348**	Pn	**Pn**	**16 58 45.1**	**+1.8**
BRSE	**Bradley Lake S**	**3.65**	**356**		**Pn**	**16 58 43.7**	**+0.1**
BRSE	**Bradley Lake S**	**3.65**	**356**	P	**Pn**	**16 58 43.7**	**+0.1**
	baz=176						
BRLK	**Bradley Lake**	**3.68**	**355**	Pn	**Pn**	**16 58 43.9**	**-0.1**
BRLK				IAML		16 59 29.3	
	comp=E,42nm,1.0s						
BRLK				IAML		16 59 34.9	
	comp=N,52nm,1.4s						
CNTC	**Contact Creek**	**3.77**	**307**		**Pn**	**16 58 45.8**	**+0.6**
Q17K	**Contact Creek**	**3.77**	**307**	P	**Pn**	**16 58 45.8**	**+0.5**
	baz=123						
KELA	**Mount Kelaz**	**3.80**	**310**		**Pn**	**16 58 46.3**	**+0.6**
P19K	**Oil Pt**	**3.90**	**337**	Pn	**Pn**	**16 58 48.4**	**+1.4**
P19K				IAML		16 59 37.9	
	comp=E,173nm,0.5s						
P19K	**Oil Pt**	**3.90**	**337**	P	**Pn**	**16 58 48.7**	**+1.7**
	baz=155						
P23K	**Montague Islan**	**4.17**	**20**		**Pn**	**16 58 51.3**	**+0.6**
P23K	**Montague Islan**	**4.17**	**20**	P	**Pn**	**16 58 51.3**	**+0.6**
	baz=202						
IVE	**Iliamna Volcan**	**4.19**	**340**		**Pn**	**16 58 51.2**	**+0.1**
P18K	**Big Mountain,**	**4.25**	**323**	Pn	**Pn**	**16 58 52.5**	**+0.7**
P18K	**Big Mountain,**	**4.25**	**323**	P	**Pn**	**16 58 52.3**	**+0.5**
	baz=139						
SLKM	**Skilak Lake**	**4.41**	**360**		**Pn**	**16 58 54.0**	**0.0**
RED	**Redoubt Volcan**	**4.52**	**344**		**Pn**	**16 58 55.5**	**-0.1**
CHGN	**Chignik**	**4.59**	**276**	Pn	**Pn**	**16 58 56.1**	**-0.3**
CHGN				IAML		17 00 25.9	
	comp=N,44nm,1.4s						
CHGN				IAML		17 02 01.3	
	comp=E,50nm,1.2s						
O18K	**Koktuh Hills**	**4.60**	**327**	Pn	**Pn**	**16 58 57.3**	**+0.7**
O18K				IAML		16 59 52.2	
	comp=N,39nm,1.5s						
O18K				IAML		16 59 53.6	
	comp=E,33nm,0.8s						
O18K	**Koktuh Hills**	**4.60**	**327**	P	**Pn**	**16 58 57.1**	**+0.5**
	baz=143						
RDWB	**Redoubt West**	**4.60**	**344**		**Pn**	**16 58 57.0**	**+0.2**
O19K	**Port Alsworth**	**4.63**	**334**	Pn	**Pn**	**16 58 58.0**	**+1.0**
O19K	**Port Alsworth**	**4.63**	**334**	P	**Pn**	**16 58 57.5**	**+0.4**
	baz=151						
HIN	**Hinchinbrook I**	**4.72**	**23**	Pn	**Pn**	**16 58 59.1**	**+0.8**
HIN				IAML		17 00 28.7	
	comp=N,48nm,1.4s						
HIN				IAML		17 01 43.7	
	comp=E,52nm,1.1s						
KAIM	**Kayak Island**	**4.91**	**36**	Pn	**Pn**	**16 59 01.2**	**+0.4**
KAIM				IAML		17 00 01.9	
	comp=N,77nm,1.0s						
KAIM	**Kayak Island**	**4.91**	**36**	P	**Pn**	**16 59 01.5**	**+0.7**
	baz=221						
RC01	**Rabbit Creek A**	**4.99**	**3**	Pn	**Pn**	**16 59 03.0**	**+0.9**
RC01				IAML		17 00 01.3	
	comp=E,33nm,1.5s						
RC01				IAML		17 00 05.9	
	comp=N,24nm,1.2s						
EYAK	**Cordova Ski Ar**	**5.03**	**26**		**Pn**	**16 59 03.2**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.03**	**26**	P	**Pn**	**16 59 03.2**	**+0.7**
	baz=210						
FID	**Port Fidalgo**	**5.04**	**21**		**Pn**	**16 59 02.6**	**-0.2**
P16K	**Nushagak River**	**5.11**	**308**		**Pn**	**16 59 04.0**	**+0.4**
P16K	**Nushagak River**	**5.11**	**308**	P	**Pn**	**16 59 04.0**	**+0.4**
	baz=122						
RAGM	**Ragged Mountai**	**5.18**	**32**	Pn	**Pn**	**16 59 04.7**	**0.0**
O17K	**Koliganek Bris**	**5.19**	**318**		**Pn**	**16 59 05.0**	**+0.4**
O17K	**Koliganek Bris**	**5.19**	**318**	P	**Pn**	**16 59 05.0**	**+0.4**
	baz=132						
N19K	**Bonanza Creek**	**5.22**	**336**		**Pn**	**16 59 05.3**	**+0.1**
N19K	**Bonanza Creek**	**5.22**	**336**	IAML		17 00 07.9	
	comp=E,13nm,1.4s						
N19K				IAML		17 00 24.7	
	comp=N,16nm,0.8s						
N19K	**Bonanza Creek**	**5.22**	**336**	P	**Pn**	**16 59 05.3**	**+0.1**
	baz=153						
GOAT	**Goat Mountain**	**5.33**	**31**		**Pn**	**16 59 07.4**	**+0.7**
KNK	**Knik Glacier**	**5.39**	**9**	Pn	**Pn**	**16 59 08.0**	**+0.5**
N18K	**Kilae Creek**	**5.46**	**329**		**Pn**	**16 59 09.0**	**+0.5**
N18K	**Kilae Creek**	**5.46**	**329**	P	**Pn**	**16 59 09.0**	**+0.5**
	baz=145						
BERG	**Berg Lake**	**5.49**	**36**	Pn	**Pn**	**16 59 09.2**	**+0.3**
SNH	**Sunshine Point**	**5.64**	**41**	Pn	**Pn**	**16 59 11.7**	**+0.7**
BMRM	**Bremner River**	**5.68**	**29**		**Pn**	**16 59 12.2**	**+0.7**
BMRM	**Bremner River**	**5.68**	**29**	P	**Pn**	**16 59 12.2**	**+0.7**
	baz=213						
SML	**Sawmill**	**5.79**	**9**	Pn	**Pn**	**16 59 13.8**	**+0.8**
KLU	**Klutina**	**5.83**	**21**	Pn	**Pn**	**16 59 14.8**	**+1.2**
BARK	**Barkley Ridge**	**5.92**	**40**		**Pn**	**16 59 15.5**	**+0.6**
SKT	**Skwentna**	**5.92**	**354**	Pn	**Pn**	**16 59 15.3**	**+0.5**
SCM	**Sheep Creek Mo**	**5.92**	**13**	Pn	**Pn**	**16 59 16.4**	**+1.5**
O15K	**Ungalikthiuk R**	**6.01**	**305**		**Pn**	**16 59 16.5**	**+0.6**
O15K	**Ungalikthiuk R**	**6.01**	**305**	P	**Pn**	**16 59 16.5**	**+0.6**
	baz=117						
M18K	**Stony River**	**6.13**	**334**		**Pn**	**16 59 18.2**	**+0.6**
M18K	**Stony River**	**6.13**	**334**	P	**Pn**	**16 59 18.2**	**+0.6**
	baz=149						
VRDI	**Verde Repeater**	**6.22**	**32**	Pn	**Pn**	**16 59 19.4**	**+0.4**
N25K	**Chitina, Valde**	**6.22**	**26**	Pn	**Pn**	**16 59 20.0**	**+1.0**
N25K	**Chitina, Valde**	**6.22**	**26**	P	**Pn**	**16 59 20.2**	**+1.2**
	baz=210						
GLB	**Gilahina Butte**	**6.29**	**29**	Pn	**Pn**	**16 59 20.8**	**+1.0**
KIAG	**Kiagna River**	**6.33**	**37**		**Pn**	**16 59 21.1**	**+0.6**
SAMH	**Samovar Hills**	**6.41**	**47**		**Pn**	**16 59 22.9**	**+1.3**
MCARA	**McCarthy VSAT**	**6.47**	**32**		**Pn**	**16 59 23.2**	**+0.9**
MCARA	**McCarthy VSAT**	**6.47**	**32**	P	**Pn**	**16 59 23.2**	**+0.9**
	baz=218						
PCA	**Pinnacle**	**6.61**	**49**		**Pn**	**16 59 25.3**	**+1.0**
PINM	**Pinnacle**	**6.61**	**49**	P	**Pn**	**16 59 25.3**	**+1.0**
	baz=237						
N15K	**Kwethluk River**	**6.62**	**312**		**Pn**	**16 59 25.7**	**+1.3**
N15K	**Kwethluk River**	**6.62**	**312**	P	**Pn**	**16 59 25.7**	**+1.3**
	baz=124						
BARN	**Barnard Glacie**	**6.67**	**38**		**Pn**	**16 59 25.8**	**+0.6**
O14K	**Tigyukauivet M**	**6.71**	**303**		**Pn**	**16 59 26.6**	**+1.0**
O14K	**Tigyukauivet M**	**6.71**	**303**	P	**Pn**	**16 59 26.6**	**+1.0**
	baz=114						
M16K	**Timber Creek**	**6.72**	**321**		**Pn**	**16 59 26.6**	**+0.9**
M16K	**Timber Creek**	**6.72**	**321**	P	**Pn**	**16 59 26.6**	**+0.9**
	baz=134						
CTG	**Chitna Glacier**	**6.72**	**40**	P	**Pn**	**16 59 26.6**	**+0.8**
	baz=227						
CTGM	**Chitina Glacie**	**6.72**	**40**	Pn	**Pn**	**16 59 26.5**	**+0.6**
LOGN	**Logan Glacier**	**6.75**	**42**	Pn	**Pn**	**16 59 26.6**	**+0.4**
N14K	**Kuskokwak Cree**	**7.19**	**307**		**Pn**	**16 59 32.9**	**+0.7**
N14K	**Kuskokwak Cree**	**7.19**	**307**	P	**Pn**	**16 59 32.9**	**+0.7**
	baz=117						
L17K	**Donlin**	**7.33**	**329**		**Pn**	**16 59 35.1**	**+1.0**
L17K	**Donlin**	**7.33**	**329**	P	**Pn**	**16 59 35.1**	**+1.0**
	baz=142						
L16K	**Owhat River**	**7.38**	**323**	Pn	**Pn**	**16 59 34.9**	**+0.1**
K20K	**Telida**	**7.52**	**347**	Pn	**Pn**	**16 59 36.8**	**+0.1**
M14K	**Bethel**	**7.72**	**312**		**Pn**	**16 59 40.2**	**+0.8**
K17K	**Iditarod**	**7.79**	**331**	Pn	**Pn**	**16 59 41.2**	**+0.7**
J19K	**Innoko River**	**8.06**	**339**	Pn	**Pn**	**16 59 45.3**	**+1.1**
L27K	**Beaver Creek,**	**8.15**	**28**	Pn	**Pn**	**16 59 46.6**	**+1.2**
BCAR	**Beaver Creek A**	**8.17**	**28**	Pn	**Pn**	**16 59 47.0**	**+1.4**
J20K	**Nowinta River**	**8.32**	**348**	Pn	**Pn**	**16 59 48.8**	**+1.1**
L14K	**Kuka Creek**	**8.33**	**314**		**Pn**	**16 59 48.6**	**+0.8**
K15K	**Wolf Creek Mou**	**8.48**	**322**	Pn	**Pn**	**16 59 51.0**	**+1.1**
N30M	**Aishikik Lake**	**8.66**	**46**	Pn	**Pn**	**16 59 52.8**	**+0.5**
ILAR	**Eielson Array**	**8.84**	**9**	Pn	**Pn**	**16 59 56.0**	**+1.2**
ILAR	**Eielson Array**	**8.84**	**9**	Pn	**Pn**	**16 59 56.7**	**+2.0**
	comp=N,0.2nm,0.3s,baz=196,slow=13,SNR=8.8						
ILAR				Sn	**Sn**	**17 01 28.9**	**-5.3**
	comp=N,0.1nm,0.3s,baz=198,slow=15,SNR=1.1						
	comp=N,0.3nm,0.3s						
J16K	**Anvik River**	**8.89**	**328**	Pn	**Pn**	**16 59 55.7**	**+0.2**
MDM	**Murphy Dome**	**8.93**	**5**	Pn	**Pn**	**16 59 56.6**	**+0.7**
MLY	**Manley**	**8.95**	**359**	Pn	**Pn**	**16 59 57.1**	**+0.8**
I21K	**Tanana**	**9.14**	**355**	Pn	**Pn**	**16 59 59.7**	**+0.9**
K29M	**Barlow Dome**	**10.00**	**34**	Pn	**Pn**	**17 00 11.9**	**+1.1**
H17K	**Granite Mounta**	**10.04**	**336**	Pn	**Pn**	**17 00 11.7**	**+0.5**
P33M	**Teslin, Yukon**	**10.05**	**59**	Pn	**Pn**	**17 00 11.5**	**+0.1**
G23K	**Bananza Creek**	**10.63**	**0**	Pn	**Pn**	**17 00 19.7**	**+0.4**
YKA	**Yellowknife Ar**	**19.06**	**56**	P	**P**	**17 02 10.5**	**+1.3**
	comp=N,0.1nm,0.3s,baz=266,slow=9.9,SNR=3.8						
	comp=N,0.2nm,0.7s						
MKAR	**Makanchi Array**	**68.43**	**324**	P	**P**	**17 08 47.9**	**-0.9**
	comp=N,0.1nm,0.5s,baz=26,slow=7.2,SNR=2.2						
	comp=N,0.1nm,0.5s						

ROM 29 17:05:05.8±0.1,42°.870N±0°.004×13°.168E±0°.004, h11km,ML0.6/10,1C-1D,Error ellipse: s-maj=0.5km s-min=0.3km az=23.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.05**	**21**	P	Pg	17 05 08.4	+0.2
MC2				S	Sg	17 05 10.0	+0.1
NRCA	**Norcia**	**0.05**	**227**	P	Pg	17 05 08.3	+0.2
NRCA				S	Sg	17 05 09.8	+0.1
NRCA				AML	AML		
	comp=E,499μm,0.2s						
NRCA				AML	AML		
	comp=N,517μm,0.2s						
NRCA				AML	AML		
	comp=N,517μm,0.2s						
NRCA				AML	AML		
	comp=N,449μm,0.1s						
NRCA				AML	AML		
	comp=E,422μm,0.1s						
NRCA				AML	AML		
	comp=E,475μm,0.1s						
MMO1	**Montemonaco**	**0.12**	**76**	P	Pg	17 05 09.2	+0.4
MMO1				S	Sg	17 05 11.5	+0.5
MTRA	**Matera**	**0.20**	**124**	P	Pg	17 05 10.7	+0.6
MTRA				S	Sg	17 05 14.0	+0.9
MTRA				AML	AML		
	comp=N,18μm,0.4s						
MTRA				AML	AML		
	comp=E,26μm,0.3s						
CSP1	**Cessapalombo**	**0.22**	**7**	⇓P	Pg	17 05 10.7	+0.1
CESI	**CESI - Serrava**	**0.24**	**305**	P	Pg	17 05 11.2	+0.5
CESI				S	Sg	17 05 15.4	+1.4
CESI				AML	AML		
	comp=E,31μm,0.2s						
CESI				AML	AML		
	comp=N,41μm,0.2s						
CESI				AML	AML		
	comp=N,41μm,0.2s						
CESI				AML	AML		
	comp=E,24μm,0.1s						
T1221	**Campello sul C**	**0.24**	**268**	⇑P	Pg	17 05 11.2	+0.5
T1221				S	Sg	17 05 15.1	+1.0
T1221				AML	AML		
	comp=E,9μm,0.1s						
T1221				AML	AML		
	comp=N,74μm,2.1s						
TERO	**Teramo**	**0.41**	**127**	P	Pg	17 05 14.3	+0.5
TERO				S	Sb	17 05 20.3	-0.9
TERO				AML	AML		
	comp=N,13μm,1.6s						
TERO				AML	AML		
	comp=E,14μm,2.6s						

IPEC ***29*** *17:06:41.4±0.2,51°.50N×16°.15E, h1km, ML2.7/5, Error ellipse: s-maj=1.7km s-min=1.0km az=29.0*

IDC ***29*** *17:06:42.0±0.7,51°.47N×15°.92E, h0km, mbtmp3.3/8, ML3.0/8, Error ellipse: s-maj=11.5km s-min=6.3km az=105.0*

DNK ***29*** *17:06:42.0±0.9,51°.45N×15°.84E, h24km±80km, MD3.0*

PRU ***29*** *17:06:43.6,51°.43N×16°.07E, h0km*

VIE ***29*** *17:06:45.1±0.7,51°.26N×15°.86E, h0km, mb2.6/10, ml2.7/11, Error ellipse: s-maj=6.1km s-min=4.7km az=26.0 75 km NE of Liberec Suspected Mining induced.*

ISC 29 17:06:40.1±0.7,51°.53N±0°.03×16°.05E±0°.02,h0km,n64, σ1§07/115,1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**167**	*i* Pg	**Pg**	**17 06 54.5**	**+0.8**
KSP				*e*Sg	**Sg**	**17 07 03.4**	**+0.6**
KSP	**Ksiaz**	**0.71**	**167**	⇓P	**Pg**	**17 06 54.5**	**+0.8**
CHVC	**Chvalec**	**0.95**	**180**	*e*PG	**Pb**	**17 06 59.1**	**-0.3**
CHVC				*e*SG	**Sg**	**17 07 10.8**	**+0.4**
	comp=Z,61nm,0.4s						
OSTC	**Ostas**	**0.98**	**174**	*e*PG	**Pb**	**17 06 59.8**	**-0.2**
OSTC				*e*SG	**Sg**	**17 07 12.3**	**+0.7**
	comp=Z,85nm,0.4s						
UPC	**Upice**	**1.03**	**181**	*e*PG	**Pb**	**17 07 00.5**	**-0.2**
UPC				*e*SG	**Sg**	**17 07 13.7**	**+0.7**
	comp=Z,156nm,0.6s						
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*PG	**Pg**	**17 07 03.2**	**+0.2**
DPC				*e*SG	**Sg**	**17 07 18.0**	**-0.5**
	comp=Z,71nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**223**	*e*PG	**Pb**	**17 07 07.2**	**+0.6**
PVCC				*e*SG	**Sn**	**17 07 26.0**	**+0.7**
	comp=Z,216nm,0.3s						

BRG	**Berggiesshubel**	**1.48**	**244**	Pn	**Pn**	**17 07 08.4 +0.4**
BRG				Pg	**Pg**	**17 07 09.8 +1.4**
BRG				Sg	**Sn**	**17 07 29.8 +1.8**
BRG				Amp		17 07 31.5
	comp=Z,84nm,0.3s					
KRLC	**Kraliky**	**1.53**	**162**	*e*PG	**Pg**	**17 07 09.6 +0.2**
KRLC				*e*SG	**Sb**	**17 07 29.7 +0.4**
	comp=Z,67nm,0.3s					
RICC	**Richard**	**1.58**	**232**	*e*PG	**Pg**	**17 07 11.1 +0.8**
RICC				*e*SG	**Sg**	**17 07 32.5 +1.7**
	comp=Z,103nm,0.3s					
PRA	**Prague**	**1.79**	**216**	*e*PG	**Pn**	**17 07 12.8 +0.6**
PRA				*e*SG	**Sg**	**17 07 37.5 +0.1**
	comp=Z,81nm,0.9s					
GOPC	**GO Pecny, Ondr**	**1.81**	**207**	*e*PG	**Pb**	**17 07 14.0 -0.1**
GOPC				*e*SG	**Sg**	**17 07 38.5 +0.4**
	comp=Z,27nm,0.3s					
PRU	**Pruhonice**	**1.82**	**212**	*e*PN	**Pn**	**17 07 13.0 +0.4**
PRU				*e*PG	**Pb**	**17 07 14.8 +0.6**
PRU				*e*SG	**Sb**	**17 07 37.7 +0.2**
	comp=Z,39nm,0.6s					
HSKC	**Hora Svate Kat**	**1.89**	**242**	*e*PG	**Pg**	**17 07 16.2 -0.1**
HSKC				*e*SG	**Sg**	**17 07 41.4 +0.6**
	comp=Z,66nm,0.3s					
CLL	**Collm**	**1.92**	**264**	*e*Pn	**Pn**	**17 07 14.0 0.0**
CLL				*e*Pg	**Pg**	**17 07 17.0 +0.1**
CLL				*i* x	x	17 07 18.6
CLL				*i* x	x	17 07 21.7
CLL				*e*x	x	17 07 35.0
CLL				*e*Sg	**Sg**	**17 07 42.0 +0.3**
	comp=Z,29nm,0.5s					
MORC	**Moravsky Berou**	**2.00**	**151**	*e*Pn	**Pn**	**17 07 15.3 +0.2**
	baz=333					
MORC				*e*Sg	**Sb**	**17 07 42.0 -0.7**
	comp=Z,48nm,0.5s,baz=333					
MORC	**Moravsky Berou**	**2.00**	**151**	*e*SG	**Sb**	**17 07 42.1 -0.7**
MORC	**Moravsky Berou**	**2.00**	**151**	*e*PN	**Pn**	**17 07 15.4 +0.3**
OKC	**Ostrava-Krasne**	**2.16**	**141**	*e*PG	**Pg**	**17 07 21.4 0.0**
OKC				*e*SG	**Sb**	**17 07 47.5 +0.2**
	comp=Z,41nm,0.8s					
VRAC	**Vranov**	**2.25**	**171**	*e*Pn	**Pn**	**17 07 19.2 +0.6**
	baz=353					
VRAC				*e*Sg	**Sn**	**17 07 50.5 +0.5**
	comp=Z,39nm,0.5s,baz=353					
VRAC	**Vranov**	**2.25**	**171**	*e*PN	**Pn**	**17 07 19.3 +0.6**
VRAC				*e*SG	**Sb**	**17 07 50.6 +0.5**
VRAC	**Vranov**	**2.25**	**171**	Pn	**Pn**	**17 07 19.8 +1.1**
	comp=Z,3.8nm,0.3s,baz=336,slow=16,SNR=19					
VRAC				Pg	**Pg**	**17 07 22.9 -0.3**
	comp=Z,2.6nm,0.3s,baz=340,slow=18,SNR=7.4					
VRAC				Lg	Lg	17 07 50.7
	comp=Z,6.9nm,0.3s,baz=77,slow=22,SNR=11					
	comp=Z,7.6nm,0.3s					
ZVC	**Zvikov**	**2.41**	**210**	*e*PN	**Pn**	**17 07 21.2 +0.5**
ZVC				*e*PG	**Pg**	**17 07 26.4 +0.2**
ZVC				*e*SG	**Sg**	**17 07 57.7 +0.3**
	comp=Z,27nm,0.4s					
KRUC	**Moravsky**	**2.48**	**175**	*e*Pn	**Pn**	**17 07 22.4 +0.6**
	baz=356					
KRUC	**Moravsky**	**2.48**	**175**	*e*Pg	**Pb**	**17 07 26.2 +0.6**
	baz=356					
KRUC				*e*Sg	**Sb**	**17 07 58.0 +1.3**
	comp=Z,39nm,0.8s,baz=356					
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN	**Pn**	**17 07 24.9 +1.2**
NKC				*e*PG	**Pg**	**17 07 31.8 +1.4**
NKC				*e*SG	**Sg**	**17 08 04.7 +0.3**
	comp=Z,47nm,0.3s					
OJC	**Ojcow**	**2.71**	**117**	*e*Pg	**Pg**	**17 07 32.0 0.0**
OJC				*e*SG	**Sg**	**17 08 08.0 +0.7**
JAVC	**Velka Javorina**	**2.87**	**158**	*e*Pn	**Pn**	**17 07 27.5 +0.3**
	baz=340					
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PN	**Pn**	**17 07 27.7 +0.5**
KHC				*e*PG	**Pb**	**17 07 33.7 +1.4**
KHC				*e*SN	**Sn**	**17 08 03.0 +0.4**
KHC				*e*SG	**Sg**	**17 08 12.7 +0.2**
	comp=Z,19nm,0.4s					
CKRC	**Cesky Krumlov**	**2.94**	**203**	*e*PN	**Pn**	**17 07 29.5 +1.5**
CKRC				*e*PG	**Pg**	**17 07 35.1 -1.2**
CKRC				*e*SG	**Sg**	**17 08 13.4 -1.0**
	comp=Z,19nm,0.3s					
GERES	**GERESS Array B**	**3.08**	**210**	Pn	**Pn**	**17 07 30.9 +0.8**
	comp=Z,1.9nm,0.3s,baz=26,slow=13,SNR=20					
GERES				Pg	**Pb**	**17 07 37.1 +1.3**
	comp=Z,5.4nm,0.3s,baz=29,slow=18,SNR=30					
GERES				Sn	**Sn**	**17 08 06.2 -1.5**
	comp=Z,2.5nm,0.3s,baz=40,slow=19,SNR=5.2					
GERES				Lg	Lg	17 08 15.5
	comp=Z,6.2nm,0.3s,baz=32,slow=31,SNR=7.5					
	comp=Z,3.3nm,0.4s					
LANS	**Liptovska Anna**	**3.24**	**136**	*e*SG	**Sg**	**17 08 23.3 -0.8**
LANS	**Liptovska Anna**	**3.24**	**136**	*e*PN	**Pn**	**17 07 33.2 +1.0**
LANS	**Liptovska Anna**	**3.24**	**136**	*e*PG	**Pg**	**17 07 42.4 +0.3**
MODS	**Modra-Piesok**	**3.26**	**165**	*e*PN	**Pn**	**17 07 35.0 +2.5**
MODS				*e*PG	**Pg**	**17 07 42.3 -0.2**
MODS				*e*SG	**Sg**	**17 08 24.5 -0.3**
ZST	**Bratislava**	**3.41**	**168**	*e*PG	**Pg**	**17 07 44.8 -0.6**
ZST				*e*SG	**Sg**	**17 08 27.5 -2.0**
VYHS	**Vyhne**	**3.53**	**148**	*e*PN	**Pn**	**17 07 36.2 0.0**
VYHS				*e*PG	**Pg**	**17 07 48.7 +0.9**
CONA	**Conrad Observa**	**3.61**	**182**	*i* Pn	**Pn**

baz=153,slow=12,SNR=4.5
comp=Z,0.7nm,0.8s

FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**17 09 22.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=12						
	comp=Z,0.8nm,0.3s						
EKA	**Eskdalemuir Ar**	**12.06**	**296**	Pn	**Pn**	**17 09 31.6**	**-1.4**
	baz=106,slow=14						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**17 10 55.3**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=189,slow=14,SNR=12						
	comp=Z,0.4nm,0.3s						

IDC ***29*** *17:13:09.2±0.7,3°.28N×128°.84E,h0km,mb3.9/11, mbtmp3.9/12,ML4.1/1,MS3.0/2,Error ellipse: s-maj=31.2km s-min=15.5km az=77.0*
NEIC ***29*** *17:13:12±1.9,3°.14N±0°.07×128°.95E±0°.08,h10km±1km, mb4.5/19,Error ellipse: s-maj=15.1km s-min=10.0km az=126.0*
DJA ***29*** *17:13:13.6±1.3,3°.N±5°×12°.9E±°,h13km±12km,M4.7/13, mb4.9/11,mB5.1/3,MLv4.5/13,Mw(mB)4.5/3*

ISC 29 17:13:10.9±0.6,3°.17N±0°.06×128°.93E±0°.09,h10km,n53, σ1§33/54,mb4.3/21,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.84**	**213**	Pn	**Pn**	**17 13 56.7**	**+0.3**
TNTI	**Ternate**	**2.84**	**213**	P	**Pn**	**17 13 56.8**	**+0.4**
TNTI				S	**Sn**	**17 14 30.6**	**-0.1**
SGSI	**Sangihe**	**3.43**	**279**	P	**Pn**	**17 14 04.8**	**+0.3**
LBMI	**Labuha**	**4.04**	**201**	P	**Pn**	**17 14 15.6**	**+2.8**
SWI	**Sorong**	**4.63**	**150**	P	**Pn**	**17 14 21.5**	**+0.5**
SIJI	**Sorong**	**4.64**	**150**	P	**Pn**	**17 14 24.0**	**+2.9**
DAV	**Davao City (W)**	**5.11**	**319**	P	**Pn**	**17 14 30.1**	**+2.5**
KMSI	**Cibinong**	**5.57**	**243**	P	**Pn**	**17 14 36.2**	**+2.3**
	257nm,0.9s,3µm1.0nm						
SANI	**Sanana**	**5.96**	**210**	P	**Pn**	**17 14 40.5**	**+1.3**
	23nm,1.0s,0.1nm						
FAKI	**Fak Fak**	**6.90**	**151**	Pn	**Pn**	**17 14 51.0**	**-1.2**
LUWI	**Luwuk**	**7.44**	**236**	Pn	**Pn**	**17 15 00.9**	**+1.3**
LUWI	**Luwuk**	**7.44**	**236**	P	**Pn**	**17 14 58.4**	**-1.2**
	60nm,0.6s,0.2nm						
MRSI	**Marisa**	**7.48**	**249**	P	**Pn**	**17 15 01.5**	**+1.4**
	120nm,0.6s,1µm0.4nm						
BNDI	**Bandanaira**	**7.70**	**173**	P	**Pn**	**17 15 03.2**	**0.0**
	376nm,2.3s,2.0nm						
TOLI2	**Tolitoli**	**8.39**	**256**		**Pn**	**17 15 12.9**	**+0.3**
MPSI	**Mapaga**	**9.45**	**253**	P	**Pn**	**17 15 29.0**	**+1.8**
	20nm,0.8s						
BBSI	**Bau Bau**	**10.69**	**216**	P	**Pn**	**17 15 44.5**	**+0.3**
	27nm,0.9s						
TTSI	**Tana Toraja**	**11.00**	**236**	P	**Pn**	**17 15 48.8**	**+0.4**
	23nm,0.6s						
SAUI	**Saumlaki**	**11.33**	**168**	P	**Pn**	**17 15 53.1**	**+0.2**
KAPI	**Kappang**	**12.25**	**228**	Pn	**Pn**	**17 16 05.2**	**-0.3**
	1.2nm,0.3s,baz=56,slow=23,SNR=1.6						
	3.4nm,0.4s						
GUMO	**Guam**	**18.85**	**56**	LR	LR	17 23 13.9	
	comp=Z,49nm,20.6s,baz=200,slow=32						
FITZ	**Fitzroy Crossi**	**21.38**	**189**	P	**P**	**17 17 56.3**	**-2.4**
TPUB	**Ta-pu**	**21.57**	**339**	P	**P**	**17 17 59.1**	**-1.7**
YHNB	**Yeheng**	**22.58**	**342**	P	**P**	**17 18 13.0**	**+1.2**
WB0	**Warramunga Arr**	**23.41**	**167**	P	**P**	**17 18 22.2**	**+1.9**
WB0				IAmb	IAmb	17 18 49.7	
	comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**23.57**	**167**	P	**P**	**17 18 22.9**	**+1.1**
WRAB				IAmb	IAmb	17 19 01.2	
	comp=Z,32nm,1.4s						
WRA	**Warramunga Arr**	**23.57**	**167**	P	**P**	**17 18 22.6**	**+0.8**
WRA	**Warramunga Arr**	**23.57**	**167**	P	**P**	**17 18 24.0**	**+2.1**
	comp=Z,1.8nm,0.5s,baz=348,slow=11,SNR=20						
	comp=Z,1.8nm,0.5s						
WB2	**Warramunga Arr**	**23.58**	**167**	P	**P**	**17 18 23.2**	**+1.3**
WB2				IAmb	IAmb	17 18 25.6	
	comp=Z,26nm,1.5s						
WR0	**Warramunga Arr**	**23.64**	**167**	P	**P**	**17 18 24.0**	**+1.5**
UBPT	**Khong Chiam**	**26.05**	**299**	P	**P**	**17 18 44.5**	**-0.2**
UBPT				IAmb	IAmb	17 19 23.5	
	comp=Z,17nm,1.3s						
PSA00	**Pilbara Seismi**	**26.14**	**199**	P	**P**	**17 18 44.7**	**-0.7**
PSA00	**Pilbara Seismi**	**26.14**	**199**	P	**P**	**17 18 43.9**	**-1.6**
PSA00				IAmb	IAmb	17 19 25.8	
	comp=Z,8.3nm,1.2s						
AS31	**Alice Springs**	**27.11**	**170**	P	**P**	**17 18 54.1**	**-0.1**
ASAR	**Alice Springs**	**27.11**	**170**	P	**P**	**17 18 55.4**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=360,slow=8.1,SNR=9.8						
ASAR				PcP	**PcP**	**17 22 13.6**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=1.2,slow=2.3,SNR=2.3						
	comp=Z,0.3nm,0.5s						
JNU	**Nakatsue**	**29.86**	**3**	LR	LR	17 31 32.9	
	comp=Z,22nm,19.9s,baz=172,slow=37						
CMAR	**Chiang Mai Arr**	**33.05**	**300**	P	**P**	**17 19 46.9**	**0.0**
	comp=Z,0.6nm,0.8s,baz=119,slow=9.4,SNR=4.9						
CMAR				ScP	**ScP**	**17 26 13.3**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=116,slow=2.1,SNR=4.4						
	comp=Z,0.6nm,0.8s						
MJAR	**Matsushiro Arr**	**34.30**	**13**	P	**P**	**17 19 55.9**	**-1.6**
	comp=Z,2.2nm,0.8s,baz=181,slow=8.5,SNR=3.4						
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**36.87**	**162**	P	**P**	**17 20 19.6**	**-0.1**
STKA	**Stephens Creek**	**36.87**	**162**	P	**P**	**17 20 20.4**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=182,slow=18,SNR=1.6						
	comp=Z,1.8nm,0.8s						
SHL	**Shillong**	**41.98**	**306**	P	**P**	**17 21 02.9**	**+0.2**
SHL				IAmb	IAmb	17 21 16.1	
	comp=Z,7.6nm,0.8s						
PETK	**Petropavlovsk-**	**55.15**	**21**	P	**P**	**17 22 44.4**	**+1.0**
PETK	**Petropavlovsk-**	**55.15**	**21**	P	**P**	**17 22 43.5**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=199,slow=5.2,SNR=5.7						
	comp=Z,4.7nm,0.8s						
MKAR	**Makanchi Array**	**59.27**	**324**	P	**P**	**17 23 12.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=115,slow=8.2,SNR=13						
	comp=Z,0.8nm,0.6s						
KURK	**Kurchatov**	**63.40**	**327**	P	**P**	**17 23 39.9**	**-0.7**
KURK				IAmb	IAmb	17 23 52.9	
	comp=Z,2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**63.40**	**327**	P	**P**	**17 23 39.0**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=126,slow=6.3,SNR=16						
	comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**68.99**	**326**	P	**P**	**17 24 15.5**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=134,slow=6.2,SNR=2.9						
	comp=Z,0.5nm,0.5s						
J18K	**Innoko River**	**80.22**	**26**	P	**P**	**17 25 22.4**	**+1.0**
J18K				IAmb	IAmb	17 25 55.7	
	comp=Z,8.1nm,1.4s						
G19K	**Purcell Mounta**	**80.67**	**23**	P	**P**	**17 25 25.5**	**+1.7**
G19K				IAmb	IAmb	17 25 59.2	
	comp=Z,3.0nm,1.2s						
H19K	**Roundabout Mou**	**80.78**	**24**	P	**P**	**17 25 25.9**	**+1.5**
H19K				IAmb	IAmb	17 25 39.0	
	comp=Z,4.3nm,1.2s						
ILAR	**Eielson Array**	**84.67**	**25**	P	**P**	**17 25 44.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=241,slow=5.4,SNR=6.0						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**93.08**	**180**	P	**P**	**17 26 24.0**	**-0.8**
QSPA				IAmb	IAmb	17 26 40.5	
	comp=Z,4.4nm,1.4s						
QSPA	**South Pole Qui**	**93.08**	**180**	P	**P**	**17 26 24.8**	**0.0**
	comp=Z,0.5nm,0.8s,baz=290,slow=3.2,SNR=1.3						
	comp=Z,0.5nm,0.8s						

NEIC ***29*** *17:41:51.9±2.7,17°.43N±0°.04×101°.59W±0°.03,h10km±2km, mb4.1/12,Md4.6/72(MEX),Error ellipse: s-maj=6.7km s-min=3.9km az=195.0*
MEX ***29*** *17:41:56.4±1.0,17°.41N×101°.63W,h16km±474km,MD4.6*

ISC 29 17:41:51.5±1.4,17°.41N±0°.04×101°.61W±0°.03, h13km±10km,n74,σ1§95/116,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET2	**Petatlan**	**0.35**	**69**	*i* P	**Pn**	**17 42 02.3**	**+0.1**
PET2				*i* S	**Sb**	**17 42 08.1**	**+3.0**
UON	**La Union**	**0.59**	**341**	*i* P	**Pn**	**17 42 05.6**	**+0.1**
UON				*i* S	**Sb**	**17 42 13.6**	**+1.6**
ATYC	**Atoyac**	**1.14**	**100**	*i* P	**Pn**	**17 42 15.0**	**+2.0**
ATYC				*i* S	**Sg**	**17 42 28.5**	**+0.2**
CAIG	**El Cayaco**	**1.33**	**105**		**Pg**	**17 42 17.0**	**0.0**
CAIG					**Sb**	**17 42 32.8**	**-0.4**
CAIG	**El Cayaco**	**1.33**	**105**	*e*P	**Pg**	**17 42 17.0**	**0.0**
CAIG				*i* S	**Sb**	**17 42 32.8**	**-0.4**
ARIG	**Puente Sto Nin**	**1.48**	**54**		**Pb**	**17 42 19.1**	**+0.2**
ARIG					**Sn**	**17 42 37.2**	**+0.1**
ARIG	**Puente Sto Nin**	**1.48**	**54**	*e*P	**Pb**	**17 42 19.1**	**+0.2**
ARIG				*e*S	**Sn**	**17 42 37.2**	**+0.1**
ACP2	**Acapulco**	**1.73**	**108**		**Pg**	**17 42 24.8**	**+0.1**
ACP2					**Sn**	**17 42 43.0**	**-0.1**
ACP2	**Acapulco**	**1.73**	**108**	*i* P	**Pg**	**17 42 24.8**	**+0.1**
ACP2				*i* S	**Sn**	**17 42 43.0**	**-0.1**
MMIG	**Aquila**	**1.87**	**298**		**Pn**	**17 42 24.3**	**+1.2**
MMIG	**Aquila**	**1.87**	**298**	*i* P	**Pn**	**17 42 24.3**	**+1.2**
DAIG	**Los Arroyos**	**1.91**	**101**		**Pb**	**17 42 25.5**	**-0.6**
DAIG					**Sn**	**17 42 46.9**	**-0.7**
DAIG	**Los Arroyos**	**1.91**	**101**	*e*P	**Pb**	**17 42 25.5**	**-0.6**
DAIG				*i* S	**Sn**	**17 42 46.9**	**-0.7**
MEIG	**Mezcala**	**1.96**	**74**		**Pb**	**17 42 26.8**	**-0.3**
MEIG					**Sb**	**17 42 51.6**	**0.0**
MEIG	**Mezcala**	**1.96**	**74**	*e*P	**Pb**	**17 42 26.8**	**-0.3**
MEIG				*e*S	**Sb**	**17 42 51.6**	**0.0**
TEJU	**Tejupilco**	**2.03**	**43**	*e*P	**Pb**	**17 42 27.5**	**-0.8**
TEJU				*i* S	**Sb**	**17 42 52.3**	**-1.2**
PLIG	**Platanillo**	**2.23**	**64**		**Pn**	**17 42 30.1**	**+1.9**
PLIG					**Sb**	**17 42 58.7**	**-0.5**
PLIG	**Platanillo**	**2.23**	**64**	*e*P	**Pn**	**17 42 30.1**	**+1.9**
PLIG				*e*S	**Sb**	**17 42 58.7**	**-0.5**
MOIG	**Morelia**	**2.29**	**10**		**Pn**	**17 42 29.4**	**+0.2**
CRIG	**Cruz Grande**	**2.46**	**105**		**Pn**	**17 42 33.4**	**+2.1**
CRIG	**Cruz Grande**	**2.46**	**105**	*i* P	**Pn**	**17 42 33.4**	**+2.1**
CRIG				*e*S	**Sn**	**17 42 59.3**	**-1.9**
COIG	**Colima**	**2.65**	**312**	*e*P	**Pn**	**17 42 36.4**	**+2.5**
COIG				*e*S	**Sn**	**17 43 05.3**	**-0.7**
CDAR	**Ciudad de Arme**	**2.75**	**304**	*i* P	**Pn**	**17 42 36.8**	**+1.6**
CDAR				*i* S	**Sn**	**17 43 05.7**	**-2.5**
EZ5V		**2.80**	**318**		**Pn**	**17 42 39.1**	**+3.0**
EZ5V		**2.80**	**318**	*e*P	**Pn**	**17 42 39.1**	**+3.0**
EZ5V				*i* S	**Sn**	**17 43 11.6**	**+1.7**
MNGA	**Volcan de Coli**	**2.80**	**317**	*i* P	**Pn**	**17 42 39.2**	**+3.1**
MNGA				*i* S	**Sn**	**17 43 12.3**	**+1.3**
JUBC	**Volcan de Coli**	**2.81**	**319**	*e*P	**Pn**	**17 42 39.9**	**-1.7**
JUBC				*i* S	**Sn**	**17 43 13.2**	**+3.1**
YAIG	**Yautepec**	**2.82**	**59**		**Pn**	**17 42 37.9**	**+1.6**
YAIG					**Sb**	**17 43 15.4**	**-0.8**
YAIG	**Yautepec**	**2.82**	**59**	*e*P	**Pn**	**17 42 37.7**	**+1.4**
YAIG				*e*P	**Pn**	**17 42 37.9**	**+1.6**
YAIG				*e*S	**Sb**	**17 43 15.4**	**-0.8**
MGIG	**Malinaltepec**	**2.85**	**93**		**Pn**	**17 42 39.7**	**+3.0**
MGIG					**Sn**	**17 43 12.3**	**+1.3**
MGIG	**Malinaltepec**	**2.85**	**93**	*e*P	**Pn**	**17 42 39.7**	**+3.0**
MGIG				*i* S	**Sn**	**17 43 12.3**	**+1.3**
SOMAC	**Volcano de Col**	**2.85**	**318**	*e*P	**Pn**	**17 42 39.8**	**+2.9**
SOMAC				*i* S	**Sn**	**17 43 14.0**	**+2.7**
TLIG	**Tlapa**	**2.91**	**86**		**Pn**	**17 42 39.6**	**+2.1**
TLIG	**Tlapa**	**2.91**	**86**	*e*P	**Pn**	**17 42 40.4**	**+2.9**
TLIG				*e*S	**Sn**	**17 43 13.8**	**+1.4**
HMTT	**Tlapaneco**	**2.93**	**82**		**Pb**	**17 42 42.3**	**-1.3**
HMTT					**Sn**	**17 43 15.9**	**+2.9**
HMTT	**Tlapaneco**	**2.93**	**82**	*i* P	**Pb**	**17 42 42.3**	**-1.3**
HMTT				*i* S	**Sn**	**17 43 15.9**	**+2.9**
UNM	**Universidad Na**	**3.00**	**50**	Pn	**Pn**	**17 42 39.1**	**+0.3**
UNM	**Universidad Na**	**3.00**	**50**	*e*P	**Pb**	**17 42 46.1**	**+1.3**
UNM				*e*S	**Sn**	**17 43 17.2**	**+2.4**
PPIG	**Popocatepetl**	**3.28**	**59**		**Pn**	**17 42 44.9**	**+1.9**
PPIG					**Sn**	**17 43 20.6**	**-1.5**
PPM	**Popocatepetl**	**3.28**	**59**	*e*P	**Pn**	**17 42 44.9**	**+1.9**
PPM				*e*S	**Sn**	**17 43 20.6**	**-1.5**
FTIG	**Fresnillo de T**	**3.35**	**81**		**Pn**	**17 42 46.4**	**+2.8**
FTIG	**Fresnillo de T**	**3.35**	**81**	*e*P	**Pn**	**17 42 46.4**	**+2.8**
JRQG	**Juriquilla Cam**	**3.46**	**18**	Pn	**Pn**	**17 42 44.9**	**-0.3**
PNIG	**Pinotepa**	**3.48**	**106**		**Pn**	**17 42 48.0**	**+2.6**
PNIG					**Sn**	**17 43 23.4**	**-3.0**
PNIG	**Pinotepa**	**3.48**	**106**	*e*P	**Pn**	**17 42 48.0**	**+2.6**
PNIG				*e*S	**Sn**	**17 43 23.4**	**-3.0**
HLIG	**Huajuapan de L**	**3.65**	**83**		**Pn**	**17 42 50.7**	**+2.8**
HLIG					**Sb**	**17 43 38.6**	**-1.7**
HLIG	**Huajuapan de L**	**3.65**	**83**	*i* P	**Pn**	**17 42 50.7**	**+2.8**
HLIG				*e*S	**Sb**	**17 43 38.6**	**-1.7**
TXIG	**Tlaxiaco**	**3.67**	**92**		**Pn**	**17 42 51.5**	**+3.3**
TXIG	**Tlaxiaco**	**3.67**	**92**	*e*P	**Pn**	**17 42 51.5**	**+3.3**
TPIG	**Tehuac#an**	**4.17**	**75**		**Pb**	**17 43 03.5**	**-1.3**
TPIG	**Tehuac#an**	**4.17**	**75**	*e*P	**Pb**	**17 43 03.5**	**-1.3**
TOIG	**Toxpalan**	**4.38**	**80**		**Pn**	**17 43 00.3**	**+2.5**
TOIG					**Sn**	**17 43 52.5**	**+3.7**
TOIG	**Toxpalan**	**4.38**	**80**	*e*P	**Pn**	**17 43 00.3**	**+2.5**
TOIG				*e*S	**Sn**	**17 43 52.5**	**+3.7**
PEIG	**Puerto Escondi**	**4.50**	**107**		**Pn**	**17 43 02.8**	**+3.5**
PEIG	**Puerto Escondi**	**4.50**	**107**	*i* P	**Pn**	**17 43 02.8**	**+3.5**
OXIG	**Oaxaca**	**4.67**	**93**		**Pn**	**17 43 05.9**	**+4.0**
OXIG					**Sn**	**17 43 54.1**	**-2.0**
VHO	**Vista Hermosa**	**4.67**	**93**	*i* P	**Pn**	**17 43 05.9**	**+4.1**
VHO				*e*S	**Sn**	**17 43 54.1**	**-2.0**
ZAIG	**Zacatecas**	**5.41**	**351**	Pn	**Pn**	**17 43 12.0**	**-0.1**
TXAR	**Lajitas Array**	**12.02**	**351**	Pn	**Pn**	**17 44 43.6**	**+1.0**
TX31	**Lajitas Ar. Si**	**12.02**	**351**	Pn	**Pn**	**17 44 41.8**	**-0.8**
PECS	**Pecos**	**14.05**	**352**	Pn	**Pn**	**17 45 09.0**	**-1.4**
POST	**Post**	**15.59**	**0**		**Pn**	**17 45 31.0**	**-0.1**
POST				IAmb	IAmb	17 45 37.6	
	comp=Z,16nm,1.2s						
PLPT	**Palo Pinto**	**15.63**	**10**	Pn	**Pn**	**17 45 30.9**	**-0.5**
PLPT				IAmb	IAmb	17 45 37.4	
	comp=Z,11nm,0.8s						
VTX	**Valle De La Tr**	**18.96**	**320**	P	**P**	**17 46 11.7**	**-0.8**
VTX				IAmb	IAmb	17 46 26.0	
	comp=Z,9.6nm,1.0s						
OK033	**Mehan**	**19.02**	**12**	P	**P**	**17 46 11.8**	**-1.3**
OK033				IAmb	IAmb	17 46 13.2	
	comp=Z,8.3nm,0.5s						
CROK	**Carrier**	**19.29**	**9**	P	**P**	**17 46 15.0**	**-1.0**
CROK				IAmb	IAmb	17 46 37.3	
	comp=Z,8.8nm,0.8s						
Y45A	**Yeager Farm, C**	**19.64**	**31**	P	**P**	**17 46 20.4**	**+0.5**
KAN01	**Argonia South**	**19.96**	**9**	P	**P**	**17 46 22.4**	**-1.0**
U38A	**Gravette**	**20.01**	**17**	P	**P**	**17 46 22.9**	**-1.0**
U38A				IAmb	IAmb	17 46 37.2	
	comp=Z,6.1nm,1.0s						
WUAZ	**Wupatki**	**20.02**	**336**	P	**P**	**17 46 24.2**	**0.0**
KAN06	**Argonia West S**	**20.04**	**9**	P	**P**	**17 46 23.4**	**-0.8**
SDCO	**Great Sand Dun**	**20.55**	**351**	P	**P**	**17 46 28.7**	**-1.4**
PD31	**Pinedale Array**	**26.17**	**347**	P	**P**	**17 47 24.0**	**-1.8**
PDAR	**Pinedale Array**	**26.17**	**347**	P	**P**	**17 47 24.9**	**-0.9**

UCR ***29*** *17:42:14.7±0.5,8°.67N×83°.31W,h23km±2km,MW4.0*
CATAC ***29*** *17:42:20.9±0.3,8°.73N×83°.30W,h6km±3km,ML3.6*
UPA ***29*** *17:42:20.2±1.8,8°.74N×83°.29W,h11km±4km,MW3.9*

ISC 29 17:42:17.4±1.0,8°.72N±0°.03×83°.30W±0°.03,h10km±6km, n43,σ2§00/64,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDAD	**Golfito**	**0.15**	**115**	*e*P	**Pg**	**17 42 18.9**	**-1.9**
JIME	**Puerto Jimenez**	**0.18**	**187**	*e*P	**Pg**	**17 42 19.4**	**-1.9**
EDPN	**Palmar Norte**	**0.29**	**328**	*e*P	**Pg**	**17 42 21.5**	**-1.8**
EDPN				*e*S	**Sg**	**17 42 27.0**	**-0.2**
PIRO	**Carate, Puerto**	**0.31**	**186**	*e*P	**Pg**	**17 42 21.1**	**-2.7**
PIRO	**Carate, Puerto**	**0.31**	**186**	*i* P	**Pn**	**17 42 26.5**	**-1.5**
PIRO				*i* S	**Sb**	**17 42 34.4**	**+4.2**
PIRO				IAML		17 42 35.4	
	comp=Z,32µm,1.0s						
EDBA	**Buenos Aires**	**0.44**	**3**	*e*P	**Pg**	**17 42 24.5**	**-1.7**
CCOL	**Caracol de Cor**	**0.45**	**133**	*e*P	**Pg**	**17 42 23.8**	**-2.5**
CCOL	**Caracol de Cor**	**0.45**	**133**	*i* P	**Pn**	**17 42 29.2**	**-0.7**
CCOL				*i* S	**Sb**	**17 42 38.5**	**+4.4**
CCOL				IAML		17 42 40.6	
	comp=Z,15µm,1.0s						
CDITO	**Canoas**	**0.45**	**109**	*e*P	**Pn**	**17 42 28.9**	**-1.0**
CDITO				*e*S	**Sb**	**17 42 35.7**	**+1.6**
CDITO	**Canoas**	**0.45**	**109**	*e*P	**Pg**	**17 42 23.6**	**-2.6**
CDITO	**Canoas**	**0.45**	**109**	*i* P	**Pn**	**17 42 28.9**	**-1.0**
CDITO				*i* S	**Sb**	**17 42 36.3**	**+2.2**
CDITO				IAML		17 42 41.8	
	comp=Z,5µm,1.0s						
MLIR3	**Monte Lirio, C**	**0.48**	**81**	*e*P	**Pn**	**17 42 30.5**	**+0.1**
MLIR3				*e*S	**Sn**	**17 42 38.4**	**+5.2**
OCHAL	**Ojochal**	**0.51**	**318**	*i* P	**Pn**	**17 42 30.1**	**-0.6**
OCHAL				*i* S	**Sn**	**17 42 38.1**	**-1.4**
OCHAL				IAML		17 42 38.1	
	comp=Z,39nm,1.0s						
SRBA	**San Rafael, Bu**	**0.52**	**354**	*e*P	**Pg**	**17 42 25.3**	**-2.2**
SRBA	**San Rafael, Bu**	**0.52**	**354**	*i* P	**Pn**	**17 42 30.8**	**-0.1**
SRBA				*i* S	**Sn**	**17 42 38.7**	**-1.1**
SRBA				IAML		17 42 39.3	
	comp=Z,4µm,1.0s						
CTCR	**Cotoan**	**0.56**	**72**	*e*P	**Pn**	**17 42 31.5**	**-0.1**
CTCR	**Cotoan**	**0.56**	**72**	*i* P	**Pn**	**17 42 31.6**	**-0.1**
CTCR				*i* S	**Sn**	**17 42 41.1**	**-0.1**
CTCR				IAML		17 42 42.1	
	comp=Z,16µm,1.0s						
BRU2	**Volcan**	**0.61**	**83**	*e*P	**Pn**	**17 42 32.1**	**-0.1**
BRU2				*e*S	**Sn**	**17 42 42.2**	**0.0**
BRU2	**Volcan**	**0.61**	**83**	*e*P	**Pg**	**17 42 26.8**	**-2.5**
BRU2	**Volcan**	**0.61**	**83**	*i* P	**Pn**	**17 42 32.2**	**-0.1**
BRU2				*i* S	**Sn**	**17 42 42.3**	**+0.1**
BRU2				IAML		17 42 42.9	
	comp=Z,3µm,1.0s						
PTPM	**Petroterminale**	**0.66**	**141**	*e*P	**Pn**	**17 42 33.8**	**+1.0**
PTPM				*e*S	**Sn**	**17 42 44.5**	**+1.4**
BC3P	**Paso Ancho**	**0.69**	**82**	*e*P	**Pn**	**17 42 33.3**	**-0.1**
BC3P				*e*S	**Sn**	**17 42 44.2**	**0.0**
LIMO3	**Limones**	**0.75**	**145**	*e*P	**Pn**	**17 42 35.0**	**+1.0**
LIMO3				*e*S	**Sn**	**17 42 45.8**	**+0.4**
BCO2	**Palmira**	**0.76**	**90**	*e*P	**Pn**	**17 42 34.5**	**+0.1**
BCO2				*e*S	**Sn**	**17 42 46.5**	**+0.5**
PTAR3	**Potrerillos Ar**	**0.80**	**92**	*e*P	**Pn**	**17 42 34.6**	**-0.2**
PTAR3				*e*S	**Sn**	**17 42 46.7**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.85**	**85**	*e*P	**Pn**	**17 42 35.6**	**0.0**
LNBQ3				*e*S	**Sn**	**17 42 48.1**	**-0.1**
DVD	**David**	**0.89**	**108**	*e*P	**Pn**	**17 42 37.4**	**+1.4**
DVD				*e*S	**Sn**	**17 42 49.9**	**+1.1**
PEDE3	**Pedregal, Chir**	**0.93**	**111**	*e*P	**Pn**	**17 42 37.4**	**+0.9**
PEDE3				*e*S	**Sn**	**17 42 51.4**	**+1.4**
BUS1	**Rivas**	**0.94**	**332**	*e*P	**Pg**	**17 42 32.1**	**-3.6**
CDM	**Cerro de Muert**	**0.95**	**331**	*e*P	**Pg**	**17 42 32.2**	**-3.6**
CDM	**Cerro de Muert**	**0.95**	**331**	*i* P	**Pn**	**17 42 40.3**	**+3.1**
CDM				*i* S	**Sn**	**17 42 51.4**	**+0.4**
CDM				IAML		17 42 53.1	
	comp=Z,630nm,1.0s						
CNI2	**El Empalme, Bo**	**1.08**	**49**	*e*P	**Pn**	**17 42 39.5**	**+0.9**
CNI2				*e*S	**Sn**	**17 42 54.8**	**+1.2**
RIMA	**Rio Macho**	**1.18**	**332**	*e*P	Pg	17 42 35.5	-4.7
RIMA	**Rio Macho**	**1.18**	**332**	*i* P	**Pn**	**17 42 41.3**	**+1.1**
RIMA				*i* S	**Sn**	**17 43 00.6**	**+4.2**
RIMA				IAML		17 43 02.1	
	comp=Z,430nm,1.0s						
LCR2	**La Lucha 2**	**1.23**	**326**	*e*P	**Pg**	**17 42 36.9**	**-4.3**
LCR2	**La Lucha 2**	**1.23**	**326**	*i* P	**Pn**	**17 42 42.7**	**+1.8**
LCR2				IAML		17 43 02.9	
	comp=Z,720nm,1.0s						
TBLN	**Tablon, Guarco**	**1.30**	**328**	*i* P	**Pg**	**17 42 44.3**	**+1.9**
TBLN				IAML		17 43 06.0	
	comp=Z,690nm,1.0s						
OCM	**Ochomogo**	**1.34**	**331**	*i* P	**Pg**	**17 42 44.7**	**+1.5**
OCM				IAML		17 43 10.0	
	comp=Z,500nm,1.0s						
LCOCO	**El Coco**	**1.38**	**349**	*e*P	**Pn**	**17 42 39.8**	**-3.0**
JACO	**JACO, Garabito**	**1.64**	**305**	*e*P	**Pn**	**17 42 43.8**	**-2.5**
JACO	**JACO, Garabito**	**1.64**	**305**	*i* P	**Pg**	**17 42 49.8**	**+0.9**
JACO				IAML		17 43 20.2	
	comp=Z,260nm,1.0s						
SOCE	**Pocosol**	**2.10**	**322**	*i* P	**Pg**	**17 42 58.6**	**+0.8**
SOCE				IAML		17 43 31.6	
	comp=Z,560nm,1.0s						
COVE	**Coope Vega, Sa**	**2.27**	**332**	*i* P	**Pb**	**17 42 56.5**	**-2.0**

**IDC 29 17:45:35.7±1.9,2°.63N×128°.16E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=147.3km s-min=21.8km az=

*OMAN **29** 18:15:49.6±0.1,30°.54N×51°.73E,h10km, Error ellipse: s-maj=1.7km s-min=1.0km az=10.0*
*TEH **29** 18:15:55.7,30°.22N×50°.91E,h12km±19km,ML3.2*
ISC 29 18:15:56.3±0.9,30°.12N±0°.05×50°.86E±0°.05,h22km,n43,
σ2§84/48,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.71**	**312**	Pg	**Pb**	**18 16 09.7**	**-0.4**
KLNJ	**Kolanjah**	**1.09**	**35**	Pg	Pn	18 16 14.4	-2.1
AHBU	**AHRAM**	**1.30**	**163**	Pg	**Pb**	**18 16 22.6**	**+2.5**
SHI	**Shiraz**	**1.51**	**108**	Pg	**Pn**	**18 16 25.2**	**+3.0**
DSBU	**Dashti - Bushe**	**1.78**	**169**	Pn	**Pb**	**18 16 29.8**	**+1.5**
IBRJ	**Brojen**	**1.82**	**11**	Pg	**Pn**	**18 16 28.1**	**+1.6**
ZNGN	**Zangian**	**1.99**	**360**	Pn	**Pn**	**18 16 31.0**	**+2.0**
JHBN	**Jahan bin**	**2.11**	**355**	Pn	**Pn**	**18 16 32.5**	**+1.9**
IRAM	**Ramesheh**	**2.13**	**37**	Pn	**Pn**	**18 16 32.7**	**+2.0**
IPIR	**Pirpir**	**2.56**	**1**	Pn	**Pn**	**18 16 38.9**	**+2.2**
KBD	**Kabd**	**2.92**	**252**	P	**Pb**	**18 16 46.0**	**-1.6**
KBD				Sg	**Sb**	**18 17 22.1**	**-0.7**
ISAD	**Sadrabad**	**3.01**	**53**	Pn	**Pn**	**18 16 45.0**	**+2.1**
IZEF	**Zefreh**	**3.04**	**24**	Pn	**Pn**	**18 16 45.6**	**+2.3**
IKLH	**Kolahrood**	**3.25**	**11**	Pn	**Pn**	**18 16 48.5**	**+2.3**
IMEH	**Mehriz**	**3.47**	**68**	Pn	**Pn**	**18 16 51.2**	**+2.1**
QAMS	**Qamsar**	**3.63**	**7**	Pn	**Pn**	**18 16 53.8**	**+2.3**
ICHK	**Chekchek**	**3.70**	**54**	Pn	**Pn**	**18 16 54.5**	**+2.1**
ANAR	**Anarak**	**3.92**	**38**	Pn	**Pn**	**18 16 56.6**	**+1.3**
KRSH	**Karshahi**	**3.99**	**15**	Pn	**Pn**	**18 16 58.4**	**+2.1**
SAKB	**Bahrain**	**4.13**	**184**	P	**Pn**	**18 17 02.2**	**+4.1**
SAKB				S	**Sb**	**18 17 51.5**	**-6.4**
SHMA	**Al-Shehemyia**	**4.25**	**179**	P	**Pn**	**18 17 03.9**	**+4.2**
SHMA				S	**Sn**	**18 17 53.2**	**+4.7**
IKFM	**Kafar-mosalman**	**4.26**	**324**	Pn	**Pn**	**18 17 02.0**	**+2.2**
IBAF	**Bafgh**	**4.30**	**69**	Pn	**Pn**	**18 17 02.6**	**+2.0**
ISFB	**Sefidab**	**4.38**	**15**	Pn	**Pn**	**18 17 03.6**	**+2.1**
HSAM	**Samen**	**4.51**	**335**	Pn	**Pn**	**18 17 05.3**	**+1.8**
IQOM	**Qom**	**4.71**	**2**	Pn	**Pn**	**18 17 07.9**	**+1.6**
HAGD	**Aghdareh**	**4.91**	**343**	Pn	**Pn**	**18 17 11.2**	**+2.2**
SMRA	**Abu-Samra**	**5.35**	**180**	P	**Pn**	**18 17 18.5**	**+3.6**
SMRA				S	**Sn**	**18 18 19.8**	**+4.0**
TRNA	**Turayna** SNR=13	**5.37**	**177**	P	**Pn**	**18 17 18.8**	**+3.7**
TRNA				S	**Sn**	**18 18 20.7**	**+4.4**
IGHG	**Ghaleghazi**	**5.56**	**320**	Pn	**Pn**	**18 17 19.9**	**+2.1**
IDHR	**Dehrash**	**5.93**	**322**	Pn	**Pn**	**18 17 25.0**	**+1.9**
GHWR	**Ruwais**	**6.39**	**163**	P	**Pn**	**18 17 29.6**	**+0.5**
ASHO	**Ashiyiah**	**7.11**	**138**	P	Pn	18 17 30.6	-8.6
ASHO				Sg	**Sn**	**18 18 58.4**	**-0.9**
RAYN	**Ar Rayn**	**8.13**	**217**	P	**Pn**	**18 17 54.6**	**+1.5**
RAYN				Sg	**Sn**	**18 19 24.7**	**+0.4**
BSY	**Bisya**	**9.28**	**141**	P	Pn	18 18 01.2	-7.7
BSY				S	**Sn**	**18 19 48.8**	**-3.8**
WSAR	**Wadi Sarin**	**9.75**	**133**	P	Pn	18 18 03.9	-11
MHTO	**MHTO** SNR=5.6	**11.12**	**143**	P	Pn	18 18 27.0	-7.1
MHTO				S	**Sn**	**18 20 33.7**	**-4.1**
DOK	**Doka**	**11.83**	**165**	P	**Pn**	**18 18 44.3**	**+0.6**
DOK				Sg	**Sn**	**18 20 47.6**	**-7.5**
WHFO	**Wadi Hawf** SNR=11	**12.43**	**167**	P	**Pn**	**18 18 53.1**	**+1.1**
SHAO	**Shalim**	**12.80**	**159**	P	**Pn**	**18 18 55.1**	**-1.9**
DMTO	**DMTO** SNR=11	**12.90**	**162**	P	**Pn**	**18 18 58.0**	**-0.4**
ABTO	**Aybut**	**12.90**	**170**	P	**Pn**	**18 18 59.4**	**+1.0**
RBK	**Rabkut**	**12.92**	**166**	P	**Pn**	**18 18 58.4**	**-0.4**

*NEIC **29** 18:29:23.6±2.1,56°.56N±0°.09×148°.9W±0°.1,h10km±2km, ML3.6/54,ML3.3(AEIC), Error ellipse: s-maj=15.1km s-min=10.1km az=171.0*
*AEIC **29** 18:29:27.4±2.0,56°.53N±0°.10×148°.9W±0°.1,h6km±7km, Error ellipse: s-maj=14.6km s-min=8.4km az=164.0*
ISC 29 18:29:22.7±1.7,56°.56N±0°.09×148°.98W±0°.06,h10km,
n196,σ1§14/193,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.32**	**304**		**Pn**	**18 30 02.1**	**+1.3**
KDAK					**Sn**	**18 30 28.3**	**-1.0**
OHAK	**Old Harbor**	**2.46**	**288**		**Pn**	**18 30 03.5**	**+0.8**
OHAK					**Sn**	**18 30 31.2**	**-1.6**
OHAK	**Old Harbor** baz=103	**2.46**	**288**	P	**Pn**	**18 30 03.5**	**+0.8**
OHAK	baz=103			S	**Sn**	**18 30 31.2**	**-1.6**
SYI	**Shuyak Island**	**2.76**	**320**		**Pn**	**18 30 08.5**	**+1.6**
SYI					**Sn**	**18 30 41.0**	**+0.7**
SYI	**Shuyak Island** comp=E,118nm,0.3s	**2.76**	**320**	IAML		18 30 42.2	
SYI	comp=N,117nm,0.6s			IAML		18 30 42.3	
Q20K	**Shuyak Island** baz=136	**2.76**	**320**	P	**Pn**	**18 30 08.5**	**+1.6**
Q20K	baz=136			S	**Sn**	**18 30 41.1**	**+0.7**
SII	**Sitkinak Islan**	**2.88**	**272**		**Pn**	**18 30 08.9**	**+0.2**
SII					**Sn**	**18 30 41.5**	**-1.8**
SII	**Sitkinak Islan** comp=N,136nm,1.4s	**2.88**	**272**	IAML		18 30 43.6	
SII	comp=E,211nm,0.7s			IAML		18 31 13.5	
SII	**Sitkinak Islan** baz=88	**2.88**	**272**	P	**Pn**	**18 30 08.9**	**+0.2**
SII	baz=88			S	**Sn**	**18 30 41.5**	**-1.8**
R18K	**Karluk**	**3.16**	**291**		**Pn**	**18 30 13.6**	**+1.2**
R18K					**Sn**	**18 30 49.3**	**-0.8**
R18K	**Karluk** comp=N,183nm,1.1s	**3.16**	**291**	IAML		18 30 50.7	
R18K	comp=E,161nm,0.4s			IAML		18 30 55.0	
R18K	**Karluk** baz=106	**3.16**	**291**	P	**Pn**	**18 30 13.6**	**+1.2**
R18K	baz=106			S	**Sn**	**18 30 49.3**	**-0.8**
Q23K	**Middleton Isla**	**3.21**	**25**		**Pn**	**18 30 13.4**	**+0.3**
Q23K	**Middleton Isla** comp=N,184nm,1.1s	**3.21**	**25**	IAML		18 30 34.6	
Q23K	comp=E,232nm,1.3s			IAML		18 31 17.2	
Q23K	**Middleton Isla** baz=206	**3.21**	**25**	P	**Pn**	**18 30 13.4**	**+0.3**
MID	**Middleton Isla**	**3.21**	**25**	Pn	**Pn**	**18 30 11.2**	**-1.9**
MID	comp=N,223nm,1.5s			IAML		18 30 54.8	
MID	comp=E,226nm,1.3s			IAML		18 31 17.1	
CNPM	**China Poot**	**3.21**	**339**		**Pn**	**18 30 14.0**	**+0.8**
CNPM					**Sn**	**18 30 51.5**	**0.0**
CNPM	**China Poot** comp=E,73nm,0.4s	**3.21**	**339**	IAML		18 30 52.5	
BRSE	**Bradley Lake S**	**3.33**	**344**		**Pn**	**18 30 15.5**	**+0.7**
BRSE					**Sn**	**18 30 53.2**	**-1.2**
BRSE	**Bradley Lake S** baz=162	**3.33**	**344**	P	**Pn**	**18 30 15.5**	**+0.7**
BRSE	baz=162			S	**Sn**	**18 30 53.2**	**-1.2**
BRLK	**Bradley Lake**	**3.37**	**343**		**Pn**	**18 30 16.0**	**+0.6**
HOM	**Homer**	**3.42**	**337**	Pn	**Pn**	**18 30 15.4**	**-0.6**
HOM	comp=E,174nm,1.4s			IAML		18 31 47.3	
Q19K	**Cape Douglas,**	**3.45**	**316**		**Pn**	**18 30 18.1**	**+1.6**
Q19K	**Cape Douglas,** comp=N,173nm,1.2s	**3.45**	**316**	IAML		18 31 03.2	
Q19K	**Cape Douglas,** baz=131	**3.45**	**316**	P	**Pn**	**18 30 18.1**	**+1.6**
P23K	**Montague Islan**	**3.55**	**13**		**Pn**	**18 30 18.2**	**+0.4**
P23K	**Montague Islan** baz=193	**3.55**	**13**	P	**Pn**	**18 30 18.2**	**+0.4**
SEW	**Seward**	**3.57**	**356**		**Pn**	**18 30 18.1**	**+0.1**
SEW					**Sn**	**18 30 58.0**	**-2.2**
SEW	**Seward** baz=175	**3.57**	**356**	P	**Pn**	**18 30 18.2**	**+0.1**
SEW	baz=175			S	**Sn**	**18 30 58.1**	**-2.2**
KAHG	**Katmai Hook Gl**	**3.58**	**305**		**Pn**	**18 30 19.9**	**+1.7**
AUL	**Augustine Lava**	**3.70**	**322**		**Pn**	**18 30 22.1**	**+2.3**
P19K	**Oil Pt**	**3.84**	**326**		**Pn**	**18 30 23.5**	**+1.7**
P19K	**Oil Pt** comp=E,117nm,1.1s	**3.84**	**326**	IAML		18 31 09.6	
P19K	**Oil Pt** baz=141	**3.84**	**326**	P	**Pn**	**18 30 23.5**	**+1.7**
ANCK	**Angle Creek**	**3.89**	**298**		**Pn**	**18 30 24.7**	**+2.1**
O22K	**Cooper Landing**	**3.96**	**355**	Pn	**Pn**	**18 30 23.6**	**+0.3**
O20K	**Slope Mountain**	**4.03**	**333**		**Pn**	**18 30 25.7**	**+1.3**
O20K	**Slope Mountain** baz=149	**4.03**	**333**	P	**Pn**	**18 30 25.7**	**+1.3**
HIN	**Hinchinbrook I** comp=N,100nm,1.0s	**4.07**	**18**	IAML		18 31 11.2	
HIN	comp=E,62nm,1.3s			IAML		18 31 22.2	
IVE	**Iliamna Volcan**	**4.07**	**330**		**Pn**	**18 30 25.8**	**+0.7**
CNTC	**Contact Creek**	**4.11**	**298**		**Pn**	**18 30 27.4**	**+1.8**
Q17K	**Contact Creek** baz=111	**4.11**	**298**	P	**Pn**	**18 30 27.4**	**+1.8**
KAIM	**Kayak Island**	**4.15**	**34**		**Pn**	**18 30 26.4**	**+0.4**
KAIM	**Kayak Island** baz=217	**4.15**	**34**	P	**Pn**	**18 30 26.4**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.35**	**22**		**Pn**	**18 30 29.4**	**+0.6**
EYAK	**Cordova Ski Ar** baz=204	**4.35**	**22**	P	**Pn**	**18 30 29.4**	**+0.6**
RED	**Redoubt Volcan**	**4.36**	**334**		**Pn**	**18 30 29.3**	**+0.3**
P18K	**Big Mountain,**	**4.38**	**313**		**Pn**	**18 30 30.3**	**+1.1**
P18K	**Big Mountain,** baz=127	**4.38**	**313**	P	**Pn**	**18 30 30.3**	**+1.1**
RSO	**Redoubt South**	**4.39**	**335**		**Pn**	**18 30 30.1**	**+0.5**
RDT	**Redoubt**	**4.41**	**337**		**Pn**	**18 30 30.0**	**+0.3**
RAGM	**Ragged Mountai**	**4.46**	**29**		**Pn**	**18 30 31.1**	**+0.7**
NCT	**North Crescent**	**4.52**	**334**		**Pn**	**18 30 31.6**	**+0.4**
RC01	**Rabbit Creek A**	**4.57**	**355**		**Sn**	**18 31 23.0**	**-1.8**
RC01	comp=N,30nm,0.5s			IAML		18 31 23.8	
RC01	comp=E,30nm,1.5s			IAML		18 31 29.3	
RC01	**Rabbit Creek A** baz=174	**4.57**	**355**	P	**Pn**	**18 30 32.5**	**+0.7**
O19K	**Port Alsworth**	**4.61**	**325**		**Pn**	**18 30 33.0**	**+0.7**
O19K	**Port Alsworth** baz=139	**4.61**	**325**	P	**Pn**	**18 30 33.0**	**+0.7**
GOAT	**Goat Mountain**	**4.61**	**27**		**Pn**	**18 30 33.0**	**+0.5**
O18K	**Koktuh Hills**	**4.67**	**318**	Pn	**Pn**	**18 30 32.4**	**-0.8**
O18K	comp=N,27nm,1.4s			IAML		18 31 27.9	
BERG	**Berg Lake**	**4.74**	**34**		**Pn**	**18 30 34.8**	**+0.6**
SNH	**Sunshine Point**	**4.86**	**39**		**Pn**	**18 30 36.8**	**+0.9**
SNH	**Sunshine Point** comp=N,56nm,1.4s	**4.86**	**39**	IAML		18 31 30.1	
SNH	comp=E,65nm,1.2s			IAML		18 31 33.1	
DIV	**Divide**	**4.88**	**19**		**Pn**	**18 30 37.0**	**+0.8**
KNK	**Knik Glacier**	**4.88**	**3**		**Pn**	**18 30 37.1**	**+1.0**
KNK	**Knik Glacier** comp=E,22nm,1.3s	**4.88**	**3**	IAML		18 31 57.1	
KNK	**Knik Glacier** baz=183	**4.88**	**3**	P	**Pn**	**18 30 37.1**	**+1.0**
N20K	**Mount Spurr** baz=158	**4.95**	**342**	P	**Pn**	**18 30 37.6**	**+0.4**
SPCR	**Spurr Chakacha**	**4.95**	**342**		**Pn**	**18 30 37.6**	**+0.4**
BMRM	**Bremner River**	**4.98**	**25**		**Pn**	**18 30 38.1**	**+0.7**
BMRM	**Bremner River** baz=208	**4.98**	**25**	P	**Pn**	**18 30 38.1**	**+0.7**
BARK	**Barkley Ridge**	**5.14**	**39**		**Pn**	**18 30 40.2**	**+0.4**
N19K	**Bonanza Creek**	**5.14**	**328**		**Pn**	**18 30 40.4**	**+0.6**
N19K	**Bonanza Creek** baz=143	**5.14**	**328**	P	**Pn**	**18 30 40.4**	**+0.6**
KLU	**Klutina**	**5.20**	**16**		**Pn**	**18 30 41.2**	**+0.7**
KLU	**Klutina** comp=N,26nm,0.7s	**5.20**	**16**	IAML		18 31 40.4	
KLU	comp=E,27nm,0.5s			IAML		18 31 42.2	
KLU	**Klutina** baz=198	**5.20**	**16**	P	**Pn**	**18 30 41.2**	**+0.7**
SML	**Sawmill**	**5.28**	**3**		**Pn**	**18 30 43.0**	**+1.4**
SML	**Sawmill** comp=E,22nm,1.4s	**5.28**	**3**	IAML		18 31 54.1	
SML	comp=N,20nm,1.4s			IAML		18 32 03.0	
SML	**Sawmill** baz=183	**5.28**	**3**	P	**Pn**	**18 30 43.0**	**+1.4**
M23K	**Glacier View**	**5.29**	**6**		**Pn**	**18 30 42.9**	**+1.1**
M23K	**Glacier View** baz=187	**5.29**	**6**	P	**Pn**	**18 30 42.9**	**+1.1**
SCM	**Sheep Creek Mo**	**5.36**	**8**		**Pn**	**18 30 44.1**	**+1.3**
SCM	**Sheep Creek Mo** comp=N,48nm,1.1s	**5.36**	**8**	IAML		18 31 43.3	
SCM	comp=E,42nm,0.4s			IAML		18 31 43.7	
SCM	**Sheep Creek Mo** baz=189	**5.36**	**8**	P	**Pn**	**18 30 44.1**	**+1.3**
N18K	**Kilae Creek**	**5.49**	**322**		**Pn**	**18 30 44.9**	**+0.5**
N18K	**Kilae Creek** baz=135	**5.49**	**322**	P	**Pn**	**18 30 44.9**	**+0.5**
N25K	**Chitina, Valde**	**5.55**	**22**		**Pn**	**18 30 46.0**	**+0.7**
N25K	**Chitina, Valde** baz=205	**5.55**	**22**	P	**Pn**	**18 30 46.0**	**+0.7**
KIAG	**Kiagna River**	**5.57**	**35**		**Pn**	**18 30 46.3**	**+0.6**
GLB	**Gilahina Butte**	**5.58**	**26**		**Pn**	**18 30 46.2**	**+0.5**
SKT	**Skwentna**	**5.60**	**348**		**Pn**	**18 30 46.9**	**+0.9**
SKT	**Skwentna** baz=165	**5.60**	**348**	P	**Pn**	**18 30 46.9**	**+0.9**
SAMH	**Samovar Hills**	**5.61**	**47**		**Pn**	**18 30 47.5**	**+1.3**
PTPK	**Patty Peak**	**5.74**	**33**		**Pn**	**18 30 49.2**	**+1.1**
M24K	**Tolsona, Glenn**	**5.75**	**13**		**Pn**	**18 30 49.7**	**+1.6**
M24K	**Tolsona, Glenn** baz=195	**5.75**	**13**	P	**Pn**	**18 30 49.7**	**+1.6**
M20K	**Styx River**	**5.75**	**340**	Pn	**Pn**	**18 30 46.5**	**-1.6**
PCA	**Pinnacle**	**5.81**	**49**		**Pn**	**18 30 49.3**	**+0.4**
PINM	**Pinnacle** baz=236	**5.81**	**49**	P	**Pn**	**18 30 49.3**	**+0.4**
BARN	**Barnard Glacie**	**5.90**	**37**		**Pn**	**18 30 51.2**	**+0.9**
WASW	**Wrangell South**	**5.93**	**23**		**Pn**	**18 30 52.3**	**+1.6**
CTG	**Chitna Glacier** baz=225	**5.94**	**39**	P	**Pn**	**18 30 51.5**	**+0.7**
WACK	**Wrangell Chich**	**5.95**	**22**		**Pn**	**18 30 52.0**	**+1.0**
CTGM	**Chitina Glacie**	**5.95**	**39**		**Pn**	**18 30 51.5**	**+0.7**
PNL	**Peninsula**	**5.96**	**54**		**Pn**	**18 30 51.8**	**+0.9**
PNL	**Peninsula** baz=242	**5.96**	**54**	P	**Pn**	**18 30 51.8**	**+0.9**
BCPM	**Bancas Point**	**5.99**	**51**		**Pn**	**18 30 52.2**	**+0.9**
M19K	**Big River Lodg**	**6.04**	**335**	Pn	**Pn**	**18 30 50.5**	**-1.5**
WAT6	**Susitna Watana** baz=186	**6.08**	**5**	P	**Pn**	**18 30 53.8**	**+1.2**
HARP	**HAARP**	**6.18**	**17**		**Pn**	**18 30 55.1**	**+1.2**
HARP	**HAARP** baz=200	**6.18**	**17**	P	**Pn**	**18 30 55.1**	**+1.2**
WAT7	**Susitna Watana**	**6.30**	**1**		**Pn**	**18 30 57.3**	**+1.6**
L19K	**White Mountain**	**6.39**	**334**	Pn	**Pn**	**18 30 55.9**	**-0.9**
DHY	**Denali Highway**	**6.59**	**6**		**Pn**	**18 31 01.1**	**+1.4**
DHY	**Denali Highway** baz=187	**6.59**	**6**	P	**Pn**	**18 31 01.1**	**+1.4**
M26K	**Nabesna, AK**	**6.61**	**25**		**Pn**	**18 31 01.4**	**+1.6**
M26K	**Nabesna, AK** baz=210	**6.61**	**25**	P	**Pn**	**18 31 01.4**	**+1.6**
O29M	**Mount Kennedy**	**6.63**	**51**		**Pn**	**18 31 01.3**	**+1.1**
O29M	**Mount Kennedy** baz=240	**6.63**	**51**	P	**Pn**	**18 31 01.3**	**+1.1**
P29M	**Windy Craggy**	**6.71**	**58**		**Pn**	**18 31 01.4**	**+0.2**
P29M	**Windy Craggy** baz=247	**6.71**	**58**	P	**Pn**	**18 31 01.4**	**+0.2**
YUK3	**Moose Creek** baz=223	**6.82**	**36**	P	**Pn**	**18 31 05.1**	**+2.2**
M16K	**Timber Creek**	**6.85**	**315**		**Pn**	**18 31 04.5**	**+1.5**
M16K	**Timber Creek** baz=126	**6.85**	**315**	P	**Pn**	**18 31 04.6**	**+1.5**
M27K	**Edge Creek, AK**	**6.85**	**29**		**Pn**	**18 31 04.5**	**+1.3**
M27K	**Edge Creek, AK** baz=215	**6.85**	**29**	P	**Pn**	**18 31 04.5**	**+1.3**
RND	**Reindeer**	**6.87**	**0**	Pn	**Pn**	**18 31 03.8**	**+0.3**
N15K	**Kwethluk River**	**6.88**	**306**	Pn	**Pn**	**18 31 05.6**	**+2.2**
TRF	**Thorofare Moun**	**6.95**	**355**		**Pn**	**18 31 06.1**	**+1.5**
TRF	**Thorofare Moun** baz=174	**6.95**	**355**	P	**Pn**	**18 31 06.1**	**+1.5**
S31K	**Pelican**	**7.06**	**73**	Pn	**Pn**	**18 31 04.2**	**-1.7**
YUK6	**Outpost Mounta**	**7.06**	**47**		**Pn**	**18 31 07.8**	**+1.7**
YUK6	**Outpost Mounta** baz=236	**7.06**	**47**	P	**Pn**	**18 31 07.8**	**+1.7**
CAST	**Castle Rocks**	**7.06**	**349**	Pn	**Pn**	**18 31 06.4**	**+0.4**
K20K	**Telida**	**7.28**	**342**	Pn	**Pn**	**18 31 08.4**	**-0.6**
TTA	**Tatalina**	**7.31**	**334**	Pn	Pn	18 31 07.2	-2.3
HYT	**Haines Junctio**	**7.35**	**50**	Pn	**Pn**	**18 31 10.5**	**+0.4**
L27K	**Beaver Creek,**	**7.45**	**26**		**Pn**	**18 31 12.5**	**+1.1**
L27K	**Beaver Creek,** baz=212	**7.45**	**26**	P	**Pn**	**18 31 12.5**	**+1.1**
BCAR	**Beaver Creek A**	**7.47**	**26**	Pn	**Pn**	**18 31 12.6**	**+1.0**
L16K	**Owhat River**	**7.47**	**318**	Pn	Pn	18 31 07.8	-3.8
RIDG	**Independent Ri**	**7.50**	**14**		**Pn**	**18 31 13.1**	**+1.1**
BPAW	**Bear Paw Mtn.**	**7.63**	**353**		**Pn**	**18 31 14.7**	**+0.8**
BPAW	**Bear Paw Mtn.** baz=171	**7.63**	**353**	P	**Pn**	**18 31 14.7**	**+0.8**
K17K	**Iditarod**	**7.77**	**326**	Pn	**Pn**	**18 31 16.1**	**+0.4**
SKAG	**Skagway**	**7.81**	**62**	Pn	**Pn**	**18 31 17.6**	**+1.4**
SCRK	**Sand Creek**	**7.85**	**16**	Pn	**Pn**	**18 31 17.8**	**+0.9**
N30M	**Aishikik Lake**	**7.86**	**46**		**Pn**	**18 31 17.9**	**+0.9**
N30M	**Aishikik Lake** baz=236	**7.86**	**46**	P	**Pn**	**18 31 17.9**	**+0.9**
O30N	**Mendenhall**	**7.93**	**52**	Pn	**Pn**	**18 31 18.4**	**+0.4**
HDA	**Harding Lake**	**7.94**	**6**		**Pn**	**18 31 17.3**	**-0.8**
M29M	**Somme Creek**	**7.96**	**38**	Pn	**Pn**	**18 31 20.0**	**+1.5**
J20K	**Nowinta River**	**8.06**	**344**	Pn	**Pn**	**18 31 20.6**	**+0.9**
CCB	**Clear Creek Bu**	**8.14**	**4**	Pn	**Pn**	**18 31 20.7**	**-0.1**
J19K	**Poorman**	**8.15**	**339**	Pn	**Pn**	**18 31 20.8**	**-0.2**
K27K	**Chicken**	**8.24**	**22**	Pn	**Pn**	**18 31 23.5**	**+1.4**
J25K	**Salcha River,**	**8.28**	**11**	Pn	**Pn**	**18 31 23.0**	**+0.3**
IL31		**8.31**	**6**	Pn	**Pn**	**18 31 22.7**	**-0.3**
ILAR	**Eielson Array**	**8.31**	**6**	Pn	**Pn**	**18 31 23.1**	**0.0**
J26L	**Joseph Creek**	**8.40**	**16**		**Pn**	**18 31 25.1**	**+0.6**
N31M	**Braeburn, Yuko**	**8.41**	**49**	Pn	**Pn**	**18 31 25.5**	**+1.0**
WHY	**Whitehorse**	**8.43**	**55**	Pn	**Pn**	**18 31 25.7**	**+0.9**
MDM	**Murphy Dome**	**8.44**	**2**	Pn	**Pn**	**18 31 25.1**	**+0.2**
L29M	**L29M**	**8.54**	**35**	Pn	**Pn**	**18 31 28.0**	**+1.7**
L14K	**Kuka Creek**	**8.55**	**310**	Pn	Pn	18 31 23.1	-3.3
MLY	**Manley**	**8.55**	**355**	Pn	**Pn**	**18 31 26.8**	**+0.3**
POKR	**Poker Plat Res**	**8.62**	**4**	Pn	**Pn**	**18 31 27.5**	**0.0**
M30M	**Minto, Yukon**	**8.63**	**41**	Pn	**Pn**	**18 31 27.9**	**+0.3**
P32M	**Atlin**	**8.64**	**63**	Pn	**Pn**	**18 31 28.3**	**+0.6**
I21K	**Tanana**	**8.78**	**352**	Pn	**Pn**	**18 31 29.2**	**-0.3**
DAWY	**Dawson**	**8.90**	**28**	Pn	**Pn**	**18 31 30.9**	**-0.4**
EGAK	**Eagle**	**9.09**	**22**	Pn	**Pn**	**18 31 35.0**	**+1.3**
I26K	**Coal Creek Min**	**9.22**	**15**	Pn	**Pn**	**18 31 36.6**	**+1.0**
P33M	**Teslin, Yukon**	**9.24**	**60**	Pn	**Pn**	**18 31 34.4**	**-1.5**
Q32M	**Nakina River**	**9.25**	**68**	Pn	**Pn**	**18 31 36.1**	**-0.1**
K29M	**Barlow Dome**	**9.26**	**33**	Pn	**Pn**	**18 31 37.1**	**+0.9**
H21K	**Melozitna Rive**	**9.32**	**350**	Pn	**Pn**	**18 31 36.5**	**-0.4**
H24K	**Noodor Dome**	**9.33**	**3**	Pn	**Pn**	**18 31 38.6**	**+1.5**
M31M	**Drury Creek, Y**	**9.34**	**47**	Pn	**Pn**	**18 31 38.3**	**+1.1**
IMAR	**Indian Mountai**	**9.73**	**348**	Pn	**Pn**	**18 31 42.6**	**0.0**
FARO	**Faro, Yukon**	**9.78**	**48**	Pn	**Pn**	**18 31 44.9**	**+1.7**
I28M	**Miner Creek**	**9.93**	**22**	Pn	**Pn**	**18 31 48.1**	**+2.7**
H17K	**Granite Mounta**	**9.95**	**332**	Pn	**Pn**	**18 31 44.9**	**-0.6**
R33M	**Jennings River**	**9.98**	**66**	Pn	**Pn**	**18 31 46.0**	**-0.1**
J30M	**Hart River**	**10.15**	**32**	Pn	**Pn**	**18 31 49.3**	**+0.9**
G23K	**Bananza Creek**	**10.21**	**358**	Pn	**Pn**	**18 31 49.9**	**+0.8**
G24K	**Hadweenzic Riv**	**10.21**	**3**	Pn	**Pn**	**18 31 50.0**	**+0.9**
G21K	**Allakaket**	**10.22**	**350**	Pn	**Pn**	**18 31 48.9**	**-0.4**
I30M	**Mount Dempster**	**10.62**	**30**	Pn	**Pn**	**18 31 57.4**	**+2.6**
F24K	**Squaw Lake**	**11.02**	**2**	Pn	**Pn**	**18 32 01.3**	**+1.1**
BMAR	**Burnt Mountain**	**11.10**	**9**	Pn	Pn	18 31 59.5	-1.8
F17K	**Baldwin Pennin**	**11.49**	**335**	Pn	**Pn**	**18 32 05.6**	**-1.0**
E19K	**Redstone River**	**11.59**	**344**	Pn	**Pn**	**18 32 09.3**	**+1.3**
G30M	**tAoh Zraii Nji**	**12.04**	**25**	Pn	**Pn**	**18 32 16.3**	**+2.1**
G31M	**Satah River**	**12.47**	**28**	Pn	**Pn**	**18 32 21.6**	**+1.6**
E29M	**Blow River**	**12.90**	**19**	P	**Pn**	**18 32 28.3**	**+2.4**

IDC 29 18:35:52.5±53.0,22°.33S×173°.60W,h0km,mb3.9/3,
mbtmp3.9/3,Error ellipse: s-maj=998.9km
s-min=186.4km az=87.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.8nm,0.8s,baz=78,slow=9.3,SNR=1.5 1.8nm,0.8s	**40.77**	**247**	P	P	18 43 33.9	-1.7
ASAR	**Alice Springs** 0.3nm,0.4s,baz=94,slow=7.3,SNR=26 0.3nm,0.4s	**48.12**	**258**	P	P	18 44 34.6	0.0
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=99,slow=7.0,SNR=39 1.0nm,0.4s	**48.43**	**263**	P	P	18 44 37.6	+0.6

*NEIC **29** 19:02:33.7±1.5,55°.92N±0°.10×150°.36W±0°.07,h10km±7km, ML3.7/42,ML3.5(AEIC),Error ellipse: s-maj=14.5km s-min=5.5km az=172.0*
*AEIC **29** 19:02:37.7±1.5,55°.84N±0°.10×150°.4W±0°.1,h7km±8km, Error ellipse: s-maj=13.9km s-min=9.6km az=180.0*
ISC 29 19:02:32.5±1.8,55°.9N±0°.1×150°.35W±0°.07,h10km,n156,
σ1§06/159,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.11**	**311**		**Pn**	**19 03 08.5**	**+0.7**
OHAK					**Sn**	**19 03 32.5**	**-1.5**
OHAK	**Old Harbor** baz=128	**2.11**	**311**	P	**Pn**	**19 03 08.5**	**+0.7**
OHAK	baz=128			S	**Sn**	**19 03 32.5**	**-1.5**
SII

P19K	Oil Pt	4.08	339	P	Pn	19 03 35.9 +1.0
	baz=156					
Q23K	Middleton Isla	4.15	30		Pn	19 03 36.0 +0.1
Q23K	Middleton Isla	4.15	30	IAML		19 04 34.0
	comp=E,231nm,1.4s					
Q23K	Middleton Isla	4.15	30	P	Pn	19 03 36.0 +0.1
	baz=213					
MID	Middleton Isla	4.16	30	Pn	Pn	19 03 36.3 +0.4
MID				IAML		19 06 08.3
	comp=N,207nm,1.3s					
SEW	Seward	4.26	6		Pn	19 03 37.6 +0.3
SEW	Seward	4.26	6	P	Pn	19 03 37.6 +0.3
	baz=187					
O20K	Slope Mountain	4.38	345		Pn	19 03 41.4 +2.4
O20K	Slope Mountain	4.38	345	P	Pn	19 03 41.4 +2.4
	baz=163					
IVE	Iliamna Volcan	4.38	342		Pn	19 03 39.9 +0.8
P18K	Big Mountain,	4.38	325	IAML		19 06 27.2
	comp=N,35nm,0.8s					
P18K	Big Mountain,	4.38	325	P	Pn	19 03 40.6 +1.5
	baz=141					
P23K	Montague Islan	4.41	20		Pn	19 03 39.8 +0.4
P23K	Montague Islan	4.41	20	P	Pn	19 03 39.8 +0.4
	baz=202					
O22K	Cooper Landing	4.62	4	Pn	Pn	19 03 43.2 +0.9
O18K	Koktuh Hills	4.75	329		Pn	19 03 45.2 +1.1
O18K	Koktuh Hills	4.75	329	IAML		19 06 31.7
	comp=N,45nm,0.8s					
O18K				IAML		19 06 53.0
	comp=E,32nm,0.8s					
O18K	Koktuh Hills	4.75	329	P	Pn	19 03 45.2 +1.1
	baz=145					
RSO	Redoubt South	4.76	346	Pn	Pn	19 03 45.4 +1.0
O19K	Port Alsworth	4.81	336	Pn	Pn	19 03 45.2 +0.4
O19K				IAML		19 06 35.6
	comp=N,151nm,0.5s					
HIN	Hinchinbrook I	4.96	23		Pn	19 03 47.7 +0.7
HIN	Hinchinbrook I	4.96	23	IAML		19 06 30.2
	comp=N,85nm,1.3s					
KAIM	Kayak Island	5.14	36		Pn	19 03 50.3 +0.9
KAIM	Kayak Island	5.14	36	P	Pn	19 03 50.3 +0.9
	baz=221					
RC01	Rabbit Creek A	5.23	3	Pn	Pn	19 03 51.6 +0.9
RC01				IAML		19 06 38.4
	comp=N,36nm,0.7s					
RC01				IAML		19 06 45.5
	comp=E,37nm,0.8s					
EYAK	Cordova Ski Ar	5.27	26	Pn	Pn	19 03 50.9 -0.3
N19K	Bonanza Creek	5.40	338		Pn	19 03 53.4 +0.4
N19K	Bonanza Creek	5.40	338	P	Pn	19 03 53.4 +0.4
	baz=154					
RAGM	Ragged Mountai	5.42	31		Pn	19 03 54.3 +0.9
O16K	Kokwok River B	5.57	315	Pn	Pn	19 03 56.8 +1.5
N18K	Kilae Creek	5.62	331		Pn	19 03 56.9 +0.8
N18K	Kilae Creek	5.62	331	P	Pn	19 03 56.9 +0.8
	baz=146					
KNK	Knik Glacier	5.63	9	Pn	Pn	19 03 57.0 +0.8
DIV	Divide	5.78	23	Pn	Pn	19 03 57.5 -0.7
SNH	Sunshine Point	5.87	40		Pn	19 04 00.3 +0.8
N17K	Nushagak Hills	5.89	325	Pn	Pn	19 03 59.4 -0.3
BMRM	Bremner River	5.92	28		Pn	19 04 01.3 +1.1
BMRM	Bremner River	5.92	28	P	Pn	19 04 01.3 +1.1
	baz=213					
SML	Sawmill	6.03	9	Pn	Pn	19 04 02.0 +0.3
KLU	Klutina	6.08	20	P	Pn	19 04 04.5 +2.1
	baz=204					
SKT	Skwentna	6.14	355	Pn	Pn	19 04 02.8 -0.5
SCM	Sheep Creek Mo	6.17	13	Pn	Pn	19 04 03.9 +0.3
M20K	Styx River	6.18	348	Pn	Pn	19 04 04.3 +0.5
M19K	Big River Lodg	6.39	343	Pn	Pn	19 04 07.9 +1.3
VRDI	Verde Repeater	6.46	31	Pn	Pn	19 04 08.5 +0.8
N25K	Chitina, Valde	6.47	25		Pn	19 04 08.7 +1.0
GLB	Gilahina Butte	6.53	29		Pn	19 04 09.3 +0.7
M24K	Tolsona, Glenn	6.60	17	Pn	Pn	19 04 10.4 +0.9
M17K	Holitna River	6.65	329	Pn	Pn	19 04 10.8 +0.6
N15K	Kwethluk River	6.72	314		Pn	19 04 13.2 +2.1
L19K	White Mountain	6.73	342	Pn	Pn	19 04 10.1 -1.1
O14K	Tigyukauivet M	6.77	304	Pn	Pn	19 04 11.8 +0.1
PCA	Pinnacle	6.83	48		Pn	19 04 13.4 +0.8
M16K	Timber Creek	6.85	322	Pn	Pn	19 04 14.6 +1.8
BARN	Barnard Glacie	6.90	38		Pn	19 04 14.6 +0.8
CTCM	Chitina Glacie	6.95	39	Pn	Pn	19 04 15.4 +1.0
LOGN	Logan Glacier	6.98	41		Pn	19 04 14.9 +0.1
BCPM	Bancas Point	7.01	50	Pn	Pn	19 04 15.1 -0.1
L18K	Granite Mounta	7.14	335	Pn	Pn	19 04 17.5 +0.7
DHY	Denali Highway	7.37	11	Pn	Pn	19 04 20.0 -0.2
L16K	Owhat River	7.51	325	Pn	Pn	19 04 23.4 +1.4
M26K	Nabesna, AK	7.55	27	Pn	Pn	19 04 23.2 +0.7
RND	Reindeer	7.58	5	Pn	Pn	19 04 23.5 +0.5
TRF	Thorofare Moun	7.59	0	Pn	Pn	19 04 24.3 +1.1
CAST	Castle Rocks	7.61	354	Pn	Pn	19 04 23.6 +0.2
O29M	Mount Kennedy	7.65	50		Pn	19 04 25.4 +1.4
KTH	Kantishna Hill	7.70	358	Pn	Pn	19 04 25.6 +1.0
P29M	Windy Craggy	7.72	56		Pn	19 04 25.8 +0.9
K20K	Telida	7.73	347	Pn	Pn	19 04 25.7 +0.8
M14K	Bethel	7.81	313	Pn	Pn	19 04 26.3 +0.3
M27K	Edge Creek, AK	7.81	30	Pn	Pn	19 04 27.5 +1.2
MCK	McKinley	7.91	5	Pn	Pn	19 04 27.2 -0.2
K17K	Iditarod	7.96	335	Pn	Pn	19 04 28.1 0.0
S31K	Pelican	8.00	69	Pn	Pn	19 04 27.7 -0.9
M13K	Dall Lake	8.23	309	Pn	Pn	19 04 33.1 +1.4
BPAW	Bear Paw Mtn.	8.25	358	Pn	Pn	19 04 30.7 -1.3
J18K	Innoko River	8.25	340	Pn	Pn	19 04 31.9 -0.3
RIDG	Independent Ri	8.35	17	Pn	Pn	19 04 33.3 -0.2
HYT	Haines Junctio	8.37	48	Pn	Pn	19 04 34.9 +1.1
L27K	Beaver Creek,	8.40	28	Pn	Pn	19 04 34.0 -0.1
BCAR	Beaver Creek A	8.41	28	Pn	Pn	19 04 35.2 +0.8
L14K	Kuka Creek	8.44	315	Pn	Pn	19 04 34.0 -0.6
J20K	Nowinta River	8.53	349	Pn	Pn	19 04 36.2 +0.3
J19K	Poorman	8.55	344	Pn	Pn	19 04 35.1 -1.0
K15K	Wolf Creek Mou	8.62	323	Pn	Pn	19 04 36.0 -1.0
HDA	Harding Lake	8.72	10	Pn	Pn	19 04 41.3 +2.8
SCRK	Sand Creek	8.72	19	Pn	Pn	19 04 38.6 0.0
SKAG	Skagway	8.81	60	Pn	Pn	19 04 41.0 +1.3
N30M	Aishikik Lake	8.88	46	Pn	Pn	19 04 41.8 +1.1
R32K	Eaglecrest	8.95	68	Pn	Pn	19 04 42.4 +0.8
O30N	Mendenhall	8.95	51	Pn	Pn	19 04 41.7 -0.1
M29M	Somme Creek	8.96	38		Pn	19 04 43.6 +1.6
J16K	Anvik River	9.05	329	Pn	Pn	19 04 43.3 +0.3
ILAR	Eielson Array	9.08	9	Pn	Pn	19 04 44.1 +0.7
J25K	Salcha River,	9.10	14	Pn	Pn	19 04 43.9 +0.2
K27K	Chicken	9.15	23	Pn	Pn	19 04 44.7 +0.3
MDM	Murphy Dome	9.16	6	Pn	Pn	19 04 45.3 +0.7
MLY	Manley	9.18	359	Pn	Pn	19 04 45.6 +0.7
J26L	Joseph Creek	9.28	19	Pn	Pn	19 04 47.6 +1.4
I21K	Tanana	9.36	356	Pn	Pn	19 04 48.3 +1.0
N31M	Braeburn, Yuko	9.43	47	Pn	Pn	19 04 48.9 +0.7
WHY	Whitehorse	9.44	53	Pn	Pn	19 04 48.4 -0.1
L29M	L29M	9.53	36	Pn	Pn	19 04 50.3 +0.6
P32M	Atlin	9.63	61	Pn	Pn	19 04 52.0 +0.9
M30M	Minto, Yukon	9.64	40	Pn	Pn	19 04 51.8 +0.6
DAWY	Dawson	9.86	29	Pn	Pn	19 04 55.3 +1.2
H21K	Melozitna Rive	9.88	354	Pn	Pn	19 04 55.1 +0.7
H24K	Noodoo Dome	10.06	6	Pn	Pn	19 04 58.1 +1.3
I26K	Coal Creek Min	10.08	18	Pn	Pn	19 04 57.7 +0.5
H17K	Granite Mounta	10.22	337	Pn	Pn	19 04 58.5 -0.6
Q32M	Nakina River	10.22	65	Pn	Pn	19 05 00.8 +1.6
K29M	Barlow Dome	10.24	34	Pn	Pn	19 05 00.7 +1.2
P33M	Teslin, Yukon	10.24	58	Pn	Pn	19 05 00.4 +1.0
M31M	Drury Creek, Y	10.36	46	Pn	Pn	19 05 03.0 +2.1
S34M	Telegraph Cree	10.70	71		Pn	19 05 04.0 -1.7
S34M	Telegraph Cree	10.70	71	P	Pn	19 05 04.0 -1.7
	baz=267					
G21K	Allakaket	10.77	353	Pn	Pn	19 05 07.0 +0.4
I28M	Miner Creek	10.85	24	Pn	Pn	19 05 08.4 +0.7
G23K	Bananza Creek	10.87	1	Pn	Pn	19 05 09.0 +1.1
G24K	Hadweenzic Riv	10.94	6	Pn	Pn	19 05 09.8 +0.9
R33M	Jennings River	10.96	63	Pn	Pn	19 05 10.6 +1.4
J30M	Hart River	11.13	33	Pn	Pn	19 05 12.9 +1.3
ANM	Nome	11.43	326	Pn	Pn	19 05 17.1 +1.5
F17K	Baldwin Pennin	11.80	338	Pn	Pn	19 05 21.9 +1.4
BMAR	Burnt Mountain	11.90	11	Pn	Pn	19 05 23.1 +1.1
E18K	Tukpahlearik C	12.53	342	Pn	Pn	19 05 31.5 +0.9

*IDC **29** 19:03:29.3₀0.8, 6°.49S×105°.12E, h0^{km}, mb3.9/14, mbtmp3.9/15, ML4.0/1, MS2.7/1, Error ellipse: s-maj=33.2km s-min=14.4km az=42.0*
*NEIC **29** 19:03:32.2₀2.1, 6°.4S±0°.1×105°.24E±0°.05, h10^{km}±1^{km}, mb4.4/16, Error ellipse: s-maj=23.0km s-min=5.8km az=195.0*

*DJA **29** 19:03:34.2₀0.8, 7°.S±3°×10°.5E±°, h19^{km}±7^{km}, M4.5/13, mb5.0/1, MLv4.3/13*

ISC 29 19:03:30.9±1.8, 6°.58S±0°.06×105°.20E±0°.04, h13^{km}±11^{km}, n75, σ1°27/77, mb4.2/23, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	Serang	1.04	64	P	Pb	19 03 50.4	-0.3
SBJI				S	Sb	19 04 02.7	-1.6
BLSI	Bandar Lampung	1.21	2	P	Pn	19 03 55.3	+1.7
BLSI				S	Sn	19 04 10.0	+0.1
KASI	Kota Agung	1.26	327	P	Pn	19 03 57.0	+2.7
KASI				S	Sn	19 04 15.0	+3.9
SKJI	Sukabumi	1.41	107	P	Pn	19 03 58.9	+2.5
SKJI				S	Sn	19 04 14.2	-0.7
TNG	Tangerang	1.50	74	P	Pn	19 03 58.2	+0.7
TNG				S	Sn	19 04 16.4	-0.5
DBJI	Dramaga	1.54	89	P	Pn	19 03 58.5	+0.3
DBJI				S	Sn	19 04 17.0	-1.1
CBJI	Citeko	1.65	84	P	Pb	19 04 02.0	+0.8
CBJI				S	Sb	19 04 22.7	+0.7
LWLI	Liwa	1.93	324	P	Pg	19 04 07.9	0.0
CNJI	Cibinong	2.05	111	P	Pn	19 04 05.2	+0.1
CNJI				S	Sn	19 04 28.9	-1.7
LEM	Lembang	2.42	96	Pn	Pn	19 04 13.2	+2.8
	32nm,0.3s,baz=229,slow=11,SNR=18						
LEM				Sn	Sb	19 04 45.2	+1.0
	40nm,0.3s,baz=357,slow=23,SNR=12						
	72nm,0.4s						
LEM	Lembang	2.42	96	P	Pn	19 04 11.3	+1.0
BBJI	Bungbulang	2.59	110	P	Pn	19 04 13.3	+0.7
BBJI				S	Sn	19 04 43.9	-0.1
EGSI	Enggano, Bengk	3.15	293	P	Pb	19 04 26.0	-0.9
EGSI				S	Sb	19 05 03.3	-1.9
CMJI	Cimerak	3.44	110	P	Pn	19 04 24.5	+0.2
KPJI	Karang Pucung	3.78	102	P	Pn	19 04 30.3	+1.3
XMIS	Christmas Isla	3.90	173	Pn	Pn	19 04 29.9	-0.7
UGM	Wanagama	5.45	104	Pn	Pn	19 04 51.7	-0.2
PPSI	Pulau Pagai	6.41	306	P	Pn	19 05 09.0	+3.8
JAGI	Jajag, Banyuwa	9.07	102	Pn	Pn	19 05 42.8	+1.0
GSI	Gunungsitoli	10.92	316	Pn	Pn	19 06 05.0	-2.0
BKB	Balikpapan	12.81	66		Pn	19 06 32.1	-0.9
KAPI	Kappang	14.56	85	LR	LR	19 13 07.6	
	comp=Z,30nm,20.6s,baz=188,slow=40						
FITZ	Fitzroy Crossi	22.99	122	P	P	19 08 36.3	+0.7
FITZ				IAmb	IAmb	19 09 13.6	
	comp=Z,11nm,1.5s						
H01W3	Cape Leeuwin H	29.34	165	T	T	19 39 52.4	
	baz=344,slow=76,SNR=6.6						
H01W1	Cape Leeuwin H	29.36	165	T	T	19 39 53.5	
	baz=344,slow=76,SNR=5.5						
H01W2	Cape Leeuwin H	29.36	165	T	T	19 39 54.0	
	baz=344,slow=76,SNR=14						
WB0	Warramunga Arr	31.23	118	P	P	19 09 51.2	+0.7
WRA	Warramunga Arr	31.25	118	P	P	19 09 51.6	+0.9
WRA	Warramunga Arr	31.25	118	P	P	19 09 51.3	+0.6
	comp=Z,1.5nm,0.8s,baz=289,slow=10,SNR=8.4						
WRA				PcP	PcP	19 12 44.8	-0.4
	comp=Z,0.4nm,0.5s,baz=317,slow=2.0,SNR=1.3						
	comp=Z,1.5nm,0.8s						
WB2	Warramunga Arr	31.26	118	P	P	19 09 51.3	+0.6
WB2				IAmb	IAmb	19 10 24.7	
	comp=Z,10.0nm,1.2s						
WR0	Warramunga Arr	31.43	118	P	P	19 09 53.0	+0.7
WR0				IAmb	IAmb	19 09 56.1	
	comp=Z,14nm,1.4s						
ASAR	Alice Springs	32.39	125	P	P	19 10 01.6	+0.9
	comp=Z,0.8nm,0.7s,baz=287,slow=7.9,SNR=7.0						
ASAR				PcP	PcP	19 12 48.8	+0.5
	comp=Z,0.3nm,0.5s,baz=300,slow=1.7,SNR=4.2						
	comp=Z,0.8nm,0.7s						
H08S2	Diego Garcia H	32.47	266	T	T	19 44 00.1	
	baz=90,slow=76,SNR=41						
H08S3	Diego Garcia H	32.47	266	T	T	19 44 00.8	
	baz=90,slow=76,SNR=48						
H08S1	Diego Carcia H	32.48	266	T	T	19 44 03.0	
	baz=90,slow=76,SNR=40						
PMG	Port Moresby	41.63	97	P	P	19 11 18.8	-0.6
STKA	Stephens Creek	42.25	131	P	P	19 11 25.7	+1.5
STKA	Stephens Creek	42.25	131	P	P	19 11 25.8	+1.6
	comp=Z,3.6nm,0.6s,baz=290,slow=7.7,SNR=10						
	comp=Z,3.6nm,0.6s						
KSRS	Korea Array	48.68	24	P	P	19 12 15.0	0.0
	comp=Z,0.5nm,0.4s,baz=214,slow=5.5,SNR=1.8						
	comp=Z,0.5nm,0.4s						
SONM	Songino Array	54.19	1	P	P	19 12 56.3	0.0
	comp=Z,0.2nm,0.4s,baz=165,slow=6.0,SNR=1.9						
SONM				PcP	PcP	19 14 00.6	-0.1
	comp=Z,0.6nm,0.4s,baz=190,slow=3.0,SNR=5.6						
	comp=Z,0.2nm,0.4s						
USA0B	Ussuriysk Arra	56.03	23	P	P	19 13 08.9	-0.6
USA0B				IAmb	IAmb	19 13 33.3	
	comp=Z,8.4nm,1.1s						
USRK	Ussuriysk Ar.	56.03	23	P	P	19 13 09.3	-0.1
USRK	Ussuriysk Ar.	56.03	23	P	P	19 13 09.0	-0.4
	comp=Z,1.1nm,0.5s,baz=202,slow=5.7,SNR=9.6						
	comp=Z,3.1nm,0.5s						
SIMJ	Simiganj	56.16	326	P	P	19 13 09.8	-0.8
SIMJ				IAmb	IAmb	19 13 18.2	
	comp=Z,2.7nm,1.3s						
FRU1	Bishkek	56.47	333	P	P	19 13 12.6	-0.1
MK31	Makanchi Array	56.91	341	P	P	19 13 14.5	-1.2
MKAR	Makanchi Array	56.91	341	P	P	19 13 14.2	-1.5
MKAR	Makanchi Array	56.91	341	P	P	19 13 14.7	-1.0
	comp=Z,0.3nm,0.4s,baz=156,slow=8.6,SNR=7.5						
	comp=Z,0.3nm,0.4s						
H04N2	CROZET ISLANDS	60.42	220	T	T	20 19 10.9	
	baz=66,slow=75,SNR=28						
H04N1	CROZET ISLANDS	60.43	220	T	T	20 19 12.7	
	baz=66,slow=75,SNR=27						
H04N3	CROZET ISLANDS	60.44	220	T	T	20 19 08.0	
	baz=66,slow=75,SNR=28						
KURBB	Kurchatov Arra	61.46	341	P	P	19 13 46.3	-0.8
	comp=Z,0.2nm,0.3s,baz=156,slow=6.5,SNR=1.3						
	comp=Z,0.2nm,0.3s						
ZALV	Zalesovo Beam	62.70	347	P	P	19 13 54.5	-0.9
	comp=Z,0.3nm,0.3s,baz=147,slow=5.1,SNR=2.1						
	comp=Z,0.3nm,0.3s						
BVAR	Borovoye Array	66.30	338	P	P	19 14 18.9	-0.1
	comp=Z,1.1nm,0.5s,baz=138,slow=8.1,SNR=5.0						
	comp=Z,1.1nm,0.5s						
BRVK	Borovoye	66.36	338	P	P	19 14 19.7	+0.4
BRVK				IAmb	IAmb	19 14 20.6	
	comp=Z,2.3nm,0.8s						
ABKAR	Akbulak array	68.15	330	P	P	19 14 30.3	-0.4
ABKAR				IAmb	IAmb	19 14 32.0	
	comp=Z,1.0nm,0.7s						
MMAI	Mount Meron Ar	76.91	306	P	P	19 15 23.8	+0.3
	comp=Z,1.0nm,0.5s,baz=88,slow=7.7,SNR=2.4						
	comp=Z,1.0nm,0.5s						
BR131	Keskin Array S	80.22	312	P	P	19 15 42.5	+0.9
BRTR	Keskin Array B	80.22	312	P	P	19 15 42.8	+1.1
BRTR	Keskin Array B	80.22	312	P	P	19 15 42.4	+0.7
	comp=Z,1.3nm,0.8s,baz=149,slow=5.8,SNR=6.5						
	comp=Z,1.3nm,0.8s						
AKASG	Malin Array Be	86.26	322	P	P	19 16 13.0	+0.6
	comp=Z,0.3nm,0.4s,baz=93,slow=3.9,SNR=4.4						
	comp=Z,0.3nm,0.4s						
BURAR	Bucovina Array	88.11	318	P	P	19 16 24.0	+2.4
BURAR				IAmb	IAmb	19 16 25.1	
	comp=Z,1.9nm,0.8s						
BUR08	Bucovina Ar. S	88.12	318	P	P	19 16 24.1	+2.4
ARCES	ARCESS Array B	92.53	340	P	P	19 16 41.5	0.0
	comp=Z,2.0nm,0.8s,baz=99,slow=5.2,SNR=6.2						
	comp=Z,2.0nm,0.8s						
SPITS	Spitsbergen Ar	96.16	348	P	P	19 16 57.3	-0.8
	comp=Z,10nm,1.1s,baz=116,slow=7.0,SNR=5.1						
TXAR	Lajitas Array	144.61	47	PKP	PKPbc	19 23 08.2	+1.2
	comp=Z,2.1nm,0.7s,baz=275,slow=1.0,SNR=24						
CCM	Cathedral Cave	145.30	23	PKPbc	PKPbc	19 23 08.5	-0.2
U38A	Gravette	145.30	28		PKPbc	19 23 08.4	-0.4
Q44A	Meyer Farm, Va	145.36	20		PKPbc	19 23 08.1	-0.8
HHAR	Hobbs	145.64	28		PKPbc	19 23 09.2	-0.7
MGMO	Mountain Grove	145.66	25		PKPbc	19 23 09.9	0.0
PLPT	Palo Pinto	145.95	37	PKPdf	PKPdf	19 23 09.3	-1.0
O52A	Adamsville	146.02	10		PKPdf	19 23 09.6	-0.6
BRDY	Brady	146.58	40	PKPdf	PKPdf	19 23 09.5	-1.9
JCT	Junction City	146.60	42	PKPdf	PKPdf	19 23 11.1	-0.5

IDC 29 19:04:30.0±5.5, 6°.21S×148°.40E, h112^{km}±56^{km}, mb3.0/2, mbtmp3.5/4, Error ellipse: s-maj=110.6km s-min=36.3km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.41	201	P	Pn	19 05 21.7	+0.2
	89nm,0.6s,baz=308,slow=6.1,SNR=7.1						
PMG				S	Sn	19 06 01.9	+0.6
	15nm,0.4s,baz=172,slow=21,SNR=1.5						
WRA	Warramunga Arr	19.32	224	P	P	19 08 46.3	-0.2
	0.7nm,0.8s,baz=50,slow=11,SNR=5.6						
ASAR	Alice Springs	22.27	217	P	P	19 09 18.2	+0.1
	0.6nm,0.6s,baz=49,slow=9.3,SNR=12						
	0.6nm,0.6s						
ILAR	Eielson Array	85.12	23	P	P	19 16 53.2	-0.1
	0.2nm,0.6s,baz=262,slow=5.0,SNR=1.7						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	146.49	284	PKPbc	PKPbc	19 23 58.6	-0.7
	0.2nm,0.4s,baz=66,slow=4.5,SNR=1.7						

*IDC **29** 19:05:02.3₀0.8, 55°.61N×149°.19W, h0^{km}, mb4.2/23, mbtmp4.1/28, ML3.6/5, MS3.4/23, Error ellipse: s-maj=19.2km s-min=13.1km az=30.0*
*MOS **29** 19:05:03.5₀0.4, 55°.82N×149°.31W, h12^{km}, mb4.6/10, Error ellipse: s-maj=30.5km s-min=9.7km az=100.2*
*NEIC **29** 19:05:03.4±1.4, 55°.71N±0°.08×149°.36W±0°.10, h7^{km}±5^{km}, mb4.3/7, ML4.1/44, ML4.0(AEIC), Error ellipse: s-maj=11.4km s-min=7.5km az=200.0*
*AEIC **29** 19:05:06.5±1.9, 55°.67N±0°.07×149°.2W±0°.1, h0^{km}±5^{km}, Error ellipse: s-maj=10.7km s-min=9.1km az=181.0*

ISC 29 19:05:04.2±0.6, 55°.74N±0°.07×149°.23W±0°.05, h10^{km}, n247, σ0°98/233, mb4.5/44, MS3.5/19, 8C-5D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.70	305	Pn	Pn	19 05 46.2	-1.4
OHAK	Old Harbor	2.70	305		Sn	19 06 17.6	-2.7
OHAK	Old Harbor	2.70	305	P	Pn	19 05 46.5	-1.2
OHAK	Old Harbor	2.70	305	P	Pn	19 05 46.5	-1.2
	baz=123						
OHAK				S	Sn	19 06 17.6	-2.7
	baz=123						
KDAK	Kodiak Island	2.76	319	Pn	Pn	19 05 47.8	-0.7
KDAK	Kodiak Island	2.76	319		Sn	19 06 20.4	-1.4
KDAK	Kodiak Island	2.76	319	*c i*P	Pn	19 05 47.9	-0.6
KDAK				pmax	pmax		
	comp=Z,149nm,0.9s						
KDAK	Kodiak Island	2.76	319	Pn	Pn	19 05 47.3	-1.2
	comp=Z,24nm,0.3s,baz=123,slow=4.7,SNR=30						
KDAK				Sn	Sn	19 06 19.9	-1.9
	comp=Z,10nm,0.3s,baz=354,slow=20,SNR=1.9						
KDAK				LR	LR	19 07 08.8	
	comp=Z,758nm,21.4s,baz=184,slow=44						
	comp=Z,97nm,0.4s						
SII	Sitkinak Islan	2.89	289		Pn	19 05 48.4	-1.9
SII					Sn	19 06 23.8	-1.4
SII	Sitkinak Islan	2.89	289	IAML		19 06 29.2	
	comp=N,855nm,0.7s						
SII	Sitkinak Islan	2.89	289	P	Pn	19 05 48.5	-1.9
SII	Sitkinak Islan	2.89	289	P	Pn	19 05 48.4	-1.9
	baz=105						
SYI	Shuyak Island	3.35	330	Pn	Pn	19 05 55.2	-1.5
SYI	Shuyak Island	3.35	330		Sn	19 06 36.3	-0.2
Q20K	Shuyak Island	3.36	330	P	Pn	19 05 56.4	-0.3
	baz=149						
Q20K				S	Sn	19 06 37.2	+0.6
	baz=149						
R18K	Karluk	3.42	305		Pn	19 05 56.8	-0.7
R18K	Karluk	3.42	305	IAML		19 06 45.3	
	comp=E,330nm,0.4s						
R18K				IAML		19 07 01.5	
	comp=N,317nm,0.5s						
CNPM	China Poot	3.95	345	Pn	Pn	19 06 04.1	-0.8
CNPM				IAML		19 06 53.3	
	comp=E,134nm,1.4s						
CNPM				IAML		19 06 54.6	
	comp=N,144nm,1.0s						
CNPM	China Poot	3.95	345		Sn	19 06 49.3	-1.8
Q19K	Cape Douglas,	4.00	325	Pn	Pn	19 06 04.9	-0.6
Q19K				IAML		19 07 25.7	
	comp=N,464nm,0.9s						
Q19K	Cape Douglas,	4.00	325	P	Pn	19 06 06.6	+1.1
	baz=142						
KAHG	Katmai Hook Gl	4.00	316		Pn	19 06 06.1	+0.4
MID	Middleton Isla	4.01	22	Pn	Pn	19 06 05.2	-0.5
MID				IAML		19 06 57.3	
	comp=N,249nm,0.7s						
MID				IAML		19 07 57.1	
	comp=E,341nm,1.3s						
MID	Middleton Isla	4.01	22	P	Pn	19 06 05.2	-0.5
Q23K	Middleton Isla	4.01	22		Sn	19 06 49.7	-2.9
Q23K	Middleton Isla	4.01	22	Pn	Pn	19 06 05.3	-0.3
Q23K				IAML		19 07 24.

comp=N,98nm,0.5s
RC01 IAML 19 07 31.9
comp=E,124nm,0.6s
RC01 Rabbit Creek A 5.37 357 P **Pn** **19 06 24.0 -0.4**
baz=178
GOAT Goat Mountain 5.41 24 **Pn** **19 06 24.6 -0.3**
BERG Berg Lake 5.51 30 **Pn** **19 06 25.5 -0.8**
SNH Sunshine Point 5.60 35 Pn **Pn** **19 06 28.0 +0.5**
N20K Mount Spurr 5.70 345 P **Pn** **19 06 27.6 -1.3**
baz=164
KNK Knik Glacier 5.71 4 **Pn** **19 06 28.4 -0.6**
SPCP Crater Peak Br 5.75 346 **Pn** **19 06 29.9 +0.2**
SPCG Spurr Capps Gl 5.76 346 **Pn** **19 06 29.1 -0.7**
P16K Nushagak River 5.78 308 **Pn** **19 06 29.7 -0.1**
P16K Nushagak River 5.78 308 P **Pn** **19 06 29.9 +0.1**
baz=122
BMRM Bremner River 5.78 23 **Pn** **19 06 29.6 -0.4**
BMRM Bremner River 5.78 23 P **Pn** **19 06 29.8 -0.2**
baz=207
N19K Bonanza Creek 5.79 334 **Pn** **19 06 28.9 -1.3**
SUA Susitna One 5.80 353 Pn **Pn** **19 06 30.3 0.0**
O17K Koliganek Bris 5.84 317 **Pn** **19 06 30.2 -0.6**
O17K Koliganek Bris 5.84 317 P **Pn** **19 06 30.6 -0.2**
baz=131
PMR Palmer 5.87 0 **Pn** **19 06 31.1 0.0**
PMR Palmer 5.87 0 P **Pn** **19 06 31.8 +0.6**
BARK Barkley Ridge 5.88 35 **Pn** **19 06 31.3 -0.2**
STLK Strandline Lak 5.94 348 **Pn** **19 06 31.2 -0.9**
KLU Klutina 6.02 15 Pn **Pn** **19 06 33.4 0.0**
KLU Klutina 6.02 15 P **Pn** **19 06 33.6 +0.2**
baz=199
N18K Kilae Creek 6.08 327 **Pn** **19 06 33.1 -1.0**
SML Sawmill 6.11 4 Pn **Pn** **19 06 34.7 +0.2**
SML Sawmill 6.11 4 P **Pn** **19 06 34.9 +0.5**
baz=185
O16K Kokwok River B 6.13 313 **Pn** **19 06 34.4 -0.3**
SCM Sheep Creek Mo 6.19 8 **Pn** **19 06 36.4 +0.7**
SCM Sheep Creek Mo 6.19 8 P **Pn** **19 06 36.7 +1.0**
baz=191
VRDI Verde Repeater 6.28 26 Pn **Pn** **19 06 37.2 +0.2**
SAMH Samovar Hills 6.29 42 **Pn** **19 06 37.1 +0.1**
KIAG Kiagna River 6.33 32 **Pn** **19 06 37.3 -0.4**
N25K Chitina, Valde 6.36 20 **Pn** **19 06 37.9 0.0**
N25K Chitina, Valde 6.36 20 P **Pn** **19 06 38.7 +0.8**
baz=205
SKT Skwentna 6.37 350 Pn **Pn** **19 06 37.4 -0.8**
SKT Skwentna 6.37 350 P **Pn** **19 06 38.5 +0.4**
baz=165
GLB Gilahina Butte 6.38 24 Pn **Pn** **19 06 38.0 -0.2**
N17K Nushagak Hills 6.39 322 **Pn** **19 06 37.7 -0.6**
PCA Pinnacle 6.47 44 **Pn** **19 06 39.3 -0.2**
M20K Styx River 6.49 343 **Pn** **19 06 39.1 -0.6**
PTPK Patty Peak 6.51 30 **Pn** **19 06 40.2 0.0**
M24K Tolsona, Glenn 6.58 13 **Pn** **19 06 41.0 +0.1**
BCPM Bancas Point 6.63 47 Pn **Pn** **19 06 42.2 +0.5**
BARN Barnard Glacie 6.65 34 **Pn** **19 06 42.0 -0.1**
O15K Ungalikthiuk R 6.67 305 **Pn** **19 06 42.1 -0.1**
CTGM Chitina Glacie 6.68 35 **Pn** **19 06 42.2 -0.3**
LOGN Logan Glacier 6.69 37 **Pn** **19 06 42.1 -0.5**
CUT Chulitna 6.71 356 Pn **Pn** **19 06 42.6 -0.1**
WASW Wrangell South 6.74 21 **Pn** **19 06 43.9 +0.6**
M19K Big River Lodg 6.74 339 **Pn** **19 06 41.9 -1.2**
WACK Wrangell Chich 6.76 20 **Pn** **19 06 43.7 +0.1**
WAT6 Susitna Watana 6.91 6 **Pn** **19 06 45.0 -0.5**
WAT6 Susitna Watana 6.91 6 P **Pn** **19 06 45.8 +0.3**
baz=188
L19K White Mountain 7.08 338 Pn **Pn** **19 06 46.4 -1.5**
O29M Mount Kennedy 7.27 47 **Pn** **19 06 50.7 +0.2**
N15K Kwethluk River 7.29 312 **Pn** **19 06 51.2 +0.6**
M16K Timber Creek 7.36 320 **Pn** **19 06 51.7 +0.1**
O14K Tigyukauivet M 7.38 303 **Pn** **19 06 51.7 -0.1**
DHY Denali Highway 7.42 7 Pn **Pn** **19 06 52.7 +0.1**
S31K Pelican 7.46 67 **Pn** **19 06 49.9 -3.1**
PAX Paxson 7.50 13 **Pn** **19 06 54.1 +0.4**
L18K Granite Mounta 7.55 332 **Pn** **19 06 53.0 -1.3**
M27K Edge Creek, AK 7.64 27 **Pn** **19 06 55.8 +0.2**
TRF Thorofare Moun 7.75 356 **Pn** **19 06 57.1 -0.1**
M15K Kasigluk River 7.83 314 **Pn** **19 06 57.8 -0.2**
SIT Sitka 7.83 75 P **Pn** **19 06 55.7 -2.3**
CAST Castle Rocks 7.84 351 Pn **Pn** **19 06 58.9 +0.7**
N14K Kuskokwak Cree 7.86 307 **Pn** **19 06 58.6 +0.2**
P30M Million Dollar 7.86 51 **Pn** **19 06 58.7 +0.1**
KTH Kantishna Hill 7.89 354 **Pn** **19 07 00.1 +1.2**
TTA Tatalina 8.00 337 P **Pn** **19 06 59.8 -0.6**
HYT Haines Junctio 8.00 46 Pn **Pn** **19 07 02.4 +1.8**
L16K Owhat River 8.01 323 **Pn** **19 07 00.2 -0.3**
MCK McKinley 8.02 1 **Pn** **19 07 01.2 +0.5**
L27K Beaver Creek, 8.25 24 **Pn** **19 07 04.1 +0.2**
SKAG Skagway 8.34 58 P **Pn** **19 07 05.5 +0.5**
M14K Bethel 8.38 312 Pn **Pn** **19 07 05.3 -0.3**
N30M Aishikik Lake 8.54 43 **Pn** **19 07 08.0 +0.2**
M29M Somme Creek 8.70 35 **Pn** **19 07 10.8 +0.7**
WHY Whitehorse 9.03 51 Pn **Pn** **19 07 15.3 +0.7**
ILAR Eielson Array 9.14 6 Pn **Pn** **19 07 16.1 +0.2**
ILAR Eielson Array 9.14 6 *eP* **Pn** **19 07 17.2 +1.2**
ILAR pmax pmax
comp=Z,1.0nm,0.3s
ILAR Eielson Array 9.14 6 Pn **Pn** **19 07 15.9 -0.1**
comp=Z,1.0nm,0.3s,baz=190,slow=13,SNR=22
ILAR Sn **Sn** **19 08 56.1 -2.6**
comp=Z,1.0nm,0.3s,baz=183,slow=21,SNR=8.6
comp=Z,3.4nm,0.5s
COLA College 9.19 4 P **Pn** **19 07 18.5 +1.8**
P33M Teslin, Yukon 9.79 56 Pn **Pn** **19 07 25.0 0.0**
EGAK Eagle 9.90 20 **Pn** **19 07 28.0 +1.6**
M31M Drury Creek, Y 10.01 44 **Pn** **19 07 28.7 +0.7**
N32M Quiet Lake 10.04 51 **Pn** **19 07 28.5 +0.2**
I26K Coal Creek Min 10.05 15 **Pn** **19 07 28.9 +0.5**
FARO Faro, Yukon 10.44 45 Pn **Pn** **19 07 34.9 +1.1**
IMAR Indian Mountai 10.51 350 **Pn** **19 07 34.3 -0.5**
DLBC Dease Lake 10.78 68 Pn **Pn** **19 07 39.9 +1.3**
comp=Z,0.3nm,0.3s,baz=267,slow=10,SNR=4.8
DLBC Sn **Sn** **19 09 39.5 +0.2**
comp=Z,0.5nm,0.3s,baz=149,slow=27,SNR=1.2
DLBC LR LR 19 11 03.8
comp=Z,273nm,20.0s,baz=292,slow=33
comp=Z,3.8nm,0.6s
G21K Allakaket 11.01 351 Pn **Pn** **19 07 41.1 -0.4**
G24K Hadweenzic Riv 11.03 4 Pn **Pn** **19 07 42.9 +1.0**
G19K Purcell Mounta 11.10 343 **Pn** **19 07 43.0 +0.2**
ANM Nome 11.92 324 Pn **Pn** **19 07 53.9 -0.1**
EPYK Eagle Plains 12.23 24 **Pn** **19 08 00.1 +1.8**
E25K Arctic Village 12.54 6 **Pn** **19 08 03.7 +1.1**
F28M Old Crow 12.69 16 **Pn** **19 08 05.0 +0.5**
INK Inuvik 14.53 24 Pn **Pn** **19 08 30.7 +1.1**
comp=Z,0.2nm,0.3s,baz=205,slow=15,SNR=13
INK LR LR 19 13 50.1
comp=Z,96nm,21.1s,baz=178,slow=36
comp=Z,6.1nm,0.8s
C36M Paulatuk 17.70 30 IAmb IAmb 19 09 11.5
comp=Z,11nm,0.9s
YKA Yellowknife Ar 18.82 55 *eP* **Pn** **19 09 25.2 +1.0**
YKA Yellowknife Ar 18.82 55 P **P** **19 09 23.5 -0.2**
comp=Z,0.1nm,0.3s,baz=267,slow=10,SNR=18
YKA LR LR 19 16 22.1
comp=Z,169nm,18.1s,baz=190,slow=36
comp=Z,1.6nm,0.9s
A36M Sachs Harbour 19.17 23 IAmb IAmb 19 09 31.2
comp=Z,19nm,0.8s
NEW Newport 20.98 97 P **P** **19 09 46.8 -0.6**
comp=Z,1.2nm,0.6s,baz=288,slow=15,SNR=2.3
NEW LR LR 19 15 43.3
comp=Z,32nm,21.4s,baz=304,slow=31
comp=Z,1.2nm,0.6s
HUMO Hull Mountain 21.46 117 P **P** **19 09 53.1 +0.6**
HUMO IAmb IAmb 19 10 00.3
comp=Z,8.1nm,0.9s
J05D Fort Rock, OR 21.86 113 P **P** **19 09 56.6 -0.4**
J05D IAmb IAmb 19 10 04.5
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 22.23 118 LR LR 19 16 12.7
comp=Z,98nm,21.7s,baz=344,slow=30
BILL Bilibino 23.67 319 P **P** **19 10 14.2 -1.3**
BILL IAmb IAmb 19 10 17.2
comp=Z,28nm,1.4s
BILL Bilibino 23.67 319 *i P* **P** **19 10 14.5 -1.0**
ELK Elko 26.81 110 LR LR 19 19 29.8
comp=Z,32nm,19.6s,baz=304,slow=32
NVAR Mina Array Bea 26.93 117 P **P** **19 10 44.8 -0.9**
comp=Z,0.9nm,0.7s,baz=307,slow=8.8,SNR=6.3
NVAR LR LR 19 19 40.5
comp=Z,135nm,18.1s,baz=286,slow=33
comp=Z,0.9nm,0.7s
RES Resolute Bay 28.03 27 LR LR 19 21 38.5
comp=Z,63nm,20.8s,baz=348,slow=35
R11B Troy Canyon, C 28.38 114 P **P** **19 10 58.2 -0.5**
PDAR Pinedale Array 28.53 100 P **P** **19 10 58.0 -2.1**
comp=Z,0.1nm,0.3s,baz=101,slow=23,SNR=1.6
comp=Z,0.1nm,0.3s
SEY Seymchan 29.66 308 LR LR 19 24 53.0
comp=Z,71nm,18.1s,baz=316,slow=40
PFO Pinyon Flats O 31.65 121 LR LR 19 21 26.7
comp=Z,61nm,19.4s,baz=68,slow=31
TIXI Tiksi 36.15 328⇑ *eP* **P** **19 12 06.3 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 36.15 328 LR LR 19 29 57.6
comp=Z,37nm,18.9s,baz=354,slow=41
FRB Frobisher Bay 38.79 44 LR LR 19 28 23.5
comp=Z,112nm,18.9s,baz=174,slow=36
YAK Yakutsk 39.77 313 *ceP* **P** **19 12 36.6 -0.1**
YAK pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 39.77 313 LR LR 19 29 26.8
comp=Z,64nm,18.3s,baz=104,slow=37
TXAR Lajitas Array 41.60 110 P **P** **19 12 50.4 -1.9**
comp=Z,0.4nm,0.8s,baz=356,slow=9.9,SNR=1.7
comp=Z,0.4nm,0.8s
SUMG Summit 43.45 24 *i P* **P** **19 13 07.0 -0.2**
SFJD Kangerlussuaq 43.52 34 LR LR 19 30 36.4
comp=Z,58nm,18.8s,baz=345,slow=35
SCHQ Scheffervill 44.28 55 P **P** **19 13 13.6 0.0**
comp=Z,3.7nm,0.8s,baz=329,slow=7.7,SNR=4.2
SCHQ LR LR 19 31 42.9
comp=Z,89nm,18.0s,baz=271,slow=36
comp=Z,3.7nm,0.8s
SPITS Spitsbergen Ar 46.05 4 P **P** **19 13 27.9 +0.5**
comp=Z,11nm,0.9s,baz=40,slow=7.9,SNR=5.0
comp=Z,11nm,0.9s
KLR Kul'dur 46.10 297⇓ *eP* **P** **19 13 28.9 +0.8**
KLR pmax pmax
comp=Z,9.0nm,2.5s
KLR Kul'dur 46.10 297 LR LR 19 34 43.6
comp=Z,28nm,18.4s,baz=36,slow=39
TKL Tuckaleechee C 47.94 86 LR LR 19 34 13.1
comp=Z,22nm,18.2s,baz=31,slow=36
NRIK Noril'sk 48.62 337 P **P** **19 13 48.3 +0.9**
comp=Z,2.1nm,0.3s,baz=52,slow=7.6,SNR=6.7
NRIK LR LR 19 36 30.9
comp=Z,62nm,19.2s,baz=3.0,slow=39
comp=Z,2.1nm,0.3s
H11N2 WAKE ISLAND Hy 48.64 240 T T 20 06 05.0
baz=31,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 48.64 240 T T 20 06 05.2
baz=31,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 48.66 240 T T 20 06 08.2
baz=31,slow=76,SNR=16
H11S1 WAKE ISLAND Hy 49.78 240 T T 20 07 31.9
baz=31
H11S2 WAKE ISLAND Hy 49.79 240 T T 20 07 33.6
baz=31,slow=74
H11S3 WAKE ISLAND Hy 49.79 240 T T 20 07 33.8
baz=31,slow=74
ARCES ARCESS Array B 54.97 2 *eP* **P** **19 14 34.9 0.0**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 54.97 2 P **P** **19 14 34.6 -0.2**
comp=Z,2.0nm,0.6s,baz=7.7,slow=7.1,SNR=13
comp=Z,2.0nm,0.6s
SONM Songino Array 59.02 310 P **P** **19 15 04.6 +0.7**
comp=Z,1.5nm,1.0s,baz=54,slow=5.3,SNR=7.3
SONM LR LR 19 40 23.2
comp=Z,56nm,21.0s,baz=40,slow=36
comp=Z,1.5nm,1.0s
ZALV Zalesovo Beam 62.04 327 *eP* **P** **19 15 24.6 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 62.04 327 P **P** **19 15 24.6 +0.3**
comp=Z,2.5nm,0.6s,baz=27,slow=6.3,SNR=14
comp=Z,2.5nm,0.6s
NB2 NORSAR Subarra 62.54 11 P **P** **19 15 27.7 +0.1**
comp=Z,7.0nm,0.9s,baz=347,slow=6.9
NOA NORSAR Array B 62.54 11 *eP* **P** **19 15 26.1 -1.5**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 62.54 11 P **P** **19 15 27.8 +0.1**
comp=Z,2.6nm,0.8s,baz=348,slow=6.7,SNR=6.8
comp=Z,2.6nm,0.8s
FINES FINESS Array B 63.10 3 P **P** **19 15 31.6 +0.4**
comp=Z,5.5nm,0.8s,baz=13,slow=7.2,SNR=14
comp=Z,5.5nm,0.8s
HFS Hagfors 63.68 9 P **P** **19 15 35.2 +0.1**
comp=Z,1.0nm,0.5s,baz=306,slow=5.1,SNR=4.2
comp=Z,1.0nm,0.5s
DGZ Jazzator, Alta 64.83 323⇑ *iP* **P** **19 15 44.0 +1.0**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 65.88 20 P **P** **19 15 48.5 -1.0**
comp=Z,3.1nm,0.9s,baz=2.7,slow=6.0,SNR=3.8
comp=Z,3.1nm,0.9s
ARU Arti 65.94 344 *c iP* **P** **19 15 50.0 +0.1**
ARU S **S** **19 24 35.4 -1.3**
ARU SS **SS** **19 28 48.3 -2.2**
ARU pmax pmax
comp=Z,6.0nm,0.7s
VSU Vasula 66.10 2 *deP* **P** **19 15 52.0 +1.1**
VSU pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 66.71 329⇑ *eP* **P** **19 15 54.6 -0.3**
KURK pmax pmax
comp=Z,5.0nm,1.7s
BRVK Borovoye 66.79 335⇑ *eP* **P** **19 15 55.7 +0.3**
BRVK pmax pmax
comp=Z,12nm,2.5s
BVAR Borovoye Array 66.79 335 P **P** **19 15 55.9 +0.4**
comp=Z,4.2nm,0.7s,baz=32,slow=7.0,SNR=23
BVAR LR LR 19 48 21.5
comp=Z,39nm,18.4s,baz=35,slow=39
comp=Z,4.2nm,0.7s
KURBB Kurchatov Arra 66.82 329 P **P** **19 15 55.7 +0.1**
comp=Z,0.9nm,0.3s,baz=27,slow=6.1,SNR=8.9
KURBB LR LR 19 49 38.2
comp=Z,37nm,18.1s,baz=188,slow=40
comp=Z,0.9nm,0.3s
MK31 Makanchi Array 69.06 325⇓ *eP* **P** **19 16 09.6 -0.2**
MKAR Makanchi Array 69.06 325 P **P** **19 16 09.9 +0.1**
comp=Z,3.0nm,0.8s,baz=42,slow=6.2,SNR=25
comp=Z,3.0nm,0.8s
OBN Obninsk 69.41 356⇓ *eP* **P** **19 16 12.5 +0.8**
OBN *PP **pwP** **19 16 21.0 +1.3**
OBN 19 16 35.0
OBN 19 18 46.0
OBN PPP PPP 19 20 25.0
OBN pmax pmax
comp=Z,4.0nm,0.4s
BELG Belogornoye 71.34 349⇑ *eP* **P** **19 16 23.9 +0.3**
BELG pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 73.92 1 P **P** **19 16 39.0 0.0**
comp=Z,2.6nm,0.7s,baz=0.2,slow=5.7,SNR=9.6
comp=Z,2.6nm,0.7s
AKBB Malin Array Si 73.92 1⇓ *eP* **P** **19 16 39.4 +0.4**
GERES GERESS Array B 74.81 12 P **P** **19 16 44.9 +0.5**
comp=Z,1.1nm,0.5s,baz=20,slow=4.4,SNR=2.9
comp=Z,1.1nm,0.5s
AAK Ala-Archa 75.23 328 LR LR 19 52 02.9
comp=Z,30nm,18.2s,baz=26,slow=37
WATA Walderalm 76.04 13 *i P* **P** **19 16 52.3 +0.8**
comp=Z,4.9nm,0.7s
SQTA Sankt Quirin 76.10 14 *i P* **P** **19 16 52.8 +1.0**
comp=Z,6.2nm,1.0s
WTTA Wattenberg 76.12 13 *i P* **P** **19 16 52.9 +0.8**
comp=Z,4.2nm,0.8s
FETA Feichten 76.23 14 *i P* **P** **19 16 53.3 +0.7**
comp=Z,3.0nm,0.9s
KBA Koelnbreinsper 76.51 12 *i P* **P** **19 16 55.5 +1.3**
comp=Z,4.4nm,0.7s
MYKA Terra Mystica 76.99 12 *i P* **P** **19 16 58.0 +1.2**
comp=Z,1.3nm,0.4s
SOKA Soboth 77.10 11 *i P* **P** **19 16 58.2 +0.8**
comp=Z,2.1nm,0.6s
OBKA Obir 77.21 11 *i P* **P** **19 16 58.7 +0.6**
comp=Z,6.0nm,0.6s
KBZ Khabaz 80.37 351 *eP* **P** **19 17 18.7 +3.3**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
ESDC Sonseca Array 80.46 26 P **P** **19 17 17.5 +1.5**
comp=Z,2.2nm,0.8s,baz=333,slow=5.1,SNR=13
comp=Z,2.2nm,0.8s
GEYT Alibeck 83.83 339 P **P** **19 17 35.0 +1.3**
comp=Z,2.6nm,0.8s,baz=64,slow=10,SNR=6.4
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 84.87 358 *eP* **P** **19 17 41.5 +2.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 84.87 358 P **P** **19 17 39.7 +0.6**
comp=Z,0.9nm,0.8s,baz=320,slow=3.2,SNR=3.6
comp=Z,0.9nm,0.8s
CMAR Chiang Mai Arr 86.57 298 P **P** **19 17 47.6 0.0**
comp=Z,1.4nm,0.4s,baz=20,slow=4.7,SNR=12
comp=Z,1.4nm,0.4s
WIN Windhoek 145.35 23 **PKPbc** **19 24 40.7 -1.4**
QSPA South Pole Qui 145.53 180 PKPdf **PKPdf** **19 24 38.7 -2.3**
QSPA South Pole Qui 145.53 180 PKPbc **PKPdf** **19 24 41.2 +0.1**
comp=Z,5.8nm,0.9s,baz=79,slow=1.6,SNR=13
BOSA Boshof 152.60 11 PKPbc **PKPbc** **19 24 59.7 -1.0**
comp=Z,1.7nm,1.0s,baz=346,slow=4.4,SNR=3.2

IDC 29 19:16:13.4±876.0, 53°.96N×4°.88E, h0km, Error ellipse: s-maj=392.0km s-min=152.2km az=115.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.52**	**129**	I	I	20 05 00.0	
	baz=314,slow=304,SNR=0.6						
I43RU	**DUBNA INFRASON**	**8.50**	**68**	I	I	21 07 00.0	
	0.1nm,1.5s,baz=271,slow=354,SNR=4.1						
I31KZ	**AKTYUBINSK INF**	**32.14**	**74**	I	I	22 29 36.3	
	baz=296,slow=367,SNR=3.9						

*SOME **29** 19:17:53.6, 39°.83N×75°.40E, h10km*
*KRNET **29** 19:17:54.9±0.1, 39°.92N×75°.27E, mb2.9*
*NNC **29** 19:17:55.2±0.5, 39°.89N×75°.37E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=3.6km s-min=2.8km az=158.0

ISC 29 19:17:56.5±1.1, 39°.99N±0°.05×75°.23E±0°.03, h10km, n57,
σ1=97/90, 19C-25D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.32**	**272**⇑	*iP*	**Pg**	**19 18 20.9**	**-1.1**
	baz=75						
SFK				⇑*iS*	**Sg**	19 18 40.1	+0.9
	baz=75						
NRN	**Naryn**	**1.56**	**22**⇓	*eP*	**Pb**	**19 18 24.8**	**-0.9**
	baz=19						
NRN				⇓*iS*	**Sg**	19 18 46.9	+0.2
	baz=19						
OHH	**Osh**	**1.94**	**287**⇑	*eP*	**Pb**	**19 18 31.9**	**-0.2**
	baz=88						
OHH				⇑*eS*	**Sg**	19 18 59.1	+0.1
	baz=88						
ARLS	**Aral**	**1.99**	**340**⇓	*eP*	**Pb**	**19 18 32.7**	**-0.2**
	baz=40						
ARLS				⇓*eS*	**Sg**	19 19 00.9	+0.4
	baz=40						
ARSB	**Arslanbob**	**2.17**	**309**⇑	*eP*	**Pb**	**19 18 35.3**	**-0.6**
	baz=10.0						
ARSB				⇑*eS*	**Sb**	19 19 05.0	+2.1
	baz=10.0						
UCH	**Uchtor**	**2.30**	**347**	P	**Pb**	**19 18 39.0**	**+0.7**
	SNR=26						
UCH	**Uchtor**	**2.30**	**347**⇓	*iP*	**Pb**	**19 18 37.5**	**-0.9**
	baz=46						
UCH				⇓*iS*	**Sb**	19 19 08.2	+1.2
	baz=46						
ULHL	**Ulahol**	**2.38**	**18**	P	**Pb**	**19 18 38.0**	**-1.6**
	SNR=26						
ULHL	**Ulahol**	**2.38**	**18**⇓	*iP*	**Pb**	**19 18 38.0**	**-1.6**
	baz=17						
ULHL				⇓*iS*	**Sb**	19 19 09.9	+0.8
	baz=17						
KDJ	**Kajisay**	**2.60**	**34**⇓	*eP*	**Pb**	**19 18 41.1**	**-2.2**
	baz=33						
KDJ				⇓*eS*	**Sb**	19 19 14.7	-0.7
	baz=33						
TARG	**Taragay, Kyrgy**	**2.62**	**48**⇑	*iP*	**Pb**	**19 18 41.2**	**-2.6**
	baz=46						
TARG				⇑*iS*	**Sb**	19 19 14.9	-1.2
	baz=46						
KBK	**Karagaybulak**	**2.67**	**356**	P	**Pb**	**19 18 43.5**	**-1.1**
	SNR=45						
KBK	**Karagaybulak**	**2.67**	**356**⇓	*iP*	**Pb**	**19 18 42.6**	**-2.0**
	baz=55						
KBK				⇓*iS*	**Sb**	19 19 17.1	-0.4
	baz=55						
DRK	**Karamyk**	**2.69**	**260**⇓	*eP*	**Pb**	**19 18 42.0**	**-2.9**
	baz=62						
DRK				⇓*eS*	**Sb**	19 19 16.2	-1.9
	baz=62						
AAK	**Ala-Archa**	**2.70**	**348**	P	**Pb**	**19 18 44.3**	**-0.8**
	SNR=10						
AAK	**Ala-Archa**	**2.70**	**348**⇓	*iP*	**Pb**	**19 18 42.8**	**-2.3**
	baz=48						
AAK				⇓*iS*	**Sb**	19 19 17.7	-0.6
	baz=48						
EKS2	**Erkin-Say**	**2.88**	**338**	*eP*	**Pb**	**19 18 45.5**	**-2.6**
	baz=38						
EKS2				*i* S	**Sb**	19 19 22.2	-1.3
	baz=38						
TKM2	**Tokmak 2**	**2.94**	**5**⇑	Pg	**Pg**	**19 18 50.9**	**-2.0**
	15nm,0.6s						
TKM2				⇑Lg	Lg	19 19 31.7	
	17nm,0.5s						
CHMS	**Chumysh**	**3.03**	**353**⇓	*iP*	**Pb**	**19 18 47.2**	**-3.3**
	baz=53						
CHMS				⇓*iS*	**Sb**	19 19 25.5	-2.1
	baz=53						
KST	**Kastek**	**3.10**	**10**	Pg	**Pg**	**19 18 53.9**	**-2.0**
	9.6nm,0.4s						
KST				Lg	Lg	19 19 37.2	
	72nm,0.8s						
KST	**Kastek**	**3.10**	**10**	*eP*	**Pg**	**19 18 53.9**	**-2.0**
	9.6nm,0.4s						
KST				*eS*	**Sg**	19 19 36.7	+0.6
	72nm,0.8s						
MRKS	**Merke**	**3.14**	**332**	Pg	**Pg**	**19 18 55.0**	**-1.7**
	6.4nm,0.5s						
MRKS				Lg	Lg	19 19 39.0	
	23nm,0.5s						
MRKS	**Merke**	**3.14**	**332**	*eP*	**Pg**	**19 18 55.5**	**-1.2**
	6.4nm,0.5s						
MRKS				*eS*	**Sg**	19 19 39.9	+2.6
	23nm,0.5s						
IZV	**Izvestkoviy**	**3.22**	**18**	Pg	**Pg**	**19 18 55.7**	**-2.5**
	14nm,0.5s						
IZV				Lg	Lg	19 19 40.4	
	54nm,0.8s						
IZV	**Izvestkoviy**	**3.22**	**18**	*eP*	**Pg**	**19 18 55.6**	**-2.5**
	14nm,0.5s						
IZV				*eS*	**Sg**	19 19 40.4	+0.5
	54nm,0.8s						
MNAS	**Manas**	**3.23**	**321**⇑	*eP*	**Pb**	**19 18 50.5**	**-3.6**
	baz=22						
MNAS				⇑*eS*	**Sb**	19 19 30.6	-2.9
	baz=22						
MTBS	**Maitube**	**3.27**	**16**	Pg	**Pg**	**19 18 56.9**	**-2.2**
	6.6nm,0.3s						
MTBS				Lg	Lg	19 19 42.0	
	24nm,0.4s						
MTBS	**Maitube**	**3.27**	**16**	*eP*	**Pg**	**19 18 56.9**	**-2.2**
	6.6nm,0.3s						
MTBS				*eS*	**Sg**	19 19 42.0	+0.6
	24nm,0.4s						
DGS	**Degeres**	**3.27**	**7**	Pg	**Pg**	**19 18 56.9**	**-2.3**
	11nm,0.8s						
DGS				Lg	Lg	19 19 42.3	
	30nm,0.7s						
DGS				Lg	Lg	19 19 42.4	
	30nm,0.6s						
DGS	**Degeres**	**3.27**	**7**	*eP*	**Pg**	**19 18 56.9**	**-2.3**
	11nm,0.8s						
DGS				*eS*	**Sg**	19 19 42.3	+0.6
	30nm,0.7s						
TNSS	**Tian-Shan**	**3.31**	**22**	Pg	**Pb**	**19 18 56.9**	**+1.4**
	15nm,0.4s						
TNSS				Lg	Lg	19 19 42.6	
	21nm,0.7s						
TNSS	**Tian-Shan**	**3.31**	**22**	Lg	Lg	19 19 43.2	
	86nm,0.8s						
TNSS	**Tian-Shan**	**3.31**	**22**	*eP*	**Pb**	**19 18 56.9**	**+1.4**
	15nm,0.3s						
TNSS				*eS*	**Sg**	19 19 42.6	-0.2
	21nm,0.7s						
USP	**Ospenovka**	**3.32**	**351**	P	**Pb**	**19 18 52.5**	**-3.1**
	SNR=10						
USP	**Ospenovka**	**3.32**	**351**⇑	*iP*	**Pn**	**19 18 51.4**	**+2.8**
	baz=50						
USP				⇑*iS*	**Sb**	19 19 32.5	-3.5

baz=50
ANVS Anan'yevo 3.34 33⇑*e*P Pn 19 18 51.3 +2.3
baz=31
ANVS ⇑*e*S Sn 19 19 32.1 +3.3
baz=31
BTK Batken 3.38 273⇓*e*P Pn 19 18 51.3 +1.8
baz=74
BTK ⇓*e*S Sn 19 19 33.2 +3.4
baz=74
MDOK Medeo 3.45 23 ⇑Pg Pb 19 18 58.7 +0.8
7.8nm,0.6s
MDOK Pg Pb 19 18 59.1 +1.3
7.1nm,0.4s
MDOK Lg Lg 19 19 46.2
54nm,0.8s
MDOK ⇓Lg Lg 19 19 46.5
62nm,0.7s
MDOK Medeo 3.45 23 *e*P Pb 19 18 59.1 +1.3
7.1nm,0.4s
MDOK *e*S Sg 19 19 46.2 -1.2
54nm,0.8s
TRKS Terek-Say 3.46 298⇓*e*P Pn 19 18 52.4 +1.7
baz=98
TRKS ⇓*e*S Sn 19 19 34.7 +2.9
baz=98
KNDC Almaty 3.48 21 ⇑Pg Pb 19 18 59.9 +1.7
16nm,0.5s
KNDC ⇓Lg Lg 19 19 48.0
170nm,0.7s
KOTS Kotyrbulak 3.54 23 Pg Pb 19 19 00.7 +1.4
8.9nm,0.5s
KOTS Lg Lg 19 19 48.9
142nm,0.7s
KOTS Kotyrbulak 3.54 23 *e*P Pb 19 19 00.7 +1.4
8.9nm,0.5s
KOTS *e*S Sg 19 19 48.9 -1.2
142nm,0.7s
KRBS Karabastau 3.72 5 Pg Pg 19 19 05.0 -2.8
7.1nm,0.4s
KRBS Lg Lg 19 19 56.3
9.8nm,0.7s
KRBS Karabastau 3.72 5 *e*P Pg 19 19 05.0 -2.8
7.1nm,0.4s
KRBS *e*S Sg 19 19 56.1 +0.1
14nm,0.7s
KTBS Karatobe 3.88 16 Pg Pb 19 19 07.3 +2.3
9.8nm,0.5s
KTBS Lg Lg 19 20 00.5
11nm,0.5s
KTBS Karatobe 3.88 16 *e*P Pb 19 19 07.3 +2.3
9.8nm,0.5s
KTBS *e*S Sg 19 20 00.2 -0.8
43nm,0.6s
SATY Saty 3.89 37 Pg Pb 19 19 06.6 +1.3
5.3nm,0.6s
SATY Lg Lg 19 19 58.9
16nm,0.6s
SATY Saty 3.89 37 *e*P Pb 19 19 06.5 +1.3
5.3nm,0.6s
SATY *e*S Sg 19 19 58.9 -2.4
16nm,0.6s
CHKK Chushkaly 4.08 18 Pg Pb 19 19 10.6 +2.2
6.5nm,0.7s
CHKK Lg Lg 19 20 06.1
23nm,0.7s
CHKK Chushkaly 4.08 18 *e*P Pb 19 19 10.6 +2.2
6.5nm,0.3s
CHKK *e*S Sg 19 20 06.1 -1.4
23nm,0.7s
UZB Uzynbulak 4.25 41 Pg Pb 19 19 13.0 +1.6
3.5nm,0.4s
UZB Lg Lg 19 20 10.0
8.0nm,0.4s
UZB Uzynbulak 4.25 41 *e*P Pb 19 19 13.0 +1.6
3.5nm,0.4s
UZB *e*S Sg 19 20 10.0 -3.0
8.0nm,0.4s
KPKS Kokpek 4.33 36 Pg Pb 19 19 14.3 +1.5
4.5nm,0.6s
KPKS Lg Lg 19 20 12.0
23nm,0.6s
KPKS Kokpek 4.33 36 *e*P Pb 19 19 14.2 +1.5
4.5nm,0.6s
KPKS *e*S Sg 19 20 12.1 -3.5
23nm,0.6s
PDGK Podgornoye 4.62 42 Pg Pb 19 19 19.1 +1.4
1.1nm,0.7s
PDGK Lg Lg 19 20 20.7
4.0nm,0.5s
KK31 Karatay Array 4.71 313 ⇑Pg Pg 19 19 23.2 -3.5
0.5nm,0.4s,baz=137,slow=16,SNR=5.2
KK31 ⇓Lg Lg 19 20 29.8
1.7nm,0.5s,baz=129,slow=28,SNR=4.2

*SJA **29** 19:36:01.5±1.1,28°.34S×67°.47W,h144km±4km, ML3.7, MW3.8*
ISC 29 19:36:02.2±0.9,**28°.30S**±0°.03×**67°.51W**±0°.03,**h139**km±8km, **n37**,σ0°**99**/61,**La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VCA	**Vinchina**	**0.76**	**234**	*e*P		Pn	**19 36 24.4**	**+0.2**
VCA				*e*S		Sn	**19 36 41.5**	**+0.7**
VCA				IAML			19 36 43.3	
	comp=Z,2μm,0.4s							
ACLC	**CERRO LA CRUZ**	**1.23**	**157**	*e*P		Pn	**19 36 28.3**	**0.0**
ACLC				IAML			19 36 47.5	
	comp=Z,592nm,0.8s							
ACLC				*e*S		Sn	**19 36 47.6**	**-0.6**
AGUA	**GUANDACOL**	**1.47**	**216**	*e*P		Pn	**19 36 30.9**	**+0.2**
AGUA				*e*S		Sn	**19 36 52.8**	**+0.3**
AGUA				IAML			19 36 54.3	
	comp=Z,1μm,0.5s							
CYA	**Choya**	**1.51**	**96**	*e*P		Pn	**19 36 31.1**	**0.0**
CYA				*e*S		Sn	**19 36 51.8**	**-1.4**
AVFE	**Valle Fertil**	**2.36**	**179**	*e*P		Pn	**19 36 41.0**	**-0.1**
AVFE				*e*S		Sn	**19 37 10.8**	**-0.3**
GUSE	**Guasayan**	**2.39**	**81**	*e*P		Pn	**19 36 41.2**	**-0.3**
AHML	**Horco Molle**	**2.45**	**53**	*e*P		Pn	**19 36 42.2**	**0.0**
AC05	**El Transito**	**2.49**	**257**	*e*P		Pn	**19 36 43.6**	**+0.8**
AC05				*e*S		Sn	**19 37 14.6**	**+0.6**
AC05				IAML			19 37 16.2	
	comp=Z,291nm,0.8s							
GO03	**Copiap**	**2.51**	**286**	*e*P		Pn	**19 36 43.2**	**+0.2**
GO03				*e*S		Sn	**19 37 13.6**	**-0.8**
AROD	**Rodeo**	**2.54**	**222**	*e*P		Pn	**19 36 44.3**	**+0.7**
AROD				*e*S		Sn	**19 37 16.2**	**+0.8**
FSA	**Cafayete**	**2.57**	**32**	*e*P		Pn	**19 36 45.2**	**+1.4**
ACCO	**Cerro Coronel**	**2.66**	**210**	*e*P		Pn	**19 36 45.6**	**+0.5**
ACCO				IAML			19 37 20.5	
	comp=Z,294nm,0.6s							
CO01	**Juntas del Tor**	**2.81**	**233**	*e*P		Pn	**19 36 48.0**	**+1.0**
CO01				IAML			19 37 25.0	
	comp=Z,111nm,1.7s							
LCO	**Las Campanas**	**2.90**	**255**	*e*P		Pn	**19 36 48.3**	**+0.2**
LCO				*e*S		Sn	**19 37 23.2**	**-0.2**
ACHE	**Chepes**	**2.95**	**166**	*e*P		Pn	**19 36 49.4**	**+0.7**
ACHE				*e*S		Sn	**19 37 23.4**	**-1.1**
DOCA	**Reserva Natura**	**2.98**	**207**	*e*P		Pn	**19 36 49.2**	**0.0**
DOCA				*e*S		Sn	**19 37 25.0**	**-0.5**
RTLL	**Cerro Villicun**	**3.14**	**195**	*e*P		Pn	**19 36 51.1**	**+0.2**
RTLL				*e*S		Sn	**19 37 28.3**	**-0.4**
RTLL				IAML			19 37 29.1	
	comp=Z,170nm,0.5s							
AC04	**Llanos de Chal**	**3.15**	**271**	*e*P		Pn	**19 36 50.6**	**-0.4**
AC04				*e*S		Sn	**19 37 27.0**	**-1.8**
AC04				IAML			19 37 34.0	
	comp=Z,78nm,0.5s							
GO04	**Tololo Observa**	**3.43**	**236**	*e*P		Pn	**19 36 54.8**	**-0.2**
GO04				*e*S		Sn	**19 37 35.5**	**-0.2**
AC01	**Pan de Azucar**	**3.49**	**307**	*e*P		Pn	**19 36 54.5**	**-1.0**
AC01				*e*S		Sn	**19 37 33.5**	**-3.2**
GO02	**Mina Guanaco**	**3.63**	**329**	*e*P		Pn	**19 36 57.9**	**+0.2**
GO02				*e*S		Sn	**19 37 41.8**	**+1.1**
RTCV	**Cerro Valdivia**	**3.67**	**194**	*e*P		Pn	**19 36 57.6**	**-0.2**
RTCV				*e*S		Sn	**19 37 39.9**	**-1.1**
CO03	**El Pedregal**	**3.75**	**227**	*e*P		Pn	**19 36 59.0**	**0.0**
CO03				*e*S		Sn	**19 37 41.8**	**-1.3**
CO03				IAML			19 37 45.8	
	comp=Z,138nm,1.0s							
RTLS	**Leoncito**	**3.82**	**204**	*e*P		Pn	**19 37 00.1**	**0.0**
RTLS				*e*S		Sn	**19 37 42.6**	**-2.3**
RTLS				IAML			19 37 46.8	
	comp=Z,122nm,0.5s							
TCA	**Tanti**	**3.95**	**141**	*e*P		Pn	**19 37 01.4**	**-0.2**
TCA				*e*S		Sn	**19 37 45.4**	**-2.2**
CO02	**Combarbal**	**4.20**	**225**	*e*P		Pn	**19 37 04.2**	**-0.7**
CO02				*e*S		Sn	**19 37 52.5**	**-1.0**
CO02				IAML			19 37 54.9	
	comp=Z,98nm,0.6s							
ASAL	**Salagasta**	**4.43**	**195**	*e*P		Pn	**19 37 08.0**	**+0.1**
ASAL				*e*S		Sn	**19 37 57.7**	**-1.4**
ASAL				IAML			19 37 59.3	
	comp=Z,51nm,0.6s							
PB14	**IPOC Station P**	**4.48**	**324**	*e*P		Pn	**19 37 09.1**	**+0.2**
PB14				*e*S		Sn	**19 37 59.1**	**-1.6**
PB14				IAML			19 38 01.6	
	comp=Z,28nm,0.3s							
ARCO	**CERRO ARCO**	**4.69**	**195**	*e*S		Sn	**19 38 06.3**	**+0.9**
ARCO				IAML			19 38 14.0	
	comp=Z,55nm,0.7s							
AAGR	**Agrelo**	**4.91**	**193**	*e*P		Pn	**19 37 14.0**	**-0.3**
VA03	**San Esteban**	**5.17**	**210**	*e*P		Pn	**19 37 17.7**	**0.0**
VA03				IAML			19 39 02.3	
	comp=Z,47nm,0.7s							
PB15	**IPOC Station P**	**5.37**	**340**	*e*P		Pn	**19 37 21.9**	**+1.3**
LVC	**Limon Verde**	**5.80**	**347**	Pn		Pn	**19 37 27.8**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=143,slow=9.4,SNR=8.4							
LVC				Sn		Sn	**19 38 31.0**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=299,slow=19,SNR=6.7							
	comp=Z,2.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**78.56**	**68**	P		P	**19 47 50.1**	**+1.4**
	comp=Z,4.0nm,0.8s,baz=259,slow=5.2,SNR=27							
	comp=Z,4.0nm,0.8s							
KURBB	**Kurchatov Arra**	**146.04**	**40**	PKP		**PKiKP**	**19 55 27.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=306,slow=3.7,SNR=6.1							
ZALV	**Zalesovo Beam**	**147.35**	**31**	PKP		**PKiKP**	**19 55 30.5**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=306,slow=3.5,SNR=8.7							
MKAR	**Makanchi Array**	**150.03**	**44**	PKP		**PKiKP**	**19 55 37.5**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=306,slow=2.9,SNR=11							

IDC 29 20:09:09.2±37.0,**4°.97N**×**126°.67E,h0**km,**mb3.8**/3, **mbtmp3.8**/3,**Error ellipse: s-maj=621.4km s-min=150.4km az=161.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.88**	**163**	P		P	20 14 42.7	-0.2
	1.3nm,0.6s,baz=343,slow=10,SNR=18							
	1.3nm,0.6s							
ASAR	**Alice Springs**	**29.32**	**166**	P		P	20 15 14.2	+0.4
	0.3nm,0.8s,baz=343,slow=7.0,SNR=2.2							
	0.3nm,0.8s							
STKA	**Stephens Creek**	**39.31**	**160**	P		P	20 16 39.9	-0.2
	1.0nm,0.4s,baz=332,slow=11,SNR=3.6							
	1.0nm,0.4s							

*NEIC **29** 20:26:16.9±1.9,56°.33N±0°.09×148°.8W±0°.1,h10km±2km, ML3.5/46,ML3.2(AEIC),Error ellipse: s-maj=15.3km s-min=9.2km az=168.0*
*AEIC **29** 20:26:22.1±1.8,56°.3N±0°.1×148°.88W±0°.03,h8km±8km, Error ellipse: s-maj=15.4km s-min=2.4km az=181.0*
ISC 29 20:26:17.2±2.1,**56°.4N**±0°.1×**148°.86W**±0°.06,**h10**km,**n134, s1802**/129,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.46**	**306**	Pn		Pn	**20 26 58.6**	**+1.3**
OHAK	**Old Harbor**	**2.57**	**291**			Pn	**20 26 59.6**	**+0.8**
OHAK						Sn	**20 27 28.5**	**-1.6**
OHAK	**Old Harbor**	**2.57**	**291**	P		Pn	**20 26 59.6**	**+0.8**
	baz=108							
OHAK				S		Sn	**20 27 28.5**	**-1.6**
	baz=108							
Q20K	**Shuyak Island**	**2.93**	**321**	P		Pn	**20 27 05.3**	**+1.6**
	baz=138							
Q20K				S		Sn	**20 27 37.9**	**-1.0**
	baz=138							
SYI	**Shuyak Island**	**2.93**	**321**			Pn	**20 27 05.3**	**+1.6**
SYI						Sn	**20 27 37.9**	**-1.0**
SYI	**Shuyak Island**	**2.93**	**321**	IAML			20 27 44.1	
	comp=E,56nm,1.2s							
SYI				IAML			20 28 44.3	
	comp=N,51nm,1.2s							
SII	**Sitkinak Islan**	**2.96**	**275**	Pn		Pn	**20 27 02.6**	**-1.6**
SII				IAML			20 27 54.4	
	comp=N,112nm,1.1s							
R18K	**Karluk**	**3.28**	**293**			Pn	**20 27 08.4**	**-0.2**
R18K	**Karluk**	**3.28**	**293**	IAML			20 28 03.5	
	comp=N,102nm,1.4s							
R18K				IAML			20 28 45.4	
	comp=E,74nm,1.3s							
R18K	**Karluk**	**3.28**	**293**	P		Pn	**20 27 08.4**	**-0.2**
	baz=110							
Q23K	**Middleton Isla**	**3.32**	**23**			Pn	**20 27 11.5**	**+2.4**
Q23K	**Middleton Isla**	**3.32**	**23**			Sn	**20 27 47.7**	**-0.9**
Q23K	**Middleton Isla**	**3.32**	**23**	IAML			20 27 41.6	
	comp=N,199nm,1.3s							
Q23K	**Middleton Isla**	**3.32**	**23**	P		Pn	**20 27 11.5**	**+2.4**
	baz=204							
Q23K				S		Sn	**20 27 47.7**	**-0.9**
	baz=204							
CNPM	**China Poot**	**3.38**	**339**			Pn	**20 27 11.2**	**+1.2**
CNPM						Sn	**20 27 50.4**	**+0.1**
BRSE	**Bradley Lake S**	**3.50**	**344**			Pn	**20 27 12.4**	**+0.7**
BRSE						Sn	**20 27 52.5**	**-0.6**
BRSE	**Bradley Lake S**	**3.50**	**344**	P		Pn	**20 27 12.4**	**+0.7**
	baz=163							
BRSE				S		Sn	**20 27 52.5**	**-0.6**
	baz=163							
BRLK	**Bradley Lake**	**3.54**	**343**			Pn	**20 27 12.8**	**+0.5**
BRLK	**Bradley Lake**	**3.54**	**343**	IAML			20 27 57.4	
	comp=N,38nm,1.4s							
BRLK				IAML			20 28 11.1	
	comp=E,40nm,1.4s							
Q19K	**Cape Douglas,**	**3.61**	**317**			Pn	**20 27 13.7**	**+0.5**
Q19K	**Cape Douglas,**	**3.61**	**317**	IAML			20 27 39.8	
	comp=N,123nm,1.4s							
Q19K	**Cape Douglas,**	**3.61**	**317**	P		Pn	**20 27 13.7**	**+0.5**
	baz=133							
P23K	**Montague Islan**	**3.69**	**11**			Pn	**20 27 14.8**	**+0.6**
P23K	**Montague Islan**	**3.69**	**11**	P		Pn	**20 27 14.8**	**+0.6**
	baz=192							
KAHG	**Katmai Hook Gl**	**3.73**	**307**			Pn	**20 27 16.1**	**+1.3**
SEW	**Seward**	**3.73**	**355**	Pn		Pn	**20 27 14.8**	**+0.1**
ACHA	**Angle Creek He**	**3.95**	**300**			Pn	**20 27 19.5**	**+1.6**
P19K	**Oil Pt**	**4.01**	**326**			Pn	**20 27 20.8**	**+2.2**
P19K	**Oil Pt**	**4.01**	**326**	IAML			20 28 21.2	
	comp=N,73nm,1.1s							
P19K				IAML			20 29 03.7	
	comp=E,67nm,1.1s							
P19K	**Oil Pt**	**4.01**	**326**	P		Pn	**20 27 20.8**	**+2.2**
	baz=143							
ANCK	**Angle Creek**	**4.03**	**299**			Pn	**20 27 20.2**	**+1.2**
O22K	**Cooper Landing**	**4.12**	**354**			Pn	**20 27 21.2**	**+1.1**
O22K	**Cooper Landing**	**4.12**	**354**	IAML			20 28 26.8	
	comp=E,106nm,1.2s							
O22K				IAML			20 28 28.5	
	comp=N,99nm,0.9s							
O22K	**Cooper Landing**	**4.12**	**354**	P		Pn	**20 27 21.2**	**+1.1**
	baz=173							
SLKM	**Skilak Lake**	**4.18**	**351**			Pn	**20 27 21.7**	**+0.6**
O20K	**Slope Mountain**	**4.20**	**333**			Pn	**20 27 21.5**	**+0.2**
O20K	**Slope Mountain**	**4.20**	**333**	P		Pn	**20 27 21.5**	**+0.2**
	baz=150							
HIN	**Hinchinbrook I**	**4.20**	**16**			Pn	**20 27 21.9**	**+0.6**
HIN	**Hinchinbrook I**	**4.20**	**16**	IAML			20 28 12.4	
	comp=E,78nm,1.5s							
CNTC	**Contact Creek**	**4.24**	**299**			Pn	**20 27 23.6**	**+1.7**
IVE	**Iliamna Volcan**	**4.25**	**331**			Pn	**20 27 22.5**	**+0.5**
Q17K	**Contact Creek**	**4.25**	**299**	P		Pn	**20 27 23.6**	**+1.7**
	baz=114							
KAIM	**Kayak Island**	**4.25**	**32**			Pn	**20 27 22.5**	**+0.6**
KAIM	**Kayak Island**	**4.25**	**32**	IAML			20 28 19.4	
	comp=E,94nm,1.1s							
KAIM	**Kayak Island**	**4.25**	**32**	P		Pn	**20 27 22.5**	**+0.6**
	baz=215							
EYAK	**Cordova Ski Ar**	**4.47**	**20**	Pn		Pn	**20 27 24.7**	**-0.2**
RED	**Redoubt Volcan**	**4.53**	**335**			Pn	**20 27 26.6**	**+0.8**
P18K	**Big Mountain,**	**4.54**	**314**			Pn	**20 27 27.1**	**+1.3**
P18K	**Big Mountain,**	**4.54**	**314**	P		Pn	**20 27 27.1**	**+1.3**
	baz=129							
RDSO	**Redoubt South**	**4.55**	**335**			Pn	**20 27 26.9**	**+0.7**
RSO	**Redoubt South**	**4.56**	**335**	Pn		Pn	**20 27 26.3**	**-0.1**
RAGM	**Ragged Mountai**	**4.57**	**27**	Pn		Pn	**20 27 26.6**	**+0.3**
RC01	**Rabbit Creek A**	**4.73**	**355**			Pn	**20 27 30.0**	**+1.5**
RC01	**Rabbit Creek A**	**4.73**	**355**	IAML			20 28 23.6	
	comp=E,23nm,0.4s							
RC01				IAML			20 28 33.4	
	comp=N,20nm,0.6s							
RC01	**Rabbit Creek A**	**4.73**	**355**	P		Pn	**20 27 30.0**	**+1.5**
	baz=174							
O19K	**Port Alsworth**	**4.78**	**325**	Pn		Pn	**20 27 30.1**	**+1.0**
O19K				IAML			20 28 39.4	
	comp=N,45nm,0.5s							
O18K	**Koktuh Hills**	**4.83**	**318**			Pn	**20 27 30.0**	**+0.1**
O18K	**Koktuh Hills**	**4.83**	**318**	IAML			20 28 48.5	
	comp=N,12nm,1.4s							
O18K	**Koktuh Hills**	**4.83**	**318**	P		Pn	**20 27 30.0**	**+0.1**
	baz=134							
BERG	**Berg Lake**	**4.84**	**32**	Pn		Pn	**20 27 30.5**	**+0.5**
SNH	**Sunshine Point**	**4.95**	**37**	Pn		Pn	**20 27 31.3**	**-0.2**
SNH				IAML			20 29 19.2	
	comp=E,50nm,1.5s							
DIV	**Divide**	**5.01**	**17**	Pn		Pn	**20 27 31.8**	**-0.6**
KNK	**Knik Glacier**	**5.04**	**2**	Pn		Pn	**20 27 34.7**	**+2.0**
KNK				IAML			20 28 42.8	
	comp=N,17nm,1.0s							
KNK				IAML			20 28 56.2	
	comp=E,18nm,1.5s							
BMRM	**Bremner River**	**5.09**	**24**			Pn	**20 27 34.4**	**+0.9**
BMRM	**Bremner River**	**5.09**	**24**	P		Pn	**20 27 34.4**	**+0.9**
	baz=207							
N19K	**Bonanza Creek**	**5.32**	**329**			Pn	**20 27 37.2**	**+0.6**
N19K	**Bonanza Creek**	**5.32**	**329**	P		Pn	**20 27 37.2**	**+0.6**
	baz=144							
KLU	**Klutina**	**5.33**	**15**			Pn	**20 27 37.9**	**+1.1**
KLU	**Klutina**	**5.33**	**15**	IAML			20 28 47.1	
	comp=N,33nm,0.9s							
KLU				IAML			20 28 48.3	
	comp=E,39nm,0.4s							
KLU	**Klutina**	**5.33**	**15**	P		Pn	**20 27 37.9**	**+1.1**
	baz=198							
SML	**Sawmill**	**5.43**	**3**	Pn		Pn	**20 27 39.5**	**+1.3**
SCM	**Sheep Creek Mo**	**5.51**	**8**	Pn		Pn	**20 27 40.6**	**+1.3**
VRDI	**Verde Repeater**	**5.60**	**28**	Pn		Pn	**20 27 41.2**	**+0.6**
N18K	**Kilae Creek**	**5.66**	**322**	Pn		Pn	**20 27 42.3**	**+1.1**
KIAG	**Kiagna River**	**5.67**	**34**			Pn	**20 27 42.2**	**+0.7**
N25K	**Chitina, Valde**	**5.67**	**21**			Pn	**20 27 42.4**	**+0.9**
N25K	**Chitina, Valde**	**5.67**	**21**	P		Pn	**20 27 42.4**	**+0.9**
	baz=204							
SAMH	**Samovar Hills**	**5.67**	**45**			Pn	**20 27 42.8**	**+1.3**
GLB	**Gilahina Butte**	**5.69**	**25**			Pn	**20 27 42.7**	**+0.9**
SKT	**Skwentna**	**5.77**	**347**	Pn		Pn	**20 27 43.9**	**+1.2**
MCARA	**McCarthy VSAT**	**5.84**	**29**			Pn	**20 27 45.0**	**+1.2**
MCARA	**McCarthy VSAT**	**5.84**	**29**	P		Pn	**20 27 45.0**	**+1.2**
	baz=213							
PCA	**Pinnacle**	**5.86**	**47**			Pn	**20 27 45.0**	**+0.9**
PINM	**Pinnacle**	**5.86**	**47**	P		Pn	**20 27 45.0**	**+0.9**
	baz=234							
O16K	**Kokwok River B**	**5.86**	**307**	Pn		Pn	**20 27 43.6**	**-0.4**
M24K	**Tolsona, Glenn**	**5.89**	**12**	Pn		Pn	**20 27 43.9**	**-0.6**
M20K	**Styx River**	**5.92**	**340**	Pn		Pn	**20 27 45.0**	**0.0**
CTGM	**Chitina Glacie**	**6.03**	**37**	Pn		Pn	**20 27 45.5**	**-1.0**
BCPM	**Bancas Point**	**6.04**	**50**	Pn		Pn	20 27 43.8	-2.6
LOGN	**Logan Glacier**	**6.04**	**39**	Pn		Pn	**20 27 46.6**	**0.0**
L19K	**White Mountain**	**6.56**	**335**	Pn		Pn	**20 27 53.4**	**-0.3**
O29M	**Mount Kennedy**	**6.68**	**50**			Pn	**20 27 56.2**	**+0.9**
O29M	**Mount Kennedy**	**6.68**	**50**	P		Pn	**20 27 56.2**	**+0.9**
	baz=238							
M26K	**Nabesna, AK**	**6.72**	**24**	Pn		Pn	**20 27 56.2**	**+0.3**
P29M	**Windy Craggy**	**6.74**	**57**			Pn	**20 27 56.4**	**+0.4**
P29M	**Windy Craggy**	**6.74**	**57**	P		Pn	**20 27 56.4**	**+0.4**
	baz=246							
DHY	**Denali Highway**	**6.74**	**6**	Pn		Pn	**20 27 56.7**	**+0.5**
PAX	**Paxson**	**6.81**	**13**	Pn		Pn	**20 27 57.3**	**+0.2**
M27K	**Edge Creek, AK**	**6.96**	**28**	Pn		Pn	**20 28 00.0**	**+0.8**
M16K	**Timber Creek**	**7.01**	**316**	Pn		Pn	**20 28 00.1**	**+0.3**
N15K	**Kwethluk River**	**7.03**	**307**	Pn		Pn	**20 28 01.3**	**+1.3**
S31K	**Pelican**	**7.04**	**72**	Pn		Pn	**20 27 58.6**	**-1.6**
TRF	**Thorofare Moun**	**7.11**	**355**	Pn		Pn	**20 28 01.5**	**+0.2**
CAST	**Castle Rocks**	**7.23**	**348**	Pn		Pn	**20 28 03.6**	**+0.8**
KTH	**Kantishna Hill**	**7.25**	**353**	Pn		Pn	**20 28 03.9**	**+0.7**
MCK	**McKinley**	**7.36**	**360**	Pn		Pn	**20 28 04.0**	**-0.6**
L27K	**Beaver Creek,**	**7.57**	**25**	Pn		Pn	**20 28 06.3**	**-1.1**
BCAR	**Beaver Creek A**	**7.58**	**25**	Pn		Pn	**20 28 09.5**	**+1.8**
L16K	**Owhat River**	**7.63**	**319**	Pn		Pn	**20 28 08.5**	**+0.2**
RIDG	**Independent Ri**	**7.63**	**14**	Pn		Pn	**20 28 10.0**	**+1.6**
BPAW	**Bear Paw Mtn.**	**7.80**	**353**	Pn		Pn	**20 28 10.2**	**-0.4**
N30M	**Aishikik Lake**	**7.92**	**45**	Pn		Pn	**20 28 13.2**	**+0.9**
O30N	**Mendenhall**	**7.98**	**51**	Pn		Pn	**20 28 11.7**	**-1.4**
SCRK	**Sand Creek**	**7.98**	**16**	Pn		Pn	**20 28 12.9**	**-0.3**
M29M	**Somme Creek**	**8.04**	**37**	Pn		Pn	**20 28 14.4**	**+0.4**
CCB	**Clear Creek Bu**	**8.29**	**3**	Pn		Pn	**20 28 17.8**	**+0.5**
ILAR	**Eielson Array**	**8.46**	**6**	Pn		Pn	**20 28 18.6**	**-1.0**
N31M	**Braeburn, Yuko**	**8.46**	**48**	Pn		Pn	**20 28 18.0**	**-1.7**
J26L	**Joseph Creek**	**8.54**	**16**	Pn		Pn	**20 28 21.7**	**+1.0**
MDM	**Murphy Dome**	**8.60**	**2**	Pn		Pn	**20 28 22.3**	**+0.7**
L29M	**L29M**	**8.63**	**34**	Pn		Pn	**20 28 22.3**	**+0.3**
P32M	**Atlin**	**8.65**	**62**	Pn		Pn	**20 28 22.2**	**-0.1**
M30M	**Minto, Yukon**	**8.71**	**40**	Pn		Pn	**20 28 23.2**	**+0.1**
MLY	**Manley**	**8.71**	**355**	Pn		Pn	**20 28 24.4**	**+1.2**
I21K	**Tanana**	**8.94**	**351**	Pn		Pn	**20 28 27.1**	**+0.8**
DAWY	**Dawson**	**9.01**	**28**	Pn		Pn	**20 28 26.4**	**-0.8**
P33M	**Teslin, Yukon**	**9.26**	**59**	Pn		Pn	**20 28 30.1**	**-0.6**
K29M	**Barlow Dome**	**9.35**	**32**	Pn		Pn	**20 28 32.4**	**+0.4**
M31M	**Drury Creek, Y**	**9.40**	**46**	Pn		Pn	**20 28 33.9**	**+1.3**
H21K	**Melozitna Rive**	**9.49**	**350**	Pn		Pn	**20 28 34.5**	**+0.8**
R33M	**Jennings River**	**9.98**	**65**	Pn		Pn	**20 28 40.9**	**+0.3**
H17K	**Granite Mounta**	**10.12**	**332**	Pn		Pn	**20 28 42.2**	**-0.2**
J30M	**Hart River**	**10.25**	**32**	Pn		Pn	**20 28 44.2**	**0.0**
G23K	**Bananza Creek**	**10.37**	**357**	Pn		Pn	**20 28 47.5**	**+1.7**

IDC 29 20:30:30.8±25.0,**29°.94S**×**179°.15W,h265**km±235km, **mb3.1**/4,**mbtmp3.7**/4,**Error ellipse: s-maj=110.8km s-min=70.9km az=167.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**42.14**	**267**	P		P	20 37 57.1	-0.6
	0.3nm,0.6s,baz=106,slow=7.1,SNR=4.3							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**43.08**	**272**	P		P	20 38 05.5	+0.2
	0.3nm,0.3s,baz=112,slow=7.9,SNR=6.8							
	0.3nm,0.3s			

HORT				S	**Sg**	**20 36 31.5**	**0.0**		
HORT				AML	AML	20 36 33.6			
	comp=N,156μm,0.2s								
HORT				AML	AML	20 36 34.4			
	comp=E,127μm,0.3s								
KKB	**Krupnik**	**0.65**	**16**⇑	*i*Pg	**Pg**	**20 36 22.8**	**-0.4**		
KKB				Sg	**Sg**	**20 36 31.1**	**-0.7**		
MMB	**Musomishta**	**0.73**	**63**⇑	*i*Pg	**Pg**	**20 36 24.4**	**-0.3**		
MMB				Sg	**Sg**	**20 36 34.1**	**-0.2**		
NVR	**Nevrokopi**	**0.75**	**80**	P	**Pb**	**20 36 25.8**	**+0.3**		
NVR				S	**Sb**	**20 36 36.2**	**+0.5**		
NVR				AML	AML	20 36 37.4			
	comp=E,102μm,0.2s								
NVR				AML	AML	20 36 40.8			
	comp=N,113μm,0.3s								
KOKK	**Kokkinochori,**	**0.94**	**115**	P	**Pg**	**20 36 28.2**	**-0.4**		
KOKK				S	**Sg**	**20 36 40.8**	**0.0**		
KOKK				AML	AML	20 36 43.7			
	comp=N,153μm,0.5s								
KOKK				AML	AML	20 36 45.1			
	comp=E,103μm,0.2s								
OUR	**Ouranopolis**	**1.22**	**136**	P	**Pn**	**20 36 33.7**	**+0.4**		
OUR				AML	AML	20 36 52.5			
	comp=E,87μm,0.3s								
OUR				AML	AML	20 36 52.5			
	comp=N,72μm,0.2s								
FNA	**Florina**	**1.22**	**250**	*e*Pg	**Pn**	**20 36 33.6**	**+0.2**		
FNA				*e*Sg	**Sb**	**20 36 49.0**	**-0.3**		
KAVA	**Kavala**	**1.25**	**100**	P	**Pn**	**20 36 34.1**	**+0.3**		
KAVA				S	**Sb**	**20 36 50.1**	**0.0**		
BOSS	**Bosilegrad**	**1.31**	**347**	*e*Pg	**Pn**	**20 36 34.5**	**-0.2**		
BOSS				*e*Sg	**Sb**	**20 36 51.6**	**-0.3**		
PRVS	**Prvonek**	**1.42**	**335**	*e*Pg	**Pn**	**20 36 36.2**	**0.0**		
PRVS				*e*Sg	**Sb**	**20 36 54.5**	**-0.6**		
VTS	**Vitosha**	**1.42**	**11**⇑	*i*P	**Pn**	**20 36 36.4**	**+0.1**		
VTS				S	**Sb**	**20 36 54.3**	**-1.0**		
VTS	**Vitosha**	**1.42**	**11**	*e*Pg	**Pn**	**20 36 36.5**	**+0.1**		
VTS				*e*Sg	**Sb**	**20 36 54.2**	**-1.0**		
RZN	**Rozhen**	**1.47**	**71**	*i*P	**Pg**	**20 36 38.5**	**-0.4**		
RZN				S	**Sn**	**20 36 55.5**	**-0.8**		
THAS	**Thassos island**	**1.52**	**113**	P	**Pn**	**20 36 37.1**	**-0.4**		
THAS				S	**Sn**	**20 36 56.3**	**-0.9**		
THAS				AML	AML	20 37 01.6			
	comp=N,49μm,0.2s								
THAS				AML	AML	20 37 02.0			
	comp=E,30μm,0.3s								
PLD	**Plovdiv**	**1.68**	**56**	*e*Pg	**Pb**	**20 36 42.0**	**+0.7**		
PLD				*e*Sg	**Sg**	**20 37 04.0**	**-0.5**		
BARS	**Barje**	**1.78**	**334**	*e*Pn	**Pb**	**20 36 43.0**	**-0.1**		
BARS				*e*Sn	**Sb**	**20 37 05.7**	**+0.2**		
KDZ	**Kurdzhali**	**1.89**	**77**	*i*P	**Pb**	**20 36 45.5**	**+0.5**		
RDO	**Rodhopi**	**2.00**	**91**	P	**Pn**	**20 36 45.3**	**+1.1**		
ZAPS	**Zavoj**	**2.06**	**355**	*e*Pn	**Pb**	**20 36 47.9**	**0.0**		
ZAPS				*e*Sn	**Sb**	**20 37 13.8**	**+0.3**		
MPEP	**Malo Peshtene**	**2.23**	**16**	*i*P	**Pg**	**20 36 52.2**	**-1.1**		
SELS	**Selova**	**2.39**	**327**	*e*Pn	**Pn**	**20 36 51.1**	**+1.6**		
SELS				*e*Sn	**Sb**	**20 37 21.7**	**-1.2**		
BOVS	**Bovan**	**2.57**	**341**	*e*Pn	**Pn**	**20 36 54.4**	**+2.5**		
BOVS				*e*Sn	**Sb**	**20 37 26.2**	**-1.8**		
ZAGS	**Zajecar**	**2.64**	**350**	*e*Pn	**Pn**	**20 36 55.4**	**+2.5**		
ZAGS				*e*Sn	**Sn**	**20 37 26.4**	**+1.7**		

*OTT **29** 22:04:06.8±0.0, 46°.40N×75°.31W, h18km, MN3.0/24*
OTT 22km southeast from Mont-Laurier, Qc. Felt Western Quebec Seismic Zone. Felt in Mont-Laurier, Qc.
*NEIC **29** 22:04:06.7±2.0, 46°.40N±0°.02×75°.32W±0°.03, h10km±2km, Error ellipse: s-maj=4.3km s-min=3.0km az=220.0*

ISC 29 22:04:06.4±0.9, **46°.39N**±0°.02×**75°.32W**±0°.02, **h17**km±7km, **n70**, σ0.983/111, **1D, Southern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRQ	**Grand Remous**	**0.43**	**300**	Pg	**Pg**	**22 04 15.4**	**+0.3**
GRQ				Sg	**Sg**	**22 04 21.2**	**+0.2**
GRQ	**Grand Remous**	**0.43**	**300**	PG	**Pg**	**22 04 15.4**	**+0.3**
GRQ				SG	**Sg**	**22 04 21.2**	**+0.2**
GRQ				Trac		22 04 22.0	
	comp=Z,95nm,0.1s						
VABQ	**Val Des Bois**	**0.53**	**202**	Pg	**Pg**	**22 04 16.9**	**0.0**
VABQ				Sg	**Sg**	**22 04 23.6**	**-0.3**
VABQ	**Val Des Bois**	**0.53**	**202**	⇓PG	**Pg**	**22 04 16.9**	**0.0**
VABQ				SG	**Sg**	**22 04 23.6**	**-0.3**
VABQ				Trac		22 04 26.7	
	comp=Z,33nm,0.0s						
TRQ	**Mont Tremblant**	**0.56**	**108**	Pg	**Pg**	**22 04 17.7**	**+0.2**
TRQ				Sg	**Sg**	**22 04 24.8**	**-0.1**
TRQ	**Mont Tremblant**	**0.56**	**108**	Pg	**Pg**	**22 04 17.6**	**+0.1**
TRQ	**Mont Tremblant**	**0.56**	**108**	PG	**Pg**	**22 04 17.6**	**+0.1**
TRQ				SG	**Sg**	**22 04 25.0**	**0.0**
TRQ				Trac		22 04 30.4	
	comp=Z,56nm,0.0s						
GAC	**Glen Almond**	**0.70**	**189**	PG	**Pb**	**22 04 19.9**	**-0.2**
GAC				PG	**Pb**	**22 04 19.9**	**-0.2**
GAC				SG	**Sb**	**22 04 28.9**	**-0.5**
GAC				SG	**Sg**	**22 04 29.3**	**0.0**
GAC				Trac		22 04 30.3	
	comp=Z,101nm,0.1s						
GAC				Trac		22 04 31.4	
	comp=Z,32nm,0.0s						
ALFO	**Alfred**	**0.82**	**158**	PG	**Pb**	**22 04 22.2**	**0.0**
ALFO				SG	**Sb**	**22 04 32.8**	**-0.2**
ALFO				Trac		22 04 37.0	
	comp=Z,37nm,0.1s						
ORIO	**Orleans, Innes**	**0.95**	**188**	Pg	**Pb**	**22 04 24.2**	**-0.2**
ORIO				Sg	**Sb**	**22 04 36.4**	**-0.3**
ORIO	**Orleans, Innes**	**0.95**	**188**	PG	**Pb**	**22 04 24.2**	**-0.2**
ORIO				SG	**Sb**	**22 04 36.4**	**-0.3**
ORIO				Trac		22 04 37.3	
	comp=Z,48nm,0.1s						
OTT	**Ottawa**	**1.04**	**196**	Pg	**Pb**	**22 04 25.9**	**0.0**
OTT				Sg	**Sb**	**22 04 40.0**	**+0.9**
OTT	**Ottawa**	**1.04**	**196**	PG	**Pb**	**22 04 25.9**	**0.0**
OTT				SG	**Sb**	**22 04 40.0**	**+0.9**
OTT				Trac		22 04 45.5	
	comp=Z,50nm,0.1s						
KB1O	**Rock site, Kin**	**1.16**	**211**	Pg	**Pn**	**22 04 27.7**	**-0.2**
KB1O				Sg	**Sn**	**22 04 43.9**	**+0.6**
KB1O	**Rock site, Kin**	**1.16**	**211**	PG	**Pn**	**22 04 27.7**	**-0.2**
KB1O				SG	**Sn**	**22 04 43.9**	**+0.6**
KB1O				Trac		22 04 48.3	
	comp=Z,35nm,0.1s						
WBO	**Williamsburg**	**1.39**	**179**		**Pn**	**22 04 31.7**	**+0.7**
WBO				Sg	**Sn**	**22 04 49.1**	**+0.1**
WBO	**Williamsburg**	**1.39**	**179**	PG	**Pb**	**22 04 31.9**	**0.0**
WBO				SG	**Sb**	**22 04 50.2**	**+0.8**
WBO				Trac		22 04 53.9	
	comp=Z,35nm,0.1s						
CRLO	**Chalk River**	**1.47**	**257**		**Pb**	**22 04 33.4**	**+0.1**
CRLO				Sg	**Sb**	**22 04 52.5**	**+0.7**
CRLO	**Chalk River**	**1.47**	**257**	PG	**Pb**	**22 04 33.4**	**+0.1**
CRLO				SG	**Sb**	**22 04 52.5**	**+0.7**
CRLO				Trac		22 04 55.7	
	comp=Z,27nm,0.1s						
MNTQ	**Montreal, Queb**	**1.48**	**126**		**Pn**	**22 04 32.8**	**+0.5**
MNTQ	**Montreal, Queb**	**1.48**	**126**	PN	**Pn**	**22 04 32.7**	**+0.4**
MNTQ				SG	**Sb**	**22 04 53.2**	**+1.2**
MNTQ				Trac		22 04 57.6	
	comp=Z,23nm,0.1s						
PEMO	**Pembroke**	**1.52**	**243**	Pn	**Pn**	**22 04 33.3**	**+0.5**
PEMO					**Sn**	**22 04 52.8**	**+0.6**
PEMO	**Pembroke**	**1.52**	**243**	PN	**Pn**	**22 04 33.3**	**+0.5**
PEMO				SN	**Sn**	**22 04 52.8**	**+0.6**
PEMO				Trac		22 04 57.5	
	comp=Z,37nm,0.1s						
DPQ	**Saint Jean**	**1.78**	**80**	Pn	**Pn**	**22 04 37.0**	**+0.6**
DPQ					**Sn**	**22 04 58.5**	**-0.1**
DPQ	**Saint Jean**	**1.78**	**80**	PN	**Pn**	**22 04 37.0**	**+0.6**
DPQ				SN	**Sn**	**22 04 58.5**	**-0.1**
DPQ				LG	Lg	22 05 03.2	
DPQ				Trac		22 05 04.7	
	comp=Z,56nm,0.1s						
PLVO	**Plevna**	**1.83**	**223**	Pn	**Pn**	**22 04 37.8**	**+0.7**
PLVO					**Sn**	**22 05 00.2**	**+0.4**
PLVO	**Plevna**	**1.83**	**223**	PN	**Pn**	**22 04 37.8**	**+0.7**
PLVO				SN	**Sn**	**22 05 00.2**	**+0.4**
PLVO				Trac		22 05 08.7	
	comp=Z,17nm,0.1s						
LONY	**Lake Ozonia**	**1.85**	**163**	Pn	**Pb**	**22 04 39.0**	**-0.7**
LONY	**Lake Ozonia**	**1.85**	**163**	PN	**Pn**	**22 04 38.0**	**+0.7**
LONY				SN	**Sn**	**22 05 00.7**	**+0.4**
LONY				LG	Lg	22 05 04.6	
LONY				Trac		22 05 07.5	
	comp=Z,14nm,0.1s						
BECQ	**Becancour**	**1.97**	**90**	Pn	**Pn**	**22 04 40.3**	**+1.4**
BECQ					**Sn**	**22 05 03.0**	**-0.2**
BECQ	**Becancour**	**1.97**	**90**	PN	**Pn**	**22 04 40.3**	**+1.4**
BECQ				SN	**Sn**	**22 05 03.0**	**-0.2**
BECQ				Trac		22 05 11.5	
	comp=Z,10nm,0.1s						
FRNY	**Flat Rock**	**1.98**	**141**	Pn	**Pb**	**22 04 41.2**	**-0.7**
FRNY	**Flat Rock**	**1.98**	**141**	PN	**Pn**	**22 04 40.8**	**+1.7**
FRNY				SN	**Sn**	**22 05 03.6**	**+0.1**
FRNY				LG	Lg	22 05 08.3	
FRNY				Trac		22 05 13.6	
	comp=Z,9.8nm,0.1s						
LATQ	**La Tuque**	**2.00**	**59**	Pn	**Pn**	**22 04 40.4**	**+0.9**
LATQ					**Sn**	**22 05 04.1**	**0.0**
LATQ	**La Tuque**	**2.00**	**59**	PN	**Pn**	**22 04 40.4**	**+0.9**
LATQ				SN	**Sn**	**22 05 04.1**	**0.0**
LATQ				Trac		22 05 11.7	
	comp=Z,58nm,0.1s						
DELO	**Deloro Mine**	**2.48**	**222**	Pn	**Pb**	**22 04 49.2**	**-1.2**
DELO	**Deloro Mine**	**2.48**	**222**	PN	**Pn**	**22 04 47.2**	**+1.2**
DELO				SN	**Sn**	**22 05 15.8**	**0.0**
DELO				Trac		22 05 34.3	
	comp=Z,12nm,0.1s						
NCB	**Newcomb**	**2.54**	**162**	Pn	**Pn**	**22 04 48.6**	**+1.7**
EEO	**Eldee**	**2.60**	**277**	Pn	**Pb**	**22 04 50.9**	**-1.7**
EEO	**Eldee**	**2.60**	**277**	PN	**Pb**	**22 04 50.9**	**-1.7**
EEO				SN	**Sn**	**22 05 19.2**	**+0.3**
EEO				Trac		22 05 28.3	
	comp=Z,14nm,0.2s						
KIPQ	**Kipawa,Quebec**	**2.61**	**280**	PN	**Pn**	**22 04 48.2**	**+0.5**
KIPQ				SN	**Sn**	**22 05 18.8**	**-0.2**
KIPQ				LG	Lg	22 05 27.7	
KIPQ				Trac		22 05 29.3	
	comp=Z,16nm,0.2s						
PECO	**Prince Edward**	**2.73**	**206**	Pn	**Pn**	**22 04 50.0**	**+0.6**
PECO	**Prince Edward**	**2.73**	**206**	PN	**Pn**	**22 04 50.0**	**+0.6**
PECO				Trac		22 05 33.4	
	comp=Z,11nm,0.1s						
BCLQ	**Boischatel**	**2.91**	**78**	Pn	**Pn**	**22 04 52.0**	**+0.2**
BCLQ					**Sn**	**22 05 25.7**	**-0.7**
BCLQ	**Boischatel**	**2.91**	**78**	PN	**Pn**	**22 04 52.0**	**+0.2**
BCLQ				SN	**Sn**	**22 05 25.7**	**-0.7**
BCLQ				LG	Lg	22 05 36.6	
BCLQ				Trac		22 05 44.0	
	comp=Z,15nm,0.2s						
BUKO	**Buck Lake**	**3.00**	**253**	Pn	**Pn**	**22 04 53.7**	**+0.5**
BUKO					**Sn**	**22 05 27.5**	**-1.2**
BUKO	**Buck Lake**	**3.00**	**253**	PN	**Pn**	**22 04 53.7**	**+0.5**
BUKO				SN	**Sn**	**22 05 27.5**	**-1.2**
BUKO				Trac		22 05 39.6	
	comp=Z,11nm,0.1s						
BUKO				LG	Lg	22 05 40.1	
J58A	**Remsen**	**3.03**	**180**	IAmb_Lg		22 05 43.8	
	comp=Z,12nm,0.8s						
SADO	**Sadowa**	**3.14**	**240**	Pn	**Pn**	**22 04 54.8**	**-0.3**
SADO					**Sn**	**22 05 33.6**	**+1.5**
SADO	**Sadowa**	**3.14**	**240**	PN	**Pn**	**22 04 55.0**	**0.0**
SADO				SN	**Sn**	**22 05 31.2**	**-0.8**
SADO				LG	Lg	22 05 44.6	
SADO				Trac		22 05 49.8	
	comp=Z,7.0nm,0.1s						
LDAQ	**Lac Daran**	**3.19**	**59**	Pn	**Pn**	**22 04 55.8**	**-0.1**
LDAQ				IAmb_Lg		22 05 47.7	
	comp=Z,6.8nm,0.7s						
LDAQ	**Lac Daran**	**3.19**	**59**	PN	**Pn**	**22 04 56.8**	**+0.9**
LDAQ				SN	**Sn**	**22 05 32.2**	**-1.5**
LDAQ				Trac		22 05 47.1	
	comp=Z,7.8nm,0.1s						
LBNH	**Lisbon**	**3.22**	**131**	Pn	**Pn**	**22 04 55.7**	**-0.5**
ACCN	**Adirondack Com**	**3.23**	**158**	Pn	**Pn**	**22 04 54.6**	**-1.7**
H62A	**Milan**	**3.45**	**120**	Pn	**Pn**	**22 05 01.3**	**+1.9**
G62A	**West of Eustis**	**3.55**	**108**	Pn	**Pn**	**22 05 02.3**	**+1.6**
LMQ	**La Malbaie**	**3.61**	**70**	Pn	**Pn**	**22 05 03.0**	**+1.4**
LMQ				IAmb_Lg		22 06 09.4	
	comp=Z,7.5nm,0.8s						
J61A	**Chester**	**3.63**	**146**	Pn	**Pn**	**22 05 01.2**	**-0.6**
K57A	**Scipio Center**	**3.76**	**194**	Pn	**Pn**	**22 05 03.4**	**-0.2**
E62A	**Clayton Lake**	**4.01**	**85**	Pn	**Pn**	**22 05 05.5**	**-1.6**
I63A	**Otisfield**	**4.09**	**123**	Pn	**Pn**	**22 05 08.5**	**+0.4**
L59A	**Walton**	**4.21**	**177**	Pn	**Pn**	**22 05 10.5**	**+0.7**
PKME	**Peaks-Kenny Pk**	**4.36**	**103**	Pn	**Pn**	**22 05 13.2**	**+1.3**
D62A	**Allapoint, All**	**4.37**	**79**	Pn	**Pn**	**22 05 12.2**	**+0.3**
WVL	**Waterville**	**4.38**	**113**	IAmb_Lg		22 06 36.1	
	comp=Z,6.2nm,1.1s						
F63A	**Nahmakanta, Br**	**4.38**	**97**	Pn	**Pn**	**22 05 10.9**	**-1.3**
L56A	**Greenwood**	**4.55**	**201**	Pn	**Pn**	**22 05 12.2**	**-2.3**
QUA2	**Belchertown**	**4.63**	**152**	Pn	**Pn**	**22 05 13.5**	**-2.1**
F64A	**Sherman**	**4.88**	**94**	Pn	**Pn**	**22 05 19.9**	**+0.9**
BATG	**Bathurst New B**	**6.42**	**79**	Pn	**Pn**	**22 05 39.5**	**-0.6**

*SKHL **29** 22:22:39.6±0.7, 44°.50N×149°.30E, h72km±4km, mb4.4/3*
*JMA **29** 22:22:39.2±0.8, 45°.N±3°×14°.9E±°, h30km, MV4.0/13, SE OFF ETOROFU*

ISC 29 22:22:37.6±3.6, **44°.5N**±0°.2×**149°.3E**±0°.1, **h29**km±20km, **n17**, σ1.931/27, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.26**	**306**	*e*P	**Pb**	**22 23 00.5**	**-0.2**
KUR				AMB	AMB	22 23 01.2	
	350nm,0.4s						
KUR				*i*S	**Sb**	**22 23 15.6**	**-0.9**
KUR				A	A	22 23 18.8	
	400nm,0.3s						
KUR				A	A	22 23 18.8	
	440nm,0.3s						
SHO	**Shikotan**	**1.90**	**251**	*e*P	**Pn**	**22 23 08.0**	**0.0**
SHO				AMB	AMB	22 23 11.2	
	70nm,0.5s						
SHO				*e*S	**Sn**	**22 23 29.4**	**-1.5**
SHO				A	A	22 23 30.6	
	110nm,0.3s						
SHO				A	A	22 23 30.6	
	100nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.52**	**260**	*e*P	**Pn**	**22 23 17.9**	**+1.3**
YUK				AMB	AMB	22 23 18.7	
	90nm,0.5s						
YUK				*e*S	**Sn**	**22 23 46.0**	**-0.3**
YUK				A	A	22 23 51.5	
	170nm,0.6s						
YUK				A	A	22 23 51.5	
	220nm,0.6s						
NEM2	**Nemuro 2**	**2.82**	**247**	*e*P	**Pn**	**22 23 21.3**	**+0.7**
NEM2				*e*S	**Sn**	**22 23 52.6**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.83**	**248**	*e*P	**Pn**	**22 23 21.3**	**+0.5**
NMR				*e*S	**Sn**	**22 23 53.0**	**-0.8**
JRA	**Rausu**	**3.07**	**261**	*e*P	**Pn**	**22 23 26.4**	**+2.4**
JNK	**Nakash**	**3.44**	**256**	*e*P	**Pn**	**22 23 30.8**	**+1.7**
JNK				*e*S	**Sn**	**22 24 08.6**	**-0.4**
AKK	**Akkeshi**	**3.56**	**247**	*e*P	**Pn**	**22 23 31.7**	**+0.8**
JAK	**Akkeshi**	**3.67**	**247**	*e*P	**Pn**	**22 23 33.3**	**+1.0**
JAK				*e*S	**Sn**	**22 24 13.5**	**-1.1**
JTKR	**Abashiri--Toko**	**3.92**	**264**	*e*P	**Pn**	**22 23 37.2**	**+1.5**
JAR	**Ashorobuto**	**4.18**	**255**	*e*P	**Pn**	**22 23 42.0**	**+2.6**
JAR				*e*S	**Sn**	**22 24 28.8**	**+1.4**
JOB	**Onbets**	**4.28**	**250**	*e*P	**Pn**	**22 23 42.4**	**+1.6**
JOB				*e*S	**Sn**	**22 24 29.7**	**0.0**
JCH	**Churui**	**4.72**	**248**	*e*P	**Pn**	**22 23 48.1**	**+1.3**
JCH				*e*S	**Sn**	**22 24 38.9**	**-1.6**
JNBK	**Urakawa-nobuka**	**5.27**	**247**	*e*P	**Pn**	**22 23 55.7**	**+1.3**
JNBK				*e*S	**Sn**	**22 24 55.1**	**+1.0**
JANG	**Nango**	**7.09**	**237**	*e*S	Sn	22 25 32.3	-6.7
BRVK	**Borovoye**	**50.27**	**310**	*e*P	**P**	**22 31 30.4**	**-0.5**
AAK	**Ala-Archa**	**52.43**	**296**	*e*P	**P**	**22 31 47.1**	**-0.4**

*IDC **29** 22:42:41.9±2.6, 36°.63N×71°.21E, h158km±23km, mb3.3/10, mbtmp3.7/17, Error ellipse: s-maj=20.7km s-min=14.2km az=176.0*
*NNC **29** 22:42:41.4±3.4, 37°.05N×70°.86E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=31.7km s-min=15.8km az=149.0*

ISC 29 22:42:41.8±0.9, **36°.68N**±0°.08×**71°.17E**±0°.06, **h150**km, **n29**, σ1.937/37, **mb3.6**/10, **5C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.11**	**24**	P	**Pn**	**22 44 12.1**	**+1.7**
	SNR=18						
EKS2	**Erkin-Say**	**6.30**	**18**	P	**Pn**	**22 44 13.8**	**+1.2**
	SNR=18						
KK31	**Karatay Array**	**6.43**	**356**	⇓P		**22 44 13.7**	**-0.6**
	3.3nm,0.3s,baz=186,slow=17,SNR=66						
KK31				S	**Sn**	**22 45 24.5**	**-2.2**
	11nm,0.4s,baz=186,slow=13,SNR=30						
AAK	**Ala-Archa**	**6.48**	**22**	P	**Pn**	**22 44 17.4**	**+2.5**
	SNR=33						
AAK	**Ala-Archa**	**6.48**	**22**	P		**22 44 16.6**	**+1.7**
	20nm,0.3s,baz=190,slow=6.3,SNR=152						
AAK				S	**Sn**	**22 45 27.2**	**-0.8**
	5.0nm,0.3s,baz=318,slow=22,SNR=15						
KBK	**Karagaybulak**	**6.64**	**25**	P	**Pn**	**22 44 19.8**	**+2.7**
	SNR=14						
USP	**Ospenovka**	**7.06**	**20**	P	**Pn**	**22 44 23.8**	**+1.2**
	SNR=9.2						
TKM2	**Tokmak 2**	**7.10**	**27**	P	**Pn**	**22 44 24.8**	**+1.5**
	SNR=11						
TKM2	**Tokmak 2**	**7.10**	**27**	⇑P	**Pn**	**22 44 25.2**	**+1.8**
	9.1nm,0.7s						
TKM2				⇑S	**Sn**	**22 45 41.6**	**-1.3**
	17nm,0.9s						
GEYT	**Alibeck**	**10.47**	**281**	P	**Pn**	**22 45 09.3**	**+1.2**
	3.1nm,0.5s,baz=96,slow=9.8,SNR=24						
GEYT				S	**Sn**	**22 47 03.5**	**-0.4**
	3.0nm,0.4s,baz=117,slow=21,SNR=5.2						
GYA0B	**ALIBECK ARRAY**	**10.47**	**281**	⇓P	**Pn**	**22 45 09.2**	**+1.2**
GYA0B				⇑S	**Sn**	**22 47 02.4**	**-1.5**
MKAR	**Makanchi Array**	**13.07**	**36**	P	**Pn**	**22 45 42.5**	**+0.8**
	1.0nm,0.6s,baz=212,slow=10,SNR=8.2						
KURBB	**Kurchatov Arra**	**14.91**	**18**	P	**Pn**	**22 46 04.3**	**-0.5**
	0.5nm,0.8s,baz=211,slow=11,SNR=3.3						
AB31	**Akbulak array**	**14.99**	**330**	⇑P	**P**	**22 46 08.3**	**+0.6**
	0.7nm,0.3s,baz=143,slow=12,SNR=82						
AB31				⇓S	**Sn**	**22 48 50.9**	**-1.5**
	1.7nm,0.5s,baz=144,slow=24,SNR=7.7						
BVAR	**Borovoye Array**	**16.35**	**358**	P	**P**	**22 46 24.3**	**+1.6**
	0.2nm,0.4s,baz=171,slow=10,SNR=3.0						
AKTO	**Aktyubinsk**	**16.69**	**330**	⇑P	**Pn**	**22 46 29.0**	**+2.3**
	2.0nm,0.8s						
AKTO				⇓S	**S**	**22 49 32.7**	**+0.5**
	2.8nm,1.1s						
AKTO	**Aktyubinsk**	**16.69**	**330**	P	**Pn**	**22 46 27.7**	**+0.9**
	1.3nm,0.4s,baz=153,slow=8.3,SNR=6.6						
AKTO				S	**S**	**22 49 31.6**	**-0.6**
	1.5nm,0.5s,baz=208,slow=14,SNR=5.8						
ZALV	**Zalesovo Beam**	**19.70**	**24**	P	**P**	**22 46 58.3**	**-0.9**
	1.0nm,0.3s,baz=221,slow=11,SNR=7.2						
SONM	**Songino Array**	**28.12**	**56**	P	**P**	**22 48 18.6**	**-1.1**
	0.2nm,0.5s,baz=238,slow=8.3,SNR=2.7						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**29.51**	**287**	P	**P**	**22 48 33.5**	**+1.5**
	0.3nm,0.4s,baz=94,slow=9.6,SNR=2.1						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.42**	**119**	P	**P**	**22 48 39.6**	**-0.6**
	0.6nm,0.4s,baz=256,slow=19,SNR=4.2						
	0.6nm,0.4s						
AKASG	**Malin Array Be**	**32.94**	**309**	P	**P**	**22 49 02.1**	**+0.3**
	0.2nm,0.3s,baz=74,slow=6.5,SNR=2.2						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**22 49 40.2**	**+0.4**
	1.9nm,0.9s,baz=129,slow=8.6,SNR=5.7						
	1.9nm,0.9s						
ARCES	**ARCESS Array B**	**41.03**	**337**	P	**P**	**22 50 10.0**	**+0.2**
	1.7nm,1.0s,baz=43,slow=5.5,SNR=4.3						
	1.7nm,1.0s						
HFS	**Hagfors**	**43.01**	**322**	P	**P**	**22 50 26.1**	**+0.1**
	1.8nm,0.4s,baz=104,slow=11,SNR=11						
	1.8nm,0.4s						
NB2	**NORSAR Subarra**	**44.32**	**323**	P	**P**	**22 50 36.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.32**	**323**	P	**P**	**22 50 35.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=103,slow=7.1,SNR=5.6						
	comp=Z,0.3nm,0.4s						
ESDC	**Sonseca Array**	**57.49**	**298**	P	**P**	**22 52 14.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=57,slow=7.0,SNR=2.9						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P	**P**	**22 53 09.2**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=45,slow=6.1,SNR=11						
	comp=Z,1.0nm,0.6s						

IDC 29 23:07:51.3±2.1, **8°.97S×126°.55E, h0km, mb3.3/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=157.5km s-min=34.0km az=60.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.26**	**146**	Pn	Pn	23 11 00.2	-0.8
	0.4nm,0.3s,baz=318,slow=13,SNR=10.0						
WRA				Sn	Sn	23 13 20.3	-8.9
	0.5nm,0.3s,baz=322,slow=25,SNR=4.8						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**16.22**	**155**	Pn	Pn	23 11 41.7	+0.9
	0.1nm,0.3s,baz=334,slow=10,SNR=4.3		

IGHG	**Ghaleghazi**	**0.91**	**47**	Pg		**Pb**	**23 29 34.4**	**-1.1**
IDHR	**Dehrash**	**1.11**	**27**	Pg		**Pb**	**23 29 37.8**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.20**	**62**	Pg		**Pb**	**23 29 40.2**	**-0.2**
BHD	**Baghdad**	**1.24**	**250**	*e*Pn		**Pb**	**23 29 41.0**	**0.0**
BHD				*e*Sn		**Sg**	**23 29 59.0**	**+0.6**
BHD					AML	AML	23 30 02.0	
	comp=E,2µm,0.6s							
ILIN	**Lien**	**1.56**	**39**	Pg		**Pb**	**23 29 46.8**	**+0.2**
IKFM	**Kafar-mosalman**	**1.74**	**95**	Pg		**Pb**	**23 29 49.9**	**+0.3**
IBZA	**Bozab**	**1.90**	**66**	Pn		**Pb**	**23 29 51.7**	**-0.6**
RAFI	**Al-Rafai**	**2.00**	**172**	*e*Pn		**Pb**	**23 29 53.0**	**-1.0**
RAFI				*e*Sn		**Sb**	**23 30 18.0**	**-0.5**
IALM	**Almabolaq**	**2.29**	**59**	Pn		**Pb**	**23 29 57.3**	**-1.8**
HSAM	**Samen**	**2.41**	**77**	Pn		**Pb**	**23 29 58.4**	**+1.5**
SDS1	**Sardasht. Az.**	**2.45**	**355**	Pn		**Pb**	**23 29 59.1**	**-2.5**
HAGD	**Aghdareh**	**3.00**	**67**	Pn		**Pn**	**23 30 06.8**	**+1.8**
MAHB	**Mahabad**	**3.05**	**359**	Pn		**Pn**	**23 30 08.2**	**+2.7**
IRAZ	**Razeghan**	**3.83**	**63**	Pn		**Pn**	**23 30 18.7**	**+2.4**
ISRB	**Sarab**	**4.39**	**20**	Pn		**Pn**	**23 30 25.0**	**+1.0**
QAMS	**Qamsar**	**4.69**	**88**	Pn		**Pn**	**23 30 30.3**	**+2.1**
IKLH	**Kolahrood**	**4.87**	**93**	Pn		**Pn**	**23 30 31.9**	**+1.2**

DJA 29 23:39:17.3±0.4, 4°S±4°×10°2E±°, h32km±5km, M4.1/13, mb4.4/5, MLv4.0/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UBSI	**University, Be**	**0.49**	**339**	P	Pn	23 39 29.9	+1.8
UBSI				S	Sn	23 39 36.8	+1.3
EGSI	**Enggano, Bengk**	**1.14**	**189**	P	Pb	23 39 38.7	+0.2
EGSI				S	Sb	23 39 52.7	-0.2
LHSI	**Lahat**	**1.14**	**70**	P	Pn	23 39 37.2	+0.2
LWLI	**Liwa**	**1.79**	**116**	P	Pn	23 39 45.9	-0.2
LWLI				S	Sn	23 40 09.6	+1.8
KRJI	**Kerinci**	**2.33**	**335**	P	Pn	23 39 53.4	-0.2
KRJI				S	Sn	23 40 23.6	+2.4
KASI	**Kota Agung**	**2.42**	**122**	P	Pn	23 39 55.1	+0.5
KASI				S	Sn	23 40 23.1	0.0
PPSI	**Pulau Pagai**	**2.83**	**301**	P	Pn	23 40 00.0	-0.4
PDSI	**Padang**	**3.84**	**329**	P	Pn	23 40 14.4	+0.2
PPBI	**Pangkal Pinang**	**4.21**	**61**	P	Pn	23 40 19.3	0.0
SISI	**Saibi**	**4.42**	**310**	P	Pn	23 40 20.9	-1.3
SKJI	**Sukabumi**	**4.94**	**124**	P	Pn	23 40 29.6	+0.3
CNJI	**Cibinong**	**5.58**	**124**	P	Pn	23 40 37.6	-0.5
	25nm,1.3s,0.1nm						
LEM	**Lembang**	**5.76**	**117**	P	Pn	23 40 40.6	-0.2
	20nm,1.0s,0.2nm						
BBJI	**Bungbulang**	**6.09**	**122**	P	Pn	23 40 43.7	-1.6
	35nm,1.9s,0.1nm						

MOS **29** *23:42:16.2±1.1, 41°.06N×142°.33E, h49km, mb4.8/26, Error ellipse: s-maj=7.6km s-min=5.3km az=99.7*

NIED **29** *23:42:17.4, 41°.03N×142°.41E, h32km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.85; Mθθ0.60; Mφφ-2.45; Mrθ1.72; Mθφ0.51; Mrφ2.52; Fault plane solution: M₀3.79000×10¹⁵ NP1:ϕ₁=23.00000°, δ75.00000°, λ,114.00000°. NP2:ϕ₂=144.00000°, δ28.00000°, λ,34.00000°.*

JMA **29** *23:42:17.4±0.2, 41°.0N±0°.4×142°.4E±0°.8, h32km±4km, MD4.2/40, MV4.4/40, E OFF AOMORI PREF*

JMA Felt II J1 at E OFF AOMORI PREF .

NEIC **29** *23:42:18.9±1.3, 41°.16N±0°.07×142°.24E±0°.06, h46km±7km, mb4.5/60, Mwr4.2/10, Error ellipse: s-maj=12.1km s-min=1.7km az=147.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-1.09; Mθθ1.84; Mφφ-0.75; Mrθ0.85; Mθφ0.73; Mφr1.72; Fault plane solution: M₀2.60000×10¹⁵ NP1:ϕ₁=109.06000°, δ37.25000°, λ-25.61000°. NP2:ϕ₂=219.94000°, δ74.83000°, λ-124.44000°. Principal axes: T 2.5526, Plg22.0000°, Azm336.0000°; N 0.0973, Plg33.0000°, Azm230.0000°; P -2.6499, Plg48.0000°, Azm93.0000°;*

IDC **29** *23:42:19.6±1.8, 41°.07N×142°.39E, h60km±14km, mb3.9/25, mbtmp4.1/31, MS3.4/30 Error ellipse: s-maj=15.6km s-min=11.2km az=119.0*

NEIC **29** *23:42:19, 41°.15N×142°.25E, h48km*

ISC 29 23:42:18.5±0.6, 41°.03N±0°.03×142°.39E±0°.03, h55km±5km, n234, σ1ˢ39/233, mb4.4/96, MS3.5/24, 9C-16D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.77**	**269**	⇓*i*P	**Pn**	**23 42 32.1**	**-1.3**
JARK				⇓S	**Sn**	**23 42 43.0**	**-1.3**
JARK	**Aomorirokkasho**	**0.77**	**269**	A	A	23 42 32.1	
	comp=E,12nm,0.8s,comp=N,15nm,0.4s						
JAHD	**Aomorihigashid**	**0.83**	**287**	⇓*i*P	**Pn**	**23 42 32.8**	**-1.4**
JAHD				⇓S	**Sn**	**23 42 43.8**	**-1.8**
JAHD	**Aomorihigashid**	**0.83**	**287**	A	A	23 42 32.8	
	comp=E,19nm,0.3s,comp=N,18nm,0.9s						
JANG	**Nango**	**0.93**	**226**	*i* P	**Pn**	**23 42 34.3**	**-1.2**
JANG				S	**Sn**	**23 42 46.8**	**-1.1**
JKEN	**Kujiedanarisaw**	**0.97**	**212**	P	**Pn**	**23 42 34.4**	**-1.6**
JKEN				S	**Sn**	**23 42 47.0**	**-1.8**
JKEN	**Kujiedanarisaw**	**0.97**	**212**	A	A	23 42 34.4	
	comp=E,10.0nm,1.0s,comp=N,9.0nm,0.9s						
JTM	**Tenmabayashi**	**1.03**	**257**	Pn	**Pn**	**23 42 36.0**	**-0.7**
JTM	**Tenmabayashi**	**1.03**	**257**	⇓*i*P	**Pn**	**23 42 36.1**	**-0.7**
JTM				⇓S	**Sn**	**23 42 49.9**	**-0.4**
JTM	**Tenmabayashi**	**1.03**	**257**	A	A	23 42 36.1	
	comp=E,17nm,0.7s,comp=N,20nm,0.9s						
JOT	**Ohata**	**1.07**	**290**	⇓*i*P	**Pn**	**23 42 36.2**	**-1.1**
JOT				⇓S	**Sn**	**23 42 50.3**	**-1.0**
JOT	**Ohata**	**1.07**	**290**	A	A	23 42 36.2	
	comp=E,7.0nm,0.4s,comp=N,6.0nm,1.7s						
ERM	**Erimo**	**1.14**	**30**		**Pn**	**23 42 38.0**	**-0.3**
ERM	**Erimo**	**1.14**	**30**	P	**Pn**	**23 42 38.0**	**-0.3**
JEM	**Erimo**	**1.15**	**30**	P	**Pn**	**23 42 37.9**	**-0.4**
JEM				*e*S	**Sn**	**23 42 53.1**	**+0.1**
JEM	**Erimo**	**1.15**	**30**	A	A	23 42 37.9	
	comp=E,5.0nm,1.7s,comp=N,5.0nm,2.9s						
JNBK	**Urakawa-nobuka**	**1.28**	**12**	P	**Pn**	**23 42 40.1**	**0.0**
JNBK				S	**Sn**	**23 42 58.7**	**+2.4**
JNBK	**Urakawa-nobuka**	**1.28**	**12**	A	A	23 42 40.1	
	comp=E,10.0nm,0.5s,comp=N,12nm,2.2s						
JKB	**Kayabe**	**1.33**	**311**	⇓*i*P	**Pn**	**23 42 39.9**	**-0.9**
JKB				⇓S	**Sn**	**23 42 56.9**	**-0.7**
JSI2	**Shiura 2**	**1.50**	**272**	A	A	23 42 43.1	
	comp=E,8.0nm,0.9s,comp=N,7.0nm,0.9s						
JSR	**Shiriuchi**	**1.57**	**289**	*i* P	**Pn**	**23 42 43.8**	**-0.2**
JSR				S	**Sn**	**23 43 03.6**	**+0.4**
JSR	**Shiriuchi**	**1.57**	**289**	A	A	23 42 43.8	
	comp=E,8.0nm,1.7s,comp=N,5.0nm,1.6s						
JAH	**Hinai**	**1.57**	**238**	*i* P	**Pn**	**23 42 44.6**	**+0.4**
JAH				S	**Sn**	**23 43 04.7**	**+1.3**
JIAM	**Iburiatsuma**	**1.63**	**348**	P	**Pn**	**23 42 45.7**	**+0.8**
JIAM				*e*S	**Sn**	**23 43 05.9**	**+1.1**
JIAM	**Iburiatsuma**	**1.63**	**348**	A	A	23 42 45.7	
	comp=E,20nm,0.4s,comp=N,26nm,0.7s						
JCH	**Churui**	**1.75**	**24**	*i* P	**Pn**	**23 42 46.3**	**-0.2**
JCH				*e*S	**Sn**	**23 43 07.4**	**-0.1**
JBT2	**Biratori 2**	**1.75**	**359**	P	**Pn**	**23 42 46.6**	**+0.1**
JBT2				*e*S	**Sn**	**23 43 10.1**	**+2.4**
JNB	**Noboribetsu**	**1.76**	**325**	P	**Pn**	**23 42 45.7**	**-0.9**
JNB				S	**Sn**	**23 43 06.9**	**-1.0**
JOM	**Ohasama**	**1.76**	**209**	P	**Pn**	**23 42 47.1**	**+0.4**
JOM				*e*S	**Sn**	**23 43 08.5**	**+0.5**
JOM	**Ohasama**	**1.76**	**209**	A	A	23 42 47.1	
	comp=E,6.0nm,0.2s,comp=N,7.0nm,1.2s						
JOMM	**Oshimamatsumae**	**1.86**	**286**	*e*P	**Pn**	**23 42 46.2**	**-1.8**
JOMM				*e*S	**Sn**	**23 43 10.7**	**+0.3**
JEW	**Eniwo**	**1.94**	**339**	P	**Pn**	**23 42 49.4**	**+0.2**
JEW				S	**Sn**	**23 43 13.0**	**+0.6**
ASAJ	**Asahikawa**	**3.09**	**3**	P	**Pn**	**23 43 05.5**	**+0.6**
	comp=N,57nm,0.3s,baz=202,slow=13,SNR=44						
ASAJ				S	**Sn**	**23 43 40.6**	**0.0**
	comp=N,204nm,0.8s,baz=25,slow=26,SNR=7.8						
JKA	**Kamikawa-asahi**	**3.09**	**3**	Pn	**Pn**	**23 43 04.1**	**-0.7**
JMM	**Marumori**	**3.39**	**202**		**Pn**	**23 43 09.4**	**+0.5**
NMR	**Nemuro--Hokkai**	**3.41**	**46**	*e*P	**Pn**	**23 43 06.9**	**-2.3**
NMR				*e*S	**Sn**	**23 43 43.9**	**-4.5**
RUSJ	**Misakicho**	**3.73**	**34**	*e*P	**Pn**	**23 43 13.5**	**-0.1**
RUSJ				*e*S	**Sn**	**23 43 56.3**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**3.95**	**39**	*e*P	**Pn**	**23 43 15.5**	**-1.1**
YUK				*e*S	**Sn**	**23 43 58.7**	**-2.9**
YUK				smax	smax		
	comp=E,1µm,0.5s						
YUK				smax	smax		
	comp=N,901nm,0.3s						
SHO	**Shikotan**	**4.34**	**48**	*e*P	**Pn**	**23 43 19.2**	**-2.8**
SHO				*e*S	**Sn**	**23 44 05.6**	**-5.7**
SHO				smax	smax		
	comp=E,378nm,0.4s						
SHO				smax	smax		
	comp=N,362nm,0.2s						
MJB9	**Matsu-Tunnel**	**5.54**	**217**		**Pn**	**23 43 38.8**	**+0.3**
MAJO	**Matsushiro**	**5.54**	**217**		**Pn**	**23 43 39.5**	**+1.0**
MAJO	**Matsushiro**	**5.54**	**217**	P	**Pn**	**23 43 39.5**	**+1.0**
MJAR	**Matsushiro Arr**	**5.54**	**217**	P	**Pn**	**23 43 40.3**	**+1.9**
	comp=N,8.0nm,0.7s,baz=40,slow=12,SNR=15						
MJAR				LR	LR	23 46 31.3	
	comp=N,76nm,18.8s,baz=44,slow=45						
KUR	**Kuril'sk**	**5.81**	**42**	⇓*i*P	**Pn**	**23 43 42.0**	**0.0**
KUR				*e*S	**Sn**	**23 44 44.9**	**-2.3**
KUR				pmax	pmax		
	comp=Z,127nm,0.6s						
KUR				smax	smax		
	comp=N,142nm,0.6s						
KUR				smax	smax		
	comp=E,64nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.93**	**2**		**Pn**	**23 43 42.0**	**-1.7**
YSS	**Yuzh-Sakhalins**	**5.93**	**2**	*e*P	**Pn**	**23 43 44.0**	**+0.3**
YSS				*e*S	**Sn**	**23 44 49.3**	**-1.0**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				smax	smax		
	comp=E,20nm,1.2s						
YSS				MLR	MLR		
	comp=Z,500nm,19.0s						
USA0B	**Ussuriysk Arra**	**8.30**	**296**		**Pn**	**23 44 14.6**	**-1.6**
USA0B	**Ussuriysk Arra**	**8.30**	**296**		**Pn**	**23 44 14.6**	**-1.6**
USRK	**Ussuriysk Ar.**	**8.30**	**296**	Pn	**Pn**	**23 44 15.1**	**-1.0**
USRK	**Ussuriysk Ar.**	**8.30**	**296**	P	**Pn**	**23 44 16.6**	**+0.5**
	comp=Z,26nm,0.8s,baz=98,slow=14,SNR=28						
USRK				LR	LR	23 47 26.9	
	comp=Z,251nm,19.3s,baz=80,slow=37						
MSHR	**Mys Shultsa**	**8.53**	**284**	⇓*e*P	**Pn**	**23 44 15.6**	**-3.7**
MSHR				pmax	pmax		
	comp=Z,18nm,2.0s						
TYV	**Tymovskoe**	**9.84**	**1**	*e*P	Pn	23 44 43.0	+5.8
TYV				pmax	pmax		
	comp=Z,11nm,1.3s						
TYV				pmax	pmax		
	comp=Z,200nm,4.1s						
MDJ	**Mudanjiang**	**10.06**	**295**	Pn	**Pn**	**23 44 37.3**	**-3.0**
KLR	**Kul'dur**	**11.12**	**321**	P	**Pn**	**23 44 56.4**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=126,slow=15,SNR=9.0						
KLR				LR	LR	23 49 29.7	
	comp=Z,161nm,18.1s,baz=134,slow=39						
KSRS	**Korea Array**	**11.77**	**257**	P	**Pn**	**23 45 07.1**	**+3.5**
	comp=Z,2.3nm,0.5s,baz=65,slow=14,SNR=5.1						
KSRS				LR	LR	23 49 19.1	
	comp=Z,162nm,18.2s,baz=75,slow=36						
JNU	**Nakatsue**	**12.11**	**233**	LR	LR	23 50 00.3	
	comp=Z,98nm,20.9s,baz=48,slow=38						
PETK	**Petropavlovsk-**	**15.92**	**35**	P	**Pn**	**23 45 58.1**	**-0.7**
	comp=Z,5.5nm,1.0s,baz=228,slow=14,SNR=2.6						
PETK				LR	LR	23 52 17.3	
	comp=Z,63nm,22.0s,baz=235,slow=38						
HIA	**Hailar**	**17.93**	**305**	⇑*e*P	**P**	**23 46 21.8**	**-1.9**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MA2	**Magadan**	**19.30**	**13**	LR	LR	23 54 12.7	
	comp=Z,27nm,19.8s,baz=290,slow=37						
XLT	**XiLinHaoTe**	**19.59**	**287**	*e*P	**P**	**23 46 35.8**	**-6.3**
XLT				sP	pP	23 46 50.0	-4.2
XLT				PP	**PnPn**	**23 46 53.5**	**-5.2**
XLT				PcP	PcP	23 50 41.8	-18
XLT				pmax	pmax		
	comp=Z,6.0nm,2.4s						
XLT				pmax	pmax		
	comp=Z,84nm,4.3s						
BJT	**Baijiatuan**	**19.94**	**276**	P	**P**	**23 46 43.8**	**-2.0**
BJT	**Baijiatuan**	**19.94**	**276**	P	**P**	**23 46 43.8**	**-2.0**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HNS	**HongShan**	**21.71**	**269**	⇑P	**P**	**23 47 04.0**	**-0.9**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
YAK	**Yakutsk**	**22.39**	**344**	P	**P**	**23 47 09.2**	**-2.7**
YAK	**Yakutsk**	**22.39**	**344**	⇑*e*P	**P**	**23 47 10.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**22.39**	**344**	LR	LR	23 55 25.5	
	comp=Z,64nm,20.5s,baz=136,slow=35						
HHC	**Hu-ho-hao-te**	**23.23**	**280**	*e*P	**P**	**23 47 19.8**	**-1.2**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,4.9s						
BOD	**Bodaibo**	**24.69**	**322**	*e*P	**P**	**23 47 33.3**	**-0.7**
BOD				pmax	pmax		
	comp=Z,15nm,1.4s						
ULN	**Ulaanbaatar**	**25.97**	**297**	P	**P**	**23 47 44.7**	**-1.3**
ULN	**Ulaanbaatar**	**25.97**	**297**	⇑*e*P	**P**	**23 47 44.9**	**-1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**26.41**	**297**	P	**P**	**23 47 49.3**	**-0.7**
SONM	**Songino Array**	**26.41**	**297**	P	**P**	**23 47 49.9**	**0.0**
	comp=Z,1.5nm,0.4s,baz=88,slow=8.6,SNR=17						
SONM				LR	LR	23 59 03.0	
	comp=Z,101nm,18.1s,baz=48,slow=38						
	comp=Z,1.5nm,0.4s						
ZAK	**Zakamensk**	**28.58**	**302**	*e*P	**P**	**23 48 07.2**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**29.78**	**128**	T	T	00 20 00.6	
	baz=320,slow=75,SNR=160						
H11N1	**WAKE ISLAND Hy**	**29.79**	**128**	T	T	00 20 00.3	
	baz=320,slow=75,SNR=72						
H11N3	**WAKE ISLAND Hy**	**29.80**	**128**	T	T	00 19 59.9	
	baz=320,slow=75,SNR=63						
BILL	**Bilibino**	**29.99**	**18**	P	**P**	**23 48 20.5**	**-0.9**
BILL	**Bilibino**	**29.99**	**18**	*e*P	**P**	**23 48 22.1**	**+0.6**
H11S1	**WAKE ISLAND Hy**	**30.62**	**130**	T	T	00 21 09.6	
	baz=322,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**30.62**	**130**	T	T	00 21 00.7	
	baz=322,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**30.63**	**130**	T	T	00 21 05.5	
	baz=322,slow=76,SNR=40						
TIXI	**Tiksi**	**31.44**	**352**	LR	LR	00 02 28.1	
	comp=Z,49nm,18.7s,baz=188,slow=38						
GTA	**Gaotai**	**32.32**	**281**	P	**P**	**23 48 41.8**	**-0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PZH	**PanZhiHua**	**36.42**	**259**	P	**P**	**23 49 18.3**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,6.6s						
DGZ	**Jazzator, Alta**	**38.80**	**302**	*ce*P	**P**	**23 49 38.7**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
C16K	**Lisburne Hills**	**38.81**	**28**	P	**P**	**23 49 37.8**	**+0.4**
M14K	**Bethel**	**38.81**	**40**	P	**P**	**23 49 37.4**	**-0.2**
M14K				IAmb	IAmb	23 49 43.5	
	comp=Z,15nm,1.4s						
TNCH	**TengChong**	**39.65**	**260**	P	**P**	**23 49 44.0**	**-1.3**
TNCH				pmax	pmax		
	comp=Z,80nm,4.0s						
WMQ	**Urumqi**	**39.85**	**293**	*e*P	**P**	**23 49 47.5**	**+0.9**
WMQ				sP	sP	23 50 07.5	+0.7
WMQ				PP	**PP**	**23 51 20.3**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
ZAA0	**Zalesovo Array**	**39.89**	**309**	P	**P**	**23 49 46.3**	**-0.4**
ZAA0				IAmb	IAmb	23 49 50.4	
	comp=Z,9.8nm,0.8s						
ZALV	**Zalesovo Beam**	**39.89**	**309**	P	**P**	**23 49 46.3**	**-0.4**
ZALV	**Zalesovo Beam**	**39.89**	**309**	P	**P**	**23 49 46.9**	**+0.2**
	comp=Z,11nm,0.8s,baz=85,slow=7.6,SNR=29						
ZALV				LR	LR	00 06 52.5	
	comp=Z,75nm,19.6s,baz=100,slow=37						
	comp=Z,11nm,0.8s						
NRIK	**Noril'sk**	**40.01**	**333**	P	**P**	**23 49 47.5**	**0.0**
NRIK				IAmb	IAmb	23 49 48.5	
	comp=Z,6.1nm,0.9s						
NRIK	**Noril'sk**	**40.01**	**333**	P	**P**	**23 49 47.5**	**0.0**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NRIK	**Noril'sk**	**40.01**	**333**	P	**P**	**23 49 46.4**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=118,slow=8.2,SNR=10						
	comp=Z,2.8nm,0.7s						
CRAI	**Chiangrai**	**41.18**	**253**	P	**P**	**23 49 59.1**	**+1.3**
CRAI				IAmb	IAmb	23 50 01.5	
	comp=Z,16nm,1.2s						
E19K	**Redstone River**	**41.62**	**30**	P	**P**	**23 50 01.8**	**+0.9**
H19K	**Roundabout Mou**	**41.71**	**33**	P	**P**	**23 50 01.9**	**+0.4**
H19K				IAmb	IAmb	23 50 03.9	
	comp=Z,7.4nm,0.9s						
J19K	**Poorman**	**41.96**	**36**	P	**P**	**23 50 05.4**	**+1.8**
B20K	**Meade River**	**42.07**	**27**	P	**P**	**23 50 04.6**	**+0.2**
F20K	**Avaraart Lake**	**42.16**	**31**	P	**P**	**23 50 06.6**	**+1.5**
MK31	**Makanchi Array**	**42.76**	**299**	P	**P**	**23 50 10.0**	**-0.3**
MK31				IAmb	IAmb	23 50 11.2	
	comp=Z,5.6nm,0.7s						
MK31	**Makanchi Array**	**42.76**	**299**	*ce*P	**P**	**23 50 10.3**	**0.0**
MKAR	**Makanchi Array**	**42.76**	**299**	P	**P**	**23 50 09.8**	**-0.6**
MKAR	**Makanchi Array**	**42.76**	**299**	P	**P**	**23 50 10.4**	**+0.1**
	comp=Z,3.8nm,0.5s,baz=86,slow=10,SNR=67						
MKAR				LR	LR	00 08 59.9	
	comp=Z,79nm,18.3s,baz=58,slow=38						
	comp=Z,3.8nm,0.5s						
IMAR	**Indian Mountai**	**42.86**	**33**	P	**P**	**23 50 11.2**	**+0.3**
MAKZ	**Makanchi**	**42.96**	**299**	P	**P**	**23 50 11.7**	**-0.3**
MAKZ				IAmb	IAmb	23 50 15.0	
	comp=Z,6.5nm,0.8s						
MAKZ	**Makanchi**	**42.96**	**299**	P	**P**	**23 50 11.7**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**43.12**	**252**	P	**P**	**23 50 14.4**	**+0.9**
CHTO	**Chiang Mai**	**43.12**	**252**	P	**P**	**23 50 14.4**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.35**	**252**	*ce*P	P	23 50 20.2	+4.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**43.35**	**252**	P	**P**	**23 50 16.4**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=50,slow=7.3,SNR=4.6						
CMAR				LR	LR	00 09 45.9	
	comp=Z,25nm,19.3s,baz=70,slow=38						
	comp=Z,0.9nm,0.3s						
KURK	**Kurchatov**	**44.16**	**305**	P	**P**	**23 50 22.4**	**+0.8**
KURBB	**Kurchatov Arra**	**44.24**	**305**	P	**P**	**23 50 22.4**	**+0.2**
	comp=Z,11nm,0.7s,baz=79,slow=8.7,SNR=36						
	comp=Z,11nm,0.7s						
D24K	**Happy Valley**	**44.88**	**28**	P	**P**	**23 50 27.9**	**+0.9**
D24K				IAmb	IAmb	23 50 30.6	
	comp=Z,3.6nm,0.6s						
MDM	**Murphy Dome**	**45.16**	**34**	P	**P**	**23 50 29.0**	**-0.4**
MDM				IAmb	IAmb	23 50 48.2	
	comp=Z,4.2nm,0.8s						
IL31		**45.75**	**34**	P	**P**	**23 50 34.6**	**+0.7**
ILAR	**Eielson Array**	**45.75**	**34**	P	**P**	**23 50 34.6**	**+0.6**
ILAR	**Eielson Array**	**45.75**	**34**	P	**P**	**23 50 35.0**	**+1.0**
ILAR	**Eielson Array**	**45.75**	**34**	P	**P**	**23 50 35.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=266,slow=5.3,SNR=9.6						
	comp=Z,0.8nm,0.6s						
PRP	**Porcupine Dome**	**46.26**	**33**	P	**P**	**23 50 38.7**	**+0.5**
PRP				IAmb	IAmb	23 50 57.0	
	comp=Z,6.4nm,0.7s						
FYU	**Fort Yukon**	**46.30**	**32**	P	**P**	**23 50 39.6**	**+1.4**
FYU				IAmb	IAmb	23 50 57.0	
	comp=Z,5.0nm,0.8s						
J25K	**Salcha River,**	**46.41**	**35**	P	**P**	**23 50 40.9**	**+1.6**
BMAR	**Burnt Mountain**	**46.49**	**31**	P	**P**	**23 50 41.5**	**+1.6**
SCRK	**Sand Creek**	**47.08**	**35**	P	**P**	**23 50 45.2**	**+0.6**
SCRK				IAmb	IAmb	23 51 02.9	
	comp=Z,3.9nm,0.7s						
E28M	**Babbage River**	**48.27**	**29**	P	**P**	**23 50 54.8**	**+1.2**
F28M	**Old Crow**	**48.27**	**30**	P	**P**	**23 50 54.9**	**+1.2**
F28M				IAmb	IAmb	23 51 14.7	
	comp=Z,3.1nm,0.8s						
BVAR	**Borovoye Array**	**48.52**	**310**	P	**P**	**23 50 56.2**	**+0.5**
	comp=Z,11nm,0.5s,baz=76,slow=9.3,SNR=84						
BVAR				LR	LR	00 12 18.5	
	comp=Z,62nm,19.2s,baz=70,slow=37						
	comp=Z,1.1nm,0.5s						
BRVK	**Borovoye**	**48.57**	**310**	*de*P	**P**	**23 50 56.7**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
I28M	**Miner Creek**	**48.58**	**33**	P	**P**	**23 50 57.2**	**+1.1**
I28M				IAmb	IAmb	23 51 16.7	
	comp=Z,6.4nm,1.1s						
NRN	**Naryn**	**48.78**	**294**	P	**P**	**23 50 56.6**	**-1.7**
NRN	**Naryn**	**48.78**	**294**	P	**P**	**23 50 56.6**	**-1.7**
NRN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
E29M	**Blow River**	**48.90**	**29**	P	**P**	**23 51 00.0**	**+1.7**
E29M				IAmb	IAmb	23 51 01.8	
	comp=Z,10nm,1.3s						
AAK	**Ala-Archa**	**49.35**	**296**	⇓*e*P	**P**	**23 51 02.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s	

RES Resolute Bay 58.55 15 P **P** **23 52 08.7 -0.1**
RES Resolute Bay 58.55 15 P **P** **23 52 08.7 -0.1**
RES pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 59.99 31 P **P** **23 52 19.5 +0.6**
comp=Z,0.4nm,0.9s,baz=307,slow=7.2,SNR=5.3
comp=Z,0.4nm,0.9s
ARCES ARCESS Array B 60.54 339 P **P** **23 52 23.4 +0.8**
comp=Z,3.0nm,1.0s,baz=62,slow=9.5,SNR=4.4
ARCES LR LR 00 23 21.4
comp=Z,26nm,18.3s,baz=112,slow=41
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 60.81 327 *eP* **P** **23 52 22.0 -2.5**
KLMR pmax pmax
comp=Z,21nm,1.9s
WRA Warramunga Arr 61.12 189 P **P** **23 52 26.9 -0.1**
comp=Z,1.2nm,0.7s,baz=5.1,slow=6.9,SNR=8.0
comp=Z,1.2nm,0.7s
BELG Belogornoye 61.43 316 *deP* **P** **23 52 28.8 0.0**
BELG pmax pmax
comp=Z,3.0nm,0.9s
GEYT Alibeck 62.61 298 P **P** **23 52 36.8 -0.3**
GEYT IAmb IAmb 23 52 37.9
comp=Z,5.7nm,1.0s
GEYT Alibeck 62.61 298 P **P** **23 52 37.1 0.0**
comp=Z,4.9nm,1.0s,baz=96,slow=4.5,SNR=8.2
comp=Z,4.9nm,1.0s
ASAR Alice Springs 64.84 189 P **P** **23 52 51.6 -0.1**
comp=Z,0.8nm,0.8s,baz=29,slow=5.1,SNR=4.8
ASAR LR LR 00 20 10.0
comp=Z,34nm,20.9s,baz=332,slow=35
comp=Z,0.8nm,0.8s
VRH Novokhopyorsk 65.16 317 *eP* **P** **23 52 52.1 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 65.65 332 P **P** **23 52 55.6 -0.8**
comp=Z,3.3nm,0.7s,baz=35,slow=7.3,SNR=9.2
comp=Z,3.3nm,0.7s
LPSR Galich'ya Gora 65.75 319 *eP* **P** **23 52 56.0 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 66.16 318 *eP* **P** **23 52 58.2 -1.7**
VORR pmax pmax
comp=Z,20nm,0.5s
VSR Storozhevoye 66.45 318 *eP* **P** **23 53 00.7 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 66.54 318 *eP* **P** **23 53 00.7 -1.7**
VORD pmax pmax
comp=Z,7.0nm,0.6s
SUMG Summit 66.70 0 *i* P **P** **23 53 04.0 +0.4**
NEW Newport 66.77 46 LR LR 00 20 29.9
comp=Z,20nm,21.0s,baz=290,slow=34
KIV Kislovodsk 68.89 310 P **P** **23 53 17.9 +0.5**
KIV Kislovodsk 68.89 310 *eP* **P** **23 53 18.7 +1.3**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,37nm,17.0s
KBZ Khabaz 68.90 310 P **P** **23 53 18.6 +1.2**
comp=Z,6.8nm,0.8s,baz=53,slow=5.0,SNR=11
comp=Z,6.8nm,0.8s
GNI Garni 69.95 306 LR LR 00 25 13.6
comp=Z,28nm,19.8s,baz=59,slow=37
WSAR Wadi Sarin 70.60 284 LR LR 00 27 39.3
comp=Z,28nm,20.5s,baz=98,slow=38
HFS Hagfors 70.77 336 P **P** **23 53 28.7 +0.1**
comp=Z,1.4nm,0.4s,baz=19,slow=5.0,SNR=8.1
HFS LR LR 00 26 43.6
comp=Z,35nm,20.6s,baz=46,slow=38
comp=Z,1.4nm,0.4s
NB2 NORSAR Subarra 70.80 337 P **P** **23 53 28.3 -0.5**
comp=Z,0.4nm,0.5s,baz=36,slow=6.5
NOA NORSAR Array B 70.80 337 P **P** **23 53 28.6 -0.2**
comp=Z,1.2nm,0.7s,baz=36,slow=6.2,SNR=2.5
NOA LR LR 00 27 30.0
comp=Z,23nm,21.3s,baz=30,slow=38
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 71.62 322 P **P** **23 53 33.9 +0.1**
comp=Z,1.1nm,0.5s,baz=44,slow=6.4,SNR=8.1
AKASG LR LR 00 28 28.1
comp=Z,67nm,18.1s,baz=242,slow=39
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 71.62 322⇑ *eP* **P** **23 53 33.3 -0.5**
SFJD Kangerlussuaq 71.85 5 LR LR 00 26 16.2
comp=Z,36nm,20.4s,baz=343,slow=37
NVAR Mina Array Bea 72.02 55 P **P** **23 53 37.9 +1.1**
comp=Z,0.2nm,0.5s,baz=298,slow=3.9,SNR=2.3
comp=Z,0.2nm,0.5s
KONO Kongsberg 72.40 337⇑ *eP* **P** **23 53 39.0 +0.6**
KONO pmax pmax
comp=Z,14nm,1.2s
GURO Guroymak-BITLI 72.59 306 P **P** **23 53 40.9 +0.8**
GURO IAmb IAmb 23 53 42.2
comp=Z,6.0nm,0.7s
PDAR Pinedale Array 74.35 47 P **P** **23 53 51.4 +0.8**
comp=Z,0.4nm,0.7s,baz=263,slow=2.4,SNR=4.1
comp=Z,0.4nm,0.7s
LVV L'vov 74.61 324 *eP* **P** **23 53 52.6 +1.0**
BAR Barrett 76.69 58 P **P** **23 54 05.3 +1.5**
BRTR Keskin Array B 76.78 311 P **P** **23 54 04.8 +0.5**
comp=Z,0.9nm,0.6s,baz=83,slow=3.7,SNR=5.3
comp=Z,0.9nm,0.6s
VYHS Vyhne 77.87 325 *eP* **P** **23 54 11.7 +1.6**
VYHS Vyhne 77.87 325 *eP* **P** **23 54 11.7 +1.6**
VRAC Vranov 78.19 327 LR LR 00 32 08.6
comp=Z,36nm,19.0s,baz=64,slow=38
RONA Rosalia, Austr 79.57 326 *i* sP sP 23 54 36.8 -3.7
comp=Z,7.5nm,1.3s
CONA Conrad Observa 79.57 327 *es*P sP 23 54 37.3 -3.4
comp=Z,3.7nm,0.8s
EKA Eskdalemuir Ar 79.62 341 P **P** **23 54 19.6 +0.1**
comp=Z,2.7nm,0.9s,baz=28,slow=4.8,SNR=1.4
comp=Z,2.7nm,0.9s
RDO Rodhopi 80.18 317 P **P** **23 54 23.1 +0.2**
RDO IAmb IAmb 23 54 24.7
comp=Z,5.1nm,1.0s
ARSA Arzberg 80.24 326 *es*P sP 23 54 40.2 -4.1
comp=Z,5.1nm,1.3s
MMAI Mount Meron Ar 80.28 305 P **P** **23 54 24.7 +1.1**
comp=Z,2.6nm,0.7s,baz=44,slow=6.1,SNR=7.5
comp=Z,2.6nm,0.7s
MOA Molln 80.29 327 *i* sP sP 23 54 40.5 -4.0
comp=Z,8.9nm,1.9s
BIOA Bad Ischl, Aus 80.67 328 *i* P **P** **23 54 26.3 +0.9**
comp=Z,3.5nm,0.9s
BIOA *i* sP **pP** **23 54 42.7 +2.1**
comp=Z,6.1nm,1.1s
SOKA Soboth 80.90 326 *i* P **P** **23 54 27.5 +0.7**
comp=Z,3.7nm,0.8s
SOKA *i* sP **pP** **23 54 43.6 +1.7**
comp=Z,8.4nm,1.3s
OBKA Obir 81.24 327 *eP* **P** **23 54 29.3 +0.8**
comp=Z,2.7nm,0.7s
OBKA *es*P **pP** **23 54 45.3 +1.6**
comp=Z,3.6nm,0.9s
LESA Schwarzleotal 81.27 328 *i* P **P** **23 54 29.3 +0.7**
comp=Z,6.5nm,1.6s
LESA *i* sP **pP** **23 54 45.8 +2.0**
comp=Z,3.3nm,0.7s
KBA Koelnbreinsper 81.28 328 *eP* **P** **23 54 29.0 +0.1**
comp=Z,6.0nm,1.0s
KBA *es*P **pP** **23 54 45.9 +1.8**
comp=Z,7.5nm,1.2s
WATA Walderalm 81.78 329 *i* P **P** **23 54 31.9 +0.5**
comp=Z,2.0nm,0.6s
WATA *i* sP **pP** **23 54 47.6 +0.9**
comp=Z,1.6nm,0.5s
WTTA Wattenberg 81.81 329 *i* P **P** **23 54 32.2 +0.6**
comp=Z,1.9nm,0.6s
WTTA *i* sP **pP** **23 54 48.6 +1.7**
comp=Z,7.4nm,1.3s
ABTA Abfaltersbach 81.88 328 *eP* **P** **23 54 32.4 +0.4**
comp=Z,3.0nm,1.2s
MOTA Moosalm 81.96 329 *eP* **P** **23 54 32.8 +0.4**
comp=Z,3.1nm,0.7s
MOTA *i* sP **pP** **23 54 49.2 +1.6**
comp=Z,13nm,1.2s
RETA Reutte 81.97 329 *eP* **P** **23 54 32.7 +0.4**
comp=Z,5.0nm,1.7s
RETA *i* sP **pP** **23 54 49.4 +1.8**
comp=Z,6.7nm,1.1s
SQTA Sankt Quirin 82.02 329 *i* P **P** **23 54 33.7 +1.1**
comp=Z,0.7nm,0.4s
SQTA *es*P **pP** **23 54 49.8 +1.9**
comp=Z,1.5nm,0.5s
FETA Feichten 82.37 329 *eP* **P** **23 54 35.5 +1.0**
comp=Z,3.2nm,0.9s
FETA *i* sP **pP** **23 54 51.5 +1.7**
comp=Z,4.3nm,1.0s
DAVA Damuels 82.48 330 *eP* **P** **23 54 32.9 -2.2**
comp=Z,3.2nm,0.9s
FUORN Ofenpass-Fuorn 82.88 329 P **P** **23 54 37.5 +0.2**
DAVOX Davos/Dischmat 82.90 329 LR LR 00 37 07.2
comp=Z,34nm,18.6s,baz=80,slow=40
NRCA Norcia 84.80 325 P **P** **23 54 46.8 -0.2**
TXAR Lajitas Array 87.10 53 P **P** **23 54 58.8 +0.2**
comp=Z,0.4nm,0.8s,baz=307,slow=3.3,SNR=4.0
comp=Z,0.4nm,0.8s
RPZ Rata Peaks 88.22 160 LR LR 00 38 07.0
comp=Z,22nm,18.2s,baz=242,slow=38
TKL Tuckaleechee C 92.71 36 LR LR 00 38 44.1
comp=Z,30nm,20.3s,baz=336,slow=36
ESDC Sonseca Array 94.03 335 P **P** **23 55 30.3 -0.5**
comp=Z,0.4nm,0.8s,baz=350,slow=2.8,SNR=2.7
comp=Z,0.4nm,0.8s
SNAA Sanae 144.78 198 PKP **PKPdf** **00 01 47.6 -0.3**
comp=Z,2.1nm,0.6s,baz=182,slow=6.2,SNR=9.6
H03N2 Juan Fernandez 146.49 90 T T 02 46 56.3
baz=300,slow=77,SNR=6.6
H03N3 Juan Fernandez 146.50 90 T T 02 46 56.5
baz=300,slow=77,SNR=6.5
H03N1 Juan Fernandez 146.50 90 T T 02 46 57.2
baz=300,slow=77,SNR=9.3

*ISN **29** 23:52:52.3±0.7, 33.74N×45.62E, h8km±4km, ML2.7*
*TEH **29** 23:52:53.7, 33.75N×45.67E, h10km±57km, ML2.6*
ISC 29 23:52:54.0±0.9, 33.74N±0.03×45.68E±0.05, h10km, n11, σ0.96/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.66**	**161**	*e*Pg	**Pg**	**23 53 06.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**23 53 15.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.77**	**355**	Pg	**Pg**	**23 53 08.0**	**-0.8**
KGS1				Sg	**Sb**	**23 53 20.4**	**+0.4**
IGHG	**Ghaleghazi**	**0.95**	**51**	Pg	**Pb**	**23 53 12.2**	**-0.4**
IDHR	**Dehrash**	**1.12**	**31**	Pg	**Pg**	**23 53 14.6**	**-1.1**
BHD	**Baghdad**	**1.18**	**247**	*e*Pn	**Pb**	**23 53 16.0**	**-0.5**
BHD				*e*Sn	**Sn**	**23 53 34.0**	**+1.4**
BHD				AML	AML	23 53 51.5	
	comp=E,200nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.25**	**64**	Pg	**Pg**	**23 53 18.0**	**-0.1**
ILIN	**Lien**	**1.59**	**42**	Pg	**Pg**	**23 53 23.8**	**-0.7**
IKFM	**Kafar-mosalman**	**1.82**	**96**	Pn	**Pb**	**23 53 27.7**	**+0.2**
RAFI	**Al-Rafai**	**2.04**	**170**	*e*Pn	**Pn**	**23 53 29.0**	**+0.6**
RAFI				*e*Sn	**Sb**	**23 53 56.0**	**-0.6**
IALM	**Almabolaq**	**2.35**	**61**	Pn	**Pb**	**23 53 35.1**	**-1.4**
HAGD	**Aghdareh**	**3.06**	**68**	Pn	**Pn**	**23 53 44.3**	**+1.6**

IDC 29 23:57:15.6±6.2, 4.62S×133.79E, h0km, mb3.6/1, mbtmp3.6/3, ML3.4/2, MS3.4/1, Error ellipse: s-maj=359.6km s-min=30.5km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.24**	**178**	Pn	Pn	00 00 51.3	-1.0
	0.1nm,0.3s,baz=356,slow=13,SNR=5.3						
WRA				Sn	Sn	00 03 31.5	-11
	0.1nm,0.3s,baz=0.5,slow=24,SNR=2.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**18.94**	**180**	P	Pn	00 01 38.7	-0.2
	0.2nm,0.3s,baz=2.5,slow=10,SNR=13						
	2.1nm,0.8s						
URZ	**Urewera**	**51.67**	**136**	LR	LR	00 29 11.8	
	comp=Z,35nm,18.1s,baz=119,slow=37						
MKAR	**Makanchi Array**	**68.39**	**325**	P	P	00 08 19.2	0.0
	0.2nm,0.4s,baz=113,slow=8.0,SNR=7.8						
	0.2nm,0.4s						

*LDG **30** 00:14:14.2±0.8, 43.67N×15.45E, h2km, Ml3.7/19, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IDC **30** 00:14:15.9±1.0, 43.72N×15.58E, h0km, mb3.5/7, mbtmp3.6/15, ML3.3/6, MS3.3/1, Error ellipse: s-maj=18.2km s-min=12.2km az=81.0*
*PDG **30** 00:14:15.9±0.5, 43.65N×15.45E, h2km±1km, ML3.7/12, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
*BEO **30** 00:14:16.8±0.5, 43.66N×15.43E, h0km, ML3.7/12*
*RHSSO **30** 00:14:17.3±0.4, 43.70N×15.47E, h3km±2km, ML3.7/20*
*PRU **30** 00:14:18.8, 43.75N×15.28E, h1km*
ISC 30 00:14:16.6±1.1, 43.70N±0.02×15.45E±0.02, h4km±7km, n212, σ1.976/337, mb3.5/7, 26C-26D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIRJ	**Zirje**	**0.14**	**107**	*i* Pg	**Pg**	**00 14 19.1**	**-0.3**
ZIRJ				Sg	**Sg**	**00 14 21.2**	**-0.2**
MORI	**Morici**	**0.25**	**47**	*i* Pg	**Pg**	**00 14 21.1**	**-0.3**
MORI				Sg	**Sg**	**00 14 24.8**	**+0.1**
DUGI	**Dugi Otok**	**0.41**	**316**	*i* Pg	**Pg**	**00 14 24.6**	**+0.1**
DUGI				Sg	**Sg**	**00 14 30.4**	**+0.5**
VIRC	**Vir**	**0.66**	**334**	*i* Pg	**Pg**	**00 14 29.0**	**-0.3**
VIRC				Sg	**Sg**	**00 14 37.8**	**-0.2**
KIJV	**Kijevo**	**0.75**	**65**	*i* Pg	**Pg**	**00 14 30.2**	**-0.9**
KIJV				Sg	**Sg**	**00 14 40.9**	**0.0**
UDBI	**Udbina**	**0.86**	**15**	*i* Pg	**Pg**	**00 14 32.7**	**-0.4**
UDBI				Sg	**Sg**	**00 14 44.6**	**+0.2**
NVLJ	**Novalja**	**0.96**	**334**	*i* Pg	**Pg**	**00 14 34.4**	**-0.7**
NVLJ				Sg	**Sg**	**00 14 47.6**	**0.0**
A050A	**Klekovaca**	**1.10**	**44**⇓	*i*Pg	**Pg**	**00 14 36.1**	**-1.7**
A050A				*e*Sg	**Sg**	**00 14 52.5**	**+0.4**
RABC	**Rab**	**1.16**	**336**	*i* Pg	**Pg**	**00 14 38.2**	**-0.7**
RABC				Sg	**Sg**	**00 14 53.4**	**-0.5**
PLIT	**Plitvice**	**1.19**	**6**	*e*Pg	**Pg**	**00 14 38.3**	**-1.1**
PLIT				Sg	**Sg**	**00 14 54.7**	**-0.1**
MAKA	**Makarska**	**1.21**	**109**	*e*Pg	**Pg**	**00 14 37.9**	**-1.9**
MAKA				Sg	**Sg**	**00 14 54.4**	**-1.1**
RICI	**Ricice**	**1.24**	**99**	*e*Pg	**Pg**	**00 14 39.0**	**-1.3**
RICI				Sg	**Sg**	**00 14 55.5**	**-0.8**
MGRS	**Mrkonjic Grad**	**1.38**	**58**⇓	*i*Pg	**Pn**	**00 14 41.2**	**-1.5**
MGRS				*e*Sg	**Sg**	**00 15 00.7**	**-0.2**
LSTV	**Lastovo**	**1.40**	**131**	*e*Pg	**Pn**	**00 14 41.6**	**-1.3**
LSTV				Sg	**Sg**	**00 15 00.1**	**-1.5**
A251A	**Rujevac**	**1.55**	**22**	*i* Pn	**Pn**	**00 14 45.3**	**+0.3**
A251A				Sg	**Sg**	**00 15 07.9**	**+1.6**
PRIJ	**Prijedor**	**1.57**	**35**⇑	*i*Pn	**Pn**	**00 14 45.7**	**+0.5**
PRIJ				*e*Sn	**Sg**	**00 15 06.8**	**-0.2**
BLY	**Banja Luka**	**1.63**	**49**	*e*Pn	**Pn**	**00 14 46.4**	**+0.3**
BLY				*e*Sn	**Sg**	**00 15 09.9**	**+1.0**
BLY	**Banja Luka**	**1.63**	**49**⇓	*i*Pn	**Pn**	**00 14 46.1**	**0.0**
BLY				*e*Sn	**Sn**	**00 15 08.0**	**+0.5**
SMRN	**Sveta Marina**	**1.63**	**326**	*e*Pn	**Pn**	**00 14 46.5**	**+0.4**
SMRN				Sn	**Sg**	**00 15 10.3**	**+1.2**
A051A	**Mrakovica**	**1.68**	**38**⇓	*i*Pn	**Pn**	**00 14 47.3**	**+0.5**
A051A				*e*Sn	**Sn**	**00 15 09.2**	**+0.4**
RIY	**Rijeka**	**1.77**	**337**	*e*Pn	**Pb**	**00 14 49.3**	**-0.3**
RIY				*e*Sn	**Sg**	**00 15 13.6**	**+0.1**
RIY	**Rijeka**	**1.77**	**337**	*e*Pn	**Pb**	**00 14 49.1**	**-0.5**
RIY				Sn	**Sg**	**00 15 13.0**	**-0.5**
BOJS	**Bojanci**	**1.81**	**355**	*i* Pn	**Pb**	**00 14 50.0**	**-0.4**
BOJS				*e*Sn	**Sg**	**00 15 15.0**	**+0.1**
BOJS				IAML		00 15 20.6	
	comp=Z,242nm,0.3s						
BOJS	**Bojanci**	**1.81**	**355**⇑	*i*Pn	**Pn**	**00 14 49.7**	**+1.1**
BOJS				*e*Sn	**Sn**	**00 15 12.6**	**+0.6**
STON	**Ston**	**1.83**	**116**	*e*Pn	**Pn**	**00 14 49.1**	**+0.2**
STON				*e*Sn	**Sb**	**00 15 14.5**	**+0.5**
STON	**Ston**	**1.83**	**116**	*i* Pn	**Pn**	**00 14 48.9**	**+0.1**
STON				Sn	**Sn**	**00 15 12.7**	**+0.2**
STON	**Ston**	**1.83**	**116**⇑	*i*Pn	**Pn**	**00 14 49.3**	**+0.4**
STON				*e*Sn	**Sn**	**00 15 13.4**	**+0.9**
GBRS	**Gornja Briga**	**1.89**	**346**	*i* Pn	**Pb**	**00 14 51.1**	**-0.6**
GBRS				*e*Sn	**Sg**	**00 15 17.6**	**+0.2**
GBRS				IAML		00 15 24.4	
	comp=Z,143nm,0.2s						
OZLJ	**Ozalj**	**1.92**	**0**	*e*Pn	**Pb**	**00 14 51.7**	**-0.5**
OZLJ				Sn	**Sb**	**00 15 16.2**	**-0.2**
OZLJ	**Ozalj**	**1.92**	**0**	*e*Pn	**Pb**	**00 14 51.9**	**-0.2**
OZLJ				Sn	**Sg**	**00 15 17.9**	**-0.3**
NEVS	**Nevesinje**	**1.97**	**101**	*e*Pn	**Pn**	**00 14 51.3**	**+0.5**
NEVS				*e*Sn	**Sn**	**00 15 16.9**	**+1.0**
A052A	**Srbac**	**2.04**	**46**	*e*Pn	**Pn**	**00 14 52.5**	**+0.8**
A052A				*e*Sn	**Sn**	**00 15 18.1**	**+0.5**
SKDS	**Skadanscina**	**2.12**	**331**	*i* Pn	**Pn**	**00 14 53.3**	**+0.5**
SKDS	**Skadanscina**	**2.12**	**331**⇑	*i*Pn	**Pn**	**00 14 53.3**	**+0.5**
SKDS				*e*Sn	**Sn**	**00 15 19.7**	**+0.1**
CRES	**Cresnjev**	**2.13**	**0**	*e*Pn	**Pn**	**00 14 54.2**	**+1.2**
CRES	**Cresnjev**	**2.13**	**0**	*e*Pn	**Pn**	**00 14 53.5**	**+0.5**
CRES				*e*Sn	**Sn**	**00 15 20.3**	**+0.4**
MOSL	**Moslavina**	**2.13**	**25**	*e*Pn	**Pn**	**00 14 54.4**	**+1.4**
MOSL				Sn	**Sn**	**00 15 20.9**	**+1.0**
MOSL	**Moslavina**	**2.13**	**25**	*e*Pn	**Pn**	**00 14 54.4**	**+1.4**
MOSL				Sn	**Sn**	**00 15 21.5**	**+1.6**
ZAG	**Zagreb**	**2.17**	**10**	*e*Pn	**Pn**	**00 14 54.8**	**+1.4**
ZAG				Sn	**Sn**	**00 15 21.9**	**+1.2**
ZAG	**Zagreb**	**2.17**	**10**	*e*Pn	**Pn**	**00 14 54.9**	**+1.4**
ZAG				Sn	**Sb**	**00 15 23.9**	**+0.3**
DOB	**Doboj**	**2.17**	**60**	*e*Pn	**Pn**	**00 14 53.7**	**+0.3**
DOB				*e*Sn	**Sn**	**00 15 20.9**	**+0.2**
CEY	**Cerknica**	**2.17**	**341**⇑	*i*Pn	**Pn**	**00 14 54.3**	**+0.8**
CEY				*e*Sn	**Sn**	**00 15 21.3**	**+0.4**
GCIS	**Gornji Cirnik**	**2.17**	**3**	*i* Pn	**Pn**	**00 14 54.9**	**+1.3**
DBRK	**Dubrovnik**	**2.22**	**117**	*e*Pn	**Pn**	**00 14 54.5**	**+0.3**
DBRK				Sn	**Sn**	**00 15 22.1**	**0.0**
PTJ	**Puntijarka**	**2.24**	**9**	*e*Pn	**Pn**	**00 14 55.9**	**+1.3**
PTJ				Sn	**Sn**	**00 15 23.9**	**+1.1**
PTJ	**Puntijarka**	**2.24**	**9**	*e*Pn	**Pn**	**00 14 55.3**	**+0.8**
PTJ				Sn	**Sb**	**00 15 24.9**	**-0.9**
TREB	**Trebinje**	**2.33**	**114**	*e*Pn	**Pn**	**00 14 56.0**	**+0.3**
TREB				*e*Sn	**Sn**	**00 15 26.5**	**+1.7**
TREB	**Trebinje**	**2.33**	**114**⇑	*i*Pn	**Pn**	**00 14 56.3**	**+0.6**
TREB				*e*Sn	**Sn**	**00 15 25.1**	**+0.3**
KLINJ	**Klinje**	**2.34**	**102**	*e*Pn	**Pn**	**00 14 56.8**	**+0.9**
KLINJ				*e*Sn	**Sn**	**00 15 25.9**	**+0.7**
BRY	**Bratogost**	**2.39**	**108**⇑	*i*Pn	**Pn**	**00 14 56.9**	**+0.3**
BRY				*i* Sn	**Sb**	**00 15 29.1**	**-1.0**
BRY	**Bratogost**	**2.39**	**108**⇑	*i*Pn	**Pn**	**00 14 57.1**	**+0.5**
BRY				*e*Sn	**Sn**	**00 15 27.1**	**+0.7**
LJU	**Ljubljana**	**2.44**	**345**⇑	*i*Pn	**Pn**	**00 14 58.6**	**+1.4**
LOBO	**Lobor**	**2.50**	**10**	*e*Pn	**Pn**	**00 14 59.0**	**+0.9**
LOBO				Sn	**Sn**	**00 15 29.8**	**+0.9**
KALN	**Kalnik**	**2.54**	**16**	*e*Pn	**Pn**	**00 14 59.1**	**+0.5**
KALN				Sn	**Sn**	**00 15 31.0**	**+1.1**
HCY	**Herceg Novi**	**2.55**	**118**⇓	*i*Pn	**Pn**	**00 14 59.2**	**+0.4**
HCY				*i* Sn	**Sn**	**00 15 32.8**	**+2.5**
HCY	**Herceg Novi**	**2.55**	**118**	*e*Pn	**Pn**	**00 14 59.5**	**+0.7**
HCY				*e*Sn	**Sn**	**00 15 30.9**	**+0.6**
HAPS	**Han Pijesak,Bl**	**2.56**	**80**	*e*Pn	**Pn**	**00 15 00.2**	**+1.3**
HAPS				*e*Sn	**Sn**	**00 15 32.9**	**+2.3**
HAPS	**Han Pijesak,Bl**	**2.56**	**80**⇑	*i*Pn	**Pn**	**00 14 59.8**	**+0.9**
HAPS				*e*Sn	**Sn**	**00 15 31.3**	**+0.7**
UPM	**Unac-Piva**	**2.56**	**100**⇓	*i*Pn	**Pn**	**00 14 59.7**	**+0.7**
UPM				*i* Sn	**Sn**	**00 15 33.1**	**+2.4**
UPM	**Unac-Piva**	**2.56**	**100**	*e*Pn	**Pn**	**00 15 00.0**	**+1.0**
UPM				*e*Sn	**Sn**	**00 15 31.0**	**+0.3**
NKME	**Niksic**	**2.72**	**109**⇓	*i*Pn	**Pn**	**00 15 01.5**	**+0.4**
NKME				*i* Sn	**Sn**	**00 15 37.1**	**+2.6**
CEME	**Cevo**	**2.78**	**113**⇓	*i*Pn	**Pn**	**00 15 02.4**	**+0.4**
CEME				*i* Sn	**Sn**	**00 15 38.3**	**+2.2**
CADS	**Cadrg**	**2.81**	**335**⇑	*i*Pn	**Pn**	**00 15 03.0**	**+0.7**
RUDO	**Rudo**	**2.84**	**90**	*e*Pn	**Pn**	**00 15 02.9**	**+0.2**
RUDO				*e*Sn	**Sn**	**00 15 38.0**	**+0.6**
RUDO	**Rudo**	**2.84**	**90**	*e*Pn	**Pn**	**00 15 03.0**	**+0.2**
RUDO				*e*Sn	**Sn**	**00 15 38.0**	**+0.6**
BBLS	**Lazi?i**	**2.87**	**85**	*e*Pn	**Pn**	**00 15 04.5**	**+1.4**
BBLS				*e*Sn	**Sn**	**00 15 39.4**	**+1.3**
BBLS	**Lazi?i**	**2.87**	**85**	*e*Pn	**Pn**	**00 15 03.9**	**+0.8**
BBLS				*e*Sn	**Sn**	**00 15 38.3**	**+0.2**
BUM	**Brajici-Budva**	**2.88**	**118**⇑	*i*Pn	**Pn**	**00 15 03.9**	**+0.5**
BUM				*i* Sn	**Sn**	**00 15 40.5**	**+2.0**
PLE	**Pljevlja**	**2.88**	**96**⇓	*i*Pn	**Pn**	**00 15 04.2**	**+0.8**
PLE				*i* Sn	**Sn**	**00 15 41.1**	**+2.5**
OBKA	**Obir**	**2.89**	**347**	*e*Pn	**Pn**	**00 15 04.9**	**+1.4**
	comp=Z,5.6nm,0.2s,SNR=69						
OBKA				*e*Sn	**Sn**	**00 15 40.8**	**+2.2**
	comp=Z,190nm,0.7s						
OBKA	**Obir**	**2.89**	**347**⇑	*i*Pn	**Pn**	**00 15 04.5**	**+1.1**
OBKA				*e*Sn	**Sn**	**00 15 38.9**	**+0.3**
BEHE	**Becsehely**	**2.93**	**18**⇑	*i*Pn	**Pn**	**00 15 04.8**	**+0.9**
BEHE				*e*Sn	**Sn**	**00 15 40.3**	**+0.8**
BLJ	**Bijeljina**	**2.95**	**67**	*e*Pn	**Pn**	**00 15 04.4**	**+0.2**
BLJ				*e*Sn	**Sn**	**00 15 38.9**	**-1.1**
SOKA	**Soboth**	**3.00**	**354**	*i* Pn	**Pn**	**00 15 06.0**	**+1.0**
	comp=Z,13nm,0.5s,SNR=36						
SOKA				*i* Sn	**Sn**	**00 15 44.7**	**+3.3**
	comp=Z,63nm,0.5s						
TEKS	**Tekeris**	**3.06**	**72**	*e*Pn	**Pn**	**00 15 06.0**	**+0.3**
TEKS				*e*Sn	**Sn**	**00 15 44.5**	**+1.8**
TEKS	**Tekeris**	**3.06**	**72**	*e*Pn	**Pn**	**00 15 06.2**	**+0.5**
TEKS				*e*Sn	**Sn**	**00 15 42.8**	**+0.1**
KOME	**Kolasin**	**3.08**	**105**⇓	*i*Pn	**Pn**	**00 15 06.6**	**+0.5**
KOME				*i* Sn	**Sn**	**00 15 45.7**	**+2.2**
DRME	**Dracevica, Mon**	**3.13**	**118**⇓	*i*Pn	**Pn**	**00 15 07.3**	**+0.7**
DRME				*e*Sn	**Sn**	**00 15 46.2**	**+1.8**
DRME	**Dracevica, Mon**	**3.13**	**118**⇑	*i*Pn	**Pn**	**00 15 07.5**	**+0.9**
DRME				*e*Sn	**Sn**	**00 15 45.1**	**+0.7**
MATE	**Matera**	**3.18**	**163**	⇓P	**Pn**	**00 15 06.4**	**-1.0**
MYKA	**Terra Mystica**	**3.20**	**337**	*i* Pn	**Pn**	**00 15 08.7**	**+0.9**
	comp=Z,7.0nm,0.4s,SNR=9.9						
MYKA				*i* Sn	**Sn**	**00 15 49.1**	**+2.7**
	comp=Z,162nm,0.6s						
ULC	**Ulcinj**	**3.28**	**121**⇓	*i*Pn	**Pn**	**00 15 08.8**	**0.0**
ULC				*i* Sn	**Sn**	**00 15 49.6**	**+1.3**
DIVS	**Divibare**	**3.30**	**81**	*e*Pn	**Pn**	**00 15 10.0**	**+0.8**
DIVS				*e*Sn	**Sn**	**00 15 51.3**	**+2.4**
SJES	**Sjenica**	**3.32**	**96**	*e*Pn	**Pn**	**00 15 10.1**	**+0.7**
SJES				*e*Sn	**Sn**	**00 15 49.8**	**+0.5**
SJES	**Sjenica**	**3.32**	**96**⇑	*i*Pn	**Pn**	**00 15 09.8**	**+0.4**
SJES				*e*Sn	**Sn**	**00 15 49.1**	**-0.2**
IVA	**Berane**	**3.34**	**103**	*e*Pn	**Pn**	**00 15 10.4**	**+0.7**
IVA				*i* Sn	**Sn**	**00 15 52.3**	**+2.4**
MORH	**Mrgy, Hungar**	**3.39**	**41**	⇓P	**Pn**	**00 15 10.6**	**+0.4**
MORH	**Mrgy, Hungar**	**

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WATA	**Walderalm**	**4.55**	**325**	*i* Pn		**Pn**	**00 15 28.3**	**+2.0**
	comp=Z,5.9nm,0.2s,SNR=8.0							
WATA				*i* Sn		**Sn**	**00 16 22.7**	**+3.0**
	comp=Z,10.0nm,0.2s							
SRO	**Srobarova**	**4.58**	**25**	*e*PN		**Pn**	**00 15 28.9**	**+2.3**
SRO				*e*SN		**Sn**	**00 16 20.9**	**+0.7**
TIP	**Timpagrande**	**4.62**	**167**	⇑P		**Pn**	**00 15 27.7**	**+0.4**
SQTA	**Sankt Quirin**	**4.62**	**321**	*i* Pn		**Pn**	**00 15 29.5**	**+2.2**
	comp=Z,24nm,0.3s,SNR=26							
SQTA				*i* Sn		**Sn**	**00 16 24.5**	**+3.1**
	comp=Z,17nm,0.3s							
MDVR	**Moldovita**	**4.63**	**74**	⇓P		**Pn**	**00 15 27.8**	**+0.5**
ZST	**Bratislava**	**4.65**	**14**	*e*PN		**Pn**	**00 15 29.5**	**+2.0**
ZST				*e*SN		**Sn**	**00 16 20.9**	**-0.9**
FETA	**Feichten**	**4.71**	**317**	*i* Pn		**Pn**	**00 15 30.4**	**+1.9**
	comp=Z,2.0nm,0.3s							
FETA				*i* Sn		**Sn**	**00 16 26.9**	**+3.3**
	comp=Z,11nm,0.4s							
OHR	**Ohrid**	**4.72**	**121**	⇓*i* Pn		**Pn**	**00 15 30.8**	**+2.1**
OHR				*i* Sn		**Sn**	**00 16 27.2**	**+3.3**
SKO	**Skopje**	**4.73**	**109**	*i* Pn		**Pn**	**00 15 29.9**	**+1.2**
SKO				*i* Sn		**Sn**	**00 16 25.7**	**+1.8**
BARS	**Barje**	**4.73**	**99**	*e*Pn		**Pn**	**00 15 29.3**	**+0.6**
MOTA	**Moosalm**	**4.76**	**322**	*i* Pn		**Pn**	**00 15 31.3**	**+2.1**
	comp=Z,20nm,0.4s,SNR=18							
MOTA				*i* Sn		**Sn**	**00 16 28.8**	**+3.9**
	comp=Z,11nm,0.3s							
BZS	**Buzias**	**4.80**	**64**	⇓P		**Pn**	**00 15 30.1**	**+0.5**
MODS	**Modra-Piesok**	**4.85**	**15**	*e*PN		**Pn**	**00 15 31.2**	**+0.9**
MODS				*e*SN		**Sn**	**00 16 25.7**	**-1.2**
PGF	**Pioggiola**	**4.86**	**259**	*e*P		**Pn**	**00 15 31.6**	**+1.0**
ZAGS	**Zajecar**	**4.91**	**86**	*e*Pn		**Pn**	**00 15 31.0**	**-0.2**
PRVS	**Prvonek**	**4.99**	**101**	*e*Pn		**Pn**	**00 15 32.9**	**+0.6**
DAVOX	**Davos/Dischmat**	**5.00**	**310**	Pn		**Pn**	**00 15 34.7**	**+2.1**
	comp=Z,8.9nm,0.3s,baz=105,slow=20							
DAVOX				Sn		**Sn**	**00 16 31.3**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=322,slow=20,SNR=3.6							
RETA	**Reutte**	**5.02**	**321**	*i* Pn		**Pn**	**00 15 34.3**	**+1.5**
	comp=Z,2.2nm,0.2s							
RETA				*i* Sn		**Sn**	**00 16 34.5**	**+3.2**
	comp=Z,13nm,0.6s							
HERR	**Herculane**	**5.14**	**74**	⇓P		**Pn**	**00 15 35.2**	**+0.9**
KEK	**Kerkira**	**5.14**	**139**	P		**Pn**	**00 15 31.7**	**-2.6**
SURR	**Surduc**	**5.18**	**64**	⇓P		**Pn**	**00 15 35.1**	**+0.3**
PSZ	**Piszkesteto**	**5.24**	**35**	⇓P		**Pn**	**00 15 36.5**	**+0.8**
ZAPS	**Zavoj**	**5.24**	**92**	*e*Pn		**Pn**	**00 15 36.6**	**+0.9**
FNA	**Florina**	**5.27**	**121**	P		**Pn**	**00 15 37.1**	**+0.9**
GERES	**GERESS Array B**	**5.29**	**347**	Pn		**Pn**	**00 15 37.1**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=160,slow=11,SNR=22							
GERES				Sn		**Sn**	**00 16 37.9**	**0.0**
	comp=Z,7.5nm,0.3s,baz=161,slow=25,SNR=12							
	comp=Z,6.1nm,0.5s							
NEST	**Nestorio**	**5.30**	**126**	P		**Pn**	**00 15 38.0**	**+1.4**
DAVA	**Damuels**	**5.32**	**314**	*i* Pn		**Pn**	**00 15 39.5**	**+2.6**
	comp=Z,8.9nm,0.3s,SNR=7.8							
DAVA				*i* Sn		**Sn**	**00 16 38.2**	**-0.4**
	comp=Z,6.8nm,0.3s							
VYHS	**Vyhne**	**5.34**	**25**	*e*PN		**Pn**	**00 15 38.5**	**+1.4**
VYHS				*e*SN		**Sn**	**00 16 37.8**	**-1.3**
JAVC	**Velka Javorina**	**5.39**	**16**	*e*PN		**Pn**	**00 15 39.8**	**+2.0**
KRUC	**Moravsky**	**5.41**	**7**	*e*PN		**Pn**	**00 15 39.5**	**+1.5**
KRUC				*e*SN		**Sn**	**00 16 37.6**	**-3.0**
PENT	**Pentalofos**	**5.49**	**128**	P		**Pn**	**00 15 40.7**	**+1.4**
GZR	**Gura Zlata**	**5.50**	**70**	⇓P		**Pn**	**00 15 40.0**	**+0.7**
IGT	**Igoumenitsa**	**5.54**	**137**	P		**Pn**	**00 15 39.3**	**-0.5**
KHC	**Kasperske Hory**	**5.59**	**347**	*e*PN		**Pn**	**00 15 41.0**	**+0.5**
KHC				*e*SN		**Sn**	**00 16 44.2**	**-1.0**
KHC				*ex*		x	00 17 16.5	
SRE	**Strehaia**	**5.66**	**77**	⇑P		**Pn**	**00 15 43.9**	**+2.4**
VRAC	**Vranov**	**5.67**	**8**	⇑P		**Pn**	**00 15 43.7**	**+2.2**
VRAC	**Vranov**	**5.67**	**8**	*e*PN		**Pn**	**00 15 43.0**	**+1.4**
VRAC	**Vranov**	**5.67**	**8**	Pn		**Pn**	**00 15 42.8**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=197,slow=14,SNR=14							
VRAC				Sn		**Sn**	**00 16 47.0**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=264,slow=23,SNR=5.1							
	comp=Z,5.8nm,0.4s							
KPRO	**Kipourio**	**5.78**	**128**	P		**Pn**	**00 15 45.0**	**+1.8**
SBF	**Sospel**	**5.81**	**274**	*e*P		**Pn**	**00 15 43.8**	**+0.2**
SBF				*e*Sn		**Sn**	**00 16 43.3**	**-7.3**
	comp=Z,19nm,0.3s							
MAUC	**Maruska**	**5.90**	**15**	*e*SN		**Sn**	**00 16 52.9**	**0.0**
KECS	**Kecovo**	**5.93**	**34**	*e*PN		**Pn**	**00 15 47.5**	**+2.4**
KECS				*e*SN		**Sn**	**00 16 52.9**	**-0.6**
DRGR		**5.99**	**56**	⇑P		**Pn**	**00 15 48.0**	**+2.0**
KNT	**Kendrikon**	**6.06**	**112**	P		**Pn**	**00 15 47.6**	**+0.6**
LANS	**Liptovska Anna**	**6.12**	**26**	*e*PN		**Pn**	**00 15 50.8**	**+3.0**
LANS				*e*SN		**Sn**	**00 16 57.6**	**-0.6**
MARR	**Marisel-Cluj**	**6.18**	**59**	⇑P		**Pn**	**00 15 50.5**	**+1.8**
GOPC	**GO Pecny, Ondr**	**6.24**	**356**	*e*PN		**Pn**	**00 15 50.4**	**+1.0**
MORC	**Moravsky Berou**	**6.25**	**13**	⇓P		**Pn**	**00 15 52.5**	**+2.9**
MORC	**Moravsky Berou**	**6.25**	**13**	*e*PN		**Pn**	**00 15 52.1**	**+2.5**
MORC				*e*SN		**Sn**	**00 16 59.7**	**-1.8**
LKD2	**Lefkada island**	**6.28**	**140**	P		**Pn**	**00 15 49.2**	**-0.8**
MESR	**Meseseni**	**6.30**	**54**	⇓P		**Pn**	**00 15 53.8**	**+3.5**
MBDF	**Montbardon**	**6.33**	**282**	*e*P		**Pn**	**00 15 50.3**	**-0.4**
MBDF				*e*Sn		**Sn**	**00 16 57.0**	**-6.5**
	comp=Z,12nm,0.3s							
PRU	**Pruhonice**	**6.33**	**355**	*e*PN		**Pn**	**00 15 50.8**	**+0.2**
PRU				*e*SN		**Sn**	**00 17 01.8**	**-1.4**
OKC	**Ostrava-Krasne**	**6.42**	**16**	*e*PN		**Pn**	**00 15 53.9**	**+2.1**
OKC				*e*SN		**Sn**	**00 17 03.1**	**-2.3**
LPG	**La Plagne**	**6.47**	**289**	*e*P		**Pn**	**00 15 52.0**	**-0.8**
LPG				*e*Sn		**Sn**	**00 16 59.8**	**-7.4**
	comp=Z,46nm,0.6s							
LPL	**La Plagne**	**6.49**	**289**	*e*P		**Pn**	**00 15 52.6**	**-0.4**
LPL				*e*Sn		Sn	00 16 58.8	-8.8
	comp=Z,29nm,0.4s							
CJR	**Cluj-Napoca**	**6.50**	**59**	⇓P		**Pn**	**00 15 54.9**	**+1.9**
LMR	**La Mourre**	**6.51**	**270**	*e*P		**Pn**	**00 15 53.5**	**+0.3**
LMR				*e*Sn		**Sn**	**00 17 00.3**	**-7.6**
	comp=Z,1.3nm,0.1s							
NVR	**Nevrokopi**	**6.64**	**108**	P		**Pn**	**00 15 56.9**	**+2.0**
CRVS	**Cervenica-Dubn**	**6.66**	**37**	*e*PN		**Pn**	**00 15 58.8**	**+3.6**
VLS	**Valsamata**	**6.75**	**143**	P		**Pn**	**00 15 54.8**	**-1.6**
EVR	**Evrytania**	**6.76**	**133**	P		**Pn**	**00 15 58.5**	**+1.9**
ARR	**Arges**	**6.77**	**73**	⇑P		**Pn**	**00 15 60.0**	**+3.2**
NKC	**Novy Kostel**	**6.86**	**344**	*e*PN		**Pn**	**00 15 57.7**	**-0.2**
AGG	**Agios Georgios**	**6.97**	**130**	P		**Pn**	**00 16 00.4**	**+1.0**
STHS	**Stebnicka Huta**	**6.97**	**33**	*e*PN		**Pn**	**00 16 01.8**	**+2.3**
STHS				*e*SN		**Sn**	**00 17 19.3**	**0.0**
ORIF	**Oris-en-Rattie**	**6.98**	**283**	*e*P		**Pn**	**00 16 00.1**	**+0.5**
ORIF				*e*Sn		**Sn**	**00 17 11.7**	**-7.8**
	comp=Z,13nm,0.6s							
KOLS	**Kolonicke sedl**	**7.05**	**40**	*e*PN		**Pn**	**00 16 04.4**	**+3.9**
KOLS				*e*SN		**Sn**	**00 17 20.6**	**-0.5**
HSKC	**Hora Svate Kat**	**7.05**	**349**	*e*PN		**Pn**	**00 16 01.1**	**+0.5**
VOIR		**7.07**	**72**	⇑P		**Pn**	**00 16 04.2**	**+3.3**
SMRF	**Simiane la Rot**	**7.15**	**276**	*e*P		**Pn**	**00 16 02.7**	**+0.7**
OUR	**Ouranopolis**	**7.18**	**115**	P		**Pn**	**00 16 02.7**	**+0.4**
CABF	**La Chapelle**	**7.24**	**297**	*e*P		**Pn**	**00 16 03.3**	**+0.1**
CABF				*e*Sn		**Sn**	**00 17 19.3**	**-6.5**
	comp=Z,3.6nm,0.4s							
BRG	**Berggiesshubel**	**7.25**	**352**	*e*P		Pn	00 16 08.2	+4.9
BRG				Amp			00 16 13.8	
	comp=Z,2.5nm,0.5s							
BRG				r			00 17 21.3	
BRG				r			00 17 47.1	
BRG				r			00 18 19.6	
BRG				Amp			00 18 26.0	
	comp=Z,9.5nm,1.0s							
HINF	**Hinteralfeld**	**7.29**	**307**	*e*P		**Pn**	**00 16 04.5**	**+0.6**
CDF	**Champ du Feu**	**7.39**	**313**	*e*Pn		**Pn**	**00 16 03.5**	**-1.8**
CDF	**Champ du Feu**	**7.39**	**313**	*e*P		**Pn**	**00 16 07.8**	**+2.5**
KLV	**Kalavryta, Ach**	**7.59**	**136**	P		**Pn**	**00 16 08.4**	**+0.4**
HAU	**Haudompre**	**7.68**	**307**	*e*P		**Pn**	**00 16 09.6**	**+0.4**
CLL	**Collm**	**7.79**	**349**	*e*Pn		**Pn**	**00 16 12.0**	**+1.3**
CLL				*ex*		x	00 17 44.0	
CLL				*e*Sb		**Sb**	**00 18 06.0**	**+0.7**
CLL				*e*Sg		**Sg**	**00 18 23.0**	**-3.7**
	comp=Z,50nm,1.2s							
VIVF	**Saint-Julien-l**	**7.83**	**282**	*e*P		**Pn**	**00 16 11.0**	**-0.2**
VIVF				*e*Sn		Sn	00 17 31.7	-8.5
	comp=Z,5.7nm,0.4s							
LASF	**Ste Croix**	**8.39**	**277**	*e*Sn		**Sn**	**00 17 45.6**	**-8.4**
	comp=Z,0.2nm,0.2s							
SMF	**Signal de Mont**	**8.72**	**294**	*e*P		**Pn**	**00 16 24.1**	**+0.7**
SMF				*e*Sn		Sn	00 17 53.4	-8.7
	comp=Z,24nm,0.6s							
LOR	**Lormes**	**8.89**	**298**	*e*P		**Pn**	**00 16 26.4**	**+0.6**
LOR				*e*Sn		Sn	00 17 57.2	-9.3
	comp=Z,8.6nm,0.4s							
SSF	**Saint Saulge**	**9.06**	**296**	*e*P		**Pn**	**00 16 29.1**	**+1.0**
SSF				*e*Sn		Sn	00 18 01.6	-8.8

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	comp=Z,6.2nm,0.4s							
AVF	**Avril sur Loir**	**9.08**	**294**	*e*P		**Pn**	**00 16 28.7**	**+0.3**
AVF				*e*Sn		Sn	00 18 01.4	-10
	comp=Z,1.3nm,0.3s							
KEST	**Kesra**	**9.24**	**213**	Pn		**Pn**	**00 16 33.3**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=304,slow=11,SNR=1.5							
	comp=Z,0.8nm,0.7s							
BGF	**Bois d'Agland**	**9.36**	**292**	*e*P		**Pn**	**00 16 32.2**	**0.0**
BGF				*e*Sn		Sn	00 18 08.3	-10
	comp=Z,18nm,0.6s							
CAF	**Calviac**	**9.68**	**282**	*e*P		**Pn**	**00 16 37.2**	**+0.6**
HYF	**Humbligny**	**9.68**	**296**	*e*P		**Pn**	**00 16 37.4**	**+0.8**
HYF				*e*Sn		Sn	00 18 16.3	-10
TCF	**Toulx Ste Croi**	**9.74**	**290**	*e*Sn		Sn	00 18 17.5	-10
	comp=Z,4.8nm,0.3s							
MFF	**Saint Martin d**	**11.39**	**290**	*e*Sn		Sn	00 18 56.2	-12
	comp=Z,0.3nm,0.2s							
AKASG	**Malin Array Be**	**11.69**	**48**	Pn		**Pn**	**00 17 03.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=1.9							
HFS	**Hagfors**	**16.50**	**357**	Pn		**Pn**	**00 18 09.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=147,slow=8.9,SNR=4.1							
	comp=Z,3.1nm,0.8s							
NOA	**NORSAR Array B**	**17.56**	**353**	P		**P**	**00 18 23.2**	**+0.1**
	baz=167,slow=11,SNR=3.3							
	comp=Z,0.6nm,0.9s							
FINES	**FINESS Array B**	**18.87**	**16**	P		**P**	**00 18 36.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=188,slow=11,SNR=8.1							
	comp=Z,4.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**32.66**	**205**	P		**P**	**00 20 50.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=13,slow=9.8,SNR=4.1							
	comp=Z,0.2nm,0.4s							
KURBB	**Kurchatov Array**	**42.28**	**58**	P		**P**	**00 22 08.2**	**-2.8**
	comp=Z,0.3nm,0.6s,baz=280,slow=9.9,SNR=2.1							
	comp=Z,0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**45.06**	**51**	P		**P**	**00 22 32.5**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=273,slow=8.5,SNR=4.2							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**45.88**	**62**	P		**P**	**00 22 39.1**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=290,slow=6.6,SNR=10							
	comp=Z,0.7nm,0.7s							
LSZ	**Lusaka**	**59.83**	**166**	LR		LR	00 50 34.9	
	comp=Z,25nm,18.3s,baz=178,slow=36							
SONM	**Songino Array**	**59.95**	**51**	P		**P**	**00 24 23.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=286,slow=8.9,SNR=5.2							
	comp=Z,0.8nm,0.8s							
YKA	**Yellowknife Ar**	**66.86**	**337**	P		**P**	**00 25 08.3**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=306,slow=7.1,SNR=4.5							
	comp=Z,0.2nm,0.7s							
ILAR	**Eielson Array**	**70.99**	**352**	P		**P**	**00 25 35.0**	**+0.1**
	comp=Z,0.4nm,1.1s,baz=344,slow=5.2,SNR=2.4							
	comp=Z,0.4nm,1.1s							

*NEIC **30** 00:20:18.9±2.4, 39.91N±0.02×117.94W±0.03, h5km±2km, Error ellipse: s-maj=4.1km s-min=2.9km az=44.0*
REN 30 00:20:19±2.8, 39.97N±0.02×117.90W±0.03, h1km±1km, ML2.5/6, ML2.4/64(NEIC), Error ellipse: s-maj=4.0km s-min=2.1km az=52.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	**0.70**	**48**		Pg	00 20 32.1	-0.3
KVN	**Kaiserville**	**0.93**	**190**		Pg	00 20 36.6	-0.1
KVN					Sg	00 20 49.5	+0.7
KVN				IAML		00 20 52.5	
	comp=N,87nm,0.7s						
KVN				IAML		00 20 57.1	
	comp=E,96nm,0.8s						
PAHR	**Pah Rah Range**	**1.17**	**258**		Pg	00 20 41.4	0.0
PAHR					Sb	00 20 58.5	+0.6
PAHR	**Pah Rah Range**	**1.17**	**258**	IAML		00 20 60.0	
	comp=N,79nm,0.4s						
PAHR				IAML		00 21 00.4	
	comp=E,104nm,0.2s						
Q09A	**Carvers**	**1.26**	**154**		Sn	00 21 02.1	+0.6
Q09A	**Carvers**	**1.26**	**154**		Pg	00 20 43.1	0.0
PLTX	**Planet X, Gerl**	**1.41**	**302**		Pn	00 20 45.7	-0.2
PLTX					Sn	00 21 06.7	+1.5
RYN	**Ryan**	**1.42**	**200**		Pn	00 20 45.0	-1.1
RYN	**Ryan**	**1.42**	**200**	IAML		00 21 08.1	
	comp=N,86nm,0.4s						
YERR	**Yerington**	**1.43**	**227**		Pn	00 20 45.0	-1.2
YERR					Sn	00 21 06.1	+0.4
YERR	**Yerington**	**1.43**	**227**	IAML		00 21 07.5	
	comp=N,64nm,0.5s						
NV11	**Mina Array Sit**	**1.54**	**188**		Pn	00 20 46.7	-1.1
NV11				IAML		00 21 14.6	
	comp=E,47nm,0.6s						
NVAR	**Mina Array Bea**	**1.56**	**192**		Pn	00 20 47.1	-1.0
PNTR	**Pine Nut**	**1.58**	**237**		Pn	00 20 47.4	-0.9
PNTR	**Pine Nut**	**1.58**	**237**	IAML		00 21 12.4	
	comp=E,38nm,0.8s						
PNTR				IAML		00 21 13.8	
	comp=N,46nm,0.8s						
PEAR	**Peavine Mounta**	**1.63**	**258**		Pb	00 20 49.9	0.0
LHV	**Little Huntoon**	**1.77**	**196**		Pn	00 20 50.5	-0.3
MPK	**Martis Peak**	**1.78**	**249**		Pg	00 20 53.1	0.0
MPK				IAML		00 21 18.5	
	comp=N,53nm,0.5s						
MPK				IAML		00 21 18.8	
	comp=E,39nm,0.3s						
BMRR	**Black Mountain**	**1.84**	**275**		Pb	00 20 53.4	-0.3
WAKR	**Walker**	**1.89**	**220**		Pn	00 20 51.7	-0.8
WAKR				IAML		00 21 21.1	
	comp=N,35nm,0.4s						
WAKR				IAML		00 21 26.0	
	comp=E,30nm,0.5s						
BEKR	**Beckworth**	**1.90**	**268**		Pn	00 20 51.8	-0.8
TPH	**Tonopah**	**1.96**	**164**		Pn	00 20 53.3	-0.2
EMB	**Emerald Bay**	**1.97**	**241**		Pn	00 20 53.2	-0.6
ELK	**Elko**	**2.18**	**68**	Pn	Pn	00 20 56.3	-0.3
ELK				IAML		00 21 28.8	
	comp=E,18nm,0.2s						
ELK				IAML		00 21 30.3	
	comp=E,30nm,0.3s						
MZP	**Montezuma Peak**	**2.30**	**170**		Pn	00 20 58.0	-0.2
MZP				IAML		00 21 31.9	
	comp=E,17nm,0.7s						
MZP				IAML		00 21 34.6	
	comp=N,21nm,0.5s						
R11B	**Troy Canyon, C**	**2.42**	**131**	Pn	Pn	00 21 00.3	+0.5
R11B				IAML		00 21 36.3	
	comp=N,15nm,0.3s						
R11B				IAML		00 21 40.9	
	comp=E,18nm,0.6s						
OMMB	**Old Mammoth Mi**	**2.50**	**200**		Pn	00 21 00.1	-1.0
OMMB				IAML		00 21 17.3	
	comp=E,10nm,4.6s						
MDPB	**Devils Postpil**	**2.50**	**202**		Pn	00 21 00.9	-0.2
WVOR	**Wild Horse Val**	**2.53**	**348**		Pn	00 21 02.4	+1.0
WVOR				IAML		00 22 12.3	
	comp=E,13nm,4.8s						
Q12A	**Willow Creek R**	**2.55**	**110**		Pn	00 21 02.0	+0.4
AFDM	**Forest Hills D**	**2.59**	**248**	Pn	Pn	00 21 01.9	-0.1
AFDM				IAML		00 21 21.4	
	comp=E,10nm,4.5s						
DSP	**Deep Springs**	**2.59**	**181**		Pn	00 21 01.6	-0.4
DSP				IAML		00 21 50.1	
	comp=N,16nm,4.8s						
GMN	**Gold Mountain**	**2.71**	**169**		Pn	00 21 03.3	-0.5
GMN				IAML		00 21 59.6	
	comp=N,16nm,0.6s						
CMB	**Columbia Colle**	**2.73**	**226**		Pn	00 21 03.3	-0.8
SPR3	**Spring Creek 3**	**2.92**	**108**	Pg	Pg	00 21 15.0	0.0
SPR3				IAML		00 21 55.2	
	comp=N,14nm,0.5s						
SPR3				IAML		00 21 58.4	
	comp=E,11nm,0.6s						
GRAC	**Grapevine Rang**	**2.99**	**172**		Pn	00 21 06.6	-1.1
WCT	**Wildcat Mounta**	**3.32**	**162**	Pn	Pn	00 21 11.6	-0.5
WCT					Pg	00 21 21.6	-1.1
PRN	**Pahroc Range**	**3.39**	**138**		Pg	00 21 23.8	-0.1
BGU	**Big Grassy Mou**	**3.84**	**74**	Pn	Pn	00 21 19.7	+0.4
GWY	**Greenwater Val**	**3.90**	**165**	Pg	Pg	00 21 31.4	-2.3

*IDC **30** 00:20:28.2±6.9, 36.54N×142.34E, h0km, mb3.5/2, mbtmp3.4/3, ML2.2/1, Error ellipse: s-maj=129.3km s-min=50.6km az=155.0*
*JMA **30** 00:20:37.9±0.1, 37.0N±0.3×141.5E±0.7, h34km±1km, MV3.2/36, E OFF FUKUSHIMA PREF*
ISC 30 00:20:35.7±2.2, 36.99N±0.06×141.52E±0.08, h8km±12km, n18, σ0s58/22, 4D, Near east coast of eastern Honshu

30d 0h

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.59**	**281**	*i* P	**Pb**	**00 20 48.8**	**+0.5**
ONAJ				*e*S	**Sb**	**00 20 57.1**	**+0.3**
JFK	**Kawauchi**	**0.64**	**306**	⇓P	**Pn**	**00 20 50.0**	**-1.1**
JFK				⇓S	**Sb**	**00 20 58.5**	**+0.3**
JFFD	**Fukushimafurud**	**0.78**	**278**	P	**Pb**	**00 20 51.6**	**+0.2**
JFFD				S	**Sb**	**00 21 01.6**	**-0.6**
JHO	**Hitachi**	**0.85**	**244**	P	**Pb**	**00 20 52.6**	**-0.1**
JHO				S	**Sb**	**00 21 03.6**	**-0.7**
JMM	**Marumori**	**1.05**	**327**	⇓P	**Pn**	**00 20 56.7**	**0.0**
JMM				⇓S	**Sb**	**00 21 10.3**	**+0.3**
JOTO	**OTAMA OYAMA**	**1.11**	**301**	P	**Pn**	**00 20 57.9**	**+0.4**
JOTO				S	**Sn**	**00 21 12.4**	**-0.6**
JIO	**Ouri**	**1.47**	**355**	P	**Pg**	**00 21 03.6**	**-0.2**
JIO				S	**Sb**	**00 21 22.0**	**-0.1**
JFY	**Yanaizu**	**1.51**	**287**	P	**Pg**	**00 21 04.1**	**-0.6**
JFY				S	**Sb**	**00 21 23.4**	**+0.1**
JOU	**Okura**	**1.53**	**334**	P	**Pg**	**00 21 05.0**	**-0.1**
JOU				*e*S	**Sg**	**00 21 25.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.70**	**261**	Pn	**Pn**	**00 21 20.6**	**+1.2**
	0.2nm,0.3s,baz=89,slow=15,SNR=9.9						
MJAR				Sn	**Sg**	**00 22 02.7**	**+0.3**
	0.3nm,0.3s,baz=75,slow=29,SNR=5.3						
	3.9nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.05**	**121**	T	T	00 55 52.6	
	baz=314,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**28.06**	**121**	T	T	00 55 52.9	
	baz=314,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**28.07**	**121**	T	T	00 55 52.6	
	baz=314,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.76**	**123**	T	T	00 56 43.0	
	baz=315,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**28.76**	**123**	T	T	00 56 45.6	
	baz=315,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	00 56 48.3	
	baz=315,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**42.01**	**312**	P	**P**	**00 28 26.6**	**-0.6**
	0.7nm,0.6s,baz=98,slow=7.6,SNR=3.5						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.22**	**302**	P	**P**	**00 28 45.9**	**+0.7**
	0.3nm,0.6s,baz=85,slow=9.8,SNR=4.6						
	0.3nm,0.6s						

*UPA **30** 00:21:49.9±1.2, 8.26N×84.31W, h2km±73km, MW3.6*
*CATAC **30** 00:21:51.7±0.5, 8.27N×84.24W, h10km, ML3.1*
ISC 30 00:21:51.6±1.8, 8.31N±0.07×84.24W±0.05, h8km±11km, n21, σ0s85/31, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.90**	**84**	*i* P	**Pg**	**00 22 08.5**	**-0.5**
PIRO				*i* S	**Sb**	**00 22 21.8**	**+0.2**
PIRO				IAML		00 22 30.9	
	comp=Z,2µm,1.0s						
OCHAL	**Ojochal**	**0.98**	**37**	*i* P	**Pg**	**00 22 10.0**	**-0.5**
OCHAL				*i* S	**Sg**	**00 22 23.9**	**+0.6**
OCHAL				IAML		00 22 27.8	
	comp=Z,14nm,1.0s						
CDM	**Cerro de Muert**	**1.32**	**21**	*i* P	**Pn**	**00 22 15.6**	**-1.2**
CDM				*i* S	**Sg**	**00 22 34.8**	**+0.4**
CDM				IAML		00 22 47.5	
	comp=Z,200nm,1.0s						
POTG	**Potrero Grande**	**1.33**	**56**	*i* P	**Pn**	**00 22 15.5**	**-1.1**
POTG				*i* S	**Sb**	**00 22 34.7**	**+0.5**
POTG				IAML		00 22 38.8	
	comp=Z,870nm,1.0s				

OFUJ **Ofunato** **0.64 339**⇓*iP* **Pn** **00 26 10.7 -0.1**
OFUJ ⇓S **Sn** **00 26 19.0 -1.2**
OFUJ **Ofunato** **0.64 339** A A 00 26 10.7
comp=E,70nm,1.3s,comp=N,43nm,0.7s
JMK **Ichinoseki** **0.74 309**⇓*iP* **Pn** **00 26 11.8 -0.3**
JMK ⇓S **Sn** **00 26 20.9 -1.6**
JMK **Ichinoseki** **0.74 309** A A 00 26 11.8
comp=E,66nm,0.6s,comp=N,20nm,0.5s
JOFO **Osakifurukawao** **0.83 279** A A 00 26 12.8
comp=E,63nm,1.2s,comp=N,98nm,0.9s
JOU **Okura** **1.02 264**⇓*iP* **Pn** **00 26 15.4 -0.4**
JOU ⇓S **Sn** **00 26 28.2 -1.0**
JOU **Okura** **1.02 264** A A 00 26 15.4
comp=E,27nm,0.7s,comp=N,27nm,1.2s
MIYJ **Miyakonagasawa** **1.10 354** A A 00 26 17.2
comp=E,9.0nm,0.5s,comp=N,10.0nm,2.1s
JMM **Marumori** **1.11 237** **Pn** **00 26 16.6 -0.3**
JMM Sn **Sn** **00 26 27.9 -3.2**
JMM **Marumori** **1.11 237** P **Pn** **00 26 16.8 -0.1**
JMM **Marumori** **1.11 237**⇓*iP* **Pn** **00 26 16.7 -0.3**
JMM ⇓S **Sn** **00 26 30.0 -1.1**
JMM **Marumori** **1.11 237** A A 00 26 16.7
comp=E,11nm,0.6s,comp=N,11nm,0.4s
JOM **Ohasama** **1.12 333**⇓P **Pn** **00 26 17.0 -0.1**
JOM ⇓S **Sn** **00 26 30.9 -0.5**
JOM **Ohasama** **1.12 333** A A 00 26 17.0
comp=E,16nm,1.4s,comp=N,10.0nm,1.3s
JYK **Kaneyama** **1.32 290**⇓*iP* **Pn** **00 26 19.5 -0.4**
JYK **Kaneyama** **1.32 290** A A 00 26 19.5
comp=E,15nm,0.8s,comp=N,8.0nm,1.1s
JRG **Rokugo** **1.38 312**⇓*iP* **Pn** **00 26 20.2 -0.5**
JRG ⇓S **Sn** **00 26 33.4 -4.3**
JRG **Rokugo** **1.38 312** A A 00 26 20.2
comp=E,13nm,1.8s,comp=N,10.0nm,0.5s
JFK **Kawauchi** **1.41 218**⇓*iP* **Pn** **00 26 21.4 +0.3**
JFK ⇓S **Sn** **00 26 37.7 -0.7**
JFK **Kawauchi** **1.41 218** A A 00 26 21.4
comp=E,10.0nm,0.5s,comp=N,16nm,3.8s
JTH **Tanohata** **1.46 357** A A 00 26 22.6
comp=E,6.0nm,0.3s,comp=N,6.0nm,0.8s
JSZI **Iwateshizukuis** **1.48 328** A A 00 26 22.1
comp=E,17nm,3.5s,comp=N,17nm,3.1s
JYS **Shirataka** **1.51 261**⇓*iP* **Pn** **00 26 22.4 0.0**
JYS **Shirataka** **1.51 261** A A 00 26 22.4
comp=E,13nm,1.8s,comp=N,19nm,2.2s
JYAR **Yonezawaarcadi** **1.54 249** A A 00 26 23.4
comp=E,22nm,1.3s,comp=N,21nm,1.3s
JOTO **OTAMA OYAMA** **1.58 235** A A 00 26 24.2
comp=E,12nm,0.5s,comp=N,17nm,0.7s
ONAJ **Iwakimizuishiy** **1.66 214** A A 00 26 26.0
comp=E,15nm,0.3s,comp=N,16nm,0.3s
JYW **Yuwa** **1.73 308** A A 00 26 25.5
comp=E,26nm,1.2s,comp=N,29nm,1.5s
JKEN **Kujiedanarisaw** **1.73 354** A A 00 26 26.4
comp=E,20nm,0.5s,comp=N,25nm,0.5s
JYA **Atsumi** **1.76 274** A A 00 26 26.1
comp=E,9.0nm,0.6s,comp=N,9.0nm,0.5s
JANG **Nango** **1.92 350** A A 00 26 29.0
comp=E,5.0nm,0.5s,comp=N,5.0nm,0.8s
JAH **Hinai** **1.99 329** A A 00 26 29.5
comp=E,6.0nm,3.8s,comp=N,6.0nm,2.7s
JSB **Shiboa** **2.21 228** A A 00 26 33.5
comp=E,8.0nm,0.8s,comp=N,9.0nm,2.6s
JTM **Tenmabayashi** **2.40 344** Pn **Pn** **00 26 35.1 +0.4**
JTM Sn **Sn** **00 27 02.1 -0.8**
JTM **Tenmabayashi** **2.40 344** P **Pn** **00 26 35.0 +0.4**
JYT **Yasato** **2.65 213** A A 00 26 40.1
comp=E,7.0nm,0.4s,comp=N,6.0nm,0.4s
JAHD **Aomorihigashid** **2.82 350** A A 00 26 41.6
comp=E,15nm,0.7s,comp=N,12nm,0.7s
MJAR **Matsushiro Arr** **3.56 238** P **Pn** **00 26 52.1 +1.6**
comp=N,73nm,0.5s,baz=36,slow=13,SNR=90
MJAR LR LR 00 28 38.1
comp=N,495nm,20.6s,baz=60,slow=46
MAJO **Matsushiro** **3.56 238** Pn **Pn** **00 26 51.7 +1.2**
MAJO **Matsushiro** **3.56 238** P **Pn** **00 26 52.4 +1.9**
MAJO **Matsushiro** **3.56 238***d iP* **Pn** **00 26 51.8 +1.3**
MJB9 **Matsu-Tunnel** **3.56 238** Pn **Pn** **00 26 52.2 +1.7**
ERM **Erimo** **3.65 14** Pn **Pn** **00 26 52.6 +1.0**
ERM **Erimo** **3.65 14** P **Pn** **00 26 52.9 +1.2**
ERM **Erimo** **3.65 14** P **Pn** **00 26 52.6 +1.0**
JEM **Erimo** **3.65 14** P **Pn** **00 26 52.9 +1.2**
JSG **Sagara** **4.86 220** Pn **Pn** **00 27 06.4 -2.0**
JHJ2 **Mitsune** **5.63 199** P **Pn** **00 27 20.2 +1.2**
JHJ **Hachijo jima 2** **5.63 199** P **Pn** **00 27 19.5 +0.5**
comp=N,529nm,1.1s,baz=68,slow=19,SNR=3.3
JHJ S **Sn** **00 28 19.8 -2.6**
comp=N,105nm,0.3s,baz=24,slow=18,SNR=1.8
ASAJ **Asahikawa** **5.65 5** P **Pn** **00 27 19.4 +0.3**
ASAJ **Asahikawa** **5.65 5** P **Pn** **00 27 19.2 0.0**
comp=N,22nm,0.6s,baz=209,slow=7.2,SNR=12
ASAJ S **Sn** **00 28 20.2 -2.5**
comp=N,37nm,0.6s,baz=204,slow=10,SNR=4.3
JKA **Kamikawa-asahi** **5.65 5** Pn **Pn** **00 27 19.4 +0.3**
YUK **Yuzh-Kuril'sk** **6.28 27** *eP* **Pn** **00 27 27.6 -0.1**
YUK *eS* **Sn** **00 28 33.5 -4.6**
YUK smax smax
comp=N,719nm,0.5s
YUK smax smax
comp=E,805nm,0.5s
SHO **Shikotan** **6.52 33** *eP* **Pn** **00 27 29.9 -1.1**
SHO *eS* **Sn** **00 28 37.4 -6.5**
SHO smax smax
comp=E,259nm,0.3s
SHO smax smax
comp=N,375nm,0.4s
TEY **Ternei** **7.67 330**⇑*eP* **Pn** **00 27 50.6 +3.8**
TEY pmax pmax
comp=N,40nm,1.5s
TEY pmax pmax
comp=E,20nm,1.5s
TEY pmax pmax
comp=Z,40nm,1.5s
KUR **Kuril'sk** **8.06 31** P Pn 00 28 00.3 +8.2
KUR *eS* **Sn** **00 29 18.4 -3.3**
KUR smax smax
comp=E,207nm,0.4s
KUR smax smax
comp=N,82nm,0.3s
JMN **Monobe** **8.08 236** P **Pn** **00 27 54.1 +1.6**
YSS **Yuzh-Sakhalins** **8.49 4** **Pn** **00 27 57.7 -0.3**
YSS **Yuzh-Sakhalins** **8.49 4** *eP* **Pn** **00 27 58.5 +0.5**
YSS *eS* **Sn** **00 29 31.3 -1.0**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax smax
comp=N,30nm,0.9s
YSS MLR MLR
comp=Z,500nm,16.0s
MSHR **Mys Shultsa** **9.19 300***d iP* **Pn** **00 28 07.3 -0.3**
MSHR pmax pmax
comp=Z,16nm,1.0s
USRK **Ussuriysk Ar.** **9.42 310** Pn **Pn** **00 28 11.5 +0.7**
USRK **Ussuriysk Ar.** **9.42 310** P **Pn** **00 28 11.5 +0.7**
USRK **Ussuriysk Ar.** **9.42 310** P **Pn** **00 28 11.3 +0.5**
comp=Z,30nm,0.9s,baz=118,slow=12,SNR=29
USRK LR LR 00 31 37.3
comp=Z,270nm,19.5s,baz=132,slow=36
USA0B **Ussuriysk Arra** **9.42 310** **Pn** **00 28 11.5 +0.7**
USA0B **Ussuriysk Arra** **9.42 310** P **Pn** **00 28 11.5 +0.7**
JNU **Nakatsue** **10.46 243** P **Pn** **00 28 24.7 -0.5**
JNU **Nakatsue** **10.46 243** P **Pn** **00 28 26.2 +1.0**
comp=Z,20nm,0.7s,baz=309,slow=3.4,SNR=10
JNU LR LR 00 32 56.6
comp=Z,298nm,18.7s,baz=18,slow=40
MDJ **Mudanjiang** **11.11 307** **Pn** **00 28 37.1 +3.3**
KSRS **Korea Array** **11.13 269** P **Pn** **00 28 37.4 +3.2**
comp=Z,4.9nm,0.5s,baz=80,slow=14,SNR=15
KSRS LR LR 00 32 29.8
comp=Z,204nm,21.2s,baz=75,slow=36
KS19 **Wonju Array Si** **11.17 269** **Pn** **00 28 34.1 -0.6**
BNX **BinXian** **13.00 309** ⇑P **Pn** **00 29 01.0 +1.3**
BNX pmax pmax
comp=Z,6.0nm,1.0s
BNX pmax pmax
comp=Z,86nm,3.5s
KLR **Kul'dur** **13.01 329**⇑*eP* **Pn** **00 29 00.7 +0.9**
KLR pmax pmax
comp=Z,9.0nm,1.7s
KLR **Kul'dur** **13.01 329** P **Pn** **00 29 00.1 +0.3**
comp=Z,0.9nm,0.5s,baz=127,slow=13,SNR=4.8
KLR LR LR 00 33 54.4
comp=Z,252nm,19.0s,baz=146,slow=37
CN2 **Changchun** **13.53 298** *eP* **Pn** **00 29 09.8 +2.9**
CN2 *eS* S 00 31 44.8 -12
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
DL2 **Dalian** **15.88 278** P **P** **00 29 40.5 -0.3**
DL2 pmax pmax
comp=Z,51nm,1.2s
JOW **Kunigami** **16.34 229** LR LR 00 35 56.1
comp=Z,134nm,21.9s,baz=84,slow=37
PETK **Petropavlovsk-** **18.22 32** LR LR 00 36 25.9
comp=Z,102nm,19.5s,baz=223,slow=34
HIA **Hailar** **19.23 311**⇑*eP* **P** **00 30 17.5 -0.2**
HIA pmax pmax
comp=Z,2.0nm,0.5s
TIA **Tai'an** **19.86 271** P **P** **00 30 23.5 -1.2**
TIA pmax pmax
comp=Z,14nm,1.0s
BJT **Baijiatuau** **20.02 283** P **P** **00 30 24.9 -1.4**
BJT **Baijiatuau** **20.02 283** P **P** **00 30 24.9 -1.4**
BJT pmax pmax
comp=Z,11nm,0.6s
XLT **XiLinHaoTe** **20.17 294** *eP* **P** **00 30 25.8 -2.3**
XLT pP sP 00 30 42.5 -3.4
XLT sP pP 00 30 49.3 +10
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,210nm,4.9s
HNS **HongShan** **21.50 276** ⇑P **P** **00 30 39.3 -2.9**
HNS pmax pmax
comp=Z,9.0nm,0.8s
MA2 **Magadan** **21.85 12** P **P** **00 30 46.5 +0.7**
comp=Z,13nm,0.6s,baz=182,slow=12,SNR=4.7
comp=Z,13nm,0.6s
NACB **Ninganchiao** **22.43 236** P **P** **00 30 50.8 -1.5**
NACB IAmb IAmb 00 30 51.5
comp=Z,20nm,0.8s
SSLB **Suanglung** **23.11 237** P **P** **00 30 59.0 -0.6**
SSLB IAmb IAmb 00 31 06.6
comp=Z,26nm,1.0s
YULB **Yu-li** **23.17 235** P **P** **00 30 59.6 -0.4**
HHC **Hu-ho-hao-te** **23.46 285** *eP* **P** **00 31 01.8 -1.1**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,170nm,4.8s
HHC LR LR
comp=Z,130nm,9.9s
HHC LR LR
comp=Z,160nm,10.7s
HHC LR LR
comp=Z,280nm,12.2s
LYN **LuoYang** **23.98 270** *eP* **P** **00 31 06.0 -1.5**
LYN pP pP 00 31 21.5 +1.3
LYN sP sP 00 31 28.0 +1.8
LYN pmax pmax
comp=Z,64nm,0.7s
LYN pmax pmax
comp=Z,150nm,4.1s
LYN LR LR
comp=Z,260nm,5.2s
LYN LR LR
comp=Z,220nm,5.2s
LYN LR LR
comp=Z,180nm,5.3s
WHN **Wuhan** **24.03 259** ⇑P **P** **00 31 07.8 -0.2**
WHN pmax pmax
comp=Z,48nm,0.7s
BTO **Baotou** **24.65 285** *eP* **P** **00 31 15.0 +1.2**
BTO pP **sP** **00 31 29.5 -3.0**
BTO sP pP 00 31 36.5 +10
BTO PP **PnPn** **00 31 53.3 +6.0**
BTO S **S** **00 35 30.5 -1.4**
BTO sS **sS** **00 35 53.8 +0.6**
BTO SS **SnSn** **00 36 28.5 +7.4**
BTO pmax pmax
comp=Z,22nm,1.0s
BTO pmax pmax
comp=Z,210nm,5.7s
BTO LR LR
comp=Z,200nm,8.6s
BTO LR LR
comp=Z,480nm,16.3s
BTO LR LR
comp=Z,400nm,15.4s
YAK **Yakutsk** **24.76 346** P **P** **00 31 13.8 -0.6**
YAK **Yakutsk** **24.76 346** *eP* **P** **00 31 13.1 -1.3**
YAK *e*'PP **pP** **00 31 30.0 +2.9**
YAK *e* 00 34 52.5
YAK *eS* **S** **00 35 32.2 -0.7**
YAK *e*'SS **sS** **00 35 54.6 +0.3**
YAK *e* 00 42 11.3
YAK pmax pmax
comp=Z,62nm,1.5s
YAK pmax pmax
comp=N,27nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK smax smax
comp=E,323nm,7.6s
YAK smax smax
comp=N,188nm,4.6s
YAK **Yakutsk** **24.76 346** LR LR 00 42 59.6
comp=N,32nm,18.3s,baz=162,slow=41
SEY **Seymchan** **25.29 11**⇓*eP* **P** **00 31 21.0 +1.8**
SEY pmax pmax
comp=Z,22nm,1.0s
SHEM **Shemya Is, Ala** **26.35 47** LR LR 00 40 00.1
comp=Z,31nm,21.5s,baz=324,slow=32
BOD **Bodaibo** **26.56 326** *eP* **P** **00 31 29.6 -1.1**
BOD pmax pmax
comp=Z,21nm,0.8s
XAN **Xi'an** **26.92 271** ⇓P **P** **00 31 33.5 -0.8**
XAN pmax pmax
comp=Z,18nm,0.6s
ULN **Ulaanbaatar** **26.93 302** P **P** **00 31 34.5 +0.1**
ULN **Ulaanbaatar** **26.93 302**⇑*eP* **P** **00 31 34.8 +0.4**
ULN pmax pmax
comp=Z,13nm,1.7s
SONM **Songino Array** **27.37 302** P **P** **00 31 38.7 +0.4**
SONM **Songino Array** **27.37 302** P **P** **00 31 37.4 -0.9**
comp=Z,2.5nm,0.7s,baz=112,slow=7.8,SNR=21
SONM PcP **PcP** **00 34 56.9 +0.7**
comp=Z,1.1nm,0.5s,baz=138,slow=1.0,SNR=6.5
SONM LR LR 00 42 33.8
comp=Z,81nm,19.6s,baz=162,slow=37
comp=Z,2.5nm,0.7s
ENH **Enshi** **27.91 263** P **P** **00 31 42.5 -0.8**
H11N2 **WAKE ISLAND Hy** **28.55 124** T T 01 02 06.3
baz=316,slow=75,SNR=3252
H11N1 **WAKE ISLAND Hy** **28.56 124** T T 01 02 07.0
baz=316,slow=75,SNR=5415
H11N3 **WAKE ISLAND Hy** **28.57 124** T T 01 02 07.6
baz=316,slow=75,SNR=3411
H11S1 **WAKE ISLAND Hy** **29.32 126** T T 01 03 04.7
baz=318,slow=76,SNR=1158
H11S3 **WAKE ISLAND Hy** **29.32 126** T T 01 03 02.9
baz=318,slow=76,SNR=1522
H11S2 **WAKE ISLAND Hy** **29.33 126** T T 01 03 04.1
baz=318,slow=76,SNR=1005
ZAK **Zakamensk** **29.74 306** *eP* **P** **00 31 57.1 -2.2**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
LZH **Lanzhou** **30.28 277** ⇑P **P** **00 32 03.8 -0.5**
LZH sP sP 00 32 24.8 +1.7
LZH pmax pmax
comp=Z,20nm,1.5s
BILL **Bilibino** **32.52 17** *eP* **P** **00 32 24.2 +0.8**
GTA **Gaotai** **32.58 285** P **P** **00 32 25.0 +0.5**
GTA pP pP 00 32 35.8 -1.6
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA LR LR
comp=Z,100nm,18.9s
GTA LR LR
comp=Z,330nm,18.9s
GTA LR LR
comp=Z,170nm,19.3s
TIXI **Tiksi** **33.91 353** P **P** **00 32 34.0 -1.5**
TIXI IAmb IAmb 00 32 35.7
comp=Z,6.3nm,0.9s
TIXI **Tiksi** **33.91 353**⇓*eP* **P** **00 32 35.1 -0.4**
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI **Tiksi** **33.91 353** LR LR 00 47 39.9
comp=Z,60nm,19.3s,baz=224,slow=38
PZH **PanZhiHua** **35.70 263** P **P** **00 32 51.0 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,7.2s
GOMU **GeErMu** **37.23 281** P **P** **00 33 05.0 +0.1**
GOMU pmax pmax
comp=Z,9.0nm,0.5s
TNCH **TengChong** **38.95 263** P **P** **00 33 20.0 +0.8**
TNCH pP sP 00 33 36.8 -1.4
TNCH pmax pmax
comp=Z,81nm,4.9s
DGZ **Jazzator, Alta** **39.91 304***c iP* **P** **00 33 27.5 +0.6**
DGZ pmax pmax
comp=Z,33nm,0.9s
CRAI **Chiangrai** **40.16 255** P **P** **00 33 28.7 -0.4**
CRAI IAmb IAmb 00 33 32.7
comp=Z,11nm,0.6s
WMQ **Urumqi** **40.59 295** *eP* **P** **00 33 33.0 +0.5**
WMQ sP sP 00 33 51.0 -0.6
WMQ pmax pmax
comp=Z,54nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.3s
ZAA0 **Zalesovo Array** **41.27 311** P **P** **00 33 36.7 -1.2**
ZAA0 IAmb IAmb 00 33 38.5
comp=Z,12nm,0.7s
ZALV **Zalesovo Beam** **41.27 311** P **P** **00 33 37.7 -0.2**
ZALV **Zalesovo Beam** **41.27 311** P **P** **00 33 37.9 -0.1**
comp=Z,9.3nm,0.5s,baz=89,slow=7.4,SNR=54
ZALV PcP **PcP** **00 35 35.8 +0.1**
comp=Z,3.5nm,0.5s,baz=94,slow=2.7,SNR=7.1
ZALV LR LR 00 51 26.8
comp=Z,79nm,18.9s,baz=80,slow=37
comp=Z,9.3nm,0.5s
ZSN **Zaisan** **41.88 301**⇑*iP* **P** **00 33 43.6 +0.5**
baz=301
ZSN **Zaisan** **41.88 301***c iP* **P** **00 33 43.5 +0.5**
CHTO **Chiang Mai** **42.08 255** P **P** **00 33 44.8 -0.1**
CHTO IAmb IAmb 00 33 55.0
comp=Z,8.0nm,0.7s
CHTO **Chiang Mai** **42.08 255** P **P** **00 33 44.8 -0.1**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
NRIK **Noril'sk** **42.14 335** P **P** **00 33 44.4 -0.4**
NRIK **Noril'sk** **42.14 335***cP* **P** **00 33 44.5 -0.3**
NRIK pmax pmax
comp=Z,7.0nm,1.3s
NRIK **Noril'sk** **42.14 335** P **P** **00 33 44.2 -0.5**
comp=Z,3.8nm,0.5s,baz=116,slow=8.6,SNR=12
comp=Z,3.8nm,0.5s
CMAR **Chiang Mai Arr** **42.29 254** P **P** **00 33 45.1 -1.6**
comp=Z,0.9nm,0.3s,baz=45,slow=8.7,SNR=4.9
CMAR PcP **PcP** **00 35 40.6 +0.9**
comp=Z,2.0nm,0.4s,baz=11,slow=0.9,SNR=4.9
CMAR LR LR 00 52 41.5
comp=Z,24nm,18.8s,baz=50,slow=38
comp=Z,0.9nm,0.3s
LSA **Lhasa** **42.52 274** P **P** **00 33 47.7 -1.3**
LSA **Lhasa** **42.52 274** P **P** **00 33 47.7 -1.3**
LSA pmax pmax
comp=Z,6.0nm,0.7s
C18K **Utukok River** **42.79 27** P **P** **00 33 50.9 +0.7**
G18K **Tagagawik** **43.18 31** P **P** **00 33 54.9 +1.6**
MK31 **Makanchi Array** **43.73 301** P **P** **00 33 57.5 -0.5**
MK31 IAmb IAmb 00 33 58.8
comp=Z,12nm,0.9s
MK31 **Makanchi Array** **43.73 301***c iP* **P** **00 33 57.6 -0.5**
MKAR **Makanchi Array** **43.73 301** P **P** **00 33 57.4 -0.6**
MKAR **Makanchi Array** **43.73 301** P **P** **00 33 57.8 -0.2**
comp=Z,11nm,0.8s,baz=86,slow=9.5,SNR=109
MKAR LR LR 00 52 07.4
comp=Z,49nm,21.5s,baz=48,slow=36
comp=Z,11nm,0.8s
SHL **Shillong** **43.87 268** P **P** **00 33 58.8 -0.8**
SHL **Shillong** **43.87 268** P **P** **00 33 58.8 -0.8**
SHL pmax pmax
comp=Z,12nm,0.4s
MAKZ **Makanchi** **43.94 301** P **P** **00 33 59.2 -0.5**
MAKZ IAmb IAmb 00 34 00.6
comp=Z,10nm,0.8s
MAKZ **Makanchi** **43.94 301** P **P** **00 33 59.2 -0.5**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
J19K **Poorman** **44.24 34** P **P** **00 34 04.8 +2.9**
SEM **Semipalatinsk** **44.42 306** *eP* **P** **00 34 03.7 0.0**
baz=306
SEM **Semipalatinsk** **44.42 306** *eP* **P** **00 34 03.7 0.0**
KURK **Kurchatov** **45.39 307** P **P** **00 34 10.6 -0.5**
KURK **Kurchatov** **45.39 307** P **P** **00 34 11.4 +0.3**
KURK 00 35 49.7
KURBB **Kurchatov Arra** **45.47 307** P **P** **00 34 11.4 -0.3**
comp=Z,41nm,0.7s,baz=81,slow=8.1,SNR=280
KURBB PcP **PcP** **00 35 49.7 -0.2**
comp=Z,2.4nm,0.7s,baz=83,slow=4.2,SNR=4.4
KURBB LR LR 00 53 41.5
comp=Z,78nm,20.0s,baz=170,slow=37
comp=Z,41nm,0.7s
KDAK **Kodiak Island** **45.74 43** LR LR 00 51 05.9
comp=Z,46nm,21.0s,baz=203,slow=33
D22K **Ayikyak River** **45.88 27** P **P** **00 34 16.6 +1.8**
D22K IAmb IAmb 00 34 33.3
comp=Z,8.5nm,0.7s
SHLS **Shalkode** **46.56 297** *eP* **P** **00 34 17.4 -3.2**
comp=Z,5.7nm,0.6s,baz=296
SHLS **Shalkode** **46.56 297** *eP* **P** **00 34 17.4 -3.2**
SHLS pmax pmax
comp=Z,6.0nm,0.6s
TDK **Taldyqorghan** **46.79 299** *eP* **P** **00 34 21.4 -0.8**
baz=299
TDK **Taldyqorghan** **46.79 299** *eP* **P** **00 34 21.4 -0.8**
KPKS **Kokpek** **47.02 297** *eP* **P** **00 34 23.2 -0.9**
baz=297
KPKS **Kokpek** **47.02 297** *eP* **P** **00 34 23.2 -0.9**
ZHN **Zhinishke** **47.28 297** *eP* **P** **00 34 25.9 -0.3**
baz=297
ZHN **Zhinishke** **47.28 297** *eP* **P** **00 34 25.9 -0.3**
D24K **Happy Valley** **47.29 27** P **P** **00 34 27.2 +1.4**
D24K IAmb IAmb 00 34 44.1
comp=Z,7.6nm,0.7s
SATY **Saty** **47.33 297** *eP* **P** **00 34 26.5 -0.2**
baz=297
SATY **Saty** **47.33 297** *eP* **P** **00 34 26.4 -0.2**
POKR **Poker Plat Res** **47.80 33** P **P** **00 34 31.3 +1.5**
POKR IAmb IAmb 00 34 33.1
comp=Z,8.2nm,1.1s
IL31 **48.04 33** P **P** **00 34 32.5 +0.9**
ILAR **Eielson Array** **48.04 33** P **P** **00 34 33.1 +1.4**
comp=Z,1.8nm,0.7s,baz=268,slow=6.0,SNR=20
ILAR pP **pP** **00 34 46.4 +1.3**
comp=Z,1.9nm,0.7s,baz=266,slow=6.2,SNR=8.1
comp=Z,1.8nm,0.7s
CHKK **Chushkaly** **48.08 298** *eP* **P** **00 34 31.8 -0.6**
baz=298
CHKK **Chushkaly** **48.08 298** *eP* **P** **00 34 31.7 -0.6**
D25K **Kavik River** **48.16 27** P **P** **00 34 33.7 +1.1**
D25K IAmb IAmb 00 34 50.8
comp=Z,5.2nm,0.7s
MDOK **Medeo** **48.25 297** *eP* **P** **00 34 33.9 +0.1**
baz=297
MDOK **Medeo** **48.25 297** *eP* **P** **00 34 33.9 +0.1**
SRIT **Nakonsritamara** **48.27 243** P **P** **00 34 34.3 +0.2**
TNSS **Tian-Shan** **48.36 297** *eP* **P** **00 34 34.9 0.0**
baz=297
TNSS **Tian-Shan** **48.36 297** *eP* **P** **00 34 34.9 0.0**
BRZS **Berezniki** **49.27 307** *eP* **P** **00 34 40.7 -0.6**
comp=Z,4.0nm,0.5s,baz=307
BRZS **Berezniki** **49.27 307** *eP* **P** **00 34 40.7 -0.6**
BRZS pmax pmax
comp=Z,4.0nm,0.5s
NRN **Naryn** **49.54 296** P **P** **00 34 43.1 -0.8**
NRN IAmb IAmb 00 34 50.2
comp=Z,3.9nm,0.8s
NRN **Naryn** **49.54 296** P **P** **00 34 43.1 -0.8**
NRN pmax pmax
comp=Z,4.0nm,0.8s
BTLS **Baital** **49.74 301** *eP* **P** **00 34 44.4 -0.6**
baz=300
BTLS **Baital** **49.74 301** *eP* **P** **00 34 44.3 -0.6**
SGDS **Sogindy** **49.84 298** *eP* **P** **00 34 45.1 -0.7**
baz=298
SGDS **Sogindy** **49.84 298** *eP* **P** **00 34 45.1 -0.7**

KULM Kulim 49.92 239 P **P** **00 34 45.5 -1.2**
BVAR Borovoye Array 49.93 312 P **P** **00 34 46.0 -0.2**
comp=Z,6.2nm,0.6s,baz=74,slow=7.6,SNR=29
BVAR PcP **PcP** **00 36 06.4 +0.5**
comp=Z,5.6nm,0.6s,baz=79,slow=4.0,SNR=7.4
BVAR LR LR 00 55 48.1
comp=Z,45nm,19.1s,baz=71,slow=36
comp=Z,6.2nm,0.6s
BRVK Borovoye 49.98 312 P **P** **00 34 45.9 -0.8**
BRVK IAmb IAmb 00 34 47.5
comp=Z,8.1nm,1.0s
BRVK Borovoye 49.98 312⇓ *e*P **P** **00 34 46.8 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
FRU1 Bishkek 50.04 298 P **P** **00 34 47.6 +0.2**
FRU1 IAmb IAmb 00 34 48.5
comp=Z,9.1nm,0.9s
FRU1 Bishkek 50.04 298 P **P** **00 34 47.6 +0.2**
FRU1 pmax pmax
comp=Z,9.0nm,0.9s
D27M Malcolm River 50.09 27 P **P** **00 34 48.3 +0.9**
D27M IAmb IAmb 00 35 09.5
comp=Z,3.6nm,0.7s
AAK Ala-Archa 50.19 297 P **P** **00 34 47.9 -0.7**
AAK IAmb IAmb 00 34 52.0
comp=Z,2.9nm,0.6s
AAK Ala-Archa 50.19 297 *ce*P **P** **00 34 48.3 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 50.19 297 LR LR 00 56 24.4
comp=Z,68nm,18.2s,baz=70,slow=36
KSH Kashi 50.22 293 P **P** **00 34 52.5 +3.6**
KSH pmax pmax
comp=Z,7.0nm,0.8s
BCAR Beaver Creek A 50.46 35 P **P** **00 34 51.7 +1.5**
HNR Honiara 50.53 157 LR LR 00 54 49.9
comp=Z,721nm,20.6s,baz=30,slow=34
ARSB Arslanbob 51.70 296 P **P** **00 35 00.4 +0.4**
ARSB Arslanbob 51.70 296 P **P** **00 35 00.4 +0.4**
ARSB pmax pmax
comp=Z,3.0nm,0.9s
EPYK Eagle Plains 52.06 30 P **P** **00 35 03.6 +1.5**
EPYK IAmb IAmb 00 35 20.6
comp=Z,10nm,1.1s
G30M tAoh Zraii Nji 52.14 30 P **P** **00 35 03.9 +1.2**
G30M IAmb IAmb 00 35 05.3
comp=Z,2.9nm,0.6s
DZA Taraz 52.30 299 *e*P **P** **00 35 04.1 -0.1**
comp=Z,5.0nm,0.8s,baz=299
DZA Taraz 52.30 299 *e*P **P** **00 35 04.1 -0.1**
DZA pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 52.78 299 P **P** **00 35 07.4 -0.4**
KK31 IAmb IAmb 00 35 08.5
comp=Z,8.0nm,0.8s
KK31 Karatay Array 52.78 299 P **P** **00 35 07.4 -0.4**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 52.78 299 P **P** **00 35 07.3 -0.5**
KKAR IAmb IAmb 00 35 08.4
comp=Z,8.0nm,0.8s
KKAR Karatay Array 52.78 299 P **P** **00 35 07.0 -0.8**
KKAR Karatay Array 52.78 299 P **P** **00 35 07.3 -0.5**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 52.90 28 P **P** **00 35 09.3 +1.1**
INK IAmb IAmb 00 35 26.1
comp=Z,3.4nm,0.6s
INK Inuvik 52.90 28 P **P** **00 35 09.3 +1.1**
INK pmax pmax
comp=Z,3.0nm,0.6s
PSI Prapat 52.91 239 P **P** **00 35 08.5 -0.7**
PSI pmax pmax
comp=Z,8.0nm,0.8s
RPSI Rantau Prapat 52.99 239 P **P** **00 35 08.4 -1.1**
RPSI IAmb IAmb 00 35 10.2
comp=Z,7.7nm,0.8s
CHM Chimkent 53.69 299 *e*P **P** **00 35 14.5 0.0**
baz=299
CHM Chimkent 53.69 299 *e*P **P** **00 35 14.5 0.0**
SVE Sverdlovsk 54.35 318 *de*P **P** **00 35 19.4 +0.3**
SVE pmax pmax
comp=Z,25nm,0.9s
NIL Nilore 54.58 288 P **P** **00 35 20.9 -0.3**
NIL Nilore 54.58 288 P **P** **00 35 20.9 -0.3**
A36M Sachs Harbour 54.76 22 P **P** **00 35 23.3 +1.6**
A36M IAmb IAmb 00 35 24.8
comp=Z,6.1nm,0.9s
GSI Gunungsitoli 54.92 239 P **P** **00 35 23.4 -0.2**
SIMJ Simiganj 55.55 295 P **P** **00 35 27.2 -1.0**
SIMJ IAmb IAmb 00 35 28.7
comp=Z,7.8nm,0.8s
ARU Arti 55.57 318 P **P** **00 35 27.0 -0.8**
ARU Arti 55.57 318 *c* *i*P **P** **00 35 27.7 -0.1**
ARU *PP **pP** **00 35 40.5 -1.0**
ARU 00 36 25.8
ARU 00 37 28.5
ARU S **S** **00 43 11.8 +2.2**
ARU SS **SS** **00 46 53.4 -1.1**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU Arti 55.57 318 LR LR 01 01 24.9
comp=Z,83nm,18.9s,baz=71,slow=38
C36M Paulatuk 55.94 25 P **P** **00 35 31.3 +1.1**
KBL Kabul 57.31 290 P **P** **00 35 39.6 -1.2**
KBL IAmb IAmb 00 35 42.2
comp=Z,7.9nm,0.8s
KBL Kabul 57.31 290 P **P** **00 35 39.6 -1.2**
KBL pmax pmax
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 57.34 310 P **P** **00 35 39.8 -0.8**
ABKAR Akbulak array 57.34 310 P **P** **00 35 39.9 -0.7**
ABKAR IAmb IAmb 00 35 41.0
comp=Z,11nm,0.8s
AKTO Aktyubinsk 58.04 311 LR LR 01 00 21.9
comp=Z,47nm,18.6s,baz=219,slow=36
WRGLY Wrigley 58.39 32 P **P** **00 35 49.3 +1.7**
WRGLY IAmb IAmb 00 35 51.4
comp=Z,7.1nm,1.0s
WRA Warramunga Arr 58.55 188 P **P** **00 35 49.2 -0.1**
WRA Warramunga Arr 58.55 188 P **P** **00 35 49.6 +0.4**
comp=Z,6.2nm,0.8s,baz=5.4,slow=6.9,SNR=45
WRA pP **pP** **00 36 03.0 0.0**
comp=Z,4.5nm,0.6s,baz=4.0,slow=7.1,SNR=8.6
comp=Z,6.2nm,0.8s
EUNU Eureka 58.69 9 P **P** **00 35 49.4 -0.3**
EUNU IAmb IAmb 00 35 51.1
comp=Z,5.0nm,0.7s
KIRV Kirov 59.36 323 LR LR 01 03 17.5
comp=Z,32nm,18.3s,baz=90,slow=38
RES Resolute Bay 61.09 15 P **P** **00 36 06.5 +0.4**
RES IAmb IAmb 00 36 07.6
comp=Z,4.8nm,0.9s
RES Resolute Bay 61.09 15 P **P** **00 36 06.7 +0.7**
comp=Z,4.3nm,0.8s,baz=314,slow=7.3,SNR=18
RES pP **pP** **00 36 20.2 +0.4**
comp=Z,1.5nm,0.6s,baz=305,slow=9.3,SNR=4.8
comp=Z,4.3nm,0.8s
AS31 Alice Springs 62.28 188 P **P** **00 36 14.8 +0.1**
ASAR Alice Springs 62.28 188 P **P** **00 36 14.6 0.0**
ASAR Alice Springs 62.28 188 P **P** **00 36 15.8 +1.1**
comp=Z,2.5nm,0.7s,baz=9.3,slow=6.0,SNR=17
ASAR pP **pP** **00 36 29.5 +1.0**
comp=Z,2.7nm,0.7s,baz=11,slow=7.2,SNR=9.0
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 62.34 31 *ce*P **P** **00 36 16.0 +1.4**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 62.34 31 P **P** **00 36 15.7 +1.0**
comp=Z,1.9nm,0.8s,baz=301,slow=6.9,SNR=23
comp=Z,1.9nm,0.8s
KLMR Klimovskoe 62.77 327 *e*P **P** **00 36 15.8 -1.7**
KLMR *e* 00 38 32.4
KLMR pmax pmax
comp=Z,27nm,1.8s
ARCES ARCESS Array B 62.80 339 P **P** **00 36 17.6 0.0**
comp=Z,1.3nm,0.5s,baz=46,slow=8.7,SNR=9.1
ARCES LR LR 01 05 56.4
comp=Z,22nm,18.9s,baz=56,slow=38
comp=Z,1.3nm,0.5s
GEYT Alibeck 63.52 299 P **P** **00 36 22.0 -1.0**
GEYT IAmb IAmb 00 36 23.3
comp=Z,4.7nm,0.7s
GEYT Alibeck 63.52 299 P **P** **00 36 22.8 -0.2**
comp=Z,4.8nm,0.8s,baz=354,slow=1.5,SNR=11
comp=Z,4.8nm,0.8s

NEEM North Greenlan 64.06 3 *i*P **P** **00 36 24.5 -1.7**
NEEM IAmb IAmb 00 36 27.5
comp=Z,6.8nm,0.8s
PINNC Pines Island, 65.31 154 P **P** **00 36 31.9 -2.7**
VRH Novokhopyorsk 66.80 318 *e*P **P** **00 36 42.1 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 67.20 323⇓ *i*P **P** **00 36 46.4 +0.1**
OBN *e* 00 37 12.0
OBN pmax pmax
comp=Z,28nm,2.5s
OBN MLR MLR
comp=Z,39nm,13.0s
LPSR Galich'ya Gora 67.47 320 *e*P **P** **00 36 47.1 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 67.74 332 P **P** **00 36 49.7 0.0**
comp=Z,6.0nm,0.7s,baz=44,slow=8.5,SNR=19
FINES LR LR 01 07 40.4
comp=Z,56nm,19.6s,baz=17,slow=37
comp=Z,6.0nm,0.7s
VORR Voronezh 67.85 319 *e*P **P** **00 36 48.8 -1.7**
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 68.13 319 *e*P **P** **00 36 49.9 -2.4**
VSR pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 68.21 318 *e*P **P** **00 36 51.3 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.5s
SUMG Summit 69.24 0 P **P** **00 36 59.9 +0.6**
SUMG IAmb IAmb 00 37 01.4
comp=Z,12nm,0.9s
SUMG Summit 69.24 0 P **P** **00 36 59.9 +0.6**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 69.24 0 *i*P **P** **00 37 00.0 +0.6**
SUMG IAmb IAmb 00 37 01.3
comp=Z,7.1nm,0.7s
GOF Gofitskoye 69.45 312 *ce*P **P** **00 37 00.6 -0.1**
KIV Kislovodsk 70.29 311⇓P **P** **00 37 06.5 +0.6**
KIV Kislovodsk 70.29 311 P **P** **00 37 06.0 +0.1**
KIV Kislovodsk 70.29 311⇓P **P** **00 37 06.5 +0.6**
KBZ Khabaz 70.29 310 P **P** **00 37 06.0 +0.3**
comp=Z,8.3nm,0.9s,baz=94,slow=4.3,SNR=14
KBZ LR LR 01 10 02.0
comp=Z,46nm,19.5s,baz=56,slow=38
comp=Z,8.3nm,0.9s
FFC Flin Flon 72.26 33 P **P** **00 37 18.4 +0.9**
FFC Flin Flon 72.26 33 P **P** **00 37 18.4 +0.9**
FFC pmax pmax
comp=Z,6.0nm,1.0s
ICESG Greenland Ices 72.74 1 *i*P **P** **00 37 20.4 -0.2**
ICESG IAmb IAmb 00 37 22.3
comp=Z,9.2nm,0.6s
EGMT Eagleton 72.90 42 P **P** **00 37 22.9 +1.4**
EGMT IAmb IAmb 00 37 24.6
comp=Z,6.7nm,0.9s
HFS Hagfors 72.95 336 P **P** **00 37 21.6 +0.1**
comp=Z,8.5nm,0.7s,baz=59,slow=5.7,SNR=31
HFS LR LR 01 11 56.8
comp=Z,73nm,18.5s,baz=52,slow=38
comp=Z,8.5nm,0.7s
NC204 NORSAR Array S 72.97 338 P **P** **00 37 21.6 -0.1**
NB2 NORSAR Subarra 73.02 337 P **P** **00 37 22.0 0.0**
comp=Z,9.2nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.02 337 P **P** **00 37 22.1 0.0**
comp=Z,6.3nm,0.7s,baz=39,slow=6.0,SNR=18
NOA LR LR 01 11 50.6
comp=Z,55nm,21.9s,baz=40,slow=38
comp=Z,6.3nm,0.7s
BMN Battle Mountai 73.27 52 P **P** **00 37 25.5 +1.5**
BMN Battle Mountai 73.27 52 P **P** **00 37 25.5 +1.5**
BMN pmax pmax
comp=Z,3.0nm,1.1s
AKASG Malin Array Be 73.42 322 P **P** **00 37 24.8 +0.4**
AKASG Malin Array Be 73.42 322 P **P** **00 37 24.8 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 73.42 322 P **P** **00 37 24.1 -0.3**
comp=Z,6.7nm,0.7s,baz=46,slow=6.0,SNR=26
comp=Z,6.7nm,0.7s
AKBB Malin Array Si 73.42 322 P **P** **00 37 23.8 -0.6**
AKBB IAmb IAmb 00 37 25.0
comp=Z,8.6nm,0.8s
AKBB Malin Array Si 73.42 322 P **P** **00 37 23.8 -0.6**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 73.43 322 P **P** **00 37 23.9 -0.6**
KIEV IAmb IAmb 00 37 25.0
comp=Z,7.7nm,0.8s
KIEV Kiev 73.43 322 P **P** **00 37 23.9 -0.6**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
NVAR Mina Array Bea 73.78 54 P **P** **00 37 29.6 +2.5**
comp=Z,1.4nm,0.9s,baz=284,slow=5.4,SNR=10
comp=Z,1.4nm,0.9s
GURO Guroymak-BITLI 73.83 306 P **P** **00 37 26.9 -0.4**
SFJD Kangerlussuaq 74.41 5 *i*P **P** **00 37 29.3 -0.6**
SFJD IAmb IAmb 00 37 32.1
comp=Z,5.9nm,0.9s
YMP Mirror Lake Pl 74.75 45 P **P** **00 37 33.5 +0.7**
DY2G Dye2 75.18 3 *i*P **P** **00 37 34.3 -0.4**
DY2G IAmb IAmb 00 37 36.4
comp=Z,6.6nm,0.7s
SORM Soroca 75.55 321⇓P **P** **00 37 36.6 -0.3**
SORM Soroca 75.55 321⇓P **P** **00 37 36.6 -0.3**
ARPR Arapgir-MALATY 75.80 309 P **P** **00 37 38.5 -0.2**
DUG Dugway, Tooele 76.08 50 P **P** **00 37 41.9 +1.6**
DUG Dugway, Tooele 76.08 50 P **P** **00 37 41.9 +1.6**
DUG pmax pmax
comp=Z,3.0nm,0.8s
BW06 Boulder Array 76.35 46 P **P** **00 37 43.0 +1.1**
PD31 Pinedale Array 76.35 46 P **P** **00 37 43.0 +1.1**
PDAR Pinedale Array 76.35 46 P **P** **00 37 42.8 +0.9**
PDAR Pinedale Array 76.35 46 P **P** **00 37 43.5 +1.7**
comp=Z,2.0nm,0.7s,baz=276,slow=1.7,SNR=18
comp=Z,2.0nm,0.7s
BUR08 Bucovina Ar. S 77.43 322 P **P** **00 37 47.1 -0.6**
BUR08 IAmb IAmb 00 37 49.9
comp=Z,4.9nm,0.9s
BURAR Bucovina Array 77.44 322⇓P **P** **00 37 48.2 +0.5**
BURAR Bucovina Array 77.44 322 P **P** **00 37 48.2 +0.5**
BURAR IAmb IAmb 00 37 48.9
comp=Z,3.7nm,0.7s
BURAR Bucovina Array 77.44 322⇓P **P** **00 37 48.2 +0.5**
BNN Bunyan 77.46 310 P **P** **00 37 48.3 +0.2**
MSU Marysvale 77.53 51 P **P** **00 37 50.8 +2.3**
MSU Marysvale 77.53 51 P **P** **00 37 50.8 +2.3**
CFR Carcaliu 77.65 319⇓P **P** **00 37 49.1 +0.3**
CFR Carcaliu 77.65 319⇓P **P** **00 37 49.1 +0.3**
GAZ Gaziantep 77.69 308 P **P** **00 37 49.5 +0.3**
GAZ IAmb IAmb 00 37 51.1
comp=Z,9.6nm,1.1s
TPGR Topolog 77.72 318⇓P **P** **00 37 49.7 +0.4**
RDMU Red Mountain 77.76 48 P **P** **00 37 51.6 +1.8**
RDMU IAmb IAmb 00 37 52.9
comp=Z,5.7nm,1.0s
P17A Butcher Ranch, 77.78 49 P **P** **00 37 51.1 +1.2**
KOLS Kolonicke sedl 77.90 324 *e*P **P** **00 37 50.4 +0.2**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 77.90 324 *e*P **P** **00 37 50.4 +0.2**
VRI Vrincioaia 77.90 320⇑P **P** **00 37 51.3 +1.1**
VRI Vrincioaia 77.90 320⇑P **P** **00 37 51.3 +1.1**
STHS Stebnicka Huta 78.02 325 *e*P **P** **00 37 51.1 +0.3**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 78.02 325 *e*P **P** **00 37 51.1 +0.3**
ULM Lac du Bonnet 78.06 34 P **P** **00 37 51.5 +0.6**
comp=Z,2.6nm,0.9s,baz=311,slow=6.9,SNR=3.9
comp=Z,2.6nm,0.9s
OJC Ojcow 78.08 326 P **P** **00 37 51.3 +0.2**
OJC Ojcow 78.08 326 P **P** **00 37 51.3 +0.2**
OJC pmax pmax
comp=Z,15nm,1.1s
SRU San Rafael Swe 78.14 49 P **P** **00 37 53.1 +1.2**
SRU IAmb IAmb 00 37 54.7
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 78.14 49 P **P** **00 37 53.1 +1.2**
SRU pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 78.22 312 P **P** **00 37 51.6 -0.6**
BRTR Keskin Array B 78.22 312 P **P** **00 37 52.3 +0.1**
comp=Z,1.0nm,0.5s,baz=100,slow=2.8,SNR=11
comp=Z,1.0nm,0.5s
OZUR 78.22 320⇓P **P** **00 37 53.3 +1.3**
DOPR Dopca 78.51 320⇑P **P** **00 37 55.1 +1.5**
MLR Muntele Rosu 78.56 320 LR LR 01 15 33.7
comp=Z,80nm,19.2s,baz=282,slow=38
CBBR Cluj-Babes-Bol 78.85 322⇑P **P** **00 37 53.4 -2.0**
VOIR 79.05 320⇑P **P** **00 37 57.7 +1.1**
VOIR 79.05 320⇑P **P** **00 37 57.7 +1.1**
ARR Arges 79.31 320⇓P **P** **00 37 59.7 +1.7**
MORC Moravsky Berou 79.38 327⇓P **P** **00 37 59.2 +0.9**
MORC Moravsky Berou 79.38 327 P **P** **00 37 58.1 -0.2**
MORC IAmb IAmb 00 37 60.0
comp=Z,5.8nm,0.9s
MORC Moravsky Berou 79.38 327 *e*P **P** **00 37 58.9 +0.6**
MORC Moravsky Berou 79.38 327⇓P **P** **00 37 59.2 +0.9**
CHVC Chvalec 79.39 328 *e*P P 00 38 04.2 +5.9
CHVC Chvalec 79.39 328 *e*P P 00 38 04.2 +5.9
DPC Dobruska-Polom 79.46 328 *e*P **P** **00 37 59.7 +1.0**
DPC Dobruska-Polom 79.46 328 *e*P **P** **00 37 59.7 +1.0**
PSZ Piszkesteto 79.73 325 P **P** **00 38 00.1 -0.2**
PSZ IAmb IAmb 00 38 02.1
comp=Z,10nm,1.1s
PSZ Piszkesteto 79.73 325 P **P** **00 38 00.1 -0.2**
PSZ pmax pmax
comp=Z,10.0nm,1.1s
JAVC Velka Javorina 80.02 326 *e*P **P** **00 38 04.0 +2.2**
CLL Collm 80.06 330 *i*P **P** **00 38 02.1 +0.2**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 80.06 330 *i*P **P** **00 38 02.1 +0.2**
comp=Z,10.0nm,0.8s
CLL *es*P **sP** **00 38 22.0 +0.2**
CLL *e*PP **PP** **00 41 06.0 +2.4**
VRAC Vranov 80.14 327 *e*P **P** **00 38 02.7 +0.3**
VRAC Vranov 80.14 327 LR LR 01 16 07.7
comp=Z,34nm,18.7s,baz=45,slow=38
GZR Gura Zlata 80.21 321⇓P **P** **00 38 03.3 +0.4**
GZR Gura Zlata 80.21 321⇓P **P** **00 38 03.3 +0.4**
RICC Richard 80.22 329 *e*P **P** **00 38 04.2 +1.4**
SURR Surduc 80.27 322⇓P **P** **00 38 03.7 +0.6**
ELND Elena 80.38 318⇓P **P** **00 38 04.3 +0.5**
KRUC Moravsky 80.41 327 *e*P **P** **00 38 04.2 +0.4**
HSKC Hora Svate Kat 80.44 330 *e*P **P** **00 38 04.3 +0.3**
PRU Pruhonice 80.47 329 *e*P **P** **00 38 04.9 +0.8**
PRU Pruhonice 80.47 329 *e*P **P** **00 38 04.9 +0.8**
RAYN Ar Rayn 80.51 292 P **P** **00 38 04.2 -0.6**
RAYN IAmb IAmb 00 38 05.2
comp=Z,6.3nm,1.0s
RAYN Ar Rayn 80.51 292⇓P **P** **00 38 04.8 -0.1**
BZS Buzias 80.61 322⇓P **P** **00 38 05.2 +0.2**
BZS Buzias 80.61 322⇓P **P** **00 38 05.2 +0.2**
RAR Rarotonga 80.66 126 LR LR 01 05 51.6
comp=Z,32nm,20.6s,baz=225,slow=30
PLVB Pleven 80.71 319⇓P **P** **00 38 06.0 +0.5**
ZVC Zvikov 81.04 329 *e*P **P** **00 38 08.1 +0.9**
MDVR Moldovita 81.17 321⇓P **P** **00 38 08.2 +0.1**
CKRC Cesky Krumlov 81.48 328 *e*P **P** **00 38 10.2 +0.6**
CKRC Cesky Krumlov 81.48 328 *e*P **P** **00 38 10.2 +0.6**
MMAI Mount Meron Ar 81.48 305 P **P** **00 38 10.8 +0.9**
comp=Z,2.7nm,0.6s,baz=46,slow=7.1,SNR=8.2
MMAI LR LR 01 16 41.5
comp=Z,32nm,18.8s,baz=56,slow=37
comp=Z,2.7nm,0.6s
RONA Rosalia, Austr 81.50 326 *e*P **P** **00 38 09.6 -0.1**
comp=Z,3.3nm,0.8s
CONA Conrad Observa 81.51 327 *i*P **P** **00 38 11.2 +1.4**
comp=Z,4.3nm,0.9s
KHC Kasperske Hory 81.53 329 P **P** **00 38 09.1 -0.8**
KHC IAmb IAmb 00 38 11.5
comp=Z,8.6nm,1.0s
KHC Kasperske Hory 81.53 329 *e*P **P** **00 38 10.3 +0.4**
KHC Kasperske Hory 81.53 329 *e*P **P** **00 38 10.3 +0.4**
MORH Mrgy, Hungar 81.57 324⇓P **P** **00 38 10.0 0.0**
GEC2 GERESS Array S 81.71 328 P **P** **00 38 10.1 -0.8**
GERES GERESS Array B 81.71 328 P **P** **00 38 09.7 -1.1**
GERES GERESS Array B 81.71 328 P **P** **00 38 11.1 +0.2**
comp=Z,1.9nm,0.5s,baz=28,slow=6.0,SNR=4.4
GERES LR LR 01 16 00.4
comp=Z,56nm,19.6s,baz=272,slow=37
comp=Z,1.9nm,0.5s
RDO Rodhopi 81.81 317 P **P** **00 38 11.1 -0.3**
FRGS Fruska Gora 81.81 323⇓P **P** **00 38 12.0 +0.6**
EKA Eskdalemuir Ar 81.91 341 P **P** **00 38 11.6 -0.1**
comp=Z,2.2nm,0.7s,baz=40,slow=5.4,SNR=6.1
comp=Z,2.2nm,0.7s
GRF Grafenberg Arr 82.03 330 *e*P **P** **00 38 12.4 -0.1**
comp=Z,8.6nm,0.8s,baz=37,slow=4.2
ARSA Arzberg 82.18 326 *e*P **P** **00 38 14.2 +0.9**
comp=Z,2.0nm,0.9s
MOA Molln 82.25 327 *e*P **P** **00 38 14.0 +0.3**
comp=Z,5.9nm,1.3s
BIOA Bad Ischl, Aus 82.64 328 *i*P **P** **00 38 16.4 +0.8**
comp=Z,8.0nm,0.8s
PERS Pernice 82.83 326 *i*P **P** **00 38 17.0 +0.3**
SOKA Soboth 82.83 326 *i*P **P** **00 38 16.8 0.0**
comp=Z,7.3nm,0.9s,SNR=7.0
URZ Urewera 82.93 153 LR LR 01 10 04.0
comp=Z,34nm,20.9s,baz=125,slow=32
OBKA Obir 83.17 326 *i*P **P** **00 38 18.9 +0.4**
comp=Z,3.3nm,0.9s
BTNL Ternell 83.19 333 *d*P **P** **00 38 18.7 +0.2**
GCIS Gornji Cirnik 83.20 325 *i*P **P** **00 38 18.6 0.0**
MEM Membach 83.21 334 *d*P **P** **00 38 18.4 -0.1**
KBA Koelnbreinsper 83.24 327 *e*P **P** **00 38 19.8 +0.8**
comp=Z,5.4nm,0.8s
LESA Schwarzleotal 83.25 328 *i*P **P** **00 38 19.3 +0.4**
comp=Z,6.3nm,0.7s
MYKA Terra Mystica 83.47 327 *i*P **P** **00 38 19.6 -0.5**
comp=Z,4.2nm,0.5s
PRED Cave del Predi 83.65 327 P **P** **00 38 20.1 -0.8**
PRED IAmb IAmb 00 38 21.5
comp=Z,5.0nm,0.8s
WATA Walderalm 83.78 329 *i*P **P** **00 38 22.5 +0.8**
comp=Z,2.2nm,0.7s
WTTA Wattenberg 83.81 329 *i*P **P** **00 38 22.4 +0.5**
comp=Z,4.5nm,0.9s
SCHQ Schefferville 83.83 16 P **P** **00 38 22.1 +0.4**
comp=Z,2.4nm,0.7s,baz=339,slow=8.6,SNR=3.0
comp=Z,2.4nm,0.7s
ABTA Abfaltersbach 83.86 328 *i*P **P** **00 38 22.0 0.0**
comp=Z,5.7nm,1.2s
RCHB Rochefort 83.86 334 *d*P **P** **00 38 21.6 -0.3**
JAVS Javornik 83.87 326 *i*P **P** **00 38 21.3 -0.8**
BMRD Maredsous 83.90 334 *d*P **P** **00 38 22.1 0.0**
comp=Z,6.1nm,1.0s
BMRD *d*pP **pP** **00 38 35.5 -0.9**
BMRD *d*sP **sP** **00 38 42.0 0.0**
CLUD Cludinico 83.93 327 P **P** **00 38 21.4 -0.9**
CLUD IAmb IAmb 00 38 22.6
comp=Z,10nm,0.9s
EIL Elat 83.95 303 LR LR 01 21 41.9
comp=Z,14nm,18.5s,baz=212,slow=40
MOTA Moosalm 83.96 329 *i*P **P** **00 38 22.5 -0.1**
comp=Z,12nm,1.3s
RETA Reutte 83.98 329 *i*P **P** **00 38 23.1 +0.4**
comp=Z,11nm,1.0s,SNR=5.3
SQTA Sankt Quirin 84.02 329 *i*P **P** **00 38 21.4 -1.5**
comp=Z,2.7nm,0.6s
PUK Puka 84.08 321 P **P** **00 38 23.2 0.0**
PUK IAmb IAmb 00 38 32.4
comp=Z,6.8nm,0.9s
DOU Dourbes 84.13 334 *d*P **P** **00 38 21.7 -1.5**
STAL STALIGIAL 84.16 327 P **P** **00 38 22.4 -1.1**
BFO Black Forest 84.25 331 P **P** **00 38 23.6 -0.3**
BFO Black Forest 84.25 331 P **P** **00 38 23.6 -0.3**
BFO pmax pmax
comp=Z,13nm,1.1s
FETA Feichten 84.37 329 *i*P **P** **00 38 25.0 +0.2**
comp=Z,4.0nm,0.7s
DAVA Damuels 84.50 329 *i*P **P** **00 38 25.8 +0.4**
comp=Z,12nm,0.9s,SNR=5.1
CTI Castel Tesino 84.77 328 P **P** **00 38 25.3 -1.4**
CTI IAmb IAmb 00 38 26.5
comp=Z,5.1nm,0.6s
CTI Castel Tesino 84.77 328 P **P** **00 38 25.3 -1.4**
CTI pmax pmax
comp=Z,5.0nm,0.6s
ECH Echery 84.79 332 P **P** **00 38 26.6 -0.1**
ECH IAmb IAmb 00 38 27.7
comp=Z,6.0nm,0.8s
ECH Echery 84.79 332 P **P** **00 38 26.6 -0.1**
ECH pmax pmax
comp=Z,6.0nm,0.8s
FUORN Ofenpass-Fuorn 84.89 329 P **P** **00 38 27.4 -0.1**
DAVOX Davos/Dischmat 84.91 329 LR LR 01 19 44.1

comp=Z,49nm,18.9s,baz=344,slow=38
TUE Stuetta 85.38 329 P **P** **00 38 29.9 +0.1**
TUE IAmb IAmb 00 38 30.9
comp=Z,6.3nm,0.9s
VLO Vlora 85.45 320 P **P** **00 38 31.4 +1.3**
VLO Vlora 85.45 320 P **P** **00 38 31.4 +1.3**
VLO pmax pmax
comp=Z,26nm,0.9s
RPZ Rata Peaks 85.96 159 LR LR 01 11 49.4
comp=Z,27nm,19.6s,baz=258,slow=32
SENIN Lac Senin/Sane 86.27 330 P **P** **00 38 34.2 -0.1**
NRCA Norcia 86.69 325 P **P** **00 38 35.5 -0.8**
NRCA IAmb IAmb 00 38 47.7
comp=Z,4.6nm,1.0s
TIP Timpagrande 87.81 321 ⇑P **P** **00 38 42.0 +0.3**
TX31 Lajitas Ar. Si 88.90 53 P **P** **00 38 48.3 +1.2**
TXAR Lajitas Array 88.90 53 P **P** **00 38 48.0 +1.0**
TXAR Lajitas Array 88.90 53 P **P** **00 38 48.6 +1.5**
comp=Z,1.1nm,0.7s,baz=297,slow=3.7,SNR=17
comp=Z,1.1nm,0.7s
VAE Valguarnera 90.29 321 LR LR 01 25 10.3
comp=Z,13nm,20.5s,baz=142,slow=39
TORD Torodi Ar. Bea 116.61 316 PKP **PKPdf** **00 44 36.5 -0.3**
comp=Z,0.2nm,0.5s,baz=11,slow=1.5,SNR=1.8

*HEL **30** 00:44:42.7±0.2, 67°.80N×19°.96E, h0km, ML1.4, Suspected explosion*
UPP 30 00:44:43.9±0.0, 67°.82N×20°.21E, h0km, ML2.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**20**	P	Pg	00 44 47.0	+0.3
KUA				S	Sg	00 44 48.9	+0.4
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 44 48.6	+0.2
DUNU	**Dundret**	**0.71**	**169**	P	Pg	00 44 57.3	-0.2
LANU	**Lannavaara**	**0.71**	**70**	PG	Pg	00 44 57.1	-0.4
LANU				SG	Sg	00 45 07.0	+0.2
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	00 44 57.4	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 44 58.6	-0.1
SALU	**Saltoluokta**	**0.79**	**237**	P	Pg	00 44 58.8	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	eP	Pb	00 45 07.5	-0.2
KIF	**Kilpisjarvi**	**1.21**	**10**	PN	Pb	00 45 07.4	-0.2
KIF				MSG		00 45 21.6	
	comp=Z,7.1nm,0.2s						
KIF				SB	Sg	00 45 23.0	+0.1
PAJU	**Pajala**	**1.38**	**124**	PG	Pg	00 45 08.8	-1.4
	baz=303						
PAJU				SG	Sg	00 45 27.5	-0.5
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 45 09.2	-1.0
HEF	**Hetta**	**1.42**	**64**	eP	Pn	00 45 09.5	-1.5
HEF	**Hetta**	**1.42**	**64**	PG	Pn	00 45 10.2	-0.8
HEF				MSG		00 45 28.3	
	comp=Z,3.1nm,0.2s						
HEF				SN	Sn	00 45 32.3	+1.9
KLF	**Kolari**	**1.56**	**110**	PG	Pn	00 45 12.2	-0.6
KLF				MSG		00 45 31.7	
	comp=Z,2.1nm,0.2s						
KLF				SG	Sn	00 45 33.5	-0.1
KTK1	**Kautokeino**	**1.64**	**42**	PN	Pn	00 45 13.9	-0.1
KTK1				SN	Sg	00 45 37.7	+1.1
HARU	**Harads**	**1.69**	**169**	P	Pn	00 45 14.7	+0.1
KALU	**Kalix**	**2.33**	**146**	PG	Pn	00 45 24.4	+1.1
	baz=323						
KALU				SG	Sb	00 45 54.7	-1.2
TOF	**Tornio**	**2.38**	**135**	PG	Pn	00 45 25.5	+1.4
	baz=314						
TOF				MSG		00 45 54.7	
	comp=Z,1.2nm,0.2s						
TOF				SG	Sb	00 45 57.6	+0.2
SGF	**Sodankyl**	**2.45**	**96**	PB	Pn	00 45 26.6	+1.6
SGF				SG	Sb	00 46 00.5	+1.2
RNF	**Rovaniemi**	**2.56**	**116**	PB	Pn	00 45 28.2	+1.6
RNF				SG	Sb	00 46 02.1	-0.6
ARA0	**ARCESS Array S**	**2.59**	**46**	PB	Pn	00 45 28.0	+0.9
	baz=234						
ARA0				SB	Sb	00 46 01.9	-1.7
KMNF	**Kaamanen**	**2.84**	**59**	PN	Pn	00 45 30.8	+0.4
KMNF				SB	Sn	00 46 07.8	+2.6
RAJF	**Raja-Jooseppi**	**3.10**	**74**	SB	Sb	00 46 17.6	-0.5
KEV	**Kevo**	**3.15**	**49**	PB	Pn	00 45 35.9	+1.3
KEV				SN	Sn	00 46 13.7	+0.9
RANF	**Ranua**	**3.16**	**122**	PG	Pb	00 45 39.5	-1.3
RANF				SG	Sg	00 46 22.9	-2.4
BURU	**Burvik**	**3.28**	**171**	PB	Pn	00 45 38.7	+2.2
BURU				SB	Sn	00 46 18.7	+2.6
VRF	**Varrio**	**3.57**	**87**	SG	Sg	00 46 35.1	-3.4
OLKF	**Oulanka, Finla**	**3.90**	**108**	PN	Pn	00 45 46.8	+1.8
KU6	**Riekki**	**4.21**	**111**	PG	Pb	00 45 59.7	+0.9
	baz=298						

*IDC **30** 01:00:55.3±5.2, 25°.34N×104°.97W, h0km, mb3.2/2, mbtmp3.3/6, ML3.7/4, MS3.4/12, Error ellipse: s-maj=74.8km s-min=39.5km az=144.0*
*MEX **30** 01:00:59.8±0.7, 25°.56N×104°.97W, h13km±8km, MD4.6*
ISC 30 01:00:58.2±1.3, 25°.58N±0°.03×105°.05W±0°.03, h7km±10km, n30, σ3°.07/33, MS3.4/7, 1C, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDIG	**Papasquiaro**	**0.62**	**210**	⇑eP	**Pg**	**01 01 10.5**	**+0.2**
	baz=37,slow=10						
PDIG				eS	**Sg**	**01 01 19.7**	**+1.3**
HPIG		**1.46**	**338**	eP	**Pn**	**01 01 23.4**	**-1.8**
HPIG				*i* S	**Sn**	**01 01 41.0**	**-3.6**
BCIG	**La Boquilla**	**1.98**	**351**	eP	**Pn**	**01 01 31.0**	**-1.3**
BCIG				eS	**Sn**	**01 01 55.5**	**-2.0**
SSIG	**Sanalona**	**2.04**	**249**	eP	**Pn**	**01 01 33.7**	**+0.8**
SSIG				eS	**Sn**	**01 01 58.5**	**-0.1**
MAIG	**Mazatlaan**	**2.69**	**208**	eP	**Pb**	**01 01 46.0**	**-0.7**
MAIG				*i* S	**Sn**	**01 02 18.2**	**+3.5**
CSIG	**Choix**	**3.23**	**293**	eP	**Pb**	**01 01 56.2**	**+0.3**
CSIG				eS	**Sb**	**01 02 35.0**	**-0.4**
TSIG	**Topolobambo**	**3.60**	**271**	eP	**Pn**	**01 01 56.3**	**+1.9**
TSIG				eS	**Sn**	**01 02 42.5**	**+5.3**
ZAIG	**Zacatecas**	**3.60**	**140**	eP	**Pn**	**01 01 54.6**	**-0.2**
ZAIG				*i* S	**Sn**	**01 02 35.0**	**-2.8**
MCIG	**Muzquiz**	**3.92**	**54**	eP	**Pn**	**01 01 59.7**	**+0.7**
MCIG				eS	**Sb**	**01 02 57.5**	**+2.0**
TXAR	**Lajitas Array**	**3.93**	**18**	Pn	**Pn**	**01 01 58.1**	**-1.1**
	1.9nm,0.3s,baz=196,slow=14,SNR=98						
TXAR				Pg	**Pb**	**01 02 09.7**	**+1.7**
	16nm,0.3s,baz=198,slow=17,SNR=24						
TXAR				Lg	Lg	01 03 01.1	
	35nm,0.3s,baz=197,slow=30,SNR=6.5						
	6.9nm,0.6s						
ANIG	**Ahuacatlan**	**4.53**	**174**	eP	**Pb**	**01 02 20.5**	**+2.3**
ANIG				eS	**Sb**	**01 03 17.6**	**+4.4**
LPIG	**La Paz**	**5.00**	**254**	LR	LR	01 04 17.3	
	comp=Z,680nm,19.1s,baz=29,slow=40						
LNIG	**Linares**	**5.11**	**96**	eP	**Pn**	**01 02 18.7**	**+3.5**
LNIG				eS	**Sb**	**01 03 30.7**	**+1.2**
CGIG		**5.42**	**332**	eP	Pn	01 02 13.0	-6.7
CGIG				eS	**Sb**	**01 03 33.7**	**-5.0**
RPIG	**Rio Verde**	**5.93**	**127**	eP	**Pg**	**01 02 53.9**	**+2.1**
RPIG				eS	**Sg**	**01 04 01.1**	**-7.5**
CJM	**Chamela**	**6.05**	**180**	*i* P	Pn	01 02 33.5	+5.3
CJM				*i* S	**Sb**	**01 03 49.4**	**-7.4**
ANMO	**Albuquerque**	**9.41**	**353**	Pn	**Pn**	**01 03 17.0**	**+2.5**
	0.2nm,0.3s,baz=258,slow=11,SNR=8.8						
ANMO				Lg	Lg	01 05 56.5	
	0.2nm,0.3s,baz=151,slow=19,SNR=7.5						
ANMO				LR	LR	01 07 09.1	
	comp=Z,72nm,19.2s,baz=170,slow=39						
	2.1nm,0.7s						
CMIG	**Matias Romero**	**12.69**	**130**	LR	LR	01 09 23.7	
	comp=Z,69nm,21.5s,baz=249,slow=41						
NVAR	**Mina Array Bea**	**17.02**	**322**	Pn	**P**	**01 05 00.3**	**+1.5**
	baz=133,slow=13,SNR=3.6						
NVAR				LR	LR	01 12 22.2	
	comp=Z,65nm,19.0s,baz=138,slow=40						
	0.4nm,0.9s						
ELK	**Elko**	**17.34**	**333**	LR	LR	01 11 36.4	
	comp=Z,90nm,18.7s,baz=164,slow=36						
PDAR	**Pinedale Array**	**17.54**	**349**	P	**P**	**01 05 05.5**	**+0.9**
	0.1nm,0.3s,baz=159,slow=10,SNR=8.3						
	0.8nm,0.7s						
TKL	**Tuckaleechee C**	**20.85**	**56**	LR	LR	01 14 19.0	
	comp=Z,142nm,18.2s,baz=241,slow=38						
YBH	**Yreka Blue Hor**	**21.74**	**322**	LR	LR	01 14 31.6	
	comp=Z,110nm,18.1s,baz=268,slow=37						
JTS	**Las Juntas de**	**24.38**	**125**	LR	LR	01 16 08.0	
	comp=Z,92nm,21.0s,baz=342,slow=38						
ULM	**Lac du Bonnet**	**25.63**	**14**	LR	LR	01 16 49.2	
	comp=Z,177nm,18.6s,baz=246,slow=37						
SADO	**Sadowa**	**28.35**	**41**	LR	LR	01 18 39.6	
	comp=Z,225nm,20.1s,baz=296,slow=37						
YKA	**Yellowknife Ar**	**37.45**	**353**	P	**P**	**01 08 11.5**	**-0.5**
	0.2nm,0.7s,baz=161,slow=8.7,SNR=3.4						
	0.2nm,0.7s						
PCRV	**Puerto La Cruz**	**41.21**	**104**	LR	LR	01 27 42.7	
	comp=Z,43nm,18.7s,slow=39						
FRB	**Frobisher Bay**	**44.97**	**22**	LR	LR	01 27 16.8	
	comp=Z,103nm,21.7s,baz=195,slow=35						
ILAR	**Eielson Array**	**47.44**	**337**	P	**P**	**01 09 33.6**	**+0.4**
	0.2nm,0.6s,baz=155,slow=6.1,SNR=4.0						
	0.2nm,0.6s						

*NEIC **30** 01:04:55.5±1.1, 56°.1N±0°.1×149°.3W±0°.1, h23km±10km, ML3.5/9, ML3.3(AEIC), Error ellipse: s-maj=16.7km s-min=8.6km az=165.0*
*AEIC **30** 01:04:58.3±1.5, 56°.0N±0°.1×149°.2W±0°.1, h10km±8km, Error ellipse: s-maj=17.7km s-min=10.0km az=171.0*
ISC 30 01:04:53.2±1.8, 56°.10N±0°.10×149°.29W±0°.05, h10km, n62, σ1$29/71, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.47**	**314**		**Pn**	**01 05 34.6**	**+1.2**
KDAK	**Kodiak Island**	**2.47**	**314**		**Sn**	**01 06 02.5**	**-1.2**
KDAK	**Kodiak Island**	**2.47**	**314**	IAML		01 05 58.5	
	92nm,2.6s						
KDAK	**Kodiak Island**	**2.47**	**314**	S	**Sn**	**01 06 02.5**	**-1.2**
	baz=132						
OHAK	**Old Harbor**	**2.48**	**299**		**Pn**	**01 05 34.4**	**+0.8**
OHAK					**Sn**	**01 06 02.4**	**-1.5**
OHAK	**Old Harbor**	**2.48**	**299**	P	**Pn**	**01 05 34.4**	**+0.8**
	baz=116						
OHAK				S	**Sn**	**01 06 02.4**	**-1.5**
	baz=116						
SII	**Sitkinak Islan**	**2.77**	**282**		**Pn**	**01 05 38.2**	**+0.7**
SII					**Sn**	**01 06 09.3**	**-1.7**
SII	**Sitkinak Islan**	**2.77**	**282**	IAML		01 06 35.7	
	comp=N,242nm,3.0s						
SII	**Sitkinak Islan**	**2.77**	**282**	P	**Pn**	**01 05 38.2**	**+0.7**
	baz=99						
SII				S	**Sn**	**01 06 09.3**	**-1.7**
	baz=99						
Q20K	**Shuyak Island**	**3.03**	**327**	P	**Pn**	**01 05 42.4**	**+1.3**
	baz=145						
Q20K				S	**Sn**	**01 06 17.4**	**+0.1**
	baz=145						
SYI	**Shuyak Island**	**3.03**	**328**		**Pn**	**01 05 42.4**	**+1.3**
SYI				IAML		01 07 23.4	
	comp=E,114nm,3.4s						
SYI	**Shuyak Island**	**3.03**	**328**	IAML		01 06 10.5	
	comp=N,135nm,3.0s						
SYI	**Shuyak Island**	**3.03**	**328**		**Sn**	**01 06 17.4**	**+0.1**
R18K	**Karluk**	**3.20**	**299**		**Pn**	**01 05 44.7**	**+1.2**
R18K					**Sn**	**01 06 20.4**	**-1.2**
R18K	**Karluk**	**3.20**	**299**	IAML		01 07 15.7	
	comp=E,163nm,2.7s						
R18K	**Karluk**	**3.20**	**299**	P	**Pn**	**01 05 44.7**	**+1.2**
	baz=116						
R18K				S	**Sn**	**01 06 20.4**	**-1.2**
	baz=116						
CNPM	**China Poot**	**3.59**	**344**		**Pn**	**01 05 49.8**	**+0.9**
CNPM					**Sn**	**01 06 30.9**	**-0.5**
Q19K	**Cape Douglas,**	**3.68**	**322**		**Pn**	**01 05 51.9**	**+1.7**
Q19K	**Cape Douglas,**	**3.68**	**322**	P	**Pn**	**01 05 51.9**	**+1.7**
	baz=139						
BRSE	**Bradley Lake S**	**3.73**	**349**		**Pn**	**01 05 51.5**	**+0.7**
BRSE					**Sn**	**01 06 34.1**	**-0.7**
BRSE	**Bradley Lake S**	**3.73**	**349**	P	**Pn**	**01 05 51.5**	**+0.7**
	baz=167						
BRSE				S	**Sn**	**01 06 34.1**	**-0.7**
	baz=167						
BRLK	**Bradley Lake**	**3.77**	**348**		**Pn**	**01 05 52.0**	**+0.6**
BRLK					**Sn**	**01 06 35.6**	**-0.2**
P23K	**Montague Islan**	**4.03**	**14**		**Pn**	**01 05 55.6**	**+0.6**
P23K					**Sn**	**01 06 39.2**	**-3.0**
P23K	**Montague Islan**	**4.03**	**14**	P	**Pn**	**01 05 55.6**	**+0.6**
	baz=195						
P23K				S	**Sn**	**01 06 39.2**	**-3.0**
	baz=195						
P19K	**Oil Pt**	**4.14**	**331**		**Pn**	**01 05 58.2**	**+1.8**
P19K	**Oil Pt**	**4.14**	**331**	P	**Pn**	**01 05 58.2**	**+1.8**
	baz=148						
CNTC	**Contact Creek**	**4.19**	**304**		**Pn**	**01 05 59.1**	**+1.8**
Q17K	**Contact Creek**	**4.19**	**304**	P	**Pn**	**01 05 59.1**	**+1.8**
	baz=119						
SLKM	**Skilak Lake**	**4.45**	**354**		**Pn**	**01 06 01.2**	**+0.5**
HIN	**Hinchinbrook I**	**4.55**	**18**		**Pn**	**01 06 03.1**	**+1.0**
P18K	**Big Mountain,**	**4.58**	**318**		**Pn**	**01 06 03.7**	**+1.1**
P18K	**Big Mountain,**	**4.58**	**318**	P	**Pn**	**01 06 03.7**	**+1.1**
	baz=134						
KAIM	**Kayak Island**	**4.63**	**32**		**Pn**	**01 06 04.2**	**+1.1**
KAIM	**Kayak Island**	**4.63**	**32**	P	**Pn**	**01 06 04.2**	**+1.1**
	baz=215						
EYAK	**Cordova Ski Ar**	**4.83**	**21**		**Pn**	**01 06 07.1**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.83**	**21**	P	**Pn**	**01 06 07.1**	**+1.2**
	baz=204						
O18K	**Koktuh Hills**	**4.91**	**323**		**Pn**	**01 06 08.2**	**+1.2**
O18K	**Koktuh Hills**	**4.91**	**323**	P	**Pn**	**01 06 08.2**	**+1.2**
	baz=138						
SUA	**Susitna One**	**5.43**	**353**	Pn	**Pn**	**01 06 14.2**	**-0.1**
N19K	**Bonanza Creek**	**5.46**	**332**		**Pn**	**01 06 15.3**	**+0.7**
N19K	**Bonanza Creek**	**5.46**	**332**	P	**Pn**	**01 06 15.3**	**+0.7**
	baz=148						
BMRM	**Bremner River**	**5.46**	**25**		**Pn**	**01 06 16.2**	**+1.5**
BMRM	**Bremner River**	**5.46**	**25**	P	**Pn**	**01 06 16.2**	**+1.5**
	baz=208						
KLU	**Klutina**	**5.68**	**17**		**Pn**	**01 06 19.1**	**+1.4**
KLU	**Klutina**	**5.68**	**17**	P	**Pn**	**01 06 19.1**	**+1.4**
	baz=199						
N18K	**Kilae Creek**	**5.75**	**326**		**Pn**	**01 06 19.3**	**+0.7**
N18K	**Kilae Creek**	**5.75**	**326**	P	**Pn**	**01 06 19.3**	**+0.7**
	baz=140						
O16K	**Kokwok River B**	**5.86**	**310**		**Pn**	**01 06 21.8**	**+1.8**
O16K	**Kokwok River B**	**5.86**	**310**	P	**Pn**	**01 06 21.8**	**+1.8**
	baz=123						
KIAG	**Kiagna River**	**6.04**	**34**		**Pn**	**01 06 24.0**	**+1.3**
GLB	**Gilahina Butte**	**6.06**	**26**		**Pn**	**01 06 24.3**	**+1.4**
PTPK	**Patty Peak**	**6.22**	**32**		**Pn**	**01 06 26.6**	**+1.4**
PCA	**Pinnacle**	**6.24**	**46**		**Pn**	**01 06 26.6**	**+1.2**
PINM	**Pinnacle**	**6.24**	**46**	P	**Pn**	**01 06 26.5**	**+1.2**
	baz=233						
BARN	**Barnard Glacie**	**6.37**	**36**		**Pn**	**01 06 28.4**	**+1.1**
LOGN	**Logan Glacier**	**6.42**	**39**		**Pn**	**01 06 29.0**	**+1.1**
O29M	**Mount Kennedy**	**7.05**	**49**		**Pn**	**01 06 38.0**	**+1.5**
O29M	**Mount Kennedy**	**7.05**	**49**	P	**Pn**	**01 06 38.0**	**+1.5**
	baz=238						
P29M	**Windy Craggy**	**7.10**	**55**		**Pn**	**01 06 37.9**	**+0.8**
P29M	**Windy Craggy**	**7.10**	**55**	P	**Pn**	**01 06 37.9**	**+0.8**
	baz=245						
S31K	**Pelican**	**7.36**	**70**		**Pn**	**01 06 39.8**	**-0.8**
S31K	**Pelican**	**7.36**	**70**	P	**Pn**	**01 06 39.8**	**-0.8**
	baz=260						

IDC 30 01:15:48.2±1.8, 9°.06S×126°.48E, h0km, mb3.4/1, mbtmp3.6/3, ML4.0/2, MS3.5/1, Error ellipse: s-maj=168.7km s-min=31.5km az=60.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.22**	**146**	Pn	Pn	01 18 56.6	-0.8
	1.0nm,0.3s,baz=319,slow=13,SNR=35						
WRA				Sn	Sn	01 21 13.8	-12
	0.2nm,0.3s,baz=350,slow=20,SNR=2.1						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**16.17**	**155**	Pn	Pn	01 19 38.0	+0.9
	0.4nm,0.3s,baz=330,slow=9.8,SNR=15						
ASAR				Sn	Sn	01 22 30.8	-6.4
	0.2nm,0.3s,baz=320,slow=18,SNR=4.2						
	0.6nm,0.4s						
URZ	**Urewera**	**53.87**	**131**	LR	LR	01 48 31.0	
	comp=Z,43nm,18.8s,baz=121,slow=36						
MKAR	**Makanchi Array**	**68.10**	**329**	P	P	01 26 50.0	0.0
	0.2nm,0.4s,baz=116,slow=6.4,SNR=8.6						
	0.2nm,0.4s						

*NEIC **30** 01:22:49.7±0.9, 56°.1N±0°.1×148°.6W±0°.1, h20km±10km, ML3.4/7, ML3.3(AEIC), Error ellipse: s-maj=18.1km s-min=9.9km az=171.0*

*AEIC **30** 01:22:53.2±1.0, 56°.1N±0°.1×148°.5W±0°.1, h7km±8km, Error ellipse: s-maj=16.0km s-min=10.0km az=168.0*
ISC 30 01:22:48.2±2.1, 56°.2N±0°.1×148°.59W±0°.06, h10km, n62, σ1$06/66, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.73**	**308**		**Pn**	**01 23 32.7**	**+0.7**
KDAK					**Sn**	**01 24 03.7**	**-1.3**
KDAK	**Kodiak Island**	**2.73**	**308**	IAML		01 24 18.8	
	114nm,3.1s						
KDAK				IAML		01 24 22.2	
	117nm,3.4s						
OHAK	**Old Harbor**	**2.80**	**294**		**Pn**	**01 23 34.1**	**+1.0**
OHAK	**Old Harbor**	**2.80**	**294**	P	**Pn**	**01 23 34.1**	**+1.0**
	baz=110						
SII	**Sitkinak Islan**	**3.14**	**280**		**Pn**	**01 23 38.9**	**+1.2**
SII	**Sitkinak Islan**	**3.14**	**280**	IAML		01 24 30.4	
	comp=E,226nm,2.8s						
SII	**Sitkinak Islan**	**3.14**	**280**	P	**Pn**	**01 23 38.9**	**+1.2**
	baz=95						
SYI	**Shuyak Island**	**3.21**	**322**		**Pn**	**01 23 39.6**	**+1.0**
SYI					**Sn**	**01 24 16.6**	**-0.2**
SYI	**Shuyak Island**	**3.21**	**322**	IAML		01 24 18.8	
	comp=E,99nm,2.5s						
Q20K	**Shuyak Island**	**3.21**	**322**	P	**Pn**	**01 23 39.6**	**+1.0**
	baz=138						
Q20K				S	**Sn**	**01 24 16.6**	**-0.2**
	baz=138						
R18K	**Karluk**	**3.52**	**296**		**Sn**	**01 24 23.2**	**-1.2**
R18K	**Karluk**	**3.52**	**296**	S	**Sn**	**01 24 23.2**	**-1.2**
	baz=111						
CNPM	**China Poot**	**3.66**	**338**		**Pn**	**01 23 45.8**	**+0.9**
CNPM					**Sn**	**01 24 27.2**	**-0.9**
BRSE	**Bradley Lake S**	**3.77**	**343**		**Pn**	**01 23 47.2**	**+0.8**
BRSE					**Sn**	**01 24 29.0**	**-1.9**
BRSE	**Bradley Lake S**	**3.77**	**343**	P	**Pn**	**01 23 47.2**	**+0.8**
	baz=161						
BRSE				S	**Sn**	**01 24 29.0**	**-1.9**
	baz=161						
BRLK	**Bradley Lake**	**3.82**	**342**		**Pn**	**01 23 47.8**	**+0.8**
BRLK					**Sn**	**01 24 30.4**	**-1.6**
P23K	**Montague Islan**	**3.91**	**9**		**Pn**	**01 23 48.5**	**+0.3**
P23K	**Montague Islan**	**3.91**	**9**	P	**Pn**	**01 23 48.5**	**+0.3**
	baz=189						
KAHG	**Katmai Hook Gl**	**3.99**	**308**		**Pn**	**01 23 50.2**	**+0.8**
O22K	**Cooper Landing**	**4.38**	**353**	Pn	**Pn**	**01 23 56.8**	**+2.1**
HIN	**Hinchinbrook I**	**4.39**	**14**		**Pn**	**01 23 55.5**	**+0.6**
SLKM	**Skilak Lake**	**4.45**	**350**		**Pn**	**01 23 56.3**	**+0.6**
CNTC	**Contact Creek**	**4.50**	**301**		**Pn**	**01 23 57.9**	**+1.6**
Q17K	**Contact Creek**	**4.50**	**301**	P	**Pn**	**01 23 57.9**	**+1.6**
	baz=115						
IVE	**Iliamna Volcan**	**4.53**	**331**		**Pn**	**01 23 57.6**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.65**	**18**		**Pn**	**01 23 58.9**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.65**	**18**	P	**Pn**	**01 23 58.8**	**+0.4**
	baz=199						
RAGM	**Ragged Mountai**	**4.72**	**24**	Pn	**Pn**	**01 24 00.4**	**+1.0**
P18K	**Big Mountain,**	**4.81**	**315**		**Pn**	**01 24 01.5**	**+0.8**
P18K	**Big Mountain,**	**4.81**	**315**	P	**Pn**	**01 24 01.5**	**+0.8**
	baz=129						
RSO	**Redoubt South**	**4.84**	**335**	Pn	**Pn**	**01 24 01.3**	**0.0**
RDT	**Redoubt**	**4.87**	**337**		**Pn**	**01 24 02.3**	**+0.9**
GOAT	**Goat Mountain**	**4.88**	**23**		**Pn**	**01 24 02.4**	**+0.7**
BERG	**Berg Lake**	**4.97**	**29**		**Pn**	**01 24 03.2**	**+0.4**
O18K	**Koktuh Hills**	**5.11**	**319**		**Pn**	**01 24 05.9**	**+1.1**
O18K	**Koktuh Hills**	**5.11**	**319**	P	**Pn**	**01 24 05.9**	**+1.1**
	baz=133						
KNK	**Knik Glacier**	**5.28**	**1**		**Pn**	**01 24 08.3**	**+1.3**
KNK	**Knik Glacier**	**5.28**	**1**	P	**Pn**	**01 24 08.3**	**+1.3**
	baz=180						
SUA	**Susitna One**	**5.44**	**349**	Pn	**Pn**	**01 24 09.8**	**+0.4**
KLU	**Klutina**	**5.53**	**13**		**Pn**	**01 24 11.6**	**+1.1**
KLU	**Klutina**	**5.53**	**13**	P	**Pn**	**01 24 11.6**	**+1.1**
	baz=195						
N19K	**Bonanza Creek**	**5.60**	**329**		**Pn**	**01 24 12.3**	**+0.8**
N19K	**Bonanza Creek**	**5.60**	**329**	P	**Pn**	**01 24 12.3**	**+0.8**
	baz=144						
SML	**Sawmill**	**5.67**	**1**		**Pn**	**01 24 13.8**	**+1.4**
SML	**Sawmill**	**5.67**	**1**	P	**Pn**	**01 24 13.8**	**+1.4**
	baz=181						
KIAG	**Kiagna River**	**5.79**	**32**		**Pn**	**01 24 14.7**	**+0.5**
N25K	**Chitina, Valde**	**5.84**	**19**		**Pn**	**01 24 15.8**	**+0.9**
N25K	**Chitina, Valde**	**5.84**	**19**	P	**Pn**	**01 24 15.8**	**+0.9**
	baz=202						
GLB	**Gilahina Butte**	**5.85**	**23**		**Pn**	**01 24 15.6**	**+0.6**
PTPK	**Patty Peak**	**5.97**	**30**		**Pn**	**01 24 17.5**	**+0.8**
SKT	**Skwentna**	**6.04**	**347**	Pn	**Pn**	**01 24 18.6**	**+1.2**
M24K	**Tolsona, Glenn**	**6.10**	**11**	Pn	**Pn**	**01 24 18.8**	**+0.4**
BARN	**Barnard Glacie**	**6.11**	**33**		**Pn**	**01 24 19.2**	**+0.7**
CTG	**Chitna Glacier**	**6.13**	**35**	P	**Pn**	**01 24 19.5**	**+0.7**
	baz=221						
CTGM	**Chitina Glacie**	**6.14**	**35**		**Pn**	**01 24 19.6**	**+0.6**
O29M	**Mount Kennedy**	**6.72**	**48**		**Pn**	**01 24 27.8**	**+0.8**
O29M	**Mount Kennedy**	**6.72**	**48**	P	**Pn**	**01 24 27.8**	**+0.8**
	baz=236						
P29M	**Windy Craggy**	**6.75**	**54**		**Pn**	**01 24 28.0**	**+0.7**
P29M	**Windy Craggy**	**6.75**	**54**	P	**Pn**	**01 24 28.0**	**+0.7**
	baz=243						
S31K	**Pelican**	**6.98**	**70**		**Pn**	**01 24 30.4**	**+0.1**
S31K	**Pelican**	**6.98**	**70**	P	**Pn

KAIM	Kayak Island	4.29	29	Pn	Pn	01 25 01.1	-0.5
HIN	Hinchinbrook I	4.29	14		Pn	01 25 01.0	-0.7
P18K	Big Mountain,	4.74	314		Pn	01 25 07.4	-0.4
P18K	Big Mountain, baz=129	4.74	314	P	Pn	01 25 07.4	-0.4
BERG	Berg Lake	4.88	30	Pn	Pn	01 25 09.0	-0.7
O18K	Koktuh Hills	5.03	318	Pn	Pn	01 25 12.1	+0.2
KLU	Klutina	5.42	14		Pn	01 25 16.4	-0.9
SML	Sawmill	5.56	1		Pn	01 25 16.2	-3.0
SCM	Sheep Creek Mo	5.63	6	Pn	Pn	01 25 18.4	-1.7
GLB	Gilahina Butte	5.75	23		Pn	01 25 20.5	-1.3
N18K	Kilae Creek	5.86	322		Pn	01 25 23.1	-0.1
N18K	Kilae Creek baz=136	5.86	322	P	Pn	01 25 23.1	-0.1
MCARA	McCarthy VSAT	5.89	27	Pn	Pn	01 25 23.7	0.0
BARN	Barnard Glacie	6.01	34	Pn	Pn	01 25 24.3	-1.2
CTGM	Chitina Glacie	6.05	36	Pn	Pn	01 25 25.1	-0.8
LOGN	Logan Glacier	6.05	38	Pn	Pn	01 25 25.4	-0.7
O16K	Kokwok River B	6.07	307		Pn	01 25 25.9	-0.1
O16K	Kokwok River B baz=120	6.07	307	P	Pn	01 25 25.9	-0.1
O29M	Mount Kennedy	6.65	48	Pn	Pn	01 25 34.3	+0.2
P29M	Windy Craggy	6.69	55		Pn	01 25 33.3	-1.3
P29M	Windy Craggy baz=243	6.69	55	P	Pn	01 25 33.3	-1.3
O15K	Ungalikthiuk R	6.69	301		Pn	01 25 34.5	-0.1
O15K	Ungalikthiuk R baz=112	6.69	301	P	Pn	01 25 34.5	-0.1
DHY	Denali Highway	6.86	5		Pn	01 25 38.2	+1.1
S31K	Pelican	6.94	71		Pn	01 25 35.2	-2.8
S31K	Pelican baz=260	6.94	71	P	Pn	01 25 35.2	-2.8
RND	Reindeer	7.17	359	Pn	Pn	01 25 39.9	-1.3
RIDG	Independent Ri	7.73	12		Pn	01 25 49.2	+0.3
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=188,slow=13,SNR=5.2	8.58	5	Pn	Pn	01 26 01.1	+0.7
ILAR	comp=N,0.2nm,0.3s,baz=188,slow=22,SNR=4.3 comp=N,0.5nm,0.5s			Sn	Sn	01 27 34.3	-2.9
YKA	Yellowknife Ar baz=265,slow=10,SNR=2.6 comp=N,0.3nm,0.8s	18.23	56	P	P	01 28 10.2	+0.8
YAK	Yakutsk	39.68	313	LR	LR	01 48 41.7	
SONM	Songino Array comp=N,0.5nm,1.0s,baz=57,slow=5.3,SNR=2.6 comp=N,0.5nm,1.0s	58.95	311	P	P	01 33 59.3	+3.7

SFS ***30*** *01:52:21.5,36˚.95N×5˚.25W,h10km,ML3.5/26,ML3.6/25, MLv3.3/26*
MDD ***30*** *01:52:21.4±0.1,36˚.94N×5˚.29W,h11km,mb_Lg3.4/59, Error ellipse: s-maj=1.5km s-min=0.9km az=176.0*
INMG ***30*** *01:52:21.6±1.6,36˚.93N×5˚.25W,h15km±2km,ML3.1, Error ellipse: s-maj=1.8km s-min=1.7km az=81.0*
LDG ***30*** *01:52:21.6±0.1,36˚.94N×5˚.28W,h10km,Ml3.2/11, Error ellipse: s-maj=2.2km s-min=1.9km az=15.0*
IGIL ***30*** *01:52:22.3,36˚.94N×5˚.28W,h11km*
CNRM ***30*** *01:52:22.9,36˚.74N×5˚.55W,h107km, ML3.2*

ISC 30 01:52:20.6±0.9, 36˚92N±0˚02×5˚25W±0˚02, h29km±9km, n152, σ2°25/263, 1C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESPR	Espera	0.49	264	Sg	Sn		Sn	01 52 40.2	+1.0
ESPR				Pg	Pn		Pn	01 52 31.8	+0.1
ESPR	Espera	0.49	264	Pg	Pn		Pn	01 52 32.0	+0.3
ESPR				Sg	Sb		Sb	01 52 36.9	-0.7
ESPR				*i* Vmb_Lg				01 52 48.7	
EJIF	Jimena Fronter	0.50	200	Pg	Pb		Pb	01 52 31.4	+0.4
EJIF				Sg	Sb		Sb	01 52 37.9	-0.2
EMIJ	Mijas	0.53	132	Sg	Sb		Sb	01 52 37.4	-1.5
EMIJ				Pg	Pb		Pb	01 52 30.8	-0.6
EMIJ	Mijas	0.53	132	Pg	Pb		Pb	01 52 30.8	-0.6
EMIJ				Sg	Sb		Sb	01 52 38.0	-0.8
EMIJ				*i* Vmb_Lg				01 52 43.1	
EMAL	Malaga-Limoner	0.68	103	Sg	Sb		Sb	01 52 42.5	-0.5
EMAL				Pg	Pb		Pb	01 52 33.2	-0.8
SFS	San Fernando	0.89	240	Pn	Pn		Pn	01 52 39.7	+2.5
SFS	San Fernando	0.89	240	P	Pn		Pn	01 52 39.6	+2.5
EGOR	Sierra Gorda,	0.94	78	Sg	Sn		Sn	01 52 52.5	+2.0
EGOR				Pg	Pn		Pn	01 52 38.9	+0.9
EGOR	Sierra Gorda,	0.94	78	Pg	Pn		Pn	01 52 40.1	+2.1
EGOR				Sg	Sn		Sn	01 52 51.9	+1.4
EGOR				*i* Vmb_Lg				01 53 00.2	
ECEU	Ceuta	1.03	186	Pg	Pb		Pb	01 52 41.3	+1.5
ECEU	Ceuta	1.03	186	Pg	Pn		Pn	01 52 39.9	+0.8
ECEU				Sg	Sb		Sb	01 52 53.6	+0.7
ECEU				*i* Vmb_Lg				01 53 08.3	
ECAB	El Cabril	1.16	354	Sn	Sn		Sn	01 52 56.8	+0.9
ECAB				Pn	Pb		Pb	01 52 41.6	-0.5
ECAB	El Cabril	1.16	354	Pg	Pb		Pb	01 52 42.2	+0.1
ECAB				Sg	Sn		Sn	01 52 56.8	+0.9
ECAB				*i* Vmb_Lg				01 52 58.9	
SMIR	Smir Dam	1.24	185	P	Pb		Pb	01 52 45.3	+1.9
ELGU	Los Guajares,	1.31	92	Pn	Pb		Pb	01 52 44.5	-0.1
ELGU	Los Guajares,	1.31	92	Pg	Pb		Pb	01 52 45.9	+1.3
ELGU				Sg	Sb		Sb	01 53 02.6	+1.6
ELGU				*i* Vmb_Lg				01 53 11.1	
EADA	Adamuz	1.35	23	Pn	Pb		Pb	01 52 44.9	-0.5
EADA	Adamuz	1.35	23	Pn	Pb		Pb	01 52 44.9	-0.5
EADA				Sn	Sb		Sb	01 53 01.0	-1.4
EADA				Sg	Sn		Sn	01 53 04.5	+3.7
EADA				*i* Vmb_Lg				01 53 05.3	
EMIN	Mina Concepcio	1.41	307	Sn	Sb		Sb	01 53 04.8	+0.9
EMIN				Pn	Pb		Pb	01 52 45.4	-0.9
EMIN	Mina Concepcio	1.41	307	Pn	Pb		Pb	01 52 45.4	-0.9
EMIN				Sg	Sb		Sb	01 53 05.7	+1.7
EMIN				*i* Vmb_Lg				01 53 07.2	
EQTA	Presa de Quent	1.48	78	Pn	Pb		Pb	01 52 48.1	+0.5
EQUE	Quentar	1.48	78	Pg	Pb		Pb	01 52 48.1	+0.6
EQUE				Sg	Sb		Sb	01 53 07.5	+1.5
EQUE				*i* Vmb_Lg				01 53 13.8	
EGRO	El Granado	1.88	290	Pn	Pn		Pn	01 52 52.1	+1.2
EGRO	El Granado	1.88	290	Pn	Pn		Pn	01 52 52.0	+1.2
EGRO				Sn	Sn		Sn	01 53 13.5	-0.1
EGRO				Sg	Sb		Sb	01 53 19.5	+2.0
EGRO				*i* Vmb_Lg				01 53 24.1	
PBAR	Barrancos	1.89	312	*e*Pn	Pn		Pn	01 52 51.9	+0.9
PBAR	Barrancos	1.89	312	*e*Pg	Pb		Pb	01 52 55.5	+1.0
PBAR				*e*Sn	Sb		Sb	01 53 15.7	-2.0
PBAR				A	A		A	01 53 24.1	
	105nm,0.4s								
PBAR	Barrancos	1.89	312	Pn	Pn		Pn	01 52 51.9	+0.9
EBER	Berja	1.90	90	Pn	Pb		Pb	01 52 53.7	-1.0
EBER	Berja	1.90	90	Pn	Pb		Pb	01 52 54.1	-0.6
EBER				Sn	Sn		Sn	01 53 15.2	+0.9
EBER				Sg	Sb		Sb	01 53 23.6	+5.6
EBER				*i* Vmb_Lg				01 53 31.3	
EQES	Quesada	1.95	62	Pn	Pb		Pb	01 52 53.4	-2.2
EQES				Sn	Sb		Sb	01 53 16.8	-2.7
EQES				Sg	Sn		Sn	01 53 23.8	+8.3
EQES				*i* Vmb_Lg				01 53 26.9	
PVAQ	Vaqueiros	2.03	284	Sn	Sn		Sn	01 53 17.9	+0.6
PVAQ				Pn	Pn		Pn	01 52 54.1	+1.3
PVAQ	Vaqueiros	2.03	284	P	Pn		Pn	01 52 54.1	+1.3
PBDV	Barranco-do-Ve	2.17	279	*e*Pn	Pn		Pn	01 52 56.3	+1.5
PBDV				*e*Sn	Sn		Sn	01 53 21.8	+1.1
PBDV				A	A		A	01 53 34.5	
	59nm,0.3s								
PBDV	Barranco-do-Ve	2.17	279	Pn	Pn		Pn	01 52 56.3	+1.5
PBDV				Sn	Sn		Sn	01 53 20.3	-0.4
EBAD	Badajoz	2.30	323	Pn	Pn		Pn	01 52 57.5	+0.9
EBAD	Badajoz	2.30	323	Pn	Pn		Pn	01 52 57.6	+0.9
EBAD				Sn	Sn		Sn	01 53 24.5	+0.5
EBAD				Sg	Sb		Sb	01 53 32.0	+2.5
EBAD				*i* Vmb_Lg				01 53 35.9	
PCVE	Castro Verde	2.33	289	*e*Pn	Pn		Pn	01 52 58.4	+1.3
PCVE				*e*Sg	Sb		Sb	01 53 33.6	+3.2
PCVE				A	A		A	01 53 47.0	
	42nm,0.5s								
PCVE	Castro Verde	2.33	289	Pn	Pn		Pn	01 52 58.3	+1.3
PBEJ	Beja	2.35	299	*e*Pn	Pn		Pn	01 52 58.5	+1.1
PBEJ	Beja	2.35	299	*e*Pg	Pb		Pb	01 53 04.0	+1.6
PBEJ				*e*Sg	Sb		Sb	01 53 35.4	+4.4
PBEJ				A	A		A	01 53 48.8	
	39nm,0.6s								
ENIJ	Nijar	2.44	88	Pn	Pn		Pn	01 53 00.0	+1.4
ENIJ	Nijar	2.44	88	Pn	Pn		Pn	01 53 00.4	+1.8
ENIJ				Sn	Sn		Sn	01 53 28.4	+0.9
ENIJ				*i* Vmb_Lg				01 53 44.3	
GOG	Mont Gurugu	2.49	132	P	Pn		Pn	01 53 01.9	+2.5
MESJ	Messejana	2.53	292	*e*Pn	Pn		Pn	01 53 01.2	+1.3
MESJ				A	A		A	01 53 52.3	
	54nm,0.3s								
MESJ	Messejana	2.53	292	*e*P	Pn		Pn	01 53 01.2	+1.3
AKLM	AKL	2.66	154	P	Pn		Pn	01 53 02.9	+1.2
PESTR	Estremoz	2.68	317	*e*Pn	Pn		Pn	01 53 03.1	+1.2
PESTR				*e*Sn	Sn		Sn	01 53 34.2	+0.8
PESTR				*e*Sg	Sb		Sb	01 53 44.3	+3.9
PESTR				A	A		A	01 53 46.4	
	54nm,0.4s								
PESTR	Estremoz	2.68	317	Pn	Pn		Pn	01 53 03.1	+1.2
PESTR				Sn	Sn		Sn	01 53 34.3	+0.8
PESTR	Estremoz	2.68	317	P	Pn		Pn	01 53 03.6	+1.7
EVO	Evora	2.71	307	*e*Pn	Pn		Pn	01 53 03.6	+1.3
EVO				*e*Sn	Sn		Sn	01 53 36.2	+2.0
EVO				A	A		A	01 53 52.9	
	70nm,0.5s								
EVO	Evora	2.71	307	Sn	Sn		Sn	01 53 34.0	-0.2
EVO				Pn	Pn		Pn	01 53 03.6	+1.3
PAB	San Pablo	2.72	15	Pn	Pb		Pb	01 53 04.5	-4.1
PAB				Sn	Sn		Sn	01 53 35.1	+0.7
PAB				Sg	Sb		Sb	01 53 46.1	+4.6
PAB				*i* Vmb_Lg				01 53 49.1	
MORF	Marmelete	2.74	279	*e*Pn	Pn		Pn	01 53 04.4	+1.6
MORF				*e*Sn	Sn		Sn	01 53 37.5	+2.5
MORF				A	A		A	01 53 52.7	
	45nm,0.2s								
MORF	Marmelete	2.74	279	*e*P	Pn		Pn	01 53 04.2	+1.4
PTEO	Sao Teotonio	2.84	284	*e*Pn	Pn		Pn	01 53 05.5	+1.5
PTEO				*e*Sn	Sn		Sn	01 53 38.4	+1.1
PTEO				A	A		A	01 54 08.5	
	44nm,0.6s								
PNCL	Nicolau / Gran	2.86	296	*e*Pn	Pn		Pn	01 53 05.7	+1.4
PNCL				*e*Sn	Sn		Sn	01 53 39.1	+1.3
PNCL				A	A		A	01 53 58.6	
	28nm,0.5s								
PNCL	Nicolau / Gran	2.86	296	Pn	Pn		Pn	01 53 05.7	+1.4
PFVI	Vila Bisbo	2.87	275	*e*Pn	Pn		Pn	01 53 05.6	+1.2
PFVI				*e*Sn	Sn		Sn	01 53 39.3	+1.3
PFVI				A	A		A	01 54 01.9	
	43nm,0.7s								
PFVI	Vila Bisbo	2.87	275	Pn	Pn		Pn	01 53 05.6	+1.2
PFVI	Vila Bisbo	2.87	275	P	Pn		Pn	01 53 05.3	+0.9
ESDC	Sonseca Array	2.93	20	Pn	Pn		Pn	01 53 07.2	+1.8
ESDC				Sn	Sn		Sn	01 53 40.1	+0.4
TLOR	Lorca, Murcia	2.94	74	Pn	Pn		Pn	01 53 07.2	+1.8
TLOR				Sn	Sn		Sn	01 53 39.3	-0.4
TLOR				Sg	Sb		Sb	01 53 54.7	+7.0
EZAR	Zarzadilla de	2.99	70	Pn	Pn		Pn	01 53 08.3	+2.1
EZAR				Sn	Sn		Sn	01 53 41.7	+0.5
EZAR				Sg	Sb		Sb	01 53 56.2	+6.8
EZAR				*i* Vmb_Lg				01 53 57.9	
PMRV	Marv??o	3.02	327	*e*Pn	Pn		Pn	01 53 07.4	+0.9
PMRV				*e*Sn	Sn		Sn	01 53 42.1	+0.4
PMRV				*e*Sg	Sb		Sb	01 53 53.6	+3.5
PMRV				A	A		A	01 53 59.1	
	57nm,0.6s								
TAF	Taforalt	3.12	132	P	Pn		Pn	01 53 11.1	+3.2
PMTG	Montargil	3.18	313	*e*Pn	Pn		Pn	01 53 09.7	+1.0
PMTG				*e*Sn	Sn		Sn	01 53 47.2	+1.5
PMTG				A	A		A	01 54 09.5	
	37nm,0.5s								
EPLA	Plasencia	3.21	349	Pn	Pn		Pn	01 53 09.9	+0.8
EPLA				Sn	Sn		Sn	01 53 46.2	-0.1
EPLA				Sg	Sb		Sb	01 54 00.2	+4.7
EPLA				*i* Vmb_Lg				01 54 02.5	
E1002	Yechar (Murcia	3.24	68	Pn	Pn		Pn	01 53 10.8	+1.2
E1002				Sn	Sn		Sn	01 53 48.1	+0.8
E1002				Sg	Sb		Sb	01 54 03.6	+7.1
LCRM	LCR	3.24	174	P	Pn		Pn	01 53 11.6	+1.9
EMUR	La Murta	3.33	73	Pn	Pn		Pn	01 53 12.1	+1.3
EMUR	La Murta	3.33	73	Pn	Pn		Pn	01 53 13.0	+2.2
EMUR				Sn	Sn		Sn	01 53 51.2	+1.9
EMUR				*i* Vmb_Lg				01 54 15.8	
IFR	Ifrane	3.40	178	Pn	Pn		Pn	01 53 14.1	+2.1
IFR				Sn	Sn		Sn	01 53 53.1	+1.7
PCBR	Castelo Branco	3.40	330	*e*Pn	Pn		Pn	01 53 12.8	+1.1
PCBR				*e*Sn	Sn		Sn	01 53 50.0	-1.1
PCBR				A	A		A	01 54 16.9	
	46nm,0.6s								
ETOB	Tobarra	3.40	59	Pn	Pn		Pn	01 53 13.0	+1.2
ETOB	Tobarra	3.40	59	Pn	Pn		Pn	01 53 13.1	+1.2
ETOB				Sn	Sn		Sn	01 53 51.4	+0.1
ETOB				Sg	Sb		Sb	01 54 09.1	+7.8
ETOB				*i* Vmb_Lg				01 54 14.1	
CART	Cartagena	3.46	78	Pn	Pn		Pn	01 53 13.4	+0.9
CART				Sn	Sn		Sn	01 53 53.6	+1.1
CART	Cartagena	3.46	78	P	Pb		Pb	01 53 17.3	-3.8
ZHG	ZHG	3.65	199	P	Pn		Pn	01 53 16.0	+0.7
ZHG	ZHG	3.65	199	S	Sn		Sn	01 53 58.6	+1.3
UCM	Universidad Co	3.73	24	Pn	Pn		Pn	01 53 18.5	+2.2
UCM				Sn	Sn		Sn	01 54 00.8	+1.5
PMAFR	Mafra	3.78	304	*e*Pn	Pn		Pn	01 53 18.4	+1.5
PMAFR				*e*Sn	Sn		Sn	01 54 00.7	+0.3
PMAFR				A	A		A	01 54 40.2	
	43nm,0.7s								
PMAFR	Mafra	3.78	304	Pn	Pn		Pn	01 53 18.2	+1.3
PMAFR				Sn	Sn		Sn	01 54 00.7	+0.3
PSBE	So Bento	3.81	314	*e*Pn	Pn		Pn	01 53 18.1	+1.7
PSBE				*e*Sn	Sn		Sn	01 54 02.1	+0.9
PSBE				*e*Sg	Sb		Sb	01 54 20.2	+7.5
PSBE				A	A		A	01 54 28.7	
	36nm,0.5s								
GUD	Guadarrama	3.81	13	Pn	Pn		Pn	01 53 19.4	+1.8
GUD				Sn	Sn		Sn	01 54 01.3	-0.2
GUD				Sg	Sb		Sb	01 54 19.2	+6.0
GUD				*i* Vmb_Lg				01 54 24.7	
MTE	Manteigas	3.91	333	*e*Pn	Pn		Pn	01 53 20.5	+1.7
MTE				*e*Sn	Sn		Sn	01 54 04.4	+0.6
MTE				*e*Sg	Sb		Sb	01 54 23.4	+7.6
MTE				A	A		A	01 54 24.2	
	49nm,0.5s								
EVIV	Cofrentes, Val	4.02	53	Pn	Pn		Pn	01 53 20.7	+0.4
EVIV				Sn	Sn		Sn	01 54 07.7	+1.3
EVIV				Sg	Sb		Sb	01 54 27.8	+9.0
EVIV				*i* Vmb_Lg				01 54 34.5	
AVE	Averroes	4.03	207	Pn	Pn		Pn	01 53 22.1	+1.8
AVE				Sn	Sn		Sn	01 54 08.0	+1.4
AVE	Averroes	4.03	207	P	Pn		Pn	01 53 20.3	0.0
AVE	Averroes	4.03	207	S	Sn		Sn	01 54 04.0	-2.5
PCAS	Casmilo, Conde	4.03	322	*e*Pn	Pn		Pn	01 53 22.5	+2.1
PCAS				*e*Sn	Sn		Sn	01 54 06.2	-0.5
PCAS				*e*Sg	Sb		Sb	01 54 27.1	+7.9
PCAS				A	A		A	01 54 33.5	
	51nm,0.6s								
MD31	MD31	4.07	174	P	Pn		Pn	01 53 22.6	+1.6
COI	Coimbra	4.11	324	*e*Sn	Sn		Sn	01 54 08.6	0.0
AFON	Font Roja	4.12	64	Pn	Pn		Pn	01 53 22.6	+0.9
AFON				Sn	Sn		Sn	01 54 08.8	-0.2
AFON				Sg	Sb		Sb	01 54 31.9	+10
AFON				*i* Vmb_Lg				01 54 41.4	
MDT	Midelt	4.13	172	P	Pn		Pn	01 53 23.8	+1.9
MDT	Midelt	4.13	172	S	Sn		Sn	01 54 09.1	-0.2
EJUZ	Juzbado, Salam	4.19	353	Pn	Pn		Pn	01 53 24.0	+1.3
EJUZ				Sn	Sn		Sn	01 54 08.7	-2.0
EJUZ				Sg	Sb		Sb	01 54 31.2	+7.4
ECHE	Chera	4.30	50	Pn	Pn		Pn	01 53 25.0	+0.8
ECHE	Chera	4.30	50	Pn	Pn		Pn	01 53 25.3	+1.1
ECHE				Sn	Sn		Sn	01 54 12.9	-0.5
ECHE				Sg	Sb		Sb	01 54 36.9	+10
ECHE				*i* Vmb_Lg				01 54 49.4	
PVIS	Viseu	4.31	332	*e*Pn	Pn		Pn	01 53 25.9	+1.5
PVIS				*e*Sn	Sn		Sn	01 54 12.3	-1.4
PVIS				A	A		A	01 54 39.2	
	20nm,0.5s								
EBEN2	Beniarda presa	4.38	65	Pn	Pn		Pn	01 53 26.2	+1.0
EBEN2				Sn	Sn		Sn	01 54 15.8	+0.6
EBEN2				Sg	Sb		Sb	01 54 39.2	+10
EBEN2				*i* Vmb_Lg				01 54 52.3	
MVO	Moncorvo	4.46	342	*e*Pn	Pn		Pn	01 53 27.4	+1.1
MVO				*e*Sn	Sn		Sn	01 54 15.9	-1.4
MVO				*e*Sg	Sb		Sb	01 54 38.2	+6.7
MVO				A	A		A	01 54 45.1	
	39nm,0.6s								
ETOR	Torete	4.62	32	Pn	Pn		Pn	01 53 30.1	+1.5
ETOR				Sn	Sn		Sn	01 54 19.1	-2.4
ETOR				Sg	Sb		Sb	01 54 45.6	+9.3
PVRL	Vila Real	4.75	337	*e*Pn	Pn		Pn	01 53 31.3	+0.9
PVRL				*e*Sn	Sn		Sn	01 54 23.1	-1.4
E0901	Celadas (Terue	4.80	41	Pn	Pn		Pn	01 53 33.1	+2.0
E0901				Sn	Sn		Sn	01 54 24.9	-1.0
E0901				Sg	Sb		Sb	01 54 52.7	+11
E0901				*i* Vmb_Lg				01 55 10.3	
POLO	Lamas de Olo	4.87	337	*e*Pn	Pn		Pn	01 53 33.0	+1.0
POLO				*e*Sn	Sn		Sn	01 54 25.4	-2.0
POLO				*e*Sg	Sb		Sb	01 54 53.1	+10
POLO				A	A		A	01 55 04.0	
	12nm,0.5s								
SRHM	Skhour des Reh	4.95	207	P	Pn		Pn	01 53 35.9	+2.8
SRHM	Skhour des Reh	4.95	207	S	Sn		Sn	01 54 26.8	-2.5
PTO	Porto	4.95	329	*e*Pn	Pn		Pn	01 53 34.9	+1.8
PTO				*e*Sn	Sn		Sn	01 54 28.9	-0.5
PTO				A	A		A	01 54 58.7	
	24nm,0.5s								
PBRG	Braganca	5.01	347	*e*Pn	Pn		Pn	01 53 34.9	+1.0
PBRG				*e*Sn	Sn		Sn	01 54 28.7	-2.2
PBRG				*e*Sg	Sb		Sb	01 54 56.8	+9.4
PBRG				A	A		A	01 55 09.4	
	18nm,0.5s								
EMOS	Mosqueruela	5.08	46	Pn	Pn		Pn	01 53 36.3	+1.2
EMOS				Sn	Sn		Sn	01 54 32.2	-0.6
EMOS				Sg	Sb		Sb	01 54 59.8	+10
EMOS				*i* Vmb_Lg				01 55 03.9	
ECAL	Calabor	5.14	348	Pn	Pn		Pn	01 53 37.3	+1.5
ECAL				Sn	Sn		Sn	01 54 31.9	-2.3
ECAL	Calabor	5.14	348	Pn	Pn		Pn	01 53 37.1	+1.3
ECAL				Sn	Sn		Sn	01 54 33.7	-0.6
ECAL				Sg	Sb		Sb	01 54 59.6	+8.3
ECAL				*i* Vmb_Lg				01 55 07.8	
PCAB	Cabril	5.24	337	*e*Pn	Pn		Pn	01 53 38.3	+1.2
PCAB				*e*Sg	Sb		Sb	01 55 05.3	+11
PCAB				A	A		A	01 55 11.7	
	23nm,0.4s								
ELOB	Lobios	5.40	337	Pn	Pn		Pn	01 53 39.9	+0.6
ELOB				Sn	Sn		Sn	01 54 38.5	-2.0
ELOB				Sg	Sb		Sb	01 55 10.1	+12
ELOB				*i* Vmb_Lg				01 55 16.8	
ECOL	Islas Columbre	5.53	56	Pn	Pn		Pn	01 53 42.1	+1.1
PGAV	Gavieira, Arco	5.55	336	*e*Pn	Pn		Pn	01 53 42.5	+1.1
PGAV				*e*Sn	Sn		Sn	01 54 43.0	-1.3
PGAV				*e*Sg	Sb		Sb	01 55 13.8	+11
PGAV				A	A		A	01 55 26.3	
	18nm,0.6s								
EIBI	Ibiza	5.62	66	Pn	Pn		Pn	01 53 42.6	+0.4
EIBI				Sn	Sn		Sn	01 54 44.9	-1.0
EIBI	Ibiza	5.62	66	Pn	Pn		Pn	01 53 42.3	0.0
EIBI				Sn	Sn		Sn	01 54 45.6	-0.3
EIBI				*i* Vmb_Lg				01 55 27.8	
ERTA	Horta de San J	5.93	46	Pn	Pn		Pn	01 53 47.1	+0.5
ERTA				Sn	Sn		Sn	01 54 51.4	-2.2
ERTA				Sg	Sb		Sb	01 55 25.8	+12
ERTA				*i* Vmb_Lg				01 55 33.9	
ESAC	San Caprasio	6.06	36	Pn	Pn		Pn	01 53 48.7	+0.3
ESAC				Sn	Sn		Sn	01 54 56.3	-0.5
ESAC				*i* Vmb_Lg				01 55 45.8	
OUZM	OUZ	6.13	192	P	Pn		Pn	01 53 50.6	+1.2
TIO	Tiouine	6.21	196	Pn	Pn		Pn	01 53 52.4	+1.9
TIO				Sn	Sn		Sn	01 54 59.4	-1.1
EAGO	Agolada(Pontev	6.27	341	Pn	Pn		Pn	01 53 52.3	+1.2
EAGO				Sn	Sn		Sn	01 54 59.2	-2.6
EAGO				Sg	Sb		Sb	01 55 36.1	+13
EAGO				*i* Vmb_Lg				01 55 49.4	
EARI	Arriondas	6.37	0	Pn	Pn		Pn	01 53 54.6	+2.0
EARI				Sn	Sn		Sn	01 55 00.7	-3.8
EARI				Sg	Sb		Sb	01 55 38.4	+12
EARI				*i* Vmb_Lg				01 55 58.7	
ELAN	Lanestosa	6.46	12	Pn	Pn		Pn	01 53 55.2	+1.5
ELAN				Sn	Sn		Sn	01 55 03.1	-3.4

	1.6nm,0.6s							
RES	**Resolute Bay**	**99.32**	**14**	LR	LR	02 50 49.4		
	comp=Z,12nm,19.6s,baz=28,slow=34							
TORD	**Torodi Ar. Bea**	**150.43**	**290**	PKPbc	PKPbc	02 13 55.9	-1.8	
	0.4nm,0.9s,baz=48,slow=3.7,SNR=2.5							

IDC 30 01:56:21.4±4.2, 17°.19S×172°.82W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=274.9km s-min=34.0km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.01**	**258**	P	P	02 05 17.3	-0.7
	0.4nm,0.6s,baz=94,slow=6.3,SNR=11						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**50.11**	**253**	P	P	02 05 18.9	+0.1
	0.6nm,0.4s,baz=91,slow=7.8,SNR=12						
	0.6nm,0.4s						
PDAR	**Pinedale Array**	**83.22**	**41**	P	P	02 08 49.8	-0.3
	0.4nm,0.8s,baz=197,slow=2.8,SNR=3.5						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**147.89**	**320**	PKPbc	PKPbc	02 16 09.1	+0.1
	0.8nm,0.8s,baz=20,slow=4.6,SNR=4.1						

*VIE **30** 02:27:51.3±0.4, 50°.07N×19°.19E, h0km, mb2.5/10, ml2.6/10, ms3.5/1, Error ellipse: s-maj=7.2km s-min=2.8km az=156.0 22 km SSE of Sosnowice Suspected Mining induced.*
*IPEC **30** 02:27:51.4±0.1, 50°.18N×19°.12E, h1km, ML3.1/4, Error ellipse: s-maj=2.3km s-min=0.7km az=167.0*
*PRU **30** 02:27:51.9, 50°.20N×19°.11E, h0km*
*IDC **30** 02:27:51.4±0.8, 49°.99N×19°.20E, h0km, mb3.2/1, mbtmp3.2/7, ML2.9/6, Error ellipse: s-maj=19.9km s-min=6.8km az=154.0*

ISC 30 02:27:49.9±0.6, 50°.18N±0°.03×19°.18E±0°.02, h0km, n57, σ1§14/93, 6C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.40**	**85**	*e*Pg	**Pb**	**02 27 59.7**	**-0.1**
OJC				*e*Sg	**Sb**	**02 28 05.9**	**-0.6**
RAC	**Raciborz**	**0.64**	**261**	*e*PG	**Pb**	**02 28 04.4**	**+0.4**
RAC				*e*SG	**Sb**	**02 28 13.6**	**+0.1**
OKC	**Ostrava-Krasne**	**0.75**	**243**	*e*PG	**Pb**	**02 28 05.6**	**-0.2**
OKC				*e*SG	**Sb**	**02 28 15.9**	**-0.7**
	comp=Z,74nm,0.5s						
LANS	**Liptovska Anna**	**1.05**	**170**	*e*PG	**Pb**	**02 28 10.9**	**-0.1**
LANS				*e*SG	**Sb**	**02 28 24.7**	**-0.6**
LANS				*e*LG	Lg	02 28 25.2	
NIE	**Niedzica**	**1.06**	**136**	*e*Pg	**Pb**	**02 28 11.3**	**+0.2**
NIE				*e*Sg	**Sb**	**02 28 25.4**	**-0.1**
MORC	**Moravsky Berou**	**1.13**	**250**	⇑P	**Pb**	**02 28 12.5**	**+0.1**
MORC				⇑S	**Sn**	**02 28 29.3**	**0.0**
MORC	**Moravsky Berou**	**1.13**	**250**	*e*Pg	**Pb**	**02 28 12.3**	**-0.1**
	baz=68						
MORC				*e*Sg	**Sg**	**02 28 25.7**	**-0.5**
	238nm,0.7s,baz=68						
MAUC	**Maruska**	**1.20**	**227**	*e*PG	**Pb**	**02 28 13.8**	**+0.3**
MAUC				*e*SG	**Sb**	**02 28 29.6**	**0.0**
STHS	**Stebnicka Huta**	**1.54**	**119**	*e*PN	**Pg**	**02 28 20.0**	**+0.6**
STHS				*e*SN	**Sn**	**02 28 43.0**	**+3.6**
STHS				*e*LG	Lg	02 28 52.4	
JAVC	**Velka Javorina**	**1.65**	**217**	*e*Pg	**Pb**	**02 28 21.1**	**-0.1**
	baz=35						
VYHS	**Vyhne**	**1.71**	**188**	*e*PN	**Pn**	**02 28 20.8**	**-0.1**
VYHS				*e*SN	**Sn**	**02 28 42.8**	**-0.6**
DPC	**Dobruska-Polom**	**1.84**	**276**	*e*PG	**Pb**	**02 28 23.9**	**-0.5**
DPC				*e*SG	**Sg**	**02 28 48.9**	**-0.1**
	comp=Z,143nm,0.6s						
VRAC	**Vranov**	**1.89**	**243**	⇓P	**Pb**	**02 28 25.1**	**-0.2**
VRAC				⇓S	**Sb**	**02 28 49.3**	**-0.2**
VRAC	**Vranov**	**1.89**	**243**	*e*Pn	**Pn**	**02 28 23.9**	**+0.4**
	baz=61						
VRAC				*e*Sg	**Sb**	**02 28 49.4**	**-0.1**
	108nm,0.9s,baz=61						
VRAC	**Vranov**	**1.89**	**243**	Pn	**Pn**	**02 28 23.8**	**+0.4**
	11nm,0.3s,baz=59,slow=12,SNR=56						
VRAC				Pg	**Pb**	**02 28 25.5**	**+0.2**
	11nm,0.3s,baz=58,slow=13,SNR=38						
VRAC				Lg	Lg	02 28 49.2	
	12nm,0.3s,baz=157,slow=16,SNR=13						
KECS	**Kecovo**	**1.91**	**153**	*e*PN	**Pn**	**02 28 23.7**	**+0.1**
KECS				*e*SN	**Sn**	**02 28 47.0**	**-1.3**
OSTC	**Ostas**	**1.93**	**282**	*e*SG	**Sg**	**02 28 52.5**	**+0.5**
	comp=Z,80nm,0.9s						
KSP	**Ksiaz**	**1.96**	**291**	*e*Pg	**Pg**	**02 28 28.2**	**+0.9**
KSP				*e*Sg	**Sg**	**02 28 53.5**	**+0.8**
CRVS	**Cervenica-Dubn**	**1.96**	**130**	*e*PG	**Pg**	**02 28 27.7**	**+0.2**
CRVS				*e*LG	Lg	02 28 58.4	
UPC	**Upice**	**2.06**	**280**	*e*PG	**Pg**	**02 28 29.1**	**-0.2**
KRUC	**Moravsky**	**2.13**	**239**	*e*Pn	**Pn**	**02 28 27.7**	**+1.0**
	baz=57						
KRUC				*e*Sg	**Sb**	**02 28 56.9**	**+0.6**
	82nm,0.8s,baz=57						
MODS	**Modra-Piesok**	**2.20**	**215**	*e*PN	**Pn**	**02 28 27.6**	**-0.1**
MODS				*e*SN	**Sn**	**02 28 54.9**	**-0.7**
MODS				*e*LG	Lg	02 29 02.3	
PSZ	**Piszkesteto**	**2.32**	**168**	⇑P	**Pb**	**02 28 32.4**	**-0.2**
KOLS	**Kolonicke sedl**	**2.37**	**121**	*e*PN	**Pn**	**02 28 30.6**	**+0.5**
SRO	**Srobarova**	**2.44**	**194**	*e*SG	**Sg**	**02 29 08.5**	**+0.2**
SRO				*e*LG	Lg	02 29 18.5	
GOPC	**GO Pecny, Ondr**	**2.84**	**266**	*e*PG	**Pb**	**02 28 42.5**	**+1.0**
GOPC				*e*SG	**Sg**	**02 29 20.8**	**-0.4**
	comp=Z,29nm,0.5s						
PRU	**Pruhonice**	**2.99**	**268**	*e*SG	**Sg**	**02 29 24.4**	**-1.6**
	comp=Z,28nm,0.5s						
RONA	**Rosalia, Austr**	**3.13**	**218**	*i* Pn	**Pn**	**02 28 40.7**	**+0.2**
	1.9nm,0.3s						
RONA				*i* Sn	**Sn**	**02 29 18.6**	**+0.1**
	8.5nm,0.4s						
CONA	**Conrad Observa**	**3.14**	**225**	*i* Pn	**Pn**	**02 28 40.6**	**0.0**
	0.4nm,0.2s						
CONA				*i* Sn	**Sn**	**02 29 19.9**	**+1.0**
	4.5nm,0.3s						
ZVC	**Zvikov**	**3.31**	**259**	*e*PN	**Pn**	**02 28 43.3**	**+0.3**
ZVC				*e*PG	**Pb**	**02 28 49.5**	**0.0**
BRG	**Berggiesshubel**	**3.41**	**284**	Pg	**Pg**	**02 28 54.3**	**-0.9**
BRG				Sg	**Sg**	**02 29 36.9**	**-2.6**
BRG				Amp		02 29 45.5	
	comp=Z,23nm,0.6s						
CKRC	**Cesky Krumlov**	**3.46**	**249**	*e*PN	**Pn**	**02 28 46.2**	**+1.2**
CKRC				*e*PG	**Pb**	**02 28 52.7**	**+0.8**
CKRC				*e*SG	**Sg**	**02 29 40.9**	**+0.1**
	comp=Z,26nm,0.5s						
KHC	**Kasperske Hory**	**3.79**	**256**	*e*PN	**Pn**	**02 28 50.3**	**+0.8**
KHC				*e*PG	**Pb**	**02 28 57.1**	**-0.5**
KHC				*e*SG	**Sg**	**02 29 50.2**	**-1.3**
BMR	**Baia Mare**	**3.80**	**130**	⇑P	**Pn**	**02 28 53.0**	**+3.4**
ARSA	**Arzberg**	**3.81**	**221**	*i* Pn	**Pn**	**02 28 50.2**	**+0.4**
	comp=Z,0.9nm,0.3s						
ARSA				*e*Sn	**Sn**	**02 29 36.0**	**+0.8**
	comp=Z,4.5nm,0.7s						
GERES	**GERESS Array B**	**3.81**	**252**	Pn	**Pn**	**02 28 50.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=60,slow=16,SNR=7.2						
GERES				Pg	**Pb**	**02 28 59.6**	**+1.6**
	comp=Z,2.1nm,0.3s,baz=64,slow=18,SNR=15						
GERES				Lg	Lg	02 29 50.2	
	comp=Z,3.5nm,0.3s,baz=68,slow=29,SNR=9.6						
	comp=Z,0.8nm,0.3s						
MORH	**Mrgy, Hungar**	**3.99**	**185**	⇓P	**Pn**	**02 28 52.2**	**0.0**
MOA	**Molln**	**3.99**	**236**	*i* Pn	**Pn**	**02 28 52.3**	**+0.1**
	comp=Z,0.1nm,0.1s						
MOA				*e*Sn	**Sn**	**02 29 39.6**	**-0.1**
	comp=Z,2.8nm,0.3s						
CLL	**Collm**	**4.08**	**288**	*e*Pg	Pg	02 29 14.0	+5.9
CLL				*e*Sg	**Sg**	**02 30 02.0**	**+1.1**
	comp=Z,17nm,0.8s						
DRGR		**4.13**	**144**	⇑P	**Pn**	**02 28 54.5**	**+0.3**
BIOA	**Bad Ischl, Aus**	**4.42**	**238**	*i* Pn	**Pn**	**02 28 59.0**	**+0.8**
	comp=Z,3.2nm,0.3s						
BIOA				*e*Sn	**Sn**	**02 29 53.2**	**+2.8**
	comp=Z,9.8nm,0.5s						
SOKA	**Soboth**	**4.46**	**220**	*e*Pn	**Pn**	**02 28 59.0**	**+0.1**
	comp=Z,0.3nm,0.2s						
SOKA				*e*Sn	**Sn**	**02 29 51.6**	**+0.1**
	comp=Z,0.4nm,0.4s						
BURAR	**Bucovina Array**	**4.74**	**121**	⇓P	**Pn**	**02 29 03.9**	**+1.2**
OBKA	**Obir**	**4.80**	**222**	*e*Pn	**Pn**	**02 29 03.5**	**0.0**
	comp=Z,0.1nm,0.1s						
OBKA				*e*Sn	**Sn**	**02 30 00.1**	**+0.3**
	comp=Z,1.9nm,0.5s						
BZS	**Buzias**	**4.86**	**159**	⇓P	**Pn**	**02 29 03.7**	**-0.4**
KBA	**Koelnbreinsper**	**4.96**	**233**	*i* Pn	**Pn**	**02 29 06.0**	**+0.2**
	comp=Z,0.6nm,0.3s						
KBA				*i* Sn	**Sn**	**02 30 03.6**	**-0.4**
	comp=Z,1.1nm,0.3s						
LESA	**Schwarzleotal**	**5.11**	**240**	*i* Pn	**Pn**	**02 29 07.9**	**+0.2**
	comp=Z,0.3nm,0.2s						
LESA				*e*Sn	**Sn**	**02 30 09.0**	**+1.6**
	comp=Z,1.2nm,0.3s						
MYKA	**Terra Mystica**	**5.12**	**228**	*e*Sn	**Sn**	**02 30 09.3**	**+1.5**
	comp=Z,2.1nm,0.6s						
GZR	**Gura Zlata**	**5.37**	**152**	⇑P	**Pn**	**02 29 12.6**	**+1.3**
WTTA	**Wattenberg**	**5.78**	**243**	*i* Pn	**Pn**	**02 29 17.2**	**+0.1**
	comp=Z,2.3nm,0.5s						
WTTA				*e*Sn	**Sn**	**02 30 27.0**	**+2.8**
	comp=Z,1.6nm,0.3s						
AKASG	**Malin Array Be**	**6.44**	**82**	Pn	**Pn**	**02 29 25.9**	**0.0**
	comp=Z,0.9nm,0.3s,baz=263,slow=13,SNR=2.2						
AKASG				Sn	**Sn**	**02 30 35.0**	**-5.0**
	comp=Z,1.3nm,0.3s,baz=264,slow=16,SNR=4.5						
AKASG				Lg	Lg	02 31 09.0	
	comp=Z,1.9nm,0.3s,baz=262,slow=27,SNR=5.0						
	comp=Z,0.2nm,0.3s						
NACGM	**Naroch**	**6.62**	**42**	*e*P	Pn	02 29 18.9	-9.4
	comp=Z,11nm,1.0s,baz=211						
DAVOX	**Davos/Dischmat**	**7.06**	**245**	Pn	**Pn**	**02 29 36.6**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=67,slow=7.7,SNR=4.1						
	comp=Z,1.2nm,0.3s						
NOA	**NORSAR Array B**	**11.76**	**341**	Pn	**Pn**	**02 30 37.0**	**-1.8**
	baz=152,slow=12,SNR=1.4						
	comp=Z,0.8nm,0.9s						
FINES	**FINESS Array B**	**11.92**	**16**	Pn	**Pn**	**02 30 39.2**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=190,slow=12,SNR=12						
FINES				Sn	Sn	02 32 43.7	-11
	comp=Z,0.2nm,0.3s,baz=205,slow=22,SNR=1.7						
	comp=Z,0.8nm,0.3s						
ARCES	**ARCESS Array B**	**19.65**	**7**	Pn	**P**	**02 32 19.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=186,slow=14,SNR=6.3						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**40.86**	**70**	P	**P**	**02 35 35.0**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=310,slow=5.1,SNR=3.7						
	comp=Z,0.3nm,0.7s						

*NOU **30** 02:29:00.7, 32°.48S×151°.22E, h0km, MLv3.4/6, Near SE Coast of Australia*

AUST 30 02:28:59.9±2.2, 32°.40S×151°.01E, h0km, Error ellipse: s-maj=56.0km s-min=13.3km az=95.0, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGCD	**Mangrove Creek**	**0.81**	**174**	P	Pg	02 29 14.9	-0.6
	baz=0.8,SNR=112						
MGCD				S	Sb	02 29 27.5	-0.9
	baz=0.8,SNR=7.0						
MGCD	**Mangrove Creek**	**0.81**	**174**	P	Pg	02 29 14.9	-0.6
SYDH	**Sydney Hard Ro**	**1.38**	**189**	P	Pg	02 29 25.0	-1.3
RIV	**Riverview**	**1.43**	**175**	P	Pn	02 29 26.0	-1.1
	baz=1.4,SNR=18						
RIV				S	Sn	02 29 47.8	+1.2
	baz=1.4,SNR=5.7						
RIV	**Riverview**	**1.43**	**175**	P	Pn	02 29 26.1	-1.0
ARMA	**Armidale**	**2.04**	**15**	P	Pn	02 29 36.5	+0.8
	baz=2.0,SNR=125						
ARMA	**Armidale**	**2.04**	**15**	P	Pn	02 29 36.7	+1.0
CNB	**Canberra Magne**	**3.21**	**205**	P	Pn	02 29 52.1	+0.4
	baz=3.3,SNR=7.0						
CNB				S	Sb	02 30 35.1	-2.6
	baz=3.3						
CAN	**Canberra**	**3.36**	**209**	P	Pn	02 29 53.8	+0.1
CMSA	**Cobar Meteorol**	**4.60**	**279**	P	Pn	02 30 14.4	+3.7

*UPA **30** 02:35:01.2±1.0, 9°.80N×78°.59W, h40km±5km, MW3.2*
*CATAC **30** 02:35:05.3±0.8, 10°.01N×79°.05W, h10km, mb4.0, ML3.9*

ISC 30 02:35:00.8±1.6, 9°.84N±0°.05×78°.65W±0°.05, h29km±13km, n32, σ1§60/41, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	**Canitas, Panam**	**0.66**	**201**	*i* P	**Pb**	**02 35 13.6**	**-0.2**
CHPO	**Chepo, Panama**	**0.81**	**215**	*e*P	**Pb**	**02 35 16.0**	**-0.3**
CHPO				*e*S	**Sb**	**02 35 26.8**	**-0.2**
TOTI	**Torti**	**0.96**	**160**	*i* P	Pn	02 35 17.2	-1.2
TOTI				*e*S	**Sn**	**02 35 30.0**	**-1.0**
UPA	**Univ. de Panam**	**1.22**	**226**	*e*P	**Pn**	**02 35 21.9**	**0.0**
UPA				*e*S	**Sn**	**02 35 37.7**	**+0.2**
UPA	**Univ. de Panam**	**1.22**	**226**	*e*P	**Pn**	**02 35 21.9**	**0.0**
UPA				*e*S	**Sn**	**02 35 37.1**	**-0.4**
UPA				*i*		02 35 38.2	
	comp=Z,5μm,0.3s						
FRIJ	**El Hiral**	**1.23**	**240**	*e*P	**Pn**	**02 35 22.0**	**0.0**
FRIJ				*e*S	**Sn**	**02 35 37.4**	**-0.3**
FLAM	**Flamenco Islan**	**1.27**	**224**	*e*P	**Pn**	**02 35 22.9**	**+0.3**
FLAM				*e*S	**Sn**	**02 35 38.4**	**-0.3**
ARRA3	**Arraijan, Pana**	**1.32**	**229**	*e*P	**Pn**	**02 35 24.3**	**+1.0**
ARRA3				*e*S	**Sn**	**02 35 41.2**	**+1.3**
BCIP	**Isla Barro Col**	**1.35**	**241**	*e*P	**Pn**	**02 35 23.9**	**+0.2**
BCIP				*e*S	**Sn**	**02 35 40.8**	**+0.1**
BCIP	**Isla Barro Col**	**1.35**	**241**	*e*P	**Pn**	**02 35 23.8**	**+0.2**
BCIP				*e*S	**Sn**	**02 35 40.5**	**-0.2**
BCIP				*i*		02 35 42.6	
	comp=Z,180nm,0.3s						
BCIP	**Isla Barro Col**	**1.35**	**241**	*i* P	**Pn**	**02 35 23.8**	**+0.1**
BCIP				*i* S	**Sn**	**02 35 40.5**	**-0.2**
BCIP				IAML		02 35 42.7	
	comp=Z,390nm,1.0s						
UPD2	**Meteti**	**1.42**	**154**	*e*P	Pn	02 35 23.4	-1.3
UPD2				*e*S	**Sn**	**02 35 40.9**	**-1.6**
UPD2				*i*		02 35 44.9	
	comp=Z,416nm,0.3s						
ZANG	**Zanguenga, Cho**	**1.49**	**234**	*e*P	**Pn**	**02 35 27.0**	**+1.4**
ZANG				*e*S	**Sb**	**02 35 45.9**	**-0.5**
CAPC	**Capurgana**	**1.75**	**133**	*e*P	Pn	02 35 27.7	-1.5
CAPC				*e*S	Sn	02 35 47.2	-3.2
CAPC				*i*		02 35 50.6	
	comp=Z,118nm,0.2s						
APAC	**Apartado, Choc**	**2.80**	**133**	*e*P	Pn	02 35 43.2	-0.6
APAC				*e*S	**Sn**	**02 36 17.1**	**+0.5**
APAC				*i*		02 36 21.1	
	comp=Z,40nm,0.5s						
GMAL	**Guarumal, Vera**	**3.28**	**231**	*e*P	**Pn**	**02 35 49.8**	**-0.5**
CACAO	**El Cacao, Vera**	**3.31**	**222**	*e*P	**Pn**	**02 35 50.3**	**-0.3**
DBBC	**Dabeiba**	**3.69**	**139**	*e*P	Pn	02 35 55.0	-1.1
UREC	**San Jos de Ur**	**3.71**	**124**	*e*P	Pn	02 35 54.8	-1.3
UREC				*e*S	Sn	02 36 35.2	-3.8
UREC	**San Jos de Ur**	**3.71**	**124**	*e*P	Pn	02 35 53.6	-2.6
UREC				*e*S	Sn	02 36 33.8	-5.2
UREC				*i*		02 36 37.3	
	comp=Z,26nm,0.2s						
BRU2	**Volcan**	**4.12**	**256**	*i* S	**Sn**	**02 36 48.0**	**-1.4**
PRVC	**Isla de Provid**	**4.41**	**323**	*i* P	**Pn**	**02 36 09.3**	**+3.4**
PRVC				IAML		02 36 39.5	
	comp=Z,54nm,1.0s						
PRVC				*i* S	**Sn**	**02 36 51.1**	**-5.2**
CBOC	**Ciudad Bolivar**	**4.73**	**146**	*e*P	Pn	02 36 10.3	-0.1
PEZE	**Perez Zeledon,**	**4.98**	**265**	*i* P	**Pn**	**02 36 15.9**	**+2.1**
PEZE				*i* S	**Sn**	**02 37 08.7**	**-1.8**
PEZE				IAML		02 37 46.1	
	comp=Z,86nm,1.0s						
OCHAL	**Ojochal**	**4.99**	**262**	*i* P	**Pn**	**02 36 16.5**	**+2.7**
OCHAL				*i* S	**Sn**	**02 37 12.0**	**+1.5**
OCHAL				IAML		02 38 33.0	
	comp=Z,3.6nm,1.0s						
CDM	**Cerro de Muert**	**5.05**	**267**	*i* P	**Pn**	**02 36 16.4**	**+1.3**
CDM				*i* S	**Sn**	**02 37 11.4**	**-1.4**
CDM				IAML		02 37 14.6	
	comp=Z,100nm,1.0s						
LCR2	**La Lucha 2**	**5.28**	**269**	*i* P	**Pn**	**02 36 21.4**	**+3.4**
LCR2				*i* S	**Sn**	**02 37 17.2**	**-0.9**
LCR2				IAML		02 37 22.4	
	comp=Z,32nm,1.0s						
LL6C	**La Loma 6 Bece**	**5.30**	**91**	*e*P	Pn	02 36 16.0	-2.1
BLUN	**Bluefields**	**5.48**	**294**	*i* P	**Pn**	**02 36 20.8**	**+0.3**
BLUN				IAmb	IAmb	02 36 25.6	
	comp=Z,27nm,1.4s						
BLUN				*i* S	**Sn**	**02 37 20.0**	**-2.6**
BLUN				IAML		02 37 20.6	
	comp=Z,130nm,1.0s						
ESPN	**Las Esperanzas**	**6.03**	**293**	*i* S	**Sn**	**02 37 34.9**	**-1.2**
BOAB	**BOACO BROADBAN**	**6.36**	**291**	*i* P	**Pn**	**02 36 48.1**	**+1.7**
BOAB				IAmb	IAmb	02 37 05.4	
	comp=Z,18nm,1.6s						
BOAB				IAML		02 38 35.8	
	comp=Z,33nm,1.0s						
MTDJ	**Mount Denham**	**8.41**	**7**	*e*P	Pn	02 36 56.5	-4.3

*IDC **30** 02:42:22.7±5.2, 5°.96S×154°.75E, h201km±50km, mb3.8/13, mbtmp4.3/15, MS3.8/1, Error ellipse: s-maj=21.5km s-min=16.8km az=0.0*
*NEIC **30** 02:42:22.0±0.9, 6°.05S±0°.1×154°.7E±0°.1, h189km±9km, mb4.3/34, Error ellipse: s-maj=20.8km s-min=17.0km az=51.0*

ISC 30 02:42:22.6±0.6, 5°.97S±0°.08×154°.7E±0°.1, h200km, n57, σ0§67/57, mb4.2/30, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.07**	**305**	Pn	**Pn**	**02 43 12.2**	**-1.0**
COEN	**Coen**	**13.83**	**234**	P	**P**	**02 45 33.9**	**+1.2**
CTA	**Charters Tower**	**16.25**	**210**	P	**Pn**	**02 46 00.9**	**+0.9**
	7.8nm,0.8s,baz=36,slow=11,SNR=12						
CTAO	**Charters Tower**	**16.25**	**210**	P	**P**	**02 45 59.1**	**-0.3**
CTAO				IAmb	IAmb	02 46 02.9	
	comp=Z,14nm,1.0s						
DZM	**Mont Dzumac**	**19.63**	**146**	P	**P**	**02 46 35.5**	**-0.7**
DZM	**Mont Dzumac**	**19.63**	**146**	P	**P**	**02 46 35.7**	**-0.6**
	comp=Z,11nm,0.5s,baz=254,slow=9.2,SNR=18						
WR0	**Warramunga Arr**	**24.01**	**233**	P	**P**	**02 47 20.0**	**+0.6**
WB0	**Warramunga Arr**	**24.03**	**233**	P	**P**	**02 47 20.1**	**+0.6**
WRAB	**Tennant Creek**	**24.15**	**233**	P	**P**	**02 47 19.6**	**-1.0**
WRAB				IAmb	IAmb	02 47 59.5	
	comp=Z,13nm,1.0s						
WB2	**Warramunga Arr**	**24.15**	**233**	P	**P**	**02 47 21.4**	**+0.7**
WB2				IAmb	IAmb	02 47 30.8	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**24.16**	**233**	P	**P**	**02 47 20.6**	**-0.1**
WRA	**Warramunga Arr**	**24.16**	**233**	P	**P**	**02 47 21.5**	**+0.8**
	comp=Z,3.8nm,0.4s,baz=57,slow=10,SNR=70						
	comp=Z,3.8nm,0.4s						
AS31	**Alice Springs**	**26.63**	**227**	P	**P**	**02 47 42.8**	**-0.2**
ASAR	**Alice Springs**	**26.63**	**227**	P	**P**	**02 47 42.9**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=56,slow=9.4,SNR=23						
ASAR				PcP	**PcP**	**02 51 02.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=62,slow=2.4,SNR=8.3						
	comp=Z,1.1nm,0.3s						
STKA	**Stephens Creek**	**28.53**	**204**	PcP	**PcP**	**02 51 06.6**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=333,slow=4.5,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.80**	**244**	P	**P**	**02 48 19.1**	**-0.7**
FITZ				IAmb	IAmb	02 48 19.2	
	comp=Z,7.3nm,1.3s						
BBOO	**Buckleboo**	**31.84**	**211**	P	**P**	**02 48 28.6**	**-0.3**
QRZ	**Quartz Range**	**38.20**	**158**	P	**P**	**02 49 22.4**	**-0.7**
RTZ	**Ruatahuna**	**38.26**	**151**	P	**P**	**02 49 23.4**	**-0.2**
MRNZ	**Matariki Terra**	**38.79**	**158**	P	**P**	**02 49 28.2**	**+0.4**
TGY	**Tagaytay City**	**38.98**	**301**	LR	LR	03 05 17.4	
	comp=Z,150nm,21.2s,baz=132,slow=35						
THZ	**Tophouse**	**39.16**	**158**	P	**P**	**02 49 30.7**	**-0.3**
THZ				IAmb	IAmb	02 49 31.2	
	comp=Z,13nm,0.8s						
LTZ	**Lake Taylor**	**39.82**	**160**	P	**P**	**02 49 36.6**	**+0.1**
LTZ				IAmb	IAmb	02 49 37.8	
	comp=Z,12nm,0.8s						
MORW	**Morawa**	**43.11**	**233**	P	**P**	**02 50 03.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**60.07**	**295**	P	**P**	**02 52 09.4**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=123,slow=6.6,SNR=5.7						
	comp=Z,1.5nm,0.3s						
SONM	**Songino Array**	**68.32**	**327**	P	**P**	**02 53 02.9**	**+0.5**
SONM	**Songino Array**	**68.32**	**327**	P	**P**	**02 53 03.3**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=141,slow=5.2,SNR=6.7						
	comp=Z,1.3nm,0.5s						
K15K	**Wolf Creek Mou**	**75.86**	**19**	P	**P**	**02 53 47.5**	**+0.9**
K15K				IAmb	IAmb	02 54 16.0	
	comp=Z,14nm,1.4s						
ANM	**Nome**	**76.34**	**17**	P	**P**	**02 53 49.6**	**+0.4**
ANM				IAmb	IAmb	02 54 10.9	
	comp=Z,7.7nm,1.5s						
J16K	**Anvik River**	**76.86**	**19**	P	**P**	**02 53 53.2**	**+1.0**
J16K				IAmb	IAmb	02 54 08.2	
	comp=Z,5.0nm,1.2s						
G16K	**Koyuk River**	**77.83**	**17**	P	**P**	**02 53 57.9**	**+0.5**
H17K	**Granite Mounta**	**78.23**	**18**	P	**P**	**02 54 00.4**	**+0.7**
H17K				IAmb	IAmb	02 54 01.3	
	comp=Z,4.3nm,1.1s						
F17K	**Baldwin Pennin**	**78.89**	**17**	P	**P**	**02 54 04.2**	**+0.9**
F17K				IAmb	IAmb	02 54 32.2	
	comp=Z,5.6nm,1.4s						
G18K	**Tagagawik**	**79.28**	**18**	P	**P**	**02 54 06.3**	**+0.8**
G18K				IAmb	IAmb	02 54 06.9	
	comp=Z,4.4nm,1.2s						
H19K	**Roundabout Mou**	**79.71**	**19**	P	**P**	**02 54 08.3**	**+0.5**
H19K				IAmb	IAmb	02 54 09.7	
	comp=Z,5.0nm,1.1s	

IDC 30 02:55:28.8±7.2, 15°86S×175°71W, h0km, mb4.1/2, mbtmp4.1/2, Error ellipse: s-maj=311.0km s-min=113.4km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.58**	**257**	P	P	03 04 06.8	+0.1
	0.6nm,0.5s,baz=92,slow=7.3,SNR=12						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**47.86**	**252**	P	P	03 04 08.4	-0.4
	2.9nm,0.5s,baz=88,slow=8.4,SNR=47						
	2.9nm,0.5s						
AKASG	**Malin Array Be**	**139.87**	**335**	PKP	PKPdf	03 14 58.5	-0.4
	0.8nm,0.5s,baz=29,slow=0.3,SNR=2.3						

*JMA **30** 03:07:24.2±0.8, 45°N±3°×15°0E±°, h30km, MV4.7/17, SE OFF ETOROFU*

*NIED **30** 03:07:24.2, 44°69N×149°51E, h30km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr2.56; Mθθ-0.86; Mφφ-1.70; Mrθ1.03; Mθφ-1.36; Mφr3.30; Fault plane solution: M0 4.35000×10^15 NP1:φ=21.00000°, δ72.00000°, λ80.00000°. NP2:φ=231.00000°, δ21.00000°, λ118.00000°.*

*SKHL **30** 03:07:25.2±0.2, 44°40N×149°60E, h45km±2km, mb5.3/5*

*MOS **30** 03:07:26.7±1.0, 44°52N×149°31E, h49km, mb4.8/13, Error ellipse: s-maj=8.2km s-min=7.0km az=117.8*

*IDC **30** 03:07:29.0±0.6, 44°57N×149°28E, h54km±4km, mb3.8/25, mbtmp4.1/29, MS3.6/38, Error ellipse: s-maj=17.0km s-min=12.3km az=165.0*

*NEIC **30** 03:07:29.4±1.2, 44°52N±0°09×149°2E±0°1, h53km±8km, mb4.5/74, Error ellipse: s-maj=15.6km s-min=12.2km az=127.0*

ISC 30 03:07:28.8±0.6, 44°42N±0°04×149°33E±0°05, h56km±4km, h55km:pP-P, n256, σ1§43/258, mb4.5/95, MS3.8/36, 5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.32**	**309**	*i* P	**Pn**	**03 07 48.3**	**-2.6**
KUR				*i* S	**Sn**	**03 08 05.2**	**-2.3**
KUR				pmax	pmax		
	comp=N,531nm,0.4s						
KUR				pmax	pmax		
	comp=Z,988nm,0.4s						
KUR				pmax	pmax		
	comp=E,198nm,0.3s						
KUR				pmax	pmax		
	comp=Z,2μm,1.7s						
KUR				smax	smax		
	comp=N,4μm,0.2s						
KUR				smax	smax		
	comp=E,2μm,0.2s						
KUR				smax	smax		
	comp=E,7μm,1.6s						
KUR	**Kuril'sk**	**1.32**	**309**	*i* P	**Pn**	**03 07 48.3**	**-2.6**
KUR				AMB	AMB	03 07 51.2	
	comp=E,2μm,0.5s						
KUR				*i* S	**Sn**	**03 08 05.5**	**-2.0**
KUR				A	A	03 08 06.6	
	comp=E,3μm,0.3s						
KUR				A	A	03 08 06.6	
	comp=E,4μm,0.3s						
SHO	**Shikotan**	**1.88**	**254**	*e*PN	**Pn**	**03 07 56.5**	**-2.0**
SHO				*e*S	**Sn**	**03 08 21.1**	**+0.1**
SHO				pmax	pmax		
	comp=Z,209nm,0.4s						
SHO				pmax	pmax		
	comp=N,126nm,0.3s						
SHO				smax	smax		
	comp=E,1μm,0.4s						
SHO				smax	smax		
	comp=N,814nm,0.2s						
SHO	**Shikotan**	**1.88**	**254**	*e*P	**Pn**	**03 07 56.5**	**-2.0**
SHO				AMB	AMB	03 08 00.9	
	comp=N,280nm,0.3s						
SHO				*e*S	**Sn**	**03 08 20.1**	**-0.9**
SHO				A	A	03 08 27.8	
	comp=N,1μm,0.3s						
SHO				A	A	03 08 27.8	
	comp=N,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.52**	**263**	*e*PN	**Pn**	**03 08 06.9**	**-0.3**
YUK				*e*S	**Sn**	**03 08 39.3**	**+2.6**
YUK				smax	smax		
	comp=N,989nm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.52**	**263**	*e*P	**Pn**	**03 08 06.3**	**-0.9**
YUK				AMB	AMB	03 08 10.9	
	comp=E,400nm,0.5s						
YUK				*e*S	**Sn**	**03 08 36.3**	**-0.4**
YUK				A	A	03 08 40.8	
	comp=E,1μm,0.4s						
YUK				A	A	03 08 40.8	
	comp=E,2μm,0.4s						
NEM2	**Nemuro 2**	**2.79**	**249**	*e*P	**Pn**	**03 08 08.9**	**-2.1**
NEM2				*e*S	**Sn**	**03 08 42.9**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.80**	**249**	*e*PN	**Pn**	**03 08 09.0**	**-2.1**
NMR				*e*S	**Sn**	**03 08 43.0**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.80**	**249**	*e*P	**Pn**	**03 08 09.5**	**-1.6**
NMR				*e*S	**Sn**	**03 08 43.0**	**-0.7**
RUSJ	**Misakicho**	**2.95**	**265**	*e*PN	**Pn**	**03 08 13.5**	**+0.4**
RUSJ				*e*S	**Sn**	**03 08 50.8**	**+3.6**
JRA	**Rausu**	**3.06**	**263**	*e*P	**Pn**	**03 08 14.5**	**-0.2**
JRA				*e*S	**Sn**	**03 08 52.1**	**+2.0**
JNK	**Nakash**	**3.43**	**258**	*e*P	**Pn**	**03 08 18.6**	**-1.0**
JNK				*e*S	**Sn**	**03 09 00.5**	**+1.5**
AKK	**Akkeshi**	**3.54**	**248**	*e*P	**Pn**	**03 08 19.5**	**-1.7**
JAK	**Akkeshi**	**3.64**	**249**	*e*P	**Pn**	**03 08 20.7**	**-1.9**
JAK				*e*S	**Sn**	**03 09 02.6**	**-1.8**
JTKR	**Abashiri--Toko**	**3.92**	**265**	*e*P	**Pn**	**03 08 26.2**	**-0.2**
JAR	**Ashorobuto**	**4.17**	**256**	*e*P	**Pn**	**03 08 29.4**	**-0.5**
JAR				*e*S	**Sn**	**03 09 19.1**	**+1.8**
JOB	**Onbets**	**4.26**	**251**	*e*P	**Pn**	**03 08 30.4**	**-0.7**
JCH	**Churui**	**4.70**	**250**	*e*P	**Pn**	**03 08 36.6**	**-0.4**
JCH				*e*S	**Sn**	**03 09 29.7**	**-0.5**
JKK2	**Kamakawa 2**	**4.77**	**266**	*e*P	**Pn**	**03 08 38.8**	**+0.8**
JKA	**Kamikawa-asahi**	**4.84**	**269**		**Pn**	**03 08 39.5**	**+0.5**
JKA	**Kamikawa-asahi**	**4.84**	**269**	*e*P	**Pn**	**03 08 40.9**	**+1.9**
ASAJ	**Asahikawa**	**4.84**	**269**	P	**Pn**	**03 08 40.9**	**+1.8**
	comp=E,14nm,0.4s,baz=100,slow=12,SNR=28						
ASAJ				LR	LR	03 10 46.3	
	comp=E,1μm,19.1s,baz=121,slow=41						
ERM	**Erimo**	**5.11**	**244**	Pn	**Pn**	**03 08 43.0**	**+0.3**
ERM	**Erimo**	**5.11**	**244**	PN	**Pn**	**03 08 43.0**	**+0.3**
JAB	**Ashibetsu**	**5.21**	**262**	*e*P	**Pn**	**03 08 46.6**	**+2.6**
JNBK	**Urakawa-nobuka**	**5.25**	**248**	*e*P	**Pn**	**03 08 43.4**	**-1.2**
JNBK				*e*S	**Sn**	**03 09 41.9**	**-1.8**
YSS	**Yuzh-Sakhalins**	**5.26**	**301**		**Pn**	**03 08 43.9**	**-0.8**
YSS	**Yuzh-Sakhalins**	**5.26**	**301**	*e*PN	**Pn**	**03 08 45.0**	**+0.3**
YSS				*e*S	**Sn**	**03 09 44.4**	**+0.4**
YSS				pmax	pmax		
	comp=Z,100nm,3.1s						
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS				smax	smax		
	comp=N,30nm,0.8s						
YSS				smax	smax		
	comp=E,30nm,0.6s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.26**	**301**	*e*P	**Pn**	**03 08 45.0**	**+0.3**
YSS				*e*S	**Sn**	**03 09 44.4**	**+0.4**
UGL	**Uglegorsk**	**6.83**	**316**	*e*P	**Pn**	**03 09 04.6**	**-1.6**
UGL				AMB	AMB	03 09 06.3	
	comp=Z,70nm,0.3s						
JANG	**Nango**	**7.05**	**238**	*e*P	**Pn**	**03 09 06.1**	**-3.3**
JANG				*e*S	**Sn**	**03 10 21.3**	**-6.8**
JTM	**Tenmabayashi**	**7.09**	**242**	Pn	**Pn**	**03 09 08.7**	**-1.2**
JTH	**Tanohata**	**7.12**	**234**	*e*S	**Sn**	**03 10 21.9**	**-7.9**
TYV	**Tymovskoe**	**7.87**	**327**	*e*PN	**Pn**	**03 09 21.5**	**+1.1**
TYV				*e*S	**Sn**	**03 10 49.3**	**+1.4**
TYV				pmax	pmax		
	comp=Z,12nm,1.1s						
TYV				pmax	pmax		
	comp=Z,500nm,3.2s						
TYV				smax	smax		
	comp=N,11nm,1.1s						
TYV				smax	smax		
	comp=E,9.0nm,1.1s						
TYV				smax	smax		
	comp=N,400nm,4.4s						
TYV				smax	smax		
	comp=E,500nm,4.4s						
TYV	**Tymovskoe**	**7.87**	**327**	*e*P	**Pn**	**03 09 21.2**	**+0.8**
TYV				*e*S	**Sn**	**03 10 46.5**	**-1.4**
PETK	**Petropavlovsk-**	**10.30**	**29**	P	**Pn**	**03 09 52.8**	**-1.0**
	comp=E,2.1nm,0.6s,baz=182,slow=11,SNR=2.0						
MJAR	**Matsushiro Arr**	**11.55**	**231**	P	**Pn**	**03 10 08.4**	**-2.4**
	comp=E,1.5nm,0.6s,baz=30,slow=14,SNR=4.8						
USA0B	**Ussuriysk Arra**	**12.43**	**275**		**Pn**	**03 10 21.7**	**-1.1**
USA0B	**Ussuriysk Arra**	**12.43**	**275**	PN	**Pn**	**03 10 21.7**	**-1.1**
USRK	**Ussuriysk Ar.**	**12.43**	**275**	Pn	**Pn**	**03 10 21.3**	**-1.4**
USRK	**Ussuriysk Ar.**	**12.43**	**275**	P	**Pn**	**03 10 22.5**	**-0.2**
	comp=E,13nm,0.8s,baz=90,slow=12,SNR=18						
USRK				LR	LR	03 15 19.7	
	comp=E,311nm,19.2s,baz=60,slow=38						
KLR	**Kul'dur**	**12.96**	**298**	P	**P**	**03 10 34.9**	**-4.0**
	comp=E,4.6nm,0.8s,baz=103,slow=15,SNR=16						
KLR				LR	LR	03 15 50.9	
	comp=E,320nm,18.4s,baz=108,slow=39						
KLR	**Kul'dur**	**12.96**	**298**	*e*P	**Pn**	**03 10 27.9**	**-2.1**
HEH	**HeiHe**	**15.94**	**299**	*e*P	**P**	**03 11 10.3**	**-1.6**
HEH				pmax	pmax		
	comp=E,8.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,200nm,7.7s						
HEH				LR	LR		
	comp=N,140nm,15.3s						
HEH				LR	LR		
	comp=E,470nm,15.9s						
HEH				LR	LR		
	comp=Z,500nm,18.5s						
ZEA	**Zeya**	**17.15**	**311**	*e*P	**P**	**03 11 25.9**	**+0.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
ZEA	**Zeya**	**17.15**	**311**	*e*P	**Pn**	**03 11 23.9**	**-0.4**
KSRS	**Korea Array**	**17.58**	**254**	LR	LR	03 18 34.4	
	comp=Z,222nm,18.4s,baz=55,slow=38						
JNU	**Nakatsue**	**18.23**	**228**	LR	LR	03 19 37.8	
	comp=Z,161nm,18.9s,baz=34,slow=40						
SHEM	**Shemya Is, Ala**	**18.31**	**54**	LR	LR	03 18 48.8	
	comp=Z,131nm,18.6s,baz=310,slow=37						
SEY	**Seymchan**	**18.64**	**4**	P	**P**	**03 11 39.8**	**-1.8**
	comp=Z,1.8nm,0.4s,baz=197,slow=14,SNR=4.9						
YAK	**Yakutsk**	**21.05**	**334**	*e*P	**P**	**03 12 05.1**	**-2.7**
YAK				*e*		03 12 22.9	
YAK				*e*S	**S**	**03 15 57.8**	**-1.0**
YAK				*e**SS	**sS**	**03 16 16.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,328nm,7.2s						
YAK				pmax	pmax		
	comp=N,197nm,6.5s						
YAK				pmax	pmax		
	comp=E,249nm,5.8s						
YAK				smax	smax		
	comp=N,220nm,5.8s						
YAK				smax	smax		
	comp=E,126nm,4.4s						
XLT	**XiLinHaoTe**	**23.77**	**281**	*e*P	**P**	**03 12 35.5**	**-0.6**
XLT				pP	pP	03 12 40.5	-8.7
XLT				sP	sP	03 12 44.8	-11
XLT				PP	**PnPn**	**03 13 12.5**	**+6.5**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,100nm,4.8s						
JOW	**Kunigami**	**24.39**	**231**	P	**P**	**03 12 42.9**	**+1.1**
TIA	**Tai'an**	**25.76**	**263**	P	**P**	**03 12 55.5**	**+1.3**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HNS	**HongShan**	**26.94**	**267**	||P	**P**	**03 13 07.3**	**+2.5**
HNS				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC	**Hu-ho-hao-te**	**27.85**	**276**	*e*P	**P**	**03 13 13.0**	**0.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,4.9s						
HHC				LR	LR		
	comp=N,120nm,13.8s						
HHC				LR	LR		
	comp=E,220nm,14.5s						
HHC				LR	LR		
	comp=Z,230nm,13.2s						
H11N2	**WAKE ISLAND Hy**	**28.64**	**144**	T	T	03 44 15.9	
	baz=334,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**28.65**	**144**	T	T	03 44 18.6	
	baz=334,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.66**	**144**	T	T	03 44 19.0	
	baz=334,slow=75,SNR=105						
ULN	**Ulaanbaatar**	**29.23**	**292**	*e*P	**P**	**03 13 24.6**	**-0.7**
H11S1	**WAKE ISLAND Hy**	**29.65**	**145**	T	T	03 45 31.5	
	baz=335,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy**	**29.66**	**145**	T	T	03 45 31.9	
	baz=335,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**29.67**	**145**	T	T	03 45 28.7	
	baz=335,slow=76,SNR=70						
SONM	**Songino Array**	**29.67**	**292**	P	**P**	**03 13 28.9**	**-0.3**
SONM	**Songino Array**	**29.67**	**292**	P	**P**	**03 13 28.9**	**-0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**29.67**	**292**	P	**P**	**03 13 28.8**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=78,slow=7.7,SNR=12						
SONM				LR	LR	03 26 23.7	
	comp=Z,229nm,18.2s,baz=86,slow=38						
	comp=Z,1.5nm,0.7s						
J14K	**Nanvaranak Lak**	**32.47**	**39**	P	**P**	**03 13 53.2**	**-0.2**
J14K				IAmb	IAmb	03 14 09.1	
	comp=Z,11nm,1.4s						
C16K	**Lisburne Hills**	**33.40**	**29**	P	**P**	**03 14 01.5**	**0.0**
C16K				IAmb	IAmb	03 14 27.1	
	comp=Z,9.3nm,1.4s						
F17K	**Baldwin Pennin**	**34.31**	**33**	P	**P**	**03 14 08.7**	**-0.7**
F17K				IAmb	IAmb	03 14 33.4	
	comp=Z,5.6nm,0.8s						
K17K	**Iditarod**	**34.85**	**40**	P	**P**	**03 14 14.8**	**+0.6**
G18K	**Tagagawik**	**35.21**	**34**	P	**P**	**03 14 17.2**	**-0.1**
G18K				IAmb	IAmb	03 14 20.1	
	comp=Z,12nm,1.3s						
LZH	**Lanzhou**	**35.31**	**272**	||P	**P**	**03 14 19.8**	**+1.1**
LZH				pP	sP	03 14 46.8	+8.2
LZH				pmax	pmax		
	comp=Z,33nm,1.4s						
C19K	**Lookout Ridge**	**35.66**	**29**	P	**P**	**03 14 20.8**	**-0.3**
C19K				IAmb	IAmb	03 14 58.2	
	comp=Z,6.5nm,1.1s						
F19K	**Shaleruckik Mo**	**35.75**	**33**	P	**P**	**03 14 21.7**	**-0.1**
TTA	**Tatalina**	**35.92**	**40**	P	**P**	**03 14 23.8**	**+0.3**
TTA	**Tatalina**	**35.92**	**40**	P	**P**	**03 14 23.8**	**+0.3**
TTA				pmax	pmax		
	comp=Z,14nm,1.3s						
D19K	**Kuna River**	**36.01**	**30**	P	**P**	**03 14 23.7**	**-0.4**
D19K				IAmb	IAmb	03 14 45.0	
	comp=Z,7.9nm,0.9s						
H19K	**Roundabout Mou**	**36.04**	**35**	P	**P**	**03 14 24.2**	**-0.1**
E19K	**Redstone River**	**36.09**	**32**	P	**P**	**03 14 25.0**	**+0.3**
J19K	**Poorman**	**36.20**	**38**	P	**P**	**03 14 25.7**	**0.0**
J19K				IAmb	IAmb	03 14 41.2	
	comp=Z,11nm,1.2s						
GTA	**Gaotai**	**36.73**	**280**	P	**P**	**03 14 31.5**	**+0.8**
GTA				pP	pP	03 14 37.0	-7.3
GTA				sP	sP	03 14 40.3	-10
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				LR	LR		
	comp=N,100nm,18.2s						
GTA				LR	LR		
	comp=E,430nm,18.2s						
GTA				LR	LR		
	comp=Z,140nm,18.9s						
B20K	**Meade River**	**36.73**	**28**	P	**P**	**03 14 29.8**	**-0.4**
J20K	**Nowinta River**	**36.86**	**38**	P	**P**	**03 14 31.9**	**+0.6**
G21K	**Allakaket**	**37.37**	**34**	P	**P**	**03 14 36.1**	**+0.4**
G21K				IAmb	IAmb	03 15 12.6	
	comp=Z,6.9nm,1.1s						
H21K	**Melozitna Rive**	**37.56**	**35**	P	**P**	**03 14 37.8**	**+0.5**
H21K				IAmb	IAmb	03 14 56.4	
	comp=Z,5.6nm,1.1s						
I21K	**Tanana**	**37.87**	**36**	P	**P**	**03 14 40.6**	**+0.8**
I21K				IAmb	IAmb	03 14 55.0	
	comp=Z,14nm,1.5s						
CD2	**Chengdu**	**38.03**	**265**	P	**P**	**03 14 42.0**	**+0.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
D22K	**Ayikyak River**	**38.03**	**30**	P	**P**	**03 14 41.8**	**+0.6**
D22K				IAmb	IAmb	03 14 59.7	
	comp=Z,3.5nm,0.8s						
KTH	**Kantishna Hill**	**38.26**	**39**	P	**P**	**03 14 44.0**	**+0.8**
KTH				IAmb	IAmb	03 15 05.9	
	comp=Z,14nm,1.4s						
MLY	**Manley**	**38.38**	**36**	P	**P**	**03 14 45.1**	**+0.9**
G23K	**Bananza Creek**	**38.77**	**34**	P	**P**	**03 14 47.9**	**+0.4**
NRIK	**Noril'sk**	**39.44**	**331**	LR	LR	03 31 13.3	
	comp=Z,90nm,21.4s,baz=342,slow=36						
D24K	**Happy Valley**	**39.44**	**30**	P	**P**	**03 14 54.2**	**+1.2**
D24K				IAmb	IAmb	03 14 58.2	
	comp=Z,8.8nm,1.0s						
MDM	**Murphy Dome**	**39.45**	**36**	P	**P**	**03 14 53.0**	**-0.1**
F24K	**Squaw Lake**	**39.66**	**32**	P	**P**	**03 14 55.1**	**+0.3**
SCM	**Sheep Creek Mo**	**39.96**	**41**	P	**P**	**03 14 57.5**	**0.0**
SCM	**Sheep Creek Mo**	**39.96**	**41**	P	**P**	**03 14 57.5**	**0.0**
SCM				pmax	pmax		
	comp=Z,35nm,1.4s						
ILAR	**Eielson Array**	**40.02**	**37**	P	**P**	**03 14 57.5**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=268,slow=8.4,SNR=13						
	comp=Z,1.1nm,0.6s						
D25K	**Kavik River**	**40.33**	**30**	P	**P**	**03 15 00.9**	**+0.5**
D25K				IAmb	IAmb	03 15 12.7	
	comp=Z,7.1nm,1.0s						
E25K	**Arctic Village**	**40.56**	**32**	P	**P**	**03 15 03.4**	**+1.1**
BMAR	**Burnt Mountain**	**40.93**	**33**	P	**P**	**03 15 06.3**	**+1.0**
SCRK	**Sand Creek**	**41.32**	**38**	P	**P**	**03 15 08.1**	**-0.6**
GOMU	**GeErMu**	**41.70**	**278**	P	**P**	**03 15 13.0**	**+0.5**
GOMU				pP	pP	03 15 20.0	-6.4
GOMU				sP	sP	03 15 30.3	-2.3
GOMU				S	**S**	**03 21 29.5**	**+3.9**
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOMU				LR	LR		
	comp=N,200nm,16.6s						
GOMU				LR	LR		
	comp=E,160nm,15.9s						
GOMU				LR	LR		
	comp=Z,290nm,15.6s						
ZALV	**Zalesovo Beam**	**41.85**	**307**	PcP	**PcP**	**03 17 07.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=104,slow=4.7,SNR=5.4						
ZALV				LR	LR	03 33 49.3	
	comp=Z,104nm,18.1s,baz=39,slow=38						
M26K	**Nabesna, AK**	**41.93**	**40**	P	**P**	**03 15 14.4**	**+0.7**
K27K	**Chicken**	**42.15**	**38**	P	**P**	**03 15 15.3**	**0.0**
K27K				IAmb	IAmb	03 15 28.0	
	comp=Z,14nm,1.4s						
L27K	**Beaver Creek,**	**42.38**	**39**	P	**P**	**03 15 17.9**	**+0.6**
F28M	**Old Crow**	**42.73**	**32**	P	**P**	**03 15 20.8**	**+0.7**
CTGM	**Chitina Glacie**	**42.93**	**42**	P	**P**	**03 15 22.1**	**+0.2**
E29M	**Blow River**	**43.41**	**31**	P	**P**	**03 15 26.1**	**+0.6**
G29M	**Pine Creek**	**43.52**	**33**	P	**P**	**03 15 27.6**	**+1.3**
G29M				IAmb	IAmb	03 15 35.5	
	comp=Z,8.5nm,1.2s						
L29M	**L29M**	**44.03**	**39**	P	**P**	**03 15 32.0**	**+1.3**
G30M	**tAoh Zraii Nji**	**44.21**	**33**	P	**P**	**03 15 32.0**	**+0.1**
G30M				IAmb	IAmb	03 15 52.9	
	comp=Z,8.5nm,1.1s						
I30M	**Mount Dempster**	**44.42**	**35**	P	**P**	**03 15 33.8**	**0.0**
I30M				IAmb	IAmb	03 15 55.6	
	comp=Z,6.9nm,0.8s						
G31M	**Satah River**	**44.98**	**33**	P	**P**	**03 15 38.8**	**+0.9**
INK	**Inuvik**	**45.03**	**31**	P	**P**	**03 15 38.0**	**-0.4**
INK				IAmb	IAmb	03 15 56.3	
	comp=Z,12nm,1.5s						
INK	**Inuvik**	**45.03**	**31**	P	**P**	**03 15 38.0**	**-0.4**
INK				pmax	pmax		
	comp=Z,12nm,1.5s						
INK	**Inuvik**	**45.03**	**31**	LR	LR	03 36 07.3	
	comp=Z,54nm,20.0s,baz=40,slow=38						
MK31	**Makanchi Array**	**45.66**	**298**	P	**P**	**03 15 43.5**	**-0.2**
MK31				IAmb	IAmb	03 15 44.7	
	comp=Z,4.3nm,0.8s						
MK31	**Makanchi Array**	**45.66**	**298**	P	**P**	**03 15 43.5**	**-0.2**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**45.66**	**298**	P	**P**	**03 15 43.4**	**-0.3**
MKAR	**Makanchi Array**	**45.66**	**298**	P	**P**	**03 15 43.9**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=72,slow=7.7,SNR=34						
MKAR				LR	LR	03 36 08.9	
	comp=Z,257nm,18.3s,baz=128,slow=38						
	comp=Z,4.2nm,0.8s						
MAKZ	**Makanchi**	**45.86**	**298**	P	**P**	**03 15 44.7**	**-0.6**
MAKZ				IAmb	IAmb	03 15 45.8	
	comp=Z,4.5nm,0.8s						
MAKZ	**Makanchi**	**45.86**	**298**	P	**P**	**03 15 44.7**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
M31M	**Drury Creek, Y**	**45.91**	**39**	P	**P**	**03 15 45.7**	**+0.2**
M31M				IAmb	IAmb	03 15 54.1	
	comp=Z,12nm,1.4s						
KURK	**Kurchatov**	**46.46**	**304**	P	**P**	**03 15 49.0**	**-0.9**
KURK				IAmb	IAmb	03 15 50.3	
	comp=Z,6.0nm,1.2s						
KURK	**Kurchatov**	**46.46**	**304**	P	**P**	**03 15 49.6**	**-0.3**
KURK						03 17 24.0	
KURK	**Kurchatov**	**46.46**	**304**	*e*P	**P**	**03 15 49.6**	**-0.3**
KURBB	**Kurchatov Arra**	**46.54**	**304**	P	**P**	**03 15 49.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=71,slow=8.7,SNR=7.6						
KURBB				PcP	**PcP**	**03 17 23.9**	**0.0**
	comp=Z,0.9nm,0.9s,baz=78,slow=3.6,SNR=4.8						
	comp=Z,0.7nm,0.3s						
A36M	**Sachs Harbour**	**47.11**	**25**	P	**P**	**03 15 55.7**	**+1.1**
A36M				IAmb	IAmb	03 15 56.7	
	comp=Z,3.7nm,0.7s						
Q32M	**Nakina River**	**47.84**	**43**	P	**P**	**03 16 01.5**	**+0.7**
C36M	**Paulatuk**	**48.15**	**28**	P	**P**	**03 16 02.9**	**+0.2**
C36M				IAmb	IAmb	03 16 29.4	
	comp=Z,3.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.22**	**255**	P	**P**	**03 16 11.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=44,slow=8.1,SNR=7.0						
CMAR				LR	LR	03 39 20.9	
	comp=Z,79nm,18.1s,baz=60,slow=39						
	comp=Z,0.8nm,0.3s						
BVAR	**Borovoye Array**	**50.29**	**310**	P	**P**	**03 16 18.1**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=72,slow=6.4,SNR=5.1						
BVAR				LR	LR	03 39 11.4	
	comp=Z,79nm,18.7s,baz=83,slow=38						
	comp=Z,0.8nm,0.5s						
BOOM	**Boomskoye usch**	**51.62**	**295**	P	**P**	**03 16 30.2**	**+0.5**
BOOM	**Boomskoye usch**	**51.62**	**295**	P	**P**	**03 16 30.2**	**+0.5**
BOOM				pmax	pmax		
	comp=Z,15nm,1.2s						
EUNU	**Eureka**	**51.93**	**11**	P	**P**	**03 16 30.5**	**-0.8**
AAK	**Ala-Archa**	**52.48**	**296**	LR	LR	03 40 11.9	
	comp=Z,52nm,18.4s,baz=57,slow=38						
AAK	**Ala-Archa**	**52.48**	**296**	*e*P	**P**	**03 16 36.

comp=Z,7.6nm,1.1s
BTK Batken 56.17 295 P **P** **03 17 02.2 -0.7**
BTK pmax pmax
comp=Z,8.0nm,1.1s
TULEG Thule 56.91 10 P **P** **03 17 08.6 +1.2**
ABKAR Akbulak array 57.86 309 P **P** **03 17 14.4 -0.2**
ABKAR IAmb IAmb 03 17 14.9
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 57.86 309 P **P** **03 17 14.3 -0.2**
KIRV Kirov 58.03 323 LR LR 03 44 15.9
comp=Z,97nm,18.4s,baz=54,slow=38
SIMJ Simiganj 58.11 295 P **P** **03 17 17.0 +0.3**
AKTO Aktyubinsk 58.28 311 LR LR 03 44 51.1
comp=Z,90nm,19.3s,baz=104,slow=39
ARCES ARCESS Array B 59.16 340 P **P** **03 17 21.4 -1.9**
comp=Z,4.5nm,1.1s,baz=41,slow=8.4,SNR=1.7
ARCES LR LR 03 46 14.2
comp=Z,31nm,18.9s,baz=66,slow=39
comp=Z,4.5nm,1.1s
KBL Kabul 60.43 291 P **P** **03 17 31.9 -0.9**
KBL IAmb IAmb 03 17 40.7
comp=Z,4.1nm,0.6s
KBL Kabul 60.43 291 P **P** **03 17 31.9 -0.9**
KBL pmax pmax
comp=Z,4.0nm,0.6s
NEW Newport 60.71 50 LR LR 03 45 56.5
comp=Z,21nm,18.3s,baz=282,slow=38
FCC Fort Churchill 64.65 31 P **P** **03 18 00.1 -0.1**
FCC IAmb IAmb 03 18 05.7
comp=Z,7.5nm,1.3s
FCC Fort Churchill 64.65 31 P **P** **03 18 00.1 -0.1**
FCC pmax pmax
comp=Z,7.0nm,1.3s
FINES FINESS Array B 64.98 334 P **P** **03 18 00.9 -1.4**
FINES FINESS Array B 64.98 334 P **P** **03 18 00.9 -1.4**
FINES FINESS Array B 64.98 334 P **P** **03 18 00.5 -1.9**
comp=Z,1.6nm,0.6s,baz=37,slow=9.8,SNR=6.9
FINES LR LR 03 50 22.1
comp=Z,68nm,19.3s,baz=17,slow=40
comp=Z,1.6nm,0.6s
WB0 Warramunga Arr 65.31 195 P **P** **03 18 04.9 -0.1**
GEYT Alibeck 65.48 300 P **P** **03 18 06.8 +0.8**
comp=Z,0.8nm,0.3s,baz=78,slow=17,SNR=5.2
comp=Z,0.8nm,0.3s
WRA Warramunga Arr 65.50 196 P **P** **03 18 07.4 +1.3**
WRA Warramunga Arr 65.50 196 P **P** **03 18 07.4 +1.3**
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 65.50 196 P **P** **03 18 06.2 +0.1**
comp=Z,1.1nm,0.6s,baz=16,slow=6.8,SNR=5.1
comp=Z,1.1nm,0.6s
OBN Obninsk 65.70 324 *e*P **P** **03 18 06.7 -0.3**
LHV Little Huntoon 65.88 60 P **P** **03 18 09.9 +1.4**
LHV IAmb IAmb 03 18 26.0
comp=Z,7.3nm,1.0s
NVAR Mina Array Bea 65.89 59 P **P** **03 18 10.5 +1.6**
comp=Z,0.2nm,0.3s,baz=308,slow=6.6,SNR=5.6
NVAR pP **pP** **03 18 24.6 +1.8**
comp=Z,0.7nm,0.4s,baz=288,slow=6.1,SNR=6.0
comp=Z,0.2nm,0.3s
ELK Elko 66.30 56 LR LR 03 46 17.4
comp=Z,20nm,19.6s,baz=326,slow=35
PDAR Pinedale Array 68.28 51 P **P** **03 18 24.1 +0.1**
PDAR Pinedale Array 68.28 51 P **P** **03 18 24.4 +0.5**
comp=Z,0.6nm,0.9s,baz=282,slow=2.7,SNR=4.4
PDAR pP **pP** **03 18 38.9 +0.8**
comp=Z,1.7nm,0.8s,baz=278,slow=4.0,SNR=9.7
PDAR LR LR 03 46 39.3
comp=Z,21nm,21.6s,baz=323,slow=34
comp=Z,0.6nm,0.9s
ASAR Alice Springs 69.20 195 P **P** **03 18 31.1 +1.6**
comp=Z,0.6nm,0.8s,baz=14,slow=8.6,SNR=4.3
comp=Z,0.6nm,0.8s
NC405 NORSAR Array S 69.35 340 P **P** **03 18 28.9 -1.1**
NB201 NORSAR Array S 69.51 340 P **P** **03 18 29.7 -1.3**
NB2 NORSAR Subarra 69.54 340 P **P** **03 18 29.7 -1.5**
comp=Z,3.0nm,0.6s,baz=32,slow=6.5
NOA NORSAR Array B 69.54 340 P **P** **03 18 30.0 -1.2**
comp=Z,2.4nm,0.7s,baz=30,slow=6.7,SNR=11
NOA LR LR 03 55 47.7
comp=Z,12nm,18.5s,baz=30,slow=42
comp=Z,2.4nm,0.7s
NBO00 NORSAR Array S 69.65 340 P **P** **03 18 31.7 -0.2**
HFS Hagfors 69.67 338 P **P** **03 18 30.1 -1.9**
comp=Z,1.3nm,0.4s,baz=36,slow=3.2,SNR=12
HFS LR LR 03 51 58.1
comp=Z,31nm,20.7s,baz=42,slow=38
comp=Z,1.3nm,0.4s
PFO Pinyon Flats O 70.10 62 LR LR 03 46 58.3
comp=Z,27nm,19.7s,baz=294,slow=34
KIV Kislovodsk 70.48 313 *e*P **P** **03 18 37.5 +0.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,85nm,18.0s
KIV Kislovodsk 70.48 313 *e*P **P** **03 18 38.8 +1.4**
KBZ Khabaz 70.52 312 P **P** **03 18 38.8 +1.4**
comp=Z,6.0nm,0.8s,baz=59,slow=3.9,SNR=11
KBZ LR LR 03 54 10.6
comp=Z,153nm,19.2s,baz=46,slow=40
comp=Z,6.0nm,0.8s
KBZ Khabaz 70.52 312 *e*P **P** **03 18 38.1 +0.6**
ZEI Tsey 70.63 311 *e*P **P** **03 18 37.5 -0.9**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
HMU Henry Mountain 70.78 56 P **P** **03 18 39.8 +0.3**
HMU IAmb IAmb 03 18 55.5
comp=Z,3.2nm,0.7s
AKASG Malin Array Be 71.96 325 P **P** **03 18 45.2 -0.8**
comp=Z,1.1nm,0.4s,baz=35,slow=5.8,SNR=11
AKASG pP **pP** **03 19 01.1 +0.5**
comp=Z,0.7nm,0.5s,baz=33,slow=6.3,SNR=3.5
AKASG LR LR 03 53 34.1
comp=Z,61nm,18.1s,baz=39,slow=38
comp=Z,1.1nm,0.4s
AKBB Malin Array Si 71.96 325 IAmb IAmb 03 18 46.4
comp=Z,7.6nm,0.9s
AKBB P **P** **03 18 46.4 +0.3**
AKBB Malin Array Si 71.96 325 P **P** **03 18 46.4 +0.3**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
GNI Garni 71.96 309 LR LR 03 52 19.1
comp=Z,19nm,18.8s,baz=66,slow=37
KIEV Kiev 71.97 325 P **P** **03 18 46.3 +0.2**
KIEV IAmb IAmb 03 18 46.3
comp=Z,6.8nm,0.9s
KIEV Kiev 71.97 325 P **P** **03 18 46.3 +0.2**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 75.34 55 LR LR 03 47 58.2
comp=Z,19nm,21.8s,baz=48,slow=32
BUR08 Bucovina Ar. S 76.00 325 P **P** **03 19 10.2 +0.4**
BUR08 IAmb IAmb 03 19 14.4
comp=Z,7.8nm,1.3s
BURAR Bucovina Array 76.02 325 P **P** **03 19 09.8 -0.1**
STHS Stebnicka Huta 76.14 328 *e*P **P** **03 19 14.1 +3.6**
STHS Stebnicka Huta 76.14 328 *e*P **P** **03 19 14.1 +3.6**
SCHQ Schefferville 76.46 21 P **P** **03 19 11.8 -0.4**
comp=Z,2.4nm,0.9s,baz=304,slow=18,SNR=1.9
comp=Z,2.4nm,0.9s
LANS Liptovska Anna 77.03 329 *e*P **P** **03 19 17.4 +1.8**
LANS Liptovska Anna 77.03 329 *e*P **P** **03 19 17.4 +1.8**
DPC Dobruska-Polom 77.15 331 *e*P **P** **03 19 16.9 +0.7**
DPC Dobruska-Polom 77.15 331 *e*P **P** **03 19 16.9 +0.7**
MORC Moravsky Berou 77.20 330 *e*P **P** **03 19 17.5 +0.9**
CLL Collm 77.43 334 ⇓ *i*P **P** **03 19 17.5 -0.2**
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 77.43 334 ⇓ *i*P **P** **03 19 17.5 -0.2**
comp=Z,12nm,0.9s
VYHS Vyhne 77.81 329 *e*P **P** **03 19 20.6 +0.7**
VYHS Vyhne 77.81 329 *e*P **P** **03 19 20.6 +0.7**
EKA Eskdalemuir Ar 77.92 344 P **P** **03 19 19.9 -0.5**
comp=Z,1.6nm,0.8s,baz=50,slow=3.9,SNR=3.6
comp=Z,1.6nm,0.8s
VRAC Vranov 77.94 331 *e*P **P** **03 19 20.4 -0.2**
VRAC Vranov 77.94 331 LR LR 03 56 16.2
comp=Z,41nm,19.4s,baz=11,slow=38
BRTR Keskin Array B 78.21 315 P **P** **03 19 22.9 +0.4**
BRTR Keskin Array B 78.21 315 P **P** **03 19 23.1 +0.7**
comp=Z,1.9nm,0.8s,baz=94,slow=3.9,SNR=12
comp=Z,1.9nm,0.8s
KRUC Moravsky 78.21 331 *e*P **P** **03 19 23.0 +0.9**
MODS Modra-Piesok 78.48 330 *e*P **P** **03 19 25.3 +1.7**
MODS Modra-Piesok 78.48 330 *e*P **P** **03 19 25.3 +1.7**
ZVC Zvikov 78.65 332 *e*P **P** **03 19 25.5 +1.0**
KHC Kasperske Hory 79.12 332 P **P** **03 19 27.6 +0.5**
KHC IAmb IAmb 03 19 45.2
comp=Z,4.8nm,0.8s
KHC Kasperske Hory 79.12 332 *e*P **P** **03 19 28.2 +1.0**
KHC *e*pP **pP** **03 19 44.3 +2.6**
KHC Kasperske Hory 79.12 332 *e*P **P** **03 19 28.2 +1.0**
KHC *e* 03 19 44.3
GEC2 GERESS Array S 79.33 332 P **P** **03 19 29.0 +0.7**
GERES GERESS Array B 79.33 332 P **P** **03 19 28.7 +0.4**
comp=Z,0.8nm,0.4s,baz=19,slow=9.3,SNR=2.6
comp=Z,0.8nm,0.4s
CONA Conrad Observa 79.36 330 *i* P **P** **03 19 30.1 +1.5**
comp=Z,7.0nm,1.3s
RONA Rosalia, Austr 79.40 330 *i* P **P** **03 19 29.5 +0.8**
comp=Z,9.2nm,1.3s
MOA Molln 79.99 331 *e*P **P** **03 19 33.8 +1.9**
comp=Z,3.4nm,0.9s
BIOA Bad Ischl, Aus 80.34 331 *i* P **P** **03 19 34.3 +0.5**
comp=Z,7.3nm,1.3s
SOKA Soboth 80.72 330 *i* P **P** **03 19 37.5 +1.5**
comp=Z,5.9nm,0.9s
LESA Schwarzleotal 80.90 332 *i* P **P** **03 19 38.3 +1.4**
comp=Z,8.4nm,1.2s
KBA Koelnbreinsper 80.97 331 *i* P **P** **03 19 38.5 +1.1**
comp=Z,3.6nm,0.7s
TXAR Lajitas Array 80.97 58 P **P** **03 19 37.8 +0.2**
comp=Z,0.7nm,0.7s,baz=300,slow=3.6,SNR=10
TXAR pP **pP** **03 19 52.6 +0.6**
comp=Z,2.8nm,0.5s,baz=298,slow=4.1,SNR=19
comp=Z,0.7nm,0.7s
OBKA Obir 81.04 330 *i* P **P** **03 19 37.8 +0.2**
comp=Z,3.6nm,1.1s
MYKA Terra Mystica 81.26 331 *i* P **P** **03 19 39.8 +1.0**
comp=Z,0.9nm,0.4s
WATA Walderalm 81.35 332 *i* P **P** **03 19 40.3 +1.0**
comp=Z,8.0nm,1.1s
WTTA Wattenberg 81.39 332 *i* P **P** **03 19 40.1 +0.6**
comp=Z,1.6nm,0.4s
RETA Reutte 81.48 333 *e*P **P** **03 19 41.0 +1.0**
comp=Z,6.5nm,1.0s
MOTA Moosalm 81.49 333 *i* P **P** **03 19 40.3 +0.2**
comp=Z,11nm,1.1s
ABTA Abfaltersbach 81.54 332 *e*P **P** **03 19 41.3 +1.0**
comp=Z,2.4nm,0.8s
SQTA Sankt Quirin 81.57 333 *i* P **P** **03 19 41.8 +1.3**
comp=Z,4.7nm,0.8s
FETA Feichten 81.90 333 *i* P **P** **03 19 43.6 +1.3**
comp=Z,4.3nm,1.2s
DAVA Damuels 81.94 333 *i* P **P** **03 19 43.3 +0.8**
comp=Z,3.6nm,0.9s
MMAI Mount Meron Ar 82.30 309 P **P** **03 19 45.5 +1.0**
comp=Z,3.3nm,0.8s,baz=90,slow=5.8,SNR=4.9
MMAI LR LR 04 00 39.2
comp=Z,37nm,18.2s,baz=310,slow=39
comp=Z,3.3nm,0.8s
PPT Papeete 83.04 123 LR LR 03 56 52.8
comp=Z,37nm,19.1s,baz=38,slow=36
EIL Elat 85.06 307 LR LR 04 04 18.7
comp=Z,40nm,18.5s,baz=17,slow=40
TKL Tuckaleechee C 86.88 41 LR LR 04 02 03.6
comp=Z,25nm,19.0s,baz=344,slow=38
CMIG Matias Romero 95.42 60 LR LR 04 04 23.7
comp=Z,24nm,18.7s,baz=226,slow=36
MDT Midelt 99.55 338 LR LR 04 12 23.8
comp=Z,9.7nm,19.9s,baz=40,slow=39
H03N2 Juan Fernandez 141.40 90 T T 06 04 49.4
baz=304,slow=77,SNR=4.9
H03N3 Juan Fernandez 141.41 90 T T 06 04 49.8
baz=304,slow=77,SNR=5.9
H03N1 Juan Fernandez 141.41 90 T T 06 04 47.3
baz=304,slow=77,SNR=7.4
PLCA Paso Flores 150.61 97 PKPbc **PKPbc** **03 27 13.9 -0.2**
comp=Z,1.3nm,0.8s,baz=225,slow=5.7,SNR=3.6
PLCA pPKPbc **pPKPbc** **03 27 29.3 +0.4**
comp=Z,2.0nm,0.7s,baz=235,slow=2.6,SNR=2.7

*JMA **30** 03:37:46.0±0.1,25°N±1°×123.2E±0.4,h63km,MV3.0/14,*
NW OFF ISHIGAKIJIMA IS
ISC 30 03:37:46.5±1.4,24.38N±0.09×123.17E±0.04,h61km±9km,
n17,σ0.68/26,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.17**	**298**	P		P	**Pn**	**03 37 55.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.17**	**298**	*i* P		P	**Pn**	**03 37 55.7**	**-0.2**
YOJ				S			**Sn**	**03 38 02.6**	**-0.1**
JYNG	**Yonagunijimaku**	**0.22**	**288**	*i* P		P	**Pn**	**03 37 56.0**	**-0.2**
JYNG				S			**Sn**	**03 38 03.2**	**+0.1**
IRIF	**Iriomote-Funau**	**0.51**	**95**	*i* P		P	**Pn**	**03 37 58.5**	**-0.2**
IRIF				S			**Sn**	**03 38 07.8**	**+0.3**
HATJ	**Hateruma jima**	**0.66**	**119**	P		P	**Pn**	**03 38 00.9**	**+0.5**
HATJ				S			**Sn**	**03 38 11.8**	**+1.2**
JKRS	**Kuro-shima**	**0.78**	**101**	*i* P		P	**Pn**	**03 38 01.9**	**+0.2**
JKRS				S			**Sn**	**03 38 13.8**	**+0.9**
JIJ	**Ishigaki jima**	**0.89**	**91**	*i* P		P	**Pn**	**03 38 02.6**	**-0.6**
JIJ				S			**Sn**	**03 38 14.6**	**-0.8**
JISG	**Ishigakijimahi**	**1.06**	**79**	P		P	**Pn**	**03 38 04.6**	**-0.7**
JISG				S			**Sn**	**03 38 18.4**	**-1.0**
JTJ	**Tarama**	**1.42**	**79**	P		P	**Pn**	**03 38 09.8**	**-0.3**
JTJ				S			**Sn**	**03 38 27.6**	**-0.3**
NACB	**Ninganchiao**	**1.45**	**262**	P		P	**Pn**	**03 38 10.3**	**-0.3**
TATO	**Taipei**	**1.64**	**291**	P		P	**Pn**	**03 38 14.1**	**+1.0**
YHNB	**Yeheng**	**1.66**	**280**	P		P	**Pn**	**03 38 13.7**	**+0.2**
JIRB	**Irabujima**	**1.87**	**76**	P		P	**Pn**	**03 38 16.0**	**-0.3**
JIRB				*e*S			**Sn**	**03 38 38.5**	**-0.4**
JMJ	**Miyako jima 2**	**1.98**	**77**	P		P	**Pn**	**03 38 19.4**	**+1.7**
YULB	**Yu-li**	**1.98**	**240**	P		P	**Pn**	**03 38 17.3**	**-0.5**
SSLB	**Suanglung**	**2.11**	**254**	P		P	**Pn**	**03 38 19.7**	**+0.1**
TWGBT	**Beinan**	**2.47**	**231**	P		P	**Pn**	**03 38 23.9**	**-0.6**

*IDC **30** 03:45:09.3±1.7,55.62N×166.23E,h0km,mb3.2/3,*
mbtmp3.3/4,ML3.0/1,Error ellipse: s-maj=116.6km
s-min=25.2km az=152.0
*KRSC **30** 03:45:10.2±0.8,55.33N×166.38E,h37km±4km,MI4.0*
ISC 30 03:45:12.0±1.0,55.38N±0.07×166.45E±0.07,h20km,n26,
σ0.83/43,mb3.2/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**237**	*e*P		P	**Pb**	**03 45 18.2**	**-0.8**
BKI				*e*S			**Sb**	**03 45 23.7**	**0.0**
ZLN	**Zelenaya**	**3.26**	**284**	*e*P		P	**Pn**	**03 46 02.4**	**+0.5**
BZP	**Bezymyannyi-Pe**	**3.39**	**282**	*e*P		P	**Pn**	**03 46 04.1**	**+0.3**
KLY	**Klyuchi**	**3.40**	**288**	*e*S			**Sn**	**03 46 41.3**	**-2.2**
BZMR	**Bezymyannaya**	**3.42**	**282**	*e*P		P	**Pn**	**03 46 04.7**	**+0.5**
BZMR				*e*S			**Sn**	**03 46 44.6**	**+0.4**
BZWR	**Bezymyannyi-We**	**3.42**	**282**	*e*P		P	**Pn**	**03 46 04.4**	**+0.1**
BZWR				*e*S			**Sn**	**03 46 44.9**	**+0.6**
TUMD	**Tumrok D**	**3.46**	**270**	*e*P		P	**Pn**	**03 46 04.8**	**+0.1**
TUMD				*e*S			**Sn**	**03 46 45.6**	**+0.5**
KIRR	**Kirishev**	**3.50**	**282**	*e*P		P	**Pn**	**03 46 05.5**	**+0.1**
KIRR				*e*S			**Sn**	**03 46 47.0**	**+0.7**
KMNR	**Kamenistaya**	**3.54**	**279**	*e*P		P	**Pn**	**03 46 06.8**	**+0.9**
KPT	**Kopyto**	**3.57**	**282**	*e*P		P	**Pn**	**03 46 06.6**	**+0.3**
TUMR	**Tumrok**	**3.60**	**271**	*e*P		P	**Pn**	**03 46 07.1**	**+0.4**
TUMR				*e*S			**Sn**	**03 46 49.5**	**+0.9**
SRDR	**Sredinnyy**	**3.91**	**287**	*e*P		P	**Pn**	**03 46 11.3**	**+0.4**
SRDR				*e*S			**Sn**	**03 46 57.3**	**+1.2**
SMAR	**Somma**	**4.95**	**248**	*e*P		P	**Pn**	**03 46 26.2**	**+0.9**
SMAR				*e*S			**Sn**	**03 47 21.5**	**-0.6**
UGLR	**Uglovaya**	**4.96**	**247**	*e*P		P	**Pn**	**03 46 26.6**	**+1.1**
UGLR				*e*S			**Sn**	**03 47 22.3**	**0.0**
AVH	**Avacha**	**4.98**	**248**	*e*P		P	**Pn**	**03 46 26.7**	**+1.1**
AVH				*e*S			**Sn**	**03 47 22.6**	**0.0**
KRX	**Arik**	**4.99**	**249**	*e*P		P	**Pn**	**03 46 26.6**	**+0.8**
KRX				*e*S			**Sn**	**03 47 22.0**	**-0.9**
KOK	**Koryaka**	**5.02**	**249**	*e*P		P	**Pn**	**03 46 27.1**	**+0.8**
KOK				*e*S			**Sn**	**03 47 24.0**	**+0.3**
DALK	**Dalny**	**5.09**	**246**	*e*S			**Sn**	**03 47 24.3**	**-0.8**
KRMR	**Karymshinskiy**	**5.52**	**246**	*e*P		P	**Pn**	**03 46 33.9**	**+1.0**
KRMR				*e*S			**Sn**	**03 47 35.5**	**-0.1**
PETK	**Petropavlovsk-** 2.2nm,0.3s,baz=65,slow=16,SNR=18	**5.61**	**250**	Pn		P	**Pn**	**03 46 34.1**	**-0.1**
PETK	1.1nm,0.3s,baz=50,slow=19,SNR=2.6 5.1nm,0.5s			Sn			**Sn**	**03 47 38.1**	**+0.1**
MTVR	**Mutnovka**	**5.68**	**243**	*e*P		P	**Pn**	**03 46 36.3**	**+1.1**
MTVR				*e*S			**Sn**	**03 47 38.7**	**-1.1**
GRL	**Gorelyy**	**5.69**	**244**	*e*P		P	**Pn**	**03 46 36.7**	**+1.2**
GRL				*e*S			**Sn**	**03 47 39.7**	**-0.5**
ASAK	**Asacha**	**5.88**	**243**	*e*P		P	**Pn**	**03 46 39.2**	**+1.2**
ASAK				*e*S			**Sn**	**03 47 43.9**	**-0.8**
ILAR	**Eielson Array**	**24.53**	**49**	P		P	**P**	**03 50 29.6**	**-0.1**
	0.7nm,1.0s,baz=248,slow=7.6,SNR=4.9 0.7nm,1.0s								
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=293,slow=8.0,SNR=3.0 0.1nm,0.7s	**38.92**	**46**	P		P	**P**	**03 52 34.5**	**-1.3**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=315,slow=5.4,SNR=5.1 0.3nm,0.6s	**66.35**	**72**	P		P	**P**	**03 56 00.5**	**+1.3**

*NIED **30** 03:50:47.5,44.72N×149.67E,h30km,MW4.7,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^16Nm;
Mrr0.80; Mθθ-0.09; Mϕϕ-0.71; Mrθ0.06; Mrϕ-0.42; Mθϕ0.64;
Fault plane solution: M0 1.08000×10^16 NP1:ϕs13.00000°,
δ64.00000°,λ77.00000°. NP2:ϕs222.00000°,δ29.00000°,
λ115.00000°.
*JMA **30** 03:50:47.5±0.7,45°N±3°×15°0E±°,h30km,MD4.7/16,*
MW4.9/16,SE OFF ETOROFU
*BJI **30** 03:50:50.0±0.0,44.44N×149.48E,h48km,mb4.7/64,*
mB5.0/36,Ms4.4/42,Ms7 4.2/42
*SKHL **30** 03:50:51.7±0.2,44.40N×149.40E,h55km±6km,mb5.3/5,*
mbv5.4/3,msh5.0/2
*MOS **30** 03:50:51.6±1.1,44.47N×149.32E,h53km,mb5.1/44,*
MS4.0/6,Error ellipse: s-maj=7.6km s-min=5.2km
az=126.1
*IDC **30** 03:50:53.2±0.5,44.64N×149.27E,h46km±5km,mb4.1/27,*
mbtmp4.3/31,MS3.8/43,Error ellipse: s-maj=15.2km
s-min=12.2km az=158.0
*NEIC **30** 03:50:54.4±1.0,44.5N±0.1×149.27E±0.07,h60km±7km,*
mb4.8/82,Error ellipse: s-maj=15.0km s-min=7.0km
az=182.0
ISC 30 03:50:52.2±0.5,44.40N±0.04×149.44E±0.04,h49km±3km,
h50km:pP-P,n384,σ1.973/394,mb4.8/132,MS4.0/50,
28C-19D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.40**	**307**	*d* PN			**Pn**	**03 51 12.9**	**-2.3**
KUR				*i* S			**Sn**	**03 51 28.8**	**-3.7**
KUR					pmax	pmax			
	comp=Z,3μm,0.5s								
KUR					pmax	pmax			
	comp=N,1μm,0.6s								
KUR					smax	smax			
	comp=N,6μm,0.6s								
KUR					smax	smax			
	comp=E,10μm,0.6s								
KUR	**Kuril'sk**	**1.40**	**307**	*i* P			**Pn**	**03 51 13.3**	**-1.9**
KUR					AMB	AMB		03 51 14.0	
	comp=E,4μm,0.5s								
KUR				*i* S			**Sn**	**03 51 29.8**	**-2.7**
KUR					A	A		03 51 32.3	
	comp=E,13μm,0.6s								
KUR					A	A		03 51 32.3	
	comp=E,15μm,0.6s								
SHO	**Shikotan**	**1.95**	**255**	*e*PN			**Pn**	**03 51 20.8**	**-2.0**
SHO				*e*S			**Sn**	**03 51 42.7**	**-3.4**
SHO					pmax	pmax			
	comp=Z,95nm,0.2s								
SHO					pmax	pmax			
	comp=N,35nm,0.1s								
SHO					pmax	pmax			
	comp=E,99nm,0.2s								
SHO					smax	smax			
	comp=N,2μm,0.5s								
SHO					smax	smax			
	comp=E,2μm,0.5s								
SHO	**Shikotan**	**1.95**	**255**	*e*P			**Pn**	**03 51 21.4**	**-1.4**
SHO					AMB	AMB		03 51 26.3	
	comp=E,230nm,0.2s								
SHO				*e*S			**Sn**	**03 51 43.6**	**-2.5**
SHO					A	A		03 51 50.4	
	comp=E,2μm,0.4s								
SHO					A	A		03 51 50.4	
	comp=E,2μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**2.60**	**263**	*e*PN			**Pn**	**03 51 31.8**	**+0.1**
YUK				*e*S			**Sn**	**03 52 01.6**	**-0.4**
YUK					pmax	pmax			
	comp=N,317nm,0.2s								
YUK					pmax	pmax			
	comp=E,269nm,0.2s								
YUK					pmax	pmax			
	comp=Z,902nm,0.2s								
YUK					smax	smax			
	comp=E,3μm,0.5s								
YUK					smax	smax			
	comp=N,2μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.60**	**263**	*e*P			**Pn**	**03 51 31.1**	**-0.6**
YUK					AMB	AMB		03 51 33.0	
	comp=N,800nm,0.2s								
YUK				*e*S			**Sn**	**03 52 00.1**	**-1.9**
YUK					A	A		03 52 06.7	
	comp=N,3μm,0.4s								
YUK					A	A		03 52 06.7	
	comp=N,3μm,0.4s								
NEM2	**Nemuro 2**	**2.87**	**250**	*e*P			**Pn**	**03 51 33.8**	**-1.5**
NEM2				*e*S			**Sn**	**03 52 08.6**	**0.0**
NMR	**Nemuro--Hokkai**	**2.88**	**250**	*e*PN			**Pn**	**03 51 34.2**	**-1.3**
NMR				*e*S			**Sn**	**03 52 07.5**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.88**	**250**	*e*P			**Pn**	**03 51 34.4**	**-1.1**
NMR				*e*S			**Sn**	**03 52 06.6**	**-2.2**
RUSJ	**Misakicho**	**3.03**	**266**	*e*PN			**Pn**	**03 51 38.8**	**+1.3**
RUSJ				*e*S			**Sn**	**03 52 15.9**	**+3.4**
JRA	**Rausu**	**3.14**	**263**	*e*P			**Pn**	**03 51 39.1**	**0.0**
JRA				*e*S			**Sn**	**03 52 18.5**	**+3.2**
JRA	**Rausu**	**3.14**	**263**	A		A		03 51 39.1	
	comp=E,3.0nm,2.0s,comp=N,5.0nm,3.5s								
JNSB	**Nemuroshibetsu**	**3.26**	**261**	A		A		03 51 38.7	
	comp=E,5.0nm,4.3s,comp=N,6.0nm,3.7s								
JNK	**Nakash**	**3.50**	**258**	*e*P			**Pn**	**03 51 43.5**	**-0.6**
JNK				*e*S			**Sn**	**03 52 23.4**	**-0.8**
AKK	**Akkeshi**	**3.61**	**249**	*e*P			**Pn**	**03 51 44.9**	**-0.6**
JAK	**Akkeshi**	**3.71**	**249**	*e*P			**Pn**	**03 51 45.8**	**-1.2**
JAK				*e*S			**Sn**	**03 52 29.6**	**+0.2**
JAK	**Akkeshi**	**3.71**	**249**	A		A		03 51 45.8	
	comp=E,4.0nm,2.1s,comp=N,4.0nm,4.3s								
JTKR	**Abashiri--Toko**	**4.00**	**266**	*e*P			**Pn**	**03 51 51.8**	**+0.8**
JAR	**Ashorobuto**	**4.25**	**257**	*e*P			**Pn**	**03 51 54.6**	**+0.3**
JOB	**Onbets**	**4.33**	**252**	*e*P			**Pn**	**03 51 55.3**	**-0.2**
JOB				*e*S			**Sn**	**03 52 42.9**	**-1.8**
JCH	**Churui**	**4.77**	**250**	*e*P			**Pn**	**03 52 00.5**	**-0.9**
JCH				*e*S			**Sn**	**03 52 55.8**	**+0.4**
JKK2	**Kamakawa 2**	**4.85**	**266**	*e*P			**Pn**	**03 52 03.6**	**+1.1**
JKA	**Kamikawa-asahi**	**4.92**	**269**				**Pn**	**03 52 05.5**	**+1.9**
JKA	**Kamikawa-asahi**	**4.92**	**269**	*e*P			**Pn**	**03 52 04.9**	**+1.3**
ASAJ	**Asahikawa**	**4.92**	**269**	P			**Pn**	**03 52 04.9**	**+1.3**
	comp=N,37nm,0.8s,baz=93,slow=13,SNR=21								
ASAJ					LR	LR		03 54 11.0	
	comp=N,3μm,19.0s,baz=132,slow=41								
ERM	**Erimo**	**5.17**	**245**	Pn			**Pn**	**03 52 07.9**	**+0.9**
ERM	**Erimo**	**5.17**	**245**	PN			**Pn**	**03 52 07.9**	**+0.9**
JAB	**Ashibetsu**	**5.29**	**263**	*e*P			**Pn**	**03 52 10.9**	**+2.3**
JNBK	**Urakawa-nobuka**	**5.32**	**249**	*e*P			**Pn**	**03 52 08.2**	**-0.8**
JNBK				*e*S			**Sn**	**03 53 09.6**	**+0.7**
JNBK	**Urakawa-nobuka**	**5.32**	**249**	A		A		03 52 08.2	
	comp=E,4.0nm,1.0s,comp=N,3.0nm,0.9s								
YSS	**Yuzh-Sakhalins**	**5.34**	**301**	Pn			**Pn**	**03 52 09.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.34**	**301**	*e*PN			**Pn**	**03 52 09.6**	**+0.4**
YSS				*e*S			**Sn**	**03 53 07.4**	**-1.9**
YSS					pmax	pmax			
	comp=Z,200nm,3.7s								
YSS					pmax	pmax			
	comp=Z,60nm,0.4s								
YSS					smax	smax			
	comp=N,110nm,0.6s								

UGL AMB AMB 03 52 40.0
comp=N,680nm,3.0s
UGL eS Sn **03 53 45.7 -1.9**
UGL A A 03 53 52.0
comp=N,680nm,4.0s
UGL A A 03 53 52.0
comp=N,1µm,4.0s
UGL A A 03 53 54.0
comp=N,110nm,0.5s
UGL A A 03 53 54.0
comp=N,150nm,0.5s
JANG Nango 7.11 238 eP **Pn 03 52 31.0 -2.6**
JANG eS **Sn 03 53 46.1 -7.0**
JTM Tenmabayashi 7.15 243 Pn **Pn 03 52 33.2 -0.9**
JTH Tanohata 7.18 234 eS **Sn 03 53 47.0 -7.7**
TYV Tymovskoe 7.92 327 ePN **Pn 03 52 45.6 +0.9**
TYV eS **Sn 03 54 15.3 +2.5**
TYV pmax pmax
comp=Z,27nm,0.7s
TYV pmax pmax
comp=Z,500nm,4.5s
TYV smax smax
comp=N,9.0nm,0.8s
TYV smax smax
comp=E,15nm,0.8s
TYV smax smax
comp=N,500nm,4.8s
TYV smax smax
comp=E,400nm,4.8s
TYV MLR MLR
comp=Z,1µm,17.0s
TYV Tymovskoe 7.92 327 eP **Pn 03 52 45.5 +0.9**
TYV AMB AMB 03 52 48.4
comp=Z,500nm,4.5s
TYV eS **Sn 03 54 10.6 -2.2**
TYV A A 03 54 17.6
comp=Z,500nm,5.1s
TYV A A 03 54 17.6
comp=Z,400nm,5.1s
JMM Marumori 9.22 228 Pn **Pn 03 52 59.5 -3.0**
NKL Nikolayevsk 10.48 330 eP **Pn 03 53 20.9 +1.2**
GRNR Gornyy 10.85 311 ⇃PN **Pn 03 53 26.9 +2.2**
GRNR pmax pmax
comp=E,7.0nm,0.9s
GRNR pmax pmax
comp=Z,8.0nm,0.9s
GRNR MLR MLR
comp=N,350nm,15.0s
GRNR MLR MLR
comp=Z,550nm,16.0s
GRNR Gornyy 10.85 311 eP **Pn 03 53 26.9 +2.2**
MJA0 Matsu Arr-Jizo 11.58 231 ePN **Pn 03 53 34.8 0.0**
MJAR Matsushiro Arr 11.60 231 P **Pn 03 53 34.2 -0.8**
comp=Z,2.7nm,0.8s,baz=23,slow=14,SNR=5.2
USA0B Ussuriysk Arra 12.51 275 **Pn 03 53 46.6 -0.8**
USA0B Ussuriysk Arra 12.51 275⇑ ePN **Pn 03 53 47.4 0.0**
USRK Ussuriysk Ar. 12.51 275 Pn **Pn 03 53 47.1 -0.3**
USRK Ussuriysk Ar. 12.51 275 PN **Pn 03 53 47.1 -0.3**
USRK Ussuriysk Ar. 12.51 275 P **Pn 03 53 47.4 0.0**
comp=Z,14nm,0.8s,baz=88,slow=13,SNR=18
USRK LR LR 03 58 44.3
comp=Z,728nm,18.9s,baz=96,slow=38
KLR Kul'dur 13.04 298 P **P 03 53 59.3 -4.3**
comp=Z,7.6nm,0.9s,baz=106,slow=16,SNR=26
KLR LR LR 03 59 15.6
comp=Z,818nm,18.4s,baz=106,slow=39
MSHR Mys Shultsa 13.40 269⇑ ePN **Pn 03 53 58.4 -1.2**
MSHR pmax pmax
comp=Z,9.0nm,1.0s
MDJ Mudanjiang 14.17 278 P **Pn 03 54 09.3 -0.6**
MDJ pP P 03 54 17.5 +1.3
MDJ sP 03 54 25.5
MDJ S **Sn 03 56 49.0 +3.4**
MDJ PcP **PcP 03 59 21.5 -4.1**
MDJ PcS **PcS 04 02 55.8 -4.6**
MDJ ScS **ScS 04 06 27.8 -4.4**
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,200nm,5.9s
MDJ LR LR
comp=Z,730nm,16.8s
MDJ LR LR
comp=Z,830nm,17.2s
MDJ LR LR
comp=Z,990nm,15.8s
MA2 Magadan 15.22 3 LR LR 04 00 35.2
comp=Z,305nm,18.0s,baz=132,slow=39
BNX BinXian 15.62 283 ⇑P **P 03 54 31.0 -1.3**
BNX pmax pmax
comp=Z,13nm,1.0s
BNX pmax pmax
comp=Z,140nm,5.4s
HEH HeiHe 16.02 299 eP **Pn 03 54 34.5 +0.6**
HEH pmax pmax
comp=Z,13nm,0.8s
HEH pmax pmax
comp=Z,220nm,7.4s
HEH LR LR
comp=Z,310nm,15.8s
HEH LR LR
comp=Z,980nm,17.7s
HEH LR LR
comp=Z,1µm,18.4s
ZEA Zeya 17.22 311 eP **P 03 54 50.1 +0.2**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=E,300nm,15.0s
ZEA MLR MLR
comp=N,300nm,10.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
ZEA Zeya 17.22 311 eP **Pn 03 54 45.3 -3.7**
CN2 Changchun 17.23 276 eP **Pn 03 54 49.3 +0.1**
CN2 eS **Sn 03 57 57.8 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,500nm,13.0s
CN2 LR LR
comp=Z,600nm,12.1s
KSRS Korea Array 17.65 254 eP **P 03 54 55.7 +0.9**
KSRS Korea Array 17.65 254 P **P 03 54 55.9 +1.0**
comp=Z,2.9nm,0.8s,baz=65,slow=12,SNR=6.3
KSRS LR LR 04 01 59.4
comp=Z,587nm,18.2s,baz=55,slow=38
JCJ Chichijima 18.23 201 P **Pn 03 55 01.6 0.0**
SHEM Shemya Is, Ala 18.25 54 LR LR 04 01 14.4
comp=Z,219nm,20.5s,baz=271,slow=34
JNU Nakatsue 18.30 238 LR LR 04 02 53.2
comp=Z,413nm,20.0s,baz=41,slow=39
SEY Seymchan 18.65 4⇑ eP **P 03 55 03.9 -1.7**
SEY pmax pmax
comp=Z,6.0nm,1.0s
SEY Seymchan 18.65 4 P **P 03 55 03.3 -2.3**
comp=Z,4.5nm,0.7s,baz=183,slow=9.9,SNR=5.2
SEY LR LR 04 02 45.0
comp=Z,458nm,18.4s,baz=204,slow=39
YAK Yakutsk 21.10 334 P **P 03 55 30.1 -2.1**
YAK IAmb IAmb 03 55 43.3
comp=Z,47nm,0.8s
YAK Yakutsk 21.10 334 eP **P 03 55 29.5 -2.7**
YAK e 03 55 50.8
YAK eS **S 03 59 21.2 -2.8**
YAK e*SS Sn 03 59 33.4 +0.7
YAK eSS **SnSn 03 59 56.7 +8.6**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.9s
YAK pmax pmax
comp=Z,456nm,5.9s
YAK pmax pmax
comp=N,190nm,6.4s
YAK pmax pmax
comp=E,288nm,5.1s
YAK smax smax
comp=N,208nm,4.8s
YAK smax smax
comp=E,105nm,4.4s
YAK Yakutsk 21.10 334 P **P 03 55 29.7 -2.5**
comp=E,13nm,0.3s,baz=22,slow=1.5,SNR=4.6
comp=E,13nm,0.3s
XLT XiLinHaoTe 23.85 281 eP **P 03 56 00.0 -0.9**
XLT pP pP 03 56 10.5 -1.9
XLT sP sP 03 56 17.3 -0.7
XLT PP **PnPn 03 56 30.0 -0.6**
XLT S **S 04 00 17.5 +4.1**
XLT sS sS 04 00 26.5 -5.8
XLT pmax pmax
comp=E,15nm,1.2s
XLT pmax pmax
comp=E,220nm,4.7s
XLT LR LR
comp=E,570nm,14.5s
XLT LR LR
comp=E,470nm,16.2s
JOW Kunigami 24.45 231 LR LR 04 06 24.5
comp=E,248nm,21.1s,baz=124,slow=38
BJI Beijing 24.91 272 P **P 03 56 10.5 0.0**
BJI sP **sP 03 56 29.5 +2.3**
BJI pmax pmax
comp=E,6.0nm,1.1s
BJI pmax pmax
comp=E,120nm,5.1s
BJI LR LR
comp=E,120nm,14.2s
BJI LR LR
comp=E,180nm,17.1s
BJI LR LR
comp=E,270nm,19.5s
BJT Baijiatuau 24.93 272 P **P 03 56 10.5 -0.1**
BJT Baijiatuau 24.93 272 P **P 03 56 10.5 -0.1**
BJT pmax pmax
comp=Z,10.0nm,0.9s
TIA Tai'an 25.84 263 P **P 03 56 19.8 +0.9**
TIA pmax pmax
comp=Z,9.0nm,1.2s
NJ2 Nanjing 26.84 253 eP **P 03 56 28.8 +0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 LR LR
comp=Z,560nm,13.5s
NJ2 LR LR
comp=Z,650nm,13.0s
NJ2 LR LR
comp=Z,850nm,14.2s
HNS HongShan 27.02 267 ⇑P **P 03 56 32.0 +2.5**
HNS S **S 04 01 08.5 +4.9**
HNS pmax pmax
comp=Z,23nm,1.3s
HNS LR LR
comp=Z,350nm,11.6s
HNS LR LR
comp=Z,340nm,16.9s
HHC Hu-ho-hao-te 27.93 276 eP **P 03 56 38.8 +1.0**
HHC S **S 04 01 19.0 +0.8**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,230nm,4.4s
HHC LR LR
comp=Z,140nm,14.5s
HHC LR LR
comp=Z,500nm,14.5s
HHC LR LR
comp=Z,630nm,15.3s
H11N2 WAKE ISLAND Hy 28.58 144 T T 04 27 40.5
baz=334,slow=76,SNR=669
H11N1 WAKE ISLAND Hy 28.59 144 T T 04 27 41.2
baz=334,slow=76,SNR=289
H11N3 WAKE ISLAND Hy 28.60 144 T T 04 27 42.5
baz=334,slow=76,SNR=733
TIXI Tiksi 29.08 347 LR LR 04 10 49.3
comp=Z,176nm,18.2s,baz=190,slow=42
BTO Baotou 29.11 276 eP **P 03 56 52.8 +4.5**
BTO pP **sP 03 57 04.5 -1.3**
BTO sP **pwP 03 57 10.3 +6.8**
BTO PP **PP 03 57 47.5 -7.0**
BTO S **S 04 01 42.0 +5.2**
BTO sS **sS 04 02 01.3 +5.4**
BTO SS **SnSn 04 03 10.0 +5.7**
BTO pmax pmax
comp=Z,42nm,0.9s
BTO pmax pmax
comp=Z,390nm,5.0s
BTO LR LR
comp=Z,630nm,16.3s
BTO LR LR
comp=Z,930nm,15.4s
BTO LR LR
comp=Z,1µm,20.2s
ULN Ulaanbaatar 29.31 292⇓ eP **P 03 56 49.5 -0.5**
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 29.31 292 eP **P 03 56 49.5 -0.5**
H11S1 WAKE ISLAND Hy 29.59 145 T T 04 28 52.2
baz=335,slow=76,SNR=721
H11S3 WAKE ISLAND Hy 29.60 145 T T 04 28 57.0
baz=335,slow=76,SNR=380
H11S2 WAKE ISLAND Hy 29.61 145 T T 04 28 54.6
baz=335,slow=76,SNR=283
SONM Songino Array 29.75 292 P **P 03 56 53.9 0.0**
comp=Z,2.4nm,0.8s,baz=76,slow=8.2,SNR=19
SONM LR LR 04 09 57.8
comp=Z,533nm,18.2s,baz=93,slow=39
comp=Z,2.4nm,0.8s
LYN LuoYang 29.96 264 eP **P 03 56 57.0 +1.2**
LYN pmax pmax
comp=Z,15nm,0.5s
LYN pmax pmax
comp=Z,110nm,4.0s
GUMO Guam 30.95 189 LR LR 04 07 11.8
comp=Z,80nm,19.9s,baz=353,slow=31
XAN Xi'an 32.76 266⇑ P **P 03 57 20.0 -0.4**
XAN pmax pmax
comp=Z,12nm,1.3s
C16K Lisburne Hills 33.37 29 P **P 03 57 26.5 +1.3**
C16K IAmb IAmb 03 57 48.3
comp=Z,31nm,2.0s
F17K Baldwin Pennin 34.28 33 P **P 03 57 34.4 +1.3**
F17K IAmb IAmb 03 57 35.9
comp=Z,27nm,1.6s
C18K Utukok River 34.94 29 P **P 03 57 40.3 +1.4**
H18K Honhosa River 35.15 35 P **P 03 57 41.7 +0.9**
H18K IAmb IAmb 03 57 53.3
comp=Z,34nm,1.6s
G18K Tagagawik 35.18 34 P **P 03 57 41.7 +0.7**
G18K IAmb IAmb 03 57 42.7
comp=Z,11nm,1.1s
LZH Lanzhou 35.40 272⇑ P **P 03 57 44.3 +0.9**
LZH sP pwP 03 58 01.3 +1.1
LZH pmax pmax
comp=Z,39nm,1.5s
LZH LR LR
comp=Z,250nm,10.3s
LZH LR LR
comp=Z,270nm,13.4s
LZH LR LR
comp=Z,290nm,13.1s
F19K Shaleruckik Mo 35.72 33 P **P 03 57 46.2 +0.6**
D19K Kuna River 35.98 30 P **P 03 57 48.3 +0.4**
D19K IAmb IAmb 03 58 15.8
comp=Z,20nm,1.2s
H19K Roundabout Mou 36.01 35 P **P 03 57 49.1 +1.1**
E19K Redstone River 36.06 32 P **P 03 57 49.7 +1.2**
E19K IAmb IAmb 03 58 05.6
comp=Z,11nm,0.8s
GTA Gaotai 36.81 280 P **P 03 57 56.0 +0.6**
GTA pP pP 03 58 08.0 +0.5
GTA sP sP 03 58 13.8 +0.8
GTA pmax pmax
comp=Z,16nm,1.2s
GTA LR LR
comp=Z,200nm,16.4s
GTA LR LR
comp=Z,410nm,16.0s
GTA LR LR
comp=Z,340nm,17.8s
IMAR Indian Mountai 37.18 35 P **P 03 57 59.0 +1.0**
G21K Allakaket 37.34 34 P **P 03 58 00.3 +0.9**
G21K IAmb IAmb 03 58 01.5
comp=Z,8.1nm,0.9s
H21K Melozitna Rive 37.53 35 P **P 03 58 02.0 +0.9**
H21K IAmb IAmb 03 58 18.9
comp=Z,14nm,1.2s
KDAK Kodiak Island 37.59 48 P **P 03 58 02.1 +0.5**
comp=Z,8.7nm,0.7s,baz=302,slow=12,SNR=1.7
comp=Z,8.7nm,0.7s
CAST Castle Rocks 37.69 39 P **P 03 58 03.8 +1.4**
CAST IAmb IAmb 03 58 30.1
comp=Z,35nm,1.8s
D22K Ayikyak River 38.00 30 P **P 03 58 07.0 +2.0**
D22K IAmb IAmb 03 58 10.9
comp=Z,7.1nm,0.6s
CD2 Chengdu 38.11 265 P **P 03 58 06.8 +0.4**
CD2 pmax pmax
comp=Z,30nm,0.7s
KTH Kantishna Hill 38.22 39 P **P 03 58 08.2 +1.2**
MLY Manley 38.35 36 P **P 03 58 09.5 +1.5**
MLY IAmb IAmb 03 58 41.4
comp=Z,16nm,1.4s
NEA2 Nenana 39.05 37 P **P 03 58 15.2 +1.4**
MDM Murphy Dome 39.41 36 P **P 03 58 18.3 +1.5**
D24K Happy Valley 39.42 30 P **P 03 58 19.1 +2.3**
COLA College 39.57 37 P **P 03 58 19.6 +1.5**
POKR Poker Plat Res 39.75 36 P **P 03 58 21.0 +1.3**
G24K Hadweenzic Riv 39.75 34 P **P 03 58 21.0 +1.3**
G24K IAmb IAmb 03 58 48.1
comp=Z,34nm,1.6s
ILAR Eielson Array 39.98 37 P **P 03 58 22.2 +0.6**
ILAR Eielson Array 39.98 37 P **P 03 58 22.3 +0.7**
comp=Z,6.1nm,1.0s,baz=265,slow=7.7,SNR=5.2
comp=Z,6.1nm,1.0s
D25K Kavik River 40.30 30 P **P 03 58 24.6 +0.4**
D25K IAmb IAmb 03 58 29.8
comp=Z,13nm,0.6s
DGZ Jazzator, Alta 41.52 300⇑ eP **P 03 58 34.8 +0.2**
DGZ pmax pmax
comp=Z,11nm,3.8s
GOMU GeErMu 41.79 278 P **P 03 58 37.5 +0.3**
GOMU pP sP 03 58 55.0 +0.4
GOMU S **S 04 04 52.0 +0.6**
GOMU pmax pmax
comp=Z,7.0nm,0.9s
GOMU LR LR
comp=Z,370nm,17.1s
GOMU LR LR
comp=Z,380nm,16.7s
GOMU LR LR
comp=Z,690nm,17.3s
ZALV Zalesovo Beam 41.93 307 P **P 03 58 36.5 -1.1**
comp=Z,1.0nm,0.5s,baz=79,slow=7.7,SNR=5.0
ZALV PcP **PcP 04 00 32.6 +0.3**
comp=Z,1.0nm,0.7s,baz=62,slow=3.8,SNR=4.0
ZALV LR LR 04 17 04.8
comp=Z,226nm,19.2s,baz=55,slow=38
comp=Z,1.0nm,0.5s
PZH PanZhiHua 42.12 261 P **P 03 58 40.3 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.3s
K27K Chicken 42.12 38 P **P 03 58 40.2 +1.1**
K27K IAmb IAmb 03 58 45.9
comp=Z,13nm,1.1s
D27M Malcolm River 42.22 30 P **P 03 58 42.0 +2.1**
KMI Kunming 42.27 259⇑ P **P 03 58 41.8 +0.8**
KMI pP pP 03 58 50.8 -2.1
KMI pmax pmax
comp=Z,12nm,0.8s
L27K Beaver Creek, 42.34 39 P **P 03 58 43.1 +2.1**
E28M Babbage River 42.77 31 P **P 03 58 45.1 +0.7**
I28M Miner Creek 42.88 35 P **P 03 58 46.6 +1.2**
E29M Blow River 43.38 31 P **P 03 58 51.1 +1.8**
E29M IAmb IAmb 03 59 09.2
comp=Z,17nm,1.4s
WMQ Urumqi 43.39 292 eP **P 03 58 50.3 +0.5**
WMQ LR LR
comp=Z,440nm,17.5s
WMQ LR LR
comp=Z,350nm,17.1s
G30M tAoh Zraii Nji 44.18 33 P **P 03 58 56.6 +0.9**
G30M IAmb IAmb 03 58 58.0
comp=Z,41nm,1.8s
I30M Mount Dempster 44.38 35 P **P 03 58 58.6 +1.1**
INK Inuvik 45.00 31 P **P 03 59 03.3 +1.1**
INK IAmb IAmb 03 59 14.8
comp=Z,32nm,1.7s
INK Inuvik 45.00 31 P **P 03 59 03.3 +1.1**
INK pmax pmax
comp=Z,32nm,1.7s
INK Inuvik 45.00 31 LR LR 04 19 09.9
comp=Z,190nm,18.7s,baz=359,slow=38
MK31 Makanchi Array 45.74 298 P **P 03 59 08.4 0.0**
MK31 IAmb IAmb 03 59 09.1
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 45.74 298 P **P 03 59 08.4 0.0**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 45.74 298 P **P 03 59 08.5 +0.1**
MKAR Makanchi Array 45.74 298 P **P 03 59 08.5 +0.1**
MKAR Makanchi Array 45.74 298 P **P 03 59 07.9 -0.5**
comp=Z,7.1nm,0.8s,baz=72,slow=7.8,SNR=66
MKAR LR LR 04 19 33.6
comp=Z,679nm,18.1s,baz=58,slow=38
comp=Z,7.1nm,0.8s
MAKZ Makanchi 45.94 298 P **P 03 59 10.0 0.0**
MAKZ Makanchi 45.94 298 P **P 03 59 10.0 0.0**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
MAKZ Makanchi 45.94 298 P **P 03 59 09.7 -0.3**
KURK Kurchatov 46.53 304⇓ eP **P 03 59 14.2 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 46.53 304 eP **P 03 59 14.2 -0.3**
KURBB Kurchatov Arra 46.62 304 P **P 03 59 14.1 -1.1**
comp=Z,1.8nm,0.6s,baz=70,slow=8.6,SNR=10
comp=Z,1.8nm,0.6s
A36M Sachs Harbour 47.09 25 P **P 03 59 19.7 +1.1**
CMAR Chiang Mai Arr 49.29 255 P **P 03 59 36.5 +0.2**
comp=Z,1.2nm,0.3s,baz=41,slow=6.9,SNR=7.0
CMAR LR LR 04 22 36.6
comp=Z,210nm,18.1s,baz=50,slow=39
comp=Z,1.2nm,0.3s
WUS Wushi 50.17 292 P **P 03 59 43.3 +0.4**
BVAR Borovoye Array 50.36 310 P **P 03 59 42.9 -1.1**
comp=Z,1.4nm,0.7s,baz=81,slow=11,SNR=5.1
comp=Z,1.4nm,0.7s
AAK Ala-Archa 52.56 296 P **P 04 00 00.4 -0.3**
AAK IAmb IAmb 04 00 02.0
comp=Z,7.1nm,0.9s
AAK Ala-Archa 52.56 296c eP **P 04 00 00.9 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 52.56 296 LR LR 04 24 21.8
comp=Z,152nm,18.3s,baz=66,slow=38
AAK Ala-Archa 52.56 296 eP **P 04 00 00.9 +0.2**
AAK Ala-Archa 52.56 296 P **P 04 00 01.1 +0.3**
KSH Kashi 53.15 292 P **P 04 00 08.8 +3.7**
KSH pP pwP 04 00 25.0 +3.0
KSH PcP **PcP 04 01 17.5 +4.8**
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH LR LR
comp=Z,350nm,15.7s
KSH LR LR
comp=Z,250nm,16.9s
KSH LR LR
comp=Z,340nm,19.1s
RES Resolute Bay 53.87 17 P **P 04 00 10.2 +0.6**
RES IAmb IAmb 04 00 11.1
comp=Z,11nm,0.9s
RES Resolute Bay 53.87 17 P **P 04 00 10.2 +0.6**
RES pmax pmax
comp=Z,11nm,1.0s
RES Resolute Bay 53.87 17 LR LR 04 26 41.3
comp=Z,132nm,18.4s,baz=360,slow=40
YKA Yellowknife Ar 54.34 35 P **P 04 00 14.0 +0.8**
comp=Z,1.4nm,0.7s,baz=300,slow=7.3,SNR=7.8
comp=Z,1.4nm,0.7s
HNR Honiara 54.42 167 LR LR 04 20 46.2
comp=Z,1µm,21.2s,baz=334,slow=33
SPITS Spitsbergen Ar 54.46 349 P **P 04 00 12.8 -1.1**
comp=Z,4.9nm,0.8s,baz=341,slow=7.9,SNR=1.8
comp=Z,4.9nm,0.8s
KK31 Karatay Array 54.86 298 P **P 04 00 17.4 +0.1**
KK31 Karatay Array 54.86 298 P **P 04 00 17.5 +0.1**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 54.86 298 P **P 04 00 17.0 -0.4**

KKAR Karatay Array 54.86 298 P P 04 00 17.0 -0.4
ARU Arti 54.99 317 *c* iP P 04 00 17.3 -0.8
ARU S S 04 07 56.5 +0.2
ARU SS SS 04 11 36.7 -3.1
ARU pmax pmax
comp=Z,15nm,1.6s
ARU MLR MLR
comp=Z,284nm,15.0s
ABKAR Abkulak array 57.94 309 P P 04 00 38.8 -0.4
NIL Nilore 58.18 288 P P 04 00 40.1 -1.0
NIL Nilore 58.18 288 P P 04 00 40.1 -1.0
NIL pmax pmax
comp=Z,25nm,1.2s
SIMJ Simiganj 58.19 295 P P 04 00 41.0 -0.3
SIMJ Simiganj 58.19 295 ⇑P P 04 00 41.2 -0.1
ARCES ARCESS Array B 59.20 340 P P 04 00 46.9 -0.8
comp=Z,2.5nm,0.9s,baz=31,slow=7.6,SNR=3.6
ARCES LR LR 04 29 27.5
comp=Z,80nm,19.1s,baz=51,slow=39
comp=Z,2.5nm,0.9s
KBL Kabul 60.51 291 P P 04 00 56.6 -0.8
KBL Kabul 60.51 291 P P 04 00 56.6 -0.8
KBL pmax pmax
comp=Z,15nm,1.1s
NEW Newport 60.66 50 LR LR 04 25 06.9
comp=Z,43nm,21.3s,baz=284,slow=34
KLMR Klimovskoe 60.76 328 *e*P P 04 00 55.5 -2.9
KLMR pmax pmax
comp=Z,33nm,1.7s
YBH Yreka Blue Hor 61.15 59 LR LR 04 22 37.0
comp=Z,51nm,21.6s,baz=316,slow=31
SUMG Summit 63.20 3 *i* P P 04 01 14.0 -1.1
MSO Missoula 63.24 50 P P 04 01 16.9 +1.4
JMIC Jan Mayen 63.83 352 LR LR 04 29 43.1
comp=Z,36nm,18.1s,baz=270,slow=37
FFC Flin Flon 64.19 38 P P 04 01 22.7 +1.3
FFC Flin Flon 64.19 38 P P 04 01 22.7 +1.3
FFC pmax pmax
comp=Z,7.0nm,1.0s
FFC Flin Flon 64.19 38 P P 04 01 22.5 +1.1
CTA Charters Tower 64.24 183 LR LR 04 24 53.4
comp=Z,29nm,21.9s,baz=79,slow=32
PAHR Pah Rah Range 64.38 59 P P 04 01 24.0 +0.9
FINES FINESS Array B 65.03 334 *i* P P 04 01 27.2 +0.4
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 65.03 334 P P 04 01 25.6 -1.2
FINES FINESS Array B 65.03 334 P P 04 01 25.6 -1.2
comp=Z,4.2nm,0.7s,baz=42,slow=6.4,SNR=11
comp=Z,4.2nm,0.7s
WRA Warramunga Arr 65.50 196 P P 04 01 32.7 +2.4
comp=Z,1.0nm,0.7s,baz=12,slow=6.6,SNR=4.2
WRA pP sP 04 01 45.7 -1.8
comp=Z,2.3nm,0.9s,baz=14,slow=6.7,SNR=6.1
comp=Z,1.0nm,0.7s
GEYT Alibeck 65.56 300 P P 04 01 31.1 +0.4
comp=Z,3.1nm,0.5s,baz=62,slow=6.9,SNR=8.9
comp=Z,3.1nm,0.5s
KVN Kaiserville 65.57 59 P P 04 01 32.1 +1.2
KVN Kaiserville 65.57 59 P P 04 01 32.1 +1.2
KVN pmax pmax
comp=Z,6.0nm,1.1s
OBN Obninsk 65.76 325 *ce*P P 04 01 30.8 -0.7
OBN *i* 04 01 48.2
OBN *e* 04 02 00.3
OBN *e* 04 03 55.3
OBN pmax pmax
comp=Z,15nm,1.3s
OBN MLR MLR
comp=Z,156nm,16.0s
OBN Obninsk 65.76 325 *e*P P 04 01 30.8 -0.7
LHV Little Huntoon 65.82 60 P P 04 01 33.8 +1.6
LHV IAmb IAmb 04 01 50.5
comp=Z,8.4nm,1.1s
NVAR Mina Array Bea 65.83 59 P P 04 01 35.0 +2.3
comp=Z,0.6nm,0.7s,baz=322,slow=7.2,SNR=1.7
NVAR LR LR 04 28 14.9
comp=Z,34nm,20.2s,baz=296,slow=34
comp=Z,0.6nm,0.7s
VRH Novokhopyorsk 66.13 319 *e*P P 04 01 31.9 -2.1
VRH pmax pmax
comp=Z,10.0nm,0.7s
ELK Elko 66.25 56 LR LR 04 30 33.0
comp=Z,47nm,18.8s,baz=324,slow=36
LPSR Galich'ya Gora 66.46 321 *e*P P 04 01 34.2 -1.9
LPSR pmax pmax
comp=Z,20nm,0.9s
H17A Grant Village 66.61 50 P P 04 01 39.1 +1.5
H17A IAmb IAmb 04 02 01.1
comp=Z,22nm,1.9s
DSP Deep Springs 66.70 60 P P 04 01 39.5 +1.7
VORR Voronezh 66.97 321 *e*P P 04 01 38.2 -1.2
VSU Vasula 67.07 331 *ce*P P 04 01 37.5 -2.4
VSU pmax pmax
comp=Z,90nm,2.4s
VSR Storozhevoye 67.30 320 *e*P P 04 01 40.6 -0.9
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 67.42 320 *e*P P 04 01 40.4 -1.8
VORD pmax pmax
comp=Z,10.0nm,0.8s
DZM Mont Dzumac 67.95 163 LR LR 04 28 39.3
comp=Z,32nm,20.6s,baz=6.5,slow=33
FRB Frobisher Bay 68.08 17 LR LR 04 35 41.3
comp=Z,77nm,18.1s,baz=337,slow=40
PDAR Pinedale Array 68.22 51 P P 04 01 49.0 +1.2
comp=Z,0.7nm,0.7s,baz=236,slow=0.8,SNR=4.1
PDAR LR LR 04 32 51.7
comp=Z,40nm,19.1s,baz=327,slow=37
comp=Z,0.7nm,0.7s
QSM Queen of Sheba 68.27 61 P P 04 01 48.6 +0.8
QSM IAmb IAmb 04 02 06.0
comp=Z,37nm,1.9s
SHPR Sheep Range 68.98 59 P P 04 01 53.4 +0.8
ASAR Alice Springs 69.21 195 P P 04 01 55.8 +2.1
comp=Z,1.2nm,0.7s,baz=17,slow=6.5,SNR=7.9
ASAR pP sP 04 02 09.9 -1.0
comp=Z,1.2nm,0.7s,baz=13,slow=5.0,SNR=5.1
ASAR LR LR 04 30 25.9
comp=Z,14nm,21.5s,baz=20,slow=34
comp=Z,1.2nm,0.7s
NB2 NORSAR Subarra 69.58 340 P P 04 01 54.3 -1.3
comp=Z,1.9nm,0.6s,baz=29,slow=6.5
NOA NORSAR Array B 69.58 340 *e*P P 04 01 54.6 -1.0
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 69.58 340 P P 04 01 54.2 -1.3
comp=Z,3.9nm,0.8s,baz=29,slow=6.7,SNR=9.1
NOA LR LR 04 38 34.4
comp=Z,49nm,18.7s,baz=25,slow=41
comp=Z,3.9nm,0.8s
GOF Gofitskoye 69.61 313 *ce*P P 04 01 56.8 +0.8
RDMU Red Mountain 69.66 53 P P 04 01 58.3 +1.6
RDMU IAmb IAmb 04 02 13.5
comp=Z,8.9nm,0.8s
HFS Hagfors 69.72 338 P P 04 01 55.3 -1.1
comp=Z,3.5nm,0.6s,baz=15,slow=6.0,SNR=12
HFS LR LR 04 34 52.4
comp=Z,74nm,21.5s,baz=38,slow=38
comp=Z,3.5nm,0.6s
NACGM Naroch 69.77 329 *e*P P 04 01 56.6 +1.6
comp=E,2μm,1.1s
LCMT Little Creek M 69.83 58 P P 04 01 59.1 +1.4
ULM Lac du Bonnet 69.98 38 P P 04 01 56.5 -1.7
comp=E,0.9nm,0.4s,baz=344,slow=4.0,SNR=2.3
PFO Pinyon Flats O 70.04 62 LR LR 04 27 34.9
comp=E,58nm,21.1s,baz=309,slow=31
KIV Kislovodsk 70.55 313 P P 04 02 03.0 +1.0
KIV Kislovodsk 70.55 313 *e*P P 04 02 03.2 +1.3
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,226nm,18.0s
KIV Kislovodsk 70.55 313 *e*P P 04 02 03.2 +1.3
KIV Kislovodsk 70.55 313 ⇓P P 04 02 03.6 +1.7
KBZ Khabaz 70.59 313 *e*P P 04 02 03.3 +1.3
KBZ pmax pmax
comp=Z,12nm,0.8s
KBZ Khabaz 70.59 313 P P 04 02 03.0 +1.0
comp=Z,12nm,0.8s,baz=58,slow=4.7,SNR=23
comp=Z,12nm,0.8s
KBZ Khabaz 70.59 313 *e*P P 04 02 03.3 +1.3
ZEI Tsey 70.70 311 *e*P P 04 02 02.0 -1.0
ZEI pmax pmax
comp=Z,10.0nm,1.0s
BORG Borgarnes 70.95 356 LR LR 04 31 28.4
comp=Z,28nm,20.0s,baz=6.6,slow=34
AKASG Malin Array Be 72.02 325 *i* P P 04 02 10.5 0.0
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 72.02 325 P P 04 02 10.0 -0.6
comp=Z,4.2nm,0.7s,baz=36,slow=6.1,SNR=24
comp=Z,4.2nm,0.7s
AKBB Malin Array Si 72.02 325 P P 04 02 10.7 +0.2
AKBB IAmb IAmb 04 02 11.2
comp=Z,12nm,0.9s
AKBB Malin Array Si 72.02 325 P P 04 02 10.7 +0.2
AKBB pmax pmax
comp=Z,12nm,0.9s
KIEV Kiev 72.03 325 P P 04 02 09.8 -0.8
KIEV IAmb IAmb 04 02 11.2
comp=Z,11nm,0.9s
KIEV Kiev 72.03 325 P P 04 02 09.8 -0.8
KIEV pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 72.03 325 P P 04 02 10.3 -0.2
GNI Garni 72.04 309 *de*P P 04 02 13.0 +1.9
GNI pmax pmax
comp=Z,15nm,1.3s
SORM Soroca 74.35 323 ⇑P P 04 02 22.5 -1.8
LVV L'vov 74.80 327 *e*P P 04 02 27.1 +0.2
ANMO Albuquerque 75.28 55 LR LR 04 32 40.9
comp=Z,37nm,21.8s,baz=66,slow=33
KWP Kalwaria Pacla 75.47 327 P P 04 02 31.2 +0.4
KWP Kalwaria Pacla 75.47 327 P P 04 02 31.2 +0.4
KWP pmax pmax
comp=Z,53nm,1.2s
BUR08 Bucovina Ar. S 76.06 325 P P 04 02 34.4 0.0
BUR08 IAmb IAmb 04 02 35.8
comp=Z,11nm,1.1s
BURAR Bucovina Array 76.07 325 ⇑P P 04 02 34.9 +0.5
BURAR Bucovina Array 76.07 325 P P 04 02 34.7 +0.3
OJC Ojcow 76.08 329 *e*P P 04 02 35.2 +1.0
OJC Ojcow 76.08 329 P P 04 02 34.8 +0.5
OJC Ojcow 76.08 329 P P 04 02 34.8 +0.5
OJC pmax pmax
comp=Z,32nm,1.3s
KOLS Kolonicke sedl 76.20 327 *e*P P 04 02 35.9 +0.9
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 76.20 327 *e*P P 04 02 35.9 +0.9
STHS Stebnicka Huta 76.20 328 *e*P P 04 02 35.6 +0.6
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 76.20 328 *e*P P 04 02 35.6 +0.6
STKA Stephens Creek 76.25 187 LR LR 04 32 30.8
comp=Z,24nm,21.1s,baz=23,slow=33
TESR Tescani 76.34 323 ⇑P P 04 02 36.4 +0.6
SCHQ Schefferville 76.45 21 LR LR 04 40 22.8
comp=Z,97nm,19.3s,baz=16,slow=39
CRVS Cervenica-Dubn 76.54 328 *e*P P 04 02 37.9 +1.0
CRVS pmax pmax
comp=Z,52nm,1.8s
CRVS Cervenica-Dubn 76.54 328 *e*P P 04 02 37.9 +1.0
CFR Carcaliu 76.73 322 ⇑P P 04 02 37.8 -0.2
TPGR Topolog 76.86 321 ⇑P P 04 02 39.7 +1.0
TURR Turia 76.97 323 ⇑P P 04 02 41.1 +1.7
OZUR 77.04 324 ⇓P P 04 02 41.4 +1.6
LANS Liptovska Anna 77.08 329 *e*P P 04 02 42.0 +2.0
LANS pmax pmax
comp=Z,11nm,1.2s
LANS Liptovska Anna 77.08 329 *e*P P 04 02 42.0 +2.0
DPC Dobruska-Polom 77.20 331 *e*P P 04 02 41.6 +0.9
DPC Dobruska-Polom 77.20 331 *e*P P 04 02 41.6 +0.9
MORC Moravsky Berou 77.26 330 ⇓P P 04 02 42.0 +1.0
MORC Moravsky Berou 77.26 330 P P 04 02 41.8 +0.8
MORC IAmb IAmb 04 02 42.8
comp=Z,17nm,1.1s
MORC Moravsky Berou 77.26 330 *e*P P 04 02 41.3 +0.3
MORC Moravsky Berou 77.26 330 P P 04 02 41.8 +0.8
MORC pmax pmax
comp=Z,17nm,1.1s
DOPR Dopca 77.31 324 ⇓P P 04 02 42.7 +1.4
MLR Muntele Rosu 77.45 323 P P 04 02 42.2 -0.1
MLR IAmb IAmb 04 02 44.0
comp=Z,19nm,1.4s
MLR Muntele Rosu 77.45 323 P P 04 02 42.2 -0.1
MLR pmax pmax
comp=Z,19nm,1.4s
CLL Collm 77.48 334 P P 04 02 40.7 -1.5
CLL IAmb IAmb 04 02 43.1
comp=Z,16nm,0.9s
CLL Collm 77.48 334 *i* P P 04 02 42.1 0.0
CLL *e**SP pwP 04 02 59.0 -1.0
CLL pmax pmax
comp=Z,41nm,1.4s
CLL Collm 77.48 334 *i* P P 04 02 42.1 0.0
comp=Z,41nm,1.4s
CLL *ep*P pwP 04 02 59.0 -1.0
BRG Berggiesshubel 77.55 333 Amp 04 02 44.5
comp=Z,8.9nm,1.2s
BRG Berggiesshubel 77.55 333 *e*P P 04 02 37.5 -5.0
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 77.55 333 *e*P P 04 02 37.6 -5.0
DRGR 77.76 326 ⇑P P 04 02 44.8 +0.9
VYHS Vyhne 77.86 329 *e*P P 04 02 45.1 +0.8
VYHS pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 77.86 329 *e*P P 04 02 45.1 +0.8
VOIR 77.88 324 ⇓P P 04 02 45.5 +1.0
PSZ Piszkesteto 77.94 328 P P 04 02 45.4 +0.5
PSZ IAmb IAmb 04 02 46.9
comp=Z,12nm,1.1s
PSZ Piszkesteto 77.94 328 P P 04 02 45.4 +0.5
PSZ pmax pmax
comp=Z,12nm,1.1s
EKA Eskdalemuir Ar 77.96 344 P P 04 02 45.6 +0.9
comp=Z,6.8nm,0.9s,baz=9.2,slow=4.8,SNR=3.0
comp=Z,6.8nm,0.9s
JAVC Velka Javorina 77.98 330 *e*P P 04 02 46.4 +1.3
VRAC Vranov 77.99 331 ⇑P P 04 02 46.5 +1.5
VRAC Vranov 77.99 331 *e* pwP 04 03 02.9 +0.7
VRAC Vranov 77.99 331 *e*P P 04 02 45.9 +0.9
GOPC GO Pecny, Ondr 78.10 332 *e*P P 04 02 46.9 +1.3
GOPC GO Pecny, Ondr 78.10 332 *e*P P 04 02 46.9 +1.3
ARR Arges 78.11 324 ⇓P P 04 02 47.3 +1.5
PRU Pruhonice 78.11 332 *e*P P 04 02 47.0 +1.3
PRU Pruhonice 78.11 332 *e*P P 04 02 47.0 +1.3
KRUC Moravsky 78.27 331 *e* pwP 04 03 03.9 +0.1
KRUC Moravsky 78.27 331 *e*P P 04 02 47.1 +0.6
BR131 Keskin Array S 78.28 315 P P 04 02 47.3 +0.4
BR131 Keskin Array S 78.28 315 P P 04 02 47.3 +0.4
BR131 pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 78.28 315 P P 04 02 47.3 +0.3
BRTR Keskin Array B 78.28 315 P P 04 02 47.5 +0.5
comp=Z,3.1nm,0.7s,baz=88,slow=3.9,SNR=17
comp=Z,3.1nm,0.7s
SMOL Smolenice 78.36 330 *e*P P 04 02 49.4 +2.3
MODS Modra-Piesok 78.53 330 *e*P P 04 02 49.0 +0.9
MODS pmax pmax
comp=Z,40nm,1.3s
MODS Modra-Piesok 78.53 330 *e*P P 04 02 49.0 +0.9
ANTO Ankara 78.59 315 P P 04 02 47.9 -0.7
ANTO IAmb IAmb 04 02 51.2
comp=Z,16nm,0.8s
ANTO Ankara 78.59 315 P P 04 02 47.9 -0.7
ANTO pmax pmax
comp=Z,16nm,0.8s
SRO Srobarova 78.62 329 *e*P P 04 02 50.0 +1.5
SRO pmax pmax
comp=Z,17nm,1.0s
SRO Srobarova 78.62 329 *e*P P 04 02 50.0 +1.5
BR231 Keskin MP Arra 78.62 315 P P 04 02 49.4 +0.6
ZVC Zvikov 78.70 332 *e*P P 04 02 50.0 +1.1
SURR Surduc 78.84 325 ⇑P P 04 02 50.2 +0.5
GZR Gura Zlata 78.86 325 ⇑P P 04 02 50.0 0.0
BZS Buzias 79.16 326 ⇑P P 04 02 52.2 +0.7
KHC Kasperske Hory 79.17 332 P P 04 02 50.9 -0.7
KHC IAmb IAmb 04 02 54.1
comp=Z,15nm,1.1s
KHC Kasperske Hory 79.17 332 *e*P P 04 02 52.3 +0.7
KHC *ep*P pwP 04 03 08.5 -0.9
KHC Kasperske Hory 79.17 332 *e*P P 04 02 52.3 +0.7
KHC *e* 04 03 08.5
CKRC Cesky Krumlov 79.19 332 *e*P P 04 02 52.6 +0.9
CKRC Cesky Krumlov 79.19 332 *e*P P 04 02 52.6 +0.9
GEC2 GERESS Array S 79.38 332 P P 04 02 53.7 +0.9
GERES GERESS Array B 79.38 332 P P 04 02 53.2 +0.5
comp=Z,2.6nm,0.7s,baz=36,slow=8.5,SNR=4.1
GERES LR LR 04 42 06.1
comp=Z,103nm,18.2s,baz=282,slow=39
comp=Z,2.6nm,0.7s
CONA Conrad Observa 79.42 330 *i* P P 04 02 54.8 +1.8
comp=Z,16nm,1.2s,SNR=6.5
GRA1 Grafenberg Arr 79.45 334 P P 04 02 52.0 -1.0
GRF Grafenberg Arr 79.45 334 P P 04 02 52.0 -1.0
GRF pmax pmax
comp=Z,44nm,1.4s
GRF Grafenberg Arr 79.45 334 *e*P P 04 02 53.5 +0.4
comp=Z,10.0nm,1.1s,baz=29,slow=3.5
GRFO Grafenberg 79.45 334 P P 04 02 52.1 -1.0
GRFO Grafenberg 79.45 334 P P 04 02 52.1 -1.0
GRFO pmax pmax
comp=Z,41nm,1.4s
RONA Rosalia, Austr 79.45 330 *i* P P 04 02 55.1 +2.0
comp=Z,14nm,1.0s
MDVR Moldovita 79.80 325 ⇓P P 04 02 54.7 -0.4
MORH Mrgy, Hungar 79.83 328 ⇑P P 04 02 55.9 +0.8
MOA Molln 80.04 331 *i* P P 04 02 57.8 +1.5
comp=Z,4.7nm,1.1s
ARSA Arzberg 80.11 330 *i* P P 04 02 57.8 +1.1
comp=Z,7.2nm,1.3s
BLKB Belogradchik 80.34 324 ⇑P P 04 02 57.5 -0.5
BIOA Bad Ischl, Aus 80.39 331 *i* P P 04 02 59.7 +1.5
comp=Z,18nm,1.4s,SNR=6.5
LPIG La Paz 80.41 66 LR LR 04 31 20.6
comp=Z,51nm,20.5s,baz=266,slow=30
SOKA Soboth 80.78 330 *i* P P 04 03 01.6 +1.3
comp=Z,19nm,1.3s,SNR=7.6
BMRD Maredsous 80.80 338 *d*P P 04 03 01.1 +0.8
BMRD *d*PcP PcP 04 03 06.6 -0.1
TXAR Lajitas Array 80.91 58 P P 04 03 02.9 +1.5
comp=Z,1.5nm,0.7s,baz=298,slow=3.9,SNR=4.2
TXAR pP sP 04 03 16.6 -2.4
comp=Z,3.5nm,0.7s,baz=297,slow=4.6,SNR=5.0
TXAR LR LR 04 37 32.3
comp=Z,19nm,19.6s,baz=344,slow=35
comp=Z,1.5nm,0.7s
LESA Schwarzleotal 80.95 332 *i* P P 04 03 02.0 +0.7
comp=Z,20nm,1.5s
KBA Koelnbreinsper 81.03 331 *i* P P 04 03 03.4 +1.7
comp=Z,13nm,0.9s,SNR=8.6
DOU Dourbes 81.03 338 *d*P P 04 03 02.3 +0.8
OBKA Obir 81.09 330 *i* P P 04 03 02.3 +0.3
comp=Z,4.2nm,0.9s
MYKA Terra Mystica 81.31 331 *i* P P 04 03 04.2 +1.0
comp=Z,3.5nm,0.5s
WATA Walderalm 81.40 333 *i* P P 04 03 04.6 +0.9
comp=Z,18nm,1.1s,SNR=7.3
WTTA Wattenberg 81.44 332 *i* P P 04 03 04.6 +0.6
comp=Z,17nm,1.1s,SNR=5.9
RETA Reutte 81.53 333 *i* P P 04 03 05.2 +0.8
comp=Z,9.5nm,1.0s,SNR=5.2
MOTA Moosalm 81.55 333 *i* P P 04 03 05.1 +0.6
comp=Z,26nm,1.2s,SNR=9.5
ABTA Abfaltersbach 81.60 332 *i* P P 04 03 05.6 +0.9
comp=Z,3.8nm,1.0s
SQTA Sankt Quirin 81.62 333 *i* P P 04 03 05.3 +0.5
comp=Z,14nm,0.9s,SNR=7.2
FETA Feichten 81.95 333 *i* pP P 04 03 08.3 +1.6
comp=Z,6.1nm,0.9s
STAL STALIGIAL 81.95 331 P P 04 03 05.8 -0.7
STAL IAmb IAmb 04 03 07.4
comp=Z,6.9nm,1.0s
DAVA Damuels 81.99 334 *i* P P 04 03 07.4 +0.5
comp=Z,8.7nm,1.0s
ECH Echery 82.00 336 P P 04 03 05.5 -1.2
ECH IAmb IAmb 04 03 09.5
comp=Z,8.7nm,1.1s
ECH Echery 82.00 336 P P 04 03 05.6 -1.2
ECH pmax pmax
comp=Z,9.0nm,1.1s
MMAI Mount Meron Ar 82.37 309 P P 04 03 10.4 +1.4
comp=Z,3.8nm,0.7s,baz=46,slow=7.1,SNR=7.7
comp=Z,3.8nm,0.7s
DAVOX Davos/Dischmat 82.44 333 LR LR 04 45 13.8
comp=Z,70nm,18.2s,baz=46,slow=40
CTI Castel Tesino 82.50 332 P P 04 03 08.5 -1.0
CTI Castel Tesino 82.50 332 P P 04 03 08.5 -1.0
TUE Stuetta 82.88 333 P P 04 03 10.9 -0.6
TUE IAmb IAmb 04 03 14.0
comp=Z,8.0nm,0.9s
TIR Tirane 83.39 324 ⇓P P 04 03 15.1 +1.1
TIR Tirane 83.39 324 ⇓P P 04 03 15.1 +1.1
FDMO Fiordimonte 84.62 329 P P 04 03 20.2 -0.1
FDMO IAmb IAmb 04 03 23.8
comp=Z,10.0nm,0.7s
MURB Monte Urbino 84.62 330 P P 04 03 20.3 0.0
NRCA Norcia 84.78 329 P P 04 03 20.0 -1.1
OSSC Osservatorio P 84.85 331 P P 04 03 21.5 0.0
OSSC IAmb IAmb 04 03 23.4
comp=Z,8.4nm,1.0s
BNI Bardonecchia 84.99 334 P P 04 03 21.4 -0.9
BNI IAmb IAmb 04 04 53.5
comp=Z,27nm,1.9s
BNI Bardonecchia 84.99 334 P P 04 03 21.4 -0.9
BNI pmax pmax
comp=Z,27nm,1.9s
INTR Introdacqua 85.20 328 P P 04 03 22.7 -0.6
INTR IAmb IAmb 04 03 24.6
comp=Z,6.4nm,0.8s
TIP Timpagrande 86.50 325 ⇓P P 04 03 30.8 +1.0
TIP Timpagrande 86.50 325 P P 04 03 29.9 +0.1
TKL Tuckaleechee C 86.84 41 LR LR 04 41 52.2
comp=Z,60nm,21.7s,baz=344,slow=35
CMIG Matias Romero 95.36 60 LR LR 04 45 52.0
comp=Z,28nm,18.9s,baz=16,slow=35
MDT Midelt 99.60 338 LR LR 04 54 54.9
comp=Z,26nm,21.2s,baz=351,slow=39
TORD Torodi Ar. Bea 115.65 325 PKP PKiKP 04 09 28.9 -0.4
comp=Z,0.2nm,0.5s,baz=33,slow=3.1,SNR=2.0
H03N2 Juan Fernandez 141.31 91 T T 06 48 07.0
baz=305,slow=77,SNR=8.5
H03N3 Juan Fernandez 141.33 91 T T 06 48 09.1
baz=305,slow=77,SNR=15
H03N1 Juan Fernandez 141.33 91 T T 06 48 08.2
baz=305,slow=77,SNR=23
ELIB Princess Elisa 142.58 204 *d*PKP PKiKP 04 10 26.4 +4.9
BDFB Brasilia 147.74 33 PKPbc PKPbc 04 10 32.3 +0.5
comp=Z,3.1nm,0.8s,baz=180,slow=6.1,SNR=4.8
BDFB pPKPbc pPKPab 04 10 46.8 -0.4
comp=Z,5.0nm,0.7s,baz=239,slow=4.4,SNR=5.4
PLCA Paso Flores 150.52 97 PKPbc PKiKP 04 10 39.5 +0.8
comp=Z,1.3nm,0.8s,baz=206,slow=4.7,SNR=3.8
PLCA pPKPbc pPKPbc 04 10 52.4 +1.1
comp=Z,5.2nm,0.9s,baz=286,slow=3.0,SNR=6.2

*KRSC **30** 03:51:20.4±1.5, 55°.38N×166°.34E, h39km±9km, Ml4.7, Felt [II] at Nikolskoe.*
*IDC **30** 03:51:20.2±0.6, 55°.47N×166°.37E, h0km, mb4.2/24, mbtmp4.3/27, ML3.9/3, Error ellipse: s-maj=18.3km s-min=10.4km az=160.0*
*NEIC **30** 03:51:22.3±1.1, 55°.5N±0°.1×166°.4E±0°.1, h10km±1km, mb4.5/114, Error ellipse: s-maj=20.4km s-min=11.6km az=160.0*
*MOS **30** 03:51:23.8±1.0, 55°.43N×166°.24E, h42km, mb5.0/33, Error ellipse: s-maj=6.5km s-min=5.4km az=48.9*
ISC 30 03:51:23.4±0.4, **55°.44N**±0°.04×**166°.35E**±0°.04, **h20**km, **n467,** σ**0**°**83**/490, **mb4.5**/96, **9C-3D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**223**	PN	**Pb**	**Pb**	**03 51 28.8**	**-1.6**
BKI	**Bering**	**0.32**	**223**	*e*P	**Pb**	**Pb**	**03 51 28.8**	**-1.6**
BKI				*e*S	**Sb**	**Sb**	**03 51 34.4**	**-0.7**
KBG	**Krutoberegovo**	**2.21**	**293**	PN	**Pn**	**Pn**	**03 51 55.6**	**-3.3**
KBG				S	**Sn**	**Sn**	**03 52 25.0**	**-0.6**
KBG	**Krutoberegovo**	**2.21**	**293**	*e*P	**Pn**	**Pn**	**03 51 55.6**	**-3.3**
KBG				*e*S	**Sn**	**Sn**	**03 52 25.0**	**-0.6**
SMKR	**Semkarok**	**2.97**	**295**	PN	**Pn**	**Pn**	**03 52 08.3**	**-1.2**
SMKR				S	**Sn**	**Sn**	**03 52 43.9**	**-0.6**
SMKR	**Semkarok**	**2.97**	**295**	*e*P	**Pn**	**Pn**	**03 52 08.3**	**-1.2**
SMKR				*e*S	**Sn**	**Sn**	**03 52 43.9**	**-0.6**
BDR	**Baidarnaya**	**3.10**	**294**	PN	**Pn**	**Pn**	**03 52 10.7**	**-0.6**
BDR	**Baidarnaya**	**3.10**	**294**	*e*P	**Pn**	**Pn**	**03 52 10.7**	**-0.6**
SRKR	**Sorokina**	**3.15**	**295**	PN	**Pn**	**Pn**	**03 52 11.6**	**-0.3**
SRKR	**Sorokina**	**3.15**	**295**	*e*P	**Pn**	**Pn**	**03 52 11.6**	**-0.3**
ZLN	**Zelenaya**	**3.19**	**283**	PN	**Pn**	**Pn**	**03 52 12.7**	**+0.2**
ZLN	**Zelenaya**	**3.19**	**283**	*e*P	**Pn**	**Pn**	**03 52 12.7**	**+0.2**
CIRR	**Tsirk**	**3.24**	**284**	PN	**Pn**	**Pn**	**03 52 12.8**	**-0.4**

CIRR	Tsirk	3.24	284	eP		Pn	03 52 12.8	-0.4
BZP	Bezymyannyi-Pe	3.33	281	eP		Pn	03 52 13.5	-0.9
KLY	Klyuchi	3.33	288	PN		Pn	03 52 12.1	-2.2
KLY				S		Sn	03 52 50.9	-2.3
KLY	Klyuchi	3.33	288	eP		Pn	03 52 12.1	-2.2
KLY				eS		Sn	03 52 50.9	-2.3
BZMR	Bezymyannaya	3.35	281	PN		Pn	03 52 14.2	-0.6
BZMR	Bezymyannaya	3.35	281	eP		Pn	03 52 14.2	-0.6
BZWR	Bezymyannyi-We	3.35	281	PN		Pn	03 52 14.4	-0.4
BZWR	Bezymyannyi-We	3.35	281	eP		Pn	03 52 14.4	-0.4
TUMD	Tumrok D	3.41	269	eP		Pn	03 52 15.2	-0.2
TUMD				eS		Sn	03 52 53.9	-1.3
KIRR	Kirishev	3.44	281	PN		Pn	03 52 15.5	-0.5
KIRR				S		Sn	03 52 55.9	-0.3
KIRR	Kirishev	3.44	281	eP		Pn	03 52 15.5	-0.5
KIRR				eS		Sn	03 52 55.9	-0.3
KMNR	Kamenistaya	3.48	278	PN		Pn	03 52 16.6	+0.1
KMNR	Kamenistaya	3.48	278	eP		Pn	03 52 16.6	+0.1
KPT	Kopyto	3.51	281	PN		Pn	03 52 16.6	-0.2
KPT	Kopyto	3.51	281	eP		Pn	03 52 16.6	-0.2
TUMR	Tumrok	3.54	270	PN		Pn	03 52 15.2	-2.2
TUMR	Tumrok	3.54	270	eP		Pn	03 52 17.7	+0.3
KOZ	Kozyrevsk	3.71	282	PN		Pn	03 52 20.3	+0.7
KOZ	Kozyrevsk	3.71	282	eP		Pn	03 52 20.3	+0.7
SRDR	Sredinnyy	3.84	286	PN		Pn	03 52 21.5	+0.1
SRDR	Sredinnyy	3.84	286	eP		Pn	03 52 21.5	+0.1
KII	Karymskiy	4.24	253	PN		Pn	03 52 26.5	-0.4
KII	Karymskiy	4.24	253	eP		Pn	03 52 26.5	-0.4
SPN	Mys Shipunski	4.39	240	PN		Pn	03 52 27.7	-1.1
SPN	Mys Shipunski	4.39	240	eP		Pn	03 52 27.7	-1.1
SPN				eS		Sn	03 53 16.4	-2.9
SMAR	Somma	4.92	247	PN		Pn	03 52 36.4	0.0
SMAR				S		Sn	03 53 31.6	-1.2
SMAR	Somma	4.92	247	eP		Pn	03 52 36.4	0.0
SMAR				eS		Sn	03 53 31.6	-1.2
UGLR	Uglovaya	4.94	246	PN		Pn	03 52 36.8	+0.3
UGLR				S		Sn	03 53 32.2	-0.8
UGLR	Uglovaya	4.94	246	eP		Pn	03 52 36.8	+0.3
UGLR				eS		Sn	03 53 32.2	-0.8
AVH	Avacha	4.96	247	PN		Pn	03 52 36.7	0.0
AVH				S		Sn	03 53 32.9	-0.5
AVH	Avacha	4.96	247	eP		Pn	03 52 36.7	0.0
AVH				eS		Sn	03 53 32.9	-0.5
KRX	Arik	4.96	248	PN		Pn	03 52 37.1	+0.3
KRX				S		Sn	03 53 32.9	-0.7
KRX	Arik	4.96	248	eP		Pn	03 52 37.1	+0.3
KRX				eS		Sn	03 53 32.9	-0.7
KOK	Koryaka	5.00	248	PN		Pn	03 52 37.5	+0.2
KOK	Koryaka	5.00	248	eP		Pn	03 52 37.5	+0.2
PALN	Palana	5.04	319	PN		Pn	03 52 37.4	-0.4
PALN	Palana	5.04	319	eP		Pn	03 52 37.4	-0.4
DALK	Dalny	5.07	245	PN		Pn	03 52 37.8	-0.3
DALK	Dalny	5.07	245	eP		Pn	03 52 37.8	-0.3
DALK				eS		Sn	03 53 34.4	-1.6
PET	Petropavlovsk	5.12	245			Pn	03 52 39.7	+0.8
PET				Sn		Sn	03 53 36.7	-0.7
PET	Petropavlovsk	5.12	245	ePN		Pn	03 52 39.3	+0.4
PET				pmax	pmax			
	comp=Z,214nm,0.6s							
PET	Petropavlovsk	5.12	245	eP		Pn	03 52 39.0	+0.1
PET				eS		Sn	03 53 35.8	-1.5
SHEM	Shemya Is, Ala	5.31	118	Pn		Pn	03 52 39.6	-1.9
	comp=Z,11nm,0.3s,baz=277,slow=9.6,SNR=4.4							
	comp=Z,27nm,0.3s							
KRMR	Karymshinskiy	5.49	245	PN		Pn	03 52 43.7	-0.3
KRMR				S		Sn	03 53 47.1	+0.6
KRMR	Karymshinskiy	5.49	245	eP		Pn	03 52 43.7	-0.3
KRMR				eS		Sn	03 53 47.1	+0.6
PEA0B	Petropavlovsk-	5.58	249			Pn	03 52 45.6	+0.4
PEA0B	Petropavlovsk-	5.58	249	PN		Pn	03 52 45.6	+0.4
PETK	Petropavlovsk-	5.58	249	Pn		Pn	03 52 45.2	0.0
PETK	Petropavlovsk-	5.58	249	Pn		Pn	03 52 44.9	-0.3
	comp=Z,25nm,0.3s,baz=70,slow=16,SNR=68							
PETK				Sn		Sn	03 53 50.4	+1.7
	comp=Z,7.5nm,0.3s,baz=100,slow=24,SNR=6.2							
	comp=Z,65nm,0.5s							
MTVR	Mutnovka	5.66	242	PN		Pn	03 52 46.2	-0.2
MTVR	Mutnovka	5.66	242	eP		Pn	03 52 46.2	-0.2
MTVR				eS		Sn	03 53 48.7	-2.1
GRL	Gorelyy	5.67	243	PN		Pn	03 52 46.8	+0.2
GRL				S		Sn	03 53 51.4	+0.2
GRL	Gorelyy	5.67	243	eP		Pn	03 52 46.8	+0.2
GRL				eS		Sn	03 53 51.4	+0.2
ASAK	Asacha	5.86	242	PN		Pn	03 52 49.3	+0.2
ASAK	Asacha	5.86	242	eP		Pn	03 52 49.3	+0.2
ASAK				eS		Sn	03 53 54.8	-0.8
APC	Apacha	5.95	249	PN		Pn	03 52 50.9	+0.6
APC	Apacha	5.95	249	eP		Pn	03 52 50.9	+0.6
KDTR	Khodutka, Kamc	6.12	237	PN		Pn	03 52 51.1	-1.5
KDTR	Khodutka, Kamc	6.12	237	eP		Pn	03 52 51.1	-1.5
KDTR				eS		Sn	03 53 58.6	-3.2
SEY	Seymchan	10.36	322‖	ePN		Pn	03 53 47.9	-2.8
SEY				pmax	pmax			
	comp=Z,4.0nm,1.3s							
BILL	Bilibino	12.65	360	ePN		Pn	03 54 22.5	+0.6
NIKH	Nikolski High	14.69	89	P		Pn	03 54 47.9	-2.0
	baz=290							
UNV	Unalaska Valle	15.76	85	P		Pn	03 55 03.4	-0.6
	baz=287							
TNA	Tin City	16.09	41	P		Pn	03 55 08.1	-0.1
	baz=243							
F14K	Arctic Creek	16.65	42	P		Pn	03 55 14.7	-0.6
	baz=246							
ANM	Nome	16.69	45	Pn		Pn	03 55 16.1	+0.3
ANM	Nome	16.69	45	P		Pn	03 55 15.6	-0.1
	baz=250							
ANM	Nome	16.69	45	P		Pn	03 55 16.1	+0.3
ANM				pmax	pmax			
	comp=Z,12nm,1.2s							
M13K	Dall Lake	16.75	60	Pn		Pn	03 55 15.4	-1.1
M13K				IAmb	IAmb		03 55 39.0	
	comp=Z,50nm,1.0s							
M13K	Dall Lake	16.75	60	P		Pn	03 55 15.6	-1.0
	baz=266							
J14K	Nanvaranak Lak	16.97	52	Pn		Pn	03 55 18.3	-1.0
J14K	Nanvaranak Lak	16.97	52	P		Pn	03 55 18.8	-0.5
	baz=258							
YSS	Yuzh-Sakhalins	16.98	250‖	eP		P	03 55 21.6	+0.2
L14K	Kuka Creek	17.16	57			Pn	03 55 21.8	+0.2
L14K	Kuka Creek	17.16	57	P		Pn	03 55 21.9	+0.2
	baz=264							
G15K	Niukluk	17.37	45	P		Pn	03 55 24.3	0.0
	baz=251							
F15K	North Star Dit	17.39	42	Pn		Pn	03 55 22.9	-1.6
F15K	North Star Dit	17.39	42	P		Pn	03 55 23.3	-1.2
	baz=248							
YUK	Yuzh-Kuril'sk	17.40	238‖	eP		P	03 55 25.6	-0.4
M14K	Bethel	17.46	59	P		Pn	03 55 24.8	-0.5
	baz=267							
N14K	Kuskokwak Cree	17.56	62	P		Pn	03 55 26.2	-0.5
	baz=270							
L15K	Ungalak Mounta	17.76	56	P		Pn	03 55 29.0	-0.1
	baz=264							
O14K	Tigyukauivet M	17.78	64	P		P	03 55 29.7	-0.3
	baz=272							
K15K	Wolf Creek Mou	17.82	54			P	03 55 30.3	-0.2
K15K				IAmb		IAmb	03 55 47.5	
	comp=Z,36nm,1.3s							
K15K	Wolf Creek Mou	17.82	54	P		Pn	03 55 29.5	-0.4
	baz=262							
H16K	Elim	18.00	47	P		Pn	03 55 31.7	-0.4
	baz=254,SNR=15							
M15K	Kasigluk River	18.08	60	P		Pn	03 55 32.6	-0.4
	baz=268							
G16K	Koyuk River	18.17	44	P		P	03 55 34.4	0.0
	baz=252							
C16K	Lisburne Hills	18.30	34			P	03 55 35.8	+0.1
C16K	Lisburne Hills	18.30	34	P		Pn	03 55 34.9	-0.8
	baz=240							
N15K	Kwethluk River	18.36	61	P		P	03 55 36.1	-0.4
	baz=270							
J16K	Anvik River	18.40	51	P		P	03 55 35.9	-0.9
	baz=260							
I17K	Unalakleet	18.47	49	P		P	03 55 37.2	-0.4
I17K	Unalakleet	18.47	49	P		P	03 55 37.0	-0.6
	baz=258							
O15K	Ungalikthiuk R	18.52	64	P		P	03 55 38.2	-0.1
	baz=273							
G17K	Kiwalik Mounta	18.89	45	P		Pn	03 55 43.4	+0.6
	baz=254							
ASAJ	Asahikawa	18.96	243	P		Pn	03 55 44.1	+0.2
	comp=Z,0.4nm,0.3s,baz=58,slow=4.0,SNR=4.4							
	comp=Z,49nm,0.9s							
E17K	Hotham Inlet	18.96	39	P		P	03 55 43.2	+0.2
	baz=248,SNR=9.8							
H17K	Granite Mounta	19.04	46	Pn		Pn	03 55 45.0	+0.3
H17K	Granite Mounta	19.04	46	P		Pn	03 55 44.6	-0.1
	baz=256							
S14K	Fog Glacier	19.05	73	P		Pn	03 55 44.8	-0.2
	baz=282							
C17K	DeLong Mountai	19.09	35	P		P	03 55 44.8	+0.3
	baz=242							
L17K	Donlin	19.31	55	P		P	03 55 47.0	+0.2
	baz=266							
K17K	Iditarod	19.36	54	P		Pn	03 55 48.2	-0.3
	baz=264							
E18K	Tukpahlearik C	19.53	39	P		P	03 55 49.8	+0.6
E18K	Tukpahlearik C	19.53	39	P		P	03 55 49.3	0.0
	baz=248							
F18K	Selawik	19.60	42	P		Pn	03 55 50.7	-0.8
	baz=252,SNR=5.9							
CHGN	Chignik	19.66	73	P		P	03 55 50.5	-0.3
	baz=282							
M17K	Holitna River	19.68	58	P		Pn	03 55 52.2	-0.2
M17K				IAmb		IAmb	03 55 57.3	
	comp=Z,16nm,0.8s							
M17K	Holitna River	19.68	58	P		P	03 55 51.3	+0.4
	baz=269							
H18K	Honhosa River	19.73	46	P		P	03 55 51.8	+0.4
H18K	Honhosa River	19.73	46	P		P	03 55 51.9	+0.5
	baz=257,SNR=5.8							
G18K	Tagagawik	19.79	44	P		P	03 55 52.4	+0.4
	baz=255,SNR=6.0							
N17K	Nushagak Hills	19.80	60	P		P	03 55 52.1	-0.1
	baz=272							
C18K	Utukok River	19.82	35	P		P	03 55 52.4	-0.1
C18K	Utukok River	19.82	35	P		Pn	03 55 53.3	-0.8
	baz=244							
O17K	Koliganek Bris	19.88	62	P		P	03 55 53.3	+0.2
	baz=274							
YAK	Yakutsk	19.92	304‖	eP		P	03 55 52.1	-1.4
YAK				pmax	pmax			
	comp=Z,47nm,0.9s							
B18K	Kokolik River	19.95	33	P		Pn	03 55 54.8	-0.8
	baz=242,SNR=12							
L18K	Granite Mounta	20.07	55	P		Pn	03 55 56.1	-0.9
	baz=267							
J18K	Innoko River	20.16	52	P		P	03 55 56.1	0.0
	baz=264,SNR=19							
P17K	Kvichak River	20.26	64	P		P	03 55 57.0	-0.2
	baz=276							
F19K	Shaleruckik Mo	20.39	42	P		P	03 55 58.9	+0.3
F19K	Shaleruckik Mo	20.39	42	P		P	03 55 58.6	0.0
	baz=254							
TTA	Tatalina	20.42	53	P		P	03 55 58.9	-0.2
TTA	Tatalina	20.42	53	P		P	03 55 59.0	-0.2
	baz=266							
TTA	Tatalina	20.42	53	P		P	03 55 58.9	-0.2
TTA				pmax	pmax			
	comp=Z,14nm,1.1s							
N18K	Kilae Creek	20.44	60	P		P	03 55 59.7	+0.5
	baz=272							
M18K	Stony River	20.46	57	P		P	03 56 00.2	+0.8
	baz=270							
G19K	Purcell Mounta	20.47	44	P		P	03 55 59.5	0.0
	baz=256							
C19K	Lookout Ridge	20.55	35	P		P	03 56 00.5	+0.2
C19K				IAmb		IAmb	03 56 01.9	
	comp=Z,13nm,0.8s							
C19K	Lookout Ridge	20.55	35	P		P	03 56 01.0	+0.7
	baz=246							
A19K	Wainwright	20.58	31	P		P	03 56 00.9	+0.3
	baz=241							
H19K	Roundabout Mou	20.59	46	P		P	03 56 00.9	+0.1
H19K				IAmb		IAmb	03 56 05.5	
	comp=Z,18nm,1.0s							
H19K	Roundabout Mou	20.59	46	P		P	03 56 00.9	+0.1
	baz=259							
Q17K	Contact Creek	20.66	67	P		P	03 56 02.5	+0.8
	baz=279							
J19K	Poorman	20.70	50	P		P	03 56 01.9	-0.1
J19K				IAmb		IAmb	03 56 15.0	
	comp=Z,26nm,1.1s							
J19K	Poorman	20.70	50	P		P	03 56 02.7	+0.7
	baz=264							
E19K	Redstone River	20.77	40	P		P	03 56 02.9	+0.2
E19K	Redstone River	20.77	40	P		P	03 56 02.5	-0.3
	baz=253							
D19K	Kuna River	20.80	37	P		P	03 56 03.2	+0.1
D19K	Kuna River	20.80	37	P		P	03 56 03.2	+0.1
	baz=256							
O18K	Koktuh Hills	20.83	62	P		P	03 56 03.9	+0.5
	baz=275							
P18K	Big Mountain,	20.86	63	P		P	03 56 04.3	+0.5
	baz=276							
L19K	White Mountain	20.93	55	P		P	03 56 04.8	+0.3
L19K				IAmb		IAmb	03 56 22.4	
	comp=Z,25nm,1.1s							
L19K	White Mountain	20.93	55	P		P	03 56 04.6	+0.2
	baz=269							
N19K	Bonanza Creek	21.12	59	P		P	03 56 07.1	+0.4
	baz=273							
M19K	Big River Lodg	21.14	56	P		P	03 56 07.1	+0.3
M19K				IAmb		IAmb	03 56 10.2	
	comp=Z,28nm,1.4s							
M19K	Big River Lodg	21.14	56	P		P	03 56 07.4	+0.7
	baz=270							
F20K	Avaraart Lake	21.22	42	P		P	03 56 07.9	+0.4
	baz=256							
H20K	Anotleneega Mo	21.23	46	P		P	03 56 07.9	+0.2
	baz=260,SNR=11							
O19K	Port Alsworth	21.24	61	P		P	03 56 07.6	-0.2
	baz=275							
I20K	Naaghedeneel	21.29	48	P		P	03 56 08.1	-0.2
I20K				IAmb		IAmb	03 56 16.4	
	comp=Z,25nm,1.1s							
I20K	Naaghedeneel	21.29	48	P		P	03 56 08.5	+0.2
	baz=263							
K20K	Telida	21.33	52	P		P	03 56 08.3	-0.5
K20K				IAmb		IAmb	03 56 27.3	
	comp=Z,18nm,1.1s							
K20K	Telida	21.33	52	P		P	03 56 08.9	+0.1
	baz=267							
J20K	Nowinta River	21.36	50	P		P	03 56 08.8	-0.3
J20K	Nowinta River	21.36	50	P		P	03 56 09.5	+0.4
	baz=265							
L20K	Farewell, AK	21.39	55	P		P	03 56 09.3	-0.1
	baz=269							
E20K	Nigu River	21.39	38	P		P	03 56 08.9	-0.6
	baz=252							
D20K	Etivluk River	21.39	37	P		P	03 56 09.4	-0.1
	baz=250							
TEY	Ternei	21.52	254	eP		P	03 56 02.7	-8.2
M20K	Styx River	21.74	56	P		P	03 56 12.3	-0.9
	baz=271							
IMAR	Indian Mountai	21.77	45	P		P	03 56 13.2	-0.3
KLR	Kul'dur	21.87	268	deP		P	03 56 15.2	+0.6
KLR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KLR	Kul'dur	21.87	268	P		P	03 56 14.3	-0.3
	comp=Z,4.0nm,0.8s,baz=80,slow=12,SNR=4.3							
	comp=Z,4.0nm,0.8s							
G21K	Allakaket	21.96	44	P		P	03 56 15.9	+0.4
G21K	Allakaket	21.96	44	P		P	03 56 15.7	+0.2
	baz=259							
H21K	Melozitna Rive	22.11	46	P		P	03 56 17.3	+0.3
H21K				IAmb		IAmb	03 56 20.0	
	comp=Z,21nm,1.1s							
H21K	Melozitna Rive	22.11	46	P		P	03 56 16.9	-0.2
	baz=262							
F21K	Alatna River	22.11	42	P		P	03 56 16.6	-0.6
F21K	Alatna River	22.11	42	P		P	03 56 16.9	-0.3
	baz=258							
CHUM	Lake Minchumin	22.14	51	P		P	03 56 17.6	+0.2
	baz=267							
C21K	Knifeblade Rid	22.17	37	P		P	03 56 17.7	0.0
	baz=252							
PPLA	Purkeypile	22.17	53	P		P	03 56 17.8	-0.1
	baz=270							
N20K	Mount Spurr	22.21	58	P		P	03 56 18.7	+0.5
	baz=274							
CAST	Castle Rocks	22.23	52	P		P	03 56 18.6	+0.2
CAST				IAmb		IAmb	03 56 21.0	
	comp=Z,15nm,1.0s							
CAST	Castle Rocks	22.23	52	P		P	03 56 18.2	-0.2
	baz=268,SNR=6.1							
I21K	Tanana	22.39	47	P		P	03 56 20.0	-0.1
I21K				IAmb		IAmb	03 56 44.8	
	comp=Z,21nm,1.4s							
I21K	Tanana	22.39	47	P		P	03 56 20.0	-0.1
	baz=264							
KDAK	Kodiak Island	22.48	67	P		P	03 56 20.9	-0.1
	baz=282							
KDAK	Kodiak Island	22.48	67	P		P	03 56 19.6	-1.5
	comp=Z,9.1nm,0.5s,baz=262,slow=4.6,SNR=7.4							
	comp=Z,9.1nm,0.5s							
SKT	Skwentna	22.49	56	P		P	03 56 20.9	-0.3
	baz=272							
TIXI	Tiksi	22.68	330	P		P	03 56 21.8	-1.4
TIXI	Tiksi	22.68	330	P		P	03 56 21.8	-1.4
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.6s							
H22K	Ishtalitna Cre	22.72	46	P		P	03 56 23.3	-0.3
	baz=263							
BPAW	Bear Paw Mtn.	22.74	50	P		P	03 56 23.5	-0.4
BPAW				IAmb		IAmb	03 56 26.2	
	comp=Z,26nm,1.2s							
BPAW	Bear Paw Mtn.	22.74	50	P		P	03 56 23.1	-0.7
	baz=268,SNR=6.7							
KTH	Kantishna Hill	22.75	52	P		P	03 56 23.9	-0.2
KTH				IAmb		IAmb	03 56 25.9	
	comp=Z,16nm,1.0s							
D22K	Ayikyak River	22.81	38	P		P	03 56 24.3	-0.3
D22K				IAmb		IAmb	03 56 48.6	
	comp=Z,22nm,1.4s							
D22K	Ayikyak River	22.81	38	P		P	03 56 24.6	+0.1
	baz=255							
G22K	Bettles	22.82	43	P		P	03 56 24.7	+0.1
	baz=261							
MLY	Manley	22.90	48	P		P	03 56 25.5	-0.1
MLY	Manley	22.90	48	P		P	03 56 25.5	-0.1
	baz=266,SNR=6.8							
B22K	Teshekpuk Lake	23.00	34	P		P	03 56 25.2	-1.3
B22K				IAmb		IAmb	03 56 27.4	
	comp=Z,10nm,0.9s							
B22K	Teshekpuk Lake	23.00	34	P		P	03 56 25.7	-0.9
	baz=250							
TRF	Thorofare Moun	23.04	52	P		P	03 56 26.9	-0.3
TRF				IAmb		IAmb	03 56 53.8	
	comp=Z,20nm,1.2s							
TRF	Thorofare Moun	23.04	52	P		P	03 56 27.3	+0.2
	baz=270							
CUT	Chulitna	23.07	55	P		P	03 56 27.1	-0.1
	baz=272							
BRSE	Bradley Lake S	23.08	62	P		P	03 56 26.7	-0.8
	baz=278							
G23K	Bananza Creek	23.37	44	P		P	03 56 29.5	-0.7
	baz=263							
COLD	Coldfoot	23.37	42	P		P	03 56 29.6	-0.7
	baz=261,SNR=8.5							
BWN	Browne	23.41	50	P		P	03 56 31.7	+1.0
RC01	Rabbit Creek A	23.41	58	P		P	03 56 30.0	-0.7
	baz=276							
I23K	Minto, Yukon-K	23.49	48	P		P	03 56 31.6	+0.1
I23K				IAmb		IAmb	03 56 31.9	
	comp=Z,13nm,0.8s							
I23K	Minto, Yukon-K	23.49	48	P		P	03 56 30.5	-0.9
	baz=267,SNR=9.9							
D23K	Nanushuk River	23.53	38	P		P	03 56 31.4	-0.4
	baz=257							
NEA2	Nenana	23.59	49	P		P	03 56 31.9	-0.6
NEA2				IAmb		IAmb	03 56 35.6	
	comp=Z,12nm,1.0s							
NEA2	Nenana	23.59	49	P		P	03 56 32.2	-0.3
	baz=268,SNR=7.2							
MCK	McKinley	23.64	51	P		P	03 56 32.3	-0.7
	baz=271							
PMR	Palmer	23.65	57	P		P	03 56 32.4	-0.7
	baz=275							
E23K	Chandalar	23.73	40	P		P	03 56 32.9	-0.9
	baz=260							
WAT1	Susitna Watana	23.84	54	P		P	03 56 33.8	-1.1
	baz=273							
HEH	HeiHe	23.85	274	eP		P	03 56 33.5	-1.5
HEH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
HEH				pmax	pmax			
	comp=Z,110nm,4.9s							
MDM	Murphy Dome	23.96	48	P		P	03 56 35.5	-0.5
MDM				IAmb		IAmb	03 56 37.9	
	comp=Z,12nm,0.9s							
KNK	Knik Glacier	23.99	57	P		P	03 56 34.4	-2.0
	baz=276							
SML	Sawmill	24.01	56	P		P	03 56 35.9	-0.7
	baz=276							
COLA	College	24.12	49	P		P	03 56 37.1	-0.3
	baz=269							
CCB	Clear Creek Bu	24.14	49	P		P	03 56 36.9	-0.7
CCB				IAmb		IAmb	03 56 39.3	
	comp=Z,20nm,1.0s							
H24K	Noodor Dome	24.15	46	P		P	03 56 37.6	-0.2
H24K				IAmb		IAmb	03 56 39.2	
	comp=Z,14nm,1.4s							
H24K	Noodor Dome	24.15	46	P		P	03 56 37.6	-0.2
	baz=267							
D24K	Happy Valley	24.22	38	P		P	03 56 38.0	-0.4
D24K				IAmb		IAmb	03 56 39.3	
	comp=Z,7.1nm,0.8s							
D24K	Happy Valley	24.22	38	P		P	03 56 38.0	-0.4
	baz=258							
WAT6	Susitna Watana	24.23	54	P		P	03 56 37.5	-1.2
	baz=274							
F24K	Squaw Lake	24.30	42	P		P	03 56 38.3	-0.8
F24K	Squaw Lake	24.30	42	P		P	03 56 38.6	-0.6
	baz=263							
M23K	Glacier View	24.30	56	P		P	03 56 37.8	-1.4
	baz=276							
POKR	Poker Plat Res	24.30	48	P		P	03 56 39.3	+0.1
POKR				IAmb		IAmb	03 56 40.6	
	comp=Z,14nm,1.1s							
POKR	Poker Plat Res	24.30	48	P		P	03 56 38.0	-1.2
	baz=269,SNR=5.8							
DHY	Denali Highway	24.36	53	P		P	03 56 39.0	-0.9
DHY	Denali Highway	24.36	53	P		P	03 56 39.2	-0.7
	baz=273							
G24K	Hadweenzic Riv	24.37	44	P		P	03 56 39.8	0.0
G24K	Hadweenzic Riv	24.37	44	P		P	03 56 38.4	-1.4
	baz=265							
C24K	Franklin Bluff	24.39	37	P		P	03 56 40.0	+0.1
	baz=257							
SCM	Sheep Creek Mo	24.48	56	P		P	03 56 40.3	-0.6
SCM	Sheep Creek Mo	24.48	56	P		P	03 56 40.3	-0.6
	baz=276							
SCM	Sheep Creek Mo	24.48	56	P		P	03 56 40.3	-0.6
SCM				pmax	pmax			
	comp=Z,19nm,0.8s							
HDA	Harding

E25K IAmb IAmb 03 56 48.2
comp=Z,7.0nm,0.8s
E25K Arctic Village 25.24 41 P P 03 56 46.9 -0.8
baz=264,SNR=7.9
HARP HAARP 25.44 54 P P 03 56 48.4 -1.1
baz=277
RIDG Independent Ri 25.46 51 P P 03 56 47.7 -2.0
RIDG IAmb IAmb 03 56 49.1
comp=Z,20nm,1.3s
RIDG Independent Ri 25.46 51 P P 03 56 48.4 -1.3
baz=274,SNR=5.9
BMAR Burnt Mountain 25.56 43 P P 03 56 50.5 0.0
MDJ Mudanjiang 25.68 261 P P 03 56 51.3 -0.5
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,250nm,5.2s
F26K Sheenjek River 25.74 42 P P 03 56 51.9 -0.3
baz=266
N25K Chitina, Valde 25.80 56 P P 03 56 52.4 -0.5
N25K IAmb IAmb 03 56 53.1
comp=Z,8.6nm,0.6s
N25K Chitina, Valde 25.80 56 P P 03 56 52.1 -0.8
baz=279
SCRK Sand Creek 25.82 51 P P 03 56 51.5 -1.6
SCRK Sand Creek 25.82 51 P P 03 56 51.8 -1.2
baz=274,SNR=7.1
G26K Porcupine Rive 25.84 44 P P 03 56 52.5 -0.6
baz=268
BMRM Bremner River 25.90 57 P P 03 56 53.9 +0.1
baz=280
J26L Joseph Creek 25.97 49 P P 03 56 52.5 -1.8
J26L IAmb IAmb 03 56 56.6
comp=Z,5.4nm,0.7s
J26L Joseph Creek 25.97 49 P P 03 56 53.9 -0.5
baz=274
MENT Mentasta 26.04 53 P P 03 56 55.1 +0.2
MENT IAmb IAmb 03 57 12.6
comp=Z,17nm,1.2s
I26K Coal Creek Min 26.11 47 P P 03 56 55.2 -0.3
baz=272
L26K Log Cabin Wild 26.20 53 P P 03 56 56.5 +0.1
baz=277
M26K Nabesna, AK 26.44 54 P P 03 56 58.8 +0.3
M26K IAmb IAmb 03 57 01.4
comp=Z,10nm,1.1s
M26K Nabesna, AK 26.44 54 P P 03 56 58.9 +0.3
baz=278
MCARA McCarthy VSAT 26.59 56 P P 03 57 00.6 +0.8
baz=280
K27K Chicken 26.66 50 P P 03 56 59.9 -0.5
K27K Chicken 26.66 50 P P 03 57 00.2 -0.2
baz=276
I27K Kandik River 26.73 47 P P 03 57 00.5 -0.7
baz=273
H27K Steamboat Moun 26.75 45 P P 03 57 01.9 +0.6
baz=272,SNR=8.9
MJA0 Matsu Arr-Jizo 26.88 237 eP P 03 57 05.2 +2.5
MJA0 pmax pmax
comp=Z,6.0nm,0.7s
L27K Beaver Creek, 26.88 52 P P 03 57 02.7 +0.2
L27K Beaver Creek, 26.88 52 P P 03 57 03.3 +0.8
baz=278
MAJO Matsushiro 26.89 237 P P 03 57 04.1 +1.2
MAJO Matsushiro 26.89 237⇑ eP P 03 57 04.4 +1.5
MAJO pmax pmax
comp=Z,35nm,1.1s
MJAR Matsushiro Arr 26.89 237 P P 03 57 04.3 +1.4
comp=Z,5.5nm,0.7s,baz=28,slow=7.5,SNR=6.3
comp=Z,5.5nm,0.7s
BCAR Beaver Creek A 26.90 52 P P 03 57 02.8 +0.1
M27K Edge Creek, AK 26.96 54 P P 03 57 03.4 0.0
M27K IAmb IAmb 03 57 05.8
comp=Z,22nm,1.4s
M27K Edge Creek, AK 26.96 54 P P 03 57 04.1 +0.7
baz=279
EGAK Eagle 26.98 49 P P 03 57 01.9 -1.5
EGAK IAmb IAmb 03 57 03.1
comp=Z,14nm,0.8s
EGAK Eagle 26.98 49 P P 03 57 02.2 -1.1
baz=275,SNR=11
D27M Malcolm River 27.02 39 P P 03 57 03.6 -0.1
D27M Malcolm River 27.02 39 P P 03 57 03.4 -0.3
baz=266
F28M Old Crow 27.37 42 P P 03 57 06.4 -0.5
F28M IAmb IAmb 03 57 08.0
comp=Z,9.6nm,1.0s
F28M Old Crow 27.37 42 P P 03 57 06.6 -0.3
baz=271,SNR=7.4
I28M Miner Creek 27.44 47 P P 03 57 07.6 0.0
baz=275
CTG Chitna Glacier 27.47 57 P P 03 57 07.9 0.0
baz=282
E28M Babbage River 27.50 40 P P 03 57 07.7 -0.3
baz=269
YUK3 Moose Creek 27.72 55 P P 03 57 10.1 -0.2
baz=281
DAWY Dawson 27.82 50 P P 03 57 10.3 -0.7
DAWY IAmb IAmb 03 57 15.7
comp=Z,7.3nm,1.0s
DAWY Dawson 27.82 50 P P 03 57 11.0 0.0
baz=278
H29M Whitestone 28.02 45 P P 03 57 12.7 0.0
baz=275
E29M Blow River 28.11 41 P P 03 57 13.6 +0.1
E29M Blow River 28.11 41 P P 03 57 13.7 +0.3
baz=271
G29M Pine Creek 28.11 44 P P 03 57 14.1 +0.6
G29M Pine Creek 28.11 44 P P 03 57 14.2 +0.6
baz=274
YUK8 Steele Glacier 28.14 56 P P 03 57 14.4 +0.2
baz=283
M29M Somme Creek 28.51 53 P P 03 57 17.5 +0.3
baz=282
L29M L29M 28.53 52 P P 03 57 17.9 +0.6
L29M IAmb IAmb 03 57 18.8
comp=Z,13nm,1.1s
L29M L29M 28.53 52 P P 03 57 17.6 +0.3
baz=281
YUK4 Talbot Arm 28.66 55 P P 03 57 19.1 +0.5
baz=283
K29M Barlow Dome 28.67 50 P P 03 57 18.3 -0.4
baz=280
EPYK Eagle Plains 28.68 45 P P 03 57 18.7 +0.2
EPYK Eagle Plains 28.68 45 P P 03 57 18.6 +0.1
baz=276,SNR=6.8
G30M tAoh Zraii Nji 28.82 43 P P 03 57 19.5 -0.3
G30M IAmb IAmb 03 57 20.4
comp=Z,6.5nm,0.7s
G30M tAoh Zraii Nji 28.82 43 P P 03 57 19.8 0.0
baz=275
YUK6 Outpost Mounta 28.89 56 P P 03 57 20.4 -0.3
baz=284
F30M Barrier River 28.94 42 P P 03 57 21.2 +0.4
baz=274
I30M Mount Dempster 28.95 47 P P 03 57 20.8 -0.3
I30M Mount Dempster 28.95 47 P P 03 57 21.4 +0.3
baz=278
M30M Minto, Yukon 29.24 53 P P 03 57 23.6 0.0
baz=282
HYT Haines Junctio 29.32 56 P P 03 57 24.4 -0.1
baz=285
N30M Aishikik Lake 29.36 55 P P 03 57 24.0 -0.7
baz=284
P29M Windy Craggy 29.54 59 P P 03 57 26.7 +0.5
baz=287
G31M Satah River 29.59 43 P P 03 57 25.9 -0.6
G31M IAmb IAmb 03 57 26.4
comp=Z,11nm,1.4s
G31M Satah River 29.59 43 P P 03 57 26.9 +0.4
baz=277
INK Inuvik 29.73 41 P P 03 57 27.7 -0.1
INK Inuvik 29.73 41 P P 03 57 27.9 +0.1
baz=275,SNR=5.2
INK Inuvik 29.73 41 P P 03 57 27.7 -0.1
INK pmax pmax
comp=Z,5.0nm,1.0s
F31M Tsiigehtchic 29.73 42 P P 03 57 27.6 -0.2
baz=276,SNR=5.2
P30M Million Dollar 29.77 57 P P 03 57 28.9 +0.5
baz=287
M31M Drury Creek, Y 30.41 53 P P 03 57 34.7 +0.7
baz=285
WHY Whitehorse 30.61 56 P P 03 57 36.3 +0.5
baz=287
FARO Faro, Yukon 30.88 52 P P 03 57 36.9 -1.2
baz=286

KSRS Korea Array 31.47 251 eP P 03 57 45.8 +2.4
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS Korea Array 31.47 251 P P 03 57 44.5 +1.1
comp=Z,2.9nm,1.0s,baz=38,slow=8.7,SNR=4.4
comp=Z,2.9nm,1.0s
P32M Atlin 31.50 57 P P 03 57 44.6 +1.1
baz=289
P33M Teslin, Yukon 31.72 56 P P 03 57 45.8 +0.3
P33M Teslin, Yukon 31.72 56 P P 03 57 46.2 +0.6
baz=289
A36M Sachs Harbour 32.20 33 P P 03 57 49.6 +0.1
A36M IAmb IAmb 03 58 17.5
comp=Z,7.3nm,1.4s
A36M Sachs Harbour 32.20 33 P P 03 57 49.7 +0.2
baz=276
Q32M Nakina River 32.41 58 P P 03 57 51.9 +0.1
baz=291
R33M Jennings River 32.88 57 P P 03 57 55.9 +0.1
baz=291
C36M Paulatuk 32.99 38 P P 03 57 56.5 +0.1
baz=281,SNR=7.1
S34M Telegraph Cree 33.36 59 P P 03 58 00.5 +0.7
baz=293
WTLY Watson Lake, Y 33.64 55 P P 03 58 02.9 +0.6
baz=292
DLBC Dease Lake 33.69 58 P P 03 58 04.0 +1.2
baz=293
XLT XiLinHaoTe 33.79 271 eP P 03 58 05.5 +1.7
XLT pP pP 03 58 10.5 +1.0
XLT sP sP 03 58 13.0 +1.1
XLT PP PnPn 03 59 03.3 -13
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT pmax pmax
comp=Z,120nm,4.2s
T35M Bob Quinn 34.17 61 P P 03 58 08.7 +1.8
baz=295
H11N2 WAKE ISLAND Hy 35.65 179 T T 04 35 41.7
baz=360,slow=76,SNR=97
H11N3 WAKE ISLAND Hy 35.66 179 T T 04 35 42.3
baz=360,slow=76,SNR=75
H11N1 WAKE ISLAND Hy 35.67 179 T T 04 35 43.1
baz=360,slow=76,SNR=66
KOTAN Kotaneelee Air 35.83 53 P P 03 58 22.3 +1.2
baz=294
ULN Ulaanbaatar 36.54 283⇑ eP P 03 58 28.5 +1.0
ULN pmax pmax
comp=Z,5.0nm,0.8s
H11S1 WAKE ISLAND Hy 36.87 179 T T 04 37 02.6
baz=360,slow=74,SNR=7.0
H11S3 WAKE ISLAND Hy 36.88 179 T T 04 37 09.2
baz=360
H11S2 WAKE ISLAND Hy 36.88 179 T T 04 37 03.1
baz=360,slow=74,SNR=7.3
SONM Songino Array 36.92 284 P P 03 58 31.5 +0.8
comp=Z,3.1nm,0.7s,baz=60,slow=7.3,SNR=10
comp=Z,3.1nm,0.7s
HHC Hu-ho-hao-te 38.31 271 eP P 03 58 42.8 +0.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.1s
YKA Yellowknife Ar 38.92 47 P P 03 58 47.1 -0.1
comp=Z,3.4nm,0.8s,baz=298,slow=8.0,SNR=43
comp=Z,3.4nm,0.8s
NJ2 Nanjing 40.45 255 eP P 03 59 00.3 0.0
NJ2 sP pP 03 59 05.0 -1.5
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
LYN LuoYang 42.17 263 eP P 03 59 16.5 +2.1
LYN pmax pmax
comp=Z,21nm,0.5s
LYN pmax pmax
comp=Z,180nm,4.0s
EDM Edmonton 44.41 58 P P 03 59 32.6 +0.2
EDM Edmonton 44.41 58 P P 03 59 32.6 +0.2
EDM pmax pmax
comp=Z,29nm,1.1s
SPITS Spitsbergen Ar 45.39 352 P P 03 59 39.4 -0.4
comp=Z,4.9nm,0.7s,baz=52,slow=12,SNR=7.2
comp=Z,4.9nm,0.7s
GTA Gaotai 45.94 279 eP P 03 59 47.5 +2.7
GTA pP sP 03 59 56.3 +3.2
GTA sP pP 04 00 00.5 +10
GTA pmax pmax
comp=Z,4.0nm,1.2s
LZH Lanzhou 45.97 272 eP P 03 59 49.0 +3.9
LZH pP sP 03 59 54.0 +0.6
LZH pmax pmax
comp=Z,10.0nm,1.4s
LYMT Lyon Mountain 48.90 64 P P 04 00 08.2 +0.3
FCC Fort Churchill 49.31 43 P P 04 00 10.5 0.0
FCC Fort Churchill 49.31 43 P P 04 00 10.5 0.0
FCC pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 49.56 303⇓ eP P 04 00 12.8 +0.3
KURK pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 49.60 291 eP P 04 00 15.5 +2.5
WMQ LR LR
comp=N,460nm,18.5s
WMQ LR LR
comp=E,630nm,16.7s
WMQ LR LR
comp=Z,350nm,20.3s
KURBB Kurchatov Arra 49.66 303 P P 04 00 12.6 -0.7
comp=Z,4.7nm,0.7s,baz=52,slow=7.8,SNR=14
comp=Z,4.7nm,0.7s
MPK Martis Peak 49.98 76 P P 04 00 15.4 -0.9
MKAR Makanchi Array 50.39 297 P P 04 00 17.6 -1.3
comp=Z,1.6nm,0.7s,baz=53,slow=6.2,SNR=7.7
comp=Z,1.6nm,0.7s
WAKR Walker 50.87 77 P P 04 00 22.7 -0.1
WAKR IAmb IAmb 04 00 33.8
comp=Z,3.9nm,0.9s
KVN Kaiserville 51.22 75 P P 04 00 25.4 0.0
KVN IAmb IAmb 04 00 37.0
comp=Z,7.2nm,1.3s
KVN Kaiserville 51.22 75 P P 04 00 25.5 0.0
KVN pmax pmax
comp=Z,7.0nm,1.3s
NVAR Mina Array Bea 51.55 76 P P 04 00 28.4 +0.4
comp=Z,1.3nm,0.7s,baz=298,slow=6.9,SNR=10
comp=Z,1.3nm,0.7s
MDPB Devils Postpil 51.69 77 P P 04 00 29.1 0.0
RLMT Red Lodge 51.70 64 P P 04 00 28.5 -0.5
OMMB Old Mammoth Mi 51.74 77 P P 04 00 29.5 -0.1
BVAR Borovoye Array 51.75 310 P P 04 00 28.5 -0.5
comp=Z,4.3nm,0.7s,baz=54,slow=7.5,SNR=7.1
comp=Z,4.3nm,0.7s
BRVK Borovoye 51.77 310⇑ eP P 04 00 29.1 -0.1
BRVK pmax pmax
comp=Z,5.0nm,0.7s
TPH Tonopah 52.40 76 P P 04 00 34.0 -0.3
TPH Tonopah 52.40 76 P P 04 00 34.0 -0.3
TPH pmax pmax
comp=Z,30nm,1.2s
VOG Valley Oaks Go 52.46 79 P P 04 00 36.9 +2.4
baz=316
GMN Gold Mountain 52.93 76 P P 04 00 38.6 +0.3
VES Vestal, Richgr 52.97 79 P P 04 00 39.2 +1.0
baz=317
CWC Cottonwood Cre 53.10 78 P P 04 00 40.1 +0.7
baz=317
R11B Troy Canyon, C 53.10 74 P P 04 00 40.1 +0.6
baz=316
PD31 Pinedale Array 53.19 66 P P 04 00 39.9 -0.3
PD31 IAmb IAmb 04 00 55.2
comp=Z,9.2nm,1.5s
PDAR Pinedale Array 53.19 66 P P 04 00 40.4 +0.2
comp=Z,1.2nm,0.7s,baz=338,slow=3.2,SNR=10
comp=Z,1.2nm,0.7s
SPR3 Spring Creek 3 53.32 73 P P 04 00 40.8 -0.5
SPR3 IAmb IAmb 04 00 44.7
comp=Z,4.4nm,1.0s
MPMC Manual Prospec 53.70 77 P P 04 00 45.0 +1.0
baz=317
FURC Furnace Creek, 53.75 77 P P 04 00 45.3 +1.3
baz=317
LRMC Laurel Mtn Rad 54.02 78 P P 04 00 46.5 +0.4
baz=317
GWY Greenwater Val 54.06 77 P P 04 00 45.9 -0.6
GWY IAmb IAmb 04 00 57.0
comp=Z,5.7nm,0.9s
PRN Pahroc Range 54.07 75 P P 04 00 47.1 +0.6
PRN IAmb IAmb 04 00 57.8
comp=Z,4.0nm,0.8s
QSM Queen of Sheba 54.11 77 P P 04 00 46.9 +0.1
QSM IAmb IAmb 04 00 52.6
comp=Z,9.4nm,1.5s
EDW2 Edwards Air Fo 54.28 79 P P 04 00 48.9 +0.9
baz=317
PZH PanZhiHua 54.29 266 P P 04 00 50.0 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.5s
SHOC Shoshone, Teco 54.49 77 P P 04 00 50.0 +0.5
baz=317
ULM Lac du Bonnet 54.51 51 eP P 04 00 50.7 +1.3
ULM pmax pmax
comp=Z,1.0nm,0.6s
ULM Lac du Bonnet 54.51 51 P P 04 00 49.1 -0.2
comp=Z,2.8nm,1.1s,baz=307,slow=9.9,SNR=3.3
comp=Z,2.8nm,1.1s
GSC Goldstone, Bar 54.63 78 P P 04 00 50.0 -0.6
GSC IAmb IAmb 04 00 52.1
comp=Z,7.0nm,1.1s
GSC Goldstone, Bar 54.63 78 P P 04 00 51.1 +0.5
baz=317
GSC Goldstone, Bar 54.63 78 P P 04 00 50.0 -0.6
GSC pmax pmax
comp=Z,7.0nm,1.1s
TMUT Trail Mountain 54.80 70 P P 04 00 51.9 -0.1
TMUT IAmb IAmb 04 01 09.9
comp=Z,4.3nm,0.9s
BFSC Mount Baldy Ra 54.94 79 P P 04 00 53.3 +0.4
baz=318
TUQ Turquoise Moun 55.02 77 P P 04 00 54.3 +0.8
baz=317
SRU San Rafael Swe 55.30 70 P P 04 00 55.5 0.0
SRU San Rafael Swe 55.30 70 P P 04 00 55.5 0.0
SRU pmax pmax
comp=Z,7.0nm,0.7s
LCMT Little Creek M 55.35 74 P P 04 00 55.6 -0.2
LCMT IAmb IAmb 04 00 58.9
comp=Z,7.2nm,1.4s
V12A Nelson 55.41 76 P P 04 00 56.1 -0.1
V12A IAmb IAmb 04 00 59.8
comp=Z,3.4nm,1.0s
GMRC Granite Mounta 55.65 77 P P 04 00 58.4 +0.4
baz=318
O20A White River Ci 55.77 68 P P 04 00 58.8 -0.1
baz=317
HMU Henry Mountain 56.03 71 P P 04 01 00.9 0.0
BELC Belle Mtn. Jos 56.04 78 P P 04 01 01.0 +0.2
baz=318
PFO Pinyon Flats O 56.07 79 P P 04 01 01.3 +0.2
baz=318
PFO Pinyon Flats O 56.07 79⇑ eP P 04 01 01.2 +0.2
PFO pmax pmax
comp=Z,6.0nm,1.1s
TPFO Pinon Flats 56.08 79 P P 04 01 01.4 +0.4
baz=318
IRM Iron Mountain 56.40 77 P P 04 01 03.4 +0.2
baz=318
N23A Red Feather La 56.41 65 P P 04 01 03.8 +0.3
baz=317
BC3 Big Chuckawall 56.60 78 P P 04 01 05.6 +0.8
baz=318
SMCO Snowmass 57.13 67 P P 04 01 09.2 +0.3
SMCO IAmb IAmb 04 01 19.2
comp=Z,4.4nm,1.0s
AAK Ala-Archa 57.25 299⇑ eP P 04 01 10.2 +0.9
AAK pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 57.39 66 P P 04 01 10.8 +0.3
ISCO Idaho Springs 57.39 66 P P 04 01 10.8 +0.3
ISCO pmax pmax
comp=Z,14nm,1.5s
S22A 4UR Ranch, Cre 58.27 69 P P 04 01 16.3 -0.4
S22A 4UR Ranch, Cre 58.27 69 P P 04 01 17.1 +0.3
baz=318
FINES FINESS Array B 59.33 339 P P 04 01 23.1 -0.3
comp=Z,4.2nm,0.7s,baz=25,slow=11,SNR=5.5
comp=Z,4.2nm,0.7s
SPMN Marine on St. 59.63 54 P P 04 01 26.1 +0.4
baz=320
I37A Lemond, Waseca 60.28 55 P P 04 01 30.1 -0.1
BELG Belogornoye 61.22 322⇑ eP P 04 01 37.0 +0.7
BELG pmax pmax
comp=Z,1.0nm,0.9s
SCHQ Schefferville 61.80 32 P P 04 01 39.5 -0.8
comp=Z,2.8nm,0.7s,baz=330,slow=6.6,SNR=6.5
comp=Z,2.8nm,0.7s
CMAR Chiang Mai Arr 62.20 262 P P 04 01 42.2 -1.3
comp=Z,2.1nm,0.3s,baz=27,slow=7.1,SNR=1.8
comp=Z,2.1nm,0.3s
NOA NORSAR Array B 62.21 347 P P 04 01 43.3 +0.3
comp=Z,0.4nm,0.5s,baz=17,slow=6.9,SNR=2.2
comp=Z,0.4nm,0.5s
HFS Hagfors 62.74 345 P P 04 01 46.0 -0.5
comp=Z,2.8nm,0.8s,baz=2.7,slow=6.2,SNR=4.8
comp=Z,2.8nm,0.8s
VHRN Van Horn 64.54 72 P P 04 01 59.3 +0.3
VHRN IAmb IAmb 04 02 01.7
comp=Z,3.5nm,0.9s
WMOK Wichita Mounta 64.77 65 P P 04 01 59.9 -0.4
WMOK Wichita Mounta 64.77 65 P P 04 01 59.9 -0.4
WMOK pmax pmax
comp=Z,5.0nm,0.8s
APMT Aspermont 65.17 67 P P 04 02 02.0 -0.9
MNHN Monahans 65.31 70 P P 04 02 03.9 0.0
TOLI2 Tolitoli 65.50 232 P P 04 02 06.2 +1.0
ABTX Abilene, Hawle 65.97 67 P P 04 02 08.5 +0.4
baz=322
TX31 Lajitas Ar. Si 66.38 72 P P 04 02 10.6 -0.3
TXAR Lajitas Array 66.38 72 P P 04 02 11.1 +0.2
comp=Z,5.8nm,0.7s,baz=301,slow=4.8,SNR=77
comp=Z,5.8nm,0.7s
EKA Eskdalemuir Ar 69.26 354 P P 04 02 29.1 +0.7
comp=Z,1.0nm,0.7s,baz=32,slow=6.7,SNR=3.5
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 79.86 210 P P 04 03 30.1 -0.2
comp=Z,2.3nm,1.1s,baz=26,slow=6.2,SNR=3.5
comp=Z,2.3nm,1.1s
ASAR Alice Springs 83.51 210 P P 04 03 49.5 -0.1
comp=Z,1.8nm,0.9s,baz=19,slow=5.1,SNR=5.1
comp=Z,1.8nm,0.9s
QSPA South Pole Qui 145.19 180 PKPbc **PKPbc 04 10 56.3 -1.3**
comp=Z,5.7nm,0.9s,baz=342,slow=2.9,SNR=8.1

*THE **30** 03:58:20.6, 41.28N×19.35E, h6km±3km, ML1.7/5, Error ellipse: s-maj=5.9km s-min=1.0km az=335.0*
*PDG **30** 03:58:22.0±0.3, 41.15N×19.52E, h16km, ML2.3/11, Error ellipse: s-maj=1.4km s-min=1.6km az=0.0*
*ATH **30** 03:58:22.9, 41.25N×19.42E, h18km±7km, ML1.8/4, Error ellipse: s-maj=9.0km s-min=2.0km az=334.0*
*BEO **30** 03:58:23.2±0.5, 41.17N×19.58E, h14km±2km, ML1.8/9*
*TIR **30** 03:58:23.0, 41.16N×19.66E, h13km±1km, Md3.2, Ml1.9*
*SKO **30** 03:58:23.7, 41.20N×19.53E, h19km, ML1.8*
*RHSSO **30** 03:58:23.0±0.8, 41.18N×19.32E, h7km±3km, ML2.2/5*
ISC 30 03:58:22.2±1.0, 41.18N±0.02×19.49E±0.02, h9km±8km, n67, σ0s87/126, 6C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.33**	**59**	P	**Pg**	**03 58 27.9**	**-0.9**
	baz=38						
TIR				S	**Sg**	**03 58 33.1**	**-0.1**
	baz=38						
TIR				AMP			
	comp=N,0.5nm,0.1s,baz=38						
TIR	**Tirane**	**0.33**	**59**	P	**Pg**	**03 58 28.4**	**-0.4**
TIR				S	**Sg**	**03 58 34.1**	**+0.9**
TIR	**Tirane**	**0.33**	**59**	*e*Pg	**Pg**	**03 58 28.3**	**-0.5**
TIR				*e*Sg	**Sg**	**03 58 33.8**	**+0.6**
ULC	**Ulcinj**	**0.81**	**347**	*i*Pg	**Pg**	**03 58 37.7**	**0.0**
ULC				*e*Sg	**Sn**	**03 58 51.0**	**-0.8**
ULC	**Ulcinj**	**0.81**	**347**	*i* Pg	**Pb**	**03 58 38.2**	**-0.1**
PHP	**Peshkopia**	**0.88**	**55**	P	**Pg**	**03 58 37.4**	**-1.8**
	baz=47						
PHP				S	**Sg**	**03 58 50.2**	**-0.4**
	baz=47						
PHP				AMP			
	comp=N,0.2nm,0.4s,baz=47						
PHP	**Peshkopia**	**0.88**	**55**	P	**Pg**	**03 58 37.3**	**-1.8**
PHP				S	**Sg**	**03 58 50.9**	**+0.3**
	comp=N,50nm,0.4s						
PUK	**Puka**	**0.92**	**19**	P	**Pg**	**03 58 40.0**	**+0.2**
	baz=10.0						

PUK					S	Sn	03 58 53.8	-0.9
	baz=10.0							
PUK					AMP			
	comp=E,0.1nm,0.4s,baz=10.0							
OHR	Ohrid	0.99	93	*e*Pg	Pg		03 58 41.4	+0.1
OHR				*e*Sg	Sg		03 58 54.4	+0.2
OHR	Ohrid	0.99	93	*i* Pg	Pb		03 58 41.8	+0.2
OHR				*i* Sg	Sn		03 58 58.3	+1.8
OHR				*e*Lg	Lg		03 58 59.7	
	comp=E,23nm,0.5s							
OHR				*e*Lg	Lg		03 59 01.6	
	comp=N,17nm,0.5s							
DRME	Dracevica, Mon	1.03	347	*e*Pg	Pg		03 58 42.1	0.0
DRME				*e*Sg	Sn		03 58 58.5	+1.1
DRME	Dracevica, Mon	1.03	347	⇑*i*Pg	Pg		03 58 42.1	0.0
DRME				*i* Sg	Sn		03 58 58.5	+1.1
DRME	Dracevica, Mon	1.03	347	*e*Pg	Pg		03 58 41.4	-0.7
DRME				*e*Sg	Sg		03 58 54.7	-0.8
BUM	Brajici-Budva	1.21	339	⇓*i*Pg	Pb		03 58 45.2	0.0
BUM				*i* Sg	Sn		03 59 03.8	+2.0
BCI	Bajram Curri	1.27	20	P	Pg		03 58 47.5	+1.1
	baz=13							
BCI				S	Sn		03 59 05.5	+2.3
	baz=13							
BCI				AMP				
	comp=E,0.2nm,0.5s,baz=13							
LSK	Leskovik	1.33	140	P	Pb		03 58 47.5	+0.1
	baz=144							
LSK				S	Sb		03 59 04.1	-0.4
	baz=144							
LSK	Leskovik	1.33	140	P	Pb		03 58 47.5	+0.1
LSK				S	Sg		03 59 07.5	+2.5
SCTE	Santa Cesarea	1.35	215	P	Pn		03 58 46.3	-0.8
SCTE				S	Sb		03 59 04.5	-0.4
SCTE				AML	AML		03 59 07.9	
	comp=N,50μm,0.4s							
SCTE				AML	AML		03 59 08.6	
	comp=E,44μm,0.7s							
SRN	Sarande	1.35	163	P	Pb		03 58 47.9	+0.2
	baz=168							
SRN				S	Sg		03 59 06.9	+1.2
	baz=168							
SRN	Sarande	1.35	163	P	Pn		03 58 47.1	-0.1
SRN				S	Sg		03 59 07.4	+1.7
	comp=E,75nm,0.4s							
NEST	Nestorio	1.41	122	P	Pb		03 58 48.9	+0.2
NEST				S	Sg		03 59 10.1	+2.5
	comp=E,22nm,0.5s							
NEST	Nestorio	1.41	122	P	Pb		03 58 48.5	-0.2
NEST				S	Sb		03 59 06.7	-0.1
NEST				AML	AML		03 59 11.3	
	comp=E,53μm,0.5s							
NEST				AML	AML		03 59 12.8	
	comp=N,55μm,0.5s							
CEME	Cevo	1.43	343	⇑*i*Pg	Pn		03 58 48.1	-0.3
CEME				*i* Sg	Sg		03 59 09.6	+1.3
PVY	Plav	1.46	14	*e*Pg	Pb		03 58 49.7	+0.1
PVY				*e*Sg	Sg		03 59 11.3	+2.2
PVY	Plav	1.46	14	*e*Pg	Pn		03 58 49.0	+0.2
PVY				*i* Sg	Sg		03 59 10.5	+1.4
HCY	Herceg Novi	1.47	330	⇑*i*Pg	Pn		03 58 48.3	-0.6
HCY				*i* Sg	Sg		03 59 10.6	+1.2
HCY	Herceg Novi	1.47	330	*e*Pg	Pn		03 58 48.2	-0.6
HCY				*e*Sg	Sn		03 59 07.9	-0.3
KEK	Kerkira	1.48	171	P	Pn		03 58 47.7	-1.3
KEK				S	Sg		03 59 10.1	+0.3
	comp=N,22nm,0.3s							
KEK	Kerkira	1.48	171	P	Pn		03 58 48.7	-0.3
KEK				S	Sn		03 59 08.2	-0.2
FNA	Florina	1.48	105	P	Pn		03 58 49.4	+0.2
	baz=105							
FNA				S	Sn		03 59 06.9	-1.7
	baz=105							
FNA				AMP				
	comp=N,0.1nm,0.5s,baz=105							
FNA	Florina	1.48	105	P	Pn		03 58 49.5	+0.4
FNA				S	Sg		03 59 10.3	+0.4
	comp=N,20nm,0.5s							
FNA	Florina	1.48	105	*e*Pg	Pn		03 58 48.9	-0.2
FNA				*e*Sg	Sn		03 59 07.8	-0.8
FNA	Florina	1.48	105	P	Pn		03 58 49.3	+0.2
FNA				S	Sn		03 59 07.9	-0.8
FNA				AML	AML		03 59 11.3	
	comp=N,99μm,0.6s							
FNA				AML	AML		03 59 12.5	
	comp=E,105μm,0.4s							
FNA	Florina	1.48	105	*i* Pg	Pn		03 58 49.5	+0.4
FNA				*i* Sg	Sb		03 59 09.4	+0.5
NKME	Niksic	1.64	346	⇑*i*Pn	Pn		03 58 51.6	+0.4
NKME				*i* Sn	Sg		03 59 14.7	-0.1
SKO	Skopje	1.67	61	*e*Pn	Pn		03 58 51.2	-0.3
SKO				*e*Sn	Sn		03 59 11.5	-1.6
SKO	Skopje	1.67	61	*e*Pg	Pn		03 58 52.5	+0.8
SKO				*i* Sg	Sb		03 59 14.3	+0.2
KOME	Kolasin	1.67	1	*e*Pg	Pb		03 58 53.0	-0.2
KOME				*e*Sg	Sg		03 59 15.8	-0.2
KOME	Kolasin	1.67	1	⇑*i*Pn	Pn		03 58 52.2	+0.5
KOME				*i* Sn	Sg		03 59 16.2	+0.2
BEY	Berane	1.72	10	*e*Pg	Pb		03 58 53.6	-0.4
BEY				*e*Sg	Sg		03 59 18.3	+0.8
IVA	Berane	1.72	10	⇓*i*Pn	Pn		03 58 52.8	+0.4
IVA				*i* Sn	Sg		03 59 17.0	-0.5
TREB	Trebinje	1.76	332	*e*Pn	Pn		03 58 53.0	+0.2
TREB				*e*Sn	Sb		03 59 16.6	-0.1
TREB	Trebinje	1.76	332	*e*Pn	Pn		03 58 52.7	-0.1
TREB				*e*Sn	Sn		03 59 15.0	-0.2
IGT	Igoumenitsa	1.77	158	P	Pb		03 58 53.9	-0.8
IGT				S	Sb		03 59 17.8	+0.8
IGT	Igoumenitsa	1.77	158	P	Pn		03 58 53.7	+0.8
IGT				S	Sn		03 59 15.1	-0.3
IGT	Igoumenitsa	1.77	158	*i* Pn	Pb		03 58 54.0	-0.8
IGT				*i* Sg	Sg		03 59 20.0	+1.1
BRY	Bratogost	1.86	338	*e*Pn	Pn		03 58 54.9	+0.6
BRY				*e*Sn	Sn		03 59 18.0	0.0
KPRO	Kipourio	1.88	130	P	Pb		03 58 56.0	-0.7
UPM	Unac-Piva	2.07	348	⇓*i*Pn	Pn		03 58 58.0	+0.7
UPM				*i* Sn	Sb		03 59 25.3	-0.6
UPM	Unac-Piva	2.07	348	*e*Pn	Pn		03 58 57.8	+0.5
UPM				*e*Sn	Sn		03 59 23.7	+0.5
SJES	Sjenica	2.11	10	*e*Pn	Pn		03 58 58.4	+0.6
SJES				*e*Sn	Sn		03 59 24.6	+0.4
SJES	Sjenica	2.11	10	*e*Pn	Pn		03 58 59.1	+1.3
SJES				*e*Sn	Sn		03 59 25.3	+1.1
PLE	Pljevlja	2.15	358	*e*Pg	Pg		03 59 03.0	-0.4
PLE				*e*Sg	Sg		03 59 31.3	-0.1
PLE	Pljevlja	2.15	358	⇑*i*Pn	Pn		03 58 58.7	+0.4
PLE				*i* Sn	Sb		03 59 27.2	-1.0
STON	Ston	2.15	322	*e*Pn	Pn		03 58 57.3	-0.9
STON				*e*Sn	Sn		03 59 23.9	-1.1
GRG	Griva	2.22	95	P	Pn		03 58 59.1	-0.1
GRG				AML	AML		03 59 30.9	
	comp=N,18μm,0.3s							
GRG				AML	AML		03 59 32.3	
	comp=E,10μm,0.2s							
GRG	Griva	2.22	95	*i* Pn	Pn		03 58 58.9	-0.2
PRVS	Prvonek	2.35	55	*e*Pn	Pn		03 59 00.2	-0.7
PRVS				*e*Sn	Sn		03 59 28.8	-1.1
SELS	Selova	2.37	30	*e*Pn	Pn		03 59 01.1	-0.2
SELS				*e*Sn	Sn		03 59 29.2	-1.3
RUDO	Rudo	2.44	358	*e*Pn	Pn		03 59 03.5	+1.3
RUDO				*e*Sn	Sn		03 59 33.1	+1.0
IVAS	Ivanjica	2.45	11	*e*Pn	Pn		03 59 02.2	-0.1
IVAS				*e*Sn	Sn		03 59 32.1	+0.5
KNT	Kendrikon	2.58	89	P	Pn		03 59 03.7	-0.3
KNT	Kendrikon	2.58	89	*i* Pn	Pn		03 59 03.8	-0.3
NYDR	Nydri-Lefkada	2.63	159	P	Pn		03 59 04.6	-0.2
BBLS	Lazići	2.69	359	*e*Pn	Pn		03 59 06.2	+0.6
BBLS				*e*Sn	Sn		03 59 39.8	+1.5
EVGI	Lefkada island	2.71	160	P	Pn		03 59 06.1	+0.3
A050A	Klekovaca	3.95	328	*e*Pn	Pn		03 59 23.2	+0.2
A050A				*e*Sn	Sn		04 00 08.0	-1.5

*TRN **30** 04:02:21.1, 17°.41N×62°.35W, h101km, MD4.3*
*IDC **30** 04:02:21.5±0.9, 17°.34N×62°.45W, h97km±12km, mb3.7/7, mbtmp4.1/10, Error ellipse: s-maj=23.9km s-min=8.2km az=27.0*
*NEIC **30** 04:02:22.4±0.9, 17°.39N±0°.10×62°.44W±0°.09, h99km±12km, mb4.2/12, Error ellipse: s-maj=15.9km s-min=9.4km az=215.0*
ISC 30 04:02:21.8±0.7,**17°.38N**±0°.06×**62°.44W**±0°.06,**h103**km±7km,

n77,σ0°88/93,mb4.2/10,2C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBFL	**Flemmings, Mon**	**0.67**	**161**	*e*P	**Pn**	**04 02 39.6**	**+0.4**
MBFL				*e*S	**Sn**	**04 02 52.5**	**+0.3**
ANBD	**Bethesda, Anti**	**0.72**	**117**	*i* P	**Pn**	**04 02 40.0**	**+0.3**
ANBD				*e*S	**Sn**	**04 02 52.8**	**-0.3**
GDHS	**Morne Mazeau,**	**1.28**	**150**		**Pn**	**04 02 45.9**	**+0.3**
ABD	**La Joyeuse, An**	**1.28**	**135**	Pn	**Pn**	**04 02 45.9**	**+0.3**
ABD					**Sn**	**04 03 03.9**	**+0.3**
ABD	**La Joyeuse, An**	**1.28**	**135**	*e*P	**Pn**	**04 02 45.9**	**+0.3**
ABD				*e*S	**Sn**	**04 03 03.6**	**+0.1**
CBE	**Ff, Capester**	**1.53**	**148**		**Pn**	**04 02 49.2**	**+0.7**
CBE	**Ff, Capester**	**1.53**	**148**	*e*P	**Pn**	**04 02 49.3**	**+0.7**
CBE				*e*S	**Sn**	**04 03 09.8**	**+0.8**
GDSD	**La Dsirade Is**	**1.69**	**129**		**Pn**	**04 02 50.4**	**-0.2**
H05N1	**Guadeloupe/Mar**	**1.69**	**128**	P	**Pn**	**04 02 51.0**	**+0.3**
H05N1				S	**Sn**	**04 03 11.2**	**-1.3**
TBG	**Guadaloupe-3**	**1.70**	**153**	*e*P	**Pn**	**04 02 51.1**	**+0.4**
TBG				*e*S	**Sn**	**04 03 13.8**	**+1.1**
MAGL	**Barre de l'ile**	**1.81**	**142**		**Pn**	**04 02 52.7**	**+0.7**
SVN	**Savane Anatole**	**2.81**	**154**		**Pn**	**04 03 05.6**	**+0.5**
SVN	**Savane Anatole**	**2.81**	**154**	⇑*i*P	**Pn**	**04 03 05.5**	**+0.4**
SVN				*e*S	**Sn**	**04 03 38.8**	**+0.4**
FDF	**Fort de France**	**2.91**	**155**		**Pn**	**04 03 06.8**	**+0.3**
FDF	**Fort de France**	**2.91**	**155**	*e*P	**Pn**	**04 03 06.8**	**+0.3**
FDF				*e*S	**Sn**	**04 03 39.7**	**-1.2**
ILAM	**Ilet Lapin Mar**	**3.00**	**150**	*e*P	**Pn**	**04 03 08.1**	**+0.5**
ILAM				*e*S	**Sn**	**04 03 41.5**	**-1.3**
BIM	**Bigot**	**3.14**	**155**		**Pn**	**04 03 10.1**	**+0.6**
BIM	**Bigot**	**3.14**	**155**	⇑*i*P	**Pn**	**04 03 10.1**	**+0.6**
BIM				*e*S	**Sn**	**04 03 46.4**	**+0.1**
MPOM	**Morne Pois Mar**	**3.29**	**152**		**Pn**	**04 03 11.8**	**+0.3**
MPOM	**Morne Pois Mar**	**3.29**	**152**	*e*P	**Pn**	**04 03 11.7**	**+0.2**
MPOM				*e*S	**Sn**	**04 03 49.0**	**-0.9**
H05S1	**Guadeloupe/Mar**	**3.32**	**152**	P	**Pn**	**04 03 12.1**	**+0.3**
H05S1				S	**Sn**	**04 03 49.8**	**-0.8**
HUMP	**Col San Antoni**	**3.34**	**284**		**Pn**	**04 03 12.0**	**-0.1**
IGPR	**InterUniversit**	**3.54**	**280**		**Pn**	**04 03 14.9**	**0.0**
GCPR	**Guaynabo City**	**3.59**	**285**		**Pn**	**04 03 15.8**	**+0.3**
SJG	**San Juan**	**3.61**	**282**	P	**Pn**	**04 03 16.2**	**+0.5**
	49nm,0.4s,baz=98,slow=14,SNR=28						
SJG				S	**Sn**	**04 03 57.4**	**-0.2**
	71nm,0.5s,baz=39,slow=21,SNR=11						
SLBI	**Saint Lucia, B**	**3.62**	**157**	*e*P	**Pn**	**04 03 16.1**	**+0.2**
SLBI				*e*S	**Sn**	**04 03 58.8**	**+0.9**
SLCP	**Castries, St.**	**3.63**	**157**	*e*P	**Pn**	**04 03 17.6**	**+1.5**
SLCP				*e*S	**Sn**	**04 03 57.4**	**-0.7**
CELP	**Cerrillos**	**4.00**	**281**		**Pn**	**04 03 21.5**	**+0.4**
OBIP	**Obispado Ponce**	**4.03**	**280**		**Pn**	**04 03 20.4**	**-0.9**
AOPR	**Arecibo Observ**	**4.22**	**284**		**Pn**	**04 03 24.2**	**+0.3**
SVB	**Belmont**	**4.24**	**164**	*e*P	**Pn**	**04 03 25.0**	**+0.6**
SVOC	**Richmond Hill,**	**4.36**	**164**	*e*P	**Pn**	**04 03 25.6**	**-0.3**
MLPR	**Magueyes Islan**	**4.43**	**278**	Pn	**Pn**	**04 03 25.6**	**-1.2**
CRPR	**Cabo Rojo, PR**	**4.50**	**279**	Pn	**Pn**	**04 03 27.7**	**0.0**
PRSN	**Puerto Rico Se**	**4.56**	**281**		**Pn**	**04 03 29.3**	**+0.8**
GCMP	**Grenada, Carri**	**4.96**	**168**	*e*P	**Pn**	**04 03 34.6**	**+0.6**
TRN	**Trinidad (W)**	**6.77**	**171**	*e*P	**Pn**	**04 04 00.3**	**+1.7**
SDDR	**Presa de Saban**	**8.56**	**282**	Pn	**Pn**	**04 04 22.3**	**-0.7**
SDV	**Santo Domingo**	**11.61**	**224**	Pn	**Pn**	**04 05 05.0**	**+0.5**
LL6C	**La Loma 6 Bece**	**12.98**	**236**	*e*P	**P**	**04 05 28.4**	**-0.6**
ARGC	**Ariguani, Magd**	**13.69**	**238**	*e*P	**P**	**04 05 36.8**	**0.0**
OCAC	**Ocana**	**13.96**	**231**	*e*P	**P**	**04 05 39.1**	**-0.9**
PAMC	**Pamplona, Colo**	**14.13**	**226**	*e*P	**Pn**	**04 05 39.1**	**+1.2**
SJCC	**San Jacinto, C**	**14.44**	**241**	*e*P	**P**	**04 05 44.3**	**-0.9**
BARC	**Barichara**	**15.00**	**226**	*e*P	**P**	**04 05 51.8**	**+0.1**
BOAV	**Boa Vista**	**15.01**	**173**	Pn	**Pn**	**04 05 47.3**	**-1.3**
BOAV				IAmb	IAmb	04 05 47.9	
	comp=Z,15nm,1.5s						
BBSR	**BB Station**	**15.06**	**353**	Pn	**Pn**	**04 05 47.6**	**-1.5**
MDP	**Montagnes des**	**15.52**	**141**	P	**Pn**	**04 05 52.7**	**-2.3**
	comp=Z,10nm,0.8s,baz=329,slow=16,SNR=8.8						
MDP				S	Sn	04 08 29.9	-17
	comp=Z,9.1nm,0.7s,baz=149,slow=5.9,SNR=1.5						
PTBC	**PUERTO BERRIO,**	**15.93**	**229**	*e*P	**Pn**	**04 05 56.1**	**-4.1**
UREC	**San Jos de Ur**	**15.95**	**235**	*e*P	**Pn**	**04 06 01.0**	**+0.6**
SPBC	**San Pablo de B**	**16.29**	**226**	*e*P	**P**	**04 06 05.8**	**0.0**
DBBC	**Dabeiba**	**16.93**	**234**	*e*P	**Pn**	**04 06 11.0**	**-1.6**
ROSC	**El Rosal**	**17.05**	**224**	P	**P**	**04 06 15.5**	**+0.9**
ROSC				IAmb	IAmb	04 06 18.2	
	comp=Z,9.6nm,0.8s						
ROSC	**El Rosal**	**17.05**	**224**	P	**Pn**	**04 06 14.7**	**+0.4**
	comp=Z,6.7nm,0.4s,baz=307,slow=20,SNR=2.7						
GUY2C	**Guyana, Caldas**	**17.49**	**228**	*e*P	**P**	**04 06 19.9**	**+0.4**
CBOC	**Ciudad Bolivar**	**17.53**	**231**	*e*P	**P**	**04 06 20.1**	**+0.5**
PLMC	**San Jos del P**	**18.37**	**229**	*e*P	**P**	**04 06 28.3**	**-0.4**
BCIP	**Isla Barro Col**	**18.79**	**246**	P	**P**	**04 06 33.4**	**+0.2**
JAMC	**Jamundi, Valle**	**19.83**	**226**	*e*P	**P**	04 06 37.6	-7.2
BBAC	**Balboa, Cauca**	**21.09**	**225**	*e*P	**P**	**04 06 59.5**	**+1.2**
JSC	**Jenkinsville**	**23.81**	**319**	P	**P**	**04 07 25.6**	**+0.3**
JSC				IAmb	IAmb	04 08 07.3	
	comp=Z,21nm,1.5s						
HODGE	**Hodges**	**24.42**	**317**	P	**P**	**04 07 30.9**	**+0.2**
HODGE				IAmb	IAmb	04 07 48.9	
	comp=Z,20nm,1.4s						
TEIG	**Tepich**	**24.61**	**281**	P	**P**	**04 07 32.4**	**-0.3**
GOGA	**Godfrey**	**24.73**	**314**	P	**P**	**04 07 33.6**	**0.0**
WUPA	**West Chester U**	**25.21**	**336**	P	**P**	**04 07 39.2**	**+1.4**
WUPA				IAmb	IAmb	04 08 02.9	
	comp=Z,10nm,1.1s						
MCRA	**Macar, Loja**	**27.68**	**220**	*e*P	**P**	**04 08 00.1**	**-0.3**
X37A	**Clayton**	**34.00**	**307**		**S**	**04 14 13.6**	**0.0**
TXAR	**Lajitas Array**	**39.48**	**295**	P	**P**	**04 09 41.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=117,slow=8.8,SNR=13						
TXAR				PcP	**PcP**	**04 11 49.8**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=107,slow=4.3,SNR=3.5						
	comp=Z,0.3nm,0.3s						
TX31	**Lajitas Ar. Si**	**39.48**	**295**	P	**P**	**04 09 43.5**	**+0.9**
VHRN	**Van Horn**	**40.83**	**297**	P	**P**	**04 09 54.5**	**+0.8**
ULM	**Lac du Bonnet**	**42.34**	**328**	P	**P**	**04 10 05.6**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=131,slow=8.2,SNR=12						
	comp=Z,3.0nm,0.3s						
PD31	**Pinedale Array**	**47.20**	**313**	P	**P**	**04 10 45.5**	**+1.0**
PD31				IAmb	IAmb	04 11 21.1	
	comp=Z,7.4nm,1.4s						
PDAR	**Pinedale Array**	**47.20**	**313**	P	**P**	**04 10 45.4**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=117,slow=9.1,SNR=19						
	comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**52.80**	**305**	P	**P**	**04 11 27.8**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=111,slow=7.0,SNR=5.2						
	comp=Z,0.5nm,0.5s						
NEW	**Newport**	**53.86**	**318**	P	**P**	**04 11 34.9**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=119,slow=7.5,SNR=6.8						
	comp=Z,2.5nm,0.5s						
YBH	**Yreka Blue Hor**	**56.54**	**309**	P	**P**	**04 11 53.2**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=96,slow=10,SNR=1.8						
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**57.66**	**334**	P	**P**	**04 12 01.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=107,slow=7.0,SNR=11						
	comp=Z,1.0nm,0.8s						

*IDC **30** 04:06:47.6±0.8, 56°.08S×27°.79W, h0km, mb4.5/7, mbtmp4.6/8, ML5.0/1, Error ellipse: s-maj=42.2km s-min=17.2km az=86.0*
*NEIC **30** 04:06:59.1±1.0, 56°.2S±0°.1×27°.3W±0°.2, h82km±8km, mb4.6/33, Error ellipse: s-maj=20.2km s-min=14.6km az=47.0*
ISC 30 04:07:00.5±0.5,**56°.19S**±0°.09×**27°.4W**±0°.1,**h100**km,**n54,**
σ0°**81**/54,**mb4.6**/19,**5C**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.52**	**286**	Pn	**Pn**	**04 08 18.8**	**-1.3**
VNA1	**Neumayer--Stat**	**16.72**	**158**	⇑P	**Pn**	**04 10 48.6**	**+0.5**
	comp=Z,29nm,0.8s						
VNA3	**Neumayer Olymp**	**16.91**	**160**	⇑P	**Pn**	**04 10 50.5**	**0.0**
	comp=Z,10.0nm,0.3s						
VNA2	**Neumayer--Watz**	**17.11**	**157**	⇑P	**Pn**	**04 10 53.5**	**+0.4**
	comp=Z,38nm,0.6s,baz=317,slow=11						
EFI	**East Falkland**	**18.50**	**271**	P	**P**	**04 11 08.8**	**+0.3**
EFI				IAmb	IAmb	04 11 24.0	
	comp=Z,58nm,1.4s						
SNAA	**Sanae**	**18.67**	**156**	P	**P**	**04 11 10.2**	**-0.1**
SNAA	**Sanae**	**18.67**	**156**	⇑P	**P**	**04 11 09.9**	**-0.5**
	comp=Z,778nm,0.5s						
SNAA	**Sanae**	**18.67**	**156**	PKIKP	**P**	**04 11 10.2**	**-0.1**
SNAA	**Sanae**	**18.67**	**156**	P	**P**	**04 11 10.2**	**-0.1**
	comp=Z,4.7nm,0.3s,baz=305,slow=9.6,SNR=148						
	comp=Z,36nm,0.6s						
TROLL	**Troll, Antarti**	**20.18**	**153**	⇑P	**P**	**04 11 26.3**	**-0.5**
	comp=Z,2μm,0.4s						
BELA	**Belgrano 2**	**21.93**	**184**	P	**P**	**04 11 44.7**	**-0.5**
BELA				IAmb	IAmb	04 11 47.2	
	comp=Z,28nm,0.8s						
MG02	**Cerro Sombrero**	**24.24**	**260**	P	**P**	**04 12 08.8**	**+1.2**
GO08	**Villa O'Higgin**	**28.19**	**267**	P	**P**	**04 12 43.7**	**+0.4**
GO08				IAmb	IAmb	04 12 59.2	
	comp=Z,22nm,1.4s						
PLTB	**Pedras Altas**	**30.49**	**312**	P	**P**	**04 13 04.5**	**+0.7**
PLTB				IAmb	IAmb	04 13 21.4	
	comp=Z,16nm,1.3s						
AY01	**Puyuhuapi**	**30.62**	**273**	P	**P**	**04 13 06.4**	**+1.6**
QSPA	**South Pole Qui**	**34.06**	**180**	P	**P**	**04 13 35.6**	**+0.8**
QSPA				IAmb	IAmb	04 13 37.4	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**34.06**	**180**	P	**P**	**04 13 35.8**	**+1.0**
	comp=Z,4.1nm,0.4s,baz=42,slow=2.3,SNR=17						
	comp=Z,4.1nm,0.4s						
CO03	**El Pedregal**	**39.36**	**292**	P	**P**	**04 14 20.0**	**-0.1**
CO01	**Juntas del Tor**	**39.74**	**293**	P	**P**	**04 14 24.1**	**+0.7**
CO01				IAmb	IAmb	04 15 04.2	
	comp=Z,10nm,1.4s						
MAW	**Mawson**	**40.12**	**144**	P	**P**	**04 14 25.6**	**-0.1**
	comp=Z,20nm,0.9s,baz=220,slow=6.2,SNR=6.6						
	comp=Z,20nm,0.9s						
LCO	**Las Campanas**	**40.83**	**293**	P	**P**	**04 14 31.5**	**-1.0**
AC01	**Pan de Azucar**	**43.12**	**296**	P	**P**	**04 14 49.8**	**-0.9**
BDFB	**Brasilia**	**43.42**	**330**	P	**P**	**04 14 54.3**	**+1.0**
BDFB				IAmb	IAmb	04 15 04.7	
	comp=Z,10nm,1.3s						
BDFB	**Brasilia**	**43.42**	**330**	P	**P**	**04 14 51.1**	**-2.2**
	comp=Z,1.8nm,0.5s,baz=175,slow=12,SNR=2.6						
	comp=Z,1.8nm,0.5s						
LVC	**Limon Verde**	**45.25**	**300**	P	**P**	**04 15 08.9**	**+0.7**
PB06	**IPOC Station P**	**45.49**	**300**	P	**P**	**04 15 09.0**	**-0.8**
PB06				IAmb	IAmb	04 15 31.5	
	comp=Z,12nm,1.0s						
SBA	**Scott Base**	**45.93**	**184**	P	**P**	**04 15 12.4**	**0.0**
PB09	**IPOC Station P**	**46.10**	**301**	P	**P**	**04 15 16.0**	**+1.3**
PB09				IAmb	IAmb	04 15 43.8	
	comp=Z,14nm,1.5s						
VNDA	**Vanda**	**46.43**	**183**	P	**P**	**04 15 15.2**	**-1.2**
VNDA				IAmb	IAmb	04 15 30.8	
	comp=Z,7.9nm,1.4s						
VNDA	**Vanda**	**46.43**	**183**	P	**P**	**04 15 15.1**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=174,slow=9.5,SNR=14						
	comp=Z,1.6nm,0.5s						
PB07	**IPOC Station P**	**46.47**	**300**	P	**P**	**04 15 18.0**	**+0.4**
PB07				IAmb	IAmb	04 16 02.3	
	comp=Z,16nm,1.4s						
PB02	**IPOC Station P**	**46.82**	**300**	P	**P**	**04 15 20.8**	**+0.6**
PB02				IAmb	IAmb	04 15 39.5	
	comp=Z,18nm,1.3s						
PB01	**IPOC Station P**	**46.86**	**301**	P	**P**	**04 15 21.0**	**+0.5**
PB01				IAmb	IAmb	04 15 21.8	
	comp=Z,5.9nm,0.5s						
PTLB	**Pontes e Lacer**	**47.30**	**316**	P	**P**	**04 15 24.3**	**+0.5**
PB08	**IPOC Station P**	**47.48**	**302**	P	**P**	**04 15 26.7**	**+1.1**
PB08				IAmb	IAmb	04 15 27.2	
	comp=Z,4.1nm,0.6s						
GO01	**Chusmiza**	**47.90**	**302**	P	**P**	**04 15 29.8**	**+0.8**
GO01				IAmb	IAmb	04 15 31.1	
	comp=Z,5.7nm,0.6s						
PB11	**IPOC Station P**	**48.04**	**302**	P	**P**	**04 15 29.8**	**+0.1**
PB11				IAmb	IAmb	04 15 29.9	
	comp=Z,16nm,1.4s						
PB16	**IPOC Station P**	**49.20**	**303**	P	**P**	**04 15 39.8**	**+0.7**
LPAZ	**La Paz**	**50.34**	**306**	P	**P**	**04 15 48.2**	**+0.4**
CASY	**Casey**	**53.82**	**160**	P	**P**	**04 16 12.8**	**+0.5**
BOAV	**Boa Vista**	**64.31**	**323**	P	**P**	**04 17 24.6**	**-0.6**
DBIC	**Dimbokro**	**65.35**	**25**	P	**P**	**04 17 32.1**	**+0.2**

HOM	Homer	3.62	344		IAML			04 11 16.0	
	comp=N,440nm,0.4s								
HOM					IAML			04 11 16.1	
	comp=E,572nm,0.7s								
BRLK	Bradley Lake	3.63	351		Pn		Pn	04 10 29.9	-0.3
BRLK					IAML			04 11 15.4	
	comp=E,320nm,0.5s								
BRLK	Bradley Lake	3.63	351				Sn	04 11 11.6	-0.6
ACHA	Angle Creek He	3.65	306				Pn	04 10 31.7	+1.1
Q23K	Middleton Isla	3.71	28				Pn	04 10 30.8	-0.4
MID	Middleton Isla	3.71	28				Pn	04 10 30.8	-0.5
MID	Middleton Isla	3.71	28		IAML			04 11 13.2	
	comp=N,376nm,0.8s								
MID					IAML			04 11 23.6	
	comp=E,334nm,2.1s								
ANCK	Angle Creek	3.72	305				Pn	04 10 32.4	+0.9
AU22	Augustine Moun	3.73	330				Pn	04 10 32.1	+0.6
KVTA	Katmai Vly 10	3.73	308				Pn	04 10 32.9	+1.3
AUCH	Augustine Cone	3.75	329				Pn	04 10 32.7	+0.9
KAHC	Katmai Hardscr	3.77	313				Pn	04 10 33.3	+1.1
KAHC	Katmai Hardscr	3.77	313	P			Pn	04 10 33.3	+1.1
	baz=129								
SEW	Seward	3.92	2				Pn	04 10 33.6	-0.5
SEW							Sn	04 11 17.3	-2.1
SEW	Seward	3.92	2	P			Pn	04 10 33.6	-0.5
	baz=182								
CNTC	Contact Creek	3.94	304				Pn	04 10 35.2	+0.8
P19K	Oil Pt	3.94	333				Pn	04 10 34.9	+0.6
P19K							Sn	04 11 20.3	+0.5
P19K	Oil Pt	3.94	333	P			Pn	04 10 35.0	+0.6
	baz=151								
Q17K	Contact Creek	3.94	304	P			Pn	04 10 35.4	+1.0
	baz=120								
KELA	Mount Kelaz	3.96	307				Pn	04 10 35.9	+1.1
P23K	Montague Islan	4.01	17				Pn	04 10 35.3	+0.1
P23K	Montague Islan	4.01	17	P			Pn	04 10 35.4	+0.1
	baz=198								
PLK1	Peulik 1	4.09	296				Pn	04 10 37.5	+1.0
O20K	Slope Mountain	4.19	340				Pn	04 10 37.9	+0.1
O20K	Slope Mountain	4.19	340	P			Pn	04 10 37.8	-0.1
	baz=158								
IVE	Iliamna Volcan	4.21	337				Pn	04 10 37.6	-0.6
IVE							Sn	04 11 26.4	-0.2
O22K	Cooper Landing	4.30	0				Pn	04 10 38.0	-1.3
O22K	Cooper Landing	4.30	0	P			Pn	04 10 38.2	-1.1
	baz=180								
SLKM	Skilak Lake	4.33	357				Pn	04 10 39.2	-0.6
P18K	Big Mountain,	4.35	320				Pn	04 10 40.1	0.0
P18K	Big Mountain,	4.35	320	P			Pn	04 10 40.1	0.0
	baz=136								
Q16K	King Salmon	4.49	306				Pn	04 10 42.5	+0.5
Q16K	King Salmon	4.49	306	P			Pn	04 10 42.7	+0.7
	baz=122								
R16K	Pilot Point	4.52	291				Pn	04 10 42.7	+0.4
R16K	Pilot Point	4.52	291		IAML			04 11 30.5	
	comp=N,390nm,2.3s								
R16K					IAML			04 13 20.1	
	comp=E,436nm,2.9s								
R16K	Pilot Point	4.52	291	P			Pn	04 10 43.0	+0.7
	baz=106								
RED	Redoubt Volcan	4.53	341				Pn	04 10 41.7	-0.9
HIN	Hinchinbrook I	4.54	21				Pn	04 10 43.0	+0.3
HIN	Hinchinbrook I	4.54	21		IAML			04 11 34.5	
	comp=E,520nm,0.5s								
RDSO	Redoubt South	4.55	341				Pn	04 10 42.0	-1.0
RSO	Redoubt South	4.56	341				Pn	04 10 42.5	-0.7
RDWB	Redoubt West	4.60	340				Pn	04 10 42.8	-0.9
RDT	Redoubt	4.61	343				Pn	04 10 42.8	-0.9
RDT							Sn	04 11 35.4	-1.0
DFR	Drift River	4.67	342				Pn	04 10 43.5	-1.1
KAIM	Kayak Island	4.68	35				Pn	04 10 45.0	+0.4
KAIM	Kayak Island	4.68	35		IAML			04 11 40.3	
	comp=E,478nm,0.7s								
KAIM	Kayak Island	4.68	35	P			Pn	04 10 45.2	+0.6
	baz=218								
O18K	Koktuh Hills	4.68	324				Pn	04 10 44.7	+0.1
O18K	Koktuh Hills	4.68	324	P			Pn	04 10 44.7	+0.1
	baz=140								
O19K	Port Alsworth	4.69	331				Pn	04 10 44.4	-0.3
O19K	Port Alsworth	4.69	331	P			Pn	04 10 44.3	-0.4
	baz=147								
NCT	North Crescent	4.69	340				Pn	04 10 44.0	-0.8
P17K	Kvichak River	4.69	313				Pn	04 10 45.5	+0.8
P17K	Kvichak River	4.69	313	P			Pn	04 10 45.7	+1.1
	baz=128								
RDJH	Redoubt Jeurge	4.69	341				Pn	04 10 44.2	-0.6
ANPB	Aniakchak Plen	4.78	281				Pn	04 10 46.4	+0.4
EYAK	Cordova Ski Ar	4.84	24				Pn	04 10 47.2	+0.5
EYAK							Sn	04 11 40.3	-1.7
EYAK	Cordova Ski Ar	4.84	24	P			Pn	04 10 47.2	+0.5
	baz=207								
CHGN	Chignik	4.85	275				Pn	04 10 46.7	-0.1
CHGN	Chignik	4.85	275		IAML			04 11 41.5	
	comp=N,304nm,0.1s								
CHGN					IAML			04 11 44.5	
	comp=E,216nm,0.2s								
RC01	Rabbit Creek A	4.91	360				Pn	04 10 47.7	0.0
RC01	Rabbit Creek A	4.91	360		IAML			04 11 44.8	
	comp=E,244nm,0.5s								
RC01					IAML			04 11 46.0	
	comp=N,154nm,0.5s								
RC01	Rabbit Creek A	4.91	360	P			Pn	04 10 47.4	-0.2
	baz=180								
RAGM	Ragged Mountai	4.97	30				Pn	04 10 49.3	+0.6
GOAT	Goat Mountain	5.12	29				Pn	04 10 51.5	+0.8
N20K	Mount Spurr	5.18	347	P			Pn	04 10 50.9	-0.7
	baz=165								
SPCR	Spurr Chakacha	5.18	347				Pn	04 10 50.9	-0.7
SPCR							Sn	04 11 49.5	-1.1
SPCN	Chakachatna No	5.20	347				Pn	04 10 51.2	-0.6
SPCG	Spurr Capps Gl	5.25	348				Pn	04 10 52.4	-0.1
N19K	Bonanza Creek	5.26	334				Pn	04 10 52.1	-0.5
N19K	Bonanza Creek	5.26	334	P			Pn	04 10 52.1	-0.5
	baz=150								
SPBG	Spurr Blockage	5.26	346				Pn	04 10 52.7	+0.1
BERG	Berg Lake	5.27	35				Pn	04 10 53.0	+0.3
P16K	Nushagak River	5.27	306				Pn	04 10 53.5	+0.8
P16K	Nushagak River	5.27	306	P			Pn	04 10 53.8	+1.1
	baz=120								
KNK	Knik Glacier	5.27	7				Pn	04 10 52.9	+0.1
KNK					IAML			04 11 55.4	
	comp=N,80nm,0.5s								
KNK					IAML			04 11 58.8	
	comp=E,88nm,0.6s								
KNK	Knik Glacier	5.27	7	P			Pn	04 10 52.8	+0.1
	baz=188								
SUA	Susitna One	5.31	355				Pn	04 10 52.6	-0.7
O17K	Koliganek Bris	5.31	315				Pn	04 10 53.5	+0.3
O17K	Koliganek Bris	5.31	315	P			Pn	04 10 53.7	+0.5
	baz=130								
DIV	Divide	5.36	21				Pn	04 10 54.6	+0.6
SNH	Sunshine Point	5.41	40	Pn			Pn	04 10 55.3	+0.7
SPNN	North Nagishla	5.41	345				Pn	04 10 54.6	-0.1
PMR	Palmer	5.42	3				Pn	04 10 54.7	0.0
PMR	Palmer	5.42	3	P			Pn	04 10 55.2	+0.5
	baz=183								
STLK	Strandline Lak	5.43	349				Pn	04 10 54.7	-0.2
VNFG	Fog Glacier, M	5.48	275				Pn	04 10 55.8	+0.1
BMRM	Bremner River	5.48	27				Pn	04 10 56.1	+0.5
BMRM	Bremner River	5.48	27	P			Pn	04 10 56.5	+0.9
	baz=211								
N18K	Kilae Creek	5.54	327				Pn	04 10 56.5	+0.1
GHO	Glory Hole Cre	5.61	4				Pn	04 10 57.6	+0.2
O16K	Kokwok River B	5.61	311				Pn	04 10 57.9	+0.6
O16K	Kokwok River B	5.61	311	P			Pn	04 10 58.2	+0.9
	baz=124								
KLU	Klutina	5.67	19	Pn			Pn	04 10 58.9	+0.8
KLU	Klutina	5.67	19	P			Pn	04 10 58.9	+0.8
	baz=202								
SML	Sawmill	5.67	7	Pn			Pn	04 10 58.8	+0.5
SML	Sawmill	5.67	7	P			Pn	04 10 58.8	+0.5
	baz=188								
BARK	Barkley Ridge	5.69	39				Pn	04 10 59.1	+0.7
M23K	Glacier View	5.71	10				Pn	04 10 59.5	+0.9
M23K	Glacier View	5.71	10	P			Pn	04 10 59.5	+0.9
	baz=191								
CHNA	Chernabura Isl	5.77	260	P			Pn	04 10 58.7	-0.8
	baz=73								
CNBA	Chernabura Isl	5.77	260				Pn	04 10 58.5	-1.0
SVW2	Sparrevohn	5.78	331				Pn	04 10 59.2	-0.5
SCM	Sheep Creek Mo	5.79	11				Pn	04 11 00.9	+1.0
SCM	Sheep Creek Mo	5.79	11	P			Pn	04 11 01.1	+1.3
	baz=193								
N17K	Nushagak Hills	5.85	321				Pn	04 11 00.0	-0.6
SKT	Skwentna	5.87	352				Pn	04 11 01.1	+0.2
SKT	Skwentna	5.87	352	P			Pn	04 11 01.0	0.0
	baz=170								
M20K	Styx River	5.96	344				Pn	04 11 01.8	-0.5
VRDI	Verde Repeater	6.01	30	Pn			Pn	04 11 03.6	+0.6
N25K	Chitina, Valde	6.04	24				Pn	04 11 04.1	+0.8
N25K	Chitina, Valde	6.04	24	P			Pn	04 11 04.7	+1.4
	baz=208								
GLB	Gilahina Butte	6.09	28				Pn	04 11 04.5	+0.6
KIAG	Kiagna River	6.11	36				Pn	04 11 05.0	+0.7
SDPT	Sand Point	6.13	266				Pn	04 11 04.1	-0.3
SDPT	Sand Point	6.13	266	P			Pn	04 11 04.3	-0.1
	baz=78								
SAMH	Samovar Hills	6.16	47				Pn	04 11 06.5	+1.5
M18K	Stony River	6.18	332				Pn	04 11 04.8	-0.3
O15K	Ungalikthiuk R	6.18	303				Pn	04 11 06.0	+0.8
M24K	Tolsona, Glenn	6.20	16				Pn	04 11 06.6	+1.1
M24K	Tolsona, Glenn	6.20	16	P			Pn	04 11 07.8	+2.3
	baz=198								
M19K	Big River Lodg	6.21	339				Pn	04 11 04.9	-0.7
CUT	Chulitna	6.23	358				Pn	04 11 06.0	+0.2
MCARA	McCarthy VSAT	6.26	31				Pn	04 11 07.1	+0.8
MCARA	McCarthy VSAT	6.26	31	P			Pn	04 11 07.7	+1.5
	baz=216								
PTPK	Patty Peak	6.27	34				Pn	04 11 07.5	+0.9
PCA	Pinnacle	6.36	48				Pn	04 11 08.8	+1.2
N16K	Nishlik Lake	6.40	316				Pn	04 11 09.0	+0.7
BARN	Barnard Glacie	6.44	37				Pn	04 11 09.8	+0.8
WAT6	Susitna Watana	6.48	8				Pn	04 11 10.1	+0.6
WAT6	Susitna Watana	6.48	8	P			Pn	04 11 10.1	+0.6
	baz=190								
CTG	Chitna Glacier	6.48	39	P			Pn	04 11 10.6	+1.2
	baz=226								
CTGM	Chitina Glacie	6.49	39				Pn	04 11 10.4	+0.9
PNL	Peninsula	6.51	53				Pn	04 11 10.8	+1.2
LOGN	Logan Glacier	6.51	41				Pn	04 11 10.3	+0.5
BCPM	Bancas Point	6.54	31				Pn	04 11 11.4	+1.3
L19K	Whale Mountain	6.55	338				Pn	04 11 09.7	-0.6
M17K	Holitna River	6.57	326				Pn	04 11 11.0	+0.4
HARP	HAARP	6.64	19				Pn	04 11 12.7	+1.2
L20K	Farewell, AK	6.65	343				Pn	04 11 10.8	-0.8
WAT7	Susitna Watana	6.67	3				Pn	04 11 12.5	+0.5
WAT1	Susitna Watana	6.68	5				Pn	04 11 12.6	+0.6
N15K	Kwethluk River	6.77	310				Pn	04 11 14.5	+1.2
PS1A	Pavlof South-1	6.82	268				Pn	04 11 13.5	-0.4
M16K	Timber Creek	6.83	319				Pn	04 11 14.7	+0.6
PPLA	Purkeypile	6.83	350				Pn	04 11 14.9	+0.6
O14K	Tigyukauivet M	6.89	301				Pn	04 11 15.7	+0.7
PN7A	Pavlof North-7	6.96	269				Pn	04 11 16.0	+0.1
DHY	Denali Highway	7.00	9				Pn	04 11 17.4	+0.9
L18K	Granite Mounta	7.01	332				Pn	04 11 16.1	-0.5
M26K	Nabesna, AK	7.11	26				Pn	04 11 19.0	+1.1
PAX	Paxson	7.13	16				Pn	04 11 19.2	+1.0
O29M	Mount Kennedy	7.18	50				Pn	04 11 20.2	+1.2
P29M	Windy Craggy	7.25	57				Pn	04 11 20.6	+0.7
TRF	Thorofare Moun	7.28	358	Pn			Pn	04 11 20.7	+0.2
M15K	Kasigluk River	7.30	313				Pn	04 11 21.4	+0.8
CAST	Castle Rocks	7.34	352				Pn	04 11 21.5	+0.4
N14K	Kuskokwak Cree	7.36	305				Pn	04 11 22.4	+1.1
M27K	Edge Creek, AK	7.37	30				Pn	04 11 23.2	+1.7
L17K	Donlin	7.40	327				Pn	04 11 22.0	+0.1
KTH	Kantishna Hill	7.40	356				Pn	04 11 21.9	-0.1
MENT	Mentasta	7.41	22				Pn	04 11 23.7	+1.6
TTA	Tatalina	7.46	337	Pn			Pn	04 11 22.1	-0.7
L16K	Owhat River	7.47	322				Pn	04 11 23.1	+0.2
K20K	Telida	7.51	345				Pn	04 11 22.6	-0.7
S31K	Pelican	7.56	71				Pn	04 11 22.4	-1.8
L26K	Log Cabin Wild	7.57	23				Pn	04 11 25.6	+1.4
MCK	McKinley	7.57	3				Pn	04 11 25.0	+0.8
BVCY	Beaver Creek	7.71	32				Pn	04 11 27.7	+1.6
P30M	Million Dollar	7.81	55				Pn	04 11 28.8	+1.2
PLBC	Pleasant Camp	7.84	60				Pn	04 11 29.0	+1.0
K17K	Iditarod	7.86	330	Pn			Pn	04 11 27.9	-0.2
M14K	Bethel	7.87	311				Pn	04 11 29.6	+1.4
K24K	Donnelly Dome	7.88	13				Pn	04 11 29.8	+1.2
FALS	False Pass	7.88	266				Pn	04 11 28.2	-0.4
HYT	Haines Junctio	7.90	49	Pn			Pn	04 11 30.3	+1.4
RIDG	Independent Ri	7.95	16				Pn	04 11 30.4	+0.9
BPAW	Bear Paw Mtn.	7.95	356	Pn			Pn	04 11 28.8	-0.7
L27K	Beaver Creek,	7.96	27	Pn			Pn	04 11 30.5	+1.0
BWN	Browne	8.00	1	Pn			Pn	04 11 32.0	+1.9
ISLZ	Isanotski Laza	8.08	265				Pn	04 11 30.7	-0.7
J18K	Innoko River	8.09	337				Pn	04 11 30.1	-1.2
ISNN	Isanotski Nort	8.09	266				Pn	04 11 31.4	0.0
BRPK	Brown Peak	8.12	265				Pn	04 11 31.1	-0.8
L15K	Ungalak Mounta	8.19	317				Pn	04 11 33.2	+0.6
SSLN	Shishaldin Nor	8.22	266				Pn	04 11 33.3	+0.1
SSLS	Shishaldin Sou	8.25	266				Pn	04 11 33.7	+0.1
J20K	Nowinta River	8.30	346				Pn	04 11 33.9	-0.3
SCRK	Sand Creek	8.31	18				Pn	04 11 35.2	+0.7
M13K	Dall Lake	8.32	306				Pn	04 11 35.9	+1.5
SKAG	Skagway	8.35	61	Pn			Pn	04 11 35.8	+0.9
HDA	Harding Lake	8.35	8				Pn	04 11 36.1	+1.2
J19K	Poorman	8.35	342				Pn	04 11 34.0	-1.0
BESE	Bessie Mountai	8.38	67				Pn	04 11 35.5	+0.1
N30M	Aishikik Lake	8.41	46				Pn	04 11 37.0	+1.2
S32K	Killisnoo	8.41	75				Pn	04 11 34.0	-1.7
NEA2	Nenana	8.43	2				Pn	04 11 35.5	-0.5
L14K	Kuka Creek	8.47	313				Pn	04 11 37.5	+1.0
O30N	Mendenhall	8.48	52				Pn	04 11 37.5	+0.7
M29M	Somme Creek	8.50	38				Pn	04 11 38.0	+0.9
CCB	Clear Creek Bu	8.53	6				Pn	04 11 37.4	0.0
JIS	Juneau Island	8.58	70	Pn			Pn	04 11 38.2	+0.2
K15K	Wolf Creek Mou	8.59	320				Pn	04 11 39.2	+1.1
J25K	Salcha River,	8.71	12				Pn	04 11 40.2	+0.3
IL31		8.71	8	Pn			Pn	04 11 40.9	+1.0
ILAR	Eielson Array	8.71	8	Pn			Pn	04 11 41.0	+1.1
ILAR	Eielson Array	8.71	8	Pn			Pn	04 11 40.5	+0.5
	comp=E,1.6nm,0.3s,baz=198,slow=13,SNR=58								
ILAR						Sn	Sn	04 13 13.7	-3.6
	comp=E,1.8nm,0.3s,baz=192,slow=21,SNR=8.4								
	comp=E,4.6nm,0.5s								
K27K	Chicken	8.73	23				Pn	04 11 40.9	+0.8
WECS	Westdahl Cape	8.73	265				Pn	04 11 40.0	-0.3
COLA	College	8.75	5				Pn	04 11 40.7	+0.3
MDM	Murphy Dome	8.82	4				Pn	04 11 41.5	+0.1
J26L	Joseph Creek	8.87	18				Pn	04 11 42.1	0.0
MLY	Manley	8.88	357				Pn	04 11 41.5	-0.7
N31M	Braeburn, Yuko	8.96	48	Pn			Pn	04 11 45.0	+1.8
J16K	Anvik River	8.97	327				Pn	04 11 43.3	-0.1
WHY	Whitehorse	8.97	54	Pn			Pn	04 11 45.2	+1.7
I23K	Minto, Yukon-K	8.98	1				Pn	04 11 44.4	+0.9
POKR	Poker Plat Res	9.02	6				Pn	04 11 44.5	+0.4
L29M	L29M	9.07	35				Pn	04 11 46.0	+1.2
I21K	Tanana	9.08	354				Pn	04 11 44.7	-0.2
P32M	Atlin	9.18	62				Pn	04 11 46.8	+0.6
M30M	Minto, Yukon	9.18	41				Pn	04 11 47.5	+1.3
U33K	Whale Pass	9.27	84				Pn	04 11 44.7	-2.8
DAWY	Dawson	9.41	29	Pn			Pn	04 11 50.4	+0.9
EGAK	Eagle	9.58	23				Pn	04 11 52.9	+1.2
H21K	Melozitna Rive	9.61	352				Pn	04 11 51.3	-0.8
I26K	Coal Creek Min	9.68	17				Pn	04 11 53.8	+0.6
H24K	Noodor Dome	9.71	5				Pn	04 11 54.3	+0.7
P33M	Teslin, Yukon	9.78	59	Pn			Pn	04 11 54.4	-0.1
K29M	Barlow Dome	9.79	33				Pn	04 11 55.7	+1.0
M31M	Drury Creek, Y	9.89	46				Pn	04 11 57.9	+1.9
UNV	Unalaska Valle	9.92	263				Pn	04 11 54.2	-2.1
H18K	Honhosa River	9.92	338				Pn	04 11 54.9	-1.5
IMAR	Indian Mountai	10.01	350	Pn			Pn	04 11 57.5	-0.1
H17K	Granite Mounta	10.08	335	Pn			Pn	04 11 57.5	-1.1
FARO	Faro, Yukon	10.33	47	Pn			Pn	04 12 03.0	+1.0
R33M	Jennings River	10.51	65				Pn	04 12 05.1	+0.6
G21K	Allakaket	10.51	352				Pn	04 12 03.6	-0.8
G23K	Bananza Creek	10.55	359	Pn			Pn	04 12 05.2	+0.1
G24K	Hadweenzic Riv	10.59	5				Pn	04 12 06.3	+0.6
J30M	Hart River	10.68	33				Pn	04 12 08.8	+1.9
DLBC	Dease Lake	10.88	70	Pn			Pn	04 12 10.5	+0.9
	comp=E,1.5nn,0.3s,baz=272,slow=7.0,SNR=19								
DLBC						Sn	Sn	04 14 06.2	-4.4
	comp=E,0.5nm,0.3s,baz=252,slow=20,SNR=1.2								
	comp=E,6.0nm,0.5s								
F21K	Alatna River	11.20	352	Pn			Pn	04 12 14.3	+0.3
F20K	Avaraart Lake	11.25	348	Pn			Pn	04 12 14.0	-0.5
F19K	Shaleruckik Mo	11.33	344				Pn	04 12 16.1	+0.5
F17K	Baldwin Pennin	11.64	337				Pn	04 12 19.8	-0.2
E19K	Redstone River	11.83	346				Pn	04 12 23.0	+0.5
G30M	tAoh Zraii Nji	12.54	25				Pn	04 12 34.0	+1.7
G31M	Satah River	12.98	28				Pn	04 12 36.4	-1.8
D24K	Happy Valley	13.01	1				Pn	04 12 40.0	+1.4
D25K	Kavik River	13.26	5				Pn	04 12 39.9	-2.1
E29M	Blow River	13.37	19	Pn			Pn	04 12 44.7	+1.1
C16K	Lisburne Hills	14.06	336		Pn		Pn	04 12 52.1	-0.8
INK	Inuvik	14.23	25		Pn		Pn	04 12 56.0	+0.9
INK	Inuvik	14.23	25		Pn		Pn	04 12 57.0	+1.9
	comp=E,0.1nm,0.3s,baz=199,slow=14,SNR=8.9								
	comp=E,2.4nm,0.8s								
B22K	Teshekpuk Lake	14.29	355				Pn	04 12 54.9	-1.1
ADK	Adak	16.36	266		Pn		Pn	04 13 22.5	-0.8
ADK					IAmb		IAmb	04 13 33.4	
	comp=E,60nm,1.4s								
C36M	Paulatuk	17.44	31		Pn		Pn	04 13 36.4	-0.4
YKAB2	New Yellowknif	18.79	56				P	04 13 54.1	+1.3
YKA	Yellowknife Ar	18.79	56		P		P	04 13 52.2	-0.6
YKA	Yellowknife Ar	18.79	56		P		P	04 13 53.9	+1.0
	comp=Z,0.5nm,0.3s,baz=265,slow=10.0,SNR=58								
	comp=Z,2.2nm,0.6s								
A36M	Sachs Harbour	18.86	24				P	04 13 54.0	+0.6
A36M					IAmb		IAmb	04 14 08.2	
	comp=Z,11nm,0.8s								
SHEM	Shemya Is, Ala	21.15	276		LR		LR	04 22 10.9	
	comp=Z,97nm,18.8s,baz=326,slow=36								
RES	Resolute Bay	27.75	28		P		P	04 15 21.3	-0.4
RES					IAmb		IAmb	04 15 56.2	
	comp=Z,3.7nm,1.2s								
PDAR	Pinedale Array	28.89	101		P		P	04 15 32.8	+0.3
	comp=Z,0.1nm,0.5s,baz=324,slow=4.5,SNR=4.3								
FCC	Fort Churchill	29.30	62		P		P	04 15 36.5	+0.9
FCC					IAmb		IAmb	04 15 37.2	
	comp=Z,18nm,1.4s								
TXAR	Lajitas Array	42.03	110		P		P	04 17 25.6	+0.5
	comp=Z,0.2nm,0.6s,baz=339,slow=3.1,SNR=3.9								
WVT	Waverly	45.58	89		P		P	04 17 53.7	+0.3
WVT					IAmb		IAmb	04 18 33.6	
	comp=Z,14nm,1.5s								
NCB	Newcomb	47.57	71		P		P	04 18 10.2	+1.3
BINY	Binghamton	47.84	74		P		P	04 18 10.8	-0.2
BATG	Bathurst New B	49.51	63		P		P	04 18 23.5	-0.3
BATG					IAmb		IAmb	04 18 50.6	
	comp=Z,12nm,1.2s								
XLT	XiLinHaoTe	57.08	301	*e*	P		P	04 19 23.3	+3.7
XLT					pP		pP	04 19 29.0	+3.7
XLT					sP		sP	04 19 30.5	+3.0
XLT					pmax		pmax		
	comp=Z,3.0nm,0.8s								
XLT					pmax		pmax		
	comp=Z,110nm,4.3s								
HHC	Hu-ho-hao-te	61.57	301	*e*	P		P	04 19 55.5	+4.8
HHC					pmax		pmax		
	comp=Z,7.0nm,0.6s								
HHC					pmax		pmax		
	comp=Z,200nm,5.5s								
NOA	NORSAR Array B	62.14	10		P		P	04 19 53.7	-0.4
	comp=Z,2.5nm,1.1s,baz=336,slow=7.1,SNR=1.8								
	comp=Z,2.5nm,1.1s								
FINES	FINESS Array B	62.65	2		P		P	04 19 57.4	0.0
	comp=Z,3.7nm,1.0s,baz=356,slow=8.6,SNR=2.5								
	comp=Z,3.7nm,1.0s								
EKA	Eskdalemuir Ar	65.54	20		P		P	04 20 16.4	-0.1
	comp=Z,1.4nm,0.7s,baz=321,slow=7.3,SNR=3.5								
	comp=Z,1.4nm,0.7s								
MK31	Makanchi Array	68.52

comp=N,35nm,20.3s,baz=133,slow=38
KSRS Korea Array 12.30 251 P Pn 04 12 56.5 +5.6
comp=N,1.7nm,0.5s,baz=64,slow=14,SNR=4.4
KSRS LR LR 04 17 13.2
comp=N,61nm,18.2s,baz=55,slow=35
SONM Songino Array 25.93 295 P **P** **04 15 26.9 +0.5**
comp=N,0.4nm,0.3s,baz=85,slow=8.5,SNR=2.1
comp=N,0.4nm,0.3s
H11N2 WAKE ISLAND Hy 30.55 130 T T 04 47 49.3
baz=324,slow=75,SNR=48
H11N1 WAKE ISLAND Hy 30.56 130 T T 04 47 48.2
baz=324,slow=75,SNR=49
H11N3 WAKE ISLAND Hy 30.57 130 T T 04 47 48.9
baz=324,slow=75,SNR=51
H11S1 WAKE ISLAND Hy 31.42 132 T T 04 48 51.6
baz=325,slow=76,SNR=96
H11S3 WAKE ISLAND Hy 31.43 132 T T 04 48 53.3
baz=325,slow=76,SNR=89
H11S2 WAKE ISLAND Hy 31.44 132 T T 04 48 54.7
baz=325,slow=76,SNR=75
ZALV Zalesovo Beam 39.14 308 P **P** **04 17 21.7 +0.4**
comp=N,0.3nm,0.3s,baz=74,slow=12,SNR=1.9
comp=N,0.3nm,0.3s
MKAR Makanchi Array 42.23 297 P **P** **04 17 46.5 -0.4**
comp=N,0.8nm,0.6s,baz=78,slow=9.1,SNR=10
MKAR PcP **PcP** **04 19 40.2 +0.1**
comp=N,0.2nm,0.3s,baz=71,slow=3.9,SNR=4.6
comp=N,0.8nm,0.6s
KURBB Kurchatov Arra 43.57 304 P **P** **04 17 57.5 -0.1**
comp=N,3.0nm,0.4s,baz=76,slow=8.8,SNR=15
comp=N,3.0nm,0.4s
ILAR Eielson Array 44.51 35 P **P** **04 18 05.2 +0.2**
comp=N,0.3nm,0.8s,baz=252,slow=5.6,SNR=3.1
comp=N,0.3nm,0.8s
BVAR Borovoye Array 47.74 309 P **P** **04 18 30.8 +0.2**
comp=N,1.9nm,0.4s,baz=72,slow=9.3,SNR=8.3
comp=N,1.9nm,0.4s
INK Inuvik 49.20 29 P **P** **04 18 41.2 -0.4**
comp=N,0.8nm,0.5s,baz=282,slow=6.7,SNR=1.9
comp=N,0.8nm,0.5s
WRA Warramunga Arr 62.53 189 P **P** **04 20 16.7 -0.7**
comp=N,0.6nm,0.4s,baz=5.6,slow=7.0,SNR=13
comp=N,0.6nm,0.4s
FINES FINESS Array B 64.48 332 P **P** **04 20 29.5 -0.3**
comp=N,1.1nm,0.5s,baz=34,slow=8.6,SNR=8.1
comp=N,1.1nm,0.5s
ASAR Alice Springs 66.25 189 P **P** **04 20 41.8 +0.1**
comp=N,0.3nm,0.5s,baz=7.4,slow=8.0,SNR=4.7
comp=N,0.3nm,0.5s
HFS Hagfors 69.55 335 P **P** **04 21 01.4 -0.7**
comp=N,1.5nm,0.3s,baz=33,slow=6.3,SNR=25
comp=N,1.5nm,0.3s
NOA NORSAR Array B 69.57 337 P **P** **04 21 02.3 +0.1**
comp=N,1.1nm,0.9s,baz=34,slow=6.5,SNR=4.8
comp=N,1.1nm,0.9s
PDAR Pinedale Array 73.28 47 P **P** **04 21 25.6 +0.5**
comp=N,0.2nm,0.5s,baz=29,slow=2.1,SNR=2.7
comp=N,0.2nm,0.5s
TXAR Lajitas Array 86.14 53 P **P** **04 22 35.2 +0.3**
comp=N,0.2nm,0.5s,baz=285,slow=3.1,SNR=4.8
comp=N,0.2nm,0.5s
H03N2 Juan Fernandez 146.32 88 T T 07 12 54.3
baz=300,slow=77,SNR=11
H03N3 Juan Fernandez 146.34 88 T T 07 12 56.5
baz=300,slow=77,SNR=79
H03N1 Juan Fernandez 146.34 88 T T 07 12 55.6
baz=300,slow=77,SNR=10

IDC 30 04:41:14.9±3.8, 21°68S×175°86W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=179.6km s-min=55.0km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.21**	**258**	P	P	04 49 42.4	+0.4
	0.5nm,0.4s,baz=96,slow=7.8,SNR=6.5						
ASAR				PcP	PcP	04 51 17.6	-0.3
	0.8nm,0.6s,baz=106,slow=4.1,SNR=7.9						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**46.43**	**263**	P	P	04 49 42.7	-1.1
	0.7nm,0.7s,baz=97,slow=7.6,SNR=14						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**145.00**	**332**	PKPbc	PKPbc	05 00 53.2	-0.1
	1.2nm,0.4s,baz=42,slow=4.0,SNR=8.5						

*IDC **30** 04:45:49.0±1.6, 42°.12N×20°.11E, h0km, mb3.7/2, mbtmp3.7/5, ML3.2/3, Error ellipse: s-maj=25.3km s-min=18.4km az=153.0*
*THE **30** 04:45:52.9, 42°.06N×19°.10E, h0km±5km, ML1.7/5, Error ellipse: s-maj=6.2km s-min=2.6km az=327.0*
*PDG **30** 04:45:52.6±0.1, 42°.04N×19°.17E, h10km, MD3.6/12, ML3.5/12, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*TIR **30** 04:45:52.4, 42°.13N×19°.21E, h18km±4km, Ml3.5*
*NEIC **30** 04:45:53.6±1.8, 42°.02N×0°.04×19°.10E±0°.05, h5km±2km, ML3.2/29, Error ellipse: s-maj=8.9km s-min=3.1km az=49.0*
*LDG **30** 04:45:53.1±0.2, 42°.08N×19°.14E, h10km, Ml3.4/9, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*RHSSO **30** 04:45:53.3±0.5, 42°.06N×19°.25E, h2km±1km, ML3.7/22*
*BEO **30** 04:45:53.4±0.3, 42°.01N×19°.13E, h3km±1km, ML3.4/25*
*PRU **30** 04:45:54.1, 41°.80N×19°.05E, h10km*

ISC 30 04:45:53.0±0.9, 42°05N±0°.02×19°14E±0°.02, h6km±6km, n233, σ1$31/360, 33C-23D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.12**	**140**	⇓*i* Pg	**Pg**	**04 45 55.0**	**-0.6**
ULC				*i* Sg	**Sg**	**04 45 56.8**	**-0.5**
DRME	**Dracevica, Mon**	**0.14**	**13**	*e* Pg	**Pg**	**04 45 55.7**	**-0.2**
DRME				*e* Sg	**Sg**	**04 45 58.9**	**+1.1**
DRME	**Dracevica, Mon**	**0.14**	**13**	⇑*i* Pg	**Pg**	**04 45 55.6**	**-0.3**
DRME				*i* Sg	**Sg**	**04 45 58.1**	**+0.3**
DRME	**Dracevica, Mon**	**0.14**	**13**	⇑*i* Pg	**Pg**	**04 45 55.6**	**-0.3**
DRME				*e* Sg	**Sg**	**04 45 57.9**	**+0.1**
BUM	**Brajici-Budva**	**0.31**	**323**	⇑*i* Pg	**Pg**	**04 45 59.4**	**+0.3**
BUM				*i* Sg	**Sg**	**04 46 04.4**	**+1.2**
CEME	**Cevo**	**0.52**	**341**	⇑*i* Pg	**Pg**	**04 46 02.7**	**-0.4**
CEME				*i* Sg	**Sg**	**04 46 11.1**	**+1.2**
PUK	**Puka**	**0.56**	**91**	Pg	**Pg**	**04 46 02.8**	**-1.0**
PUK				Sg	**Sg**	**04 46 11.7**	**+0.6**
PUK				IAML		04 46 17.6	
	comp=E,2μm,0.8s						
PUK	**Puka**	**0.56**	**91**	P	**Pg**	**04 46 02.8**	**-1.0**
	baz=99						
PUK				AMP			
	comp=N,12nm,0.1s,baz=99						
HCY	**Herceg Novi**	**0.62**	**309**	⇑*i* Pg	**Pg**	**04 46 04.9**	**-0.1**
HCY				*i* Sg	**Sb**	**04 46 14.8**	**-0.5**
HCY	**Herceg Novi**	**0.62**	**309**	⇑*i* Pg	**Pg**	**04 46 04.8**	**-0.2**
HCY				*e* Sg	**Sb**	**04 46 15.3**	**0.0**
NKME	**Niksic**	**0.73**	**349**	⇓*i* Pg	**Pg**	**04 46 06.3**	**-0.7**
NKME				*i* Sg	**Sb**	**04 46 17.9**	**-0.4**
BCI	**Bajram Curri**	**0.76**	**65**	P	**Pg**	**04 46 06.4**	**-1.1**
	baz=69						
BCI				S	**Sg**	**04 46 17.8**	**+0.4**
	baz=69						
BCI				AMP			
	comp=E,8.6nm,0.6s,baz=69						
PVY	**Plav**	**0.81**	**48**	*e* Pg	**Pg**	**04 46 07.7**	**-0.9**
PVY				*e* Sg	**Sb**	**04 46 21.5**	**+0.7**
PVY	**Plav**	**0.81**	**48**	⇑*i* Pg	**Pg**	**04 46 07.1**	**-1.5**
PVY				*i* Sg	**Sg**	**04 46 19.9**	**+0.7**
KOME	**Kolasin**	**0.84**	**19**	*e* Pg	**Pg**	**04 46 08.4**	**-0.8**
KOME				*e* Sg	**Sb**	**04 46 21.5**	**-0.2**
KOME	**Kolasin**	**0.84**	**19**	⇑*i* Pg	**Pg**	**04 46 08.1**	**-1.1**
KOME				*i* Sg	**Sb**	**04 46 21.1**	**-0.6**
TREB	**Trebinje**	**0.89**	**319**	*e* Pg	**Pg**	**04 46 09.4**	**-0.6**
TREB				*e* Sg	**Sb**	**04 46 23.2**	**+0.3**
TREB	**Trebinje**	**0.89**	**319**	*e* Pg	**Pg**	**04 46 09.0**	**-1.0**
TREB				*e* Sg	**Sb**	**04 46 22.8**	**-0.1**
TIR	**Tirane**	**0.89**	**142**	⇓S	**Sb**	**04 46 24.3**	**+1.4**
TIR	**Tirane**	**0.89**	**142**	Pg	**Pg**	**04 46 09.1**	**-1.0**
TIR				Sg	**Sb**	**04 46 23.9**	**+1.0**
TIR				IAML		04 46 33.2	
	comp=E,606nm,0.8s						
TIR				IAML		04 46 36.1	
	comp=N,925nm,0.8s						
TIR	**Tirane**	**0.89**	**142**	P	**Pg**	**04 46 08.3**	**-1.7**
	baz=147						
TIR				S	**Sb**	**04 46 24.5**	**+1.6**
	baz=147						
TIR				AMP			
	comp=E,1.9nm,0.5s,baz=147						
TIR	**Tirane**	**0.89**	**142**	P	**Pg**	**04 46 09.0**	**-1.0**
TIR				S	**Sb**	**04 46 23.4**	**+0.5**
TIR	**Tirane**	**0.89**	**142**	*e* Pg	**Pg**	**04 46 09.0**	**-1.0**
TIR				*e* Sg	**Sg**	**04 46 22.2**	**+0.6**
BRY	**Bratogost**	**0.96**	**332**	⇓*i* Pg	**Pg**	**04 46 10.5**	**-0.9**
BRY				*i* Sg	**Sb**	**04 46 26.1**	**+1.0**
BRY	**Bratogost**	**0.96**	**332**	⇑*i* Pg	**Pg**	**04 46 10.1**	**-1.3**
BRY				*e* Sg	**Sb**	**04 46 25.3**	**+0.2**
DBRK	**Dubrovnik**	**0.96**	**310**	*e* Pg	**Pg**	**04 46 10.4**	**-1.1**
DBRK				*e* Sg	**Sg**	**04 46 23.2**	**-0.8**
BEY	**Berane**	**0.99**	**34**	*e* Pg	**Pg**	**04 46 11.1**	**-0.9**
BEY				*e* Sg	**Sb**	**04 46 26.7**	**+0.8**
IVA	**Berane**	**0.99**	**34**	⇓*i* Pg	**Pg**	**04 46 11.1**	**-0.9**
IVA				*i* Sg	**Sb**	**04 46 26.3**	**+0.4**
PHP	**Peshkopia**	**1.04**	**110**	P	**Pg**	**04 46 10.9**	**-2.0**
	baz=115						
PHP				S	**Sg**	**04 46 26.7**	**+0.3**
	baz=115						
PHP				AMP			
	comp=N,5.5nm,0.2s,baz=115						
PHP	**Peshkopia**	**1.04**	**110**	P	**Pg**	**04 46 11.6**	**-1.3**
PHP				S	**Sn**	**04 46 29.0**	**+0.1**
UPM	**Unac-Piva**	**1.16**	**351**	⇑*i* Pg	**Pg**	**04 46 12.8**	**-1.5**
UPM				*i* Sg	**Sn**	**04 46 32.8**	**+0.6**
UPM	**Unac-Piva**	**1.16**	**351**	*e* Pg	**Pg**	**04 46 13.8**	**-1.5**
UPM				*e* Sg	**Sg**	**04 46 30.6**	**+0.2**
KLINJ	**Klinje**	**1.19**	**340**	*e* Pg	**Pg**	**04 46 14.4**	**-1.4**
KLINJ				*e* Sg	**Sb**	**04 46 31.9**	**+0.2**
PLE	**Pljevlja**	**1.29**	**8**	*e* Pg	**Pb**	**04 46 18.0**	**+0.3**
PLE				*e* Sg	**Sn**	**04 46 39.4**	**+4.1**
PLE	**Pljevlja**	**1.29**	**8**	⇑*i* Pg	**Pg**	**04 46 16.8**	**-1.0**
PLE				*i* Sg	**Sn**	**04 46 37.0**	**+1.7**
STON	**Ston**	**1.34**	**308**	*e* Pg	**Pn**	**04 46 17.0**	**-1.3**
STON				*e* Sg	**Sn**	**04 46 38.6**	**+2.1**
STON	**Ston**	**1.34**	**308**	*i* Pg	**Pn**	**04 46 16.9**	**-1.3**
STON				Sg	**Sb**	**04 46 34.8**	**-1.3**
STON	**Ston**	**1.34**	**308**	*e* Pg	**Pn**	**04 46 18.1**	**-0.2**
STON				*e* Sg	**Sn**	**04 46 38.5**	**+2.1**
SJES	**Sjenica**	**1.35**	**27**	*e* Pg	**Pn**	**04 46 17.9**	**-0.6**
SJES				*e* Sg	**Sn**	**04 46 37.5**	**+0.7**
SJES	**Sjenica**	**1.35**	**27**	⇓*i* Pg	**Pn**	**04 46 17.4**	**-1.1**
SJES				*e* Sg	**Sg**	**04 46 34.5**	**-2.1**
NEVS	**Nevesinje**	**1.46**	**329**	*e* Pg	**Pn**	**04 46 19.8**	**-0.2**
NEVS				*e* Sg	**Sg**	**04 46 41.2**	**+1.2**
OHR	**Ohrid**	**1.56**	**127**	*e* Pn	**Pn**	**04 46 20.8**	**-0.5**
OHR				*e* Sn	**Sg**	**04 46 44.7**	**+1.6**
OHR	**Ohrid**	**1.56**	**127**	⇑*i* Pn	**Pn**	**04 46 21.1**	**-0.1**
OHR				*i* Sn	**Sg**	**04 46 45.0**	**+1.9**
RUDO	**Rudo**	**1.57**	**6**	*e* Pn	**Pn**	**04 46 21.0**	**-0.4**
RUDO				*e* Sn	**Sg**	**04 46 43.2**	**-0.4**
VLO	**Vlora**	**1.60**	**170**	Pn	**Pn**	**04 46 22.1**	**+0.3**
VLO				IAML		04 46 52.7	
	comp=N,308nm,0.5s						
VLO				IAML		04 47 00.8	
	comp=E,251nm,0.6s						
IVAS	**Ivanjica**	**1.69**	**26**	*e* Pn	**Pn**	**04 46 23.6**	**+0.4**
IVAS				*e* Sn	**Sg**	**04 46 47.3**	**-0.2**
SKO	**Skopje**	**1.71**	**92**	*e* Pn	**Pb**	**04 46 24.6**	**-0.3**
SKO				*e* Sn	**Sb**	**04 46 47.0**	**+0.4**
SKO	**Skopje**	**1.71**	**92**	⇓*i* Pn	**Pb**	**04 46 24.9**	**0.0**
SKO				*i* Sn	**Sg**	**04 46 48.8**	**+0.7**
LSTV	**Lastovo**	**1.81**	**294**	*e* Pn	**Pn**	**04 46 25.1**	**+0.4**
LSTV				Sn	**Sb**	**04 46 49.6**	**0.0**
BBLS	**Lazići**	**1.82**	**6**	*e* Pn	**Pb**	**04 46 26.6**	**-0.2**
BBLS				*e* Sn	**Sg**	**04 46 51.0**	**-0.6**
BBLS	**Lazići**	**1.82**	**6**	*e* Pn	**Pn**	**04 46 25.8**	**+0.9**
BBLS				*e* Sn	**Sn**	**04 46 48.7**	**+0.4**
SELS	**Selova**	**1.87**	**51**	*e* Pn	**Pn**	**04 46 25.5**	**0.0**
SELS				*e* Sn	**Sb**	**04 46 50.7**	**-0.4**
MAKA	**Makarska**	**1.99**	**309**	*i* Pn	**Pn**	**04 46 28.2**	**+1.0**
MAKA				Sn	**Sb**	**04 46 55.6**	**+0.9**
HAPS	**Han Pijesak,Bl**	**2.04**	**356**	*e* Pn	**Pb**	**04 46 29.7**	**-0.8**
HAPS				*e* Sn	**Sb**	**04 46 55.2**	**-0.9**
HAPS	**Han Pijesak,Bl**	**2.04**	**356**	⇓*i* Pn	**Pn**	**04 46 28.9**	**+1.0**
HAPS				*e* Sn	**Sn**	**04 46 54.5**	**+0.8**
SCTE	**Santa Cesarea**	**2.04**	**195**	Pn	**Pn**	**04 46 27.2**	**-0.6**
SCTE				IAML		04 47 05.7	
	comp=N,140nm,0.7s						
SCTE				IAML		04 47 06.7	
	comp=E,150nm,0.9s						
RICI	**Ricice**	**2.06**	**315**	*i* Pn	**Pn**	**04 46 29.4**	**+1.2**
RICI				Sn	**Sb**	**04 46 57.1**	**+0.3**
FNA	**Florina**	**2.10**	**126**	*e* P	**Pn**	**04 46 30.2**	**+1.4**
FNA	**Florina**	**2.10**	**126**	Pn	**Pn**	**04 46 30.0**	**+1.2**
FNA				IAML		04 47 02.1	
	comp=N,151nm,0.4s						
FNA				IAML		04 47 08.1	
	comp=E,152nm,0.6s						
FNA	**Florina**	**2.10**	**126**	P	**Pb**	**04 46 30.6**	**-1.0**
	baz=128						
FNA				S	**Sg**	**04 46 59.7**	**-0.9**
	baz=128						
FNA				AMP			
	comp=N,1.4nm,0.4s,baz=128						
FNA	**Florina**	**2.10**	**126**	P	**Pn**	**04 46 30.2**	**+1.4**
FNA				S	**Sb**	**04 46 58.1**	**+0.1**
BARS	**Barje**	**2.12**	**68**	*e* Pn	**Pn**	**04 46 29.3**	**+0.3**
BARS				*e* Sn	**Sb**	**04 46 57.5**	**-0.9**
DIVS	**Divibare**	**2.14**	**17**	*e* Pn	**Pn**	**04 46 29.9**	**+0.6**
DIVS				*e* Sn	**Sb**	**04 46 58.0**	**-0.9**
GRUS	**Gruza**	**2.17**	**32**	*e* Pn	**Pn**	**04 46 29.8**	**+0.2**
GRUS				*e* Sn	**Sb**	**04 46 59.4**	**-0.3**
NEST	**Nestorio**	**2.18**	**138**	P	**Pn**	**04 46 31.0**	**+1.2**
LSK	**Leskovik**	**2.20**	**149**	P	**Pb**	**04 46 32.1**	**-1.1**
	baz=151						
LSK				S	**Sb**	**04 47 01.6**	**+1.0**
	baz=151						
LSK				AMP			
	comp=E,1.0nm,0.7s,baz=151						
LSK	**Leskovik**	**2.20**	**149**	P	**Pn**	**04 46 30.2**	**+0.1**
PRVS	**Prvonek**	**2.22**	**77**	*e* Pn	**Pn**	**04 46 30.9**	**+0.5**
PRVS				*e* Sn	**Sb**	**04 47 00.2**	**-1.2**
SRN	**Sarande**	**2.27**	**163**	P	**Pb**	**04 46 34.4**	**+0.1**
	baz=164						
SRN				S	**Sn**	**04 46 59.7**	**+0.6**
	baz=164						
SRN				AMP			
	comp=E,0.4nm,0.7s,baz=164						
SRN	**Sarande**	**2.27**	**163**	P	**Pn**	**04 46 31.3**	**+0.4**
MATE	**Matera**	**2.31**	**233**	⇑P	**Pn**	**04 46 30.3**	**-1.2**
MATE				⇓S	**Sn**	**04 46 58.8**	**-1.4**
MATE	**Matera**	**2.31**	**233**	*e* P	**Pb**	**04 46 35.6**	**+0.6**
TRUS	**Trudelj**	**2.36**	**23**	*e* Pn	**Pn**	**04 46 32.8**	**+0.6**
TRUS				*e* Sn	**Sb**	**04 47 03.7**	**-1.5**
KEK	**Kerkira**	**2.39**	**168**	*e* P	**Pn**	**04 46 31.7**	**-1.0**
KEK	**Kerkira**	**2.39**	**168**	Pn	**Pn**	**04 46 31.8**	**-0.8**
PENT	**Pentalofos**	**2.39**	**140**	P	**Pn**	**04 46 34.0**	**+1.2**
BOVS	**Bovan**	**2.46**	**49**	⇑P	**Pn**	**04 46 34.2**	**+0.6**
BOVS				⇑S	**Sb**	**04 47 07.6**	**-0.5**
BOVS	**Bovan**	**2.46**	**49**	*e* Pn	**Pn**	**04 46 33.9**	**+0.3**
BOVS				*e* Sn	**Sn**	**04 47 05.8**	**+1.9**
TEKS	**Tekeris**	**2.51**	**6**	*e* Pn	**Pn**	**04 46 35.2**	**+0.9**
TEKS				*e* Sn	**Sn**	**04 47 07.2**	**+1.9**
TEKS	**Tekeris**	**2.51**	**6**	⇓*i* Pn	**Pn**	**04 46 34.6**	**+0.3**
TEKS				*e* Sn	**Sn**	**04 47 05.7**	**+0.4**
BOSS	**Bosilegrad**	**2.52**	**79**	*e* Pn	**Pn**	**04 46 35.2**	**+0.8**
BOSS				*e* Sn	**Sn**	**04 47 06.6**	**+1.2**
SGRT	**San Giovanni R**	**2.56**	**264**	Pn	**Pn**	**04 46 34.3**	**-0.7**
SGRT				IAML		04 47 26.8	
	comp=E,89nm,0.6s						
SGRT				IAML		04 47 27.0	
	comp=N,94nm,0.7s						
GRG	**Griva**	**2.68**	**113**	*e* P	**Pn**	**04 46 37.2**	**+0.5**
GRG	**Griva**	**2.68**	**113**	P	**Pn**	**04 46 38.4**	**+1.7**
KPRO	**Kipourio**	**2.69**	**141**	P	**Pn**	**04 46 37.2**	**+0.4**
BLJ	**Biljeljina**	**2.73**	**2**	*e* Pn	**Pn**	**04 46 37.0**	**-0.3**
BLJ				*e* Sn	**Sn**	**04 47 10.7**	**+0.1**
DOB	**Doboj**	**2.78**	**345**	*e* Pn	**Pn**	**04 46 39.5**	**+1.4**
DOB				*e* Sn	**Sn**	**04 47 13.1**	**+1.2**
KIJV	**Kijevo**	**2.80**	**315**	*e* Pn	**Pn**	**04 46 39.9**	**+1.6**
KIJV				*e* Sn	**Sb**	**04 47 15.5**	**-2.5**
MGRS	**Mrkonjic Grad**	**2.80**	**328**	*e* Pn	**Pn**	**04 46 40.2**	**+1.9**
MGRS				*e* Sn	**Sn**	**04 47 14.0**	**+1.6**
ZAPS	**Zavoj**	**2.85**	**63**	*e* Pn	**Pn**	**04 46 39.8**	**+0.8**
ZAPS				*e* Sn	**Sn**	**04 47 15.4**	**+1.8**
ZAGS	**Zajecar**	**2.87**	**51**	*e* Pn	**Pn**	**04 46 39.9**	**+0.7**
ZAGS				*e* Sn	**Sn**	**04 47 16.2**	**+2.1**
KNT	**Kendrikon**	**2.95**	**106**	*e* P	**Pn**	**04 46 40.9**	**+0.5**
KNT	**Kendrikon**	**2.95**	**106**	P	**Pn**	**04 46 41.3**	**+0.9**
KUBS	**Kucevo**	**3.00**	**37**	*e* Pn	**Pn**	**04 46 41.4**	**+0.4**
KUBS				*e* Sn	**Sn**	**04 47 18.5**	**+1.3**
ZIRJ	**Zirje**	**3.03**	**303**	*e* Pn	**Pn**	**04 46 42.5**	**+1.1**
ZIRJ				Sn	**Sn**	**04 47 20.8**	**+2.8**
BLKB	**Belogradchik**	**3.03**	**58**	⇑P	**Pn**	**04 46 42.5**	**+0.9**
BLKB				⇑S	**Sn**	**04 47 21.0**	**+2.8**
BLY	**Banja Luka**	**3.05**	**333**	*e* Pn	**Pn**	**04 46 43.6**	**+1.9**
BLY				*e* Sn	**Sn**	**04 47 21.4**	**+2.9**
BLY	**Banja Luka**	**3.05**	**333**	⇑*i* Pn	**Pn**	**04 46 43.0**	**+1.3**
BLY				*e* Sn	**Sn**	**04 47 20.0**	**+1.5**
A050A	**Klekovaca**	**3.09**	**323**	*e* Pn	**Pn**	**04 46 43.9**	**+1.6**
A050A				*e* Sn	**Sn**	**04 47 20.8**	**+1.3**
MORI	**Morici**	**3.10**	**307**	*e* Pn	**Pn**	**04 46 43.9**	**+1.4**
MORI				Sn	**Sn**	**04 47 22.9**	**+3.0**
FRGS	**Fruska Gora**	**3.14**	**9**	⇓P	**Pn**	**04 46 43.6**	**+0.4**
FRGS	**Fruska Gora**	**3.14**	**9**	*e* Pn	**Pn**	**04 46 43.6**	**+0.6**
FRGS				*e* Sn	**Sn**	**04 47 21.9**	**+1.1**
FRGS	**Fruska Gora**	**3.14**	**9**	⇓*i* Pn	**Pn**	**04 46 43.2**	**+0.2**
FRGS				*e* Sn	**Sn**	**04 47 21.3**	**+0.5**
CUC	**Castrocucco**	**3.25**	**232**	Pn	**Pn**	**04 46 44.8**	**+0.2**
CUC				IAML		04 47 26.8	
	comp=E,82nm,0.6s						
HORT	**Hortiatis**	**3.31**	**115**	*e* P	**Pn**	**04 46 44.8**	**-0.7**
A051A	**Mrakovica**	**3.38**	**332**	⇑*i* Pn	**Pn**	**04 46 47.8**	**+1.5**
A051A				*e* Sn	**Sn**	**04 47 27.7**	**+1.1**
TIP	**Timpagrande**	**3.40**	**213**	⇑P	**Pn**	**04 46 46.1**	**-0.4**
TIP	**Timpagrande**	**3.40**	**213**	Pn	**Pn**	**04 46 46.2**	**-0.4**
PRIJ	**Prijedor**	**3.41**	**330**	*e* Pn	**Pn**	**04 46 47.9**	**+1.2**
PRIJ				*e* Sn	**Sn**	**04 47 27.7**	**+0.2**
SRS	**Serrai**	**3.47**	**104**	P	**Pn**	**04 46 48.8**	**+1.3**
UDBI	**Udbina**	**3.49**	**316**	*e* Pn	**Pn**	**04 46 50.4**	**+2.5**
UDBI				Sn	**Sn**	**04 47 32.4**	**+2.8**
DUGI	**Dugi Otok**	**3.57**	**304**	*e* Pn	**Pn**	**04 46 50.0**	**+1.2**
DUGI				Sn	**Sn**	**04 47 33.0**	**+1.7**
PAOL	**Paolisi**	**3.58**	**255**	Pn	**Pn**	**04 46 48.4**	**-0.7**
DJES	**Djerdap**	**3.59**	**42**	Pn	**Pn**	**04 46 49.6**	**+0.5**
HERR	**Herculane**	**3.70**	**39**	⇑P	**Pn**	**04 46 51.0**	**+0.4**
HERR				⇑S	**Sn**	**04 47 37.0**	**+2.6**
PLIT	**Plitvice**	**3.81**	**319**	*e* Pn	**Pn**	**04 46 54.2**	**+2.0**
PLIT				Sn	**Sn**	**04 47 39.4**	**+2.1**
AGG	**Agios Georgios**	**3.88**	**140**	*e* P	**Pn**	**04 46 54.7**	**+1.5**
AGG	**Agios Georgios**	**3.88**	**140**	Pn	**Pn**	**04 46 54.2**	**+1.0**
INTR	**Introdacqua**	**3.90**	**271**	Pn	**Pn**	**04 46 54.2**	**+0.7**
SRE	**Strehaia**	**3.95**	**47**	⇓P	**Pn**	**04 46 56.0**	**+2.0**
BZS	**Buzias**	**3.99**	**26**	⇑P	**Pn**	**04 46 55.2**	**+0.6**
BZS				⇓S	**Sn**	**04 47 44.8**	**+3.2**
NVLJ	**Novalja**	**4.00**	**310**	*e* Pn	**Pn**	**04 46 55.7**	**+0.9**
NVLJ				Sn	**Sn**	**04 47 43.6**	**+1.7**
OUR	**Ouranopolis**	**4.03**	**114**	*e* P	**Pn**	**04 46 56.6**	**+1.4**
OUR	**Ouranopolis**	**4.03**	**114**	P	**Pn**	**04 46 56.7**	**+1.5**
PAIG	**Paliouri**	**4.04**	**120**	*e* P	**Pn**	**04 46 56.2**	**+0.9**
RABC	**Rab**	**4.17**	**312**	*e* Pn	**Pn**	**04 46 58.1**	**+1.0**
RABC				Sn	**Sn**	**04 47 47.8**	**+1.8**
KAVA	**Kavala**	**4.17**	**103**	P	**Pn**	**04 46 58.7**	**+1.6**
PLD	**Plovdiv**	**4.17**	**87**	*e* P	**Pn**	**04 46 57.2**	**+0.1**
MORH	**Mrgy, Hungar**	**4.18**	**355**	⇑P	**Pn**	**04 46 58.1**	**+0.9**
MORH	**Mrgy, Hungar**	**4.18**	**355**	⇓*i* Pn	**Pn**	**04 46 57.6**	**+0.4**
MORH				*e* Sn	**Sn**	**04 47 45.7**	**-0.5**
GZR	**Gura Zlata**	**4.25**	**37**	⇑P	**Pn**	**04 46 59.1**	**+0.8**
GZR				⇓S	**Sn**	**04 47 52.1**	**+3.9**
SURR	**Surduc**	**4.28**	**29**	⇓P	**Pn**	**04 46 58.8**	**+0.2**
GUMA	**Gualdo di Mace**	**4.41**	**285**	Pn	**Pn**	**04 47 00.9**	**+0.5**
GUMA				IAML		04 48 06.7	
	comp=E,63nm,0.4s						
GUMA				IAML		04 48 23.9	
	comp=N,74nm,0.6s						
THAS	**Thassos island**	**4.44**	**107**	P	**Pn**	**04 47 01.8**	**+1.0**
BOJS	**Bojanci**	**4.45**	**322**	*i* Pn	**Pn**	**04 47 02.5**	**+1.5**
BOJS	**Bojanci**	**4.45**	**322**	⇑*i* Pn	**Pn**	**04 47 02.4**	**+1.4**
BOJS				*e* Sn	**Sn**	**04 47 53.9**	**+0.8**
NRCA	**Norcia**	**4.53**	**282**	Pn	**Pn**	**04 47 02.8**	**+0.7**
CEL	**Celeste**	**4.53**	**214**	Pn	**Pn**	**04 47 01.3**	**-0.9**
FDMO	**Fiordimonte**	**4.58**	**284**	Pn	**Pn**	**04 47 03.9**	**+1.1**
FDMO				IAML		04 48 02.0	
	comp=E,28nm,0.8s						
FDMO				IAML		04 48 06.8	
	comp=N,18nm,0.5s						

comp=N,2.6nm,0.4s
VRI Vrincioaia 6.67 53 ⇓P **Pn** **04 47 33.7 +2.2**
ABTA Abfaltersbach 6.67 317 *e*Pn **Pn** **04 47 31.7 +0.1**
comp=N,0.9nm,0.3s,SNR=5.9
ABTA *e*Sn **Sn** **04 48 45.9 -2.0**
comp=N,0.2nm,0.1s
CTI Castel Tesino 6.71 309 Pn **Pn** **04 47 31.5 -0.6**
MOA Molln 6.75 331 *e*Pn **Pn** **04 47 34.9 +2.4**
comp=N,1.9nm,0.2s,SNR=4.5
MOA *i* Sn **Sn** **04 48 53.1 +3.5**
comp=N,3.9nm,0.4s
BIOA Bad Ischl, Aus 6.86 327 *i* Pn **Pn** **04 47 36.3 +2.2**
comp=N,2.7nm,0.3s,SNR=5.1
BIOA *i* Sn **Sn** **04 48 52.4 -0.1**
comp=N,5.3nm,0.4s
BURAR Bucovina Array 7.04 36 Pn **Pn** **04 47 39.3 +2.7**
CRVS Cervenica-Dubn 7.04 13 *e*PN **Pn** **04 47 38.1 +1.6**
CRVS *e*SN **Sn** **04 48 55.6 -1.2**
BUR08 Bucovina Ar. S 7.05 36 Pn **Pn** **04 47 38.7 +1.9**
LESA Schwarzleotal 7.07 322 *i* Pn **Pn** **04 47 38.2 +1.2**
comp=N,1.1nm,0.2s
LESA *i* Sn **Sn** **04 48 58.1 +0.4**
comp=N,4.1nm,0.3s
LANS Liptovska Anna 7.10 2 *e*PN **Pn** **04 47 41.0 +3.6**
LANS *e*SN **Sn** **04 48 58.0 -0.4**
KOLS Kolonicke sedl 7.22 17 *e*PN **Pn** **04 47 40.7 +1.7**
KOLS *e*SN **Sn** **04 49 00.2 -1.1**
KRUC Moravsky 7.27 346 *e*SN **Sn** **04 49 03.3 +0.9**
MSSA Maissana 7.39 291 Pn **Pn** **04 47 41.9 +0.5**
WTTA Wattenberg 7.47 317 *e*Pn **Pn** **04 47 43.3 +0.7**
comp=N,1.8nm,0.2s,SNR=5.4
WTTA *i* Sn **Sn** **04 49 08.4 +0.8**
comp=N,13nm,0.4s
VRAC Vranov 7.47 347 *e*SN **Sn** **04 49 08.7 +1.3**
STHS Stebnicka Huta 7.51 11 *e*PN **Pn** **04 47 44.2 +1.2**
PGF Pioggiola 7.54 277 *e*Pn **Pn** **04 47 43.3 -0.2**
WATA Walderalm 7.54 317 *i* Pn **Pn** **04 47 44.9 +1.3**
comp=N,1.8nm,0.2s
WATA *i* Sn **Sn** **04 49 07.8 -1.7**
comp=N,8.3nm,0.4s
SQTA Sankt Quirin 7.66 315 *i* Pn **Pn** **04 47 46.9 +1.7**
comp=N,4.3nm,0.5s,SNR=6.7
SQTA *i* Sn **Sn** **04 49 11.6 -0.7**
comp=N,15nm,0.6s
GERES GERESS Array B 7.79 332 Pn **Pn** **04 47 48.0 +1.1**
GERES GERESS Array B 7.79 332 Pn **Pn** **04 47 48.2 +1.3**
comp=N,0.4nm,0.3s,baz=160,slow=14,SNR=6.1
GERES Sn **Sn** **04 49 13.8 -1.7**
comp=N,0.4nm,0.3s,baz=98,slow=15,SNR=1.9
comp=N,0.9nm,0.6s
MOTA Moosalm 7.79 315 *i* Pn **Pn** **04 47 47.5 +0.5**
comp=N,4.5nm,0.7s,SNR=5.8
MOTA *i* Sn **Sn** **04 49 15.7 +0.1**
comp=N,8.5nm,0.5s
FETA Feichten 7.79 312 *i* Pn **Pn** **04 47 48.4 +1.4**
comp=N,1.1nm,0.4s
FETA *e*Sn **Sn** **04 49 14.1 -1.5**
comp=N,1.9nm,0.5s
MORC Moravsky Berou 7.80 352 *e*SN **Sn** **04 49 18.4 +2.7**
FUORN Ofenpass-Fuorn 7.83 309 Pn **Pn** **04 47 48.3 +0.7**
RETA Reutte 8.06 315 *i* Pn **Pn** **04 47 51.6 +1.0**
comp=N,0.6nm,0.2s
RETA *i* Sn **Sn** **04 49 22.5 +0.4**
comp=N,7.6nm,0.5s
KHC Kasperske Hory 8.08 333 *e*PN **Pn** **04 47 53.8 +3.0**
KHC *e*SN **Sn** **04 49 23.5 +1.1**
TUE Stuetta 8.30 305 Pn **Pn** **04 47 55.1 +1.1**
DAVA Damuels 8.42 312 *i* Pn **Pn** **04 47 56.9 +1.3**
comp=N,0.8nm,0.2s
DAVA *i* Sn **Sn** **04 49 30.3 -0.6**
comp=N,5.8nm,0.5s
SBF Sospel 8.78 286 *e*P **Pn** **04 48 00.6 +0.2**
LMR La Mourre 9.39 282 *e*P **Pn** **04 48 09.0 +0.2**
MBDF Montbardon 9.40 291 *e*P **Pn** **04 48 08.5 -0.5**
MBDF *e*Sn Sn 04 49 45.5 -9.5
comp=N,4.5nm,0.6s
SENIN Lac Senin/Sane 9.53 301 Pn **Pn** **04 48 11.7 +0.8**
LPG La Plagne 9.60 295 *e*P **Pn** **04 48 11.6 -0.3**
LPG *e*Sn Sn 04 49 47.3 -13
comp=N,1.3nm,0.3s
LPL La Plagne 9.62 295 *e*P **Pn** **04 48 12.3 +0.2**
LPL *e*Sn Sn 04 49 48.4 -12
comp=N,7.0nm,0.5s
ORIF Oris-en-Rattie 10.06 291 *e*P **Pn** **04 48 18.1 +0.1**
ORIF *e*Sn Sn 04 49 59.5 -12
comp=N,0.8nm,0.3s
HINF Hinteralfeld 10.44 308 *e*P **Pn** **04 48 23.8 +0.6**
HINF *e*Sn Sn 04 50 09.7 -11
comp=N,2.9nm,0.4s
CDF Champ du Feu 10.50 311 *e*P **Pn** **04 48 22.2 -1.9**
CDF *e*Sn Sn 04 50 08.7 -13
comp=N,0.6nm,0.3s
HAU Haudompre 10.83 308 *e*P **Pn** **04 48 29.1 +0.6**
HAU *e*Sn Sn 04 50 19.9 -10
comp=N,1.4nm,0.3s
SMF Signal de Mont 11.88 298 *e*P **Pn** **04 48 41.6 -1.2**
SMF *e*Sn Sn 04 50 43.5 -12
comp=N,0.3nm,0.1s
LOR Lormes 12.06 301 *e*P **Pn** **04 48 44.9 -0.4**
LOR *e*Sn Sn 04 50 46.8 -13
comp=N,3.4nm,0.6s
BGF Bois d'Agland 12.51 297 *e*P **Pn** **04 48 51.7 +0.3**
HFS Hagfors 18.41 351 P **Pn** **04 50 07.7 -1.0**
comp=N,0.2nm,0.3s,baz=163,slow=12,SNR=4.6
comp=N,5.2nm,1.0s
FINES FINESS Array B 19.87 10 P **P** **04 50 22.9 -1.6**
comp=N,1.7nm,0.6s,baz=175,slow=11,SNR=6.9
ARCES ARCESS Array B 27.75 5 P **P** **04 51 39.7 -2.2**
comp=N,2.1nm,1.1s,baz=190,slow=9.9,SNR=1.3
comp=N,2.1nm,1.1s
TORD Torodi Ar. Bea 32.55 213 P **P** **04 52 25.7 +0.8**
comp=N,0.6nm,0.9s,baz=27,slow=9.9,SNR=5.0
comp=N,0.6nm,0.9s

*IDC **30** 05:00:26.3±3.3, 0.°14N×97.°54E, h0km, mb3.6/7, mbtmp3.6/7, MS2.9/3, Error ellipse: s-maj=148.8km s-min=22.4km az=55.0*
*DJA **30** 05:00:31.4±0.2, 1.°1N±2.°×9.°9E±.°, h10km, M4.2/10, mb3.7/1, MLv4.5/10*
ISC 30 05:00:30.9±0.7, 0.°51N±0.°04×98.°51E±0.°06, h10km, n27, σ1s66/22, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.61**	**202**	P		**Pg**	**05 00 44.1**	**+1.3**
PBSI				S		**Sb**	**05 00 53.5**	**+1.2**
SBSI	**Sibolga**	**1.10**	**20**	P		**Pn**	**05 00 52.4**	**0.0**
SBSI				S		**Sn**	**05 01 08.0**	**+0.4**
GSI	**Gunungsitoli**	**1.22**	**310**	P		**Pn**	**05 00 52.9**	**-1.2**
GSI				S		**Sb**	**05 01 11.2**	**+1.2**
SISI	**Saibi**	**1.92**	**162**	P		**Pn**	**05 01 01.6**	**-2.0**
SISI				S		**Sn**	**05 01 28.9**	**+1.1**
PDSI	**Padang**	**2.41**	**126**	P		**Pb**	**05 01 13.0**	**-1.4**
BKNI	**Bangkinang**	**2.54**	**94**	P		**Pb**	**05 01 14.7**	**-1.9**
KCSI	**Kotacane, Aceh**	**3.08**	**346**	P		**Pn**	**05 01 19.8**	**+0.1**
KRJI	**Kerinci**	**3.92**	**131**	P		**Pn**	**05 01 32.5**	**+1.1**
MLSI	**Meulaboh, Aceh**	**4.28**	**331**	P		**Pn**	**05 01 37.4**	**+1.2**
IPM	**Ipoh**	**4.67**	**32**	P		**Pn**	**05 01 42.3**	**+0.7**
KULM	**Kulim**	**5.20**	**24**	P		**Pn**	**05 01 49.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.84**	**1**	LR		LR	05 11 51.7	
	comp=Z,20nm,20.6s,baz=195,slow=38							
H08S2	**Diego Garcia H**	**27.18**	**252**	T		T	05 33 47.0	
	baz=73,slow=75,SNR=54							
H08S3	**Diego Garcia H**	**27.18**	**252**	T		T	05 33 47.3	
	baz=73,slow=75,SNR=49							
H08S1	**Diego Carcia H**	**27.20**	**252**	T		T	05 33 48.3	
	baz=73,slow=75,SNR=14							
WRA	**Warramunga Arr**	**40.56**	**122**	P		**P**	**05 08 13.1**	**+2.2**
	0.4nm,0.6s,baz=311,slow=9.2,SNR=4.7							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**41.94**	**127**	P		**P**	**05 08 23.4**	**+1.1**
	0.3nm,0.6s,baz=298,slow=8.0,SNR=1.8							
	0.3nm,0.6s							
JNU	**Nakatsue**	**44.47**	**40**	LR		LR	05 26 50.0	
	comp=Z,15nm,21.5s,baz=20,slow=35							
SONM	**Songino Array**	**47.63**	**7**	P		**P**	**05 09 08.6**	**+1.3**
	0.2nm,0.4s,baz=196,slow=9.2,SNR=2.5							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**48.23**	**345**	P		**P**	**05 09 09.4**	**-2.5**
	0.4nm,0.5s,baz=162,slow=6.6,SNR=5.6							
	0.4nm,0.5s							
PMG	**Port Moresby**	**49.43**	**103**	LR		LR	05 33 11.9	
	comp=Z,20nm,20.0s,baz=200,slow=39							
KURBB	**Kurchatov Arra**	**52.74**	**344**	P		**P**	**05 09 42.8**	**-3.1**
	0.2nm,0.5s,baz=170,slow=6.2,SNR=2.2							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**54.45**	**350**	P		**P**	**05 09 56.2**	**-2.1**
	0.4nm,0.3s,baz=184,slow=6.8,SNR=1.6							
	0.4nm,0.3s							
BVAR	**Borovoye Array**	**57.33**	**340**	P		**P**	**05 10 17.1**	**-1.9**
	1.1nm,0.7s,baz=137,slow=8.0,SNR=2.0							
	1.1nm,0.7s							
H04N2	**CROZET ISLANDS**	**61.95**	**215**	T		T	06 17 15.9	
	baz=55,slow=75,SNR=6.2							
H04N1	**CROZET ISLANDS**	**61.97**	**215**	T		T	06 17 16.6	
	baz=55,slow=75,SNR=5.6							
H04N3	**CROZET ISLANDS**	**61.97**	**215**	T		T	06 17 14.7	
	baz=55,slow=75,SNR=9.8							

*IDC **30** 05:04:25.6±2.6, 54.°30N×86.°13E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=20.3km s-min=12.9km az=50.0*
*NNC **30** 05:04:26.9±5.1, 54.°37N×86.°07E, h0km, mb3.2, mpv2.5, Error ellipse: s-maj=55.3km s-min=27.2km az=163.0, Suspected Mining explosion.*
ISC 30 05:04:18.4±2.6, 53.°50N±0.°09×86.°5E±0.°1, h0km, n8, σ2s07/11, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**295**	I		I	05 09 27.3	
	baz=66,slow=350,SNR=4.6							
ZAA0	**Zalesovo Array**	**1.11**	**294**	⇑P		**Pn**	**05 04 41.9**	**+0.7**
	0.4nm,0.5s							
ZAA0				⇓S		**Sg**	**05 04 54.5**	**+0.5**
	1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**1.11**	**294**	Pg		**Pg**	**05 04 40.1**	**+0.5**
	0.9nm,0.3s,baz=63,slow=17,SNR=15							
ZALV				Lg		Lg	05 04 54.4	
	6.5nm,0.3s,baz=62,slow=28,SNR=29							
KURK	**Kurchatov**	**5.61**	**243**	⇑Pn		**Pb**	**05 05 55.9**	**-1.3**
	0.2nm,0.4s							
KURK				⇑Sn		**Sb**	**05 07 06.7**	**+1.8**
	0.6nm,0.6s							
KURK				⇑Lg		Lg	05 07 36.3	
	1.6nm,0.9s							
KURBB	**Kurchatov Arra**	**5.71**	**243**	⇑Pn		**Pb**	**05 05 55.9**	**-3.0**
	1.0nm,0.3s,baz=53,slow=13							
KURBB				⇑Sn		**Sb**	**05 07 08.3**	**+0.5**
	1.8nm,0.6s							
KURBB				⇓Lg		Lg	05 07 36.9	
	2.6nm,0.6s							
KURBB	**Kurchatov Arra**	**5.71**	**243**	Pn		**Pb**	**05 05 55.9**	**-3.0**
	0.1nm,0.3s,baz=51,slow=13,SNR=14							
	0.6nm,0.6s							
MK31	**Makanchi Array**	**7.24**	**204**	Pn		**Pb**	**05 06 25.5**	**+0.5**
	0.1nm,0.2s,baz=30,slow=14,SNR=15							
MK31				⇑Sn		**Sb**	**05 07 53.6**	**+1.7**
	0.1nm,0.3s							
MKAR	**Makanchi Array**	**7.24**	**204**	Pn		**Pb**	**05 06 22.3**	**-2.7**
	0.2nm,0.3s,baz=17,slow=11,SNR=5.5							
	0.5nm,0.4s							

*UPA **30** 05:05:48.5±5.7, 7.°10N×82.°09W, h0km±999km, MW3.9*
CATAC 30 05:05:50.7±0.8, 8.°32N×84.°17W, h5km±5km, ML3.6, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIRO	**Carate, Puerto**	**0.83**	**84**	*i* P		Pg	05 06 06.9	+0.2
PIRO				*i* S		Sg	05 06 17.9	+0.4
PIRO				IAML			05 07 03.9	
	comp=Z,5μm,1.0s							
OCHAL	**Ojochal**	**0.93**	**34**	*i* P		Pg	05 06 08.4	-0.2
OCHAL				*i* S		Sb	05 06 22.2	+0.2
OCHAL				IAML			05 07 08.9	
	comp=Z,46nm,1.0s							
PEZE	**Perez Zeledon,**	**1.16**	**25**	*i* P		Pg	05 06 11.7	-1.3
PEZE				*i* S		Sb	05 06 29.0	+0.3
PEZE				IAML			05 07 18.6	
	comp=Z,1μm,1.0s							
POTG	**Potrero Grande**	**1.27**	**55**	*i* P		Pg	05 06 13.9	-1.2
POTG				*i* S		Sn	05 06 32.3	-0.4
POTG				IAML			05 07 20.6	
	comp=Z,3μm,1.0s							
PTPM	**Petroterminale**	**1.28**	**95**	*e*P		Pn	05 06 13.6	-1.7
PTPM				*e*S		Sn	05 06 33.2	+0.3
CDM	**Cerro de Muert**	**1.29**	**18**	*i* P		Pg	05 06 14.4	-1.1
CDM				IAML			05 07 25.7	
	comp=Z,720nm,1.0s							
JACO	**JACO, Garabito**	**1.42**	**340**	*i* P		Pg	05 06 18.0	+0.1
JACO				IAML			05 07 30.0	
	comp=Z,330nm,1.0s							
LCR2	**La Lucha 2**	**1.42**	**7**	*i* P		Pn	05 06 15.4	-2.0
LCR2				IAML			05 07 21.3	
	comp=Z,790nm,1.0s							
RIMA	**Rio Macho**	**1.47**	**12**	*i* P		Pn	05 06 16.1	-1.9
RIMA				*i* S		Sb	05 06 35.9	-1.8
RIMA				IAML			05 07 20.6	
	comp=Z,610nm,1.0s							
TBLN	**Tablon, Guarco**	**1.50**	**7**	*i* P		Pn	05 06 18.8	+0.3
TBLN				IAML			05 07 24.3	
	comp=Z,940nm,1.0s							
BRU2	**Volcan**	**1.54**	**72**	*e*P		Pn	05 06 18.3	-0.7
BRU2				*e*S		Sg	05 06 40.3	+0.1
BRU2	**Volcan**	**1.54**	**72**	*i* P		Pn	05 06 18.3	-0.7
BRU2				*i* S		Sb	05 06 39.9	+0.2
BRU2				IAML			05 07 29.3	
	comp=Z,2μm,1.0s							
LAFE	**Finca La Fe, P**	**1.65**	**334**	*i* P		Pn	05 06 19.6	-0.7
BCO2	**Palmira**	**1.67**	**76**	*e*P		Pn	05 06 20.4	-0.4
BCO2				*e*S		Sg	05 06 44.6	0.0
RIFO	**Rio Frio, Sara**	**2.00**	**7**	*i* P		Pn	05 06 25.7	+0.6
RIFO				IAML			05 07 37.3	
	comp=Z,590nm,1.0s							
INDI	**Punta indio, G**	**2.02**	**320**	*i* P		Pn	05 06 26.6	+1.2
INDI				IAML			05 07 31.2	
	comp=Z,160nm,1.0s							
SAJU	**San Juanillo,**	**2.31**	**319**	*i* P		Pn	05 06 28.4	-1.0
SAJU				IAML			05 07 40.6	
	comp=Z,130nm,1.0s							
ORTG	**Ortega, Santa**	**2.39**	**328**	*i* P		Pn	05 06 30.1	-0.6
ORTG				IAML			05 08 07.6	
	comp=Z,91nm,1.0s							
HZTE	**Horizontes, Gu**	**2.76**	**330**	*i* P		Pn	05 06 36.0	+0.4
HZTE				IAML			05 07 55.1	
	comp=Z,250nm,1.0s							
MACN	**El Madrono**	**4.80**	**329**	*i* PA			05 07 04.4	
MACN				IAML			05 07 50.3	
	comp=Z,92nm,1.0s							

CATAC 30 05:06:53.1±1.2, 9.°04N×84.°76W, h10km, ML2.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.63**	**9**	*i* P		Pg	05 07 04.9	-0.4
JACO				*i* S		Sg	05 07 14.0	+0.5
LAFE	**Finca La Fe, P**	**0.78**	**349**	*i* P		Pn	05 07 10.3	+0.1
INDI	**Punta indio, G**	**1.10**	**318**	*i* P		Pb	05 07 13.7	-0.6
INDI				*i* S		Sg	05 07 28.3	-0.4
SAJU	**San Juanillo,**	**1.39**	**317**	*i* P		Pn	05 07 17.6	-1.0
SAJU				*i* SA			05 07 35.2	
HZTE	**Horizontes, Gu**	**1.86**	**334**	*i* S		Sb	05 07 51.6	+1.1

*NEIC **30** 05:17:58.4±0.7, 35.°668N±0.°004×97.°40W±0.°01, h7km±2km, Error ellipse: s-maj=1.5km s-min=0.5km az=82.0*
TUL 30 05:17:58.5±0.7, 35.°669N±0.°010×97.°40W±0.°01, h6km±1km, ML2.3, ML2.1/36(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADOK	**Arcadia Dam**	**0.03**	**124**	Pg		Pg	05 18 00.0	+0.3
ADOK				Sg		Sg	05 18 01.2	+0.6
OK029	**Liberty Lake**	**0.13**	**341**	Pg		Pg	05 18 01.7	+0.3
OK029				Sg		Sg	05 18 04.1	+0.9
OK029				IAML			05 18 04.3	
	556nm,0.2s							
OKCSW	**OKLAHOMA CITY**	**0.27**	**186**	Pg		Pg	05 18 03.8	+0.2
OKCSW				Sg		Sg	05 18 08.2	+1.0
FNO	**Franklin**	**0.41**	**180**	Pg		Pg	05 18 06.7	+0.2
FNO				Sg		Sg	05 18 12.7	+0.8
OK033	**Mehan**	**0.53**	**45**	Pg		Pg	05 18 09.0	+0.3
OK033				Sg		Sg	05 18 16.5	+0.8
OK033				IAML			05 18 17.1	
	162nm,0.4s							
OK033				IAML			05 18 17.3	
	112nm,0.1s							
OK052	**Battle Ridge R**	**0.58**	**56**	Pg		Pg	05 18 09.8	+0.1
OK052				Sg		Sg	05 18 18.1	+0.7
OK052				IAML			05 18 18.4	
	158nm,0.3s							
QUOK	**Quay**	**0.75**	**48**	Pg		Pg	05 18 12.7	-0.3
QUOK				Sg		Sg	05 18 23.3	+0.5
DEOK	**Depew**	**0.76**	**76**	Pg		Pg	05 18 12.2	-0.8
DEOK				Sg		Sg	05 18 23.0	+0.2
DEOK				IAML			05 18 23.4	
	comp=E,78nm,1.5s							
DEOK				IAML			05 18 26.3	
	comp=N,82nm,0.3s							
OK048	**Pawnee Station**	**0.83**	**26**	Pg		Pg	05 18 14.2	-0.3
OK048				Sg		Sg	05 18 25.4	+0.1
OK048				IAML			05 18 25.8	
	comp=N,44nm,0.2s							
OK051	**E0350 and S346**	**0.95**	**29**	Pg		Pg	05 18 16.3	-0.5
OK051				Sg		Sg	05 18 28.9	-0.3
OK051				IAML			05 18 29.8	
	comp=N,76nm,0.2s							
CROK	**Carrier**	**0.96**	**331**	Pg		Pg	05 18 16.4	-0.5
CROK				Sg		Sg	05 18 29.8	+0.4
CSTR	**Hydro, Custer**	**1.05**	**269**	Pg		Pg	05 18 18.3	-0.3
BLOK	**Blackwell**	**1.10**	**8**	Pg		Pg	05 18 18.8	-0.8
BLOK				Sg		Sg	05 18 33.8	-0.1
BLOK				IAML			05 18 44.1	
	comp=N,64nm,0.2s							
X34A	**Smith Ranch, M**	**1.12**	**198**	Pg		Pg	05 18 19.9	-0.1
X34A				IAML			05 18 34.4	
	comp=E,42nm,4.0s							
X34A				Sg		Sb	05 18 35.5	+0.4
X34A				IAML			05 18 52.0	
	comp=N,34nm,4.2s							
GC02	**Grant County #**	**1.24**	**343**	Pg		Pg	05 18 21.4	-0.9
GC02				Sg		Sg	05 18 38.1	-0.2
OK032	**Salt Plains WL**	**1.31**	**330**			Pn	05 18 23.0	-0.3
TUL3	**Leonard**	**1.33**	**79**			Pn	05 18 22.4	-1.2
TUL3				IAML			05 18 44.0	
	comp=N,32nm,0.6s							
TUL3				IAML			05 18 47.2	
	comp=E,28nm,0.5s							
KAN13	**South Haven SW**	**1.34**	**357**			Pn	05 18 23.1	-0.7
OK038	**West end E0370**	**1.35**	**307**			Pn	05 18 22.9	-1.0
KAN14	**Manchester OK**	**1.36**	**341**			Pn	05 18 23.0	-1.1
KAN17	**Caldwell West**	**1.40**	**348**			Pn	05 18 24.3	-0.3
T35A	**Sooner Cattle**	**1.44**	**30**			Pn	05 18 24.7	-0.4
WMOK	**Wichita Mounta**	**1.46**	**231**			Pn	05 18 25.0	-0.4
KAN09	**Caldwell North**	**1.47**	**353**			Pn	05 18 25.0	-0.6
U32A	**Winter Ranch,**	**1.48**	**299**			Pn	05 18 25.2	-0.5
LOOK	**Love County**	**1.68**	**174**			Pn	05 18 29.0	+0.6
RLO	**Rose Lookout**	**1.99**	**75**	Pn		Pn	05 18 33.3	+0.5
Z35A	**Perchaven, San**	**2.34**	**177**	Pn		Pn	05 18 37.4	-0.1
U38A	**Gravette**	**2.56**	**72**	Pn		Pn	05 18 39.9	-0.7

*IDC **30** 05:19:20.4±3.2, 55.°74N×149.°38W, h0km, mb3.8/2, mbtmp3.5/7, ML3.2/5, Error ellipse: s-maj=54.4km s-min=28.3km az=180.0*
*NEIC **30** 05:19:21.2±1.5, 55.°96N±0.°09×149.°5W±0.°1, h7km±7km, ML3.7/40, ML3.4(AEIC), Error ellipse: s-maj=13.8km s-min=8.8km az=164.0*
*AEIC **30** 05:19:25.4±2.1, 55.°97N±0.°10×149.°4W±0.°1, h10km±8km, Error ellipse: s-maj=13.9km s-min=8.7km az=181.0*
ISC 30 05:19:22.8±1.2, 56.°11N±0.°08×149.°54W±0.°06, h10km, n183, σ1s03/184, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.35**	**300**			**Pn**	**05 20 00.9**	**-0.6**
OHAK						**Sn**	**05 20 27.8**	**-2.5**
OHAK	**Old Harbor**	**2.35**	**300**	P		**Pn**	**05 20 00.8**	**-0.6**
OHAK	**Old Harbor**	**2.35**	**300**	P		**Pn**	**05 20 00.9**	**-0.6**
	baz=119							
OHAK				S		**Sn**	**05 20 27.8**	**-2.5**
	baz=119							
KDAK	**Kodiak Island**	**2.37**	**317**			**Pn**	**05 20 01.4**	**-0.2**
KDAK						**Sn**	**05 20 28.7**	**-2.0**
KDAK	**Kodiak Island**	**2.37**	**317**	Pn		**Pn**	**05 20 01.5**	**-0.2**
	4.4nm,0.3s,baz=151,slow=4.8,SNR=36							
KDAK				Sn		**Sn**	**05 20 28.2**	**-2.4**
	20nm,0.3s,baz=17,slow=21,SNR=16							
	11nm,0.3s							
SII	**Sitkinak Islan**	**2.62**	**282**			**Pn**	**05 20 04.1**	**-1.2**
SII						**Sn**	**05 20 34.9**	**-2.2**
SII	**Sitkinak Islan**	**2.62**	**282**	IAML			05 20 41.4	
	comp=E,218nm,1.5s							
SII				IAML			05 20 53.8	
	comp=N,193nm,1.1s							
SII	**Sitkinak Islan**	**2.62**	**282**	P		**Pn**	**05 20 04.0**	**-1.2**
SII	**Sitkinak Islan**	**2.62**	**282**	P		**Pn**	**05 20 04.1**	**-1.2**
	baz=101							
SII				S		**Sn**	**05 20 34.9**	**-2.2**
	baz=101							
SYI	**Shuyak Island**	**2.94**	**330**			**Pn**	**05 20 09.5**	**-0.1**
SYI						**Sn**	**05 20 44.5**	**-0.5**
Q20K	**Shuyak Island**	**2.95**	**330**	P		**Pn**	**05 20 09.5**	**-0.1**
	baz=148							
Q20K				S		**Sn**	**05 20 44.5**	**-0.5**
	baz=148							
R18K	**Karluk**	**3.07**	**301**			**Pn**	**05 20 11.4**	**+0.1**
R18K	**Karluk**	**3.07**	**301**	IAML			05 20 49.1	
	comp=N,154nm,0.5s							
R18K				IAML			05 20 52.8	
	comp=E,157nm,0.5s							
R18K	**Karluk**	**3.07**	**301**	P		**Pn**	**05 20 11.4**	**+0.1**
	baz=118							
CNPM	**China Poot**	**3.55**	**346**			**Pn**	**05 20 17.8**	**-0.1**
CNPM						**Sn**	**05 20 58.8**	**-1.1**
Q19K	**Cape Douglas,**	**3.59**	**324**			**Pn**	**05 20 19.0**	**+0.5**
Q19K						**Sn**	**05 20 59.8**	**-1.2**
Q19K	**Cape Douglas,**	**3.59**	**324**	IAML			05 21 05.4	
	comp=N,226nm,1.0s							
Q19K	**Cape Douglas,**	**3.59**	**324**	P		**Pn**	**05 20 19.0**	**+0.5**
	baz=141							
Q19K				S		**Sn**	**05 20 59.7**	**-1.2**
	baz=141							
KAHG	**Katmai Hook Gl**	**3.62**	**313**			**Pn**	**05 20 20.0**	**+1.1**
KAHG						**Sn**	**05 20 59.9**	**-1.8**
BRSE	**Bradley Lake S**	**3.70**	**351**			**Pn**	**05 20 19.6**	**-0.5**
BRSE						**Sn**	**05 21 02.7**	**-1.0**
BRSE	**Bradley Lake S**	**3.70**	**351**	P		**Pn**	**05 20 19.6**	**-0.5**
	baz=169							
BRSE				S		**Sn**	**05 21 02.7**	**-1.0**
	baz=169							
HOM	**Homer**	**3.73**	**343**			**Pn**	**05 20 20.4**	**0.0**
HOM	**Homer**	**3.73**	**343**	P		**Pn**	**05

HIN				IAML			05 23 03.4		
	comp=E,55nm,1.3s								
R16K	**Pilot Point**	**4.65**	**292**			**Pn**	**05 20 32.5**	**-0.4**	
R16K	**Pilot Point**	**4.65**	**292**	IAML			05 22 09.6		
	comp=E,89nm,1.4s								
R16K				IAML			05 22 11.5		
	comp=N,90nm,1.5s								
R16K	**Pilot Point**	**4.65**	**292**	P		**Pn**	**05 20 32.5**	**-0.4**	
	baz=106								
RSO	**Redoubt South**	**4.68**	**340**	Pn		**Pn**	**05 20 34.4**	**+0.7**	
KAIM	**Kayak Island**	**4.70**	**33**	Pn		**Pn**	**05 20 34.1**	**+0.4**	
KAIM				IAML			05 21 52.7		
	comp=N,83nm,1.5s								
KAIM				IAML			05 22 53.5		
	comp=E,96nm,1.5s								
RDWB	**Redoubt West**	**4.72**	**340**			**Pn**	**05 20 33.8**	**-0.4**	
CAPN	**Captain Cook N**	**4.75**	**350**	Pn		**Pn**	**05 20 37.0**	**+2.7**	
NCT	**North Crescent**	**4.81**	**340**			**Pn**	**05 20 34.9**	**-0.4**	
O18K	**Koktuh Hills**	**4.82**	**324**			**Pn**	**05 20 35.5**	**+0.2**	
O18K				IAML			05 21 33.2		
	comp=N,38nm,0.6s								
O18K				IAML			05 21 34.4		
	comp=E,28nm,0.7s								
O18K	**Koktuh Hills**	**4.82**	**324**	P		**Pn**	**05 20 35.4**	**0.0**	
	baz=139								
O19K	**Port Alsworth**	**4.82**	**330**			**Pn**	**05 20 35.0**	**-0.3**	
O19K	**Port Alsworth**	**4.82**	**330**	P		**Pn**	**05 20 35.0**	**-0.3**	
	baz=146								
EYAK	**Cordova Ski Ar**	**4.88**	**23**			**Pn**	**05 20 35.9**	**-0.3**	
EYAK	**Cordova Ski Ar**	**4.88**	**23**	P		**Pn**	**05 20 35.8**	**-0.3**	
	baz=205								
CHGN	**Chignik**	**4.96**	**276**	Pn		**Pn**	**05 20 36.5**	**-0.7**	
CHGN				IAML			05 21 38.8		
	comp=N,56nm,0.7s								
CHGN				IAML			05 21 48.4		
	comp=E,46nm,1.2s								
RC01	**Rabbit Creek A**	**5.00**	**359**	IAML			05 21 36.3		
	comp=N,27nm,0.4s								
RC01				IAML			05 21 37.3		
	comp=E,31nm,0.7s								
RC01	**Rabbit Creek A**	**5.00**	**359**	P		**Pn**	**05 20 37.6**	**-0.3**	
	baz=178								
RAGM	**Ragged Mountai**	**5.00**	**29**	Pn		**Pn**	**05 20 38.2**	**+0.2**	
RAGM				IAML			05 21 49.1		
	comp=E,45nm,1.3s								
BERG	**Berg Lake**	**5.29**	**33**			**Pn**	**05 20 41.7**	**-0.1**	
N20K	**Mount Spurr**	**5.29**	**346**	P		**Pn**	**05 20 41.6**	**-0.4**	
	baz=163								
SPCR	**Spurr Chakacha**	**5.29**	**346**			**Pn**	**05 20 41.6**	**-0.4**	
KNK	**Knik Glacier**	**5.35**	**6**			**Pn**	**05 20 42.4**	**-0.3**	
KNK	**Knik Glacier**	**5.35**	**6**	P		**Pn**	**05 20 42.4**	**-0.3**	
	baz=186								
SPCG	**Spurr Capps Gl**	**5.36**	**347**			**Pn**	**05 20 42.7**	**-0.2**	
N19K	**Bonanza Creek**	**5.38**	**333**			**Pn**	**05 20 42.7**	**-0.5**	
N19K	**Bonanza Creek**	**5.38**	**333**	P		**Pn**	**05 20 42.7**	**-0.5**	
	baz=149								
P16K	**Nushagak River**	**5.41**	**306**			**Pn**	**05 20 43.7**	**+0.3**	
P16K	**Nushagak River**	**5.41**	**306**	P		**Pn**	**05 20 43.7**	**+0.3**	
	baz=120								
SNH	**Sunshine Point**	**5.41**	**38**	Pn		**Pn**	**05 20 43.2**	**-0.3**	
PMR	**Palmer**	**5.51**	**2**	Pn		**Pn**	**05 20 45.5**	**+0.7**	
PMR	**Palmer**	**5.51**	**2**	P		**Pn**	**05 20 46.7**	**+2.0**	
BMRM	**Bremner River**	**5.52**	**26**			**Pn**	**05 20 45.0**	**0.0**	
BMRM	**Bremner River**	**5.52**	**26**	P		**Pn**	**05 20 45.0**	**0.0**	
	baz=209								
SPNN	**North Nagishla**	**5.53**	**344**			**Pn**	**05 20 44.9**	**-0.3**	
STLK	**Strandline Lak**	**5.54**	**349**			**Pn**	**05 20 44.8**	**-0.5**	
S14K	**Fog Glacier**	**5.59**	**276**	P		**Pn**	**05 20 44.9**	**-1.2**	
	baz=89								
VNFG	**Fog Glacier, M**	**5.59**	**276**			**Pn**	**05 20 44.9**	**-1.2**	
N18K	**Kilae Creek**	**5.67**	**327**			**Pn**	**05 20 46.8**	**-0.3**	
N18K	**Kilae Creek**	**5.67**	**327**	P		**Pn**	**05 20 46.8**	**-0.3**	
	baz=142								
KLU	**Klutina**	**5.72**	**18**			**Pn**	**05 20 47.9**	**+0.1**	
KLU	**Klutina**	**5.72**	**18**	P		**Pn**	**05 20 47.9**	**+0.1**	
	baz=200								
O16K	**Kokwok River B**	**5.75**	**311**			**Pn**	**05 20 48.2**	**+0.2**	
O16K	**Kokwok River B**	**5.75**	**311**	P		**Pn**	**05 20 48.2**	**+0.2**	
	baz=124								
SML	**Sawmill**	**5.75**	**6**			**Pn**	**05 20 48.5**	**+0.3**	
SML	**Sawmill**	**5.75**	**6**	P		**Pn**	**05 20 48.5**	**+0.3**	
	baz=186								
CHNA	**Chernabura Isl**	**5.86**	**262**	P		**Pn**	**05 20 47.7**	**-1.9**	
	baz=75								
SCM	**Sheep Creek Mo**	**5.86**	**10**			**Pn**	**05 20 50.2**	**+0.6**	
SCM	**Sheep Creek Mo**	**5.86**	**10**	P		**Pn**	**05 20 50.2**	**+0.6**	
	baz=192								
CNBA	**Chernabura Isl**	**5.86**	**261**			**Pn**	**05 20 47.7**	**-1.9**	
SKT	**Skwentna**	**5.98**	**351**	Pn		**Pn**	**05 20 51.9**	**+0.6**	
N17K	**Nushagak Hills**	**5.99**	**321**			**Pn**	**05 20 51.2**	**-0.2**	
N17K	**Nushagak Hills**	**5.99**	**321**	P		**Pn**	**05 20 51.2**	**-0.2**	
	baz=135								
VRDI	**Verde Repeater**	**6.04**	**29**	Pn		**Pn**	**05 20 52.1**	**-0.1**	
M20K	**Styx River**	**6.08**	**344**			**Pn**	**05 20 52.4**	**-0.3**	
M20K	**Styx River**	**6.08**	**344**	P		**Pn**	**05 20 52.4**	**-0.3**	
	baz=161								
N25K	**Chitina, Valde**	**6.08**	**23**			**Pn**	**05 20 52.8**	**+0.1**	
N25K	**Chitina, Valde**	**6.08**	**23**	P		**Pn**	**05 20 52.8**	**+0.1**	
	baz=206								
KIAG	**Kiagna River**	**6.12**	**35**			**Pn**	**05 20 53.4**	**0.0**	
GLB	**Gilahina Butte**	**6.12**	**27**	Pn		**Pn**	**05 20 53.8**	**+0.4**	
SDPT	**Sand Point**	**6.22**	**268**			**Pn**	**05 20 53.0**	**-1.7**	
SDPT	**Sand Point**	**6.22**	**268**			**Pn**	**05 20 53.7**	**-0.9**	
SDPT	**Sand Point**	**6.22**	**268**	P		**Pn**	**05 20 54.2**	**-0.4**	
SDPT	**Sand Point**	**6.22**	**268**	P		**Pn**	**05 20 52.9**	**-1.7**	
	baz=80								
M24K	**Tolsona, Glenn**	**6.26**	**15**			**Pn**	**05 20 55.6**	**+0.4**	
M24K	**Tolsona, Glenn**	**6.26**	**15**	P		**Pn**	**05 20 55.6**	**+0.4**	
	baz=197								
MCARA	**McCarthy VSAT**	**6.28**	**30**			**Pn**	**05 20 55.2**	**-0.2**	
MCARA	**McCarthy VSAT**	**6.28**	**30**	P		**Pn**	**05 20 55.2**	**-0.2**	
	baz=214								
PTPK	**Patty Peak**	**6.29**	**33**			**Pn**	**05 20 54.4**	**-1.3**	
O15K	**Ungalikthiuk R**	**6.32**	**303**			**Pn**	**05 20 55.5**	**-0.4**	
O15K	**Ungalikthiuk R**	**6.32**	**303**	P		**Pn**	**05 20 55.6**	**-0.4**	
	baz=116								
M19K	**Big River Lodg**	**6.33**	**339**	Pn		**Pn**	**05 20 56.7**	**+0.7**	
BARN	**Barnard Glacie**	**6.45**	**36**			**Pn**	**05 20 57.5**	**-0.5**	
CTG	**Chitna Glacier**	**6.49**	**38**	P		**Pn**	**05 20 58.3**	**-0.2**	
	baz=224								
CTGM	**Chitina Glacie**	**6.49**	**38**			**Pn**	**05 20 58.3**	**-0.2**	
BCPM	**Bancas Point**	**6.52**	**50**	Pn		**Pn**	**05 20 58.3**	**-0.4**	
WAT6	**Susitna Watana**	**6.56**	**7**			**Pn**	**05 20 59.6**	**+0.3**	
WAT6	**Susitna Watana**	**6.56**	**7**	P		**Pn**	**05 20 59.6**	**+0.3**	
	baz=188								
L19K	**White Mountain**	**6.67**	**338**	Pn		**Pn**	**05 21 00.1**	**-0.7**	
M17K	**Holitna River**	**6.71**	**326**			**Pn**	**05 21 01.3**	**0.0**	
M17K	**Holitna River**	**6.71**	**326**	P		**Pn**	**05 21 01.3**	**0.0**	
	baz=139								
N15K	**Kwethluk River**	**6.91**	**310**			**Pn**	**05 21 05.4**	**+1.4**	
M16K	**Timber Creek**	**6.96**	**319**			**Pn**	**05 21 05.0**	**+0.2**	
M16K	**Timber Creek**	**6.96**	**319**	P		**Pn**	**05 21 05.0**	**+0.2**	
	baz=131								
O14K	**Tigyukauivet M**	**7.03**	**301**			**Pn**	**05 21 06.3**	**+0.7**	
O14K	**Tigyukauivet M**	**7.03**	**301**	P		**Pn**	**05 21 06.3**	**+0.7**	
	baz=112								
PN7A	**Pavlof North-7**	**7.06**	**270**			**Pn**	**05 21 05.2**	**-1.0**	
DHY	**Denali Highway**	**7.08**	**8**			**Pn**	**05 21 06.7**	**+0.2**	
DHY	**Denali Highway**	**7.08**	**8**	P		**Pn**	**05 21 06.6**	**+0.2**	
	baz=189								
L18K	**Granite Mounta**	**7.14**	**332**			**Pn**	**05 21 07.0**	**-0.3**	
L18K	**Granite Mounta**	**7.14**	**332**	P		**Pn**	**05 21 06.9**	**-0.3**	
	baz=146								
M26K	**Nabesna, AK**	**7.15**	**25**	Pn		**Pn**	**05 21 08.2**	**+0.9**	
O29M	**Mount Kennedy**	**7.16**	**50**			**Pn**	**05 21 07.3**	**-0.3**	
O29M	**Mount Kennedy**	**7.16**	**50**	P		**Pn**	**05 21 07.3**	**-0.3**	
	baz=238								
P29M	**Windy Craggy**	**7.22**	**56**			**Pn**	**05 21 07.6**	**-0.7**	
P29M	**Windy Craggy**	**7.22**	**56**	P		**Pn**	**05 21 07.6**	**-0.7**	
	baz=245								
RND	**Reindeer**	**7.33**	**2**	Pn		**Pn**	**05 21 10.7**	**+0.8**	
TRF	**Thorofare Moun**	**7.38**	**357**	Pn		**Pn**	**05 21 12.3**	**+1.7**	
M27K	**Edge Creek, AK**	**7.39**	**29**	Pn		**Pn**	**05 21 11.8**	**+0.9**	
CAST	**Castle Rocks**	**7.45**	**351**	Pn		**Pn**	**05 21 13.8**	**+2.4**	
S31K	**Pelican**	**7.50**	**70**			**Pn**	**05 21 10.3**	**-1.8**	
S31K	**Pelican**	**7.50**	**70**	P		**Pn**	**05 21 10.3**	**-1.8**	
	baz=260								
KTH	**Kantishna Hill**	**7.50**	**355**	Pn		**Pn**	**05 21 13.6**	**+1.4**	
TTA	**Tatalina**	**7.59**	**337**	Pn		**Pn**	**05 21 13.6**	**+0.2**	
L16K	**Owhat River**	**7.61**	**322**	P		**Pn**	**05 21 14.1**	**+0.5**	
	baz=134								
HYT	**Haines Junctio**	**7.88**	**48**	Pn		**Pn**	**05 21 18.4**	**+1.0**	
BCAR	**Beaver Creek A**	**8.01**	**26**	Pn		**Pn**	**05 21 20.2**	**+1.0**	
RIDG	**Independent Ri**	**8.01**	**15**	Pn		**Pn**	**05 21 20.6**	**+1.4**	
BPAW	**Bear Paw Mtn.**	**8.05**	**355**	Pn		**Pn**	**05 21 20.1**	**+0.4**	
J18K	**Innoko River**	**8.21**	**337**	Pn		**Pn**	**05 21 22.6**	**+0.7**	
N30M	**Aishikik Lake**	**8.40**	**45**	Pn		**Pn**	**05 21 24.9**	**+0.5**	
M29M	**Somme Creek**	**8.51**	**37**			**Pn**	**05 21 26.9**	**+0.9**	
L14K	**Kuka Creek**	**8.61**	**313**			**Pn**	**05 21 28.5**	**+1.2**	
CCB	**Clear Creek Bu**	**8.61**	**5**			**Pn**	**05 21 28.4**	**+1.0**	
K27K	**Chicken**	**8.77**	**22**	Pn		**Pn**	**05 21 31.2**	**+1.6**	
IL31		**8.79**	**7**	Pn		**Pn**	**05 21 29.7**	**0.0**	
ILAR	**Eielson Array**	**8.79**	**7**	Pn		**Pn**	**05 21 30.8**	**+1.0**	
ILAR	**Eielson Array**	**8.79**	**7**	Pn		**Pn**	**05 21 31.7**	**+1.9**	
	comp=E,0.3nm,0.3s,baz=190,slow=13,SNR=22								
ILAR				Sn		**Sn**	**05 23 03.4**	**-5.4**	
	comp=E,0.2nm,0.3s,baz=192,slow=16,SNR=2.0								
	comp=E,0.8nm,0.4s								
MDM	**Murphy Dome**	**8.90**	**4**	Pn		**Pn**	**05 21 32.8**	**+1.4**	
J26L	**Joseph Creek**	**8.92**	**17**	Pn		**Pn**	**05 21 32.3**	**+0.6**	
WHY	**Whitehorse**	**8.94**	**53**	Pn		**Pn**	**05 21 32.6**	**+0.6**	
MLY	**Manley**	**8.97**	**357**	Pn		**Pn**	**05 21 34.0**	**+1.6**	
I21K	**Tanana**	**9.18**	**354**	Pn		**Pn**	**05 21 36.2**	**+1.1**	
DAWY	**Dawson**	**9.44**	**28**	Pn		**Pn**	**05 21 40.0**	**+1.2**	
K29M	**Barlow Dome**	**9.81**	**33**	Pn		**Pn**	**05 21 44.8**	**+1.0**	
IMAR	**Indian Mountai**	**10.11**	**350**	Pn		**Pn**	**05 21 49.2**	**+1.3**	
H17K	**Granite Mounta**	**10.21**	**334**	Pn		**Pn**	**05 21 49.7**	**+0.5**	
FARO	**Faro, Yukon**	**10.31**	**47**	Pn		**Pn**	**05 21 51.9**	**+1.3**	
R33M	**Jennings River**	**10.45**	**64**	Pn		**Pn**	**05 21 52.6**	**-0.1**	
G24K	**Hadweenzic Riv**	**10.68**	**4**	Pn		**Pn**	**05 21 57.2**	**+1.5**	
DLBC	**Dease Lake**	**10.81**	**69**	Pn		**Pn**	**05 21 57.7**	**+0.1**	
	comp=E,0.1nm,0.3s,baz=270,slow=8.1,SNR=1.7								
	comp=E,2.4nm,0.8s								
BMAR	**Burnt Mountain**	**11.60**	**10**	Pn		**Pn**	**05 22 09.5**	**+1.3**	
INK	**Inuvik**	**14.27**	**25**	Pn		**Pn**	**05 22 46.8**	**+2.2**	
	comp=E,0.1nm,0.3s,baz=188,slow=17,SNR=3.7								
	comp=E,0.9nm,0.8s								
YKA	**Yellowknife Ar**	**18.76**	**56**	P		**Pn**	**05 23 41.8**	**-0.2**	
	baz=265,slow=9.8,SNR=4.0								
	comp=E,0.2nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**48.67**	**240**	T		T	06 20 30.3		
	baz=31,slow=76,SNR=7.8								
H11N3	**WAKE ISLAND Hy**	**48.67**	**240**	T		T	06 20 33.7		
	baz=31,slow=76,SNR=7.8								
H11N1	**WAKE ISLAND Hy**	**48.69**	**240**	T		T	06 20 36.3		
	baz=31,slow=76,SNR=5.4								
H11S1	**WAKE ISLAND Hy**	**49.81**	**239**	T		T	06 22 00.3		
	baz=29,slow=76,SNR=8.1								
H11S2	**WAKE ISLAND Hy**	**49.82**	**239**	T		T	06 21 60.0		
	baz=29,slow=76,SNR=5.2								
H11S3	**WAKE ISLAND Hy**	**49.83**	**239**	T		T	06 21 59.7		
	baz=29,slow=76,SNR=6.8								
SONM	**Songino Array**	**58.64**	**310**	P		**P**	**05 29 22.2**	**+2.3**	
	comp=E,0.1nm,0.3s,baz=48,slow=4.3,SNR=1.9								
	comp=E,0.1nm,0.3s								
FINES	**FINESS Array B**	**62.74**	**2**	P		**P**	**05 29 48.3**	**+0.9**	
	comp=E,2.2nm,0.8s,baz=48,slow=2.1,SNR=4.2								
	comp=E,2.2nm,0.8s								

NEIC ***30*** *05:24:55.4±1.6,56.14N±0.07×149.3W±0.1,h20km±9km, ML3.5/37,ML3.3(AEIC),Error ellipse: s-maj=10.8km s-min=8.6km az=154.0*

AEIC ***30*** *05:24:58.8±1.6,56.2N±0.1×149.2W±0.1,h8km±8km,Error ellipse: s-maj=15.7km s-min=9.6km az=172.0*

ISC 30 05:24:53.8±1.6,56.23N±0.09×149.28W±0.05,h10km, n106,σ1ş56/113,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.39**	**312**		**Pn**	**05 25 34.4**	**+1.4**
KDAK					**Sn**	**05 26 01.1**	**-1.0**
OHAK	**Old Harbor**	**2.42**	**296**		**Sn**	**05 26 00.9**	**-2.1**
OHAK	**Old Harbor**	**2.42**	**296**	Pn	**Pn**	**05 25 34.5**	**+1.1**
OHAK	**Old Harbor**	**2.42**	**296**	S	**Sn**	**05 26 00.9**	**-2.1**
	baz=113						
SII	**Sitkinak Islan**	**2.75**	**279**		**Pn**	**05 25 38.5**	**+0.7**
SII					**Sn**	**05 26 09.6**	**-1.5**
SII	**Sitkinak Islan**	**2.75**	**279**	IAML		05 26 13.1	
	comp=E,128nm,1.2s						
SII				IAML		05 26 20.6	
	comp=N,144nm,1.0s						
SII	**Sitkinak Islan**	**2.75**	**279**	P	**Pn**	**05 25 38.5**	**+0.7**
	baz=96						
SII				S	**Sn**	**05 26 09.6**	**-1.5**
	baz=96						
Q20K	**Shuyak Island**	**2.92**	**326**	P	**Pn**	**05 25 41.6**	**+1.4**
	baz=144						
Q20K				S	**Sn**	**05 26 15.8**	**+0.5**
	baz=144						
SYI	**Shuyak Island**	**2.92**	**326**		**Pn**	**05 25 41.6**	**+1.4**
SYI					**Sn**	**05 26 15.8**	**+0.5**
SYI	**Shuyak Island**	**2.92**	**326**	IAML		05 26 16.4	
	comp=E,78nm,1.4s						
R18K	**Karluk**	**3.14**	**297**		**Pn**	**05 25 43.9**	**+0.6**
R18K					**Sn**	**05 26 19.2**	**-1.5**
R18K	**Karluk**	**3.14**	**297**	IAML		05 26 22.2	
	comp=E,99nm,1.5s						
R18K				IAML		05 26 29.0	
	comp=N,84nm,1.0s						
R18K	**Karluk**	**3.14**	**297**	P	**Pn**	**05 25 43.8**	**+0.6**
	baz=114						
R18K				S	**Sn**	**05 26 19.2**	**-1.5**
	baz=114						
CNPM	**China Poot**	**3.47**	**343**		**Pn**	**05 25 48.7**	**+0.9**
CNPM					**Sn**	**05 26 29.0**	**+0.1**
Q19K	**Cape Douglas,**	**3.58**	**321**		**Pn**	**05 25 50.9**	**+1.5**
Q19K	**Cape Douglas,**	**3.58**	**321**	IAML		05 26 47.5	
	comp=N,122nm,0.8s						
Q19K	**Cape Douglas,**	**3.58**	**321**	P	**Pn**	**05 25 50.9**	**+1.5**
	baz=137						
BRSE	**Bradley Lake S**	**3.61**	**348**		**Pn**	**05 25 50.6**	**+0.9**
BRSE					**Sn**	**05 26 31.4**	**-0.9**
BRSE	**Bradley Lake S**	**3.61**	**348**	P	**Pn**	**05 25 50.6**	**+0.9**
	baz=167						
BRSE				S	**Sn**	**05 26 31.4**	**-0.9**
	baz=167						
BRLK	**Bradley Lake**	**3.65**	**347**	Pn	**Pn**	**05 25 51.1**	**+0.8**
BRLK				IAML		05 26 21.2	
	comp=E,39nm,1.5s						
HOM	**Homer**	**3.66**	**341**	Pn	**Pn**	**05 25 51.8**	**+1.3**
SEW	**Seward**	**3.89**	**359**		**Pn**	**05 25 53.9**	**+0.4**
SEW					**Sn**	**05 26 37.5**	**-1.7**
SEW	**Seward**	**3.89**	**359**	P	**Pn**	**05 25 53.9**	**+0.4**
	baz=178						
SEW				S	**Sn**	**05 26 37.5**	**-1.7**
	baz=178						
P23K	**Montague Islan**	**3.91**	**14**		**Sn**	**05 26 36.4**	**-3.4**
P23K	**Montague Islan**	**3.91**	**14**	S	**Sn**	**05 26 36.4**	**-3.4**
	baz=195						
P19K	**Oil Pt**	**4.03**	**330**		**Pn**	**05 25 56.9**	**+1.4**
P19K					**Sn**	**05 26 40.3**	**-2.4**
P19K	**Oil Pt**	**4.03**	**330**	IAML		05 26 47.6	
	comp=N,81nm,1.4s						
P19K				IAML		05 26 47.8	
	comp=E,88nm,1.4s						
P19K	**Oil Pt**	**4.03**	**330**	P	**Pn**	**05 25 56.9**	**+1.4**
	baz=147						
P19K				S	**Sn**	**05 26 40.3**	**-2.4**
	baz=147						
CNTC	**Contact Creek**	**4.13**	**302**		**Pn**	**05 25 58.5**	**+1.5**
Q17K	**Contact Creek**	**4.13**	**302**	P	**Pn**	**05 25 58.4**	**+1.5**
	baz=117						
O22K	**Cooper Landing**	**4.27**	**357**		**Pn**	**05 26 00.2**	**+1.4**
IVE	**Iliamna Volcan**	**4.29**	**334**		**Pn**	**05 26 00.1**	**+1.0**
HIN	**Hinchinbrook I**	**4.43**	**18**		**Pn**	**05 26 02.0**	**+0.9**
HIN	**Hinchinbrook I**	**4.43**	**18**	IAML		05 26 53.2	
	comp=E,67nm,1.3s						
HIN				IAML		05 26 56.9	
	comp=N,66nm,1.4s						
P18K	**Big Mountain,**	**4.49**	**317**		**Pn**	**05 26 02.8**	**+0.9**
P18K	**Big Mountain,**	**4.49**	**317**	P	**Pn**	**05 26 02.8**	**+0.9**
	baz=133						
KAIM	**Kayak Island**	**4.52**	**33**	Pn	**Pn**	**05 26 04.8**	**+2.6**
KAIM				IAML		05 27 07.1	
	comp=E,72nm,1.5s						
KAIM				IAML		05 27 17.8	
	comp=N,58nm,1.1s						
RED	**Redoubt Volcan**	**4.59**	**338**		**Pn**	**05 26 04.1**	**+0.9**
RSO	**Redoubt South**	**4.62**	**338**	Pn	**Pn**	**05 26 04.4**	**+0.6**
RDT	**Redoubt**	**4.66**	**341**		**Pn**	**05 26 04.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.71**	**22**		**Pn**	**05 26 06.3**	**+1.4**
EYAK	**Cordova Ski Ar**	**4.71**	**22**	P	**Pn**	**05 26 06.3**	**+1.4**
	baz=204						
O19K	**Port Alsworth**	**4.79**	**328**		**Pn**	**05 26 07.2**	**+1.3**
O19K	**Port Alsworth**	**4.79**	**328**	IAML		05 27 10.6	
	comp=N,49nm,0.5s						
O19K	**Port Alsworth**	**4.79**	**328**	P	**Pn**	**05 26 07.2**	**+1.3**
	baz=144						
O18K	**Koktuh Hills**	**4.81**	**322**	Pn	**Pn**	**05 26 06.7**	**+0.4**
O18K				IAML		05 27 04.0	
	comp=E,17nm,1.4s						
O18K				IAML		05 27 15.6	
	comp=N,18nm,1.4s						
RAGM	**Ragged Mountai**	**4.83**	**28**	Pn	**Pn**	**05 26 08.7**	**+2.2**
RC01	**Rabbit Creek A**	**4.88**	**357**	Pn	**Pn**	**05 26 08.2**	**+1.0**
RC01				IAML		05 26 46.4	
	comp=E,17nm,1.4s						
RC01				IAML		05 27 08.6	
	comp=N,22nm,1.0s						
BERG	**Berg Lake**	**5.11**	**33**		**Pn**	**05 26 11.5**	**+1.2**
BERG	**Berg Lake**	**5.11**	**33**	IAML		05 27 23.8	
	comp=N,50nm,1.4s						
N20K	**Mount Spurr**	**5.22**	**344**	P	**Pn**	**05 26 12.4**	**+0.6**
	baz=162						
SPCR	**Spurr Chakacha**	**5.22**	**344**		**Pn**	**05 26 12.4**	**+0.6**
BMRM	**Bremner River**	**5.34**	**25**		**Pn**	**05 26 15.2**	**+1.6**
BMRM	**Bremner River**	**5.34**	**25**	P	**Pn**	**05 26 15.2**	**+1.6**
	baz=209						
BMRM				S	**Sn**	**05 27 14.5**	**-0.7**
	baz=209						
N19K	**Bonanza Creek**	**5.34**	**332**		**Pn**	**05 26 14.8**	**+1.2**
N19K	**Bonanza Creek**	**5.34**	**332**	P	**Pn**	**05 26 14.8**	**+1.2**
	baz=147						
PMR	**Palmer**	**5.38**	**1**	Pn	**Pn**	**05 26 15.1**	**+1.1**
STLK	**Strandline Lak**	**5.45**	**347**		**Pn**	**05 26 16.1**	**+1.0**
BARK	**Barkley Ridge**	**5.51**	**38**		**Pn**	**05 26 17.3**	**+1.5**
KLU	**Klutina**	**5.56**	**17**		**Pn**	**05 26 18.1**	**+1.5**
KLU	**Klutina**	**5.56**	**17**	P	**Pn**	**05 26 18.1**	**+1.5**
	baz=199						
SML	**Sawmill**	**5.62**	**5**	Pn	**Pn**	**05 26 18.7**	**+1.3**
N18K	**Kilae Creek**	**5.65**	**325**		**Pn**	**05 26 18.5**	**+0.7**
N18K	**Kilae Creek**	**5.65**	**325**	P	**Pn**	**05 26 18.5**	**+0.7**
	baz=139						
SCM	**Sheep Creek Mo**	**5.71**	**9**	Pn	**Pn**	**05 26 21.5**	**+2.8**
O16K	**Kokwok River B**	**5.78**	**309**	Pn	**Pn**	**05 26 21.9**	**+2.4**
VRDI	**Verde Repeater**	**5.86**	**29**	Pn	**Pn**	**05 26 23.0**	**+2.2**
SKT	**Skwentna**	**5.89**	**350**	Pn	**Pn**	**05 26 23.7**	**+2.7**
N25K	**Chitina, Valde**	**5.91**	**22**		**Pn**	**05 26 23.0**	**+1.5**
N25K	**Chitina, Valde**	**5.91**	**22**	P	**Pn**	**05 26 23.0**	**+1.5**
	baz=206						
KIAG	**Kiagna River**	**5.94**	**35**		**Pn**	**05 26 23.4**	**+1.6**
GLB	**Gilahina Butte**	**5.95**	**26**	Pn	**Pn**	**05 26 23.8**	**+1.9**
N17K	**Nushagak Hills**	**5.99**	**319**	Pn	**Pn**	**05 26 23.6**	**+1.3**
M20K	**Styx River**	**6.01**	**342**	Pn	**Pn**	**05 26 23.4**	**+0.6**
MCARA	**McCarthy VSAT**	**6.11**	**30**		**Sn**	**05 27 31.4**	**-2.4**
MCARA	**McCarthy VSAT**	**6.11**	**30**	Pn	**Pn**	**05 26 26.6**	**+2.6**
MCARA	**McCarthy VSAT**	**6.11**	**30**	S	**Sn**	**05 27 31.4**	**-2.4**
	baz=214						
M24K	**Tolsona, Glenn**	**6.11**	**14**	Pn	**Pn**	**05 26 26.8**	**+2.7**
PCA	**Pinnacle**	**6.15**	**47**		**Pn**	**05 26 26.0**	**+1.3**
PINM	**Pinnacle**	**6.15**	**47**	P	**Pn**	**05 26 26.0**	**+1.3**
	baz=234						
BARN	**Barnard Glacie**	**6.27**	**36**		**Pn**	**05 26 27.8**	**+1.4**
M19K	**Big River Lodg**	**6.27**	**337**	Pn	**Pn**	**05 26 27.0**	**+0.8**
PNL	**Peninsula**	**6.29**	**53**		**Pn**	**05 26 27.7**	**+1.2**
PNL	**Peninsula**	**6

IDC 30 06:16:59.8±7.3, 17°.65S×179°.73W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=305.4km s-min=112.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.44**	**259**	P	P	06 25 05.5	+0.7
	0.2nm,0.3s,baz=95,slow=7.5,SNR=6.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**43.65**	**254**	P	P	06 25 05.6	-0.9
	0.2nm,0.4s,baz=76,slow=8.8,SNR=6.0						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**139.74**	**332**	PKP	PKPdf	06 36 29.0	-0.6
	0.5nm,0.4s,baz=72,slow=3.0,SNR=3.1						

*NEIC **30** 06:24:42.9±1.6, 47°.18N±0°.02×122°.02W±0°.03, h18km±3km, Error ellipse: s-maj=4.2km s-min=0.6km az=127.0*
*PNSN **30** 06:24:43.4, 47°.17N×121°.99W, h15km, MD2.4, Fault plane solution: NP1:φ=90.00000°, δ=75.00000°, λ=40.00000°.*

SEA 30 06:24:43.4±1.4, 47.17N±0°.02×121.99W±0°.03, h15km±3km, ML2.4/26, ML2.5/38(NEIC), Error ellipse: s-maj=3.9km s-min=1.4km az=123.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D05A	**Enumclaw**	**0.02**	**353**		Pg	06 24 46.3	+0.3
D05A					Sg	06 24 48.8	+1.0
D05A	**Enumclaw**	**0.02**	**353**	IAML		06 24 48.8	
	comp=N,660nm,0.4s						
D05A				IAML		06 24 49.0	
	comp=E,367nm,0.3s						
GSM	**Grass Mountain**	**0.14**	**74**		Pg	06 24 47.0	-0.2
GSM					Sg	06 24 49.9	+0.1
SMNR	**Sumner High Sc**	**0.17**	**283**		Pg	06 24 47.8	+0.1
SMNR					Sb	06 24 52.2	+0.5
RAW	**Raver**	**0.17**	**12**		Pg	06 24 47.5	-0.1
RAW					Sb	06 24 51.1	-0.5
PCEP	**Pierce County**	**0.21**	**255**		Pg	06 24 48.1	-0.1
RVC	**Mount Rainier-**	**0.23**	**178**		Pg	06 24 48.2	-0.3
PAYL	**Puyallup Schoo**	**0.23**	**277**		Pg	06 24 48.4	0.0
PAYL					Sb	06 24 53.2	+0.1
GHW	**Garrison Hill**	**0.23**	**237**		Pg	06 24 48.0	-0.5
GHW					Sg	06 24 51.9	-0.1
B941	**Kapowsin**	**0.24**	**222**		Pg	06 24 48.1	-0.6
B941					Sg	06 24 51.9	-0.3
RATT	**Rattlesnake La**	**0.29**	**26**		Pg	06 24 49.1	-0.4
OBSR	**Observation Ro**	**0.29**	**156**		Pg	06 24 49.4	-0.3
OBSR					Sg	06 24 54.3	+0.3
CDMR	**Cedar Moraine**	**0.30**	**31**		Pg	06 24 49.3	-0.4
CDMR					Sg	06 24 54.1	+0.2
FMW	**Mount Fremont**	**0.32**	**138**		Pg	06 24 49.6	-0.5
RCS	**Mount Rainier-**	**0.34**	**149**		Pg	06 24 50.2	-0.4
REMR	**Mount Rainier-**	**0.36**	**164**		Pg	06 24 50.3	-0.6
VVHS	**Vashon High Sc**	**0.41**	**309**		Pg	06 24 51.4	-0.3
SR41	**SR410 Landslid**	**0.42**	**132**		Pg	06 24 51.2	-0.6
SR41					Sg	06 24 57.2	-0.3
SP2	**Seward Park 2**	**0.43**	**335**		Pg	06 24 52.0	0.0
LON	**Longmire**	**0.43**	**164**		Pg	06 24 51.3	-0.8
LON				IAML		06 24 57.8	
	comp=E,679nm,0.2s						
LON	**Longmire**	**0.43**	**164**		Pg	06 24 51.3	-0.8
LON	**Longmire**	**0.43**	**164**		Sg	06 24 57.2	-0.8
NOWS	**NOAA--Sand Poi**	**0.55**	**341**		Pb	06 24 54.8	0.0
NOWS					Sn	06 25 05.0	-0.7
C05A	**Tolt Reservoir**	**0.56**	**21**		Pg	06 24 53.6	-1.0
GMW	**Gold Mountain**	**0.66**	**305**		Pg	06 24 55.1	-1.3
EGRN	**Evergreen Coll**	**0.69**	**262**		Pg	06 24 55.8	-0.9
EGRN					Sg	06 25 05.8	0.0
LYNC	**Lynnwood City**	**0.69**	**342**		Pg	06 24 56.5	-0.4
GNW	**Green Mountain**	**0.70**	**305**		Pg	06 24 55.4	-1.6
LCW	**Lucas Creek**	**0.70**	**225**		Pg	06 24 55.7	-1.3
BEVT	**Boeing Everett**	**0.78**	**346**		Sg	06 25 08.1	-0.7
CPW	**Capitol Peak**	**0.81**	**257**		Pg	06 24 57.8	-1.4
CPW					Sg	06 25 09.1	-0.7
RRHS	**Rochester High**	**0.81**	**243**		Pg	06 24 58.0	-1.1
C04A	**Brinnon**	**0.87**	**310**		Pb	06 24 58.4	-1.8
C04A					Sb	06 24 58.5	-1.1
ERK	**Elk Rock**	**0.90**	**196**		Pb	06 24 58.9	-1.8
B013	**Quilcene**	**0.90**	**316**		Pb	06 24 58.9	-1.8
B013					Sb	06 25 11.3	-1.2
LTY	**Liberty**	**0.90**	**84**		Pb	06 24 59.3	-1.5
LTY					Sb	06 25 11.3	-1.3
LTY	**Liberty**	**0.90**	**84**	IAML		06 25 12.0	
	comp=E,124nm,0.3s						
LTY				IAML		06 25 12.0	
	comp=N,116nm,0.3s						
TBM	**Table Mountain**	**0.95**	**89**		Pb	06 25 00.9	-0.7
SHW	**Mount Saint He**	**0.99**	**190**		Pb	06 25 01.0	-1.3
B203	**Quarry, Mount**	**1.03**	**194**		Pb	06 25 01.2	-1.7
JK	**June Lake**	**1.03**	**187**		Pb	06 25 01.5	-1.5
JCW	**Jim Creek**	**1.03**	**2**		Pb	06 25 01.6	-1.4
SQM	**Sequim**	**1.16**	**322**		Pn	06 25 03.6	-1.4
ETW	**Entiat**	**1.21**	**68**		Pn	06 25 04.8	-1.1
WISH	**Wishkah**	**1.22**	**268**	Pn	Pn	06 25 05.5	-0.4
WISH				IAML		06 25 23.0	
	comp=E,116nm,3.0s						
E03A	**Lebam**	**1.25**	**241**		Pn	06 25 04.9	-1.4
E03A	**Lebam**	**1.25**	**241**	IAML		06 25 22.2	
	comp=N,64nm,1.6s						
E03A				IAML		06 25 34.1	
	comp=E,84nm,2.3s						
B019	**Raymond**	**1.25**	**246**		Pn	06 25 05.5	-0.8
F04D	**Rainier, OR**	**1.29**	**213**		Pn	06 25 05.9	-1.1
MXC	**Moxie City**	**1.30**	**116**		Pn	06 25 06.9	-0.2
MXC				IAML		06 25 26.4	
	comp=N,89nm,0.4s						
NLWA	**Neilton Lookou**	**1.30**	**281**	Pn	Pn	06 25 07.0	-0.1
NLWA				IAML		06 25 27.0	
	comp=N,58nm,0.5s						
RADR	**Rader Ridge**	**1.45**	**240**	IAML		06 26 01.0	
	comp=N,105nm,1.9s						
WTV	**Waterville**	**1.48**	**68**		Pb	06 25 10.3	-0.4
E07A	**Sunnyside**	**1.58**	**112**	Pn	Pn	06 25 11.6	+0.6
E07A				IAML		06 25 33.6	
	comp=N,80nm,0.4s						
E07A				IAML		06 25 35.6	
	comp=E,74nm,0.3s						
MCW	**Mount Constitu**	**1.62**	**340**		Pn	06 25 11.0	-0.5
MBW	**Mount Baker**	**1.62**	**2**		Pn	06 25 11.8	+0.2
B011	**North Saanich**	**1.78**	**327**		Pn	06 25 13.1	-0.5
PGC	**Sidney**	**1.78**	**327**	Pn	Pn	06 25 13.2	-0.5
PGC				IAML		06 25 43.0	
	comp=E,46nm,2.8s						
PGC				IAML		06 26 01.5	
	comp=N,39nm,3.7s						
HAWA	**Hanford**	**1.85**	**114**	Pn	Pn	06 25 15.3	+0.6
HAWA				IAML		06 25 40.8	
	comp=N,46nm,0.7s						
F07A	**Phinny Hill Vi**	**1.91**	**131**	Pn	Pb	06 25 16.7	-1.2
F07A				IAML		06 25 44.4	
	comp=N,49nm,0.4s						
F07A				IAML		06 25 44.4	
	comp=E,39nm,0.3s						
G06A	**Carlson Farm,**	**2.15**	**154**	Pn	Pn	06 25 19.0	+0.2
G03D	**McMinnville, O**	**2.15**	**205**	Pn	Pn	06 25 18.8	0.0
CLRS	**Cowichan Lake**	**2.19**	**320**	Pn	Pn	06 25 18.8	-0.5
CLRS				IAML		06 26 15.1	
	comp=N,42nm,4.1s						
G08A	**Pilot Rock**	**2.82**	**131**		Pn	06 25 30.6	+2.6
G08A	**Pilot Rock**	**2.82**	**131**	IAML		06 26 21.3	
	comp=E,15nm,3.8s						

*IDC **30** 06:35:17.8±5.9, 5°.46S×152°.38E, h68km±51km, mb3.7/8, mbtmp4.0/9, ML2.0/1, MS3.2/10, Error ellipse: s-maj=54.6km s-min=29.7km az=119.0*
*NEIC **30** 06:35:17.7±1.2, 5°.27S±0°.08×152°.44E±0°.02, h47km±10km, mb4.5/33, Error ellipse: s-maj=11.6km s-min=3.2km az=180.0*

ISC 30 06:35:15.7±1.1, 5°.3S±0°.1×152°.5E±0°.2, h40km, n59, σ1°08/51, mb4.5/25, MS3.2/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.17**	**345**		**Pn**	**06 35 36.8**	**+1.2**
PMG	**Port Moresby**	**6.64**	**232**	Pn	**Pn**	**06 36 52.7**	**+1.9**
PMG	**Port Moresby**	**6.64**	**232**	P	**Pn**	**06 36 52.1**	**+1.3**
	2.0nm,0.3s,baz=18,slow=5.7,SNR=5.1						
PMG				S	**Sn**	**06 38 03.1**	**-2.0**
	36nm,0.6s,baz=347,slow=18,SNR=6.5						
	32nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.86**	**202**	LR	LR	06 44 21.3	
	comp=Z,109nm,19.7s,baz=76,slow=35						
WB0	**Warramunga Arr**	**22.70**	**229**	P	**P**	**06 40 14.5**	**+0.3**
WB0				IAmb	IAmb	06 40 37.0	
	comp=Z,25nm,1.4s						
WR0	**Warramunga Arr**	**22.70**	**229**	P	**P**	**06 40 14.4**	**+0.2**
WB2	**Warramunga Arr**	**22.83**	**229**	P	**P**	**06 40 15.8**	**+0.3**
WB2				IAmb	IAmb	06 40 25.6	
	comp=Z,23nm,1.3s						
WRA	**Warramunga Arr**	**22.84**	**229**	P	**P**	**06 40 17.3**	**+1.6**
WRA	**Warramunga Arr**	**22.84**	**229**	P	**P**	**06 40 14.1**	**-1.6**
	comp=Z,2.6nm,0.7s,baz=53,slow=9.9,SNR=14						
	comp=Z,2.6nm,0.7s						
AS31	**Alice Springs**	**25.53**	**223**	P	**P**	**06 40 41.3**	**+0.4**
ASAR	**Alice Springs**	**25.53**	**223**	P	**P**	**06 40 41.0**	**+0.1**
ASAR	**Alice Springs**	**25.53**	**223**	P	**P**	**06 40 39.2**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=62,slow=8.1,SNR=14						
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**28.30**	**200**	LR	LR	06 52 14.2	
	comp=Z,61nm,20.2s,baz=24,slow=36						
FITZ	**Fitzroy Crossi**	**29.11**	**242**	P	**P**	**06 41 14.5**	**+1.5**
FITZ				IAmb	IAmb	06 41 15.6	
	comp=Z,15nm,1.5s						
KAPI	**Kappang**	**32.57**	**269**	P	**P**	**06 41 43.5**	**-0.1**
JOW	**Kunigami**	**39.63**	**325**	LR	LR	06 57 07.3	
	comp=Z,21nm,21.8s,baz=338,slow=33						
RPZ	**Rata Peaks**	**41.59**	**160**	LR	LR	06 58 37.0	
	comp=Z,84nm,19.0s,baz=283,slow=34						
NWAO	**Narrogin (SRO)**	**42.78**	**226**	LR	LR	07 02 29.3	
	comp=Z,44nm,18.7s,baz=10.0,slow=38						
MJAR	**Matsushiro Arr**	**43.74**	**343**	LR	LR	07 00 15.9	
	comp=Z,32nm,18.2s,baz=164,slow=34						
KLR	**Kul'dur**	**57.26**	**344**	LR	LR	07 08 41.4	
	comp=Z,14nm,18.2s,baz=360,slow=35						
MA2	**Magadan**	**64.71**	**359**	LR	LR	07 13 42.2	
	comp=Z,13nm,19.0s,baz=106,slow=36						
SONM	**Songino Array**	**66.59**	**328**	P	**P**	**06 46 01.7**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=142,slow=7.4,SNR=4.3						
SONM				LR	LR	07 16 18.4	
	comp=Z,15nm,18.6s,baz=148,slow=37						
	comp=Z,0.9nm,0.8s						
YAK	**Yakutsk**	**69.42**	**349**	LR	LR	07 15 01.6	
	comp=Z,11nm,21.9s,baz=72,slow=34						
SVW2	**Sparrevohn**	**77.44**	**23**	P	**P**	**06 47 08.0**	**+1.4**
F17K	**Baldwin Pennin**	**78.93**	**17**	P	**P**	**06 47 16.1**	**+1.5**
C16K	**Lisburne Hills**	**79.11**	**15**	P	**P**	**06 47 16.2**	**+0.5**
C16K				IAmb	IAmb	06 47 17.2	
	comp=Z,7.6nm,1.2s						
G18K	**Tagagawik**	**79.35**	**18**	P	**P**	**06 47 18.0**	**+0.9**
G18K				IAmb	IAmb	06 47 18.7	
	comp=Z,8.8nm,1.2s						
E18K	**Tukpahlearik C**	**79.78**	**17**	P	**P**	**06 47 20.4**	**+1.0**
E18K				IAmb	IAmb	06 47 21.5	
	comp=Z,7.6nm,1.2s						
H19K	**Roundabout Mou**	**79.83**	**19**	P	**P**	**06 47 20.5**	**+0.9**
G19K	**Purcell Mounta**	**80.00**	**19**	P	**P**	**06 47 21.9**	**+1.3**
G19K				IAmb	IAmb	06 47 22.8	
	comp=Z,8.1nm,1.1s						
CAST	**Castle Rocks**	**80.12**	**22**	P	**P**	**06 47 21.6**	**+0.3**
CAST				IAmb	IAmb	06 47 21.7	
	comp=Z,7.3nm,1.2s						
F19K	**Shaleruckik Mo**	**80.23**	**18**	P	**P**	**06 47 22.6**	**+0.8**
F19K				IAmb	IAmb	06 47 23.1	
	comp=Z,4.2nm,0.8s						
C18K	**Utukok River**	**80.45**	**16**	P	**P**	**06 47 24.0**	**+1.0**
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**	**06 47 23.1**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=111,slow=5.3,SNR=4.6						
	comp=Z,0.6nm,0.8s						
KTH	**Kantishna Hill**	**80.63**	**22**	P	**P**	**06 47 24.1**	**0.0**
KTH				IAmb	IAmb	06 47 25.2	
	comp=Z,5.5nm,1.1s						
SML	**Sawmill**	**80.74**	**24**	P	**P**	**06 47 25.3**	**+0.6**
E19K	**Redstone River**	**80.79**	**17**	P	**P**	**06 47 26.1**	**+1.3**
E19K				IAmb	IAmb	06 47 27.0	
	comp=Z,7.4nm,0.8s						
TRF	**Thorofare Moun**	**80.81**	**23**	P	**P**	**06 47 24.9**	**-0.3**
TRF				IAmb	IAmb	06 47 53.5	
	comp=Z,13nm,1.5s						
IMAR	**Indian Mountai**	**80.99**	**20**	P	**P**	**06 47 26.9**	**+1.0**
F20K	**Avaraart Lake**	**80.99**	**18**	P	**P**	**06 47 27.4**	**+1.5**
C19K	**Lookout Ridge**	**81.19**	**16**	P	**P**	**06 47 28.2**	**+1.2**
C19K				IAmb	IAmb	06 47 28.7	
	comp=Z,5.0nm,0.7s						
D19K	**Kuna River**	**81.20**	**16**	P	**P**	**06 47 27.8**	**+0.8**
ZALV	**Zalesovo Beam**	**81.40**	**326**	P	**P**	**06 47 27.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=120,slow=5.2,SNR=1.7						
	comp=Z,0.5nm,0.3s						
MLY	**Manley**	**81.50**	**21**	P	**P**	**06 47 29.1**	**+0.5**
M24K	**Tolsona, Glenn**	**81.78**	**25**	P	**P**	**06 47 31.5**	**+1.2**
IL31		**82.77**	**22**	P	**P**	**06 47 36.6**	**+1.4**
ILAR	**Eielson Array**	**82.77**	**22**	P	**P**	**06 47 34.1**	**-1.2**
ILAR	**Eielson Array**	**82.77**	**22**	P	**P**	**06 47 34.9**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=260,slow=5.0,SNR=10						
	comp=Z,1.9nm,1.0s						
J25K	**Salcha River,**	**83.27**	**23**	P	**P**	**06 47 38.2**	**+0.3**
M27K	**Edge Creek, AK**	**83.70**	**25**	P	**P**	**06 47 41.5**	**+1.2**
M27K				IAmb	IAmb	06 48 14.6	
	comp=Z,9.3nm,1.4s						
BCAR	**Beaver Creek A**	**84.03**	**25**	P	**P**	**06 47 42.9**	**+1.0**
BMAR	**Burnt Mountain**	**84.86**	**20**	P	**P**	**06 47 46.9**	**+0.9**
D25K	**Kavik River**	**85.16**	**18**	P	**P**	**06 47 48.2**	**+0.7**
DAWY	**Dawson**	**85.41**	**24**	P	**P**	**06 47 49.3**	**+0.5**
DAWY				IAmb	IAmb	06 48 02.8	
	comp=Z,6.2nm,1.5s						
J30M	**Hart River**	**86.83**	**24**	P	**P**	**06 47 56.9**	**+1.0**
J30M				IAmb	IAmb	06 48 09.6	
	comp=Z,4.2nm,1.0s						
G31M	**Satah River**	**88.38**	**22**	P	**P**	**06 48 03.7**	**+0.7**
G31M				IAmb	IAmb	06 48 25.1	
	comp=Z,4.6nm,1.3s						
BVAR	**Borovoye Array**	**89.46**	**323**	P	**P**	**06 48 07.2**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=90,slow=5.9,SNR=5.8						
	comp=Z,0.9nm,0.4s						
YKA	**Yellowknife Ar**	**96.05**	**28**	P	**P**	**06 48 37.4**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=269,slow=4.5,SNR=4.3						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.14**	**287**	PKPbc	**PKPbc**	**06 55 02.1**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=94,slow=3.4,SNR=4.6						

IDC 30 06:41:43.5±3.3, 54°.28N×87°.19E, h0km, mbtmp3.3/2, ML2.5/2, Error ellipse: s-maj=30.3km s-min=18.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**258**	I	I	06 51 50.0	
	0.1nm,0.8s,baz=78,slow=349,SNR=19						
ZALV	**Zalesovo Beam**	**1.44**	**258**	Pg	Pn	06 42 08.4	-2.4
	1.0nm,0.3s,baz=72,slow=15,SNR=9.8						
ZALV				Lg	Lg	06 42 29.1	
	1.3nm,0.3s,baz=77,slow=31,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.44**	**239**	Pn	Pn	06 43 20.6	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=3.9						
	2.6nm,0.2s						
MKAR	**Makanchi Array**	**8.12**	**205**	Pn	Pn	06 43 43.9	+1.3
	0.1nm,0.3s,baz=27,slow=13,SNR=5.3						
	0.2nm,0.4s						

IDC 30 06:59:41.9±7.4, 55°.82N×86°.33E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=76.4km s-min=30.6km az=28.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.07**	**206**	I	I	07 12 50.0	
	baz=26,slow=329,SNR=1.3						
ZALV	**Zalesovo Beam**	**2.07**	**206**	Pn	Pn	07 00 18.1	+0.3
	1.9nm,0.3s,baz=27,slow=18,SNR=12						
ZALV				Sn	Sn	07 00 44.9	+0.6
	0.9nm,0.3s,baz=22,slow=26,SNR=3.9						
	2.7nm,0.3s						
KURBB	**Kurchatov Arra**	**7.00**	**225**	Pn	Pn	07 01 25.0	-0.5
	0.1nm,0.3s,baz=43,slow=14,SNR=4.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**9.38**	**197**	Pn	Pn	07 01 58.6	+0.3
	0.1nm,0.3s,baz=20,slow=15,SNR=2.2						
	0.1nm,0.3s						

IDC 30 07:07:23.9±23.0, 6°.09S×151°.16E, h231km±191km, mb3.0/2, mbtmp3.5/2, MS3.9/1, Error ellipse: s-maj=151.7km s-min=112.8km az=100.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**228**	P	P	07 11 53.4	-0.4
	1.3nm,0.7s,baz=53,slow=9.8,SNR=9.0						
WRA				LR	LR	07 20 59.4	
	comp=Z,309nm,21.1s,baz=315,slow=38						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**24.11**	**222**	P	P	07 12 19.2	+0.4
	0.6nm,0.6s,baz=59,slow=9.0,SNR=9.0						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc	PKPbc	07 26 45.4	-0.5
	0.2nm,0.5s,baz=96,slow=4.3,SNR=1.5						

*NEIC **30** 07:09:23.3±2.5, 14°.99N±0°.06×94°.26W±0°.04, h10km±2km, mb4.3/14, Md4.4/55(MEX), Error ellipse: s-maj=10.6km s-min=7.1km az=179.0*
*IDC **30** 07:09:24.4±5.2, 15°.73N×93°.39W, h0km, mb3.8/7, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=144.3km s-min=33.8km az=27.0*
*MEX **30** 07:09:26.1±1.2, 14°.94N×94°.30W, h17km±10km, MD4.4*

ISC 30 07:09:24.7±2.3, 14°.92N±0°.05×94°.29W±0°.03, h29km±17km, n80, σ2°.27/118, mb4.0/12, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.30**	**53**		**Pn**	**07 09 45.7**	**-1.2**
PCIG					**Sn**	**07 10 00.8**	**-2.4**
PCIG		**1.30**	**53**	*i* P	**Pn**	**07 09 45.7**	**-1.2**
PCIG				*i* S	**Sn**	**07 10 00.8**	**-2.4**
CARR	**Arriaga**	**1.37**	**15**	*i* P	**Pn**	**07 09 46.6**	**-1.2**
CARR				*i* S	**Sn**	**07 10 02.1**	**-2.9**
NILT	**Santiago Nilte**	**1.66**	**349**	*i* P	**Pn**	**07 09 51.0**	**-0.9**
NILT				*i* S	**Sn**	**07 10 10.2**	**-2.1**
HUIG	**Huatulco**	**1.94**	**296**		**Pn**	**07 09 55.9**	**+0.1**
HUIG					**Sn**	**07 10 16.7**	**-2.6**
HUIG	**Huatulco**	**1.94**	**296**	*i* P	**Pn**	**07 09 55.9**	**+0.1**
HUIG				*i* S	**Sn**	**07 10 16.7**	**-2.6**
PATR	**El Naranjo**	**2.00**	**84**	*e*P	**Pn**	**07 09 56.1**	**-0.7**
PAVE	**Pavencul**	**2.06**	**82**	*i* P	**Pn**	**07 09 57.1**	**-0.5**
PAVE				*i* S	**Sn**	**07 10 21.8**	**-0.7**
CHUJ	**Union Juarez**	**2.12**	**85**	*e*P	**Pn**	**07 09 57.7**	**-0.5**
CHUJ				*i* S	**Sn**	**07 10 22.7**	**-1.2**
TGIG		**2.16**	**31**		**Pn**	**07 09 59.2**	**+0.4**
TGIG					**Sn**	**07 10 24.3**	**-0.4**
TGIG		**2.16**	**31**	*e*P	**Pn**	**07 09 59.2**	**+0.4**
TGIG				*e*S	**Sn**	**07 10 24.3**	**-0.4**
CMIG	**Matias Romero**	**2.23**	**345**		**Pn**	**07 09 59.7**	**0.0**
CMIG					**Sn**	**07 10 25.1**	**-1.2**
CMIG	**Matias Romero**	**2.23**	**345**	Pn	**Pn**	**07 09 59.8**	**+0.1**
	147nm,0.3s,baz=180,slow=11,SNR=1590						
CMIG				Sn	**Sn**	**07 10 23.9**	**-2.4**
	178nm,0.3s,baz=155,slow=13,SNR=33						
CMIG	**Matias Romero**	**2.23**	**345**	*i* P	**Pn**	**07 09 59.7**	**0.0**
CMIG				*e*S	**Sn**	**07 10 25.1**	**-1.2**
UXUV	**UXUV**	**2.39**	**3**	*i* P	**Pn**	**07 10 03.0**	**+1.1**
UXUV				*e*S	**Sn**	**07 10 30.6**	**+0.5**
CCIG	**Comitan**	**2.48**	**57**	*e*P	**Pn**	**07 10 04.8**	**+1.5**
CCIG				*e*S	**Sn**	**07 10 33.7**	**+1.0**
RTAL	**Retalhuleu**	**2.54**	**99**		**Pn**	**07 10 03.6**	**-0.5**
HUEH	**Huehuetenango**	**2.72**	**81**	Pn	**Pn**	**07 10 08.3**	**+1.6**
PEIG	**Puerto Escondi**	**2.95**	**292**		**Pn**	**07 10 10.3**	**+0.7**
PEIG					**Sn**	**07 10 39.4**	**-4.8**
PEIG	**Puerto Escondi**	**2.95**	**292**	*e*P	**Pn**	**07 10 10.3**	**+0.7**
PEIG				*e*S	**Sn**	**07 10 39.4**	**-4.8**
TUIG	**Tuzandepetl**	**3.10**	**358**	*e*P	**Pn**	**07 10 12.2**	**+0.6**
TUIG				*i* S	**Sn**	**07 10 47.6**	**-0.1**
NEUV	**Arroyo Zacate**	**3.13**	**333**	*e*P	**Pn**	**07 10 12.2**	**+0.1**
NEUV				*i* S	**Sn**	**07 10 48.5**	**0.0**
OXIG	**Oaxaca**	**3.17**	**313**		**Pn**	**07 10 15.5**	**+2.6**
OXIG					**Sn**	**07 10 50.7**	**+0.8**
VHO	**Vista Hermosa**	**3.17**	**313**	*e*P	**Pn**	**07 10 15.5**	**+2.6**
VHO				*e*S	**Sn**	**07 10 50.7**	**+0.8**
YOIG	**Yosondua**	**3.67**	**302**		**Pn**	**07 10 22.9**	**+3.0**
YOIG					**Sn**	**07 11 01.4**	**-1.0**
YOIG	**Yosondua**	**3.67**	**302**	*e*P	**Pn**	**07 10 22.9**	**+3.0**
YOIG				*e*S	**Sn**	**07 11 01.4**	**-1.0**
PMUV	**Sontecomapan**	**3.69**	**348**	*e*P	**Pn**	**07 10 18.6**	**-1.3**
PMUV				*e*S	**Sn**	**07 11 00.5**	**-2.0**
PNIG	**Pinotepa**	**3.97**	**292**		**Pn**	**07 10 25.3**	**+1.6**
PNIG					**Sn**	**07 11 05.3**	**-4.1**
PNIG	**Pinotepa**	**3.97**	**292**	*e*P	**Pn**	**07 10 25.3**	**+1.6**
PNIG				*e*S	**Sn**	**07 11 05.3**	**-4.1**
TXIG	**Tlaxiaco**	**4.07**	**305**		**Pn**	**07 10 28.3**	**+3.1**
TXIG					**Sn**	**07 11 11.9**	**-0.1**
TXIG	**Tlaxiaco**	**4.07**	**305**	*e*P	**Pn**	**07 10 28.3**	**+3.1**
TXIG				*e*S	**Sn**	**07 11 11.9**	**-0.1**
TOIG	**Toxpalan**	**4.13**	**320**		**Pn**	**07 10 29.6**	**+3.7**
TOIG					**Sn**	**07 11 18.2**	**+4.9**
TOIG	**Toxpalan**	**4.13**	**320**	*e*P	**Pn**	**07 10 29.6**	**+3.7**
TOIG				*e*S	**Sn**	**07 11 18.2**	**+4.9**
HLIG	**Huajuapan de L**	**4.44**	**311**		**Pn**	**07 10 33.7**	**

NVAR	Mina Array Bea	31.58	322	P	P	07 15 48.2	+3.2	
	comp=Z,1.2nm,0.8s,baz=136,slow=8.5,SNR=6.9 comp=Z,1.2nm,0.8s							
B35A	Bob, Littlefor	33.35	1	P	P	07 15 58.0	-2.2	
B35A				IAmb	IAmb	07 16 01.0		
	comp=Z,11nm,1.4s							
YKA	Yellowknife Ar	49.64	348	P	P	07 18 13.1	-0.2	
	comp=Z,1.0nm,0.9s,baz=153,slow=7.2,SNR=11 comp=Z,1.0nm,0.9s							
Q32M	Nakina River	52.14	336	P	P	07 18 30.1	-2.4	
ILAR	Eielson Array	61.13	337	P	P	07 19 36.7	+0.7	
	comp=Z,0.7nm,0.8s,baz=144,slow=4.9,SNR=7.3 comp=Z,0.7nm,0.8s							
BMAR	Burnt Mountain	61.67	340	P	P	07 19 40.7	+0.9	
H24K	Noodor Dome	62.00	338	P	P	07 19 43.1	+1.1	
H24K				IAmb	IAmb	07 20 16.3		
	comp=Z,3.1nm,1.5s							
J19K	Poorman	64.27	335	P	P	07 19 57.5	+0.6	
J16K	Anvik River	66.18	333	P	P	07 20 10.4	+1.0	
ARCES	ARCESS Array B	85.95	18	P	P	07 22 01.3	-0.5	
	comp=Z,4.2nm,1.0s,baz=298,slow=5.1,SNR=4.9 comp=Z,4.2nm,1.0s							

*NEIC **30** 07:11:01.4±1.3,56.°02N±0.°09×149.°3W±0.°1, h22km±10km, ML3.6/35, ML3.3(AEIC), Error ellipse: s-maj=14.0km s-min=8.4km az=168.0*
*AEIC **30** 07:11:04.5±1.7,55.°94N±0.°08×149.°3W±0.°1, h10km±8km, Error ellipse: s-maj=14.6km s-min=3.3km az=145.0*

ISC 30 07:10:58.3±1.8,55.°97N±0.°10×149.°26W±0.°07,h10km,n80,
σ1§44/83,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.56	301		Pn	07 11 40.8	+1.1
OHAK					Sn	07 12 09.1	-1.8
OHAK	Old Harbor	2.56	301	P	Pn	07 11 40.8	+1.1
	baz=117						
OHAK				S	Sn	07 12 09.1	-1.8
	baz=117						
KDAK	Kodiak Island	2.58	316		Pn	07 11 41.5	+1.5
KDAK					Sn	07 12 09.7	-1.6
SII	Sitkinak Islan	2.81	284		Pn	07 11 44.1	+0.8
SII				IAML		07 12 24.6	
	comp=N,198nm,2.6s						
SII	Sitkinak Islan	2.81	284		Sn	07 12 15.6	-1.5
SII	Sitkinak Islan	2.81	284	IAML		07 12 08.9	
	comp=E,217nm,2.6s						
SII	Sitkinak Islan	2.81	284	P	Pn	07 11 44.1	+0.8
	baz=99						
SII				S	Sn	07 12 15.6	-1.5
	baz=99						
SYI	Shuyak Island	3.15	329		Pn	07 11 49.0	+1.2
SYI					Sn	07 12 24.9	-0.4
Q20K	Shuyak Island	3.15	329	P	Pn	07 11 49.0	+1.2
	baz=146						
Q20K				S	Sn	07 12 24.9	-0.4
	baz=146						
R18K	Karluk	3.28	301		Pn	07 11 50.7	+1.1
R18K	Karluk	3.28	301	IAML		07 12 19.7	
	comp=N,118nm,3.0s						
R18K				IAML		07 12 20.3	
	comp=E,123nm,2.8s						
R18K	Karluk	3.28	301	P	Pn	07 11 50.7	+1.1
	baz=116						
CNPM	China Poot	3.72	344		Pn	07 11 56.7	+1.0
CNPM					Sn	07 12 37.8	-1.7
Q19K	Cape Douglas,	3.80	323		Pn	07 11 58.4	+1.7
Q19K	Cape Douglas,	3.80	323	IAML		07 14 33.1	
	comp=N,124nm,2.0s						
Q19K	Cape Douglas,	3.80	323	P	Pn	07 11 58.4	+1.7
	baz=139						
BRSE	Bradley Lake S	3.86	349		Pn	07 11 58.2	+0.5
BRSE					Sn	07 12 41.0	-2.1
BRSE	Bradley Lake S	3.86	349	P	Pn	07 11 58.2	+0.5
	baz=168						
BRSE				S	Sn	07 12 41.0	-2.1
	baz=168						
BRLK	Bradley Lake	3.90	348		Pn	07 11 58.8	+0.5
BRLK	Bradley Lake	3.90	348		Sn	07 12 42.7	-1.4
BRLK	Bradley Lake	3.90	348	IAML		07 12 34.7	
	comp=N,61nm,3.4s						
HOM	Homer	3.91	342	Pn	Pn	07 11 57.9	-0.4
P23K	Montague Islan	4.16	13		Pn	07 12 02.3	+0.7
P23K	Montague Islan	4.16	13	P	Pn	07 12 02.3	+0.7
	baz=195						
P19K	Oil Pt	4.26	332	Pn	Pn	07 12 02.6	-0.5
P19K				IAML		07 12 57.5	
	comp=N,95nm,2.0s						
P19K				IAML		07 14 49.8	
	comp=E,108nm,2.5s						
CNTC	Contact Creek	4.28	305		Pn	07 12 05.5	+1.9
Q17K	Contact Creek	4.28	305	P	Pn	07 12 05.5	+1.9
	baz=119						
O22K	Cooper Landing	4.53	357	Pn	Pn	07 12 07.1	+0.3
O22K				IAML		07 13 18.8	
	comp=N,77nm,2.5s						
O22K				IAML		07 15 01.1	
	comp=E,78nm,1.4s						
HIN	Hinchinbrook I	4.67	17		Pn	07 12 09.5	+0.7
HIN	Hinchinbrook I	4.67	17	IAML		07 13 07.7	
	comp=E,81nm,2.3s						
P18K	Big Mountain,	4.69	319		Pn	07 12 10.4	+1.3
P18K	Big Mountain,	4.69	319	IAML		07 14 49.1	
	comp=N,38nm,3.4s						
P18K				IAML		07 14 51.6	
	comp=E,40nm,4.0s						
P18K	Big Mountain,	4.69	319	P	Pn	07 12 10.4	+1.3
	baz=134						
KAIM	Kayak Island	4.73	31		Pn	07 12 10.4	+0.9
KAIM	Kayak Island	4.73	31	P	Pn	07 12 10.5	+0.9
	baz=216						
RSO	Redoubt South	4.87	339	Pn	Pn	07 12 15.1	+3.5
EYAK	Cordova Ski Ar	4.95	21		Pn	07 12 13.9	+1.3
EYAK	Cordova Ski Ar	4.95	21	P	Pn	07 12 13.9	+1.3
	baz=204						
O18K	Koktuh Hills	5.02	323	Pn	Pn	07 12 14.6	+1.0
O18K				IAML		07 13 44.0	
	comp=N,44nm,3.1s						
O18K				IAML		07 15 25.8	
	comp=E,38nm,3.4s						
CHGN	Chignik	5.13	277	Pn	Pn	07 12 16.1	+1.1
CHGN				IAML		07 13 10.6	
	comp=E,65nm,2.5s						
CHGN				IAML		07 15 19.5	
	comp=N,40nm,1.5s						
RC01	Rabbit Creek A	5.14	357	Pn	Pn	07 12 15.2	+0.1
RC01				IAML		07 13 11.1	
	comp=N,32nm,4.0s						
RC01				IAML		07 13 28.3	
	comp=E,32nm,3.7s						
BERG	Berg Lake	5.32	31	Pn	Pn	07 12 18.6	+1.0
KNK	Knik Glacier	5.47	4		Pn	07 12 21.2	+1.4
KNK	Knik Glacier	5.47	4	P	Pn	07 12 21.2	+1.4
	baz=185						
BMRM	Bremner River	5.57	24		Pn	07 12 22.2	+1.0
BMRM	Bremner River	5.57	24	P	Pn	07 12 22.2	+1.0
	baz=208						
KLU	Klutina	5.80	16		Pn	07 12 25.7	+1.3
KLU	Klutina	5.80	16	P	Pn	07 12 25.7	+1.3
	baz=199						
SML	Sawmill	5.87	4		Pn	07 12 26.8	+1.5
SML	Sawmill	5.87	4	P	Pn	07 12 26.8	+1.5
	baz=185						
O16K	Kokwok River B	5.96	311	Pn	Pn	07 12 26.5	+0.1
SCM	Sheep Creek Mo	5.96	9		Pn	07 12 28.1	+1.6
SCM	Sheep Creek Mo	5.96	9	P	Pn	07 12 28.1	+1.6
	baz=191						
CHNA	Chernabura Isl	6.00	263	P	Pn	07 12 27.6	+0.7
	baz=74						
CNBA	Chernabura Isl	6.00	263		Pn	07 12 27.6	+0.6
VRDI	Verde Repeater	6.08	28	Pn	Pn	07 12 27.8	-0.5
SAMH	Samovar Hills	6.13	44		Pn	07 12 30.8	+1.9
KIAG	Kiagna River	6.14	33		Pn	07 12 30.3	+1.1
N25K	Chitina, Valde	6.15	21	Pn	Pn	07 12 30.6	+1.5
GLB	Gilahina Butte	6.17	25	Pn	Pn	07 12 31.2	+1.8
PCA	Pinnacle	6.32	45		Pn	07 12 32.5	+1.0
PINM	Pinnacle	6.32	45	P	Pn	07 12 32.5	+1.0
	baz=234						
MCARA	McCarthy VSAT	6.32	28	Pn	Pn	07 12 33.7	+2.3
M24K	Tolsona, Glenn	6.36	13		Pn	07 12 34.8	+2.9
M24K	Tolsona, Glenn	6.36	13	P	Pn	07 12 34.8	+2.9
	baz=196						
SDPT	Sand Point	6.38	269	Pn	Pn	07 12 33.7	+1.5
PNL	Peninsula	6.44	51		Pn	07 12 34.8	+1.8
PNL	Peninsula	6.44	51	P	Pn	07 12 34.8	+1.8
	baz=240						
BARN	Barnard Glacie	6.47	35		Pn	07 12 34.8	+1.2
BCPM	Bancas Point	6.49	48		Pn	07 12 35.2	+1.5
LOGN	Logan Glacier	6.52	38		Pn	07 12 35.5	+1.3
O15K	Ungalikthiuk R	6.53	304		Pn	07 12 36.2	+2.0
O15K	Ungalikthiuk R	6.53	304	P	Pn	07 12 36.2	+2.0
	baz=115						
O29M	Mount Kennedy	7.12	48		Pn	07 12 44.5	+1.9
O29M	Mount Kennedy	7.12	48	P	Pn	07 12 44.5	+1.9
	baz=238						
P29M	Windy Craggy	7.16	54		Pn	07 12 44.2	+1.2
P29M	Windy Craggy	7.16	54	P	Pn	07 12 44.2	+1.2
	baz=245						
PN7A	Pavlof North-7	7.22	271		Pn	07 12 44.7	+0.9
S31K	Pelican	7.39	69		Pn	07 12 45.9	-0.1
S31K	Pelican	7.39	69	P	Pn	07 12 45.9	-0.1
	baz=260						

*IDC **30** 07:14:03.1±1.2, 49.°71N×81.°54E, h0km, mbtmp2.6/3, ML1.9/3, Error ellipse: s-maj=17.5km s-min=9.3km az=62.0*
*NNC **30** 07:14:03.3±1.4, 49.°64N×81.°46E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=20.0km s-min=5.9km az=54.0*

ISC 30 07:14:02.2±1.0,49.°53N±0.°05×81.°23E±0.°06,h10km,n14,
σ1§07/17,5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEM	Semipalatinsk	1.08	324	P	Pg	07 14 22.7	-0.3
	6.8nm,0.1s						
SEM				S	Sn	07 14 38.0	-0.8
	52nm,0.3s						
KURBB	Kurchatov Arra	2.06	303	⇑Pn	Pg	07 14 40.6	-0.9
	23nm,0.8s						
KURBB				⇑Sn	Sg	07 15 10.0	+1.8
	52nm,0.8s						
KURBB	Kurchatov Arra	2.06	303	Pn	Pg	07 14 40.7	-0.8
	0.3nm,0.3s,baz=112,slow=19,SNR=36						
KURBB				Lg	Lg	07 15 08.7	
	0.6nm,0.3s,baz=116,slow=30,SNR=19 16nm,1.1s						
KURK	Kurchatov	2.06	306	⇑Pn	Pb	07 14 39.8	+0.3
	21nm,0.8s						
KURK				⇓Sn	Sg	07 15 09.7	+1.5
	23nm,0.7s						
MAKZ	Makanchi	2.77	169	⇓Pg	Pg	07 14 54.1	-1.1
	1.4nm,0.7s						
MAKZ				⇓Lg	Lg	07 15 32.3	
	3.0nm,0.6s						
MK31	Makanchi Array	2.83	165	⇑Pg	Pb	07 14 53.7	+0.9
	1.1nm,0.5s,baz=356,slow=14,SNR=12						
MK31				⇑Lg	Lg	07 15 33.1	
	5.4nm,0.6s,baz=352,slow=28,SNR=19						
MKAR	Makanchi Array	2.83	165	Pn	Pb	07 14 52.6	-0.1
	0.5nm,0.3s,baz=354,slow=14,SNR=8.7						
MKAR				Sn	Sb	07 15 28.6	+1.2
	0.7nm,0.3s,baz=351,slow=35,SNR=3.6						
MKAR				Lg	Lg	07 15 35.2	
	1.1nm,0.3s,baz=353,slow=27,SNR=20 1.1nm,0.5s						
ZSN	Zaisan	3.19	129	Pg	Pb	07 14 58.9	0.0
	1.8nm,0.7s						
ZSN				Lg	Lg	07 15 40.2	
	3.0nm,0.4s						
ZALV	Zalesovo Beam	4.95	25	Pn	Pn	07 15 16.2	-0.3
	0.1nm,0.3s,baz=213,slow=16,SNR=2.5						
ZALV				Lg	Lg	07 16 30.2	
	0.3nm,0.3s,baz=189,slow=26,SNR=10 0.5nm,0.4s						
I46RU	ZALESOVO INFRA	4.95	25	I	I	07 43 10.0	
	baz=201,slow=340,SNR=2.5						
KNOS	Konyrlen	5.36	196	Pg	Pg	07 15 44.4	-0.4
	0.5nm,0.2s						
KNOS				Lg	Lg	07 16 58.3	
	2.1nm,0.4s						
BRZS	Berezniki	5.56	278	Pg	Pg	07 15 47.3	-1.3
	1.0nm,0.2s						
BRZS				Lg	Lg	07 17 03.6	
	3.3nm,0.5s						
ARXS	Arharly	5.81	205	Pg	Pg	07 15 52.6	-0.8
	1.2nm,0.4s						
ARXS				Lg	Lg	07 17 12.7	
	7.2nm,0.3s						
OTUK	Ortayu	6.01	261	Pg	Pg	07 15 55.8	-1.3
OTUK				Lg	Lg	07 17 18.4	
	1.7nm,0.6s						

*IDC **30** 07:21:28.6±3.1, 53.°71N×90.°76E, h0km, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=27.1km s-min=22.8km az=51.0*
*NNC **30** 07:21:28.8±3.8, 53.°75N×90.°69E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=28.4km s-min=22.7km az=48.0, Suspected Mining explosion.*

ISC 30 07:21:27.9±4.0,53.°8N±0.°1×90.°7E±0.°2,h0km,n10,
σ1§34/13,7C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	3.51	275	I	I	07 48 20.0	
	baz=93,slow=345,SNR=2.2						
ZAA0	Zalesovo Array	3.51	275	⇓Pg	Pb	07 22 30.4	-0.4
	1.8nm,0.7s						
ZAA0				⇑Lg	Lg	07 23 20.2	
	5.0nm,0.8s						
ZALV	Zalesovo Beam	3.51	275	Pn	Pn	07 22 23.1	-0.6
	0.8nm,0.5s,baz=93,slow=17,SNR=2.8						
ZALV				Pg	Pb	07 22 30.5	-0.4
	0.6nm,0.3s,baz=100,slow=14,SNR=16						
ZALV				Lg	Lg	07 23 20.0	
	1.2nm,0.3s,baz=93,slow=23,SNR=11						
KURK	Kurchatov	8.05	252	⇑Pn	Pn	07 23 27.8	+1.8
	3.6nm,0.8s						
KURK				⇑Sn	Sn	07 24 59.7	+1.9
	6.1nm,0.8s						
KURK				⇑Lg	Lg	07 25 46.3	
	12nm,1.0s						
KURBB	Kurchatov Arra	8.15	252	⇓Pn	Pn	07 23 28.1	+0.8
	3.1nm,0.6s						
KURBB				⇑Sn	Sn	07 25 01.0	+0.9
	26nm,0.8s						
KURBB				⇓Lg	Lg	07 25 47.7	
	30nm,0.9s						
KURBB	Kurchatov Arra	8.15	252	Pn	Pn	07 23 27.6	+0.2
	0.1nm,0.3s,baz=64,slow=14,SNR=15						
KURBB				Sn	Sn	07 24 58.5	-1.6
	baz=67,slow=26,SNR=2.7						
KURBB				Lg	Lg	07 25 47.2	
	baz=72,slow=33,SNR=13 2.6nm,0.7s						
MK31	Makanchi Array	8.86	221	Pn	Pn	07 23 38.1	+1.0
	2.3nm,0.8s,baz=43,slow=13,SNR=13						
MK31				⇑Sn	Sn	07 25 16.6	-0.9
	0.9nm,0.7s						
MK31				⇑Lg	Lg	07 26 04.5	
	7.2nm,0.9s,baz=48,slow=30,SNR=4.0						
MKAR	Makanchi Array	8.86	221	Pn	Pn	07 23 37.8	+0.7
	0.1nm,0.3s,baz=41,slow=13,SNR=18						
MKAR				Sn	Sn	07 25 15.6	-2.0
	baz=46,slow=25,SNR=2.8						
MKAR				Lg	Lg	07 26 06.6	
	0.1nm,0.3s,baz=39,slow=30,SNR=5.7 1.2nm,0.6s						
SONM	Songino Array	11.55	115	Lg	Lg	07 27 21.4	
	baz=304,slow=27						
I34MN	SONGINO INFRAS	11.58	115	I	I	08 28 05.0	
	baz=307,slow=337,SNR=5.2						

*IDC **30** 07:35:33.6±1.8, 51.°46N×175.°47E, h0km, mb3.3/8, mbtmp3.5/9, ML3.8/1, MS2.9/1, Error ellipse: s-maj=42.8km s-min=17.6km az=21.0*
*NEIC **30** 07:35:33.9±1.2, 51.°3N±0.°1×175.°2E±0.°1, h10km±2km, mb3.6/8, ML3.9(AEIC), Error ellipse: s-maj=19.2km s-min=8.9km az=211.0*
*AEIC **30** 07:35:37.0±1.1, 51.°5N±0.°1×175.°51E±0.°08, h10km±8km, Error ellipse: s-maj=20.9km s-min=5.0km az=196.0*

ISC 30 07:35:32.7±1.0,51.°2N±0.°1×175.°13E±0.°05,h10km,n45,
σ1§71/53,mb3.6/9,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	Shemya Is, Ala	1.68	338	Pn	Pn	07 36 01.9	-0.2
	20nm,0.3s,baz=212,slow=7.9,SNR=10.0						
SHEM				Sn	Sn	07 36 23.1	-0.5
	108nm,0.3s,baz=278,slow=18,SNR=22						
SMY	Shemya	1.68	338		Pn	07 36 02.0	-0.2
SMY					Sn	07 36 23.3	-0.3
GANO	Gareloi North	3.85	78		Pn	07 36 32.8	+0.9
GANO					Sn	07 37 15.2	-2.0
GANE	Gareloi Northe	3.86	78		Pn	07 36 33.1	+0.9
GAEA	Gareloi East	3.88	79		Pn	07 36 33.9	+1.5
GAEA					Sn	07 37 16.6	-1.3
TANO	Tanaga North	4.28	77		Pn	07 36 38.8	+0.9
TANO					Sn	07 37 25.4	-2.3
TASE	Tanaga Southea	4.32	79		Pn	07 36 39.5	+1.0
TAFP	Tanaga Falls P	4.36	78		Pn	07 36 39.8	+0.8
TAFP					Sn	07 37 26.8	-3.0
TAFL	Tanaga Flats	4.40	80		Pn	07 36 40.7	+1.2
TAPA	Tanaga Point A	4.46	79		Pn	07 36 41.2	+0.9
KICM	Kanaga Island	4.85	78		Pn	07 36 46.5	+0.8
KIKV	Kanaga Island	4.86	79		Pn	07 36 46.3	+0.5
KIWB	Kanaga Island	4.87	79		Pn	07 36 46.0	0.0
ADK	Adak	5.16	79		Pn	07 36 50.6	+0.6
ADK					Sn	07 37 46.5	-2.9
GSCK	Great Sitkin C	5.49	78		Pn	07 36 55.0	+0.4
GSCK					Sn	07 37 54.8	-3.0
GSMY	Great Sitkin M	5.56	78		Pn	07 36 56.0	+0.5
GSTR	Great Sitkin T	5.56	77	Pn	Pn	07 36 55.5	0.0
ATKA	Atka Island	6.72	77		Pn	07 37 12.3	+1.0
KOKL	Mount Kliuchef	6.73	76		Pn	07 37 12.4	+0.9
KOFP	Korovin Flat P	6.78	77		Pn	07 37 13.2	+0.9
PEA0B	Petropavlovsk-	10.88	287	Pn	Pn	07 38 09.2	+0.7
PETK	Petropavlovsk-	10.88	287	Pn	Pn	07 38 09.2	+0.7
PETK	Petropavlovsk-	10.88	287	Pn	Pn	07 38 09.1	+0.6
	1.0nm,0.3s,baz=94,slow=19,SNR=19						
PETK				Sn	Sn	07 40 02.6	-7.6
	0.6nm,0.3s,baz=100,slow=14,SNR=2.0						
MAPS	Pakushin South	11.24	69		Pn	07 38 14.8	+1.5
MSW	Makushin Switc	11.35	69		Pn	07 38 17.4	+2.7
L14K	Kuka Creek	15.89	42	P	P	07 39 19.7	-0.3
ANM	Nome	16.84	30	P	Pn	07 39 28.4	+0.1
ANM				IAmb	IAmb	07 39 59.8	
	comp=Z,6.5nm,1.3s						
G16K	Koyuk River	18.36	31	P	P	07 39 47.5	+0.4
G16K				IAmb	IAmb	07 40 01.4	
	comp=Z,8.7nm,1.5s						
H17K	Granite Mounta	18.90	34	P	P	07 39 53.0	-0.1
F17K	Baldwin Pennin	19.38	29	P	Pn	07 40 00.2	+0.8
F17K				IAmb	IAmb	07 40 17.3	
	comp=Z,8.6nm,1.2s						
C16K	Lisburne Hills	19.60	22	P	P	07 40 00.9	+0.2
KDAK	Kodiak Island	19.75	58	P	P	07 40 00.2	-2.2
	comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=2.6 comp=Z,1.8nm,1.1s						
J20K	Nowinta River	20.68	39	P	P	07 40 11.7	-0.9
F19K	Shaleruckik Mo	20.72	31	P	P	07 40 13.0	+0.2
F19K				IAmb	IAmb	07 40 20.4	
	comp=Z,2.6nm,1.2s						
IMAR	Indian Mountai	21.64	35	P	P	07 40 22.6	-0.2
ILAR	Eielson Array	23.84	41	P	P	07 40 44.6	-1.1
	comp=Z,0.2nm,0.7s,baz=263,slow=7.3,SNR=4.7 comp=Z,0.2nm,0.7s						
YAK	Yakutsk	26.69	312	LR	LR	07 50 03.8	
	comp=Z,28nm,21.8s,baz=146,slow=33						
YKA	Yellowknife Ar	38.10	45	P	P	07 42 51.2	-0.1
	comp=Z,0.2nm,0.7s,baz=283,slow=7.4,SNR=2.3 comp=Z,0.2nm,0.7s						
NVAR	Mina Array Bea	47.35	78	P	P	07 44 07.3	+0.5
	comp=Z,0.6nm,0.8s,baz=300,slow=7.2,SNR=3.6 comp=Z,0.6nm,0.8s						
PDAR	Pinedale Array	49.97	68	P	P	07 44 26.9	-0.1
	comp=Z,0.4nm,0.7s,baz=305,slow=3.1,SNR=3.5 comp=Z,0.4nm,0.7s						
SPITS	Spitsbergen Ar	50.25	354	P	P	07 44 29.0	+0.6
	comp=Z,1nm,1.1s,baz=98,slow=11,SNR=4.6						
KURBB	Kurchatov Arra	56.43	311	P	P	07 45 15.3	+1.2
	comp=Z,0.2nm,0.3s,baz=47,slow=7.0,SNR=1.8 comp=Z,0.2nm,0.3s						
MKAR	Makanchi Array	57.10	305	P	P	07 45 21.1	+2.1
	comp=Z,0.2nm,0.6s,baz=69,slow=7.9,SNR=2.2 comp=Z,0.2nm,0.6s						
BVAR	Borovoye Array	58.50	317	P	P	07 45 32.1	+3.4
	comp=Z,0.3nm,0.3s,baz=45,slow=2.2,SNR=2.4 comp=Z,0.3nm,0.3s						
TXAR	Lajitas Array	62.43	77	P	P	07 45 56.3	+0.3
	comp=Z,0.8nm,0.9s,baz=282,slow=3.3,SNR=6.4 comp=Z,0.8nm,0.9s						

*IDC **30** 07:44:37.9±0.7, 11.°17S×163.°27E, h0km, mb4.3/14, mbtmp4.3/17, ML4.1/2, MS3.9/39, Error ellipse: s-maj=20.6km s-min=16.5km az=93.0*
*NEIC **30** 07:44:42.1±1.5, 11.°20S±0.°08×163.°19E±0.°04, h10km±1km, mb4.9/32, Error ellipse: s-maj=14.5km s-min=5.3km az=164.0*
*NOU **30** 07:44:42.8, 10.°53S×163.°85E, h94km, mb4.7/20, Solomon Islands*

ISC 30 07:44:44.5±0.5,11.°21S±0.°06×163.°24E±0.°08,h34km,n125,
σ1§65/98,mb4.7/36,MS3.9/37,1C-2D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	3.69	298		Pn	07 45 39.8	+0.6
HNR	Honiara	3.69	298	P	Pn	07 45 41.7	+2.5
HNR	Honiara	3.69	298	Pn	Pn	07 45 36.9	-2.3
	858nm,0.3s,baz=208,slow=5.4,SNR=13						
HNR				Sn	Sn	07 46 22.1	+0.5
	556nm,0.3s,baz=186,slow=19,SNR=1.6						
DZM	Mont Dzumac	11.23	165	Pn	Pn	07 47 22.8	0.0
DZM	Mont Dzumac	11.23	165	eLR	LR	07 49 46.6	
	2μm,28.1s						
DZM	Mont Dzumac	11.23	165	Pn	Pn	07 47 21.3	-1.5
	2.2nm,0.3s,baz=64,slow=21,SNR=17						
DZM				LR	LR	07 51 34.1	
	comp=Z,454nm,18.4s,baz=16,slow=37 9.3nm,0.4s						
ONTNC	Ouen Toro	11.46	165	Pn	Pn	07 47 27.0	+1.2
OUENC	Ouen Island, N	11.67	163	Pn	Pn	07 47 29.7	+1.0
PINIC	Pines Island,	12.03	161	Pn	Pn	07 47 33.9	+0.2
PMG	Port Moresby	15.93	275		Pn	07 48 24.4	-1.9
PMG	Port Moresby	15.93	275	Pn	Pn	07 48 25.6	-0.6
	10nm,0.8s,baz=78,slow=11,SNR=1.4						
PMG				LR	LR	07 55 00.3	
	comp=Z,1μm,18.1s,baz=94,slow=39						
TV1H	Townsville Har	17.77	241	P	P	07 48 53.1	+3.2
EIDS	Eidsvold	18.20	218	P	Pn	07 48 53.7	-0.9
EIDS	Eidsvold	18.20	218	P	P	07 48 58.8	+4.2
CTA	Charters Tower	18.58	240	P	Pn	07 49 01.9	+2.6
CTA	Charters Tower	18.58	240	P	P	07 48 58.5	-0.4
	0.2nm,0.3s,baz=70,slow=11,SNR=13						
CTA				LR	LR	07 54 36.0	
	comp=Z,170nm,20.3s,baz=66,slow=32 9.8nm,0.8s						
CTAO	Charters Tower	18.58	240	P	P	07 48 58.0	-0.8
CTAO	Charters Tower	18.58	240	P	Pn	07 49 02.3	+3.0
MTSU	Mount Surprise	19.55	247	P	Pn	07 49 11.7	+0.7
COEN

comp=Z,71nm,20.0s,baz=121,slow=33
H11S2 WAKE ISLAND Hy 29.70 7 T T 08 21 51.9
baz=188,slow=76,SNR=45
H11S3 WAKE ISLAND Hy 29.71 7 T T 08 21 53.1
baz=188,slow=76,SNR=30
H11S1 WAKE ISLAND Hy 29.72 7 T T 08 21 55.1
baz=188,slow=76,SNR=23
LCRK Leigh Creek 30.10 227 P **P** **07 50 51.1 0.0**
AS31 Alice Springs 30.54 242 P **P** **07 50 53.4 -1.6**
ASAR Alice Springs 30.54 242 P **P** **07 50 53.9 -1.1**
ASAR Alice Springs 30.54 242 P **P** **07 50 53.1 -1.9**
comp=Z,2.5nm,0.7s,baz=64,slow=10,SNR=33
ASAR LR LR 08 03 06.2
comp=Z,267nm,18.3s,baz=72,slow=36
comp=Z,2.5nm,0.7s
GUMO Guam 30.64 323 LR LR 08 01 58.7
comp=Z,94nm,21.2s,baz=148,slow=34
OOD Oodnadatta 30.66 233 P **P** **07 50 57.1 +1.1**
comp=Z,26nm,1.3s
TOO Toolangi 30.71 208 P **P** **07 50 56.8 +0.4**
TOO IAmb IAmb 07 51 02.1
comp=Z,23nm,1.1s
H11N1 WAKE ISLAND Hy 30.93 7 T T 08 23 31.0
baz=188,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 30.94 7 T T 08 23 31.5
baz=188,slow=76,SNR=13
H11N2 WAKE ISLAND Hy 30.95 7 T T 08 23 32.3
baz=188,slow=76,SNR=13
HTT Hallett 31.40 221 P **P** **07 51 03.3 +0.8**
BBOO Buckleboo 32.95 225 P **P** **07 51 15.6 -0.5**
MULG Mulgathing 33.08 231 P **P** **07 51 16.2 -1.1**
RPZ Rata Peaks 33.09 170 LR LR 08 04 11.4
comp=Z,140nm,18.5s,baz=320,slow=35
KNRA Kununurra 33.80 259 P **P** **07 51 22.3 -1.4**
FITZ Fitzroy Crossi 36.97 255 P **P** **07 51 49.7 -1.2**
FITZ IAmb IAmb 07 52 45.5
comp=Z,37nm,1.9s
FORT Forrest 37.95 234 P **P** **07 51 59.2 +0.1**
PSA00 Pilbara Seismi 42.76 250 P **P** **07 52 37.0 -2.1**
PSA00 IAmb IAmb 07 52 49.9
comp=Z,56nm,1.4s
KAPI Kappang 43.46 275 LR LR 08 14 18.6
comp=Z,98nm,18.0s,baz=86,slow=41
PPT Papeete 46.04 104 LR LR 08 09 29.9
comp=Z,43nm,21.6s,baz=260,slow=32
PPT2 Papeete2 46.04 104 *e*LR LR 08 05 53.5
comp=Z,86nm,25.2s
PPT2 *e*LR LR 08 06 03.4
comp=Z,52nm,23.8s
TBI Tubuai 46.55 112 *e*LR LR 08 06 06.4
comp=Z,627nm,34.2s
NWAO Narrogin (SRO) 47.34 235 LR LR 08 13 46.6
comp=Z,337nm,18.4s,baz=120,slow=37
MORW Morawa 47.40 241 P **P** **07 53 15.2 -0.6**
JOW Kunigami 50.82 319 LR LR 08 15 23.5
comp=Z,138nm,18.5s,baz=100,slow=36
MJAR Matsushiro Arr 53.02 335 LR LR 08 16 32.4
comp=Z,72nm,19.8s,baz=152,slow=36
ASAJ Asahikawa 58.17 343 LR LR 08 15 38.2
comp=Z,97nm,21.8s,baz=164,slow=32
KSRS Korea Array 58.66 327 P **P** **07 54 37.0 -1.5**
comp=Z,0.4nm,0.2s,baz=100,slow=15,SNR=1.6
comp=Z,0.4nm,0.2s
KSAR Wonju Array Be 58.67 327 P **P** **07 54 39.1 +0.5**
NJ2 Nanjing 60.43 317 *e*P **P** **07 54 53.0 +2.1**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
USA0B Ussuriysk Arra 62.02 335 P **P** **07 55 02.7 +1.2**
USRK Ussuriysk Ar. 62.02 335 P **P** **07 55 03.0 +1.6**
USRK Ussuriysk Ar. 62.02 335 P **P** **07 55 00.9 -0.5**
comp=Z,4.6nm,1.0s,baz=116,slow=4.4,SNR=6.5
comp=Z,4.6nm,1.0s
PETK Petropavlovsk- 64.23 356 LR LR 08 17 48.1
comp=Z,87nm,19.2s,baz=181,slow=31
SHEM Shemya Is, Ala 64.36 7 LR LR 08 19 42.9
comp=Z,150nm,18.6s,baz=136,slow=33
BNX BinXian 65.21 333 ⇑P **P** **07 55 22.8 +0.3**
BNX pmax pmax
comp=Z,4.0nm,0.4s
BNX pmax pmax
comp=Z,150nm,5.2s
RPSI Rantau Prapat 65.44 278 P **P** **07 55 23.9 -0.7**
RPSI IAmb IAmb 07 55 26.2
comp=Z,9.4nm,1.4s
KLR Kul'dur 66.26 338 LR LR 08 25 01.1
comp=Z,54nm,18.6s,baz=155,slow=37
VNDA Vanda 66.31 180 P **P** **07 55 31.4 +2.3**
VNDA IAmb IAmb 07 55 53.4
comp=Z,8.1nm,1.1s
VNDA Vanda 66.31 180 P **P** **07 55 27.8 -1.4**
comp=Z,5.9nm,1.1s,baz=330,slow=7.8,SNR=7.5
VNDA LR LR 08 18 44.8
comp=Z,78nm,21.1s,baz=325,slow=31
comp=Z,5.9nm,1.1s
HNS HongShan 66.38 319 ⇓P **P** **07 55 31.5 +1.3**
HNS S **S** **08 04 15.0 -3.0**
HNS pmax pmax
comp=Z,8.0nm,1.7s
HNS LR LR
comp=N,220nm,12.1s
HNS LR LR
comp=Z,240nm,15.3s
BJI Beijing 67.09 322 P **P** **07 55 34.5 -0.1**
BJI pP **pP** **07 55 38.0 -5.0**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,120nm,5.2s
XLT XiLinHaoTe 69.58 326 *e*P **P** **07 55 50.5 +0.2**
XLT pP pP 07 55 54.3 -4.4
XLT sP sP 07 55 59.0 -3.0
XLT PcP **PcP** **07 56 13.8 +0.6**
XLT pmax pmax
comp=Z,12nm,1.1s
XLT pmax pmax
comp=Z,160nm,4.7s
CMAR Chiang Mai Arr 69.93 294 P **P** **07 55 53.2 +0.3**
CMAR Chiang Mai Arr 69.93 294 P **P** **07 55 51.1 -1.7**
comp=Z,0.7nm,0.3s,baz=117,slow=5.1,SNR=6.8
CMAR LR LR 08 28 20.0
comp=Z,44nm,18.4s,baz=90,slow=38
comp=Z,0.7nm,0.3s
HHC Hu-ho-hao-te 70.38 321 *e*P **P** **07 55 57.5 +2.2**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,230nm,4.5s
PZH PanZhiHua 70.50 303 P **P** **07 55 59.0 +2.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,5.2s
BTO Baotou 71.21 320 *e*P **P** **07 56 02.5 +2.1**
BTO pP **pP** **07 56 07.3 -1.5**
BTO sP **sP** **07 56 09.5 -2.9**
BTO PP **PP** **07 58 43.3 +4.6**
BTO pmax pmax
comp=Z,14nm,0.7s
BTO pmax pmax
comp=Z,290nm,5.1s
MA2 Magadan 71.25 353 LR LR 08 21 12.8
comp=Z,58nm,20.3s,baz=112,slow=31
LZH Lanzhou 73.06 313 *e*P **P** **07 56 13.5 +1.9**
LZH sP sP 07 56 23.3 -0.5
LZH pmax pmax
comp=Z,13nm,1.4s
ULN Ulaanbaatar 77.00 325 P **P** **07 56 36.0 +1.9**
SONM Songino Array 77.36 325 P **P** **07 56 37.2 +1.1**
SONM IAmb IAmb 07 56 48.2
comp=Z,12nm,1.2s
SONM Songino Array 77.36 325 P **P** **07 56 34.4 -1.7**
comp=Z,3.9nm,1.1s,baz=137,slow=5.4,SNR=17
SONM LR LR 08 32 38.4
comp=Z,66nm,18.1s,baz=168,slow=37
comp=Z,3.9nm,1.1s
GTA Gaotai 77.41 315 P **P** **07 56 38.8 +2.2**
GTA pP sP 07 56 47.8 -1.0
GTA pmax pmax
comp=Z,6.0nm,1.4s
YAK Yakutsk 77.57 345 LR LR 08 30 43.9
comp=Z,26nm,19.5s,baz=126,slow=36
KDAK Kodiak Island 77.65 22 LR LR 08 31 29.2
comp=Z,95nm,18.7s,baz=234,slow=36
QSPA South Pole Qui 78.80 180 P **P** **07 56 44.7 +0.9**
QSPA IAmb IAmb 07 57 07.9
comp=Z,20nm,1.1s
QSPA South Pole Qui 78.80 180 P **P** **07 56 42.9 -0.9**
comp=Z,3.7nm,0.7s,baz=55,slow=1.8,SNR=9.2
QSPA LR LR 08 26 28.9
comp=Z,55nm,21.9s,baz=345,slow=32
comp=Z,3.7nm,0.7s
BILL Bilibino 79.07 1 P **P** **07 56 44.7 -0.2**
BILL IAmb IAmb 07 56 56.1
comp=Z,16nm,1.2s
G19K Purcell Mounta 82.48 15 P **P** **07 57 03.6 +0.4**
G19K IAmb IAmb 07 57 15.9
comp=Z,9.2nm,1.2s
F19K Shaleruckik Mo 82.85 15 P **P** **07 57 06.5 +1.5**
F19K IAmb IAmb 07 58 11.7
comp=Z,24nm,1.9s
E19K Redstone River 83.47 14 P **P** **07 57 09.9 +1.5**
E19K IAmb IAmb 07 57 28.6
comp=Z,9.1nm,1.2s
MAW Mawson 83.65 202 LR LR 08 32 14.1
comp=Z,45nm,18.2s,baz=98,slow=34
ILAR Eielson Array 84.46 19 P **P** **07 57 12.4 -1.0**
comp=Z,1.3nm,0.9s,baz=226,slow=4.8,SNR=5.0
ILAR LR LR 08 29 47.2
comp=Z,108nm,19.8s,baz=250,slow=32
comp=Z,1.3nm,0.9s
K27K Chicken 85.62 21 P **P** **07 57 20.1 +0.9**
YBH Yreka Blue Hor 85.77 46 LR LR 08 28 37.4
comp=Z,44nm,18.8s,baz=242,slow=31
TIXI Tiksi 85.79 350 LR LR 08 39 09.7
comp=Z,68nm,18.0s,baz=188,slow=38
WMQ Urumqi 87.48 315 *e*P **P** **07 57 31.3 +2.4**
DLBC Dease Lake 87.73 29 LR LR 08 30 54.6
comp=Z,220nm,18.4s,baz=286,slow=32
NVAR Mina Array Bea 88.01 50 P **P** **07 57 30.7 -1.0**
comp=Z,1.0nm,0.8s,baz=247,slow=6.7,SNR=6.2
NVAR LR LR 08 30 31.8
comp=Z,52nm,18.8s,baz=290,slow=31
comp=Z,1.0nm,0.8s
PFO Pinyon Flats O 88.19 55 LR LR 08 28 42.4
comp=Z,24nm,20.9s,baz=311,slow=30
G30M tAoh Zraii Nji 89.30 20 P **P** **07 57 38.4 +1.4**
G30M IAmb IAmb 07 57 50.1
comp=Z,13nm,1.4s
R11B Troy Canyon, C 90.05 51 P **P** **07 57 42.5 +1.2**
INK Inuvik 90.86 19 LR LR 08 33 20.2
comp=Z,113nm,20.2s,baz=190,slow=32
ELK Elko 90.89 49 LR LR 08 27 55.5
comp=Z,23nm,21.3s,baz=306,slow=29
NEW Newport 91.47 41 LR LR 08 33 21.0
comp=Z,45nm,19.2s,baz=214,slow=32
MK31 Makanchi Array 91.97 317 P **P** **07 57 49.6 -0.2**
MK31 IAmb IAmb 07 58 00.3
comp=Z,5.0nm,1.2s
MKAR Makanchi Array 91.97 317 P **P** **07 57 49.4 -0.4**
MKAR Makanchi Array 91.97 317 P **P** **07 57 48.7 -1.1**
comp=Z,1.6nm,0.6s,baz=95,slow=6.2,SNR=18
MKAR LR LR 08 41 27.8
comp=Z,29nm,18.2s,baz=60,slow=37
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 92.26 325 P **P** **07 57 48.9 -2.0**
comp=Z,0.3nm,0.3s,baz=140,slow=7.7,SNR=3.6
ZALV LR LR 08 41 42.8
comp=Z,44nm,18.0s,baz=72,slow=37
comp=Z,0.3nm,0.3s
ELIB Princess Elisa 92.90 192 *d*P **P** **07 57 52.5 -1.4**
YKA Yellowknife Ar 96.25 28 P **P** **07 58 07.0 -2.1**
comp=Z,0.6nm,0.9s,baz=260,slow=4.9,SNR=6.8
YKA LR LR 08 40 55.7
comp=Z,108nm,18.2s,baz=302,slow=35
comp=Z,0.6nm,0.9s
AAK Ala-Archa 96.58 312 LR LR 08 46 03.7
comp=Z,56nm,18.1s,baz=80,slow=38
SNAA Sanae 96.79 184 LR LR 08 40 41.0
comp=Z,53nm,18.1s,baz=180,slow=35

*IDC **30** 08:03:07.5±0.9, 19°.31N×121°.38E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=49.3km s-min=19.4km az=67.0*

ISC 30 08:03:14.5±1.0, 19°.3N±0°.2×121°.3E±0°.3, h52km, n7, σ0°41/8, mb3.6/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.00**	**161**	P	**P**	**08 10 52.1**	**-0.6**
	0.6nm,0.5s,baz=347,slow=8.9,SNR=7.1						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**42.05**	**320**	P	**P**	**08 11 01.2**	**+0.2**
	0.7nm,0.6s,baz=114,slow=8.5,SNR=10						
MKAR				PcP	**PcP**	**08 12 55.2**	**0.0**
	0.3nm,0.8s,baz=122,slow=4.1,SNR=2.3						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**44.40**	**163**	P	**P**	**08 11 20.8**	**+0.6**
	0.6nm,0.5s,baz=348,slow=6.9,SNR=9.9						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**46.01**	**323**	P	**P**	**08 11 32.5**	**-0.3**
	1.7nm,0.6s,baz=119,slow=7.9,SNR=15						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**73.55**	**27**	P	**P**	**08 14 41.7**	**-0.1**
	0.5nm,0.9s,baz=281,slow=5.4,SNR=4.3						
	0.5nm,0.9s						
ARCES	**ARCESS Array B**	**74.14**	**339**	P	**P**	**08 14 45.0**	**-0.1**
	1.1nm,0.7s,baz=61,slow=9.4,SNR=4.2						
	1.1nm,0.7s						
YKA	**Yellowknife Ar**	**87.46**	**23**	P	**P**	**08 15 56.4**	**+0.2**
	0.8nm,0.8s,baz=311,slow=4.8,SNR=15						
	0.8nm,0.8s						

*IDC **30** 08:17:58.9±3.8, 55°.78N×148°.88W, h0km, mb3.2/1, mbtmp3.2/6, ML2.9/5, MS3.2/1, Error ellipse: s-maj=62.3km s-min=29.4km az=3.0*

*NEIC **30** 08:18:05.3±0.9, 56°.32N±0°.08×149°.3W±0°.1, h21km±10km, ML3.5/51, ML3.3(AEIC), Error ellipse: s-maj=12.7km s-min=7.8km az=163.0*

*AEIC **30** 08:18:08.3±1.0, 56°.29N±0°.09×149°.26W±0°.06, h10km±7km, Error ellipse: s-maj=12.7km s-min=4.9km az=175.0*

ISC 30 08:18:07.7±2.8, 56°.34N±0°.05×149°.24W±0°.02, h42km±25km, n176, σ1°19/146, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.33**	**310**		**Pn**	**08 18 42.3**	**-1.1**
KDAK					**Sn**	**08 19 08.3**	**-2.5**
KDAK	**Kodiak Island**	**2.33**	**310**	Pn	Pn	08 18 41.8	-1.6
	2.6nm,0.3s,baz=114,slow=6.5,SNR=22						
KDAK				Sn	**Sn**	**08 19 08.0**	**-2.9**
	5.3nm,0.3s,baz=313,slow=22,SNR=14						
	13nm,0.5s						
OHAK	**Old Harbor**	**2.40**	**293**		**Pn**	**08 18 43.1**	**-1.3**
OHAK					**Sn**	**08 19 09.4**	**-3.1**
OHAK	**Old Harbor**	**2.40**	**293**	P	**Pn**	**08 18 43.1**	**-1.3**
	baz=111						
OHAK				S	**Sn**	**08 19 09.4**	**-3.1**
	baz=111						
SII	**Sitkinak Islan**	**2.75**	**277**		**Sn**	**08 19 19.0**	**-2.3**
SII	**Sitkinak Islan**	**2.75**	**277**	Pn	Pn	08 18 47.5	-1.8
SII				IAML		08 19 27.7	
	comp=E,133nm,0.8s						
SII				IAML		08 19 41.1	
	comp=N,161nm,0.9s						
SII	**Sitkinak Islan**	**2.75**	**277**	S	**Sn**	**08 19 19.0**	**-2.3**
	baz=93						
SYI	**Shuyak Island**	**2.84**	**325**		**Pn**	**08 18 49.3**	**-1.2**
SYI					**Sn**	**08 19 22.6**	**-0.9**
SYI	**Shuyak Island**	**2.84**	**325**	IAML		08 19 23.7	
	comp=E,103nm,0.8s						
SYI				IAML		08 19 23.8	
	comp=N,72nm,0.6s						
Q20K	**Shuyak Island**	**2.85**	**325**	P	**Pn**	**08 18 49.3**	**-1.2**
	baz=142						
Q20K				S	**Sn**	**08 19 22.6**	**-0.9**
	baz=142						
R18K	**Karluk**	**3.11**	**296**		**Pn**	**08 18 52.9**	**-1.2**
R18K					**Sn**	**08 19 27.3**	**-2.7**
R18K	**Karluk**	**3.11**	**296**	IAML		08 19 28.8	
	comp=E,120nm,0.4s						
R18K				IAML		08 19 29.2	
	comp=N,172nm,0.5s						
R18K	**Karluk**	**3.11**	**296**	P	**Pn**	**08 18 52.9**	**-1.2**
	baz=112						
R18K				S	**Sn**	**08 19 27.3**	**-2.7**
	baz=112						
CNPM	**China Poot**	**3.37**	**342**		**Pn**	**08 18 56.6**	**-1.1**
CNPM					**Sn**	**08 19 35.4**	**-1.1**
Q23K	**Middleton Isla**	**3.46**	**25**		**Pn**	**08 18 57.8**	**-1.1**
Q23K	**Middleton Isla**	**3.46**	**25**	IAML		08 19 33.1	
	comp=N,143nm,1.1s						
Q23K				IAML		08 19 43.0	
	comp=E,149nm,1.1s						
Q23K	**Middleton Isla**	**3.46**	**25**	P	**Pn**	**08 18 57.8**	**-1.1**
	baz=208						
MID	**Middleton Isla**	**3.46**	**25**		**Pn**	**08 18 58.0**	**-1.0**
MID	**Middleton Isla**	**3.46**	**25**	IAML		08 19 32.7	
	comp=N,141nm,1.1s						
MID				IAML		08 20 01.7	
	comp=E,124nm,0.9s						
BRSE	**Bradley Lake S**	**3.51**	**347**		**Pn**	**08 18 58.4**	**-1.2**
BRSE					**Sn**	**08 19 36.9**	**-2.9**
BRSE	**Bradley Lake S**	**3.51**	**347**	P	**Pn**	**08 18 58.4**	**-1.2**
	baz=167						
BRSE				S	**Sn**	**08 19 36.9**	**-2.9**
	baz=167						
Q19K	**Cape Douglas,**	**3.52**	**319**		**Pn**	**08 18 58.7**	**-1.1**
Q19K	**Cape Douglas,**	**3.52**	**319**	P	**Pn**	**08 18 58.7**	**-1.1**
	baz=136						
BRLK	**Bradley Lake**	**3.55**	**346**		Pn	08 18 58.6	-1.6
BRLK					**Sn**	**08 19 39.9**	**-1.0**
BRLK	**Bradley Lake**	**3.55**	**346**	IAML		08 19 45.8	
	comp=E,56nm,1.0s						
HOM	**Homer**	**3.57**	**340**	Pn	**Pn**	**08 18 59.5**	**-0.9**
KAHG	**Katmai Hook Gl**	**3.59**	**309**		**Pn**	**08 18 60.0**	**-0.9**
P23K	**Montague Islan**	**3.80**	**14**		**Pn**	**08 19 02.5**	**-1.0**
P23K					**Sn**	**08 19 44.3**	**-2.6**
P23K	**Montague Islan**	**3.80**	**14**	P	**Pn**	**08 19 02.5**	**-1.0**
	baz=196						
P23K				S	**Sn**	**08 19 44.3**	**-2.6**
	baz=196						
P19K	**Oil Pt**	**3.95**	**329**	Pn	**Pn**	**08 19 04.4**	**-1.2**
P19K				IAML		08 19 52.0	
	comp=N,74nm,0.8s						
P19K				IAML		08 19 52.4	
	comp=E,79nm,0.5s						
CNTC	**Contact Creek**	**4.09**	**301**		**Pn**	**08 19 07.1**	**-0.6**
Q17K	**Contact Creek**	**4.09**	**301**	P	**Pn**	**08 19 07.1**	**-0.6**
	baz=116						
Q22K	**Cooper Landing**	**4.17**	**357**		**Pn**	**08 19 07.8**	**-0.8**
O22K	**Cooper Landing**	**4.17**	**357**	P	**Pn**	**08 19 07.8**	**-0.8**
	baz=177						
IVE	**Iliamna Volcan**	**4.20**	**333**		**Pn**	**08 19 07.9**	**-1.2**
SLKM	**Skilak Lake**	**4.21**	**353**		**Pn**	**08 19 08.1**	**-1.2**
HIN	**Hinchinbrook I**	**4.32**	**18**		**Pn**	**08 19 09.7**	**-1.1**
HIN	**Hinchinbrook I**	**4.32**	**18**	IAML		08 20 05.9	
	comp=N,78nm,1.0s						
HIN				IAML		08 20 06.1	
	comp=E,59nm,1.2s						
KAIM	**Kayak Island**	**4.41**	**33**	Pn	**Pn**	**08 19 10.8**	**-1.3**
KAIM				IAML		08 20 09.4	
	comp=E,79nm,1.1s						
KAIM				IAML		08 20 13.5	
	comp=N,77nm,1.0s						
P18K	**Big Mountain,**	**4.43**	**316**		**Pn**	**08 19 11.2**	**-1.1**
P18K	**Big Mountain,**	**4.43**	**316**	P	**Pn**	**08 19 11.2**	**-1.1**
	baz=132						
RED	**Redoubt Volcan**	**4.50**	**337**		Pn	08 19 11.9	-1.4
RSO	**Redoubt South**	**4.53**	**337**		Pn	08 19 12.3	-1.5
RDWB	**Redoubt West**	**4.57**	**337**		Pn	08 19 12.8	-1.5
EYAK	**Cordova Ski Ar**	**4.60**	**22**		**Pn**	**08 19 13.8**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.60**	**22**	P	**Pn**	**08 19 13.8**	**-0.8**
	baz=205						
O19K	**Port Alsworth**	**4.71**	**327**		Pn	08 19 14.8	-1.3
O19K	**Port Alsworth**	**4.71**	**327**	P	Pn	08 19 14.7	-1.3
	baz=144						
RAGM	**Ragged Mountai**	**4.72**	**29**	Pn	**Pn**	**08 19 15.1**	**-1.1**
O18K	**Koktuh Hills**	**4.74**	**321**		**Pn**	**08 19 15.4**	**-1.1**
O18K	**Koktuh Hills**	**4.74**	**321**	IAML		08 20 33.5	
	comp=N,19nm,0.8s						
O18K	**Koktuh Hills**	**4.74**	**321**	P	**Pn**	**08 19 15.4**	**-1.1**
	baz=136						
RC01	**Rabbit Creek A**	**4.77**	**357**		**Pn**	**08 19 16.2**	**-0.7**
RC01	**Rabbit Creek A**	**4.77**	**357**	IAML		08 20 11.4	
	comp=E,29nm,1.1s						
RC01				IAML		08 20 13.5	
	comp=N,20nm,0.4s						
RC01	**Rabbit Creek A**	**4.77**	**357**	P	**Pn**	**08 19 16.2**	**-0.7**
	baz=177						
P17K	**Kvichak River**	**4.80**	**310**		**Pn**	**08 19 16.2**	**-1.1**
P17K	**Kvichak River**	**4.80**	**310**	P	**Pn**	**08 19 16.2**	**-1.1**
	baz=124						
GOAT	**Goat Mountain**	**4.87**	**27**		**Pn**	**08 19 17.4**	**-0.9**
BERG	**Berg Lake**	**5.00**	**33**		**Pn**	**08 19 19.2**	**-0.9**
BERG	**Berg Lake**	**5.00**	**33**	IAML		08 20 23.4	
	comp=N,54nm,0.7s						
KNK	**Knik Glacier**	**5.11**	**4**		**Pn**	**08 19 20.7**	**-0.9**
KNK	**Knik Glacier**	**5.11**	**4**	IAML		08 20 20.6	
	comp=N,13nm,0.6s						
KNK				IAML		08 20 38.5	
	comp=E,17nm,0.9s						
KNK	**Knik Glacier**	**5.11**	**4**	P	**Pn**	**08 19 20.7**	**-0.9**
	baz=185						
CHGN	**Chignik**	**5.11**	**273**	Pn	Pn	08 19 19.4	-2.1
CHGN				IAML		08 20 20.7	
	comp=E,45nm,1.0s						
CHGN				IAML		08 20 21.0	
	comp=N,41nm,0.5s						
N20K	**Mount Spurr**	**5.12**	**344**	P	**Pn**	**08 19 20.7**	**-1.1**
	baz=162						
SPCR	**Spurr Chakacha**	**5.12**	**344**		**Pn**	**08 19 20.7**	**-1.1**
SNH	**Sunshine Point**	**5.12**	**39**	Pn	**Pn**	**08 19 20.5**	**-1.3**
SNH				IAML		08 21 00.7	
	comp=E,35nm,0.9s						
SPCG	**Spurr Capps Gl**	**5.18**	**345**		**Pn**	**08 19 21.7**	**-0.9**
BMRM	**Bremner River**	**5.24**	**26**		**Pn**	**08 19 23.1**	**-0.3**
BMRM	**Bremner River**	**5.24**	**26**	P	**Pn**	**08 19 23.1**	**-0.3**
	baz=210						
N19K	**Bonanza Creek**	**5.26**	**331**		Pn	08 19 22.4	-1.3
N19K	**Bonanza Creek**	**5.26**	**331**	P	Pn	08 19 22.4	-1.3
	baz=147						
PMR	**Palmer**	**5.27**	**1**	Pn	Pn	08 19 21.3	-2.4
PMR				IAML		08 20 23.8	
	comp=N,13nm,1.1s						
STLK	**Strandline Lak**	**5.35**	**347**		**Pn**	**08 19 23.6**	**-1.3**
SPNN	**North Nagishla**	**5.36**	**342**		**Pn**	**08 19 24.0**	**-1.1**
BARK	**Barkley Ridge**	**5.41**	**38**		**Pn**	**08 19 24.8**	**-0.9**
P16K	**Nushagak River**	**5.42**	**304**		Pn	08 19 24.4	-1.4
P16K	**Nushagak River**	**5.42**	**304**	P	Pn	08 19 24.4	-1.4
	baz=116						
KLU	**Klutina**	**5.45**	**17**		**Pn**	**08 19 25.6**	**-0.7**
KLU	**Klutina**	**5.45**	**17**	P	**Pn**	**08 19 25.6**	**-0.7**
	baz=200						
SML	**Sawmill**	**5.51**	**4**		**Pn**	**08 19 27.0**	**-0.1**
N18K	**Kilae Creek**	**5.58**	**324**		Pn	08 19 26.7	-1.3
N18K	**Kilae Creek**	**5.58**	**324**	P	Pn	08 19 26.7	-1.3
	baz=139						
SCM	**Sheep Creek Mo**	**5.60**	**9**	Pn	**Pn**	**08 19 28.5**	**+0.1**
O16K	**Kokwok River B**	**5.73**	**308**		**Pn**	**08 19 29.1**	**-1.0**
O16K	**Kokwok River B**	**5.73**	**308**	P	**Pn**	**08 19 29.1**	**-1.0**
	baz=121						
VRDI	**Verde Repeater**	**5.75**	**29**		**Pn**	**08 19 29.6**	**-1.0**
SKT	**Skwentna**	**5.78**	**349**		**Pn**	**08 19 29.9**	**-0.9**
SKT	**Skwentna**	**5.78**	**349**	P	**Pn**	**08 19 29.9**	**-0.9**
	baz=168						
N25K	**Chitina, Valde**	**5.80**	**22**		**Pn**	**08 19 30.6**	**-0.5**
N25K	**Chitina, Valde**	**5.80**	**22**	P	**Pn**	**08 19 30.6**	**-0.5**
	baz=207						
KIAG	**Kiagna River**	**5.83**	**35**		**Pn**	**08 19 30.9**	**-0.8**
GLB	**Gilahina Butte**	**5.84**	**27**		**Pn**	**08 19 31.0**	**-0.6**
M20K	**Styx River**	**5.91**	**342**	Pn	**Pn**	**08 19 31.5**	**-1.1**
N17K	**Nushagak Hills**	**5.92**	**318**		**Pn**	**08 19 31.5**	**-1.2**
N17K	**Nushagak Hills**	**5.92**	**318**	P	**Pn**	**08 19 31.5**	**-1.2**
	baz=132						
M24K	**Tolsona, Glenn**	**6.00**	**14**		**Pn**	**08 19 33.7**	**-0.1**
MCARA	**McCarthy VSAT**	**6.00**	**30**		**Pn**	**08 19 33.2**	**-0.6**
MCARA	**McCarthy VSAT**	**6.00**	**30**	P	**Pn**	**08 19 33.2**	**-0.6**
	baz=215						
PTPK	**Patty Peak**	**6.00**	**33**		**Pn**	**08 19 33.1**	**-0.9**
PCA	**Pinnacle**	**6.06**	**48**		**Pn**	**08 19 33.8**	**-0.8**
PINM	**Pinnacle**	**6.06**	**48**	P	**Pn**	**08 19 33.8**	**-0.9**
	baz=236						
BARN	**Barnard Glacie**	**6.17**	**37**		**Pn**	**08 19 35.4**	**-0.8**
M19K	**Big River Lodg**	**6.18**	**337**	Pn	Pn	08 19 33.5	-2.8
CTG	**Chitna Glacier**	**6.21**	**38**	P	**Pn**	**08 19 36.0**	**-0.7**
	baz=225						
CTGM	**Chitina Glacie**	**6.21**	**38**		**Pn**	**08 19 36.0**	**-0.7**
LOGN	**Logan Glacier**	**6.23**	**40**		**Pn**	**08 19 36.2**	**-0.8**
O15K	**Ungalikthiuk R**	**6.34**	**301**		**Pn**	**08 19 38.4**	**0.0**
O15K	**Ungalikthiuk R**	**6.34**	**301**	P	**Pn**	**08 19 38.4**	**0.0**
	baz=112						
L19K	**White Mountain**	**6.53**	**336**	Pn	**Pn**	**08 19 40.0**	**-1.1**
M17K	**Holitna River**	**6.62**	**323**		Pn	08 19 41.0	-1.2
M17K	**Holitna River**	**6.62**	**323**	P	Pn	08 19 41.0	-1.2
	baz=137						

DHY	Denali Highway	6.83	7	Pn		Pn	08 19 45.7	+0.5
M26K	Nabesna, AK	6.87	25	Pn		Pn	08 19 45.9	+0.2
O29M	Mount Kennedy	6.88	50			Pn	08 19 45.4	-0.6
O29M	Mount Kennedy baz=239	6.88	50	P		Pn	08 19 45.4	-0.6
N15K	Kwethluk River	6.89	308	Pn		Pn	08 19 46.5	+0.5
M16K	Timber Creek	6.91	317			Pn	08 19 45.6	-0.6
M16K	Timber Creek baz=129	6.91	317	P		Pn	08 19 45.6	-0.6
P29M	Windy Craggy	6.95	57			Pn	08 19 46.1	-0.8
P29M	Windy Craggy baz=247	6.95	57	P		Pn	08 19 46.1	-0.8
O14K	Tigyukauivet M	7.06	299	Pn		Pn	08 19 48.9	+0.6
RND	Reindeer	7.09	1	Pn		Pn	08 19 49.4	+0.5
M27K	Edge Creek, AK	7.11	29	Pn		Pn	08 19 49.5	+0.4
TRF	Thorofare Moun	7.16	356	Pn		Pn	08 19 50.8	+1.1
CAST	Castle Rocks	7.25	350	Pn		Pn	08 19 51.2	+0.3
S31K	Pelican	7.26	72			Pn	08 19 49.6	-1.5
S31K	Pelican baz=262	7.26	72	P		Pn	08 19 49.6	-1.5
KTH	Kantishna Hill	7.29	354			Pn	08 19 52.4	+0.9
K20K	Telida	7.45	343	Pn		Pn	08 19 54.3	+0.7
L16K	Owhat River	7.54	320	Pn		Pn	08 19 53.7	-1.1
RIDG	Independent Ri	7.74	15			Pn	08 19 58.1	+0.4
BPAW	Bear Paw Mtn.	7.84	354	Pn		Pn	08 19 56.7	-2.2
K17K	Iditarod	7.88	328	Pn		Pn	08 19 58.2	-1.3
M14K	Bethel	7.99	309	Pn		Pn	08 20 01.7	+0.7
N30M	Aishikik Lake	8.11	46	Pn		Pn	08 20 02.7	-0.1
HDA	Harding Lake	8.18	7	Pn		Pn	08 20 04.1	+0.4
O30N	Mendenhall	8.18	52	Pn		Pn	08 20 03.2	-0.6
M29M	Somme Creek	8.22	37			Pn	08 20 05.0	+0.6
J20K	Nowinta River	8.23	345	Pn		Pn	08 20 03.6	-0.7
J19K	Poorman	8.31	340	Pn		Pn	08 20 03.3	-2.1
M13K	Dall Lake	8.46	305	Pn		Pn	08 20 06.9	-0.6
K27K	Chicken	8.50	22	Pn		Pn	08 20 07.8	-0.1
ILAR	Eielson Array comp=N,0.1nm,0.3s,baz=190,slow=14,SNR=2.6	8.54	7	Pn		Pn	08 20 09.6	+1.0
ILAR	comp=N,0.1nm,0.3s,baz=284,slow=27,SNR=2.8 comp=N,0.6nm,0.8s			Sn		Sn	08 21 38.2	-5.3
L14K	Kuka Creek	8.58	311	Pn		Pn	08 20 08.4	-0.7
J26L	Joseph Creek	8.65	17			Pn	08 20 09.6	-0.7
K15K	Wolf Creek Mou	8.66	319	Pn		Pn	08 20 08.9	-1.4
N31M	Braeburn, Yuko	8.66	48	Pn		Pn	08 20 10.4	+0.1
MDM	Murphy Dome	8.67	3	Pn		Pn	08 20 10.7	+0.4
MLY	Manley	8.76	356	Pn		Pn	08 20 10.8	-0.7
L29M	L29M	8.80	35	Pn		Pn	08 20 12.7	+0.5
M30M	Minto, Yukon	8.89	40	Pn		Pn	08 20 14.0	+0.5
I21K	Tanana	8.97	353	Pn		Pn	08 20 14.4	0.0
DAWY	Dawson	9.16	28	Pn		Pn	08 20 17.4	+0.3
P33M	Teslin, Yukon	9.47	59	Pn		Pn	08 20 20.9	-0.6
H21K	Melozitna River	9.51	351	Pn		Pn	08 20 19.9	-2.0
K29M	Barlow Dome	9.52	33	Pn		Pn	08 20 21.5	-0.6
IMAR	Indian Mountai	9.92	349	Pn		Pn	08 20 24.8	-2.6
FARO	Faro, Yukon	10.03	47	Pn		Pn	08 20 28.5	-0.5
H17K	Granite Mounta	10.08	333	Pn		Pn	08 20 28.1	-1.4
R33M	Jennings River	10.20	65	Pn		Pn	08 20 30.4	-1.0
G21K	Allakaket	10.41	351	Pn		Pn	08 20 33.5	-0.7
G23K	Bananza Creek	10.42	358	Pn		Pn	08 20 34.1	-0.2
DLBC	Dease Lake comp=N,0.1nm,0.3s,baz=280,slow=7.5,SNR=1.7 comp=N,6.9nm,1.2s	10.58	71	Pn		Pn	08 20 31.4	-5.1
F20K	Avaraart Lake	11.17	347	Pn		Pn	08 20 43.9	-0.6
BMAR	Burnt Mountain	11.34	9	Pn		Pn	08 20 45.9	-1.0
INK	Inuvik baz=201,slow=9.0,SNR=1.8 comp=N,0.7nm,0.9s	13.99	25	Pn		Pn	08 21 23.4	+0.6
YKA	Yellowknife Ar baz=267,slow=9.9,SNR=2.2 comp=N,0.1nm,0.5s	18.49	56	P		P	08 22 16.9	-2.9
H11N2	WAKE ISLAND Hy baz=31,slow=76,SNR=3.7	48.93	240	T		T	09 19 35.2	
H11N3	WAKE ISLAND Hy baz=31,slow=76,SNR=4.2	48.94	240	T		T	09 19 38.5	
H11N1	WAKE ISLAND Hy baz=31,slow=76,SNR=3.9	48.95	240	T		T	09 19 35.8	
H11S1	WAKE ISLAND Hy baz=30,slow=76,SNR=4.0	50.07	239	T		T	09 21 00.7	
H11S2	WAKE ISLAND Hy baz=30,slow=76,SNR=4.7	50.09	239	T		T	09 21 01.6	
H11S3	WAKE ISLAND Hy baz=30,slow=76,SNR=3.8	50.09	239	T		T	09 21 02.6	
BORG	Borgarnes comp=N,23nm,20.0s,baz=356,slow=35	52.88	25	LR		LR	08 49 07.2	
MKAR	Makanchi Array comp=N,0.1nm,0.5s,baz=47,slow=6.8,SNR=2.0 comp=N,0.1nm,0.5s	68.56	325	P		P	08 29 07.5	+1.9

*NEIC **30** 08:25:22.3±2.5, 17°.8S±0°.1×168°.7E±0°.2, h136km±4km, mb4.5/19, Error ellipse: s-maj=22.1km s-min=15.9km az=77.0*
*IDC **30** 08:25:23.5±3.1, 17°.99S×168°.55E, h146km±26km, mb3.9/12, mbtmp4.3/13, MS2.7/1, Error ellipse: s-maj=22.8km s-min=17.2km az=35.0*
*NOU **30** 08:25:23.0, 17°.95S×168°.85E, h124km, MLv4.7/9, Vanuatu Islands*
ISC 30 08:25:24.0±0.6, 17°.96S±0°.07×168°.6E±0°.1, h150km, n73, σ1$66/73, mb4.3/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YATNC	Mamie plateau,	4.38	201	P	Pn	08 26 27.9	-1.4
DZM	Mont Dzumac	4.56	206		Pn	08 26 31.5	-0.2
DZM	Mont Dzumac	4.56	206	P	Pn	08 26 31.5	-0.2
DZM	Mont Dzumac 26nm,0.4s,baz=79,slow=11,SNR=115	4.56	206	P	Pn	08 26 30.3	-1.4
DZM	68nm,0.3s,baz=167,slow=20,SNR=10			S	Sn	08 27 22.3	-2.2
DZM	comp=Z,82nm,18.3s,baz=248,slow=28			LR	LR	08 27 29.4	
NOUC	Port Laguerre	4.65	207	P	Pn	08 26 32.9	+0.1
OUENC	Ouen Island, N	4.73	200		Pn	08 26 34.7	+0.8
OUENC	Ouen Island, N	4.73	200	P	Pn	08 26 34.3	+0.4
PINNC	Pines Island,	4.75	199		Pn	08 26 34.0	-0.2
PINNC	Pines Island,	4.75	193	P	Pn	08 26 34.0	-0.2
ONTNC	Ouen Toro	4.77	204		Pn	08 26 34.7	+0.4
ONTNC	Ouen Toro	4.77	204	P	Pn	08 26 34.7	+0.4
HNR	Honiara	11.92	314	Pn	Pn	08 28 10.7	+1.3
EIDS	Eidsvold	17.85	243	P	Pn	08 29 23.1	0.0
ARMA	Armidale	19.80	228	P	Pn	08 29 46.6	+0.6
ARMA	comp=Z,16nm,1.3s			IAmb	IAmb	08 30 07.9	
CTA	Charters Tower comp=Z,6.6nm,0.5s,baz=93,slow=10,SNR=24 comp=Z,6.6nm,0.5s	21.22	261	P	P	08 29 59.5	+1.4
CTAO	Charters Tower comp=Z,7.7nm,0.6s	21.22	261	P	P	08 30 00.2	+2.1
CTAO				IAmb	IAmb	08 30 01.0	
HAZ	Te Kaha	21.31	160	P	P	08 30 02.3	+3.4
RUGZ	Raukumara Rang	21.47	160	P	P	08 30 03.0	+2.3
PKGZ	Pakihiroa	21.53	159	P	P	08 30 03.8	+2.4
URZ	Urewera comp=Z,8.3nm,0.6s,baz=48,slow=1.6,SNR=8.6 comp=Z,8.3nm,0.6s	21.56	161	P	P	08 30 02.8	+1.2
WHTZ	Whakaora	21.61	164	P	P	08 30 02.1	-0.2
MUGZ	Murupara	21.66	162	P	P	08 30 05.6	+3.0
MWZ	Matawai	21.76	161	P	P	08 30 05.8	+2.1
TWGZ	Tauwhareparae	21.76	160	P	P	08 30 05.3	+1.6
RTZ	Ruatahuna	21.85	162	P	P	08 30 06.5	+1.8
RTZ	comp=Z,23nm,0.8s			IAmb	IAmb	08 30 07.5	
NNVZ	North Ngauruho	21.97	165	P	P	08 30 10.0	+4.0
ETVZ	East Tongariro	22.00	165	P	P	08 30 10.4	+4.2
OTVZ	Oturere	22.01	165	P	P	08 30 10.4	+4.0
SNVZ	South Ngauruho	22.03	165	P	P	08 30 10.9	+4.3
RIGZ	Rimuhau	22.17	161	P	P	08 30 08.8	+0.9
BKZ	Black Stump Fm comp=Z,17nm,1.1s	22.23	164	P	P	08 30 10.2	+1.8
BKZ				IAmb	IAmb	08 30 11.6	
BKZ	Black Stump Fm	22.23	164	P	P	08 30 10.0	+1.5
NMHZ	Naumai	22.25	163	P	P	08 30 05.1	-3.6
BHHZ	Black Hill Sta	22.42	163	P	P	08 30 12.1	+1.8
KWHZ	Kaweka Forest	22.45	164	P	P	08 30 12.8	+2.2
KRHZ	Kereru	22.64	164	P	P	08 30 14.0	+1.6
KAHZ	Kahuranaki	22.92	163	P	P	08 30 16.0	+1.0
MRZ	Mangatainoka R	23.42	167	P	P	08 30 19.7	+0.2
MRZ	comp=Z,20nm,0.9s			IAmb	IAmb	08 30 21.1	
MRNZ	Matariki Terra	23.64	172	P	P	08 30 22.8	+1.3
THZ	Tophouse	24.01	172	P	P	08 30 25.8	+0.8
THZ	comp=Z,22nm,1.2s			IAmb	IAmb	08 30 41.8	

STKA	Stephens Creek	28.03	235	P		P	08 31 01.9	+0.7
STKA	Stephens Creek comp=Z,3.0nm,0.6s,baz=67,slow=8.8,SNR=8.1 comp=Z,3.0nm,0.6s	28.03	235	P		P	08 31 01.0	-0.2
WR0	Warramunga Arr	32.23	261	P		P	08 31 37.5	-0.8
WR0	comp=Z,9.6nm,1.2s			IAmb		IAmb	08 31 40.7	
WB0	Warramunga Arr	32.38	261	P		P	08 31 38.4	-1.3
WB2	Warramunga Arr	32.41	261	P		P	08 31 38.6	-1.3
WB2	comp=Z,18nm,1.4s			IAmb		IAmb	08 31 52.5	
WRAB	Tennant Creek	32.41	261	P		P	08 31 40.5	+0.6
WRA	Warramunga Arr	32.42	261	P		P	08 31 38.5	-1.5
WRA	Warramunga Arr comp=Z,0.4nm,0.3s,baz=80,slow=6.1,SNR=37 comp=Z,0.4nm,0.3s	32.42	261	P		P	08 31 38.5	-1.5
AS31	Alice Springs	32.86	254	P		P	08 31 43.6	-0.2
AS31	comp=Z,3.8nm,0.3s			IAmb		IAmb	08 31 43.9	
ASAR	Alice Springs	32.86	254	P		P	08 31 43.3	-0.6
ASAR	Alice Springs comp=Z,4.4nm,0.4s,baz=82,slow=8.8,SNR=107 comp=Z,4.4nm,0.4s	32.86	254	P		P	08 31 43.1	-0.7
KNRA	Kununurra	38.14	267	P		P	08 32 30.6	+1.7
FORT	Forrest	38.85	243	P		P	08 32 34.1	-0.6
FITZ	Fitzroy Crossi	40.77	263	P		P	08 32 50.5	-0.2
VNDA	Vanda	59.69	182	P		P	08 35 12.2	+0.1
VNDA	comp=Z,7.1nm,1.4s			IAmb		IAmb	08 35 47.1	
VNDA	Vanda comp=Z,1.2nm,0.9s,baz=25,slow=4.5,SNR=1.8 comp=Z,1.2nm,0.9s	59.69	182	P		P	08 35 12.3	+0.2
QSPA	South Pole Qui	72.09	180	P		P	08 36 31.5	-0.3
QSPA	comp=Z,6.4nm,0.8s			IAmb		IAmb	08 36 32.9	
QSPA	South Pole Qui comp=Z,5.0nm,0.8s,baz=356,slow=3.2,SNR=13 comp=Z,5.0nm,0.8s	72.09	180	P		P	08 36 31.2	-0.6
CMAR	Chiang Mai Arr comp=Z,0.8nm,0.3s,baz=130,slow=4.1,SNR=9.3 comp=Z,0.8nm,0.3s	77.41	294	P		P	08 37 03.6	+0.6
SONM	Songino Array comp=Z,1.8nm,0.7s,baz=146,slow=5.4,SNR=7.6 comp=Z,1.8nm,0.7s	85.83	323	P		P	08 37 46.4	-0.3
NVAR	Mina Array Bea comp=Z,2.3nm,1.0s,baz=233,slow=7.8,SNR=11 comp=Z,2.3nm,1.0s	88.42	49	P		P	08 37 59.8	+0.2
ILAR	Eielson Array comp=Z,0.3nm,0.6s,baz=240,slow=4.9,SNR=9.4 comp=Z,0.3nm,0.6s	89.20	17	P		P	08 38 02.1	-0.1
SNAA	Sanae comp=Z,3.3nm,0.8s,baz=180,slow=6.5,SNR=5.5 comp=Z,3.3nm,0.8s	90.41	183	P		P	08 38 07.3	-0.8
ARCES	ARCESS Array B	123.67	345	PKP		PKiKP	08 44 02.0	-1.4
SOKA	comp=Z,2.1nm,0.8s,baz=55,slow=1.5,SNR=11 Soboth comp=Z,2.6nm,0.5s	144.00	329	*i* PKP		PKPdf	08 44 39.8	-2.0
KBA	Koelnbreinsper comp=Z,2.7nm,0.6s	144.53	330	*i* PKP		PKPdf	08 44 41.2	-1.6
LESA	Schwarzleotal comp=Z,6.0nm,0.6s	144.59	331	*i* PKP		PKPdf	08 44 41.6	-1.2
MYKA	Terra Mystica comp=Z,4.1nm,0.6s	144.72	330	*i* PKP		PKPdf	08 44 41.5	-1.5
WATA	Walderalm comp=Z,4.9nm,0.5s	145.15	332	*i* PKP		PKPdf	08 44 43.1	-0.7
ABTA	Abfaltersbach comp=Z,14nm,1.0s	145.16	331	*i* PKP		PKPdf	08 44 43.0	-0.8
MOTA	Moosalm comp=Z,6.9nm,0.7s	145.35	333	*i* PKP		PKPab	08 44 44.2	-0.5
SQTA	Sankt Quirin comp=Z,11nm,0.8s	145.40	332	*i* PKP		PKPab	08 44 44.3	-0.6
FETA	Feichten comp=Z,10nm,1.8s	145.76	333	*i* PKP		PKPab	08 44 44.9	-1.3

*ISN **30** 08:42:36.0±1.2, 34°.77N×45°.86E, h25km±9km, ML2.7*
*TEH **30** 08:42:38.2, 34°.73N×45°.87E, h6km±990km, ML2.7*
ISC 30 08:42:36.5±1.9, 34°.8N±0°.1×45°.75E±0°.08, h10km, n11, σ0$76/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	Ghasr-e-Shirin	0.35	202	Pg	Pb	08 42 45.5	+0.6
IDHR	Dehrash	0.54	104	Pg	Pg	08 42 47.2	+0.1
IGHG	Ghaleghazi	0.84	127	Pg	Pb	08 42 53.4	0.0
ILIN	Ilam	1.00	85	Pg	Pn	08 42 57.3	+0.5
KCHF	Cheshme Sefid,	1.20	117	Pg	Pn	08 42 59.8	+0.2
ILBA	Ilam Banvizeh	1.27	162	Pg	Pn	08 43 01.5	+1.2
IBDR	Badra baz=358	1.73	175	*e*Pg	Pn	08 43 05.0	-1.6
IBDR				*e*Sg	Sn	08 43 28.0	-0.7
IBDR	comp=E,106nm,0.4s			AML	AML	08 43 46.0	
IBDR	comp=N,106nm,0.5s			AML	AML	08 43 47.5	
BHD	Baghdad	1.93	216	*e*Pn	Pn	08 43 09.0	-0.4
BHD				*e*Sn	Sn	08 43 34.0	+0.3
IKFM	Kafar-mosalman	2.18	126	Pn	Pb	08 43 16.1	+0.2
HSAM	Samen	2.44	104	Pn	Pb	08 43 20.5	0.0
HAGD	Aghdareh	2.79	89	Pn	Pb	08 43 25.8	-0.7

DJA 30 08:42:42.4±0.8, 8°.S±3°.×107°.E±°, h28km±9km, M3.9/10, mb4.7/1, MLv3.5/10, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	Cibinong	0.64	12	P	Pb	08 42 55.2	+0.1
CNJI				S	Sb	08 43 03.4	-0.3
BBJI	Bungbulang	0.80	54	P	Pb	08 42 57.2	-0.6
BBJI				S	Sb	08 43 06.8	-1.5
SKJI	Sukabumi	1.03	335	P	Pn	08 43 00.8	-0.2
SKJI				S	Sn	08 43 13.1	-1.4
LEM	Lembang	1.26	29	P	Pb	08 43 05.4	-0.3
DBJI	Dramaga	1.40	350	P	Pn	08 43 06.8	+0.7
CMJI	Cimerak	1.44	84	P	Pn	08 43 06.8	+0.1
CMJI				S	Sn	08 43 23.1	-1.6
KPJI	Karang Pucung	2.01	73	P	Pn	08 43 16.1	+1.7
UGM	Wanagama	3.49	90	P	Pn	08 43 36.6	+1.7
EGSI	Enggano, Bengk	5.35	298	P	Pn	08 44 01.6	+1.2

IDC 30 09:23:54.9±2.9, 54°.22N×87°.56E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=24.5km s-min=16.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA 0.1nm,0.9s,baz=81,slow=350,SNR=3.9	1.64	261	I	I	09 34 10.0	
ZALV	Zalesovo Beam 5.3nm,0.3s,baz=80,slow=17,SNR=46	1.64	261	Pg	Pn	09 24 23.0	-1.9
ZALV	2.6nm,0.3s,baz=78,slow=26,SNR=7.0			Lg	Lg	09 24 47.2	
KURBB	Kurchatov Arra 0.3nm,0.3s,baz=53,slow=13,SNR=11	6.59	241	Pn	Pn	09 25 33.7	+0.7
KURBB	baz=58,slow=32 2.0nm,0.4s			Lg	Lg	09 27 24.7	
MKAR	Makanchi Array 0.2nm,0.3s,baz=26,slow=13,SNR=13	8.16	206	Pn	Pn	09 25 55.7	+1.2
MKAR	0.2nm,0.3s,baz=22,slow=24,SNR=5.9			Sn	Sn	09 27 27.2	-0.2
MKAR	0.2nm,0.3s,baz=28,slow=31,SNR=6.3 0.3nm,0.4s			Lg	Lg	09 28 14.4	

*NNC **30** 09:25:17.7±2.4, 51°.89N×75°.64E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=73.6km s-min=13.0km az=29.0, Suspected Mining explosion.*
*IDC **30** 09:25:18.6±1.2, 51°.76N×75°.45E, h0km, mbtmp2.5/4, ML2.0/3, Error ellipse: s-maj=32.4km s-min=10.0km az=28.0*
ISC 30 09:25:17.9±1.0, 51°.78N±0°.09×75°.40E±0°.06, h0km, n9, σ0$77/9, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	Kurchatov Arra 2.4nm,0.3s	2.29	119	⇑Pg	Pb	09 25 59.5	-0.6
KURBB	21nm,0.6s			⇑Lg	Lg	09 26 28.9	
KURBB	Kurchatov Arra 0.5nm,0.3s,baz=303,slow=19,SNR=14	2.29	119	Pn	Pn	09 25 56.7	-0.1
KURBB				Lg	Lg	09 26 29.3	
KURK	Kurchatov 1.6nm,0.5s	2.29	117	⇑Pg	Pn	09 25 57.6	+0.7
KURK	6.7nm,0.5s			⇓Lg	Lg	09 26 25.8	
BVA0	Borovoye Array 1.5nm,0.6s,baz=83,slow=14,SNR=4.2	3.31	294	⇓Pg	Pg	09 26 20.4	-1.0
BVA0	6.5nm,0.6s,baz=110,slow=25,SNR=5.5			⇑Lg	Lg	09 27 03.7	
BVAR	Borovoye Array baz=108,slow=13,SNR=4.5	3.31	294	Pn	Pn	09 26 11.9	+0.9
BVAR	0.1nm,0.3s,baz=107,slow=19,SNR=4.2 0.5nm,0.3s			Lg	Lg	09 27 03.6	
I46RU	ZALESOVO INFRA baz=249,slow=333,SNR=4.0	6.10	65	I	I	10 01 50.0	
ZALV	Zalesovo Beam 0.7nm,0.4s,baz=250,slow=13,SNR=2.3	6.10	65	Pn	Pn	09 26 49.9	+0.6
ZALV	0.1nm,0.3s,baz=255,slow=28,SNR=2.0			Sn	Sn	09 28 00.0	+0.3
MK31	Makanchi Array 0.5nm,0.5s	6.72	135	⇑Sn	Sn	09 28 15.8	+0.7
MK31	1.9nm,0.7s,baz=318,slow=27,SNR=5.3			⇑Lg	Lg	09 28 48.3	
MKAR	Makanchi Array 0.1nm,0.3s,baz=320,slow=12,SNR=2.3	6.72	135	Pn	Pn	09 26 58.1	+0.2
MKAR	0.3nm,0.3s,baz=321,slow=27,SNR=7.5 0.3nm,0.7s			Lg	Lg	09 28 48.7	

*NNC **30** 09:33:06.8±1.2, 51°.76N×75°.44E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=47.1km s-min=7.4km az=27.0, Suspected Mining explosion.*
*IDC **30** 09:33:09.4±1.0, 51°.67N×75°.48E, h0km, mbtmp2.5/4, ML1.8/4, Error ellipse: s-maj=26.0km s-min=8.6km az=29.0*
ISC 30 09:33:02.3±1.1, 52°.37N±0°.10×75°.89E±0°.06, h0km, n9, σ1$45/10, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	Kurchatov 3.9nm,0.7s	2.38	133	⇑Pg	Pg	09 33 47.9	0.0
KURK	8.5nm,0.9s			⇑Lg	Lg	09 34 18.0	
KURBB	Kurchatov Arra 3.7nm,0.5s	2.41	136	⇓Pg	Pg	09 33 48.1	-0.3
KURBB	27nm,0.7s			⇑Lg	Lg	09 34 18.9	
KURBB	Kurchatov Arra 0.3nm,0.3s,baz=304,slow=19,SNR=22	2.41	136	Pn	Pb	09 33 47.2	+0.8
KURBB	0.4nm,0.3s,baz=306,slow=32,SNR=17 1.2nm,0.4s			Lg	Lg	09 34 18.4	
BVA0	Borovoye Array 1.0nm,0.5s,baz=122,slow=17,SNR=6.7	3.41	283	Pg	Pg	09 34 08.4	+0.8
BVA0	2.7nm,0.6s,baz=113,slow=28,SNR=4.7			⇓Lg	Lg	09 34 51.4	
BVAR	Borovoye Array baz=107,slow=14,SNR=5.4	3.41	283	Pn	Pb	09 34 03.6	+0.1
BVAR	0.1nm,0.3s,baz=106,slow=25,SNR=5.7 0.8nm,0.4s			Sn	Sb	09 34 43.8	-1.7
I46RU	ZALESOVO INFRA baz=251,slow=342,SNR=7.1	5.60	70	I	I	10 08 00.0	
ZALV	Zalesovo Beam 0.1nm,0.3s,baz=251,slow=14,SNR=1.9	5.60	70	Pn	Pb	09 34 40.9	+0.1
ZALV	0.2nm,0.3s,baz=265,slow=36,SNR=1.6 0.5nm,0.5s			Lg	Lg	09 36 23.4	
MK31	Makanchi Array 0.4nm,0.5s,baz=270,slow=12,SNR=4.1	6.96	141	⇓Sn	Sn	09 36 06.7	+1.3
MK31	0.7nm,0.5s,baz=337,slow=28,SNR=3.7			⇓Lg	Lg	09 36 36.0	
MKAR	Makanchi Array baz=326,slow=9.4,SNR=3.6	6.96	141	Pn	Pn	09 34 46.1	+0.6
MKAR	0.1nm,0.3s,baz=296,slow=20,SNR=2.4			Sn	Sn	09 36 02.5	-2.9
MKAR	0.2nm,0.3s,baz=319,slow=24,SNR=7.2 0.3nm,0.7s			Lg	Lg	09 36 36.4	

*NEIC **30** 09:39:02.4±1.7, 55°.84N±0°.08×149°.26W±0°.04, h10km±6km, mb4.1/2, ML3.8/37, ML3.5(AEIC), Error ellipse: s-maj=12.2km s-min=3.4km az=174.0*
*IDC **30** 09:39:03.2±2.5, 55°.92N×148°.96W, h0km, mb3.1/1, mbtmp3.3/6, ML3.0/5, MS2.8/3, Error ellipse: s-maj=33.7km s-min=23.2km az=44.0*
*AEIC **30** 09:39:04.5±2.6, 55°.75N±0°.08×149°.0W±0°.1, h10km±7km, Error ellipse: s-maj=12.2km s-min=8.4km az=161.0*
ISC 30 09:39:02.9±1.0, 55°.96N±0°.07×149°.14W±0°.05, h10km, n199, σ1$28/207, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.62	301	Pn	Pn	09 39 44.8	-0.4
OHAK				Sn	Sn	09 40 14.7	-2.3
OHAK	Old Harbor baz=120	2.62	301	P	Pn	09 39 44.8	-0.4
KDAK	Kodiak Island	2.63	315	Pn	Pn	09 39 45.4	0.0
KDAK				Sn	Sn	09 40 16.1	-1.2
KDAK	Kodiak Island baz=134	2.63	315	S	Sn	09 40 16.0	-1.2
KDAK	Kodiak Island 4.5nm,0.3s,baz=150,slow=6.0,SNR=111	2.63	315	Pn	Pn	09 39 45.3	0.0
KDAK	15nm,0.3s,baz=297,slow=20,SNR=24			Sn	Sn	09 40 15.8	-1.4
KDAK	comp=Z,54nm,21.1s,baz=168,slow=36 9.9nm,0.3s			LR	LR	09 40 41.4	
SII	Sitkinak Islan	2.88	284	Pn	Pn	09 39 47.2	-1.6
SII				Sn	Sn	09 40 21.4	-2.1
SII	comp=N,266nm,3.1s			IAML		09 40 31.5	
SII	Sitkinak Islan baz=103	2.88	284	P	Pn	09 39 47.2	-1.6
SII	baz=103			S	Sn	09 40 22.4	-1.1
SYI	Shuyak Island	3.19	328	Pn	Pn	09 39 53.6	+0.6
SYI	Shuyak Island	3.19	328		Sn	09 40 31.8	+0.7
Q20K	Shuyak Island baz=146	3.19	328	P	Pn	09 39 52.7	-0.4
Q20K	baz=146			S	Sn	09 40 31.8	+0.7
R18K	Karluk	3.34	301		Pn	09 39 54.2	-0.9
R18K	comp=N,177nm,0.5s			IAML		09 40 34.6	
R18K	comp=E,132nm,0.5s			IAML		09 40 38.1	
R18K	Karluk baz=119	3.34	301	P	Pn	09 39 54.1	-0.9
CNPM	China Poot	3.75	343	Pn	Pn	09 40 01.1	+0.4
CNPM	comp=E,83nm,2.7s			IAML		09 40 51.1	
CNPM	China Poot	3.75	343		Sn	09 40 45.2	+0.3
Q19K	Cape Douglas,	3.85	323		Pn	09 40 03.5	+1.4
Q19K	comp=E,313nm,1.1s			IAML		09 40 55.6	
Q19K	Cape Douglas, baz=140	3.85	323	P	Pn	09 40 03.0	+0.9
KAHG	Katmai Hook Gl	3.89	313		Pn	09 40 03.3	+0.7
BRSE	Bradley Lake S	3.89	348		Pn	09 40 02.8	+0.1
BRSE					Sn	09 40 47.4	-0.9
BRSE	Bradley Lake S baz=166	3.89	348	P	Pn

comp=N,106nm,2.4s
P19K IAML 09 41 06.0
comp=E,115nm,0.5s
P19K Oil Pt 4.30 331 P Pn 09 40 08.4 +0.1
baz=148
CNTC Contact Creek 4.34 305 Pn 09 40 08.9 -0.1
Q17K Contact Creek 4.34 305 P Pn 09 40 08.9 -0.1
baz=121
O22K Cooper Landing 4.55 356 Pn 09 40 06.9 -4.7
IVE Iliamna Volcan 4.56 335 Pn 09 40 12.1 +0.1
SLKM Skilak Lake 4.60 353 Pn 09 40 12.6 +0.1
HIN Hinchinbrook I 4.66 16 Pn Pn 09 40 14.1 +0.8
HIN IAML 09 41 07.0
comp=N,107nm,2.8s
HIN IAML 09 41 13.2
comp=E,120nm,2.5s
KAIM Kayak Island 4.71 30 Pn Pn 09 40 14.6 +0.8
KAIM Kayak Island 4.71 30 P Pn 09 40 13.3 -0.5
baz=212
P18K Big Mountain, 4.75 319 Pn Pn 09 40 15.1 +0.7
P18K IAML 09 41 13.2
comp=N,41nm,3.0s
P18K Big Mountain, 4.75 319 P Pn 09 40 14.5 0.0
baz=135
RSO Redoubt South 4.90 339 Pn Pn 09 40 15.2 -1.6
EYAK Cordova Ski Ar 4.94 20 Pn 09 40 16.4 -0.6
EYAK Cordova Ski Ar 4.94 20 P Pn 09 40 16.6 -0.4
baz=201
RDT Redoubt 4.94 341 Pn 09 40 17.3 +0.1
RDWB Redoubt West 4.95 338 Pn 09 40 17.4 +0.1
FID Port Fidalgo 5.00 15 Pn Pn 09 40 18.7 +0.7
DFR Drift River 5.01 340 Pn 09 40 18.2 +0.1
RAGM Ragged Mountai 5.03 26 Pn Pn 09 40 19.6 +1.3
RAGM IAML 09 41 33.0
comp=E,105nm,2.5s
O19K Port Alsworth 5.06 329 Pn Pn 09 40 20.1 +1.5
O19K IAML 09 41 33.2
comp=E,125nm,0.5s
O18K Koktuh Hills 5.07 323 Pn Pn 09 40 20.8 +1.9
O18K IAML 09 41 32.8
comp=E,53nm,2.4s
O18K IAML 09 42 48.6
comp=N,49nm,3.4s
O18K Koktuh Hills 5.07 323 P Pn 09 40 18.9 0.0
baz=138
P17K Kvichak River 5.09 313 Pn 09 40 19.0 -0.2
P17K Kvichak River 5.09 313 P Pn 09 40 19.0 -0.2
baz=128
ANPB Aniakchak Plen 5.15 283 Pn 09 40 18.9 -1.2
RC01 Rabbit Creek A 5.16 357 Pn 09 40 20.5 +0.5
RC01 IAML 09 41 27.2
comp=N,49nm,2.8s
RC01 IAML 09 41 56.6
comp=E,29nm,4.1s
RC01 Rabbit Creek A 5.16 357 P Pn 09 40 20.5 +0.5
baz=175
CHGN Chignik 5.20 278 Pn 09 40 19.1 -1.5
CHGN IAML 09 41 21.1
comp=N,43nm,1.0s
CHGN IAML 09 43 19.5
comp=E,84nm,2.6s
BERG Berg Lake 5.29 31 Pn 09 40 22.7 +0.7
SNH Sunshine Point 5.39 36 Pn Pn 09 40 23.5 +0.2
KNK Knik Glacier 5.48 3 Pn 09 40 25.1 +0.7
KNK Knik Glacier 5.48 3 P Pn 09 40 25.2 +0.7
baz=183
SPCP Crater Peak Br 5.55 345 Pn 09 40 25.7 +0.1
BMRM Bremner River 5.56 23 Pn 09 40 25.7 +0.1
BMRM Bremner River 5.56 23 P Pn 09 40 26.0 +0.4
baz=206
SUA Susitna One 5.58 352 Pn Pn 09 40 26.4 +0.4
N19K Bonanza Creek 5.62 332 Pn Pn 09 40 26.3 -0.2
N19K Bonanza Creek 5.62 332 P Pn 09 40 26.5 0.0
baz=148
PMR Palmer 5.65 0 Pn Pn 09 40 28.5 +1.8
P16K Nushagak River 5.68 306 Pn 09 40 27.2 0.0
P16K Nushagak River 5.68 306 P Pn 09 40 27.2 0.0
baz=120
KLU Klutina 5.80 15 Pn 09 40 29.4 +0.5
KLU Klutina 5.80 15 P Pn 09 40 29.9 +1.0
baz=197
S14K Fog Glacier 5.84 278 P Pn 09 40 28.1 -1.4
baz=91
VNFG Fog Glacier, M 5.84 278 Pn 09 40 27.6 -1.9
SML Sawmill 5.88 4 Pn 09 40 31.6 +1.5
SML Sawmill 5.88 4 P Pn 09 40 31.3 +1.3
baz=184
M23K Glacier View 5.90 7 Pn 09 40 31.4 +1.2
M23K Glacier View 5.90 7 P Pn 09 40 31.4 +1.2
baz=187
N18K Kilae Creek 5.92 326 Pn Pn 09 40 30.7 +0.2
N18K Kilae Creek 5.92 326 P Pn 09 40 30.5 0.0
baz=141
SCM Sheep Creek Mo 5.97 8 Pn Pn 09 40 32.2 +1.0
SCM Sheep Creek Mo 5.97 8 P Pn 09 40 31.9 +0.6
baz=189
O16K Kokwok River B 6.02 311 Pn Pn 09 40 32.4 +0.5
O16K Kokwok River B 6.02 311 P Pn 09 40 32.2 +0.4
baz=124
VRDI Verde Repeater 6.06 27 Pn Pn 09 40 33.4 +0.8
CHNA Chernabura Isl 6.06 264 P Pn 09 40 30.4 -2.1
baz=77
CNBA Chernabura Isl 6.07 263 Pn Pn 09 40 30.2 -2.4
KIAG Kiagna River 6.12 33 Pn 09 40 33.5 +0.1
N25K Chitina, Valde 6.13 21 Pn 09 40 34.9 +1.3
N25K Chitina, Valde 6.13 21 P Pn 09 40 34.2 +0.6
baz=203
GLB Gilahina Butte 6.16 25 Pn 09 40 34.5 +0.7
SKT Skwentna 6.16 349 Pn Pn 09 40 34.9 +1.0
N17K Nushagak Hills 6.25 320 Pn Pn 09 40 35.4 +0.5
N17K Nushagak Hills 6.25 320 P Pn 09 40 35.3 +0.3
baz=134
M20K Styx River 6.29 342 Pn Pn 09 40 36.5 +0.8
M20K Styx River 6.29 342 P Pn 09 40 36.3 +0.7
baz=159
MCARA McCarthy VSAT 6.30 28 Pn 09 40 36.7 +0.9
MCARA McCarthy VSAT 6.30 28 P Pn 09 40 36.2 +0.4
baz=212
M24K Tolsona, Glenn 6.35 13 Pn Pn 09 40 38.9 +2.4
BARN Barnard Glacie 6.44 34 Pn 09 40 38.6 +0.8
BCPM Bancas Point 6.45 48 Pn Pn 09 40 39.3 +1.5
SDPT Sand Point 6.45 269 Pn Pn 09 40 36.3 -1.5
CTG Chitina Glacier 6.47 36 P Pn 09 40 38.2 0.0
baz=221
CTGM Chitina Glacie 6.47 36 Pn Pn 09 40 39.1 +0.8
LOGN Logan Glacier 6.48 38 Pn Pn 09 40 40.3 +1.9
M19K Big River Lodg 6.55 338 Pn Pn 09 40 41.6 +2.4
O15K Ungalikthiuk R 6.59 304 Pn 09 40 40.1 +0.4
O15K Ungalikthiuk R 6.59 304 P Pn 09 40 40.1 +0.4
baz=116
WAT6 Susitna Watana 6.68 6 Pn 09 40 41.4 +0.3
WAT6 Susitna Watana 6.68 6 P Pn 09 40 41.4 +0.3
baz=186
WAT7 Susitna Watana 6.90 1 Pn 09 40 44.5 +0.5
L19K White Mountain 6.90 337 Pn Pn 09 40 45.7 +1.7
M17K Holitna River 6.96 325 Pn Pn 09 40 45.1 +0.4
M17K Holitna River 6.96 325 P Pn 09 40 45.5 +0.8
baz=138
O29M Mount Kennedy 7.08 48 Pn 09 40 47.8 +1.2
P29M Windy Craggy 7.11 54 Pn 09 40 47.9 +0.9
N15K Kwethluk River 7.18 310 Pn 09 40 49.0 +1.2
M26K Nabesna, AK 7.19 23 Pn Pn 09 40 49.2 +1.2
DHY Denali Highway 7.19 6 Pn 09 40 49.2 +1.1
M16K Timber Creek 7.22 319 Pn Pn 09 40 50.0 +1.5
M16K Timber Creek 7.22 319 P Pn 09 40 47.4 -1.0
baz=131
PN7A Pavlof North-7 7.29 271 Pn 09 40 47.5 -1.9
O14K Tigyukauivet M 7.30 302 Pn 09 40 49.1 -0.3
S31K Pelican 7.33 69 Pn Pn 09 40 49.0 -0.9
S31K Pelican 7.33 69 P Pn 09 40 48.0 -1.9
baz=258
M27K Edge Creek, AK 7.42 27 Pn Pn 09 40 52.2 +1.0
RND Reindeer 7.47 1 Pn Pn 09 40 53.9 +2.0
MENT Mentasta 7.52 19 Pn Pn 09 40 54.0 +1.5
TRF Thorofare Moun 7.54 356 Pn Pn 09 40 54.0 +1.1
CAST Castle Rocks 7.63 350 Pn Pn 09 40 56.5 +2.5
KTH Kantishna Hill 7.67 354 Pn Pn 09 40 56.2 +1.6
HYT Haines Junctio 7.81 47 Pn Pn 09 40 58.1 +1.5
TTA Tatalina 7.82 336 Pn Pn 09 40 58.4 +1.8
K20K Telida 7.83 343 Pn Pn 09 40 57.3 +0.6
L16K Owhat River 7.87 321 Pn Pn 09 40 57.5 +0.3
L27K Beaver Creek, 8.03 25 Pn Pn 09 41 00.5 +1.0
BCAR Beaver Creek A 8.04 25 Pn Pn 09 41 01.5 +1.8
RIDG Independent Ri 8.10 14 Pn 09 41 01.9 +1.5

S32K Killisnoo 8.15 73 Pn Pn 09 41 00.1 -1.0
SKAG Skagway 8.18 59 Pn Pn 09 41 01.1 -0.4
BPAW Bear Paw Mtn. 8.22 354 Pn Pn 09 41 02.5 +0.5
M14K Bethel 8.27 311 Pn Pn 09 41 03.8 +1.0
N30M Aishikik Lake 8.34 44 Pn Pn 09 41 04.9 +1.1
O30N Mendenhall 8.38 50 Pn Pn 09 41 05.7 +1.4
J18K Innoko River 8.44 336 Pn Pn 09 41 06.5 +1.4
SCRK Sand Creek 8.44 16 Pn Pn 09 41 06.4 +1.2
M29M Somme Creek 8.49 36 Pn 09 41 08.0 +2.1
HDA Harding Lake 8.55 6 Pn Pn 09 41 07.8 +1.2
J20K Nowinta River 8.61 345 Pn Pn 09 41 09.6 +2.2
J19K Poorman 8.69 341 Pn Pn 09 41 09.3 +0.9
M13K Dall Lake 8.73 307 Pn Pn 09 41 10.0 +1.0
CCB Clear Creek Bu 8.74 4 Pn Pn 09 41 10.8 +1.7
K27K Chicken 8.83 21 Pn Pn 09 41 11.1 +0.8
N31M Braeburn, Yuko 8.88 46 Pn Pn 09 41 12.8 +1.7
L14K Kuka Creek 8.88 313 Pn Pn 09 41 11.6 +0.6
J25K Salcha River, 8.88 11 Pn Pn 09 41 12.6 +1.5
IL31 8.91 6 Pn Pn 09 41 13.2 +1.8
ILAR Eielson Array 8.91 6 Pn Pn 09 41 13.8 +2.3
ILAR Eielson Array 8.91 6 Pn Pn 09 41 12.0 +0.5
comp=E,0.3nm,0.3s,baz=189,slow=13,SNR=12
ILAR Sn Sn 09 42 46.4 -5.5
baz=184,slow=22,SNR=2.0
ILAR LR LR 09 44 35.5
comp=E,60nm,20.6s,baz=162,slow=37
comp=E,0.8nm,0.4s
K15K Wolf Creek Mou 8.98 320 Pn Pn 09 41 14.2 +1.7
J26L Joseph Creek 9.00 16 Pn 09 41 15.2 +2.3
MDM Murphy Dome 9.04 2 Pn Pn 09 41 15.0 +1.7
L29M L29M 9.08 33 Pn Pn 09 41 16.4 +2.6
MLY Manley 9.14 356 Pn Pn 09 41 15.7 +1.1
M30M Minto, Yukon 9.15 38 Pn Pn 09 41 16.8 +1.9
J16K Anvik River 9.35 326 Pn Pn 09 41 17.2 -0.3
DAWY Dawson 9.47 27 Pn Pn 09 41 20.9 +1.7
P33M Teslin, Yukon 9.63 57 Pn Pn 09 41 23.1 +1.7
K29M Barlow Dome 9.81 32 Pn Pn 09 41 26.4 +2.5
M31M Drury Creek, Y 9.82 44 Pn Pn 09 41 26.5 +2.5
I26K Coal Creek Min 9.82 15 Pn Pn 09 41 26.8 +2.8
N32M Quiet Lake 9.86 52 Pn 09 41 26.3 +1.7
H21K Melozitna Rive 9.89 351 Pn 09 41 26.1 +1.1
H24K Noodor Dome 9.93 3 Pn Pn 09 41 27.0 +1.5
J14K Nanvaranak Lak 10.01 319 Pn Pn 09 41 27.1 +0.6
H19K Roundabout Mou 10.23 343 Pn Pn 09 41 29.9 +0.3
FARO Faro, Yukon 10.25 46 Pn Pn 09 41 32.1 +2.2
R33M Jennings River 10.31 63 Pn Pn 09 41 31.4 +0.6
H17K Granite Mounta 10.44 334 Pn Pn 09 41 31.2 -1.2
I28M Miner Creek 10.52 21 Pn Pn 09 41 34.4 +0.8
DLBC Dease Lake 10.65 69 Pn Pn 09 41 35.2 -0.3
comp=E,0.1nm,0.3s,baz=241,slow=10,SNR=1.2
DLBC Sn Sn 09 43 32.5 -2.2
comp=E,0.1nm,0.3s,baz=127,slow=17,SNR=1.9
comp=E,1.5nm,0.8s
J30M Hart River 10.70 31 Pn Pn 09 41 38.3 +2.2
G21K Allakaket 10.80 351 Pn Pn 09 41 38.2 +0.9
G23K Bananza Creek 10.80 358 Pn Pn 09 41 37.9 +0.5
FYU Fort Yukon 10.80 8 Pn Pn 09 41 38.9 +1.5
I30M Mount Dempster 11.18 29 Pn Pn 09 41 44.1 +1.5
F20K Avaraart Lake 11.55 347 Pn Pn 09 41 46.2 -1.4
F24K Squaw Lake 11.62 2 Pn Pn 09 41 48.4 -0.2
BMAR Burnt Mountain 11.71 9 Pn Pn 09 41 49.9 +0.2
F17K Baldwin Pennin 12.00 336 Pn Pn 09 41 53.5 -0.2
E25K Arctic Village 12.32 6 Pn Pn 09 41 59.9 +1.8
INK Inuvik 14.31 24 Pn Pn 09 42 27.5 +2.3
INK Inuvik 14.31 24 Pn Pn 09 42 27.2 +2.1
baz=206,slow=16,SNR=7.9
comp=E,4.6nm,1.1s
B22K Teshekpuk Lake 14.56 354 Pn Pn 09 42 30.0 +1.4
YKA Yellowknife Ar 18.65 55 P Pn 09 43 22.2 +1.4
baz=265,slow=9.9,SNR=2.1
comp=E,0.1nm,0.8s
A36M Sachs Harbour 18.95 23 Pn 09 43 25.1 +0.8
A36M IAmb IAmb 09 43 38.1
comp=E,7.3nm,0.9s
NEW Newport 20.96 98 LR LR 09 50 36.0
comp=E,76nm,18.1s,baz=283,slow=33
KMRM Mail Ridge 22.96 123 P P 09 44 07.3 0.0
KMRM IAmb IAmb 09 44 18.3
comp=E,14nm,1.3s
NVAR Mina Array Bea 26.99 118 P P 09 44 45.9 +1.0
comp=E,0.1nm,0.5s,baz=315,slow=8.9,SNR=1.9
comp=E,0.1nm,0.5s

*CATAC **30** 09:45:14.6±0.5, 8.°31N×83.°09W, h6km±2km, ML4.7*
*UCR **30** 09:45:14.0±0.7, 8.°35N×83.°08W, h3km±4km, MW4.8, MB4.6(NEIC)*
*IDC **30** 09:45:14.9±1.5, 8.°81N×82.°70W, h0km, mb3.9/10, mbtmp3.9/13, ML4.0/3, MS3.6/23, Error ellipse: s-maj=43.6km s-min=22.7km az=30.0*
*UPA **30** 09:45:15.0±1.8, 8.°41N×83.°03W, h0km±5km, MW4.5, Fault plane solution: NP1:ϕs145.00000°, δ25.00000°, λ118.00000°.*
*NEIC **30** 09:45:17.5±1.9, 8.°54N±0.°05×83.°03W±0.°05, h10km±5km, mb4.6/70, Error ellipse: s-maj=9.1km s-min=4.7km az=218.0*
ISC 30 09:45:15.8±0.8, 8.°39N±0.°02×83.°07W±0.°02, h13km±5km, n262, σ1ϟ42/279, mb4.5/44, MS3.6/19, 11C-14D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITO	**Golfito**	**0.24**	**340**	*eP*		**Pg**	**09 45 20.0**	**-1.1**
CDITO	**Canoas**	**0.26**	**47**			**Pg**	**09 45 20.9**	**-0.5**
CDITO	**Canoas**	**0.26**	**47**	*i*P	↓	**Pg**	**09 45 21.0**	**-0.5**
CDITO				*e*S		**Sg**	**09 45 25.2**	**+0.1**
CDITO	**Canoas**	**0.26**	**47**	*i*P		**Pg**	**09 45 21.0**	**-0.4**
CDITO				*i*S		**Sb**	**09 45 26.2**	**-0.7**
CDITO				IAML			09 45 32.3	
comp=E,64μm,1.0s								
PTPM	**Petroterminale**	**0.27**	**135**	*i*P	↓	**Pg**	**09 45 20.6**	**-0.9**
PTPM				*e*S		**Sg**	**09 45 25.2**	**0.0**
PIRO	**Carate, Puerto**	**0.27**	**272**	*e*P		**Pg**	**09 45 19.8**	**-1.6**
PIRO	**Carate, Puerto**	**0.27**	**272**	*i*P		**Pg**	**09 45 20.7**	**-0.7**
PIRO				*i*S		**Sg**	**09 45 26.2**	**+1.0**
PIRO				IAML			09 45 30.6	
comp=E,140μm,1.0s								
EDAD	**Golfito**	**0.27**	**339**	*e*P		**Pg**	**09 45 20.5**	**-1.2**
EDAD				*e*S		**Sg**	**09 45 25.1**	**-0.4**
JIME	**Puerto Jimenez**	**0.29**	**299**	*e*P		**Pg**	**09 45 20.8**	**-1.1**
MLIR3	**Monte Lirio, C**	**0.46**	**31**	*i*P	↓	**Pg**	**09 45 25.1**	**0.0**
MLIR3				*e*S		**Sn**	**09 45 35.0**	**-1.5**
BRU2	**Volcan**	**0.55**	**43**			**Pg**	**09 45 26.0**	**-0.6**
BRU2	**Volcan**	**0.55**	**43**	*i*P	↓	**Pg**	**09 45 26.2**	**-0.4**
BRU2				*e*S		**Sb**	**09 45 35.3**	**+0.1**
BRU2	**Volcan**	**0.55**	**43**	*e*P		**Pg**	**09 45 26.2**	**-0.4**
BRU2				*e*S		**Sb**	**09 45 35.1**	**-0.1**
BRU2	**Volcan**	**0.55**	**43**	*i*P		**Pg**	**09 45 26.4**	**-0.2**
BRU2				*i*S		**Sb**	**09 45 38.7**	**+0.6**
BRU2				IAML			09 45 49.2	
comp=E,38μm,1.0s								
DVD	**David**	**0.61**	**86**	*i*P	↓	**Pg**	**09 45 26.5**	**-1.3**
DVD				*e*S		**Sb**	**09 45 36.6**	**-0.4**
BC3P	**Paso Ancho**	**0.62**	**47**	*i*P	↓	**Pg**	**09 45 27.2**	**-0.8**
BC3P				*e*S		**Sb**	**09 45 36.7**	**-0.7**
BCO2	**Palmira**	**0.62**	**59**	*i*P	↓	**Pg**	**09 45 27.4**	**-0.6**
BCO2				*e*S		**Sb**	**09 45 37.1**	**-0.4**
PEDE3	**Pedregal, Chir**	**0.64**	**91**	*i*P	↓	**Pg**	**09 45 26.8**	**-1.6**
PEDE3				*e*S		**Sb**	**09 45 37.5**	**-0.3**
PTAR3	**Potrerillos Ar**	**0.64**	**62**	*i*P	↓	**Pg**	**09 45 27.6**	**-0.8**
POTG	**Potrero Grande**	**0.66**	**356**	*i*P		**Pg**	**09 45 28.0**	**-0.7**
POTG				*i*S		**Sb**	**09 45 38.7**	**+0.3**
POTG				IAML			09 45 44.5	
comp=E,41μm,1.0s								
EDPN	**Palmar Norte**	**0.68**	**326**	*e*P		**Pg**	**09 45 27.6**	**-1.5**
LNBQ3	**Los Naranjos,**	**0.73**	**57**	*i*P	↓	**Pg**	**09 45 28.8**	**-1.3**
LNBQ3				*e*S		**Sb**	**09 45 40.4**	**-0.3**
EDBA	**Buenos Aires**	**0.79**	**345**	*e*P		**Pg**	**09 45 30.2**	**-1.0**
BURE	**Buenos Aires**	**0.82**	**341**	*e*P		**Pg**	**09 45 30.5**	**-1.2**
DRK0	**Durika**	**0.88**	**349**	Pg		**Pg**	**09 45 31.4**	**-1.6**
OCHAL	**Ojochal**	**0.90**	**321**	*i*P		**Pg**	**09 45 31.0**	**-2.3**
OCHAL				*i*S		**Sn**	**09 45 46.4**	**-0.8**
OCHAL				IAML			09 45 53.3	
comp=E,110nm,1.0s								
CHGR2	**Aguacate**	**1.06**	**59**	*e*P	↓	**Pb**	**09 45 34.3**	**-1.8**
CHGR2				*e*S		**Sn**	**09 45 50.8**	**-0.4**
PEZE	**Perez Zeledon,**	**1.15**	**329**			**Pb**	**09 45 35.6**	**-2.1**
PEZE	**Perez Zeledon,**	**1.15**	**329**	*i*P		**Pb**	**09 45 36.0**	**-1.7**
PEZE				*i*S		**Sn**	**09 45 54.6**	**+1.1**
PEZE				IAML			09 45 57.2	
comp=E,8μm,1.0s								

CNI2 El Empalme, Bo 1.18 30 *i*P Pb 09 45 36.4 -1.8
CNI2 *e*S Sg 09 45 53.3 -0.7
BRIBI Bribri 1.24 10 *e*P Pn 09 45 38.5 -0.5
RGM0 Gandoca 1.27 21 Pb 09 45 39.6 -0.2
RGM0 Gandoca 1.27 21 *e*P Pb 09 45 39.7 0.0
RGM0 Gandoca 1.27 21 *i*P Pg 09 45 39.9 -0.5
RGM0 *i*S Sg 09 46 00.2 +3.3
RGM0 IAML 09 46 12.4
comp=E,12μm,1.0s
NANC3 Nancito, Chiri 1.33 97 *i*P Pn 09 45 37.4 -2.8
BUS1 Rivas 1.33 330 *e*P Pn 09 45 38.6 -2.1
CDM Cerro de Muert 1.34 329 *i*P Pn 09 45 39.2 -1.6
CDM *i*S Sg 09 46 00.0 +0.7
CDM IAML 09 46 05.0
comp=E,5μm,1.0s
RIMA Rio Macho 1.57 330 Pn 09 45 42.5 -1.2
RIMA Rio Macho 1.57 330 *i*P Pn 09 45 42.5 -1.2
RIMA *i*S Sb 09 46 05.6 +0.7
RIMA IAML 09 46 12.2
comp=E,4μm,1.0s
TURIB Turrialba 1.62 338 *e*P Pn 09 45 44.6 +0.3
ABE2 San Pablo 1.63 323 *e*P Pn 09 45 43.8 -0.6
LCR2 La Lucha 2 1.63 325 Pn 09 45 43.8 -0.6
LCR2 La Lucha 2 1.63 325 *e*P Pn 09 45 43.2 -1.3
LCR2 La Lucha 2 1.63 325 *i*P Pn 09 45 44.1 -0.4
LCR2 *i*S Sg 09 46 08.2 -0.2
LCR2 IAML 09 46 12.5
comp=E,6μm,1.0s
REPA Paraso 1.63 331 *e*P Pn 09 45 44.5 0.0
RVSTA Santa Teresita 1.67 340 *e*P Pn 09 45 44.6 -0.4
PCAYA Pacayas 1.68 334 *e*P Pn 09 45 44.8 -0.5
TAAN Batan 1.70 351 *e*P Pn 09 45 45.2 -0.1
OCM Ochomogo 1.73 329 *i*P Pn 09 45 45.2 -0.7
OCM *i*S Sb 09 46 09.5 0.0
OCM IAML 09 46 17.2
comp=E,5μm,1.0s
CVTV Tajo 1.74 337 *e*P Pn 09 45 45.9 -0.2
IRES Siquirres 1.75 346 *e*P Pn 09 45 45.6 -0.2
ACOS Acosta 1.76 322 *e*P Pn 09 45 46.2 -0.1
RVLA Villa Bonita 1.78 343 *e*P Pn 09 45 46.3 -0.1
AMPA Desamparados 1.79 327 *e*P Pn 09 45 47.0 +0.4
SJS3 Mercedes San J 1.82 328 *e*P Pn 09 45 46.7 -0.3
LUJA Lujan 1.82 327 *e*P Pn 09 45 47.3 +0.3
CORON Coronado 1.82 330 *e*P Pn 09 45 47.8 +0.7
MEXI Barrio Mexico 1.84 327 *e*P Pb 09 45 49.1 -0.4
DOMI Santo Domingo 1.87 327 *e*P Pb 09 45 49.2 -0.9
MESA3 La Mesa, Verag 1.88 97 *i*P Pn 09 45 46.0 -1.8
SANTA Santa Ana 1.89 324 *e*P Pn 09 45 48.2 +0.3
HDC3 Heredia 3 1.90 327 *i*P Pn 09 45 48.6 +0.4
HDC3 *i*S Sg 09 46 15.9 -1.2
HDC3 IAML 09 46 21.4
comp=E,9μm,1.0s
HDC Heredia 1.90 327 Pn 09 45 48.4 +0.2
HDC Heredia 1.90 327 *e*P Pn 09 45 47.8 -0.4
BELE Belen 1.92 325 *e*P Pn 09 45 49.7 +1.3
GMAL Guarumal, Vera 1.92 109 *i*P Pn 09 45 45.7 -2.6
GMAL *e*S Sn 09 46 11.5 -0.9
GMAL Guarumal, Vera 1.92 109 *e*P Pn 09 45 46.2 -2.2
GMAL Guarumal, Vera 1.92 109 *e*P Pn 09 45 45.5 -2.8
RSUS3 Rio de Jesus, 1.93 102 *i*P Pn 09 45 47.6 -0.9
SAFE3 Santa Fe, Vera 1.97 86 *e*P Pn 09 45 49.7 +0.6
JACO JACO, Garabito 2.02 309 Pn 09 45 48.4 -1.2
JACO JACO, Garabito 2.02 309 *i*P Pb 09 45 51.4 -1.0
JACO *i*S Sb 09 46 17.8 +0.4
JACO IAML 09 46 35.4
comp=E,4μm,1.0s
TCS1 Tacares 2.04 323 *i*P Pn 09 45 51.1 +1.1
TCS1 IAML 09 46 23.7
comp=E,74μm,1.0s
RIFO Rio Frio, Sara 2.09 336 *i*P Pn 09 45 51.2 +0.6
RIFO *i*S Sb 09 46 18.6 -1.0
RIFO IAML 09 46 34.3
comp=E,5μm,1.0s
STIA3 Santiago, Vera 2.10 98 *i*P Pn 09 45 49.2 -1.5
STIA3 *e*S Sb 09 46 19.9 +0.1
MARI3 Mariato, Verag 2.19 110 *i*P Pn 09 45 51.7 -0.2
MARI3 *e*S Sb 09 46 24.2 +1.8
CALO3 Calobre, Verag 2.21 92 *e*P Pn 09 45 51.0 -1.3
CPMI Catarata Coope 2.28 325 *i*P Pn 09 45 54.6 +1.1
CPMI *i*S Sn 09 46 23.3 +1.7
CPMI IAML 09 46 28.4
comp=E,3μm,1.0s
LAFE Finca La Fe, P 2.30 308 *i*P Pn 09 45 54.4 +0.9
LAFE *i*S Sn 09 46 23.7 +2.0
LAFE IAML 09 46 39.0
comp=E,29nm,1.0s
CACAO El Cacao, Vera 2.42 115 *e*P Pn 09 45 54.7 -0.5
CACAO *e*S Sb 09 46 30.3 +1.2
CACAO El Cacao, Vera 2.42 115 *e*P Pn 09 45 54.3 -0.9
CRIS3 El Cristo, Coc 2.43 93 *i*P Pn 09 45 56.0 +0.7
SOCE Pocosol 2.50 322 Pn 09 45 56.9 +0.6
SOCE Pocosol 2.50 322 *i*P Pn 09 45 57.6 +1.3
SOCE IAML 09 46 44.5
comp=E,5μm,1.0s
ARE1 Arenal 1 2.62 322 Pn 09 45 59.2 +1.3
JTS Las Juntas de 2.65 316 Pn 09 45 58.2 -0.2
JTS Las Juntas de 2.65 316 *i*P Pn 09 45 59.6 +1.3
JTS *e*S Sn 09 46 32.8 +2.4
JTS Las Juntas de 2.65 316 Pn Pn 09 45 57.8 -0.5
comp=E,57nm,0.3s,baz=117,slow=8.4,SNR=142
JTS Sn Sn 09 46 29.9 -0.5
comp=E,64nm,0.3s,baz=182,slow=19,SNR=4.6
comp=E,296nm,0.7s
JTS Las Juntas de 2.65 316 *e*P Pn 09 45 58.3 0.0
CHIT3 Chitre 2.66 99 *e*P Pn 09 45 59.6 +1.2
CHIT3 *e*S Sb 09 46 33.1 -2.8
COVE Coope Vega, Sa 2.66 330 Pn 09 45 59.1 +0.7
COVE Coope Vega, Sa 2.66 330 *i*P Pn 09 46 00.0 +1.5
COVE IAML 09 47 01.4
comp=E,3μm,1.0s
PNME Penonome 2.71 88 *e*P Pb 09 46 04.1 -0.2
PNME *e*S Sb 09 46 35.7 -1.8
PNME Penonome 2.71 88 *e*P Pn 09 45 59.5 +0.3
TOSI3 Tonosi 2.78 110 *e*P Pn 09 46 02.4 +2.3
INDI Punta indio, G 2.81 302 *i*P Pn 09 46 00.1 -0.5
INDI *i*S Sn 09 46 32.5 -1.9
INDI IAML 09 47 01.2
comp=E,2μm,1.0s
DUNO Dulce Nombre, 2.92 305 Pn 09 46 02.0 0.0
DUNO Dulce Nombre, 2.92 305 *i*P Pn 09 46 02.1 0.0
DUNO IAML 09 46 59.8
comp=E,2μm,1.0s
ACHO3 Achotines, Los 3.03 109 *e*P Pn 09 46 02.8 -0.7
ACHO3 *e*S Sb 09 46 47.8 +1.2
ORTG Ortega, Santa 3.06 310 Pn Pn 09 46 04.5 +0.4
ORTG Ortega, Santa 3.06 310 *i*P Pn 09 46 04.8 +0.7
ORTG *i*S Sn 09 46 41.3 +0.5
ORTG IAML 09 47 00.9
comp=E,1μm,1.0s
SAJU San Juanillo, 3.09 303 *i*P Pn 09 46 03.7 -0.8
SAJU *i*S Sn 09 46 38.6 -2.7
SAJU IAML 09 47 07.4
comp=E,2μm,1.0s
BCIP Isla Barro Col 3.28 76 Pn 09 46 07.2 +0.1
BCIP Isla Barro Col 3.28 76 *e*P Pn 09 46 08.0 +0.9
BCIP *e*S Sb 09 46 54.0 0.0
BCIP Isla Barro Col 3.28 76 *e*P Pn 09 46 07.5 +0.4
HZTE Horizontes, Gu 3.40 313 Pn 09 46 10.2 +1.6
ARRA3 Arraijan, Pana 3.42 80 *e*P Pn 09 46 07.6 -1.4
ARRA3 *e*S Sb 09 46 57.8 -0.1
UPA Univ. de Panam 3.54 80 *e*P Pn 09 46 14.3 +3.7
UPA Univ. de Panam 3.54 80 *e*P Pn 09 46 13.2 +2.6
BLUN Bluefields 3.66 349 *i*P Pn 09 46 11.0 -1.2
BLUN IAML 09 46 18.1
comp=E,420nm,1.0s
ESPN Las Esperanzas 3.97 342 Pn 09 46 16.6 +0.2
CONN Concepcion 4.03 322 *i*P Pn 09 46 17.8 +0.4
CONN IAML 09 47 27.8
comp=E,4μm,1.0s
JAPN Al SSO del Vol 4.04 321 *i*P Pn 09 46 19.5 +2.1
JAPN IAML 09 47 27.0
comp=E,310nm,1.0s
ACON Acoyapa 4.11 330 Pn 09 46 19.2 +0.7
ACON Acoyapa 4.11 330 *e*P Pn 09 46 18.8 +0.3
ACON Acoyapa 4.11 330 *i*P Pn 09 46 20.6 +2.1
ACON IAML 09 46 32.8
comp=E,650nm,1.0s
BOAB BOACO BROADBAN 4.77 328 Pn Pn 09 46 28.6 +1.0
BOAB BOACO BROADBAN 4.77 328 *i*P Pn 09 46 29.2 +1.7
BOAB IAML 09 46 47.8
comp=E,280nm,1.0s
SAPS Ciudad Sandino 4.99 319 *i*P Pn 09 46 33.5 +3.0

UPD2	**Meteti**	5.00	88	*eP*	**Pn**	**09 46 32.7 +2.0**	
COPN	**Copaltepe**	5.12	318	*i* P	**Pn**	**09 46 34.3 +2.0**	
MOMN	**Momotombo**	5.25	320	*i* P	**Pn**	**09 46 38.6 +4.4**	
MATN	**Matagalpa**	5.31	328		**Pn**	**09 46 35.7 +0.7**	
MATN	**Matagalpa**	5.31	328	*i* P	Pn	09 46 41.0 +6.0	
CNGN	**Cerro Negro**	5.42	319		**Pn**	**09 46 38.3 +1.8**	
ROCN	**Rota Cerro Neg**	5.47	319	*i* P	**Pn**	**09 46 40.8 +3.7**	
CRIN	**San Cristobal**	5.80	318		**Pn**	**09 46 43.1 +1.4**	
SOLC	**Bahia Solano**	6.01	111	*eP*	**Pn**	**09 46 41.0 -3.6**	
APAC	**Apartado, Choc**	6.44	94	*eP*	Pn	09 46 57.1 +6.6	
DBBC	**Dabeiba**	6.93	101	*eP*	**Pn**	**09 46 58.9 +1.5**	
TGUH	**Tegucigalpa,Un**	6.98	324	Pn	**Pn**	**09 46 59.7 +1.7**	
CBOC	**Ciudad Bolivar**	7.44	109	*eP*	**Pn**	**09 47 04.2 -0.2**	
UREC	**San Jos de Ur**	7.49	94	*eP*	**Pn**	**09 47 06.1 +1.2**	
PLMC	**San Jos del P**	7.58	117	*eP*	**Pn**	**09 47 06.1 -0.1**	
SJCC	**San Jacinto, C**	7.93	79	*eP*	**Pn**	**09 47 07.4 -3.7**	
YOTC	**Yotoco, Valle**	7.99	123	*eP*	**Pn**	**09 47 09.7 -2.2**	
SNET	**Serv Nac Est T**	8.02	312	Pn	**Pn**	**09 47 14.3 +2.1**	
GUY2C	**Guyana, Caldas**	8.27	112	*eP*	**Pn**	**09 47 16.5 +0.4**	
ANIL	**Santa Ana**	8.55	117	*eP*	**Pn**	**09 47 23.2 +3.5**	
BBAC	**Balboa, Cauca**	8.58	137	*eP*	**Pn**	**09 47 22.2 +2.1**	
MTO3	**Montecristo**	8.58	315		**Pn**	**09 47 22.2 +2.1**	
POPC	**Popayan, Colom**	8.62	132	*eP*	**Pn**	**09 47 23.8 +3.2**	
ESQI	**Esquipulas**	8.68	315		**Pn**	**09 47 24.1 +2.7**	
ORTC	**Ortega, Tolima**	8.96	119	*eP*	**Pn**	**09 47 24.5 -0.7**	
GCUF	**Volcan Galeras**	9.12	141	*eP*	**Pn**	**09 47 29.3 +1.5**	
TULM	**Tulcn-Chalpat**	9.27	145		**Pn**	**09 47 33.2 +3.5**	
OTAV	**Otavalo**	9.32	150	Pn	**Pn**	**09 47 32.2 +1.8**	
OTAV	**Otavalo**	9.32	150	*eP*	**Pn**	**09 47 31.8 +1.4**	
PRAC	**Prado**	9.37	119	*eP*	**Pn**	**09 47 34.5 +3.7**	
IMBA	**Imbabura, San**	9.41	149	Pn	**Pn**	**09 47 35.1 +3.5**	
PULU	**Pululahua**	9.48	151	Pn	**Pn**	**09 47 35.8 +3.2**	
GARC	**Garzon, Huila**	9.74	129	*eP*	**Pn**	**09 47 37.7 +1.6**	
SLOR	**San Lorenzo -**	10.14	153		**Pn**	**09 47 45.0 +3.2**	
CHSH	**Refugio Sur-Vo**	10.68	157		**Pn**	**09 47 52.1 +3.0**	
COHC	**Cochancay**	11.44	160		**Pn**	**09 48 00.3 +1.2**	
ARNL	**Arenillas**	12.23	166	Pn	**Pn**	**09 48 12.9 +3.0**	
SDV	**Santo Domingo**	12.30	87	Pn	**Pn**	**09 48 12.8 +1.7**	
TEIG	**Tepich**	12.80	337	LR	LR	09 53 05.5	
	comp=Z,2µm,18.4s,baz=310,slow=38						
CMIG	**Matias Romero**	14.40	308	Pn	**Pn**	**09 48 41.0 +1.4**	
	comp=Z,0.6nm,0.3s,baz=155,slow=6.7,SNR=5.8						
	comp=Z,1.6nm,0.4s						
BAUV	**El Baul**	14.87	87	Pn	**Pn**	**09 48 47.3 +1.3**	
SDDR	**Presa de Saban**	15.54	46	Pn	**Pn**	**09 48 55.9 +1.0**	
SDDR				IAmb	IAmb	09 49 05.0	
	comp=Z,30nm,1.1s						
ATAH	**Atahualpa**	16.11	163	Pn	**P**	**09 49 06.4 +0.4**	
	comp=Z,0.3nm,0.3s,baz=50,slow=7.9,SNR=3.1						
ATAH				LR	LR	09 54 29.7	
	comp=Z,163nm,21.0s,baz=338,slow=34						
	comp=Z,5.2nm,0.9s						
PCRV	**Puerto La Cruz**	18.28	83	LR	LR	09 58 02.5	
	comp=Z,261nm,21.4s,slow=43						
SJG	**San Juan**	19.07	58	LR	LR	09 56 17.3	
	comp=Z,159nm,19.7s,baz=228,slow=36						
BOAV	**Boa Vista**	23.21	104	P	**P**	**09 50 23.2 +0.3**	
255A	**Hazlehurst**	23.42	1	P	**P**	**09 50 24.6 -0.2**	
HBVL	**Hebbronville**	23.73	323	P	**P**	**09 50 28.9 +1.0**	
HBVL				IAmb	IAmb	09 50 31.8	
	comp=Z,13nm,1.2s						
154A	**Montrose**	24.10	360	P	**P**	**09 50 31.7 +0.4**	
152A	**Waverly Hall**	24.20	357	P	**P**	**09 50 33.1 +0.8**	
152A				IAmb	IAmb	09 50 40.4	
	comp=Z,14nm,1.0s						
ETMB	**Extrema**	24.68	137	P	**P**	**09 50 37.2 +0.4**	
LRAL	**Lakeview Retre**	24.79	352	P	**P**	**09 50 37.7 +0.1**	
LRAL				IAmb	IAmb	09 50 41.3	
	comp=Z,22nm,1.3s						
GOGA	**Godfrey**	24.90	359	P	**P**	**09 50 39.2 +0.6**	
GOGA				IAmb	IAmb	09 50 47.2	
	comp=Z,19nm,1.1s						
MACA	**Manacapuru-AM**	25.10	116	P	**P**	**09 50 41.4 +0.8**	
MACA				IAmb	IAmb	09 50 49.3	
	comp=Z,10nm,0.8s						
Y49A	**Blount Mountai**	25.53	354	P	**P**	**09 50 46.0 +1.6**	
Y49A				IAmb	IAmb	09 51 04.2	
	comp=Z,20nm,1.3s						
HODGE	**Hodges**	25.73	2	P	**P**	**09 50 47.3 +1.2**	
HNDO	**Hondo**	25.96	326	P	**P**	**09 50 49.1 +0.8**	
W50A	**Signal Mountai**	26.76	356	P	**P**	**09 50 53.3 -2.2**	
W50A				IAmb	IAmb	09 51 02.7	
	comp=Z,20nm,1.2s						
TKL	**Tuckaleechee C**	27.14	359	LR	LR	10 02 08.4	
	comp=Z,111nm,18.3s,baz=178,slow=38						
V48A	**Smith Brothers**	27.43	353	P	**P**	**09 50 59.1 -2.4**	
V58A	**Windy Hill, Pi**	27.51	7	P	**P**	**09 51 02.5 +0.3**	
WHAR	**Wooly Hollow**	28.07	344	P	**P**	**09 51 07.5 +0.3**	
WHAR				IAmb	IAmb	09 51 14.0	
	comp=Z,22nm,1.3s						
TXAR	**Lajitas Array**	28.43	320	P	**P**	**09 51 10.6 0.0**	
TXAR	**Lajitas Array**	28.43	320	P	**P**	**09 51 10.9 +0.2**	
	comp=Z,0.2nm,0.8s,baz=122,slow=8.6,SNR=2.3						
TXAR				LR	LR	10 04 42.3	
	comp=Z,30nm,19.7s,baz=42,slow=41						
	comp=Z,0.2nm,0.8s						
TX31	**Lajitas Ar. Si**	28.43	320	P	**P**	**09 51 11.4 +0.8**	
LCAR	**Lake Charles**	28.52	346	P	**P**	**09 51 10.8 -0.3**	
LCAR				IAmb	IAmb	09 51 11.3	
	comp=Z,10nm,0.9s						
S51A	**Beattyville**	29.12	359	P	**P**	**09 51 17.3 +0.8**	
S51A				IAmb	IAmb	09 51 27.1	
	comp=Z,6.9nm,0.9s						
MGMO	**Mountain Grove**	29.82	345	P	**P**	**09 51 22.3 -0.5**	
MGMO				IAmb	IAmb	09 51 30.4	
	comp=Z,12nm,1.1s						
R49A	**Shelbyville**	29.83	357	P	**P**	**09 51 23.0 +0.2**	
CCM	**Cathedral Cave**	30.44	347	P	**P**	**09 51 25.6 -2.6**	
CCM				IAmb	IAmb	09 51 30.8	
	comp=Z,9.5nm,1.1s						
Q51A	**Peebles**	30.50	360	P	**P**	**09 51 29.8 +1.0**	
S39A	**Bolivar**	30.61	344	P	**P**	**09 51 29.1 -0.6**	
S39A				IAmb	IAmb	09 51 35.1	
	comp=Z,16nm,1.4s						
P53A	**Whipple**	31.00	3	P	**P**	**09 51 34.3 +1.2**	
P38A	**Dawn**	32.48	345	IAmb	IAmb	09 51 50.9	
	comp=Z,7.9nm,1.1s						
319A	**Douglas**	33.45	317	P	**P**	**09 51 56.4 +1.5**	
319A				IAmb	IAmb	09 52 00.5	
	comp=Z,6.1nm,1.0s						
N38A	**Joes South For**	33.51	346	P	**P**	**09 51 54.5 -0.7**	
ANMO	**Albuquerque**	34.03	324	LR	LR	10 07 39.8	
	comp=Z,35nm,19.5s,baz=218,slow=40						
I42A	**Draeger Farm,**	35.73	353	P	**P**	**09 52 14.3 0.0**	
SADO	**Sadowa**	36.40	5	LR	LR	10 08 12.2	
	comp=Z,100nm,18.2s,baz=250,slow=38						
X16A	**Lo Mia Camp, P**	36.75	319	P	**P**	**09 52 24.6 +1.2**	
F36A	**Milaca**	38.40	348	P	**P**	**09 52 35.8 -1.2**	
W13A	**Hualapai Mount**	38.76	318	P	**P**	**09 52 40.9 +0.5**	
GSC	**Goldstone, Bar**	40.85	316	P	**P**	**09 52 59.0 +1.3**	
GWY	**Greenwater Val**	41.24	317	P	**P**	**09 53 01.8 +0.8**	
QSM	**Queen of Sheba**	41.25	317	P	**P**	**09 53 00.6 -0.3**	
PDAR	**Pinedale Array**	41.39	330	P	**P**	**09 53 02.6 +0.4**	
PDAR	**Pinedale Array**	41.39	330	P	**P**	**09 53 02.3 +0.1**	
	comp=Z,0.1nm,0.4s,baz=140,slow=4.7,SNR=2.0						
	comp=Z,0.1nm,0.4s						
GMN	**Gold Mountain**	42.26	318	P	**P**	**09 53 10.4 +1.0**	
CPUP	**Villa Florida**	42.62	145	LR	LR	10 12 35.6	
	comp=Z,43nm,18.0s,baz=350,slow=38						
ULM	**Lac du Bonnet**	43.06	348	P	**P**	**09 53 15.8 +0.3**	
ULM	**Lac du Bonnet**	43.06	348	P	**P**	**09 53 13.0 -2.5**	
	comp=Z,2.0nm,0.6s,baz=165,slow=7.6,SNR=4.1						
	comp=Z,2.0nm,0.6s						
NV11	**Mina Array Sit**	43.48	319	P	**P**	**09 53 20.2 +1.0**	
RPN	**Rapa Nui**	43.53	215	LR	LR	10 06 55.5	
	comp=Z,71nm,21.2s,baz=89,slow=30						
NVAR	**Mina Array Bea**	43.57	319	P	**P**	**09 53 21.6 +1.6**	
NVAR	**Mina Array Bea**	43.57	319	P	**P**	**09 53 21.1 +1.1**	
	comp=Z,1.8nm,0.8s,baz=129,slow=6.8,SNR=12						
	comp=Z,1.8nm,0.8s						
LHV	**Little Huntoon**	43.60	319	P	**P**	**09 53 20.5 +0.6**	
LHV				IAmb	IAmb	09 53 26.3	
	comp=Z,8.8nm,1.2s						
MDPB	**Devils Postpil**	43.65	317	P	**P**	**09 53 22.0 +1.3**	
BMN	**Battle Mountai**	44.05	322	P	**P**	**09 53 23.9 +0.1**	
SCHQ	**Schefferville**	48.09	13	P	**P**	**09 53 52.1 -3.1**	
	comp=Z,2.5nm,0.8s,baz=257,slow=16,SNR=6.3						
SCHQ				LR	LR	10 15 13.2	
	comp=Z,55nm,18.1s,baz=214,slow=38						
	comp=Z,2.5nm,0.8s						
FRB	**Frobisher Bay**	56.23	8	LR	LR	10 20 04.9	
	comp=Z,92nm,18.1s,baz=227,slow=38						
YKA	**Yellowknife Ar**	58.67	343	P	**P**	**09 55 11.5 -1.3**	
	comp=Z,1.4nm,0.8s,baz=139,slow=6.9,SNR=26						
	comp=Z,1.4nm,0.8s						
I30M	**Mount Dempster**	67.63	339	IAmb	IAmb	09 56 21.6	
	comp=Z,4.8nm,0.8s						
G31M	**Satah River**	67.81	341	P	**P**	**09 56 13.8 +0.4**	
G31M				IAmb	IAmb	09 56 16.2	
	comp=Z,5.9nm,0.9s						
INK	**Inuvik**	68.36	342	P	**P**	**09 56 16.1 -0.6**	
	comp=Z,3.1nm,1.0s,baz=114,slow=6.1,SNR=6.4						
	comp=Z,3.1nm,1.0s						
A36M	**Sachs Harbour**	68.53	347	P	**P**	**09 56 17.4 -0.4**	
BCAR	**Beaver Creek A**	68.71	335	P	**P**	**09 56 20.1 +0.9**	
L27K	**Beaver Creek,**	68.73	335	P	**P**	**09 56 19.5 +0.3**	
L27K				IAmb	IAmb	09 56 22.9	
	comp=Z,4.0nm,0.9s						
G29M	**Pine Creek**	69.06	340	P	**P**	**09 56 22.3 +1.1**	
SUMG	**Summit**	69.48	13	P	**P**	**09 56 23.8 -0.4**	
SUMG	**Summit**	69.48	13	*i* P	**P**	**09 56 23.0 -1.2**	
J26L	**Joseph Creek**	70.02	336	P	**P**	**09 56 28.2 +0.9**	
J26L				IAmb	IAmb	09 56 31.7	
	comp=Z,4.3nm,0.8s						
F28M	**Old Crow**	70.03	340	P	**P**	**09 56 27.8 +0.6**	
F28M				IAmb	IAmb	09 56 33.3	
	comp=Z,4.1nm,0.9s						
RIDG	**Independent Ri**	70.24	335	P	**P**	**09 56 29.7 +1.1**	
E28M	**Babbage River**	70.40	341	P	**P**	**09 56 31.4 +2.0**	
E28M				IAmb	IAmb	09 56 34.5	
	comp=Z,6.9nm,1.3s						
BORG	**Borgarnes**	70.61	24	LR	LR	10 23 26.2	
	comp=Z,34nm,21.2s,baz=274,slow=33						
J25K	**Salcha River,**	70.78	336	P	**P**	**09 56 32.7 +0.8**	
J25K				IAmb	IAmb	09 56 37.7	
	comp=Z,2.7nm,0.9s						
HDA	**Harding Lake**	71.35	336	P	**P**	**09 56 35.9 +0.6**	
HDA				IAmb	IAmb	09 56 39.2	
	comp=Z,7.1nm,0.9s						
IL31		71.45	336	P	**P**	**09 56 36.1 +0.3**	
IL31				IAmb	IAmb	09 56 36.6	
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	71.45	336	P	**P**	**09 56 36.1 +0.2**	
ILAR	**Eielson Array**	71.45	336	P	**P**	**09 56 35.8 -0.1**	
	comp=Z,2.3nm,0.7s,baz=118,slow=4.4,SNR=15						
	comp=Z,2.3nm,0.7s						
FYU	**Fort Yukon**	71.48	338	P	**P**	**09 56 36.1 +0.2**	
RND	**Reindeer**	71.81	334	IAmb	IAmb	09 56 41.8	
	comp=Z,8.1nm,1.0s						
D25K	**Kavik River**	72.94	341	P	**P**	**09 56 45.3 +0.5**	
D25K				IAmb	IAmb	09 56 50.4	
	comp=Z,6.7nm,1.1s						
MLY	**Manley**	73.09	336	P	**P**	**09 56 46.2 +0.5**	
MLY				IAmb	IAmb	09 56 49.4	
	comp=Z,4.0nm,1.0s						
G23K	**Bananza Creek**	73.32	338	P	**P**	**09 56 47.4 +0.3**	
G23K				IAmb	IAmb	09 56 56.2	
	comp=Z,4.3nm,1.0s						
G21K	**Allakaket**	74.59	337	P	**P**	**09 56 56.9 +2.5**	
G21K				IAmb	IAmb	09 56 58.0	
	comp=Z,3.4nm,0.8s						
F21K	**Alatna River**	74.77	338	P	**P**	**09 56 56.9 +1.4**	
F21K				IAmb	IAmb	09 56 59.4	
	comp=Z,4.5nm,0.9s						
MDT	**Midelt**	75.83	58	LR	LR	10 26 05.1	
	comp=Z,14nm,18.9s,baz=23,slow=32						
ESDC	**Sonsoro Array**	76.32	51	P	**P**	**09 57 03.0 -2.0**	
	comp=Z,1.5nm,0.9s,baz=271,slow=6.1,SNR=5.3						
	comp=Z,1.5nm,0.9s						
C19K	**Lookout Ridge**	77.40	339	IAmb	IAmb	09 57 38.0	
	comp=Z,5.3nm,1.4s						
DBIC	**Dimbokro**	77.44	85	LR	LR	10 30 16.6	
	comp=Z,21nm,20.1s,baz=202,slow=35						
F15K	**North Star Dit**	78.93	335	P	**P**	**09 57 20.4 +1.4**	
F15K				IAmb	IAmb	09 57 21.0	
	comp=Z,10nm,1.4s						
C16K	**Lisburne Hills**	79.39	338	P	**P**	**09 57 22.4 +1.1**	
C16K				IAmb	IAmb	09 57 30.6	
	comp=Z,9.1nm,1.2s						
TORD	**Torodi Ar. Bea**	83.06	78	P	**P**	**09 57 41.2 -0.8**	
	comp=Z,0.7nm,0.8s,baz=290,slow=5.2,SNR=3.9						
	comp=Z,0.7nm,0.8s						
SPITS	**Spitsbergen Ar**	83.77	12	LR	LR	10 35 09.1	
	comp=Z,42nm,21.8s,baz=255,slow=36						
NOA	**NORSAR Array B**	84.79	29	LR	LR	10 32 28.5	
	comp=Z,15nm,20.4s,baz=255,slow=34						
DAVOX	**Davos/Dischmat**	85.96	43	LR	LR	10 33 09.6	
	comp=Z,37nm,18.1s,baz=252,slow=34						
HFS	**Hagfors**	86.14	30	LR	LR	10 32 47.7	
	comp=Z,25nm,20.6s,baz=278,slow=33						
GERES	**GERESS Array B**	88.18	41	LR	LR	10 32 46.5	
	comp=Z,39nm,19.6s,baz=266,slow=32						
VRAC	**Vranov**	89.94	40	LR	LR	10 33 29.2	
	comp=Z,54nm,19.4s,baz=276,slow=32						
FINES	**FINESS Array B**	91.65	27	LR	LR	10 33 32.5	
	comp=Z,46nm,21.0s,baz=172,slow=32						
AKASG	**Malin Array Be**	97.28	36	LR	LR	10 44 40.1	
	comp=Z,21nm,18.9s,baz=28,slow=37						
ASAR	**Alice Springs**	141.51	242	PKP	**PKPdf**	**10 04 48.4 +0.6**	
	comp=Z,0.9nm,1.1s,baz=116,slow=2.6,SNR=4.8						

IDC 30 09:46:23.4±7.6, 5°.81S×146°.70E, h92km±77km, mb2.8/2, mbtmp3.3/5, ML3.4/2, Error ellipse: s-maj=70.6km s-min=36.8km az=137.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	3.60	173	P	Pn	09 47 17.1	0.0
	9.0nm,0.3s,baz=15,slow=8.3,SNR=9.0						
PMG				S	Sn	09 47 59.2	+0.6
	28nm,0.4s,baz=200,slow=19,SNR=7.8						
CTA	**Charters Tower**	14.20	182	P	Pn	09 49 39.7	-0.6
	0.1nm,0.3s,baz=17,slow=17,SNR=1.6						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	18.49	219	P	P	09 50 31.4	-1.0
	0.1nm,0.3s,baz=44,slow=12,SNR=7.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	21.61	213	P	P	09 51 07.1	+1.0
	0.2nm,0.4s,baz=49,slow=8.7,SNR=5.1						
	0.2nm,0.4s						
ILAR	**Eielson Array**	85.42	23	P	P	09 58 50.4	-0.1
	0.2nm,0.7s,baz=260,slow=4.4,SNR=4.4						
	0.2nm,0.7s						

IDC 30 09:47:09.7±406.0, 52°.83N×6°.21E, h0km, Error ellipse: s-maj=187.7km s-min=113.7km az=116.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	6.20	127	I	I	10 27 10.6	
	0.1nm,1.2s,baz=310,slow=312,SNR=2.0						
I48TN	**KESRA INFRASON**	17.17	171	I	I	11 31 50.0	
	baz=351,slow=326,SNR=0.8						
I37NO	**I37NO**	17.31	15	I	I	11 33 30.0	
	baz=206,slow=332,SNR=0.9						
I43RU	**DUBNA INFRASON**	18.22	65	I	I	11 35 10.0	
	baz=270,slow=333,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	31.70	73	I	I	12 56 07.9	
	baz=294,slow=345,SNR=2.5						

ISC 30 09:48:05.4±2.3, 56°.4N±0°.1×149°.21W±0°.07, h10km, n37, σ1§15/35, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	2.34	309	S	**Sn**	**09 49 10.4**	**-2.2**
	baz=128						
OHAK	**Old Harbor**	2.41	293	P	**Pn**	**09 48 45.5**	**+0.7**
	baz=111						
OHAK				S	**Sn**	**09 49 12.3**	**-2.0**
	baz=111						
SII	**Sitkinak Islan**	2.77	276	P	**Pn**	**09 48 50.2**	**+0.4**
	baz=94						
Q20K	**Shuyak Island**	2.85	324	P	**Pn**	**09 48 51.9**	**+1.1**
	baz=142						
Q20K				S	**Sn**	**09 49 24.3**	**-0.9**
	baz=142						
R18K	**Karluk**	3.12	295	P	**Pn**	**09 48 55.3**	**+0.8**
	baz=112						
Q23K	**Middleton Isla**	3.45	25	P	**Pn**	**09 48 59.7**	**+0.7**
	baz=206						
BRSE	**Bradley Lake S**	3.50	347	P	Pn	09 49 00.4	+0.5
	baz=165						
Q19K	**Cape Douglas,**	3.52	319	P	**Pn**	**09 49 01.0**	**+0.9**
	baz=136						
HOM	**Homer**	3.56	340	S	**Sn**	**09 49 43.1**	**+0.2**
	baz=157						
SEW	**Seward**	3.77	358	P	Pn	09 49 03.8	+0.3
	baz=177						
SEW				S	**Sn**	**09 49 46.0**	**-1.9**
	baz=177						
P23K	**Montague Islan**	3.79	14	P	**Pn**	**09 49 04.3**	**+0.6**
	baz=194						
P23K				S	Sn	09 49 45.2	-3.0
	baz=194						
P19K	**Oil Pt**	3.95	329	P	**Pn**	**09 49 07.1**	**+1.1**
	baz=146						
Q17K	**Contact Creek**	4.10	301	P	**Pn**	**09 49 10.3**	**+2.2**
	baz=116						
O22K	**Cooper Landing**	4.16	356	P	**Pn**	**09 49 09.9**	**+1.1**
	baz=175						
KAIM	**Kayak Island**	4.40	33	P	**Pn**	**09 49 12.6**	**+0.5**
	baz=216						
P18K	**Big Mountain,**	4.43	316	P	**Pn**	**09 49 13.7**	**+1.0**
	baz=131						
EYAK	**Cordova Ski Ar**	4.59	22	P	**Pn**	**09 49 15.3**	**+0.6**
	baz=204						
O19K	**Port Alsworth**	4.71	327	P	**Pn**	**09 49 17.4**	**+1.1**
	baz=143						
RC01	**Rabbit Creek A**	4.77	357	P	**Pn**	**09 49 17.9**	**+0.8**
	baz=176						
P17K	**Kvichak River**	4.81	309	P	**Pn**	**09 49 19.0**	**+1.2**
	baz=124						
KNK	**Knik Glacier**	5.10	4	P	**Pn**	**09 49 22.7**	**+0.9**
	baz=184						
BMRM	**Bremner River**	5.22	25	P	**Pn**	**09 49 24.5**	**+1.0**
	baz=208						
N19K	**Bonanza Creek**	5.26	331	P	**Pn**	**09 49 24.9**	**+0.9**
	baz=146						
KLU	**Klutina**	5.43	17	P	**Pn**	**09 49 27.4**	**+1.0**
	baz=199						
SML	**Sawmill**	5.50	4	P	**Pn**	**09 49 28.2**	**+0.9**
	baz=184						
O16K	**Kokwok River B**	5.74	308	P	**Pn**	**09 49 31.7**	**+1.1**
	baz=121						
S14K	**Fog Glacier**	5.76	274	P	Pn	09 49 30.9	0.0
	baz=86						
SKT	**Skwentna**	5.78	349	P	**Pn**	**09 49 32.2**	**+1.1**
	baz=167						
N25K	**Chitina, Valde**	5.79	22	P	**Pn**	**09 49 32.1**	**+0.8**
	baz=206						
M20K	**Styx River**	5.91	342	P	Pn	09 49 33.6	+0.7
	baz=158						
N17K	**Nushagak Hills**	5.92	318	P	**Pn**	**09 49 33.9**	**+0.8**
	baz=132						
MCARA	**McCarthy VSAT**	5.98	30	P	**Pn**	**09 49 34.7**	**+0.8**
	baz=214						
M19K	**Big River Lodg**	6.18	337	P	**Pn**	**09 49 37.7**	**+1.1**
	baz=152						
S31K	**Pelican**	7.24	72	P	**Pn**	**09 49 50.7**	**-0.5**
	baz=262						
L17K	**Donlin**	7.44	325	P	**Pn**	**09 49 54.9**	**+1.1**
	baz=137						
L16K	**Owhat River**	7.54	320	P	**Pn**	**09 49 56.5**	**+1.2**
	baz=131						
SIT	**Sitka**	7.68	79	P	Pn	09 49 56.0	-1.1
	baz=270						

IDC 30 09:53:17.0±3.1, 54°.29N×87°.24E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.9km s-min=16.5km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	1.47	258	I	I	10 03 16.2	
	0.1nm,0.8s,baz=78,slow=348,SNR=4.0						
ZALV	**Zalesovo Beam**	1.47	258	Pg	Pn	09 53 43.0	-1.6
	1.0nm,0.3s,baz=75,slow=14,SNR=12						
ZALV				Lg	Lg	09 54 03.1	
	1.9nm,0.3s,baz=78,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	6.46	239	Pn	Pn	09 54 53.9	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=4.9						
KURBB				Lg	Lg	09 56 43.1	
	baz=51,slow=31,SNR=3.3						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	8.13	205	Pn	Pn	09 55 17.3	+1.1
	0.1nm,0.3s,baz=22,slow=29,SNR=2.9						
MKAR				Sn	Sn	09 56 49.4	+0.6
	0.1nm,0.3s,baz=29,slow=26,SNR=3.7						
MKAR				Lg	Lg	09 57 36.0	
	0.1nm,0.3s,baz=30,slow=32,SNR=3.7						
	0.2nm,0.4s						

IDC 30 10:06:48.6±2.7, 53°.76N×87°.10E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=25.1km s-min=16.6km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	1.36	279	I	I	10 16 18.3	
	0.1nm,0.6s,baz=99,slow=346,SNR=1.8						
ZALV	**Zalesovo Beam**	1.36	279	Pg	Pg	10 07 13.0	-1.7
	0.6nm,0.3s,baz=99,slow=16,SNR=8.2						
ZALV				Lg	Lg	10 07 31.9	
	1.0nm,0.3s,baz=97,slow=27,SNR=7.0						
KURBB	**Kurchatov Arra**	6.14	243	Pn	Pn	10 08 21.4	+1.0
	baz=60,slow=15,SNR

mbtmp3.9/26,ML3.6/5,MS3.4/21,Error ellipse: s-maj=20.2km s-min=12.1km az=34.0
*NEIC **30** 10:07:47.4±1.9,56°.20N±0°.07×149°.28W±0°.09,h19km±5km, mb4.2/22,ML4.1/49,ML3.9(AEIC),Error ellipse: s-maj=11.0km s-min=6.7km az=163.0*
*AEIC **30** 10:07:50.1±2.3,56°.14N±0°.07×149°.22W±0°.10,h9km±5km, Error ellipse: s-maj=10.8km s-min=7.9km az=170.0*
ISC 30 10:07:46.7±3.6,**56°.22N**±0°.06×**149°.27W**±0°.04,**h8**km±23km, **n262,**σ1**§24/252,mb4.2**/32,**MS3.4**/17,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.40**	**312**	Pn	**Pn**	**10 08 25.0**	**-1.1**
KDAK	**Kodiak Island**	**2.40**	**312**		**Sn**	**10 08 52.9**	**-2.7**
KDAK	**Kodiak Island**	**2.40**	**312**	Pn	**Pn**	**10 08 25.2**	**-1.0**
	13nm,0.3s,baz=159,slow=14,SNR=101						
KDAK				Sn	**Sn**	**10 08 53.6**	**-2.0**
	26nm,0.3s,baz=43,slow=23,SNR=17						
KDAK				LR	LR	10 09 38.6	
	comp=Z,865nm,19.0s,baz=225,slow=47						
	31nm,0.3s						
OHAK	**Old Harbor**	**2.43**	**296**	Pn	**Pn**	**10 08 24.7**	**-1.9**
OHAK				Sn	**Sn**	**10 08 53.0**	**-3.5**
OHAK	**Old Harbor**	**2.43**	**296**	P	**Pn**	**10 08 25.2**	**-1.4**
OHAK	**Old Harbor**	**2.43**	**296**	P	**Pn**	**10 08 25.3**	**-1.3**
	baz=114						
OHAK				S	**Sn**	**10 08 53.5**	**-3.0**
	baz=114						
SII	**Sitkinak Islan**	**2.75**	**279**		**Pn**	**10 08 29.7**	**-1.4**
SII				Sn	**Sn**	**10 09 01.1**	**-3.4**
SII				IAML		10 09 09.1	
	comp=E,726nm,0.8s						
SII				IAML		10 09 09.6	
	comp=N,680nm,0.7s						
SII	**Sitkinak Islan**	**2.75**	**279**	P	**Pn**	**10 08 29.7**	**-1.4**
SII	**Sitkinak Islan**	**2.75**	**279**	P	**Pn**	**10 08 29.8**	**-1.4**
	baz=97						
SII				S	**Sn**	**10 09 01.4**	**-3.1**
	baz=97						
SYI	**Shuyak Island**	**2.93**	**326**	Pn	**Pn**	**10 08 32.3**	**-1.2**
SYI				Sn	**Sn**	**10 09 07.1**	**-1.7**
SYI				IAML		10 09 09.5	
	comp=E,399nm,0.5s						
SYI				IAML		10 09 09.8	
	comp=N,319nm,0.5s						
Q20K	**Shuyak Island**	**2.93**	**326**	P	**Pn**	**10 08 32.7**	**-0.8**
	baz=144						
Q20K				S	**Sn**	**10 09 07.8**	**-1.0**
	baz=144						
R18K	**Karluk**	**3.15**	**297**	Pn	**Pn**	**10 08 34.1**	**-2.3**
R18K				Sn	**Sn**	**10 09 11.3**	**-2.8**
R18K				IAML		10 09 18.2	
	comp=E,682nm,0.4s						
R18K				IAML		10 09 21.6	
	comp=N,430nm,0.5s						
R18K	**Karluk**	**3.15**	**297**	P	**Pn**	**10 08 35.5**	**-0.9**
	baz=114						
R18K				S	**Sn**	**10 09 13.3**	**-0.9**
	baz=114						
CNPM	**China Poot**	**3.48**	**343**	Pn	**Pn**	**10 08 40.3**	**-0.7**
CNPM				Sn	**Sn**	**10 09 20.6**	**-1.7**
Q23K	**Middleton Isla**	**3.57**	**25**	Pn	**Pn**	**10 08 39.1**	**-3.2**
Q23K				IAML		10 09 37.7	
	comp=E,301nm,2.2s						
Q23K				IAML		10 09 55.0	
	comp=N,340nm,4.0s						
Q23K	**Middleton Isla**	**3.57**	**25**	P	**Pn**	**10 08 41.6**	**-0.8**
	baz=206						
MID	**Middleton Isla**	**3.58**	**25**	Pn	**Pn**	**10 08 39.4**	**-3.0**
MID	**Middleton Isla**	**3.58**	**25**	P	**Pn**	**10 08 41.7**	**-0.6**
Q19K	**Cape Douglas,**	**3.59**	**321**	Pn	**Pn**	**10 08 42.9**	**+0.2**
Q19K				IAML		10 09 56.1	
	comp=N,504nm,1.1s						
Q19K	**Cape Douglas,**	**3.59**	**321**	P	**Pn**	**10 08 42.9**	**+0.2**
	baz=138						
BRSE	**Bradley Lake S**	**3.62**	**348**		**Pn**	**10 08 42.1**	**-0.8**
BRSE	**Bradley Lake S**	**3.62**	**348**	P	**Pn**	**10 08 42.1**	**-0.8**
	baz=167						
BRLK	**Bradley Lake**	**3.65**	**347**	Pn	**Pn**	**10 08 42.3**	**-1.2**
BRLK				IAML		10 09 29.6	
	comp=E,233nm,0.6s						
KAHG	**Katmai Hook Gl**	**3.66**	**311**		**Pn**	**10 08 44.1**	**+0.6**
HOM	**Homer**	**3.67**	**341**	Pn	**Pn**	**10 08 43.0**	**-0.7**
HOM				Sn	**Sn**	**10 09 26.4**	**-0.6**
HOM				IAML		10 09 33.0	
	comp=N,536nm,0.7s						
HOM				IAML		10 09 35.7	
	comp=E,585nm,0.9s						
HOM	**Homer**	**3.67**	**341**	P	**Pn**	**10 08 43.5**	**-0.2**
	baz=159						
ACHA	**Angle Creek He**	**3.85**	**304**		**Pn**	**10 08 46.4**	**+0.2**
AUL	**Augustine Lava**	**3.87**	**327**		**Pn**	**10 08 46.8**	**+0.3**
SEW	**Seward**	**3.89**	**359**	Pn	**Pn**	**10 08 45.5**	**-1.2**
SEW	**Seward**	**3.89**	**359**	P	**Pn**	**10 08 45.6**	**-1.1**
	baz=178						
P23K	**Montague Islan**	**3.91**	**14**		**Pn**	**10 08 46.1**	**-0.9**
ANCK	**Angle Creek**	**3.92**	**303**		**Pn**	**10 08 47.4**	**+0.2**
KAHC	**Katmai Hardscr**	**3.94**	**310**		**Pn**	**10 08 47.9**	**+0.4**
KAHC	**Katmai Hardscr**	**3.94**	**310**	P	**Pn**	**10 08 48.1**	**+0.5**
	baz=126						
P19K	**Oil Pt**	**4.04**	**330**		**Pn**	**10 08 48.4**	**-0.3**
P19K				IAML		10 09 41.0	
	comp=N,401nm,0.6s						
P19K				IAML		10 09 41.3	
	comp=E,397nm,0.6s						
P19K	**Oil Pt**	**4.04**	**330**	P	**Pn**	**10 08 48.7**	**0.0**
	baz=147						
PLK3	**Peulik 3**	**4.10**	**294**		**Pn**	**10 08 49.6**	**-0.1**
Q17K	**Contact Creek**	**4.14**	**302**	P	**Pn**	**10 08 50.4**	**+0.2**
	baz=118						
O20K	**Slope Mountain**	**4.26**	**337**		**Pn**	**10 08 51.1**	**-0.7**
O22K	**Cooper Landing**	**4.28**	**357**	Pn	**Pn**	**10 08 50.9**	**-1.1**
O22K	**Cooper Landing**	**4.28**	**357**	P	**Pn**	**10 08 50.2**	**-1.8**
	baz=176						
HIN	**Hinchinbrook I**	**4.43**	**18**		**Pn**	**10 08 53.7**	**-0.5**
HIN				IAML		10 09 44.6	
	comp=N,222nm,0.5s						
HIN				IAML		10 09 45.7	
	comp=E,185nm,0.5s						
P18K	**Big Mountain,**	**4.50**	**317**	Pn	**Pn**	**10 08 54.5**	**-0.6**
P18K	**Big Mountain,**	**4.50**	**317**	P	**Pn**	**10 08 54.5**	**-0.6**
	baz=133						
KAIM	**Kayak Island**	**4.52**	**33**		**Pn**	**10 08 53.9**	**-1.4**
KAIM				IAML		10 09 55.2	
	comp=E,248nm,3.1s						
RED	**Redoubt Volcan**	**4.59**	**338**		**Pn**	**10 08 55.1**	**-1.4**
RSO	**Redoubt South**	**4.63**	**338**		**Pn**	**10 08 56.0**	**-1.0**
CAPN	**Captain Cook N**	**4.67**	**349**	Pn	**Pn**	**10 08 58.7**	**+1.4**
RDT	**Redoubt**	**4.67**	**341**		**Pn**	**10 08 56.1**	**-1.3**
Q16K	**King Salmon**	**4.69**	**305**		**Pn**	**10 08 57.8**	**+0.2**
Q16K	**King Salmon**	**4.69**	**305**	P	**Pn**	**10 08 58.0**	**+0.4**
	baz=119						
EYAK	**Cordova Ski Ar**	**4.72**	**22**	Pn	**Pn**	**10 08 57.1**	**-0.9**
EYAK	**Cordova Ski Ar**	**4.72**	**22**	P	**Pn**	**10 08 57.5**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.72**	**22**	P	**Pn**	**10 08 57.6**	**-0.5**
	baz=204						
DFR	**Drift River**	**4.74**	**339**		**Pn**	**10 08 57.3**	**-1.1**
R16K	**Pilot Point**	**4.75**	**290**	Pn	**Pn**	**10 08 58.2**	**-0.2**
NCT	**North Crescent**	**4.76**	**338**		**Pn**	**10 08 57.5**	**-1.2**
O19K	**Port Alsworth**	**4.79**	**328**	Pn	**Pn**	**10 08 58.2**	**-0.9**
O19K	**Port Alsworth**	**4.79**	**328**	P	**Pn**	**10 08 58.2**	**-0.9**
	baz=144						
O18K	**Koktuh Hills**	**4.82**	**322**	Pn	**Pn**	**10 08 58.8**	**-0.7**
O18K				IAML		10 09 55.0	
	comp=N,94nm,0.8s						
O18K	**Koktuh Hills**	**4.82**	**322**	P	**Pn**	**10 08 58.9**	**-0.7**
	baz=137						
RAGM	**Ragged Mountai**	**4.83**	**28**		**Pn**	**10 08 59.2**	**-0.4**
RAGM				IAML		10 10 13.3	
	comp=E,223nm,1.1s						
P17K	**Kvichak River**	**4.86**	**311**	P	**Pn**	**10 09 00.3**	**+0.3**
	baz=125						
RC01	**Rabbit Creek A**	**4.89**	**357**		**Pn**	**10 08 59.5**	**-0.9**
RC01				IAML		10 10 00.4	
	comp=N,86nm,1.1s						
RC01				IAML		10 10 07.6	
	comp=E,89nm,0.8s						
RC01	**Rabbit Creek A**	**4.89**	**357**	P	**Pn**	**10 09 00.3**	**-0.1**
	baz=177						
ANPB	**Aniakchak Plen**	**5.03**	**280**		**Pn**	**10 09 01.7**	**-0.6**
CHGN	**Chignik**	**5.10**	**275**		**Pn**	**10 09 02.4**	**-0.9**
BERG	**Berg Lake**	**5.11**	**33**		**Pn**	**10 09 02.4**	**-1.0**
BERG				IAML		10 10 16.8	
	comp=N,150nm,0.8s						
N20K	**Mount Spurr**	**5.22**	**344**	P	**Pn**	**10 09 04.2**	**-0.9**
	baz=162						
SPCR	**Spurr Chakacha**	**5.22**	**344**		**Pn**	**10 09 04.0**	**-1.1**
KNK	**Knik Glacier**	**5.22**	**4**		**Pn**	**10 09 04.5**	**-0.5**
KNK				IAML		10 10 16.5	
	comp=E,74nm,0.6s						
SNH	**Sunshine Point**	**5.22**	**38**		**Pn**	**10 09 05.0**	**-0.1**
SNH				IAML		10 10 11.0	
	comp=E,107nm,3.0s						
SNH				IAML		10 10 21.9	
	comp=N,126nm,2.5s						
SPCN	**Chakachatna No**	**5.24**	**344**		**Pn**	**10 09 04.7**	**-0.6**
BMRM	**Bremner River**	**5.35**	**25**	Pn	**Pn**	**10 09 06.2**	**-0.6**
BMRM	**Bremner River**	**5.35**	**25**	P	**Pn**	**10 09 06.5**	**-0.3**
	baz=208						
N19K	**Bonanza Creek**	**5.35**	**331**		**Pn**	**10 09 05.8**	**-1.0**
PMR	**Palmer**	**5.39**	**1**	Pn	**Pn**	**10 09 07.0**	**-0.2**
PMR	**Palmer**	**5.39**	**1**	P	**Pn**	**10 09 07.8**	**+0.6**
SPNN	**North Nagishla**	**5.46**	**342**		**Pn**	**10 09 07.9**	**-0.5**
P16K	**Nushagak River**	**5.47**	**305**		**Pn**	**10 09 08.3**	**0.0**
P16K	**Nushagak River**	**5.47**	**305**	P	**Pn**	**10 09 08.7**	**+0.4**
	baz=118						
KLU	**Klutina**	**5.56**	**17**	Pn	**Pn**	**10 09 09.7**	**-0.1**
KLU	**Klutina**	**5.56**	**17**	P	**Pn**	**10 09 09.6**	**-0.1**
	baz=199						
SML	**Sawmill**	**5.62**	**5**	Pn	**Pn**	**10 09 10.7**	**+0.2**
SML	**Sawmill**	**5.62**	**5**	P	**Pn**	**10 09 10.7**	**+0.2**
	baz=185						
M23K	**Glacier View**	**5.64**	**7**	P	**Pn**	**10 09 11.0**	**+0.2**
	baz=188						
N18K	**Kilae Creek**	**5.66**	**325**	Pn	**Pn**	**10 09 10.1**	**-0.9**
SCM	**Sheep Creek Mo**	**5.72**	**9**		**Pn**	**10 09 12.3**	**+0.5**
O16K	**Kokwok River B**	**5.79**	**309**	Pn	**Pn**	**10 09 12.6**	**-0.2**
O16K	**Kokwok River B**	**5.79**	**309**	P	**Pn**	**10 09 12.9**	**+0.2**
	baz=122						
VRDI	**Verde Repeater**	**5.86**	**29**		**Pn**	**10 09 13.3**	**-0.6**
SKT	**Skwentna**	**5.89**	**350**	Pn	**Pn**	**10 09 13.8**	**-0.4**
N25K	**Chitina, Valde**	**5.92**	**22**		**Pn**	**10 09 14.2**	**-0.3**
SAMH	**Samovar Hills**	**5.96**	**45**		**Pn**	**10 09 14.7**	**-0.5**
N17K	**Nushagak Hills**	**6.00**	**319**		**Pn**	**10 09 14.9**	**-0.7**
M20K	**Styx River**	**6.01**	**342**		**Pn**	**10 09 14.8**	**-1.2**
CNBA	**Chernabura Isl**	**6.03**	**261**	Pn	**Pn**	**10 09 13.9**	**-2.2**
MCARA	**McCarthy VSAT**	**6.11**	**29**		**Pn**	**10 09 16.6**	**-0.5**
M24K	**Tolsona, Glenn**	**6.11**	**14**	Pn	**Pn**	**10 09 17.6**	**+0.4**
PCA	**Pinnacle**	**6.15**	**47**		**Pn**	**10 09 17.2**	**-0.6**
M19K	**Big River Lodg**	**6.28**	**337**		**Pn**	**10 09 18.1**	**-1.4**
M18K	**Stony River**	**6.28**	**330**		**Pn**	**10 09 18.1**	**-1.4**
PNL	**Peninsula**	**6.29**	**53**		**Pn**	**10 09 18.8**	**-0.8**
CTGM	**Chitina Glacie**	**6.31**	**38**	Pn	**Pn**	**10 09 19.4**	**-0.6**
LOGR	**Logan Glacier**	**6.32**	**40**		**Pn**	**10 09 19.4**	**-0.9**
BCPM	**Bancas Point**	**6.33**	**50**		**Pn**	**10 09 19.7**	**-0.5**
SDPT	**Sand Point**	**6.38**	**267**		**Pn**	**10 09 19.7**	**-1.3**
SDPT	**Sand Point**	**6.38**	**267**	P	**Pn**	**10 09 19.9**	**-1.0**
O15K	**Ungalikthiuk R**	**6.39**	**302**		**Pn**	**10 09 21.0**	**0.0**
HARP	**HAARP**	**6.54**	**17**		**Pn**	**10 09 22.7**	**-0.4**
L19K	**White Mountain**	**6.63**	**337**		**Pn**	**10 09 23.1**	**-1.2**
WAT7	**Susitna Watana**	**6.63**	**2**		**Pn**	**10 09 24.5**	**0.0**
WAT1	**Susitna Watana**	**6.64**	**3**		**Pn**	**10 09 24.5**	**+0.1**
L20K	**Farewell, AK**	**6.70**	**341**		**Pn**	**10 09 24.0**	**-1.4**
M17K	**Holitna River**	**6.70**	**324**		**Pn**	**10 09 24.4**	**-0.9**
DHY	**Denali Highway**	**6.94**	**7**		**Pn**	**10 09 27.9**	**-0.8**
N15K	**Kwethluk River**	**6.95**	**309**		**Pn**	**10 09 29.2**	**+0.4**
O29M	**Mount Kennedy**	**6.96**	**50**		**Pn**	**10 09 28.4**	**-0.6**
M26K	**Nabesna, AK**	**6.97**	**25**	Pn	**Pn**	**10 09 28.8**	**-0.3**
M16K	**Timber Creek**	**6.98**	**318**		**Pn**	**10 09 28.9**	**-0.2**
P29M	**Windy Craggy**	**7.02**	**56**		**Pn**	**10 09 28.4**	**-1.4**
PAX	**Paxson**	**7.04**	**14**		**Pn**	**10 09 29.5**	**-0.4**
O14K	**Tigyukauivet M**	**7.10**	**300**		**Pn**	**10 09 30.7**	**-0.1**
L18K	**Granite Mounta**	**7.11**	**331**	Pn	**Pn**	**10 09 30.0**	**-0.9**
RND	**Reindeer**	**7.21**	**1**	Pn	**Pn**	**10 09 31.4**	**-0.9**
PN7A	**Pavlof North-7**	**7.22**	**269**		**Pn**	**10 09 31.5**	**-0.9**
M27K	**Edge Creek, AK**	**7.22**	**29**		**Pn**	**10 09 32.2**	**-0.3**
TRF	**Thorofare Moun**	**7.27**	**356**	Pn	**Pn**	**10 09 32.8**	**-0.4**
S31K	**Pelican**	**7.31**	**71**		**Pn**	**10 09 30.3**	**-3.3**
CAST	**Castle Rocks**	**7.36**	**350**	Pn	**Pn**	**10 09 34.1**	**-0.1**
KTH	**Kantishna Hill**	**7.40**	**354**		**Pn**	**10 09 35.2**	**+0.3**
M15K	**Kasigluk River**	**7.48**	**312**		**Pn**	**10 09 35.4**	**-0.5**
L17K	**Donlin**	**7.52**	**326**		**Pn**	**10 09 35.3**	**-1.2**
MCK	**McKinley**	**7.54**	**1**		**Pn**	**10 09 37.0**	**+0.3**
TTA	**Tatalina**	**7.54**	**336**	P	**Pn**	**10 09 35.9**	**-1.0**
BVCY	**Beaver Creek**	**7.55**	**31**		**Pn**	**10 09 36.5**	**-0.4**
K20K	**Telida**	**7.55**	**343**	Pn	**Pn**	**10 09 35.6**	**-1.4**
N14K	**Kuskokwak Cree**	**7.55**	**305**		**Pn**	**10 09 37.3**	**+0.4**
P30M	**Million Dollar**	**7.59**	**54**		**Pn**	**10 09 36.8**	**-0.7**
PLBC	**Pleasant Camp**	**7.61**	**59**		**Pn**	**10 09 37.1**	**-0.6**
HYT	**Haines Junctio**	**7.69**	**48**	Pn	**Pn**	**10 09 38.9**	**-0.1**
SIT	**Sitka**	**7.74**	**78**		**Pn**	**10 09 35.4**	**-4.1**
K24K	**Donnelly Dome**	**7.80**	**11**		**Pn**	**10 09 40.2**	**-0.2**
L27K	**Beaver Creek,**	**7.82**	**26**		**Pn**	**10 09 40.5**	**-0.2**
BCAR	**Beaver Creek A**	**7.83**	**26**	Pn	**Pn**	**10 09 40.6**	**-0.3**
BPAW	**Bear Paw Mtn.**	**7.95**	**355**		**Pn**	**10 09 41.4**	**-1.0**
M14K	**Bethel**	**8.05**	**310**	Pn	**Pn**	**10 09 44.3**	**+0.6**
SKAG	**Skagway**	**8.11**	**61**	P	**Pn**	**10 09 44.6**	**0.0**
FALS	**False Pass**	**8.14**	**266**	P	**Pn**	**10 09 43.2**	**-1.8**
S32K	**Killisnoo**	**8.15**	**75**		**Pn**	**10 09 41.4**	**-3.7**
J18K	**Innoko River**	**8.17**	**336**	Pn	**Pn**	**10 09 43.7**	**-1.7**
SCRK	**Sand Creek**	**8.21**	**17**	Pn	**Pn**	**10 09 46.5**	**+0.4**
O30N	**Mendenhall**	**8.26**	**51**		**Pn**	**10 09 45.9**	**-0.9**
HDA	**Harding Lake**	**8.29**	**7**		**Pn**	**10 09 47.1**	**0.0**
JIS	**Juneau Island**	**8.33**	**70**	P	**Pn**	**10 09 47.1**	**-0.5**
J20K	**Nowinta River**	**8.34**	**345**		**Pn**	**10 09 46.3**	**-1.4**
ISLZ	**Isanotski Laca**	**8.34**	**266**		**Pn**	**10 09 46.5**	**-1.3**
L15K	**Ungalak Mounta**	**8.35**	**316**		**Pn**	**10 09 47.6**	**-0.2**
NEA2	**Nenana**	**8.40**	**1**	Pn	**Pn**	**10 09 48.3**	**-0.6**
J19K	**Poorman**	**8.41**	**341**		**Pn**	**10 09 47.2**	**-1.6**
CCB	**Clear Creek Bu**	**8.48**	**4**		**Pn**	**10 09 50.1**	**+0.5**
M13K	**Dall Lake**	**8.51**	**305**		**Pn**	**10 09 50.3**	**+0.2**
L14K	**Kuka Creek**	**8.64**	**312**		**Pn**	**10 09 52.0**	**+0.2**
IL31		**8.66**	**7**		**Pn**	**10 09 51.5**	**-0.5**
ILAR	**Eielson Array**	**8.66**	**7**	Pn	**Pn**	**10 09 51.6**	**-0.5**
	comp=N,1.0nm,0.3s,baz=188,slow=13,SNR=42						
ILAR				Sn	**Sn**	**10 11 25.4**	**-4.3**
	comp=N,0.5nm,0.3s,baz=200,slow=18,SNR=1.4						
ILAR				LR	LR	10 13 32.5	
	comp=N,141nm,18.6s,baz=248,slow=40						
	comp=N,1.9nm,0.4s						
COLA	**College**	**8.71**	**4**		**Pn**	**10 09 53.5**	**+0.8**
COLA	**College**	**8.71**	**4**	P	**Pn**	**10 09 53.6**	**+0.8**
K15K	**Wolf Creek Mou**	**8.74**	**319**	Pn	**Pn**	**10 09 53.0**	**-0.1**
WHY	**Whitehorse**	**8.75**	**54**	Pn	**Pn**	**10 09 53.2**	**-0.2**
J26L	**Joseph Creek**	**8.77**	**16**		**Pn**	**10 09 54.0**	**+0.3**
MDM	**Murphy Dome**	**8.78**	**3**		**Pn**	**10 09 53.9**	**+0.1**
MLY	**Manley**	**8.87**	**356**		**Pn**	**10 09 54.4**	**-0.7**
P32M	**Atlin**	**8.94**	**61**	Pn	**Pn**	**10 09 54.6**	**-1.4**
M30M	**Minto, Yukon**	**8.99**	**40**		**Pn**	**10 09 55.6**	**-1.1**
U33K	**Whale Pass**	**9.01**	**84**	Pn	**Pn**	**10 09 53.1**	**-3.8**
J16K	**Anvik River**	**9.09**	**326**		**Pn**	**10 09 57.0**	**-1.0**
K29M	**Barlow Dome**	**9.62**	**33**	Pn	**Pn**	**10 10 05.0**	**-0.4**
H19K	**Roundabout Mou**	**9.96**	**342**	Pn	**Pn**	**10 10 09.0**	**-0.9**
H18K	**Honhosa River**	**9.99**	**337**	Pn	**Pn**	**10 10 08.5**	**-1.9**
IMAR	**Indian Mountai**	**10.03**	**349**	Pn	**Pn**	**10 10 10.0**	**-0.9**
FARO	**Faro, Yukon**	**10.12**	**47**	Pn	**Pn**	**10 10 12.8**	**+0.7**
UNV	**Unalaska Valle**	**10.18**	**264**	P	**Pn**	**10 10 10.8**	**-2.1**
J30M	**Hart River**	**10.52**	**32**	Pn	**Pn**	**10 10 18.0**	**+0.4**
G23K	**Bananza Creek**	**10.53**	**358**	Pn	**Pn**	**10 10 17.1**	**-0.7**
DLBC	**Dease Lake**	**10.63**	**70**	Pn	**Pn**	**10 10 18.7**	**-0.5**
	comp=N,0.3nm,0.3s,baz=241,slow=8.4,SNR=16						
DLBC				Sn	**Sn**	**10 12 12.7**	**-5.5**
	comp=N,0.2nm,0.3s,baz=34,slow=16,SNR=1.9						
	comp=N,1.0nm,0.2s						
I30M	**Mount Dempster**	**10.99**	**30**	Pn	**Pn**	**10 10 25.7**	**+1.6**
F20K	**Avaraart Lake**	**11.28**	**347**	Pn	**Pn**	**10 10 27.9**	**-0.1**
F17K	**Baldwin Pennin**	**11.73**	**336**	Pn	**Pn**	**10 10 33.1**	**-0.9**
G30M	**Aloh Zrail Nji**	**12.41**	**24**	Pn	**Pn**	**10 10 44.6**	**+1.2**
BBB	**Bella Bella**	**13.01**	**99**	LR	LR	10 14 28.0	
	comp=N,129nm,20.4s,baz=205,slow=31						
C18K	**Utukok River**	**13.59**	**341**	Pn	**Pn**	**10 11 00.6**	**+1.0**
INK	**Inuvik**	**14.10**	**24**	Pn	**Pn**	**10 11 07.8**	**+1.4**
INK	**Inuvik**	**14.10**	**24**	Pn	**Pn**	**10 11 07.2**	**+0.8**
	comp=N,0.2nm,0.3s,baz=205,slow=14,SNR=15						
INK				LR	LR	10 16 42.9	
	comp=N,126nm,18.6s,baz=1.0,slow=38						
	comp=N,7.0nm,1.0s						
B22K	**Teshekpuk Lake**	**14.29**	**354**	Pn	**Pn**	**10 11 08.3**	**-0.6**
C36M	**Paulatuk**	**17.29**	**31**	IAmb	IAmb	10 11 59.1	
	comp=Z,44nm,1.5s						
YKA	**Yellowknife Ar**	**18.57**	**56**	P	**P**	**10 12 03.4**	**-0.3**
YKA	**Yellowknife Ar**	**18.57**	**56**	P	**Pn**	**10 12 04.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=266,slow=13,SNR=21						
YKA				LR	LR	10 18 57.2	
	comp=Z,132nm,18.5s,baz=166,slow=36						
	comp=Z,3.3nm,1.1s						
A36M	**Sachs Harbour**	**18.73**	**23**		**Pn**	**10 12 05.5**	**-0.2**
NEW	**Newport**	**21.07**	**99**	P	**P**	**10 12 31.1**	**0.0**
	comp=Z,2.2nm,0.8s,baz=0.0,slow=15,SNR=3.2						
	comp=Z,2.2nm,0.8s						
K02D	**Willamette Mer**	**21.29**	**119**	P	**P**	**10 12 34.0**	**+0.5**
HUMO	**Hull Mountain**	**21.70**	**118**	P	**P**	**10 12 38.2**	**+0.3**
HUMO				IAmb	IAmb	10 12 39.7	
	comp=Z,10nm,1.1s						
F10A	**Beach Ranch, E**	**22.38**	**104**	P	**P**	**10 12 45.8**	**+0.5**
I07A	**Izee**	**22.41**	**110**	P	**P**	**10 12 44.4**	**-1.2**
YBH	**Yreka Blue Hor**	**22.48**	**119**	P	**P**	**10 12 48.1**	**+1.8**
	comp=Z,5.2nm,1.0s,baz=298,slow=3.6,SNR=7.4						
YBH				LR	LR	10 19 06.2	
	comp=Z,120nm,20.2s,baz=4.0,slow=30						
	comp=Z,5.2nm,1.0s						
WVOR	**Wild Horse Val**	**24.02**	**112**	P	**P**	**10 13 01.9**	**+0.1**
WVOR				IAmb	IAmb	10 13 04.7	
	comp=Z,7.9nm,0.9s						
PAHR	**Pah Rah Range**	**25.66**	**117**	P	**P**	**10 13 16.4**	**-0.5**
PNTR	**Pine Nut**	**26.03**	**119**	P	**P**	**10 13 19.8**	**-0.6**
PNTR				IAmb	IAmb	10 13 22.8	
	comp=Z,8.0nm,1.2s						
BMN	**Battle Mountai**	**26.20**	**113**	P	**P**	**10 13 21.7**	**-0.1**
YFT	**Old Faithful**	**26.84**	**100**	P	**P**	**10 13 26.9**	**-0.7**
YFT				IAmb	IAmb	10 13 31.3	
	comp=Z,5.6nm,0.9s						
ELK	**Elko**	**27.00**	**111**	LR	LR	10 22 22.8	
	comp=Z,52nm,18.1s,baz=313,slow=32						
NVAR	**Mina Array Bea**	**27.18**	**118**	P	**P**	**10 13 30.8**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=308,slow=8.9,SNR=13						
NVAR				LR	LR	10 21 34.4	
	comp=Z,103nm,18.5s,baz=317,slow=30						
	comp=Z,1.3nm,0.8s						
OMMB	**Old Mammoth Mi**	**27.48**	**120**	P	**P**	**10 13 32.9**	**-0.6**
OMMB				IAmb	IAmb	10 13 35.8	
	comp=Z,5.4nm,1.1s						
R11B	**Troy Canyon, C**	**28.60**	**114**	P	**P**	**10 13 43.0**	**-0.3**
PDAR	**Pinedale Array**	**28.65**	**101**	P	**P**	**10 13 43.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=304,slow=4.8,SNR=6.9						
	comp=Z,0.4nm,0.5s						
PETK	**Petropavlovsk-**	**30.20**	**287**	LR	LR	10 26 02.0	
	comp=Z,28nm,18.5s,baz=74,slow=36						
MSU	**Marysvale**	**30.24**	**110**	P	**P**	**10 13 56.0**	**-2.0**
V12A	**Nelson**	**31.01**	**117**	P	**P**	**10 14 03.7**	**-0.8**
V12A				IAmb	IAmb	10 14 06.9	
	comp=Z,4.2nm,1.0s						
MA2	**Magadan**	**31.10**	**301**	LR	LR	10 26 36.2	
	comp=Z,34nm,21.2s,baz=88,slow=36						
PFO	**Pinyon Flats O**	**31.92**	**121**	LR	LR	10 24 10.1	
	comp=Z,92nm,20.3s,baz=333,slow=31						
X16A	**Lo Mia Camp, P**	**33.76**	**114**	P	**P**	**10 14 28.6**	**-0.2**
X16A				IAmb	IAmb	10 14 31.8	
	comp=Z,3.5nm,0.9s						
ANMO	**Albuquerque**	**35.94**	**108**	LR	LR	10 28 06.1	
	comp=Z,21nm,18.3s,baz=68,slow=34						
NEEM	**North Greenlan**	**37.63**	**21**	*i* P	P	10 15 08.5	+

σ2°70/48, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRVN	**Saravan**	**1.35**	**67**	Pg	**Pg**	**10 45 01.6**	**+0.3**
CHBR	**Chabahar**	**1.36**	**200**	Pg	**Pg**	**10 45 02.8**	**+1.3**
NGCH	**Negor - Chabah**	**1.51**	**176**	Pg	**Pb**	**10 45 05.0**	**+1.4**
NGCH	**Negor - Chabah** SNR=138	**1.51**	**176**	P	**Pb**	**10 45 04.9**	**+1.4**
NGCH				S	**Sg**	**10 45 25.9**	**+1.9**
ZHDN	**Zahedan**	**2.52**	**356**	Pn	**Pn**	**10 45 16.7**	**+0.1**
KBAM	**BAM**	**3.19**	**316**	Pn	**Pn**	**10 45 26.3**	**+0.5**
WSAR	**Wadi Sarin**	**4.21**	**211**	P	**Pn**	**10 45 40.0**	**+0.3**
WSAR				S	**Sn**	**10 46 24.6**	**-4.3**
BIDO	**Bidbid** SNR=7.8	**4.24**	**219**	P	**Pn**	**10 45 40.7**	**+0.7**
BIDO				S	**Sn**	**10 46 25.9**	**-3.6**
BANOM	**Banah**	**4.33**	**258**	P	**Pn**	**10 45 42.5**	**+1.2**
BANOM				S	**Sn**	**10 46 29.1**	**-2.8**
GENO	**Geno**	**4.34**	**278**	Pn	**Pn**	**10 45 44.1**	**+2.5**
SHME	**Shamm**	**4.44**	**260**	P	**Pn**	**10 45 44.8**	**+2.0**
SHME				S	**Sn**	**10 46 32.9**	**-1.7**
MDH	**Madha**	**4.51**	**251**	P	**Pn**	**10 45 43.9**	**+0.1**
MDH				S	**Sn**	**10 46 31.5**	**-4.9**
MASF	**Masafi**	**4.61**	**252**	P	**Pn**	**10 45 45.7**	**+0.5**
MASF				S	**Sn**	**10 46 34.9**	**-3.9**
WBK	**Wadi Bani Khal**	**4.63**	**204**	Pn	**Pn**	**10 45 45.1**	**-0.4**
WBK	**Wadi Bani Khal** SNR=26	**4.63**	**204**	P	**Pn**	**10 45 45.1**	**-0.4**
SMDO	**Samad** SNR=5.7	**4.65**	**216**	P	**Pn**	**10 45 47.7**	**+1.9**
SMDO				S	**Sn**	**10 46 35.7**	**-4.2**
HOQ	**Hoqain**	**4.68**	**226**	P	**Pn**	**10 45 45.9**	**-0.3**
HATD	**Hatta, Dubai**	**4.84**	**246**	P	**Pn**	**10 45 49.1**	**+0.7**
HATD				S	**Sn**	**10 46 39.2**	**-5.3**
SOHO	**SOHO**	**4.88**	**237**	P	**Pn**	**10 45 48.6**	**-0.2**
SOHO				S	**Sn**	**10 46 39.2**	**-6.2**
JLN	**Jalan Bani Buh**	**4.92**	**198**	P	**Pn**	**10 45 48.6**	**-0.8**
JLN				S	**Sn**	**10 46 42.4**	**-4.0**
ASHO	**Ashiyiah** SNR=17	**4.96**	**245**	P	**Pn**	**10 45 50.9**	**+0.8**
ASHO				S	**Sn**	**10 46 43.5**	**-4.1**
JMDO	**Jabal Madar** SNR=45	**5.20**	**211**	P	**Pn**	**10 45 54.8**	**+1.5**
JMDO				S	**Sn**	**10 46 51.0**	**-2.4**
FAQ	**Al Faqa, Dubai**	**5.32**	**248**	P	**Pn**	**10 45 57.8**	**+2.9**
FAQ				S	**Sn**	**10 46 54.6**	**-1.7**
BSY	**Bisya**	**5.37**	**221**	P	**Pn**	**10 45 58.5**	**+2.9**
BSY				S	**Sn**	**10 46 56.6**	**-1.1**
ARQ	**Araqi** SNR=6.8	**5.38**	**230**	P	**Pn**	**10 45 59.0**	**+3.2**
ARQ				S	**Sn**	**10 46 57.2**	**-0.5**
ALNE	**Al Ain**	**5.52**	**241**	S	**Sn**	**10 46 59.3**	**-1.9**
ASUD	**Al Ashush, Dub**	**5.59**	**248**	P	**Pn**	**10 46 01.8**	**+3.2**
AJN	**Ajban**	**5.90**	**248**	P	**Pn**	**10 46 05.0**	**+2.2**
MHTO	**MHTO** SNR=16	**6.49**	**206**	P	**Pn**	**10 46 11.8**	**+0.8**
MHTO				S	**Sn**	**10 47 20.4**	**-4.6**
UMZA	**Um Al Zommool**	**6.74**	**233**	P	**Pn**	**10 46 15.9**	**+1.5**
UMZA				S	**Sn**	**10 47 26.8**	**-4.3**

*IDC **30** 10:57:00.8±4.9,5°.25S×131°.87E, h0km, mb4.0/1, mbtmp3.5/3, ML3.4/2, MS2.8/1, Error ellipse: s-maj=340.1km s-min=30.1km az=74.0*
*DJA **30** 10:57:15.7±0.3,6°.5S×13°.1E±°, h91km±19km, M4.3/6, mb4.1/6, mBS.2/2, MLv4.4/6, Mw(mB)4.6/2, MwMwp5.7/1, Mwp5.8/1*
ISC 30 10:57:14.1±1.0,**6°.11S**±0°.07×**130°.60E**±0°.09,**h100**km,**n8,** σ2°90/13, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.73**	**336**	P	**Pn**	**10 57 40.9**	**-2.3**
BNDI				S	**Sn**	**10 58 11.5**	**+6.2**
FAKI	**Fak Fak**	**3.57**	**27**	P	**Pn**	**10 58 08.7**	**+1.1**
FAKI				S	**Sn**	**10 58 47.6**	**-1.4**
KMPI	**Kaimana, Papua**	**3.94**	**52**	P	**Pn**	**10 58 14.1**	**+1.6**
KMPI				S	**Sn**	**10 58 57.4**	**-0.3**
SIJI	**Sorong** 16nm,1.4s,4µm0.5nm	**5.25**	**7**	P	**Pn**	**10 58 30.5**	**+0.2**
SWI	**Sorong** 18nm,1.1s,2µm0.3nm	**5.26**	**7**	P	**Pn**	**10 58 30.8**	**+0.4**
SWI	18nm,1.1s,2µm0.3nm			S	**Sn**	**10 59 25.8**	**-3.9**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=350,slow=14,SNR=13	**14.22**	**166**	Pn	**Pn**	**11 00 31.7**	**+0.8**
WRA	0.6nm,0.3s,baz=329,slow=22,SNR=7.8 0.3nm,0.4s			Sn	Sn	11 02 59.8	-7.9
ASAR	**Alice Springs** 0.1nm,0.3s,baz=350,slow=10,SNR=7.5	**17.74**	**170**	P	**Pn**	**11 01 17.3**	**+2.5**
ASAR	0.5nm,0.6s,baz=359,slow=28,SNR=6.5			S	**Sn**	**11 04 29.2**	**-3.4**
ASAR	comp=Z,31nm,20.1s,baz=304,slow=40 0.4nm,0.6s			LR	LR	11 09 18.2	
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=113,slow=8.2,SNR=17 0.6nm,0.4s	**67.82**	**326**	P	**P**	**11 08 00.8**	**-0.7**

IDC 30 11:01:25.5±470.0,**53°.35N×5°.99E, h0km, Error ellipse: s-maj=200.9km s-min=139.4km az=116.0, The Netherlands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS** baz=314,slow=312,SNR=0.9	**6.62**	**130**	I	I	11 41 00.0	
I37NO	**I37NO** baz=207,slow=335,SNR=0.4	**16.84**	**16**	I	I	12 41 20.0	
I48TN	**KESRA INFRASON** baz=355,slow=324,SNR=0.9	**17.70**	**171**	I	I	12 47 50.0	

*AEIC **30** 11:27:21.3±2.2,55°.9N±0°.1×149°.9W±0°.1, h10km±8km, Error ellipse: s-maj=17.9km s-min=9.3km az=181.0*
NEIC 30 11:27:17.4±2.1,**55°.99N**±0°.09×**150°.05W**±0°.06,**h10**km±2km, **ML3.2**/25,**MLh3.0**(AEIC),**Error ellipse: s-maj=16.5km s-min=4.2km az=163.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.17**	**306**	Pn	Pn	11 27 54.5	+0.9
OHAK				Sn	Sn	11 28 19.1	-1.5
KDAK	**Kodiak Island**	**2.27**	**323**	Pn	Pn	11 27 55.8	+0.9
KDAK				Sn	Sn	11 28 21.1	-1.8
SII	**Sitkinak Islan**	**2.38**	**286**	Pn	Pn	11 27 54.6	-1.8
SII	comp=E,109nm,1.2s			IAML		11 28 29.7	
SII	comp=N,74nm,1.4s			IAML		11 28 39.3	
R18K	**Karluk**	**2.89**	**305**	Sn	Sn	11 28 37.8	-0.4
SYI	**Shuyak Island**	**2.92**	**335**	Pn	Pn	11 28 03.9	+0.1
SYI	comp=N,47nm,1.3s			IAML		11 29 56.8	
Q19K	**Cape Douglas,**	**3.53**	**328**	Pn	Pn	11 28 12.8	+0.6
Q19K	comp=E,120nm,1.4s			IAML		11 29 50.6	
Q19K	comp=N,84nm,0.9s			IAML		11 30 34.8	
CNPM	**China Poot**	**3.60**	**350**	Pn	Pn	11 28 13.0	-0.1
CNPM				Sn	Sn	11 28 54.5	-1.2
HOM	**Homer**	**3.77**	**348**	Pn	Pn	11 28 15.2	-0.3
BRSE	**Bradley Lake S**	**3.78**	**355**		Pn	11 28 15.6	-0.1
BRLK	**Bradley Lake**	**3.81**	**354**	Pn	Pn	11 28 15.6	-0.5
BRLK	comp=N,24nm,1.3s			IAML		11 30 35.6	
BRLK	comp=E,32nm,1.5s			IAML		11 30 36.8	
P19K	**Oil Pt**	**4.04**	**336**	Pn	Pn	11 28 20.8	+1.5
P19K	comp=N,43nm,0.6s			IAML		11 30 45.8	
P19K	comp=E,53nm,1.0s			IAML		11 30 47.6	
P23K	**Montague Islan**	**4.25**	**18**		Pn	11 28 22.4	+0.3
O22K	**Cooper Landing**	**4.50**	**2**	Pn	Pn	11 28 25.5	-0.1
O22K	comp=E,47nm,1.4s			IAML		11 30 54.0	
SLKM	**Skilak Lake**	**4.53**	**359**		Pn	11 28 26.6	+0.7
O18K	**Koktuh Hills**	**4.75**	**327**	Pn	Pn	11 28 28.7	-0.3
O18K	comp=N,12nm,1.4s			IAML		11 31 02.0	
HIN	**Hinchinbrook I**	**4.80**	**22**	Pn	Pn	11 28 29.0	-0.6
RAGM	**Ragged Mountai**	**5.24**	**31**	Pn	Pn	11 28 35.4	-0.3
BERG	**Berg Lake**	**5.54**	**35**	Pn	Pn	11 28 40.1	+0.3
N18K	**Kilae Creek**	**5.62**	**329**	Pn	Pn	11 28 39.6	-1.2
BMRM	**Bremner River**	**5.75**	**28**	Pn	Pn	11 28 43.0	+0.3
SML	**Sawmill**	**5.90**	**8**	Pn	Pn	11 28 44.6	-0.1
KLU	**Klutina**	**5.92**	**20**	Pn	Pn	11 28 45.5	+0.4
SCM	**Sheep Creek Mo**	**6.02**	**12**	Pn	Pn	11 28 47.1	+0.6
SKT	**Skwentna**	**6.05**	**353**	Pn	Pn	11 28 46.0	-0.8
VRDI	**Verde Repeater**	**6.28**	**31**	Pn	Pn	11 28 47.2	-2.9
N25K	**Chitina, Valde**	**6.30**	**24**	Pn	Pn	11 28 51.5	+1.2
GLB	**Gilahina Butte**	**6.35**	**28**	Pn	Pn	11 28 49.8	-1.2
KIAG	**Kiagna River**	**6.38**	**36**		Pn	11 28 51.7	+0.2
M24K	**Tolsona, Glenn**	**6.45**	**16**	Pn	Pn	11 28 53.6	+1.3
MCARA	**McCarthy VSAT**	**6.53**	**31**	Pn	Pn	11 28 54.3	+1.0
M17K	**Holitna River**	**6.65**	**328**	Pn	Pn	11 28 55.2	+0.2
BARN	**Barnard Glacie**	**6.71**	**37**	Pn	Pn	11 28 56.8	+0.7
CTGM	**Chitina Glacie**	**6.76**	**39**	Pn	Pn	11 28 56.3	-0.4
N15K	**Kwethluk River**	**6.77**	**312**	Pn	Pn	11 28 57.9	+1.2
M16K	**Timber Creek**	**6.87**	**321**	Pn	Pn	11 28 59.9	+1.9
DHY	**Denali Highway**	**7.23**	**10**	Pn	Pn	11 29 04.7	+1.5
P29M	**Windy Craggy**	**7.51**	**56**	Pn	Pn	11 29 06.0	-1.0
L16K	**Owhat River**	**7.53**	**323**	Pn	Pn	11 29 05.6	-1.5
KTH	**Kantishna Hill**	**7.60**	**357**	Pn	Pn	11 29 07.5	-0.6
RIDG	**Independent Ri**	**8.20**	**16**	Pn	Pn	11 29 17.4	+1.1
J26L	**Joseph Creek**	**9.12**	**18**	Pn	Pn	11 29 29.4	+0.5
P32M	**Atlin**	**9.43**	**61**	Pn	Pn	11 29 32.9	-0.3

*AEIC **30** 11:28:56.9±2.1,56°.05N±0°.09×149°.8W±0°.1, h10km±8km, Error ellipse: s-maj=13.3km s-min=7.1km az=155.0*
NEIC 30 11:28:54.9±2.1,**56°.18N**±0°.05×**149°.9W**±0°.1,**h21**km±10km, **ML3.3**/37,**MLh3.0**(AEIC),**Error ellipse: s-maj=9.0km s-min=7.1km az=102.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.16**	**300**		Pn	11 29 29.2	-0.3
OHAK					Sn	11 29 53.9	-1.6
KDAK	**Kodiak Island**	**2.19**	**318**		Pn	11 29 29.9	-0.1
KDAK	**Kodiak Island**	**2.19**	**318**		Sn	11 29 55.0	-1.3
SII	**Sitkinak Islan**	**2.43**	**281**	Pn	Pn	11 29 30.7	-2.6
SII	comp=N,117nm,1.1s			IAML		11 31 06.8	
SYI	**Shuyak Island**	**2.79**	**332**	Pn	Pn	11 29 38.2	0.0
R18K	**Karluk**	**2.88**	**301**	Pn	Pn	11 29 39.5	+0.2
R18K	comp=E,94nm,0.5s			IAML		11 30 36.4	
R18K	comp=N,86nm,1.4s			IAML		11 30 36.8	
Q19K	**Cape Douglas,**	**3.43**	**325**	Pn	Pn	11 29 46.6	-0.4
CNPM	**China Poot**	**3.44**	**348**	Pn	Pn	11 29 46.8	-0.3
CNPM				Sn	Sn	11 30 27.0	-0.1
CNPM	comp=N,32nm,1.4s			IAML		11 30 30.1	
KAHG	**Katmai Hook Gl**	**3.44**	**314**		Pn	11 29 47.9	+0.8
BRSE	**Bradley Lake S**	**3.60**	**353**		Pn	11 29 49.2	-0.2
BRSE					Sn	11 30 31.1	-0.2
HOM	**Homer**	**3.62**	**346**	Pn	Pn	11 29 47.9	-1.6
BRLK	**Bradley Lake**	**3.64**	**352**	Pn	Pn	11 29 49.1	-0.7
BRLK	comp=E,44nm,1.3s			IAML		11 31 32.4	
CNTC	**Contact Creek**	**3.88**	**305**		Pn	11 29 54.0	+0.7
P19K	**Oil Pt**	**3.92**	**334**	Pn	Pn	11 29 51.5	-2.2
P19K	comp=N,63nm,0.8s			IAML		11 31 41.1	
P19K	comp=E,62nm,1.4s			IAML		11 31 55.9	
P23K	**Montague Islan**	**4.05**	**18**		Pn	11 29 55.4	-0.1
P18K	**Big Mountain,**	**4.32**	**321**	Pn	Pn	11 29 58.7	-0.5
HIN	**Hinchinbrook I**	**4.59**	**21**	Pn	Pn	11 30 02.0	-0.8
HIN	comp=N,39nm,1.4s			IAML		11 30 60.0	
HIN	comp=E,58nm,1.4s			IAML		11 31 58.5	
RDT	**Redoubt**	**4.61**	**344**		Pn	11 30 03.0	-0.2
P17K	**Kvichak River**	**4.65**	**313**		Pn	11 30 04.5	+0.9
O18K	**Koktuh Hills**	**4.65**	**325**	Pn	Pn	11 30 02.9	-0.9
KAIM	**Kayak Island**	**4.74**	**35**	Pn	Pn	11 30 04.3	-0.6
RC01	**Rabbit Creek A**	**4.93**	**1**	Pn	Pn	11 30 06.9	-0.6
RC01	comp=E,20nm,1.5s			IAML		11 31 07.6	
RAGM	**Ragged Mountai**	**5.03**	**31**	Pn	Pn	11 30 08.9	-0.1
RAGM	comp=E,42nm,1.2s			IAML		11 32 28.1	
P16K	**Nushagak River**	**5.22**	**307**		Pn	11 30 12.4	+0.9
N19K	**Bonanza Creek**	**5.24**	**334**	Pn	Pn	11 30 10.9	-1.0
N19K	comp=N,8.5nm,1.4s			IAML		11 32 38.1	
KNK	**Knik Glacier**	**5.30**	**7**	Pn	Pn	11 30 12.6	-0.1
KNK	comp=E,32nm,1.0s			IAML		11 32 15.8	
BERG	**Berg Lake**	**5.33**	**35**	Pn	Pn	11 30 12.3	-0.8
SNH	**Sunshine Point**	**5.47**	**40**	Pn	Pn	11 30 14.1	-0.9
N18K	**Kilae Creek**	**5.51**	**327**	Pn	Pn	11 30 15.7	+0.1
O16K	**Kokwok River B**	**5.57**	**311**	Pn	Pn	11 30 16.5	+0.3
KLU	**Klutina**	**5.71**	**19**	Pn	Pn	11 30 18.3	0.0
SCM	**Sheep Creek Mo**	**5.82**	**12**	Pn	Pn	11 30 19.3	-0.5
VRDI	**Verde Repeater**	**6.06**	**31**	Pn	Pn	11 30 23.2	-0.1
N25K	**Chitina, Valde**	**6.09**	**24**	Pn	Pn	11 30 24.0	+0.5
GLB	**Gilahina Butte**	**6.14**	**28**	Pn	Pn	11 30 24.9	+0.6
MCARA	**McCarthy VSAT**	**6.31**	**31**	Pn	Pn	11 30 28.0	+1.5
BARN	**Barnard Glacie**	**6.50**	**38**	Pn	Pn	11 30 29.4	+0.1
M17K	**Holitna River**	**6.55**	**326**	Pn	Pn	11 30 29.9	+0.1
CTGM	**Chitina Glacie**	**6.55**	**39**	Pn	Pn	11 30 29.3	-0.6
LOGN	**Logan Glacier**	**6.57**	**41**	Pn	Pn	11 30 30.2	-0.1
N15K	**Kwethluk River**	**6.72**	**311**	Pn	Pn	11 30 33.4	+1.2
M16K	**Timber Creek**	**6.79**	**319**	Pn	Pn	11 30 33.2	+0.1
O14K	**Tigyukauivet M**	**6.84**	**301**	Pn	Pn	11 30 34.4	+0.6
O29M	**Mount Kennedy**	**7.25**	**51**	Pn	Pn	11 30 39.5	0.0
P29M	**Windy Craggy**	**7.33**	**57**	Pn	Pn	11 30 39.5	-1.0
M27K	**Edge Creek, AK**	**7.42**	**30**	Pn	Pn	11 30 43.4	+1.5
L16K	**Owhat River**	**7.44**	**322**	Pn	Pn	11 30 42.4	+0.3
S31K	**Pelican**	**7.64**	**71**	Pn	Pn	11 30 42.3	-2.5
RIDG	**Independent Ri**	**7.99**	**16**	Pn	Pn	11 30 48.3	-1.3
L27K	**Beaver Creek,**	**8.01**	**27**	Pn	Pn	11 30 47.9	-1.9
M13K	**Dall Lake**	**8.27**	**306**	Pn	Pn	11 30 51.8	-1.6
L14K	**Kuka Creek**	**8.43**	**313**	Pn	Pn	11 30 56.7	+1.2
N30M	**Aishikik Lake**	**8.47**	**46**	Pn	Pn	11 30 55.7	-0.6
K15K	**Wolf Creek Mou**	**8.55**	**321**	Pn	Pn	11 30 58.4	+1.1
CCB	**Clear Creek Bu**	**8.56**	**6**	Pn	Pn	11 30 58.5	+1.3
M29M	**Somme Creek**	**8.56**	**38**	Pn	Pn	11 30 58.1	+0.6
J26L	**Joseph Creek**	**8.91**	**18**	Pn	Pn	11 31 02.8	+0.6
N31M	**Braeburn, Yuko**	**9.03**	**48**	Pn	Pn	11 31 04.6	+0.8
L29M	**L29M**	**9.13**	**36**	Pn	Pn	11 31 06.2	+1.0
P32M	**Atlin**	**9.25**	**62**	Pn	Pn	11 31 05.6	-1.2
DAWY	**Dawson**	**9.47**	**29**	Pn	Pn	11 31 10.3	+0.5
H21K	**Melozitna Rive**	**9.62**	**353**	Pn	Pn	11 31 12.8	+1.0
K29M	**Barlow Dome**	**9.84**	**34**	Pn	Pn	11 31 15.9	+0.8
P33M	**Teslin, Yukon**	**9.86**	**59**	Pn	Pn	11 31 14.2	-0.9
M31M	**Drury Creek, Y**	**9.96**	**46**	Pn	Pn	11 31 17.3	+0.9
FARO	**Faro, Yukon**	**10.39**	**48**	Pn	Pn	11 31 22.6	+0.2

*IDC **30** 11:38:59.8±1.3,37°.51N×31°.82W, h0km, mb3.5/8, mbtmp3.5/8, MS3.5/24, Error ellipse: s-maj=47.2km s-min=21.7km az=18.0*
ISC 30 11:39:02.2±1.2,**37.5N**±0°.3×**31°.8W**±0°.2,**h15**km,**n27,** σ0°86/8,**mb3.5**/8,**MS3.5**/23,**Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array** 1.0nm,0.7s,baz=268,slow=9.8,SNR=4.8	**21.86**	**76**	P	**P**	**11 43 55.4**	**+1.1**
ESDC	comp=Z,84nm,18.5s,baz=281,slow=32 1.0nm,0.7s			LR	LR	11 50 38.4	
MDT	**Midelt** comp=Z,159nm,21.9s,baz=334,slow=31	**22.70**	**94**	LR	LR	11 50 45.3	
BORG	**Borgarnes** comp=Z,99nm,18.5s,baz=224,slow=29	**28.00**	**10**	LR	LR	11 52 34.9	
SCHQ	**Schefferville** comp=Z,230nm,21.6s,baz=75,slow=33	**29.39**	**317**	LR	LR	11 55 08.2	
SFJD	**Kangerlussuaq** comp=Z,145nm,18.3s,baz=172,slow=31	**31.43**	**346**	LR	LR	11 55 17.4	
DAVOX	**Davos/Dischmat** comp=Z,38nm,18.4s,baz=250,slow=33	**31.97**	**60**	LR	LR	11 56 33.0	
FRB	**Frobisher Bay** comp=Z,128nm,19.3s,baz=166,slow=30	**34.27**	**332**	LR	LR	11 55 51.8	
GERES	**GERESS Array B** comp=Z,34nm,21.4s,baz=248,slow=31	**34.60**	**56**	LR	LR	11 57 03.1	
NOA	**NORSAR Array B**	**35.67**	**35**	LR	LR	11 58 33.9	
	comp=Z,34nm,18.4s,baz=260,slow=33						
SADO	**Sadowa** comp=Z,58nm,20.7s,baz=254,slow=34	**35.95**	**297**	LR	LR	11 59 07.7	
VAE	**Valguarnera** comp=Z,111nm,20.8s,baz=308,slow=32	**36.40**	**76**	LR	LR	11 58 40.3	
MDP	**Montagnes des** comp=Z,30nm,18.6s,baz=248,slow=32	**37.43**	**216**	LR	LR	11 59 15.3	
TORD	**Torodi Ar. Bea** 1.7nm,0.9s,baz=317,slow=9.0,SNR=7.1	**38.47**	**120**	P	**P**	**11 46 23.2**	**-0.5**
TORD	comp=Z,92nm,20.1s,baz=318,slow=34 1.7nm,0.9s			LR	LR	12 00 52.9	
DBIC	**Dimbokro** comp=Z,113nm,19.8s,baz=340,slow=34	**39.27**	**135**	LR	LR	12 01 17.1	
TKL	**Tuckaleechee C** comp=Z,3nm,19.1s,baz=80,slow=32	**41.32**	**284**	LR	LR	12 01 03.4	
FINES	**FINESS Array B** comp=Z,54nm,18.6s,baz=242,slow=34	**42.73**	**37**	LR	LR	12 03 12.0	
AKASG	**Malin Array Be** comp=Z,27nm,18.4s,baz=227,slow=35	**44.56**	**52**	LR	LR	12 05 16.9	
IDI	**Anoyia** comp=Z,12nm,18.4s,baz=102,slow=34	**45.12**	**75**	LR	LR	12 04 55.1	
BRTR	**Keskin Array B** comp=Z,24nm,21.1s,baz=302,slow=35	**50.17**	**66**	LR	LR	12 08 14.0	
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=76,slow=6.8,SNR=1.8 0.1nm,0.7s	**54.33**	**325**	P	**P**	**11 48 27.3**	**-0.3**
PDAR	**Pinedale Array** 0.9nm,1.0s,baz=82,slow=6.5,SNR=5.1	**57.69**	**302**	P	**P**	**11 48 51.6**	**-0.7**
PDAR	comp=Z,132nm,21.0s,baz=10,slow=36 0.9nm,1.0s			LR	LR	12 13 07.8	
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=66,slow=9.0,SNR=1.6 0.2nm,0.7s	**59.21**	**285**	P	**P**	**11 49 04.1**	**+1.1**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=61,slow=7.3,SNR=2.6	**66.22**	**335**	P	**P**	**11 49 49.2**	**+0.2**
ILAR	comp=Z,88nm,18.0s,baz=112,slow=33 0.3nm,0.8s			LR	LR	12 15 10.9	
KURBB	**Kurchatov Arra** 0.3nm,0.2s,baz=316,slow=6.5,SNR=1.5 0.3nm,0.2s	**73.08**	**39**	P	**P**	**11 50 30.8**	**-0.7**
TSUM	**Tsumeb** comp=Z,36nm,21.9s,baz=330,slow=32	**73.08**	**131**	LR	LR	12 18 09.5	
KMBO	**Kilima Mbogo** comp=Z,26nm,18.8s,baz=88,slow=35	**74.21**	**104**	LR	LR	12 22 39.6	
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=309,slow=5.2,SNR=4.2 0.4nm,0.8s	**77.46**	**40**	P	**P**	**11 50 56.9**	**0.0**

IDC 30 11:43:29.9±999.0,**50°.04N×1°.68W, h0km, Error ellipse: s-maj=2049.0km s-min=372.6km az=59.0, United Kingdom**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON** baz=270,slow=321,SNR=1.4	**3.88**	**59**	I	I	14 09 30.0	
I31KZ	**AKTYUBINSK INF** baz=294,slow=346,SNR=0.6	**37.30**	**66**	I	I	15 33 10.0	
I46RU	**ZALESOVO INFRA** baz=303,slow=337,SNR=0.9	**50.22**	**50**	I	I	16 48 50.0	

*MOS **30** 11:49:26.8±1.0,51°.88N×176°.18W, h62km, mb5.1/20, Error ellipse: s-maj=8.4km s-min=7.3km az=102.4*
*IDC **30** 11:49:27.5±0.5,51°.85N×176°.18W, h52km±4km, mb4.1/32, mbtmp4.4/36, MS3.6/51, Error ellipse: s-maj=14.1km s-min=8.7km az=179.0*
*AEIC **30** 11:49:27.3±3.5,51°.54N±0°.07×176°.10W±0°.06, h24km±4km, Error ellipse: s-maj=10.0km s-min=5.2km az=171.0*
*NEIC **30** 11:49:28.1±2.2,51°.73N±0°.08×176°.16W±0°.06, h56km±5km, mb4.9/192, ML5.2/6, ML4.7(AEIC), Error ellipse: s-maj=12.4km s-min=4.7km az=169.0*
ISC 30 11:49:27.1±0.4,**51°.68N**±0°.06×**176°.17W**±0°.03,**h52**km±2km, **h52**km:**pP-P, n741,** σ1°36/723,**mb4.8**/132,**MS3.6**/51,**7C-5D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCK	**Great Sitkin C**	**0.33**	**1**		Pn	**11 49 37.8**	**+1.0**
GSIG	**Igitkin Island**	**0.34**	**27**		Pn	**11 49 37.4**	**+0.5**
GSIG					Sn	**11 49 44.6**	**+0.8**
GSMY	**Great Sitkin M**	**0.37**	**11**		Pn	**11 49 38.1**	**+1.0**
GSMY					Sn	**11 49 46.2**	**+2.0**
GSTD	**Great Sitkin T**	**0.37**	**3**		Pn	**11 49 38.2**	**+1.0**
ADK	**Adak**	**0.38**	**302**		Pn	**11 49 37.6**	**+0.5**
ADK					Sn	**11 49 44.9**	**+0.6**
ADK	107µm,0.3s			IAML		11 49 46.0	
ADK	**Adak**	**0.38**	**302**	P	**Pn**	**11 49 37.8**	**+0.7**
ADK	**Adak**	**0.38**	**302**	P	**Pn**	**11 49 37.6**	**+0.5**
ADK						11 49 44.9	
GSSP	**Great Sitkin S**	**0.41**	**360**		**Pn**	**11 49 38.8**	**+1.2**
KIRH	**Kanaga Island**	**0.61**	**291**		**Pn**	**11 49 41.0**	**+1.1**
KIWB	**Kanaga Island**	**0.63**	**286**		**Pn**	**11 49 40.2**	**+0.1**
KINC	**Kanaga Island**	**0.64**	**293**		**Pn**	**11 49 41.3**	**+1.1**
KIMD	**Kanaga Island**	**0.67**	**277**		**Pn**	**11 49 41.2**	**+0.7**
KIMD					**Sn**	**11 49 51.0**	**+0.8**
KICM	**Kanaga Island**	**0.68**	**291**		**Pn**	**11 49 41.8**	**+1.2**
TAPA	**Tanaga Point A**	**1.03**	**278**		**Pn**	**11 49 46.5**	**+1.2**
TAFL	**Tanaga Flats**	**1.07**	**275**		**Pn**	**11 49 47.0**	**+1.1**
TAFP	**Tanaga Falls P**	**1.15**	**282**		**Pn**	**11 49 48.2**	**+1.4**
TASE	**Tanaga Southea**	**1.17**	**278**		**Pn**	**11 49 48.7**	**+1.5**
TASE					**Sn**	**11 50 06.1**	**+4.0**
ATKA	**Atka Island**	**1.33**	**66**		**Pn**	**11 49 49.4**	**+0.1**
ATKA					**Sn**	**11 50 05.3**	**-0.6**
ATKA	comp=N,36µm,0.7s			IAML		11 50 09.3	
ATKA	**Atka Island**	**1.33**	**66**	P	**Pn**	**11 49 49.5**	**+0.2**
KOFP	**Korovin Flat P**	**1.41**	**64**		**Pn**	**11 49 51.3**	**+0.8**
KOKV	**

baz=260
M13K **Dall Lake** 11.29 34 P Pn 11 52 08.6 +3.1
baz=225
O14K **Tigyukauivet M** 11.34 42 Pn Pn 11 52 07.7 +1.5
O14K **Tigyukauivet M** 11.34 42 P Pn 11 52 09.3 +3.1
baz=235
CHGN **Chignik** 11.42 59 Pn Pn 11 52 07.9 +0.6
N14K **Kuskokwak Cree** 11.58 39 P Pn 11 52 13.3 +3.9
baz=231
O15K **Ungalikthiuk R** 11.91 45 P Pn 11 52 17.8 +3.7
baz=238,SNR=13
M14K **Bethel** 12.02 35 Pn Pn 11 52 17.4 +2.0
M14K **Bethel** 12.02 35 P Pn 11 52 19.5 +4.1
baz=228,SNR=5.6
L14K **Kuka Creek** 12.18 32 Pn Pn 11 52 21.1 +3.4
L14K **Kuka Creek** 12.18 32 P Pn 11 52 22.2 +4.5
baz=224
R16K **Pilot Point** 12.26 54 P Pn 11 52 23.9 +5.1
baz=250
GAMB **Gambell** 12.35 9 P Pn 11 52 22.6 +2.6
baz=193
N15K **Kwethluk River** 12.36 40 Pn Pn 11 52 22.6 +2.5
N15K **Kwethluk River** 12.36 40 P Pn 11 52 24.7 +4.6
baz=234,SNR=20
M15K **Kasigluk River** 12.45 38 P Pn 11 52 25.1 +3.7
baz=231
P16K **Nushagak River** 12.66 47 P Pn 11 52 28.1 +3.9
baz=243,SNR=8.8
L15K **Ungalak Mounta** 12.83 33 P Pn 11 52 30.4 +3.9
baz=226
O16K **Kokwok River B** 12.89 45 Pn Pn 11 52 30.0 +2.7
O16K **Kokwok River B** 12.89 45 P Pn 11 52 31.9 +4.6
baz=240,SNR=9.0
J14K **Nanvaranak Lak** 13.00 27 Pn Pn 11 52 29.6 +0.9
J14K **Nanvaranak Lak** 13.00 27 P Pn 11 52 33.0 +4.2
baz=217,SNR=9.7
N16K **Nishlik Lake** 13.07 41 P Pn 11 52 33.8 +3.9
baz=236
Q16K **King Salmon** 13.13 50 P P 11 52 35.5 -3.8
baz=247,SNR=14
K15K **Wolf Creek Mou** 13.25 31 P Pn 11 52 36.5 +4.2
baz=224,SNR=6.8
M16K **Timber Creek** 13.32 39 Pn Pn 11 52 34.4 +1.2
M16K **Timber Creek** 13.32 39 P Pn 11 52 37.5 +4.2
baz=233
Q17K **Contact Creek** 13.35 53 P Pn 11 52 37.8 +4.0
baz=250
P17K **Kvichak River** 13.45 48 P P 11 52 39.5 -3.3
baz=245,SNR=16
L16K **Owhat River** 13.56 36 Pn Pn 11 52 39.0 +2.5
L16K **Owhat River** 13.56 36 P P 11 52 40.8 -3.2
baz=230,SNR=7.3
N17K **Nushagak Hills** 13.76 43 Pn Pn 11 52 41.4 +2.2
N17K **Nushagak Hills** 13.76 43 P P 11 52 43.8 -2.4
baz=239,SNR=5.8
SII **Sitkinak Islan** 13.76 61 Pn Pn 11 52 38.1 -1.2
SII **Sitkinak Islan** 13.76 61 P Pn 11 52 39.1 -0.2
ANM **Nome** 14.09 19 Pn Pn 11 52 45.2 +1.6
ANM **Nome** 14.09 19 P P 11 52 48.7 -1.2
baz=209,SNR=14
ANM **Nome** 14.09 19 P Pn 11 52 45.2 +1.6
P18K **Big Mountain,** 14.10 49 Pn Pn 11 52 47.1 +3.3
P18K **Big Mountain,** 14.10 49 P P 11 52 48.4 -1.7
baz=246,SNR=9.4
M17K **Holitna River** 14.14 39 P P 11 52 48.5 -2.0
baz=235
L17K **Donlin** 14.26 36 P P 11 52 51.4 -0.4
baz=231,SNR=9.0
J16K **Anvik River** 14.27 29 P P 11 52 50.3 -1.6
J16K **Anvik River** 14.27 29 P P 11 52 50.4 -1.5
baz=223,SNR=13
O18K **Koktuh Hills** 14.30 47 P P 11 52 50.1 -2.2
O18K **Koktuh Hills** 14.30 47 P P 11 52 50.3 -2.0
baz=245
OHAK **Old Harbor** 14.38 58 Pn Pn 11 52 47.2 -0.3
OHAK **Old Harbor** 14.38 58 P P 11 52 52.1 -1.0
baz=257
N18K **Kilae Creek** 14.39 43 P P 11 52 51.6 -1.7
N18K **Kilae Creek** 14.39 43 P P 11 52 51.4 -1.9
baz=241
TNA **Tin City** 14.54 14 P P 11 52 53.2 -1.7
baz=201
K17K **Iditarod** 14.63 34 P P 11 52 55.7 -0.2
baz=229,SNR=6.8
Q19K **Cape Douglas,** 14.68 52 Pn 11 52 52.0 +0.5
Q19K **Cape Douglas,** 14.68 52 P P 11 52 56.3 -0.3
baz=250,SNR=8.7
I17K **Unalakleet** 14.70 28 Pn Pn 11 52 53.4 +1.9
I17K **Unalakleet** 14.70 28 P P 11 52 55.0 -1.6
baz=221,SNR=7.9
F14K **Arctic Creek** 14.72 16 P P 11 52 55.5 -1.4
baz=205
G15K **Niukluk** 14.74 21 P P 11 52 56.5 -0.6
baz=211
M18K **Stony River** 14.83 41 P P 11 52 57.4 -0.7
baz=238,SNR=8.2
O19K **Port Alsworth** 14.85 47 P P 11 52 58.0 -0.4
baz=245,SNR=10
H16K **Elim** 14.87 24 P P 11 52 58.7 +0.1
baz=216,SNR=36
KDAK **Kodiak Island** 14.88 57 Pn 11 52 52.6 -1.5
KDAK **Kodiak Island** 14.88 57 P P 11 52 58.2 -0.5
baz=256
KDAK **Kodiak Island** 14.88 57 P Pn 11 52 52.6 -1.5
KDAK **Kodiak Island** 14.88 57 P Pn 11 52 52.4 -1.7
comp=N,5.9nm,0.3s,baz=278,slow=3.9,SNR=19
KDAK S Sn 11 55 32.1 -5.4
comp=N,13nm,0.9s,baz=306,slow=17,SNR=1.3
KDAK LR LR 11 59 09.9
comp=N,717nm,19.9s,baz=263,slow=39
L18K **Granite Mounta** 14.91 37 P P 11 52 58.2 -0.8
baz=234
N19K **Bonanza Creek** 15.06 44 P P 11 53 00.5 -0.3
baz=243
P19K **Oil Pt** 15.14 49 P P 11 53 02.4 +0.8
P19K IAmb IAmb 11 53 04.5
comp=Z,83nm,1.0s
P19K **Oil Pt** 15.14 49 P P 11 53 01.7 +0.1
baz=249
Q20K **Shuyak Island** 15.20 54 P P 11 53 01.7 -0.5
baz=254
SYI **Shuyak Island** 15.20 54 P Pn 11 52 59.0 +0.8
SYI IAmb IAmb 11 53 05.9
comp=Z,150nm,1.6s
F15K **North Star Dit** 15.24 18 P P 11 53 02.3 -0.4
baz=208
G16K **Koyuk River** 15.46 22 P P 11 53 05.4 +0.3
baz=214
TTA **Tatalina** 15.58 36 P P 11 53 06.0 -0.6
TTA **Tatalina** 15.58 36 P P 11 53 06.0 -0.6
baz=233
TTA **Tatalina** 15.58 36 P P 11 53 06.0 -0.6
TTA pmax pmax
comp=Z,69nm,1.9s
O20K **Slope Mountain** 15.58 48 P P 11 53 06.8 +0.2
baz=248
L19K **White Mountain** 15.59 39 P P 11 53 07.0 +0.4
baz=238
M19K **Big River Lodg** 15.63 41 P P 11 53 07.6 +0.6
baz=239
J18K **Innoko River** 15.67 34 P P 11 53 07.5 +0.1
baz=230,SNR=19
RSO **Redoubt South** 15.67 47 P P 11 53 07.3 -0.5
H17K **Granite Mounta** 15.72 26 P P 11 53 08.3 +0.4
baz=220
HOM **Homer** 15.90 50 P P 11 53 09.9 0.0
baz=251
G17K **Kiwalik Mounta** 15.97 24 P P 11 53 11.0 +0.3
baz=217
PEA0B **Petropavlovsk-** 15.98 285 *i* P Pn 11 53 10.2 +1.9
PETK **Petropavlovsk-** 15.98 285 P Pn 11 53 10.0 +1.7
PETK **Petropavlovsk-** 15.98 285 P Pn 11 53 10.0 +1.7
comp=Z,4.5nm,0.7s,baz=81,slow=18,SNR=7.8
PETK LR LR 11 58 56.1
comp=Z,219nm,20.9s,baz=82,slow=36
CNPM **China Poot** 16.05 51 P Pn 11 53 09.3 +0.2
CNPM IAmb IAmb 11 53 18.7
comp=Z,43nm,0.8s
L20K **Farewell, AK** 16.14 39 P P 11 53 13.7 +1.0
baz=238,SNR=11
M20K **Styx River** 16.14 42 P P 11 53 13.4 +0.6
baz=242
N20K **Mount Spurr** 16.22 45 P P 11 53 14.4 +0.7
baz=245,SNR=7.3
BRLK **Bradley Lake** 16.29 50 P Pn 11 53 12.1 -0.1
H18K **Honhosa River** 16.32 27 P P 11 53 16.1 +1.5
baz=223
BRSE **Bradley Lake S** 16.36 51 P P 11 53 14.9 -0.2
baz=252
J19K **Poorman** 16.38 33 P P 11 53 16.1 +0.8
baz=231,SNR=21
GCSA **Galena City Sc** 16.47 30 P P 11 53 17.8 +1.6
baz=227,SNR=20
K20K **Telida** 16.55 37 P P 11 53 18.2 +1.0
baz=236,SNR=13
F17K **Baldwin Pennin** 16.59 21 P P 11 53 19.1 +1.5
baz=214
G18K **Tagagawik** 16.79 25 IAmb IAmb 11 53 25.1
comp=Z,87nm,1.9s
G18K **Tagagawik** 16.79 25 P P 11 53 21.9 +2.0
baz=221,SNR=15
SKT **Skwentna** 16.86 43 P P 11 53 22.7 +2.1
SKT **Skwentna** 16.86 43 P P 11 53 23.1 +2.5
baz=244,SNR=12
J20K **Nowinta River** 17.00 34 P P 11 53 23.5 +1.4
baz=233
E17K **Hotham Inlet** 17.01 19 P P 11 53 24.5 +2.3
baz=212,SNR=24
PPLA **Purkeypile** 17.02 39 P P 11 53 25.0 +2.4
baz=240,SNR=7.0
O22K **Cooper Landing** 17.08 49 P Pn 11 53 22.1 +0.2
O22K IAmb IAmb 11 53 32.3
comp=Z,50nm,0.8s
O22K **Cooper Landing** 17.08 49 P P 11 53 23.1 +0.1
baz=251
SEW **Seward** 17.09 50 P Pn 11 53 22.4 +0.4
baz=253
F18K **Selawik** 17.09 23 P P 11 53 25.6 +2.5
baz=217
H19K **Roundabout Mou** 17.14 28 P P 11 53 24.3 +0.6
baz=226
I20K **Naaghedeneel** 17.27 32 P P 11 53 26.1 +0.9
baz=231
RC01 **Rabbit Creek A** 17.28 47 P P 11 53 25.7 +0.4
RC01 **Rabbit Creek A** 17.28 47 P P 11 53 26.0 +0.7
baz=249
CAST **Castle Rocks** 17.33 38 P P 11 53 27.4 +1.6
baz=239,SNR=16
G19K **Purcell Mounta** 17.41 26 P P 11 53 28.0 +1.4
baz=223,SNR=12
C16K **Lisburne Hills** 17.45 13 P P 11 53 28.6 +1.5
baz=203
CHUM **Lake Minchumin** 17.49 37 P P 11 53 30.1 +2.5
baz=237,SNR=16
E18K **Tukpahlearik C** 17.55 20 P P 11 53 30.4 +2.2
baz=214
H20K **Anotleneega Mo** 17.60 30 P P 11 53 30.6 +1.8
baz=229,SNR=9.0
F19K **Shaleruckik Mo** 17.74 24 P P 11 53 31.9 +1.6
baz=220
KTH **Kantishna Hill** 17.85 39 P P 11 53 33.2 +1.6
KTH IAmb IAmb 11 53 34.2
comp=Z,40nm,0.7s
C17K **DeLong Mountai** 17.97 16 P Pn 11 53 35.5 +2.6
baz=207
KNK **Knik Glacier** 17.98 46 P P 11 53 33.1 +0.1
KNK **Knik Glacier** 17.98 46 P P 11 53 33.1 +0.1
baz=250
TRF **Thorofare Moun** 18.05 39 P Pn 11 53 35.4 +1.4
TRF IAmb IAmb 11 53 40.5
comp=Z,118nm,1.8s
TRF **Thorofare Moun** 18.05 39 P Pn 11 53 35.1 +1.2
baz=242,SNR=11
BPAW **Bear Paw Mtn.** 18.11 37 P Pn 11 53 36.3 +1.8
BPAW **Bear Paw Mtn.** 18.11 37 P Pn 11 53 36.1 +1.5
baz=239,SNR=10
SML **Sawmill** 18.17 45 P Pn 11 53 35.8 +0.4
SML **Sawmill** 18.17 45 P Pn 11 53 36.1 +0.7
baz=249
IMAR **Indian Mountai** 18.27 30 P Pn 11 53 38.0 +1.4
E19K **Redstone River** 18.36 23 P Pn 11 53 39.2 +1.7
E19K **Redstone River** 18.36 23 P Pn 11 53 39.5 +1.9
baz=220,SNR=20
H21K **Melozitna Rive** 18.37 31 P Pn 11 53 39.8 +2.1
baz=232
M23K **Glacier View** 18.43 46 P Pn 11 53 39.2 +0.7
baz=250,SNR=9.2
F20K **Avaraart Lake** 18.44 26 P Pn 11 53 40.3 +1.8
baz=224,SNR=13
WAT1 **Susitna Watana** 18.48 42 P Pn 11 53 39.3 +0.2
baz=246
C18K **Utukok River** 18.48 17 P Pn 11 53 40.4 +1.4
baz=211
BILL **Bilibino** 18.49 339 P Pn 11 53 40.7 +1.5
BILL **Bilibino** 18.49 339 *i* P Pn 11 53 39.3 +0.1
HIN **Hinchinbrook I** 18.58 50 P P 11 53 38.8 -0.8
HIN IAmb IAmb 11 53 40.4
comp=Z,125nm,1.6s
RND **Reindeer** 18.60 40 P P 11 53 40.3 +0.5
RND IAmb IAmb 11 53 42.3
comp=Z,40nm,0.7s
RND **Reindeer** 18.60 40 P P 11 53 40.3 +0.5
RND pmax pmax
comp=Z,40nm,0.7s
SCM **Sheep Creek Mo** 18.63 46 P P 11 53 39.0 -1.2
SCM **Sheep Creek Mo** 18.63 46 P P 11 53 40.6 +0.5
baz=250
SCM **Sheep Creek Mo** 18.63 46 P P 11 53 39.0 -1.2
SCM pmax pmax
comp=Z,18nm,0.8s
MLY **Manley** 18.70 35 P Pn 11 53 42.5 +0.7
MLY **Manley** 18.70 35 P Pn 11 53 42.9 +1.1
baz=237,SNR=28
G21K **Allakaket** 18.70 29 P Pn 11 53 42.8 +1.1
G21K **Allakaket** 18.70 29 P Pn 11 53 42.9 +1.2
baz=229,SNR=27
MCK **McKinley** 18.71 39 P Pn 11 53 43.3 +1.4
baz=243,SNR=17
BWN **Browne** 18.72 38 P Pn 11 53 42.6 +0.7
BWN IAmb IAmb 11 53 47.4
comp=Z,85nm,1.3s
WAT6 **Susitna Watana** 18.72 43 P P 11 53 41.9 +0.6
baz=248,SNR=9.8
D19K **Kuna River** 18.97 21 P Pn 11 53 45.5 +0.6
baz=217
H22K **Ishtalitna Cre** 18.98 32 P Pn 11 53 45.6 +0.5
baz=234
EYAK **Cordova Ski Ar** 18.98 50 P Pn 11 53 45.9 +0.9
B18K **Kokolik River** 19.00 16 P Pn 11 53 46.8 +1.6
baz=208,SNR=30
DHY **Denali Highway** 19.07 42 P P 11 53 45.4 +0.4
DHY IAmb IAmb 11 53 59.9
comp=Z,40nm,0.7s
DHY **Denali Highway** 19.07 42 P P 11 53 45.5 +0.4
baz=247,SNR=25
NEA2 **Nenana** 19.08 37 P P 11 53 45.4 +0.4
NEA2 **Nenana** 19.08 37 P P 11 53 45.8 +0.8
baz=240,SNR=11
KLU **Klutina** 19.15 47 P Pn 11 53 47.3 +0.1
KLU **Klutina** 19.15 47 P Pn 11 53 47.5 +0.3
baz=253,SNR=6.3
C19K **Lookout Ridge** 19.17 18 P Pn 11 53 48.1 +0.8
baz=213
F21K **Alatna River** 19.18 27 P Pn 11 53 48.1 +0.6
baz=227
E20K **Nigu River** 19.23 23 P Pn 11 53 48.8 +0.7
baz=220
M24K **Tolsona, Glenn** 19.23 46 P Pn 11 53 48.3 +0.1
M24K IAmb IAmb 11 53 55.8
comp=Z,47nm,1.2s
M24K **Tolsona, Glenn** 19.23 46 P Pn 11 53 47.8 -0.4
baz=251
I23K **Minto, Yukon-K** 19.25 35 P Pn 11 53 48.2 0.0
I23K IAmb IAmb 11 53 57.2
comp=Z,38nm,1.0s
I23K **Minto, Yukon-K** 19.25 35 P Pn 11 53 48.5 +0.3
baz=239,SNR=23
D20K **Etivluk River** 19.48 22 P Pn 11 53 50.7 -0.3
baz=219
KAIM **Kayak Island** 19.49 53 P Pn 11 53 50.8 -0.3
baz=259
G22K **Bettles** 19.57 29 P Pn 11 53 52.1 +0.1
baz=231
MDM **Murphy Dome** 19.57 37 P P 11 53 50.5 +0.1
CCB **Clear Creek Bu** 19.58 38 P P 11 53 49.5 -0.9
BMRM **Bremner River** 19.63 49 P Pn 11 53 52.5 -0.3
baz=256
COLA **College** 19.67 37 P P 11 53 51.0 -0.4
COLA IAmb IAmb 11 53 56.0
comp=Z,29nm,0.8s
COLA **College** 19.67 37 P Pn 11 53 53.4 +0.2
baz=242
COLA **College** 19.67 37 P P 11 53 51.0 -0.4
COLA pmax pmax
comp=Z,29nm,0.8s
HARP **HAARP** 19.78 45 P Pn 11 53 55.1 +0.5
baz=252,SNR=5.5
N25K **Chitina, Valde** 19.80 48 P Pn 11 53 54.9 0.0
N25K IAmb IAmb 11 54 06.5
comp=Z,23nm,0.7s
N25K **Chitina, Valde** 19.80 48 P P 11 53 54.0 +1.1
baz=254,SNR=6.6
HDA **Harding Lake** 19.80 39 P P 11 53 53.3 +0.4
HDA IAmb IAmb 11 53 56.0
comp=Z,45nm,0.6s
HDA **Harding Lake** 19.80 39 P Pn 11 53 54.7 -0.1
baz=244,SNR=37
PAX **Paxson** 19.83 43 P P 11 53 54.2 +0.8
baz=250,SNR=14
A19K **Wainwright** 19.86 15 P Pn 11 53 54.7 -0.7
baz=209
G23K **Bananza Creek** 19.91 31 IAmb IAmb 11 54 09.7
comp=Z,35nm,1.1s
G23K **Bananza Creek** 19.91 31 P P 11 53 54.7 +0.7
baz=234
E21K **Killik River** 19.91 24 P P 11 53 55.1 +1.0
baz=224
POKR **Poker Plat Res** 19.94 37 P P 11 53 54.9 +0.5
POKR **Poker Plat Res** 19.94 37 P P 11 53 54.7 +0.3
baz=242
IL31 **19.99 38** P P 11 53 53.6 -1.2
IL31 IAmb IAmb 11 54 10.1
comp=Z,55nm,1.6s
ILAR **Eielson Array** 19.99 38 P P 11 53 53.3 -1.6
comp=Z,7.4nm,0.5s,baz=240,slow=9.6,SNR=40
ILAR PcP PcP 11 58 08.6 -0.3
comp=Z,2.0nm,0.6s,baz=278,slow=3.1,SNR=7.3
ILAR LR LR 12 01 04.6
comp=Z,133nm,18.9s,baz=221,slow=35
ILAR ScP ScP 12 01 39.7 -0.8
comp=Z,0.5nm,0.6s,baz=271,slow=3.2,SNR=6.4
K24K **Donnelly Dome** 20.01 41 P P 11 53 56.2 +0.9
baz=247,SNR=18
MA2 **Magadan** 20.08 306 *c i* P P 11 53 57.5 +1.5
MA2 pmax pmax
comp=Z,81nm,1.5s
MA2 pmax pmax
comp=Z,14nm,1.3s
MA2 **Magadan** 20.08 306 LR LR 12 01 23.2
comp=Z,119nm,19.6s,baz=107,slow=36
GLB **Gilahina Butte** 20.12 48 P P 11 53 55.5 -0.9
H24K **Noodor Dome** 20.14 35 P Pn 11 53 58.0 -0.9
H24K IAmb IAmb 11 54 11.3
comp=Z,75nm,1.1s
H24K **Noodor Dome** 20.14 35 P Pn 11 53 58.0 -0.8
baz=239,SNR=32
COLD **Coldfoot** 20.16 30 P Pn 11 53 58.6 -0.4
baz=232,SNR=8.9
VRDI **Verde Repeater** 20.23 49 P P 11 53 56.9 -0.9
C21K **Knifeblade Rid** 20.25 22 P Pn 11 53 59.2 -0.8
baz=221,SNR=16
RIDG **Independent Ri** 20.37 42 P P 11 53 59.2 +0.1
RIDG IAmb IAmb 11 54 14.5
comp=Z,27nm,0.6s
RIDG **Independent Ri** 20.37 42 P P 11 53 59.6 +0.5
baz=249,SNR=22
B20K **Meade River** 20.40 19 P P 11 54 00.3 +1.0
baz=216
MCARA **McCarthy VSAT** 20.47 49 P P 11 54 00.8 +0.6
baz=257,SNR=6.0
J25K **Salcha River,** 20.50 39 P P 11 54 01.5 +1.0
baz=246,SNR=19
D22K **Ayikyak River** 20.56 24 P P 11 54 02.1 +1.0
baz=225
MENT **Mentasta** 20.58 44 P P 11 54 00.0 -1.3
G24K **Hadweenzic Riv** 20.74 33 P P 11 54 04.4 +1.4
baz=238
M26K **Nabesna, AK** 20.74 46 P P 11 54 03.3 +0.1
M26K **Nabesna, AK** 20.74 46 P P 11 54 03.8 +0.7
baz=254
L26K **Log Cabin Wild** 20.77 44 P P 11 54 04.0 +0.6
L26K **Log Cabin Wild** 20.77 44 P P 11 54 04.1 +0.8
baz=252
SCRK **Sand Creek** 20.81 41 P P 11 54 03.5 -0.5
SCRK IAmb IAmb 11 54 05.7
comp=Z,67nm,0.9s
SCRK **Sand Creek** 20.81 41 P P 11 54 03.7 -0.3
baz=249,SNR=61
PRP **Porcupine Dome** 20.84 37 P P 11 54 04.8 +0.6
baz=243
E23K **Chandalar** 20.85 28 P P 11 54 05.2 +0.8
baz=232
F24K **Squaw Lake** 21.06 30 P P 11 54 08.0 +1.6
baz=235
D23K **Nanushuk River** 21.14 26 P P 11 54 08.7 +1.4
baz=228,SNR=10
J26L **Joseph Creek** 21.18 40 P P 11 54 08.3 +0.4
baz=248
CTG **Chitna Glacier** 21.18 50 P P 11 54 09.3 +1.3
baz=260
CTGM **Chitina Glacie** 21.19 50 P P 11 54 08.1 0.0
CTGM IAmb IAmb 11 54 27.5
comp=Z,91nm,2.0s
M27K **Edge Creek, AK** 21.23 47 P P 11 54 09.0 +0.6
baz=256
G25K **Bearman Lake** 21.24 33 P P 11 54 08.9 +0.7
baz=240
L27K **Beaver Creek,** 21.44 45 P P 11 54 11.1 +0.5
baz=254
B22K **Teshekpuk Lake** 21.46 21 P P 11 54 11.1 +0.5
baz=221
BCAR **Beaver Creek A** 21.46 45 P P 11 54 11.2 +0.4
A21K **Barrow** 21.59 17 P P 11 54 12.6 +0.6
baz=215
K27K **Chicken** 21.62 42 P P 11 54 13.3 +0.8
baz=252
I26K **Coal Creek Min** 21.65 38 P P 11 54 13.0 +0.2
baz=247
BVCY **Beaver Creek** 21.70 47 P P 11 54 14.9 +1.5
baz=257,SNR=6.1
YUK3 **Moose Creek** 21.75 48 P P 11 54 14.7 +0.6
baz=259
D24K **Happy Valley** 21.77 26 P P 11 54 15.1 +1.0
baz=231
F25K **Christian Rive** 21.82 32 P P 11 54 15.2 +0.5
baz=238
YUK8 **Steele Glacier** 21.99 50 P P 11 54 17.3 +0.5
baz=261
BMAR **Burnt Mountain** 22.09 33 P P 11 54 18.3 +0.9
E25K **Arctic Village** 22.12 30 P P 11 54 18.6 +0.7
E25K IAmb IAmb 11 54 39.5
comp=Z,45nm,1.2s
E25K **Arctic Village** 22.12 30 P P 11 54 18.8 +0.9
baz=237,SNR=7.5
G26K **Porcupine Rive** 22.13 34 P P 11 54 18.8 +0.9
baz=242
C24K **Franklin Bluff** 22.17 25 P P 11 54 18.7 +0.4
baz=230
EGAK **Eagle** 22.25 40 P P 11 54 19.4 +0.3
EGAK IAmb IAmb 11 54 35.5
comp=Z,43nm,0.8s
EGAK **Eagle** 22.25 40 P P 11 54 19.6 +0.4
baz=251,SNR=19
I27K **Kandik River** 22.36 38 P P 11 54 20.2 -0.2
baz=248,SNR=8.9
F26K **Sheenjek River** 22.36 32 P P 11 54 20.5 0.0
baz=240
O29M **Mount Kennedy** 22.44 53 P P 11 54 21.6 +0.2
baz=264
YUK4 **Talbot Arm** 22.54 50 P P 11 54 24.0 +1.5
baz=262
D25K **Kavik River** 22.57 27 P P 11 54 23.3 +0.6
baz=234
H27K **Steamboat Moun** 22.63 37 P P 11 54 23.5 +0.1
baz=247
DAWY **Dawson** 22.76 43 P P 11 54 25.2 +0.4
DAWY IAmb IAmb 11 54 41.9
comp=Z,20nm,0.8s
DAWY **Dawson** 22.76 43 P P 11 54 25.1 +0.4
baz=255,SNR=13
M29M **Somme Creek** 22.80 47 P P 11 54 25.2 -0.1
baz=260
I28M **Miner Creek** 22.96 39 P P 11 54 26.1 -0.6
I28M IAmb IAmb 11 54 41.0
comp=Z,23nm,0.8s
I28M **Miner Creek** 22.96 39 P P 11 54 26.2 -0.6
baz=251,SNR=12
HYT **Haines Junctio** 23.02 52 P P 11 54 26.1 -1.4
HYT IAmb IAmb 11 54 37.1
comp=Z,57nm,2.0s
HYT **Haines Junctio** 23.02 52 P P 11 54 27.4 -0.1

baz=264
L29M L29M 23.08 46 P **P** **11 54 28.0 0.0**
baz=258
J29N Klondike Camp 23.36 42 P **P** **11 54 31.0 +0.3**
baz=255
K29M Barlow Dome 23.51 44 P **P** **11 54 32.5 +0.3**
baz=257
M30M Minto, Yukon 23.59 47 P **P** **11 54 33.5 +0.6**
baz=261
F28M Old Crow 23.78 34 P **P** **11 54 34.9 +0.4**
F28M IAmb IAmb 11 54 48.7
comp=Z,23nm,0.8s
F28M Old Crow 23.78 34 P **P** **11 54 35.6 +1.0**
baz=246,SNR=11
H29M Whitestone 23.82 38 P **P** **11 54 34.5 -0.4**
baz=251
J30M Hart River 24.18 42 P **P** **11 54 38.1 -0.3**
J30M IAmb IAmb 11 54 42.7
comp=Z,25nm,0.8s
J30M Hart River 24.18 42 P **P** **11 54 39.0 +0.6**
baz=257,SNR=24
G29M Pine Creek 24.19 36 P **P** **11 54 38.2 0.0**
baz=250
E28M Babbage River 24.32 32 P **P** **11 54 40.0 +0.6**
baz=245
I30M Mount Dempster 24.32 41 P **P** **11 54 39.7 +0.1**
baz=256
EPYK Eagle Plains 24.50 38 P **P** **11 54 40.5 -0.6**
EPYK IAmb IAmb 11 54 58.9
comp=Z,22nm,1.0s
EPYK Eagle Plains 24.50 38 P **P** **11 54 41.3 +0.2**
baz=253
E29M Blow River 24.78 33 P **P** **11 54 44.7 +1.1**
baz=247
G30M tAoh Zraii Nji 24.88 37 P **P** **11 54 44.3 -0.3**
baz=252
D28M Stokes Point 24.89 31 P **P** **11 54 45.0 +0.5**
baz=244
FARO Faro, Yukon 25.14 49 P **P** **11 54 47.2 +0.2**
baz=265
N32M Quiet Lake 25.19 51 P **P** **11 54 48.2 +0.7**
baz=268
F30M Barrier River 25.24 36 P **P** **11 54 48.9 +1.1**
baz=251
P33M Teslin, Yukon 25.30 53 P **P** **11 54 49.0 +0.4**
baz=270
CRAG Craig 25.53 64 P **P** **11 54 54.8 +4.3**
G31M Satah River 25.60 38 P **P** **11 54 51.7 +0.7**
baz=254
F31M Tsiigehtchic 25.94 37 P **P** **11 54 53.1 -1.0**
F31M Tsiigehtchic 25.94 37 P **P** **11 54 53.8 -0.2**
baz=254
INK Inuvik 26.27 35 P **P** **11 54 56.8 -0.2**
INK Inuvik 26.27 35 P **P** **11 54 56.8 -0.2**
baz=252
INK Inuvik 26.27 35 P **P** **11 54 56.8 -0.2**
INK pmax pmax
comp=Z,7.0nm,0.9s
DLBC Dease Lake 26.82 57 LR LR 12 05 52.6
comp=Z,168nm,19.8s,baz=232,slow=37
YSS Yuzh-Sakhalins 26.92 276 *i* P **P** **11 55 02.0 -1.1**
YSS pmax pmax
comp=Z,16nm,0.7s
ASAJ Asahikawa 28.34 271 P **P** **11 55 17.5 +1.6**
comp=Z,9.9nm,0.7s,baz=59,slow=9.1,SNR=9.9
ASAJ LR LR 12 07 25.8
comp=Z,30nm,20.3s,baz=131,slow=38
comp=Z,9.9nm,0.7s
ERM Erimo 29.11 267 *i* P **P** **11 55 22.8 +0.2**
ERM pmax pmax
comp=Z,83nm,1.2s
KOTAN Kotaneelee Air 29.68 53 P **P** **11 55 27.3 -0.3**
baz=277
WRGLY Wrigley 29.71 47 P **P** **11 55 28.1 +0.3**
baz=272
C36M Paulatuk 29.85 34 P **P** **11 55 28.8 -0.2**
C36M Paulatuk 29.85 34 P **P** **11 55 28.7 -0.2**
baz=261
FLDN Fort Liard 29.95 53 P **P** **11 55 31.1 +1.1**
baz=278
A36M Sachs Harbour 30.02 29 P **P** **11 55 30.9 +0.5**
A36M IAmb IAmb 11 55 52.7
comp=Z,20nm,0.8s
A36M Sachs Harbour 30.02 29 P **P** **11 55 31.4 +1.0**
baz=255,SNR=13
YAK Yakutsk 30.45 311 *i* P **P** **11 55 35.0 +0.7**
YAK pmax pmax
comp=Z,8.0nm,0.5s
YAK Yakutsk 30.45 311 LR LR 12 07 31.0
comp=Z,176nm,22.0s,baz=98,slow=36
TIXI Tiksi 31.18 330 P **P** **11 55 40.3 -0.4**
TIXI Tiksi 31.18 330 P **P** **11 55 40.3 -0.4**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 31.18 330 P **P** **11 55 39.7 -1.0**
comp=Z,0.9nm,0.3s,baz=96,slow=4.4,SNR=5.9
TIXI PcP **PcP** **11 58 33.3 -0.8**
comp=Z,1.4nm,0.5s,baz=0.4,slow=2.1,SNR=5.7
comp=Z,0.9nm,0.3s
KLR Kul'dur 32.67 287 P **P** **11 55 53.6 -0.4**
comp=Z,2.4nm,0.3s,baz=69,slow=5.5,SNR=16
KLR LR LR 12 08 56.1
comp=Z,96nm,21.9s,baz=64,slow=36
comp=Z,2.4nm,0.3s
JMM Marumori 33.02 262 P **P** **11 55 56.1 -1.0**
JMM IAmb IAmb 11 56 08.1
comp=Z,41nm,1.3s
HILA High Level 33.51 55 P **P** **11 56 01.2 -0.1**
ZEA Zeya 33.57 296 *e*P **P** **11 56 01.9 +0.1**
YKA Yellowknife Ar 33.83 47 P **P** **11 56 02.5 -1.4**
YKA Yellowknife Ar 33.83 47 P **P** **11 56 03.2 -0.7**
comp=Z,3.4nm,0.9s,baz=280,slow=7.8,SNR=39
YKA PcP **PcP** **11 58 42.4 +0.7**
comp=Z,5.8nm,0.8s,baz=289,slow=2.9,SNR=32
YKA ScP **ScP** **12 02 22.0 +0.3**
comp=Z,1.0nm,0.9s,baz=293,slow=3.4,SNR=8.4
comp=Z,3.4nm,0.9s
H11N2 WAKE ISLAND Hy 34.55 209 T T 12 32 54.1
baz=18,slow=76,SNR=6227
H11N3 WAKE ISLAND Hy 34.55 209 T T 12 32 54.6
baz=18,slow=76,SNR=7352
H11N1 WAKE ISLAND Hy 34.56 209 T T 12 32 51.0
baz=18,slow=76,SNR=7435
HEH HeiHe 34.80 290 *e*P **P** **11 56 12.5 0.0**
HEH pmax pmax
comp=Z,4.0nm,0.7s
HEH pmax pmax
comp=Z,250nm,4.3s
USA0B Ussuriysk Arra 34.88 279 *i* P **P** **11 56 12.0 -1.2**
USRK Ussuriysk Ar. 34.88 279 P **P** **11 56 13.1 -0.1**
USRK Ussuriysk Ar. 34.88 279 P **P** **11 56 13.6 +0.4**
comp=Z,3.2nm,0.8s,baz=74,slow=11,SNR=5.6
USRK PcP **PcP** **11 58 45.9 +1.0**
comp=Z,4.4nm,0.7s,baz=69,slow=4.8,SNR=7.9
USRK LR LR 12 09 28.9
comp=Z,96nm,21.8s,baz=31,slow=34
comp=Z,3.2nm,0.8s
LON Longmire 35.15 76 P **P** **11 56 16.0 +0.4**
LON IAmb IAmb 11 56 32.1
comp=Z,19nm,0.8s
LON Longmire 35.15 76 P **P** **11 56 16.0 +0.4**
LON pmax pmax
comp=Z,19nm,0.8s
MAJO Matsushiro 35.45 263 *i* P **P** **11 56 18.3 0.0**
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 35.45 263 P **P** **11 56 19.3 +1.1**
MAJO pP **pP** **11 56 31.3 -0.3**
MAJO sP **sP** **11 56 36.9 -0.9**
MJAR Matsushiro Arr 35.45 263 P **P** **11 56 19.2 +1.0**
comp=Z,3.2nm,0.7s,baz=54,slow=7.7,SNR=9.1
MJAR LR LR 12 08 50.0
comp=Z,82nm,20.3s,baz=67,slow=33
comp=Z,3.2nm,0.7s
LTY Liberty 35.60 75 P **P** **11 56 19.6 +0.1**
LTY IAmb IAmb 11 56 34.0
comp=Z,40nm,1.5s
H04D Lebanon 35.69 80 P **P** **11 56 21.4 +1.2**
H11S1 WAKE ISLAND Hy 35.76 209 T T 12 34 25.5
baz=18,slow=76,SNR=1828
H11S2 WAKE ISLAND Hy 35.77 209 T T 12 34 25.6
baz=18,slow=76,SNR=1650
H11S3 WAKE ISLAND Hy 35.77 209 T T 12 34 21.6
baz=18,slow=76,SNR=789
MDJ Mudanjiang 36.13 281 P **P** **11 56 26.3 +2.3**
MDJ sP sP 11 56 45.5 +1.9
MDJ S **S** **12 01 54.5 -5.3**

MDJ pmax pmax
comp=Z,11nm,1.9s
MDJ pmax pmax
comp=Z,150nm,5.3s
MDJ LR LR
comp=Z,260nm,16.1s
MDJ LR LR
comp=Z,270nm,20.3s
G05A Wamic 36.19 78 P **P** **11 56 24.2 -0.3**
I04A Tendick Farm, 36.27 81 P **P** **11 56 26.6 +1.3**
HAWA Hanford 36.70 75 P **P** **11 56 29.3 +0.5**
YBH Yreka Blue Hor 37.21 84 LR LR 12 08 14.2
comp=Z,148nm,20.0s,baz=298,slow=30
EDM Edmonton 37.22 62 P **P** **11 56 33.9 +0.7**
EDM Edmonton 37.22 62 P **P** **11 56 33.9 +0.7**
EDM pmax pmax
comp=Z,22nm,0.5s
NEW Newport 37.23 71 P **P** **11 56 34.4 +1.0**
NEW Newport 37.23 71 P **P** **11 56 34.5 +1.2**
baz=298,SNR=8.9
NEW Newport 37.23 71 P **P** **11 56 34.4 +1.0**
NEW pmax pmax
comp=Z,30nm,0.8s
NEW Newport 37.23 71 LR LR 12 09 51.3
comp=Z,108nm,19.4s,baz=290,slow=33
RES Resolute Bay 38.78 25 LR LR 12 14 59.4
comp=Z,77nm,21.2s,baz=213,slow=40
BMO Blue Mountains 38.83 76 IAmb IAmb 11 57 02.1
comp=Z,12nm,0.8s
J08A Circle Bar Ran 38.92 79 P **P** **11 56 49.6 +1.9**
WVOR Wild Horse Val 39.33 80 P **P** **11 56 52.7 +1.5**
WVOR Wild Horse Val 39.33 80 P **P** **11 56 52.7 +1.5**
WVOR pmax pmax
comp=Z,50nm,0.8s
JCJ Chichijima 39.71 248 LR LR 12 12 21.5
comp=Z,91nm,19.2s,baz=104,slow=35
MSO Missoula 39.82 72 P **P** **11 56 56.1 +1.0**
MSO IAmb IAmb 11 57 14.9
comp=Z,64nm,1.7s
MSO Missoula 39.82 72 P **P** **11 56 56.0 +0.8**
baz=301,SNR=11
PNTR Pine Nut 40.68 85 IAmb IAmb 11 57 24.0
comp=Z,30nm,0.7s
KSRS Korea Array 41.27 272 P **P** **11 57 08.3 +1.3**
comp=Z,12nm,0.9s,baz=56,slow=7.8,SNR=25
KSRS sP **sP** **11 57 26.1 -0.6**
comp=Z,10nm,0.7s,baz=55,slow=8.0,SNR=13
KSRS LR LR 12 13 54.6
comp=Z,19nm,21.0s,baz=65,slow=36
comp=Z,12nm,0.9s
HLID Hailey 41.28 76 IAmb IAmb 11 57 22.6
comp=Z,21nm,0.8s
HLID Hailey 41.28 76 P **P** **11 57 08.4 +1.1**
baz=304,SNR=6.9
KSAR Wonju Array Be 41.30 272 P **P** **11 57 07.9 +0.6**
KSAR Wonju Array Be 41.30 272 P **P** **11 57 07.9 +0.6**
BMN Battle Mountai 41.35 82 IAmb IAmb 11 57 22.9
comp=Z,9.9nm,0.6s
EGMT Eagleton 41.65 68 P **P** **11 57 10.7 +0.6**
EGMT IAmb IAmb 11 57 26.3
comp=Z,19nm,0.8s
EGMT Eagleton 41.65 68 P **P** **11 57 10.8 +0.6**
baz=301,SNR=6.7
BOZ Bozeman (W) 41.83 72 P **P** **11 57 12.3 +0.6**
baz=303
NVAR Mina Array Bea 41.89 85 P **P** **11 57 13.9 +1.5**
comp=Z,2.6nm,0.8s,baz=292,slow=8.1,SNR=18
NVAR pP **pP** **11 57 26.6 +0.7**
comp=Z,8.6nm,0.7s,baz=282,slow=7.6,SNR=30
NVAR PcP **PcP** **11 59 07.9 +0.7**
comp=Z,2.5nm,0.7s,baz=284,slow=3.1,SNR=5.9
comp=Z,2.6nm,0.8s
JNU Nakatsue 42.24 265 LR LR 12 13 18.2
comp=Z,70nm,21.9s,baz=74,slow=34
ELK Elko 42.39 80 IAmb IAmb 11 57 31.8
comp=Z,22nm,0.8s
FFC Flin Flon 42.62 56 P **P** **11 57 17.5 -0.4**
FFC pP **pP** **11 57 29.6 -2.0**
FFC sP **sP** **11 57 35.5 -2.2**
FFC PcP **PcP** **11 59 09.7 +0.6**
VES Vestal, Richgr 43.03 89 P **P** **11 57 22.3 +0.9**
baz=310
H17A Grant Village 43.11 73 P **P** **11 57 23.6 +1.3**
baz=304,SNR=5.8
CWC Cottonwood Cre 43.27 87 P **P** **11 57 24.4 +0.9**
baz=310
GRAC Grapevine Rang 43.36 86 P **P** **11 57 24.8 +0.7**
baz=309
ISA Isabella, Lake 43.52 88 P **P** **11 57 26.6 +1.1**
baz=310
R11B Troy Canyon, C 43.62 83 P **P** **11 57 26.8 +0.5**
R11B IAmb IAmb 11 57 42.0
comp=Z,14nm,1.1s
R11B Troy Canyon, C 43.62 83 P **P** **11 57 27.0 +0.6**
baz=308,SNR=5.7
BGU Big Grassy Mou 43.63 78 IAmb IAmb 11 57 45.1
comp=Z,18nm,1.0s
MPMC Manual Prospec 43.88 87 P **P** **11 57 29.3 +0.8**
baz=310
SPR3 Spring Creek 3 43.99 82 P **P** **11 57 30.3 +0.8**
FURC Furnace Creek, 44.01 86 P **P** **11 57 30.4 +1.2**
baz=310
HWUT Hardware Ranch 44.12 77 P **P** **11 57 31.0 +0.6**
HWUT IAmb IAmb 11 57 46.5
comp=Z,17nm,1.0s
LRMC Laurel Mtn Rad 44.13 88 P **P** **11 57 31.4 +0.9**
baz=311
DUG Dugway, Tooele 44.20 79 P **P** **11 57 32.3 +1.3**
DUG Dugway, Tooele 44.20 79 P **P** **11 57 32.3 +1.3**
baz=307,SNR=7.9
DUG Dugway, Tooele 44.20 79 P **P** **11 57 32.3 +1.3**
DUG pmax pmax
comp=Z,61nm,1.2s
LAO LASA Array 44.39 68 P **P** **11 57 33.2 +0.9**
LAO IAmb IAmb 11 57 34.2
comp=Z,20nm,0.9s
LAO LASA Array 44.39 68 P **P** **11 57 33.4 +1.1**
baz=304,SNR=9.7
LAO LASA Array 44.39 68 P **P** **11 57 33.2 +0.9**
baz=304,SNR=9.7
FCC Fort Churchill 44.55 47 P **P** **11 57 32.1 -1.2**
FCC IAmb IAmb 11 57 58.9
comp=Z,19nm,1.8s
FCC Fort Churchill 44.55 47 P **P** **11 57 32.1 -1.2**
FCC pmax pmax
comp=Z,19nm,1.8s
DGMT Dagmar 44.58 64 P **P** **11 57 33.9 +0.2**
baz=303
BW06 Boulder Array 44.65 74 P **P** **11 57 34.4 -0.3**
BW06 IAmb IAmb 11 57 49.5
comp=Z,20nm,0.8s
BW06 Boulder Array 44.65 74 P **P** **11 57 35.5 +0.9**
baz=306,SNR=18
PD31 Pinedale Array 44.65 74 P **P** **11 57 35.4 +0.8**
PD31 IAmb IAmb 11 57 49.5
comp=Z,17nm,0.8s
PDAR Pinedale Array 44.65 74 P **P** **11 57 35.4 +0.8**
comp=Z,12nm,0.8s,baz=309,slow=4.0,SNR=106
PDAR pP **pP** **11 57 48.5 +0.1**
comp=Z,18nm,0.6s,baz=312,slow=3.6,SNR=29
comp=Z,12nm,0.8s
XLT XiLinHaoTe 44.67 288 *e*P **P** **11 57 35.5 +0.9**
XLT pP pP 11 57 49.0 +0.6
XLT sP sP 11 57 56.5 +2.0
XLT PP **PcP** **11 59 16.5 +0.2**
XLT pmax pmax
comp=Z,5.0nm,1.1s
XLT pmax pmax
comp=Z,120nm,4.4s
SHOC Shoshone, Teco 44.73 86 P **P** **11 57 36.6 +1.5**
baz=310
GSC Goldstone, Bar 44.79 87 IAmb IAmb 11 57 51.3
comp=Z,12nm,0.8s
GSC Goldstone, Bar 44.79 87 P **P** **11 57 37.1 +1.5**
baz=311,SNR=8.5
NLU North Lily Min 44.80 79 IAmb IAmb 11 57 50.6
comp=Z,22nm,0.8s
BFSC Mount Baldy Ra 44.95 89 P **P** **11 57 37.3 +0.3**
baz=312
NRIK Nord'sk 44.97 330 P **P** **11 57 35.7 -0.8**
comp=Z,0.6nm,0.3s,baz=55,slow=10,SNR=1.7
NRIK sP **sP** **11 57 56.2 -0.2**
comp=Z,10nm,0.7s,baz=75,slow=8.0,SNR=12
comp=Z,0.6nm,0.3s
BSUT Blindstream Ca 45.24 77 IAmb IAmb 11 58 01.9
comp=Z,18nm,1.0s
TUQ Turquoise Moun 45.25 87 P **P** **11 57 39.7 +0.3**

baz=311
HEC Hector,Ludlow 45.39 88 P **P** **11 57 41.6 +1.2**
baz=311
BBRC Big Bear Solar 45.40 89 P **P** **11 57 42.1 +1.4**
baz=312
GMRC Granite Mounta 45.84 87 P **P** **11 57 45.3 +1.2**
baz=311
MTPU Mount Pierson 45.91 81 IAmb IAmb 11 58 07.3
comp=Z,18nm,1.5s
PFO Pinyon Flats O 46.12 89 P **P** **11 57 47.3 +1.1**
baz=312
PFO Pinyon Flats O 46.12 89 LR LR 12 14 24.5
comp=Z,61nm,18.4s,baz=298,slow=32
BELC Belle Mtn. Jos 46.15 88 P **P** **11 57 46.6 +0.1**
baz=312
KNB Kanab 46.16 83 IAmb IAmb 11 58 02.3
comp=Z,45nm,1.9s
SRU San Rafael Swe 46.26 79 P **P** **11 57 48.4 +1.0**
SRU San Rafael Swe 46.26 79 P **P** **11 57 48.4 +1.0**
SRU pmax pmax
comp=Z,29nm,0.7s
K22A Casper 46.53 72 P **P** **11 57 49.8 +0.4**
baz=307
K22A Casper 46.53 72 P **P** **11 57 49.6 +0.2**
baz=307
IRM Iron Mountain 46.57 87 P **P** **11 57 50.3 +0.7**
baz=312
MONP2 Monument Peak 46.62 90 P **P** **11 57 51.0 +0.8**
baz=312
BC3 Big Chuckawall 46.71 88 P **P** **11 57 51.1 +0.3**
baz=312
U15A North Rim 46.87 83 IAmb IAmb 11 58 07.3
comp=Z,12nm,0.7s
O20A White River Ci 47.02 76 P **P** **11 57 53.2 -0.1**
O20A White River Ci 47.02 76 P **P** **11 57 54.1 +0.8**
baz=308,SNR=11
PDMCI Parker Dam,Lak 47.10 86 P **P** **11 57 54.7 +1.0**
baz=312
RSSD Black Hills 47.12 69 P **P** **11 57 54.1 +0.1**
RSSD IAmb IAmb 11 58 09.7
comp=Z,12nm,0.6s
RSSD Black Hills 47.12 69 P **P** **11 57 54.1 +0.1**
baz=306
RSSD Black Hills 47.12 69 P **P** **11 57 54.1 +0.1**
baz=306,SNR=7.1
RSSD Black Hills 47.12 69 P **P** **11 57 54.1 +0.1**
RSSD pmax pmax
comp=Z,12nm,0.6s
RSSD Black Hills 47.12 69 P **P** **11 57 54.2 +0.1**
RSSD pP **pP** **11 58 06.8 -1.0**
RSSD PcP **PcP** **11 59 25.6 +0.6**
MDND Maddock 47.48 63 P **P** **11 57 56.8 +0.3**
baz=305
ULN Ulaanbaatar 47.59 297 *i* P **P** **11 57 56.0 -1.5**
ULN pmax pmax
comp=Z,8.0nm,2.4s
N23A Red Feather La 47.93 74 P **P** **11 58 00.9 +0.5**
baz=308
SONM Songino Array 47.97 298 P **P** **11 57 59.0 -1.5**
comp=Z,1.0nm,0.6s,baz=48,slow=8.5,SNR=7.5
SONM PcP **PcP** **11 59 28.0 +0.1**
comp=Z,3.6nm,0.9s,baz=60,slow=2.1,SNR=8.1
SONM ScP **ScP** **12 03 17.1 -0.6**
comp=Z,0.7nm,0.9s,baz=67,slow=4.8,SNR=3.3
SONM LR LR 12 19 42.7
comp=Z,50nm,18.7s,baz=38,slow=38
comp=Z,1.0nm,0.6s
WUAZ Wupatki 48.02 83 P **P** **11 58 01.7 +0.7**
WUAZ IAmb IAmb 11 58 16.8
comp=Z,13nm,0.7s
WUAZ Wupatki 48.02 83 P **P** **11 58 02.5 +1.4**
baz=311,SNR=11
ULM Lac du Bonnet 48.14 58 P **P** **11 57 59.9 -1.7**
comp=Z,1.6nm,0.5s,baz=288,slow=7.9,SNR=4.0
ULM PcP **PcP** **11 59 28.1 -0.2**
comp=Z,4.5nm,0.7s,baz=304,slow=4.5,SNR=4.8
ULM ScP **ScP** **12 03 17.3 -0.9**
comp=Z,1.7nm,1.0s,baz=189,slow=6.2,SNR=2.9
comp=Z,1.6nm,0.5s
ZAK Zakamensk 48.19 302 *e*P **P** **11 58 01.6 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
MVCO Mesa Verde 48.70 79 P **P** **11 58 07.2 +0.8**
baz=310
TIA Tai'an 48.74 279 P **P** **11 58 07.0 +0.6**
TIA pmax pmax
comp=Z,15nm,0.7s
ISCO Idaho Springs 48.81 75 P **P** **11 58 08.1 +0.9**
baz=309
HHC Hu-ho-hao-te 49.17 287 *e*P **P** **11 58 12.0 +2.2**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,99nm,5.0s
GUMO Guam 49.20 234 LR LR 12 17 04.2
comp=Z,19nm,20.2s,baz=73,slow=34
AGMN Agassiz Nation 49.27 60 P **P** **11 58 10.3 0.0**
baz=306
W18A Petrified Fore 49.29 82 P **P** **11 58 11.9 +1.0**
baz=311
S22A 4UR Ranch, Cre 49.37 78 IAmb IAmb 11 58 27.5
comp=Z,22nm,1.2s
S22A 4UR Ranch, Cre 49.37 78 P **P** **11 58 11.8 +0.2**
baz=310
HNS HongShan 49.46 282 ⇓P **P** **11 58 13.5 +1.7**
HNS S **S** **12 05 17.0 +1.8**
HNS pmax pmax
comp=Z,30nm,1.1s
HNS LR LR
comp=Z,170nm,12.6s
HNS LR LR
comp=Z,240nm,18.0s
214A Organ Pipe Nat 49.50 88 P **P** **11 58 13.8 +1.5**
baz=313
Q24A Divide 49.61 75 P **P** **11 58 14.0 +0.6**
baz=310
SUSD Miller 49.85 66 P **P** **11 58 14.9 +0.1**
baz=308
SPITS Spitsbergen Ar 50.17 357 P **P** **11 58 15.8 -1.0**
comp=Z,5.6nm,0.8s,baz=36,slow=4.4,SNR=8.4
SPITS LR LR 12 19 59.5
comp=Z,118nm,19.7s,baz=296,slow=37
comp=Z,5.6nm,0.8s
SDCO Great Sand Dun 50.18 77 P **P** **11 58 18.4 +0.7**
baz=310,SNR=5.6
SDCO Great Sand Dun 50.18 77 P **P** **11 58 18.6 +0.9**
baz=310,SNR=5.6
OGNE Ogallala 50.23 71 P **P** **11 58 18.0 +0.3**
baz=309
BTO Baotou 50.24 288 *e*P **P** **11 58 18.3 +0.4**
BTO pP **pP** **11 58 34.0 +2.1**
BTO sP **sP** **11 58 41.0 +3.1**
BTO PP **PP** **12 00 15.0 +1.7**
BTO pmax pmax
comp=Z,26nm,0.6s
BTO pmax pmax
comp=Z,390nm,5.1s
NJ2 Nanjing 50.44 274 *e*P **P** **11 58 19.3 0.0**
NJ2 pP **pP** **11 58 33.3 0.0**
NJ2 sP **sP** **11 58 40.0 +0.7**
NJ2 pmax pmax
comp=Z,16nm,0.7s
TUC Tucson 50.52 86 P **P** **11 58 21.5 +1.4**
baz=313
TUC Tucson 50.52 86 P **P** **11 58 21.1 +1.0**
TUC pP **pP** **11 58 34.1 +0.1**
TUC PcP **PcP** **11 59 38.5 +1.1**
K30B Basset 50.56 68 P **P** **11 58 20.8 +0.6**
K30B Basset 50.56 68 P **P** **11 58 20.8 +0.6**
baz=309,SNR=11
KSCO Kaye Shedlock' 51.10 74 P **P** **11 58 25.3 +0.8**
baz=310
T25A Trinidad 51.23 77 P **P** **11 58 27.1 +1.6**
baz=311,SNR=6.4
ANMO Albuquerque 51.42 80 P **P** **11 58 26.2 -0.8**
ANMO IAmb IAmb 11 58 42.3
comp=Z,9.5nm,1.4s
ANMO Albuquerque 51.42 80 P **P** **11 58 27.7 +0.7**
baz=312
ANMO Albuquerque 51.42 80 *i* P **P** **11 58 26.7 -0.3**
ANMO pmax pmax
comp=Z,24nm,3.2s
ANMO Albuquerque 51.42 80 P **P** **11 58 27.9 +0.9**
ANMO pP **pP** **11 58 41.0 +0.2**
ANMO PcP **PcP** **11 59 42.3 +1.5**
ECSD EROS Data Cent 51.62 65 IAmb IAmb 11 58 28.0
comp=Z,8.7nm,0.9s

Y22A Socorro 51.78 82 P P 11 58 31.2 +1.5
baz=312,SNR=7.8
EYMN Ely 51.82 58 P P 11 58 28.7 -0.8
baz=308
FRB Frobisher Bay 51.90 33 LR LR 12 21 18.2
comp=Z,96nm,18.9s,baz=335,slow=37
BGNE Belgrade 52.20 69 P P 11 58 32.4 -0.1
baz=310
121A Cookes Peak, D 52.23 83 P P 11 58 33.8 +0.9
baz=313
SUMG Summit 52.59 15 *i* P P 11 58 30.0 -5.4
E38A The Farm, Brul 52.62 60 P P 11 58 34.0 -1.4
E38A IAmb IAmb 11 58 47.7
comp=Z,10nm,0.8s
E38A The Farm, Brul 52.62 60 P P 11 58 34.5 -0.9
baz=309
LYN LuoYang 52.70 281 *e* P P 11 58 37.3 +1.1
LYN pmax pmax
comp=Z,45nm,0.8s
LYN pmax pmax
comp=Z,380nm,4.3s
RTBA Rita Blanca 52.70 76 IAmb IAmb 11 58 51.2
comp=Z,24nm,0.9s
SPMN Marine on St. 52.81 62 P P 11 58 36.7 -0.2
baz=309
CBKS Cedar Bluff 52.95 72 P P 11 58 38.9 +0.9
baz=311
I37B Waseca 53.25 63 P P 11 58 40.0 -0.1
baz=310
N35A Tabor 54.01 68 P P 11 58 45.9 +0.1
baz=311,SNR=9.5
WHN Wuhan 54.27 276 ⇑P P 11 58 49.0 +1.3
MNTX Cornudas Mount 54.28 82 P P 11 58 48.9 +1.1
baz=314,SNR=13
MNTX Cornudas Mount 54.28 82 P P 11 58 48.8 +0.9
baz=314,SNR=13
MSTX Muleshoe 54.33 79 P P 11 58 48.7 +0.4
baz=313
AMTX Amarillo 54.38 77 P P 11 58 49.0 +0.3
baz=313
KSU1 Kansas State U 54.60 70 P P 11 58 49.8 -0.2
baz=312
KSU1 Kansas State U 54.60 70 P P 11 58 50.0 -0.1
baz=312
SCIA State Center 54.71 65 P P 11 58 50.5 -0.3
baz=311
SFJD Kangerlussuaq 54.74 23 LR LR 12 25 55.3
comp=Z,72nm,18.3s,baz=342,slow=40
ZALV Zalesovo Beam 55.00 315 P P 11 58 52.7 +0.1
comp=Z,0.7nm,0.4s,baz=50,slow=6.7,SNR=2.4
ZALV PcP PcP 11 59 53.5 -0.3
comp=Z,1.8nm,0.5s,baz=39,slow=4.6,SNR=6.9
comp=Z,0.7nm,0.4s
VHRN Van Horn 55.16 83 P P 11 58 55.4 +1.1
VHRN IAmb IAmb 11 58 56.3
comp=Z,7.9nm,0.9s
XAN Xi'an 55.20 282 ⇓P P 11 58 55.0 +0.5
XAN pmax pmax
comp=Z,19nm,1.2s
JFWS Jewell Farm 55.71 62 P P 11 58 56.9 -1.1
baz=312
P38A Dawn 56.03 67 P P 11 58 59.2 -1.1
baz=312,SNR=18
MNHN Monahans 56.14 81 IAmb IAmb 11 59 02.4
comp=Z,14nm,0.7s
WMOK Wichita Mounta 56.23 75 P P 11 59 02.0 +0.1
WMOK IAmb IAmb 11 59 16.6
comp=Z,12nm,1.1s
WMOK Wichita Mounta 56.23 75 P P 11 59 01.8 -0.1
baz=313
WMOK Wichita Mounta 56.23 75 P P 11 59 02.0 +0.1
WMOK pmax pmax
comp=Z,12nm,1.1s
ALPN Alpine 56.27 82 IAmb IAmb 11 59 03.5
comp=Z,6.7nm,0.9s
APMT Aspermont 56.39 77 IAmb IAmb 11 59 17.8
comp=Z,27nm,1.2s
LPIG La Paz 56.60 93 LR LR 12 17 43.9
comp=Z,56nm,21.2s,baz=18,slow=30
DGZ Jazzator, Alta 56.62 309 *i* P P 11 59 03.0 -1.6
DGZ pmax pmax
comp=Z,10.0nm,3.4s
L42A Oliver, Polo 56.63 63 P P 11 59 03.2 -1.4
baz=312
P40A Paris 56.95 67 P P 11 59 05.9 -1.0
baz=313,SNR=31
GTA Gaotai 56.97 293 P P 11 59 08.8 +1.7
GTA pP pP 11 59 21.8 +0.4
GTA sP sP 11 59 27.8 +0.4
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=Z,65nm,19.6s
GTA LR LR
comp=Z,89nm,20.0s
GTA LR LR
comp=Z,150nm,20.0s
TX31 Lajitas Ar. Si 56.99 83 IAmb IAmb 11 59 09.3
comp=Z,10nm,1.0s
TX31 Lajitas Ar. Si 56.99 83 P P 11 59 07.5 +0.1
baz=315,SNR=18
TXAR Lajitas Array 56.99 83 P P 11 59 07.3 -0.1
TXAR Lajitas Array 56.99 83 P P 11 59 07.8 +0.4
comp=Z,6.9nm,0.8s,baz=296,slow=4.8,SNR=78
TXAR pP pP 11 59 21.3 -0.2
comp=Z,3.2nm,0.5s,baz=302,slow=5.9,SNR=11
TXAR LR LR 12 20 53.7
comp=Z,25nm,21.6s,baz=22,slow=33
comp=Z,6.9nm,0.8s
W35A Tecumseh 57.09 74 P P 11 59 07.9 0.0
ABTX Abilene, Hawle 57.16 78 IAmb IAmb 11 59 23.6
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 57.16 78 P P 11 59 09.1 +0.6
baz=314
TUL3 Leonard 57.22 72 P P 11 59 09.1 +0.2
baz=313
OZNA Ozona 57.44 80 IAmb IAmb 11 59 30.0
comp=Z,7.7nm,0.7s
S39A Bolivar 57.46 69 P P 11 59 08.2 -2.2
S39A IAmb IAmb 11 59 09.4
comp=Z,14nm,0.9s
S39A Bolivar 57.46 69 P P 11 59 08.8 -1.7
baz=313,SNR=7.7
GLMI Grayling 57.47 58 P P 11 59 10.5 +0.1
baz=313
SAND Sanderson 57.50 82 IAmb IAmb 11 59 32.7
comp=Z,20nm,1.6s
R40A Maddies Statio 57.66 68 P P 11 59 09.7 -2.1
baz=313,SNR=21
U38A Gravette 57.69 71 IAmb IAmb 11 59 24.8
comp=Z,18nm,0.8s
U38A Gravette 57.69 71 P P 11 59 11.2 -1.0
baz=313,SNR=6.1
HDIL Hopedale 57.81 64 P P 11 59 12.5 -0.4
baz=313
HDIL Hopedale 57.81 64 P P 11 59 12.5 -0.4
baz=313
ARCES ARCESS Array B 58.05 351 P P 11 59 12.4 -1.8
comp=Z,4.5nm,0.8s,baz=27,slow=6.2,SNR=1.3
comp=Z,4.5nm,0.8s
HHAR Hobbs 58.06 71 P P 11 59 14.1 -0.6
HHAR IAmb IAmb 11 59 27.6
comp=Z,14nm,0.7s
P43A Skaggs, Pawnee 58.31 65 P P 11 59 15.9 -0.5
baz=313,SNR=5.5
CCM Cathedral Cave 58.41 67 P P 11 59 15.5 -1.6
CCM Cathedral Cave 58.41 67 P P 11 59 16.3 -0.8
baz=314
CCM Cathedral Cave 58.41 67 P P 11 59 15.9 -1.3
baz=314,SNR=6.0
CCM Cathedral Cave 58.41 67 P P 11 59 15.5 -1.6
CCM pmax pmax
comp=Z,70nm,1.9s
CCM Cathedral Cave 58.41 67 P P 11 59 15.8 -1.3
CCM pP pP 11 59 28.8 -2.6
BRDY Brady 58.48 78 IAmb IAmb 11 59 32.4
comp=Z,8.2nm,1.0s
JCT Junction City 58.56 80 P P 11 59 17.9 -0.5
baz=315
U40A Yellville 58.64 70 P P 11 59 17.5 -1.3
baz=314,SNR=12
U40A P P 11 59 17.5 -1.3
baz=314,SNR=12
DRIO Del Rio 58.80 81 IAmb IAmb 11 59 20.2
comp=Z,5.6nm,0.8s
FVM French Village 58.93 67 P P 11 59 19.9 -0.9
baz=314,SNR=11
WHTX Lake Whitney, 58.93 77 P P 11 59 21.0 +0.2
baz=315
Q44A Meyer Farm, Va 59.10 65 P P 11 59 21.4 -0.4
baz=314
SFIN Lafayette 59.16 63 P P 11 59 22.2 -0.1
baz=314
P46A Rosedale 59.62 64 P P 11 59 25.3 -0.1
baz=314
OLIL Olney 59.73 65 P P 11 59 25.9 -0.4
baz=314,SNR=6.1
PBMO Poplar Bluff 59.76 68 P P 11 59 25.6 -0.8
PBMO Poplar Bluff 59.76 68 P P 11 59 25.7 -0.8
baz=314,SNR=7.4
S44A Carbondale 59.80 66 P P 11 59 25.6 -1.1
S44A Carbondale 59.80 66 P P 11 59 26.1 -0.6
baz=314,SNR=6.3
LCAR Lake Charles 59.83 69 P P 11 59 25.8 -1.2
LCAR IAmb IAmb 11 59 26.6
comp=Z,13nm,1.1s
LCAR Lake Charles 59.83 69 P P 11 59 25.6 -1.4
baz=314,SNR=6.0
X40A Basin Creek Fa 59.95 71 IAmb IAmb 11 59 41.6
comp=Z,9.8nm,0.8s
KURK Kurchatov 59.98 315 P P 11 59 27.3 -0.4
KURK Kurchatov 59.98 315 P P 11 59 27.8 0.0
KURK Kurchatov 59.98 315 P P 11 59 27.8 0.0
KURK pP pP 11 59 40.5 -1.6
KURBB Kurchatov Arra 60.09 315 P P 11 59 27.8 -0.7
comp=Z,4.3nm,0.4s,baz=42,slow=6.7,SNR=32
KURBB LR LR 12 27 18.3
comp=Z,152nm,19.5s,baz=166,slow=38
comp=Z,4.3nm,0.4s
O48B Farmland 60.31 62 P P 11 59 29.5 -0.7
baz=314
SADO Sadowa 60.33 54 LR LR 12 25 14.0
comp=Z,52nm,18.2s,baz=262,slow=36
833A Chaparral WMA, 60.34 81 P P 11 59 29.8 -0.7
833A IAmb IAmb 11 59 32.6
comp=Z,14nm,1.1s
833A Chaparral WMA, 60.34 81 P P 11 59 30.6 0.0
baz=316
GULI GuiLin 60.47 274 ⇑P P 11 59 28.0 -3.5
GULI pmax pmax
comp=Z,20nm,1.1s
CD2 Chengdu 60.51 283 P P 11 59 32.3 +0.5
CD2 pmax pmax
comp=Z,20nm,0.8s
WMQ Urumqi 60.54 304 *e* P P 11 59 35.3 +3.5
P49A Miami Univ. Ec 61.06 62 P P 11 59 34.6 -0.7
baz=315
P49A Miami Univ. Ec 61.06 62 P P 11 59 34.2 -1.1
baz=315
WCI Wyandotte Cave 61.10 64 P P 11 59 35.4 -0.2
baz=315
MK31 Makanchi Array 61.11 310 P P 11 59 33.3 -2.3
MK31 Makanchi Array 61.11 310 P P 11 59 33.3 -2.3
MK31 pmax pmax
comp=Z,5.0nm,1.4s
MKAR Makanchi Array 61.11 310 P P 11 59 34.3 -1.3
MKAR Makanchi Array 61.11 310 P P 11 59 34.3 -1.3
MKAR Makanchi Array 61.11 310 P P 11 59 34.1 -1.5
comp=Z,1.2nm,0.5s,baz=52,slow=6.9,SNR=25
MKAR LR LR 12 28 12.3
comp=Z,84nm,18.4s,baz=348,slow=38
comp=Z,1.2nm,0.5s
MAKZ Makanchi 61.25 310 P P 11 59 35.3 -1.3
ACSO Alum Creek Sta 61.51 60 P P 11 59 37.8 -0.6
baz=315
T47A Sharon Grove 61.52 66 P P 11 59 38.2 -0.2
baz=315,SNR=10
BVAR Borovoye Array 61.70 321 P P 11 59 39.2 -0.2
comp=Z,3.6nm,0.4s,baz=54,slow=6.9,SNR=34
BVAR LR LR 12 28 57.2
comp=Z,264nm,19.4s,baz=43,slow=38
comp=Z,3.6nm,0.4s
WVT Waverly 61.71 67 P P 11 59 39.8 0.0
baz=315
WVT Waverly 61.71 67 P P 11 59 39.7 0.0
baz=315
WVT Waverly 61.71 67 P P 11 59 39.6 -0.1
WVT pP pP 11 59 52.7 -1.3
BRVK Borovoye 61.72 321 P P 11 59 39.7 +0.2
BRVK IAmb IAmb 12 00 00.8
comp=Z,3.9nm,0.8s
BRVK Borovoye 61.72 321 P P 11 59 39.7 +0.2
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 61.72 321 P P 11 59 40.4 +0.8
BRVK sP sP 11 59 59.2 -0.6
BRVK PcP PcP 12 00 20.0 -0.3
ERPA Erie 61.77 57 P P 11 59 39.9 -0.2
baz=316
M53A WI Miller and 61.89 58 P P 11 59 40.9 0.0
baz=316
GYA Guiyang 61.91 278 ⇓P P 11 59 42.0 +0.6
GYA pmax pmax
comp=Z,36nm,1.0s
OXF Oxford 61.94 69 P P 11 59 41.4 +0.1
baz=316,SNR=9.2
OXF Oxford 61.94 69 P P 11 59 41.1 -0.2
baz=316,SNR=9.2
R50A Paris 62.16 63 P P 11 59 43.0 +0.2
baz=316
R50A P P 11 59 43.0 +0.2
baz=316
O52A Adamsville 62.22 60 P P 11 59 43.1 0.0
baz=316
O52A P P 11 59 43.1 0.0
baz=316
P52A Corning 62.40 60 P P 11 59 44.2 -0.1
baz=316
O53A New Philadelph 62.45 59 P P 11 59 44.5 -0.2
baz=316
U49A Red Boiling Sp 62.60 65 P P 11 59 45.5 -0.2
baz=316
T50A Nancy 62.77 64 IAmb IAmb 11 59 47.6
comp=Z,15nm,0.8s
T50A Nancy 62.77 64 P P 11 59 46.7 -0.2
baz=316
T50A P P 11 59 46.7 -0.2
baz=316
ARU Arti 63.19 329 *c i* P P 11 59 49.0 -0.3
ARU *PP sP 12 00 08.9 -0.7
ARU 12 00 23.7
ARU S S 12 08 18.8 +2.3
ARU SS SS 12 12 20.5 -1.7
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 63.19 329 P P 11 59 49.7 +0.4
comp=Z,3.1nm,0.4s,baz=34,slow=3.6,SNR=3.8
comp=Z,3.1nm,0.4s
X48A Hartselle 63.35 68 P P 11 59 49.9 -0.8
X48A IAmb IAmb 12 00 03.3
comp=Z,21nm,1.2s
R53A Hurricane 63.43 61 P P 11 59 51.2 0.0
R53A Hurricane 63.43 61 P P 11 59 51.5 +0.3
baz=316
R53A P P 11 59 51.5 +0.3
baz=316
MCWV Mont Chateau 63.61 59 P P 11 59 52.2 -0.2
baz=316
MCWV Mont Chateau 63.61 59 P P 11 59 51.9 -0.4
baz=316
Z47A Carrollton 63.66 69 P P 11 59 52.1 -0.6
Z47A Carrollton 63.66 69 P P 11 59 52.7 0.0
baz=316
BINY Binghamton 63.77 55 P P 11 59 52.9 -0.5
baz=317
W50A Signal Mountai 63.81 66 P P 11 59 52.9 -0.8
W50A IAmb IAmb 11 59 54.9
comp=Z,20nm,0.9s
W50A Signal Mountai 63.81 66 P P 11 59 53.2 -0.6
baz=316,SNR=5.9
TZTN Tazewell 63.83 64 P P 11 59 53.2 -0.7
TZTN Tazewell 63.83 64 P P 11 59 53.7 -0.2
baz=316
V51A Loudon 63.91 65 P P 11 59 53.5 -0.9
SSPA Standing Stone 63.93 57 P P 11 59 53.9 -0.5
baz=317
FPAL Fort Paine 64.11 67 P P 11 59 55.4 -0.3
HNR Honiara 64.26 206 LR LR 12 23 48.6
comp=Z,993nm,20.5s,baz=14,slow=32
TKL Tuckaleechee C 64.34 65 LR LR 12 27 38.7
comp=Z,48nm,18.5s,baz=344,slow=36
LRAL Lakeview Retre 64.40 69 P P 11 59 57.4 -0.2
baz=317
V53A Saluda 64.88 64 P P 12 00 00.8 0.0
baz=317
V53A P P 12 00 00.8 0.0
baz=317
PZH PanZhiHua 64.90 281 P P 12 00 02.0 +0.9
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,120nm,3.9s
BLA Blacksburg 65.08 61 P P 12 00 02.1 +0.1
baz=317
KMI Kunming 65.30 280 ⇑P P 12 00 04.3 +0.4
KMI pmax pmax
comp=Z,29nm,0.9s
250A Grady 65.59 69 P P 12 00 05.0 -0.3
baz=317
152A Waverly Hall 65.98 67 P P 12 00 07.1 -0.7
baz=317
KMSC Kings Mountain 66.08 63 P P 12 00 08.8 +0.2
baz=318,SNR=5.6
KMSC Kings Mountain 66.08 63 P P 12 00 08.4 -0.1
baz=318,SNR=5.6
GOGA Godfrey 66.15 66 P P 12 00 08.0 -0.9
GOGA IAmb IAmb 12 00 09.3
comp=Z,18nm,0.9s
GOGA Godfrey 66.15 66 P P 12 00 09.2 +0.3
baz=317,SNR=5.5
GOGA Godfrey 66.15 66 P P 12 00 08.6 -0.4
baz=317,SNR=5.5
GOGA Godfrey 66.15 66 P P 12 00 08.0 -0.9
GOGA pmax pmax
comp=Z,19nm,0.9s
HODGE Hodges 66.23 65 P P 12 00 08.9 -0.5
HODGE Hodges 66.23 65 P P 12 00 09.6 +0.1
baz=318,SNR=6.7
BIRD Birdtown, Kers 66.94 63 P P 12 00 14.0 +0.1
baz=318
HAW Hawthorne Fire 67.24 65 P P 12 00 16.2 +0.3
baz=318,SNR=5.1
BOOM Boomskoye usch 67.34 310 P P 12 00 16.6 -0.1
BOOM IAmb IAmb 12 00 17.8
comp=Z,4.7nm,0.6s
BOOM Boomskoye usch 67.34 310 P P 12 00 16.6 -0.1
BOOM pmax pmax
comp=Z,5.0nm,0.6s
NOA NORSAR Array B 67.47 356 P P 12 00 17.2 +0.2
comp=Z,0.5nm,0.6s,baz=7.1,slow=6.7,SNR=1.8
comp=Z,0.5nm,0.6s
TAOE Nuku Hiva Isla 67.80 141 *e* LR LR 12 20 49.5
comp=Z,239nm,31.3s
AAK Ala-Archa 67.91 311 P P 12 00 20.4 +0.2
AAK IAmb IAmb 12 00 21.7
comp=Z,5.8nm,0.8s
AAK Ala-Archa 67.91 311 P P 12 00 20.4 +0.2
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 67.91 311 LR LR 12 32 28.9
comp=Z,56nm,19.2s,baz=22,slow=38
AAK Ala-Archa 67.91 311 P P 12 00 20.4 +0.2
Y58A Scranton 67.92 63 P P 12 00 20.5 +0.4
baz=318
Y58A P P 12 00 20.5 +0.4
baz=318
TNCH TengChong 67.95 283 ⇑P P 12 00 21.0 +0.3
TNCH pP pP 12 00 36.5 +1.3
TNCH pmax pmax
comp=Z,86nm,4.1s
NHSC New Hope 68.23 64 P P 12 00 22.4 +0.3
baz=318
HFS Hagfors 68.25 355 P P 12 00 21.2 -0.6
comp=Z,0.8nm,0.4s,baz=57,slow=5.5,SNR=7.4
comp=Z,0.8nm,0.4s
AKTO Aktyubinsk 68.36 326 P P 12 00 21.8 -0.9
comp=Z,2.9nm,0.7s,baz=26,slow=6.4,SNR=8.1
comp=Z,2.9nm,0.7s
ABKAR Akbulak array 68.67 324 P P 12 00 24.6 0.0
KKAR Karatay Array 69.37 314 P P 12 00 28.5 -0.6
KKAR Karatay Array 69.37 314 P P 12 00 28.5 -0.6
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KSH Kashi 69.62 308 P P 12 00 33.5 +2.7
KSH pP pP 12 00 48.0 +2.6
KSH PcP PcP 12 00 56.5 +3.0
KSH pmax pmax
comp=Z,7.0nm,0.8s
ARSB Arslanbob 69.64 311 P P 12 00 30.9 -0.1
ARSB Arslanbob 69.64 311 P P 12 00 30.9 -0.1
ARSB pmax pmax
comp=Z,1.0nm,0.8s
FAKI Fak Fak 69.71 237 P P 12 00 31.4 0.0
OBN Obninsk 70.14 341 LR LR 12 36 35.1
comp=Z,34nm,18.4s,baz=355,slow=40
CRAI Chiangrai 70.39 278 P P 12 00 36.4 +0.7
CRAI IAmb IAmb 12 00 37.4
comp=Z,31nm,0.9s
SHL Shillong 71.53 288 IAmb IAmb 12 00 44.1
comp=Z,15nm,0.9s
CHTO Chiang Mai 72.33 278 P P 12 00 46.4 -1.0
CHTO IAmb IAmb 12 00 48.7
comp=Z,15nm,1.2s
CHTO Chiang Mai 72.33 278 P P 12 00 46.4 -1.0
CHTO pmax pmax
comp=Z,15nm,1.2s
CMAR Chiang Mai Arr 72.61 278 P P 12 00 49.4 +0.3
CMAR Chiang Mai Arr 72.61 278 P P 12 00 49.5 +0.5
comp=Z,10nm,0.8s,baz=27,slow=7.2,SNR=63
CMAR LR LR 12 33 30.0
comp=Z,24nm,21.9s,baz=25,slow=36
comp=Z,10nm,0.8s
PPT2 Papeete2 72.79 153 *e* LR LR 12 23 10.8
comp=Z,120nm,28.0s
PPT2 *e* LR LR 12 23 17.9
comp=Z,108nm,23.8s
EKA Eskdalemuir Ar 73.19 4 P P 12 00 50.6 -1.3
comp=Z,1.4nm,0.8s,baz=357,slow=5.8,SNR=3.8
comp=Z,1.4nm,0.8s
SIMJ Simiganj 73.61 312 P P 12 00 54.3 -0.5
SIMJ IAmb IAmb 12 00 55.9
comp=Z,9.2nm,0.9s
RAR Rarotonga 73.99 164 LR LR 12 27 19.9
comp=Z,147nm,20.7s,baz=340,slow=31
DZM Mont Dzumac 75.00 197 *e* LR LR 12 24 00.1
comp=Z,97nm,26.2s
DZM Mont Dzumac 75.00 197 LR LR 12 27 28.6
comp=Z,52nm,20.6s,baz=114,slow=30
AKASG Malin Array Be 75.74 344 P P 12 01 05.6 -1.1
comp=Z,0.4nm,0.3s,baz=18,slow=6.0,SNR=2.8
comp=Z,0.4nm,0.3s
KBL Kabul 76.92 310 P P 12 01 12.4 -1.6
KBL IAmb IAmb 12 01 14.1
comp=Z,6.6nm,0.8s
KBL Kabul 76.92 310 P P 12 01 12.4 -1.6
KBL pmax pmax
comp=Z,7.0nm,0.9s
KAPI Kappang 78.28 246 LR LR 12 30 53.0
comp=Z,17nm,20.6s,baz=30,slow=32
TBI Tubuai 78.31 155 *e* LR LR 12 25 44.0
comp=Z,508nm,26.5s
CTA Charters Tower 78.66 216 LR LR 12 28 48.3
comp=Z,34nm,20.9s,baz=64,slow=30
CTAO Charters Tower 78.66 216 P P 12 01 23.5 +0.1
CTAO IAmb IAmb 12 01 25.2
comp=Z,25nm,1.4s
CTAO Charters Tower 78.66 216 P P 12 01 23.5 +0.1
CTAO pmax pmax
comp=Z,25nm,1.4s
MTN Manton Dam 78.75 232 P P 12 01 23.9 -0.1
GEYT Alibeck 78.95 319 P P 12 01 24.6 -0.4
comp=Z,3.2nm,0.8s,baz=54,slow=7.5,SNR=6.4
GEYT pP pP 12 01 39.9 0.0
comp=Z,2.8nm,0.8s,baz=80,slow=11,SNR=2.7
GEYT LR LR 12 39 17.3
comp=Z,129nm,20.5s,baz=28,slow=38
comp=Z,3.2nm,0.8s
KBZ Khabaz 79.12 332 LR LR 12 39 56.0
comp=Z,33nm,21.9s,baz=9.0,slow=38
GERES GERESS Array B 79.49 353 P P 12 01 28.2 +0.3
comp=Z,1.4nm,0.7s,baz=46,slow=5.6,SNR=5.1
GERES LR LR 12 37 14.3
comp=Z,28nm,20.6s,baz=23,slow=36
comp=Z,1.4nm,0.7s
MLR Muntele Rosu 81.34 344 LR LR 12 40 32.0
comp=Z,42nm,20.9s,baz=281,slow=38
DAVOX Davos/Dischmat 81.78 356 LR LR 12 37 20.3
comp=Z,31nm,21.9s,baz=68,slow=35
GNI Garni 81.84 330 LR LR 12 44 01.2
comp=Z,56nm,18.2s,baz=16,slow=40
WRA Warramunga Arr 83.39 226 P P 12 01 48.5 -0.1

comp=Z,7.0nm,0.9s,baz=32,slow=5.6,SNR=29
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 85.32 337 P **P** **12 01 58.5 0.0**
comp=Z,0.9nm,0.8s,baz=64,slow=3.5,SNR=3.0
comp=Z,0.9nm,0.8s
AS31 Alice Springs 86.84 225 P **P** **12 02 06.7 +0.9**
ASAR Alice Springs 86.84 225 P **P** **12 02 06.1 +0.3**
ASAR Alice Springs 86.84 225 P **P** **12 02 06.5 +0.6**
comp=Z,8.4nm,0.8s,baz=26,slow=4.8,SNR=65
ASAR LR LR 12 41 27.3
comp=Z,14nm,18.7s,baz=29,slow=36
comp=Z,8.4nm,0.8s
SJG San Juan 87.76 63 LR LR 12 44 28.3
comp=Z,26nm,18.6s,baz=86,slow=38
STKA Stephens Creek 91.09 215 P **P** **12 02 27.0 +1.4**
STKA Stephens Creek 91.09 215 P **P** **12 02 27.0 +1.4**
comp=Z,5.4nm,0.7s,baz=15,slow=3.9,SNR=10
STKA LR LR 12 39 30.0
comp=Z,48nm,19.5s,baz=28,slow=33
comp=Z,5.4nm,0.7s
MMAI Mount Meron Ar 91.22 334 LR LR 12 50 40.4
comp=Z,18nm,18.6s,baz=348,slow=40
WSAR Wadi Sarin 91.32 311 LR LR 12 48 29.8
comp=Z,32nm,18.6s,baz=49,slow=39
IDI Anoyia 91.44 343 LR LR 12 46 48.5
comp=Z,19nm,21.3s,baz=28,slow=38
PCRV Puerto La Cruz 95.03 67 LR LR 12 43 42.6
comp=Z,26nm,21.9s,slow=34
RPN Rapa Nui 97.86 124 LR LR 12 36 13.1
comp=Z,39nm,20.8s,baz=94,slow=29
TORD Torodi Ar. Bea 115.41 2 PKP **PKiKP** **12 08 02.4 -0.7**
comp=Z,1.2nm,0.5s,baz=1.0,slow=2.6,SNR=18
TORD PKKPab **PKKPab** **12 18 41.9 -3.3**
comp=Z,1.0nm,0.7s,baz=163,slow=2.8,SNR=7.0
H03N2 Juan Fernandez 119.66 107 T T 14 19 28.7
baz=317,slow=77,SNR=596
H03N1 Juan Fernandez 119.67 107 T T 14 19 30.0
baz=317,slow=77,SNR=711
H03N3 Juan Fernandez 119.67 107 T T 14 19 29.3
baz=317,slow=77,SNR=810
DBIC Dimbokro 121.40 10 PKP **PKPdf** **12 08 14.1 -0.6**
comp=Z,2.3nm,0.4s,baz=310,slow=0.8,SNR=9.3
KMBO Kilima Mbogo 122.33 319 PKP **PKPdf** **12 08 14.4 -2.4**
comp=Z,1.0nm,0.3s,baz=39,slow=3.7,SNR=4.3
CPUP Villa Florida 127.39 85 PKP **PKPdf** **12 08 26.5 -0.3**
comp=Z,1.3nm,0.6s,baz=300,slow=4.0,SNR=3.0
PLCA Paso Flores 129.50 108 PKP **PKPdf** **12 08 29.6 +0.2**
comp=Z,2.6nm,0.9s,baz=356,slow=3.2,SNR=3.7
QSPA South Pole Qui 141.44 180 PKhKP PKPpre 12 08 46.3
comp=Z,1.7nm,0.5s,baz=290,slow=1.0,SNR=6.4
MAW Mawson 147.73 218 PKPbc **PKPbc** **12 09 04.2 -0.2**
comp=Z,8.5nm,0.8s,baz=63,slow=4.5,SNR=2.9
BOSA Boshof 151.93 317 PKPbc **PKPbc** **12 09 16.0 -0.1**
comp=Z,12nm,0.5s,baz=29,slow=2.1,SNR=36
ELIB Princess Elisa 157.90 196 *d*PKP **PKPab** **12 09 49.1 -0.7**
TROLL Troll, Antarti 159.59 179 ⇑P **PKPab** **12 09 56.7 -0.4**
comp=Z,129nm,0.5s
SNAA Sanae 159.72 174 ⇓P **PKPab** **12 09 57.4 -0.3**
SNAA Sanae 159.72 174 PKPab **PKPbc** **12 09 57.5 -0.1**
comp=Z,2.5nm,0.7s,baz=201,slow=10.0,SNR=7.2

IDC 30 11:52:43.6±690.0, 53°33N×5°76E, h0km, Error ellipse: s-maj=311.2km s-min=130.9km az=112.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.72**	**129**	I	I	12 36 39.1	
	0.1nm,1.2s,baz=313,slow=313,SNR=1.7						
I43RU	**DUBNA INFRASONI**	**8.26**	**67**	I	I	13 42 50.0	
	baz=269,slow=326,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**31.82**	**74**	I	I	15 04 30.0	
	baz=294,slow=349,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**44.55**	**56**	I	I	16 23 30.0	
	baz=304,slow=332,SNR=1.2						

IDC 30 11:55:36.8±3.4, 32°44S×178°43W, h0km, mb3.7/2, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=76.5km s-min=37.6km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.85**	**211**	Pn	Pn	11 57 18.7	+0.2
	0.9nm,0.3s,baz=328,slow=3.4,SNR=6.4						
URZ				Sn	Sn	11 58 35.5	-1.7
	1.0nm,0.3s,baz=293,slow=23,SNR=6.3						
	2.1nm,0.3s						
ASAR	**Alice Springs**	**42.68**	**269**	P	P	12 03 35.8	+0.3
	0.7nm,0.9s,baz=109,slow=7.2,SNR=4.2						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**43.85**	**275**	P	P	12 03 44.8	-0.2
	0.8nm,0.4s,baz=113,slow=7.8,SNR=6.9						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**146.92**	**339**	PKPbc	PKPdf	12 15 19.5	+1.0
	1.2nm,0.6s,baz=37,slow=3.4,SNR=1.4						

*HEL **30** 11:56:04.5±0.2, 67°58N×33°85E, h0km, ML2.1, Suspected explosion*
*IDC **30** 11:56:05.9±2.1, 67°73N×33°90E, h0km, mbtmp3.7/5, ML2.9/5, Error ellipse: s-maj=26.8km s-min=10.5km az=80.0*
*KOLA **30** 11:56:05.3, 67°62N×33°81E, h0km, ML2.4, Error ellipse: s-maj=7.4km s-min=2.9km az=150.0, Khibiny, mines Rasvumchorr, Central*

ISC 30 11:56:03.6±0.8, 67°59N±0°04×33°84E±0°03, h0km, n35, σ1℘49/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**261**	P	**Pg**	**11 56 08.2**	**+1.3**
APA				S	**Sg**	**11 56 10.7**	**+1.7**
APA0	**Apatity Array**	**0.32**	**272**	P	**Pg**	**11 56 10.4**	**+0.6**
APA0				S	**Sg**	**11 56 14.8**	**+0.8**
LVZ	**Lovozero**	**0.43**	**45**	P	**Pg**	**11 56 12.9**	**+1.0**
LVZ				S	**Sg**	**11 56 18.8**	**+1.3**
LVZ	**Lovozero**	**0.43**	**45**	PG	**Pg**	**11 56 12.2**	**+0.2**
	baz=225						
LVZ				SG	**Sg**	**11 56 18.9**	**+1.3**
VRF	**Varrio**	**1.62**	**277**	PG	**Pn**	**11 56 33.4**	**0.0**
VRF				MSG		11 56 53.2	
	comp=Z,17nm,0.2s						
VRF				SG	**Sn**	**11 56 54.2**	**-0.9**
TERR	**Teriberka**	**1.68**	**16**	P	**Pn**	**11 56 34.5**	**+0.2**
TERR				S	**Sn**	**11 56 55.8**	**-0.7**
OLKF	**Oulanka, Finla**	**2.17**	**236**	PG	**Pb**	**11 56 43.3**	**-0.3**
OLKF				MSG		11 57 08.5	
	comp=Z,11nm,0.2s						
OLKF				SG	**Sg**	**11 57 13.6**	**+0.5**
KU6	**Riekki**	**2.22**	**227**	PG	**Pb**	**11 56 44.0**	**-0.5**
	baz=45						
KU6				MSG		11 57 10.1	
	comp=Z,7.4nm,0.2s						
KU6				SG	**Sg**	**11 57 14.8**	**0.0**
PRVG	**Vayda Guba**	**2.25**	**345**	P	**Pb**	**11 56 44.5**	**-0.5**
PRVG				S	**Sn**	**11 57 10.7**	**+0.3**
RAJF	**Raja-Jooseppi**	**2.26**	**296**	PB	**Pn**	**11 56 42.6**	**+0.4**
RAJF				SB	**Sn**	**11 57 11.7**	**+1.0**
MSF	**Maaselka**	**2.55**	**231**	PG	**Pb**	**11 56 49.6**	**-0.5**
	baz=43						
SGF	**Sodankyl**	**2.81**	**270**	PN	**Pn**	**11 56 50.9**	**+1.1**
SGF				SB	**Sb**	**11 57 28.7**	**-0.9**
KMNF	**Kaamanen**	**2.98**	**305**	PN	**Pn**	**11 56 52.7**	**+0.7**
KMNF				SN	**Sn**	**11 57 29.1**	**+0.8**
VADS	**Vadso**	**3.01**	**329**	P	**Pn**	**11 56 53.0**	**+0.6**
VADS				S	**Sn**	**11 57 29.1**	**-0.1**
RANF	**Ranua**	**3.21**	**244**	PN	**Pn**	**11 56 57.0**	**+1.8**
	baz=55						
RANF				SG	**Sb**	**11 57 44.3**	**+3.3**
RNF	**Rovaniemi**	**3.21**	**256**	PN	**Pn**	**11 56 56.4**	**+1.2**
	baz=70						
RNF				SN	**Sn**	**11 57 35.6**	**+1.4**
KEV	**Kevo**	**3.31**	**314**	*e*P	**Pn**	**11 56 57.5**	**+1.0**
KEV	**Kevo**	**3.31**	**314**	PN	**Pn**	**11 56 57.4**	**+1.0**
	baz=127						
KEV				SN	**Sn**	**11 57 36.2**	**-0.2**
ARA0	**ARCESS Array S**	**3.63**	**306**	*e*P	**Pn**	**11 57 01.3**	**+0.4**
ARCES	**ARCESS Array B**	**3.63**	**306**	P	**Pn**	**11 57 01.3**	**+0.3**
ARCES				S	**Sn**	**11 57 44.0**	**-0.4**
ARCES	**ARCESS Array B**	**3.63**	**306**	Pn	**Pn**	**11 57 01.6**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=120,slow=14,SNR=310						
ARCES				Pg	**Pb**	**11 57 10.3**	**+1.7**
	comp=Z,1.8nm,0.3s,baz=115,slow=15,SNR=8.6						
ARCES				Sn	**Sn**	**11 57 43.2**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=116,slow=25,SNR=20						
ARCES				Lg	Lg	11 57 54.4	
	comp=Z,3.0nm,0.3s,baz=111,slow=30,SNR=8.5						
	comp=Z,4.8nm,0.3s						
RMF	**Romuvaara**	**3.75**	**207**	PN	**Pn**	**11 57 04.4**	**+1.7**
	baz=21						
KLF	**Kolari**	**3.83**	**269**	PN	**Pn**	**11 57 04.4**	**+0.7**
KLF				SN	**Sn**	**11 57 49.5**	**+0.2**
HEF	**Hetta**	**3.92**	**287**	PN	**Pn**	**11 57 05.2**	**+0.3**
HEF				SN	**Sn**	**11 57 50.5**	**-1.0**
TOF	**Tornio**	**4.05**	**252**	PN	**Pn**	**11 57 07.6**	**+0.9**
KTK1	**Kautokeino**	**4.18**	**295**	PN	**Pn**	**11 57 10.1**	**+1.5**
KTK1				SN	**Sn**	**11 57 59.2**	**+1.1**
PAJU	**Pajala**	**4.20**	**267**	PN	**Pn**	**11 57 08.9**	**+0.2**
	baz=74						
PAJU				SN	**Sn**	**11 57 57.9**	**-0.5**
KALU	**Kalix**	**4.51**	**252**	PG	**Pb**	**11 57 26.4**	**+2.9**
KALU				SG	**Sg**	**11 58 24.9**	**-3.3**
LANU	**Lannavaara**	**4.51**	**281**	PN	**Pn**	**11 57 12.9**	**-0.2**
LANU				SN	**Sn**	**11 58 06.4**	**+0.2**
FINES	**FINESS Array B**	**7.02**	**212**	Pn	**Pn**	**11 57 49.0**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=5.5						
FINES				Sn	**Sn**	**11 59 08.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=20,slow=23,SNR=2.1						
FINES				Lg	Lg	11 59 40.4	
	comp=Z,0.8nm,0.3s,baz=30,slow=27,SNR=10						
	comp=Z,1.1nm,0.7s						
FAUS	**Fauske**	**7.12**	**277**	S	**Sn**	**11 59 05.8**	**-4.4**
HFS	**Hagfors**	**11.56**	**239**	Pn	**Pn**	**11 58 49.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=38,slow=16,SNR=2.5						
HFS				Lg	Lg	12 02 06.3	
	comp=Z,0.2nm,0.3s,baz=67,slow=30,SNR=2.3						
	comp=Z,2.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**11.72**	**342**	Pn	**Pn**	**11 58 49.1**	**-2.7**
	baz=134,slow=10						
	comp=Z,12nm,0.9s						
NOA	**NORSAR Array B**	**11.75**	**247**	Sn	**Sn**	**12 01 00.3**	**-3.7**
	baz=50,slow=20,SNR=2.0						
NOA				Lg	Lg	12 02 13.5	
	baz=14,slow=13,SNR=4.4						
AKASG	**Malin Array Be**	**17.10**	**190**	Pn	**Pn**	**11 59 60.0**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=8.1,slow=12,SNR=4.5						
	comp=Z,0.7nm,0.6s						

*SJA **30** 12:05:40.2±1.8, 21°88S×68°35W, h100km, ML3.5, MW3.6*
*GUC **30** 12:05:42.2±0.6, 21°87S×68°53W, h126km±4km, ML3.7*

ISC 30 12:05:42.1±1.6, 21°86S±0°03×68°61W±0°06, h130km±11km, n33, σ0℘59/61, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.59**	**276**	*e*P	**Pn**	**12 06 01.9**	**0.0**
PB09				*e*S	**Sn**	**12 06 17.4**	**+0.4**
PB09				IAML		12 06 20.3	
	comp=Z,644nm,0.2s						
PB09	**IPOC Station P**	**0.59**	**276**	⇑*i*P	**Pn**	**12 06 01.9**	**0.0**
PB09				*e*S	**Sn**	**12 06 17.1**	**+0.1**
PB09				IAML		12 06 19.3	
	comp=N,1μm,0.6s						
LVC	**Limon Verde**	**0.80**	**201**	*e*P	**Pn**	**12 06 03.0**	**-0.7**
LVC				*e*S	**Sn**	**12 06 18.9**	**-1.1**
LVC				IAML		12 06 20.7	
	comp=Z,287nm,0.2s						
LVC	**Limon Verde**	**0.80**	**201**	*i* P	**Pn**	**12 06 02.9**	**-0.8**
LVC				IAML		12 06 20.0	
	comp=Z,3μm,0.6s						
PB01	**IPOC Station P**	**1.16**	**315**	*e*P	**Pn**	**12 06 06.4**	**-0.3**
PB01				*e*S	**Sn**	**12 06 25.6**	**+0.4**
PB01				IAML		12 06 26.9	
	comp=Z,908nm,0.3s						
PB01	**IPOC Station P**	**1.16**	**315**	⇑*i*P	**Pn**	**12 06 06.3**	**-0.3**
PB01				*e*S	**Sn**	**12 06 24.9**	**-0.3**
PB01				IAML		12 06 26.7	
	comp=N,2μm,0.3s						
PB07	**IPOC Station P**	**1.20**	**276**	*e*P	**Pn**	**12 06 07.3**	**+0.2**
PB07				*e*S	**Sn**	**12 06 27.6**	**+1.4**
PB07				IAML		12 06 28.1	
	comp=Z,806nm,0.4s						
PB07	**IPOC Station P**	**1.20**	**276**	⇑*i*P	**Pn**	**12 06 07.2**	**0.0**
PB07				*e*S	**Sn**	**12 06 26.1**	**0.0**
PB07				IAML		12 06 28.2	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.23**	**227**	*e*P	**Pn**	**12 06 06.9**	**-0.5**
PB06				*e*S	**Sn**	**12 06 27.6**	**+0.9**
PB06				IAML		12 06 28.8	
	comp=Z,946nm,1.0s						
PB06	**IPOC Station P**	**1.23**	**227**	⇑*i*P	**Pn**	**12 06 07.5**	**0.0**
PB06				*e*S	**Sn**	**12 06 26.6**	**-0.1**
PB06				IAML		12 06 27.6	
	comp=N,1μm,0.4s						
PB02	**IPOC Station P**	**1.32**	**294**	*e*P	**Pn**	**12 06 08.3**	**0.0**
PB02				*e*S	**Sn**	**12 06 28.8**	**+0.6**
PB02				IAML		12 06 31.4	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**1.32**	**294**	⇑*i*P	**Pn**	**12 06 08.3**	**0.0**
PB02				*e*S	**Sn**	**12 06 28.1**	**-0.1**
PB02				IAML		12 06 28.9	
	comp=E,1μm,0.3s						
PB04	**IPOC Station P**	**1.51**	**251**	*e*P	**Pn**	**12 06 10.1**	**-0.4**
PB04				*e*S	**Sn**	**12 06 33.1**	**+1.0**
PB04				IAML		12 06 40.3	
	comp=Z,440nm,0.4s						
PB04	**IPOC Station P**	**1.51**	**251**	*i* P	**Pn**	**12 06 10.5**	**+0.1**
PB04				*e*S	**Sn**	**12 06 32.2**	**+0.1**
PB04				IAML		12 06 36.0	
	comp=N,750nm,0.4s						
PB15	**IPOC Station P**	**1.56**	**211**	*e*P	**Pn**	**12 06 11.1**	**0.0**
PB15				*e*S	**Sn**	**12 06 34.5**	**+1.2**
PB15	**IPOC Station P**	**1.56**	**211**	*i* P	**Pn**	**12 06 11.2**	**+0.1**
PB15				*e*S	**Sn**	**12 06 33.6**	**+0.3**
PATCX	**Punta Patache**	**1.77**	**305**	*e*P	**Pn**	**12 06 13.5**	**0.0**
PATCX				*e*S	**Sn**	**12 06 38.0**	**+0.6**
PATCX				IAML		12 06 42.5	
	comp=Z,296nm,0.2s						
PATCX	**Punta Patache**	**1.77**	**305**	⇑*i*P	**Pn**	**12 06 13.2**	**-0.3**
PATCX				*e*S	**Sn**	**12 06 36.8**	**-0.6**
PATCX				IAML		12 06 43.6	
	comp=E,718nm,0.5s						
PB05	**IPOC Station P**	**1.78**	**236**	*e*P	**Pn**	**12 06 13.5**	**-0.1**
PB05				*e*S	**Sn**	**12 06 38.4**	**+0.8**
PB05				IAML		12 06 43.5	
	comp=Z,217nm,0.5s						
PB05	**IPOC Station P**	**1.78**	**236**	⇑*i*P	**Pn**	**12 06 13.4**	**-0.1**
PB05				*e*S	**Sn**	**12 06 36.9**	**-0.7**
PB05				IAML		12 06 44.8	
	comp=N,391nm,0.4s						
PB08	**IPOC Station P**	**1.79**	**343**	*e*P	**Pn**	**12 06 13.9**	**0.0**
PB08				*e*S	**Sn**	**12 06 38.9**	**+0.7**
PB08				IAML		12 06 40.9	
	comp=Z,141nm,0.2s						
PB08	**IPOC Station P**	**1.79**	**343**	⇑*i*P	**Pn**	**12 06 14.4**	**+0.4**
TA01	**Diego Aracena**	**1.95**	**311**	*e*P	**Pn**	**12 06 15.1**	**-0.4**
TA01				*e*S	**Sn**	**12 06 41.8**	**+0.7**
TA01				IAML		12 06 43.6	
	comp=Z,165nm,0.2s						
TA01	**Diego Aracena**	**1.95**	**311**	*i* P	**Pn**	**12 06 14.9**	**-0.6**
TA01				*e*S	**Sn**	**12 06 40.3**	**-0.8**
TA01				IAML		12 06 42.8	
	comp=E,460nm,0.2s						
HMBC	**Humberstone**	**1.98**	**322**	*e*P	**Pn**	**12 06 15.2**	**-0.8**
HMBC				*e*S	**Sn**	**12 06 42.3**	**+0.4**
HMBC				IAML		12 06 43.3	
	comp=Z,463nm,0.5s						
HMBC	**Humberstone**	**1.98**	**322**	*i* P	**Pn**	**12 06 15.2**	**-0.8**
HMBC				IAML		12 06 45.7	
	comp=N,617nm,0.3s						
GO01	**Chusmiza**	**2.25**	**346**	*e*P	**Pn**	**12 06 19.2**	**-0.4**
GO01				*e*P		12 06 20.1	
GO01				*e*S	**Sn**	**12 06 50.2**	**+1.8**
GO01	**Chusmiza**	**2.25**	**346**	⇑*i*P	**Pn**	**12 06 19.7**	**0.0**
GO01				*e*S	**Sn**	**12 06 48.1**	**-0.3**
PB11	**IPOC Station P**	**2.31**	**335**	*e*P	**Pn**	**12 06 19.6**	**-0.5**
PB11				*e*S	**Sn**	**12 06 49.3**	**+0.1**
PB11				IAML		12 06 51.4	
	comp=Z,181nm,0.2s						
PB11	**IPOC Station P**	**2.31**	**335**	⇑*i*P	**Pn**	**12 06 19.4**	**-0.6**
PB11				*e*S	**Sn**	**12 06 48.5**	**-0.7**
PB11				IAML		12 06 50.1	
	comp=N,618nm,0.5s						
PB10	**IPOC Station P**	**2.44**	**227**	*e*P	**Pn**	**12 06 21.2**	**-0.4**
PB10				*e*S	**Sn**	**12 06 52.0**	**+0.2**
PB10				IAML		12 07 04.0	
	comp=Z,80nm,0.3s						
YJA	**Yavi**	**2.88**	**97**	*e*P	**Pn**	**12 06 27.8**	**+0.1**
PB14	**IPOC Station P**	**3.21**	**211**	*e*P	**Pn**	**12 06 31.5**	**-0.3**
PB14				*e*S	Sn	12 06 57.7	-12
PB14				IAML		12 07 20.3	
	comp=Z,86nm,0.6s						

*IDC **30** 12:09:14.1±1.6, 15°82S×173°32W, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=100.7km s-min=19.4km az=147.0*
*NEIC **30** 12:09:16.9±0.8, 16°3S±0°1×173°1W±0°1, h10km±2km, mb4.4/8, Error ellipse: s-maj=25.8km s-min=9.7km az=325.0*

ISC 30 12:09:17.8±0.7, 16°2S±0°1×173°0W±0°1, h26km, n25, σ1℘42/20, mb4.0/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.13**	**135**		**Pn**	**12 10 20.0**	**+0.8**
NIUE				Sn	**Sn**	**12 11 04.9**	**-1.8**
INZ	**Inchbonnie**	**29.61**	**204**	P	**P**	**12 15 20.5**	**-0.3**
INZ				IAmb	IAmb	12 15 30.1	
	comp=Z,15nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**40.76**	**330**	T	T	12 59 35.2	
	baz=150,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**40.76**	**330**	T	T	12 59 35.4	
	baz=150,slow=76,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**40.78**	**330**	T	T	12 59 36.4	
	baz=150,slow=76,SNR=5.2						
STKA	**Stephens Creek**	**43.96**	**241**	P	**P**	**12 17 22.8**	**-0.1**
STKA	**Stephens Creek**	**43.96**	**241**	P	**P**	**12 17 22.7**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=98,slow=15,SNR=4.2						
	comp=Z,3.6nm,0.8s						
WR0	**Warramunga Arr**	**49.83**	**257**	P	**P**	**12 18 08.2**	**-0.8**
WR0				IAmb	IAmb	12 18 34.4	
	comp=Z,3.6nm,0.9s						
WB0	**Warramunga Arr**	**49.98**	**258**	P	**P**	**12 18 09.9**	**-0.3**
WB2	**Warramunga Arr**	**50.01**	**257**	P	**P**	**12 18 09.7**	**-0.7**
WB2				IAmb	IAmb	12 18 32.8	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**12 18 09.8**	**-0.6**
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**12 18 08.9**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=92,slow=7.5,SNR=13						
	comp=Z,0.8nm,0.8s						
AS31	**Alice Springs**	**50.21**	**253**	P	**P**	**12 18 12.8**	**+0.9**
AS31				IAmb	IAmb	12 18 16.5	
	comp=Z,1.8nm,1.1s						
ASAR	**Alice Springs**	**50.21**	**253**	P	**P**	**12 18 11.0**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=88,slow=9.0,SNR=17						
	comp=Z,2.4nm,0.6s						
PSA00	**Pilbara Seismi**	**63.33**	**254**	P	**P**	**12 19 45.0**	**0.0**
NVAR	**Mina Array Bea**	**74.67**	**42**	P	**P**	**12 20 55.6**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=230,slow=9.4,SNR=9.2						
	comp=Z,1.2nm,0.8s						
TXAR	**Lajitas Array**	**80.75**	**56**	P	**P**	**12 21 30.0**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=228,slow=3.2,SNR=2.5						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**82.61**	**42**	P	**P**	**12 21 38.9**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=202,slow=2.8,SNR=6.2						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**83.14**	**11**	P	**P**	**12 21 39.8**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=226,slow=7.0,SNR=24						
	comp=Z,0.6nm,0.6s						
H03S2	**Juan Fernandez**	**84.48**	**123**	T	T	13 56 19.2	
	baz=247						
H03S1	**Juan Fernandez**	**84.49**	**123**	T	T	13 56 21.7	
	baz=247						
H03S3	**Juan Fernandez**	**84.50**	**123**	T	T	13 56 23.1	
	baz=247						
YKA	**Yellowknife Ar**	**90.67**	**23**	P	**P**	**12 22 17.4**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=240,slow=4.1,SNR=6.5						
	comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**132.09**	**202**	PKP	**PKiKP**	**12 28 35.7**	**+4.6**
	comp=Z,2.1nm,0.3s,baz=148,slow=2.9,SNR=11						
BRTR	**Keskin Array B**	**146.98**	**321**	PKPbc	**PKPbc**	**12 28 57.5**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=67,slow=4.2,SNR=4.6						

IDC 30 12:12:57.7±2.5, 7°99N×91°67E, h0km, mb3.5/5, mbtmp3.5/6, ML4.1/1, Error ellipse: s-maj=72.8km s-min=30.9km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.58**	**33**	Pn	Pn	12 15 58.0	-0.2
	0.3nm,0.3s,baz=228,slow=14,SNR=5.6						
	0.9nm,0.5s						
H08S3	**Diego Garcia H**	**24.62**	**231**	T	T	12 44 46.9	
	baz=51,slow=75,SNR=17						
H08S2	**Diego Garcia H**	**24.63**	**231**	T	T	12 44 39.3	
	baz=51,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**24.64**	**231**	T	T	12 44 37.9	
	baz=51,slow=75,SNR=9.4						
MKAR	**Makanchi Array**	**39.50**	**350**	P	P	12 20 29.9	-0.2
	0.4nm,0.5s,baz=165,slow=9.9,SNR=5.3						
	0.4nm,0.5s						
SONM	**Songino Array**	**41.64**	**15**	P	P	12 20 47.5	-0.4
	0.9nm,0.8s,baz=194,slow=8.9,SNR=5.6						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**43.88**	**348**	P	P	12 21 06.0	+0.1
	0.4nm,0.7s,baz=169,slow=6.8,SNR=4.1						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**46.16**	**354**	P	P	12 21 24.2	+0.2
	0.2nm,0.3s,baz=152,slow=9.8,SNR=1.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**50.33**	**124**	P	P	12 21 56.7	-0.1
	0.7nm,1.0s,baz=299,slow=9.4,SNR=1.8						
	0.7nm,1.0s						
H04N2	**CROZET ISLANDS**	**64.59**	**210**	T	T	13 34 33.2	
	baz=45,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**64.60**	**210**	T	T	13 34 44.9	
	baz=45,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**64.61**	**210**	T	T	13 34 29.6	
	baz=45,slow=75,SNR=14						

*IDC **30** 12:13:29.1±0.9, 52°60N×62°77E, h0km, mb3.6/1, mbtmp3.4/4, ML2.2/3, MS3.6/4, Error ellipse: s-maj=12.7km s-min=8.6km az=166.0*

ISC 30 12:13:31.1±1.1, 52°61N±0°07×62°79E±0°06, h10km, n12, σ0℘77/10, MS3.7/4, 4C, Western Kazakhstan

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

comp=Z,25nm,18.1s,baz=355,slow=39
PFO Pinyon Flats O 94.14 359 LR LR 13 12 04.3
comp=Z,25nm,19.1s,baz=339,slow=37

KRSC 30 12:24:41.0±1.2, 55°26N×166°42E, h34km±5km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.26**	**258**	*eP*	Pb	12 24 48.8	+0.4
BKI				*eS*	Sb	12 24 54.1	+0.7
KLY	**Klyuchi**	**3.42**	**290**	*eS*	Sn	12 26 12.2	+0.9
TUMD	**Tumrok D**	**3.45**	**272**	*eP*	Pn	12 25 35.9	+3.6
TUMD				*eS*	Sn	12 26 16.0	+4.0
KMNR	**Kamenistaya**	**3.55**	**281**	*eP*	Pb	12 25 38.5	-4.6
KMNR				*eS*	Sb	12 26 20.4	-5.4
TUMR	**Tumrok**	**3.59**	**273**	*eP*	Pn	12 25 38.0	+3.7
TUMR				*eS*	Sb	12 26 21.7	-5.2
SMAR	**Somma**	**4.89**	**249**	*eP*	Pn	12 25 57.0	+4.7
UGLR	**Uglovaya**	**4.91**	**248**	*eP*	Pn	12 25 57.5	+5.1
AVH	**Avacha**	**4.93**	**249**	*eP*	Pn	12 25 57.8	+5.2
AVH				*eS*	Sn	12 26 52.7	+4.2
KRX	**Arik**	**4.93**	**250**	*eP*	Pn	12 25 57.3	+4.5
KRX				*eS*	Sn	12 26 53.7	+5.0
KOK	**Koryaka**	**4.97**	**250**	*eP*	Pn	12 25 58.0	+4.8
DALK	**Dalny**	**5.03**	**247**	*eP*	Pn	12 25 58.7	+4.7
KRMR	**Karymshinskiy**	**5.46**	**247**	*eP*	Pn	12 26 04.7	+4.8
KRMR				*eS*	Sn	12 27 06.0	+4.7
MTVR	**Mutnovka**	**5.61**	**244**	*eP*	Pn	12 26 06.8	+4.7
ASAK	**Asacha**	**5.81**	**244**	*eS*	Sn	12 27 16.6	+6.4

*IDC **30** 12:29:19.2±1.3, 6°18S×104°47E, h0km, mb3.8/9, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=49.6km s-min=16.4km az=45.0*
*DJA **30** 12:29:25.9±1.0, 6°S±4°×10°5E±°, h25km±10km, M4.3/11, mb4.8/2, MLv4.1/11*
ISC 30 12:29:26.6±0.8, 6°28S±0.09×104°65E±0.06, h50km, n35, σ1s83/27, mb3.9/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.77**	**349**	P	**Pn**	**12 29 42.5**	**+1.2**
KASI				S	**Sn**	**12 29 52.6**	**+0.7**
LWLI	**Liwa**	**1.39**	**335**	P	**Pn**	**12 29 51.9**	**+2.2**
DBJI	**Dramaga**	**2.10**	**97**	P	**Pn**	**12 30 01.0**	**+1.6**
EGSI	**Enggano, Bengk**	**2.53**	**291**	P	**Pn**	**12 30 07.7**	**+2.4**
EGSI				S	**Sn**	**12 30 35.9**	**+0.9**
CNJI	**Cibinong**	**2.67**	**113**	P	**Pn**	**12 30 06.6**	**-0.5**
CNJI				S	**Sn**	**12 30 38.3**	**+0.1**
LHSI	**Lahat**	**2.69**	**335**	P	**Pn**	**12 30 09.7**	**+2.3**
LEM	**Lembang**	**3.00**	**101**	Pn	**Pn**	**12 30 11.3**	**-0.5**
	6.4nm,0.3s,baz=311,slow=20,SNR=2.2						
LEM				Sn	**Sn**	**12 30 50.9**	**+4.3**
	4.4nm,0.3s,baz=305,slow=20,SNR=2.3 7.6nm,0.4s						
LEM	**Lembang**	**3.00**	**101**	P	**Pn**	**12 30 14.5**	**+2.7**
BBJI	**Bungbulang**	**3.20**	**112**	P	**Pn**	**12 30 16.0**	**+1.5**
BBJI				S	**Sn**	**12 30 51.9**	**+0.4**
CMJI	**Cimerak**	**4.06**	**112**	P	**Pn**	**12 30 27.3**	**+1.1**
KPJI	**Karang Pucung**	**4.38**	**104**	P	Pn	12 30 36.5	+5.9
PPSI	**Pulau Pagai**	**5.80**	**307**	P	**Pn**	**12 30 52.7**	**+2.6**
	86nm,1.1s,0.4nm						
UGM	**Wanagama**	**6.05**	**106**	P	**Pn**	**12 30 56.8**	**+3.2**
H01W3	**Cape Leeuwin H**	**29.78**	**164**	T	T	13 06 54.0	
	baz=342,slow=76,SNR=3.3						
H01W2	**Cape Leeuwin H**	**29.79**	**164**	T	T	13 06 54.0	
	baz=342,slow=76,SNR=3.3						
H01W1	**Cape Leeuwin H**	**29.79**	**164**	T	T	13 06 54.0	
	baz=342,slow=76,SNR=4.4						
WRA	**Warramunga Arr**	**31.87**	**118**	P	**P**	**12 35 48.0**	**+0.7**
	0.6nm,0.9s,baz=301,slow=9.3,SNR=8.3 0.6nm,0.9s						
H08S2	**Diego Garcia H**	**31.94**	**266**	T	T	13 09 28.4	
	baz=89,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**31.95**	**266**	T	T	13 09 29.9	
	baz=89,slow=76,SNR=42						
H08S1	**Diego Carcia H**	**31.96**	**266**	T	T	13 09 30.3	
	baz=89,slow=76,SNR=31						
ASAR	**Alice Springs**	**33.01**	**125**	P	**P**	**12 35 58.0**	**+0.8**
	0.3nm,0.4s,baz=312,slow=8.3,SNR=4.2 0.3nm,0.4s						
STKA	**Stephens Creek**	**42.86**	**131**	P	**P**	**12 37 21.2**	**+1.1**
	1.3nm,0.4s,baz=316,slow=8.2,SNR=4.0 1.3nm,0.4s						
SONM	**Songino Array**	**53.91**	**1**	P	**P**	**12 38 44.3**	**-0.7**
	0.2nm,0.4s,baz=186,slow=7.9,SNR=2.2 0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**55.97**	**23**	P	**P**	**12 38 58.5**	**-1.3**
	1.2nm,0.7s,baz=194,slow=5.2,SNR=2.9 1.2nm,0.7s						
MKAR	**Makanchi Array**	**56.45**	**342**	P	**P**	**12 39 01.7**	**-1.6**
	0.5nm,0.4s,baz=150,slow=9.1,SNR=15 0.5nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.30**	**220**	T	T	13 45 19.5	
	baz=66,slow=75,SNR=37						
H04N1	**CROZET ISLANDS**	**60.32**	**220**	T	T	13 45 19.9	
	baz=66,slow=75,SNR=30						
H04N3	**CROZET ISLANDS**	**60.32**	**220**	T	T	13 45 18.7	
	baz=66,slow=75,SNR=31						
H04S1	**CROZET ISLANDS**	**60.51**	**219**	T	T	13 45 30.3	
	baz=64,slow=75,SNR=4.3						
H04S3	**CROZET ISLANDS**	**60.53**	**219**	T	T	13 45 27.9	
	baz=64,slow=75,SNR=5.0						
H04S2	**CROZET ISLANDS**	**60.53**	**219**	T	T	13 45 34.7	
	baz=64,slow=75,SNR=4.3						
ZALV	**Zalesovo Beam**	**62.28**	**347**	P	**P**	**12 39 41.9**	**-1.5**
	1.2nm,0.3s,baz=156,slow=6.3,SNR=12 1.2nm,0.3s						
BVAR	**Borovoye Array**	**65.82**	**338**	P	**P**	**12 40 05.5**	**-1.1**
	0.6nm,0.3s,baz=143,slow=7.4,SNR=5.1 0.6nm,0.3s						
BRTR	**Keskin Array B**	**79.61**	**312**	P	**P**	**12 41 27.6**	**-1.4**
	0.5nm,0.6s,baz=143,slow=4.7,SNR=2.3 0.5nm,0.6s						
TXAR	**Lajitas Array**	**144.80**	**46**	PKP	**PKPdf**	**12 48 58.5**	**-0.3**
	0.3nm,0.4s,baz=282,slow=0.8,SNR=12						

*IDC **30** 12:30:18.4±0.7, 75°75N×7°51E, h0km, mb3.7/11, mbtmp3.7/16, ML2.9/5, MS3.4/31, Error ellipse: s-maj=17.0km s-min=11.6km az=56.0*
*NAO **30** 12:30:18.7±1.5, 75°87N×8°42E, ML3.6*
*BER **30** 12:30:20.4±2.8, 75°81N×7°53E, h30km±46km, mb(Pn)3.9, ML3.6(NAO), Confirmed Earthquake*
*KOLA **30** 12:30:21.4, 76°09N×8°79E, h0km, ML2.5, Greenland sea, Knipovich ridge, middle*
*FCIAR **30** 12:30:23.0, 75°97N×7°87E, h10km, station SPA0 has station magnitude of 3.50*
ISC 30 12:30:19.5±4.4, 75°96N±0°06×8°05E±0°06, h10km±29km, n73, σ2s05/69, mb3.7/11, MS3.4/28, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.05**	**56**	Pn	**Pn**	**12 30 54.1**	**+0.2**
HSPB	**Hornsund (broa**	**2.05**	**56**	P	**Pn**	**12 30 54.0**	**+0.1**
HSPB				S	**Sn**	**12 31 17.8**	**-1.6**
HSPB	**Hornsund (broa**	**2.05**	**56**	*eP*	**Pn**	**12 30 53.9**	**+0.1**
HSPB				*eS*	**Sn**	**12 31 17.8**	**-1.6**
HSPB				IAML		12 31 26.3	
	comp=Z,13nm,0.5s						
BRBA	**Barentsburg A**	**2.53**	**30**	Pn	**Pn**	**12 31 01.0**	**+0.5**
BRBA	**Barentsburg A**	**2.53**	**30**	*eP*	**Pn**	**12 31 00.5**	**0.0**
BRBA				*eS*	**Sn**	**12 31 29.4**	**-1.8**
BRBA				IAML		12 31 39.1	
	comp=Z,10nm,1.0s						
BRBB	**Barentsburg B**	**2.56**	**30**	Pn	**Pn**	**12 31 02.2**	**+1.4**
BRBB	**Barentsburg B**	**2.56**	**30**	P	**Pn**	**12 31 01.3**	**+0.4**
BRBB				S	**Sn**	**12 31 31.9**	**0.0**
BRBB	**Barentsburg B**	**2.56**	**30**	*eP*	**Pn**	**12 31 00.9**	**0.0**
BRBB				*eS*	**Sn**	**12 31 31.5**	**-0.4**
SPA0	**Spitsbergen Ar**	**2.91**	**36**	Pn	**Pn**	**12 31 06.9**	**+1.1**
	baz=217,slow=14						
SPA0				Sn	**Sn**	**12 31 40.9**	**+0.2**
SPA0	**Spitsbergen Ar**	**2.91**	**36**	Pn	**Pn**	**12 31 06.9**	**+1.1**
	baz=217,slow=14						
SPA0				Sn	**Sn**	**12 31 40.9**	**+0.2**
SPA0	**Spitsbergen Ar**	**2.91**	**36**	*eP*	**Pn**	**12 31 06.7**	**+1.0**
SPA0				*eS*	**Sn**	**12 31 39.5**	**-1.2**
SPITS	**Spitsbergen Ar**	**2.91**	**36**	P	**Pn**	**12 31 06.6**	**+0.8**
SPITS				S	**Sn**	**12 31 40.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**2.91**	**36**	Pn	**Pn**	**12 31 06.9**	**+1.1**
	baz=206,slow=14						
SPITS				Sn	**Sn**	**12 31 40.6**	**-0.1**
	baz=214,slow=22 comp=Z,8.7nm,0.4s						
KBS	**Kingsbay**	**3.10**	**14**	Pn	**Pn**	**12 31 09.2**	**+0.8**
KBS	**Kingsbay**	**3.10**	**14**	P	**Pn**	**12 31 08.6**	**+0.2**
KBS				S	**Sn**	**12 31 44.1**	**-1.3**
KBS	**Kingsbay**	**3.10**	**14**	*eP*	**Pn**	**12 31 08.0**	**-0.4**
KBS				*eS*	**Sn**	**12 31 42.3**	**-3.1**
KBS				IAML		12 31 46.7	
	comp=Z,6.7nm,0.6s						
KBS	**Kingsbay**	**3.10**	**14**	*eP*	**Pn**	**12 31 08.9**	**+0.5**
KBS				*eS*	**Sn**	**12 31 42.0**	**-3.4**
BJO1	**Bjornoya**	**3.16**	**112**	*eP*	**Pn**	**12 31 10.7**	**+1.4**
BJO1				IAML		12 31 55.8	
	comp=Z,22nm,0.6s						
HOPEN	**Hopen**	**4.08**	**74**	Pn	**Pn**	**12 31 22.2**	**+0.4**
HOPEN				Sn	**Sn**	**12 32 07.6**	**-2.0**
HOPEN	**Hopen**	**4.08**	**74**	*eP*	**Pn**	**12 31 22.1**	**+0.3**
HOPEN				*eS*	**Sn**	**12 32 07.6**	**-2.0**
HOPEN				IAML		12 32 09.1	
	comp=Z,23nm,0.4s						
HOPEN	**Hopen**	**4.08**	**74**	*eP*	**Pn**	**12 31 21.4**	**-0.4**
HOPEN				*eS*	**Sn**	**12 32 06.6**	**-3.0**
TRO	**Tromso**	**7.11**	**148**	Pn	**Pn**	**12 32 03.6**	**+0.2**
ARA0	**ARCESS Array S**	**8.23**	**133**	Pn	**Pn**	**12 32 16.2**	**-2.6**
	baz=328,slow=12						
ARA0				Sn	Sn	12 33 41.1	-11
	baz=329,slow=22						
ARA0	**ARCESS Array S**	**8.23**	**133**	Pn	**Pn**	**12 32 16.2**	**-2.6**
	baz=328,slow=12						
ARA0				Sn	Sn	12 33 41.1	-11
	baz=329,slow=22						
ARCES	**ARCESS Array B**	**8.23**	**133**	Pn	**Pn**	**12 32 16.4**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=330,slow=12,SNR=24						
ARCES				Sn	Sn	12 33 40.9	-11
	comp=Z,0.2nm,0.3s,baz=334,slow=19,SNR=1.4						
ARCES				LR	LR	12 35 35.0	
	comp=Z,136nm,21.1s,baz=322,slow=39 comp=Z,6.8nm,0.5s						
KEV	**Kevo**	**8.32**	**129**	Pn	**Pn**	**12 32 18.5**	**-1.5**
KEV	**Kevo**	**8.32**	**129**	Pn	**Pn**	**12 32 18.5**	**-1.5**
ZFI2	**Zemlya Franca-**	**9.12**	**40**	*eP*	**Pn**	**12 32 31.6**	**+0.8**
ZFI2				*eS*	**Sn**	**12 34 05.7**	**-7.6**
OMEGA	**Omega**	**9.12**	**40**	*eP*	**Pn**	**12 32 31.9**	**+1.0**
OMEGA				*eS*	**Sn**	**12 34 06.3**	**-7.1**
APA0	**Apatity Array**	**11.32**	**125**	Pn	**Pn**	**12 32 58.3**	**-2.7**
	baz=326,slow=10						
APA0				Sn	Sn	12 34 57.3	-10
	baz=312,slow=28						
APA0	**Apatity Array**	**11.32**	**125**	Pn	**Pn**	**12 32 58.3**	**-2.7**
	baz=326,slow=10						
APA0				Sn	Sn	12 34 57.3	-10
	baz=312,slow=28						
SUMG	**Summit**	**12.76**	**278**	*i* P	**Pn**	**12 33 18.0**	**-2.9**
NOA	**NORAR Array B**	**15.03**	**174**	Pn	**Pn**	**12 33 50.7**	**-1.0**
	baz=351,slow=12,SNR=1.9 comp=Z,0.3nm,0.6s						
FIA0	**FINESS Array S**	**15.85**	**147**	P	**Pn**	**12 34 00.6**	**-1.6**
	baz=344,slow=11						
FIA0	**FINESS Array S**	**15.85**	**147**	P	**Pn**	**12 34 00.6**	**-1.6**
	baz=344,slow=11						
FINES	**FINESS Array B**	**15.85**	**147**	Pn	**Pn**	**12 33 59.6**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=351,slow=11,SNR=6.4						
FINES				LR	LR	12 39 39.1	
	comp=Z,156nm,19.8s,baz=1.5,slow=36 comp=Z,1.7nm,0.6s						
HFS	**Hagfors**	**16.03**	**170**	P	**Pn**	**12 34 05.9**	**+1.3**
	baz=18,slow=12						
HFS	**Hagfors**	**16.03**	**170**	P	**Pn**	**12 34 05.9**	**+1.3**
	baz=18,slow=12						
HFS	**Hagfors**	**16.03**	**170**	Pn	**Pn**	**12 34 02.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=8.5,slow=14,SNR=2.2						
HFS				LR	LR	12 39 20.2	
	comp=Z,138nm,18.4s,baz=360,slow=34 comp=Z,2.2nm,0.8s						
NRIK	**Noril'sk**	**22.72**	**65**	P	**P**	**12 35 24.1**	**+3.2**
	comp=Z,0.9nm,0.4s,baz=326,slow=6.6,SNR=2.2						
NRIK				LR	LR	12 46 38.8	
	comp=Z,39nm,18.6s,baz=352,slow=43 comp=Z,0.9nm,0.4s						
KIRV	**Kirov**	**22.77**	**117**	LR	LR	12 44 36.8	
	comp=Z,109nm,18.0s,baz=333,slow=38						
FRB	**Frobisher Bay**	**26.65**	**285**	LR	LR	12 45 09.3	
	comp=Z,120nm,21.1s,baz=6.0,slow=34						
AKASG	**Malin Array Be**	**26.73**	**149**	P	**P**	**12 35 57.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=340,slow=9.2,SNR=1.5 comp=Z,0.2nm,0.3s						
GERES	**GERESS Array B**	**27.31**	**172**	LR	LR	12 46 34.6	
	comp=Z,44nm,19.2s,baz=44,slow=36						
TIXI	**Tiksi**	**28.34**	**35**	LR	LR	12 46 58.7	
	comp=Z,29nm,18.5s,baz=7.5,slow=35						
DAVOX	**Davos/Dischmat**	**29.29**	**177**	LR	LR	12 47 29.5	
	comp=Z,30nm,20.1s,baz=236,slow=36						
AKTO	**Aktyubinsk**	**32.23**	**113**	LR	LR	12 50 39.0	
	comp=Z,100nm,18.2s,baz=112,slow=38						
BVAR	**Borovoye Array**	**32.72**	**98**	P	**P**	**12 36 53.8**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=342,slow=9.3,SNR=4.4						
BVAR				LR	LR	12 54 05.5	
	comp=Z,62nm,19.1s,baz=339,slow=44 comp=Z,0.8nm,0.8s						
INK	**Inuvik**	**33.99**	**336**	LR	LR	12 52 48.9	
	comp=Z,50nm,18.3s,baz=9.5,slow=40						
ZALV	**Zalesovo Beam**	**35.39**	**83**	P	**P**	**12 37 16.6**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=327,slow=10,SNR=3.5						
ZALV				LR	LR	12 55 20.1	
	comp=Z,55nm,18.7s,baz=346,slow=42 comp=Z,0.2nm,0.3s						
KBZ	**Khabaz**	**35.59**	**135**	LR	LR	12 52 09.2	
	comp=Z,52nm,19.5s,baz=354,slow=37						
KURBB	**Kurchatov Arra**	**36.92**	**92**	P	**P**	**12 37 29.6**	**+1.8**
	comp=Z,0.5nm,0.2s,baz=324,slow=9.4,SNR=1.6						
KURBB				LR	LR	12 55 12.1	
	comp=Z,122nm,21.1s,baz=152,slow=40 comp=Z,0.5nm,0.2s						
YKA	**Yellowknife Ar**	**37.09**	**320**	P	**P**	**12 37 30.4**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=20,slow=9.3,SNR=7.3 comp=Z,0.7nm,1.0s						
BRTR	**Keskin Array B**	**38.08**	**147**	LR	LR	12 55 17.0	
	comp=Z,49nm,19.1s,baz=62,slow=40						
ILAR	**Eielson Array**	**38.61**	**343**	P	**P**	**12 37 44.1**	**+2.0**
	comp=Z,1.5nm,1.2s,baz=354,slow=7.3,SNR=8.9 comp=Z,1.5nm,1.2s						
MKAR	**Makanchi Array**	**41.40**	**90**	P	**P**	**12 38 08.3**	**+2.9**
	comp=Z,4.7nm,1.4s,baz=348,slow=6.2,SNR=4.2						
MKAR				LR	LR	12 59 00.8	
	comp=Z,103nm,19.2s,baz=316,slow=42 comp=Z,4.7nm,1.4s						
AAK	**Ala-Archa**	**43.41**	**100**	LR	LR	12 58 23.1	
	comp=Z,45nm,18.6s,baz=330,slow=39						
GEYT	**Alibeck**	**44.15**	**119**	LR	LR	12 58 49.6	
	comp=Z,89nm,18.7s,baz=358,slow=39						
MMAI	**Mount Meron Ar**	**44.92**	**147**	LR	LR	12 59 11.1	
	comp=Z,32nm,19.1s,baz=346,slow=39						
ULM	**Lac du Bonnet**	**45.10**	**298**	LR	LR	12 56 09.7	
	comp=Z,65nm,19.6s,baz=84,slow=34						
SONM	**Songino Array**	**46.15**	**68**	LR	LR	13 03 00.2	
	comp=Z,31nm,18.4s,baz=3.0,slow=42						
KLR	**Kul'dur**	**49.95**	**45**	LR	LR	13 01 58.0	
	comp=Z,45nm,18.1s,baz=5.5,slow=38						
PDAR	**Pinedale Array**	**55.06**	**307**	P	**P**	**12 39 51.0**	**-0.2**
	comp=Z,2.1nm,1.2s,baz=34,slow=5.8,SNR=6.3 comp=Z,2.1nm,1.2s						
YBH	**Yreka Blue Hor**	**58.41**	**318**	LR	LR	13 08 14.9	
	comp=Z,12nm,21.4s,baz=38,slow=39						
KSRS	**Korea Array**	**60.63**	**52**	LR	LR	13 11 08.5	
	comp=Z,16nm,18.4s,baz=350,slow=40						
TORD	**Torodi Ar. Bea**	**62.90**	**187**	P	**P**	**12 40 44.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=350,slow=6.6,SNR=1.4 comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**66.81**	**298**	P	**P**	**12 41 11.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=55,slow=5.3,SNR=6.5						
TXAR				LR	LR	13 11 17.9	
	comp=Z,27nm,19.5s,baz=36,slow=37 comp=Z,0.6nm,0.8s						
JOW	**Kunigami**	**71.00**	**55**	LR	LR	13 18 56.8	
	comp=Z,22nm,18.0s,baz=48,slow=41						
CMAR	**Chiang Mai Arr**	**72.45**	**85**	LR	LR	13 19 16.9	
	comp=Z,21nm,18.1s,baz=190,slow=40						
LPIG	**La Paz**	**73.27**	**303**	LR	LR	13 15 27.0	
	comp=Z,48nm,18.1s,baz=114,slow=37						
JTS	**Las Juntas de**	**80.82**	**275**	LR	LR	13 18 22.2	
	comp=Z,39nm,18.1s,baz=155,slow=36						
LEM	**Lembang**	**98.91**	**82**	LR	LR	13 34 12.4	
	comp=Z,21nm,18.6s,baz=340,slow=39						
ASAR	**Alice Springs**	**121.21**	**60**	PKP	**PKiKP**	**12 49 12.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=0.0,slow=1.9,SNR=2.2						

*NOU **30** 12:40:54.0, 36°65S×178°10E, h248km, MLv4.0/13, Off E. Coast of N. Island, N.Z.*
*WEL **30** 12:41:03.9±1.1, 37°S±7°×17°8E±°, h159km±9km, M3.1/25, ML3.2/24, MLv3.1/25, Error ellipse: s-maj=0.0km s-min=0.0km az=49.0, confirmed*
ISC 30 12:40:58.2±2.6, 36°9S±0°1×177°7E±0°1, h215km±12km, n146, σ2s04/153, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.79**	**145**	P	**Pn**	**12 41 29.2**	**+1.0**
MXZ	**Matakaoa Point**	**0.79**	**145**	P	**Pn**	**12 41 29.0**	**+0.8**
MXZ				S	**Sn**	**12 41 49.5**	**-2.1**
HAZ	**Te Kaha**	**0.84**	**177**	P	**Pn**	**12 41 29.0**	**+0.6**
HAZ				S	**Sn**	**12 41 48.4**	**-3.7**
PKGZ	**Pakihiroa**	**1.01**	**164**	P	**Pn**	**12 41 30.8**	**+1.3**
PKGZ				S	**Sn**	**12 41 52.3**	**-1.9**
RUGZ	**Raukumara Rang**	**1.05**	**182**	P	**Pn**	**12 41 30.2**	**+0.3**
WMGZ	**Waiomatatini S**	**1.05**	**149**	P	**Pn**	**12 41 31.4**	**+1.7**
PUZ	**Puketiti**	**1.23**	**160**	P	**Pn**	**12 41 32.7**	**+1.7**
TWGZ	**Tauwhareparae**	**1.28**	**171**	P	**Pn**	**12 41 33.8**	**+2.5**
TWGZ				S	**Sn**	**12 41 56.7**	**-0.7**
OPRZ	**Ohinepanea**	**1.32**	**225**	P	**Pn**	**12 41 32.7**	**+1.1**
MARZ	**Manawahe**	**1.36**	**218**	P	**Pn**	**12 41 33.6**	**+1.6**
MWZ	**Matawai**	**1.43**	**186**	P	**Pn**	**12 41 34.3**	**+1.7**
MWZ				S	**Sn**	**12 41 57.8**	**-1.7**
EDRZ	**Edgecumbe**	**1.43**	**213**	P	**Pn**	**12 41 34.0**	**+1.4**
URZ	**Urewera**	**1.43**	**200**	P	**Pn**	**12 41 34.0**	**+1.5**
URZ	**Urewera**	**1.43**	**200**	P	**Pn**	**12 41 34.0**	**+1.5**
URZ				S	**Sn**	**12 41 57.2**	**-2.3**
TKGZ	**Te Karaka**	**1.52**	**177**	P	**Pn**	**12 41 35.6**	**+2.3**
TKGZ				S	**Sn**	**12 41 59.9**	**-1.0**
CNGZ	**Carnagh Statio**	**1.61**	**167**	P	**Pn**	**12 41 37.0**	**+3.0**
KARZ	**Kaharoa**	**1.62**	**227**	P	**Pn**	**12 41 35.9**	**+1.8**
KUZ	**Kuaotunu**	**1.62**	**275**	P	**Pn**	**12 41 34.4**	**+0.2**
KUZ	**Kuaotunu**	**1.62**	**275**	P	**Pn**	**12 41 34.4**	**+0.2**
KMRZ	**Kaimai**	**1.70**	**236**	P	**Pn**	**12 41 36.8**	**+1.8**
MUGZ	**Murupara**	**1.74**	**206**	P	**Pn**	**12 41 36.9**	**+1.7**
RIGZ	**Rimuhau**	**1.79**	**179**	P	**Pn**	**12 41 38.2**	**+2.5**
RTZ	**Ruatahuna**	**1.80**	**199**	P	**Pn**	**12 41 37.4**	**+1.5**
HSRZ	**Hossack Road**	**1.83**	**220**	P	**Pn**	**12 41 38.7**	**+2.7**
HRRZ	**Handcock Road**	**1.87**	**217**	P	**Pn**	**12 41 39.0**	**+2.5**
SNGZ	**Shannon Statio**	**1.89**	**189**	P	**Pn**	**12 41 38.9**	**+2.3**
PRRZ	**Plateau Road**	**1.91**	**213**	P	**Pn**	**12 41 39.0**	**+2.2**
GRRZ	**Galatos Road**	**1.93**	**221**	P	**Pn**	**12 41 39.6**	**+2.6**
GRZ	**Great Barrier**	**1.95**	**289**	P	**Pn**	**12 41 37.6**	**+0.4**
TOZ	**Tahuroa Road**	**1.96**	**245**	P	**Pn**	**12 41 39.4**	**+2.1**
ALRZ	**Allen Road**	**1.98**	**213**	P	**Pn**	**12 41 39.7**	**+2.2**
PRGZ	**Paritu Road**	**2.01**	**177**	P	**Pn**	**12 41 41.0**	**+3.1**
WPRZ	**Whakapapatarin**	**2.03**	**217**	P	**Pn**	**12 41 40.6**	**+2.6**
MTHZ	**Maungataniwha**	**2.06**	**200**	P	**Pn**	**12 41 40.1**	**+1.7**
MKAZ	**Moumakai**	**2.06**	**264**	P	**Pn**	**12 41 39.9**	**+1.6**
WIAZ	**Waiheke Island**	**2.09**	**273**	P	**Pn**	**12 41 39.9**	**+1.3**
KNZ	**Kokohu**	**2.10**	**181**	P	**Pn**	**12 41 41.3**	**+2.5**
MRHZ	**Matea Rd**	**2.18**	**208**	P	**Pn**	**12 41 41.5**	**+1.9**
KUTZ	**Kaahu Road**	**2.18**	**223**	P	**Pn**	**12 41 42.5**	**+3.0**
WHHZ	**Waihua**	**2.19**	**190**	P	**Pn**	**12 41 42.3**	**+2.7**
MHGZ	**Mahia Peninsul**	**2.24**	**176**	P	**Pn**	**12 41 43.3**	**+3.2**
TLZ	**Tolley Road**	**2.24**	**230**	P	**Pn**	**12 41 42.9**	**+2.7**
ETAZ	**East Tamaki Re**	**2.25**	**268**	P	**Pn**	**12 41 42.2**	**+2.0**
MBAZ	**Motutapu North**	**2.28**	**273**	P	**Pn**	**12 41 42.0**	**+1.5**
NMHZ	**Naumai**	**2.30**	**198**	P	**Pn**	**12 41 43.7**	**+2.9**
WATZ	**Wairara**	**2.39**	**221**	P	**Pn**	**12 41 44.5**	**+2.8**
EPAZ	**Eden Park BICE**	**2.40**	**270**	P	**Pn**	**12 41 44.0**	**+2.2**
HBAZ	**Herne Bay Bore**	**2.41**	**271**	P	**Pn**	**12 41 44.1**	**+2.2**
ARHZ	**Aropaoanui**	**2.42**	**194**	P	**Pn**	**12 41 44.6**	**+2.7**
BKZ	**Black Stump Fm**	**2.45**	**203**	P	**Pn**	**12 41 44.2**	**+1.8**
BKZ	**Black Stump Fm**	**2.45**	**203**	P	**Pn**	**12 41 44.3**	**+1.9**
AWAZ	**Awhitu Peninsu**	**2.48**	**266**	P	**Pn**	**12 41 44.8**	**+2.2**
RATZ	**Rangitukua**	**2.49**	**218**	P	**Pn**	**12 41 45.4**	**+2.6**
WTAZ	**Waiatarua**	**2.53**	**269**	P	**Pn**	**12 41 45.1**	**+1.8**
RVAZ	**Riverhead Bore**	**2.53**	**272**	P	**Pn**	**12 41 45.2**	**+1.9**
RITZ	**Rihia Road**	**2.54**	**215**	P	**Pn**	**12 41 46.2**	**+2.8**
KATZ	**Kakaramea**	**2.61**	**217**	P	**

ODZ	**Otahua Downs**	**9.72 211**	P	**Pn**	**12 43 14.0 +0.5**
ODZ	**Otahua Downs**	**9.72 211**	P	**Pn**	**12 43 14.0 +0.5**
JCZ	**Jackson Bay**	**9.87 221**	P	**Pn**	**12 43 16.3 +0.8**
	21nm,2.5s				
JCZ	**Jackson Bay**	**9.87 221**	P	**Pn**	**12 43 15.6 +0.1**

*IDC **30** 12:47:09.3±4.3, 16°.23N×96°.08W, h0km, mb3.6/6, mbtmp3.6/7, MS3.0/2, Error ellipse: s-maj=74.6km s-min=16.5km az=164.0*
*MEX **30** 12:47:13.4±0.5, 16°.04N×96°.13W, h59km±7km, MD4.3*
ISC 30 12:47:11.9±2.5, **16°.08N**±0°.04×**96°.07W**±0°.03, **h24**km±20km, **n26**, σ1s**13**/**34**, **mb3.7**/**5**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.31**	**186**	***e*P**		**Pn**	**12 47 21.9**	**+0.8**
HUIG				*e*S		**Sn**	**12 47 28.5**	**+1.6**
PEIG	**Puerto Escondi**	**1.04**	**265**	***e*P**		**Pn**	**12 47 29.6**	**-1.4**
PEIG				*i* S		**Sb**	**12 47 43.5**	**-1.0**
NILT	**Santiago Nilte**	**1.48**	**71**	***e*P**		**Pn**	**12 47 37.6**	**+0.6**
NILT				*e*S		**Sn**	**12 47 56.8**	**+1.2**
CMIG	**Matias Romero**	**1.52**	**49**	Pg		**Pn**	**12 47 37.2**	**-0.5**
	36nm,0.3s,baz=229,slow=14,SNR=243							
CMIG				Lg		Lg	12 47 54.8	
	130nm,0.3s,baz=234,slow=17,SNR=11							
CMIG				LR		LR	12 48 14.5	
	comp=Z,160nm,21.9s,baz=220,slow=45							
CMIG	**Matias Romero**	**1.52**	**49**	***e*P**		**Pn**	**12 47 37.1**	**-0.5**
CMIG				*e*S		**Sn**	**12 47 55.4**	**-1.2**
YOIG	**Yosondua**	**1.61**	**299**	***e*P**		**Pn**	**12 47 39.5**	**+0.4**
NEUV	**Arroyo Zacate**	**1.64**	**9**	***e*P**		**Pn**	**12 47 39.2**	**-0.1**
NEUV				*e*S		**Sn**	**12 47 59.6**	**-0.1**
PNIG	**Pinotepa**	**2.00**	**279**	***e*P**		**Pn**	**12 47 43.2**	**-1.0**
TXIG	**Tlaxiaco**	**2.00**	**306**	***e*P**		**Pn**	**12 47 45.0**	**+0.6**
CARR	**Arriaga**	**2.08**	**85**	***e*P**		**Pn**	**12 47 45.3**	**-0.1**
CARR				*e*S		**Sn**	**12 48 10.0**	**-0.6**
TOIG	**Toxpalan**	**2.21**	**335**	***e*P**		**Pn**	**12 47 48.8**	**+1.5**
UXUV	**UXUV**	**2.22**	**56**	***e*P**		**Pn**	**12 47 47.4**	**+0.1**
UXUV				*e*S		**Sn**	**12 48 14.9**	**+0.9**
HLIG	**Huajuapan de L**	**2.40**	**317**	***e*P**		**Pn**	**12 47 52.0**	**+2.1**
HLIG				*e*S		**Sn**	**12 48 20.7**	**+2.0**
TLIG	**Tlapa**	**2.81**	**302**	***e*P**		**Pn**	**12 47 56.4**	**+0.9**
PATR	**El Naranjo**	**3.82**	**104**	***e*P**		**Pn**	**12 48 10.4**	**+0.9**
PATR				*e*S		**Sn**	**12 48 52.8**	**-1.0**
CHUJ	**Union Juarez**	**3.95**	**104**	***e*P**		**Pn**	**12 48 12.4**	**+1.1**
CHUJ				*i* S		**Sn**	**12 48 57.6**	**+0.7**
CAIG	**El Cayaco**	**4.13**	**284**	***e*P**		**Pn**	**12 48 12.3**	**-1.3**
TXAR	**Lajitas Array**	**14.93**	**333**	Pn		**Pn**	**12 50 42.7**	**+1.1**
	0.5nm,0.8s,baz=134,slow=13,SNR=4.0							
LPIG	**La Paz**	**15.56**	**303**	LR		LR	12 55 45.3	
	comp=Z,34nm,21.4s,baz=48,slow=33							
ANMO	**Albuquerque**	**20.96**	**336**	P		**P**	**12 51 54.3**	**+0.8**
	0.6nm,0.6s,baz=141,slow=14,SNR=4.0 0.6nm,0.6s							
PDAR	**Pinedale Array**	**28.99**	**339**	P		**P**	**12 53 10.3**	**+0.3**
	0.5nm,0.8s,baz=167,slow=8.3,SNR=3.5 0.5nm,0.8s							
NVAR	**Mina Array Bea**	**29.62**	**323**	P		**P**	**12 53 16.9**	**+1.3**
	1.1nm,0.8s,baz=144,slow=9.2,SNR=9.3 1.1nm,0.8s							
PCRV	**Puerto La Cruz**	**31.15**	**97**	LR		LR	13 06 54.8	
	comp=Z,55nm,19.0s,slow=38							
ULM	**Lac du Bonnet**	**34.08**	**0**	P		**P**	**12 53 52.6**	**-1.8**
	1.5nm,0.7s,baz=194,slow=6.9,SNR=3.3 1.5nm,0.7s							
YKA	**Yellowknife Ar**	**48.16**	**349**	P		**P**	**12 55 48.7**	**-1.2**
	0.4nm,0.8s,baz=153,slow=7.2,SNR=6.4 0.4nm,0.8s							
ILAR	**Eielson Array**	**59.40**	**337**	P		**P**	**12 57 11.6**	**-0.5**
	0.7nm,0.9s,baz=138,slow=4.9,SNR=8.2 0.7nm,0.9s							

*IDC **30** 12:52:30.3±5.1, 7°.33S×128°.86E, h94km±47km, mb3.6/11, mbtmp4.0/13, Error ellipse: s-maj=42.6km s-min=15.1km az=71.0*
*DJA **30** 12:52:35.5±0.3, 7°.5S×12°.9E±°, h139km±12km, M4.5/8, mb4.2/6, mB5.0/2, MLv4.6/8, Mw(mB)4.3/2*
*NEIC **30** 12:52:35.5±1.3, 7°.41S±0.09×128°.63E±0°.08, h138km±9km, mb4.1/10, Error ellipse: s-maj=12.4km s-min=11.7km az=174.0*
ISC 30 12:52:36.3±0.5, **7°.50S**±0°.06×**128°.73E**±0°.07, **h151**km, **n64**, σ2s**03**/**66**, **mb3.8**/**13**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.59**	**101**	Pn		**Pn**	**12 53 19.2**	**+0.6**
SAUI	**Saumlaki**	**2.59**	**101**	P		**Pn**	**12 53 19.0**	**+0.4**
SAUI	**Saumlaki**	**2.59**	**101**	P		**Pn**	**12 53 20.0**	**+1.4**
SOEI	**Soe**	**4.95**	**243**			**Pn**	**12 53 48.9**	**-0.3**
SOEI	**Soe**	**4.95**	**243**	P		**Pn**	**12 53 48.9**	**-0.3**
SOEI	**Soe**	**4.95**	**243**	P		**Pn**	**12 53 49.0**	**-0.3**
FAKI	**Fak Fak**	**5.75**	**38**	Pn		**Pn**	**12 53 57.8**	**-1.9**
FAKI	**Fak Fak**	**5.75**	**38**	P		**Pn**	**12 53 58.2**	**-1.5**
FAKI	**Fak Fak**	**5.75**	**38**	P		**Pn**	**12 53 57.8**	**-1.9**
	29nm,1.2s,0.2nm							
MTN	**Manton Dam**	**5.81**	**156**			**Pn**	**12 54 00.7**	**+0.2**
MTN	**Manton Dam**	**5.81**	**156**	P		**Pn**	**12 54 00.7**	**+0.2**
KMPI	**Kaimana, Papua**	**6.25**	**53**	P		**Pn**	**12 54 05.2**	**-1.2**
	123nm,0.7s,0.6nm							
KDU	**Kakadu**	**6.33**	**145**	P		**Pn**	**12 54 07.4**	**-0.1**
SIJI	**Sorong**	**7.06**	**21**	P		**Pn**	**12 54 15.7**	**-1.5**
	19nm,1.9s,1µm0.1nm							
SWI	**Sorong**	**7.06**	**21**	P		**Pn**	**12 54 16.1**	**-1.1**
	23nm,1.0s,2µm0.2nm							
KNRA	**Kununurra**	**8.12**	**180**			**Pn**	**12 54 30.6**	**-0.8**
KNRA	**Kununurra**	**8.12**	**180**	P		**Pn**	**12 54 30.4**	**-1.0**
PLAI	**Plampang**	**10.92**	**262**	P		**Pn**	**12 55 09.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**10.95**	**196**	Pn		**Pn**	**12 55 06.0**	**-2.9**
WB0	**Warramunga Arr**	**13.37**	**156**			**Pn**	**12 55 37.7**	**-2.6**
WRA	**Warramunga Arr**	**13.51**	**157**	Pn		**Pn**	**12 55 39.5**	**-2.6**
WRA	**Warramunga Arr**	**13.51**	**157**	P		**Pn**	**12 55 39.0**	**-3.0**
	1.8nm,0.3s,baz=346,slow=12,SNR=22							
WRA				S		**Sn**	**12 58 04.8**	**-6.9**
	2.9nm,0.4s,baz=333,slow=23,SNR=7.2							
WB2	**Warramunga Arr**	**13.51**	**157**	Pn		**Pn**	**12 55 40.0**	**-2.1**
WR0	**Warramunga Arr**	**13.60**	**156**	Pn		**Pn**	**12 55 41.1**	**-2.1**
COEN	**Coen**	**15.57**	**116**	Pn		**Pn**	**12 56 07.6**	**-0.2**
COEN				IAmb		IAmb	12 56 18.0	
	comp=Z,24nm,1.2s							
COEN	**Coen**	**15.57**	**116**	P		**P**	**12 56 10.6**	**+1.7**
PSA00	**Pilbara Seismi**	**16.41**	**211**			**Pn**	**12 56 18.1**	**0.0**
PSA00				IAmb		IAmb	12 56 31.6	
	comp=Z,16nm,1.4s							
PSA00	**Pilbara Seismi**	**16.41**	**211**	P		**P**	**12 56 19.2**	**+1.1**
QIS	**Mount Isa**	**16.71**	**142**	P		**P**	**12 56 23.9**	**+2.1**
ASS1	**Alice Springs**	**16.82**	**163**	P		**Pn**	**12 56 23.1**	**+0.1**
ASAR	**Alice Springs**	**16.82**	**163**	P		**Pn**	**12 56 23.4**	**+0.3**
ASAR	**Alice Springs**	**16.82**	**163**	P		**P**	**12 56 22.3**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=335,slow=9.4,SNR=30							
ASAR				S		**S**	**12 59 22.9**	**-7.2**
	comp=Z,0.9nm,0.5s,baz=347,slow=27,SNR=3.9							
AS01	**Alice Springs**	**16.83**	**163**	P		**Pn**	**12 56 24.7**	**+1.5**
	comp=Z,7.7nm,0.6s							
WRKA	**Warakurna**	**17.44**	**181**	P		**Pn**	**12 56 31.9**	**+1.4**
MTSU	**Mount Surprise**	**18.49**	**126**	P		**Pn**	**12 56 44.9**	**+1.9**
OOD	**Oodnadatta**	**21.23**	**163**	P		**P**	**12 57 13.5**	**+3.1**
FORT	**Forrest**	**23.16**	**181**	P		**P**	**12 57 33.1**	**+3.6**
MULG	**Mulgathing**	**23.21**	**168**	P		**P**	**12 57 32.1**	**+2.2**
LCRK	**Leigh Creek**	**24.50**	**160**	P		**P**	**12 57 43.8**	**+2.2**
BBOO	**Buckleboo**	**26.09**	**166**	P		**P**	**12 57 56.0**	**0.0**
BBOO	**Buckleboo**	**26.09**	**166**	P		**P**	**12 57 57.9**	**+1.9**
STKA	**Stephens Creek**	**27.05**	**155**	P		**P**	**12 58 06.0**	**+1.3**
STKA	**Stephens Creek**	**27.05**	**155**	P		**P**	**12 58 05.0**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=335,slow=10,SNR=5.5 comp=Z,2.5nm,0.7s							
HTT	**Hallett**	**27.47**	**161**	P		**P**	**12 58 12.1**	**+3.7**
CMSA	**Cobar Meteorol**	**28.68**	**149**	P		**P**	**12 58 21.8**	**+2.7**
ARPS	**Mount Arapiles**	**31.49**	**160**	P		**P**	**12 58 46.8**	**+3.0**
CMAR	**Chiang Mai Arr**	**39.10**	**312**	P		**P**	**12 59 49.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.4,SNR=1.7 comp=Z,0.3nm,0.3s							
BKZ	**Black Stump Fm**	**53.15**	**134**	P		**P**	**13 01 40.9**	**+2.2**
SONM	**Songino Array**	**58.53**	**343**	P		**P**	**13 02 16.3**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=159,slow=7.3,SNR=4.8 comp=Z,0.6nm,0.7s							
PETK	**Petropavlovsk-**	**65.20**	**19**	P		**P**	**13 02 59.5**	**-1.7**
	comp=Z,5.3nm,1.0s,baz=180,slow=6.6,SNR=1.8 comp=Z,5.3nm,1.0s							
MK31	**Makanchi Array**	**67.96**	**328**	P		**P**	**13 03 18.2**	**-0.7**
MK31				IAmb		IAmb	13 03 19.8	
	comp=Z,1.6nm,0.9s							
MKAR	**Makanchi Array**	**67.96**	**328**	P		**P**	**13 03 18.2**	**-0.7**
MKAR	**Makanchi Array**	**67.96**	**328**	P		**P**	**13 03 18.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=125,slow=8.4,SNR=14 comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**71.48**	**334**	P		**P**	**13 03 39.9**	**-0.4**
ZALV	**Zalesovo Beam**	**71.48**	**334**	P		**P**	**13 03 39.5**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=144,slow=4.6,SNR=6.5 comp=Z,0.9nm,0.6s							
VNDA	**Vanda**	**72.11**	**173**	P		**P**	**13 03 45.3**	**+1.6**
VNDA				IAmb		IAmb	13 04 04.2	
	comp=Z,4.2nm,1.2s							
VNDA	**Vanda**	**72.11**	**173**	P		**P**	**13 03 45.2**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=320,slow=7.4,SNR=6.7 comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**72.28**	**329**	P		**P**	**13 03 45.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=129,slow=5.0,SNR=21 comp=Z,0.9nm,0.6s							
KURK	**Kurchatov**	**72.30**	**329**	P		**P**	**13 03 45.4**	**+0.1**
KURK				IAmb		IAmb	13 03 47.4	
	comp=Z,4.2nm,1.4s							
SEY	**Seymchan**	**72.53**	**11**	P		**P**	**13 03 46.5**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=194,slow=3.9,SNR=5.2 comp=Z,2.1nm,0.8s							
BVAR	**Borovoye Array**	**77.82**	**328**	P		**P**	**13 04 16.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=129,slow=3.9,SNR=2.0 comp=Z,0.3nm,0.5s							
QSPA	**South Pole Qui**	**82.48**	**180**	P		**P**	**13 04 43.0**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=333,slow=4.5,SNR=15 comp=Z,1.1nm,0.6s							
TXAR	**Lajitas Array**	**126.27**	**59**	PKP		**PKiKP**	**13 11 22.7**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=205,slow=2.6,SNR=1.4							
TORD	**Torodi Ar. Bea**	**127.67**	**281**	PKP		**PKiKP**	**13 11 25.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=26,slow=1.4,SNR=1.7							

*JMA **30** 13:01:35.1±0.6, 45°.N±2°.×14°.7E±°, h178km, MV2.7/17, NEAR ETOROFU ISLAND*
SKHL 30 13:01:34.4±0.3, **42°.60N**×**148°.60E**, **h32**km±3km, **mb4.0**/**2**, **Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.81**	**315**	***e*P**		Pn	13 02 02.9	-0.4
SHO					AMB	AMB	13 02 05.2	
	60nm,0.7s							
SHO				*e*S		Sn	13 02 24.4	-0.8
SHO				A		A	13 02 25.2	
	60nm,0.4s							
SHO				A		A	13 02 25.2	
	50nm,0.4s							
NEM2	**Nemuro 2**	**2.23**	**291**	***e*P**		Pn	13 02 09.9	+0.8
NEM2				*e*S		Sn	13 02 36.6	+1.0
NMR	**Nemuro--Hokkai**	**2.24**	**291**	***e*P**		Pn	13 02 09.6	+0.3
NMR				*e*S		Sn	13 02 36.2	+0.4
YUK	**Yuzh-Kuril'sk**	**2.46**	**307**	***e*P**		Pn	13 02 13.0	+0.8
YUK					AMB	AMB	13 02 14.3	
	60nm,0.4s							
YUK				*e*S		Sn	13 02 41.7	+0.5
YUK				A		A	13 02 43.6	
	110nm,0.6s							
YUK				A		A	13 02 43.6	
	80nm,0.6s							
JKHN	**Kushirohamanak**	**2.58**	**282**	***e*P**		Pn	13 02 15.5	+1.7
AKK	**Akkeshi**	**2.80**	**280**	***e*P**		Pn	13 02 17.1	+0.2
AKK				*e*S		Sn	13 02 48.5	-1.0
JAK	**Akkeshi**	**2.90**	**279**	***e*P**		Pn	13 02 18.4	+0.2
JAK				*e*S		Sn	13 02 52.6	+0.5
JNK	**Nakash**	**3.01**	**290**	***e*P**		Pn	13 02 14.3	-5.5
JAR	**Ashorobuto**	**3.61**	**283**	***e*P**		Pn	13 02 22.8	-5.3
JTKR	**Abashiri--Toko**	**3.69**	**293**	***e*P**		Pn	13 02 16.6	-13
JCH	**Churui**	**3.87**	**272**	***e*P**		Pn	13 02 30.2	-1.4
JNBK	**Urakawa-nobuka**	**4.34**	**268**	***e*P**		Pn	13 02 36.5	-1.6
JKK2	**Kamakawa 2**	**4.46**	**289**	***e*P**		Pn	13 02 26.4	-13
JOT	**Ohata**	**5.76**	**260**	***e*P**		Pn	13 02 55.5	-2.1

*IDC **30** 13:05:25.5±1.3, 13°.51N×87°.03W, h0km, mb3.1/3, mbtmp3.3/5, ML3.3/2, Error ellipse: s-maj=80.5km s-min=14.8km az=56.0*
*CATAC **30** 13:05:31.0±0.2, 12°.56N×87°.97W, h38km±4km, ML4.0*
*SNET **30** 13:05:31.7±1.0, 12°.59N×88°.00W, h45km±41km, ML3.9*
ISC 30 13:05:30.8±0.9, **12°.59N**±0°.04×**87°.96W**±0°.03, **h66**km±8km, **n87**, σ0s**75**/**142**, **mb3.2**/**3**, **29C-8D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.55**	**45**	⇑*i*P		**Pn**	**13 05 43.3**	**-0.5**
CSGN					IAML		13 05 55.2	
	comp=Z,3µm,1.0s							
POTN	**Potosi Cosigui**	**0.60**	**47**	⇓*i*P		**Pn**	**13 05 44.0**	**-0.3**
POTN				*i* S		**Sn**	**13 05 54.0**	**-0.1**
POTN					IAML		13 05 54.9	
	comp=Z,2µm,1.0s							
CNCH	**Conchagua**	**0.69**	**10**	⇑*i*P		**Pn**	**13 05 45.4**	**0.0**
CNCH	**Conchagua**	**0.69**	**10**	⇑*i*P		**Pn**	**13 05 45.3**	**-0.1**
CNCH				*i* S		**Sn**	**13 05 56.7**	**+0.5**
CNCH					IAML		13 06 00.6	
	comp=Z,46µm,1.0s							
JUCU	**Jucuarįn**	**0.72**	**337**	***e*P**		**Pn**	**13 05 45.2**	**-0.5**
JUCU				*e*S		**Sn**	**13 05 55.6**	**-1.0**
JUCU					IAML		13 05 58.6	
	comp=Z,5µm,0.2s							
LCND	**La Caada**	**0.72**	**5**	⇑*e*P		**Pn**	**13 05 45.7**	**0.0**
LCND	**La Caada**	**0.72**	**5**	⇑*i*P		**Pn**	**13 05 45.6**	**0.0**
LCND				*i* P			13 05 45.8	
LCND				*i* S		**Sn**	**13 05 56.8**	**+0.3**
LCND				*i* S			13 05 56.9	
LCND					IAML		13 05 58.1	
	comp=Z,23µm,1.0s							
LCND					IAML		13 05 58.3	
	comp=Z,11µm,1.0s							
AMPH	**Amapala**	**0.75**	**23**	⇑*i*P		**Pn**	**13 05 46.0**	**0.0**
AMPH				*e*S		**Sn**	**13 05 57.8**	**+0.6**
AMPH	**Amapala**	**0.75**	**23**	⇑*i*P		**Pn**	**13 05 45.9**	**-0.1**
AMPH				*i* S		**Sn**	**13 05 57.8**	**+0.6**
CHNN	**El Viejo**	**0.81**	**87**	*i* P		**Pn**	**13 05 46.3**	**-0.4**
CHNN				*i* S		**Sn**	**13 05 57.7**	**-0.8**
CHNN					IAML		13 06 01.8	
	comp=Z,10µm,1.0s							
LCY	**Lacayo**	**0.89**	**339**	***e*P**		**Pn**	**13 05 48.5**	**+0.7**
CRIN	**San Cristobal**	**0.89**	**83**	⇑*i*P		**Pn**	**13 05 48.3**	**+0.5**
CRIN				*i* S		**Sn**	**13 06 01.4**	**+1.0**
CRIN					IAML		13 06 04.1	
	comp=Z,13µm,1.0s							
CNRM	**Centro Naciona**	**0.90**	**347**	⇓*i*P		**Pn**	**13 05 48.1**	**+0.2**
CNRM				*i* S		**Sn**	**13 06 00.9**	**+0.4**
CNRM					IAML		13 06 14.4	
	comp=Z,19µm,1.0s							
PACA	**Pacayal**	**0.94**	**338**	***e*P**		**Pn**	**13 05 49.0**	**+0.5**
PACA	**Pacayal**	**0.94**	**338**	*i* P		**Pn**	**13 05 48.9**	**+0.4**
PACA				*i* S		**Sn**	**13 06 01.4**	**-0.2**
PACA					IAML		13 06 08.1	
	comp=Z,21µm,1.0s							
TECA	**Tecapa**	**1.04**	**330**	***e*P**		**Pn**	**13 05 49.8**	**0.0**
COEB	**Comit de Eme**	**1.06**	**328**	⇑*e*P		**Pn**	**13 05 50.0**	**+0.1**
COEB					IAML		13 06 13.5	
	comp=Z,2µm,0.4s							
TELN	**Telica**	**1.10**	**89**	⇑*i*P		**Pn**	**13 05 50.3**	**-0.1**
TELN				*i* S		**Sn**	**13 06 05.6**	**+0.5**
TELN					IAML		13 06 08.1	
	comp=Z,370nm,1.0s							
HERN	**Volcan Telica**	**1.10**	**89**	⇑*i*P		**Pn**	**13 05 50.3**	**-0.1**
HERN				*i* S		**Sn**	**13 06 04.6**	**-0.5**
HERN					IAML		13 06 06.5	
	comp=Z,5µm,1.0s							
HOYN	**Al Sur del Vol**	**1.10**	**89**	*i* P		**Pn**	**13 05 51.1**	**+0.6**
HOYN				*i* S		**Sn**	**13 06 05.3**	**+0.2**
HOYN					IAML		13 06 22.4	
	comp=Z,98nm,1.0s							
POLN	**Al Sur del Vol**	**1.12**	**87**	⇓*i*P		**Pn**	**13 05 50.8**	**+0.2**
POLN					IAML		13 05 51.2	
	comp=Z,19nm,1.0s							
POLN				*i* S		**Sn**	**13 06 05.9**	**+0.5**
PACN	**Al O del Volca**	**1.14**	**94**	⇓*i*P		**Pn**	**13 05 51.1**	**+0.2**
PACN				*i* S		**Sn**	**13 06 05.8**	**-0.1**
PACN					IAML		13 06 10.6	
	comp=Z,4µm,1.0s							
PLRN	**Geotermica Pol**	**1.16**	**90**	⇑*i*P		**Pn**	**13 05 51.0**	**-0.1**
PLRN				*i* S		**Sn**	**13 06 06.4**	**0.0**
PLRN					IAML		13 06 07.4	
	comp=Z,6µm,1.0s							
ROCN	**Rota Cerro Neg**	**1.19**	**93**	⇑*i*P		**Pn**	**13 05 51.6**	**+0.1**
ROCN				*i* S		**Sn**	**13 06 07.3**	**+0.3**
ROCN					IAML		13 06 13.0	
	comp=Z,2µm,1.0s							
CAHU	**Cacacuatique**	**1.20**	**348**	*e*P		**Pn**	**13 05 52.7**	**+0.8**
ILCN	**San Idelfonso**	**1.23**	**90**	⇑*i*P		**Pn**	**13 05 52.0**	**0.0**
ILCN				*i* S		**Sn**	**13 06 07.9**	**0.0**
ILCN					IAML		13 06 11.0	
	comp=Z,1µm,1.0s							
CNGA	**Al SSO del Vol**	**1.23**	**94**	*i* P		**Pn**	**13 05 52.1**	**0.0**
CNGA				*i* S		**Sn**	**13 06 08.1**	**+0.1**
CNGA					IAML		13 06 15.5	
	comp=Z,3µm,1.0s							
CNGN	**Cerro Negro**	**1.23**	**94**	⇑*i*P		**Pn**	**13 05 52.0**	**-0.1**
CNGN				*i* S		**Sn**	**13 06 08.0**	**-0.1**
CNGN					IAML		13 06 14.6	
	comp=Z,3µm,1.0s							
TECO	**Alcaldia de Te**	**1.24**	**320**	*e*P		**Pn**	**13 05 52.0**	**-0.2**
TECO	**Alcaldia de Te**	**1.24**	**320**	⇓*i*P		**Pn**	**13 05 51.9**	**-0.2**
TECO				*i* S		**Sn**	**13 06 07.6**	**-0.5**
TECO					IAML		13 06 10.4	
	comp=Z,2µm,1.0s							
MACN	**El Madrono**	**1.26**	**95**	⇑*i*P		**Pn**	**13 05 52.3**	**-0.2**
MACN				*i* S		**Sn**	**13 06 08.5**	**-0.2**
MACN					IAML		13 06 18.3	
	comp=Z,2µm,1.0s							
UESV	**Universidad de**	**1.32**	**322**	*i* P		**Pn**	**13 05 53.4**	**+0.2**
UESV				*i* S		**Sn**	**13 06 10.5**	**+0.5**
UESV					IAML		13 06 14.3	
	comp=Z,1µm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.32**	**98**	⇓*i*P		**Pn**	**13 05 53.2**	**0.0**
LEVN				*i* S		**Sn**	**13 06 10.8**	**+0.7**
LEVN					IAML		13 06 19.5	
	comp=Z,2µm,1.0s							
SCLA	**Alcaldia de Sa**	**1.34**	**326**	*i* P		**Pn**	**13 05 53.1**	**-0.4**
SCLA				*i* S		**Sn**	**13 06 11.3**	**+0.8**
SCLA					IAML		13 06 17.7	
	comp=Z,780nm,1.0s							
COEG	**Centro de Oper**	**1.36**	**319**	*e*P		**Pn**	**13 05 54.0**	**+0.1**
COEG					IAML		13 06 15.1	
	comp=Z,2µm,0.3s							
COEG	**Centro de Oper**	**1.36**	**319**	*i* P		**Pn**	**13 05 54.1**	**+0.3**
COEG				*i* S		**Sn**	**13 06 10.9**	**-0.3**
COEG					IAML		13 06 15.0	
	comp=Z,2µm,1.0s							
COPN	**Copaltepe**	**1.40**	**107**	⇑*i*P		**Pn**	**13 05 54.2**	**0.0**
COPN					IAML		13 06 13.9	
	comp=Z,4µm,1.0s							
MOMN	**Momotombo**	**1.40**	**97**	⇑*i*P		**Pn**	**13 05 54.3**	**0.0**
MOMN				*i* S		**Sn**	**13 06 11.9**	**-0.1**
MOMN					IAML		13 06 13.8	
	comp=Z,120nm,1.0s							
SJTE	**Alcalda de S**	**1.44**	**315**	⇑*e*P		**Pn**	**13 05 55.1**	**+0.2**
SJTE	**Alcalda de S**	**1.44**	**315**	⇑*i*P		**Pn**	**13 05 55.2**	**+0.2**
SJTE				*i* S		**Sn**	**13 06 12.8**	**-0.3**
SJTE					IAML		13 06 18.1	
	comp=Z,2µm,1.0s							
MOM2	**El Cardon**	**1.45**	**96**	⇑*i*P		**Pn**	**13 05 55.0**	**+0.1**
MOM2				*i* S		**Sn**	**13 06 14.0**	**+0.9**
MOM2					IAML		13 06 15.6	
	comp=Z,850nm,1.0s							
PAVA	**Las Pavas**	**1.47**	**320**	*e*P		**Pn**	**13 05 55.6**	**+0.3**
PAVA	**Las Pavas**	**1.47**	**320**	*i* P		**Pn**	**13 05 55.6**	**+0.3**
PAVA				*i* S		**Sn**	**13 06 15.1**	**+1.4**
PAVA					IAML		13 06 21.9	
	comp=Z,2µm,1.0s							
LFRS	**El Faro**	**1.49**	**314**	*e*P		**Pn**	**13 05 55.8**	**+0.2**
SAPS	**Ciudad Sandino**	**1.57**	**105**	*i* P		**Pn**	**13 05 56.6**	**0.0**
SAPS				*i* S		**Sn**	**13 06 16.6**	**+0.5**
SAPS					IAML		13 06 21.1	
	comp=Z,3µm,1.0s							
BRAN	**Las Pilas**	**1.58**	**85**	*i* P		**Pn**	**13 05 57.6**	**+1.0**
BRAN				*i* S		**Sn**	**13 06 17.5**	**+1.4**
BRAN					IAML		13 06 20.4	
	comp=Z,3µm,1.0s		

NUBE	**Las Nubes**	**2.20**	**307**	*i* P		**Pn**	**13 06 05.7**	**+0.5**
NUBE				*i* S		**Sn**	**13 06 31.7**	**+0.2**
NUBE				IAML			13 06 36.8	
	comp=Z,1μm,1.0s							
BOAB	**BOACO BROADBAN**	**2.24**	**93**	⇑*i* P		**Pn**	**13 06 05.5**	**-0.1**
BOAB				IAML			13 06 44.2	
	comp=Z,180nm,1.0s							
CONN	**Concepcion**	**2.50**	**114**	*i* P		**Pn**	**13 06 09.2**	**+0.1**
CONN				IAML			13 06 46.4	
	comp=Z,4μm,1.0s							
ACON	**Acoyapa**	**2.79**	**102**	*i* P		**Pn**	**13 06 12.9**	**-0.2**
ACON				IAML			13 07 55.0	
	comp=Z,130nm,1.0s							
SAJU	**San Juanillo,**	**3.34**	**138**	⇓*i* P		**Pn**	**13 06 21.4**	**+0.8**
SAJU				*i* S		**Sn**	**13 06 57.2**	**-1.8**
SAJU				IAML			13 07 22.8	
	comp=Z,300nm,1.0s							
JTS	**Las Juntas de**	**3.73**	**127**	Pn		**Pn**	**13 06 27.4**	**+1.4**
	comp=Z,2.4nm,0.3s,baz=319,slow=19,SNR=2.8							
JTS				Pg			13 06 33.8	
	comp=Z,18nm,0.3s,baz=300,slow=21,SNR=12							
JTS				Sn		**Sn**	**13 07 11.3**	**+2.6**
	comp=Z,2.1nm,0.3s,baz=305,slow=19,SNR=1.1							
JTS				Lg		Lg	13 07 24.8	
	comp=Z,43nm,0.3s,baz=187,slow=20,SNR=19							
	comp=Z,9.4nm,0.3s							
CMIG	**Matias Romero**	**8.05**	**305**	Pn		**Pn**	**13 07 28.2**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=135,slow=10.0,SNR=2.1							
CMIG				Sn		**Sn**	**13 08 59.4**	**+4.7**
	comp=Z,0.3nm,0.3s,baz=186,slow=19,SNR=1.3							
	comp=Z,3.3nm,0.7s							
TXAR	**Lajitas Array**	**22.15**	**321**	P		**P**	**13 10 22.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=134,slow=11,SNR=7.9							
	comp=Z,0.3nm,0.5s							
PDAR	**Pinedale Array**	**35.42**	**332**	P		**P**	**13 12 20.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=131,slow=11,SNR=2.4							
	comp=Z,0.2nm,0.5s							
YKA	**Yellowknife Ar**	**53.35**	**345**	P		**P**	**13 14 41.5**	**-1.6**
	comp=Z,0.2nm,0.8s,baz=132,slow=8.6,SNR=4.4							
	comp=Z,0.2nm,0.8s							

*IDC **30** 13:12:50.9±1.1,7.17S×155.77E, h0km, mb3.7/7, mbtmp3.7/7, ML5.5/1, MS4.0/1, Error ellipse: s-maj=30.2km s-min=27.8km az=29.0*

ISC 30 13:12:57.5±0.9, 7.3S±0.2×155.8E±0.1, h50km, n11, σ1.8 38/9, mb3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.61**	**118**	Pn	**Pn**	**13 14 03.1**	**-1.6**
	199nm,0.3s,baz=223,slow=6.0,SNR=4.8						
HNR				Sn	**Sn**	**13 14 58.7**	**+1.6**
	134nm,0.3s,baz=262,slow=18,SNR=2.6						
HNR				LR	LR	13 15 53.5	
	comp=Z,2μm,18.3s,baz=171,slow=39						
WRA	**Warramunga Arr**	**24.31**	**237**	P	**P**	**13 18 10.7**	**+0.1**
	0.8nm,0.7s,baz=63,slow=9.7,SNR=2.8						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**26.57**	**230**	P	**P**	**13 18 32.1**	**+0.9**
	0.2nm,0.8s,baz=61,slow=9.6,SNR=2.0						
	0.2nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.80**	**23**	T	T	13 46 59.8	
	baz=202,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**27.80**	**23**	T	T	13 47 00.0	
	baz=202,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**27.81**	**23**	T	T	13 47 03.3	
	baz=202,slow=75,SNR=4.6						
SONM	**Songino Array**	**70.03**	**327**	P	**P**	**13 24 04.8**	**+0.5**
	0.6nm,0.7s,baz=138,slow=7.3,SNR=4.4						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**83.37**	**21**	P	**P**	**13 25 20.2**	**+1.2**
	0.2nm,0.8s,baz=250,slow=6.5,SNR=1.6						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**84.17**	**319**	P	**P**	**13 25 23.7**	**+0.2**
	1.6nm,0.8s,baz=106,slow=5.9,SNR=17						
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**84.88**	**326**	P	**P**	**13 25 25.8**	**-1.1**
	0.9nm,0.4s,baz=114,slow=6.5,SNR=6.4						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**93.02**	**323**	P	**P**	**13 26 04.1**	**-1.5**
	0.3nm,0.5s,baz=111,slow=3.2,SNR=2.2						
	0.3nm,0.5s						

*IDC **30** 13:18:34.9±2.0, 16.56N×94.25W, h79km±8km, mb3.3/9, mbtmp3.5/10, MS3.5/1, Error ellipse: s-maj=49.8km s-min=20.0km az=23.0*
*MEX **30** 13:18:36.7±0.9, 16.49N×94.64W, h98km±8km, MD4.3*
*NEIC **30** 13:18:36.3±1.9, 16.46N±0.05×94.62W±0.04, h91km±8km, mb4.2/5, Md4.3/25(MEX), Error ellipse: s-maj=8.0km s-min=5.1km az=184.0*
*CATAC **30** 13:18:37.2±0.7, 16.68N×94.43W, h84km±56km, MB5.6, mb4.6, ML4.8*

ISC 30 13:18:35.6±0.6, 16.51N±0.04×94.58W±0.03, h92km±5km, n59, σ1.9 35/83, mb3.7/9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.07**	**331**	*e*P	**Pn**	**13 18 49.3**	**+0.8**
NILT				*i* S	**Sn**	**13 18 59.4**	**+1.4**
CMIG	**Matias Romero**	**0.65**	**334**		**Pn**	**13 18 52.7**	**+0.9**
CMIG					**Sn**	**13 19 04.8**	**+0.9**
CMIG	**Matias Romero**	**0.65**	**334**	P	**Pn**	**13 18 52.4**	**+0.6**
	2μm,0.3s,baz=162,slow=7.2,SNR=5917						
CMIG				S	**Sn**	**13 19 04.9**	**+1.0**
	1μm,0.3s,baz=90,slow=20,SNR=14						
CMIG	**Matias Romero**	**0.65**	**334**	*i* P	**Pn**	**13 18 52.7**	**+0.9**
CMIG				*e*S	**Sn**	**13 19 04.8**	**+0.9**
UXUV	**UXUV**	**0.91**	**27**	*i* P	**Pn**	**13 18 55.6**	**+1.2**
UXUV				*i* S	**Sn**	**13 19 09.3**	**+0.8**
TGIG		**1.43**	**79**		**Pn**	**13 19 01.4**	**+0.9**
TGIG					**Sn**	**13 19 19.2**	**-0.2**
TGIG		**1.43**	**79**	*e*P	**Pn**	**13 19 01.4**	**+0.9**
TGIG				*e*S	**Sn**	**13 19 19.2**	**-0.2**
PCIG		**1.53**	**121**		**Pn**	**13 19 02.9**	**+1.0**
PCIG					**Sn**	**13 19 23.1**	**+1.3**
PCIG		**1.53**	**121**	*e*P	**Pn**	**13 19 02.9**	**+1.0**
PCIG				*i* S	**Sn**	**13 19 23.1**	**+1.3**
HUIG	**Huatulco**	**1.64**	**244**		**Pn**	**13 19 02.2**	**-1.0**
HUIG					**Sn**	**13 19 23.0**	**-1.2**
HUIG	**Huatulco**	**1.64**	**244**	*e*P	**Pn**	**13 19 02.2**	**-1.0**
HUIG				*e*S	**Sn**	**13 19 23.0**	**-1.2**
NEUV	**Arroyo Zacate**	**1.67**	**316**	*e*P	**Pn**	**13 19 03.9**	**+0.3**
NEUV				*e*S	**Sn**	**13 19 24.6**	**-0.3**
CCIG	**Comitan**	**2.36**	**95**	*i* P	**Pn**	**13 19 14.2**	**+1.5**
CCIG				*i* S	**Sn**	**13 19 37.7**	**-3.5**
PATR	**El Naranjo**	**2.65**	**121**	*e*P	**Pn**	**13 19 17.9**	**+1.3**
PATR				*e*S	**Sn**	**13 19 48.2**	**-0.1**
PAVE	**Pavencul**	**2.66**	**119**	*e*P	**Pn**	**13 19 17.4**	**+0.6**
PAVE				*e*S	**Sn**	**13 19 48.5**	**+0.1**
CHUJ	**Union Juarez**	**2.77**	**120**	*e*P	**Pn**	**13 19 19.4**	**+1.1**
CHUJ				*e*S	**Sn**	**13 19 52.6**	**+1.6**
TOIG	**Toxpalan**	**2.85**	**304**		**Pn**	**13 19 20.5**	**+1.3**
TOIG	**Toxpalan**	**2.85**	**304**	*e*P	**Pn**	**13 19 20.5**	**+1.3**
YOIG	**Yosondua**	**2.86**	**277**		**Pn**	**13 19 20.6**	**+1.1**
YOIG	**Yosondua**	**2.86**	**277**	*e*P	**Pn**	**13 19 20.6**	**+1.1**
SMCA	**Catarina**	**2.92**	**124**	*i* P	**Pn**	**13 19 21.1**	**+1.0**
SMCA				*i* S	**Sn**	**13 19 55.0**	**+0.6**
SMCA				IAML		13 20 28.0	
	comp=Z,910nm,1.0s						
SMSP	**San Marcos**	**3.10**	**119**	*i* P	**Pn**	**13 19 25.6**	**+2.8**
SMSP				IAML		13 21 19.0	
	comp=Z,3μm,1.0s						
HUEH	**Huehuetenango**	**3.19**	**111**		**Pn**	**13 19 24.7**	**+0.8**
HUEH	**Huehuetenango**	**3.19**	**111**	*i* P	**Pn**	**13 19 25.2**	**+1.3**
HUEH				IAML		13 19 25.9	
	comp=Z,2μm,1.0s						
HLIG	**Huajuapan de L**	**3.35**	**294**		**Pn**	**13 19 28.4**	**+2.3**
HLIG	**Huajuapan de L**	**3.35**	**294**	*i* P	**Pn**	**13 19 28.4**	**+2.3**
RTAL	**Retalhuleu**	**3.41**	**125**		**Pn**	**13 19 26.7**	**0.0**
RTAL	**Retalhuleu**	**3.41**	**125**	*i* P	**Pn**	**13 19 27.6**	**+0.9**
RTAL				*i* S	**Sn**	**13 20 07.6**	**+1.4**
RTAL				IAML		13 21 31.2	
	comp=Z,1μm,1.0s						
JAUV	**Jalcomulco**	**3.54**	**324**	*e*P	**Pn**	**13 19 28.1**	**-0.4**
JAUV				*e*S	**Sn**	**13 20 07.3**	**-2.2**
QUIS	**Sacapulas**	**3.57**	**109**	*i* P	**Pn**	**13 19 30.1**	**+1.1**
QUIS				*i* S	**Sn**	**13 20 09.3**	**-1.0**
QUIS				IAML		13 20 16.5	
	comp=Z,1μm,1.0s						
TLIG	**Tlapa**	**3.95**	**286**	*i* P	**Pn**	**13 19 36.1**	**+2.0**
TLIG				IAML		13 20 23.1	
	comp=Z,580nm,1.0s						
PETF	**Flores**	**4.54**	**84**		**Pn**	**13 19 42.6**	**+0.7**
PETF	**Flores**	**4.54**	**84**	*i* P	**Pn**	**13 19 41.9**	**-0.1**
PETF				IAML		13 19 44.1	
	comp=Z,1μm,1.0s						
PETF				*i* S	**Sn**	**13 20 31.0**	**-2.6**
ESQI	**Esquipulas**	**5.41**	**110**	*i* P	**Pn**	**13 19 54.1**	**+0.2**
ESQI				IVmB_BB		13 20 21.4	
	comp=Z,8μm,1.0s						
ESQI				IAmb	IAmb	13 20 21.6	
	comp=Z,60nm,0.7s						
ESQI				IAML		13 20 55.1	
	comp=Z,250nm,1.0s						
MTO3	**Montecristo**	**5.45**	**112**	Pn	**Pn**	**13 19 55.2**	**+0.6**
MTO3	**Montecristo**	**5.45**	**112**	*i* P	**Pn**	**13 19 53.9**	**-0.7**
MTO3				IAmb	IAmb	13 19 55.8	
	comp=Z,35nm,0.4s						
MTO3				IAML		13 21 15.5	
	comp=Z,150nm,1.0s						
CRIN	**San Cristobal**	**8.21**	**116**	Pn	**Pn**	**13 20 34.0**	**+1.9**
HZTE	**Horizontes, Gu**	**10.46**	**122**	Pn	**Pn**	**13 21 03.4**	**+0.7**
ORTG	**Ortega, Santa**	**10.77**	**123**		**Pn**	**13 21 07.3**	**+0.3**
JTS	**Las Juntas de**	**11.22**	**122**	Pn	**Pn**	**13 21 13.5**	**+0.5**
SOR	**Soroa**	**12.57**	**58**	Pn	**Pn**	**13 21 30.4**	**-0.7**
DRIO	**Del Rio**	**14.00**	**338**	P	**P**	**13 21 53.8**	**-1.1**
BRDY	**Brady**	**15.26**	**345**		**P**	**13 22 10.4**	**+1.7**
BRDY				IAmb	IAmb	13 22 20.2	
	comp=Z,10nm,0.6s						
TXAR	**Lajitas Array**	**15.26**	**328**	P	**P**	**13 22 09.3**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=150,slow=13,SNR=4.1						
237A	**Washetta, Mont**	**15.47**	**356**		**P**	**13 22 12.1**	**+1.0**
MTDJ	**Mount Denham**	**16.36**	**81**		**P**	**13 22 23.3**	**+2.0**
PLPT	**Palo Pinto**	**16.58**	**349**	Pn	**Pn**	**13 22 21.8**	**-0.8**
PLPT				IAmb	IAmb	13 22 42.8	
	comp=Z,16nm,1.0s						
ABTX	**Abilene, Hawle**	**16.69**	**345**	Pn	**Pn**	**13 22 23.6**	**-0.2**
ABTX				IAmb	IAmb	13 22 57.2	
	comp=Z,27nm,1.5s						
PDAR	**Pinedale Array**	**29.14**	**337**	P	**P**	**13 24 29.8**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=160,slow=11,SNR=1.2						
	comp=Z,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**30.17**	**321**	P	**P**	**13 24 40.8**	**+3.5**
	comp=Z,0.3nm,0.6s,baz=120,slow=10,SNR=3.8						
NVAR				pP	**pP**	**13 24 59.5**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=131,slow=9.7,SNR=6.9						
	comp=Z,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**33.67**	**359**	P	**P**	**13 25 06.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=197,slow=15,SNR=2.4						
ULM				pP	**pP**	**13 25 26.3**	**-2.5**
	comp=Z,1.6nm,0.7s,baz=211,slow=5.1,SNR=2.5						
	comp=Z,0.8nm,0.4s						
SCHQ	**Schefferville**	**43.82**	**23**	LR	LR	13 46 00.3	
	comp=Z,58nm,18.0s,baz=170,slow=38						
YKA	**Yellowknife Ar**	**48.04**	**348**	P	**P**	**13 27 06.1**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=152,slow=12,SNR=5.0						
YKA				pP	**pP**	**13 27 26.5**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=153,slow=7.3,SNR=5.3						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**59.57**	**337**	P	**P**	**13 28 29.2**	**-0.1**
	comp=Z,0.1nm,0.7s,baz=123,slow=6.6,SNR=1.9						
ILAR				pP	**pP**	**13 28 49.5**	**-2.8**
	comp=Z,0.4nm,0.8s,baz=118,slow=7.2,SNR=4.5						
	comp=Z,0.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**77.40**	**36**	P	**P**	**13 30 20.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=285,slow=4.2,SNR=1.8						
	comp=Z,0.8nm,0.6s						
NOA	**NORSAR Array B**	**83.13**	**28**	P	**P**	**13 30 51.8**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=300,slow=5.2,SNR=1.9						
	comp=Z,0.8nm,0.8s						
ARCES	**ARCESS Array B**	**84.54**	**18**	P	**P**	**13 30 58.1**	**0.0**
	comp=Z,1.8nm,0.7s,baz=293,slow=4.7,SNR=10						
	comp=Z,1.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**92.20**	**76**	P	**P**	**13 31 33.6**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=276,slow=5.7,SNR=1.5						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**133.53**	**258**	PKP	**PKiKP**	**13 37 42.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=84,slow=3.2,SNR=2.2						

IDC 30 13:31:59.0±808.0, 53.27N×4.76E, h0km, Error ellipse: s-maj=362.6km s-min=148.3km az=106.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.17**	**124**	I	I	14 18 50.4	
	0.1nm,1.6s,baz=309,slow=305,SNR=3.3						
I43RU	**DUBNA INFRASON**	**8.84**	**66**	I	I	15 23 30.0	
	baz=269,slow=326,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**32.41**	**73**	I	I	16 49 20.0	
	baz=293,slow=349,SNR=1.5						
I46RU	**ZALESOVO INFRA**	**45.08**	**55**	I	I	18 04 30.0	
	baz=305,slow=333,SNR=1.4						

DJA 30 13:36:37.3±0.5, 8.S±4.×11.9E±., h180km±6km, M4.0/8, mb4.2/3, MLv4.0/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBNI	**Kabupaten Domp**	**0.44**	**232**	P	Pn	13 37 02.4	+0.5
DBNI				S	Sn	13 37 21.6	+0.8
PLAI	**Plampang**	**1.06**	**236**	P	Pn	13 37 06.5	+1.1
PLAI				S	Sn	13 37 27.9	+0.7
TWSI	**Taliwang, Sumb**	**1.83**	**254**	P	Pn	13 37 13.2	+0.6
BASI	**Baing, Sumba**	**2.74**	**136**	P	Pn	13 37 22.5	-0.3
BASI				S	Sn	13 37 59.1	+0.8
MKS	**Makassar**	**3.10**	**15**	P	Pn	13 37 26.8	-0.4
BKSI	**Bulukumba**	**3.23**	**27**	P	Pn	13 37 29.3	+0.5
JAGI	**Jajag, Banyuwa**	**4.47**	**267**	P	Pn	13 37 43.8	-0.6
PMSI	**Majene**	**4.71**	**3**	P	Pn	13 37 48.0	+0.5
GMJI	**Gumukmas**	**5.16**	**269**	P	Pn	13 37 52.9	-0.5
	51nm,1.9s						
SOEI	**Soe**	**5.74**	**106**	P	Pn	13 38 01.6	+0.5
	78nm,0.8s,0.5nm						

IDC 30 13:42:48.1±3.4, 16.74N×82.23W, h0km, mb3.3/3, mbtmp3.3/3, MS2.8/1, Error ellipse: s-maj=113.3km s-min=59.0km az=69.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**6.94**	**203**	LR	LR	13 47 25.9	
	comp=Z,66nm,18.9s,baz=216,slow=40						
TXAR	**Lajitas Array**	**23.32**	**306**	P	P	13 47 58.2	+0.1
	0.5nm,1.0s,baz=123,slow=9.9,SNR=2.4						
	0.5nm,1.0s						
PDAR	**Pinedale Array**	**34.87**	**324**	P	P	13 49 41.2	-0.2
	0.2nm,0.6s,baz=137,slow=12,SNR=2.5						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**64.25**	**335**	P	P	13 53 24.7	0.0
	0.6nm,0.8s,baz=118,slow=4.3,SNR=3.3						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**145.47**	**253**	PKPbc	PKPbc	14 02 28.2	-0.8
	0.3nm,0.6s,baz=108,slow=3.0,SNR=4.5						

IDC 30 13:52:33.9±5.7, 3.76N×92.45E, h0km, mb3.4/3, mbtmp3.4/3, MS3.8/1, Error ellipse: s-maj=201.3km s-min=35.4km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.77**	**350**	P	P	14 00 41.1	-0.1
	0.3nm,0.6s,baz=169,slow=8.2,SNR=4.6						
	0.3nm,0.6s						
SONM	**Songino Array**	**45.52**	**13**	P	P	14 00 55.3	-0.1
	0.2nm,0.4s,baz=184,slow=7.6,SNR=2.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**47.41**	**121**	P	P	14 01 10.4	-0.1
	0.5nm,0.9s,baz=296,slow=7.3,SNR=1.5						
	0.5nm,0.9s						
MJAR	**Matsushiro Arr**	**53.18**	**46**	LR	LR	14 26 46.3	
	comp=Z,97nm,20.4s,baz=215,slow=39						

*DJA **30** 14:11:51.8±0.8, 19.N±3.×12.1E±., h36km±8km, M5.0/24, mB6.0/4, mb4.8/24, MLv5.0/3, Mw(mB)5.6/4*
*GCMT **30** 14:11:51.6±0.5, 19.46N±0.03×120.98E±0.04, h31km±1km, MW4.9/56, Moment Tensor Solution. s26, c28; s56, c76; Duration: 0 Moment tensor: Scale 10^16 Nm; M_rr 2.06±.18; M_θθ 0.06±.12; M_θφ -2.12±.12; M_rθ -0.72±.15; M_φφ -0.75±.07; M_rφ -1.42±.14; Best double couple: M=2.72500×10^16 NP1: ϕ=204.00000°, δ63.00000°, λ96.00000°. NP2: ϕ=10.00000°, δ28.00000°, λ78.00000°. Principal axes: T 2.5900, Plg71.0000°, Azm127.0000°; N 0.2660, Plg6.0000°, Azm21.0000°; P -2.8600, Plg18.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **30** 14:11:51.6±2.8, 19.24N×121.31E, h34km±22km, mb4.2/28, mbtmp4.4/32, ML4.3/4, MS3.9/22 Error ellipse: s-maj=16.5km s-min=11.1km az=74.0*
*NEIC **30** 14:11:51.6±2.2, 19.28N±0.06×121.22E±0.09, h28km±2km, mb4.7/69, Error ellipse: s-maj=12.6km s-min=8.4km az=97.0*

ISC 30 14:11:52.5±0.6, 19.24N±0.04×121.19E±0.05, h39km±5km, n162, σ2.9 42/147, mb4.5/69, MS3.8/26, 4C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**3.57**	**358**		**Pn**	**14 12 42.9**	**-2.4**
TPUB	**Ta-pu**	**4.08**	**353**		**Pn**	**14 12 49.9**	**-2.5**
YULB	**Yu-li**	**4.14**	**1**	Pn	**Pn**	**14 12 50.6**	**-2.6**
SSLB	**Suanglung**	**4.53**	**357**		**Pn**	**14 12 56.7**	**-1.9**
NACB	**Ninganchiao**	**4.93**	**4**		**Pn**	**14 13 02.3**	**-1.7**
TGY	**Tagaytay City**	**5.11**	**183**	Pn	**Pn**	**14 13 05.7**	**-0.9**
	25nm,0.3s,baz=221,slow=20,SNR=1.7						
TGY				LR	LR	14 15 34.5	
	comp=Z,834nm,18.9s,baz=316,slow=44						
	66nm,0.3s						
YHNB	**Yeheng**	**5.41**	**2**		**Pn**	**14 13 09.6**	**-1.1**
YOJ	**Yonaguni jima**	**5.47**	**18**	Pn	**Pn**	**14 13 11.4**	**0.0**
TATO	**Taipei**	**5.72**	**3**	Pn	**Pn**	**14 13 15.3**	**+0.5**
KNMB	**Chin-men Tao**	**5.81**	**334**	Pn	**Pn**	**14 13 12.1**	**-4.1**
QZH	**Quanzhou**	**6.17**	**337**	Pn	**Pn**	**14 13 17.8**	**-3.2**
QZH				Sn	**Sn**	**14 14 22.5**	**-7.8**
QZH				smax	smax		
	comp=N,57nm,0.7s						
QZH				smax	smax		
	comp=E,120nm,0.7s						
QZH				LR	LR		
	comp=N,2μm,18.7s						
QZH				LR	LR		
	comp=E,1μm,20.3s						
QZH				LR	LR		
	comp=Z,2μm,18.0s						
HKPS	**Hong Kong Po S**	**7.25**	**296**	Pn	**Pn**	**14 13 32.1**	**-3.9**
JOW	**Kunigami**	**9.98**	**39**	Pn	**Pn**	**14 14 12.9**	**-0.5**
JOW	**Kunigami**	**9.98**	**39**	Pn	**Pn**	**14 14 13.8**	**+0.4**
	comp=Z,6.4nm,0.3s,baz=142,slow=17,SNR=22						
	comp=Z,35nm,0.5s						
QIZ	**Qiongzhong**	**10.73**	**271**	P	**Pn**	**14 14 23.8**	**+0.2**
QIZ				S	**Sn**	**14 16 22.5**	**+0.1**
QIZ				LR	LR		
	comp=N,560nm,4.4s						
QIZ				LR	LR		
	comp=E,880nm,18.6s						
QIZ				LR	LR		
	comp=Z,1μm,14.1s						
GULI	**GuiLin**	**11.69**	**303**	⇑P	Pn	14 14 31.0	-5.7
GULI				pP		14 14 36.5	
GULI				sP		14 14 37.8	
GULI				S	**Sn**	**14 16 49.3**	**+3.3**
GULI				LR	LR		
	comp=N,520nm,13.0s						
GULI				LR	LR		
	comp=E,970nm,15.2s						
GULI				LR	LR		
	comp=Z,1μm,15.2s						
DAV	**Davao City (W)**	**12.82**	**160**	LR	LR	14 20 36.5	
	comp=Z,922nm,19.5s,baz=11,slow=41						
WHN	**Wuhan**	**12.85**	**332**	P	**P**	**14 15 00.5**	**-2.2**
WHN				LR	LR		
	comp=N,4μm,16.7s						
WHN				LR	LR		
	comp=E,990nm,9.8s						
WHN				LR	LR		
	comp=Z,3μm,14.3s						
NJ2	**Nanjing**	**12.93**	**351**	*e*P	**Pn**	**14 14 55.0**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,210nm,3.7s						
NJ2				LR	LR		
	comp=N,720nm,14.2s						
NJ2				LR	LR		
	comp=E,680nm,18.9s						
NJ2				LR	LR		
	comp=Z,850nm,14.9s						
GYA	**Guiyang**	**15.19**	**301**	⇓P	**Pn**	**14 15 23.0**	**-1.4**
GYA				S	**Sn**	**14 18 06.3**	**-5.2**
GYA				pmax	pmax		
	comp=Z,14nm,0.9s						
GYA				pmax	pmax		
	comp=Z,220nm,5.9s						
GYA				LR	LR		
	comp=N,560nm,10.1s						
GYA				LR	LR		
	comp=E,660nm,15.7s						
GYA				LR	LR		
	comp=Z,970nm,13.7s						
JNU	**Nakatsue**	**16.32**	**30**	Pn	**Pn**	**14 15 38.5**	**-0.3**
JNU				IAmb	IAmb	14 15 54.4	
	comp=Z,42nm,0.9s						
JNU	**Nakatsue**	**16.32**	**30**	Pn	**Pn**	**14 15 38.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=156,slow=9.4,SNR=7.5						
JNU				LR	LR	14 22 17.5	
	comp=Z,199nm,20.3s,baz=206,slow=38						
	comp=Z,26nm,1.0s						
LYN	**LuoYang**	**17.11**	**335**	*e*P	**P**	**14 15 50.0**	**0.0**
LYN				sP	pwP	14 16 03.0	0.0
LYN				S	**Sn**	**14 18 59.3**	**+1.4**
LYN				SS	**SnSn**	**14 19 15.3**	**+3.6**
LYN				pmax	pmax		
	comp=Z,41nm,0.5s						
LYN				pmax	pmax		
	comp=Z,320nm,4.1s						
LYN				LR	LR		
	comp=N,640nm,13.7s						
LYN				LR	LR		
	comp=E,610nm,13.7s						
LYN				LR	LR		
	comp=Z,820nm,19.5s						
TOLI2	**Tolitoli**	**18.02**	**181**	P	**P**	**14 16 00.8**	**+0.6**
KMI	**Kunming**	**18.05**	**292**	⇑P	**P**	**14 16 03.3**	**+2.5**
KMI				S	**Sn**	**

PZH S **S** **14 19 44.0 -7.1**
PZH sS **Sn** **14 19 57.3 +5.9**
PZH SS **SnSn** **14 20 14.5 +8.7**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,250nm,6.0s
PZH LR LR
comp=N,350nm,16.1s
PZH LR LR
comp=E,510nm,15.7s
PZH LR LR
comp=Z,580nm,16.3s
CD2 Chengdu 19.57 310 P **P** **14 16 17.8 +0.6**
CD2 S **S** **14 19 54.5 -1.7**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,260nm,6.1s
CD2 LR LR
comp=N,310nm,13.1s
CD2 LR LR
comp=E,480nm,12.0s
CD2 LR LR
comp=Z,800nm,17.7s
CRAI Chiangrai 19.62 276 Pn **Pn** **14 16 19.0 -0.4**
KSM Kuching 20.62 212 Pn 14 16 32.6 +1.6
KSM IAmb IAmb 14 16 33.8
comp=Z,24nm,0.8s
KSM Kuching 20.62 212 P Pn 14 16 32.1 +1.0
comp=Z,32nm,0.9s
JCJ Chichijima 20.81 64 LR LR 14 23 04.4
comp=Z,283nm,21.2s,baz=324,slow=32
MTKI Muara Teweh, K 20.98 198 P **P** **14 16 31.9 -0.6**
comp=Z,56nm,0.8s
CMMT Chiang Mai 21.03 273 P **P** **14 16 32.9 -0.2**
comp=Z,54nm,1.0s
CHTO Chiang Mai 21.03 273 P **P** **14 16 33.2 +0.1**
CHTO IAmb IAmb 14 16 49.0
comp=Z,28nm,1.1s
CHTO Chiang Mai 21.03 273 P **P** **14 16 33.2 +0.1**
comp=Z,20nm,1.0s
CM31 Chiang Mai Arr 21.07 272 P **P** **14 16 33.3 -0.2**
CM31 IAmb IAmb 14 16 46.9
comp=Z,38nm,1.4s
CMAR Chiang Mai Arr 21.07 272 P **P** **14 16 33.1 -0.3**
CMAR PcP **PcP** **14 20 40.0 +0.8**
CMAR Chiang Mai Arr 21.07 272 P **P** **14 16 34.0 +0.5**
comp=Z,5.4nm,0.8s,baz=73,slow=9.6,SNR=44
CMAR PcP **PcP** **14 20 39.3 +0.1**
comp=Z,2.7nm,0.8s,baz=76,slow=0.4,SNR=9.7
CMAR ScP **ScP** **14 24 13.1 +0.1**
comp=Z,0.4nm,0.3s,baz=56,slow=1.5,SNR=4.4
CMAR LR LR 14 24 55.1
comp=Z,172nm,18.2s,baz=85,slow=37
comp=Z,5.4nm,0.8s
BJT Baijiatuau 21.16 349 P **P** **14 16 32.5 -1.7**
BJT IAmb IAmb 14 17 01.8
comp=Z,16nm,0.8s
BJI Beijing 21.18 349 P **P** **14 16 35.3 +0.9**
BJI S Sn 14 20 35.5 -0.4
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,65nm,4.4s
BJI LR LR
comp=N,160nm,16.3s
BJI LR LR
comp=E,160nm,14.9s
BJI LR LR
comp=Z,240nm,15.2s
JHJ Hachijo jima 2 21.62 47 LR LR 14 23 34.6
comp=Z,298nm,21.8s,baz=194,slow=33
SANI Sanana 21.67 167 P **P** **14 16 37.7 -2.2**
comp=Z,15nm,0.7s
TTSI Tana Toraja 22.18 184 P **P** **14 16 47.3 +1.9**
comp=Z,19nm,0.9s
LZH Lanzhou 22.69 321 ⇑P **P** **14 16 51.8 +0.9**
LZH pP pP 14 17 01.5 +1.5
LZH sP sP 14 17 08.8 +3.6
LZH S **S** **14 20 57.5 +0.8**
LZH sS Sn 14 21 15.5 +2.9
LZH pmax pmax
comp=Z,14nm,1.4s
LZH LR LR
comp=N,580nm,13.4s
LZH LR LR
comp=E,370nm,13.1s
LZH LR LR
comp=Z,730nm,12.7s
MJAR Matsushiro Arr 22.82 37 P **P** **14 16 50.5 -1.6**
comp=Z,3.1nm,0.6s,baz=225,slow=8.0,SNR=8.0
comp=Z,3.1nm,0.6s
HHC Hu-ho-hao-te 23.07 341 *e*P **P** **14 16 54.3 -0.3**
HHC PP sP 14 17 21.3 +13
HHC S **S** **14 21 01.5 -1.4**
HHC SS **SnSn** **14 21 44.3 +6.5**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,150nm,4.8s
HHC LR LR
comp=N,700nm,15.7s
HHC LR LR
comp=E,320nm,13.8s
HHC LR LR
comp=Z,780nm,16.0s
BTO Baotou 23.35 338 *e*P **P** **14 17 00.3 +2.8**
BTO pP **pwP** **14 17 09.5 -1.2**
BTO sP **sP** **14 17 13.8 +1.8**
BTO pP pP 14 17 33.3 +26
BTO S **S** **14 21 14.3 +6.7**
BTO sS **sS** **14 21 23.5 -2.1**
BTO SS **SnSn** **14 21 58.0 +13**
BTO pmax pmax
comp=Z,8.0nm,0.5s
BTO pmax pmax
comp=Z,350nm,5.0s
BTO LR LR
comp=N,750nm,19.4s
BTO LR LR
comp=E,790nm,16.1s
BTO LR LR
comp=Z,1μm,16.7s
GUMO Guam 23.39 100 LR LR 14 26 04.3
comp=Z,320nm,19.0s,baz=270,slow=37
KAPI Kappang 24.14 184 LR LR 14 27 26.2
comp=Z,160nm,20.5s,baz=360,slow=39
KULM Kulim 24.35 238 P **P** **14 17 07.0 +0.2**
KULM Kulim 24.35 238 P **P** **14 17 06.4 -0.5**
JMM Marumori 25.23 39 P **P** **14 17 13.8 -0.9**
JMM IAmb IAmb 14 17 19.4
comp=Z,19nm,0.8s
USRK Ussuriysk Ar. 26.48 18 P **P** **14 17 25.9 -0.1**
USRK Ussuriysk Ar. 26.48 18 P **P** **14 17 24.7 -1.2**
comp=Z,4.9nm,0.8s,baz=199,slow=11,SNR=10.0
USRK PcP **PcP** **14 20 49.9 -0.3**
comp=Z,1.6nm,0.8s,baz=172,slow=4.4,SNR=3.6
USRK LR LR 14 28 16.6
comp=Z,187nm,20.6s,baz=196,slow=37
comp=Z,4.9nm,0.8s
BNX BinXian 26.93 10 ⇓P **P** **14 17 29.0 -0.9**
BNX pmax pmax
comp=Z,6.0nm,0.5s
BNX pmax pmax
comp=Z,140nm,5.3s
GTA Gaotai 27.29 322 *e*P **P** **14 17 33.3 -0.1**
GTA pP pP 14 17 39.5 -3.8
GTA sP sP 14 17 44.8 -2.9
GTA S **S** **14 22 14.5 +4.1**
GTA sS sS 14 22 29.3 +1.0
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=N,180nm,16.0s
GTA LR LR
comp=E,290nm,15.3s
GTA LR LR
comp=Z,340nm,17.1s
LEM Lembang 29.15 209 LR LR 14 30 10.9
comp=Z,122nm,18.3s,baz=267,slow=38
ASAJ Asahikawa 30.60 31 LR LR 14 30 43.7
comp=Z,191nm,21.3s,baz=212,slow=37
ULN Ulaanbaatar 30.79 341 P **P** **14 18 04.7 +0.3**
ULN Ulaanbaatar 30.79 341 P **P** **14 18 05.3 +0.8**
comp=Z,28nm,1.1s

SONM Songino Array 30.96 340 P **P** **14 18 06.0 0.0**
comp=Z,1.4nm,0.7s,baz=160,slow=8.7,SNR=6.1
SONM LR LR 14 31 49.1
comp=Z,492nm,18.0s,baz=184,slow=39
comp=Z,1.4nm,0.7s
KLR Kul'dur 31.11 13 LR LR 14 32 00.4
comp=Z,368nm,19.8s,baz=196,slow=39
HEH HeiHe 31.34 8 *e*P **P** **14 18 13.3 +4.2**
HEH LR LR
comp=N,84nm,10.8s
HEH LR LR
comp=E,350nm,11.2s
HEH LR LR
comp=Z,310nm,12.4s
WMQ Urumqi 37.22 319 *e*P **P** **14 19 02.0 +1.8**
WMQ LR LR
comp=N,440nm,16.3s
WMQ LR LR
comp=E,320nm,16.7s
WMQ LR LR
comp=Z,350nm,16.7s
WRA Warramunga Arr 41.02 161 P **P** **14 19 30.8 -1.2**
WRA Warramunga Arr 41.02 161 P **P** **14 19 29.9 -2.1**
comp=Z,3.2nm,0.5s,baz=343,slow=9.1,SNR=43
WRA PcP **PcP** **14 21 32.1 +0.5**
comp=Z,1.2nm,0.8s,baz=348,slow=3.2,SNR=8.2
comp=Z,3.2nm,0.5s
WR0 Warramunga Arr 41.09 161 P **P** **14 19 30.5 -2.2**
WR0 IAmb IAmb 14 19 33.1
comp=Z,28nm,1.4s
MKAR Makanchi Array 42.00 320 P **P** **14 19 40.5 +0.6**
comp=Z,2.0nm,0.5s,baz=113,slow=9.3,SNR=33
comp=Z,2.0nm,0.5s
MAKZ Makanchi 42.19 320 P **P** **14 19 42.0 +0.5**
H11S3 WAKE ISLAND Hy 42.97 83 T T 15 05 27.9
baz=273
H11S1 WAKE ISLAND Hy 42.98 83 T T 15 05 30.3
baz=273,slow=76
H11S2 WAKE ISLAND Hy 42.98 83 T T 15 05 35.1
baz=273,slow=76
H11N1 WAKE ISLAND Hy 42.99 81 T T 15 05 26.4
baz=277,slow=74,SNR=31
H11N2 WAKE ISLAND Hy 42.99 81 T T 15 05 26.7
baz=277,slow=74,SNR=20
H11N3 WAKE ISLAND Hy 43.01 81 T T 15 05 31.1
baz=277,slow=74,SNR=4.1
YAK Yakutsk 43.16 6 LR LR 14 39 50.8
comp=Z,114nm,18.4s,baz=122,slow=39
PETK Petropavlovsk- 44.02 31 P **P** **14 19 54.8 -1.3**
comp=Z,10.0nm,1.0s,baz=222,slow=2.0,SNR=8.4
PETK PcP **PP** **14 21 39.6 +0.5**
comp=Z,4.9nm,0.9s,baz=50,slow=1.2,SNR=4.1
PETK LR LR 14 39 41.1
comp=Z,81nm,19.3s,baz=216,slow=38
comp=Z,10.0nm,1.0s
AS31 Alice Springs 44.41 163 P **P** **14 19 58.8 -0.8**
ASAR Alice Springs 44.41 163 P **P** **14 19 58.6 -1.0**
comp=Z,4.2nm,0.5s,baz=347,slow=6.7,SNR=92
ASAR PcP **PcP** **14 21 42.7 -0.3**
comp=Z,1.1nm,0.8s,baz=340,slow=3.5,SNR=4.1
comp=Z,4.2nm,0.5s
ZALV Zalesovo Beam 44.45 330 P **P** **14 19 59.1 -0.4**
ZALV Zalesovo Beam 44.45 330 P **P** **14 19 59.8 +0.3**
comp=Z,2.3nm,0.7s,baz=120,slow=8.2,SNR=9.5
ZALV LR LR 14 40 39.0
comp=Z,107nm,20.2s,baz=116,slow=39
comp=Z,2.3nm,0.7s
MA2 Magadan 45.56 21 LR LR 14 39 34.9
comp=Z,145nm,21.7s,baz=155,slow=36
AAK Ala-Archa 45.63 311 LR LR 14 41 23.2
comp=Z,213nm,20.3s,baz=104,slow=39
KURK Kurchatov 45.96 323 P **P** **14 20 11.9 +0.4**
KURK IAmb IAmb 14 20 21.2
comp=Z,10nm,1.0s
KURBB Kurchatov Arra 45.97 323 P **P** **14 20 12.7 +1.1**
comp=Z,3.9nm,0.6s,baz=121,slow=7.8,SNR=25
comp=Z,3.9nm,0.6s
HNR Honiara 47.65 123 LR LR 14 40 09.9
comp=Z,2μm,18.5s,baz=282,slow=36
BVAR Borovoye Array 51.56 323 P **P** **14 20 55.4 +0.8**
comp=Z,1.5nm,0.5s,baz=110,slow=8.8,SNR=13
BVAR PcP **PcP** **14 22 07.9 -0.2**
comp=Z,2.3nm,0.7s,baz=107,slow=1.5,SNR=5.4
comp=Z,1.5nm,0.5s
BRVK Borovoye 51.63 323 P **P** **14 20 55.5 +0.4**
BRVK IAmb IAmb 14 21 08.0
comp=Z,5.7nm,0.7s
TIXI Tiksi 52.61 3 P **P** **14 21 01.3 -0.7**
TIXI IAmb IAmb 14 21 02.0
comp=Z,8.7nm,0.8s
TIXI Tiksi 52.61 3 LR LR 14 44 46.9
comp=Z,214nm,20.3s,baz=200,slow=38
NRIK Noril'sk 54.17 346 P **P** **14 21 14.3 +0.8**
comp=Z,5.4nm,0.5s,baz=126,slow=7.8,SNR=9.7
comp=Z,5.4nm,0.5s
STKA Stephens Creek 54.46 159 P **P** **14 21 16.1 0.0**
comp=Z,3.8nm,0.6s,baz=324,slow=7.6,SNR=11
comp=Z,3.8nm,0.6s
BILL Bilibino 56.33 19 P **P** **14 21 28.6 -0.5**
BILL IAmb IAmb 14 21 30.8
comp=Z,5.9nm,0.7s
ABKAR Akbulak array 56.96 317 P **P** **14 21 34.5 +0.6**
ABKAR Akbulak array 56.96 317 IAmb IAmb 14 21 35.5
comp=Z,11nm,1.1s
GEYT Alibeck 57.40 303 P **P** **14 21 38.8 +1.6**
comp=Z,2.5nm,0.8s,baz=95,slow=16,SNR=5.8
comp=Z,2.5nm,0.8s
WSAR Wadi Sarin 58.06 286 LR LR 14 48 43.0
comp=Z,39nm,19.3s,baz=67,slow=38
ARU Arti 59.09 325 P **P** **14 21 48.5 -0.1**
C16K Lisburne Hills 66.17 23 IAmb IAmb 14 22 44.1
comp=Z,5.4nm,0.8s
F17K Baldwin Pennin 67.56 25 IAmb IAmb 14 22 47.3
comp=Z,7.7nm,0.8s
E18K Tukpahlearik C 67.87 24 IAmb IAmb 14 22 49.2
comp=Z,5.6nm,0.8s
H17K Granite Mounta 68.05 27 P **P** **14 22 47.9 +0.2**
H17K IAmb IAmb 14 22 60.0
comp=Z,5.4nm,1.1s
KBZ Khabaz 68.62 310 P **P** **14 22 50.6 -0.9**
comp=Z,3.9nm,0.9s,baz=182,slow=1.9,SNR=5.9
comp=Z,3.9nm,0.9s
RAYN Ar Rayn 69.85 289 P **P** **14 22 59.1 -0.6**
RAYN IAmb IAmb 14 23 18.6
comp=Z,6.5nm,0.9s
D22K Ayikyak River 70.83 23 IAmb IAmb 14 23 06.9
comp=Z,5.7nm,0.8s
H21K Melozitna Rive 71.02 26 IAmb IAmb 14 23 15.2
comp=Z,8.6nm,1.1s
CAST Castle Rocks 71.53 28 P **P** **14 23 09.3 +0.1**
MLY Manley 71.94 27 IAmb IAmb 14 23 21.1
comp=Z,5.3nm,0.9s
I23K Minto, Yukon-K 72.50 26 IAmb IAmb 14 23 23.7
comp=Z,5.4nm,0.8s
NEA2 Nenana 72.70 27 IAmb IAmb 14 23 25.2
comp=Z,5.7nm,0.9s
MDM Murphy Dome 73.01 26 IAmb IAmb 14 23 42.9
comp=Z,5.7nm,0.9s
ILAR Eielson Array 73.60 27 P **P** **14 23 20.1 -1.3**
comp=Z,0.8nm,0.6s,baz=264,slow=4.8,SNR=20
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 74.12 339 P **P** **14 23 24.6 +0.2**
comp=Z,3.6nm,0.6s,baz=72,slow=7.8,SNR=17
comp=Z,3.6nm,0.6s
SPITS Spitsbergen Ar 74.30 348 P **P** **14 23 24.1 -1.2**
comp=Z,4.5nm,0.8s,baz=250,slow=22,SNR=11
comp=Z,4.5nm,0.8s
SCRK Sand Creek 75.00 27 P **P** **14 23 28.2 -1.5**
SCRK IAmb IAmb 14 23 51.1
comp=Z,6.9nm,1.2s
FINES FINESS Array B 75.71 330 P **P** **14 23 32.8 -0.9**
comp=Z,7.7nm,1.1s,baz=151,slow=4.4,SNR=5.5
comp=Z,7.7nm,1.1s
F28M Old Crow 75.74 23 IAmb IAmb 14 23 47.3
comp=Z,6.4nm,0.8s
EGAK Eagle 76.00 26 IAmb IAmb 14 23 41.6
comp=Z,5.5nm,0.7s
BRTR Keskin Array B 76.14 307 P **P** **14 23 36.5 -0.2**
comp=Z,0.7nm,0.5s,baz=113,slow=3.3,SNR=5.5
comp=Z,0.7nm,0.5s
QRZ Quartz Range 76.43 142 P **P** **14 23 39.7 +1.7**
AKASG Malin Array Be 76.58 319 P **P** **14 23 37.3 -1.5**
comp=Z,1.3nm,0.6s,baz=62,slow=5.9,SNR=5.3
comp=Z,1.3nm,0.6s
TLZ Tolley Road 76.65 139 P P 14 23 45.4 +6.1
VRZ Vera Road 76.67 140 P **P** **14 23 40.6 +1.2**
NNZ Nelson 77.17 142 P **P** **14 23 43.1 +0.9**
NNVZ North Ngauruho 77.19 140 P **P** **14 23 44.8 +2.2**

DUWZ D'Urville Isla 77.22 142 P **P** **14 23 43.6 +1.1**
SNVZ South Ngauruho 77.24 140 P **P** **14 23 45.1 +2.3**
OTVZ Oturere 77.24 140 P **P** **14 23 45.0 +2.2**
THZ Tophouse 77.25 143 P **P** **14 23 43.8 +1.1**
ETVZ East Tongariro 77.25 140 P **P** **14 23 44.7 +1.8**
G30M tAoh Zraii Nji 77.28 23 IAmb IAmb 14 23 55.4
comp=Z,6.6nm,0.9s
EPYK Eagle Plains 77.30 24 IAmb IAmb 14 23 44.7
comp=Z,5.7nm,0.8s
WNVZ Wahianoa 77.30 140 P **P** **14 23 44.6 +1.4**
RPZ Rata Peaks 77.52 145 P **P** **14 23 44.8 +0.7**
BHHZ Black Hill Sta 77.69 140 P **P** **14 23 46.4 +1.2**
L29M L29M 77.76 27 IAmb IAmb 14 24 09.2
comp=Z,8.5nm,0.8s
INK Inuvik 77.80 22 IAmb IAmb 14 23 46.0
comp=Z,8.6nm,1.1s
F31M Tsiigehtchic 78.03 22 IAmb IAmb 14 23 48.0
comp=Z,7.1nm,0.9s
DVHZ Dannevirke 78.25 140 P P 14 23 40.8 -7.4
M30M Minto, Yukon 78.51 28 IAmb IAmb 14 23 53.0
comp=Z,10nm,1.3s
M31M Drury Creek, Y 79.69 27 IAmb IAmb 14 24 02.7
comp=Z,5.2nm,0.8s
FARO Faro, Yukon 80.13 27 IAmb IAmb 14 24 05.2
comp=Z,6.8nm,1.0s
HFS Hagfors 81.87 331 P **P** **14 24 06.8 -0.7**
comp=Z,6.1nm,1.1s,baz=95,slow=9.5,SNR=5.0
comp=Z,6.1nm,1.1s
CRVS Cervenica-Dubn 81.91 319 *e*P **P** **14 24 09.9 +1.9**
NB2 NORSAR Subarra 82.59 333 P **P** **14 24 10.4 -0.9**
comp=Z,5.4nm,1.1s,baz=67,slow=5.1
NOA NORSAR Array B 82.59 333 P **P** **14 24 10.3 -1.0**
comp=Z,1.0nm,0.8s,baz=63,slow=5.2,SNR=2.0
NOA LR LR 15 04 00.3
comp=Z,260nm,18.7s,baz=245,slow=38
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 84.64 267 P **P** **14 24 23.5 +0.5**
KMBO IAmb IAmb 14 24 37.6
comp=Z,4.7nm,0.9s
KMBO Kilima Mbogo 84.64 267 P **P** **14 24 20.7 -2.3**
comp=Z,1.2nm,0.4s,baz=32,slow=3.9,SNR=4.8
GERES GERESS Array B 86.66 321 P **P** **14 24 31.6 -0.6**
comp=Z,0.3nm,0.4s,baz=44,slow=7.2,SNR=2.1
comp=Z,0.3nm,0.4s
YKA Yellowknife Ar 87.51 23 P **P** **14 24 36.0 +0.2**
comp=Z,9.8nm,0.8s,baz=313,slow=4.7,SNR=148
YKA PKKP **PKKPdf** **14 42 20.6 +1.4**
comp=Z,0.2nm,0.6s,baz=130,slow=2.6,SNR=5.3
comp=Z,9.8nm,0.8s
EKA Eskdalemuir Ar 92.05 332 P **P** **14 24 57.5 +0.1**
comp=Z,2.4nm,0.9s,baz=32,slow=4.2,SNR=2.3
comp=Z,2.4nm,0.9s
VNDA Vanda 99.42 172 P **Pdif** **14 25 31.2 +1.0**
comp=Z,1.6nm,1.0s,baz=311,slow=8.9,SNR=2.5
comp=Z,1.6nm,1.0s
NVAR Mina Array Bea 100.02 43 P **Pdif** **14 25 33.5 -0.7**
comp=Z,6.6nm,0.7s,baz=287,slow=6.1,SNR=6.6
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 112.28 294 PKKPbc PKKPbc 14 41 15.4 +0.5
comp=Z,0.6nm,0.8s,baz=254,slow=2.6,SNR=1.7
TXAR Lajitas Array 115.17 43 PKP **PKPdf** **14 30 30.7 +0.4**
comp=Z,1.4nm,0.6s,baz=216,slow=0.3,SNR=20

*IDC **30** 14:15:12.0±1.3,24°33'N×89°41'E,h0km,mb4.0/6, mbtmp4.0/7,ML4.1/1,Error ellipse: s-maj=51.5km s-min=13.6km az=49.0*
*NDI **30** 14:15:14.9±3.3,24°63'N×89°45'E,h10km,ML4.0,MW4.2, mb4.4(NEIC)*
*NEIC **30** 14:15:16.3±2.2,24°57'N±0°08×89°58'E±0°08,h16km±5km, mb4.4/8,Error ellipse: s-maj=12.9km s-min=8.8km az=220.0*
ISC 30 14:15:13.9±0.6,24°58'N±0°05×89°47'E±0°04,h10km,n34, σ1§64/40,mb4.2/10,Bangladesh

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**1.77**	**113**	*e*P		Pn	14 15 40.2	-4.3
SLGI	**Shiliguri**	**2.31**	**336**	*e*P		**Pn**	**14 15 53.0**	**+0.9**
SLGI				*e*S		**Sb**	**14 16 22.5**	**-1.9**
SHL	**Shillong**	**2.40**	**65**			**Pn**	**14 15 53.9**	**+0.5**
SHL	**Shillong**	**2.40**	**65**	*e*P		**Pn**	**14 15 54.6**	**+1.2**
SHL				*i* x		x	14 15 59.9	
SHL				*e*S		**Sn**	**14 16 20.9**	**-2.1**
BRDH	**Bariadhala**	**2.75**	**133**	Pg		**Pn**	**14 15 59.4**	**+1.4**
	59nm,0.3s,baz=270,slow=5.8,SNR=4.4							
BRDH				Sn		**Sn**	**14 16 28.2**	**-3.1**
	89nm,0.3s,baz=90,slow=14,SNR=4.7							
BRDH				Lg		Lg	14 16 36.2	
	76nm,0.3s,baz=90,slow=11,SNR=5.9							
GTK	**Tadong**	**2.84**	**344**	*e*P		**Pn**	**14 15 57.4**	**-2.0**
GTK				*e*x		x	14 16 40.1	
BOK	**Bokaro**	**3.36**	**257**	*e*P		**Pn**	**14 16 08.1**	**+1.6**
BOK				*i* x		x	14 16 15.7	
BOK				*e*S		**Sn**	**14 16 45.4**	**-1.1**
TEZP	**TEZPUR**	**3.63**	**55**	*e*P		**Pn**	**14 16 12.2**	**+2.1**
TEZP				*e*S		**Sn**	**14 16 51.0**	**-2.0**
SAIH	**SAIHA**	**3.84**	**122**	*e*P		**Pn**	**14 16 14.7**	**+1.5**
SAIH				*e*S		**Sn**	**14 16 58.8**	**+0.3**
IMP	**Imphal**	**4.08**	**86**	*e*P		**Pn**	**14 16 18.8**	**+2.4**
IMP				IAML			14 17 08.3	
	comp=E,68nm,0.6s							
IMP				*ex*		x	14 17 09.7	
IMP				IAML			14 17 14.3	
	comp=E,62nm,0.6s							
KOHI	**KOHIMA**	**4.36**	**74**	*e*P		**Pn**	**14 16 22.4**	**+2.1**
KOHI				*e*S		**Sn**	**14 17 10.5**	**-0.7**
ITAN	**ITANAGAR**	**4.61**	**55**	*ex*		x	14 17 16.9	
ZIRO	**ZIRO**	**4.91**	**52**	*e*P		**Pb**	**14 16 38.2**	**-2.0**
ZIRO				*e*S		**Sn**	**14 17 23.2**	**-1.8**
ZIRO				IAML			14 17 58.3	
	comp=E,2μm,0.6s							
ZIRO				IAML			14 18 03.1	
	comp=N,3μm,0.6s							
MND	**Mandalay**	**6.62**	**111**	Pn		**Pn**	**14 16 50.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**10.71**	**123**	Pn		**Pn**	**14 17 45.5**	**-2.0**
	comp=N,0.4nm,0.3s,baz=303,slow=15,SNR=13							
	comp=N,2.9nm,0.5s							
CRAI	**Chiangrai**	**10.98**	**111**	Pn		**Pn**	**14 17 50.9**	**-0.2**
HYB	**Hyderabad**	**12.43**	**237**	*e*P		**Pn**	**14 18 08.5**	**-2.5**
HYB				*e*			14 20 26.8	
SMLA	**Simla**	**12.68**	**304**	*e*P		**Pn**	**14 18 13.2**	**-1.1**
SMLA				*e*S		Sn	14 20 25.7	-10
DHRM	**DHARAMSHALA**	**13.87**	**306**	*e*P		**Pn**	**14 18 29.6**	**-1.2**
DHRM				*ex*		x	14 20 55.4	
KULM	**Kulim**	**21.98**	**149**	P		**P**	**14 20 09.3**	**+1.1**
SIMJ	**Simiganj**	**22.30**	**314**	P		**P**	**14 20 13.2**	**+1.6**
SIMJ				IAmb		IAmb	14 20 25.1	
	comp=Z,13nm,1.1s							
SONM	**Songino Array**	**26.81**	**26**	P		**P**	**14 20 56.2**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=210,slow=8.9,SNR=2.8							
	comp=Z,0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**29.54**	**354**	P		**P**	**14 21 20.4**	**+2.0**
	comp=Z,1.6nm,0.6s,baz=175,slow=7.9,SNR=1.8							
	comp=Z,1.6nm,0.6s							
TOLI2	**Tolitoli**	**38.22**	**123**	P		**P**	**14 22 34.2**	**0.0**
TOLI2				IAmb		IAmb	14 23 14.7	
	comp=Z,5.6nm,1.0s							
KIV	**Kislovodsk**	**42.58**	**309**	P		**P**	**14 23 12.8**	**+2.7**
FINES	**FINESS Array B**	**56.03**	**329**	P		**P**	**14 24 53.6**	**+1.1**
FINES	**FINESS Array B**	**56.03**	**329**	P		**P**	**14 24 54.2**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=180,slow=6.9,SNR=1.1							
	comp=Z,1.8nm,0.8s							
HFS	**Hagfors**	**61.96**	**327**	P		**P**	**14 25 34.1**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=116,slow=5.0,SNR=1.7							
	comp=Z,2.6nm,0.9s							
WB0	**Warramunga Arr**	**62.09**	**131**	P		**P**	**14 25 34.5**	**-0.7**
WB0				IAmb		IAmb	14 25 38.2	
	comp=Z,9.2nm,1.4s							
WRA	**Warramunga Arr**	**62.18**	**131**	P		**P**	**14 25 34.7**	**-1.0**
WRA	**Warramunga Arr**	**62.18**	**131**	P		**P**	**14 25 35.0**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=324,slow=6.9,SNR=14							
	comp=Z,1.2nm,0.5s							
WB2	**Warramunga Arr**	**62.19**	**131**	P		**P**	**14 25 35.2**	**-0.6**
AS31	**Alice Springs**	**64.47**	**135**	P		**P**	**14 25 50.4**	**-0.6**
AS31				IAmb		IAmb	14 26 23.4	
	comp=Z,2.2nm,1.4s							
ASAR	**Alice Springs**	**64.47**	**135**	P		**P**	**14 25 49.5**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=310,slow=6.3,SNR=11							
	comp=Z,1.1nm,0.9s							

*IDC **30** 14:23:18.1±9.6,37°44'N×19°83'E,h0km,mb3.7/8, mbtmp3.7/10,ML3.5/2,Error ellipse: s-maj=181.0km*

s-min=26.3km az=32.0
*TIR **30** 14:23:23.2,37.°99N×20.°53E,h16km±2km,Ml3.7*
*ATH **30** 14:23:29.3,38.°21N×20.°56E,h14km±1km,ML3.3/16,Error ellipse: s-maj=1.9km s-min=0.8km az=256.0*
*THE **30** 14:23:29.4,38.°21N×20.°56E,h14km,ML3.2/22,Error ellipse: s-maj=1.2km s-min=0.5km az=250.0*

ISC 30 14:23:28.2±0.6,38.°21N±0.°02×20.°56E±0.°02,h11km,n82,σ1§40/127,mb3.8/8,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.04**	**138**	P	**Pg**	**14 23 31.9**	**+1.5**
VLS				S	**Sg**	**14 23 34.1**	**+2.2**
	39μm,0.2s						
VLS	**Valsamata**	**0.04**	**138**	P	**Pg**	**14 23 31.9**	**+1.5**
VLS				S	**Sg**	**14 23 34.2**	**+2.4**
VLS				AML	AML	14 23 34.5	
	comp=N,78403μm,0.2s						
VLS				AML	AML	14 23 35.0	
	comp=E,79379μm,0.1s						
LXR1	**Lixouri, Cepha**	**0.09**	**265**	P	**Pg**	**14 23 32.5**	**+1.7**
LXR1				S	**Sg**	**14 23 35.5**	**+2.8**
LXRA	**Lixouri, Kepha**	**0.09**	**265**	P	**Pg**	**14 23 32.5**	**+1.7**
LXRA				S	**Sg**	**14 23 34.8**	**+2.1**
PSDA	**Pessada-Kefalo**	**0.10**	**166**	P	**Pg**	**14 23 32.3**	**+1.4**
PSDA				S	**Sg**	**14 23 34.8**	**+2.0**
	comp=E,115μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.10**	**166**	P	**Pg**	**14 23 32.3**	**+1.4**
PSDA				S	**Sg**	**14 23 34.7**	**+2.0**
KEF4	**Livadi, Kephal**	**0.11**	**296**	P	**Pb**	**14 23 32.6**	**+0.2**
KEF4				S	**Sg**	**14 23 35.8**	**+2.6**
KEF4	**Livadi, Kephal**	**0.11**	**296**	P	**Pb**	**14 23 32.6**	**+0.2**
KEF4				S	**Sg**	**14 23 35.7**	**+2.5**
DMLN	**Damoulianata-K**	**0.15**	**282**	P	**Pg**	**14 23 32.9**	**+1.3**
DMLN				S	**Sg**	**14 23 36.2**	**+2.2**
	comp=E,79μm,0.3s						
DMLN	**Damoulianata-K**	**0.15**	**282**	P	**Pg**	**14 23 32.9**	**+1.3**
DMLN				S	**Sg**	**14 23 36.2**	**+2.2**
KEF3	**Kipouria, Keph**	**0.16**	**268**	P	**Pg**	**14 23 32.8**	**+1.0**
KEF3				S	**Sg**	**14 23 36.0**	**+1.6**
KEF3	**Kipouria, Keph**	**0.16**	**268**	P	**Pg**	**14 23 32.8**	**+1.0**
KEF3				S	**Sg**	**14 23 36.0**	**+1.6**
FSK	**Fiskardo**	**0.25**	**1**	P	**Pg**	**14 23 34.5**	**+1.1**
FSK				S	**Sb**	**14 23 38.9**	**-0.3**
	comp=E,24μm,0.5s						
FSK	**Fiskardo**	**0.25**	**1**	P	**Pg**	**14 23 34.5**	**+1.1**
FSK				S	**Sg**	**14 23 38.5**	**+1.6**
FSK				AML	AML	14 23 39.5	
	comp=N,50864μm,0.6s						
FSK				AML	AML	14 23 39.7	
	comp=E,42867μm,0.4s						
EVGI	**Lefkada island**	**0.42**	**11**	P	**Pg**	**14 23 37.3**	**+0.8**
EVGI				S	**Sb**	**14 23 44.2**	**+0.1**
	comp=E,4μm,0.2s						
EVGI	**Lefkada island**	**0.42**	**11**	P	**Pg**	**14 23 37.3**	**+0.8**
EVGI				S	**Sb**	**14 23 44.3**	**+0.3**
DRAG	**Dragano-Lefkad**	**0.47**	**2**	P	**Pg**	**14 23 38.1**	**+0.6**
DRAG				S	**Sb**	**14 23 45.7**	**0.0**
DRAG	**Dragano-Lefkad**	**0.47**	**2**	P	**Pg**	**14 23 38.1**	**+0.6**
DRAG				S	**Sg**	**14 23 45.6**	**+1.7**
NYDR	**Nydri-Lefkada**	**0.52**	**13**	P	**Pg**	**14 23 38.7**	**+0.4**
NYDR				S	**Sb**	**14 23 47.8**	**+1.0**
	comp=E,4μm,0.6s						
NYDR	**Nydri-Lefkada**	**0.52**	**13**	P	**Pg**	**14 23 38.8**	**+0.5**
LTHK	**Lithakia**	**0.55**	**156**	P	**Pg**	**14 23 38.8**	**-0.1**
LTHK				S	**Sg**	**14 23 47.4**	**+1.3**
	comp=E,6μm,0.4s						
LTHK	**Lithakia**	**0.55**	**156**	P	**Pg**	**14 23 38.8**	**-0.1**
LTHK				S	**Sb**	**14 23 47.6**	**0.0**
LTHK				AML	AML	14 23 50.8	
	comp=N,7751μm,0.4s						
LTHK				AML	AML	14 23 50.9	
	comp=E,14924μm,0.6s						
LKD2	**Lefkada island**	**0.58**	**8**	P	**Pg**	**14 23 40.1**	**+0.4**
	baz=7.0						
LKD2				S	**Sb**	**14 23 50.4**	**+1.6**
	baz=7.0						
LKD2				AMP			
	comp=E,6.1nm,0.3s,baz=7.0						
LKD2	**Lefkada island**	**0.58**	**8**	P	**Pg**	**14 23 40.0**	**+0.4**
LKD2				S	**Sb**	**14 23 49.7**	**+0.8**
	comp=E,2μm,0.6s						
LKD2	**Lefkada island**	**0.58**	**8**	P	**Pg**	**14 23 39.9**	**+0.2**
LKD2				AML	AML	14 23 54.7	
	comp=E,4350μm,0.3s						
LKD2				AML	AML	14 23 55.4	
	comp=N,5207μm,0.6s						
TSLK	**Tsoukalades, L**	**0.62**	**7**	P	**Pg**	**14 23 40.7**	**+0.4**
TSLK				S	**Sb**	**14 23 50.4**	**+0.6**
	comp=N,3μm,0.6s						
TSLK	**Tsoukalades, L**	**0.62**	**7**	P	**Pg**	**14 23 40.8**	**+0.4**
TSLK				S	**Sb**	**14 23 50.2**	**+0.3**
TSLK				AML	AML	14 23 54.6	
	comp=N,5417μm,0.6s						
TSLK				AML	AML	14 23 57.3	
	comp=E,5240μm,0.7s						
RLS	**Riolos of Patr**	**0.73**	**102**	P	**Pg**	**14 23 42.3**	**-0.1**
RLS				S	**Sb**	**14 23 53.7**	**+0.6**
	comp=E,1μm,0.4s						
RLS	**Riolos of Patr**	**0.73**	**102**	P	**Pg**	**14 23 42.7**	**+0.3**
RLS				AML	AML	14 23 59.9	
	comp=E,2401μm,0.5s						
RLS				AML	AML	14 23 60.0	
	comp=N,3443μm,0.5s						
PVO	**Paravola**	**0.86**	**62**	P	**Pg**	**14 23 45.5**	**+0.6**
PVO				S	**Sb**	**14 23 58.5**	**+1.6**
	comp=N,20μm,0.5s						
PVO	**Paravola**	**0.86**	**62**	P	**Pg**	**14 23 45.6**	**+0.7**
DRO	**Drossia**	**0.95**	**105**	P	**Pg**	**14 23 46.6**	**+0.1**
DRO				S	**Sb**	**14 24 00.7**	**+1.5**
	comp=N,2μm,0.5s						
DRO	**Drossia**	**0.95**	**105**	P	**Pg**	**14 23 46.1**	**-0.3**
DRO				AML	AML	14 24 07.2	
	comp=E,4425μm,0.4s						
DRO				AML	AML	14 24 07.6	
	comp=N,4066μm,0.6s						
EFP	**Efpalio**	**1.08**	**78**	P	**Pb**	**14 23 48.7**	**-0.3**
EFP				S	**Sg**	**14 24 04.2**	**+1.0**
	comp=N,2μm,0.8s						
EFP	**Efpalio**	**1.08**	**78**	P	**Pb**	**14 23 48.7**	**-0.3**
EFP				AML	AML	14 24 10.0	
	comp=N,3920μm,0.9s						
EFP				AML	AML	14 24 11.1	
	comp=E,4792μm,0.6s						
ANX	**Ano Chora**	**1.14**	**70**	P	**Pb**	**14 23 50.0**	**0.0**
ANX				S	**Sn**	**14 24 06.8**	**+0.9**
	comp=E,3μm,0.6s						
ANX	**Ano Chora**	**1.14**	**70**	P	**Pb**	**14 23 50.0**	**0.0**
ANX				AML	AML	14 24 12.9	
	comp=N,8252μm,0.6s						
ANX				AML	AML	14 24 13.2	
	comp=E,4464μm,0.7s						
EVR	**Evrytania**	**1.21**	**54**	P	**Pb**	**14 23 52.1**	**+0.9**
EVR				S	**Sn**	**14 24 09.2**	**+1.5**
	comp=E,600nm,0.8s						
EVR	**Evrytania**	**1.21**	**54**	P	**Pg**	**14 23 52.6**	**+1.1**
EVR				AML	AML	14 24 15.1	
	comp=E,1169μm,1.4s						
EVR				AML	AML	14 24 16.0	
	comp=N,1186μm,0.8s						
KLV	**Kalavryta, Ach**	**1.27**	**97**	P	**Pn**	**14 23 52.1**	**+0.1**
KLV				S	**Sn**	**14 24 09.7**	**+0.7**
	comp=N,638nm,0.9s						
KLV	**Kalavryta, Ach**	**1.27**	**97**	P	**Pn**	**14 23 51.7**	**-0.3**
KLV				AML	AML	14 24 16.8	
	comp=N,818μm,0.6s						
KLV				AML	AML	14 24 17.5	
	comp=E,1456μm,0.8s						
IGT	**Igoumenitsa**	**1.33**	**353**	P	**Pn**	**14 23 53.3**	**+0.4**
	baz=355						
IGT				S	**Sg**	**14 24 14.1**	**+2.9**
	baz=355						
IGT				AMP			
	comp=E,5.1nm,0.8s,baz=355						
IGT	**Igoumenitsa**	**1.33**	**353**	P	**Pn**	**14 23 53.4**	**+0.6**
IGT				S	**Sn**	**14 24 11.4**	**+0.8**
	comp=E,1μm,0.6s						
IGT	**Igoumenitsa**	**1.33**	**353**	P	**Pn**	**14 23 53.1**	**+0.3**
IGT				AML	AML	14 24 15.6	
	comp=E,2610μm,0.8s						
IGT				AML	AML	14 24 15.7	
	comp=N,1101μm,0.6s						
GUR	**Goura**	**1.44**	**100**	P	**Pn**	**14 23 54.5**	**+0.2**
GUR				AML	AML	14 24 22.1	
	comp=E,1550μm,0.8s						
GUR				AML	AML	14 24 23.2	
	comp=N,2080μm,0.5s						
JAN	**Janina**	**1.46**	**9**	P	**Pb**	**14 23 56.5**	**+1.0**
JAN				AML	AML	14 24 25.0	
	comp=E,1678μm,0.6s						
JAN				AML	AML	14 24 29.3	
	comp=N,957μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.47**	**56**	P	**Pb**	**14 23 56.0**	**+0.3**
AGG	**Agios Georgios**	**1.61**	**59**	P	**Pb**	**14 23 58.5**	**+0.5**
AGG				AML	AML	14 24 26.4	
	comp=N,1655μm,0.8s						
AGG				AML	AML	14 24 31.4	
	comp=E,1733μm,1.2s						
KEK	**Kerkira**	**1.61**	**339**	P	**Pn**	**14 23 55.7**	**-1.0**
KEK				S	**Sn**	**14 24 16.4**	**-1.1**
	comp=E,730nm,0.5s						
KEK	**Kerkira**	**1.61**	**339**	P	**Pn**	**14 23 55.6**	**-1.1**
KEK				AML	AML	14 24 26.4	
	comp=N,1142μm,0.6s						
KEK				AML	AML	14 24 27.9	
	comp=E,1620μm,0.5s						
PYL	**PYLOS**	**1.61**	**144**	P	**Pn**	**14 23 57.3**	**+0.6**
PYL				S	**Sb**	**14 24 19.1**	**+0.7**
	comp=E,292nm,0.9s						
PYL	**PYLOS**	**1.61**	**144**	P	**Pn**	**14 23 57.1**	**+0.5**
SRN	**Sarande**	**1.72**	**346**	P	**Pn**	**14 23 59.0**	**+0.9**
	baz=348						
SRN				S	**Sg**	**14 24 24.9**	**+1.2**
	baz=348						
SRN				AMP			
	comp=E,1.9nm,0.6s,baz=348						
THL	**Klokotos Trika**	**1.77**	**40**	P	**Pb**	**14 24 00.8**	**+0.2**
THL				S	**Sn**	**14 24 22.4**	**+1.1**
	comp=E,260nm,0.9s						
THL	**Klokotos Trika**	**1.77**	**40**	P	**Pb**	**14 24 00.9**	**+0.2**
KPRO	**Kipourio**	**1.85**	**20**	P	**Pn**	**14 24 00.9**	**+0.9**
KPRO				S	**Sn**	**14 24 22.6**	**-0.9**
	comp=E,458nm,0.7s						
KPRO	**Kipourio**	**1.85**	**20**	P	**Pn**	**14 24 00.6**	**+0.5**
LSK	**Leskovik**	**1.94**	**1**	P	**Pn**	**14 24 02.9**	**+1.7**
	baz=1.0						
LSK				S	**Sg**	**14 24 32.0**	**+1.5**
	baz=1.0						
LSK				AMP			
	comp=N,3.7nm,0.8s,baz=1.0						
NEST	**Nestorio**	**2.24**	**10**	P	**Pn**	**14 24 07.2**	**+1.9**
NEO	**Neokhori**	**2.36**	**61**	P	**Pn**	**14 24 08.7**	**+1.8**
XOR	**Xorichti**	**2.36**	**60**	P	**Pn**	**14 24 07.9**	**+0.9**
XOR				S	**Sn**	**14 24 36.4**	**+0.4**
	comp=N,205nm,1.1s						
VLO	**Vlora**	**2.40**	**340**	P	**Pg**	**14 24 14.4**	**+0.1**
	baz=343						
VLO				S	**Sb**	**14 24 44.0**	**+2.9**
	baz=343						
SCTE	**Santa Cesarea**	**2.47**	**320**	P	**Pn**	**14 24 08.8**	**+0.4**
	baz=324						
SCTE				AMP			
	comp=E,0.6nm,0.4s,baz=324						
FNA	**Florina**	**2.65**	**14**	P	**Pn**	**14 24 12.6**	**+1.6**
	baz=13						
OHR	**Ohrid**	**2.91**	**4**	*i* Pn	**Pn**	**14 24 17.1**	**+2.7**
TIR	**Tirane**	**3.18**	**351**	P	**Pn**	**14 24 18.8**	**+0.6**
	baz=352						
TIR				S	**Sb**	**14 25 02.8**	**-0.7**
	baz=352						
TIR				AMP			
	comp=E,0.3nm,0.5s,baz=352						
PHP	**Peshkopia**	**3.47**	**359**	P	**Pn**	**14 24 24.0**	**+1.7**
	baz=0.0						
PHP				AMP			
	comp=N,0.5nm,0.8s,baz=0.0						
PUK	**Puka**	**3.86**	**353**	P	**Pn**	**14 24 28.1**	**+0.5**
	baz=354						
PUK				AMP			
	comp=N,0.2nm,0.4s,baz=354						
BCI	**Bajram Curri**	**4.17**	**355**	P	**Pn**	**14 24 33.9**	**+2.1**
	baz=356						
SOKA	**Soboth**	**9.39**	**336**	*e*Pn	**Pn**	**14 25 42.3**	**-1.2**
	comp=N,3.7nm,0.5s,SNR=6.7						
SOKA				*e*Sn	**Sn**	**14 27 23.0**	**-6.1**
	comp=N,2.2nm,0.6s						
OBKA	**Obir**	**9.41**	**334**	*e*Pn	**Pn**	**14 25 44.4**	**+0.7**
	comp=N,1.9nm,0.2s						
OBKA				*e*Sn	**Sn**	**14 27 27.6**	**-2.0**
	comp=N,3.9nm,0.5s						
BRTR	**Keskin Array B**	**10.30**	**77**	Pn	**Pn**	**14 25 58.9**	**+2.8**
	comp=N,0.1nm,0.3s,baz=312,slow=15,SNR=1.8						
	comp=N,0.4nm,0.8s						
LESA	**Schwarzleotal**	**10.87**	**330**	*e*Pn	**Pn**	**14 26 03.6**	**-0.2**
	comp=N,6.6nm,0.4s						
GERES	**GERESS Array B**	**11.73**	**337**	Pn	**Pn**	**14 26 15.6**	**0.0**
	comp=N,0.2nm,0.3s,baz=165,slow=12,SNR=2.2						
	comp=N,0.6nm,0.5s						
HFS	**Hagfors**	**22.37**	**351**	P	**P**	**14 28 25.2**	**-1.0**
	comp=N,5.5nm,0.9s,baz=159,slow=12,SNR=5.5						
	comp=N,5.5nm,0.9s						
FINES	**FINESS Array B**	**23.51**	**7**	P	**P**	**14 28 36.6**	**-1.4**
	comp=N,1.8nm,0.7s,baz=186,slow=12,SNR=4.1						
	comp=N,1.8nm,0.7s						
NOA	**NORSAR Array B**	**23.59**	**349**	P	**P**	**14 28 35.3**	**-3.5**
	comp=N,0.5nm,0.9s,baz=158,slow=9.0,SNR=2.2						
	comp=N,0.5nm,0.9s						
ARCES	**ARCESS Array B**	**31.50**	**3**	P	**P**	**14 29 48.6**	**-1.2**
	comp=N,4.3nm,1.0s,baz=196,slow=9.4,SNR=3.3						
	comp=N,4.3nm,1.0s						
SPITS	**Spitsbergen Ar**	**40.12**	**359**	P	**P**	**14 31 01.3**	**-2.2**
	comp=N,4.0nm,0.8s,baz=169,slow=2.3,SNR=1.6						
	comp=N,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**42.19**	**54**	P	**P**	**14 31 20.6**	**-0.2**
	comp=N,0.1nm,0.5s,baz=277,slow=8.0,SNR=1.9						
	comp=N,0.1nm,0.5s						
MKAR	**Makanchi Array**	**45.26**	**58**	P	**P**	**14 31 44.5**	**-1.1**
	comp=N,0.4nm,0.5s,baz=279,slow=7.2,SNR=11						
	comp=N,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**45.65**	**48**	P	**P**	**14 31 46.9**	**-1.6**
	comp=N,0.6nm,0.5s,baz=278,slow=8.2,SNR=3.7						
	comp=N,0.6nm,0.5s						

*IDC **30** 14:23:46.4±0.4,15.°89S×74.°70W,h0km,mb5.3/19, mbtmp5.2/22,ML4.3/3,MS5.0/56,Error ellipse: s-maj=16.0km s-min=10.5km az=57.0*
*NEIC **30** 14:23:49.6,15.°855S×74.°60W,h10km*
*NEIC **30** 14:23:49.6,15.°955S×74.°71W,h40km,Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}2.13; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-1.10; $M_{r\theta}$0.09; $M_{\theta\phi}$1.10; $M_{\phi r}$0.00; Fault plane solution: M_o2.15000×10^{17} NP1: ϕ_s134.25000°,δ45.82000°,λ87.54000°. NP2: ϕ_s317.78000°,δ44.23000°,λ92.53000°. Principal axes: T 2.1302, Plg88.0000°, Azm340.0000°; N 0.0315, Plg2.0000°, Azm136.0000°; P -2.1617, Plg1.0000°, Azm226.0000°;*
*NEIC **30** 14:23:49.6,15.°85S×74.°61W,h40km*
*MOS **30** 14:23:50.9±1.3,15.°77S×74.°60W,h37km,mb5.9/31, MS5.0/10,Error ellipse: s-maj=10.3km s-min=6.4km az=110.3*
*VAO **30** 14:23:51.2±0.4,15.°81S×74.°36W,h10km,mb6.1*
*NEIC **30** 14:23:52.9±2.5,15.°85S±0.°06×74.°61W±0.°08,h34km±1km, mb5.7/592,Ms_20 5.2/81,Mwb5.4/31,Mww5.5/31,Error ellipse: s-maj=14.1km s-min=9.4km az=60.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.44; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$-0.39; $M_{r\theta}$-0.16; $M_{\theta\phi}$1.18; $M_{\phi r}$0.13; Fault plane solution: M_o1.76000×10^{17} NP1: ϕ_s126.55000°,δ41.58000°,λ89.11000°. NP2: ϕ_s307.73000°,δ48.43000°,λ90.79000°. Principal axes: T 1.4508, Plg87.0000°, Azm227.0000°; N 0.5037, Plg1.0000°, Azm127.0000°; P -1.9544, Plg3.0000°, Azm37.0000°;*
*GCMT **30** 14:23:54.9±0.1,16.°12S±0.°01×74.°78W±0.°01,h40km, MW5.5/141,Moment Tensor Solution. s138,c224; s141,c225; Duration: 1§4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.97±.03; $M_{\theta\theta}$-1.10±.03; $M_{\phi\phi}$-0.86±.03; $M_{r\theta}$0.21±.02; $M_{\theta\phi}$1.37±.02; $M_{\phi r}$-0.12±.03; Best double couple: M_o2.17800×10^{17} NP1:ϕ_s131.00000°,δ48.00000°, λ87.00000°. NP2:ϕ_s315.00000°,δ42.00000°,λ93.00000°. Principal axes: T 1.9850, Plg86.0000°, Azm9.0000°; N 0.3910, Plg2.0000°, Azm132.0000°; P -2.3700, Plg3.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 14:23:52.1±0.4,15.°88S±0.°03×74.°58W±0.°04,h34km±1km, h34km:pP-P,n1376,σ1§40/1098,mb5.7/368,MS5.2/124, 16C-16D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.45**	**330**	Pn	**Pn**	**14 24 56.0**	**-1.1**
	29nm,0.3s,baz=149,slow=12,SNR=65						
NNA				Sn	**Sn**	**14 25 46.3**	**-1.4**
	219nm,0.3s,baz=12,slow=4.4,SNR=6.6						
NNA				Lg	Lg	14 26 05.9	
	879nm,0.3s,baz=225,slow=18,SNR=8.1						
NNA				LR	LR	14 26 41.4	
	comp=Z,14μm,19.4s,baz=159,slow=40						
	130nm,0.4s						
NNA	**Nana**	**4.45**	**330**	*e*P	**Pn**	**14 24 56.6**	**-0.5**
AP01	**Chacalluta**	**4.75**	**122**		**Pn**	**14 25 00.9**	**-0.4**
PB12	**IPOC Station P**	**4.89**	**124**	Pn	**Pn**	**14 25 03.9**	**+0.5**
PB12	**IPOC Station P**	**4.89**	**124**	*e*P	**Pn**	**14 25 03.8**	**+0.5**
PB12				*e*S	**Sb**	**14 26 18.4**	**+2.8**
PB12				IAML		14 26 45.7	
	comp=N,3μm,0.8s						
PB18	**Visviri**	**5.18**	**110**	*e*P	Pn	14 25 13.3	+5.7
PB18				*e*S	**Sb**	**14 26 21.7**	**-2.5**
PB18				IAML		14 26 49.6	
	comp=E,1μm,0.7s						
PB16	**IPOC Station P**	**5.43**	**117**		**Pn**	**14 25 12.7**	**+1.5**
PB16	**IPOC Station P**	**5.43**	**117**	*e*P	**Pn**	**14 25 13.0**	**+1.8**
PB16				*e*S	**Sn**	**14 26 11.4**	**-1.5**
PB16				IAML		14 26 54.1	
	comp=N,840nm,0.8s						
PB11	**IPOC Station P**	**6.08**	**130**	Pn	**Pn**	**14 25 20.3**	**+0.6**
TA02	**Huaiquique**	**6.08**	**137**		**Pn**	**14 25 20.4**	**+0.7**
LPAZ	**La Paz**	**6.21**	**95**	Pn	**Pn**	**14 25 26.0**	**+4.0**
LPAZ	**La Paz**	**6.21**	**95**	P	**Pn**	**14 25 26.0**	**+4.0**
TA01	**Diego Aracena**	**6.26**	**139**		**Pn**	**14 25 22.4**	**+0.3**
GO01	**Chusmiza**	**6.37**	**127**		**Pn**	**14 25 24.8**	**+0.7**
PATCX	**Punta Patache**	**6.47**	**140**	Pn	**Pn**	**14 25 25.1**	**+0.1**
PB08	**IPOC Station P**	**6.68**	**130**		**Pn**	**14 25 29.1**	**+0.8**
PB02	**IPOC Station P**	**7.00**	**141**		**Pn**	**14 25 32.8**	**+0.4**
PB01	**IPOC Station P**	**7.05**	**138**		**Pn**	**14 25 33.6**	**+0.5**
PB07	**IPOC Station P**	**7.32**	**143**		**Pn**	**14 25 37.0**	**+0.1**
PB04	**IPOC Station P**	**7.67**	**148**		**Pn**	**14 25 41.8**	**+0.2**
PB05	**IPOC Station P**	**8.08**	**150**		**Pn**	**14 25 45.7**	**-1.4**
PB06	**IPOC Station P**	**8.28**	**146**		**Pn**	**14 25 49.9**	**0.0**
CZSB	**Cruzeiro do Su**	**8.30**	**13**	Pn	**Pn**	**14 25 50.1**	**0.0**
CZSB	**Cruzeiro do Su**	**8.30**	**13**	*e*P	**Pn**	**14 25 48.4**	**-1.7**
CZSB	**Cruzeiro do Su**	**8.30**	**13**	*e*P	**Pn**	**14 25 50.6**	**+0.4**
PB10	**IPOC Station P**	**8.49**	**154**	Pn	**Pn**	**14 25 51.2**	**-1.5**
LVC	**Limon Verde**	**8.58**	**142**	Pn	**Pn**	**14 25 54.5**	**+0.3**
LVC	**Limon Verde**	**8.58**	**142**	P	**Pn**	**14 25 54.5**	**+0.3**
LVC	**Limon Verde**	**8.58**	**142**	Pn	**Pn**	**14 25 55.2**	**+1.0**
	comp=N,18nm,0.3s,baz=320,slow=11,SNR=61						
LVC				Sn	**Sn**	**14 27 24.3**	**-5.7**
	comp=N,55nm,0.3s,baz=109,slow=23,SNR=9.0						
LVC				Lg	Lg	14 28 14.3	
	baz=105,slow=16						
LVC	**Limon Verde**	**8.58**	**142**	*e*P	**Pn**	**14 25 55.1**	**+1.0**
ATAH	**Atahualpa**	**9.46**	**336**	Pn	**Pn**	**14 26 08.3**	**+2.0**
	comp=N,1.8nm,0.3s,baz=165,slow=17,SNR=9.9						
ATAH				Sn	**Sn**	**14 27 47.8**	**-3.9**
	comp=N,5.6nm,0.3s,baz=119,slow=8.3,SNR=1.3						
ATAH				LR	LR	14 29 57.2	
	comp=N,7μm,21.6s,baz=179,slow=39						
PB14	**IPOC Station P**	**9.55**	**156**		**Pn**	**14 26 05.6**	**-1.9**
ETMB	**Extrema**	**10.14**	**55**		**Pn**	**14 26 16.3**	**+0.9**
GO02	**Mina Guanaco**	**10.35**	**154**		**Pn**	**14 26 18.4**	**-0.1**
AC01	**Pan de Azucar**	**10.88**	**161**		**Pn**	**14 26 23.4**	**-2.0**
MCRA	**Macar, Loja**	**12.60**	**335**		**Pn**	**14 26 46.3**	**-2.7**
MCRA	**Macar, Loja**	**12.60**	**335**	*e*P	**Pn**	**14 26 53.5**	**+4.5**
SIV	**San Ignacio**	**13.00**	**92**	Pn	**Pn**	**14 26 53.6**	**-0.8**
	comp=N,0.1nm,0.3s,baz=270,slow=12,SNR=50						
SIV				Sn	**Sn**	**14 29 15.2**	**-2.7**
	baz=170,slow=13						
SIV				Lg	Lg	14 30 37.2	
	baz=19,slow=18,SNR=1.5						
SIV				LR	LR	14 32 35.8	
	comp=N,10μm,20.6s,baz=285,slow=40						
	comp=N,15nm,0.7s						
SAML	**Samuel**	**13.09**	**60**		**Pn**	**14 26 54.2**	**-1.5**
SAML	**Samuel**	**13.09**	**60**	P	**Pn**	**14 26 54.2**	**-1.5**
SAML	**Samuel**	**13.09**	**60**	*e*P	**Pn**	**14 26 55.2**	**-0.4**
SAML	**Samuel**	**13.09**	**60**	*e*P	**Pn**	**14 26 54.2**	**-1.5**
LCO	**Las Campanas**	**13.55**	**165**		**Pn**	**14 27 01.7**	**-0.5**
LCO	**Las Campanas**	**13.55**	**165**	P	**Pn**	**14 27 01.7**	**-0.5**
COHC	**Cochancay**	**14.10**	**340**	Pn	**Pn**	**14 27 08.4**	**-1.1**
COHC	**Cochancay**	**14.10**	**340**	*e*P	**Pn**	**14 27 09.8**	**+0.4**
BBRB	**Robore, Bolivi**	**14.33**	**102**	*e*P	**Pn**	**14 27 09.4**	**-3.2**
PTLB	**Pontes e Lacer**	**14.88**	**90**		**Pn**	**14 27 19.5**	**-0.6**
PTLB	**Pontes e Lacer**	**14.88**	**90**	*e*P	**Pn**	**14 27 17.9**	**-2.2**
SALI	**Salinas**	**15.00**	**334**	P	**P**	**14 27 26.4**	**-0.3**
PIAT	**Ana Tenorio**	**15.22**	**346**	*e*P	**P**	**14 27 31.5**	**+1.8**
PPLP	**Puerto Lopez**	**15.49**	**336**	*e*P	P	14 27 39.9	+7.6
PTLC	**Puerto Leguiza**	**15.95**	**359**	*e*P	**Pn**	**14 27 30.8**	**-3.2**
OTAV	**Otavalo**	**16.46**	**346**	P	**P**	**14 27 44.3**	**+0.9**
OTAV	**Otavalo**	**16.46**	**346**	P	**P**	**14 27 44.3**	**+0.9**
OTAV				pmax	pmax		
	comp=Z,178nm,1.9s						
OTAV	**Otavalo**	**16.46**	**346**	*e*P	**Pn**	**14 27 40.7**	**-0.3**
OTAV	**Otavalo**	**16.46**	**346**	*e*P	**Pn**	**14 27 42.6**	**+1.6**
BONI	**La Bonita**	**16.48**	**350**	*e*P	**Pn**	**14 27 41.8**	**+0.7**
CUSE	**Cuicocha Este**	**16.51**	**346**	*e*P	**Pn**	**14 27 41.0**	**-0.7**
PAC1	**Pacto, Paraso**	**16.57**	**345**	*e*P	**Pn**	**14 27 40.7**	**-1.4**
TULM	**Tulcn-Chalpat**	**16.79**	**349**	*e*P	Pn	14 27 37.8	-

ROSC S Sn 14 32 26.0 +3.5
comp=Z,7.5nm,0.4s,baz=204,slow=22,SNR=1.4
ROSC Lg Lg 14 34 30.2
comp=Z,2.1nm,0.3s,baz=103,slow=22,SNR=1.2
ROSC LR LR 14 37 21.5
comp=Z,11µm,18.1s,baz=200,slow=40
ROSC El Rosal 20.59 1 *eP* **P 14 28 29.1 +0.4**
PLMC San Jos del P 20.72 355 *eP* **P 14 28 26.1 -3.7**
NPGB Novo Progresso 20.77 67 *eP* **P 14 28 29.9 -0.4**
PIZC Pizarro, Choco 20.89 352 *eP* Pn 14 28 33.6 -0.5
GUY2C Guyana, Caldas 20.98 358 *eP* **P 14 28 32.4 -0.6**
SPBC San Pablo de B 21.40 1 *eP* **P 14 28 36.9 -0.2**
ITQB Itaqui 21.47 133 P **P 14 28 39.6 +1.9**
ITQB Itaqui 21.47 133 *eP* **P 14 28 40.0 +2.3**
PAYG Puerto Ayora 21.64 313 P **P 14 28 40.9 +1.3**
PAYG Puerto Ayora 21.64 313 *eP* **P 14 28 40.8 +1.1**
CBOC Ciudad Bolivar 21.65 356 *eP* **P 14 28 37.7 -2.1**
ITTB Itaituba 21.77 60 *eP* **P 14 28 40.8 -0.3**
UNIS Unistalda (Bra 22.26 129 *eP* **P 14 28 48.1 +1.8**
PTBC PUERTO BERRIO, 22.27 0 *eP* **P 14 28 42.1 -4.3**
CRSM Crissiumal (Br 22.28 125 *eP* **P 14 28 47.7 +1.3**
TAMC Tame, Arauca 22.34 7 *eP* **P 14 28 45.5 -1.7**
BARC Barichara 22.37 4 *eP* **P 14 28 45.9 -1.8**
FRBT Francisco Belt 22.44 120 *eP* **P 14 28 49.4 +1.2**
PCMB Pacaembu 22.80 108 *eP* **P 14 28 52.0 0.0**
DBBC Dabeiba 22.80 356 *eP* **P 14 28 50.0 -2.1**
PTGB Pitanga 22.85 116 *eP* **P 14 28 52.9 +0.3**
RODS Rosario do Sul 22.87 132 *eP* **P 14 28 53.8 +1.1**
SNDB Serra Nova Dou 22.93 83 *eP* **P 14 28 52.6 -0.8**
PTAC Punta Ardita, 23.10 352 *eP* **P 14 28 54.5 -0.6**
PAMC Pamplona, Colo 23.14 5 *eP* **P 14 28 51.2 -4.8**
LDASE Londrina, Braz 23.31 112 *eP* **P 14 28 57.7 +0.4**
ITRB Iturama 23.37 103 *eP* **P 14 28 58.4 +0.6**
UREC San Jos de Ur 23.50 358 *eP* **P 14 28 53.3 -5.7**
ALGR Alto Alegre (B 23.67 127 *eP* **P 14 29 01.7 +0.9**
ITAB Concordia 23.70 122 IAmb IAmb 14 29 03.5
comp=Z,342nm,1.1s
APAC Apartado, Choc 23.71 355 *eP* **P 14 28 59.6 -1.4**
GO06 Curarrehue 23.78 174 IAmb IAmb 14 29 16.6
comp=Z,427nm,1.9s
CACAO El Cacao, Vera 23.89 344 *eP* **P 14 28 59.0 -3.8**
OCAC Ocana 23.99 3 *eP* **P 14 29 01.4 -2.4**
CPSB Cacapava Do Su 24.17 130 *eP* **P 14 29 05.9 +0.7**
LR05 Currie 24.37 175 IAmb IAmb 14 29 24.0
comp=Z,312nm,1.4s
GMAL Guarumal, Vera 24.39 344 *eP* **P 14 29 05.1 -2.3**
MALB Monte Alegre 24.39 57 *eP* **P 14 29 07.8 +0.4**
UPD2 Meteti 24.50 352 *eP* **P 14 29 07.6 -0.8**
CAPC Capurgana 24.51 353 *eP* **P 14 29 03.9 -4.5**
FRTB Fartura 24.68 111 *eP* **P 14 29 11.2 +1.0**
TRQA Tornquist 24.73 156 P **P 14 29 10.2 -0.1**
TRQA Tornquist 24.73 156 P **P 14 29 10.3 -0.1**
TRQA pmax pmax
comp=Z,77nm,1.2s
TRQA MLR MLR
comp=Z,5µm,22.0s
PLTB Pedras Altas 24.80 133 P **P 14 29 11.5 +0.5**
PLTB IAmb IAmb 14 29 13.0
comp=Z,143nm,0.9s
PLTB Pedras Altas 24.80 133 *eP* **P 14 29 11.8 +0.8**
PLCA Paso Flores 25.01 173 P **P 14 29 13.5 +0.6**
PLCA IAmb IAmb 14 29 30.0
comp=Z,292nm,1.4s
PLCA Paso Flores 25.01 173 P **P 14 29 13.2 +0.3**
comp=Z,41nm,0.9s,baz=349,slow=11,SNR=44
PLCA PcP **PcP 14 32 47.2 -0.2**
comp=Z,20nm,1.0s,baz=329,slow=3.6,SNR=5.1
PLCA S **S 14 33 28.0 -6.8**
comp=Z,2.2nm,0.9s,baz=165,slow=19,SNR=0.9
PLCA LR LR 14 37 08.5
comp=Z,2µm,21.9s,baz=355,slow=32
comp=Z,41nm,0.9s
PLCA Paso Flores 25.01 173 *eP* **P 14 29 14.0 +1.0**
UPA Univ. de Panam 25.18 348 *eP* **P 14 29 12.7 -1.9**
BB19B Bebedouro 25.23 106 *eP* **P 14 29 16.1 +1.1**
IPMB Ipameri, GO 25.31 99 *eP* **P 14 29 17.0 +1.2**
BCIP Isla Barro Col 25.42 348 *eP* **P 14 29 11.6 -5.1**
LL6C La Loma 6 Bece 25.48 3 *eP* **P 14 29 11.7 -5.6**
BAUV El Baul 25.50 15 P **P 14 29 16.7 -0.7**
BDFB Brasilia 25.57 93 P **P 14 29 19.0 +0.8**
BDFB Brasilia 25.57 93 P **P 14 29 18.1 -0.2**
comp=Z,64nm,0.9s,baz=258,slow=12,SNR=35
BDFB S **S 14 33 48.4 +4.3**
comp=Z,1.4nm,0.3s,baz=174,slow=20,SNR=1.2
BDFB LR LR 14 41 15.8
comp=Z,3µm,18.7s,baz=269,slow=41
comp=Z,64nm,0.9s
ARGC Ariguani, Magd 25.57 1 *eP* P 14 29 25.3 +7.3
CNLB Canela 25.60 126 *eP* **P 14 29 19.6 +1.2**
SJCC San Jacinto, C 25.61 359 *eP* **P 14 29 17.7 -0.9**
CDITO Canoas 25.64 341 IAmb IAmb 14 29 55.2
comp=Z,462nm,2.0s
BRU2 Volcan 25.79 341 IAmb IAmb 14 29 35.5
comp=Z,255nm,1.4s
RCLB Rio Claro- Sao 26.34 109 *eP* **P 14 29 26.2 +1.0**
DRK0 Durika 26.41 340 IAmb IAmb 14 29 30.8
comp=Z,284nm,1.5s
SRBA San Rafael, Bu 26.42 340 P **P 14 29 26.4 +0.6**
SPB Sao Paulo 26.65 111 P **P 14 29 27.4 -0.5**
SPB IAMs_20 IAMs_20 14 41 22.6
comp=Z,6µm,20.0s
SPB Sao Paulo 26.65 111 *eP* **P 14 29 28.7 +0.9**
CRJC Cerrejon, Guaj 26.78 4 *eP* P 14 29 18.2 -11
SMRC Santa Marta, M 26.87 1 *eP* **P 14 29 30.3 +0.5**
MCPB Macapa, AP 27.05 57 *eP* **P 14 29 32.5 +1.0**
URIC Uribia, Colomb 27.52 5 *eP* **P 14 29 35.9 +0.3**
PCRV Puerto La Cruz 27.70 21 LR LR 14 41 43.1
comp=Z,10µm,19.1s,slow=39
SOCE Pocosol 27.92 339 IAmb IAmb 14 29 42.8
comp=Z,257nm,1.8s
JTS Las Juntas de 27.95 338 *i* P **P 14 29 37.9 -1.7**
JTS Las Juntas de 27.95 338 LR LR 14 40 15.8
comp=Z,4µm,21.1s,baz=152,slow=35
PARB Paraibuna 28.23 110 *eP* **P 14 29 42.7 +0.5**
HATO Hato, Curacao 28.43 12 IAMs_20 IAMs_20 14 42 41.9
comp=Z,4µm,18.0s
BSCB Bom Sucesso 28.71 105 *eP* **P 14 29 47.2 +0.8**
JANB Januaria 29.18 93 *eP* **P 14 29 51.2 +0.6**
COYC Coyhaique 29.68 176 P **P 14 29 54.1 -0.5**
MDP Montagnes des 30.10 48 LR LR 14 43 06.4
comp=Z,8µm,20.7s,baz=236,slow=38
GRGR Grenville 30.63 25 IAMs_20 IAMs_20 14 43 10.3
comp=Z,7µm,22.0s
DUB01 Friburgo-RJ 31.04 106 *eP* **P 14 30 08.6 +1.6**
AY03 Cochrane 31.33 177 IAmb IAmb 14 30 11.8
comp=Z,76nm,1.1s
TGUH Tegucigalpa,Un 32.28 336 *eP* **P 14 30 19.3 +1.4**
ALF01 Guarapari-ES 32.46 104 *eP* **P 14 30 20.9 +1.4**
RIB01 Linhares ES 32.74 101 *eP* **P 14 30 22.7 +0.8**
BIM Bigot 33.02 25 IAMs_20 IAMs_20 14 44 50.7
comp=Z,4µm,20.0s
MPOM Morne Pois Mar 33.04 25 IAMs_20 IAMs_20 14 44 50.2
comp=Z,4µm,20.0s
GUA01 Guaratinga, BA 33.37 96 *eP* **P 14 30 28.4 +0.9**
MTO3 Montecristo 33.44 333 IAmb IAmb 14 30 30.7
comp=Z,119nm,1.4s
MTDJ Mount Denham 34.01 355 P **P 14 30 32.9 -0.1**
MTDJ Mount Denham 34.01 355 *eP* **P 14 30 29.7 -3.3**
RPN Rapa Nui 34.11 245 LR LR 14 40 42.5
comp=Z,4µm,21.2s,baz=84,slow=30
GDHS Morne Mazeau, 34.36 22 IAMs_20 IAMs_20 14 45 30.5
comp=Z,4µm,19.0s
ABD La Joyeuse, An 34.64 22 IAMs_20 IAMs_20 14 45 47.7
comp=Z,5µm,19.0s
CELP Cerrillos 34.65 13 P **P 14 30 37.6 -0.8**
CELP IAmb IAmb 14 30 59.2
comp=Z,217nm,1.7s
GDSD La Dsirade Is 34.65 23 IAMs_20 IAMs_20 14 46 14.9
comp=Z,4µm,18.0s
SJG San Juan 34.78 14 LR LR 14 47 21.3
comp=Z,2µm,18.2s,baz=194,slow=41
SDDR Presa de Saban 34.79 5 IAMs_20 IAMs_20 14 45 55.6
comp=Z,4µm,22.0s
SABA Saba 35.11 19 IAMs_20 IAMs_20 14 47 46.0
comp=Z,4µm,21.0s
GO09 Cerro Castillo 35.35 178 IAmb IAmb 14 30 47.3
comp=Z,90nm,1.3s
EFI East Falkland 38.07 163 P **P 14 31 08.4 +1.1**
EFI IAmb IAmb 14 31 09.9
comp=Z,159nm,1.1s
EFI East Falkland 38.07 163 P **P 14 31 08.4 +1.1**
EFI pmax pmax
comp=Z,159nm,1.1s
EFI East Falkland 38.07 163 P **P 14 31 08.6 +1.2**
EFI PcP **PcP 14 33 22.9 +0.9**
TEIG Tepich 38.32 339 P **P 14 31 09.9 +0.2**
TEIG IAmb IAmb 14 31 11.3
comp=Z,179nm,1.1s
TEIG Tepich 38.32 339 LR LR 14 47 15.0
comp=Z,23µm,20.2s,baz=292,slow=37
TEIG Tepich 38.32 339 P **P 14 31 10.3 +0.6**
TEIG pP **sP 14 31 21.9 -1.3**
TEIG PcP **PcP 14 33 23.6 +0.3**
CMIG Matias Romero 38.39 328 LR LR 14 45 46.4
comp=Z,1µm,19.1s,baz=142,slow=34
RCBR Riachuelo 39.21 80 LR LR 14 48 38.7
comp=Z,6µm,20.7s,baz=254,slow=38
RCBR Riachuelo 39.21 80 *eP* **P 14 31 18.9 +1.5**
UNM Universidad Na 42.54 324 IAMs_20 IAMs_20 14 47 58.1
comp=Z,3µm,21.0s
DWPF Disney Wildern 44.23 351 P **P 14 31 57.9 -0.2**
baz=171
TIGA Tifton 47.83 350 P **P 14 32 26.2 -0.3**
baz=168
352A Blakely 48.12 348 IAmb IAmb 14 32 29.3
comp=Z,101nm,1.1s
BRAL Brewton 48.28 346 P **P 14 32 29.9 -0.1**
baz=164
HOPE Hope Point 48.37 151 P **P 14 32 31.8 +1.4**
HOPE Hope Point 48.37 151 P **P 14 32 31.8 +1.4**
HOPE pmax pmax
comp=Z,212nm,1.0s
HOPE Hope Point 48.37 151 P **P 14 32 32.6 +2.2**
HOPE sP **sP 14 32 50.1 +5.6**
HOPE PcP **PcP 14 33 58.1 +1.5**
250A Grady 48.88 347 P **P 14 32 34.0 -0.6**
baz=165,SNR=8.1
154A Montrose 48.90 350 P **P 14 32 34.3 -0.4**
baz=169,SNR=8.0
NHSC New Hope 49.00 354 P **P 14 32 34.7 -0.7**
baz=173
NHSC New Hope 49.00 354 P **P 14 32 35.9 +0.4**
baz=173
152A Waverly Hall 49.23 349 IAmb IAmb 14 32 37.6
comp=Z,118nm,1.3s
152A Waverly Hall 49.23 349 P **P 14 32 36.3 -1.0**
baz=167,SNR=11
PMSA Palmer Station 49.38 174 LR LR 14 50 49.7
comp=Z,387nm,19.4s,baz=344,slow=33
HAW Hawthorne Fire 49.42 352 P **P 14 32 37.9 -0.8**
baz=171,SNR=18
GOGA Godfrey 49.74 350 P **P 14 32 39.9 -1.2**
GOGA IAmb IAmb 14 32 41.5
comp=Z,100nm,1.3s
GOGA Godfrey 49.74 350 IAMs_20 IAMs_20 14 56 06.8
comp=Z,3µm,18.0s
GOGA Godfrey 49.74 350 P **P 14 32 40.4 -0.7**
baz=169,SNR=8.6
GOGA Godfrey 49.74 350 P **P 14 32 40.2 -0.9**
baz=169,SNR=8.6
GOGA Godfrey 49.74 350 P **P 14 32 39.9 -1.2**
GOGA pmax pmax
comp=Z,100nm,1.3s
GOGA MLR MLR
comp=Z,2µm,18.0s
Y57A Sumter 49.92 354 P **P 14 32 42.7 +0.3**
baz=173
Y57A P **P 14 32 42.7 +0.3**
baz=173
Z51A Franklin 49.95 348 IAmb IAmb 14 32 43.2
comp=Z,90nm,1.2s
Z51A Franklin 49.95 348 P **P 14 32 41.7 -1.0**
baz=167,SNR=5.5
HKT Hockley 49.96 336 P **P 14 32 42.4 -0.3**
HKT Hockley 49.96 336 P **P 14 32 43.1 +0.4**
baz=153
HKT Hockley 49.96 336 P **P 14 32 42.4 -0.3**
HKT pmax pmax
comp=Z,303nm,1.9s
HKT Hockley 49.96 336 P **P 14 32 43.1 +0.4**
HKT pP **sP 14 32 55.4 -0.9**
LRAL Lakeview Retre 50.06 346 P **P 14 32 41.9 -1.7**
LRAL IAmb IAmb 14 32 43.9
comp=Z,108nm,1.1s
LRAL Lakeview Retre 50.06 346 P **P 14 32 42.1 -1.5**
baz=164,SNR=21
LRAL Lakeview Retre 50.06 346 P **P 14 32 42.2 -1.4**
baz=164,SNR=21
833A Chaparral WMA, 50.08 331 IAmb IAmb 14 32 45.3
comp=Z,116nm,1.2s
833A Chaparral WMA, 50.08 331 P **P 14 32 43.4 -0.4**
baz=148,SNR=16
833A Chaparral WMA, 50.08 331 P **P 14 32 43.8 +0.1**
baz=148,SNR=16
VBMS Vicksburg 50.20 342 P **P 14 32 44.3 -0.3**
baz=160
Y52A Lilburn 50.28 350 IAmb IAmb 14 32 45.6
comp=Z,204nm,1.7s
Y52A Lilburn 50.28 350 P **P 14 32 44.6 -0.6**
baz=168,SNR=6.0
Y52A P **P 14 32 44.6 -0.6**
baz=168,SNR=6.0
JSC Jenkinsville 50.28 353 IAmb IAmb 14 34 39.5
comp=Z,122nm,1.2s
JSC Jenkinsville 50.28 353 P **P 14 32 45.1 -0.1**
baz=172,SNR=5.9
HODGE Hodges 50.36 352 IAmb IAmb 14 32 46.4
comp=Z,215nm,1.9s
HODGE Hodges 50.36 352 P **P 14 32 45.2 -0.6**
baz=170,SNR=9.4
Z47A Carrollton 50.47 345 P **P 14 32 45.6 -1.0**
baz=163,SNR=15
BIRD Birdtown, Kers 50.55 354 IAmb IAmb 14 32 48.1
comp=Z,123nm,1.1s
BIRD Birdtown, Kers 50.55 354 P **P 14 32 46.7 -0.5**
baz=173,SNR=12
Y49A Blount Mountai 50.73 347 IAmb IAmb 14 32 59.4
comp=Z,122nm,1.9s
PAULI Pauline 50.88 352 IAmb IAmb 14 32 50.5
comp=Z,86nm,1.0s
PAULI Pauline 50.88 352 P **P 14 32 49.3 -0.5**
baz=171,SNR=11
CNNC Cliffs of the 50.93 357 P **P 14 32 50.0 -0.1**
baz=176
W57A Gilead 51.01 354 P **P 14 32 50.2 -0.4**
baz=173,SNR=16
W57A P **P 14 32 50.2 -0.4**
baz=173,SNR=16
X51A Calhoun 51.10 349 IAmb IAmb 14 32 51.8
comp=Z,101nm,1.1s
X51A Calhoun 51.10 349 P **P 14 32 50.3 -1.2**
baz=167,SNR=9.1
X51A P **P 14 32 50.3 -1.2**
baz=167,SNR=9.1
NATX Nacogdoches 51.13 338 P **P 14 32 51.7 0.0**
baz=155
NATX Nacogdoches 51.13 338 P **P 14 32 53.0 +1.3**
baz=155
KMSC Kings Mountain 51.14 353 IAmb IAmb 14 32 52.5
comp=Z,100nm,1.1s
KMSC Kings Mountain 51.14 353 P **P 14 32 51.2 -0.5**
baz=172,SNR=9.0
KMSC Kings Mountain 51.14 353 P **P 14 32 51.3 -0.5**
baz=172,SNR=9.0
CASEE Lake Jocassee 51.21 351 P **P 14 32 51.5 -0.7**
baz=170,SNR=6.2
FPAL Fort Paine 51.22 348 IAmb IAmb 14 32 52.3
comp=Z,115nm,1.1s
435B Jarrell 51.40 335 P **P 14 32 54.1 +0.3**
baz=151
X48A Hartselle 51.43 347 IAmb IAmb 14 32 53.9
comp=Z,108nm,1.2s
X48A Hartselle 51.43 347 P **P 14 32 52.6 -1.3**
baz=165,SNR=13
W52A Murphy 51.46 350 IAmb IAmb 14 32 54.7
comp=Z,97nm,1.2s
W52A Murphy 51.46 350 P **P 14 32 53.2 -0.9**
baz=169,SNR=11
Y45A Yeager Farm, C 51.48 344 P **P 14 32 53.9 -0.3**
baz=162,SNR=6.2
V58A Windy Hill, Pi 51.57 355 IAmb IAmb 14 32 55.6
comp=Z,114nm,1.4s
V58A Windy Hill, Pi 51.57 355 P **P 14 32 54.6 -0.2**
baz=174,SNR=7.1
V58A P **P 14 32 54.6 -0.2**
baz=174,SNR=7.1
DRIO Del Rio 51.58 331 IAmb IAmb 14 32 55.9
comp=Z,77nm,1.2s
237A Washetta, Mont 51.77 337 P **P 14 32 57.4 +0.9**
baz=154,SNR=8.4
W50A Signal Mountai 51.81 349 IAmb IAmb 14 32 56.9
comp=Z,106nm,1.1s
W50A Signal Mountai 51.81 349 P **P 14 32 55.6 -1.1**
baz=167,SNR=21
V55A Taylorsville 51.83 353 IAmb IAmb 14 32 58.0
comp=Z,122nm,1.4s
V55A Taylorsville 51.83 353 P **P 14 32 56.7 -0.2**
baz=172,SNR=9.8
V55A P **P 14 32 56.7 -0.2**
baz=172,SNR=9.8
V53A Saluda 51.85 351 P **P 14 32 55.5 -1.6**
baz=170,SNR=6.8
V53A P **P 14 32 55.5 -1.6**
baz=170,SNR=6.8
CPCT Cooper Cave 51.91 350 IAmb IAmb 14 32 57.8
comp=Z,84nm,1.3s
SWET Sewanee 51.94 348 IAmb IAmb 14 32 57.6
comp=Z,88nm,1.0s
TKL Tuckaleechee C 51.99 350 IAmb IAmb 14 32 58.2
comp=Z,138nm,1.4s
TKL Tuckaleechee C 51.99 350 P **P 14 32 56.7 -1.4**
baz=169,SNR=14
TKL Tuckaleechee C 51.99 350 LR LR 14 57 45.9
comp=Z,1µm,18.8s,baz=160,slow=39
U59A Littleton 52.03 357 P **P 14 32 58.6 +0.2**
baz=176
U59A P **P 14 32 58.6 +0.2**
baz=176
OXF Oxford 52.06 344 IAmb IAmb 14 32 58.8
comp=Z,129nm,1.1s
OXF Oxford 52.06 344 P **P 14 32 56.9 -1.7**
baz=162,SNR=11
OXF Oxford 52.06 344 P **P 14 32 57.5 -1.1**
baz=162,SNR=11
JCT Junction City 52.09 332 P **P 14 32 58.2 -0.8**
baz=149,SNR=6.8
JCT Junction City 52.09 332 P **P 14 32 58.5 -0.5**
baz=149,SNR=6.8
V52A Sevierville 52.14 351 IAmb IAmb 14 32 59.4
comp=Z,159nm,1.2s
V52A Sevierville 52.14 351 P **P 14 32 57.9 -1.2**
baz=169,SNR=17
HPIG 52.17 324 IAmb IAmb 14 33 01.8
comp=Z,142nm,1.5s
PLAL Pickwick Lake 52.18 346 IAmb IAmb 14 32 59.0
comp=Z,74nm,1.2s
V51A Loudon 52.22 350 IAmb IAmb 14 33 00.0
comp=Z,103nm,1.1s
V51A Loudon 52.22 350 P **P 14 32 58.0 -1.8**
baz=168,SNR=11
U56A King 52.23 354 IAmb IAmb 14 33 01.1
comp=Z,149nm,1.2s
U56A King 52.23 354 P **P 14 32 59.2 -0.6**
baz=173,SNR=7.1
U56A P **P 14 32 59.2 -0.6**
baz=173,SNR=7.1
SLBS Sierra La Lagu 52.35 318 P **P 14 33 00.9 -0.1**
WHTX Lake Whitney, 52.41 335 IAmb IAmb 14 33 02.3
comp=Z,150nm,1.1s
WHTX Lake Whitney, 52.41 335 P **P 14 33 00.7 -0.5**
baz=152,SNR=20
WHTX Lake Whitney, 52.41 335 P **P 14 33 01.1 -0.1**
baz=152,SNR=20
Z38A Mt. Pleasant 52.60 338 P **P 14 33 02.6 -0.1**
baz=155,SNR=8.9
V48A Smith Brothers 52.63 347 IAmb IAmb 14 33 02.8
comp=Z,148nm,1.3s
V48A Smith Brothers 52.63 347 P **P 14 33 01.4 -1.4**
baz=165,SNR=17
T59A Double "B" Far 52.64 357 IAmb IAmb 14 33 04.2
comp=Z,109nm,1.4s
T59A Double "B" Far 52.64 357 P **P 14 33 02.6 -0.2**
baz=176,SNR=9.3
T59A P **P 14 33 02.6 -0.2**
baz=176,SNR=9.3
FW14 Alvarado 52.66 336 IAmb IAmb 14 33 04.2
comp=Z,104nm,1.1s
FW13 Cleburne 52.71 336 IAmb IAmb 14 33 04.5
comp=Z,125nm,1.1s
SAND Sanderson 52.74 330 IAmb IAmb 14 33 05.2
comp=Z,96nm,1.2s
T57A Hurt 52.77 355 IAmb IAmb 14 33 04.8
comp=Z,86nm,1.1s
T57A Hurt 52.77 355 P **P 14 33 03.3 -0.5**
baz=174,SNR=11
T57A P **P 14 33 03.3 -0.5**
baz=174,SNR=11
TZTN Tazewell 52.82 351 IAmb IAmb 14 33 04.5
comp=Z,81nm,1.2s
TZTN Tazewell 52.82 351 P **P 14 33 03.7 -0.5**
baz=169,SNR=7.9
TZTN Tazewell 52.82 351 P **P 14 33 03.2 -1.0**
baz=169,SNR=7.9
LPIG La Paz 52.88 318 LR LR 14 50 37.9
comp=Z,366nm,20.2s,baz=98,slow=30
TXAR Lajitas Array 53.00 328 P **P 14 33 05.0 -0.8**
comp=Z,14nm,0.6s,baz=153,slow=8.0,SNR=149
TXAR PcP **PcP 14 34 13.3 -0.9**
comp=Z,3.3nm,0.9s,baz=134,slow=5.2,SNR=1.4
TXAR LR LR 14 54 34.6
comp=Z,626nm,20.1s,baz=132,slow=35
TXAR PKPPKP **P'P'df 15 03 23.8 -4.8**
comp=Z,0.6nm,0.9s,baz=343,slow=1.3,SNR=4.7
TXAR PKP2ab 15 04 11.4
comp=Z,1.0nm,1.1s,baz=281,slow=0.6,SNR=4.7
comp=Z,14nm,0.6s
TX31 Lajitas Ar. Si 53.00 328 P **P 14 33 05.2 -0.6**
baz=144,SNR=57
OZNA Ozona 53.07 331 IAmb IAmb 14 33 07.1
comp=Z,69nm,1.1s
BLA Blacksburg 53.09 354 IAmb IAmb 14 33 07.3
comp=Z,86nm,1.4s
BLA Blacksburg 53.09 354 P **P 14 33 05.7 -0.5**
baz=173,SNR=5.1
BLA Blacksburg 53.09 354 P **P 14 33 05.9 -0.3**
baz=173,SNR=5.1
UALR University of 53.12 342 IAmb IAmb 14 33 07.2
comp=Z,145nm,1.1s
U49A Red Boiling Sp 53.17 349 IAmb IAmb 14 33 06.7
comp=Z,108nm,1.7s
U49A Red Boiling Sp 53.17 349 P **P 14 33 05.0 -1.8**
baz=167,SNR=6.2
WVT Waverly 53.22 347 P **P 14 33 06.2 -0.9**
baz=164
WVT Waverly 53.22 347 P **P 14 33 05.1 -2.0**
baz=164,SNR=13
WVT Waverly 53.22 347 P **P 14 33 05.1 -2.0**
FW06 Azle 53.31 336 IAmb IAmb 14 33 09.1
comp=Z,90nm,1.0s
PLPT Palo Pinto 53.47 335 IAmb IAmb 14 33 10.2
comp=Z,124nm,1.2s
T50A Nancy 53.49 350 P **P 14 33 07.6 -1.6**
baz=168
T50A P **P 14 33 07.6 -1.6**
baz=168
Z35A Perchaven, San 53.51 336 P **P 14 33 09.7 +0.4**
baz=153,SNR=9.8
S57A Dark Hollow, R 53.51 356 IAmb IAmb 14 33 10.3
comp=Z,80nm,1.2s
S57A Dark Hollow, R 53.51 356 P **P 14 33 08.7 -0.6**
baz=175,SNR=7.4
S57A P **P 14 33 08.7 -0.6**
baz=175,SNR=7.4
FW03 Perrin-Whitt E 53.57 335 IAmb IAmb 14 33 11.0
comp=Z,114nm,1.5s
R58B Mineral 53.64 357 IAmb IAmb 14 33 11.8
comp=Z,105nm,1.3s
R58B Mineral 53.64 357 P **P 14 33 10.7 +0.5**
baz=176,SNR=7.4
R58B P **P 14 33 10.7 +0.5**
baz=176,SNR=7.4
S54A Dingess, Beckl 53.76 353 IAmb IAmb 14 33 11.7
comp=Z,92nm,1.2s
ABTX Abilene, Hawle 53.86 334 P **P 14 33 11.7 -0.2**
baz=150,SNR=15
ABTX Abilene, Hawle 53.86 334 P **P 14 33 11.1 -0.8**
baz=150,SNR=15
T47A Sharon Grove 53.89 348 P **P 14 33 10.8 -1.2**
baz=165,SNR=6.9
S51A Beattyville 53.90 351 P **P 14 33 11.2 -0.9**
baz=169,SNR=5.4
S51A P **P 14 33 11.2 -0.9**
baz=169,SNR=5.4
LCAR Lake Charles 53.99 343 IAmb IAmb 14 33 12.8
comp=Z,89nm,1.1s
LCAR Lake Charles 53.99 343 P **P 14 33 11.5 -1.3**
baz=160,SNR=27
R55A Marlinton 54.12 355 IAmb IAmb 14 33 15.2
comp=Z,120nm,1.6s

R55A	**Marlinton**	**54.12**	**355**	P	**P**	**14 33 13.0**	**-0.8**
	baz=174,SNR=5.4						
R55A				P	**P**	**14 33 13.0**	**-0.8**
	baz=174,SNR=5.4						
MNHN	**Monahans**	**54.19**	**330**	IAmb	IAmb	14 33 15.5	
	comp=Z,125nm,1.3s						
PBMO	**Poplar Bluff**	**54.47**	**344**	IAmb	IAmb	14 33 16.2	
	comp=Z,89nm,1.0s						
PBMO	**Poplar Bluff**	**54.47**	**344**	P	**P**	**14 33 14.5**	**-1.7**
	baz=161,SNR=21						
SN01	**Snyder 1**	**54.60**	**333**	IAmb	IAmb	14 33 18.4	
	comp=Z,158nm,1.6s						
R50A	**Paris**	**54.64**	**351**	IAmb	IAmb	14 33 17.8	
	comp=Z,108nm,1.2s						
R50A	**Paris**	**54.64**	**351**	P	**P**	**14 33 16.7**	**-0.8**
	baz=169,SNR=14						
R50A				P	**P**	**14 33 16.7**	**-0.8**
	baz=169,SNR=14						
U40A	**Yellville**	**54.74**	**342**	P	**P**	**14 33 17.3**	**-1.0**
	baz=158,SNR=62						
U40A				P	**P**	**14 33 17.3**	**-1.0**
	baz=158,SNR=62						
CGM3	**Cape Girardeau**	**54.76**	**345**	IAmb	IAmb	14 33 18.3	
	comp=Z,114nm,1.1s						
R49A	**Shelbyville**	**54.79**	**350**	IAmb	IAmb	14 33 18.6	
	comp=Z,142nm,1.3s						
R49A	**Shelbyville**	**54.79**	**350**	P	**P**	**14 33 17.5**	**-1.1**
	baz=168,SNR=12						
R49A				P	**P**	**14 33 17.5**	**-1.1**
	baz=168,SNR=12						
VHRN	**Van Horn**	**54.84**	**328**	IAmb	IAmb	14 33 20.4	
	comp=Z,92nm,1.2s						
Q54A	**Coxs Mills**	**54.88**	**354**	IAmb	IAmb	14 33 19.5	
	comp=Z,105nm,1.5s						
Q54A	**Coxs Mills**	**54.88**	**354**	P	**P**	**14 33 17.8**	**-1.4**
	baz=173						
Q54A				P	**P**	**14 33 17.8**	**-1.4**
	baz=173						
WCI	**Wyandotte Cave**	**54.93**	**349**	P	**P**	**14 33 17.9**	**-1.7**
WCI	**Wyandotte Cave**	**54.93**	**349**	P	**P**	**14 33 18.0**	**-1.5**
	baz=166						
WCI	**Wyandotte Cave**	**54.93**	**349**	P	**P**	**14 33 18.0**	**-1.5**
	baz=166,SNR=19						
WCI	**Wyandotte Cave**	**54.93**	**349**	P	**P**	**14 33 17.9**	**-1.7**
WCI				pmax	pmax		
	comp=Z,164nm,1.0s						
WCI	**Wyandotte Cave**	**54.93**	**349**	P	**P**	**14 33 18.2**	**-1.4**
Q52A	**Bidwell**	**55.02**	**353**	IAmb	IAmb	14 33 20.6	
	comp=Z,79nm,1.3s						
SDMD	**Soldier's Deli**	**55.04**	**358**	P	**P**	**14 33 20.3**	**0.0**
	baz=177,SNR=5.1						
S44A	**Carbondale**	**55.04**	**346**	P	**P**	**14 33 19.2**	**-1.2**
	baz=163,SNR=18						
Q51A	**Peebles**	**55.23**	**352**	IAmb	IAmb	14 33 21.8	
	comp=Z,76nm,1.4s						
Q51A	**Peebles**	**55.23**	**352**	P	**P**	**14 33 20.7**	**-1.0**
	baz=170						
Q51A				P	**P**	**14 33 20.7**	**-1.0**
	baz=170						
RLO	**Rose Lookout**	**55.25**	**340**	IAmb	IAmb	14 33 22.9	
	comp=Z,257nm,1.6s						
TUL3	**Leonard**	**55.28**	**339**	P	**P**	**14 33 21.6**	**-0.5**
	baz=155,SNR=26						
TUL3	**Leonard**	**55.28**	**339**	P	**P**	**14 33 21.7**	**-0.5**
	baz=155,SNR=26						
U38A	**Gravette**	**55.30**	**341**	IAmb	IAmb	14 33 22.9	
	comp=Z,130nm,1.2s						
U38A	**Gravette**	**55.30**	**341**	P	**P**	**14 33 21.7**	**-0.6**
	baz=157,SNR=15						
DKNS	**Dickens**	**55.30**	**333**	IAmb	IAmb	14 33 23.2	
	comp=Z,58nm,0.9s						
WMOK	**Wichita Mounta**	**55.34**	**336**	IAmb	IAmb	14 33 23.1	
	comp=Z,118nm,1.6s						
WMOK	**Wichita Mounta**	**55.34**	**336**	P	**P**	**14 33 21.5**	**-1.2**
	baz=152						
P53A	**Whipple**	**55.44**	**354**	IAmb	IAmb	14 33 23.6	
	comp=Z,91nm,1.4s						
P53A	**Whipple**	**55.44**	**354**	P	**P**	**14 33 23.0**	**-0.2**
	baz=172						
P53A				P	**P**	**14 33 23.0**	**-0.2**
	baz=172						
MCWV	**Mont Chateau**	**55.46**	**355**	P	**P**	**14 33 22.9**	**-0.5**
	baz=174						
PSUB	**Penn St. - Bra**	**55.52**	**359**	P	**P**	**14 33 23.2**	**-0.6**
	baz=179						
WUPA	**West Chester U**	**55.53**	**359**	IAmb	IAmb	14 33 25.5	
	comp=Z,76nm,1.2s						
FVM	**French Village**	**55.60**	**345**	IAmb	IAmb	14 33 24.6	
	comp=Z,99nm,1.1s						
FVM	**French Village**	**55.60**	**345**	P	**P**	**14 33 23.5**	**-0.9**
	baz=162,SNR=13						
MVL	**Millersville**	**55.61**	**358**	IAmb	IAmb	14 33 26.3	
	comp=Z,103nm,1.2s						
P51A	**Williamsport**	**55.63**	**352**	IAmb	IAmb	14 33 24.5	
	comp=Z,87nm,1.4s						
P51A	**Williamsport**	**55.63**	**352**	P	**P**	**14 33 23.3**	**-1.4**
	baz=170,SNR=5.2						
P51A				P	**P**	**14 33 23.3**	**-1.4**
	baz=170,SNR=5.2						
P52A	**Corning**	**55.67**	**353**	P	**P**	**14 33 23.9**	**-1.0**
	baz=171						
MNTX	**Cornudas Mount**	**55.77**	**328**	P	**P**	**14 33 25.2**	**-0.6**
	baz=144,SNR=25						
MNTX	**Cornudas Mount**	**55.77**	**328**	P	**P**	**14 33 24.7**	**-1.1**
	baz=144,SNR=25						
OLIL	**Olney**	**55.78**	**347**	P	**P**	**14 33 24.6**	**-1.0**
	baz=164,SNR=12						
CCM	**Cathedral Cave**	**55.88**	**344**	P	**P**	**14 33 24.9**	**-1.5**
CCM				IAmb	IAmb	14 33 26.5	
	comp=Z,106nm,1.3s						
CCM	**Cathedral Cave**	**55.88**	**344**	P	**P**	**14 33 25.7**	**-0.7**
	baz=161						
CCM	**Cathedral Cave**	**55.88**	**344**	P	**P**	**14 33 24.9**	**-1.5**
	baz=161,SNR=20						
CCM	**Cathedral Cave**	**55.88**	**344**	P	**P**	**14 33 24.9**	**-1.5**
CCM				pmax	pmax		
	comp=Z,106nm,1.3s						
CCM	**Cathedral Cave**	**55.88**	**344**	P	**P**	**14 33 25.0**	**-1.4**
CCM				PcP	**PcP**	**14 34 24.8**	**-0.1**
BLO	**Bloomington**	**55.89**	**349**	IAmb	IAmb	14 33 26.4	
	comp=Z,128nm,1.4s						
P49A	**Miami Univ. Ec**	**55.93**	**351**	IAmb	IAmb	14 33 26.2	
	comp=Z,169nm,1.4s						
P49A	**Miami Univ. Ec**	**55.93**	**351**	P	**P**	**14 33 25.5**	**-1.2**
	baz=168,SNR=11						
P49A	**Miami Univ. Ec**	**55.93**	**351**	P	**P**	**14 33 25.1**	**-1.6**
	baz=168,SNR=11						
PANJ	**Princeton**	**55.96**	**360**	P	**P**	**14 33 27.8**	**+0.9**
	baz=180,SNR=5.4						
P48A	**Milroy**	**55.97**	**350**	IAmb	IAmb	14 33 26.5	
	comp=Z,88nm,1.3s						
P48A	**Milroy**	**55.97**	**350**	P	**P**	**14 33 24.9**	**-2.2**
	baz=168,SNR=8.3						
P48A				P	**P**	**14 33 24.9**	**-2.2**
	baz=168,SNR=8.3						
S39A	**Bolivar**	**56.12**	**342**	P	**P**	**14 33 26.9**	**-1.3**
	baz=158,SNR=68						
Q44A	**Meyer Farm, Va**	**56.14**	**346**	P	**P**	**14 33 26.3**	**-1.9**
	baz=163,SNR=35						
O53A	**New Philadelph**	**56.17**	**354**	P	**P**	**14 33 27.6**	**-0.9**
	baz=172,SNR=6.1						
OK051	**E0350 and S346**	**56.18**	**338**	IAMs_20	IAMs_20	14 57 46.6	
	comp=Z,1μm,19.0s						
UPAO	**U. Pittsburgh**	**56.30**	**355**	P	**P**	**14 33 29.2**	**-0.1**
	baz=174						
SSPA	**Standing Stone**	**56.30**	**357**	P	**P**	**14 33 28.2**	**-1.2**
SSPA	**Standing Stone**	**56.30**	**357**	P	**P**	**14 33 29.0**	**-0.4**
	baz=176						
SSPA	**Standing Stone**	**56.30**	**357**	P	**P**	**14 33 30.1**	**+0.7**
	baz=176						
SSPA	**Standing Stone**	**56.30**	**357**	P	**P**	**14 33 29.7**	**+0.3**
SSPA				pP	**sP**	**14 33 42.0**	**-1.1**
SSPA				sP	pP	14 33 47.5	+8.0
SSPA				PcP	**PcP**	**14 34 27.4**	**+0.9**
ACSO	**Alum Creek Sta**	**56.36**	**352**	IAmb	IAmb	14 33 29.8	
	comp=Z,103nm,1.3s						
ACSO	**Alum Creek Sta**	**56.36**	**352**	P	**P**	**14 33 28.8**	**-1.0**
	baz=170,SNR=8.2						
ACSO	**Alum Creek Sta**	**56.36**	**352**	P	**P**	**14 33 28.5**	**-1.3**
	baz=170,SNR=8.2						
MSTX	**Muleshoe**	**56.38**	**332**	IAmb	IAmb	14 33 30.9	
	comp=Z,149nm,1.4s						
MSTX	**Muleshoe**	**56.38**	**332**	P	**P**	**14 33 29.1**	**-1.1**
	baz=147,SNR=10						
MSTX	**Muleshoe**	**56.38**	**332**	P	**P**	**14 33 29.4**	**-0.8**
	baz=147,SNR=10						
R40A	**Maddies Statio**	**56.38**	**343**	P	**P**	**14 33 28.7**	**-1.3**
	baz=160,SNR=47						
T35B	**Sooner Cattle**	**56.44**	**339**	P	**P**	**14 33 29.6**	**-0.8**
	baz=155,SNR=46						
P46A	**Rosedale**	**56.45**	**348**	IAmb	IAmb	14 33 30.0	
	comp=Z,119nm,1.2s						
P46A	**Rosedale**	**56.45**	**348**	P	**P**	**14 33 28.7**	**-1.7**
	baz=166,SNR=10						
N58A	**Sunbury**	**56.46**	**358**	IAmb	IAmb	14 33 31.4	
	comp=Z,97nm,1.2s						
N58A	**Sunbury**	**56.46**	**358**	P	**P**	**14 33 31.0**	**+0.5**
	baz=178,SNR=7.3						
N58A				P	**P**	**14 33 31.0**	**+0.5**
	baz=178,SNR=7.3						
O49A	**Covington**	**56.51**	**351**	P	**P**	**14 33 29.4**	**-1.4**
	baz=169,SNR=6.7						
O49A				P	**P**	**14 33 29.4**	**-1.4**
	baz=169,SNR=6.7						
PAL	**Palisades**	**56.59**	**1**	P	**P**	**14 33 31.5**	**+0.1**
AMTX	**Amarillo**	**56.67**	**333**	IAmb	IAmb	14 33 32.8	
	comp=Z,161nm,1.9s						
AMTX	**Amarillo**	**56.67**	**333**	P	**P**	**14 33 31.0**	**-1.2**
	baz=148						
AMTX	**Amarillo**	**56.67**	**333**	P	**P**	**14 33 31.7**	**-0.5**
	baz=148						
O48B	**Farmland**	**56.70**	**350**	IAmb	IAmb	14 33 31.9	
	comp=Z,150nm,1.3s						
O48B	**Farmland**	**56.70**	**350**	P	**P**	**14 33 30.5**	**-1.7**
	baz=168,SNR=10						
O48B	**Farmland**	**56.70**	**350**	P	**P**	**14 33 29.8**	**-2.5**
	baz=168,SNR=10						
ELIS	**Ellis County**	**56.75**	**336**	IAmb	IAmb	14 33 34.9	
	comp=Z,52nm,0.9s						
U32A	**Winter Ranch,**	**56.87**	**337**	P	**P**	**14 33 32.0**	**-1.5**
	baz=152,SNR=5.5						
P43A	**Skaggs, Pawnee**	**56.96**	**346**	P	**P**	**14 33 32.7**	**-1.4**
	baz=163,SNR=9.3						
M57A	**Sunshine Farm,**	**56.97**	**358**	IAmb	IAmb	14 33 35.2	
	comp=Z,90nm,1.2s						
M57A	**Sunshine Farm,**	**56.97**	**358**	P	**P**	**14 33 34.3**	**+0.2**
	baz=177,SNR=6.2						
M57A				P	**P**	**14 33 34.3**	**+0.2**
	baz=177,SNR=6.2						
KAN14	**Manchester OK**	**56.99**	**338**	IAmb	IAmb	14 33 34.8	
	comp=Z,88nm,1.1s						
KAN17	**Caldwell West**	**56.99**	**338**	IAmb	IAmb	14 33 35.1	
	comp=Z,91nm,1.0s						
KSPA	**Keystone Colle**	**57.15**	**359**	IAmb	IAmb	14 33 37.1	
	comp=Z,154nm,1.5s						
KSPA	**Keystone Colle**	**57.15**	**359**	P	**P**	**14 33 35.7**	**+0.3**
	baz=179,SNR=5.7						
SFIN	**Lafayette**	**57.16**	**349**	IAmb	IAmb	14 33 34.6	
	comp=Z,98nm,1.3s						
SFIN	**Lafayette**	**57.16**	**349**	P	**P**	**14 33 33.5**	**-2.0**
	baz=166,SNR=6.8						
SFIN	**Lafayette**	**57.16**	**349**	P	**P**	**14 33 33.3**	**-2.2**
	baz=166,SNR=6.8						
M55A	**Ridgway**	**57.18**	**356**	IAmb	IAmb	14 33 35.9	
	comp=Z,60nm,1.1s						
M55A	**Ridgway**	**57.18**	**356**	P	**P**	**14 33 35.1**	**-0.5**
	baz=175						
M55A				P	**P**	**14 33 35.1**	**-0.5**
	baz=175						
KAN10	**Anthony SW Sta**	**57.19**	**338**	IAmb	IAmb	14 33 36.3	
	comp=Z,89nm,1.2s						
N49A	**Columbus Grove**	**57.21**	**351**	IAmb	IAmb	14 33 35.7	
	comp=Z,153nm,1.4s						
N49A	**Columbus Grove**	**57.21**	**351**	P	**P**	**14 33 34.3**	**-1.5**
	baz=169,SNR=10						
N49A				P	**P**	**14 33 34.3**	**-1.5**
	baz=169,SNR=10						
O44A	**Mansfield**	**57.22**	**347**	IAmb	IAmb	14 33 35.2	
	comp=Z,87nm,1.4s						
PAOC	**Oil Creek Stat**	**57.30**	**355**	P	**P**	**14 33 35.5**	**-0.9**
	baz=174						
M53A	**WI Miller and**	**57.30**	**355**	P	**P**	**14 33 35.9**	**-0.6**
	baz=173						
N47A	**Urbana**	**57.40**	**350**	P	**P**	**14 33 35.4**	**-1.7**
	baz=167,SNR=10.0						
N47A				P	**P**	**14 33 35.4**	**-1.7**
	baz=167,SNR=10.0						
P40A	**Paris**	**57.48**	**344**	P	**P**	**14 33 36.1**	**-1.6**
	baz=160,SNR=14						
M50A	**Fremont**	**57.52**	**352**	IAmb	IAmb	14 33 38.0	
	comp=Z,198nm,1.8s						
319A	**Douglas**	**57.60**	**325**	IAmb	IAmb	14 33 40.8	
	comp=Z,118nm,1.1s						
121A	**Cookes Peak, D**	**57.68**	**327**	IAmb	IAmb	14 33 41.5	
	comp=Z,90nm,1.1s						
121A	**Cookes Peak, D**	**57.68**	**327**	P	**P**	**14 33 40.2**	**+0.7**
	baz=142,SNR=32						
121A	**Cookes Peak, D**	**57.68**	**327**	P	**P**	**14 33 39.7**	**+0.1**
	baz=142,SNR=32						
L59A	**Walton**	**57.78**	**360**	P	**P**	**14 33 40.4**	**+0.6**
	baz=180,SNR=8.6						
L59A				P	**P**	**14 33 40.4**	**+0.6**
	baz=180,SNR=8.6						
HDIL	**Hopedale**	**57.78**	**347**	IAmb	IAmb	14 33 39.2	
	comp=Z,98nm,1.2s						
HDIL	**Hopedale**	**57.78**	**347**	P	**P**	**14 33 38.0**	**-1.8**
	baz=163,SNR=5.8						
HDIL	**Hopedale**	**57.78**	**347**	P	**P**	**14 33 38.5**	**-1.4**
	baz=163,SNR=5.8						
L56A	**Greenwood**	**57.79**	**357**	P	**P**	**14 33 40.0**	**+0.1**
	baz=177						
L56A				P	**P**	**14 33 40.0**	**+0.1**
	baz=177						
BINY	**Binghamton**	**57.80**	**359**	IAmb	IAmb	14 33 41.7	
	comp=Z,100nm,1.1s						
BINY	**Binghamton**	**57.80**	**359**	P	**P**	**14 33 40.4**	**+0.4**
	baz=178,SNR=6.9						
BINY	**Binghamton**	**57.80**	**359**	P	**P**	**14 33 40.2**	**+0.3**
	baz=178,SNR=6.9						
ERPA	**Erie**	**57.92**	**355**	IAmb	IAmb	14 33 41.1	
	comp=Z,73nm,1.2s						
ERPA	**Erie**	**57.92**	**355**	P	**P**	**14 33 40.1**	**-0.7**
	baz=174						
P38A	**Dawn**	**57.98**	**343**	P	**P**	**14 33 39.7**	**-1.5**
	baz=158,SNR=32						
WVNY	**West Valley, N**	**58.11**	**356**	IAmb	IAmb	14 33 43.1	
	comp=Z,107nm,1.1s						
WVNY	**West Valley, N**	**58.11**	**356**	P	**P**	**14 33 41.9**	**-0.2**
	baz=176,SNR=7.5						
L48A	**N Adams**	**58.24**	**351**	IAmb	IAmb	14 33 42.8	
	comp=Z,129nm,1.4s						
L48A	**N Adams**	**58.24**	**351**	P	**P**	**14 33 41.4**	**-1.7**
	baz=169,SNR=7.2						
L48A				P	**P**	**14 33 41.4**	**-1.7**
	baz=169,SNR=7.2						
HCNY	**Howe Caverns**	**58.28**	**0**	P	**P**	**14 33 43.8**	**+0.5**
	baz=180,SNR=6.5						
M44A	**Midewin, Midew**	**58.32**	**348**	IAmb	IAmb	14 33 42.7	
	comp=Z,68nm,1.3s						
K57A	**Scipio Center**	**58.34**	**358**	P	**P**	**14 33 43.7**	**0.0**
	baz=178,SNR=7.4						
Y22A	**Socorro**	**58.36**	**328**	P	**P**	**14 33 44.5**	**+0.3**
	baz=143,SNR=7.4						
KSU1	**Kansas State U**	**58.44**	**340**	P	**P**	**14 33 43.3**	**-1.2**
	baz=155,SNR=12						
KSU1	**Kansas State U**	**58.44**	**340**	P	**P**	**14 33 42.9**	**-1.6**
	baz=155,SNR=12						
R32A	**Long Quarter,**	**58.56**	**338**	P	**P**	**14 33 44.4**	**-1.0**
	baz=153,SNR=20						
L46A	**Eue Claire**	**58.60**	**350**	IAmb	IAmb	14 33 44.7	
	comp=Z,112nm,1.2s						
J56A	**Wolcott**	**58.90**	**358**	P	**P**	**14 33 47.2**	**-0.3**
	baz=178,SNR=5.9						
J56A				P	**P**	**14 33 47.2**	**-0.3**
	baz=178,SNR=5.9						
ANMO	**Albuquerque**	**58.91**	**330**	P	**P**	**14 33 47.1**	**-1.1**
ANMO				IAmb	IAmb	14 33 49.7	
	comp=Z,71nm,1.4s						
ANMO	**Albuquerque**	**58.91**	**330**	P	**P**	**14 33 47.4**	**-0.8**
	baz=144						
ANMO	**Albuquerque**	**58.91**	**330**	P	**P**	**14 33 47.6**	**-0.5**
	baz=144,SNR=29						
ANMO	**Albuquerque**	**58.91**	**330**	P	**P**	**14 33 47.1**	**-1.1**
ANMO				pmax	pmax		
	comp=Z,71nm,1.4s						
ANMO	**Albuquerque**	**58.91**	**330**	LR	LR	14 58 19.5	
	comp=Z,527nm,18.7s,baz=206,slow=35						
ANMO	**Albuquerque**	**58.91**	**330**	P	**P**	**14 33 47.9**	**-0.2**
ANMO				PcP	**PcP**	**14 34 37.7**	**+0.5**
ACCN	**Adirondack Com**	**58.97**	**1**	P	**P**	**14 33 47.8**	**-0.3**
ACCN				IAmb	IAmb	14 33 50.0	
	comp=Z,74nm,1.4s						
J57A	**Williamstown**	**59.01**	**359**	IAmb	IAmb	14 33 49.4	
	comp=Z,84nm,1.1s						
J57A	**Williamstown**	**59.01**	**359**	P	**P**	**14 33 48.1**	**-0.3**
	baz=178,SNR=9.0						
J57A				P	**P**	**14 33 48.1**	**-0.3**
	baz=178,SNR=9.0						
J59A	**Piesco**	**59.05**	**0**	P	**P**	**14 33 48.5**	**-0.2**
J59A				IAmb	IAmb	14 33 50.3	
	comp=Z,126nm,1.4s						
J59A	**Piesco**	**59.05**	**0**	P	**P**	**14 33 48.2**	**-0.5**
	baz=180,SNR=7.9						
J59A				P	**P**	**14 33 48.2**	**-0.5**
	baz=180,SNR=7.9						
L44A	**Lake County Fo**	**59.06**	**348**	P	**P**	**14 33 47.8**	**-0.9**
	baz=165						
TUC	**Tucson**	**59.14**	**324**	P	**P**	**14 33 49.7**	**0.0**
	baz=139						
TUC	**Tucson**	**59.14**	**324**	P	**P**	**14 33 50.1**	**+0.5**
TUC				PcP	**PcP**	**14 34 37.9**	**-0.1**
L42A	**Oliver, Polo**	**59.25**	**347**	IAmb	IAmb	14 33 49.6	
	comp=Z,93nm,1.4s						
L42A	**Oliver, Polo**	**59.25**	**347**	P	**P**	**14 33 48.3**	**-1.8**
	baz=163,SNR=5.7						
CBKS	**Cedar Bluff**	**59.28**	**337**	P	**P**	**14 33 50.0**	**-0.4**
	baz=152,SNR=10						
CBKS	**Cedar Bluff**	**59.28**	**337**	P	**P**	**14 33 50.3**	**-0.2**
	baz=152,SNR=10						
NCB	**Newcomb**	**59.55**	**0**	P	**P**	**14 33 52.1**	**0.0**
NCB	**Newcomb**	**59.55**	**0**	P	**P**	**14 33 51.7**	**-0.4**
	baz=180,SNR=8.0						
J47A	**Sunmer**	**59.57**	**351**	P	**P**	**14 33 51.1**	**-1.1**
	baz=169,SNR=6.7						
J47A				P	**P**	**14 33 51.1**	**-1.1**
	baz=169,SNR=6.7						
K43A	**Burlington**	**59.65**	**348**	P	**P**	**14 33 51.3**	**-1.5**
	baz=165,SNR=6.4						
L40A	**Anamosa**	**59.66**	**346**	IAmb	IAmb	14 33 52.5	
	comp=Z,84nm,1.1s						
L40A	**Anamosa**	**59.66**	**346**	P	**P**	**14 33 51.5**	**-1.4**
	baz=162,SNR=13						
N35A	**Tabor**	**59.74**	**342**	P	**P**	**14 33 52.3**	**-1.2**
	baz=156,SNR=11						
T25A	**Trinidad**	**59.76**	**333**	P	**P**	**14 33 54.2**	**+0.3**
	baz=146,SNR=13						
LBNH	**Lisbon**	**59.87**	**2**	P	**P**	**14 33 54.8**	**+0.5**
	baz=183						
SCIA	**State Center**	**60.02**	**344**	P	**P**	**14 33 54.2**	**-1.1**
	baz=159						
214A	**Organ Pipe Nat**	**60.04**	**323**	IAmb	IAmb	14 33 57.9	
	comp=Z,83nm,1.2s						
214A	**Organ Pipe Nat**	**60.04**	**323**	P	**P**	**14 33 55.8**	**0.0**
	baz=137,SNR=8.7						
DELO	**Deloro Mine**	**60.16**	**357**	IAmb	IAmb	14 33 57.0	
	comp=Z,107nm,1.4s						
N33B	**J Bar K, Exete**	**60.20**	**340**	P	**P**	**14 33 56.3**	**-0.3**
	baz=155						
LONY	**Lake Ozonia**	**60.20**	**360**	P	**P**	**14 33 56.3**	**-0.3**
	baz=180,SNR=8.1						
JFWS	**Jewell Farm**	**60.25**	**347**	IAmb	IAmb	14 33 56.9	
	comp=Z,99nm,1.6s						
JFWS	**Jewell Farm**	**60.25**	**347**	P	**P**	**14 33 55.7**	**-1.2**
	baz=163						
X18A	**Snowflake**	**60.36**	**327**	IAmb	IAmb	14 34 00.2	
	comp=Z,53nm,1.2s						
BMNY	**Brushton-Moira**	**60.42**	**0**	P	**P**	**14 33 57.9**	**-0.1**
	baz=180,SNR=6.8						
FRNY	**Flat Rock**	**60.42**	**1**	IAmb	IAmb	14 33 59.7	
	comp=Z,108nm,1.3s						
FRNY	**Flat Rock**	**60.42**	**1**	P	**P**	**14 33 57.8**	**-0.3**
	baz=181,SNR=6.1						
SADO	**Sadowa**	**60.49**	**356**	IAmb	IAmb	14 33 58.1	
	comp=Z,54nm,1.1s						
SADO	**Sadowa**	**60.49**	**356**	LR	LR	15 00 27.5	
	comp=Z,1μm,21.8s,baz=88,slow=36						
KSCO	**Kaye Shedlock'**	**60.58**	**335**	P	**P**	**14 33 59.3**	**-0.1**
	baz=149,SNR=5.4						
KSCO	**Kaye Shedlock'**	**60.58**	**335**	P	**P**	**14 33 59.8**	**+0.4**
	baz=149,SNR=5.4						
WBO	**Williamsburg**	**60.59**	**359**	IAmb	IAmb	14 34 00.4	
	comp=Z,111nm,1.3s						
K38A	**Parkersburg**	**60.59**	**345**	IAmb	IAmb	14 35 45.0	
	comp=Z,94nm,1.6s						
SFX	**San Felipe**	**60.61**	**320**	IAmb	IAmb	14 34 01.5	
	comp=Z,70nm,1.3s						
W18A	**Petrified Fore**	**60.70**	**327**	P	**P**	**14 34 01.2**	**+0.7**
	baz=141,SNR=12						
SDCO	**Great Sand Dun**	**60.74**	**332**	P	**P**	**14 34 00.9**	**+0.1**
	baz=146,SNR=103						
SDCO	**Great Sand Dun**	**60.74**	**332**	P	**P**	**14 34 00.8**	**0.0**
	baz=146,SNR=103						
I42A	**Draeger Farm,**	**60.90**	**348**	IAmb	IAmb	14 34 01.7	
	comp=Z,133nm,1.6s						
I42A	**Draeger Farm,**	**60.90**	**348**	P	**P**	**14 34 00.5**	**-0.9**
	baz=164,SNR=6.4						
L34A	**Svendsen Farm,**	**60.97**	**342**	P	**P**	**14 34 00.8**	**-1.1**
	baz=158,SNR=11						
BGNE	**Belgrade**	**61.03**	**340**	P	**P**	**14 34 01.6**	**-0.7**
	baz=154,SNR=13						
BGNE	**Belgrade**	**61.03**	**340**	P	**P**	**14 34 01.8**	**-0.5**
	baz=154,SNR=13						
PKME	**Peaks-Kenny Pk**	**61.04**	**4**	P	**P**	**14 34 03.5**	**+1.2**
	baz=186						
X16A	**Lo Mia Camp, P**	**61.08**	**325**	IAmb	IAmb	14 34 05.1	
	comp=Z,69nm,1.1s						
H43A	**Windswept, Lux**	**61.25**	**349**	IAmb	IAmb	14 34 03.7	
	comp=Z,132nm,1.5s						
I40A	**Norwalk**	**61.26**	**347**	IAmb	IAmb	14 34 04.0	
	comp=Z,135nm,1.4s						
I40A	**Norwalk**	**61.26**	**347**	P	**P**	**14 34 02.9**	**-0.9**
	baz=162,SNR=5.6						
S22A	**4UR Ranch, Cre**	**61.35**	**331**	P	**P**	**14 34 05.2**	**+0.3**
	baz=144,SNR=32						
Q24A	**Divide**	**61.59**	**333**	IAmb	IAmb	14 34 07.9	
	comp=Z,111nm,1.2s						
Q24A	**Divide**	**61.59**	**333**	P	**P**	**14 34 06.6**	**0.0**
	baz=146,SNR=24						
Y14A	**Wickenburg**	**61.59**	**324**	IAmb	IAmb	14 34 08.3	
	comp=Z,59nm,1.1s						
MVCO	**Mesa Verde**	**61.71**	**330**	IAmb	IAmb	14 34 08.8	
	comp=Z,58nm,1.2s						
MVCO	**Mesa Verde**	**61.71**	**330**	P	**P**	**14 34 07.1**	**-0.2**
	baz=143,SNR=27						
**TR

baz=136,SNR=52
SPMN Marine on St. **63.02 346** P **P** **14 34 14.8 -0.8**
baz=160,SNR=14
SPMN Marine on St. **63.02 346** P **P** **14 34 14.6 -1.0**
baz=160,SNR=14
U15A North Rim **63.05 326** IAmb IAmb 14 34 18.6
comp=Z,63nm,1.3s
COWI Conover **63.07 349** IAmb IAmb 14 34 15.5
comp=Z,74nm,1.6s
109C Camp Elliot, M **63.27 320** P **P** **14 34 17.6 +0.2**
baz=133
BATG Bathurst New B **63.33 6** P **P** **14 34 17.6 +0.1**
BATG IAmb IAmb 14 34 18.9
comp=Z,69nm,1.2s
TPFO Pinon Flats **63.37 321** P **P** **14 34 19.0 +0.7**
baz=134,SNR=55
BELC Belle Mtn. Jos **63.37 322** P **P** **14 34 19.4 +1.1**
baz=135,SNR=33
PFO Pinyon Flats O **63.37 321** P **P** **14 34 18.5 +0.1**
PFO IAmb IAmb 14 34 20.7
comp=Z,94nm,1.2s
PFO Pinyon Flats O **63.37 321** P **P** **14 34 19.6 +1.3**
baz=134,SNR=58
PFO Pinyon Flats O **63.37 321** P **P** **14 34 18.5 +0.1**
PFO pmax pmax
comp=Z,94nm,1.2s
PFO Pinyon Flats O **63.37 321** LR LR 14 57 01.2
comp=Z,656nm,21.1s,baz=143,slow=32
PFO Pinyon Flats O **63.37 321** P **P** **14 34 19.4 +1.0**
N23A Red Feather La **63.53 334** P **P** **14 34 19.2 -0.2**
baz=146,SNR=16
LDAQ Lac Daran **63.62 3** P **P** **14 34 19.4 -0.2**
PHWY Pilot Hill **63.67 334** IAmb IAmb 14 34 21.7
comp=Z,96nm,1.4s
GMRC Granite Mounta **63.72 323** P **P** **14 34 21.6 +0.9**
baz=135,SNR=20
VLDQ Val d'Or **63.75 358** IAmb IAmb 14 34 20.8
comp=Z,79nm,1.3s
KNB Kanab **63.77 326** IAmb IAmb 14 34 23.4
comp=Z,107nm,1.2s
F36A Milaca **63.80 345** P **P** **14 34 19.7 -0.9**
baz=160,SNR=41
MURC Murrieta **63.81 321** P **P** **14 34 21.7 +0.6**
baz=134,SNR=7.5
PKCU Pink Cliffs **63.82 327** IAmb IAmb 14 34 23.9
comp=Z,130nm,1.4s
D41A Chassel **63.90 349** IAmb IAmb 14 34 39.0
comp=Z,109nm,1.8s
D41A Chassel **63.90 349** P **P** **14 34 19.7 -1.6**
baz=165,SNR=7.0
O20A White River Ci **63.93 332** IAmb IAmb 14 34 23.5
comp=Z,81nm,1.1s
O20A White River Ci **63.93 332** P **P** **14 34 22.1 +0.1**
baz=144,SNR=31
SUSD Miller **64.01 341** P **P** **14 34 21.3 -0.9**
baz=154
E38A The Farm, Brul **64.05 347** IAmb IAmb 14 34 22.7
comp=Z,95nm,1.5s
E38A The Farm, Brul **64.05 347** P **P** **14 34 21.3 -1.0**
baz=162,SNR=10
BBRC Big Bear Solar **64.10 322** P **P** **14 34 23.9 +0.7**
baz=134,SNR=6.5
HEC Hector,Ludlow **64.15 323** P **P** **14 34 24.2 +0.8**
baz=135,SNR=6.8
SRU San Rafael Swe **64.19 330** IAmb IAmb 14 34 25.3
comp=Z,97nm,1.2s
TAOE Nuku Hiva Isla **64.22 268** *e*S **S** **14 42 59.1 -0.9**
comp=Z,560nm,29.1s
TAOE Nuku Hiva Isla **64.22 268** *e*LR LR 14 53 31.4
comp=Z,3µm,25.6s
TUQ Turquoise Moun **64.34 323** P **P** **14 34 24.9 +0.2**
baz=135,SNR=26
Q16A Castle Valley **64.36 329** IAmb IAmb 14 34 26.9
comp=Z,120nm,1.4s
CIS Catalina Islan **64.42 320** P **P** **14 34 25.5 +0.4**
baz=132,SNR=13
F33A 5 Mile Ranch, **64.49 343** IAmb IAmb 14 34 25.6
comp=Z,100nm,1.0s
F33A 5 Mile Ranch, **64.49 343** P **P** **14 34 24.3 -0.9**
baz=157,SNR=15
BFSC Mount Baldy Ra **64.53 321** P **P** **14 34 26.4 +0.5**
baz=133,SNR=19
FMP Fort Macarthur **64.56 320** P **P** **14 34 26.9 +1.0**
baz=133
P17A Butcher Ranch, **64.58 330** IAmb IAmb 14 34 27.8
comp=Z,108nm,1.1s
GSC Goldstone, Bar **64.75 323** P **P** **14 34 28.4 +1.1**
baz=134,SNR=18
TCRU Three Creeks R **64.77 328** IAmb IAmb 14 34 29.7
comp=Z,58nm,1.1s
PASC Pasadena Art C **64.80 321** IAmb IAmb 14 34 30.0
comp=Z,105nm,1.4s
SHOC Shoshone, Tecio **64.87 323** P **P** **14 34 28.8 +0.8**
baz=135,SNR=5.4
RDMU Red Mountain **64.88 331** IAmb IAmb 14 34 29.6
comp=Z,80nm,1.1s
DECC Green Verdugo **64.95 321** P **P** **14 34 29.3 +0.8**
baz=133
SNCC San Nicolas Is **65.01 319** P **P** **14 34 29.5 +0.6**
baz=132
EDW2 Edwards Air Fo **65.17 321** P **P** **14 34 30.1 +0.1**
baz=133,SNR=20
K22A Casper **65.23 335** IAmb IAmb 14 34 31.6
comp=Z,85nm,1.1s
K22A Casper **65.23 335** P **P** **14 34 29.8 -0.6**
baz=146,SNR=7.9
K22A Casper **65.23 335** P **P** **14 34 30.7 +0.4**
baz=146,SNR=7.9
QSM Queen of Sheba **65.25 323** IAmb IAmb 14 34 32.4
comp=Z,68nm,1.2s
EYMN Ely **65.31 348** IAmb IAmb 14 34 30.8
comp=Z,80nm,1.3s
EYMN Ely **65.31 348** P **P** **14 34 29.4 -1.2**
baz=162,SNR=20
EYMN Ely **65.31 348** P **P** **14 34 29.2 -1.3**
baz=162,SNR=20
LRMC Laurel Mtn Rad **65.39 322** P **P** **14 34 31.8 +0.3**
baz=134,SNR=22
BSUT Blindstream Ca **65.42 330** IAmb IAmb 14 34 33.8
comp=Z,122nm,1.4s
OSI Osito Audit: C **65.43 321** P **P** **14 34 32.1 +0.4**
baz=133
MPU Maple Canyon **65.44 329** IAmb IAmb 14 34 33.6
comp=Z,68nm,1.2s
RSSD Black Hills **65.49 337** P **P** **14 34 31.2 -0.8**
RSSD IAmb IAmb 14 34 33.4
comp=Z,92nm,1.3s
RSSD Black Hills **65.49 337** P **P** **14 34 32.4 +0.3**
baz=149
RSSD Black Hills **65.49 337** P **P** **14 34 31.6 -0.4**
baz=149,SNR=26
RSSD Black Hills **65.49 337** P **P** **14 34 31.2 -0.8**
RSSD pmax pmax
comp=Z,92nm,1.3s
RSSD Black Hills **65.49 337** P **P** **14 34 31.6 -0.4**
RSSD pP **sP** **14 34 44.2 -1.9**
RSSD PcP **PcP** **14 35 03.1 -0.6**
SCZ2 Santa Cruz Isl **65.57 320** P **P** **14 34 32.9 +0.3**
baz=132,SNR=7.4
FURC Furnace Creek, **65.60 323** P **P** **14 34 33.9 +1.3**
baz=135,SNR=29
NLU North Lily Min **65.61 329** IAmb IAmb 14 34 35.0
comp=Z,68nm,1.3s
MPMC Manual Prospec **65.68 323** P **P** **14 34 33.9 +0.5**
baz=134
WCT Wildcat Mounta **65.70 324** IAmb IAmb 14 34 36.0
comp=Z,82nm,1.2s
S11A Rachel **65.81 325** IAmb IAmb 14 34 38.4
comp=Z,112nm,1.4s
ARVC Arvin **65.84 321** P **P** **14 34 35.1 +0.9**
baz=133,SNR=6.0
ISA Isabella, Lake **65.99 322** P **P** **14 34 35.9 +0.6**
baz=133,SNR=26
SPR3 Spring Creek 3 **66.04 327** IAmb IAmb 14 34 37.6
comp=Z,90nm,1.2s
BCW Bitter Crk WRg **66.07 321** IAmb IAmb 14 34 38.2
comp=Z,93nm,1.2s
DUG Dugway, Tooele **66.16 329** P **P** **14 34 36.9 +0.6**
baz=140,SNR=78
TCUT Toone Canyon **66.18 330** IAmb IAmb 14 34 39.3
comp=Z,90nm,1.1s
B35A Bob, Littlefor **66.19 346** IAmb IAmb 14 34 36.4
comp=Z,91nm,1.2s
B35A Bob, Littlefor **66.19 346** P **P** **14 34 34.7 -1.4**
baz=160,SNR=22
R11B Troy Canyon, C **66.23 326** P **P** **14 34 37.6 +0.6**
baz=136,SNR=52
GRAC Grapevine Rang **66.26 324** IAmb IAmb 14 34 38.8
comp=Z,66nm,1.4s
GRAC Grapevine Rang **66.26 324** P **P** **14 34 38.4 +1.4**
baz=135,SNR=6.2
PKM Mcpherson Peak **66.28 320** P **P** **14 34 38.0 +0.8**
baz=132,SNR=41
CWC Cottonwood Cre **66.29 323** P **P** **14 34 38.3 +1.0**
baz=134
Q12A Willow Creek R **66.33 327** IAmb IAmb 14 34 39.7
comp=Z,90nm,1.2s
GMN Gold Mountain **66.41 324** IAmb IAmb 14 34 40.5
comp=Z,59nm,1.3s
E28A Huff **66.47 341** P **P** **14 34 37.5 -0.5**
baz=153,SNR=16
VES Vestal, Richgr **66.47 322** P **P** **14 34 39.2 +0.9**
baz=133,SNR=11
DRLN Deer Lake **66.59 12** P **P** **14 34 38.6 -0.1**
DRLN IAmb IAmb 14 34 40.0
comp=Z,92nm,1.1s
BW06 Boulder Array **66.63 333** P **P** **14 34 39.1 -0.3**
baz=143,SNR=31
PDAR Pinedale Array **66.63 333** P **P** **14 34 38.8 -0.6**
PDAR pP **pP** **14 34 49.8 0.0**
PDAR Pinedale Array **66.63 333** P **P** **14 34 38.9 -0.6**
comp=Z,16nm,1.0s,baz=144,slow=5.5,SNR=74
PDAR PKPPKP **P'P'df** **15 03 11.6 +4.3**
comp=Z,0.6nm,0.8s,baz=318,slow=2.0,SNR=6.2
PDAR LR LR 15 03 55.5
comp=Z,755nm,22.0s,baz=138,slow=36
comp=Z,16nm,1.0s
HWUT Hardware Ranch **66.63 331** IAmb IAmb 14 34 40.7
comp=Z,96nm,1.1s
AGMN Agassiz Nation **66.65 345** P **P** **14 34 38.3 -0.9**
baz=158
SMMC Simmler **66.67 321** P **P** **14 34 40.3 +0.7**
baz=132
BGU Big Grassy Mou **66.82 329** IAmb IAmb 14 34 42.2
comp=Z,65nm,1.3s
SPUT South Promonto **66.83 330** IAmb IAmb 14 34 42.3
comp=Z,96nm,1.2s
DSP Deep Springs **66.87 323** P **P** **14 34 41.0 +0.2**
DSP IAmb IAmb 14 34 43.4
comp=Z,62nm,1.3s
VNA3 Neumayer Olymp **67.09 161** ⇑P **P** **14 34 43.1 +1.4**
comp=Z,63nm,1.0s
MDND Maddock **67.27 342** P **P** **14 34 43.4 +0.2**
baz=154,SNR=12
MDND Maddock **67.27 342** P **P** **14 34 42.7 -0.4**
baz=154,SNR=12
AHID Auburn Hatcher **67.32 332** IAmb IAmb 14 34 44.9
comp=Z,83nm,1.1s
HVU Hansel Valley **67.34 330** IAmb IAmb 14 34 45.2
comp=Z,74nm,1.0s
VNA1 Neumayer--Stat **67.35 161** ⇑P **P** **14 34 45.2 +1.9**
comp=Z,86nm,0.9s
MLAC Mammoth, Mammo **67.55 323** P **P** **14 34 46.7 +1.4**
baz=134,SNR=8.0
OMMB Old Mammoth Mi **67.63 323** IAmb IAmb 14 34 48.2
comp=Z,91nm,1.2s
MDPB Devils Postpil **67.69 323** IAmb IAmb 14 34 48.4
comp=Z,52nm,1.1s
VNA2 Neumayer--Watz **67.70 161** ⇑P **P** **14 34 46.9 +1.2**
comp=Z,43nm,0.9s,baz=290,slow=5.0
PMPB Monarch Peak **67.76 321** IAmb IAmb 14 34 49.0
comp=Z,111nm,1.3s
LOHW Long Hollow **67.76 333** IAmb IAmb 14 34 48.0
comp=Z,74nm,1.4s
LHV Little Huntoon **67.78 324** IAmb IAmb 14 34 49.3
comp=Z,89nm,1.3s
NVAR Mina Array Bea **67.79 324** P **P** **14 34 47.2 +0.3**
NVAR pP **pP** **14 34 58.7 +1.3**
NVAR Mina Array Bea **67.79 324** P **P** **14 34 47.1 +0.2**
comp=Z,16nm,1.0s,baz=142,slow=6.2,SNR=84
NVAR PKPPKP **P'P'df** **15 03 07.5 +1.5**
comp=Z,1.7nm,0.9s,baz=271,slow=3.4,SNR=11
NVAR LR LR 15 04 23.8
comp=Z,472nm,18.4s,baz=124,slow=36
comp=Z,16nm,1.0s
ELK Elko **67.80 328** LR LR 15 04 08.5
comp=Z,1µm,18.7s,baz=132,slow=36
TPAW Teton Pass **67.82 332** IAmb IAmb 14 34 48.6
comp=Z,123nm,1.6s
IMW Indian Meadow **68.14 332** IAmb IAmb 14 34 50.6
comp=Z,110nm,1.3s
BBGB Big Mountain B **68.14 321** IAmb IAmb 14 34 52.7
comp=Z,69nm,1.1s
H17A Grant Village **68.37 333** P **P** **14 34 53.8 +3.3**
baz=143,SNR=6.4
RLMT Red Lodge **68.39 334** IAmb IAmb 14 34 52.0
comp=Z,71nm,1.0s
RLMT Red Lodge **68.39 334** P **P** **14 34 50.8 +0.3**
baz=144,SNR=20
LKWY Lake **68.43 333** IAmb IAmb 14 34 53.4
comp=Z,92nm,1.1s
ULM Lac du Bonnet **68.46 345** IAmb IAmb 14 34 50.1
comp=Z,44nm,0.8s
ULM Lac du Bonnet **68.46 345** P **P** **14 34 49.1 -1.4**
comp=Z,33nm,0.8s,baz=160,slow=6.0,SNR=54
ULM PKPPKP **P'P'df** **15 03 05.0 +1.8**
comp=Z,2.4nm,0.9s,baz=297,slow=3.5,SNR=4.1
ULM LR LR 15 07 42.3
comp=Z,784nm,20.6s,baz=143,slow=38
comp=Z,33nm,0.8s
YMP Mirror Lake Pl **68.46 334** IAmb IAmb 14 35 10.8
comp=Z,61nm,1.1s
LAO LASA Array **68.48 337** IAmb IAmb 14 34 52.1
comp=Z,117nm,1.2s
LAO LASA Array **68.48 337** P **P** **14 34 51.0 +0.2**
baz=147,SNR=9.6
LAO LASA Array **68.48 337** P **P** **14 34 51.2 +0.3**
baz=147,SNR=9.6
WAKR Walker **68.49 324** IAmb IAmb 14 34 54.0
comp=Z,71nm,1.3s
YFT Old Faithful **68.53 333** IAmb IAmb 14 34 54.4
comp=Z,71nm,1.4s
YERR Yerington **68.71 324** IAmb IAmb 14 34 55.1
comp=Z,104nm,1.3s
PNTR Pine Nut **68.98 324** IAmb IAmb 14 34 57.0
comp=Z,72nm,1.1s
DGMT Dagmar **69.28 339** P **P** **14 34 56.3 +0.6**
baz=150,SNR=15
DGMT Dagmar **69.28 339** P **P** **14 34 55.4 -0.3**
baz=150,SNR=15
SNAA Sanae **69.31 161** P **P** **14 34 56.1 +0.4**
SNAA Sanae **69.31 161** *e*P **P** **14 34 55.7 -0.1**
SNAA Sanae **69.31 161** ⇑P **P** **14 34 56.9 +1.2**
comp=Z,94nm,0.3s
SNAA Sanae **69.31 161** P **P** **14 34 56.4 +0.7**
comp=Z,73nm,0.9s,baz=284,slow=5.2,SNR=119
SNAA LR LR 15 01 59.3
comp=Z,942nm,21.4s,baz=292,slow=33
SNAA PKPPKP **P'P'df** **15 03 04.2 -3.9**
comp=Z,1.2nm,0.8s,baz=84,slow=16,SNR=3.4
comp=Z,73nm,0.9s
MPK Martis Peak **69.37 324** IAmb IAmb 14 34 59.5
comp=Z,68nm,1.2s
HLID Hailey **69.48 330** P **P** **14 34 57.9 +0.7**
baz=139,SNR=44
AFDM Forest Hills D **69.67 323** IAmb IAmb 14 35 00.4
comp=Z,78nm,1.4s
BOZ Bozeman (W) **69.78 333** P **P** **14 34 59.2 +0.2**
baz=142
TBI Tubuai **70.25 251** *e*P **P** **14 35 01.5 -0.8**
comp=Z,973nm,26.2s
TBI *e*S **S** **14 44 10.0 -2.2**
comp=Z,3µm,30.8s
TBI *e*SS **SS** **14 48 46.1 +3.3**
comp=Z,866nm,29.0s
TBI *e*LR LR 14 56 18.0
comp=Z,5µm,25.0s
TBI *e*LR LR 14 56 21.3
comp=Z,2µm,26.5s
SCHQ Schefferville **70.73 5** P **P** **14 35 03.7 -0.8**
comp=Z,30nm,0.9s,baz=177,slow=5.8,SNR=20
SCHQ LR LR 15 07 14.9
comp=Z,577nm,20.8s,baz=198,slow=37
comp=Z,30nm,0.9s
EGMT Eagleton **70.94 336** P **P** **14 35 06.1 +0.1**
baz=144,SNR=5.3
TROLL Troll, Antarti **71.03 161** ⇑P **P** **14 35 07.8 +1.5**
comp=Z,3µm,1.1s
PLID Pearl Lake **71.38 330** IAmb IAmb 14 35 10.4
comp=Z,70nm,1.2s
PPT2 Papeete2 **71.38 256** *e*PKIKP **P** **14 35 09.3 0.0**
comp=Z,265nm,24.5s
PPT2 Papeete2 **71.38 256** *e*PP **PP** **14 37 47.6 -0.3**
comp=Z,83nm,25.2s
PPT2 *e*S **S** **14 44 24.7 -0.9**
comp=Z,612nm,27.5s
PPT2 *e*LQ LQ 14 53 50.1
comp=Z,647nm,28.5s
PPT2 *e*LR LR 14 56 47.8
comp=Z,1µm,23.8s
PPT2 *e*LR LR 14 56 48.4
comp=Z,1µm,23.2s
KCPM Cahto Peak **71.68 322** IAmb IAmb 14 35 13.7
comp=Z,130nm,1.4s
MSO Missoula **71.75 333** IAmb IAmb 14 35 13.2
comp=Z,95nm,1.3s
MSO Missoula **71.75 333** P **P** **14 35 11.2 +0.3**
baz=140,SNR=28
KMRM Mail Ridge **72.10 323** IAmb IAmb 14 35 15.9
comp=Z,90nm,1.2s
K05A Summer Lake **72.18 326** IAmb IAmb 14 35 27.2
comp=Z,192nm,1.5s
LIC Lamto **72.25 78** ⇑*i*P **P** **14 35 14.5 0.0**
comp=Z,118nm,0.9s
I07A Izee **72.39 328** IAmb IAmb 14 35 17.4
comp=Z,96nm,1.4s
TIC Toumodi **72.39 78** ⇑*i*P **P** **14 35 15.5 +0.1**
comp=Z,2.2nm,0.1s
KMPM Mount Pierce **72.47 322** IAmb IAmb 14 35 18.1
comp=Z,154nm,1.4s
YBH Yreka Blue Hor **72.51 324** LR LR 15 07 10.7
comp=Z,433nm,18.3s,baz=137,slow=36
DBIC Dimbokro **72.55 78** IAmb IAmb 14 35 17.6
comp=Z,75nm,1.0s
DBIC Dimbokro **72.55 78** *e*P **P** **14 35 14.8 -1.4**
DBIC Dimbokro **72.55 78** P **P** **14 35 16.4 +0.1**
comp=Z,49nm,0.8s,baz=238,slow=5.8,SNR=63
DBIC LR LR 15 06 06.5
comp=Z,4µm,18.9s,baz=229,slow=35
comp=Z,49nm,0.8s
KIC Kosan Boka **72.56 78** ⇑*i*P **P** **14 35 16.5 +0.1**
comp=Z,171nm,0.9s
K04D Chiloquin, OR **72.58 325** IAmb IAmb 14 35 18.1
comp=Z,152nm,1.2s
JCC Jacoby Creek, **72.67 323** IAmb IAmb 14 35 19.0
comp=Z,118nm,1.2s
J05D Fort Rock, OR **72.74 326** IAmb IAmb 14 35 19.2
comp=Z,82nm,1.2s
KRPM Rodgers **72.89 323** IAmb IAmb 14 35 20.6
comp=Z,95nm,1.2s
PINE Pine Mountain **72.93 327** IAmb IAmb 14 35 20.8
comp=Z,88nm,1.1s
KRMB Red Mountain **73.06 323** IAmb IAmb 14 35 21.4
comp=Z,100nm,1.3s
KSXB Camp Six Broad **73.24 324** IAmb IAmb 14 35 22.4
comp=Z,167nm,1.5s
L02F Cave Junction **73.25 324** IAmb IAmb 14 35 22.2
comp=Z,112nm,1.4s
I05D Terrebonne, OR **73.52 327** IAmb IAmb 14 35 23.9
comp=Z,135nm,1.2s
K02D Willamette Mer **73.68 325** IAmb IAmb 14 35 25.0
comp=Z,166nm,1.4s
I04A Tendick Farm, **73.72 326** IAmb IAmb 14 35 24.1
comp=Z,68nm,1.2s
DBO Dodson Butte **73.72 325** IAmb IAmb 14 35 24.9
comp=Z,149nm,1.6s
F07A Phinny Hill Vi **73.87 329** IAmb IAmb 14 35 26.3
comp=Z,124nm,1.4s
NVL N'lazarevskaya **73.95 160** *e*P **P** **14 35 23.8 +0.2**
NVL pmax pmax
comp=Z,261nm,1.7s
HAWA Hanford **74.03 329** IAmb IAmb 14 35 26.6
comp=Z,105nm,1.2s
FFC Flin Flon **74.09 344** P **P** **14 35 23.5 -1.0**
FFC Flin Flon **74.09 344** P **P** **14 35 23.5 -1.0**
FFC pmax pmax
comp=Z,31nm,1.2s
G05A Wamic **74.12 328** IAmb IAmb 14 35 27.8
comp=Z,153nm,1.3s
I03D Drain, OR **74.16 325** IAmb IAmb 14 35 26.7
comp=Z,98nm,1.2s
NEW Newport **74.25 332** P **P** **14 35 25.9 +0.3**
baz=138,SNR=12
NEW Newport **74.25 332** LR LR 15 10 27.0
comp=Z,506nm,18.6s,baz=134,slow=38
QSPA South Pole Qui **74.28 180** P **P** **14 35 26.4 +0.6**
QSPA IAmb IAmb 14 35 28.7
comp=Z,114nm,1.3s
QSPA South Pole Qui **74.28 180** P **P** **14 35 25.2 -0.5**
comp=Z,31nm,0.9s,baz=151,slow=3.0,SNR=54
QSPA PKPPKP **P'P'df** **15 02 57.6 -1.9**
comp=Z,4.1nm,1.0s,baz=260,slow=3.5,SNR=5.0
comp=Z,31nm,0.9s
BUCK Buck Mountain **74.30 326** IAmb IAmb 14 35 27.9
comp=Z,88nm,1.1s
E07A Sunnyside **74.30 329** IAmb IAmb 14 35 28.6
comp=Z,106nm,1.2s
HOOD Mount Hood Mea **74.35 328** IAmb IAmb 14 35 28.9
comp=Z,104nm,1.3s
C09A Chrisman Ranch **74.44 331** IAmb IAmb 14 35 29.1
comp=Z,98nm,1.4s
LTY Liberty **75.19 329** IAmb IAmb 14 35 33.4
comp=Z,120nm,1.4s
D05A Enumclaw **75.80 329** IAmb IAmb 14 35 36.5
comp=Z,138nm,1.1s
FCC Fort Churchill **76.07 350** IAmb IAmb 14 35 36.6
comp=Z,81nm,1.4s
GNW Green Mountain **76.47 329** IAmb IAmb 14 35 40.3
comp=Z,107nm,1.5s
NLWA Neilton Lookou **76.88 328** IAmb IAmb 14 35 43.5
comp=Z,121nm,1.1s
ELIB Princess Elisa **77.47 162** *d*P **P** **14 35 43.7 -0.2**
comp=Z,18nm,1.0s
ELIB *d*PP **PP** **14 38 39.2 +0.8**
BRLDA Berland Lookou **78.69 336** IAmb IAmb 14 35 51.3
comp=Z,123nm,1.4s
CBB Campbell River **79.36 329** IAmb IAmb 14 35 56.3
comp=Z,85nm,1.2s
RAR Rarotonga **80.03 251** LR LR 15 03 23.6
comp=Z,963nm,18.6s,baz=124,slow=30
SBA Scott Base **80.33 191** P **P** **14 36 01.1 +1.8**
SBA IAmb IAmb 14 36 03.0
comp=Z,106nm,1.2s
SBA Scott Base **80.33 191** IAMs_20 IAMs_20 15 06 52.8
comp=Z,1µm,20.0s
SBA Scott Base **80.33 191** P **P** **14 36 01.1 +1.8**
SBA pmax pmax
comp=Z,106nm,1.2s
TORD Torodi Ar. Bea **80.74 73** P **P** **14 36 02.6 0.0**
comp=Z,140nm,0.9s,baz=272,slow=4.3,SNR=434
TORD S **S** **14 46 04.5 -4.0**
comp=Z,0.4nm,0.5s,baz=261,slow=7.2,SNR=4.4
TORD PKKPbc **PKKPbc** **14 54 41.6 0.0**
comp=Z,0.8nm,1.1s,baz=84,slow=6.1,SNR=3.8
TORD LR LR 15 10 52.6
comp=Z,2µm,19.9s,baz=250,slow=35
comp=Z,140nm,0.9s
VNDA Vanda **81.40 191** P **P** **14 36 06.5 +1.5**
VNDA IAmb IAmb 14 36 08.4
comp=Z,66nm,1.1s
VNDA Vanda **81.40 191** P **P** **14 36 06.5 +1.5**
VNDA pmax pmax
comp=Z,66nm,1.1s
VNDA Vanda **81.40 191** P **P** **14 36 05.2 +0.2**
comp=Z,39nm,1.0s,baz=123,slow=4.5,SNR=51
VNDA LR LR 15 05 46.8
comp=Z,1µm,19.8s,baz=126,slow=31
comp=Z,39nm,1.0s
MORF Marmelete **81.44 47** *e*P **P** **14 36 08.6 +2.7**
PTEO Sao Teotonio **81.50 47** *e*P **P** **14 36 09.0 +2.9**
comp=Z,135nm,1.7s
NUUK Nuuk **81.72 10** *i* P **P** **14 36 06.8 +0.1**
NUUK IAmb IAmb 14 36 08.6
comp=Z,20nm,1.0s
PNCL Nicolau / Gran **81.89 47** *e*P **P** **14 36 10.2 +2.0**
comp=Z,61nm,1.8s
MESJ Messejana **81.99 47** *e*P **P** **14 36 10.7 +2.0**
PCVE Castro Verde **82.02 47** *e*P **P** **14 36 11.1 +2.2**
comp=Z,111nm,1.8s
BBB Bella Bella **82.07 330** LR LR 15 14 11.2
comp=Z,271nm,19.6s,baz=158,slow=37
PBEJ Beja **82.32 47** *e*P **P** **14 36 12.4 +2.0**
comp=Z,84nm,1.9s
MDT Midelt **82.48 53** LR LR 15 10 03.4
comp=Z,1µm,21.7s,baz=266,slow=34
PMTG Montargil **82.54 46** *e*P **P** **14 36 13.4 +1.8**
comp=Z,150nm,1.7s
PCAS Casmilo, Conde **82.81 45** *e*P **P** **14 36 14.7 +1.7**
comp=Z,67nm,1.8s
PESTR Estremoz **82.89 46** *e*P **P** **14 36 15.2 +1.8**
comp=Z,126nm,1.9s
PESTR Estremoz **82.89 46** IAmb IAmb 14 36 15.8
comp=Z,164nm,1.7s
COI Coimbra **82.94 45** *e*P **P** **14 36 16.1 +2.5**

comp=Z,196nm,1.7s
PBAR Barrancos 82.97 47 *e*P **P 14 36 15.8 +2.0**
comp=Z,94nm,1.8s
PMRV Marv??o 83.28 46 *e*P **P 14 36 16.7 +1.3**
comp=Z,32nm,1.9s
PMRV Marv??o 83.28 46 *e*S **SKSac 14 46 36.7 +1.5**
PMRV Marv??o 83.28 46 *e*LR LR 15 04 24.0
comp=Z,2µm,20.0s
PCBR Castelo Branco 83.41 46 *e*P **P 14 36 17.9 +1.9**
comp=Z,68nm,1.6s
PVIS Viseu 83.52 45 *e*P **P 14 36 18.0 +1.3**
MTE Manteigas 83.62 45 *e*P **P 14 36 18.5 +1.3**
comp=Z,75nm,1.4s
MTE Manteigas 83.62 45 *e*S **SKSac 14 46 40.1 +2.7**
MTE Manteigas 83.62 45 *e*LR LR 15 05 20.4
comp=Z,2µm,20.0s
MTE Manteigas 83.62 45 IAmb IAmb 14 36 19.6
comp=Z,59nm,1.1s
PGAV Gavieira, Arco 83.84 43 *e*P **P 14 36 19.6 +1.2**
comp=Z,98nm,1.8s
PGAV Gavieira, Arco 83.84 43 *e*S **S 14 46 41.9 +2.4**
PGAV *e*SS **SS 14 52 15.0 +7.0**
PGAV Gavieira, Arco 83.84 43 *e*LR LR 15 05 34.7
comp=Z,2µm,20.0s
POLO Lamas de Olo 83.89 44 *e*P **P 14 36 19.9 +1.3**
comp=Z,36nm,1.5s
PVRL Vila Real 83.90 44 *e*P **P 14 36 20.0 +1.4**
comp=Z,82nm,2.1s
KOMG Komaggas 84.02 119 *e*P **P 14 36 21.4 +1.8**
KOMG IAmb IAmb 14 36 22.6
comp=Z,141nm,1.0s
YKA Yellowknife Ar 84.18 343 P **P 14 36 18.7 -0.8**
comp=Z,20nm,0.9s,baz=138,slow=5.3,SNR=169
YKA PKPPKP **P'P'df 15 02 38.9 +3.4**
comp=Z,0.2nm,0.8s,baz=340,slow=2.9,SNR=3.8
YKA LR LR 15 18 07.5
comp=Z,709nm,18.4s,baz=134,slow=39
comp=Z,20nm,0.9s
MVO Moncorvo 84.31 45 *e*P **P 14 36 22.0 +1.3**
comp=Z,85nm,2.3s
MVO Moncorvo 84.31 45 *e*S **S 14 46 46.3 +2.1**
MVO Moncorvo 84.31 45 *e*LR LR 15 05 54.8
comp=Z,1µm,22.0s
PRTV Porterville,We 84.50 123 *e*P **P 14 36 22.8 +0.8**
PRTV IAmb IAmb 14 36 24.9
comp=Z,148nm,1.1s
SFJD Kangerlussuaq 84.51 9 P **P 14 36 20.0 -1.0**
SFJD Kangerlussuaq 84.51 9 P **P 14 36 20.0 -1.0**
SFJD pmax pmax
comp=Z,42nm,1.3s
SFJD Kangerlussuaq 84.51 9 LR LR 15 15 28.5
comp=Z,451nm,20.0s,baz=201,slow=37
CER Ceres 84.58 123 *e*P **P 14 36 23.6 +1.3**
CER IAmb IAmb 14 36 25.5
comp=Z,40nm,0.9s
DY2G Dye2 84.78 11 *i*P **P 14 36 22.1 -0.6**
DY2G IAmb IAmb 14 36 23.9
comp=Z,43nm,1.2s
PBRG Braganca 84.79 44 *e*P **P 14 36 24.4 +1.3**
comp=Z,74nm,1.6s
FLDN Fort Liard 85.41 338 IAmb IAmb 14 36 27.6
comp=Z,72nm,1.1s
FLDN Fort Liard 85.41 338 P **P 14 36 26.5 +0.9**
baz=133,SNR=8.4
PAB San Pablo 85.45 47 P **P 14 36 27.2 +0.7**
PAB San Pablo 85.45 47 P **P 14 36 27.2 +0.7**
PAB pmax pmax
comp=Z,136nm,1.5s
CVNA Calvinia 85.47 121 *e*P **P 14 36 28.3 +1.3**
CVNA IAmb IAmb 14 36 30.2
comp=Z,102nm,1.0s
KOTAN Kotaneelee Air 85.55 338 P **P 14 36 26.5 +0.1**
baz=133,SNR=18
WIN Windhoek 85.55 112 P **P 14 36 27.4 -0.2**
WIN IAMs_20 IAMs_20 15 12 40.3
comp=Z,1µm,19.0s
WIN Windhoek 85.55 112 P **P 14 36 27.4 -0.2**
WIN pmax pmax
comp=Z,99nm,1.2s
MATJ Matjiesfontein 85.65 123 *e*P **P 14 36 29.6 +1.8**
MATJ IAmb IAmb 14 36 30.7
comp=Z,120nm,1.0s
ESDC Sonseca Array 85.78 47 P **P 14 36 29.2 +1.1**
ESDC IAmb IAmb 14 36 30.9
comp=Z,110nm,1.6s
ESDC **sP 14 36 40.6 -1.7**
ESDC Sonseca Array 85.78 47 P **P 14 36 28.6 +0.5**
comp=Z,22nm,1.2s,baz=256,slow=4.9,SNR=47
ESDC LR LR 15 12 23.0
comp=Z,2µm,20.6s,baz=234,slow=34
comp=Z,22nm,1.2s
ESBB Sonseca Array 85.78 47 IAmb IAmb 14 36 30.8
comp=Z,114nm,1.6s
ANGG Ammassalik, Gr 85.87 14 *i*P **P 14 36 26.9 -0.9**
ANGG IAmb IAmb 14 36 28.3
comp=Z,13nm,0.9s
T35M Bob Quinn 86.01 333 IAmb IAmb 14 36 30.9
comp=Z,80nm,1.2s
T35M Bob Quinn 86.01 333 P **P 14 36 29.3 +0.5**
baz=127,SNR=8.5
SUR Sutherland 86.08 122 P **P 14 36 30.4 +0.3**
SUR IAmb IAmb 14 36 33.3
comp=Z,56nm,1.2s
SUR Sutherland 86.08 122 *e*P **P 14 36 29.9 -0.2**
SUR IAmb IAmb 14 36 33.0
comp=Z,68nm,1.2s
SUR Sutherland 86.08 122 LR LR 15 12 59.4
comp=Z,648nm,18.9s,baz=255,slow=34
ILULI Ilulissat 86.49 8 IAmb IAmb 14 36 31.6
comp=Z,80nm,1.1s
ILULI Ilulissat 86.49 8 *i*P **P 14 36 30.6 -0.3**
ILULI IAmb IAmb 14 36 31.8
comp=Z,21nm,1.0s
MERW Merweville 86.58 123 *e*P **P 14 36 33.2 +0.8**
MERW IAmb IAmb 14 36 36.1
comp=Z,35nm,1.0s
WRAK Wrangell Islan 86.61 332 P **P 14 36 32.4 +0.8**
baz=125
FRAZ Fraserburg 86.69 122 *e*P **P 14 36 33.8 +0.7**
FRAZ IAmb IAmb 14 36 36.5
comp=Z,49nm,0.9s
U33K Whale Pass 86.78 331 P **P 14 36 32.8 +0.3**
baz=125
DLBC Dease Lake 86.80 334 P **P 14 36 32.9 +0.2**
baz=128,SNR=14
DLBC Dease Lake 86.80 334 LR LR 15 19 05.5
comp=Z,612nm,18.1s,baz=110,slow=38
TSUM Tsumeb 86.88 109 IAMs_20 IAMs_20 15 14 31.4
comp=Z,969nm,19.0s
TSUM Tsumeb 86.88 109 *e*P **P 14 36 34.2 +0.1**
TSUM IAmb IAmb 14 36 36.2
comp=Z,30nm,0.8s
TSUM Tsumeb 86.88 109 LR LR 15 14 25.2
comp=Z,831nm,18.2s,baz=282,slow=35
S34M Telegraph Cree 86.95 334 IAmb IAmb 14 36 35.4
comp=Z,58nm,1.1s
S34M Telegraph Cree 86.95 334 P **P 14 36 33.8 +0.4**
baz=126,SNR=9.1
GRAN Grantham 87.21 123 *e*P **P 14 36 36.0 +0.6**
GRAN IAmb IAmb 14 36 38.2
comp=Z,16nm,0.9s
KEIM Keimoes 87.24 119 *e*P **P 14 36 36.5 +0.8**
KEIM IAmb IAmb 14 36 38.3
comp=Z,19nm,0.8s
WTLY Watson Lake, Y 87.33 336 IAmb IAmb 14 36 37.1
comp=Z,65nm,1.1s
WTLY Watson Lake, Y 87.33 336 P **P 14 36 35.8 +0.5**
baz=129,SNR=21
WRGLY Wrigley 87.47 340 P **P 14 36 36.2 +0.5**
baz=134
UPI Upington 87.58 119 *e*P **P 14 36 37.7 +0.4**
UPI IAmb IAmb 14 36 40.0
comp=Z,25nm,0.9s
R33M Jennings River 87.77 335 P **P 14 36 38.1 +0.7**
baz=127
BRAK Brakfontein 87.94 122 *e*P **P 14 36 38.6 -0.4**
BRAK IAmb IAmb 14 36 40.5
comp=Z,483nm,2.8s
Q32M Nakina River 88.05 334 P **P 14 36 39.6 +0.7**
baz=126
S32K Killisnoo 88.21 332 P **P 14 36 41.1 +1.8**
baz=124
ROOI Rooidraai Farm 88.26 123 *e*P **P 14 36 40.1 -0.4**
ROOI IAmb IAmb 14 36 42.8
comp=Z,34nm,1.1s
ICESG Greenland Ices 88.31 12 *i*P **P 14 36 39.4 -0.6**
ICESG IAmb IAmb 14 36 44.3
comp=Z,16nm,0.9s
R32K Eaglecrest 88.63 333 P **P 14 36 41.8 +0.5**
baz=124
P33M Teslin, Yukon 89.00 335 P **P 14 36 43.8 +0.6**
baz=125,SNR=23
P32M Atlin 89.02 334 P **P 14 36 43.9 +0.7**
baz=124,SNR=12
GRAF Camdeboo Natio 89.09 123 *e*P **P 14 36 45.0 +0.6**
GRAF IAmb IAmb 14 36 45.5
comp=Z,81nm,1.3s
SKAG Skagway 89.63 334 P **P 14 36 46.5 +0.5**
baz=123
N32M Quiet Lake 89.65 336 P **P 14 36 46.9 +0.7**
baz=125
BORG Borgarnes 89.92 20 LR LR 15 13 26.5
comp=Z,335nm,21.7s,baz=234,slow=33
PLBC Pleasant Camp 90.08 333 P **P 14 36 48.8 +0.7**
baz=122,SNR=7.3
WHY Whitehorse 90.10 335 P **P 14 36 48.3 -0.1**
baz=123,SNR=6.7
FARO Faro, Yukon 90.37 336 P **P 14 36 49.7 +0.3**
baz=125,SNR=32
O30N Mendenhall 90.66 334 P **P 14 36 51.4 +0.5**
baz=122,SNR=14
P30M Million Dollar 90.68 334 P **P 14 36 51.4 +0.4**
baz=122
M31M Drury Creek, Y 90.76 336 P **P 14 36 52.1 +0.9**
baz=124,SNR=6.8
P29M Windy Craggy 90.77 333 IAmb IAmb 14 36 52.9
comp=Z,74nm,1.4s
P29M Windy Craggy 90.77 333 P **P 14 36 51.4 0.0**
baz=121,SNR=5.3
BOSA Boshof 90.86 120 P **P 14 36 52.7 -0.1**
BOSA IAmb IAmb 14 36 54.5
comp=Z,46nm,1.1s
BOSA Boshof 90.86 120 *e*P **P 14 36 52.6 -0.1**
BOSA IAmb IAmb 14 36 54.2
comp=Z,52nm,1.1s
BOSA Boshof 90.86 120 P **P 14 36 52.7 -0.1**
comp=Z,26nm,0.9s,baz=238,slow=4.3,SNR=19
BOSA LR LR 15 14 42.3
comp=Z,849nm,20.4s,baz=257,slow=34
comp=Z,26nm,0.9s
N31M Braeburn, Yuko 90.92 335 IAmb IAmb 14 36 53.8
comp=Z,61nm,1.2s
N31M Braeburn, Yuko 90.92 335 P **P 14 36 52.5 +0.4**
baz=122,SNR=7.0
MAW Mawson 91.18 165 P **P 14 36 53.1 -0.2**
comp=Z,42nm,1.1s,baz=226,slow=6.4,SNR=8.0
MAW LR LR 15 15 16.4
comp=Z,1µm,21.3s,baz=228,slow=34
comp=Z,42nm,1.1s
RES Resolute Bay 91.28 355 IAmb IAmb 14 36 54.8
comp=Z,52nm,1.6s
RES Resolute Bay 91.28 355 LR LR 15 21 03.0
comp=Z,878nm,18.4s,baz=178,slow=38
HYT Haines Junctio 91.28 334 IAmb IAmb 14 36 56.0
comp=Z,47nm,1.4s
HYT Haines Junctio 91.28 334 P **P 14 36 54.7 +0.8**
baz=121,SNR=7.5
SWZ Schweizer 91.38 119 *e*P **P 14 36 55.6 +0.3**
SUMG Summit 91.44 10 IAmb IAmb 14 36 56.7
comp=Z,160nm,1.3s
SUMG Summit 91.44 10 *i*P **P 14 36 54.5 -0.2**
SUMG IAmb IAmb 14 36 57.0
comp=Z,25nm,0.9s
YUK6 Outpost Mounta 91.70 334 P **P 14 36 56.5 +0.6**
baz=120,SNR=7.1
M30M Minto, Yukon 91.91 336 P **P 14 36 57.0 +0.3**
baz=122,SNR=5.5
YUK4 Talbot Arm 92.02 334 P **P 14 36 57.7 +0.3**
baz=120,SNR=6.3
PINM Pinnacle 92.10 333 P **P 14 36 57.9 +0.3**
baz=119
MAYO Mayo, Yukon 92.10 337 IAmb IAmb 14 36 58.8
comp=Z,37nm,1.0s
MAYO Mayo, Yukon 92.10 337 P **P 14 36 57.9 +0.5**
baz=122
LBTB Lobatse 92.29 117 P **P 14 37 00.0 +0.5**
LBTB IAmb IAmb 14 37 01.8
comp=Z,52nm,1.2s
LBTB Lobatse 92.29 117 *e*P **P 14 37 00.4 +0.9**
LBTB IAmb IAmb 14 37 01.4
comp=Z,62nm,1.2s
LBTB Lobatse 92.29 117 P **P 14 37 00.0 +0.5**
LBTB pmax pmax
comp=Z,52nm,1.2s
LBTB Lobatse 92.29 117 LR LR 15 16 03.3
comp=Z,344nm,19.0s,baz=258,slow=34
YUK8 Steele Glacier 92.46 334 P **P 14 36 59.5 -0.1**
baz=119
M29M Somme Creek 92.50 335 P **P 14 36 59.9 +0.4**
baz=120
L29M L29M 92.71 336 P **P 14 37 00.6 +0.3**
baz=120,SNR=21
EKA Eskdalemuir Ar 92.75 33 P **P 14 37 00.2 -0.4**
comp=Z,5.4nm,1.0s,baz=212,slow=3.9,SNR=2.8
comp=Z,5.4nm,1.0s
J30M Hart River 92.78 338 IAmb IAmb 14 37 02.2
comp=Z,30nm,1.1s
J30M Hart River 92.78 338 P **P 14 37 00.9 +0.1**
baz=122
MRCO Marico , North 92.83 117 *e*P **P 14 37 02.3 +0.3**
MRCO IAmb IAmb 14 37 03.9
comp=Z,65nm,1.1s
K29M Barlow Dome 92.85 337 P **P 14 37 01.7 +0.6**
baz=121
CTGM Chitina Glacie 92.98 333 IAmb IAmb 14 37 03.2
comp=Z,39nm,1.3s
CTG Chitna Glacier 92.98 333 P **P 14 37 02.2 +0.4**
baz=118
YUK3 Moose Creek 92.99 334 P **P 14 37 01.8 -0.1**
baz=118,SNR=9.6
SNKL Senekal, Frees 93.06 120 *e*P **P 14 37 04.3 +1.2**
I30M Mount Dempster 93.14 338 IAmb IAmb 14 37 03.7
comp=Z,38nm,1.1s
I30M Mount Dempster 93.14 338 P **P 14 37 02.2 -0.2**
baz=122,SNR=25
PRYS Parys 93.17 119 *e*P **P 14 37 02.6 -1.0**
PRYS IAmb IAmb 14 37 05.1
comp=Z,110nm,1.4s
G31M Satah River 93.35 340 P **P 14 37 02.9 -0.2**
baz=124
J29N Klondike Camp 93.42 337 IAmb IAmb 14 37 04.3
comp=Z,27nm,1.1s
J29N Klondike Camp 93.42 337 P **P 14 37 04.1 +0.5**
baz=120
BVCY Beaver Creek 93.46 335 P **P 14 37 03.9 +0.1**
baz=118
F31M Tsiigehtchic 93.47 341 P **P 14 37 03.2 -0.4**
baz=124,SNR=7.0
RAO Raoul Island 93.54 238 LR LR 15 08 58.7
comp=Z,785nm,21.8s,baz=132,slow=29
DAWY Dawson 93.67 337 P **P 14 37 04.3 -0.5**
baz=119,SNR=11
HRAO HartRAO 93.79 118 *e*P **P 14 37 07.4 +1.0**
NHAM Northam, North 93.80 117 *e*P **P 14 37 07.5 +1.0**
NHAM IAmb IAmb 14 37 08.3
comp=Z,59nm,1.0s
M27K Edge Creek, AK 93.86 334 IAmb IAmb 14 37 06.7
comp=Z,27nm,1.2s
M27K Edge Creek, AK 93.86 334 P **P 14 37 05.5 -0.3**
baz=117,SNR=5.5
NYAT Nyati, Northwe 93.86 118 *e*P **P 14 37 07.2 +0.5**
NYAT IAmb IAmb 14 37 08.9
comp=Z,46nm,1.0s
EPYK Eagle Plains 93.87 339 IAmb IAmb 14 37 06.4
comp=Z,58nm,1.6s
EPYK Eagle Plains 93.87 339 P **P 14 37 05.1 -0.5**
baz=122,SNR=5.4
INK Inuvik 93.89 341 IAmb IAmb 14 37 06.3
comp=Z,29nm,1.1s
INK Inuvik 93.89 341 P **P 14 37 05.0 -0.5**
baz=124,SNR=17
INK Inuvik 93.89 341 LR LR 15 23 17.0
comp=Z,998nm,20.1s,baz=166,slow=38
MCARA McCarthy VSAT 93.90 333 IAmb IAmb 14 37 10.6
comp=Z,42nm,1.2s
MCARA McCarthy VSAT 93.90 333 P **P 14 37 05.9 +0.1**
baz=116
A36M Sachs Harbour 93.93 346 P **P 14 37 05.0 -0.6**
baz=132,SNR=17
RTZ Ruatahuna 93.98 228 IAMs_20 IAMs_20 15 10 50.9
comp=Z,887nm,18.0s
VRDI Verde Repeater 94.02 333 IAmb IAmb 14 37 07.3
comp=Z,69nm,1.8s
G30M tAoh Zraii Nji 94.03 340 P **P 14 37 06.2 -0.1**
baz=122
URZ Urewera 94.03 229 LR LR 15 11 22.8
comp=Z,795nm,19.4s,baz=150,slow=30
BKZ Black Stump Fm 94.11 227 IAMs_20 IAMs_20 15 09 57.1
comp=Z,883nm,21.0s
NEEM North Greenlan 94.14 5 *i*P **P 14 37 06.7 -0.3**
NEEM IAmb IAmb 14 37 08.6
comp=Z,5.0nm,0.8s
L27K Beaver Creek, 94.16 335 P **P 14 37 06.9 -0.1**
baz=117
F30M Barrier River 94.22 340 P **P 14 37 07.3 +0.2**
baz=122
TSWA Tswaing Meteor 94.28 118 *e*P **P 14 37 10.1 +1.4**
TSWA IAmb IAmb 14 37 11.0
comp=Z,111nm,1.1s
KEST Kesra 94.31 54 P **P 14 37 07.9 -0.5**
comp=Z,6.7nm,1.1s,baz=150,slow=4.4,SNR=4.8
KEST LR LR 15 19 35.6
comp=Z,1µm,20.8s,baz=216,slow=36
comp=Z,6.7nm,1.1s
M26K Nabesna, AK 94.34 334 P **P 14 37 07.9 0.0**
baz=116
H29M Whitestone 94.37 339 P **P 14 37 07.6 -0.2**
baz=120
I28M Miner Creek 94.55 338 P **P 14 37 08.7 -0.2**
baz=119
LEPH Lephalale, Lim 94.56 116 *e*P **P 14 37 10.9 +1.0**
LEPH IAmb IAmb 14 37 11.9
comp=Z,63nm,1.1s
G29M Pine Creek 94.60 339 P **P 14 37 08.7 -0.2**
baz=120
EGAK Eagle 94.69 337 P **P 14 37 08.6 -0.7**
baz=118,SNR=7.1
K27K Chicken 94.70 336 P **P 14 37 09.0 -0.4**
baz=117
RUST Rust De Winter 94.72 118 *e*P **P 14 37 11.1 +0.4**
RUST IAmb IAmb 14 37 12.4
comp=Z,39nm,1.1s
KHZ Kahutara 94.75 224 IAmb IAmb 14 37 12.8
comp=Z,45nm,1.1s
MQZ McQueen's Vall 94.75 222 IAMs_20 IAMs_20 15 08 32.8
comp=Z,973nm,22.0s
L26K Log Cabin Wild 94.76 335 P **P 14 37 09.1 -0.6**
baz=116
KLU Klutina 95.21 333 IAmb IAmb 14 37 12.3
comp=Z,28nm,1.1s
KLU Klutina 95.21 333 P **P 14 37 10.9 -1.0**
baz=114,SNR=6.4
I27K Kandik River 95.24 337 P **P 14 37 11.2 -0.7**
baz=117
HARP HAARP 95.25 334 P **P 14 37 11.5 -0.5**
baz=114
DOU Dourbes 95.25 39 *d*P **P 14 37 12.4 +0.2**
comp=Z,14nm,1.3s
DOU *dx* x 14 37 29.2
CRAIL Swartwater, Li 95.30 115 *e*P **P 14 37 14.2 +0.9**
E29M Blow River 95.30 341 P **P 14 37 11.3 -0.8**
baz=120
WTBG Waterberg Wild 95.38 117 *e*P **P 14 37 14.6 +0.9**
WTBG IAmb IAmb 14 37 14.8
comp=Z,18nm,1.1s
LTZ Lake Taylor 95.42 223 P **P 14 37 13.8 +0.4**
BMRD Maredsous 95.43 39 *d*P **P 14 37 13.2 +0.1**
comp=Z,11nm,1.4s
SCRK Sand Creek 95.43 335 P **P 14 37 12.2 -0.7**
baz=115
THZ Tophouse 95.47 224 P **P 14 37 14.5 +0.8**
THZ IAmb IAmb 14 37 16.5
comp=Z,55nm,1.4s
J26L Joseph Creek 95.49 336 P **P 14 37 13.0 -0.1**
baz=116,SNR=5.5
H27K Steamboat Moun 95.50 338 P **P 14 37 13.3 +0.2**
baz=117
M24K Tolsona, Glenn 95.57 333 P **P 14 37 13.1 -0.4**
baz=114
F28M Old Crow 95.57 340 P **P 14 37 12.9 -0.4**
baz=119,SNR=8.9
PAX Paxson 95.62 334 P **P 14 37 12.8 -1.0**
baz=114,SNR=5.7
BGES Gesves 95.65 39 *d*P **P 14 37 14.6 +0.5**
comp=Z,9.1nm,1.0s
RCHB Rochefort 95.66 40 *d*P **P 14 37 14.4 +0.3**
comp=Z,11nm,1.2s
RIDG Independent Ri 95.68 335 IAmb IAmb 14 37 16.7
comp=Z,30nm,1.4s
RIDG Independent Ri 95.68 335 P **P 14 37 13.9 -0.1**
baz=114
I26K Coal Creek Min 95.68 337 P **P 14 37 13.7 -0.2**
baz=116
RPZ Rata Peaks 95.78 222 IAmb IAmb 14 37 17.9
comp=Z,43nm,1.0s
RPZ Rata Peaks 95.78 222 LR LR 15 10 15.2
comp=Z,535nm,21.5s,baz=108,slow=29
BCLA Clavier 95.79 39 *d*P **P 14 37 15.6 +0.9**
E28M Babbage River 95.94 340 P **P 14 37 14.1 -0.8**
baz=119
SCM Sheep Creek Mo 95.96 333 P **P 14 37 14.8 -0.6**
baz=112
INZ Inchbonnie 95.99 223 IAmb IAmb 14 37 18.7
comp=Z,48nm,1.2s
D28M Stokes Point 96.04 341 P **P 14 37 14.7 -0.6**
baz=120
DULL Dullstroom, Mp 96.08 118 *e*P **P 14 37 16.8 -0.2**
DULL IAmb IAmb 14 37 19.6
comp=Z,40nm,1.0s
WLF Walferdange 96.08 40 P **P 14 37 16.1 +0.1**
WLF Walferdange 96.08 40 *d*P **P 14 37 16.9 +0.9**
WLF Walferdange 96.08 40 P **P 14 37 16.1 +0.1**
WLF pmax pmax
comp=Z,66nm,1.4s
M23K Glacier View 96.12 333 P **P 14 37 15.4 -0.6**
baz=112
BHOU Houvegnez 96.20 39 *d*P **P 14 37 17.5 +0.9**
comp=Z,9.6nm,0.0s
J25K Salcha River, 96.25 336 P **P 14 37 15.7 -0.8**
baz=114
MEM Membach 96.27 39 *d*P **P 14 37 17.4 +0.5**
SEW Seward 96.28 331 P **P 14 37 16.5 -0.1**
baz=111
ECH Echery 96.30 42 IAmb IAmb 14 37 18.6
comp=Z,36nm,1.3s
KNK Knik Glacier 96.31 332 P **P 14 37 17.0 +0.2**
baz=112
BTNL Ternell 96.34 39 *d*P **P 14 37 17.2 -0.1**
SML Sawmill 96.39 333 IAmb IAmb 14 37 17.5
comp=Z,29nm,1.1s
SML Sawmill 96.39 333 P **P 14 37 17.3 0.0**
baz=112
WAT6 Susitna Watana 96.42 334 P **P 14 37 17.0 -0.5**
baz=112,SNR=5.8
DHY Denali Highway 96.46 334 P **P 14 37 16.9 -0.8**
baz=112
G26K Porcupine Rive 96.62 338 P **P 14 37 17.8 -0.3**
baz=115
FOZ Fox Glacier 96.65 221 P **P 14 37 19.0 +0.1**
FOZ IAmb IAmb 14 37 20.1
comp=Z,26nm,1.1s
PMR Palmer 96.67 332 P **P 14 37 18.1 -0.3**
baz=111
PRP Porcupine Dome 96.67 337 P **P 14 37 18.1 -0.5**
baz=114
D27M Malcolm River 96.69 341 P **P 14 37 18.1 -0.4**
baz=117
RC01 Rabbit Creek A 96.77 332 P **P 14 37 18.1 -0.7**
baz=110
BRSE Bradley Lake S 96.77 330 P **P 14 37 18.0 -0.9**
baz=110
HDA Harding Lake 96.79 335 P **P 14 37 18.9 -0.1**
baz=113
WAT1 Susitna Watana 96.86 334 P **P 14 37 18.9 -0.4**
baz=111
MUSN Musina, Limpop 96.88 115 *e*P **P 14 37 22.5 +2.0**
ILAR Eielson Array 96.91 336 P **P 14 37 17.9 -1.5**
comp=Z,3.0nm,1.0s,baz=135,slow=3.7,SNR=8.2
ILAR PP **PP 14 41 08.9 -6.4**
comp=Z,2.6nm,1.0s,baz=104,slow=6.3,SNR=11
ILAR LR LR 15 27 39.6
comp=Z,653nm,18.1s,baz=96,slow=40
comp=Z,3.0nm,1.0s
MPHEP Siloam, Limpop 96.94 116 *e*P **P 14 37 21.9 +1.1**
MPHEP IAmb IAmb 14 37 23.4
comp=Z,43nm,1.0s
KDAK Kodiak Island 97.03 328 *i*P **P 14 37 18.9 -1.2**
KDAK pmax pmax
comp=Z,26nm,1.4s
KDAK Kodiak Island 97.03 328 LR LR 15 19 57.0
comp=Z,277nm,18.7s,baz=113,slow=35
HOED Hoedspruit, Li 97.06 118 *e*P **P 14 37 21.4 +0.2**

HOED IAmb IAmb 14 37 23.8
comp=Z,44nm,1.1s
F26K Sheenjek River 97.07 339 P **P** **14 37 20.2 +0.1**
baz=115
RND Reindeer 97.20 334 IAmb IAmb 14 37 21.7
comp=E,38nm,1.4s
POKR Poker Plat Res 97.25 336 P **P** **14 37 20.7 -0.3**
baz=112
COLA College 97.33 336 P **P** **14 37 20.7 -0.6**
baz=112
MCK McKinley 97.35 334 P **P** **14 37 21.0 -0.5**
baz=111
G25K Bearman Lake 97.39 338 P **P** **14 37 21.7 +0.2**
baz=113
JMIC Jan Mayen 97.41 18 LR LR 15 18 28.4
comp=Z,316nm,20.0s,baz=205,slow=34
CUT Chulitna 97.46 333 P **P** **14 37 21.3 -0.6**
baz=110
MDM Murphy Dome 97.51 336 IAmb IAmb 14 37 22.6
comp=Z,33nm,1.1s
MDM IAMs_20 IAMs_20 15 23 33.9
comp=Z,838nm,21.0s
F25K Christian Rive 97.55 339 P **P** **14 37 21.7 -0.7**
baz=113
DAVOX **Davos/Dischmat 97.68 44** LR LR 15 20 07.9
comp=Z,1µm,19.7s,baz=252,slow=35
H24K Noodor Dome 97.70 337 P **P** **14 37 22.3 -0.7**
baz=112
LSZ Lusaka 97.71 108 LR LR 15 19 25.5
comp=Z,465nm,21.6s,baz=260,slow=34
NEA2 Nenana 97.71 335 P **P** **14 37 22.6 -0.5**
baz=111,SNR=6.5
E25K Arctic Village 97.73 339 IAmb IAmb 14 37 24.3
E25K Arctic Village 97.73 339 P **P** **14 37 23.2 +0.1**
baz=113,SNR=7.1
MOPA Mopani 97.78 117 *e*P Pdif 14 37 26.4 +1.9
MOPA IAmb IAmb 14 37 27.4
comp=Z,91nm,0.9s
DAVA Damuels 97.81 43 *e*P **P** **14 37 24.8 +0.6**
comp=Z,15nm,1.1s,SNR=5.5
TRF Thorofare Moun 97.82 334 P **P** **14 37 24.3 +0.5**
baz=110
G24K Hadweenzic Riv 97.86 337 P **P** **14 37 23.4 -0.3**
baz=112
SKT Skwentna 97.88 332 IAmb IAmb 14 37 24.2
SKT Skwentna 97.88 332 P **P** **14 37 23.5 -0.4**
baz=109,SNR=6.1
FUORN **Ofenpass-Fuorn 97.90 44** P **P** **14 37 24.3 -0.4**
FUORN IAMs_20 IAMs_20 15 19 36.8
comp=Z,665nm,20.0s
Q19K Cape Douglas, 97.92 329 P **P** **14 37 23.7 -0.5**
baz=108
N20K Mount Spurr 97.93 331 P **P** **14 37 23.9 -0.4**
baz=106
I23K Minto, Yukon-K 98.03 336 P **P** **14 37 24.2 -0.2**
baz=110
FETA Feichten 98.31 44 *e*Pdiff **P** **14 37 26.7 +0.3**
comp=Z,8.3nm,1.0s,SNR=6.4
F24K Squaw Lake 98.32 338 P **P** **14 37 25.6 -0.2**
baz=111
BPAW Bear Paw Mtn. 98.33 334 IAmb IAmb 14 37 26.0
comp=Z,25nm,1.5s
BPAW Bear Paw Mtn. 98.33 334 P **P** **14 37 24.9 -1.0**
baz=109
RETA Reutte 98.44 43 *e*Pdiff Pdif 14 37 27.6 +0.7
comp=Z,16nm,1.5s
PPLA Purkeypile 98.46 333 P **P** **14 37 26.0 -0.7**
baz=108
D25K Kavik River 98.47 340 P **P** **14 37 26.0 -0.5**
baz=112
MLY Manley 98.54 335 P **P** **14 37 25.9 -0.9**
baz=109
M20K Styx River 98.56 332 P **P** **14 37 26.0 -1.1**
baz=108
CAST Castle Rocks 98.58 334 IAmb IAmb 14 37 27.0
comp=Z,52nm,1.6s
CAST Castle Rocks 98.58 334 P **P** **14 37 25.9 -1.1**
baz=108,SNR=8.5
MOTA Moosalm 98.63 43 *e*Pdiff **P** **14 37 28.0 +0.2**
comp=Z,16nm,1.1s,SNR=6.8
SQTA Sankt Quirin 98.67 43 *e*Pdiff **P** **14 37 28.5 +0.5**
comp=Z,20nm,1.2s,SNR=8.1
G23K Bananza Creek 98.82 337 P **P** **14 37 28.3 +0.2**
baz=110
Q17K Contact Creek 98.85 328 P **P** **14 37 28.3 -0.2**
baz=106
WATA Walderalm 98.94 43 *e*Pdiff **P** **14 37 29.6 +0.4**
comp=Z,17nm,1.4s
WTTA Wattenberg 98.97 43 *e*Pdiff Pdif 14 37 29.9 +0.5
comp=Z,20nm,1.0s,SNR=8.5
COLD Coldfoot 99.06 338 P **Pdif** **14 37 29.4 +0.3**
baz=109
L20K Farewell, AK 99.08 332 P **Pdif** **14 37 29.1 -0.2**
baz=107
E23K Chandalar 99.12 338 P **Pdif** **14 37 29.1 -0.4**
baz=110
M19K Big River Lodg 99.14 332 P **Pdif** **14 37 29.2 -0.3**
baz=106
D24K Happy Valley 99.22 340 P **Pdif** **14 37 29.1 -0.7**
baz=110
GRFO Grafenberg 99.26 41 IAMs_20 IAMs_20 15 17 49.8
comp=Z,753nm,22.0s
GRF Grafenberg Arr 99.27 41 *e*Pdiff **Pdif** **14 37 31.3 +0.9**
P17K Kvichak River 99.38 329 P **Pdif** **14 37 30.3 -0.4**
baz=105
C24K Franklin Bluff 99.38 340 P **Pdif** **14 37 30.8 +0.4**
baz=110
K20K Telida 99.41 333 P **Pdif** **14 37 30.7 -0.1**
baz=106
L19K White Mountain 99.43 332 P **Pdif** **14 37 30.4 -0.5**
baz=106
ABTA Abfaltersbach 99.43 44 *e*Pdiff **Pdif** **14 37 31.7 +0.4**
comp=Z,9.5nm,1.0s,SNR=7.0
G22K Bettles 99.44 337 P **Pdif** **14 37 30.6 -0.2**
baz=108
N18K Kilae Creek 99.50 330 P **Pdif** **14 37 30.5 -0.7**
baz=105
LESA Schwarzleotal 99.69 43 *e*Pdiff **Pdif** **14 37 32.8 +0.4**
comp=Z,9.7nm,1.3s
D23K Nanushuk River 99.79 339 P **Pdif** **14 37 32.7 +0.4**
baz=109
CEL Celeste 100.02 53 IAMs_20 IAMs_20 15 23 16.6
comp=Z,594nm,20.0s
KBA Koelnbreinsper 100.06 44 *e*Pdiff **Pdif** **14 37 33.8 -0.4**
comp=Z,6.1nm,1.2s
N17K Nushagak Hills 100.08 330 P **Pdif** **14 37 33.1 -0.6**
baz=104
P16K Nushagak River 100.11 329 P **Pdif** **14 37 33.6 -0.3**
baz=104
CADS Cadrg 100.14 45 *i* P **Pdif** **14 37 34.9 +0.4**
TTA Tatalina 100.14 333 P **Pdif** **14 37 35.0 +0.9**
baz=105
NKC Novy Kostel 100.16 41 AMS AMS 15 23 00.0
comp=Z,600nm,19.3s
MYKA Terra Mystica 100.16 44 *e*Pdiff **Pdif** **14 37 34.8 +0.2**
comp=Z,3.2nm,0.8s
L18K Granite Mounta 100.27 332 P **Pdif** **14 37 34.6 0.0**
baz=104
F21K Alatna River 100.27 337 P **Pdif** **14 37 34.8 +0.3**
baz=106
CUC Castrocucco 100.32 51 IAMs_20 IAMs_20 15 24 05.5
comp=Z,612nm,20.0s
H20K Anotleneega Mo 100.34 335 P **Pdif** **14 37 35.0 +0.2**
baz=105
BIOA Bad Ischl, Aus 100.38 43 *e*Pdiff **Pdif** **14 37 36.3 +0.8**
comp=Z,6.7nm,0.9s
M17K Holitna River 100.41 331 P **Pdif** **14 37 35.3 +0.1**
baz=104
D22K Ayikyak River 100.45 339 P **Pdif** **14 37 35.5 +0.2**
baz=107
CRNS Crni Vrh 100.47 45 *i* P **Pdif** **14 37 36.5 +0.6**
J18K Innoko River 100.59 333 P **Pdif** **14 37 35.7 -0.2**
baz=104
SDPT Sand Point 100.59 325 P **Pdif** **14 37 35.6 -0.5**
baz=102
KHC Kasperske Hory 100.64 42 *e*PDIFF **Pdif** **14 37 33.5 -3.1**
KHC AMS AMS 15 24 30.0
comp=Z,500nm,19.2s
KHC Kasperske Hory 100.64 42 *e*P **Pdif** **14 37 33.5 -3.1**
KHC MLR MLR
comp=Z,500nm,19.2s
GERES **GERESS Array B 100.67 42** P **Pdif** **14 37 36.7 0.0**
comp=Z,2.2nm,0.9s,baz=222,slow=1.8,SNR=6.6
CLL Collm 100.73 40 IAMs_20 IAMs_20 15 21 44.5
comp=Z,708nm,20.0s
CLL Collm 100.73 40 *i* P **Pdif** **14 37 37.5 +0.6**

CLL *e* 14 41 48.0
CLL *e* 14 48 12.0
CLL pmax pmax
comp=Z,17nm,1.5s
CLL MLR MLR
comp=Z,700nm,20.0s
OBKA Obir 100.75 45 *e*Pdiff **Pdif** **14 37 37.5 +0.3**
comp=Z,7.1nm,1.2s
MOA Molln 100.83 43 *e*Pdiff **Pdif** **14 37 37.8 +0.4**
comp=Z,7.2nm,0.9s
HSKC Hora Svate Kat 100.85 40 AMS AMS 15 23 10.0
comp=Z,700nm,18.7s
TIP Timpagrande 100.87 52 IAMs_20 IAMs_20 15 23 42.1
comp=Z,800nm,22.0s
GCSA Galena City Sc 100.97 334 P **Pdif** **14 37 37.7 +0.1**
baz=104
L17K Donlin 100.98 332 P **Pdif** **14 37 38.2 +0.4**
baz=103
M16K Timber Creek 101.04 330 P **Pdif** **14 37 38.2 +0.2**
baz=103
CKRC Cesky Krumlov 101.05 42 AMS AMS 15 22 50.0
comp=Z,800nm,18.5s
O15K Ungalikthiuk R 101.07 328 P **Pdif** **14 37 38.3 +0.1**
baz=102
F20K Avaraart Lake 101.07 337 P **Pdif** **14 37 37.8 -0.2**
baz=104
ZVC Zvikov 101.10 42 AMS AMS 15 25 10.0
comp=Z,500nm,17.0s
B22K Teshekpuk Lake 101.11 340 P **Pdif** **14 37 37.9 -0.2**
baz=106
K17K Iditarod 101.11 332 P **Pdif** **14 37 38.4 +0.1**
baz=103
BRG Berggiesshubel 101.22 40 ‖ *e*Pif 14 37 40.5
BRG Amp 14 37 41.6
comp=Z,16nm,1.3s
BRG Berggiesshubel 101.22 40 Amp 15 25 58.0
comp=N,0.3nm,19.9s
BRG Berggiesshubel 101.22 40 *e*P **Pdif** **14 37 40.4 +1.3**
BRG SP SP 14 50 51.0 +4.0
BRG pmax pmax
comp=Z,16nm,1.3s
BRG pmax pmax
comp=Z,567nm,17.4s
BRG MLR MLR
comp=E,416nm,16.3s
BRG MLR MLR
comp=N,261nm,19.9s
BRG Berggiesshubel 101.22 40 SP SP 14 50 51.0 +4.0
BRG Berggiesshubel 101.22 40 Amp 15 25 53.0
comp=Z,0.6nm,17.4s
BRG Berggiesshubel 101.22 40 Amp 15 25 56.0
comp=E,0.4nm,16.3s
C21K Knifeblade Rid 101.26 339 P **Pdif** **14 37 39.2 +0.4**
baz=105
PRA Prague 101.38 41 AMS AMS 15 22 30.0
comp=E,600nm,21.0s
G19K Purcell Mounta 101.38 336 P **Pdif** **14 37 39.6 +0.2**
baz=103
PRU Pruhonice 101.43 41 AMS AMS 15 27 30.0
comp=E,500nm,15.8s
L16K Owhat River 101.43 331 P **Pdif** **14 37 39.8 +0.1**
baz=102
E20K Nigu River 101.53 338 P **Pdif** **14 37 40.5 +0.4**
baz=104
ARSA Arzberg 101.55 44 *e*Pdiff **Pdif** **14 37 40.1 -0.6**
comp=E,0.6nm,0.2s
H18K Honhosa River 101.67 335 P **Pdif** **14 37 41.1 +0.3**
baz=102
E19K Redstone River 101.73 337 P **Pdif** **14 37 41.1 +0.1**
baz=103
D20K Etivluk River 101.79 338 P **Pdif** **14 37 41.1 -0.2**
baz=103
F19K Shaleruckik Mo 101.80 336 P **Pdif** **14 37 40.7 -0.6**
baz=103
M15K Kasigluk River 101.80 330 P **Pdif** **14 37 41.2 -0.2**
baz=101
CONA Conrad Observa 101.90 43 *e*Pdiff **Pdif** **14 37 42.3 +0.1**
comp=E,5.1nm,1.3s
TREC Trest 101.90 42 AMS AMS 15 23 00.0
comp=E,800nm,18.3s
G18K Tagagawik 101.95 335 P **Pdif** **14 37 42.5 +0.5**
baz=102
N14K Kuskokwak Cree 102.14 329 P **Pdif** **14 37 42.9 0.0**
baz=101
FALS False Pass 102.15 324 P **Pdif** **14 37 42.7 -0.4**
baz=100
J16K Anvik River 102.26 333 P **Pdif** **14 37 43.7 +0.3**
baz=101
B20K Meade River 102.27 340 P **Pdif** **14 37 43.4 +0.2**
baz=102
D19K Kuna River 102.28 338 P **Pdif** **14 37 43.8 +0.4**
baz=102,SNR=6.9
L15K Ungalak Mounta 102.37 331 P **Pdif** **14 37 44.2 +0.3**
baz=100
I17K Unalakleet 102.41 333 P **Pdif** **14 37 44.1 +0.1**
baz=101
M14K Bethel 102.43 330 P **Pdif** **14 37 44.6 +0.5**
baz=100
KRUC Moravsky 102.45 42 *e*PDIFF **Pdif** **14 37 46.1 +1.5**
F18K Selawik 102.49 336 P **Pdif** **14 37 44.8 +0.5**
baz=101
K15K Wolf Creek Mou 102.50 331 P **Pdif** **14 37 44.7 +0.3**
baz=100
OSTC Ostas 102.59 41 AMS AMS 15 23 10.0
comp=E,700nm,19.4s
VRAC Vranov 102.62 42 *e*PDIFF **Pdif** **14 37 46.3 +0.9**
DPC Dobruska-Polom 102.62 41 AMS AMS 15 26 10.0
comp=E,600nm,17.7s
G17K Kiwalik Mounta 102.69 335 P **Pdif** **14 37 45.9 +0.7**
baz=100
KRLC Kraliky 102.87 41 AMS AMS 15 24 40.0
comp=E,500nm,18.8s
L14K Kuk Creek 102.87 330 P **Pdif** **14 37 46.4 +0.3**
baz=99
C19K Lookout Ridge 102.93 338 P **Pdif** **14 37 46.7 +0.4**
baz=100
E18K Tukpahlearik C 103.00 337 P **Pdif** **14 37 47.0 +0.4**
baz=100
M13K Dall Lake 103.05 329 P **Pdif** **14 37 47.2 +0.2**
baz=99
F17K Baldwin Pennin 103.09 336 P **Pdif** **14 37 47.4 +0.4**
baz=100
JAVC Velka Javorina 103.25 43 *e*PDIFF **Pdif** **14 37 48.3 +0.1**
MORC Moravsky Berou 103.30 42 *e*PDIFF **Pdif** **14 37 48.6 +0.2**
E17K Hotham Inlet 103.42 336 P **Pdif** **14 37 48.8 +0.3**
baz=99,SNR=7.0
C18K Utukok River 103.42 338 P **Pdif** **14 37 48.7 +0.2**
baz=99
J14K Nanvaranak Lak 103.50 332 P **Pdif** **14 37 49.0 +0.2**
baz=98
A19K Wainwright 103.62 340 P **Pdif** **14 37 49.6 +0.4**
baz=99
OKC Ostrava-Krasne 103.70 42 AMS AMS 15 24 00.0
comp=E,500nm,20.0s
B18K Kokolik River 103.75 339 P **Pdif** **14 37 50.1 +0.2**
baz=98
G15K Niukluk 104.02 334 P **Pdif** **14 37 50.9 -0.3**
baz=97
C17K DeLong Mountai 104.12 338 P **Pdif** **14 37 51.5 -0.1**
baz=97
PSZ Piszkesteto 104.58 44 IAMs_20 IAMs_20 15 26 43.6
comp=Z,869nm,19.0s
C16K Lisburne Hills 104.90 337 P **Pdif** **14 37 55.1 +0.1**
baz=95
TNA Tin City 105.70 334 P **PKiKP** **14 42 12.0 +0.6**
baz=94
KARP Karpathos 108.49 57 IAMs_20 IAMs_20 15 27 52.1
comp=Z,869nm,22.0s
FINES **FINESS Array B 108.90 30** PKKPbc PKKPbc 14 53 25.6 -2.1
comp=Z,1.4nm,0.8s,baz=90,slow=2.8,SNR=4.1
DZM Mont Dzumac 109.32 239 *e*P **Pdif** **14 38 15.8 -0.2**
comp=Z,64nm,25.6s
DZM Mont Dzumac 109.32 239 *e*SS SS 14 58 06.0 -2.0
comp=Z,368nm,27.4s
DZM Mont Dzumac 109.32 239 *e*LR LR 15 14 25.6
comp=Z,2µm,23.6s
MNK Minsk 110.00 37 *i* P **Pdif** **14 38 13.0 -5.0**
MNK *i* 14 49 27.5
MNK *i* PS **PS** **14 52 16.6 -6.0**
MNK *i* SS SS 14 58 13.5 -2.6
MNK *i* SSS SSS 15 02 19.7
MNK pmax pmax
comp=E,12nm,1.0s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,27nm,0.9s
MNK MLR MLR
comp=N,1µm,21.0s
MNK MLR MLR
comp=E,387nm,21.0s
MNK MLR MLR
comp=Z,702nm,19.0s
LODK Lodwar 110.11 92 IAMs_20 IAMs_20 15 26 11.2
comp=Z,648nm,20.0s
KMBO Kilima Mbogo 110.64 97 IAMs_20 IAMs_20 15 29 34.3
comp=Z,761nm,19.0s
KMBO Kilima Mbogo 110.64 97 PKKPab PKKPab 14 53 30.7 -1.4
comp=Z,0.6nm,0.3s,baz=200,slow=5.6,SNR=3.1
KIEV Kiev 110.84 41 IAMs_20 IAMs_20 15 26 46.2
comp=Z,803nm,21.0s
AKASG **Malin Array Be 110.85 41** PKiKP **PKiKP** **14 42 20.5 -0.9**
comp=Z,2.8nm,0.8s,baz=268,slow=2.5,SNR=9.0
AKASG PP **PP** **14 42 54.7 -4.7**
comp=Z,0.2nm,0.3s,baz=261,slow=7.4,SNR=7.9
AKASG PKKPab **PKKPab** **14 53 28.9 0.0**
comp=Z,0.2nm,0.3s,baz=83,slow=4.0,SNR=8.1
AKBB Malin Array Si 110.85 41 *i* PKiKP **PKiKP** **14 42 20.4 -1.1**
KIBK Kibwezi 111.03 99 IAMs_20 IAMs_20 15 28 25.4
comp=Z,521nm,21.0s
ISP Isparta 111.38 55 IAMs_20 IAMs_20 15 33 15.4
comp=Z,642nm,21.0s
BR131 Keskin Array S 113.90 53 *i* PKiKP **PKiKP** **14 42 26.3 -1.5**
BRTR Keskin Array B 113.90 53 PKP **PKiKP** **14 42 27.1 -0.7**
comp=Z,4.9nm,1.0s,baz=190,slow=3.4,SNR=17
BRTR PKKPbc **PKKPbc** **14 53 09.5 -1.2**
comp=Z,1.0nm,0.8s,baz=120,slow=8.8,SNR=5.1
OBN Obninsk 114.96 36 ‖ *i* PKiKP **PKiKP** **14 42 26.6 -2.5**
OBN *e* 14 43 32.8
OBN *e* 14 49 34.4
OBN *e*SS SS 14 59 14.0 -7.8
OBN pmax pmax
comp=Z,14nm,0.9s
MMAI Mount Meron Ar 115.07 61 PKP **PKPdf** **14 42 30.6 +0.4**
comp=Z,6.4nm,0.8s,baz=225,slow=1.8,SNR=7.6
GHAJ Ghor Haditha 115.11 63 IAMs_20 IAMs_20 15 36 02.8
comp=Z,661nm,19.0s
BILL Bilibino 115.35 339 IAMs_20 IAMs_20 15 38 17.3
comp=Z,499nm,19.0s
BILL Bilibino 115.35 339 *i* PKiKP **PKiKP** **14 42 28.8 -0.8**
KLMR Klimovskoe 115.43 30 *e*PKiKP **PKiKP** **14 42 29.0 -0.9**
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR MLR MLR
comp=Z,616nm,20.0s
MOS Moscow 115.46 35 *i* PKiKP **PKiKP** **14 42 29.1 -1.0**
MOS *e* 14 43 29.0
LPSR Galich'ya Gora 116.72 39 *e*PKiKP **PKPdf** **14 42 31.3 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.9s
VORR Voronezh 117.03 40 *e*PKiKP **PKPdf** **14 42 32.3 -1.0**
VORR pmax pmax
comp=Z,60nm,0.4s
VSR Storozhevoye 117.07 40 *e*PKiKP **PKPdf** **14 42 32.2 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 117.19 41 *e*PKiKP **PKPdf** **14 42 31.2 -2.4**
VORD pmax pmax
comp=Z,10.0nm,1.2s
SOC Sochi 118.33 49 *i* PKiKP **PKPdf** **14 42 33.6 -2.4**
SOC *e* 14 43 49.4
SOC *e*PS **PS** **14 53 33.3 -6.0**
SOC *e*SS SS 15 00 02.8 -3.8
SOC *e*SSS SSS 15 04 31.1
SOC MLR MLR
comp=Z,144nm,18.0s
VRH Novokhopyorsk 118.66 40 *e*PKiKP **PKPdf** **14 42 34.9 -1.5**
VRH pmax pmax
comp=Z,20nm,0.4s
ATD Arta Tunnel 119.24 86 IAMs_20 IAMs_20 15 38 01.3
comp=Z,545nm,19.0s
KIV Kislovodsk 120.43 48 *i* PKiKP **PKPdf** **14 42 39.3 -0.9**
KIV *e*PS **PS** **14 53 55.3 -3.1**
KIV *e*SS SS 15 00 34.8 +1.0
KIV pmax pmax
comp=Z,13nm,1.1s
KBZ Khabaz 120.61 48 PKP **PKPdf** **14 42 40.5 +0.1**
comp=Z,22nm,0.9s,baz=287,slow=0.8,SNR=38
KIRV Kirov 120.89 30 *i* PKiKP **PKPdf** **14 42 39.4 -1.0**
ONI Oni 121.15 50 PKPdf **PKPdf** **14 42 41.5 -0.1**
ONI Oni 121.15 50 PKiKP **PKPdf** **14 42 41.5 -0.1**
STKA Stephens Creek 121.20 216 PKP **PKPdf** **14 42 41.2 -0.9**
comp=Z,4.0nm,0.7s,baz=276,slow=2.5,SNR=5.4
ZEI Tsey 121.46 49 *i* PKiKP **PKPdf** **14 42 42.5 +0.1**
ZEI pmax pmax
comp=Z,14nm,1.0s
H11N3 WAKE ISLAND Hyl 121.59 284 T T 16 55 40.4
baz=97,slow=74,SNR=51
H11N2 WAKE ISLAND Hyl 121.61 284 T T 16 55 41.6
baz=97,slow=74,SNR=96
H11N1 WAKE ISLAND Hyl 121.61 284 T T 16 55 45.6
baz=97,slow=74,SNR=30
H11S2 WAKE ISLAND Hyl 121.63 282 T T 16 56 01.9
baz=99,slow=75,SNR=33
H11S1 WAKE ISLAND Hyl 121.64 282 T T 16 55 43.3
baz=99,slow=75,SNR=31
H11S3 WAKE ISLAND Hyl 121.65 282 T T 16 55 47.1
baz=99,slow=75,SNR=34
BELG Belogornoye 121.95 38 *i* PKiKP **PKPdf** **14 42 41.8 -0.9**
GNI Garni 122.40 52 **PKPdf** **14 42 44.5 +0.3**
GNI Garni 122.40 52 PKiKP **PKPdf** **14 42 44.5 +0.3**
TIXI Tiksi 122.51 351 PKPdf **PKPdf** **14 42 42.9 -0.3**
TIXI Tiksi 122.51 351 IAMs_20 IAMs_20 15 38 21.0
comp=Z,688nm,22.0s
TIXI Tiksi 122.51 351 PKiKP **PKPdf** **14 42 42.9 -0.3**
SEY Seymchan 122.83 337 *i* PKiKP **PKPdf** **14 42 44.4 +0.3**
RAYN Ar Rayn 123.41 72 **PKPdf** **14 42 46.3 -0.2**
RAYN Ar Rayn 123.41 72 PKiKP **PKPdf** **14 42 46.3 -0.2**
PETK Petropavlovsk- 124.88 324 PKP **PKPdf** **14 42 48.3 -0.1**
comp=Z,14nm,0.9s,baz=63,slow=1.9,SNR=14
NRIK Noril'sk 125.40 8 PKP **PKPdf** **14 42 48.9 0.0**
comp=Z,6.0nm,0.8s,baz=50,slow=2.8,SNR=10
NRIK PP **PP** **14 44 41.8 +2.4**
comp=Z,1.2nm,0.4s,baz=328,slow=3.4,SNR=3.8
CTAO Charters Tower 126.26 230 PKPdf **PKPdf** **14 42 52.0 0.0**
CTAO Charters Tower 126.26 230 PKiKP **PKPdf** **14 42 52.0 0.0**
ARU Arti 126.27 30 PKPdf **PKPdf** **14 42 51.1 +0.2**
ARU Arti 126.27 30 *i* PKiKP **PKPdf** **14 42 51.1 +0.2**
SVE Sverdlovsk 127.06 29 *e*PKiKP **PKiKP** **14 42 53.5 +0.6**
SVE pmax pmax
comp=Z,20nm,1.4s
ABKAR **Akbulak array 130.35 38** PKPdf **PKPdf** **14 42 59.6 +0.8**
ABKAR pPKPdf **sPKPdf** **14 43 11.4 -2.1**
YAK Yakutsk 130.80 345 PKPdf **PKPdf** **14 42 58.8 -0.5**
YAK pPKPdf **pPKPdf** **14 43 11.0 +1.0**
YAK Yakutsk 130.80 345 IAMs_20 IAMs_20 15 42 51.9
comp=Z,424nm,21.0s
YAK Yakutsk 130.80 345 *e*PKiKP **PKPdf** **14 42 59.0 -0.3**
YAK *e* 14 45 12.6
YAK pmax pmax
comp=Z,81nm,1.5s
YAK pmax pmax
comp=N,4.0nm,1.6s
YAK pmax pmax
comp=E,6.0nm,1.6s
YAK pmax pmax
comp=Z,138nm,5.2s
YAK pmax pmax
comp=N,115nm,4.5s
YAK pmax pmax
comp=E,113nm,5.7s
YAK MLR MLR
comp=Z,502nm,29.0s
YAK MLR MLR
comp=N,210nm,14.0s
ASAR Alice Springs 131.84 216 PKPdf **PKPdf** **14 43 02.0 -0.7**
ASAR pPKPdf **pPKPdf** **14 43 13.5 0.0**
ASAR Alice Springs 131.84 216 PKiKP **PKPdf** **14 43 02.0 -0.7**
ASAR Alice Springs 131.84 216 PKhKP PKPpre 14 42 50.9
comp=N,0.5nm,0.8s,baz=116,slow=1.6,SNR=8.6
ASAR PKP **PKPdf** **14 43 01.9 -0.7**
comp=N,19nm,1.0s,baz=122,slow=1.5,SNR=48
GEYT Alibeck 133.04 53 PKPdf **PKPdf** **14 43 05.3 +0.9**
GEYT Alibeck 133.04 53 PKiKP **PKPdf** **14 43 05.3 +0.9**
GEYT Alibeck 133.04 53 PKP **PKPdf** **14 43 04.8 +0.4**
comp=N,4.2nm,0.8s,baz=211,slow=1.7,SNR=13
BRVK Borovoye 133.77 29 PKPdf **PKPdf** **14 43 05.9 +0.7**
BRVK Borovoye 133.77 29 PKiKP **PKPdf** **14 43 05.9 +0.7**
BVAR Borovoye Array 133.84 29 PKP **PKPdf** **14 43 05.2 -0.1**
comp=N,8.3nm,0.9s,baz=263,slow=2.4,SNR=34
WRA Warramunga Arr 134.45 220 PKhKP PKPpre 14 42 55.2
comp=N,0.7nm,0.9s,baz=138,slow=2.1,SNR=5.3
WRA PKP **PKPdf** **14 43 07.0 -0.5**

comp=N,17nm,0.8s,baz=143,slow=1.9,SNR=39
WRAB Tennant Creek 134.45 220 PKPdf PKPdf 14 43 07.2 -0.4
WRAB Tennant Creek 134.45 220 PKIKP PKPdf 14 43 07.2 -0.4
YSS Yuzh-Sakhalins 136.24 323 PKPdf PKPdf 14 43 10.4 +0.4
YSS Yuzh-Sakhalins 136.24 323 *e*PKIKP **PKPdf 14 43 08.0 -2.0**
YSS pmax pmax
comp=Z,40nm,1.1s
BRZS Berezniki 136.90 31 *e*PKP **PKPdf 14 43 09.1 -2.2**
baz=31
BRZS Berezniki 136.90 31 PKIKP PKPdf 14 43 09.0 -2.2
GRNR Gornyy 137.21 331 ⇑*i*PKIKP **PKPdf 14 43 12.5 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
BOD Bodaibo 137.64 353 *e*PKHKP PKPpre 14 42 59.2
BOD pmax pmax
comp=Z,16nm,2.0s
JKA Kamikawa-asahi 137.80 320 PKPdf **PKPdf 14 43 13.9 +0.8**
ASAJ Asahikawa 137.80 320 PKIKP PKPdf 14 43 13.9 +0.9
ZEA Zeya 138.54 341 *e*PKIKP **PKPdf 14 43 09.3 -4.8**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZALV Zalesovo Beam 138.74 18 PKPdf **PKPdf 14 43 14.8 +0.4**
ZALV pPKPdf **pPKPdf 14 43 26.5 +1.2**
ZALV Zalesovo Beam 138.74 18 PKIKP PKPdf 14 43 14.8 +0.4
ZALV Zalesovo Beam 138.74 18 PKhKP PKPpre 14 43 06.8
comp=Z,3.8nm,0.7s,baz=336,slow=3.3,SNR=12
ZALV PKP **PKPdf 14 43 14.5 +0.1**
comp=Z,76nm,0.9s,baz=303,slow=1.8,SNR=90
KURK Kurchatov 139.11 26 PKIKP PKPdf 14 43 15.3 +0.1
KURBB Kurchatov Arra 139.14 26 PKhKP PKPpre 14 43 10.9
comp=Z,12nm,1.1s,baz=299,slow=2.9,SNR=6.2
KURBB PKP **PKPdf 14 43 15.3 0.0**
comp=Z,20nm,1.0s,baz=307,slow=2.7,SNR=30
KURBB PP **PP 14 46 08.8 +0.9**
comp=Z,0.4nm,0.4s,baz=319,slow=3.8,SNR=1.8
CHM Chimkent 139.56 42 *e*PKP **PKPdf 14 43 13.5 -2.9**
baz=42
CHM Chimkent 139.56 42 PKIKP PKPdf 14 43 13.4 -2.9
SEM Semipalatinsk 140.02 25 *e*PKP **PKPdf 14 43 14.3 -2.9**
baz=25
SEM *e*PKiKP **PKiKP 14 43 17.6 -2.0**
baz=25
SEM Semipalatinsk 140.02 25 PKIKP PKPdf 14 43 14.3 -2.9
SEM MLR MLR
comp=Z,203nm,21.0s
DZA Taraz 140.36 40 *i* PKiKP **PKPdf 14 43 18.3 +0.4**
baz=40
DZA Taraz 140.36 40 *i* PKIKP **PKPdf 14 43 18.2 +0.4**
BTLS Baital 140.74 36 *e*PKP **PKPdf 14 43 16.3 -2.1**
baz=36
BTLS *e*PKiKP **PKiKP 14 43 19.0 -2.0**
baz=36
BTLS Baital 140.74 36 PKIKP PKPdf 14 43 16.3 -2.1
HEH HeiHe 141.38 337 PKP PKPdf 14 43 12.8 -6.5
HEH sPKP 14 43 20.0
HEH PP PP 14 46 05.5 -16
HEH AMB AMB
comp=Z,350nm,4.7s
HEH LR LR
comp=N,350nm,23.0s
HEH LR LR
comp=E,290nm,23.5s
HEH LR LR
comp=Z,630nm,24.7s
EKS2 Erkin-Say 141.99 39 P **PKPdf 14 43 22.0 +1.1**
SNR=22
SGDS Sogindy 142.03 37 *e*PKP **PKPdf 14 43 17.9 -3.0**
baz=37
SGDS *e*PKiKP **PKiKP 14 43 21.6 -2.2**
baz=37
SGDS Sogindy 142.03 37 *e*PKIKP **PKPdf 14 43 17.8 -3.0**
USP Ospenovka 142.07 38 P **PKPdf 14 43 20.7 -0.2**
SNR=15
AAK Ala-Archa 142.44 38 P **PKPdf 14 43 18.6 -3.1**
SNR=7.9
AAK Ala-Archa 142.44 38 PKPpre PKPpre 14 43 16.9
AAK Ala-Archa 142.44 38 *i* PKIKP **PKPdf 14 43 18.0 -3.7**
KBL Kabul 142.47 53 PKPdf **PKPdf 14 43 22.1 0.0**
KBL Kabul 142.47 53 PKIKP PKPdf 14 43 22.1 0.0
UCH Uchtor 142.69 39 P **PKPdf 14 43 20.3 -2.3**
SNR=26
KBK Karagaybulak 142.69 38 P **PKPdf 14 43 19.8 -2.4**
SNR=6.3
TKM2 Tokmak 2 142.92 37 P **PKPdf 14 43 19.7 -2.9**
SNR=16
TDK Taldyqorghan 143.12 32 *e*PKP PKPab 14 43 19.5 +1.3
baz=32
TDK Taldyqorghan 143.12 32 *e*PKIKP PKPab 14 43 19.4 +1.3
TDK MLR MLR
comp=Z,290nm,20.0s
CHKK Chushkaly 143.12 35 *e*PKP PKPab 14 43 18.9 +0.7
baz=35
CHKK Chushkaly 143.12 35 *e*PKIKP PKPab 14 43 18.8 +0.6
DGZ Jazzator, Alta 143.23 20 *i*PKIKP PKPbc 14 43 20.1 +0.2
AAA Alma-Ata 143.50 36 *e*PKP PKPab 14 43 20.9 +1.1
baz=36
AAA Alma-Ata 143.50 36 *e*PKIKP PKPab 14 43 20.8 +1.1
MAKZ Makanchi 143.52 27 PKPpre 14 43 19.3
MAKZ IAMs_20 IAMs_20 15 49 51.9
comp=Z,498nm,20.0s
MAKZ Makanchi 143.52 27 PKIKP PKPab 14 43 19.3 -0.4
MAKZ MLR MLR
comp=Z,500nm,20.0s
MDOK Medeo 143.60 36 *e*PKP PKPab 14 43 20.4 +0.2
baz=36
MDOK Medeo 143.60 36 *e*PKIKP PKPab 14 43 20.4 +0.1
TNSS Tian-Shan 143.62 36 *e*PKP PKPab 14 43 21.0 +0.3
baz=36
TNSS Tian-Shan 143.62 36 *e*PKIKP PKPab 14 43 21.0 +0.3
MK31 Makanchi Array 143.67 27 *i* PKIKP PKPab 14 43 20.0 -0.2
MKAR Makanchi Array 143.67 27 PKPpre PKPpre 14 43 20.0
MKAR Makanchi Array 143.67 27 PKP PKPab 14 43 20.9 +0.6
comp=Z,13nm,0.9s,baz=318,slow=3.2,SNR=42
ULHL Ulahol 143.71 38 P PKPbc 14 43 23.2 +1.6
SNR=39
IRK Irkutsk 143.71 1 *e*PKIKP PKPab 14 43 20.0 -0.2
IRK pmax pmax
comp=Z,109nm,2.2s
USRK Ussuriysk Ar. 143.89 327 PKP PKPab 14 43 21.1 0.0
comp=Z,55nm,1.0s,baz=49,slow=2.6,SNR=65
MOY Mondy 144.12 5 *e*PKIKP PKPbc 14 43 22.8 +0.4
MOY pmax pmax
comp=Z,130nm,3.2s
ZSN Zaisan 144.22 24 *e*PKP **PKPab 14 43 21.9 -0.4**
baz=24
ZSN Zaisan 144.22 24 *e*PKIKP **PKPab 14 43 21.9 -0.4**
KPKS Kokpek 144.30 34 *e*PKP **PKPab 14 43 21.5 -1.3**
baz=34
KPKS Kokpek 144.30 34 *e*PKIKP **PKPab 14 43 21.5 -1.3**
MJAR Matsushiro Arr 144.36 312 PKP **PKPab 14 43 22.1 -1.1**
comp=Z,48nm,1.0s,baz=106,slow=1.9,SNR=65
MAJO Matsushiro 144.36 312 PKPdf **PKPab 14 43 22.7 -0.5**
MAJO Matsushiro 144.36 312 PKIKP PKPab 14 43 22.7 -0.5
MJB9 Matsu-Tunnel 144.36 312 PKPdf **PKPab 14 43 23.6 +0.4**
ZHN Zhinishke 144.37 35 *e*PKP **PKPab 14 43 22.3 -0.9**
baz=35
ZHN Zhinishke 144.37 35 *e*PKIKP **PKPab 14 43 22.2 -0.9**
SATY Saty 144.42 35 *e*PKP **PKPab 14 43 21.9 -1.5**
baz=35
SATY Saty 144.42 35‖ *e*PKIKP **PKPab 14 43 21.9 -1.5**
KAAM Kaadhehdhoo 144.55 112 PKP PKPbc 14 43 25.8 +1.1
UZB Uzunbulak 144.70 34 *e*PKP **PKPab 14 43 22.9 -1.6**
baz=34
UZB *e*PKiKP PKPbc 14 43 25.7 +1.1
baz=34
UZB Uzynbulak 144.70 34 PKIKP PKPab 14 43 22.8 -1.6
MDJ Mudanjiang 144.82 329 PKP **PKPab 14 43 23.3 -1.3**
MDJ AMB AMB
comp=Z,240nm,7.7s
SHLS Shalkode 144.93 34 *e*PKP **PKPab 14 43 23.5 -1.8**
baz=34
SHLS *e*PKiKP **PKPdf 14 43 27.3 +1.3**
baz=34
SHLS Shalkode 144.93 34 *e*PKP2 **PKPab 14 43 23.4 -1.8**
SHLS *i* 14 43 27.3
BNX BinXian 144.98 333 ⇑PKP **PKPbc 14 43 24.5 -0.6**
KSH Kashi 145.14 42 PKPbc **PKPdf 14 43 27.3 +0.8**
KSH PP **PP 14 46 50.8 +5.8**
KSH LR LR
comp=Z,290nm,22.1s
KSH LR LR
comp=Z,310nm,22.2s
KSH LR LR
comp=Z,470nm,20.6s
ZAK Zakamensk 145.54 2 *e*PKIKP **PKPdf 14 43 27.0 +0.2**
ZAK *e* 14 46 42.4
ZAK pmax pmax
comp=Z,147nm,1.4s
ZAK pmax pmax
comp=Z,11nm,1.5s
KMPI Kaimana, Papua 145.94 238 PKP **PKPab 14 43 30.7 +1.1**
NIL Nilore 146.04 53 PKPdf **PKPdf 14 43 27.5 -0.6**
NIL Nilore 146.04 53 PKP2 **PKPdf 14 43 27.5 -0.6**
CN2 Changchun 147.37 333 *e*PKPbc **PKPdf 14 43 29.0 -0.9**
CN2 PP **PP 14 47 04.3 +6.8**
CN2 AMB AMB
comp=Z,100nm,5.5s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,400nm,16.0s
FAKI Fak Fak 147.55 237 PKPdf 14 43 32.9 +1.7
FAKI Fak Fak 147.55 237 PKP **PKPdf 14 43 32.3 +1.1**
ULN Ulaanbaatar 148.07 358 PKPdf **PKPdf 14 43 31.6 +0.4**
ULN Ulaanbaatar 148.07 358 IAMs_20 IAMs_20 15 56 02.2
comp=Z,470nm,22.0s
ULN Ulaanbaatar 148.07 358 PKIKP **PKPdf 14 43 31.6 +0.4**
ULN Ulaanbaatar 148.07 358 PKP **PKPdf 14 43 30.0 -1.2**
SONM Songino Array 148.12 359 PKPbc **PKPdf 14 43 32.5 +1.2**
comp=Z,57nm,1.0s,baz=294,slow=1.0,SNR=86
SONM PP **PP 14 47 00.3 -1.3**
comp=Z,3.9nm,1.0s,baz=345,slow=5.4,SNR=4.7
WMQ Urumqi 148.33 25 *e*PKPbc **PKPdf 14 43 32.8 +1.2**
WMQ LR LR
comp=Z,550nm,18.3s
WMQ LR LR
comp=Z,450nm,22.7s
SOEI Soe 148.43 217 PKP **PKPbc 14 43 35.2 -1.0**
SIJI Sorong 149.53 239 PKP **PKPdf 14 43 35.1 +0.7**
SWI Sorong 149.53 239 PKP **PKPdf 14 43 35.5 +1.1**
BASI Baing, Sumba 150.04 211 PKP **PKPdf 14 43 37.8 +2.6**
XLT XiLinHaoTe 150.63 344⇑*e*PKPbc **PKPbc 14 43 40.3 -0.5**
XLT pPKP pPKPbc 14 43 50.5 -1.3
XLT sPKP 14 43 54.0
XLT AMB AMB
comp=Z,160nm,6.3s
XLT LR LR
comp=Z,32nm,20.8s
XLT LR LR
comp=Z,190nm,17.4s
XLT LR LR
comp=Z,510nm,18.3s
KSRS Korea Array 150.71 321 PKP **PKPdf 14 43 35.6 +0.2**
comp=Z,26nm,1.0s,baz=24,slow=1.1,SNR=53
KSRS PKPbc **PKPbc 14 43 41.1 +0.1**
comp=Z,127nm,1.0s,baz=19,slow=1.1,SNR=72
KSAR Wonju Array Be 150.74 322 PKPdf **PKPbc 14 43 36.1 +0.6**
KSAR pPKPdf **PKPbc 14 43 41.9 +0.8**
JNU Nakatsue 151.28 311 PKPbc 14 43 42.1 -0.5
TJN Taejon 151.75 320 PKPbc 14 43 43.2 -0.3
TJN Taejon 151.75 320 PKIKP **PKPbc 14 43 43.2 -0.3**
LBMI Labuha 152.71 235 PKP **PKPdf 14 43 41.4 +2.1**
BJI Beijing 154.16 341 PKPbc **PKPdf 14 43 41.0 +0.5**
BJI AMB AMB
comp=Z,120nm,4.9s
BJI LR LR
comp=Z,150nm,20.7s
BJI LR LR
comp=Z,120nm,16.4s
BJI LR LR
comp=Z,240nm,21.5s
BJT Baijiatuau 154.18 341 IAMs_20 IAMs_20 15 58 01.9
comp=Z,450nm,22.0s
HYB Hyderabad 154.22 83 *e*PKPdf **PKPdf 14 43 41.8 +0.5**
HHC Hu-ho-hao-te 154.55 349 *e*PKPbc **PKPdf 14 43 42.5 +1.3**
HHC pPKP PKiKP 14 43 50.5 +0.8
HHC AMB AMB
comp=Z,260nm,5.5s
HHC LR LR
comp=Z,270nm,17.6s
HHC LR LR
comp=Z,230nm,19.9s
HHC LR LR
comp=Z,470nm,19.9s
BTO Baotou 155.04 352 *e*PKPbc **PKPdf 14 43 42.5 +0.6**
BTO pPKP **pPKPdf 14 43 53.0 +0.3**
BTO PP **PP 14 47 46.5 +5.4**
BTO LR LR
comp=Z,660nm,22.5s
BTO LR LR
comp=Z,680nm,18.2s
BTO LR LR
comp=Z,780nm,19.8s
GTA Gaotai 156.04 11 ⇑PKP **PKPdf 14 43 44.3 +1.0**
GTA pPKP pPKPdf 14 43 53.3 -1.0
GTA PKPab **PKPab 14 44 10.3 -0.3**
GTA PP **PP 14 47 49.8 +3.0**
GTA LR LR
comp=Z,370nm,21.1s
GTA LR LR
comp=Z,180nm,22.9s
GTA LR LR
comp=Z,400nm,21.1s
HNS HongShan 157.04 341 ⇑PKP **PKPdf 14 43 45.5 +1.0**
HNS SS SS 15 07 47.0 +3.9
HNS LR LR
comp=Z,520nm,22.4s
HNS LR LR
comp=Z,260nm,23.5s
HNS LR LR
comp=Z,570nm,24.1s
TIA Tai'an 157.22 335 PKP **PKPdf 14 43 45.8 +1.0**
GOMU GeErMu 157.66 23 PKP **PKPdf 14 43 47.5 +1.7**
GOMU LR LR
comp=Z,390nm,24.4s
GOMU LR LR
comp=Z,340nm,24.2s
GOMU LR LR
comp=Z,650nm,23.2s
TOLI2 Tolitoli 158.91 227 PKPab **PKPab 14 44 23.6 +0.1**
NJ2 Nanjing 159.78 325 *e*PKP **PKPdf 14 43 47.5 -0.5**
LZH Lanzhou 159.82 4 PKP **PKPdf 14 43 49.5 +1.4**
LZH pPKP pPKPdf 14 43 58.8 -0.3
LZH PKPab **PKPab 14 44 27.0 0.0**
LZH LR LR
comp=Z,200nm,14.4s
LZH LR LR
comp=Z,200nm,15.1s
LZH LR LR
comp=Z,290nm,15.1s
LYN LuoYang 160.35 342 *e*PKP **PKPdf 14 43 49.3 +0.8**
XAN Xi'an 161.64 351 ⇑PKP **PKPdf 14 43 50.8 +0.8**
XAN pPKP pPKPdf 14 43 56.8 -4.0
XAN PKPab **PKPab 14 44 32.8 -2.0**
XAN AMB AMB
comp=Z,380nm,7.6s
XAN LR LR
comp=Z,800nm,22.8s
XAN LR LR
comp=Z,890nm,22.8s
XAN LR LR
comp=Z,680nm,21.5s
PDSI Padang 162.62 163 PKP **PKPdf 14 43 50.9 -0.7**
PBSI Pulau Batu 162.67 155 PKP **PKPdf 14 43 52.1 +0.5**
WHN Wuhan 163.26 332 ⇑PKP **PKPdf 14 43 52.3 +0.7**
WHN pPKP **sPKPdf 14 44 04.0 -2.4**
WHN PKPab **PKPab 14 44 40.8 -1.2**
WHN PP **PP 14 48 27.8 +1.6**
WHN LR LR
comp=Z,1μm,20.6s
GSI Gunungsitoli 163.58 151 PKP **PKPdf 14 43 52.6 +0.1**
DSRI Dabo 163.73 177 PKP **PKPdf 14 43 52.0 -0.6**
KSM Kuching 164.90 199 PKP **PKPdf 14 43 53.6 0.0**
CD2 Chengdu 164.96 6 PKP **PKPdf 14 43 54.3 +1.0**
CD2 LR LR
comp=Z,360nm,17.0s
KKM Kota Kinabalu 165.59 228 PKP **PKPdf 14 43 54.5 +0.2**
KCSI Kotacane, Aceh 165.60 148 PKP **PKPdf 14 43 52.2 -2.0**
KULM Kulim 168.49 156 PKP **PKPdf 14 43 55.4 -0.9**
TNCH TengChong 168.84 34 PKP **PKPdf 14 43 54.5 -2.0**
TNCH pPKP pPKPdf 14 44 00.8 -6.7
TNCH sPKP 14 44 05.5
TNCH PKPab **PKPab 14 45 06.3 -0.7**
TNCH PP **PP 14 48 55.0 -0.5**
TNCH AMB AMB
comp=Z,170nm,5.0s
TNCH LR LR
comp=Z,280nm,18.3s
TNCH LR LR
comp=Z,280nm,20.3s
TNCH LR LR
comp=Z,510nm,19.8s
PZH PanZhiHua 168.88 17 PKP **PKPdf 14 43 57.0 +0.6**
PZH PKPab **PKPab 14 45 06.3 -0.7**
PZH PP **PP 14 48 58.3 +3.2**
PZH AMB AMB
comp=Z,170nm,6.3s
PZH LR LR
comp=Z,330nm,18.6s
PZH LR LR
comp=Z,230nm,20.6s
PZH LR LR
comp=Z,440nm,21.0s
SKLT Songkhla 170.15 151 PKP **PKPdf 14 43 56.7 -0.6**
KMI Kunming 170.46 15 ⇑PKP **PKPdf 14 43 58.5 +1.0**
CHTO Chiang Mai 173.16 64 PKPdf 14 43 58.0 -0.6
CHTO PKPab **PKPab 14 45 25.6 -0.7**
CHTO Chiang Mai 173.16 64 PKIKP **PKPdf 14 43 58.0 -0.6**
CHTO 14 45 25.6
CHTO Chiang Mai 173.16 64 PKP **PKPdf 14 43 57.9 -0.8**
CMAR Chiang Mai Arr 173.30 67 PKPab **PKPab 14 45 26.9 0.0**
CMAR Chiang Mai Arr 173.30 67 PKP **PKPdf 14 43 58.2 -0.5**
comp=Z,7.0nm,0.9s,baz=282,slow=1.8,SNR=42
CMAR PKPab **PKPab 14 45 27.6 +0.7**
comp=Z,5.9nm,1.0s,baz=290,slow=5.3,SNR=15
CMAR PP **PP 14 49 19.7 +0.8**
comp=Z,3.5nm,1.0s,baz=284,slow=6.1,SNR=8.2
QIZ Qiongzhong 174.74 307 PKP **PKPdf 14 43 58.5 -0.7**
QIZ PP **PP 14 49 25.5 +0.2**
QIZ SS SS 15 10 47.3 +1.7
QIZ LR LR
comp=Z,440nm,3.7s
QIZ LR LR
comp=Z,550nm,4.1s
QIZ LR LR
comp=Z,540nm,16.9s

NEIC ***30*** *14:32:34.0±0.8,56.47N±0.04×148.7W±0.1,h10km±2km, ML3.5/45, ML3.3(AEIC), Error ellipse: s-maj=10.9km s-min=5.8km az=118.0*
AEIC ***30*** *14:32:39.0±0.8,56.48N±0.07×148.7W±0.1,h10km±8km, Error ellipse: s-maj=11.6km s-min=7.1km az=142.0*
ISC 30 14:32:33.4±1.7,**56.50N**±0.09×**148.66W**±0.06,**h10**km, **n118,**σ1**s17**/119,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.50**	**303**		**Pn**	**14 33 15.1**	**+1.1**
KDAK					**Sn**	**14 33 43.0**	**-1.5**
OHAK	**Old Harbor**	**2.65**	**288**		**Sn**	**14 33 46.9**	**-1.2**
OHAK	**Old Harbor**	**2.65**	**288**	Pn	**Pn**	**14 33 16.5**	**+0.5**
OHAK	**Old Harbor**	**2.65**	**288**	S	**Sn**	**14 33 46.9**	**-1.2**
baz=105							
SYI	**Shuyak Island**	**2.92**	**318**		**Pn**	**14 33 20.5**	**+0.7**
SYI					**Sn**	**14 33 55.2**	**+0.3**
SYI	**Shuyak Island**	**2.92**	**318**	IAML		14 34 03.3	
comp=E,62nm,1.4s							
Q20K	**Shuyak Island**	**2.92**	**318**	P	**Pn**	**14 33 20.5**	**+0.7**
baz=135							
Q20K				S	**Sn**	**14 33 55.2**	**+0.2**
baz=135							
SII	**Sitkinak Islan**	**3.06**	**273**		**Sn**	**14 33 56.9**	**-1.5**
SII	**Sitkinak Islan**	**3.06**	**273**	S	**Sn**	**14 33 56.9**	**-1.5**
baz=89							
MID	**Middleton Isla**	**3.19**	**22**	Pn	**Pn**	**14 33 23.3**	**-0.1**
MID				IAML		14 33 54.2	
comp=N,202nm,1.5s							
Q23K	**Middleton Isla**	**3.19**	**22**	Pn	**Pn**	**14 33 23.3**	**-0.2**
Q23K				IAML		14 33 54.2	
comp=N,175nm,1.3s							
CNPM	**China Poot**	**3.33**	**337**		**Pn**	**14 33 26.1**	**+0.6**
CNPM				IAML		14 34 11.3	
comp=E,55nm,1.3s							
CNPM	**China Poot**	**3.33**	**337**		**Sn**	**14 34 04.1**	**-1.1**
R18K	**Karluk**	**3.34**	**291**		**Sn**	**14 34 04.4**	**-0.9**
R18K	**Karluk**	**3.34**	**291**	S	**Sn**	**14 34 04.4**	**-0.9**
baz=107							
BRSE	**Bradley Lake S**	**3.44**	**342**		**Pn**	**14 33 27.8**	**+0.9**
BRSE					**Sn**	**14 34 06.6**	**-1.1**
BRSE	**Bradley Lake S**	**3.44**	**342**	P	**Pn**	**14 33 27.8**	**+0.9**
baz=160							
BRSE				S	**Sn**	**14 34 06.6**	**-1.1**
baz=160							
BRLK	**Bradley Lake**	**3.48**	**341**		**Pn**	**14 33 28.3**	**+0.7**
BRLK				IAML		14 34 15.2	
comp=E,45nm,1.5s							
BRLK	**Bradley Lake**	**3.48**	**341**		**Sn**	**14 34 08.6**	**-0.3**
HOM	**Homer**	**3.54**	**335**	Pn	**Pn**	**14 33 30.1**	**+1.7**
P23K	**Montague Islan**	**3.57**	**10**		**Pn**	**14 33 29.5**	**+0.7**
P23K					**Sn**	**14 34 09.1**	**-1.9**
P23K	**Montague Islan**	**3.57**	**10**	P	**Pn**	**14 33 29.5**	**+0.7**
baz=191							
P23K				S	**Sn**	**14 34 09.1**	**-1.9**
baz=191							
Q19K	**Cape Douglas,**	**3.62**	**314**		**Pn**	**14 33 31.3**	**+1.9**
Q19K	**Cape Douglas,**	**3.62**	**314**	IAML		14 34 28.5	
comp=N,94nm,1.2s							
Q19K	**Cape Douglas,**	**3.62**	**314**	P	**Pn**	**14 33 31.3**	**+1.9**
baz=131							
SEW	**Seward**	**3.64**	**354**		**Pn**	**14 33 30.6**	**+0.9**
SEW	**Seward**	**3.64**	**354**	P	**Pn**	**14 33 31.1**	**+1.4**
baz=173							
KAHG	**Katmai Hook Gl**	**3.76**	**305**		**Pn**	**14 33 33.0**	**+1.6**
P19K	**Oil Pt**	**3.99**	**324**		**Pn**	**14 33 36.3**	**+1.8**
P19K	**Oil Pt**	**3.99**	**324**	IAML		14 34 32.6	
comp=N,87nm,0.9s							
P19K				IAML		14 34 33.1	
comp=E,80nm,0.9s							
P19K	**Oil Pt**	**3.99**	**324**	P	**Pn**	**14 33 36.3**	**+1.8**
baz=141							
Q22K	**Cooper Landing**	**4.03**	**352**	Pn	**Pn**	**14 33 36.4**	**+1.3**
HIN	**Hinchinbrook I**	**4.07**	**15**		**Pn**	**14 33 36.6**	**+1.0**
HIN	**Hinchinbrook I**	**4.07**	**15**	IAML		14 34 28.8	
comp=N,103nm,0.8s							
HIN				IAML		14 34 30.5	
comp=E,85nm,1.4s							
KAIM	**Kayak Island**	**4.10**	**31**		**Pn**	**14 33 36.8**	**+0.8**
KAIM	**Kayak Island**	**4.10**	**31**	IAML		14 34 27.3	
comp=N,97nm,1.1s							
KAIM	**Kayak Island**	**4.10**	**31**	P	**Pn**	**14 33 36.8**	**+0.8**
baz=215							
SLKM	**Skilak Lake**	**4.11**	**349**		**Pn**	**14 33 37.2**	**+1.1**
IVE	**Iliamna Volcan**	**4.21**	**329**		**Pn**	**14 33 38.3**	**+0.6**
CNTC	**Contact Creek**	**4.29**	**297**		**Pn**	**14 33 41.0**	**+2.2**
Q17K	**Contact Creek**	**4.29**	**297**	P	**Pn**	**14 33 41.0**	**+2.2**
baz=112							
EYAK	**Cordova Ski Ar**	**4.34**	**19**		**Pn**	**14 33 40.2**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.34**	**19**	P	**Pn**	**14 33 40.2**	**+0.9**
baz=202							
RAGM	**Ragged Mountai**	**4.42**	**27**	Pn	**Pn**	**14 33 41.6**	**+1.1**
RED	**Redoubt Volcan**	**4.49**	**333**		**Pn**	**14 33 42.0**	**+0.6**
RDT	**Redoubt**	**4.54**	**336**		**Pn**	**14 33 42.7**	**+0.6**
P18K	**Big Mountain,**	**4.55**	**312**		**Pn**	**14 33 43.2**	**+1.0**
P18K	**Big Mountain,**	**4.55**	**312**	P	**Pn**	**14 33 43.2**	**+1.0**
baz=127							
RDWB	**Redoubt West**	**4.56**	**333**		**Pn**	**14 33 43.2**	**+0.7**
GOAT	**Goat Mountain**	**4.58**	**25**		**Pn**	**14 33 44.1**	**+1.4**
RC01	**Rabbit Creek A**	**4.64**	**353**	Pn	**Pn**	**14 33 44.7**	**+1.3**
RC01				IAML		14 34 37.8	
comp=E,54nm,1.2s							
RC01				IAML		14 34 38.8	
comp=N,38nm,0.4s							
BERG	**Berg Lake**	**4.69**	**32**	Pn	**Pn**	**14 33 45.1**	**+0.9**
BERG				IAML		14 34 45.9	
comp=N,51nm,0.6s							
O19K	**Port Alsworth**	**4.76**	**324**		**Pn**	**14 33 45.9**	**+0.9**
O19K				IAML		14 34 44.2	
comp=N,51nm,0.5s							
O19K				IAML		14 34 48.4	
comp=E,58nm,0.5s							
SNH	**Sunshine Point**	**4.80**	**37**		**Pn**	**14 33 45.9**	**+0.3**
SNH				IAML		14 36 09.1	
comp=E,52nm,1.5s							
SNH				IAML		14 36 44.3	
comp=N,61nm,1.5s							
O18K	**Koktuh Hills**	**4.83**	**317**	Pn	**Pn**	**14 33 46.9**	**+0.8**
O18K				IAML		14 35 13.8	
comp=N,14nm,1.4s							
BMRM	**Bremner River**	**4.95**	**24**		**Pn**	**14 33 48.9**	**+1.1**
BMRM	**Bremner River**	**4.95**	**24**	P	**Pn**	**14 33 48.9**	**+1.1**
baz=207							

BARK	Barkley Ridge	5.08	37			Pn		14 33 50.5 +0.9
PMR	Palmer	5.12	357		Pn	Pn		14 33 51.3 +1.3
PMR					IAML			14 34 48.4
	comp=E,21nm,1.5s							
PMR					IAML			14 34 50.2
	comp=N,18nm,0.5s							
KLU	Klutina	5.20	15			Pn		14 33 52.1 +0.9
KLU	Klutina	5.20	15		IAML			14 34 50.9
	comp=N,25nm,0.4s							
KLU					IAML			14 34 56.7
	comp=E,25nm,1.3s							
KLU	Klutina	5.20	15	P		Pn		14 33 52.1 +0.9
	baz=197							
N19K	Bonanza Creek	5.29	327		Pn	Pn		14 33 53.3 +0.9
SCM	Sheep Creek Mo	5.39	7		Pn	Pn		14 33 54.8 +1.0
VRDI	Verde Repeater	5.46	27			Pn		14 33 55.7 +0.9
KIAG	Kiagna River	5.52	34			Pn		14 33 56.6 +0.9
SAMH	Samovar Hills	5.52	45			Pn		14 33 57.0 +1.4
N25K	Chitina, Valde	5.53	21			Pn		14 33 57.1 +1.3
N25K	Chitina, Valde	5.53	21	P		Pn		14 33 57.1 +1.3
	baz=204							
GLB	Gilahina Butte	5.55	25			Pn		14 33 57.0 +1.0
N18K	Kilae Creek	5.65	321		Pn	Pn		14 33 58.2 +0.9
PTPK	Patty Peak	5.69	32			Pn		14 33 59.4 +1.3
MCARA	McCarthy VSAT	5.70	28			Pn		14 33 58.6 +0.6
MCARA	McCarthy VSAT	5.70	28	P		Pn		14 33 59.7 +1.7
	baz=213							
PCA	Pinnacle	5.71	47			Pn		14 33 59.4 +1.2
PINM	Pinnacle	5.71	47	P		Pn		14 33 59.4 +1.2
	baz=234							
M24K	Tolsona, Glenn	5.77	12	Pn		Pn		14 34 00.0 +1.0
BARN	Barnard Glacie	5.84	36			Pn		14 34 00.9 +0.7
PNL	Peninsula	5.85	53			Pn		14 34 01.1 +1.0
PNL	Peninsula	5.85	53	P		Pn		14 34 01.1 +1.0
	baz=241							
M20K	Styx River	5.87	339	Pn		Pn		14 34 01.0 +0.7
CTG	Chitna Glacier	5.88	37	P		Pn		14 34 01.6 +1.1
	baz=223							
CTGM	Chitina Glacie	5.88	37			Pn		14 34 01.1 +0.6
BCPM	Bancas Point	5.89	50			Pn		14 34 01.9 +1.3
LOGN	Logan Glacier	5.89	39			Pn		14 34 01.4 +0.6
O16K	Kokwok River B	5.89	306	Pn		Pn		14 34 01.9 +1.3
N17K	Nushagak Hills	6.02	316	Pn		Pn		14 34 02.9 +0.4
M19K	Big River Lodg	6.17	334	Pn		Pn		14 34 05.1 +0.7
O29M	Mount Kennedy	6.53	50			Pn		14 34 10.9 +1.5
O29M	Mount Kennedy	6.53	50	P		Pn		14 34 10.9 +1.5
	baz=238							
P29M	Windy Craggy	6.59	57			Pn		14 34 10.4 +0.2
P29M	Windy Craggy	6.59	57	P		Pn		14 34 10.9 +0.7
	baz=246							
M17K	Holitna River	6.69	321	Pn		Pn		14 34 12.7 +1.1
M27K	Edge Creek, AK	6.81	28	Pn		Pn		14 34 14.1 +0.7
S31K	Pelican	6.90	73			Pn		14 34 13.7 -0.7
S31K	Pelican	6.90	73	P		Pn		14 34 13.7 -0.7
	baz=263							
M16K	Timber Creek	7.02	315	Pn		Pn		14 34 17.1 +1.1
L18K	Granite Mounta	7.05	328	Pn		Pn		14 34 17.3 +0.8
YUK4	Talbot Arm	7.10	43	P		Pn		14 34 21.7 +4.4
	baz=231							
CAST	Castle Rocks	7.15	348	Pn		Pn		14 34 19.1 +1.2
HYT	Haines Junctio	7.25	49	Pn		Pn		14 34 20.2 +0.8
YUK5	Granite Creek	7.28	46			Pn		14 34 22.1 +2.4
L27K	Beaver Creek,	7.43	25	Pn		Pn		14 34 22.7 +1.0
L16K	Owhat River	7.63	318	Pn		Pn		14 34 25.2 +0.7
BPAW	Bear Paw Mtn.	7.71	352	Pn		Pn		14 34 26.8 +1.2
R32K	Eaglecrest	7.84	71	Pn		Pn		14 34 27.4 0.0
K17K	Iditarod	7.92	326	Pn		Pn		14 34 29.3 +0.9
J18K	Innoko River	8.07	333	Pn		Pn		14 34 31.1 +0.7
NEA2	Nenana	8.12	359	Pn		Pn		14 34 31.7 +0.5
K27K	Chicken	8.23	21	Pn		Pn		14 34 33.8 +1.2
J19K	Poorman	8.27	338	Pn		Pn		14 34 33.5 +0.2
P32M	Atlin	8.51	62	Pn		Pn		14 34 37.2 +0.7
M30M	Minto, Yukon	8.56	40	Pn		Pn		14 34 38.1 +0.9
J16K	Anvik River	9.06	324	Pn		Pn		14 34 45.0 +0.9
P33M	Teslin, Yukon	9.11	59	Pn		Pn		14 34 44.6 -0.3
IMAR	Indian Mountai	9.82	348	Pn		Pn		14 34 55.5 +1.0
R33M	Jennings River	9.84	66	Pn		Pn		14 34 55.0 +0.2
F17K	Baldwin Pennin	11.62	334	Pn		Pn		14 35 19.2 +0.2

*BER **30** 14:36:26.7±2.8,76°.31N×7°.78E,h10km,mb(Pn)3.6, ML2.8(NAO),Confirmed Earthquake*
*NAO **30** 14:36:26.4±7.6,76°.50N×8°.11E,ML2.8*
*KOLA **30** 14:36:28.8,76°.61N×8°.83E,h0km,ML2.0,Error ellipse: s-maj=21.4km s-min=11.7km az=20.0,Greenland sea,Knipovich ridge, middle*
*FCIAR **30** 14:36:28.0,76°.33N×7°.74E,h10km,station SPA0 has station magnitude of 2.70*

ISC 30 14:36:23.5±2.6,76°.44N±0°.06×8°.12E±0°.09,h1km±12km, n22,σ1$59/43,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HSPB	Hornsund (broa	1.80	68	Pn		Pg	14 36 58.1	+0.1
HSPB				Sn		Sg	14 37 20.9	-0.5
HSPB	Hornsund (broa	1.80	68	P		Pb	14 36 57.7	+0.5
HSPB				S		Sn	14 37 18.6	-0.5
HSPB	Hornsund (broa	1.80	68	*e*P		Pb	14 36 57.7	+0.5
HSPB				*e*S		Sg	14 37 20.8	-0.5
HSPB				IAML			14 37 21.5	
	comp=Z,8.4nm,0.1s							
BRBA	Barentsburg A	2.12	37	Pn		Pb	14 37 02.8	+0.2
BRBA				Sn		Sg	14 37 31.0	-0.5
BRBA	Barentsburg A	2.12	37	*e*P		Pb	14 37 02.9	+0.3
BRBA				*e*S		Sb	14 37 28.7	-0.6
BRBA				IAML			14 37 41.0	
	comp=Z,7.2nm,0.1s							
BRBB	Barentsburg B	2.14	36	Pn		Pb	14 37 03.0	0.0
BRBB	Barentsburg B	2.14	36	P		Pb	14 37 02.3	-0.7
BRBB				S		Sn	14 37 27.2	-0.2
BRBB	Barentsburg B	2.14	36	*e*P		Pb	14 37 02.3	-0.7
BRBB				*e*S		Sb	14 37 28.1	-1.9
SPA0	Spitsbergen Ar	2.52	42	Pn		Pb	14 37 08.9	-0.6
	baz=221,slow=14							
SPA0				Sn		Sb	14 37 40.1	-0.9
	baz=215,slow=22							
SPA0	Spitsbergen Ar	2.52	42	Pn		Pb	14 37 08.9	-0.6
	baz=221,slow=14							
SPA0				Sn		Sb	14 37 40.1	-0.9
	baz=215,slow=22							
SPA0	Spitsbergen Ar	2.52	42	*e*P		Pb	14 37 08.6	-0.9
SPA0				*i* S		Sb	14 37 39.3	-1.6
SPITS	Spitsbergen Ar	2.52	42	P		Pb	14 37 08.7	-0.9
SPITS				S		Sb	14 37 39.8	-1.2
KBS	Kingsbay	2.63	16	Pn		Pn	14 37 08.8	+1.8
KBS				Sn		Sn	14 37 41.0	+1.5
KBS	Kingsbay	2.63	16	P		Pn	14 37 08.8	+1.8
KBS				S		Sn	14 37 40.0	+0.5
KBS	Kingsbay	2.63	16	*e*P		Pb	14 37 08.9	-2.4
KBS				*e*S		Sn	14 37 39.6	+0.1
KBS				IAML			14 37 51.4	
	comp=Z,5.6nm,0.6s							
KBS	Kingsbay	2.63	16	*e*P		Pn	14 37 08.4	+1.4
KBS				*e*S		Sn	14 37 39.9	+0.5
BJO1	Bjornoya	3.36	120	*e*P		Pn	14 37 17.7	+0.7
BJO1				*e*S		Sn	14 37 53.9	-3.5
BJO1				IAML			14 38 09.4	
	comp=Z,21nm,0.8s							
HOPEN	Hopen	3.96	81	Pn		Pn	14 37 27.8	+2.5
HOPEN				Sn		Sn	14 38 13.3	+1.1
HOPEN	Hopen	3.96	81	*e*P		Pn	14 37 28.1	+2.9
HOPEN				*e*S		Sn	14 38 13.0	+0.8
HOPEN				IAML			14 38 15.5	
	comp=Z,11nm,0.3s							
HOPEN	Hopen	3.96	81	*e*P		Pn	14 37 27.6	+2.4
HOPEN				*e*S		Sn	14 38 12.1	-0.1
ZFI2	Zemlya Franca-	8.74	42	*e*P		Pn	14 38 33.7	+2.9
ZFI2				S		Sn	14 40 06.8	-2.9
OMEGA	Omega	8.75	42	*e*P		Pn	14 38 33.7	+2.8
OMEGA				S		Sn	14 40 07.2	-2.7

ROM 30 14:47:21.9±0.2,42°.835N±0°.006×13°.225E±0°.010, h13km±1km,Md1.2/5,1C-2D,Error ellipse: s-maj=0.8km s-min=0.5km az=61.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
T1214	Arquata del Tr	0.08	189	P		Pg	14 47 25.0	+0.1
T1214				S		Sg	14 47 27.4	+0.4
T1214				END				
MC2	Monte Cornacci	0.08	342	⇓P		Pg	14 47 25.0	-0.1
MMO1	Montemonaco	0.10	49	P		Pg	14 47 25.1	0.0
MMO1				S		Sg	14 47 27.5	+0.2
MMO1				END				
MTRA	Matera	0.15	122	P		Pg	14 47 25.8	+0.1
MTRA				S		Sg	14 47 28.9	+0.7
MTRA				END				
FDMO	Fiordimonte	0.23	333	⇓P		Pg	14 47 26.9	0.0
FDMO				S		Sg	14 47 30.9	+0.6
FDMO				END				
CSP1	Cessapalombo	0.26	357	⇑P		Pg	14 47 27.6	+0.1
CSP1				S		Sb	14 47 32.8	-0.1
CSP1				END				
TERO	Teramo	0.35	127	P		Pg	14 47 29.4	+0.3
TERO				S		Sb	14 47 35.0	-0.5

TEH 30 15:11:48.8,29°.16N×58°.33E,h8km±58km,ML3.6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBAM	BAM	0.11	101	Pg		Pg	15 11 51.3	-0.1
KBAM				Sg		Sg	15 11 53.4	+0.1
CHMN	Cheshme madani	0.98	316	Pg		Pb	15 12 08.2	-0.1
CHMN				Sg		Sb	15 12 21.9	+0.3
KHNJ	Kahnooj	1.32	205	Pg		Pn	15 12 13.5	-0.1
NGRK	Negar Kerman	1.48	290	Pg		Pb	15 12 16.8	+0.1
TVBK	TV Kerman	1.60	302	Pg		Pb	15 12 19.1	+0.3
KRM1	Kerman Provinc	1.63	326	Pg		Pb	15 12 19.0	-0.2
KHGB	Koh Gabri	2.02	308	Pn		Pb	15 12 25.8	0.0
ZHDN	Zahedan	2.18	83	Pn		Pb	15 12 27.3	-1.3
NHDN	Nehbandan	2.68	33	Pn		Pn	15 12 34.2	+1.7
BSRN	Basiran	2.88	14	Pn		Pn	15 12 37.5	+2.3
SRVN	Saravan	3.99	115	Pn		Pn	15 12 53.0	+2.5
TPRV	Parvadeh(Tabas	4.11	340	Pn		Pn	15 12 54.0	+2.0
TKDS	Koohdasht(Taba	4.56	347	Pn		Pn	15 13 00.4	+2.1
SHRT	Shahrakht	4.78	20	Pn		Pn	15 13 03.5	+2.3
TNSJ	Nastanj	5.01	343	Pn		Pn	15 13 06.0	+1.6

IDC 30 15:24:23.4±3.3,3°.75S×145°.05E,h0km,mb3.4/3, mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=110.3km s-min=32.4km az=90.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	19.19	212	P		Pn	15 28 49.4	-0.3
	0.1nm,0.3s,baz=29,slow=11,SNR=5.3							
	0.9nm,0.8s							
ASAR	Alice Springs	22.54	208	P		P	15 29 26.1	+0.9
	0.4nm,0.6s,baz=30,slow=12,SNR=7.3							
	0.4nm,0.6s							
STKA	Stephens Creek	28.17	186	P		P	15 30 16.6	-1.0
	0.9nm,0.4s,baz=357,slow=18,SNR=4.4							
	0.9nm,0.4s							
MKAR	Makanchi Array	74.53	321	P		P	15 36 04.1	0.0
	0.2nm,0.5s,baz=105,slow=4.9,SNR=1.9							
	0.2nm,0.5s							

*SJA **30** 15:35:04.4±0.6,23°.96S×66°.77W,h230km±6km,ML4.0, MW3.7*
*NEIC **30** 15:35:05.6±2.4,23°.99S±0°.08×66°.8W±0°.1,h209km±10km, mb4.3/5,Error ellipse: s-maj=17.7km s-min=11.2km az=95.0*
*IDC **30** 15:35:05.6±0.9,23°.89S×66°.70W,h202km±8km,mb3.6/12, mbtmp4.1/17,MS2.8/1,Error ellipse: s-maj=14.5km s-min=11.2km az=21.0*
*VAO **30** 15:35:06.5±0.4,23°.92S×66°.81W,h213km,mb4.3*
ISC 30 15:35:05.2±0.6,23°.97S±0°.04×66°.76W±0°.04,h203km±6km, n145,σ1$46/179,mb3.9/13,13C-4D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLA	San Lorenzo	1.37	123	*e*P		Pn	15 35 40.4	+2.1
AF01	San Pedro de A	1.65	308			Pn	15 35 43.0	+2.1
AF01	San Pedro de A	1.65	308	⇑*i*P		Pn	15 35 43.2	+2.3
AF01				*i* S		S	15 36 11.5	+3.4
AF01				IAML			15 36 28.2	
	comp=N,829nm,0.5s							
YJA	Yavi	2.13	33	*e*P		Pn	15 35 47.7	+1.9
LVC	Limon Verde	2.39	304			Pn	15 35 49.8	+1.3
LVC	Limon Verde	2.39	304	*e*P		Pn	15 35 50.0	+1.4
LVC				*e*S		S	15 36 23.7	+2.1
LVC				IAML			15 36 28.4	
	comp=Z,250nm,0.4s							
LVC	Limon Verde	2.39	304	P		Pn	15 35 49.9	+1.4
	comp=Z,317nm,0.3s,baz=122,slow=6.9,SNR=1764							
LVC				S		S	15 36 22.6	+0.9
	comp=Z,246nm,0.3s,baz=259,slow=19,SNR=23							
LVC				LR		LR	15 36 38.9	
	comp=Z,178nm,18.4s,baz=44,slow=39							
LVC	Limon Verde	2.39	304	*e*P		Pn	15 35 49.5	+0.9
LVC				*i* S		S	15 36 22.6	+0.9
LVC				IAML			15 36 24.6	
	comp=Z,2μm,0.2s							
LVC	Limon Verde	2.39	304	*e*P		Pn	15 35 49.9	+1.4
LVC				*e*S		S	15 36 23.2	+1.5
PB15	IPOC Station P	2.60	286			Pn	15 35 51.8	+1.3
PB15	IPOC Station P	2.60	286	*e*P		Pn	15 35 51.9	+1.3
PB15				*e*S		S	15 36 26.0	+0.6
PB15	IPOC Station P	2.60	286	⇑*i*P		Pn	15 35 51.9	+1.3
PB15				*i* S		S	15 36 25.8	+0.4
GO02	Mina Guanaco	2.83	245			Pn	15 35 54.3	+0.9
GO02	Mina Guanaco	2.83	245	*e*P		Pn	15 35 54.5	+1.1
GO02				*e*S		S	15 36 31.4	+1.1
GO02	Mina Guanaco	2.83	245	⇑*i*P		Pn	15 35 54.4	+1.1
GO02				*i* S		S	15 36 30.9	+0.5
GO02				IAML			15 36 32.0	
	comp=N,2μm,0.3s							
PB06	IPOC Station P	2.87	295			Pn	15 35 54.8	+1.1
PB06	IPOC Station P	2.87	295	⇑*i*P		Pn	15 35 54.8	+1.1
PB06				*i* S		S	15 36 30.8	-0.2
PB06				IAML			15 36 32.7	
	comp=E,3μm,0.2s							
AHML	Horco Molle	3.08	156	*e*P		Pn	15 35 57.2	+1.2
AHML				*e*S		S	15 36 37.1	+1.7
AHML	Horco Molle	3.08	156	⇓*i*P		Pn	15 35 56.9	+0.9
AHML				*i* S		S	15 36 34.0	-1.3
PB09	IPOC Station P	3.15	313			Pn	15 35 58.2	+1.3
PB09	IPOC Station P	3.15	313	⇑*i*P		Pn	15 35 58.3	+1.3
PB09				*i* S		S	15 36 37.0	+0.2
PB09				IAML			15 36 40.8	
	comp=N,744nm,0.2s							
PB05	IPOC Station P	3.35	289			Pn	15 35 59.6	+0.3
PB05	IPOC Station P	3.35	289	⇑*i*P		Pn	15 35 59.7	+0.3
PB05				*i* S		S	15 36 39.3	-1.7
PB14	IPOC Station P	3.38	258			Pn	15 36 00.1	+0.3
PB14	IPOC Station P	3.38	258	⇑*i*P		Pn	15 36 00.3	+0.4
PB14				*e*S		S	15 36 40.4	-1.7
PB10	IPOC Station P	3.50	277			Pn	15 36 01.3	+0.3
PB10	IPOC Station P	3.50	277	⇑*i*P		Pn	15 36 01.5	+0.5
PB10				*e*S		S	15 36 42.8	-1.3
PB04	IPOC Station P	3.52	297			Pn	15 36 01.7	+0.3
PB04	IPOC Station P	3.52	297	⇑*i*P		Pn	15 36 01.8	+0.5
PB04				*i* S		S	15 36 43.5	-1.3
PB07	IPOC Station P	3.65	307			Pn	15 36 03.0	0.0
PB07	IPOC Station P	3.65	307	⇑*i*P		Pn	15 36 03.3	+0.4
PB07				*i* S		S	15 36 45.8	-1.8
PB01	IPOC Station P	3.85	319			Pn	15 36 05.4	+0.1
PB01	IPOC Station P	3.85	319	⇑*i*P		Pn	15 36 05.5	+0.1
PB01				*i* S		S	15 36 50.9	-1.2
PB02	IPOC Station P	3.92	312			Pn	15 36 06.1	-0.1
PB02	IPOC Station P	3.92	312	⇑*i*P		Pn	15 36 06.2	-0.1
PB02				*i* S		S	15 36 51.3	-2.2
TINO	Tinogasta	4.14	190	*e*P		Pn	15 36 10.9	+2.0
PB08	IPOC Station P	4.41	329			Pn	15 36 13.0	+0.4
PB08	IPOC Station P	4.41	329	⇑*i*P		Pn	15 36 13.5	+0.9
PB08				*i* S		S	15 37 04.7	-0.4
PATCX	Punta Patache	4.43	314	Pn		Pn	15 36 11.9	-0.7
PATCX	Punta Patache	4.43	314	*e*P		Pn	15 36 12.0	-0.7
CYA	Choya	4.53	169	*e*S		S	15 37 07.4	0.0
TA01	Diego Aracena	4.64	316			Pn	15 36 14.7	-0.5
TA01	Diego Aracena	4.64	316	*e*P		Pn	15 36 14.6	-0.5
HMBC	Humberstone	4.68	321	*e*P		Pn	15 36 14.6	-1.2
GO03	Copiap	4.77	220			Pn	15 36 15.8	-1.0
GO03	Copiap	4.77	220	*e*P		Pn	15 36 16.1	-0.8
GO03				*e*S		S	15 37 10.3	-2.6
GO03	Copiap	4.77	220	*e*P		Pn	15 36 16.0	-0.8
TA02	Huaiquique	4.83	319			Pn	15 36 16.2	-1.4
TA02	Huaiquique	4.83	319	*e*P		Pn	15 36 17.9	+0.3
GO01	Chusmiza	4.84	332			Pn	15 36 17.8	-0.4
VCA	Vinchina	4.92	195	*e*P		Pn	15 36 20.6	+1.9
VCA				*e*S		S	15 37 18.7	+2.3
PB11	IPOC Station P	4.98	327	Pn		Pn	15 36 18.7	-0.9
ACLC	CERRO LA CRUZ	5.43	182	*e*P		Pn	15 36 25.5	+0.1
ACLC				*e*S		S	15 37 26.6	-1.8
ACLC				IAML			15 37 29.3	
	comp=Z,31nm,0.5s							
AGUA	GUANDACOL	5.71	195	*e*P		Pn	15 36 29.6	+0.9
AGUA				*e*S		S	15 37 35.5	+0.9
AGUA				IAML			15 37 40.2	
	comp=Z,44nm,0.5s							
AC04	Llanos de Chal	5.72	222			Pn	15 36 27.6	-1.3
AC05	El Transito	5.78	212	Pn		Pn	15 36 28.9	-0.8
LCO	Las Campanas	6.13	214			Pn	15 36 32.9	-1.6
PB16	IPOC Station P	6.17	335			Pn	15 36 34.4	-0.8
PB12	IPOC Station P	6.28	327	Pn		Pn	15 36 34.3	-2.0
VACA	Villa Angela C	6.57	125	*e*P		Pn	15 36 41.5	+1.7
AROD	Rodeo	6.63	201	*e*P		Pn	15 36 42.0	+1.2
AROD				*e*S		S	15 37 57.6	+1.0
CO01	Juntas del Tor	6.68	206			Pn	15 36 41.7	+0.3
AVFE	Valle Fertil	6.69	185	*e*P		Pn	15 36 40.6	-0.8
AVFE				*e*S		S	15 37 54.6	-3.1
AVFE				IAML			15 37 55.6	
	comp=Z,26nm,0.4s							
ACCO	Cerro Coronel	6.90	197	*e*P		Pn	15 36 44.6	+0.2
ACCO				*e*S		S	15 38 02.4	-0.6
ACCO				IAML			15 38 04.9	
	comp=Z,27nm,0.4s							
ACHE	Chepes	7.16	179	*e*S		S	15 38 03.1	-5.9
RTLL	Cerro Villicun	7.48	191	*e*P		Pn	15 36 51.6	-0.2
RTLL				*e*S		S	15 38 13.3	-3.2
RTLL				IAML			15 38 35.1	
	comp=Z,18nm,0.3s							
LPAZ	La Paz	7.75	350			Pn	15 36 56.0	+0.2
RTCV	Cerro Valdivia	8.02	191	*e*P		Pn	15 36 58.8	+0.2
RTLS	Leoncito	8.11	195	*e*P		Pn	15 36 59.7	-0.4
RTLS				*e*S		S	15 38 29.5	-2.3
CO02	Combarbal	8.12	207	Pn		Pn	15 36 58.2	-1.9
AUSP	Uspallata	8.54	195	*e*P		Pn	15 37 06.7	+1.0
AUSP				*e*S		S	15 38 42.7	+0.8
MURT	Porto Murtinho	8.75	77	*e*P		Pn	15 37 09.5	+1.3
ASAL	Salagasta	8.78	192	*e*P		Pn	15 37 08.1	-0.5
ASAL				*e*S		S	15 38 43.3	-4.0
ASAL				IAML			15 39 07.5	
	comp=Z,6.5nm,0.5s							
CPUP	Villa Florida	8.86	107	P		Pn	15 37 09.9	+0.3
	comp=Z,3.5nm,0.8s,baz=288,slow=13,SNR=5.6							
CPUP				S		S	15 38 46.3	-3.0
	comp=Z,2.4nm,0.9s,baz=208,slow=20,SNR=0.8							
CPUP	Villa Florida	8.86	107	*e*P		Pn	15 37 12.8	+3.1
ARCO	CERRO ARCO	9.04	192	*e*P		Pn	15 37 12.0	0.0
ARCO				*e*S		S	15 38 33.4	-20
ARCO				IAML			15 39 24.7	
	comp=Z,15nm,0.6s							
VA03	San Esteban	9.37	200	*e*P		Pn	15 37 19.7	+1.6
SIV	San Ignacio	9.57	35	P		Pn	15 37 17.6	-1.3
	comp=Z,4.1nm,0.3s,baz=211,slow=14,SNR=15							
SIV				S		S	15 38 58.0	-8.3
	comp=Z,1.0nm,0.4s,baz=148,slow=21,SNR=1.3							
BDQN	Bodoquena, MS	9.92	71	*e*P		Pn	15 37 24.1	+0.8
ANTJ	Antonio Joao (	10.10	81	*e*P		Pn	15 37 27.6	+1.8
MT13	San Alfonso	10.21	197			Pn	15 37 28.0	+0.8
BO04	La Punta	10.53	198			Pn	15 37 30.1	-1.1
AQDB	Aquidauana	10.82	73	*e*P		Pn	15 37 36.4	+1.4
PTLB	Pontes e Lacer	11.11	42			Pn	15 37 37.6	-1.1
PTLB	Pontes e Lacer	11.11	42	*e*P		Pn	15 37 40.1	+1.4
BO02	Sierra Bellavi	11.34	197			Pn	15 37 42.2	+0.7
MCR1	Marechal Candi	11.63	95	*e*P		P	15 37 48.4	-2.1
CRSM	Crissiumal (Br	11.99	110	*e*P		P	15 37 52.5	-1.9
RODS	Rosario do Sul	12.09	124	*e*P		P	15 37 53.4	-2.2
FRBT	Francisco Belt	12.59	102	*e*P		P	15 37 59.6	-1.6
ALGR	Alto Alegre (B	13.21	114	*e*P		P	15 38 07.5	-0.7
CPSB	Cacapava Do Su	13.47	121	*e*P		P	15 38 11.3	+0.4
ETMB	Extrema	14.09	2	*e*P		P	15 38 17.1	-0.8
LDASE	Londrina, Braz	14.35	91	*e*P		P	15 38 21.4	+0.6
PCMB	Pacaembu	14.49	84	*e*P		P	15 38 24.3	+2.0
CNLB	Canela	15.19	114	*e*P		Pn	15 38 29.5	-0.1
SAML	Samuel	15.33	13	P		Pn	15 38 30.2	-1.1
SAML	Samuel	15.33	13	*e*P		P	15 38 31.9	+0.3
FRTB	Fartura	15.77	91	*e*P		Pn	15 38 37.3	+0.6
ITRB	Iturama	15.81	78	*e*P		Pn	15 38 37.8	+0.6
PLCA	Paso Flores	17.01	190	P		Pn	15 38 51.4	-0.1
	comp=Z,3.1nm,1.0s,baz=24,slow=8.4,SNR=4.5							
BB19B	Bebedouro	17.09	84	*e*P		Pn	15 38 53.3	+0.7
SPB	Sao Paulo	17.70	93	*e*P		Pn	15 38 58.9	-

ZALV	**Zalesovo Beam**	**143.27**	**28**	PKP	PKPbc	15 54 13.5	+1.1
	comp=Z,1.0nm,0.6s,baz=306,slow=5.0,SNR=5.1						
MKAR	**Makanchi Array**	**146.37**	**40**	PKPbc	**PKPbc**	**15 54 21.8**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=311,slow=2.5,SNR=21						

*IDC **30** 15:36:51.4±2.5, 6.67S×129.93E, h0km, mb3.4/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=139.1km s-min=33.2km az=69.0*
*DJA **30** 15:37:04.2±0.4, 7.5±3.3°×13.0°E±°, h182km±15km, M4.2/6, mb3.9/6, mB4.7/1, MLv4.3/6, Mw(mB)3.9/1*
ISC 30 15:37:03.3±1.8, **7.04S**±0.08×**129.8E**±0.3, **h200**km, **n8**, σ3**59**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.75**	**122**	P	**Pn**	**15 37 38.4**	**-1.0**
FAKI	**Fak Fak**	**4.77**	**31**	P	**Pn**	**15 38 14.0**	**-0.8**
KMPI	**Kaimana, Papua**	**5.13**	**49**	P	**Pn**	**15 38 19.9**	**+0.4**
	122nm,0.8s,0.4nm						
SIJI	**Sorong**	**6.30**	**13**	P	**Pn**	**15 38 33.2**	**-1.4**
	11nm,1.2s,1µm0.1nm						
SWI	**Sorong**	**6.31**	**13**	P	**Pn**	**15 38 34.0**	**-0.7**
	18nm,1.0s,0.1nm						
WRA	**Warramunga Arr**	**13.56**	**161**	Pn	**Pn**	**15 40 09.2**	**+1.3**
	0.3nm,0.3s,baz=346,slow=14,SNR=11						
WRA				Sn	S	15 42 29.7	-9.4
	0.4nm,0.3s,baz=334,slow=22,SNR=6.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**16.99**	**167**	P	**Pn**	**15 40 55.1**	**+5.5**
	0.1nm,0.3s,baz=338,slow=9.8,SNR=15						
ASAR				S	**S**	**15 43 49.9**	**-5.3**
	0.3nm,0.8s,baz=355,slow=28,SNR=1.7						
	0.8nm,1.0s						
MKAR	**Makanchi Array**	**68.15**	**327**	P	P	15 47 51.9	+10
	0.4nm,0.9s,baz=120,slow=5.8,SNR=1.7						
	0.4nm,0.9s						

*IDC **30** 15:48:17.7±1.3, 1.32N×124.60E, h0km, mb3.4/4, mbtmp3.5/4, MS3.6/1, Error ellipse: s-maj=156.6km s-min=21.1km az=66.0*
*DJA **30** 15:48:45.6±0.7, 0.7N±5.1×12.4E±°, h219km±8km, M3.4/8, mb3.6/1, MLv3.2/8*
ISC 30 15:48:43.2±1.0, **0.50N**±0.10×**123.61E**±0.07, **h250**km, **n11**, σ1**59**/13, **mb3.2/4, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.38**	**79**	P	**Pn**	**15 49 16.6**	**+0.8**
LUWI	**Luwuk**	**1.75**	**209**	P	**Pn**	**15 49 24.0**	**+0.4**
LUWI				S	**S**	**15 49 54.0**	**-1.4**
SANI	**Sanana**	**3.48**	**137**	P	**Pn**	**15 49 41.5**	**+0.5**
SANI				S	**S**	**15 50 24.0**	**-2.8**
TNTI	**Ternate**	**3.76**	**86**	P	**Pn**	**15 49 44.8**	**+0.5**
TNTI				S	**S**	**15 50 31.7**	**-1.0**
LBMI	**Labuha**	**4.05**	**106**	P	**Pn**	**15 49 48.6**	**+0.9**
LBMI				S	**S**	**15 50 38.2**	**-0.6**
NLAI	**Namlea**	**5.10**	**137**	P	Pn	15 50 04.1	+3.9
WRA	**Warramunga Arr**	**22.88**	**153**	P	**P**	**15 53 26.5**	**+1.1**
	0.7nm,0.7s,baz=336,slow=10,SNR=8.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**26.02**	**158**	P	**P**	**15 53 56.2**	**+2.4**
	0.3nm,0.7s,baz=334,slow=8.3,SNR=6.8						
	0.3nm,0.7s						
JOW	**Kunigami**	**26.56**	**9**	LR	LR	16 03 41.1	
	comp=Z,135nm,20.8s,baz=301,slow=36						
SONM	**Songino Array**	**49.46**	**345**	P	**P**	**15 57 06.4**	**-2.0**
	0.3nm,0.7s,baz=142,slow=7.3,SNR=2.7						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.51**	**328**	P	**P**	**15 58 14.4**	**+0.9**
	0.6nm,0.4s,baz=128,slow=8.2,SNR=21						
	0.6nm,0.4s						

*IDC **30** 15:55:46.7±2.9, 11.27S×122.67E, h0km, mb3.3/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=241.1km s-min=35.0km az=50.0*
*DJA **30** 15:55:50.4±1.9, 12.5±3.7×12.2E±°, h13km±16km, M4.2/9, mb4.3/6, MLv4.1/9*
ISC 30 15:55:49.4±0.9, **11.54S**±0.08×**122.33E**±0.06, **h10**km, **n19**, σ1**76**/18, **South of Timor**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**2.17**	**307**	P	**Pn**	**15 56 27.1**	**+1.6**
BASI				S	**Sn**	**15 56 52.2**	**-0.2**
SOEI	**Soe**	**2.60**	**47**	P	**Pn**	**15 56 33.7**	**+2.1**
SOEI	**Soe**	**2.60**	**47**	P	**Pn**	**15 56 33.7**	**+2.1**
SOEI				S	**Sn**	**15 57 02.6**	**-0.7**
MMRI	**Maumere**	**2.88**	**358**	P	**Pn**	**15 56 37.1**	**+1.7**
MMRI	**Maumere**	**2.88**	**358**	P	**Pn**	**15 56 37.1**	**+1.7**
PLAI	**Plampang**	**5.23**	**301**	P	**Pn**	**15 57 09.8**	**+2.1**
PLAI	**Plampang**	**5.23**	**301**	P	**Pn**	**15 57 09.1**	**+1.4**
	51nm,1.4s,0.3nm						
TWSI	**Taliwang, Sumb**	**6.04**	**297**	P	**Pn**	**15 57 19.4**	**+0.5**
	45nm,1.1s,0.2nm						
BKSI	**Bulukumba**	**6.55**	**340**	P	**Pn**	**15 57 26.8**	**+0.9**
	30nm,1.7s,0.1nm						
FITZ	**Fitzroy Crossi**	**7.26**	**154**	P	**Pn**	**15 57 38.2**	**+2.6**
KNRA	**Kununurra**	**7.48**	**124**	P	**Pn**	**15 57 39.6**	**+0.9**
KDU	**Kakadu**	**9.98**	**98**	P	**Pn**	**15 58 13.2**	**+0.2**
PSA00	**Pilbara Seismi**	**10.26**	**193**	P	**Pn**	**15 58 18.0**	**+1.2**
WRA	**Warramunga Arr**	**14.25**	**127**	Pn	**Pn**	**15 59 08.5**	**-3.0**
	0.3nm,0.3s,baz=306,slow=14,SNR=8.5						
WRA				Sn	Sn	16 01 34.5	-15
	0.4nm,0.3s,baz=304,slow=24,SNR=5.9						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**16.33**	**139**	Pn	**Pn**	**15 59 37.7**	**-1.2**
	0.1nm,0.3s,baz=315,slow=12,SNR=6.2						
ASAR				Sn	Sn	16 02 25.6	-15
	0.1nm,0.3s,baz=310,slow=21,SNR=2.8						
	0.3nm,0.5s						
H08S2	**Diego Garcia H**	**49.25**	**270**	T	T	16 57 04.0	
	baz=97						
H08S3	**Diego Garcia H**	**49.26**	**270**	T	T	16 57 19.8	
	baz=97						
H08S1	**Diego Carcia H**	**49.27**	**270**	T	T	16 57 33.2	
	baz=97						
MKAR	**Makanchi Array**	**68.22**	**332**	P	**P**	**16 06 48.6**	**-1.5**
	0.2nm,0.6s,baz=138,slow=7.0,SNR=2.6						
	0.2nm,0.6s						

*IDC **30** 16:20:13.8±4.3, 5.48S×145.64E, h65km±36km, mb3.3/5, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=47.2km s-min=26.1km az=65.0*
ISC 30 16:20:15.6±1.3, **5.5S**±0.1×**145.7E**±0.3, **h86**km, **n11**, σ0**89**/12, **mb3.7/6, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.11**	**160**	P	**Pn**	**16 21 15.4**	**-0.7**
	7.3nm,0.5s,baz=306,slow=14,SNR=11						
PMG				S	**Sn**	**16 22 03.1**	**+0.1**
	10.0nm,0.5s,baz=330,slow=20,SNR=1.6						
CTA	**Charters Tower**	**14.48**	**178**	P	**Pn**	**16 23 36.1**	**-0.3**
	baz=4.5,slow=18,SNR=1.6						
	2.0nm,1.1s						
WRA	**Warramunga Arr**	**18.10**	**217**	P	**P**	**16 24 19.9**	**-0.8**
	0.2nm,0.3s,baz=42,slow=12,SNR=9.4						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**21.32**	**211**	P	**P**	**16 24 56.3**	**+0.6**
	1.0nm,1.1s,baz=46,slow=8.0,SNR=7.3						
	1.0nm,1.1s						
STKA	**Stephens Creek**	**26.50**	**188**	P	**P**	**16 25 45.4**	**+0.4**
	1.5nm,0.6s,baz=11,slow=10,SNR=1.5						
	1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**51.90**	**298**	P	**P**	**16 29 15.6**	**-0.2**
	0.3nm,0.4s,baz=105,slow=8.4,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**76.32**	**321**	P	**P**	**16 31 55.3**	**+0.1**
	0.1nm,0.5s,baz=98,slow=7.7,SNR=1.5						
	0.1nm,0.5s						
MAW	**Mawson**	**82.19**	**203**	P	**P**	**16 32 26.9**	**+0.1**
	15nm,1.1s,baz=114,slow=10.0,SNR=6.8						
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**16 32 40.1**	**+1.5**
	0.8nm,0.6s,baz=277,slow=1.4,SNR=9.3						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**143.73**	**285**	PKP	**PKPdf**	**16 39 40.0**	**-1.7**
	0.4nm,0.7s,baz=64,slow=3.4,SNR=2.5						
DBIC	**Dimbokro**	**150.71**	**274**	PKPbc	**PKiKP**	**16 40 00.0**	**+0.4**
	1.4nm,0.6s,baz=189,slow=4.2,SNR=1.9						

*GII **30** 16:20:16.9±0.2, 33.503N±0.001×35.719E±0.001, h0km, Mws1.9, confirmed*
*GRAL **30** 16:20:18.7±0.4, 33.46N×35.67E, h0km±24km, MD2.9*
ISC 30 16:20:18.4±1.0, **33.48N**±0.02×**35.71E**±0.04, **h7**km±7km, **n26**, σ0**67**/28, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRWL	**Qaraoun**	**0.07**	**343**	*eP*	**Pg**	**16 20 20.1**	**-0.4**
RCY	**Rachaya**	**0.11**	**80**	*eP*	**Pg**	**16 20 21.1**	**+0.1**
RCY				*eS*	**Sg**	**16 20 23.2**	**+0.5**
SHBL	**Chebaa**	**0.13**	**167**	*eP*	**Pg**	**16 20 21.0**	**-0.4**
NATI	**Neve Ativ**	**0.22**	**174**	P	**Pg**	**16 20 22.5**	**-0.3**
NATI	**Neve Ativ**	**0.22**	**174**	S	**Sg**	**16 20 27.1**	**+1.4**
DQRL	**Deir Qamar**	**0.26**	**333**	*eP*	**Pg**	**16 20 23.5**	**-0.1**
DQRL				*eS*	**Sg**	**16 20 27.0**	**0.0**
GEM	**Giv'at Ha'Em**	**0.27**	**188**	P	**Pg**	**16 20 23.8**	**0.0**
GEM	**Giv'at Ha'Em**	**0.27**	**188**	S	**Sb**	**16 20 29.1**	**-1.2**
ZAHL	**Zahle**	**0.41**	**21**	*eP*	**Pg**	**16 20 26.6**	**+0.1**
BHL	**Bhannes**	**0.43**	**354**	*eP*	**Pg**	**16 20 26.8**	**-0.1**
KSHT	**Keshet**	**0.50**	**170**	P	**Pb**	**16 20 28.6**	**-1.0**
KSHT	**Keshet**	**0.50**	**170**	S	**Sb**	**16 20 37.1**	**0.0**
MMA0B	**Mount Meron ar**	**0.53**	**209**	P	**Pg**	**16 20 28.6**	**0.0**
MMA0B	**Mount Meron ar**	**0.53**	**209**	S	**Sb**	**16 20 38.0**	**+0.2**
HNTI	**Hanita**	**0.60**	**229**	S	**Sb**	**16 20 40.1**	**+0.3**
HNTI	**Hanita**	**0.60**	**229**	P	**Pg**	**16 20 29.9**	**0.0**
HWQ	**Hawqa**	**0.82**	**14**	*eP*	**Pg**	**16 20 34.2**	**-0.1**
OFRI	**`Ofer**	**1.05**	**216**	S	**Sn**	**16 20 54.3**	**-0.2**
OFRI	**`Ofer**	**1.05**	**216**	P	**Pg**	**16 20 38.3**	**-0.3**
MMLI	**Mount Malkishu**	**1.06**	**193**	P	**Pg**	**16 20 38.4**	**-0.4**
MMLI	**Mount Malkishu**	**1.06**	**193**	S	**Sn**	**16 20 55.0**	**+0.2**
BEIL	**Beino**	**1.13**	**20**	*eP*	**Pg**	**16 20 39.8**	**-0.4**
HMDT	**Nahal Hemdat**	**1.23**	**187**	S	**Sn**	**16 20 59.7**	**+0.9**
HMDT	**Nahal Hemdat**	**1.23**	**187**	P	**Pg**	**16 20 41.3**	**-0.8**
SLTI	**Sal'it**	**1.35**	**205**	S	**Sn**	**16 21 03.8**	**+1.9**
SLTI	**Sal'it**	**1.35**	**205**	P	**Pn**	**16 20 43.9**	**+0.2**

*IDC **30** 16:26:31.8±1.3, 5.23S×152.68E, h0km, mb4.0/8, mbtmp4.0/10, ML2.6/2, MS3.7/10, Error ellipse: s-maj=51.7km s-min=21.0km az=114.0*
*NEIC **30** 16:26:38.8±0.4, 5.26S±0.09×152.4E±0.2, h26km±9km, mb4.3/14, Error ellipse: s-maj=31.7km s-min=10.6km az=105.0*
ISC 30 16:26:36.1±1.1, **5.28S**±0.10×**152.3E**±0.2, **h10**km, **n36**, σ1**03**/26, **mb4.1**/16, **MS3.6**/8, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.09**	**351**	Pn	**Pg**	**16 26 58.0**	**+0.8**
PMG	**Port Moresby**	**6.57**	**231**		**Pn**	**16 28 13.8**	**+0.9**
PMG	**Port Moresby**	**6.57**	**231**	Pn	**Pn**	**16 28 14.3**	**+1.4**
	1.2nm,0.3s,baz=48,slow=7.5,SNR=7.4						
PMG				Sn	**Sn**	**16 29 26.9**	**-1.1**
	4.1nm,0.3s,baz=237,slow=17,SNR=7.7						
	22nm,0.7s						
HNR	**Honiara**	**8.60**	**119**	LR	LR	16 31 41.3	
	comp=Z,3µm,20.4s,baz=306,slow=37						
CTA	**Charters Tower**	**15.87**	**201**	Pn	**Pn**	**16 30 19.3**	**-0.4**
	0.1nm,0.3s,baz=304,slow=21,SNR=1.5						
CTA				LR	LR	16 35 45.6	
	comp=Z,187nm,20.5s,baz=344,slow=34						
	2.3nm,0.8s						
CTAO	**Charters Tower**	**15.87**	**201**	Pn	**Pn**	**16 30 20.7**	**+1.0**
GUMO	**Guam**	**20.16**	**339**	LR	LR	16 38 14.2	
	comp=Z,51nm,21.2s,baz=206,slow=35						
DZM	**Mont Dzumac**	**21.57**	**142**	LR	LR	16 38 50.9	
	comp=Z,153nm,20.0s,baz=279,slow=34						
WB0	**Warramunga Arr**	**22.64**	**229**	P	**P**	**16 31 37.5**	**0.0**
WB0				IAmb	IAmb	16 31 46.2	
	comp=Z,8.8nm,1.1s						
WR0	**Warramunga Arr**	**22.64**	**228**	P	**P**	**16 31 37.4**	**-0.2**
WR0				IAmb	IAmb	16 32 06.7	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**22.78**	**229**	P	**P**	**16 31 38.3**	**-0.7**
WB2				IAmb	IAmb	16 32 03.9	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**22.79**	**229**	P	**P**	**16 31 38.9**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=54,slow=9.9,SNR=13						
	comp=Z,1.9nm,0.5s						
AS31	**Alice Springs**	**25.49**	**222**	P	**P**	**16 32 03.8**	**-1.0**
ASAR	**Alice Springs**	**25.49**	**222**	P	**P**	**16 32 04.2**	**-0.6**
ASAR	**Alice Springs**	**25.49**	**222**	P	**P**	**16 32 04.7**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=58,slow=9.3,SNR=18						
	comp=Z,1.9nm,0.7s						
STKA	**Stephens Creek**	**28.31**	**200**	LR	LR	16 43 48.0	
	comp=Z,130nm,20.1s,baz=14,slow=36						
JOW	**Kunigami**	**39.52**	**325**	LR	LR	16 47 56.1	
	comp=Z,154nm,21.2s,baz=156,slow=32						
JNU	**Nakatsue**	**43.28**	**333**	P	**P**	**16 34 37.9**	**-0.2**
F17K	**Baldwin Pennin**	**78.91**	**17**	P	**P**	**16 38 38.8**	**-0.6**
F17K				IAmb	IAmb	16 38 40.4	
	comp=Z,5.7nm,0.9s						
C16K	**Lisburne Hills**	**79.09**	**15**	P	**P**	**16 38 40.2**	**-0.1**
C16K				IAmb	IAmb	16 38 40.8	
	comp=Z,3.2nm,1.0s						
F19K	**Shaleruckik Mo**	**80.22**	**18**	P	**P**	**16 38 46.5**	**0.0**
F19K				IAmb	IAmb	16 38 47.3	
	comp=Z,4.2nm,1.1s						
MKAR	**Makanchi Array**	**80.38**	**319**	P	P	16 38 45.5	-2.4
	comp=Z,0.6nm,0.9s,baz=108,slow=3.8,SNR=4.4						
MKAR				LR	LR	17 13 43.9	
	comp=Z,21nm,21.1s,baz=70,slow=35						
	comp=Z,0.6nm,0.9s						
C18K	**Utukok River**	**80.44**	**16**	P	**P**	**16 38 47.7**	**0.0**
KTH	**Kantishna Hill**	**80.63**	**22**	P	**P**	**16 38 48.1**	**-0.8**
D19K	**Kuna River**	**81.18**	**16**	P	**P**	**16 38 51.6**	**-0.2**
D19K				IAmb	IAmb	16 39 10.4	
	comp=Z,2.1nm,1.1s						
ZALV	**Zalesovo Beam**	**81.29**	**326**	P	**P**	**16 38 50.6**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=98,slow=5.0,SNR=2.2						
	comp=Z,0.4nm,0.4s						
B20K	**Meade River**	**82.41**	**16**	P	**P**	**16 38 58.1**	**0.0**
B20K				IAmb	IAmb	16 39 30.2	
	comp=Z,2.4nm,1.1s						
ILAR	**Eielson Array**	**82.77**	**22**	P	P	16 38 56.6	-3.5
	comp=Z,1.1nm,1.0s,baz=263,slow=4.9,SNR=6.5						
	comp=Z,1.1nm,1.0s						
KURBB	**Kurchatov Arra**	**83.89**	**322**	P	**P**	**16 39 05.5**	**-0.7**
	comp=Z,2.6nm,0.2s,baz=114,slow=3.9,SNR=1.6						
	comp=Z,2.6nm,0.2s						
QSPA	**South Pole Qui**	**84.69**	**180**	P	P	16 39 07.5	-2.6
	comp=Z,1.0nm,0.9s,baz=35,slow=2.1,SNR=1.9						
	comp=Z,1.0nm,0.9s						
G31M	**Satah River**	**88.38**	**22**	P	**P**	**16 39 28.2**	**+0.3**
BVAR	**Borovoye Array**	**89.35**	**323**	P	**P**	**16 39 30.9**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=100,slow=4.5,SNR=4.0						
	comp=Z,0.6nm,0.7s						
NVAR	**Mina Array Bea**	**92.74**	**52**	LR	LR	17 15 12.6	
	comp=Z,54nm,19.1s,baz=284,slow=32						
ELK	**Elko**	**95.24**	**50**	LR	LR	17 16 14.1	
	comp=Z,47nm,18.8s,baz=255,slow=31						
ARU	**Arti**	**96.45**	**326**	LR	LR	17 24 51.6	
	comp=Z,26nm,19.9s,baz=81,slow=36						
TORD	**Torodi Ar. Bea**	**150.01**	**287**	PKPbc	**PKPdf**	**16 46 25.9**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=75,slow=4.3,SNR=2.7						

IDC 30 16:28:11.5±4.0, **18.76N**×**121.61E**, **h0**km, **mb3.6**/4, **mbtmp3.6**/4, **Error ellipse: s-maj=369.4km s-min=24.1km az=62.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.43**	**161**	P	P	16 35 51.1	-0.8
	0.6nm,0.8s,baz=342,slow=9.0,SNR=1.6						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**42.62**	**320**	P	P	16 36 09.2	-0.4
	0.3nm,0.7s,baz=110,slow=9.2,SNR=3.6						
	0.3nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.63**	**83**	T	T	17 21 39.1	
	baz=278						
H11S1	**WAKE ISLAND Hy**	**42.64**	**83**	T	T	17 21 37.8	
	baz=278						
H11S2	**WAKE ISLAND Hy**	**42.65**	**83**	T	T	17 21 40.7	
	baz=278						
H11N1	**WAKE ISLAND Hy**	**42.67**	**81**	T	T	17 22 02.8	
	baz=275						
H11N2	**WAKE ISLAND Hy**	**42.67**	**81**	T	T	17 22 02.4	
	baz=275						
H11N3	**WAKE ISLAND Hy**	**42.68**	**81**	T	T	17 22 18.3	
	baz=275						
ASAR	**Alice Springs**	**43.84**	**164**	P	P	16 36 20.0	+0.4
	0.3nm,0.7s,baz=339,slow=6.8,SNR=6.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.59**	**323**	P	P	16 36 41.3	+0.1
	1.3nm,0.2s,baz=121,slow=8.1,SNR=1.9						
	1.3nm,0.2s						

*IDC **30** 16:28:13.9±3.0, 55.89N×149.18W, h0km, mb3.2/1, mbtmp3.2/6, ML2.9/4, Error ellipse: s-maj=42.1km s-min=29.1km az=2.0*
*NEIC **30** 16:28:15.9±0.5, 56.05N±0.09×149.2W±0.1, h10km±2km, ML3.5/39, ML3.3(AEIC), Error ellipse: s-maj=15.0km s-min=11.4km az=173.0*
*AEIC **30** 16:28:20.8±0.6, 56.07N±0.06×149.2W±0.1, h10km±8km, Error ellipse: s-maj=9.9km s-min=8.9km az=86.0*
ISC 30 16:28:16.0±1.3, **56.11N**±0.08×**149.28W**±0.06, **h10**km, **n143**, σ0**89**/142, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.46**	**314**		**Pn**	**16 28 56.9**	**+0.7**
KDAK					**Sn**	**16 29 24.4**	**-1.9**
KDAK	**Kodiak Island**	**2.46**	**314**	Pn	**Pn**	**16 28 56.3**	**+0.1**
	3.1nm,0.3s,baz=131,slow=5.5,SNR=61						
KDAK				Sn	**Sn**	**16 29 24.5**	**-1.9**
	4.7nm,0.3s,baz=336,slow=21,SNR=11						
	7.5nm,0.3s						
OHAK	**Old Harbor**	**2.48**	**298**		**Pn**	**16 28 57.0**	**+0.7**
OHAK					**Sn**	**16 29 24.5**	**-2.0**
OHAK	**Old Harbor**	**2.48**	**298**	P	**Pn**	**16 28 57.0**	**+0.7**
	baz=116						
OHAK				S	**Sn**	**16 29 24.5**	**-2.0**
	baz=116						
SII	**Sitkinak Islan**	**2.77**	**281**		**Pn**	**16 29 00.8**	**+0.5**
SII					**Sn**	**16 29 32.0**	**-1.7**
SII	**Sitkinak Islan**	**2.77**	**281**	IAML		16 29 39.0	
	comp=E,260nm,0.7s						
SII				IAML		16 29 40.9	
	comp=N,244nm,0.7s						
SII	**Sitkinak Islan**	**2.77**	**281**	P	**Pn**	**16 29 00.8**	**+0.5**
	baz=98						
SII				S	**Sn**	**16 29 32.0**	**-1.7**
	baz=98						
SYI	**Shuyak Island**	**3.02**	**327**		**Pn**	**16 29 04.4**	**+0.7**
SYI					**Sn**	**16 29 40.1**	**+0.2**
Q20K	**Shuyak Island**	**3.02**	**327**	P	**Pn**	**16 29 04.4**	**+0.7**
	baz=145						
Q20K				S	**Sn**	**16 29 40.1**	**+0.2**
	baz=145						
R18K	**Karluk**	**3.19**	**299**		**Pn**	**16 29 07.1**	**+1.0**
R18K					**Sn**	**16 29 42.9**	**-1.3**
R18K	**Karluk**	**3.19**	**299**	Pn	**Pn**	**16 29 06.8**	**+0.7**
R18K	**Karluk**	**3.19**	**299**	IAML		16 29 50.4	
	comp=N,97nm,0.5s						
R18K				IAML		16 29 56.5	
	comp=E,130nm,1.4s						
R18K	**Karluk**	**3.19**	**299**	P	**Pn**	**16 29 07.1**	**+1.0**
	baz=116						
R18K				S	**Sn**	**16 29 42.9**	**-1.3**
	baz=116						
CNPM	**China Poot**	**3.58**	**344**		**Pn**	**16 29 12.0**	**+0.5**
CNPM					**Sn**	**16 29 53.9**	**+0.1**
Q19K	**Cape Douglas,**	**3.67**	**322**		**Pn**	**16 29 13.6**	**+0.8**
Q19K	**Cape Douglas,**	**3.67**	**322**	IAML		16 30 13.9	
	comp=N,160nm,1.2s						
Q19K	**Cape Douglas,**	**3.67**	**322**	P	**Pn**	**16 29 13.6**	**+0.8**
	baz=139						
BRSE	**Bradley Lake S**	**3.72**	**349**		**Pn**	**16 29 13.8**	**+0.4**
BRSE					**Sn**	**16 29 55.8**	**-1.6**
BRSE	**Bradley Lake S**	**3.72**	**349**	P	**Pn**	**16 29 13.8**	**+0.4**
	baz=167						
BRSE				S	**Sn**	**16 29 55.7**	**-1.6**
	baz=167						
KAHG	**Katmai Hook Gl**	**3.72**	**312**		**Pn**	**16 29 14.7**	**+1.2**
BRLK	**Bradley Lake**	**3.76**	**348**		**Pn**	**16 29 14.3**	**+0.3**
BRLK					**Sn**	**16 29 57.5**	**-0.8**
BRLK	**Bradley Lake**	**3.76**	**348**	IAML		16 30 00.6	
	comp=N,39nm,1.5s						
BRLK				IAML		16 30 00.8	
	comp=E,36nm,0.6s						
P23K	**Montague Islan**	**4.02**	**14**		**Pn**	**16 29 17.9**	**+0.4**
P23K	**Montague Islan**	**4.02**	**14**	P	**Pn**	**16 29 17.9**	**+0.4**
	baz=194						
P19K	**Oil Pt**	**4.13**	**331**		**Pn**	**16 29 19.9**	**+0.8**
P19K	**Oil Pt**	**4.13**	**331**	IAML		16 30 12.6	
	comp=N,92nm,0.6s						
P19K				IAML		16 30 13.1	
	comp=E,67nm,0.4s						
P19K	**Oil Pt**	**4.13**	**331**	P	**Pn**	**16 29 19.9**	**+0.8**
	baz=148						
CNTC	**Contact Creek**	**4.19**	**304**		**Pn**	**16 29 21.1**	**+1.2**
Q17K	**Contact Creek**	**4.19**	**304**	P	**Pn**	**16 29 21.1**	**+1.1**
	baz=119						
O20K	**Slope Mountain**	**4.36**	**337**		**Pn**	**16 29 23.1**	**+0.9**
O20K	**Slope Mountain**	**4.36**	**337**	P	**Pn**	**16 29 23.1**	**+0.9**
	baz=154						
O22K	**Cooper Landing**	**4.39**	**357**	Pn	**Pn**	**16 29 23.5**	**+1.0**
SLKM	**Skilak Lake**	**4.43**	**354**		**Pn**	**16 29 24.2**	**+0.9**
HIN	**Hinchinbrook I**	**4.54**	**18**		**Pn**	**16 29 25.2**	**+0.5**
HIN	**Hinchinbrook I**	**4.54**	**18**	IAML		16 30 15.7	
	comp=N,66nm,1.5s						
HIN				IAML		16 30 22.9	
	comp=E,56nm,1.4s						
P18K	**Big Mountain,**	**4.58**	**318**		**

	baz=199								
SML	**Sawmill**	**5.73**	**5**			**Pn**	**16 29 41.6**	**+0.5**	
SML	**Sawmill**	**5.73**	**5**	P		**Pn**	**16 29 41.6**	**+0.5**	
	baz=185								
N18K	**Kilae Creek**	**5.75**	**326**			**Pn**	**16 29 41.8**	**+0.6**	
N18K	**Kilae Creek**	**5.75**	**326**	P		**Pn**	**16 29 41.8**	**+0.6**	
	baz=140								
SCM	**Sheep Creek Mo**	**5.83**	**9**	Pn		**Pn**	**16 29 43.7**	**+1.3**	
O16K	**Kokwok River B**	**5.86**	**310**			**Pn**	**16 29 43.8**	**+1.0**	
O16K	**Kokwok River B**	**5.86**	**310**	P		**Pn**	**16 29 43.7**	**+1.0**	
	baz=123								
VRDI	**Verde Repeater**	**5.96**	**28**			**Pn**	**16 29 44.5**	**+0.1**	
SKT	**Skwentna**	**6.00**	**350**			**Pn**	**16 29 45.6**	**+0.9**	
SKT	**Skwentna**	**6.00**	**350**	P		**Pn**	**16 29 45.6**	**+0.9**	
	baz=168								
CNBA	**Chernabura Isl**	**6.00**	**262**	Pn		**Pn**	**16 29 44.8**	**0.0**	
N25K	**Chitina, Valde**	**6.02**	**22**			**Pn**	**16 29 45.5**	**+0.5**	
N25K	**Chitina, Valde**	**6.02**	**22**	P		**Pn**	**16 29 45.5**	**+0.5**	
	baz=205								
KIAG	**Kiagna River**	**6.03**	**34**			**Pn**	**16 29 45.6**	**+0.3**	
GLB	**Gilahina Butte**	**6.05**	**26**			**Pn**	**16 29 46.0**	**+0.5**	
N17K	**Nushagak Hills**	**6.08**	**320**			**Pn**	**16 29 46.3**	**+0.6**	
N17K	**Nushagak Hills**	**6.08**	**320**	P		**Pn**	**16 29 46.3**	**+0.6**	
	baz=134								
M20K	**Styx River**	**6.12**	**343**	Pn		**Pn**	**16 29 46.5**	**0.0**	
PTPK	**Patty Peak**	**6.21**	**32**			**Pn**	**16 29 48.0**	**+0.3**	
M24K	**Tolsona, Glenn**	**6.22**	**14**	Pn		**Pn**	**16 29 48.7**	**+0.9**	
PCA	**Pinnacle**	**6.23**	**46**			**Pn**	**16 29 48.0**	**+0.1**	
PINM	**Pinnacle**	**6.23**	**46**	P		**Pn**	**16 29 48.0**	**+0.1**	
	baz=234								
BARN	**Barnard Glacie**	**6.36**	**36**			**Pn**	**16 29 50.3**	**+0.5**	
M19K	**Big River Lodg**	**6.38**	**338**			**Pn**	**16 29 50.8**	**+0.9**	
M19K	**Big River Lodg**	**6.38**	**338**	P		**Pn**	**16 29 50.8**	**+0.9**	
	baz=153								
CTG	**Chitna Glacier**	**6.40**	**37**	P		**Pn**	**16 29 50.3**	**+0.1**	
	baz=223								
CTGM	**Chitina Glacie**	**6.40**	**37**			**Pn**	**16 29 50.3**	**0.0**	
LOGN	**Logan Glacier**	**6.41**	**39**			**Pn**	**16 29 50.6**	**+0.1**	
O15K	**Ungalikthiuk R**	**6.44**	**303**			**Pn**	**16 29 52.1**	**+1.4**	
O15K	**Ungalikthiuk R**	**6.44**	**303**	P		**Pn**	**16 29 52.1**	**+1.4**	
	baz=114								
L19K	**White Mountain**	**6.72**	**337**	Pn		**Pn**	**16 29 55.0**	**+0.3**	
M17K	**Holitna River**	**6.79**	**325**	Pn		**Pn**	**16 29 55.9**	**+0.4**	
N15K	**Kwethluk River**	**7.02**	**310**			**Pn**	**16 30 00.3**	**+1.6**	
N15K	**Kwethluk River**	**7.02**	**310**	P		**Pn**	**16 30 00.3**	**+1.6**	
	baz=121								
O29M	**Mount Kennedy**	**7.04**	**49**			**Pn**	**16 29 59.7**	**+0.6**	
O29M	**Mount Kennedy**	**7.04**	**49**	P		**Pn**	**16 29 59.7**	**+0.6**	
	baz=238								
DHY	**Denali Highway**	**7.05**	**7**	Pn		**Pn**	**16 30 00.2**	**+1.0**	
M16K	**Timber Creek**	**7.06**	**318**			**Pn**	**16 30 00.3**	**+1.2**	
M16K	**Timber Creek**	**7.06**	**318**	P		**Pn**	**16 30 00.3**	**+1.2**	
	baz=130								
M26K	**Nabesna, AK**	**7.08**	**24**	Pn		**Pn**	**16 30 00.6**	**+1.0**	
P29M	**Windy Craggy**	**7.09**	**55**			**Pn**	**16 29 59.8**	**+0.1**	
P29M	**Windy Craggy**	**7.09**	**55**	P		**Pn**	**16 29 59.8**	**+0.1**	
	baz=245								
M27K	**Edge Creek, AK**	**7.32**	**28**	Pn		**Pn**	**16 30 03.0**	**+0.1**	
S31K	**Pelican**	**7.36**	**70**			**Pn**	**16 30 02.2**	**-1.1**	
S31K	**Pelican**	**7.36**	**70**	P		**Pn**	**16 30 02.2**	**-1.1**	
	baz=260								
TRF	**Thorofare Moun**	**7.38**	**356**	Pn		**Pn**	**16 30 04.3**	**+0.6**	
CAST	**Castle Rocks**	**7.46**	**350**	Pn		**Pn**	**16 30 05.7**	**+0.9**	
KTH	**Kantishna Hill**	**7.51**	**354**	Pn		**Pn**	**16 30 06.8**	**+1.3**	
TTA	**Tatalina**	**7.64**	**336**	Pn		**Pn**	**16 30 07.9**	**+0.7**	
L16K	**Owhat River**	**7.70**	**321**	Pn		**Pn**	**16 30 08.8**	**+0.8**	
BCAR	**Beaver Creek A**	**7.94**	**25**	Pn		**Pn**	**16 30 12.2**	**+0.8**	
K17K	**Iditarod**	**8.06**	**329**	Pn		**Pn**	**16 30 13.2**	**+0.3**	
BPAW	**Bear Paw Mtn.**	**8.06**	**355**	Pn		**Pn**	**16 30 13.2**	**+0.3**	
J19K	**Poorman**	**8.51**	**341**	Pn		**Pn**	**16 30 20.6**	**+1.5**	
ILAR	**Eielson Array**	**8.77**	**7**	Pn		**Pn**	**16 30 22.6**	**0.0**	
	comp=N,0.1nm,0.3s,baz=187,slow=14,SNR=7.9								
ILAR				Sn		**Sn**	**16 31 58.9**	**-2.5**	
	comp=N,0.1nm,0.3s,baz=173,slow=22,SNR=3.9								
	comp=N,0.3nm,0.4s								
P32M	**Atlin**	**9.00**	**61**	Pn		**Pn**	**16 30 25.8**	**0.0**	
M30M	**Minto, Yukon**	**9.08**	**39**	Pn		**Pn**	**16 30 27.6**	**+0.7**	
J16K	**Anvik River**	**9.18**	**326**	Pn		**Pn**	**16 30 28.9**	**+0.7**	
IMAR	**Indian Mountai**	**10.13**	**350**	Pn		**Pn**	**16 30 42.6**	**+1.3**	
J30M	**Hart River**	**10.61**	**32**	Pn		**Pn**	**16 30 49.1**	**+1.1**	
DLBC	**Dease Lake**	**10.68**	**69**	Pn		**Pn**	**16 30 48.9**	**0.0**	
	comp=N,1.2nm,0.8s,baz=330,slow=20,SNR=1.3								
INK	**Inuvik**	**14.20**	**24**	Pn		**Pn**	**16 31 38.7**	**+1.9**	
	comp=N,0.1nm,0.3s,baz=201,slow=8.8,SNR=3.3								
	comp=N,1.2nm,0.8s								
YKA	**Yellowknife Ar**	**18.64**	**56**	P		**P**	**16 32 33.4**	**0.0**	
	baz=264,slow=12,SNR=3.2								
	comp=N,0.4nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**48.80**	**240**	T		T	17 29 37.8		
	baz=31,slow=76,SNR=4.2								
H11N3	**WAKE ISLAND Hy**	**48.80**	**240**	T		T	17 29 40.9		
	baz=31,slow=76,SNR=4.9								
H11N1	**WAKE ISLAND Hy**	**48.82**	**240**	T		T	17 29 38.7		
	baz=31,slow=76,SNR=4.0								
H11S1	**WAKE ISLAND Hy**	**49.94**	**239**	T		T	17 31 37.5		
	baz=29								
H11S2	**WAKE ISLAND Hy**	**49.95**	**239**	T		T	17 31 43.1		
	baz=29								
H11S3	**WAKE ISLAND Hy**	**49.96**	**239**	T		T	17 31 57.5		
	baz=29								
MKAR	**Makanchi Array**	**68.73**	**325**	P		**P**	**16 39 20.2**	**+0.7**	
	comp=N,0.1nm,0.6s,baz=37,slow=7.6,SNR=1.6								
	comp=N,0.1nm,0.6s								

*SJA **30** 16:34:15.4±0.7,30˚38S×72˚38W,h11km,ML4.3,MW4.0*
*IDC **30** 16:34:17.7±0.9,30˚46S×71˚99W,h0km,mb4.1/4,*
mbtmp4.0/8,ML3.8/4,MS3.2/4,Error ellipse: s-maj=33.6km
s-min=19.2km az=123.0
*NEIC **30** 16:34:20.1±1.7,30˚44S±0˚04×72˚04W±0˚04,h10km±1km,*
mb4.8/3,Error ellipse: s-maj=7.2km s-min=5.4km
az=151.0
*GUC **30** 16:34:21.9±0.8,30˚47S×71˚90W,h20km±3km,ML4.1*
ISC 30 16:34:18.2±1.4,30˚40S±0˚02×71˚95W±0˚04,h2km±9km,
n113,σ1§57/154,mb4.3/6,1C-1D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.38**	**135**	Pg	**Pb**	**16 34 28.6**	**+0.8**
CO06				Sg	**Sb**	**16 34 34.5**	**+0.3**
CO06	**Fray Jorge**	**0.38**	**135**	*eP*	**Pb**	**16 34 28.9**	**+1.1**
CO06				*eS*	**Sb**	**16 34 33.4**	**-0.8**
CO06				IAML		16 34 35.9	
	comp=N,20μm,0.2s						
CO05	**La Serena**	**0.78**	**52**		**Pn**	**16 34 36.3**	**0.0**
CO05	**La Serena**	**0.78**	**52**	*eP*	**Pn**	**16 34 36.5**	**+0.2**
CO05				*eS*	**Sn**	**16 34 47.2**	**-1.4**
CO05				IAML		16 34 50.0	
	comp=E,19μm,0.3s						
GO04	**Tololo Observa**	**1.02**	**77**		**Pn**	**16 34 40.0**	**+0.2**
GO04	**Tololo Observa**	**1.02**	**77**	*eP*	**Pn**	**16 34 40.2**	**+0.3**
GO04				*eS*	**Sn**	**16 35 00.9**	**+6.0**
GO04				IAML		16 35 03.7	
	comp=Z,6μm,0.5s						
GO04	**Tololo Observa**	**1.02**	**77**	*eP*	**Pn**	**16 34 40.1**	**+0.3**
GO04				*i* S	**Sn**	**16 34 53.7**	**-1.2**
GO04				IAML		16 34 59.2	
	comp=E,16μm,0.5s						
CO02	**Combarbal**	**1.14**	**135**		**Pn**	**16 34 41.3**	**-0.1**
CO02	**Combarbal**	**1.14**	**135**	*eP*	**Pn**	**16 34 41.3**	**-0.1**
CO02				*eS*	**Sn**	**16 34 58.4**	**+0.7**
CO02				IAML		16 35 00.0	
	comp=Z,5μm,0.3s						
CO02	**Combarbal**	**1.14**	**135**	*eP*	**Pn**	**16 34 41.4**	**-0.1**
CO02				*i* S	**Sb**	**16 34 55.5**	**-0.7**
CO02				IAML		16 34 57.5	
	comp=N,16μm,0.5s						
CO03	**El Pedregal**	**1.17**	**112**		**Pn**	**16 34 41.8**	**+0.1**
CO03	**El Pedregal**	**1.17**	**112**	*eP*	**Pn**	**16 34 41.9**	**+0.1**
CO03				*eS*	**Sn**	**16 34 59.1**	**+0.7**
CO03				IAML		16 34 59.5	
	comp=Z,3μm,0.8s						
CO03	**El Pedregal**	**1.17**	**112**	*eP*	**Pn**	**16 34 41.8**	**+0.1**
CO03				*eS*	**Sb**	**16 34 56.7**	**-0.3**
CO03				IAML		16 34 59.8	
	comp=N,8μm,0.3s						
CO01	**Juntas del Tor**	**1.66**	**76**		**Pg**	**16 34 50.2**	**+0.1**
CO01	**Juntas del Tor**	**1.66**	**76**	*eP*	**Pg**	**16 34 50.8**	**+0.7**
CO01				*eS*	**Sg**	**16 35 13.2**	**+1.5**
CO01				IAML		16 35 14.5	
	comp=Z,2μm,0.3s						
CO01	**Juntas del Tor**	**1.66**	**76**	*eP*	**Pg**	**16 34 50.5**	**+0.4**
CO01				*eS*	**Sg**	**16 35 12.2**	**+0.5**
CO01				IAML		16 35 17.9	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**1.76**	**38**		**Pb**	**16 34 51.1**	**-0.3**
LCO	**Las Campanas**	**1.76**	**38**	*eP*	**Pb**	**16 34 51.5**	**+0.1**
LCO				*eS*	**Sg**	**16 35 21.1**	**+6.2**
LCO				IAML		16 35 22.2	
	comp=Z,2μm,0.6s						
LCO	**Las Campanas**	**1.76**	**38**	*eP*	**Pb**	**16 34 51.3**	**-0.2**
LCO				*eS*	**Sg**	**16 35 15.2**	**+0.3**
AC05	**El Transito**	**2.14**	**44**		**Pb**	**16 34 57.0**	**-0.7**
AC05	**El Transito**	**2.14**	**44**	*eP*	**Pb**	**16 34 57.2**	**-0.6**
AC05				*eS*	**Sn**	**16 35 22.4**	**+0.2**
AC05				*eS*	**Sb**	**16 35 23.4**	**-1.4**
AC05	**El Transito**	**2.14**	**44**	*eP*	**Pb**	**16 34 57.7**	**0.0**
AC05				*eS*	**Sg**	**16 35 26.6**	**-0.3**
AC05				IAML		16 35 30.5	
	comp=N,1μm,0.4s						
AC04	**Llanos de Chal**	**2.32**	**20**		**Pn**	**16 34 57.9**	**+0.4**
AC04	**Llanos de Chal**	**2.32**	**20**	*eP*	**Pn**	**16 34 58.0**	**+0.6**
AC04				*eS*	**Sb**	**16 35 30.9**	**+1.0**
AC04	**Llanos de Chal**	**2.32**	**20**	*eP*	**Pn**	**16 34 58.1**	**+0.6**
ACDV	**Cuesta del Vie**	**2.46**	**85**	*eP*	Pn	16 34 48.2	-11
ACDV				*eS*	**Sb**	**16 35 32.9**	**-1.2**
ACDV				*eS*	**Sg**	**16 35 33.4**	**-3.9**
ACDV				IAML		16 35 43.6	
	comp=Z,667nm,0.5s						
ACCO	**Cerro Coronel**	**2.50**	**95**	*eP*	**Pg**	**16 35 04.9**	**-1.2**
ACCO				*eS*	**Sg**	**16 35 42.3**	**+3.8**
VA01	**Torpederas**	**2.62**	**174**		**Pn**	**16 35 01.3**	**-0.4**
VA01	**Torpederas**	**2.62**	**174**	*eS*	**Sg**	**16 35 41.6**	**-1.0**
VA01				IAML		16 35 47.9	
	comp=E,446nm,0.7s						
VA03	**San Esteban**	**2.64**	**153**		**Pn**	**16 35 03.1**	**+1.1**
VA03	**San Esteban**	**2.64**	**153**	*eP*	**Pn**	**16 35 03.2**	**+1.3**
VA03				*eS*	**Sg**	**16 35 44.5**	**+1.4**
VA03				IAML		16 35 46.4	
	comp=Z,1μm,0.5s						
VA03	**San Esteban**	**2.64**	**153**	*eP*	**Pn**	**16 35 03.4**	**+1.5**
VA03				IAML		16 35 44.9	
	comp=E,2μm,0.7s						
RTLS	**Leoncito**	**2.67**	**122**	*eP*	**Pb**	**16 35 06.6**	**-0.4**
RTLS				*eS*	**Sg**	**16 35 44.2**	**+0.2**
RTLS				IAML		16 35 52.7	
	comp=Z,2μm,0.5s						
ROCH	**El Roble**	**2.68**	**163**	*eP*	**Pn**	**16 35 02.9**	**+0.2**
ROCH				*eS*	**Sn**	**16 35 36.5**	**+0.6**
ROCH				IAML		16 35 56.2	
	comp=N,1μm,0.8s						
MT02	**Curacav**	**2.93**	**167**		**Pn**	**16 35 07.1**	**+1.2**
MT02	**Curacav**	**2.93**	**167**	*eP*	**Pn**	**16 35 06.0**	**+0.2**
MT02				*eS*	**Sn**	**16 35 44.4**	**+2.8**
MT02				IAML		16 35 58.9	
	comp=Z,576nm,0.6s						
MT02	**Curacav**	**2.93**	**167**	*eP*	**Pn**	**16 35 08.0**	**+2.1**
MT02				*eS*	**Sb**	**16 35 48.2**	**+0.7**
MT02				IAML		16 35 55.4	
	comp=E,470nm,0.6s						
PEL	**Peldehue**	**2.94**	**159**		**Pn**	**16 35 07.0**	**+1.0**
PEL	**Peldehue**	**2.94**	**159**	*eP*	**Pn**	**16 35 07.2**	**+1.2**
PEL				*eS*	**Sn**	**16 35 42.7**	**+0.8**
PEL				IAML		16 35 53.5	
	comp=N,980nm,0.2s						
MT10	**Hacienda Santa**	**3.10**	**158**	*eP*	**Pn**	**16 35 10.0**	**+1.6**
MT10				*eS*	**Sn**	**16 35 47.0**	**+0.8**
RTLL	**Cerro Villicun**	**3.13**	**108**	*eP*	**Pb**	**16 35 12.3**	**-2.3**
RTLL				*eS*	**Sn**	**16 35 48.4**	**+1.8**
AGUA	**GUANDACOL**	**3.14**	**74**	*eP*	**Pb**	**16 35 14.7**	**-0.2**
AGUA				*eS*	**Sg**	**16 35 57.4**	**-1.7**
AGUA				IAML		16 36 05.2	
	comp=Z,677nm,0.9s						
MT05	**Renca**	**3.15**	**161**	*eP*	**Pn**	**16 35 10.2**	**+1.2**
MT05				*eS*	**Sn**	**16 35 43.4**	**-3.8**
MT05				IAML		16 36 00.2	
	comp=Z,869nm,0.8s						
MT05	**Renca**	**3.15**	**161**	*eP*	**Pn**	**16 35 10.0**	**+1.0**
MT05				*eS*	**Sn**	**16 35 48.4**	**+1.1**
GO03	**Copiap**	**3.18**	**29**		**Pn**	**16 35 10.3**	**+1.0**
GO03	**Copiap**	**3.18**	**29**	*eP*	Pn	16 35 04.9	-4.4
GO03				*eP*	Pb	16 35 10.6	-4.9
GO03				*eS*	**Sb**	**16 35 53.4**	**-1.2**
GO03				IAML		16 36 10.9	
	comp=Z,373nm,0.5s						
GO03	**Copiap**	**3.18**	**29**	*eP*	**Pn**	**16 35 10.3**	**+1.0**
MT14	**Cerro Cal¡n**	**3.22**	**158**	*eP*	**Pb**	**16 35 13.6**	**-2.6**
MT14				*eS*	**Sn**	**16 35 47.6**	**-1.3**
FCH	**Farellones**	**3.24**	**155**	*eP*	**Pn**	**16 35 11.9**	**+1.5**
FCH				*eS*	**Sn**	**16 35 50.9**	**+1.1**
MT16	**CCHEN**	**3.25**	**158**	*eP*	**Pb**	**16 35 14.6**	**-2.1**
MT16				*eS*	**Sb**	**16 35 56.3**	**-0.5**
VA05	**Santo Domingo**	**3.26**	**175**	*eP*	**Pb**	**16 35 17.6**	**+0.8**
MT03	**Universidad Ad**	**3.32**	**159**		**Pn**	**16 35 12.7**	**+1.4**
MT03	**Universidad Ad**	**3.32**	**159**	*eP*	**Pn**	**16 35 12.4**	**+1.1**
MT03				*eS*	**Sb**	**16 35 55.9**	**-2.8**
MT03				IAML		16 36 12.5	
	comp=Z,685nm,1.5s						
MT03	**Universidad Ad**	**3.32**	**159**	*eP*	**Pn**	**16 35 13.1**	**+1.8**
MT03				*eS*	**Sn**	**16 35 51.2**	**-0.1**
MT04	**Ro Olivares**	**3.37**	**153**	*eP*	**Pn**	**16 35 14.3**	**+2.2**
MT04				*eS*	**Sn**	**16 35 55.0**	**+2.2**
MT04				IAML		16 36 08.2	
	comp=N,525nm,0.6s						
MT15	**Las Vizcachas**	**3.42**	**159**	*eP*	**Pn**	**16 35 13.7**	**+1.2**
MT15				*eS*	**Sn**	**16 35 54.8**	**+1.1**
ASAL	**Salagasta**	**3.44**	**130**	*eP*	**Pb**	**16 35 17.6**	**-2.3**
ASAL				*eS*	**Sb**	**16 36 02.9**	**+0.6**
ASAL				IAML		16 36 16.0	
	comp=Z,465nm,0.6s						
MT09	**Talagante**	**3.46**	**167**		**Pn**	**16 35 14.6**	**+1.3**
MT09	**Talagante**	**3.46**	**167**	*eP*	**Pn**	**16 35 14.4**	**+1.1**
MT09				*eS*	**Sn**	**16 35 52.8**	**-2.2**
MT01	**Popeta**	**3.50**	**170**		**Pn**	**16 35 14.1**	**+0.4**
MT01	**Popeta**	**3.50**	**170**	*eP*	**Pn**	**16 35 15.7**	**+2.0**
MT01				*eS*	**Sn**	**16 35 54.2**	**-1.5**
MT01				IAML		16 36 17.4	
	comp=E,398nm,0.8s						
MT13	**San Alfonso**	**3.62**	**157**		**Pn**	**16 35 16.6**	**+1.2**
MT13	**San Alfonso**	**3.62**	**157**	*eP*	**Pn**	**16 35 17.2**	**+1.8**
MT13				*eS*	**Sn**	**16 35 59.4**	**+0.6**
VCA	**Vinchina**	**3.66**	**64**	*eP*	**Pb**	**16 35 20.8**	**-3.0**
VCA				*eS*	**Sb**	**16 36 07.4**	**-1.3**
VCA				IAML		16 36 23.1	
	comp=Z,698nm,0.8s						
VCA	**Vinchina**	**3.66**	**64**	*i* P	**Pb**	**16 35 21.4**	**-2.4**
VCA				*eS*	**Sb**	**16 36 06.8**	**-1.9**
LMEL	**Las Melosas**	**3.74**	**157**		**Pn**	**16 35 18.6**	**+1.5**
LMEL	**Las Melosas**	**3.74**	**157**	*eP*	**Pn**	**16 35 19.1**	**+2.0**
LMEL				*eS*	**Sn**	**16 36 04.8**	**+3.0**
BO04	**La Punta**	**3.75**	**163**		**Pn**	**16 35 18.3**	**+1.1**
BO04	**La Punta**	**3.75**	**163**	*eP*	**Pn**	**16 35 18.6**	**+1.4**
BO04				*eS*	**Sn**	**16 36 00.1**	**-1.9**
AAGR	**Agrelo**	**3.77**	**136**	*eP*	**Pn**	**16 35 16.9**	**-0.6**
AAGR				*eP*	**Pb**	**16 35 22.4**	**-3.2**
AAGR				*eS*	**Sg**	**16 36 23.4**	**+3.9**
AAGR				IAML		16 36 30.5	
	comp=Z,346nm,0.7s						
AVFE	**Valle Fertil**	**3.89**	**95**	*eP*	**Pn**	**16 35 16.9**	**-2.2**
AVFE				*eP*	Pb	16 35 22.6	-4.9
AVFE				*eS*	**Sb**	**16 36 16.9**	**+1.8**
AVFE				IAML		16 36 31.3	
	comp=Z,294nm,0.8s						
BO01	**Tunca**	**4.04**	**170**		**Pn**	**16 35 21.8**	**+0.6**
BO01	**Tunca**	**4.04**	**170**	*eP*	**Pn**	**16 35 21.9**	**+0.8**
BO01				*eS*	**Sn**	**16 36 08.2**	**-0.9**
BO01	**Tunca**	**4.04**	**170**	*eP*	**Pn**	**16 35 21.7**	**+0.6**
BO03	**Pichilemu**	**4.08**	**180**	*eP*	**Pn**	**16 35 20.9**	**-0.7**
AC01	**Pan de Azucar**	**4.40**	**16**		**Pn**	**16 35 25.4**	**-0.7**
BO02	**Sierra Bellavi**	**4.49**	**168**		**Pn**	**16 35 27.7**	**+0.3**
BO02	**Sierra Bellavi**	**4.49**	**168**	*eP*	**Pn**	**16 35 28.2**	**+0.8**
BO02				IAML		16 36 47.8	
	comp=Z,192nm,0.7s						
BO02	**Sierra Bellavi**	**4.49**	**168**	*eP*	**Pn**	**16 35 28.4**	**+1.1**
GO02	**Mina Guanaco**	**5.62**	**22**		**Pn**	**16 35 42.8**	**-0.4**
CYA	**Choya**	**5.71**	**72**	*eP*	**Pn**	**16 35 46.4**	**+2.3**
H03N1	**Juan Fernandez**	**6.65**	**241**	Pn	**Pn**	**16 35 55.5**	**-1.2**
	baz=111,slow=19						
H03N1				T	T	16 42 57.3	
	baz=74,slow=72,SNR=3226						
H03N2	**Juan Fernandez**	**6.66**	**241**	Pn	**Pn**	**16 35 55.3**	**-1.6**
	baz=111,slow=19						
H03N2				T	T	16 43 01.1	
	baz=74,slow=72,SNR=2461						
H03N3	**Juan Fernandez**	**6.66**	**241**	Pn	**Pn**	**16 35 55.5**	**-1.4**
	baz=111,slow=19						
H03N3				T	T	16 42 57.0	
	baz=74,slow=72,SNR=2482						
H03S1	**Juan Fernandez**	**6.82**	**238**	Pn	Pn	16 35 55.6	-3.5
PB15	**IPOC Station P**	**7.50**	**18**	Pn	**Pn**	**16 36 08.6**	**-0.3**
LVC	**Limon Verde**	**8.22**	**20**	Pn	**Pn**	**16 36 17.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=45,slow=24,SNR=1.5						
LVC				Sn	**Sn**	**16 37 49.5**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=106,slow=19,SNR=1.3						
LVC				LR	LR	16 39 16.0	
	comp=Z,76nm,20.4s,baz=187,slow=36						
	comp=Z,2.1nm,0.6s						
PB02	**IPOC Station P**	**9.23**	**12**	Pn	**Pn**	**16 36 33.2**	**+0.7**
PLCA	**Paso Flores**	**10.37**	**174**	Pn	**Pn**	**16 36 46.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=334,slow=10,SNR=7.5						
	comp=Z,1.2nm,0.4s						
TRQA	**Tornquist**	**11.24**	**135**	Pn	**Pn**	**16 37 01.5**	**+1.6**
ITQB	**Itaqui**	**13.30**	**91**	Pn	**Pn**	**16 37 29.1**	**+1.0**
CPUP	**Villa Florida**	**13.50**	**76**	Pn	**Pn**	**16 37 29.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=234,slow=19,SNR=1.6						
CPUP				LR	LR	16 43 04.3	
	comp=Z,123nm,21.1s,baz=232,slow=39						
	comp=Z,0.9nm,0.5s						
SIV	**San Ignacio**	**17.47**	**37**	P	**Pn**	**16 38 23.6**	**+0.4**
	baz=214,slow=11,SNR=25						
	comp=Z,5.8nm,0.8s						
NNA	**Nana**	**18.88**	**345**	LR	LR	16 44 36.8	
	comp=Z,44nm,18.8s,baz=238,slow=33						
BOAV	**Boa Vista**	**34.39**	**21**	P	**P**	**16 41 07.3**	**+0.4**
BOAV				IAmb	IAmb	16 41 57.6	
	comp=Z,33nm,1.9s						
SNAA	**Sanae**	**54.89**	**159**	P	**P**	**16 43 50.1**	**+0.2**
SNAA				IAmb	IAmb	16 44 32.2	
	comp=Z,8.9nm,1.4s						
SNAA	**Sanae**	**54.89**	**159**	P	**P**	**16 43 49.2**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=266,slow=9.3,SNR=11						
	comp=Z,2.3nm,0.7s						
QSPA	**South Pole Qui**	**59.82**	**180**	P	**P**	**16 44 25.1**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=77,slow=12,SNR=2.0						
	comp=Z,1.5nm,1.1s						
DBIC	**Dimbokro**	**73.98**	**72**	P	**P**	**16 45 55.5**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=216,slow=7.3,SNR=3.2						
DBIC				LR	LR	17 15 55.3	
	comp=Z,34nm,21.0s,baz=170,slow=34						
	comp=Z,1.7nm,0.6s						
TOA0	**Torodi Ar. Sit**	**82.93**	**70**	P	**P**	**16 46 45.6**	**+0.6**
TOA0				IAmb	IAmb	16 49 49.2	
	comp=Z,12nm,1.8s						
TORD	**Torodi Ar. Bea**	**82.93**	**70**	P	**P**	**16 46 45.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=265,slow=5.1,SNR=4.4						
	comp=Z,1.1nm,0.8s						
BRTR	**Keskin Array B**	**119.97**	**59**	PKP	**PKPdf**	**16 53 11.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=343,slow=3.0,SNR=2.0						
H11S2	**WAKE ISLAND Hy**	**25.82**	**272**	T	T	19 12 09.4	
	baz=115,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	**25.83**	**272**	T	T	19 12 05.2	
	baz=115,slow=74,SNR=27						
H11S3	**WAKE ISLAND Hy**	**25.84**	**272**	T	T	19 12 04.6	
	baz=115,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy**	**26.14**	**273**	T	T	19 12 29.0	
	baz=117						
H11N1	**WAKE ISLAND Hy**	**26.16**	**273**	T	T	19 12 31.2	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**26.16**	**273**	T	T	19 12 31.2	
	baz=117						
BVAR	**Borovoye Array**	**144.53**	**39**	PKP	PKPbc	16 53

comp=Z,20nm,0.8s
TOLI2 Tolitoli 25.48 284 P **P** **16 45 40.5 -0.3**
ARMA Armidale 25.54 168 P **P** **16 45 41.6 +0.4**
TTSI Tana Toraja 25.67 274 P **P** **16 45 43.8 +1.3**
comp=Z,24nm,1.6s
AUPHS Peel High Scho 26.05 169 P **P** **16 45 48.3 +2.5**
MPSI Mapaga 26.15 282 P **P** **16 45 43.8 -3.1**
comp=Z,11nm,1.1s
DZM Mont Dzumac 26.20 131 LR LR 16 54 52.2
comp=Z,178nm,20.4s,baz=287,slow=33
ONTNC Ouen Toro 26.34 132 P **P** **16 45 47.7 -0.8**
STKA Stephens Creek 26.57 187 P **P** **16 45 50.4 0.0**
STKA Stephens Creek 26.57 187 P **P** **16 45 50.7 +0.3**
STKA Stephens Creek 26.57 187 P **P** **16 45 50.1 -0.2**
comp=Z,13nm,0.8s,baz=340,slow=9.4,SNR=15
STKA LR LR 16 59 00.9
comp=Z,131nm,19.0s,baz=24,slow=42
comp=Z,13nm,0.8s
BBOO Buckleboo 28.62 197 P **P** **16 46 09.3 +0.5**
BBOO IAmb IAmb 16 46 21.7
comp=Z,19nm,1.1s
FORT Forrest 30.06 211 P **P** **16 46 22.0 +0.5**
TGY Tagaytay City 31.11 309 LR LR 17 00 31.6
comp=Z,66nm,18.1s,baz=304,slow=39
KKM Kota Kinabalu 31.33 291 P **P** **16 46 32.8 -0.3**
NWAO Narrogin (SRO) 37.95 220 LR LR 17 04 45.4
comp=Z,183nm,19.0s,baz=340,slow=39
JNU Nakatsue 40.75 341 LR LR 17 03 51.0
comp=Z,64nm,18.6s,baz=145,slow=35
MYKOM Kota Tinggi 42.17 279 P **P** **16 48 05.6 +0.6**
MJAR Matsushiro Arr 42.29 351 P **P** **16 48 04.7 -0.9**
comp=Z,1.3nm,0.6s,baz=146,slow=9.9,SNR=2.7
comp=Z,1.3nm,0.6s
BSWZ Blackbirch Sta 44.13 149 P **P** **16 48 21.1 +0.7**
MRZ Mangatainoka R 44.27 147 P **P** **16 48 22.3 +0.8**
RPZ Rata Peaks 44.30 153 P **P** **16 48 22.0 +0.3**
RPZ IAmb IAmb 16 48 54.5
comp=Z,16nm,1.0s
BFZ Birch Farm 44.65 146 P **P** **16 48 23.3 -1.3**
NJ2 Nanjing 45.06 328 *e*P **P** **16 48 29.3 +1.5**
NJ2 pP **pP** **16 48 46.0 -2.6**
NJ2 sP **sP** **16 48 54.8 -3.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
KSRS Korea Array 45.68 340 P **P** **16 48 32.2 -0.4**
comp=Z,1.9nm,0.9s,baz=169,slow=8.8,SNR=5.0
KSRS LR LR 17 06 02.6
comp=Z,44nm,20.2s,baz=165,slow=34
comp=Z,1.9nm,0.9s
KULM Kulim 45.99 283 P **P** **16 48 35.4 -0.1**
KULM Kulim 45.99 283 P **P** **16 48 32.2 -3.3**
comp=Z,17nm,0.8s
JTM Tenmabayashi 46.16 355 P **P** **16 48 36.2 -0.1**
RPSI Rantau Prapat 47.17 279 P **P** **16 48 44.7 -0.1**
PSI Prapat 47.19 279 P **P** **16 48 44.2 -0.9**
comp=Z,17nm,1.1s
GSI Gunungsitoli 48.28 277 P **P** **16 48 52.4 -1.0**
GSI Gunungsitoli 48.28 277 P **P** **16 48 51.9 -1.5**
comp=Z,26nm,0.6s,comp=Z,3µm
KCSI Kotacane, Aceh 48.45 280 P **P** **16 48 52.5 -2.2**
comp=Z,23nm,0.8s
MLSI Meulaboh, Aceh 49.92 280 P **P** **16 49 04.7 -1.2**
USA0B Ussuriysk Arra 50.86 348 P **P** **16 49 12.4 0.0**
USRK Ussuriysk Ar. 50.86 348 P **P** **16 49 12.1 -0.3**
comp=Z,2.9nm,0.6s,baz=177,slow=7.3,SNR=12
comp=Z,2.9nm,0.6s
CRAI Chiangrai 51.10 301 P **P** **16 49 15.9 +1.2**
CM31 Chiang Mai Arr 51.62 299 P **P** **16 49 19.0 +0.4**
CM31 IAmb IAmb 16 49 20.7
comp=Z,5.3nm,0.8s
CMAR Chiang Mai Arr 51.62 299 P **P** **16 49 18.8 +0.2**
CMAR Chiang Mai Arr 51.62 299 P **P** **16 49 19.4 +0.8**
comp=Z,2.4nm,0.6s,baz=116,slow=6.0,SNR=8.9
comp=Z,2.4nm,0.6s
CHTO Chiang Mai 51.76 299 P **P** **16 49 20.3 +0.7**
CHTO IAmb IAmb 16 49 21.8
comp=Z,2.8nm,0.6s
MDJ Mudanjiang 51.81 346 P **P** **16 49 22.3 +2.8**
MDJ pmax pmax
comp=Z,4.0nm,1.7s
MDJ pmax pmax
comp=Z,280nm,5.5s
PZH PanZhiHua 52.90 309 P **P** **16 49 29.8 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.9s
HHC Hu-ho-hao-te 55.54 329 *e*P **P** **16 49 49.3 +2.3**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.3s
XLT XiLinHaoTe 55.78 335 *e*P **P** **16 49 49.5 +0.9**
XLT pP pP 16 50 08.5 -1.6
XLT sP sP 16 50 16.8 -2.9
XLT PcP **PcP** **16 50 46.5 -0.3**
XLT pmax pmax
comp=Z,4.0nm,1.0s
XLT pmax pmax
comp=Z,150nm,4.7s
HEH HeiHe 57.61 346 *e*P **P** **16 50 00.5 -0.8**
PEA0B Petropavlovsk- 59.23 9 P **P** **16 50 12.8 +0.3**
PETK Petropavlovsk- 59.23 9 P **P** **16 50 12.7 +0.2**
PETK Petropavlovsk- 59.23 9 P **P** **16 50 12.3 -0.2**
comp=Z,5.1nm,0.8s,baz=169,slow=6.3,SNR=11
PETK LR LR 17 11 55.5
comp=Z,37nm,21.8s,baz=226,slow=32
comp=Z,5.1nm,0.8s
SONM Songino Array 63.16 332 P **P** **16 50 39.4 0.0**
SONM Songino Array 63.16 332 P **P** **16 50 39.4 0.0**
comp=Z,0.5nm,0.6s,baz=146,slow=7.2,SNR=5.0
comp=Z,0.5nm,0.6s
YAK Yakutsk 68.35 352 P **P** **16 51 10.6 -1.6**
YAK IAmb IAmb 16 51 15.1
comp=Z,3.7nm,0.8s
VNDA Vanda 72.58 176 P **P** **16 51 38.6 +0.8**
VNDA IAmb IAmb 16 51 50.3
comp=Z,7.3nm,1.4s
VNDA Vanda 72.58 176 P **P** **16 51 38.9 +1.0**
comp=Z,2.0nm,0.7s,baz=327,slow=5.5,SNR=8.5
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 76.08 321 P **P** **16 51 58.9 +0.2**
MKAR Makanchi Array 76.08 321 P **P** **16 51 58.8 0.0**
comp=Z,0.5nm,0.5s,baz=98,slow=8.7,SNR=12
comp=Z,0.5nm,0.5s
MAKZ Makanchi 76.28 321 P **P** **16 51 59.9 0.0**
ZAA0 Zalesovo Array 77.71 328 P **P** **16 52 07.0 -0.7**
ZALV Zalesovo Beam 77.71 328 P **P** **16 52 06.9 -0.8**
ZALV Zalesovo Beam 77.71 328 P **P** **16 52 07.1 -0.5**
comp=Z,1.4nm,0.6s,baz=108,slow=6.2,SNR=8.5
ZALV LR LR 17 26 53.4
comp=Z,40nm,19.1s,baz=88,slow=36
comp=Z,1.4nm,0.6s
M16K Timber Creek 78.93 24 P **P** **16 52 14.7 +0.5**
M16K IAmb IAmb 16 52 51.3
comp=Z,10nm,1.1s
P18K Big Mountain, 79.67 27 P **P** **16 52 18.5 +0.1**
KURBB Kurchatov Arra 79.85 323 P **P** **16 52 19.4 0.0**
comp=Z,0.6nm,0.6s,baz=118,slow=4.8,SNR=5.6
comp=Z,0.6nm,0.6s
H17K Granite Mounta 80.76 21 P **P** **16 52 24.7 +0.7**
H17K IAmb IAmb 16 52 26.1
comp=Z,6.5nm,0.9s
F17K Baldwin Pennin 81.19 19 P **P** **16 52 27.1 +0.8**
F17K IAmb IAmb 16 52 28.2
comp=Z,6.2nm,0.9s
M19K Big River Lodg 81.26 25 P **P** **16 52 27.8 +1.0**
M19K IAmb IAmb 16 52 58.8
comp=Z,13nm,1.4s
G18K Tagagawik 81.74 20 P **P** **16 52 29.4 +0.2**
G18K IAmb IAmb 16 52 31.0
comp=Z,3.8nm,0.7s
J19K Poorman 81.82 22 P **P** **16 52 30.1 +0.5**
G19K Purcell Mounta 82.41 20 P **P** **16 52 33.5 +0.8**
G19K IAmb IAmb 16 52 47.4
comp=Z,10nm,1.4s
J20K Nowinta River 82.47 23 P **P** **16 52 34.0 +1.0**
E19K Redstone River 83.07 19 P **P** **16 52 36.8 +0.6**
E19K IAmb IAmb 16 52 38.0
comp=Z,5.3nm,0.8s
C19K Lookout Ridge 83.25 17 P **P** **16 52 37.9 +0.7**
C19K IAmb IAmb 16 52 39.4
comp=Z,3.8nm,0.8s
D19K Kuna River 83.36 18 P **P** **16 52 37.7 +0.1**
D19K IAmb IAmb 16 52 41.0
comp=Z,5.7nm,1.1s

KTH Kantishna Hill 83.45 24 P **P** **16 52 38.1 -0.1**
KTH IAmb IAmb 16 53 04.4
comp=Z,11nm,1.4s
IMAR Indian Mountai 83.50 21 P **P** **16 52 39.2 +0.8**
TRF Thorofare Moun 83.66 24 P **P** **16 52 39.6 +0.2**
TRF IAmb IAmb 16 53 04.9
comp=Z,9.6nm,1.3s
HIN Hinchinbrook I 84.07 28 P **P** **16 52 41.6 +0.2**
MLY Manley 84.17 23 P **P** **16 52 42.2 +0.3**
MLY IAmb IAmb 16 52 42.9
comp=Z,5.1nm,0.9s
RND Reindeer 84.23 24 P **P** **16 52 42.4 +0.2**
NRIK Noril'sk 84.26 342 P **P** **16 52 42.3 +0.2**
comp=Z,3.4nm,0.5s,baz=129,slow=3.7,SNR=4.3
comp=Z,3.4nm,0.5s
QSPA South Pole Qui 84.54 180 P **P** **16 52 44.2 +0.3**
comp=Z,9.8nm,0.9s,baz=289,slow=0.7,SNR=46
comp=Z,9.8nm,0.9s
DHY Denali Highway 84.71 25 P **P** **16 52 44.8 0.0**
DHY IAmb IAmb 16 52 47.5
comp=Z,7.1nm,0.9s
I23K Minto, Yukon-K 84.75 23 P **P** **16 52 45.5 +0.8**
I23K IAmb IAmb 16 53 25.5
comp=Z,6.7nm,1.4s
CCB Clear Creek Bu 85.15 23 P **P** **16 52 46.1 -0.6**
CCB IAmb IAmb 16 52 47.0
comp=Z,4.8nm,0.7s
BVAR Borovoye Array 85.40 324 P **P** **16 52 48.4 +0.1**
comp=Z,2.3nm,0.6s,baz=105,slow=7.6,SNR=14
BVAR LR LR 17 31 48.8
comp=Z,17nm,19.3s,baz=66,slow=36
comp=Z,2.3nm,0.6s
IL31 85.56 23 P **P** **16 52 47.1 -1.6**
IL31 IAmb IAmb 16 52 49.4
comp=Z,5.2nm,0.7s
ILAR Eielson Array 85.56 23 P **P** **16 52 47.3 -1.5**
ILAR Eielson Array 85.56 23 P **P** **16 52 47.5 -1.2**
comp=Z,4.9nm,0.7s,baz=251,slow=4.9,SNR=59
comp=Z,4.9nm,0.7s
GLB Gilahina Butte 85.67 27 P **P** **16 52 50.1 +0.7**
GLB IAmb IAmb 16 53 09.0
comp=Z,9.9nm,1.4s
RIDG Independent Ri 86.01 25 P **P** **16 52 50.4 -0.7**
RIDG IAmb IAmb 16 53 05.8
comp=Z,6.4nm,1.0s
J25K Salcha River, 86.11 24 P **P** **16 52 51.4 -0.2**
J25K IAmb IAmb 16 52 52.5
comp=Z,7.0nm,0.8s
F24K Squaw Lake 86.27 21 P **P** **16 52 53.2 +0.9**
F24K IAmb IAmb 16 52 55.0
comp=Z,3.7nm,0.7s
SCRK Sand Creek 86.45 25 P **P** **16 52 54.0 +0.6**
SCRK IAmb IAmb 16 53 36.0
comp=Z,4.4nm,1.3s
BCAR Beaver Creek A 87.09 26 P **P** **16 52 56.8 +0.4**
BMAR Burnt Mountain 87.42 21 P **P** **16 52 58.4 +0.5**
I28M Miner Creek 88.56 24 P **P** **16 53 04.2 +0.8**
K29M Barlow Dome 89.14 26 P **P** **16 53 06.6 +0.4**
K29M IAmb IAmb 16 53 08.2
comp=Z,4.3nm,0.8s
F28M Old Crow 89.19 22 P **P** **16 53 06.9 +0.6**
ABKAR Akbulak array 91.14 319 P **P** **16 53 14.9 -0.8**
ABKAR IAmb IAmb 16 53 46.3
comp=Z,3.8nm,1.5s
GEYT Alibeck 91.20 308 P **P** **16 53 16.7 +0.4**
comp=Z,1.1nm,0.6s,baz=104,slow=10.0,SNR=2.2
comp=Z,1.1nm,0.6s
DLBC Dease Lake 91.71 32 LR LR 17 35 28.3
comp=Z,70nm,18.7s,baz=156,slow=36
ELIB Princess Elisa 94.35 195 *d*P **P** **16 53 31.3 +1.0**
NVAR Mina Array Bea 98.23 52 P **P** **16 53 48.3 -0.4**
comp=Z,0.2nm,0.5s,baz=270,slow=6.3,SNR=2.2
comp=Z,0.2nm,0.5s
YKA Yellowknife Ar 99.38 28 P **Pdif** **16 53 52.5 -0.4**
comp=Z,0.3nm,0.9s,baz=273,slow=5.3,SNR=4.3
YKA PKKPbc **PKKPbc** **17 10 17.1 -1.7**
comp=Z,0.2nm,0.6s,baz=81,slow=2.5,SNR=5.3
comp=Z,0.3nm,0.9s
GERES GERESS Array B 120.56 325 PKP **PKiKP** **16 59 03.5 +1.0**
comp=Z,0.5nm,0.5s,baz=64,slow=4.5,SNR=2.3
PLCA Paso Fires 123.44 148 PKP **PKiKP** **16 59 09.2 +0.7**
comp=Z,1.4nm,0.7s,baz=156,slow=4.9,SNR=5.0
CPUP Villa Florida 141.48 146 PKP **PKPdf** **16 59 42.8 +0.5**
comp=Z,3.3nm,0.3s,baz=236,slow=8.0,SNR=6.0
TORD Torodi Ar. Bea 143.46 285 PKP PKPbc 16 59 44.0 +0.5
comp=Z,2.2nm,0.6s,baz=69,slow=4.6,SNR=18
DBIC Dimbokro 150.45 274 PKP **PKPdf** **16 59 58.6 +0.8**
comp=Z,1.9nm,0.6s,baz=188,slow=3.8,SNR=3.5
DBIC PKPbc **PKPbc** **17 00 02.8 -0.4**
comp=Z,16nm,0.7s,baz=107,slow=2.5,SNR=24
BDFB Brasilia 155.18 148 PKP **PKPdf** **17 00 05.1 +0.3**
comp=Z,0.9nm,0.3s,baz=233,slow=15,SNR=1.3
BDFB PKPbc PKPbc 17 00 14.0
comp=Z,2.5nm,0.5s,baz=278,slow=14,SNR=3.2
BDFB PKPab **PKPab** **17 00 30.3 +0.6**
comp=Z,1.2nm,0.3s,baz=203,slow=5.6,SNR=1.5

DVHZ Dannevirke 1.74 171 P Pn 16 49 05.4 -0.2
HAZ Te Kaha 1.76 63 P Pn 16 49 03.3 -2.5
ETAZ East Tamaki Re 1.77 337 P Pn 16 49 03.4 -2.5
AWAZ Awhitu Peninsu 1.77 328 P Pn 16 49 03.9 -2.1
PRHZ Porangahau 1.80 159 P Pn 16 49 06.2 0.0
POWZ Post Office Ro 1.81 181 P Pn 16 49 06.0 -0.3
KUZ Kuaotunu 1.83 358 P Pn 16 49 04.0 -2.6
WIAZ Waiheke Island 1.86 343 P Pn 16 49 04.7 -2.3
CNGZ Carnagh Statio 1.89 88 P Pn 16 49 06.4 -0.8
PKGZ Pakihiroa 1.92 70 P Pn 16 49 06.4 -1.2
ANWZ Angora Road 1.94 165 P Pn 16 49 07.7 -0.1
PRWZ Pori Road 1.97 176 P Pn 16 49 07.9 -0.2
MRZ Mangatainoka R 2.08 185 P Pn 16 49 08.6 -0.8
BFZ Birch Farm 2.12 171 P Pn 16 49 09.1 -0.7
TIWZ Tintock 2.19 178 P Pn 16 49 10.0 -0.7
MXZ Matakaoa Point 2.22 63 P Pn 16 49 08.8 -2.2
OGWZ Otaki Gorge 2.29 192 P Pn 16 49 10.9 -0.8
HOWZ Holdsworth Sta 2.32 185 P Pn 16 49 11.0 -1.2
KIW Kapiti Island 2.38 197 P Pn 16 49 11.6 -1.3
TMWZ Te Maipa 2.52 179 P Pn 16 49 13.3 -1.4
MTW Mount Morrison 2.58 185 P Pn 16 49 13.7 -1.6
CAW Cannon Point 2.59 193 P Pn 16 49 14.0 -1.3
DUWZ D'Urville Isla 2.65 213 P Pn 16 49 14.5 -1.7
TRWZ Traveller 2.81 182 P Pn 16 49 16.4 -1.7
WEL Wellington 2.81 196 P Pn 16 49 16.5 -1.6
TCW Tory Channel 2.88 204 P Pn 16 49 17.2 -1.7
BHW Baring Head 2.91 194 P Pn 16 49 17.3 -2.0
PLWZ Palliser 3.01 188 P Pn 16 49 18.4 -2.2
TUWZ Tuamarina 3.18 206 P Pn 16 49 20.6 -2.1
NNZ Nelson 3.23 215 P Pn 16 49 20.9 -2.4
BSWZ Blackbirch Sta 3.46 205 P Pn 16 49 24.2 -2.1
MRNZ Matariki Terra 3.66 219 P Pn 16 49 25.8 -3.1
THZ Tophouse 3.88 214 P Pn 16 49 29.1 -2.6
KHZ Kahutara 4.20 204 P Pn 16 49 33.2 -2.5
DSZ Denniston Nort 4.40 223 P Pn 16 49 34.4 -4.0
GVZ Greta Valley S 4.86 205 P Pn 16 49 41.1 -3.3
LTZ Lake Taylor 4.98 212 P Pn 16 49 42.3 -3.8
INZ Inchbonnie 5.30 217 P Pn 16 49 46.5 -3.7
OXZ Oxford 5.53 210 P Pn 16 49 48.6 -4.6
MQZ McQueen's Vall 5.64 204 P Pn 16 49 49.9 -4.8
AKCZ Akaroa Harbour 5.72 202 P Pn 16 49 51.5 -4.1
MHCZ Mount Hutt 5.89 212 P Pn 16 49 55.3 -2.7
RPZ Rata Peaks 6.26 213 P Pn 16 49 58.8 -4.0
ARCZ Arundel 6.39 212 P Pn 16 50 00.5 -4.1
FOZ Fox Glacier 6.70 221 P Pn 16 50 04.6 -4.1
TMZ Timaru 6.82 210 P Pn 16 50 05.8 -4.5
ODZ Otahua Downs 7.52 209 P Pn 16 50 15.2 -4.4

IDC ***30*** *16:52:56.8±1.8, 32°.34S×177°.66W, h0km, mb3.9/4, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=47.3km s-min=30.3km az=51.0*
NEIC ***30*** *16:52:56.6±0.3, 32°.15S±0°.09×177°.3W±0°.3, h10km±1km, mb4.5/6, Error ellipse: s-maj=45.4km s-min=11.0km az=76.0*
ISC 30 16:52:57.8±1.1, 32°.4S±0°.1×178°.0W±0°.2, h10km, n20, σ2s 06/22, mb4.3/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.12**	**1**	Pn	**Pn**	**16 53 43.3**	**-3.8**
MXZ	**Matakaoa Point**	**6.01**	**210**	Pn	**Pn**	**16 54 27.6**	**+0.8**
URZ	**Urewera**	**7.12**	**213**	Pn	**Pn**	**16 54 42.8**	**+0.9**
	1.2nm,0.3s,baz=352,slow=4.7,SNR=13						
URZ				Sn	**Sn**	**16 55 58.5**	**-4.3**
	5.3nm,0.3s,baz=333,slow=22,SNR=14						
	3.4nm,0.3s						
RTZ	**Ruatahuna**	**7.46**	**212**	Pn	**Pn**	**16 54 47.6**	**+0.7**
BKZ	**Black Stump Fm**	**8.13**	**212**	Pn	**Pn**	**16 54 57.8**	**+1.7**
BFZ	**Birch Farm**	**9.50**	**208**	Pn	**Pn**	**16 55 15.6**	**+0.8**
THZ	**Tophouse**	**11.86**	**215**	Pn	**Pn**	**16 55 47.3**	**+0.2**
GVZ	**Greta Valley S**	**12.74**	**211**	Pn	**Pn**	**16 55 58.6**	**-0.4**
RPZ	**Rata Peaks**	**14.23**	**214**	Pn	**Pn**	**16 56 18.0**	**-1.4**
	0.7nm,0.3s,baz=358,slow=19,SNR=1.7						
RPZ				Sn	Sn	16 58 42.4	-15
	0.4nm,0.3s,baz=155,slow=20,SNR=1.5						
WHZ	**Wether Hill Ro**	**17.33**	**215**	Pn	**Pn**	**16 56 57.8**	**-1.9**
WHZ				IAmb	IAmb	16 57 36.6	
	comp=Z,19nm,1.2s						
ASAR	**Alice Springs**	**43.07**	**269**	P	**P**	**17 01 00.9**	**+2.7**
	comp=Z,0.4nm,0.5s,baz=108,slow=7.7,SNR=12						
ASAR				PcP	**PcP**	**17 02 48.7**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=112,slow=4.1,SNR=1.9						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**44.23**	**274**	P	**P**	**17 01 10.0**	**+2.4**
WRA	**Warramunga Arr**	**44.24**	**274**	P	**P**	**17 01 10.3**	**+2.6**
WRA	**Warramunga Arr**	**44.24**	**274**	P	**P**	**17 01 10.3**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=113,slow=8.0,SNR=14						
	comp=Z,0.8nm,0.3s						
WB0	**Warramunga Arr**	**44.27**	**274**	P	**P**	**17 01 10.2**	**+2.3**
WB0				IAmb	IAmb	17 01 30.1	
	comp=Z,13nm,1.2s						
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**	**17 02 49.3**	**+0.6**
QSPA				IAmb	IAmb	17 03 15.4	
	comp=Z,8.4nm,1.5s						
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**	**17 02 50.0**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=29,slow=4.0,SNR=7.5						
	comp=Z,1.8nm,0.9s						
SNAA	**Sanae**	**76.18**	**178**	P	**P**	**17 04 45.8**	**0.0**
SNAA				IAmb	IAmb	17 05 03.2	
	comp=Z,9.9nm,1.5s						
SNAA	**Sanae**	**76.18**	**178**	P	**P**	**17 04 46.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=183,slow=15,SNR=2.4						
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**147.01**	**339**	PKPbc	**PKPab**	**17 12 40.4**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=40,slow=2.9,SNR=2.5						

IDC ***30*** *17:48:57.5±0.6, 64°.55N×17°.65W, h0km, mb3.7/18, mbtmp3.7/21, ML3.2/3, MS3.2/13, Error ellipse: s-maj=20.4km s-min=9.4km az=8.0*
REY ***30*** *17:48:57.9, 64°.68N×17°.46W, h1km*
ISC 30 17:48:58.2±0.9, 64°.68N±0°.02×17°.49W±0°.02, h4km±5km, n67, σ1s 24/86, mb3.9/19, MS3.2/10, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKIS	**Kista**	**0.03**	**258**	P	**Pg**	**17 48 59.1**	**-0.2**
	baz=265						
IKIS				S	**Sg**	**17 49 00.5**	**+0.4**
	baz=265						
IVON	**Vonarskard**	**0.12**	**266**	P	**Pg**	**17 49 00.9**	**+0.4**
	baz=268						
IVON				S	**Sg**	**17 49 03.5**	**+1.4**
	baz=268						
IURH	**Urdarhals**	**0.20**	**46**	P	**Pg**	**17 49 02.4**	**+0.3**
	baz=43						
IURH				S	**Sg**	**17 49 05.0**	**+0.2**
	baz=43						
IGRF	**Grimsfjall**	**0.29**	**161**	S	**Sg**	**17 49 07.8**	**+0.1**
	baz=163						
IGRF				P	**Pg**	**17 49 04.3**	**+0.5**
	baz=163						
IBJK	**Bruarjokull**	**0.38**	**124**	S	**Sg**	**17 49 10.7**	**+0.2**
	baz=124						
IBJK				P	**Pg**	**17 49 05.1**	**-0.5**
	baz=124						
IHUS	**Husbondi**	**0.39**	**191**	P	**Pg**	**17 49 05.7**	**0.0**
	baz=193						
IHUS				S	**Sg**	**17 49 11.1**	**+0.2**
	baz=193						
ISKR	**Skrokkalda**	**0.41**	**253**	P	**Pg**	**17 49 05.8**	**-0.1**
	baz=254						
ISKR				S	**Sg**	**17 49 11.9**	**+0.6**
	baz=254						
THOR	**Thorvaldshraun**	**0.43**	**53**	P	**Pg**	**17 49 06.2**	**-0.3**
	baz=52						
THOR				S	**Sg**	**17 49 12.3**	**+0.3**
	baz=52						
IVOT	**Vottur**	**0.43**	**162**	P	**Pg**	**17 49 06.1**	**-0.4**
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**77**	S	**Sg**	**17 49 14.1**	**+0.3**
	baz=76						
IKRE				P	**Pg**	**17 49 06.8**	**-0.7**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**17 49 07.2**	**-0.3**
	baz=223						
IMKO	**Mokollar**	**0.57**	**58**	S	**Sg**	**17 49 17.3**	**+0.6**
	baz=57						
IMKO				P	**Pg**	**17 49 08.5**	**-0.6**
	baz=57						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**17 49 09.7**	**-0.9**
	baz=207						
IIEY				S	**Sg**	**17 49 18.8**	**-0.2**

WEL 30 16:48:32.7, 39°S±7°×17°6E±°, h161km±12km, M2.7/54, mB5.8/1, ML2.2/7, MLv2.7/54, Mw(mB)5.3/1, Error ellipse: s-maj=0.0km s-min=0.0km az=95.1, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.28**	**186**	P	Pn	16 48 55.0	+0.5
TLZ	**Tolley Road**	**0.33**	**320**	P	Pn	16 48 54.8	+0.1
RITZ	**Rihia Road**	**0.40**	**174**	P	Pn	16 48 55.9	+1.0
KATZ	**Kakaramea**	**0.40**	**193**	P	Pn	16 48 56.0	+0.9
NTVZ	**North Tongarir**	**0.53**	**191**	P	Pn	16 48 56.4	+0.8
MRHZ	**Matea Rd**	**0.54**	**118**	P	Pn	16 48 55.6	0.0
TMVZ	**Te Maari**	**0.54**	**189**	P	Pn	16 48 56.5	+0.9
ETVZ	**East Tongariro**	**0.56**	**188**	P	Pn	16 48 56.4	+0.7
WTVZ	**West Tongariro**	**0.56**	**198**	P	Pn	16 48 56.4	+0.7
TWVZ	**Taurewa**	**0.57**	**211**	P	Pn	16 48 56.5	+0.7
NNVZ	**North Ngauruho**	**0.57**	**195**	P	Pn	16 48 56.5	+0.7
OTVZ	**Oturere**	**0.59**	**191**	P	Pn	16 48 56.6	+0.7
NGZ	**Ngauruhoe**	**0.61**	**195**	P	Pn	16 48 56.9	+0.8
SNVZ	**South Ngauruho**	**0.62**	**192**	P	Pn	16 48 56.7	+0.6
COVZ	**Chateau Observ**	**0.65**	**198**	P	Pn	16 48 56.9	+0.7
KARZ	**Kaharoa**	**0.66**	**32**	P	Pn	16 48 55.5	-0.7
TUVZ	**Tukino**	**0.69**	**190**	P	Pn	16 48 57.3	+0.8
FWVZ	**Far West T-bar**	**0.70**	**196**	P	Pn	16 48 57.2	+0.5
MAVZ	**Matarangi**	**0.71**	**196**	P	Pn	16 48 57.5	+0.7
WHVZ	**Whangaehu Hut**	**0.72**	**194**	P	Pn	16 48 57.5	+0.8
TRVZ	**Turoa**	**0.74**	**196**	P	Pn	16 48 56.5	-0.5
HIZ	**Hauiti**	**0.75**	**275**	P	Pn	16 48 57.9	+1.2
MUGZ	**Murupara**	**0.76**	**82**	P	Pn	16 48 56.0	-0.8
WNVZ	**Wahianoa**	**0.76**	**192**	P	Pn	16 48 57.7	+0.7
BKZ	**Black Stump Fm**	**0.79**	**138**	P	Pn	16 48 57.3	+0.3
PKVZ	**Pokaka**	**0.79**	**207**	P	Pn	16 48 57.7	+0.6
MOVZ	**Moawhango**	**0.82**	**183**	P	Pn	16 48 57.7	+0.4
MTVZ	**Mangateitei**	**0.84**	**198**	P	Pn	16 48 58.2	+0.8
MTHZ	**Maungataniwha**	**0.85**	**109**	P	Pn	16 48 57.5	+0.1
TOZ	**Tahuroa Road**	**0.88**	**344**	P	Pn	16 48 56.7	-0.9
RTZ	**Ruatahuna**	**0.92**	**92**	P	Pn	16 48 57.4	-0.6
BHHZ	**Black Hill Sta**	**0.93**	**168**	P	Pn	16 48 58.5	+0.5
NMHZ	**Naumai**	**0.93**	**124**	P	Pn	16 48 59.1	+1.0
OPRZ	**Ohinepanea**	**0.94**	**39**	P	Pn	16 48 55.5	-2.6
KWHZ	**Kaweka Forest**	**0.97**	**151**	P	Pn	16 48 59.0	+0.7
VRZ	**Vera Road**	**0.98**	**236**	P	Pn	16 48 58.9	+0.6
RAHZ	**Arahi**	**1.05**	**109**	P	Pn	16 48 59.3	+0.3
URZ	**Urewera**	**1.07**	**73**	P	Pn	16 48 57.7	-1.4
MCHZ	**McNeill Hill**	**1.10**	**141**	P	Pn	16 49 00.5	+1.1
KRHZ	**Kereru**	**1.15**	**158**	P	Pn	16 49 00.4	+0.6
ARHZ	**Aropaoanui**	**1.15**	**127**	P	Pn	16 49 00.4	+0.6
SNGZ	**Shannon Statio**	**1.22**	**100**	P	Pn	16 49 00.2	-0.2
WHHZ	**Waihua**	**1.22**	**114**	P	Pn	16 49 00.6	+0.2
WAZ	**Wanganui**	**1.33**	**208**	P	Pn	16 49 01.9	+0.5
PNHZ	**Pukenui**	**1.36**	**167**	P	Pn	16 49 02.1	+0.3
LREZ	**Lake Rotokare**	**1.40**	**231**	P	Pn	16 49 02.8	+0.7
CKHZ	**Cape Kidnapper**	**1.46**	**138**	P	Pn	16 49 03.2	+0.6
KAHZ	**Kahuranaki**	**1.47**	**146**	P	Pn	16 49 03.5	+0.7
TSZ	**Takapari Road**	**1.48**	**175**	P	Pn	16 49 03.2	+0.3
NEZ	**North Egmont**	**1.50**	**242**	P	Pn	16 49 03.2	0.0
KNZ	**Kokohu**	**1.52**	**107**	P	Pn	16 49 03.0	-0.3
RIGZ	**Rimuhau**	**1.54**	**

baz=207
ISVA Svartarkot 0.67 8 P **Pg** **17 49 10.2 -0.8**
baz=7.3
ISVA S **Sg** **17 49 19.7 +0.1**
baz=7.3
IKSK Karasker 0.68 139 S **Sg** **17 49 19.9 -0.1**
baz=140
IKSK P **Pg** **17 49 09.8 -1.4**
baz=140
IHAE Haedir 0.69 162 P **Pg** **17 49 10.2 -1.2**
baz=162
IHAE S **Sg** **17 49 19.8 -0.6**
baz=162
IVSH V-Sauoahnukur 0.77 80 S **Sg** **17 49 22.3 -0.4**
baz=79
IVSH P **Pg** **17 49 11.5 -1.3**
baz=79
IVAT Vatnsfell 0.80 232 P **Pg** **17 49 13.3 -0.1**
baz=233
IKVI Kvisker 0.84 146 P **Pg** **17 49 12.5 -1.7**
baz=147
IHOX Haoxl 0.86 153 P **Pg** **17 49 14.0 -0.7**
baz=154
IADA Aoalbol 0.89 67 P **Pg** **17 49 13.5 -1.6**
baz=66
IADA S **Sg** **17 49 26.0 -0.6**
baz=66
IFAG Fagurholsmyri 0.89 155 S **Sg** **17 49 26.9 +0.3**
baz=156
IFAG P **Pg** **17 49 13.7 -1.4**
baz=156
ISTE Stelbrattur 0.93 282 P **Pg** **17 49 14.6 -1.5**
baz=282
ISTE S **Sg** **17 49 26.5 -1.6**
baz=282
IMEL Melhnausar 0.96 21 P **Pg** **17 49 15.1 -1.5**
baz=20
IKVO Krokottuvotn 1.07 14 P **Pg** **17 49 16.8 -1.8**
baz=13
ISNB Snabyli 1.07 208 P **Pg** **17 49 17.0 -1.7**
baz=209
ISNB S **Sg** **17 49 32.8 +0.2**
baz=209
IHES Hestalda 1.10 236 P **Pg** **17 49 18.0 -1.2**
baz=236
ISLY Slysaalda 1.12 220 P **Pg** **17 49 17.9 -1.6**
baz=221
IGRS Grimsstaoir 1.12 30 P **Pg** **17 49 17.8 -1.8**
baz=30
IFED Fedgar 1.16 237 P **Pb** **17 49 19.2 -1.6**
baz=237
IRJU Rjupnafell 1.19 206 P **Pb** **17 49 19.0 -2.2**
baz=207
IMJO Mjoaskard 1.21 233 P **Pb** **17 49 20.0 -1.7**
baz=233
IAUS Austmannsbunga 1.23 215 P **Pb** **17 49 19.9 -2.1**
baz=216
IGYG Gygjarholskot 1.25 252 P **Pn** **17 49 21.4 -0.9**
baz=253
IHVO Lagu-Hvolar 1.30 208 P **Pn** **17 49 21.4 -1.7**
baz=208
IHVO S **Sg** **17 49 41.5 +1.5**
baz=208
BORG Borgarnes 1.65 274 Pg **Pn** **17 49 24.7 -3.1**
15nm,0.3s,baz=98,slow=6.7,SNR=45
BORG Lg Lg 17 49 48.8
16nm,0.3s,baz=94,slow=16,SNR=6.0
EKA Eskdalemuir Ar 11.77 136 Pn **Pn** **17 51 46.1 -0.4**
baz=326,slow=13
3.2nm,0.6s
NOA NORSAR Array B 13.53 92 Pn **Pn** **17 52 09.5 -1.2**
baz=340,slow=19,SNR=2.4
NOA LR LR 17 57 31.4
comp=Z,53nm,20.4s,baz=290,slow=38
1.2nm,0.9s
HFS Hagfors 15.04 93 Pn **P** **17 52 38.0 +1.3**
0.1nm,0.3s,baz=288,slow=10,SNR=4.6
HFS LR LR 17 58 28.5
comp=Z,70nm,18.6s,baz=276,slow=38
ARCES ARCESS Array B 17.11 55 LR LR 17 58 30.5
comp=Z,86nm,18.3s,baz=316,slow=33
FINES FINESS Array B 19.70 79 P **P** **17 53 27.3 -0.7**
0.1nm,0.3s,baz=232,slow=31,SNR=1.6
FINES LR LR 18 00 49.6
comp=Z,82nm,18.2s,baz=298,slow=36
1.6nm,0.9s
BRG Berggiesshubel 21.41 115 *e*P **P** **17 53 50.9 +4.1**
BRG Amp 17 53 51.6
comp=Z,5.3nm,0.8s
KHC Kasperske Hory 22.68 118 *e*P **P** **17 54 03.5 +3.2**
GERES GERESS Array B 22.96 119 P **P** **17 54 04.0 +0.7**
comp=Z,0.5nm,0.7s,baz=305,slow=7.1,SNR=1.7
GERES LR LR 18 03 32.6
comp=Z,87nm,19.1s,baz=272,slow=38
comp=Z,0.5nm,0.7s
DAVOX Davos/Dischmat 23.32 127 LR LR 18 03 42.7
comp=Z,28nm,18.9s,baz=60,slow=38
VRAC Vranov 23.70 114 LR LR 18 03 01.9
comp=Z,73nm,18.0s,baz=328,slow=36
MNK Minsk 24.56 93 *i* P **P** **17 54 18.1 -0.5**
comp=E,8.0nm,0.8s
MNK *i* P **P** **17 54 18.1 -0.5**
comp=N,18nm,0.9s
MNK *i* P **P** **17 54 18.1 -0.5**
comp=Z,10.0nm,0.8s,baz=313
MNK *i* PP **PnPn** **17 54 48.4 -0.8**
MNK *i* PPP PPP 17 54 56.3
MNK *i* S **S** **17 58 38.7 -0.8**
MNK *i* SS **SnSn** **17 59 23.5 -0.1**
MNK *i* SSS SSS 17 59 37.1
MNK *i* LQ LQ 18 01 14.5
MNK *i* LR LR 18 02 55.6
MNK *i* LRM MLR 18 04 23.8
comp=N,1μm,19.7s
MNK *i* LRM MLR 18 04 28.5
comp=Z,138nm,16.3s
MNK *i* LRM MLR 18 04 29.9
comp=E,93nm,16.3s
SCHQ Schefferville 26.04 271 P **P** **17 54 29.5 -2.6**
comp=E,4.8nm,1.1s,baz=60,slow=20,SNR=2.7
comp=E,4.8nm,1.1s
ESDC Sonseca Array 26.26 156 P **P** **17 54 34.2 0.0**
comp=E,0.6nm,0.8s,baz=255,slow=7.8,SNR=2.9
comp=E,0.6nm,0.8s
AKASG Malin Array Be 27.84 98 P **P** **17 54 48.4 +0.2**
comp=E,1.2nm,0.8s,baz=324,slow=9.7,SNR=5.4
comp=E,1.2nm,0.8s
MLR Muntele Rosu 30.53 108 LR LR 18 08 40.7
comp=E,47nm,20.2s,baz=272,slow=39
NRIK Noril'sk 36.44 35 P **P** **17 56 05.4 +2.0**
comp=E,1.2nm,0.6s,baz=338,slow=6.4,SNR=1.9
comp=E,1.2nm,0.6s
BRTR Keskin Array B 38.48 105 P **P** **17 56 20.2 -0.9**
comp=E,0.4nm,0.7s,baz=16,slow=14,SNR=1.8
comp=E,0.4nm,0.7s
IDI Anoyia 38.82 118 LR LR 18 13 37.4
comp=E,13nm,19.4s,baz=289,slow=38
KBZ Khabaz 39.11 92 P **P** **17 56 26.6 +0.5**
comp=E,3.8nm,0.9s,baz=322,slow=8.3,SNR=8.2
comp=E,3.8nm,0.9s
YKA Yellowknife Ar 39.21 313 P **P** **17 56 26.7 -0.1**
comp=E,0.4nm,0.8s,baz=124,slow=7.0,SNR=2.6
comp=E,0.4nm,0.8s
BVAR Borovoye Array 43.19 62 P **P** **17 57 00.0 +0.4**
comp=E,2.6nm,0.8s,baz=308,slow=7.3,SNR=12
comp=E,2.6nm,0.8s
ILAR Eielson Array 45.67 332 P **P** **17 57 21.0 +1.6**
comp=E,1.0nm,0.9s,baz=20,slow=6.5,SNR=5.9
comp=E,1.0nm,0.9s
ZALV Zalesovo Beam 47.62 51 P **P** **17 57 36.2 +1.5**
comp=E,0.4nm,0.6s,baz=29,slow=3.3,SNR=2.3
comp=E,0.4nm,0.6s
KURBB Kurchatov Arra 48.14 58 P **P** **17 57 39.5 +0.7**
comp=E,3.0nm,0.8s,baz=325,slow=7.3,SNR=16
comp=E,3.0nm,0.8s
MKAR Makanchi Array 52.71 58 P **P** **17 58 13.9 +0.5**
comp=E,1.3nm,0.9s,baz=319,slow=6.7,SNR=12
comp=E,1.3nm,0.9s
TORD Torodi Ar. Bea 53.15 156 P **P** **17 58 16.8 -0.1**
comp=E,0.4nm,0.6s,baz=352,slow=6.9,SNR=3.0
comp=E,0.4nm,0.6s
PDAR Pinedale Array 53.17 293 P **P** **17 58 17.0 -0.1**
comp=E,1.3nm,0.7s,baz=52,slow=9.6,SNR=12
PDAR LR LR 18 21 06.3
comp=E,82nm,19.6s,baz=354,slow=36
comp=E,1.3nm,0.7s
KDAK Kodiak Island 53.19 332 LR LR 18 26 09.8
comp=E,46nm,19.5s,baz=107,slow=42
SONM Songino Array 59.63 40 P **P** **17 59 04.2 +1.3**
comp=E,0.8nm,0.9s,baz=352,slow=9.6,SNR=6.7
SONM LR LR 18 27 32.0
comp=E,24nm,18.7s,baz=48,slow=39
comp=E,0.8nm,0.9s
TXAR Lajitas Array 62.29 280 P **P** **17 59 22.1 +0.9**
comp=E,0.2nm,0.5s,baz=44,slow=6.8,SNR=2.6
comp=E,0.2nm,0.5s
CMAR Chiang Mai Arr 84.12 59 P **P** **18 01 31.1 +1.0**
comp=E,0.7nm,1.0s,baz=317,slow=6.7,SNR=4.5
CMAR LR LR 18 40 01.6
comp=E,9.3nm,20.3s,baz=185,slow=36
comp=E,0.7nm,1.0s

*IDC **30** 17:54:55.0±3.3,5.°05S×103.°53E,h0km,mb3.4/7, mbtmp3.4/7,Error ellipse: s-maj=149.4km s-min=21.4km az=53.0*
*DJA **30** 17:54:55.9±0.3,6°S±3°×107°4E±°,h10km,M4.3/10,mb4.6/5, MLv4.2/10*
ISC 30 17:54:54.4±0.9,5.°78S±0.°07×103.°58E±0.°05,h10km,n25, σ2s45/22,mb3.5/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.89**	**32**	P		**Pg**	**17 55 12.6**	**+1.0**
LWLI				S		**Sg**	**17 55 23.9**	**+0.7**
KASI	**Kota Agung**	**0.94**	**75**	P		**Pb**	**17 55 13.1**	**+0.2**
KASI				S		**Sg**	**17 55 24.5**	**-0.4**
EGSI	**Enggano, Bengk**	**1.36**	**288**	P		**Pn**	**17 55 21.2**	**+1.7**
EGSI				S		**Sn**	**17 55 40.7**	**+3.0**
LHSI	**Lahat**	**1.94**	**358**	P		**Pn**	**17 55 29.1**	**+1.7**
LHSI				S		**Sb**	**17 55 56.2**	**+2.2**
UBSI	**University, Be**	**2.39**	**327**	P		**Pn**	**17 55 36.4**	**+2.8**
CNJI	**Cibinong**	**3.84**	**114**	P		**Pn**	**17 55 52.2**	**-1.4**
BBJI	**Bungbulang**	**4.38**	**113**	P		**Pn**	**17 56 01.4**	**+0.4**
PPSI	**Pulau Pagai**	**4.65**	**310**	P		**Pn**	**17 56 06.3**	**+1.5**
CMJI	**Cimerak** 130nm,1.6s,0.5nm	**5.23**	**113**	P		**Pn**	**17 56 13.3**	**+0.6**
SISI	**Saibi** 13nm,1.2s,0.1nm	**6.29**	**314**	P		**Pn**	**17 56 28.7**	**+1.3**
UGM	**Wanagama** 156nm,2.0s,1.0nm	**7.21**	**108**	P		**Pn**	**17 56 42.7**	**+2.7**
JAGI	**Jajag, Banyuwa**	**10.82**	**105**	P		**Pn**	**17 57 30.0**	**+0.4**
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=213,slow=6.2,SNR=2.4	**24.51**	**349**	P		**P**	**18 00 09.3**	**-4.9**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=314,slow=9.3,SNR=1.9	**33.04**	**118**	P		**P**	**18 01 34.6**	**+4.2**
ASAR	**Alice Springs** 0.3nm,0.9s,baz=302,slow=7.7,SNR=7.1	**34.17**	**124**	P		P	18 01 47.1	+7.0
SONM	**Songino Array** 0.3nm,0.7s,baz=171,slow=7.0,SNR=2.4	**53.44**	**2**	P		**P**	**18 04 12.0**	**-2.7**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=147,slow=8.8,SNR=7.3	**55.64**	**342**	P		**P**	**18 04 28.2**	**-2.4**
H04N2	**CROZET ISLANDS** baz=65,slow=75,SNR=45	**60.02**	**219**	T		T	19 11 09.3	
H04N1	**CROZET ISLANDS** baz=65,slow=75,SNR=42	**60.03**	**219**	T		T	19 11 09.6	
H04N3	**CROZET ISLANDS** baz=65,slow=75,SNR=38	**60.04**	**219**	T		T	19 11 08.5	
H04S1	**CROZET ISLANDS** baz=63,slow=75,SNR=4.7	**60.24**	**218**	T		T	19 11 20.8	
H04S3	**CROZET ISLANDS** baz=63,slow=75,SNR=7.8	**60.26**	**218**	T		T	19 11 21.0	
H04S2	**CROZET ISLANDS** baz=63,slow=75,SNR=5.4	**60.26**	**218**	T		T	19 11 20.9	
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=142,slow=4.9,SNR=3.8	**61.56**	**348**	P		**P**	**18 05 08.8**	**-2.8**
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=126,slow=8.4,SNR=2.4	**64.96**	**339**	P		**P**	**18 05 31.3**	**-3.0**

*FCIAR **30** 17:56:16.0,82.°99N×3.°83W,h10km,station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.50*
*BER **30** 17:56:16.3±1.7,82.°40N×7.°58W,h10km,mb(Pn)3.6, Confirmed Earthquake*
ISC 30 17:56:18.3±4.1,82.°9N±0.°1×0.°1W±0.°2,h10km,n11, σ0s91/20,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.39**	**148**	*e*P		**Pn**	**17 57 24.1**	**-0.7**
KBS				*e*S		**Sn**	**17 58 14.8**	**-1.0**
KBS				IAML			17 58 22.3	
	comp=Z,4.9nm,0.5s							
KBS	**Kingsbay**	**4.39**	**148**	*e*P		**Pn**	**17 57 23.9**	**-0.9**
KBS				*e*S		**Sn**	**17 58 15.2**	**-0.7**
BRBB	**Barentsburg B**	**5.33**	**147**	*e*P		**Pn**	**17 57 37.8**	**+0.1**
BRBB				*e*S		**Sn**	**17 58 38.7**	**-0.3**
BRBA	**Barentsburg A**	**5.36**	**147**	*e*P		**Pn**	**17 57 38.8**	**+0.7**
SPA0	**Spitsbergen Ar**	**5.41**	**142**	*e*P		**Pn**	**17 57 39.2**	**+0.4**
SPA0				*e*S		**Sn**	**17 58 42.2**	**+1.2**
SPA0				IAML			17 58 48.2	
	comp=Z,3.8nm,0.9s							
SPA0	**Spitsbergen Ar**	**5.41**	**142**	*e*P		**Pn**	**17 57 38.9**	**+0.1**
SPA0				*e*S		**Sn**	**17 58 39.8**	**-1.2**
HSPB	**Hornsund (broa**	**6.46**	**147**	*e*P		**Pn**	**17 57 53.8**	**+0.6**
ZFI2	**Zemlya Franca-**	**6.89**	**82**	*e*P		**Pn**	**17 57 59.7**	**+0.6**
ZFI2				*e*S		**Sn**	**17 59 16.5**	**-0.9**
	comp=Z,14nm,2.7s							
OMEGA	**Omega**	**6.92**	**82**	*e*P		**Pn**	**17 57 59.9**	**+0.4**
OMEGA				*e*S		**Sn**	**17 59 16.7**	**-1.3**
	comp=Z,13nm,2.2s							
HOPEN	**Hopen**	**7.69**	**132**	*e*P		**Pn**	**17 58 11.7**	**+1.6**
HOPEN				*e*S		**Sn**	**17 59 37.7**	**+0.6**
HOPEN				IAML			17 59 46.8	
	comp=Z,3.2nm,0.7s							
HOPEN	**Hopen**	**7.69**	**132**	*e*P		**Pn**	**17 58 11.2**	**+1.1**
HOPEN				*e*S		**Sn**	**17 59 36.6**	**-0.5**

*KRNET **30** 18:13:03.0±0.1,39.°97N×73.°15E,h11km,mb3.4*
*SOME **30** 18:13:02.6,40.°15N×72.°83E,h20km*
*ISU **30** 18:13:04.2,40.°00N×73.°21E,h10km*
*NNC **30** 18:13:06.2±1.1,40.°13N×73.°15E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=9.7km s-min=5.7km az=163.0*
ISC 30 18:13:02.3±0.8,40.°04N±0.°04×73.°18E±0.°02,h10km,n70, σ1s65/111,26C-23D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** baz=80	**0.25**	**97**	⇓*e*P		**Pb**	**18 13 08.3**	**+0.8**
SFK				⇓*e*S		**Sb**	**18 13 12.3**	**+1.3**
	baz=80							
OHH	**Osh** baz=33	**0.57**	**328**	⇓*i*P		**Pn**	**18 13 15.1**	**-1.5**
OHH				⇓*i*S		**Sn**	**18 13 23.9**	**-2.2**
	baz=33							
TSTA	**Tashata**	**0.76**	**315**	P		**Pn**	**18 13 20.3**	**+1.2**
TSTA				S		**Sn**	**18 13 32.4**	**+1.7**
FRG	**Fergana**	**1.12**	**288**	P		**Pn**	**18 13 26.2**	**+2.1**
FRG				S		**Sn**	**18 13 43.1**	**+3.5**
DRK	**Karamyk** baz=45	**1.20**	**243**	⇑*e*P		**Pn**	**18 13 25.1**	**-0.4**
DRK				⇑*e*S		**Sn**	**18 13 41.0**	**-1.0**
	baz=45							
ARSB	**Arslanbob** baz=55	**1.29**	**353**	⇓*i*P		**Pg**	**18 13 28.8**	**+1.7**
ARSB				⇓*i*S		**Sg**	**18 13 47.6**	**+3.8**
	baz=55							
KSNS	**Kasansay**	**1.69**	**312**	P		**Pg**	**18 13 35.9**	**+1.3**
KSNS				S		**Sg**	**18 13 59.4**	**+2.9**
BTK	**Batken** baz=73	**1.81**	**271**	⇓*i*P		**Pg**	**18 13 36.2**	**-0.9**
BTK				⇓*i*S		**Sg**	**18 14 00.6**	**0.0**
	baz=73							
ARK	**Arkit** baz=34	**1.98**	**333**	⇓*i*P		**Pg**	**18 13 40.5**	**+0.2**
ARK				⇓*i*S		**Sg**	**18 14 07.7**	**+1.7**
	baz=34							
ARLS	**Aral** baz=25	**2.01**	**25**	⇑*i*P		**Pg**	**18 13 41.1**	**+0.2**
ARLS				⇑*i*S		**Sg**	**18 14 08.9**	**+1.9**
	baz=25							
TRKS	**Terek-Say** baz=15	**2.15**	**314**	⇑*i*P		**Pb**	**18 13 41.4**	**0.0**
TRKS				⇑*i*S		**Sg**	**18 14 09.7**	**-1.6**
	baz=15							
UCH	**Uchtor** SNR=32	**2.40**	**24**	P		**Pg**	**18 13 47.9**	**-0.5**
UCH	**Uchtor** baz=24	**2.40**	**24**	⇓*i*P		**Pg**	**18 13 46.8**	**-1.6**
UCH				⇓*i*S		**Sg**	**18 14 19.0**	**-0.6**
	baz=24							
MNAS	**Manas** baz=49	**2.50**	**348**	⇓*e*P		**Pb**	**18 13 47.8**	**+0.5**
MNAS				⇓*e*S		**Sg**	**18 14 20.5**	**-2.0**
	baz=49							
NRN	**Naryn** baz=55	**2.55**	**56**	⇑*i*P		**Pb**	**18 13 48.2**	**-0.2**
NRN				⇑*i*S		**Sb**	**18 14 21.2**	**+1.2**
	baz=55							
EKS2	**Erkin-Say** SNR=18	**2.66**	**10**	P		**Pg**	**18 13 51.4**	**-1.8**
EKS2	**Erkin-Say** baz=10.0	**2.66**	**10**	⇑*i*P		**Pb**	**18 13 50.3**	**+0.3**
EKS2				⇑*i*S		**Sb**	**18 14 24.5**	**+1.8**
	baz=10.0							
MRKS	**Merke** 20nm,0.2s	**2.70**	**1**	Pg		**Pg**	**18 13 53.8**	**-0.2**
MRKS				Lg		Lg	18 14 30.3	
	96nm,0.4s							
MRKS	**Merke** 20nm,0.2s	**2.70**	**1**	*e*P		**Pg**	**18 13 53.8**	**-0.2**
MRKS				*e*S		**Sg**	**18 14 30.3**	**+1.2**
	96nm,0.4s							
AAK	**Ala-Archa** SNR=82	**2.77**	**20**	P		**Pg**	**18 13 53.2**	**-2.3**
AAK	**Ala-Archa** baz=20	**2.77**	**20**	⇑*i*P		**Pb**	**18 13 51.8**	**-0.3**
AAK				⇑*i*S		**Sb**	**18 14 27.6**	**+1.4**
	baz=20							
KBK	**Karagaybulak** SNR=32	**2.93**	**26**	P		**Pg**	**18 13 56.2**	**-2.3**
KBK	**Karagaybulak** baz=26	**2.93**	**26**	⇓*i*P		**Pb**	**18 13 54.1**	**-0.7**
KBK				⇓*i*S		**Sb**	**18 14 31.3**	**+0.6**
	baz=26							
FRU1	**Bishkek** baz=21	**2.97**	**21**	⇓*i*P		**Pb**	**18 13 54.7**	**-0.7**
FRU1				⇓*i*S		**Sb**	**18 14 32.6**	**+0.8**
	baz=21							
TGS	**TashGRES**	**3.10**	**298**	P		**Pb**	**18 13 58.2**	**+0.6**
TGS				S		**Sg**	**18 14 41.3**	**-0.7**
CHMS	**Chumysh** SNR=15	**3.18**	**21**	P		**Pb**	**18 13 58.9**	**0.0**
CHMS	**Chumysh** 29nm,0.1s	**3.18**	**21**	Pg		Pg	18 14 10.0	+6.8
CHMS				Lg		Lg	18 14 58.1	
	88nm,0.3s							
CHMS	**Chumysh** baz=21	**3.18**	**21**	⇑*i*P		**Pb**	**18 13 57.4**	**-1.5**
CHMS				⇑*i*S		**Sb**	**18 14 37.0**	**-0.8**
	baz=21							
ULHL	**Ulahol** SNR=8.2	**3.19**	**45**	P		**Pg**	**18 14 03.4**	**-0.1**
ULHL	**Ulahol** baz=45	**3.19**	**45**	⇑*i*P		**Pb**	**18 13 57.6**	**-1.6**
ULHL				⇑*i*S		**Sb**	**18 14 37.5**	**-0.8**
	baz=45							
USP	**Ospenovka** SNR=11	**3.37**	**17**	P		**Pb**	**18 14 01.0**	**-1.2**
USP	**Ospenovka** baz=17	**3.37**	**17**	⇑*i*P		**Pb**	**18 14 00.1**	**-2.1**
USP				⇑*i*S		**Sb**	**18 14 41.6**	**-1.6**
	baz=17							
TKM2	**Tokmak 2** SNR=9.3	**3.40**	**31**	P		**Pb**	**18 14 02.3**	**-0.5**
TKM2	**Tokmak 2** 5.5nm,0.5s	**3.40**	**31**	⇓Pn		**Pb**	**18 14 01.9**	**-0.8**
TKM2				⇓Lg		Lg	18 14 52.2	
	12nm,0.7s							
TKM2	**Tokmak 2** baz=31	**3.40**	**31**	⇑*i*P		**Pb**	**18 14 00.6**	**-2.2**
TKM2				⇑*i*S		**Sb**	**18 14 42.5**	**-1.8**
	baz=31							
KST	**Kastek** 5.0nm,0.2s	**3.65**	**34**	Pg		**Pg**	**18 14 11.7**	**-0.6**
KST				Lg		Lg	18 15 01.1	
	22nm,0.5s							
KST	**Kastek** 5.0nm,0.2s	**3.65**	**34**	*e*P		**Pg**	**18 14 11.7**	**-0.6**
KST				*e*S		**Sg**	**18 15 01.1**	**+1.5**
	22nm,0.5s							
KK31	**Karatay Array** 6.0nm,0.5s,baz=134,slow=12,SNR=45	**3.66**	**328**	Pn		**Pb**	**18 14 03.5**	**-3.5**
KK31				⇓Sn		**Sb**	**18 14 49.4**	**-2.0**
	11nm,0.6s,baz=153,slow=32,SNR=6.1							
KKAR	**Karatay Array** baz=29	**3.66**	**328**	⇑*i*P		**Pb**	**18 14 03.6**	**-3.4**
KKAR				⇑*i*S		**Sb**	**18 14 47.6**	**-3.8**
	baz=29							
KDJ	**Kajisay** baz=54	**3.67**	**54**	⇑*i*P		**Pb**	**18 14 04.3**	**-3.1**
KDJ				⇑*i*S		**Sb**	**18 14 48.8**	**-3.3**
	baz=54							
DGS	**Degeres** 9.1nm,0.2s	**3.74**	**30**	Pg		**Pg**	**18 14 12.7**	**-1.3**
DGS				Lg		Lg	18 15 02.5	
	25nm,0.3s							
DGS	**Degeres** 9.1nm,0.2s	**3.74**	**30**	*e*P		**Pg**	**18 14 12.7**	**-1.3**
DGS				*e*S		**Sg**	**18 15 02.5**	**+0.1**
	25nm,0.3s							
MTBS	**Maitube** 6.1nm,0.4s	**3.93**	**37**	Pg		**Pg**	**18 14 17.0**	**-0.6**
MTBS				Lg		Lg	18 15 10.0	
	13nm,0.3s							
MTBS	**Maitube** 6.1nm,0.4s	**3.93**	**37**	*e*P		**Pg**	**18 14 17.0**	**-0.6**
MTBS				*e*S		**Sg**	**18 15 10.0**	**+1.5**
	13nm,0.3s							
IZV	**Izvestkoviy** 6.8nm,0.3s	**3.95**	**40**	Pg		**Pg**	**18 14 17.2**	**-0.7**
IZV				Lg		Lg	18 15 10.4	
	16nm,0.4s							
IZV	**Izvestkoviy** 6.8nm,0.3s	**3.95**	**40**	*e*P		**Pg**	**18 14 17.2**	**-0.7**
IZV				*e*S		**Sg**	**18 15 10.4**	**+1.4**
	16nm,0.4s							
KRBS	**Karabastau** 4.6nm,0.3s	**4.10**	**26**	Pg		**Pg**	**18 14 19.2**	**-1.6**
KRBS				Lg		Lg	18 15 13.8	
	20nm,0.4s							
KRBS	**Karabastau** 4.6nm,0.3s	**4.10**	**26**	*e*P		**Pg**	**18 14 19.2**	**-1.6**
KRBS				*e*S		**Sg**	**18 15 13.8**	**-0.1**
	20nm,0.4s							
TNSS	**Tian-Shan** 6.9nm,0.3s	**4.12**	**42**	Pg		**Pg**	**18 14 20.2**	**-1.0**
TNSS				Lg		Lg	18 15 15.6	
	6.9nm,0.3s							
TNSS	**Tian-Shan** 6.9nm,0.3s	**4.12**	**42**	*e*P		**Pg**	**18 14 20.2**	**-1.0**
TNSS				*e*S		**Sg**	**18 15 15.6**	**+1.1**
	6.9nm,0.3s							
AAA	**Alma-Ata** 15nm,0.1s	**4.22**	**40**	Pg		**Pg**	**18 14 22.5**	**-0.7**
AAA				Lg		Lg	18 15 19.4	
	37nm,0.2s							
AAA	**Alma-Ata** 15nm,0.1s	**4.22**	**40**	*e*P		**Pg**	**18 14 22.5**	**-0.7**
AAA				*e*S		**Sg**	**18 15 19.4**	**+1.5**
	37nm,0.2s							
MDOK	**Medeo** 9.5nm,0.3s	**4.26**	**42**	Pg		**Pg**	**18 14 22.5**	**-1.4**
MDOK				Lg		Lg	18 15 19.3	
	11nm,0.6s							
MDOK	**Medeo** 9.5nm,0.3s	**4.26**	**42**	*e*P		**Pg**	**18 14 22.5**	**-1.4**
MDOK				*e*S		**Sg**	**18 15 19.3**	**+0.3**
	11nm,0.6s							
KOTS	**Kotyrbulak** 10nm,0.3s	**4.34**	**41**	Pg		**Pg**	**18 14 24.5**	**-0.9**
KOTS				Lg		Lg	18 15 23.1	
	31nm,0.6s							
KOTS	**Kotyrbulak** 10nm,0.3s	**4.34**	**41**	*e*P		**Pg**	**18 14 24.5**	**-0.9**
KOTS				*e*S		**Sg**	**18 15 23.1**	**+1.4**
	31nm,0.6s							
KTBS	**Karatobe** 4.5nm,0.3s	**4.50**	**34**	Pg		**Pg**	**18 14 26.9**	**-1.7**
KTBS				Lg		Lg	18 15 26.9	
	17nm,0.3s							
KTBS	**Karatobe**	**4.50**	**34**	*e*P		**Pg**	**18 14 26.9**	**-1.7**

	4.5nm,0.3s									
KTBS					*e*S		**Sg**	**18 15 26.9**	**0.0**	
	17nm,0.3s									
PRZ	**Przheval'sk**	**4.63**	**57**	⇑	*e*P		Pb	18 14 17.5	-6.2	
	baz=56									
PRZ				⇑	*i*S		**Sn**	**18 15 11.7**	**+5.3**	
	baz=56									
CHKK	**Chushkaly**	**4.75**	**35**		Pg		**Pg**	**18 14 31.7**	**-1.6**	
	2.3nm,0.2s									
CHKK					Lg		Lg	18 15 35.2		
	11nm,0.4s									
CHKK	**Chushkaly**	**4.75**	**35**		*e*P		**Pg**	**18 14 31.7**	**-1.6**	
	2.3nm,0.2s									
CHKK					*e*S		**Sg**	**18 15 35.2**	**+0.4**	
	11nm,0.4s									
SATY	**Saty**	**4.95**	**51**		Pg		**Pg**	**18 14 35.9**	**-1.1**	
	6.2nm,0.2s									
SATY					Lg		Lg	18 15 42.5		
	9.9nm,0.3s									
SATY	**Saty**	**4.95**	**51**		*e*P		**Pg**	**18 14 35.9**	**-1.1**	
	6.2nm,0.2s									
SATY					*e*S		**Sg**	**18 15 42.5**	**+1.4**	
	9.9nm,0.3s									
BTLS	**Baital**	**5.04**	**7**		Pg		**Pg**	**18 14 35.9**	**-2.8**	
	1.5nm,0.4s									
BTLS					Lg		Lg	18 15 42.6		
	4.0nm,0.6s									
BTLS	**Baital**	**5.04**	**7**		*e*P		**Pg**	**18 14 36.0**	**-2.8**	
	1.5nm,0.4s									
BTLS					*e*S		**Sg**	**18 15 42.6**	**-1.4**	
	4.0nm,0.6s									
KPKS	**Kokpek**	**5.35**	**48**		*e*P		**Pg**	**18 14 42.3**	**-2.5**	
	3.4nm,0.2s									
KPKS					*e*S		**Sg**	**18 15 53.4**	**-0.7**	
	15nm,0.3s									
ARXS	**Arharly**	**5.41**	**38**		Pg		**Pg**	**18 14 44.6**	**-1.3**	
	3.6nm,0.2s									
ARXS					Lg		Lg	18 15 57.6		
	12nm,0.3s									
ARXS	**Arharly**	**5.41**	**38**		*e*P		**Pg**	**18 14 44.6**	**-1.3**	
	3.6nm,0.2s									
ARXS					*e*S		**Sg**	**18 15 57.6**	**+1.6**	
	12nm,0.3s									
AB31	**Akbulak array**	**13.16**	**319**	⇓	P		**Pn**	**18 16 10.1**	**+0.9**	
	0.4nm,0.6s,baz=126,slow=13,SNR=13									
AKTO	**Aktyubinsk**	**14.87**	**319**	⇓	P		**Pn**	**18 16 33.6**	**+1.1**	
	1.6nm,0.8s									

AFAD ***30*** *18:21:54.7±0.0,43.˚88N×42.˚47E,h6km±4km,ML2.7*
MOS ***30*** *18:21:59.3,43.˚35N×42.˚70E,h10km,MPVA4.0*
NORS ***30*** *18:22:00.7,43.˚29N×42.˚81E,h6km,MPVA4.0*
DRS ***30*** *18:22:00.7,43.˚32N×41.˚99E,h23km*
TIF ***30*** *18:22:02.2,43.˚44N×42.˚72E,h10km±2km*
ISK ***30*** *18:22:07.6,42.˚96N×42.˚95E,h8km,ML2.7/5*

ISC 30 18:22:01.3±0.9, 43˚39N±0.˚01×42˚71E±0.˚01, h7km±7km, n158,σ1§98/301, 2C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
				Op			
NEUR	**Neytrino**	**0.12**	**183**	*i* Pg	**Pg**	**18 22 02.4**	**-1.7**
NEUR				*i* Sg	**Sg**	**18 22 04.5**	**-1.5**
NEUR	**Neytrino**	**0.12**	**183**	*i* Pg	**Pg**	**18 22 06.0**	**+1.8**
NEUR				*e*Sg	**Sg**	**18 22 08.0**	**+2.1**
NEUR	**Neytrino**	**0.12**	**183**	⇓*i*PG	**Pg**	**18 22 05.9**	**+1.8**
SHA1	**Shidzhatmaz**	**0.35**	**354**	*i* Pg	**Pg**	**18 22 05.8**	**-2.6**
SHA1				*e*Sg	**Sg**	**18 22 13.8**	**+0.8**
SHA1	**Shidzhatmaz**	**0.35**	**354**	*i* Pg	**Pg**	**18 22 09.2**	**+0.8**
SHA1				*e*Sg	**Sb**	**18 22 15.0**	**-1.1**
SHA1	**Shidzhatmaz**	**0.35**	**354**	*i* PG	**Pg**	**18 22 09.2**	**+0.8**
SHA1				*e*S	**Sb**	**18 22 15.0**	**-1.1**
KBZ	**Khabaz**	**0.37**	**21**	*i* Pg	**Pg**	**18 22 05.8**	**-2.7**
KBZ				*e*Sg	**Sg**	**18 22 13.7**	**+0.3**
KBZ	**Khabaz**	**0.37**	**21**	*i* Pg	**Pg**	**18 22 09.4**	**+0.9**
KBZ				*e*Sg	**Sb**	**18 22 15.1**	**-1.1**
KBZ	**Khabaz**	**0.37**	**21**	*i* PG	**Pg**	**18 22 09.4**	**+0.9**
KBZ				*e*S	**Sb**	**18 22 15.1**	**-1.1**
KIV	**Kislovodsk**	**0.57**	**358**	*i* Pg	**Pg**	**18 22 09.4**	**-2.9**
KIV				*e*Sg	**Sg**	**18 22 19.8**	**0.0**
KIV	**Kislovodsk**	**0.57**	**358**	*e*Pg	**Pg**	**18 22 12.9**	**+0.5**
KIV				*e*Sg	**Sb**	**18 22 22.4**	**+0.3**
KIV	**Kislovodsk**	**0.57**	**358**	*e*PG	**Pg**	**18 22 12.9**	**+0.5**
KIV				*e*S	**Sb**	**18 22 22.4**	**+0.3**
BEYR	**Belyy Ugol+**	**0.63**	**7**	*e*Pg	**Pg**	**18 22 10.7**	**-2.8**
BEYR				*e*Sg	**Sg**	**18 22 21.8**	**0.0**
BEYR	**Belyy Ugol+**	**0.63**	**7**	*e*Pg	**Pb**	**18 22 15.1**	**+0.3**
BEYR				*e*Sg	**Sb**	**18 22 23.9**	**+0.1**
BEYR	**Belyy Ugol+**	**0.63**	**7**	*e*PG	**Pb**	**18 22 15.1**	**+0.3**
BEYR				*e*S	**Sb**	**18 22 23.9**	**+0.1**
NCK	**Nalchik**	**0.65**	**80**	*e*Pg	**Pg**	**18 22 12.0**	**-1.9**
NCK				*e*Sg	**Sg**	**18 22 21.3**	**-1.1**
NCK	**Nalchik**	**0.65**	**80**	*i* Pg	**Pb**	**18 22 15.6**	**+0.5**
NCK				*e*Sg	**Sb**	**18 22 24.9**	**+0.5**
NCK	**Nalchik**	**0.65**	**80**	*i* PG	**Pb**	**18 22 15.6**	**+0.5**
NCK				*e*S	**Sb**	**18 22 24.9**	**+0.5**
KBTC	**Kuba-Taba**	**0.67**	**49**	*e*Pg	**Pg**	**18 22 12.2**	**-2.0**
KBTC				*e*Sg	**Sg**	**18 22 22.3**	**-0.5**
KBTC	**Kuba-Taba**	**0.67**	**49**	*e*Pg	**Pb**	**18 22 15.7**	**+0.4**
KBTC				*e*Sg	**Sb**	**18 22 25.1**	**+0.2**
KBTC	**Kuba-Taba**	**0.67**	**49**	*e*PG	**Pb**	**18 22 15.7**	**+0.4**
KBTC				*e*S	**Sb**	**18 22 25.0**	**+0.2**
PYA1	**Pyatigorsk**	**0.73**	**22**	*i* Pg	**Pg**	**18 22 12.6**	**-2.8**
PYA1				*e*Sg	**Sg**	**18 22 25.1**	**+0.1**
PYA1	**Pyatigorsk**	**0.73**	**22**	*i* Pg	**Pb**	**18 22 16.1**	**-0.4**
PYA1				*e*Sg	**Sb**	**18 22 26.5**	**-0.2**
PYA1	**Pyatigorsk**	**0.73**	**22**	*i* PG	**Pb**	**18 22 16.0**	**-0.4**
PYA1				*e*S	**Sb**	**18 22 26.5**	**-0.2**
DOMR	**Dombai**	**0.80**	**264**	*e*Pg	**Pg**	**18 22 14.1**	**-2.6**
DOMR				*e*Sg	**Sg**	**18 22 25.1**	**-2.0**
DOMR	**Dombai**	**0.80**	**264**	*e*Pg	**Pb**	**18 22 17.6**	**-0.1**
DOMR				*i* Sg	**Sb**	**18 22 28.0**	**-0.7**
DOMR	**Dombai**	**0.80**	**264**	*e*PG	**Pb**	**18 22 17.6**	**-0.1**
DOMR				*i* S	**Sb**	**18 22 28.0**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.80**	**127**	*e*Pg	**Pb**	**18 22 18.0**	**+0.3**
DIGR				*e*Sg	**Sb**	**18 22 28.1**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.80**	**127**	*e*PG	**Pb**	**18 22 18.0**	**+0.3**
DIGR				*e*S	**Sb**	**18 22 28.1**	**-0.7**
LSNR	**Lesken**	**0.82**	**97**	*e*Pg	**Pg**	**18 22 14.9**	**-2.2**
LSNR				*e*Sg	**Sg**	**18 22 26.0**	**-1.7**
LSNR	**Lesken**	**0.82**	**97**	*e*Pg	**Pn**	**18 22 18.6**	**-0.8**
LSNR				*e*Sg	**Sn**	**18 22 30.3**	**-1.5**
LSNR	**Lesken**	**0.82**	**97**	⇓*i*PG	**Pn**	**18 22 18.6**	**-0.8**
LSNR				*e*S	**Sn**	**18 22 30.3**	**-1.5**
ONI	**Oni**	**0.96**	**145**	Pg	**Pg**	**18 22 18.1**	**-1.8**
ONI	**Oni**	**0.96**	**145**	P	**Pg**	**18 22 18.1**	**-1.8**
ONI	**Oni**	**0.96**	**145**	P	**Pn**	**18 22 21.6**	**+0.2**
ONI				S	**Sn**	**18 22 34.6**	**-0.7**
ONI	**Oni**	**0.96**	**145**	*i* Pg	**Pg**	**18 22 18.0**	**-1.8**
ONI				*e*Sg	**Sg**	**18 22 29.1**	**-3.2**
ONI	**Oni**	**0.96**	**145**	*e*Pg	**Pn**	**18 22 21.6**	**+0.2**
ONI				*e*Sg	**Sn**	**18 22 34.7**	**-0.6**
ONI	**Oni**	**0.96**	**145**	*e*PG	**Pg**	**18 22 18.3**	**-1.5**
STDR	**Stavd-Durt**	**0.99**	**91**	*i* Pg	**Pg**	**18 22 19.2**	**-1.1**
STDR				*e*Sg	**Sg**	**18 22 32.4**	**-0.6**
STDR	**Stavd-Durt**	**0.99**	**91**	*e*Pg	**Pn**	**18 22 22.9**	**+1.3**
STDR				*e*Sg	**Sn**	**18 22 37.6**	**+1.8**
STDR	**Stavd-Durt**	**0.99**	**91**	*e*PG	**Pn**	**18 22 22.9**	**+1.3**
STDR				*e*S	**Sn**	**18 22 37.6**	**+1.8**
KORR	**Kora**	**1.03**	**106**	*i* Pg	**Pg**	**18 22 19.1**	**-2.1**
KORR				*e*Sg	**Sg**	**18 22 31.9**	**-2.8**
KORR	**Kora**	**1.03**	**106**	*e*Pg	**Pn**	**18 22 22.7**	**+0.4**
KORR				*e*Sg	**Sn**	**18 22 37.3**	**+0.2**
KORR	**Kora**	**1.03**	**106**	*e*PG	**Pg**	**18 22 19.2**	**-2.0**
TKB	**Tkibuli**	**1.05**	**169**	P	**Pg**	**18 22 20.9**	**-0.7**
TKB	**Tkibuli**	**1.05**	**169**	P	**Pn**	**18 22 24.4**	**+1.8**
TKB				S	**Sn**	**18 22 39.4**	**+1.8**
TKB	**Tkibuli**	**1.05**	**169**	*e*Pg	**Pn**	**18 22 24.4**	**+1.8**
TKB				*e*Sg	**Sn**	**18 22 39.4**	**+1.8**
TKB	**Tkibuli**	**1.05**	**169**	PG	**Pn**	**18 22 24.4**	**+1.8**
TKB				S	**Sn**	**18 22 39.4**	**+1.8**
ZEI	**Tsey**	**1.06**	**124**	*i* Pg	**Pg**	**18 22 19.1**	**-2.5**
ZEI				*e*Sg	**Sg**	**18 22 32.0**	**-3.3**
ZEI	**Tsey**	**1.06**	**124**	*i* Pg	**Pn**	**18 22 22.6**	**-0.2**
ZEI				*e*Sg	**Sn**	**18 22 37.1**	**-0.7**
ZEI	**Tsey**	**1.06**	**124**	⇑*i*PG	**Pn**	**18 22 22.6**	**-0.2**
ZEI				*e*S	**Sb**	**18 22 36.1**	**-0.1**
ARXR	**Arkhyz**	**1.06**	**280**	*e*Pg	**Pg**	**18 22 19.9**	**-1.8**
ARXR				*i* Sg	**Sb**	**18 22 36.1**	**-0.2**
ARXR	**Arkhyz**	**1.06**	**280**	*e*Pg	**Pn**	**18 22 23.5**	**+0.7**
ARXR				*e*Sg	**Sn**	**18 22 38.6**	**+0.7**
ARXR	**Arkhyz**	**1.06**	**280**	*e*PG	**Pn**	**18 22 23.5**	**+0.7**
ARXR				*e*S	**Sn**	**18 22 38.6**	**+0.7**
ARNR	**Ardon**	**1.17**	**100**	*e*Pg	**Pb**	**18 22 22.4**	**-1.4**
ARNR				*e*Sg	**Sg**	**18 22 37.5**	**-1.4**
ARNR	**Ardon**	**1.17**	**100**	*e*Pg	**Pn**	**18 22 26.1**	**+1.9**
ARNR				*e*Sg	**Sn**	**18 22 43.2**	**+2.9**
ARNR	**Ardon**	**1.17**	**100**	*e*PG	**Pn**	**18 22 26.2**	**+2.1**
ARNR				*e*S	**Sn**	**18 22 43.1**	**+2.8**
PRTR	**Priterechnaya**	**1.20**	**72**	*i* Pg	**Pb**	**18 22 22.9**	**-1.5**
PRTR				*e*Sg	**Sb**	**18 22 39.8**	**-0.3**
PRTR	**Priterechnaya**	**1.20**	**72**	*i* Pg	**Pg**	**18 22 26.5**	**+2.2**
PRTR				*e*Sg	**Sn**	**18 22 44.1**	**+3.0**
PRTR	**Priterechnaya**	**1.20**	**72**	⇑*i*PG	**Pg**	**18 22 26.5**	**+2.2**
PRTR				*e*S	**Sn**	**18 22 44.1**	**+3.0**
LACR	**Lac**	**1.29**	**115**	*i* Pg	**Pn**	**18 22 23.2**	**-2.7**
LACR				*e*Sg	**Sb**	**18 22 41.9**	**-0.9**
LACR	**Lac**	**1.29**	**115**	*e*Pg	**Pg**	**18 22 26.9**	**+0.9**
LACR				*e*Sg	**Sn**	**18 22 44.2**	**+0.7**
LACR	**Lac**	**1.29**	**115**	*e*PG	**Pg**	**18 22 27.0**	**+0.9**
LACR				*e*S	**Sn**	**18 22 44.1**	**+0.7**
BTKR	**Batakoyurt**	**1.33**	**90**	*e*Pg	**Pn**	**18 22 23.6**	**-2.8**
BTKR				*e*Sg	**Sb**	**18 22 42.6**	**-1.5**
BTKR	**Batakoyurt**	**1.33**	**90**	*i* Pg	**Pg**	**18 22 29.3**	**+2.4**
BTKR				*e*Sg	**Sg**	**18 22 49.4**	**+5.1**
BTKR	**Batakoyurt**	**1.33**	**90**	*e*PG	**Pg**	**18 22 29.5**	**+2.6**
BTKR				*e*S	**Sg**	**18 22 49.0**	**+4.8**
NVNR	**Nevinnomyssk**	**1.34**	**337**	*i* Pg	**Pn**	**18 22 23.7**	**-2.8**
NVNR				*e*Sg	**Sg**	**18 22 47.5**	**+3.0**
NVNR	**Nevinnomyssk**	**1.34**	**337**	*i* PG	**Pn**	**18 22 23.7**	**-2.8**
NVNR				*e*S	**Sg**	**18 22 47.5**	**+3.0**
ALER	**Alexandrovskoy**	**1.39**	**6**	*e*Pg	**Pn**	**18 22 25.2**	**-1.9**
ALER				*e*Sg	**Sg**	**18 22 46.7**	**+0.8**
ALER	**Alexandrovskoy**	**1.39**	**6**	*i* Pg	**Pg**	**18 22 29.1**	**+1.2**
ALER				*e*Sg	**Sg**	**18 22 49.4**	**+3.6**
ALER	**Alexandrovskoy**	**1.39**	**6**	*i* PG	**Pg**	**18 22 29.1**	**+1.2**
ALER				*e*S	**Sg**	**18 22 49.4**	**+3.6**
ALIG	**Mtskhetisjvari**	**1.46**	**151**	P	**Pn**	**18 22 26.9**	**-1.2**
ALIG	**Mtskhetisjvari**	**1.46**	**151**	P	**Pg**	**18 22 31.0**	**+1.8**
ALIG	**Mtskhetisjvari**	**1.46**	**151**	PG	**Pg**	**18 22 31.0**	**+1.8**
VLKR	**Vladikavkaz**	**1.48**	**103**	*e*Pg	**Pg**	**18 22 30.9**	**+1.3**
VLKR				*e*Pg	**Pg**	**18 22 31.9**	**+2.3**
VLKR				*e*Sg	**Sg**	**18 22 52.8**	**+4.1**
VLKR				*i* Sg	**Sg**	**18 22 52.9**	**+4.1**
VLKR	**Vladikavkaz**	**1.48**	**103**	*e*PG	**Pg**	**18 22 31.9**	**+2.3**
VLKR				*e*S	**Sg**	**18 22 52.9**	**+4.1**
TRKR	**Terskaya**	**1.51**	**76**	*e*Pg	**Pn**	**18 22 28.0**	**-0.8**
TRKR				*e*Sg	**Sn**	**18 22 48.1**	**-0.5**
TRKR	**Terskaya**	**1.51**	**76**	*e*Pg	**Pg**	**18 22 31.6**	**+1.3**
TRKR				*e*Sg	**Sg**	**18 22 52.9**	**+3.1**
TRKR	**Terskaya**	**1.51**	**76**	*e*PG	**Pg**	**18 22 32.0**	**+1.8**
TRKR				*e*S	**Sg**	**18 22 53.3**	**+3.5**
MTEO	**Meteo**	**1.51**	**117**	P	**Pn**	**18 22 27.1**	**-2.1**
MTEO	**Meteo**	**1.51**	**117**	P	**Pg**	**18 22 30.7**	**+0.4**
MTEO				S	**Sg**	**18 22 50.1**	**+0.1**
MTEO	**Meteo**	**1.51**	**117**	PG	**Pg**	**18 22 30.7**	**+0.4**
GUDG	**Gudauri**	**1.59**	**125**	P	**Pn**	**18 22 28.7**	**-1.4**
GUDG	**Gudauri**	**1.59**	**125**	P	**Pg**	**18 22 32.4**	**+0.6**
GUDG	**Gudauri**	**1.59**	**125**	*e*Pg	**Pn**	**18 22 30.0**	**-0.1**
GUDG				*e*Sg	**Sn**	**18 22 49.7**	**-1.4**
GUDG	**Gudauri**	**1.59**	**125**	*i* Pg	**Pg**	**18 22 32.2**	**+0.4**
GUDG				*e*Sg	**Sg**	**18 22 55.1**	**+2.6**
GUDG	**Gudauri**	**1.59**	**125**	*i* PN	**Pg**	**18 22 32.2**	**+0.4**
GUDG				*e*S	**Sg**	**18 22 55.1**	**+2.6**
KMGR	**Komgaron**	**1.61**	**101**	*e*Pg	**Pg**	**18 22 36.1**	**+3.9**
KMGR				*i* Sg	**Sg**	**18 22 58.9**	**+5.9**
KMGR	**Komgaron**	**1.61**	**101**	*e*PN	**Pg**	**18 22 36.1**	**+3.9**
KMGR				*i* S	**Sg**	**18 22 58.9**	**+5.9**
ABS	**Abastumani**	**1.63**	**177**	P	**Pb**	**18 22 30.7**	**-1.2**
ABS	**Abastumani**	**1.63**	**177**	PN	**Pb**	**18 22 30.7**	**-1.2**
GOF	**Gofitskoye**	**1.69**	**8**	*e*Pg	**Pn**	**18 22 31.4**	**+0.1**
GOF				*i* Sg	**Sg**	**18 22 55.3**	**-0.3**
GOF	**Gofitskoye**	**1.69**	**8**	*e*Pg	**Pg**	**18 22 34.9**	**+1.2**
GOF				*e*Sg	**Sg**	**18 22 58.5**	**+2.9**
GOF	**Gofitskoye**	**1.69**	**8**	*e*PN	**Pg**	**18 22 34.9**	**+1.2**
GOF				*e*S	**Sg**	**18 22 58.5**	**+2.9**
RPOR	**Krasnaya Polya**	**1.81**	**281**	*i* Pg	**Pn**	**18 22 31.8**	**-1.2**
RPOR				*i* Sg	**Sn**	**18 22 56.0**	**-0.1**
RPOR	**Krasnaya Polya**	**1.81**	**281**	*i* Pg	**Pg**	**18 22 35.3**	**-0.6**
RPOR				*e*Sg	**Sg**	**18 22 60.0**	**+0.6**
RPOR	**Krasnaya Polya**	**1.81**	**281**	*i* PN	**Pg**	**18 22 35.3**	**-0.6**
RPOR				*e*S	**Sg**	**18 22 59.9**	**+0.6**
EPOS	**Posof**	**1.88**	**180**	P	**Pg**	**18 22 36.3**	**-1.0**
EPOS				S	**Sg**	**18 23 04.6**	**+2.8**
EPOS				*i* AML	AML	18 23 10.0	
	comp=N,81nm,0.7s						
EPOS				*i* AML	AML	18 23 11.0	
	comp=E,50nm,0.6s						
LABN	**Labinsk**	**1.91**	**312**	*e*Pg	**Pg**	**18 22 38.4**	**+0.5**
LABN				*i* Sg	**Sg**	**18 23 05.1**	**+2.5**
LABN	**Labinsk**	**1.91**	**312**	*e*PN	**Pg**	**18 22 38.4**	**+0.5**
LABN				*i* S	**Sg**	**18 23 05.1**	**+2.5**
BATM	**Batumi**	**1.93**	**203**	Pn	**Pg**	**18 22 37.5**	**-0.9**
SHTL	**Shatili**	**1.93**	**111**	P	**Pn**	**18 22 34.1**	**-0.7**
SHTL	**Shatili**	**1.93**	**111**	PN	**Pn**	**18 22 34.1**	**-0.7**
CHRG	**Chargali**	**1.94**	**122**	P	**Pn**	**18 22 35.1**	**+0.2**
CHRG	**Chargali**	**1.94**	**122**	P	**Pg**	**18 22 38.6**	**+0.1**
CHRG				S	**Sg**	**18 23 03.5**	**-0.2**
VSLR	**Vesyoloye**	**1.95**	**273**	*e*Pg	**Pg**	**18 22 39.2**	**+0.4**
VSLR				*i* Sg	**Sg**	**18 23 07.4**	**+3.3**
VSLR	**Vesyoloye**	**1.95**	**273**	*e*PN	**Pg**	**18 22 39.2**	**+0.4**
VSLR				*i* S	**Sg**	**18 23 07.4**	**+3.3**
GUZR	**Guzeripl'**	**1.98**	**289**	*e*Pg	**Pn**	**18 22 34.5**	**-0.8**
GUZR				*e*Sg	**Sb**	**18 23 02.0**	**-0.5**
GUZR	**Guzeripl'**	**1.98**	**289**	*e*Pg	**Pb**	**18 22 38.1**	**+0.4**
GUZR				*e*Sg	**Sg**	**18 23 05.6**	**+0.7**
GUZR	**Guzeripl'**	**1.98**	**289**	*e*PN	**Pb**	**18 22 38.1**	**+0.4**
GUZR				*e*S	**Sg**	**18 23 05.6**	**+0.7**
AKH	**Akhalkalaki**	**2.06**	**163**	Pn	**Pn**	**18 22 36.8**	**+0.3**
AKH	**Akhalkalaki**	**2.06**	**163**	P	**Pg**	**18 22 42.0**	**+1.2**
AKH				S	**Sg**	**18 23 09.9**	**+2.4**
AKH	**Akhalkalaki**	**2.06**	**163**	*e*Pg	**Pg**	**18 22 42.0**	**+1.2**
AKH				*e*Sg	**Sg**	**18 23 09.9**	**+2.4**
AKH	**Akhalkalaki**	**2.06**	**163**	PN	**Pg**	**18 22 42.0**	**+1.2**
AKH				S	**Sg**	**18 23 09.9**	**+2.4**
BCA	**Borcka**	**2.10**	**203**	Pn	**Pb**	**18 22 39.7**	**-0.1**
BCA				Sn	**Sn**	**18 23 03.3**	**-0.1**
TRLG	**Trialeti**	**2.11**	**150**	P	**Pb**	**18 22 39.4**	**-0.7**
TRLG	**Trialeti**	**2.11**	**150**	P	**Pg**	**18 22 42.8**	**+1.0**
TRLG	**Trialeti**	**2.11**	**150**	PN	**Pg**	**18 22 42.8**	**+1.0**
AHAN	**Ardahan-Merkez**	**2.22**	**182**	P	**Pg**	**18 22 43.7**	**-0.2**
AHAN				S	**Sg**	**18 23 15.3**	**+2.6**
DMNI	**Dmanisi**	**2.33**	**151**	P	**Pb**	**18 22 42.2**	**-1.6**
DMNI	**Dmanisi**	**2.33**	**151**	P	**Pg**	**18 22 45.8**	**-0.2**
DMNI				S	**Sg**	**18 23 16.5**	**+0.4**
DMNI	**Dmanisi**	**2.33**	**151**	*e*Pn	**Pg**	**18 22 45.8**	**-0.2**
DMNI				*e*Sn	**Sg**	**18 23 16.5**	**+0.4**
DMNI	**Dmanisi**	**2.33**	**151**	PN	**Pg**	**18 22 45.8**	**-0.2**
DMNI				S	**Sg**	**18 23 16.5**	**+0.4**
DAGI	**Agillar**	**2.38**	**195**	P	**Pb**	**18 22 44.2**	**-0.4**
DAGI				S	**Sg**	**18 23 19.4**	**+1.6**
DAGI				*i* AML	AML	18 23 22.0	
	comp=N,24nm,0.6s						
DAGI				*i* AML	AML	18 23 24.0	
	comp=E,25nm,0.7s						
MRNR	**Maryino**	**2.41**	**284**	*e*Pn	**Pb**	**18 22 44.5**	**-0.5**
MRNR				*e*Sn	**Sb**	**18 23 14.9**	**-0.1**
MRNR	**Maryino**	**2.41**	**284**	*e*PN	**Pb**	**18 22 44.5**	**-0.5**
MRNR				*e*S	**Sb**	**18 23 14.9**	**-0.1**
DBAD	**Bademkaya**	**2.48**	**198**	P	**Pg**	**18 22 47.2**	**-1.7**
DBAD				S	**Sg**	**18 23 23.2**	**+2.1**
DVE	**Vedeno**	**2.53**	**99**	*e*Pn	**Pb**	**18 22 48.3**	**+1.1**
DVE				*e*Sn	**Sb**	**18 23 18.9**	**+0.2**
DVE	**Vedeno**	**2.53**	**99**	*e*PN	**Pb**	**18 22 48.3**	**+1.1**
DVE				*e*S	**Sb**	**18 23 18.8**	**+0.2**
DDEM	**Demirkent**	**2.59**	**196**	P	**Pb**	**18 22 46.8**	**-1.4**
DDEM				*i* AML	AML	18 23 29.0	
	comp=N,55nm,0.3s						
DDEM				*i* AML	AML	18 23 31.0	
	comp=E,44nm,0.4s						
BTLR	**Botlikh**	**2.67**	**104**	*e*Pn	**Pn**	**18 22 43.1**	**-1.8**
BTLR				*e*Sn	**Sn**	**18 23 15.9**	**-1.6**
BTLR	**Botlikh**	**2.67**	**104**	*e*Pn	**Pb**	**18 22 50.1**	**+0.5**
BTLR				*i* Sn	**Sb**	**18 23 22.2**	**-0.4**
BTLR	**Botlikh**	**2.67**	**104**	*e*PN	**Pb**	**18 22 49.1**	**-0.5**
BTLR				*e*S	**Sg**	**18 23 26.4**	**-0.8**
BTLR				*e*S	**Sb**	**18 23 26.8**	**+4.2**
BTLR				pmax	pmax		
	comp=Z,11nm,0.3s						
BTLR				smax	smax		
	comp=N,73nm,0.4s						
BTLR				smax	smax		
	comp=E,63nm,0.5s						
BTLR				smax	smax		
	comp=N,52nm,0.4s						
EAK	**Akyaka**	**2.78**	**166**	P	**Pg**	**18 22 53.8**	**-0.7**
EAK				S	**Sg**	**18 23 30.4**	**-0.2**
ERBR	**Yeremizino-Bor**	**2.82**	**326**	*e*Pn	**Pn**	**18 22 44.9**	**-2.0**
ERBR				*i* Sn	**Sn**	**18 23 22.6**	**+1.4**
ERBR	**Yeremizino-Bor**	**2.82**	**326**	*e*Pn	**Pb**	**18 22 50.8**	**-1.2**
ERBR				*e*Sn	**Sb**	**18 23 23.9**	**-2.9**
ERBR	**Yeremizino-Bor**	**2.82**	**326**	*e*PN	**Pb**	**18 22 50.8**	**-1.2**
ERBR				*e*S	**Sb**	**18 23 23.9**	**-2.9**
DLMR	**Dylym**	**2.88**	**95**	*e*Pn	**Pb**	**18 22 52.3**	**-0.8**
DLMR				*e*Sn	**Sb**	**18 23 27.0**	**-1.5**
DLMR	**Dylym**	**2.88**	**95**	*e*PN	**Pb**	**18 22 52.3**	**-0.8**
DLMR				*e*S	**Sg**	**18 23 31.9**	**-2.0**
DLMR				*e*S	**Sb**	**18 23 32.7**	**+4.2**
DLMR				pmax	pmax		
	comp=Z,53nm,0.6s						
DLMR				smax	smax		
	comp=N,142nm,0.4s						
DLMR				smax	smax		
	comp=E,191nm,0.4s						
DLMR				smax	smax		
	comp=E,158nm,0.4s						
DBC	**Dubki**	**3.03**	**96**	*e*Pn	**Pn**	**18 22 48.6**	**-1.3**
DBC				*e*Sn	**Sn**	**18 23 22.2**	**-4.3**
DBC	**Dubki**	**3.03**	**96**	*e*Pn	**Pb**	**18 22 53.3**	**-2.4**
DBC				*e*Sn	**Sb**	**18 23 30.9**	**-2.1**
DBC	**Dubki**	**3.03**	**96**	*e*PN	**Pb**	**18 22 55.2**	**-0.5**
DBC				*e*S	**Sg**	**18 23 36.9**	**-1.9**
DBC				*e*S	**Sb**	**18 23 37.2**	**+4.2**
DBC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
DBC				smax	smax		
	comp=E,44nm,0.4s						
DBC				smax	smax		
	comp=N,45nm,0.4s						
DBC				smax	smax		
	comp=N,39nm,0.4s						
XNZR	**Khunzakh**	**3.05**	**105**	*e*Pn	**Pb**	**18 22 54.3**	**-1.8**
XNZR				*e*Sn	**Sb**	**18 23 31.7**	**-1.8**
HNZR	**Khunzah**	**3.05**	**104**	*e*PN	**Pb**	**18 22 55.2**	**-0.9**
HNZR				*e*S	**Sg**	**18 23 36.8**	**-2.6**
HNZR				*e*S	**Sb**	**18 23 37.4**	**+3.7**
HNZR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
HNZR				smax	smax		
	comp=E,22nm,

SII				IAML			19 02 44.0	
	comp=E,293nm,0.5s							
SII	**Sitkinak Islan**	**2.90**	**287**	P		**Pn**	19 01 57.9	-0.5
SII	**Sitkinak Islan**	**2.90**	**287**	P		**Pn**	19 01 58.0	-0.3
	baz=105							
SII				S		**Sn**	19 02 31.2	-2.1
	baz=105							
Q20K	**Shuyak Island**	**3.31**	**329**	P		**Pn**	19 02 04.8	+0.9
	baz=148							
SYI	**Shuyak Island**	**3.31**	**329**	Pn		**Pn**	19 02 04.8	+0.9
R18K	**Karluk**	**3.40**	**303**			**Pn**	19 02 05.9	+0.7
R18K	**Karluk**	**3.40**	**303**	IAML			19 02 53.9	
	comp=N,196nm,0.5s							
R18K				IAML			19 02 59.8	
	comp=E,225nm,0.4s							
R18K	**Karluk**	**3.40**	**303**	P		**Pn**	19 02 05.9	+0.7
	baz=121							
CNPM	**China Poot**	**3.89**	**344**	Pn		**Pn**	19 02 12.5	+0.6
CNPM	**China Poot**	**3.89**	**344**			**Sn**	19 02 57.0	-0.5
Q23K	**Middleton Isla**	**3.93**	**22**	Pn		**Pn**	19 02 13.0	+0.5
Q23K				IAML			19 04 24.3	
	comp=E,260nm,2.4s							
Q23K				IAML			19 04 25.4	
	comp=N,257nm,4.0s							
Q23K	**Middleton Isla**	**3.93**	**22**	P		**Pn**	19 02 13.3	+0.8
	baz=203							
MID	**Middleton Isla**	**3.93**	**22**	Pn		**Pn**	19 02 13.1	+0.6
MID				IAML			19 04 24.4	
	comp=E,232nm,2.5s							
MID				IAML			19 04 25.4	
	comp=N,285nm,3.1s							
MID	**Middleton Isla**	**3.93**	**22**	P		**Pn**	19 02 13.7	+1.2
Q19K	**Cape Douglas,**	**3.95**	**324**			**Pn**	19 02 14.0	+1.2
Q19K				IAML			19 03 13.9	
	comp=N,387nm,0.8s							
Q19K	**Cape Douglas,**	**3.95**	**324**	P		**Pn**	19 02 14.3	+1.4
	baz=141							
KAHG	**Katmai Hook Gl**	**3.98**	**315**			**Pn**	19 02 14.7	+1.5
BRSE	**Bradley Lake S**	**4.03**	**349**			**Pn**	19 02 14.5	+0.6
BRSE						**Sn**	19 02 60.0	-1.1
BRSE	**Bradley Lake S**	**4.03**	**349**	P		**Pn**	19 02 14.5	+0.6
	baz=168							
BRSE				S		**Sn**	19 02 60.0	-1.1
	baz=168							
BRLK	**Bradley Lake**	**4.07**	**348**			**Pn**	19 02 14.7	+0.3
BRLK				IAML			19 03 04.8	
	comp=E,107nm,0.5s							
BRLK	**Bradley Lake**	**4.07**	**348**			**Sn**	19 03 01.0	-1.1
HOM	**Homer**	**4.08**	**342**	Pn		**Pn**	19 02 15.4	+0.9
HOM				IAML			19 03 07.4	
	comp=N,283nm,2.5s							
HOM				IAML			19 04 18.6	
	comp=E,264nm,3.2s							
KCE	**Katmai Mt Cerb**	**4.09**	**309**			**Pn**	19 02 17.1	+2.3
ACHA	**Angle Creek He**	**4.14**	**308**			**Pn**	19 02 16.4	+1.0
ANCK	**Angle Creek**	**4.21**	**307**			**Pn**	19 02 17.8	+1.5
AU22	**Augustine Moun**	**4.22**	**329**			**Pn**	19 02 17.0	+0.6
AUL	**Augustine Lava**	**4.25**	**329**			**Pn**	19 02 18.6	+1.6
P23K	**Montague Islan**	**4.30**	**12**			**Pn**	19 02 18.5	+0.9
P23K	**Montague Islan**	**4.30**	**12**	P		**Pn**	19 02 18.5	+0.9
	baz=193							
SEW	**Seward**	**4.31**	**358**			**Pn**	19 02 18.2	+0.5
SEW	**Seward**	**4.31**	**358**	P		**Pn**	19 02 18.2	+0.5
	baz=178							
CNTC	**Contact Creek**	**4.42**	**307**			**Pn**	19 02 19.9	+0.7
Q17K	**Contact Creek**	**4.42**	**307**	P		**Pn**	19 02 19.9	+0.7
	baz=122							
P19K	**Oil Pt**	**4.42**	**332**	Pn		**Pn**	19 02 20.5	+1.2
P19K				IAML			19 03 22.9	
	comp=N,146nm,0.5s							
P19K				IAML			19 03 29.5	
	comp=E,158nm,0.6s							
P19K	**Oil Pt**	**4.42**	**332**	P		**Pn**	19 02 20.3	+1.0
	baz=150							
O20K	**Slope Mountain**	**4.66**	**338**			**Pn**	19 02 23.1	+0.6
O20K	**Slope Mountain**	**4.66**	**338**	P		**Pn**	19 02 23.1	+0.6
	baz=156							
IVE	**Iliamna Volcan**	**4.69**	**336**			**Pn**	19 02 23.4	+0.4
O22K	**Cooper Landing**	**4.69**	**357**			**Pn**	19 02 24.1	+1.1
O22K	**Cooper Landing**	**4.69**	**357**	P		**Pn**	19 02 23.7	+0.8
	baz=176							
SLKM	**Skilak Lake**	**4.74**	**354**			**Pn**	19 02 24.1	+0.4
HIN	**Hinchinbrook I**	**4.81**	**16**	Pn		**Pn**	19 02 25.6	+1.0
HIN				IAML			19 03 24.1	
	comp=E,137nm,0.7s							
KAIM	**Kayak Island**	**4.84**	**30**	Pn		**Pn**	19 02 25.1	+0.1
KAIM				IAML			19 04 36.1	
	comp=N,170nm,3.3s							
KAIM				IAML			19 05 32.1	
	comp=E,199nm,2.8s							
KAIM	**Kayak Island**	**4.84**	**30**	P		**Pn**	19 02 25.6	+0.6
	baz=213							
P18K	**Big Mountain,**	**4.85**	**320**	Pn		**Pn**	19 02 25.4	+0.3
P18K	**Big Mountain,**	**4.85**	**320**	P		**Pn**	19 02 25.4	+0.3
	baz=136							
RED	**Redoubt Volcan**	**5.00**	**339**			**Pn**	19 02 27.4	+0.1
RDSO	**Redoubt South**	**5.03**	**339**			**Pn**	19 02 27.7	+0.1
RSO	**Redoubt South**	**5.04**	**339**			**Pn**	19 02 25.4	-2.5
RDT	**Redoubt**	**5.07**	**342**			**Pn**	19 02 28.3	+0.1
RDWB	**Redoubt West**	**5.08**	**339**			**Pn**	19 02 28.4	+0.1
CAPN	**Captain Cook N**	**5.08**	**349**	Pn		**Pn**	19 02 29.7	+1.5
EYAK	**Cordova Ski Ar**	**5.08**	**19**			**Pn**	19 02 29.2	+1.0
EYAK	**Cordova Ski Ar**	**5.08**	**19**	P		**Pn**	19 02 30.0	+1.7
EYAK	**Cordova Ski Ar**	**5.08**	**19**	P		**Pn**	19 02 29.3	+1.0
	baz=202							
DFR	**Drift River**	**5.14**	**340**			**Pn**	19 02 29.8	+0.5
ANPB	**Aniakchak Plen**	**5.17**	**285**			**Pn**	19 02 29.6	+0.1
RAGM	**Ragged Mountai**	**5.17**	**26**			**Pn**	19 02 30.5	+0.9
O19K	**Port Alsworth**	**5.18**	**330**			**Pn**	19 02 30.0	+0.4
O19K	**Port Alsworth**	**5.18**	**330**	P		**Pn**	19 02 30.2	+0.6
	baz=147							
O18K	**Koktuh Hills**	**5.18**	**324**			**Pn**	19 02 30.1	+0.5
O18K				IAML			19 03 37.0	
	comp=N,53nm,2.4s							
O18K				IAML			19 03 51.3	
	comp=E,45nm,0.8s							
O18K	**Koktuh Hills**	**5.18**	**324**	P		**Pn**	19 02 30.3	+0.7
	baz=140							
P17K	**Kvichak River**	**5.18**	**314**			**Pn**	19 02 30.6	+0.9
P17K	**Kvichak River**	**5.18**	**314**	P		**Pn**	19 02 30.6	+0.9
	baz=129							
CHGN	**Chignik**	**5.21**	**279**	Pn		**Pn**	19 02 29.2	-0.8
CHGN				IAML			19 03 38.3	
	comp=E,78nm,0.3s							
CHGN				IAML			19 03 40.3	
	comp=N,110nm,0.4s							
RC01	**Rabbit Creek A**	**5.30**	**357**			**Pn**	19 02 32.1	+0.8
GOAT	**Goat Mountain**	**5.33**	**24**			**Pn**	19 02 33.5	+1.7
BERG	**Berg Lake**	**5.43**	**30**			**Pn**	19 02 33.9	+0.8
SNH	**Sunshine Point**	**5.52**	**35**	Pn		**Pn**	19 02 35.7	+1.3
KNK	**Knik Glacier**	**5.63**	**3**	Pn		**Pn**	19 02 36.4	+0.6
KNK	**Knik Glacier**	**5.63**	**3**	P		**Pn**	19 02 36.5	+0.6
	baz=184							
N20K	**Mount Spurr**	**5.63**	**345**	P		**Pn**	19 02 36.2	+0.2
	baz=163							
SPCR	**Spurr Chakacha**	**5.63**	**345**			**Pn**	19 02 36.2	+0.2
SPCN	**Chakachatna No**	**5.65**	**345**			**Pn**	19 02 36.8	+0.6
SPCP	**Crater Peak Br**	**5.69**	**345**			**Pn**	19 02 37.4	+0.6
SPCG	**Spurr Capps Gl**	**5.70**	**346**			**Pn**	19 02 37.4	+0.6
BMRM	**Bremner River**	**5.70**	**23**			**Pn**	19 02 37.7	+0.9
BMRM	**Bremner River**	**5.70**	**23**	P		**Pn**	19 02 37.7	+0.9
	baz=206							
SUA	**Susitna One**	**5.73**	**352**	Pn		**Pn**	19 02 38.0	+0.7
N19K	**Bonanza Creek**	**5.74**	**333**	Pn		**Pn**	19 02 37.1	-0.4
N19K	**Bonanza Creek**	**5.74**	**333**	P		**Pn**	19 02 37.8	+0.4
	baz=149							
P16K	**Nushagak River**	**5.75**	**308**			**Pn**	19 02 38.2	+0.7
P16K	**Nushagak River**	**5.75**	**308**	P		**Pn**	19 02 38.2	+0.7
	baz=121							
PMR	**Palmer**	**5.80**	**0**	Pn		**Pn**	19 02 38.2	+0.1
PMR	**Palmer**	**5.80**	**0**	P		**Pn**	19 02 40.7	+2.6
BARK	**Barkley Ridge**	**5.81**	**35**			**Pn**	19 02 39.6	+1.2
S14K	**Fog Glacier**	**5.84**	**279**	P		**Pn**	19 02 38.3	-0.5
	baz=92							
VNFG	**Fog Glacier, M**	**5.84**	**279**			**Pn**	19 02 38.3	-0.5
SPNN	**North Nagishla**	**5.87**	**343**			**Pn**	19 02 39.9	+0.7
STLK	**Strandline Lak**	**5.87**	**347**			**Pn**	19 02 40.0	+0.8
KLU	**Klutina**	**5.94**	**15**	Pn		**Pn**	19 02 41.2	+1.0
KLU	**Klutina**	**5.94**	**15**	P		**Pn**	19 02 40.9	+0.7
	baz=198							
CHNA	**Chernabura Isl**	**6.03**	**265**	P		**Pn**	19 02 40.4	-0.9
	baz=78							
SML	**Sawmill**	**6.03**	**4**			**Pn**	19 02 43.0	+1.7
SML	**Sawmill**	**6.03**	**4**	P		**Pn**	19 02 42.6	+1.3
	baz=184							

CNBA	**Chernabura Isl**	**6.03**	**265**	Pn		**Pn**	19 02 39.0	-2.3
N18K	**Kilae Creek**	**6.03**	**327**			**Pn**	19 02 41.8	+0.4
N18K	**Kilae Creek**	**6.03**	**327**	P		**Pn**	19 02 41.8	+0.4
	baz=142							
O16K	**Kokwok River B**	**6.10**	**312**			**Pn**	19 02 43.2	+0.9
O16K	**Kokwok River B**	**6.10**	**312**	P		**Pn**	19 02 42.7	+0.4
	baz=125							
SCM	**Sheep Creek Mo**	**6.12**	**8**			**Pn**	19 02 44.5	+1.9
SCM	**Sheep Creek Mo**	**6.12**	**8**	P		**Pn**	19 02 44.4	+1.8
	baz=190							
VRDI	**Verde Repeater**	**6.20**	**27**	Pn		**Pn**	19 02 45.0	+1.1
KIAG	**Kiagna River**	**6.25**	**32**			**Pn**	19 02 45.8	+1.2
SVW2	**Sparrevohn**	**6.28**	**330**	Pn		**Pn**	19 02 42.4	-2.3
N25K	**Chitina, Valde**	**6.28**	**20**			**Pn**	19 02 45.1	+0.2
N25K	**Chitina, Valde**	**6.28**	**20**	P		**Pn**	19 02 46.4	+1.6
	baz=204							
GLB	**Gilahina Butte**	**6.30**	**24**	Pn		**Pn**	19 02 46.3	+1.2
SKT	**Skwentna**	**6.31**	**350**	Pn		**Pn**	19 02 46.1	+1.0
N17K	**Nushagak Hills**	**6.35**	**321**	Pn		**Pn**	19 02 44.1	-1.6
M20K	**Styx River**	**6.42**	**343**			**Pn**	19 02 47.2	+0.4
M20K	**Styx River**	**6.42**	**343**	P		**Pn**	19 02 47.2	+0.4
	baz=160							
SDPT	**Sand Point**	**6.43**	**271**	Pn		**Pn**	19 02 45.8	-1.0
SDPT	**Sand Point**	**6.43**	**271**	P		**Pn**	19 02 46.5	-0.3
M24K	**Tolsona, Glenn**	**6.50**	**13**	Pn		**Pn**	19 02 49.5	+1.6
M24K	**Tolsona, Glenn**	**6.50**	**13**	P		**Pn**	19 02 49.0	+1.2
	baz=195							
PNL	**Peninsula**	**6.50**	**50**			**Pn**	19 02 49.0	+1.1
PNL	**Peninsula**	**6.50**	**50**	P		**Pn**	19 02 49.0	+1.1
	baz=237							
BARN	**Barnard Glacie**	**6.57**	**34**			**Pn**	19 02 50.4	+1.5
CTG	**Chitna Glacier**	**6.60**	**35**	P		**Pn**	19 02 50.3	+1.0
	baz=221							
CTGM	**Chitina Glacie**	**6.61**	**35**			**Pn**	19 02 50.3	+1.0
CUT	**Chulitna**	**6.64**	**356**	Pn		**Pn**	19 02 50.1	+0.5
M18K	**Stony River**	**6.67**	**331**			**Pn**	19 02 50.4	+0.3
M18K	**Stony River**	**6.67**	**331**	P		**Pn**	19 02 50.3	+0.3
	baz=146							
M19K	**Big River Lodg**	**6.68**	**338**	Pn		**Pn**	19 02 49.3	-0.9
M19K	**Big River Lodg**	**6.68**	**338**	P		**Pn**	19 02 50.8	+0.5
	baz=154							
WAT6	**Susitna Watana**	**6.83**	**6**			**Pn**	19 02 53.6	+1.2
WAT6	**Susitna Watana**	**6.83**	**6**	P		**Pn**	19 02 53.6	+1.2
	baz=187							
L19K	**White Mountain**	**7.03**	**338**			**Pn**	19 02 55.0	-0.1
M17K	**Holitna River**	**7.07**	**326**			**Pn**	19 02 55.9	+0.3
M17K	**Holitna River**	**7.07**	**326**	P		**Pn**	19 02 56.3	+0.7
	baz=139							
L20K	**Farewell, AK**	**7.11**	**342**			**Pn**	19 02 56.6	+0.5
L20K	**Farewell, AK**	**7.11**	**342**	P		**Pn**	19 02 56.7	+0.5
	baz=158							
PS1A	**Pavlof South-1**	**7.13**	**272**			**Pn**	19 02 55.8	-0.6
O29M	**Mount Kennedy**	**7.20**	**47**			**Pn**	19 02 59.0	+1.6
P29M	**Windy Craggy**	**7.22**	**53**			**Pn**	19 02 58.6	+0.9
P29M	**Windy Craggy**	**7.22**	**53**	P		**Pn**	19 02 58.5	+0.9
	baz=242							
N15K	**Kwethluk River**	**7.26**	**311**			**Pn**	19 02 59.6	+1.4
PN7A	**Pavlof North-7**	**7.28**	**272**			**Pn**	19 02 58.3	-0.2
M16K	**Timber Creek**	**7.33**	**320**			**Pn**	19 02 59.5	+0.5
M16K	**Timber Creek**	**7.33**	**320**	P		**Pn**	19 03 00.1	+1.0
	baz=132							
DHY	**Denali Highway**	**7.34**	**6**	Pn		**Pn**	19 03 01.8	+2.3
DHY	**Denali Highway**	**7.34**	**6**	P		**Pn**	19 03 00.8	+1.3
	baz=188							
O14K	**Tigyukauivet M**	**7.37**	**303**	Pn		**Pn**	19 03 00.9	+1.3
O14K	**Tigyukauivet M**	**7.37**	**303**	P		**Pn**	19 02 60.0	+0.4
	baz=114							
S31K	**Pelican**	**7.41**	**68**	Pn		**Pn**	19 02 58.5	-1.7
S31K	**Pelican**	**7.41**	**68**	P		**Pn**	19 02 59.2	-1.0
	baz=258							
PAX	**Paxson**	**7.42**	**13**			**Pn**	19 03 01.8	+1.3
PAX	**Paxson**	**7.42**	**13**	P		**Pn**	19 03 01.8	+1.3
	baz=196							
L18K	**Granite Mounta**	**7.50**	**332**	Pn		**Pn**	19 03 01.2	-0.3
M27K	**Edge Creek, AK**	**7.56**	**27**			**Pn**	19 03 03.6	+1.2
RND	**Reindeer**	**7.62**	**1**	Pn		**Pn**	19 03 03.0	-0.2
MENT	**Mentasta**	**7.67**	**19**	Pn		**Pn**	19 03 04.1	+0.3
TRF	**Thorofare Moun**	**7.68**	**356**	Pn		**Pn**	19 03 05.5	+1.3
CAST	**Castle Rocks**	**7.77**	**350**	Pn		**Pn**	19 03 04.8	-0.4
SIT	**Sitka**	**7.78**	**75**	Pn		**Pn**	19 03 03.2	-2.0
KTH	**Kantishna Hill**	**7.82**	**354**	Pn		**Pn**	19 03 06.9	+1.0
L17K	**Donlin**	**7.89**	**327**			**Pn**	19 03 07.4	+0.5
L17K	**Donlin**	**7.89**	**327**	P		**Pn**	19 03 07.4	+0.5
	baz=140							
HYT	**Haines Junctio**	**7.93**	**46**	Pn		**Pn**	19 03 09.0	+1.5
MCK	**McKinley**	**7.95**	**1**			**Pn**	19 03 08.3	+0.7
MCK	**McKinley**	**7.95**	**1**	P		**Pn**	19 03 08.3	+0.7
	baz=181							
K20K	**Telida**	**7.96**	**344**			**Pn**	19 03 07.6	-0.3
L16K	**Owhat River**	**7.97**	**322**			**Pn**	19 03 08.6	+0.7
L16K	**Owhat River**	**7.97**	**322**	P		**Pn**	19 03 08.6	+0.7
	baz=134							
L27K	**Beaver Creek,**	**8.17**	**24**	Pn		**Pn**	19 03 11.5	+0.8
BCAR	**Beaver Creek A**	**8.19**	**24**	Pn		**Pn**	19 03 12.2	+1.3
S32K	**Killisnoo**	**8.21**	**72**	Pn		**Pn**	19 03 10.0	-1.3
S32K	**Killisnoo**	**8.21**	**72**	P		**Pn**	19 03 10.8	-0.5
	baz=24							
RIDG	**Independent Ri**	**8.24**	**14**			**Pn**	19 03 12.8	+1.0
SKAG	**Skagway**	**8.27**	**58**			**Pn**	19 03 12.0	-0.1
SKAG	**Skagway**	**8.27**	**58**	P		**Pn**	19 03 13.7	+1.6
K17K	**Iditarod**	**8.35**	**330**			**Pn**	19 03 12.8	-0.3
K17K	**Iditarod**	**8.35**	**330**	P		**Pn**	19 03 13.4	+0.3
	baz=142							
M14K	**Bethel**	**8.36**	**312**			**Pn**	19 03 12.3	-0.9
BPAW	**Bear Paw Mtn.**	**8.37**	**355**	Pn		**Pn**	19 03 13.7	+0.3
BWN	**Browne**	**8.39**	**359**	Pn		**Pn**	19 03 11.9	-1.7
ISNN	**Isanotski Nort**	**8.39**	**269**			**Pn**	19 03 12.8	-1.0
O30N	**Mendenhall**	**8.49**	**49**			**Pn**	19 03 15.4	+0.3
J18K	**Innoko River**	**8.57**	**337**	Pn		**Pn**	19 03 15.3	-0.8
SCRK	**Sand Creek**	**8.59**	**15**	Pn		**Pn**	19 03 16.7	+0.1
M29M	**Somme Creek**	**8.62**	**35**			**Pn**	19 03 18.8	+1.8
HDA	**Harding Lake**	**8.70**	**6**			**Pn**	19 03 18.8	+0.9
J20K	**Nowinta River**	**8.75**	**346**			**Pn**	19 03 18.8	+0.2
M13K	**Dall Lake**	**8.80**	**307**	Pn		**Pn**	19 03 20.6	+1.3
NEA2	**Nenana**	**8.81**	**0**	Pn		**Pn**	19 03 20.0	+0.6
J19K	**Poorman**	**8.82**	**341**	Pn		**Pn**	19 03 19.2	-0.3
J19K	**Poorman**	**8.82**	**341**	P		**Pn**	19 03 20.0	+0.5
	baz=156							
CCB	**Clear Creek Bu**	**8.89**	**4**			**Pn**	19 03 20.6	+0.2
WHY	**Whitehorse**	**8.96**	**51**	Pn		**Pn**	19 03 23.5	+1.9
L14K	**Kuka Creek**	**8.96**	**314**			**Pn**	19 03 21.8	+0.3
N31M	**Braeburn, Yuko**	**8.99**	**45**	Pn		**Pn**	19 03 24.0	+2.0
U33K	**Whale Pass**	**9.01**	**81**	Pn		**Pn**	19 03 20.4	-1.7
J25K	**Salcha River,**	**9.03**	**10**	Pn		**Pn**	19 03 22.4	0.0
IL31		**9.06**	**6**			**Pn**	19 03 22.6	-0.2
ILAR	**Eielson Array**	**9.06**	**6**	Pn		**Pn**	19 03 22.7	-0.1
ILAR	**Eielson Array**	**9.06**	**6**	Pn		**Pn**	19 03 22.0	-0.8
	comp=N,0.3nm,0.3s,baz=189,slow=13,SNR=17							
ILAR					Sn	**Sn**	19 05 01.6	-3.2
	comp=N,0.4nm,0.3s,baz=185,slow=21,SNR=9.4							
	comp=N,0.8nm,0.4s							
CRAG	**Craig**	**9.09**	**86**	Pn		**Pn**	19 03 21.6	-1.6
CRAG	**Craig**	**9.09**	**86**	P		**Pn**	19 03 22.5	-0.6
	baz=278							
K15K	**Wolf Creek Mou**	**9.09**	**321**	Pn		**Pn**	19 03 23.7	+0.5
P32M	**Atlin**	**9.09**	**59**	Pn		**Pn**	19 03 24.3	+1.0
J26L	**Joseph Creek**	**9.15**	**15**			**Pn**	19 03 25.1	+0.9
MDM	**Murphy Dome**	**9.19**	**3**	Pn		**Pn**	19 03 25.5	+0.8
L29M	**L29M**	**9.21**	**33**			**Pn**	19 03 26.1	+1.1
M30M	**Minto, Yukon**	**9.28**	**38**	Pn		**Pn**	19 03 27.1	+1.2
M30M	**Minto, Yukon**	**9.28**	**38**	P		**Pn**	19 03 27.3	+1.4
	baz=228							
MLY	**Manley**	**9.28**	**356**			**Pn**	19 03 25.2	-0.7
I23K	**Minto, Yukon-K**	**9.37**	**360**	Pn		**Pn**	19 03 27.2	+0.2
J16K	**Anvik River**	**9.46**	**327**	Pn		**Pn**	19 03 28.9	+0.5
DAWY	**Dawson**	**9.61**	**27**	Pn		**Pn**	19 03 29.9	-0.5
Q32M	**Nakina River**	**9.65**	**64**	Pn		**Pn**	19 03 30.7	-0.4
P33M	**Teslin, Yukon**	**9.72**	**56**	Pn		**Pn**	19 03 32.0	0.0
P33M	**Teslin, Yukon**	**9.72**	**56**	P		**Pn**	19 03 32.3	+0.3
	baz=250							
EGAK	**Eagle**	**9.82**	**20**	Pn		**Pn**	19 03 34.0	+0.8
PRP	**Porcupine Dome**	**9.90**	**9**	Pn		**Pn**	19 03 35.2	+0.7
M31M	**Drury Creek, Y**	**9.94**	**44**			**Pn**	19 03 36.5	+1.6
K29M	**Barlow Dome**	**9.95**	**31**			**Pn**	19 03 36.9	+1.8
I26K	**Coal Creek Min**	**9.97**	**15**	Pn		**Pn**	19 03 36.9	+1.6
H21K	**Melozitna Rive**	**10.04**	**351**			**Pn**	19 03 36.4	+0.1
H21K	**Melozitna Rive**	**10.04**	**351**	P		**Pn**	19 03 37.5	+1.3
	baz=168							
H24K	**Noodor Dome**	**10.08**	**3**	Pn		**Pn**	19 03 40.1	+3.3
S34M	**Telegraph Cree**	**10.10**	**71**	Pn		**Pn**	19 03 35.9	-1.1
J14K	**Nanvaranak Lak**	**10.11**	**319**	Pn		**Pn**	19 03 35.8	-1.3
FARO	**Faro, Yukon**	**10.37**	**45**			**Pn**	19 03 41.8	+1.0
H19K	**Roundabout Mou**	**10.37**	**343**	Pn		**Pn**	19 03 41.4	+0.7

H18K	**Honhosa River**	**10.40**	**338**	Pn		**Pn**	19 03 41.6	+0.5
R33M	**Jennings River**	**10.40**	**62**			**Pn**	19 03 41.5	+0.2
IMAR	**Indian Mountai**	**10.44**	**350**	Pn		**Pn**	19 03 42.5	+0.8
H17K	**Granite Mounta**	**10.57**	**334**	Pn		**Pn**	19 03 43.8	+0.4
I28M	**Miner Creek**	**10.66**	**21**	Pn		**Pn**	19 03 45.5	+0.7
DLBC	**Dease Lake**	**10.73**	**68**	Pn		**Pn**	19 03 45.7	0.0
DLBC	**Dease Lake**	**10.73**	**68**	Pn		**Pn**	19 03 45.5	-0.2
	comp=N,0.2nm,0.3s,baz=234,slow=6.0,SNR=4.0							
	comp=N,1.0nm,0.5s							
J30M	**Hart River**	**10.84**	**31**			**Pn**	19 03 48.4	+1.1
G23K	**Bananza Creek**	**10.95**	**358**			**Pn**	19 03 49.1	+0.4
G19K	**Purcell Mounta**	**11.04**	**343**	Pn		**Pn**	19 03 50.0	0.0
G18K	**Tagagawik**	**11.11**	**339**	Pn		**Pn**	19 03 50.6	-0.2
G16K	**Koyuk River**	**11.56**	**332**	Pn		**Pn**	19 03 56.1	-0.9
F21K	**Alatna River**	**11.63**	**352**	Pn		**Pn**	19 03 57.7	-0.3
H29M	**Whitestone**	**11.66**	**22**	Pn		**Pn**	19 03 58.2	-0.2
F20K	**Avaraart Lake**	**11.69**	**347**	Pn		**Pn**	19 03 57.4	-1.4
F19K	**Shaleruckik Mo**	**11.79**	**343**	Pn		**Pn**	19 03 58.6	-1.5
BMAR	**Burnt Mountain**	**11.86**	**9**	Pn		**Pn**	19 04 00.3	-0.8
ANM	**Nome**	**11.88**	**324**	Pn		**Pn**	19 03 59.2	-2.1
F17K	**Baldwin Pennin**	**12.12**	**336**	Pn		**Pn**	19 04 03.7	-1.0
E19K	**Redstone River**	**12.28**	**345**				19 04 06.6	-0.3
G29M	**Pine Creek**	**12.32**	**21**	Pn		**Pn**	19 04 08.2	+0.8
E25K	**Arctic Village**	**12.47**	**6**	Pn		**Pn**	19 04 09.3	-0.2
F28M	**Old Crow**	**12.61**	**16**	Pn		**Pn**	19 04 11.5	0.0
G30M	**tAoh Zraii Nji**	**12.77**	**24**	Pn		**Pn**	19 04 13.2	-0.3
G31M	**Satah River**	**13.19**	**26**	Pn		**Pn**	19 04 17.0	-2.2
D22K	**Ayikyak River**	**13.21**	**354**	Pn		**Pn**	19 04 17.2	-2.4
D19K	**Kuna River**	**13.37**	**346**	Pn		**Pn**	19 04 19.4	-2.3
E28M	**Babbage River**	**13.57**	**15**	Pn		**Pn**	19 04 23.1	-1.4
C18K	**Utukok River**	**14.00**	**342**	Pn		**Pn**	19 04 31.9	+1.5
C19K	**Lookout Ridge**	**14.15**	**345**	Pn		**Pn**	19 04 31.3	-1.1
INK	**Inuvik**	**14.45**	**24**			**Pn**	19 04 35.8	-0.7
INK	**Inuvik**	**14.45**	**24**	Pn		**Pn**	19 04 37.8	+1.4
	comp=N,0.1nm,0.3s,baz=195,slow=16,SNR=5.2							

SHTL	**Shatili**	**1.95**	**112**	*e*Pg	**Pb**	**19 11 09.0**	**-1.0**
SHTL				*e*Sg	**Sb**	**19 11 34.5**	**-0.3**
CHRG	**Chargali**	**1.96**	**123**	P	**Pb**	**19 11 10.1**	**-0.1**
CHRG				S	**Sb**	**19 11 35.0**	**0.0**
GUZR	**Guzeripl'**	**1.96**	**288**	*e*Pg	**Pn**	**19 11 08.7**	**+0.6**
GUZR				*e*Sg	**Sn**	**19 11 33.8**	**+0.6**
AKH	**Akhalkalaki**	**2.08**	**163**	P	**Pg**	**19 11 13.9**	**+0.1**
AKH				S	**Sg**	**19 11 41.2**	**+0.4**
DMNI	**Dmanisi**	**2.35**	**152**	P	**Pb**	**19 11 17.2**	**+0.3**
DMNI				S	**Sg**	**19 11 47.9**	**-1.5**
DVE	**Vedeno**	**2.54**	**99**	*e*Pn	**Pb**	**19 11 18.9**	**-1.3**
DVE				*e*Sn	**Sb**	**19 11 50.6**	**-1.2**
BTLR	**Botlikh**	**2.68**	**105**	*e*Pn	**Pn**	**19 11 19.4**	**+1.5**
BTLR				*e*Sn	**Sb**	**19 11 54.0**	**-1.9**
DBC	**Dubki**	**3.04**	**96**	*e*Pn	**Pb**	**19 11 25.6**	**-3.0**
DBC				*e*Sn	**Sb**	**19 12 02.8**	**-3.4**
LGD	**Lagodekhi**	**3.05**	**120**	P	**Pb**	**19 11 28.9**	**+0.2**
LGD				S	**Sb**	**19 12 05.3**	**-1.0**
XNZR	**Khunzakh**	**3.06**	**105**	*e*Pn	**Pb**	**19 11 25.9**	**-3.2**
XNZR				*e*Sn	**Sn**	**19 12 02.5**	**+2.1**
UNCR	**Uncukul**	**3.08**	**102**	*e*Pn	**Pb**	**19 11 26.4**	**-2.8**
UNCR				*e*Sn	**Sb**	**19 12 03.2**	**-4.0**
KRNR	**Karanay**	**3.13**	**99**	*e*Pn	**Pb**	**19 11 28.4**	**-1.9**
KRNR				*e*Sn	**Sn**	**19 12 04.2**	**+2.1**
ARKR	**Arakani**	**3.25**	**103**	*e*Pn	**Pn**	**19 11 26.9**	**+1.2**
ARKR				*e*Sn	**Sn**	**19 12 05.6**	**+0.8**
KMKR	**Kumukh**	**3.48**	**110**	*e*Pn	**Pb**	**19 11 32.5**	**-3.7**
KMKR				*i* Sn	**Sn**	**19 12 12.9**	**+2.2**

IDC 30 19:14:16.4±1.6, 17°.39S×177°.90W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=54.4km s-min=31.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.24**	**191**	P	P	19 19 04.1	+0.1
	2.0nm,0.4s,baz=20,slow=15,SNR=1.4 2.0nm,0.4s						
STKA	**Stephens Creek**	**39.30**	**241**	P	P	19 21 47.4	0.0
	2.5nm,0.8s,baz=36,slow=10,SNR=4.2 2.5nm,0.8s						
WRA	**Warramunga Arr**	**45.21**	**259**	P	P	19 22 35.6	-0.1
	0.7nm,0.5s,baz=88,slow=6.0,SNR=1.6 0.7nm,0.5s						
ASAR	**Alice Springs**	**45.40**	**254**	P	P	19 22 36.9	-0.3
	2.8nm,0.4s,baz=89,slow=8.4,SNR=17 2.8nm,0.4s						
TXAR	**Lajitas Array**	**85.31**	**57**	P	P	19 26 55.8	0.0
	0.5nm,0.8s,baz=220,slow=8.3,SNR=4.5 0.5nm,0.8s						

*IDC **30** 19:14:49.3±1.7, 7°.16S×127°.74E, h0km, mb3.2/2, mbtmp3.7/4, ML4.1/2, Error ellipse: s-maj=205.3km s-min=29.6km az=67.0*

*DJA **30** 19:15:05.9±0.4, 8°.5S±4°×12°.8E±°, h205km±13km, M4.4/7, mb4.1/7, MLv4.6/6*

ISC 30 19:15:07.2±0.8, 7°.64S±0°.08×128°.23E±0°.08, h200km, n19, σ2s74/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.06**	**97**	P	**Pn**	**19 15 58.1**	**+0.6**
SOEI	**Soe**	**4.45**	**241**	P	**Pn**	**19 16 13.3**	**-1.5**
SOEI	**Soe**	**4.45**	**241**	P	**Pn**	**19 16 13.7**	**-1.1**
MTN	**Manton Dam**	**5.91**	**151**	P	**Pn**	**19 16 33.6**	**+0.3**
FAKI	**Fak Fak**	**6.16**	**41**	P	**Pn**	**19 16 34.4**	**-2.2**
FAKI	**Fak Fak**	**6.16**	**41**	P	**Pn**	**19 16 34.1**	**-2.5**
	47nm,1.4s,0.2nm						
KDU	**Kakadu**	**6.53**	**141**	P	**Pn**	**19 16 41.7**	**+0.4**
KMPI	**Kaimana, Papua**	**6.72**	**54**	P	**Pn**	**19 16 42.9**	**-1.0**
	241nm,0.7s,0.7nm						
KNRA	**Kununurra**	**8.01**	**176**	P	**Pn**	**19 17 00.6**	**0.0**
PLAI	**Plampang**	**10.42**	**263**	P	**Pn**	**19 17 30.5**	**-1.4**
	33nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.70**	**193**	P	**Pn**	**19 17 35.5**	**0.0**
WRA	**Warramunga Arr**	**13.59**	**155**	Pn	**Pn**	**19 18 12.0**	**-0.1**
	0.7nm,0.3s,baz=328,slow=13,SNR=22						
WRA				Sn	**S**	**19 20 35.5**	**-8.1**
	1.4nm,0.3s,baz=332,slow=25,SNR=11 2.3nm,0.6s						
ASAR	**Alice Springs**	**16.84**	**162**	P	**Pn**	**19 18 54.5**	**+2.7**
	0.8nm,0.3s,baz=343,slow=12,SNR=78						
ASAR				S	**S**	**19 21 55.8**	**-0.3**
	0.9nm,0.6s,baz=346,slow=25,SNR=6.2 4.1nm,0.6s						
AS01	**Alice Springs**	**16.86**	**162**	P	**Pn**	**19 18 55.0**	**+3.1**
QIS	**Mount Isa**	**16.91**	**141**	P	**Pn**	**19 18 55.8**	**+3.2**
WRKA	**Warakurna**	**17.30**	**180**	P	**Pn**	**19 18 59.7**	**+2.5**
OOD	**Oodnadatta**	**21.26**	**162**	P	**P**	**19 19 41.6**	**+3.7**
SONM	**Songino Array**	**58.51**	**343**	P	**P**	**19 24 42.9**	**+0.3**
	0.2nm,0.7s,baz=147,slow=7.5,SNR=1.6 0.2nm,0.7s						
MKAR	**Makanchi Array**	**67.81**	**328**	P	**P**	**19 25 45.3**	**+1.7**
	0.1nm,0.4s,baz=127,slow=8.0,SNR=1.7 0.1nm,0.4s						

*NEIC **30** 19:21:28.4±1.9, 55°.65N±0°.09×149°.2W±0°.1, h8km±7km, ML3.7/31, ML3.4(AEIC), Error ellipse: s-maj=13.1km s-min=7.7km az=159.0*

*AEIC **30** 19:21:34.5±1.5, 55°.76N±0°.09×149°.2W±0°.1, h8km±8km, Error ellipse: s-maj=13.9km s-min=9.5km az=170.0*

ISC 30 19:21:28.6±1.5, 55°.75N±0°.10×149°.20W±0°.05, h10km, n116, σ1s43/119, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.70**	**305**		**Pn**	**19 22 11.9**	**-0.1**
OHAK	**Old Harbor**	**2.70**	**305**		**Sn**	**19 22 43.0**	**-1.7**
OHAK	**Old Harbor**	**2.70**	**305**	P	**Pn**	**19 22 12.9**	**+0.9**
	baz=123						
OHAK				S	**Sn**	**19 22 43.0**	**-1.7**
	baz=123						
KDAK	**Kodiak Island**	**2.76**	**319**		**Pn**	**19 22 13.9**	**+1.2**
KDAK	**Kodiak Island**	**2.76**	**319**		**Sn**	**19 22 44.0**	**-2.1**
KDAK	**Kodiak Island**	**2.76**	**319**	S	**Sn**	**19 22 44.0**	**-2.1**
	baz=137						
SII	**Sitkinak Islan**	**2.90**	**288**		**Pn**	**19 22 15.5**	**+0.8**
SII				IAML		19 23 05.5	
	comp=E,148nm,2.8s						
SII				IAML		19 23 54.8	
	comp=N,210nm,2.6s						
SII	**Sitkinak Islan**	**2.90**	**288**		**Sn**	**19 22 48.0**	**-1.7**
SII	**Sitkinak Islan**	**2.90**	**288**	P	**Pn**	**19 22 15.8**	**+1.1**
	baz=106						
SII				S	**Sn**	**19 22 48.0**	**-1.7**
	baz=106						
Q20K	**Shuyak Island**	**3.35**	**330**	P	**Pn**	**19 22 22.2**	**+1.2**
	baz=148						
Q20K				S	**Sn**	**19 23 00.1**	**-0.6**
	baz=148						
SYI	**Shuyak Island**	**3.35**	**330**		**Pn**	**19 22 21.8**	**+0.9**
SYI	**Shuyak Island**	**3.35**	**330**		**Sn**	**19 23 00.1**	**-0.6**
R18K	**Karluk**	**3.42**	**304**		**Pn**	**19 22 23.4**	**+1.5**
R18K	**Karluk**	**3.42**	**304**	IAML		19 24 32.1	
	comp=N,98nm,2.5s						
CNPM	**China Poot**	**3.94**	**345**		**Pn**	**19 22 29.4**	**+0.3**
CNPM				IAML		19 23 05.0	
	comp=N,72nm,3.4s						
CNPM				IAML		19 24 49.2	
	comp=E,66nm,2.9s						
CNPM	**China Poot**	**3.94**	**345**		**Sn**	**19 23 13.9**	**-1.4**
Q19K	**Cape Douglas,**	**3.99**	**325**	Pn	**Pn**	**19 22 31.6**	**+1.9**
Q19K				IAML		19 24 41.3	
	comp=N,164nm,1.9s						
BRSE	**Bradley Lake S**	**4.09**	**349**		**Pn**	**19 22 31.8**	**+0.7**
BRSE	**Bradley Lake S**	**4.09**	**349**	P	**Pn**	**19 22 31.6**	**+0.6**
	baz=168						
BRLK	**Bradley Lake**	**4.12**	**348**	Pn	**Pn**	**19 22 32.2**	**+0.6**
BRLK				IAML		19 25 18.4	
	comp=E,74nm,3.3s						
BRLK				IAML		19 25 19.6	
	comp=N,62nm,3.3s						
P23K	**Montague Islan**	**4.37**	**12**		**Pn**	**19 22 35.9**	**+1.0**
P23K	**Montague Islan**	**4.37**	**12**	P	**Pn**	**19 22 35.9**	**+1.0**
	baz=193						
CNTC	**Contact Creek**	**4.44**	**307**		**Pn**	**19 22 37.5**	**+1.6**
P19K	**Oil Pt**	**4.47**	**333**	Pn	**Pn**	**19 22 37.8**	**+1.5**
P19K				IAML		19 24 16.6	
	comp=E,86nm,2.7s						
IVE	**Iliamna Volcan**	**4.74**	**336**		**Pn**	**19 22 41.2**	**+1.2**
O22K	**Cooper Landing**	**4.75**	**357**	Pn	**Pn**	**19 22 40.7**	**+0.6**
O22K				IAML		19 23 40.1	
	comp=N,59nm,0.7s						
O22K				IAML		19 23 57.9	
	comp=E,67nm,2.3s						
SLKM	**Skilak Lake**	**4.80**	**354**		**Pn**	**19 22 41.7**	**+0.9**
HIN	**Hinchinbrook I**	**4.88**	**16**		**Pn**	**19 22 42.2**	**+0.4**
HIN				IAML		19 23 33.7	
	comp=N,83nm,3.0s						
HIN	**Hinchinbrook I**	**4.88**	**16**		**Sn**	**19 23 36.5**	**-1.8**
P18K	**Big Mountain,**	**4.88**	**321**	Pn	**Pn**	**19 22 42.8**	**+0.8**
P18K				IAML		19 24 20.7	
	comp=N,52nm,3.1s						
KAIM	**Kayak Island**	**4.91**	**29**		**Pn**	**19 22 43.4**	**+1.1**
KAIM	**Kayak Island**	**4.91**	**29**		**Sn**	**19 23 36.0**	**-3.0**
KAIM	**Kayak Island**	**4.91**	**29**	P	**Pn**	**19 22 43.5**	**+1.2**
	baz=213						
KAIM				S	**Sn**	**19 23 36.0**	**-3.0**
	baz=213						
RDSO	**Redoubt South**	**5.08**	**340**		**Pn**	**19 22 45.6**	**+0.8**
RSO	**Redoubt South**	**5.08**	**340**	Pn	**Pn**	**19 22 45.1**	**+0.2**
CHGN	**Chignik**	**5.20**	**280**	Pn	**Pn**	**19 22 47.1**	**+0.9**
CHGN				IAML		19 23 48.9	
	comp=N,56nm,1.1s						
CHGN				IAML		19 25 48.0	
	comp=E,55nm,1.9s						
O18K	**Koktuh Hills**	**5.22**	**325**	Pn	**Pn**	**19 22 47.2**	**+0.7**
O18K				IAML		19 23 30.2	
	comp=E,35nm,3.7s						
O18K				IAML		19 24 26.2	
	comp=N,34nm,2.9s						
RAGM	**Ragged Mountai**	**5.23**	**25**	Pn	**Pn**	**19 22 48.0**	**+1.2**
GOAT	**Goat Mountain**	**5.39**	**24**		**Pn**	**19 22 50.4**	**+1.4**
BERG	**Berg Lake**	**5.49**	**30**	Pn	**Pn**	**19 22 51.5**	**+1.1**
SNH	**Sunshine Point**	**5.58**	**35**	Pn	**Pn**	**19 22 52.8**	**+1.2**
KNK	**Knik Glacier**	**5.69**	**4**	Pn	**Pn**	**19 22 53.6**	**+0.5**
BMRM	**Bremner River**	**5.76**	**23**		**Pn**	**19 22 54.6**	**+0.5**
BMRM	**Bremner River**	**5.76**	**23**	P	**Pn**	**19 22 55.4**	**+1.3**
	baz=206						
P16K	**Nushagak River**	**5.78**	**308**		**Pn**	**19 22 55.4**	**+1.2**
N19K	**Bonanza Creek**	**5.79**	**333**	Pn	**Pn**	**19 22 53.4**	**-1.1**
BARK	**Barkley Ridge**	**5.87**	**35**		**Pn**	**19 22 56.8**	**+1.2**
CNBA	**Chernabura Isl**	**6.01**	**265**	Pn	**Pn**	**19 22 57.2**	**-0.2**
KLU	**Klutina**	**6.01**	**15**		**Pn**	**19 22 59.1**	**+1.7**
KLU	**Klutina**	**6.01**	**15**	P	**Pn**	**19 22 59.1**	**+1.7**
	baz=198						
N18K	**Kilae Creek**	**6.07**	**327**	Pn	**Pn**	**19 22 59.2**	**+0.9**
SML	**Sawmill**	**6.09**	**4**	Pn	**Pn**	**19 22 58.5**	**-0.1**
M23K	**Glacier View**	**6.11**	**7**		**Sn**	**19 24 07.8**	**-0.9**
M23K	**Glacier View**	**6.11**	**7**	S	**Sn**	**19 24 07.8**	**-0.9**
	baz=188						
O16K	**Kokwok River B**	**6.13**	**313**	Pn	**Pn**	**19 23 00.3**	**+1.3**
SCM	**Sheep Creek Mo**	**6.18**	**8**	Pn	**Pn**	**19 23 01.5**	**+1.7**
VRDI	**Verde Repeater**	**6.26**	**26**		**Pn**	**19 23 02.3**	**+1.2**
KIAG	**Kiagna River**	**6.31**	**32**		**Pn**	**19 23 03.1**	**+1.3**
SVW2	**Sparrevohn**	**6.32**	**331**	Pn	**Pn**	**19 23 03.2**	**+1.5**
N25K	**Chitina, Valde**	**6.34**	**20**	Pn	**Pn**	**19 23 03.6**	**+1.6**
SKT	**Skwentna**	**6.36**	**350**	Pn	**Pn**	**19 23 02.8**	**+0.5**
GLB	**Gilahina Butte**	**6.36**	**24**		**Pn**	**19 23 03.6**	**+1.3**
N17K	**Nushagak Hills**	**6.38**	**322**	Pn	**Pn**	**19 23 03.9**	**+1.3**
PCA	**Pinnacle**	**6.46**	**44**		**Pn**	**19 23 05.2**	**+1.6**
PTPK	**Patty Peak**	**6.50**	**30**		**Pn**	**19 23 05.3**	**+1.4**
PNL	**Peninsula**	**6.56**	**49**		**Pn**	**19 23 06.5**	**+1.6**
M24K	**Tolsona, Glenn**	**6.56**	**13**	Pn	**Pn**	**19 23 06.0**	**+0.9**
BCPM	**Bancas Point**	**6.62**	**47**		**Pn**	**19 23 07.4**	**+1.6**
BARN	**Barnard Glacie**	**6.63**	**34**		**Pn**	**19 23 07.5**	**+1.3**
CTGM	**Chitina Glacie**	**6.67**	**35**		**Pn**	**19 23 07.5**	**+0.9**
O15K	**Ungalikthiuk R**	**6.68**	**305**		**Pn**	**19 23 08.5**	**+1.9**
CUT	**Chulitna**	**6.70**	**356**	Pn	**Pn**	**19 23 08.1**	**+1.3**
WAT6	**Susitna Watana**	**6.89**	**6**		**Pn**	**19 23 10.9**	**+1.2**
M17K	**Holitna River**	**7.11**	**326**	Pn	**Pn**	**19 23 13.9**	**+1.4**
O29M	**Mount Kennedy**	**7.25**	**47**		**Pn**	**19 23 16.5**	**+1.9**
P29M	**Windy Craggy**	**7.27**	**53**		**Pn**	**19 23 15.9**	**+1.2**
N15K	**Kwethluk River**	**7.29**	**312**	Pn	**Pn**	**19 23 16.1**	**+1.2**
M16K	**Timber Creek**	**7.36**	**320**	Pn	**Pn**	**19 23 17.0**	**+1.1**
O14K	**Tigyukauivet M**	**7.38**	**303**	Pn	**Pn**	**19 23 17.0**	**+0.7**
DHY	**Denali Highway**	**7.41**	**6**	Pn	**Pn**	**19 23 17.3**	**+0.6**
S31K	**Pelican**	**7.45**	**67**	Pn	**Pn**	**19 23 16.5**	**-0.6**
M27K	**Edge Creek, AK**	**7.62**	**27**	Pn	**Pn**	**19 23 21.3**	**+1.7**
TRF	**Thorofare Moun**	**7.74**	**356**	Pn	**Pn**	**19 23 22.1**	**+0.8**
SIT	**Sitka**	**7.81**	**75**	Pn	**Pn**	**19 23 20.0**	**-2.1**
CAST	**Castle Rocks**	**7.83**	**350**	Pn	**Pn**	**19 23 24.6**	**+2.3**
P30M	**Million Dollar**	**7.85**	**51**		**Pn**	**19 23 24.2**	**+1.6**
KTH	**Kantishna Hill**	**7.88**	**354**	Pn	**Pn**	**19 23 25.6**	**+2.5**
HYT	**Haines Junctio**	**7.99**	**46**	Pn	**Pn**	**19 23 26.1**	**+1.5**
L16K	**Owhat River**	**8.01**	**322**	Pn	**Pn**	**19 23 25.4**	**+0.6**
K20K	**Telida**	**8.02**	**344**	Pn	**Pn**	**19 23 24.5**	**-0.4**
BCAR	**Beaver Creek A**	**8.25**	**24**	Pn	**Pn**	**19 23 30.2**	**+2.1**
S32K	**Killisnoo**	**8.25**	**72**	Pn	**Pn**	**19 23 27.3**	**-0.8**
RIDG	**Independent Ri**	**8.31**	**14**	Pn	**Pn**	**19 23 31.9**	**+2.9**
SKAG	**Skagway**	**8.32**	**58**	Pn	**Pn**	**19 23 28.8**	**-0.3**
K17K	**Iditarod**	**8.39**	**330**	Pn	**Pn**	**19 23 30.0**	**0.0**
R32K	**Eaglecrest**	**8.40**	**66**	Pn	**Pn**	**19 23 30.8**	**+0.6**
O30N	**Mendenhall**	**8.54**	**49**	Pn	**Pn**	**19 23 31.8**	**-0.4**
M29M	**Somme Creek**	**8.68**	**35**	Pn	**Pn**	**19 23 36.6**	**+2.5**
J20K	**Nowinta River**	**8.80**	**346**	Pn	**Pn**	**19 23 37.8**	**+2.0**
L14K	**Kuka Creek**	**8.99**	**314**	Pn	**Pn**	**19 23 40.6**	**+2.3**
WHY	**Whitehorse**	**9.01**	**51**	Pn	**Pn**	**19 23 40.8**	**+2.1**
N31M	**Braeburn, Yuko**	**9.05**	**45**	Pn	**Pn**	**19 23 41.5**	**+2.4**
K15K	**Wolf Creek Mou**	**9.12**	**321**	Pn	**Pn**	**19 23 42.6**	**+2.5**
P32M	**Atlin**	**9.14**	**59**	Pn	**Pn**	**19 23 41.0**	**+0.6**
J26L	**Joseph Creek**	**9.21**	**15**	Pn	**Pn**	**19 23 43.4**	**+2.0**
L29M	**L29M**	**9.28**	**33**	Pn	**Pn**	**19 23 44.5**	**+2.3**
M30M	**Minto, Yukon**	**9.34**	**38**	Pn	**Pn**	**19 23 44.8**	**+1.8**
AKUT	**Akutan**	**9.67**	**267**	Pn	**Pn**	**19 23 47.5**	**0.0**
DAWY	**Dawson**	**9.67**	**26**	Pn	**Pn**	**19 23 48.2**	**+0.6**
Q32M	**Nakina River**	**9.70**	**64**	Pn	**Pn**	**19 23 48.5**	**+0.4**
P33M	**Teslin, Yukon**	**9.77**	**56**	Pn	**Pn**	**19 23 49.8**	**+0.8**
M31M	**Drury Creek, Y**	**10.00**	**44**	Pn	**Pn**	**19 23 54.2**	**+2.2**
K29M	**Barlow Dome**	**10.01**	**31**	Pn	**Pn**	**19 23 53.9**	**+1.6**
H21K	**Melozitna Rive**	**10.09**	**351**	Pn	**Pn**	**19 23 54.8**	**+1.5**
R33M	**Jennings River**	**10.44**	**62**	Pn	**Pn**	**19 23 58.6**	**+0.4**
J30M	**Hart River**	**10.90**	**31**	Pn	**Pn**	**19 24 06.8**	**+2.2**

IDC 30 19:21:41.7±7.6, 5°.16S×145°.59E, h0km, mb3.6/2, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=106.8km s-min=51.4km az=30.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.49**	**160**	Pn	Pn	19 22 51.8	+0.8
	3.8nm,0.3s,baz=343,slow=14,SNR=1.6						
PMG				Sn	Sn	19 23 43.6	-0.5
	1.5nm,0.3s,baz=336,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**18.32**	**216**	P	P	19 25 57.9	+0.2
	0.3nm,0.3s,baz=41,slow=12,SNR=7.2 1.6nm,0.5s						
ASAR	**Alice Springs**	**21.57**	**210**	P	P	19 26 32.1	-1.0
	0.7nm,1.0s,baz=40,slow=9.4,SNR=2.2 0.7nm,1.0s						
STKA	**Stephens Creek**	**26.84**	**188**	P	P	19 27 24.2	+0.3
	2.8nm,0.8s,baz=20,slow=12,SNR=3.9 2.8nm,0.8s						

*REY **30** 19:24:18.7, 64°.67N×17°.44W, h2km*

*MOS **30** 19:24:18.9±1.4, 64°.56N×17°.45W, h10km, mb5.0/71, Error ellipse: s-maj=8.7km s-min=6.2km az=107.0*

*IDC **30** 19:24:19.1±0.5, 64°.64N×17°.61W, h0km, mb4.2/24, mbtmp4.1/29, ML3.1/4, MS4.1/76, Error ellipse: s-maj=14.8km s-min=8.0km az=10.0*

*NEIC **30** 19:24:20.5±2.1, 64°.67N±0°.07×17°.3W±0°.1, h10km±1km, mb5.0/219, Error ellipse: s-maj=11.4km s-min=7.7km az=340.0*

*DNK **30** 19:24:21.6±2.6, 64°.84N×17°.39W, h10km, ML2.1, MS4.9*

*GCMT **30** 19:24:24.5±0.2, 64°.56N±0°.02×16°.99W±0°.04, h12km, MW4.9/129, Moment Tensor Solution. s36,c40; s129,c180; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.83±.06; $M_{\theta\theta}$-1.98±.06; $M_{\phi\phi}$-0.85±.05; $M_{r\theta}$0.63±.21; $M_{r\phi}$0.80±.05; $M_{\theta\phi}$1.83±.22; Best double couple: M_o3.06900×10^{16} NP1:ϕ_s323.00000°, δ54.00000°, λ120.00000°. NP2:ϕ_s98.00000°, δ46.00000°, λ55.00000°. Principal axes: T 3.7230, Plg65.0000°, Azm292.0000°; N -1.3150, Plg24.0000°, Azm124.0000°; P -2.4150, Plg5.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NAO **30** 19:24:25.8±6.7, 64°.63N×16°.25W, ML5.0*

*BER **30** 19:24:26.9±0.6, 64°.65N×16°.61W, h15km, ML5.0(NAO)*

*INMG **30** 19:24:26.0, 65°.37N×16°.55W, h10km*

*BGR **30** 19:24:41.0, 64°.05N×14°.71W, h33km, mb4.7, Ms3.8*

ISC 30 19:24:20.0±0.7, 64°.66N±0°.02×17°.43W±0°.02, h3km±4km, n806, σ2s19/700, mb4.9/210, MS4.0/87, 6C-10D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKIS	**Kista**	**0.06**	**289**	P	**Pg**	**19 24 20.1**	**-1.2**
	baz=276						
IKIS				S	**Sg**	**19 24 21.2**	**-0.9**
	baz=276						
IVON	**Vonarskard**	**0.14**	**278**	P	**Pg**	**19 24 21.7**	**-1.0**
	baz=272						
IVON				S	**Sg**	**19 24 23.8**	**-0.8**
	baz=272						
IURH	**Urdarhals**	**0.21**	**36**	P	**Pg**	**19 24 23.1**	**-0.8**
	baz=39						
IURH				S	**Sg**	**19 24 26.2**	**-0.4**
	baz=39						
IGRF	**Grimsfjall**	**0.26**	**164**	P	**Pg**	**19 24 24.3**	**-0.6**
	baz=164						
IGRF				S	**Sg**	**19 24 28.6**	**+0.3**
	baz=164						
IBJK	**Bruarjokull**	**0.35**	**122**	P	**Pg**	**19 24 25.6**	**-1.0**
	baz=124						
IBJK				S	**Sg**	**19 24 30.5**	**-0.7**
	baz=124						
IHUS	**Husbondi**	**0.37**	**195**	P	**Pg**	**19 24 26.5**	**-0.7**
	baz=194						
IHUS				S	**Sg**	**19 24 32.2**	**+0.2**
	baz=194						
IVOT	**Vottur**	**0.40**	**164**	P	**Pg**	**19 24 26.8**	**-0.8**
	baz=164						
IVOT				S	**Sg**	**19 24 32.9**	**0.0**
	baz=164						
ISKR	**Skrokkalda**	**0.42**	**257**	P	**Pg**	**19 24 26.8**	**-1.3**
	baz=256						
ISKR				S	**Sb**	**19 24 34.1**	**-2.8**
	baz=256						
THOR	**Thorvaldshraun**	**0.43**	**49**	P	**Pg**	**19 24 26.7**	**-1.5**
	baz=50						
IKRE	**Kreppuhraun**	**0.47**	**74**	P	**Pg**	**19 24 27.5**	**-1.4**
	baz=75						
IKRE				S	**Sg**	**19 24 34.1**	**-0.9**
	baz=75						
IJOK	**Jokulheimar**	**0.48**	**226**	P	**Pg**	**19 24 28.0**	**-1.2**
	baz=224						
IJOK				S	**Sg**	**19 24 34.7**	**-0.8**
	baz=224						
IMKO	**Mokollar**	**0.57**	**55**	P	**Pg**	**19 24 29.2**	**-1.6**
	baz=56						
IMKO				S	**Sg**	**19 24 37.8**	**-0.4**
	baz=56						
IIEY	**Innrieyrar**	**0.64**	**208**	P	**Pg**	**19 24 30.6**	**-1.6**
	baz=208						
IIEY				S	**Sg**	**19 24 39.9**	**-0.4**
	baz=208						
IKSK	**Karasker**	**0.65**	**140**	P	**Pg**	**19 24 30.3**	**-2.1**
	baz=140						
IKSK				S	**Sg**	**19 24 40.4**	**-0.3**
	baz=140						
IHAE	**Haedir**	**0.66**	**163**	P	**Pg**	**19 24 30.7**	**-1.9**
	baz=163						
IHAE				S	**Sg**	**19 24 40.9**	**-0.2**
	baz=163						
ISVA	**Svartarkot**	**0.69**	**6**	P	**Pg**	**19 24 31.0**	**-2.1**
	baz=6.5						
ISVA				S	**Sg**	**19 24 40.5**	**-1.6**
	baz=6.5						
IKAL	**Kalfafell**	**0.72**	**189**	P	**Pg**	**19 24 32.0**	**-1.7**
	baz=189						
IKAL				S	**Sg**	**19 24 42.9**	**-0.1**
	baz=189						
IVSH	**V-Sauoahnukur**	**0.75**	**77**	S	**Sg**	**19 24 41.8**	**-2.1**
	baz=78						
IVSH				P	**Pg**	**19 24 32.1**	**-2.1**
	baz=78						
IVAT	**Vatnsfell**	**0.80**	**235**	P	**Pg**	**19 24 33.4**	**-1.8**
	baz=234						
IVAT				S	**Sg**	**19 24 43.5**	**-2.1**
	baz=234						
IKVI	**Kvisker**	**0.80**	**147**	P	**Pg**	**19 24 33.2**	**-2.2**
	baz=147						
IKVI				S	**Sg**	**19 24 44.9**	**-0.8**
	baz=147						
IHOX	**Haoxl**	**0.83**	**154**	P	**Pg**	**19 24 34.0**	**-1.8**
	baz=154						
IHOX				S	**Sg**	**19 24 45.2**	**-1.2**
	baz=154						
IFAG	**Fagurholsmyri**	**0.85**	**156**	P	**Pg**	**19 24 34.2**	**-2.1**
	baz=156						
IADA	**Aoalbol**	**0.87**	**64**	P	**Pg**	**19 24 34.0**	**-2.7**
	baz=65						
ISTE	**Stelbrattur**	**0.96**	**283**	P	**Pg**	**19 24 35.4**	**-3.0**
	baz=282						
IMEL	**Melhnausar**	**0.98**	**19**	P	**Pg**	**19 24 35.7**	**-2.9**
	baz=20						
IMEL				S	**Sg**	**19 24 48.9**	**-2.3**
	baz=20						
ISNB	**Snabyli**	**1.06**	**210**	P	**Pg**	**19

HFS LR LR 19 33 37.6
comp=Z,391nm,19.5s,baz=298,slow=37
comp=Z,2.6nm,0.9s
JETT Jettan, Norway 15.31 55 Pn **Pn 19 27 57.7 +1.0**
JETT Jettan, Norway 15.31 55 Pn **Pn 19 27 57.7 +1.0**
UPNV Upernavik 15.91 317 *eP* **P 19 28 12.5 +4.3**
NEEM North Greenlan 16.43 335 *eP* **P 19 28 16.5 +2.2**
SPITS Spitsbergen Ar 16.87 23 LR LR 19 33 03.6
comp=Z,1jun,21.2s,baz=204,slow=31
ARA0 ARCESS Array S 17.10 55 P **P 19 28 20.6 -0.8**
baz=277,slow=11
ARA0 ARCESS Array S 17.10 55 P **P 19 28 20.6 -0.8**
baz=277,slow=11
ARCES ARCESS Array B 17.10 55 P **Pn 19 28 18.1 -1.5**
ARCES ARCESS Array B 17.10 55 P **P 19 28 20.4 -1.1**
comp=Z,0.1nm,0.3s,baz=289,slow=3.7,SNR=6.1
ARCES LR LR 19 33 51.4
comp=Z,976nm,18.9s,baz=272,slow=33
comp=Z,6.0nm,0.9s
KEV Kevo 17.61 54 P **Pn 19 28 21.5 -4.4**
KEV Kevo 17.61 54 P **Pn 19 28 21.5 -4.4**
KEV pmax pmax
comp=Z,87nm,1.8s
RETH Rethem/Aller, 18.16 118 *eP* **P 19 28 35.5 +2.4**
comp=Z,171nm,2.0s,baz=326,slow=11
BMRD Maredsous 18.53 130 *dP* **Pn 19 28 40.0 +2.6**
BSTI Sart Tilman 18.56 128 *dP* **Pn 19 28 42.6 +4.9**
BGES Gesves 18.57 130 *dP* **Pn 19 28 37.0 -0.8**
BCLA Clavier 18.61 129 *dP* **Pn 19 28 40.6 +2.2**
NRDL Niedersach Rie 18.63 118 *eP* **Pn 19 28 38.1 -0.4**
comp=Z,123nm,1.8s,baz=326,slow=11
DOU Dourbes 18.65 131 *dP* **Pn 19 28 44.2 +5.3**
MEM Membach 18.68 128 *dP* **Pn 19 28 40.6 +1.4**
BTNL Ternell 18.75 128 *dP* **Pn 19 28 40.8 +0.7**
BHOU Houvegnez 18.90 128 *dP* **Pn 19 28 43.7 +1.8**
AHRW Bad Neuenahr-A 19.11 126 *eP* **Pn 19 28 47.4 +3.0**
comp=Z,177nm,2.1s,baz=326,slow=11
ASSE Asse, Remlinge 19.13 118 *eP* **Pn 19 28 46.7 +2.1**
comp=Z,439nm,3.1s,baz=326,slow=11
FLTG Flechtingen 19.19 116 *eP* **Pn 19 28 47.3 +2.0**
comp=Z,107nm,2.0s,baz=326,slow=11
CLZ Clausthal 19.25 119 *eP* **Pn 19 28 48.0 +1.9**
comp=Z,245nm,2.5s,baz=326,slow=11
FIA0 FINESS Array S 19.68 79 P **Pn 19 28 51.5 +0.4**
baz=300,slow=12
FIA0 FINESS Array S 19.68 79 P **Pn 19 28 51.5 +0.4**
baz=300,slow=12
FIA1 FINESS Array S 19.68 79 P **P 19 28 44.4 -5.4**
FINES FINESS Array B 19.68 79 P **P 19 28 44.9 -4.9**
FINES FINESS Array B 19.68 79 P **P 19 28 44.9 -4.9**
FINES FINESS Array B 19.68 79 P **Pn 19 28 50.8 -0.4**
comp=Z,0.4nm,0.3s,baz=297,slow=8.4,SNR=11
comp=Z,4.1nm,0.9s
CLF Chambon-Foret 19.77 138 P **P 19 28 48.1 -2.7**
CLF lAmb lAmb 19 28 58.5
comp=Z,132nm,1.7s
TULEG Thule 19.88 327 P **P 19 28 47.5 -4.4**
UBBA Unterbreizbach 19.93 121 *eP* **Pn 19 28 56.0 +1.9**
comp=Z,143nm,2.4s,baz=326,slow=11
APA0 Apatity Array 20.15 59 P Pn 19 28 57.8 +1.2
baz=315,slow=10
APA0 Apatity Array 20.15 59 P Pn 19 28 57.8 +1.2
baz=315,slow=10
MOX Moxa 20.67 119 *eL* L 19 37 49.4
comp=Z,532nm,19.9s
CLL Collm 20.67 116 P **P 19 28 58.4 -2.3**
CLL Collm 20.67 116 *i* P Pn 19 29 01.3 -1.7
CLL *i* 19 29 07.0
CLL *eS* Sn 19 32 55.0 -1.3
CLL pmax pmax
comp=Z,57nm,1.7s
CLL MLR MLR
comp=Z,300nm,18.8s
CLL Collm 20.67 116 *i* P Pn 19 29 01.3 -1.7
comp=Z,57nm,1.7s
CLL *i* x x 19 29 07.0
CLL *i* x x 19 29 12.0
CLL *ex* x 19 30 53.0
CLL *eS* Sn 19 32 55.0 -1.3
CLL AMS AMS 19 37 00.0
comp=N,300nm,18.3s
CLL AMS AMS 19 37 00.0
comp=E,300nm,21.0s
CLL AMS AMS 19 38 00.0
comp=Z,300nm,18.8s
CLL Collm 20.67 116 *eP* Pn 19 29 01.2 -1.7
comp=Z,47nm,1.6s,baz=326,slow=11
LVZ Lovozero 20.68 58 P **P 19 29 00.1 -0.5**
LVZ Lovozero 20.68 58 P **P 19 29 00.1 -0.5**
LVZ pmax pmax
comp=Z,49nm,1.5s
PLN Plauen 21.01 118 *eP* **P 19 29 06.6 +2.2**
comp=Z,218nm,2.2s,baz=326,slow=11
ECH Echery 21.12 129 P **P 19 29 04.7 -0.9**
ECH Echery 21.12 129 P **P 19 29 04.7 -0.9**
ECH pmax pmax
comp=Z,18nm,1.1s
TANN Tannenbergstha 21.18 118 *eP* **P 19 29 08.5 +2.2**
comp=Z,161nm,2.0s,baz=326,slow=11
GRA1 Grafenberg Arr 21.30 121 P **P 19 29 04.9 -2.6**
GRA1 lAmb lAmb 19 29 12.1
comp=Z,133nm,2.0s
GRF Grafenberg Arr 21.30 121 P **P 19 29 04.9 -2.6**
GRF pmax pmax
comp=Z,133nm,2.0s
GRF Grafenberg Arr 21.30 121 *eP* **P 19 29 10.3 +2.8**
comp=Z,136nm,2.0s,baz=326,slow=11
GRF *eL* L 19 38 31.4
comp=Z,394nm,21.9s
GRFO Grafenberg 21.30 121 P **P 19 29 05.0 -2.5**
GRFO Grafenberg 21.30 121 P **P 19 29 05.0 -2.5**
GRFO pmax pmax
comp=Z,57nm,1.6s
NKC Novy Kostel 21.32 118 *eP* **P 19 29 08.5 +0.8**
NKC *eS* Sn 19 33 12.5 +0.6
NKC Novy Kostel 21.32 118 *eP* **P 19 29 08.5 +0.8**
NKC *eS* Sn 19 33 12.5 +0.6
STU Stuttgart 21.34 125 P **P 19 29 07.1 -0.8**
STU lAmb lAmb 19 29 26.6
comp=Z,124nm,1.8s
STU Stuttgart 21.34 125 P **P 19 29 07.1 -0.8**
STU pmax pmax
comp=Z,124nm,1.8s
BRG Berggiesshubel 21.38 115 *eP* **P 19 29 08.2 -0.1**
BRG Amp 19 29 16.2
comp=Z,35nm,1.4s
BRG Berggiesshubel 21.38 115 *eP* **P 19 29 08.2 -0.1**
BRG S Sn 19 33 20.0 +6.7
BRG pmax pmax
comp=Z,35nm,1.4s
BRG pmax pmax
comp=Z,33nm,1.3s
BRG MLR MLR
comp=E,300nm,19.4s
BRG MLR MLR
comp=N,436nm,17.2s
BRG Berggiesshubel 21.38 115 *eP* **P 19 29 10.4 +2.0**
comp=N,236nm,2.4s,baz=326,slow=11
MANZ Manzenberg 21.39 119 *eP* **P 19 29 10.5 +2.1**
comp=N,8.9nm,1.6s,baz=326,slow=11
BFO Black Forest 21.42 127 P **P 19 29 05.8 -2.9**
BFO Black Forest 21.42 127 P **P 19 29 05.9 -2.9**
BFO pmax pmax
comp=Z,39nm,1.3s
BFO Black Forest 21.42 127 *eP* **P 19 29 11.7 +2.9**
comp=Z,485nm,3.7s,baz=326,slow=11
VSU Vasula 21.54 86 *ceP* **P 19 29 11.7 +1.8**
VSU pmax pmax
comp=Z,40nm,0.8s
ROTZ Rotzenmuhle 21.61 119 *eP* **P 19 29 13.1 +2.3**
comp=Z,42nm,2.6s,baz=326,slow=11
FRB Frobisher Bay 21.78 291 P **P 19 29 10.9 -1.6**
comp=Z,5.3nm,0.8s,baz=90,slow=7.1,SNR=1.8
FRB LR LR 19 37 17.5
comp=Z,407nm,20.1s,baz=70,slow=36
comp=Z,5.3nm,0.8s
PVCC Panska Ves 21.90 115 *eP* **P 19 29 18.5 +4.6**
PVCC *eP* **sP 19 29 18.9 +3.2**
PVCC Panska Ves 21.90 115 *eP* **P 19 29 18.5 +4.6**
PVCC *e* 19 29 18.9
PABE Paberze 22.18 95 P **P 19 29 15.7 -1.1**
PRU Pruhonice 22.32 116 *eP* **P 19 29 20.0 +1.6**
PRU *eS* **S 19 33 28.6 +4.4**
PRU AMS AMS 19 38 50.0
comp=Z,400nm,19.0s

PRU Pruhonice 22.32 116 *eP* **P 19 29 20.0 +1.6**
PRU MLR MLR
comp=Z,400nm,19.0s
PUL Pulkovo 22.33 80 *ceP* **P 19 29 19.1 +0.6**
PUL pmax pmax
comp=Z,54nm,0.6s
WET Wettzell 22.37 119 *eP* **P 19 29 21.2 +2.2**
comp=Z,91nm,2.2s,baz=326,slow=11
CHVC Chvalec 22.44 113 *eP* **P 19 29 19.8 +0.1**
CHVC Chvalec 22.44 113 *eP* **P 19 29 19.8 +0.1**
UBR Ueberruh 22.59 126 *eP* **P 19 29 25.2 +3.8**
comp=Z,70nm,1.7s,baz=326,slow=11
KHC Kasperske Hory 22.64 118 P **P 19 29 20.9 -1.0**
KHC lAmb lAmb 19 29 38.8
comp=Z,88nm,2.0s
KHC Kasperske Hory 22.64 118 *eP* **P 19 29 23.6 +1.7**
KHC *eS* Sn 19 33 39.4 -4.3
KHC AMS AMS 19 39 10.0
comp=Z,500nm,18.5s
KHC Kasperske Hory 22.64 118 *eP* **P 19 29 23.6 +1.7**
KHC MLR MLR
comp=Z,500nm,18.5s
DPC Dobruska-Polom 22.73 113 *eP* **P 19 29 23.9 +1.1**
DPC *eS* **S 19 33 34.7 +2.8**
DPC AMS AMS 19 38 20.0
comp=Z,500nm,20.4s
DPC Dobruska-Polom 22.73 113 *eP* **P 19 29 23.9 +1.1**
DPC *eS* **S 19 33 34.7 +2.8**
DPC MLR MLR
comp=Z,500nm,20.4s
SENIN Lac Senin/Sane 22.80 132 P **P 19 29 22.3 -1.5**
DAVA Damuels 22.85 126 *epP* pP 19 29 26.7 +1.2
comp=Z,12nm,0.9s
SUW Suwalki 22.85 98 P **P 19 29 22.8 -1.2**
SUW lAmb lAmb 19 29 38.7
comp=Z,42nm,0.9s
SUW Suwalki 22.85 98 P **P 19 29 22.8 -1.2**
SUW pmax pmax
comp=Z,42nm,0.9s
SSB Saint Sauveur 22.92 137 P **P 19 29 22.7 -2.2**
SSB Saint Sauveur 22.92 137 P **P 19 29 22.7 -2.2**
SSB pmax pmax
comp=Z,48nm,1.7s
GEC2 GERESS Array S 22.93 119 P **P 19 29 22.7 -2.3**
GEC2 GERESS Array S 22.93 119 *eP* **P 19 29 28.2 +3.3**
comp=Z,47nm,1.4s,baz=326,slow=11
GERES GERESS Array B 22.93 119 P **P 19 29 23.3 -1.6**
GERES GERESS Array B 22.93 119 P **P 19 29 24.4 -0.5**
comp=Z,1.5nm,0.7s,baz=327,slow=9.5,SNR=8.3
GERES LR LR 19 38 32.2
comp=Z,431nm,21.8s,baz=323,slow=37
comp=Z,1.5nm,0.7s
RETA Reutte 22.99 125 *epP* pP 19 29 27.8 +0.9
comp=Z,5.3nm,0.8s,SNR=6.0
KRLC Kraliky 23.13 113 *eP* **P 19 29 28.2 +1.2**
KRLC AMS AMS 19 37 50.0
comp=Z,400nm,17.8s
KRLC Kraliky 23.13 113 *eP* **P 19 29 28.2 +1.2**
KRLC MLR MLR
comp=Z,400nm,17.8s
CKRC Cesky Krumlov 23.18 118 *eP* **P 19 29 29.9 +2.5**
CKRC *eS* Sn 19 33 47.1 -9.2
CKRC AMS AMS 19 38 00.0
comp=Z,500nm,18.5s
CKRC Cesky Krumlov 23.18 118 *eP* **P 19 29 29.9 +2.5**
CKRC MLR MLR
comp=Z,500nm,18.5s
MOTA Moosalm 23.23 125 *epP* pP 19 29 30.0 +0.6
comp=Z,10.0nm,1.2s,SNR=6.1
TREC Trest 23.24 116 *eS* **S 19 33 47.9 +7.1**
DAVOX Davos/Dischmat 23.29 127 LR LR 19 39 20.5
comp=Z,272nm,18.2s,baz=338,slow=39
PGAV Gavieira, Arco 23.33 163 *eP* P 19 29 41.1 +12
comp=Z,39nm,1.9s
PGAV *eS* Sn 19 33 55.2 -5.1
PGAV *eLR* LR 19 35 39.9
comp=Z,628nm,18.0s
SQTA Sankt Quirin 23.37 125 *epP* pP 19 29 30.6 -0.3
comp=Z,12nm,0.9s,SNR=6.8
TUE Stuetta 23.38 128 P **P 19 29 28.2 -1.5**
FETA Feichten 23.38 126 *epP* pP 19 29 30.8 -0.1
comp=Z,8.1nm,1.2s
WATA Walderalm 23.41 124 *epP* pP 19 29 30.8 -0.4
comp=Z,4.6nm,0.7s
WTTA Wattenberg 23.49 124 *epP* pP 19 29 32.0 -0.1
comp=Z,11nm,1.4s
RJOB Jochberg 23.51 122 *eP* **P 19 29 33.7 +2.8**
comp=Z,9.7nm,0.9s,baz=326,slow=11
FUORN Ofenpass-Fuorn 23.56 127 P **P 19 29 30.1 -1.5**
VRAC Vranov 23.66 114 *eP* **P 19 29 33.0 +0.7**
VRAC Vranov 23.66 114 LR LR 19 39 46.7
comp=Z,398nm,18.3s,baz=332,slow=39
MORC Moravsky Berou 23.67 112 P **P 19 29 31.0 -1.4**
MORC lAmb lAmb 19 29 48.8
comp=Z,76nm,2.0s
MORC Moravsky Berou 23.67 112 *eP* **P 19 29 32.6 +0.2**
MORC Moravsky Berou 23.67 112 P **P 19 29 31.0 -1.4**
MORC pmax pmax
comp=Z,76nm,2.0s
EUNU Eureka 23.69 336 P **P 19 29 30.6 -1.8**
LESA Schwarzleotal 23.73 122 *epP* pP 19 29 34.1 -0.2
comp=Z,8.8nm,1.1s
BNI Bardonecchia 23.77 134 P **P 19 29 32.6 -0.9**
BNI Bardonecchia 23.77 134 P **P 19 29 32.6 -0.9**
BNI pmax pmax
comp=Z,29nm,1.6s
KRUC Moravsky 23.78 115 *eP* **P 19 29 34.0 +0.5**
NACGM Naroch 23.79 93 ⇑ *iP* **P 19 29 35.2 +1.8**
comp=Z,19nm,0.8s,baz=312
BIOA Bad Ischl, Aus 23.86 120 *epP* pP 19 29 35.9 +0.4
comp=Z,13nm,1.4s
POLO Lamas de Olo 23.98 162 *eP* **P 19 29 37.9 +2.4**
comp=Z,22nm,1.7s
PVRL Vila Real 24.08 162 *eP* **P 19 29 38.7 +2.3**
comp=Z,44nm,1.8s
OJC Ojcow 24.23 109 P **P 19 29 36.1 -1.5**
OJC lAmb lAmb 19 29 55.5
comp=Z,69nm,2.0s
OJC Ojcow 24.23 109 P **P 19 29 36.2 -1.5**
OJC pmax pmax
comp=Z,69nm,2.0s
MVO Moncorvo 24.29 161 *eP* **P 19 29 40.8 +2.5**
comp=Z,30nm,1.9s
MVO *eS* S 19 34 11.0 +13
MVO *eLR* LR 19 36 12.1
comp=Z,386nm,18.0s
JAVC Velka Javorina 24.45 113 *eP* **P 19 29 41.1 +1.3**
CONA Conrad Observa 24.50 117 *epP* pP 19 29 41.1 -0.5
comp=Z,20nm,2.1s
MNK Minsk 24.53 93 *i* P **P 19 29 38.9 -1.5**
comp=E,7.0nm,0.8s
MNK *i* P **P 19 29 38.9 -1.5**
comp=N,24nm,1.1s
MNK *i* P **P 19 29 38.9 -1.5**
comp=Z,19nm,0.8s,baz=313
MNK *i* PP **PnPn 19 30 08.6 -2.2**
MNK *i* PPP PPP 19 30 16.5
MNK *i* S **S 19 33 58.7 -2.6**
MNK *i* SS **SnSn 19 34 42.4 -2.6**
MNK *i* SSS SSS 19 34 55.9
MNK *i* LQ LQ 19 36 14.7
MNK *i* LR LR 19 37 46.3
MNK *i* LRM MLR 19 39 56.9
comp=E,210nm,17.0s
MNK *i* LRM MLR 19 39 56.9
comp=N,773nm,18.6s
MNK *i* LRM MLR 19 40 06.2
comp=Z,192nm,16.1s
MNK Minsk 24.53 93 *i* P **P 19 29 38.9 -1.5**
MNK *i* PPP PPP 19 30 16.5
MNK *i* S **S 19 33 58.6 -2.6**
MNK *i* SSS SSS 19 34 55.9
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=N,24nm,1.0s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK MLR MLR
comp=E,210nm,17.0s
MNK MLR MLR
comp=N,773nm,19.0s
MNK MLR MLR
comp=Z,192nm,16.0s
CTI Castel Tesino 24.54 125 P **P 19 29 40.2 -0.5**

CTI Castel Tesino 24.54 125 P **P 19 29 40.2 -0.5**
CTI pmax pmax
comp=Z,17nm,1.0s
PVIS Viseu 24.61 162 *eP* **P 19 29 46.0 +4.7**
CLUD Cludinico 24.62 123 P **P 19 29 40.9 -0.5**
CLUD lAmb lAmb 19 29 53.5
comp=Z,31nm,1.2s
SMOL Smolenice 24.63 114 *eP* **P 19 29 44.6 +3.3**
SMOL pmax pmax
comp=Z,19nm,1.5s
MODS Modra-Piesok 24.68 115 *eP* **P 19 29 44.2 +2.4**
MODS pmax pmax
comp=Z,395nm,2.8s
MODS Modra-Piesok 24.68 115 *eP* **P 19 29 44.2 +2.4**
STAL STALIGIAL 24.73 124 P **P 19 29 40.8 -1.5**
STAL lAmb lAmb 19 30 10.1
comp=Z,71nm,2.0s
MYKA Terra Mystica 24.75 122 *epP* pP 19 29 45.4 +1.6
comp=Z,16nm,1.9s,SNR=6.3
RONA Rosalia, Austr 24.86 117 *epP* pP 19 29 44.4 -0.3
comp=Z,11nm,1.3s
PRED Cave del Predi 24.88 122 P **P 19 29 42.9 -0.8**
ARSA Arzberg 24.93 118 pP pP 19 29 43.8 -1.6
comp=Z,4.2nm,0.8s
LANS Liptovska Anna 24.93 111 *eP* **P 19 29 47.2 +3.1**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 24.93 111 *eP* **P 19 29 47.2 +3.1**
MTE Manteigas 24.97 162 *eP* **P 19 29 47.2 +2.7**
comp=Z,54nm,1.5s
MTE *eS* S 19 34 25.5 +17
MTE *eLR* LR 19 36 12.3
comp=Z,662nm,18.0s
OBKA Obir 25.19 121 *epP* pP 19 29 47.3 -0.5
comp=Z,3.4nm,0.8s
VYHS Vyhne 25.20 112 *eP* **P 19 29 47.7 +1.2**
VYHS pmax pmax
comp=Z,73nm,2.2s
VYHS Vyhne 25.20 112 *eP* **P 19 29 47.7 +1.2**
SOKA Soboth 25.23 120 *epP* pP 19 29 46.8 -1.3
comp=Z,6.3nm,1.6s
STHS Stebnicka Huta 25.44 108 *eP* **P 19 29 50.4 +1.7**
STHS Stebnicka Huta 25.44 108 *eP* **P 19 29 50.4 +1.7**
PCBR Castelo Branco 25.53 162 *eP* **P 19 29 54.1 +4.6**
comp=Z,37nm,1.5s
LJU Ljubljana 25.57 121 *eP* **P 19 29 51.0 +1.1**
KLMR Klimovskoe 25.58 72 *eP* **P 19 29 48.4 -1.4**
KLMR S **S 19 34 14.8 -3.1**
KLMR pmax pmax
comp=Z,41nm,1.7s
KLMR MLR MLR
comp=Z,809nm,16.0s
ZCCA Zocca 25.79 128 P **P 19 29 50.5 -1.4**
KOGS Kcg 25.88 119 *i* P **P 19 29 53.5 +0.9**
PMRV Marv??o 25.94 162 *eP* **P 19 29 56.2 +2.9**
comp=Z,38nm,1.4s
PMRV *eLR* LR 19 36 47.2
comp=Z,606nm,18.0s
SCHQ Schefferville 26.07 271 P **P 19 29 52.4 -2.0**
comp=Z,8.1nm,0.8s,baz=28,slow=4.3,SNR=4.8
SCHQ LR LR 19 39 13.9
comp=Z,244nm,20.3s,baz=62,slow=34
comp=Z,8.1nm,0.8s
PSZ Piszkesteto 26.09 112 P **P 19 29 52.9 -1.7**
PSZ lAmb lAmb 19 30 07.0
comp=Z,66nm,1.8s
PSZ Piszkesteto 26.09 112 P **P 19 29 52.9 -1.7**
PSZ pmax pmax
comp=Z,67nm,1.8s
ESDC Sonseca Array 26.23 156 P **P 19 29 55.0 -1.0**
ESDC Sonseca Array 26.23 156 P **P 19 29 56.5 +0.6**
comp=Z,3.7nm,0.8s,baz=348,slow=9.1,SNR=23
ESDC LR LR 19 40 23.8
comp=Z,541nm,18.4s,baz=314,slow=37
comp=Z,3.7nm,0.8s
KOLS Kolonicke sedl 26.24 108 *eP* **P 19 29 59.0 +3.1**
KOLS pmax pmax
comp=Z,17nm,1.5s
KOLS Kolonicke sedl 26.24 108 *eP* **P 19 29 59.0 +3.1**
LVV L'vov 26.28 104 *eP* **P 19 29 57.5 +1.2**
LVV *eS* **S 19 34 25.4 -3.9**
LVV MLR MLR
comp=Z,300nm,14.0s
RES Resolute Bay 26.49 324 P **P 19 29 56.8 -1.1**
RES Resolute Bay 26.49 324 P **P 19 29 56.8 -1.1**
RES pmax pmax
comp=Z,22nm,1.5s
RES Resolute Bay 26.49 324 LR LR 19 40 39.0
comp=Z,413nm,18.3s,baz=32,slow=37
AKASG Malin Array Be 27.81 98 P **P 19 30 08.6 -1.4**
comp=Z,0.7nm,0.5s,baz=322,slow=10.0,SNR=7.5
AKASG LR LR 19 41 15.3
comp=Z,236nm,19.8s,baz=36,slow=36
comp=Z,0.7nm,0.5s
AKBB Malin Array Si 27.81 98 *i* P **P 19 30 09.3 -0.7**
AKBB pmax pmax
comp=Z,21nm,2.3s
OBN Obninsk 27.86 84 ⇓ *iP* **P 19 30 11.0 +0.7**
OBN *i* 19 30 55.8
OBN *eS* **S 19 34 59.3 +5.4**
OBN pmax pmax
comp=Z,35nm,1.5s
OBN MLR MLR
comp=Z,256nm,16.0s
OBN Obninsk 27.86 84 LR LR 19 41 07.1
comp=Z,236nm,20.8s,baz=340,slow=36
MOS Moscow 27.89 82 *eP* **P 19 30 06.7 -3.9**
MOS *e* 19 30 53.4
BURAR Bucovina Array 28.50 106 P **P 19 30 13.2 -3.0**
MLR Muntele Rosu 30.50 108 LR LR 19 44 21.6
comp=Z,216nm,18.8s,baz=278,slow=39
KIRV Kirov 30.96 69 *i* P **P 19 30 37.9 +0.1**
KIRV Kirov 30.96 69 LR LR 19 42 42.3
comp=Z,671nm,19.7s,baz=310,slow=36
PUK Puka 31.00 119 P **P 19 30 34.9 -3.6**
VORR Voronezh 31.39 87 *eP* **P 19 30 41.9 +0.2**
VORR pmax pmax
comp=Z,49nm,2.0s
CLTB Caltabellotta 32.61 131 P **P 19 30 50.2 -2.4**
FNA Florina 32.65 118 P **P 19 30 50.0 -2.8**
FNA Florina 32.65 118 P **P 19 30 50.1 -2.8**
FNA pmax pmax
comp=Z,5.0nm,1.3s
VRH Novokhopyorsk 32.81 85 *eP* **P 19 30 53.0 -1.1**
VRH pmax pmax
comp=Z,38nm,1.9s
MDT Midelt 32.84 160 LR LR 19 44 09.3
comp=Z,284nm,20.5s,baz=344,slow=36
VAE Valguarnera 33.09 130 LR LR 19 43 28.9
comp=Z,173nm,18.5s,baz=343,slow=35
KEST Kesra 33.13 138 P **P 19 30 57.9 +0.7**
comp=Z,1.5nm,0.8s,baz=307,slow=8.2,SNR=3.9
KEST LR LR 19 44 44.9
comp=Z,326nm,18.1s,baz=304,slow=37
comp=Z,1.5nm,0.8s
RDO Rodhopi 33.95 113 P **P 19 31 01.3 -2.9**
BELG Belogornoye 34.46 79 *i* P **P 19 31 08.4 0.0**
BELG pmax pmax
comp=Z,5.0nm,1.0s
AGG Agios Georgios 34.54 119 P **P 19 31 06.0 -3.4**
AGG lAmb lAmb 19 31 13.0
comp=Z,26nm,1.5s
AGG Agios Georgios 34.54 119 P **P 19 31 06.0 -3.4**
AGG pmax pmax
comp=Z,26nm,1.5s
FCC Fort Churchill 34.70 297 P **P 19 31 10.5 0.0**
FCC Fort Churchill 34.70 297 P **P 19 31 10.5 0.0**
FCC pmax pmax
comp=Z,15nm,1.9s
A36M Sachs Harbour 35.23 329 P **P 19 31 13.4 -1.5**
A36M lAmb lAmb 19 31 20.0
comp=Z,18nm,1.1s
A36M Sachs Harbour 35.23 329 P **P 19 31 17.3 +2.4**
baz=45,SNR=5.5
ARU Arti 36.06 66 P **P 19 31 19.6 -2.5**
ARU lAmb lAmb 19 31 32.8
comp=Z,30nm,1.8s
ARU Arti 36.06 66 *i* P **P 19 31 19.7 -2.5**
ARU pmax pmax
comp=Z,38nm,2.4s
ARU Arti 36.06 66 LR LR 19 45 41.1
comp=Z,656nm,19.0s,baz=312,slow=36
NRIK Noril'sk 36.45 35 P **P 19 31 23.3 -2.1**
NRIK lAmb lAmb 19 31 30.0
comp=Z,19nm,1.3s
NRIK Noril'sk 36.45 35 P **P 19 31 23.3 -2.1**

NRIK pmax pmax
comp=Z,19nm,1.3s
NRIK Noril'sk 36.45 35 P **P** **19 31 26.2 +0.8**
comp=Z,1.8nm,0.3s,baz=323,slow=7.7,SNR=11
NRIK LR LR 19 48 18.9
comp=Z,430nm,18.0s,baz=326,slow=39
comp=Z,1.8nm,0.3s
SVE Sverdlovsk 36.59 64 *e*P **P** **19 31 27.4 +0.7**
C36M Paulatuk 36.85 325 P **P** **19 31 26.7 -2.1**
C36M Paulatuk 36.85 325 P **P** **19 31 31.2 +2.4**
baz=43,SNR=8.2
LONY Lake Ozonia 37.01 265 P P 19 31 34.5 +4.0
baz=37
SOC Sochi 37.84 96 *e*P **P** **19 31 34.5 -3.0**
SOC *e* 19 33 08.5
SOC *e*PPP PPP 19 33 33.1
SOC *e*S **S** **19 37 22.1 -6.8**
SOC *e*SS **SnSn** **19 40 02.7 -6.0**
SOC *e*SSS SSS 19 40 37.4
SOC MLR MLR
comp=Z,277nm,21.0s
BR131 Keskin Array S 38.45 105 *i*P **P** **19 31 45.6 +2.8**
BRTR Keskin Array B 38.45 105 P **P** **19 31 40.8 -2.1**
BRTR Keskin Array B 38.45 105 P **P** **19 31 42.7 -0.1**
comp=Z,1.8nm,0.7s,baz=352,slow=7.3,SNR=4.1
BRTR PcP **PcP** **19 33 56.2 +0.4**
comp=Z,0.2nm,0.3s,baz=347,slow=9.3,SNR=2.9
BRTR LR LR 19 49 30.0
comp=Z,135nm,18.2s,baz=282,slow=39
comp=Z,1.8nm,0.7s
IDI Anoyia 38.79 118 LR LR 19 48 34.8
comp=Z,103nm,21.5s,baz=339,slow=38
KIV Kislovodsk 38.81 92 *e*P **P** **19 31 47.1 +1.3**
KIV *e*S **S** **19 37 43.7 -0.2**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,162nm,16.0s
SADO Sadowa 38.85 270 LR LR 19 46 32.0
comp=Z,247nm,20.6s,baz=96,slow=34
KBZ Khabaz 39.09 92 P **P** **19 31 48.0 +0.1**
comp=Z,6.6nm,0.8s,baz=320,slow=10,SNR=6.2
comp=Z,6.6nm,0.8s
YKA Yellowknife Ar 39.24 313 P **P** **19 31 47.8 -1.2**
comp=Z,2.5nm,0.9s,baz=42,slow=8.4,SNR=28
YKA PcP **PcP** **19 33 58.9 +1.1**
comp=Z,1.4nm,1.0s,baz=41,slow=3.8,SNR=9.6
YKA LR LR 19 47 44.4
comp=Z,318nm,18.4s,baz=337,slow=36
comp=Z,2.5nm,0.9s
E46A Sault Ste Mari 39.80 276 P **P** **19 31 53.5 -0.4**
E46A IAmb IAmb 19 31 58.9
comp=Z,44nm,1.4s
INK Inuvik 39.87 329 P **P** **19 31 53.1 -1.1**
INK Inuvik 39.87 329 P **P** **19 31 56.4 +2.3**
baz=37,SNR=8.9
INK Inuvik 39.87 329 P **P** **19 31 53.1 -1.1**
INK pmax pmax
comp=Z,24nm,1.4s
INK Inuvik 39.87 329 LR LR 19 49 38.5
comp=Z,340nm,18.1s,baz=10,slow=38
D28M Stokes Point 40.15 332 P **P** **19 31 58.9 +2.4**
baz=34
AKTO Aktyubinsk 40.26 73 LR LR 19 48 40.8
comp=Z,772nm,18.1s,baz=22,slow=36
WVNY West Valley, N 40.52 267 P **P** **19 31 60.0 +0.1**
WVNY IAmb IAmb 19 32 06.0
comp=Z,56nm,1.3s
F31M Tsiigehtchic 40.61 328 P **P** **19 32 00.1 -0.2**
F31M IAmb IAmb 19 32 05.2
comp=Z,30nm,1.2s
F31M Tsiigehtchic 40.61 328 P **P** **19 32 02.8 +2.5**
baz=36,SNR=9.7
FFC Flin Flon 40.63 298 P **P** **19 32 01.4 +0.7**
FFC Flin Flon 40.63 298 P **P** **19 32 01.4 +0.7**
FFC pmax pmax
comp=Z,23nm,1.5s
D27M Malcolm River 40.66 333 P **P** **19 32 02.9 +2.0**
baz=33
E29M Blow River 40.75 331 P **P** **19 32 00.7 -0.8**
E29M IAmb IAmb 19 32 06.0
comp=Z,39nm,1.8s
E29M Blow River 40.75 331 P **P** **19 32 03.9 +2.4**
baz=34
E28M Babbage River 40.91 332 IAmb IAmb 19 32 07.8
comp=Z,35nm,1.4s
E28M Babbage River 40.91 332 P **P** **19 32 04.9 +2.1**
baz=34
F30M Barrier River 40.93 329 P **P** **19 32 04.7 +1.6**
baz=35
G31M Satah River 41.16 328 IAmb IAmb 19 32 09.4
comp=Z,28nm,1.1s
G31M Satah River 41.16 328 P **P** **19 32 06.8 +2.0**
baz=36
AKH Akhalkalaki 41.23 94 P **P** **19 32 03.2 -2.7**
AKH Akhalkalaki 41.23 94 P **P** **19 32 03.2 -2.7**
AKH pmax pmax
comp=Z,101nm,1.5s
WRGLY Wrigley 41.33 319 P P 19 32 09.9 +3.6
baz=39
A21K Barrow 41.45 341 P **P** **19 32 09.4 +2.2**
baz=25
G30M tAoh Zraii Nji 41.55 329 P **P** **19 32 10.1 +1.9**
G30M IAmb IAmb 19 32 13.8
comp=Z,38nm,1.3s
G30M tAoh Zraii Nji 41.55 329 P **P** **19 32 10.3 +2.1**
baz=34
D25K Kavik River 41.61 335 IAmb IAmb 19 32 14.6
comp=Z,51nm,1.1s
D25K Kavik River 41.61 335 P **P** **19 32 11.4 +2.7**
baz=30
EYMN Ely 41.61 283 P **P** **19 32 12.3 +3.4**
baz=38
ULM Lac du Bonnet 41.63 289 P **P** **19 32 08.6 -0.3**
comp=Z,2.6nm,0.9s,baz=27,slow=9.2,SNR=3.7
ULM LR LR 19 49 11.4
comp=Z,198nm,18.3s,baz=336,slow=36
comp=Z,2.6nm,0.9s
SSPA Standing Stone 41.66 265 P P 19 32 13.1 +3.8
baz=34
C24K Franklin Bluff 41.67 337 P **P** **19 32 11.6 +2.5**
baz=29
F28M Old Crow 41.81 331 P **P** **19 32 09.6 -0.7**
F28M Old Crow 41.81 331 P **P** **19 32 13.8 +3.5**
baz=33,SNR=6.9
B22K Teshekpuk Lake 41.88 339 P **P** **19 32 13.4 +2.7**
baz=26
ABKAR Akbulak array 41.97 73 P **P** **19 32 10.2 -1.5**
ABKAR Akbulak array 41.97 73 P **P** **19 32 09.9 -1.8**
ABKAR IAmb IAmb 19 32 14.3
comp=Z,9.7nm,1.2s
G29M Pine Creek 42.01 330 P **P** **19 32 15.0 +3.1**
baz=33
TIXI Tiksi 42.03 15 P **P** **19 32 11.3 -0.6**
TIXI IAmb IAmb 19 32 17.3
comp=Z,36nm,1.2s
TIXI Tiksi 42.03 15 *ce*P **P** **19 32 14.5 +2.5**
TIXI pmax pmax
comp=Z,69nm,2.5s
EPYK Eagle Plains 42.17 328 P **P** **19 32 12.8 -0.4**
EPYK Eagle Plains 42.17 328 P **P** **19 32 16.6 +3.3**
baz=34,SNR=5.4
D24K Happy Valley 42.19 336 P **P** **19 32 16.7 +3.4**
baz=28
M53A WI Miller and 42.20 268 P P 19 32 18.0 +4.3
baz=35
E25K Arctic Village 42.51 334 P **P** **19 32 15.5 -0.4**
E25K IAmb IAmb 19 32 21.1
comp=Z,34nm,1.4s
E25K Arctic Village 42.51 334 P **P** **19 32 18.9 +3.0**
baz=30,SNR=17
F26K Sheenjek River 42.60 333 P **P** **19 32 19.7 +3.0**
baz=30
H29M Whitestone 42.66 329 P **P** **19 32 20.1 +2.9**
baz=33
D23K Nanushuk River 42.67 337 P P 19 32 20.8 +3.6
baz=27
B20K Meade River 42.73 341 P **P** **19 32 20.9 +3.3**
baz=24
GNI Garni 42.80 94 P **P** **19 32 15.4 -3.4**
GNI IAmb IAmb 19 32 22.8
comp=Z,69nm,1.7s
GNI Garni 42.80 94 P **P** **19 32 15.4 -3.4**
GNI pmax pmax
comp=Z,69nm,1.7s
BMAR Burnt Mountain 42.92 333 P **P** **19 32 17.4 -1.9**
F25K Christian Rive 42.98 334 P **P** **19 32 22.5 +2.7**
baz=30
I30M Mount Dempster 43.05 327 IAmb IAmb 19 32 32.5
comp=Z,36nm,1.9s
I30M Mount Dempster 43.05 327 P **P** **19 32 23.5 +3.0**
baz=33
A19K Wainwright 43.07 343 P P 19 32 24.6 +4.2
baz=22
D22K Ayikyak River 43.07 338 P **P** **19 32 23.6 +3.1**
baz=26
BRVK Borovoye 43.11 62 P **P** **19 32 18.8 -2.2**
BRVK Borovoye 43.11 62 P **P** **19 32 18.8 -2.2**
BRVK pmax pmax
comp=Z,13nm,1.3s
AGMN Agassiz Nation 43.15 287 P P 19 32 25.9 +4.5
baz=38
C21K Knifeblade Rid 43.15 339 P P 19 32 24.9 +3.8
baz=25
G26K Porcupine Rive 43.18 332 P P 19 32 25.1 +3.8
baz=30
BVAR Borovoye Array 43.18 62 P **P** **19 32 22.1 +0.6**
comp=Z,7.1nm,0.8s,baz=314,slow=7.4,SNR=32
BVAR LR LR 19 49 53.6
comp=Z,332nm,19.7s,baz=323,slow=36
comp=Z,7.1nm,0.8s
G40A Rib Lake 43.19 280 P **P** **19 32 20.7 -1.0**
G40A IAmb IAmb 19 32 28.4
comp=Z,25nm,1.3s
E23K Chandalar 43.30 336 P **P** **19 32 25.4 +3.0**
baz=28
MCWV Mont Chateau 43.31 266 P P 19 32 27.0 +4.3
baz=34
H27K Steamboat Moun 43.33 331 P **P** **19 32 25.3 +2.7**
baz=31
O53A New Philadelph 43.41 268 P P 19 32 27.8 +4.2
baz=34
F24K Squaw Lake 43.46 335 IAmb IAmb 19 32 29.4
comp=Z,50nm,1.6s
F24K Squaw Lake 43.46 335 P **P** **19 32 26.5 +2.8**
baz=28
CBN Corbin Frederi 43.47 262 P P 19 32 27.9 +4.0
baz=33
J30M Hart River 43.58 327 P **P** **19 32 24.1 -0.7**
J30M Hart River 43.58 327 P **P** **19 32 28.1 +3.3**
baz=33,SNR=9.4
I28M Miner Creek 43.66 329 P **P** **19 32 27.9 +2.5**
baz=32
G25K Bearman Lake 43.79 333 P **P** **19 32 29.6 +3.4**
baz=29
D20K Etivluk River 43.83 340 P **P** **19 32 29.6 +3.0**
baz=24
I27K Kandik River 43.89 330 P **P** **19 32 30.7 +3.5**
baz=31
C19K Lookout Ridge 43.90 341 P **P** **19 32 26.9 -0.2**
C19K IAmb IAmb 19 32 35.0
comp=Z,21nm,1.2s
C19K Lookout Ridge 43.90 341 P **P** **19 32 30.0 +2.8**
baz=22,SNR=13
B18K Kokolik River 43.95 343 P **P** **19 32 30.5 +3.0**
baz=21
KOTAN Kotaneelee Air 43.96 316 P P 19 32 31.7 +4.0
baz=36
TGTN Hyland Airport 44.04 320 P **P** **19 32 31.7 +3.2**
baz=35
G24K Hadweenzic Riv 44.11 334 IAmb IAmb 19 32 34.8
comp=Z,52nm,1.5s
G24K Hadweenzic Riv 44.11 334 P **P** **19 32 31.6 +2.7**
baz=28
F36A Milaca 44.11 283 P **P** **19 32 29.0 -0.1**
P53A Whipple 44.12 267 P **P** **19 32 29.2 0.0**
P53A IAmb IAmb 19 32 36.6
comp=Z,35nm,1.2s
N49A Columbus Grove 44.13 271 P **P** **19 32 28.8 -0.5**
COLD Coldfoot 44.14 336 P **P** **19 32 32.0 +2.9**
baz=27,SNR=5.8
ACSO Alum Creek Sta 44.19 269 P P 19 32 34.2 +4.4
baz=34
E20K Nigu River 44.19 339 P **P** **19 32 32.1 +2.6**
baz=24
D19K Kuna River 44.26 340 IAmb IAmb 19 32 35.4
comp=Z,43nm,1.6s
D19K Kuna River 44.26 340 P **P** **19 32 33.4 +3.4**
baz=23,SNR=7.2
P52A Corning 44.31 268 P P 19 32 35.8 +5.0
baz=34
SPMN Marine on St. 44.32 282 P P 19 32 35.0 +4.2
baz=36
I26K Coal Creek Min 44.48 331 IAmb IAmb 19 32 36.9
comp=Z,43nm,1.4s
I26K Coal Creek Min 44.48 331 P **P** **19 32 35.2 +3.4**
baz=30
K29M Barlow Dome 44.48 327 P **P** **19 32 31.5 -0.5**
K29M IAmb IAmb 19 32 39.6
comp=Z,24nm,1.6s
K29M Barlow Dome 44.48 327 P P 19 32 35.9 +3.9
baz=32
TAM Tamanrasset 44.49 149 P **P** **19 32 30.3 -2.2**
TAM Tamanrasset 44.49 149 P **P** **19 32 30.3 -2.2**
TAM pmax pmax
comp=Z,25nm,2.0s
EGAK Eagle 44.51 329 P **P** **19 32 31.5 -0.6**
EGAK IAmb IAmb 19 32 36.3
comp=Z,21nm,1.4s
EGAK Eagle 44.51 329 P **P** **19 32 35.1 +3.1**
baz=30,SNR=6.7
C18K Utukok River 44.54 342 IAmb IAmb 19 32 37.9
comp=Z,50nm,1.8s
C18K Utukok River 44.54 342 P **P** **19 32 35.5 +3.2**
baz=21
G23K Bananza Creek 44.57 335 P **P** **19 32 35.9 +3.3**
baz=27
G22K Bettles 44.64 336 P **P** **19 32 36.1 +3.0**
baz=26
F21K Alatna River 44.70 337 P **P** **19 32 36.8 +3.1**
baz=25
DAWY Dawson 44.72 328 P **P** **19 32 33.4 -0.5**
DAWY IAmb IAmb 19 32 38.6
comp=Z,35nm,1.4s
DAWY Dawson 44.72 328 P **P** **19 32 37.0 +3.1**
baz=31,SNR=7.7
PRP Porcupine Dome 44.78 332 P P 19 32 38.1 +3.7
baz=28
FARO Faro, Yukon 44.81 323 P **P** **19 32 35.2 +0.6**
FARO IAmb IAmb 19 32 40.2
comp=Z,44nm,1.7s
FARO Faro, Yukon 44.81 323 P P 19 32 38.3 +3.7
baz=33
P51A Williamsport 44.84 269 P **P** **19 32 35.2 +0.2**
P51A IAmb IAmb 19 32 43.7
comp=Z,13nm,0.9s
MMAI Mount Meron Ar 44.93 109 LR LR 19 53 36.9
comp=Z,62nm,19.1s,baz=272,slow=39
H24K Noodor Dome 44.95 334 P P 19 32 39.7 +4.0
baz=27
C17K Delong Mountai 44.96 343 P **P** **19 32 38.5 +2.9**
baz=20
E19K Redstone River 45.08 339 IAmb IAmb 19 32 41.9
comp=Z,23nm,1.5s
E19K Redstone River 45.08 339 P P 19 32 40.4 +3.8
baz=23
O48B Farmland 45.10 271 P **P** **19 32 36.8 -0.3**
O48B IAmb IAmb 19 32 41.9
comp=Z,31nm,1.3s
O48B Farmland 45.10 271 P **P** **19 32 40.6 +3.5**
baz=34
M31M Drury Creek, Y 45.10 324 P **P** **19 32 37.0 +0.1**
M31M IAmb IAmb 19 32 42.5
comp=Z,35nm,1.6s
M31M Drury Creek, Y 45.10 324 P P 19 32 40.9 +4.1
baz=33,SNR=5.6
JFWS Jewell Farm 45.10 278 P P 19 32 41.6 +4.5
baz=35
F20K Avaraart Lake 45.23 338 P **P** **19 32 41.1 +3.4**
baz=24
L29M L29M 45.25 327 P **P** **19 32 41.1 +3.1**
baz=31
J26L Joseph Creek 45.26 331 IAmb IAmb 19 32 43.1
comp=Z,22nm,1.4s
J26L Joseph Creek 45.26 331 P **P** **19 32 41.5 +3.3**
baz=29
Q51A Peebles 45.34 269 P **P** **19 32 38.4 -0.6**
G21K Allakaket 45.35 337 IAmb IAmb 19 32 44.0
comp=Z,35nm,1.6s
G21K Allakaket 45.35 337 P **P** **19 32 41.8 +3.0**
baz=25
K27K Chicken 45.36 329 IAmb IAmb 19 32 44.5
comp=Z,22nm,1.3s
K27K Chicken 45.36 329 P **P** **19 32 42.2 +3.4**
baz=30
M30M Minto, Yukon 45.38 325 P **P** **19 32 38.3 -0.8**
M30M Minto, Yukon 45.38 325 P **P** **19 32 42.0 +2.8**
baz=32,SNR=9.0
C16K Lisburne Hills 45.41 344 P **P** **19 32 37.6 -1.6**
C16K Lisburne Hills 45.41 344 P **P** **19 32 42.6 +3.4**
baz=18,SNR=7.0
P49A Miami Univ. Ec 45.51 270 P P 19 32 44.9 +4.5
baz=34
POKR Poker Plat Res 45.51 333 P **P** **19 32 42.9 +2.9**
baz=27
J25K Salcha River, 45.54 332 IAmb IAmb 19 32 46.2
comp=Z,27nm,1.2s
J25K Salcha River, 45.54 332 P **P** **19 32 43.7 +3.4**
baz=28
H22K Ishtalitna Cre 45.55 336 P **P** **19 32 43.9 +3.5**
baz=26
BLA Blacksburg 45.60 265 P **P** **19 32 44.3 +3.2**
baz=32
E18K Tukpahlearik C 45.61 341 P **P** **19 32 43.8 +3.1**
baz=21
N32M Quiet Lake 45.65 322 P P 19 32 45.1 +3.8
baz=33
IL31 45.71 332 P **P** **19 32 41.6 0.0**
IL31 IAmb IAmb 19 32 46.7
comp=Z,28nm,1.4s
ILAR Eielson Array 45.71 332 P **P** **19 32 40.2 -1.4**
comp=Z,0.7nm,1.0s,baz=23,slow=8.2,SNR=43
ILAR PcP **PcP** **19 34 20.1 +0.8**
comp=Z,3.2nm,1.1s,baz=352,slow=2.6,SNR=8.6
ILAR LR LR 19 54 07.9
comp=Z,231nm,19.1s,baz=40,slow=39
comp=Z,0.7nm,1.0s
F19K Shaleruckik Mo 45.74 339 IAmb IAmb 19 32 46.6
comp=Z,32nm,1.6s
F19K Shaleruckik Mo 45.74 339 P **P** **19 32 44.8 +3.0**
baz=22
MDM Murphy Dome 45.80 333 P **P** **19 32 42.2 -0.2**
MDM IAmb IAmb 19 32 48.4
comp=Z,27nm,1.2s
COLA College 45.81 333 P **P** **19 32 42.9 +0.6**
COLA College 45.81 333 P **P** **19 32 45.1 +2.8**
baz=27
COLA College 45.81 333 P **P** **19 32 42.9 +0.6**
COLA pmax pmax
comp=Z,33nm,1.2s
SCRK Sand Creek 45.81 330 P **P** **19 32 44.9 +2.3**
baz=29
SFIN Lafayette 45.83 273 P P 19 32 46.9 +4.1
baz=34
I23K Minto, Yukon-K 45.85 334 P **P** **19 32 42.4 -0.3**
I23K **PcP** **19 34 21.3 +1.6**
I23K Minto, Yukon-K 45.85 334 P **P** **19 32 45.3 +2.6**
baz=26,SNR=7.6
M29M Somme Creek 45.90 326 P **P** **19 32 46.4 +3.1**
baz=31
CCB Clear Creek Bu 46.00 333 P **P** **19 32 42.8 -1.1**
CCB IAmb IAmb 19 32 48.8
comp=Z,24nm,1.6s
CCB PcP **PcP** **19 34 23.2 +3.0**
H21K Melozitna Rive 46.02 336 P P 19 32 48.0 +3.9
baz=25
HDA Harding Lake 46.04 332 P **P** **19 32 43.7 -0.5**
HDA IAmb IAmb 19 32 49.9
comp=Z,22nm,1.3s
HDA Harding Lake 46.04 332 P **P** **19 32 47.4 +3.2**
baz=27,SNR=5.7
N31M Braeburn, Yuko 46.06 324 P **P** **19 32 47.9 +3.4**
baz=32
E17K Hotham Inlet 46.09 342 P **P** **19 32 47.9 +3.3**
baz=20,SNR=8.1
L27K Beaver Creek, 46.15 329 P **P** **19 32 48.6 +3.5**
baz=29
RIDG Independent Ri 46.20 331 P **P** **19 32 45.8 +0.2**
RIDG Independent Ri 46.20 331 P P 19 32 49.6 +4.0
baz=28,SNR=7.3
MLY Manley 46.21 335 IAmb IAmb 19 32 51.0
comp=Z,17nm,1.2s
MLY Manley 46.21 335 P **P** **19 32 49.1 +3.5**
baz=26,SNR=13
F18K Selawik 46.24 340 P **P** **19 32 49.0 +3.2**
baz=21
G19K Purcell Mounta 46.28 339 P **P** **19 32 45.4 -0.6**
G19K Purcell Mounta 46.28 339 P **P** **19 32 48.9 +2.9**
baz=22
ASF Jabal al Asfar 46.28 108 LR LR 19 54 11.5
comp=Z,66nm,18.9s,baz=334,slow=39
NEA2 Nenana 46.30 334 P **P** **19 32 45.6 -0.7**
NEA2 Nenana 46.30 334 P **P** **19 32 49.2 +3.0**
baz=26,SNR=6.1
K24K Donnelly Dome 46.34 331 P **P** **19 32 49.7 +3.0**
baz=28
P33M Teslin, Yukon 46.38 321 P P 19 32 51.9 +4.9
baz=32
DGMT Dagmar 46.38 293 P P 19 32 51.8 +4.7
baz=36
BRZS Berezniki 46.46 63 *e*P **P** **19 32 48.6 +0.8**
comp=Z,45nm,2.4s,baz=64
BRZS Berezniki 46.46 63 *e*P **P** **19 32 48.5 +0.8**
BRZS pmax pmax
comp=Z,45nm,2.4s
BVCY Beaver Creek 46.49 328 P P 19 32 52.1 +4.2
baz=30
H20K Anotleneega Mo 46.52 337 P P 19 32 52.2 +4.2
baz=23
WHY Whitehorse 46.54 323 P **P** **19 32 51.8 +3.5**
baz=32
R33M Jennings River 46.56 320 P **P** **19 32 51.9 +3.4**
baz=33
F17K Baldwin Pennin 46.62 341 P **P** **19 32 51.3 +2.6**
baz=20
HDIL Hopedale 46.63 275 P P 19 32 54.8 +5.7
baz=34
H19K Roundabout Mou 46.75 338 P **P** **19 32 53.2 +3.5**
baz=23
G18K Tagagawik 46.75 339 P P 19 32 53.4 +3.6
baz=22
O30N Mendenhall 46.76 324 P P 19 32 54.8 +4.8
baz=31
M27K Edge Creek, AK 46.77 328 P **P** **19 32 53.7 +3.5**
baz=29
YUK4 Talbot Arm 46.90 326 P **P** **19 32 53.4 +2.1**
baz=30
YUK3 Moose Creek 46.95 327 P **P** **19 32 55.0 +3.3**
baz=29
M26K Nabesna, AK 46.99 329 P **P** **19 32 55.1 +3.4**
baz=28
PAX Paxson 47.02 331 P **P** **19 32 55.2 +3.1**
baz=27,SNR=6.0
MCK McKinley 47.04 333 P **P** **19 32 55.3 +3.2**
baz=26,SNR=9.0
HYT Haines Junctio 47.06 325 P **P** **19 32 55.7 +3.2**
baz=30
I20K Naaghedeneel 47.09 337 P **P** **19 32 54.8 +2.4**
baz=23
DLBC Dease Lake 47.10 318 P **P** **19 32 55.8 +3.1**
baz=33
DLBC Dease Lake 47.10 318 LR LR 19 54 53.1
comp=Z,67nm,19.5s,baz=8.5,slow=39
BPAW Bear Paw Mtn. 47.10 334 P **P** **19 32 55.3 +2.7**
baz=25
ECSD EROS Data Cent 47.13 284 P **P** **19 32 53.9 +0.9**
ECSD IAmb IAmb 19 32 59.3
comp=Z,21nm,1.4s
P32M Atlin 47.15 322 P P 19 32 56.8 +3.8
baz=32
YUK6 Outpost Mounta 47.17 325 P P 19 32 57.1 +3.7
baz=30
YUK8 Steele Glacier 47.22 326 P **P** **19 32 56.3 +2.5**
baz=30
Q32M Nakina River 47.29 320 P P 19 32 58.7 +4.4
baz=32
DHY Denali Highway 47.32 332 P **P** **19 32 57.5 +3.0**
baz=26
H18K Honhosa River 47.40 339 P **P** **19 32 53.5 -1.3**
H18K Honhosa River 47.40 339 P P 19 32 59.0 +4.1
baz=21
G17K Kiwalik Mounta 47.42 340 P P 19 32 58.6 +3.6
baz=20
P30M Million Dollar 47.53 324 P P 19 32 59.8 +3.7
baz=30
GCSA Galena City Sc 47.54 338 P P 19 33 00.3 +4.4
baz=22
TRF Thorofare Moun 47.56 333 P P 19 33 00.8 +4.5
baz=25
BILL Bilibino 47.56 358 P **P** **19 32 55.7 -0.4**
BILL IAmb IAmb 19 33 02.6
comp=Z,14nm,1.5s

J20K **Nowinta River** **47.61 336** P P 19 33 00.5 +4.1
baz=23

ZALV **Zalesovo Beam** **47.62 51** P **P** **19 32 55.4 -1.3**
ZALV PcP **PcP** **19 34 27.4 +1.2**

ZALV **Zalesovo Beam** **47.62 51** P **P** **19 32 55.4 -1.3**
ZALV 19 34 27.4

ZALV **Zalesovo Beam** **47.62 51** P **P** **19 32 56.0 -0.7**
comp=Z,2.3nm,0.8s,baz=332,slow=8.4,SNR=12

ZALV PcP **PcP** **19 34 27.9 +1.7**
comp=Z,0.7nm,0.8s,baz=289,slow=4.5,SNR=3.9

ZALV LR LR 19 55 38.1
comp=Z,162nm,18.7s,baz=318,slow=39
comp=Z,2.3nm,0.8s

EIL **Elat** **47.69 111** LR LR 19 55 45.3
comp=Z,33nm,19.2s,baz=250,slow=40

KMSC **Kings Mountain** **47.75 264** P P 19 33 02.2 +4.3
baz=31

G16K **Koyuk River** **47.76 341** P **P** **19 33 00.8 +3.2**
baz=19

F15K **North Star Dit** **47.77 342** P **P** **19 33 01.2 +3.5**
baz=18

WAT1 **Susitna Watana** **47.78 332** P P 19 33 01.6 +3.7
baz=26

O29M **Mount Kennedy** **47.78 325** P **P** **19 33 00.7 +2.6**
baz=30

H17K **Granite Mounta** **47.84 340** P **P** **19 32 58.0 -0.2**

H17K **Granite Mounta** **47.84 340** P **P** **19 33 01.0 +2.8**
baz=20

WAT6 **Susitna Watana** **47.84 332** P **P** **19 33 01.1 +2.6**
baz=26

CAST **Castle Rocks** **47.93 334** P **P** **19 33 01.9 +2.9**
baz=24,SNR=6.3

PLBC **Pleasant Camp** **47.96 323** P **P** **19 33 01.9 +2.7**
baz=30

J19K **Poorman** **48.03 337** P **P** **19 32 58.6 -1.1**
J19K IAmb IAmb 19 33 05.4
comp=Z,26nm,1.4s

J19K **Poorman** **48.03 337** P **P** **19 33 02.8 +3.1**
baz=22

N25K **Chitina, Valde** **48.05 329** P P 19 33 03.7 +3.7
baz=27

KURK **Kurchatov** **48.09 58** P **P** **19 32 58.5 -1.9**
KURK IAmb IAmb 19 33 03.9
comp=Z,13nm,0.9s

KURK **Kurchatov** **48.09 58** P **P** **19 32 58.5 -1.9**
KURK pmax pmax
comp=Z,13nm,0.9s

KURBB **Kurchatov Arra** **48.14 58** P **P** **19 32 60.0 -0.8**
comp=Z,7.8nm,0.9s,baz=324,slow=7.4,SNR=53

KURBB LR LR 19 53 31.6
comp=Z,330nm,18.9s,baz=168,slow=36
comp=Z,7.8nm,0.9s

F14K **Arctic Creek** **48.21 343** P **P** **19 33 04.2 +3.1**
baz=17

TNA **Tin City** **48.32 344** P **P** **19 33 05.4 +3.5**
baz=16

K20K **Telida** **48.35 336** P **P** **19 33 04.3 +2.1**
baz=23

TKL **Tuckaleechee C** **48.36 267** LR LR 19 52 20.1
comp=Z,232nm,19.4s,baz=32,slow=35

G15K **Niukluk** **48.37 342** P **P** **19 33 05.3 +2.9**
baz=18

T35M **Bob Quinn** **48.40 318** P **P** **19 33 06.0 +3.3**
baz=32

PPLA **Purkeypile** **48.43 334** P **P** **19 33 06.1 +3.1**
baz=24

SCM **Sheep Creek Mo** **48.43 331** P **P** **19 33 05.9 +2.9**
baz=26

H16K **Elim** **48.46 341** P **P** **19 33 06.2 +3.2**
baz=19,SNR=5.5

R32K **Eaglecrest** **48.49 321** P **P** **19 33 06.2 +2.9**
baz=31

M23K **Glacier View** **48.55 331** P **P** **19 33 06.4 +2.6**
baz=26

BMRM **Bremner River** **48.62 329** P **P** **19 33 06.4 +2.0**
baz=27

LAO **LASA Array** **48.63 293** P **P** **19 33 04.3 -0.4**

LAO **LASA Array** **48.63 293** P **P** **19 33 07.8 +3.2**
baz=35

SML **Sawmill** **48.66 331** P **P** **19 33 07.3 +2.5**
baz=25

J18K **Innoko River** **48.70 337** P **P** **19 33 04.1 -0.9**
J18K IAmb IAmb 19 33 10.3
comp=Z,28nm,1.6s

J18K **Innoko River** **48.70 337** P **P** **19 33 06.5 +1.5**
baz=22

EGMT **Eagleton** **48.91 297** P **P** **19 33 08.6 +1.7**
baz=35,SNR=13

SEM **Semipalatinsk** **48.94 57** *e*P **P** **19 33 08.0 +0.8**
comp=Z,30nm,2.3s,baz=58

SEM **Semipalatinsk** **48.94 57** *e*P **P** **19 33 08.0 +0.8**
SEM pmax pmax
comp=Z,30nm,2.3s

I17K **Unalakleet** **48.95 339** P **P** **19 33 07.3 +0.5**

I17K **Unalakleet** **48.95 339** P **P** **19 33 08.0 +1.3**
baz=20,SNR=7.2

ANM **Nome** **48.96 342** P **P** **19 33 09.4 +2.5**
baz=17,SNR=7.7

PMR **Palmer** **49.02 332** IAmb IAmb 19 33 12.8
comp=Z,26nm,1.4s

PMR **Palmer** **49.02 332** P **P** **19 33 10.0 +2.6**
baz=25

KNK **Knik Glacier** **49.04 331** P **P** **19 33 10.6 +3.0**
baz=25

TTA **Tatalina** **49.08 336** P **P** **19 33 08.3 +0.3**
TTA IAmb IAmb 19 33 13.1
comp=Z,25nm,1.4s

TTA **Tatalina** **49.08 336** P **P** **19 33 10.7 +2.8**
baz=22

TTA **Tatalina** **49.08 336** P **P** **19 33 08.3 +0.3**
TTA pmax pmax
comp=Z,25nm,1.4s

L20K **Farewell, AK** **49.12 335** P **P** **19 33 10.7 +2.5**
baz=23

SKT **Skwentna** **49.14 333** P **P** **19 33 08.2 -0.1**

SKT **Skwentna** **49.14 333** P **P** **19 33 10.5 +2.1**
baz=24

W50A **Signal Mountai** **49.41 268** P **P** **19 33 10.1 -0.6**

J16K **Anvik River** **49.50 339** P **P** **19 33 10.8 -0.2**

J16K **Anvik River** **49.50 339** P **P** **19 33 13.0 +2.0**
baz=20

M20K **Styx River** **49.54 334** IAmb IAmb 19 33 19.6
comp=Z,15nm,1.1s

M20K **Styx River** **49.54 334** P **P** **19 33 14.1 +2.7**
baz=23

L19K **White Mountain** **49.58 335** P **P** **19 33 12.4 +0.7**
baz=22

RC01 **Rabbit Creek A** **49.60 332** P **P** **19 33 13.5 +1.6**
baz=24

K17K **Iditarod** **49.67 338** P **P** **19 33 14.2 +1.9**
baz=21

RSSD **Black Hills** **49.87 290** P **P** **19 33 17.2 +2.8**
baz=34

N20K **Mount Spurr** **49.99 333** P **P** **19 33 15.4 +0.5**
baz=23

GOGA **Godfrey** **50.14 265** P P 19 33 20.5 +4.3
baz=31

O22K **Cooper Landing** **50.15 332** P **P** **19 33 19.0 +3.0**
baz=24

CAPN **Captain Cook N** **50.18 332** P **P** **19 33 18.8 +2.6**
baz=24

L17K **Donlin** **50.21 337** P **P** **19 33 18.1 +1.7**
baz=20

GEYT **Alibeck** **50.40 84** P **P** **19 33 16.8 -1.5**

GEYT **Alibeck** **50.40 84** P **P** **19 33 16.8 -1.5**
GEYT pmax pmax
comp=Z,8.0nm,1.1s

GEYT **Alibeck** **50.40 84** P **P** **19 33 19.3 +1.1**
comp=Z,2.3nm,0.6s,baz=308,slow=14,SNR=9.4

GEYT LR LR 19 57 12.6
comp=Z,195nm,19.5s,baz=354,slow=39
comp=Z,2.3nm,0.6s

J14K **Nanvaranak Lak** **50.45 341** P **P** **19 33 20.6 +2.4**
baz=18

K15K **Wolf Creek Mou** **50.58 339** P **P** **19 33 19.9 +0.6**
baz=19

S39A **Bolivar** **50.74 276** IAmb IAmb 19 33 24.2
comp=Z,16nm,1.1s

M17K **Holitna River** **50.76 336** P **P** **19 33 21.5 +0.9**
baz=21

N19K **Bonanza Creek** **50.78 334** P **P** **19 33 22.9 +2.0**
baz=22

X48A **Hartselle** **50.79 269** IAmb IAmb 19 33 27.0
comp=Z,23nm,1.2s

L16K **Owhat River** **50.81 338** P **P** **19 33 23.2 +2.2**
baz=20

BRSE **Bradley Lake S** **51.04 332** P **P** **19 33 24.9 +2.1**
baz=24

BTLS **Baital** **51.05 66** *e*P **P** **19 33 24.4 +1.4**
baz=66

BTLS **Baital** **51.05 66** *e*P **P** **19 33 24.4 +1.4**

O20K **Slope Mountain** **51.10 333** P **P** **19 33 25.0 +1.7**
baz=23

RLMT **Red Lodge** **51.12 295** P **P** **19 33 26.0 +2.2**
baz=33,SNR=8.7

L15K **Ungalak Mounta** **51.16 339** P **P** **19 33 24.8 +1.2**
baz=19

YAK **Yakutsk** **51.27 19** *i* P **P** **19 33 24.9 +0.5**
YAK pmax pmax
comp=Z,24nm,2.6s

M16K **Timber Creek** **51.37 337** P **P** **19 33 26.3 +1.1**
baz=20

NEW **Newport** **51.45 303** LR LR 19 55 32.6
comp=Z,218nm,20.8s,baz=16,slow=36

MSO **Missoula** **51.48 299** P **P** **19 33 28.2 +1.8**
baz=33

N17K **Nushagak Hills** **51.53 336** P **P** **19 33 26.8 +0.3**
baz=21

BOZ **Bozeman (W)** **51.64 297** P **P** **19 33 27.5 -0.1**
BOZ IAmb IAmb 19 33 32.9
comp=Z,22nm,1.2s

BOZ **Bozeman (W)** **51.64 297** P **P** **19 33 28.5 +0.9**
baz=33,SNR=11

BOZ **Bozeman (W)** **51.64 297** P **P** **19 33 27.5 -0.1**
BOZ pmax pmax
comp=Z,22nm,1.2s

L14K **Kuka Creek** **51.66 339** P **P** **19 33 28.4 +1.0**
baz=18

DZA **Taraz** **51.76 69** *e*P **P** **19 33 29.8 +1.3**
baz=70

DZA **Taraz** **51.76 69** *e*P **P** **19 33 29.7 +1.3**

M15K **Kasigluk River** **51.96 338** P **P** **19 33 32.7 +3.1**
baz=19

LRAL **Lakeview Retre** **51.98 268** P P 19 33 34.4 +4.4
baz=31

DGZ **Jazzator, Alta** **52.06 53** *i* P **P** **19 33 32.8 +2.1**
DGZ pmax pmax
comp=Z,9.0nm,1.0s

M14K **Bethel** **52.11 339** P **P** **19 33 33.3 +2.6**
baz=18,SNR=7.7

O17K **Koliganek Bris** **52.22 336** P **P** **19 33 34.4 +2.9**
baz=20

H17A **Grant Village** **52.24 295** P P 19 33 37.3 +5.1
baz=33

P18K **Big Mountain,** **52.24 334** P **P** **19 33 34.0 +2.3**
baz=21

N15K **Kwethluk River** **52.37 337** P **P** **19 33 36.0 +3.4**
baz=19

Q20K **Shuyak Island** **52.42 332** P **P** **19 33 35.8 +2.8**
baz=22

SEY **Seymchan** **52.49 6** *i* P **P** **19 33 34.5 +1.0**
SEY pmax pmax
comp=Z,40nm,3.4s

CBKS **Cedar Bluff** **52.52 283** P **P** **19 33 36.8 +2.6**
baz=32

MAKZ **Makanchi** **52.58 59** P **P** **19 33 33.1 -1.3**

MAKZ **Makanchi** **52.58 59** P **P** **19 33 33.1 -1.3**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s

MK31 **Makanchi Array** **52.71 58** *c*e P **P** **19 33 36.0 +0.6**

MKAR **Makanchi Array** **52.71 58** P **P** **19 33 33.8 -1.5**
MKAR PcP **PcP** **19 34 45.9 +0.9**

MKAR **Makanchi Array** **52.71 58** P **P** **19 33 35.2 -0.1**
comp=Z,3.2nm,0.9s,baz=318,slow=6.5,SNR=27

MKAR PcP **PcP** **19 34 46.5 +1.4**
comp=Z,0.7nm,0.9s,baz=29,slow=3.3,SNR=1.7

MKAR LR LR 19 56 16.0
comp=Z,180nm,18.4s,baz=339,slow=36
comp=Z,3.2nm,0.9s

TDK **Taldyqorghan** **52.77 62** *e*P **P** **19 33 37.2 +1.4**
baz=63

TDK **Taldyqorghan** **52.77 62** *e*P **P** **19 33 37.2 +1.4**

MOOW **Moose Ponds** **52.85 295** P **P** **19 33 36.7 0.0**

N14K **Kuskokwak Cree** **52.86 338** P **P** **19 33 38.4 +2.1**
baz=18

P16K **Nushagak River** **53.08 336** P **P** **19 33 39.1 +1.2**
baz=20

ZSN **Zaisan** **53.08 56** *e*P **P** **19 33 38.1 0.0**
baz=57

ZSN **Zaisan** **53.08 56** *e*P **P** **19 33 38.1 0.0**

M11K **Mekoryuk** **53.09 341** P **P** **19 33 40.1 +2.2**
baz=16

TOA0 **Torodi Ar. Sit** **53.12 156** P **P** **19 33 36.9 -1.8**
TOA0 IAmb IAmb 19 33 46.7
comp=Z,29nm,1.8s

TORD **Torodi Ar. Bea** **53.12 156** P **P** **19 33 37.3 -1.4**
comp=Z,2.6nm,0.8s,baz=350,slow=9.1,SNR=18

TORD LR LR 19 56 22.4
comp=Z,131nm,19.6s,baz=327,slow=36
comp=Z,2.6nm,0.8s

CHKK **Chushkaly** **53.19 64** *e*P **P** **19 33 40.2 +1.2**
baz=65

CHKK **Chushkaly** **53.19 64** *e*P **P** **19 33 40.2 +1.2**

BW06 **Boulder Array** **53.21 293** P **P** **19 33 38.5 -0.9**
BW06 IAmb IAmb 19 33 43.0
comp=Z,13nm,0.9s

BW06 **Boulder Array** **53.21 293** P **P** **19 33 40.5 +1.1**
baz=32,SNR=11

PD31 **Pinedale Array** **53.21 293** P **P** **19 33 38.6 -0.8**
PD31 IAmb IAmb 19 33 43.0
comp=Z,12nm,0.9s

PDAR **Pinedale Array** **53.21 293** P **P** **19 33 38.5 -0.8**
comp=Z,9.1nm,1.0s,baz=54,slow=7.5,SNR=22

PDAR LR LR 19 55 56.4
comp=Z,244nm,20.4s,baz=30,slow=36
comp=Z,9.1nm,1.0s

KDAK **Kodiak Island** **53.22 332** LR LR 19 57 54.2
comp=Z,183nm,20.0s,baz=55,slow=38

AAK **Ala-Archa** **53.24 67** P **P** **19 33 37.7 -1.8**
AAK IAmb IAmb 19 33 44.4
comp=Z,31nm,1.8s

AAK **Ala-Archa** **53.24 67** P **P** **19 33 37.7 -1.8**
AAK pmax pmax
comp=Z,31nm,1.8s

AAK **Ala-Archa** **53.24 67** LR LR 19 56 05.8
comp=Z,396nm,19.9s,baz=338,slow=36

N23A **Red Feather La** **53.34 289** IAmb IAmb 19 33 45.7
comp=Z,20nm,1.1s

N23A **Red Feather La** **53.34 289** P **P** **19 33 42.3 +1.9**
baz=32,SNR=6.0

AAA **Alma-Ata** **53.71 65** *e*P **P** **19 33 44.2 +1.4**
baz=65

AAA **Alma-Ata** **53.71 65** *e*P **P** **19 33 44.2 +1.4**

PLID **Pearl Lake** **53.73 300** IAmb IAmb 19 33 46.9
comp=Z,22nm,1.5s

MDOK **Medeo** **53.80 65** *e*P **P** **19 33 44.8 +1.1**
baz=65

MDOK **Medeo** **53.80 65** *e*P **P** **19 33 44.7 +1.1**

DWPF **Disney Wildern** **53.86 259** P **P** **19 33 47.6 +3.5**
baz=29

TNSS **Tian-Shan** **53.86 65** *e*P **P** **19 33 44.9 +0.5**
baz=66

TNSS **Tian-Shan** **53.86 65** *e*P **P** **19 33 44.9 +0.5**

BTK **Batken** **53.94 72** P **P** **19 33 41.6 -3.0**
BTK IAmb IAmb 19 33 47.6
comp=Z,18nm,1.1s

BTK **Batken** **53.94 72** P **P** **19 33 41.6 -3.0**
BTK pmax pmax
comp=Z,18nm,1.1s

ISCO **Idaho Springs** **54.13 288** P **P** **19 33 48.0 +1.7**
baz=32

KPKS **Kokpek** **54.17 63** *e*P **P** **19 33 47.5 +1.2**
comp=Z,28nm,2.1s,baz=64

KPKS **Kokpek** **54.17 63** *e*P **P** **19 33 47.4 +1.2**
KPKS pmax pmax
comp=Z,28nm,2.1s

SIMJ **Simiganj** **54.38 74** P **P** **19 33 47.4 -0.5**

SATY **Saty** **54.41 64** *e*P **P** **19 33 49.4 +1.3**
comp=Z,20nm,2.3s,baz=64

SATY **Saty** **54.41 64** *e*P **P** **19 33 49.3 +1.2**
SATY pmax pmax
comp=Z,20nm,2.3s

BMO **Blue Mountains** **54.41 300** P **P** **19 33 47.9 -0.1**
BMO IAmb IAmb 19 34 02.4
comp=Z,18nm,1.6s

BMO **Blue Mountains** **54.41 300** P **P** **19 33 47.9 -0.1**
BMO pmax pmax
comp=Z,18nm,1.7s

HLID **Hailey** **54.42 297** P **P** **19 33 50.9 +2.7**
baz=32

UZB **Uzynbulak** **54.57 63** *e*P **P** **19 33 50.5 +1.2**
comp=Z,37nm,2.3s,baz=64

UZB **Uzynbulak** **54.57 63** *e*P **P** **19 33 50.5 +1.2**
UZB pmax pmax
comp=Z,37nm,2.3s

Q24A **Divide** **54.64 287** P **P** **19 33 51.0 +0.9**
baz=32

MOY **Mondy** **54.65 42** *e*P **P** **19 33 51.9 +2.2**
MOY pmax pmax
comp=Z,73nm,3.3s

SHLS **Shalkode** **54.73 63** *e*P **P** **19 33 52.8 +2.4**
comp=Z,48nm,2.2s,baz=63

SHLS **Shalkode** **54.73 63** *e*P **P** **19 33 52.8 +2.4**
SHLS pmax pmax
comp=Z,48nm,2.2s

O20A **White River Ci** **54.91 290** P **P** **19 33 50.4 -1.4**

O20A **White River Ci** **54.91 290** P **P** **19 33 53.1 +1.3**
baz=32

HWUT **Hardware Ranch** **54.98 294** IAmb IAmb 19 33 57.2
comp=Z,20nm,1.1s

X34A **Smith Ranch, M** **55.29 278** P **P** **19 33 55.0 +0.6**

HVU **Hansel Valley** **55.31 295** P **P** **19 33 55.2 +0.6**
HVU IAmb IAmb 19 33 59.0
comp=Z,26nm,1.8s

HVU **Hansel Valley** **55.31 295** P **P** **19 33 55.2 +0.6**
HVU pmax pmax
comp=Z,26nm,1.8s

LOOK **Love County** **55.53 277** **P** **19 33 56.3 +0.2**

BSUT **Blindstream Ca** **55.58 293** P **P** **19 33 56.5 -0.3**
BSUT IAmb IAmb 19 34 01.3
comp=Z,22nm,1.7s

WMOK **Wichita Mounta** **55.58 279** **P** **19 33 56.2 -0.3**
WMOK IAmb IAmb 19 34 02.5
comp=Z,16nm,1.3s

WMOK **Wichita Mounta** **55.58 279** P **P** **19 33 56.2 -0.3**
WMOK pmax pmax
comp=Z,17nm,1.3s

SPUT **South Promonto** **55.58 295** P **P** **19 33 55.8 -0.8**
SPUT IAmb IAmb 19 34 01.1
comp=Z,28nm,1.6s

MA2 **Magadan** **55.77 7** LR LR 19 57 10.7
comp=Z,62nm,18.7s,baz=322,slow=35

RTBA **Rita Blanca** **55.79 284** P **P** **19 33 57.6 -0.5**
RTBA IAmb IAmb 19 34 02.6
comp=Z,28nm,1.4s

SDCO **Great Sand Dun** **55.83 287** P **P** **19 34 00.6 +2.1**
baz=31

T25A **Trinidad** **55.89 285** P **P** **19 34 00.7 +1.7**
baz=31

S14K **Fog Glacier** **55.96 336** P **P** **19 33 59.2 +0.2**
baz=18

BGU **Big Grassy Mou** **56.14 295** P **P** **19 34 00.7 +0.1**
BGU IAmb IAmb 19 34 05.2
comp=Z,20nm,1.7s

WTFS **Witchita Falls** **56.27 278** **P** **19 34 02.1 +0.7**
WTFS IAmb IAmb 19 34 07.0
comp=Z,22nm,1.1s

S22A **4UR Ranch, Cre** **56.37 288** P **P** **19 34 03.2 +0.7**
S22A IAmb IAmb 19 34 07.1
comp=Z,15nm,1.4s

S22A **4UR Ranch, Cre** **56.37 288** P **P** **19 34 04.7 +2.2**
baz=31

ZAK **Zakamensk** **56.45 41** *e*P **P** **19 34 03.6 +1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.0s

P17A **Butcher Ranch,** **56.48 292** P **P** **19 34 03.1 0.0**
P17A IAmb IAmb 19 34 07.2
comp=Z,24nm,1.4s

KSH **Kashi** **56.48 68** P **P** **19 34 06.3 +3.3**
KSH pmax pmax
comp=Z,12nm,1.5s

KSH LR LR
comp=N,500nm,19.9s

KSH LR LR
comp=E,290nm,20.6s

KSH LR LR
comp=Z,460nm,15.6s

NLU **North Lily Min** **56.59 293** P **P** **19 34 04.4 +0.5**
NLU IAmb IAmb 19 34 08.7
comp=Z,23nm,1.4s

DUG **Dugway, Tooele** **56.68 294** P **P** **19 34 05.4 +1.0**
DUG IAmb IAmb 19 34 09.3
comp=Z,24nm,1.6s

DUG **Dugway, Tooele** **56.68 294** P **P** **19 34 06.9 +2.4**
baz=31,SNR=5.9

DUG **Dugway, Tooele** **56.68 294** P **P** **19 34 05.4 +1.0**
DUG pmax pmax
comp=Z,24nm,1.6s

SRU **San Rafael Swe** **56.70 292** P **P** **19 34 05.6 +0.9**
SRU IAmb IAmb 19 34 08.6
comp=Z,13nm,1.2s

SRU **San Rafael Swe** **56.70 292** P **P** **19 34 05.6 +0.9**
SRU pmax pmax
comp=Z,13nm,1.2s

SJG **San Juan** **56.70 239** LR LR 19 52 46.2
comp=Z,74nm,20.9s,baz=66,slow=30

PLPT **Palo Pinto** **57.03 278** P **P** **19 34 07.9 +1.1**

ELK **Elko** **57.15 296** P **P** **19 34 09.1 +1.2**

ELK **Elko** **57.15 296** P **P** **19 34 09.1 +1.2**
ELK pmax pmax
comp=Z,10.0nm,1.4s

ELK **Elko** **57.15 296** LR LR 19 58 16.6
comp=Z,378nm,19.6s,baz=39,slow=36

WMQ **Urumqi** **57.21 56** *e*P **P** **19 34 10.5 +2.4**
WMQ pmax pmax
comp=Z,30nm,0.9s

WMQ LR LR
comp=Z,260nm,21.1s

MVCO **Mesa Verde** **57.51 289** P **P** **19 34 09.7 -0.8**

MVCO **Mesa Verde** **57.51 289** P **P** **19 34 14.0 +3.5**
baz=30

ABTX **Abilene, Hawle** **57.76 279** P **P** **19 34 13.9 +1.9**
baz=30

HMU **Henry Mountain** **57.79 291** P **P** **19 34 11.3 -1.2**
HMU IAmb IAmb 19 34 16.5
comp=Z,35nm,1.6s

MSU **Marysvale** **57.87 293** P **P** **19 34 13.3 +0.3**

MSU **Marysvale** **57.87 293** P **P** **19 34 13.3 +0.3**

MVU **Marysvale** **57.89 293** P **P** **19 34 14.4 +1.2**

MSTX **Muleshoe** **57.92 282** P **P** **19 34 15.2 +1.9**
baz=30

MTPU **Mount Pierson** **58.28 292** P **P** **19 34 16.8 +0.8**
MTPU IAmb IAmb 19 34 20.9
comp=Z,12nm,1.2s

SPR3 **Spring Creek 3** **58.30 295** P **P** **19 34 16.6 +0.5**

Q12A **Willow Creek R** **58.46 295** P **P** **19 34 17.7 +0.6**
Q12A IAmb IAmb 19 34 24.9
comp=Z,29nm,1.5s

DBIC **Dimbokro** **58.57 165** P **P** **19 34 17.4 -0.4**
comp=Z,5.6nm,0.8s,baz=353,slow=7.1,SNR=7.3

DBIC LR LR 20 00 14.9
comp=Z,182nm,18.8s,baz=345,slow=37
comp=Z,5.6nm,0.8s

ANMO **Albuquerque** **58.62 286** P **P** **19 34 19.3 +1.1**

ANMO **Albuquerque** **58.62 286** P **P** **19 34 20.6 +2.4**
baz=30

ANMO **Albuquerque** **58.62 286** *i* P **P** **19 34 19.8 +1.6**
ANMO pmax pmax
comp=Z,33nm,3.9s

ANMO **Albuquerque** **58.62 286** LR LR 19 59 06.5
comp=Z,147nm,18.6s,baz=121,slow=36

BRDY **Brady** **58.63 277** P **P** **19 34 17.7 -0.4**
BRDY IAmb IAmb 19 34 23.4
comp=Z,26nm,1.5s

ZEA **Zeya** **58.84 24** *e*P **P** **19 34 19.9 +0.7**

PKCU **Pink Cliffs** **58.85 292** P **P** **19 34 21.4 +1.5**

SZCU **Shurtz Canyon** **59.02 293** P **P** **19 34 21.5 +0.4**

YBH **Yreka Blue Hor** **59.09 303** LR LR 20 01 21.3
comp=Z,136nm,19.8s,baz=25,slow=38

R11B **Troy Canyon, C** **59.35 295** IAmb IAmb 19 34 27.9
comp=Z,15nm,1.4s

R11B **Troy Canyon, C** **59.35 295** P **P** **19 34 24.5 +1.2**
baz=30,SNR=13

KNB **Kanab** **59.42 292** P **P** **19 34 24.3 +0.6**

KNB **Kanab** **59.42 292** P **P** **19 34 24.3 +0.6**
KNB pmax pmax
comp=Z,30nm,1.6s

PAHR **Pah Rah Range** **59.63 299** P **P** **19 34 25.9 +0.8**
PAHR IAmb IAmb 19 34 32.3
comp=Z,29nm,1.8s

SONM **Songino Array** **59.63 40** P **P** **19 34 23.6 -1.4**

SONM **Songino Array** **59.63 40** P **P** **19 34 24.3 -0.6**
comp=Z,1.9nm,0.9s,baz=332,slow=5.4,SNR=16

SONM LR LR 20 02 42.9
comp=Z,311nm,19.9s,baz=346,slow=39
comp=Z,1.9nm,0.9s

JCT **Junction City** **59.68 278** P **P** **19 34 25.1 -0.2**

JCT **Junction City** **59.68 278** P **P** **19 34 27.7 +2.3**
baz=30

JCT **Junction City** **59.68 278** P **P** **19 34 25.2 -0.2**
JCT pmax pmax

comp=Z,30nm,1.4s
KVN Kaiserville 59.71 298 P **P** **19 34 25.8 +0.1**
KVN IAmb IAmb 19 34 30.0
comp=Z,22nm,1.5s
KVN Kaiserville 59.71 298 P **P** **19 34 25.8 +0.1**
KVN pmax pmax
comp=Z,22nm,1.5s
U15A North Rim 59.72 291 IAmb IAmb 19 34 30.1
comp=Z,13nm,1.2s
ULN Ulaanbaatar 59.78 40 *i* P **P** **19 34 27.2 +1.1**
ULN pmax pmax
comp=Z,37nm,2.7s
PRN Pahroc Range 59.96 294 P **P** **19 34 28.4 +1.0**
PRN IAmb IAmb 19 34 32.6
comp=Z,28nm,1.8s
WUAZ Wupatki 60.14 290 P **P** **19 34 29.6 +0.9**
baz=30,SNR=8.4
NVAR Mina Array Bea 60.33 297 P **P** **19 34 28.4 -1.6**
comp=Z,0.4nm,0.8s,baz=0.0,slow=0.3,SNR=2.5
NVAR LR LR 20 00 28.5
comp=Z,364nm,20.5s,baz=29,slow=36
comp=Z,0.4nm,0.8s
NIL Nilore 60.43 74 P **P** **19 34 29.7 -0.8**
NIL Nilore 60.43 74 P **P** **19 34 29.7 -0.8**
EMB Emerald Bay 60.54 299 P **P** **19 34 31.4 0.0**
EMB IAmb IAmb 19 34 37.7
comp=Z,23nm,1.5s
NIKH Nikolski High 60.64 341 P **P** **19 34 33.3 +1.7**
baz=13
WAKR Walker 60.70 298 P **P** **19 34 33.2 +0.7**
WAKR IAmb IAmb 19 34 37.2
comp=Z,22nm,1.8s
SHPR Sheep Range 60.79 294 P **P** **19 34 33.7 +0.6**
GMN Gold Mountain 60.92 296 P **P** **19 34 34.5 +0.5**
MNTX Cornudas Mount 60.98 283 P **P** **19 34 37.4 +3.2**
baz=29
X16A Lo Mia Camp, P 61.12 290 P **P** **19 34 35.8 +0.4**
X16A IAmb IAmb 19 34 40.8
comp=Z,14nm,1.2s
121A Cookes Peak, D 61.26 286 P **P** **19 34 39.8 +3.4**
baz=29
OMMB Old Mammoth Mi 61.31 298 P **P** **19 34 36.7 -0.1**
OMMB IAmb IAmb 19 34 44.3
comp=Z,11nm,1.5s
V12A Nelson 61.35 293 P **P** **19 34 35.9 -0.9**
V12A IAmb IAmb 19 34 41.4
comp=Z,7.6nm,1.0s
833A Chaparral WMA, 61.37 276 P **P** **19 34 39.5 +2.5**
baz=29
GWY Greenwater Val 61.66 295 P **P** **19 34 39.4 +0.4**
GWY IAmb IAmb 19 34 44.3
comp=Z,20nm,1.3s
SHOC Shoshone, Teco 61.76 294 P **P** **19 34 42.3 +2.8**
baz=29
QSM Queen of Sheba 61.93 295 P **P** **19 34 42.2 +1.6**
CWC Cottonwood Cre 61.99 296 P **P** **19 34 43.4 +2.2**
baz=28
TUQ Turquoise Moun 62.02 294 P **P** **19 34 43.3 +1.8**
baz=29
MPMC Manual Prospec 62.09 295 P **P** **19 34 44.6 +2.7**
baz=28
HBVL Hebbronville 62.16 275 P **P** **19 34 43.6 +1.3**
HEH HeiHe 62.21 25 *eP* **P** **19 34 44.3 +2.0**
PDMCI Parker Dam,Lak 62.31 292 P **P** **19 34 46.2 +3.0**
baz=29
TX31 Lajitas Ar. Si 62.31 280 P **P** **19 34 44.6 +1.2**
TX31 IAmb IAmb 19 34 48.9
comp=Z,14nm,1.6s
TXAR Lajitas Array 62.31 280 P **P** **19 34 42.0 -1.4**
comp=Z,1.8nm,1.0s,baz=96,slow=3.6,SNR=4.0
TXAR LR LR 20 01 13.7
comp=Z,183nm,20.2s,baz=30,slow=36
comp=Z,1.8nm,1.0s
GMRC Granite Mounta 62.49 293 P **P** **19 34 47.1 +2.5**
baz=28,SNR=7.0
SHEM Shemya Is, Ala 62.61 352 LR LR 20 02 23.0
comp=Z,105nm,19.4s,baz=324,slow=36
LRMC Laurel Mtn Rad 62.67 295 P **P** **19 34 48.5 +2.8**
baz=28
TUC Tucson 62.69 288 P **P** **19 34 47.3 +1.4**
TUC Tucson 62.69 288 P **P** **19 34 48.9 +3.0**
baz=29
TUC Tucson 62.69 288 P **P** **19 34 47.3 +1.4**
TUC pmax pmax
comp=Z,24nm,1.6s
HEC Hector,Ludlow 62.72 294 P **P** **19 34 48.6 +2.6**
baz=28
ISA Isabella, Lake 62.82 296 P **P** **19 34 48.0 +1.3**
ISA IAmb IAmb 19 34 51.5
comp=Z,11nm,1.4s
ISA Isabella, Lake 62.82 296 P **P** **19 34 50.0 +3.3**
baz=28
ISA Isabella, Lake 62.82 296 P **P** **19 34 48.0 +1.3**
ISA pmax pmax
comp=Z,11nm,1.4s
IRM Iron Mountain 62.83 293 P **P** **19 34 49.4 +2.6**
baz=28
BLYC Blythe 62.94 292 P **P** **19 34 48.0 +0.6**
BLYC IAmb IAmb 19 34 52.9
comp=Z,18nm,1.3s
WSAR Wadi Sarin 63.29 92 LR LR 20 07 40.9
comp=Z,52nm,18.7s,baz=352,slow=41
BELC Belle Mtn. Jos 63.31 293 P **P** **19 34 53.0 +3.0**
baz=28,SNR=7.0
EDW2 Edwards Air Fo 63.32 295 P **P** **19 34 52.9 +2.9**
baz=28
BC3 Big Chuckawall 63.40 293 P **P** **19 34 53.6 +3.0**
baz=28,SNR=6.6
PCRV Puerto La Cruz 63.49 234 LR LR 19 57 45.1
comp=Z,53nm,21.4s,slow=32
TEIG Tepich 63.71 262 LR LR 20 01 27.8
comp=Z,803nm,18.3s,baz=168,slow=35
214A Organ Pipe Nat 63.82 289 P P 19 34 57.2 +3.8
baz=28
PFO Pinyon Flats O 63.83 293 P **P** **19 34 56.6 +3.2**
baz=28
PFO Pinyon Flats O 63.83 293 LR LR 20 02 32.6
comp=Z,176nm,19.8s,baz=18,slow=36
TPFO Pinon Flats 63.84 293 P **P** **19 34 56.7 +3.2**
baz=28
MONP2 Monument Peak 64.45 293 P **P** **19 35 00.6 +2.9**
baz=28
MDP Montagnes des 64.53 220 LR LR 19 56 39.2
comp=Z,194nm,20.7s,baz=13,slow=30
IKP In-Ko-Pah, Jac 64.54 293 P **P** **19 35 01.1 +3.1**
baz=28
CIS Catalina Islan 64.79 295 P **P** **19 35 01.6 +2.0**
baz=28
GTA Gaotai 65.28 49 P **P** **19 35 04.0 +1.1**
GTA pP sP 19 35 13.5 +8.6
GTA sP pP 19 35 17.8 +13
GTA pmax pmax
comp=Z,8.0nm,2.3s
GTA LR LR
comp=N,180nm,18.9s
GTA LR LR
comp=E,200nm,18.5s
GTA LR LR
comp=Z,270nm,18.5s
VTX Valle De La Tr 65.52 292 P **P** **19 35 05.9 +1.5**
VTX IAmb IAmb 19 35 09.7
comp=Z,15nm,1.4s
XLT XiLinHaoTe 65.83 35 *eP* **P** **19 35 06.5 +0.2**
XLT pP sP 19 35 12.5 +4.3
XLT sP pP 19 35 16.0 +8.3
XLT PcP **PcP** **19 35 39.5 +2.2**
XLT sS sS 19 44 01.5 +5.7
SDV Santo Domingo 66.84 239 P **P** **19 35 12.0 -1.2**
SDV IAmb IAmb 19 35 20.1
comp=Z,7.6nm,0.8s
HHC Hu-ho-hao-te 67.50 40 *eP* **P** **19 35 15.5 -1.5**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,180nm,4.1s
HHC LR LR
comp=N,180nm,14.5s
HHC LR LR
comp=E,140nm,13.7s
HHC LR LR
comp=Z,250nm,15.3s
CMIG Matias Romero 69.32 266 LR LR 20 05 34.3
comp=Z,61nm,21.0s,baz=22,slow=36
BJI Beijing 69.48 36 P **P** **19 35 31.8 +2.5**
BJI pmax pmax
comp=Z,3.0nm,1.3s
BJI pmax pmax
comp=Z,82nm,5.0s
BJI LR LR
comp=N,210nm,16.8s
BJI LR LR
comp=E,110nm,16.4s
BJI LR LR
comp=Z,210nm,19.5s
LZH Lanzhou 69.61 48 *eP* **P** **19 35 32.8 +2.4**
LZH pP sP 19 35 39.0 +6.7
LZH pmax pmax
comp=Z,14nm,1.5s
LPIG La Paz 69.71 283 LR LR 20 08 07.4
comp=Z,64nm,18.4s,baz=25,slow=38
RCBR Riachuelo 71.63 199 LR LR 19 58 38.1
comp=Z,90nm,21.3s,baz=238,slow=29
ROSC El Rosal 71.94 241 LR LR 20 03 47.3
comp=Z,111nm,21.7s,baz=24,slow=33
MBAR Mbarara 73.88 129 LR LR 20 10 06.9
comp=Z,53nm,18.7s,baz=330,slow=37
KMBO Kilima Mbogo 76.64 123 LR LR 20 12 57.9
comp=Z,56nm,19.1s,baz=92,slow=38
PZH PanZhiHua 77.72 53 P **P** **19 36 18.8 +0.7**
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,110nm,3.6s
NJ2 Nanjing 77.73 37 *eP* **P** **19 36 14.8 -3.1**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
TNCH TengChong 77.94 57 P **P** **19 36 15.0 -4.4**
TNCH sP sP 19 36 21.5 +0.1
TNCH pmax pmax
comp=Z,6.0nm,2.6s
TNCH pmax pmax
comp=Z,88nm,4.8s
SAML Samuel 80.95 226 P **P** **19 36 35.4 -0.1**
SAML Samuel 80.95 226 P **P** **19 36 35.4 -0.1**
SAML pmax pmax
comp=Z,16nm,1.7s
BDFB Brasilia 83.39 210 LR LR 20 07 29.4
comp=Z,134nm,19.8s,baz=342,slow=31
CHTO Chiang Mai 83.79 59 P **P** **19 36 48.4 -2.1**
CHTO IAmb IAmb 19 36 53.8
comp=Z,11nm,1.2s
CHTO Chiang Mai 83.79 59 P **P** **19 36 48.4 -2.1**
CHTO pmax pmax
comp=Z,11nm,1.3s
CMAR Chiang Mai Arr 84.11 59 P **P** **19 36 50.1 -2.0**
CMAR Chiang Mai Arr 84.11 59 *ceP* **P** **19 36 53.5 +1.4**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 84.11 59 P **P** **19 36 51.2 -1.0**
comp=Z,0.7nm,0.3s,baz=317,slow=7.0,SNR=13
comp=Z,0.7nm,0.3s
ATAH Atahualpa 84.49 241 LR LR 20 12 18.8
comp=Z,71nm,21.8s,baz=12,slow=34
LSZ Lusaka 86.89 136 LR LR 20 19 07.5
comp=Z,105nm,19.4s,baz=334,slow=38
SIV San Ignacio 86.99 222 LR LR 20 10 35.5
comp=Z,284nm,21.2s,baz=294,slow=32
TSUM Tsumeb 87.82 147 LR LR 20 19 02.6
comp=Z,158nm,18.1s,baz=338,slow=37
NNA Nana 88.39 237 LR LR 20 16 08.8
comp=Z,37nm,19.3s,baz=5.0,slow=35
LBTB Lobatse 95.40 142 LR LR 20 23 15.0
comp=Z,81nm,18.6s,baz=348,slow=37
LVC Limon Verde 95.58 227 LR LR 20 17 11.3
comp=Z,44nm,18.5s,baz=345,slow=33
CPUP Villa Florida 95.85 215 LR LR 20 16 44.6
comp=Z,107nm,19.2s,baz=37,slow=33
BOSA Boshof 98.73 143 LR LR 20 24 52.0
comp=Z,147nm,18.2s,baz=19,slow=37
TAOE Nuku Hiva Isla 111.59 297 *e*LR LR 20 15 57.7
comp=Z,462nm,28.4s
PPT2 Papeete2 123.13 302 *e*LR LR 20 21 18.9
PPT2 *e*LR LR 20 21 33.0
comp=Z,95nm,24.2s
ASAR Alice Springs 134.96 38 PKP **PKPdf** **19 43 37.5 -2.5**
comp=Z,0.8nm,1.1s,baz=64,slow=4.3,SNR=2.1
DZM Mont Dzumac 137.35 355 *e*LR LR 20 27 52.4
comp=Z,167nm,34.0s
ELIB Princess Elisa 139.11 162 *d*PKPdf **PKPdf** **19 43 45.3 -1.0**
STKA Stephens Creek 144.72 32 PKP PKPbc 19 43 55.4 -0.9
comp=Z,1.9nm,0.7s,baz=326,slow=4.3,SNR=4.1

NEIC ***30*** *19:25:03.1±2.3,56°.20N±0°.06×150°.12W±0°.10, h30km±12km, ML3.6/45, ML3.4(AEIC), Error ellipse: s-maj=10.0km s-min=6.4km az=142.0*
AEIC ***30*** *19:25:05.0±2.6,56°.15N±0°.09×150°.1W±0°.1, h11km±7km, Error ellipse: s-maj=12.6km s-min=8.3km az=170.0*
ISC 30 19:25:03.8±1.4,56°.23N±0°.08×150°.14W±0°.05,h35km, n192,σ0s85/208,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.00**	**301**		**Pn**	**19 25 34.8**	**-0.2**
OHAK					**Sn**	**19 25 57.5**	**-1.3**
OHAK	**Old Harbor**	**2.00**	**301**	P	**Pn**	**19 25 34.8**	**-0.2**
	baz=120						
OHAK				S	**Sn**	**19 25 57.5**	**-1.3**
	baz=120						
KDAK	**Kodiak Island**	**2.05**	**320**		**Pn**	**19 25 35.9**	**+0.1**
KDAK					**Sn**	**19 26 00.1**	**-0.1**
SII	**Sitkinak Islan**	**2.27**	**280**		**Sn**	**19 26 04.4**	**-1.3**
SII	**Sitkinak Islan**	**2.27**	**280**		**Pn**	**19 25 38.4**	**-0.4**
SII				IAML		19 26 04.9	
	comp=E,202nm,0.6s						
SII	**Sitkinak Islan**	**2.27**	**280**	P	**Pn**	**19 25 38.5**	**-0.4**
	baz=98						
SII				S	**Sn**	**19 26 04.4**	**-1.3**
	baz=98						
SYI	**Shuyak Island**	**2.68**	**334**		**Pn**	**19 25 44.0**	**-0.3**
SYI	**Shuyak Island**	**2.68**	**334**		**Sn**	**19 26 15.4**	**-0.2**
Q20K	**Shuyak Island**	**2.68**	**334**	P	**Pn**	**19 25 44.6**	**+0.2**
	baz=152						
Q20K				S	**Sn**	**19 26 15.4**	**-0.2**
	baz=152						
R18K	**Karluk**	**2.72**	**301**		**Pn**	**19 25 44.8**	**-0.1**
R18K				IAML		19 26 19.1	
	comp=N,183nm,0.4s						
R18K				IAML		19 26 20.2	
	comp=E,172nm,0.4s						
R18K	**Karluk**	**2.72**	**301**		**Sn**	**19 26 15.7**	**-0.8**
R18K	**Karluk**	**2.72**	**301**	P	**Pn**	**19 25 45.2**	**+0.3**
	baz=119						
R18K				S	**Sn**	**19 26 15.7**	**-0.8**
	baz=119						
Q19K	**Cape Douglas,**	**3.30**	**327**		**Sn**	**19 26 31.6**	**+0.6**
Q19K	**Cape Douglas,**	**3.30**	**327**	Pn	**Pn**	**19 25 50.7**	**-2.3**
Q19K						19 25 52.0	
Q19K	**Cape Douglas,**	**3.30**	**327**	IAML		19 26 36.0	
	comp=N,181nm,0.7s						
Q19K	**Cape Douglas,**	**3.30**	**327**	S	**Sn**	**19 26 31.6**	**+0.6**
	baz=144						
CNPM	**China Poot**	**3.36**	**350**		**Sn**	**19 26 31.4**	**-0.9**
CNPM	**China Poot**	**3.36**	**350**		**Pn**	**19 25 53.3**	**-0.5**
CNPM				IAML		19 26 33.1	
	comp=E,92nm,0.2s						
HOM	**Homer**	**3.53**	**347**	Pn	**Pn**	**19 25 54.9**	**-1.2**
HOM				IAML		19 26 38.7	
	comp=N,250nm,1.5s						
HOM				IAML		19 27 09.2	
	comp=E,238nm,2.5s						
BRSE	**Bradley Lake S**	**3.54**	**355**		**Pn**	**19 25 55.6**	**-0.6**
BRSE					**Sn**	**19 26 35.5**	**-1.3**
BRSE	**Bradley Lake S**	**3.54**	**355**	P	**Pn**	**19 25 55.6**	**-0.6**
	baz=174						
BRSE				S	**Sn**	**19 26 35.5**	**-1.3**
	baz=174						
BRLK	**Bradley Lake**	**3.57**	**354**		**Sn**	**19 26 35.8**	**-1.7**
BRLK	**Bradley Lake**	**3.57**	**354**		**Pn**	**19 25 55.7**	**-0.9**
CNTC	**Contact Creek**	**3.73**	**306**		**Pn**	**19 25 59.7**	**+0.8**
CNTC					**Sn**	**19 26 42.4**	**+0.7**
Q17K	**Contact Creek**	**3.73**	**306**	P	**Pn**	**19 25 59.7**	**+0.8**
	baz=121						
Q17K				S	**Sn**	**19 26 42.3**	**+0.7**
	baz=121						
Q23K	**Middleton Isla**	**3.79**	**31**		**Pn**	**19 25 59.2**	**-0.4**
Q23K	**Middleton Isla**	**3.79**	**31**	P	**Pn**	**19 25 59.5**	**-0.2**
	baz=213						
MID	**Middleton Isla**	**3.80**	**31**		**Pn**	**19 25 59.6**	**-0.1**
P19K	**Oil Pt**	**3.81**	**336**		**Pn**	**19 26 00.4**	**+0.5**
P19K	**Oil Pt**	**3.81**	**336**	IAML		19 26 47.9	
	comp=N,124nm,0.5s						
P19K				IAML		19 26 48.6	
	comp=E,154nm,0.4s						
P19K	**Oil Pt**	**3.81**	**336**	P	**Pn**	**19 26 00.4**	**+0.5**
	baz=153						
SEW	**Seward**	**3.90**	**5**		**Pn**	**19 26 00.4**	**-0.8**
SEW	**Seward**	**3.90**	**5**	P	**Pn**	**19 26 00.4**	**-0.8**
	baz=185						
P23K	**Montague Islan**	**4.05**	**20**		**Pn**	**19 26 03.0**	**-0.2**
P23K	**Montague Islan**	**4.05**	**20**	P	**Pn**	**19 26 03.0**	**-0.2**
	baz=201						
O20K	**Slope Mountain**	**4.08**	**342**		**Pn**	**19 26 03.7**	**0.0**
O20K	**Slope Mountain**	**4.08**	**342**	P	**Pn**	**19 26 03.7**	**0.0**
	baz=160						
P18K	**Big Mountain,**	**4.18**	**321**		**Pn**	**19 26 04.8**	**-0.3**
P18K	**Big Mountain,**	**4.18**	**321**	P	**Pn**	**19 26 05.0**	**0.0**
	baz=137						
SLKM	**Skilak Lake**	**4.29**	**359**		**Pn**	**19 26 05.8**	**-0.8**
RED	**Redoubt Volcan**	**4.42**	**343**		**Pn**	**19 26 07.8**	**-0.6**
RSO	**Redoubt South**	**4.46**	**343**	Pn	**Pn**	**19 26 08.2**	**-0.9**
RSO					**Sn**	**19 27 01.1**	**+1.2**
RDWB	**Redoubt West**	**4.50**	**343**		**Pn**	**19 26 08.9**	**-0.6**
O18K	**Koktuh Hills**	**4.52**	**326**		**Pn**	**19 26 08.7**	**-1.1**
O18K				IAML		19 27 02.5	
	comp=E,44nm,2.7s						
O18K				IAML		19 27 05.5	
	comp=N,34nm,3.0s						
O18K	**Koktuh Hills**	**4.52**	**326**	P	**Pn**	**19 26 09.7**	**-0.1**
	baz=141						
O19K	**Port Alsworth**	**4.55**	**333**	Pn	**Pn**	**19 26 09.4**	**-0.7**
O19K					**Sn**	**19 27 01.1**	**-0.6**
O19K				IAML		19 27 03.6	
	comp=N,81nm,0.4s						
HIN	**Hinchinbrook I**	**4.60**	**23**		**Pn**	**19 26 10.6**	**-0.2**
HIN				IAML		19 27 01.6	
	comp=E,90nm,2.1s						
HIN					**Sn**	**19 27 02.4**	**-0.5**
HIN				IAML		19 27 03.1	
	comp=N,93nm,1.7s						
CHGN	**Chignik**	**4.62**	**274**	Pn	**Pn**	**19 26 10.4**	**-0.6**
KAIM	**Kayak Island**	**4.79**	**37**	Pn	**Pn**	**19 26 13.6**	**+0.2**
RC01	**Rabbit Creek A**	**4.88**	**2**		**Pn**	**19 26 14.2**	**-0.5**
RC01					**Sn**	**19 27 07.9**	**-1.9**
RC01				IAML		19 27 09.9	
	comp=E,49nm,0.4s						
RC01				IAML		19 27 11.8	
	comp=N,35nm,0.5s						
RC01	**Rabbit Creek A**	**4.88**	**2**	P	**Pn**	**19 26 14.3**	**-0.3**
	baz=182						
RAGM	**Ragged Mountai**	**5.07**	**32**	Pn	**Pn**	**19 26 17.8**	**+0.5**
RAGM					**Sn**	**19 27 13.9**	**-0.6**
RAGM				IAML		19 27 22.4	
	comp=E,88nm,1.1s						
SPU	**Mount Spurr**	**5.07**	**349**	Pn	**Pn**	**19 26 17.8**	**+0.5**
N19K	**Bonanza Creek**	**5.13**	**335**		**Pn**	**19 26 18.0**	**-0.2**
N19K				IAML		19 27 24.6	
	comp=N,21nm,2.7s						
N19K				IAML		19 27 44.6	
	comp=E,21nm,3.7s						
N19K	**Bonanza Creek**	**5.13**	**335**	P	**Pn**	**19 26 18.1**	**0.0**
	baz=152						
SPCP	**Crater Peak Br**	**5.16**	**349**		**Pn**	**19 26 19.5**	**+0.9**
SPCG	**Spurr Capps Gl**	**5.17**	**350**		**Pn**	**19 26 19.2**	**+0.4**
GOAT	**Goat Mountain**	**5.21**	**31**		**Pn**	**19 26 19.7**	**+0.5**
SUA	**Susitna One**	**5.26**	**357**	Pn	**Pn**	**19 26 18.7**	**-1.2**
SUA				IAML		19 28 15.9	
	comp=N,40nm,3.7s						
SUA				IAML		19 29 36.2	
	comp=E,50nm,3.1s						
KNK	**Knik Glacier**	**5.27**	**9**		**Pn**	**19 26 19.5**	**-0.5**
KNK				IAML		19 27 58.4	
	comp=E,26nm,3.2s						
KNK				IAML		19 29 02.5	
	comp=N,22nm,4.5s						
KNK	**Knik Glacier**	**5.27**	**9**	P	**Pn**	**19 26 19.8**	**-0.2**
	baz=190						
STLK	**Strandline Lak**	**5.36**	**351**		**Pn**	**19 26 21.2**	**-0.1**
BERG	**Berg Lake**	**5.38**	**36**	Pn	**Pn**	**19 26 20.9**	**-0.5**
N18K	**Kilae Creek**	**5.39**	**328**	Pn	**Pn**	**19 26 21.2**	**-0.4**
PMR	**Palmer**	**5.41**	**5**	Pn	**Pn**	**19 26 21.6**	**-0.2**
O16K	**Kokwok River B**	**5.42**	**312**	Pn	**Pn**	**19 26 21.4**	**-0.6**
SNH	**Sunshine Point**	**5.53**	**41**	Pn	**Pn**	**19 26 24.0**	**+0.5**
CNBA	**Chernabura Isl**	**5.55**	**259**	Pn	**Pn**	**19 26 22.8**	**-1.0**
BMRM	**Bremner River**	**5.56**	**29**		**Pn**	**19 26 24.1**	**+0.1**
BMRM	**Bremner River**	**5.56**	**29**	P	**Pn**	**19 26 24.7**	**+0.7**
	baz=213						
GHO	**Glory Hole Cre**	**5.59**	**6**	Pn	**Pn**	**19 26 23.5**	**-1.0**
SML	**Sawmill**	**5.67**	**9**		**Pn**	**19 26 25.6**	**0.0**
SML	**Sawmill**	**5.67**	**9**	P	**Pn**	**19 26 26.0**	**+0.5**
	baz=190						
N17K	**Nushagak Hills**	**5.68**	**322**	Pn	**Pn**	**19 26 24.8**	**-0.8**
KLU	**Klutina**	**5.71**	**21**		**Pn**	**19 26 26.4**	**+0.3**
KLU					**Sn**	**19 27 27.8**	**-2.6**
KLU	**Klutina**	**5.71**	**21**	P	**Pn**	**19 26 26.6**	**+0.5**
	baz=204						
M23K	**Glacier View**	**5.72**	**12**		**Pn**	**19 26 26.8**	**+0.7**
M23K	**Glacier View**	**5.72**	**12**	P	**Pn**	**19 26 26.8**	**+0.7**
	baz=193						
SCM	**Sheep Creek Mo**	**5.80**	**13**		**Pn**	**19 26 27.0**	**-0.4**
SCM					**Sn**	**19 27 33.5**	**+0.8**
SCM	**Sheep Creek Mo**	**5.80**	**13**	P	**Pn**	**19 26 28.2**	**+0.9**
	baz=195						
BARK	**Barkley Ridge**	**5.81**	**41**		**Pn**	**19 26 28.1**	**+0.7**
SKT	**Skwentna**	**5.81**	**353**	Pn	**Pn**	**19 26 26.8**	**-0.7**
SKT					**Sn**	**19 27 33.1**	**+0.3**
M20K	**Styx River**	**5.88**	**346**	Pn	**Pn**	**19 26 27.3**	**-1.1**
SDPT	**Sand Point**	**5.90**	**266**	Pn	**Pn**	**19 26 27.8**	**-0.8**
M19K	**Big River Lodg**	**6.10**	**341**	Pn	**Pn**	**19 26 30.9**	**-0.5**
VRDI	**Verde Repeater**	**6.10**	**32**		**Pn**	**19 26 32.0**	**+0.5**
N25K	**Chitina, Valde**	**6.11**	**26**		**Pn**	**19 26 32.4**	**+0.8**
N25K	**Chitina, Valde**	**6.11**	**26**	P	**Pn**	**19 26 32.4**	**+0.8**
	baz=210						
GLB	**Gilahina Butte**	**6.17**	**30**		**Pn**	**19 26 33.1**	**+0.7**
CUT	**Chulitna**	**6.20**	**359**	Pn	**Pn**	**19 26 33.1**	**+0.5**
KIAG	**Kiagna River**	**6.22**	**38**		**Pn**	**19 26 33.6**	**+0.5**
M24K	**Tolsona, Glenn**	**6.24**	**17**		**Pn**	**19 26 34.4**	**+1.1**
M24K	**Tolsona, Glenn**	**6.24**	**17**	P	**Pn**	**19 26 34.4**	**+1.1**
	baz=200						
M17K	**Holitna River**	**6.42**	**327**	Pn	**Pn**	**19 26 35.0**	**-0.8**
L19K	**White Mountain**	**6.44**	**340**	Pn	**Pn**	**19 26 35.6**	**-0.5**
WAT6	**Susitna Watana**	**6.49**	**10**		**Pn**	**19 26 37.2**	**+0.3**
WAT6	**Susitna Watana**	**6.49**	**10**	P	**Pn**	**19 26 37.2**	**+0.3**
	baz=191						
BARN	**Barnard Glacie**	**6.56**	**39**		**Pn**	**19 26 38.7**	**+0.9**
N15K	**Kwethluk River**	**6.58**	**311**	Pn	**Pn**	**19 26 38.9**	**+1.0**
CTGM	**Chitina Glacie**	**6.61**	**40**		**Pn**	**19 26 39.4**	**+0.9**
LOGN	**Logan Glacier**	**6.64**	**42**		**Pn**	**19 26 39.4**	**+0.5**
M16K	**Timber Creek**	**6.65**	**320**		**Pn**	**19 26 39.1**	**+0.2**
M16K	**Timber Creek**	**6.65**	**320**	P	**Pn**	**19 26 39.1**	**+0.2**
	baz=132						
WAT7	**Susitna Watana**	**6.66**	**5**		**Pn**	**19 26 39.9**	**+0.8**
PNL	**Peninsula**	**6.67**	**54**		**Pn**	**19 26 40.1**	**+0.8**
PNL	**Peninsula**	**6.67**	**54**	P	**Pn**	**19 26 40.1**	**+0.8**
	baz=243						
O14K	**Tigyukauivet M**	**6.68**	**302**	Pn	**Pn**	**19 26 39.4**	**0.0**
BCPM	**Bancas Point**	**6.70**	**52**	Pn	**Pn**	**19 26 38.8**	**-0.8**
PN7A	**Pavlof North-7**	**6.73**	**268**		**Pn**	**19 26 39.8**	**-0.3**
L18K	**Granite Mounta**	**6.88**	**334**	Pn	**Pn**	**19 26 41.1**	**-1.0**
DHY	**Denali Highway**	**7.01**	**10**		**Pn**	**19 26 44.6**	**+0.7**
DHY	**Denali Highway**	**7.01**	**10**	P	**Pn**	**19 26 44.6**	**+0.7**
	baz=192						
PAX	**Paxson**	**7.16**	**17**		**Pn**	**19 26 47.2**	**+1.2**
PAX	**Paxson**	**7.16**	**17**	P	**Pn**	**19 26 46.7**	**+0.7**
	baz=201						
M26K	**Nabesna, AK**	**7.18**	**28**	Pn	**Pn**	**19 26 47.8**	**+1.5**
RND	**Reindeer**	**7.23**	**5**	Pn	**Pn**	**19 26 47.9**	**+1.0**
TRF	**Thorofare Moun**	**7.25**	**359**	Pn	**Pn**	**19 26 47.6**	**+0.4**
L17K	**Donlin**	**7.25**	**328**		**Pn**	**19 26 47.4**	**+0.3**
L17K	**Donlin**	**7.25**	**328**	P	**Pn**	**19 26 47.4**	**+0.3**
	baz=141						
CAST	**Castle Rocks**	**7.28**	**353**	Pn	**Pn**	**19 26 47.8**	**+0.2**
L16K	**Owhat River**	**7.31**	**323**	Pn	**Pn**	**19 26 48.0**	**0.0**
O29M	**Mount Kennedy**	**7.33**	**51**		**Pn**	**19 26 49.3**	**+0.9**
TTA	**Tatalina**	**7.35**	**339**	Pn	**Pn**	**19 26 47.3**	**-1.2**
KTH	**Kantishna Hill**	**7.36**	**357**	Pn	**Pn**	**19 26 48.9**	**+0.2**
K20K	**Telida**	**7.42**	**346**	Pn	**Pn**	**19 26 49.6**	**+0.1**
P29M	**Windy Craggy**	**7.43**	**58**		**Pn**	**19 26 50.3**	**+0.7**
P29M	**Windy Craggy**	**7.43**	**58**	P	**Pn**	**19 26 50.3**	**+0.7**
	baz=247						
M27K	**Edge Creek, AK**	**7.46**	**31**		**Pn**	**19 26 50.8**	**+0.7**
M27K	**Edge Creek, AK**	**7.46**	**31**	P	**Pn**	**19 26 51.5**	**+1.4**
	baz=218						
MENT	**Mentasta**	**7.47**	**23**	Pn	**Pn**	**19 26 51.3**	**+1.1**
K17K	**Iditarod**	**7.71**	**331**		**Pn**	**19 26 52.7**	**-0.7**

K17K	Iditarod	7.71	331	P		Pn	19 26 53.5	0.0	
	baz=144								
S31K	Pelican	7.77	71			Pn	19 26 53.1	-1.1	
S31K	Pelican	7.77	71	P		Pn	19 26 53.1	-1.1	
	baz=262								
ISLZ	Isanotski Laza	7.86	265			Pn	19 26 55.3	-0.3	
BPAW	Bear Paw Mtn.	7.91	357	Pn		Pn	19 26 55.0	-1.2	
J16K	Innoko River	7.97	338	Pn		Pn	19 26 56.7	-0.3	
BWN	Browne	7.98	2	Pn		Pn	19 26 56.6	-0.4	
RIDG	Independent Ri	7.99	17	Pn		Pn	19 26 59.1	+1.9	
L27K	Beaver Creek,	8.04	28	Pn		Pn	19 26 59.2	+1.3	
BCAR	Beaver Creek A	8.05	28	Pn		Pn	19 26 58.9	+0.8	
HYT	Haines Junctio	8.05	50	Pn		Pn	19 27 00.1	+1.9	
M13K	Dall Lake	8.12	307	Pn		Pn	19 26 59.8	+0.8	
J20K	Nowinta River	8.22	348	Pn		Pn	19 26 59.5	-0.9	
J19K	Poorman	8.25	343	Pn		Pn	19 27 00.1	-0.7	
L14K	Kuka Creek	8.28	313	Pn		Pn	19 27 02.0	+0.8	
SCRK	Sand Creek	8.35	19	Pn		Pn	19 27 02.0	-0.4	
HDA	Harding Lake	8.36	10			Pn	19 27 02.6	+0.3	
HDA	Harding Lake	8.36	10	P		Pn	19 27 04.1	+1.8	
	baz=192								
K15K	Wolf Creek Mou	8.42	321	Pn		Pn	19 27 01.6	-1.6	
CCB	Clear Creek Bu	8.52	7	Pn		Pn	19 27 05.2	+0.7	
SKAG	Skagway	8.53	62	Pn		Pn	19 27 05.3	+0.6	
M29M	Somme Creek	8.62	39			Pn	19 27 07.0	+1.0	
S32K	Killisnoo	8.62	75	Pn		Pn	19 27 07.1	+1.2	
O30N	Mendenhall	8.64	52	Pn		Pn	19 27 07.1	+0.9	
R32K	Eaglecrest	8.71	70	Pn		Pn	19 27 07.7	+0.5	
IL31		8.72	9			Pn	19 27 07.6	+0.4	
ILAR	Eielson Array	8.72	9	Pn		Pn	19 27 08.1	+0.8	
J25K	Salcha River,	8.73	14	Pn		Pn	19 27 08.4	+1.0	
K27K	Chicken	8.79	24	Pn		Pn	19 27 09.4	+1.2	
MDM	Murphy Dome	8.81	5	Pn		Pn	19 27 07.7	-0.8	
J16K	Anvik River	8.82	328	Pn		Pn	19 27 08.8	+0.2	
MLY	Manley	8.84	358	Pn		Pn	19 27 10.3	+1.4	
J26L	Joseph Creek	8.91	19	Pn		Pn	19 27 09.7	-0.2	
I23K	Minto, Yukon-K	8.96	2	Pn		Pn	19 27 11.2	+0.8	
POKR	Poker Plat Res	9.02	7	Pn		Pn	19 27 11.3	0.0	
N31M	Braeburn, Yuko	9.11	49	Pn		Pn	19 27 13.9	+1.3	
WHY	Whitehorse	9.14	55	Pn		Pn	19 27 14.2	+1.1	
L29M	L29M	9.18	36				19 27 14.8	+1.2	
M30M	Minto, Yukon	9.30	41	Pn		Pn	19 27 16.6	+1.4	
P32M	Atlin	9.36	62	Pn		Pn	19 27 16.9	+0.7	
U33K	Whale Pass	9.49	84	Pn		Pn	19 27 16.4	-1.4	
DAWY	Dawson	9.50	30	Pn		Pn	19 27 18.5	+0.6	
H21K	Melozitna Rive	9.55	353	Pn		Pn	19 27 17.4	-1.2	
H24K	Noodor Dome	9.70	6	Pn		Pn	19 27 21.5	+0.7	
I26K	Coal Creek Min	9.72	18	Pn		Pn	19 27 22.3	+1.3	
K29M	Barlow Dome	9.89	34	Pn		Pn	19 27 24.2	+0.8	
IMAR	Indian Mountai	9.94	351	Pn		Pn	19 27 24.0	0.0	
P33M	Teslin, Yukon	9.96	59	Pn		Pn	19 27 23.3	-1.0	
Q32M	Nakina River	9.97	67	Pn		Pn	19 27 25.8	+1.3	
M31M	Drury Creek, Y	10.03	47			Pn	19 27 26.1	+0.8	
G21K	Allakaket	10.45	353	Pn		Pn	19 27 29.2	-1.7	
I28M	Miner Creek	10.48	24	Pn		Pn	19 27 31.4	-0.1	
G23K	Bananza Creek	10.52	0	Pn		Pn	19 27 31.1	-0.8	
FYU	Fort Yukon	10.63	11	Pn		Pn	19 27 33.3	-0.1	
R33M	Jennings River	10.70	65	Pn		Pn	19 27 35.3	+0.8	
J30M	Hart River	10.77	33	Pn		Pn	19 27 37.4	+1.9	
F20K	Avaraart Lake	11.17	349	Pn		Pn	19 27 41.6	+0.9	
BMAR	Burnt Mountain	11.54	11	Pn		Pn	19 27 45.8	0.0	
E25K	Arctic Village	12.12	9	Pn		Pn	19 27 52.9	-0.9	
G29M	Pine Creek	12.14	23	Pn		Pn	19 27 54.7	+0.7	
G31M	Satah River	13.06	28	Pn		Pn	19 28 07.8	+1.2	

IDC ***30*** *19:27:03.3±4.7,5˚.60S×145˚.65E,h95km±51km,mb3.2/6, mbtmp3.5/8, Error ellipse: s-maj=40.1km s-min=30.4km az=109.0*

ISC 30 19:27:02.3±1.0,**5˚.6S**±0˚.1×**145˚.6E**±0˚.2,**h86**km,**n8,**σ1§**71**/9, **mb3.5**/6,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.09**	**158**	P			**Pn**	**19 28 01.4**	**-1.2**
	6.3nm,0.6s,baz=330,slow=14,SNR=1.3								
PMG				S			**Sn**	**19 28 51.5**	**+2.2**
	16nm,0.8s,baz=270,slow=20,SNR=2.4								
WRA	**Warramunga Arr**	**17.99**	**217**	P			**Pn**	**19 31 06.2**	**-0.6**
	1.2nm,0.6s,baz=39,slow=12,SNR=5.7								
ASAR	**Alice Springs**	**21.21**	**211**	P			**P**	**19 31 40.0**	**-1.2**
	0.3nm,0.7s,baz=38,slow=9.5,SNR=1.3								
	0.3nm,0.7s								
STKA	**Stephens Creek**	**26.42**	**188**	P			**P**	**19 32 32.1**	**+1.1**
	3.2nm,1.0s,baz=343,slow=11,SNR=2.2								
	3.2nm,1.0s								
CMAR	**Chiang Mai Arr**	**51.83**	**299**	P			**P**	**19 36 03.2**	**+1.1**
	0.2nm,0.3s,baz=123,slow=6.6,SNR=1.9								
	0.2nm,0.3s								
SONM	**Songino Array**	**63.38**	**332**	P			**P**	**19 37 24.8**	**+2.0**
	0.3nm,0.7s,baz=123,slow=5.3,SNR=2.3								
	0.3nm,0.7s								
BVAR	**Borovoye Array**	**85.62**	**324**	P			**P**	**19 39 29.9**	**-1.4**
	0.4nm,0.6s,baz=96,slow=8.9,SNR=2.5								
	0.4nm,0.6s								
ILAR	**Eielson Array**	**85.66**	**23**	P			**P**	**19 39 30.1**	**-1.1**
	0.3nm,0.7s,baz=250,slow=4.3,SNR=4.2								
	0.3nm,0.7s								

MOS ***30*** *19:36:15.5±1.3,29˚.49N×51˚.39E,h10km,mb4.5/27, Error ellipse: s-maj=6.4km s-min=4.4km az=106.4*

IDC ***30*** *19:36:15.8±0.6,29˚.56N×51˚.36E,h0km,mb4.2/23, mbtmp4.2/28,MLh3.6/5, Error ellipse: s-maj=15.6km s-min=12.4km az=171.0*

TEH ***30*** *19:36:17.5,29˚.57N×51˚.34E,h11km±18km,ML4.1*

NEIC ***30*** *19:36:18.1±1.7,29˚.54N±0˚.07×51˚.41E±0˚.08,h14km±4km, mb4.4/96, Error ellipse: s-maj=10.2km s-min=9.3km az=217.0*

DSN ***30*** *19:36:18.4±1.4,29˚.52N×51˚.40E,h10km,MLh3.8/13, Error ellipse: s-maj=17.7km s-min=7.6km az=3.0*

OMAN ***30*** *19:36:20.9±0.1,29˚.31N×51˚.42E,h10km,mb4.5/25, ml4.1/3, Error ellipse: s-maj=1.1km s-min=0.7km az=350.0*

ISC 30 19:36:18.7±0.3,**29˚.52N**±0˚.03×**51˚.35E**±0˚.03,**h20**km,**n395,** σ1§**69**/443,**mb4.4**/106,**MS4.0**/4,**15C-12D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.66**	**184**	Pg			**Pb**	**19 36 31.1**	**-0.3**
AHBU				Sg			**Sn**	**19 36 41.8**	**-0.8**
SHI	**Shiraz**	**1.02**	**83**	Pg			**Pb**	**19 36 37.3**	**-0.5**
DSBU	**Dashti - Bushe**	**1.16**	**184**	Pg			**Pb**	**19 36 40.7**	**+0.6**
ABEH	**Behbahan**	**1.44**	**319**	Pg			**Pb**	**19 36 44.5**	**-0.3**
KLNJ	**Kolanjah**	**1.50**	**8**	Pg			**Pn**	**19 36 45.2**	**+0.4**
JHRM	**Jahrom**	**2.20**	**117**	Pn			**Pb**	**19 36 56.4**	**-1.4**
IBRJ	**Brojen**	**2.38**	**358**	Pn			**Pn**	**19 36 58.6**	**+1.8**
IRAM	**Rameshеh**	**2.45**	**21**	Pn			**Pn**	**19 36 59.5**	**+1.8**
ZNGN	**Zangian**	**2.62**	**351**	Pn			**Pn**	**19 37 02.2**	**+1.9**
JHBN	**Jahan bin**	**2.77**	**348**	Pn			**Pn**	**19 37 03.8**	**+1.6**
IGAR	**Gharneh**	**2.93**	**11**	Pn			**Pn**	**19 37 06.0**	**+1.6**
ISAD	**Sadrabad**	**3.12**	**40**	Pn			**Pn**	**19 37 08.8**	**+1.8**
IPIR	**Pirpir**	**3.18**	**353**	Pn			**Pn**	**19 37 09.5**	**+1.6**
LAR1	**LAR**	**3.23**	**124**	Pn			**Pn**	**19 37 10.7**	**+2.3**
IMEH	**Mehriz**	**3.38**	**56**	Pn			**Pn**	**19 37 12.9**	**+2.4**
IZEF	**Zefreh**	**3.47**	**14**	Pn			**Pn**	**19 37 13.4**	**+1.6**
SAKB	**Bahrain**	**3.60**	**192**	P			**Pn**	**19 37 16.8**	**+3.4**
SAKB				S			**Sn**	**19 37 59.2**	**+3.9**
SHMA	**Al-Shehemyia**	**3.67**	**185**	P			**Pn**	**19 37 17.2**	**+2.9**
	SNR=31								
SHMA				S			**Sn**	**19 38 00.9**	**+4.0**
ICHK	**Chekchek**	**3.78**	**43**	Pn			**Pn**	**19 37 18.4**	**+2.3**
IKLH	**Kolahrood**	**3.79**	**3**	Pn			**Pn**	**19 37 18.0**	**+1.7**
IBAF	**Bafgh**	**4.18**	**59**	Pn			**Pn**	**19 37 23.7**	**+2.3**
ANAR	**Anarak**	**4.18**	**28**	Pn			**Pn**	**19 37 23.1**	**+1.6**
QAMS	**Qamsar**	**4.20**	**1**	Pn			**Pn**	**19 37 23.5**	**+1.6**
KRSH	**Karshahi**	**4.49**	**8**	Pn			**Pn**	**19 37 26.9**	**+1.2**
KHGB	**Koh Gabri**	**4.53**	**78**	Pn			**Pn**	**19 37 28.3**	**+1.9**
ZRDN	**Zarand Kerman**	**4.71**	**71**	Pn			**Pn**	**19 37 30.9**	**+2.1**
TVBK	**TV Kerman**	**4.73**	**83**	Pn			**Pn**	**19 37 30.9**	**+1.7**
GENO	**Geno**	**4.74**	**115**	Pn			**Pn**	**19 37 31.4**	**+2.2**
JRN	**Qarnain Island**	**4.75**	**163**	P			**Pn**	**19 37 29.5**	**+0.3**
JRN				S			**Sn**	**19 38 26.6**	**+2.9**
TRNA	**Turayna**	**4.77**	**182**	P			**Pn**	**19 37 26.9**	**-2.5**
	SNR=31								
TRNA				S			**Sn**	**19 38 27.5**	**+3.3**
SMRA	**Abu-Samra**	**4.78**	**186**	P			**Pn**	**19 37 31.4**	**+1.8**
SMRA				S			**Sn**	**19 38 28.2**	**+3.8**
ISFB	**Sefidab**	**4.88**	**9**	Pn			**Pn**	**19 37 32.5**	**+1.5**
IKFM	**Kafar-mosalman**	**4.99**	**324**	Pn			**Pn**	**19 37 33.8**	**+1.4**
KRM1	**Kerman Provinc**	**5.23**	**78**	Pn			**Pn**	**19 37 38.1**	**+2.2**
HSAM	**Samen**	**5.23**	**334**	Pn			**Pn**	**19 37 37.4**	**+1.4**
IQOM	**Qom**		**5.31**	**357**	Pn		**Pn**	**19 37 38.2**	**+1.0**
SLWR	**Sila**		**5.44**	**177**	P		**Pn**	**19 37 38.5**	**-0.1**
SLWR					S		**Sn**	**19 38 42.4**	**+1.7**
IVRN	**Varamin**		**5.47**	**3**	Pn		**Pn**	**19 37 40.1**	**+1.0**
SHME	**Shamm**		**5.47**	**128**	P		**Pn**	**19 37 39.8**	**+0.7**
SHME	**Shamm**		**5.47**	**128**	P		**Pn**	**19 37 40.4**	**+1.3**
SHME					S		**Sn**	**19 38 44.1**	**+2.6**
HAGD	**Aghdareh**		**5.61**	**341**	Pn		**Pn**	**19 37 42.5**	**+1.3**
BANOM	**Banah**		**5.66**	**128**	P		**Pn**	**19 37 41.6**	**-0.2**
BANOM	**Banah**		**5.66**	**128**	P		**Pn**	**19 37 42.5**	**+0.7**
BANOM					S		**Sn**	**19 38 48.6**	**+2.3**
GHWR	**Ruwais**		**5.70**	**166**	P		**Pn**	**19 37 44.6**	**+2.3**
GHWR					S		**Sn**	**19 38 49.1**	**+1.9**
TPRV	**Parvadeh(Tabas**		**5.75**	**51**	Pn		**Pn**	**19 37 44.4**	**+1.4**
IBZA	**Bozab**		**5.76**	**330**	Pn		**Pn**	**19 37 44.1**	**+0.8**
IHSB	**Hasanabad**		**5.90**	**359**	Pn		**Pn**	**19 37 46.1**	**+1.0**
AJN	**Ajban**		**5.91**	**146**	P		**Pn**	**19 37 47.6**	**+2.5**
AJN					S		**Sn**	**19 38 54.5**	**+2.3**
NAZ	**Nazwa, Dubai**		**5.92**	**139**	P		**Pn**	**19 37 46.3**	**+1.0**
MASF	**Masafi**		**5.94**	**133**	P		**Pn**	**19 37 46.9**	**+1.3**
MASF					S		**Sn**	**19 38 53.8**	**+0.6**
MSFE	**Esma-Masafi**		**5.95**	**133**	P		**Pn**	**19 37 46.7**	**+1.0**
IALM	**Almabolaq**		**5.97**	**334**	Pn		**Pn**	**19 37 47.0**	**+0.9**
KCHF	**Cheshme Sefid,**		**5.99**	**323**	Pn		**Pn**	**19 37 48.2**	**+1.8**
ILAS	**Lasjerd**		**6.00**	**13**	Pn		**Pn**	**19 37 47.9**	**+1.3**
ILBA	**Ilam Banvizeh**		**6.00**	**314**	Pn		**Pn**	**19 37 47.4**	**+1.0**
ASUD	**Al Ashush, Dub**		**6.03**	**143**	P		**Pn**	**19 37 48.4**	**+1.7**
ASUD	**Al Ashush, Dub**		**6.03**	**143**	P		**Pn**	**19 37 49.0**	**+2.2**
	SNR=17								
IDMV	**Damavand**		**6.07**	**5**	Pn		**Pn**	**19 37 48.7**	**+1.2**
FAQ	**Al Faqa, Dubai**		**6.07**	**141**	P		**Pn**	**19 37 47.5**	**+0.2**
FAQ	**Al Faqa, Dubai**		**6.07**	**141**	P		**Pn**	**19 37 49.4**	**+2.0**
FAQ					S		**Sn**	**19 38 56.7**	**+0.3**
MDH	**Madha**		**6.08**	**133**	P		**Pn**	**19 37 48.3**	**+0.8**
MDH	**Madha**		**6.08**	**133**	P		**Pn**	**19 37 48.0**	**+0.5**
MDH					S		**Sn**	**19 38 57.5**	**+0.9**
MZWR	**Madinat Zayed**		**6.17**	**158**	P		**Pn**	**19 37 51.4**	**+2.8**
MZWR					S		**Sn**	**19 38 58.5**	**-0.1**
KBAM	**BAM**		**6.21**	**92**	Pn		**Pn**	**19 37 50.9**	**+1.5**
IFIR	**Firoozkooh**		**6.22**	**11**	Pn		**Pn**	**19 37 51.0**	**+1.4**
UOSS	**Minazif**		**6.28**	**135**	Pn		**Pn**	**19 37 49.6**	**-0.6**
UOSS	**Minazif**		**6.28**	**135**	P		**Pn**	**19 37 51.1**	**+0.9**
IGHG	**Ghaleghazi**		**6.29**	**321**	Pn		**Pn**	**19 37 52.0**	**+1.5**
TNSJ	**Nastanj**		**6.30**	**44**	Pn		**Pn**	**19 37 52.2**	**+1.6**
IANJ	**Anjilo**		**6.31**	**19**	Pn		**Pn**	**19 37 52.4**	**+1.5**
HATD	**Hatta, Dubai**		**6.32**	**137**	P		**Pn**	**19 37 52.5**	**+1.7**
HATD	**Hatta, Dubai**		**6.32**	**137**	P		**Pn**	**19 37 52.6**	**+1.7**
HATD					S		**Sn**	**19 38 57.7**	**-4.8**
ASHO	**Ashiyiah**		**6.39**	**138**	P		**Pn**	**19 37 52.3**	**+0.6**
ASHO					S		**Sn**	**19 39 05.7**	**+1.6**
ASHO	**Ashiyiah**		**6.39**	**138**	P		**Pn**	**19 37 53.6**	**+1.9**
ASHO					S		**Sn**	**19 39 03.2**	**-1.0**
TKDS	**Koohdasht(Taba**		**6.39**	**49**	Pn		**Pn**	**19 37 53.6**	**+1.7**
ILIN	**Lien**		**6.54**	**326**	Pn		**Pn**	**19 37 54.8**	**+0.8**
IDHR	**Dehrash**		**6.66**	**322**	Pn		**Pn**	**19 37 57.1**	**+1.5**
ALNE	**Al Ain**		**6.71**	**143**	P		**Pn**	**19 37 57.2**	**+1.0**
ALNE	**Al Ain**		**6.71**	**143**	P		**Pn**	**19 37 57.6**	**+1.4**
ALNE					S		**Sn**	**19 39 11.4**	**-0.8**
IPRN	**Peran**		**6.75**	**7**	Pn		**Pn**	**19 37 58.0**	**+1.2**
MZR	**Muzera**		**6.77**	**163**	P		**Pn**	**19 37 57.9**	**+0.9**
MZR	**Muzera**		**6.77**	**163**	P		**Pn**	**19 37 59.0**	**+2.1**
MZPU	**Pul - Mazandar**		**6.90**	**1**	Pn		**Pn**	**19 38 00.5**	**+1.5**
KGS1	**Ghasr-e-Shirin**		**6.97**	**317**	Pn		**Pn**	**19 38 00.7**	**+1.0**
KLST	**Kelardasht - M**		**6.98**	**358**	Pn		**Pn**	**19 38 01.5**	**+1.4**
SOHO	**SOHO**		**7.08**	**138**	P		**Pn**	**19 38 00.5**	**-0.7**
SOHO	**SOHO**		**7.08**	**138**	P		**Pn**	**19 38 01.8**	**+0.5**
SOHO					S		**Sn**	**19 39 21.2**	**0.0**
BSRN	**Basiran**		**7.12**	**68**	Pn		**Pn**	**19 38 03.3**	**+1.4**
ITEG	**Tejag**		**7.17**	**60**	Pn		**Pn**	**19 38 04.6**	**+2.0**
IKOO	**Kooshah**		**7.18**	**64**	Pn		**Pn**	**19 38 05.0**	**+2.2**
IGLO	**Ghaloghah**		**7.27**	**16**	Pn		**Pn**	**19 38 06.1**	**+2.2**
UMZA	**Um Al Zommool**		**7.59**	**152**	P		**Pn**	**19 38 09.3**	**+1.1**
UMZA					S		**Sn**	**19 39 30.9**	**-2.8**
ARQ	**Araqi**		**7.71**	**142**	P		**Pn**	**19 38 11.0**	**+1.1**
	SNR=9.1								
ARQ					S		**Sn**	**19 39 36.7**	**+0.1**
RAYN	**Ar Rayn**		**7.94**	**223**			**Pn**	**19 38 13.7**	**+0.5**
RAYN	**Ar Rayn**		**7.94**	**223**	P		**Pn**	**19 38 13.7**	**+0.5**
RAYN	**Ar Rayn**		**7.94**	**223**	P		**Pn**	**19 38 13.7**	**+0.5**
RAYN	**Ar Rayn**		**7.94**	**223**	P		**Pn**	**19 38 14.1**	**+0.9**
RAYN					S		**Sn**	**19 39 40.6**	**-1.9**
BIDO	**Bidbid**		**8.51**	**133**	P		**Pn**	**19 38 23.3**	**+2.4**
BIDO					S		**Sn**	**19 39 57.2**	**+0.8**
BSY	**Bisya**		**8.55**	**141**	P		**Pn**	**19 38 21.8**	**+0.4**
BSY					S		**Sn**	**19 39 56.7**	**-0.6**
SMDO	**Samad**		**8.80**	**135**	P		**Pn**	**19 38 25.5**	**+0.5**
SMDO					S		**Sn**	**19 40 03.8**	**+0.1**
MRVT	**Maraveh tapeh**		**9.03**	**25**	Pn		**Pn**	**19 38 29.8**	**+1.9**
WSAR	**Wadi Sarin**		**9.04**	**132**	Pn		**Pn**	**19 38 27.2**	**-0.9**
	1.3nm,0.3s,baz=317,slow=7.7,SNR=18								
WSAR					S		**Sn**	**19 40 06.8**	**-2.6**
	1.5nm,0.3s,baz=274,slow=16,SNR=3.8								
	4.4nm,0.4s								
WSAR	**Wadi Sarin**		**9.04**	**132**	P		**Pn**	**19 38 28.2**	**+0.1**
WSAR					S		**Sn**	**19 40 05.7**	**-3.6**
JMDO	**Jabal Madar**		**9.36**	**138**	P		**Pn**	**19 38 34.0**	**+1.5**
WBK	**Wadi Bani Khal**		**9.71**	**133**	P		**Pn**	**19 38 37.0**	**-0.3**
IKRD	**Kardeh**		**9.95**	**41**	Pn		**Pn**	**19 38 42.7**	**+1.9**
GEYT	**Alibeck**		**10.10**	**32**	Pn		**Pn**	**19 38 42.9**	**+0.3**
GEYT	**Alibeck**		**10.10**	**32**	P		**Pn**	**19 38 42.9**	**+0.3**
GEYT	**Alibeck**		**10.10**	**32**	Pn		**Pn**	**19 38 40.8**	**-1.8**
	0.1nm,0.3s,baz=270,slow=31,SNR=1.4								
GYA0B	**ALIBECK ARRAY**		**10.10**	**32**	Pn		**Pn**	**19 38 43.0**	**+0.4**
JLN	**Jalan Bani Buh**		**10.32**	**133**	P		**Pn**	**19 38 44.9**	**-0.8**
MHTO	**MHTO**		**10.39**	**143**	P		**Pn**	**19 38 47.0**	**+0.3**
DQM	**DQM**		**11.08**	**148**	P		**Pn**	**19 38 55.5**	**-0.6**
DQM					S		**Sn**	**19 40 53.6**	**-5.8**
GEVA	**Gevas**		**11.14**	**324**	Pn		**Pn**	**19 38 57.5**	**+0.5**
DOK	**Doka**		**11.15**	**166**	P		**Pn**	**19 38 54.4**	**-0.6**
DOK					S		**Sn**	**19 40 54.2**	**-6.8**
MARD	**Mardin**		**11.76**	**314**	Pn		**Pn**	**19 39 04.5**	**-0.9**
WHFO	**Wadi Hawf**		**11.76**	**169**	P		**Pn**	**19 39 04.1**	**-1.3**
	SNR=32								
WHFO					S		**Sn**	**19 41 11.0**	**-5.2**
GURO	**Guroymak-BITLI**		**11.86**	**322**	Pn		**Pn**	**19 39 04.9**	**-1.9**
GNI	**Garni**		**11.91**	**335**	Pn		**Pn**	**19 39 06.7**	**-0.8**
GNI	**Garni**		**11.91**	**335**	P		**Pn**	**19 39 06.7**	**-0.8**
SHAO	**Shalim**		**12.09**	**160**	P		**Pn**	**19 39 10.4**	**+0.4**
	SNR=11								
SHAO					S		**Sn**	**19 41 17.1**	**-7.2**
DMTO	**DMTO**		**12.20**	**164**	P		**Pn**	**19 39 10.5**	**-0.9**
ABTO	**Aybut**		**12.24**	**171**	P		**Pn**	**19 39 11.0**	**-1.0**
RBK	**Rabkut**		**12.24**	**167**	P		**Pn**	**19 39 10.7**	**-1.4**
RBK					S		**Sn**	**19 41 21.4**	**-6.6**
ASF	**Jabal al Asfar**		**12.70**	**286**	Pn		**Pn**	**19 39 16.7**	**-1.5**
	0.5nm,0.3s,baz=63,slow=23,SNR=3.4								
ASF					Sn		Sn	19 41 29.6	-9.5
	0.4nm,0.3s,baz=64,slow=24,SNR=2.8								
	1.2nm,0.3s								
SHMJ	**Saham**		**13.73**	**287**	P		**Pn**	**19 39 33.1**	**+0.8**
GHAJ	**Ghor Haditha**		**13.74**	**281**			**Pn**	**19 39 30.2**	**-2.1**
GHAJ	**Ghor Haditha**		**13.74**	**281**	P		**Pn**	**19 39 31.5**	**-0.9**
BALJ	**Balqa**		**13.75**	**285**	Pn		**Pn**	**19 39 30.0**	**-2.5**
MMAI	**Mount Meron Ar**		**14.08**	**288**	Pn		**Pn**	**19 39 36.0**	**-1.1**
	0.7nm,0.3s,baz=91,slow=15,SNR=5.7								
MMAI					Sn		**Sn**	**19 42 06.0**	**-6.8**
	1.3nm,0.3s,baz=103,slow=36,SNR=2.6								
	0.4nm,0.3s								
PRNI	**Paran**		**14.20**	**277**	P		**Pn**	**19 39 37.3**	**-1.4**
MBRI	**Mt Berech**		**14.30**	**275**	P		**Pn**	**19 39 41.7**	**+1.6**
ONI	**Oni**		**14.51**	**336**	Pn		**Pn**	**19 39 44.7**	**+1.7**
ONI	**Oni**		**14.51**	**336**	P		**Pn**	**19 39 44.7**	**+1.7**
ZEI	**Tsey**		**14.53**	**338**	*e*P		**P**	**19 39 51.7**	**+1.8**
ZEI					pmax	pmax			
	comp=Z,7.0nm,0.6s								
KZIT	**Kziot**		**14.73**	**280**	P		**Pn**	**19 39 47.5**	**+1.6**
KBZ	**Khabaz**		**15.71**	**337**	*i* P		**Pn**	**19 40 00.4**	**+1.7**
KBZ					pmax	pmax			
	comp=Z,15nm,1.3s								
KBZ	**Khabaz**		**15.71**	**337**	Pn		**Pn**	**19 39 58.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=216,slow=18,SNR=1.2								
KBL	**Kabul**		**15.81**	**67**			**Pn**	**19 39 58.2**	**-2.2**
KBL	**Kabul**		**15.81**	**67**	P		**Pn**	**19 39 58.2**	**-2.2**
KBL					pmax	pmax			
	comp=Z,9.0nm,1.2s								
BNN	**Bunyan**		**15.83**	**310**	Pn		**Pn**	**19 39 59.0**	**-1.6**
KIV	**Kislovodsk**		**15.98**	**337**			**Pn**	**19 40 01.1**	**-1.2**
KIV					IAmb	IAmb		19 40 09.2	
	comp=Z,33nm,1.1s								
KIV	**Kislovodsk**		**15.98**	**337**	*e*P		**P**	**19 40 04.7**	**-1.1**
KIV					pmax	pmax			
	comp=Z,24nm,1.1s								
CSS	**Mathiatis**		**16.18**	**294**			**Pn**	**19 40 03.2**	**-1.7**
SIMJ	**Simiganj**		**17.21**	**53**	Pn		**Pn**	**19 40 16.1**	**-1.9**
BR131	**Keskin Array S**		**17.75**	**310**	P		**P**	**19 40 25.7**	**+0.2**
BR131	**Keskin Array S**		**17.75**	**310**	P		**P**	**19 40 25.7**	**+0.2**
BR131					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**		**17.75**	**310**	Pn		**Pn**	**19 40 24.1**	**-0.7**
BRTR	**Keskin Array B**		**17.75**	**310**	P		**P**	**19 40 25.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=8.8								
	comp=Z,3.7nm,1.0s								
BTK	**Batken**		**19.09**	**51**	P		**P**	**19 40 37.9**	**-2.3**
BTK	**Batken**		**19.09**	**51**	P		**P**	**19 40 37.9**	**-2.3**
BTK					pmax	pmax			
	comp=Z,9.0nm,0.8s								
NIL	**Nilore**		**19.10**	**72**	P		**P**	**19 40 37.4**	**-2.8**
NIL					IAmb	IAmb		19 40 47.5	
	comp=Z,13nm,0.8s								
NIL	**Nilore**		**19.10**	**72**	P		**P**	**19 40 37.4**	**-2.8**
NIL					pmax	pmax			
	comp=Z,13nm,0.8s								
ELL	**Elmali**		**19.33**	**297**	P		**P**	**19 40 42.0**	**-0.9**
ELL					IAmb	IAmb		19 40 50.4	
	comp=Z,16nm,0.7s								
ELL	**Elmali**		**19.33**	**297**	P		**P**

MARR Marisel-Cluj 27.84 316 ⇑P **P 19 42 08.7 +1.8**
PUK Puka 28.25 305 P **P 19 42 10.7 +0.1**
PUK IAmb IAmb 19 42 14.4
comp=Z,9.1nm,1.3s
KIRV Kirov 29.09 358 *i* P **P 19 42 17.8 +0.2**
KURBB Kurchatov Arra 29.33 36 P **P 19 42 20.3 +0.4**
comp=Z,2.7nm,0.7s,baz=236,slow=9.2,SNR=22
comp=Z,2.7nm,0.7s
MAKZ Makanchi 29.37 46 P **P 19 42 19.3 -1.0**
MAKZ IAmb IAmb 19 42 22.5
comp=Z,2.8nm,0.7s
MAKZ Makanchi 29.37 46 P **P 19 42 21.9 +1.5**
KURK Kurchatov 29.43 36 P **P 19 42 20.5 -0.3**
KURK IAmb IAmb 19 42 27.1
comp=Z,5.2nm,1.0s
KURK Kurchatov 29.43 36 *ce*P **P 19 42 23.3 +2.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 29.44 319 *e*P **P 19 42 23.3 +2.3**
KOLS Kolonicke sedl 29.44 319 *e*P **P 19 42 23.3 +2.3**
MK31 Makanchi Array 29.56 46 P **P 19 42 21.9 -0.2**
MK31 Makanchi Array 29.56 46 *ce*P **P 19 42 22.8 +0.8**
MKAR Makanchi Array 29.56 46 P **P 19 42 21.6 -0.5**
MKAR Makanchi Array 29.56 46 P **P 19 42 21.8 -0.3**
comp=Z,1.3nm,0.5s,baz=241,slow=7.9,SNR=28
MKAR PcP **PcP 19 45 25.5 -1.3**
comp=Z,0.4nm,0.5s,baz=242,slow=2.2,SNR=6.6
comp=Z,1.3nm,0.5s
MNK Minsk 30.17 332 *i* P **P 19 42 26.2 -1.1**
comp=E,11nm,1.2s
MNK *i* P **P 19 42 26.2 -1.1**
comp=N,8.0nm,0.6s
MNK *i* P **P 19 42 26.2 -1.1**
comp=Z,3.0nm,0.6s,baz=136
MNK *i* PP **PnPn 19 43 23.4 -1.4**
MNK *i* PPP PPP 19 43 31.8
MNK *i* S **S 19 47 26.2 +1.0**
MNK *i* SS **SnSn 19 48 55.9 -3.1**
MNK *i* SSS SSS 19 49 15.5
MNK *i* LQ LQ 19 52 14.4
MNK *i* LR LR 19 54 04.0
MNK *i* LRM MLR 19 55 52.6
comp=E,162nm,16.3s
MNK *i* LRM MLR 19 56 06.0
comp=N,421nm,15.4s
MNK *i* LRM MLR 19 56 18.9
comp=Z,64nm,13.8s
MNK Minsk 30.17 332 *i* P **P 19 42 26.1 -1.1**
MNK *i* 19 43 23.4
MNK *i* S **S 19 47 26.2 +1.0**
MNK pmax pmax
comp=Z,3.0nm,0.6s
MNK pmax pmax
comp=N,8.0nm,0.6s
MNK pmax pmax
comp=E,11nm,1.2s
MNK MLR MLR
comp=E,162nm,16.0s
MNK MLR MLR
comp=N,421nm,15.0s
MNK MLR MLR
comp=Z,64nm,14.0s
MORH Mrgy, Hungar 30.45 312 ⇑P **P 19 42 31.7 +1.8**
LANS Liptovska Anna 31.16 318 *e*P **P 19 42 38.4 +2.2**
LANS Liptovska Anna 31.16 318 *e*P **P 19 42 38.4 +2.2**
SGRT San Giovanni R 31.19 303 P **P 19 42 37.4 +0.8**
SGRT IAmb IAmb 19 42 39.9
comp=Z,4.4nm,0.9s
VYHS Vyhne 31.25 316 *e*P **P 19 42 38.6 +1.7**
VYHS Vyhne 31.25 316 *e*P **P 19 42 38.6 +1.7**
OJC Ojcow 31.48 320 P **P 19 42 39.6 +0.7**
OJC Ojcow 31.48 320 P **P 19 42 39.6 +0.7**
OJC pmax pmax
comp=Z,16nm,1.4s
WMQ Urumqi 32.18 54 *e*P **P 19 42 46.8 +1.6**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ LR LR
comp=Z,180nm,16.1s
MAUC Maruska 32.22 317 *e*P **P 19 42 47.8 +2.3**
KLMR Klimovskoe 32.32 349 *e*P **P 19 42 42.6 -3.5**
KLMR pmax pmax
comp=Z,21nm,2.2s
PABE Paberze 32.49 331 P **P 19 42 47.4 -0.3**
RONA Rosalia, Austr 32.49 314 *e*P **P 19 42 49.1 +1.1**
comp=Z,1.6nm,0.7s
MORC Moravsky Berou 32.57 318 ⇓P **P 19 42 49.6 +1.1**
MORC Moravsky Berou 32.57 318 P **P 19 42 48.8 +0.3**
MORC IAmb IAmb 19 42 50.4
comp=Z,4.2nm,0.8s
MORC Moravsky Berou 32.57 318 *e*P **P 19 42 49.2 +0.7**
MORC Moravsky Berou 32.57 318 P **P 19 42 49.6 +1.1**
KRUC Moravsky 32.95 316 *e*P **P 19 42 52.7 +0.8**
NRCA Norcia 33.31 304 P **P 19 42 54.8 -0.4**
NRCA IAmb IAmb 19 43 02.9
comp=Z,3.9nm,0.9s
FDMO Fiordimonte 33.37 304 P **P 19 42 55.5 -0.1**
FDMO IAmb IAmb 19 43 00.5
comp=Z,3.6nm,0.9s
DPC Dobruska-Polom 33.52 318 *e*P **P 19 42 57.8 +0.9**
DPC Dobruska-Polom 33.52 318 *e*P **P 19 42 57.8 +0.9**
CESX Cesi 33.66 303 P **P 19 42 57.5 -0.6**
CESX IAmb IAmb 19 43 03.5
comp=Z,4.9nm,0.7s
OSTC Ostas 33.67 319 *e*P **P 19 43 00.3 +2.1**
OSTC Ostas 33.67 319 *e*P **P 19 43 00.3 +2.1**
SABO M.te Sabotino 33.70 310 P **P 19 42 58.1 -0.4**
SABO IAmb IAmb 19 43 21.2
comp=Z,3.9nm,0.9s
CHVC Chvalec 33.78 319 *e*P **P 19 43 00.0 +0.9**
CHVC Chvalec 33.78 319 *e*P **P 19 43 00.0 +0.9**
MURB Monte Urbino 33.82 305 P **P 19 43 00.1 +0.5**
MURB IAmb IAmb 19 43 05.9
comp=Z,7.2nm,0.9s
PRED Cave del Predi 33.85 310 P **P 19 42 59.3 -0.6**
PRED IAmb IAmb 19 43 02.0
comp=Z,4.3nm,1.4s
DGZ Jazzator, Alta 33.88 43 *i* P **P 19 43 01.3 +1.2**
DGZ pmax pmax
comp=Z,2.0nm,0.5s
BIOA Bad Ischl, Aus 34.18 313 *e*P **P 19 43 03.7 +1.1**
comp=Z,2.2nm,0.4s
KBA Koelnbreinsper 34.18 311 *e*P **P 19 43 03.9 +1.0**
comp=Z,3.5nm,0.7s
ZAA0 Zalesovo Array 34.39 35 P **P 19 43 04.5 +0.2**
ZAA0 IAmb IAmb 19 43 06.2
comp=Z,7.3nm,1.1s
ZALV Zalesovo Beam 34.39 35 P **P 19 43 04.7 +0.4**
ZALV Zalesovo Beam 34.39 35 P **P 19 43 05.3 +1.1**
comp=Z,4.2nm,0.5s,baz=248,slow=8.8,SNR=31
comp=Z,4.2nm,0.5s
ZVC Zvikov 34.43 316 *e*P **P 19 43 05.5 +0.8**
ZVC *ex* x 19 43 12.0
LSA Lhasa 34.48 80 P **P 19 43 05.0 -0.9**
LSA IAmb IAmb 19 43 08.2
comp=Z,4.0nm,0.9s
LSA Lhasa 34.48 80 P **P 19 43 05.0 -0.9**
LSA pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 34.52 315 P **P 19 43 05.8 +0.1**
GEC2 IAmb IAmb 19 43 13.6
comp=Z,4.4nm,1.2s
GERES GERESS Array B 34.52 315 P **P 19 43 05.5 -0.1**
GERES GERESS Array B 34.52 315 P **P 19 43 05.5 -0.1**
ABTA Abfaltersbach 34.64 311 *e*P **P 19 43 07.4 +0.8**
comp=Z,0.3nm,0.2s
KHC Kasperske Hory 34.70 315 P **P 19 43 06.9 -0.2**
KHC Kasperske Hory 34.70 315 *e*P **P 19 43 07.9 +0.8**
KHC Kasperske Hory 34.70 315 *e*P **P 19 43 07.9 +0.8**
LESA Schwarzleotal 34.72 312 *e*P **P 19 43 08.0 +0.6**
comp=Z,2.3nm,0.5s
WTTA Wattenberg 35.35 311 *e*P **P 19 43 13.4 +0.5**
comp=Z,2.8nm,0.5s
WATA Walderalm 35.41 311 *i* P **P 19 43 13.6 +0.2**
comp=Z,3.9nm,0.5s
SQTA Sankt Quirin 35.62 311 *e*P **P 19 43 15.6 +0.5**
comp=Z,7.7nm,0.4s
KEST Kesra 35.71 291 P **P 19 43 15.8 -0.2**
KEST IAmb IAmb 19 43 22.3
comp=Z,3.1nm,0.8s
KEST Kesra 35.71 291 P **P 19 43 16.1 +0.1**
comp=Z,2.0nm,0.8s,baz=159,slow=8.7,SNR=3.7
comp=Z,2.0nm,0.8s
VSL Villasalto 35.71 298 P **P 19 43 15.9 0.0**
MOTA Moosalm 35.73 311 *e*P **P 19 43 16.2 +0.1**
comp=Z,2.8nm,0.4s
CLL Collm 35.84 318 *e*P **P 19 43 17.0 +0.2**
CLL *i* 19 43 20.2
CLL Collm 35.84 318 *e*P **P 19 43 17.0 +0.2**
CLL *i* pP **pP 19 43 20.2 -2.9**
CLL *e*PP **PP 19 44 39.0 +0.8**
FETA Feichten 35.89 311 *e*P **P 19 43 18.1 +0.6**
comp=Z,2.7nm,0.5s
RETA Reutte 35.99 311 *e*P **P 19 43 18.1 -0.1**
comp=Z,1.3nm,0.4s
FIA1 FINESS Array S 36.04 340 P **P 19 43 16.9 -1.4**
FINES FINESS Array B 36.04 340 P **P 19 43 17.9 -0.5**
FINES FINESS Array B 36.04 340 *i* P P 19 43 23.2 +4.9
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 36.04 340 P **P 19 43 17.7 -0.7**
comp=Z,1.2nm,0.7s,baz=141,slow=12,SNR=7.8
comp=Z,1.2nm,0.7s
FUORN Ofenpass-Fuorn 36.10 310 P **P 19 43 18.0 -1.4**
MSSA Maissana 36.15 306 P **P 19 43 18.9 -0.7**
GRA1 Grafenberg Arr 36.34 315 P **P 19 43 20.1 -1.0**
GRA1 IAmb IAmb 19 43 37.5
comp=Z,7.1nm,0.9s
GRF Grafenberg Arr 36.34 315 P **P 19 43 20.1 -1.0**
GRF pmax pmax
comp=Z,7.0nm,0.9s
DAVA Damuels 36.52 311 *e*P **P 19 43 23.2 +0.4**
comp=Z,11nm,0.4s
TUE Stuetta 36.69 309 P **P 19 43 24.4 0.0**
TUE IAmb IAmb 19 43 59.8
comp=Z,7.0nm,1.4s
SENIN Lac Senin/Sane 38.05 309 P **P 19 43 35.6 -0.4**
BNI Bardonecchia 38.27 306 P **P 19 43 36.3 -1.4**
BNI IAmb IAmb 19 43 42.8
comp=Z,9.4nm,1.2s
BNI Bardonecchia 38.27 306 P **P 19 43 36.3 -1.4**
BNI pmax pmax
comp=Z,9.0nm,1.3s
HFS Hagfors 39.67 331 P **P 19 43 48.5 -0.5**
comp=Z,5.7nm,0.5s,baz=128,slow=9.6,SNR=54
comp=Z,5.7nm,0.5s
LVZ Lovozero 39.67 350 **P 19 43 48.9 -0.1**
LVZ Lovozero 39.67 350 P **P 19 43 48.9 -0.1**
LVZ pmax pmax
comp=Z,44nm,1.5s
GTA Gaotai 40.73 63 P **P 19 44 00.3 +1.9**
GTA pP sP 19 44 06.5 -0.9
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA LR LR
comp=N,110nm,18.5s
GTA LR LR
comp=E,220nm,18.9s
GTA LR LR
comp=Z,260nm,17.8s
NC602 NORSAR Array S 40.89 331 P **P 19 43 59.7 +0.5**
NC405 NORSAR Array S 41.02 332 P **P 19 43 59.9 -0.4**
NB201 NORSAR Array S 41.16 332 P **P 19 44 00.9 -0.5**
NB2 NORSAR Subarra 41.19 332 P **P 19 44 01.1 -0.6**
comp=Z,1.3nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 41.19 332 P **P 19 44 01.3 -0.4**
comp=Z,1.4nm,0.5s,baz=126,slow=9.0,SNR=11
comp=Z,1.4nm,0.5s
TAM Tamanrasset 41.47 272 P **P 19 44 05.2 +0.6**
TAM Tamanrasset 41.47 272 P **P 19 44 05.2 +0.6**
TAM pmax pmax
comp=Z,3.0nm,0.7s
NC204 NORSAR Array S 41.50 332 P **P 19 44 03.2 -1.0**
KEV Kevo 42.61 348 P **P 19 44 13.4 +0.4**
KEV Kevo 42.61 348 P **P 19 44 13.5 +0.4**
KEV pmax pmax
comp=Z,40nm,1.5s
MOY Mondy 42.69 44 *e*P **P 19 44 16.3 +2.1**
ARCES ARCESS Array B 42.71 347 P **P 19 44 14.4 +0.4**
ARCES ARCESS Array B 42.71 347 P **P 19 44 14.4 +0.4**
ARCES pmax pmax
comp=Z,4.0nm,1.2s
ARCES ARCESS Array B 42.71 347 P **P 19 44 14.3 +0.4**
comp=Z,1.4nm,0.4s,baz=150,slow=8.0,SNR=35
comp=Z,1.4nm,0.4s
LZH Lanzhou 44.16 67 *e*P **P 19 44 28.0 +1.6**
LZH sP sP 19 44 40.0 +4.6
LZH pmax pmax
comp=Z,18nm,1.4s
PZH PanZhiHua 44.31 81 P **P 19 44 27.5 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,4.6s
CHTO Chiang Mai 44.44 93 P **P 19 44 27.1 -1.4**
CHTO IAmb IAmb 19 44 30.4
comp=Z,8.2nm,1.5s
CHTO Chiang Mai 44.44 93 P **P 19 44 27.2 -1.4**
CHTO pmax pmax
comp=Z,8.0nm,1.5s
CMAR Chiang Mai Arr 44.58 93 P **P 19 44 30.1 +0.4**
comp=Z,1.0nm,0.9s,baz=289,slow=7.9,SNR=6.7
CMAR PcP **PcP 19 46 12.3 -0.3**
comp=Z,0.3nm,0.3s,baz=286,slow=4.6,SNR=1.9
comp=Z,1.0nm,0.9s
NRIK Noril'sk 44.93 17 P **P 19 44 32.0 +0.2**
NRIK IAmb IAmb 19 44 38.1
comp=Z,3.2nm,0.7s
NRIK Noril'sk 44.93 17 *i* P **P 19 44 33.6 +1.8**
NRIK pmax pmax
comp=Z,13nm,2.7s
CRAI Chiangrai 45.15 90 P **P 19 44 34.2 0.0**
KMI Kunming 45.57 83 ⇑P **P 19 44 38.3 +0.6**
KMI pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 45.67 51 P **P 19 44 38.9 +0.8**
SONM Songino Array 45.67 51 P **P 19 44 39.4 +1.2**
comp=Z,1.5nm,0.8s,baz=267,slow=9.2,SNR=14
SONM PcP **PcP 19 46 16.3 +0.3**
comp=Z,0.4nm,0.6s,baz=243,slow=2.9,SNR=2.7
comp=Z,1.5nm,0.8s
ESDC Sonseca Array 46.01 298 P **P 19 44 41.5 +0.7**
comp=Z,0.3nm,0.5s,baz=78,slow=7.3,SNR=5.3
comp=Z,0.3nm,0.5s
ULN Ulaanbaatar 46.12 51 P **P 19 44 42.4 +0.7**
ULN IAmb IAmb 19 44 47.3
comp=Z,3.5nm,0.8s
ULN Ulaanbaatar 46.12 51 *i* P **P 19 44 42.4 +0.7**
ULN pmax pmax
comp=Z,16nm,3.2s
EKA Eskdalemuir Ar 46.26 320 P **P 19 44 43.0 +0.5**
EKA Eskdalemuir Ar 46.26 320 P **P 19 44 43.0 +0.5**
comp=Z,0.8nm,0.3s,baz=103,slow=8.5,SNR=11
comp=Z,0.8nm,0.3s
DSB Dublin 47.82 317 P **P 19 44 55.3 +0.7**
XAN Xi'an 48.60 69 ⇑P **P 19 45 01.5 +0.4**
XAN pP pP 19 45 06.8 -0.8
XAN pmax pmax
comp=Z,11nm,0.6s
TOA0 Torodi Ar. Sit 48.67 261 P **P 19 45 01.9 +0.2**
TORD Torodi Ar. Bea 48.67 261 P **P 19 45 01.6 -0.2**
TORD Torodi Ar. Bea 48.67 261 P **P 19 45 02.6 +0.9**
comp=Z,6.6nm,0.4s,baz=53,slow=8.8,SNR=41
comp=Z,6.6nm,0.4s
HHC Hu-ho-hao-te 49.62 60 *e*P **P 19 45 09.0 +0.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,69nm,4.4s
HHC LR LR
comp=N,170nm,16.0s
HHC LR LR
comp=E,130nm,15.3s
HHC LR LR
comp=Z,250nm,14.5s
SPB2 Spitsbergen Ar 51.17 351 P **P 19 45 19.7 -0.2**
SPITS Spitsbergen Ar 51.17 351 P **P 19 45 20.8 +0.8**
SPITS pmax pmax
comp=Z,54nm,1.4s
SPITS Spitsbergen Ar 51.17 351 P **P 19 45 20.6 +0.6**
comp=Z,5.4nm,0.5s,baz=134,slow=8.4,SNR=26
comp=Z,5.4nm,0.5s
TIA Tai'an 54.72 65 P **P 19 45 48.0 +1.3**
TIA pmax pmax
comp=Z,7.0nm,0.6s
DBIC Dimbokro 57.45 258 P **P 19 46 06.2 -0.3**
DBIC Dimbokro 57.45 258 P **P 19 46 07.2 +0.8**
comp=Z,8.8nm,0.7s,baz=50,slow=8.2,SNR=15
comp=Z,8.8nm,0.7s
TIXI Tiksi 58.35 21 P **P 19 46 11.3 -0.7**
TIXI IAmb IAmb 19 46 39.3
comp=Z,6.4nm,1.4s
TIXI Tiksi 58.35 21 P **P 19 46 11.3 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,1.4s
YAK Yakutsk 58.97 33 P **P 19 46 16.2 -0.3**
HEH HeiHe 59.29 46 *e*P **P 19 46 19.3 +0.4**
HEH pmax pmax
comp=Z,6.0nm,1.0s
LBTB Lobatse 59.60 207 P **P 19 46 22.7 +1.4**
LBTB Lobatse 59.60 207 P **P 19 46 22.7 +1.4**
KLR Kul'dur 62.26 47 *i* P **P 19 46 41.4 +2.3**
KLR pmax pmax
comp=Z,11nm,2.7s
KSRS Korea Array 62.74 61 P **P 19 46 42.3 -0.2**
comp=Z,1.8nm,0.7s,baz=280,slow=7.1,SNR=5.6
comp=Z,1.8nm,0.7s
CMLA Cha da Macela 62.88 300 P **P 19 46 43.9 +0.4**
CMLA Cha da Macela 62.88 300 P **P 19 46 43.9 +0.4**
CMLA pmax pmax
comp=Z,156nm,1.3s
BOSA Boshof 62.96 206 P **P 19 46 45.7 +1.7**
BOSA IAmb IAmb 19 46 49.0
comp=Z,3.7nm,0.8s
BOSA Boshof 62.96 206 P **P 19 46 45.7 +1.7**
BOSA pmax pmax
comp=Z,4.0nm,0.8s
BOSA Boshof 62.96 206 P **P 19 46 45.2 +1.2**
comp=Z,2.9nm,0.7s,baz=32,slow=5.8,SNR=7.4
comp=Z,2.9nm,0.7s
USRK Ussuriysk Ar. 63.73 52 P **P 19 46 47.1 -1.9**
USRK Ussuriysk Ar. 63.73 52 P **P 19 46 47.1 -1.9**
SEY Seymchan 68.92 29 *i* P **P 19 47 23.4 +1.5**
SEY pmax pmax
comp=Z,20nm,2.3s
A36M Sachs Harbour 78.74 359 P **P 19 48 18.2 -1.1**
C16K Lisburne Hills 78.77 13 P **P 19 48 18.7 -0.7**
C16K IAmb IAmb 19 48 58.8
comp=Z,5.6nm,1.4s
B22K Teshekpuk Lake 78.84 8 P **P 19 48 19.9 +0.1**
B22K IAmb IAmb 19 48 22.7
comp=Z,5.8nm,1.1s
C19K Lookout Ridge 79.08 11 P **P 19 48 21.1 -0.2**
C19K IAmb IAmb 19 48 51.6
comp=Z,4.5nm,1.4s
C18K Utukok River 79.22 12 P **P 19 48 21.9 -0.1**
C18K IAmb IAmb 19 48 23.8
comp=Z,3.4nm,0.8s
D22K Ayikyak River 80.31 9 P **P 19 48 28.2 +0.3**
D22K IAmb IAmb 19 49 01.3
comp=Z,4.1nm,1.4s
SCHQ Schefferville 80.70 329 P **P 19 48 29.8 -0.4**
SCHQ IAmb IAmb 19 48 53.9
comp=Z,4.8nm,1.1s
SCHQ Schefferville 80.70 329 P **P 19 48 30.6 +0.4**
comp=Z,1.2nm,0.4s,baz=35,slow=5.3,SNR=7.1
comp=Z,1.2nm,0.4s
E19K Redstone River 80.95 11 P **P 19 48 31.9 +0.6**
E19K IAmb IAmb 19 48 33.0
comp=Z,2.5nm,0.5s
F17K Baldwin Pennin 81.15 13 P **P 19 48 32.8 +0.4**
F17K IAmb IAmb 19 48 57.2
comp=Z,4.8nm,1.4s
F20K Avaraart Lake 81.57 10 P **P 19 48 35.0 +0.4**
F20K IAmb IAmb 19 48 36.1
comp=Z,2.3nm,0.8s
G19K Purcell Mounta 82.17 11 P **P 19 48 38.4 +0.6**
G19K IAmb IAmb 19 48 39.5
comp=Z,4.9nm,0.9s
BMAR Burnt Mountain 82.61 6 P **P 19 48 41.3 +1.1**
IMAR Indian Mountai 82.86 10 P **P 19 48 42.2 +0.8**
J16K Anvik River 84.08 14 P **P 19 48 48.9 +1.1**
ILAR Eielson Array 84.94 8 P **P 19 48 52.0 -0.1**
comp=Z,0.5nm,0.6s,baz=324,slow=3.8,SNR=9.9
comp=Z,0.5nm,0.6s
L14K Kuka Creek 85.33 16 P **P 19 48 55.4 +1.4**
L14K IAmb IAmb 19 49 19.5
comp=Z,5.5nm,1.1s
K29M Barlow Dome 86.69 4 P **P 19 49 01.6 +0.8**
K29M IAmb IAmb 19 49 44.4
comp=Z,4.2nm,1.5s
BCAR Beaver Creek A 87.14 6 P **P 19 49 04.3 +1.3**
YKA Yellowknife Ar 87.61 354 *i* P **P 19 49 06.4 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 87.61 354 P **P 19 49 04.2 -1.0**
comp=Z,0.7nm,0.8s,baz=7.0,slow=5.5,SNR=9.5
comp=Z,0.7nm,0.8s

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*NEIC **30** 19:39:04.5±1.7,36°.92N±0°.03×117°.46W±0°.02,h12km±8km, Error ellipse: s-maj=4.0km s-min=2.0km az=208.0*
*ANF **30** 19:39:05.1±0.2,36°.91N×117°.44W,h3km±1km, ML3.2/26, Error ellipse: s-maj=1.7km s-min=1.4km az=1.0*
*PAS **30** 19:39:05.2±2.8,36°.91N±0°.01×117°.42W±0°.02,h1km±2km, ML3.1/155,ML3.2/14(REN),ML3.0/148(NEIC),Error ellipse: s-maj=2.2km s-min=1.5km az=216.0*
*REN **30** 19:39:05±2.1,36°.920N±0°.003×117°.44W±0°.02,h8km±8km, Error ellipse: s-maj=1.9km s-min=0.3km az=96.0*

ISC 30 19:39:04.6±0.8,36°.92N±0°.01×117°.45W±0°.01,h10km±6km, n147,σ0°85/174,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRAC	**Grapevine Rang**	**0.10**	**39**	Pg	**Pg**	**19 39 07.2**	**-0.2**
GRAC				Sg	**Sg**	**19 39 09.2**	**-0.1**
GRAC	**Grapevine Rang**	**0.10**	**39**	P	**Pg**	**19 39 07.4**	**+0.1**
GRAC	baz=220,SNR=1000			S	**Sg**	**19 39 09.3**	**0.0**
	baz=220						
SGV	**South Grapevin**	**0.34**	**79**		**Pg**	**19 39 11.7**	**+0.3**
SGV					**Sg**	**19 39 16.5**	**+0.5**
GMN	**Gold Mountain**	**0.41**	**21**		**Pg**	**19 39 13.0**	**+0.2**
GMN				IAML		19 39 19.6	
	comp=N,2μm,0.5s						
GMN	**Gold Mountain**	**0.41**	**21**		**Sg**	**19 39 19.3**	**+1.0**
CGO	**Cerro Gordo**	**0.47**	**218**		**Pb**	**19 39 14.5**	**-0.6**
CGO					**Sb**	**19 39 20.8**	**-1.4**
DSP	**Deep Springs**	**0.62**	**317**		**Pg**	**19 39 16.6**	**0.0**
DSP				IAML		19 39 27.3	
	comp=N,682nm,0.3s						
DSP				IAML		19 39 27.6	
	comp=E,807nm,0.3s						
DSP	**Deep Springs**	**0.62**	**317**		**Sb**	**19 39 25.3**	**-0.8**
TIN	**Tinemaha, Big**	**0.64**	**282**		**Pb**	**19 39 17.8**	**-0.3**
TIN					**Sb**	**19 39 27.4**	**+0.3**
TIN	**Tinemaha, Big**	**0.64**	**282**	P	**Pb**	**19 39 17.7**	**-0.3**
	baz=102,SNR=89						
TIN				S	**Sb**	**19 39 27.3**	**+0.2**
	baz=102						
FURC	**Furnace Creek,**	**0.65**	**134**		**Pb**	**19 39 17.7**	**-0.3**
FURC					**Sb**	**19 39 27.7**	**+0.6**
FURC	**Furnace Creek,**	**0.65**	**134**	P	**Pb**	**19 39 17.6**	**-0.4**
	baz=315,SNR=119						
FURC				S	**Sb**	**19 39 27.3**	**+0.2**
	baz=315						
WCT	**Wildcat Mounta**	**0.67**	**101**		**Pg**	**19 39 17.6**	**+0.1**
WCT					**Sg**	**19 39 26.9**	**+0.5**
WCT	**Wildcat Mounta**	**0.67**	**101**		**Pg**	**19 39 17.8**	**+0.2**
WCT	**Wildcat Mounta**	**0.67**	**101**	IAML		19 39 27.2	
	comp=N,826nm,0.5s						
WCT				IAML		19 39 27.2	
	comp=E,1μm,0.3s						
CWC	**Cottonwood Cre**	**0.70**	**227**		**Pb**	**19 39 18.5**	**-0.4**
CWC	**Cottonwood Cre**	**0.70**	**227**		**Sb**	**19 39 29.1**	**+0.4**
CWC	**Cottonwood Cre**	**0.70**	**227**	P	**Pb**	**19 39 18.6**	**-0.4**
	baz=46						
CWC				S	**Sb**	**19 39 28.9**	**+0.2**
	baz=46						
MZP	**Montezuma Peak**	**0.78**	**4**		**Pg**	**19 39 19.8**	**0.0**
MZP	**Montezuma Peak**	**0.78**	**4**		**Sg**	**19 39 30.2**	**+0.1**
POCCA	**Poleta Canyon**	**0.80**	**304**		**Pb**	**19 39 20.7**	**-0.1**
MPMC	**Manual Prospec**	**0.86**	**182**		**Pg**	**19 39 21.1**	**-0.1**
MPMC					**Sb**	**19 39 32.7**	**-0.6**
MPMC	**Manual Prospec**	**0.86**	**182**	P	**Pg**	**19 39 21.3**	**+0.1**
	baz=2.5						
MPMC				S	**Sb**	**19 39 33.1**	**-0.2**
	baz=2.5						
BHPR	**Bishop**	**0.92**	**295**		**Pb**	**19 39 22.5**	**-0.2**
WCSM	**Coso Springs S**	**0.93**	**196**		**Pb**	**19 39 22.6**	**-0.2**
GWY	**Greenwater Val**	**0.96**	**139**		**Pg**	**19 39 22.7**	**-0.5**
GWY				IAML		19 39 40.2	
	comp=N,716nm,0.5s						
GWY	**Greenwater Val**	**0.96**	**139**		**Sn**	**19 39 37.1**	**-0.9**
WRVM	**Rose V. Centra**	**0.98**	**202**		**Pb**	**19 39 23.6**	**-0.1**

JRC2	**Joshua Ridge**	**0.98**	**198**		**Pb**	**19 39 23.5**	**-0.2**
JRC2					**Sn**	**19 39 37.4**	**-1.1**
MLNR	**Milner Canyon**	**0.98**	**313**		**Pb**	**19 39 23.5**	**-0.3**
NSP	**Numbskull Pass**	**1.01**	**101**		**Pg**	**19 39 24.0**	**0.0**
WVPM	**Volcano Peak E**	**1.01**	**197**		**Pb**	**19 39 24.2**	**-0.1**
AMDNV	**Amargosa**	**1.04**	**116**		**Pb**	**19 39 24.6**	**-0.2**
AMDNV					**Sn**	**19 39 39.2**	**-0.6**
QSM	**Queen of Sheba**	**1.06**	**154**		**Pb**	**19 39 24.8**	**-0.3**
QSM					**Sb**	**19 39 38.7**	**-0.2**
QSM	**Queen of Sheba**	**1.06**	**154**	IAML		19 39 43.4	
	comp=E,463nm,0.4s						
SCHCA	**Scheelite**	**1.09**	**294**		**Pn**	**19 39 25.9**	**-0.2**
CASR	**Casa Diablo Mo**	**1.10**	**307**		**Pn**	**19 39 25.9**	**-0.4**
CPY	**CP-1**	**1.11**	**89**		**Pb**	**19 39 25.7**	**-0.3**
CPY					**Sn**	**19 39 44.3**	**+2.5**
WNMM	**Nine Mile Cany**	**1.14**	**199**		**Pg**	**19 39 26.4**	**-0.1**
WNMM					**Sn**	**19 39 41.8**	**-0.3**
TOW	**Tower One**	**1.14**	**193**		**Pg**	**19 39 26.8**	**+0.3**
RCCR	**Rock Creek Can**	**1.17**	**299**		**Pn**	**19 39 27.1**	**-0.2**
TPH	**Tonopah**	**1.17**	**9**		**Pg**	**19 39 27.2**	**+0.1**
BENR	**Benton**	**1.20**	**312**		**Pg**	**19 39 27.6**	**-0.1**
ORC	**Owens River**	**1.20**	**307**		**Pg**	**19 39 27.7**	**-0.1**
MCY	**Mercury**	**1.22**	**102**		**Pg**	**19 39 28.1**	**0.0**
SRTC	**Snort**	**1.25**	**191**		**Pg**	**19 39 28.9**	**+0.3**
SPG2	**Springville 2**	**1.28**	**236**		**Pg**	**19 39 29.0**	**-0.2**
SPG2					**Sg**	**19 39 45.8**	**-0.1**
MLAC	**Mammoth, Mammo**	**1.32**	**303**		**Pg**	**19 39 29.8**	**-0.1**
MLAC	**Mammoth, Mammo**	**1.32**	**303**	P	**Pg**	**19 39 30.1**	**+0.1**
	baz=122,SNR=19						
MLAC				S	**Sg**	**19 39 49.1**	**+2.0**
	baz=122						
ANTCA	**Antelope Range**	**1.34**	**319**		**Pg**	**19 39 30.6**	**+0.2**
MGNR	**McGee Canyon**	**1.34**	**312**		**Pg**	**19 39 30.4**	**0.0**
MCBM	**Casa Benchmark**	**1.37**	**302**		**Pg**	**19 39 30.8**	**-0.1**
SHOC	**Shoshone, Teco**	**1.39**	**137**		**Pg**	**19 39 31.6**	**+0.3**
SHOC	**Shoshone, Teco**	**1.39**	**137**		**Sg**	**19 39 49.3**	**0.0**
SHOC	**Shoshone, Teco**	**1.39**	**137**	P	**Pg**	**19 39 31.3**	**+0.1**
	baz=318						
SHOC				S	**Sg**	**19 39 50.0**	**+0.7**
	baz=318						
OMMB	**Old Mammoth Mi**	**1.42**	**300**		**Pb**	**19 39 31.4**	**0.0**
LRMC	**Laurel Mtn Rad**	**1.45**	**188**	P	**Pg**	**19 39 32.3**	**-0.2**
	baz=7.5,SNR=160						
LRMC				S	**Sg**	**19 39 52.0**	**+0.8**
	baz=7.5						
MDYM	**Dry Creek**	**1.45**	**301**		**Pg**	**19 39 32.9**	**+0.3**
HCK	**Huntoon Valley**	**1.47**	**322**		**Pg**	**19 39 33.0**	**+0.1**
MDPB	**Devils Postpil**	**1.49**	**299**		**Pg**	**19 39 32.6**	**-0.6**
MDPB	**Devils Postpil**	**1.49**	**299**	IAML		19 39 54.7	
	comp=E,152nm,0.3s						
MDPB				IAML		19 39 59.3	
	comp=N,135nm,1.2s						
ISA	**Isabella, Lake**	**1.50**	**214**		**Pg**	**19 39 32.9**	**-0.6**
ISA	**Isabella, Lake**	**1.50**	**214**	P	**Pg**	**19 39 33.2**	**-0.3**
	baz=33,SNR=32						
ISA				S	**Sg**	**19 39 54.0**	**+1.0**
	baz=33						
S11A	**Rachel**	**1.54**	**61**		**Pg**	**19 39 34.1**	**-0.1**
KCC	**Kaiser Creek**	**1.55**	**286**		**Pg**	**19 39 34.0**	**-0.4**
LHV	**Little Huntoon**	**1.57**	**328**		**Pg**	**19 39 34.2**	**-0.6**
LHV	**Little Huntoon**	**1.57**	**328**	IAML		19 40 00.8	
	comp=N,224nm,0.5s						
NV11	**Mina Array Sit**	**1.61**	**340**		**Pb**	**19 39 34.3**	**-0.3**
NV11				IAML		19 39 58.9	
	comp=N,110nm,0.6s						
NV08	**Mina Array Sit**	**1.64**	**335**		**Pb**	**19 39 34.6**	**-0.4**
NVAR	**Mina Array Bea**	**1.66**	**336**		**Pb**	**19 39 34.8**	**-0.5**
VOG	**Valley Oaks Go**	**1.67**	**250**	Sb	**Sg**	**19 39 60.0**	**+1.7**
	baz=68						
NV09	**Mina Array Sit**	**1.67**	**335**		**Pb**	**19 39 35.3**	**-0.3**
GSC	**Goldstone, Bar**	**1.69**	**162**		**Pb**	**19 39 35.7**	**-0.3**
GSC	**Goldstone, Bar**	**1.69**	**162**		**Pb**	**19 39 35.5**	**-0.4**
GSC	**Goldstone, Bar**	**1.69**	**162**	IAML		19 40 03.6	
	comp=N,189nm,0.6s						
GSC	**Goldstone, Bar**	**1.69**	**162**	P	**Pb**	**19 39 35.6**	**-0.3**
	baz=343,SNR=76						
GSC				S	**Sg**	**19 39 59.2**	**+0.1**
	baz=343						
VES	**Vestal, Richgr**	**1.71**	**231**	Pb	**Pg**	**19 39 37.3**	**0.0**
	baz=50,SNR=17						
VES				S	**Sg**	**19 39 59.2**	**-0.2**
	baz=50						
CCAC	**Calif City Air**	**1.82**	**195**		**Pb**	**19 39 37.4**	**-0.6**
SHPR	**Sheep Range**	**1.88**	**102**		**Pb**	**19 39 38.5**	**-0.7**
SHPR	**Sheep Range**	**1.88**	**102**	IAML		19 40 10.1	
	comp=E,84nm,0.5s						
RYN	**Ryan**	**1.91**	**334**		**Pb**	**19 39 38.5**	**-1.1**
RYN	**Ryan**	**1.91**	**334**	IAML		19 40 08.9	
	comp=N,162nm,0.3s						
Q09A	**Carvers**	**1.92**	**6**		**Pb**	**19 39 39.0**	**-0.8**
TUQ	**Turquoise Moun**	**1.92**	**140**	P	**Pn**	**19 39 38.2**	**+0.7**
	baz=321,SNR=50						
TUQ				S	**Sb**	**19 40 03.5**	**-0.5**
	baz=321						
PRN	**Pahroc Range**	**1.97**	**75**		**Pn**	**19 39 39.0**	**+0.8**
R11B	**Troy Canyon, C**	**2.05**	**45**	Pn	**Pn**	**19 39 40.0**	**+0.7**
R11B				IAML		19 40 14.2	
	comp=E,82nm,0.5s						
R11B				IAML		19 40 14.2	
	comp=N,77nm,0.5s						
R11B	**Troy Canyon, C**	**2.05**	**45**	P	**Pn**	**19 39 40.1**	**+0.7**
	baz=226,SNR=30						
R11B				Sb	**Sg**	**19 40 10.8**	**+0.1**
	baz=226						
RRX	**Edison Barstow**	**2.07**	**170**	Sb	**Sg**	**19 40 11.9**	**+0.7**
	baz=350						
EDW2	**Edwards Air Fo**	**2.08**	**193**	P	**Pb**	**19 39 41.0**	**-1.5**
	baz=12,SNR=26						
EDW2				Sb	**Sg**	**19 40 12.0**	**+0.5**
	baz=12						
WTNK	**Soaring Height**	**2.09**	**110**		**Pn**	**19 39 39.6**	**-0.1**
ARVC	**Arvin**	**2.11**	**213**	Pb	**Pb**	**19 39 43.7**	**+0.8**
	baz=32						
ARVC				Sb	**Sg**	**19 40 13.3**	**+0.9**
	baz=32						
KVN	**Kaiserville**	**2.19**	**347**	Pn	**Pn**	**19 39 42.4**	**+1.1**
KVN				IAML		19 40 16.6	
	comp=E,76nm,0.4s						
KVN				IAML		19 40 17.9	
	comp=N,67nm,0.5s						
WAKR	**Walker**	**2.24**	**316**		**Pb**	**19 39 43.6**	**-1.6**
HEC	**Hector,Ludlow**	**2.27**	**156**	P	**Pn**	**19 39 43.0**	**+0.7**
	baz=337,SNR=32						
HEC				Sb	**Sg**	**19 40 17.1**	**-0.5**
	baz=337						
V12A	**Nelson**	**2.41**	**119**		**Pn**	**19 39 45.2**	**+1.0**
V12A				IAML		19 40 23.3	
	comp=N,76nm,0.7s						
V12A				IAML		19 40 23.0	
	comp=E,66nm,0.5s						
YERR	**Yerington**	**2.50**	**326**		**Pn**	**19 39 47.0**	**+1.5**
YERR				IAML		19 40 28.2	
	comp=N,90nm,0.5s						
YERR				IAML		19 40 28.3	
	comp=E,95nm,0.5s						
BCW	**Bitter Crk WRg**	**2.54**	**220**		**Pn**	**19 39 46.5**	**+0.6**
BCW				IAML		19 40 30.6	
	comp=N,73nm,0.8s						
BCW				IAML		19 40 35.6	
	comp=E,63nm,0.7s						
GMRC	**Granite Mounta**	**2.58**	**145**	P	**Pn**	**19 39 46.9**	**+0.5**
	baz=326,SNR=13						
GMRC				Sb	**Sg**	**19 40 26.6**	**-0.8**
	baz=326						
CMB	**Columbia Colle**	**2.59**	**296**	Pn	**Pn**	**19 39 47.4**	**+0.8**
CMB				IAML		19 40 34.1	
	comp=N,39nm,0.4s						
SMMC	**Simmler**	**2.61**	**233**	Pb	**Pb**	**19 39 52.5**	**+1.0**
	baz=51						
SMMC				Sb	**Sg**	**19 40 27.1**	**-1.5**
	baz=51						
BBRC	**Big Bear Solar**	**2.68**	**171**	Sb	**Sg**	**19 40 30.4**	**-0.5**
	baz=351						
PNTR	**Pine Nut**	**2.76**	**323**		**Pn**	**19 39 49.6**	**+0.6**
PNTR				IAML		19 40 44.7	
	comp=E,38nm,1.8s						
PNTR				IAML		19 40 52.7	
	comp=N,35nm,1.3s						
PMPB	**Monarch Peak**	**2.79**	**256**	Pn	**Pn**	**19 39 50.3**	**+1.0**
PMPB				IAML		19 40 37.5	
	comp=N,72nm,1.3s						
PKM	**Mcpherson Peak**	**2.79**	**224**	Sb	**Sg**	**19 40 32.6**	**-1.7**
	baz=43						
BBGB	**Big Mountain B**	**2.91**	**264**		**Pn**	**19 39 52.1**	**+1.1**
Q12A	**Willow Creek R**	**2.96**	**43**		**Pn**	**19 39 52.4**	**+0.6**
Q12A				IAML		19 40 43.0	
	comp=E,58nm,0.7s						
Q12A				IAML		19 40 54.8	
	comp=N,66nm,0.5s						
MPK	**Martis Peak**	**3.13**	**320**		**Pn**	**19 39 53.9**	**-0.3**
MPK				IAML		19 40 47.4	
	comp=N,26nm,0.7s						
MPK				IAML		19 41 04.8	
	comp=E,32nm,1.3s						
BELC	**Belle Mtn. Jos**	**3.14**	**158**	P	**Pn**	**19 39 55.5**	**+1.2**
	baz=338,SNR=14						
BELC				Sb	**Sg**	**19 40 43.9**	**-1.6**
	baz=338						
PAHR	**Pah Rah Range**	**3.17**	**332**		**Pn**	**19 39 54.3**	**-0.4**
SAO	**San Andreas Ge**	**3.21**	**268**		**Pn**	**19 39 54.3**	**-0.8**
SPR3	**Spring Creek 3**	**3.22**	**49**		**Pn**	**19 39 54.6**	**-0.9**
SPR3				IAML		19 40 51.6	
	comp=N,45nm,0.7s						
SPR3				IAML		19 40 55.5	
	comp=E,39nm,0.9s						
ELS	**Elsinore Mount**	**3.26**	**180**		**Pn**	**19 39 55.2**	**-0.7**
IRM	**Iron Mountain**	**3.33**	**145**	P	**Pn**	**19 39 58.5**	**+1.7**
	baz=327,SNR=5.8						
IRM				Sb	**Sg**	**19 40 49.9**	**-1.7**
	baz=327						
LCMT	**Little Creek M**	**3.37**	**87**		**Pn**	**19 39 56.4**	**-0.9**
LCMT				IAML		19 40 54.7	
	comp=E,22nm,1.1s						
LCMT				IAML		19 40 58.1	
	comp=N,29nm,2.0s						
PFO	**Pinyon Flats O**	**3.40**	**166**		**Pn**	**19 39 57.5**	**-0.2**
PFO	**Pinyon Flats O**	**3.40**	**166**	P	**Pn**	**19 39 59.5**	**+1.7**
	baz=347,SNR=11						
PFO				S	**Sn**	**19 40 39.8**	**+1.6**
	baz=347						
TPFO	**Pinon Flats**	**3.40**	**166**	P	**Pn**	**19 39 59.7**	**+1.8**
	baz=347,SNR=6.5						
W13A	**Hualapai Mount**	**3.41**	**121**		**Pn**	**19 39 58.5**	**+0.5**
AFDM	**Forest Hills D**	**3.45**	**307**	Pn	**Pn**	**19 39 59.6**	**+1.2**
BMN	**Battle Mountai**	**3.51**	**3**		**Pn**	**19 39 59.4**	**0.0**
BMN				IAML		19 41 00.8	
	comp=N,21nm,0.6s						
SZCU	**Shurtz Canyon**	**3.54**	**78**		**Pn**	**19 39 59.8**	**0.0**
SZCU				IAML		19 41 05.2	
	comp=N,29nm,0.3s						
SZCU				IAML		19 41 06.3	
	comp=E,35nm,0.3s						
KNB	**Kanab**	**3.70**	**87**	Pn	**Pn**	**19 40 02.7**	**+0.7**
KNB				IAML		19 41 04.5	
	comp=E,34nm,2.8s						
KNB				IAML		19 41 09.3	
	comp=N,28nm,1.0s						
BLYC	**Blythe**	**3.96**	**142**		**Pn**	**19 40 07.7**	**+2.3**
BLYC				IAML		19 41 13.3	
	comp=E,25nm,0.6s						
BLYC				IAML		19 41 24.3	
	comp=N,16nm,0.9s						
PKCU	**Pink Cliffs**	**4.13**	**81**		**Pn**	**19 40 08.6**	**+0.5**
U15A	**North Rim**	**4.17**	**95**		**Pn**	**19 40 08.6**	**0.0**
U15A				IAML		19 41 18.1	
	comp=E,27nm,0.9s						
U15A				IAML		19 41 20.9	
	comp=N,28nm,1.1s						
ELK	**Elko**	**4.19**	**24**	Pn	**Pn**	**19 40 09.3**	**+0.5**
BAR	**Barrett**	**4.28**	**171**		**Pn**	**19 40 11.6**	**+1.8**
TCRU	**Three Creeks R**	**4.30**	**65**		**Pn**	**19 40 10.8**	**+0.4**
TCRU				IAML		19 41 35.9	
	comp=N,26nm,1.0s						
TCRU				IAML		19 41 53.1	
	comp=E,26nm,4.3s						
MTPU	**Mount Pierson**	**4.33**	**73**		**Pn**	**19 40 11.1**	**+0.2**
MTPU				IAML		19 41 46.5	
	comp=E,14nm,4.9s						
MTPU				IAML		19 41 49.2	
	comp=N,22nm,5.0s						
MVU	**Marysvale**	**4.44**	**68**		**Pn**	**19 40 13.5**	**+1.3**
YUH	**Yuha Desert**	**4.44**	**163**	Pn	**Pn**	**19 40 13.1**	**+1.1**
RMX	**La Rumorosa**	**4.45**	**165**		**Pn**	**19 40 13.1**	**+0.8**
RMX				IAML		19 41 12.5	
	comp=N,12nm,4.9s						
RMX				IAML		19 42 33.9	
	comp=E,8.9nm,2.7s						
MSU	**Marysvale**	**4.47**	**68**		**Pn**	**19 40 13.2**	**+0.6**
CBX	**Cerro Bola**	**4.64**	**172**	Pn	**Pn**	**19 40 15.7**	**+0.9**
Y14A	**Wickenburg**	**4.69**	**128**		**Pn**	**19 40 16.1**	**+0.7**
Y14A				IAML		19 41 36.0	
	comp=N,20nm,0.9s						
Y14A				IAML		19 41 42.7	
	comp=E,12nm,2.4s						
CPBX	**Cerro Prieto**	**4.82**	**158**	Pn	**Pn**	**19 40 19.3**	**+2.1**
DUG	**Dugway, Tooele**	**4.89**	**47**		**Pn**	**19 40 20.5**	**+2.3**
DUG				IAML		19 41 45.7	
	comp=E,16nm,3.6s						
DUG				IAML		19 42 07.4	
	comp=E,14nm,4.3s						
ESJX	**Sierra Juarez**	**5.05**	**165**		**Pn**	**19 40 20.6**	**0.0**
ESJX				IAML		19 43 00.6	
	comp=N,11nm,0.1s						
ESJX				IAML		19 43 10.1	
	comp=E,10nm,0.1s						
WUAZ	**Wupatki**	**5.10**	**104**		**Pn**	**19 40 21.5**	**+0.2**
113A	**Mohawk Valley,**	**5.13**	**143**	Pn	**Pn**	**19 40 22.5**	**+1.1**
113A				IAML		19 41 51.5	
	comp=E,8.5nm,4.1s						
113A				IAML		19 42 40.9	
	comp=N,10.0nm,4.9s						
NLU	**North Lily Min**	**5.19**	**53**	Pn	**Pn**	**19 40 23.1**	**+0.6**
NLU				IAML		19 43 10.1	
	comp=N,14nm,4.9s						
BGU	**Big Grassy Mou**	**5.28**	**39**		**Pn**	**19 40 25.4**	**+1.8**
BGU				IAML		19 41 11.7	
	comp=N,12nm,5.0s						
HMU	**Henry Mountain**	**5.43**	**77**		**Pn**	**19 40 23.7**	**-2.2**
TMUT	**Trail Mountain**	**5.46**	**62**	Pn	**Pn**	**19 40 24.4**	**-1.9**
X16A	**Lo Mia Camp, P**	**5.49**	**115**		**Pn**	**19 40 25.6**	**-1.0**
VTX	**Valle De La Tr**	**5.68**	**166**		**Pn**	**19 40 28.0**	**-1.1**
SRU	**San Rafael Swe**	**5.89**	**66**	Pn	**Pn**	**19 40 30.9**	**-1.1**

IDC ***30*** *19:45:38.7±1.3,6.°78S×130.°02E, h0km, mb3.8/4, mbtmp4.0/6, ML4.5/2, Error ellipse: s-maj=76.3km s-min=20.6km az=58.0*

DJA ***30*** *19:45:51.8±0.2,7.°5S×13.°0E±.°, h149km±8km, M4.5/13, mb4.2/12, mB5.0/2, MLv4.6/13, Mw(mB)4.4/2*

ISC 30 19:45:52.1±0.8, 6.°98S±0.°07×130.°23E±0.°08, h150km, n28, σ2^{2}54/27, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.46**	**133**	P	**Pn**	**19 46 21.7**	**+0.5**
SAUI	**Saumlaki**	**1.46**	**133**	P	**Pn**	**19 46 22.3**	**+1.1**
BNDI	**Bandanaira**	**2.46**	**352**	P	**Pn**	**19 46 32.7**	**-0.1**
FAKI	**Fak Fak**	**4.50**	**27**	P	**Pn**	**19 46 57.0**	**-2.0**
FAKI	**Fak Fak**	**4.50**	**27**	P	**Pn**	**19 46 57.1**	**-2.0**
KMPI	**Kaimana, Papua**	**4.78**	**47**	P	**Pn**	**19 47 02.3**	**-0.3**
NLAI	**Namlea**	**4.85**	**320**	P	**Pn**	**19 47 03.4**	**-0.2**
MTN	**Manton Dam**	**5.90**	**171**	P	**Pn**	**19 47 18.3**	**+0.8**
KDU	**Kakadu**	**6.09**	**159**	P	**Pn**	**19 47 20.3**	**+0.3**
SIJI	**Sorong**	**6.16**	**10**	P	**Pn**	**19 47 18.8**	**-2.2**
	15nm,0.5s,3μm0.7nm						
SWI	**Sorong**	**6.16**	**10**	P	**Pn**	**19 47 18.4**	**-2.6**
	38nm,0.7s,1μm0.4nm						
SANI	**Sanana**	**6.47**	**319**	P	**Pn**	**19 47 23.5**	**-1.6**
	21nm,0.9s,0.1nm						
SOEI	**Soe**	**6.52**	**245**	P	**Pn**	**19 47 25.9**	**0.0**
SOEI	**Soe**	**6.52**	**245**	P	**Pn**	**19 47 25.8**	**-0.1**
	81nm,0.8s,0.8nm						
LBMI	**Labuha**	**6.86**	**336**	P	**Pn**	**19 47 29.0**	**-1.4**
	25nm,0.7s,0.2nm						
KNRA	**Kununurra**	**8.77**	**189**	P	**Pn**	**19 47 55.0**	**-0.8**
WRA	**Warramunga Arr**	**13.49**	**163**	Pn	**Pn**	**19 48 55.5**	**-2.2**
	3.1nm,0.3s,baz=348,slow=14,SNR=56						
WRA				Sn	Sn	19 51 17.9	-9.2
	4.0nm,0.3s,baz=345,slow=19,SNR=8.5						
	7.3nm,0.5s						
COEN	**Coen**	**14.49**	**120**	P	**P**	**19 49 12.2**	**-0.6**
QIS	**Mount Isa**	**16.27**	**147**	P	**P**	**19 49 34.7**	**+2.2**
ASAR	**Alice Springs**	**16.96**	**168**	P	**P**	**19 49 39.8**	**-0.3**
ASAR	**Alice Springs**	**16.96**	**168**	P	**P**	**19 49 39.8**	**-0.3**
	1.1nm,0.3s,baz=352,slow=12,SNR=39						
ASAR				S	**S**	**19 52 40.0**	**-9.4**
	3.0nm,0.8s,baz=321,slow=14,SNR=5.2						
	2.1nm,0.6s						
AS01	**Alice Springs**	**16.97**	**168**	P	**Pn**	**19 49 42.0**	**+1.2**
WRKA	**Warakurna**	**18.05**	**186**	P	**Pn**	**19 49 55.9**	**+2.2**
CTA	**Charters Tower**	**20.28**	**132**	P	**Pn**	**19 50 21.3**	**+1.4**
CTA	**Charters Tower**	**20.28**	**132**	P	**Pn**	**19 50 21.3**	**+1.4**
	1.3nm,0.4s,baz=289,slow=9.8,SNR=2.8						
	1.3nm,0.4s						
STKA	**Stephens Creek**	**26.95**	**158**	P	**P**	**19 51 23.4**	**+3.8**
	3.9nm,1.1s,baz=328,slow=13,SNR=3.3						
	3.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**39.89**	**310**	P	**P**	**19 53 12.7**	**+1.1**
	0.3nm,0.3s,baz=124,slow=7.7,SNR=1.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**68.33**	**327**	P	**P**	**19 56 40.0**	**+2.8**
	0.5nm,0.5s,baz=117,slow=7.4,SNR=12						
	0.5nm,0.5s						

NEIC ***30*** *20:03:05.3±0.9, 36.°66N±0.°02×99.°01W±0.°03, h14km±6km, Error ellipse: s-maj=4.5km s-min=1.4km az=129.0*

TUL 30 20:03:05.4±0.9, 36.°65N±0.°02×99.°02W±0.°03, h7km±5km, ML2.6, mb_Lg2.6/5(NEIC), ML2.4/12(NEIC), Error ellipse: s-maj=4.0km s-min=1.2km az=130.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK035	**E0210 Rd and N**	**0.26**	**78**	Pg	Pg	20 03 10.8	+0.3
OK035				Sg	Sg	20 03 14.8	+0.8
OK035				IAML		20 03 15.0	
	719nm,0.3s						
U32A	**Winter Ranch,**	**0.27**	**176**		Pg	20 03 11.0	+0.2
U32A				Sg	Sg	20 03 15.2	+0.8
U32A				IAML		20 03 15.5	
	comp=E,492nm,0.1s						
OK038	**West end E0370**	**0.29**	**127**		Pg	20 03 11.4	+0.3
OK038				Sg	Sg	20 03 15.7	+0.9
ELIS	**Ellis County**	**0.67**	**209**		Pg	20 03 17.8	-0.5
ELIS				Sg	Sg	20 03 27.2	+0.3
ELIS				IAML		20 03 29.5	
	comp=N,225nm,0.2s						
ELIS				IAML		20 03 34.3	
	comp=E,227nm,0.4s						
OK032	**Salt Plains WL**	**0.67**	**77**	Pg	Pg	20 03 18.0	-0.3
OK032				Sg	Sg	20 03 26.5	-0.6
OK032				IAML		20 03 30.3	
	comp=E,205nm,0.2s						
OK032				IAML		20 03 39.6	
	comp=E,201nm,0.2s						
CROK	**Carrier**	**0.85**	**100**	Pg	Pg	20 03 20.9	-0.8
CROK				Sg	Sg	20 03 33.2	+0.4
KAN14	**Manchester OK**	**0.90**	**70**	Pg	Pg	20 03 21.9	-0.9
GC02	**Grant County #**	**0.96**	**78**	Pg	Pg	20 03 23.3	-0.5
KAN08	**Anthony NE Sta**	**1.02**	**56**	Pg	Pg	20 03 24.4	-0.6
CSTR	**Hydro, Custer**	**1.04**	**165**	Pg	Pg	20 03 24.3	-1.1
KAN01	**Argonia South**	**1.13**	**63**	Pg	Pg	20 03 25.2	-1.9
KAN09	**Caldwell North**	**1.23**	**66**	Pg	Pg	20 03 27.4	-1.5
KAN13	**South Haven SW**	**1.29**	**73**	Pg	Pn	20 03 28.9	-1.0
BLOK	**Blackwell**	**1.46**	**85**		Pn	20 03 32.0	-0.2
OK029	**Liberty Lake**	**1.53**	**123**		Pn	20 03 32.6	-0.6
OK048	**Pawnee Station**	**1.69**	**97**		Pn	20 03 35.0	-0.4
R32A	**Long Quarter,**	**1.78**	**8**		Pb	20 03 37.6	-0.8
SMWD	**Samnorwood**	**1.83**	**213**		Pb	20 03 38.5	-0.8
OK052	**Battle Ridge R**	**1.91**	**109**	Pn	Pn	20 03 38.8	+0.3
FNO	**Franklin**	**1.92**	**136**	Pn	Pn	20 03 39.2	+0.7
WMOK	**Wichita Mounta**	**1.92**	**174**		Pn	20 03 38.5	0.0
QUOK	**Quay**	**1.93**	**104**	Pn	Pn	20 03 38.5	-0.2
T35A	**Sooner Cattle**	**2.03**	**82**		Pn	20 03 40.5	+0.4
DEOK	**Depew**	**2.20**	**111**	Pn	Pn	20 03 43.3	+0.9
CBKS	**Cedar Bluff**	**2.23**	**346**	Pn	Pn	20 03 43.1	+0.2
X34A	**Smith Ranch, M**	**2.27**	**154**	Pn	Pn	20 03 43.0	-0.3
RTBA	**Rita Blanca**	**3.00**	**267**	Pn	Pn	20 03 52.3	-1.2
DKNS	**Dickens**	**3.36**	**208**	Pn	Pn	20 03 59.5	+1.1
APMT	**Aspermont**	**3.44**	**196**	Pn	Pn	20 03 58.2	-1.3
KSCO	**Kaye Shedlock'**	**3.70**	**311**	Pn	Pn	20 04 02.2	-1.0
KSCO				IAmb_Lg		20 05 13.0	
	comp=Z,10nm,0.7s						
PLPT	**Palo Pinto**	**3.88**	**171**	Pn	Pn	20 04 05.1	-0.3
T25A	**Trinidad**	**4.34**	**278**	Pn	Pn	20 04 10.4	-1.7
S39A	**Bolivar**	**4.67**	**75**	Pn	Pn	20 04 16.0	-0.3
WHTX	**Lake Whitney,**	**4.83**	**164**	Pn	Pn	20 04 18.2	-0.4
SDCO	**Great Sand Dun**	**5.28**	**284**	Pn	Pn	20 04 23.3	-1.8
BRDY	**Brady**	**5.35**	**180**	Pn	Pn	20 04 25.2	-0.6
Q24A	**Divide**	**5.37**	**297**	Pn	Pn	20 04 24.9	-1.3
WHAR	**Wooly Hollow**	**5.63**	**102**	Pn	Pn	20 04 27.6	-1.9
JCT	**Junction City**	**6.19**	**186**	IAmb_Lg		20 06 25.4	
	comp=Z,6.4nm,0.9s						
Y22D	**IRIS PASSCAL I**	**6.95**	**251**	IAmb_Lg		20 07 02.4	
	comp=Z,17nm,0.8s						

BJI ***30*** *20:11:45.5±0.0, 41.°92N×142.°58E, h62km, mb4.9/80, mB5.0/35, Ms4.1/39, Ms7 4.0/42*

MOS ***30*** *20:11:46.9±0.9, 42.°04N×142.°51E, h63km, mb5.3/61, Error ellipse: s-maj=5.8km s-min=3.9km az=114.8*

SKHL ***30*** *20:11:48.3±0.3, 42.°00N×142.°60E, h77km±6km, mb5.6/3*

NEIC ***30*** *20:11:48.5, 42.°01N×143.°11E, h60km, Moment Tensor Solution. Duration: 1ŝ2 Moment tensor: Scale 10^{16}Nm; M_{rr}1.38; $M_{\theta\theta}$-0.53; $M_{\phi\phi}$-0.85; $M_{r\theta}$0.39; $M_{\theta\ph

JEM eS Sn 20 12 08.4 +0.1
JEM Erimo 0.45 88 A A 20 11 59.9
comp=E,53nm,2.2s,comp=N,48nm,2.8s
JTHR Tokachihiroo 0.62 62 *i* P Pn 20 12 01.6 0.0
JTHR eS Sn 20 12 11.4 -0.1
JTHR Tokachihiroo 0.62 62 A A 20 12 01.6
comp=E,93nm,2.7s,comp=N,56nm,1.1s
JIAM Iburiatsuma 0.78 323⇓ *e*P Pn 20 12 04.3 +0.9
JIAM Iburiatsuma 0.78 323 A A 20 12 04.3
comp=E,117nm,1.4s,comp=N,141nm,1.1s
JBT2 Biratori 2 0.79 350 ⇓P Pn 20 12 03.4 -0.1
JBT2 ⇓eS Sn 20 12 15.1 +0.1
JBT2 Biratori 2 0.79 350 A A 20 12 03.4
comp=E,42nm,2.4s,comp=N,35nm,1.2s
JCH Churui 0.85 44 P Pn 20 12 04.2 -0.2
JCH eS Sn 20 12 16.0 -0.5
JCH Churui 0.85 44 A A 20 12 04.2
comp=E,32nm,3.8s,comp=N,54nm,1.2s
JKB Kayabe 1.14 265 ⇓P Pn 20 12 08.4 +0.4
JKB ⇓eS Sn 20 12 23.2 +0.3
JKB Kayabe 1.14 265 A A 20 12 08.4
comp=E,73nm,0.5s,comp=N,55nm,1.2s
JFR Furan 1.16 1⇓ *e*P Pn 20 12 08.1 -0.2
JFR Furan 1.16 1 A A 20 12 08.1
comp=E,30nm,0.8s,comp=N,23nm,1.9s
JEW Eniwo 1.17 316 ⇓P Pn 20 12 08.8 +0.4
JEW Eniwo 1.17 316 A A 20 12 08.8
comp=E,53nm,0.9s,comp=N,61nm,1.6s
JAHD Aomorihigashid 1.17 231 A A 20 12 09.3
comp=E,137nm,0.7s,comp=N,128nm,0.7s
JNB Noboribetsu 1.22 293 ⇓P Pn 20 12 08.7 -0.3
JNB ⇓eS Sn 20 12 24.5 -0.3
JNB Noboribetsu 1.22 293 A A 20 12 08.7
comp=E,24nm,0.9s,comp=N,13nm,0.4s
JOT Ohata 1.29 242 ⇓P Pn 20 12 10.5 +0.5
JOT ⇓eS Sn 20 12 27.1 +0.7
JOT Ohata 1.29 242 A A 20 12 10.5
comp=E,30nm,0.8s,comp=N,37nm,0.8s
JOB Onbets 1.31 46 P Pn 20 12 11.1 +0.9
JOB eS Sn 20 12 28.0 +1.2
JOB Onbets 1.31 46 A A 20 12 11.1
comp=E,37nm,2.0s,comp=N,53nm,1.6s
JARK Aomorirokkasho 1.34 222 A A 20 12 11.6
comp=E,24nm,1.0s,comp=N,21nm,2.8s
JAB Ashibetsu 1.52 351 ⇓P Pn 20 12 13.5 +0.5
JAB Ashibetsu 1.52 351 A A 20 12 13.5
comp=E,25nm,0.9s,comp=N,30nm,3.3s
JISS Ishikarishitsu 1.52 327⇓ *e*P Pn 20 12 13.5 +0.5
JISS Ishikarishitsu 1.52 327 A A 20 12 13.5
comp=E,44nm,1.1s,comp=N,55nm,1.7s
JAR Ashorobuto 1.57 34 P Pn 20 12 13.8 +0.1
JAR eS Sn 20 12 33.1 0.0
JAR Ashorobuto 1.57 34 A A 20 12 13.8
comp=E,18nm,0.7s,comp=N,17nm,2.4s
JYM2 Yakumo 2 1.63 275 A A 20 12 15.7
comp=E,8.0nm,2.5s,comp=N,10.0nm,1.5s
JTM Tenmabayashi 1.65 223 Pn Pn 20 12 16.0 +1.2
JTM Sn 20 12 35.5 +0.4
JTM Tenmabayashi 1.65 223 A A 20 12 16.0
comp=E,18nm,2.6s,comp=N,12nm,2.4s
JSR Shiriuchi 1.67 254 A A 20 12 16.2
comp=E,27nm,0.7s,comp=N,36nm,0.6s
JANG Nango 1.81 206 A A 20 12 18.1
comp=E,13nm,1.0s,comp=N,11nm,1.5s
JHR Hokuryu 1.84 341 A A 20 12 18.2
comp=E,59nm,1.6s,comp=N,30nm,1.2s
JSI2 Shiura 2 1.87 240 A A 20 12 19.0
comp=E,22nm,0.8s,comp=N,26nm,2.2s
JAK Akkeshi 1.87 57 A A 20 12 18.2
comp=E,17nm,1.3s,comp=N,18nm,1.4s
JKK2 Kamakawa 2 1.87 4 A A 20 12 18.5
comp=E,10.0nm,4.7s,comp=N,16nm,2.2s
JKEN Kujiedanarisaw 1.91 200 A A 20 12 19.5
comp=E,29nm,0.6s,comp=N,32nm,0.8s
JOMM Oshimamatsumae 1.97 257 A A 20 12 20.4
comp=E,11nm,0.4s,comp=N,7.0nm,0.5s
JSH Shimam 1.97 290 A A 20 12 20.3
comp=E,8.0nm,4.1s,comp=N,5.0nm,2.4s
AKK Akkeshi 1.97 58 *e*P Pn 20 12 18.8 -0.3
AKK eS Sn 20 12 41.9 -0.9
JHST Hiyamasetana 2.03 283 A A 20 12 21.3
comp=E,14nm,2.4s,comp=N,14nm,2.1s
JSK Shakotan 2.04 312 A A 20 12 21.2
comp=E,9.0nm,2.1s,comp=N,9.0nm,2.4s
JMP Maruseppu 2.09 16 A A 20 12 21.4
comp=E,12nm,2.3s,comp=N,7.0nm,1.5s
ASAJ Asahikawa 2.11 1 A A 20 12 21.9
comp=E,12nm,1.8s,comp=N,12nm,2.7s
ASAJ Asahikawa 2.11 1 P Pn 20 12 21.0 0.0
comp=N,1µm,0.5s,baz=214,slow=10,SNR=702
ASAJ S Sn 20 12 47.4 +1.2
comp=N,1µm,0.5s,baz=88,slow=33,SNR=15
JKA Kamikawa-asahi 2.11 1 Pn 20 12 21.7 +0.7
JKA Sn 20 12 46.8 +0.6
JKA Kamikawa-asahi 2.11 1 *e*P Pn 20 12 21.0 0.0
JHHS Hirosakihyakuz 2.13 232 A A 20 12 22.8
comp=E,30nm,1.2s,comp=N,39nm,2.4s
JTKR Abashiri--Toko 2.20 26 A A 20 12 23.0
comp=E,7.0nm,1.5s,comp=N,6.0nm,3.0s
JKHN Kushirohamanak 2.21 60 A A 20 12 22.9
comp=E,12nm,2.5s,comp=N,12nm,1.2s
JKZ Kuzumaki 2.22 205 A A 20 12 23.9
comp=E,11nm,0.3s,comp=N,13nm,0.6s
JAH Hinai 2.32 219 A A 20 12 25.4
comp=E,13nm,2.8s,comp=N,9.0nm,1.9s
JIW Iwasaki 2.38 235 A A 20 12 26.3
comp=E,7.0nm,3.3s,comp=N,7.0nm,0.8s
JSS Shosan 2.45 348 A A 20 12 26.7
comp=E,12nm,1.4s,comp=N,11nm,1.2s
MIYJ Miyakonagasawa 2.49 193 A A 20 12 27.6
comp=E,11nm,1.4s,comp=N,8.0nm,1.4s
JNSB Nemuroshibetsu 2.52 45 A A 20 12 27.4
comp=E,11nm,1.3s,comp=N,14nm,1.5s
JYG Yagishiri 2.56 342 A A 20 12 28.3
comp=E,8.0nm,1.7s,comp=N,5.0nm,1.6s
JSZI Iwateshizukuis 2.57 209 A A 20 12 28.8
comp=E,12nm,2.6s,comp=N,12nm,2.2s
JRA Rausu 2.70 43 A A 20 12 29.9
comp=E,8.0nm,1.7s,comp=N,8.0nm,0.9s
JOM Ohasama 2.70 201 A A 20 12 30.7
comp=E,11nm,0.2s,comp=N,11nm,1.0s
NMR Nemuro--Hokkai 2.71 59 *e*PN Pn 20 12 28.7 -0.4
NMR eS Sn 20 12 58.7 -2.0
NMR Nemuro--Hokkai 2.71 59 *e*P Pn 20 12 28.7 -0.4
NMR eS Sn 20 12 59.2 -1.5
RUSJ Misakicho 2.88 42 *e*PN Pn 20 12 32.4 +0.9
RUSJ eS Sn 20 13 05.4 +0.5
JRG Rokugo 2.99 210 A A 20 12 34.7
comp=E,9.0nm,1.7s,comp=N,7.0nm,1.9s
OFUJ Ofunato 3.00 193 A A 20 12 34.8
comp=E,6.0nm,0.4s,comp=N,5.0nm,0.4s
JYW Yuwa 3.04 217 A A 20 12 35.4
comp=E,12nm,4.3s,comp=N,13nm,1.1s
YUK Yuzh-Kuril'sk 3.16 49 *e*PN Pn 20 12 34.9 -0.4
YUK eS Sn 20 13 11.2 -0.6
YUK pmax pmax
comp=Z,623nm,0.2s
YUK smax smax
comp=E,3µm,0.6s
YUK smax smax
comp=N,4µm,0.5s
YUK Yuzh-Kuril'sk 3.16 49 *e*P Pn 20 12 35.2 -0.1
YUK AMB AMB 20 12 41.2
comp=N,620nm,0.2s
YUK eS Sn 20 13 11.0 -0.8
YUK A A 20 13 22.9
comp=N,4µm,0.6s
YUK A A 20 13 22.9
comp=N,3µm,0.6s
JOFO Osakifurukawao 3.62 201 A A 20 12 43.6
comp=E,14nm,3.8s,comp=N,18nm,2.2s
SHO Shikotan 3.65 58 *e*PN Pn 20 12 41.6 -0.4
SHO eS Sn 20 13 21.6 -2.2
SHO pmax pmax
comp=N,184nm,0.2s
SHO pmax pmax
comp=E,231nm,0.2s
SHO pmax pmax
comp=Z,450nm,0.2s
SHO smax smax
comp=N,1µm,0.4s
SHO smax smax
comp=E,1µm,0.3s
SHO Shikotan 3.65 58 *e*P Pn 20 12 41.6 -0.4
SHO AMB AMB 20 12 42.2
comp=E,450nm,0.2s

SHO eS Sn 20 13 22.0 -1.8
SHO A A 20 13 25.8
comp=E,1µm,0.4s
SHO A A 20 13 25.8
comp=E,1µm,0.4s
JOU Okura 3.91 202 A A 20 12 47.6
comp=E,5.0nm,2.1s,comp=N,6.0nm,1.5s
JYA Atsumi 4.04 213 A A 20 12 49.5
comp=E,5.0nm,1.2s,comp=N,7.0nm,1.6s
JYS Shirataka 4.23 208 A A 20 12 52.2
comp=E,5.0nm,4.0s,comp=N,5.0nm,4.8s
JMM Marumori 4.35 199 Pn 20 12 52.0 +0.4
JMST Minamisoumatoc 4.46 197 A A 20 12 55.3
comp=E,3.0nm,0.9s,comp=N,4.0nm,3.5s
JYAR Yonezawaarcadi 4.49 205 A A 20 12 55.7
comp=E,6.0nm,3.5s,comp=N,6.0nm,1.3s
YSS Yuzh-Sakhalins 4.95 2 Pn Pn 20 13 01.9 +2.1
YSS Yuzh-Sakhalins 4.95 2 *e*PN Pn 20 13 02.2 +2.5
YSS eS Sn 20 13 56.6 +1.0
YSS pmax pmax
comp=Z,280nm,0.7s
YSS smax smax
comp=N,120nm,0.8s
YSS smax smax
comp=E,100nm,0.7s
YSS MLR MLR
comp=Z,400nm,13.0s
YSS Yuzh-Sakhalins 4.95 2 *e*P Pn 20 13 01.9 +2.1
YSS eS Sn 20 13 56.6 +1.0
KUR Kuril'sk 5.03 48 *e*PN Pn 20 13 02.1 +1.3
KUR eS Sn 20 13 59.6 +2.1
KUR pmax pmax
comp=Z,434nm,0.6s
KUR pmax pmax
comp=E,233nm,0.5s
KUR pmax pmax
comp=N,122nm,0.3s
KUR smax smax
comp=N,495nm,0.6s
KUR smax smax
comp=E,242nm,0.4s
KUR Kuril'sk 5.03 48 *e*P Pn 20 13 02.1 +1.3
KUR AMB AMB 20 13 12.5
comp=E,430nm,0.6s
KUR eS Sn 20 13 57.1 -0.4
KUR A A 20 14 06.4
comp=E,500nm,0.5s
KUR A A 20 14 06.4
comp=E,240nm,0.5s
TEY Ternei 5.28 307⇑ *e*PN Pn 20 13 04.8 +0.5
TEY pmax pmax
comp=N,90nm,0.8s
TEY pmax pmax
comp=E,90nm,0.8s
TEY pmax pmax
comp=Z,90nm,0.8s
TEY Ternei 5.28 307 *e*P Pn 20 13 04.8 +0.5
TEY AMB AMB 20 13 05.6
comp=Z,90nm,0.8s
MJB9 Matsu-Tunnel 6.41 213 Pn Pn 20 13 22.5 +2.8
MAJO Matsushiro 6.41 213 Pn Pn 20 13 21.5 +1.7
MAJO Matsushiro 6.41 213 *i* PN Pn 20 13 21.8 +2.0
MJAR Matsushiro Arr 6.41 213 P Pn 20 13 21.2 +1.4
comp=Z,13nm,0.4s,baz=18,slow=14,SNR=37
MJAR LR LR 20 16 24.7
comp=Z,423nm,19.9s,baz=24,slow=43
UGL Uglegorsk 7.08 357 *e*PN Pn 20 13 30.6 +1.7
UGL *e* 20 14 50.6
UGL pmax pmax
comp=Z,70nm,0.9s
UGL Uglegorsk 7.08 357 *e*P Pn 20 13 30.6 +1.7
UGL AMB AMB 20 13 32.0
comp=Z,70nm,0.9s
USA0B Ussuriysk Arra 8.04 289 Pn 20 13 41.6 -0.3
USA0B Ussuriysk Arra 8.04 289 *i* PN Pn 20 13 43.1 +1.1
USRK Ussuriysk Ar. 8.04 289 Pn Pn 20 13 40.6 -1.3
USRK Ussuriysk Ar. 8.04 289 P Pn 20 13 41.6 -0.3
comp=Z,66nm,0.8s,baz=94,slow=15,SNR=61
USRK LR LR 20 16 53.0
comp=Z,458nm,20.8s,baz=150,slow=38
JSG Sagara 8.08 207 Pn Pn 20 13 41.7 -0.9
MSHR Mys Shultsa 8.47 278 *i* PN Pn 20 13 48.6 +0.7
TYV Tymovskoe 8.86 0 *e*PN Pn 20 13 55.4 +2.2
TYV eS Sn 20 15 37.2 +5.8
TYV pmax pmax
comp=Z,36nm,0.9s
TYV pmax pmax
comp=Z,200nm,4.9s
TYV smax smax
comp=N,700nm,5.1s
TYV smax smax
comp=E,300nm,5.1s
TYV smax smax
comp=N,12nm,1.0s
TYV smax smax
comp=E,9.0nm,1.0s
TYV Tymovskoe 8.86 0 *e*P Pn 20 13 55.4 +2.2
TYV eS Sn 20 15 32.4 +1.0
JHJ Hachijo jima 2 9.14 195 P Pn 20 13 54.9 -2.2
comp=E,96nm,0.3s,baz=78,slow=23,SNR=8.6
JHJ S Sn 20 15 32.2 -6.1
comp=E,167nm,0.4s,baz=102,slow=23,SNR=7.3
JHJ2 Mitsune 9.14 195 Pn Pn 20 13 54.5 -2.5
GRNR Gornyy 9.73 336⇑ *i* PN Pn 20 14 06.7 +1.6
GRNR eS Sn 20 15 57.0 +4.2
GRNR pmax pmax
comp=N,3.0nm,0.9s
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR pmax pmax
comp=Z,5.0nm,0.9s
GRNR smax smax
comp=N,3.0nm,0.6s
GRNR MLR MLR
comp=N,160nm,14.0s
GRNR MLR MLR
comp=E,220nm,14.0s
GRNR MLR MLR
comp=Z,210nm,14.0s
GRNR Gornyy 9.73 336 *e*P Pn 20 14 06.7 +1.6
MDJ Mudanjiang 9.80 290 P Pn 20 14 05.8 -0.3
MDJ S Sn 20 15 59.8 +5.3
MDJ PcS PcS 20 23 41.8 -6.1
MDJ pmax pmax
comp=Z,11nm,1.9s
MDJ pmax pmax
comp=Z,190nm,5.5s
MDJ LR LR
comp=Z,380nm,16.8s
MDJ LR LR
comp=Z,580nm,18.5s
MDJ LR LR
comp=Z,830nm,22.7s
MDJ Mudanjiang 9.80 290 Pn Pn 20 14 06.3 +0.2
KLR Kul'dur 10.46 317 *i* PN Pn 20 14 16.0 +1.0
KLR Kul'dur 10.46 317 P Pn 20 14 14.9 -0.1
comp=Z,22nm,0.9s,baz=117,slow=15,SNR=38
KLR LR LR 20 18 33.8
comp=Z,580nm,20.0s,baz=159,slow=39
KLR Kul'dur 10.46 317 *e*P Pn 20 14 16.0 +1.0
JMN Monobe 10.73 222 Pn 20 14 18.2 -0.6
BNX BinXian 11.55 294 ⇓P Pn 20 14 31.5 +1.5
BNX pmax pmax
comp=Z,10.0nm,0.8s
BNX pmax pmax
comp=Z,64nm,3.5s
KSRS Korea Array 12.14 253 P Pn 20 14 38.2 +0.2
comp=Z,10nm,0.7s,baz=68,slow=11,SNR=24
KS19 Wonju Array Si 12.16 253 Pn 20 14 39.0 +0.6
KSAR Wonju Array Be 12.18 253 Pn Pn 20 14 38.9 +0.4
KSAR Wonju Array Be 12.18 253 PN Pn 20 14 38.9 +0.4
KSAR Wonju Array Be 12.18 253 *e*P Pn 20 14 38.9 +0.4
CN2 Changchun 12.68 284 *e*P Pn 20 14 47.0 +1.7
CN2 eS Sn 20 17 01.5 -3.1
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,500nm,19.0s
JTU Tsushima 12.74 238 Pn Pn 20 14 48.0 +1.7
SKR Severo-Kuril's 12.76 43 *e*PN Pn 20 14 43.6 -2.7

SKR pmax pmax
comp=Z,94nm,0.7s
SKR MLR MLR
comp=Z,800nm,15.0s
SKR Severo-Kuril's 12.76 43 *e*P Pn 20 14 44.8 -1.5
JNU Nakatsue 12.81 230 Pn Pn 20 14 46.5 -0.7
JNU Nakatsue 12.81 230 P Pn 20 14 47.7 +0.5
comp=Z,15nm,0.8s,baz=21,slow=11,SNR=10
JNU LR LR 20 19 54.0
comp=Z,223nm,18.9s,baz=40,slow=38
TJN Taejon 13.05 249 Pn Pn 20 14 51.4 +1.0
TJN Taejon 13.05 249 *i* PN Pn 20 14 52.4 +2.0
HEH HeiHe 13.34 313 *e*P Pn 20 14 54.0 -0.2
HEH sP P 20 15 15.3 +14
HEH S Sn 20 17 22.8 +2.2
HEH pmax pmax
comp=Z,21nm,1.0s
HEH pmax pmax
comp=Z,190nm,4.9s
HEH LR LR
comp=Z,360nm,12.7s
HEH LR LR
comp=Z,400nm,12.8s
HEH LR LR
comp=Z,630nm,12.1s
SNY Shenyang 14.14 276 ⇓P Pn 20 15 06.5 +1.6
SNY pmax pmax
comp=Z,23nm,1.0s
SNY pmax pmax
comp=Z,150nm,8.3s
SNY LR LR
comp=Z,73nm,12.8s
SNY LR LR
comp=Z,230nm,17.3s
SNY LR LR
comp=Z,410nm,27.7s
JCJ Chichijima 14.88 181 Pn Pn 20 15 12.3 -2.3
JCJ Chichijima 14.88 181 P Pn 20 15 11.0 -3.6
comp=Z,58nm,0.4s,baz=287,slow=16,SNR=5.0
JCJ LR LR 20 21 26.5
comp=Z,63nm,21.3s,baz=118,slow=39
PEA0B Petropavlovsk- 15.06 37 Pn Pn 20 15 13.8 -3.0
PEA0B IAmb IAmb 20 15 35.4
comp=Z,84nm,1.3s
PEA0B Petropavlovsk- 15.06 37 P Pn 20 15 13.8 -3.0
PEA0B pmax pmax
comp=Z,84nm,1.3s
PETK Petropavlovsk- 15.06 37 Pn Pn 20 15 13.8 -3.1
PETK Petropavlovsk- 15.06 37 P Pn 20 15 13.8 -3.1
PETK Petropavlovsk- 15.06 37 P Pn 20 15 14.2 -2.6
comp=Z,3.1nm,0.6s,baz=216,slow=8.4,SNR=15
PETK LR LR 20 22 23.7
comp=Z,203nm,19.1s,baz=219,slow=42
ZEA Zeya 15.56 324 *e*P Pn 20 15 23.8 +0.6
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.7s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=N,200nm,18.0s
ZEA MLR MLR
comp=Z,200nm,19.0s
ZEA Zeya 15.56 324 *e*P Pn 20 15 22.9 -0.3
HIA Hailar 17.49 302 P Pn 20 15 45.8 -1.6
HIA Hailar 17.49 302 P Pn 20 15 45.8 -1.6
HIA pmax pmax
comp=Z,21nm,0.9s
MA2 Magadan 18.32 13 P 20 15 55.5 -1.2
MA2 Magadan 18.32 13 P P 20 15 55.5 -1.2
MA2 pmax pmax
comp=Z,26nm,0.8s
MA2 Magadan 18.32 13 P P 20 15 54.2 -2.5
comp=Z,24nm,0.7s,baz=198,slow=9.3,SNR=5.7
MA2 LR LR 20 23 58.9
comp=Z,66nm,19.0s,baz=133,slow=40
MA2 Magadan 18.32 13 *e*P P 20 15 55.5 -1.2
JOW Kunigami 19.14 222 P 20 16 02.6 -3.3
JOW IAmb IAmb 20 16 33.8
comp=Z,149nm,1.5s
JOW Kunigami 19.14 222 P P 20 16 02.4 -3.6
comp=Z,9.3nm,0.3s,baz=102,slow=19,SNR=1.8
JOW LR LR 20 23 52.5
comp=Z,239nm,20.7s,baz=347,slow=38
XLT XiLinHaoTe 19.45 285 *e*P P 20 16 08.0 -1.3
XLT pP pP 20 16 21.5 -1.1
XLT PP PnPn 20 16 25.8 -0.3
XLT sP sP 20 16 27.5 -3.1
XLT sS sS 20 20 02.5 -5.0
XLT pmax pmax
comp=Z,30nm,0.9s
XLT pmax pmax
comp=Z,130nm,3.9s
XLT LR LR
comp=Z,250nm,15.7s
XLT LR LR
comp=Z,260nm,14.0s
BJI Beijing 19.98 273 P P 20 16 13.8 -1.1
BJI pmax pmax
comp=Z,24nm,1.0s
BJI LR LR
comp=Z,130nm,13.9s
BJI LR LR
comp=Z,120nm,16.2s
BJI LR LR
comp=Z,190nm,19.2s
BJT Baijiatuau 19.99 273 P P 20 16 10.8 -4.3
BJT IAmb IAmb 20 16 15.8
comp=Z,41nm,0.9s
BJT Baijiatuau 19.99 273 P P 20 16 10.8 -4.3
BJT pmax pmax
comp=Z,41nm,0.9s
TIA Tai'an 20.53 262 P P 20 16 19.8 -1.2
TIA pmax pmax
comp=Z,48nm,0.8s
NJ2 Nanjing 21.31 250 *e*P P 20 16 27.8 -1.6
NJ2 pP pP 20 16 45.0 +2.1
NJ2 sP sP 20 16 48.8 -2.0
NJ2 pmax pmax
comp=Z,23nm,0.6s
NJ2 pmax pmax
comp=Z,170nm,5.7s
NJ2 LR LR
comp=Z,420nm,14.7s
NJ2 LR LR
comp=Z,440nm,17.0s
NJ2 LR LR
comp=Z,270nm,22.7s
YAK Yakutsk 21.49 343 P P 20 16 26.2 -4.8
YAK IAmb IAmb 20 16 51.4
comp=Z,78nm,0.8s
YAK Yakutsk 21.49 343 *e*P P 20 16 27.2 -3.7
YAK eS S 20 20 19.4 -6.1
YAK *e*SS sS 20 20 44.2 -3.6
YAK pmax pmax
comp=Z,34nm,1.2s
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK smax smax
comp=E,101nm,2.3s
YAK smax smax
comp=N,64nm,2.0s
YAK Yakutsk 21.49 343 P P 20 16 27.3 -3.7
comp=N,54nm,0.6s,baz=144,slow=1.8,SNR=12
YAK S S 20 20 16.8 -8.7
comp=N,8.1nm,0.5s,baz=139,slow=24,SNR=6.2
YAK LR LR 20 25 07.9
comp=N,130nm,21.8s,baz=127,slow=37
SEY Seymchan 21.75 12 *e*P P 20 16 30.4 -3.4
SEY pmax pmax
comp=Z,24nm,0.8s
SEY Seymchan 21.75 12 P P 20 16 30.8 -3.0
comp=Z,22nm,0.8s,baz=196,slow=7.6,SNR=56
SEY LR LR 20 25 59.7
comp=Z,88nm,19.4s,baz=321,slow=39
HNS HongShan 21.87 267 ⇑P P 20 16 33.0 -2.3
HNS S S 20 20 26.3 -7.0
HNS pmax pmax
comp=Z,29nm,0.9s
HNS LR LR
comp=Z,240nm,15.7s

HNS LR LR
comp=Z,340nm,15.5s
HNS LR LR
comp=Z,280nm,13.7s
HHC Hu-ho-hao-te 23.21 278 *e*P **P 20 16 50.3 +0.9**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,70nm,4.4s
HHC LR LR
comp=Z,140nm,15.7s
HHC LR LR
comp=Z,320nm,15.3s
HHC LR LR
comp=Z,270nm,18.5s
SHEM Shemya Is, Ala 23.72 52 LR LR 20 27 46.1
comp=Z,28nm,18.9s,baz=292,slow=40
BOD Bodaibo 24.00 321 *e*P **P 20 16 54.2 -2.2**
BOD pmax pmax
comp=Z,12nm,0.7s
TATO Taipei 24.33 232 P **P 20 16 57.2 -2.5**
TATO IAmb IAmb 20 17 07.3
comp=Z,74nm,0.9s
TATO Taipei 24.33 232 P **P 20 17 01.3 +1.7**
BTO Baotou 24.41 278 *e*P **P 20 17 00.0 -0.4**
BTO pP **pP 20 17 14.5 -1.0**
BTO sP **sP 20 17 21.8 -1.3**
BTO PP **PnPn 20 17 37.8 +3.9**
BTO S **S 20 21 15.8 +0.2**
BTO sS **sS 20 21 38.8 -3.0**
BTO SS **SnSn 20 22 10.3 +5.4**
BTO pmax pmax
comp=Z,44nm,1.0s
BTO pmax pmax
comp=Z,280nm,9.5s
BTO LR LR
comp=Z,340nm,11.8s
BTO LR LR
comp=Z,580nm,15.0s
BTO LR LR
comp=Z,570nm,22.3s
YHNB Yeheng 24.63 232 P **P 20 16 59.8 -2.7**
YHNB IAmb IAmb 20 17 25.0
comp=Z,77nm,1.2s
LYN LuoYang 24.68 262 *e*P **P 20 17 02.3 -0.4**
LYN pmax pmax
comp=Z,33nm,0.8s
LYN pmax pmax
comp=Z,210nm,3.9s
LYN LR LR
comp=Z,170nm,4.8s
LYN LR LR
comp=Z,260nm,5.5s
LYN LR LR
comp=Z,230nm,8.9s
NACB Ninganchiao 24.88 231 P **P 20 17 02.6 -2.1**
NACB IAmb IAmb 20 17 27.4
comp=Z,57nm,1.3s
WHN Wuhan 25.34 252 ⇓P **P 20 17 08.5 -0.3**
WHN pmax pmax
comp=Z,130nm,0.6s
WHN LR LR
comp=Z,850nm,16.9s
SSLB Suanglung 25.55 231 P **P 20 17 08.3 -2.5**
SSLB IAmb IAmb 20 17 42.8
comp=Z,71nm,1.5s
ULN Ulaanbaatar 25.65 295 P **P 20 17 09.2 -2.5**
ULN Ulaanbaatar 25.65 295 P **P 20 17 12.1 +0.4**
ULN Ulaanbaatar 25.65 295 P **P 20 17 12.2 +0.6**
ULN P **P 20 17 12.2 +0.6**
ULN Ulaanbaatar 25.65 295 *e*P **P 20 17 12.1 +0.4**
ULN Ulaanbaatar 25.65 295 P **P 20 17 12.3 +0.6**
comp=Z,83nm,0.8s
YULB Yu-li 25.66 230 P **P 20 17 10.2 -1.5**
YULB IAmb IAmb 20 17 51.6
comp=Z,32nm,1.1s
SONM Songino Array 26.09 295 P **P 20 17 15.7 +0.1**
SONM IAmb IAmb 20 17 17.3
comp=Z,17nm,0.7s
SONM Songino Array 26.09 295 P **P 20 17 14.7 -0.9**
comp=Z,11nm,0.5s,baz=75,slow=8.7,SNR=133
SONM PcP **PcP 20 20 43.0 +1.4**
comp=Z,2.4nm,0.6s,baz=118,slow=2.0,SNR=8.2
SONM LR LR 20 28 08.7
comp=Z,271nm,20.4s,baz=60,slow=38
comp=Z,11nm,0.5s
TPUB Ta-pu 26.11 231 P **P 20 17 15.6 -0.3**
TPUB IAmb IAmb 20 17 55.6
comp=Z,50nm,1.1s
TWG Pinlang 26.23 230 P **P 20 17 17.5 +0.5**
TWG IAmb IAmb 20 17 38.1
comp=Z,65nm,1.3s
KNMB Chin-men Tao 26.59 236 P **P 20 17 20.0 -0.1**
KNMB IAmb IAmb 20 17 38.1
comp=Z,41nm,0.8s
XAN Xi'an 27.53 264 ⇑P **P 20 17 27.5 -1.1**
XAN pmax pmax
comp=Z,9.0nm,0.6s
IRK Irkutsk 27.69 305 *e*P **P 20 17 29.6 -0.2**
IRK *e* 20 17 46.0
IRK pmax pmax
comp=Z,35nm,2.2s
CNSH ChangSha 27.73 250 ⇓P **P 20 17 31.3 +1.0**
CNSH pmax pmax
comp=Z,17nm,1.0s
ZAK Zakamensk 28.17 301 *e*P **P 20 17 33.5 -0.7**
ZAK pmax pmax
comp=Z,12nm,1.0s
GUMO Guam 28.38 175 LR LR 20 27 55.5
comp=Z,128nm,21.9s,baz=6.5,slow=34
ENH Enshi 28.98 257 P **P 20 17 40.1 -1.4**
ENH IAmb IAmb 20 17 45.7
comp=Z,36nm,0.6s
BILL Bilibino 29.02 18 P **P 20 17 40.9 -0.5**
BILL Bilibino 29.02 18 *i*P **P 20 17 39.7 -1.8**
MOY Mondy 29.66 303 *e*P **P 20 17 47.7 +0.2**
MOY pmax pmax
comp=Z,36nm,2.2s
H11N2 WAKE ISLAND Hy 30.30 130 T T 20 49 17.3
baz=323,slow=75,SNR=582
H11N1 WAKE ISLAND Hy 30.31 130 T T 20 49 31.2
baz=323,slow=75,SNR=892
H11N3 WAKE ISLAND Hy 30.31 130 T T 20 49 18.6
baz=323,slow=75,SNR=672
LZH Lanzhou 30.45 272 ⇓P **P 20 17 55.0 +0.4**
LZH pP pP 20 18 10.3 +0.3
LZH pmax pmax
comp=Z,18nm,1.4s
LZH LR LR
comp=Z,140nm,11.3s
LZH LR LR
comp=Z,250nm,12.7s
LZH LR LR
comp=Z,190nm,13.4s
TIXI Tiksi 30.49 352 P **P 20 17 50.3 -4.0**
TIXI Tiksi 30.49 352 *i*P **P 20 17 50.6 -3.7**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 30.49 352 P **P 20 17 50.8 -3.5**
comp=Z,2.3nm,0.5s,baz=160,slow=5.6,SNR=11
TIXI LR LR 20 31 49.3
comp=Z,55nm,18.2s,baz=198,slow=40
H11S1 WAKE ISLAND Hy 31.16 131 T T 20 50 25.2
baz=324,slow=76,SNR=685
H11S3 WAKE ISLAND Hy 31.16 131 T T 20 50 24.6
baz=324,slow=76,SNR=698
H11S2 WAKE ISLAND Hy 31.18 131 T T 20 50 39.1
baz=324,slow=76,SNR=598
GULI GuiLin 31.32 248 ⇑P **P 20 17 59.0 -3.2**
GULI pmax pmax
comp=Z,10.0nm,1.5s
GTA Gaotai 32.26 280 P **P 20 18 11.0 +0.5**
GTA sP pP 20 18 28.8 +2.9
GTA PcP **PcP 20 20 59.5 +2.1**
GTA PcS **PcS 20 24 44.5 +2.0**
GTA pmax pmax
comp=Z,13nm,0.9s
GTA LR LR
comp=Z,110nm,17.1s
GTA LR LR
comp=Z,110nm,18.2s
GTA LR LR
comp=Z,190nm,18.2s
CD2 Chengdu 32.85 263 P **P 20 18 14.8 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,170nm,10.2s
GYA Guiyang 33.20 254 ⇓P **P 20 18 20.5 +1.7**
GYA pmax pmax
comp=Z,11nm,0.6s
TNA Tin City 36.14 32 P **P 20 18 46.3 +2.8**
baz=254
PZH PanZhiHua 36.73 258 P **P 20 18 48.8 -0.4**
PZH S **S 20 24 30.0 +1.6**
PZH PcS **PcS 20 24 58.8 0.0**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,200nm,4.9s
F14K Arctic Creek 36.76 33 P **P 20 18 49.2 +0.3**
baz=256
KMI Kunming 36.83 256 ⇓P **P 20 18 51.0 +0.9**
KMI pmax pmax
comp=Z,27nm,0.9s
ANM Nome 36.95 35 P **P 20 18 50.7 +0.3**
baz=258
GOMU GeErMu 37.11 277 P **P 20 18 53.5 +0.9**
GOMU pP sP 20 19 12.3 -3.3
GOMU PcP **PcP 20 21 14.5 +2.7**
GOMU pmax pmax
comp=Z,12nm,0.6s
M13K Dall Lake 37.28 42 P **P 20 18 55.2 +2.0**
baz=265
J14K Nanvaranak Lak 37.43 38 P **P 20 18 55.2 +0.7**
baz=262
F15K North Star Dit 37.49 33 P **P 20 18 55.0 -0.1**
F15K North Star Dit 37.49 33 P **P 20 18 55.6 +0.5**
baz=257
G15K Niukluk 37.60 34 P **P 20 18 56.2 +0.3**
baz=259
L14K Kuka Creek 37.68 40 P **P 20 18 57.1 +0.5**
baz=265
C16K Lisburne Hills 37.89 29 P **P 20 18 56.9 -1.4**
C16K IAmb IAmb 20 19 18.8
comp=Z,12nm,0.9s
C16K Lisburne Hills 37.89 29 P **P 20 18 57.7 -0.6**
baz=253
DAV Davao City (W) 37.91 208 LR LR 20 33 01.2
comp=Z,69nm,21.8s,baz=328,slow=34
M14K Bethel 37.99 41 P **P 20 18 59.1 -0.1**
M14K IAmb IAmb 20 19 10.6
comp=Z,16nm,1.0s
N14K Kuskokwak Cree 38.08 42 P **P 20 19 01.6 +1.6**
baz=268
H16K Elim 38.29 35 P **P 20 19 02.2 +0.5**
baz=261
K15K Wolf Creek Mou 38.31 39 P **P 20 19 02.9 +0.9**
baz=265
G16K Koyuk River 38.37 34 P **P 20 19 02.2 -0.2**
G16K Koyuk River 38.37 34 P **P 20 19 02.4 0.0**
baz=260
SLVN Son La 38.39 250 P **P 20 19 03.3 +0.1**
SLVN IAmb IAmb 20 19 24.2
comp=Z,23nm,0.9s
DGZ Jazzator, Alta 38.39 301 *c i*P **P 20 19 02.1 -0.9**
DGZ pmax pmax
comp=Z,48nm,1.1s
M15K Kasigluk River 38.61 41 P **P 20 19 04.8 +0.3**
baz=268
C17K DeLong Mountai 38.72 29 P **P 20 19 05.3 0.0**
baz=255
J16K Anvik River 38.84 37 P **P 20 19 07.3 +0.9**
baz=264
I17K Unalakleet 38.86 36 P **P 20 19 05.5 -1.0**
I17K Unalakleet 38.86 36 P **P 20 19 07.0 +0.5**
baz=264
N15K Kwethluk River 38.88 42 P **P 20 19 06.6 -0.2**
N15K IAmb IAmb 20 19 13.2
comp=Z,18nm,0.8s
N15K Kwethluk River 38.88 42 P **P 20 19 07.7 +0.9**
baz=269
E17K Hotham Inlet 38.90 31 P **P 20 19 06.8 0.0**
baz=258,SNR=12
F17K Baldwin Pennin 39.00 32 P **P 20 19 07.6 0.0**
baz=260
O15K Ungalikthiuk R 39.01 44 P **P 20 19 09.3 +1.4**
baz=270
G17K Kiwalik Mounta 39.09 34 P **P 20 19 09.2 +0.8**
baz=262
NRIK Noril'sk 39.19 333 P **P 20 19 07.4 -1.8**
NRIK IAmb IAmb 20 19 09.5
comp=Z,11nm,0.7s
NRIK Noril'sk 39.19 333 P **P 20 19 07.8 -1.4**
comp=Z,11nm,0.4s,baz=93,slow=8.4,SNR=12
NRIK LR LR 20 36 37.9
comp=Z,256nm,20.3s,baz=106,slow=38
comp=Z,11nm,0.4s
L16K Owhat River 39.24 40 P **P 20 19 08.5 -1.2**
L16K Owhat River 39.24 40 P **P 20 19 10.1 +0.4**
baz=267
H17K Granite Mounta 39.32 35 P **P 20 19 10.7 +0.3**
baz=263
ZAA0 Zalesovo Array 39.38 308 P **P 20 19 11.2 +0.2**
ZALV Zalesovo Beam 39.38 308 P **P 20 19 11.6 +0.6**
ZALV Zalesovo Beam 39.38 308 P **P 20 19 10.1 -1.0**
comp=Z,51nm,0.7s,baz=86,slow=7.4,SNR=235
ZALV PcP **PcP 20 21 19.1 +1.1**
comp=Z,5.4nm,0.5s,baz=83,slow=3.2,SNR=4.2
ZALV ScP **ScP 20 25 00.9 0.0**
comp=Z,1.7nm,0.8s,baz=90,slow=4.4,SNR=4.0
ZALV LR LR 20 36 08.8
comp=Z,154nm,20.4s,baz=68,slow=37
comp=Z,51nm,0.7s
B18K Kokolik River 39.42 27 P **P 20 19 10.6 -0.5**
baz=256
E18K Tukpahlearik C 39.43 31 P **P 20 19 10.7 -0.5**
baz=259
M16K Timber Creek 39.46 41 P **P 20 19 11.8 +0.2**
baz=269
C18K Utukok River 39.47 29 P **P 20 19 11.5 -0.1**
baz=257
WMQ Urumqi 39.60 292 *e*P **P 20 19 13.8 +0.7**
WMQ pmax pmax
comp=Z,59nm,1.1s
WMQ pmax pmax
comp=Z,180nm,3.9s
WMQ LR LR
comp=Z,340nm,20.3s
F18K Selawik 39.66 32 P **P 20 19 13.1 0.0**
baz=261
L17K Donlin 39.82 39 P **P 20 19 13.4 -1.1**
baz=268
K17K Iditarod 39.84 38 IAmb IAmb 20 19 27.4
comp=Z,19nm,1.2s
K17K Iditarod 39.84 38 P **P 20 19 15.2 +0.5**
baz=267
A19K Wainwright 39.88 26 P **P 20 19 14.7 -0.2**
baz=256
TNCH TengChong 39.95 259 ⇑P **P 20 19 17.8 +1.5**
TNCH pP pP 20 19 34.8 +2.8
TNCH sP sP 20 19 40.0 +0.6
TNCH S **S 20 25 15.0 -2.1**
TNCH SS **SS 20 28 07.3 -8.6**
TNCH pmax pmax
comp=Z,71nm,1.0s
TNCH pmax pmax
comp=Z,200nm,2.6s
TNCH LR LR
comp=Z,150nm,6.1s
TNCH LR LR
comp=Z,100nm,3.7s
TNCH LR LR
comp=Z,99nm,5.1s
P16K Nushagak River 39.96 44 P **P 20 19 17.0 +1.3**
baz=272
G18K Tagagawik 39.96 33 IAmb IAmb 20 19 37.8
comp=Z,10nm,1.0s
G18K Tagagawik 39.96 33 P **P 20 19 14.9 -0.8**
baz=263
H18K Honhosa River 40.00 34 P **P 20 19 16.2 +0.1**
baz=264
C19K Lookout Ridge 40.13 28 P **P 20 19 17.3 +0.2**
baz=258
M17K Holitna River 40.21 40 P **P 20 19 18.3 +0.5**
baz=270
N17K Nushagak Hills 40.33 42 P **P 20 19 18.8 0.0**
baz=271
O17K Koliganek Bris 40.39 43 P **P 20 19 19.7 +0.4**
baz=272
F19K Shaleruckik Mo 40.43 32 IAmb IAmb 20 19 41.3
comp=Z,25nm,1.5s
F19K Shaleruckik Mo 40.43 32 P **P 20 19 19.0 -0.5**
baz=263
ZSN Zaisan 40.53 298 ⇑*i*P **P 20 19 21.5 +0.8**
comp=Z,19nm,0.9s,baz=298
ZSN Zaisan 40.53 298 *c i*P **P 20 19 21.5 +0.8**
ZSN pmax pmax
comp=Z,19nm,0.9s
D19K Kuna River 40.55 29 IAmb IAmb 20 19 36.6
comp=Z,14nm,1.0s
D19K Kuna River 40.55 29 P **P 20 19 20.6 +0.1**
baz=260
L18K Granite Mounta 40.57 39 P **P 20 19 21.4 +0.6**
baz=269
GCSA Galena City Sc 40.59 35 P **P 20 19 21.8 +0.9**
baz=266
J18K Innoko River 40.59 37 P **P 20 19 21.5 +0.5**
baz=268
G19K Purcell Mounta 40.62 33 P **P 20 19 21.0 -0.2**
baz=264
Q16K King Salmon 40.67 44 P **P 20 19 21.4 -0.1**
baz=273
E19K Redstone River 40.72 31 IAmb IAmb 20 19 49.1
comp=Z,11nm,0.8s
E19K Redstone River 40.72 31 P **P 20 19 22.5 +0.5**
baz=263
H19K Roundabout Mou 40.83 34 P **P 20 19 22.7 -0.2**
H19K IAmb IAmb 20 19 38.2
comp=Z,12nm,0.8s
H19K Roundabout Mou 40.83 34 P **P 20 19 23.3 +0.5**
baz=266,SNR=11
TTA Tatalina 40.90 38 P **P 20 19 23.9 +0.4**
TTA Tatalina 40.90 38 P **P 20 19 24.2 +0.6**
baz=269
TTA Tatalina 40.90 38 P **P 20 19 24.0 +0.4**
TTA pmax pmax
comp=Z,8.0nm,1.0s
N18K Kilae Creek 40.97 41 P **P 20 19 25.5 +1.4**
baz=272
Q17K Contact Creek 41.10 45 P **P 20 19 25.2 -0.1**
baz=274
J19K Poorman 41.10 36 P **P 20 19 25.6 +0.5**
baz=268
D20K Etivluk River 41.12 29 P **P 20 19 26.1 +0.9**
baz=262
B20K Meade River 41.14 27 IAmb IAmb 20 19 29.3
comp=Z,16nm,0.6s
B20K Meade River 41.14 27 P **P 20 19 25.8 +0.5**
baz=260
E20K Nigu River 41.22 30 P **P 20 19 25.4 -0.7**
baz=263
F20K Avaraart Lake 41.26 32 P **P 20 19 27.2 +0.9**
baz=264
O18K Koktuh Hills 41.34 43 P **P 20 19 27.7 +0.5**
O18K IAmb IAmb 20 19 28.6
comp=Z,33nm,1.4s
P18K Big Mountain, 41.36 43 P **P 20 19 27.9 +0.5**
P18K IAmb IAmb 20 20 03.7
comp=Z,15nm,1.1s
P18K Big Mountain, 41.36 43 P **P 20 19 28.0 +0.7**
baz=274
H20K Anotleneega Mo 41.48 34 P **P 20 19 29.1 +0.8**
baz=267
A21K Barrow 41.57 25 P **P 20 19 28.7 -0.1**
baz=259
CRAI Chiangrai 41.60 252 P **P 20 19 31.2 +1.5**
CRAI IAmb IAmb 20 19 33.5
comp=Z,35nm,0.7s
CRAI PcP **PcP 20 21 26.9 +1.1**
I20K Naaghedeneel 41.62 35 P **P 20 19 30.9 +1.5**
baz=268
N19K Bonanza Creek 41.65 41 P **P 20 19 31.1 +1.3**
baz=273
J20K Nowinta River 41.75 36 P **P 20 19 30.5 0.0**
J20K IAmb IAmb 20 19 43.2
comp=Z,11nm,0.8s
J20K PcP **PcP 20 21 27.5 +1.9**
J20K Nowinta River 41.75 36 P **P 20 19 31.7 +1.3**
baz=269,SNR=8.1
K20K Telida 41.78 37 P **P 20 19 31.9 +1.2**
baz=270
C21K Knifeblade Rid 41.84 28 P **P 20 19 31.6 +0.5**
baz=263
L20K Farewell, AK 41.88 39 P **P 20 19 32.3 +0.8**
baz=271
IMAR Indian Mountai 41.97 33 P **P 20 19 31.8 -0.4**
IMAR PcP **PcP 20 21 28.4 +2.2**
G21K Allakaket 42.09 32 IAmb IAmb 20 19 55.2
comp=Z,13nm,0.9s
G21K Allakaket 42.09 32 P **P 20 19 33.9 +0.7**
baz=267
F21K Alatna River 42.14 31 P **P 20 19 33.1 -0.6**
F21K Alatna River 42.14 31 P **P 20 19 34.9 +1.3**
baz=266,SNR=6.3
DLV T Lat 42.16 235 P **P 20 19 35.7 +1.2**
Q19K Cape Douglas, 42.21 44 P **P 20 19 34.4 +0.2**
H21K Melozitna Rive 42.35 34 P **P 20 19 36.1 +0.8**
baz=269
MK31 Makanchi Array 42.40 298 P **P 20 19 36.2 +0.2**
MK31 IAmb IAmb 20 19 37.5
comp=Z,32nm,0.8s
MK31 PcP **PcP 20 21 28.4 +0.3**
MK31 Makanchi Array 42.40 298 P **P 20 19 36.2 +0.2**
MK31 20 21 28.4
MK31 pmax pmax
comp=Z,32nm,0.9s
MKAR Makanchi Array 42.40 298 P **P 20 19 36.0 0.0**
MKAR PcP **PcP 20 21 28.7 +0.6**
MKAR Makanchi Array 42.40 298 P **P 20 19 36.0 0.0**
MKAR 20 21 28.7
MKAR Makanchi Array 42.40 298 P **P 20 19 36.0 0.0**
comp=Z,34nm,0.9s,baz=82,slow=9.0,SNR=212
MKAR PcP **PcP 20 21 29.0 +0.9**
comp=Z,3.7nm,0.6s,baz=69,slow=3.5,SNR=4.2
MKAR LR LR 20 38 02.3
comp=Z,82nm,18.2s,baz=60,slow=37
comp=Z,34nm,0.9s
MKAR Makanchi Array 42.40 298 *e*P **P 20 19 36.0 0.0**
B22K Teshekpuk Lake 42.45 27 P **P 20 19 35.6 -0.4**
baz=263
D22K Ayikyak River 42.56 29 P **P 20 19 37.2 +0.2**
baz=265
MAKZ Makanchi 42.61 298 P **P 20 19 37.7 +0.1**
MAKZ Makanchi 42.61 298 P **P 20 19 38.1 +0.4**
O20K Slope Mountain 42.62 42 P **P 20 19 39.0 +1.3**
baz=275
PPLA Purkeypile 42.65 38 P **P 20 19 38.7 +0.8**
baz=272
CAST Castle Rocks 42.67 37 P **P 20 19 37.9 -0.1**
CAST Castle Rocks 42.67 37 P **P 20 19 39.7 +1.7**
baz=272,SNR=8.7
N20K Mount Spurr 42.73 40 P **P 20 19 40.1 +1.6**
baz=274
SEM Semipalatinsk 42.78 303 *e*P **P 20 19 39.0 -0.2**
comp=Z,13nm,0.6s,baz=303
SEM Semipalatinsk 42.78 303 *e*P **P 20 19 39.0 -0.2**
SEM pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 42.85 270 IAmb IAmb 20 19 43.6
comp=Z,55nm,1.4s
LSA Lhasa 42.85 270 *i*P **P 20 19 42.3 +2.0**
SNR=23
LSA Lhasa 42.85 270 P **P 20 19 42.1 +1.8**
SYI Shuyak Island 42.89 44 P **P 20 19 39.4 -0.4**
KDAK Kodiak Island 42.90 45 P **P 20 19 39.6 -0.2**
KDAK IAmb IAmb 20 20 18.4
comp=Z,62nm,1.4s
KDAK Kodiak Island 42.90 45 P **P 20 19 39.5 -0.3**
baz=278
KDAK Kodiak Island 42.90 45 P **P 20 19 39.6 -0.2**
KDAK pmax pmax
comp=Z,62nm,1.4s
KDAK Kodiak Island 42.90 45 LR LR 20 40 32.7
comp=Z,70nm,18.2s,baz=261,slow=40
G22K Bettles 42.90 32 P **P 20 19 39.6 -0.2**
baz=269
H22K Ishtalitna Cre 42.94 33 P **P 20 19 40.4 +0.3**
baz=270
KTH Kantishna Hill 43.19 37 P **P 20 19 42.6 +0.4**
KTH IAmb IAmb 20 19 51.0
comp=Z,19nm,0.9s
MLY Manley 43.22 35 P **P 20 19 43.3 +0.9**
baz=271
D23K Nanushuk River 43.29 29 P **P 20 19 42.7 -0.1**
baz=267
COLD Coldfoot 43.42 31 P **P 20 19 43.8 -0.1**
baz=270
TRF Thorofare Moun 43.48 37 P **P 20 19 45.0 +0.3**
baz=273

G23K	Bananza Creek	43.49	32	P		P		20 19 44.4	-0.1	
	baz=270									
CMMT	Chiang Mai	43.54	252	P		P		20 19 46.8	+1.3	
	comp=Z,121nm,0.8s,comp=Z,1µm									
CHTO	Chiang Mai	43.54	252	P		P		20 19 46.3	+0.8	
CHTO				IAmb		IAmb		20 19 52.9		
	comp=Z,32nm,0.7s									
CHTO				PcP		PcP		20 21 33.4	+1.1	
CHTO	Chiang Mai	43.54	252	P		P		20 19 47.0	+1.5	
CHTO	Chiang Mai	43.54	252	P		P		20 19 46.8	+1.3	
	comp=Z,43nm,0.8s,comp=Z,404nm									
CHTO				pP		pP		20 20 02.3	+0.9	
	comp=Z,43nm,0.8s,comp=Z,404nm									
E23K	Chandalar	43.65	30	P		P		20 19 45.9	0.0	
	baz=269									
KURK	Kurchatov	43.71	304	P		P		20 19 46.5	+0.1	
KURK						PcP		20 21 31.4	-1.0	
KURK	Kurchatov	43.71	304	P		P		20 19 46.5	+0.1	
KURK								20 21 31.4		
KURK				pmax		pmax				
	comp=Z,55nm,0.8s									
KURK	Kurchatov	43.71	304	P		P		20 19 46.9	+0.5	
KURK				P		P		20 19 46.9	+0.5	
KURK	Kurchatov	43.71	304	eP		P		20 19 46.7	+0.2	
CM31	Chiang Mai Arr	43.78	251	IAmb		IAmb		20 19 55.1		
	comp=Z,15nm,0.8s									
CM31	Chiang Mai Arr	43.78	251	P		P		20 19 49.5	+2.2	
CMAR	Chiang Mai Arr	43.78	251	P		P		20 19 48.2	+0.8	
	comp=Z,7.2nm,0.5s,baz=43,slow=7.1,SNR=51									
CMAR				PcP		PcP		20 21 35.0	+1.9	
	comp=Z,2.7nm,0.6s,baz=19,slow=1.6,SNR=7.8									
CMAR				LR		LR		20 39 21.0		
	comp=Z,107nm,19.1s,baz=60,slow=38									
	comp=Z,7.2nm,0.5s									
KURBB	Kurchatov Arra	43.79	304	P		P		20 19 47.1	0.0	
	comp=Z,57nm,0.7s,baz=76,slow=8.7,SNR=118									
KURBB				LR		LR		20 38 44.4		
	comp=Z,90nm,18.8s,baz=196,slow=37									
	comp=Z,57nm,0.7s									
I23K	Minto, Yukon-K	43.80	35	P		P		20 19 47.3	+0.3	
	baz=272									
BWN	Browne	43.80	36	IAmb		IAmb		20 20 08.8		
	comp=Z,39nm,1.1s									
RC01	Rabbit Creek A	43.94	40	P		P		20 19 47.5	-0.6	
	baz=276									
NEA2	Nenana	43.95	35	P		P		20 19 48.5	+0.3	
NEA2				IAmb		IAmb		20 19 49.7		
	comp=Z,17nm,0.6s									
NEA2				PcP		PcP		20 21 34.5	+1.6	
NEA2	Nenana	43.95	35	P		P		20 19 49.0	+0.8	
	baz=273,SNR=13									
D24K	Happy Valley	43.97	29	IAmb		IAmb		20 20 09.3		
	comp=Z,19nm,0.8s									
D24K	Happy Valley	43.97	29	P		P		20 19 48.3	0.0	
	baz=269									
C24K	Franklin Bluff	44.02	28	P		P		20 19 48.0	-0.6	
	baz=268									
MCK	McKinley	44.06	37	P		P		20 19 49.9	+0.7	
	baz=274,SNR=5.3									
PMR	Palmer	44.17	40	P		P		20 19 51.4	+1.4	
	baz=276									
F24K	Squaw Lake	44.31	31	P		P		20 19 51.7	+0.6	
	baz=271									
WAT1	Susitna Watana	44.32	38	P		P		20 19 51.6	+0.4	
	baz=276									
H24K	Noodor Dome	44.38	33	P		P		20 19 53.3	+1.6	
	baz=273									
COLA	College	44.45	35	P		P		20 19 52.0	-0.2	
COLA				IAmb		IAmb		20 19 53.7		
	comp=Z,24nm,0.8s									
COLA	College	44.45	35	P		P		20 19 53.4	+1.2	
	baz=274									
COLA	College	44.45	35	P		P		20 19 52.0	-0.2	
COLA				pmax		pmax				
	comp=Z,25nm,0.8s									
CCB	Clear Creek Bu	44.49	35	P		P		20 19 52.2	-0.3	
CCB				PcP		PcP		20 21 34.5	-0.3	
G24K	Hadweenzic Riv	44.50	32	P		P		20 19 52.9	+0.3	
	baz=273									
KNK	Knik Glacier	44.52	40	P		P		20 19 53.9	+1.1	
	baz=277									
SML	Sawmill	44.53	39	IAmb		IAmb		20 20 18.9		
	comp=Z,18nm,0.8s									
SML	Sawmill	44.53	39	P		P		20 19 54.2	+1.3	
	baz=277									
SHL	Shillong	44.54	265	P		P		20 19 53.7	+0.1	
SHL				IAmb		IAmb		20 19 56.9		
	comp=Z,19nm,0.7s									
SHL	Shillong	44.54	265	P		P		20 19 53.7	+0.1	
SHL				pmax		pmax				
	comp=Z,19nm,0.7s									
SHL	Shillong	44.54	265	P		P		20 19 54.1	+0.5	
POKR	Poker Plat Res	44.61	34	IAmb		IAmb		20 20 15.8		
	comp=Z,11nm,0.8s									
POKR	Poker Plat Res	44.61	34	P		P		20 19 55.1	+1.6	
	baz=274,SNR=6.6									
WAT6	Susitna Watana	44.71	38	P		P		20 19 55.0	+0.5	
	baz=276									
M23K	Glacier View	44.81	39	P		P		20 19 56.1	+0.9	
	baz=277									
DHY	Denali Highway	44.83	37	P		P		20 19 54.9	-0.5	
DHY				IAmb		IAmb		20 20 03.2		
	comp=Z,11nm,0.8s									
DHY				PcP		PcP		20 21 36.8	+0.7	
DHY	Denali Highway	44.83	37	P		P		20 19 56.1	+0.7	
	baz=276,SNR=6.4									
D25K	Kavik River	44.84	28	P		P		20 19 55.2	-0.1	
	baz=271									
IL31		44.87	35	IAmb		IAmb		20 20 03.6		
	comp=Z,13nm,0.8s									
ILAR	Eielson Array	44.87	35	P		P		20 19 55.5	-0.1	
	comp=Z,7.2nm,0.9s,baz=260,slow=5.2,SNR=94									
ILAR				PcP		PcP		20 21 36.2	+0.1	
	comp=Z,1.8nm,0.6s,baz=280,slow=3.4,SNR=5.2									
	comp=Z,7.2nm,0.9s									
HDA	Harding Lake	44.88	35	IAmb		IAmb		20 20 16.7		
	comp=Z,8.7nm,0.6s									
HDA	Harding Lake	44.88	35	P		P		20 19 56.2	+0.6	
	baz=275,SNR=6.7									
SCM	Sheep Creek Mo	45.00	39	P		P		20 19 57.5	+0.8	
	baz=278									
G25K	Bearman Lake	45.04	32	P		P		20 19 57.5	+0.7	
	baz=274									
E25K	Arctic Village	45.17	30	P		P		20 19 58.4	+0.5	
	baz=273									
F25K	Christian Rive	45.17	31	P		P		20 19 59.5	+1.6	
	baz=273									
P23K	Montague Islan	45.23	42	P		P		20 19 59.6	+1.1	
	baz=279									
PRP	Porcupine Dome	45.38	34	IAmb		IAmb		20 20 01.4		
	comp=Z,14nm,0.8s									
PRP	Porcupine Dome	45.38	34	P		P		20 20 00.5	+0.8	
	baz=276									
FYU	Fort Yukon	45.40	32	IAmb		IAmb		20 20 15.6		
	comp=Z,10.0nm,0.7s									
K24K	Donnelly Dome	45.45	36	P		P		20 20 00.6	+0.4	
	baz=277,SNR=5.7									
SHLS	Shalkode	45.48	294	⇑iP		P		20 19 58.8	-2.0	
	comp=Z,8.9nm,0.5s,baz=294									
SHLS	Shalkode	45.48	294	c iP		P		20 19 58.8	-2.0	
SHLS				pmax		pmax				
	comp=Z,9.0nm,0.5s									
M24K	Tolsona, Glenn	45.50	39	P		P		20 20 01.9	+1.3	
	baz=278									
J25K	Salcha River,	45.54	35	P		P		20 20 00.9	0.0	
	baz=276									
TDK	Taldyqorghan	45.54	297	eP		P		20 20 02.2	+1.0	
	baz=296									
TDK	Taldyqorghan	45.54	297	eP		P		20 20 02.1	+1.0	
PAX	Paxson	45.70	37	P		P		20 20 03.3	+1.0	
	baz=278									
KLU	Klutina	45.71	39	IAmb		IAmb		20 20 27.5		
	comp=Z,14nm,0.9s									
KLU	Klutina	45.71	39	P		P		20 20 03.3	+1.0	
	baz=279									
F26K	Sheenjek River	45.74	31	P		P		20 20 03.3	+0.9	
	baz=275									
UZB	Uzynbulak	45.78	294	eP		P		20 20 03.7	+0.4	
	baz=294									
UZB	Uzynbulak	45.78	294	eP		P		20 20 03.6	+0.4	
RIDG	Independent Ri	45.87	36	IAmb		IAmb		20 20 19.3		
	comp=Z,21nm,1.5s									
RIDG	Independent Ri	45.87	36	P		P		20 20 04.4	+0.8	
	baz=278									
KPKS	Kokpek	45.89	294	⇑iP		P		20 20 04.6	+0.6	
	comp=Z,8.8nm,0.6s,baz=294									
KPKS	Kokpek	45.89	294	c iP		P		20 20 04.6	+0.6	
KPKS				pmax		pmax				
	comp=Z,9.0nm,0.6s									
HARP	HAARP	45.93	38	P		P		20 20 04.8	+0.9	
	baz=279									
G26K	Porcupine Rive	45.94	32	P		P		20 20 04.9	+1.0	
	baz=276									
ZHN	Zhinishke	46.17	294	eP		P		20 20 06.8	+0.5	
	baz=294									
ZHN	Zhinishke	46.17	294	eP		P		20 20 06.8	+0.5	
ARXS	Arharly	46.20	296	eP		P		20 20 06.9	+0.5	
SCRK	Sand Creek	46.22	36	P		P		20 20 06.1	-0.2	
SCRK				IAmb		IAmb		20 20 13.9		
	comp=Z,12nm,0.7s									
SCRK				PcP		PcP		20 21 42.5	+1.5	
SCRK	Sand Creek	46.22	36	P		P		20 20 06.5	+0.2	
	baz=278,SNR=12									
SATY	Saty	46.23	294	⇑iP		P		20 20 07.5	+0.8	
	comp=Z,9.2nm,0.6s,baz=294									
SATY	Saty	46.23	294	c iP		P		20 20 07.5	+0.8	
SATY				pmax		pmax				
	comp=Z,9.0nm,0.6s									
N25K	Chitina, Valde	46.32	39	P		P		20 20 07.6	+0.5	
	baz=280									
J26L	Joseph Creek	46.33	35	P		P		20 20 07.2	+0.1	
	baz=278									
SANI	Sanana	46.35	203	P		P		20 20 08.9	+1.2	
	comp=Z,39nm,1.5s									
BMRM	Bremner River	46.43	40	P		P		20 20 08.7	+0.8	
	baz=281									
L26K	Log Cabin Wild	46.65	37	IAmb		IAmb		20 20 39.8		
	comp=Z,11nm,1.0s									
L26K	Log Cabin Wild	46.65	37	P		P		20 20 11.3	+1.7	
	baz=280,SNR=5.5									
CHKK	Chushkaly	46.90	296	eP		P		20 20 12.3	+0.5	
	baz=296									
CHKK	Chushkaly	46.90	296	eP		P		20 20 12.3	+0.5	
M26K	Nabesna, AK	46.92	38	IAmb		IAmb		20 20 36.5		
	comp=Z,11nm,0.8s									
M26K	Nabesna, AK	46.92	38	P		P		20 20 13.9	+2.2	
	baz=281									
H27K	Steamboat Moun	46.92	33	P		P		20 20 13.3	+1.5	
	baz=278									
VRDI	Verde Repeater	46.93	40	P		P		20 20 12.5	+0.5	
VRDI				IAmb		IAmb		20 20 20.6		
	comp=Z,16nm,1.1s									
I27K	Kandik River	46.98	33	P		P		20 20 12.6	+0.4	
	baz=279									
K27K	Chicken	47.04	36	IAmb		IAmb		20 20 21.2		
	comp=Z,12nm,0.9s									
K27K	Chicken	47.04	36	P		P		20 20 13.5	+0.9	
	baz=280									
MDOK	Medeo	47.12	295	i P		P		20 20 14.7	+0.9	
	baz=295									
MDOK	Medeo	47.12	295	i P		P		20 20 14.6	+0.9	
AAA	Alma-Ata	47.19	295	eP		P		20 20 15.1	+1.0	
	baz=295									
AAA	Alma-Ata	47.19	295	eP		P		20 20 15.1	+1.0	
TNSS	Tian-Shan	47.23	295	⇑eP		P		20 20 15.9	+0.9	
	baz=294									
TNSS	Tian-Shan	47.23	295	⇑eP		P		20 20 15.8	+0.9	
EGAK	Eagle	47.30	34	IAmb		IAmb		20 20 22.9		
	comp=Z,9.0nm,0.8s									
EGAK	Eagle	47.30	34	P		P		20 20 15.0	+0.4	
	baz=280,SNR=5.9									
L27K	Beaver Creek,	47.32	37	IAmb		IAmb		20 20 38.9		
	comp=Z,9.3nm,0.8s									
L27K	Beaver Creek,	47.32	37	P		P		20 20 16.6	+1.7	
	baz=281									
BCAR	Beaver Creek A	47.34	37	P		P		20 20 16.3	+1.2	
BCAR				PcP		PcP		20 21 45.8	+1.0	
E28M	Babbage River	47.35	29	P		P		20 20 15.6	+0.6	
	baz=278									
F28M	Old Crow	47.37	31	P		P		20 20 15.8	+0.7	
	baz=278									
M27K	Edge Creek, AK	47.44	38	IAmb		IAmb		20 20 43.1		
	comp=Z,15nm,1.0s									
M27K	Edge Creek, AK	47.44	38	P		P		20 20 17.1	+1.2	
	baz=282									
D28M	Stokes Point	47.54	28	P		P		20 20 17.0	+0.6	
	baz=278									
BRZS	Berezniki	47.57	305	⇑iP		P		20 20 17.4	+0.4	
	comp=Z,9.2nm,0.5s,baz=305									
BRZS	Berezniki	47.57	305	c iP		P		20 20 17.3	+0.4	
BRZS				pmax		pmax				
	comp=Z,9.0nm,0.5s									
I28M	Miner Creek	47.70	33	IAmb		IAmb		20 20 40.8		
	comp=Z,24nm,1.2s									
I28M	Miner Creek	47.70	33	P		P		20 20 19.4	+1.6	
	baz=280									
BARN	Barnard Glacie	47.81	40	IAmb		IAmb		20 20 21.4		
	comp=Z,23nm,1.3s									
SBUM	Sibu	47.85	223	P		P		20 20 20.1	+0.7	
SBUM	Sibu	47.85	223	P		P		20 20 21.1	+1.6	
	comp=Z,6.1nm,0.9s									
BVCY	Beaver Creek	47.89	38	P		P		20 20 20.1	+0.8	
	baz=282									
E29M	Blow River	47.98	29	IAmb		IAmb		20 20 28.6		
	comp=Z,5.9nm,0.7s									
E29M	Blow River	47.98	29	P		P		20 20 21.1	+1.3	
	baz=279									
CTG	Chitna Glacier	47.99	40	P		P		20 20 21.5	+1.4	
	baz=283									
CTGM	Chitina Glacie	47.99	40	IAmb		IAmb		20 20 38.8		
	comp=Z,17nm,1.1s									
BVAR	Borovoye Array	47.99	309	P		P		20 20 19.3	-0.9	
	comp=Z,31nm,0.5s,baz=76,slow=9.3,SNR=310									
BVAR				PcP		PcP		20 21 48.4	+1.1	
	comp=Z,11nm,0.7s,baz=69,slow=2.7,SNR=5.7									
BVAR				LR		LR		20 41 35.4		
	comp=Z,142nm,19.0s,baz=74,slow=37									
	comp=Z,31nm,0.5s									
BRVK	Borovoye	48.05	309	P		P		20 20 20.9	+0.4	
BRVK	Borovoye	48.05	309	P		P		20 20 20.9	+0.4	
BRVK				pmax		pmax				
	comp=Z,22nm,0.6s									
BRVK	Borovoye	48.05	309	P		P		20 20 21.2	+0.7	
BRVK				P		P		20 20 21.2	+0.7	
H29M	Whitestone	48.19	32	P		P		20 20 23.0	+1.6	
	baz=281									
TKM2	Tokmak 2	48.19	295	P		P		20 20 23.1	+1.0	
	SNR=143									
TKM2	Tokmak 2	48.19	295	i P		P		20 20 22.9	+0.8	
TKM2				pmax		pmax				
	comp=Z,82nm,0.7s									
DAWY	Dawson	48.19	35	P		P		20 20 22.2	+0.6	
	baz=282									
G29M	Pine Creek	48.19	31	IAmb		IAmb		20 20 44.4		
	comp=Z,15nm,1.0s									
G29M	Pine Creek	48.19	31	P		P		20 20 22.1	+0.5	
	baz=281									
YUK3	Moose Creek	48.22	38	P		P		20 20 23.3	+1.3	
	baz=283									
BTLS	Baital	48.41	298	⇑iP		P		20 20 23.7	+0.2	
	baz=298									
BTLS	Baital	48.41	298	c iP		P		20 20 23.7	+0.2	
NRN	Naryn	48.51	293	IAmb		IAmb		20 20 58.4		
	comp=Z,14nm,1.1s									
SGDS	Sogindy	48.63	296	eP		P		20 20 25.7	+0.4	
	comp=Z,7.1nm,0.6s,baz=296									
SGDS	Sogindy	48.63	296	eP		P		20 20 25.7	+0.4	
SGDS				pmax		pmax				
	comp=Z,7.0nm,0.6s									
YUK8	Steele Glacier	48.66	39	P		P		20 20 26.6	+1.2	
	baz=284									
CHMS	Chumysh	48.73	295	P		P		20 20 26.5	+0.5	
	SNR=5.6									
KBK	Karagaybulak	48.73	295	P		P		20 20 27.4	+1.1	
	SNR=18									
USP	Ospenovka	48.79	296	P		P		20 20 27.3	+0.8	
	SNR=47									
EPYK	Eagle Plains	48.81	32	IAmb		IAmb		20 20 48.5		
	comp=Z,19nm,0.9s									
EPYK	Eagle Plains	48.81	32	P		P		20 20 27.0	+0.7	
	baz=282									
G30M	tAoh Zraii Nji	48.88	31	IAmb		IAmb		20 20 49.4		
	comp=Z,18nm,1.1s									
G30M	tAoh Zraii Nji	48.88	31	P		P		20 20 28.1	+1.3	
	baz=282									
F30M	Barrier River	48.91	30	P		P		20 20 28.6	+1.6	
	baz=282									
L29M	L29M	48.96	36	P		P		20 20 29.4	+1.9	
	baz=284									
M29M	Somme Creek	48.97	37	P		P		20 20 29.1	+1.4	
	baz=284									
AAK	Ala-Archa	49.05	295	P		P		20 20 29.3	+0.7	
	SNR=20									
AAK	Ala-Archa	49.05	295	P		P		20 20 28.9	+0.3	
AAK				pmax		pmax				
	comp=Z,18nm,0.6s									
AAK	Ala-Archa	49.05	295	LR		LR		20 43 04.7		
	comp=Z,91nm,18.6s,baz=72,slow=38									
AAK	Ala-Archa	49.05	295	P		P		20 20 29.2	+0.6	
AAK				P		P		20 20 29.2	+0.6	
AAK	Ala-Archa	49.05	295	eP		P		20 20 28.9	+0.3	
K29M	Barlow Dome	49.05	35	IAmb		IAmb		20 20 47.5		
	comp=Z,10nm,0.9s									
K29M	Barlow Dome	49.05	35	P		P		20 20 29.7	+1.5	
	baz=284									
YUK4	Talbot Arm	49.16	39	P		P		20 20 30.2	+1.0	
	baz=285									
UCH	Uchtor	49.20	294	P		P		20 20 31.1	+1.0	
	SNR=12									
I30M	Mount Dempster	49.20	33	IAmb		IAmb		20 20 31.4		
	comp=Z,21nm,0.8s									
I30M	Mount Dempster	49.20	33	P		P		20 20 30.1	+0.7	
	baz=284									
KSH	Kashi	49.33	291	P		P		20 20 34.8	+4.0	
KSH				pmax		pmax				
	comp=Z,26nm,0.8s									
KSH				LR		LR				
	comp=Z,170nm,15.1s									
KSH				LR		LR				
	comp=Z,170nm,13.7s									
KSH				LR		LR				
	comp=Z,190nm,14.7s									
J30M	Hart River	49.38	34	IAmb		IAmb		20 20 54.4		
	comp=Z,10nm,1.1s									
J30M	Hart River	49.38	34	P		P		20 20 31.7	+0.9	
	baz=284									
YUK6	Outpost Mounta	49.40	39	P		P		20 20 32.8	+1.7	
	baz=286									
O29M	Mount Kennedy	49.47	40	P		P		20 20 33.1	+1.6	
	baz=286									
EKS2	Erkin-Say	49.52	295	P		P		20 20 32.9	+0.7	
	SNR=40									
INK	Inuvik	49.59	29	IAmb		IAmb		20 20 39.1		
	comp=Z,6.5nm,0.8s									
INK	Inuvik	49.59	29	P		P		20 20 32.6	+0.5	
	baz=283,SNR=8.0									
INK	Inuvik	49.59	29	LR		LR		20 42 18.6		
	comp=Z,22nm,18.1s,baz=245,slow=37									
G31M	Satah River	49.64	31	IAmb		IAmb		20 21 05.5		
	comp=Z,23nm,1.4s									
G31M	Satah River	49.64	31	P		P		20 20 32.9	+0.4	
	baz=284									
KSM	Kuching	49.67	224	P		P		20 20 35.4	+2.0	
	comp=Z,31nm,0.9s									
M30M	Minto, Yukon	49.69	37	IAmb		IAmb		20 21 11.0		
	comp=Z,17nm,1.4s									
M30M	Minto, Yukon	49.69	37	P		P		20 20 34.6	+1.6	
	baz=285									
F31M	Tsiigehtchic	49.71	30	IAmb		IAmb		20 20 50.9		
	comp=Z,16nm,1.2s									
F31M	Tsiigehtchic	49.71	30	P		P		20 20 33.3	+0.2	
	baz=284									
HYT	Haines Junctio	49.84	39	P		P		20 20 36.1	+1.8	
	baz=286,SNR=18									
P29M	Windy Craggy	50.07	41	P		P		20 20 38.3	+2.4	
	baz=287									
STKI	Sintang	50.27	222	P		P		20 20 40.0	+2.0	
P30M	Million Dollar	50.30	40	P		P		20 20 39.1	+1.4	
	baz=287									
N31M	Braeburn, Yuko	50.45	38	IAmb		IAmb		20 21 07.5		
	comp=Z,18nm,0.9s									
N31M	Braeburn, Yuko	50.45	38	P		P		20 20 40.7	+1.9	
	baz=287									
O30N	Mendenhall	50.52	39	P		P		20 20 41.2	+1.9	
	baz=287									
PLBC	Pleasant Camp	50.79	41	P		P		20 20 42.8	+1.5	
	baz=288									
M31M	Drury Creek, Y	50.87	37	P		P		20 20 42.7	+0.8	
	baz=288									
DZA	Taraz	51.07	297	eP		P		20 20 44.5	+0.7	
	baz=296									
DZA	Taraz	51.07	297	eP		P		20 20 44.4	+0.7	
WHY	Whitehorse	51.12	39	P		P		20 20 44.8	+0.9	
	baz=288									
FARO	Faro, Yukon	51.32	37	P		P		20 20 46.3	+1.0	
	baz=288									
A36M	Sachs Harbour	51.34	23	IAmb		IAmb		20 20 53.0		
	comp=Z,12nm,0.8s									
A36M	Sachs Harbour	51.34	23	P		P		20 20 45.9	+0.7	
	baz=288,SNR=15									
SVE	Sverdlovsk	52.08	316	d iP		P		20 20 51.9	+0.9	
SVE				pmax		pmax				
	comp=Z,61nm,0.9s									
MMPY	Sheldon Lake,	52.11	36	P		P		20 20 52.7	+1.4	
	baz=290									
KULM	Kulin	52.16	237	P		P		20 20 54.0	+1.9	
	comp=Z,32nm,1.1s									
P33M	Teslin, Yukon	52.23	39	P		P		20 20 53.7	+1.5	
	baz=290									
C36M	Paulatuk	52.57	26	IAmb		IAmb		20 21 14.6		
	comp=Z,32nm,1.5s									
C36M	Paulatuk	52.57	26	P		P		20 20 54.9	+0.5	
	baz=290,SNR=6.5									
BTK	Batken	52.65	294	IAmb		IAmb		20 21 17.1		
	comp=Z,15nm,0.8s									
Q32M	Nakina River	52.94	40	P		P		20 20 57.2	-0.3	
	baz=292									
ARU	Arti	53.30	316	P		P		20 20 59.8	-0.1	
ARU	Arti	53.30	316	d iP		P		20 21 00.1	+0.1	
ARU				*PP		pP		20 21 19.5	+3.0	
ARU								20 22 03.1		
ARU								20 22 58.0		
ARU				S		S		20 28 29.4	+3.0	
ARU				SS		SS		20 32 06.5	+0.2	
ARU				pmax		pmax				
	comp=Z,38nm,0.8s									
ARU	Arti	53.30	316	P		P		20 20 59.9	-0.1	
	comp=Z,27nm,0.7s,baz=74,slow=5.0,SNR=71									
ARU				LR		LR		20 46 16.8		
	comp=Z,186nm,19.0s,baz=61,slow=39									
	comp=Z,27nm,0.7s									
ARU	Arti	53.30	316	eP		P		20 21

	SNR=12										
KBL					P		**P**	**20 21 24.1**	**-0.1**		
	SNR=12										
KIRV	**Kirov**	**56.87**	**321**	*c i*	P		**P**	**20 21 25.8**	**+0.1**		
KIRV	**Kirov**	**56.87**	**321**		LR		LR	20 48 17.2			
	comp=Z,111nm,18.5s,baz=57,slow=39										
PDSI	**Padang**	**57.15**	**233**		P		**P**	**20 21 27.6**	**-0.6**		
	comp=Z,7.5nm,0.9s										
GSI	**Gunungsitoli**	**57.17**	**237**		P		**P**	**20 21 27.3**	**-1.1**		
GSI	**Gunungsitoli**	**57.17**	**237**		P		**P**	**20 21 29.9**	**+1.5**		
	comp=Z,32nm,1.7s										
KPJI	**Karang Pucung**	**57.92**	**220**		P		**P**	**20 21 33.4**	**-0.2**		
	comp=Z,38nm,0.7s										
LEM	**Lembang**	**58.13**	**222**		P		**P**	**20 21 35.4**	**+0.2**		
	comp=Z,41nm,1.3s										
VADS	**Vadso**	**58.26**	**338**	*eP*			**P**	**20 21 35.3**	**0.0**		
VADS					IAmb		IAmb	20 21 35.5			
	comp=Z,17nm,0.5s										
YKA	**Yellowknife Ar**	**59.10**	**32**	*i*	P		**P**	**20 21 42.0**	**+0.8**		
YKA					pmax		pmax				
	comp=Z,3.0nm,0.8s										
YKA	**Yellowknife Ar**	**59.10**	**32**		P		**P**	**20 21 41.1**	**0.0**		
	comp=Z,2.9nm,0.8s,baz=305,slow=6.6,SNR=38										
YKA					LR		LR	20 53 03.7			
	comp=Z,97nm,18.7s,baz=296,slow=42										
	comp=Z,2.9nm,0.8s										
HAMF	**Hammerfest**	**59.43**	**340**	*eP*			**P**	**20 21 43.4**	**0.0**		
HAMF					IAmb		IAmb	20 21 45.2			
	comp=Z,31nm,1.2s										
ARA0	**ARCESS Array S**	**59.68**	**339**	*eP*			**P**	**20 21 45.0**	**-0.1**		
ARCES	**ARCESS Array B**	**59.68**	**339**		P		**P**	**20 21 44.1**	**-1.0**		
	comp=Z,2.3nm,0.5s,baz=47,slow=7.5,SNR=51										
ARCES					LR		LR	20 50 28.1			
	comp=Z,68nm,19.1s,baz=53,slow=39										
	comp=Z,2.3nm,0.5s										
KLMR	**Klimovskoe**	**60.06**	**327**	*eP*			**P**	**20 21 44.3**	**-3.6**		
KLMR					pmax		pmax				
	comp=Z,21nm,0.8s										
NEEM	**North Greenlan**	**60.52**	**3**	*i*	P		**P**	**20 21 50.5**	**-0.6**		
NEEM					IAmb		IAmb	20 21 54.3			
	comp=Z,21nm,0.8s										
KTK1	**Kautokeino**	**60.63**	**339**	*eP*			**P**	**20 21 51.9**	**+0.2**		
KTK1					IAmb		IAmb	20 21 52.4			
	comp=Z,8.9nm,0.6s										
BELG	**Belogornoye**	**60.82**	**316**	*i*	P		**P**	**20 21 53.0**	**-0.1**		
BELG					pmax		pmax				
	comp=Z,8.0nm,0.8s										
BELG	**Belogornoye**	**60.82**	**316**		LR		LR	20 50 39.5			
	comp=Z,289nm,20.1s,baz=328,slow=38										
JETT	**Jettan, Norway**	**61.00**	**340**	*eP*			**P**	**20 21 54.0**	**-0.2**		
JETT					IAmb		IAmb	20 21 54.6			
	comp=Z,37nm,1.3s										
TRO	**Tromso**	**61.31**	**341**	*eP*			**P**	**20 21 56.3**	**+0.1**		
TRO					IAmb		IAmb	20 22 06.8			
	comp=Z,50nm,1.3s										
WB0	**Warramunga Arr**	**61.92**	**189**		P		**P**	**20 22 00.6**	**-0.3**		
WR0	**Warramunga Arr**	**62.09**	**189**		P		**P**	**20 22 01.5**	**-0.6**		
WR0					IAmb		IAmb	20 22 03.4			
	comp=Z,27nm,1.2s										
WB2	**Warramunga Arr**	**62.10**	**189**		P		**P**	**20 22 01.6**	**-0.4**		
WB2					IAmb		IAmb	20 22 03.4			
	comp=Z,10nm,0.9s										
WRA	**Warramunga Arr**	**62.10**	**189**		P		**P**	**20 22 02.5**	**+0.4**		
	comp=Z,11nm,0.8s,baz=5.5,slow=6.9,SNR=86										
WRA					PKP2bc			20 51 16.8			
	comp=Z,0.8nm,0.8s,baz=199,slow=2.1,SNR=4.7										
	comp=Z,11nm,0.8s										
GEYT	**Alibeck**	**62.28**	**297**		P		**P**	**20 22 03.1**	**-0.2**		
	comp=Z,15nm,0.8s,baz=356,slow=2.1,SNR=36										
GEYT					LR		LR	20 50 57.4			
	comp=Z,157nm,19.9s,baz=48,slow=38										
	comp=Z,15nm,0.8s										
GYA0B	**ALIBECK ARRAY**	**62.28**	**297**		IAmb		IAmb	20 22 08.9			
	comp=Z,16nm,0.8s										
STEI	**Steigen**	**63.48**	**340**	*eP*			**P**	**20 22 10.4**	**-0.3**		
STEI					IAmb		IAmb	20 22 15.1			
	comp=Z,90nm,1.5s										
LOF	**Lofoten**	**63.75**	**341**	*eP*			**P**	**20 22 12.5**	**+0.1**		
MOS	**Moscow**	**63.82**	**322**	*eP*			P	20 22 18.4	+5.3		
FAUS	**Fauske**	**63.88**	**340**	*eP*			**P**	**20 22 13.4**	**+0.1**		
FAUS					IAmb		IAmb	20 22 13.6			
	comp=Z,22nm,0.6s										
VRH	**Novokhopyorsk**	**64.53**	**317**	*eP*			**P**	**20 22 16.5**	**-1.3**		
VRH					pmax		pmax				
	comp=Z,20nm,0.6s										
OBN	**Obninsk**	**64.68**	**322**		P		**P**	**20 22 18.2**	**-0.5**		
OBN	**Obninsk**	**64.68**	**322**	*ceP*			**P**	**20 22 18.5**	**-0.2**		
OBN				*i*				20 22 37.9			
OBN				*e*				20 22 52.7			
OBN					pmax		pmax				
	comp=Z,39nm,1.3s										
OBN					MLR		MLR				
	comp=Z,100nm,19.0s										
OBN	**Obninsk**	**64.68**	**322**	*eP*			**P**	**20 22 18.5**	**-0.2**		
UPNV	**Upernavik**	**64.78**	**6**	*i*	P		**P**	**20 22 19.3**	**+0.2**		
UPNV					IAmb		IAmb	20 22 22.7			
	comp=Z,13nm,0.8s										
FIA1	**FINESS Array S**	**64.85**	**332**		P		**P**	**20 22 19.2**	**-0.5**		
FINES	**FINESS Array B**	**64.85**	**332**	*i*	P		**P**	**20 22 19.6**	**-0.2**		
FINES					pmax		pmax				
	comp=Z,34nm,0.6s										
FINES	**FINESS Array B**	**64.85**	**332**		P		**P**	**20 22 19.3**	**-0.4**		
	comp=Z,34nm,0.6s,baz=51,slow=7.5,SNR=188										
FINES					LR		LR	20 53 16.4			
	comp=Z,187nm,18.6s,baz=30,slow=38										
	comp=Z,34nm,0.6s										
EDM	**Edmonton**	**64.94**	**40**		P		**P**	**20 22 20.6**	**0.0**		
EDM					IAmb		IAmb	20 22 23.0			
	comp=Z,17nm,0.9s										
EDM	**Edmonton**	**64.94**	**40**		P		**P**	**20 22 20.6**	**0.0**		
EDM					pmax		pmax				
	comp=Z,17nm,0.9s										
MOR8	**Moi Rana**	**65.02**	**339**	*eP*			**P**	**20 22 19.5**	**-1.3**		
LPSR	**Galich'ya Gora**	**65.09**	**319**	*eP*			**P**	**20 22 21.1**	**-0.4**		
LPSR					pmax		pmax				
	comp=Z,30nm,0.7s										
KONS	**Konsvik**	**65.11**	**340**	*eP*			**P**	**20 22 22.5**	**+1.1**		
MXC	**Moxie City**	**65.25**	**49**		P		**P**	**20 22 23.6**	**+0.9**		
MXC					IAmb		IAmb	20 22 25.5			
	comp=Z,8.2nm,0.7s										
JMIC	**Jan Mayen**	**65.41**	**350**		LR		LR	20 50 49.5			
	comp=Z,13nm,20.0s,baz=322,slow=36										
C09A	**Chrisman Ranch**	**65.65**	**47**		IAmb		IAmb	20 22 27.6			
	comp=Z,10nm,0.8s										
SUMG	**Summit**	**65.72**	**0**		P		**P**	**20 22 25.5**	**-0.3**		
SUMG					IAmb		IAmb	20 22 29.1			
	comp=Z,21nm,0.8s										
SUMG	**Summit**	**65.72**	**0**		P		**P**	**20 22 25.5**	**-0.3**		
SUMG					pmax		pmax				
	comp=Z,21nm,0.8s										
SUMG	**Summit**	**65.72**	**0**	*i*	P		**P**	**20 22 25.2**	**-0.5**		
SUMG					IAmb		IAmb	20 22 29.5			
	comp=Z,14nm,0.7s										
VSR	**Storozhevoye**	**65.81**	**318**	*eP*			**P**	**20 22 24.9**	**-1.2**		
VSR					pmax		pmax				
	comp=Z,20nm,0.5s										
ASAR	**Alice Springs**	**65.83**	**189**		P		**P**	**20 22 27.2**	**+0.7**		
	comp=Z,4.5nm,0.8s,baz=6.2,slow=7.7,SNR=34										
ASAR					LR		LR	20 50 03.1			
	comp=Z,70nm,21.3s,baz=251,slow=35										
	comp=Z,4.5nm,0.8s										
VORD	**Divnogorie**	**65.90**	**318**	*eP*			**P**	**20 22 26.4**	**-0.3**		
VORD					pmax		pmax				
	comp=Z,20nm,1.0s										
NEW	**Newport**	**66.00**	**46**		P		**P**	**20 22 27.8**	**+0.3**		
NEW	**Newport**	**66.00**	**46**		P		**P**	**20 22 29.1**	**+1.6**		
	baz=307										
NEW	**Newport**	**66.00**	**46**		P		**P**	**20 22 27.8**	**+0.3**		
NEW					pmax		pmax				
	comp=Z,7.0nm,1.1s										
NEW	**Newport**	**66.00**	**46**		LR		LR	20 51 42.2			
	comp=Z,23nm,19.6s,baz=306,slow=36										
MEF	**Metsahovi**	**66.29**	**331**	*eP*			**P**	**20 22 29.2**	**+0.1**		
PINE	**Pine Mountain**	**66.51**	**52**		IAmb		IAmb	20 22 34.3			
	comp=Z,9.6nm,0.8s										
L04D	**Klamath Falls**	**66.63**	**54**		IAmb		IAmb	20 22 35.0			
	comp=Z,14nm,0.9s										
VSU	**Vasula**	**66.64**	**329**	*ceP*			**P**	**20 22 30.6**	**-0.7**		
VSU					pmax		pmax				
	comp=Z,53nm,2.5s										
VSU	**Vasula**	**66.64**	**329**	*eP*			**P**	**20 22 31.9**	**+0.6**		
RAF	**Rauma**	**66.64**	**333**	*eP*			**P**	**20 22 31.6**	**+0.3**		
YBH	**Yreka Blue Hor**	**66.67**	**54**		P		**P**	**20 22 34.1**	**+2.1**		
	comp=Z,4.2nm,0.7s,baz=358,slow=4.5,SNR=12										
	comp=Z,4.2nm,0.7s										
NSS	**Namsos**	**66.95**	**339**	*eP*			**P**	**20 22 32.9**	**-0.3**		
DZM	**Mont Dzumac**	**67.48**	**156**	*e*	LR			20 42 53.4			
	comp=Z,476nm,23.8s										
DZM	**Mont Dzumac**	**67.48**	**156**		LR		LR	20 46 35.2			
	comp=Z,298nm,21.6s,baz=81,slow=31										
GOF	**Gofitskoye**	**67.48**	**311**	*ceP*			**P**	**20 22 37.9**	**+1.0**		
MTSE	**Matsula**	**67.56**	**330**	*eP*			**P**	**20 22 37.3**	**+0.1**		
KVAR	**Kislovodsk Arr**	**68.35**	**310**		LR		LR	20 56 04.1			
	comp=Z,145nm,21.6s,baz=88,slow=39										
KIV	**Kislovodsk**	**68.35**	**310**		P		**P**	**20 22 43.2**	**+0.6**		
KIV	**Kislovodsk**	**68.35**	**310**	*i*	P		**P**	**20 22 43.9**	**+1.3**		
	SNR=15										
KIV	**Kislovodsk**	**68.35**	**310**	*eP*			**P**	**20 22 39.6**	**-2.9**		
KIV					pmax		pmax				
	comp=Z,57nm,1.0s										
KIV	**Kislovodsk**	**68.35**	**310**		P		**P**	**20 22 43.6**	**+1.0**		
ZEI	**Tsey**	**68.37**	**308**	*eP*			**P**	**20 22 42.0**	**-0.8**		
ZEI					pmax		pmax				
	comp=Z,18nm,1.0s										
KBZ	**Khabaz**	**68.37**	**310**	*i*	P		**P**	**20 22 42.5**	**0.0**		
KBZ					pmax		pmax				
	comp=Z,27nm,1.1s										
KBZ	**Khabaz**	**68.37**	**310**		P		**P**	**20 22 41.9**	**-0.6**		
	comp=Z,16nm,0.7s,baz=29,slow=3.7,SNR=20										
KBZ					LR		LR	20 58 13.5			
	comp=Z,70nm,18.2s,baz=44,slow=41										
	comp=Z,16nm,0.7s										
KBZ	**Khabaz**	**68.37**	**310**	*eP*			**P**	**20 22 42.5**	**0.0**		
MSO	**Missoula**	**68.58**	**46**		P		**P**	**20 22 45.0**	**+1.0**		
	baz=309										
ONI	**Oni**	**68.75**	**309**		P		**P**	**20 22 45.4**	**+0.4**		
ONI					IAmb		IAmb	20 22 47.8			
	comp=Z,27nm,1.1s										
ONI	**Oni**	**68.75**	**309**		P		**P**	**20 22 45.4**	**+0.4**		
ONI					pmax		pmax				
	comp=Z,27nm,1.1s										
ISAL	**Salakas**	**68.88**	**327**	*eP*			**P**	**20 22 47.5**	**+2.1**		
MNK	**Minsk**	**68.89**	**325**	*i*	P		**P**	**20 22 43.5**	**-2.1**		
MNK				*i*	*PP		**pP**	**20 23 04.3**	**+1.5**		
MNK				*i*				20 25 16.3			
MNK				*i*	PPP		PPP	20 26 57.1			
MNK				*i*	S		**S**	**20 31 42.0**	**-2.6**		
MNK				*i*	*SS		**sS**	**20 32 18.0**	**+4.1**		
MNK				*i*				20 32 36.4			
MNK				*i*	SS		**SS**	**20 36 09.6**	**-0.3**		
MNK					pmax		pmax				
	comp=N,11nm,0.9s										
MNK					pmax		pmax				
	comp=E,9.0nm,0.9s										
MNK					pmax		pmax				
	comp=Z,34nm,0.8s										
MNK					MLR		MLR				
	comp=N,860nm,21.0s										
MNK					MLR		MLR				
	comp=E,269nm,20.0s										
MNK					MLR		MLR				
	comp=Z,146nm,19.0s										
FFC	**Flin Flon**	**69.08**	**34**		P		**P**	**20 22 47.1**	**+0.4**		
FFC					IAmb		IAmb	20 22 48.5			
	comp=Z,14nm,1.0s										
FFC	**Flin Flon**	**69.08**	**34**		P		**P**	**20 22 47.1**	**+0.4**		
FFC					pmax		pmax				
	comp=Z,14nm,1.0s										
FCC	**Fort Churchill**	**69.18**	**28**		P		**P**	**20 22 47.2**	**-0.1**		
FCC					IAmb		IAmb	20 22 48.3			
	comp=Z,8.6nm,0.6s										
FCC	**Fort Churchill**	**69.18**	**28**		P		**P**	**20 22 47.2**	**-0.1**		
FCC					pmax		pmax				
	comp=Z,9.0nm,0.6s										
ICESG	**Greenland Ices**	**69.22**	**1**	*i*	P		**P**	**20 22 47.6**	**-0.1**		
ICESG					IAmb		IAmb	20 22 58.8			
	comp=Z,10nm,0.7s										
GNI	**Garni**	**69.48**	**306**		P		**P**	**20 22 50.3**	**+0.6**		
GNI					IAmb		IAmb	20 22 57.5			
	comp=Z,21nm,0.9s										
GNI	**Garni**	**69.48**	**306**		P		**P**	**20 22 51.6**	**+1.9**		
GNI	**Garni**	**69.48**	**306**		P		**P**	**20 22 50.3**	**+0.6**		
GNI					pmax		pmax				
	comp=Z,21nm,0.9s										
GNI	**Garni**	**69.48**	**306**		LR		LR	20 55 23.9			
	comp=Z,43nm,21.4s,baz=41,slow=38										
MOL	**Molde**	**69.71**	**340**	*eP*			**P**	**20 22 51.0**	**+0.6**		
DOMB	**Dombas**	**69.74**	**339**	*eP*			**P**	**20 22 50.7**	**-0.1**		
DOMB					IAmb		IAmb	20 22 51.4			
	comp=Z,16nm,0.7s										
NC303	**NORSAR Array S**	**69.76**	**337**		IAmb		IAmb	20 22 51.8			
	comp=Z,29nm,1.0s										
MPK	**Martis Peak**	**69.76**	**55**		IAmb		IAmb	20 22 54.4			
	comp=Z,14nm,1.0s										
PABE	**Paberze**	**69.80**	**328**		IAmb		IAmb	20 22 52.3			
	comp=Z,26nm,0.8s										
PABE	**Paberze**	**69.80**	**328**	*eP*			**P**	**20 22 51.8**	**+0.7**		
NC204	**NORSAR Array S**	**69.89**	**337**		P		**P**	**20 22 51.1**	**-0.6**		
EMB	**Emerald Bay**	**69.92**	**55**		IAmb		IAmb	20 22 55.2			
	comp=Z,11nm,0.8s										
HFS	**Hagfors**	**69.93**	**335**		P		**P**	**20 22 51.4**	**-0.5**		
	comp=Z,29nm,0.6s,baz=47,slow=6.5,SNR=149										
HFS					LR		LR	20 56 14.7			
	comp=Z,74nm,19.0s,baz=45,slow=38										
	comp=Z,29nm,0.6s										
NB2	**NORSAR Subarra**	**69.95**	**337**		P		**P**	**20 22 51.8**	**-0.3**		
	comp=Z,11nm,0.6s,baz=36,slow=6.5										
NB2	**NORSAR Subarra**	**69.95**	**337**		P		**P**	**20 22 51.8**	**-0.3**		
	baz=36,slow=6.5										
NOA	**NORSAR Array B**	**69.95**	**337**		P		**P**	**20 22 51.5**	**-0.6**		
	comp=Z,16nm,0.7s,baz=37,slow=6.2,SNR=69										
NOA					LR		LR	20 56 57.3			
	comp=Z,63nm,21.2s,baz=35,slow=39										
	comp=Z,16nm,0.7s										
EGMT	**Eagleton**	**70.00**	**43**		P		**P**	**20 22 53.7**	**+1.0**		
	baz=311										
NBO00	**NORSAR Array S**	**70.09**	**337**		IAmb		IAmb	20 22 53.8			
	comp=Z,26nm,0.8s										
NC602	**NORSAR Array S**	**70.10**	**337**	*eP*			**P**	**20 22 52.5**	**-0.5**		
NAO01	**NORSAR Array S**	**70.21**	**337**		IAmb		IAmb	20 22 56.9			
	comp=Z,11nm,0.8s										
CMB	**Columbia Colle**	**70.32**	**56**		P		**P**	**20 22 55.9**	**+1.1**		
CMB					IAmb		IAmb	20 22 57.4			
	comp=Z,7.8nm,0.8s										
CMB	**Columbia Colle**	**70.32**	**56**		P		**P**	**20 22 55.9**	**+1.1**		
CMB					pmax		pmax				
	comp=Z,8.0nm,0.8s										
HLID	**Hailey**	**70.39**	**49**		P		**P**	**20 22 56.4**	**+1.2**		
	baz=310										
YERR	**Yerington**	**70.44**	**55**		IAmb		IAmb	20 22 58.4			
	comp=Z,12nm,0.9s										
WSAR	**Wadi Sarin**	**70.48**	**284**		LR		LR	20 59 49.6			
	comp=Z,28nm,18.2s,baz=60,slow=41										
WSAR	**Wadi Sarin**	**70.48**	**284**		P		**P**	**20 22 57.2**	**+1.4**		
BANOM	**Banah**	**70.51**	**288**		P		**P**	**20 22 57.1**	**+1.1**		
SHME	**Shamm**	**70.54**	**288**		P		**P**	**20 22 56.7**	**+0.5**		
SHME	**Shamm**	**70.54**	**288**		P		**P**	**20 22 56.8**	**+0.7**		
JLN	**Jalan Bani Buh**	**70.59**	**283**		P		**P**	**20 22 57.0**	**+0.5**		
BOZ	**Bozeman (W)**	**70.60**	**46**		IAmb		IAmb	20 22 58.8			
	comp=Z,9.0nm,0.7s										
BOZ	**Bozeman (W)**	**70.60**	**46**		P		**P**	**20 22 58.0**	**+1.6**		
	baz=311,SNR=12										
WBK	**Wadi Bani Khal**	**70.62**	**283**		P		**P**	**20 22 57.7**	**+0.9**		
BIDO	**Bidbid**	**70.67**	**285**		P		**P**	**20 22 58.2**	**+1.2**		
SFJD	**Kangerlussuaq**	**70.86**	**5**		LR		LR	20 54 30.2			
	comp=Z,84nm,21.4s,baz=348,slow=36										
AKASG	**Malin Array Be**	**70.92**	**322**		IAmb		IAmb	20 22 59.0			
	comp=Z,28nm,0.8s										
AKASG	**Malin Array Be**	**70.92**	**322**	*i*	P		**P**	**20 22 58.2**	**+0.1**		
AKASG					pmax		pmax				
	comp=Z,19nm,0.6s										
AKASG	**Malin Array Be**	**70.92**	**322**		P		**P**	**20 22 57.9**	**-0.2**		
	comp=Z,19nm,0.6s,baz=44,slow=6.0,SNR=92										
AKASG					LR		LR	20 56 47.0			
	comp=Z,150nm,18.9s,baz=44,slow=38										
	comp=Z,19nm,0.6s										
AKBB	**Malin Array Si**	**70.92**	**322**	*c i*	P		**P**	**20 22 58.0**	**-0.1**		
AKBB					pmax		pmax				
	comp=Z,27nm,0.8s										
KIEV	**Kiev**	**70.94**	**322**		P		**P**	**20 22 57.6**	**-0.5**		
KIEV					IAmb		IAmb	20 22 59.0			
	comp=Z,23nm,0.8s										
KIEV	**Kiev**	**70.94**	**322**	*i*	P		**P**	**20 22 58.3**	**+0.1**		
	SNR=15										
KIEV	**Kiev**	**70.94**	**322**		P		**P**	**20 22 57.7**	**-0.5**		
KIEV					pmax		pmax				
	comp=Z,23nm,0.8s										
MSFE	**Esma-Masafi**	**70.95**	**287**		P		**P**	**20 22 59.9**	**+1.2**		
OSL	**Oslo**	**70.99**	**337**	*eP*			**P**	**20 22 59.1**	**+0.8**		
SMDO	**Samad**	**71.01**	**284**		P		**P**	**20 23 00.2**	**+1.0**		
SMDO					P		**P**	**20 23 00.2**	**+1.0**		
SKAR	**Skarslia**	**71.07**	**338**	*eP*			**P**	**20 22 59.6**	**+0.7**		
KVN	**Kaiserville**	**71.09**	**54**		IAmb		IAmb	20 23 02.0			
	comp=Z,6.2nm,0.7s										
UOSS	**Minazif**	**71.17**	**287**		P		**P**	**20 23 00.6**	**+0.5**		
UOSS	**Minazif**	**71.17**	**287**		P		**P**	**20 23 00.7**	**+0.7**		
UOSS	**Minazif**	**71.17**	**287**		P		**P**	**20 23 00.7**	**+0.7**		
UOSS					P		**P**	**20 23 00.7**	**+0.7**		
HYA	**Hoyanger**	**71.24**	**339**	*eP*			**P**	**20 23 00.3**	**+0.5**		
HATD	**Hatta, Dubai**	**71.30**	**287**		P		**P**	**20 23 01.9**	**+1.1**		
HATD	**Hatta, Dubai**	**71.30**	**287**		P		**P**	**20 23 01.9**	**+1.1**		
HATD					P		**P**	**20 23 01.9**	**+1.1**		
LHV	**Little Huntoon**	**71.35**	**55**		IAmb		IAmb	20 23 04.4			
	comp=Z,13nm,0.9s										
NVAR	**Mina Array Bea**	**71.36**	**55**		P		**P**	**20 23 03.0**	**+1.7**		
	comp=Z,4.8nm,0.7s,baz=297,slow=6.4,SNR=21										
NVAR					LR		LR	20 50 20.8			
	comp=Z,22nm,21.9s,baz=283,slow=32										
	comp=Z,4.8nm,0.7s										
JMDO	**Jabal Madar**	**71.40**	**284**		P		**P**	**20 23 02.3**	**+0.9**		
	SNR=6.8										
SOHO	**SOHO**	**71.44**	**286**		P		**P**	**20 23 02.5**	**+0.8**		
SOHO	**SOHO**	**71.44**	**286**		P		**P**	**20 23 02.1**	**+0.5**		
ASHO	**Ashiyiah**	**71.44**	**287**		P		**P**	**20 23 02.6**	**+0.8**		
KONO	**Kongsberg**	**71.56**	**337**	*eP*			**P**	**20 23 01.6**	**-0.1**		
DY2G	**Dye2**	**71.64**	**4**	*i*	P		**P**	**20 23 02.2**	**-0.3**		
DY2G					IAmb		IAmb	20 23 06.9			
	comp=Z,14nm,0.7s										
FAQ	**Al Faqa, Dubai**	**71.73**	**287**		P		**P**	**20 23 04.2**	**+0.8**		
FAQ	**Al Faqa, Dubai**	**71.73**	**287**		P		**P**	**20 23 03.7**	**+0.2**		
BSY	**Bisya**	**71.82**	**284**		P		**P**	**20 23 05.2**	**+1.2**		
	SNR=7.3										
BSY					P		**P**	**20 23 05.2**	**+1.2**		
	SNR=7.3										
ARQ	**Araqi**	**71.94**	**285**		P		**P**	**20 23 06.0**	**+1.3**		
ARQ					P		**P**	**20 23 06.0**	**+1.3**		
ASUD	**Al Ashush, Dub**	**72.00**	**287**	*i*	P		**P**	**20 23 06.2**	**+1.3**		
	SNR=21										
ASUD	**Al Ashush, Dub**	**72.00**	**287**		P		**P**	**20 23 06.0**	**+1.0**		
	SNR=21										
ALNE	**Al Ain**	**72.05**	**286**	*i*	P		**P**	**20 23 06.2**	**+0.9**		
	SNR=12										
ALNE	**Al Ain**	**72.05**	**286**		P		**P**	**20 23 06.2**	**+0.9**		
	SNR=12										
DSP	**Deep Springs**	**72.23**	**56**		IAmb		IAmb	20 23 09.5			
	comp=Z,9.4nm,1.0s										
TPH	**Tonopah**	**72.24**	**55**		IAmb		IAmb	20 23 09.3			
	comp=Z,24nm,0.7s										
MHTO	**MHTO**	**72.36**	**283**		P		**P**	**20 23 08.4**	**+1.2**		
DGMT	**Dagmar**	**72.43**	**40**		P		**P**	**20 23 08.4**	**+1.1**		
	baz=314										
HVU	**Hansel Valley**	**72.46**	**49**		P		**P**	**20 23 08.5**	**+0.8**		
HVU	**Hansel Valley**	**72.46**	**49**		P		**P**	**20 23 08.5**	**+0.8**		
HVU					pmax		pmax				
	comp=Z,7.0nm,0.9s										
PKM	**Mcpherson Peak**	**72.65**	**59**		P		**P**	**20 23 10.4**	**+1.4**		
	baz=309										
LAO	**LASA Array**	**72.67**	**42**		P		**P**	**20 23 09.8**	**+1.1**		
	baz=313										
CWC	**Cottonwood Cre**	**72.75**	**56**		P		**P**	**20 23 11.1**	**+1.5**		
	baz=310										
GRAC	**Grapevine

BELC Belle Mtn. Jos 75.63 57 P P 20 23 27.4 +1.2
baz=311
BMR Baia Mare 75.72 322 ⇑P P 20 23 27.6 +1.3
BMR Baia Mare 75.72 322 P P 20 23 27.6 +1.3
ARCR ARCALIA 75.76 322 ⇓P P 20 23 27.8 +1.2
HARR Harsova 75.77 318 ⇑P P 20 23 27.3 +0.6
HARR Harsova 75.77 318 P P 20 23 27.3 +0.6
COVR Voineasa-Covas 75.79 320 ⇑P P 20 23 27.8 +1.0
OZUR 75.81 320 ⇑P P 20 23 28.1 +1.1
BOSR Bodos 75.88 320 ⇑P P 20 23 29.2 +1.8
BSEG Bad Segeberg 76.03 333 *eP* P 20 23 28.8 +0.8
comp=Z,20nm,0.9s,baz=33,slow=5.5
IRM Iron Mountain 76.06 57 P P 20 23 30.0 +1.4
baz=312
MONP2 Monument Peak 76.09 58 P P 20 23 30.1 +1.1
baz=311
DOPR Dopca 76.09 320 ⇓P P 20 23 30.1 +1.6
O20A White River Ci 76.11 48 P P 20 23 30.6 +1.6
baz=314
MLR Muntele Rosu 76.17 320 ⇑P P 20 23 30.1 +1.0
MLR Muntele Rosu 76.17 320 P P 20 23 30.1 +1.0
MLR Muntele Rosu 76.17 320 LR LR 20 59 35.7
comp=Z,136nm,18.4s,baz=355,slow=38
BC3 Big Chuckawall 76.20 57 P P 20 23 30.8 +1.3
baz=312
BR131 Keskin Array S 76.23 311 IAmb IAmb 20 23 31.4
comp=Z,11nm,0.7s
BR131 Keskin Array S 76.23 311 P P 20 23 30.7 +1.1
BRTR Keskin Array B 76.23 311 *i* P P 20 23 30.5 +0.9
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 76.23 311 P P 20 23 29.6 -0.1
comp=Z,7.6nm,0.7s,baz=80,slow=3.7,SNR=44
BRTR PP PP 20 26 21.4 +0.4
comp=Z,2.3nm,0.8s,baz=60,slow=6.3,SNR=7.0
BRTR LR LR 21 02 34.5
comp=Z,41nm,19.3s,baz=42,slow=40
comp=Z,7.6nm,0.7s
ICOR Ion Corvin 76.25 318 ⇑P P 20 23 30.6 +1.2
KSP Ksiaz 76.34 328 *eP* P 20 23 30.9 +1.0
MESR Meseseni 76.35 322 ⇑P P 20 23 31.3 +1.3
LANS Liptovska Anna 76.37 326 *eP* P 20 23 31.9 +1.8
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 76.37 326 *eP* P 20 23 31.9 +1.8
AGMN Agassiz Nation 76.37 36 IAmb IAmb 20 23 31.1
comp=Z,9.9nm,0.9s
AGMN Agassiz Nation 76.37 36 P P 20 23 30.4 +0.3
baz=319
IKP In-Ko-Pah, Jac 76.44 58 P P 20 23 32.4 +1.5
baz=311
PDMCI Parker Dam,Lak 76.58 56 P P 20 23 33.1 +1.6
baz=312
ANTO Ankara 76.60 312 P P 20 23 32.4 +0.7
ANTO Ankara 76.60 312 P P 20 23 32.4 +0.7
ANTO pmax pmax
comp=Z,31nm,0.8s
ANTO Ankara 76.60 312 P P 20 23 32.7 +1.1
OSTC Ostas 76.60 328 *eP* P 20 23 32.3 +0.9
OSTC Ostas 76.60 328 *eP* P 20 23 32.3 +0.9
DMTO DMTO 76.63 282 P P 20 23 31.7 -0.3
MARR Marisel-Cluj 76.63 322 ⇑P P 20 23 32.3 +0.6
VOIR 76.64 320 ⇓P P 20 23 32.6 +0.9
VOIR 76.64 320 P P 20 23 32.7 +0.9
DOK Doka 76.65 283 P P 20 23 32.4 +0.4
DOK P P 20 23 32.4 +0.4
MORC Moravsky Berou 76.68 327 ⇑P P 20 23 32.9 +1.0
MORC Moravsky Berou 76.68 327 IAmb IAmb 20 23 33.8
comp=Z,15nm,0.8s
MORC Moravsky Berou 76.68 327 *eP* P 20 23 32.9 +1.0
MORC Moravsky Berou 76.68 327 P P 20 23 32.8 +1.0
UPC Upice 76.72 328 *eP* P 20 23 33.1 +1.1
UPC Upice 76.72 328 *eP* P 20 23 33.1 +1.1
DPC Dobruska-Polom 76.72 328 *eP* P 20 23 33.2 +1.1
DPC Dobruska-Polom 76.72 328 *eP* P 20 23 33.2 +1.1
KRLC Kraliky 76.75 328 *eP* P 20 23 33.3 +1.0
KRLC Kraliky 76.75 328 *eP* P 20 23 33.3 +1.0
N23A Red Feather La 76.84 46 P P 20 23 34.4 +1.2
baz=315
MAUC Maruska 76.89 327 *eP* P 20 23 33.9 +0.9
FLTG Flechtingen 77.03 332 *eP* P 20 23 34.0 +0.3
comp=Z,27nm,0.8s,baz=33,slow=5.5
FLTG *epP* pP 20 23 53.2 +2.0
PSZ Piszkesteto 77.13 324 ⇓P P 20 23 35.4 +0.9
PSZ Piszkesteto 77.13 324 IAmb IAmb 20 23 36.7
comp=Z,16nm,1.2s
PSZ Piszkesteto 77.13 324 P P 20 23 35.3 +0.9
VYHS Vyhne 77.14 325 *eP* P 20 23 35.5 +1.1
VYHS *e* 20 23 54.1
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 77.14 325 *eP* P 20 23 35.5 +1.1
VYHS *e* 20 23 54.1
BRG Berggiesshubel 77.23 329 *i* P P 20 23 35.6 +0.8
BRG Amp 20 23 36.5
comp=Z,5.8nm,0.7s
BRG Berggiesshubel 77.23 329 *i* P P 20 23 35.6 +0.8
BRG pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 77.23 330 P P 20 23 34.5 -0.3
CLL IAmb IAmb 20 23 36.0
comp=Z,18nm,0.7s
CLL Collm 77.23 330 ⇑*i* P P 20 23 35.1 +0.3
CLL *e**PP pP 20 23 51.0 -1.3
CLL pmax pmax
comp=Z,18nm,0.6s
CLL Collm 77.23 330 ⇑*i* P P 20 23 35.1 +0.3
comp=Z,18nm,0.6s
CLL *epP* pP 20 23 51.0 -1.3
CLL Collm 77.23 330 *eP* P 20 23 35.1 +0.3
comp=Z,18nm,0.8s,baz=33,slow=5.5
LOT Lotru 77.24 321 ⇓P P 20 23 36.0 +0.9
PVCC Panska Ves 77.26 329 *eP* P 20 23 36.1 +1.0
PVCC Panska Ves 77.26 329 *eP* P 20 23 36.1 +1.0
JAVC Velka Javorina 77.34 326 *eP* P 20 23 37.5 +1.9
WHFO Wadi Hawf 77.35 283 P P 20 23 36.1 0.0
WHFO P P 20 23 36.1 0.0
ASSE Asse, Remlinge 77.40 332 *eP* P 20 23 36.3 +0.6
comp=Z,8.8nm,1.0s,baz=33,slow=5.5
VRAC Vranov 77.43 327 ⇑P P 20 23 37.2 +1.2
VRAC Vranov 77.43 327 *eP* P 20 23 37.2 +1.2
VRAC Vranov 77.43 327 P P 20 23 37.2 +1.2
VRAC Vranov 77.43 327 LR LR 21 00 03.1
comp=Z,61nm,18.9s,baz=27,slow=37
BSZH Besenyszog 77.44 324 ⇓P P 20 23 37.7 +1.6
HSKC Hora Svate Kat 77.63 330 *eP* P 20 23 37.8 +0.6
GOPC GO Pecny, Ondr 77.67 328 *eP* P 20 23 38.4 +1.0
GOPC GO Pecny, Ondr 77.67 328 *eP* P 20 23 38.4 +1.0
KRUC Moravsky 77.71 327 *eP* P 20 23 38.5 +0.9
PRU Pruhonice 77.71 329 *eP* P 20 23 38.5 +1.0
PRU Pruhonice 77.71 329 *eP* P 20 23 38.5 +1.0
SMOL Smolenice 77.71 326 *eP* P 20 23 39.8 +2.2
CLZ Clausthal 77.74 332 *eP* P 20 23 38.4 +0.7
comp=Z,22nm,0.7s,baz=33,slow=5.5
CLZ *epP* pP 20 23 57.9 +2.7
GZR Gura Zlata 77.75 321 ⇑P P 20 23 38.8 +0.8
GZR Gura Zlata 77.75 321 P P 20 23 38.7 +0.8
NEUB Neuenburg 77.76 331 *eP* P 20 23 38.4 +0.6
comp=Z,24nm,0.9s,baz=33,slow=5.5
NEUB *epP* pP 20 23 57.7 +2.4
SURR Surduc 77.78 322 ⇑P P 20 23 39.0 +1.0
ISCO Idaho Springs 77.79 47 P P 20 23 40.1 +1.5
baz=315
SUSD Miller 77.84 40 P P 20 23 38.0 -0.5
baz=318
MODS Modra-Piesok 77.89 326 *eP* P 20 23 40.1 +1.5
MODS pmax pmax
comp=Z,23nm,1.1s
MODS Modra-Piesok 77.89 326 *eP* P 20 23 40.1 +1.5
SRO Srobarova 77.89 325 *eP* P 20 23 40.3 +1.7
SRO *e* 20 24 00.1
SRO pmax pmax
comp=Z,19nm,0.8s
SRO Srobarova 77.89 325 *eP* P 20 23 40.3 +1.7
SRO *e* 20 24 00.1
MVCO Mesa Verde 77.98 51 P P 20 23 40.7 +1.1
baz=314
VLAD Vladila 78.01 319 ⇑P P 20 23 39.9 +0.6
ABTO Aybut 78.06 283 P P 20 23 39.6 -0.5
BZS Buzias 78.11 322 ⇓P P 20 23 40.6 +0.7
BZS Buzias 78.11 322 P P 20 23 40.6 +0.7
GTTG Gottingen 78.13 332 *eP* P 20 23 40.5 +0.7
comp=Z,20nm,0.8s,baz=33,slow=5.5
TANN Tannenbergstha 78.15 330 *eP* P 20 23 40.4 +0.3
comp=Z,5.4nm,0.9s,baz=33,slow=5.5
IBBN Ibbenburen 78.24 334 *eP* P 20 23 40.8 +0.4
comp=Z,24nm,0.8s,baz=33,slow=5.5
MOX Moxa 78.28 331 *eP* P 20 23 41.3 +0.6
comp=Z,14nm,1.2s,baz=33,slow=5.5
MOX *eL* L 20 59 47.2
comp=Z,89nm,18.9s
ZVC Zvikov 78.28 328 *eP* P 20 23 41.6 +0.9
HERR Herculane 78.30 321 ⇓P P 20 23 41.3 +0.4
PLVB Pleven 78.36 319 ⇓P P 20 23 42.0 +0.8
EYMN Ely 78.50 34 IAmb IAmb 20 23 43.3
comp=Z,19nm,0.8s
EYMN Ely 78.50 34 P P 20 23 42.6 +0.6
baz=322,SNR=8.5
S22A 4UR Ranch, Cre 78.56 49 P P 20 23 44.6 +1.8
baz=315
Q24A Divide 78.63 47 P P 20 23 44.6 +1.3
baz=315
MANZ Manzenberg 78.64 330 *epP* pP 20 24 01.2 +0.9
W18A Petrified Fore 78.70 53 P P 20 23 45.3 +1.7
baz=314
MDVR Moldovita 78.70 321 ⇑P P 20 23 43.8 +0.6
CKRC Cesky Krumlov 78.73 328 *eP* P 20 23 43.9 +0.6
CKRC Cesky Krumlov 78.73 328 *eP* P 20 23 43.9 +0.6
EKA Eskdalemuir Ar 78.74 341 P P 20 23 42.9 -0.2
comp=Z,7.0nm,0.7s,baz=26,slow=4.8,SNR=15
comp=Z,7.0nm,0.7s
KHC Kasperske Hory 78.77 329 P P 20 23 43.9 +0.4
KHC IAmb IAmb 20 23 45.4
comp=Z,14nm,0.7s
KHC Kasperske Hory 78.77 329 *eP* P 20 23 44.5 +1.0
KHC Kasperske Hory 78.77 329 *eP* P 20 23 44.5 +1.0
ROTZ Rotzenmuhle 78.78 330 *eP* P 20 23 44.4 +0.9
comp=Z,2.5nm,0.9s,baz=33,slow=5.5
ROTZ *epP* pP 20 24 03.7 +2.7
CONA Conrad Observa 78.82 327 *eP* P 20 23 45.2 +1.4
comp=Z,5.0nm,0.6s
RONA Rosalia, Austr 78.82 326 *eP* P 20 23 45.3 +1.5
comp=Z,12nm,0.6s,SNR=9.2
K30B Basset 78.83 42 IAmb IAmb 20 23 46.0
comp=Z,22nm,0.7s
OGNE Ogallala 78.88 44 P P 20 23 45.6 +1.3
baz=317
GERES GERESS Array B 78.95 328 P P 20 23 44.8 +0.2
comp=Z,4.4nm,0.6s,baz=36,slow=6.4,SNR=20
GERES LR LR 21 00 42.1
comp=Z,71nm,21.2s,baz=70,slow=37
comp=Z,4.4nm,0.6s
MORH Mrgy, Hungar 78.99 324 ⇓P P 20 23 44.9 +0.2
WET Wettzell 79.03 329 *eP* P 20 23 45.9 +1.0
comp=Z,12nm,0.9s,baz=33,slow=5.5
WET *epP* pP 20 24 05.1 +2.6
GRF Grafenberg Arr 79.20 330 *eP* P 20 23 46.8 +1.0
comp=Z,26nm,0.7s,baz=33,slow=5.5
GRF *eL* L 21 01 14.0
comp=Z,139nm,18.1s
GRF *eL* L 21 01 28.6
comp=Z,99nm,19.9s
GRFO Grafenberg 79.21 330 P P 20 23 46.7 +0.9
GRFO IAmb IAmb 20 23 47.8
comp=Z,25nm,0.7s
GRFO Grafenberg 79.21 330 P P 20 23 46.7 +0.9
GRFO pmax pmax
comp=Z,25nm,0.7s
FRGS Fruska Gora 79.29 323 ⇑P P 20 23 47.2 +0.8
FRGS Fruska Gora 79.29 323 ⇑*i* P P 20 23 46.8 +0.4
SDCO Great Sand Dun 79.30 48 P P 20 23 48.3 +1.3
baz=315
ALN Alexandroupoli 79.48 316 IAmb IAmb 20 23 49.3
comp=Z,16nm,1.0s
ECSD EROS Data Cent 79.49 39 IAmb IAmb 20 23 49.1
comp=Z,13nm,0.8s
ARSA Arzberg 79.50 326 *eP* P 20 23 48.5 +1.0
comp=Z,9.3nm,1.1s
E38A The Farm, Brul 79.53 35 P P 20 23 47.1 -0.6
E38A IAmb IAmb 20 23 48.9
comp=Z,37nm,1.2s
BOVS Bovan 79.58 321 ⇑P P 20 23 47.9 0.0
RAYN Ar Rayn 79.60 292 P P 20 23 48.3 -0.1
RAYN IAmb IAmb 20 23 49.5
comp=Z,10nm,0.7s
RAYN Ar Rayn 79.60 292 *i* P P 20 23 49.1 +0.7
SNR=13
RAYN Ar Rayn 79.60 292 P P 20 23 48.9 +0.5
RAYN Ar Rayn 79.60 292 P P 20 23 49.3 +0.8
CSS Mathiatis 79.70 308 IAmb IAmb 20 23 50.5
comp=Z,18nm,0.7s
MMAI Mount Meron Ar 79.81 305 P P 20 23 51.1 +1.6
comp=Z,24nm,0.7s,baz=34,slow=6.4,SNR=66
MMAI LR LR 21 02 47.8
comp=Z,56nm,19.5s,baz=4.5,slow=38
comp=Z,24nm,0.7s
TEKS Tekeris 79.88 322 ⇑*i* P P 20 23 49.7 +0.1
BIOA Bad Ischl, Aus 79.91 328 *i* P P 20 23 50.6 +0.9
comp=Z,9.4nm,0.8s,SNR=5.6
SPMN Marine on St. 80.08 36 P P 20 23 51.1 +0.4
baz=322
GROS Grobnik 80.14 326 *i* P P 20 23 51.5 +0.5
PERS Pernice 80.16 326 *i* P P 20 23 51.8 +0.7
PERS *i* pP pP 20 24 10.6 +1.9
SOKA Soboth 80.16 326 *eP* P 20 23 51.8 +0.7
comp=Z,17nm,0.7s,SNR=19
RJOB Jochberg 80.20 328 *eP* P 20 23 52.4 +1.1
comp=Z,15nm,0.8s,baz=33,slow=5.5
BTNL Ternell 80.24 334 *dP* P 20 23 51.9 +0.5
comp=Z,8.6nm,0.9s
MEM Membach 80.27 334 *dP* P 20 23 51.9 +0.4
comp=Z,12nm,0.9s
SCHQ Schefferville 80.33 17 P P 20 23 51.7 -0.1
comp=Z,12nm,0.8s,baz=348,slow=5.2,SNR=10
comp=Z,12nm,0.8s
T25A Trinidad 80.34 48 P P 20 23 53.6 +1.1
baz=316
BSTI Sart Tilman 80.43 334 *dP* P 20 23 53.2 +0.8
comp=Z,4.0nm,0.7s
FUR Furstenfeldbru 80.44 329 *eP* P 20 23 53.6 +1.0
baz=33,slow=5.5
BBLS Lazići 80.47 322 ⇑*i* P P 20 23 53.8 +1.0
OBKA Obir 80.49 327 *i* P P 20 23 53.4 +0.4
comp=Z,12nm,0.7s,SNR=8.5
OBKA Obir 80.49 327 ⇑*i* P P 20 23 53.0 +0.1
BGNE Belgrade 80.50 42 P P 20 23 53.6 +0.6
baz=319
HAPS Han Pijesak,Bl 80.50 323 ⇑*i* P P 20 23 53.8 +0.7
LESA Schwarzleotal 80.51 328 *i* P P 20 23 53.9 +0.9
comp=Z,14nm,0.9s
KBA Koelnbreinsper 80.52 328 *eP* P 20 23 54.1 +0.9
comp=Z,7.6nm,0.6s,SNR=9.9
LEGS Legarje 80.62 326 *i* P P 20 23 54.0 +0.4
BCLA Clavier 80.66 334 *dP* P 20 23 53.8 +0.2
CRES Cresnjev 80.66 326 *i* P P 20 23 54.1 +0.4
CRES *epP* pP 20 24 12.5 +1.1
CRES Cresnjev 80.66 326 ⇑*i* P P 20 23 53.9 +0.1
SJES Sjenica 80.67 321 ⇑*i* P P 20 23 54.8 +0.8
RUDO Rudo 80.68 322 ⇑*i* P P 20 23 54.1 +0.2
A051A Mrakovica 80.69 324 ⇑*i* P P 20 23 54.1 +0.1
ANMO Albuquerque 80.74 51 P P 20 23 56.2 +1.6
baz=315
ANMO Albuquerque 80.74 51 LR LR 21 00 43.5
comp=Z,16nm,19.6s,baz=58,slow=36
BGES Gesves 80.76 334 *dP* P 20 23 54.1 0.0
comp=Z,8.7nm,0.9s
MYKA Terra Mystica 80.77 327 *i* P P 20 23 54.5 +0.2
comp=Z,7.7nm,0.5s,SNR=5.4
BLY Banja Luka 80.78 324 *eP* P 20 23 56.4 +2.0
RCHB Rochefort 80.91 334 *dP* P 20 23 55.4 +0.4
comp=Z,7.6nm,1.0s
VAY Valandovo 80.91 319 *i* P P 20 23 56.2 +1.1
BMRD Maredsous 80.94 334 *dP* P 20 23 55.5 +0.4
comp=Z,16nm,0.8s
VISS Visnje 80.94 326 *i* P P 20 23 55.4 +0.2
PRED Cave del Predi 80.95 327 IAmb IAmb 20 23 56.0
comp=Z,10nm,0.6s
SKO Skopje 80.97 320 *i* P P 20 23 56.8 +1.4
BOJS Bojanci 81.01 326 ⇑*i* P P 20 23 55.5 -0.1
WATA Walderalm 81.01 329 *i* P P 20 23 56.4 +0.7
comp=Z,7.9nm,0.6s,SNR=7.1
WTTA Wattenberg 81.05 329 *i* P P 20 23 56.8 +0.8
comp=Z,15nm,0.6s,SNR=11
MGRS Mrkonjic Grad 81.08 324 ⇑*i* P P 20 23 56.7 +0.7
ABTA Abfaltersbach 81.12 328 *i* P P 20 23 56.0 -0.3
comp=Z,3.3nm,0.6s
CEY Cerknica 81.16 326 ⇑*i* P P 20 23 56.5 0.0
DOU Dourbes 81.17 334 *dP* P 20 23 55.5 -0.9
MOTA Moosalm 81.18 329 *i* P P 20 23 57.4 +0.7
comp=Z,25nm,0.7s,SNR=14
JAVS Javornik 81.19 326 *i* P P 20 23 56.4 -0.3
RETA Reutte 81.20 329 *i* P P 20 23 57.2 +0.6
comp=Z,16nm,0.8s,SNR=7.4
UPM Unac-Piva 81.21 322 ⇑*i* P P 20 23 56.9 -0.1
CLUD Cludinico 81.21 327 IAmb IAmb 20 23 57.6
comp=Z,11nm,0.8s
SQTA Sankt Quirin 81.25 329 *i* P P 20 23 57.8 +0.8
comp=Z,7.9nm,0.5s,SNR=5.5
A050A Klekovaca 81.27 324 ⇑*i* P P 20 23 57.5 +0.4
SABO M.te Sabotino 81.31 327 IAmb IAmb 20 23 57.2
comp=Z,6.2nm,0.6s
BFO Black Forest 81.40 331 P P 20 23 57.3 -0.3
BFO IAmb IAmb 20 23 59.1
comp=Z,9.7nm,0.9s
BFO Black Forest 81.40 331 P P 20 23 57.3 -0.3
BFO pmax pmax
comp=Z,10.0nm,0.9s
BFO Black Forest 81.40 331 *eP* P 20 23 57.8 +0.2
comp=Z,12nm,1.1s,baz=33,slow=5.5
SKDS Snadanscina 81.49 326 ⇑*i* P P 20 23 57.5 -0.7
319A Douglas 81.56 55 IAmb IAmb 20 24 22.7
comp=Z,8.0nm,0.9s
FETA Feichten 81.60 329 *i* P P 20 23 59.6 +0.7
comp=Z,11nm,0.8s,SNR=7.8
BRY Bratogost 81.61 322 ⇑*i* P P 20 23 58.8 -0.2
CBKS Cedar Bluff 81.64 44 P P 20 23 59.3 +0.2
baz=318
PUK Puka 81.65 321 IAmb IAmb 20 24 07.7
comp=Z,12nm,0.9s
121A Cookes Peak, D 81.66 54 IAmb IAmb 20 24 02.3
comp=Z,7.2nm,0.8s
121A Cookes Peak, D 81.66 54 P P 20 24 01.7 +2.2
baz=315
DAVA Damuels 81.70 330 *eP* P 20 24 00.0 +0.6
comp=Z,22nm,0.8s,SNR=8.1
TREB Trebinje 81.85 322 *eP* P 20 23 59.5 -0.6
DRME Dracevica, Mon 81.87 321 ⇑*i* P P 20 24 00.8 +0.6
FNA Florina 81.91 319 P P 20 24 00.4 -0.1
FNA Florina 81.91 319 P P 20 24 00.4 -0.1
FNA pmax pmax
comp=Z,4.0nm,0.9s
ECH Echery 81.91 332 IAmb IAmb 20 24 01.5
comp=Z,10nm,0.8s
OHR Ohrid 81.94 320 *i* P P 20 24 01.5 +0.9
HCY Herceg Novi 81.99 322 ⇑*i* P P 20 24 00.3 -0.5
STON Ston 82.02 322 ⇑*i* P P 20 23 59.9 -1.0
CTI Castel Tesino 82.04 328 IAmb IAmb 20 24 01.5
comp=Z,16nm,0.6s
DAVOX Davos/Dischmat 82.12 329 LR LR 21 03 43.7
comp=Z,120nm,18.4s,baz=27,slow=38
TIR Tirane 82.20 320 ⇓P P 20 24 02.8 +0.8
TIR Tirane 82.20 320 P P 20 24 02.7 +0.8
EIL Elat 82.41 303 LR LR 21 03 56.5
comp=Z,32nm,19.7s,baz=62,slow=38
TUE Stuetta 82.58 329 IAmb IAmb 20 24 05.6
comp=Z,13nm,0.7s
TEOL Teolo 82.60 327 P P 20 24 03.8 -0.2
TEOL IAmb IAmb 20 24 05.2
comp=Z,23nm,1.0s
KSU1 Kansas State U 83.02 42 P P 20 24 06.6 +0.4
baz=320
MSTX Muleshoe 83.56 49 P P 20 24 10.8 +1.6
baz=317
MNTX Cornudas Mount 83.69 53 P P 20 24 11.3 +1.5
baz=316
ZCCA Zocca 83.71 327 IAmb IAmb 20 24 16.1
comp=Z,12nm,0.6s
GUMA Gualdo di Mace 83.79 325 IAmb IAmb 20 24 29.3
comp=Z,18nm,0.8s
SGRT San Giovanni R 83.79 323 P P 20 24 10.0 -0.2
GLMI Grayling 83.81 32 P P 20 24 11.0 +0.7
baz=327
SMWD Samnorwood 84.13 47 IAmb IAmb 20 24 14.6
comp=Z,25nm,0.9s
IDI Anoyia 84.24 313 LR LR 21 05 42.5
comp=Z,30nm,20.4s,baz=50,slow=38
OSSC Osservatorio P 84.28 327 IAmb IAmb 20 24 13.6
comp=Z,13nm,0.6s
INTR Introdacqua 84.40 324 IAmb IAmb 20 24 15.1
comp=Z,12nm,0.7s
CESX Cesi 84.48 325 IAmb IAmb 20 24 14.7
comp=Z,15nm,1.2s
VHRN Van Horn 84.58 53 P P 20 24 16.1 +1.5
VHRN IAmb IAmb 20 24 16.8
comp=Z,6.2nm,0.9s
L44A Lake County Fo 84.64 35 P P 20 24 15.4 +0.9
baz=325
BNI Bardonecchia 84.78 330 IAmb IAmb 20 24 21.5
comp=Z,12nm,1.1s
PECS Pecos 84.82 52 IAmb IAmb 20 24 18.2
comp=Z,14nm,1.0s
DKNS Dickens 84.82 49 IAmb IAmb 20 24 18.3
comp=Z,11nm,0.8s
P40A Paris 84.91 39 IAmb IAmb 20 24 17.7
comp=Z,19nm,0.9s
POST Post 84.94 49 IAmb IAmb 20 24 18.9
comp=Z,13nm,0.9s
J47A Sunmer 85.05 33 P P 20 24 17.5 +1.0
WMOK Wichita Mounta 85.20 46 IAmb IAmb 20 24 19.5
comp=Z,7.1nm,1.1s
WMOK Wichita Mounta 85.20 46 P P 20 24 18.1 +0.7
baz=319
HDIL Hopedale 85.36 37 P P 20 24 19.0 +0.9
baz=324
SSB Saint Sauveur 85.36 332 IAmb IAmb 20 24 19.6
comp=Z,9.3nm,0.8s
TIP Timpagrande 85.38 321 IAmb IAmb 20 24 20.1
comp=Z,23nm,1.2s
MNHN Monahans 85.48 51 IAmb IAmb 20 24 21.4
comp=Z,6.0nm,0.8s
S39A Bolivar 85.74 41 IAmb IAmb 20 24 21.6
comp=Z,13nm,1.1s
R40A Maddies Statio 85.78 40 P P 20 24 20.9 +0.6
R40A IAmb IAmb 20 24 21.7
comp=Z,9.3nm,0.8s
SADO Sadowa 85.90 28 P P 20 24 20.5 -0.2
comp=Z,5.1nm,0.7s,baz=344,slow=8.0,SNR=3.9
comp=Z,5.1nm,0.7s
PPT2 Papeete2 86.12 118 *e*LR LR 20 51 23.4
comp=Z,165nm,26.8s
PPT2 *e*LR LR 20 51 30.3
comp=Z,191nm,26.0s
ABTX Abilene, Hawle 86.31 48 P P 20 24 23.9 +0.9
baz=319
TX31 Lajitas Ar. Si 86.41 53 IAmb IAmb 20 24 26.1
comp=Z,6.6nm,0.8s
TXAR Lajitas Array 86.41 53 P P 20 24 25.4 +1.8
comp=Z,4.2nm,0.6s,baz=297,slow=3.6,SNR=28
TXAR PKKPbc **PKKPbc** 20 42 19.4 +1.0
comp=Z,0.4nm,0.7s,baz=153,slow=7.0,SNR=4.3
comp=Z,4.2nm,0.6s
CCM Cathedral Cave 86.46 40 P P 20 24 24.2 +0.6
CCM Cathedral Cave 86.46 40 P P 20 24 24.5 +0.9
baz=323
CCM Cathedral Cave 86.46 40 P P 20 24 24.2 +0.6
CCM pmax pmax
comp=Z,20nm,1.0s
SFIN Lafayette 86.47 36 P P 20 24 24.5 +0.9
baz=325
TAOE Nuku Hiva Isla 86.56 105 *e*LR LR 20 51 50.1
comp=Z,434nm,29.8s
O48B Farmland 87.40 35 P P 20 24 28.5 +0.4
baz=327
LONY Lake Ozonia 87.57 26 P P 20 24 29.4 +0.6
baz=333
JCT Junction City 87.83 50 P P 20 24 31.3 +0.9
baz=319
PBMO Poplar Bluff 87.87 40 IAmb IAmb 20 24 31.9
comp=Z,15nm,0.9s
ERPA Erie 87.89 30 P P 20 24 30.8 +0.4
baz=330
WHTX Lake Whitney, 88.00 47 P P 20 24 32.5 +1.4
baz=320
WHAR Wooly Hollow 88.15 42 IAmb IAmb 20 24 33.4
comp=Z,13nm,0.8s
P49A Miami Univ. Ec 88.19 35 P P 20 24 32.8 +0.9
baz=327
M53A WI Miller and 88.21 31 P P 20 24 32.8 +0.9
baz=329
ACSO Alum Creek Sta 88.33 33 P P 20 24 32.9 +0.4
ACSO Alum Creek Sta 88.33 33 P P 20 24 33.3 +0.8
baz=328
WCI Wyandotte Cave 88.59 36 P P 20 24 34.7 +0.9
baz=326
O53A New Philadelph 89.02 32 P P 20 24 36.6 +0.9
baz=329
P52A Corning 89.18 33 P P 20 24 37.2 +0.6

	baz=328							
BINY	**Binghamton**	**89.26**	**28**	P		**P**	**20 24 37.4**	**+0.6**
	baz=332							
SSPA	**Standing Stone**	**89.95**	**30**	P		**P**	**20 24 41.0**	**+0.9**
SSPA	**Standing Stone**	**89.95**	**30**	P		**P**	**20 24 41.2**	**+1.1**
	baz=331							
MCWV	**Mont Chateau**	**90.06**	**31**	P		**P**	**20 24 41.5**	**+0.8**
	baz=330							
OXF	**Oxford**	**90.19**	**41**	P		**P**	**20 24 42.0**	**+0.7**
	baz=324							
TBI	**Tubuai**	**90.34**	**122**	*e*LR		LR	20 53 31.2	
	comp=Z,425nm,26.5s							
TBI				*e*LR		LR	20 53 38.4	
	comp=Z,1μm,28.5s							
HRV	**Adam Dziewonsk**	**90.43**	**25**	P		**P**	**20 24 43.3**	**+1.0**
	baz=335							
PAL	**Palisades**	**91.03**	**27**	P		**P**	**20 24 45.9**	**+0.8**
	baz=334							
KEST	**Kesra**	**91.58**	**324**	P		**P**	**20 24 47.3**	**-0.6**
	comp=Z,4.3nm,1.1s,baz=2.5,slow=10,SNR=3.6							
KEST				LR		LR	21 10 33.6	
	comp=Z,80nm,19.0s,baz=196,slow=38							
	comp=Z,4.3nm,1.1s							
TKL	**Tuckaleechee C**	**91.84**	**36**	LR		LR	21 08 26.4	
	comp=Z,30nm,20.9s,baz=330,slow=37							
ESDC	**Sonseca Array**	**93.20**	**335**	IAmb		IAmb	20 24 56.7	
	comp=Z,3.6nm,1.0s							
ESDC	**Sonseca Array**	**93.20**	**335**	P		**P**	**20 24 55.5**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=19,slow=3.6,SNR=14							
	comp=Z,3.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**114.36**	**318**	PKP		**PKiKP**	**20 30 20.3**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=22,slow=2.6,SNR=13							
DBIC	**Dimbokro**	**123.15**	**320**	PKIKP		**PKiKP**	**20 30 38.0**	**0.0**
DBIC	**Dimbokro**	**123.15**	**320**	PKP		**PKiKP**	**20 30 38.0**	**0.0**
	comp=Z,3.0nm,0.5s,baz=308,slow=2.4,SNR=9.2							
QSPA	**South Pole Qui**	**131.74**	**180**	PKP		**PKiKP**	**20 30 54.0**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=38,slow=0.4,SNR=3.8							
TROLL	**Troll, Antarti**	**144.21**	**200**	⇑PKPdf		**PKPdf**	**20 31 15.0**	**-0.4**
	comp=Z,585nm,0.5s							
SNAA	**Sanae**	**145.74**	**199**	⇑PKPdf		**PKPab**	**20 31 19.2**	**+0.3**
	comp=Z,210nm,0.6s							
SNAA	**Sanae**	**145.74**	**199**	PKP2		**PKPab**	**20 31 19.0**	**+0.1**
SNAA	**Sanae**	**145.74**	**199**	PKPbc		**PKPab**	**20 31 19.0**	**+0.1**
	comp=Z,6.5nm,0.5s,baz=188,slow=3.7,SNR=48							
H03N2	**Juan Fernandez**	**146.36**	**89**	T		T	23 14 40.6	
	baz=300,slow=76,SNR=75							
H03N3	**Juan Fernandez**	**146.37**	**89**	T		T	23 14 41.6	
	baz=300,slow=76,SNR=92							
H03N1	**Juan Fernandez**	**146.37**	**89**	T		T	23 14 41.7	
	baz=300,slow=76,SNR=87							
VNA2	**Neumayer--Watz**	**147.32**	**198**	⇑PKPbc		**PKPab**	**20 31 23.9**	**-1.1**
	comp=Z,18nm,0.5s,baz=123,slow=3.0							
BDFB	**Brasilia**	**152.19**	**22**	PKPbc		**PKiKP**	**20 31 37.8**	**+0.8**
	comp=Z,9.6nm,0.7s,baz=351,slow=1.1,SNR=14							

IDC 30 20:14:29.5±5.7, 49.84S×117.32E, h0km, mb3.7/2, mbtmp3.7/2, MS4.0/3, Error ellipse: s-maj=647.2km s-min=77.7km az=115.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.12**	**350**	T	T	20 33 07.8	
	baz=188,slow=74,SNR=142						
H01W1	**Cape Leeuwin H**	**15.12**	**350**	T	T	20 33 08.2	
	baz=188,slow=74,SNR=112						
H01W3	**Cape Leeuwin H**	**15.13**	**350**	T	T	20 33 08.8	
	baz=188,slow=74,SNR=106						
NWAO	**Narrogin (SRO)**	**16.90**	**360**	LR	LR	20 23 16.3	
	comp=Z,60nm,19.8s,baz=250,slow=31						
ASAR	**Alice Springs**	**29.18**	**32**	P	P	20 20 31.9	-0.5
	0.3nm,0.7s,baz=197,slow=9.3,SNR=1.9						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**32.77**	**31**	P	P	20 21 04.8	+0.6
	1.3nm,0.6s,baz=204,slow=10,SNR=4.7						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**40.28**	**180**	LR	LR	20 37 35.7	
	comp=Z,599nm,18.7s,baz=48,slow=34						
URZ	**Urewera**	**43.41**	**98**	LR	LR	20 38 06.2	
	comp=Z,466nm,19.3s,baz=301,slow=33						
YKA	**Yellowknife Ar**	**149.36**	**46**	PKPbc	PKPbc	20 34 18.3	-0.7
	0.2nm,0.5s,baz=279,slow=4.1,SNR=2.8						

*IDC **30** 20:23:11.0±9.8, 7.17S×128.92E, h113km±98km, mb3.5/5, mbtmp3.9/7, ML4.1/2, Error ellipse: s-maj=200.0km s-min=33.2km az=65.0*
*NEIC **30** 20:23:16.2±2.1, 7.38S±0.09×128.57E±0.09, h158km±9km, mb4.2/12, Error ellipse: s-maj=14.2km s-min=11.8km az=147.0*
ISC 30 20:23:15.4±0.6, 7.45S±0.07×128.54E±0.08, h150km, n44, σ1♀93/45, mb3.6/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.79**	**101**	Pn	**Pn**	**20 24 03.5**	**+3.5**
SOEI	**Soe**	**4.81**	**241**	Pn	**Pn**	**20 24 28.3**	**+1.9**
SOEI	**Soe**	**4.81**	**241**	P	**Pn**	**20 24 29.0**	**+2.6**
FAKI	**Fak Fak**	**5.82**	**40**	Pn	**Pn**	**20 24 39.6**	**-0.2**
MTN	**Manton Dam**	**5.94**	**155**		**Pn**	**20 24 42.6**	**+1.3**
MTN	**Manton Dam**	**5.94**	**155**	P	**Pn**	**20 24 42.8**	**+1.5**
KDU	**Kakadu**	**6.49**	**144**	P	**Pn**	**20 24 49.9**	**+1.2**
KNRA	**Kununurra**	**8.18**	**178**		**Pn**	**20 25 11.3**	**+0.1**
KNRA	**Kununurra**	**8.18**	**178**	P	**Pn**	**20 25 11.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.96**	**195**	Pn	**Pn**	**20 25 46.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**10.96**	**195**	P	**Pn**	**20 25 47.4**	**-0.7**
WB0	**Warramunga Arr**	**13.50**	**156**		**Pn**	**20 26 19.6**	**-1.5**
WRAB	**Tennant Creek**	**13.63**	**156**	Pn	**Pn**	**20 26 20.5**	**-2.2**
WRA	**Warramunga Arr**	**13.63**	**156**	P	**Pn**	**20 26 20.1**	**-2.7**
	0.9nm,0.3s,baz=330,slow=13,SNR=35						
WRA				S	Sn	20 28 43.6	-10
	4.9nm,0.7s,baz=331,slow=22,SNR=7.6						
	1.5nm,0.4s						
COEN	**Coen**	**15.76**	**115**		**Pn**	**20 26 49.1**	**-0.3**
COEN				IAmb	IAmb	20 27 25.6	
	comp=Z,53nm,1.5s						
COEN	**Coen**	**15.76**	**115**	P	**P**	**20 26 52.4**	**+2.2**
PSA00	**Pilbara Seismi**	**16.36**	**210**		**Pn**	**20 26 57.6**	**+0.9**
PSA00				IAmb	IAmb	20 27 16.6	
	comp=Z,25nm,1.4s						
PSA00	**Pilbara Seismi**	**16.36**	**210**	P	**P**	**20 26 57.9**	**+1.2**
PSA00				IAmb	IAmb	20 27 07.7	
	comp=Z,10nm,1.3s						
PSA00	**Pilbara Seismi**	**16.36**	**210**	P	**P**	**20 26 57.9**	**+1.2**
QIS	**Mount Isa**	**16.87**	**142**	P	**Pn**	**20 27 04.5**	**+1.7**
AS31	**Alice Springs**	**16.93**	**163**	P	**P**	**20 27 02.5**	**-0.5**
ASAR	**Alice Springs**	**16.93**	**163**		**P**	**20 27 03.5**	**+0.4**
ASAR	**Alice Springs**	**16.93**	**163**	P	**Pn**	**20 27 04.2**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=342,slow=11,SNR=30						
ASAR				S	**S**	**20 30 04.0**	**-7.8**
	comp=Z,0.9nm,0.4s,baz=349,slow=24,SNR=4.0						
	comp=Z,5.2nm,0.6s						
AS01	**Alice Springs**	**16.94**	**163**	P	**Pn**	**20 27 04.3**	**+0.6**
OOD	**Oodnadatta**	**21.34**	**162**	P	**P**	**20 27 52.7**	**+2.0**
MULG	**Mulgathing**	**23.30**	**168**	P	**P**	**20 28 12.7**	**+2.8**
MORW	**Morawa**	**24.52**	**207**	P	**P**	**20 28 23.2**	**+2.1**
MORW				IAmb	IAmb	20 28 35.6	
	comp=Z,33nm,1.4s						
MORW	**Morawa**	**24.52**	**207**	P	**P**	**20 28 23.7**	**+2.6**
KMBL	**Kambalda**	**24.60**	**194**	P	**P**	**20 28 23.1**	**+1.4**
BBOO	**Buckleboo**	**26.19**	**166**	P	**P**	**20 28 37.0**	**+0.9**
BBOO	**Buckleboo**	**26.19**	**166**	P	**P**	**20 28 37.6**	**+1.5**
STKA	**Stephens Creek**	**27.18**	**155**	P	**P**	**20 28 45.5**	**+0.5**
STKA				IAmb	IAmb	20 28 55.9	
	comp=Z,3.3nm,1.5s						
STKA	**Stephens Creek**	**27.18**	**155**	P	**P**	**20 28 44.7**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=334,slow=8.0,SNR=6.5						
	comp=Z,1.7nm,0.5s						
NWAO	**Narrogin (SRO)**	**27.44**	**201**	P	**P**	**20 28 46.4**	**-0.9**
NWAO	**Narrogin (SRO)**	**27.44**	**201**	P	**P**	**20 28 47.0**	**-0.3**
NWAO				IAmb	IAmb	20 29 09.3	
	comp=Z,124nm,1.3s						
SONM	**Songino Array**	**58.42**	**343**	P	**P**	**20 32 54.3**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=156,slow=7.6,SNR=2.7						
	comp=Z,0.5nm,0.9s						
MK31	**Makanchi Array**	**67.81**	**328**	P	**P**	**20 33 56.3**	**-1.0**
MKAR	**Makanchi Array**	**67.81**	**328**	P	**P**	**20 33 56.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=115,slow=7.2,SNR=8.0						
	comp=Z,0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**20 34 17.5**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=140,slow=6.5,SNR=2.7						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.14**	**329**	P	**P**	**20 34 22.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=132,slow=4.9,SNR=10						
	comp=Z,0.8nm,0.7s						

VNDA	**Vanda**	**72.19**	**173**	P		**P**	**20 34 24.4**	**+1.0**
VNDA				IAmb		IAmb	20 34 57.9	
	comp=Z,4.1nm,1.2s							
KKAR	**Karatay Array**	**72.73**	**319**	P		**P**	**20 34 27.3**	**+0.1**
ABKAR	**Akbulak array**	**81.96**	**322**	P		**P**	**20 35 17.4**	**-1.0**
ABKAR	**Akbulak array**	**81.96**	**322**	P		**P**	**20 35 17.2**	**-1.2**
ABKAR				IAmb		IAmb	20 35 20.6	
	comp=Z,1.8nm,1.1s							

GCMT 30 20:23:39.0±0.3, 65.24S±0.02×179.15E±0.05, h27km±1km, MW5.0/84, Moment Tensor Solution. s19,c21; s84,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.41±.24; Mθθ3.88±.19; Mϕϕ-3.47±.17; Mrθ-2.94±.36; Mθϕ-0.55±.13; Mϕr-0.41±.33; Best double couple: M=4.53800×10^16 NP1:ϕ=230.00000°, δ=83.00000°, λ=149.00000°. NP2:ϕ=324.00000°, δ=59.00000°, λ=8.00000°. Principal axes: T 5.3840, Plg27.0000°, Azm182.0000°; N -1.6950, Plg58.0000°, Azm38.0000°; P -3.6920, Plg16.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Balleny Islands region

IDC 30 20:49:22.4±4.8, 2.62S×139.87E, h0km, mb3.1/2, mbtmp3.2/3, ML3.3/1, MS3.2/1 Error ellipse: s-maj=183.2km s-min=31.7km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.04**	**197**	P	Pn	20 53 34.0	-0.8
	0.1nm,0.3s,baz=18,slow=12,SNR=6.8						
	0.6nm,0.7s						
KAPI	**Kappang**	**20.21**	**263**	LR	LR	21 03 59.8	
	comp=Z,64nm,19.4s,baz=158,slow=43						
ASAR	**Alice Springs**	**21.70**	**195**	P	P	20 54 15.3	+0.2
	0.8nm,0.8s,baz=22,slow=8.8,SNR=5.5						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**70.43**	**322**	P	P	21 00 38.8	+0.2
	0.1nm,0.7s,baz=117,slow=7.1,SNR=1.4						
	0.1nm,0.7s						

*NEIC **30** 20:50:16.0±2.6, 15.7N±0.1×94.89W±0.05, h35km±2km, mb4.3/4, Md4.2/67(MEX), Error ellipse: s-maj=19.2km s-min=5.8km az=194.0*
*MEX **30** 20:50:17.8±0.9, 15.74N×94.92W, h28km±11km, MD4.2*
ISC 30 20:50:15.2±1.1, 15.70N±0.04×94.92W±0.02, h48km±16km, n62, σ2♀30/105, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.91**	**19**	*e*P	**Pn**	**20 50 31.2**	**-0.5**
NILT				*i* S	**Sn**	**20 50 41.8**	**-2.0**
CARR	**Arriaga**	**1.11**	**60**	*e*P	**Pn**	**20 50 34.3**	**-0.1**
CARR				*e*S	**Sn**	**20 50 45.4**	**-3.3**
HUIG	**Huatulco**	**1.15**	**274**		**Pn**	**20 50 35.9**	**+1.0**
HUIG					**Sn**	**20 50 49.1**	**-0.4**
HUIG	**Huatulco**	**1.15**	**274**	*e*P	**Pn**	**20 50 35.9**	**+1.0**
HUIG				*e*S	**Sn**	**20 50 49.1**	**-0.4**
CMIG	**Matias Romero**	**1.39**	**1**		**Pn**	**20 50 38.4**	**+0.3**
CMIG					**Sn**	**20 50 54.4**	**-1.0**
CMIG	**Matias Romero**	**1.39**	**1**	*e*P	**Pn**	**20 50 38.4**	**+0.3**
CMIG				*e*S	**Sn**	**20 50 54.4**	**-1.0**
PCIG		**1.64**	**90**		**Pn**	**20 50 42.7**	**+1.2**
PCIG					**Sn**	**20 51 00.5**	**-1.0**
PCIG		**1.64**	**90**	*e*P	**Pn**	**20 50 42.7**	**+1.2**
PCIG				*e*S	**Sn**	**20 51 00.5**	**-1.0**
UXUV	**UXUV**	**1.77**	**25**	*e*P	**Pn**	**20 50 44.6**	**+1.2**
UXUV				*e*S	**Sn**	**20 51 05.1**	**+0.2**
TGIG		**2.03**	**58**		**Pn**	**20 50 48.0**	**+1.0**
TGIG					**Sn**	**20 51 13.0**	**+1.7**
TGIG		**2.03**	**58**	*e*P	**Pn**	**20 50 48.0**	**+1.0**
TGIG				*e*S	**Sn**	**20 51 13.0**	**+1.7**
PEIG	**Puerto Escondi**	**2.16**	**278**		**Pn**	**20 50 49.9**	**+1.0**
PEIG					**Sn**	**20 51 12.9**	**-1.6**
PEIG	**Puerto Escondi**	**2.16**	**278**	*e*P	**Pn**	**20 50 49.9**	**+1.0**
PEIG				*e*S	**Sn**	**20 51 12.9**	**-1.6**
NEUV	**Arroyo Zacate**	**2.17**	**337**	*e*P	**Pn**	**20 50 50.3**	**+1.4**
NEUV				*e*S	**Sn**	**20 51 14.2**	**-0.5**
OXLC	**Oaxaca**	**2.19**	**309**	*e*P	**Pn**	**20 50 51.2**	**+1.9**
OXLC				*e*S	**Sn**	**20 51 16.7**	**+1.4**
OXIG	**Oaxaca**	**2.21**	**308**		**Pn**	**20 50 52.6**	**+2.9**
OXIG					**Sn**	**20 51 17.1**	**+1.2**
VHO	**Vista Hermosa**	**2.21**	**308**	*e*P	**Pn**	**20 50 52.6**	**+2.9**
VHO				*e*S	**Sn**	**20 51 17.1**	**+1.2**
PATR	**El Naranjo**	**2.66**	**102**	*e*P	**Pn**	**20 50 57.5**	**+1.7**
PATR				*e*S	**Sn**	**20 51 27.1**	**+0.3**
PAVE	**Pavencul**	**2.69**	**100**	*e*P	**Pn**	**20 50 58.5**	**+2.2**
PAVE				*e*S	**Sn**	**20 51 29.5**	**+1.7**
CCIG	**Comitan**	**2.74**	**77**		**Pn**	**20 50 58.1**	**+1.2**
CCIG				Sn	**Sn**	**20 51 28.1**	**-0.7**
CCIG	**Comitan**	**2.74**	**77**	*e*P	**Pn**	**20 50 59.1**	**+2.2**
CCIG				*e*S	**Sn**	**20 51 33.5**	**+4.7**
YOIG	**Yosondua**	**2.77**	**295**		**Pn**	**20 51 00.3**	**+2.9**
YOIG					**Sn**	**20 51 29.5**	**-0.3**
YOIG	**Yosondua**	**2.77**	**295**	*e*P	**Pn**	**20 51 00.3**	**+2.9**
YOIG				*e*S	**Sn**	**20 51 29.5**	**-0.3**
CHUJ	**Union Juarez**	**2.78**	**102**	*e*P	**Pn**	**20 50 59.4**	**+2.0**
CHUJ				*e*S	**Sn**	**20 51 29.9**	**0.0**
TXIG	**Tlaxiaco**	**3.14**	**300**		**Pn**	**20 51 05.7**	**+3.2**
TXIG					**Sn**	**20 51 38.5**	**-0.4**
TXIG	**Tlaxiaco**	**3.14**	**300**	*e*P	**Pn**	**20 51 05.7**	**+3.2**
TXIG				*e*S	**Sn**	**20 51 38.5**	**-0.4**
TOIG	**Toxpalan**	**3.15**	**320**		**Pn**	**20 51 06.5**	**+4.1**
TOIG					**Sn**	**20 51 39.5**	**+0.7**
TOIG	**Toxpalan**	**3.15**	**320**	*e*P	**Pn**	**20 51 06.5**	**+4.1**
TOIG				*e*S	**Sn**	**20 51 39.5**	**+0.7**
PNIG	**Pinotepa**	**3.16**	**283**		**Pn**	**20 51 04.0**	**+1.5**
PNIG					**Sn**	**20 51 36.1**	**-2.9**
PNIG	**Pinotepa**	**3.16**	**283**	*e*P	**Pn**	**20 51 04.0**	**+1.5**
PNIG				*e*S	**Sn**	**20 51 36.1**	**-2.9**
HUEH	**Huehuetenango**	**3.32**	**96**		**Pn**	**20 51 04.4**	**-0.4**
HUEH				Sn	**Sn**	**20 51 43.0**	**-0.2**
RTAL	**Retalhuleu**	**3.33**	**110**	Pn	**Pn**	**20 51 07.0**	**+2.2**
HLIG	**Huajuapan de L**	**3.48**	**308**		**Pn**	**20 51 10.8**	**+3.8**
HLIG					**Sn**	**20 51 48.0**	**+0.8**
HLIG	**Huajuapan de L**	**3.48**	**308**	*e*P	**Pn**	**20 51 10.8**	**+3.8**
HLIG				*e*S	**Sn**	**20 51 48.0**	**+0.8**
TPIG	**Tehuac#an**	**3.57**	**320**	*e*P	Pn	20 51 21.2	+13
TPIG				*e*S	Sn	20 52 07.0	+18
FTIG	**Fresnillo de T**	**3.78**	**306**		**Pn**	**20 51 15.0**	**+3.9**
FTIG					**Sn**	**20 51 54.4**	**0.0**
FTIG	**Fresnillo de T**	**3.78**	**306**	*e*P	**Pn**	**20 51 15.0**	**+3.9**
FTIG				*e*S	**Sn**	**20 51 54.4**	**0.0**
MGIG	**Malinaltepec**	**3.88**	**294**		**Pn**	**20 51 15.7**	**+3.2**
MGIG					**Sn**	**20 51 55.8**	**-1.1**
MGIG	**Malinaltepec**	**3.88**	**294**	*e*P	**Pn**	**20 51 15.7**	**+3.2**
MGIG				*e*S	**Sn**	**20 51 55.8**	**-1.1**
TLIG	**Tlapa**	**3.96**	**298**		**Pn**	**20 51 16.4**	**+2.9**
TLIG	**Tlapa**	**3.96**	**298**	*i* P	**Pn**	**20 51 17.3**	**+3.8**
TLIG				*e*S	**Sn**	**20 51 58.1**	**-0.7**
JAUV	**Jalcomulco**	**4.07**	**334**	*e*P	**Pn**	**20 51 15.2**	**+0.2**
JAUV				*i* S	**Sn**	**20 51 55.2**	**-6.2**
CRIG	**Cruz Grande**	**4.17**	**285**		**Pn**	**20 51 18.4**	**+2.0**
CRIG					**Sn**	**20 51 59.5**	**-4.5**
CRIG	**Cruz Grande**	**4.17**	**285**	*e*P	**Pn**	**20 51 18.4**	**+2.0**
CRIG				*e*S	**Sn**	**20 51 59.5**	**-4.5**
DAIG	**Los Arroyos**	**4.73**	**287**		**Pn**	**20 51 25.9**	**+1.8**
DAIG					Sn	20 52 08.7	-8.9
DAIG	**Los Arroyos**	**4.73**	**287**	*e*P	**Pn**	**20 51 25.9**	**+1.8**
DAIG				*e*S	Sn	20 52 08.7	-8.9
SCIG	**Sabancuy**	**4.83**	**47**	*i* P	**Pn**	**20 51 26.2**	**+0.9**
SCIG				*e*		20 52 12.5	
PPM	**Popocatepetl**	**4.87**	**314**	*e*S	**Sn**	**20 52 23.2**	**+1.4**
PPIG	**Popocatepetl**	**4.87**	**314**		**Sn**	**20 52 23.2**	**+1.4**
PETF	**Flores**	**5.00**	**75**		**Pn**	**20 51 29.5**	**+1.8**
PETF	**Flores**	**5.00**	**75**	*i* P	**Pn**	**20 51 30.1**	**+2.3**
PETF				*e*S	**Sn**	**20 52 18.8**	**-5.5**
MEIG	**Mezcala**	**5.02**	**297**	*e*	**Pn**	**20 51 31.9**	**+3.8**
MEIG				*e*		20 52 12.0	
PLIG	**Platanillo**	**5.14**	**302**		**Pn**	**20 51 32.0**	**+2.3**
PLIG					**Sn**	**20 52 25.7**	**-2.1**
PLIG	**Platanillo**	**5.14**	**302**	*e*P	**Pn**	**20 51 32.0**	**+2.3**
PLIG				*e*S	**Sn**	**20 52 25.7**	**-2.1**
CAIG	**El Cayaco**	**5.30**	**285**		**Pn**	**20 51 34.5**	**+2.6**
CAIG					Sn	20 52 25.4	-6.4

CAIG	**El Cayaco**	**5.30**	**285**	*e*P		**Pn**	**20 51 34.5**	**+2.6**
CAIG				*e*S		Sn	20 52 25.4	-6.4
ARIG	**Puente Sto Nin**	**5.79**	**297**	*e*		**Pn**	**20 51 43.1**	**+4.5**
ARIG				*e*			20 52 37.2	
TEIG	**Tepich**	**7.76**	**54**	Pn		**Pn**	**20 52 04.9**	**-0.7**
GOGA	**Godfrey**	**20.45**	**28**	P		**P**	**20 54 49.9**	**+1.2**
GOGA				IAmb		IAmb	20 55 11.4	
	comp=Z,12nm,1.1s							
S54A	**Dingess, Beckl**	**25.09**	**26**	P		**P**	**20 55 33.0**	**-2.4**
Q51A	**Peebles**	**25.36**	**21**	P		**P**	**20 55 37.0**	**-0.8**
Q51A				IAmb		IAmb	20 56 05.4	
	comp=Z,8.5nm,0.7s							
MTPU	**Mount Pierson**	**26.97**	**329**	P		**P**	**20 55 50.7**	**-2.1**

IDC 30 21:24:54.1±3.2, 48.90S×125.08E, h0km, mb3.8/2, mbtmp3.8/2, MS3.5/7, Error ellipse: s-maj=79.8km s-min=74.7km az=144.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.16**	**326**	T	T	21 45 22.3	
	baz=158,slow=79,SNR=11						
H01W2	**Cape Leeuwin H**	**16.16**	**326**	T	T	21 45 18.3	
	baz=158,slow=79,SNR=13						
H01W3	**Cape Leeuwin H**	**16.17**	**326**	T	T	21 45 23.8	
	baz=158,slow=79,SNR=9.7						
NWAO	**Narrogin (SRO)**	**17.00**	**337**	LR	LR	21 33 56.2	
	comp=Z,92nm,18.6s,baz=172,slow=32						
STKA	**Stephens Creek**	**21.07**	**42**	LR	LR	21 36 46.4	
	comp=Z,60nm,18.7s,baz=205,slow=34						
ASAR	**Alice Springs**	**26.13**	**19**	P	P	21 30 29.8	0.0
	0.7nm,0.6s,baz=194,slow=9.5,SNR=8.2						
ASAR				LR	LR	21 39 52.0	
	comp=Z,93nm,21.2s,baz=199,slow=34						
	0.7nm,0.6s						
VNDA	**Vanda**	**31.97**	**166**	LR	LR	21 43 42.5	
	comp=Z,48nm,18.5s,baz=312,slow=35						
CTA	**Charters Tower**	**33.39**	**38**	LR	LR	21 45 07.0	
	comp=Z,51nm,18.1s,baz=248,slow=36						
QSPA	**South Pole Qui**	**41.23**	**180**	LR	LR	21 49 23.7	
	comp=Z,78nm,18.1s,baz=70,slow=36						
HNR	**Honiara**	**48.97**	**48**	LR	LR	21 53 24.5	
	comp=Z,446nm,18.0s,baz=161,slow=35						
CMAR	**Chiang Mai Arr**	**70.98**	**334**	P	P	21 36 13.5	+0.1
	0.7nm,0.4s,baz=179,slow=4.1,SNR=5.0						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**145.10**	**44**	PKPbc	PKPbc	21 44 30.6	-1.0
	0.6nm,0.7s,baz=267,slow=3.7,SNR=13						

*DNK **30** 21:45:20.6±2.0, 83.02N×5.23W, h15km, ML2.1*
*FCIAR **30** 21:45:24.0, 83.03N×4.62W, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.40*
*BER **30** 21:45:24.3±2.2, 82.44N×8.05W, h10km, mb(Pn)4.0, ML2.1(DNK), Confirmed Earthquake*
*KOLA **30** 21:45:26.3, 82.39N×8.06W, h0km, ML2.3, Error ellipse: s-maj=168.8km s-min=42.2km az=40.0, Arctic Ocean, Knipovich ridge, north*
ISC 30 21:45:17.1±1.3, 83.08N±0.08×5.20W±0.08, h10km, n20, σ3♀11/29, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.94**	**139**	P	**Pn**	**21 46 33.8**	**+2.7**
KBS				S	**Sn**	**21 47 23.9**	**-4.3**
KBS	**Kingsbay**	**4.94**	**139**	*e*P	**Pn**	**21 46 33.8**	**+2.7**
KBS				*e*S	**Sn**	**21 47 23.9**	**-4.3**
KBS				IAML		21 47 36.2	
	comp=Z,3.2nm,0.2s						
KBS	**Kingsbay**	**4.94**	**139**	*e*P	**Pn**	**21 46 33.4**	**+2.3**
KBS				*e*S	**Sn**	**21 47 25.5**	**-2.6**
KBS	**Kingsbay**	**4.94**	**139**	*i* P	**Pn**	**21 46 33.9**	**+2.8**
KBS				*e*S	**Sn**	**21 47 25.4**	**-2.7**
BRBB	**Barentsburg B**	**5.88**	**138**	P	**Pn**	**21 46 47.9**	**+3.7**
BRBB				S	**Sn**	**21 47 48.5**	**-3.0**
BRBB	**Barentsburg B**	**5.88**	**138**	*e*P	**Pn**	**21 46 47.7**	**+3.6**
BRBA	**Barentsburg A**	**5.92**	**138**	*e*P	**Pn**	**21 46 48.4**	**+3.8**
SPA0	**Spitsbergen Ar**	**5.99**	**133**	*e*P	**Pn**	**21 46 48.4**	**+2.8**
SPA0	**Spitsbergen Ar**	**5.99**	**133**	*e*P	**Pn**	**21 46 48.5**	**+2.9**
SPA0				*e*S	**Sn**	**21 47 51

SUMG					IAML			21 51 45.7	
	comp=Z,2.0nm,0.4s								
SUMG	**Summit**	**11.81**	**229**	*i*	P		**Pn**	**21 49 27.0**	**+1.1**
SUMG				*i*	S		**Sn**	**21 51 35.7**	**-2.0**
SUMG					IAML			21 51 45.7	
	comp=Z,2.0nm,0.4s								
SCO	**Scoresbysund**	**12.64**	**202**	*e*	P		Pn	21 49 32.4	-4.5
SCO	**Scoresbysund**	**12.64**	**202**	*e*	P		Pn	21 49 32.4	-4.5
ARCES	**ARCESS Array B**	**14.98**	**132**		Pn		**Pn**	**21 50 09.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=354,slow=9.8,SNR=7.0								
ARCES					LR		LR	21 55 34.9	
	comp=Z,86nm,18.5s,baz=360,slow=35								
	comp=Z,2.4nm,0.8s								
RES	**Resolute Bay**	**16.70**	**293**		Pn		**Pn**	**21 50 27.8**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=34,slow=15,SNR=5.6								
RES					LR		LR	21 57 01.4	
	comp=Z,194nm,18.5s,baz=25,slow=38								
	comp=Z,2.7nm,0.7s								
SFJD	**Kangerlussuaq**	**18.41**	**238**		P		**P**	**21 50 51.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=14,slow=7.6,SNR=3.0								
SFJD					LR		LR	21 58 14.3	
	comp=Z,138nm,20.0s,baz=12,slow=38								
	comp=Z,5.9nm,0.6s								
HFS	**Hagfors**	**23.34**	**152**		LR		LR	22 00 38.4	
	comp=Z,89nm,18.3s,baz=59,slow=36								
FRB	**Frobisher Bay**	**23.64**	**255**		LR		LR	22 01 12.0	
	comp=Z,113nm,19.4s,baz=29,slow=37								
INK	**Inuvik**	**26.76**	**318**		LR		LR	22 05 17.4	
	comp=Z,50nm,18.2s,baz=6.0,slow=42								
YKA	**Yellowknife Ar**	**30.55**	**299**		P		**P**	**21 52 47.4**	**-3.0**
	comp=Z,0.2nm,0.8s,baz=36,slow=9.9,SNR=2.2								
YKA					LR		LR	22 04 17.4	
	comp=Z,64nm,19.3s,baz=304,slow=35								
	comp=Z,0.2nm,0.8s								
ARU	**Arti**	**31.44**	**103**		LR		LR	22 08 26.0	
	comp=Z,87nm,18.1s,baz=340,slow=41								
SCHQ	**Schefferville**	**32.12**	**249**		LR		LR	22 07 31.9	
	comp=Z,70nm,19.2s,baz=49,slow=39								
AKASG	**Malin Array Be**	**33.86**	**137**		LR		LR	22 07 06.3	
	comp=Z,50nm,19.2s,baz=44,slow=36								
YAK	**Yakutsk**	**33.88**	**35**		LR		LR	22 05 32.6	
	comp=Z,30nm,21.5s,baz=72,slow=34								
VRAC	**Vranov**	**34.30**	**151**		LR		LR	22 05 28.1	
	comp=Z,43nm,18.4s,baz=356,slow=33								
BVAR	**Borovoye Array**	**36.27**	**92**		LR		LR	22 12 12.4	
	comp=Z,44nm,19.4s,baz=307,slow=42								
ZALV	**Zalesovo Beam**	**37.20**	**78**		P		**P**	**21 53 49.8**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=340,slow=7.9,SNR=3.7								
ZALV					LR		LR	22 11 57.2	
	comp=Z,50nm,19.3s,baz=350,slow=41								
	comp=Z,0.7nm,0.7s								
AKTO	**Aktyubinsk**	**37.25**	**106**		LR		LR	22 10 39.6	
	comp=Z,103nm,21.7s,baz=57,slow=39								
MLR	**Muntele Rosu**	**38.76**	**141**		LR		LR	22 10 56.1	
	comp=Z,52nm,19.9s,baz=276,slow=37								
ESDC	**Sonseca Array**	**43.19**	**176**		P		**P**	**21 54 42.0**	**+4.1**
	comp=Z,0.6nm,0.8s,baz=358,slow=7.6,SNR=4.8								
	comp=Z,0.6nm,0.8s								
MKAR	**Makanchi Array**	**43.90**	**82**		P		**P**	**21 54 44.1**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=358,slow=7.5,SNR=2.1								
MKAR					LR		LR	22 15 58.8	
	comp=Z,55nm,18.2s,baz=2.5,slow=40								
	comp=Z,0.2nm,0.5s								
SONM	**Songino Array**	**45.76**	**59**		LR		LR	22 14 12.2	
	comp=Z,27nm,21.2s,baz=325,slow=36								
TORD	**Torodi Ar. Bea**	**69.69**	**170**		P		**P**	**21 57 50.1**	**+3.1**
	comp=Z,0.4nm,0.8s,baz=356,slow=10,SNR=2.4								
	comp=Z,0.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**73.91**	**71**		P		**P**	**21 58 11.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=343,slow=8.5,SNR=4.1								
	comp=Z,0.5nm,0.3s								

KOLA ***30*** *21:50:48.9,82°.98N×2°.80W,h0km,ML2.4,Error ellipse: s-maj=218.4km s-min=40.3km az=40.0,Arctic Ocean,Gakkel ridge*

BER 30 21:50:47.2±1.9,82°.34N×8°.44W,h10km,mb(Pn)3.7, Confirmed Earthquake,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KBS	**Kingsbay**	**4.74**	**125**	P		Pn	21	51 56.1	-2.4
KBS				S		Sn	21	52 46.7	-6.7
KBS	**Kingsbay**	**4.74**	**125**	*e*P		Pn	21	51 56.1	-2.5
KBS				*e*S		Sn	21	52 47.5	-5.9
KBS				IAML			21	52 56.3	
	comp=Z,6.2nm,0.3s								
BRBB	**Barentsburg B**	**5.69**	**126**	P		Pn	21	52 10.0	-1.6
BRBB				S		Sn	21	53 10.6	-6.2
SPA0	**Spitsbergen Ar**	**5.86**	**122**	*e*P		Pn	21	52 10.7	-3.2
SPA0				*e*S		Sn	21	53 14.2	-6.7
SPA0				IAML			21	53 25.2	
	comp=Z,4.1nm,0.6s								
SPITS	**Spitsbergen Ar**	**5.86**	**122**	P		Pn	21	52 11.2	-2.8
SPITS				S		Sn	21	53 14.6	-6.4
HSPB	**Hornsund (broa**	**6.79**	**129**	P		Pn	21	52 26.1	-0.5
HSPB	**Hornsund (broa**	**6.79**	**129**	*e*P		Pn	21	52 25.7	-0.9
HSPB				IAML			21	53 49.2	
	comp=Z,4.3nm,0.6s								
HOPEN	**Hopen**	**8.29**	**116**	*e*P		Pn	21	52 43.4	-3.8
HOPEN				*e*S		Sn	21	54 10.5	-10
HOPEN				IAML			21	54 12.4	
	comp=Z,3.6nm,1.0s								

IDC ***30*** *21:54:36.1±5.3,17°.85N×106°.96W,h0km,mb3.7/4, mbtmp3.9/7,ML3.6/3,MS3.6/24,Error ellipse: s-maj=116.6km s-min=37.5km az=31.0*

NEIC ***30*** *21:54:42.1±1.1,18°.2N±0°.1×107°.23W±0°.06,h10km±2km, mb4.2/29,Md4.1/32(MEX),Error ellipse: s-maj=19.5km s-min=9.2km az=173.0*

MEX ***30*** *21:54:48.4±0.6,18°.74N×107°.05W,h15km,MD4.1*

ISC 30 21:54:46.4±1.2,18°.8N±0°.1×107°.04W±0°.07,h10km,n249, σ1833/233,mb3.9/7,MS3.6/18,Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CJM	**Chamela**	**2.03**	**68**	*e*P		**Pn**	**21**	**55 18.4**	**-2.3**
CJM				*e*S		**Sn**	**21**	**55 42.5**	**-3.5**
CDAR	**Ciudad de Arme**	**2.87**	**86**	*e*P		**Pn**	**21**	**55 30.5**	**-1.8**
CDAR				*e*S		**Sn**	**21**	**56 03.9**	**-3.0**
CEGR	**Campo Tres**	**3.08**	**77**	*e*P		**Pn**	**21**	**55 34.2**	**-1.1**
CEGR				*e*S		**Sn**	**21**	**56 11.3**	**-0.9**
COIG	**Colima**	**3.20**	**82**	*e*P		**Pn**	**21**	**55 35.4**	**-1.5**
COIG				*e*S		**Sn**	**21**	**56 13.5**	**-1.6**
ANIG	**Ahuacatlan**	**3.30**	**45**			**Pn**	**21**	**55 37.8**	**-0.4**
ANIG	**Ahuacatlan**	**3.30**	**45**	*e*P		**Pn**	**21**	**55 37.8**	**-0.4**
ANIG				*e*S		**Sn**	**21**	**56 16.5**	**-1.1**
MNGA	**Volcan de Coli**	**3.31**	**77**	*e*P		**Pn**	**21**	**55 38.4**	**-0.2**
MNGA				*e*S		**Sn**	**21**	**56 16.1**	**-2.0**
SOMAC	**Volcano de Col**	**3.31**	**76**	*e*P		**Pn**	**21**	**55 37.8**	**-1.0**
SOMAC				*e*S		**Sn**	**21**	**56 17.6**	**-0.7**
EZ5V		**3.33**	**77**			**Pn**	**21**	**55 38.3**	**-0.5**
EZ5V						**Sn**	**21**	**56 20.3**	**+1.7**
EZ5V		**3.33**	**77**	*e*P		**Pn**	**21**	**55 38.3**	**-0.5**
EZ5V				*e*S		**Sn**	**21**	**56 20.3**	**+1.7**
JUBC	**Volcan de Coli**	**3.37**	**76**	*e*P		**Pn**	**21**	**55 39.4**	**0.0**
JUBC				*e*S		**Sn**	**21**	**56 17.5**	**-2.1**
H06S		**3.72**	**270**			Pn	21	55 35.6	-8.3
H06S						Sn	21	56 14.8	-13
H06S		**3.72**	**270**	*e*P		Pn	21	55 35.6	-8.3
H06S				*e*S		Sn	21	56 14.8	-13
H06N	**Isla Socorro**	**3.75**	**272**			Pn	21	55 38.3	-6.0
H06N	**Isla Socorro**	**3.75**	**272**	*e*P		Pn	21	55 38.3	-6.0
H06N				*e*S		Sn	21	56 14.9	-14
MAIG	**Mazatlaan**	**4.46**	**7**			**Pn**	**21**	**55 52.4**	**-1.7**
MAIG	**Mazatlaan**	**4.46**	**7**	*e*P		**Pn**	**21**	**55 52.4**	**-1.7**
MAIG				*e*S		**Sn**	**21**	**56 40.2**	**-5.8**
MOIG	**Morelia**	**5.60**	**80**	Pn		**Pn**	**21**	**56 08.9**	**-1.2**
SLBS	**Sierra La Lagu**	**5.61**	**332**	Pn		**Pn**	**21**	**56 09.9**	**-0.2**
ZAIG	**Zacatecas**	**5.79**	**46**	Pn		**Pn**	**21**	**56 13.7**	**+1.1**
LPIG	**La Paz**	**6.14**	**331**	LR		LR	21	58 07.5	
	comp=Z,849nm,18.3s,baz=171,slow=30								
JRQG	**Juriquilla Cam**	**6.51**	**71**	Pn		**Pn**	**21**	**56 20.6**	**-1.9**
SRIG	**Santa Rosalia**	**9.78**	**332**			**Pn**	**21**	**57 07.6**	**+0.4**
HSIG		**10.83**	**341**	Pn		**Pn**	**21**	**57 23.4**	**+1.8**
TXAR	**Lajitas Array**	**10.98**	**16**	LR		LR	22	01 23.8	
	comp=Z,197nm,21.0s,baz=195,slow=34								
CMIG	**Matias Romero**	**11.69**	**96**	Pn		Pn	21	57 22.6	-11
	0.3nm,0.3s,baz=50,slow=4.8,SNR=2.8								
CMIG						Sn	21	59 23.7	-20
	0.3nm,0.3s,baz=299,slow=15,SNR=1.8								
CMIG						LR	LR	22 01 16.2	
	comp=Z,163nm,19.1s,baz=309,slow=35								
	3.5nm,0.7s								
833A	**Chaparral WMA,**	**11.83**	**35**	Pn		**Pn**	**21**	**57 38.7**	**+3.5**
833A	**Chaparral WMA,**	**11.83**	**35**	P		**Pn**	**21**	**57 39.2**	**+4.0**
	baz=217								
319A	**Douglas**	**12.74**	**351**	Pn		**Pn**	**21**	**57 50.2**	**+2.5**
MNTX	**Cornudas Mount**	**12.98**	**6**	P		**Pn**	**21**	**57 53.5**	**+2.5**
	baz=188								
735A	**Kenedy**	**13.13**	**38**	Pn		**Pn**	**21**	**57 55.4**	**+2.4**
JCT	**Junction City**	**13.40**	**28**	Pn		**Pn**	**21**	**58 00.3**	**+3.5**
JCT	**Junction City**	**13.40**	**28**	P		**Pn**	**21**	**57 59.9**	**+3.1**
	baz=211,SNR=6.1								
121A	**Cookes Peak, D**	**13.75**	**357**	Pn		**Pn**	**21**	**58 04.0**	**+2.4**
121A	**Cookes Peak, D**	**13.75**	**357**	P		**Pn**	**21**	**58 03.2**	**+1.6**
	baz=178								
DUN6	**Lazy B Ranch**	**13.87**	**353**			**Pn**	**21**	**58 04.9**	**+1.6**
TUC	**Tucson**	**13.92**	**347**	Pn		**Pn**	**21**	**58 05.6**	**+1.7**
TUC	**Tucson**	**13.92**	**347**	P		**Pn**	**21**	**58 05.6**	**+1.7**
	baz=166								
PIX	**Pinacate**	**14.02**	**337**	Pn		**Pn**	**21**	**58 05.7**	**+0.5**
214A	**Organ Pipe Nat**	**14.15**	**340**	Pn		**Pn**	**21**	**58 08.2**	**+1.2**
214A	**Organ Pipe Nat**	**14.15**	**340**	P		**Pn**	**21**	**58 08.1**	**+1.2**
	baz=158,SNR=12								
435B	**Jarrell**	**14.73**	**34**	Pn		**Pn**	**21**	**58 17.5**	**+2.6**
VTX	**Valle De La Tr**	**14.87**	**330**			**Pn**	**21**	**58 16.7**	**-0.2**
HKT	**Hockley**	**15.11**	**40**	Pn		**Pn**	**21**	**58 21.1**	**+1.2**
HKT					IAmb	IAmb	21	58 34.0	
	comp=Z,18nm,1.1s								
113A	**Mohawk Valley,**	**15.21**	**338**	Pn		**Pn**	**21**	**58 22.3**	**+0.9**
ABTX	**Abilene, Hawle**	**15.33**	**24**	P		**Pn**	**21**	**58 25.3**	**+2.3**
	baz=207								
ESJX	**Sierra Juarez**	**15.45**	**330**			**Pn**	**21**	**58 25.7**	**+1.0**
MSTX	**Muleshoe**	**15.63**	**13**	P		**Pn**	**21**	**58 29.1**	**+2.1**
	baz=195								
WHTX	**Lake Whitney,**	**15.77**	**31**	Pn		**Pn**	**21**	**58 30.7**	**+2.1**
WHTX					IAmb	IAmb	21	58 35.1	
	comp=Z,24nm,1.1s								
WHTX	**Lake Whitney,**	**15.77**	**31**	P		**Pn**	**21**	**58 31.1**	**+2.5**
	baz=215								
X18A	**Snowflake**	**15.93**	**351**			**Pn**	**21**	**58 32.4**	**+1.5**
X18A					IAmb	IAmb	21	58 37.0	
	comp=Z,17nm,1.1s								
YUH	**Yuha Desert**	**15.98**	**332**	Pn		**Pn**	**21**	**58 31.4**	**+0.1**
RMX	**La Rumorosa**	**16.01**	**331**			**Pn**	**21**	**58 31.1**	**-0.9**
RMX					IAmb	IAmb	21	58 33.9	
	comp=Z,34nm,1.5s								
CBX	**Cerro Bola**	**16.05**	**329**			**Pn**	**21**	**58 31.6**	**-0.7**
CBX					IAmb	IAmb	21	58 34.5	
	comp=Z,29nm,1.3s								
IKP	**In-Ko-Pah, Jac**	**16.07**	**331**	P		**Pn**	**21**	**58 34.1**	**+1.6**
	baz=149,SNR=5.4								
ANMO	**Albuquerque**	**16.14**	**2**			**Pn**	**21**	**58 35.2**	**+1.6**
ANMO	**Albuquerque**	**16.14**	**2**	P		**Pn**	**21**	**58 35.0**	**+1.3**
	baz=183								
ANMO	**Albuquerque**	**16.14**	**2**	P		**Pn**	**21**	**58 36.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=239,slow=20,SNR=4.9								
ANMO					LR	LR	22	04 29.6	
	comp=Z,181nm,20.1s,baz=278,slow=35								
	comp=Z,4.6nm,1.1s								
SWSC	**Sam W. Stewart**	**16.18**	**333**	P		**Pn**	**21**	**58 35.2**	**+1.3**
	baz=150								
MONP2	**Monument Peak**	**16.41**	**331**	P		**Pn**	**21**	**58 38.4**	**+1.2**
	baz=148,SNR=11								
W18A	**Petrified Fore**	**16.48**	**352**			**Pn**	**21**	**58 39.3**	**+1.3**
W18A					IAmb	IAmb	21	58 43.3	
	comp=Z,22nm,1.4s								
W18A	**Petrified Fore**	**16.48**	**352**	P		**Pn**	**21**	**58 39.0**	**+1.0**
	baz=172								
237A	**Washetta, Mont**	**16.63**	**35**	Pn		**Pn**	**21**	**58 39.9**	**+0.2**
237A					IAmb	IAmb	21	58 43.2	
	comp=Z,33nm,1.1s								
BC3	**Big Chuckawall**	**16.65**	**335**	P		**Pn**	**21**	**58 40.8**	**+0.8**
	baz=152,SNR=10.0								
PDMCI	**Parker Dam,Lak**	**16.74**	**339**	P		**Pn**	**21**	**58 42.7**	**+1.6**
	baz=157,SNR=7.8								
IRM	**Iron Mountain**	**16.97**	**336**	P		**Pn**	**21**	**58 45.0**	**+1.0**
	baz=154,SNR=8.7								
TPFO	**Pinon Flats**	**17.03**	**332**	P		**Pn**	**21**	**58 46.2**	**+1.3**
	baz=150,SNR=13								
PFO	**Pinyon Flats O**	**17.03**	**332**	P		**Pn**	**21**	**58 45.0**	**+0.1**
PFO					IAmb	IAmb	21	58 47.7	
	comp=Z,36nm,1.2s								
PFO	**Pinyon Flats O**	**17.03**	**332**	P		**Pn**	**21**	**58 46.1**	**+1.2**
	baz=150,SNR=12								
PFO	**Pinyon Flats O**	**17.03**	**332**	P		**Pn**	**21**	**58 46.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=155,slow=11,SNR=21								
PFO					LR	LR	22	04 39.3	
	comp=Z,194nm,18.6s,baz=162,slow=34								
	comp=Z,11nm,0.9s								
NATX	**Nacogdoches**	**17.10**	**38**	P		**Pn**	**21**	**58 47.8**	**+2.1**
	baz=223								
WUAZ	**Wupatki**	**17.14**	**348**	Pn		**Pn**	**21**	**58 46.9**	**+0.6**
WUAZ					IAmb	IAmb	21	58 50.8	
	comp=Z,26nm,1.1s								
WUAZ	**Wupatki**	**17.14**	**348**	P		**Pn**	**21**	**58 47.4**	**+1.1**
	baz=167,SNR=10								
BELC	**Belle Mtn. Jos**	**17.17**	**334**	P		**Pn**	**21**	**58 48.0**	**+1.4**
	baz=151,SNR=16								
WMOK	**Wichita Mounta**	**17.54**	**23**	P		**Pn**	**21**	**58 53.3**	**+2.1**
	baz=207								
GMRC	**Granite Mounta**	**17.72**	**336**	P		**Pn**	**21**	**58 54.1**	**+0.6**
	baz=154,SNR=5.7								
TEIG	**Tepich**	**17.75**	**82**	LR		LR	22	05 32.6	
	comp=Z,1μm,21.9s,baz=29,slow=37								
CIS	**Catalina Islan**	**17.80**	**327**	P		**Pn**	**21**	**58 55.3**	**+1.0**
	baz=144								
HEC	**Hector,Ludlow**	**18.02**	**335**	P		**Pn**	**21**	**58 58.6**	**+1.4**
	baz=152								
BFSC	**Mount Baldy Ra**	**18.10**	**331**	P		**Pn**	**21**	**58 59.2**	**+1.0**
	baz=147								
SNCC	**San Nicolas Is**	**18.27**	**325**	P		**Pn**	**21**	**59 01.1**	**+1.0**
	baz=141								
TUQ	**Turquoise Moun**	**18.39**	**336**	P		**Pn**	**21**	**59 02.2**	**+0.5**
	baz=154,SNR=8.5								
MVCO	**Mesa Verde**	**18.44**	**356**	P		**P**	**21**	**59 03.3**	**+0.9**
	baz=176								
T25A	**Trinidad**	**18.47**	**7**	P		**P**	**21**	**59 03.6**	**+0.9**
	baz=188								
GSC	**Goldstone, Bar**	**18.62**	**334**	P		**P**	**21**	**59 05.0**	**+0.8**
	baz=151								
EDW2	**Edwards Air Fo**	**18.79**	**331**	P		**P**	**21**	**59 07.1**	**+1.1**
	baz=147								
KNB	**Kanab**	**18.90**	**346**			**P**	**21**	**59 07.6**	**+0.2**
KNB					IAmb	IAmb	21	59 10.6	
	comp=Z,14nm,1.1s								
S22A	**4UR Ranch, Cre**	**18.93**	**1**	P		**P**	**21**	**59 08.8**	**+0.9**
	baz=181								
SHOC	**Shoshone, Teco**	**18.94**	**336**	P		**P**	**21**	**59 08.3**	**+0.7**
	baz=153								
SDCO	**Great Sand Dun**	**18.98**	**4**	P		**P**	**21**	**59 08.6**	**+0.2**
SDCO					IAmb	IAmb	21	59 11.7	
	comp=Z,15nm,1.5s								
SDCO	**Great Sand Dun**	**18.98**	**4**	P		**P**	**21**	**59 09.1**	**+0.8**
	baz=185								
SHPR	**Sheep Range**	**19.08**	**340**			**P**	**21**	**59 09.3**	**-0.1**
LRMC	**Laurel Mtn Rad**	**19.15**	**333**	P		**P**	**21**	**59 11.1**	**+1.0**
	baz=149,SNR=5.4								
Z41A	**Richland Creek**	**19.27**	**39**	P		**P**	**21**	**59 11.9**	**+0.6**
MPMC	**Manual Prospec**	**19.56**	**334**	P		**P**	**21**	**59 15.7**	**+1.1**
	baz=150								
ISA	**Isabella, Lake**	**19.65**	**331**	P		**P**	**21**	**59 17.0**	**+1.5**
	baz=147								
FURC	**Furnace Creek,**	**19.66**	**336**	P		**P**	**21**	**59 16.8**	**+1.3**
	baz=152								
PKM	**Mcpherson Peak**	**19.68**	**327**	P		**P**	**21**	**59 16.4**	**+0.4**
	baz=143								
VBMS	**Vicksburg**	**20.02**	**45**	P		**P**	**21**	**59 20.3**	**+0.9**
SMMC	**Simmler**	**20.11**	**328**	P		**P**	**21**	**59 21.4**	**+1.0**
	baz=143								
CWC	**Cottonwood Cre**	**20.13**	**333**	P		**P**	**21**	**59 21.7**	**+0.8**
	baz=149								
MVU	**Marysvale**	**20.20**	**348**	P		**P**	**21**	**59 21.5**	**-0.1**
R11B	**Troy Canyon, C**	**20.91**	**341**	P		**P**	**21**	**59 29.0**	**-0.2**
R11B	**Troy Canyon, C**	**20.91**	**341**	P		**P**	**21**	**59 29.2**	**0.0**
	baz=158,SNR=12								
CBKS	**Cedar Bluff**	**20.98**	**16**	P		**P**	**21**	**59 30.8**	**+0.9**
	baz=200								
ISCO	**Idaho Springs**	**21.02**	**3**	P		**P**	**21**	**59 31.2**	**+0.6**
ISCO	**Idaho Springs**	**21.02**	**3**	P		**P**	**21**	**59 31.5**	**+0.9**
	baz=184								
O20A	**White River Ci**	**21.34**	**357**	P		**P**	**21**	**59 34.6**	**+0.7**
	baz=177,SNR=5.6								
MDPB	**Devils Postpil**	**21.57**	**333**	P		**P**	**21**	**59 35.9**	**-0.5**
MDPB					IAmb	IAmb	21	59 42.0	
	comp=Z,7.0nm,0.9s								
NV11	**Mina Array Sit**	**21.88**	**336**	P		**P**	**21**	**59 39.6**	**0.0**
NV11					IAmb	IAmb	21	59 41.3	
	comp=Z,12nm,1.2s								
NVAR	**Mina Array Bea**	**21.93**	**336**	P		**P**	**21**	**59 39.4**	**-0.9**
NVAR	**Mina Array Bea**	**21.93**	**336**	P		**P**	**21**	**59 40.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=156,slow=12,SNR=15								
NVAR					LR	LR	22	07 33.3	
	comp=Z,70nm,18.2s,baz=146,slow=34								
	comp=Z,2.1nm,0.8s								
DUG	**Dugway, Tooele**	**21.95**	**348**	P		**P**	**21**	**59 41.0**	**+0.6**
DUG					IAmb	IAmb	21	59 43.2	
	comp=Z,17nm,1.2s								
DUG	**Dugway, Tooele**	**21.95**	**348**	P		**P**	**21**	**59 41.0**	**+0.6**
	baz=166,SNR=10								
LRAL	**Lakeview Retre**	**22.91**	**48**	P		**P**	**21**	**59 52.6**	**+2.0**
	baz=236								
JTS	**Las Juntas de**	**22.95**	**108**	LR		LR	22	05 37.6	
	comp=Z,80nm,19.2s,baz=233,slow=29								
ELK	**Elko**	**23.03**	**344**	P		**P**	**21**	**59 51.6**	**-0.3**
ELK	**Elko**	**23.03**	**344**	P		**P**	**21**	**59 52.1**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=167,slow=9.5,SNR=7.3								
ELK					LR	LR	22	08 05.9	
	comp=Z,183nm,19.2s,baz=138,slow=34								
	comp=Z,2.9nm,0.9s								
CCM	**Cathedral Cave**	**23.66**	**32**	P		**P**	**21**	**59 58.4**	**+0.3**
	baz=220								
K22A	**Casper**	**23.83**	**1**	P		**P**	**22**	**00 00.3**	**+0.4**
	baz=182								
PDAR	**Pinedale Array**	**24.04**	**355**	LR		LR	22	08 56.1	
	comp=Z,152nm,19.9s,baz=182,slow=34								
WVT	**Waverly**	**24.22**	**40**	P		**P**	**22**	**00 04.2**	**+0.8**
	baz=229								
H17A	**Grant Village**	**25.75**	**354**	P		**P**	**22**	**00 17.1**	**-0.3**
	baz=173								
WCI	**Wyandotte Cave**	**26.52**	**39**	P		**P**	**22**	**00 25.6**	**+1.4**
	baz=228								
YBH	**Yreka Blue Hor**	**26.52**	**333**	LR		LR	22	09 46.9	
	comp=Z,85nm,18.4s,baz=156,slow=33								
BOZ	**Bozeman (W)**	**27.05**	**353**	P		**P**	**22**	**00 29.1**	**0.0**
	baz=171								
TZTN	**Tazewell**	**27.22**	**45**	P		**P**	**22**	**00 31.4**	**+0.9**
	baz=235								
LAO	**LASA Array**	**27.88**	**1**	P		**P**	**22**	**00 36.7**	**+0.3**
	baz=182								
O48B	**Farmland**	**28.53**	**37**	P		**P**	**22**	**00 43.0**	**+0.8**
	baz=227								
MSO	**Missoula**	**28.58**	**350**	P		**P**	**22**	**00 42.6**	**-0.1**
	baz=167								
EGMT	**Eagleton**	**29.29**	**356**	P		**P**	**22**	**00 49.2**	**+0.2**
	baz=175								
P52A	**Corning**	**29.93**	**41**	P		**P**	**22**	**00 54.5**	**-0.2**
	baz=233								
ATAH	**Atahualpa**	**38.20**	**130**	LR		LR	22	12 49.2	
	comp=Z,42nm,21.1s,baz=324,slow=29								
NNA	**Nana**	**42.65**	**133**	LR		LR	22	16 34.6	
	comp=Z,84nm,18.4s,baz=338,slow=31								
YKA	**Yellowknife Ar**	**44.02**	**355**	P		**P**	**22**	**02 51.6**	**-2.3**
	comp=Z,0.5nm,0.9s,baz=162,slow=8.4,SNR=3.6								
	comp=Z,0.5nm,0.9s								
O30N	**Mendenhall**	**46.77**	**341**	P		**P**	**22**	**03 14.7**	**-1.1**
	baz=141								
MMPY	**Sheldon Lake,**	**46.94**	**345**	P		**P**	**22**	**03 17.4**	**+0.2**
	baz=148								
N31M	**Braeburn, Yuko**	**47.24**	**342**	P		**P**	**22**	**03 18.8**	**-0.7**
	baz=142								
N30M	**Aishikik Lake**	**47.61**	**341**	P		**P**	**22**	**03 23.1**	**+0.6**
	baz=140								
YUK6	**Outpost Mounta**	**47.63**	**340**

PPT	Papeete	55.23	232	LR	LR	22 21 50.5
	comp=Z,46nm,19.4s,baz=30,slow=30					
L18K	Granite Mounta	55.27	334	P	P	22 04 18.8 -0.9
	baz=119					
J20K	Nowinta River	55.27	337	P	P	22 04 18.4 -1.3
	baz=123					
H22K	Ishtalitna Cre	55.28	340	P	P	22 04 18.6 -1.1
	baz=127					
G23K	Bananza Creek	55.34	341	P	P	22 04 18.9 -1.2
	baz=129					
TTA	Tatalina	55.35	335	P	P	22 04 18.8 -1.6
	baz=120					
LVC	Limon Verde	55.48	136	LR	LR	22 22 34.0
	comp=Z,28nm,19.5s,baz=290,slow=31					
H21K	Melozitna Rive	55.62	339	P	P	22 04 20.8 -1.4
	baz=125					
COLD	Coldfoot	55.72	341	P	P	22 04 22.1 -0.7
	baz=129					
J19K	Poorman	55.73	336	P	P	22 04 22.0 -1.0
	baz=121					
J18K	Innoko River	55.89	336	P	P	22 04 22.6 -1.5
	baz=120					
L17K	Donlin	55.90	334	P	P	22 04 23.0 -1.2
	baz=117					
D25K	Kavik River	56.02	344	P	P	22 04 24.3 -0.7
	baz=134					
E23K	Chandalar	56.06	342	P	P	22 04 25.9 +0.5
	baz=130					
K17K	Iditarod	56.17	334	P	P	22 04 23.8 -2.3
	baz=118					
L16K	Owhat River	56.22	333	P	P	22 04 25.4 -1.1
	baz=116					
H20K	Anotleneega Mo	56.25	338	P	P	22 04 25.1 -1.6
	baz=123					
D24K	Happy Valley	56.55	343	P	P	22 04 28.2 -0.6
	baz=131					
F21K	Alatna River	56.74	340	P	P	22 04 28.4 -1.7
	baz=125					
C24K	Franklin Bluff	56.89	344	P	P	22 04 29.3 -1.8
	baz=132					
M14K	Bethel	56.93	331	P	P	22 04 30.1 -1.4
	baz=113					
D23K	Nanushuk River	56.94	343	P	P	22 04 30.5 -1.1
	baz=129					
K15K	Wolf Creek Mou	57.34	333	P	P	22 04 33.0 -1.5
	baz=114					
J16K	Anvik River	57.36	334	P	P	22 04 33.5 -1.1
	baz=116					
G19K	Purcell Mounta	57.36	338	P	P	22 04 32.5 -2.0
	baz=121					
F20K	Avaraart Lake	57.37	340	P	P	22 04 33.3 -1.3
	baz=123					
I17K	Unalakleet	57.66	335	P	P	22 04 35.5 -1.1
	baz=116					
H17K	Granite Mounta	57.82	336	P	P	22 04 36.7 -1.1
	baz=117					
F19K	Shaleruckik Mo	57.95	339	P	P	22 04 37.8 -0.9
	baz=120					
C21K	Knifeblade Rid	58.24	342	P	P	22 04 39.8 -0.9
	baz=125					
G17K	Kiwalik Mounta	58.35	337	P	P	22 04 40.8 -0.7
	baz=117					
J14K	Nanvaranak Lak	58.38	333	P	P	22 04 41.1 -0.6
	baz=112					
H03N2	Juan Fernandez	58.42	152	T	T	23 07 59.2
	baz=330,slow=77,SNR=105					
H03N1	Juan Fernandez	58.43	152	T	T	23 08 01.3
	baz=330,slow=77,SNR=145					
H03N3	Juan Fernandez	58.44	152	T	T	23 08 05.0
	baz=330,slow=77,SNR=105					
F18K	Selawik	58.49	338	P	P	22 04 41.4 -1.0
	baz=118					
M11K	Mekoryuk	58.77	330	P	P	22 04 44.6 +0.1
	baz=108					
D19K	Kuna River	58.91	340	P	P	22 04 43.9 -1.5
	baz=121					
G16K	Koyuk River	58.95	336	P	P	22 04 45.2 -0.5
	baz=115					
F17K	Baldwin Pennin	58.99	338	P	P	22 04 44.5 -1.4
	baz=117					
E18K	Tukpahlearik C	59.20	339	P	P	22 04 46.7 -0.7
	baz=118					
B20K	Meade River	59.41	342	P	P	22 04 48.4 -0.4
	baz=123					
E17K	Hotham Inlet	59.48	338	P	P	22 04 48.6 -0.7
	baz=116					
ANM	Nome	59.80	335	P	P	22 04 51.4 -0.2
	baz=112					
F15K	North Star Dit	59.95	336	P	P	22 04 51.4 -1.1
	baz=113					
F14K	Arctic Creek	60.51	336	P	P	22 04 54.6 -1.9
	baz=111					
C17K	DeLong Mountai	60.55	339	P	P	22 04 55.3 -1.3
	baz=116					
A19K	Wainwright	60.66	342	P	P	22 04 56.3 -1.1
	baz=119					
C16K	Lisburne Hills	61.20	339	P	P	22 05 00.1 -0.9
	baz=114					
RAR	Rarotonga	65.14	235	LR	LR	22 25 29.2
	comp=Z,88nm,21.1s,baz=360,slow=29					
PLCA	Paso Flores	68.20	151	LR	LR	22 29 33.3
	comp=Z,77nm,19.3s,baz=331,slow=31					
SPITS	Spitsbergen Ar	78.17	10	LR	LR	22 40 41.2
	comp=Z,86nm,18.4s,baz=292,slow=35					
ARCES	ARCESS Array B	85.77	15	LR	LR	22 46 14.5
	comp=Z,46nm,19.3s,baz=34,slow=36					
NOA	NORSAR Array B	86.52	25	LR	LR	22 45 37.4
	comp=Z,16nm,18.9s,baz=335,slow=35					
HFS	Hagfors	88.04	25	LR	LR	22 47 30.7
	comp=Z,37nm,18.6s,baz=19,slow=36					
URZ	Urewera	90.84	230	LR	LR	22 38 33.1
	comp=Z,57nm,20.0s,baz=120,slow=29					
DZM	Mont Dzumac	93.78	248	LR	LR	22 42 38.6
	comp=Z,42nm,18.2s,baz=359,slow=31					
DBIC	Dimbokro	99.31	80	LR	LR	22 58 36.7
	comp=Z,17nm,18.7s,baz=23,slow=39					

*CNRM **30** 22:03:60.0, 35˚.48N×3˚.69W, h18km, ML2.5*
*MDD **30** 22:04:00.3±0.4, 35˚.46N×3˚.77W, h0km, mb_Lg2.6/13, Error ellipse: s-maj=3.7km s-min=2.8km az=0.0*
*INMG **30** 22:04:00.4±1.4, 35˚.44N×3˚.76W, h0km, ML2.1, Error ellipse: s-maj=2.9km s-min=2.6km az=56.0*
*IGIL **30** 22:04:01.1, 35˚.45N×3˚.76W, h1km*
*SFS **30** 22:04:01.8, 35˚.45N×3˚.67W, h18km, ML2.6/12, ML2.9/10, MLv2.4/12*

ISC 30 22:04:00.4±1.1, **35˚45N**±0˙.02×**3˚71W**±0˙.02, **h19**km±3km, **n56**, σ1°**07**/82, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.29	219	P	Pg	22 04 06.3	-0.6
PALE	Palemas	0.29	219	S	Sg	22 04 12.0	+0.6
GOG	Mont Gurugu	0.63	111	P	Pb	22 04 12.0	-0.7
GOG	Mont Gurugu	0.63	111	S	Sb	22 04 20.9	-0.2
EMEL	Melilla	0.63	103	Pg	Pb	22 04 12.8	0.0
EMEL				Sg	Sg	22 04 21.4	0.0
EMLI	Melilla	0.64	103	Pg	Pb	22 04 12.9	0.0
EMLI				Sg	Sb	22 04 21.0	-0.3
EALB	Alboran	0.74	48	Pg	Pg	22 04 14.7	-0.2
EALB				Sg	Sg	22 04 24.9	+0.1
EALB	Alboran	0.74	48	Pg	Pg	22 04 14.8	-0.1
EALB				Sg	Sg	22 04 24.5	-0.2
EALB				*i* Vmb_Lg		22 04 28.1	
AKLM	AKL	0.94	188	P	Pn	22 04 19.3	+0.6
AKLM	AKL	0.94	188	S	Sb	22 04 31.4	+1.1
TAF	Taforalt	1.24	120	P	Pn	22 04 21.7	-1.0
TAF	Taforalt	1.24	120	S	Sg	22 04 39.9	-0.6
SMIR	Smir Dam	1.38	280	P	Pn	22 04 22.5	-2.1
SMIR	Smir Dam	1.38	280	S	Sg	22 04 46.0	+0.9
EMIJ	Mijas	1.41	323	Pn	Pn	22 04 25.3	+0.3
EMIJ	Mijas	1.41	323	Pg	Pn	22 04 25.4	+0.3
EMIJ				Sg	Sn	22 04 42.2	-0.9
EMIJ				*i* Vmb_Lg		22 04 51.6	
ELGU	Los Guajares,	1.42	3	Pn	Pn	22 04 24.5	-0.8
ELGU	Los Guajares,	1.42	3	Pg	Pn	22 04 24.3	-0.9
ELGU				Sg	Sn	22 04 42.2	-1.3
ELGU				*i* Vmb_Lg		22 04 46.6	
ECEU	Ceuta	1.43	289	Pg	Pn	22 04 25.2	-0.1
ECEU				Sg	Sn	22 04 40.5	-3.1
ECEU				*i* Vmb_Lg		22 04 44.8	
EMAL	Malaga-Limoner	1.44	336	Pn	Pn	22 04 25.8	+0.4
EMAL				Sn	Sn	22 04 43.2	-0.6
JBK	JBK	1.46	139	P	Pn	22 04 25.3	-0.5
JBK	JBK	1.46	139	S	Sb	22 04 45.6	+0.4
EBER	Berja	1.59	24	Pn	Pn	22 04 27.3	-0.5
EBER	Berja	1.59	24	Pn	Pn	22 04 27.3	-0.5
EBER				Sn	Sn	22 04 47.7	-0.2
EBER				*i* Vmb_Lg		22 04 51.0	
EGOR	Sierra Gorda,	1.69	349	Pn	Pn	22 04 30.2	+1.2
EGOR	Sierra Gorda,	1.69	349	Pn	Pn	22 04 29.0	0.0
EGOR				Sn	Sn	22 04 50.8	+0.5
EGOR				*i* Vmb_Lg		22 05 01.0	
EJIF	Jimena Fronter	1.74	306	Pn	Pn	22 04 29.6	0.0
EQUE	Quentar	1.77	7	Pn	Pn	22 04 31.2	+1.1
EQUE				Sn	Sn	22 04 52.3	+0.2
EQUE				*i* Vmb_Lg		22 04 59.1	
EQTA	Presa de Quent	1.77	7	Pn	Pn	22 04 31.2	+1.1
IFR	Ifrane	2.25	212	Pn	Pn	22 04 36.9	+0.1
IFR				Sn	Sn	22 05 04.4	+0.2
EQES	Quesada	2.41	12	Pn	Pb	22 04 41.2	-1.9
EQES				Sn	Sn	22 05 09.7	+1.8
EQES				*i* Vmb_Lg		22 05 13.3	
MD31	MD31	2.72	199	P	Pn	22 04 44.0	+0.9
MD31	MD31	2.72	199	S	Sn	22 05 15.1	-0.3
MDT	Midelt	2.73	196	P	Pn	22 04 45.2	+1.9
MDT	Midelt	2.73	196	S	Sn	22 05 14.7	-1.1
EADA	Adamuz	2.80	346	Pn	Pn	22 04 46.4	+2.2
EADA	Adamuz	2.80	346	Pn	Pn	22 04 44.8	+0.6
EADA				Sn	Sn	22 05 17.7	+0.1
EADA				*i* Vmb_Lg		22 05 27.6	
ECAB	El Cabril	2.96	333	Pn	Pn	22 04 47.6	+1.2
ECAB	El Cabril	2.96	333	Pn	Pn	22 04 47.1	+0.7
ECAB				Sn	Sn	22 05 23.2	+1.8
ECAB				*i* Vmb_Lg		22 05 29.5	
ZHG	ZHG	3.14	231	P	Pn	22 04 51.2	+2.4
EMIN	Mina Concepcio	3.32	315	Pn	Pn	22 04 51.3	0.0
ETOB	Tobarra	3.63	28	Pn	Pn	22 04 57.4	+1.7
ETOB				Sn	Sn	22 05 39.9	+1.9
EGRO	El Granado	3.68	306	Pn	Pn	22 04 56.7	+0.4
EGRO	El Granado	3.68	306	Pn	Pn	22 04 56.7	+0.4
EGRO				Sn	Sn	22 05 37.5	-1.7
EGRO				*i* Vmb_Lg		22 05 43.7	
PVAQ	Vaqueiros	3.77	302	*e*P	Pn	22 04 58.3	+0.8
PVAQ				*e*S	Sn	22 05 40.4	-1.0
PBAR	Barrancos	3.81	317	*e*P	Pn	22 04 59.1	+1.0
PBAR				*e*S	Sn	22 05 42.7	+0.3
PBAR				A	A	22 05 43.3	
	1.9nm,0.7s						
PBDV	Barranco-do-Ve	3.85	299	*e*P	Pn	22 04 59.1	+0.5
PBDV				*e*S	Sn	22 05 42.7	-0.6
PCVE	Castro Verde	4.11	303	*e*P	Pn	22 05 03.4	+1.2
PCVE				*e*S	Sn	22 05 50.6	+0.9
PCVE				A	A	22 05 53.4	
	2.8nm,0.6s						
PAB	San Pablo	4.12	353	Pn	Pn	22 05 03.7	+1.3
PAB				Sn	Sn	22 05 48.7	-1.4
EBAD	Badajoz	4.23	322	Pn	Pn	22 05 03.9	+0.2
EBAD				Sn	Sn	22 05 52.9	+0.3
EBAD				*i* Vmb_Lg		22 05 57.6	
MESJ	Messejana	4.34	305	*e*P	Pn	22 05 05.9	+0.6
PTEO	Sao Teotonio	4.55	299	*e*P	Pn	22 05 09.5	+1.3
PTEO				*e*S	Sn	22 06 00.7	+0.2
EVO	Evora	4.62	313	*e*P	Pn	22 05 10.4	+1.2
EVO				*e*S	Sn	22 06 02.2	-0.1
PNCL	Nicolau / Gran	4.69	306	*e*P	Pn	22 05 10.6	+0.4
PNCL				*e*S	Sn	22 06 03.0	-1.1
PNCL				A	A	22 06 05.0	
	2.2nm,0.9s						
PMRV	Marv??o	4.94	325	*e*P	Pn	22 05 15.6	+2.1
PMTG	Montargil	5.10	316	*e*P	Pn	22 05 17.4	+1.6

*CNRM **30** 22:07:50.3, 35˚.66N×3˚.67W, h24km, ML2.3*
*SFS **30** 22:07:51.9, 35˚.51N×3˚.81W, h3km, ML2.2/5, ML2.8/4, MLv1.9/5*
*MDD **30** 22:07:51.8±0.6, 35˚.48N×3˚.78W, h0km, mb_Lg2.2/6, Error ellipse: s-maj=5.8km s-min=4.2km az=58.0*

ISC 30 22:07:51.6±1.1, **35˚52N**±0˙.02×**3˚70W**±0˙.03, **h12**km±9km, **n32**, σ1°**12**/42, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.36	213	P	Pg	22 07 58.8	-0.1
PALE	Palemas	0.36	213	S	Sb	22 08 07.3	+1.7
EMEL	Melilla	0.64	110	Pg	Pg	22 08 04.5	+0.4
EMEL				Sg	Sb	22 08 14.1	+0.4
GOG	Mont Gurugu	0.65	117	P	Pg	22 08 04.0	-0.1
GOG	Mont Gurugu	0.65	117	S	Sg	22 08 12.5	-0.2
EMLI	Melilla	0.65	110	Pg	Pg	22 08 04.8	+0.6
AKLM	AKL	1.02	188	P	Pb	22 08 11.3	+0.2
AKLM	AKL	1.02	188	S	Sn	22 08 26.3	+0.4
TAF	Taforalt	1.27	123	P	Pn	22 08 13.7	-1.4
TAF	Taforalt	1.27	123	S	Sb	22 08 29.9	-1.7
ELGU	Los Guajares,	1.35	2	Sn	Sg	22 08 34.8	-0.2
ELGU				Pn	Pb	22 08 16.5	-0.2
ELGU	Los Guajares,	1.35	2	Pg	Pb	22 08 16.7	-0.1
ELGU				Sg	Sg	22 08 35.0	0.0
ELGU				*i* Vmb_Lg		22 08 40.8	
EMIJ	Mijas	1.36	320	Pn	Pb	22 08 16.4	-0.5
EMIJ	Mijas	1.36	320	Pg	Pb	22 08 16.6	-0.3
EMIJ				Sg	Sg	22 08 34.5	-0.8
EMIJ				*i* Vmb_Lg		22 08 39.3	
EMAL	Malaga-Limoner	1.37	335	Sn	Sn	22 08 33.7	-0.9
SMIR	Smir Dam	1.38	277	P	Pn	22 08 15.8	-0.8
SMIR	Smir Dam	1.38	277	S	Sn	22 08 31.2	-3.6
JBK	JBK	1.50	142	P	Pn	22 08 18.2	-0.3
JBK	JBK	1.50	142	S	Sn	22 08 37.2	-0.9
EBER	Berja	1.52	25	Pn	Pb	22 08 19.6	-0.2
EBER				Sn	Sg	22 08 40.4	-0.3
EBER	Berja	1.52	25	Pn	Pb	22 08 19.8	0.0
EBER				Sn	Sg	22 08 39.9	-0.7
EBER				*i* Vmb_Lg		22 08 40.4	
EGOR	Sierra Gorda,	1.62	348	Pn	Pb	22 08 21.4	-0.1
EGOR				Sn	Sb	22 08 41.1	-0.9
EGOR				*i* Vmb_Lg		22 08 51.5	
EQES	Quesada	2.33	12	Pn	Pn	22 08 31.5	+1.6
EQES				Pg	Pb	22 08 33.8	+0.2
EQES				Sn	Sb	22 09 00.8	-1.6
EQES				*i* Vmb_Lg		22 09 09.5	
EADA	Adamuz	2.73	345	Pn	Pn	22 08 37.4	+2.1
EADA				*i* Vmb_Lg		22 09 20.7	
MD31	MD31	2.79	199	P	Pn	22 08 36.8	+0.8
MD31	MD31	2.79	199	S	Sn	22 09 10.4	+0.8
MDT	Midelt	2.80	196	P	Pn	22 08 37.2	+1.0
MDT	Midelt	2.80	196	S	Sn	22 09 10.0	0.0
ETOB	Tobarra	3.56	28	Pn	Pn	22 08 49.1	+2.4
PVAQ	Vaqueiros	3.75	301	*e*S	Sn	22 09 32.6	-0.5
PBAR	Barrancos	3.77	316	*e*S	Sn	22 09 34.0	+0.3
PBAR				A	A	22 09 35.4	
	1.4nm,0.9s						
PBDV	Barranco-do-Ve	3.82	298	*e*P	Pn	22 08 51.9	+1.7
PBDV				*e*S	Sn	22 09 35.6	+0.5

*DNK **30** 22:07:47.9±1.6, 83˚.49N×5˚.17W, h18km±33km, ML2.8*
*IDC **30** 22:07:50.6±0.4, 82˚.96N×6˚.50W, h0km, mb4.0/34, mbtmp4.0/36, ML4.1/2, MS3.9/64, Error ellipse: s-maj=13.3km s-min=8.9km az=28.0*
*NEIC **30** 22:07:51.2±1.6, 82˚.84N±0˙.09×7˚.3W±0˙.5, h10km±1km, mb4.5/74, Error ellipse: s-maj=15.9km s-min=8.3km az=204.0*
*GCMT **30** 22:07:52.2±0.2, 82˚.86N±0˙.03×6˚.7W±0˙.1, h12km, MW4.9/102, Moment Tensor Solution. s28,c31; s102,c142; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.89±.06; Mθθ-0.26±.06; Mϕϕ2.15±.05; Mrθ-1.60±.28; Mθϕ-0.03±.05; Mϕr0.05±.18; Best double couple: Mo2.51100×10¹⁶ NP1:ϕs151.00000°, δ54.00000°, λ-130.00000°. NP2:ϕs27.00000°, δ52.00000°, λ-48.00000°. Principal axes: T 2.1520, Plg1.0000°, Azm269.0000°; N 0.7210, Plg31.0000°, Azm178.0000°; P -2.8700, Plg59.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BER **30** 22:07:53.0±4.2, 82˚.77N×7˚.27W, h10km, mb(Pn)4.6, ML4.0(NAO), Confirmed Earthquake*
*KOLA **30** 22:07:54.2, 82˚.74N×6˚.66W, h0km, ML1.9, Arctic Ocean, Knipovich ridge, north*
*FCIAR **30** 22:07:54.0, 83˚.03N×2˚.70W, h10km, station ZFI2 has station magnitude of 4.10 station OMEGA has station magnitude of 4.10 station PRGR has station magnitude of 4.65 station KLMR has station magnitude of 4.86*

ISC 30 22:07:51.4±0.6, **82˚81N**±0˙.05×**7˚08W**±0˙.04, **h13**km±3km, **n240**, σ2°**31**/233, **mb4.4**/87, **MS3.9**/63, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	Kingsbay	4.90	133	Pn	Pn	22 09 04.2	-0.4
KBS				Sn	Sn	22 09 56.1	-5.0
KBS	Kingsbay	4.90	133		Pn	22 09 04.0	-0.6
KBS	Kingsbay	4.90	133	P	Pn	22 09 03.7	-0.9
KBS				S	Sn	22 09 55.6	-5.5
KBS	Kingsbay	4.90	133	*e*P	Pn	22 09 03.9	-0.7
KBS				*e*S	Sn	22 09 55.9	-5.3
KBS				IAML		22 10 01.4	
	comp=Z,21nm,0.3s						
KBS	Kingsbay	4.90	133	*e*P	Pn	22 09 03.8	-0.9
KBS				*e*S	Sn	22 09 56.2	-5.0
KBS	Kingsbay	4.90	133	*i* P	Pn	22 09 04.9	+0.2
BRBB	Barentsburg B	5.86	132	Pn	Pn	22 09 18.5	+0.8
BRBB				Sn	Sn	22 10 19.0	-5.5
BRBB	Barentsburg B	5.86	132	*e*P	Pn	22 09 18.2	+0.5
BRBB				*e*S	Sn	22 10 19.2	-5.4
BRBA	Barentsburg A	5.89	133	Pn	Pn	22 09 18.5	+0.4
BRBA	Barentsburg A	5.89	133	*e*P	Pn	22 09 19.1	+1.0
BRBA				*e*S	Sn	22 10 20.1	-5.3
BRBA				IAML		22 10 34.8	
	comp=Z,23nm,0.7s						
SPA0	Spitsbergen Ar	5.99	128	Pn	Pn	22 09 19.1	-0.4
	baz=358,slow=12						
SPA0				Sn	Sn	22 10 22.4	-5.4
	baz=345,slow=37						
SPA0	Spitsbergen Ar	5.99	128	Pn	Pn	22 09 19.1	-0.4
	baz=358,slow=12						
SPA0				Sn	Sn	22 10 22.4	-5.4
	baz=345,slow=37						
SPA0	Spitsbergen Ar	5.99	128	*e*P	Pn	22 09 18.8	-0.8
SPA0				*e*S	Sn	22 10 21.9	-5.9
SPITS	Spitsbergen Ar	5.99	128	P	Pn	22 09 18.7	-0.8
SPITS				S	Sn	22 10 22.6	-5.3
SPITS	Spitsbergen Ar	5.99	128	Pn	Pn	22 09 18.7	-0.8
	baz=350,slow=8.7						
SPITS				Sn	Sn	22 10 22.6	-5.3
	baz=317,slow=7.3						
	comp=Z,9.0nm,0.3s						
SPB2	Spitsbergen Ar	5.99	128		Pn	22 09 18.8	-0.8
HSPB	Hornsund (broa	6.97	134	Pn	Pn	22 09 33.3	+0.3
HSPB				Sn	Sn	22 10 51.0	-1.0
HSPB	Hornsund (broa	6.97	134	*e*P	Pn	22 09 33.5	+0.5
HSPB				*e*S	Sn	22 10 45.4	-6.6
HSPB				IAML		22 10 54.1	
	comp=Z,8.1nm,0.5s						
ZFI2	Zemlya Franca-	7.77	76	*e*P	Pn	22 09 39.2	-4.7
ZFI2				*e*S	Sn	22 10 56.9	-15
	comp=Z,56nm,0.4s						
OMEGA	Omega	7.79	76	*e*P	Pn	22 09 39.6	-4.6
OMEGA				S	Sn	22 10 57.1	-15
	comp=Z,53nm,1.2s						
HOPEN	Hopen	8.37	121	Pn	Pn	22 09 51.8	-0.3
HOPEN				Sn	Sn	22 11 20.2	-6.0
HOPEN	Hopen	8.37	121	*e*P	Pn	22 09 51.3	-0.8
HOPEN				*e*S	Sn	22 11 19.7	-6.5
HOPEN				IAML		22 11 21.2	
	comp=Z,7.5nm,0.3s						
HOPEN	Hopen	8.37	121	*e*P	Pn	22 09 51.1	-1.0
HOPEN				S	Sn	22 11 18.1	-8.1
NEEM	North Greenlan	8.95	258	*e*	Pn	22 09 56.8	-3.6
	baz=28,slow=11						
NEEM				*i* P		22 09 59.7	
NEEM				*i* S	Sn	22 11 35.1	-5.9
NEEM				IAML		22 11 40.6	
	comp=Z,35nm,0.4s						
NEEM	North Greenlan	8.95	258	*e*	Pn	22 09 56.8	-3.6
	baz=28,slow=11						
NEEM				*i* P		22 09 59.7	
NEEM				*i* S	Sn	22 11 35.1	-5.9
NEEM				IAML		22 11 40.6	
	comp=Z,35nm,0.4s						
EUNU	Eureka	11.19	298	Pn	Pn	22 10 28.6	-2.3
JMIC	Jan Mayen	11.90	182	LR	LR	22 14 48.0	
	comp=Z,85nm,20.6s,baz=38,slow=35						
TULEG	Thule	11.93	273		Pn	22 10 37.5	-3.3
TULEG	Thule	11.93	273	*i* P	Pn	22 10 37.5	-3.3
TULEG				*i*		22 12 45.3	
TULEG	Thule	11.93	273	*i* P	Pn	22 10 37.5	-3.3
TULEG				*i*		22 12 45.3	
SUMG	Summit	11.95	229		Pn	22 10 39.3	-2.2
SUMG	Summit	11.95	229	*i* P	Pn	22 10 40.0	-1.4
SUMG				IAML		22 12 58.2	
	comp=Z,9.8nm,0.4s						
SUMG	Summit	11.95	229	*i* P	Pn	22 10 40.0	-1.4
SUMG				IAML		22 12 58.2	
	comp=Z,9.8nm,0.4s						
SCO	Scoresbysund	12.78	203	*i* P	Pn	22 10 58.4	+6.0
SCO	Scoresbysund	12.78	203	*i* P	Pn	22 10 58.4	+6.0
UPNV	Upernavik	13.69	252	IAML		22 13 36.7	
	comp=Z,22nm,0.9s						
UPNV	Upernavik	13.69	252	IAML		22 13 36.7	
	comp=Z,22nm,0.9s						
HAMF	Hammerfest	13.75	134	Pn	Pn	22 11 05.3	-0.3
HAMF	Hammerfest	13.75	134	*e*P	Pn	22 11 01.8	-3.8
JETT	Jettan, Norway	14.53	140	Pn	Pn	22 11 19.5	+3.2
JETT	Jettan, Norway	14.53	140	Pn	Pn	22 11 19.5	+3.2
VADS	Vadso	14.79	127	*e*P	Pn	22 11 14.1	-5.8
VADS				IAML		22 14 19.4	
	comp=Z,3.4nm,0.7s						
KEV	Kevo	14.92	131	Pn	Pn	22 11 19.9	-1.6
KEV	Kevo	14.92	131	*e*P	Pn	22 11 18.1	-3.5
ARA0	ARCESS Array S	14.99	133	P	Pn	22 11 24.5	+1.9
	baz=353,slow=16						
ARA0	ARCESS Array S	14.99	133	*e*P	Pn	22 11 16.2	-6.3
ARCES	ARCESS Array B	14.99	133		Pn	22 11 21.6	-1.0
ARCES				IAmb	IAmb	22 11 44.9	
	comp=Z,20nm,1.3s						
ARCES	ARCESS Array B	14.99	133	Pn	Pn	22 11 21.4	-1.1
	comp=Z,0.3nm,0.3s,baz=349,slow=8.2,SNR=20						
ARCES				Sn	Sn	22 13 57.0	-11
	comp=Z,0.1nm,0.3s,baz=356,slow=6.3,SNR=1.4						
ARCES				LR	LR	22 16 58.9	
	comp=Z,516nm,19.8s,baz=347,slow=36						
	comp=Z,11nm,0.9s						
KTK1	Kautokeino	15.29	136	*e*P	Pn	22 11 23.9	-2.6
HEF	Hetta	15.92	136	*e*P	Pn	22 11 32.2	-2.5
RES	Resolute Bay	16.74	293	Pn	Pn	22 11 41.6	-3.5
RES				IAmb	IAmb	22 11 43.8	
	comp=Z,39nm,0.9s						
RES	Resolute Bay	16.74	293	Pn	Pn	22 11 41.3	-3.8
	comp=Z,1.8nm,0.3s,baz=28,slow=12,SNR=52				

comp=Z,266nm,21.6s,baz=335,slow=38
comp=Z,7.0nm,0.8s
NRA0 NORESS Array S 22.68 156 P **P** **22 12 57.9 +5.9**
NRA0 NORESS Array S 22.68 156 P **P** **22 12 57.9 +5.9**
FINES FINESS Array B 22.98 138 P **P** **22 12 55.0 -0.1**
FINES FINESS Array B 22.98 138 P **P** **22 12 57.3 +2.2**
comp=Z,6.4nm,1.1s,baz=352,slow=9.0,SNR=3.2
FINES LR LR 22 21 47.6
comp=Z,272nm,18.9s,baz=359,slow=36
comp=Z,6.4nm,1.1s
HFS Hagfors 23.40 153 P **P** **22 13 03.1 +3.7**
HFS Hagfors 23.40 153 P **P** **22 13 03.1 +3.7**
HFS Hagfors 23.40 153 P **P** **22 13 01.5 +2.1**
comp=Z,3.8nm,0.9s,baz=292,slow=7.8,SNR=2.4
HFS LR LR 22 20 28.0
comp=Z,186nm,20.6s,baz=7.0,slow=32
comp=Z,3.8nm,0.9s
FRB Frobisher Bay 23.75 256 LR LR 22 22 25.2
comp=Z,626nm,18.8s,baz=28,slow=37
TIXI Tiksi 24.18 33 P **P** **22 13 06.4 -0.4**
TIXI IAmb IAmb 22 13 07.8
comp=Z,15nm,1.1s
TIXI Tiksi 24.18 33 LR LR 22 21 12.9
comp=Z,139nm,20.8s,baz=16,slow=33
PRGR Permogore 24.76 115 P **P** **22 13 11.3 -0.8**
comp=Z,9.9nm,0.6s
KLMR Klimovskoe 24.85 122 *e*P **P** **22 13 12.0 -1.0**
comp=Z,34nm,1.3s
KLMR *e*S **S** **22 17 26.7 -8.3**
C36M Paulatuk 24.88 311 P **P** **22 13 13.5 +0.4**
C36M IAmb IAmb 22 13 22.4
comp=Z,12nm,0.9s
B22K Teshekpuk Lake 26.10 335 P **P** **22 13 24.0 -0.2**
B20K Meade River 26.62 337 P **P** **22 13 28.7 -0.3**
D25K Kavik River 26.69 329 P **P** **22 13 30.0 +0.3**
INK Inuvik 26.73 318 P **P** **22 13 29.9 0.0**
E28M Babbage River 26.92 323 P **P** **22 13 32.8 +1.1**
E29M Blow River 27.00 322 P **P** **22 13 33.4 +0.9**
E29M IAmb IAmb 22 13 44.6
comp=Z,9.2nm,1.0s
EKA Eskdalemuir Ar 27.63 175 P **P** **22 13 40.6 +2.5**
comp=Z,1.2nm,0.7s,baz=346,slow=8.8,SNR=1.6
comp=Z,1.2nm,0.7s
F28M Old Crow 27.92 323 P **P** **22 13 40.6 0.0**
C18K Utukok River 28.16 340 P **P** **22 13 42.2 -0.7**
C18K IAmb IAmb 22 13 54.9
comp=Z,8.4nm,1.1s
BMAR Burnt Mountain 28.44 327 P **P** **22 13 45.7 +0.4**
C16K Lisburne Hills 28.70 343 P **P** **22 13 47.4 0.0**
C16K IAmb IAmb 22 13 48.8
comp=Z,7.5nm,1.1s
RDOG Red Dog Mine 28.82 341 P **P** **22 13 48.5 -0.1**
RDOG IAmb IAmb 22 13 49.7
comp=Z,5.8nm,0.8s
E19K Redstone River 29.17 337 P **P** **22 13 51.3 -0.4**
BILL Bilibino 29.29 5 P **P** **22 13 52.5 -0.3**
BILL IAmb IAmb 22 13 53.5
comp=Z,16nm,1.2s
NACGM Naroch 29.51 139 *e*P **P** **22 13 56.4 +1.6**
comp=Z,11nm,1.2s,baz=352
MNK Minsk 30.00 138 *i* P **P** **22 13 56.5 -2.7**
comp=E,6.0nm,1.0s
MNK *i* P **P** **22 13 56.5 -2.7**
comp=N,14nm,0.9s
MNK *i* P **P** **22 13 56.5 -2.7**
comp=Z,6.0nm,1.0s,baz=352
MNK *i* PPP PPP 22 15 01.8
MNK *i* S **S** **22 18 56.1 -0.2**
MNK *i* SS **SnSn** **22 20 30.1 +2.3**
MNK *i* SSS SSS 22 20 44.8
MNK *i* LR LR 22 24 24.2
MNK *i* LRM MLR 22 25 49.0
comp=Z,235nm,20.4s
MNK *i* LRM MLR 22 26 16.2
comp=N,2μm,19.5s
MNK *i* LRM MLR 22 26 18.7
comp=E,383nm,20.4s
OBN Obninsk 30.20 128 LR LR 22 26 26.8
comp=E,264nm,19.6s,baz=354,slow=37
F17K Baldwin Pennin 30.37 340 P **P** **22 14 02.0 -0.3**
IMAR Indian Mountai 30.45 334 P **P** **22 14 03.5 +0.5**
YKA Yellowknife Ar 30.57 299 P **P** **22 14 05.1 +1.0**
comp=E,0.8nm,0.7s,baz=32,slow=11,SNR=18
YKA PcP **PcP** **22 17 03.2 +1.1**
comp=E,0.5nm,0.7s,baz=1.3,slow=2.7,SNR=5.2
YKA LR LR 22 26 44.5
comp=E,224nm,21.6s,baz=309,slow=37
comp=E,0.8nm,0.7s
J30M Hart River 30.63 319 P **P** **22 14 05.5 +0.7**
ILAR Eielson Array 31.23 328 P **P** **22 14 10.6 +0.6**
ILAR Eielson Array 31.23 328 P **P** **22 14 10.7 +0.8**
comp=E,1.1nm,0.8s,baz=4.6,slow=8.1,SNR=18
ILAR PcP **PcP** **22 17 04.2 +0.3**
comp=E,0.7nm,0.8s,baz=347,slow=3.4,SNR=6.6
comp=E,1.1nm,0.8s
F15K North Star Dit 31.24 342 P **P** **22 14 10.5 +0.5**
F15K IAmb IAmb 22 14 12.0
comp=Z,5.3nm,0.9s
ARU Arti 31.38 104 P **P** **22 14 11.6 +0.2**
ARU IAmb IAmb 22 14 26.7
comp=Z,13nm,1.5s
ARU Arti 31.38 104 LR LR 22 29 39.5
comp=Z,468nm,18.5s,baz=344,slow=42
FCC Fort Churchill 31.78 279 P **P** **22 14 15.5 +0.7**
FCC IAmb IAmb 22 14 24.5
comp=Z,14nm,1.5s
MMPY Sheldon Lake, 32.12 314 P **P** **22 14 17.6 -0.2**
MMPY IAmb IAmb 22 14 45.8
comp=Z,12nm,1.4s
CLL Collm 32.17 156 *e*P **P** **22 14 21.0 +2.7**
CLL *ex* x 22 14 33.0
CLL *e*S **S** **22 19 31.0 +0.8**
SCHQ Schefferville 32.24 250 P **P** **22 14 20.4 +1.6**
comp=Z,5.2nm,1.1s,baz=5.6,slow=9.7,SNR=2.7
SCHQ LR LR 22 27 13.9
comp=Z,318nm,18.7s,baz=20,slow=36
comp=Z,5.2nm,1.1s
ANM Nome 32.41 343 P **P** **22 14 19.9 -0.4**
ANM IAmb IAmb 22 14 22.2
comp=Z,5.2nm,1.0s
BCAR Beaver Creek A 32.56 323 P **P** **22 14 21.9 +0.2**
BRG Berggiesshubel 32.65 155 *e*P **P** **22 14 25.1 +2.5**
BRG Amp 22 14 34.4
comp=Z,6.3nm,1.1s
BRG Amp 22 37 36.0
comp=Z,0.2nm,17.4s
GRF Grafenberg Arr 33.69 158 *e*P P 22 14 43.1 +11
comp=Z,12nm,1.3s,baz=356,slow=8.6
YAK Yakutsk 33.73 36 P **P** **22 14 30.2 -1.6**
YAK Yakutsk 33.73 36 LR LR 22 28 18.5
comp=Z,126nm,18.1s,baz=307,slow=37
AKASG Malin Array Be 33.88 138 P **P** **22 14 34.7 +1.4**
comp=Z,0.2nm,0.3s,baz=350,slow=9.1,SNR=1.6
AKASG PcP **PcP** **22 17 12.5 +1.1**
comp=Z,1.2nm,0.8s,baz=305,slow=1.9,SNR=4.2
AKASG LR LR 22 28 09.0
comp=Z,260nm,21.6s,baz=36,slow=36
comp=Z,0.2nm,0.3s
MORC Moravsky Berou 33.95 151 *e*P **P** **22 14 36.0 +2.1**
BELG Belogornoye 34.05 117 LR LR 22 28 42.1
comp=Z,260nm,20.3s,baz=338,slow=37
VRAC Vranov 34.36 152 LR LR 22 28 25.2
comp=Z,86nm,18.2s,baz=352,slow=36
HYT Haines Junctio 34.43 319 P **P** **22 14 39.1 +1.0**
HYT IAmb IAmb 22 14 48.4
comp=Z,8.3nm,1.2s
M20K Styx River 34.50 332 P **P** **22 14 40.0 +1.4**
M20K IAmb IAmb 22 14 48.1
comp=Z,5.3nm,0.9s
GEC2 GERESS Array S 34.66 156 P **P** **22 14 40.9 +0.8**
GERES GERESS Array B 34.66 156 P **P** **22 14 41.3 +1.1**
GERES GERESS Array B 34.66 156 P **P** **22 14 42.8 +2.6**
comp=Z,1.2nm,0.8s,baz=358,slow=6.4,SNR=4.2
GERES LR LR 22 27 05.1
comp=Z,112nm,21.9s,baz=2.0,slow=33
comp=Z,1.2nm,0.8s
MODS Modra-Piesok 35.33 152 *e*P **P** **22 14 49.9 +4.1**
MODS *e* 22 14 55.8
MODS *e* 22 17 18.5
MOA Molln 35.68 155 *e*pP pP 22 14 51.3 -0.3
comp=Z,8.5nm,1.4s
CONA Conrad Observa 35.69 153 *e*pP **pP** **22 14 52.0 +0.3**
comp=Z,2.0nm,0.7s
CONA *e*PcP **PcP** **22 17 19.5 +2.7**
comp=Z,2.8nm,1.0s
RETA Reutte 35.87 159 *e*PcP **PcP** **22 17 19.3 +2.0**
comp=Z,5.0nm,1.1s
RONA Rosalia, Austr 35.94 153 *e*pP **pP** **22 14 54.0 +0.2**
comp=Z,5.0nm,1.1s
RONA *e*PcP **PcP** **22 17 19.9 +2.4**
comp=Z,3.2nm,0.9s
MOTA Moosalm 36.03 159 pP **pP** **22 14 55.7 +0.9**
comp=Z,6.7nm,1.1s
MOTA *e*PcP **PcP** **22 17 19.8 +1.9**
comp=Z,7.2nm,1.6s
WATA Walderalm 36.06 158 *e*pP **pP** **22 14 55.1 +0.1**
comp=Z,3.4nm,0.8s
WATA *e*PcP **PcP** **22 17 20.3 +2.3**
comp=Z,4.2nm,1.2s
DLBC Dease Lake 36.13 312 P **P** **22 14 54.0 +1.4**
comp=Z,1.2nm,0.4s,baz=8.1,slow=14,SNR=2.0
DLBC LR LR 22 31 10.2
comp=Z,168nm,18.8s,baz=291,slow=39
comp=Z,1.2nm,0.4s
WTTA Wattenberg 36.14 158 *e*pP **pP** **22 14 56.2 +0.5**
comp=Z,7.8nm,1.5s
WTTA *e*PcP **PcP** **22 17 20.4 +2.2**
comp=Z,1.9nm,0.6s
SQTA Sankt Quirin 36.16 159 *e*pP **P** **22 14 54.8 +1.7**
comp=Z,4.7nm,1.2s
BVAR Borovoye Array 36.19 93 P **P** **22 14 54.6 +1.5**
comp=Z,1.2nm,0.7s,baz=335,slow=13,SNR=5.5
BVAR PcP **PcP** **22 17 18.9 +0.8**
comp=Z,1.2nm,0.9s,baz=333,slow=0.7,SNR=3.6
BVAR LR LR 22 33 16.5
comp=Z,168nm,18.2s,baz=348,slow=42
comp=Z,1.2nm,0.7s
KBA Koelnbreinsper 36.40 156 *e*pP **pP** **22 14 57.6 -0.3**
comp=Z,3.0nm,1.5s
KBA *e*PcP **PcP** **22 17 22.3 +3.2**
comp=Z,1.3nm,0.7s
BURAR Bucovina Array 36.63 143 P **P** **22 14 57.5 +0.4**
ABTA Abfaltersbach 36.69 157 *e*PcP **PcP** **22 17 21.4 +1.6**
comp=Z,5.0nm,1.1s
SOKA Soboth 36.89 154 *e*pP **pP** **22 15 03.2 +1.2**
comp=Z,3.1nm,1.2s
SOKA *e*PcP **PcP** **22 17 21.8 +1.4**
comp=Z,3.1nm,0.9s
OBKA Obir 37.03 155 *e*pP **pP** **22 15 03.5 +0.3**
comp=Z,20nm,1.7s
OBKA *e*PcP **PcP** **22 17 20.8 -0.1**
comp=Z,2.5nm,1.0s
ZAA0 Zalesovo Array 37.09 78 P **P** **22 15 01.2 +0.5**
ZALV Zalesovo Beam 37.09 78 P **P** **22 15 01.5 +0.8**
ZALV Zalesovo Beam 37.09 78 P **P** **22 15 02.3 +1.5**
comp=Z,4.5nm,0.8s,baz=353,slow=10,SNR=15
ZALV PcP **PcP** **22 17 21.1 +0.3**
comp=Z,0.5nm,0.7s,baz=214,slow=1.0,SNR=3.9
ZALV LR LR 22 33 19.3
comp=Z,264nm,19.3s,baz=334,slow=41
comp=Z,4.5nm,0.8s
AKTO Aktyubinsk 37.19 106 LR LR 22 31 52.6
comp=Z,606nm,21.2s,baz=24,slow=39
MA2 Magadan 37.38 18 LR LR 22 30 23.1
comp=Z,48nm,18.6s,baz=78,slow=36
TEOL Teolo 38.04 158 P **P** **22 15 09.7 +0.9**
ABKAR Akbulak array 38.59 105 P **P** **22 15 14.2 +0.8**
MLR Muntele Rosu 38.80 142 LR LR 22 33 01.8
comp=Z,87nm,18.0s,baz=334,slow=39
KURK Kurchatov 39.49 86 P **P** **22 15 21.7 +0.8**
KURBB Kurchatov Arra 39.57 86 P **P** **22 15 22.7 +1.2**
comp=Z,1.0nm,0.4s,baz=347,slow=8.0,SNR=10
KURBB PP **PnPn** **22 16 54.2 -0.9**
comp=Z,0.8nm,0.2s,baz=348,slow=11,SNR=4.5
KURBB PcP **PcP** **22 17 28.7 +0.2**
comp=Z,2.0nm,0.2s,baz=347,slow=3.9,SNR=4.2
KURBB LR LR 22 34 59.2
comp=Z,203nm,19.9s,baz=168,slow=41
comp=Z,1.0nm,0.4s
ULM Lac du Bonnet 40.33 277 P **P** **22 15 29.6 +1.6**
comp=Z,1.4nm,0.3s,baz=0.2,slow=6.7,SNR=4.6
ULM LR LR 22 32 29.7
comp=Z,194nm,18.5s,baz=345,slow=37
comp=Z,1.4nm,0.3s
FDMO Fiordimonte 40.42 157 P **P** **22 15 28.9 +0.1**
FDMO IAmb IAmb 22 15 41.5
comp=Z,16nm,1.2s
NRCA Norcia 40.63 157 P **P** **22 15 30.7 +0.1**
NRCA IAmb IAmb 22 15 43.4
comp=Z,16nm,1.0s
KBZ Khabaz 42.09 124 P **P** **22 15 44.6 +2.1**
comp=Z,2.9nm,1.0s,baz=320,slow=6.4,SNR=4.2
comp=Z,2.9nm,1.0s
BBB Bella Bella 42.12 308 LR LR 22 35 08.9
comp=Z,204nm,18.4s,baz=324,slow=39
FNA Florina 43.15 148 P **P** **22 15 51.6 +0.4**
ESDC Sonseca Array 43.29 176 P **P** **22 15 52.1 -0.2**
ESDC Sonseca Array 43.29 176 P **P** **22 15 54.4 +2.0**
comp=Z,1.9nm,0.9s,baz=1.7,slow=8.7,SNR=12
comp=Z,1.9nm,0.9s
SADO Sadowa 43.62 259 LR LR 22 34 13.2
comp=Z,279nm,19.3s,baz=266,slow=36
MAKZ Makanchi 43.75 83 P **P** **22 15 56.6 +0.7**
MAKZ IAmb IAmb 22 15 57.9
comp=Z,9.4nm,0.9s
MK31 Makanchi Array 43.80 83 P **P** **22 15 57.5 +1.2**
MKAR Makanchi Array 43.80 83 P **P** **22 15 57.7 +1.3**
MKAR Makanchi Array 43.80 83 P **P** **22 15 57.4 +1.0**
comp=Z,1.8nm,0.8s,baz=356,slow=7.5,SNR=20
MKAR PP **PP** **22 17 38.9 +0.9**
comp=Z,0.9nm,1.0s,baz=334,slow=9.6,SNR=2.7
MKAR LR LR 22 37 12.4
comp=Z,190nm,20.1s,baz=358,slow=40
comp=Z,1.8nm,0.8s
PETK Petropavlovsk- 44.09 13 LR LR 22 36 58.2
comp=Z,33nm,18.3s,baz=44,slow=40
NEW Newport 44.83 297 P **P** **22 16 06.2 +1.7**
comp=Z,2.1nm,0.6s,baz=355,slow=11,SNR=2.7
NEW LR LR 22 34 56.2
comp=Z,274nm,19.3s,baz=22,slow=36
comp=Z,2.1nm,0.6s
BRTR Keskin Array B 45.16 135 P **P** **22 16 08.4 +1.0**
comp=Z,0.5nm,0.8s,baz=344,slow=4.2,SNR=1.8
BRTR LR LR 22 36 19.4
comp=Z,152nm,21.2s,baz=11,slow=38
comp=Z,0.5nm,0.8s
HEH HeiHe 45.25 40 *e*P **P** **22 16 07.0 -0.8**
SONM Songino Array 45.63 60 P **P** **22 16 10.9 -0.1**
SONM Songino Array 45.63 60 P **P** **22 16 11.3 +0.2**
comp=Z,2.1nm,0.9s,baz=339,slow=7.7,SNR=10
SONM PcP **PcP** **22 17 49.4 +0.4**
comp=Z,1.3nm,0.9s,baz=320,slow=1.9,SNR=5.6
SONM LR LR 22 35 47.6
comp=Z,177nm,20.7s,baz=328,slow=37
comp=Z,2.1nm,0.9s
ULN Ulaanbaatar 45.67 59 P **P** **22 16 10.8 -0.6**
GNI Garni 45.83 123 LR LR 22 37 12.9
comp=Z,83nm,19.2s,baz=344,slow=38
MSO Missoula 45.88 294 P **P** **22 16 13.2 +0.1**
KK31 Karatay Array 45.95 96 P **P** **22 16 14.4 +0.9**
KK31 IAmb IAmb 22 16 25.3
comp=Z,6.4nm,1.1s
KKAR Karatay Array 45.95 96 P **P** **22 16 14.3 +0.8**
KLR Kul'dur 46.61 36 LR LR 22 35 56.6
comp=Z,86nm,18.5s,baz=3.5,slow=36
FRU1 Bishkek 46.76 92 P **P** **22 16 19.6 -0.2**
BOZ Bozeman (W) 46.83 291 P **P** **22 16 21.4 +0.9**
BOZ IAmb IAmb 22 16 27.1
comp=Z,5.4nm,0.8s
ECSD EROS Data Cent 46.83 276 P **P** **22 16 20.3 -0.1**
AAK Ala-Archa 46.91 92 P **P** **22 16 21.8 +0.6**
AAK IAmb IAmb 22 16 24.9
comp=Z,6.9nm,1.1s
AAK Ala-Archa 46.91 92 LR LR 22 39 02.7
comp=Z,151nm,19.2s,baz=342,slow=40
WMQ Urumqi 47.40 79 *e*P **P** **22 16 26.8 +1.9**
WMQ pP sP 22 16 30.5 +1.8
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ LR LR
comp=N,270nm,13.3s
WMQ LR LR
comp=Z,190nm,17.1s
KEST Kesra 47.54 162 P **P** **22 16 29.4 +3.3**
comp=Z,1.4nm,0.7s,baz=352,slow=4.8,SNR=2.2
comp=Z,1.4nm,0.7s
SNOW Snow King Moun 48.83 290 P **P** **22 16 35.7 -0.5**
IDI Anoyia 48.86 145 LR LR 22 37 52.1
comp=Z,48nm,19.9s,baz=2.0,slow=37
BTK Batken 48.99 96 P **P** **22 16 38.6 +1.4**
PDAR Pinedale Array 49.37 289 P **P** **22 16 42.2 +1.9**
comp=Z,4.0nm,1.1s,baz=20,slow=4.9,SNR=5.9
PDAR LR LR 22 38 00.3
comp=Z,275nm,18.7s,baz=2.0,slow=37
comp=Z,4.0nm,1.1s
GEYT Alibeck 49.53 109 P **P** **22 16 41.4 +0.1**
GEYT IAmb IAmb 22 16 53.2
comp=Z,7.5nm,0.9s
GEYT Alibeck 49.53 109 P **P** **22 16 42.9 +1.6**
comp=Z,2.6nm,0.9s,baz=332,slow=5.9,SNR=9.3
comp=Z,2.6nm,0.9s
GYA0B ALIBECK ARRAY 49.53 109 P **P** **22 16 41.4 +0.1**
GYA0B IAmb IAmb 22 16 53.2
comp=Z,7.0nm,1.0s
SIMJ Simiganj 50.14 98 P **P** **22 16 46.6 +0.5**
SIMJ IAmb IAmb 22 17 00.7
comp=Z,6.0nm,1.1s
KSH Kashi 50.17 91 P **P** **22 16 51.5 +5.2**
KSH PP **PP** **22 18 43.0 +1.9**
KSH pmax pmax
comp=Z,4.0nm,1.7s
KSH LR LR
comp=N,260nm,16.1s
KSH LR LR
comp=E,200nm,15.1s
KSH LR LR
comp=Z,260nm,20.2s
XLT XiLinHaoTe 50.53 52 *e*P **P** **22 16 49.5 +0.6**
XLT pP sP 22 16 53.3 +0.6
XLT sP pwP 22 16 56.0 -1.0
XLT PcP **PcP** **22 18 06.8 +0.2**
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT pmax pmax
comp=Z,210nm,4.4s
HWUT Hardware Ranch 50.76 290 P **P** **22 16 51.3 +0.6**
HWUT IAmb IAmb 22 17 01.2
comp=Z,11nm,1.1s
MDJ Mudanjiang 51.03 39 P **P** **22 16 50.5 -2.0**
MDJ pP pP 22 16 53.5 -1.9
MDJ PcP **PcP** **22 18 03.8 -4.5**
MDJ S **S** **22 24 08.5 -0.4**
MDJ sS sS 22 24 15.0 +1.4
MDJ pmax pmax
comp=Z,15nm,1.2s
MDJ pmax pmax
comp=Z,130nm,4.7s
USRK Ussuriysk Ar. 51.63 37 P **P** **22 16 55.6 -1.3**
comp=Z,2.7nm,0.8s,baz=347,slow=7.8,SNR=8.8
comp=Z,2.7nm,0.8s
BSUT Blindstream Ca 51.72 289 P **P** **22 16 58.4 +0.2**
YBH Yreka Blue Hor 51.90 301 P **P** **22 17 02.0 +2.9**
comp=Z,0.6nm,0.6s,baz=321,slow=6.5,SNR=1.7
YBH LR LR 22 40 18.1
comp=Z,170nm,18.4s,baz=5.0,slow=38
comp=Z,0.6nm,0.6s
MMAI Mount Meron Ar 51.98 134 P **P** **22 17 00.8 +1.0**
comp=Z,0.2nm,0.4s,baz=357,slow=7.4,SNR=1.8
MMAI LR LR 22 40 14.8
comp=Z,40nm,19.0s,baz=309,slow=37
comp=Z,0.2nm,0.4s
ELK Elko 52.04 294 P **P** **22 17 01.9 +1.5**
comp=Z,1.6nm,1.0s,baz=17,slow=11,SNR=4.5
ELK LR LR 22 39 43.4
comp=Z,488nm,18.8s,baz=28,slow=37
comp=Z,1.6nm,1.0s
ASAJ Asahikawa 52.42 27 LR LR 22 39 02.8
comp=Z,91nm,19.0s,baz=7.5,slow=36
ASF Jabal al Asfar 52.95 132 LR LR 22 40 18.3
comp=Z,100nm,21.7s,baz=333,slow=37
HHC Hu-ho-hao-te 53.09 56 *e*P **P** **22 17 09.5 +1.5**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,75nm,4.8s
BTO Baotou 53.17 58 *e*P **P** **22 17 07.5 -1.1**
BTO pP **sP** **22 17 12.0 -0.5**
BTO sP **pwP** **22 17 14.5 -2.2**
BTO PP **PP** **22 19 08.5 +0.3**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,130nm,6.0s
TKL Tuckaleechee C 53.18 262 LR LR 22 39 28.7
comp=Z,169nm,18.9s,baz=8.0,slow=36
HRA Herat 53.52 106 P **P** **22 17 12.4 +1.0**
HRA IAmb IAmb 22 17 22.7
comp=Z,8.3nm,1.5s
Q12A Willow Creek R 53.67 293 P **P** **22 17 13.2 +0.8**
KBL Kabul 54.21 99 P **P** **22 17 17.7 +1.3**
KBL IAmb IAmb 22 17 27.2
comp=Z,6.6nm,0.8s
AFDM Forest Hills D 54.46 299 P **P** **22 17 18.2 +0.2**
AFDM IAmb IAmb 22 17 38.4
comp=Z,9.0nm,1.4s
NVAR Mina Array Bea 54.67 296 P **P** **22 17 20.5 +0.7**
NVAR Mina Array Bea 54.67 296 P **P** **22 17 20.8 +1.0**
comp=Z,0.7nm,0.6s,baz=16,slow=22,SNR=4.3
NVAR LR LR 22 40 11.7
comp=Z,205nm,22.0s,baz=9.5,slow=36
comp=Z,0.7nm,0.6s
EIL Elat 55.25 135 LR LR 22 43 35.1
comp=Z,36nm,18.5s,baz=50,slow=39
U15A North Rim 55.95 290 P **P** **22 17 29.4 +0.3**
U15A IAmb IAmb 22 17 39.9
comp=Z,3.5nm,0.9s
ANMO Albuquerque 56.71 284 P **P** **22 17 36.0 +1.6**
comp=Z,0.5nm,0.4s,baz=24,slow=12,SNR=1.8
ANMO LR LR 22 42 14.6
comp=Z,525nm,20.6s,baz=114,slow=36
comp=Z,0.5nm,0.4s
W18A Petrified Fore 56.94 287 P **P** **22 17 36.8 +0.8**
W18A IAmb IAmb 22 17 45.9
comp=Z,5.9nm,0.8s
KSRS Korea Array 58.00 42 LR LR 22 41 46.4
comp=Z,36nm,21.7s,baz=5.0,slow=35
JMM Marumori 58.53 30 P **P** **22 17 46.0 -1.0**
PFO Pinyon Flats O 59.22 294 LR LR 22 44 12.8
comp=Z,237nm,19.0s,baz=3.5,slow=37
MJAR Matsushiro Arr 59.69 32 P **P** **22 17 54.0 -1.0**
comp=Z,4.7nm,1.0s,baz=349,slow=8.2,SNR=6.1
comp=Z,4.7nm,1.0s
TAM Tamanrasset 60.30 167 P **P** **22 17 59.3 -0.2**
TAM IAmb IAmb 22 18 12.1
comp=Z,3.9nm,0.8s
ALPN Alpine 60.88 281 P **P** **22 18 03.9 +0.6**
TXAR Lajitas Array 61.91 281 P **P** **22 18 10.5 +0.2**
comp=Z,1.4nm,0.9s,baz=0.0,slow=8.1,SNR=11
TXAR LR LR 22 44 25.5
comp=Z,81nm,19.0s,baz=20,slow=35
comp=Z,1.4nm,0.9s
NJ2 Nanjing 62.54 51 *e*P **P** **22 18 13.5 -0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
JNU Nakatsue 62.55 39 LR LR 22 45 44.5
comp=Z,45nm,19.8s,baz=30,slow=36
WSAR Wadi Sarin 64.10 111 LR LR 22 52 04.9
comp=Z,47nm,19.1s,baz=29,slow=41
SHL Shillong 65.92 78 P **P** **22 18 35.9 -0.9**
PZH PanZhiHua 66.18 68 P **P** **22 18 38.0 -0.4**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,110nm,4.9s
LPIG La Paz 67.88 286 LR LR 22 49 01.3
comp=Z,160nm,21.4s,baz=5.5,slow=36
SJG San Juan 68.40 241 LR LR 22 50 22.0
comp=Z,42nm,18.2s,baz=28,slow=37
TOA0 Torodi Ar. Sit 69.79 171 P **P** **22 19 01.6 +0.5**
TORD Torodi Ar. Bea 69.79 171 P **P** **22 19 01.4 +0.4**
TORD IAmb IAmb 22 19 03.9
comp=Z,4.5nm,1.3s
TORD Torodi Ar. Bea 69.79 171 P **P** **22 19 02.2 +1.2**
comp=Z,1.8nm,1.0s,baz=6.4,slow=6.0,SNR=7.7
comp=Z,1.8nm,1.0s
CMAR Chiang Mai Arr 73.79 72 P **P** **22 19 24.2 -0.9**
comp=Z,2.0nm,0.4s,baz=343,slow=7.1,SNR=16
CMAR LR LR 22 54 59.6
comp=Z,72nm,19.5s,baz=10.0,slow=38
comp=Z,2.0nm,0.4s
JTS Las Juntas de 78.34 259 LR LR 22 55 33.4
comp=Z,163nm,18.7s,baz=45,slow=36
MDP Montagnes des 79.89 226 LR LR 22 51 17.2
comp=Z,50nm,20.9s,baz=336,slow=33
ROSC El Rosal 82.43 248 LR LR 22 55 37.2
comp=Z,52nm,21.9s,baz=36,slow=35
DAV Davao City (W) 87.90 47 LR LR 23 01 32.8
comp=Z,34nm,20.3s,baz=314,slow=37
ATAH Atahualpa 94.72 251 LR LR 23 03 23.8
comp=Z,28nm,21.7s,baz=25,slow=35
LSZ Lusaka 99.24 146 LR LR 23 10 39.2

comp=Z,28nm,18.3s,baz=304,slow=38
NNA Nana 99.33 248 LR LR 23 07 38.0
comp=Z,27nm,21.2s,baz=9.5,slow=36
LEM Lembang 99.75 66 LR LR 23 10 34.0
comp=Z,69nm,19.6s,baz=255,slow=38
PLCA Paso Flores 127.02 238 PKP **PKPdf 22 26 55.4 +1.5**
comp=Z,3.4nm,0.9s,baz=58,slow=2.0,SNR=4.1

*CNRM **30** 22:16:03.8, 35°.56N×3°.68W, h26km, ML3.2*
*MDD **30** 22:16:04.9±0.4, 35°.44N×3°.74W, h1km±3km, mb_Lg3.0/33, Error ellipse: s-maj=3.1km s-min=1.9km az=168.0*
*SFS **30** 22:16:05.1, 35°.43N×3°.72W, h7km, ML3.4/26, ML3.5/21, MLv3.0/26*
*INMG **30** 22:16:05.5±1.7, 35°.45N×3°.75W, h3km±5km, ML2.6, Error ellipse: s-maj=3.2km s-min=2.4km az=97.0*
*IGIL **30** 22:16:05.1, 35°.41N×3°.74W, h0km, ML2.8*
*LDG **30** 22:16:06.9±0.3, 35°.47N×3°.73W, h2km, Ml2.7/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

ISC 30 22:16:05.6±0.9**, 35°41N**±0°.02×**3°69W**±0°.02**, h27**km±9km**, n107, σ1$38/178, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**227**	P	**Pb**	**22 16 11.9**	**-0.7**
PALE	**Palemas**	**0.28**	**227**	S	**Sb**	**22 16 18.1**	**+0.9**
GOG	**Mont Gurugu**	**0.60**	**108**	P	**Pb**	**22 16 17.3**	**-0.2**
GOG	**Mont Gurugu**	**0.60**	**108**	S	**Sb**	**22 16 25.3**	**-0.4**
EMEL	**Melilla**	**0.61**	**100**	Pg	**Pb**	**22 16 17.6**	**-0.1**
EMEL				Sg	**Sb**	**22 16 26.2**	**+0.4**
EMLI	**Melilla**	**0.61**	**100**	Pg	**Pb**	**22 16 17.5**	**-0.2**
EMLI				Sg	**Sb**	**22 16 26.1**	**+0.1**
EALB	**Alboran**	**0.75**	**45**	Pg	**Pb**	**22 16 19.7**	**-0.4**
EALB				Sg	**Sb**	**22 16 29.0**	**-0.9**
EALB	**Alboran**	**0.75**	**45**	Pg	**Pb**	**22 16 19.7**	**-0.4**
EALB				Sg	**Sb**	**22 16 30.2**	**+0.3**
EALB				*i* Vmb_Lg		22 16 31.0	
AKLM	**AKL**	**0.91**	**189**	P	**Pn**	**22 16 23.9**	**+1.2**
AKLM	**AKL**	**0.91**	**189**	S	**Sn**	**22 16 37.3**	**+2.4**
CHAS	**Isla Isabel II**	**1.05**	**102**	Pg	**Pn**	**22 16 24.9**	**+0.3**
CHAS				Sg	**Sb**	**22 16 37.4**	**-1.1**
TAF	**Taforalt**	**1.20**	**119**	P	**Pn**	**22 16 26.9**	**+0.2**
TAF	**Taforalt**	**1.20**	**119**	S	**Sn**	**22 16 40.3**	**-1.8**
SMIR	**Smir Dam**	**1.41**	**282**	P	**Pn**	**22 16 27.7**	**-1.7**
SMIR	**Smir Dam**	**1.41**	**282**	S	**Sn**	**22 16 45.8**	**-1.3**
JBK	**JBK**	**1.41**	**139**	P	**Pn**	**22 16 29.4**	**-0.4**
JBK	**JBK**	**1.41**	**139**	S	**Sb**	**22 16 50.2**	**+1.1**
EMIJ	**Mijas**	**1.45**	**323**	Pn	**Pn**	**22 16 29.3**	**-0.7**
EMIJ	**Mijas**	**1.45**	**323**	Pn	**Pn**	**22 16 29.4**	**-0.6**
EMIJ				Sg	**Sn**	**22 16 47.2**	**-1.0**
EMIJ				*i* Vmb_Lg		22 16 55.3	
ELGU	**Los Guajares,**	**1.46**	**2**	Pn	**Pn**	**22 16 29.2**	**-1.0**
ELGU	**Los Guajares,**	**1.46**	**2**	Pn	**Pn**	**22 16 29.2**	**-1.0**
ELGU				Pg	**Pb**	**22 16 31.7**	**-0.4**
ELGU				Sn	**Sn**	**22 16 45.0**	**-3.4**
ELGU				Sg	**Sb**	**22 16 49.8**	**-0.4**
ELGU				*i* Vmb_Lg		22 16 50.6	
ECEU	**Ceuta**	**1.46**	**290**	Pn	**Pn**	**22 16 28.8**	**-1.4**
ECEU	**Ceuta**	**1.46**	**290**	Pg	**Pn**	**22 16 29.2**	**-1.0**
ECEU				Pn	**Pn**	**22 16 29.2**	**-1.0**
ECEU				Sg	**Sn**	**22 16 44.7**	**-3.7**
ECEU				*i* Vmb_Lg		22 16 46.7	
EMAL	**Malaga-Limoner**	**1.48**	**336**	Pn	**Pn**	**22 16 29.5**	**-0.9**
EMAL				Sn	**Sn**	**22 16 49.0**	**+0.1**
EBER	**Berja**	**1.62**	**23**	Pn	**Pn**	**22 16 31.8**	**-0.8**
EBER				Sn	**Sn**	**22 16 53.5**	**+0.8**
EBER	**Berja**	**1.62**	**23**	Pn	**Pn**	**22 16 31.7**	**-0.8**
EBER				Sn	**Sn**	**22 16 52.8**	**+0.2**
EBER				*i* Vmb_Lg		22 16 55.3	
EGOR	**Sierra Gorda,**	**1.73**	**349**	Pn	**Pn**	**22 16 34.3**	**+0.3**
EGOR	**Sierra Gorda,**	**1.73**	**349**	Pn	**Pn**	**22 16 34.3**	**+0.3**
EGOR				Sn	**Sn**	**22 16 54.5**	**-0.8**
EGOR				*i* Vmb_Lg		22 17 02.8	
EJIF	**Jimena Fronter**	**1.78**	**306**	Pn	**Pn**	**22 16 34.4**	**-0.2**
EJIF				Sn	**Sn**	**22 16 56.5**	**+0.1**
EQUE	**Quentar**	**1.80**	**6**	Pn	**Pn**	**22 16 35.4**	**+0.4**
EQUE				Sn	**Sn**	**22 16 57.9**	**+0.8**
EQUE				*i* Vmb_Lg		22 16 59.6	
EQTA	**Presa de Quent**	**1.80**	**6**	Pn	**Pn**	**22 16 36.1**	**+1.1**
ENIJ	**Nijar**	**1.97**	**37**	Pn	**Pn**	**22 16 36.3**	**-0.9**
ENIJ	**Nijar**	**1.97**	**37**	Pn	**Pn**	**22 16 36.4**	**-0.8**
ENIJ				Sn	**Sn**	**22 16 58.3**	**-2.6**
ENIJ				*i* Vmb_Lg		22 17 01.9	
LCRM	**LCR**	**1.97**	**210**	P	**Pb**	**22 16 39.5**	**-1.4**
LCRM	**LCR**	**1.97**	**210**	S	**Sb**	**22 17 06.3**	**+1.2**
IFR	**Ifrane**	**2.23**	**213**	Pn	**Pn**	**22 16 42.3**	**+1.3**
IFR				Sn	**Sn**	**22 17 08.9**	**+1.2**
ESPR	**Espera**	**2.28**	**310**	Pn	**Pn**	**22 16 42.7**	**+1.2**
ESPR	**Espera**	**2.28**	**310**	Pn	**Pn**	**22 16 41.2**	**-0.3**
ESPR				Sn	**Sn**	**22 17 09.8**	**+1.2**
ESPR				*i* Vmb_Lg		22 17 14.8	
EQES	**Quesada**	**2.44**	**12**	Pn	**Pn**	**22 16 45.8**	**+2.0**
EQES				Sn	**Sn**	**22 17 15.1**	**+2.3**
EQES				*i* Vmb_Lg		22 17 17.7	
MD31	**MD31**	**2.69**	**200**	P	**Pn**	**22 16 49.3**	**+2.2**
MD31	**MD31**	**2.69**	**200**	S	**Sn**	**22 17 21.1**	**+2.2**
MDT	**Midelt**	**2.70**	**197**	P	**Pn**	**22 16 48.5**	**+1.2**
MDT	**Midelt**	**2.70**	**197**	S	**Sn**	**22 17 21.1**	**+1.9**
TLOR	**Lorca, Murcia**	**2.76**	**35**	Pn	**Pn**	**22 16 48.6**	**+0.5**
TLOR				Sn	**Sn**	**22 17 20.0**	**-0.6**
EADA	**Adamuz**	**2.84**	**346**	Pn	**Pn**	**22 16 50.5**	**+1.3**
EADA	**Adamuz**	**2.84**	**346**	Pn	**Pn**	**22 16 50.5**	**+1.3**
EADA				Sn	**Sn**	**22 17 23.2**	**+0.6**
EADA				*i* Vmb_Lg		22 17 30.2	
ECAB	**El Cabril**	**3.00**	**333**	Pn	**Pn**	**22 16 52.4**	**+1.0**
ECAB				Sn	**Sn**	**22 17 25.9**	**-0.6**
ECAB	**El Cabril**	**3.00**	**333**	Pn	**Pn**	**22 16 53.0**	**+1.6**
ECAB				Sn	**Sn**	**22 17 26.7**	**+0.2**
ECAB				*i* Vmb_Lg		22 17 42.2	
CART	**Cartagena**	**3.07**	**44**	P	**Pn**	**22 16 50.4**	**-1.8**
CART	**Cartagena**	**3.07**	**44**	S	**Sn**	**22 17 23.3**	**-4.8**
EMUR	**La Murta**	**3.12**	**38**	Pn	**Pn**	**22 16 54.6**	**+1.5**
EMUR	**La Murta**	**3.12**	**38**	Pn	**Pn**	**22 16 54.2**	**+1.1**
EMUR				Sn	**Sn**	**22 17 28.0**	**-1.6**
EMUR				*i* Vmb_Lg		22 17 33.9	
ZHG	**ZHG**	**3.13**	**232**	P	**Pn**	**22 16 54.0**	**+0.8**
EMIN	**Mina Concepcio**	**3.36**	**315**	Pn	**Pn**	**22 16 56.4**	**+0.1**
EMIN				Sn	**Sn**	**22 17 34.4**	**-1.0**
EMIN				*i* Vmb_Lg		22 17 36.4	
ETOB	**Tobarra**	**3.65**	**27**	Pn	**Pn**	**22 17 01.8**	**+1.4**
ETOB				Sn	**Sn**	**22 17 43.0**	**+0.4**
ETOB	**Tobarra**	**3.65**	**27**	Pn	**Pn**	**22 17 02.3**	**+1.9**
ETOB				Sn	**Sn**	**22 17 44.1**	**+1.4**
ETOB				*i* Vmb_Lg		22 17 45.9	
EGRO	**El Granado**	**3.72**	**306**	Pn	**Pn**	**22 17 01.4**	**+0.2**
EGRO				Sn	**Sn**	**22 17 42.4**	**-1.8**
EGRO	**El Granado**	**3.72**	**306**	Pn	**Pn**	**22 17 01.4**	**+0.2**
EGRO				Sn	**Sn**	**22 17 42.9**	**-1.3**
EGRO				*i* Vmb_Lg		22 17 46.6	
PVAQ	**Vaqueiros**	**3.81**	**303**	*e*P	**Pn**	**22 17 03.5**	**+1.0**
PVAQ				*e*S	**Sn**	**22 17 45.7**	**-0.7**
PBAR	**Barrancos**	**3.85**	**317**	*e*P	**Pn**	**22 17 03.8**	**+0.7**
PBAR				*e*S	**Sn**	**22 17 47.9**	**+0.4**
PBAR				A	A	22 17 52.1	
	7.8nm,0.5s						
PBAR	**Barrancos**	**3.85**	**317**	Pn	**Pn**	**22 17 03.1**	**0.0**
PBAR				Sn	**Sn**	**22 17 45.9**	**-1.6**
PBDV	**Barranco-do-Ve**	**3.88**	**299**	*e*P	**Pn**	**22 17 04.2**	**+0.7**
PBDV				*e*S	**Sn**	**22 17 47.8**	**-0.5**
PBDV				A	A	22 17 52.3	
	12nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.88**	**299**	Pn	**Pn**	**22 17 03.6**	**0.0**
PBDV				Sn	**Sn**	**22 17 46.2**	**-2.1**
AFON	**Font Roja**	**4.11**	**37**	Pn	**Pn**	**22 17 09.3**	**+2.6**
AFON				Sn	**Sn**	**22 17 55.8**	**+1.9**
AFON				*i* Vmb_Lg		22 17 60.0	
PCVE	**Castro Verde**	**4.15**	**304**	*e*P	**Pn**	**22 17 07.6**	**+0.5**
PCVE				*e*S	**Sn**	**22 17 54.7**	**0.0**
PCVE				A	A	22 17 58.5	
	7.2nm,0.5s						
PCVE	**Castro Verde**	**4.15**	**304**	Pn	**Pn**	**22 17 07.1**	**-0.1**
PCVE				Sn	**Sn**	**22 17 52.9**	**-1.8**
PAB	**San Pablo**	**4.16**	**353**	Pn	**Pn**	**22 17 09.0**	**+1.6**
PAB				Sn	**Sn**	**22 17 53.7**	**-1.5**
PAB				Sg	**Sb**	**22 18 10.0**	**+2.0**
PAB				*i* Vmb_Lg		22 18 12.3	
ESDC	**Sonseca Array**	**4.26**	**357**	Pn	**Pn**	**22 17 10.0**	**+1.2**
ESDC				Sn	**Sn**	**22 17 56.8**	**-0.9**
ESDC				Sg	**Sb**	**22 18 12.1**	**+1.3**
ESDC				*i* Vmb_Lg		22 18 18.9	
EBAD	**Badajoz**	**4.27**	**322**	Pn	**Pn**	**22 17 08.9**	**+0.1**
EBAD				Sn	**Sn**	**22 17 57.3**	**-0.4**
EBAD	**Badajoz**	**4.27**	**322**	Pn	**Pn**	**22 17 08.6**	**-0.1**
EBAD				Sn	**Sn**	**22 17 57.1**	**-0.6**
EBAD				*i* Vmb_Lg		22 18 02.2	
EBEN2	**Beniarda presa**	**4.30**	**40**	Pn	**Pn**	**22 17 09.7**	**+0.6**
EBEN2				Sn	**Sn**	**22 17 56.0**	**-2.4**
EBEN2				*i* Vmb_Lg		22 18 02.7	
EVIV	**Cofrentes, Val**	**4.36**	**27**	Pn	**Pn**	**22 17 11.1**	**+1.0**
EVIV				Sn	**Sn**	**22 18 01.8**	**+1.8**
EVIV				*i* Vmb_Lg		22 18 21.9	
MESJ	**Messejana**	**4.38**	**305**	*e*P	**Pn**	**22 17 11.3**	**+1.0**
MESJ				*e*S	**Sn**	**22 18 00.1**	**-0.3**
MESJ				A	A	22 18 03.8	
	9.6nm,0.7s						
MESJ	**Messejana**	**4.38**	**305**	*e*P	**Pn**	**22 17 10.3**	**+0.1**
MESJ				*e*S	**Sn**	**22 17 58.0**	**-2.4**
MESJ				IAML		22 18 03.6	
	comp=N,17nm,0.5s						
MORF	**Marmelete**	**4.43**	**297**	*e*P	**Pn**	**22 17 12.7**	**+1.6**
PFVI	**Vila Bisbo**	**4.49**	**294**	*e*P	**Pn**	**22 17 13.1**	**+1.2**
PFVI				*e*S	**Sn**	**22 18 01.6**	**-1.7**
PFVI				A	A	22 18 04.0	
	comp=N,11nm,0.6s						
PTEO	**Sao Teotonio**	**4.58**	**299**	*e*P	**Pn**	**22 17 14.3**	**+1.2**
PTEO				*e*S	**Sn**	**22 18 05.3**	**-0.2**
PTEO				A	A	22 18 14.7	
	comp=N,11nm,0.4s						
PESTR	**Estremoz**	**4.65**	**319**	*e*P	**Pn**	**22 17 15.6**	**+1.6**
PESTR				*e*S	**Sn**	**22 18 08.5**	**+1.4**
PESTR				A	A	22 18 10.1	
	comp=N,5.1nm,0.5s						
PESTR	**Estremoz**	**4.65**	**319**	Pn	**Pn**	**22 17 15.2**	**+1.2**
EVO	**Evora**	**4.66**	**313**	*e*P	**Pn**	**22 17 14.9**	**+0.8**
EVO				*e*S	**Sn**	**22 18 06.3**	**-1.0**
EVO				A	A	22 18 10.7	
	comp=N,7.7nm,0.4s						
ECHE	**Chera**	**4.70**	**27**	Pn	**Pn**	**22 17 16.2**	**+1.5**
ECHE	**Chera**	**4.70**	**27**	Pn	**Pn**	**22 17 15.6**	**+0.9**
PNCL	**Nicolau / Gran**	**4.73**	**306**	*e*P	**Pn**	**22 17 15.2**	**+0.1**
PNCL				*e*S	**Sn**	**22 18 08.2**	**-0.9**
PNCL				A	A	22 18 09.2	
	comp=N,7.3nm,0.4s						
PNCL	**Nicolau / Gran**	**4.73**	**306**	Pn	**Pn**	**22 17 15.1**	**0.0**
PNCL				Sn	**Sn**	**22 18 05.8**	**-3.3**
PMRV	**Marv??o**	**4.98**	**325**	*e*P	**Pn**	**22 17 19.6**	**+1.1**
PMRV				*e*S	**Sn**	**22 18 16.1**	**+0.9**
PMRV				A	A	22 18 28.4	
	comp=N,4.2nm,0.4s						
EPLA	**Plasencia**	**5.02**	**339**	Pn	**Pn**	**22 17 20.1**	**+1.0**
EPLA				Sn	**Sn**	**22 18 15.5**	**-0.7**
EPLA				*i* Vmb_Lg		22 18 44.1	
PMTG	**Montargil**	**5.14**	**317**	*e*P	**Pn**	**22 17 21.4**	**+0.6**
PMTG				*e*S	**Sn**	**22 18 18.1**	**-1.1**
PMTG				A	A	22 18 28.8	
	comp=N,3.7nm,0.3s						
GUD	**Guadarrama**	**5.24**	**356**	Pn	**Pn**	**22 17 23.8**	**+1.6**
GUD				*i* Vmb_Lg		22 18 45.0	
EIBI	**Ibiza**	**5.40**	**47**	Pn	**Pn**	**22 17 24.7**	**+0.4**
EIBI	**Ibiza**	**5.40**	**47**	Pn	**Pn**	**22 17 24.3**	**0.0**
EIBI				Sn	**Sn**	**22 18 23.7**	**-1.9**
EIBI				*i* Vmb_Lg		22 18 28.1	
ETOR	**Torete**	**5.55**	**13**	Pn	**Pn**	**22 17 27.8**	**+1.3**
ETOR				Sn	**Sn**	**22 18 28.4**	**-1.0**
ETOR				Sg	**Sb**	**22 18 51.1**	**+3.1**
ETOR				*i* Vmb_Lg		22 18 57.2	
EMOS	**Mosqueruela**	**5.56**	**26**	Pn	**Pn**	**22 17 28.7**	**+0.6**
EMOS				Sn	**Sn**	**22 18 28.8**	**-1.0**
ECOL	**Islas Columbre**	**5.67**	**36**	Pn	**Pn**	**22 17 29.0**	**+1.0**
PMAFR	**Mafra**	**5.70**	**310**	*e*S	**Sn**	**22 18 33.4**	**+0.4**
PSBE	**So Bento**	**5.77**	**317**	*e*P	**Pn**	**22 17 30.7**	**+1.3**
PSBE				*e*S	**Sn**	**22 18 34.1**	**-0.6**
MTE	**Manteigas**	**5.84**	**330**	*e*S	**Sn**	**22 18 36.9**	**+0.4**
MTE				A	A	22 18 38.3	
	comp=N,4.7nm,0.6s						
PVIS	**Viseu**	**6.25**	**329**	*e*S	**Sn**	**22 18 45.4**	**-1.2**
PVIS				A	A	22 18 48.8	
	comp=N,5.0nm,0.4s						
MVO	**Moncorvo**	**6.32**	**336**	*e*P	**Pn**	**22 17 38.4**	**+1.4**
MVO				*e*S	**Sn**	**22 18 48.1**	**-0.2**
MVO				A	A	22 18 54.0	
	comp=N,4.0nm,0.4s						
ERTA	**Horta de San J**	**6.38**	**29**	Pn	**Pn**	**22 17 40.0**	**+2.2**
PVRL	**Vila Real**	**6.66**	**333**	*e*P	**Pn**	**22 17 42.5**	**+0.9**
PVRL				*e*S	**Sn**	**22 18 56.6**	**0.0**
PVRL				A	A	22 18 58.6	
	comp=N,4.8nm,0.5s						
ETOS	**Mallorca**	**6.75**	**48**	Pn	**Pn**	**22 17 43.5**	**+0.6**
ETOS				Sn	**Sn**	**22 18 56.2**	**-2.6**
POLO	**Lamas de Olo**	**6.77**	**333**	*e*P	**Pn**	**22 17 44.3**	**+1.1**
POLO				*e*S	**Sn**	**22 18 57.9**	**-1.6**
POLO				A	A	22 19 11.8	
	comp=N,1.3nm,0.6s						
PBRG	**Braganca**	**6.82**	**340**	*e*P	**Pn**	**22 17 45.7**	**+1.9**
ETSF	**Etsaut**	**7.86**	**17**	*e*Pn	**Pn**	**22 18 00.4**	**+2.2**
ETSF				*e*Sn	**Sn**	**22 19 24.3**	**-2.0**
	comp=N,0.5nm,0.3s						
SJPF	**Ste Jean**	**7.93**	**13**	*e*Pn	**Pn**	**22 17 59.7**	**+0.7**
SJPF				*e*Sn	**Sn**	**22 19 25.0**	**-2.8**
	comp=N,0.4nm,0.3s						
EALK	**Alkurruntz**	**7.98**	**12**	Pn	**Pn**	**22 18 00.3**	**+0.5**
EALK				Sn	**Sn**	**22 19 26.5**	**-2.7**
EALK				*i* Vmb_Lg		22 19 36.5	
EPF	**Esparros**	**8.23**	**21**	*e*Pn	**Pn**	**22 18 04.1**	**+0.9**
EPF				*e*Sn	**Sn**	**22 19 31.4**	**-3.8**
	comp=N,0.8nm,0.3s						

*MDD **30** 22:35:29.7±0.7, 35°.55N×3°.70W, h0km, mb_Lg2.2/7, Error ellipse: s-maj=6.8km s-min=3.6km az=32.0*
*SFS **30** 22:35:29.6, 35°.56N×3°.72W, h0km, ML2.4/8, ML3.1/6, MLv2.0/8*
*CNRM **30** 22:35:29.5, 35°.46N×3°.68W, h16km, ML2.2*
*INMG **30** 22:35:29.6±1.1, 35°.55N×3°.70W, h0km, ML1.8, Error ellipse: s-maj=4.0km s-min=2.4km az=45.0*

ISC 30 22:35:28.5±1.1**, 35°51N**±0°.02×**3°69W**±0°.03**, h11**km±9km**, n37, σ0$90/52, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**215**	P	**Pg**	**22 35 35.5**	**-0.1**
PALE	**Palemas**	**0.36**	**215**	S	**Sg**	**22 35 40.3**	**-0.1**
EMEL	**Melilla**	**0.63**	**109**	Pg	**Pb**	**22 35 41.6**	**0.0**
EMEL				Sg	**Sb**	**22 35 50.4**	**-0.1**
GOG	**Mont Gurugu**	**0.63**	**117**	P	**Pg**	**22 35 41.1**	**+0.3**
GOG	**Mont Gurugu**	**0.63**	**117**	S	**Sb**	**22 35 50.1**	**-0.5**
EMLI	**Melilla**	**0.64**	**109**	Pg	**Pb**	**22 35 41.9**	**+0.2**
EMLI				Sg	**Sb**	**22 35 50.6**	**+0.1**
AKLM	**AKL**	**1.01**	**188**	P	**Pg**	**22 35 48.0**	**0.0**
AKLM	**AKL**	**1.01**	**188**	S	**Sg**	**22 36 01.0**	**0.0**
TAF	**Taforalt**	**1.25**	**123**	P	**Pn**	**22 35 51.9**	**-0.1**
TAF	**Taforalt**	**1.25**	**123**	S	**Sb**	**22 36 07.3**	**-1.1**
ELGU	**Los Guajares,**	**1.36**	**2**	Pn	**Pn**	**22 35 53.2**	**-0.3**
ELGU	**Los Guajares,**	**1.36**	**2**	Pg	**Pb**	**22 35 53.4**	**-0.6**
ELGU				Sg	**Sg**	**22 36 11.2**	**-1.1**
ELGU				*i* Vmb_Lg		22 36 14.6	
EMIJ	**Mijas**	**1.37**	**320**	Pn	**Pn**	**22 35 53.7**	**+0.1**
EMIJ	**Mijas**	**1.37**	**320**	Pg	**Pn**	**22 35 53.6**	**-0.1**
EMIJ				Sg	**Sn**	**22 36 11.7**	**-0.1**
EMIJ				*i* Vmb_Lg		22 36 15.6	
EMAL	**Malaga-Limoner**	**1.39**	**335**	Sn	**Sb**	**22 36 10.3**	**-1.8**
EMAL				Pn	**Pb**	**22 35 54.5**	**+0.1**
SMIR	**Smir Dam**	**1.39**	**278**	P	**Pg**	**22 35 57.1**	**+1.9**
SMIR	**Smir Dam**	**1.39**	**278**	S	**Sn**	**22 36 12.2**	**0.0**
JBK	**JBK**	**1.49**	**142**	P	**Pb**	**22 35 56.7**	**+0.3**
JBK	**JBK**	**1.49**	**142**	S	**Sn**	**22 36 15.1**	**+0.2**
EBER	**Berja**	**1.53**	**25**	Pn	**Pb**	**22 35 56.0**	**-1.0**
EBER	**Berja**	**1.53**	**25**	Pn	**Pb**	**22 35 56.4**	**-0.6**
EBER				Sn	**Sg**	**22 36 17.0**	**-0.8**
EGOR	**Sierra Gorda,**	**1.63**	**348**	Pn	**Pb**	**22 35 57.8**	**-0.9**
EGOR				Sn	**Sn**	**22 36 18.0**	**-0.4**
EGOR				*i* Vmb_Lg		22 36 20.3	
EQES	**Quesada**	**2.34**	**12**	Pn	**Pn**	**22 36 07.0**	**-0.1**
EQES				Pg	**Pb**	**22 36 10.0**	**-0.8**
EQES				Sg	**Sb**	**22 36 40.0**	**+0.2**
EQES				*i* Vmb_Lg		22 36 47.6	
EADA	**Adamuz**	**2.75**	**345**	Pn	**Pn**	**22 36 13.9**	**+1.4**
EADA				Sn	**Sn**	**22 36 45.9**	**+0.1**
EADA				*i* Vmb_Lg		22 36 53.7	
MD31	**MD31**	**2.78**	**199**	P	**Pn**	**22 36 13.7**	**+0.6**
MD31	**MD31**	**2.78**	**199**	S	**Sn**	**22 36 45.6**	**-1.1**
MDT	**Midelt**	**2.79**	**196**	P	**Pn**	**22 36 13.7**	**+0.4**
MDT	**Midelt**	**2.79**	**196**	S	**Sn**	**22 36 45.8**	**-1.2**
ECAB	**El Cabril**	**2.91**	**332**	Pn	**Pn**	**22 36 15.5**	**+0.6**
ECAB				Sn	**Sn**	**22 36 51.1**	**+1.2**
ECAB				*i* Vmb_Lg		22 36 59.0	
ETOB	**Tobarra**	**3.57**	**28**	Pn	**Pn**	**22 36 26.4**	**+2.5**
ETOB	**Tobarra**	**3.57**	**28**	Pn	**Pn**	**22 36 26.0**	**+2.1**
ETOB				Sn	**Sn**	**22 37 06.1**	**+0.1**
EGRO	**El Granado**	**3.67**	**305**	Pn	**Pn**	**22 36 25.5**	**+0.3**
PVAQ	**Vaqueiros**	**3.76**	**301**	*e*P	**Pn**	**22 36 27.7**	**+1.3**
PVAQ				*e*S	**Sn**	**22 37 09.6**	**-1.1**
PBAR	**Barrancos**	**3.78**	**316**	*e*P	**Pn**	**22 36 28.0**	**+1.2**
PBAR				*e*S	**Sn**	**22 37 10.9**	**-0.3**
PBAR	**Barrancos**	**3.78**	**316**	Pn	**Pn**	**22 36 27.7**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.84**	**298**	*e*P	**Pn**	**22 36 27.8**	**+0.3**
PNCL	**Nicolau / Gran**	**4.67**	**305**	*e*P	**Pn**	**22 36 40.1**	**+1.1**
PNCL				*e*S	**Sn**	**22 37 33.3**	**+0.1**

*NEIC **30** 22:57:16.7±1.4, 55°.61N±0°.03×149°.3W±0°.1, h7km±5km, mb3.9/2, ML4.0/39, ML3.8(AEIC), Error ellipse: s-maj=9.2km s-min=4.0km az=79.0*
*IDC **30** 22:57:16.5±2.0, 55°.60N×149°.09W, h0km, mb3.8/7, mbtmp3.7/12, ML3.5/5, MS2.9/2, Error ellipse: s-maj=37.9km s-min=24.2km az=166.0*
*AEIC **30** 22:57:21.7±1.6, 55°.63N±0°.09×149°.2W±0°.1, h12km±6km, Error ellipse: s-maj=13.4km s-min=9.2km az=176.0*

ISC 30 22:57:18.4±1.0**, 55°.77N**±0°.09×**149°25W**±0°.06**, h10**km**, n162, σ1$01/164, mb3.9/8, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.67**	**305**		**Pn**	**22 58 01.0**	**-0.4**
OHAK					**Sn**	**22 58 31.5**	**-2.4**
OHAK	**Old Harbor**	**2.67**	**305**	P	**Pn**	**22 58 01.1**	**-0.4**
	baz=124						
OHAK				S	**Sn**	**22 58 32.0**	**-1.9**
	baz=124						
KDAK	**Kodiak Island**	**2.73**	**319**	Pn	**Pn**	**22 58 02.2**	**0.0**
KDAK	**Kodiak Island**	**2.73**	**319**		**Sn**	**22 58 33.3**	**-1.9**
KDAK	**Kodiak Island**	**2.73**	**319**	Pn	**Pn**	**22 58 01.7**	**-0.6**
	15nm,0.3s,baz=152,slow=5.0,SNR=135						
KDAK				Sn	**Sn**	**22 58 33.2**	**-2.1**
	22nm,0.3s,baz=24,slow=21,SNR=15						
KDAK				LR	LR	22 59 20.7	
	comp=Z,232nm,18.8s,baz=216,slow=43						
	43nm,0.4s						
SII	**Sitkinak Islan**	**2.88**	**288**		**Pn**	**22 58 03.3**	**-0.9**
SII				IAML		22 58 39.4	
	comp=E,484nm,0.6s						
SII				IAML		22 58 40.7	
	comp=N,332nm,0.8s						
SII	**Sitkinak Islan**	**2.88**	**288**	P	**Pn**	**22 58 03.3**	**-0.9**
	baz=107						
SII				S	**Sn**	**22 58 36.3**	**-2.5**
	baz=107						
Q20K	**Shuyak Island**	**3.33**	**330**	P	**Pn**	**22 58 10.8**	**+0.4**
	baz=149						
Q20K				S	**Sn**	**22 58 49.5**	**-0.4**
	baz=149						
SYI	**Shuyak Island**	**3.33**	**330**	Pn	**Pn**	**22 58 10.4**	**0.0**
SYI					**Sn**	**22 58 49.4**	**-0.5**
R18K	**Karluk**	**3.39**	**304**		**Pn**	**22 58 11.4**	**+0.2**
R18K				IAML		22 58 58.4	
	comp=E,151nm,0.5s						
CHIR	**Chirikof Islan**	**3.60**	**274**		**Pn**	**22 58 12.8**	**-1.4**
CNPM	**China Poot**	**3.92**	**345**		**Pn**	**22 58 18.5**	**-0.1**
CNPM				IAML		22 59 05.5	
	comp=N,165nm,0.4s						
CNPM				IAML		22 59 06.3	
	comp=E,129nm,0.3s						
Q19K	**Cape Douglas,**	**3.97**	**325**		**Pn**	**22 58 19.4**	**+0.3**
Q19K				IAML		22 59 13.9	
	comp=N,257nm,0.7s						
Q19K	**Cape Douglas,**

O16K	Kokwok River B	6.10	313			Pn		22 58 49.0	+0.6
SCM	Sheep Creek Mo	6.17	8			Pn		22 58 50.3	+0.9
VRDI	Verde Repeater	6.26	27			Pn		22 58 51.3	+0.4
KIAG	Kiagna River	6.31	32			Pn		22 58 51.9	+0.3
N25K	Chitina, Valde	6.34	21			Pn		22 58 52.7	+0.9
N17K	Nushagak Hills	6.36	322			Pn		22 58 52.1	+0.1
GLB	Gilahina Butte	6.36	24			Pn		22 58 52.5	+0.4
SDPT	Sand Point	6.39	271	Pn		Pn		22 58 51.3	-1.1
M20K	Styx River	6.46	343			Pn		22 58 53.5	0.0
PCA	Pinnacle	6.46	44			Pn		22 58 53.9	+0.4
PNL	Peninsula	6.57	49			Pn		22 58 55.2	+0.3
BCPM	Bancas Point	6.62	47			Pn		22 58 56.6	+0.9
BARN	Barnard Glacie	6.63	34			Pn		22 58 56.6	+0.6
CTGM	Chitina Glacie	6.67	35			Pn		22 58 56.9	+0.4
LOGN	Logan Glacier	6.68	37			Pn		22 58 57.0	+0.5
M18K	Stony River	6.69	332			Pn		22 58 56.4	-0.1
WACK	Wrangell Chich	6.74	20			Pn		22 58 58.2	+0.8
L19K	White Mountain	7.06	338			Pn		22 59 01.7	+0.1
M17K	Holitna River	7.09	326			Pn		22 59 02.6	+0.6
PS1A	Pavlof South-1	7.09	272			Pn		22 59 01.1	-1.0
WAT7	Susitna Watana	7.09	1			Pn		22 59 03.2	+1.0
L20K	Farewell, AK	7.14	342			Pn		22 59 02.9	+0.1
PN7A	Pavlof North-7	7.24	273			Pn		22 59 03.1	-1.0
N15K	Kwethluk River	7.26	312			Pn		22 59 05.4	+1.0
P29M	Windy Craggy	7.28	53			Pn		22 59 04.6	-0.1
M16K	Timber Creek	7.33	320			Pn		22 59 05.9	+0.5
O14K	Tigyukauivet M	7.36	303			Pn		22 59 06.2	+0.5
M26K	Nabesna, AK	7.39	23			Pn		22 59 07.7	+1.5
DHY	Denali Highway	7.39	7			Pn		22 59 07.6	+1.3
S31K	Pelican	7.46	67	Pn		Pn		22 59 04.9	-2.3
L18K	Granite Mounta	7.52	332			Pn		22 59 07.2	-0.8
M27K	Edge Creek, AK	7.62	27			Pn		22 59 10.2	+0.8
CAST	Castle Rocks	7.81	351			Pn		22 59 12.8	+0.8
SIT	Sitka	7.83	75	Pn		Pn		22 59 08.6	-3.5
N14K	Kuskokwak Cree	7.83	307			Pn		22 59 12.6	+0.4
TTA	Tatalina	7.97	337	Pn		Pn		22 59 12.8	-1.3
L16K	Owhat River	7.98	322			Pn		22 59 14.0	-0.3
HYT	Haines Junctio	7.99	46	Pn		Pn		22 59 14.9	+0.4
K20K	Telida	8.00	344	Pn		Pn		22 59 13.5	-1.0
BCAR	Beaver Creek A	8.25	24	Pn		Pn		22 59 18.4	+0.4
S32K	Killisnoo	8.27	72	Pn		Pn		22 59 15.7	-2.5
RIDG	Independent Ri	8.30	14			Pn		22 59 19.7	+1.0
SKAG	Skagway	8.34	58	Pn		Pn		22 59 19.5	+0.4
K17K	Iditarod	8.37	330			Pn		22 59 18.8	-0.7
JIS	Juneau Island	8.49	67	Pn		Pn		22 59 19.9	-1.2
O30N	Mendenhall	8.55	49			Pn		22 59 22.6	+0.5
SCRK	Sand Creek	8.65	16	Pn		Pn		22 59 24.6	+1.1
M29M	Somme Creek	8.69	35			Pn		22 59 25.2	+1.2
HDA	Harding Lake	8.75	7			Pn		22 59 26.1	+1.3
L14K	Kuka Creek	8.97	314			Pn		22 59 28.3	+0.6
WHY	Whitehorse	9.02	51	Pn		Pn		22 59 29.5	+0.9
U33K	Whale Pass	9.06	81	Pn		Pn		22 59 25.8	-3.2
J25K	Salcha River,	9.08	11	Pn		Pn		22 59 30.1	+0.7
IL31		9.11	6			Pn		22 59 30.5	+0.8
ILAR	Eielson Array	9.11	6	Pn		Pn		22 59 30.5	+0.7
ILAR	Eielson Array	9.11	6	Pn		Pn		22 59 29.8	0.0
	comp=E,0.3nm,0.3s,baz=187,slow=13,SNR=8.1								
ILAR				Sn		Sn		23 01 09.3	-2.9
	comp=E,0.5nm,0.3s,baz=221,slow=14,SNR=4.2								
ILAR				LR		LR		23 02 49.4	
	comp=E,51nm,19.7s,baz=198,slow=36								
	comp=E,0.5nm,0.3s								
CRAG	Craig	9.13	85	Pn		Pn		22 59 27.0	-3.0
P32M	Atlin	9.15	59			Pn		22 59 30.3	-0.1
J26L	Joseph Creek	9.21	16			Pn		22 59 32.3	+1.1
M30M	Minto, Yukon	9.34	38			Pn		22 59 33.7	+0.8
J16K	Anvik River	9.48	327			Pn		22 59 34.7	-0.1
DAWY	Dawson	9.67	27	Pn		Pn		22 59 38.3	+0.8
Q32M	Nakina River	9.71	64	Pn		Pn		22 59 38.3	+0.2
P33M	Teslin, Yukon	9.79	56	Pn		Pn		22 59 39.2	+0.1
EGAK	Eagle	9.88	21	Pn		Pn		22 59 41.2	+0.9
M31M	Drury Creek, Y	10.00	44			Pn		22 59 43.4	+1.4
N32M	Quiet Lake	10.03	51			Pn		22 59 43.1	+0.8
H21K	Melozitna Rive	10.08	352			Pn		22 59 43.5	+0.5
FARO	Faro, Yukon	10.43	45			Pn		22 59 49.3	+1.5
R33M	Jennings River	10.46	62			Pn		22 59 48.5	+0.2
IMAR	Indian Mountai	10.48	350	Pn		Pn		22 59 49.1	+0.7
I28M	Miner Creek	10.72	21	Pn		Pn		22 59 53.4	+1.5
DLBC	Dease Lake	10.78	68	Pn		Pn		22 59 52.4	-0.4
DLBC	Dease Lake	10.78	68	Pn		Pn		22 59 51.8	-0.9
	comp=E,0.9nm,0.3s,baz=294,slow=8.0,SNR=12								
	comp=E,2.0nm,0.2s								
J30M	Hart River	10.90	31			Pn		22 59 55.9	+1.5
G23K	Bananza Creek	10.99	358	Pn		Pn		22 59 56.1	+0.6
MMPY	Sheldon Lake,	11.47	46			Pn		23 00 03.4	+1.4
BMAR	Burnt Mountain	11.91	9	Pn		Pn		23 00 08.7	+0.7
G31M	Satah River	13.25	26	Pn		Pn		23 00 26.8	+0.7
INK	Inuvik	14.51	24	Pn		Pn		23 00 44.6	+1.2
	comp=E,0.1nm,0.3s,baz=199,slow=15,SNR=8.2								
	comp=E,3.7nm,0.9s								
YKA	Yellowknife Ar	18.82	55	P		Pn		23 01 37.9	-0.3
	comp=E,0.1nm,0.3s,baz=262,slow=12,SNR=5.8								
	comp=E,0.5nm,0.6s								
A36M	Sachs Harbour	19.15	23	P		Pn		23 01 42.6	+0.4
A36M				IAmb		IAmb		23 01 46.9	
	comp=Z,5.8nm,0.8s								
H11N2	WAKE ISLAND Hy	48.64	240	T		T		23 58 24.9	
	baz=31								
H11N3	WAKE ISLAND Hy	48.65	240	T		T		23 58 27.0	
	baz=31								
H11N1	WAKE ISLAND Hy	48.66	240	T		T		23 58 29.1	
	baz=31								
H11S1	WAKE ISLAND Hy	49.78	240	T		T		00 00 42.4	
	baz=28								
H11S2	WAKE ISLAND Hy	49.79	240	T		T		00 00 46.8	
	baz=28								
H11S3	WAKE ISLAND Hy	49.80	240	T		T		00 00 40.8	
	baz=28								
ARCES	ARCESS Array B	54.95	2	P		P		23 06 48.4	-0.4
	comp=Z,2.9nm,1.0s,baz=357,slow=7.3,SNR=3.5								
	comp=Z,2.9nm,1.0s								
SONM	Songino Array	58.99	310	P		P		23 07 19.2	+1.3
	comp=Z,0.4nm,0.7s,baz=44,slow=4.8,SNR=2.5								
	comp=Z,0.4nm,0.7s								
ZALV	Zalesovo Beam	62.01	327	P		P		23 07 39.4	+1.1
	comp=Z,0.5nm,0.5s,baz=52,slow=5.7,SNR=2.3								
	comp=Z,0.5nm,0.5s								
FINES	FINESS Array B	63.07	3	P		P		23 07 46.6	+1.4
	comp=Z,1.0nm,0.7s,baz=17,slow=10,SNR=1.6								
	comp=Z,1.0nm,0.7s								
BVAR	Borovoye Array	66.76	335	P		P		23 08 10.1	+0.7
	comp=Z,0.7nm,0.7s,baz=26,slow=7.0,SNR=4.0								
	comp=Z,0.7nm,0.7s								
KURBB	Kurchatov Arra	66.79	329	P		P		23 08 10.2	+0.7
	comp=Z,0.4nm,0.7s,baz=28,slow=6.2,SNR=3.1								
	comp=Z,0.4nm,0.7s								
MK31	Makanchi Array	69.03	325	P		P		23 08 23.4	-0.4
MK31				IAmb		IAmb		23 08 34.8	
	comp=Z,1.0nm,1.1s								
MKAR	Makanchi Array	69.03	325	P		P		23 08 24.2	+0.4
MKAR	Makanchi Array	69.03	325	P		P		23 08 24.6	+0.9
	comp=Z,0.3nm,0.4s,baz=27,slow=6.4,SNR=8.6								
	comp=Z,0.3nm,0.4s								
ABKAR	Akbulak array	72.55	340	P		P		23 08 45.8	+0.7

*TEH **30** 23:06:45.6, 33˚.91N×46˚.27E, h10km±65km, ML2.5*
*ISN **30** 23:06:45.0±0.5, 33˚.88N×46˚.23E, h8km±2km, ML2.5*
ISC 30 23:06:45.4±1.2, **33˚.89N**±0˚.04×**46˚.24E**±0˚.04, **h11**km±13km,
n10, σ=**0.67**/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.27	186	Pg	Pg	23 06 51.7	-0.6
ILBA				Sg	Sb	23 06 56.0	-0.9
IGHG	Ghaleghazi	0.51	32	Pg	Pg	23 06 55.9	+0.4
KCHF	Cheshme Sefid,	0.77	60	Pg	Pg	23 07 00.1	-0.1
KCHF				Sg	Sb	23 07 10.6	-0.8
KGS1	Ghasr-e-Shirin	0.82	319	Pg	Pg	23 07 01.3	+0.1
IBDR	Badra	0.82	199	*e*Pg	Pg	23 07 01.0	-0.2
IBDR				*e*Sg	Sg	23 07 12.0	+0.1
IBDR				AML	AML	23 07 20.2	
	comp=N,36nm,0.4s						
IBDR				AML	AML	23 07 22.5	
	comp=E,58nm,0.5s						
ILIN	Lien	1.19	30	Pg	Pn	23 07 08.2	0.0
IKFM	Kafar-mosalman	1.39	105	Pg	Pg	23 07 12.1	+0.1
IBZA	Bozab	1.46	66	Pg	Pg	23 07 13.9	+0.4
BHD	Baghdad	1.67	249	*e*Pn	Pb	23 07 16.0	-0.2
BHD				*e*Sn	Sg	23 07 39.0	-0.2
RAFI	Al-Rafai	2.17	183	*e*Pn	Pn	23 07 23.0	+1.6
RAFI				*e*Sn	Sb	23 07 51.0	-0.4

*IDC **30** 23:12:53.6±0.8, 56˚.57N×148˚.71W, h0km, mb3.9/17, mbtmp3.9/22, ML3.8/5, MS3.3/38, Error ellipse: s-maj=20.7km s-min=13.2km az=27.0*
*NEIC **30** 23:12:53.0±1.7, 56˚.46N±0˚.07×148˚.6W±0˚.1, h10km±1km, mb4.2/16, ML4.2/57, ML4.0(AEIC), Error ellipse: s-maj=12.4km s-min=9.7km az=178.0*
*AEIC **30** 23:12:57.9±1.5, 56˚.49N±0˚.08×148˚.6W±0˚.1, h10km±5km, Error ellipse: s-maj=11.8km s-min=8.4km az=175.0*
ISC 30 23:12:53.7±3.6, **56˚.57N**±0˚.06×**148˚.67W**±0˚.04, **h6**km±23km,
n257, σ=**1.27**/234, **mb4.1**/21, **MS3.3**/34, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.45	301	Pn	Pn	23 13 33.6	-0.6
KDAK	Kodiak Island	2.45	301		Sn	23 14 00.9	-3.5
KDAK	Kodiak Island	2.45	301	Pn	Pn	23 13 33.8	-0.4
	35nm,0.3s,baz=154,slow=5.0,SNR=169						
KDAK				Sn	Sn	23 14 01.4	-3.0
	18nm,0.3s,baz=259,slow=22,SNR=8.6						
KDAK				LR	LR	23 14 25.9	
	comp=Z,450nm,20.4s,baz=188,slow=38						
	90nm,0.4s						
OHAK	Old Harbor	2.62	286	Pn	Pn	23 13 34.8	-1.6
OHAK				Sn	Sn	23 14 04.8	-3.7
OHAK	Old Harbor	2.62	286	P	Pn	23 13 35.4	-1.1
OHAK	Old Harbor	2.62	286	P	Pn	23 13 35.3	-1.1
	baz=105						
OHAK				S	Sn	23 14 05.7	-2.8
	baz=105						
SYI	Shuyak Island	2.86	317	Pn	Pn	23 13 39.8	-0.1
SYI				Sn	Sn	23 14 11.7	-2.8
SYI				IAML		23 14 19.3	
	comp=E,424nm,0.7s						
Q20K	Shuyak Island	2.86	317	P	Pn	23 13 40.2	+0.4
	baz=135						
Q20K				S	Sn	23 14 13.3	-1.3
	baz=135						
SII	Sitkinak Islan	3.05	272	Pn	Pn	23 13 41.1	-1.4
SII				Sn	Sn	23 14 14.6	-4.7
SII				IAML		23 14 28.1	
	comp=N,450nm,0.9s						
SII				IAML		23 14 29.7	
	comp=E,425nm,0.8s						
SII	Sitkinak Islan	3.05	272	P	Pn	23 13 41.2	-1.3
SII	Sitkinak Islan	3.05	272	P	Pn	23 13 41.8	-0.7
	baz=90						
SII				S	Sn	23 14 15.4	-3.9
	baz=90						
Q23K	Middleton Isla	3.12	22	Pn	Pn	23 13 42.6	-0.7
Q23K	Middleton Isla	3.12	22	P	Pn	23 13 42.8	-0.5
	baz=203						
MID	Middleton Isla	3.12	22	Pn	Pn	23 13 42.2	-1.2
MID				Sn	Sn	23 14 17.6	-3.2
MID	Middleton Isla	3.12	22	P	Pn	23 13 42.9	-0.4
CNPM	China Poot	3.26	336	Pn	Pn	23 13 45.0	-0.4
CNPM				Sn	Sn	23 14 21.5	-2.9
CNPM				IAML		23 14 28.4	
	comp=N,316nm,1.0s						
R18K	Karluk	3.31	290		Pn	23 13 44.1	-1.8
R18K				IAML		23 14 32.2	
	comp=E,633nm,0.4s						
R18K				IAML		23 14 32.7	
	comp=N,717nm,0.5s						
BRSE	Bradley Lake S	3.36	342		Pn	23 13 46.5	-0.2
BRSE					Sn	23 14 25.1	-1.9
BRSE	Bradley Lake S	3.36	342	P	Pn	23 13 46.5	-0.2
	baz=160						
BRLK	Bradley Lake	3.41	341	Pn	Pn	23 13 47.0	-0.4
BRLK				IAML		23 14 32.1	
	comp=N,417nm,1.0s						
BRLK				IAML		23 14 32.3	
	comp=E,321nm,0.8s						
HOM	Homer	3.47	334	Pn	Pn	23 13 48.0	-0.2
P23K	Montague Islan	3.50	10		Pn	23 13 48.3	-0.3
P23K					Sn	23 14 27.5	-2.8
P23K	Montague Islan	3.50	10	P	Pn	23 13 48.3	-0.3
	baz=191						
Q19K	Cape Douglas,	3.56	314	Pn	Pn	23 13 49.8	+0.3
Q19K				IAML		23 14 37.5	
	comp=N,550nm,1.0s						
Q19K	Cape Douglas,	3.56	314	P	Pn	23 13 50.8	+1.3
	baz=180						
SEW	Seward	3.57	354	Pn	Pn	23 13 48.5	-1.0
SEW	Seward	3.57	354		Sn	23 14 29.1	-2.7
SEW	Seward	3.57	354	P	Pn	23 13 49.1	-0.3
	baz=173						
SEW				S	Sn	23 14 29.1	-2.7
	baz=173						
KAHG	Katmai Hook Gl	3.71	304		Pn	23 13 51.6	+0.1
AUL	Augustine Lava	3.79	320		Pn	23 13 53.8	+1.2
P19K	Oil Pt	3.92	324	Pn	Pn	23 13 54.9	+0.5
O22K	Cooper Landing	3.96	352	Pn	Pn	23 13 54.6	-0.3
HIN	Hinchinbrook I	4.00	16	Pn	Pn	23 13 55.3	-0.2
HIN				IAML		23 14 55.3	
	comp=N,319nm,1.0s						
HIN				IAML		23 15 00.1	
	comp=E,334nm,1.0s						
KAIM	Kayak Island	4.04	32	Pn	Pn	23 13 55.8	-0.3
KAIM				IAML		23 14 43.6	
	comp=E,304nm,0.8s						
KAIM				IAML		23 14 47.8	
	comp=N,429nm,0.6s						
O20K	Slope Mountain	4.09	331		Pn	23 13 56.7	-0.1
IVE	Iliamna Volcan	4.15	328		Pn	23 13 57.3	-0.3
CNTC	Contact Creek	4.25	297		Pn	23 13 59.6	+0.5
EYAK	Cordova Ski Ar	4.27	20	Pn	Pn	23 13 58.6	-0.5
EYAK	Cordova Ski Ar	4.27	20	P	Pn	23 13 59.3	+0.2
RAGM	Ragged Mountai	4.36	27	Pn	Pn	23 14 00.2	-0.2
CAPN	Captain Cook N	4.40	344	Pn	Pn	23 14 01.7	+0.8
RDSO	Redoubt South	4.44	333		Pn	23 14 01.2	-0.5
RSO	Redoubt South	4.45	333	Pn	Pn	23 14 00.6	-1.2
P18K	Big Mountain,	4.49	312	Pn	Pn	23 14 01.4	-0.8
GOAT	Goat Mountain	4.52	26		Pn	23 14 02.4	-0.3
DFR	Drift River	4.55	334		Pn	23 14 02.7	-0.3
RC01	Rabbit Creek A	4.56	353	Pn	Pn	23 14 03.2	0.0
RC01				IAML		23 15 00.7	
	comp=N,222nm,0.6s						
NCT	North Crescent	4.58	333		Pn	23 14 03.0	-0.6
BERG	Berg Lake	4.63	32	Pn	Pn	23 14 03.8	-0.4
BERG				IAML		23 15 00.3	
	comp=N,283nm,0.6s						
BERG				IAML		23 15 04.1	
	comp=E,282nm,0.7s						
O19K	Port Alsworth	4.69	323	Pn	Pn	23 14 05.0	0.0
SNH	Sunshine Point	4.74	38	Pn	Pn	23 14 05.0	-0.7
SNH				IAML		23 15 08.7	
	comp=E,132nm,1.5s						
SNH				IAML		23 15 52.5	
	comp=N,152nm,2.4s						
O18K	Koktuh Hills	4.77	316	Pn	Pn	23 14 05.7	-0.4
O18K				IAML		23 15 06.7	
	comp=N,120nm,0.7s						
DIV	Divide	4.81	17	Pn	Pn	23 14 06.2	-0.5
KNK	Knik Glacier	4.86	1	Pn	Pn	23 14 07.3	+0.1
KNK				IAML		23 15 05.2	
	comp=E,138nm,0.7s						
KNK				IAML		23 15 10.2	
	comp=N,91nm,0.7s						
BMRM	Bremner River	4.89	24		Pn	23 14 07.2	-0.5
P17K	Kvichak River	4.91	306		Pn	23 14 08.2	+0.3
SPCR	Spurr Chakacha	4.99	340		Pn	23 14 09.3	+0.2
SPCN	Chakachatna No	5.01	340		Pn	23 14 09.8	+0.5
SUA	Susitna One	5.02	349	Pn	Pn	23 14 10.4	+0.8
SUA				IAML		23 15 11.9	
	comp=E,113nm,0.8s						
PMR	Palmer	5.04	357	Pn	Pn	23 14 09.6	-0.2
PMR				IAML		23 15 06.8	
	comp=N,80nm,0.7s						
PMR				IAML		23 15 06.9	
	comp=E,118nm,0.7s						
PMR	Palmer	5.04	357	P	Pn	23 14 10.2	+0.5
SPCG	Spurr Capps Gl	5.04	341		Pn	23 14 10.2	+0.3
KLU	Klutina	5.13	15	Pn	Pn	23 14 11.3	+0.2
KLU				IAML		23 15 13.8	
	comp=N,118nm,0.6s						
KLU				IAML		23 15 17.4	
	comp=E,97nm,0.7s						
STLK	Strandline Lak	5.20	343		Pn	23 14 12.5	+0.4
N19K	Bonanza Creek	5.22	327		Pn	23 14 12.2	-0.1
N19K	Bonanza Creek	5.22	327	IAML		23 15 17.9	
	comp=E,70nm,1.0s						
SPNN	North Nagishla	5.24	338		Pn	23 14 12.9	+0.3
SML	Sawmill	5.25	2	Pn	Pn	23 14 13.3	+0.6
SML				IAML		23 15 16.6	
	comp=N,172nm,1.1s						
SML				IAML		23 15 25.4	
	comp=E,148nm,0.7s						
M23K	Glacier View	5.26	5		Pn	23 14 13.5	+0.7
ANPB	Aniakchak Plen	5.30	276		Pn	23 14 12.8	-0.6
SCM	Sheep Creek Mo	5.32	7	Pn	Pn	23 14 14.4	+0.8
VRDI	Verde Repeater	5.39	28	Pn	Pn	23 14 14.4	-0.3
CHGN	Chignik	5.42	271	Pn	Pn	23 14 13.8	-1.0
N25K	Chitina, Valde	5.47	21	Pn	Pn	23 14 15.6	0.0
SAMH	Samovar Hills	5.47	46		Pn	23 14 15.5	-0.2
GLB	Gilahina Butte	5.49	25	Pn	Pn	23 14 16.0	0.0
O17K	Koliganek Bris	5.49	309		Pn	23 14 16.0	+0.1
P16K	Nushagak River	5.56	300		Pn	23 14 17.4	+0.5
N18K	Kilae Creek	5.58	321		Pn	23 14 16.9	-0.3
SKT	Skwentna	5.62	346	Pn	Pn	23 14 18.1	+0.3
PTPK	Patty Peak	5.63	32		Pn	23 14 18.3	+0.3
PCA	Pinnacle	5.67	48		Pn	23 14 18.4	0.0
M24K	Tolsona, Glenn	5.70	12	Pn	Pn	23 14 19.4	+0.6
BARN	Barnard Glacie	5.79	36	Pn	Pn	23 14 20.0	-0.1
M20K	Styx River	5.80	339		Pn	23 14 20.1	-0.1
PNL	Peninsula	5.81	54		Pn	23 14 19.8	-0.5
PNL	Peninsula	5.81	54	P	Pn	23 14 20.8	+0.5
CTGM	Chitina Glacie	5.83	38		Pn	23 14 20.4	-0.3
O16K	Kokwok River B	5.84	305		Pn	23 14 20.9	+0.1
CUT	Chulitna	5.91	353	Pn	Pn	23 14 22.1	+0.5
N17K	Nushagak Hills	5.96	315		Pn	23 14 22.3	-0.1
VNFG	Fog Glacier, M	6.05	272		Pn	23 14 23.7	0.0
M19K	Big River Lodg	6.10	334		Pn	23 14 23.8	-0.5
HARP	HAARP	6.11	16		Pn	23 14 24.6	+0.2
M18K	Stony River	6.16	326		Pn	23 14 24.8	-0.3
WAT1	Susitna Watana	6.28	0		Pn	23 14 27.4	+0.7
WAT7	Susitna Watana	6.28	359		Pn	23 14 27.6	+0.7
CNBA	Chernabura Isl	6.42	259	Pn	Pn	23 14 27.1	-1.5
L19K	White Mountain	6.45	333		Pn	23 14 28.9	-0.2
O29M	Mount Kennedy	6.48	51		Pn	23 14 29.9	+0.2
L20K	Farewell, AK	6.49	338		Pn	23 14 29.5	-0.2
O15K	Ungalikthiuk R	6.50	298		Pn	23 14 30.5	+0.7
P29M	Windy Craggy	6.55	58		Pn	23 14 30.0	-0.5
N16K	Nishlik Lake	6.58	311		Pn	23 14 31.1	+0.2
PAX	Paxson	6.62	13		Pn	23 14 32.0	+0.5
M17K	Holitna River	6.63	321		Pn	23 14 31.6	+0.1
SDPT	Sand Point	6.74	264	Pn	Pn	23 14 32.5	-0.6
SDPT	Sand Point	6.74	264	P	Pn	23 14 32.9	-0.2
MENT	Mentasta	6.86	19	Pn	Pn	23 14 35.1	+0.4
RND	Reindeer	6.86	359	Pn	Pn	23 14 35.9	+1.1
S31K	Pelican	6.89	73	Pn	Pn	23 14 33.4	-1.7
TRF	Thorofare Moun	6.95	354	Pn	Pn	23 14 37.1	+1.0
M16K	Timber Creek	6.96	314		Pn	23 14 36.2	+0.1
L18K	Granite Mounta	6.99	327	Pn	Pn	23 14 36.1	-0.3
N15K	Kwethluk River	7.00	306		Pn	23 14 37.9	+1.2
L26K	Log Cabin Wild	7.00	20	Pn	Pn	23 14 38.1	+1.4
CAST	Castle Rocks	7.08	347	Pn	Pn	23 14 38.4	+0.7
KTH	Kantishna Hill	7.09	352	Pn	Pn	23 14 38.7	+0.7
P30M	Million Dollar	7.11	55		Pn	23 14 38.4	+0.2
PLBC	Pleasant Camp	7.14	61		Pn	23 14 37.7	-0.9
MCK	McKinley	7.18	359		Pn	23 14 40.0	+0.8
HYT	Haines Junctio	7.21	49	Pn	Pn	23 14 39.9	+0.3
O14K	Tigyukauivet M	7.23	297	Pn	Pn	23 14 40.6	+0.8
SIT	Sitka	7.34	81		Pn	23 14 37.6	-3.7
SIT	Sitka	7.34	81	P	Pn	23 14 38.0	-3.3
L27K	Beaver Creek,	7.36	25		Pn	23 14 41.6	-0.1
TTA	Tatalina	7.37	333	Pn	Pn	23 14 41.7	-0.4
TTA	Tatalina	7.37	333	P	Pn	23 14 42.2	-0.4
BCAR	Beaver Creek A	7.38	25	Pn	Pn	23 14 41.7	-0.2
K24K	Donnelly Dome	7.40	10		Pn	23 14 43.2	+1.2
RIDG	Independent Ri	7.44	13	Pn	Pn	23 14 43.5	+0.8
M15K	Kasigluk River	7.51	308		Pn	23 14 43.5	-0.1
PN7A	Pavlof North-7	7.56	267		Pn	23 14 42.9	-1.5
BPAW	Bear Paw Mtn.	7.64	352	Pn	Pn	23 14 46.0	+0.6
N14K	Kuskokwak Cree	7.64	301		Pn	23 14 46.1	+0.7
SKAG	Skagway	7.65	62	Pn	Pn	23 14 46.0	+0.5
SKAG	Skagway	7.65	62	P	Pn	23 14 46.4	+0.9
BESE	Bessie Mountai	7.69	69		Pn	23 14 45.4	-0.8
S32K	Killisnoo	7.75	77	Pn	Pn	23 14 45.1	-1.7
SCRK	Sand Creek

	comp=Z,9.1nm,1.4s						
ELK	**Elko**	**26.82**	**112**	LR	LR	23 27 17.8	
	comp=Z,75nm,21.6s,baz=272,slow=32						
NVAR	**Mina Array Bea**	**27.05**	**119**	P	**P**	**23 18 37.8**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=334,slow=9.9,SNR=4.9						
NVAR				LR	LR	23 27 19.3	
	comp=Z,104nm,19.1s,baz=326,slow=32						
	comp=Z,0.5nm,0.6s						
RES	**Resolute Bay**	**27.14**	**28**	P	**P**	**23 18 38.0**	**+0.9**
RES	**Resolute Bay**	**27.14**	**28**	LR	LR	23 29 16.2	
	comp=Z,61nm,18.1s,baz=358,slow=36						
PDAR	**Pinedale Array**	**28.39**	**102**	P	**P**	**23 18 50.8**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=328,slow=9.9,SNR=2.4						
PDAR				LR	LR	23 28 37.0	
	comp=Z,41nm,19.5s,baz=300,slow=33						
	comp=Z,0.4nm,0.7s						
FCC	**Fort Churchill**	**28.60**	**63**	P	**P**	**23 18 50.8**	**+0.6**
SEY	**Seymchan**	**29.40**	**307**	LR	LR	23 31 49.1	
	comp=Z,118nm,19.1s,baz=16,slow=39						
PETK	**Petropavlovsk-**	**30.42**	**287**	P	**P**	**23 19 07.4**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=69,slow=7.9,SNR=1.7						
	comp=Z,2.1nm,0.7s						
MA2	**Magadan**	**31.20**	**301**	LR	LR	23 32 34.3	
	comp=Z,113nm,19.4s,baz=114,slow=38						
PFO	**Pinyon Flats O**	**31.82**	**122**	LR	LR	23 29 38.8	
	comp=Z,108nm,19.3s,baz=344,slow=32						
TIXI	**Tiksi**	**35.61**	**327**	LR	LR	23 36 49.5	
	comp=Z,37nm,18.5s,baz=24,slow=40						
ANMO	**Albuquerque**	**35.74**	**109**	LR	LR	23 32 19.9	
	comp=Z,50nm,21.8s,baz=41,slow=33						
YAK	**Yakutsk**	**39.43**	**313**	LR	LR	23 36 19.7	
	comp=Z,37nm,18.0s,baz=121,slow=36						
TXAR	**Lajitas Array**	**41.61**	**112**	P	**P**	**23 20 44.2**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=311,slow=6.8,SNR=3.0						
TXAR				LR	LR	23 36 12.1	
	comp=Z,29nm,18.6s,baz=276,slow=34						
	comp=Z,0.4nm,0.8s						
SUMG	**Summit**	**42.56**	**25**	P	**P**	**23 20 51.0**	**+1.0**
SUMG				IAmb	IAmb	23 21 15.5	
	comp=Z,5.1nm,1.1s						
SUMG	**Summit**	**42.56**	**25**	*i* P	**P**	**23 20 51.0**	**+1.0**
SFJD	**Kangerlussuaq**	**42.66**	**35**	LR	LR	23 38 25.9	
	comp=Z,53nm,18.6s,baz=346,slow=36						
LPIG	**La Paz**	**42.71**	**123**	LR	LR	23 35 56.5	
	comp=Z,47nm,20.2s,baz=24,slow=32						
ASAJ	**Asahikawa**	**43.75**	**284**	LR	LR	23 39 24.4	
	comp=Z,21nm,18.0s,baz=356,slow=36						
KLR	**Kulʾdur**	**46.01**	**296**	LR	LR	23 42 03.1	
	comp=Z,24nm,18.2s,baz=51,slow=38						
TKL	**Tuckaleechee C**	**47.58**	**87**	LR	LR	23 41 24.9	
	comp=Z,166nm,18.0s,baz=342,slow=36						
NRIK	**Norilʾsk**	**47.98**	**337**	P	**P**	**23 21 33.6**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=39,slow=7.7,SNR=4.5						
NRIK				LR	LR	23 44 04.8	
	comp=Z,46nm,18.2s,baz=15,slow=39						
	comp=Z,1.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**49.32**	**240**	T	T	00 14 56.7	
	baz=30						
H11N3	**WAKE ISLAND Hy**	**49.33**	**240**	T	T	00 14 59.3	
	baz=30,slow=74						
H11N1	**WAKE ISLAND Hy**	**49.34**	**240**	T	T	00 15 05.2	
	baz=30,slow=74						
JMIC	**Jan Mayen**	**49.64**	**16**	LR	LR	23 44 54.7	
	comp=Z,18nm,18.5s,baz=270,slow=39						
H11S1	**WAKE ISLAND Hy**	**50.47**	**240**	T	T	00 17 05.6	
	baz=28,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**50.48**	**240**	T	T	00 16 46.9	
	baz=28,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**50.48**	**240**	T	T	00 17 06.9	
	baz=28,slow=76,SNR=18						
MJAR	**Matsushiro Arr**	**51.45**	**280**	LR	LR	23 42 48.1	
	comp=Z,21nm,21.5s,baz=86,slow=35						
BORG	**Borgarnes**	**52.53**	**25**	LR	LR	23 43 39.2	
	comp=Z,32nm,18.4s,baz=326,slow=35						
ARCES	**ARCESS Array B**	**54.12**	**3**	LR	LR	23 47 18.9	
	comp=Z,12nm,18.5s,baz=269,slow=38						
CMIG	**Matias Romero**	**56.22**	**112**	LR	LR	23 45 40.9	
	comp=Z,42nm,18.7s,baz=14,slow=35						
KSRS	**Korea Array**	**56.30**	**288**	LR	LR	23 48 11.1	
	comp=Z,9.0nm,18.0s,baz=55,slow=38						
TEIG	**Tepich**	**57.11**	**104**	LR	LR	23 49 03.9	
	comp=Z,387nm,18.4s,baz=50,slow=38						
JNU	**Nakatsue**	**57.99**	**283**	LR	LR	23 48 15.3	
	comp=Z,18nm,20.1s,baz=26,slow=37						
SONM	**Songino Array**	**58.71**	**310**	P	**P**	**23 22 53.1**	**+1.2**
SONM				IAmb	IAmb	23 22 54.8	
	comp=Z,2.3nm,0.9s						
SONM	**Songino Array**	**58.71**	**310**	P	**P**	**23 22 53.1**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=41,slow=6.0,SNR=12						
SONM				LR	LR	23 49 50.0	
	comp=Z,33nm,19.0s,baz=1.0,slow=38						
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**61.50**	**327**	P	**P**	**23 23 10.9**	**+0.1**
ZALV	**Zalesovo Beam**	**61.50**	**327**	P	**P**	**23 23 11.7**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=38,slow=6.7,SNR=4.7						
	comp=Z,0.8nm,0.6s						
NOA	**NORSAR Array B**	**61.66**	**11**	LR	LR	23 51 04.9	
	comp=Z,11nm,20.8s,baz=15,slow=37						
FIA1	**FINESS Array S**	**62.25**	**3**	P	**P**	**23 23 15.8**	**+0.1**
FINES	**FINESS Array B**	**62.25**	**3**	P	**P**	**23 23 15.8**	**+0.1**
FINES	**FINESS Array B**	**62.25**	**3**	P	**P**	**23 23 16.3**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=7.5,slow=8.8,SNR=13						
	comp=Z,1.2nm,0.5s						
ARU	**Arti**	**65.22**	**344**	LR	LR	23 54 20.9	
	comp=Z,31nm,19.6s,baz=16,slow=38						
BVAR	**Borovoye Array**	**66.16**	**335**	P	**P**	**23 23 42.1**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=38,slow=9.9,SNR=2.3						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**66.26**	**329**	P	**P**	**23 23 42.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=29,slow=6.7,SNR=8.3						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**68.55**	**325**	P	**P**	**23 23 56.6**	**-0.2**
MKAR	**Makanchi Array**	**68.55**	**325**	P	**P**	**23 23 57.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=30,slow=6.0,SNR=8.7						
	comp=Z,0.4nm,0.5s						
ABKAR	**Akbulak array**	**71.89**	**341**	P	**P**	**23 24 17.7**	**+0.6**
ABKAR				IAmb	IAmb	23 24 28.4	
	comp=Z,1.6nm,0.7s						
AKASG	**Malin Array Be**	**73.08**	**1**	P	**P**	**23 24 24.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=3.2,slow=6.1,SNR=4.2						
	comp=Z,0.6nm,0.5s						
VRAC	**Vranov**	**73.78**	**10**	LR	LR	23 59 50.1	
	comp=Z,13nm,18.2s,baz=347,slow=38						
GERES	**GERESS Array B**	**73.93**	**12**	LR	LR	00 01 47.3	
	comp=Z,14nm,18.3s,baz=303,slow=40						
AAK	**Ala-Archa**	**74.68**	**328**	LR	LR	00 01 51.7	
	comp=Z,19nm,19.9s,baz=52,slow=39						
BURAR	**Bucovina Array**	**76.06**	**4**	P	**P**	**23 24 42.1**	**+0.4**
ESDC	**Sonseca Array**	**79.57**	**27**	P	**P**	**23 24 58.7**	**-2.6**
ESDC				IAmb	IAmb	23 25 25.9	
	comp=Z,2.7nm,1.4s						
ESDC	**Sonseca Array**	**79.57**	**27**	P	**P**	**23 25 02.0**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=338,slow=5.6,SNR=7.8						
	comp=Z,1.3nm,0.8s						
KBZ	**Khabaz**	**79.59**	**352**	LR	LR	00 02 35.2	
	comp=Z,11nm,22.0s,baz=358,slow=38						
GEYT	**Alibeck**	**83.16**	**339**	P	**P**	**23 25 21.8**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=27,slow=3.5,SNR=3.4						
	comp=Z,0.9nm,0.8s						
BRTR	**Keskin Array B**	**84.05**	**358**	P	**P**	**23 25 25.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=13,slow=1.5,SNR=4.5						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**86.44**	**298**	P	**P**	**23 25 38.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=10,slow=5.0,SNR=4.4						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**146.37**	**180**	PKPbc	**PKPbc**	**23 32 33.2**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=73,slow=2.8,SNR=2.4						

*TRN **30** 23:14:56.5, 10.66N×62.26W, h93km, MD3.4*
*FUNV **30** 23:14:56.4, 10.62N×62.24W, h18km, MW3.4*
ISC 30 23:14:56.1±1.4, 10.63N±0.04×62.31W±0.04, h85km±14km, n18, σ1°46/31, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.89**	**89**		*eP*		**Pn**	**23 15 15.5**	**+1.3**
TRN					*eS*		**Sn**	**23 15 27.6**	**-0.2**
TPP	**Pointe-a-Pierr**	**0.90**	**110**		*eS*		**Sn**	**23 15 28.7**	**+0.8**
CRUV	**Carupano**	**0.91**	**273**		*iP*		**Pn**	**23 15 13.7**	**-0.7**
CRUV					*eS*		**Sn**	**23 15 25.6**	**-2.6**
GRFF	**Grenada Fort F**	**1.52**	**22**		*eP*		**Pn**	**23 15 22.2**	**+0.3**
GRFF					*eS*		**Sn**	**23 15 41.6**	**+0.1**
GRGR	**Grenville**	**1.63**	**23**		*eP*		**Pn**	**23 15 23.1**	**-0.3**
GRGR					*eS*		**Sn**	**23 15 43.1**	**-0.9**
GRW	**Mount Saint Ca**	**1.65**	**23**		*eP*		**Pn**	**23 15 24.4**	**+0.7**
GRW					*eS*		**Sn**	**23 15 44.5**	**-0.1**
GRHS	**Sauteurs**	**1.72**	**22**		*eP*		**Pn**	**23 15 25.2**	**+0.8**
GRHS					*eS*		**Sn**	**23 15 44.7**	**-1.3**
CUMV	**Cumana_UDO**	**1.86**	**264**		*eP*		**Pn**	**23 15 27.8**	**+1.4**
CUMV					*eS*		**Sn**	**23 15 51.1**	**+1.7**
GCMP	**Grenada, Carri**	**2.04**	**25**		*eP*		**Pn**	**23 15 28.6**	**-0.2**
GCMP					*eS*		**Sn**	**23 15 52.2**	**-1.3**
PCRV	**Puerto La Cruz**	**2.33**	**259**		*eP*		**Pn**	**23 15 33.9**	**+1.2**
PCRV					*eS*		**Sn**	**23 16 01.0**	**+0.4**
TACV	**Tcata**	**4.67**	**264**		*eP*		**Pn**	**23 16 05.3**	**+1.0**
TACV					*eS*		**Sn**	**23 16 57.0**	**-0.2**
LUEV	**Luepa**	**4.83**	**170**		*eP*		**Pn**	**23 16 07.5**	**+0.9**
LUEV					*eS*		**Sn**	**23 16 57.8**	**-3.5**
CACV	**CAICARA DEL OR**	**5.17**	**234**		*eP*		Pn	23 16 07.2	-3.9
CACV					*eS*		Sn	23 16 58.0	-11
BENV	**Beln**	**5.25**	**263**		*eP*		**Pn**	**23 16 14.1**	**+1.9**
BENV					*eS*		**Sn**	**23 17 10.5**	**-1.0**
TURV	**Turiamo**	**5.44**	**269**		*eP*		**Pn**	**23 16 16.6**	**+1.9**
TURV					*eS*		**Sn**	**23 17 15.2**	**-0.9**
BAUV	**El Baul**	**5.89**	**254**		*eP*		**Pn**	**23 16 21.4**	**+0.5**
BAUV					*eS*		**Sn**	**23 17 24.4**	**-2.7**
BAUV	**El Baul**	**5.89**	**254**		*eP*		**Pn**	**23 16 22.1**	**+1.2**
BAUV	**El Baul**	**5.89**	**254**		*eS*		**Sn**	**23 17 25.2**	**-1.9**

*IDC **30** 23:31:59.1±4.6, 1.98N×96.69E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=180.2km s-min=32.0km az=57.0*
*DJA **30** 23:32:03.7±0.7, 2.N±3.×9.7E±., h41km±10km, M3.7/10, mb4.2/2, MLv3.4/10*
ISC 30 23:32:03.2±0.9, 2.08N±0.05×96.63E±0.07, h28km, n26, σ1°40/17, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.45**	**317**			P	**Pn**	**23 32 14.2**	**+0.3**
SNSI						S	**Sn**	**23 32 22.5**	**+1.5**
GSI	**Gunungsitoli**	**1.22**	**129**			P	**Pb**	**23 32 26.7**	**+1.1**
KCSI	**Kotacane, Aceh**	**1.83**	**38**			P	**Pb**	**23 32 34.9**	**-1.2**
KCSI						S	**Sb**	**23 32 58.1**	**-0.6**
MLSI	**Meulaboh, Aceh**	**2.19**	**354**			P	**Pn**	**23 32 37.2**	**-0.6**
PSI	**Prapat**	**2.40**	**72**			P	**Pn**	**23 32 42.0**	**+1.2**
PBSI	**Pulau Batu**	**2.68**	**142**			P	**Pb**	**23 32 46.7**	**-3.9**
PBSI						S	**Sn**	**23 33 16.5**	**+0.3**
LHMI	**Lhok Sumawe**	**3.15**	**6**			P	**Pn**	**23 32 50.9**	**-0.1**
SISI	**Saibi**	**4.18**	**144**			P	**Pn**	**23 33 06.5**	**+1.3**
KULM	**Kulim**	**5.12**	**51**			P	**Pn**	**23 33 18.9**	**+0.7**
	8.6nm,0.9s,0.0nm								
SKLT	**Songkhla**	**6.43**	**38**			P	**Pn**	**23 33 36.0**	**-0.2**
H08S2	**Diego Garcia H**	**25.95**	**248**			T	T	00 04 21.3	
	baz=69,slow=76,SNR=48								
H08S3	**Diego Garcia H**	**25.95**	**248**			T	T	00 04 23.1	
	baz=69,slow=76,SNR=62								
H08S1	**Diego Carcia H**	**25.96**	**248**			T	T	00 04 24.2	
	baz=69,slow=76,SNR=27								
H01W3	**Cape Leeuwin H**	**40.27**	**158**			T	T	00 22 26.1	
	baz=332								
H01W2	**Cape Leeuwin H**	**40.28**	**158**			T	T	00 22 25.7	
	baz=332								
H01W1	**Cape Leeuwin H**	**40.28**	**157**			T	T	00 22 25.8	
	baz=332								
WRA	**Warramunga Arr**	**42.98**	**122**			P	**P**	**23 39 59.4**	**-1.0**
	0.3nm,0.8s,baz=302,slow=8.9,SNR=1.5								
	0.3nm,0.8s								
MKAR	**Makanchi Array**	**46.26**	**346**			P	**P**	**23 40 26.9**	**+0.7**
	0.5nm,0.6s,baz=157,slow=7.7,SNR=5.4								
	0.5nm,0.6s								
SONM	**Songino Array**	**46.36**	**9**			P	**P**	**23 40 28.0**	**+1.0**
	0.3nm,0.7s,baz=193,slow=5.9,SNR=2.9								
	0.3nm,0.7s								
ZALV	**Zalesovo Beam**	**52.61**	**351**			P	**P**	**23 41 15.1**	**+0.6**
	1.1nm,0.6s,baz=171,slow=6.2,SNR=6.3								
	1.1nm,0.6s								
H04N2	**CROZET ISLANDS**	**62.18**	**214**			T	T	00 49 47.9	
	baz=53,slow=75,SNR=132								
H04N1	**CROZET ISLANDS**	**62.19**	**214**			T	T	00 49 48.6	
	baz=53,slow=75,SNR=153								
H04N3	**CROZET ISLANDS**	**62.20**	**214**			T	T	00 49 47.2	
	baz=53,slow=75,SNR=177								
H04S1	**CROZET ISLANDS**	**62.53**	**213**			T	T	00 50 12.6	
	baz=53,slow=75,SNR=6.5								
H04S3	**CROZET ISLANDS**	**62.54**	**213**			T	T	00 50 11.9	
	baz=53,slow=75,SNR=13								
H04S2	**CROZET ISLANDS**	**62.55**	**213**			T	T	00 50 13.6	
	baz=53,slow=75,SNR=8.2								

IDC 30 23:45:46.8±9.0, 2.09S×138.49E, h0km, mb3.3/2, mbtmp3.5/3, ML3.4/1, MS3.2/1, Error ellipse: s-maj=384.8km s-min=32.0km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.20**	**193**			P	Pn	23 50 00.9	-0.2
	0.1nm,0.3s,baz=11,slow=12,SNR=7.2								
	1.7nm,0.7s								
ASAR	**Alice Springs**	**21.91**	**191**			P	P	23 50 41.9	+0.1
	0.9nm,0.7s,baz=21,slow=12,SNR=7.6								
	0.9nm,0.7s								
TGY	**Tagaytay City**	**23.69**	**313**			LR	LR	00 01 01.6	
	comp=Z,60nm,21.1s,baz=44,slow=39								
MKAR	**Makanchi Array**	**69.16**	**322**			P	P	23 56 55.2	0.0
	0.2nm,0.5s,baz=132,slow=6.0,SNR=1.8								
	0.2nm,0.5s								

*GII **30** 23:49:21.4±1.1, 34.14N×25.06E, h10km, Mws3.1, confirmed*
*IDC **30** 23:49:40.6±1.5, 35.04N×25.67E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=41.7km s-min=30.2km az=128.0*
*ISK **30** 23:49:44.6, 34.76N×26.06E, h76km, ML2.7/20*
*ATH **30** 23:49:46.7, 34.60N×26.03E, h26km±2km, ML2.7/5, Error ellipse: s-maj=4.8km s-min=1.6km az=352.0*
*THE **30** 23:49:46.0, 34.56N×26.02E, h9km±5km, ML2.7/1, Error ellipse: s-maj=7.3km s-min=1.9km az=344.0*
*AFAD **30** 23:49:48.7±0.0, 34.90N×26.68E, h7km±2km, ML2.3*
ISC 30 23:49:44.9±1.1, 34.57N±0.06×26.11E±0.04, h47km±11km, n70, σ1°58/72, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.54**	**325**			P	**Pn**	**23 49 55.5**	**-1.0**
FRMA	**Ierapetra Chan**	**0.54**	**325**			P	**Pn**	**23 49 55.6**	**-1.0**
FRMA						S	**Sn**	**23 50 02.3**	**-2.5**
FRMA						AML	AML	23 50 04.1	
	comp=E,3662μm,0.6s								
FRMA						AML	AML	23 50 04.8	
	comp=N,2184μm,0.5s								
ZKR	**Zakros**	**0.55**	**9**			Pg	**Pn**	**23 49 56.8**	**+0.2**
ZKR						Sg	**Sn**	**23 50 06.9**	**+1.9**
ZKR	**Zakros**	**0.55**	**9**			P	**Pn**	**23 49 57.3**	**+0.7**
ZKR						S	**Sn**	**23 50 06.1**	**+1.1**
	comp=N,1μm,0.5s								
ZKR	**Zakros**	**0.55**	**9**			P	**Pn**	**23 49 57.4**	**+0.7**
ZKR						S	**Sn**	**23 50 05.0**	**0.0**
ZKR						AML	AML	23 50 07.2	
	comp=N,1315μm,0.6s								
ZKR						AML	AML	23 50 08.4	
	comp=E,2818μm,0.5s								
HRKL	**Herakleio**	**1.11**	**312**			Pg	**Pn**	**23 50 03.9**	**-0.2**
HRKL	**Herakleio**	**1.11**	**312**			P	**Pn**	**23 50 06.3**	**+2.2**
HRKL	**Herakleio**	**1.11**	**312**			P	**Pn**	**23 50 05.2**	**+1.1**
HRKL						S	**Sn**	**23 50 19.1**	**+0.8**
HRKL						AML	AML	23 50 29.8	
	comp=E,5292μm,0.9s								
HRKL						AML	AML	23 50 36.9	
	comp=N,3204μm,0.7s								
IACM	**Heraklion**	**1.13**	**311**			P	**Pn**	**23 50 05.8**	**+1.5**
TMBK	**Timbaki Herakl**	**1.22**	**295**			P	**Pn**	**23 50 06.3**	**+0.8**
IDI	**Anoyia**	**1.23**	**306**			Pn	**Pn**	**23 50 05.6**	**-0.2**
IDI	**Anoyia**	**1.23**	**306**			P	**Pn**	**23 50 06.3**	**+0.5**
IDI	**Anoyia**	**1.23**	**306**			P	**Pn**	**23 50 06.2**	**+0.3**
IDI						S	**Sn**	**23 50 20.8**	**-0.6**
IDI						AML	AML	23 50 27.4	
	comp=N,233μm,0.7s								
IDI						AML	AML	23 50 30.1	
	comp=E,259μm,0.4s								
KARP	**Karpathos**	**1.30**	**41**			Pn	**Pn**	**23 50 06.9**	**+0.2**
KARP	**Karpathos**	**1.30**	**41**			P	**Pn**	**23 50 09.7**	**+3.0**
KARP	**Karpathos**	**1.30**	**41**			P	**Pn**	**23 50 09.3**	**+2.6**
KARP						S	**Sn**	**23 50 24.4**	**+1.4**
KARP						AML	AML	23 50 39.5	
	comp=E,427μm,0.7s								
KARP						AML	AML	23 50 44.5	
IMMV	**Iera Moni Meta**	**1.96**	**298**			Pn	**Pn**	**23 50 15.5**	**-0.2**
	comp=N,368μm,0.7s								
IMMV	**Iera Moni Meta**	**1.96**	**298**			P	**Pn**	**23 50 16.7**	**+0.9**
ARG	**Arkhangelos**	**2.32**	**44**			Pn	**Pn**	**23 50 21.0**	**+0.3**
ARG	**Arkhangelos**	**2.32**	**44**			P	**Pn**	**23 50 22.9**	**+2.3**
ARG						S	**Sn**	**23 50 48.6**	**+0.6**
DAT	**Datca**	**2.46**	**29**			Pn	**Pn**	**23 50 22.2**	**-0.5**
APE	**Apeiranthos**	**2.54**	**349**			Pn	**Pn**	**23 50 22.3**	**-1.4**
APE						Sn	**Sn**	**23 50 49.8**	**-3.6**
BODT	**Bodrum**	**2.67**	**21**			Pn	**Pn**	**23 50 24.9**	**-0.6**
RFTAA	**Mazikoy-Bodrum**	**2.76**	**28**			Pn	**Pn**	**23 50 26.5**	**-0.2**
TURN	**Turunc**	**2.80**	**38**			Pn	**Pn**	**23 50 27.3**	**+0.1**
MLSB	**Milas**	**3.04**	**26**			Pn	**Pn**	**23 50 30.2**	**-0.3**
DALY	**Dalyan (Mula)**	**3.05**	**42**			Pn	**Pn**	**23 50 31.1**	**+0.5**
YER	**Yerkesik**	**3.11**	**34**			Pn	**Pn**	**23 50 31.4**	**-0.1**
IZZE	**Mula-Seydike**	**3.15**	**53**			P	**Pn**	**23 50 33.6**	**+1.6**
IZZE						S	**Sn**	**23 51 07.1**	**-1.3**
IZZE						*i* AML	AML	23 51 09.0	
	comp=N,34nm,0.4s								
IZZE						*i* AML	AML	23 51 10.0	
	comp=N,40nm,0.3s								
FETY	**Fethiye**	**3.18**	**49**			Pn	**Pn**	**23 50 33.1**	**+0.7**
SABU	**Mula-Dalaman**	**3.23**	**45**			P	**Pn**	**23 50 34.7**	**+1.5**
SABU						S	**Sn**	**23 51 09.7**	**-0.8**
SABU						*i* AML	AML	23 51 10.0	
	comp=N,12nm,0.4s								
SABU						*i* AML	AML	23 51 22.0	
	comp=N,12nm,0.4s								
AKAS	**Kas**	**3.30**	**59**			Pn	**Pn**	**23 50 35.4**	**+1.2**
AKAS	**Kas**	**3.30**	**59**			P	**Pn**	**23 50 35.8**	**+1.6**
AKAS						S	**Sn**	**23 51 11.7**	**-0.5**
AKAS						*i* AML	AML	23 51 13.0	
	comp=N,25nm,0.4s								
AKAS						*i* AML	AML	23 51 15.0	
	comp=N,45nm,0.6s								
CAME	**Cameli-Denizli**	**3.51**	**47**			Pn	**Pn**	**23 50 37.6**	**+0.5**
DNZT	**Denizli-Tavas-**	**3.59**	**40**			P	**Pn**	**23 50 40.4**	**+2.2**
DNZT						S	**Sn**	**23 51 19.5**	**+0.1**
KNIK	**Mula-Seydike**	**3.62**	**50**			P	**Pn**	**23 50 40.4**	**+1.9**
KNIK						S	**Sn**	**23 51 19.2**	**-0.8**
KNIK						*i* AML	AML	23 51 24.0	
	comp=N,6.7nm,0.4s								
KNIK						*i* AML	AML	23 51 26.0	
	comp=N,6.3nm,0.6s								
URLA	**Izmir**	**3.80**	**6**			Pn	**Pn**	**23 50 40.3**	**-0.7**
GOLH	**Golhisar**	**3.86**	**45**			P	**Pn**	**23 50 44.2**	**+2.3**
GOLH						S	**Sn**	**23 51 25.1**	**-0.9**
GOLH						*i* AML	AML	23 51 28.0	
	comp=N,8.3nm,0.3s								
GOLH						*i* AML	AML	23 51 36.0	
	comp=N,7.2nm,0.9s								
APMY	**Acipayam-Deniz**	**3.88**	**41**			Pn	**Pn**	**23 50 42.3**	**+0.2**
BLCB	**Balcova**	**3.88**	**11**			Pn	**Pn**	**23 50 41.2**	**-0.8**
CSS	**Mathiatis**	**5.95**	**84**			S	**Sn**	**23 52 16.4**	**-1.0**
CSS	**Mathiatis**	**5.95**	**84**			P	**Pn**	**23 51 08.6**	**-1.9**
KZIT	**Kziot**	**7.88**	**115**			S	**Sn**	**23 53 01.1**	**-3.6**
KZIT	**Kziot**	**7.88**	**115**			P	Pn	23 51 25.1	-12
MMA0B	**Mount Meron ar**	**7.89**	**99**			P	Pn	23 51 28.0	-9.1
MMA0B	**Mount Meron ar**	**7.89**	**99**			S	**Sn**	**23 53 05.9**	**+0.8**
AMAZ	**Amatzia**	**7.98**	**110**			P	Pn	23 51 26.9	-11
SALP	**Salfit**	**8.00**	**106**			S	**Sn**	**23 53 06.5**	**-1.2**
GEM	**Giv'at Ha'Em**	**8.05**	**97**			P	Pn	23 51 29.7	-10
MMLI	**Mount Malkishu**	**8.06**	**103**			P	Pn	23 51 30.0	-9.4
HMDT	**Nahal Hemdat**	**8.20**	**104**			S	**Sn**	**23 53 12.2**	**-0.4**
HMDT	**Nahal Hemdat**	**8.20**	**104**			P	Pn	23 51 31.5	-10
YTIR	**Yatir**	**8.21**	**110**			S	**Sn**	**23 53 10.9**	**-2.2**
KSHT	**Keshet**	**8.23**	**98**			S	**Sn**	**23 53 14.4**	**+1.0**
KSHT	**Keshet**	**8.23**	**98**			P	Pn	23 51 32.5	-9.3
UJAP	**Al U

DMNI	**Dmanisi**	**3.19**	**247**	P		**Pn**	**23 59 31.6**	**+0.3**
DMNI				S		**Sn**	**00 00 09.3**	**0.0**
DMNI	**Dmanisi**	**3.19**	**247**	*e*Pn		**Pn**	**23 59 31.6**	**+0.3**
DMNI				*e*Sn		**Sn**	**00 00 09.3**	**0.0**
BRNG	**Burnasheti**	**3.33**	**254**	P		**Pn**	**23 59 34.9**	**+1.5**
BRNG				S		**Sn**	**00 00 13.6**	**+0.8**
BRNG	**Burnasheti**	**3.33**	**254**	*e*Pn		**Pn**	**23 59 34.9**	**+1.5**
BRNG				*e*Sn		**Sn**	**00 00 13.6**	**+0.8**
ALIG	**Mtskhetisjvari**	**3.34**	**263**	P		**Pn**	**23 59 34.8**	**+1.4**
ALIG				S		**Sn**	**00 00 14.4**	**+1.5**
ALIG	**Mtskhetisjvari**	**3.34**	**263**	*e*Pn		**Pn**	**23 59 34.8**	**+1.4**
ALIG				*e*Sn		**Sn**	**00 00 14.4**	**+1.5**
PYA1	**Pyatigorsk**	**3.93**	**293**	*e*Pn		**Pn**	**23 59 43.0**	**+1.6**
PYA1				*e*Sn		**Sn**	**00 00 28.1**	**+0.8**
KBZ	**Khabaz**	**3.97**	**288**	*e*Pn		**Pn**	**23 59 43.1**	**+1.2**
KBZ				*e*Sn		**Sn**	**00 00 29.6**	**+1.4**
BEYR	**Belyy Ugol+**	**4.10**	**292**	*e*Pn		**Pn**	**23 59 45.0**	**+1.2**
BEYR				*e*Sn		**Sn**	**00 00 32.7**	**+1.0**
SHA1	**Shidzhatmaz**	**4.14**	**288**	*e*Pn		**Pn**	**23 59 45.4**	**+1.0**
SHA1				*e*Sn		**Sn**	**00 00 32.7**	**-0.1**
KIV	**Kislovodsk**	**4.17**	**291**	*e*Pn		**Pn**	**23 59 45.6**	**+0.8**
KIV				*e*Sn		**Sn**	**00 00 32.3**	**-1.2**
ALER	**Alexandrovskoy**	**4.33**	**301**	*e*Pn		**Pn**	**23 59 45.7**	**-1.2**
ALER				*e*Sn		**Sn**	**00 00 39.4**	**+2.1**
AKTO	**Aktyubinsk**	**10.37**	**38**	⇓Pn		**Pn**	**00 01 11.7**	**+1.9**
	0.7nm,0.8s							
AKTO				⇓Sn		**Sn**	**00 03 00.2**	**-5.6**
	2.4nm,0.9s							
AB31	**Akbulak array**	**10.58**	**47**	⇑Pn		**Pn**	**00 01 13.0**	**+0.5**
	0.2nm,0.3s,baz=242,slow=15,SNR=13							
AB31				⇑Sn		Sn	00 03 03.2	-7.6
	0.6nm,0.4s,baz=228,slow=25,SNR=7.5							

UCR ***31*** *00:09:47.7±0.6, 12°.20N×86°.71W, h138km±5km, MW4.4, MB4.5(NEIC)*
CATAC ***31*** *00:09:48.7±0.4, 12°.18N×86°.68W, h125km±3km, ML3.9*
IDC ***31*** *00:09:49.0±1.0, 12°.45N×86°.43W, h145km±6km, mb3.7/9, mbtmp4.1/11, MS3.5/1, Error ellipse: s-maj=24.7km s-min=13.8km az=34.0*
NEIC ***31*** *00:09:49.3±1.8, 12°.28N±0°.07×86°.66W±0°.07, h135km±8km, mb4.5/64, Error ellipse: s-maj=11.7km s-min=7.9km az=51.0*
SNET ***31*** *00:09:50.0±1.1, 12°.31N×86°.79W, h137km±11km, ML4.5*
ISC 31 00:09:48.4±0.5, 12°.24N±0°.04×86°.67W±0°.04, h140km±3km, n208, σ1°18/261, mb4.5/35, 7C-4D, Nicaragua

Code	Station Name	Δ°	Az°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MOMN	**Momotombo**	**0.21**	**37**	*i* P		**Pn**	**00 10 06.7**	**-0.8**
MOMN				*i* S		**Sn**	**00 10 20.9**	**-1.1**
MOMN				IAML			00 10 26.6	
	comp=Z,390nm,1.0s							
MACN	**El Madrono**	**0.23**	**359**	*i* P		**Pn**	**00 10 07.0**	**-0.6**
MACN				*i* S		**Sn**	**00 10 21.8**	**-0.3**
MACN				IAML			00 10 28.0	
	comp=Z,8μm,1.0s							
AMTN	**Mateare**	**0.23**	**90**	*i* P		**Pn**	**00 10 06.9**	**-0.6**
AMTN				*i* S		**Sn**	**00 10 21.1**	**-0.8**
AMTN				IAML			00 10 23.9	
	comp=Z,18μm,1.0s							
CNGA	**AI SSO del Vol**	**0.26**	**353**	*i* P		**Pn**	**00 10 07.1**	**-0.6**
CNGA				*i* S		**Sn**	**00 10 21.9**	**-0.4**
CNGA				IAML			00 10 24.4	
	comp=Z,17μm,1.0s							
CNGN	**Cerro Negro**	**0.26**	**354**			**Pn**	**00 10 06.7**	**-0.9**
CNGN	**Cerro Negro**	**0.26**	**354**	⇑*e*P		**Pn**	**00 10 07.3**	**-0.3**
CNGN				*e*S		**Sn**	**00 10 21.6**	**-0.8**
CNGN	**Cerro Negro**	**0.26**	**354**	*i* P		**Pn**	**00 10 07.0**	**-0.7**
CNGN				*i* S		**Sn**	**00 10 21.7**	**-0.6**
CNGN				IAML			00 10 28.4	
	comp=Z,12μm,1.0s							
SAPS	**Ciudad Sandino**	**0.27**	**104**	*i* P		**Pn**	**00 10 07.0**	**-0.6**
SAPS				*i* S		**Sn**	**00 10 21.1**	**-1.0**
SAPS				IAML			00 10 29.1	
	comp=Z,18μm,1.0s							
MOM2	**El Cardon**	**0.27**	**42**	*i* P		**Pn**	**00 10 07.1**	**-0.5**
MOM2				*i* S		**Sn**	**00 10 21.8**	**-0.4**
MOM2				IAML			00 10 32.0	
	comp=Z,5μm,1.0s							
ROCN	**Rota Cerro Neg**	**0.29**	**346**	*i* P		**Pn**	**00 10 05.1**	**-2.6**
ROCN				*i* S		**Sn**	**00 10 19.4**	**-3.0**
APYN	**Apoyeque**	**0.31**	**91**	*i* P		**Pn**	**00 10 08.6**	**+0.8**
APYN				*i* S		**Sn**	**00 10 22.7**	**+0.3**
APYN				IAML			00 10 24.0	
	comp=Z,8μm,1.0s							
APQ2	**Apoyeque**	**0.34**	**97**	*i* P		**Pn**	**00 10 07.4**	**-0.4**
APQ2				*i* S		**Sn**	**00 10 22.1**	**-0.4**
APQ2				IAML			00 10 26.0	
	comp=Z,9μm,1.0s							
PLRN	**Geotermica Pol**	**0.36**	**345**	*i* P		**Pn**	**00 10 07.4**	**-0.5**
PLRN				*i* S		**Sn**	**00 10 22.8**	**0.0**
PLRN				IAML			00 10 25.4	
	comp=Z,17μm,1.0s							
APQN	**BB Volcan Apoy**	**0.36**	**92**	*i* P		**Pn**	**00 10 07.4**	**-0.5**
TEL3	**Telica 3**	**0.37**	**333**	*i* P		**Pn**	**00 10 06.4**	**-1.6**
TEL3				IAML			00 10 27.9	
	comp=Z,21μm,1.0s							
HOYN	**Al Sur del Vol**	**0.39**	**337**	*i* P		Pn	00 10 13.0	+4.8
ALLN	**Telcor Managua**	**0.40**	**102**	*i* P		**Pn**	**00 10 06.8**	**-1.3**
ALLN				IAML			00 10 44.0	
	comp=Z,12μm,1.0s							
TELN	**Telica**	**0.40**	**337**	*i* P		**Pn**	**00 10 07.9**	**-0.3**
TELN				*i* S		**Sn**	**00 10 23.8**	**+0.5**
TELN				IAML			00 10 27.2	
	comp=Z,2μm,1.0s							
HERN	**Volcan Telica**	**0.40**	**337**	*i* P		**Pn**	**00 10 07.5**	**-0.7**
HERN				*i* S		**Sn**	**00 10 24.0**	**+0.7**
HERN				IAML			00 10 29.1	
	comp=Z,13μm,1.0s							
TISN	**Laguna Tiscapa**	**0.40**	**103**	*i* P		**Pn**	**00 10 07.6**	**-0.5**
TISN				IAML			00 10 30.9	
	comp=Z,750nm,1.0s							
UNAN	**Cigeo UNAN**	**0.41**	**108**	*i* P		**Pn**	**00 10 07.5**	**-0.6**
UNAN				*i* S		**Sn**	**00 10 22.0**	**-1.1**
UNAN				IAML			00 10 32.1	
	comp=Z,36μm,1.0s							
MSHP	**Masachapa**	**0.43**	**162**	*i* P		**Pn**	**00 10 07.8**	**-0.4**
MSHP				*i* S		**Sn**	**00 10 22.7**	**-0.5**
MSHP				IAML			00 10 23.4	
	comp=Z,19μm,1.0s							
POLN	**AI Sur del Vol**	**0.43**	**341**	*i* P		**Pn**	**00 10 08.2**	**-0.1**
POLN				*i* S		**Sn**	**00 10 24.8**	**+1.4**
POLN				IAML			00 10 27.0	
	comp=Z,17nm,1.0s							
HUGN	**San Franciso L**	**0.48**	**83**	*i* P		**Pn**	**00 10 08.1**	**-0.3**
HUGN				IAML			00 10 08.4	
	comp=Z,14μm,1.0s							
HUGN				*i* S		**Sn**	**00 10 23.3**	**-0.3**
WILN	**Americas 2**	**0.48**	**99**	*i* P		**Pn**	**00 10 07.9**	**-0.5**
WILN				*i* S		**Sn**	**00 10 23.0**	**-0.6**
WILN				IAML			00 10 40.2	
	comp=Z,5μm,1.0s							
HUEN		**0.50**	**78**	*i* P		**Pn**	**00 10 08.3**	**-0.2**
HUEN				IAML			00 10 08.7	
	comp=Z,6μm,1.0s							
HUEN				*i* S		**Sn**	**00 10 23.6**	**-0.2**
MAS3	**AI N del Volca**	**0.53**	**114**	*i* P		**Pn**	**00 10 08.3**	**-0.5**
MAS3				*i* S		**Sn**	**00 10 24.1**	**-0.1**
MAS3				IAML			00 10 25.8	
	comp=Z,16μm,1.0s							
ADRN	**Diriamba**	**0.56**	**132**	*i* P		**Pn**	**00 10 08.5**	**-0.5**
ADRN				*i* S		**Sn**	**00 10 23.4**	**-1.2**
ADRN				IAML			00 10 24.7	
	comp=Z,22μm,1.0s							
MASN	**Masaya**	**0.57**	**116**	*i* P		**Pn**	**00 10 10.0**	**+1.0**
MASN				*i* S		**Sn**	**00 10 24.9**	**+0.3**
MASN				IAML			00 10 33.6	
	comp=Z,3μm,1.0s							
BRAN	**Las Pilas**	**0.57**	**33**	*i* P		**Pn**	**00 10 07.3**	**-1.7**
BRAN				*i* S		**Sn**	**00 10 21.9**	**-2.7**
BRAN				IAML			00 10 25.4	
	comp=Z,15μm,1.0s							
CHNN	**El Viejo**	**0.59**	**311**	*i* P		**Pn**	**00 10 08.6**	**-0.5**
CHNN				IAML			00 10 28.6	
	comp=Z,14μm,1.0s							
CRIN	**San Cristobal**	**0.59**	**321**	Pn		**Pn**	**00 10 08.8**	**-0.3**
CRIN	**San Cristobal**	**0.59**	**321**	⇑*i* P		**Pn**	**00 10 08.9**	**-0.3**
CRIN				*e*S		**Sn**	**00 10 25.2**	**+0.2**
CRIN	**San Cristobal**	**0.59**	**321**	*i* P		**Pn**	**00 10 08.8**	**-0.4**
CRIN				*i* S		**Sn**	**00 10 24.6**	**-0.4**
CRIN				IAML			00 10 29.2	
	comp=Z,57μm,1.0s							
AESN	**El Sauce Leon**	**0.66**	**11**	*i* P		**Pn**	**00 10 09.1**	**-0.4**
AESN				IAML			00 10 09.5	
	comp=Z,14μm,1.0s							
LIMN	**Finca el Limon**	**0.87**	**20**	*i* P		**Pn**	**00 10 11.3**	**+0.1**
LIMN				IAML			00 10 11.5	
	comp=Z,14μm,1.0s							
MATN	**Matagalpa**	**1.00**	**47**			**Pn**	**00 10 12.2**	**-0.1**
MATN	**Matagalpa**	**1.00**	**47**	⇓*i* P		**Pn**	**00 10 12.4**	**0.0**
MATN	**Matagalpa**	**1.00**	**47**	*i* P		**Pn**	**00 10 12.2**	**-0.1**
MATN				IAML			00 10 12.7	
	comp=Z,4μm,1.0s							
BOAB	**BOACO BROADBAN**	**.00**	**78**	Pn		**Pn**	**00 10 12.0**	**-0.2**
BOAB	**BOACO BROADBAN**	**.00**	**78**	*i* P		**Pn**	**00 10 12.0**	**-0.2**
BOAB				IAML			00 10 12.3	
	comp=Z,4μm,1.0s							
POTN	**Potosi Cosigui**	**1.11**	**313**	*i* P		**Pn**	**00 10 13.0**	**-0.2**
POTN				*i* S		**Sn**	**00 10 32.7**	**+0.6**
POTN				IAML			00 10 36.3	
	comp=Z,3μm,1.0s							
CSGN	**Cosiguina Volc**	**1.14**	**310**	*i* P		**Pn**	**00 10 13.1**	**-0.4**
CSGN				IAML			00 10 34.4	
	comp=Z,1μm,1.0s							
JAPN	**AI SSO del Vol**	**1.20**	**126**	*i* P		**Pn**	**00 10 14.3**	**+0.2**
JAPN				IAML			00 10 41.6	
	comp=Z,3μm,1.0s							
MORN	**Al O del Volca**	**1.21**	**124**	*i* P		**Pn**	**00 10 13.8**	**-0.4**
MORN				IAML			00 10 38.6	
	comp=Z,10μm,1.0s							
CONN	**Concepcion**	**1.22**	**123**	*i* P		**Pn**	**00 10 13.8**	**-0.5**
CONN				*i* S		**Sn**	**00 10 33.6**	**-0.4**
CONN				IAML			00 10 36.0	
	comp=Z,20μm,1.0s							
RCPN	**Sur Rio San Ju**	**1.40**	**24**	*i* P		**Pn**	**00 10 15.8**	**-0.5**
RCPN				IAML			00 10 16.2	
	comp=Z,22nm,1.0s							
AMPH	**Amapala**	**1.42**	**317**	*e*P		**Pn**	**00 10 16.6**	**+0.3**
AMPH				*e*S		**Sn**	**00 10 37.2**	**-0.5**
AMPH	**Amapala**	**1.42**	**317**	*i* P		**Pn**	**00 10 16.3**	**0.0**
AMPH				*i* S		**Sn**	**00 10 37.3**	**-0.3**
ACON	**Acoyapa**	**1.49**	**100**	Pn		**Pn**	**00 10 17.0**	**-0.1**
ACON	**Acoyapa**	**1.49**	**100**	⇓*i* P		**Pn**	**00 10 16.9**	**-0.1**
ACON				*e*S		**Sn**	**00 10 39.2**	**+0.3**
ACON	**Acoyapa**	**1.49**	**100**	*i* P		**Pn**	**00 10 16.9**	**-0.1**
ACON				IAML			00 10 17.4	
	comp=Z,2μm,1.0s							
ACON				*i* S		**Sn**	**00 10 38.9**	**0.0**
CNCH	**Conchagua**	**1.53**	**312**	*e*P		**Pn**	**00 10 17.6**	**-0.1**
CNCH				*e*S		**Sn**	**00 10 40.3**	**+0.2**
CNCH	**Conchagua**	**1.53**	**312**	*i* P		**Pn**	**00 10 17.5**	**-0.1**
CNCH				*i* S		**Sn**	**00 10 40.3**	**+0.2**
CNCH				IAML			00 10 47.1	
	comp=Z,12μm,1.0s							
LCRUZ	**La Cruz**	**1.54**	**138**	*e*P		**Pn**	**00 10 18.4**	**+0.7**
LCND	**La Caada**	**1.60**	**312**	*e*P		**Pn**	**00 10 18.2**	**0.0**
LCND				IAML			00 10 48.6	
	comp=Z,3μm,0.3s							
YUSH	**Yuscaran**	**1.71**	**354**	⇓*i* P		**Pn**	**00 10 20.6**	**+0.9**
YUSH				*e*S		**Sn**	**00 10 44.6**	**+0.9**
JUCU	**Jucuar¡n**	**1.84**	**303**	*e*P		**Pn**	**00 10 21.1**	**0.0**
JUCU				*e*S		**Sn**	**00 10 45.9**	**-0.2**
HZTE	**Horizontes, Gu**	**1.84**	**145**	Pn		**Pn**	**00 10 21.4**	**+0.3**
HZTE	**Horizontes, Gu**	**1.84**	**145**	⇑*e*P		**Pn**	**00 10 21.8**	**+0.7**
HZTE				*e*S		**Sn**	**00 10 45.5**	**-0.7**
GB1A	**Borinquen Arri**	**1.88**	**138**	*e*P		**Pn**	**00 10 23.9**	**+2.2**
TGUH	**Tegucigalpa,Un**	**1.90**	**342**	Pn		**Pn**	**00 10 22.3**	**+0.4**
ELI1	**Hacienda Flor**	**1.93**	**145**	*e*P		**Pn**	**00 10 22.9**	**+0.9**
ELI1				*e*S		**Sn**	**00 10 47.8**	**-0.1**
VSM	**San Miguel**	**1.96**	**307**	*e*P		**Pn**	**00 10 23.4**	**+0.7**
LCY	**Lacayo**	**1.97**	**307**	*e*P		**Pn**	**00 10 23.7**	**+1.0**
PACA	**Pacayal**	**2.02**	**307**	*e*P		**Pn**	**00 10 24.2**	**+0.9**
VMAR	**Armenia, Volca**	**2.08**	**133**	*e*P		**Pn**	**00 10 23.9**	**-0.1**
DELF	**Filadelfia**	**2.09**	**148**	*e*P		**Pn**	**00 10 25.8**	**+1.8**
CAMAV	**Centro de Prod**	**2.10**	**136**	*e*P		**Pn**	**00 10 22.0**	**-2.3**
COLC	**Colonia**	**2.12**	**137**	*e*P		**Pn**	**00 10 24.2**	**-0.2**
CAHU	**Cacaocuatique**	**2.14**	**316**	*e*P		**Pn**	**00 10 25.4**	**+0.6**
CUI	**Cuipilapa**	**2.15**	**137**	*e*P		**Pn**	**00 10 25.2**	**+0.3**
TECA	**Tecapa**	**2.18**	**305**	*e*P		**Pn**	**00 10 25.5**	**+0.3**
COEB	**Comit de Eme**	**2.20**	**305**	*e*P		**Pn**	**00 10 26.2**	**+0.7**
COEB				*e*S		**Sn**	**00 10 54.5**	**+0.5**
COEB				*e*S			00 10 55.3	
ORTG	**Ortega, Santa**	**2.21**	**147**	Pn		**Pn**	**00 10 25.9**	**+0.3**
ORTG	**Ortega, Santa**	**2.21**	**147**	*e*P		**Pn**	**00 10 21.9**	**-3.7**
SACU	**Santa Cruz**	**2.23**	**151**	*e*P		**Pn**	**00 10 26.0**	**+0.2**
VERA	**Finca Concepci**	**2.24**	**128**	*e*P		**Pn**	**00 10 24.6**	**-1.2**
PLVR	**Palo Verde**	**2.28**	**145**	*e*P		**Pn**	**00 10 27.3**	**+0.8**
ESPN	**Las Esperanzas**	**2.32**	**91**	Pn		**Pn**	**00 10 27.1**	**+0.4**
JUD3	**Juan Diaz 3**	**2.34**	**152**	⇑*i* P		**Pn**	**00 10 27.4**	**+0.3**
NICO	**Nicoya**	**2.41**	**150**	⇑*i* P		**Pn**	**00 10 28.3**	**+0.3**
NICO				*e*S		**Sn**	**00 10 55.5**	**-2.9**
TECO	**Alcaldia de Te**	**2.43**	**302**	*e*P		**Pn**	**00 10 28.3**	**+0.1**
TECO				*e*S		**Sn**	**00 10 57.6**	**-1.1**
DUNO	**Dulce Nombre,**	**2.44**	**152**	Pn		**Pn**	**00 10 28.6**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.48**	**306**	*e*P		**Pn**	**00 10 29.2**	**+0.8**
SNVI	**San Vicente**	**2.52**	**303**	*e*P		**Pn**	**00 10 29.7**	**+0.3**
CMARA	**Lajas Hojancha**	**2.52**	**151**	*e*P		**Pn**	**00 10 29.6**	**+0.2**
COEG	**Centro de Oper**	**2.56**	**303**	*e*P		**Pn**	**00 10 30.1**	**+0.3**
COEG				*e*S		**Sn**	**00 11 01.5**	**-0.2**
JTS	**Las Juntas de**	**2.57**	**139**	P		**Pn**	**00 10 30.4**	**+0.5**
	comp=Z,39nm,0.4s,baz=314,slow=15,SNR=19							
JTS				S		**Sn**	**00 10 56.8**	**-5.1**
	comp=Z,125nm,0.3s,baz=330,slow=19,SNR=13							
JTS	**Las Juntas de**	**2.57**	**139**	*e*P		**Pn**	**00 10 30.0**	**+0.1**
CEDE	**Laguna Cedeo**	**2.60**	**132**	*e*P		**Pn**	**00 10 34.0**	**+3.6**
ARE1	**Arenal 1**	**2.60**	**132**	Pn		**Pn**	**00 10 31.2**	**+0.9**
ARE1	**Arenal 1**	**2.60**	**132**	*e*P		**Pn**	**00 10 32.1**	**+1.7**
INDI	**Punta indio, G**	**2.62**	**154**	⇑*i* P		**Pn**	**00 10 30.6**	**0.0**
INDI				*e*S		**Sn**	**00 10 59.5**	**-3.0**
NYURE	**Nandayure**	**2.63**	**148**	*e*P		**Pn**	**00 10 30.7**	**+0.1**
PAVA	**Las Pavas**	**2.65**	**304**	*e*P		**Pn**	**00 10 31.3**	**+0.2**
SJTE	**Alcalda de S**	**2.66**	**301**	*e*P		**Pn**	**00 10 31.5**	**+0.4**
COVE	**Coope Vega, Sa**	**2.69**	**124**	Pn		**Pn**	**00 10 32.6**	**+1.2**
LFRS	**El Faro**	**2.71**	**301**	*e*P		**Pn**	**00 10 32.2**	**+0.5**
LOMA	**Loma Larga**	**2.81**	**300**	*e*P		**Pn**	**00 10 34.0**	**+1.0**
LALI	**Alcalda de L**	**2.87**	**296**	*e*P		**Pn**	**00 10 33.8**	**+0.1**
LALI				*e*S		**Sn**	**00 11 07.3**	**-1.3**
SNET	**Serv Nac Est T**	**2.88**	**300**	Pn		**Pn**	**00 10 33.4**	**-0.5**
SNET	**Serv Nac Est T**	**2.88**	**300**	*e*S		**Sn**	**00 11 08.6**	**-0.5**
SNET				IAML			00 11 12.9	
	comp=Z,2μm,0.3s							
UEES	**Universidad Ev**	**2.90**	**301**	*e*P		**Pn**	**00 10 35.2**	**+1.0**
BOQS	**Boqueron**	**2.95**	**301**	*e*P		**Pn**	**00 10 35.4**	**+0.5**
JAYA	**Jayaque - finc**	**3.05**	**298**	*e*P		**Pn**	**00 10 36.5**	**+0.3**
CBL1	**Cabuya**	**3.06**	**149**	*e*P		**Pn**	**00 10 36.2**	**+0.1**
CBL1				*e*S		**Sn**	**00 11 09.4**	**-3.5**
TRB2	**Turrubares**	**3.18**	**136**	*e*P		**Pn**	**00 10 39.4**	**+1.7**
JACO	**JACO, Garabito**	**3.23**	**142**	Pn		**Pn**	**00 10 38.4**	**+0.1**
CEVE	**Cerro Verde**	**3.28**	**299**	*e*S		**Sn**	**00 11 19.8**	**+1.2**
SNJE	**San Jose**	**3.29**	**300**	*e*P		**Pn**	**00 10 40.6**	**+1.3**
SNJE				*e*P			00 10 40.7	
SBLS	**San Blas**	**3.29**	**299**	*e*P		**Pn**	**00 10 40.0**	**+0.7**
MTO3	**Montecristo**	**3.39**	**310**	Pn		**Pn**	**00 10 40.6**	**0.0**
MTO3	**Montecristo**	**3.39**	**310**	*e*P		**Pn**	**00 10 41.5**	**+0.9**
NUBE	**Las Nubes**	**3.45**	**299**	*e*P		**Pn**	**00 10 42.0**	**+0.7**
SLOZ	**Alcaldia de Sa**	**3.52**	**301**	*e*P		**Pn**	**00 10 43.0**	**+0.9**
LCR2	**La Lucha 2**	**3.61**	**133**	Pn		**Pn**	**00 10 43.7**	**+0.2**
LCR2	**La Lucha 2**	**3.61**	**133**	*e*P		**Pn**	**00 10 44.4**	**+1.0**
RIMA	**Rio Macho**	**3.69**	**131**	Pn		**Pn**	**00 10 45.1**	**+0.5**
RIMA	**Rio Macho**	**3.69**	**131**	*e*P		**Pn**	**00 10 45.2**	**+0.7**
LLNJ	**Naranjito**	**3.73**	**137**	⇑*i* P		**Pn**	**00 10 48.0**	**+3.1**
CDM	**Cerro de Muert**	**3.91**	**133**	*e*P		**Pn**	**00 10 49.5**	**+1.9**
PEZE	**Perez Zeledon,**	**4.09**	**134**	Pn		**Pn**	**00 10 51.7**	**+2.1**
BRU2	**Volcan**	**5.20**	**131**	Pn		**Pn**	**00 11 04.7**	**+0.2**
CMIG	**Matias Romero**	**9.30**	**302**	P		**Pn**	**00 11 59.6**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=125,slow=7.4,SNR=13							
CMIG				S		**Sn**	**00 13 34.9**	**-7.4**
	comp=Z,6.9nm,0.8s,baz=120,slow=20,SNR=2.5							
PAYG	**Puerto Ayora**	**13.32**	**196**	P		**P**	**00 13 00.2**	**+3.4**
GTBY	**Guantanamo Bay**	**13.48**	**54**	P		**P**	**00 13 00.2**	**+1.7**
BAUV	**El Baul**	**18.60**	**98**	P		**P**	**00 13 54.7**	**-0.4**
BAUV				IAmb		IAmb	00 13 57.7	
	comp=Z,28nm,0.7s							
352A	**Blakely**	**19.22**	**5**	P		**Pn**	**00 14 03.2**	**-0.9**
TIGA	**Tifton**	**19.32**	**8**	P		**Pn**	**00 14 04.3**	**-1.0**
CELP	**Cerrillos**	**20.23**	**71**	P		**P**	**00 14 12.5**	**-0.3**
CELP				IAmb		IAmb	00 14 38.5	
	comp=Z,44nm,1.4s							
SJG	**San Juan**	**20.64**	**71**	P		**P**	**00 14 16.3**	**-0.8**
	comp=Z,5.2nm,0.3s,baz=240,slow=20,SNR=1.6							
	comp=Z,5.2nm,0.3s							
LRAL	**Lakeview Retre**	**20.70**	**359**	P		**P**	**00 14 18.9**	**+1.2**
Z47A	**Carrollton**	**20.91**	**357**	P		**P**	**00 14 21.1**	**+1.3**
Z47A				IAmb		IAmb	00 14 26.5	
	comp=Z,32nm,1.2s							
GOGA	**Godfrey**	**21.28**	**7**	P		**P**	**00 14 25.9**	**+2.1**
GOGA				IAmb		IAmb	00 14 27.1	
	comp=Z,18nm,0.8s							
Y49A	**Blount Mountai**	**21.52**	**1**	P		**P**	**00 14 27.3**	**+0.8**
Y49A				IAmb		IAmb	00 14 28.6	
	comp=Z,15nm,0.8s							
Y52A	**Lilburn**	**21.66**	**6**	P		**P**	**00 14 29.4**	**+1.5**
PCRV	**Puerto La Cruz**	**21.71**	**93**	P		**P**	**00 14 27.4**	**-1.2**
	comp=Z,16nm,0.8s,baz=256,slow=7.7,SNR=2.7							
	comp=Z,16nm,0.8s							
WHTX	**Lake Whitney,**	**22.02**	**335**	P		**P**	**00 14 31.9**	**+0.2**
BRDY	**Brady**	**22.11**	**331**	P		**P**	**00 14 32.0**	**-0.6**
FPAL	**Fort Paine**	**22.22**	**2**	P		**P**	**00 14 34.5**	**+0.8**
HODGE	**Hodges**	**22.26**	**10**	P		**P**	**00 14 34.3**	**+0.3**
X51A	**Calhoun**	**22.29**	**4**	P		**P**	**00 14 35.6**	**+1.3**
X51A				IAmb		IAmb	00 14 35.7	
	comp=Z,20nm,1.1s							
JSC	**Jenkinsville**	**22.49**	**12**	P		**P**	**00 14 37.4**	**+1.2**
JSC				IAmb		IAmb	00 14 38.5	
	comp=Z,14nm,0.7s							
PLAL	**Pickwick Lake**	**22.68**	**357**	P		**P**	**00 14 38.4**	**+0.3**
PLAL				IAmb		IAmb	00 14 39.3	
	comp=Z,12nm,0.7s							
SWET	**Sewanee**	**22.89**	**2**	P		**P**	**00 14 41.1**	**+1.0**
W52A	**Murphy**	**22.89**	**6**	P		**P**	**00 14 41.2**	**+1.1**
W52A				IAmb		IAmb	00 14 42.2	
	comp=Z,28nm,1.1s							
W50A	**Signal Mountai**	**22.89**	**3**	P		**P**	**00 14 40.6**	**+0.4**
W50A				IAmb		IAmb	00 14 42.3	
	comp=Z,13nm,0.6s							
BG3	**Lake Jocassee**	**22.91**	**8**	P		**P**	**00 14 41.6**	**+1.4**
BG3				IAmb		IAmb	00 14 42.7	
	comp=Z,13nm,0.7s							
PAULI	**Pauline**	**22.91**	**10**	P		**P**	**00 14 41.0**	**+0.7**
PAULI				IAmb		IAmb	00 14 42.4	
	comp=Z,17nm,0.8s							
PLPT	**Palo Pinto**	**23.10**	**334**	P		**P**	**00 14 42.6**	**+0.6**
CPCT	**Cooper Cave**	**23.19**	**4**	P		**P**	**00 14 43.7**	**+0.9**
CPCT				IAmb		IAmb	00 14 45.7	
	comp=Z,17nm,0.7s							
TXAR	**Lajitas Array**	**23.23**	**320**	P		**P**	**00 14 43.6**	**+0.2**
TXAR	**Lajitas Array**	**23.23**	**320**	P		**P**	**00 14 43.2**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=140,slow=9.4,SNR=54							
TXAR				pP		**pP**	**00 15 12.6**	**+2.3**
	comp=Z,2.4nm,0.7s,baz=138,slow=10,SNR=7.2							
TXAR				PcP		**PcP**	**00 18 27.0**	**-0.1**
	com

comp=Z,0.9nm,0.6s,baz=108,slow=3.6,SNR=8.9
ASAR PKP **PKPdf 00 29 00.8 -0.2**
comp=Z,2.0nm,0.6s,baz=102,slow=1.7,SNR=16
WRA Warramunga Arr 139.94 254 PKhKP PKPpre 00 28 53.8
comp=Z,3.4nm,0.5s,baz=90,slow=2.4,SNR=5.4
WRA PKP **PKPdf 00 29 00.9 -0.1**
comp=Z,3.5nm,0.5s,baz=90,slow=2.2,SNR=16
PZH PanZhiHua 140.63 348 PKP **PKPdf 00 29 02.0 -0.3**

ISN ***31*** *00:15:09.5±0.8, 33.°61N×45.°51E, h12km±6km, ML2.5*
TEH ***31*** *00:15:09.7, 33.°69N×45.°55E, h8km±65km, ML2.7*
ISC 31 00:15:10.2±1.0, 33.°66N±0.°04×45.°56E±0.°05, h13km, n12, σ1§00/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.54**	**94**	Pg	**Pg**	**00 15 20.6**	**-0.2**
IBDR	**Badra**	**0.63**	**151**	*e*Pg	**Pg**	**00 15 22.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**00 15 30.0**	**-0.9**
IBDR				AML	AML	00 15 44.9	
	comp=N,185nm,0.5s						
IBDR				AML	AML	00 15 46.8	
	comp=E,294nm,0.6s						
KGS1	**Ghasr-e-Shirin**	**0.84**	**2**	Pg	**Pg**	**00 15 25.8**	**-0.7**
BHD	**Baghdad**	**1.06**	**249**	*e*Pn	**Pn**	**00 15 31.0**	**+0.2**
BHD				*e*Sn	**Sn**	**00 15 47.0**	**+1.6**
IGHG	**Ghaleghazi**	**1.07**	**51**	Pg	**Pb**	**00 15 30.2**	**-0.5**
IDHR	**Dehrash**	**1.24**	**33**	Pg	**Pn**	**00 15 32.7**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.37**	**63**	Pg	**Pb**	**00 15 36.4**	**+0.5**
ILIN	**Lien**	**1.71**	**42**	Pg	**Pb**	**00 15 42.0**	**+0.4**
IKFM	**Kafar-mosalman**	**1.91**	**93**	Pn	**Pb**	**00 15 45.2**	**+0.2**
RAFI	**Al-Rafai**	**1.99**	**166**	*e*Pn	**Pn**	**00 15 44.0**	**+0.5**
RAFI				*e*Sn	**Sb**	**00 16 10.0**	**-0.9**
IBZA	**Bozab**	**2.07**	**66**	Pn	**Pb**	**00 15 47.1**	**-0.8**
IALM	**Almabolaq**	**2.47**	**60**	Pn	**Pn**	**00 15 52.6**	**+2.2**

NEIC ***31*** *00:28:39.5±1.6, 56.°29N±0.°09×148.°5W±0.°1, h20km±9km, ML3.4/35, ML3.1(AEIC), Error ellipse: s-maj=13.1km s-min=8.2km az=166.0*
IDC ***31*** *00:28:40.0±3.0, 56.°31N×148.°55W, h0km, mb3.5/1, mbtmp3.3/5, ML3.3/4, MS2.5/1, Error ellipse: s-maj=43.6km s-min=27.2km az=4.0*
AEIC ***31*** *00:28:43.5±1.5, 56.°38N±0.°09×148.°5W±0.°1, h7km±7km, Error ellipse: s-maj=12.7km s-min=8.5km az=165.0*
ISC 31 00:28:41.0±1.3, 56.°50N±0.°09×148.°60W±0.°06, h10km, n117, σ0§94/123, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.52**	**302**		**Pn**	**00 29 21.5**	**-0.4**
KDAK					**Sn**	**00 29 50.7**	**-2.1**
KDAK	**Kodiak Island**	**2.52**	**302**	Pn	**Pn**	**00 29 22.0**	**+0.1**
	3.3nm,0.3s,baz=138,slow=5.5,SNR=19						
KDAK				Sn	**Sn**	**00 29 51.0**	**-1.7**
	5.0nm,0.3s,baz=54,slow=24,SNR=15						
KDAK				LR	LR	00 30 03.8	
	comp=Z,90nm,19.2s,baz=96,slow=32						
	9.2nm,0.3s						
OHAK	**Old Harbor**	**2.67**	**288**	Pn	**Pn**	**00 29 22.6**	**-1.5**
OHAK				Sn	**Sn**	**00 29 53.9**	**-2.6**
OHAK	**Old Harbor**	**2.67**	**288**	P	**Pn**	**00 29 23.7**	**-0.4**
	baz=108						
OHAK				S	**Sn**	**00 29 54.0**	**-2.4**
	baz=108						
SYI	**Shuyak Island**	**2.94**	**318**	Pn	**Pn**	**00 29 28.0**	**+0.3**
SYI				Sn	**Sn**	**00 30 03.6**	**+0.5**
Q20K	**Shuyak Island**	**2.94**	**318**	P	**Pn**	**00 29 28.1**	**+0.4**
	baz=136						
Q20K				S	**Sn**	**00 30 02.8**	**-0.2**
	baz=136						
SII	**Sitkinak Islan**	**3.09**	**273**	Pn	**Pn**	**00 29 28.9**	**-1.0**
SII				IAML		00 30 04.7	
	comp=E,116nm,1.1s						
SII				IAML		00 30 12.3	
	comp=N,131nm,1.3s						
CNPM	**China Poot**	**3.34**	**336**	Pn	**Pn**	**00 29 33.0**	**-0.2**
CNPM				Sn	**Sn**	**00 30 12.0**	**-1.0**
CNPM				IAML		00 30 18.8	
	comp=N,40nm,1.4s						
CNPM				IAML		00 30 25.9	
	comp=E,38nm,1.5s						
R18K	**Karluk**	**3.37**	**291**	Pn	Pn	00 29 29.9	-3.7
R18K				IAML		00 30 17.9	
	comp=N,117nm,0.9s						
R18K				IAML		00 30 20.0	
	comp=E,124nm,0.5s						
R18K	**Karluk**	**3.37**	**291**	P	**Pn**	**00 29 33.2**	**-0.5**
	baz=109						
BRSE	**Bradley Lake S**	**3.44**	**342**		**Pn**	**00 29 34.3**	**-0.4**
BRSE					**Sn**	**00 30 15.2**	**-0.3**
BRSE	**Bradley Lake S**	**3.44**	**342**	P	**Pn**	**00 29 34.3**	**-0.4**
	baz=160						
BRSE				S	**Sn**	**00 30 15.2**	**-0.3**
	baz=160						
P23K	**Montague Islan**	**3.56**	**10**		**Pn**	**00 29 35.7**	**-0.6**
P23K	**Montague Islan**	**3.56**	**10**	P	**Pn**	**00 29 35.7**	**-0.6**
	baz=189						
Q19K	**Cape Douglas,**	**3.64**	**314**	Pn	**Pn**	**00 29 38.1**	**+0.7**
Q19K	**Cape Douglas,**	**3.64**	**314**	P	**Pn**	**00 29 37.9**	**+0.6**
	baz=132						
KAHG	**Katmai Hook Gl**	**3.78**	**304**		**Pn**	**00 29 40.5**	**+1.2**
P19K	**Oil Pt**	**4.00**	**324**	Pn	**Pn**	**00 29 42.7**	**+0.3**
P19K				IAML		00 30 51.9	
	comp=E,82nm,1.5s						
P19K	**Oil Pt**	**4.00**	**324**	P	**Pn**	**00 29 43.5**	**+1.1**
	baz=141						
Q22K	**Cooper Landing**	**4.04**	**352**	Pn	**Pn**	**00 29 41.9**	**-0.8**
Q22K	**Cooper Landing**	**4.04**	**352**	P	**Pn**	**00 29 42.5**	**-0.2**
	baz=171						
HIN	**Hinchinbrook I**	**4.06**	**15**	Pn	**Pn**	**00 29 42.5**	**-0.6**
HIN				IAML		00 30 30.8	
	comp=N,73nm,0.7s						
HIN				IAML		00 30 32.4	
	comp=E,73nm,0.8s						
KAIM	**Kayak Island**	**4.08**	**31**	Pn	**Pn**	**00 29 41.9**	**-1.6**
KAIM				IAML		00 30 46.6	
	comp=N,61nm,1.3s						
KAIM				IAML		00 31 15.5	
	comp=E,65nm,1.3s						
KAIM	**Kayak Island**	**4.08**	**31**	P	**Pn**	**00 29 43.1**	**-0.4**
	baz=212						
SLKM	**Skilak Lake**	**4.11**	**349**		**Pn**	**00 29 43.8**	**-0.1**
O20K	**Slope Mountain**	**4.17**	**331**		**Pn**	**00 29 44.9**	**+0.2**
O20K	**Slope Mountain**	**4.17**	**331**	P	**Pn**	**00 29 44.9**	**+0.2**
	baz=148						
IVE	**Iliamna Volcan**	**4.23**	**328**		**Pn**	**00 29 45.4**	**-0.1**
CNTC	**Contact Creek**	**4.32**	**297**		**Pn**	**00 29 47.5**	**+0.8**
Q17K	**Contact Creek**	**4.32**	**297**	P	**Pn**	**00 29 47.5**	**+0.7**
	baz=113						
RED	**Redoubt Volcan**	**4.50**	**333**		**Pn**	**00 29 49.0**	**-0.2**
RDSO	**Redoubt South**	**4.52**	**333**		**Pn**	**00 29 49.0**	**-0.6**
RSO	**Redoubt South**	**4.53**	**333**	Pn	**Pn**	**00 29 49.5**	**-0.3**
RDT	**Redoubt**	**4.54**	**336**		**Pn**	**00 29 49.2**	**-0.7**
P18K	**Big Mountain,**	**4.57**	**312**	Pn	**Pn**	**00 29 49.5**	**-0.7**
P18K	**Big Mountain,**	**4.57**	**312**	P	**Pn**	**00 29 50.0**	**-0.1**
	baz=128						
RDWB	**Redoubt West**	**4.58**	**333**		**Pn**	**00 29 50.1**	**-0.2**
RC01	**Rabbit Creek A**	**4.64**	**353**	Pn	**Pn**	**00 29 50.7**	**-0.4**
RC01				IAML		00 30 44.9	
	comp=N,20nm,0.5s						
RC01				IAML		00 30 47.2	
	comp=E,27nm,0.8s						
RC01	**Rabbit Creek A**	**4.64**	**353**	P	**Pn**	**00 29 50.8**	**-0.3**
	baz=172						
O19K	**Port Alsworth**	**4.77**	**323**	Pn	**Pn**	**00 29 53.1**	**+0.3**
SNH	**Sunshine Point**	**4.78**	**37**	Pn	**Pn**	**00 29 52.2**	**-0.8**
SNH				IAML		00 33 05.7	
	comp=E,46nm,1.5s						
O18K	**Koktuh Hills**	**4.85**	**317**	Pn	**Pn**	**00 29 53.5**	**-0.4**
O18K				IAML		00 32 50.6	
	comp=N,14nm,1.5s						
KNK	**Knik Glacier**	**4.93**	**1**	Pn	**Pn**	**00 29 55.0**	**-0.1**
KNK				IAML		00 30 51.1	
	comp=E,18nm,1.4s						
KNK				IAML		00 31 02.5	
	comp=N,16nm,1.3s						
KNK	**Knik Glacier**	**4.93**	**1**	P	**Pn**	**00 29 55.0**	**-0.1**
	baz=180						
BMRM	**Bremner River**	**4.94**	**23**	Pn	**Pn**	**00 29 54.6**	**-0.6**
BMRM	**Bremner River**	**4.94**	**23**	P	**Pn**	**00 29 54.8**	**-0.5**
	baz=205						
BARK	**Barkley Ridge**	**5.06**	**37**		**Pn**	**00 29 56.0**	**-0.9**
SUA	**Susitna One**	**5.10**	**348**	Pn	**Pn**	**00 29 57.4**	**-0.1**
SUA				IAML		00 30 57.3	
	comp=E,16nm,0.9s						
SUA				IAML		00 31 03.5	
	comp=N,13nm,0.9s						
KLU	**Klutina**	**5.19**	**14**	P	**Pn**	**00 29 58.5**	**-0.2**
	baz=196						
ISLE	**Juniper Island**	**5.26**	**36**		**Pn**	**00 29 58.5**	**-1.3**
N19K	**Bonanza Creek**	**5.30**	**327**		**Pn**	**00 30 00.6**	**+0.3**
SML	**Sawmill**	**5.32**	**1**		**Pn**	**00 30 00.7**	**+0.2**
SCM	**Sheep Creek Mo**	**5.39**	**6**		**Pn**	**00 30 02.1**	**+0.7**
VRDI	**Verde Repeater**	**5.44**	**27**		**Pn**	**00 30 00.7**	**-1.5**
KIAG	**Kiagna River**	**5.50**	**34**		**Pn**	**00 30 01.6**	**-1.4**
N25K	**Chitina, Valde**	**5.52**	**20**		**Pn**	**00 30 03.2**	**-0.1**
GLB	**Gilahina Butte**	**5.54**	**25**		**Pn**	**00 30 02.4**	**-1.1**
N18K	**Kilae Creek**	**5.66**	**321**		**Pn**	**00 30 04.2**	**-0.9**
SKT	**Skwentna**	**5.70**	**346**		**Pn**	**00 30 06.0**	**+0.4**
BARN	**Barnard Glacie**	**5.82**	**35**		**Pn**	**00 30 06.3**	**-1.1**
CTGM	**Chitina Glacie**	**5.86**	**37**		**Pn**	**00 30 05.7**	**-2.3**
BCPM	**Bancas Point**	**5.87**	**50**		**Pn**	**00 30 06.2**	**-1.7**
M20K	**Styx River**	**5.88**	**339**		**Pn**	**00 30 08.2**	**0.0**
O16K	**Kokwok River B**	**5.92**	**306**		**Pn**	**00 30 08.7**	**+0.1**
CNBA	**Chernabura Isl**	**6.44**	**259**		**Pn**	**00 30 13.8**	**-2.0**
O29M	**Mount Kennedy**	**6.50**	**50**		**Pn**	**00 30 15.4**	**-1.3**
P29M	**Windy Craggy**	**6.56**	**57**		**Pn**	**00 30 15.9**	**-1.6**
P29M	**Windy Craggy**	**6.56**	**57**	P	**Pn**	**00 30 16.1**	**-1.3**
	baz=244						
DHY	**Denali Highway**	**6.62**	**5**		**Pn**	**00 30 18.5**	**+0.1**
SDPT	**Sand Point**	**6.78**	**265**		**Pn**	**00 30 20.0**	**-0.4**
YUK7	**Dusty Glacier**	**6.80**	**49**			**00 30 20.9**	**-0.1**
S31K	**Pelican**	**6.87**	**73**		Pn	00 30 16.9	-4.8
RND	**Reindeer**	**6.93**	**359**		**Pn**	**00 30 22.5**	**-0.1**
YUK6	**Outpost Mounta**	**6.94**	**46**			**00 30 23.1**	**+0.3**
YUK6	**Outpost Mounta**	**6.94**	**46**	P	**Pn**	**00 30 23.1**	**+0.3**
	baz=233						
TRF	**Thorofare Moun**	**7.02**	**354**		**Pn**	**00 30 24.1**	**+0.1**
M16K	**Timber Creek**	**7.04**	**314**		**Pn**	**00 30 24.2**	**+0.2**
N15K	**Kwethluk River**	**7.08**	**306**		**Pn**	**00 30 26.0**	**+1.4**
YUK4	**Talbot Arm**	**7.08**	**43**	P	**Pn**	**00 30 26.5**	**+1.8**
	baz=229						
CAST	**Castle Rocks**	**7.16**	**347**		**Pn**	**00 30 25.4**	**-0.3**
HYT	**Haines Junctio**	**7.23**	**49**		**Pn**	**00 30 25.9**	**-0.8**
O14K	**Tigyukauivet M**	**7.29**	**297**		**Pn**	**00 30 28.4**	**+1.0**
RIDG	**Independent Ri**	**7.50**	**13**		**Pn**	**00 30 32.0**	**+1.6**
SKAG	**Skagway**	**7.65**	**62**		**Pn**	**00 30 33.4**	**+1.0**
BPAW	**Bear Paw Mtn.**	**7.71**	**352**		**Pn**	**00 30 33.0**	**-0.3**
M29M	**Somme Creek**	**7.88**	**37**		**Pn**	**00 30 35.5**	**-0.1**
M29M	**Somme Creek**	**7.88**	**37**	P	**Pn**	**00 30 35.8**	**+0.2**
	baz=224						
K17K	**Iditarod**	**7.93**	**326**		**Pn**	**00 30 36.0**	**-0.2**
J18K	**Innoko River**	**8.08**	**333**		**Pn**	**00 30 37.1**	**-1.1**
J20K	**Nowinta River**	**8.17**	**343**		**Pn**	**00 30 40.9**	**+1.4**
CCB	**Clear Creek Bu**	**8.18**	**2**		**Pn**	**00 30 39.4**	**-0.3**
K27K	**Chicken**	**8.21**	**20**		**Pn**	**00 30 40.6**	**+0.5**
N31M	**Braeburn, Yuko**	**8.29**	**48**		**Pn**	**00 30 40.4**	**-0.7**
WHY	**Whitehorse**	**8.29**	**54**		**Pn**	**00 30 40.5**	**-0.7**
ILAR	**Eielson Array**	**8.34**	**5**		**Pn**	**00 30 42.0**	**+0.2**
	comp=N,0.1nm,0.3s,baz=188,slow=13,SNR=5.5						
ILAR				Sn	**Sn**	**00 32 13.9**	**-2.1**
	comp=N,0.1nm,0.3s,baz=190,slow=21,SNR=7.6						
	comp=N,0.2nm,0.3s						
J26L	**Joseph Creek**	**8.40**	**15**	Pn	**Pn**	**00 30 42.4**	**-0.4**
L29M	**L29M**	**8.46**	**34**	Pn	**Pn**	**00 30 43.0**	**-0.5**
P32M	**Atlin**	**8.48**	**62**	Pn	**Pn**	**00 30 42.2**	**-1.6**
M30M	**Minto, Yukon**	**8.54**	**40**	Pn	**Pn**	**00 30 43.7**	**-0.9**
U33K	**Whale Pass**	**8.62**	**86**	Pn	Pn	00 30 42.1	-3.5
L14K	**Kuka Creek**	**8.74**	**310**	Pn	**Pn**	**00 30 48.1**	**+0.8**
K15K	**Wolf Creek Mou**	**8.78**	**317**	Pn	**Pn**	**00 30 48.9**	**+1.1**
J16K	**Anvik River**	**9.08**	**323**	Pn	**Pn**	**00 30 51.0**	**-0.9**
P33M	**Teslin, Yukon**	**9.09**	**59**	Pn	**Pn**	**00 30 50.5**	**-1.6**
K29M	**Barlow Dome**	**9.19**	**32**	Pn	**Pn**	**00 30 52.8**	**-0.8**
M31M	**Drury Creek, Y**	**9.22**	**46**	Pn	**Pn**	**00 30 53.9**	**-0.1**
R33M	**Jennings River**	**9.81**	**66**	Pn	**Pn**	**00 30 59.9**	**-2.1**
IMAR	**Indian Mountai**	**9.83**	**348**		**Pn**	**00 31 01.3**	**-0.9**
J30M	**Hart River**	**10.08**	**32**	Pn	**Pn**	**00 31 05.6**	**-0.2**
DLBC	**Dease Lake**	**10.19**	**71**	Pn	**Pn**	**00 31 07.6**	**+0.4**
	comp=N,0.4nm,0.3s,baz=202,slow=11,SNR=2.4						
	comp=N,0.9nm,0.5s						
G21K	**Allakaket**	**10.31**	**349**	Pn	**Pn**	**00 31 09.9**	**+1.0**
F20K	**Avaraart Lake**	**11.10**	**345**	Pn	**Pn**	**00 31 19.8**	**+0.3**
F17K	**Barbara Pennin**	**11.63**	**334**	Pn	**Pn**	**00 31 26.6**	**-0.2**
B22K	**Teshekpuk Lake**	**14.05**	**353**	Pn	**Pn**	**00 32 00.2**	**+0.5**
B20K	**Meade River**	**14.07**	**348**	Pn	**Pn**	**00 31 58.8**	**-1.2**
YKA	**Yellowknife Ar**	**18.10**	**57**	P	**Pn**	**00 32 53.2**	**+1.0**
	comp=N,0.1nm,0.3s,baz=264,slow=11,SNR=8.1						
	comp=N,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**61.58**	**327**	P	**P**	**00 39 00.0**	**+2.0**
	comp=N,0.2nm,0.3s,baz=18,slow=5.0,SNR=1.5						
	comp=N,0.2nm,0.3s						

NEIC ***31*** *00:45:22.6±1.8, 56.°03N±0.°09×149.°3W±0.°1, h20km±10km, ML3.5/33, ML3.2(AEIC), Error ellipse: s-maj=13.7km s-min=8.8km az=166.0*
AEIC ***31*** *00:45:25.9±2.4, 56.°00N±0.°10×149.°2W±0.°1, h12km±8km, Error ellipse: s-maj=14.3km s-min=8.5km az=165.0*
ISC 31 00:45:21.3±1.8, 56.°1N±0.°1×149.°32W±0.°07, h10km, n119, σ1§05/126, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.48**	**299**	Pn	**Pn**	**00 46 01.6**	**-0.1**
OHAK				Sn	**Sn**	**00 46 30.1**	**-1.9**
OHAK	**Old Harbor**	**2.48**	**299**	P	**Pn**	**00 46 02.2**	**+0.5**
	baz=117						
OHAK				S	**Sn**	**00 46 30.9**	**-1.1**
	baz=117						
KDAK	**Kodiak Island**	**2.48**	**315**		**Pn**	**00 46 02.3**	**+0.5**
KDAK					**Sn**	**00 46 31.3**	**-0.8**
SII	**Sitkinak Islan**	**2.76**	**282**	Pn	**Pn**	**00 46 05.0**	**-0.5**
SII				Sn	**Sn**	**00 46 36.5**	**-2.4**
SII				IAML		00 46 38.9	
	comp=N,113nm,1.1s						
SII				IAML		00 46 55.3	
	comp=E,120nm,1.3s						
SII	**Sitkinak Islan**	**2.76**	**282**	P	**Pn**	**00 46 06.9**	**+1.3**
	baz=99						
SII				S	**Sn**	**00 46 37.7**	**-1.2**
	baz=99						
SYI	**Shuyak Island**	**3.04**	**328**	Pn	**Pn**	**00 46 10.1**	**+0.6**
Q20K	**Shuyak Island**	**3.04**	**328**	P	**Pn**	**00 46 10.4**	**+1.0**
	baz=146						
Q20K				S	**Sn**	**00 46 45.7**	**-0.2**
	baz=146						
R18K	**Karluk**	**3.20**	**300**	Pn	**Pn**	**00 46 12.3**	**+0.8**
R18K	**Karluk**	**3.20**	**300**	P	**Pn**	**00 46 12.9**	**+1.3**
	baz=116						
CNPM	**China Poot**	**3.61**	**344**	Pn	**Pn**	**00 46 17.4**	**+0.1**
CNPM				Sn	**Sn**	**00 46 59.3**	**-0.8**
CNPM				IAML		00 47 00.4	
	comp=E,39nm,1.4s						
CNPM				IAML		00 47 01.7	
	comp=N,41nm,1.4s						
Q19K	**Cape Douglas,**	**3.70**	**323**	Pn	**Pn**	**00 46 20.0**	**+1.5**
Q19K				IAML		00 47 49.6	
	comp=N,137nm,1.5s						
Q19K	**Cape Douglas,**	**3.70**	**323**	P	**Pn**	**00 46 20.0**	**+1.5**
	baz=139						
Q23K	**Middleton Isla**	**3.72**	**24**	Pn	**Pn**	**00 46 18.5**	**-0.3**
KAHG	**Katmai Hook Gl**	**3.74**	**313**		**Pn**	**00 46 21.1**	**+2.0**
BRSE	**Bradley Lake S**	**3.76**	**349**		**Pn**	**00 46 19.7**	**+0.3**
BRSE					**Sn**	**00 47 02.3**	**-1.3**
BRSE	**Bradley Lake S**	**3.76**	**349**	P	**Pn**	**00 46 19.7**	**+0.3**
	baz=168						
BRSE				S	**Sn**	**00 47 02.3**	**-1.3**
	baz=168						
BRLK	**Bradley Lake**	**3.80**	**348**	Pn	**Pn**	**00 46 19.5**	**-0.3**
BRLK				IAML		00 47 06.9	
	comp=E,40nm,0.4s						
KCE	**Katmai Mt Cerb**	**3.87**	**307**		**Pn**	**00 46 23.4**	**+2.5**
ACHA	**Angle Creek He**	**3.91**	**306**		**Pn**	**00 46 23.2**	**+1.7**
KAHC	**Katmai Hardscr**	**4.02**	**312**		**Pn**	**00 46 25.1**	**+2.1**
KAHC	**Katmai Hardscr**	**4.02**	**312**	P	**Pn**	**00 46 25.1**	**+2.1**
	baz=128						
P23K	**Montague Islan**	**4.07**	**14**		**Pn**	**00 46 23.6**	**+0.1**
P23K	**Montague Islan**	**4.07**	**14**	P	**Pn**	**00 46 23.6**	**+0.1**
	baz=195						
P19K	**Oil Pt**	**4.16**	**331**	Pn	**Pn**	**00 46 25.5**	**+0.7**
P19K				IAML		00 46 58.7	
	comp=E,65nm,1.3s						
P19K				IAML		00 47 26.7	
	comp=N,92nm,1.4s						
P19K	**Oil Pt**	**4.16**	**331**	P	**Pn**	**00 46 25.8**	**+1.0**
	baz=148						
CNTC	**Contact Creek**	**4.20**	**304**		**Pn**	**00 46 26.5**	**+1.1**
Q17K	**Contact Creek**	**4.20**	**304**	P	**Pn**	**00 46 26.5**	**+1.1**
	baz=119						
O20K	**Slope Mountain**	**4.39**	**338**		**Pn**	**00 46 28.5**	**+0.5**
O20K	**Slope Mountain**	**4.39**	**338**	P	**Pn**	**00 46 28.5**	**+0.5**
	baz=155						
IVE	**Iliamna Volcan**	**4.42**	**335**		**Pn**	**00 46 29.0**	**+0.5**
SLKM	**Skilak Lake**	**4.48**	**354**		**Pn**	**00 46 29.4**	**+0.2**
HIN	**Hinchinbrook I**	**4.59**	**18**	Pn	**Pn**	**00 46 31.0**	**+0.3**
HIN				IAML		00 49 14.5	
	comp=N,49nm,1.5s						
HIN				IAML		00 49 29.7	
	comp=E,49nm,1.3s						
P18K	**Big Mountain,**	**4.60**	**319**	Pn	**Pn**	**00 46 31.3**	**+0.5**
P18K	**Big Mountain,**	**4.60**	**319**	P	**Pn**	**00 46 31.4**	**+0.6**
	baz=134						
KAIM	**Kayak Island**	**4.66**	**32**	Pn	**Pn**	**00 46 31.6**	**0.0**
KAIM				IAML		00 47 26.0	
	comp=E,65nm,1.3s						
KAIM	**Kayak Island**	**4.66**	**32**	P	**Pn**	**00 46 32.1**	**+0.4**
	baz=216						
RED	**Redoubt Volcan**	**4.73**	**339**		**Pn**	**00 46 32.5**	**-0.2**
RSO	**Redoubt South**	**4.76**	**339**	Pn	**Pn**	**00 46 32.8**	**-0.4**
O19K	**Port Alsworth**	**4.91**	**329**	Pn	**Pn**	**00 46 35.1**	**0.0**
O19K	**Port Alsworth**	**4.91**	**329**	P	**Pn**	**00 46 35.7**	**+0.6**
	baz=145						
O18K	**Koktuh Hills**	**4.92**	**323**	P	**Pn**	**00 46 36.2**	**+1.0**
	baz=138						
P17K	**Kvichak River**	**4.95**	**312**		**Pn**	**00 46 37.3**	**+1.8**
P17K	**Kvichak River**	**4.95**	**312**	P	**Pn**	**00 46 37.3**	**+1.8**
	baz=126						
RAGM	**Ragged Mountai**	**4.97**	**28**	Pn	**Pn**	**00 46 36.3**	**+0.3**
RAGM				IAML		00 49 35.7	
	comp=E,42nm,1.3s						
RC01	**Rabbit Creek A**	**5.04**	**358**	Pn	**Pn**	**00 46 36.3**	**-0.6**
RC01				IAML		00 47 37.8	
	comp=E,20nm,0.4s						
RC01				IAML		00 47 40.9	
	comp=N,16nm,1.3s						
CHGN	**Chignik**	**5.09**	**276**	Pn	**Pn**	**00 46 38.2**	**+0.7**
CHGN				IAML		00 47 36.0	
	comp=N,45nm,0.8s						
CHGN				IAML		00 47 47.2	
	comp=E,43nm,1.4s						
GOAT	**Goat Mountain**	**5.13**	**26**		**Pn**	**00 46 38.9**	**+0.7**
BERG	**Berg Lake**	**5.25**	**32**	Pn	**Pn**	**00 46 39.2**	**-0.6**
BERG				IAML		00 49 56.1	
	comp=N,40nm,1.5s						
SNH	**Sunshine Point**	**5.36**	**37**	Pn	**Pn**	**00 46 39.6**	**-1.7**
KNK	**Knik Glacier**	**5.38**	**4**	Pn	**Pn**	**00 46 42.0**	**+0.5**
N19K	**Bonanza Creek**	**5.47**	**332**	Pn	Pn	00 46 40.7	-2.2
N19K	**Bonanza Creek**	**5.47**	**332**	P	**Pn**	**00 46 43.1**	**+0.1**
	baz=148						
BMRM	**Bremner River**	**5.50**	**25**	Pn	**Pn**	**00 46 43.4**	**+0.2**
BMRM	**Bremner River**	**5.50**	**25**	P	**Pn**	**00 46 43.6**	**+0.4**
	baz=208						
P16K	**Nushagak River**	**5.53**	**306**		**Pn**	**00 46 44.9**	**+1.3**
P16K	**Nushagak River**	**5.53**	**306**	P	**Pn**	**00 46 44.9**	**+1.3**
	baz=119						
O17K	**Koliganek Bris**	**5.56**	**315**		**Pn**	**00 46 45.2**	**+1.2**
O17K	**Koliganek Bris**	**5.56**	**315**	P	**Pn**	**00 46 45.2**	**+1.2**
	baz=129						
BARK	**Barkley Ridge**	**5.64**	**37**		**Pn**	**00 46 45.6**	**+0.4**
KLU	**Klutina**	**5.72**	**17**	Pn	**Pn**	**00 46 47.0**	**+0.7**
KLU	**Klutina**	**5.72**	**17**	P	**Pn**	**00 46 47.1**	**+0.8**
	baz=199						
S14K	**Fog Glacier**	**5.72**	**276**	P	**Pn**	**00 46 48.5**	**+2.1**
	baz=88						
VNFG	**Fog Glacier, M**	**5.72**	**276**	Pn	**Pn**	**00 46 46.5**	**+0.2**
N18K	**Kilae Creek**	**5.77**	**326**	Pn	**Pn**	**00 46 47.2**	**+0.2**
N18K	**Kilae Creek**	**5.77**	**326**	P	**Pn**	**00 46 47.3**	**+0.4**
	baz=140						
ISLE	**Juniper Island**	**5.84**	**36**	Pn	**Pn**	**00 46 48.0**	**0.0**
O16K	**Kokwok River B**	**5.87**	**311**	Pn	**Pn**	**00 46 49.0**	**+0.8**
SCM	**Sheep Creek Mo**	**5.87**	**9**	Pn	**Pn**	**00 46 49.5**	**+1.1**
VRDI	**Verde Repeater**	**6.01**	**28**	Pn	**Pn**	**00 46 48.9**	**-1.5**
N25K	**Chitina, Valde**	**6.07**	**22**	Pn	**Pn**	**00 46 49.2**	**-1.9**
KIAG	**Kiagna River**	**6.08**	**34**		**Pn**	**00 46 51.8**	**+0.5**
SAMH	**Samovar Hills**	**6.08**	**45**		**Pn**	**00 46 52.1**	**+0.8**
GLB	**Gilahina Butte**	**6.10**	**26**	Pn	**Pn**	**

730nm,0.3s,baz=164,slow=20,SNR=16
KAPI LR LR 00 57 27.1
comp=Z,466nm,20.4s,baz=336,slow=41
MMRI Maumere 3.48 103 Pn **Pn 00 56 27.8 -0.2**
MMRI Maumere 3.48 103 P **Pn 00 56 27.7 -0.2**
MMRI S **Sn 00 57 07.3 -0.7**
SRBI Singaraja 3.56 267 P **Pn 00 56 27.8 -1.3**
SRBI S **Sn 00 57 06.6 -3.5**
DNP Denpasar 3.64 257 P **Pn 00 56 29.0 -1.2**
PMSI Majene 4.36 1 P **Pn 00 56 38.5 -1.6**
BBSI Bau Bau 4.44 58 P **Pn 00 56 40.1 -1.0**
JAGI Jajag, Banyuwa 4.64 263 Pn **Pn 00 56 43.1 -0.8**
JAGI Jajag, Banyuwa 4.64 263 P **Pn 00 56 43.3 -0.6**
TTSI Tana Toraja 4.92 12 P **Pn 00 56 47.2 -0.5**
TTSI S **Sn 00 57 44.2 +0.7**
BLJI Banyuglugur 5.16 271 P **Pn 00 56 50.2 -0.9**
373nm,0.7s,7μm1.7nm
GMJI Gumukmas 5.32 266 P **Pn 00 56 53.3 0.0**
207nm,0.7s
SOEI Soe 5.71 109 Pn **Pn 00 57 00.1 +1.4**
SOEI Soe 5.71 109 P **Pn 00 57 00.5 +1.8**
280nm,0.7s,1.0nm
KRKI Karangkates 6.30 267 P **Pn 00 57 05.7 -1.0**
317nm,0.5s,18μm1.7nm
GRJI Gresik 6.35 278 P **Pn 00 57 06.2 -1.2**
397nm,0.9s,1.9nm
BWJI Bawean 6.43 288 P **Pn 00 57 08.0 -0.5**
652nm,1.2s,3.9nm
PWJI Pagerwojo 6.94 268 P **Pn 00 57 14.6 -0.9**
23nm,0.8s,2μm0.1nm
SJI Sawahan 6.97 271 P **Pn 00 57 14.3 -1.8**
NGJI Ngawi 7.30 274 P **Pn 00 57 19.8 -0.6**
65nm,0.6s,0.8nm
LUWI Luwuk 7.87 30 Pn **Pn 00 57 27.8 -0.5**
LUWI Luwuk 7.87 30 P **Pn 00 57 28.6 +0.3**
105nm,0.8s,3μm0.4nm
UGM Wanagama 8.20 269 Pn **Pn 00 57 32.4 -0.6**
UGM Wanagama 8.20 269 P **Pn 00 57 32.8 -0.1**
158nm,1.3s
SMRI Semarang 8.34 275 Pn **Pn 00 57 33.1 -1.6**
SMRI Semarang 8.34 275 P **Pn 00 57 34.2 -0.5**
135nm,1.3s
TOLI2 Tolitoli 9.15 13 Pn **Pn 00 57 47.0 +1.1**
NLAI Namlea 9.46 61 P **Pn 00 57 53.6 +3.5**
24nm,0.5s
KPJI Karang Pucung 9.80 273 P **Pn 00 57 55.2 +0.4**
42nm,0.6s
BBJI Bungbulang 11.06 271 P **Pn 00 58 12.4 +0.2**
50nm,1.0s
LEM Lembang 11.14 275 P Pn 00 58 26.1 +13
22nm,0.5s,baz=32,slow=20,SNR=3.7
CNJI Cibinong 11.59 272 P **Pn 00 58 19.1 -0.2**
22nm,1.3s
FITZ Fitzroy Crossi 12.13 147 P **Pn 00 58 26.7 0.0**
baz=12,SNR=10
FITZ Fitzroy Crossi 12.13 147 Pn **Pn 00 58 25.9 -0.8**
KNRA Kununurra 12.44 129 P **Pn 00 58 29.4 -1.6**
baz=12,SNR=22
KNRA Kununurra 12.44 129 Pn **Pn 00 58 29.0 -2.0**
MTN Manton Dam 13.09 113 P **Pn 00 58 37.8 -2.0**
baz=13,SNR=14
MTN Manton Dam 13.09 113 Pn **Pn 00 58 37.2 -2.6**
PSA00 Pilbara Seismi 13.64 176 Pn **Pn 00 58 44.6 -2.8**
PSA00 Pilbara Seismi 13.64 176 Pn **Pn 00 58 46.2 -1.1**
PPBI Pangkal Pinang 13.84 294 P **Pn 00 58 49.1 -1.0**
24nm,1.1s
KDU Kakadu 14.27 111 P **Pn 00 58 52.7 -3.2**
baz=14,SNR=11
KASI Kota Agung 14.40 279 P **Pn 00 58 57.3 -0.5**
87nm,0.8s
GIRL Giralia 15.31 196 P **Pn 00 59 08.7 -1.2**
baz=15,SNR=19
GIRL Giralia 15.31 196 Pn **Pn 00 59 08.4 -1.5**
KMPI Kaimana, Papua 15.40 75 P **Pn 00 59 10.6 -0.6**
310nm,0.9s
LHSI Lahat 15.72 284 P **Pn 00 59 16.5 +1.2**
217nm,0.8s,7μm
EGSI Enggano, Bengk 16.61 278 P **Pn 00 59 24.6 -2.0**
106nm,1.1s
MEEK Meekatharra 18.65 181 P **Pn 00 59 52.4 +0.6**
baz=19,SNR=6.7
WB0 Warramunga Arr 19.18 130 P **P 00 59 57.0 -0.1**
WB0 IAmb IAmb 00 59 59.4
comp=Z,27nm,0.7s
WRA Warramunga Arr 19.24 130 P **P 00 59 57.4 -0.4**
WRA Warramunga Arr 19.24 130 P **P 00 59 57.4 -0.4**
comp=Z,6.6nm,0.3s,baz=303,slow=12,SNR=126
WRA S Sn 01 03 22.9 -11
comp=Z,1.8nm,0.5s,baz=298,slow=24,SNR=2.3
WRAB Tennant Creek 19.24 130 P **P 00 59 57.3 -0.6**
WRAB IAmb IAmb 01 00 39.5
comp=Z,17nm,0.7s
WB2 Warramunga Arr 19.25 130 P **P 00 59 57.7 -0.2**
WB2 IAmb IAmb 01 00 00.4
comp=Z,28nm,1.0s
WRKA Warakurna 19.31 153 P **Pn 00 59 59.6 -0.2**
baz=19,SNR=29
WR0 Warramunga Arr 19.40 130 P **P 00 59 59.5 -0.1**
WR0 IAmb IAmb 01 00 02.2
comp=Z,30nm,0.7s
MORW Morawa 21.23 187 P **P 01 00 20.1 +0.8**
baz=21,SNR=9.1
MORW Morawa 21.23 187 P **P 01 00 20.1 +0.8**
MORW IAmb IAmb 01 00 54.5
comp=Z,46nm,1.4s
AS31 Alice Springs 21.35 139 P **P 01 00 21.2 +0.5**
ASAR Alice Springs 21.35 139 P **P 01 00 21.2 +0.5**
ASAR Alice Springs 21.35 139 P **P 01 00 21.1 +0.3**
comp=Z,14nm,0.6s,baz=306,slow=9.1,SNR=69
ASAR S **S 01 04 13.8 -2.5**
comp=Z,3.9nm,0.8s,baz=326,slow=24,SNR=5.1
ASAR LR LR 01 08 32.3
comp=Z,110nm,20.3s,baz=316,slow=36
comp=Z,14nm,0.6s
BLDU Baliidu 22.70 185 P **P 01 00 35.4 +0.4**
baz=23,SNR=5.7
KLBR Kellerberrin 23.60 182 P **P 01 00 44.7 +0.6**
baz=24,SNR=5.7
QIS Mount Isa 23.73 124 P **P 01 00 45.9 +0.3**
baz=24,SNR=24
FORT Forrest 24.36 160 P **P 01 00 52.9 +1.6**
COEN Coen 24.66 106 P **P 01 00 53.7 -0.4**
baz=25,SNR=38
COEN Coen 24.66 106 P **P 01 00 53.3 -0.9**
NWAO Narrogin (SRO) 24.96 183 P **P 01 00 57.6 +1.0**
baz=25,SNR=7.5
NWAO P **P 01 00 57.6 +1.0**
baz=25,SNR=7.5
NWAO Narrogin (SRO) 24.96 183 P **P 01 00 57.0 +0.3**
NWAO IAmb IAmb 01 01 01.9
comp=Z,46nm,1.2s
MTSU Mount Surprise 26.83 115 P **P 01 01 13.9 +0.2**
baz=27,SNR=86
PMG Port Moresby 28.07 95 LR LR 01 15 51.6
comp=Z,87nm,18.6s,baz=306,slow=44
CTA Charters Tower 29.21 117 P **P 01 01 34.8 -0.2**
comp=Z,5.4nm,0.9s,baz=303,slow=8.3,SNR=5.7
CTA LR LR 01 13 25.0
comp=Z,84nm,21.9s,baz=276,slow=37
comp=Z,5.4nm,0.9s
CTAO Charters Tower 29.21 117 P **P 01 01 35.5 +0.5**
CTAO IAmb IAmb 01 01 38.3
comp=Z,6.9nm,0.9s
BBOO Buckleboo 29.51 150 P **P 01 01 38.3 +0.7**
baz=30,SNR=6.0
BBOO Buckleboo 29.51 150 P **P 01 01 37.8 +0.3**
HTT Hallett 31.50 147 P **P 01 01 56.1 +1.0**
baz=32,SNR=3.5
STKA Stephens Creek 31.93 141 P **P 01 01 59.6 +0.8**
baz=32,SNR=7.6
STKA Stephens Creek 31.93 141 P **P 01 01 59.7 +0.8**
STKA Stephens Creek 31.93 141 P **P 01 01 59.3 +0.4**
comp=Z,4.0nm,0.4s,baz=321,slow=7.9,SNR=12
STKA LR LR 01 15 54.7
comp=Z,109nm,18.9s,baz=340,slow=38
comp=Z,4.0nm,0.4s
CMAR Chiang Mai Arr 32.70 323 P **P 01 02 05.2 -0.5**
comp=Z,0.7nm,0.3s,baz=152,slow=6.6,SNR=2.2
CMAR LR LR 01 15 26.7
comp=Z,71nm,21.9s,baz=145,slow=36
comp=Z,0.7nm,0.3s
WHN Wuhan 38.45 354 ||P **P 01 02 57.5 +2.6**
NJ2 Nanjing 39.72 0 *eP* **P 01 03 06.8 +1.3**
NJ2 pP **pP 01 03 13.0 -1.2**
NJ2 sP **sP 01 03 16.3 -1.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,220nm,3.9s
HNR Honiara 40.69 95 LR LR 01 21 20.1
comp=Z,781nm,18.7s,baz=315,slow=38
KSRS Korea Array 45.91 10 P **P 01 03 52.7 -2.9**
comp=Z,0.5nm,0.4s,baz=194,slow=8.8,SNR=1.6
comp=Z,0.5nm,0.4s
LZH Lanzhou 45.95 343 *eP* P 01 04 06.0 +10
LZH pP pwP 01 04 17.3 +7.8
LZH pmax pmax
comp=Z,18nm,1.5s
DZM Mont Dzumac 47.93 113 LR LR 01 25 07.6
comp=Z,46nm,19.2s,baz=236,slow=37
BTO Baotou 48.93 351 *eP* **P 01 04 21.8 +2.6**
BTO pP **pwP 01 04 31.8 -0.8**
BTO sP **sP 01 04 35.8 +4.2**
BTO pmax pmax
comp=Z,12nm,1.0s
BTO pmax pmax
comp=Z,140nm,4.4s
HHC Hu-ho-hao-te 48.95 353 *eP* **P 01 04 22.3 +2.9**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.1s
GTA Gaotai 50.25 341 P P 01 04 36.0 +6.7
GTA pP pwP 01 04 43.5 +0.8
GTA sP sP 01 04 47.0 +5.3
GTA pmax pmax
comp=Z,3.0nm,1.6s
GTA LR LR
comp=N,140nm,18.2s
GTA LR LR
comp=E,160nm,17.8s
GTA LR LR
comp=Z,140nm,18.2s
MDJ Mudanjiang 53.16 10 P P 01 04 44.8 -6.0
MDJ sP pP 01 04 54.3 -5.3
MDJ PcS PcS 01 09 45.8 -12
MDJ S S 01 12 30.3 +11
MDJ sS sS 01 12 45.5 +11
MDJ ScS **ScS 01 14 35.0 -3.0**
SONM Songino Array 56.56 350 P **P 01 05 14.8 -0.7**
SONM Songino Array 56.56 350 P **P 01 05 14.6 -1.0**
comp=Z,0.9nm,0.7s,baz=164,slow=8.5,SNR=7.4
comp=Z,0.9nm,0.7s
HEH HeiHe 58.38 6 *eP* **P 01 05 28.0 -0.2**
HEH pmax pmax
comp=Z,6.0nm,0.6s
HEH LR LR
comp=N,360nm,15.3s
HEH LR LR
comp=E,270nm,14.3s
HEH LR LR
comp=Z,420nm,15.9s
KSH Kashi 61.60 323 P **P 01 05 50.5 -0.2**
KSH pP pP 01 05 58.0 -1.7
KSH pmax pmax
comp=Z,4.0nm,0.9s
KBL Kabul 63.17 315 P **P 01 06 00.7 -0.7**
MK31 Makanchi Array 63.38 333 P **P 01 06 01.8 -0.5**
MK31 IAmb IAmb 01 06 14.4
comp=Z,4.5nm,0.8s
MKAR Makanchi Array 63.38 333 P **P 01 06 02.0 -0.3**
MKAR Makanchi Array 63.38 333 P **P 01 06 01.8 -0.5**
comp=Z,1.7nm,0.7s,baz=150,slow=7.0,SNR=11
comp=Z,1.7nm,0.7s
AAK Ala-Archa 64.46 325 P **P 01 06 09.1 -0.5**
AAK IAmb IAmb 01 06 25.4
comp=Z,3.1nm,0.8s
ARSB Arslanbob 64.51 323 P **P 01 06 08.6 -1.4**
SIMJ Simiganj 65.43 319 P **P 01 06 14.7 -1.3**
SIMJ IAmb IAmb 01 06 25.9
comp=Z,17nm,1.4s
KURBB Kurchatov Arra 67.89 334 P **P 01 06 29.8 -1.4**
comp=Z,1.0nm,0.7s,baz=148,slow=5.5,SNR=14
comp=Z,1.0nm,0.7s
KURK Kurchatov 67.92 334 P **P 01 06 31.2 -0.2**
KURK IAmb IAmb 01 06 42.9
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 67.94 339 P **P 01 06 31.5 0.0**
ZAA0 IAmb IAmb 01 06 42.6
comp=Z,4.8nm,0.8s
ZALV Zalesovo Beam 67.94 339 P **P 01 06 30.4 -1.1**
ZALV Zalesovo Beam 67.94 339 P **P 01 06 29.4 -2.1**
comp=Z,1.1nm,0.6s,baz=134,slow=5.0,SNR=6.7
comp=Z,1.1nm,0.6s
GEYT Alibeck 72.54 314 P **P 01 07 01.9 +1.8**
comp=Z,0.5nm,0.6s,baz=107,slow=3.5,SNR=1.8
comp=Z,0.5nm,0.6s
VNDA Vanda 73.11 171 P **P 01 07 04.4 +1.7**
comp=Z,0.9nm,0.7s,baz=315,slow=8.6,SNR=2.3
comp=Z,0.9nm,0.7s
BVAR Borovoye Array 73.23 332 P **P 01 07 03.1 -0.7**
comp=Z,0.9nm,0.6s,baz=111,slow=8.1,SNR=7.2
comp=Z,0.9nm,0.6s
ABKAR Akbulak array 76.55 325 P **P 01 07 22.7 -0.3**
KMBO Kilima Mbogo 81.48 270 P **P 01 07 55.5 +4.3**
comp=Z,0.4nm,0.3s,baz=63,slow=11,SNR=2.3
comp=Z,0.4nm,0.3s
QSPA South Pole Qui 82.10 180 P **P 01 07 54.3 +1.1**
comp=Z,1.1nm,0.3s,baz=358,slow=1.3,SNR=2.6
comp=Z,1.1nm,0.3s
LSZ Lusaka 88.54 255 P **P 01 08 29.2 +2.8**
comp=Z,0.7nm,0.3s,baz=87,slow=5.8,SNR=2.0
comp=Z,0.7nm,0.3s
BOSA Boshof 89.37 241 LR LR 01 45 07.0
comp=Z,19nm,18.7s,baz=134,slow=33
SNAA Sanae 92.01 196 P **P 01 08 42.4 +1.0**
comp=Z,1.7nm,1.1s,baz=188,slow=14,SNR=2.5
comp=Z,1.7nm,1.1s
TORD Torodi Ar. Bea 118.07 281 PKP **PKiKP 01 14 21.8 +1.1**
comp=Z,0.1nm,0.5s,baz=68,slow=2.2,SNR=1.1
CPUP Villa Florida 145.78 186 PKPbc **PKPdf 01 15 13.0 +0.8**
comp=Z,1.0nm,0.3s,baz=195,slow=7.0,SNR=1.5

*IDC **31** 00:55:50.8±0.5,2.65N×31.21W, h0km, mb4.3/23, mbtmp4.3/24, ML4.3/1, MS3.9/63, Error ellipse: s-maj=17.1km s-min=13.4km az=140.0*
*NEIC **31** 00:55:53.0±1.4,2.7N±0.1×31.21W±0.05, h10km±1km, mb4.8/88, Error ellipse: s-maj=19.6km s-min=3.5km az=154.0*
*GCMT **31** 00:55:57.0±0.2,2.82N±0.03×31.11W±0.03, h18km, MW4.9/100, Moment Tension Solution. s26,c30; s100,c129; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.79±.17; Mθθ0.96±.11; Mϕϕ1.82±.12; Mrθ0.71±.32; Mθϕ-1.32±.07; Mϕr0.08±.30; Best double couple: M₀2.87300×10^16^ NP1:ϕs312.00000°,δ50.00000°, λ-106.00000°. NP2:ϕs156.00000°,δ43.00000°, λ-72.00000°. Principal axes: T 2.8030, Plg4.0000°, Azm53.0000°; N 0.1350, Plg12.0000°, Azm322.0000°; P -2.9430, Plg78.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 00:55:52.1±0.4,2.72N±0.08×31.14W±0.07, h10km, n187, σ1.916/112, mb4.7/66, MS3.9/63, 4D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RCBR	**Riachuelo**	**9.73**	**209**	Pn	**Pn**	**00 58 11.0**		**-1.3**
RCBR	**Riachuelo**	**9.73**	**209**	Pn	**Pn**	**00 58 10.2**		**-2.1**
	2.6nm,0.3s,baz=23,slow=17,SNR=27							
RCBR				Sn	Sn	00 59 49.5		-12
	0.8nm,0.3s,baz=322,slow=18,SNR=1.8							
RCBR				LR	LR	01 01 13.6		
	comp=Z,1μm,19.3s,baz=46,slow=34							
	4.7nm,0.3s							
SACV	**Santiago Islan**	**14.26**	**31**	Pn	**Pn**	**00 59 12.1**		**-2.2**
H10N3	**ASCENSION HYDR**	**19.63**	**122**	T	T	01 20 29.7		
	baz=302,slow=75,SNR=1220							
H10N2	**ASCENSION HYDR**	**19.64**	**122**	T	T	01 20 30.1		
	baz=302,slow=75,SNR=1330							
H10N1	**ASCENSION HYDR**	**19.66**	**122**	T	T	01 20 31.2		
	baz=302,slow=75,SNR=1679							
H10S3	**ASCENSION HYDR**	**20.10**	**125**	T	T	01 21 05.3		
	baz=302,slow=74,SNR=253							
H10S2	**ASCENSION HYDR**	**20.12**	**125**	T	T	01 21 06.5		
	baz=278,slow=74,SNR=147							
MCPB	**Macapa, AP**		**21.13 262**	*eP*	**P**	**01 00 37.8**		**+0.4**
MDP	**Montagnes des**	**21.58**	**277**	LR	LR	01 08 00.8		
	comp=Z,186nm,21.2s,baz=105,slow=34							

JANB Januaria 21.95 216 *eP* **P 01 00 46.0 -0.3**
SJMB Sao Joao De Ma 23.47 205 *eP* **P 01 01 03.0 +1.0**
MALB Monte Alegre 23.56 259 *eP* **P 01 01 04.8 +1.8**
DIAM Diamantina, MG 24.26 210 *eP* **P 01 01 10.3 +0.6**
BDFB Brasilia 24.73 222 P **P 01 01 12.2 -1.8**
BDFB Brasilia 24.73 222 P **P 01 01 13.4 -0.6**
6.8nm,0.9s,baz=37,slow=12,SNR=7.1
BDFB LR LR 01 09 53.4
comp=Z,476nm,20.6s,baz=79,slow=34
6.8nm,0.9s
SNDB Serra Nova Dou 24.79 234 *eP* **P 01 01 15.0 +0.6**
ITTB Itaituba 25.57 254 *eP* **P 01 01 22.0 +0.4**
PMNB Patos De Minas 25.94 215 *eP* **P 01 01 26.0 +1.0**
NPGB Novo Progresso 26.05 248 *eP* **P 01 01 25.5 -0.4**
DBIC Dimbokro 26.48 81 P **P 01 01 29.1 -0.8**
DBIC IAmb IAmb 01 01 31.7
comp=Z,16nm,1.1s
DBIC Dimbokro 26.48 81 P **P 01 01 29.0 -0.8**
comp=Z,6.6nm,0.9s,baz=266,slow=12,SNR=5.6
DBIC LR LR 01 09 47.7
comp=Z,485nm,20.1s,baz=246,slow=32
comp=Z,6.6nm,0.9s
IPMB Ipameri, GO 26.57 219 *eP* **P 01 01 31.6 +1.0**
PCMB Pacaembu 31.18 218 *eP* **P 01 02 12.1 +0.5**
H05S1 Guadeloupe/Mar 31.53 293 T T 01 35 23.0
SNR=99
H05N1 Guadeloupe/Mar 32.38 297 T T 01 36 17.9
SNR=13
LDASE Londrina, Braz 32.44 216 *eP* **P 01 02 23.9 +1.2**
PTLB Pontes e Lacer 33.06 236 *eP* **P 01 02 28.8 +0.6**
SAML Samuel 33.98 250 P **P 01 02 35.9 -0.4**
SAML IAmb IAmb 01 02 39.9
comp=Z,11nm,1.1s
PTGB Pitanga 34.01 216 *eP* **P 01 02 38.1 +1.7**
TEFE Tefe 34.05 260 *eP* **P 01 02 39.4 +2.5**
PCRV Puerto La Cruz 34.07 284 LR LR 01 15 53.6
comp=Z,51nm,18.3s,slow=35
TOA0 Torodi Ar. Sit 34.08 70 P **P 01 02 36.9 -0.2**
TORD Torodi Ar. Bea 34.08 70 P **P 01 02 36.8 -0.3**
TORD IAmb IAmb 01 03 51.7
comp=Z,7.9nm,0.8s
TORD Torodi Ar. Bea 34.08 70 P **P 01 02 36.5 -0.6**
comp=Z,4.9nm,0.9s,baz=264,slow=7.9,SNR=25
TORD PcP **PcP 01 05 14.8 0.0**
comp=Z,0.6nm,0.8s,baz=318,slow=1.9,SNR=2.7
TORD LR LR 01 14 29.3
comp=Z,261nm,20.6s,baz=294,slow=33
comp=Z,4.9nm,0.9s
SIV San Ignacio 34.95 237 LR LR 01 17 00.5
comp=Z,731nm,18.3s,baz=108,slow=36
BBRB Robore, Bolivi 35.11 232 *eP* **P 01 02 47.4 +1.4**
BBSD Serra de San D 35.17 235 *eP* **P 01 02 47.3 +0.8**
ETMB Extrema 37.09 250 P **P 01 03 02.3 -0.7**
ETMB Extrema 37.09 250 *eP* **P 01 03 03.7 +0.7**
SJG San Juan 37.57 296 LR LR 01 14 55.6
comp=Z,55nm,20.4s,baz=114,slow=30
CPUP Villa Florida 38.41 220 P **P 01 03 14.2 +0.2**
CPUP IAmb IAmb 01 03 17.3
comp=Z,17nm,1.1s
CPUP Villa Florida 38.41 220 P **P 01 03 14.7 +0.8**
comp=Z,7.0nm,0.7s,baz=44,slow=6.6,SNR=13
CPUP LR LR 01 18 29.5
comp=Z,542nm,19.9s,baz=51,slow=36
comp=Z,7.0nm,0.7s
MDT Midelt 38.92 37 LR LR 01 17 24.4
comp=Z,651nm,21.4s,baz=184,slow=33
TAM Tamanrasset 40.75 58 P **P 01 03 34.2 +0.4**
LPAZ La Paz 41.14 241 P **P 01 03 37.3 -0.3**
CZSB Cruzeiro do Su 42.75 256 P **P 01 03 49.1 -1.0**
CZSB Cruzeiro do Su 42.75 256 *eP* **P 01 03 50.0 -0.1**
ROSC El Rosal 43.13 274 P **P 01 03 52.9 -0.8**
ROSC El Rosal 43.13 274 LR LR 01 21 15.7
comp=Z,248nm,19.9s,baz=80,slow=35
PB16 IPOC Station P 43.18 239 P **P 01 03 52.7 -1.5**
PB16 IAmb IAmb 01 03 54.5
comp=Z,32nm,1.8s
H09W1 TRISTAN DA CUN 43.30 158 T T 01 50 15.8
SNR=20
ESDC Sonseca Array 44.29 30 P **P 01 04 03.7 +1.5**
ESDC Sonseca Array 44.29 30 P **P 01 04 03.7 +1.5**
comp=Z,3.1nm,1.0s,baz=225,slow=9.0,SNR=12
ESDC LR LR 01 19 32.4
comp=Z,139nm,21.3s,baz=242,slow=32
comp=Z,3.1nm,1.0s
LVC Limon Verde 44.63 234 LR LR 01 23 54.3
comp=Z,301nm,18.3s,baz=57,slow=38
PB15 IPOC Station P 45.38 233 P **P 01 04 09.7 -1.6**
GO02 Mina Guanaco 46.45 231 P **P 01 04 19.3 -0.5**
BOSC San Juan Bosco 47.69 263 P **P 01 04 28.6 -1.0**
NNA Nana 47.71 251 LR LR 01 24 10.2
comp=Z,234nm,18.9s,baz=79,slow=36
ATAH Atahualpa 48.16 258 LR LR 01 25 08.1
comp=Z,256nm,19.4s,baz=87,slow=36
COHC Cochancay 48.37 264 P **P 01 04 33.1 -1.6**
KEST Kesra 49.80 44 P **P 01 04 46.2 +0.9**
KEST IAmb IAmb 01 04 49.9
comp=Z,7.3nm,1.0s
KEST Kesra 49.80 44 P **P 01 04 47.6 +2.3**
comp=Z,4.9nm,0.9s,baz=157,slow=6.5,SNR=6.2
KEST LR LR 01 25 16.1
comp=Z,360nm,20.9s,baz=199,slow=35
comp=Z,4.9nm,0.9s
TSUM Tsumeb 52.60 117 LR LR 01 22 42.1
comp=Z,119nm,20.6s,baz=300,slow=31
JTS Las Juntas de 53.93 281 LR LR 01 27 35.1
comp=Z,43nm,21.8s,baz=97,slow=35
VAE Valguarnera 54.20 44 LR LR 01 28 52.1
comp=Z,273nm,18.5s,baz=158,slow=36
OSSC Osservatorio P 55.32 37 P **P 01 05 27.0 +0.9**
OSSC IAmb IAmb 01 05 40.9
comp=Z,29nm,1.8s
ZCCA Zocca 55.64 36 P **P 01 05 28.7 +0.3**
NRCA Norcia 56.07 38 P **P 01 05 32.0 +0.5**
NRCA IAmb IAmb 01 05 39.1
comp=Z,9.6nm,1.2s
PLCA Paso Flores 56.23 215 LR LR 01 28 47.9
comp=Z,272nm,20.8s,baz=40,slow=35
DAVOX Davos/Dischmat 56.48 33 LR LR 01 26 40.8
comp=Z,129nm,21.5s,baz=242,slow=33
CTI Castel Tesino 57.02 34 P **P 01 05 39.1 +0.8**
FETA Feichten 57.09 33 *eP* **P 01 05 40.6 +1.7**
comp=Z,6.2nm,1.1s
RETA Reutte 57.40 33 *eP* **P 01 05 42.0 +1.1**
comp=Z,4.5nm,1.0s
SQTA Sankt Quirin 57.47 33 *eP* **P 01 05 42.5 +1.0**
comp=Z,7.1nm,1.0s
STAL STALIGIAL 57.74 35 P **P 01 05 44.2 +0.9**
STAL IAmb IAmb 01 05 47.3
comp=Z,11nm,1.2s
ABTA Abfaltersbach 57.91 34 *eP* **P 01 05 47.1 +2.5**
comp=Z,11nm,1.3s
CLUD Cludinico 57.95 35 P **P 01 05 45.4 +0.6**
CLUD IAmb IAmb 01 05 52.9
comp=Z,8.4nm,1.1s
SABO M.te Sabotino 58.09 35 P **P 01 05 46.4 +0.7**
SABO IAmb IAmb 01 05 49.7
comp=Z,10nm,1.1s
MYKA Terra Mystica 58.48 35 *ep*P pP 01 05 52.1 +1.4
comp=Z,8.7nm,1.1s
TKL Tuckaleechee C 58.60 311 LR LR 01 25 54.5
comp=Z,79nm,21.3s,baz=144,slow=31
SOKA Soboth 59.31 35 *eP* **P 01 05 56.6 +2.3**
comp=Z,6.6nm,1.1s
SADO Sadowa 59.39 322 LR LR 01 25 50.7
comp=Z,59nm,21.8s,baz=336,slow=30
SCHQ Schefferville 59.48 337 P **P 01 05 56.0 +0.8**
comp=Z,10nm,0.9s,baz=156,slow=8.9,SNR=6.1
SCHQ LR LR 01 29 32.0
comp=Z,46nm,18.1s,baz=124,slow=34
comp=Z,10nm,0.9s
GERES GERESS Array B 59.78 33 P **P 01 05 58.9 +1.3**
GERES GERESS Array B 59.78 33 P **P 01 05 59.5 +1.9**
comp=Z,1.4nm,0.8s,baz=216,slow=6.6,SNR=6.3
GERES LR LR 01 29 10.8
comp=Z,93nm,21.7s,baz=264,slow=33
comp=Z,1.4nm,0.8s
SUR Sutherland 60.28 130 LR LR 01 26 21.0
comp=Z,62nm,21.1s,baz=296,slow=30
FNA Florina 60.51 44 P **P 01 06 03.6 +1.0**
RONA Rosalia, Austr 60.59 35 *eP* **P 01 06 05.2 +2.2**
comp=Z,9.6nm,1.4s
CLL Collm 60.88 30 *e*Sx Sx 01 14 32.0
CLL *e*SS **SS 01 18 18.0 -4.0**
CLL AMS AMS 01 29 00.0
comp=Z,100nm,18.3s
IDI Anoyia 61.07 51 LR LR 01 34 27.7

comp=Z,37nm,20.7s,baz=280,slow=38
LSZ Lusaka 61.35 109 P **P 01 06 10.4 +1.5**
comp=Z,1.2nm,0.8s,baz=299,slow=3.7,SNR=3.0
LSZ LR LR 01 27 18.2
comp=Z,93nm,21.5s,baz=293,slow=31
comp=Z,1.2nm,0.8s
LBTB Lobatse 61.49 120 LR LR 01 28 16.2
comp=Z,39nm,19.7s,baz=279,slow=32
VRAC Vranov 61.62 33 LR LR 01 30 46.3
comp=Z,55nm,19.6s,baz=232,slow=34
MBAR Mbarara 61.95 92 LR LR 01 30 55.1
comp=Z,86nm,19.3s,baz=274,slow=34
BORG Borgarnes 62.30 5 LR LR 01 27 45.0
comp=Z,55nm,19.5s,baz=198,slow=31
BOSA Boshof 62.38 124 LR LR 01 28 12.4
comp=Z,39nm,20.3s,baz=337,slow=31
CMIG Matias Romero 64.13 288 LR LR 01 34 44.0
comp=Z,26nm,19.9s,baz=77,slow=36
MLR Muntele Rosu 65.46 40 P **P 01 06 36.5 +0.9**
MLR Muntele Rosu 65.46 40 LR LR 01 34 51.7
comp=Z,93nm,19.0s,baz=278,slow=36
MGMO Mountain Grove 65.56 310 IAmb IAmb 01 06 43.6
comp=Z,8.9nm,0.8s
SFJD Kangerlussuaq 65.58 352 LR LR 01 30 32.0
comp=Z,99nm,18.5s,baz=172,slow=32
NOA NORSAR Array B 66.40 21 P **P 01 06 43.7 +2.5**
comp=Z,24nm,1.0s,baz=224,slow=6.2,SNR=3.9
NOA LR LR 01 31 28.5
comp=Z,56nm,21.0s,baz=235,slow=32
comp=Z,2.4nm,1.0s
HFS Hagfors 66.71 23 LR LR 01 34 16.0
comp=Z,38nm,18.2s,baz=243,slow=34
FRB Frobisher Bay 66.73 343 LR LR 01 31 53.3
comp=Z,42nm,20.1s,baz=29,slow=32
CSS Mathiatis 67.64 53 P **P 01 06 50.9 +1.3**
CSS IAmb IAmb 01 06 53.7
comp=Z,9.2nm,1.1s
EIL Elat 67.94 59 LR LR 01 37 33.0
comp=Z,244nm,18.2s,baz=249,slow=37
KMBO Kilima Mbogo 68.48 92 P **P 01 06 55.4 -0.2**
comp=Z,0.9nm,0.5s,baz=235,slow=16,SNR=2.4
KMBO LR LR 01 33 41.2
comp=Z,70nm,20.2s,baz=92,slow=33
comp=Z,0.9nm,0.5s
Z35A Perchaven, San 68.63 305 P **P 01 06 55.9 0.0**
MMAI Mount Meron Ar 68.92 56 P **P 01 06 59.3 +1.6**
comp=Z,5.2nm,1.0s,baz=276,slow=9.7,SNR=7.4
MMAI LR LR 01 39 32.7
comp=Z,46nm,18.3s,baz=244,slow=38
comp=Z,5.2nm,1.0s
BR131 Keskin Array S 69.01 48 P **P 01 06 58.4 +0.2**
BR131 IAmb IAmb 01 07 06.1
comp=Z,8.4nm,1.4s
BRTR Keskin Array B 69.01 48 P **P 01 06 59.1 +0.8**
BRTR Keskin Array B 69.01 48 P **P 01 06 59.2 +1.0**
comp=Z,1.4nm,0.7s,baz=231,slow=5.1,SNR=11
BRTR PP **PP 01 09 28.5 -2.2**
comp=Z,1.3nm,1.1s,baz=232,slow=4.1,SNR=3.7
BRTR LR LR 01 36 53.5
comp=Z,106nm,21.9s,baz=263,slow=36
comp=Z,1.4nm,0.7s
AKASG Malin Array Be 69.48 36 P **P 01 07 00.6 -0.1**
AKASG IAmb IAmb 01 07 04.3
comp=Z,9.3nm,1.3s
AKASG Malin Array Be 69.48 36 P **P 01 07 01.1 +0.4**
comp=Z,4.2nm,0.9s,baz=248,slow=6.4,SNR=9.3
AKASG LR LR 01 36 55.4
comp=Z,55nm,18.9s,baz=224,slow=35
comp=Z,4.2nm,0.9s
HNDO Hondo 69.68 300 P **P 01 07 02.8 +0.3**
HNDO IAmb IAmb 01 07 07.0
comp=Z,5.5nm,0.9s
BRDY Brady 69.72 302 IAmb IAmb 01 07 03.5
comp=Z,8.6nm,0.9s
DRIO Del Rio 70.82 300 IAmb IAmb 01 07 10.9
comp=Z,9.4nm,1.3s
OZNA Ozona 71.47 302 IAmb IAmb 01 07 14.9
comp=Z,12nm,1.1s
ULM Lac du Bonnet 71.95 322 P **P 01 07 14.3 -1.5**
comp=Z,2.8nm,0.8s,baz=171,slow=5.5,SNR=5.0
comp=Z,2.8nm,0.8s
SAND Sanderson 72.19 300 IAmb IAmb 01 07 19.0
comp=Z,6.3nm,0.9s
FINES FINESS Array B 72.47 25 P **P 01 07 19.9 +1.2**
comp=Z,6.3nm,1.0s,baz=181,slow=14,SNR=4.6
FINES LR LR 01 37 42.1
comp=Z,78nm,18.4s,baz=258,slow=35
comp=Z,6.3nm,1.0s
MSTX Muleshoe 73.28 305 P **P 01 07 24.3 +0.1**
MSTX IAmb IAmb 01 07 29.0
comp=Z,12nm,1.1s
TXAR Lajitas Array 73.45 300 P **P 01 07 25.9 +0.5**
TXAR Lajitas Array 73.45 300 P **P 01 07 25.6 +0.3**
comp=Z,2.3nm,0.9s,baz=121,slow=7.5,SNR=16
comp=Z,2.3nm,0.9s
ALPN Alpine 73.54 301 IAmb IAmb 01 07 27.5
comp=Z,21nm,1.8s
PECS Pecos 73.85 302 IAmb IAmb 01 07 29.7
comp=Z,19nm,1.4s
FCC Fort Churchill 73.92 331 P **P 01 07 26.4 -0.9**
KSCO Kaye Shedlock' 73.94 310 P **P 01 07 28.3 +0.2**
VHRN Van Horn 74.74 301 IAmb IAmb 01 07 38.1
comp=Z,11nm,1.2s
VNA2 Neumayer--Watz 75.16 172 ⇓P **P 01 07 34.1 -0.1**
comp=Z,5.0nm,0.8s,baz=335,slow=16
GURO Guroymak-BITLI 75.17 51 P **P 01 07 35.9 +0.7**
GURO IAmb IAmb 01 07 40.2
comp=Z,8.1nm,1.2s
Q24A Divide 75.88 309 IAmb IAmb 01 07 41.4
comp=Z,8.7nm,1.0s
ARCES ARCESS Array B 76.28 18 LR LR 01 35 42.5
comp=Z,88nm,21.1s,baz=247,slow=31
ANMO Albuquerque 76.42 305 P **P 01 07 42.5 0.0**
ANMO Albuquerque 76.42 305 LR LR 01 40 36.9
comp=Z,21nm,18.2s,baz=170,slow=35
SNAA Sanae 76.49 171 ⇓P **P 01 07 42.1 +0.1**
comp=Z,100nm,0.9s
SNAA Sanae 76.49 171 P **P 01 07 41.7 -0.2**
comp=Z,5.5nm,1.0s,baz=331,slow=10,SNR=6.7
comp=Z,5.5nm,1.0s
KBZ Khabaz 76.61 46 P **P 01 07 44.6 +1.6**
comp=Z,8.0nm,1.0s,baz=191,slow=5.2,SNR=7.8
KBZ LR LR 01 44 28.2
comp=Z,33nm,19.2s,baz=269,slow=38
comp=Z,8.0nm,1.0s
ONI Oni 76.83 47 IAmb IAmb 01 07 49.5
comp=Z,13nm,1.1s
121A Cookes Peak, D 77.28 303 IAmb IAmb 01 07 50.2
comp=Z,16nm,1.4s
GNI Garni 77.47 50 LR LR 01 44 51.9
comp=Z,67nm,19.1s,baz=268,slow=38
TROLL Troll, Antarti 77.67 170 ⇓P **P 01 07 49.9 +1.2**
comp=Z,135nm,0.8s
LAO LASA Array 77.81 317 IAmb IAmb 01 07 52.0
comp=Z,11nm,1.1s
SPITS Spitsbergen Ar 79.33 9 LR LR 01 35 39.3
comp=Z,63nm,21.9s,baz=160,slow=30
PDAR Pinedale Array 79.66 313 P **P 01 08 00.2 -0.1**
comp=Z,0.5nm,0.6s,baz=69,slow=8.1,SNR=5.3
PDAR LR LR 01 38 41.2
comp=Z,45nm,21.9s,baz=118,slow=32
comp=Z,0.5nm,0.6s
TUC Tucson 79.80 302 P **P 01 08 01.1 -0.1**
TUC IAmb IAmb 01 08 11.1
comp=Z,14nm,1.9s
HMU Henry Mountain 80.13 308 IAmb IAmb 01 08 13.8
comp=Z,31nm,1.9s
WUAZ Wupatki 80.48 305 P **P 01 08 05.2 +0.3**
BELA Belgrano 2 80.52 181 P **P 01 08 03.0 -1.0**
RES Resolute Bay 80.63 346 P **P 01 08 04.4 -0.2**
RPN Rapa Nui 80.75 242 LR LR 01 41 10.3
comp=Z,76nm,18.7s,baz=115,slow=34
MTPU Mount Pierson 81.28 308 IAmb IAmb 01 08 11.2
comp=Z,12nm,1.3s
ELIB Princess Elisa 82.17 165 *d*P P 01 08 06.6 -6.4
W13A Hualapai Mount 82.51 305 P **P 01 08 16.2 +0.5**
KIRV Kirov 82.76 31 LR LR 01 42 06.6
comp=Z,136nm,21.5s,baz=269,slow=34
EDM Edmonton 83.16 323 P **P 01 08 18.8 +0.3**
PRN Pahroc Range 83.52 307 IAmb IAmb 01 08 23.9
comp=Z,16nm,1.6s
ELK Elko 83.76 311 LR LR 01 40 52.3
comp=Z,41nm,21.4s,baz=88,slow=32
YKA Yellowknife Ar 84.58 332 P **P 01 08 25.0 -0.4**
comp=Z,2.6nm,0.8s,baz=94,slow=5.2,SNR=36
YKA LR LR 01 43 33.1
comp=Z,76nm,19.2s,baz=19,slow=34
comp=Z,2.6nm,0.8s

GWY Greenwater Val 84.80 306 IAmb IAmb 01 08 29.9
comp=Z,14nm,1.6s
GSC Goldstone, Bar 84.90 305 IAmb IAmb 01 08 38.9
comp=Z,13nm,1.8s
QSM Queen of Sheba 84.96 306 IAmb IAmb 01 08 31.1
comp=Z,8.1nm,1.2s
NEW Newport 85.31 318 LR LR 01 44 13.1
comp=Z,39nm,18.1s,baz=46,slow=34
BMO Blue Mountains 85.38 315 P **P 01 08 29.1 -0.9**
NVAR Mina Array Bea 86.10 308 P **P 01 08 34.2 +0.3**
comp=Z,1.4nm,0.9s,baz=99,slow=5.9,SNR=10.0
NVAR LR LR 01 41 51.6
comp=Z,42nm,19.2s,baz=57,slow=32
comp=Z,1.4nm,0.9s
J08A Circle Bar Ran 86.21 313 IAmb IAmb 01 08 36.4
comp=Z,11nm,1.2s
ISA Isabella, Lake 86.26 305 IAmb IAmb 01 08 39.9
comp=Z,6.5nm,1.1s
RYN Ryan 86.27 308 IAmb IAmb 01 08 36.7
comp=Z,10nm,1.3s
PNTR Pine Nut 87.11 309 IAmb IAmb 01 08 41.2
comp=Z,9.4nm,1.0s
GEYT Alibeck 87.76 52 LR LR 01 52 58.8
comp=Z,38nm,18.1s,baz=232,slow=39
A36M Sachs Harbour 88.71 342 P **P 01 08 45.2 -0.2**
A36M IAmb IAmb 01 08 46.6
comp=Z,6.4nm,1.1s
WSAR Wadi Sarin 88.73 67 LR LR 01 49 26.3
comp=Z,106nm,18.7s,baz=284,slow=36
YBH Yreka Blue Hor 89.39 312 LR LR 01 44 36.3
comp=Z,51nm,21.7s,baz=48,slow=33
INK Inuvik 92.06 339 LR LR 01 47 43.2
comp=Z,56nm,20.0s,baz=170,slow=34
QSPA South Pole Qui 92.77 180 LR LR 01 43 34.1
comp=Z,70nm,19.3s,baz=202,slow=31
ILAR Eielson Array 98.25 337 P **P 01 09 28.7 -0.8**
comp=Z,2.1nm,1.1s,baz=54,slow=3.7,SNR=9.6
ILAR LR LR 01 52 03.8
comp=Z,77nm,18.6s,baz=73,slow=34
comp=Z,2.1nm,1.1s
TAOE Nuku Hiva Isla 109.19 262 *e*LR LR 01 46 23.7
comp=Z,219nm,28.0s
TBI Tubuai 117.01 245 *e*LR LR 01 49 58.9
comp=Z,532nm,25.2s
PPT2 Papeete2 117.89 252 *e*SS SS 01 32 06.0 -2.4
comp=Z,72nm,29.2s
PPT2 Papeete2 117.89 252 *e*LR LR 01 50 21.8
comp=Z,130nm,25.2s
PPT2 *e*LR LR 01 50 29.5
comp=Z,166nm,28.2s
PZH PanZhiHua 126.03 54 PKP **PKPdf 01 14 55.3 -0.3**
BJI Beijing 127.97 32 PKP **PKPdf 01 14 58.0 -0.7**
ASAR Alice Springs 154.64 146 PKPdf **PKPdf 01 15 44.9 -0.9**
ASAR PKPab **PKPab 01 16 06.9 -1.9**
ASAR Alice Springs 154.64 146 PKPab **PKPab 01 16 08.8 0.0**
comp=Z,1.4nm,0.8s,baz=214,slow=4.2,SNR=7.6
WRA Warramunga Arr 157.77 141 PKPab **PKPab 01 16 21.4 -0.9**
WRA Warramunga Arr 157.77 141 PKPab **PKPab 01 16 22.1 -0.3**
comp=Z,0.9nm,0.8s,baz=212,slow=3.2,SNR=5.3

BER 31 01:00:26.1±1.9, 72.01N×1.55E, h10km, mb(Pn)4.0, Confirmed Earthquake, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.65**	**128**	*e*P			Pn	01 01 48.4	-1.5
LOF				IAML				01 03 01.1	
comp=Z,6.3nm,0.7s									
TRO	**Tromso**	**6.19**	**104**	*e*P			Pn	01 01 54.2	-3.2
TRO				*e*S			Sn	01 03 00.5	-7.6
TRO				IAML				01 03 07.9	
comp=Z,1.8nm,0.6s									
STEI	**Steigen**	**6.22**	**124**	*e*P			Pn	01 01 55.3	-2.5
STEI				*e*S			Sn	01 03 00.3	-8.6
STEI				IAML				01 03 12.7	
comp=Z,2.6nm,0.8s									
FAUS	**Fauske**	**6.65**	**128**	*e*P			Pn	01 02 00.9	-2.8
FAUS				*e*S			Sn	01 03 11.4	-8.0
FAUS				IAML				01 03 20.2	
comp=Z,1.9nm,0.7s									
JETT	**Jettan, Norway**	**6.68**	**102**	*e*P			Pn	01 02 01.1	-3.0
JETT				*e*S			Sn	01 03 11.8	-8.3
JETT				IAML				01 03 24.6	
comp=Z,3.6nm,0.6s									
KONS	**Konsvik**	**6.88**	**138**	*e*P			Pn	01 02 03.2	-3.6
KIF	**Kilpisjarvi**	**7.09**	**106**	*e*P			Pn	01 02 06.3	-3.4
KIF				*e*S			Sn	01 03 22.9	-7.3
MOR8	**Moi Rana**	**7.44**	**136**	*e*P			Pn	01 02 12.4	-2.1
KTK1	**Kautokeino**	**7.82**	**102**	*e*P			Pn	01 02 17.1	-2.7
ARA0	**ARCESS Array S**	**8.25**	**96**	*e*P			Pn	01 02 21.9	-3.7
NSS	**Namsos**	**8.43**	**148**	*e*P			Pn	01 02 24.5	-3.5
VADS	**Vadso**	**9.19**	**88**	*e*P			Pn	01 02 33.6	-4.8

*MOS **31** 01:15:22.6±0.9, 36.38N×141.09E, h46km, mb4.8/33, Error ellipse: s-maj=8.7km s-min=5.4km az=107.3*
*JMA **31** 01:15:23.1±0.1, 36.3N±0.3×141.0E±0.9, h46km±1km, MD4.5/35, MW4.6/35, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*NIED **31** 01:15:23.1, 36.34N×141.01E, h46km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr4.58; Mθθ-0.35; Mφφ-4.22; Mrθ-1.64; Mθφ-4.38; Mφr4.39; Fault plane solution: M07.79000×1015 NP1:φs2.00000°, δ67.00000°, λ.54.00000°. NP2:φs244.00000°, δ42.00000°, λ.144.00000°.*
*NEIC **31** 01:15:24.9±1.5, 36.31N±0.06×141.07E±0.10, h47km±7km, mb4.8/68 Error ellipse: s-maj=11.7km s-min=8.1km az=108.0*
*IDC **31** 01:15:24.9±1.3, 36.29N×141.06E, h49km±12km, mb4.0/25, mbtmp4.2/30, ML3.7/5, MS3.7/29, Error ellipse: s-maj=12.3km s-min=9.0km az=84.0*

ISC 31 01:15:24.0±0.5, 36.33N±0.03×141.10E±0.05, h45km±3km, h45km:pP-P,n273,σ1s60/258, mb4.6/90, MS3.9/34, 5C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.41**	**272**	*i*P			Pn	**01 15 32.4**	**-1.5**
JHYU				⇓S			Sn	**01 15 38.7**	**-2.2**
JHYU	**Hitachinakayam**	**0.41**	**272**	A			A	01 15 32.4	
comp=E,41nm,1.4s,comp=N,60nm,0.3s									
JHO	**Hitachi**	**0.51**	**304**	*i*P			Pn	**01 15 33.2**	**-1.9**
JHO				⇓S			Sn	**01 15 40.7**	**-2.3**
JHO	**Hitachi**	**0.51**	**304**	A			A	01 15 33.2	
comp=E,20nm,1.2s,comp=N,9.0nm,1.1s									
JIHU	**Itakohorinouch**	**0.59**	**232**	*i*P			Pn	**01 15 35.4**	**-0.8**
JIHU				⇓S			Sn	**01 15 43.9**	**-0.8**
JIHU	**Itakohorinouch**	**0.59**	**232**	A			A	01 15 35.4	
comp=E,84nm,1.8s,comp=N,52nm,2.7s									
JYT	**Yasato**	**0.74**	**262**	⇓P			Pn	**01 15 36.2**	**-1.9**
JYT				⇓S			Sn	**01 15 45.4**	**-2.9**
JYT	**Yasato**	**0.74**	**262**	A			A	01 15 36.2	
comp=E,27nm,0.3s,comp=N,20nm,0.4s									
ONAJ	**Iwakimizuishiy**	**0.81**	**343**	*i*P			Pn	**01 15 37.5**	**-1.6**
ONAJ				⇓S			Sn	**01 15 47.4**	**-2.7**
ONAJ	**Iwakimizuishiy**	**0.81**	**343**	A			A	01 15 37.5	
comp=E,32nm,0.4s,comp=N,21nm,0.3s									
JSMT	**Sammumatsuo**	**0.86**	**218**	P			Pn	**01 15 39.2**	**-0.6**
JSMT				S			Sn	**01 15 50.5**	**-0.7**
JSMT	**Sammumatsuo**	**0.86**	**218**	A			A	01 15 39.2	
comp=E,21nm,1.4s,comp=N,21nm,3.2s									
JFFD	**Fukushimafurud**	**0.87**	**331**	A			A	01 15 38.6	
comp=E,17nm,1.0s,comp=N,14nm,2.3s									
JFK	**Kawauchi**	**1.05**	**350**	*i*P			Pn	**01 15 40.7**	**-1.6**
JFK				⇓S			Sn	**01 15 53.1**	**-2.8**
JFK	**Kawauchi**	**1.05**	**350**	A			A	01 15 40.7	
comp=E,13nm,1.5s,comp=N,6.0nm,1.2s									
JSB	**Shiboa**	**1.14**	**304**	A			A	01 15 42.2	
comp=E,26nm,1.1s,comp=N,25nm,2.4s									
JCN	**Nagara**	**1.17**	**219**	A			A	01 15 42.9	
comp=E,25nm,2.6s,comp=N,17nm,3.6s									
TOK	**Tokyo**	**1.26**	**240**	A			A	01 15 44.0	
comp=E,27nm,1.3s,comp=N,21nm,2.6s									
JAG	**Ashikaga**	**1.33**	**275**	*i*P			Pn	**01 15 44.7**	**-1.4**
JAG	**Ashikaga**	**1.33**	**275**	A			A	01 15 44.7	
comp=E,4.0nm,1.8s,comp=N,5.0nm,3.3s									
JOTO	**OTAMA OYAMA**	**1.37**	**334**	*i*P			Pn	**01 15 46.5**	**-0.3**
JOTO				S			Sn	**01 16 03.6**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.37**	**334**	A			A	01 15 46.5	
comp=E,70nm,1.0s,comp=N,47nm,1.0s									
JKUC	**kamogawauchiur**	**1.38**	**212**	A			A	01 15 46.0	
comp=E,12nm,2.9s,comp=N,15nm,2.0s									

JHU Hanno 1.55 253 A A 01 15 48.0
comp=E,5.0nm,2.8s,comp=N,5.0nm,4.6s
JFY Yanaizu 1.55 314 A A 01 15 48.2
comp=E,4.0nm,3.6s,comp=N,4.0nm,3.0s
JKT Katashina 1.55 287 A A 01 15 48.0
comp=E,19nm,0.5s,comp=N,8.0nm,0.5s
JMM Marumori 1.55 351 Pn **Pn 01 15 48.6 -0.6**
TATJ Tateyama 2 1.63 218 A A 01 15 49.5
comp=E,15nm,2.9s,comp=N,16nm,2.0s
JSGW Sagamiharawaka 1.70 245 A A 01 15 50.2
comp=E,8.0nm,2.8s,comp=N,7.0nm,2.4s
JYAR Yonezawaarcadi 1.75 335 A A 01 15 51.3
comp=E,15nm,4.8s,comp=N,23nm,1.1s
JOD2 Odawara 2 1.95 237 A A 01 15 53.9
comp=E,7.0nm,2.9s,comp=N,8.0nm,4.0s
JGK Kuni 2.00 277 A A 01 15 54.4
comp=E,5.0nm,3.1s,comp=N,5.0nm,2.9s
JNS Sasagawa 2.06 317 A A 01 15 55.5
comp=E,6.0nm,1.6s,comp=N,4.0nm,5.3s
JYS Shirataka 2.06 337 A A 01 15 55.7
comp=E,15nm,1.1s,comp=N,13nm,1.8s
JOU Okura 2.06 350 A A 01 15 56.0
comp=E,22nm,1.3s,comp=N,17nm,1.8s
JHTM Izuhatsuma 2.18 232 A A 01 15 57.3
comp=E,11nm,1.7s,comp=N,8.0nm,1.6s
JFNN Fujinakano 2.27 241 A A 01 15 58.4
comp=E,10.0nm,2.7s,comp=N,10.0nm,3.9s
JOFO Osakifurukawao 2.27 356 A A 01 15 59.1
comp=E,40nm,1.2s,comp=N,38nm,1.5s
MJAR Matsushiro Ar 2.34 276 P **Pn 01 15 59.7 -0.3**
comp=N,11nm,0.3s,baz=166,slow=5.1,SNR=261
MJAR S **Sn 01 16 28.6 +1.1**
comp=N,73nm,0.4s,baz=205,slow=26,SNR=3.3
MJAR LR LR 01 17 03.5
comp=N,2μm,20.5s,baz=108,slow=42
comp=N,65nm,0.4s
MAJO Matsushiro 2.34 276 Pn **Pn 01 16 00.1 +0.1**
MAJO Matsushiro 2.34 276 P **Pn 01 16 00.1 +0.1**
MJB9 Matsu-Tunnel 2.34 276 Pn **Pn 01 16 01.0 +1.0**
JYA Atsumi 2.51 334 A A 01 16 02.2
comp=E,10.0nm,2.1s,comp=N,11nm,1.4s
JYK Kaneyama 2.65 347 A A 01 16 04.3
comp=E,4.0nm,2.9s,comp=N,4.0nm,1.0s
JSG Sagara 2.89 236 Pn **Pn 01 16 08.5 +0.9**
JRG Rokugo 3.08 353 A A 01 16 10.6
comp=E,5.0nm,4.7s,comp=N,4.0nm,1.9s
JYW Yuwa 3.28 348 A A 01 16 13.3
comp=E,9.0nm,1.4s,comp=N,12nm,2.9s
JHJ2 Mitsune 3.38 199 Pn **Pn 01 16 15.7 +1.4**
JHJ Hachijo jima 2 3.38 199 P **Pn 01 16 14.9 +0.7**
comp=N,81nm,0.3s,baz=177,slow=1.6,SNR=16
JHJ S **Sn 01 16 52.7 -0.4**
comp=N,344nm,0.4s,baz=243,slow=22,SNR=7.1
comp=N,131nm,0.3s
JTM Tenmabayashi 4.45 360 Pn **Pn 01 16 30.4 +1.4**
JAHD Aomorihigashid 4.93 2 A A 01 16 36.6
comp=E,5.0nm,1.1s,comp=N,6.0nm,1.3s
JOT Ohata 5.04 360 A A 01 16 38.2
comp=E,2.0nm,4.1s,comp=N,2.0nm,4.4s
ERM Erimo 5.90 15 Pn **Pn 01 16 47.8 -1.0**
ERM Erimo 5.90 15 *i*P **Pn 01 16 48.4 -0.4**
JMN Monobe 6.46 248 Pn **Pn 01 16 58.1 +1.5**
ASAJ Asahikawa 7.86 8 P **Pn 01 17 15.8 0.0**
comp=N,2.1nm,0.3s,baz=212,slow=13,SNR=6.2
ASAJ S **Sn 01 18 43.2 -0.1**
comp=N,11nm,0.5s,baz=245,slow=30,SNR=1.4
ASAJ LR LR 01 20 59.1
comp=N,160nm,19.9s,baz=56,slow=42
comp=N,4.5nm,0.3s
JKA Kamikawa-asahi 7.86 8 Pn **Pn 01 17 14.1 -1.7**
YUK Yuzh-Kuril'sk 8.51 24 *i*P **Pn 01 17 25.3 +0.7**
SHO Shikotan 8.72 28 *e*P **Pn 01 17 27.1 -0.3**
JNU Nakatsue 9.00 252 P **Pn 01 17 33.1 +1.7**
comp=N,0.3nm,0.3s,baz=172,slow=19,SNR=2.6
JNU LR LR 01 21 15.2
comp=N,690nm,18.9s,baz=62,slow=39
comp=N,10nm,1.0s
JCJ Chichijima 9.25 174 Pn **Pn 01 17 31.4 -3.4**
JCJ Chichijima 9.25 174 P **Pn 01 17 28.5 -6.4**
comp=N,44nm,0.3s,baz=304,slow=20,SNR=5.1
JCJ S Sn 01 19 04.2 -13
comp=N,60nm,0.3s,baz=129,slow=23,SNR=2.1
USRK Ussuriysk Ar. 10.49 321 Pn **Pn 01 17 53.6 +1.8**
USRK Ussuriysk Ar. 10.49 321 P **Pn 01 17 53.6 +1.8**
USRK Ussuriysk Ar. 10.49 321 P **Pn 01 17 56.0 +4.3**
comp=N,25nm,0.9s,baz=132,slow=12,SNR=20
USRK LR LR 01 21 45.0
comp=N,447nm,18.6s,baz=136,slow=36
USA0B Ussuriysk Arra 10.49 321 Pn **Pn 01 17 51.1 -0.6**
USA0B Ussuriysk Arra 10.49 321 *i*P **Pn 01 17 54.7 +3.0**
KSRS Korea Array 10.61 280 P **Pn 01 17 55.9 +2.5**
comp=N,0.3nm,0.3s,baz=98,slow=14,SNR=11
comp=N,8.0nm,1.0s
YSS Yuzh-Sakhalins 10.69 6 *e*P Pn 01 18 02.6 +8.2
YSS *e*S Sn 01 20 03.9 +11
YSS pmax pmax
comp=Z,30nm,0.5s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS MLR MLR
comp=N,400nm,19.0s
YSS MLR MLR
comp=E,300nm,19.0s
MDJ Mudanjiang 12.04 317 P **Pn 01 18 16.3 +3.4**
MDJ sP P 01 18 32.5 +7.8
MDJ S **Sn 01 20 33.3 +7.6**
MDJ SS **S 01 20 46.0 -7.1**
MDJ PcP **PcP 01 23 53.8 -1.6**
MDJ PcS **PcS 01 27 28.0 -1.4**
MDJ Mudanjiang 12.04 317 ScS ScS 01 31 02.0 +1.7
MDJ pmax pmax
comp=Z,24nm,1.7s
MDJ pmax pmax
comp=Z,290nm,4.1s
MDJ LR LR
comp=N,420nm,17.9s
MDJ LR LR
comp=E,320nm,16.8s
MDJ LR LR
comp=Z,440nm,17.2s
MDJ Mudanjiang 12.04 317 Pn **Pn 01 18 15.4 +2.5**
BNX BinXian 13.95 317 ⇓P **Pn 01 18 40.0 +1.0**
BNX pP **P 01 18 48.5 +2.6**
BNX PP **PnPn 01 18 51.3 +4.3**
BNX sP 01 18 55.8
BNX S **Sn 01 21 17.5 +5.2**
BNX sS **S 01 21 28.5 -3.7**
BNX pmax pmax
comp=Z,4.0nm,0.5s
BNX pmax pmax
comp=Z,41nm,3.6s
BNX LR LR
comp=N,230nm,10.2s
BNX LR LR
comp=E,290nm,12.8s
BNX LR LR
comp=Z,400nm,15.3s
TYV Tymovskoe 14.57 4 *e*P **Pn 01 18 45.8 -1.4**
TYV *e*S **Sn 01 21 25.7 -1.6**
TYV pmax pmax
comp=Z,200nm,4.8s
TYV pmax pmax
comp=Z,13nm,0.9s
TYV smax smax
comp=E,7.0nm,1.8s
TYV smax smax
comp=N,300nm,6.4s
TYV smax smax
comp=E,200nm,6.4s
TYV MLR MLR
comp=Z,1μm,22.0s
KLR Kul'dur 14.59 335 P **P 01 18 51.5 -1.5**
comp=Z,3.8nm,0.9s,baz=136,slow=13,SNR=11
KLR LR LR 01 24 24.3
comp=Z,303nm,18.8s,baz=158,slow=37
HEH HeiHe 17.07 329 *e*P **P 01 19 23.8 +3.3**
HEH LR LR
comp=N,360nm,18.2s
HEH LR LR
comp=E,270nm,17.2s
HEH LR LR
comp=Z,420nm,16.1s
NJ2 Nanjing 18.88 263 *e*P **Pn 01 19 41.3 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,140nm,4.2s

NJ2 LR LR
comp=Z,430nm,14.1s
ZEA Zeya 19.91 335 *e*P **P** **01 19 52.2 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=E,100nm,15.0s
ZEA MLR MLR
comp=Z,200nm,19.0s
BJI Beijing 19.92 288 P **P** **01 19 50.8 -1.0**
BJI pmax pmax
comp=Z,3.0nm,0.6s
BJI LR LR
comp=N,74nm,14.2s
BJI LR LR
comp=E,92nm,16.2s
BJI LR LR
comp=Z,95nm,15.9s
PEA0B Petropavlovsk- 20.42 30 *i*P **P** **01 19 54.1 -3.1**
PETK Petropavlovsk- 20.42 30 P **P** **01 19 57.6 +0.4**
comp=Z,10nm,1.0s,baz=283,slow=7.4,SNR=4.5
PETK LR LR 01 27 33.5
comp=Z,72nm,20.2s,baz=231,slow=36
comp=Z,10nm,1.0s
XLT XiLinHaoTe 20.52 299 *e*P **P** **01 19 59.5 +1.0**
XLT pP pP 01 20 10.8 +1.5
XLT sP sP 01 20 14.0 -1.0
XLT pmax pmax
comp=Z,7.0nm,1.1s
XLT pmax pmax
comp=Z,130nm,4.2s
XLT LR LR
comp=N,15nm,11.0s
XLT LR LR
comp=E,340nm,15.9s
XLT LR LR
comp=Z,470nm,16.8s
HNS HongShan 21.12 281 ⇓P **P** **01 20 03.5 -1.4**
HNS S **S** **01 23 52.3 -5.1**
HNS pmax pmax
comp=Z,9.0nm,0.9s
HNS LR LR
comp=E,390nm,17.7s
HNS LR LR
comp=Z,310nm,17.3s
HHC Hu-ho-hao-te 23.46 290 *e*P **P** **01 20 29.8 +0.3**
HHC PP PnPn 01 21 11.0 +14
HHC S **S** **01 24 38.5 -1.3**
HHC sS Sn 01 25 01.8 -0.1
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.8s
HHC LR LR
comp=N,95nm,12.8s
HHC LR LR
comp=E,200nm,15.3s
HHC LR LR
comp=Z,300nm,15.3s
MA2 Magadan 24.09 12 LR LR 01 29 44.7
comp=Z,98nm,21.6s,baz=126,slow=36
XAN Xi'an 26.33 275 ⇑P **P** **01 20 56.3 +0.6**
XAN pP pP 01 21 01.0 -6.6
XAN pmax pmax
comp=Z,11nm,0.6s
YAK Yakutsk 26.70 348 P **P** **01 20 58.5 -0.2**
YAK Yakutsk 26.70 348 *e*P **P** **01 20 57.5 -1.1**
YAK *e**PP **pP** **01 21 11.3 +0.8**
YAK *e* 01 21 40.8
YAK *e* 01 24 19.2
YAK *e*S **S** **01 25 29.7 -1.0**
YAK *e**SS **sS** **01 25 50.3 -0.1**
YAK *e*SS **SnSn** **01 26 37.1 0.0**
YAK *e* 01 31 45.0
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,168nm,3.6s
YAK pmax pmax
comp=N,86nm,3.7s
YAK pmax pmax
comp=E,100nm,4.3s
YAK smax smax
comp=N,171nm,4.3s
YAK smax smax
comp=E,110nm,4.3s
YAK Yakutsk 26.70 348 LR LR 01 31 54.9
comp=E,162nm,19.0s,baz=116,slow=37
SEY Seymchan 27.53 11 P **P** **01 21 09.0 +2.9**
comp=E,4.8nm,0.7s,baz=179,slow=10,SNR=5.7
SEY LR LR 01 34 40.9
comp=E,105nm,18.1s,baz=310,slow=42
comp=E,4.8nm,0.7s
ULN Ulaanbaatar 27.55 305 P **P** **01 21 07.0 +0.4**
ULN Ulaanbaatar 27.55 305 P **P** **01 21 07.0 +0.4**
ULN pmax pmax
comp=Z,12nm,1.5s
SONM Songino Array 27.97 305 P **P** **01 21 10.5 +0.1**
SONM Songino Array 27.97 305 P **P** **01 21 10.5 +0.1**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 27.97 305 P **P** **01 21 10.5 +0.1**
comp=Z,1.4nm,0.5s,baz=110,slow=7.7,SNR=14
SONM PcP **PcP** **01 24 26.1 +1.6**
comp=Z,0.3nm,0.4s,baz=146,slow=2.8,SNR=2.3
SONM LR LR 01 32 43.7
comp=Z,182nm,19.6s,baz=149,slow=37
comp=Z,1.4nm,0.5s
BOD Bodaibo 27.99 329 *e*P **P** **01 21 10.4 +0.1**
BOD pmax pmax
comp=Z,7.0nm,1.4s
H11N2 WAKE ISLAND Hy 28.02 119 T T 01 51 07.5
baz=311,slow=74
H11N1 WAKE ISLAND Hy 28.02 119 T T 01 50 44.8
baz=311,slow=74
H11N3 WAKE ISLAND Hy 28.03 119 T T 01 51 14.3
baz=311
SHEM Shemya Is, Ala 28.35 44 LR LR 01 30 04.9
comp=Z,99nm,20.5s,baz=141,slow=31
H11S1 WAKE ISLAND Hy 28.70 121 T T 01 51 16.3
baz=314,slow=76,SNR=248
H11S3 WAKE ISLAND Hy 28.70 121 T T 01 51 23.9
baz=314,slow=76,SNR=195
H11S2 WAKE ISLAND Hy 28.72 121 T T 01 51 33.3
baz=314,slow=76,SNR=201
LZH Lanzhou 29.94 281 ⇑P P 01 21 42.0 +14
LZH pP sP 01 21 52.3 +6.9
LZH pmax pmax
comp=Z,17nm,1.4s
LZH LR LR
comp=N,220nm,11.3s
LZH LR LR
comp=E,330nm,13.7s
LZH LR LR
comp=Z,410nm,13.7s
DAV Davao City (W) 32.40 210 LR LR 01 34 54.0
comp=Z,104nm,19.8s,baz=352,slow=36
GTA Gaotai 32.53 288 P **P** **01 21 52.0 +1.2**
GTA sP sP 01 22 09.3 +1.1
GTA pmax pmax
comp=Z,3.0nm,1.0s
KMI Kunming 34.61 262 ⇑P **P** **01 22 08.5 -0.6**
KMI pmax pmax
comp=Z,12nm,0.9s
KMI LR LR
comp=N,180nm,13.5s
KMI LR LR
comp=E,210nm,16.4s
KMI LR LR
comp=Z,310nm,25.7s
BILL Bilibino 34.77 16 *i*P **P** **01 22 10.4 +0.7**
PZH PanZhiHua 34.78 265 P **P** **01 22 10.8 +0.4**
PZH S **S** **01 27 42.8 +4.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.5s
PZH LR LR
comp=N,230nm,18.1s
PZH LR LR
comp=E,180nm,17.6s

PZH LR LR
comp=Z,230nm,17.7s
TIXI Tiksi 35.96 353 *i*P **P** **01 22 17.7 -2.1**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
GOMU GeErMu 37.04 284 P **P** **01 22 31.3 +1.3**
GOMU pmax pmax
comp=Z,3.0nm,1.2s
DGZ Jazzator, Alta 40.60 307 *i*P **P** **01 22 59.7 +0.3**
DGZ pmax pmax
comp=Z,16nm,1.1s
WMQ Urumqi 40.93 298 *e*P **P** **01 23 04.0 +1.9**
WMQ pP pP 01 23 11.3 -3.1
WMQ pmax pmax
comp=Z,19nm,0.7s
CMAR Chiang Mai Arr 41.08 256 P **P** **01 23 01.7 -1.7**
CMAR Chiang Mai Arr 41.08 256 P **P** **01 23 01.7 -1.7**
CMAR Chiang Mai Arr 41.08 256 LR LR 01 42 27.1
comp=Z,90nm,18.3s,baz=95,slow=40
ZAA0 Zalesovo Array 42.20 313 P **P** **01 23 11.7 -0.5**
ZALV Zalesovo Beam 42.20 313 P **P** **01 23 11.4 -0.8**
ZALV Zalesovo Beam 42.20 313 P **P** **01 23 12.5 +0.3**
comp=Z,6.9nm,0.9s,baz=87,slow=6.5,SNR=23
ZALV PcP **PcP** **01 25 05.9 +0.2**
comp=Z,0.8nm,0.5s,baz=108,slow=4.8,SNR=3.8
comp=Z,6.9nm,0.9s
C16K Lisburne Hills 43.45 26 P **P** **01 23 23.4 +1.3**
NRIK Noril'sk 43.80 336 *i*P **P** **01 23 23.7 -1.2**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 44.28 303 P **P** **01 23 29.1 -0.1**
MK31 Makanchi Array 44.28 303 P **P** **01 23 29.1 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 44.28 303 P **P** **01 23 28.6 -0.5**
MKAR Makanchi Array 44.28 303 P **P** **01 23 29.6 +0.4**
comp=Z,2.1nm,0.8s,baz=83,slow=10,SNR=19
MKAR PcP **PP** **01 25 12.9 +0.1**
comp=Z,1.0nm,0.8s,baz=88,slow=3.5,SNR=1.7
comp=Z,2.1nm,0.8s
F17K Baldwin Pennin 44.46 29 P **P** **01 23 31.5 +1.3**
MAKZ Makanchi 44.49 303 P **P** **01 23 31.0 +0.2**
MAKZ Makanchi 44.49 303 P **P** **01 23 31.0 +0.2**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 44.49 303 P **P** **01 23 31.7 +0.8**
MAKZ pP **pP** **01 23 42.5 -0.7**
MAKZ sP **sP** **01 23 46.3 -2.2**
C18K Utukok River 45.02 26 IAmb IAmb 01 23 50.4
comp=Z,10nm,1.1s
KAPI Kappang 45.73 210 LR LR 01 42 45.5
comp=Z,27nm,19.0s,baz=17,slow=36
KURK Kurchatov 46.17 309 P **P** **01 23 43.4 -0.6**
KURK IAmb IAmb 01 23 44.9
comp=Z,9.4nm,1.0s
KURK Kurchatov 46.17 309 P **P** **01 23 44.4 +0.4**
KURK Kurchatov 46.17 309 P **P** **01 23 43.7 -0.3**
KURK sP **pP** **01 23 57.9 +1.5**
KURBB Kurchatov Arra 46.24 308 P **P** **01 23 44.4 -0.1**
comp=Z,4.4nm,0.4s,baz=82,slow=7.7,SNR=77
comp=Z,4.4nm,0.4s
K20K Telida 47.05 34 P **P** **01 23 52.5 +1.7**
K20K IAmb IAmb 01 24 06.1
comp=Z,15nm,1.1s
IMAR Indian Mountai 47.39 30 P **P** **01 23 54.3 +1.0**
M20K Styx River 47.43 36 P **P** **01 23 54.8 +1.0**
WUS Wushi 47.60 296 P **P** **01 23 56.7 +1.1**
WUS sP **sP** **01 24 11.6 -1.7**
HNR Honiara 48.85 155 LR LR 01 42 30.2
comp=Z,628nm,21.6s,baz=329,slow=33
NEA2 Nenana 49.29 32 P **P** **01 24 10.4 +2.4**
MDM Murphy Dome 49.65 32 P **P** **01 24 12.2 +1.4**
H24K Noodor Dome 49.79 31 P **P** **01 24 14.2 +2.4**
H24K IAmb IAmb 01 24 28.0
comp=Z,10nm,1.2s
POKR Poker Plat Res 49.98 32 P **P** **01 24 14.7 +1.5**
IL31 50.22 32 P **P** **01 24 15.1 0.0**
IL31 IAmb IAmb 01 24 29.2
comp=Z,7.9nm,0.9s
ILAR Eielson Array 50.22 32 P **P** **01 24 15.1 0.0**
ILAR Eielson Array 50.22 32 P **P** **01 24 16.7 +1.6**
comp=Z,3.4nm,0.8s,baz=269,slow=6.4,SNR=39
ILAR PcP **PcP** **01 25 33.9 +0.3**
comp=Z,0.5nm,0.5s,baz=337,slow=12,SNR=4.5
comp=Z,3.4nm,0.8s
KSH Kashi 50.46 295 P **P** **01 24 21.5 +4.1**
KSH sP sP 01 24 39.5 +4.3
KSH pmax pmax
comp=Z,2.0nm,1.0s
KSH LR LR
comp=N,350nm,19.8s
KSH LR LR
comp=E,150nm,15.1s
KSH LR LR
comp=Z,190nm,14.6s
AAK Ala-Archa 50.60 299 *i*P P 01 24 13.7 -4.8
AAK pmax pmax
comp=Z,5.0nm,1.4s
BVAR Borovoye Array 50.86 313 P **P** **01 24 20.2 +0.2**
comp=Z,1.9nm,0.6s,baz=81,slow=7.2,SNR=10
comp=Z,1.9nm,0.6s
BRVK Borovoye 50.92 313 P **P** **01 24 20.6 +0.1**
BRVK IAmb IAmb 01 24 21.8
comp=Z,3.4nm,0.7s
BRVK Borovoye 50.92 313 P **P** **01 24 20.6 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.92 313 P **P** **01 24 20.6 +0.1**
SCRK Sand Creek 51.53 33 P **P** **01 24 25.7 +0.6**
SCRK IAmb IAmb 01 24 40.1
comp=Z,15nm,1.2s
L27K Beaver Creek, 52.60 34 P **P** **01 24 34.5 +1.5**
L27K IAmb IAmb 01 24 49.0
comp=Z,10.0nm,1.1s
BCAR Beaver Creek A 52.62 34 P **P** **01 24 34.9 +1.8**
F28M Old Crow 52.86 28 P **P** **01 24 37.4 +2.6**
F28M IAmb IAmb 01 24 50.9
comp=Z,7.7nm,1.3s
GSI Gunungsitoli 53.22 239 P **P** **01 24 37.4 -0.7**
KK31 Karatay Array 53.26 300 P **P** **01 24 38.2 +0.1**
KK31 IAmb IAmb 01 24 39.7
comp=Z,7.8nm,1.1s
KK31 Karatay Array 53.26 300 P **P** **01 24 38.2 +0.1**
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KKAR Karatay Array 53.26 300 P **P** **01 24 37.9 -0.2**
KKAR Karatay Array 53.26 300 P **P** **01 24 37.9 -0.2**
BTK Batken 54.04 297 P **P** **01 24 44.1 +0.2**
BTK IAmb IAmb 01 24 45.6
comp=Z,16nm,1.6s
BTK Batken 54.04 297 P **P** **01 24 44.1 +0.2**
BTK pmax pmax
comp=Z,16nm,1.6s
EPYK Eagle Plains 54.26 29 P **P** **01 24 46.6 +1.5**
G30M tAoh Zraii Nji 54.35 29 P **P** **01 24 46.7 +1.0**
K29M Barlow Dome 54.38 33 P **P** **01 24 48.0 +1.9**
K29M IAmb IAmb 01 25 02.2
comp=Z,11nm,1.1s
J30M Hart River 54.75 32 P **P** **01 24 49.7 +0.9**
M30M Minto, Yukon 54.96 34 P **P** **01 24 51.9 +1.7**
M30M IAmb IAmb 01 25 06.0
comp=Z,16nm,1.3s
INK Inuvik 55.13 27 P **P** **01 24 52.3 +1.1**
INK IAmb IAmb 01 25 30.9
comp=Z,24nm,1.9s
INK Inuvik 55.13 27 P **P** **01 24 52.3 +1.1**
INK pmax pmax
comp=Z,24nm,1.9s
SVE Sverdlovsk 55.51 319 *e*P **P** **01 24 54.8 +0.7**
SVE pmax pmax
comp=Z,14nm,1.1s
SIMJ Simiganj 55.85 296 P **P** **01 24 56.4 -0.7**
SIMJ IAmb IAmb 01 24 58.7
comp=Z,12nm,1.1s
SIMJ Simiganj 55.85 296 P **P** **01 24 57.4 +0.3**
WRA Warramunga Arr 56.33 188 P **P** **01 24 59.8 -0.6**
WRA Warramunga Arr 56.33 188 P **P** **01 25 00.3 -0.1**
comp=Z,3.9nm,0.3s,baz=5.0,slow=7.2,SNR=117
comp=Z,3.9nm,0.3s
ARU Arti 56.72 319 P **P** **01 25 02.7 -0.1**
ARU IAmb IAmb 01 25 03.9
comp=Z,8.9nm,0.7s
ARU Arti 56.72 319 *d i*P **P** **01 25 03.1 +0.3**
ARU *PP **pP** **01 25 17.7 +2.2**
ARU S **S** **01 32 53.8 +1.8**

ARU SS **SS** **01 36 33.7 -6.0**
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 56.72 319 P **P** **01 25 03.0 +0.2**
ARU sP **pP** **01 25 18.0 +2.5**
A36M Sachs Harbour 57.01 22 P **P** **01 25 06.5 +1.9**
A36M IAmb IAmb 01 25 08.2
comp=Z,10nm,0.8s
KBL Kabul 57.43 291 P **P** **01 25 08.1 -0.3**
KBL IAmb IAmb 01 25 20.8
comp=Z,3.9nm,0.9s
KBL Kabul 57.43 291 P **P** **01 25 08.1 -0.3**
KBL pmax pmax
comp=Z,4.0nm,1.0s
ABKAR Akbulak array 58.20 310 P **P** **01 25 12.8 -0.6**
AS31 Alice Springs 60.06 188 P **P** **01 25 26.7 +0.3**
ASAR Alice Springs 60.06 188 P **P** **01 25 24.9 -1.5**
ASAR Alice Springs 60.06 188 P **P** **01 25 26.7 +0.3**
comp=Z,3.6nm,0.8s,baz=8.3,slow=6.3,SNR=20
comp=Z,3.6nm,0.8s
KIRV Kirov 60.66 323 *i*P **P** **01 25 28.4 -1.7**
RES Resolute Bay 63.34 14 P **P** **01 25 48.3 +0.4**
RES Resolute Bay 63.34 14 P **P** **01 25 48.3 +0.4**
RES pmax pmax
comp=Z,5.0nm,0.5s
GEYT Alibeck 63.95 299 P **P** **01 25 52.2 -0.4**
comp=Z,1.9nm,1.0s,baz=86,slow=2.1,SNR=4.2
comp=Z,1.9nm,1.0s
BELG Belogornoye 64.14 317 *i*P **P** **01 25 50.6 -2.9**
BELG pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 64.54 30 P **P** **01 25 56.4 +0.5**
YKA Yellowknife Ar 64.54 30 P **P** **01 25 56.4 +0.5**
YKA Yellowknife Ar 64.54 30 P **P** **01 25 55.7 -0.2**
comp=Z,1.3nm,0.8s,baz=300,slow=6.9,SNR=17
comp=Z,1.3nm,0.8s
ARCES ARCESS Array B 64.56 339 P **P** **01 25 56.2 +0.1**
comp=Z,3.2nm,0.9s,baz=11,slow=7.8,SNR=4.1
ARCES LR LR 01 58 24.7
comp=Z,79nm,18.0s,baz=6.5,slow=40
comp=Z,3.2nm,0.9s
STKA Stephens Creek 67.85 180 P **P** **01 26 17.3 -0.1**
comp=Z,3.3nm,0.8s,baz=352,slow=11,SNR=2.9
comp=Z,3.3nm,0.8s
OBN Obninsk 68.51 323 LR LR 01 56 58.0
comp=Z,54nm,21.6s,baz=304,slow=36
FINES FINESS Array B 69.32 332 P **P** **01 26 26.8 +0.5**
comp=Z,4.3nm,0.9s,baz=64,slow=8.7,SNR=7.8
FINES LR LR 01 58 59.5
comp=Z,69nm,19.3s,baz=56,slow=38
comp=Z,4.3nm,0.9s
KBZ Khabaz 71.17 311 P **P** **01 26 39.0 +1.1**
KBZ Khabaz 71.17 311 P **P** **01 26 39.0 +1.1**
comp=Z,2.3nm,0.9s,baz=57,slow=10,SNR=2.4
comp=Z,2.3nm,0.9s
KIV Kislovodsk 71.17 311 *e*P **P** **01 26 37.2 -0.9**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,41nm,18.0s
KIV Kislovodsk 71.17 311 P **P** **01 26 38.6 +0.5**
KIV pP **pP** **01 26 49.2 -2.0**
GNI Garni 71.92 307 *i*P **P** **01 26 41.1 -1.7**
GNI pmax pmax
comp=Z,24nm,1.3s
BMO Blue Mountains 72.59 47 P **P** **01 26 47.7 +1.1**
BMO IAmb IAmb 01 27 03.2
comp=Z,26nm,1.9s
BMO Blue Mountains 72.59 47 P **P** **01 26 47.7 +1.1**
BMO pmax pmax
comp=Z,27nm,1.9s
ORV Oroville 72.92 53 P **P** **01 26 49.1 +0.6**
ORV IAmb IAmb 01 27 03.5
comp=Z,17nm,1.8s
ORV Oroville 72.92 53 P **P** **01 26 49.2 +0.6**
ORV pmax pmax
comp=Z,17nm,1.8s
MNK Minsk 72.93 326 *i*P **P** **01 26 47.8 -0.5**
comp=E,6.0nm,1.1s
MNK *i*P **P** **01 26 47.8 -0.5**
comp=N,18nm,1.1s
MNK *i*P **P** **01 26 47.8 -0.5**
comp=Z,4.0nm,0.8s,baz=51
MNK *i*PP **PP** **01 29 29.7 -0.8**
MNK *i*PPP PPP 01 31 14.8
MNK *i*S **S** **01 36 09.7 -1.6**
MNK *i*SS **SS** **01 40 50.0 -1.5**
MNK *i*SSS SSS 01 44 12.8
MNK *i*LQ LQ 01 53 43.9
MNK *i*LR LR 01 59 15.3
MNK *i*LRM MLR 02 02 19.3
comp=E,279nm,19.9s
MNK *i*LRM MLR 02 02 20.6
comp=N,1μm,19.9s
MNK *i*LRM MLR 02 02 21.0
comp=Z,310nm,19.9s
MNK Minsk 72.93 326 *i*P **P** **01 26 47.8 -0.5**
MNK *i* 01 29 29.7
MNK *i*PPP PPP 01 31 14.8
MNK *i*S **S** **01 36 09.7 -1.6**
MNK *i*SS **SS** **01 40 49.9 -1.5**
MNK pmax pmax
comp=Z,4.0nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK pmax pmax
comp=N,18nm,1.1s
MNK MLR MLR
comp=E,279nm,20.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=Z,310nm,20.0s
FFC Flin Flon 74.43 32 P **P** **01 26 58.1 +1.0**
FFC Flin Flon 74.43 32 P **P** **01 26 58.1 +1.0**
FFC pmax pmax
comp=Z,25nm,1.2s
GURO Guroymak-BITLI 74.55 307 P **P** **01 26 59.1 +0.8**
HFS Hagfors 74.62 336 P **P** **01 26 58.8 +0.7**
comp=Z,2.5nm,0.9s,baz=63,slow=6.8,SNR=4.5
HFS LR LR 02 01 50.1
comp=Z,84nm,20.4s,baz=52,slow=37
comp=Z,2.5nm,0.9s
AKASG Malin Array Be 74.70 322 P **P** **01 26 59.2 +0.5**
comp=Z,1.1nm,0.4s,baz=47,slow=5.8,SNR=12
AKASG LR LR 02 02 36.6
comp=Z,98nm,18.6s,baz=46,slow=38
comp=Z,1.1nm,0.4s
AKBB Malin Array Si 74.70 322 P **P** **01 26 58.7 0.0**
AKBB IAmb IAmb 01 26 59.7
comp=Z,8.9nm,1.0s
AKBB Malin Array Si 74.70 322 P **P** **01 26 58.7 0.0**
AKBB pmax pmax
comp=Z,9.0nm,1.0s
KIEV Kiev 74.71 322 P **P** **01 26 58.7 -0.1**
KIEV IAmb IAmb 01 26 59.7
comp=Z,7.4nm,0.9s
KIEV Kiev 74.71 322 P **P** **01 26 58.7 -0.1**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
NB2 NORSAR Subarra 74.74 337 P **P** **01 26 59.5 +0.7**
comp=Z,2.4nm,0.8s,baz=42,slow=5.9
NOA NORSAR Array B 74.74 337 P **P** **01 26 59.8 +1.0**
comp=Z,1.9nm,0.8s,baz=40,slow=5.5,SNR=4.3
NOA LR LR 02 03 06.8
comp=Z,92nm,19.4s,baz=15,slow=38
comp=Z,1.9nm,0.8s
FCC Fort Churchill 74.74 26 P **P** **01 26 59.2 +0.4**
FCC IAmb IAmb 01 29 06.3
comp=Z,32nm,1.9s
FCC Fort Churchill 74.74 26 P **P** **01 26 59.2 +0.4**
FCC pmax pmax
comp=Z,33nm,2.0s
KVN Kaiserville 75.39 52 P **P** **01 27 03.3 +0.1**
KVN IAmb IAmb 01 27 18.9
comp=Z,12nm,1.2s
KVN Kaiserville 75.39 52 P **P** **01 27 03.3 +0.1**
KVN pmax pmax
comp=Z,12nm,1.2s
NVAR Mina Array Bea 75.61 53 P **P** **01 27 05.9 +1.4**
NVAR Mina Array Bea 75.61 53 P **P** **01 27 06.8 +2.3**
comp=Z,1.7nm,0.8s,baz=290,slow=5.9,SNR=9.2
comp=Z,1.7nm,0.8s
TPH Tonopah 76.51 53 P **P** **01 27 10.9 +1.3**
TPH Tonopah 76.51 53 P **P** **01 27 10.9 +1.3**
TPH pmax pmax

	comp=Z,47nm,1.1s							
MZP	Montezuma Peak	76.63	53	P	P	01 27 10.7	+0.4	
FRB	Frobisher Bay	77.52	13	LR	LR	02 06 03.8		
	comp=Z,29nm,18.2s,baz=4.5,slow=39							
QSM	Queen of Sheba	77.98	54	P	P	01 27 18.3	+0.7	
QSM				IAmb	IAmb	01 27 33.1		
	comp=Z,13nm,1.1s							
PDAR	Pinedale Array	78.34	45	P	P	01 27 20.1	+0.3	
PDAR	Pinedale Array	78.34	45	P	P	01 27 21.3	+1.5	
	comp=Z,0.7nm,0.6s,baz=251,slow=2.4,SNR=8.5							
	comp=Z,0.7nm,0.6s							
KWP	Kalwaria Pacla	78.55	324	P	P	01 27 21.3	+0.7	
KWP	Kalwaria Pacla	78.55	324	P	P	01 27 21.3	+0.7	
KWP				pmax	pmax			
	comp=Z,18nm,1.1s							
BURAR	Bucovina Array	78.70	322	P	P	01 27 21.4	-0.1	
BR131	Keskin Array S	79.13	311	P	P	01 27 24.3	+0.2	
BR131				IAmb	IAmb	01 27 52.5		
	comp=Z,23nm,1.8s							
BR131	Keskin Array S	79.13	311	P	P	01 27 24.3	+0.2	
BR131				pmax	pmax			
	comp=Z,23nm,1.8s							
BRTR	Keskin Array B	79.13	311	P	P	01 27 24.6	+0.5	
BRTR	Keskin Array B	79.13	311	P	P	01 27 24.9	+0.8	
	comp=Z,1.2nm,0.8s,baz=145,slow=4.5,SNR=5.8							
	comp=Z,1.2nm,0.8s							
PFO	Pinyon Flats O	79.64	56	LR	LR	01 57 01.4		
	comp=Z,53nm,20.0s,baz=275,slow=31							
RDMU	Red Mountain	79.72	47	P	P	01 27 27.8	+0.4	
MLR	Muntele Rosu	79.76	320	LR	LR	02 05 36.5		
	comp=Z,99nm,18.5s,baz=200,slow=38							
HMU	Henry Mountain	80.67	50	P	P	01 27 32.5	-0.1	
HMU				IAmb	IAmb	01 27 48.2		
	comp=Z,16nm,1.3s							
VRAC	Vranov	81.57	327	LR	LR	02 07 42.2		
	comp=Z,56nm,20.2s,baz=47,slow=38							
CLL	Collm	81.58	330	P	P	01 27 37.2	+0.4	
CLL				IAmb	IAmb	01 27 50.7		
	comp=Z,8.7nm,0.9s							
CLL	Collm	81.58	330	*i*P	P	01 27 37.0	+0.2	
CLL				*i* *PP	pP	01 27 49.8	-0.2	
CLL				pmax	pmax			
	comp=Z,21nm,1.8s							
CLL	Collm	81.58	330	*i*P	P	01 27 37.0	+0.2	
	comp=Z,21nm,1.8s							
CLL				*i* pP	pP	01 27 49.8	-0.2	
	comp=Z,11nm,1.0s							
CLL				AMS	AMS	03 08 00.0		
	comp=Z,200nm,20.3s							
WUAZ	Wupatki	81.79	52	P	P	01 27 38.1	-0.3	
WUAZ				IAmb	IAmb	01 27 54.3		
	comp=Z,7.9nm,1.1s							
MMAI	Mount Meron Ar	82.16	305	P	P	01 27 40.6	+0.2	
	comp=Z,0.7nm,0.6s,baz=52,slow=5.9,SNR=2.1							
MMAI				LR	LR	02 07 43.1		
	comp=Z,45nm,18.7s,baz=8.5,slow=38							
	comp=Z,0.7nm,0.6s							
RONA	Rosalia, Austr	82.90	326	*e*PcP	P	01 27 46.0	+2.2	
	comp=Z,9.3nm,1.6s							
CONA	Conrad Observa	82.92	326	*e*PcP	P	01 27 46.0	+2.0	
	comp=Z,6.0nm,1.4s							
KHC	Kasperske Hory	83.01	328	P	P	01 27 44.8	+0.4	
KHC				IAmb	IAmb	01 27 58.8		
	comp=Z,7.0nm,1.0s							
KHC	Kasperske Hory	83.01	328	P	P	01 27 44.8	+0.4	
KHC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GERES	GERESS Array B	83.17	328	P	P	01 27 45.3	-0.1	
	comp=Z,1.3nm,0.8s,baz=52,slow=6.9,SNR=4.2							
	comp=Z,1.3nm,0.8s							
GRF	Grafenberg Arr	83.55	330	*e*P	P	01 28 00.2	+13	
	comp=Z,6.4nm,1.0s,baz=39,slow=4.6							
BIOA	Bad Ischl, Aus	84.08	327	*e*PcP	P	01 27 51.4	+1.5	
	comp=Z,2.0nm,0.8s							
SOKA	Soboth	84.23	326	*e*PcP	P	01 27 51.7	+0.9	
	comp=Z,7.1nm,1.2s							
PPT	Papeete	84.55	116	LR	LR	01 56 36.6		
	comp=Z,70nm,21.7s,baz=252,slow=29							
RETA	Reutte	85.47	329	*e*pP	pP	01 28 10.1	-0.2	
	comp=Z,7.4nm,1.1s							
BFO	Black Forest	85.79	331	P	P	01 27 57.5	-1.0	
BFO				IAmb	IAmb	01 28 12.5		
	comp=Z,9.1nm,1.0s							
BFO	Black Forest	85.79	331	P	P	01 27 57.5	-1.0	
BFO				pmax	pmax			
	comp=Z,9.0nm,1.0s							
FETA	Feichten	85.85	328	*e*pP	pP	01 28 12.3	0.0	
	comp=Z,3.6nm,1.0s							
ECH	Echery	86.34	331	P	P	01 28 01.7	+0.5	
ECH	Echery	86.34	331	P	P	01 28 01.7	+0.5	
ECH				pmax	pmax			
	comp=Z,12nm,1.3s							
FUORN	Ofenpass-Fuorn	86.36	328	P	P	01 28 01.8	+0.2	
FUORN				IAmb	IAmb	01 28 15.7		
	comp=Z,7.2nm,1.2s							
FDMO	Fiordimonte	87.91	325	P	P	01 28 08.5	-0.4	
NRCA	Norcia	88.05	325	P	P	01 28 09.4	-0.2	
LPIG	La Paz	89.76	60	LR	LR	02 08 46.5		
	comp=Z,26nm,18.6s,baz=228,slow=36							
TXAR	Lajitas Array	90.75	52	P	P	01 28 23.0	+0.4	
TXAR	Lajitas Array	90.75	52	P	P	01 28 23.0	+0.4	
	comp=Z,0.8nm,0.9s,baz=293,slow=4.5,SNR=8.4							
	comp=Z,0.8nm,0.9s							
TKL	Tuckaleechee C	97.11	35	LR	LR	02 16 38.1		
	comp=Z,12nm,19.3s,baz=342,slow=38							
TORD	Torodi Ar. Bea	117.64	314	PKP	PKPdf	01 34 05.4	-0.2	
	comp=Z,0.1nm,0.4s,baz=35,slow=1.8,SNR=1.3							

MOS ***31*** *02:00:28.5±1.0, 7°.74S×118°.85E, h10km, mb5.4/28, Error ellipse: s-maj=11.0km s-min=6.0km az=115.5*

IDC ***31*** *02:00:28.9±0.5, 7°.78S×118°.88E, h0km, mb4.4/26, mbtmp4.4/29, ML4.9/3, MS4.2/53, Error ellipse: s-maj=19.2km s-min=11.7km az=77.0*

NEIC ***31*** *02:00:31.6±2.0, 7°.84S±0°.06×118°.81E±0°.06, h15km±2km, mb5.3/60, Mww5.1/17, Error ellipse: s-maj=9.2km s-min=8.4km az=222.0*

BJI ***31*** *02:00:31.0±0.0, 7°.90S×118°.80E, h10km, mb4.7/54, mB5.1/32, Ms4.7/43, Ms7 4.4/43*

NEIC ***31*** *02:00:32.6, 7°.86S×118°.79E, h18km*

NEIC ***31*** *02:00:32.6, 7°.86S×118°.79E, h18km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16 Nm; Mrr-0.56; Mθθ-1.48; Mϕϕ2.04; Mrθ2.12; Mrϕ4.81; Mθϕ1.78; Fault plane solution: M05.71000×10^16 NP1:φs80.60000°, δ83.05000°, λ22.97000°. NP2:φs347.66000°, δ67.21000°, λ172.46000°. Principal axes: T 6.4380, Plg21.0000°, Azm306.0000°; N -1.4517, Plg66.0000°, Azm97.0000°; P -4.9863, Plg11.0000°, Azm212.0000°;*

DJA ***31*** *02:00:33.4±0.5, 8°S±2°×11°9E±°, h26km±5km, M5.1/47, mb5.3/47, mB5.6/23, MLv5.5/18, Mw(mB)5.0/23, MwMwp4.9/4, Mwp5.2/4*

GCMT ***31*** *02:00:33.6±0.2, 7°.83S±0°.01×118°.74E±0°.01, h16km±1km, MW5.1/120, Moment Tensor Solution. s77,c95; s120,c189; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.44±.15; Mθθ-1.77±.11; Mϕϕ3.21±.15; Mrθ0.50±.34; Mθϕ4.65±.10; Mrϕ2.11±.42; Best double couple: M05.61900×10^16 NP1:φs347.00000°, δ89.00000°, λ160.00000°. NP2:φs77.00000°, δ70.00000°, λ1.00000°. Principal axes: T 6.5330, Plg15.0000°, Azm300.0000°; N -1.8270, Plg70.0000°, Azm163.0000°; P -4.7060, Plg13.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 02:00:31.0±0.2, 7°.89S±0°.03×118°.79E±0°.03, h10km, n392, σ19s57/331, mb5.0/98, MS4.3/67, 10C-3D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBNI	Kabupaten Domp	0.78	218	P	Pg	02 00 47.9	+1.9
DBNI				S	Sb	02 01 00.0	+2.8
PLAI	Plampang	1.37	227	P	Pn	02 00 56.9	+0.6
PLAI	Plampang	1.37	227	P	Pn	02 00 56.7	+0.4
TWSI	Taliwang, Sumb	2.07	246	P	Pn	02 01 05.9	0.0
MKS	Makassar	2.73	14	P	Pn	02 01 14.0	-1.0
BASI	Baing, Sumba	2.92	143	P	Pn	02 01 17.4	-0.1
KAPI	Kappang	3.01	19	Pn	Pn	02 01 17.4	-1.3
KAPI	Kappang	3.01	19	Pn	Pn	02 01 17.6	-1.2
	71nm,0.3s,baz=188,slow=7.6,SNR=156						
KAPI				Sn	Sn	02 01 51.4	-3.5
	620nm,0.3s,baz=169,slow=20,SNR=18						
KAPI				LR	LR	02 02 37.8	
	comp=Z,7μm,19.2s,baz=210,slow=45						
	309nm,0.4s						
MMRI	Maumere	3.49	103	Pn	Pn	02 01 25.3	-0.2
MMRI	Maumere	3.49	103	P	Pn	02 01 25.8	+0.4
MMRI	Maumere	3.49	103	P	Pn	02 01 25.5	+0.1
SRBI	Singaraja	3.55	267	P	Pn	02 01 25.8	-0.4
DNP	Denpasar	3.63	257	P	Pn	02 01 27.6	+0.3
PMSI	Majene	4.36	2	P	Pn	02 01 36.3	-1.1
BBSI	Bau Bau	4.45	58	P	Pn	02 01 38.2	-0.3
JAGI	Jajag, Banyuwa	4.63	262	Pn	Pn	02 01 40.6	-0.5
JAGI	Jajag, Banyuwa	4.63	262	P	Pn	02 01 41.3	+0.2
JAGI	Jajag, Banyuwa	4.63	262	P	Pn	02 01 41.0	-0.1
TTSI	Tana Toraja	4.92	12	P	Pn	02 01 45.4	+0.4
BLJI	Banyuglugur	5.15	271	P	Pn	02 01 47.9	-0.3
	894nm,0.7s,10μm3.3nm						
GMJI	Gumukmas	5.31	265	P	Pn	02 01 51.1	+0.7
	616nm,1.0s,6μm						
SOEI	Soe	5.72	109	Pn	Pn	02 01 58.0	+1.7
SOEI	Soe	5.72	109	P	Pn	02 01 58.6	+2.4
	980nm,0.8s,11μm3.9nm						
KRKI	Karangkates	6.28	267	P	Pn	02 02 05.6	+1.8
	666nm,0.7s,28μm3.2nm						
GRJI	Gresik	6.33	278	P	Pn	02 02 04.1	-0.4
	1μm,1.2s,8μm5μm3.5nm						
BWJI	Bawean	6.42	288	P	Pn	02 02 05.5	-0.1
	849nm,0.9s,6.5nm						
BKB	Balikpapan	6.85	344	Pn	Pn	02 02 13.5	+1.9
BKB	Balikpapan	6.85	344	P	Pb	02 02 29.9	-0.3
SJI	Sawahan	6.96	271	P	Pn	02 02 12.4	-0.8
	245nm,0.8s,5μm0.9nm						
NGJI	Ngawi	7.28	274	P	Pn	02 02 19.9	+2.3
	202nm,0.9s,1.1nm						
LUWI	Luwuk	7.87	30	Pn	Pn	02 02 25.1	-0.5
LUWI	Luwuk	7.87	30	P	Pn	02 02 25.5	-0.1
	161nm,1.2s,0.6nm						
MTKI	Muara Teweh, K	7.91	330	P	Pn	02 02 39.7	+13
UGM	Wanagama	8.19	269	Pn	Pn	02 02 30.8	+0.7
UGM	Wanagama	8.19	269	P	Pn	02 02 31.4	+1.3
UGM	Wanagama	8.19	269	P	Pn	02 02 31.4	+1.3
	320nm,1.1s						
MPSI	Mapaga	8.24	8	P	Pn	02 02 30.8	+0.1
	50nm,0.8s,606nm3μm						
SMRI	Semarang	8.32	275	Pn	Pn	02 02 31.5	-0.4
SMRI	Semarang	8.32	275	P	Pn	02 02 31.8	0.0
	235nm,0.7s						
TOLI2	Tolitoli	9.15	13	Pn	Pn	02 02 43.6	+0.4
TOLI2	Tolitoli	9.15	13	P	Pn	02 02 46.3	+3.0
SANI	Sanana	9.22	51	P	Pn	02 02 45.5	+1.4
SANI	Sanana	9.22	51	P	Pn	02 02 45.3	+1.2
	73nm,0.8s,1μm						
NLAI	Namlea	9.47	61	P	Pn	02 02 51.2	+3.6
	74nm,0.6s						
KPJI	Karang Pucung	9.79	273	P	Pn	02 02 54.6	+2.6
	115nm,0.6s						
CMJI	Cimerak	10.25	270	P	Pn	02 03 00.6	+2.4
	207nm,1.0s						
STKI	Sintang	10.75	317	P	Pn	02 03 16.8	+12
BBJI	Bungbulang	11.05	271	P	Pn	02 03 11.3	+2.0
BBJI	Bungbulang	11.05	271	P	Pn	02 03 10.4	+1.1
	160nm,0.8s						
LEM	Lembang	11.13	275	Pn	Pn	02 03 12.2	+1.7
	5.2nm,0.3s,baz=37,slow=8.2,SNR=8.5						
LEM				LR	LR	02 07 52.1	
	comp=Z,3μm,20.6s,baz=98,slow=40						
	70nm,0.8s						
LEM	Lembang	11.13	275	P	Pn	02 03 13.0	+2.5
	132nm,1.2s,3μm						
LBMI	Labuha	11.28	51	P	Pn	02 03 15.0	+2.6
	99nm,1.1s,2μm						
CNJI	Cibinong	11.57	272	P	Pn	02 03 19.0	+2.6
	45nm,0.7s						
DBJI	Dramaga	12.02	276	P	Pn	02 03 33.9	+11
FITZ	Fitzroy Crossi	12.14	147	P	Pn	02 03 23.5	-0.7
	baz=2,SNR=20						
FITZ	Fitzroy Crossi	12.14	147	Pn	Pn	02 03 23.5	-0.7
FITZ	Fitzroy Crossi	12.14	147	P	Pn	02 03 24.5	+0.3
SBUM	Sibu	12.18	327	P	Pn	02 03 27.0	+2.3
	9.7nm,1.4s						
KNRA	Kununurra	12.46	129	P	Pn	02 03 27.1	-1.4
	baz=12,SNR=40						
KNRA	Kununurra	12.46	129	Pn	Pn	02 03 26.6	-1.9
KNRA	Kununurra	12.46	129	P	Pn	02 03 28.3	-0.2
KSM	Kuching	12.57	317	Pn	Pn	02 03 30.7	+0.7
KSM	Kuching	12.57	317	P	Pn	02 03 31.7	+1.6
	44nm,1.0s						
MTN	Manton Dam	13.10	113	P	Pn	02 03 35.3	-2.1
	baz=13,SNR=36						
MTN	Manton Dam	13.10	113	Pn	Pn	02 03 35.2	-2.1
MTN	Manton Dam	13.10	113	P	Pn	02 03 35.5	-1.8
PSA00	Pilbara Seismi	13.65	176	Pn	Pn	02 03 42.6	-2.2
PSA00	Pilbara Seismi	13.65	176	Pn	Pn	02 03 43.0	-1.8
PSA00	Pilbara Seismi	13.65	176	P	Pn	02 03 45.8	+1.0
SWI	Sorong	14.25	61	P	Pn	02 03 55.0	+2.0
	80nm,1.1s,2μm						
SIJI	Sorong	14.25	61	P	Pn	02 03 54.9	+1.8
	67nm,1.1s,932nm						
FAKI	Fak Fak	14.27	71	Pn	Pn	02 03 54.2	+0.8
FAKI	Fak Fak	14.27	71	P	Pn	02 03 53.7	+0.3
	127nm,0.8s,2μm						
KDU	Kakadu	14.28	111	P	Pn	02 03 49.8	-3.7
	baz=14,SNR=15						
KASI	Kota Agung	14.39	278	P	Pn	02 03 56.6	+1.7
	157nm,1.2s,2μm						
GIRL	Giralia	15.31	196	P	Pn	02 04 06.2	-1.1
	baz=15,SNR=31						
GIRL	Giralia	15.31	196	Pn	Pn	02 04 05.9	-1.5
GIRL	Giralia	15.31	196	P	Pn	02 04 06.8	-0.6
KMPI	Kaimana, Papua	15.42	75	P	Pn	02 04 07.3	-1.5
	376nm,1.3s,4μm						
DSRI	Dabo	15.96	297	P	P	02 04 32.6	+13
DAV	Davao City (W)	16.32	25	Pn	Pn	02 04 19.4	-1.1
	119nm,0.3s,baz=216,slow=2.6,SNR=2.0						
DAV				LR	LR	02 11 11.9	
	comp=Z,717nm,21.4s,baz=226,slow=40						
KRJI	Kerinci	18.19	288	P	P	02 04 57.7	+13
MEEK	Meekatharra	18.65	180	P	P	02 04 49.9	+0.7
	baz=19,SNR=16						
MEEK	Meekatharra	18.65	180	P	P	02 04 50.8	+1.6
WB0	Warramunga Arr	19.19	130	P	P	02 04 54.9	-0.2
WRA	Warramunga Arr	19.25	130	P	P	02 04 54.9	-0.9
WRA	Warramunga Arr	19.25	130	P	P	02 04 55.3	-0.5
	7.3nm,0.3s,baz=299,slow=13,SNR=158						
WRA				S	Sn	02 08 19.5	-13
	9.1nm,0.8s,baz=300,slow=24,SNR=4.9						
	10nm,0.3s						
WRAB	Tennant Creek	19.25	130	P	P	02 04 55.3	-0.5
WRAB	Tennant Creek	19.25	130	P	P	02 04 55.3	-0.5
WRAB				pmax	pmax		
	comp=Z,42nm,0.8s						
WB2	Warramunga Arr	19.26	130	P	P	02 04 55.0	-0.9
WRKA	Warakurna	19.32	153	P	P	02 04 57.0	+0.5
	baz=19,SNR=94						
WRKA	Warakurna	19.32	153	P	P	02 04 58.2	+1.6
WR0	Warramunga Arr	19.41	130	P	P	02 04 57.4	-0.2
PDSI	Padang	19.53	290	P	Pn	02 05 14.4	+14
MORW	Morawa	21.23	187	P	P	02 05 18.7	+1.4
	baz=21,SNR=5.8						
MORW	Morawa	21.23	187	P	P	02 05 17.5	+0.3
MORW	Morawa	21.23	187	P	P	02 05 17.9	+0.7
AS31	Alice Springs	21.36	139	P	P	02 05 19.4	+0.7
ASAR	Alice Springs	21.36	139	P	P	02 05 19.4	+0.6
ASAR	Alice Springs	21.36	139	P	P	02 05 19.4	+0.6
ASAR	Alice Springs	21.36	139	P	P	02 05 19.1	+0.4
	comp=Z,46nm,0.6s,baz=313,slow=10,SNR=182						
ASAR				S	S	02 09 11.6	-4.5
	comp=Z,12nm,1.0s,baz=320,slow=23,SNR=4.7						
ASAR				LR	LR	02 14 24.9	
	comp=Z,384nm,18.9s,baz=312,slow=39						
	comp=Z,46nm,0.6s						
AS01	Alice Springs	21.39	139	P	P	02 05 19.8	+0.8
PBSI	Pulau Batu	21.88	290	P	P	02 05 37.4	+13
GENI	Genyem	21.92	77	P	P	02 05 32.1	+7.3
TGY	Tagaytay City	21.95	6	LR	LR	02 15 47.7	
	comp=Z,424nm,18.3s,baz=205,slow=42						
KULM	Kulim	22.33	305	P	P	02 05 28.7	-0.5
KULM				IAmb	IAmb	02 05 46.2	
	comp=Z,170nm,1.6s						
KULM	Kulim	22.33	305	P	P	02 05 28.7	-0.5
	comp=Z,57nm,1.3s,comp=Z,961nm						
RPSI	Rantau Prapat	22.43	297	P	P	02 05 30.2	-0.1
RPSI				IAmb	IAmb	02 05 43.8	
	comp=Z,246nm,1.9s						
PSI	Prapat	22.48	297	P	P	02 05 30.2	-0.7
PSI				pmax	pmax		
	comp=Z,246nm,1.9s						
PSI	Prapat	22.48	297	P	P	02 05 31.7	+0.8
	comp=Z,55nm,1.0s,comp=Z,1μm						
BLDU	Ballidu	22.70	185	P	P	02 05 33.3	+0.4
	baz=23,SNR=14						
BLDU	Ballidu	22.70	185	P	P	02 05 33.3	+0.4
GSI	Gunungsitoli	23.04	292	P	P	02 05 36.5	-0.2
GSI				IAmb	IAmb	02 05 47.9	
	comp=Z,144nm,1.8s						
GSI	Gunungsitoli	23.04	292	P	P	02 05 47.3	+11
KMBL	Kambalda	23.54	173	P	P	02 05 41.6	0.0
	baz=24,SNR=10						
KMBL	Kambalda	23.54	173	P	P	02 05 41.8	+0.2
KLBR	Kellerberrin	23.61	182	P	P	02 05 42.3	+0.1
	baz=24,SNR=12						
KLBR	Kellerberrin	23.61	182	P	P	02 05 43.0	+0.8
QIS	Mount Isa	23.75	124	P	P	02 05 43.6	-0.1
	baz=24,SNR=45						
QIS	Mount Isa	23.75	124	P	P	02 05 43.7	0.0
KCSI	Kotacane, Aceh	23.84	298	P	P	02 05 45.5	+0.9
	comp=Z,48nm,1.2s,comp=Z,2μm						
MUN	Mundaring	24.09	185	P	P	02 05 46.9	+0.1
	baz=24,SNR=3.0						
MUN	Mundaring	24.09	185	P	P	02 05 49.2	+2.3
FORT	Forrest	24.37	160	P	P	02 05 50.8	+1.4
	baz=24,SNR=14						
FORT	Forrest	24.37	160	P	P	02 05 49.7	+0.3
FORT	Forrest	24.37	160	P	P	02 05 50.1	+0.7
COEN	Coen	24.68	106	P	P	02 05 51.6	-0.8
	baz=25,SNR=97						
COEN	Coen	24.68	106	P	P	02 05 50.6	-1.8
COEN	Coen	24.68	106	P	P	02 05 52.9	+0.5
NWAO	Narrogin (SRO)	24.96	183	P	P	02 05 55.4	+0.6
	baz=25,SNR=6.7						
NWAO				P	P	02 05 55.4	+0.6
	baz=25,SNR=6.7						
NWAO	Narrogin (SRO)	24.96	183	P	P	02 05 54.9	+0.2
NWAO				IAmb	IAmb	02 06 09.1	
	comp=Z,67nm,1.0s						
NWAO	Narrogin (SRO)	24.96	183	P	P	02 05 55.6	+0.8
NWAO	Narrogin (SRO)	24.96	183	P	P	02 05 54.9	+0.2
NWAO				pmax	pmax		
	comp=Z,67nm,1.0s						
NWAO	Narrogin (SRO)	24.96	183	LR	LR	02 17 20.4	
	comp=Z,297nm,18.5s,baz=356,slow=40						
SRIT	Nakonsritamara	25.17	310	P	P	02 05 56.8	0.0
SRIT				IAmb	IAmb	02 06 09.5	
	comp=Z,62nm,1.1s						
MLSI	Meulaboh, Aceh	25.39	298	P	P	02 06 10.4	+12
OOD	Oodnadatta	25.45	143	P	P	02 05 59.8	+0.6
MULG	Mulgathing	26.48	149	P	P	02 06 09.1	+0.5
MTSU	Mount Surprise	26.84	115	P	P	02 06 12.2	+0.3
	baz=27,SNR=115						
MTSU	Mount Surprise	26.84	115	P	P	02 06 12.4	+0.4
QIZ	Qiongzhong	28.16	342	P	P	02 06 24.5	+0.8
QIZ				S	S	02 11 11.5	+2.2
QIZ				LR	LR		
	comp=Z,430nm,10.0s						
QIZ				LR	LR		
	comp=Z,600nm,12.7s						
QIZ				LR	LR		
	comp=Z,590nm,13.7s						
INKA	Innaminka	28.66	136	P	P	02 06 30.3	+2.2
LCRK	Leigh Creek	28.89	144	P	P	02 06 30.9	+0.7
CTA	Charters Tower	29.22	117	LR	LR	02 18 45.9	
	comp=Z,1μm,21.7s,baz=293,slow=38						
CTAO	Charters Tower	29.22	117	P	P	02 06 33.1	-0.1
CTAO				IAmb	IAmb	02 06 45.4	
	comp=Z,63nm,1.1s						
CTAO	Charters Tower	29.22	117	P	P	02 06 33.1	-0.1
CTAO				pmax	pmax		
	comp=Z,63nm,1.1s						
BBOO	Buckleboo	29.52	150	P	P	02 06 36.1	+0.3
	baz=30,SNR=35						
BBOO	Buckleboo	29.52	150	P	P	02 06 35.6	-0.2
BBOO				IAmb	IAmb	02 06 47.5	
	comp=Z,72nm,0.9s						
BBOO	Buckleboo	29.52	150	P	P	02 06 36.3	+0.5
QLP	Quilpie	30.49	131	P	P	02 06 44.4	0.0
	baz=30,SNR=5.5						
QLP	Quilpie	30.49	131	P	P	02 06 45.7	+1.3
HTT	Hallett	31.51	147	P	P	02 06 53.7	+0.3
	baz=32,SNR=15						
HTT	Hallett	31.51	147	P	P	02 06 54.5	+1.1
STKA	Stephens Creek	31.94	141	P	P	02 06 57.5	+0.3
	baz=32,SNR=19						
STKA	Stephens Creek	31.94	141	P	P	02 06 55.7	-1.5
STKA	Stephens Creek	31.94	141	P	P	02 06 57.8	+0.6
STKA	Stephens Creek	31.94	141	P	P	02 06 57.1	0.0
	comp=Z,11nm,0.4s,baz=319,slow=8.7,SNR=29						
STKA				LR	LR	02 20 34.3	
	comp=Z,840nm,20.8s,baz=303,slow=38						
	comp=Z,11nm,0.4s						
CMAR	Chiang Mai Arr	32.69	323	P	P	02 07 04.2	+0.3
	comp=Z,0.9nm,0.3s,baz=151,slow=6.7,SNR=9.2						
CMAR				LR	LR	02 21 11.2	
	comp=Z,643nm,18.7s,baz=150,slow=38						
	comp=Z,0.9nm,0.3s						
CMMT	Chiang Mai	32.97	324	P	P	02 07 18.6	+12
CHTO	Chiang Mai	32.97	324	P	P	02 07 18.6	+12
CRAI	Chiangrai	33.30	327	P	P	02 07 08.6	-0.5
CRAI				IAmb	IAmb	02 07 29.3	
	comp=Z,21nm,1.0s						
RK1H	Rockhampton Ha	34.09	121	P	P	02 07 16.6	+0.6
CMSA	Cobar Meteorol	34.38	137	P	P	02 07 18.6	+0.2
	baz=34,SNR=39						
CMSA	Cobar Meteorol	34.38	137	P	P	02 07 19.9	+1.4
EIDS	Eidsvold	35.34	123	P	P	02 07 26.6	-0.2
EIDS				IAmb	IAmb	02 07 41.5	
	comp=Z,69nm,2.0s						
ARPS	Mount Arapiles	35.59	147	P	P	02

JCJ Chichijima 41.51 32 LR LR 02 23 39.1
comp=Z,174nm,21.6s,baz=326,slow=34
SHL Shillong 42.32 323 P **P** **02 08 24.6 -0.8**
SHL IAmb IAmb 02 08 45.4
comp=Z,34nm,0.9s
SHL Shillong 42.32 323 P **P** **02 08 24.7 -0.8**
SHL pmax pmax
comp=Z,34nm,0.9s
JNU Nakatsue 42.37 15 P **P** **02 08 24.2 -1.4**
comp=Z,9.7nm,1.0s,baz=113,slow=18,SNR=2.4
JNU LR LR 02 26 55.7
comp=Z,187nm,20.4s,baz=182,slow=38
comp=Z,9.7nm,1.0s
LYN LuoYang 42.63 352 *e*P **P** **02 08 29.8 +2.2**
LYN pP pwP 02 08 36.5 +2.6
LYN S **S** **02 14 46.5 -4.2**
LYN pmax pmax
comp=Z,16nm,0.8s
LYN pmax pmax
comp=Z,230nm,4.1s
LYN LR LR
comp=Z,560nm,16.3s
LYN LR LR
comp=Z,430nm,10.7s
LYN LR LR
comp=Z,780nm,16.1s
XAN Xi'an 42.73 348 ⇑P P 02 08 37.0 +8.4
XAN pP pwP 02 08 41.8 +7.0
XAN pmax pmax
comp=Z,15nm,1.3s
HNS HongShan 45.21 355 ⇑P P 02 08 53.3 +5.0
HNS S **S** **02 15 35.0 +6.7**
HNS pmax pmax
comp=Z,12nm,1.6s
HNS LR LR
comp=Z,360nm,15.3s
HNS LR LR
comp=Z,270nm,16.5s
HNS LR LR
comp=Z,320nm,19.2s
JHJ Hachijo jima 2 45.41 25 LR LR 02 26 37.7
comp=Z,178nm,21.2s,baz=281,slow=35
LSA Lhasa 45.86 326 P **P** **02 08 53.8 -0.5**
LSA IAmb IAmb 02 09 06.7
comp=Z,71nm,1.4s
LSA Lhasa 45.86 326 P **P** **02 08 53.8 -0.5**
LSA pmax pmax
comp=Z,71nm,1.4s
KSAR Wonju Array Be 45.88 10 P **P** **02 08 52.3 -1.4**
KSAR Wonju Array Be 45.88 10 P **P** **02 08 52.3 -1.4**
KSRS Korea Array 45.90 10 P **P** **02 08 52.3 -1.5**
comp=Z,2.5nm,0.9s,baz=190,slow=9.0,SNR=6.6
KSRS LR LR 02 28 39.5
comp=Z,180nm,21.6s,baz=190,slow=37
comp=Z,2.5nm,0.9s
LZH Lanzhou 45.94 343 ⇑P P 02 09 01.0 +6.6
LZH pmax pmax
comp=Z,19nm,1.5s
LZH LR LR
comp=Z,330nm,16.1s
LZH LR LR
comp=Z,430nm,14.1s
LZH LR LR
comp=Z,500nm,14.8s
BJT Baijiatuau 47.72 357 P P 02 09 05.3 -2.7
BJT Baijiatuau 47.72 357 P P 02 09 05.3 -2.8
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJI Beijing 47.74 357 P **P** **02 09 09.8 +1.6**
BJI pP **pP** **02 09 13.0 +2.6**
BJI pmax pmax
comp=Z,4.0nm,1.1s
BJI LR LR
comp=Z,150nm,18.7s
BJI LR LR
comp=Z,100nm,19.3s
BJI LR LR
comp=Z,170nm,18.6s
MJAR Matsushiro Arr 47.81 21 P **P** **02 09 07.4 -1.4**
comp=Z,0.6nm,0.3s,baz=219,slow=13,SNR=1.7
MJAR LR LR 02 28 00.4
comp=Z,135nm,21.6s,baz=208,slow=35
comp=Z,0.6nm,0.3s
DZM Mont Dzumac 47.94 113 P **P** **02 09 09.2 -1.1**
DZM Mont Dzumac 47.94 113 *e*P **P** **02 09 12.6 +2.4**
comp=Z,85nm,1.2s
DZM *e*S **S** **02 16 07.7 -0.5**
comp=Z,196nm,28.6s
DZM *e*LR LR 02 22 39.5
comp=Z,932nm,28.6s
DZM Mont Dzumac 47.94 113 LR LR 02 30 57.2
comp=Z,600nm,18.0s,baz=268,slow=38
BTO Baotou 48.92 351 *e*P P 02 09 22.8 +5.4
BTO pP pwP 02 09 29.0 +5.3
BTO sP sP 02 09 31.8 +11
BTO PP **PP** **02 11 17.5 +6.5**
BTO S **S** **02 16 28.3 +6.8**
BTO sS sS 02 16 38.3 +13
BTO pmax pmax
comp=Z,19nm,1.4s
BTO pmax pmax
comp=Z,240nm,4.8s
BTO LR LR
comp=Z,760nm,18.5s
BTO LR LR
comp=Z,650nm,18.3s
BTO LR LR
comp=Z,690nm,15.8s
HHC Hu-ho-hao-te 48.95 353 *e*P **P** **02 09 20.8 +3.2**
HHC *e*S **S** **02 16 25.8 +4.0**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,97nm,4.3s
HHC LR LR
comp=Z,250nm,16.3s
HHC LR LR
comp=Z,200nm,16.5s
HHC LR LR
comp=Z,240nm,14.3s
GOMU GeErMu 49.30 334 P P 02 09 31.0 +10
GOMU S S 02 16 02.5 -25
GOMU pmax pmax
comp=Z,8.0nm,1.2s
GOMU LR LR
comp=N,240nm,16.4s
GOMU LR LR
comp=E,240nm,16.3s
GOMU LR LR
comp=Z,520nm,16.5s
GTA Gaotai 50.24 341 ⇑P P 02 09 32.8 +5.2
GTA pP pwP 02 09 37.3 +3.4
GTA pmax pmax
comp=Z,5.0nm,1.8s
GTA LR LR
comp=N,320nm,20.4s
GTA LR LR
comp=E,300nm,20.4s
GTA LR LR
comp=Z,270nm,21.4s
GTA Gaotai 50.24 341 P **P** **02 09 28.0 +0.4**
GTA pP pP 02 09 33.0 +3.3
GTA sP pwP 02 09 36.8 +2.9
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA LR LR
comp=Z,250nm,18.9s
GTA LR LR
comp=Z,360nm,19.6s
GTA LR LR
comp=Z,270nm,18.9s
XLT XiLinHaoTe 51.60 358 *e*P **P** **02 09 37.0 -0.7**
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,150nm,5.6s
CN2 Changchun 51.80 6 *e*P **P** **02 09 40.0 +1.0**
CN2 *e*S **S** **02 17 01.0 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
MDJ Mudanjiang 53.16 10 P P 02 09 54.5 +5.4
MDJ pP pwP 02 09 59.3 +3.9
MDJ PcS **PcS** **02 14 54.3 -1.6**
MDJ ScS ScS 02 19 43.0 +4.1
MDJ pmax pmax
comp=Z,17nm,1.3s
MDJ pmax pmax
comp=Z,240nm,4.8s
MDJ LR LR
comp=Z,260nm,17.9s
MDJ LR LR
comp=Z,270nm,21.6s
MDJ LR LR
comp=Z,340nm,21.6s
USRK Ussuriysk Ar. 53.20 12 P **P** **02 09 48.2 -1.2**
comp=Z,2.1nm,0.7s,baz=217,slow=8.4,SNR=3.4
comp=Z,2.1nm,0.7s
BNX BinXian 53.94 7 ⇑P P 02 10 01.0 +6.2
BNX pmax pmax
comp=Z,4.0nm,0.8s
BNX pmax pmax
comp=Z,200nm,4.6s
ASAJ Asahikawa 56.06 21 LR LR 02 34 31.1
comp=Z,75nm,20.1s,baz=134,slow=36
ULN Ulaanbaatar 56.47 351 P **P** **02 10 11.6 -1.7**
ULN Ulaanbaatar 56.47 351 P **P** **02 10 11.6 -1.7**
ULN pmax pmax
comp=Z,11nm,1.1s
ULN Ulaanbaatar 56.47 351 P P 02 10 19.8 +6.5
SONM Songino Array 56.55 350 P **P** **02 10 12.5 -1.4**
SONM Songino Array 56.55 350 P **P** **02 10 12.7 -1.1**
comp=Z,3.6nm,0.9s,baz=172,slow=4.6,SNR=22
comp=Z,3.6nm,0.9s
RPZ Rata Peaks 57.76 137 P **P** **02 10 21.5 -0.9**
RPZ Rata Peaks 57.76 137 LR LR 02 37 28.0
comp=Z,389nm,18.8s,baz=296,slow=38
QRZ Quartz Range 57.76 134 P **P** **02 10 21.9 -0.6**
KLR Kul'dur 58.00 10*ce*P **P** **02 10 23.4 -0.4**
KLR pmax pmax
comp=Z,7.0nm,1.7s
KLR Kul'dur 58.00 10 P **P** **02 10 22.1 -1.7**
comp=Z,1.7nm,0.8s,baz=223,slow=5.0,SNR=6.7
KLR LR LR 02 37 47.4
comp=Z,76nm,18.9s,baz=214,slow=39
comp=Z,1.7nm,0.8s
MRNZ Matariki Terra 58.12 134 P **P** **02 10 23.6 -1.3**
THZ Tophouse 58.34 135 P **P** **02 10 26.7 +0.2**
THZ IAmb IAmb 02 10 39.3
comp=Z,35nm,0.8s
HEH HeiHe 58.38 6 *e*P **P** **02 10 25.5 -1.0**
HEH PcP **PcP** **02 11 15.3 -2.0**
HEH pmax pmax
comp=Z,16nm,1.0s
HEH LR LR
comp=Z,170nm,11.6s
HEH LR LR
comp=Z,200nm,11.6s
HEH LR LR
comp=Z,290nm,12.7s
WMQ Urumqi 58.67 334 *e*P **P** **02 10 30.0 +1.3**
WMQ sP pwP 02 10 37.5 +2.4
WMQ pmax pmax
comp=Z,18nm,0.7s
TCW Tory Channel 59.14 134 P **P** **02 10 31.2 -0.9**
ZAK Zakamensk 59.57 349 *e*P P 02 10 31.9 -3.0
ZAK pmax pmax
comp=Z,7.0nm,1.1s
NIL Nilore 59.76 316 P P 02 10 34.3 -2.2
NIL Nilore 59.76 316 P P 02 10 34.3 -2.2
NIL pmax pmax
comp=Z,64nm,1.3s
MRZ Mangatainoka R 59.92 133 P **P** **02 10 37.0 -0.5**
MRZ IAmb IAmb 02 10 49.4
comp=Z,30nm,0.8s
URZ Urewera 60.42 130 LR LR 02 37 29.7
comp=Z,361nm,19.2s,baz=108,slow=37
KSH Kashi 61.59 323 P **P** **02 10 48.0 -1.0**
KSH sP sP 02 10 55.5 +3.5
KSH pmax pmax
comp=Z,25nm,0.7s
KSH LR LR
comp=Z,360nm,18.4s
KSH LR LR
comp=Z,260nm,17.7s
KSH LR LR
comp=Z,450nm,24.8s
ZEA Zeya 61.80 6 *e*P **P** **02 10 49.8 -0.1**
ZEA *e* 02 10 55.6
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=Z,200nm,14.0s
NRN Naryn 62.82 325 P **P** **02 10 56.8 -0.6**
NRN Naryn 62.82 325 P **P** **02 10 56.8 -0.6**
NRN pmax pmax
comp=Z,13nm,1.4s
KBL Kabul 63.16 315 P **P** **02 10 58.1 -1.6**
KBL Kabul 63.16 315 P **P** **02 10 58.1 -1.6**
KBL pmax pmax
comp=Z,53nm,1.1s
MK31 Makanchi Array 63.38 333 P **P** **02 10 59.9 -0.8**
MK31 IAmb IAmb 02 11 12.8
comp=Z,15nm,0.9s
MK31 Makanchi Array 63.38 333*ce*P **P** **02 11 00.0 -0.6**
MKAR Makanchi Array 63.38 333 P **P** **02 10 59.8 -0.8**
comp=Z,2.3nm,0.6s,baz=154,slow=7.3,SNR=43
MKAR LR LR 02 41 59.1
comp=Z,248nm,20.9s,baz=151,slow=39
comp=Z,2.3nm,0.6s
MAKZ Makanchi 63.53 333 P **P** **02 11 00.1 -1.5**
MAKZ IAmb IAmb 02 11 13.6
comp=Z,13nm,1.1s
MAKZ Makanchi 63.53 333 P **P** **02 11 00.1 -1.5**
MAKZ pmax pmax
comp=Z,13nm,1.1s
DGZ Jazzator, Alta 63.53 338 P **P** **02 11 00.0 -1.8**
DGZ pmax pmax
comp=Z,40nm,1.4s
AAK Ala-Archa 64.45 325 P **P** **02 11 07.6 -0.4**
AAK IAmb IAmb 02 11 20.3
comp=Z,34nm,1.6s
AAK Ala-Archa 64.45 325 P **P** **02 11 07.6 -0.4**
AAK pmax pmax
comp=Z,34nm,1.6s
AAK Ala-Archa 64.45 325 LR LR 02 42 57.2
comp=Z,312nm,21.2s,baz=133,slow=40
ARSB Arslanbob 64.50 323 P **P** **02 11 07.0 -1.3**
ARSB Arslanbob 64.50 323 P **P** **02 11 07.0 -1.3**
ARSB pmax pmax
comp=Z,12nm,1.1s
BTK Batken 65.06 321 P P 02 11 09.5 -2.4
BTK Batken 65.06 321 P P 02 11 09.5 -2.4
BTK pmax pmax
comp=Z,94nm,1.7s
SIMJ Simiganj 65.42 319 P **P** **02 11 12.6 -1.7**
BOD Bodaibo 65.59 357 *e*P **P** **02 11 14.3 -0.5**
BOD pmax pmax
comp=Z,22nm,1.8s
WSAR Wadi Sarin 66.42 299 LR LR 02 41 10.4
comp=Z,200nm,19.2s,baz=136,slow=37
KK31 Karatay Array 67.04 324 P **P** **02 11 23.5 -1.0**
KK31 Karatay Array 67.04 324 P **P** **02 11 23.5 -1.0**
KK31 pmax pmax
comp=Z,9.0nm,1.2s
KKAR Karatay Array 67.04 324 P **P** **02 11 22.6 -1.9**
KKAR Karatay Array 67.04 324 P P 02 11 22.6 -1.9
KURBB Kurchatov Arra 67.88 334 P **P** **02 11 28.9 -0.7**
comp=Z,5.2nm,0.8s,baz=148,slow=5.3,SNR=54
KURBB LR LR 02 43 38.8
comp=Z,325nm,21.7s,baz=163,slow=38
comp=Z,5.2nm,0.8s
KURK Kurchatov 67.91 334 P **P** **02 11 28.4 -1.4**
KURK IAmb IAmb 02 11 41.7
comp=Z,42nm,1.1s
KURK Kurchatov 67.91 334 P **P** **02 11 28.9 -0.9**
ZAA0 Zalesovo Array 67.93 339 P P 02 11 27.9 -2.0
ZAA0 IAmb IAmb 02 11 45.5
comp=Z,44nm,1.7s
ZALV Zalesovo Beam 67.93 339 P **P** **02 11 28.2 -1.6**
ZALV Zalesovo Beam 67.93 339 P **P** **02 11 28.2 -1.6**
ZALV Zalesovo Beam 67.93 339 P **P** **02 11 28.1 -1.8**
comp=Z,3.6nm,0.6s,baz=143,slow=4.3,SNR=21
ZALV LR LR 02 44 22.4
comp=Z,104nm,18.1s,baz=148,slow=39
comp=Z,3.6nm,0.6s
PEA0B Petropavlovsk- 69.14 24 P **P** **02 11 36.9 -0.6**
PEA0B Petropavlovsk- 69.14 24 P **P** **02 11 36.9 -0.6**
PEA0B pmax pmax
comp=Z,93nm,1.6s
PETK Petropavlovsk- 69.14 24 P P 02 11 34.9 -2.6
comp=Z,3.4nm,0.9s,baz=98,slow=30,SNR=2.7
comp=Z,3.4nm,0.9s
MAW Mawson 70.21 200 LR LR 02 36 38.4
comp=Z,180nm,21.0s,baz=52,slow=31
YAK Yakutsk 70.22 5 *e*P **P** **02 11 48.1 +4.3**
YAK *e* 02 12 07.4
YAK *e* 02 14 14.1
YAK *e*PPP PPP 02 16 04.3
YAK *e*S **S** **02 21 00.6 +5.3**
YAK *e**SS sS 02 21 13.3 +14
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,219nm,5.3s
YAK pmax pmax
comp=N,105nm,3.3s
YAK pmax pmax
comp=E,97nm,3.7s
YAK smax smax
comp=N,116nm,4.8s
YAK smax smax
comp=E,77nm,5.2s
YAK Yakutsk 70.22 5 P P 02 11 41.8 -2.0
comp=E,12nm,0.4s,baz=173,slow=0.5,SNR=1.4
YAK LR LR 02 47 17.6
comp=E,100nm,18.2s,baz=172,slow=40
comp=E,12nm,0.4s
VOI Vohitsoka 70.44 250 P **P** **02 11 44.9 -1.3**
VOI IAmb IAmb 02 12 14.2
comp=Z,17nm,1.0s
MA2 Magadan 71.92 16 LR LR 02 43 35.1
comp=Z,66nm,21.4s,baz=205,slow=36
GEYT Alibeck 72.53 314 P **P** **02 11 56.9 -1.5**
GEYT IAmb IAmb 02 12 09.6
comp=Z,52nm,1.4s
GEYT Alibeck 72.53 314 P **P** **02 11 57.9 -0.6**
comp=Z,1.3nm,0.6s,baz=98,slow=8.9,SNR=2.9
GEYT LR LR 02 48 20.5
comp=Z,139nm,19.9s,baz=140,slow=40
comp=Z,1.3nm,0.6s
VNDA Vanda 73.11 171 P **P** **02 12 00.8 -0.4**
VNDA IAmb IAmb 02 12 16.0
comp=Z,56nm,1.8s
VNDA Vanda 73.11 171 P **P** **02 12 01.1 -0.1**
comp=Z,2.0nm,0.5s,baz=324,slow=7.9,SNR=11
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 73.22 332 P **P** **02 12 01.3 -0.9**
comp=Z,6.1nm,0.8s,baz=133,slow=8.3,SNR=28
comp=Z,6.1nm,0.8s
BRVK Borovoye 73.29 332 P **P** **02 12 00.8 -1.8**
BRVK IAmb IAmb 02 12 13.4
comp=Z,77nm,1.9s
BRVK Borovoye 73.29 332 P **P** **02 12 00.8 -1.8**
BRVK pmax pmax
comp=Z,77nm,1.9s
SEY Seymchan 75.15 15 *i* P P 02 12 10.3 -2.9
SEY pmax pmax
comp=Z,39nm,2.8s
SEY Seymchan 75.15 15 LR LR 02 45 30.0
comp=Z,75nm,20.6s,baz=253,slow=36
ABKAR Akbulak array 76.54 325 P P 02 12 19.5 -1.9
ABKAR Akbulak array 76.54 325 P **P** **02 12 19.8 -1.7**
ABKAR IAmb IAmb 02 12 31.9
comp=Z,57nm,1.2s
AKTO Aktyubinsk 78.20 325 LR LR 02 50 33.7
comp=Z,129nm,21.5s,baz=64,slow=38
RAR Rarotonga 79.24 110 LR LR 02 45 49.5
comp=Z,60nm,22.0s,baz=266,slow=34
TIXI Tiksi 79.65 3 P P 02 12 36.1 -2.1
TIXI Tiksi 79.65 3*ce*P **P** **02 12 36.5 -1.7**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 79.65 3 LR LR 02 49 31.8
comp=Z,123nm,21.9s,baz=261,slow=37
SVE Sverdlovsk 80.01 332 *e*P P 02 12 48.4 +7.9
SVE pmax pmax
comp=Z,35nm,1.4s
NRIK Noril'sk 80.03 349 P **P** **02 12 38.9 -1.4**
NRIK IAmb IAmb 02 12 53.6
comp=Z,39nm,1.6s
NRIK Noril'sk 80.03 349 P **P** **02 12 39.1 -1.2**
comp=Z,1.3nm,0.4s,baz=120,slow=5.4,SNR=2.6
comp=Z,1.3nm,0.4s
ARU Arti 80.80 331*c i* P P 02 12 52.1 +7.4
ARU 02 15 45.4
ARU S **SKSac** **02 22 57.2 -6.0**
ARU SS **SS** **02 28 11.0 +4.6**
ARU pmax pmax
comp=Z,34nm,1.4s
ARU Arti 80.80 331 LR LR 02 54 21.3
comp=Z,176nm,18.4s,baz=109,slow=40
KMBO Kilima Mbogo 81.47 270 P **P** **02 12 49.0 -0.6**
KMBO Kilima Mbogo 81.47 270 P **P** **02 12 49.0 -0.6**
comp=Z,2.2nm,1.0s,baz=87,slow=7.2,SNR=5.0
KMBO LR LR 02 43 43.0
comp=Z,180nm,21.4s,baz=94,slow=32
comp=Z,2.2nm,1.0s
MAK Makhachkala 81.91 315 *e*P P 02 12 47.6 -3.3
MAK *e* 02 15 55.3
MAK *e*S **S** **02 22 59.3 -5.5**
MAK *e*SSS SSS 02 31 46.0
MAK pmax pmax
comp=Z,195nm,1.3s
MAK MLR MLR
comp=Z,292nm,19.0s
QSPA South Pole Qui 82.10 180 P **P** **02 12 51.3 -0.4**
comp=Z,4.3nm,1.0s,baz=320,slow=2.1,SNR=6.4
comp=Z,4.3nm,1.0s
BILL Bilibino 82.79 16 *i* P P 02 12 53.0 -2.0
GNI Garni 83.04 312 LR LR 02 54 30.9
comp=Z,79nm,21.0s,baz=110,slow=39
ELIB Princess Elisa 84.25 198 *d*P **P** **02 13 02.7 -0.1**
comp=Z,12nm,0.9s
ZEI Tsey 84.38 314 *e*P P 02 13 09.3 +5.3
ZEI pmax pmax
comp=Z,18nm,1.3s
GURO Guroymak-BITLI 84.64 310 P **P** **02 13 04.1 -1.3**
GURO IAmb IAmb 02 13 21.1
comp=Z,25nm,1.5s
BELG Belogornoye 84.94 324 *i* P P **02 13 05.6 -0.7**
BELG pmax pmax
comp=Z,18nm,1.3s
KBZ Khabaz 85.34 315 P **P** **02 13 08.4 -0.1**
comp=Z,1.2nm,0.9s,baz=258,slow=20,SNR=1.4
KBZ LR LR 02 56 05.4
comp=Z,61nm,21.7s,baz=76,slow=39
comp=Z,1.2nm,0.9s
KIV Kislovodsk 85.55 315 *e*P P 02 13 05.1 -4.6
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIRV Kirov 86.18 331 *i* P P 02 13 09.3 -3.0
KIRV Kirov 86.18 331 LR LR 02 57 45.6
comp=Z,152nm,18.3s,baz=113,slow=40
MBAR Mbarara 87.99 270 LR LR 02 48 29.0
comp=Z,93nm,20.1s,baz=82,slow=33
TBI Tubuai 88.51 113 *e*LR LR 02 41 34.7
comp=Z,1μm,38.5s
LSZ Lusaka 88.53 255 P P 02 13 22.5 -2.3
LSZ IAmb IAmb 02 13 38.7
comp=Z,11nm,0.7s
LSZ Lusaka 88.53 255 P P 02 13 22.5 -2.4
LSZ pmax pmax
comp=Z,11nm,0.7s
LSZ Lusaka 88.53 255 LR LR 02 47 34.4
comp=Z,186nm,20.9s,baz=108,slow=32
EIL Elat 88.54 300 LR LR 02 57 16.7
comp=Z,115nm,18.3s,baz=78,slow=38
MMAI Mount Meron Ar 88.74 303 P **P** **02 13 25.8 +0.3**
comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=1.9
MMAI LR LR 02 56 46.9
comp=Z,105nm,20.7s,baz=80,slow=38
comp=Z,0.4nm,0.5s
PPT2 Papeete2 89.20 108 *e*LR LR 02 41 39.4
comp=Z,498nm,35.5s
PPT2 *e*LR LR 02 41 47.1
comp=Z,254nm,37.8s
PPT Papeete 89.20 108 LR LR 02 53 58.2
comp=Z,49nm,18.2s,baz=255,slow=36
BOSA Boshof 89.36 241 P **P** **02 13 28.0 -0.5**
comp=Z,3.2nm,0.9s,baz=115,slow=7.7,SNR=1.5
BOSA LR LR 02 49 28.7
comp=Z,161nm,18.9s,baz=87,slow=33
comp=Z,3.2nm,0.9s
LBTB Lobatse 89.59 245 LR LR 02 47 36.0
comp=Z,130nm,22.0s,baz=98,slow=32

TROLL	Troll, Antarti	90.38	196	⇑P		P		02 13 33.2	+0.7
	comp=Z,0.2nm,0.1s								
BRTR	Keskin Array B	91.27	310	P		P		02 13 37.5	+0.3
	comp=Z,0.2nm,0.3s,baz=143,slow=5.9,SNR=2.4								
BRTR				LR		LR		02 59 52.8	
	comp=Z,130nm,20.1s,baz=109,slow=39								
	comp=Z,0.2nm,0.3s								
KLMR	Klimovskoe	91.64	331	*eP*		P		02 13 42.6	+4.4
KLMR				pmax		pmax			
	comp=Z,22nm,1.5s								
SNAA	Sanae	92.01	196	⇓P		P		02 13 40.7	+0.8
	comp=Z,63μm,0.1s								
SNAA	Sanae	92.01	196	P		P		02 13 40.5	+0.6
	comp=Z,1.7nm,0.8s,baz=144,slow=6.0,SNR=2.6								
	comp=Z,1.7nm,0.8s								
C16K	Lisburne Hills	92.09	21	P		P		02 13 40.4	+0.3
	baz=254								
H16K	Elim	92.37	25	P		P		02 13 41.1	-0.4
	baz=257								
G16K	Koyuk River	92.50	24	P		P		02 13 42.0	0.0
	baz=257								
SUR	Sutherland	92.51	237	LR		LR		02 51 08.7	
	comp=Z,145nm,18.5s,baz=114,slow=33								
D17K	Noatak River	92.76	22	P		P		02 13 43.8	+0.6
	baz=256								
I17K	Unalakleet	92.86	26	P		P		02 13 44.4	+0.6
	baz=258								
C17K	DeLong Mountai	92.91	21	P		P		02 13 44.0	0.0
	baz=256								
E17K	Hotham Inlet	93.09	23	P		P		02 13 44.8	0.0
	baz=257								
BELA	Belgrano 2	93.10	185	P		P		02 13 43.8	-1.0
BELA				IAmb		IAmb		02 13 58.9	
	comp=Z,6.3nm,0.6s								
G17K	Kiwalik Mounta	93.22	24	P		P		02 13 45.1	-0.3
	baz=258								
H17K	Granite Mounta	93.41	25	P		P		02 13 46.5	+0.2
	baz=259								
B18K	Kokolik River	93.60	20	P		P		02 13 47.9	+0.8
	baz=257								
E18K	Tukpahlearik C	93.63	22	P		P		02 13 48.0	+0.7
	baz=258								
VNA2	Neumayer--Watz	93.65	195	⇓P		P		02 13 50.5	+3.1
	comp=Z,3.2nm,0.9s,baz=114,slow=5.0								
C18K	Utukok River	93.66	21	P		P		02 13 47.3	-0.2
	baz=256								
K17K	Iditarod	93.70	27	P		P		02 13 47.7	0.0
	baz=260								
F18K	Selawik	93.83	23	P		P		02 13 48.0	-0.2
	baz=259								
A19K	Wainwright	94.03	20	P		P		02 13 50.0	+1.0
	baz=258								
G18K	Tagagawik	94.10	24	P		P		02 13 49.0	-0.5
	baz=260								
C19K	Lookout Ridge	94.33	21	P		P		02 13 51.1	+0.6
	baz=259								
F19K	Shaleruckik Mo	94.61	23	P		P		02 13 50.1	-1.7
	baz=261								
D19K	Kuna River	94.75	22	P		P		02 13 52.7	+0.3
	baz=261								
G19K	Purcell Mounta	94.77	24	P		P		02 13 51.3	-1.2
G19K				IAmb		IAmb		02 14 03.4	
	comp=Z,13nm,1.0s								
G19K	Purcell Mounta	94.77	24	P		P		02 13 52.7	+0.1
	baz=261								
E19K	Redstone River	94.91	23	P		P		02 13 53.4	+0.2
	baz=261								
H19K	Roundabout Mou	94.94	25	P		P		02 13 53.5	+0.2
	baz=262								
D20K	Etivluk River	95.32	21	P		P		02 13 55.3	+0.3
	baz=262								
E20K	Nigu River	95.42	22	P		P		02 13 55.5	0.0
	baz=262								
F20K	Avaraart Lake	95.44	23	P		P		02 13 55.4	-0.1
	baz=263								
H20K	Anotleneega Mo	95.59	25	P		P		02 13 56.4	+0.1
	baz=263								
A21K	Barrow	95.68	19	P		P		02 13 56.8	+0.2
	baz=262								
AKASG	Malin Array Be	95.76	320	LR		LR		03 02 45.8	
	comp=Z,85nm,18.0s,baz=48,slow=39								
KDAK	Kodiak Island	95.87	33	LR		LR		02 50 12.7	
	comp=Z,120nm,21.6s,baz=265,slow=31								
C21K	Knifeblade Rid	96.04	21	P		P		02 13 58.2	0.0
	baz=264								
G21K	Allakaket	96.25	24	P		P		02 13 59.2	-0.1
	baz=265								
H21K	Melozitna Rive	96.46	25	P		P		02 14 00.9	+0.6
	baz=265								
G22K	Bettles	97.08	23	P		P		02 14 03.2	+0.2
	baz=267								
TRF	Thorofare Moun	97.41	27	P		P		02 14 04.5	-0.3
	baz=267								
D23K	Nanushuk River	97.49	21	P		P		02 14 05.4	+0.5
	baz=268								
NACGM	Naroch	97.55	324	*eP*		P		02 14 04.1	-1.2
	baz=93								
MLR	Muntele Rosu	97.55	315	LR		LR		03 08 18.7	
	comp=Z,56nm,18.1s,baz=24,slow=42								
G23K	Bananza Creek	97.65	24	P		P		02 14 04.7	-1.0
G23K				IAmb		IAmb		02 14 17.4	
	comp=Z,7.8nm,0.9s								
G23K	Bananza Creek	97.65	24	P		P		02 14 06.4	+0.7
	baz=268								
IDI	Anoyia	97.67	305	LR		LR		03 08 04.2	
	comp=Z,35nm,18.0s,baz=92,slow=42								
E23K	Chandalar	97.85	22	P		P		02 14 07.5	+0.9
	baz=268								
TSUM	Tsumeb	97.90	249	LR		LR		02 56 06.8	
	comp=Z,82nm,18.1s,baz=110,slow=34								
D24K	Happy Valley	98.16	21	P		P		02 14 09.2	+1.3
	baz=269								
WAT1	Susitna Watana	98.17	28	P		P		02 14 10.3	+2.2
	baz=269								
ARCES	ARCESS Array B	98.48	339	LR		LR		03 05 55.8	
	comp=Z,114nm,19.2s,baz=90,slow=40								
F24K	Squaw Lake	98.50	23	P		P		02 14 10.0	+0.5
	baz=270								
ILAR	Eielson Array	98.92	26	P		P		02 14 11.2	-0.1
	comp=Z,0.1nm,0.5s,baz=254,slow=5.9,SNR=1.9								
	comp=Z,0.1nm,0.5s								
F25K	Christian Rive	99.36	23	P		Pdif		02 14 14.3	+0.9
	baz=272								
E25K	Arctic Village	99.37	22	P		Pdif		02 14 14.6	+1.3
	baz=272								
PINM	Pinnacle	102.26	30	P		Pdif		02 14 26.3	-0.1
	baz=276								
YKA	Yellowknife Ar	113.26	24	PKiKP		PKiKP		02 19 07.1	-1.5
	comp=Z,0.1nm,0.4s,baz=297,slow=2.7,SNR=1.7								
TORD	Torodi Ar. Bea	118.06	281	PKP		PKPdf		02 19 18.5	-0.8
	comp=Z,0.2nm,0.6s,baz=44,slow=2.3,SNR=2.5								
NVAR	Mina Array Bea	120.47	50	PKP		PKPdf		02 19 22.6	-0.9
	comp=Z,0.2nm,0.5s,baz=226,slow=2.4,SNR=1.8								
PDAR	Pinedale Array	125.24	42	PKP		PKPdf		02 19 31.5	-1.2
	comp=Z,0.2nm,0.5s,baz=56,slow=3.5,SNR=1.7								
TXAR	Lajitas Array	134.80	56	PKP		PKPdf		02 19 49.4	-1.6
	comp=Z,0.1nm,0.5s,baz=207,slow=1.0,SNR=2.2								
W50A	Signal Mountai	144.96	36			PKPab		02 20 06.1	-2.2
V51A	Loudon	145.07	34			PKPbc		02 20 06.4	-2.2
LRAL	Lakeview Retre	145.41	40			PKPbc		02 20 07.5	-2.3
CPUP	Villa Florida	145.78	186	PKPbc		PKPdf		02 20 10.2	-0.5
	comp=Z,3.5nm,1.0s,baz=138,slow=4.2,SNR=4.6								
BDFB	Brasilia	153.22	209	PKPbc		PKPbc		02 20 30.4	0.0
	comp=Z,3.2nm,0.9s,baz=304,slow=3.6,SNR=3.6								
ROSC	El Rosal	166.62	102	PKP		PKPdf		02 20 37.1	-1.4
	comp=Z,18nm,0.3s,baz=124,slow=18,SNR=7.3								
ROSC	El Rosal	166.62	102	*eP*		PKPdf		02 20 37.4	-1.0

IDC ***31*** *02:16:56.7±0.6,28.˚34S×176.˚10W,h0km,mb4.2/12, mbtmp4.2/14,ML4.1/2,MS3.8/4,Error ellipse: s-maj=27.2km s-min=18.9km az=138.0*
NEIC ***31*** *02:16:58.4±2.6,28.˚4S±0.˚1×175.˚8W±0.˚1,h10km±1km, mb4.7/16,Error ellipse: s-maj=25.7km s-min=15.8km az=131.0*

ISC 31 02:16:59.1±0.4,28˚28'S±0.˚07×175˚99'W±0.˚07,h10km,n75, σ1s78/65,mb4.5/23,MS4.0/3,4C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	Raoul Island	1.95	240	Pn		Pn	02 17 32.5	+0.2
RAO	Raoul Island	1.95	240	Pn		Pn	02 17 35.4	+3.1
	199nm,0.3s,baz=39,slow=23,SNR=2.8							
RAO				Sn		Sg	02 18 02.6	+0.8
	840nm,0.3s,baz=62,slow=22,SNR=6.7							
URZ	Urewera	11.50	208	Pn		Pn	02 19 40.3	-3.1
	0.8nm,0.3s,baz=2.2,slow=21,SNR=1.5							
	3.1nm,0.3s							
RTZ	Ruatahuna	11.86	208	Pn		Pn	02 19 47.0	-1.3
BFZ	Birch Farm	13.92	205	Pn		Pn	02 20 15.1	-1.4
MRZ	Mangatainoka R	14.16	207	Pn		Pn	02 20 16.2	-3.7
PLWZ	Palliser	15.07	206	P		Pn	02 20 35.2	+3.1
SNZO	South Karori	15.07	208	Pn		Pn	02 20 30.5	-1.5
TCW	Tory Channel	15.17	209	Pn		Pn	02 20 30.4	-3.0
BSWZ	Blackbirch Sta	15.75	209	Pn		Pn	02 20 40.1	-1.0
THZ	Tophouse	16.22	211	Pn		Pn	02 20 46.8	-0.4
THZ				IAmb		IAmb	02 21 10.7	
	comp=Z,60nm,1.3s							
RAR	Rarotonga	16.32	68	Pn		Pn	02 20 44.0	-4.4
	comp=Z,1.1nm,0.3s,baz=293,slow=2.4,SNR=5.0							
RAR				LR		LR	02 27 41.7	
	comp=Z,219nm,18.6s,baz=242,slow=39							
KHZ	Kahutara	16.47	208	Pn		Pn	02 20 48.8	-1.5
KHZ				IAmb		IAmb	02 20 56.0	
	comp=Z,41nm,0.6s							
DZM	Mont Dzumac	17.05	287	Pn		Pn	02 20 59.8	+1.9
	comp=Z,0.3nm,0.3s,baz=173,slow=12,SNR=3.0							
DZM				Sn		Sn	02 24 06.3	-1.2
	comp=Z,0.3nm,0.3s,baz=150,slow=13,SNR=2.9							
GVZ	Greta Valley S	17.14	208	Pn		Pn	02 20 56.4	-2.3
RPZ	Rata Peaks	18.60	211	P		P	02 21 16.1	-0.4
RPZ	Rata Peaks	18.60	211	P		P	02 21 15.3	-1.2
	comp=Z,1.0nm,0.3s,baz=292,slow=23,SNR=1.5							
RPZ				S		Sn	02 24 27.4	-17
	comp=Z,5.6nm,0.7s,baz=147,slow=19,SNR=1.5							
	comp=Z,5.6nm,0.4s							
PPT	Papete	26.50	72	LR		LR	02 32 17.1	
	comp=Z,150nm,18.0s,baz=252,slow=35							
EIDS	Eidsvold	29.48	268	P		P	02 23 01.7	-1.8
EIDS				IAmb		IAmb	02 23 15.0	
	comp=Z,7.7nm,0.9s							
CTAO	Charters Tower	35.28	275	P		P	02 23 53.8	-0.6
CTAO				IAmb		IAmb	02 24 05.1	
	comp=Z,12nm,1.1s							
STKA	Stephens Creek	36.71	254	P		P	02 24 06.5	0.0
STKA	Stephens Creek	36.71	254	P		P	02 24 05.8	-0.7
	comp=Z,3.9nm,0.8s,baz=76,slow=4.0,SNR=3.7							
	comp=Z,3.8nm,0.8s							
ASAR	Alice Springs	45.02	264	P		P	02 25 13.7	-1.6
ASAR	Alice Springs	45.02	264	P		P	02 25 13.5	-1.8
	comp=Z,2.6nm,0.7s,baz=93,slow=7.4,SNR=18							
	comp=Z,2.6nm,0.7s							
WR0	Warramunga Arr	45.65	269	P		P	02 25 17.0	-3.2
WR0				IAmb		IAmb	02 25 29.4	
	comp=Z,9.2nm,0.9s							
WB2	Warramunga Arr	45.82	269	P		P	02 25 18.0	-3.6
WRA	Warramunga Arr	45.83	269	P		P	02 25 18.5	-3.2
WRA	Warramunga Arr	45.83	269	P		P	02 25 18.9	-2.7
	comp=Z,4.0nm,0.8s,baz=107,slow=7.7,SNR=16							
WRA				PcP		PcP	02 26 58.9	-0.2
	comp=Z,1.0nm,0.9s,baz=100,slow=4.6,SNR=2.3							
	comp=Z,4.0nm,0.8s							
WB0	Warramunga Arr	45.84	269	P		P	02 25 19.1	-2.6
WB0				IAmb		IAmb	02 25 31.9	
	comp=Z,12nm,0.9s							
FORT	Forrest	48.32	253	P		P	02 25 37.7	-3.2
SBA	Scott Base	50.28	185	P		P	02 25 54.7	-0.6
SBA				IAmb		IAmb	02 26 11.7	
	comp=Z,13nm,1.1s							
VNDA	Vanda	50.38	186	P		P	02 25 53.4	-2.6
QSPA	South Pole Qui	61.83	180	P		P	02 27 16.1	-2.1
	comp=Z,0.5nm,0.3s,baz=274,slow=6.4,SNR=1.4							
	comp=Z,0.5nm,0.3s							
MJAR	Matsushiro Arr	77.53	324	P		P	02 28 54.1	-1.0
	comp=Z,1.9nm,0.8s,baz=150,slow=4.7,SNR=2.3							
	comp=Z,1.9nm,0.8s							
TROLL	Troll, Antarti	79.98	180	⇑P		P	02 29 10.6	+2.2
	comp=Z,225nm,0.8s							
SNAA	Sanae	80.21	178	⇑P		P	02 29 12.0	+2.5
	comp=Z,62nm,0.9s							
VNA3	Neumayer Olymp	80.29	176	⇑P		P	02 29 11.5	+1.7
	comp=Z,4.7nm,0.7s							
VNA2	Neumayer--Watz	80.75	176	⇑P		P	02 29 15.1	+2.8
	comp=Z,4.2nm,0.8s,baz=202,slow=2.0							
KSRS	Korea Array	83.90	318	P		P	02 29 28.1	-1.0
	comp=Z,1.5nm,0.8s,baz=137,slow=5.1,SNR=2.0							
	comp=Z,1.5nm,0.8s							
PETK	Petropavlovsk-	84.22	344	P		P	02 29 29.6	-0.9
YBH	Yreka Blue Hor	85.29	37	LR		LR	03 00 34.9	
	comp=Z,65nm,19.8s,baz=270,slow=31							
GMN	Gold Mountain	85.37	43	P		P	02 29 36.1	-0.9
GMN				IAmb		IAmb	02 29 48.9	
	comp=Z,4.1nm,1.3s							
NVAR	Mina Array Bea	85.49	42	P		P	02 29 37.7	+0.2
	comp=Z,0.9nm,0.8s,baz=222,slow=7.6,SNR=7.3							
	comp=Z,0.9nm,0.8s							
NJ2	Nanjing	86.23	309	*eP*		P	02 29 41.0	0.0
NJ2				pP		pP	02 29 44.0	+1.9
NJ2				sP		sP	02 29 44.8	+2.3
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,130nm,4.3s							
USRK	Ussuriysk Ar.	86.39	325	P		P	02 29 42.0	+0.5
	comp=Z,1.4nm,0.7s,baz=134,slow=5.9,SNR=2.1							
	comp=Z,1.4nm,0.7s							
MDJ	Mudanjiang	87.90	324	P		P	02 29 56.5	+7.7
MDJ				sP		pwP	02 30 01.0	+2.4
MDJ				PP		PP	02 33 24.5	+9.1
MDJ	Mudanjiang	87.90	324	S		S	02 40 42.8	+11
MDJ	Mudanjiang	87.90	324	ScS		S	02 40 47.0	+15
TXAR	Lajitas Array	89.76	56	P		P	02 29 58.4	+0.3
	comp=Z,0.4nm,1.0s,baz=251,slow=3.8,SNR=4.1							
	comp=Z,0.4nm,1.0s							
HEH	HeiHe	92.84	328	*eP*		P	02 30 15.5	+3.8
PDAR	Pinedale Array	93.39	43	P		P	02 30 14.4	-0.4
	comp=Z,0.3nm,0.7s,baz=222,slow=2.0,SNR=3.6							
PDAR				LR		LR	03 10 30.0	
	comp=Z,52nm,18.1s,baz=324,slow=34							
	comp=Z,0.3nm,0.7s							
CMAR	Chiang Mai Arr	94.37	288	P		P	02 30 17.9	-1.7
	comp=Z,2.4nm,0.3s,baz=140,slow=3.3,SNR=1.8							
	comp=Z,2.4nm,0.3s							
ILAR	Eielson Array	95.48	12	P		P	02 30 22.3	-1.2
	comp=Z,1.6nm,1.2s,baz=214,slow=5.9,SNR=5.5							
	comp=Z,1.6nm,1.2s							
PZH	PanZhiHua	95.90	297	P		P	02 30 27.0	+0.4
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
HHC	Hu-ho-hao-te	96.04	313	*eP*		P	02 30 25.5	-1.3
HHC				pmax		pmax		
	comp=Z,8.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,110nm,5.0s							
YKA	Yellowknife Ar	102.78	25	PP		PP	02 35 10.4	-0.1
	comp=Z,0.2nm,0.9s,baz=238,slow=6.5,SNR=3.6							
ZALV	Zalesovo Beam	117.60	319	PKP		PKPdf	02 35 43.7	-1.2
	comp=Z,0.3nm,0.4s,baz=204,slow=2.5,SNR=1.8							
MKAR	Makanchi Array	117.74	311	PKP		PKPdf	02 35 44.2	-1.3
	comp=Z,0.8nm,0.8s,baz=72,slow=1.9,SNR=7.3							
KSH	Kashi	120.66	301	PKP		PKiKP	02 36 01.3	+10
KURBB	Kurchatov Arra	120.88	314	PKP		PKPdf	02 35 50.0	-1.3
	comp=Z,0.8nm,0.8s,baz=120,slow=2.1,SNR=5.3							
BVAR	Borovoye Array	126.09	317	PKP		PKPdf	02 35 59.7	-1.6
	comp=Z,0.5nm,0.5s,baz=108,slow=0.5,SNR=3.9							
GEYT	Alibeck	134.21	297	PKP		PKPdf	02 36 15.6	-1.7
	comp=Z,0.4nm,0.4s,baz=204,slow=3.2,SNR=2.5							
ARCES	ARCESS Array B	136.87	349	PKP		PKPdf	02 36 18.9	-2.4
	comp=Z,3.0nm,0.8s,baz=8.6,slow=9.0,SNR=2.8							
FINES	FINESS Array B	143.71	342	PKhKP		PKPpre	02 36 29.8	
	comp=Z,0.5nm,0.4s,baz=67,slow=5.0,SNR=8.0							
KBZ	Khabaz	145.31	307	PKPbc		PKPbc	02 36 35.6	-1.3
	comp=Z,2.3nm,0.9s,baz=32,slow=16,SNR=2.9							
NB2	NORSAR Subarra	146.88	354	PKP		PKPdf	02 36 40.7	+1.4
	comp=Z,4.3nm,0.8s,baz=10,slow=3.2							
NOA	NORSAR Array B	146.88	354	PKPbc		PKPdf	02 36 40.0	+0.7
	comp=Z,1.7nm,0.8s,baz=12,slow=4.5,SNR=6.5							
HFS	Hagfors	147.47	351	PKPbc		PKPdf	02 36 41.5	+1.2
	comp=Z,2.0nm,0.6s,baz=73,slow=5.0,SNR=8.2							
NACGM	Naroch	148.69	335	*eP*	KP	PKPdf	02 36 45.4	+3.0
AKASG	Malin Array Be	150.59	327	PKPbc		PKPdf	02 36 49.6	+4.1
	comp=Z,3.7nm,0.8s,baz=40,slow=3.2,SNR=6.3							
EKA	Esdalemuir Ar	152.47	9	PKPbc		PKPbc	02 36 55.0	-0.1
	comp=Z,1.5nm,0.8s,baz=336,slow=1.6,SNR=1.3							
MMAI	Mount Meron Ar	152.64	288	PKPbc		PKPdf	02 36 54.3	+5.0
	comp=Z,2.4nm,0.7s,baz=333,slow=8.4,SNR=2.8							
BRTR	Keskin Array B	153.03	303	PKPbc		PKPbc	02 36 56.5	-0.6
	comp=Z,1.3nm,0.9s,baz=158,slow=1.3,SNR=4.7							
TORD	Torodi Ar. Bea	164.79	171	PKP		PKPdf	02 37 03.0	-1.1
	comp=Z,0.4nm,0.8s,baz=191,slow=2.2,SNR=2.6							
TORD				PKPab		PKPab	02 37 58.4	-1.2
	comp=Z,1.8nm,0.9s,baz=171,slow=3.6,SNR=8.7							
ESDC	Sonseca Array	166.86	28	PKP		PKPdf	02 37 05.3	+0.1
	comp=Z,0.6nm,1.0s,baz=259,slow=12,SNR=1.7							
ESDC				PKPab		PKPab	02 38 06.7	-1.6
	comp=Z,0.2nm,0.4s,baz=229,slow=3.7,SNR=2.3							

RSNC 31 02:20:11.3±1.6,4˚98N×72˚92W,h2km±7km,ML2.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PTGC	Puerto Gaitan,	1.10	135	*eP*		Pg	02 20 30.1	-2.4
PTGC				*eS*		Sg	02 20 45.7	-1.1
PTGC				*i*			02 20 52.6	
	comp=Z,33nm,0.3s							
VILC	Villavicencio,	1.16	222	*eP*		Pg	02 20 31.2	-2.3
VILC				*eS*		Sg	02 20 48.8	+0.3
VILC				*i*			02 20 57.4	
	comp=Z,45nm,0.3s							
CVER	Cruz Verde, Cu	1.24	248	*eP*		Pg	02 20 33.8	-1.2
CVER				*i*			02 20 54.4	
	comp=Z,16nm,0.4s							
SPBC	San Pablo de B	1.33	300	*eP*		Pg	02 20 34.1	-2.7
SPBC				*eS*		Sg	02 20 51.3	-2.8
SPBC				*i*			02 20 54.1	
	comp=Z,29nm,0.2s							
ROSC	El Rosal	1.40	264	*eS*		Sn	02 21 00.4	+2.9
ROSC				*i*			02 21 04.3	
	comp=Z,13nm,0.3s							
BARC	Barichara	1.62	351	*eP*		Pn	02 20 39.3	-1.9
BARC				*eS*		Sn	02 21 01.1	-1.7
BARC				*i*			02 21 04.3	
	comp=Z,30nm,0.4s							
TAMC	Tame, Arauca	1.83	38	*eP*		Pn	02 20 43.8	-0.1
TAMC				*eS*		Sg	02 21 11.0	+0.8
TAMC				*i*			02 21 14.5	
	comp=Z,9.9nm,0.3s							
PTBC	PUERTO BERRIO,	2.18	315	*eP*		Pn	02 20 47.4	-1.2
PTBC				*eS*		Sn	02 21 16.7	+0.5
PTBC				*i*			02 21 20.5	
	comp=Z,8.4nm,0.3s							
PRAC	Prado	2.33	237	*eS*		Sn	02 21 19.3	-0.7
PAMC	Pamplona, Colo	2.35	5	*eP*		Pn	02 20 50.6	-0.9
PAMC				*eS*		Sb	02 21 24.2	-0.3
PAMC				*i*			02 21 28.2	
	comp=Z,3.6nm,0.6s							
GUY2C	Guyana, Caldas	2.45	276	*eP*		Pn	02 20 53.0	+0.2
GUY2C				*eS*		Sn	02 21 23.1	-0.4
GUY2C				*i*			02 21 30.7	
	comp=Z,5.6nm,0.4s							
ORTC	Ortega, Tolima	2.55	245	*eP*		Pn	02 20 47.9	-5.8
ORTC				*eS*		Sn	02 21 26.6	+1.1
ORTC				*i*			02 21 31.6	
	comp=Z,5.4nm,0.6s							

IDC ***31*** *03:00:50.2±1.6,52.˚26N×168.˚89W,h0km,mb3.8/14, mbtmp3.8/15,ML3.2/1,Error ellipse: s-maj=41.3km s-min=19.0km az=5.0*
AEIC ***31*** *03:00:53.3±1.2,52.˚19N±0.˚08×168.˚57W±0.˚07,h17km±7km, Error ellipse: s-maj=11.8km s-min=5.5km az=164.0*
NEIC ***31*** *03:00:55.1±1.6,52.˚22N±0.˚05×168.˚59W±0.˚07,h34km±4km, mb3.7/21,ML3.7/8,ML3.4(AEIC),Error ellipse: s-maj=8.2km s-min=5.3km az=207.0*

ISC 31 03:00:54.0±2.1,52˚24'N±0.˚10×168˚62'W±0.˚05, h24km±13km,n68,σ1s00/72,mb3.8/13,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIKH	Nikolski High	0.74	349			Pb	03 01 08.2	-0.1
NIKH						Sn	03 01 21.0	+1.5
CLCO	Concord Point,	0.87	309			Pb	03 01 10.6	+0.2
CLCO						Sn	03 01 24.1	+1.6
CLES	Cleveland East	0.97	307			Pn	03 01 12.1	0.0
CLES						Sn	03 01 26.7	+1.6
CLES	Cleveland East	0.97	307	IAML			03 01 37.2	
	comp=N,2μm,0.5s							
CLES				IAML			03 01 40.7	
	comp=E,2μm,0.7s							
OKTU	Okmok Mt. Tuli	1.20	17			Pn	03 01 15.2	0.0
OKFG	Magazine Ridge	1.25	20			Pn	03 01 16.1	+0.2
OKFG						Sb	03 01 33.1	+0.6
OKWE	Okmok W'ng Wal	1.25	11			Pn	03 01 16.0	0.0
OKER	Okmok East Rim	1.26	16			Pn	03 01 16.5	+0.3
MAPS	Pakushin South	1.87	32			Pn	03 01 24.4	0.0
MAPS						Sb	03 01 48.8	-1.5
MGOD	Makushin Gods	1.88	33			Pn	03 01 25.0	+0.3
MNAT	Makushin Natee	2.02	35			Pn	03 01 27.0	+0.5
UNV	Unalaska Valle	2.05	38			Pn	03 01 27.1	+0.2
UNV						Sn	03 01 52.5	+0.8
AKRB	Akutan Reef Bi	2.44	38

comp=Z,0.4nm,0.6s,baz=272,slow=7.6,SNR=8.1
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 39.98 79 P P 03 08 28.0 +1.4
comp=Z,1.6nm,0.8s,baz=308,slow=4.3,SNR=15
comp=Z,1.6nm,0.8s
SPITS Spitsbergen Ar 49.81 359 P P 03 09 44.2 +0.1
comp=Z,7.2nm,0.9s,baz=42,slow=2.3,SNR=6.0
comp=Z,7.2nm,0.9s
SONM Songino Array 51.76 301 P P 03 09 58.7 -0.6
comp=Z,0.4nm,0.6s,baz=54,slow=4.9,SNR=4.6
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 52.29 89 P P 03 10 03.9 +0.4
comp=Z,0.3nm,0.6s,baz=311,slow=8.2,SNR=2.6
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 58.10 354 P P 03 10 44.0 -0.7
comp=Z,2.2nm,0.9s,baz=13,slow=8.3,SNR=3.6
comp=Z,2.2nm,0.9s
BVAR Borovoye Array 64.07 325 P P 03 11 25.4 0.0
comp=Z,0.8nm,0.5s,baz=70,slow=6.2,SNR=4.4
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 64.22 314 P P 03 11 24.4 -2.2
comp=Z,0.2nm,0.3s,baz=52,slow=6.3,SNR=5.5
comp=Z,0.2nm,0.3s
FINES FINESS Array B 66.06 352 P P 03 11 37.4 -0.8
comp=Z,2.0nm,0.8s,baz=6.7,slow=7.5,SNR=14
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 67.07 0 P P 03 11 45.1 +0.4
comp=Z,0.5nm,0.7s,baz=335,slow=5.3,SNR=1.4
comp=Z,0.5nm,0.7s
HFS Hagfors 67.96 359 P P 03 11 50.1 -0.2
comp=Z,1.6nm,0.4s,baz=29,slow=3.4,SNR=13
comp=Z,1.6nm,0.4s
AKASG Malin Array Be 76.33 348 P P 03 12 39.9 -0.5
comp=Z,0.2nm,0.3s,baz=13,slow=5.5,SNR=2.4
comp=Z,0.2nm,0.3s
ESDC Sonseca Array 87.49 12 P P 03 13 39.1 -0.3
comp=Z,0.3nm,0.5s,baz=342,slow=5.0,SNR=4.9
comp=Z,0.3nm,0.5s

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*JMA **31** 03:02:01.3±0.1, 42.9°N±0.5°×145.0°E±0.7, h87km±1km, MV2.8/39, OFF NEMURO PENINSULA*
*SKHL **31** 03:02:02.3±0.3, 42.90°N×145.10E, h78km±5km, mb4.1/2*
ISC 31 03:02:00.2±1.9, 42.87N±0.09×145.07E±0.05, h92km±11km, n16, σ0 57/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKK	**Akkeshi**	**0.22**	**312**	*eP*			**Pn**	**03 02 13.7**	**+0.2**
JKHN	**Kushirohamanak**	**0.23**	**18**	*eP*			**Pn**	**03 02 14.2**	**+0.6**
JKHN				*eS*			**Sn**	**03 02 23.7**	**+0.2**
JAK	**Akkeshi**	**0.30**	**295**	*eP*			**Pn**	**03 02 14.2**	**+0.3**
JAK				*eS*			**Sn**	**03 02 23.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.70**	**44**	*eP*			**Pn**	**03 02 17.3**	**+0.4**
NMR				*eS*			**Sn**	**03 02 28.6**	**-0.7**
NEM2	**Nemuro 2**	**0.70**	**45**	*i* P			**Pn**	**03 02 17.2**	**+0.3**
NEM2				*eS*			**Sn**	**03 02 28.9**	**-0.5**
JNK	**Nakash**	**0.76**	**341**	*eP*			**Pn**	**03 02 17.4**	**-0.2**
JNK				S			**Sn**	**03 02 29.4**	**-1.1**
JOB	**Onbets**	**0.91**	**273**	*i* P			**Pn**	**03 02 19.5**	**+0.5**
JOB				*eS*			**Sn**	**03 02 33.1**	**0.0**
JAR	**Ashorobuto**	**1.04**	**295**	*i* P			**Pn**	**03 02 20.8**	**+0.3**
JAR				S			**Sn**	**03 02 35.3**	**-0.5**
JRA	**Rausu**	**1.07**	**2**	P			**Pn**	**03 02 21.5**	**+0.6**
JRA				S			**Sn**	**03 02 36.5**	**+0.2**
JCH	**Churui**	**1.28**	**259**	*i* P			**Pn**	**03 02 23.8**	**+0.5**
JCH				*eS*			**Sn**	**03 02 40.2**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.30**	**26**	*eP*			**Pn**	**03 02 24.3**	**+0.7**
YUK				AMB		AMB	AMB	03 02 25.8	
	130nm,0.3s								
YUK				*eS*			**Sn**	**03 02 40.6**	**-0.6**
YUK				A		A	A	03 02 42.3	
	220nm,0.3s								
YUK				A		A	A	03 02 42.3	
	240nm,0.3s								
JTKR	**Abashiri--Toko**	**1.39**	**323**	P			**Pn**	**03 02 25.2**	**+0.6**
SHO	**Shikotan**	**1.63**	**51**	*eP*			**Pn**	**03 02 28.0**	**+0.3**
SHO				AMB		AMB	AMB	03 02 31.2	
	50nm,0.5s								
SHO				*eS*			**Sn**	**03 02 47.6**	**-0.9**
SHO				A		A	A	03 02 48.6	
	190nm,0.4s								
SHO				A		A	A	03 02 48.6	
	180nm,0.4s								
JMP	**Maruseppu**	**1.69**	**313**	P			**Pn**	**03 02 28.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.81**	**252**	*eP*			**Pn**	**03 02 30.0**	**0.0**
JFR	**Furan**	**1.84**	**280**	P			**Pn**	**03 02 30.9**	**+0.6**
JFR				*eS*			**Sn**	**03 02 52.6**	**-0.8**

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*MOS **31** 03:13:09.2±0.9, 6.92S×155.81E, h47km, mb5.7/39, Error ellipse: s-maj=7.9km s-min=5.9km az=114.9*
*NEIC **31** 03:13:10.6±1.9, 6.93S±0.07×155.87E±0.04, h42km±4km, mb5.3/213, Mwb5.4/19, Mww5.4/15, Error ellipse: s-maj=11.3km s-min=2.6km az=205.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.41; Mθθ-0.95; Mϕϕ-0.46; Mrθ-0.24; Mϕϕ0.60; Mϕr0.01; Fault plane solution: M0 1.40000×10^17^ NP1:ϕs128.68000°, δ40.94000°, λ97.33000°. NP2:ϕs299.02000°, δ49.46000°, λ83.69000°. Principal axes: T 1.4353, Plg84.0000°, Azm165.0000°; N -0.0651, Plg5.0000°, Azm303.0000°; P -1.3702, Plg4.0000°, Azm33.0000°;*
*NEIC **31** 03:13:12.6N96S×155.86E, h50km*
*IDC **31** 03:13:12.6±1.4, 6.98S×155.90E, h69km±12km, mb4.8/26, mbtmp5.1/29, MS4.5/53, Error ellipse: s-maj=11.4km s-min=9.7km az=71.0*
*GCMT **31** 03:13:12.6±0.1, 7.17S±0.01×155.79E±0.01, h52km, MW5.4/133, Moment Tensor Solution. s133,c210; s120,c202; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.28±.02; Mθθ-0.99±.02; Mϕϕ-0.28±.02; Mrθ-0.27±.02; Mθϕ0.77±.02; Mϕr-0.12±.02; Best double couple: M0 1.41700×10^17^ NP1:ϕs291.00000°, δ50.00000°, λ74.00000°. NP2:ϕs135.00000°, δ43.00000°, λ108.00000°. Principal axes: T 1.3420, Plg77.0000°, Azm137.0000°; N 0.1540, Plg12.0000°, Azm301.0000°; P -1.4910, Plg3.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 03:13:12, 6.96S×155.86E, h55km*
*NEIC **31** 03:13:12, 6.96S×155.86E, h50km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17^Nm; Mrr1.46; Mθθ-0.82; Mϕϕ-0.65; Mrθ-0.22; Mθϕ0.59; Mϕr-0.19; Fault plane solution: M0 1.42000×10^17^ NP1: ϕs301.17000°, δ46.64000°, λ76.51000°. NP2: ϕs140.43000°, δ45.01000°, λ103.88000°. Principal axes: T 1.5111, Plg80.0000°, Azm135.0000°; N -0.1873, Plg10.0000°, Azm311.0000°; P -1.3237, Plg1.0000°, Azm41.0000°;*
*BJI **31** 03:13:13.0±0.0, 6.69S×155.85E, h76km, mb5.1/76, mB5.3/49, Ms4.8/46, Ms7 4.6/48*
*DJA **31** 03:13:13.8±0.5, 7.5S±3.3×15.6E±*, h77km±4km, M5.7/61, mb5.5/61, mB6.1/30, MLv5.6/2, Mw(mB)5.7/30, MwMwp5.2/4, Mwp5.5/4*
ISC 31 03:13:10.5±0.3, 6.97S±0.03×155.93E±0.04, h54km±2km, h54km:pP-P, n984, σ1s26/940, mb5.3/204, MS4.6/74, 54C-30D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.66**	**306**				**Pn**	**03 14 20.8**	**+2.5**
RABL	**Rabaul**	**4.66**	**306**	P			**Pn**	**03 14 21.2**	**+2.9**
HNR	**Honiara**	**4.67**	**122**	Pn			**Pn**	**03 14 22.7**	**+4.3**
HNR	**Honiara**	**4.67**	**122**	P			Pn	03 14 24.3	+5.8
HNR	**Honiara**	**4.67**	**122**	P			**Pn**	**03 14 22.4**	**+3.9**
	4µm,0.3s,baz=357,slow=1.4,SNR=13								
HNR				S			**Sn**	**03 15 15.6**	**+4.2**
	20µm,0.8s,baz=120,slow=20,SNR=2.1								
I40PG	**Keravat**	**4.72**	**304**	I			I	03 33 40.0	
	baz=127,slow=314,SNR=2.6								
KAVG	**Kavieng**	**6.71**	**310**	P			Pn	03 14 53.1	+6.6
PMG	**Port Moresby**	**9.01**	**254**				**Pn**	**03 15 20.2**	**+2.2**
PMG	**Port Moresby**	**9.01**	**254**	P			**Pn**	**03 15 20.8**	**+2.8**
	421nm,0.7s,baz=39,slow=9.6,SNR=40								
PMG				S			**Sn**	**03 17 02.5**	**+4.3**
	399nm,0.9s,baz=355,slow=11,SNR=3.9								
PMG				LR			LR	03 18 36.9	
	comp=Z,7µm,21.4s,baz=49,slow=36								
MANU	**Manus Island**	**9.84**	**299**	P			Pn	03 15 35.1	+5.7
PATS	**Pohnpei**	**13.92**	**10**	P			**Pn**	**03 16 25.9**	**+0.8**
	baz=14,SNR=6.9								
PATS	**Pohnpei**	**13.92**	**10**	Pn			**Pn**	**03 16 24.7**	**-0.4**
COEN	**Coen**	**14.33**	**240**	P			**Pn**	**03 16 31.6**	**+1.0**
	baz=14,SNR=15								
COEN	**Coen**	**14.33**	**240**	Pn			**Pn**	**03 16 31.2**	**+0.6**
COEN	**Coen**	**14.33**	**240**	P			**Pn**	**03 16 32.5**	**+1.9**
TABU	**Tabubil**	**14.72**	**276**	P			**P**	**03 16 41.6**	**+0.9**
KOUNC	**Koumac, New Ca**	**15.74**	**150**	Pn			**P**	**03 16 50.4**	**-1.5**
KOUNC				lAmb		lAmb	lAmb	03 16 51.9	
	comp=Z,269nm,1.9s								
KOUNC	**Koumac, New Ca**	**15.74**	**150**	P			**P**	**03 16 52.1**	**+0.2**
MTSU	**Mount Surprise**	**15.85**	**224**	P			**P**	**03 16 52.9**	**-0.3**
	baz=16,SNR=14								
MTSU	**Mount Surprise**	**15.85**	**224**	P			**P**	**03 16 52.8**	**-0.4**
CTA	**Charters Tower**	**16.07**	**215**	P			**P**	**03 16 56.8**	**+1.2**
CTA	**Charters Tower**	**16.07**	**215**	P			**P**	**03 16 54.5**	**-1.0**
	comp=Z,9.2nm,0.4s,baz=35,slow=14,SNR=30								
CTA					LR		LR	03 22 21.7	
	comp=Z,3µm,20.8s,baz=55,slow=34								
CTAO	**Charters Tower**	**16.07**	**215**	Pn			**Pn**	**03 16 52.9**	**-0.1**
CTAO	**Charters Tower**	**16.07**	**215**	P			**P**	**03 16 56.7**	**+1.2**
CTAO	**Charters Tower**	**16.07**	**215**	P			**Pn**	**03 16 52.9**	**-0.1**
CTAO				pmax			pmax		
	comp=Z,43nm,1.0s								
GENI	**Genyem**	**16.30**	**285**	P			P	03 17 19.8	+22
NOUC	**Port Laguerre**	**18.07**	**147**	P			**Pn**	**03 17 19.4**	**+1.6**
DZM	**Mont Dzumac**	**18.12**	**147**	P			**Pn**	**03 17 19.5**	**+1.0**
DZM	**Mont Dzumac**	**18.12**	**147**	P			**Pn**	**03 17 20.2**	**+1.7**
DZM	**Mont Dzumac**	**18.12**	**147**	*eP*			**P**	**03 17 17.9**	**-0.4**
	comp=Z,227nm,1.4s								
DZM				*eS*			**Sn**	**03 20 36.6**	**-3.5**
	comp=Z,2µm,23.9s								
DZM				*e*LR			LR	03 21 55.2	
	comp=Z,6µm,28.5s								
DZM	**Mont Dzumac**	**18.12**	**147**	P			**Pn**	**03 17 20.0**	**+1.4**
	comp=Z,22nm,0.6s,baz=330,slow=16,SNR=29								
DZM					LR		LR	03 23 33.0	
	comp=Z,1µm,20.3s,baz=314,slow=34								
ONTNC	**Ouen Toro**	**18.32**	**147**	P			**Pn**	**03 17 21.3**	**+0.4**
ONTNC	**Ouen Toro**	**18.32**	**147**	P			**Pn**	**03 17 22.8**	**+2.0**
YATNC	**Mamie plateau,**	**18.36**	**146**	P			**Pn**	**03 17 23.3**	**+2.0**
OUENC	**Ouen Island, N**	**18.62**	**147**	P			**Pn**	**03 17 24.5**	**+0.1**
OUENC				lAmb		lAmb	lAmb	03 17 28.2	
	comp=Z,406nm,1.6s								
OUENC	**Ouen Island, N**	**18.62**	**147**	P			**Pn**	**03 17 24.9**	**+0.5**
TARA	**Tarawa**	**18.87**	**65**	P			**Pn**	**03 17 28.3**	**+0.8**
TARA				lAmb		lAmb	lAmb	03 17 31.0	
	comp=Z,240nm,1.1s								
EIDS	**Eidsvold**	**18.88**	**194**	P			**Pn**	**03 17 27.6**	**+0.1**
	baz=19,SNR=4.9								
EIDS	**Eidsvold**	**18.88**	**194**	P			**Pn**	**03 17 27.9**	**+0.4**
EIDS	**Eidsvold**	**18.88**	**194**	P			**Pn**	**03 17 29.2**	**+1.7**
QIS	**Mount Isa**	**20.80**	**228**	P			Pn	03 17 49.1	-1.3
	baz=21,SNR=42								
QIS	**Mont Isa**	**20.80**	**228**	P			Pn	03 17 51.3	+0.9
QLP	**Quilpie**	**22.46**	**208**	P			**P**	**03 18 05.5**	**+0.2**
	baz=22,SNR=23								
QLP	**Quilpie**	**22.46**	**208**	P			**P**	**03 18 05.2**	**0.0**
FUNA	**Funafuti**	**23.11**	**95**	P			**P**	**03 18 11.4**	**-0.6**
FUNA	**Funafuti**	**23.11**	**95**	P			**P**	**03 18 13.1**	**+1.1**
YSA	**Yasawairara**	**23.26**	**116**	P			**P**	**03 18 13.5**	**0.0**
AULRC	**Lightning Ridg**	**23.57**	**198**	P			**P**	**03 18 17.5**	**+1.2**
ARMA	**Armidale**	**23.68**	**189**	P			**P**	**03 18 18.4**	**+1.0**
	baz=24,SNR=7.3								
ARMA	**Armidale**	**23.68**	**189**	P			**P**	**03 18 17.7**	**+0.3**
ARMA				lAmb		lAmb	lAmb	03 18 19.6	
	comp=Z,121nm,1.2s								
ARMA	**Armidale**	**23.68**	**189**	P			**P**	**03 18 19.1**	**+1.7**
KDU	**Kakadu**	**23.79**	**254**	P			**P**	**03 18 18.5**	**0.0**
	baz=24,SNR=39								
KDU	**Kakadu**	**23.79**	**254**	P			**P**	**03 18 18.7**	**+0.2**
FAKI	**Fak Fak**	**23.93**	**279**	P			**P**	**03 18 20.1**	**+0.3**
FAKI	**Fak Fak**	**23.93**	**279**	P			**P**	**03 18 21.2**	**+1.4**
FAKI	**Fak Fak**	**23.93**	**279**	P			**P**	**03 18 20.4**	**+0.6**
	comp=Z,186nm,1.8s,comp=Z,4µm								
WR0	**Warramunga Arr**	**24.44**	**236**	P			**P**	**03 18 24.5**	**0.0**
WR0				lAmb		lAmb	lAmb	03 18 27.8	
	comp=Z,260nm,1.4s								
AUPHS	**Peel High Scho**	**24.47**	**190**	P			**P**	**03 18 25.2**	**+0.7**
WB0	**Warramunga Arr**	**24.47**	**237**	P			**P**	**03 18 24.4**	**-0.4**
WB0				lAmb		lAmb	lAmb	03 18 28.2	
	comp=Z,199nm,1.3s								
WRAB	**Tennant Creek**	**24.59**	**236**	P			**P**	**03 18 25.2**	**-0.6**
WRAB				lAmb		lAmb	lAmb	03 18 29.3	
	comp=Z,134nm,1.2s								
WRAB	**Tennant Creek**	**24.59**	**236**	P			**P**	**03 18 25.2**	**-0.6**
WRAB				pmax			pmax		
	comp=Z,134nm,1.2s								
WB2	**Warramunga Arr**	**24.59**	**236**	lAmb			lAmb	03 18 29.3	
	comp=Z,186nm,1.4s								
WRA	**Warramunga Arr**	**24.60**	**236**	P			**P**	**03 18 25.1**	**-0.8**
WRA							**PcP**	**03 22 02.9**	**+0.1**
WRA	**Warramunga Arr**	**24.60**	**236**	P			**P**	**03 18 26.3**	**+0.4**
	comp=Z,24nm,0.4s,baz=59,slow=9.1,SNR=303								
WRA					PcP		**PcP**	**03 22 03.2**	**+0.4**
	comp=Z,18nm,0.9s,baz=60,slow=2.1,SNR=10								
WRA					S		**S**	**03 22 50.4**	**+6.9**
	comp=Z,18nm,1.3s,baz=63,slow=17,SNR=7.4								
WRA					ScP		**ScP**	**03 25 38.4**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=64,slow=3.4,SNR=5.5								
WRA					PKiKP		**PKiKP**	**03 29 43.5**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=316,slow=1.0,SNR=10.0								
	comp=Z,24nm,0.4s								
DGTI	**Dogotuki**	**25.07**	**114**	P			**P**	**03 18 30.6**	**+0.5**
MTN	**Manton Dam**	**25.10**	**255**	P			**P**	**03 18 30.9**	**+0.4**
	baz=25,SNR=27								
MTN	**Manton Dam**	**25.10**	**255**	P			**P**	**03 18 30.2**	**-0.3**
MTN	**Manton Dam**	**25.10**	**255**	P			**P**	**03 18 31.1**	**+0.6**
INKA	**Innaminka**	**25.18**	**213**	P			**P**	**03 18 32.6**	**+1.6**
SIJI	**Sorong**	**25.33**	**283**	P			**P**	**03 18 32.8**	**+0.2**
	comp=Z,220nm,1.4s,comp=Z,3µm								
SWI	**Sorong**	**25.34**	**283**	P			**P**	**03 18 33.2**	**+0.6**
	comp=Z,290nm,1.4s,comp=Z,3µm								
AUDCS	**Dubbo College**	**26.04**	**194**	P			**P**	**03 18 39.6**	**+0.8**
CMSA	**Cobar Meteorol**	**26.25**	**200**	P			**P**	**03 18 40.6**	**0.0**
	baz=26,SNR=30								
CMSA	**Cobar Meteorol**	**26.25**	**200**	P			**P**	**03 18 40.7**	**0.0**
AS01	**Alice Springs**	**26.85**	**229**	P			**P**	**03 18 45.7**	**-0.6**
ASAR	**Alice Springs**	**26.89**	**229**	P			**P**	**03 18 45.5**	**-1.1**
ASAR	**Alice Springs**	**26.89**	**229**	P			**P**	**03 18 46.2**	**-0.4**
	comp=Z,13nm,0.5s,baz=60,slow=9.6,SNR=216								
ASAR					PcP		**PcP**	**03 22 08.6**	**+0.6**
	comp=Z,10nm,0.4s,baz=67,slow=2.6,SNR=13								
ASAR					ScP		**ScP**	**03 25 44.4**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=49,slow=3.4,SNR=11								
ASAR					LR		LR	03 29 07.9	
	comp=Z,2µm,18.9s,baz=92,slow=36								
	comp=Z,13nm,0.5s								
H11S3	**WAKE ISLAND Hy**	**27.44**	**23**	T			T	03 47 19.9	
	baz=202,slow=75,SNR=2339								
H11S2	**WAKE ISLAND Hy**	**27.44**	**23**	T			T	03 47 17.7	
	baz=202,slow=75,SNR=334								
H11S1	**WAKE ISLAND Hy**	**27.45**	**23**	T			T	03 47 18.2	
	baz=202,slow=75,SNR=1163								
KNRA	**Kununurra**	**27.98**	**250**	P			**P**	**03 18 56.6**	**+0.3**
	baz=28,SNR=18								
KNRA	**Kununurra**	**27.98**	**250**	P			**P**	**03 18 56.3**	**0.0**
KNRA				lAmb		lAmb	lAmb	03 19 55.2	
	comp=Z,58nm,0.8s								
KNRA	**Kununurra**	**27.98**	**250**	P			**P**	**03 18 56.7**	**+0.3**
STKA	**Stephens Creek**	**28.16**	**207**	P			**P**	**03 18 58.2**	**+0.4**
	baz=28,SNR=6.7								
STKA	**Stephens Creek**	**28.16**	**207**	P			**P**	**03 18 59.9**	**+2.0**
STKA	**Stephens Creek**	**28.16**	**207**	P			**P**	**03 18 57.8**	**-0.1**
	comp=Z,4.9nm,0.5s,baz=41,slow=14,SNR=11								
STKA					PcP		**PcP**	**03 22 10.8**	**0.0**
	comp=Z,14nm,1.0s,baz=359,slow=5.2,SNR=4.3								
STKA					ScP		**ScP**	**03 25 47.8**	**+0.3**
	comp=Z,7.1nm,0.9s,baz=2.2,slow=1.5,SNR=5.8								
STKA					LR		LR	03 29 52.2	
	comp=Z,3µm,20.2s,baz=23,slow=36								
	comp=Z,4.9nm,0.5s								
OOD	**Oodnadatta**	**28.23**	**220**	P			**P**	**03 18 59.8**	**+1.3**
H11N1	**WAKE ISLAND Hy**	**28.63**	**22**	T			T	03 48 53.2	
	baz=196,slow=76,SNR=49								
H11N3	**WAKE ISLAND Hy**	**28.64**	**22**	T			T	03 48 50.8	
	baz=196,slow=76,SNR=68								
H11N2	**WAKE ISLAND Hy**	**28.64**	**22**	T			T	03 48 51.7	
	baz=196,slow=76,SNR=102								
LCRK	**Leigh Creek**	**28.67**	**213**	P			**P**	**03 19 01.8**	**-0.6**
NLAI	**Namlea**	**28.95**	**276**	P			**P**	**03 19 06.1**	**+1.1**
	comp=Z,31nm,0.7s,comp=Z,6µm								
LBMI	**Labuha**	**29.04**	**281**	P			**P**	**03 19 07.9**	**+2.0**
	comp=Z,336nm,0.8s,comp=Z,5µm								
SANI	**Sanana**	**30.24**	**278**	P			**P**	**03 19 16.9**	**+0.4**
SANI	**Sanana**	**30.24**	**278**	P			**P**	**03 19 16.1**	**-0.4**
	comp=Z,114nm,1.1s,comp=Z,2µm								
HTT	**Hallett**	**30.69**	**209**	P			**P**	**03 19 21.0**	**+0.7**
	baz=31,SNR=5.1								
HTT	**Hallett**	**30.69**	**209**	P			**P**	**03 19 22.1**	**+1.8**
MULG	**Mulgathing**	**30.98**	**219**	P			**P**	**03 19 21.4**	**-1.4**
SOEI	**Soe**	**31.44**	**263**	P			**P**	**03 19 27.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**31.51**	**247**	P			**P**	**03 19 27.4**	**-0.2**
	baz=32,SNR=33								
FITZ	**Fitzroy Crossi**	**31.51**	**247**	P			**P**	**03 19 27.4**	**-0.2**
BBOO	**Buckleboo**	**31.66**	**213**	P			**P**	**03 19 28.7**	**0.0**
	baz=32,SNR=7.6								
BBOO	**Buckleboo**	**31.66**	**213**	lAmb			lAmb	03 20 32.6	
	comp=Z,66nm,1.4s								
BBOO	**Buckleboo**	**31.66**	**213**	P			**P**	**03 19 28.5**	**-0.3**
WRKA	**Warakurna**	**31.95**	**233**	P			**P**	**03 19 30.7**	**-0.8**
	baz=32,SNR=78								
WRKA	**Warakurna**	**31.95**	**233**	P			**P**	**03 19 30.4**	**-1.1**
SGSI	**Sangihe**	**32.14**	**288**	P			**P**	**03 19 34.8**	**+1.6**
	comp=Z,1µm,1.2s,comp=Z,16µm								
ARPS	**Mount Arapiles**	**32.33**	**201**	P			**P**	**03 19 35.6**	**+1.0**
	baz=32,SNR=6.2								
ARPS	**Mount Arapiles**	**32.33**	**201**	P			**P**	**03 19 34.9**	**+0.3**
AFI	**Afiamalu**	**32.47**	**105**	P			**P**	**03 19 37.1**	**+0.9**
AFI	**Afiamalu**	**32.47**	**105**	P			**P**	**03 19 37.1**	**+0.9**
AFI					pmax		pmax		
	comp=Z,141nm,1.1s								
KMSI	**Cibinong**	**32.74**	**282**	P			**P**	**03 19 38.9**	**+0.4**
	comp=Z,773nm,1.1s								
RAO	**Raoul Island**	**33.15**	**135**	LR			LR	03 31 04.0	
	comp=Z,572nm,21.4s,baz=140,slow=32								
DAV	**Davao City (W)**	**33.33**	**294**	LR			LR	03 33 09.5	
	comp=Z,398nm,19.7s,baz=86,slow=36								
LUWI	**Luwuk**	**33.58**	**279**	P			**P**	**03 19 45.3**	**-0.5**
LUWI	**Luwuk**	**33.58**	**279**	P			**P**	**03 19 46.7**	**+0.9**
LUWI	**Luwuk**	**33.58**	**279**	P			**P**	**03 19 45.8**	**0.0**
	comp=Z,168nm,1.3s								
GLAD	**Gladstone**	**34.60**	**191**	P			**P**	**03 19 55.8**	**+1.5**
FORT	**Forrest**	**35.25**	**224**	P			**P**	**03 19 59.7**	**-0.3**
	baz=35,SNR=36								
FORT	**Forrest**	**35.25**	**224**	P			**P**	**03 19 59.7**	**-0.3**
TOZ	**Tahuroa Road**	**35.41**	**153**	P			**P**	**03 20 01.5**	**+0.2**
TOZ					lAmb		lAmb	03 20 05.9	
	comp=Z,118nm,1.5s								
TOLI2	**Tolitoli**	**35.98**	**282**	P			**P**	**03 20 04.8**	**-1.8**
TOLI2					lAmb		lAmb	03 20 08.9	
	comp=Z,45nm,0.8s								
TOLI2	**Tolitoli**	**35.98**	**282**	P			**P**	**03 20 07.0**	**+0.5**
KAPI	**Kappang**	**36.03**	**271**	P			**P**	**03 20 07.1**	**+0.1**
KAPI	**Kappang**	**36.03**	**271**	P			**P**	**03 20 07.1**	**+0.1**
KAPI					pmax		pmax		
	comp=Z,119nm,0.9s								
KAPI	**Kappang**	**36.03**	**271**	LR			LR	03 37 50.3	
	comp=Z,184nm,18.5s,baz=104,slow=41								
URZ	**Urewera**	**36.58**	**151**	P			**P**	**03 20 12.4**	**+1.1**
URZ	**Urewera**	**36.58**	**151**	LR			LR	03 33 58.7	
	comp=Z,629nm,18.9s,baz=91,slow=34								
TAU	**Tasmania Unive**	**36.59**	**191**	P			**P**	**03 20 11.9**	**+0.6**
TAU	**Tasmania Unive**	**36.59**	**191**	P			**P**	**03 20 11.9**	**+0.6**
TAU					pmax		pmax		
	comp=Z,200nm,1.5s								
MXZ	**Matakaoa Point**	**36.62**	**150**	P			**P**	**03 20 14.5**	**+2.8**
RTZ	**Ruatahuna**	**36.80**	**152**	lAmb			lAmb	03 20 17.6	
	comp=Z,57nm,0.7s								
QRZ	**Quartz Range**	**36.83**	**159**	P			**P**	**03 20 15.1**	**+1.7**
BKZ	**Black Stump Fm**	**37.02**	**153**	lAmb			lAmb	03 20 36.7	
	comp=Z,38nm,1.3s								
BKZ	**Black Stump Fm**	**37.02**	**153**	P			**P**	**03 20 15.9**	**+0.7**
PSA00	**Pilbara Seismi**	**37.74**	**244**	P			**P**	**03 20 20.6**	**-0.8**
PSA00					lAmb		lAmb	03 20 22.3	
	comp=Z,92nm,1.3s								
PSA00							**PcP**	**03 22 37.7**	**+0.1**
PSA00	**Pilbara Seismi**	**37.74**	**244**	lAmb			lAmb	03 20 22.3	
	comp=Z,190nm,1.3s								
PSA00	**Pilbara Seismi**	**37.74**	**244**	P			**P**	**03 20 21.9**	**+0.5**
THZ	**Tophouse**	**37.79**	**159**	P			**P**	**03 20 21.3**	**-0.3**
PLAI	**Plampang**	**37.83**	**265**	P			**P**	**03 20 21.9**	**-0.4**
**P

	comp=Z,22nm,0.8s								
MAJO	**Matsushiro**	**46.37**	**340**	P	**P**	**03**	**21**	**32.3**	**+0.8**
MAJO	**Matsushiro**	**46.37**	**340**	P	**P**	**03**	**21**	**32.1**	**+0.6**
MAJO	**Matsushiro**	**46.37**	**340**	P	**P**	**03**	**21**	**32.1**	**+0.6**
MAJO				PcP	**PcP**	**03**	**23**	**06.9**	**+1.0**
MJB9	**Matsu-Tunnel**	**46.37**	**340**	IAmb	IAmb	03	21	35.1	
	comp=Z,21nm,0.8s								
JNU	**Nakatsue**	**46.44**	**331**	IAmb	IAmb	03	21	34.2	
	comp=Z,34nm,0.9s								
JNU	**Nakatsue**	**46.44**	**331**	P	**P**	**03**	**21**	**33.1**	**+1.0**
JNU	**Nakatsue**	**46.44**	**331**	LR	LR	03	39	30.3	
	comp=Z,150nm,20.0s,baz=136,slow=34								
JMM	**Marumori**	**46.78**	**344**	P	**P**	**03**	**21**	**35.3**	**+0.6**
BBJI	**Bungbulang**	**47.88**	**266**	P	**P**	**03**	**21**	**43.1**	**-0.7**
BBJI	**Bungbulang**	**47.88**	**266**	P	**P**	**03**	**21**	**44.7**	**+0.9**
	comp=Z,72nm,0.7s								
JTM	**Tenmabayashi**	**49.45**	**345**	P	**P**	**03**	**21**	**56.4**	**+1.2**
PPBI	**Pangkal Pinang**	**49.84**	**273**	P	**P**	**03**	**22**	**00.2**	**+1.5**
	comp=Z,79nm,1.2s,comp=Z,6μm								
SSE	**Sheshan**	**50.37**	**321**	P	**P**	**03**	**22**	**03.0**	**+0.6**
SSE				S	**S**	**03**	**29**	**11.0**	**-0.8**
SSE				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SSE				pmax	pmax				
	comp=Z,130nm,3.5s								
SSE				LR	LR				
	comp=Z,160nm,17.3s								
SSE				LR	LR				
	comp=Z,200nm,19.0s								
TJN	**Taejon**	**50.77**	**330**	P	**P**	**03**	**22**	**06.5**	**+1.2**
DLV	**T Lat**	**50.78**	**291**	P	**P**	**03**	**22**	**06.3**	**+0.3**
DLV	**T Lat**	**50.78**	**291**	P	**P**	**03**	**22**	**06.4**	**+0.3**
KSRS	**Korea Array**	**51.35**	**331**	P	**P**	**03**	**22**	**10.7**	**+1.0**
	comp=Z,21nm,0.9s,baz=149,slow=8.2,SNR=46								
KSRS				PcP	**PcP**	**03**	**23**	**25.4**	**+1.6**
	comp=Z,4.1nm,0.7s,baz=160,slow=3.3,SNR=6.7								
KSRS				LR	LR	03	44	32.5	
	comp=Z,132nm,18.9s,baz=140,slow=37								
	comp=Z,21nm,0.9s								
KSAR	**Wonju Array Be**	**51.36**	**331**	P	**P**	**03**	**22**	**10.9**	**+1.2**
KSAR	**Wonju Array Be**	**51.36**	**331**	P	**P**	**03**	**22**	**11.0**	**+1.2**
KS19	**Wonju Array Si**	**51.42**	**331**	IAmb	IAmb	03	22	12.0	
	comp=Z,29nm,1.0s								
LWLI	**Liwa**	**51.60**	**269**	P	**P**	**03**	**22**	**13.3**	**+1.2**
INCN	**Inchon**	**52.00**	**330**	P	**P**	**03**	**22**	**15.0**	**+0.5**
INCN				IAmb	IAmb	03	22	17.0	
	comp=Z,67nm,1.2s								
INCN	**Inchon**	**52.00**	**330**	P	**P**	**03**	**22**	**14.7**	**+0.2**
INCN	**Inchon**	**52.00**	**330**	P	**P**	**03**	**22**	**15.0**	**+0.5**
INCN				pmax	pmax				
	comp=Z,67nm,1.2s								
QIZ	**Qiongzhong**	**52.25**	**300**	P	**P**	**03**	**22**	**17.5**	**+0.8**
QIZ				S	**S**	**03**	**29**	**36.5**	**-1.6**
QIZ				LR	LR				
	comp=Z,370nm,8.6s								
QIZ				LR	LR				
	comp=Z,430nm,11.4s								
QIZ				LR	LR				
	comp=Z,530nm,15.3s								
JKA	**Kamikawa-asahi**	**52.26**	**348**	IAmb	IAmb	03	22	19.7	
	comp=Z,35nm,1.0s								
ASAJ	**Asahikawa**	**52.26**	**348**	LR	LR	03	41	56.1	
	comp=Z,542nm,21.7s,baz=158,slow=33								
NJ2	**Nanjing**	**52.49**	**320**	*e*P	**P**	**03**	**22**	**20.5**	**+2.3**
NJ2				pP	**sP**	**03**	**22**	**40.3**	**+1.4**
NJ2				sP	pP	03	22	49.0	+16
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
NJ2				pmax	pmax				
	comp=Z,330nm,4.1s								
NJ2				LR	LR				
	comp=Z,370nm,15.9s								
NJ2				LR	LR				
	comp=Z,500nm,17.9s								
NJ2				LR	LR				
	comp=Z,670nm,24.3s								
MYKOM	**Kota Tinggi**	**52.70**	**278**	IAmb	IAmb	03	22	20.7	
	comp=Z,34nm,0.8s								
MYKOM	**Kota Tinggi**	**52.70**	**278**	P	**P**	**03**	**22**	**20.7**	**+0.6**
	comp=Z,52nm,1.4s								
PPT	**Papeete**	**54.12**	**107**	P	**P**	**03**	**22**	**32.2**	**+1.7**
	comp=Z,24nm,0.5s,baz=72,slow=7.4,SNR=8.0								
PPT				LR	LR	03	40	47.7	
	comp=Z,336nm,21.5s,baz=270,slow=31								
	comp=Z,24nm,0.5s								
PPT2	**Papeete2**	**54.12**	**107**	*e*P	**P**	**03**	**22**	**31.8**	**+1.2**
	comp=Z,99nm,25.2s								
PPT2				*e*S	**S**	**03**	**30**	**00.2**	**-3.5**
	comp=Z,302nm,26.5s								
PPT2				*e*SS	**SKiKP**	**03**	**33**	**37.4**	**-0.8**
	comp=Z,183nm,29.8s								
PPT2				*e*LQ	LQ	03	35	52.6	
	comp=Z,643nm,25.2s								
PPT2				*e*LR	LR	03	38	04.3	
	comp=Z,501nm,29.5s								
PPT2				*e*LR	LR	03	38	20.1	
	comp=Z,651nm,22.5s								
PPTF	**Pamatai, Papee**	**54.13**	**107**	P	**P**	**03**	**22**	**30.6**	**0.0**
PPTF	**Pamatai, Papee**	**54.13**	**107**	P	**P**	**03**	**22**	**31.6**	**+1.0**
PPTF	**Pamatai, Papee**	**54.13**	**107**	P	**P**	**03**	**22**	**32.6**	**+1.9**
WHN	**Wuhan**	**54.57**	**315**	⇓P	**P**	**03**	**22**	**34.8**	**+1.3**
WHN				pP	**sP**	**03**	**22**	**55.0**	**+0.7**
GULI	**GuiLin**	**54.69**	**308**	⇓P	**P**	**03**	**22**	**32.8**	**-1.7**
GULI				pmax	pmax				
	comp=Z,40nm,1.2s								
TBI	**Tubuai**	**54.84**	**114**	*e*P	**P**	**03**	**22**	**34.6**	**-1.0**
	comp=Z,1μm,30.2s								
TBI				*e*S	S	03	29	55.5	-18
	comp=Z,4μm,49.0s								
TBI				*e*LQ	LQ	03	36	23.5	
	comp=Z,4μm,38.5s								
TBI				*e*LR	LR	03	38	44.0	
	comp=Z,2μm,26.8s								
TBI				*e*LR	LR	03	38	47.7	
	comp=Z,10μm,29.5s								
YSS	**Yuzh-Sakhalins**	**54.95**	**349**	P	**P**	**03**	**22**	**36.9**	**+1.0**
YSS				IAmb	IAmb	03	22	39.2	
	comp=Z,42nm,0.9s								
YSS	**Yuzh-Sakhalins**	**54.95**	**349**	P	**P**	**03**	**22**	**37.4**	**+1.5**
YSS	**Yuzh-Sakhalins**	**54.95**	**349**	*ce*P	**P**	**03**	**22**	**37.2**	**+1.3**
YSS				pmax	pmax				
	comp=Z,53nm,1.0s								
USA0B	**Ussuriysk Arra**	**55.33**	**339**	IAmb	IAmb	03	22	41.6	
	comp=Z,69nm,1.2s								
USA0B	**Ussuriysk Arra**	**55.33**	**339**	*i* P	**P**	**03**	**22**	**40.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**55.33**	**339**	P	**P**	**03**	**22**	**39.9**	**+1.2**
USRK				pP	**pP**	**03**	**22**	**53.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**55.33**	**339**	P	**P**	**03**	**22**	**40.1**	**+1.4**
	comp=Z,43nm,1.0s,baz=151,slow=7.2,SNR=36								
USRK				LR	LR	03	43	49.4	
	comp=Z,169nm,21.1s,baz=151,slow=33								
	comp=Z,43nm,1.0s								
PDSI	**Padang**	**55.63**	**274**	P	**P**	**03**	**22**	**40.4**	**-1.1**
	comp=Z,64nm,0.6s,comp=Z,7μm								
KULM	**Kulim**	**56.50**	**281**	P	**P**	**03**	**22**	**46.6**	**-1.1**
KULM	**Kulim**	**56.50**	**281**	P	**P**	**03**	**22**	**47.1**	**-0.6**
	comp=Z,87nm,1.4s,comp=Z,1μm								
MDJ	**Mudanjiang**	**56.56**	**338**	P	**P**	**03**	**22**	**48.8**	**+1.3**
MDJ				pP	sP	03	23	09.3	+0.9
MDJ				PcS	**PcS**	**03**	**27**	**38.8**	**-5.4**
MDJ				pmax	pmax				
	comp=Z,28nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,130nm,5.8s								
MDJ				LR	LR				
	comp=Z,230nm,21.6s								
MDJ				LR	LR				
	comp=Z,360nm,21.3s								
MDJ				LR	LR				
	comp=Z,410nm,22.0s								
MDJ	**Mudanjiang**	**56.56**	**338**	IAmb	IAmb	03	22	50.2	
	comp=Z,30nm,1.1s								
MDJ	**Mudanjiang**	**56.56**	**338**	P	**P**	**03**	**22**	**48.9**	**+1.3**
MDJ				pP	**pP**	**03**	**23**	**01.2**	**-1.1**
SNY	**Shenyang**	**56.86**	**331**	⇓P	**P**	**03**	**22**	**50.5**	**+0.8**
SNY				S	**S**	**03**	**30**	**39.0**	**-0.3**
SNY				pmax	pmax				
	comp=Z,16nm,1.1s								
SNY				pmax	pmax				
	comp=Z,200nm,4.7s								
SNY				LR	LR				
	comp=Z,250nm,16.7s								
SNY				LR	LR				
	comp=Z,260nm,14.7s								
SNY				LR	LR				
	comp=Z,300nm,22.1s								
SKLT	**Songkhla**	**56.93**	**283**	P	**P**	**03**	**22**	**51.2**	**+0.5**
SKLT	**Songkhla**	**56.93**	**283**	P	**P**	**03**	**22**	**51.1**	**+0.4**
	comp=Z,251nm,1.1s,comp=Z,3μm								
SISI	**Saibi**	**56.93**	**273**	P	**P**	**03**	**22**	**50.0**	**-0.8**
	comp=Z,67nm,1.5s								
CN2	**Changchun**	**57.57**	**334**	*e*P	**P**	**03**	**22**	**55.0**	**+0.3**
CN2				*e*pP	sP	03	23	14.3	-1.2
CN2				*e*S	**S**	**03**	**30**	**46.5**	**-2.1**
CN2				*e*sS	sS	03	31	19.8	+6.6
CN2				pmax	pmax				
	comp=Z,20nm,1.3s								
RPSI	**Rantau Prapat**	**57.70**	**278**	P	**P**	**03**	**22**	**54.2**	**-1.9**
RPSI				IAmb	IAmb	03	23	09.6	
	comp=Z,78nm,1.9s								
PSI	**Prapat**	**57.72**	**278**	P	**P**	**03**	**22**	**57.0**	**+0.5**
PSI	**Prapat**	**57.72**	**278**	P	**P**	**03**	**22**	**54.2**	**-2.3**
PSI				pmax	pmax				
	comp=Z,78nm,1.9s								
PSI	**Prapat**	**57.72**	**278**	P	**P**	**03**	**22**	**56.3**	**-0.2**
	comp=Z,15nm,1.0s								
PBSI	**Pulau Batu**	**57.91**	**274**	P	**P**	**03**	**22**	**57.3**	**-0.3**
	comp=Z,90nm,1.2s								
GYA	**Guiyang**	**58.18**	**307**	⇑P	**P**	**03**	**23**	**01.3**	**+1.8**
GYA				pmax	pmax				
	comp=Z,18nm,1.1s								
LYN	**LuoYang**	**58.22**	**318**	⇑*i*P	**P**	**03**	**22**	**59.8**	**+0.4**
LYN				PcP	**PcP**	**03**	**23**	**51.0**	**+0.7**
LYN				S	**S**	**03**	**30**	**54.0**	**-3.5**
LYN				pmax	pmax				
	comp=Z,22nm,0.6s								
LYN				pmax	pmax				
	comp=Z,230nm,5.9s								
LYN				LR	LR				
	comp=Z,520nm,16.8s								
LYN				LR	LR				
	comp=Z,320nm,20.6s								
LYN				LR	LR				
	comp=Z,810nm,21.6s								
SRIT	**Nakonsritamara**	**58.24**	**285**	P	**P**	**03**	**23**	**00.4**	**+0.5**
SURA	**Surathani**	**58.35**	**285**	P	**P**	**03**	**23**	**01.3**	**+0.6**
COCO	**West Island**	**58.41**	**260**	P	**P**	**03**	**23**	**01.3**	**+0.2**
COCO	**West Island**	**58.41**	**260**	P	**P**	**03**	**23**	**01.3**	**+0.2**
COCO				pmax	pmax				
	comp=Z,137nm,1.0s								
HNS	**HongShan**	**58.55**	**322**	⇑P	**P**	**03**	**23**	**02.5**	**+0.8**
HNS				S	**S**	**03**	**31**	**03.0**	**+1.3**
HNS				pmax	pmax				
	comp=Z,39nm,1.4s								
HNS				LR	LR				
	comp=Z,260nm,17.5s								
HNS				LR	LR				
	comp=Z,350nm,18.6s								
HNS				LR	LR				
	comp=Z,470nm,21.2s								
TYV	**Tymovskoe**	**58.73**	**350**	*e*P	**P**	**03**	**23**	**04.9**	**+2.3**
TYV				*e*S	**S**	**03**	**31**	**05.0**	**+1.5**
TYV				pmax	pmax				
	comp=Z,18nm,1.2s								
TYV				pmax	pmax				
	comp=Z,200nm,4.8s								
TYV				smax	smax				
	comp=N,200nm,9.2s								
TYV				smax	smax				
	comp=E,300nm,9.2s								
GSI	**Gunungsitoli**	**58.80**	**276**	P	**P**	**03**	**23**	**02.2**	**-1.7**
GSI	**Gunungsitoli**	**58.80**	**276**	P	**P**	**03**	**23**	**04.0**	**+0.1**
GSI	**Gunungsitoli**	**58.80**	**276**	P	**P**	**03**	**23**	**02.4**	**-1.5**
	comp=E,134nm,0.7s								
KCSI	**Kotacane, Aceh**	**58.98**	**278**	P	**P**	**03**	**23**	**03.5**	**-1.6**
	comp=E,36nm,0.8s,comp=E,1μm								
BJT	**Baijiatuau**	**59.41**	**325**	IAmb	IAmb	03	23	09.6	
	comp=Z,33nm,1.6s								
BJI	**Beijing**	**59.42**	**325**	P	**P**	**03**	**23**	**08.0**	**+0.3**
BJI				sP	sP	03	23	38.3	+10
BJI				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BJI				pmax	pmax				
	comp=Z,95nm,5.7s								
PET	**Petropavlovsk**	**59.81**	**2**	*e*P	**P**	**03**	**23**	**11.5**	**+1.5**
PET				*e*S	**S**	**03**	**31**	**22.0**	**+4.7**
PET				pmax	pmax				
	comp=Z,25nm,1.0s								
PET				MLR	MLR				
	comp=Z,1μm,22.0s								
KLR	**Kul'dur**	**59.83**	**342**	*i* P	**P**	**03**	**23**	**10.3**	**0.0**
KLR				pmax	pmax				
	comp=Z,47nm,1.7s								
KLR	**Kul'dur**	**59.83**	**342**	LR	LR	03	47	37.7	
	comp=Z,166nm,21.1s,baz=176,slow=34								
PEA0B	**Petropavlovsk-**	**59.86**	**1**	*i* P	**P**	**03**	**23**	**10.2**	**-0.3**
PETK	**Petropavlovsk-**	**59.86**	**1**	P	**P**	**03**	**23**	**10.9**	**+0.4**
PETK					**pP**	**03**	**23**	**27.7**	**+2.5**
PETK	**Petropavlovsk-**	**59.86**	**1**	P	**P**	**03**	**23**	**10.9**	**+0.4**
PETK				*SP	**pP**	**03**	**23**	**27.7**	**+2.5**
PETK	**Petropavlovsk-**	**59.86**	**1**	P	**P**	**03**	**23**	**11.4**	**+1.0**
	comp=Z,24nm,0.8s,baz=159,slow=6.0,SNR=23								
PETK				LR	LR	03	45	18.5	
	comp=Z,636nm,21.8s,baz=177,slow=32								
	comp=Z,24nm,0.8s								
GRNR	**Gornyy**	**59.93**	**346**	⇓*i*P	**P**	**03**	**23**	**12.2**	**+1.2**
GRNR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
SNSI	**Sinabang, Aceh**	**60.21**	**277**	P	**P**	**03**	**23**	**13.5**	**-0.1**
	comp=Z,57nm,1.2s,comp=Z,3μm								
XAN	**Xi'an**	**60.33**	**316**	⇑P	**P**	**03**	**23**	**14.0**	**-0.1**
XAN				S	**S**	**03**	**31**	**23.3**	**-1.7**
XAN				pmax	pmax				
	comp=Z,25nm,0.6s								
XAN				pmax	pmax				
	comp=Z,280nm,4.6s								
XAN				LR	LR				
	comp=Z,970nm,24.7s								
XAN				LR	LR				
	comp=Z,620nm,26.1s								
XAN				LR	LR				
	comp=Z,900nm,20.6s								
XAN	**Xi'an**	**60.33**	**316**	P	**P**	**03**	**23**	**14.2**	**+0.1**
XAN				pP	**pP**	**03**	**23**	**26.9**	**-2.0**
MLSI	**Meulaboh, Aceh**	**60.45**	**279**	P	**P**	**03**	**23**	**15.8**	**+0.5**
DRV	**Dumont d'Urvil**	**60.60**	**187**	⇑P	**P**	**03**	**23**	**15.6**	**+0.2**
DRV				pP	**pP**	**03**	**23**	**28.0**	**-1.8**
KMI	**Kunming**	**60.77**	**304**	⇑P	**P**	**03**	**23**	**19.8**	**+2.3**
KMI				LR	LR				
	comp=Z,200nm,18.9s								
KMI				LR	LR				
	comp=Z,440nm,22.6s								
KMI				LR	LR				
	comp=Z,560nm,25.8s								
CRAI	**Chiangrai**	**60.93**	**298**	P	**P**	**03**	**23**	**18.8**	**+0.4**
SHEM	**Shemya Is, Ala**	**61.45**	**12**	LR	LR	03	46	44.5	
	comp=Z,884nm,20.4s,baz=131,slow=33								
CMAR	**Chiang Mai Arr**	**61.61**	**295**	P	**P**	**03**	**23**	**23.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**61.61**	**295**	P	**P**	**03**	**23**	**24.4**	**+1.3**
	comp=Z,15nm,0.7s,baz=121,slow=5.1,SNR=79								
CMAR				LR	LR	03	47	56.5	
	comp=Z,96nm,22.0s,baz=120,slow=34								
	comp=Z,15nm,0.7s								
CHTO	**Chiang Mai**	**61.73**	**296**	P	**P**	**03**	**23**	**23.9**	**+0.1**
CHTO	**Chiang Mai**	**61.73**	**296**	P	**P**	**03**	**23**	**24.4**	**+0.7**
CHTO	**Chiang Mai**	**61.73**	**296**	P	**P**	**03**	**23**	**23.9**	**+0.1**
CHTO				pmax	pmax				
	comp=Z,72nm,1.2s								
CHTO	**Chiang Mai**	**61.73**	**296**	P	**P**	**03**	**23**	**24.6**	**+0.7**
CHTO				pP	**pP**	**03**	**23**	**37.3**	**-1.4**
CHTO	**Chiang Mai**	**61.73**	**296**	P	**P**	**03**	**23**	**24.5**	**+0.7**
	comp=Z,60nm,1.4s,comp=Z,715nm								
XLT	**XiLinHaoTe**	**62.12**	**328**	⇑*i*P	**P**	**03**	**23**	**27.0**	**+0.9**
XLT				sP	PcP	03	23	59.3	-6.6
XLT				pmax	pmax				
	comp=Z,110nm,0.8s								
XLT				pmax	pmax				
	comp=Z,140nm,4.3s								
XLT				LR	LR				
	comp=Z,390nm,23.2s								
XLT				LR	LR				
	comp=Z,500nm,26.1s								
HEH	**HeiHe**	**62.13**	**340**	*e*P	**P**	**03**	**23**	**26.5**	**+0.7**
HEH				pmax	pmax				
	comp=Z,22nm,1.0s								
HEH				LR	LR				
	comp=Z,290nm,20.4s								
HEH				LR	LR				
	comp=Z,250nm,20.6s								
HEH				LR	LR				
	comp=Z,450nm,21.6s								
PZH	**PanZhiHua**	**62.16**	**305**	P	**P**	**03**	**23**	**26.8**	**+0.1**
PZH				S	**S**	**03**	**31**	**47.3**	**-1.3**
PZH				sS	sS	03	32	24.3	+11
PZH				pmax	pmax				
	comp=Z,20nm,0.9s								
PZH				pmax	pmax				
	comp=Z,210nm,5.9s								
PZH				LR	LR				
	comp=Z,290nm,23.5s								
PZH				LR	LR				
	comp=Z,320nm,23.9s								
PZH				LR	LR				
	comp=Z,470nm,25.0s								
CD2	**Chengdu**	**62.51**	**310**	P	**P**	**03**	**23**	**29.3**	**+0.4**
CD2				S	**S**	**03**	**31**	**52.3**	**-0.3**
CD2				pmax	pmax				
	comp=Z,40nm,0.7s								
CD2				pmax	pmax				
	comp=Z,160nm,4.5s								
CD2				LR	LR				
	comp=Z,570nm,23.8s								
HHC	**Hu-ho-hao-te**	**62.62**	**323**	⇑*i*P	**P**	**03**	**23**	**30.5**	**+1.0**
HHC				pP	sP	03	23	49.0	-1.5
HHC				S	**S**	**03**	**31**	**55.5**	**+1.6**
HHC				pmax	pmax				
	comp=Z,27nm,1.1s								
HHC				pmax	pmax				
	comp=Z,170nm,4.9s								
HHC				LR	LR				
	comp=Z,260nm,17.3s								
HHC				LR	LR				
	comp=Z,220nm,16.3s								
HHC				LR	LR				
	comp=Z,420nm,20.0s								
TAOE	**Nuku Hiva Isla**	**63.28**	**96**	*e*SS	SS	03	36	11.3	+1.0
	comp=Z,260nm,29.6s								
TAOE				*e*LR	LR	03	42	31.3	
	comp=Z,568nm,22.2s								
BTO	**Baotou**	**63.40**	**322**	*e*P	**P**	**03**	**23**	**35.8**	**+1.1**
BTO				pP	**sP**	**03**	**23**	**55.3**	**-0.4**
BTO				sP	**PcP**	**03**	**24**	**04.0**	**-7.2**
BTO				PP	**PP**	**03**	**25**	**58.5**	**+3.7**
BTO				S	**S**	**03**	**32**	**04.8**	**+1.2**
BTO				sS	**sS**	**03**	**32**	**36.5**	**+7.3**
BTO				SS	**SS**	**03**	**36**	**13.0**	**+1.5**
BTO				pmax	pmax				
	comp=Z,27nm,1.5s								
BTO				pmax	pmax				
	comp=Z,330nm,5.5s								
BTO				LR	LR				
	comp=Z,500nm,19.0s								
BTO				LR	LR				
	comp=Z,680nm,20.2s								
BTO				LR	LR				
	comp=Z,770nm,21.2s								
TNCH	**TengChong**	**64.26**	**302**	*e*P	**P**	**03**	**23**	**41.5**	**+0.8**
TNCH				pmax	pmax				
	comp=Z,310nm,1.7s								
HIA	**Hailar**	**64.29**	**335**	IAmb	IAmb	03	23	43.5	
	comp=Z,25nm,0.9s								
HIA	**Hailar**	**64.29**	**335**	*i* P	**P**	**03**	**23**	**40.4**	**+0.1**
HIA				pmax	pmax				
	comp=Z,24nm,0.8s								
HIA	**Hailar**	**64.29**	**335**	P	**P**	**03**	**23**	**41.2**	**+0.9**
LZH	**Lanzhou**	**64.95**	**315**	⇑P	**P**	**03**	**23**	**46.3**	**+1.3**
LZH				sP	PcP	03	24	18.0	+0.2
LZH				S	**S**	**03**	**32**	**26.0**	**+2.9**
LZH				sS	sS	03	32	54.0	+5.7
LZH				pmax	pmax				
	comp=Z,23nm,1.5s								
LZH				LR	LR				
	comp=Z,170nm,13.7s								
LZH				LR	LR				
	comp=Z,180nm,12.7s								
LZH				LR	LR				
	comp=Z,290nm,13.7s								
ZEA	**Zeya**	**65.14**	**342**	*e*P	**P**	**03**	**23**	**46.8**	**+1.2**
ZEA				*e*		03	24	13.5	
ZEA				*e*		03	32	39.6	
ZEA				pmax	pmax				
	comp=E,10.0nm,0.8s								
ZEA				pmax	pmax				
	comp=N,20nm,1.3s								
ZEA				pmax	pmax				
	comp=Z,30nm,1.1s								
ZEA				pmax	pmax				
	comp=Z,100nm,7.2s								
MND	**Mandalay**	**65.28**	**298**	P	**P**	**03**	**23**	**48.4**	**+1.2**
MA2	**Magadan**	**66.46**	**357**	P	**P**	**03**	**23**	**54.4**	**+0.4**
	comp=Z,8.4nm,0.7s,baz=99,slow=17,SNR=4.7								
MA2				LR	LR	03	50	16.4	
	comp=Z,327nm,21.4s,baz=181,slow=34								
	comp=Z,8.4nm,0.7s								
GTA	**Gaotai**	**69.36**	**317**	⇓P	**P**	**03**	**24**	**14.0**	**+1.1**
GTA				pmax	pmax				
	comp=Z,11nm,1.3s								
GTA				pmax	pmax				
	comp=Z,95nm,5.5s								
GTA				LR	LR				
	comp=Z,140nm,19.6s								
GTA				LR	LR				
	comp=Z,270nm,22.9s								
GTA				LR	LR				
	comp=Z,360nm,20.0s								
ULN	**Ulaanbaatar**	**69.48**	**327**	P	**P**	**03**	**24**	**14.3**	**+0.9**
ULN	**Ulaanbaatar**	**69.48**	**327**	P	**P**	**03**	**24**	**15.4**	**+1.9**
ULN	**Ulaanbaatar**	**69.48**	**327**	⇑P	**P**	**03**	**24**	**15.1**	**+1.6**
ULN				pP	**pP**	**03**	**24**	**27.3**	**-1.2**
ULN				sP	**sP**	**03**	**24**	**32.6**	**-2.0**
ULN				PcP	**PcP**	**03**	**24**	**36.9**	**+0.5**
ULN	**Ulaanbaatar**	**69.48**	**327**	P	**P**	**03**	**24**	**14.8**	**+1.3**
	comp=Z,367nm,1.1s,comp=Z,4μm								
SEY	**Seymchan**	**69.75**	**358**	P	**P**	**03**	**24**	**15.5**	**+0.9**
	comp=Z,6.7nm,0.7s,baz=155,slow=7.5,SNR=10.0								
SEY				LR	LR	03	51	22.9	
	comp=Z,206nm,21.6s,baz=162,slow=33								
	comp=Z,6.7nm,0.7s								
SONM	**Songino Array**	**69.82**	**327**	P	**P**	**03**	**24**	**16.7**	**+1.1**
SONM				pP	**pP**	**03**	**24**	**29.9**	**-0.7**
SONM	**Songino Array**	**69.82**	**327**	P	**P**	**03**	**24**	**17.0**	**+1.5**
SONM	**Songino Array**	**69.82**	**327**	P	**P**	**03**	**24**	**17.0**	**+1.5**
	comp=Z,60nm,0.7s,baz=140,slow=6.7,SNR=408								
SONM	

YAK eSSS SSS 03 41 34.1
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,178nm,3.7s
YAK pmax pmax
comp=N,137nm,3.9s
YAK pmax pmax
comp=E,167nm,4.5s
YAK smax smax
comp=E,101nm,3.9s
YAK smax smax
comp=N,88nm,2.8s
YAK Yakutsk 71.73 347 LR LR 03 56 29.2
comp=N,177nm,19.2s,baz=124,slow=36
BOD Bodaibo 72.94 338 eP **P 03 24 34.7 +0.8**
BOD pmax pmax
comp=Z,25nm,1.4s
ZAK Zakamensk 72.96 328 eP **P 03 24 35.1 +0.7**
ZAK pmax pmax
comp=Z,50nm,1.3s
M11K Mekoryuk 73.46 19 P **P 03 24 38.0 +1.1**
baz=220
IRK Irkutsk 73.53 330 eP **P 03 24 36.7 -0.8**
IRK pmax pmax
comp=Z,65nm,1.3s
O14K Tigyukauivet M 74.29 21 P **P 03 24 43.0 +1.2**
baz=224
M13K Dall Lake 74.41 20 P **P 03 24 43.9 +1.5**
baz=222
R16K Pilot Point 74.53 24 P **P 03 24 44.9 +1.7**
baz=228
M14K Bethel 75.13 20 P **P 03 24 48.5 +1.9**
baz=224
BILL Bilibino 75.19 4 P **P 03 24 47.8 +1.0**
BILL IAmb IAmb 03 24 49.3
comp=Z,66nm,1.2s
BILL Bilibino 75.19 4 *i* P **P 03 24 47.5 +0.6**
L14K Kuka Creek 75.32 19 P **P 03 24 50.1 +2.4**
baz=223
N15K Kwethluk River 75.36 21 P **P 03 24 49.3 +1.3**
baz=225
M15K Kasigluk River 75.52 20 P **P 03 24 50.1 +1.2**
baz=225
Q17K Contact Creek 75.67 24 P **P 03 24 50.6 +0.7**
baz=230
L15K Ungalak Mounta 75.96 19 P **P 03 24 53.0 +1.6**
baz=224
J14K Nanvaranak Lak 76.09 18 IAmb IAmb 03 25 25.6
comp=Z,53nm,1.4s
J14K Nanvaranak Lak 76.09 18 P **P 03 24 53.6 +1.6**
baz=222
O17K Koliganek Bris 76.19 22 P **P 03 24 53.6 +0.9**
baz=228
M16K Timber Creek 76.36 21 IAmb IAmb 03 25 26.9
comp=Z,50nm,1.2s
M16K Timber Creek 76.36 21 P **P 03 24 54.7 +1.0**
baz=226
K15K Wolf Creek Mou 76.39 19 IAmb IAmb 03 24 56.5
comp=Z,36nm,1.4s
K15K Wolf Creek Mou 76.39 19 P **P 03 24 55.2 +1.4**
baz=224
L16K Owhat River 76.66 20 IAmb IAmb 03 25 12.2
comp=Z,34nm,1.6s
L16K Owhat River 76.66 20 P **P 03 24 56.5 +1.1**
baz=226
KDAK Kodiak Island 76.74 26 P **P 03 24 57.7 +1.9**
comp=Z,8.5nm,0.9s,baz=225,slow=5.7,SNR=1.5
KDAK LR LR 03 55 10.9
comp=Z,345nm,20.3s,baz=241,slow=33
comp=Z,8.5nm,0.9s
ANM Nome 76.94 16 IAmb IAmb 03 25 30.3
comp=Z,32nm,1.5s
ANM Nome 76.94 16 P **P 03 24 58.2 +1.3**
baz=220
Q19K Cape Douglas, 77.00 24 P **P 03 24 59.0 +1.7**
baz=232
TNA Tin City 77.06 15 P **P 03 24 58.6 +1.1**
baz=217
N18K Kilae Creek 77.24 22 P **P 03 24 59.8 +1.1**
baz=229
L17K Donlin 77.35 20 P **P 03 25 00.6 +1.3**
baz=227
F14K Arctic Creek 77.40 15 P **P 03 25 00.7 +1.3**
baz=218
J16K Anvik River 77.40 19 IAmb IAmb 03 25 22.9
comp=Z,22nm,1.1s
J16K Anvik River 77.40 19 P **P 03 25 01.0 +1.5**
baz=224
O19K Port Alsworth 77.52 23 P **P 03 25 02.4 +2.2**
baz=231
P19K Oil Pt 77.61 24 P **P 03 25 02.6 +1.8**
baz=232
G15K Niukluk 77.64 16 P **P 03 25 02.6 +1.8**
baz=221
K17K Iditarod 77.75 20 IAmb IAmb 03 25 31.4
comp=Z,74nm,1.9s
K17K Iditarod 77.75 20 P **P 03 25 03.2 +1.8**
baz=227
I17K Unalakleet 77.80 18 IAmb IAmb 03 25 25.4
comp=Z,29nm,1.2s
I17K Unalakleet 77.80 18 P **P 03 25 03.6 +1.9**
baz=224,SNR=8.3
H16K Elim 77.89 17 P **P 03 25 04.4 +2.3**
baz=223
L18K Granite Mounta 77.97 21 IAmb IAmb 03 25 26.1
comp=Z,26nm,1.2s
L18K Granite Mounta 77.97 21 P **P 03 25 04.8 +2.1**
baz=228,SNR=6.3
F15K North Star Dit 78.02 16 IAmb IAmb 03 25 35.5
comp=Z,29nm,1.3s
F15K North Star Dit 78.02 16 P **P 03 25 05.4 +2.5**
baz=220
G16K Koyuk River 78.42 17 P **P 03 25 06.4 +1.4**
baz=222
M19K Big River Lodg 78.58 22 IAmb IAmb 03 25 30.0
comp=Z,22nm,1.0s
M19K Big River Lodg 78.58 22 P **P 03 25 08.0 +1.9**
baz=231
L19K White Mountain 78.59 21 IAmb IAmb 03 25 29.7
comp=Z,28nm,1.1s
L19K White Mountain 78.59 21 P **P 03 25 08.3 +2.1**
baz=230
TTA Tatalina 78.67 20 P **P 03 25 07.7 +1.0**
TTA Tatalina 78.67 20 P **P 03 25 08.7 +2.1**
baz=229
TTA Tatalina 78.67 20 P **P 03 25 07.7 +1.0**
TTA pmax pmax
comp=Z,9.0nm,1.0s
J18K Innoko River 78.79 20 P **P 03 25 08.5 +1.2**
baz=228
H17K Granite Mounta 78.80 18 P **P 03 25 08.6 +1.4**
baz=225,SNR=11
G17K Kiwalik Mounta 78.98 17 P **P 03 25 09.7 +1.5**
baz=224,SNR=10
M20K Styx River 79.03 22 P **P 03 25 09.7 +1.0**
baz=232
L20K Farewell, AK 79.13 21 P **P 03 25 10.7 +1.5**
baz=231
H18K Honhosa River 79.42 18 P **P 03 25 11.4 +0.8**
baz=226
WMQ Urumqi 79.44 317 eP **P 03 25 12.0 +0.7**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,240nm,4.3s
WMQ LR LR
comp=Z,380nm,23.1s
F17K Baldwin Pennin 79.50 16 IAmb IAmb 03 25 33.6
comp=Z,32nm,1.4s
F17K Baldwin Pennin 79.50 16 P **P 03 25 12.3 +1.3**
baz=223
J19K Poorman 79.51 20 P **P 03 25 12.3 +1.2**
baz=229
GCSA Galena City Sc 79.60 19 P **P 03 25 13.3 +1.7**
baz=228
K20K Telida 79.62 21 IAmb IAmb 03 25 44.5
comp=Z,46nm,1.6s
K20K Telida 79.62 21 P **P 03 25 13.4 +1.6**
baz=231
SUA Susitna One 79.69 23 P **P 03 25 13.8 +1.5**
baz=234
E17K Hotham Inlet 79.81 16 P **P 03 25 14.4 +1.7**
baz=223

C16K Lisburne Hills 79.83 14 IAmb IAmb 03 25 45.4
comp=Z,49nm,1.8s
C16K Lisburne Hills 79.83 14 P **P 03 25 14.3 +1.6**
baz=219
G18K Tagagawik 79.84 17 P **P 03 25 14.4 +1.4**
baz=226
RC01 Rabbit Creek A 79.87 24 IAmb IAmb 03 25 35.4
comp=Z,38nm,1.3s
RC01 Rabbit Creek A 79.87 24 P **P 03 25 14.5 +1.4**
baz=235
D17K Noatak River 79.94 15 P **P 03 25 14.9 +1.5**
baz=221
PPLA Purkeypile 80.01 21 P **P 03 25 14.9 +0.9**
baz=232
F18K Selawik 80.06 16 P **P 03 25 15.4 +1.5**
baz=225,SNR=7.1
J20K Nowinta River 80.12 20 P **P 03 25 15.7 +1.3**
baz=230
HYB Hyderabad 80.14 289⇑ eP **P 03 25 15.3 -0.2**
HYB IVmB_BB 03 25 15.7
comp=Z,643nm,1.9s
HYB epP **pP 03 25 28.1 -2.8**
HYB esP **sP 03 25 33.2 -3.7**
RDOG Red Dog Mine 80.26 15 IAmb IAmb 03 25 17.7
comp=Z,20nm,0.8s
RDOG Red Dog Mine 80.26 15 P **P 03 25 16.7 +1.6**
baz=222
H19K Roundabout Mou 80.26 18 IAmb IAmb 03 25 17.6
comp=Z,28nm,1.1s
H19K Roundabout Mou 80.26 18 P **P 03 25 16.8 +1.7**
baz=228
CAST Castle Rocks 80.36 21 P **P 03 25 15.4 -0.3**
CAST Castle Rocks 80.36 21 P **P 03 25 16.2 +0.4**
baz=232,SNR=9.4
E18K Tukpahlearik C 80.38 16 P **P 03 25 17.1 +1.4**
baz=224,SNR=6.0
PMR Palmer 80.39 23 P **P 03 25 17.1 +1.2**
baz=236
I20K Naaghedeneel 80.41 19 IAmb IAmb 03 25 51.5
comp=Z,87nm,1.8s
I20K Naaghedeneel 80.41 19 P **P 03 25 17.2 +1.2**
baz=230
TIXI Tiksi 80.46 352 *ce*P **P 03 25 14.6 -1.5**
TIXI pmax pmax
comp=Z,29nm,1.7s
TIXI Tiksi 80.46 352 LR LR 04 03 03.8
comp=Z,152nm,18.9s,baz=181,slow=37
G19K Purcell Mounta 80.48 18 IAmb IAmb 03 25 18.8
comp=Z,24nm,1.0s
G19K Purcell Mounta 80.48 18 P **P 03 25 17.3 +1.0**
baz=227
C17K DeLong Mountai 80.51 14 P **P 03 25 17.7 +1.2**
baz=221
KNK Knik Glacier 80.56 24 P **P 03 25 17.7 +0.8**
baz=236
CHUM Lake Mchumin 80.57 21 P **P 03 25 17.6 +0.8**
baz=232,SNR=6.5
H20K Anotleneega Mo 80.73 19 P **P 03 25 18.9 +1.2**
baz=230
F19K Shaleruckik Mo 80.75 17 P **P 03 25 18.5 +0.8**
baz=227
SML Sawmill 80.83 23 IAmb IAmb 03 25 41.3
comp=Z,40nm,1.1s
SML Sawmill 80.83 23 P **P 03 25 19.4 +1.0**
baz=236
TRF Thofare Moun 81.03 22 P **P 03 25 20.4 +0.9**
baz=234
M23K Glacier View 81.06 24 P **P 03 25 20.3 +0.7**
baz=237
C18K Utukok River 81.12 15 P **P 03 25 20.9 +1.1**
baz=223
SCM Sheep Creek Mo 81.24 24 P **P 03 25 21.3 +0.7**
baz=237
WAT1 Susitna Watana 81.32 23 P **P 03 25 21.4 +0.5**
baz=236
E19K Redstone River 81.34 17 IAmb IAmb 03 25 27.6
comp=Z,29nm,0.9s
E19K Redstone River 81.34 17 P **P 03 25 21.9 +1.1**
baz=227
IMAR Indian Mountai 81.41 19 P **P 03 25 21.6 +0.3**
WAT6 Susitna Watana 81.49 23 P **P 03 25 22.5 +0.5**
baz=237
F20K Avaraart Lake 81.50 17 P **P 03 25 23.1 +1.4**
baz=229
H21K Melozitna Rive 81.50 19 P **P 03 25 22.9 +1.1**
baz=232
B18K Kokolik River 81.50 14 P **P 03 25 22.8 +1.1**
baz=222
RND Reindeer 81.53 22 IAmb IAmb 03 25 54.3
comp=Z,56nm,1.7s
KLU Klutina 81.63 24 P **P 03 25 23.7 +1.1**
baz=238
DGZ Jazzator, Alta 81.69 322 *i* P **P 03 25 23.4 +0.1**
DGZ pmax pmax
comp=Z,52nm,1.8s
MCK McKinley 81.69 22 P **P 03 25 23.1 +0.2**
baz=235,SNR=14
MLY Manley 81.81 20 P **P 03 25 24.3 +0.8**
baz=234
D19K Kuna River 81.81 16 P **P 03 25 25.0 +1.6**
baz=226
G21K Allakaket 81.82 18 P **P 03 25 24.8 +1.4**
baz=231
M24K Tolsona, Glenn 81.85 24 P **P 03 25 25.1 +1.3**
baz=238
C19K Lookout Ridge 81.86 15 IAmb IAmb 03 25 52.7
comp=Z,108nm,1.9s
C19K Lookout Ridge 81.86 15 P **P 03 25 25.0 +1.3**
baz=225
DHY Denali Highway 81.90 23 P **P 03 25 24.8 +0.6**
baz=237
H22K Ishtalitna Cre 82.11 19 P **P 03 25 26.3 +1.3**
baz=233
NEA2 Nenana 82.13 21 P **P 03 25 25.7 +0.6**
baz=235
E20K Nigu River 82.17 16 P **P 03 25 26.6 +1.3**
baz=228
N25K Chitina, Valde 82.23 25 P **P 03 25 26.8 +1.0**
baz=240
F21K Alatna River 82.28 18 P **P 03 25 26.5 +0.6**
baz=231
A19K Wainwright 82.30 14 P **P 03 25 26.9 +1.1**
baz=223
I23K Minto, Yukon-K 82.35 20 P **P 03 25 28.0 +1.8**
baz=235
D20K Etivluk River 82.36 16 P **P 03 25 27.6 +1.3**
baz=228
HARP HAARP 82.41 24 P **P 03 25 27.5 +0.9**
baz=239
GLB Gilahina Butte 82.48 25 IAmb IAmb 03 25 49.0
comp=Z,44nm,1.4s
ZSN Zaisan 82.52 320 eP **P 03 25 28.2 +0.6**
comp=Z,51nm,1.5s,baz=320
ZSN Zaisan 82.52 320 eP **P 03 25 28.1 +0.6**
ZSN pmax pmax
comp=Z,51nm,1.5s
PAX Paxson 82.58 23 P **P 03 25 28.3 +0.7**
baz=239
G22K Bettles 82.70 18 P **P 03 25 28.9 +0.9**
baz=233
COLA College 82.72 21 P **P 03 25 29.3 +1.2**
HDA Harding Lake 82.79 22 IAmb IAmb 03 25 49.6
comp=Z,39nm,1.6s
HDA Harding Lake 82.79 22 P **P 03 25 29.6 +1.0**
baz=237
K24K Donnelly Dome 82.90 22 P **P 03 25 30.6 +1.4**
baz=238
E21K Killik River 82.91 17 P **P 03 25 30.0 +0.8**
baz=230
POKR Poker Plat Res 83.00 21 P **P 03 25 30.2 +0.6**
baz=237
QSPA South Pole Qui 83.01 180 P **P 03 25 30.2 +0.3**
QSPA South Pole Qui 83.01 180 P **P 03 25 30.3 +0.5**
comp=Z,41nm,0.8s,baz=349,slow=1.4,SNR=72
QSPA LR LR 03 57 37.4
comp=Z,418nm,20.1s,baz=9.5,slow=32
comp=Z,41nm,0.8s
IL31 83.01 21 IAmb IAmb 03 26 01.3
comp=Z,41nm,1.9s
ILAR Eielson Array 83.01 21 P **P 03 25 29.2 -0.5**
ILAR Eielson Array 83.01 21 P **P 03 25 29.2 -0.5**
ILAR Eielson Array 83.01 21 P **P 03 25 29.1 -0.6**
comp=Z,1.8nm,0.4s,baz=247,slow=5.3,SNR=44
ILAR PKKP **PKKPbc 03 43 51.4 -3.6**
comp=Z,0.4nm,0.7s,baz=13,slow=1.4,SNR=4.6
ILAR LR LR 03 57 41.8
comp=Z,761nm,21.7s,baz=239,slow=32
comp=Z,1.8nm,0.4s

G23K Bananza Creek 83.04 19 IAmb IAmb 03 26 13.2
comp=Z,29nm,1.6s
G23K Bananza Creek 83.04 19 P **P 03 25 30.6 +0.8**
baz=234
KAAM Kaadhehdhoo 83.05 271 P **P 03 25 31.6 +0.7**
KAAM Kaadhehdhoo 83.05 271 P **P 03 25 33.3 +2.3**
comp=Z,112nm,1.2s
B20K Meade River 83.10 15 P **P 03 25 30.7 +0.7**
baz=227
C21K Knifeblade Rid 83.15 16 P **P 03 25 31.4 +1.1**
baz=229,SNR=14
BARN Barnard Glacie 83.20 26 IAmb IAmb 03 26 11.6
comp=Z,25nm,1.2s
RIDG Independent Ri 83.22 23 IAmb IAmb 03 25 52.5
comp=Z,38nm,1.3s
RIDG Independent Ri 83.22 23 P **P 03 25 31.5 +0.6**
baz=239,SNR=6.3
H24K Noodor Dome 83.25 20 P **P 03 25 32.1 +1.1**
baz=236
M26K Nabesna, AK 83.28 24 P **P 03 25 32.3 +1.1**
baz=241
COLD Coldfoot 83.29 18 P **P 03 25 32.5 +1.4**
baz=234
CTG Chitna Glacier 83.30 26 P **P 03 25 32.6 +1.1**
baz=243
CTGM Chitina Glacie 83.30 26 IAmb IAmb 03 26 05.0
comp=Z,52nm,1.6s
PINM Pinnacle 83.39 27 P **P 03 25 32.7 +0.9**
baz=244
L26K Log Cabin Wild 83.45 24 P **P 03 25 33.4 +1.4**
baz=241
J25K Salcha River, 83.48 22 IAmb IAmb 03 25 53.8
comp=Z,50nm,1.5s
J25K Salcha River, 83.48 22 P **P 03 25 33.6 +1.4**
baz=239
D22K Ayikyak River 83.56 17 IAmb IAmb 03 25 35.2
comp=Z,19nm,0.9s
D22K Ayikyak River 83.56 17 P **P 03 25 33.7 +1.3**
baz=231,SNR=16
SCRK Sand Creek 83.67 23 P **P 03 25 34.0 +0.7**
baz=240,SNR=6.1
M27K Edge Creek, AK 83.72 25 IAmb IAmb 03 25 57.3
comp=Z,43nm,1.2s
M27K Edge Creek, AK 83.72 25 P **P 03 25 34.8 +1.2**
baz=242
G24K Hadweenzic Riv 83.87 20 IAmb IAmb 03 26 07.3
comp=Z,22nm,1.3s
G24K Hadweenzic Riv 83.87 20 P **P 03 25 35.3 +1.2**
baz=236
MK31 Makanchi Array 84.00 318 IAmb IAmb 03 25 38.2
comp=Z,41nm,0.8s
MK31 Makanchi Array 84.00 318 *i* P **P 03 25 35.8 +0.6**
MK31 pmax pmax
comp=Z,84nm,0.9s
MKAR Makanchi Array 84.00 318 P **P 03 25 35.4 +0.2**
MKAR Makanchi Array 84.00 318 *ce*P **P 03 25 35.7 +0.5**
MKAR pmax pmax
comp=Z,58nm,0.8s
MKAR Makanchi Array 84.00 318 P **P 03 25 35.7 +0.5**
comp=Z,57nm,0.8s,baz=101,slow=5.9,SNR=376
MKAR PKiKP **PKiKP 03 30 49.8 -0.7**
comp=Z,0.3nm,0.5s,baz=129,slow=2.5,SNR=4.6
MKAR LR LR 04 03 27.6
comp=Z,116nm,20.7s,baz=138,slow=36
comp=Z,57nm,0.8s
YUK3 Moose Creek 84.05 25 P **P 03 25 36.9 +1.5**
baz=243
L27K Beaver Creek, 84.07 24 P **P 03 25 36.8 +1.6**
baz=242
BCAR Beaver Creek A 84.09 24 P **P 03 25 36.2 +0.9**
J26L Joseph Creek 84.09 22 P **P 03 25 37.1 +1.7**
baz=240,SNR=5.1
YUK8 Steele Glacier 84.13 26 P **P 03 25 37.4 +1.6**
baz=244
A21K Barrow 84.14 14 P **P 03 25 36.1 +0.9**
baz=227,SNR=13
BVCY Beaver Creek 84.17 25 P **P 03 25 37.1 +1.4**
baz=243
D23K Nanushuk River 84.18 17 P **P 03 25 37.3 +1.7**
baz=233
F24K Squaw Lake 84.19 19 P **P 03 25 37.3 +1.5**
baz=236
MAKZ Makanchi 84.21 318 P **P 03 25 36.8 +0.6**
MAKZ Makanchi 84.21 318 P **P 03 25 36.8 +0.6**
MAKZ pmax pmax
comp=Z,63nm,0.9s
B22K Teshekpuk Lake 84.28 15 P **P 03 25 37.1 +1.1**
baz=230
G25K Bearman Lake 84.36 20 P **P 03 25 37.5 +1.0**
baz=238
K27K Chicken 84.43 23 IAmb IAmb 03 26 00.7
comp=Z,41nm,1.8s
K27K Chicken 84.43 23 P **P 03 25 38.2 +1.3**
baz=242
YUK4 Talbot Arm 84.64 26 P **P 03 25 40.0 +1.7**
baz=245
I26K Coal Creek Min 84.64 22 P **P 03 25 39.0 +1.0**
baz=241
ZAA0 Zalesovo Array 84.68 326 IAmb IAmb 03 25 39.3
comp=Z,36nm,0.9s
ZALV Zalesovo Beam 84.68 326 P **P 03 25 38.4 0.0**
ZALV pP **pP 03 25 50.5 -3.4**
ZALV Zalesovo Beam 84.68 326 P **P 03 25 38.4 0.0**
ZALV *PP **pP 03 25 50.5 -3.4**
ZALV Zalesovo Beam 84.68 326 P **P 03 25 38.1 -0.3**
comp=Z,25nm,0.7s,baz=110,slow=5.8,SNR=105
ZALV LR LR 04 05 38.4
comp=Z,119nm,19.2s,baz=104,slow=37
comp=Z,25nm,0.7s
MAW Mawson 84.78 203 P **P 03 25 38.4 -0.3**
comp=Z,26nm,0.8s,baz=100,slow=5.1,SNR=12
MAW LR LR 04 01 51.4
comp=Z,164nm,18.3s,baz=85,slow=34
comp=Z,26nm,0.8s
D24K Happy Valley 84.83 17 P **P 03 25 40.1 +1.3**
baz=235
HYT Haines Junctio 84.93 27 P **P 03 25 41.1 +1.4**
baz=246
F25K Christian Rive 84.95 19 P **P 03 25 41.1 +1.5**
baz=238,SNR=5.8
SHLS Shalkode 84.96 314 eP **P 03 25 39.0 -1.3**
comp=Z,42nm,1.8s,baz=315
SHLS Shalkode 84.96 314 eP **P 03 25 38.9 -1.3**
SHLS pmax pmax
comp=Z,42nm,1.8s
PDGK Podgornoye 84.98 315 P **P 03 25 40.2 -0.2**
EGAK Eagle 85.14 23 IAmb IAmb 03 26 12.1
comp=Z,23nm,1.4s
EGAK Eagle 85.14 23 P **P 03 25 41.6 +1.2**
baz=242
M29M Somme Creek 85.18 25 P **P 03 25 42.1 +1.2**
baz=245
C24K Franklin Bluff 85.20 17 P **P 03 25 41.9 +1.3**
baz=235,SNR=8.0
BMAR Burnt Mountain 85.22 19 P **P 03 25 42.2 +1.3**
G26K Porcupine Rive 85.24 20 P **P 03 25 42.1 +1.2**
baz=240,SNR=16
E25K Arctic Village 85.26 19 P **P 03 25 42.1 +1.0**
baz=238,SNR=5.3
UZB Uzynbulak 85.27 314 eP **P 03 25 41.8 0.0**
comp=Z,44nm,2.0s,baz=314
UZB Uzynbulak 85.27 314 eP **P 03 25 41.8 0.0**
UZB pmax pmax
comp=Z,44nm,2.0s
I27K Kandik River 85.35 22 P **P 03 25 43.1 +1.5**
baz=242
F26K Sheenjek River 85.50 19 P **P 03 25 44.0 +1.7**
baz=240
DAWY Dawson 85.50 23 IAmb IAmb 03 26 22.0
comp=Z,22nm,1.5s
DAWY Dawson 85.50 23 P **P 03 25 44.0 +1.6**
baz=244
O30N Mendenhall 85.55 27 P **P 03 25 44.6 +1.9**
baz=247
KPKS Kokpek 85.59 315⇑ *i*P **P 03 25 43.4 0.0**
comp=Z,47nm,1.8s,baz=315
KPKS Kokpek 85.59 315 *c i*P **P 03 25 43.3 0.0**
KPKS pmax pmax
comp=Z,47nm,1.8s
L29M L29M 85.60 25 IAmb IAmb 03 25 45.6
comp=Z,17nm,1.2s
L29M L29M 85.60 25 P **P 03 25 44.4 +1.5**
baz=245
D25K Kavik River 85.65 18 IAmb IAmb 03 25 45.0
comp=Z,21nm,1.4s
D25K Kavik River 85.65 18 P **P 03 25 44.4 +1.4**
baz=237
H27K Steamboat Moun 85.68 21 P **P 03 25 44.6 +1.3**

baz=242,SNR=8.2
ZHN Zhinishke 85.69 314 *e*P **P 03 25 43.5 -0.5**
baz=314
ZHN Zhinishke 85.69 314 *e*P **P 03 25 43.4 -0.5**
I28M Miner Creek 85.90 22 IAmb IAmb 03 26 38.8
comp=Z,56nm,2.0s
I28M Miner Creek 85.90 22 P **P 03 25 45.6 +1.2**
baz=244
M30M Minto, Yukon 85.94 25 IAmb IAmb 03 26 17.5
comp=Z,19nm,1.4s
M30M Minto, Yukon 85.94 25 P **P 03 25 46.1 +1.4**
baz=247
N31M Braeburn, Yuko 85.96 27 P **P 03 25 46.4 +1.7**
baz=248
J29N Klondike Camp 86.13 23 P **P 03 25 47.7 +2.1**
baz=245
TDK Taldyqorghan 86.15 316 *e*P **P 03 25 45.9 -0.2**
comp=Z,34nm,1.8s,baz=316
TDK Taldyqorghan 86.15 316 *e*P **P 03 25 45.8 -0.2**
TDK pmax pmax
comp=Z,34nm,1.8s
K29M Barlow Dome 86.16 24 IAmb IAmb 03 26 06.9
comp=Z,26nm,1.4s
K29M Barlow Dome 86.16 24 P **P 03 25 47.3 +1.6**
baz=246
P32M Atlin 86.22 29 P **P 03 25 47.3 +1.2**
baz=250
ARXS Arharly 86.36 315 *e*P **P 03 25 47.1 -0.1**
MDOK Medeo 86.68 314 *e*P **P 03 25 48.8 0.0**
baz=314
MDOK Medeo 86.68 314 *e*P **P 03 25 48.8 0.0**
Q32M Nakina River 86.70 30 P **P 03 25 50.2 +1.6**
baz=251
KSH Kashi 86.70 310 P **P 03 25 51.0 +2.0**
KSH pP pP 03 26 06.8 +2.3
KSH S **S 03 36 23.5 +1.0**
KSH pmax pmax
comp=Z,55nm,1.3s
KSH LR LR
comp=Z,180nm,24.7s
KSH LR LR
comp=Z,170nm,19.0s
KSH LR LR
comp=Z,280nm,21.4s
TNSS Tian-Shan 86.72 314 *e*P **P 03 25 49.2 -0.2**
baz=314
TNSS Tian-Shan 86.72 314 *e*P **P 03 25 49.1 -0.3**
AAA Alma-Ata 86.78 314 *e*P **P 03 25 49.3 0.0**
baz=314
AAA Alma-Ata 86.78 314 *e*P **P 03 25 49.2 0.0**
H29M Whitestone 86.82 22 P **P 03 25 50.0 +1.2**
baz=245
M31M Drury Creek, Y 86.84 26 P **P 03 25 50.9 +1.9**
baz=249
P33M Teslin, Yukon 86.85 28 P **P 03 25 50.9 +1.8**
baz=250
CHKK Chushkaly 86.87 315 *e*P **P 03 25 49.0 -0.6**
baz=315
CHKK Chushkaly 86.87 315 *e*P **P 03 25 49.0 -0.6**
F28M Old Crow 86.89 20 IAmb IAmb 03 26 06.5
comp=Z,20nm,1.3s
F28M Old Crow 86.89 20 P **P 03 25 50.3 +1.2**
baz=244
J30M Hart River 86.93 24 IAmb IAmb 03 26 29.8
comp=Z,17nm,1.1s
J30M Hart River 86.93 24 P **P 03 25 51.2 +1.7**
baz=247
S34M Telegraph Cree 86.93 31 P **P 03 25 51.1 +1.6**
baz=252
BBB Bella Bella 86.94 37 LR LR 03 57 56.6
comp=Z,995nm,20.8s,baz=274,slow=31
N32M Quiet Lake 87.05 27 IAmb IAmb 03 26 27.1
comp=Z,44nm,1.6s
N32M Quiet Lake 87.05 27 P **P 03 25 51.1 +1.0**
baz=250
NRN Naryn 87.07 312 IAmb IAmb 03 25 54.2
comp=Z,57nm,1.6s
I30M Mount Dempster 87.16 23 IAmb IAmb 03 25 52.8
comp=Z,17nm,1.2s
I30M Mount Dempster 87.16 23 P **P 03 25 51.8 +1.2**
baz=247
G29M Pine Creek 87.24 21 IAmb IAmb 03 25 53.2
comp=Z,22nm,1.0s
G29M Pine Creek 87.24 21 P **P 03 25 52.1 +1.3**
baz=245
D27M Malcolm River 87.28 19 IAmb IAmb 03 25 53.8
comp=Z,17nm,0.9s
D27M Malcolm River 87.28 19 P **P 03 25 52.3 +1.2**
baz=242
FARO Faro, Yukon 87.30 26 P **P 03 25 52.7 +1.5**
baz=250
KURK Kurchatov 87.39 322 P **P 03 25 52.0 +0.2**
KURK Kurchatov 87.39 322 P **P 03 25 52.0 +0.2**
KURK pmax pmax
comp=Z,21nm,0.5s
KURBB Kurchatov Arra 87.42 322 P **P 03 25 51.9 -0.1**
comp=Z,13nm,0.6s,baz=104,slow=3.9,SNR=80
KURBB LR LR 04 03 56.8
comp=Z,99nm,21.8s,baz=160,slow=35
comp=Z,13nm,0.6s
E28M Babbage River 87.45 19 IAmb IAmb 03 25 54.6
comp=Z,38nm,1.4s
E28M Babbage River 87.45 19 P **P 03 25 53.2 +1.4**
baz=244
R33M Jennings River 87.47 29 P **P 03 25 53.4 +1.2**
baz=252
EPYK Eagle Plains 87.49 22 IAmb IAmb 03 25 54.4
comp=Z,41nm,1.1s
EPYK Eagle Plains 87.49 22 P **P 03 25 53.0 +1.0**
baz=246,SNR=16
DLBC Dease Lake 87.65 30 IAmb IAmb 03 26 30.7
comp=Z,44nm,1.4s
DLBC Dease Lake 87.65 30 P **P 03 25 54.4 +1.3**
baz=259
DLBC Dease Lake 87.65 30 LR LR 03 57 59.6
comp=Z,434nm,22.0s,baz=287,slow=31
TKM2 Tokmak 2 87.67 314 P **P 03 25 54.1 +0.4**
SNR=27
TKM2 Tokmak 2 87.67 314 *i* P **P 03 25 53.3 -0.4**
TKM2 pmax pmax
comp=Z,20nm,0.7s
NIL Nilore 87.76 304 P **P 03 25 54.2 +0.1**
NIL Nilore 87.76 304 P **P 03 25 54.2 +0.1**
NIL pmax pmax
comp=Z,51nm,0.7s
E29M Blow River 87.90 20 P **P 03 25 55.2 +1.3**
baz=245
G30M tAoh Zraii Nji 87.91 21 IAmb IAmb 03 25 56.1
comp=Z,47nm,1.4s
G30M tAoh Zraii Nji 87.91 21 P **P 03 25 55.0 +1.0**
baz=247
D28M Stokes Point 88.03 19 P **P 03 25 55.2 +0.8**
baz=245
KBK Karagaybulak 88.09 313 P **P 03 25 56.6 +1.0**
SNR=9.7
YBH Yreka Blue Hor 88.18 48 LR LR 04 00 45.7
comp=Z,641nm,19.2s,baz=266,slow=32
CHMS Chumysh 88.29 314 P **P 03 25 56.7 +0.3**
SNR=21
F30M Barrier River 88.32 21 P **P 03 25 56.8 +0.9**
baz=247
UCH Uchtor 88.32 313 P **P 03 25 58.1 +1.0**
SNR=15
AAK Ala-Archa 88.41 313 P **P 03 25 57.8 +0.6**
SNR=15
AAK Ala-Archa 88.41 313 P **P 03 25 57.6 +0.4**
AAK IAmb IAmb 03 25 58.8
comp=Z,15nm,0.8s
AAK Ala-Archa 88.41 313 P **P 03 25 57.6 +0.4**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 88.41 313 LR LR 04 05 31.6
comp=Z,101nm,21.0s,baz=87,slow=36
USP Osenovka 88.53 314 P **P 03 25 57.9 +0.4**
SNR=19
G31M Satah River 88.60 22 IAmb IAmb 03 25 59.4
comp=Z,25nm,1.2s
G31M Satah River 88.60 22 P **P 03 25 58.3 +1.0**
baz=249
WTLY Watson Lake, Y 88.74 29 P **P 03 25 59.1 +1.0**
baz=254
EKS2 Erkin-Say 88.94 313 P **P 03 26 00.3 +0.8**
SNR=11
F31M Tsiigehtchic 88.98 21 IAmb IAmb 03 26 23.5
comp=Z,40nm,1.5s
F31M Tsiigehtchic 88.98 21 P **P 03 25 59.8 +0.8**
baz=249,SNR=8.8
NRIK Noril'sk 89.02 341 IAmb IAmb 03 25 59.3
comp=Z,11nm,0.7s
NRIK Noril'sk 89.02 341 P **P 03 25 58.7 -0.4**
comp=Z,11nm,0.7s,baz=114,slow=4.2,SNR=16
NRIK LR LR 04 05 35.7
comp=Z,200nm,21.6s,baz=96,slow=35
comp=Z,11nm,0.7s
BTLS Baital 89.18 315 *e*P **P 03 26 00.1 -0.4**
comp=Z,31nm,1.8s,baz=316
BTLS Baital 89.18 315 *e*P **P 03 26 00.0 -0.4**
BTLS pmax pmax
comp=Z,31nm,1.8s
INK Inuvik 89.37 21 IAmb IAmb 03 26 02.5
comp=Z,18nm,1.2s
INK Inuvik 89.37 21 P **P 03 26 01.7 +0.9**
baz=249,SNR=11
INK Inuvik 89.37 21 P **P 03 26 00.6 -0.2**
comp=Z,8.5nm,0.9s,baz=264,slow=4.5,SNR=20
INK LR LR 04 02 03.2
comp=Z,554nm,21.8s,baz=186,slow=33
comp=Z,8.5nm,0.9s
BCW Bitter Crk WRg 89.58 55 IAmb IAmb 03 26 26.2
comp=Z,11nm,1.0s
CIS Catalina Islan 90.18 57 P **P 03 26 05.9 +0.4**
baz=262
ISA Isabella, Lake 90.45 54 P **P 03 26 07.5 +0.8**
baz=262
EDW2 Edwards Air Fo 90.73 55 P **P 03 26 08.8 +0.7**
baz=262
CWC Cottonwood Cre 90.88 54 P **P 03 26 09.7 +0.9**
baz=262
NVAR Mina Array Bea 90.98 52 P **P 03 26 10.1 +0.8**
comp=Z,0.8nm,0.7s,baz=246,slow=5.1,SNR=5.2
NVAR PKPPKP **P'P'df 03 51 41.5 -1.8**
comp=Z,2.2nm,1.2s,baz=84,slow=4.3,SNR=5.3
NVAR LR LR 03 59 56.1
comp=Z,213nm,21.9s,baz=280,slow=31
comp=Z,0.8nm,0.7s
KOTAN Kotaneelee Air 91.04 30 P **P 03 26 09.4 +0.5**
baz=258
RPN Rapa Nui 91.05 117 LR LR 03 58 59.6
comp=Z,358nm,21.4s,baz=274,slow=30
LRMC Laurel Mtn Rad 91.06 55 P **P 03 26 10.5 +0.8**
baz=262
DSP Deep Springs 91.09 53 IAmb IAmb 03 26 33.3
comp=Z,20nm,1.7s
NV11 Mina Array Sit 91.09 52 P **P 03 26 10.7 +1.0**
NV11 IAmb IAmb 03 26 32.1
comp=Z,25nm,1.8s
MPMC Manual Prospec 91.30 54 P **P 03 26 12.1 +1.3**
baz=262
KBL Kabul 91.35 304 P **P 03 26 10.2 -0.9**
KBL Kabul 91.35 304 P **P 03 26 10.2 -0.9**
KBL pmax pmax
comp=Z,29nm,0.9s
KK31 Karatay Array 91.38 313 *i* P **P 03 26 10.2 -0.6**
KKAR Karatay Array 91.38 313 P **P 03 26 10.7 -0.1**
KKAR Karatay Array 91.38 313 IAmb IAmb 03 26 11.9
comp=Z,74nm,1.9s
KKAR Karatay Array 91.38 313 P **P 03 26 10.7 -0.1**
GRAC Grapevine Rang 91.52 53 P **P 03 26 12.9 +1.2**
baz=262
GSC Goldstone, Bar 91.75 55 P **P 03 26 13.8 +0.9**
baz=263
MONP2 Monument Peak 91.77 57 P **P 03 26 14.2 +1.0**
baz=263
QSM Queen of Sheba 91.78 54 IAmb IAmb 03 26 46.2
comp=Z,22nm,1.7s
PFO Pinyon Flats O 91.83 57 LR LR 04 03 28.0
comp=Z,473nm,18.1s,baz=280,slow=33
FURC Furnace Creek, 91.85 54 P **P 03 26 14.6 +1.5**
baz=263
SIMJ Simiganj 91.91 309 P **P 03 26 13.6 +0.1**
SIMJ IAmb IAmb 03 26 14.7
comp=Z,32nm,1.4s
IKP In-Ko-Pah, Jac 92.00 58 P **P 03 26 15.5 +1.4**
baz=263
HEC Hector,Ludlow 92.08 55 P **P 03 26 15.2 +0.9**
baz=263
BELC Belle Mtn. Jos 92.25 56 P **P 03 26 15.8 +0.6**
baz=263
TPNV Topopah Spring 92.40 53 P **P 03 26 17.0 +1.1**
baz=263
TUQ Turquoise Moun 92.48 55 P **P 03 26 17.2 +1.0**
baz=263
GMRC Granite Mounta 92.62 55 P **P 03 26 18.5 +1.5**
baz=263
BC3 Big Chuckawall 92.66 57 P **P 03 26 17.9 +0.8**
baz=264
BVA0 Borovoye Array 92.83 323 *i* P **P 03 26 16.5 -0.8**
BVAR Borovoye Array 92.83 323 P **P 03 26 16.6 -0.7**
comp=Z,30nm,0.7s,baz=100,slow=5.3,SNR=108
BVAR LR LR 04 08 12.6
comp=Z,140nm,21.0s,baz=92,slow=36
comp=Z,30nm,0.7s
BRVK Borovoye 92.90 323 P **P 03 26 16.9 -0.7**
BRVK Borovoye 92.90 323 P **P 03 26 16.9 -0.7**
BRVK pmax pmax
comp=Z,33nm,1.1s
C36M Paulatuk 92.95 20 IAmb IAmb 03 26 18.8
comp=Z,23nm,1.1s
C36M Paulatuk 92.95 20 P **P 03 26 18.3 +0.9**
baz=258
IRM Iron Mountain 92.97 56 P **P 03 26 19.6 +1.1**
baz=264
R11B Troy Canyon, C 93.08 52 P **P 03 26 19.9 +0.8**
baz=264
NEW Newport 93.11 42 LR LR 04 02 06.9
comp=Z,675nm,20.0s,baz=260,slow=32
A36M Sachs Harbour 93.13 18 IAmb IAmb 03 26 19.7
comp=Z,12nm,0.9s
A36M Sachs Harbour 93.13 18 P **P 03 26 18.7 +0.5**
baz=257
SHPR Sheep Range 93.22 54 P **P 03 26 20.4 +0.7**
ELK Elko 93.61 50 LR LR 04 01 37.0
comp=Z,456nm,21.6s,baz=264,slow=31
SPR3 Spring Creek 3 94.13 51 P **P 03 26 24.6 +0.6**
SPR3 **pP 03 26 41.0 +1.4**
SPR3 IAmb IAmb 03 26 58.3
comp=Z,11nm,1.3s
ELIB Princess Elisa 95.45 193 *d*P **P 03 26 28.2 -0.9**
comp=Z,6.2nm,1.2s
YKA Yellowknife Ar 95.88 28 P **P 03 26 31.3 +0.3**
comp=Z,2.7nm,0.9s,baz=267,slow=4.5,SNR=28
YKA PKKPbc **PKKPbc 03 43 18.8 -3.7**
comp=Z,0.4nm,0.6s,baz=78,slow=2.4,SNR=8.4
comp=Z,2.7nm,0.9s
LPIG La Paz 96.23 67 LR LR 04 02 13.3
comp=Z,588nm,20.8s,baz=290,slow=31
PDAR Pinedale Array 97.99 48 P **P 03 26 40.5 -0.9**
comp=Z,0.5nm,0.8s,baz=119,slow=1.9,SNR=3.7
PDAR LR LR 04 07 50.6
comp=Z,452nm,18.7s,baz=284,slow=33
comp=Z,0.5nm,0.8s
AB31 Akbulak array 99.14 319 *i* P **Pdif 03 26 44.3 -1.7**
ABKAR Akbulak array 99.14 319 **Pdif 03 26 44.1 -1.9**
ABKAR Akbulak array 99.14 319 IAmb IAmb 03 26 45.0
comp=Z,5.2nm,0.8s
TROLL Troll, Antarti 99.28 188 ⇓Pdiff **Pdif 03 26 45.8 -0.7**
comp=Z,118nm,0.7s
ARU Arti 99.84 326 *i* P **Pdif 03 26 46.3 -2.7**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 99.84 326 LR LR 04 14 25.1
comp=Z,153nm,20.2s,baz=76,slow=37
SNAA Sanae 100.28 187 ⇑PKiKP **PKiKP 03 31 17.8 +0.1**
comp=Z,32nm,0.4s
SNAA ⇑Pdiff **Pdif 03 26 51.6 +0.8**
comp=Z,60nm,0.7s
SNAA Sanae 100.28 187 P **Pdif 03 26 50.0 -0.8**
SNAA Sanae 100.28 187 P **Pdif 03 26 50.0 -0.8**
comp=Z,2.8nm,0.9s,baz=300,slow=8.6,SNR=9.1
AKTO Aktyubinsk 100.37 320 P **Pdif 03 26 49.0 -2.5**
GEYT Alibeck 100.40 307 Pdif **Pdif 03 26 51.8 -0.2**
GEYT Alibeck 100.40 307 P **Pdif 03 26 51.8 -0.2**
GEYT Alibeck 100.40 307 P **Pdif 03 26 50.7 -1.3**
comp=Z,4.4nm,0.8s,baz=116,slow=3.4,SNR=9.4
VNA3 Neumayer Olymp 101.36 185 ⇑PKiKP **PKiKP 03 31 19.4 -0.2**
comp=Z,8.2nm,0.6s
VNA2 Neumayer--Watz 101.47 186 ⇑PKiKP **PKiKP 03 31 19.4 -0.3**
comp=Z,5.3nm,0.5s,baz=170,slow=1.0
TXAR Lajitas Array 102.43 62 PKKPbc PKKPbc 03 43 03.0 0.0
comp=Z,0.5nm,0.7s,baz=112,slow=4.3,SNR=5.7
MAK Makhachkala 108.19 313 *e*P **Pdif 03 27 21.4 -5.0**
MAK *e* 03 31 54.2
MAK *e*PPP PPP 03 34 15.7
MAK *e* 03 37 56.2
MAK *e*SS SS 03 47 04.3 -2.7
MAK pmax pmax
comp=Z,143nm,1.0s
MAK MLR MLR
comp=Z,117nm,16.0s
ARA0 ARCESS Array S 109.83 343 *e*P **PKiKP 03 31 35.2 +0.1**
ARCES ARCESS Array B 109.83 343 PKiKP **PKiKP 03 31 35.0 -0.1**
comp=Z,1.9nm,0.4s,baz=82,slow=2.4,SNR=37
ARCES PKKPbc **PKKPbc 03 42 36.9 -4.4**
comp=Z,1.8nm,0.8s,baz=338,slow=1.1,SNR=6.7
KTK1 Kautokeino 110.79 344 *e*P **PKiKP 03 31 35.1 -1.8**
RAYN Ar Rayn 111.46 292 PKiKP **PKiKP 03 31 39.9 +0.3**
KIV Kislovodsk 111.49 315 *i* PKiKP **PKiKP 03 31 38.2 -0.9**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,90nm,21.0s
STEI Steigen 113.69 345 *e*PKPdf **PKiKP 03 31 42.0 -0.5**
FAUS Fauske 114.08 344 *e*PKPdf PKPdf 03 31 43.0 -0.3
FAUS IAmb IAmb 03 31 51.3
comp=Z,401nm,2.3s
FINES FINESS Array B 114.29 336 *c* PKiKP PKPdf 03 31 43.5 -0.3
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 114.29 336 PKP PKPdf 03 31 43.4 -0.4
comp=Z,3.8nm,0.4s,baz=97,slow=2.7,SNR=41
FINES PKKPbc **PKKPbc 03 42 22.9 -3.3**
comp=Z,0.8nm,0.5s,baz=222,slow=2.6,SNR=7.6
MOR8 Moi Rana 115.20 344 *e*PKPdf **PKiKP 03 31 45.0 -0.4**
VSU Vasula 115.61 333 *e*P **PKiKP 03 31 46.0 -0.4**
MEF Metsahovi 115.66 336 *e*P **PKiKP 03 31 46.3 -0.2**
PLCA Paso Flores 116.17 142 PKP **PKiKP 03 31 48.1 -0.1**
comp=Z,1.3nm,0.5s,baz=248,slow=3.3,SNR=15
PLCA PKKPbc **PKKPbc 03 42 18.5 -0.7**
comp=Z,5.3nm,0.9s,baz=41,slow=5.5,SNR=5.5
RAF Rauma 116.24 337 *e*P **PKPdf 03 31 47.0 -0.5**
MTSE Matsula 116.76 334 ⇑*e*P **PKPdf 03 31 46.7 -1.9**
MNK Minsk 117.05 329 *i* PKP **PKPdf 03 31 48.8 -0.5**
comp=E,12nm,1.4s
MNK *i* PKP **PKPdf 03 31 48.8 -0.5**
comp=N,8.0nm,1.4s
MNK *i* PKP **PKPdf 03 31 48.8 -0.5**
comp=Z,8.0nm,0.7s,baz=61
MNK *i* pPKP **sPKPdf 03 32 10.9 -0.3**
MNK *i* PP **PP 03 32 56.6 -2.6**
MNK *i* PPP PPP 03 35 25.2
MNK *i* SKS **SKSdf 03 38 52.4 -4.4**
MNK *i* SS **SS 03 48 57.1 -6.3**
MNK *i* SSS SSS 03 53 17.5
MNK *i* LQ LQ 04 14 53.7
MNK *i* LR LR 04 19 12.2
MNK *i* LRM MLR 04 21 37.4
comp=Z,142nm,16.3s
MNK *i* LRM MLR 04 21 42.1
comp=E,168nm,22.8s
MNK *i* LRM MLR 04 21 47.3
comp=N,159nm,15.1s
MNK Minsk 117.05 329 *i* PKiKP **PKPdf 03 31 48.8 -0.5**
MNK *i* 03 32 56.5
MNK *i* PPP PPP 03 35 25.2
MNK *i* 03 38 52.4
MNK *i* SS SS 03 48 57.1 -6.3
MNK pmax pmax
comp=N,8.0nm,1.5s
MNK pmax pmax
comp=E,12nm,1.5s
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK MLR MLR
comp=Z,142nm,16.0s
MNK MLR MLR
comp=E,168nm,23.0s
MNK MLR MLR
comp=N,159nm,15.0s
NSS Namsos 117.11 343 *e*PKPdf **PKPdf 03 31 48.9 -0.2**
SIM Simferopol' 117.16 317 *i* PKiKP **PKiKP 03 31 54.6 +4.7**
SIM *e* 03 33 07.0
SIM pmax pmax
comp=Z,22nm,0.7s
KIBK Kibwezi 117.32 264 PKPdf **PKPdf 03 31 50.2 -1.0**
NACGM Naroch 117.41 330 *e*PKP **PKiKP 03 31 50.5 +0.5**
AKASG Malin Array Be 118.06 325 **PKPdf 03 31 51.1 -0.3**
AKASG Malin Array Be 118.06 325 PKiKP **PKPdf 03 31 51.1 -0.3**
AKASG Malin Array Be 118.06 325 PKP **PKPdf 03 31 51.0 -0.4**
comp=Z,8.3nm,0.4s,baz=45,slow=2.5,SNR=74
KIEV Kiev 118.07 325 ⇓P **PKPdf 03 31 50.9 -0.5**
KIEV Kiev 118.07 325 PKPdf **PKPdf 03 31 50.9 -0.5**
KIEV Kiev 118.07 325 PKiKP **PKPdf 03 31 50.9 -0.5**
VSVD Vaisvydziai 118.23 332 *e*P **PKiKP 03 31 51.9 +0.3**
KMBO Kilima Mbogo 118.29 265 PKPdf **PKPdf 03 31 52.9 -0.3**
KMBO Kilima Mbogo 118.29 265 PKiKP **PKPdf 03 31 52.9 -0.3**
KMBO Kilima Mbogo 118.29 265 PKhKP PKPpre 03 31 50.7
comp=Z,3.3nm,0.8s,baz=42,slow=4.8,SNR=9.1
PABE Paberze 118.47 331 PKPdf **PKiKP 03 31 52.4 +0.4**
PABE Paberze 118.47 331 *e*P **PKiKP 03 31 52.5 +0.5**
TBLU Trondheim 118.58 343 *e*PKPdf **PKPdf 03 31 51.1 -0.9**
BR131 Keskin Array S 119.06 312 PKPdf **PKPdf 03 31 53.7 -0.2**
BR131 Keskin Array S 119.06 312 PKiKP **PKPdf 03 31 53.7 -0.2**
BRTR Keskin Array B 119.06 312 PKPdf **PKPdf 03 31 52.7 -1.2**
BRTR Keskin Array B 119.06 312 PKP **PKPdf 03 31 53.2 -0.7**
comp=Z,3.2nm,0.7s,baz=128,slow=2.5,SNR=19
BRTR PKKPab **PKKPbc 03 42 07.0 -1.9**
comp=Z,0.6nm,0.8s,baz=235,slow=4.4,SNR=4.2
MMAI Mount Meron Ar 119.28 304 PKP **PKiKP 03 31 55.1 +0.6**
comp=Z,5.6nm,0.7s,baz=72,slow=2.7,SNR=14
ANTO Ankara 119.64 312 ⇓P **PKiKP 03 31 55.1 +0.1**
ANTO Ankara 119.64 312 **PKPdf 03 31 54.8 -0.1**
ANTO Ankara 119.64 312 PKiKP **PKiKP 03 31 55.1 +0.1**
SUW Suwalki 119.67 330 *e*P **PKiKP 03 31 54.9 +0.5**
HFS Hagfors 119.81 339 PKP **PKPdf 03 31 53.8 -0.7**
comp=Z,3.6nm,0.5s,baz=48,slow=2.2,SNR=28
DOMB Dombas 119.87 343 *e*PKPdf **PKiKP 03 31 54.9 +0.2**
DOMB IAmb IAmb 03 31 57.6
comp=Z,18nm,1.0s
MOL Molde 119.89 344 *e*PKPdf **PKiKP 03 31 54.8 +0.2**
MILM Milestii Mici 119.89 321 ⇑P **PKPdf 03 31 54.6 -0.4**
MILM Milestii Mici 119.89 321 PKiKP **PKPdf 03 31 54.6 -0.4**
NB2 NORSAR Subarra 119.98 341 PKPdf **PKPdf 03 31 54.2 -0.6**
comp=Z,5.1nm,0.6s,baz=37,slow=1.8
NB2 PKKP **PKKPab 03 42 04.1 -1.4**
comp=Z,0.7nm,0.5s,baz=210,slow=3.7
NB2 NORSAR Subarra 119.98 341 PKPdf **PKPdf 03 31 54.2 -0.6**
baz=37,slow=1.8
NOA NORSAR Array B 119.98 341 PKP **PKPdf 03 31 54.3 -0.6**
comp=Z,2.1nm,0.6s,baz=53,slow=2.0,SNR=24
NOA PKKPab **PKKPab 03 42 03.2 -2.3**
comp=Z,0.7nm,0.5s,baz=42,slow=3.6,SNR=4.4
NC602 NORSAR Array S 120.10 341 *e*PKPdf **PKPdf 03 31 54.6 -0.4**
AKN Aaknes 120.36 344 *e*PKPdf **PKiKP 03 31 55.6 0.0**
CSS Mathiatis 120.53 307 PKPdf **PKPdf 03 31 56.4 -0.3**
TLCR 120.59 319 ⇑P **PKiKP 03 31 56.8 +0.2**
TLCR 120.59 319 PKiKP **PKiKP 03 31 56.7 +0.2**
BOSA Boshof 120.76 231 PKPdf **PKiKP 03 31 57.5 -0.1**
BOSA Boshof 120.76 231 PKiKP **PKiKP 03 31 57.5 -0.1**
BOSA Boshof 120.76 231 PKP **PKPdf 03 31 57.3 -0.2**
comp=Z,11nm,0.7s,baz=121,slow=2.2,SNR=22
OSL Oslo 120.97 340 *e*PKPdf **PKiKP 03 31 56.8 0.0**
TPGR Topolog 120.97 319 ⇓P **PKiKP 03 31 57.6 +0.3**
CFR Carcaliu 121.03 319 ⇑P **PKiKP 03 31 57.3 0.0**
CFR Carcaliu 121.03 319 PKiKP **PKPdf 03 31 57.2 0.0**
NEGRR Negrea 121.05 320 ⇓P **PKiKP 03 31 57.8 +0.4**
GHRR 121.13 320 ⇑P **PKiKP 03 31 58.4 +0.8**
TIRR Tirgusor 121.14 318 ⇓P **PKiKP 03 31 57.7 0.0**
TIRR Tirgusor 121.14 318 PKiKP **PKiKP 03 31 57.6 0.0**
SKAR Skarslia 121.17 342 *e*PKPdf **PKPdf 03 31 57.1 -0.1**
MANR Mangalia 121.27 318 ⇓P **PKiKP 03 31 58.3 +0.4**
HARR Harsova 121.36 319 ⇓P **PKiKP 03 31 58.3 +0.3**
FOO Floro 121.37 344 *e*PKPdf **PKiKP 03 31 57.8 +0.2**
PANC Panciu 121.38 320 ⇑P **PKiKP 03 31 58.6 +0.6**
KONO Kongsberg 121.56 341 *e*PKPdf **PKiKP 03 31 57.1 -0.7**
BLEU Blekinge 121.64 335 *e*P **PKPdf 03 31 57.8 -0.3**
VRI Vrincioaia 121.64 321 ⇑P **PKiKP 03 31 58.5 -0.1**
VRI Vrincioaia 121.64 321 PKiKP **PKiKP 03 31 58.5 -0.1**
BURAR Bucovina Array 121.79 323 ⇑P **PKiKP 03 31 59.7 +0.7**
BURAR Bucovina Array 121.79 323 PKPdf **PKiKP 03 31 59.5 +0.5**
BURAR Bucovina Array 121.79 323 PKiKP **PKiKP 03 31 59.6 +0.7**
SUE Sulen 121.89 344 *e*PKPdf **PKPdf 03 31 58.3 -0.1**
BORU Boraas 121.93 338 *e*P **PKPdf 03 31 58.2 -0.4**
TJOU Tjoern 122.07 339 *e*P **PKiKP 03 31 59.4 +0.4**
LBTB Lobatse 122.16 235 PKPdf **PKiKP 03 32 00.5 +0.1**
LBTB Lobatse 122.16 235 PKiKP **PKiKP 03 32 00.5 +0.1**
ASK Askoy 122.25 343 *e*PKPdf **PKiKP 03 31 59.3 0.0**
ODD1 Odda 122.29 342 *e*PKPdf **PKPdf 03 31 59.0 -0.3**
MLR Muntele Rosu 122.30 320 ⇓P **PKPdf 03 31 59.4 -0.5**

MLR	**Muntele Rosu**	**122.30**	**320**	PKIKP	**PKPdf**	**03**	**31**	**59.4**	**-0.5**
DEL	**Delary**	**122.33**	**336**	*i* P	**PKPdf**	**03**	**31**	**59.0**	**-0.4**
FABU	**Falkenberg**	**122.41**	**337**	*e*P	**PKPdf**	**03**	**31**	**59.5**	**0.0**
ONAU	**Onsala**	**122.43**	**338**	*e*P	**PKPdf**	**03**	**31**	**59.5**	**0.0**
DOPR	**Dopca**	**122.44**	**321**	⇓P	**PKiKP**	**03**	**32**	**00.6**	**+0.4**
BLS5	**Blasjo**	**122.73**	**342**	*e*PKPdf	**PKiKP**	**03**	**32**	**00.5**	**+0.2**
BMR	**Baia Mare**	**122.79**	**324**	⇑P	**PKiKP**	**03**	**32**	**01.2**	**+0.4**
BMR	**Baia Mare**	**122.79**	**324**	PKIKP	**PKiKP**	**03**	**32**	**01.2**	**+0.4**
BSD	**Bornholm Skovb**	**122.82**	**335**	*e*P	**PKiKP**	**03**	**32**	**00.8**	**+0.2**
KOLS	**Kolonicke sedl**	**122.86**	**325**	*e*PKIKP	**PKiKP**	**03**	**32**	**01.8**	**+0.9**
KOLS	**Kolonicke sedl**	**122.86**	**325**	*e*PKP	**PKiKP**	**03**	**32**	**01.8**	**+0.9**
VOIR		**122.89**	**321**	⇓P	**PKPdf**	**03**	**32**	**00.9**	**-0.1**
VOIR		**122.89**	**321**	PKIKP	**PKPdf**	**03**	**32**	**00.9**	**-0.1**
BJUU	**Bjuv**	**122.94**	**336**	*e*P	**PKiKP**	**03**	**32**	**01.0**	**+0.2**
HOMB	**Homborsund**	**122.98**	**340**	*e*PKPdf	**PKiKP**	**03**	**32**	**00.7**	**-0.1**
HOMB	**Homborsund**	**122.98**	**340**	*e*P	**PKiKP**	**03**	**32**	**01.4**	**+0.6**
LUNU	**Lund**	**123.08**	**336**	*e*P	**PKiKP**	**03**	**32**	**01.5**	**+0.4**
STHS	**Stebnicka Huta**	**123.17**	**326**	*e*PKIKP	**PKPdf**	**03**	**32**	**01.3**	**0.0**
STHS	**Stebnicka Huta**	**123.17**	**326**	*e*PKP	**PKPdf**	**03**	**32**	**01.3**	**0.0**
ARR	**Arges**	**123.18**	**321**	⇓P	**PKiKP**	**03**	**32**	**02.8**	**+1.1**
HUMR	**Humele**	**123.34**	**320**	⇓P	**PKPdf**	**03**	**32**	**01.6**	**-0.1**
SNART	**Snartemo**	**123.36**	**341**	*e*PKPdf	**PKiKP**	**03**	**32**	**01.9**	**+0.4**
SNART	**Snartemo**	**123.36**	**341**	*e*P	**PKiKP**	**03**	**32**	**02.4**	**+0.8**
ELND	**Elena**	**123.44**	**318**	⇑P	**PKiKP**	**03**	**32**	**02.1**	**-0.2**
MARR	**Marisel-Cluj**	**123.50**	**323**	⇑P	**PKPdf**	**03**	**32**	**02.0**	**-0.1**
OJC	**Ojcow**	**123.51**	**328**	*e*PKP	**PKiKP**	**03**	**32**	**02.1**	**-0.1**
DRGR		**123.69**	**323**	⇑P	**PKPdf**	**03**	**32**	**02.4**	**0.0**
DRGR		**123.69**	**323**	PKIKP	**PKPdf**	**03**	**32**	**02.4**	**0.0**
NIE	**Niedzica**	**123.69**	**327**	*e*PKP	**PKiKP**	**03**	**32**	**03.5**	**+0.9**
LSZ	**Lusaka**	**123.70**	**247**	PKPdf	**PKiKP**	**03**	**32**	**04.0**	**+0.3**
LSZ	**Lusaka**	**123.70**	**247**	PKIKP	**PKiKP**	**03**	**32**	**04.0**	**+0.3**
PLVB	**Pleven**	**124.07**	**319**	⇓P	**PKiKP**	**03**	**32**	**03.6**	**+0.2**
LANS	**Liptovska Anna**	**124.29**	**327**	*e*PKIKP	**PKiKP**	**03**	**32**	**05.1**	**+1.3**
LANS	**Liptovska Anna**	**124.29**	**327**	*e*PKP	**PKiKP**	**03**	**32**	**05.1**	**+1.3**
GZR	**Gura Zlata**	**124.33**	**322**	⇓P	**PKPdf**	**03**	**32**	**03.5**	**-0.2**
GZR	**Gura Zlata**	**124.33**	**322**	PKIKP	**PKPdf**	**03**	**32**	**03.5**	**-0.2**
SURR	**Surduc**	**124.55**	**322**	⇑P	**PKPdf**	**03**	**32**	**03.9**	**-0.2**
SIRR	**Siria**	**124.58**	**323**	⇓P	**PKiKP**	**03**	**32**	**04.5**	**+0.1**
PSZ	**Piszkesteto**	**124.74**	**325**	⇓P	**PKPdf**	**03**	**32**	**04.5**	**+0.1**
PSZ	**Piszkesteto**	**124.74**	**325**	PKIKP	**PKPdf**	**03**	**32**	**04.5**	**+0.1**
HERR	**Herculane**	**124.80**	**321**	⇓P	**PKPdf**	**03**	**32**	**04.5**	**0.0**
BZS	**Buzias**	**124.93**	**322**	⇓P	**PKiKP**	**03**	**32**	**04.9**	**-0.2**
BZS	**Buzias**	**124.93**	**322**	PKIKP	**PKiKP**	**03**	**32**	**04.9**	**-0.2**
MORC	**Moravsky Berou**	**124.95**	**328**	⇑P	**PKiKP**	**03**	**32**	**05.1**	**0.0**
MORC	**Moravsky Berou**	**124.95**	**328**	*e*PKP	**PKPdf**	**03**	**32**	**04.8**	**0.0**
MORC	**Moravsky Berou**	**124.95**	**328**	PKIKP	**PKiKP**	**03**	**32**	**05.1**	**0.0**
VYHS	**Vyhne**	**125.01**	**326**	*e*PKIKP	**PKiKP**	**03**	**32**	**05.1**	**-0.1**
VYHS	**Vyhne**	**125.01**	**326**	*e*PKP	**PKiKP**	**03**	**32**	**05.1**	**-0.1**
MAUC	**Maruska**	**125.05**	**328**	*e*PKPDF	**PKiKP**	**03**	**32**	**06.0**	**+0.7**
KRLC	**Kraliky**	**125.17**	**329**	*e*PKPDF	**PKiKP**	**03**	**32**	**05.7**	**+0.2**
KRLC	**Kraliky**	**125.17**	**329**	*e*PKIKP	**PKiKP**	**03**	**32**	**05.7**	**+0.2**
CHVC	**Chvalec**	**125.22**	**330**	*e*PKPDF	**PKiKP**	**03**	**32**	**05.9**	**+0.3**
CHVC	**Chvalec**	**125.22**	**330**	*e*PKIKP	**PKiKP**	**03**	**32**	**05.9**	**+0.3**
BLKB	**Belogradchik**	**125.23**	**320**	⇑P	**PKiKP**	**03**	**32**	**05.6**	**-0.2**
DPC	**Dobruska-Polom**	**125.23**	**329**	*e*PKPDF	**PKiKP**	**03**	**32**	**06.1**	**+0.5**
DPC	**Dobruska-Polom**	**125.23**	**329**	*e*PKIKP	**PKiKP**	**03**	**32**	**06.1**	**+0.5**
MDVR	**Moldovita**	**125.28**	**321**	⇑P	**PKPdf**	**03**	**32**	**05.4**	**-0.1**
JAVC	**Velka Javorina**	**125.43**	**327**	*e*PKP	**PKiKP**	**03**	**32**	**07.0**	**+0.9**
SRO	**Srobarova**	**125.68**	**326**	*e*PKIKP	**PKiKP**	**03**	**32**	**06.9**	**+0.4**
SRO	**Srobarova**	**125.68**	**326**	*e*PKP	**PKiKP**	**03**	**32**	**06.9**	**+0.4**
VRAC	**Vranov**	**125.73**	**328**	*e*PKP	**PKiKP**	**03**	**32**	**06.4**	**-0.2**
BOVS	**Bovan**	**125.84**	**320**	⇓P	**PKPdf**	**03**	**32**	**06.3**	**-0.2**
MODS	**Modra-Piesok**	**125.92**	**327**	*e*PKIKP	**PKiKP**	**03**	**32**	**07.3**	**+0.3**
MODS	**Modra-Piesok**	**125.92**	**327**	*e*PKP	**PKiKP**	**03**	**32**	**07.3**	**+0.3**
KRUC	**Moravsky**	**125.98**	**328**	*e*PKP	**PKiKP**	**03**	**32**	**06.9**	**-0.2**
PVCC	**Panska Ves**	**125.99**	**330**	*e*PKPDF	**PKiKP**	**03**	**32**	**07.4**	**+0.3**
PVCC	**Panska Ves**	**125.99**	**330**	*e*PKIKP	**PKiKP**	**03**	**32**	**07.4**	**+0.3**
BRG	**Berggiesshubel**	**126.07**	**331**	*i* PKP	**PKiKP**	**03**	**32**	**07.6**	**+0.4**
BRG				Amp		03	32	08.3	
	comp=Z,17nm,0.7s								
BRG	**Berggiesshubel**	**126.07**	**331**	P	PKiKP	03	32	22.0	+15
BRG				Amp		03	32	22.6	
	comp=Z,4.5nm,1.0s								
BRG	**Berggiesshubel**	**126.07**	**331**	*i* PKIKP	**PKiKP**	**03**	**32**	**07.6**	**+0.4**
BRG				*e*		03	32	22.0	
BRG				pmax	pmax				
	comp=Z,17nm,0.7s								
BRG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
RICC	**Richard**	**126.21**	**331**	*e*PKPDF	**PKiKP**	**03**	**32**	**08.1**	**+0.6**
CLL	**Collm**	**126.23**	**332**	*i* PKIKP	**PKPdf**	**03**	**32**	**06.9**	**-0.2**
CLL				pmax	pmax				
	comp=Z,26nm,0.7s								
CLL	**Collm**	**126.23**	**332**	*i* PKPdf	**PKPdf**	**03**	**32**	**06.9**	**-0.2**
	comp=Z,26nm,0.7s								
CLL				*ex*	x	03	32	29.0	
CLL				*e*PS	**PS**	**03**	**44**	**05.0**	**-0.4**
CLL				*e*PPS	PPS	03	45	36.0	
CLL				*e*SS	SS	03	51	00.0	-0.2
FRGS	**Fruska Gora**	**126.26**	**323**	⇑P	**PKPdf**	**03**	**32**	**07.4**	**0.0**
FRGS	**Fruska Gora**	**126.26**	**323**	⇑P	**PKPdf**	**03**	**32**	**07.0**	**-0.4**
GOPC	**GO Pecny, Ondr**	**126.28**	**330**	*e*PKPDF	**PKiKP**	**03**	**32**	**07.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**126.28**	**330**	*e*PKIKP	**PKiKP**	**03**	**32**	**07.9**	**+0.2**
TREC	**Trest**	**126.31**	**329**	*e*PKPDF	**PKiKP**	**03**	**32**	**08.0**	**+0.2**
TREC	**Trest**	**126.31**	**329**	*e*PKIKP	**PKiKP**	**03**	**32**	**08.0**	**+0.2**
VAY	**Valandovo**	**126.35**	**317**	*i* P	**PKPdf**	**03**	**32**	**06.3**	**-1.3**
PRU	**Pruhonice**	**126.35**	**330**	*e*PKPDF	**PKiKP**	**03**	**32**	**08.1**	**+0.3**
PRU	**Pruhonice**	**126.35**	**330**	*e*PKIKP	**PKiKP**	**03**	**32**	**08.1**	**+0.3**
MORH	**Mrgy, Hungar**	**126.39**	**324**	⇑P	**PKPdf**	**03**	**32**	**07.6**	**+0.1**
HSKC	**Hora Svate Kat**	**126.49**	**331**	*e*PKPDF	**PKiKP**	**03**	**32**	**07.9**	**-0.2**
TEKS	**Tekeris**	**126.75**	**322**	⇑P	**PKPdf**	**03**	**32**	**07.7**	**-0.6**
SKO	**Skopje**	**126.80**	**318**	*i* P	**PKiKP**	**03**	**32**	**08.8**	**-0.2**
RONA	**Rosalia, Austr**	**126.86**	**327**	*i* PKiKP	**PKiKP**	**03**	**32**	**08.9**	**0.0**
	comp=Z,9.4nm,0.8s,SNR=6.8								
CONA	**Conrad Observa**	**126.95**	**327**	*i* PKiKP	**PKiKP**	**03**	**32**	**09.2**	**+0.1**
	comp=Z,8.1nm,0.6s,SNR=7.7								
SJES	**Sjenica**	**127.13**	**320**	⇑P	**PKPdf**	**03**	**32**	**09.1**	**-0.1**
BBLS	**Lazići**	**127.18**	**321**	⇑P	**PKPdf**	**03**	**32**	**09.3**	**+0.1**
NKC	**Novy Kostel**	**127.21**	**331**	*e*PKPDF	**PKiKP**	**03**	**32**	**09.7**	**+0.2**
NKC	**Novy Kostel**	**127.21**	**331**	*e*PKIKP	**PKiKP**	**03**	**32**	**09.7**	**+0.2**
CKRC	**Cesky Krumlov**	**127.21**	**329**	*e*PKPDF	**PKiKP**	**03**	**32**	**09.9**	**+0.3**
CKRC	**Cesky Krumlov**	**127.21**	**329**	*e*PKIKP	**PKiKP**	**03**	**32**	**09.9**	**+0.3**
RUDO	**Rudo**	**127.33**	**321**	⇑P	**PKPdf**	**03**	**32**	**08.8**	**-0.6**
HAPS	**Han Pijesak,BI**	**127.34**	**322**	⇑P	**PKPdf**	**03**	**32**	**09.7**	**+0.1**
KHC	**Kasperske Hory**	**127.39**	**330**	*e*PKPDF	**PKiKP**	**03**	**32**	**10.1**	**+0.1**
KHC				*ep*PKP	**pPKPdf**	**03**	**32**	**22.0**	**-3.6**
KHC	**Kasperske Hory**	**127.39**	**330**	*e*PKIKP	**PKiKP**	**03**	**32**	**10.1**	**+0.1**
KHC				*e*		03	32	22.0	
AGG	**Agios Georgios**	**127.51**	**315**	PKPdf	**PKPdf**	**03**	**32**	**09.4**	**-0.5**
AGG	**Agios Georgios**	**127.51**	**315**	PKIKP	**PKPdf**	**03**	**32**	**09.5**	**-0.5**
GERES	**GERESS Array B**	**127.51**	**329**		**PKiKP**	**03**	**32**	**10.6**	**+0.3**
GERES	**GERESS Array B**	**127.51**	**329**	PKIKP	**PKiKP**	**03**	**32**	**10.6**	**+0.3**
GERES	**GERESS Array B**	**127.51**	**329**	PKP	**PKiKP**	**03**	**32**	**10.3**	**0.0**
	comp=Z,14nm,0.6s,baz=30,slow=2.1,SNR=60								
OHR	**Ohrid**	**127.63**	**318**	*i* P	**PKiKP**	**03**	**32**	**10.8**	**+0.1**
UPM	**Unac-Piva**	**127.83**	**321**	*e*P	**PKPdf**	**03**	**32**	**09.4**	**-1.2**
MOA	**Molln**	**127.85**	**328**	*i* PKiKP	**PKPdf**	**03**	**32**	**10.5**	**+0.2**
	comp=Z,5.5nm,0.6s								
BLY	**Banja Luka**	**128.05**	**323**	*e*P	**PKPdf**	**03**	**32**	**10.9**	**+0.1**
A051A	**Mrakovica**	**128.07**	**324**	⇑P	**PKPdf**	**03**	**32**	**10.7**	**-0.2**
SOKA	**Soboth**	**128.16**	**326**	*i* PKiKP	**PKPdf**	**03**	**32**	**11.2**	**+0.1**
	comp=Z,14nm,1.2s,SNR=7.8								
GRF	**Grafenberg Arr**	**128.16**	**331**	*e*PKPdf	**PKPdf**	**03**	**32**	**11.0**	**+0.2**
	baz=47,slow=1.3								
DRME	**Dracevica, Mon**	**128.17**	**320**	*e*P	**PKPdf**	**03**	**32**	**10.7**	**-0.4**
BRY	**Bratogost**	**128.22**	**321**	*e*P	**PKPdf**	**03**	**32**	**10.5**	**-0.8**
BIOA	**Bad Ischl, Aus**	**128.28**	**328**	*i* PKP	**PKPdf**	**03**	**32**	**11.1**	**0.0**
	comp=Z,5.4nm,0.6s,SNR=5.9								
CRES	**Cresnjev**	**128.43**	**325**	⇑P	**PKPdf**	**03**	**32**	**11.2**	**-0.3**
HCY	**Herceg Novi**	**128.48**	**320**	⇑P	**PKPdf**	**03**	**32**	**10.6**	**-1.1**
OBKA	**Obir**	**128.53**	**327**	*i* PKiKP	**PKPdf**	**03**	**32**	**11.8**	**+0.1**
	comp=Z,3.4nm,0.7s								
OBKA	**Obir**	**128.53**	**327**	⇑P	**PKPdf**	**03**	**32**	**11.3**	**-0.4**
A050A	**Klekovaca**	**128.59**	**323**	⇑P	**PKPdf**	**03**	**32**	**11.3**	**-0.6**
BOJS	**Bojanci**	**128.74**	**325**	*i* PKPdf	**PKiKP**	**03**	**32**	**12.4**	**-0.3**
BOJS	**Bojanci**	**128.74**	**325**	⇑P	**PKPdf**	**03**	**32**	**12.1**	**+0.1**
STON	**Ston**	**128.76**	**321**	⇑P	**PKPdf**	**03**	**32**	**10.9**	**-1.2**
KBA	**Koelnbreinsper**	**128.82**	**328**	*i* PKP	**PKPdf**	**03**	**32**	**12.1**	**-0.3**
	comp=Z,3.8nm,0.4s,SNR=5.1								
KBA				*i* SKP		03	35	30.2	
	comp=Z,0.3nm,0.2s								
LJU	**Ljubljana**	**128.82**	**326**	*e*PKPdf	**PKPdf**	**03**	**32**	**12.2**	**0.0**
LJU				*i*		03	32	12.9	
LJU				*i*		03	32	26.4	
MYKA	**Terra Mystica**	**128.94**	**327**	*i* PKP	**PKPdf**	**03**	**32**	**12.3**	**-0.3**
	comp=Z,4.3nm,0.5s								
LESA	**Schwarzleotal**	**128.95**	**329**	*i* PKP	**PKPdf**	**03**	**32**	**12.2**	**-0.3**
	comp=Z,11nm,0.4s								
EKA	**Eskdalemuir Ar**	**128.96**	**345**	PKP	**PKPdf**	**03**	**32**	**12.4**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=17,slow=2.5,SNR=18								
CEY	**Cerknica**	**129.06**	**326**	*i* PKPdf	**PKPdf**	**03**	**32**	**12.7**	**-0.1**
CEY				*i*		03	32	13.2	
CEY				*i*		03	32	26.7	
CEY	**Cerknica**	**129.06**	**326**	⇑P	**PKPdf**	**03**	**32**	**12.5**	**-0.2**
ROBS	**Robic**	**129.25**	**327**	*i* PKPdf	**PKPdf**	**03**	**32**	**12.2**	**-0.8**
ROBS				*i*		03	32	13.0	
CZSB	**Cruzeiro do Su**	**129.35**	**106**	PKPdf	**PKPdf**	**03**	**32**	**14.1**	**-0.1**
SKDS	**Skadanscina**	**129.41**	**326**	⇑P	**PKPdf**	**03**	**32**	**12.9**	**-0.5**
ABTA	**Abfaltersbach**	**129.47**	**328**	*i* PKP	**PKPdf**	**03**	**32**	**13.0**	**-0.5**
	comp=Z,5.4nm,0.5s,SNR=6.4								
ABTA				*e*SKP		03	35	31.8	
	comp=Z,1.7nm,0.7s								
WATA	**Walderalm**	**129.57**	**329**	*i* PKiKP	**PKPdf**	**03**	**32**	**13.7**	**-0.1**
	comp=Z,10nm,0.5s,SNR=8.9								
WTTA	**Wattenberg**	**129.59**	**329**	*i* PKiKP	**PKPdf**	**03**	**32**	**13.8**	**-0.1**
	comp=Z,11nm,0.4s,SNR=13								
WTTA				*e*SKP		03	35	33.5	
	comp=Z,0.4nm,0.2s								
BTNL	**Ternell**	**129.78**	**335**	*d*PKP	**PKPdf**	**03**	**32**	**13.6**	**-0.3**
MOTA	**Moosalm**	**129.81**	**329**	*i* PKiKP	**PKPdf**	**03**	**32**	**14.1**	**-0.1**
	comp=Z,11nm,0.4s,SNR=8.9								
MOTA				*e*SKP		03	35	33.9	
	comp=Z,1.4nm,0.6s								
MEM	**Membach**	**129.81**	**335**	*d*PKPdf	**PKPdf**	**03**	**32**	**13.0**	**-0.9**
SQTA	**Sankt Quirin**	**129.84**	**329**	*i* PKiKP	**PKPdf**	**03**	**32**	**14.4**	**+0.2**
	comp=Z,6.9nm,0.4s,SNR=6.5								
RETA	**Reutte**	**129.88**	**330**	*i* PKiKP	**PKPdf**	**03**	**32**	**14.5**	**+0.3**
	comp=Z,6.1nm,0.5s,SNR=5.4								
FETA	**Feichten**	**130.21**	**329**	*i* PKiKP	**PKPdf**	**03**	**32**	**15.2**	**+0.2**
	comp=Z,6.7nm,0.6s,SNR=8.0								
FETA				*e*SKP		03	35	33.9	
	comp=Z,1.5nm,0.6s								
CTI	**Castel Tesino**	**130.38**	**328**	PKPdf	**PKPdf**	**03**	**32**	**15.7**	**+0.4**
CTI	**Castel Tesino**	**130.38**	**328**	PKIKP	**PKPdf**	**03**	**32**	**15.7**	**+0.4**
DAVA	**Damuels**	**130.46**	**330**	*i* PKiKP	**PKPdf**	**03**	**32**	**15.5**	**0.0**
	comp=Z,8.1nm,0.5s								
WLF	**Walferdange**	**130.47**	**335**	*d*PKP	**PKPdf**	**03**	**32**	**15.5**	**+0.3**
BFO	**Black Forest**	**130.47**	**332**		**PKPdf**	**03**	**32**	**15.2**	**0.0**
BFO	**Black Forest**	**130.47**	**332**	PKIKP	**PKPdf**	**03**	**32**	**15.3**	**0.0**
BMRD	**Maredsous**	**130.55**	**336**	*d*PKP	**PKPdf**	**03**	**32**	**15.2**	**-0.2**
LPAZ	**La Paz**	**130.65**	**118**		**PKPdf**	**03**	**32**	**16.9**	**-0.4**
LPAZ	**La Paz**	**130.65**	**118**	PKIKP	**PKPdf**	**03**	**32**	**16.9**	**-0.4**
TSUM	**Tsumeb**	**131.42**	**237**		**PKPdf**	**03**	**32**	**17.7**	**-0.4**
CPUP	**Villa Florida**	**133.77**	**137**	PKIKP	**PKPdf**	**03**	**32**	**22.0**	**-0.2**
CPUP	**Villa Florida**	**133.77**	**137**	PKP	**PKPdf**	**03**	**32**	**21.9**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=73,slow=4.0,SNR=3.6								
SDV	**Santo Domingo**	**133.86**	**84**		**PKPdf**	**03**	**32**	**22.6**	**-0.3**
SAML	**Samuel**	**137.93**	**112**		**PKPdf**	**03**	**32**	**30.0**	**-0.2**
SAML	**Samuel**	**137.93**	**112**	PKIKP	**PKPdf**	**03**	**32**	**30.0**	**-0.2**
KEST	**Kesra**	**138.09**	**318**	PKhKP	PKPpre	03	32	19.0	
	comp=Z,1.6nm,0.5s,baz=182,slow=2.4,SNR=4.5								
KEST				PKP	**PP**	**03**	**35**	**43.9**	**-2.4**
	comp=Z,5.8nm,0.8s,baz=132,slow=3.8,SNR=7.5								
PTLB	**Pontes e Lacer**	**138.73**	**123**	PKPdf	**PKPdf**	**03**	**32**	**31.4**	**-0.2**
PBRG	**Braganca**	**142.05**	**339**	*e*PKP	**PKPdf**	**03**	**32**	**33.0**	**-4.0**
PGAV	**Gavieira, Arco**	**142.44**	**341**	*e*PKP	**PKPdf**	**03**	**32**	**33.8**	**-3.9**
MVO	**Moncorvo**	**142.72**	**339**	*e*PKP	**PKPdf**	**03**	**32**	**35.4**	**-2.8**
ESDC	**Sonseca Array**	**142.76**	**334**	PKhKP	PKPpre	03	32	35.4	
	comp=Z,4.7nm,0.9s,baz=27,slow=2.9,SNR=23								
ESDC				PP	**PP**	**03**	**35**	**43.9**	**-2.4**
	comp=Z,1.1nm,0.9s,baz=28,slow=8.7,SNR=4.1								
POLO	**Lamas de Olo**	**142.80**	**340**	*e*PKP	**PKPdf**	**03**	**32**	**35.0**	**-3.4**
PVRL	**Vila Real**	**142.86**	**339**	*e*PKP	**PKPdf**	**03**	**32**	**36.0**	**-2.4**
PTO	**Porto**	**143.29**	**340**	*e*PKP	**PKPdf**	**03**	**32**	**38.2**	**-0.9**
PVIS	**Viseu**	**143.42**	**339**	*e*PKP	PKPbc	03	32	37.0	+0.3
MTE	**Manteigas**	**143.57**	**339**	*e*PKP	PKPbc	03	32	38.3	+1.1
MTE	**Manteigas**	**143.57**	**339**	PKPdf	**PKPdf**	**03**	**32**	**38.6**	**-1.2**
PCBR	**Castelo Branco**	**144.04**	**338**	*e*PKP	**PKPdf**	**03**	**32**	**39.6**	**-0.9**
COI	**Coimbra**	**144.05**	**339**	*e*PKP	**PKPdf**	**03**	**32**	**39.7**	**-0.8**
PCAS	**Casmilo, Conde**	**144.22**	**339**	*e*PKP	**PKPdf**	**03**	**32**	**40.0**	**-0.8**
PMRV	**Marv?o**	**144.37**	**338**	*e*PKP	**PKPdf**	**03**	**32**	**40.3**	**-0.8**
PSBE	**So Bento**	**144.80**	**339**	*e*PKP	**PKPdf**	**03**	**32**	**41.9**	**0.0**
PESTR	**Estremoz**	**144.93**	**337**	*e*PKP	PKPbc	03	32	41.4	+0.1
PESTR	**Estremoz**	**144.93**	**337**	PKPdf	PKPbc	03	32	41.6	+0.3
PMTG	**Montargil**	**144.99**	**338**	*e*PKP	**PKPdf**	**03**	**32**	**42.0**	**-0.2**
PBAR	**Barrancos**	**145.31**	**336**	*e*PKP	**PKPab**	**03**	**32**	**42.8**	**+0.1**
EVO	**Evora**	**145.38**	**338**	*e*PKP	**PKPab**	**03**	**32**	**43.5**	**+0.5**
PBEJ	**Beja**	**145.77**	**337**	*e*PKP	**PKPdf**	**03**	**32**	**43.7**	**+0.2**
PNCL	**Nicolau / Gran**	**145.95**	**338**	*e*PKP	**PKPab**	**03**	**32**	**45.5**	**+0.4**
MESJ	**Messejana**	**146.07**	**337**	*e*PKP	**PKiKP**	**03**	**32**	**46.9**	**-1.4**
MESJ	**Messejana**	**146.07**	**337**	*e*PKPdf	**PKPdf**	**03**	**32**	**43.8**	**-0.2**
PCVE	**Castro Verde**	**146.18**	**337**	*e*PKP	**PKPab**	**03**	**32**	**46.9**	**+0.9**
PVAQ	**Vaqueiros**	**146.25**	**336**	*e*PKP	**PKPab**	**03**	**32**	**47.2**	**+1.0**
PTEO	**Sao Teotonio**	**146.52**	**338**	*e*PKP	**PKiKP**	**03**	**32**	**48.2**	**-1.0**
MORF	**Marmelete**	**146.70**	**337**	*e*PKP	**PKPab**	**03**	**32**	**48.6**	**+0.6**
MORF	**Marmelete**	**146.70**	**337**	*e*PKPdf	**PKPdf**	**03**	**32**	**45.0**	**-0.2**
BDFB	**Brasilia**	**147.33**	**134**	PKPdf	**PKPdf**	**03**	**32**	**46.9**	**0.0**
BDFB	**Brasilia**	**147.33**	**134**	PKP	**PKPdf**	**03**	**32**	**46.2**	**-0.8**
	comp=Z,9.2nm,0.6s,baz=215,slow=2.6,SNR=14								
BDFB				PKPbc	**PKPbc**	**03**	**32**	**48.9**	**-0.5**
	comp=Z,37nm,0.7s,baz=285,slow=1.0,SNR=27								
TAM	**Tamanrasset**	**147.46**	**302**	PKPdf	**PKPdf**	**03**	**32**	**47.1**	**+0.1**
TAM	**Tamanrasset**	**147.46**	**302**	PKIKP	**PKPdf**	**03**	**32**	**47.1**	**+0.1**
TOA0	**Torodi Ar. Sit**	**153.91**	**286**	PKPdf	**PKPdf**	**03**	**32**	**56.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**153.91**	**286**	PKPdf	**PKPdf**	**03**	**32**	**56.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**153.91**	**286**	PKP	**PKPdf**	**03**	**32**	**56.0**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=37,slow=3.2,SNR=22								
TORD				PKPbc	**PKPbc**	**03**	**33**	**04.3**	**-0.7**
	comp=Z,22nm,0.7s,baz=40,slow=2.3,SNR=45								
TORD				PKPab	**PKPab**	**03**	**33**	**18.0**	**-0.3**
	comp=Z,9.2nm,0.6s,baz=49,slow=5.9,SNR=8.2								
DBIC	**Dimbokro**	**160.92**	**270**		**PKPab**	**03**	**33**	**47.3**	**-1.4**
DBIC	**Dimbokro**	**160.92**	**270**	PKP	**PKPdf**	**03**	**33**	**03.8**	**-2.0**
	comp=Z,11nm,1.0s,baz=146,slow=3.6,SNR=7.0								
DBIC				PKPab	**PKPab**	**03**	**33**	**49.0**	**+0.4**
	comp=Z,47nm,0.7s,baz=90,slow=3.9,SNR=36								

*TEH **31** 03:17:57.9, 33.˝76N×45.˝79E, h12km±36km, ML2.6*
*ISN **31** 03:17:58.3±1.0, 33.˝68N×45.˝61E, h9km±6km, ML2.6*
ISC 31 03:17:58.0±0.9, **33.˝72N**±0.˝04×**45.˝75E**±0.˝05, **h10**km, **n12**, σ**0**˝**77**/**15**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**104**	Pg	**Pg**	**03 18 05.1**	**-0.7**
IBDR	**Badra**	**0.63**	**166**	*e*Pg	**Pb**	**03 18 11.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**03 18 19.0**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.79**	**351**	Pg	**Pg**	**03 18 13.2**	**-0.1**
IGHG	**Ghaleghazi**	**0.91**	**48**	Pg	**Pg**	**03 18 15.1**	**-0.5**
IDHR	**Dehrash**	**1.11**	**28**	Pg	**Pg**	**03 18 17.8**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.21**	**62**	Pg	**Pb**	**03 18 20.9**	**-0.2**
BHD	**Baghdad**	**1.23**	**249**	*e*Pn	**Pn**	**03 18 21.0**	**-0.2**
BHD				*e*Sn	**Sn**	**03 19 39.0**	**+1.1**
ILIN	**Lien**	**1.56**	**40**	Pg	**Pn**	**03 18 26.4**	**+0.4**
IKFM	**Kafar-mosalman**	**1.76**	**96**	Pg	**Pb**	**03 18 30.1**	**-0.3**
IBZA	**Bozab**	**1.91**	**66**	Pn	**Pn**	**03 18 31.6**	**+0.8**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn	**Pb**	**03 18 34.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**03 19 00.0**	**+0.1**
IALM	**Almabolaq**	**2.30**	**60**	Pn	**Pn**	**03 18 37.2**	**+0.9**

*CATAC **31** 03:33:48.1±0.6, 15.˝44N×92.˝19W, h170km±5km, mb3.8, ML3.7*
*MEX **31** 03:33:49.6±0.9, 15.˝56N×92.˝17W, h188km±6km, MD4.4*
ISC 31 03:33:45.7±1.7, **15.˝42N**±0.˝07×**92.13W

PKM					S	Sb	03 35 16.0	0.0	
	baz=342								
JLAB	Laurel Hill	1.44	310			Pn	03 34 57.0	-0.1	
ARN	Arnold Ranch	1.47	320			Pb	03 34 57.8	-1.5	
CCOB	Coe Ranch Numb	1.48	315			Pb	03 34 58.0	-1.5	
MTOS	Mt Oso, Westle	1.49	329			Pn	03 34 57.5	-0.3	
BCW	Bitter Crk WRg	1.50	149			Pn	03 34 58.2	+0.3	
BCW	Bitter Crk WRg	1.50	149		IAML		03 35 31.9		
	comp=N,241nm,0.5s								
BCW					IAML		03 35 46.9		
	comp=E,194nm,0.6s								
MHC	Mount Hamilton	1.52	318			Pn	03 34 58.3	+0.1	
FIGC	Figueroa Mtn.	1.53	169			Pb	03 34 59.0	-1.4	
CMMM	Mount Mocho	1.53	324			Pb	03 34 59.2	-1.1	
WASM	Alta Sierra Ca	1.54	108			Pn	03 34 58.8	+0.2	
ISA	Isabella, Lake	1.63	110			Pn	03 35 00.1	+0.4	
ISA	Isabella, Lake	1.63	110	P		Pn	03 35 00.1	+0.4	
	baz=291,SNR=103								
ISA					S	Sb	03 35 20.8	-1.4	
	baz=291								
ARVC	Arvin	1.66	131			Pn	03 35 00.1	0.0	
ARVC	Arvin	1.66	131	P		Pn	03 34 59.9	-0.2	
	baz=312,SNR=12								
ARVC					S	Sb	03 35 21.6	-1.4	
	baz=312								
TEJ	El Tejon	1.68	126			Pn	03 35 00.4	0.0	
NJQ	Nojoqui County	1.70	175			Pn	03 35 01.1	+0.5	
MRDM	Red Cones	1.72	37			Pb	03 35 02.6	-1.2	
MDPB	Devils Postpil	1.74	36			Pb	03 35 02.8	-1.2	
MDPB	Devils Postpil	1.74	36		IAML		03 35 29.6		
	comp=E,243nm,0.5s								
MMPM	Mammoth Pass	1.74	37			Pb	03 35 03.0	-1.2	
MCUB	Copperopolis B	1.76	353			Pn	03 35 02.0	+0.5	
MMSM	Mammoth Summit	1.76	37			Pb	03 35 02.5	-2.0	
OMMB	Old Mammoth Mi	1.76	38			Pb	03 35 03.2	-1.3	
MINS	Minaret Summit	1.76	36			Pb	03 35 03.3	-1.2	
MLIM	Lincoln Peak	1.77	37			Pb	03 35 03.9	-0.8	
TJR	Tejon Ranch	1.78	132			Pb	03 35 01.4	-0.3	
MDYM	Dry Creek	1.79	37			Pb	03 35 04.1	-0.9	
WORM	Onyx Ranch	1.79	107			Pb	03 35 03.4	-1.5	
MLCM	Laurel Creek C	1.80	39			Pb	03 35 04.0	-1.1	
CMB	Columbia Colle	1.80	359			Pb	03 35 03.4	-1.6	
CMB	Columbia Colle	1.80	359		IAML		03 35 27.6		
	comp=E,84nm,0.6s								
CMB					IAML		03 35 33.5		
	comp=N,110nm,0.5s								
MMLB	Mammoth Lakes	1.81	37			Pb	03 35 04.5	-0.7	
MDCM	Deadman Creek	1.82	35			Pb	03 35 04.2	-1.2	
MGPM	Gravel Pit	1.82	39			Pb	03 35 04.5	-0.9	
MTUM	Tungsten Hills	1.83	51			Pb	03 35 04.5	-1.0	
MCVM	Convict Lake	1.83	42			Pb	03 35 04.4	-1.2	
MEMM	East Mammoth H	1.83	38			Pb	03 35 04.7	-1.0	
MCBM	Casa Benchmark	1.83	39			Pb	03 35 04.8	-0.9	
MCSM	Casa Diablo Ho	1.84	39			Pb	03 35 04.8	-1.0	
BHPR	Bishop	1.84	54			Pb	03 35 04.8	-1.0	
CWC	Cottonwood Cre	1.85	83			Pb	03 35 04.6	-1.4	
CWC	Cottonwood Cre	1.85	83	Pb		Pb	03 35 04.5	-1.4	
	baz=264								
CWC					Sb	Sb	03 35 28.2	-0.5	
	baz=264								
MLAC	Mammoth, Mammo	1.86	41			Pb	03 35 05.1	-0.9	
MLAC	Mammoth, Mammo	1.86	41	Pb		Pb	03 35 05.1	-0.9	
	baz=222,SNR=27								
MLAC					Sb	Sb	03 35 30.3	+1.3	
	baz=222								
SBC	Santa Barbara	1.86	163	S		Sb	03 35 27.1	-1.6	
	baz=344								
MDRNC	Doe Ridge	1.86	40			Pb	03 35 05.3	-0.9	
TIN	Tinemaha, Big	1.90	64			Pb	03 35 05.7	-1.0	
TIN	Tinemaha, Big	1.90	64	Pb		Pb	03 35 05.7	-1.0	
	baz=245,SNR=27								
TIN					Sb	Sb	03 35 30.8	+0.8	
	baz=245								
MLHM	Little Hot Cre	1.90	40			Pb	03 35 06.2	-0.6	
MFBM	Five Bridges	1.96	52			Pb	03 35 06.9	-0.8	
POCCA	Poleta Canyon	2.02	55			Pb	03 35 07.8	-1.0	
MCDM	Chidago Canyon	2.02	49			Pb	03 35 07.9	-0.9	
WNMM	Nine Mile Cany	2.02	100			Pb	03 35 07.3	-1.5	
BENR	Benton	2.06	43			Pb	03 35 08.3	-1.2	
MGNR	McGee Canyon	2.07	40			Pn	03 35 03.0	-2.9	
MGNR						Pb	03 35 09.0	-0.6	
MRCM	Red Rock Canyo	2.07	45			Pb	03 35 08.6	-1.1	
CGO	Cerro Gordo	2.09	80			Pb	03 35 08.7	-1.3	
CGO						Sb	03 35 35.8	+0.2	
MLNR	Milner Canyon	2.11	49			Pb	03 35 09.2	-1.2	
CCAC	Calif City Air	2.19	119			Pn	03 35 08.4	+1.0	
CCAC					IAML		03 35 39.7		
	comp=E,120nm,0.7s								
DSP	Deep Springs	2.23	59			Pb	03 35 09.9	-2.4	
DSP					IAML		03 35 41.2		
	comp=N,113nm,0.6s								
DSP					IAML		03 35 42.3		
	comp=E,96nm,0.4s								
LRMC	Laurel Mtn Rad	2.30	108	P		Pn	03 35 10.0	+1.0	
	baz=290,SNR=25								
LRMC					Sb	Sb	03 35 40.5	-1.0	
	baz=290								
MPMC	Manual Prospec	2.33	93	Pb		Pb	03 35 13.0	-1.0	
	baz=275								
MPMC					Sb	Sb	03 35 42.7	+0.3	
	baz=275								
EDW2	Edwards Air Fo	2.35	124	P		Pn	03 35 10.2	+0.6	
	baz=306,SNR=18								
EDW2					S	Sn	03 35 38.3	+0.6	
	baz=306								
WAKR	Walker	2.39	18			Pb	03 35 13.2	-1.9	
WAKR	Walker	2.39	18		IAML		03 35 48.0		
	comp=N,114nm,0.6s								
LHV	Little Huntoon	2.50	36			Pb	03 35 14.6	-2.3	
LHV	Little Huntoon	2.50	36		IAML		03 36 00.5		
	comp=N,68nm,0.6s								
LHV					IAML		03 36 02.8		
	comp=E,60nm,0.6s								
GRAC	Grapevine Rang	2.52	71			Pn	03 35 12.8	+0.7	
GRAC					IAML		03 35 53.4		
	comp=N,100nm,0.4s								
GRAC					IAML		03 35 58.8		
	comp=E,104nm,0.8s								
GRAC	Grapevine Rang	2.52	71	Pb		Pb	03 35 16.7	-0.7	
	baz=253								
GRAC					Sb	Sb	03 35 49.1	+1.1	
	baz=253								
GMN	Gold Mountain	2.71	66			Pn	03 35 15.6	+0.9	
GMN					IAML		03 35 59.0		
	comp=N,50nm,0.5s								
GMN					IAML		03 36 03.8		
	comp=E,29nm,0.3s								
NVAR	Mina Array Bea	2.74	36			Pn	03 35 19.5	+0.7	
EMB	Emerald Bay	2.75	4			Pn	03 35 16.6	+1.3	
EMB					IAML		03 36 01.8		
	comp=E,88nm,0.6s								
AFDM	Forest Hills D	2.76	350			Pn	03 35 15.6	+0.3	
AFDM					IAML		03 36 03.7		
	comp=N,33nm,0.6s								
AFDM					IAML		03 36 08.6		
	comp=E,33nm,0.6s								
RYN	Ryan	2.81	31	Pn		Pb	03 35 18.5	-3.7	
RYN					IAML		03 36 03.6		
	comp=E,38nm,0.3s								
RYN					IAML		03 36 06.2		
	comp=N,34nm,0.3s								
NV11	Mina Array Sit	2.81	38			Pn	03 35 17.8	+1.7	
FURC	Furnace Creek,	2.83	84	Sb		Sb	03 35 58.3	+1.7	
	baz=266								
QSM	Queen of Sheba	2.84	94	Pn		Pn	03 35 17.1	+0.8	
QSM					IAML		03 36 01.8		
	comp=N,36nm,0.8s								
QSM					IAML		03 36 04.8		
	comp=E,50nm,0.6s								
YERR	Yerington	2.89	18	Pn		Pn	03 35 18.3	+1.1	
YERR					IAML		03 36 08.6		
	comp=N,83nm,0.6s								
PNTR	Pine Nut	2.92	12			Pn	03 35 20.0	+2.4	
BFSC	Mount Baldy Ra	2.97	131	P		Pn	03 35 18.5	+0.3	
	baz=313								
BFSC					S	Sn	03 35 54.4	+1.3	
	baz=313								
GWY	Greenwater Val	2.98	90			Pn	03 35 19.1	+0.7	
GWY					IAML		03 36 07.1		
	comp=N,30nm,0.6s								
GWY					IAML		03 36 10.4		
	comp=E,35nm,0.5s								
GSC	Goldstone, Bar	3.03	107	Pn		Pn	03 35 19.9	+0.9	
GSC					IAML		03 36 10.1		
	comp=N,30nm,0.6s								
GSC					IAML		03 36 10.5		
	comp=E,64nm,0.7s								
GSC	Goldstone, Bar	3.03	107	P		Pn	03 35 19.8	+0.7	
	baz=289,SNR=19								
GSC					S	Sn	03 35 55.6	+1.1	
	baz=289								
WCT	Wildcat Mounta	3.06	78			Pn	03 35 19.9	+0.6	
MPK	Martis Peak	3.07	5	Pn		Pn	03 35 22.3	+2.5	
MPK					IAML		03 36 13.1		
	comp=N,71nm,0.9s								
KVN	Kaiserville	3.34	32	Pn		Pn	03 35 24.6	+1.2	
TPNV	Topopah Spring	3.38	76			Pn	03 35 25.2	+1.3	
TPNV					IAML		03 36 27.7		
	comp=N,25nm,0.8s								
TPNV					IAML		03 36 33.1		
	comp=N,26nm,1.0s								
TPNV	Topopah Spring	3.38	76	P		Pn	03 35 25.6	+1.7	
	baz=259								
ORV	Oroville	3.44	345	Pn		Pn	03 35 25.5	+0.9	
ORV					IAML		03 36 23.3		
	comp=E,23nm,0.8s								
PAHR	Pah Rah Range	3.56	12	Pn		Pn	03 35 27.9	+1.6	
PAHR					IAML		03 36 26.3		
	comp=N,16nm,1.4s								
PAHR					IAML		03 36 35.1		
	comp=E,17nm,1.4s								
HEC	Hector,Ludlow	3.56	112	P		Pn	03 35 26.5	+0.2	
	baz=294								
TUQ	Turquoise Moun	3.69	101	P		Pn	03 35 28.8	+0.7	
	baz=284,SNR=7.0								
S11A	Rachel	3.95	68	Pn		Pn	03 35 35.2	+3.5	
S11A					IAML		03 36 50.9		
	comp=N,33nm,1.1s								
GMRC	Granite Mounta	4.09	109	P		Pn	03 35 33.7	+0.1	
	baz=292								
PFO	Pinyon Flats O	4.13	128			Pn	03 35 35.1	+0.9	
PFO	Pinyon Flats O	4.13	128	P		Pn	03 35 34.8	+0.6	
	baz=310								
PMD	Palm Desert	4.16	127	Pn		Pn	03 35 36.0	+1.5	
SHPR	Sheep Range	4.20	85	Pn		Pn	03 35 37.5	+2.3	
BELC	Belle Mtn. Jos	4.21	121	P		Pn	03 35 35.4	+0.2	
	baz=303								
R11B	Troy Canyon, C	4.35	59	Pn		Pn	03 35 38.8	+1.5	
IRM	Iron Mountain	4.74	114	P		Pn	03 35 42.7	+0.2	
	baz=297								

*IDC **31** 03:40:44.2±1.4,54.98N×163.34E, h0km, mb3.8/9, mbtmp3.8/10, ML2.4/1, Error ellipse: s-maj=38.4km s-min=18.4km az=169.0*
*KRSC **31** 03:40:44.1±0.8,54.68N×163.60E, h40km±24km, Ml4.2*
*MOS **31** 03:40:46.4±0.7,54.72N×163.59E, h39km, mb4.6/6, Error ellipse: s-maj=8.4km s-min=7.0km az=80.3*
*NEIC **31** 03:40:48.9±1.0,54.8N±0.2×163.36E±0.05, h36km±10km, mb4.1/40, Error ellipse: s-maj=29.2km s-min=3.6km az=186.0*

ISC 31 03:40:48.1±0.6, 54.76N±0.04×163.60E±0.03, h35km, n115, σ1§12/123, mb4.1/31, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	Bering	1.44	71	PN		Pn	03 41 10.3	-1.3
BKI				S		Sn	03 41 27.7	-1.5
BKI	Bering	1.44	71	eP		Pn	03 41 10.3	-1.3
BKI				eS		Sn	03 41 27.7	-1.5
KBG	Krutoberegovo	1.58	342	PN		Pn	03 41 11.6	-2.1
KBG				S		Sn	03 41 31.8	-1.1
KBG	Krutoberegovo	1.58	342	eP		Pn	03 41 11.6	-2.1
KBG				eS		Sn	03 41 31.8	-1.1
TUMD	Tumrok D	1.90	285	eP		Pn	03 41 16.4	-1.6
ZLN	Zelenaya	2.04	309	PN		Pn	03 41 20.0	+0.1
ZLN	Zelenaya	2.04	309	eP		Pn	03 41 20.0	+0.1
TUMR	Tumrok	2.06	286	PN		Pn	03 41 19.9	-0.4
TUMR				S		Sn	03 41 44.5	-0.3
TUMR	Tumrok	2.06	286	eP		Pn	03 41 19.9	-0.4
TUMR				eS		Sn	03 41 44.5	-0.3
BZP	Bezymyannyi-Pe	2.10	305	eP		Pn	03 41 19.8	-1.1
BZMR	Bezymyannaya	2.13	305	PN		Pn	03 41 20.8	-0.6
BZMR	Bezymyannaya	2.13	305	eP		Pn	03 41 20.8	-0.6
KMNR	Kamenistaya	2.17	299	PN		Pn	03 41 21.4	-0.4
KMNR	Kamenistaya	2.17	299	eP		Pn	03 41 21.4	-0.4
SMKR	Semkarok	2.19	327	PN		Pn	03 41 21.3	-0.8
SMKR				S		Sn	03 41 48.1	+0.1
SMKR	Semkarok	2.19	327	eP		Pn	03 41 21.3	-0.8
SMKR				eS		Sn	03 41 48.1	+0.1
BDR	Baidarnaya	2.27	324	PN		Pn	03 41 22.7	-0.4
BDR	Baidarnaya	2.27	324	eP		Pn	03 41 22.7	-0.4
KPT	Kopyto	2.28	303	PN		Pn	03 41 23.5	+0.2
KPT	Kopyto	2.28	303	eP		Pn	03 41 23.5	+0.2
KLY	Klyuchi	2.29	314	PN		Pn	03 41 22.0	-1.3
KLY				S		Sn	03 41 48.1	-2.2
KLY	Klyuchi	2.29	314	eP		Pn	03 41 22.0	-1.3
KLY				eS		Sn	03 41 48.1	-2.2
KOZ	Kozyrevsk	2.49	303	PN		Pn	03 41 26.4	+0.2
KOZ	Kozyrevsk	2.49	303	eP		Pn	03 41 26.4	+0.2
KII	Karymskiy	2.53	255	PN		Pn	03 41 25.6	-1.2
KII	Karymskiy	2.53	255	eP		Pn	03 41 25.6	-1.2
SPN	Mys Shipunski	2.69	233	eS		Sn	03 41 55.2	-5.0
SRDR	Sredinnyy	2.71	307	PN		Pn	03 41 28.9	-0.2
SRDR	Sredinnyy	2.71	307	eP		Pn	03 41 28.9	-0.2
SMAR	Somma	3.20	244	PN		Pn	03 41 35.0	-1.1
SMAR	Somma	3.20	244	eP		Pn	03 41 35.0	-1.1
UGLR	Uglovaya	3.22	243	PN		Pn	03 41 36.2	0.0
UGLR	Uglovaya	3.22	243	eP		Pn	03 41 36.2	0.0
AVH	Avacha	3.24	244	PN		Pn	03 41 35.8	-0.6
AVH	Avacha	3.24	244	eP		Pn	03 41 35.8	-0.6
KRX	Arik	3.24	246	PN		Pn	03 41 35.4	-1.1
KRX	Arik	3.24	246	eP		Pn	03 41 35.4	-1.1
KOK	Koryaka	3.28	245	PN		Pn	03 41 36.1	-0.9
KOK	Koryaka	3.28	245	eP		Pn	03 41 36.1	-0.9
PET	Petropavlovsk	3.41	241	ePN		Pn	03 41 38.3	-0.4
KRMR	Karymshinskiy	3.78	241	PN		Pn	03 41 43.8	0.0
KRMR	Karymshinskiy	3.78	241	eP		Pn	03 41 43.8	0.0
PEA0B	Petropavlovsk-	3.86	247	Pn		Pn	03 41 43.8	-1.1
PEA0B	Petropavlovsk-	3.86	247	PN		Pn	03 41 43.8	-1.1
PETK	Petropavlovsk-	3.86	247	Pn		Pn	03 41 44.4	-0.6
PETK	Petropavlovsk-	3.86	247	Pn		Pn	03 41 44.7	-0.2
	1.3nm,0.3s,baz=83,slow=20,SNR=9.6							
PETK				Sn		Sn	03 42 30.9	+1.8
	1.7nm,0.3s,baz=96,slow=20,SNR=4.4 3.0nm,0.5s							
MTVR	Mutnovka	3.95	237	PN		Pn	03 41 45.4	-0.9
MTVR	Mutnovka	3.95	237	eP		Pn	03 41 45.4	-0.9
GRL	Gorelyy	3.96	238	PN		Pn	03 41 45.8	-0.7
GRL	Gorelyy	3.96	238	eP		Pn	03 41 45.8	-0.7
ASAK	Asacha	4.15	237	PN		Pn	03 41 48.5	-0.5
ASAK	Asacha	4.15	237	eP		Pn	03 41 48.5	-0.5
C16K	Lisburne Hills	19.75	35	P		P	03 45 15.2	+0.7
E18K	Tukpahlearik C	21.06	39	P		P	03 45 29.8	+1.1
C18K	Utukok River	21.30	36	P		P	03 45 31.6	+0.2
C18K				IAmb		IAmb	03 45 34.9	
	comp=Z,3.8nm,0.7s							
F19K	Shaleruckik Mo	21.94	41	P		P	03 45 38.8	+0.7
C19K	Lookout Ridge	22.01	35	P		P	03 45 39.5	+0.5
C19K				IAmb		IAmb	03 45 42.1	
	comp=Z,5.3nm,0.6s							
E19K	Redstone River	22.31	40	P		P	03 45 43.1	+0.9
E19K				IAmb		IAmb	03 45 45.2	
	comp=Z,4.3nm,0.7s							
F20K	Avaraart Lake	22.78	41	P		P	03 45 47.4	+0.3
B20K	Meade River	23.14	34	P		P	03 45 51.3	+0.6
B20K				IAmb		IAmb	03 45 53.8	
	comp=Z,4.9nm,0.7s							
F21K	Alatna River	23.67	41	P		P	03 45 55.0	-1.0
B22K	Teshekpuk Lake	24.45	34	P		P	03 46 03.4	+0.2
B22K				IAmb		IAmb	03 46 05.1	
	comp=Z,6.6nm,0.8s							
H24K	Noodor Dome	25.75	45	P		P	03 46 15.9	+0.9
F24K	Squaw Lake	25.86	41	P		P	03 46 16.4	+0.4
F24K				IAmb		IAmb	03 46 17.0	
	comp=Z,2.3nm,0.6s							
G24K	Hadweenzic Riv	25.95	43	P		P	03 46 16.7	-0.1
G24K				IAmb		IAmb	03 46 18.7	
	comp=Z,5.8nm,0.7s							
IL31		26.16	48	P		P	03 46 18.4	-0.2
ILAR	Eielson Array	26.16	48	P		P	03 46 18.9	+0.2
	comp=Z,1.8nm,0.7s,baz=265,slow=8.8,SNR=25 comp=Z,1.8nm,0.7s							
SCM	Sheep Creek Mo	26.17	54	P		P	03 46 19.1	+0.2
SCM	Sheep Creek Mo	26.17	54	P		P	03 46 19.1	+0.2
SCM				pmax		pmax		
	comp=Z,16nm,1.3s							
D25K	Kavik River	26.62	37	P		P	03 46 22.9	0.0
M24K	Tolsona, Glenn	26.68	54	P		P	03 46 24.6	+1.1
E25K	Arctic Village	26.79	40	P		P	03 46 25.3	+0.9
KLU	Klutina	26.88	55	P		P	03 46 28.0	+2.7
KLU				IAmb		IAmb	03 46 46.8	
	comp=Z,5.3nm,1.1s							
BMAR	Burnt Mountain	27.12	42	P		P	03 46 28.4	+1.1
SCRK	Sand Creek	27.47	49	P		P	03 46 29.7	-0.9
SCRK				IAmb		IAmb	03 46 31.0	
	comp=Z,9.1nm,1.4s							
J26L	Joseph Creek	27.61	48	P		P	03 46 32.9	+1.1
K27K	Chicken	28.30	49	P		P	03 46 38.2	+0.4
K27K				IAmb		IAmb	03 46 59.9	
	comp=Z,7.7nm,1.4s							
L27K	Beaver Creek,	28.54	51	P		P	03 46 41.2	+1.2
L27K				IAmb		IAmb	03 46 42.2	
	comp=Z,2.9nm,0.8s							
BCAR	Beaver Creek A	28.56	51	P		P	03 46 41.8	+1.5
F28M	Old Crow	28.93	41	P		P	03 46 44.3	+0.8
H29M	Whitestone	29.62	44	P		P	03 46 50.5	+0.9
H29M				IAmb		IAmb	03 46 57.1	
	comp=Z,6.7nm,1.4s							
G29M	Pine Creek	29.69	43	P		P	03 46 51.6	+1.4
G29M				IAmb		IAmb	03 47 26.6	
	comp=Z,4.6nm,1.5s							
L29M	L29M	30.19	50	P		P	03 46 56.5	+1.9
G30M	tAoh Zraii Nji	30.39	42	P		P	03 46 57.1	+0.6
G30M				IAmb		IAmb	03 46 59.2	
	comp=Z,3.8nm,1.3s							
I30M	Mount Dempster	30.57	46	P		P	03 46 58.5	+0.4
I30M				IAmb		IAmb	03 46 59.3	
	comp=Z,2.3nm,0.8s							
G31M	Satah River	31.16	42	P		P	03 47 03.9	+0.8
F31M	Tsiigehtchic	31.29	41	P		P	03 47 04.7	+0.4
C36M	Palulatuk	34.48	37	P		P	03 47 32.9	+0.8
H11N2	WAKE ISLAND Hy	35.06	175	T		T	04 26 55.4	
	baz=358,slow=76,SNR=9.7							
H11N3	WAKE ISLAND Hy	35.07	175	T		T	04 26 55.2	
	baz=358,slow=76,SNR=4.3							
H11N1	WAKE ISLAND Hy	35.07	175	T		T	04 27 05.3	
	baz=358,slow=76,SNR=8.2							
YKA	Yellowknife Ar	40.52	45	P		P	03 48 24.4	+1.2
	comp=Z,0.5nm,0.7s,baz=299,slow=8.1,SNR=6.8 comp=Z,0.5nm,0.7s							
SPITS	Spitsbergen Ar	45.82	351	P		P	03 49 06.1	+0.2
SPITS				pmax		pmax		
	comp=Z,40nm,1.3s							
SPITS	Spitsbergen Ar	45.82	351	P		P	03 49 06.1	+0.2
	comp=Z,1.2nm,0.4s,baz=53,slow=7.7,SNR=7.4 comp=Z,1.2nm,0.4s							
KURK	Kurchatov	48.60	302	P		P	03 49 27.5	-0.3
KURK	Kurchatov	48.60	302	P		P	03 49 27.5	-0.3
KURK				pmax		pmax		
	comp=Z,7.0nm,1.5s							
KURBB	Kurchatov Arra	48.71	302	P		P	03 49 25.9	-2.7
	comp=Z,2.0nm,0.2s,baz=56,slow=7.7,SNR=2.6 comp=Z,2.0nm,0.2s							
MKAR	Makanchi Array	49.29	296	P		P	03 49 32.0	-1.2
MKAR	Makanchi Array	49.29	296	P		P	03 49 34.0	+0.8
MKAR	Makanchi Array	49.29	296	P		P	03 49 34.0	+0.8
	comp=Z,0.2nm,0.5s,baz=53,slow=7.7,SNR=3.5 comp=Z,0.2nm,0.5s							
MAKZ	Makanchi	49.44	297	P		P	03 49 33.6	-0.7
MAKZ				IAmb		IAmb	03 50 15.6	
	comp=Z,1.2nm,0.8s							
MAKZ	Makanchi	49.44	297	P		P	03 49 33.6	-0.7
MAKZ				pmax		pmax		
	comp=Z,1.0nm,0.8s							
FCC	Fort Churchill	50.87	41	P		P	03 49 45.5	+0.6
FCC				IAmb		IAmb	03 49 50.7	
	comp=Z,4.8nm,1.4s							
FCC	Fort Churchill	50.87	41	P		P	03 49 45.5	+0.6
FCC				pmax		pmax		
	comp=Z,5.0nm,1.5s							
WAKR	Walker	52.57	74	P		P	03 50 00.7	+2.5
WAKR				IAmb		IAmb	03 50 11.7	
	comp=Z,3.9nm,1.4s							
LKWY	Lake	53.22	63	P		P	03 50 01.6	-1.3
LKWY				IAmb		IAmb	03 50 39.2	
	comp=Z,2.4nm,0.9s							
LKWY	Lake	53.22	63	P		P	03 50 01.7	-1.3
LKWY				pmax		pmax		
	comp=Z,2.0nm,1.0s							
NVAR	Mina Array Bea	53.25	74	P		P	03 50 04.9	+1.7
NVAR	Mina Array Bea	53.25	74	P		P	03 50 05.5	+2.3
	comp=Z,0.4nm,0.6s,baz=297,slow=6.7,SNR=3.7 comp=Z,0.4nm,0.6s							
NV11	Mina Array Sit	53.33	73	P		P	03 50 04.9	+1.2
NV11				IAmb		IAmb	03 50 37.6	
	comp=Z,3.5nm,1.4s							
ABKAR	Akbulak array	58.27	312	P		P	03 50 38.5	-0.3
ABKAR	Akbulak array	58.27	312	P		P	03 50 38.0	-0.7
FINES	FINESS Array B	59.39	338	P		P	03 50 46.0	-0.3
	comp=Z,1.5nm,0.5s,baz=34,slow=7.4,SNR=12 comp=Z,1.5nm,0.5s							
TXAR	Lajitas Array	68.10	70	P		P	03 51 45.9	+1.6
	comp=Z,0.3nm,0.5s,baz=311,slow=5.1,SNR=6.5 comp=Z,0.3nm,0.5s							
AKASG	Malin Array Be	68.22	331	P		P	03 51 43.4	-1.2
	comp=Z,0.3nm,0.4s,baz=28,slow

IBDR					*e*Sg		**Sb**	**04 04 23.0**	**-1.2**
IBDR					AML	AML		04 04 32.2	
	comp=E,2μm,0.4s								
IBDR					AML	AML		04 04 39.9	
	comp=N,987nm,0.5s								
KGS1	**Ghasr-e-Shirin**	**0.89**	**354**		Pg		**Pb**	**04 04 20.8**	**-1.5**
IGHG	**Ghaleghazi**	**1.01**	**45**		Pg		**Pg**	**04 04 23.9**	**-0.7**
BHD	**Baghdad**	**1.16**	**253**		*e*Pn		**Pg**	**04 04 27.0**	**-0.3**
BHD					*e*Sn		**Sn**	**04 04 44.0**	**+1.4**
IDHR	**Dehrash**	**1.22**	**28**		Pg		**Pb**	**04 04 27.1**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.29**	**59**		Pg		**Pg**	**04 04 29.3**	**-0.6**
ILIN	**Lien**	**1.66**	**39**		Pg		**Pg**	**04 04 35.8**	**-1.1**
IKFM	**Kafar-mosalman**	**1.79**	**93**		Pn		**Pb**	**04 04 38.1**	**+0.4**
RAFI	**Al-Rafai**	**1.93**	**169**		*e*Pn		**Pb**	**04 04 38.0**	**-2.0**
RAFI					*e*Sn		**Sb**	**04 05 04.0**	**+0.1**
RAFI					AML	AML		04 05 11.9	
	comp=E,309nm,0.4s								
RAFI					AML	AML		04 05 19.1	
	comp=N,334nm,0.4s								
IBZA	**Bozab**	**1.98**	**64**		Pn		**Pb**	**04 04 40.4**	**-0.7**
IALM	**Almabolaq**	**2.39**	**58**		Pn		**Pb**	**04 04 45.8**	**-2.2**
HSAM	**Samen**	**2.48**	**76**		Pn		**Pb**	**04 04 47.3**	**-2.3**
HAGD	**Aghdareh**	**3.09**	**66**		Pn		**Pn**	**04 04 55.9**	**+2.1**
MAHB	**Mahabad**	**3.14**	**0**		Pn		**Pn**	**04 04 55.7**	**+1.4**
IRAZ	**Razeghan**	**3.92**	**62**		Pn		**Pn**	**04 05 07.1**	**+2.0**
JHBN	**Jahan bin**	**4.40**	**107**		Pn		**Pn**	**04 05 12.9**	**+1.1**
ZNGN	**Zangian**	**4.59**	**108**		Pn		**Pn**	**04 05 16.2**	**+1.8**
IQOM	**Qom**	**4.61**	**73**		Pn		**Pn**	**04 05 16.5**	**+1.9**
QAMS	**Qamsar**	**4.75**	**87**		Pn		**Pn**	**04 05 18.6**	**+2.0**
IVRN	**Varamin**	**5.17**	**73**		Pn		**Pn**	**04 05 23.7**	**+1.5**
KRSH	**Karshahi**	**5.37**	**85**		Pn		**Pn**	**04 05 26.8**	**+1.8**
ISFB	**Sefidab**	**5.48**	**81**		Pn		**Pn**	**04 05 27.8**	**+1.3**
IDMV	**Damavand**	**5.57**	**68**		Pn		**Pn**	**04 05 29.2**	**+1.3**
KLNJ	**Kolanjah**	**5.63**	**116**		Pn		**Pn**	**04 05 29.8**	**+1.1**
IRAM	**Ramesheh**	**5.92**	**106**		Pn		**Pn**	**04 05 34.8**	**+2.2**

*IDC **31** 04:10:53.9±1.7, 15°.80N×147°.19E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=55.1km s-min=32.8km az=93.0*
*NEIC **31** 04:10:58.2±0.5, 15°.4N±0°.3×147°.23E±0°.04, h42km±14km, mb4.2/10, Error ellipse: s-maj=41.2km s-min=2.5km az=173.0*

ISC 31 04:10:58.1±0.8, 15°.7N±0°.1×147°.4E±0°.2, h35km, n21, σ0s89/21, mb4.1/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATS	**Pohnpei**	**13.87**	**128**	Pn	**Pn**	**04 14 11.5**	**-0.8**
WRA	**Warramunga Arr**	**37.66**	**200**	P	**P**	**04 18 11.4**	**+1.2**
	0.8nm,0.9s,baz=34,slow=8.9,SNR=2.1						
	0.8nm,0.9s						
N17K	**Nushagak Hills**	**59.74**	**28**	P	**P**	**04 21 00.1**	**+0.9**
C16K	**Lisburne Hills**	**60.47**	**18**	P	**P**	**04 21 05.3**	**+1.3**
MK31	**Makanchi Array**	**61.70**	**315**	P	**P**	**04 21 12.3**	**-0.5**
MKAR	**Makanchi Array**	**61.70**	**315**	P	**P**	**04 21 12.7**	**-0.1**
MKAR	**Makanchi Array**	**61.70**	**315**	P	**P**	**04 21 13.1**	**+0.3**
	0.5nm,0.4s,baz=94,slow=8.0,SNR=11						
	0.5nm,0.4s						
MAKZ	**Makanchi**	**61.91**	**315**	P	**P**	**04 21 13.2**	**-1.0**
MAKZ				IAmb	IAmb	04 21 15.1	
	comp=Z,1.4nm,0.5s						
KURK	**Kurchatov**	**64.57**	**319**	P	**P**	**04 21 31.4**	**-0.4**
KURK				IAmb	IAmb	04 21 32.3	
	comp=Z,2.1nm,1.0s						
KURBB	**Kurchatov Arra**	**64.62**	**319**	P	**P**	**04 21 32.2**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=97,slow=7.2,SNR=16						
	comp=Z,1.4nm,0.4s						
D22K	**Ayikyak River**	**64.82**	**20**	P	**P**	**04 21 34.1**	**+1.0**
D22K				IAmb	IAmb	04 21 55.6	
	comp=Z,2.2nm,1.2s						
ILAR	**Eielson Array**	**65.63**	**25**	P	**P**	**04 21 40.1**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=239,slow=6.2,SNR=2.8						
	comp=Z,0.2nm,0.4s						
VRDI	**Verde Repeater**	**66.36**	**30**	P	**P**	**04 21 43.6**	**+0.2**
G29M	**Pine Creek**	**69.64**	**24**	P	**P**	**04 22 04.6**	**+1.0**
BVAR	**Borovoye Array**	**69.80**	**321**	P	**P**	**04 22 04.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=103,slow=6.9,SNR=6.5						
	comp=Z,1.2nm,0.5s						
KKAR	**Karatay Array**	**69.92**	**311**			**04 22 05.5**	**-0.3**
G31M	**Satah River**	**71.11**	**24**	P	**P**	**04 22 13.8**	**+1.2**
G31M				IAmb	IAmb	04 22 50.3	
	comp=Z,5.9nm,1.4s						
ABKAR	**Akbulak array**	**76.62**	**318**	P	**P**	**04 22 44.6**	**-0.6**
ABKAR	**Akbulak array**	**76.62**	**318**	P	**P**	**04 22 44.6**	**-0.6**
ABKAR				IAmb	IAmb	04 23 00.8	
	comp=Z,2.5nm,1.4s						
ISA	**Isabella, Lake**	**84.30**	**55**	P	**P**	**04 23 26.5**	**-0.4**
ISA				IAmb	IAmb	04 23 27.1	
	comp=Z,2.1nm,0.7s						
FINES	**FINESS Array B**	**90.27**	**336**	P	**P**	**04 23 54.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=66,slow=3.4,SNR=6.6						
	comp=Z,0.6nm,0.6s						

*IDC **31** 04:28:51.3±0.6, 44°.90N×37°.21E, h0km, mb3.7/9, mbtmp3.7/16, ML4.1/5, MS3.0/1, Error ellipse: s-maj=11.6km s-min=7.0km az=17.0*
*MOS **31** 04:28:54.2, 44°.75N×37°.20E, h19km, MPVA4.5, FELT I=III-IV MSK at Anapa, Anapskaya, Supsekh, I=II-III MSK at Novorossiysk*
*CFUSG **31** 04:28:55.6, 44°.74N×37°.13E, h10km, mb3.8/7, Black Sea district 5 Magtype MSH 3.2 from 7 stations*
*NNC **31** 04:29:29.0±3.0, 42°.81N×42°.78E, h0km, mb3.6, Error ellipse: s-maj=55.6km s-min=27.3km az=124.0*

ISC 31 04:28:54.5±0.5, 44°.81N±0°.04×37°.19E±0°.02, h19km±1km, n174, σ1s73/275, mb3.6/13, 48C-40D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANN	**Anapa**	**0.17**	**93**	*i* Pg	**Pg**	**04 28 59.6**	**+0.5**
ANN				*e*Sg	**Sg**	**04 29 02.1**	**-0.2**
ANN	**Anapa**	**0.17**	**93**	*i* P	**Pg**	**04 28 59.3**	**+0.2**
ANN				*i* S	**Sg**	**04 29 02.6**	**+0.3**
GELR	**Gelenjik**	**0.61**	**112**	*i* Pg	**Pn**	**04 29 07.4**	**-0.6**
GELR				*e*Sg	**Sn**	**04 29 16.3**	**-1.0**
GELR	**Gelenjik**	**0.61**	**112**	*e*P	**Pn**	**04 29 07.4**	**-0.6**
GELR				*e*		04 29 16.2	
SPGR	**Shapsug**	**0.63**	**96**	*i* Pg	**Pg**	**04 29 07.4**	**+0.5**
SPGR				*i* Sg	**Sg**	**04 29 15.7**	**+0.3**
SPGR	**Shapsug**	**0.63**	**96**	*e*P	**Pg**	**04 29 07.3**	**+0.3**
SPGR				*e*		04 29 16.1	
FEO	**Feodosiya**	**1.30**	**280**	*e*Pg	**Pg**	**04 29 18.9**	**-0.7**
FEO				*e*Sg	**Sg**	**04 29 38.0**	**+1.5**
FEO	**Feodosiya**	**1.30**	**280**	*e*Pg	**Pg**	**04 29 18.9**	**-0.7**
FEO				Pgm		04 29 20.2	
	comp=Z,109nm,0.2s						
FEO				*e*Sg	**Sg**	**04 29 38.0**	**+1.5**
FEO				Sgm		04 29 42.2	
	comp=N,1μm,0.3s						
FEO				Sgm		04 29 43.2	
	comp=E,674nm,0.3s						
FEO	**Feodosiya**	**1.30**	**280**	*e*P	**Pg**	**04 29 18.9**	**-0.7**
FEO				*e*S	**Sg**	**04 29 38.0**	**+1.5**
SUDU	**Sudak**	**1.56**	**274**	*e*Pg	**Pn**	**04 29 21.6**	**+0.5**
SUDU				*e*Sg	**Sb**	**04 29 42.5**	**+0.4**
SUDU	**Sudak**	**1.56**	**274**	*i* Pn	**Pn**	**04 29 21.6**	**+0.5**
SUDU				Pnm		04 29 22.4	
SUDU				*e*Sn	**Sb**	**04 29 42.5**	**+0.4**
SUDU				*i* Sn	**Sn**	**04 29 42.8**	**+2.0**
SUDU				Snm		04 29 43.6	
	comp=N,1μm,0.4s						
SUDU				Snm		04 29 43.7	
	comp=E,751nm,0.4s						
SUDU	**Sudak**	**1.56**	**274**	*e*P	**Pn**	**04 29 21.6**	**+0.5**
SUDU				*e*S	**Sb**	**04 29 42.5**	**+0.4**
MRNR	**Maryino**	**1.86**	**117**	*e*Pg	**Pn**	**04 29 26.1**	**+0.9**
MRNR				*e*Sg	**Sn**	**04 29 49.0**	**+0.9**
MRNR	**Maryino**	**1.86**	**117**	*e*P	**Pn**	**04 29 26.1**	**+0.9**
MRNR				*e*S	**Sn**	**04 29 49.0**	**+0.9**
ALU	**Alushta**	**1.99**	**267**	*i* Pg	**Pn**	**04 29 26.8**	**-0.2**
ALU				*e*Sg	**Sn**	**04 29 51.9**	**+0.5**
ALU	**Alushta**	**1.99**	**267**	*e*Pn	**Pn**	**04 29 26.8**	**-0.2**
ALU				*i* Pn	**Pb**	**04 29 27.2**	**-2.8**
ALU				Pnm		04 29 27.7	
	comp=Z,60nm,0.2s						
ALU				*e*Sn	**Sn**	**04 29 51.9**	**+0.5**
ALU				Snm		04 29 54.1	
	comp=E,708nm,0.3s						
ALU				Snm		04 29 55.5	
	comp=N,1μm,0.3s						
ALU	**Alushta**	**1.99**	**267**	*be*P	**Pn**	**04 29 26.9**	**-0.1**
ALU				*e*		04 29 51.9	
SOC	**Sochi**	**2.19**	**123**	*e*Pg	**Pb**	**04 29 31.7**	**-1.7**
SOC				*e*Sg	**Sn**	**04 29 57.2**	**+0.9**
SOC	**Sochi**	**2.19**	**123**	*e*P	**Pn**	**04 29 28.2**	**-1.6**
SOC				*e*		04 29 56.3	
SOC				MLR	MLR		
	comp=Z,60nm,4.0s						
SIM	**Simferopol'**	**2.19**	**275**	*e*Pg	**Pb**	**04 29 31.9**	**-1.6**
SIM				*e*Sg	**Sb**	**04 29 59.5**	**-0.7**
SIM	**Simferopol'**	**2.19**	**275**	*e*Pn	**Pb**	**04 29 31.9**	**-1.6**
SIM				*i* Pn	**Pn**	**04 29 32.1**	**+2.3**
SIM				Pnm		04 29 32.3	
	comp=Z,407nm,0.2s						
SIM				*i* Sn	**Sb**	**04 29 59.5**	**-0.7**
SIM				Snm		04 30 00.3	
	comp=E,280nm,0.2s,comp=N,290nm,0.2s						
SIM	**Simferopol'**	**2.19**	**275**	*e*P	**Pb**	**04 29 31.9**	**-1.6**
SIM				*e*S	**Sb**	**04 29 59.5**	**-0.7**
YAL	**Yalta**	**2.19**	**263**	*e*Pg	**Pn**	**04 29 31.4**	**+1.6**
YAL				*e*Sg	**Sb**	**04 29 58.8**	**-1.4**
YAL	**Yalta**	**2.19**	**263**	*e*Pn	**Pn**	**04 29 31.4**	**+1.6**
YAL				*i* Pn	**Pb**	**04 29 31.7**	**-1.7**
YAL				Pnm		04 29 32.5	
	comp=Z,125nm,0.2s						
YAL				*e*Sn	**Sb**	**04 29 58.8**	**-1.4**
YAL				Snm		04 30 00.1	
	comp=N,463nm,0.3s						
YAL				Snm		04 30 00.3	
	comp=E,550nm,0.2s						
YAL	**Yalta**	**2.19**	**263**	*e*P	**Pn**	**04 29 31.4**	**+1.6**
YAL				*e*S	**Sb**	**04 29 58.8**	**-1.4**
GUZR	**Guzeripl'**	**2.25**	**110**	*e*Pg	**Pn**	**04 29 31.1**	**+0.5**
GUZR				*e*Sg	**Sn**	**04 29 58.0**	**+0.1**
GUZR	**Guzeripl'**	**2.25**	**110**	*i* P	**Pn**	**04 29 31.2**	**+0.5**
GUZR				*i* S	**Sn**	**04 29 59.5**	**+1.6**
GUZR				pmax	pmax		
	comp=Z,1μm,0.8s						
GUZR				smax	smax		
	comp=Z,2μm,0.9s						
VSLR	**Vesyoloye**	**2.45**	**122**	*i* Pn	**Pn**	**04 29 34.2**	**+0.9**
VSLR				*i* Sn	**Sn**	**04 30 03.2**	**+0.5**
VSLR	**Vesyoloye**	**2.45**	**122**	*i* P	**Pn**	**04 29 34.2**	**+0.9**
VSLR				*i* S	**Sn**	**04 30 03.2**	**+0.5**
RPOR	**Krasnaya Polya**	**2.47**	**116**	*e*Pn	**Pn**	**04 29 34.3**	**+0.6**
RPOR				*e*Sn	**Sn**	**04 30 03.0**	**-0.3**
RPOR	**Krasnaya Polya**	**2.47**	**116**	*i* P	**Pn**	**04 29 34.1**	**+0.4**
RPOR				*i*		04 30 05.4	
ERBR	**Yeremizino-Bor**	**2.49**	**68**	*e*Pn	**Pn**	**04 29 34.3**	**+0.4**
ERBR				*e*Sn	**Sn**	**04 30 04.5**	**+0.7**
ERBR	**Yeremizino-Bor**	**2.49**	**68**	*e*P	**Pn**	**04 29 35.9**	**+2.0**
LABN	**Labinsk**	**2.52**	**93**	*e*Pn	**Pn**	**04 29 35.8**	**+1.5**
LABN				*e*Sn	**Sb**	**04 30 07.6**	**-2.0**
LABN	**Labinsk**	**2.52**	**93**	*e*P	**Pn**	**04 29 34.7**	**+0.4**
LABN				*e*		04 30 04.8	
LABN				pmax	pmax		
	comp=Z,23nm,0.1s						
LABN				smax	smax		
	comp=N,105nm,0.3s						
LABN				smax	smax		
	comp=N,1μm,0.5s						
SEV	**Sevastopol'**	**2.53**	**265**	*e*Pn	**Pn**	**04 29 35.8**	**+1.4**
SEV				*i* Pn	**Pb**	**04 29 36.1**	**-3.1**
SEV				Pnm		04 29 38.1	
	comp=Z,63nm,0.2s						
SEV				*e*Sn	**Sn**	**04 30 06.3**	**+1.7**
SEV				Snm		04 30 07.9	
	comp=E,144nm,0.2s						
SEV				Snm		04 30 11.9	
	comp=N,181nm,0.3s						
ARXR	**Arkhyz**	**3.19**	**112**	*e*Pn	**Pn**	**04 29 45.5**	**+1.8**
ARXR				*e*Sn	**Sn**	**04 30 21.7**	**+0.5**
ARXR	**Arkhyz**	**3.19**	**112**	*e*P	**Pn**	**04 29 45.5**	**+1.8**
ARXR				*e*S	**Sn**	**04 30 21.7**	**+0.5**
TARU	**Tarkhankut**	**3.35**	**281**	*e*Pn	**Pn**	**04 29 47.4**	**+1.7**
TARU				Pnm		04 29 48.3	
	comp=Z,12nm,0.2s						
TARU				*e*Sn	**Sn**	**04 30 27.9**	**+3.0**
TARU				Snm		04 30 29.6	
	comp=E,138nm,0.2s						
TARU				Snm		04 30 29.6	
	comp=N,129nm,0.2s						
NVNR	**Nevinnomyssk**	**3.41**	**92**	*i* Pn	**Pn**	**04 29 47.9**	**+1.4**
NVNR				*e*Sn	**Sn**	**04 30 26.5**	**+0.2**
NVNR	**Nevinnomyssk**	**3.41**	**92**	*i* P	**Pn**	**04 29 47.9**	**+1.4**
NVNR				*e*S	**Sn**	**04 30 26.5**	**+0.2**
DIKM	**Dikmen**	**3.46**	**205**	⇑P	**Pn**	**04 29 49.3**	**+2.0**
DIKM				⇓S	**Sn**	**04 30 27.6**	**-0.1**
DOMR	**Dombai**	**3.54**	**114**	*e*Pn	**Pn**	**04 29 49.4**	**+1.0**
DOMR				*e*Sn	**Sn**	**04 30 30.3**	**+0.5**
DOMR	**Dombai**	**3.54**	**114**	*e*P	**Pn**	**04 29 49.4**	**+1.0**
DOMR				*e*S	**Sn**	**04 30 30.3**	**+0.5**
KIV	**Kislovodsk**	**4.03**	**100**	*e*Pn	**Pn**	**04 29 54.2**	**-1.0**
KIV				*e*Sn	**Sn**	**04 30 40.9**	**-0.9**
KIV	**Kislovodsk**	**4.03**	**100**	*e*P	**Pn**	**04 29 55.0**	**-0.1**
KIV				*e*S	**Sn**	**04 30 43.6**	**+1.8**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KVAR	**Kislovodsk Arr**	**4.04**	**100**	Pn	**Pn**	**04 29 54.1**	**-1.2**
	comp=Z,2.2nm,0.3s,baz=78,slow=20,SNR=1.9						
KVAR				Sn	**Sn**	**04 30 41.7**	**-0.3**
	baz=288,slow=19						
SHA1	**Shidzhatmaz**	**4.07**	**103**	*e*Pn	**Pn**	**04 29 56.5**	**+0.7**
SHA1				*e*Sn	**Sn**	**04 30 43.4**	**+0.4**
SHA1	**Shidzhatmaz**	**4.07**	**103**	*e*P	**Pn**	**04 29 56.5**	**+0.7**
SHA1				*e*S	**Sn**	**04 30 43.4**	**+0.4**
ALER	**Alexandrovskoy**	**4.07**	**89**	*e*Pn	**Pn**	**04 29 56.9**	**+1.2**
ALER				*e*Sn	**Sn**	**04 30 43.5**	**+0.7**
ALER	**Alexandrovskoy**	**4.07**	**89**	*e*P	**Pn**	**04 29 56.9**	**+1.2**
ALER				*e*S	**Sn**	**04 30 43.5**	**+0.7**
BEYR	**Belyy Ugol+**	**4.11**	**99**	*i* Pn	**Pn**	**04 29 55.1**	**-1.1**
BEYR				*e*Sn	**Sn**	**04 30 44.4**	**+0.7**
BEYR	**Belyy Ugol+**	**4.11**	**99**	*i* P	**Pn**	**04 29 55.1**	**-1.1**
BEYR				*e*S	**Sn**	**04 30 44.4**	**+0.7**
GOF	**Gofitskoye**	**4.16**	**85**	*e*Pn	**Pn**	**04 29 57.8**	**+1.0**
GOF				*e*Sn	**Sn**	**04 30 45.8**	**+0.9**
GOF	**Gofitskoye**	**4.16**	**85**	*ce*P	**Pb**	**04 30 04.1**	**-2.9**
GOF				*e*S	**Sn**	**04 30 46.5**	**+1.6**
KBZ	**Khabaz**	**4.24**	**103**	*e*Pn	**Pn**	**04 29 58.2**	**+0.4**
KBZ				*e*Sn	**Sn**	**04 30 46.7**	**0.0**
KBZ	**Khabaz**	**4.24**	**103**	*e*P	**Pn**	**04 29 58.2**	**+0.4**
KBZ				*e*S	**Sn**	**04 30 46.7**	**0.0**
KBZ	**Khabaz**	**4.24**	**103**	Pn	**Pn**	**04 29 58.0**	**+0.1**
	comp=Z,2.4nm,0.2s,baz=275,slow=8.6,SNR=21						
KBZ				Sn	**Sn**	**04 30 43.0**	**-3.7**
	comp=Z,6.4nm,0.3s,baz=290,slow=12,SNR=6.7						
KBZ				LR	LR	04 32 09.1	
	comp=Z,164nm,19.8s,baz=4.5,slow=47						
NEUR	**Neytrino**	**4.26**	**109**	*e*P	**Pn**	**04 30 02.0**	**+3.6**
NEUR				*e*S	**Sn**	**04 30 51.6**	**+3.9**
KTUT	**Trabzon**	**4.26**	**153**	⇓P	**Pn**	**04 30 01.1**	**+2.9**
PYA1	**Pyatigorsk**	**4.29**	**98**	*e*Pn	**Pn**	**04 29 57.8**	**-0.9**
PYA1				*e*Sn	**Sn**	**04 30 47.3**	**-0.9**
PYA1	**Pyatigorsk**	**4.29**	**98**	*e*P	**Pn**	**04 29 57.8**	**-0.9**
PYA1				*e*S	**Sn**	**04 30 47.3**	**-0.9**
KBTC	**Kuba-Taba**	**4.57**	**100**	*i* Pn	**Pn**	**04 30 04.7**	**+2.2**
KBTC				*e*Sn	**Sn**	**04 30 53.8**	**-1.3**
KBTC	**Kuba-Taba**	**4.57**	**100**	*i* P	**Pn**	**04 30 04.7**	**+2.2**
KBTC				*e*S	**Sn**	**04 30 53.8**	**-1.3**
ONI	**Oni**	**5.05**	**114**	P	**Pn**	**04 30 11.0**	**+1.9**
ONI	**Oni**	**5.05**	**114**	*e*Pn	**Pn**	**04 30 10.2**	**+1.0**
ONI				*e*Sn	**Sn**	**04 31 09.0**	**+2.0**
ONI	**Oni**	**5.05**	**114**	*e*P	**Pn**	**04 30 10.1**	**+1.0**
ONI				*e*S	**Sn**	**04 31 09.0**	**+2.0**
ABS	**Abastumani**	**5.11**	**125**	P	**Pn**	**04 30 10.8**	**+0.7**
ABS				S	Sg	04 31 57.8	+19
ABS	**Abastumani**	**5.11**	**125**	P	**Pn**	**04 30 10.8**	**+0.7**
KORR	**Kora**	**5.25**	**107**	*e*Pn	**Pn**	**04 30 15.8**	**+3.9**
KORR				*e*Sn	**Sn**	**04 31 14.3**	**+2.4**
KORR	**Kora**	**5.25**	**107**	*e*P	**Pn**	**04 30 15.8**	**+3.9**
KORR				*e*S	**Sn**	**04 31 14.3**	**+2.4**
ZEI	**Tsey**	**5.26**	**110**	*e*Pn	**Pn**	**04 30 15.3**	**+3.2**
ZEI				*e*Sn	**Sn**	**04 31 13.6**	**+1.3**
ZEI	**Tsey**	**5.26**	**110**	*e*P	**Pn**	**04 30 15.3**	**+3.2**
ZEI				*e*S	**Sn**	**04 31 13.6**	**+1.3**
PURM	**Purcari**	**5.41**	**291**	⇑P	**Pn**	**04 30 15.0**	**+1.0**
PURM				⇓S	**Sn**	**04 31 15.1**	**-0.6**
ALIG	**Mtskhetisjvari**	**5.42**	**118**	P	**Pn**	**04 30 15.4**	**+1.2**
ALIG				S	**Sn**	**04 31 13.6**	**-2.5**
ALIG	**Mtskhetisjvari**	**5.42**	**118**	*e*Pn	**Pn**	**04 30 15.4**	**+1.2**
ALIG				*e*Sn	**Sn**	**04 31 13.6**	**-2.5**
ALIG	**Mtskhetisjvari**	**5.42**	**118**	P	**Pn**	**04 30 15.4**	**+1.2**
ALIG				S	**Sn**	**04 31 13.6**	**-2.5**
LACR	**Lac**	**5.51**	**109**	*e*Pn	**Pn**	**04 30 18.3**	**+2.8**
LACR				*e*Sn	**Sn**	**04 31 18.0**	**-0.3**
LACR	**Lac**	**5.51**	**109**	*e*P	**Pn**	**04 30 18.3**	**+2.8**
LACR				*e*S	**Sn**	**04 31 18.0**	**-0.3**
BR131	**Keskin Array S**	**5.72**	**209**	*i* P	**Pn**	**04 30 20.0**	**+1.5**
BRTR	**Keskin Array B**	**5.72**	**209**	Pn	**Pn**	**04 30 20.5**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=20,slow=29,SNR=30						
BRTR				Sn	**Sn**	**04 31 22.1**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=38,slow=23,SNR=16						
	comp=Z,1.1nm,0.3s						
AKH	**Akhalkalaki**	**5.73**	**124**	P	**Pn**	**04 30 21.8**	**+3.2**
AKH	**Akhalkalaki**	**5.73**	**124**	P	**Pn**	**04 30 21.8**	**+3.2**
MTEO	**Meteo**	**5.73**	**109**	P	**Pn**	04 30 13.5	-5.3
MTEO	**Meteo**	**5.73**	**109**	P	**Pn**	04 30 13.5	-5.3
BGD	**Bogdanovka**	**5.88**	**125**	P	**Pn**	**04 30 24.0**	**+3.3**
BGD	**Bogdanovka**	**5.88**	**125**	P	**Pn**	**04 30 24.0**	**+3.3**
TLCR		**5.95**	**277**	⇓P	**Pn**	**04 30 22.0**	**+0.5**
TLCR				⇓S	**Sn**	**04 31 27.7**	**-1.4**
TLCR		**5.95**	**277**	P	**Pn**	**04 30 21.9**	**+0.5**
CHRG	**Chargali**	**6.14**	**111**	P	Pn	04 30 15.0	-9.2
TSCT	**Constanta Port**	**6.14**	**267**	⇓S	**Sn**	**04 31 31.1**	**-2.6**
SHTL	**Shatili**	**6.16**	**108**	P	Pn	04 30 18.9	-5.5
SHTL	**Shatili**	**6.16**	**108**	P	Pn	04 30 18.9	-5.5
EFOR	**EFORIE**	**6.17**	**266**	⇓P	**Pn**	**04 30 25.0**	**+0.5**
EFOR				⇑S	**Sn**	**04 31 33.0**	**-1.4**
MILM	**Milestii Mici**	**6.22**	**293**	⇑P	**Pn**	**04 30 26.2**	**+1.1**
MILM				⇑S	**Sn**	**04 31 33.7**	**-2.0**
MILM	**Milestii Mici**	**6.22**	**293**	*e*P	**Pn**	**04 30 26.0**	**+0.9**
	comp=Z,7.0nm,0.1s						
MILM				*e*S	**Sn**	**04 31 33.0**	**-2.6**
	comp=Z,105nm,1.0s						
MILM				AMS	AMS	04 33 25.0	
	comp=Z,240nm,9.0s						
MILM	**Milestii Mici**	**6.22**	**293**	*e*P	**Pn**	**04 30 26.0**	**+0.9**
MILM				pmax	pmax		
	comp=Z,7.0nm,0.1s						
TPGR	**Topolog**	**6.24**	**274**	⇑P	**Pn**	**04 30 26.1**	**+0.7**
TPGR				⇓S	**Sn**	**04 31 34.3**	**-1.9**
TSMN	**Mangalia Port-**	**6.25**	**264**	⇓P	**Pn**	**04 30 26.4**	**+0.8**
TSMN				⇓S	**Sn**	**04 31 34.7**	**-1.8**
MANR	**Mangalia**	**6.25**	**264**	⇓P	**Pn**	**04 30 25.8**	**+0.2**
MANR				⇑S	**Sn**	**04 31 34.8**	**-1.6**
TIRR	**Tirgusor**	**6.28**	**270**	⇓P	**Pn**	**04 30 26.3**	**+0.4**
TIRR				⇑S	**Sn**	**04 31 34.9**	**-2.1**
TIRR	**Tirgusor**	**6.28**	**270**	P	**Pn**	**04 30 26.2**	**+0.4**
MFTR	**Murfatlar**	**6.31**	**267**	⇓P	**Pn**	**04 30 26.9**	**+0.6**
MFTR				⇑S	**Sn**	**04 31 35.6**	**-2.2**
VORD	**Divnogorie**	**6.32**	**12**	*e*P	**Pn**	**04 30 25.4**	**-1.0**
VORD				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CFR	**Carcaliu**	**6.43**	**276**	⇑P	**Pn**	**04 30 28.1**	**0.0**
CFR				⇓S	**Sn**	**04 31 39.3**	**-1.5**
CFR	**Carcaliu**	**6.43**	**276**	P	**Pn**	**04 30 28.0**	**0.0**
LEOM	**Leova**	**6.49**	**288**	⇑P	**Pn**	**04 30 29.9**	**+1.1**
LEOM				⇑S	**Sn**	**04 31 40.5**	**-1.7**
LEOM	**Leova**	**6.49**	**288**	P	**Pn**	**04 30 29.9**	**+1.1**
TLBR	**Topalu**	**6.53**	**271**	⇑P	**Pn**	**04 30 29.6**	**+0.3**
TLBR				⇑S	**Sn**	**04 31 40.4**	**-2.8**
VSR	**Storozhevoye**	**6.54**	**11**	*e*P	**Pn**	**04 30 26.8**	**-2.8**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SCTR	**Scanteiesti**	**6.55**	**281**	⇑P	**Pn**	**04 30 30.3**	**+0.6**
SCTR				⇑S	**Sn**	**04 31 42.2**	**-1.6**
HARR	**Harsova**	**6.60**

DAVOX	**Davos/Dischmat**	**19.11**	**286**	P		**P**		**04 33 15.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=130,slow=6.8,SNR=7.8								
	comp=Z,2.6nm,0.4s								
HFS	**Hagfors**	**20.81**	**326**	P		**P**		**04 33 33.2**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=119,slow=12,SNR=10								
	comp=Z,1.3nm,0.3s								
NOA	**NORSAR Array B**	**22.33**	**326**	P		**P**		**04 33 48.8**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=134,slow=10,SNR=3.0								
	comp=Z,0.4nm,0.6s								
BRVK	**Borovoye**	**23.08**	**57**	*i* P		**P**		**04 34 00.9**	**+2.3**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BVA0	**Borovoye Array**	**23.14**	**57**	P		P		04 34 14.3	+15
	comp=Z,1.7nm,1.0s,baz=247,slow=8.9,SNR=5.5								
BVAR	**Borovoye Array**	**23.14**	**57**	P		**P**		**04 34 00.7**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=316,slow=4.0,SNR=3.8								
KK31	**Karatay Array**	**23.95**	**82**	||P	**P**		**04 34 05.9**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=68,slow=4.9,SNR=3.6								
ARCES	**ARCESS Array B**	**25.49**	**350**	P		**P**		**04 34 20.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=165,slow=11,SNR=1.2								
	comp=Z,1.1nm,0.8s								
KURBB	**Kurchatov Arra**	**28.13**	**63**	P		**P**		**04 34 44.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=274,slow=9.6,SNR=7.3								
	comp=Z,0.7nm,0.6s								
KURK	**Kurchatov**	**28.18**	**63**	*i* P		**P**		**04 34 46.7**	**+1.3**
KURK				pmax	pmax				
	comp=Z,5.0nm,1.7s								
MKAR	**Makanchi Array**	**31.18**	**70**	*i* P		**P**		**04 35 11.3**	**-0.8**
MKAR	**Makanchi Array**	**31.18**	**70**	P		**P**		**04 35 10.2**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=280,slow=10.0,SNR=4.3								
	comp=Z,0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**43.68**	**235**	P		**P**		**04 36 58.4**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=33,slow=9.5,SNR=31								
	comp=Z,2.2nm,0.5s								
SONM	**Songino Array**	**46.42**	**60**	P		**P**		**04 37 19.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=280,slow=9.9,SNR=2.6								
	comp=Z,0.3nm,0.6s								
DBIC	**Dimbokro**	**52.69**	**237**	P		**P**		**04 38 06.5**	**-1.2**
	comp=Z,3.7nm,0.7s,baz=36,slow=8.7,SNR=3.9								
	comp=Z,3.7nm,0.7s								
YKA	**Yellowknife Ar**	**70.68**	**347**	P		**P**		**04 40 08.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=77,slow=4.8,SNR=12								
	comp=Z,0.4nm,0.5s								

*BJI **31** 04:58:42.8±0.0,26˚.38N×66˚.17E,h10km,mb4.8/44, mB5.1/24,Ms4.5/24,Ms7 4.3/23*
*IDC **31** 04:58:42.1±0.7,26˚.21N×66˚.22E,h0km,mb4.5/31, mbtmp4.5/34,ML4.6/2,MS4.0/13,Error ellipse: s-maj=16.1km s-min=11.9km az=7.0*
*MOS **31** 04:58:43.3±1.2,26˚.39N×66˚.36E,h12km,mb4.9/39,Error ellipse: s-maj=5.5km s-min=3.3km az=87.4*
*NEIC **31** 04:58:44.3±1.5,26˚.30N±0˚.08×66˚.22E±0˚.06,h10km±1km, mb4.7/84,Error ellipse: s-maj=14.7km s-min=8.2km az=194.0*
*GCMT **31** 04:58:45.3±0.4,26˚.07N±0˚.02×66˚.49E±0˚.03,h15km±1km, MW4.8/82,Moment Tensor Solution. s13,c14; s82,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.32±.10; $M_{\theta\theta}$-1.47±.08; $M_{\phi\phi}$0.15±.07; $M_{r\theta}$1.00±.15; $M_{\theta\phi}$0.32±.04; $M_{\phi r}$0.95±.17; Best double couple: $M_0$1.96800×10^{16} NP1:ϕs70.00000˚,δ67.00000˚,λ62.00000˚. NP2: ϕs304.00000˚,δ35.00000˚,λ138.00000˚. Principal axes: T 2.1440, Plg58.0000˚, Azm301.0000˚; N -0.3460, Plg26.0000˚, Azm82.0000˚; P -1.7910, Plg18.0000˚, Azm181.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 04:58:44.6±0.6,**26˚.26N**±0˚.05×**66˚.21E**±0˚.03,**h17**km±3km, **n411**,σ**2**/**02**/449,**mb4.7**/128,**MS4.1**/19,**21C-16D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
NGCH	**Negor - Chabah**	**4.67**	**260**	P		**Pn**	**04**	**59 55.6**	**+1.3**
	SNR=69								
JLN	**Jalan Bani Buh**	**7.44**	**238**	P		**Pn**	**05**	**00 32.1**	**-0.3**
	SNR=36								
WSAR	**Wadi Sarin**	**7.52**	**248**	Pn		**Pn**	**05**	**00 33.2**	**-0.4**
	8.8nm,0.3s,baz=99,slow=7.2,SNR=81								
WSAR				Sn		**Sn**	**05**	**01 50.1**	**-8.4**
	20nm,0.3s,baz=264,slow=21,SNR=12								
WSAR				LR		LR	05	04 34.5	
	comp=Z,869nm,19.0s,baz=92,slow=47								
	19nm,0.3s								
WSAR	**Wadi Sarin**	**7.52**	**248**	P		**Pn**	**05**	**00 33.4**	**-0.2**
	SNR=13								
WSAR				S		**Sn**	**05**	**01 51.6**	**-6.9**
WBK	**Wadi Bani Khal**	**7.54**	**243**	P		**Pn**	**05**	**00 33.5**	**-0.2**
	SNR=15								
WBK				S		**Sn**	**05**	**01 51.9**	**-7.0**
AJM	**Ajmer**	**7.56**	**87**	*e*P		**Pn**	**05**	**00 34.3**	**+0.2**
AJM				*e*S		**Sn**	**05**	**01 56.0**	**-3.5**
BIDO	**Bidbid**	**7.83**	**251**	S		**Sn**	**05**	**01 59.5**	**-6.6**
SMDO	**Samad**	**8.08**	**248**	P		**Pn**	**05**	**00 41.8**	**+0.5**
	SNR=22								
SMDO				P		**Pn**	**05**	**00 41.8**	**+0.5**
	SNR=22								
SMDO				S		**Sn**	**05**	**02 04.0**	**-8.4**
SMDO				S		**Sn**	**05**	**02 04.0**	**-8.4**
JMDO	**Jabal Madar**	**8.35**	**244**	P		**Pn**	**05**	**00 46.1**	**+1.2**
	SNR=25								
JMDO				P		**Pn**	**05**	**00 46.1**	**+1.2**
	SNR=25								
HOQ	**Hoqain**	**8.51**	**254**	P		**Pn**	**05**	**00 47.6**	**+0.5**
HOQ				S		**Sn**	**05**	**02 15.6**	**-7.2**
KBL	**Kabul**	**8.60**	**16**	Pn		**Pn**	**05**	**00 48.7**	**+0.1**
KBL	**Kabul**	**8.60**	**16**	P		**Pn**	**05**	**00 48.7**	**+0.1**
HRA	**Herat**	**8.79**	**338**			**Pn**	**05**	**00 51.2**	**+0.1**
BANOM	**Banah**	**8.92**	**270**	P		**Pn**	**05**	**00 52.4**	**-0.3**
BANOM	**Banah**	**8.92**	**270**	P		**Pn**	**05**	**00 53.9**	**+1.2**
BSY	**Bisya**	**8.93**	**249**	P		**Pn**	**05**	**00 54.4**	**+1.6**
	SNR=20								
BSY				P		**Pn**	**05**	**00 54.4**	**+1.6**
	SNR=20								
BSY				S		**Sn**	**05**	**02 29.7**	**-3.4**
	SNR=7.6								
BSY				S		**Sn**	**05**	**02 29.7**	**-3.4**
	SNR=7.6								
MDH	**Madha**	**8.99**	**266**	P		**Pn**	**05**	**00 53.3**	**-0.4**
MDH	**Madha**	**8.99**	**266**	P		**Pn**	**05**	**00 53.4**	**-0.3**
SOHO	**SOHO**	**9.02**	**258**	P		**Pn**	**05**	**00 52.8**	**-1.3**
SOHO	**SOHO**	**9.02**	**258**	P		**Pn**	**05**	**00 54.4**	**+0.3**
SOHO				P		**Pn**	**05**	**00 54.4**	**+0.3**
SOHO				S		**Sn**	**05**	**02 29.0**	**-6.3**
SOHO				S		**Sn**	**05**	**02 29.0**	**-6.3**
SHME	**Shamm**	**9.05**	**271**	*i* P		**Pn**	**05**	**00 54.9**	**+0.4**
	SNR=12								
SHME	**Shamm**	**9.05**	**271**	P		**Pn**	**05**	**00 55.9**	**+1.3**
	SNR=12								
SHME				S		**Sn**	**05**	**02 33.0**	**-3.1**
	SNR=6.1								
MASF	**Masafi**	**9.10**	**267**	P		**Pn**	**05**	**00 56.0**	**+0.7**
MSFE	**Esma-Masafi**	**9.11**	**267**	P		**Pn**	**05**	**00 56.4**	**+1.1**
UOSS	**Minazif**	**9.13**	**264**			**Pn**	**05**	**00 55.1**	**-0.5**
UOSS	**Minazif**	**9.13**	**264**	P		**Pn**	**05**	**00 55.1**	**-0.5**
MHTO	**MHTO**	**9.20**	**237**	P		**Pn**	**05**	**00 56.6**	**0.0**
MHTO				S		**Sn**	**05**	**02 32.5**	**-7.3**
HATD	**Hatta, Dubai**	**9.22**	**263**	P		**Pn**	**05**	**00 58.4**	**+1.5**
HATD	**Hatta, Dubai**	**9.22**	**263**	P		**Pn**	**05**	**00 57.3**	**+0.4**
	SNR=8.3								
ARQ	**Araqi**	**9.28**	**254**	P		**Pn**	**05**	**01 00.2**	**+2.5**
ARQ				P		**Pn**	**05**	**01 00.2**	**+2.5**
ARQ				S		**Sn**	**05**	**02 40.2**	**-1.4**
	SNR=11								
ARQ				S		**Sn**	**05**	**02 40.2**	**-1.4**
	SNR=11								
ASHO	**Ashiyiah**	**9.31**	**262**	*i* P		**Pn**	**05**	**00 59.4**	**+1.2**
	SNR=10								
ASHO				S		Sn	05	02 31.6	-11
ASHO	**Ashiyiah**	**9.31**	**262**	P		**Pn**	**05**	**00 58.9**	**+0.7**
	SNR=12								
ASHO				S		**Sn**	**05**	**02 39.2**	**-3.4**
	SNR=6.2								
KUDL	**Kundal**	**9.34**	**76**	*e*P		**Pn**	**05**	**00 58.1**	**-0.3**
UMQ	**Umm Al-Quwin**	**9.53**	**268**	S		**Sn**	**05**	**02 49.0**	**+1.2**
NIL	**Nilore**	**9.56**	**38**	Pn		**Pn**	**05**	**01 01.5**	**0.0**
NIL	**Nilore**	**9.56**	**38**	P		**Pn**	**05**	**01 01.5**	**0.0**
FAQ	**Al Faqa, Dubai**	**9.71**	**263**	*i* P		**Pn**	**05**	**01 05.2**	**+1.5**
	SNR=7.9								
FAQ	**Al Faqa, Dubai**	**9.71**	**263**	P		**Pn**	**05**	**01 06.5**	**+2.8**
	SNR=7.9								
FAQ				S		**Sn**	**05**	**02 51.0**	**-1.4**
	SNR=12								
ALNE	**Al Ain**	**9.73**	**259**	S		**Sn**	**05**	**02 49.5**	**-3.4**
ASUD	**Al Ashush, Dub**	**9.97**	**263**	*i* P		**Pn**	**05**	**01 09.6**	**+2.5**
	SNR=12								
ASUD	**Al Ashush, Dub**	**9.97**	**263**	P		**Pn**	**05**	**01 07.7**	**+0.5**
	SNR=12								
ASUD				S		**Sn**	**05**	**02 57.9**	**-0.8**
	SNR=10								
NDI	**New Delhi**	**10.06**	**74**	*e*P		**Pn**	**05**	**01 07.7**	**-0.7**
DQM	**DQM**	**10.17**	**233**	S		**Sn**	**05**	**02 56.9**	**-6.7**
AJN	**Ajban**	**10.29**	**263**	S		**Sn**	**05**	**03 02.6**	**-3.9**
BHK	**Bhakra**	**10.31**	**58**	*e*P		**Pn**	**05**	**01 10.8**	**-1.0**
THN	**Thein Dam**	**10.32**	**51**	*e*P		**Pn**	**05**	**01 12.9**	**+1.1**
THN				*e*S		**Sn**	**05**	**03 02.4**	**-4.7**
DHRM	**DHARAMSHALA**	**10.63**	**54**	*e*P		**Pn**	**05**	**01 17.1**	**+0.6**
SMLA	**Simla**	**10.77**	**61**	*e*P		**Pn**	**05**	**01 17.4**	**-0.5**
DDI	**Dehra Dun**	**11.19**	**66**	*e*P		**Pn**	**05**	**01 23.4**	**-0.5**
MZWR	**Madinat Zayed**	**11.46**	**260**	S		**Sn**	**05**	**03 29.6**	**-5.6**
SIMJ	**Simiganj**	**12.58**	**10**			**Pn**	**05**	**01 42.5**	**-0.4**
GEYT	**Alibeck**	**13.50**	**331**	Pn		**Pn**	**05**	**01 55.7**	**+0.3**
GEYT	**Alibeck**	**13.50**	**331**	Pn		**Pn**	**05**	**01 56.0**	**+0.7**
	1.1nm,0.6s,baz=194,slow=11,SNR=1.7								
GEYT				LR		LR	05	07 11.6	
	comp=Z,320nm,19.3s,baz=154,slow=38								
WHFO	**Wadi Hawf**	**14.20**	**237**	P		**Pn**	**05**	**02 03.2**	**-1.9**
BTK	**Batken**	**14.28**	**14**	Pn		**Pn**	**05**	**02 05.6**	**-0.6**
BTK	**Batken**	**14.28**	**14**	P		**Pn**	**05**	**02 05.6**	**-0.6**
HYB	**Hyderabad**	**14.44**	**125**	*e*P		**Pn**	**05**	**02 09.0**	**+0.7**
HYB				IVMs_BB		IVMs_BB	05	07 51.0	
	comp=Z,517nm,13.8s								
KSH	**Kashi**	**15.54**	**29**	P		Pn	05	02 16.0	-7.0
KSH				pP		P	05	02 21.0	-6.3
KSH				PP		pP	05	02 29.8	-2.4
KSH				pmax		pmax			
	comp=Z,110nm,0.7s								
KSH				LR		LR			
	comp=Z,1μm,12.8s								
KSH				LR		LR			
	comp=Z,1μm,12.2s								
KSH				LR		LR			
	comp=Z,1μm,14.4s								
ARSB	**Arslanbob**	**16.03**	**19**	P		**Pn**	**05**	**02 27.8**	**-1.6**
ARSB	**Arslanbob**	**16.03**	**19**	P		**Pn**	**05**	**02 27.8**	**-1.6**
ARSB				pmax		pmax			
	comp=Z,29nm,1.2s								
KBD	**Kabd**	**16.66**	**284**	P		**Pn**	**05**	**02 37.4**	**+0.1**
DZA	**Taraz**	**17.11**	**13**	*e*P		**Pn**	**05**	**02 42.3**	**-0.7**
	baz=13								
DZA	**Taraz**	**17.11**	**13**	*e*P		**Pn**	**05**	**02 42.2**	**-0.7**
NRN	**Naryn**	**17.16**	**26**			**Pn**	**05**	**02 40.8**	**-3.1**
NRN	**Naryn**	**17.16**	**26**	P		**Pn**	**05**	**02 40.8**	**-3.1**
NRN				pmax		pmax			
	comp=Z,39nm,0.9s								
KK31	**Karatay Array**	**17.16**	**11**			**Pn**	**05**	**02 41.8**	**-1.8**
KK31	**Karatay Array**	**17.16**	**11**	*i* P		**Pn**	**05**	**02 42.2**	**-1.4**
KKAR	**Karatay Array**	**17.16**	**11**			**Pn**	**05**	**02 41.8**	**-1.9**
KKAR	**Karatay Array**	**17.16**	**11**	P		**Pn**	**05**	**02 41.7**	**-1.9**
KKAR				IAmb		IAmb	05	02 51.4	
	comp=Z,31nm,1.0s								
KKAR	**Karatay Array**	**17.16**	**11**	P		**Pn**	**05**	**02 41.7**	**-1.9**
KKAR				pmax		pmax			
	comp=Z,31nm,1.0s								
UCH	**Uchtor**	**17.32**	**21**	P		**Pn**	**05**	**02 45.0**	**-1.0**
	SNR=49								
EKS2	**Erkin-Say**	**17.49**	**19**	P		**Pn**	**05**	**02 47.1**	**-0.7**
	SNR=20								
AAK	**Ala-Archa**	**17.69**	**20**	P		**Pn**	**05**	**02 48.9**	**-1.4**
	SNR=31								
AAK	**Ala-Archa**	**17.69**	**20**	Pn		**Pn**	**05**	**02 48.7**	**-1.6**
AAK	**Ala-Archa**	**17.69**	**20**	*i* P		**Pn**	**05**	**02 49.1**	**-1.2**
	SNR=42								
AAK	**Ala-Archa**	**17.69**	**20**	P		**Pn**	**05**	**02 48.7**	**-1.6**
AAK				pmax		pmax			
	comp=Z,25nm,0.7s								
AAK	**Ala-Archa**	**17.69**	**20**	P		**Pn**	**05**	**02 49.5**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=206,slow=7.1,SNR=81								
AAK				LR		LR	05	10 48.1	
	comp=Z,586nm,19.8s,baz=208,slow=41								
	comp=Z,27nm,0.6s								
KBK	**Karagaybulak**	**17.85**	**21**	P		**Pn**	**05**	**02 52.5**	**+0.2**
	SNR=13								
ULHL	**Ulahol**	**17.95**	**25**	P		**P**	**05**	**02 57.1**	**+3.1**
	SNR=8.1								
BOK	**Bokaro**	**18.00**	**94**	*e*P		**Pn**	**05**	**02 53.7**	**-0.3**
BOOM	**Boomskoye usch**	**18.05**	**24**	P		**Pn**	**05**	**02 53.3**	**-1.4**
BOOM	**Boomskoye usch**	**18.05**	**24**	P		**Pn**	**05**	**02 53.3**	**-1.4**
BOOM				pmax		pmax			
	comp=Z,40nm,1.0s								
CHMS	**Chumysh**	**18.09**	**21**	P		**Pn**	**05**	**02 54.8**	**-0.4**
	SNR=14								
TARG	**Taragay, Kyrgy**	**18.15**	**29**	P		**Pn**	**05**	**02 55.5**	**-0.7**
TARG	**Taragay, Kyrgy**	**18.15**	**29**	P		**Pn**	**05**	**02 55.5**	**-0.7**
TARG				pmax		pmax			
	comp=Z,28nm,0.7s								
USP	**Ospenovka**	**18.26**	**20**	P		**Pn**	**05**	**02 55.4**	**-1.8**
	SNR=18								
TKM2	**Tokmak 2**	**18.30**	**22**	P		**Pn**	**05**	**02 57.6**	**-0.3**
	SNR=30								
TKM2	**Tokmak 2**	**18.30**	**22**	*i* P		**Pn**	**05**	**02 56.9**	**-1.0**
TKM2				pmax		pmax			
	comp=Z,25nm,0.9s								
SGDS	**Sogindy**	**18.47**	**20**	*e*P		**P**	**05**	**02 57.4**	**-2.2**
	baz=20								
SGDS	**Sogindy**	**18.47**	**20**	*e*P		**P**	**05**	**02 57.4**	**-2.2**
TNSS	**Tian-Shan**	**18.89**	**25**	*e*P		**P**	**05**	**03 03.2**	**-1.5**
	baz=25								
TNSS	**Tian-Shan**	**18.89**	**25**	*e*P		**P**	**05**	**03 03.1**	**-1.5**
RAYN	**Ar Rayn**	**18.98**	**266**	P		**P**	**05**	**03 05.3**	**-0.1**
RAYN	**Ar Rayn**	**18.98**	**266**	*i* P		**P**	**05**	**03 06.0**	**+0.6**
	SNR=12								
RAYN	**Ar Rayn**	**18.98**	**266**	P		**P**	**05**	**03 05.4**	**-0.1**
RAYN				pmax		pmax			
	comp=Z,13nm,0.9s								
RAYN	**Ar Rayn**	**18.98**	**266**	P		**P**	**05**	**03 05.8**	**+0.3**
PRZ	**Przheval'sk**	**19.02**	**29**			**P**	**05**	**03 05.9**	**+0.1**
PRZ				IAmb		IAmb	05	03 10.3	
	comp=Z,55nm,0.8s								
PRZ	**Przheval'sk**	**19.02**	**29**	P		**P**	**05**	**03 05.9**	**+0.1**
PRZ				pmax		pmax			
	comp=Z,55nm,0.8s								
AAA	**Alma-Ata**	**19.03**	**25**	*e*P		**P**	**05**	**03 05.1**	**-0.7**
	comp=Z,51nm,0.7s,baz=25								
AAA	**Alma-Ata**	**19.03**	**25**	*e*P		**P**	**05**	**03 05.0**	**-0.7**
AAA				pmax		pmax			
	comp=Z,51nm,0.7s								
MDOK	**Medeo**	**19.04**	**25**	*e*P		**P**	**05**	**03 05.3**	**-0.7**
	baz=25								
MDOK	**Medeo**	**19.04**	**25**	*e*P		**P**	**05**	**03 05.2**	**-0.7**
SATY	**Saty**	**19.49**	**28**	*e*P		**P**	**05**	**03 10.1**	**-0.8**
	baz=28								
SATY	**Saty**	**19.49**	**28**	*e*P		**P**	**05**	**03 10.1**	**-0.8**
ZHN	**Zhinishke**	**19.59**	**28**	*e*P		**P**	**05**	**03 11.0**	**-1.0**
	baz=28								
ZHN	**Zhinishke**	**19.59**	**28**	*e*P		**P**	**05**	**03 11.0**	**-1.0**
CHKK	**Chushkaly**	**19.61**	**24**	*e*P		**P**	**05**	**03 11.0**	**-1.1**
	baz=24								
CHKK	**Chushkaly**	**19.61**	**24**	*e*P		**P**	**05**	**03 11.0**	**-1.1**
BTLS	**Baital**	**19.77**	**17**	*e*P		**P**	**05**	**03 13.7**	**-0.1**
	baz=16								
BTLS	**Baital**	**19.77**	**17**	*e*P		**P**	**05**	**03 13.7**	**-0.1**
UZB	**Uzynbulak**	**19.82**	**29**	*e*P		**P**	**05**	**03 13.8**	**-0.8**
	baz=29								
UZB	**Uzynbulak**	**19.82**	**29**	*e*P		**P**	**05**	**03 13.7**	**-0.8**
KPKS	**Kokpek**	**19.94**	**27**	*e*P		**P**	**05**	**03 15.1**	**-0.7**
	comp=Z,28nm,0.7s,baz=28								
KPKS	**Kokpek**	**19.94**	**27**	*e*P		**P**	**05**	**03 15.1**	**-0.7**
KPKS				pmax		pmax			
	comp=Z,28nm,0.7s								
SHLS	**Shalkode**	**20.02**	**29**	*e*P		Pn	05	03 18.1	-0.4
	baz=30								
SHLS	**Shalkode**	**20.02**	**29**	*e*P		Pn	05	03 18.0	-0.5
PDGK	**Podgornoye**	**20.17**	**29**	P		**P**	**05**	**03 18.0**	**-0.3**
TDK	**Taldyqorghan**	**21.12**	**25**	*e*P		**P**	**05**	**03 27.9**	**-0.5**
	comp=Z,47nm,0.8s,baz=25								
TDK	**Taldyqorghan**	**21.12**	**25**	*e*P		**P**	**05**	**03 27.9**	**-0.5**
TDK				pmax		pmax			
	comp=Z,47nm,0.8s								
LSA	**Lhasa**	**22.27**	**75**	P		**P**	**05**	**03 41.3**	**-0.2**
LSA				IAmb		IAmb	05	03 48.9	
	comp=Z,38nm,1.1s								
LSA	**Lhasa**	**22.27**	**75**	P		**P**	**05**	**03 42.9**	**+1.4**
LSA	**Lhasa**	**22.27**	**75**	P		**P**	**05**	**03 41.3**	**-0.2**
LSA				pmax		pmax			
	comp=Z,38nm,1.1s								
OTUK	**Ortayu**	**22.46**	**11**	P		**P**	**05**	**03 42.8**	**-0.1**
MAK	**Makhachkala**	**22.60**	**322**	*e*P		**P**	**05**	**03 40.6**	**-3.7**
MAK				*e*S		**S**	**05**	**07 46.6**	**-4.6**
MAK				pmax		pmax			
	comp=Z,183nm,0.8s								
MAK				MLR		MLR			
	comp=Z,129nm,13.0s								
GNI	**Garni**	**22.61**	**313**	P		**P**	**05**	**03 44.9**	**+0.3**
GNI				IAmb		IAmb	05	04 10.4	
	comp=Z,30nm,0.9s								
GNI	**Garni**	**22.61**	**313**	*i* P		**P**	**05**	**03 47.3**	**+2.6**
GNI				pmax		pmax			
	comp=Z,41nm,1.1s								
GNI	**Garni**	**22.61**	**313**	LR		LR	05	14 18.9	
	comp=Z,220nm,20.8s,baz=100,slow=41								
SHL	**Shillong**	**23.09**	**86**	*e*P		**P**	**05**	**03 50.9**	**+1.1**
SHL				IAmb		IAmb	05	03 54.4	
	comp=Z,48nm,1.3s								
AB31	**Akbulak array**	**23.47**	**350**	*i* P		**P**	**05**	**03 54.4**	**+1.2**
ABKAR	**Akbulak array**	**23.47**	**350**	P		**P**	**05**	**03 53.8**	**+0.7**
ABKAR				IAmb		IAmb	05	04 01.5	
	comp=Z,37nm,1.1s								
ABKAR	**Akbulak array**	**23.47**	**350**	P		**P**	**05**	**03 53.7**	**+0.5**
GURO	**Guroymak-BITLI**	**23.73**	**307**	P		**P**	**05**	**03 57.5**	**+1.5**
GURO				IAmb		IAmb	05	04 07.9	
	comp=Z,32nm,1.4s								
MAKZ	**Makanchi**	**24.01**	**27**	P		**P**	**05**	**03 56.7**	**-1.8**
MAKZ	**Makanchi**	**24.01**	**27**	P		**P**	**05**	**03 58.9**	**+0.4**
AKH	**Akhalkalaki**	**24.07**	**315**	P		**P**	**05**	**04 00.1**	**+0.8**
AKH	**Akhalkalaki**	**24.07**	**315**	P		**P**	**05**	**04 00.1**	**+0.8**
AKH				pmax		pmax			
	comp=Z,124nm,1.2s								
MK31	**Makanchi Array**	**24.13**	**28**	P		**P**	**05**	**03 59.3**	**-0.3**
MK31				IAmb		IAmb	05	04 01.6	
	comp=Z,28nm,1.0s								
MK31	**Makanchi Array**	**24.13**	**28**	P		**P**	**05**	**03 59.3**	**-0.3**
MK31				pmax		pmax			
	comp=Z,28nm,1.0s								
MKAR	**Makanchi Array**	**24.13**	**28**	P		**P**	**05**	**03 59.0**	**-0.6**
MKAR	**Makanchi Array**	**24.13**	**28**	P		**P**	**05**	**03 59.0**	**-0.6**
MKAR	**Makanchi Array**	**24.13**	**28**	P		**P**	**05**	**03 59.2**	**-0.4**
	comp=Z,12nm,0.7s,baz=215,slow=7.5,SNR=109								
	comp=Z,12nm,0.7s								
BRZS	**Berezniki**	**24.20**	**10**	*e*P		**P**	**05**	**04 00.5**	**+0.2**
	baz=10								
BRZS	**Berezniki**	**24.20**	**10**	*e*P		**P**	**05**	**04 00.4**	**+0.2**
ZEI	**Tsey**	**24.58**	**318**	*e*P		**P**	**05**	**04 06.7**	**+2.8**
ZEI				pmax		pmax			
	comp=Z,15nm,0.9s								
WMQ	**Urumqi**	**24.70**	**39**	*e*P		**P**	**05**	**04 06.3**	**+1.4**
WMQ				PP		**PnPn**	**05**	**04 36.0**	**-0.8**
WMQ				pmax		pmax			
	comp=Z,120nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,430nm,4.1s								
WMQ				LR		LR			
	comp=Z,720nm,14.5s								
WMQ				LR		LR			
	comp=Z,770nm,10.5s								
WMQ				LR		LR			
	comp=Z,530nm,11.1s								
ONI	**Oni**	**24.74**	**317**	P		**P**	**05**	**04 06.7**	**+1.5**
ONI				IAmb		IAmb	05	04 24.5	
	comp=Z,23nm,1.3s								
ONI	**Oni**	**24.74**	**317**	P		**P**	**05**	**04 06.7**	**+1.5**
ONI				pmax		pmax			
	comp=Z,23nm,1.3s								
AKTO	**Aktyubinsk**	**24.94**	**348**	P		**P**	**05**	**04 08.6**	**+1.6**
	comp=Z,12nm,0.8s,baz=177,slow=5.4,SNR=35								
	comp=Z,12nm,0.8s								
KBZ	**Khabaz**	**25.72**	**319**	P		**P**	**05**	**04 16.9**	**+2.9**
	comp=Z,12nm,1.0s,baz=120,slow=10,SNR=14								
ZSN	**Zaisan**	**25.76**	**30**	*e*P		**P**	**05**	**04 12.9**	**-1.5**
	comp=Z,26nm,1.5s,baz=30								
ZSN	**Zaisan**	**25.76**	**30**	*e*P		**P**	**

PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,110nm,6.1s
CRAI Chiangrai 31.89 94 P **P 05 05 09.5 +0.2**
CRAI IAmb IAmb 05 05 12.2
comp=Z,7.9nm,0.8s
LZH Lanzhou 33.48 64 *eP* **P 05 05 24.5 +1.3**
LZH pP sP 05 05 31.5 +0.9
LZH pmax pmax
comp=Z,23nm,1.5s
LZH LR LR
comp=Z,870nm,16.1s
LZH LR LR
comp=Z,220nm,14.1s
LZH LR LR
comp=Z,770nm,14.8s
KIRV Kirov 34.40 344 P **P 05 05 32.3 +1.7**
comp=Z,11nm,0.5s,baz=348,slow=11,SNR=3.9
KIRV LR LR 05 21 48.5
comp=Z,233nm,20.1s,baz=152,slow=40
comp=Z,11nm,0.5s
TIRR Tirgusor 35.39 311 ⇓P **P 05 05 40.8 +1.3**
TIRR Tirgusor 35.39 311 P **P 05 05 40.7 +1.3**
MILM Milestii Mici 35.96 315⇑ *eP* **P 05 05 44.0 -0.3**
comp=Z,160nm,2.7s
MILM Milestii Mici 35.96 315 *c iP* **P 05 05 44.0 -0.3**
MILM pmax pmax
comp=Z,100nm,1.8s
MOS Moscow 36.01 333 *eP* **P 05 05 44.1 -0.5**
OBN Obninsk 36.04 331 *deP* **P 05 05 47.7 +2.9**
OBN *e* 05 07 05.6
OBN *eS* **S 05 11 17.7 -5.3**
OBN pmax pmax
comp=Z,27nm,1.7s
RAZG Razgrad 36.45 309 ⇑P **P 05 05 49.6 +1.1**
GHRR 36.57 313 ⇓P **P 05 05 51.5 +2.0**
SORM Soroca 36.71 317 ⇓P **P 05 05 51.2 +0.4**
SORM Soroca 36.71 317 P **P 05 05 51.1 +0.4**
VRI Vrincioaia 36.96 312 ⇑P **P 05 05 54.8 +1.9**
VRI Vrincioaia 36.96 312 P **P 05 05 54.7 +1.9**
PLOR Plostina 37.01 312 ⇓P **P 05 05 55.1 +1.7**
PLOR Plostina 37.01 312 P **P 05 05 55.0 +1.7**
NEHR Nehoiu 37.11 312 ⇓P **P 05 05 57.0 +2.7**
ZAK Zakamensk 37.17 40 *eP* **P 05 05 55.2 +0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
TESR Tescani 37.22 313 ⇓P **P 05 05 55.7 +0.6**
AKASG Malin Array Be 37.27 321 P **P 05 05 56.0 +0.6**
comp=Z,4.2nm,0.7s,baz=118,slow=7.1,SNR=29
comp=Z,4.2nm,0.7s
AKBB Malin Array Si 37.27 321 P **P 05 05 55.5 +0.1**
AKBB IAmb IAmb 05 05 58.1
comp=Z,16nm,1.1s
AKBB Malin Array Si 37.27 321 P **P 05 05 55.5 +0.1**
AKBB pmax pmax
comp=Z,16nm,1.1s
KIEV Kiev 37.28 321 ⇓P **P 05 05 56.0 +0.5**
KIEV Kiev 37.28 321 P **P 05 05 55.6 +0.2**
KIEV IAmb IAmb 05 05 58.1
comp=Z,14nm,1.1s
KIEV Kiev 37.28 321 P **P 05 05 55.9 +0.5**
COVR Voineasa-Covas 37.30 312 ⇑P **P 05 05 57.7 +1.9**
MLR Muntele Rosu 37.37 311 ⇑P **P 05 05 59.0 +2.4**
MLR Muntele Rosu 37.37 311 P **P 05 05 57.8 +1.3**
MLR Muntele Rosu 37.37 311 P **P 05 05 58.9 +2.4**
TURR Turia 37.49 312 ⇑P **P 05 05 59.0 +1.6**
DOPR Dopca 37.88 312 ⇑P **P 05 06 01.8 +1.1**
VOIR 37.96 311 ⇓P **P 05 06 02.5 +1.1**
VOIR 37.96 311 P **P 05 06 02.5 +1.1**
SONM Songino Array 38.05 45 P **P 05 06 03.4 +1.1**
SONM IAmb IAmb 05 06 05.5
comp=Z,12nm,0.9s
SONM Songino Array 38.05 45 P **P 05 06 03.4 +1.1**
SONM pmax pmax
comp=Z,12nm,0.9s
SONM Songino Array 38.05 45 P **P 05 06 04.0 +1.8**
comp=Z,12nm,1.0s,baz=245,slow=8.6,SNR=59
SONM LR LR 05 25 03.3
comp=Z,390nm,18.0s,baz=204,slow=42
comp=Z,12nm,1.0s
ARR Arges 38.22 311 ⇑P **P 05 06 04.6 +0.9**
ULN Ulaanbaatar 38.48 45 P **P 05 06 06.4 +0.5**
ULN IAmb IAmb 05 06 08.8
comp=Z,12nm,0.9s
ULN Ulaanbaatar 38.48 45 P **P 05 06 07.3 +1.4**
ULN Ulaanbaatar 38.48 45 P **P 05 06 06.9 +1.0**
comp=Z,63nm,1.0s
BURAR Bucovina Array 38.50 315 ⇑P **P 05 06 07.5 +1.5**
BURAR Bucovina Array 38.50 315 P **P 05 06 06.9 +0.9**
BUR08 Bucovina Ar. S 38.52 315 P **P 05 06 06.5 +0.3**
BUR08 IAmb IAmb 05 06 09.1
comp=Z,18nm,0.8s
LOT Lotru 38.83 311 ⇑P **P 05 06 09.2 +0.4**
BTO Baotou 38.86 57 *eP* **P 05 06 09.0 -0.1**
BTO pP **pP 05 06 13.5 -0.9**
BTO sP **sP 05 06 16.0 -0.6**
BTO PP **PnPn 05 07 40.5 +0.1**
BTO S **S 05 12 03.8 -2.6**
BTO SS **SnSn 05 14 43.5 -13**
BTO pmax pmax
comp=Z,43nm,1.2s
BTO pmax pmax
comp=Z,260nm,3.8s
BTO LR LR
comp=Z,470nm,17.9s
BTO LR LR
comp=Z,470nm,18.4s
BTO LR LR
comp=Z,420nm,18.8s
KMBO Kilima Mbogo 39.02 230 *i P* **P 05 06 15.5 +4.6**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 39.02 230 LR LR 05 22 59.4
comp=Z,162nm,19.6s,baz=278,slow=37
PSI Prapat 39.10 121 P **P 05 06 11.2 -0.2**
PSI pmax pmax
comp=Z,13nm,1.3s
PSI Prapat 39.10 121 P **P 05 06 10.6 -0.8**
comp=Z,9.0nm,1.0s
RPSI Rantau Prapat 39.17 121 P **P 05 06 11.2 -0.6**
BLKB Belogradchik 39.17 308 ⇓P **P 05 06 12.8 +1.2**
MARR Marisel-Cluj 39.59 312 ⇑P **P 05 06 16.7 +1.6**
HERR Herculane 39.62 310 ⇓P **P 05 06 16.4 +1.1**
FNA Florina 39.66 303 P **P 05 06 15.6 -0.1**
FNA Florina 39.66 303 P **P 05 06 15.6 -0.1**
FNA pmax pmax
comp=Z,4.0nm,0.9s
BOVS Bovan 39.86 307 ⇑P **P 05 06 17.8 +0.5**
DRGR 39.89 312 ⇓P **P 05 06 18.6 +0.9**
DRGR 39.89 312 P **P 05 06 18.5 +0.9**
LVV L'vov 39.98 317 *eP* **P 05 06 19.0 +0.8**
SURR Surduc 40.02 311 ⇑P **P 05 06 20.7 +2.1**
MDVR Moldovita 40.09 309 ⇑P **P 05 06 20.0 +0.7**
BZS Buzias 40.34 310 ⇓P **P 05 06 22.6 +1.4**
BZS Buzias 40.34 310 P **P 05 06 22.6 +1.4**
LYN LuoYang 40.45 67 *eP* **P 05 06 24.8 +2.5**
LYN pmax pmax
comp=Z,20nm,0.9s
LYN LR LR
comp=Z,480nm,11.5s
LYN LR LR
comp=Z,330nm,9.0s
LYN LR LR
comp=Z,490nm,11.4s
SIRR Siria 40.46 311 ⇑P **P 05 06 24.0 +1.8**
KWP Kalwaria Pacla 40.73 317 P **P 05 06 24.2 -0.2**
KWP Kalwaria Pacla 40.73 317 P **P 05 06 24.2 -0.2**
KWP pmax pmax
comp=Z,71nm,1.1s
KOLS Kolonicke sedl 40.78 316 *eP* **P 05 06 27.5 +2.6**
KOLS pmax pmax
comp=Z,30nm,1.0s
KOLS Kolonicke sedl 40.78 316 *eP* **P 05 06 27.5 +2.6**
PUK Puka 40.93 305 P **P 05 06 27.0 +0.8**
KECS Kecovo 41.79 314 *eP* **P 05 06 36.1 +3.0**
KECS pmax pmax
comp=Z,14nm,0.9s
KECS Kecovo 41.79 314 *eP* **P 05 06 36.1 +3.0**
VSU Vasula 42.38 330 *ceP* **P 05 06 38.6 +0.8**
VSU pmax pmax
comp=Z,10.0nm,0.8s
MORH Mrgy, Hungar 42.49 311 ⇑P **P 05 06 39.9 +1.0**
LANS Liptovska Anna 42.61 315 *eP* **P 05 06 42.8 +2.9**
LANS pmax pmax
comp=Z,8.0nm,1.5s
LANS Liptovska Anna 42.61 315 *eP* **P 05 06 42.8 +2.9**
OJC Ojcow 42.70 317 P **P 05 06 41.2 +0.7**
OJC IAmb IAmb 05 06 43.5
comp=Z,13nm,0.8s
OJC Ojcow 42.70 317 P **P 05 06 41.2 +0.7**
OJC pmax pmax
comp=Z,13nm,0.8s
VYHS Vyhne 42.85 314 *eP* **P 05 06 44.2 +2.4**
VYHS pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 42.85 314 *eP* **P 05 06 44.2 +2.4**
TIP Timpagrande 43.06 300 P **P 05 06 44.9 +1.2**
TIP IAmb IAmb 05 06 47.4
comp=Z,17nm,1.0s
JAVC Velka Javorina 43.69 314 *eP* **P 05 06 50.6 +2.0**
MAUC Maruska 43.71 315 *eP* **P 05 06 50.6 +1.9**
XLT XiLinHaoTe 43.74 53⇑ *iP* **P 05 06 50.8 +1.7**
XLT pP sP 05 06 55.8 -0.9
XLT PP **PP 05 08 30.0 -0.9**
XLT pmax pmax
comp=Z,20nm,0.9s
XLT pmax pmax
comp=Z,93nm,4.7s
CUC Castrocucco 43.82 301 P **P 05 06 52.3 +2.4**
MODS Modra-Piesok 43.84 313 *eP* **P 05 06 51.6 +1.8**
MODS pmax pmax
comp=Z,37nm,1.2s
MODS Modra-Piesok 43.84 313 *eP* **P 05 06 51.6 +1.8**
MORC Moravsky Berou 43.98 315 ⇓P **P 05 06 52.0 +1.1**
MORC Moravsky Berou 43.98 315 P **P 05 06 52.1 +1.1**
MORC IAmb IAmb 05 06 53.7
comp=Z,6.6nm,0.7s
MORC Moravsky Berou 43.98 315 *eP* **P 05 06 52.0 +1.1**
MORC Moravsky Berou 43.98 315 P **P 05 06 52.1 +1.1**
MORC pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 44.29 334 P **P 05 06 53.0 -0.1**
comp=Z,2.1nm,0.4s,baz=129,slow=7.9,SNR=25
comp=Z,2.1nm,0.4s
RONA Rosalia, Austr 44.35 312 *eP* **P 05 06 54.7 +0.7**
comp=Z,4.7nm,0.6s,SNR=5.5
VRAC Vranov 44.48 315 *eP* **P 05 06 56.2 +1.3**
KRLC Kraliky 44.53 316 *eP* **P 05 06 57.0 +1.6**
KRLC Kraliky 44.53 316 *eP* **P 05 06 57.0 +1.6**
KRUC Moravsky 44.55 314 *eP* **P 05 06 57.2 +1.7**
CONA Conrad Observa 44.68 313 *i P* **P 05 06 57.9 +1.2**
comp=Z,9.8nm,0.0s
BOJS Bojanci 44.72 309 *i P* **P 05 06 57.9 +1.1**
ARSA Arzberg 44.79 312 *eP* **P 05 06 58.7 +1.3**
comp=Z,8.2nm,1.1s,SNR=6.9
ARSA *ePcP* **PcP 05 08 38.2 -1.1**
comp=Z,1.9nm,0.5s
PAOL Paolisi 44.82 303 P **P 05 06 58.9 +1.1**
PAOL IAmb IAmb 05 07 00.3
comp=Z,12nm,1.0s
DPC Dobruska-Polom 44.88 316 *eP* **P 05 07 01.2 +3.0**
DPC Dobruska-Polom 44.88 316 *eP* **P 05 07 01.2 +3.0**
NRIK Noril'sk 44.90 11 P **P 05 06 58.1 +0.1**
NRIK Noril'sk 44.90 11 P **P 05 06 59.0 +1.0**
NRIK Noril'sk 44.90 11 P **P 05 06 59.0 +1.0**
comp=Z,3.2nm,0.4s,baz=205,slow=6.6,SNR=6.8
comp=Z,3.2nm,0.4s
OSTC Ostas 45.00 316 *eP* **P 05 07 01.1 +2.1**
OSTC Ostas 45.00 316 *eP* **P 05 07 01.1 +2.1**
SOKA Soboth 45.03 311 *eP* **P 05 07 00.6 +1.2**
comp=Z,7.9nm,0.8s,SNR=5.3
CHVC Chvalec 45.11 316 *eP* **P 05 07 00.8 +0.9**
CHVC Chvalec 45.11 316 *eP* **P 05 07 00.8 +0.9**
TREC Trest 45.19 314 *eP* **P 05 07 01.7 +1.1**
TREC Trest 45.19 314 *eP* **P 05 07 01.7 +1.1**
LJU Ljubljana 45.29 310 *i P* **P 05 07 03.2 +1.8**
OBKA Obir 45.34 310 *eP* **P 05 07 03.0 +1.2**
comp=Z,16nm,1.5s,SNR=5.4
OBKA *ePcP* **PcP 05 08 44.1 +2.8**
comp=Z,1.0nm,0.4s
INTR Introdacqua 45.36 304 P **P 05 07 03.8 +1.7**
INTR IAmb IAmb 05 07 05.4
comp=Z,6.9nm,0.9s
MOA Molln 45.73 312 *i P* **P 05 07 05.7 +0.8**
comp=Z,3.9nm,0.7s
MOA *i PcP* **PcP 05 08 44.8 +2.3**
comp=Z,0.9nm,0.4s
CADS Cadrg 45.86 310 *i P* **P 05 07 06.5 +0.5**
CKRC Cesky Krumlov 45.86 314 *eP* **P 05 07 07.5 +1.6**
CKRC Cesky Krumlov 45.86 314 *eP* **P 05 07 07.5 +1.6**
MYKA Terra Mystica 45.97 310 *eP* **P 05 07 08.4 +1.5**
comp=Z,5.2nm,0.9s
NRCA Norcia 45.99 305 P **P 05 07 07.6 +0.5**
NRCA IAmb IAmb 05 07 09.6
comp=Z,6.4nm,0.8s
BOD Bodaibo 46.00 33 *eP* **P 05 07 08.2 +1.4**
BOD pmax pmax
comp=Z,16nm,1.7s
PRED Cave del Predi 46.00 310 P **P 05 07 07.0 -0.1**
PRED IAmb IAmb 05 07 15.9
comp=Z,8.6nm,1.0s
FDMO Fiordimonte 46.03 305 P **P 05 07 06.8 -0.5**
ZVC Zvikov 46.04 314 *eP* **P 05 07 08.5 +1.2**
BIOA Bad Ischl, Aus 46.12 312 *i P* **P 05 07 09.3 +1.3**
comp=Z,2.9nm,0.4s
BIOA *i PcP* **PcP 05 08 48.5 +4.6**
comp=Z,1.9nm,0.3s
KBA Koelnbreinsper 46.23 311 *i P* **P 05 07 10.2 +1.1**
comp=Z,14nm,0.9s,SNR=9.4
KBA *i PcP* **PcP 05 08 49.0 +4.5**
comp=Z,1.5nm,0.5s
GEC2 GERESS Array S 46.26 313 P **P 05 07 10.2 +1.0**
GEC2 IAmb IAmb 05 07 11.7
comp=Z,12nm,1.1s
GERES GERESS Array B 46.26 313 P **P 05 07 10.5 +1.4**
GERES GERESS Array B 46.26 313 P **P 05 07 10.5 +1.4**
GERES GERESS Array B 46.26 313 P **P 05 07 10.1 +1.0**
comp=Z,4.1nm,0.9s,baz=95,slow=7.1,SNR=12
comp=Z,4.1nm,0.9s
KHC Kasperske Hory 46.39 314 *eP* **P 05 07 10.5 +0.4**
KHC Kasperske Hory 46.39 314 *eP* **P 05 07 10.5 +0.4**
MURB Monte Urbino 46.45 306 P **P 05 07 10.6 -0.1**
BRG Berggiesshubel 46.48 316 *eP* **P 05 07 13.3 +2.6**
BRG Amp 05 07 15.9
comp=Z,11nm,1.0s
BRG Berggiesshubel 46.48 316 P P 05 07 20.3 +10
BRG Amp 05 07 21.4
comp=Z,13nm,1.3s
BRG Berggiesshubel 46.48 316 *eP* **P 05 07 13.3 +2.6**
BRG *e* 05 07 20.3
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,5.0nm,1.0s
STAL STALIGIAL 46.57 310 P **P 05 07 12.3 +0.7**
STAL IAmb IAmb 05 07 13.3
comp=Z,7.9nm,0.9s
LESA Schwarzleotal 46.73 311 *i P* **P 05 07 13.2 +0.4**
comp=Z,14nm,0.5s
LESA *i PcP* **PcP 05 08 52.5 +6.3**
comp=Z,4.5nm,0.4s
ABTA Abfaltersbach 46.76 310 *eP* **P 05 07 14.0 +0.9**
comp=Z,16nm,0.9s,SNR=8.3
ABTA *ePcP* **PcP 05 08 53.3 +7.1**
comp=Z,1.6nm,0.5s
HIA Hailar 46.98 46 P **P 05 07 14.3 -0.4**
HIA Hailar 46.98 46 P **P 05 07 14.3 -0.4**
HIA pmax pmax
comp=Z,25nm,1.3s
CLL Collm 47.15 317 *i P* **P 05 07 17.9 +2.0**
CLL pmax pmax
comp=Z,23nm,1.5s
CLL Collm 47.15 317 *i P* **P 05 07 17.9 +2.0**
comp=Z,23nm,1.5s
CTI Castel Tesino 47.28 309 P **P 05 07 16.2 -1.0**
CTI IAmb IAmb 05 07 19.2
comp=Z,7.3nm,0.9s
CTI Castel Tesino 47.28 309 P **P 05 07 16.2 -1.0**
CTI pmax pmax
comp=Z,7.0nm,0.9s
WTTA Wattenberg 47.41 311 *eP* **P 05 07 18.6 +0.3**
comp=Z,4.7nm,0.5s,SNR=5.7
WATA Walderalm 47.46 311 *eP* **P 05 07 18.6 0.0**
comp=Z,5.4nm,0.6s
SQTA Sankt Quirin 47.70 311 *i P* **P 05 07 20.8 +0.3**
comp=Z,8.3nm,0.8s
MOTA Moosalm 47.78 311 *eP* **P 05 07 21.0 -0.1**
comp=Z,3.8nm,0.5s
FETA Feichten 48.00 311 *eP* **P 05 07 23.9 +1.0**
comp=Z,9.8nm,0.9s,SNR=6.9
RETA Reutte 48.03 311 *eP* **P 05 07 22.9 0.0**
comp=Z,8.0nm,0.6s
FUORN Ofenpass-Fuorn 48.29 310 P **P 05 07 25.5 +0.3**
FUORN IAmb IAmb 05 07 36.9
comp=Z,5.0nm,0.7s
DAVA Damuels 48.60 311 *eP* **P 05 07 27.5 0.0**
comp=Z,7.1nm,0.7s,SNR=5.7
VSL Villasalto 48.79 301 P **P 05 07 28.7 -0.1**
TUE Stuetta 48.91 310 P **P 05 07 30.3 +0.4**
KEST Kesra 49.07 296 P **P 05 07 30.7 -0.4**
KEST IAmb IAmb 05 07 34.9
comp=Z,9.1nm,0.8s
KEST Kesra 49.07 296 P **P 05 07 33.4 +2.2**
comp=Z,6.2nm,0.7s,baz=51,slow=1.2,SNR=9.8
comp=Z,6.2nm,0.7s
HFS Hagfors 49.12 328 P **P 05 07 30.8 -0.2**
comp=Z,1.5nm,0.4s,baz=104,slow=9.8,SNR=12
comp=Z,1.5nm,0.4s
ARCES ARCESS Array B 49.35 342 P **P 05 07 32.6 -0.1**
comp=Z,1.6nm,0.4s,baz=141,slow=7.4,SNR=29
comp=Z,1.6nm,0.4s
SENIN Lac Senin/Sane 50.32 310 P **P 05 07 39.8 -0.8**
CN2 Changchun 50.49 54 *eP* **P 05 07 41.8 +0.1**
CN2 *ePP* **PP 05 09 38.0 +0.6**
CN2 *eS* **S 05 14 51.5 -3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ECH Echery 50.51 312 P **P 05 07 41.7 -0.1**
ECH IAmb IAmb 05 07 49.0
comp=Z,8.5nm,1.1s
ECH Echery 50.51 312 P **P 05 07 41.7 -0.1**
ECH pmax pmax
comp=Z,9.0nm,1.1s
NB2 NORSAR Subarra 50.57 329 P **P 05 07 41.4 -0.7**
comp=Z,0.8nm,0.6s,baz=107,slow=7.9
NOA NORSAR Array B 50.57 329 P **P 05 07 41.7 -0.4**
comp=Z,1.2nm,0.7s,baz=107,slow=7.4,SNR=2.5
comp=Z,1.2nm,0.7s
BNI Bardonecchia 50.72 308 P **P 05 07 43.7 +0.1**
BNI IAmb IAmb 05 07 45.5
comp=Z,8.6nm,0.8s
BNI Bardonecchia 50.72 308 P **P 05 07 43.7 +0.1**
BNI pmax pmax
comp=Z,9.0nm,0.8s
BNX BinXian 51.89 51 ⇓P **P 05 07 53.5 +1.3**
BNX pmax pmax
comp=Z,24nm,0.9s
BNX pmax pmax
comp=Z,99nm,3.5s
HEH HeiHe 52.04 46 *eP* **P 05 07 54.0 +0.8**
HEH pmax pmax
comp=Z,21nm,0.9s
HEH pmax pmax
comp=Z,180nm,5.1s
ZEA Zeya 52.24 41 *eP* **P 05 07 56.9 +2.2**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=Z,200nm,17.0s
KSAR Wonju Array Be 52.73 62 P **P 05 07 58.3 -0.2**
KSAR Wonju Array Be 52.73 62 P **P 05 07 58.3 -0.2**
KSRS Korea Array 52.76 62 P **P 05 07 59.0 +0.3**
comp=Z,8.0nm,0.7s,baz=269,slow=7.5,SNR=26
comp=Z,8.0nm,0.7s
YAK Yakutsk 54.74 31 *eP* **P 05 08 12.6 -0.3**
YAK *e*PP **sP 05 08 18.5 -2.0**
YAK *e* 05 09 15.7
YAK *e* 05 10 15.0
YAK *e*PPP PPP 05 11 25.1
YAK *eS* **S 05 15 52.9 +0.5**
YAK *e*SS **sS 05 16 01.5 0.0**
YAK *e* 05 17 58.4
YAK *e*SSS SSS 05 21 33.9
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,180nm,4.2s
YAK pmax pmax
comp=N,152nm,3.5s
YAK pmax pmax
comp=E,95nm,4.5s
YAK smax smax
comp=E,50nm,3.0s
YAK smax smax
comp=N,28nm,2.8s
KLR Kul'dur 54.82 47 P **P 05 08 14.5 +0.8**
comp=N,13nm,0.7s,baz=279,slow=8.9,SNR=54
comp=N,13nm,0.7s
TAM Tamanrasset 54.89 280 P **P 05 08 15.6 +0.8**
TAM IAmb IAmb 05 08 17.9
comp=Z,5.9nm,1.0s
TAM Tamanrasset 54.89 280 P **P 05 08 15.6 +0.8**
TAM pmax pmax
comp=Z,6.0nm,1.0s
USA0B Ussuriysk Arra 55.20 53 *i P* **P 05 08 16.9 +0.4**
USRK Ussuriysk Ar. 55.20 53 P **P 05 08 17.3 +0.8**
comp=Z,3.9nm,0.8s,baz=272,slow=5.0,SNR=6.4
comp=Z,3.9nm,0.8s
JNU Nakatsue 55.82 66 P **P 05 08 20.1 -1.1**
JNU Nakatsue 55.82 66 LR LR 05 35 42.1
comp=Z,156nm,18.8s,baz=314,slow=40
SPITS Spitsbergen Ar 56.63 349 LR LR 05 35 56.3
comp=Z,87nm,18.3s,baz=122,slow=39
TIXI Tiksi 56.76 20 *i P* **P 05 08 30.2 +3.0**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
EKA Eskdalemuir Ar 57.19 320 P **P 05 08 30.8 +0.3**
comp=Z,1.4nm,0.6s,baz=101,slow=7.3,SNR=4.4
comp=Z,1.4nm,0.6s
ESDC Sonseca Array 59.01 302 P **P 05 08 43.4 -0.2**
comp=Z,1.1nm,0.8s,baz=62,slow=6.7,SNR=7.4
comp=Z,1.1nm,0.8s
TOA0 Torodi Ar. Sit 61.59 271 P **P 05 09 02.1 +0.5**
TORD Torodi Ar. Bea 61.59 271 P **P 05 09 01.9 +0.4**
TORD Torodi Ar. Bea 61.59 271 P **P 05 09 02.2 +0.6**
comp=Z,13nm,0.7s,baz=55,slow=7.6,SNR=72
comp=Z,13nm,0.7s
YSS Yuzh-Sakhalins 62.37 49 *eP* **P 05 09 07.2 +0.9**
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=E,200nm,15.0s
YSS MLR MLR
comp=Z,400nm,15.0s
ASAJ Asahikawa 62.77 52 LR LR 05 39 01.7
comp=Z,98nm,18.8s,baz=164,slow=38
LBTB Lobatse 64.32 221 LR LR 05 37 35.6
comp=Z,87nm,19.1s,baz=17,slow=36
SEY Seymchan 65.24 30 *eP* **P 05 09 25.4 +0.5**
SEY pmax pmax
comp=Z,12nm,0.9s
SEY Seymchan 65.24 30 LR LR 05 38 57.3
comp=Z,110nm,21.9s,baz=330,slow=37
SUMG Summit 69.44 342 P **P 05 09 51.2 -0.6**
SUMG Summit 69.44 342 P **P 05 09 51.3 -0.6**
SUMG pmax pmax
comp=Z,25nm,1.5s
SUMG Summit 69.44 342 *i P* **P 05 09 51.0 -0.9**
BILL Bilibino 69.59 23 *i P* **P 05 09 51.3 -1.1**
DBIC Dimbokro 70.11 268 P **P 05 09 56.6 +0.1**
comp=Z,2.8nm,0.9s,baz=54,slow=7.5,SNR=3.6
comp=Z,2.8nm,0.9s
NEEM North Greenlan 70.16 348 *eP* **P 05 09 56.6 +0.5**
PETK Petropavlovsk- 70.30 40 P **P 05 09 56.0 -1.0**
comp=Z,3.0nm,0.9s,baz=349,slow=5.1,SNR=2.4
comp=Z,3.0nm,0.9s
DY2G Dye2 74.62 337 *eP* **P 05 10 23.4 +0.6**
DY2G IAmb IAmb 05 10 24.7
comp=Z,16nm,0.9s
C16K Lisburne Hills 78.43 17 P **P 05 10 44.5 +0.4**
C16K IAmb IAmb 05 10 45.4
comp=Z,4.2nm,0.8s
C18K Utukok River 79.22 16 P **P 05 10 48.1 -0.4**
RDOG Red Dog Mine 79.23 17 P **P 05 10 49.9 +1.4**
RDOG IAmb IAmb 05 10 59.6
comp=Z,4.8nm,0.6s
C19K Lookout Ridge 79.27 15 P **P 05 10 49.0 +0.3**

B22K	**Teshekpuk Lake**	**79.62**	**13**	P		**P**		**05 10 49.7**	**-0.9**
D19K	**Kuna River**	**80.08**	**15**	P		**P**		**05 10 53.1**	**-0.1**
D19K				IAmb		IAmb		05 11 00.4	
	comp=Z,7.8nm,1.0s								
WRA	**Warramunga Arr**	**80.47**	**118**	*i* P		**P**		**05 10 58.0**	**+2.0**
WRA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
WRA	**Warramunga Arr**	**80.47**	**118**	P		**P**		**05 10 56.0**	**0.0**
	comp=Z,6.7nm,1.1s,baz=313,slow=4.9,SNR=10.0								
	comp=Z,6.7nm,1.1s								
F17K	**Baldwin Pennin**	**80.85**	**17**	P		**P**		**05 10 57.5**	**+0.3**
F17K				IAmb		IAmb		05 11 00.4	
	comp=Z,10nm,1.3s								
D22K	**Ayikyak River**	**80.97**	**13**	P		**P**		**05 10 58.5**	**+0.6**
E19K	**Redstone River**	**81.10**	**16**	P		**P**		**05 10 58.6**	**+0.1**
D25K	**Kavik River**	**81.80**	**11**	P		**P**		**05 11 03.0**	**+0.7**
D25K				IAmb		IAmb		05 11 04.9	
	comp=Z,6.6nm,0.8s								
ASAR	**Alice Springs**	**82.13**	**121**	P		**P**		**05 11 04.3**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=310,slow=5.4,SNR=10								
	comp=Z,2.2nm,0.9s								
G19K	**Purcell Mounta**	**82.17**	**16**	P		**P**		**05 11 04.4**	**+0.2**
E25K	**Arctic Village**	**83.00**	**11**	P		**P**		**05 11 09.0**	**+0.5**
E25K				IAmb		IAmb		05 11 10.9	
	comp=Z,3.8nm,0.8s								
E28M	**Babbage River**	**83.53**	**9**	P		**P**		**05 11 11.5**	**+0.2**
E28M				IAmb		IAmb		05 11 18.8	
	comp=Z,4.3nm,0.8s								
INK	**Inuvik**	**84.59**	**7**	P		**P**		**05 11 16.6**	**0.0**
INK				IAmb		IAmb		05 11 45.1	
	comp=Z,3.8nm,1.0s								
INK	**Inuvik**	**84.59**	**7**	P		**P**		**05 11 16.6**	**0.0**
INK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
F31M	**Tsiigehtchic**	**85.39**	**8**	P		**P**		**05 11 21.1**	**+0.4**
ILAR	**Eielson Array**	**85.68**	**14**	P		**P**		**05 11 21.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=333,slow=2.5,SNR=4.0								
	comp=Z,0.5nm,0.8s								
I30M	**Mount Dempster**	**87.15**	**9**	P		**P**		**05 11 29.6**	**0.0**
K29M	**Barlow Dome**	**88.27**	**10**	P		**P**		**05 11 35.2**	**+0.3**
K29M				IAmb		IAmb		05 11 43.4	
	comp=Z,4.0nm,0.7s								
M29M	**Somme Creek**	**89.42**	**11**	P		**P**		**05 11 41.3**	**+0.9**
M29M				IAmb		IAmb		05 11 49.6	
	comp=Z,4.3nm,0.8s								
YKA	**Yellowknife Ar**	**91.55**	**0**	*i* P		**P**		**05 11 50.7**	**+0.6**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**91.55**	**0**	P		**P**		**05 11 49.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=355,slow=4.6,SNR=9.9								
	comp=Z,0.5nm,0.7s								
TXAR	**Lajitas Array**	**123.87**	**349**	PKP		**PKPdf**		**05 17 42.3**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=90,slow=0.9,SNR=3.0								

*IDC **31** 05:00:22.2±1.9,26°.43N×66°.12E,h0km,mb4.2/11, mbtmp4.2/12,ML4.3/1,MS3.6/6,Error ellipse: s-maj=42.8km s-min=23.2km az=164.0*
*NEIC **31** 05:00:23.2±1.5,26°.40N±0°.09×66°.1E±0°.1,h10km±1km, mb4.3/19,Error ellipse: s-maj=18.7km s-min=11.7km az=137.0*

ISC 31 05:00:22.9±0.9,26°.4N±0°.1×66°.02E±0°.09,h10km,n51, σ1s05,mb4.3/21,MS3.6/6,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.41**	**247**	Sn	Sn	05 03 28.0	-7.2
	6.0nm,0.3s,baz=58,slow=15,SNR=1.7						
KBL	**Kabul**	**8.53**	**17**	Pn	**Pn**	**05 02 25.1**	**-1.6**
HRA	**Herat**	**8.61**	**339**	Pn	**Pn**	**05 02 26.7**	**-1.1**
UOSS	**Minazif**	**8.97**	**263**	Pn	**Pn**	**05 02 29.5**	**-3.0**
NIL	**Nilore**	**9.57**	**39**	Pn	**Pn**	**05 02 39.2**	**-1.6**
THN	**Thein Dam**	**10.38**	**52**	*ex*	**Pn**	**05 02 52.1**	**+0.3**
BTK	**Batken**	**14.21**	**15**	Pn	**Pn**	**05 03 43.8**	**-0.5**
ARSB	**Arslanbob**	**15.97**	**19**	Pn	**Pn**	**05 04 06.4**	**-1.4**
KKAR	**Karatay Array**	**17.07**	**11**	Pn	**Pn**	**05 04 20.7**	**-1.0**
AAK	**Ala-Archa**	**17.63**	**21**	Pn	**Pn**	**05 04 27.6**	**-1.2**
AAK	**Ala-Archa**	**17.63**	**21**	P	**Pn**	**05 04 26.9**	**-1.9**
	1.1nm,0.3s,baz=200,slow=4.7,SNR=4.2						
	8.5nm,0.6s						
BOOM	**Boomskoye usch**	**18.00**	**24**	P	**Pn**	**05 04 31.4**	**-2.1**
ABKAR	**Akbulak array**	**23.31**	**350**	P	**P**	**05 05 31.6**	**+0.7**
MK31	**Makanchi Array**	**24.11**	**28**	P	**P**	**05 05 38.1**	**-0.7**
MK31				IAmb	IAmb	05 05 44.9	
	comp=Z,8.1nm,1.1s						
MKAR	**Makanchi Array**	**24.11**	**28**	P	**P**	**05 05 38.4**	**-0.3**
MKAR	**Makanchi Array**	**24.11**	**28**	P	**P**	**05 05 38.5**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=215,slow=10.0,SNR=1.8						
	comp=Z,2.3nm,0.6s						
KBZ	**Khabaz**	**25.51**	**319**	LR	LR	05 18 10.2	
	comp=Z,92nm,19.4s,baz=146,slow=42						
KURBB	**Kurchatov Arra**	**26.03**	**18**	P	**P**	**05 05 56.7**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=211,slow=8.9,SNR=4.5						
	comp=Z,2.6nm,0.6s						
BVAR	**Borovoye Array**	**26.80**	**6**	P	**P**	**05 06 03.8**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=159,slow=10,SNR=2.1						
	comp=Z,2.5nm,0.6s						
ZAA0	**Zalesovo Array**	**30.85**	**22**	P	**P**	**05 06 38.9**	**-0.2**
ZALV	**Zalesovo Beam**	**30.85**	**22**	P	**P**	**05 06 38.8**	**-0.3**
ZALV	**Zalesovo Beam**	**30.85**	**22**	P	**P**	**05 06 39.2**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=229,slow=10,SNR=2.9						
	comp=Z,5.6nm,0.8s						
AKASG	**Malin Array Be**	**37.07**	**321**	P	**P**	**05 07 34.1**	**+1.1**
AKASG	**Malin Array Be**	**37.07**	**321**	LR	LR	05 24 10.5	
	comp=Z,106nm,18.4s,baz=50,slow=38						
SONM	**Songino Array**	**38.09**	**45**	P	**P**	**05 07 41.6**	**-0.3**
SONM				IAmb	IAmb	05 07 42.5	
	comp=Z,3.9nm,1.1s						
SONM	**Songino Array**	**38.09**	**45**	P	**P**	**05 07 43.1**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=249,slow=9.3,SNR=6.6						
	comp=Z,1.6nm,0.5s						
BURAR	**Bucovina Array**	**38.29**	**314**	P	**P**	**05 07 44.0**	**+0.4**
BURAR				IAmb	IAmb	05 07 52.3	
	comp=Z,6.7nm,0.8s						
BUR08	**Bucovina Ar. S**	**38.31**	**315**	P	**P**	**05 07 45.1**	**+1.3**
BUR08				IAmb	IAmb	05 07 51.8	
	comp=Z,5.4nm,0.8s						
FINES	**FINESS Array B**	**44.10**	**334**	P	**P**	**05 08 31.5**	**+0.5**
FINES	**FINESS Array B**	**44.10**	**334**	P	**P**	**05 08 31.9**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=128,slow=9.1,SNR=5.4						
	comp=Z,1.1nm,0.4s						
VRAC	**Vranov**	**44.27**	**315**	LR	LR	05 30 44.3	
	comp=Z,57nm,20.5s,baz=136,slow=41						
WTTA	**Wattenberg**	**47.20**	**311**	*e*PcP	**P**	**05 08 57.5**	**+1.5**
	comp=Z,1.5nm,0.4s						
RETA	**Reutte**	**47.81**	**311**	*e*PcP	**P**	**05 09 02.0**	**+1.3**
	comp=Z,1.7nm,0.4s						
HFS	**Hagfors**	**48.92**	**328**	P	**P**	**05 09 09.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=117,slow=8.3,SNR=1.5						
HFS				LR	LR	05 32 20.3	
	comp=Z,97nm,21.6s,baz=103,slow=39						
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**49.18**	**342**	P	**P**	**05 09 11.0**	**+0.2**
ARCES	**ARCESS Array B**	**49.18**	**342**	P	**P**	**05 09 11.2**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=143,slow=6.9,SNR=7.6						
	comp=Z,0.6nm,0.4s						
NOA	**NORSAR Array B**	**50.37**	**329**	LR	LR	05 31 13.2	
	comp=Z,61nm,19.6s,baz=105,slow=37						
KSRS	**Korea Array**	**52.85**	**62**	P	**P**	**05 09 37.9**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=271,slow=6.8,SNR=5.1						
	comp=Z,2.3nm,0.6s						
KLR	**Kul'dur**	**54.87**	**47**	P	**P**	**05 09 53.6**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=278,slow=8.2,SNR=4.7						
	comp=Z,4.2nm,0.8s						
TOA0	**Torodi Ar. Sit**	**61.41**	**271**	P	**P**	**05 10 39.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**61.41**	**271**	P	**P**	**05 10 40.3**	**+0.6**
TORD				IAmb	IAmb	05 10 42.3	
	comp=Z,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**61.41**	**271**	P	**P**	**05 10 41.2**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=57,slow=6.2,SNR=6.4						
	comp=Z,2.9nm,0.7s						
LBTB	**Lobatse**	**64.30**	**221**	P	**P**	**05 10 59.2**	**+0.4**
C16K	**Lisburne Hills**	**78.36**	**17**	P	**P**	**05 12 22.8**	**-0.3**
C16K				IAmb	IAmb	05 12 23.4	
	comp=Z,4.0nm,1.1s						
C19K	**Lookout Ridge**	**79.19**	**15**	P	**P**	**05 12 27.9**	**+0.1**
D19K	**Kuna River**	**80.01**	**15**	P	**P**	**05 12 31.4**	**-0.8**
D19K				IAmb	IAmb	05 12 37.8	
	comp=Z,3.0nm,0.9s						
E19K	**Redstone River**	**81.03**	**16**	P	**P**	**05 12 37.2**	**-0.5**
E19K				IAmb	IAmb	05 12 38.8	
	comp=Z,4.4nm,1.4s						
G19K	**Purcell Mounta**	**82.10**	**16**	P	**P**	**05 12 43.3**	**0.0**
G19K				IAmb	IAmb	05 13 00.2	
	comp=Z,1.7nm,0.9s						
BMAR	**Burnt Mountain**	**83.70**	**11**	P	**P**	**05 12 52.0**	**+0.3**
INK	**Inuvik**	**84.49**	**7**	P	**P**	**05 12 56.2**	**+0.7**
INK				IAmb	IAmb	05 13 00.8	
	comp=Z,1.6nm,0.8s						
INK	**Inuvik**	**84.49**	**7**	LR	LR	05 53 44.6	
	comp=Z,45nm,21.9s,baz=199,slow=38						

*SOME **31** 05:26:34.2,40°.50N×77°.83E,h0km*
*KRNET **31** 05:26:35.1±0.1,40°.48N×77°.77E,h18km,mb3.1*
*NNC **31** 05:26:36.3±1.6,40°.52N×77°.84E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=11.5km s-min=8.8km az=159.0*

ISC 31 05:26:35.7±1.8,40°.45N±0°.08×77°.79E±0°.04,h10km,n65, σ1s84/95,19C-14D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.28**	**0**	⇑*i*P	**Pn**	**05 26 58.9**	**-1.2**
	baz=1.0						
TARG				⇑*i*S	**Sb**	**05 27 16.2**	**-0.7**
	baz=1.0						
NRN	**Naryn**	**1.68**	**307**	⇑*i*P	**Pb**	**05 27 06.1**	**-0.8**
	baz=5.0						
NRN				⇑*i*S	**Sb**	**05 27 28.7**	**+0.5**
	baz=5.0						
KDJ	**Kajisay**	**1.74**	**345**	⇓*i*P	**Pb**	**05 27 07.1**	**-0.9**
	baz=45						
KDJ				⇓*i*S	**Sb**	**05 27 30.0**	**0.0**
	baz=45						
PRZ	**Przheval'sk**	**2.08**	**12**	⇓*e*P	**Pb**	**05 27 12.8**	**-1.0**
	baz=13						
PRZ				⇓*e*S	**Sb**	**05 27 41.1**	**+1.3**
	baz=13						
ULHL	**Ulahol**	**2.14**	**327**	P	**Pb**	**05 27 15.1**	**+0.3**
	SNR=36						
ULHL	**Ulahol**	**2.14**	**327**	⇓*i*P	**Pb**	**05 27 13.7**	**-1.1**
	baz=27						
ULHL				⇓*i*S	**Sb**	**05 27 41.5**	**0.0**
	baz=27						
ANVS	**Anan'yevo**	**2.34**	**358**	⇓*e*P	**Pb**	**05 27 16.1**	**-2.0**
	baz=58						
ANVS				⇓*e*S	**Sb**	**05 27 46.6**	**-0.5**
	baz=58						
SATY	**Saty**	**2.65**	**10**	Pg	**Pb**	**05 27 23.7**	**+0.3**
	40nm,0.4s						
SATY				Lg	Lg	05 28 00.2	
	79nm,0.4s						
SATY	**Saty**	**2.65**	**10**	*e*P	**Pb**	**05 27 23.7**	**+0.3**
	40nm,0.4s						
SATY				*e*S	**Sg**	**05 27 59.5**	**-1.4**
	79nm,0.4s						
TNSS	**Tian-Shan**	**2.66**	**347**	Pg	**Pb**	**05 27 24.2**	**+0.5**
	30nm,0.4s						
TNSS				Lg	Lg	05 28 00.7	
	27nm,0.4s						
TNSS	**Tian-Shan**	**2.66**	**347**	*e*P	**Pb**	**05 27 24.2**	**+0.5**
	30nm,0.4s						
TNSS				*e*S	**Sg**	**05 28 00.1**	**-1.3**
	43nm,0.4s						
ZHN	**Zhinishke**	**2.76**	**10**	Pg	**Pb**	**05 27 26.0**	**+0.7**
	20nm,0.5s						
ZHN				Lg	Lg	05 28 03.8	
	91nm,0.6s						
ZHN	**Zhinishke**	**2.76**	**10**	*e*P	**Pb**	**05 27 26.0**	**+0.7**
	20nm,0.5s						
ZHN				*e*S	**Sg**	**05 28 03.8**	**-0.7**
	91nm,0.6s						
MDOK	**Medeo**	**2.77**	**349**	⇑Pn	**Pn**	**05 27 21.6**	**+1.3**
	20nm,0.6s						
MDOK				Pg	**Pn**	**05 27 26.0**	**+0.5**
	16nm,0.4s						
MDOK				⇑Lg	Lg	05 28 02.0	
	60nm,0.6s						
MDOK				Lg	Lg	05 28 03.4	
	69nm,0.5s						
MDOK	**Medeo**	**2.77**	**349**	*e*P	**Pb**	**05 27 26.0**	**+0.5**
	16nm,0.4s						
MDOK				*e*S	**Sg**	**05 28 03.4**	**-1.4**
	69nm,0.5s						
KOTS	**Kotyrbulak**	**2.83**	**350**	Pg	**Pb**	**05 27 27.3**	**+0.8**
	14nm,0.2s						
KOTS				Lg	Lg	05 28 05.5	
	74nm,0.4s						
KOTS	**Kotyrbulak**	**2.83**	**350**	*e*P	**Pb**	**05 27 27.3**	**+0.8**
	14nm,0.2s						
KOTS				*e*S	**Sg**	**05 28 05.5**	**-1.2**
	74nm,0.4s						
UZB	**Uzynbulak**	**2.85**	**18**	Pg	**Pb**	**05 27 25.9**	**-0.9**
	16nm,0.8s						
UZB				Lg	Lg	05 28 03.5	
	31nm,0.6s						
UZB	**Uzynbulak**	**2.85**	**18**	*e*P	**Pb**	**05 27 25.9**	**-0.9**
	16nm,0.8s						
UZB				*e*S	**Sb**	**05 28 03.5**	**+1.7**
	31nm,0.6s						
KST	**Kastek**	**2.93**	**333**	Pg	**Pb**	**05 27 29.1**	**+0.9**
	24nm,0.6s						
KST				Lg	Lg	05 28 08.7	
	80nm,0.6s						
KST	**Kastek**	**2.93**	**333**	*e*P	**Pb**	**05 27 29.1**	**+0.9**
	24nm,0.6s						
KST				*e*S	**Sg**	**05 28 08.7**	**-1.3**
	80nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**327**	P	**Pb**	**05 27 28.4**	**-0.5**
	SNR=6.1						
TKM2	**Tokmak 2**	**2.97**	**327**	⇓Pn	**Pn**	**05 27 24.9**	**+1.8**
	9.9nm,0.8s						
TKM2				⇑Lg	Lg	05 28 09.8	
	26nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**327**	⇓*i*P	**Pn**	**05 27 25.3**	**+2.2**
	baz=27						
TKM2				⇓*i*S	**Sn**	**05 28 01.5**	**+2.6**
	baz=27						
ARLS	**Aral**	**2.98**	**299**	⇑*e*P	**Pn**	**05 27 25.3**	**+2.1**
	baz=99						
ARLS				⇑*e*S	**Sn**	**05 28 01.7**	**+2.7**
	baz=99						
SHLS	**Shalkode**	**2.98**	**24**	Pg	**Pb**	**05 27 29.6**	**+0.5**
	16nm,0.3s						
SHLS				Lg	Lg	05 28 09.8	
	60nm,0.6s						
SHLS	**Shalkode**	**2.98**	**24**	*e*P	**Pg**	**05 27 31.5**	**-1.4**
	17nm,0.3s						
SHLS				*e*S	**Sg**	**05 28 12.5**	**+1.0**
	60nm,0.5s						
UCH	**Uchtor**	**3.04**	**307**	P	**Pb**	**05 27 27.5**	**-2.8**
	SNR=8.4						
UCH	**Uchtor**	**3.04**	**307**	⇑*i*P	**Pn**	**05 27 26.5**	**+2.1**
	baz=6.0						
UCH				⇑*i*S	**Sn**	**05 28 03.7**	**+2.6**
	baz=6.0						
KURS	**Kuram**	**3.05**	**5**	Pg	**Pb**	**05 27 31.0**	**+0.8**
	17nm,0.6s						
KURS				Lg	Lg	05 28 12.0	
	34nm,0.6s						
KURS	**Kuram**	**3.05**	**5**	*e*P	**Pb**	**05 27 31.0**	**+0.8**
	17nm,0.6s						
KURS				*e*S	**Sg**	**05 28 12.0**	**-1.8**
	34nm,0.6s						
KBK	**Karagaybulak**	**3.07**	**317**	P	**Pb**	**05 27 32.1**	**+1.5**
	SNR=6.9						
KPKS	**Kokpek**	**3.09**	**12**	Pg	**Pb**	**05 27 31.6**	**+0.8**
	26nm,0.3s						
KPKS				Lg	Lg	05 28 12.9	
	45nm,0.6s						
KPKS	**Kokpek**	**3.09**	**12**	*e*P	**Pb**	**05 27 31.6**	**+0.8**
	26nm,0.3s						
KPKS				*e*S	**Sg**	**05 28 12.9**	**-2.0**
	45nm,0.6s						
PDGK	**Podgornoye**	**3.15**	**23**	Pg	**Pb**	**05 27 31.8**	**0.0**
	7.7nm,0.6s						
PDGK				Lg	Lg	05 28 13.6	
	40nm,0.5s						
DGS	**Degeres**	**3.17**	**332**	Pg	**Pb**	**05 27 33.4**	**+1.1**
	26nm,0.7s						
DGS				Lg	Lg	05 28 15.9	
	82nm,0.7s						
DGS	**Degeres**	**3.17**	**332**	*e*P	**Pb**	**05 27 33.4**	**+1.1**
	26nm,0.7s						
DGS				*e*S	**Sg**	**05 28 15.8**	**-1.9**
	82nm,0.7s						
AAK	**Ala-Archa**	**3.31**	**313**	P	**Pb**	**05 27 31.7**	**-2.9**
	SNR=7.8						
AAK	**Ala-Archa**	**3.31**	**313**	⇑*i*P	**Pn**	**05 27 29.7**	**+2.0**
	baz=12						
AAK				⇑*i*S	**Sn**	**05 28 09.5**	**+2.4**
	baz=12						
KTBS	**Karatobe**	**3.37**	**346**	Pg	**Pb**	**05 27 36.3**	**+0.7**
	14nm,0.3s						
KTBS				Lg	Lg	05 28 20.9	
	96nm,0.5s						
KTBS	**Karatobe**	**3.37**	**346**	*e*P	**Pb**	**05 27 36.3**	**+0.7**
	14nm,0.3s						
KTBS				*e*S	**Sg**	**05 28 20.9**	**-2.9**
	96nm,0.5s						
CHMS	**Chumysh**	**3.42**	**319**	P	Pg	05 28 25.2	+44
	SNR=8.1						
CHMS	**Chumysh**	**3.42**	**319**	⇓Pn	**Pn**	**05 27 31.1**	**+2.0**
	8.4nm,0.7s						
CHMS				⇑Lg	Lg	05 28 26.1	
	18nm,0.5s						
CHKK	**Chushkaly**	**3.46**	**350**	Pg	**Pb**	**05 27 39.0**	**+1.9**
	8.3nm,0.3s						
CHKK				Lg	Lg	05 28 25.3	
	34nm,0.3s						
CHKK	**Chushkaly**	**3.46**	**350**	*e*P	**Pb**	**05 27 37.9**	**+0.8**
	3.6nm,0.2s						
CHKK				*e*S	**Sg**	**05 28 23.7**	**-3.0**
	32nm,0.3s						
KRBS	**Karabastau**	**3.61**	**335**	Pg	**Pb**	**05 27 40.7**	**+1.0**
	28nm,0.8s						
KRBS				Lg	Lg	05 28 28.5	
	76nm,0.6s						
KRBS	**Karabastau**	**3.61**	**335**	*e*P	**Pb**	**05 27 40.7**	**+1.0**
	28nm,0.8s						
KRBS				*e*S	**Sg**	**05 28 28.5**	**-3.1**
	76nm,0.6s						
KUU	**Kurty**	**3.61**	**343**	Pg	**Pn**	**05 27 33.2**	**+1.4**
	8.5nm,0.7s						
KUU				Lg	Lg	05 28 15.9	
	33nm,0.5s						
KUU	**Kurty**	**3.61**	**343**	*e*P	**Pb**	**05 27 40.4**	**+0.8**
	3.1nm,0.2s						
KUU				*e*S	**Sb**	**05 28 27.8**	**+4.3**
	21nm,0.6s						
EKS2	**Erkin-Say**	**3.74**	**308**	P	**Pb**	**05 27 38.0**	**-3.9**
	SNR=6.2						
EKS2	**Erkin-Say**	**3.74**	**308**	⇓*i*P	**Pn**	**05 27 35.5**	**+1.9**
	baz=7.0						
EKS2				⇓*i*S	**Sn**	**05 28 20.1**	**+2.3**
	baz=7.0						
USP	**Ospenovka**	**3.74**	**320**	P	**Pb**	**05 27 44.0**	**+2.1**
	SNR=19						
USP	**Ospenovka**	**3.74**	**320**	⇑*i*P	**Pn**	**05 27 35.6**	**+2.0**
	baz=20						
USP				⇑*i*S	**Sn**	**05 28 19.9**	**+2.2**
	baz=20						
ARXS	**Arharly**	**3.76**	**0**	Pg	**Pb**	**05 27 43.8**	**+1.5**
	6.2nm,0.7s						
ARXS				Lg	Lg	05 28 33.7	
	81nm,0.5s						
ARXS	**Arharly**	**3.76**	**0**	*e*P	**Pb**	**05 27 43.8**	**+1.5**
	6.2nm,0.7s						
ARXS				*e*S	**Sg**	**05 28 33.7**	**-2.9**
	81nm,0.5s						
SGDS	**Sogindy**	**3.82**	**323**	Pg	**Pb**	**05 27 44.8**	**+1.5**
	4.3nm,0.1s						
SGDS				Lg	Lg	05 28 35.9	
	28nm,0.6s						
KNOS	**Konyrlen**	**4.04**	**14**	Pg	**Pb**	**05 27 48.5**	**+1.4**
	8.6nm,0.4s						
KNOS				Lg	Lg	05 28 42.0	
	15nm,0.4s						
MRKS	**Merke**	**4.12**	**305**	Pg	**Pb**	**05 27 50.4**	**+2.0**
	2.2nm,0.7s						
MRKS				Lg	Lg	05 28 45.6	
	11nm,0.6s						
MRKS	**Merke**	**4.12**	**305**	*e*P	**Pb**	**05 27 50.4**	**+2.0**
	2.2nm,0.7s						
MRKS				*e*S	**Sg**	**05 28 45.6**	**-2.6**
	11nm,0.6s						
DJR	**Jarkent**	**4.16**	**20**	Pg	**Pb**	**05 27 49.9**	**+1.0**
	1.7nm,0.2s						
DJR				Lg	Lg	05 28 44.4	
	17nm,0.6s						
DJR	**Jarkent**	**4.16**	**20**	*e*P	**Pb**	**05 27 49.9**	**+1.0**
	1.7nm,0.2s						
DJR				*e*S	**Sg**	**05 28 44.4**	**-4.8**
	17nm,0.6s						
KAPS	**Kapalarasan**	**4.97**	**13**	Pg	**Pg**	**05 28 07.3**	**-3.6**
	4.3nm,0.7s						
KAPS				Lg	Lg	05 29 14.2	
	8.2nm,0.4s						
BTLS	**Baital**	**5.36**	**330**	Pg	**Pb**	**05 28 13.0**	**+3.6**
	4.3nm,1.3s						
BTLS				Lg	Lg	05 29 23.7	
	12nm,0.8s						
KK31	**Karatay Array**	**6.06**	**298**	⇑Pg	**Pg**	**05 28 27.8**	**-3.8**
	2.1nm,0.8s,baz=107,slow=18,SNR=4.0						
KK31				⇑Lg	Lg	05 29 48.9	
	2.4nm,0.5s,baz=115,slow=28,SNR=8.3						
MK31	**Makanchi Array**	**7.13**	**26**	Pn	**Pn**	**05 28 21.3**	**+1.2**
	0.8nm,0.7s,baz=188,slow=19,SNR=4.0						
MK31				⇑Lg	Lg	05 30 19.7	
	1.5nm,0.7s,baz=203,slow=24,SNR=3.8						

NEIC 31 05:37:34.3±1.9,32°.84N±0°.04×100°.95W±0°.04,h5km±2km, mb_Lg2.7/42,Error ellipse: s-maj=7.5km s-min=4.7km az=344.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SN01	**Snyder 1**	**0.06**	**63**	Pg	Pg	05 37 33.8	-1.9
SN01				Sg	Sg	05 37 34.6	-2.2
SN05	**Snyder 5**	**0.07**	**52**	Pg	Pg	05 37 34.1	-1.9
SN05				Sg	Sg	05 37 35.1	-2.0
POST	**Post**	**0.52**	**296**		Pg	05 37 42.9	-1.4
DKNS	**Dickens**	**0.83**	**1**		Pg	05 37 48.1	-2.1
APMT	**Aspermont**	**0.85**	**55**		Pg	05 37 48.3	-2.3
SGCY	**Sterling City**	**0.93**	**189**	Pg	Pg	05 37 51.2	-1.0
ODSA	**Odessa**	**1.53**	**243**		Pn	05 38 01.6	-0.7
MSTX	**Muleshoe**	**1.90**	**307**		Pn	05 38 07.0	-0.5
OZNA	**Ozona**	**1.92**	**185**	Pn	Pn	05 38 07.1	-0.6
AMTX	**Amarillo**	**2.13**	**344**		Pn	05 38 11.0	+0.3
MNHN	**Monahans**	**2.14**	**226**		Pn	05 38 10.2

ANMO	**Albuquerque**	**5.04**	**296**	IAmb_Lg	05 40 12.8
	comp=Z,13nm,0.8s				
T25A	**Trinidad**	**5.15**	**327**	IAmb_Lg	05 40 23.0
	comp=Z,16nm,0.8s				

*NEIC **31** 05:39:07.4±2.0,56°.08N±0°.10×149°.8W±0°.1,h20km±10km, ML3.3/31,ML3.3(AEIC),Error ellipse: s-maj=14.9km s-min=8.7km az=160.0*
*AEIC **31** 05:39:10.5±1.7,56°.1N±0°.1×149°.7W±0°.1,h10km±8km, Error ellipse: s-maj=16.0km s-min=9.5km az=165.0*
*IDC **31** 05:39:11.5±2.6,56°.29N×150°.41W,h0km,mb3.1/1, mbtmp3.0/3,ML2.7/1,Error ellipse: s-maj=42.8km s-min=22.6km az=49.0*

ISC 31 05:39:04.8±1.8,56°.1N±0°.1×149°.88W±0°.06,h10km,n120, σ1895/123,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**302**		**Pb**	**05 39 42.0**	**-2.2**
OHAK					**Sn**	**05 40 07.6**	**-0.5**
OHAK	**Old Harbor**	**2.18**	**302**	P	**Pb**	**05 39 42.0**	**-2.2**
	baz=118						
OHAK				S	**Sn**	**05 40 07.6**	**-0.5**
	baz=118						
KDAK	**Kodiak Island**	**2.23**	**319**		**Pb**	**05 39 43.1**	**-1.9**
KDAK					**Sn**	**05 40 09.3**	**0.0**
KDAK	**Kodiak Island**	**2.23**	**319**	Pn	**Pb**	**05 39 43.3**	**-1.8**
	1.5nm,0.3s,baz=132,slow=5.4,SNR=31						
KDAK				Sn	**Sn**	**05 40 09.5**	**+0.2**
	3.3nm,0.3s,baz=40,slow=21,SNR=9.5						
KDAK				LR	LR	05 40 42.9	
	comp=Z,114nm,21.6s,baz=124,slow=48						
SII	**Sitkinak Islan**	**2.44**	**282**		**Pb**	**05 39 46.4**	**-2.3**
SII					**Sn**	**05 40 14.8**	**+0.3**
SII	**Sitkinak Islan**	**2.44**	**282**	IAML		05 40 18.9	
	comp=E,268nm,0.9s						
SII				IAML		05 40 24.3	
	comp=N,211nm,0.6s						
SII	**Sitkinak Islan**	**2.44**	**282**	P	**Pb**	**05 39 46.4**	**-2.3**
	baz=98						
SII				S	**Sn**	**05 40 14.8**	**+0.3**
	baz=98						
SYI	**Shuyak Island**	**2.84**	**332**		**Pn**	**05 39 51.5**	**+1.4**
SYI					**Sn**	**05 40 25.0**	**+0.6**
Q20K	**Shuyak Island**	**2.84**	**332**	P	**Pn**	**05 39 51.5**	**+1.3**
	baz=149						
Q20K				S	**Sn**	**05 40 25.0**	**+0.6**
	baz=149						
R18K	**Karluk**	**2.90**	**302**		**Pb**	**05 39 52.8**	**-3.7**
R18K					**Sn**	**05 40 26.7**	**+0.9**
R18K	**Karluk**	**2.90**	**302**	IAML		05 40 29.9	
	comp=N,80nm,1.4s						
R18K				IAML		05 40 35.6	
	comp=E,99nm,1.1s						
R18K	**Karluk**	**2.90**	**302**	P	**Pb**	**05 39 52.8**	**-3.7**
	baz=117						
R18K				S	**Sn**	**05 40 26.7**	**+0.9**
	baz=117						
Q19K	**Cape Douglas,**	**3.47**	**326**		**Pn**	**05 40 00.5**	**+1.7**
Q19K	**Cape Douglas,**	**3.47**	**326**	P	**Pn**	**05 40 00.5**	**+1.7**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.47**	**315**		**Pn**	**05 40 01.0**	**+2.1**
CNPM	**China Poot**	**3.49**	**349**		**Pn**	**05 40 00.1**	**+1.0**
CNPM					**Sn**	**05 40 41.0**	**+0.7**
CNPM	**China Poot**	**3.49**	**349**	IAML		05 40 51.0	
	comp=E,41nm,1.1s						
CNPM				IAML		05 41 04.3	
	comp=N,34nm,1.4s						
ACHA	**Angle Creek He**	**3.63**	**307**		**Pn**	**05 40 03.3**	**+2.3**
BRSE	**Bradley Lake S**	**3.66**	**353**		**Pn**	**05 40 02.0**	**+0.7**
BRSE	**Bradley Lake S**	**3.66**	**353**	P	**Pn**	**05 40 02.0**	**+0.7**
	baz=171						
BRLK	**Bradley Lake**	**3.69**	**352**		**Pn**	**05 40 02.3**	**+0.4**
BRLK	**Bradley Lake**	**3.69**	**352**	IAML		05 40 49.2	
	comp=N,44nm,1.0s						
BRLK				IAML		05 41 07.9	
	comp=E,26nm,1.5s						
ANCK	**Angle Creek**	**3.70**	**307**		**Pn**	**05 40 04.7**	**+2.7**
KVTA	**Katmai Vly 10**	**3.71**	**310**		**Pn**	**05 40 04.5**	**+2.4**
KAHC	**Katmai Hardscr**	**3.76**	**314**		**Pn**	**05 40 05.1**	**+2.2**
KAHC	**Katmai Hardscr**	**3.76**	**314**	P	**Pn**	**05 40 05.1**	**+2.2**
	baz=129						
CNTC	**Contact Creek**	**3.91**	**306**		**Pn**	**05 40 06.6**	**+1.7**
Q17K	**Contact Creek**	**3.91**	**306**	P	**Pn**	**05 40 06.6**	**+1.7**
	baz=120						
P19K	**Oil Pt**	**3.96**	**335**		**Pn**	**05 40 07.6**	**+2.0**
P19K	**Oil Pt**	**3.96**	**335**	IAML		05 40 59.1	
	comp=E,76nm,1.0s						
P19K				IAML		05 41 59.9	
	comp=N,84nm,1.4s						
P19K	**Oil Pt**	**3.96**	**335**	P	**Pn**	**05 40 07.6**	**+2.0**
	baz=151						
P23K	**Montague Islan**	**4.10**	**18**		**Pn**	**05 40 09.7**	**+2.2**
P23K	**Montague Islan**	**4.10**	**18**	P	**Pn**	**05 40 09.7**	**+2.2**
	baz=199						
O20K	**Slope Mountain**	**4.23**	**341**		**Pn**	**05 40 10.6**	**+1.4**
O20K	**Slope Mountain**	**4.23**	**341**	P	**Pn**	**05 40 10.6**	**+1.4**
	baz=158						
P18K	**Big Mountain,**	**4.35**	**321**	P	**Pn**	**05 40 12.9**	**+1.9**
	baz=136						
Q22K	**Cooper Landing**	**4.37**	**1**	Pn	**Pn**	**05 40 12.4**	**+1.3**
SLKM	**Skilak Lake**	**4.40**	**358**		**Pn**	**05 40 11.9**	**+0.3**
RSO	**Redoubt South**	**4.61**	**342**	Pn	**Pn**	**05 40 17.3**	**+2.7**
HIN	**Hinchinbrook I**	**4.64**	**21**		**Pn**	**05 40 15.9**	**+1.1**
HIN	**Hinchinbrook I**	**4.64**	**21**	IAML		05 41 09.1	
	comp=N,50nm,1.3s						
P17K	**Kvichak River**	**4.68**	**314**		**Pn**	**05 40 17.4**	**+2.0**
P17K	**Kvichak River**	**4.68**	**314**	P	**Pn**	**05 40 17.4**	**+2.0**
	baz=128						
O18K	**Koktuh Hills**	**4.69**	**325**		**Pn**	**05 40 17.0**	**+1.4**
O18K	**Koktuh Hills**	**4.69**	**325**	IAML		05 41 14.0	
	comp=N,33nm,0.9s						
O18K				IAML		05 41 29.6	
	comp=E,19nm,1.4s						
O18K	**Koktuh Hills**	**4.69**	**325**	P	**Pn**	**05 40 17.0**	**+1.4**
	baz=140						
KAIM	**Kayak Island**	**4.79**	**35**	Pn	**Pn**	**05 40 18.4**	**+1.5**
EYAK	**Cordova Ski Ar**	**4.94**	**24**		**Pn**	**05 40 20.4**	**+1.5**
EYAK	**Cordova Ski Ar**	**4.94**	**24**	P	**Pn**	**05 40 20.4**	**+1.5**
	baz=207						
RC01	**Rabbit Creek A**	**4.98**	**1**	Pn	**Pn**	**05 40 21.4**	**+1.9**
RC01				IAML		05 41 24.9	
	comp=E,21nm,1.5s						
RC01				IAML		05 41 25.1	
	comp=N,16nm,1.3s						
GOAT	**Goat Mountain**	**5.23**	**29**		**Pn**	**05 40 24.0**	**+1.0**
P16K	**Nushagak River**	**5.25**	**307**		**Pn**	**05 40 24.5**	**+1.3**
P16K	**Nushagak River**	**5.25**	**307**	P	**Pn**	**05 40 24.5**	**+1.3**
	baz=120						
N19K	**Bonanza Creek**	**5.29**	**335**	Pn	**Pn**	**05 40 26.1**	**+2.3**
N19K				IAML		05 41 56.8	
	comp=N,10.0nm,1.4s						
N19K				IAML		05 42 04.2	
	comp=E,9.9nm,1.4s						
KNK	**Knik Glacier**	**5.36**	**7**		**Pn**	**05 40 26.8**	**+2.1**
KNK	**Knik Glacier**	**5.36**	**7**	P	**Pn**	**05 40 26.8**	**+2.1**
	baz=188						
SUA	**Susitna One**	**5.38**	**356**	Pn	**Pn**	**05 40 27.4**	**+2.4**
BERG	**Berg Lake**	**5.38**	**35**	Pn	**Pn**	**05 40 26.3**	**+1.3**
SNH	**Sunshine Point**	**5.51**	**40**	Pn	**Pn**	**05 40 28.6**	**+1.7**
N18K	**Kilae Creek**	**5.55**	**328**		**Pn**	**05 40 29.1**	**+1.6**
N18K	**Kilae Creek**	**5.55**	**328**	P	**Pn**	**05 40 29.0**	**+1.6**
	baz=142						
BMRM	**Bremner River**	**5.58**	**27**		**Pn**	**05 40 28.7**	**+0.9**
BMRM	**Bremner River**	**5.58**	**27**	P	**Pn**	**05 40 28.7**	**+0.9**
	baz=211						
O16K	**Kokwok River B**	**5.60**	**312**		**Pn**	**05 40 30.6**	**+2.6**
SML	**Sawmill**	**5.75**	**7**	Pn	**Pn**	**05 40 31.7**	**+1.5**
KLU	**Klutina**	**5.76**	**19**		**Pn**	**05 40 32.1**	**+1.8**
KLU	**Klutina**	**5.76**	**19**	P	**Pn**	**05 40 32.1**	**+1.8**
	baz=202						
BARK	**Barkley Ridge**	**5.79**	**39**		**Pn**	**05 40 32.4**	**+1.6**
SCM	**Sheep Creek Mo**	**5.88**	**12**	Pn	**Pn**	**05 40 34.1**	**+2.2**
SKT	**Skwentna**	**5.94**	**352**	Pn	**Pn**	**05 40 34.8**	**+2.2**
ISLE	**Juniper Island**	**5.99**	**38**		**Pn**	**05 40 34.7**	**+1.2**
M20K	**Styx River**	**6.01**	**345**	Pn	**Pn**	**05 40 35.3**	**+1.5**
VRDI	**Verde Repeater**	**6.11**	**31**	Pn	**Pn**	**05 40 36.1**	**+0.9**
N25K	**Chitina, Valde**	**6.14**	**24**		**Pn**	**05 40 37.1**	**+1.6**
N25K	**Chitina, Valde**	**6.14**	**24**	P	**Pn**	**05 40 37.1**	**+1.6**
	baz=208						
O15K	**Ungalikthiuk R**	**6.15**	**304**		**Pn**	**05 40 37.8**	**+2.1**
O15K	**Ungalikthiuk R**	**6.15**	**304**	P	**Pn**	**05 40 37.8**	**+2.1**
	baz=115						
GLB	**Gilahina Butte**	**6.19**	**28**	Pn	**Pn**	**05 40 37.1**	**+0.9**
KIAG	**Kiagna River**	**6.21**	**36**		**Pn**	**05 40 37.0**	**+0.4**
SAMH	**Samovar Hills**	**6.27**	**46**		**Pn**	**05 40 39.0**	**+1.7**
M24K	**Tolsona, Glenn**	**6.29**	**16**	Pn	**Pn**	**05 40 41.1**	**+3.5**
PTPK	**Patty Peak**	**6.38**	**34**		**Pn**	**05 40 40.4**	**+1.5**
PCA	**Pinnacle**	**6.46**	**48**		**Pn**	**05 40 41.5**	**+1.5**
PINM	**Pinnacle**	**6.47**	**48**	P	**Pn**	**05 40 41.5**	**+1.5**
	baz=236						
BARN	**Barnard Glacie**	**6.55**	**38**		**Pn**	**05 40 42.2**	**+1.0**
CTG	**Chitna Glacier**	**6.59**	**39**	P	**Pn**	**05 40 42.7**	**+0.9**
	baz=226						
CTGM	**Chitina Glacie**	**6.59**	**39**		**Pn**	**05 40 42.7**	**+0.9**
PNL	**Peninsula**	**6.62**	**53**		**Pn**	**05 40 43.0**	**+1.0**
PNL	**Peninsula**	**6.62**	**53**	P	**Pn**	**05 40 43.0**	**+1.0**
	baz=242						
LOGN	**Logan Glacier**	**6.62**	**41**	Pn	**Pn**	**05 40 43.5**	**+1.3**
N15K	**Kwethluk River**	**6.76**	**311**		**Pn**	**05 40 47.2**	**+3.3**
M16K	**Timber Creek**	**6.83**	**320**		**Pn**	**05 40 47.6**	**+2.7**
M16K	**Timber Creek**	**6.83**	**320**	P	**Pn**	**05 40 47.6**	**+2.7**
	baz=132						
O14K	**Tigyukauivet M**	**6.86**	**302**	Pn	**Pn**	**05 40 48.5**	**+3.2**
DHY	**Denali Highway**	**7.09**	**9**	Pn	**Pn**	**05 40 50.8**	**+2.2**
O29M	**Mount Kennedy**	**7.29**	**50**		**Pn**	**05 40 51.8**	**+0.5**
O29M	**Mount Kennedy**	**7.29**	**50**	P	**Pn**	**05 40 51.8**	**+0.5**
	baz=239						
N14K	**Kuskokwak Cree**	**7.33**	**306**		**Pn**	**05 40 54.0**	**+2.3**
N14K	**Kuskokwak Cree**	**7.33**	**306**	P	**Pn**	**05 40 54.0**	**+2.3**
	baz=116						
P29M	**Windy Craggy**	**7.36**	**56**		**Pn**	**05 40 52.9**	**+0.7**
P29M	**Windy Craggy**	**7.36**	**56**	P	**Pn**	**05 40 52.9**	**+0.7**
	baz=246						
CAST	**Castle Rocks**	**7.40**	**352**	Pn	**Pn**	**05 40 55.9**	**+3.2**
KTH	**Kantishna Hill**	**7.47**	**356**	Pn	**Pn**	**05 40 56.9**	**+3.1**
M27K	**Edge Creek, AK**	**7.47**	**30**	Pn	**Pn**	**05 40 56.1**	**+2.3**
L16K	**Owhat River**	**7.48**	**322**	Pn	**Pn**	**05 40 55.9**	**+2.1**
BCAR	**Beaver Creek A**	**8.07**	**27**	Pn	**Pn**	**05 41 03.3**	**+1.3**
M13K	**Dall Lake**	**8.30**	**307**	Pn	**Pn**	**05 41 07.9**	**+3.0**
L14K	**Kuka Creek**	**8.46**	**313**		**Pn**	**05 41 10.2**	**+3.0**
O30N	**Mendenhall**	**8.59**	**52**	Pn	**Pn**	**05 41 10.2**	**+1.1**
M29M	**Somme Creek**	**8.61**	**38**		**Pn**	**05 41 11.1**	**+1.7**
IL31		**8.80**	**8**	Pn	**Pn**	**05 41 14.7**	**+2.8**
ILAR	**Eielson Array**	**8.80**	**8**	Pn	**Pn**	**05 41 14.9**	**+3.1**
ILAR	**Eielson Array**	**8.80**	**8**	Pn	**Pn**	**05 41 14.8**	**+2.9**
	comp=E,0.1nm,0.3s,baz=189,slow=13,SNR=5.6						
ILAR				Sn	**Sn**	**05 42 46.9**	**-4.1**
	baz=191,slow=15,SNR=1.6 comp=E,0.4nm,0.6s						
J25K	**Salcha River,**	**8.80**	**13**	Pn	**Pn**	**05 41 14.8**	**+2.9**
J26L	**Joseph Creek**	**8.96**	**18**	Pn	**Pn**	**05 41 16.7**	**+2.5**
N31M	**Braeburn, Yuko**	**9.07**	**48**	Pn	**Pn**	**05 41 17.9**	**+2.3**
DAWY	**Dawson**	**9.52**	**29**	Pn	**Pn**	**05 41 23.5**	**+1.7**
IMAR	**Indian Mountai**	**10.07**	**351**	Pn	**Pn**	**05 41 32.3**	**+3.1**
YKA	**Yellowknife Ar**	**18.90**	**56**	P	Pn	05 43 34.9	+9.1
	comp=E,0.3nm,0.8s,baz=266,slow=10,SNR=4.2						
TXAR	**Lajitas Array**	**42.08**	**110**	P	P	05 47 07.7	+11
	comp=E,0.2nm,0.8s,baz=307,slow=8.9,SNR=2.6 comp=E,0.2nm,0.8s						

*ISN **31** 05:41:18.4,33°.65N×45°.67E,h12km,ML2.6*
*TEH **31** 05:41:18.6,33°.69N×45°.73E,h12km±65km,ML2.6*

ISC 31 05:41:19.2±1.0,33°.68N±0°.04×45°.74E±0°.04,h13km,n10, σ0971/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.40**	**98**	Pg	**Pg**	**05 41 26.6**	**-0.5**
ILBA				Sg	**Sg**	**05 41 33.1**	**+0.6**
IBDR	**Badra**	**0.59**	**164**	*e*Pg	**Pg**	**05 41 30.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**05 41 38.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.95**	**47**	Pg	**Pg**	**05 41 37.0**	**-0.5**
IDHR	**Dehrash**	**1.15**	**28**	Pg	**Pb**	**05 41 40.2**	**-0.9**
BHD	**Baghdad**	**1.21**	**251**	*e*Pn	**Pg**	**05 41 42.0**	**-0.4**
BHD				*e*Sn	**Sn**	**05 41 59.0**	**+1.1**
BHD				AML	AML	05 42 02.1	
	comp=E,31nm,0.8s						
KCHF	**Cheshme Sefid,**	**1.23**	**61**	Pg	**Pb**	**05 41 42.5**	**+0.1**
ILIN	**Lien**	**1.60**	**39**	Pg	**Pb**	**05 41 48.2**	**-0.5**
IKFM	**Kafar-mosalman**	**1.77**	**94**	Pg	**Pb**	**05 41 51.5**	**0.0**
IBZA	**Bozab**	**1.93**	**65**	Pn	**Pn**	**05 41 52.7**	**+0.8**
RAFI	**Al-Rafai**	**1.98**	**171**	*e*Pn	**Pn**	**05 41 53.0**	**+0.7**
RAFI				*e*Sn	**Sb**	**05 42 19.0**	**-0.5**

*IDC **31** 05:57:28.0±0.8,26°.20N×66°.21E,h0km,mb4.1/20, mbtmp4.1/22,ML4.3/2,MS3.2/10,Error ellipse: s-maj=19.7km s-min=15.1km az=6.0*
*MOS **31** 05:57:29.5±1.0,26°.39N×66°.31E,h11km,mb4.5/17,Error ellipse: s-maj=11.5km s-min=5.7km az=76.5*
*NEIC **31** 05:57:30.3±1.4,26°.25N±0°.05×66°.34E±0°.10,h10km±1km, mb4.3/29,Error ellipse: s-maj=15.4km s-min=7.0km az=113.0*

ISC 31 05:57:28.5±0.5,26°.11N±0°.06×66°.23E±0°.04,h10km,n150, σ2995/177,mb4.3/54,MS3.1/9,5C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**4.66**	**262**	P	**Pn**	**05 58 41.6**	**+2.7**
	SNR=30						
JLN	**Jalan Bani Buh**	**7.37**	**239**	P	**Pn**	**05 59 17.4**	**+1.2**
	SNR=12						
JLN				S	**Sn**	**06 00 35.3**	**-4.7**
WSAR	**Wadi Sarin**	**7.48**	**249**	Pn	**Pn**	**05 59 18.4**	**+0.6**
	3.4nm,0.3s,baz=111,slow=7.5,SNR=51						
WSAR				Sn	**Sn**	**06 00 35.4**	**-7.4**
	7.6nm,0.3s,baz=312,slow=1.7,SNR=17 9.9nm,0.4s						
WSAR	**Wadi Sarin**	**7.48**	**249**	P	**Pn**	**05 59 19.2**	**+1.4**
	SNR=43						
WSAR				S	**Sn**	**06 00 35.1**	**-7.6**
WBK	**Wadi Bani Khal**	**7.48**	**244**	P	**Pn**	**05 59 19.3**	**+1.5**
	SNR=41						
WBK				S	**Sn**	**06 00 37.4**	**-5.4**
AJM	**Ajmer**	**7.56**	**85**	*e*P	**Pn**	**05 59 17.5**	**-1.3**
AJM				*e*S	**Sn**	**06 00 38.2**	**-6.5**
AJM				IAML		06 00 56.2	
	comp=N,56nm,1.5s						
AJM				IAML		06 01 00.2	
	comp=E,27nm,0.3s						
BIDO	**Bidbid**	**7.80**	**252**	P	**Pn**	**05 59 24.0**	**+1.8**
BIDO				S	**Sn**	**06 00 45.3**	**-5.3**
SMDO	**Samad**	**8.04**	**250**	P	**Pn**	**05 59 26.3**	**+0.7**
SMDO				S	**Sn**	**06 00 50.9**	**-5.8**
JMDO	**Jabal Madar**	**8.30**	**245**	P	**Pn**	**05 59 31.3**	**+2.2**
JMDO				S	**Sn**	**06 00 57.9**	**-5.0**
	SNR=6.1						
HOQ	**Hoqain**	**8.48**	**255**	P	**Pn**	**05 59 35.6**	**+4.1**
HOQ				P	**Pn**	**05 59 35.6**	**+4.1**
HOQ				S	**Sn**	**06 01 01.7**	**-5.7**
HOQ				S	**Sn**	**06 01 01.7**	**-5.7**
KBL	**Kabul**	**8.75**	**15**	Pn	**Pn**	**05 59 35.7**	**+0.4**
KBL	**Kabul**	**8.75**	**15**	P	**Pn**	**05 59 35.7**	**+0.4**
KHET	**Khetri**	**8.75**	**75**	*e*P	**Pn**	**05 59 34.5**	**-0.8**
KHET				*e*S	**Sn**	**06 01 07.0**	**-7.0**
BSY	**Bisya**	**8.88**	**250**	P	**Pn**	**05 59 39.9**	**+2.8**
BSY				S	**Sn**	**06 01 12.8**	**-4.5**
BANOM	**Banah**	**8.94**	**271**	P	**Pn**	**05 59 38.6**	**+0.8**
BANOM	**Banah**	**8.94**	**271**	P	**Pn**	**05 59 40.7**	**+2.9**
BANOM				S	**Sn**	**06 01 13.3**	**-5.3**
HRA	**Herat**	**8.94**	**338**	Pn	**Pn**	**05 59 38.2**	**+0.2**
MDH	**Madha**	**9.00**	**267**	P	**Pn**	**05 59 39.6**	**+1.0**
MDH	**Madha**	**9.00**	**267**	P	**Pn**	**05 59 39.8**	**+1.2**
MDH				S	**Sn**	**06 01 12.4**	**-7.6**
	SNR=6.4						
SOHO	**SOHO**	**9.01**	**259**	P	**Pn**	**05 59 39.0**	**+0.3**
SOHO	**SOHO**	**9.01**	**259**	P	**Pn**	**05 59 40.1**	**+1.4**
SOHO				P	**Pn**	**05 59 40.1**	**+1.4**
SOHO				S	**Sn**	**06 01 13.5**	**-6.8**
SOHO				S	**Sn**	**06 01 13.5**	**-6.8**
SHME	**Shamm**	**9.07**	**272**	P	**Pn**	**05 59 42.0**	**+2.4**
SHME	**Shamm**	**9.07**	**272**	P	**Pn**	**05 59 42.1**	**+2.4**
SHME				S	**Sn**	**06 01 17.1**	**-4.7**
MASF	**Masafi**	**9.11**	**268**	P	**Pn**	**05 59 43.2**	**+3.0**
MASF				S	**Sn**	**06 01 15.7**	**-7.2**
MSFE	**Esma-Masafi**	**9.11**	**268**	P	**Pn**	**05 59 41.0**	**+0.8**
UOSS	**Minazif**	**9.13**	**265**		**Pn**	**05 59 41.9**	**+1.4**
UOSS	**Minazif**	**9.13**	**265**	P	**Pn**	**05 59 41.3**	**+0.9**
UOSS	**Minazif**	**9.13**	**265**	P	**Pn**	**05 59 42.0**	**+1.6**
UOSS				S	**Sn**	**06 01 14.6**	**-8.7**
MHTO	**MHTO**	**9.13**	**238**	P	**Pn**	**05 59 43.7**	**+3.3**
MHTO				S	**Sn**	**06 01 18.7**	**-4.7**
HATD	**Hatta, Dubai**	**9.22**	**264**	P	**Pn**	**05 59 43.8**	**+2.2**
HATD	**Hatta, Dubai**	**9.22**	**264**	P	**Pn**	**05 59 41.8**	**+0.1**
HATD				P	**Pn**	**05 59 41.8**	**+0.1**
HATD				S	**Sn**	**06 01 17.6**	**-7.8**
	SNR=6.1						
HATD				S	**Sn**	**06 01 17.6**	**-7.8**
	SNR=6.1						
ARQ	**Araqi**	**9.25**	**255**	P	**Pn**	**05 59 46.1**	**+4.1**
	SNR=10						
ARQ				S	**Sn**	**06 01 23.5**	**-2.8**
ASHO	**Ashiyiah**	**9.31**	**263**	P	**Pn**	**05 59 45.4**	**+2.5**
ASHO				S	**Sn**	**06 01 23.0**	**-4.7**
ASHO	**Ashiyiah**	**9.31**	**263**	P	**Pn**	**05 59 46.1**	**+3.2**
ASHO				S	Sn	06 01 17.9	-10
KUDL	**Kundal**	**9.36**	**75**	*e*P	**Pn**	**05 59 43.7**	**+0.2**
KUDL				*e*S	**Sn**	**06 01 21.9**	**-7.0**
NIL	**Nilore**	**9.67**	**37**	Pn	**Pn**	**05 59 46.6**	**-1.2**
NIL					**Sn**	**06 01 32.0**	**-4.6**
NIL	**Nilore**	**9.67**	**37**	P	**Pn**	**05 59 46.6**	**-1.2**
NIL						06 01 32.0	
FAQ	**Al Faqa, Dubai**	**9.71**	**264**	P	**Pn**	**05 59 52.7**	**+4.3**
FAQ				S	**Sn**	**06 01 34.8**	**-2.8**
ASUD	**Al Ashush, Dub**	**9.97**	**264**	P	**Pn**	**05 59 55.6**	**+3.7**
ASUD				S	**Sn**	**06 01 41.6**	**-2.4**
BHK	**Bhakra**	**10.38**	**57**	*e*P	**Pn**	**05 59 55.0**	**-2.5**
BHK				*e*S	Sn	06 01 45.0	-9.0
BHK				IAML		06 01 49.8	
	comp=E,81nm,1.2s						
THN	**Thein Dam**	**10.40**	**51**	*e*P	**Pn**	**05 59 57.8**	**0.0**
THN				*e*S	**Sn**	**06 01 49.3**	**-5.1**
THN				IAML		06 01 52.7	
	comp=E,31nm,1.2s						
DHRM	**DHARAMSHALA**	**10.71**	**53**	IAML		06 02 00.8	
	comp=N,139nm,0.7s						
DHRM				IAML		06 02 01.9	
	comp=E,145nm,0.5s						
SMLA	**Simla**	**10.83**	**60**	IAML		06 02 02.9	
	comp=N,106nm,0.3s						
SMLA				IAML		06 02 03.3	
	comp=E,121nm,0.8s						
SIMJ	**Simiganj**	**12.73**	**10**	Pn	**Pn**	**06 00 28.4**	**-1.4**
PTH	**Pithoragarh**	**12.84**	**71**	*e*P	**Pn**	**06 00 29.2**	**-2.2**
PTH				*e*S	Sn	06 02 45.1	-9.4
BTK	**Batken**	**14.43**	**14**	Pn	**Pn**	**06 00 52.4**	**-0.5**
BTK	**Batken**	**14.43**	**14**	P	**Pn**	**06 00 52.4**	**-0.5**
KSH	**Kashi**	**15.66**	**29**	P	**Pn**	**06 01 02.5**	**-7.0**
KSH				pP	P	06 01 06.0	-7.6
KSH				S	Sn	06 03 45.8	-17
KSH				pmax	pmax		
	comp=Z,50nm,0.7s						
KSH				LR	LR		
	comp=N,220nm,12.2s						
KSH				LR	LR		
	comp=E,260nm,13.4s						
KSH				LR	LR		
	comp=Z,190nm,17.3s						
NRN	**Naryn**	**17.29**	**25**	Pn	**Pn**	**06 01 26.6**	**-3.8**
NRN	**Naryn**	**17.29**	**25**	P	**Pn**	**06 01 26.6**	**-3.8**
NRN				pmax	pmax		
	comp=Z,12nm,0.9s						
KK31	**Karatay Array**	**17.31**	**11**	Pn	**Pn**	**06 01 28.4**	**-2.0**
KK31	**Karatay Array**	**17.31**	**11**	P	**Pn**	**06 01 28.4**	**-2.0**
KK31				pmax	pmax		
	comp=Z,13nm,1.1s						
KKAR	**Karatay Array**	**17.31**	**11**		**Pn**	**06 01 28.2**	**-2.2**
KKAR	**Karatay Array**	**17.31**	**11**		**Pn**	**06 01 28.6**	**-1.7**
KKAR				IAmb	IAmb	06 01 36.8	
	comp=Z,13nm,1.1s						
KKAR	**Karatay Array**	**17.31**	**11**	P	**Pn**	**06 01 28.6**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,13nm,1.1s						
UCH	**Uchtor**	**17.46**	**21**	P	**Pn**	**06 01 30.2**	**-2.4**
	SNR=18						
EKS2	**Erkin-Say**	**17.64**	**19**	P	**Pn**	**06 01 33.8**	**-0.7**
	SNR=8.3						
AAK	**Ala-Archa**	**17.83**	**20**	P	**Pn**	**06 01 35.0**	**-1.9**
	SNR=14						
AAK	**Ala-Archa**	**17.83**	**20**	Pn	**Pn**	**06 01 34.6**	**-2.3**
AAK				IAmb	IAmb	06 01 36.2	
	comp=Z,11nm,0.7s						
AAK	**Ala-Archa**	**17.83**	**20**	P	**Pn**	**06 01 35.0**	**-1.9**
AAK	**Ala-Archa**	**17.83**	**20**	P	**Pn**	**06 01 35.2**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=205,slow=8.8,SNR=36						
AAK				LR	LR	06 09 35.6	
	comp=Z,64nm,21.0s,baz=207,slow=41 comp=Z,9.8nm,0.6s						
KBK	**Karagaybulak**	**17.99**	**21**	P	**Pn**	**06 01 37.9**	**-1.0**
	SNR=8.3						
BOOM	**Boomskoye usch**	**18.18**	**24**	P	**Pn**	**06 01 39.5**	**-1.8**
BOOM				IAmb	IA

BRVK pmax pmax
comp=Z,6.0nm,0.9s
DGZ Jazzator, Alta 28.70 29⇑ eP P 06 03 27.3 +1.4
DGZ pmax pmax
comp=Z,2.0nm,0.7s
TNCH TengChong 29.11 85 P P 06 03 26.3 -3.5
TNCH pmax pmax
comp=Z,230nm,3.9s
ARU Arti 30.80 352 *c iP* P 06 03 45.2 +1.0
ARU 06 04 40.9
ARU S S 06 08 49.0 +1.5
ARU SS SnSn 06 10 26.5 +0.5
ARU pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 30.80 352 LR LR 06 17 30.2
comp=Z,67nm,18.4s,baz=105,slow=39
GTA Gaotai 31.01 56 *eP* P 06 03 48.5 +2.0
GTA sP sP 06 04 00.8 +10
GTA pmax pmax
comp=Z,4.0nm,1.2s
ZAA0 Zalesovo Array 31.04 21 P P 06 03 45.9 -0.5
ZAA0 IAmb IAmb 06 03 47.9
comp=Z,4.2nm,0.7s
ZALV Zalesovo Beam 31.04 21 P P 06 03 46.3 -0.1
ZALV Zalesovo Beam 31.04 21 P P 06 03 46.4 0.0
comp=Z,5.9nm,0.8s,baz=226,slow=9.9,SNR=26
ZALV LR LR 06 18 14.5
comp=Z,32nm,20.5s,baz=188,slow=40
comp=Z,5.9nm,0.8s
CMAR Chiang Mai Arr 31.15 97 *eP* P 06 03 52.3 +4.6
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 31.15 97 P P 06 03 48.0 +0.2
comp=Z,0.9nm,0.3s,baz=289,slow=8.1,SNR=1.6
CMAR LR LR 06 17 32.5
comp=Z,28nm,18.5s,baz=170,slow=39
comp=Z,0.9nm,0.3s
PZH PanZhiHua 31.77 81 P P 06 03 54.0 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.7s
AKASG Malin Array Be 37.41 321 *eP* P 06 04 42.4 +0.8
AKASG Malin Array Be 37.41 321 P P 06 04 40.3 -1.3
comp=Z,0.3nm,0.3s,baz=115,slow=7.1,SNR=6.2
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 37.41 321⇑ *eP* P 06 04 42.2 +0.6
AKBB pmax pmax
comp=Z,16nm,2.2s
MLR Muntele Rosu 37.48 312 P P 06 04 45.2 +2.8
MLR Muntele Rosu 37.48 312 P P 06 04 45.3 +2.8
MLR pmax pmax
comp=Z,16nm,1.4s
SONM Songino Array 38.15 45 P P 06 04 48.0 -0.2
SONM Songino Array 38.15 45 P P 06 04 50.1 +1.9
comp=Z,3.9nm,0.7s,baz=249,slow=8.8,SNR=23
comp=Z,3.9nm,0.7s
ULN Ulaanbaatar 38.58 45 P P 06 04 53.1 +1.4
ULN IAmb IAmb 06 04 54.2
comp=Z,5.8nm,1.0s
ULN Ulaanbaatar 38.58 45⇓ *iP* P 06 04 53.6 +1.9
ULN pmax pmax
comp=Z,5.0nm,0.9s
BURAR Bucovina Array 38.62 315 P P 06 04 53.0 +1.0
BURAR IAmb IAmb 06 04 59.3
comp=Z,6.4nm,0.8s
BUR08 Bucovina Ar. S 38.64 315 IAmb IAmb 06 04 58.9
comp=Z,6.5nm,0.8s
KMBO Kilima Mbogo 38.94 230 LR LR 06 21 12.3
comp=Z,22nm,18.1s,baz=86,slow=36
KWP Kalwaria Pacla 40.85 317 P P 06 05 11.9 +1.5
KWP Kalwaria Pacla 40.85 317 P P 06 05 12.0 +1.5
KWP pmax pmax
comp=Z,27nm,1.2s
XLT XiLinHaoTe 43.82 53 *eP* P 06 05 37.0 +2.2
XLT pmax pmax
comp=Z,9.0nm,0.7s
XLT pmax pmax
comp=Z,120nm,4.9s
FINES FINESS Array B 44.44 334 P P 06 05 39.2 -0.1
comp=Z,1.7nm,0.4s,baz=129,slow=8.8,SNR=26
comp=Z,1.7nm,0.4s
RONA Rosalia, Austr 44.47 312 *eP* P 06 05 38.5 -1.4
comp=Z,3.6nm,1.0s
CONA Conrad Observa 44.80 313 *eP* P 06 05 41.3 -1.3
comp=Z,2.2nm,1.1s
ARSA Arzberg 44.90 312 *eP* P 06 05 42.6 -0.8
comp=Z,2.5nm,0.5s
NRIK Noril'sk 45.05 11⇑ *eP* P 06 05 44.7 +0.5
NRIK pmax pmax
comp=Z,2.0nm,0.8s
NRIK Noril'sk 45.05 11 P P 06 05 44.6 +0.4
comp=Z,2.2nm,0.7s,baz=192,slow=4.3,SNR=4.2
comp=Z,2.2nm,0.7s
KBA Koelnbreinsper 46.35 311 *eP* P 06 05 54.9 0.0
comp=Z,1.6nm,0.6s
GERES GERESS Array B 46.38 314 P P 06 05 56.5 +1.4
comp=Z,1.3nm,0.6s,baz=76,slow=5.6,SNR=5.9
comp=Z,1.3nm,0.6s
LESA Schwarzleotal 46.84 312 *eP* P 06 05 59.3 +0.5
comp=Z,6.4nm,0.5s
ABTA Abfaltersbach 46.87 311 *eP* P 06 05 59.5 +0.5
comp=Z,7.9nm,1.2s
WTTA Wattenberg 47.53 311 *eP* P 06 06 04.6 +0.4
comp=Z,2.0nm,0.5s
MOTA Moosalm 47.90 311 *eP* P 06 06 06.6 -0.5
comp=Z,2.4nm,0.5s
HFS Hagfors 49.26 328 P P 06 06 16.9 -0.2
comp=Z,0.9nm,0.5s,baz=119,slow=8.4,SNR=5.5
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 49.51 342 P P 06 06 18.7 -0.2
comp=Z,0.8nm,0.4s,baz=142,slow=7.6,SNR=30
comp=Z,0.8nm,0.4s
NOA NORSAR Array B 50.71 329 P P 06 06 27.3 -0.9
comp=Z,1.3nm,0.9s,baz=106,slow=7.3,SNR=2.2
comp=Z,1.3nm,0.9s
HEH HeiHe 52.13 45 *eP* P 06 06 39.8 +0.8
HEH pmax pmax
comp=Z,6.0nm,0.9s
KSRS Korea Array 52.82 62 P P 06 06 44.7 +0.5
comp=Z,3.5nm,0.7s,baz=271,slow=7.8,SNR=13
comp=Z,3.5nm,0.7s
KLR Kul'dur 54.92 47 *c iP* P 06 07 00.1 +0.7
KLR pmax pmax
comp=Z,4.0nm,0.6s
USRK Ussuriysk Ar. 55.28 53 P P 06 07 04.1 +2.0
comp=Z,2.2nm,0.8s,baz=222,slow=2.6,SNR=5.0
comp=Z,2.2nm,0.8s
TIXI Tiksi 56.90 20⇓ *iP* P 06 07 15.8 +2.5
TIXI pmax pmax
comp=Z,6.0nm,1.6s
TOA0 Torodi Ar. Sit 61.61 271 P P 06 07 48.0 +1.3
TORD Torodi Ar. Bea 61.61 271 P P 06 07 48.3 +1.5
TORD Torodi Ar. Bea 61.61 271 P P 06 07 48.4 +1.7
comp=Z,3.9nm,0.7s,baz=56,slow=7.6,SNR=27
comp=Z,3.9nm,0.7s
TSUM Tsumeb 65.27 231 LR LR 06 36 09.0
comp=Z,28nm,18.4s,baz=144,slow=36
SEY Seymchan 65.37 30⇓ *iP* P 06 08 10.7 -0.1
SEY pmax pmax
comp=Z,21nm,2.1s
C19K Lookout Ridge 79.41 15 P P 06 09 35.1 +0.5
D19K Kuna River 80.23 15 P P 06 09 39.4 +0.4
D19K IAmb IAmb 06 09 45.2
comp=Z,3.1nm,0.8s
WRA Warramunga Arr 80.39 118 *eP* P 06 09 42.6 +2.0
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 80.39 118 P P 06 09 41.6 +1.0
comp=Z,1.0nm,0.9s,baz=307,slow=5.5,SNR=5.6
comp=Z,1.0nm,0.9s
F20K Avaraart Lake 81.93 15 P P 06 09 48.5 +0.5
D25K Kavik River 81.95 11 P P 06 09 49.3 +1.1
D25K IAmb IAmb 06 09 54.4
comp=Z,2.0nm,0.7s
ASAR Alice Springs 82.04 121 P P 06 09 50.8 +1.4
comp=Z,0.7nm,0.7s,baz=303,slow=4.8,SNR=4.5
comp=Z,0.7nm,0.7s
G19K Purcell Mounta 82.31 16 P P 06 09 50.5 +0.3
YKA Yellowknife Ar 91.71 0 P P 06 10 35.9 -0.1
comp=Z,0.2nm,0.7s,baz=348,slow=4.5,SNR=3.8
comp=Z,0.2nm,0.7s

*SDD **31** 06:04:08.9±0.9, 18°.71N×66°.61W, h72km±10km, MD2.8, ML2.3, MW2.3*

*RSPR **31** 06:04:09.8, 18°.55N×66°.74W, h77km±2km, MD3.1/6*
ISC 31 06:04:09.6±1.5, 18°.60N±0°.09×66°.73W±0°.05, h70km, n22, σ0.66/26, 4C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.38**	**251⇑**	*eP*		**Pn**	**06 04 21.5**	**+0.1**
AGPR	**Aguadilla, PR**	**0.38**	**251**	*eS*		**Sn**	**06 04 30.7**	**+0.7**
AGPR	**Aguadilla, PR**	**0.38**	**251**	*ePg*		**Pn**	**06 04 21.4**	**+0.1**
AGPR				*eSg*		**Sn**	**06 04 30.7**	**+0.7**
AGPR				IAML			06 04 33.2	
	comp=Z,99nm,1.2s							
CELP	**Cerrillos**	**0.54**	**165⇑**	*eP*		**Pn**	**06 04 22.8**	**0.0**
CELP	**Cerrillos**	**0.54**	**165**	*eS*		**Sn**	**06 04 33.0**	**+0.5**
CELP	**Cerrillos**	**0.54**	**165**	*ePg*		**Pn**	**06 04 22.1**	**-0.8**
CELP				*eSg*		**Sn**	**06 04 32.8**	**+0.2**
LSP	**Las Mesas**	**0.54**	**219⇓**	*iP*		**Pn**	**06 04 23.0**	**+0.2**
LSP	**Las Mesas**	**0.54**	**219**	*eS*		**Sn**	**06 04 33.5**	**+0.9**
OBIP	**Obispado Ponce**	**0.56**	**168⇑**	*eP*		**Pn**	**06 04 22.1**	**-1.0**
OBIP	**Obispado Ponce**	**0.56**	**168**	*eS*		**Sn**	**06 04 32.5**	**-0.5**
GCPR	**Guaynabo City**	**0.68**	**115⇓**	*eP*		**Pn**	**06 04 24.1**	**-0.1**
GCPR	**Guaynabo City**	**0.68**	**115**	*eS*		**Sn**	**06 04 35.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.69**	**212⇓**	*eP*		**Pn**	**06 04 24.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.69**	**212**	*eS*		**Sn**	**06 04 36.0**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.69**	**212**	*ePg*		**Pn**	**06 04 24.2**	**-0.2**
CRPR				*eSg*		**Sn**	**06 04 36.4**	**+1.1**
CRPR				IAML			06 04 38.4	
	comp=Z,68nm,2.1s							
MLPR	**Magueyes Islan**	**0.69**	**206⇑**	*iP*		**Pn**	**06 04 23.4**	**-1.0**
MLPR	**Magueyes Islan**	**0.69**	**206**	*eS*		**Sn**	**06 04 34.8**	**-0.5**
IGPR	**InterUniversit**	**0.86**	**137⇑**	*eP*		**Pn**	**06 04 26.5**	**+0.1**
IGPR	**InterUniversit**	**0.86**	**137**	*eS*		**Sn**	**06 04 39.3**	**+0.4**
HUMP	**Col San Antoni**	**0.95**	**118⇓**	*iP*		**Pn**	**06 04 27.5**	**0.0**
HUMP	**Col San Antoni**	**0.95**	**118**	*eS*		**Sn**	**06 04 40.8**	**+0.1**
HATOM	**Hato Mayor del**	**2.52**	**275**	*ePg*		**Pn**	**06 04 48.5**	**+0.1**
HATOM				*eSg*		**Sn**	**06 05 16.4**	**-1.6**

IDC 31 06:28:43.9±3.1, 54°.31N×87°.10E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.3km s-min=18.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**256**	I	I	I	06 37 46.8	
	0.1nm,0.7s,baz=74,slow=325,SNR=6.1							
ZALV	**Zalesovo Beam**	**1.39**	**256**	Pg	Pg		06 29 08.3	-2.2
	1.4nm,0.3s,baz=71,slow=17,SNR=17							
ZALV				Lg	Lg		06 29 28.6	
	2.0nm,0.3s,baz=77,slow=31,SNR=12							
KURBB	**Kurchatov Arra**	**6.41**	**238**	Pn	Pn		06 30 20.7	+1.3
	0.1nm,0.3s,baz=53,slow=13,SNR=2.8							
KURBB				Lg	Lg		06 32 07.6	
	0.1nm,0.3s,baz=57,slow=34,SNR=1.5							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**8.12**	**204**	Pn	Pn		06 30 44.4	+1.4
	0.1nm,0.3s,baz=16,slow=12,SNR=2.1							
MKAR				Lg	Lg		06 33 00.6	
	baz=17,slow=36,SNR=2.7							
	0.1nm,0.3s							

*IDC **31** 06:37:48.6±1.2, 49°.40S×110°.62E, h0km, mb4.1/5, mbtmp4.1/5, MS3.7/4, Error ellipse: s-maj=52.9km s-min=21.5km az=99.0*
ISC 31 06:37:50.5±1.2, 49°.45S±0°.2×110°.66E±0°.4, h10km, n14, σ1.928/7, mb4.1/5, MS4.2/3, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.70**	**11**	T	T	T	06 56 53.8	
	baz=188,slow=74,SNR=43							
H01W1	**Cape Leeuwin H**	**14.71**	**12**	T	T	T	06 56 57.2	
	baz=188,slow=74,SNR=41							
H01W3	**Cape Leeuwin H**	**14.71**	**11**	T	T	T	06 56 53.0	
	baz=188,slow=74,SNR=26							
NWAO	**Narrogin (SRO)**	**17.16**	**19**	LR	LR		06 46 55.6	
	comp=Z,69nm,19.0s,baz=67,slow=32							
ASAR	**Alice Springs**	**31.51**	**44**	P	**P**		**06 44 12.9**	**+0.3**
	1.7nm,0.8s,baz=211,slow=7.5,SNR=13							
	1.7nm,0.8s							
VNDA	**Vanda**	**34.13**	**162**	P	**P**		**06 44 34.9**	**0.0**
	1.3nm,0.8s,baz=273,slow=6.2,SNR=3.9							
	1.3nm,0.8s							
WRA	**Warramunga Arr**	**34.96**	**41**	P	**P**		**06 44 43.3**	**+0.6**
	2.0nm,0.8s,baz=205,slow=10,SNR=8.1							
	2.0nm,0.8s							
CTA	**Charters Tower**	**40.74**	**57**	LR	LR		07 01 50.2	
	comp=Z,35nm,19.5s,baz=220,slow=35							
QSPA	**South Pole Qui**	**40.75**	**180**	P	**P**		**06 45 32.0**	**+0.7**
	3.3nm,0.8s,baz=7.4,slow=1.5,SNR=7.8							
	3.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**68.32**	**348**	P	**P**		**06 48 52.2**	**+0.5**
	1.6nm,0.3s,baz=185,slow=4.6,SNR=6.1							
	1.6nm,0.3s							
ATD	**Arta Tunnel**	**84.72**	**294**	LR	LR		07 22 13.6	
	comp=Z,85nm,18.7s,baz=146,slow=32							
KSRS	**Korea Array**	**87.81**	**14**	LR	LR		07 28 14.0	
	comp=Z,245nm,21.0s,baz=275,slow=34							
TXAR	**Lajitas Array**	**147.18**	**115**	PKPbc	**PKPdf**		**06 57 30.8**	**-0.8**
	0.8nm,0.8s,baz=196,slow=5.4,SNR=13							
YKA	**Yellowknife Ar**	**152.14**	**45**	PKPbc	**PKPbc**		**06 57 42.6**	**-2.2**
	0.2nm,0.6s,baz=280,slow=2.6,SNR=4.7							

IDC 31 06:50:27.4±2.9, 53°.57N×87°.86E, h0km, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=27.1km s-min=17.8km az=86.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**283**	I	I	I	07 02 40.0	
	0.3nm,1.0s,baz=97,slow=337,SNR=15							
ZALV	**Zalesovo Beam**	**1.84**	**283**	Pn	Pn		06 50 59.9	-0.4
	0.8nm,0.3s,baz=102,slow=14,SNR=24							
ZALV				Sn	Sb		06 51 25.1	-0.5
	1.9nm,0.3s,baz=102,slow=24,SNR=11							
KURBB	**Kurchatov Arra**	**6.46**	**247**	Pn	Pn		06 52 04.3	+0.7
	0.1nm,0.3s,baz=63,slow=15,SNR=5.8							
KURBB				Sn	Sn		06 53 16.8	-1.2
	baz=61,slow=29,SNR=2.3							
KURBB				Lg	Lg		06 53 53.4	
	baz=64,slow=32,SNR=7.1							
	1.4nm,0.5s							
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	Pn		06 52 21.8	+1.5
	0.1nm,0.3s,baz=29,slow=13,SNR=6.7							
MKAR				Sn	Sn		06 53 46.9	-0.8
	baz=29,slow=25,SNR=5.6							
MKAR				Lg	Lg		06 54 29.6	
	baz=28,slow=31,SNR=5.7							
	0.6nm,0.6s							

KRSC 31 06:52:28.5±0.8, 55°.26N×166°.69E, h31km±4km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BKI	**Bering**	**0.41**	**263**	*eP*		Pn	06 52 38.1	-0.1
BKI				*eS*		Sn	06 52 44.4	-0.5
SMKR	**Semkarok**	**3.22**	**296**	*eP*		Pn	06 53 19.9	+3.0
BZP	**Bezymyannyi-Pe**	**3.55**	**283**	*eP*		Pn	06 53 25.8	+4.3
TUMD	**Tumrok D**	**3.60**	**272**	*eP*		Pn	06 53 25.7	+3.6
TUMD				*eS*		Sn	06 54 08.9	+5.4
KMNR	**Kamenistaya**	**3.70**	**280**	*eP*		Pn	06 53 27.4	+3.9
TUMR	**Tumrok**	**3.74**	**273**	*eP*		Pn	06 53 28.5	+4.4
SRDR	**Sredinnyy**	**4.08**	**288**	*eP*		Pn	06 53 33.4	+4.8
SMAR	**Somma**	**5.04**	**250**	*eP*		Pn	06 53 46.3	+4.3
UGLR	**Uglovaya**	**5.05**	**249**	*eP*		Pn	06 53 46.6	+4.6
AVH	**Avacha**	**5.07**	**250**	*eP*		Pn	06 53 47.0	+4.7
KRX	**Arik**	**5.08**	**251**	*eP*		Pn	06 53 46.6	+4.2
KOK	**Koryaka**	**5.11**	**251**	*eP*		Pn	06 53 47.4	+4.5
KRMR	**Karymshinskiy**	**5.60**	**248**	*eP*		Pn	06 53 54.2	+4.7
KRMR				*eS*		Sn	06 54 57.8	+5.1
MTVR	**Mutnovka**	**5.75**	**245**	*eP*		Pn	06 53 56.2	+4.5
MTVR				*eS*		Sn	06 55 00.5	+4.0
GRL	**Gorelyy**	**5.77**	**246**	*eP*		Pn	06 53 56.9	+5.0
ASAK	**Asacha**	**5.95**	**245**	*eP*		Pn	06 53 59.8	+5.5

*BGR **31** 07:06:54.3, 36°.34N×72°.48E, h219km±6km, mb6.0*
*MOS **31** 07:06:58.7±0.9, 36°.52N×70°.92E, h195km, mb6.1/68, MS5.5/11, Error ellipse: s-maj=3.9km s-min=2.8km az=92.0*
*IDC **31** 07:06:59.7±0.9, 36°.40N×70°.88E, h197km±7km, mb5.6/36, mbtmp6.1/41, MS5.3/12, Error ellipse: s-maj=8.7km s-min=6.2km az=179.0*
*NEIC **31** 07:07:00.3, 36°.55N×70°.84E, h192km*
*NEIC **31** 07:07:00.3±1.8, 36°.53N±0°.06×70°.85E±0°.08, h194km±3km, mb5.9/522, Mwb6.2/82, Mww6.2/45, Error ellipse: s-maj=9.3km s-min=8.2km az=81.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.62; $M_{\theta\theta}$-1.72; $M_{\phi\phi}$-0.90; $M_{r\theta}$0.72; $M_{r\phi}$-0.51; $M_{\theta\phi}$1.25; Fault plane solution: M_o2.77000×10^{18} NP1:ϕ_s250.46000°, δ31.40000°, λ109.07000°. NP2:ϕ_s48.41000°, δ60.50000°, λ78.72000°. Principal axes: T 3.0812, Plg72.0000°, Azm292.0000°; N -0.8000, Plg10.0000°, Azm54.0000°; P -2.2812, Plg15.0000°, Azm147.0000°;*
*IPGP **31** 07:07:00.0, 36°.54N×70°.82E, h205km, Mw6.3, Fault plane solution: NP1:ϕ_s49.00000°, δ60.00000°, λ78.00000°. NP2:ϕ_s252.00000°, δ32.00000°, λ110.00000°.*
*NEIC **31** 07:07:00.3, 36°.55N×70°.84E, h190km, Moment Tensor Solution. Duration: 6$\bar{s}$7 Moment tensor: Scale 10^{18}Nm; M_{rr}2.18; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$-0.53; $M_{r\theta}$1.07; $M_{r\phi}$-0.78; $M_{\theta\phi}$1.17; Fault plane solution: M_o2.63000×10^{18} NP1:ϕ_s51.49000°, δ63.42000°, λ80.25000°. NP2:ϕ_s252.51000°, δ28.19000°, λ108.71000°. Principal axes: T 2.7411, Plg70.0000°, Azm301.0000°; N -0.2159, Plg9.0000°, Azm56.0000°; P -2.5252, Plg18.0000°, Azm149.0000°;*
*NEIC **31** 07:07:00.3, 36°.55N×70°.84E, h190km*
*BJI **31** 07:07:00.0±0.0, 36°.55N×70°.90E, h190km, mb5.9/92, mB5.9/62*
*NNC **31** 07:07:01.9±2.0, 36°.86N×70°.65E, h184km±20km, mb5.7, mpv6.8, Error ellipse: s-maj=20.0km s-min=11.1km az=164.0*
*GCMT **31** 07:07:01.3±0.1, 36°.51N×70°.72E, h205km, MW6.2/175, Moment Tensor Solution. s164,c383; s175,c665; Duration: 3$\bar{s}$2 Moment tensor: Scale 10^{18}Nm; M_{rr}2.24±.01; $M_{\theta\theta}$-1.75±.02; $M_{\phi\phi}$-0.49±.02; $M_{r\theta}$1.08±.01; $M_{\theta\phi}$-0.98±.02; $M_{r\phi}$1.45±.01; Best double couple: M_o2.89700×10^{18} NP1:ϕ_s47.00000°, δ65.00000°, λ77.00000°. NP2:ϕ_s255.00000°, δ28.00000°, λ115.00000°. Principal axes: T 2.9510, Plg68.0000°, Azm292.0000°; N -0.1090, Plg12.0000°, Azm52.0000°; P -2.8420, Plg19.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 31 07:07:00.5±0.2, 36°.49N±0°.02×70°.86E±0°.02, h201km±1km, h201km:pP-P, n2320, σ1.979/2937, mb5.8/599, 380C-119D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KBU	**Kabul Universi**	**2.42**	**216**	S		**S**	**07 08 13.4**	**-3.5**
KBU				P		Pn	07 07 37.5	-6.3
KBL	**Kabul**	**2.44**	**218**	Pn		**Pn**	**07 07 43.3**	**-0.8**
KBL	**Kabul**	**2.44**	**218**	PN		**Pn**	**07 07 43.3**	**-0.8**
KBL	**Kabul**	**2.44**	**218**	P		**Pn**	**07 07 42.8**	**-1.3**
	SNR=3295							
KBL				S		**S**	**07 08 15.4**	**-2.0**
SIMJ	**Simiganj**	**2.62**	**326**	Pn		**Pn**	**07 07 43.9**	**-2.0**
NIL	**Nilore**	**3.44**	**145**			**Pn**	**07 07 55.3**	**-0.2**
NIL	**Nilore**	**3.44**	**145**	PN		**Pn**	**07 07 55.3**	**-0.2**
NIL	**Nilore**	**3.44**	**145**	P		**Pn**	**07 07 55.4**	**-0.2**
BTK	**Batken**	**3.57**	**359**			**Pn**	**07 07 56.6**	**-0.4**
BTK	**Batken**	**3.57**	**359**	PN		**Pn**	**07 07 56.6**	**-0.4**
OHH	**Osh**	**4.30**	**20**	*e*PN		**Pn**	**07 08 03.2**	**-2.9**
TRKS	**Terek-Say**	**5.04**	**2**	*e*PN		**Pn**	**07 08 13.3**	**-2.2**
KSH	**Kashi**	**5.04**	**52**	P		Pn	07 08 10.5	-5.0
KSH				S		S	07 09 04.0	-10
KSH				smax		smax		
	comp=N,67μm,0.6s							
KSH				smax		smax		
	comp=E,63μm,1.0s							
ARSB	**Arslanbob**	**5.11**	**18**	Pn		**Pn**	**07 08 14.8**	**-1.5**
ARSB	**Arslanbob**	**5.11**	**18**	PN		**Pn**	**07 08 14.8**	**-1.5**
ARK	**Arkit**	**5.37**	**9**	*e*PN		**Pn**	**07 08 17.9**	**-1.8**
ARLS	**Aral**	**6.00**	**26**	*e*PN		**Pn**	**07 08 25.6**	**-2.2**
DHRM	**DHARAMSHALA**	**6.17**	**132**	*e*P		**Pn**	**07 08 28.9**	**-1.3**
DHRM				*e*S		**S**	**07 09 38.6**	**-2.3**
NRN	**Naryn**	**6.36**	**37**			**Pn**	**07 08 30.9**	**-1.7**
NRN	**Naryn**	**6.36**	**37**	PN		**Pn**	**07 08 30.9**	**-1.7**
UCH	**Uchtor**	**6.39**	**25**	P		**Pn**	**07 08 31.6**	**-1.6**
	SNR=1639							
UCH	**Uchtor**	**6.39**	**25**	*e*PN		**Pn**	**07 08 31.7**	**-1.5**
EKS2	**Erkin-Say**	**6.56**	**19**	P		**Pn**	**07 08 33.6**	**-1.4**
	SNR=3144							
EKS2	**Erkin-Say**	**6.56**	**19**	*e*PN		**Pn**	**07 08 33.8**	**-1.3**
KK31	**Karatay Array**	**6.61**	**358**	P		**Pn**	**07 08 33.9**	**-1.8**
	2μm,0.4s,baz=187,slow=13							
KK31				⇑S		**S**	**07 09 42.8**	**-8.1**
	23μm,0.8s,baz=182,slow=17,SNR=21							
KK31	**Karatay Array**	**6.61**	**358**			**Pn**	**07 08 34.0**	**-1.7**
KK31	**Karatay Array**	**6.61**	**358**	*e*PN		**Pn**	**07 08 33.8**	**-1.8**
KKAR	**Karatay Array**	**6.61**	**358**			**Pn**	**07 08 33.9**	**-1.7**
KKAR	**Karatay Array**	**6.61**	**358**			**Pn**	**07 08 33.9**	**-1.7**
KKAR	**Karatay Array**	**6.61**	**358**	PN		**Pn**	**07 08 33.9**	**-1.7**
AAK	**Ala-Archa**	**6.75**	**23**	P		**Pn**	**07 08 36.2**	**-1.3**
	SNR=4131							
AAK	**Ala-Archa**	**6.75**	**23**			**Pn**	**07 08 36.4**	**-1.1**
AAK	**Ala-Archa**	**6.75**	**23**	*i* P		**Pn**	**07 08 36.6**	**-1.0**
	SNR=4386							
AAK	**Ala-Archa**	**6.75**	**23**	⇓P		**Pn**	**07 08 36.2**	**-1.3**
AAK	**Ala-Archa**	**6.75**	**23**	PN		**Pn**	**07 08 36.4**	**-1.1**
AAK	**Ala-Archa**	**6.75**	**23**	P		**Pn**	**07 08 36.2**	**-1.3**
	2μm,0.3s,baz=153,slow=3.3,SNR=2762							
AAK				S		**S**	**07 09 50.1**	**-4.3**
	8μm,0.6s,baz=328,slow=23,SNR=18							
AAK				LR		LR	07 11 13.2	
	comp=Z,25μm,20.3s,baz=164,slow=37							
AAK	**Ala-Archa**	**6.75**	**23**	P		**Pn**	**07 08 36.2**	**-1.3**
AAK				P		**Pn**	**07 08 36.2**	**-1.3**
AAK				S		**S**	**07 09 51.8**	**-2.5**
AAK				S		**S**	**07 09 51.8**	**-2.5**
KBK	**Karagaybulak**	**6.92**	**26**	P		**Pn**	**07 08 38.6**	**-1.1**
	SNR=1152							
KBK	**Karagaybulak**	**6.92**	**26**	*e*PN		**Pn**	**07 08 38.6**	**-1.1**
FRU1	**Bishkek**	**6.95**	**24**			**Pn**	**07 08 39.1**	**-0.9**
FRU1	**Bishkek**	**6.95**	**24**	PN		**Pn**	**07 08 39.1**	**-0.9**
ULHL	**Ulahol**	**7.10**	**34**	P		**Pn**	**07 08 40.6**	**-1.6**
	SNR=353							
ULHL	**Ulahol**	**7.10**	**34**	*i* PN		**Pn**	**07 08 40.0**	**-2.1**
CHMS	**Chumysh**	**7.16**	**24**	P		**Pn**	**07 08 41.0**	**-1.8**
	SNR=405							
CHMS	**Chumysh**	**7.16**	**24**	⇑P		**Pn**	**07 08 40.8**	**-1.9**
	4μm,0.8s							
CHMS	**Chumysh**	**7.16**	**24**	*e*PN		**Pn**	**07 08 41.5**	**-1.2**
BOOM	**Boomskoye usch**	**7.17**	**32**			**Pn**	**07 08 42.0**	**-0.9**
BOOM	**Boomskoye usch**	**7.17**	**32**	PN		**Pn**	**07 08 42.0**	**-0.9**
USP	**Ospenovka**	**7.33**	**21**	P		**Pn**	**07 08 42.6**	**-2.3**
	SNR=1877							
USP	**Ospenovka**	**7.33**	**21**	*e*PN		**Pn**	**07 08 42.6**	**-2.3**
HRA	**Herat**	**7.34**	**256**	Pn		**Pn**	**07 08 44.7**	**-0.6**
TKM2	**Tokmak 2**	**7.39**	**28**	P		**Pn**	**07 08

PRZ Przheval'sk 8.35 42 Pn 07 08 57.5 -0.9
PRZ Przheval'sk 8.35 42 PN Pn 07 08 57.5 -0.9
DDI Dehra Dun 8.60 134 *i* P Pn 07 08 59.9 -1.7
CHKK Chushkaly 8.72 31 *e*P Pn 07 09 00.5 -2.6
baz=31
CHKK Chushkaly 8.72 31 *e*PN Pn 07 09 00.4 -2.6
SATY Saty 8.76 39 *e*P Pn 07 09 01.4 -2.3
comp=Z,217nm,0.7s,baz=39
SATY Saty 8.76 39 *e*PN Pn 07 09 01.3 -2.3
SATY pmax pmax
comp=Z,217nm,0.7s
ZHN Zhinishke 8.85 39 *e*P Pn 07 09 03.2 -1.6
comp=Z,265nm,0.9s,baz=39
ZHN Zhinishke 8.85 39 *e*PN Pn 07 09 03.2 -1.6
ZHN pmax pmax
comp=Z,265nm,0.9s
BTLS Baital 8.88 15⇓*i*P Pn 07 09 02.9 -2.2
comp=Z,320nm,0.8s,baz=15
BTLS Baital 8.88 15*d i*PN Pn 07 09 02.8 -2.2
BTLS pmax pmax
comp=Z,320nm,0.8s
UZB Uzynbulak 9.14 41 *e*P Pn 07 09 07.0 -1.6
baz=41
UZB Uzynbulak 9.14 41 *e*P Pn 07 09 07.0 -1.6
KPKS Kokpek 9.20 38⇓*i*P Pn 07 09 07.2 -2.0
comp=Z,391nm,0.8s,baz=38
KPKS Kokpek 9.20 38*d i*P Pn 07 09 07.2 -2.0
KPKS pmax pmax
comp=Z,391nm,0.8s
SHLS Shalkode 9.38 42⇓*i*P Pn 07 09 13.2 +1.4
comp=Z,211nm,0.8s,baz=43
SHLS Shalkode 9.38 42*d i*P Pn 07 09 13.1 +1.4
SHLS pmax pmax
comp=Z,211nm,0.8s
KNOS Konyrlen 10.10 36 Lg Lg 07 11 01.2
comp=Z,571nm,0.8s
TDK Taldyqorghan 10.25 32 P Pn 07 09 21.1 -1.7
TDK Taldyqorghan 10.25 32 *e*P Pn 07 09 20.9 -1.9
comp=Z,435nm,1.0s,baz=32
TDK Taldyqorghan 10.25 32 *e*P Pn 07 09 20.9 -1.9
TDK pmax pmax
comp=Z,435nm,1.0s
GEYT Alibeck 10.27 282 Pn 07 09 19.8 -3.4
GEYT Alibeck 10.27 282 P Pn 07 09 19.8 -3.4
GEYT Alibeck 10.27 282 P Pn 07 09 20.4 -2.8
comp=Z,708nm,0.7s,baz=104,slow=12,SNR=423
GEYT S **S** 07 11 16.1 -2.1
comp=Z,971nm,0.6s,baz=66,slow=43,SNR=3.5
GYA0B ALIBECK ARRAY 10.27 282 ⇑P Pn 07 09 19.3 -3.9
GYA0B ⇓S **S** 07 11 14.4 -3.9
GYA0B ALIBECK ARRAY 10.27 282 Pn 07 09 20.2 -2.9
MAKZ Makanchi 13.23 35 ⇑P Pn 07 09 58.9 -1.7
comp=Z,1μm,0.9s
MAKZ Makanchi 13.23 35 Pn Pn 07 10 00.2 -0.4
MAKZ Makanchi 13.23 35 ⇓P Pn 07 09 58.5 -2.2
MAKZ Makanchi 13.23 35 P Pn 07 10 00.2 -0.4
MK31 Makanchi Array 13.37 36 ⇓P Pn 07 10 00.9 -1.5
comp=Z,1μm,0.9s,baz=213,slow=10,SNR=3822
MK31 Makanchi Array 13.37 36 Pn Pn 07 10 01.9 -0.5
MK31 Makanchi Array 13.37 36 P Pn 07 10 01.9 -0.5
MKAR Makanchi Array 13.37 36 Pn Pn 07 10 01.4 -1.0
MKAR Makanchi Array 13.37 36 *i* P Pn 07 10 00.6 -1.8
MKAR pmax pmax
comp=Z,276nm,0.7s
MKAR Makanchi Array 13.37 36 P Pn 07 10 00.6 -1.8
comp=Z,98nm,0.6s,baz=214,slow=9.6,SNR=385
MKAR S **S** 07 12 36.1 +5.0
comp=Z,638nm,1.1s,baz=216,slow=20,SNR=2.7
MKAR P3KPbc 07 45 45.1
comp=Z,0.4nm,0.7s,baz=115,slow=4.5,SNR=3.5
BRZS Berezniki 13.55 5⇓*i*P Pn 07 10 02.6 -2.0
baz=5.0
BRZS Berezniki 13.55 5*d i*P Pn 07 10 02.6 -2.0
NGCH Negor - Chabah 13.87 220 P Pn 07 10 08.6 -0.1
SNR=16
NGCH S **S** 07 12 44.8 +1.6
WMQ Urumqi 14.79 55 *e*P Pn 07 10 19.3 -0.8
WMQ S **S** 07 13 02.3 -2.0
WMQ pmax pmax
comp=Z,880nm,0.9s
WMQ pmax pmax
comp=Z,4μm,3.7s
AB31 Akbulak array 15.04 331 P Pn 07 10 20.9 -2.0
comp=Z,336nm,0.4s,baz=144,slow=11
AB31 ⇓S **S** 07 13 06.3 -3.5
comp=Z,646nm,0.7s,baz=154,slow=23,SNR=3.4
AB31 Akbulak array 15.04 331 *e*P Pn 07 10 20.9 -2.0
ABKAR Akbulak array 15.04 331 Pn Pn 07 10 21.2 -1.8
ABKAR Akbulak array 15.04 331 Pn Pn 07 10 21.0 -1.9
ABKAR Akbulak array 15.04 331 ⇑P Pn 07 10 20.9 -2.1
ZSN Zaisan 15.09 39 P Pn 07 10 23.1 -0.5
KURBB Kurchatov Arra 15.17 19 ⇓P Pn 07 10 21.6 -2.9
comp=Z,569nm,0.6s
KURBB Kurchatov Arra 15.17 19 P Pn 07 10 21.6 -2.9
comp=Z,529nm,0.9s,baz=209,slow=11,SNR=196
KURBB S **S** 07 13 11.2 -1.5
comp=Z,233nm,1.1s,baz=206,slow=14,SNR=5.3
KURBB ScP **ScP** 07 18 31.8 +0.3
comp=Z,72nm,0.9s,baz=222,slow=1.2,SNR=4.1
KURBB PKiKP **PKiKP** 07 23 09.8 -1.3
comp=Z,3.4nm,0.5s,baz=229,slow=0.5,SNR=11
KURBB P3KPbc 07 45 32.6
comp=Z,0.8nm,0.3s,baz=22,slow=3.3,SNR=6.6
KURK Kurchatov 15.28 19 ⇑P Pn 07 10 22.3 -3.5
comp=Z,455nm,0.8s
KURK Kurchatov 15.28 19 Pn Pn 07 10 23.4 -2.4
KURK Kurchatov 15.28 19*d i*P Pn 07 10 22.7 -3.1
KURK pmax pmax
comp=Z,611nm,1.0s
KURK Kurchatov 15.28 19 P Pn 07 10 23.6 -2.2
KURK S **S** 07 13 10.8 -4.4
SEM Semipalatinsk 15.48 23⇓*i*P Pn 07 10 26.6 -1.9
comp=Z,313nm,1.0s,baz=23
SEM *e*sP sP 07 11 15.6 -13
baz=23
SEM *i* S **S** 07 13 18.5 -1.7
baz=23
SEM Semipalatinsk 15.48 23*d i*P Pn 07 10 26.5 -1.9
SEM *i* S **S** 07 13 18.4 -1.7
SEM pmax pmax
comp=Z,313nm,1.0s
BANOM Banah 16.29 234 *i* P **P** 07 10 37.2 -0.4
SNR=42
BANOM Banah 16.29 234 P **P** 07 10 37.0 -0.6
BANOM S **S** 07 13 36.6 -1.5
SHME Shamm 16.31 234 *i* P **P** 07 10 36.9 -0.8
SNR=78
SHME Shamm 16.31 234 P **P** 07 10 37.6 -0.2
SNR=18
SHME P **P** 07 10 37.6 -0.2
SNR=18
SHME S **S** 07 13 35.4 -3.0
SHME S **S** 07 13 35.4 -3.0
BVA0 Borovoye Array 16.54 359 P **P** 07 10 39.7 -0.3
comp=Z,2μm,1.4s,baz=167,slow=12,SNR=2791
BVA0 ⇑S **S** 07 13 35.1 -7.5
comp=Z,36nm,0.7s,baz=167,slow=23,SNR=6.4
BVA0 Borovoye Array 16.54 359 *i* P **P** 07 10 39.7 -0.3
BVAR Borovoye Array 16.54 359 P **P** 07 10 39.7 -0.3
comp=Z,404nm,0.6s,baz=171,slow=10,SNR=636
BVAR S **S** 07 13 35.8 -6.8
comp=Z,122nm,0.6s,baz=183,slow=21,SNR=1.8
BRVK Borovoye 16.57 359 ⇓P **P** 07 10 40.7 +0.3
comp=Z,2μm,1.1s
BRVK Borovoye 16.57 359 P **P** 07 10 39.2 -1.2
BRVK Borovoye 16.57 359 ⇑P **P** 07 10 40.3 -0.1
BRVK Borovoye 16.57 359*d i*P **P** 07 10 40.6 +0.3
BRVK pmax pmax
comp=Z,2μm,1.3s
BRVK Borovoye 16.57 359 P Pn 07 10 40.9 -0.4
BRVK P Pn 07 10 40.9 -0.4
BRVK S **S** 07 13 39.3 -4.0
BRVK S **S** 07 13 39.3 -4.0
MDH Madha 16.73 232 *i* P **P** 07 10 41.1 -1.3
SNR=99
MDH Madha 16.73 232 P **P** 07 10 41.4 -1.0
SNR=44
MDH P **P** 07 10 41.4 -1.0
SNR=44
MDH S **S** 07 13 44.2 -2.6
MDH S **S** 07 13 44.2 -2.6
AKTO Aktyubinsk 16.74 330 ⇑P **P** 07 10 42.1 -0.1
comp=Z,2μm,0.9s
AKTO Aktyubinsk 16.74 330 P **P** 07 10 42.5 +0.3
comp=Z,2μm,0.7s,baz=142,slow=8.7,SNR=3241

AKTO S **S** 07 13 40.2 -6.4
comp=Z,166nm,0.6s,baz=29,slow=19,SNR=1.4
MASF Masafi 16.77 233 P **P** 07 10 42.8 -0.1
SNR=45
MASF P **P** 07 10 42.8 -0.1
SNR=45
MASF S **S** 07 13 45.1 -2.6
MASF S **S** 07 13 45.1 -2.6
MSFE Esma-Masafi 16.78 233 *i* P **P** 07 10 42.2 -0.7
SNR=74
WSAR Wadi Sarin 16.91 222 P **P** 07 10 44.4 0.0
comp=Z,192nm,0.5s,baz=70,slow=8.9,SNR=86
WSAR ScP **ScP** 07 18 34.3 -1.0
comp=Z,82nm,0.9s,baz=345,slow=2.4,SNR=6.9
WSAR Wadi Sarin 16.91 222 P Pn 07 10 45.5 -0.3
SNR=24
WSAR S **S** 07 13 49.7 -0.9
BIDO Bidbid 16.97 224 P **P** 07 10 44.7 -0.2
SNR=12
BIDO S **S** 07 13 49.8 -1.7
UMQ Umm Al-Quwin 16.98 234 *i* P Pn 07 10 46.1 -0.4
SNR=6.2
UMQ Umm Al-Quwin 16.98 234 P Pn 07 10 47.3 +0.8
SNR=7.2
UMQ P Pn 07 10 47.3 +0.8
SNR=7.2
UMQ S **S** 07 13 53.4 +1.6
UMQ S **S** 07 13 53.4 +1.6
UOSS Minazif 17.04 232 P **P** 07 10 44.6 -1.1
UOSS Minazif 17.04 232 *i* P **P** 07 10 44.1 -1.6
SNR=31
UOSS Minazif 17.04 232 P **P** 07 10 44.3 -1.5
UOSS S **S** 07 13 51.1 -2.0
HATD Hatta, Dubai 17.17 232 *i* P **P** 07 10 46.9 -0.4
SNR=19
HATD Hatta, Dubai 17.17 232 P **P** 07 10 46.5 -0.7
SNR=38
HATD P **P** 07 10 46.5 -0.7
SNR=38
HATD S **S** 07 13 55.1 -0.6
HATD S **S** 07 13 55.1 -0.6
WBK Wadi Bani Khal 17.25 220 P Pn 07 10 49.4 -0.3
SNR=15
WBK S **S** 07 13 58.5 +1.3
ASHO Ashiyiah 17.32 231 *i* P **P** 07 10 49.4 +0.5
SNR=483
ASHO Ashiyiah 17.32 231 P **P** 07 10 49.2 +0.3
SNR=60
ASHO S **S** 07 13 58.8 +0.1
NAZ Nazwa, Dubai 17.36 233 *i* P **P** 07 10 49.5 +0.3
SNR=54
NAZ Nazwa, Dubai 17.36 233 P **P** 07 10 49.3 +0.1
SNR=42
NAZ P **P** 07 10 49.3 +0.1
SNR=42
NAZ S **S** 07 13 56.7 -2.6
NAZ S **S** 07 13 56.7 -2.6
SMDO Samad 17.38 223 P **P** 07 10 50.0 +0.4
SNR=22
SMDO S **S** 07 13 59.4 -0.6
HOQ Hoqain 17.38 226 P **P** 07 10 49.8 +0.2
SNR=9.2
HOQ P **P** 07 10 49.8 +0.2
SNR=9.2
HOQ S **S** 07 14 01.4 +1.5
HOQ S **S** 07 14 01.4 +1.5
JLN Jalan Bani Buh 17.41 218 P Pn 07 10 50.9 -0.6
SNR=18
JLN S **S** 07 14 01.3 +1.0
SOHO SOHO 17.43 229 *i* P **P** 07 10 50.0 0.0
SNR=24
SOHO SOHO 17.43 229 P **P** 07 10 49.8 -0.2
SOHO P **P** 07 10 49.8 -0.2
FAQ Al Faqa, Dubai 17.57 232 *i* P **P** 07 10 51.6 0.0
SNR=41
FAQ Al Faqa, Dubai 17.57 232 P **P** 07 10 51.4 -0.2
SNR=24
FAQ P **P** 07 10 51.4 -0.2
SNR=24
FAQ S **S** 07 14 01.9 -1.8
FAQ S **S** 07 14 01.9 -1.8
GTK Tadong 17.59 116⇓*i*P Pn 07 10 53.3 -0.5
ASUD Al Ashush, Dub 17.82 233 *i* P **P** 07 10 55.0 +0.6
SNR=35
ASUD Al Ashush, Dub 17.82 233 P **P** 07 10 54.5 +0.2
SNR=14
ASUD P **P** 07 10 54.5 +0.2
SNR=14
ASUD S **S** 07 14 07.8 -0.9
ASUD S **S** 07 14 07.8 -0.9
JMDO Jabal Madar 17.90 222 P **P** 07 10 56.1 +0.9
SNR=42
JMDO P **P** 07 10 56.1 +0.9
SNR=42
JMDO S **S** 07 14 11.3 +1.0
JMDO S **S** 07 14 11.3 +1.0
ALNE Al Ain 17.97 231 *i* P **P** 07 10 56.4 +0.5
SNR=212
ALNE Al Ain 17.97 231 P **P** 07 10 56.1 +0.2
SNR=55
ALNE P **P** 07 10 56.1 +0.2
SNR=55
ALNE S **S** 07 14 11.4 -0.2
ALNE S **S** 07 14 11.4 -0.2
ARQ Araqi 18.04 227 P **P** 07 10 57.4 +0.7
SNR=47
ARQ P **P** 07 10 57.4 +0.7
SNR=47
ARQ S **S** 07 14 13.0 0.0
ARQ S **S** 07 14 13.0 0.0
POO Poona 18.08 171 *e*P **P** 07 10 58.2 +1.0
AJN Ajban 18.09 233 *i* P **P** 07 10 57.7 +0.5
SNR=13
AJN Ajban 18.09 233 P **P** 07 10 57.3 +0.1
SNR=34
AJN P **P** 07 10 57.3 +0.1
SNR=34
AJN S **S** 07 14 12.3 -1.7
AJN S **S** 07 14 12.3 -1.7
BSY Bisya 18.10 225 P **P** 07 10 58.4 +1.0
SNR=34
BSY P **P** 07 10 58.4 +1.0
SNR=34
BSY S **S** 07 14 15.7 +1.5
BSY S **S** 07 14 15.7 +1.5
BOK Bokaro 18.10 130 *e*P **P** 07 10 58.2 +0.8
BOK ⇓*i*P Pn 07 10 58.3 -1.4
BOK *i* x x 07 12 02.9
LSA Lhasa 18.28 106 P Pn 07 11 02.2 +0.1
LSA P Pn 07 11 02.2 +0.1
MAK Makhachkala 19.07 297*d i*P **P** 07 11 08.5 +0.9
MAK *e*S **S** 07 14 36.8 +3.9
MAK pmax pmax
comp=Z,935nm,0.8s
MAK MLR MLR
comp=Z,22μm,13.0s
MHTO MHTO 19.11 220 P **P** 07 11 09.5 +1.2
SNR=72
MHTO P **P** 07 11 09.5 +1.2
SNR=72
MHTO S **S** 07 14 36.2 +2.0
MHTO S **S** 07 14 36.2 +2.0
JRN Qarnain Island 19.26 238 P **P** 07 11 08.4 -1.4
SNR=19
JRN P **P** 07 11 08.4 -1.4
SNR=19
GOMU GeErMu 19.29 84 P **P** 07 11 11.8 +1.3
GOMU sP sP 07 12 03.8 -7.4
GOMU S **S** 07 14 37.0 -1.2
GOMU pmax pmax
comp=Z,460nm,1.1s
UMZA Um Al Zommool 19.32 229 P **P** 07 11 10.4 -0.1
UMZA P **P** 07 11 10.4 -0.1
UMZA S **S** 07 14 35.1 -3.2
UMZA S **S** 07 14 35.1 -3.2
MZWR Madinat Zayed 19.37 234 P **P** 07 11 09.1 -1.9
MZWR P **P** 07 11 09.1 -1.9
GHWR Ruwais 19.89 236 P **P** 07 11 15.3 -1.4
GHWR P **P** 07 11 15.3 -1.4
ZAA0 Zalesovo Array 19.97 25 ⇑P **P** 07 11 16.7 -0.5
comp=Z,229nm,0.8s
ZAA0 Zalesovo Array 19.97 25 P **P** 07 11 17.6 +0.4
ZALV Zalesovo Beam 19.97 25 P **P** 07 11 16.6 -0.6
ZALV Zalesovo Beam 19.97 25 P **P** 07 11 17.2 0.0
comp=Z,1μm,0.6s,baz=222,slow=11,SNR=1010

ZALV S **S** 07 14 47.3 -3.1
comp=Z,384nm,0.8s,baz=217,slow=19,SNR=5.2
ZALV PKiKP **PKiKP** 07 23 11.9 -1.0
comp=Z,5.1nm,0.5s,baz=169,slow=1.7,SNR=4.9
ZALV P3KPbc 07 45 27.6
comp=Z,1.0nm,0.6s,baz=39,slow=5.5,SNR=3.1
ZALV P3KP 07 46 08.2
comp=Z,3.4nm,0.8s,baz=321,slow=2.1,SNR=6.6
comp=Z,1μm,0.6s
SHMA Al-Shehemyia 20.02 244 P **P** 07 11 17.1 -0.9
SNR=33
SHMA S **S** 07 14 48.1 -3.7
MZR Muzera 20.17 233 *i* P **P** 07 11 18.4 -1.1
SNR=19
MZR Muzera 20.17 233 P **P** 07 11 18.6 -1.0
SNR=7.7
MZR S **S** 07 14 50.7 -4.1
HYB Hyderabad 20.18 158⇓*e*P **P** 07 11 20.2 +0.4
HYB IVmB_BB 07 11 24.2
comp=Z,17μm,2.2s
HYB *e*pP **pP** 07 11 52.8 -0.5
HYB *e* 07 12 20.1
HYB *e*S **S** 07 14 57.3 +2.2
HYB Hyderabad 20.18 158 *e*P **P** 07 11 20.1 +0.4
HYB *i* sP **sP** 07 12 16.9 -2.0
DQM DQM 20.21 219 P **P** 07 11 20.5 +0.4
SNR=14
DQM S **S** 07 14 56.4 +0.7
SAKB Bahrain 20.26 245 P **P** 07 11 19.7 -0.8
SAKB S **S** 07 14 52.7 -3.8
TRNA Turayna 20.53 241 P **P** 07 11 21.7 -1.7
SNR=11
SLWR Sila 20.63 238 P **P** 07 11 22.5 -1.9
SLWR P **P** 07 11 22.5 -1.9
KBD Kabd 20.76 256 P **P** 07 11 25.9 0.0
KBD S **S** 07 15 05.2 -0.9
GNI Garni 20.79 288 P **P** 07 11 28.2 +1.9
GNI Garni 20.79 288 ⇑P **P** 07 11 28.0 +1.7
GNI Garni 20.79 288*c i*P **P** 07 11 28.3 +2.0
GNI Garni 20.79 288 P **P** 07 11 27.9 +1.7
comp=Z,870nm,0.9s,baz=52,slow=2.4,SNR=158
comp=Z,870nm,0.9s
SMRA Abu-Samra 20.80 241 P **P** 07 11 24.7 -1.5
SNR=42
SMRA S **S** 07 15 01.7 -5.0
SHL Shillong 21.00 115⇓*i*P **P** 07 11 28.5 -0.1
SHL AMP 07 11 29.9
comp=Z,219nm,0.4s
SHL *i* x x 07 12 28.3
GOA Goa 21.08 172 *e*P **P** 07 11 30.0 +0.8
GOA *i* sP **sP** 07 12 28.5 -0.2
GOA *i* x x 07 12 31.9
TEZP TEZPUR 21.08 112 *e*P **P** 07 11 29.5 +0.3
TEZP AMP 07 11 29.8
comp=Z,352nm,0.1s
TEZP *i* x x 07 12 30.6
ZIRO ZIRO 21.40 108 *e*P **P** 07 11 33.0 +0.2
SVE Sverdlovsk 21.48 345*d i*P **P** 07 11 33.5 +0.5
SVE *i* S **S** 07 15 20.3 +2.5
SVE pmax pmax
comp=Z,2μm,1.1s
ITAN ITANAGAR 21.50 109 *e*P **P** 07 11 34.3 +0.7
ITAN AMP 07 11 36.3
comp=Z,2μm,0.2s
ITAN *i* x x 07 12 37.2
AGT Agartala 21.59 120⇓*i*P **P** 07 11 35.8 +1.4
ARU Arti 21.61 341 P **P** 07 11 34.1 -0.3
ARU Arti 21.61 341 ⇑P **P** 07 11 34.1 -0.3
ARU Arti 21.61 341*c i*P **P** 07 11 34.3 -0.1
ARU *PP **pP** 07 12 07.6 -1.5
ARU S **S** 07 15 22.4 +2.5
ARU pmax pmax
comp=Z,3μm,1.0s
ARU Arti 21.61 341 P **P** 07 11 34.4 +0.1
comp=Z,1μm,0.8s,baz=138,slow=6.3,SNR=528
comp=Z,1μm,0.8s
ZEI Tsey 21.64 295 *e*P **P** 07 11 34.2 -1.0
ZEI pmax pmax
comp=Z,435nm,0.7s
JORH JORHAT 22.11 109 *e*P **P** 07 11 40.3 +0.7
JORH *i* x x 07 12 42.1
BELO BELONIA 22.14 121 *i* x sP 07 12 43.1 +2.4
KBZ Khabaz 22.51 297 P **P** 07 11 43.0 -0.1
comp=Z,164nm,0.7s,baz=111,slow=6.4,SNR=287
comp=Z,164nm,0.7s
MOKO MOKOCHONG 22.54 110 *e*P **P** 07 11 44.4 +0.7
MOKO AMP 07 11 45.1
comp=Z,312nm,0.1s
BRDH Bariadhala 22.65 122 S **S** 07 15 41.5 +4.2
comp=Z,88nm,0.3s,baz=90,slow=20,SNR=0.9
GOF Gofitskoye 22.66 301*c i*P **P** 07 11 45.2 +0.8
KVAR Kislovodsk Arr 22.69 298 P **P** 07 11 45.3 +0.4
comp=Z,64nm,0.8s,baz=232,slow=20,SNR=20
comp=Z,64nm,0.8s
AZL Aizawl 22.70 118⇓*i*P **P** 07 11 46.4 +1.3
AZL AMP 07 11 47.5
comp=Z,722nm,0.7s
AZL *i* x x 07 12 48.8
KIV Kislovodsk 22.70 298 ⇑P **P** 07 11 45.6 +0.7
KIV Kislovodsk 22.70 298 *i* P **P** 07 11 45.6 +0.7
SNR=60
KIV Kislovodsk 22.70 298 ⇑P **P** 07 11 45.0 0.0
KIV Kislovodsk 22.70 298 *e*P **P** 07 11 45.2 +0.3
KIV *e**SP **sP** 07 12 44.2 -2.1
KIV *e*S **S** 07 15 40.0 +2.1
KIV pmax pmax
comp=Z,2μm,4.4s
KIV pmax pmax
comp=Z,321nm,1.0s
KIV MLR MLR
comp=Z,11μm,14.0s
KIV Kislovodsk 22.70 298 P **P** 07 11 44.8 -0.1
KIV P **P** 07 11 44.8 -0.1
SHAO Shalim 22.79 220 *i* P **P** 07 11 46.7 +0.8
SNR=53
SHAO Shalim 22.79 220 P **P** 07 11 46.1 +0.2
SHAO P **P** 07 11 46.1 +0.2
SHAO S **S** 07 15 41.1 +1.5
SHAO S **S** 07 15 41.1 +1.5
BELG Belogornoye 22.83 321*c i*P **P** 07 11 46.1 +0.2
BELG pmax pmax
comp=Z,650nm,0.8s
BELG Belogornoye 22.83 321 P **P** 07 11 46.1 +0.2
comp=Z,5μm,0.8s,baz=154,slow=3.3,SNR=960
IMP Imphal 22.94 114⇓*i*P **P** 07 11 49.3 +2.0
IMP *i* x x 07 12 49.7
GTA Gaotai 22.97 74 P **P** 07 11 49.5 +2.0
GTA pP pP 07 12 30.0 +4.9
GTA sP sP 07 12 52.5 +1.8
GTA S **S** 07 15 45.0 +2.5
GTA SS **sS** 07 16 50.3 +0.5
GTA pmax pmax
comp=Z,380nm,0.9s
GTA pmax pmax
comp=Z,2μm,4.4s
GTA LR LR
comp=Z,7μm,16.7s
GTA LR LR
comp=Z,6μm,17.1s
GTA LR LR
comp=Z,6μm,16.4s
LKP Lekhapani 23.04 106⇓*i*P **P** 07 11 48.7 +0.7
DOK Doka 23.11 224 P **P** 07 11 48.7 0.0
SNR=29
DOK P **P** 07 11 48.7 0.0
SNR=29
DOK S **S** 07 15 45.3 +0.6
DOK S **S** 07 15 45.3 +0.6
BCA Borcka 23.21 291 ⇑P **P** 07 11 51.2 +1.7
DMTO DMTO 23.40 221 P **P** 07 11 51.2 -0.1
DMTO P **P** 07 11 51.2 -0.1
DMTO S **S** 07 15 50.1 +0.8
DMTO S **S** 07 15 50.1 +0.8
SAIH SAIHA 23.70 120 *e*P **P** 07 11 56.0 +1.8
WHFO Wadi Hawf 23.87 224 P **P** 07 11 55.6 -0.1
SNR=47
WHFO P **P** 07 11 55.6 -0.1
SNR=47
WHFO S **S** 07 15 57.1 +0.1
WHFO S **S** 07 15 57.1 +0.1
RBK Rabkut 23.97 222 P **P** 07 11 56.5 -0.1
SNR=21
RBK P **P** 07 11 56.5 -0.1
SNR=21

RBK				S	**S**	**07 16 01.1 +2.5**
RBK				S	**S**	**07 16 01.1 +2.5**
LABN	**Labinsk**	**24.20**	**299**	*eP*	**P**	**07 11 58.2 -0.2**
LABN				*e**PP	**pP**	**07 12 34.2 -2.7**
LABN				*eS*	**S**	**07 16 04.0 +2.3**
LABN				pmax	pmax	
	comp=Z,403nm,0.8s					
ERBR	**Yeremizino-Bor**	**24.56**	**302**	*eP*	**P**	**07 12 00.6 -1.1**
ERBR				*e**PP	**pP**	**07 12 37.3 -3.5**
ERBR				*eS*	**S**	**07 16 08.3 +0.9**
ERBR				pmax	pmax	
	comp=Z,689nm,0.8s					
ABTO	**Aybut**	**24.59**	**224**	P	**P**	**07 12 02.5 +0.2**
	SNR=52					
ABTO				P	**P**	**07 12 02.5 +0.2**
	SNR=52					
ABTO				S	**S**	**07 16 09.2 +0.7**
ABTO				S	**S**	**07 16 09.2 +0.7**
KTUT	**Trabzon**	**24.60**	**290**	⇓P	**P**	**07 12 03.5 +1.5**
SOC	**Sochi**	**24.78**	**296**	*eP*	**P**	**07 12 01.6 -2.1**
SOC				*e**PP	**pP**	**07 12 37.2 -5.9**
SOC				*e**SP	PP	07 12 54.0 -10
SOC				*eS*	**S**	**07 16 10.5 -0.4**
SOC				*e**SS	sS	07 17 13.7 -11
SOC				pmax	pmax	
	comp=Z,421nm,1.1s					
MDRS	**Chennai**	**24.80**	**158**	*eP*	**P**	**07 12 05.3 +1.3**
MDRS				*i* sP	**sP**	**07 13 08.4 0.0**
MDRS				AMP		07 13 16.3
	comp=Z,184nm,0.4s					
RAYN	**Ar Rayn**	**25.39**	**246**	P	**P**	**07 12 09.3 -0.2**
RAYN	**Ar Rayn**	**25.39**	**246**	*i* P	**P**	**07 12 09.7 +0.2**
	SNR=562					
RAYN	**Ar Rayn**	**25.39**	**246**	P	**P**	**07 12 09.7 +0.2**
RAYN	**Ar Rayn**	**25.39**	**246**	P	**P**	**07 12 09.5 0.0**
RAYN				S	**S**	**07 16 20.2 -0.9**
VRH	**Novokhopyorsk**	**25.44**	**315**	*eP*	**P**	**07 12 07.5 -2.0**
VRH				*e**PP	**pP**	**07 12 44.8 -5.0**
VRH				*eS*	**S**	**07 16 21.0 -0.1**
VRH				pmax	pmax	
	comp=Z,770nm,0.9s					
VRH				pmax	pmax	
	comp=Z,1μm,1.1s					
VRH				smax	smax	
	comp=E,18μm,8.0s					
ARPR	**Arapgir-MALATY**	**25.77**	**286**	IAmb	IAmb	07 12 19.0
	comp=Z,450nm,1.1s					
KIRV	**Kirov**	**26.20**	**334***c*	*i*P	**P**	**07 12 16.9 +0.6**
MND	**Mandalay**	**26.23**	**116**	P	**P**	**07 12 17.2 +0.3**
TNCH	**TengChong**	**26.28**	**108**	⇓P	**P**	**07 12 19.3 +1.7**
TNCH				sP	sP	07 13 23.8 +0.5
TNCH				S	**S**	**07 16 39.8 +4.6**
TNCH				SS	SS	07 17 59.3 -35
TNCH				pmax	pmax	
	comp=Z,330nm,1.2s					
TNCH				pmax	pmax	
	comp=Z,2μm,6.5s					
TNCH				LR	LR	
	comp=Z,4μm,10.3s					
TNCH				LR	LR	
	comp=Z,4μm,10.4s					
TNCH				LR	LR	
	comp=Z,6μm,16.4s					
LZH	**Lanzhou**	**26.52**	**81**	⇑P	**P**	**07 12 21.8 +2.2**
LZH				pP	pP	07 13 02.0 +0.6
LZH				sP	sP	07 13 26.0 +0.6
LZH				S	**S**	**07 16 42.8 +4.0**
LZH				sS	sS	07 17 51.3 -2.0
LZH				ScP	**ScP**	**07 18 58.8 -0.7**
LZH				ScS	**ScS**	**07 22 47.3 -3.1**
LZH				pmax	pmax	
	comp=Z,240nm,1.5s					
LZH				pmax	pmax	
	comp=Z,890nm,5.2s					
LZH				LR	LR	
	comp=Z,6μm,15.8s					
LZH				LR	LR	
	comp=Z,6μm,14.4s					
LZH				LR	LR	
	comp=Z,7μm,15.1s					
ANN	**Anapa**	**26.55**	**299**	*eP*	**P**	**07 12 19.1 -0.4**
ANN				*e**PP	**pP**	**07 12 59.6 -0.6**
ANN				*i*		07 13 13.1
ANN				*eS*	**S**	**07 16 40.7 +2.0**
ANN				*e**SS	**sS**	**07 17 47.9 -5.2**
ANN				pmax	pmax	
	comp=Z,484nm,0.7s					
ANN				smax	smax	
	comp=E,5μm,9.2s					
VORD	**Divnogorie**	**26.77**	**313**	*eP*	**P**	**07 12 20.9 -0.5**
VORD				*e**PP	**pP**	**07 12 59.0 -3.1**
VORD				*eS*	**S**	**07 16 42.9 +0.8**
VORD				pmax	pmax	
	comp=Z,620nm,1.1s					
VORD				pmax	pmax	
	comp=Z,420nm,1.0s					
VORD				smax	smax	
	comp=E,2μm,5.3s					
GAZ	**Gaziantep**	**26.87**	**282**	IAmb	IAmb	07 13 11.5
	comp=Z,348nm,1.0s					
VSR	**Storozhevoye**	**26.93**	**313**	*eP*	**P**	**07 12 22.0 -0.9**
VSR				*e**PP	**pP**	**07 12 57.7 -5.9**
VSR				*eS*	**S**	**07 16 41.0 -3.6**
VSR				pmax	pmax	
	comp=Z,880nm,1.0s					
VSR				pmax	pmax	
	comp=Z,870nm,1.0s					
VSR				smax	smax	
	comp=E,15μm,9.4s					
VORR	**Voronezh**	**27.07**	**314**	*eP*	**P**	**07 12 23.4 -0.7**
VORR				*e**PP	**pP**	**07 13 02.0 -2.8**
VORR				*eS*	**S**	**07 16 44.8 -2.0**
VORR				pmax	pmax	
	comp=Z,870nm,0.8s					
VORR				pmax	pmax	
	comp=Z,1μm,1.0s					
VORR				smax	smax	
	comp=E,1μm,4.8s					
ZAK	**Zakamensk**	**27.08**	**49**	*eP*	**P**	**07 12 25.5 +1.1**
ZAK				pmax	pmax	
	comp=Z,153nm,1.1s					
LPSR	**Galich'ya Gora**	**27.59**	**316**	*eP*	**P**	**07 12 27.9 -0.8**
LPSR				*e**PP	**pP**	**07 13 05.8 -3.7**
LPSR				*eS*	**S**	**07 16 47.6 -7.3**
LPSR				pmax	pmax	
	comp=Z,2μm,0.8s					
LPSR				pmax	pmax	
	comp=Z,2μm,0.9s					
LPSR				smax	smax	
	comp=E,7μm,10.9s					
BNN	**Bunyan**	**27.72**	**286**	IAmb	IAmb	07 13 17.3
	comp=Z,277nm,0.9s					
CD2	**Chengdu**	**27.84**	**92**	⇓P	**P**	**07 12 33.0 +1.7**
CD2				pP	pP	07 13 11.8 -1.3
CD2				sP	PP	07 13 39.0 +0.7
CD2				S	**S**	**07 17 02.8 +3.3**
CD2				sS	sS	07 18 12.5 -1.7
CD2				ScS	**ScS**	**07 22 53.0 -3.2**
CD2				pmax	pmax	
	comp=Z,880nm,1.0s					
CD2				pmax	pmax	
	comp=Z,740nm,3.7s					
CD2				LR	LR	
	comp=Z,2μm,8.9s					
CD2				LR	LR	
	comp=Z,3μm,10.5s					
CD2				LR	LR	
	comp=Z,4μm,10.8s					
DIKM	**Dikmen**	**27.99**	**292**	⇓P	**P**	**07 12 34.1 +1.7**
PZH	**PanZhiHua**	**28.04**	**102**	P	**P**	**07 12 34.5 +1.3**
PZH				pP	**pP**	**07 13 19.5 +4.2**
PZH				PP	**PnPn**	**07 13 35.0 +2.5**
PZH				PcP	**PcP**	**07 15 44.0 +1.4**
PZH				S	**S**	**07 17 04.0 +1.1**
PZH				sS	**sS**	**07 18 15.0 -2.6**
PZH				ScP	**ScP**	**07 19 02.8 -1.5**
PZH				ScS	**ScS**	**07 22 53.5 -3.9**
PZH				pmax	pmax	
	comp=Z,240nm,1.0s					
PZH				pmax	pmax	
	comp=Z,2μm,5.5s					
IRK	**Irkutsk**	**28.29**	**46**	*eP*	**P**	**07 12 36.2 +1.2**
IRK				*e*		07 13 18.8
IRK				*eS*	**S**	**07 17 08.8 +2.8**
IRK				pmax	pmax	
	comp=Z,321nm,1.2s					
TRD	**Trivandrum**	**28.40**	**167**	*eP*	**P**	**07 12 37.3 +1.1**
TRD				IAmb	IAmb	07 12 41.8
	comp=Z,1μm,1.6s					
SONM	**Songino Array**	**28.43**	**55**	P	**P**	**07 12 37.6 +1.2**
SONM				IAmb	IAmb	07 12 43.8
	comp=Z,199nm,0.9s					
SONM	**Songino Array**	**28.43**	**55**	P	**P**	**07 12 37.5 +1.1**
	comp=Z,115nm,0.7s,baz=261,slow=8.2,SNR=508					
SONM				ScP	**ScP**	**07 19 04.4 -0.7**
	comp=Z,18nm,0.8s,baz=238,slow=3.3,SNR=4.2					
SONM				P3KPbc		07 44 50.7
	comp=Z,7.8nm,0.8s,baz=102,slow=3.5,SNR=17					
	comp=Z,115nm,0.7s					
HWQ	**Hawqa**	**28.46**	**276**	*eP*	**P**	**07 12 38.1 +1.2**
RCY	**Rachaya**	**28.76**	**274**	*eP*	**P**	**07 12 40.6 +1.1**
BHL	**Bhannes**	**28.79**	**275**	*eP*	**P**	**07 12 41.0 +1.3**
QRWL	**Qaraoun**	**28.87**	**275**	*eP*	**P**	**07 12 41.9 +1.5**
ULN	**Ulaanbaatar**	**28.88**	**55**	P	**P**	**07 12 41.2 +0.8**
ULN				IAmb	IAmb	07 12 44.8
	comp=Z,136nm,0.8s					
ULN	**Ulaanbaatar**	**28.88**	**55**	⇑P	**P**	**07 12 41.4 +1.0**
ULN	**Ulaanbaatar**	**28.88**	**55**	P	**P**	**07 12 41.2 +0.8**
ULN				pmax	pmax	
	comp=Z,136nm,0.8s					
ULN	**Ulaanbaatar**	**28.88**	**55**	P	**P**	**07 12 41.6 +1.3**
ULN				P	**P**	**07 12 41.6 +1.3**
ULN				S	**S**	**07 17 18.2 +2.6**
ULN				S	**S**	**07 17 18.2 +2.6**
ULN	**Ulaanbaatar**	**28.88**	**55**	P	**P**	**07 12 41.4 +1.0**
	comp=Z,847nm,0.8s,comp=Z,10μmcomp=Z,41μm					
SIM	**Simferopol'**	**28.91**	**298***c*	*i*P	**P**	**07 12 40.5 0.0**
SIM				*e*		07 13 19.0
SIM				*e*		07 13 43.0
SIM				*eS*	**S**	**07 17 12.0 -3.8**
SIM				pmax	pmax	
	comp=Z,303nm,1.2s					
GEM	**Giv'at Ha'Em**	**28.98**	**274**	⇑P	**P**	**07 12 42.5 +1.2**
MMAI	**Mount Meron Ar**	**29.24**	**274**	P	**P**	**07 12 45.2 +1.6**
	comp=Z,21nm,0.6s,baz=64,slow=9.5,SNR=34					
MMAI				PcP	**PcP**	**07 15 46.2 +0.8**
	comp=Z,61nm,0.6s,baz=65,slow=5.0,SNR=12					
MMAI				ScP	**ScP**	**07 19 08.3 +0.4**
	comp=Z,59nm,0.9s,baz=88,slow=5.0,SNR=14					
MALK	**Mahakanadarawa**	**29.32**	**160**	P	**P**	**07 12 43.8 -0.6**
MALK	**Mahakanadarawa**	**29.32**	**160**	⇑P	**P**	**07 12 45.1 +0.7**
BALJ	**Balqa**	**29.33**	**272**	P	**P**	**07 12 45.0 +0.6**
BALJ				IAmb	IAmb	07 12 49.9
	comp=Z,186nm,1.0s					
BR131	**Keskin Array S**	**29.33**	**288**	IAmb	IAmb	07 12 48.4
	comp=Z,120nm,0.7s					
BR131	**Keskin Array S**	**29.33**	**288***c*	*i*P	**P**	**07 12 44.7 +0.2**
BR131	**Keskin Array S**	**29.33**	**288**	P	**P**	**07 12 45.2 +0.7**
	SNR=47					
BR131				P	**P**	**07 12 45.2 +0.7**
	SNR=47					
BRTR	**Keskin Array B**	**29.33**	**288**	P	**P**	**07 12 44.9 +0.3**
BRTR				pP	**pP**	**07 13 27.9 +2.2**
BRTR	**Keskin Array B**	**29.33**	**288**	*i* P	**P**	**07 12 45.2 +0.6**
BRTR				pmax	pmax	
	comp=Z,98nm,0.7s					
BRTR	**Keskin Array B**	**29.33**	**288**	P	**P**	**07 12 45.1 +0.6**
	comp=Z,98nm,0.7s,baz=104,slow=8.3,SNR=194					
BRTR				PcP	**PcP**	**07 15 45.5 -0.2**
	comp=Z,19nm,0.6s,baz=97,slow=4.2,SNR=1.9					
BRTR				ScP	**ScP**	**07 19 07.8 -0.3**
	comp=Z,20nm,0.9s,baz=124,slow=3.8,SNR=4.6					
BRTR				P3KPbc		07 44 48.6
	comp=Z,3.7nm,1.0s,baz=232,slow=3.0,SNR=12					
	comp=Z,98nm,0.7s					
KMI	**Kunming**	**29.50**	**104**	⇓P	**P**	**07 12 47.0 +0.8**
KMI				pP	pP	07 13 30.3 +1.9
KMI				sP	sP	07 13 49.8 -2.3
KMI				S	**S**	**07 17 27.3 +1.3**
KMI				sS	sS	07 18 39.3 -1.5
KMI				ScP	**ScP**	**07 19 07.3 -1.7**
KMI				pmax	pmax	
	comp=Z,140nm,1.4s					
KMI				pmax	pmax	
	comp=Z,2μm,4.7s					
KMI				LR	LR	
	comp=Z,6μm,12.0s					
KMI				LR	LR	
	comp=Z,2μm,8.5s					
KMI				LR	LR	
	comp=Z,4μm,15.5s					
MOS	**Moscow**	**29.60**	**321**	*eP*	**P**	**07 12 44.4 -2.1**
MOS				*e**PP	**pP**	**07 13 24.3 -3.3**
MOS				*e*		07 13 45.7
MOS				*eS*	**S**	**07 17 24.4 -2.0**
MOS				*e**SS	**sS**	**07 18 39.7 -1.5**
MOS				*eS*S	ScP	07 19 23.9 +15
MOS				pmax	pmax	
	comp=Z,2μm,1.2s					
MOS				pmax	pmax	
	comp=Z,1μm,1.0s					
MOS				pmax	pmax	
	comp=N,600nm,1.2s					
MOS				pmax	pmax	
	comp=E,1μm,1.1s					
MOS				pmax	pmax	
	comp=E,1μm,1.1s					
MOS				pmax	pmax	
	comp=N,590nm,1.2s					
SALP	**Salfit**	**29.70**	**272**	⇑P	**P**	**07 12 48.1 +0.4**
OBN	**Obninsk**	**29.88**	**319**	⇑P	**P**	**07 12 50.0 +1.1**
OBN	**Obninsk**	**29.88**	**319**	P	**P**	**07 12 48.7 -0.1**
OBN	**Obninsk**	**29.88**	**319**	⇑P	**P**	**07 12 49.3 +0.4**
OBN	**Obninsk**	**29.88**	**319***c*	*i*P	**P**	**07 12 49.3 +0.4**
OBN				*e**PP	**pP**	**07 13 29.6 -0.4**
OBN				*e*		07 13 51.0
OBN				*i* S	**S**	**07 17 28.4 -2.3**
OBN				pmax	pmax	
	comp=Z,2μm,1.3s					
OBN	**Obninsk**	**29.88**	**319**	LR	LR	07 27 46.3
	comp=Z,6μm,19.6s,baz=87,slow=42					
ANTO	**Ankara**	**29.97**	**288**	⇑P	**P**	**07 12 50.7 +0.7**
ANTO	**Ankara**	**29.97**	**288**	P	**P**	**07 12 51.2 +1.2**
ANTO				IAmb	IAmb	07 13 58.3
	comp=Z,131nm,0.8s					
ANTO	**Ankara**	**29.97**	**288**	⇑P	**P**	**07 12 50.8 +0.7**
ANTO	**Ankara**	**29.97**	**288**	P	**P**	**07 12 51.2 +1.2**
ANTO				pmax	pmax	
	comp=Z,131nm,0.9s					
ANTO	**Ankara**	**29.97**	**288**	P	**P**	**07 12 50.6 +0.7**
ANTO				P	**P**	**07 12 50.6 +0.7**
CHTO	**Chiang Mai**	**30.31**	**118**	P	**P**	**07 12 53.2 +0.1**
CHTO				IAmb	IAmb	07 13 57.3
	comp=Z,208nm,0.8s					
CHTO	**Chiang Mai**	**30.31**	**118**	P	**P**	**07 12 54.1 +0.9**
CHTO	**Chiang Mai**	**30.31**	**118**	⇓P	**P**	**07 12 53.3 +0.1**
CHTO	**Chiang Mai**	**30.31**	**118**	P	**P**	**07 12 53.2 +0.1**
CHTO				pmax	pmax	
	comp=Z,208nm,0.9s					
CHTO	**Chiang Mai**	**30.31**	**118**	P	**P**	**07 12 53.3 +0.1**
CHTO				P	**P**	**07 12 53.3 +0.1**
CHTO				S	**S**	**07 17 39.1 +0.8**
CHTO				S	**S**	**07 17 39.1 +0.8**
CHTO	**Chiang Mai**	**30.31**	**118**	P	**P**	**07 12 53.2 +0.1**
CHTO				ScP	**ScP**	**07 19 10.2 -1.3**
CHTO	**Chiang Mai**	**30.31**	**118**	P	**P**	**07 12 52.7 -0.5**
	comp=Z,215nm,1.0s,comp=Z,4μmcomp=Z,14μm					
CSS	**Mathiatis**	**30.39**	**278**	P	**P**	**07 12 53.2 -0.5**
CRAI	**Chiangrai**	**30.44**	**114**	P	**P**	**07 12 54.9 +0.6**
DGPR	**DIGLIPUR**	**30.51**	**134**	*eP*	**P**	**07 12 56.6 +1.7**
DGPR				AMP		07 13 06.1
	comp=Z,97nm,0.2s					
CM31	**Chiang Mai Arr**	**30.55**	**118**	P	**P**	**07 12 55.8 +0.5**
	SNR=113					
CM31				P	**P**	**07 12 55.8 +0.5**
	SNR=113					
CM31				S	**S**	**07 17 43.0 +1.0**
CM31				S	**S**	**07 17 43.0 +1.0**
CMAR	**Chiang Mai Arr**	**30.55**	**118**	P	**P**	**07 12 55.6 +0.4**
	comp=Z,296nm,0.8s,baz=298,slow=8.3,SNR=298					
CMAR				ScP	**ScP**	**07 19 11.0 -1.2**
	comp=Z,51nm,1.0s,baz=292,slow=4.7,SNR=9.3					
CMAR				P3KPbc		07 44 43.1
	comp=Z,1.5nm,0.3s,baz=154,slow=3.2,SNR=12					
	comp=Z,296nm,0.8s					
KZIT	**Kziot**	**30.72**	**270**	⇑P	**P**	**07 12 57.9 +1.3**
EIL	**Elat**	**30.72**	**268**	⇑P	**P**	**07 12 57.8 +1.1**
BTO	**Baotou**	**30.73**	**70**	⇑*i*P	**P**	**07 12 57.5 +0.8**
BTO				pP	**pP**	**07 13 36.5 -2.6**
BTO				sP	**sP**	**07 13 59.0 -3.8**
BTO				PP	**PnPn**	**07 14 06.0 -0.1**
BTO				S	**S**	**07 17 47.0 +2.4**
BTO				SS	SS	07 19 43.3 -21
BTO				pmax	pmax	
	comp=Z,690nm,1.0s					
BTO				pmax	pmax	
	comp=Z,2μm,8.3s					
BTO				LR	LR	
	comp=Z,10μm,12.0s					
BTO				LR	LR	
	comp=Z,14μm,12.9s					
BTO				LR	LR	
	comp=Z,22μm,12.7s					
XAN	**Xi'an**	**31.04**	**83**	⇑P	**P**	**07 13 00.5 +1.0**
XAN				pP	pP	07 13 41.5 -0.4
XAN				S	**S**	**07 17 51.3 +1.8**
XAN				pmax	pmax	
	comp=Z,760nm,0.9s					
XAN				pmax	pmax	
	comp=Z,1μm,4.1s					
XAN	**Xi'an**	**31.04**	**83**	P	**P**	**07 13 00.4 +1.0**
XAN				ScP	**ScP**	**07 19 12.4 -1.3**
MDUB	**Mudurnu**	**31.12**	**290**	⇑P	**P**	**07 13 01.0 +0.8**
KLMR	**Klimovskoe**	**31.44**	**331***c*	*i*P	**P**	**07 13 02.4 -0.1**
KLMR				*e*		07 14 08.8
KLMR				S	**S**	**07 17 56.3 +1.3**
KLMR				pmax	pmax	
	comp=Z,1μm,1.1s					
HALK	**Hakmana**	**31.56**	**161**	⇓P	**P**	**07 13 05.3 +1.2**
HHC	**Hu-ho-hao-te**	**31.87**	**70**	⇑*i*P	**P**	**07 13 08.5 +1.8**
HHC				pP	pP	07 13 50.0 +0.8
HHC				S	**S**	**07 18 05.5 +3.1**
HHC				sS	sS	07 19 18.0 +0.5
HHC				SS	SS	07 20 10.5 -18
HHC				pmax	pmax	
	comp=Z,130nm,1.1s					
HHC				pmax	pmax	
	comp=Z,600nm,4.6s					
GYA	**Guiyang**	**31.97**	**98**	⇓*i*P	**P**	**07 13 09.0 +1.2**
GYA				pP	pP	07 13 47.3 -3.0
GYA				S	**S**	**07 18 00.5 -3.8**
GYA				ScS	**ScS**	**07 23 13.3 -3.0**
GYA				pmax	pmax	
	comp=Z,140nm,0.8s					
GYA				pmax	pmax	
	comp=Z,2μm,3.5s					
GYA				LR	LR	
	comp=Z,4μm,12.4s					
GYA				LR	LR	
	comp=Z,6μm,10.7s					
GYA				LR	LR	
	comp=Z,6μm,10.5s					
PURM	**Purcari**	**31.98**	**301**	⇑P	**P**	**07 13 08.7 +1.3**
ISP	**Isparta**	**32.01**	**285**	⇑P	**P**	**07 13 08.0 0.0**
SLVN	**Son La**	**32.44**	**109**	IAmb	IAmb	07 13 15.6
	comp=Z,214nm,1.0s					
TLCR		**32.67**	**299**	⇑P	**P**	**07 13 14.6 +1.1**
TLCR		**32.67**	**299**	P	**P**	**07 13 14.6 +1.1**
ISK	**Istanbul-Kandi**	**32.68**	**291**	P	**P**	**07 13 12.8 -0.8**
ENH	**Enshi**	**32.69**	**90**	P	**P**	**07 13 16.2 +2.3**
ENH	**Enshi**	**32.69**	**90**	P	**P**	**07 13 15.6 +1.8**
ENH				sP	**sP**	**07 14 23.4 +3.5**
ENH				ScP	**ScP**	**07 19 18.6 -0.8**
ELL	**Elmali**	**32.70**	**283**	⇑P	**P**	**07 13 14.2 +0.2**
MILM	**Milestii Mici**	**32.73**	**302**	⇑P	**P**	**07 13 14.9 +1.0**
MILM	**Milestii Mici**	**32.73**	**302**	⇑*i*P	**P**	**07 13 14.0 +0.1**
	comp=Z,420nm,0.8s					
MILM				*i* pP	**pP**	**07 13 58.0 +2.6**
MILM	**Milestii Mici**	**32.73**	**302**	*i* PP	PP	07 14 30.0 -2.1
MILM				*i* S	**S**	**07 18 14.0 -1.3**
MILM				*e*SS	ScP	07 19 56.0 +37
	comp=Z,9μm,14.0s					
MILM				*e*L	L	07 22 11.0
MILM				LRM	MLR	07 30 18.0
	comp=Z,4μm,16.0s					
MILM	**Milestii Mici**	**32.73**	**302***c*	*i*P	**P**	**07 13 14.0 +0.1**
MILM				*i* *PP	**pP**	**07 13 58.0 +2.6**
MILM				*i*		07 14 12.5
MILM				*i*		07 14 30.0
MILM				*i* S	**S**	**07 18 14.0 -1.3**
MILM				pmax	pmax	
	comp=Z,420nm,0.8s					
MILM				pmax	pmax	
	comp=N,4μm,14.0s					
MILM				MLR	MLR	
	comp=Z,4μm,16.0s					
MILM				MLR	MLR	
	comp=E,4μm,16.5s					
KIS	**Kishinev**	**32.73**	**302**	⇓P	**P**	**07 13 15.0 +1.0**
KIS	**Kishinev**	**32.73**	**302**	⇑*i*P	**P**	**07 13 14.0 0.0**
	comp=E,440nm,1.3s					
KIS				*i* pP	**pP**	**07 13 55.0 -0.5**
KIS	**Kishinev**	**32.73**	**302**	*i* PP	PP	07 14 30.0 -2.1
KIS				*i* S	**S**	**07 18 19.0 +3.7**
KIS				*e*SS	ScP	07 19 49.0 +30
	comp=E,3μm,15.0s					
KIS				*e*L	L	07 22 14.0
KIS				LRM	MLR	07 30 11.0
	comp=E,2μm,18.0s					
KIS	**Kishinev**	**32.73**	**302***c*	*i*P	**P**	**07 13 14.0 0.0**
KIS				*i* *PP	**pP**	**07 13 55.0 -0.5**
KIS				*i*		07 14 20.0
KIS				*i*		07 14 30.0
KIS				*i* S	**S**	**07 18 19.0 +3.7**
KIS				pmax	pmax	
	comp=Z,440nm,1.3s					
KIS				pmax	pmax	
	comp=E,800nm,5.6s					
KIS				MLR	MLR	
	comp=Z,2μm,16.5s					
EFOR	**EFORIE**	**32.81**	**297**	⇑P	**P**	**07 13 16.1 +1.4**
MANR	**Mangalia**	**32.85**	**296**	⇑P	**P**	**07 13 15.7 +0.7**
AKASG	**Malin Array Be**	**32.87**	**309**	P	**P**	**07 13 15.3 +0.2**
AKASG				pP	**pP**	**07 13 59.1 +2.5**
AKASG	**Malin Array Be**	**32.87**	**309**	P	**P**	**07 13 14.9 -0.3**
	comp=Z,243nm,0.6s,baz=81,slow=7.1,SNR=1275					
AKASG				ScP	**ScP**	**07 19 19.1 -0.4**
	comp=Z,42nm,0.8s,baz=78,slow=3.2,SNR=12					
AKASG				LR	LR	07 31 03.7
	comp=Z,4μm,18.6s,baz=130,slow=44					
AKASG				P3KPbc		07 44 28.1
	comp=Z,2.0nm,0.8s,baz=275,slow=3.8,SNR=2.0					
	comp=Z,243nm,0.6s					
AKBB	**Malin Array Si**	**32.87**	**309***c*	*i*P	**P**	**07 13 14.9 -0.2**
AKBB				pmax	pmax	
	comp=Z,542nm,0.8s					
KIEV	**Kiev**	**32.88**	**309**	⇓P	**P**	**07 13 15.4 +0.2**
KIEV	**Kiev**	**32.88**	**309**	P	**P**	**07 13 15.0 -0.2**
KIEV	**Kiev**	**32.88**	**309**	*i* P	**P**	**07 13 15.4 +0.2**
	SNR=25					
KIEV	**Kiev**	**32.88**	**309**	⇑P	**P**	**07 13 14.8 -0.4**
KIEV	**Kiev**	**32.88**	**309**	P	**P**	**07 13 15.4 +0.2**
KIEV	**Kiev**	**32.88**	**309**	P	**P**	**07 13 15.1 -0.1**
KIEV				pP	**pP**	**07 13 59.4 +2.8**
KIEV				sP	**sP**	**07 14 23.1 +3.2**
KIEV				ScP	**ScP**	**07 19 19.0 -0.5**
TPGR	**Topolog**	**32.95**	**298**	⇑P	**P**	**07 13 17.0 +1.0**
MFTR	**Murfatlar**	**32.96**	**297**	⇑P	**P**	**07 13 17.1 +1.1**
TIRR	**Tirgusor**	**32.96**	**297**	⇓P	**P**	**07 13 16.6 +0.6**
TIRR	**Tirgusor**	**32.96**	**297**	P	**P**	**07 13 16.6 +0.6**
TIY	**Taiyuan**	**32.99**	**75**	*eP*	**P**	**07 13 18.5 +2.1**
TIY				pP	**pP**	**07 13 59.5 +0.3**
TIY				sP	**sP**	**07 14 25.5 +2.6**
TIY				S	**S**	**07 18 22.5 +2.8**
TIY				ScP	**ScP**	**07 19 22.5 +2.2**
TIY				pmax	pmax	
	comp=Z,120nm,0.9s					
TIY				pmax	pmax	
	comp=Z,400nm,3.5s					
KSL	**Kastellorizon**	**33.08**	**282**	P	**P**	**07 13 16.6 -0.6**
LEOM	**Leova**	**33.09**	**301**	⇑P	**P**	**07 13 17.6 +0.5**
LEOM	**Leova**	**33.09**	**301**	P	**P**	**07 13 17.6 +0.5**
GIUM	**Giurgiulesti**	**33.10**	**299**	⇑P	**P**	**07 13 19.0 +1.8**
SORM	**Soroca**	**33.12**	**304**	⇑P	**P**	**07 13 17.5 +0.2**
SORM	**Soroca**	**33.12**	**304**	P	**P**	**07 13 17.5 +0.2**
CFR	**Carcaliu**	**33.15**	**299**	⇓P	**P**	**07 13 18.3 +0.7**
CFR	**Carcaliu**	**33.15**	**299**	P	**P**	**07 13 18.4 +0.8**
PSN	**Preselentsi**	**33.18**	**296**	P	**P**	**07 13 18.7 +0.8**
VLDR	**Vladesti**	**33.19**	**300**	⇓P	**P**

HARR Harsova 33.30 298 ⇑P P 07 13 19.6 +0.7
HARR Harsova 33.30 298 P P 07 13 19.8 +0.9
NEGRR Negrea 33.33 299 ⇑P P 07 13 20.5 +1.3
KULA Kula-Manisa 33.33 286 P P 07 13 18.9 -0.5
VARL Varlezi 33.36 300 ⇓P P 07 13 20.9 +1.5
SCHLR Schela 33.36 299 ⇑P P 07 13 20.7 +1.2
SCHL Schela 33.37 299 ⇑P P 07 13 20.6 +1.1
ICOR Ion Corvin 33.41 297 ⇓P P 07 13 21.2 +1.3
IZVR Izvoarele 33.41 299 ⇑P P 07 13 20.8 +0.9
VASR Vaslui 33.41 301 ⇑P P 07 13 20.6 +0.7
TUDR 33.48 299 ⇑P P 07 13 22.0 +1.5
BIR Birlad 33.52 301 ⇑P P 07 13 22.2 +1.3
BIR Birlad 33.52 301 P P 07 13 22.1 +1.3
GHRR 33.67 300 ⇑P P 07 13 23.8 +1.7
LYN LuoYang 33.73 81 ⇑*iP* P 07 13 25.3 +2.5
LYN pP pP 07 14 06.3 +0.7
LYN sP sP 07 14 29.5 +0.2
LYN S S 07 18 29.5 -1.6
LYN ScP ScP 07 19 21.5 -1.4
LYN sS sS 07 19 42.5 -4.0
LYN ScS ScS 07 23 22.8 -2.1
LYN pmax pmax
comp=Z,750nm,1.1s
LYN pmax pmax
comp=Z,880nm,3.7s
PRD Provadia 33.73 295 P P 07 13 23.8 +1.1
CIT Chita 33.74 49 *eP* P 07 13 23.0 +0.2
CIT *e* 07 14 06.6
CIT *e* 07 15 57.9
CIT *eS* S 07 18 33.2 +2.2
CIT *e* 07 19 40.7
CIT *e* 07 20 58.6
CIT pmax pmax
comp=Z,1μm,1.4s
BALB Balikesir 33.75 289 IAmb IAmb 07 13 27.2
comp=Z,203nm,0.9s
NEF NEVSHA 33.83 295 P P 07 13 24.8 +1.3
NONG Nongkai 33.84 114 P P 07 13 24.4 +0.5
PANC Panciu 33.85 300 ⇓P P 07 13 25.5 +1.9
YER Yerkesik 33.89 284 P P 07 13 23.5 -0.7
ODBI Odobesti 33.91 300 ⇓P P 07 13 26.0 +1.8
GRER 33.97 299 ⇓P P 07 13 26.9 +2.2
PGOR Pogoanele 33.97 298 ⇓P P 07 13 26.9 +2.2
VRI Vrincioaia 34.14 300 ⇑P P 07 13 27.8 +1.5
VRI Vrincioaia 34.14 300 P P 07 13 27.7 +1.5
BISRR Bisoca 34.15 299 ⇑P P 07 13 28.2 +1.8
NRIK Noril'sk 34.16 10 P P 07 13 27.3 +1.3
NRIK Noril'sk 34.16 10 P P 07 13 27.3 +1.3
NRIK pmax pmax
comp=Z,1μm,1.0s
NRIK Noril'sk 34.16 10 P P 07 13 27.2 +1.2
comp=Z,988nm,0.9s,baz=203,slow=6.1,SNR=908
comp=Z,988nm,0.9s
PLOR Plostina 34.19 300 ⇓P P 07 13 28.5 +1.7
PLOR Plostina 34.19 300 P P 07 13 28.4 +1.7
ARG Arkhangelos 34.22 283 P P 07 13 27.2 +0.2
ARG Arkhangelos 34.22 283 ⇑P P 07 13 26.8 -0.2
ISR Istrita 34.28 299 ⇑P P 07 13 29.4 +1.9
ISR Istrita 34.28 299 P P 07 13 29.3 +1.9
LOZB Loznitsa 34.32 295 ⇑P P 07 13 28.9 +1.1
EDRB Edirne 34.33 293 P P 07 13 28.7 +0.8
RAZG Razgrad 34.37 296 ⇑P P 07 13 29.6 +1.4
JMB Yambol 34.43 294 P P 07 13 29.9 +1.2
MNK Minsk 34.43 315 *i* P P 07 13 29.4 +0.8
comp=E,636nm,1.5s
MNK *i* P P 07 13 29.4 +0.8
comp=N,446nm,1.5s
MNK *i* P P 07 13 29.4 +0.8
comp=Z,1μm,1.5s,baz=104
MNK *i* pP pP 07 14 11.1 +0.9
MNK *i* PP PnPn 07 14 51.1 -0.2
MNK *i* S S 07 18 41.9 +0.5
MNK *i* SS SS 07 21 18.8 +1.4
MNK *i* LRM MLR 07 30 40.7
comp=Z,7μm,13.1s
MNK *i* LRM MLR 07 30 42.0
comp=E,2μm,14.9s
MNK *i* LRM MLR 07 30 45.2
comp=N,2μm,11.3s
MNK Minsk 34.43 315 *i* P P 07 13 29.3 +0.8
MNK *i* *PP pP 07 14 11.1 +0.9
MNK *i* 07 14 51.0
MNK *i* S S 07 18 41.9 +0.5
MNK pmax pmax
comp=Z,1μm,1.5s
MNK pmax pmax
comp=E,636nm,1.5s
MNK pmax pmax
comp=N,446nm,1.5s
MNK MLR MLR
comp=Z,7μm,13.0s
MNK MLR MLR
comp=E,2μm,15.0s
MNK MLR MLR
comp=N,2μm,11.0s
NEHR Nehoiu 34.45 299 ⇑P P 07 13 30.9 +2.0
SULR 34.49 298 ⇑P P 07 13 30.7 +1.5
COVR Voineasa-Covas 34.51 300 ⇑P P 07 13 31.1 +1.8
PRAR RASCA 34.51 303 ⇑P P 07 13 30.1 +0.8
TURR Turia 34.63 300 ⇑P P 07 13 32.4 +2.0
BODT Bodrum 34.66 284 P P 07 13 30.6 -0.2
MLR Muntele Rosu 34.69 299 ⇑P P 07 13 33.0 +1.9
MLR Muntele Rosu 34.69 299 P P 07 13 33.0 +1.9
SGRR Singureni 34.72 297 ⇑P P 07 13 32.7 +1.6
SZH Strazhitsa 34.77 295 P P 07 13 32.7 +1.0
OZUR 34.80 300 ⇑P P 07 13 33.1 +1.2
HNS HongShan 34.82 75 ⇑P P 07 13 33.8 +1.7
HNS pP pP 07 14 15.8 +0.7
HNS S S 07 18 51.8 +4.1
HNS sS sS 07 19 56.3 -7.0
HNS pmax pmax
comp=N,370nm,1.1s
HNS LR LR
comp=N,6μm,15.5s
HNS LR LR
comp=N,6μm,15.5s
PUL Pulkovo 34.86 325 *c iP* P 07 13 33.0 +0.9
PUL pmax pmax
comp=Z,1μm,1.0s
ELND Elena 34.87 295 ⇑P P 07 13 33.1 +0.6
BOSR Bodos 34.88 300 ⇑P P 07 13 34.1 +1.5
SMG Samos 34.90 286 P P 07 13 33.5 +0.7
ENEZ Enez 34.91 291 P P 07 13 33.9 +1.1
ALN Alexandroupoli 34.97 291 P P 07 13 34.1 +0.8
XLT XiLinHaoTe 34.97 64 ⇑*iP* P 07 13 35.0 +1.6
XLT pP pP 07 14 16.3 -0.2
XLT S S 07 18 50.0 0.0
XLT ScP ScP 07 19 26.3 -1.0
XLT sS sS 07 20 02.5 -3.2
XLT SS SS 07 21 14.0 -16
XLT pmax pmax
comp=Z,160nm,1.1s
XLT pmax pmax
comp=Z,740nm,7.5s
XLT LR LR
comp=Z,410nm,8.1s
XLT LR LR
comp=Z,3μm,10.3s
XLT LR LR
comp=Z,3μm,9.9s
NAYO Nakonayok 35.03 121 P P 07 13 35.5 +1.4
PRK Paraskevi 35.05 288 P P 07 13 34.8 +0.8
DOPR Dopca 35.07 300 ⇓P P 07 13 35.7 +1.5
KARP Karpathos 35.14 282 P P 07 13 35.3 +0.4
KARP Karpathos 35.14 282 ⇑P P 07 13 34.7 -0.2
NACGM Naroch 35.15 316 *i* P P 07 13 34.7 +0.1
BURAR Bucovina Array 35.20 303 ⇓P P 07 13 36.1 +0.7
BURAR Bucovina Array 35.20 303 P P 07 13 35.7 +0.3
BURAR IAmb IAmb 07 13 39.9
comp=Z,342nm,0.8s
BURAR pP pP 07 14 16.4 -0.9
BURAR Bucovina Array 35.20 303 P P 07 13 36.1 +0.7
BUR08 Bucovina Ar. S 35.21 303 P P 07 13 35.8 +0.3
BUR08 IAmb IAmb 07 13 39.7
comp=Z,175nm,0.8s
RDO Rodhopi 35.31 292 P P 07 13 37.2 +0.9
MTUR Matau 35.32 299 ⇓P P 07 13 38.1 +1.6
MTUR Matau 35.32 299 P P 07 13 38.0 +1.6
VOIR 35.32 299 ⇑P P 07 13 37.5 +1.1
VOIR 35.32 299 P P 07 13 37.5 +1.1
CHOS Chios island 35.37 287 P P 07 13 37.7 +0.8
KDZ Kurdzhali 35.40 293 P P 07 13 37.4 +0.3

STFAR Stefanesti-Arg 35.41 298 ⇑P P 07 13 38.9 +1.9
SMTH Samothraki Isl 35.41 291 P P 07 13 37.7 +0.5
ATD Arta Tunnel 35.43 233 P P 07 13 38.4 +0.8
ATD IAmb IAmb 07 13 47.9
comp=Z,204nm,1.0s
ATD Arta Tunnel 35.43 233 ⇑P P 07 13 39.2 +1.6
ATD Arta Tunnel 35.43 233 P P 07 13 39.1 +1.6
SNR=12
ATD Arta Tunnel 35.43 233 *eP* P 07 13 38.5 +0.9
ATD Arta Tunnel 35.43 233 *eP* P 07 13 38.6 +1.0
BOD Bodaibo 35.43 39 *eP* P 07 13 37.5 +0.5
BOD pmax pmax
comp=Z,229nm,1.1s
BJT Baijiatuan 35.46 70 P P 07 13 39.1 +1.6
BJT Baijiatuan 35.46 70 ⇑P P 07 13 39.2 +1.6
BJT pP pP 07 14 23.2 +2.6
BJT sP sP 07 14 48.6 +4.5
BJT PcP PcP 07 16 03.2 +0.8
BJT ScP ScP 07 19 28.5 -0.6
BJI Beijing 35.46 70 P P 07 13 39.3 +1.7
BJI pP pP 07 14 20.3 -0.3
BJI PP PP 07 15 01.3 -1.1
BJI PcP PcP 07 16 03.0 +0.6
BJI S S 07 18 58.3 +0.8
BJI sS sS 07 20 12.5 -0.8
BJI ScS ScS 07 23 31.5 -2.5
BJI pmax pmax
comp=Z,480nm,0.7s
GULI GuiLin 35.47 97 ⇓P P 07 13 35.0 -2.8
GULI pP pP 07 14 18.8 -1.9
GULI sP sP 07 14 40.5 -3.7
GULI PP PP 07 14 57.0 -5.6
GULI S S 07 18 48.0 -10
GULI ScP ScP 07 19 25.5 -3.8
GULI ScS ScS 07 23 27.8 -6.7
GULI pmax pmax
comp=Z,490nm,0.9s
GULI pmax pmax
comp=Z,2μm,1.5s
GULI LR LR
comp=N,4μm,15.2s
GULI LR LR
comp=E,8μm,15.2s
GULI LR LR
comp=Z,6μm,14.1s
ARR Arges 35.62 299 ⇑P P 07 13 40.0 +1.1
ISAL Salakas 35.67 317 *eP* P 07 13 39.9 +0.8
TGMR Targu Mures 35.67 301 ⇑P P 07 13 41.5 +2.2
PLVB Pleven 35.75 296 ⇑P P 07 13 40.3 +0.3
MDB Medias 35.77 300 ⇑P P 07 13 41.9 +1.7
MDB Medias 35.77 300 P P 07 13 41.8 +1.7
ARCR ARCALIA 35.78 302 ⇑P P 07 13 42.1 +1.9
VLAD Vladila 35.86 297 ⇑P P 07 13 41.3 +0.4
KAAM Kaadhehdhoo 35.87 176 P P 07 13 41.6 +0.4
KAAM IAmb IAmb 07 13 44.1
comp=Z,607nm,1.3s
KAAM Kaadhehdhoo 35.87 176 P P 07 13 42.5 +1.3
KAAM Kaadhehdhoo 35.87 176 P P 07 13 42.5 +1.3
comp=Z,428nm,1.1s,comp=Z,11μm
ZKR Zakros 35.99 281 P P 07 13 42.4 +0.2
THAS Thassos island 36.01 291 P P 07 13 41.5 -0.7
APE Apeiranthos 36.05 285 ⇑P P 07 13 43.0 +0.3
APE Apeiranthos 36.05 285 P P 07 13 42.8 +0.1
APE Apeiranthos 36.05 285 ⇑P P 07 13 42.5 -0.1
LVV L'vov 36.08 307 *d iP* P 07 13 43.2 +0.5
LVV *eS* S 07 19 05.6 -1.1
LVV pmax pmax
comp=Z,2μm,1.2s
KAVA Kavala 36.10 292 P P 07 13 43.4 +0.4
VSU Vasula 36.13 322 ⇑P P 07 13 43.0 +0.1
VSU Vasula 36.13 322 *c iP* P 07 13 43.0 +0.1
VSU pmax pmax
comp=Z,1μm,0.8s
VSU Vasula 36.13 322 *eP* P 07 13 43.3 +0.4
PGB Panagyurishte 36.16 294 P P 07 13 45.0 +1.5
LOT Lotru 36.22 299 ⇑P P 07 13 45.3 +1.2
CNSH ChangSha 36.27 91 ⇓P P 07 13 45.5 +1.0
CNSH S S 07 19 10.5 +0.6
CNSH pmax pmax
comp=Z,560nm,1.0s
CNSH LR LR
comp=Z,4μm,15.1s
CNSH LR LR
comp=Z,8μm,15.1s
CNSH LR LR
comp=Z,6μm,18.4s
CJR Cluj-Napoca 36.30 301 ⇑P P 07 13 46.7 +2.0
CJR Cluj-Napoca 36.30 301 P P 07 13 46.7 +2.0
THR3 Thira Island, 36.31 284 P P 07 13 44.5 -0.3
BMR Baia Mare 36.36 303 ⇑P P 07 13 46.9 +1.8
BMR Baia Mare 36.36 303 P P 07 13 46.9 +1.8
MPEP Malo Peshtene 36.39 296 P P 07 13 46.7 +1.3
FRMA Ierapetra Chan 36.40 281 P P 07 13 44.9 -0.7
WHN Wuhan 36.50 86 ⇑*iP* P 07 13 48.0 +1.5
WHN pP pP 07 14 30.0 +0.4
WHN sP sP 07 14 54.3 +1.2
WHN PP PnPn 07 15 20.5 +4.0
WHN S S 07 19 15.0 +1.5
WHN ScP ScP 07 19 31.0 -2.0
WHN SS SS 07 21 57.3 -4.6
WHN ScS ScS 07 23 37.5 -2.6
WHN pmax pmax
comp=Z,2μm,1.2s
WHN pmax pmax
comp=Z,5μm,9.1s
WHN LR LR
comp=Z,14μm,19.6s
KOKK Kokkinochori, 36.52 291 P P 07 13 47.6 +1.1
NVR Nevrokopi 36.54 292 P P 07 13 48.4 +1.6
VALD Valchedram 36.58 296 P P 07 13 48.3 +1.3
MMB Musomishta 36.60 293 P P 07 13 48.0 +0.8
MARR Marisel-Cluj 36.63 301 ⇑P P 07 13 48.8 +1.3
SRE Strehaia 36.67 298 ⇑P P 07 13 48.5 +0.7
SRE Strehaia 36.67 298 P P 07 13 48.4 +0.7
MESR Meseseni 36.74 302 ⇓P P 07 13 49.5 +1.2
SRS Serrai 36.77 292 P P 07 13 49.2 +0.5
DEV Deva 36.81 300 ⇓P P 07 13 50.6 +1.6
DEV Deva 36.81 300 P P 07 13 50.6 +1.6
HRKL Herakleio 36.82 282 P P 07 13 50.8 +1.7
KYMI Kymi, Euboea I 36.82 288 P P 07 13 49.1 0.0
VTS Vitosha 36.84 295 P P 07 13 50.3 +0.9
PABE Paberze 36.85 316 *eP* P 07 13 49.7 +0.6
HARA HARA 36.87 230 *eP* P 07 13 57.8 +7.8
PUNG Punghina 36.89 297 ⇑P P 07 13 50.6 +1.0
PAIG Paliouri 36.90 290 P P 07 13 48.1 -1.7
DRGR 36.91 302 ⇑P P 07 13 51.0 +1.2
DRGR 36.91 302 P P 07 13 51.0 +1.2
GZR Gura Zlata 36.92 299 ⇑P P 07 13 50.7 +0.7
GZR Gura Zlata 36.92 299 P P 07 13 50.7 +0.7
KWP Kalwaria Pacla 36.93 306 *eP* P 07 13 51.0 +1.1
KWP *eS* S 07 19 23.3 +3.7
KWP *eSS* SS 07 22 15.8 +5.9
KWP *eL* L 07 31 09.1
comp=Z,3μm,22.7s
KWP Kalwaria Pacla 36.93 306 ⇑P P 07 13 50.5 +0.6
VSVD Vaisvydziai 36.97 317 *eP* P 07 13 50.6 +0.6
TIA Tai'an 36.98 76 ⇑P P 07 13 52.0 +1.5
TIA pP pP 07 14 33.3 -0.5
TIA PP PnPn 07 15 22.0 -0.1
TIA S S 07 19 22.5 +1.9
TIA ScP ScP 07 19 33.0 -1.7
TIA pmax pmax
comp=Z,110nm,1.0s
TIA pmax pmax
comp=Z,260nm,4.2s
TIA LR LR
comp=Z,1μm,15.1s
TIA LR LR
comp=Z,2μm,12.2s
TIA LR LR
comp=Z,3μm,14.4s
IDI Anoyia 36.99 282 P P 07 13 50.0 -0.7
IDI Anoyia 36.99 282 P P 07 13 49.8 -0.9
SOH Sokhos 37.00 292 P P 07 13 51.2 +0.6
SUW Suwalki 37.05 314 *eP* P 07 13 50.8 0.0
SUW *eS* S 07 19 23.3 +2.2
SUW *eL* L 07 31 10.6
comp=Z,6μm,23.3s
SUW Suwalki 37.05 314 ⇑P P 07 13 50.6 -0.2
SUW Suwalki 37.05 314 *eP* P 07 13 50.6 -0.2
DION Dionisos Attik 37.07 287 P P 07 13 53.0 +1.8
BLKB Belogradchik 37.14 296 ⇑P P 07 13 53.0 +1.2

DJES Djerdap 37.16 298 ⇑P P 07 13 52.3 +0.5
KOLS Kolonicke sedl 37.19 305 *eP* P 07 13 53.1 +1.0
KOLS pmax pmax
comp=Z,210nm,0.8s
KOLS Kolonicke sedl 37.19 305 *eP* P 07 13 53.1 +1.0
KOLS *e* 07 19 37.1
ATHU Athens Univers 37.21 287 P P 07 13 52.8 +0.4
HERR Herculane 37.21 298 ⇑P P 07 13 52.3 0.0
VLY Voula,Athens 37.22 287 P P 07 13 53.3 +0.8
HORT Hortiatis 37.23 291 P P 07 13 52.3 -0.3
ATH Athens Observa 37.26 287 P P 07 13 53.5 +0.7
KNT Kendrikon 37.29 292 P P 07 13 53.3 +0.3
UBPT Khong Chiam 37.32 115 IAmb IAmb 07 13 55.4
comp=Z,286nm,0.9s
UBPT Khong Chiam 37.32 115 P P 07 13 53.6 0.0
UBPT Khong Chiam 37.32 115 ⇓P P 07 13 53.6 0.0
SURR Surduc 37.36 300 ⇑P P 07 13 55.3 +1.8
XOR Xorichti 37.37 289 P P 07 13 54.0 +0.2
HIA Hailar 37.39 54 P P 07 13 55.4 +1.6
HIA Hailar 37.39 54 ⇑P P 07 13 55.3 +1.5
HIA pP pP 07 14 40.6 +3.6
HIA ScP ScP 07 19 35.8 -0.3
LVZ Lovozero 37.43 338 P P 07 13 53.9 0.0
LVZ Lovozero 37.43 338 ⇑P P 07 13 54.1 +0.2
LVZ Lovozero 37.43 338 *d iP* P 07 13 54.4 +0.5
LVZ pmax pmax
comp=Z,1μm,1.4s
LVZ Lovozero 37.43 338 P P 07 13 54.3 +0.5
LVZ pP pP 07 14 39.1 +2.6
LVZ PP PP 07 15 25.1 +1.6
LVZ ScP ScP 07 19 35.7 -0.2
FIA1 FINESS Array S 37.43 326 P P 07 13 54.3 +0.3
FINES FINESS Array B 37.43 326 P P 07 13 54.2 +0.3
comp=Z,751nm,0.8s,baz=107,slow=10,SNR=1083
comp=Z,751nm,0.8s
VAY Valandovo 37.51 293 *i* P P 07 13 55.0 +0.2
VILL Villia 37.53 287 P P 07 13 55.0 -0.1
BORR Bors 37.53 302 ⇑P P 07 13 57.1 +2.1
APA Apatity 37.61 338 ⇓*iP* P 07 13 54.6 -0.7
APA *i* *PP pP 07 14 34.0 -3.9
APA *i* 07 16 09.0
APA *i* S S 07 19 29.0 -0.3
APA *i* SS SS 07 22 11.0 -12
APA pmax pmax
comp=Z,355nm,0.8s
APA MLR MLR
comp=Z,21μm,11.0s
SIRR Siria 37.66 301 ⇑P P 07 13 57.6 +1.5
IMMV Iera Moni Meta 37.66 283 P P 07 13 56.7 +0.5
MTSE Matsula 37.66 321 *eP* P 07 13 56.5 +0.7
GRG Griva 37.69 292 P P 07 13 56.5 +0.1
SURA Surathani 37.70 129 P P 07 13 57.6 +0.9
MDVR Moldovita 37.72 298 ⇑P P 07 13 57.8 +1.2
BZA Buzias 37.72 300 ⇓P P 07 13 57.8 +1.2
BZS Buzias 37.72 300 ⇑P P 07 13 57.2 +0.6
BZS Buzias 37.72 300 P P 07 13 57.8 +1.2
GVD Gavdhos 37.75 282 P P 07 13 56.6 -0.4
MEF Metsahovi 37.80 324 *eP* P 07 13 56.5 -0.5
RODP Rodopos 37.81 283 P P 07 13 57.7 +0.2
LOUT Loutraki 37.83 287 P P 07 13 56.8 -0.8
KRND KRANIDI 37.83 286 P P 07 13 56.2 -1.4
DESE Dese 37.83 236 *eP* P 07 14 00.5 +2.3
BOVS Bovan 37.84 296 ⇑P P 07 13 58.2 +0.6
STHS Stebnicka Huta 37.88 306 *eP* P 07 13 57.6 -0.3
STHS pmax pmax
comp=Z,153nm,0.7s
STHS Stebnicka Huta 37.88 306 *eP* P 07 13 57.6 -0.3
AXAR Agios Charalam 37.90 288 P P 07 13 58.7 +0.5
TYRN Tyrnavos 38.04 290 P P 07 13 59.8 +0.5
BANR Banloc 38.08 299 ⇑P P 07 14 01.4 +1.8
PBUR Paburge 38.08 317 *eP* P 07 13 59.7 +0.3
ANKY Antikythira Is 38.09 284 P P 07 13 59.5 -0.3
AGG Agios Georgios 38.10 289 P P 07 13 59.9 0.0
AGG Agios Georgios 38.10 289 ⇑P P 07 13 59.4 -0.5
SRIT Nakonsritamara 38.12 130 P P 07 14 01.1 +0.9
SRIT IAmb IAmb 07 14 01.9
comp=Z,206nm,0.8s
SRIT Nakonsritamara 38.12 130 P P 07 14 01.1 +0.9
VLI Veliai 38.15 285 P P 07 13 58.6 -1.7
SLIT Slitere, Latvi 38.19 319 ⇑P P 07 13 59.9 -0.4
SLIT Slitere, Latvi 38.19 319 *eP* P 07 14 00.2 -0.1
THL Klokotos Trika 38.23 290 P P 07 14 00.9 0.0
SKO Skopje 38.24 294 *i* P P 07 14 01.4 +0.3
MAKR Makrakomi, Fth 38.25 289 P P 07 14 01.1 -0.1
BEL Belsk 38.26 310 *eP* P 07 14 01.8 +0.8
BEL *ePcP* PcP 07 16 11.3 +0.6
BEL *eS* S 07 19 42.9 +3.4
BEL *eL* L 07 35 00.7
comp=Z,4μm,18.0s
BEL Belsk 38.26 310 ⇓P P 07 14 01.5 +0.6
QIZ Qiongzhong 38.32 106 P P 07 14 03.0 +1.1
QIZ pP pP 07 14 45.8 +0.3
QIZ sP sP 07 15 07.0 -1.9
QIZ PP PnPn 07 15 41.3 +3.2
QIZ S S 07 19 40.5 -0.6
QIZ sS sS 07 21 00.0 +2.4
QIZ pmax pmax
comp=Z,99nm,1.4s
QIZ pmax pmax
comp=Z,880nm,3.9s
QIZ Qiongzhong 38.32 106 P P 07 14 03.5 +1.6
GUR Goura 38.32 287 P P 07 14 00.4 -1.5
KECS Kecovo 38.38 304 *eP* P 07 14 03.1 +1.1
KECS *e* 07 19 40.5
KECS pmax pmax
comp=Z,153nm,0.7s
KECS Kecovo 38.38 304 *eP* P 07 14 03.1 +1.1
KECS *ePP* PnPn 07 15 38.2 -0.1
KECS *e* 07 19 40.5
ALIK Aliki, Aigiali 38.43 288 P P 07 14 02.5 -0.1
KLV Kalavryta, Ach 38.45 287 P P 07 14 01.5 -1.3
FNA Florina 38.48 292 P P 07 14 03.3 +0.2
FNA Florina 38.48 292 ⇑P P 07 14 02.5 -0.6
NIE Niedzica 38.49 306 *eP* P 07 14 04.9 +1.9
NIE *eL* L 07 34 01.4
comp=Z,3μm,18.9s
ANX Ano Chora 38.50 288 P P 07 14 03.0 -0.3
EVR Evrytania 38.52 289 P P 07 14 04.4 +0.9
EFP Efpalio 38.55 288 P P 07 14 03.0 -0.6
BSZH Besenyszg 38.56 302 ⇑P P 07 14 05.5 +2.0
KPRO Kipourio 38.65 291 P P 07 14 04.3 -0.2
PENT Pentalofos 38.77 291 P P 07 14 05.6 +0.1
PSZ Piszkesteto 38.79 303 ⇑P P 07 14 07.0 +1.4
PSZ Piszkesteto 38.79 303 IAmb IAmb 07 14 10.9
comp=Z,152nm,0.7s
PSZ Piszkesteto 38.79 303 ⇑P P 07 14 06.1 +0.6
PSZ Piszkesteto 38.79 303 P P 07 14 06.9 +1.4
NEST Nestorio 38.80 291 P P 07 14 05.4 -0.3
PVO Paravola 38.80 288 P P 07 14 05.4 -0.2
DRO Drossia 38.81 287 P P 07 14 04.1 -1.7
OJC Ojcow 38.82 307 *eP* P 07 14 06.4 +0.7
OJC *eS* S 07 19 52.0 +3.9
OJC *eL* L 07 34 01.4
comp=Z,6μm,17.2s
OJC Ojcow 38.82 307 IAmb IAmb 07 14 09.8
comp=Z,287nm,0.8s
OJC Ojcow 38.82 307 ⇑P P 07 14 05.7 0.0
OHR Ohrid 38.86 293 *i* P P 07 14 05.7 -0.5
GZH Guangzhou 38.91 98 P P 07 14 07.5 +0.8
GZH sP sP 07 15 06.8 -6.6
GZH S S 07 19 51.3 +1.5
GZH pmax pmax
comp=Z,320nm,0.8s
RLS Riolos of Patr 38.97 288 P P 07 14 06.4 -0.7
FRGS Fruska Gora 39.03 299 ⇑P P 07 14 07.9 +0.4
FRGS Fruska Gora 39.03 299 ⇑*iP* P 07 14 07.9 +0.4
PYL PYLOS 39.04 286 P P 07 14 05.8 -1.9
LANS Liptovska Anna 39.04 305 *eP* P 07 14 09.3 +1.7
LANS pmax pmax
comp=Z,68nm,0.7s
LANS Liptovska Anna 39.04 305 *eP* P 07 14 09.2 +1.7
JAN Janina 39.09 290 P P 07 14 09.5 +1.4
SJES Sjenica 39.13 296 ⇑*iP* P 07 14 09.5 +1.0
LSK Leskovik 39.18 291 P P 07 14 09.4 +0.5
PVY Plav 39.24 295 ⇑*iP* P 07 14 09.5 +0.1
LHMI Lhok Sumawe 39.24 136 P P 07 14 10.2 +0.6
LHMI Lhok Sumawe 39.24 136 P P 07 14 10.2 +0.6
LHMI Lhok Sumawe 39.24 136 ⇓P P 07 14 09.6 +0.1
LHMI Lhok Sumawe 39.24 136 P P 07 14 10.3 +0.7
comp=Z,1μm,1.1s,comp=Z,12μmcomp=Z,8μm
IVA Berane 39.25 295 ⇑*iP* P 07 14 09.4 0.0

RAF	Rauma	39.28 324	eP	P	07 14 09.3	0.0	
TEKS	Tekeris	39.29 298	eP	P	07 14 09.8	+0.1	
NYDR	Nydri-Lefkada	39.41 289	P	P	07 14 09.0	-1.7	
TSLK	Tsoukalades, L	39.42 289	P	P	07 14 08.7	-2.1	
LKD2	Lefkada island	39.42 289	P	P	07 14 09.9	-1.0	
EVGI	Lefkada island	39.46 289	P	P	07 14 10.0	-1.1	
BBLS	Lazići	39.46 297	⇑iP	P	07 14 11.6	+0.4	
VYHS	Vyhne	39.48 304	eP	P	07 14 12.2	+1.1	
VYHS			eSS	SS	07 22 57.2	-3.5	
VYHS			pmax	pmax			
	comp=Z,396nm,1.9s						
VYHS	Vyhne	39.48 304	eP	P	07 14 12.2	+1.1	
VYHS			epP	pP	07 14 54.3	+0.6	
VYHS			esP	sP	07 15 21.7	+5.0	
VYHS			e		07 16 48.3		
VYHS			e		07 19 44.1		
VYHS			e		07 21 28.7		
VYHS			eSS	SS	07 22 57.2	-3.5	
IGT	Igoumenitsa	39.51 290	P	P	07 14 10.6	-0.9	
RUDO	Rudo	39.52 297	eP	P	07 14 11.3	-0.3	
KOME	Kolasin	39.52 296	⇓iP	P	07 14 11.7	0.0	
PLE	Pljevlja	39.55 296	⇑iP	P	07 14 11.9	0.0	
FSK	Fiskardo	39.57 289	P	P	07 14 10.8	-1.2	
NJ2	Nanjing	39.59 82	⇑P	P	07 14 13.5	+1.3	
NJ2			pP	pP	07 14 55.8	-0.4	
NJ2			sP	sP	07 15 19.5	-0.1	
NJ2			PP	PnPn	07 15 52.0	-0.6	
NJ2			PcP	PcP	07 16 15.3	0.0	
NJ2			ScP	ScP	07 19 43.0	-1.7	
NJ2			S	S	07 20 02.8	+3.0	
NJ2			PcS	PcS	07 20 08.5	+2.9	
NJ2			ScS	ScS	07 23 54.5	-3.3	
NJ2			pmax	pmax			
	comp=Z,170nm,1.1s						
NJ2			pmax	pmax			
	comp=Z,760nm,4.1s						
VLS	Valsamata	39.61 288	P	P	07 14 10.2	-2.2	
PSDA	Pessada-Kefalo	39.63 288	P	P	07 14 09.7	-2.8	
SRN	Sarande	39.69 291	P	P	07 14 11.8	-1.2	
KEF4	Livadi, Kephal	39.72 288	P	P	07 14 12.4	-0.9	
MLSI	Meulaboh, Aceh	39.74 138	P	P	07 14 11.9	-1.8	
	comp=Z,377nm,0.6s,comp=Z,4µm						
MORH	Mrgy, Hungar	39.75 301	⇓iP	P	07 14 14.3	+0.9	
HAPS	Han Pijesak,BI	39.76 298	⇑iP	P	07 14 14.4	+0.7	
DMLN	Damoulianata-K	39.77 288	P	P	07 14 12.4	-1.3	
KEF3	Kipouria, Keph	39.79 288	P	P	07 14 12.5	-1.4	
DL2	Dalian	39.82 71	P	P	07 14 15.5	+1.4	
DL2			pP	pP	07 14 58.0	+0.4	
DL2			ScP	ScP	07 19 43.5	-2.0	
DL2			S	S	07 20 05.5	+2.4	
DL2			sS	sS	07 21 19.0	-1.0	
DL2			ScS	ScS	07 23 54.8	-4.2	
DL2			pmax	pmax			
	comp=Z,240nm,0.8s						
DL2			pmax	pmax			
	comp=Z,540nm,4.9s						
RAC	Raciborz	39.86 307	eP	P	07 14 15.4	+1.2	
RAC			ePP	pP	07 14 55.8	-1.1	
RAC			eS	S	07 20 05.7	+2.3	
RAC			AMS	AMS	07 34 24.5		
	comp=Z,4.6nm,17.0s						
RAC	Raciborz	39.86 307	eP	P	07 14 15.4	+1.2	
RAC			e*PP	pP	07 14 55.8	-1.1	
RAC			eS	S	07 20 05.7	+2.3	
RAC			MLR	MLR			
	comp=Z,5µm,17.0s						
SKLT	Songkhla	39.86 130	P	P	07 14 15.1	+0.4	
SKLT	Songkhla	39.86 130	P	P	07 14 15.0	+0.4	
	comp=Z,1µm,0.8s,comp=Z,14µm						
SRO	Srobarova	39.86 303	eP	P	07 14 16.2	+1.9	
SRO			pmax	pmax			
	comp=Z,408nm,0.8s						
SRO	Srobarova	39.86 303	eP	P	07 14 16.2	+1.9	
SRO			esP	sP	07 15 22.7	+2.8	
SRO			e		07 19 46.7		
ULC	Ulcinj	39.86 294	⇑iP	P	07 14 13.3	-1.1	
DRME	Dracevica, Mon	39.87 295	⇓iP	P	07 14 14.0	-0.5	
DRME	Dracevica, Mon	39.87 295	⇑iP	P	07 14 14.0	-0.5	
KEK	Kerkira	39.88 291	P	P	07 14 11.1	-3.4	
KEK	Kerkira	39.88 291	⇓P	P	07 14 11.3	-3.2	
OKC	Ostrava-Krasne	39.89 307	eP	P	07 14 15.7	+1.2	
OKC	Ostrava-Krasne	39.89 307	eP	P	07 14 15.7	+1.2	
UPM	Unac-Piva	39.91 296	⇑iP	P	07 14 15.4	+0.3	
UPM	Unac-Piva	39.91 296	⇑iP	P	07 14 15.6	+0.5	
WLRA	Wolmera	39.94 235	eP	P	07 14 18.6	+2.8	
NKME	Niksic	39.95 295	⇑iP	P	07 14 15.0	-0.1	
HKPS	Hong Kong Po S	39.95 99	P	P	07 14 18.3	+3.0	
HKC	Hong Kong Obse	39.96 98	⇑P	P	07 14 18.0	+2.6	
CEME	Cevo	40.01 295	⇓iP	P	07 14 15.4	-0.3	
BUM	Brajici-Budva	40.06 295	⇑iP	P	07 14 15.5	-0.6	
FURI	Furi	40.10 235	P	P	07 14 18.4	+1.4	
FURI	Furi	40.10 235	eP	P	07 14 19.6	+2.6	
MAUC	Maruska	40.11 306	eP	P	07 14 17.6	+1.2	
MAUC			ex	x	07 15 23.9		
KOVH	Kovagotottos	40.13 301	⇑P	P	07 14 16.6	+0.1	
BRY	Bratogost	40.23 296	⇑iP	P	07 14 17.4	-0.2	
BRY	Bratogost	40.23 296	⇑iP	P	07 14 17.7	+0.1	
JAVC	Velka Javorina	40.23 305	⇑iP	P	07 14 19.1	+1.7	
JAVC			e		07 15 28.4		
JAVC			eSCP	ScP	07 19 47.6	+0.6	
MORC	Moravsky Berou	40.28 306	⇑P	P	07 14 18.6	+0.7	
MORC	Moravsky Berou	40.28 306	IAmb	IAmb	07 14 21.9		
	comp=Z,246nm,0.8s						
MORC	Moravsky Berou	40.28 306	⇑iP	P	07 14 18.4	+0.6	
MORC			e		07 15 27.9		
MORC			eSCP	ScP	07 19 47.2	0.0	
MORC			eS	S	07 20 12.6	+2.7	
MORC	Moravsky Berou	40.28 306	P	P	07 14 18.5	+0.7	
VADS	Vadso	40.29 339	⇑iP	P	07 14 18.1	+0.7	
VADS			IVmB_BB		07 14 19.1		
	comp=Z,6µm,0.6s						
VADS			eScP	ScP	07 19 48.1	+1.3	
VADS			eS	S	07 20 11.1	+1.8	
VADS			eSS	SS	07 23 16.0	0.0	
VADS			IVMs_BB	IVMs_BB	07 32 02.9		
	comp=Z,9µm,10.7s						
HCY	Herceg Novi	40.33 295	⇑iP	P	07 14 17.8	-0.5	
HCY	Herceg Novi	40.33 295	⇑iP	P	07 14 17.7	-0.5	
TREB	Trebinje	40.39 296	eP	P	07 14 18.5	-0.2	
SMOL	Smolenice	40.41 305	eP	P	07 14 19.9	+1.1	
SMOL			pmax	pmax			
	comp=Z,64nm,0.8s						
NEVS	Nevesinje	40.48 296	eP	P	07 14 20.3	+0.8	
GKP	Gorka Klasztor	40.50 312	eP	P	07 14 20.2	+0.8	
GKP			eS	S	07 20 15.6	+2.8	
GKP			eSS	SS	07 23 21.0	+0.4	
GKP			eL	L	07 34 18.0		
	comp=Z,7µm,19.8s						
GKP	Gorka Klasztor	40.50 312	eP	P	07 14 19.9	+0.4	
MODS	Modra-Piesok	40.52 304	eP	P	07 14 20.7	+1.0	
MODS			pmax	pmax			
	comp=Z,215nm,1.0s						
MODS	Modra-Piesok	40.52 304	eP	P	07 14 20.7	+1.0	
MODS			epP	pP	07 15 03.0	+0.5	
MODS			esP	sP	07 15 30.2	+4.8	
MODS			e		07 17 00.2		
MODS			e		07 19 48.1		
MODS			eSS	SS	07 23 30.8	+10	
ZST	Bratislava	40.65 304	eP	P	07 14 21.8	+1.1	
ZST			pmax	pmax			
	comp=Z,223nm,0.7s						
ZST	Bratislava	40.65 304	eP	P	07 14 21.8	+1.1	
ZST			e		07 19 48.3		
SNY	Shenyang	40.69 66	⇑P	P	07 14 21.5	+0.3	
SNY			S	S	07 20 16.3	+0.4	
SNY			pmax	pmax			
	comp=Z,49nm,0.6s						
SNY			pmax	pmax			
	comp=Z,680nm,10.3s						
SNY			LR	LR			
	comp=Z,2µm,14.7s						
SNY			LR	LR			
	comp=Z,2µm,14.2s						
SNY			LR	LR			
	comp=Z,6µm,13.7s						
KRLC	Kraliky	40.77 307	eP	P	07 14 22.6	+0.8	
KRLC	Kraliky	40.77 307	eP	P	07 14 22.6	+0.8	
KEV	Kevo	40.77 338	P	P	07 14 22.0	+0.6	
KEV	Kevo	40.77 338	⇑P	P	07 14 21.9	+0.4	
KEV	Kevo	40.77 338	P	P	07 14 22.0	+0.6	
KEV			pmax	pmax			
	comp=Z,566nm,0.9s						
KEV	Kevo	40.77 338	P	P	07 14 22.0	+0.6	
STON	Ston	40.84 296	⇑iP	P	07 14 21.8	-0.6	
VRAC	Vranov	40.92 306	⇑P	P	07 14 24.5	+1.5	
VRAC	Vranov	40.92 306	⇑iP	P	07 14 23.9	+0.9	
VRAC			e		07 15 33.7		
VRAC			eSCP	ScP	07 19 49.6	-0.1	
VRAC			eS	S	07 20 22.5	+3.3	
VRAC	Vranov	40.92 306	P	P	07 14 24.5	+1.5	
BLY	Banja Luka	40.93 299	⇑P	P	07 14 23.3	+0.2	
BLY	Banja Luka	40.93 299	⇑iP	P	07 14 23.6	+0.5	
GRD1	Great Renaissa	40.97 241	eP	P	07 14 24.7	+0.9	
MGRS	Mrkonjic Grad	41.05 298	⇑iP	P	07 14 24.6	+0.5	
DPC	Dobruska-Polom	41.05 307	eP	P	07 14 25.3	+1.2	
DPC			eS	S	07 20 22.6	+1.4	
DPC	Dobruska-Polom	41.05 307	eP	P	07 14 25.3	+1.2	
DPC			eS	S	07 20 22.6	+1.4	
KSP	Ksiaz	41.06 308	eP	P	07 14 25.1	+1.0	
KSP			eS	S	07 20 26.7	+5.5	
KSP			eL	L	07 35 11.1		
	comp=Z,3µm,18.0s						
KSP	Ksiaz	41.06 308	⇑P	P	07 14 24.6	+0.6	
KRUC	Moravsky	41.06 305	⇑iP	P	07 14 24.9	+0.8	
KRUC			e		07 15 34.6		
KRUC			eSCP	ScP	07 19 50.2	0.0	
KRUC			eS	S	07 20 23.1	+1.8	
A051A	Mrakovica	41.09 299	⇑iP	P	07 14 24.4	-0.1	
KCSI	Kotacane, Aceh	41.11 137	P	P	07 14 23.0	-1.9	
	comp=Z,432nm,0.9s,comp=Z,5µm						
ARA0	ARCESS Array S	41.12 338	⇑iP	P	07 14 25.0	+0.7	
ARA0			IVmB_BB		07 14 25.9		
	comp=Z,10µm,1.2s						
ARA0			eS	S	07 20 23.1	+1.6	
ARA0			eSS	SS	07 23 34.1	+1.8	
ARCES	ARCESS Array B	41.12 338	P	P	07 14 24.7	+0.4	
ARCES			pP	pP	07 15 05.5	-2.0	
ARCES	ARCESS Array B	41.12 338	P	P	07 14 24.7	+0.4	
ARCES			*PP	pP	07 15 05.5	-2.0	
ARCES			pmax	pmax			
	comp=Z,2µm,1.2s						
ARCES	ARCESS Array B	41.12 338	P	P	07 14 24.9	+0.6	
	comp=Z,1µm,0.9s,baz=111,slow=7.4,SNR=1040						
	comp=Z,1µm,0.9s						
OSTC	Ostas	41.12 308	eP	P	07 14 25.6	+1.0	
OSTC	Ostas	41.12 308	eP	P	07 14 25.6	+1.0	
CHVC	Chvalec	41.22 308	eP	P	07 14 26.4	+1.0	
CHVC	Chvalec	41.22 308	eP	P	07 14 26.4	+1.0	
RONA	Rosalia, Austr	41.22 303	eP	P	07 14 25.6	+0.1	
	comp=Z,57nm,0.5s,SNR=52						
RONA			epP	pP	07 15 12.7	+4.3	
	comp=Z,78nm,0.9s						
RONA			esP	sP	07 15 35.8	+4.5	
	comp=Z,189nm,1.1s						
RONA			eScP	ScP	07 19 50.5	-0.4	
	comp=Z,93nm,1.5s						
RONA			pPKiKP	ScS	07 24 03.2	-4.1	
	comp=Z,7.0nm,1.1s						
UPC	Upice	41.25 308	eP	P	07 14 26.7	+1.1	
UPC			esP	sP	07 15 28.2	-3.2	
UPC	Upice	41.25 308	eP	P	07 14 26.7	+1.1	
UPC			e		07 15 28.2		
SNSI	Sinabang, Aceh	41.26 139	P	P	07 14 26.9	+0.8	
	comp=Z,2µm,1.0s,comp=Z,21µmcomp=Z,11µm						
KULM	Kulim	41.35 132	P	P	07 14 27.3	+0.5	
KULM			IAmb	IAmb	07 14 31.0		
	comp=Z,250nm,0.9s						
KULM	Kulim	41.35 132	⇑P	P	07 14 27.4	+0.5	
KULM	Kulim	41.35 132	P	P	07 14 26.7	-0.1	
	comp=Z,295nm,1.0s,comp=Z,4µmcomp=Z,7µm						
KOGS	Kog	41.38 301	iP	P	07 14 26.9	+0.2	
KOGS			i		07 15 36.9		
KOGS			e		07 17 08.2		
KOGS			iScP	ScP	07 19 50.2	-1.3	
KOGS			eS	S	07 20 26.2	+0.3	
A050A	Klekovaca	41.43 298	⇑iP	P	07 14 27.7	+0.4	
CONA	Conrad Observa	41.49 304	eP	P	07 14 28.1	+0.3	
	comp=Z,165nm,0.7s,SNR=270						
CONA			epP	pP	07 15 15.0	+4.3	
	comp=Z,136nm,1.0s						
CONA			esP	sP	07 15 38.0	+4.4	
	comp=Z,357nm,1.1s						
CONA			eScP	ScP	07 19 50.2	-1.8	
	comp=Z,73nm,1.3s						
CONA			epPKiKP	ScS	07 24 03.2	-5.8	
	comp=Z,8.7nm,1.3s						
BLEU	Blekinge	41.51 316	iP	P	07 14 27.5	-0.1	
KTK1	Kautokeino	41.59 336	⇑iP	P	07 14 28.2	+0.1	
KTK1			IVmB_BB		07 14 29.2		
	comp=Z,7µm,0.7s						
KTK1			eS	S	07 20 29.6	+1.1	
KTK1			eSS	SS	07 23 43.3	+1.9	
TREC	Trest	41.64 306	eP	P	07 14 29.9	+1.0	
TREC			esP	sP	07 15 35.2	+0.5	
TREC	Trest	41.64 306	eP	P	07 14 29.9	+1.0	
TREC			e		07 15 35.2		
CN2	Changchun	41.71 62	eP	P	07 14 29.5	0.0	
CN2			ePP	PP	07 16 11.5	+1.4	
CN2			eS	S	07 20 32.0	+1.0	
CN2			pmax	pmax			
	comp=Z,40nm,1.0s						
CN2			LR	LR			
	comp=Z,1µm,12.0s						
CN2			LR	LR			
	comp=Z,3µm,12.0s						
CN2			LR	LR			
	comp=Z,3µm,12.0s						
SUJ	Sinuiju	41.72 68	P	P	07 14 29.0	-0.5	
SUJ			pP	pP	07 15 12.1	-1.6	
SUJ			S	S	07 20 31.6	+0.5	
SUJ			AmB				
	comp=Z,467nm,1.9s						
DLV	T Lat	41.72 116	P	P	07 14 29.8	-0.3	
DLV			IAmb	IAmb	07 14 33.2		
	comp=Z,195nm,0.8s						
DLV	T Lat	41.72 116	P	P	07 14 31.4	+1.3	
SSE	Sheshan	41.78 82	P	P	07 14 30.5	+0.3	
SSE			S	S	07 20 34.0	+1.7	
SSE			pmax	pmax			
	comp=Z,130nm,1.0s						
SSE			pmax	pmax			
	comp=Z,500nm,3.5s						
SSE			LR	LR			
	comp=Z,3µm,14.7s						
SSE			LR	LR			
	comp=Z,2µm,15.2s						
SSE	Sheshan	41.78 82	P	P	07 14 31.6	+1.4	
SSE			sP	sP	07 15 41.2	+3.7	
SSE			ScP	ScP	07 19 51.4	-2.0	
ARSA	Arzberg	41.79 303	eP	P	07 14 30.2	+0.2	
	comp=Z,27nm,0.7s,SNR=35						
ARSA			epP	pP	07 15 17.0	+3.9	
	comp=Z,66nm,0.9s						
ARSA			esP	sP	07 15 40.1	+4.2	
	comp=Z,100nm,1.5s						
ARSA			eScP	ScP	07 19 52.3	-0.9	
	comp=Z,152nm,1.4s,SNR=11						
ARSA			epPKiKP	ScS	07 24 10.7	0.0	
	comp=Z,7.2nm,0.9s						
ARSA	Arzberg	41.79 303	⇑P	P	07 14 30.1	0.0	
BSD	Bornholm Skovb	41.94 315	iP	P	07 14 30.5	-0.7	
BSD			IAmb	IAmb	07 14 31.5		
	comp=Z,420nm,1.0s						
BSD			IVmBBB		07 14 31.7		
	comp=Z,4µm,1.1s						
MATE	Matera	41.99 293	⇑P	P	07 14 30.0	-1.8	
CRES	Cresnjev	42.00 301	⇑iP	P	07 14 32.4	+0.6	
GOPC	GO Pecny, Ondr	42.06 307	eP	P	07 14 33.3	+1.1	
GOPC			eS	S	07 20 38.2	+2.2	
GOPC	GO Pecny, Ondr	42.06 307	eP	P	07 14 33.3	+1.1	
GOPC			eS	S	07 20 38.2	+2.2	
ZEA	Zeya	42.16 47	eP	P	07 14 34.1	+1.2	
ZEA			e*PP	pP	07 15 19.2	+2.0	
ZEA			e		07 16 17.8		
ZEA			eS	S	07 20 41.8	+4.6	
ZEA			eSS	sS	07 21 58.2	+3.5	
ZEA			e		07 24 11.6		
ZEA			pmax	pmax			
	comp=N,60nm,0.8s						
ZEA			pmax	pmax			
	comp=E,100nm,0.8s						
ZEA			pmax	pmax			
	comp=Z,210nm,0.8s						
ZEA			pmax	pmax			
	comp=E,600nm,6.7s						
ZEA			pmax	pmax			
	comp=Z,1µm,5.3s						
ZEA			smax	smax			
	comp=E,3µm,16.9s						
ZEA			smax	smax			
	comp=N,3µm,11.9s						
ZEA			MLR	MLR			
	comp=E,3µm,15.0s						
ZEA			MLR	MLR			
	comp=Z,3µm,11.0s						
PVCC	Panska Ves	42.17 308	eP	P	07 14 34.1	+1.1	
PVCC	Panska Ves	42.17 308	eP	P	07 14 34.1	+1.1	
BOJS	Bojanci	42.18 300	⇑iP	P	07 14 34.0	+0.7	
SOKA	Soboth	42.18 302	iP	P	07 14 33.7	+0.3	
	comp=Z,218nm,0.6s,SNR=213						
SOKA			epP	pP	07 15 20.9	+4.4	
	comp=Z,136nm,0.9s						
SOKA			esP	sP	07 15 44.0	+4.7	
	comp=Z,219nm,1.0s						
SOKA			eScP	ScP	07 19 53.5	-1.4	
	comp=Z,26nm,1.1s,SNR=8.2						
SOKA			epPKiKP	ScS	07 24 11.8	-1.6	
	comp=Z,14nm,1.6s						
HAMF	Hammerfest	42.20 339	⇑iP	P	07 14 34.0	+1.0	
HAMF			IVmB_BB		07 14 34.9		
	comp=Z,14µm,0.7s						
HAMF			eS	S	07 20 39.0	+1.6	
HAMF			eSS	SS	07 23 56.5	+3.2	
DILA	Dilla	42.20 233	eP	P	07 14 34.9	+1.0	
PRU	Pruhonice	42.21 307	eP	P	07 14 34.6	+1.2	
PRU			eS	S	07 20 39.6	+1.4	
PRU	Pruhonice	42.21 307	eP	P	07 14 34.6	+1.2	
PRU			eS	S	07 20 39.6	+1.4	
QZH	Quanzhou	42.23 92	⇓iP	P	07 14 34.8	+0.9	
QZH			pP	pP	07 15 17.5	-0.5	
QZH			sP	sP	07 15 42.8	+1.6	
QZH			ScP	ScP	07 19 53.0	-2.3	
QZH			S	S	07 20 41.3	+2.3	
QZH			sS	sS	07 21 53.5	-3.0	
QZH			ScS	ScS	07 24 11.3	-2.8	
QZH			pmax	pmax			
	comp=Z,240nm,1.1s						
QZH			LR	LR			
	comp=Z,6µm,13.7s						
QZH			LR	LR			
	comp=Z,4µm,10.3s						
QZH			LR	LR			
	comp=Z,5µm,10.7s						
PRA	Prague	42.28 307	eP	P	07 14 35.4	+1.5	
PRA			eS	S	07 20 42.3	+3.2	
PRA	Prague	42.28 307	eP	P	07 14 35.4	+1.5	
PRA			eS	S	07 20 42.3	+3.2	
MRVN	Minervino Murg	42.28 294	⇑P	P	07 14 33.9	-0.3	
TIP	Timpagrande	42.29 291	⇑P	P	07 14 33.6	-0.7	
KNMB	Chin-men Tao	42.29 93	IAmb	IAmb	07 14 37.6		
	comp=Z,253nm,1.0s						
HEH	HeiHe	42.34 53	eP	P	07 14 35.0	+0.5	
HEH			pP	pP	07 15 21.0	+2.4	
HEH			ScP	ScP	07 19 54.5	-0.8	
HEH			S	S	07 20 41.8	+1.8	
HEH			sS	sS	07 21 56.8	-0.7	
HEH			ScS	ScS	07 24 10.3	-3.7	
HEH			pmax	pmax			
	comp=Z,600nm,1.0s						
PSI	Prapat	42.35 136	P	P	07 14 34.6	-0.4	
PSI	Prapat	42.35 136	P	P	07 14 34.3	-0.7	
PSI			pmax	pmax			
	comp=Z,410nm,0.7s						
PSI	Prapat	42.35 136	P	P	07 14 34.8	-0.2	
	comp=Z,628nm,0.9s,comp=Z,4µmcomp=Z,2µm						
RPSI	Rantau Prapat	42.44 136	P	P	07 14 34.3	-1.3	
RPSI			IAmb	IAmb	07 14 37.1		
	comp=Z,410nm,0.7s						
CKRC	Cesky Krumlov	42.45 305	eP	P	07 14 36.1	+0.7	
CKRC	Cesky Krumlov	42.45 305	eP	P	07 14 36.1	+0.7	
RICC	Richard	42.47 308	eP	P	07 14 36.6	+1.1	
RICC			ex	x	07 15 42.2		
SGRT	San Giovanni R	42.47 295	IAmb	IAmb	07 14 40.0		
	comp=Z,332nm,0.7s						
ZVC	Zvikov	42.48 306	eP	P	07 14 36.6	+1.0	
ZVC			esP	sP	07 15 40.5	-1.1	
OBKA	Obir	42.53 302	iP	P	07 14 36.6	+0.4	
	comp=Z,79nm,0.6s,SNR=92						
OBKA			epP	pP	07 15 23.7	+4.3	
	comp=Z,61nm,1.0s						
OBKA			esP	sP	07 15 45.9	+3.7	
	comp=Z,222nm,1.6s						
OBKA			eScP	ScP	07 19 55.1	-1.2	
	comp=Z,71nm,1.4s,SNR=6.1						
OBKA			epPKiKP	ScS	07 24 14.0	-1.6	
	comp=Z,15nm,1.4s						
OBKA	Obir	42.53 302	⇑iP	P	07 14 36.7	+0.4	
BRG	Berggiesshubel	42.55 308	iP	P	07 14 37.2	+1.1	
BRG			Amp		07 14 40.6		
	comp=Z,240nm,0.9s						
BRG	Berggiesshubel	42.55 308	P	P	07 14 47.8	+12	
BRG			Amp		07 14 48.2		
	comp=Z,117nm,1.0s						
BRG			pP	pP	07 15 18.7	-0.5	
BRG			Amp		07 15 22.9		
	comp=Z,70nm,0.9s						
BRG			sP	sP	07 15 47.1	+5.0	
BRG			Amp		07 15 48.6		
	comp=Z,198nm,1.0s						
BRG			PP	PP	07 16 20.4	+1.5	
BRG			Amp		07 16 25.6		
	comp=Z,84nm,0.9s						
BRG	Berggiesshubel	42.55 308	iP	P	07 14 37.2	+1.1	
BRG					07 15 18.7		
BRG			SP		07 15 47.0		
BRG					07 16 20.4		
BRG			S	S	07 20 48.0	+5.0	
BRG			SS	sS	07 22 05.0	+4.5	
BRG			pmax	pmax			
	comp=Z,240nm,0.9s						
BRG	Berggiesshubel	42.55 308	eP	P	07 14 37.1	+1.0	
	comp=Z,240nm,0.9s,baz=86,slow=7.8						
BRG			eS	S	07 20 49.8	+6.8	
MOA	Molln	42.57 304	eP	P	07 14 36.5	+0.1	
	comp=Z,254nm,0.8s,SNR=151						
MOA			epP	pP	07 15 23.5	+3.9	
	comp=Z,96nm,0.8s						
MOA			esP	sP	07 15 46.4	+4.0	
	comp=Z,213nm,1.9s						
MOA			eScP	ScP	07 19 55.0	-1.4	
	comp=Z,82nm,1.4s						
MOA			epPKiKP	ScS	07 24 13.7	-1.9	
	comp=Z,14nm,1.7s						
RUE	Ruedersdorf	42.59 311	⇑P	P	07 14 36.9	+0.6	
RUE	Ruedersdorf	42.59 311	eP	P	07 14 36.6	+0.2	
RUE	Ruedersdorf	42.59 311	eP	P	07 14 37.0	+0.6	
	comp=Z,411nm,0.9s,baz=86,slow=7.8						
RUE			epP	pP	07 15 23.6	+4.0	
RUE			eS	S	07 20 49.0	+5.5	
DEL	Delary	42.60 317	iP	P	07 14 36.5	+0.1	
LJU	Ljubljana	42.61 301	iP	P	07 14 37.3	+0.6	
LJU			epP	pP	07 15 20.4	+0.5	
LJU			i		07 15 33.6		
LJU			e		07 15 47.4		
LJU			iScP	ScP	07 19 55.4	-1.1	
LJU			eS	S	07 20 44.7	+0.6	
LJU			isS	sS	07 21 55.5	-6.2	
LJU			eScS	ScS	07 24 14.6	-1.2	
CEY	Cerknica	42.72 301	iP	P	07 14 37.9	+0.2	
CEY			ipP	pP	07 15 23.4	+2.6	
CEY			i		07 15 34.2		
CEY			i		07 15 47.8		
CEY			ePcP	PcP	07 16 24.2	-1.2	
CEY			iScP	ScP	07 19 55.8	-1.2	
CEY			eS	S	07 20 46.6	+0.8	
CEY			esS	sS	07 21 57.6	-5.8	
CEY			eSS	SS	07 24 07.1	+2.7	
CEY	Cerknica	42.72 301	⇑iP	P	07 14 38.3	+0.6	
JETT	Jettan, Norway	42.73 336	⇑iP	P

BNX pmax pmax
comp=Z,1μm,8.0s
BNX LR LR
comp=Z,4μm,11.4s
BNX LR LR
comp=Z,3μm,9.8s
BNX LR LR
comp=Z,4μm,9.2s
LUNU Lund 42.80 315 *i* P **P** **07 14 38.3 +0.3**
CUC Castrocucco 42.80 292 IAmb IAmb 07 14 40.7
comp=Z,308nm,0.7s
CUC Castrocucco 42.80 292 ⇑P **P** **07 14 38.4 0.0**
RGN Rugen 42.85 314 ⇑P **P** **07 14 39.6 +1.2**
RGN Rugen 42.85 314 *eP* **P** **07 14 39.5 +1.1**
RGN Rugen 42.85 314 *eP* **P** **07 14 40.5 +2.1**
comp=Z,1μm,1.0s,baz=86,slow=7.8
RGN *epP* **pP** **07 15 27.5 +5.8**
RGN *eS* **S** **07 20 54.1 +6.9**
GEC2 GERESS Array S 42.85 305 *eP* **P** **07 14 39.3 +0.6**
comp=Z,85nm,1.1s,baz=86,slow=7.8
GEC2 *eS* **S** **07 20 55.4 +7.7**
GERES GERESS Array B 42.85 305 P **P** **07 14 38.8 +0.1**
GERES GERESS Array B 42.85 305 P **P** **07 14 39.2 +0.6**
comp=Z,28nm,0.5s,baz=81,slow=8.2,SNR=92
GERES PcP **PcP** **07 16 25.4 -0.4**
comp=Z,67nm,0.8s,baz=52,slow=6.9,SNR=6.9
GERES ScP **ScP** **07 19 56.8 -0.7**
comp=Z,32nm,1.0s,baz=77,slow=5.8,SNR=7.0
comp=Z,28nm,0.5s
GSI Gunungsitoli 42.85 139 P **P** **07 14 40.1 +1.1**
GSI Gunungsitoli 42.85 139 P **P** **07 14 40.2 +1.2**
GSI Gunungsitoli 42.85 139 ⇓P **P** **07 14 40.1 +1.1**
GSI Gunungsitoli 42.85 139 P **P** **07 14 39.8 +0.8**
comp=Z,2μm,0.9s,comp=Z,16μmcomp=Z,11μm
HSKC Hora Svate Kat 42.88 308 *eP* **P** **07 14 40.2 +1.3**
HSKC *ex* x 07 15 40.5
KHC Kasperske Hory 42.90 306 ⇑P **P** **07 14 39.4 +0.4**
KHC Kasperske Hory 42.90 306 *eP* **P** **07 14 39.7 +0.6**
KHC *esP* **sP** **07 15 43.1 -2.0**
KHC *ePP* **PP** **07 16 21.0 -1.8**
KHC *eS* **S** **07 20 49.3 +0.9**
KHC AMS AMS 07 24 20.0
comp=Z,9μm,21.5s
KHC Kasperske Hory 42.90 306 *eP* **P** **07 14 39.7 +0.6**
KHC *e* 07 15 43.1
KHC *e* 07 16 21.0
KHC *eS* **S** **07 20 49.3 +0.9**
KHC MLR MLR
comp=Z,9μm,21.5s
PYAG Pyongyang 42.91 69 P **P** **07 14 39.7 +0.4**
PYAG pP **pP** **07 15 22.3 -1.1**
PYAG S **S** **07 20 49.7 +1.1**
PYAG AmB
comp=Z,635nm,2.0s
BIOA Bad Ischl, Aus 43.01 304 *eP* **P** **07 14 40.1 +0.1**
comp=Z,52nm,0.5s,SNR=50
BIOA *epP* **pP** **07 15 26.6 +3.4**
comp=Z,98nm,1.1s
BIOA *esP* **sP** **07 15 49.6 +3.6**
comp=Z,66nm,0.8s
BIOA *eScP* **ScP** **07 19 56.1 -2.0**
comp=Z,116nm,1.7s
BIOA *epPKiKP* **ScS** **07 24 14.4 -4.0**
comp=Z,25nm,1.3s
HFS Hagfors 43.01 322 P **P** **07 14 40.2 +0.5**
comp=Z,918nm,0.8s,baz=96,slow=11,SNR=698
comp=Z,918nm,0.8s
SKDS Skadanscina 43.04 300⇑ *i*P **P** **07 14 40.1 -0.1**
BJUU Bjuv 43.05 316 *i* P **P** **07 14 40.4 +0.3**
CLL Collm 43.11 309⇑ *i*P **P** **07 14 41.1 +0.5**
CLL *i* 07 15 50.4
CLL *i* 07 16 27.4
CLL *eS* **S** **07 20 54.0 +2.7**
CLL pmax pmax
comp=Z,222nm,0.9s
CLL Collm 43.11 309⇑ *i*P **P** **07 14 41.1 +0.5**
comp=Z,222nm,0.9s
CLL *i* x x 07 15 50.4
comp=Z,154nm,1.1s
CLL *eP* **PP** **07 16 24.0 -0.9**
CLL *i* PcP **PcP** **07 16 27.4 +0.9**
CLL *i* x x 07 16 35.0
CLL *epP* 07 16 58.0
CLL *ePP* PPP 07 17 12.0
CLL *esP* 07 17 22.0
CLL *i* ScP **ScP** **07 19 57.9 -0.5**
comp=Z,195nm,1.5s
CLL *ePcS* **PcS** **07 20 20.0 +0.9**
CLL *eS* **S** **07 20 54.0 +2.7**
CLL *esS* **sS** **07 22 05.0 -4.0**
CLL *eSS* **SS** **07 24 12.0 +0.4**
CLL *ex* x 07 24 32.0
comp=Z,12μm,21.3s
CLL *esSS* 07 25 08.0
CLL Collm 43.11 309 *eP* **P** **07 14 41.2 +0.6**
comp=Z,175nm,0.8s,baz=86,slow=7.8
CLL *eS* **S** **07 20 57.1 +5.9**
MYKA Terra Mystica 43.14 302 *eP* **P** **07 14 41.1 +0.1**
comp=Z,121nm,0.7s,SNR=125
MYKA *esP* **sP** **07 15 51.3 +4.2**
comp=Z,143nm,1.7s
MYKA *eScP* **ScP** **07 19 56.9 -1.8**
comp=Z,79nm,1.7s
HJU Haeju 43.15 71 P **P** **07 14 41.3 +0.2**
HJU pP **pP** **07 15 23.6 -2.2**
HJU S **S** **07 20 51.9 -0.2**
HJU AmB
comp=Z,591nm,1.4s
CEL Celeste 43.18 290 ⇑P **P** **07 14 41.1 -0.3**
TRO Tromso 43.24 336 *eP* **P** **07 14 41.7 +0.4**
TRO IVmB_BB 07 14 44.4
comp=Z,6μm,1.4s
TRO *eS* **S** **07 20 53.9 +1.4**
TRO *eSS* **SS** **07 24 15.8 +2.5**
SABO M.te Sabotino 43.26 301 IAmb IAmb 07 14 47.5
comp=Z,2μm,1.9s
BORU Boraas 43.26 318 *i* P **P** **07 14 42.0 +0.3**
KBA Koelnbreinsper 43.28 303 *i* P **P** **07 14 42.6 +0.4**
comp=Z,69nm,0.6s,SNR=65
KBA *epP* **pP** **07 15 29.4 +3.8**
comp=Z,74nm,0.7s
KBA *esP* **sP** **07 15 52.5 +4.2**
comp=Z,114nm,1.2s
KBA *eScP* **ScP** **07 19 57.8 -1.6**
comp=Z,86nm,1.4s
KBA pPKiKP **ScS** **07 24 17.5 -2.9**
comp=Z,30nm,1.6s
KBA Koelnbreinsper 43.28 303 ⇑P **P** **07 14 42.2 -0.1**
WET Wettzell 43.36 306 *eP* **P** **07 14 44.2 +1.5**
comp=Z,35nm,0.9s,baz=86,slow=7.8
WET *epP* **pP** **07 15 30.0 +4.0**
WET *eS* **S** **07 21 03.2 +8.2**
PTCC Patocco-Chiusa 43.37 302 ⇑P **P** **07 14 42.5 -0.3**
MSEY Mahe Island 43.40 203 P **P** **07 14 44.1 +0.7**
MSEY Mahe Island 43.40 203 P **P** **07 14 44.4 +1.1**
MSEY Mahe Island 43.40 203 *eP* **P** **07 14 42.3 -1.0**
MSEY IAmb IAmb 07 14 46.7
comp=Z,46nm,1.0s
MSEY Mahe Island 43.40 203 ⇓P **P** **07 14 44.5 +1.1**
MSEY Mahe Island 43.40 203 P **P** **07 14 44.1 +0.7**
MSEY pmax pmax
comp=Z,109nm,1.0s
MSEY Mahe Island 43.40 203 P **P** **07 14 45.3 +1.9**
MSEY P **P** **07 14 45.3 +1.9**
MSEY S **S** **07 20 58.5 +2.3**
MSEY S **S** **07 20 58.5 +2.3**
MSEY Mahe Island 43.40 203 P **P** **07 14 44.4 +1.1**
MSEY pP **pP** **07 15 28.5 +1.0**
MSEY sP **sP** **07 15 52.7 +2.4**
TANN Tannenbergstha 43.52 308 *eP* **P** **07 14 44.8 +0.9**
comp=Z,111nm,0.9s,baz=86,slow=7.8
TANN *eS* **S** **07 21 05.9 +8.7**
NKC Novy Kostel 43.54 307 *eP* **P** **07 14 45.2 +1.1**
NKC *eS* **S** **07 21 01.5 +4.0**
NKC Novy Kostel 43.54 307 *eP* **P** **07 14 45.2 +1.1**
NKC *eS* **S** **07 21 01.5 +4.0**
RJOB Jochberg 43.57 304 *eP* **P** **07 14 44.9 +0.4**
comp=Z,156nm,0.8s,baz=86,slow=7.8
RJOB *eS* **S** **07 21 05.0 +6.9**
LESA Schwarzleotal 43.69 303 *i* P **P** **07 14 45.5 0.0**
comp=Z,146nm,0.5s
LESA *epP* **pP** **07 15 32.3 +3.5**
comp=Z,112nm,1.0s
LESA *esP* **sP** **07 15 55.5 +4.0**
comp=Z,264nm,1.7s
LESA *eScP* **ScP** **07 19 59.1 -1.9**
comp=Z,135nm,1.4s
LESA *epPKiKP* **ScS** **07 24 18.7 -4.0**
comp=Z,57nm,1.4s
PLN Plauen 43.70 308 *eP* **P** **07 14 46.4 +1.0**
comp=Z,115nm,0.8s,baz=86,slow=7.8
PLN *eS* **S** **07 21 07.3 +7.4**
ROTZ Rotzenmuhle 43.74 307 *eP* **P** **07 14 46.9 +1.2**
comp=Z,43nm,1.0s,baz=86,slow=7.8
ROTZ *epP* **pP** **07 15 33.7 +4.6**
ROTZ *eS* **S** **07 21 09.3 +8.9**
FAUS Fauske 43.77 333 *eP* **P** **07 14 46.0 +0.4**
FAUS IVmB_BB 07 14 46.9
comp=Z,11μm,0.9s
FAUS *eS* **S** **07 21 01.9 +1.7**
MOR8 Moi Rana 43.77 331 *eP* **P** **07 14 45.5 -0.2**
MOR8 IVmB_BB 07 14 46.3
comp=Z,17μm,0.7s
MOR8 *esP* **sP** **07 15 48.6 -3.6**
MOR8 *eS* **S** **07 21 01.1 +0.6**
MOR8 *eSS* **SS** **07 24 25.2 +2.1**
MANZ Manzenberg 43.78 307 *eP* **P** **07 14 47.2 +1.2**
comp=Z,34nm,0.9s,baz=86,slow=7.8
MANZ *epP* **pP** **07 15 34.0 +4.6**
MANZ *eS* S 07 21 10.2 +9.1
STAL STALIGIAL 43.83 302 IAmb IAmb 07 14 49.8
comp=Z,234nm,0.7s
NEUB Neuenburg 43.89 309 *eP* **P** **07 14 48.0 +1.1**
comp=Z,307nm,0.8s,baz=86,slow=7.8
ABTA Abfaltersbach 43.89 302 *eP* **P** **07 14 46.6 -0.5**
comp=Z,120nm,0.7s,SNR=55
ABTA *epP* **pP** **07 15 33.6 +3.2**
comp=Z,36nm,0.7s
ABTA *esP* **sP** **07 15 56.5 +3.3**
comp=Z,22nm,0.6s
ABTA *eScP* **ScP** **07 19 59.9 -1.9**
comp=Z,116nm,1.6s,SNR=5.4
ABTA *epPKiKP* **ScS** **07 24 19.8 -4.3**
comp=Z,27nm,1.4s
STEI Steigen 43.94 333 *eP* **P** **07 14 47.3 +0.4**
STEI IVmB_BB 07 14 48.2
comp=Z,8μm,0.9s
STEI *eS* **S** **07 21 05.4 +2.7**
GUMA Gualdo di Mace 43.95 297 IAmb IAmb 07 15 36.1
comp=Z,252nm,0.8s
INCN Inchon 44.00 71 P **P** **07 14 47.6 -0.2**
INCN IAmb IAmb 07 15 01.1
comp=Z,483nm,1.8s
INCN Inchon 44.00 71 P **P** **07 14 50.0 +2.1**
INCN Inchon 44.00 71 P **P** **07 14 47.7 -0.2**
INCN pmax pmax
comp=Z,483nm,1.8s
INCN Inchon 44.00 71 P **P** **07 14 48.3 +0.4**
INCN S **S** **07 21 03.6 -0.8**
HHU Hamhung 44.02 68 P **P** **07 14 48.5 +0.5**
HHU pP **pP** **07 15 31.6 -0.9**
HHU S **S** **07 21 05.6 +0.9**
HHU AmB
comp=Z,771nm,1.2s
MOX Moxa 44.04 308 *eP* **P** **07 14 48.9 +0.9**
comp=Z,117nm,0.8s,baz=86,slow=7.8
MOX *eS* **S** **07 21 10.9 +6.2**
YAK Yakutsk 44.04 35 P **P** **07 14 47.1 -0.7**
YAK Yakutsk 44.04 35⇑ P **P** **07 14 47.7 -0.2**
YAK Yakutsk 44.04 35*c i*P **P** **07 14 47.9 0.0**
YAK *e**PP **pP** **07 15 32.9 +0.7**
YAK *e* 07 15 56.4
YAK *eS* **S** **07 21 03.8 -0.5**
YAK *e**SS **sS** **07 22 20.0 -2.3**
YAK *e* 07 24 17.5
YAK *eSS* **ScS** **07 24 24.9 +0.7**
YAK *eSSS* SSS 07 25 26.5
YAK pmax pmax
comp=Z,586nm,1.0s
YAK pmax pmax
comp=N,77nm,1.2s
YAK pmax pmax
comp=E,90nm,1.0s
YAK smax smax
comp=N,3μm,2.7s
YAK smax smax
comp=E,2μm,2.8s
YAK Yakutsk 44.04 35 ScP **ScP** **07 20 01.6 -0.4**
comp=E,176nm,0.8s,baz=223,slow=1.7,SNR=12
YAK Yakutsk 44.04 35 P **P** **07 14 47.8 0.0**
YAK pP **pP** **07 15 33.7 +1.5**
YAK sP **sP** **07 15 57.1 +1.7**
YAK ScP **ScP** **07 20 01.2 -0.7**
NC602 NORSAR Array S 44.14 323 IAmb IAmb 07 14 52.0
comp=Z,475nm,1.0s
NC602 NORSAR Array S 44.14 323 *eP* **P** **07 14 48.6 -0.1**
NC602 IVmBBB 07 14 49.2
comp=Z,5μm,1.0s
NC602 *eS* **S** **07 21 07.6 +1.8**
NC602 *eSS* **SS** **07 24 32.9 +3.5**
FLTG Flechtingen 44.15 311 ⇑P **P** **07 14 48.8 -0.1**
FLTG Flechtingen 44.15 311 *eP* **P** **07 14 49.3 +0.5**
baz=86,slow=7.8
FLTG *epP* **pP** **07 15 36.9 +4.4**
STRU Stroemstad 44.18 320 *i* P **P** **07 14 48.8 -0.2**
NB2 NORSAR Subarra 44.33 323 P **P** **07 14 50.2 0.0**
comp=Z,776nm,0.8s,baz=94,slow=7.9
NB2 NORSAR Subarra 44.33 323 P **P** **07 14 50.2 0.0**
baz=94,slow=7.9
NOA NORSAR Array B 44.33 323 P **P** **07 14 49.7 -0.5**
comp=Z,463nm,0.8s,baz=96,slow=7.8,SNR=1015
comp=Z,463nm,0.8s
KONS Konsvik 44.37 331 *eP* **P** **07 14 50.9 +0.5**
KONS *eS* **S** **07 21 10.9 +1.9**
PBSI Pulau Batu 44.37 139 P **P** **07 14 52.3 +1.3**
comp=Z,751nm,1.2s,comp=Z,12μmcomp=Z,10μm
STOK Stokkvaagen 44.37 331 *eP* **P** **07 14 50.9 +0.5**
GRF Grafenberg Arr 44.38 307 *eP* **P** **07 14 52.3 +1.5**
comp=Z,207nm,0.8s,baz=86,slow=7.8
GRF *eS* S 07 21 20.1 +10
GRFO Grafenberg 44.38 307 P **P** **07 14 51.8 +1.0**
GRFO Grafenberg 44.38 307 P **P** **07 14 51.8 +1.0**
GRFO pmax pmax
comp=Z,1μm,1.9s
WTTA Wattenberg 44.41 303 *eP* **P** **07 14 50.6 -0.6**
comp=Z,160nm,0.8s,SNR=66
WTTA *epP* **pP** **07 15 38.2 +3.4**
comp=Z,150nm,1.0s
WTTA *esP* **sP** **07 16 00.9 +3.3**
comp=Z,75nm,1.0s
WTTA *eScP* **ScP** **07 20 01.7 -2.3**
comp=Z,229nm,1.1s,SNR=11
WTTA *epPKiKP* **ScS** **07 24 24.1 -3.4**
comp=Z,29nm,1.2s
WATA Walderalm 44.44 303 *eP* **P** **07 14 50.5 -0.9**
comp=Z,172nm,0.7s,SNR=67
WATA *epP* **pP** **07 15 38.2 +3.1**
comp=Z,109nm,0.9s
WATA *esP* **sP** **07 16 01.0 +3.3**
comp=Z,53nm,0.9s
WATA *eScP* **ScP** **07 20 01.9 -2.2**
comp=Z,205nm,1.2s,SNR=7.6
WATA *epPKiKP* **ScS** **07 24 22.1 -5.6**
comp=Z,16nm,1.0s
NSS Namsos 44.45 328⇑ *i*P **P** **07 14 51.2 +0.1**
NSS IVmB_BB 07 14 51.7
comp=Z,2μm,0.8s
NSS *eS* **S** **07 21 10.4 +0.2**
NAO01 NORSAR Array S 44.47 323 IAmb IAmb 07 14 52.5
comp=Z,564nm,0.9s
OSL Oslo 44.48 321⇑ *i*P **P** **07 14 51.5 +0.2**
OSL IVmBBB 07 14 52.0
comp=Z,4μm,0.9s
OSL *eS* **S** **07 21 12.6 +1.9**
MURB Monte Urbino 44.49 297 IAmb IAmb 07 14 58.4
comp=Z,607nm,0.9s
MDJ Mudanjiang 44.51 61 P **P** **07 14 52.0 +0.2**
MDJ pP pP 07 15 33.5 -3.1
MDJ PcP **PcP** **07 16 31.5 +0.1**
MDJ S **S** **07 21 11.0 -0.6**
MDJ sS sS 07 22 22.0 -7.7
MDJ ScS **ScS** **07 24 26.3 -1.5**
MDJ pmax pmax
comp=Z,1μm,8.2s
MDJ LR LR
comp=Z,3μm,16.5s
MDJ LR LR
comp=Z,4μm,17.2s
MDJ LR LR
comp=Z,5μm,15.8s
MDJ Mudanjiang 44.51 61 P **P** **07 14 53.5 +1.7**
ASSE Asse, Remlinge 44.51 310 *eP* **P** **07 14 51.8 +0.2**
comp=Z,100nm,1.3s,baz=86,slow=7.8
ASSE *eS* **S** **07 21 18.8 +7.5**
VAE Valguarnera 44.52 289 P **P** **07 14 52.8 +0.7**
comp=Z,80nm,0.7s,baz=8.3,slow=3.6,SNR=20
comp=Z,80nm,0.7s
FUR Furstenfeldbru 44.53 305 *eP* **P** **07 14 52.7 +0.7**
comp=Z,183nm,0.7s,baz=86,slow=7.8
TATO Taipei 44.55 90 P **P** **07 14 53.7 +1.3**
YHNB Yeheng 44.60 91 P **P** **07 14 53.5 +0.5**
YHNB IAmb IAmb 07 14 57.1
comp=Z,650nm,1.6s
YHNB Yeheng 44.60 91 P **P** **07 14 54.9 +2.0**
LOF Lofoten 44.61 333⇑ *i*P **P** **07 14 52.1 -0.1**
LOF IVmB_BB 07 14 52.8
comp=Z,5μm,1.1s
LOF *eS* **S** **07 21 13.6 +1.2**
BSEG Bad Segeberg 44.62 313 *eP* **P** **07 14 53.6 +1.1**
comp=Z,204nm,0.8s,baz=86,slow=7.8
TPUB Ta-pu 44.65 93 P **P** **07 14 55.0 +1.8**
SSLB Suanglung 44.67 92 IAmb IAmb 07 14 59.0
comp=Z,751nm,1.2s
SSLB Suanglung 44.67 92 P **P** **07 14 55.7 +2.2**
TEOL Teolo 44.70 301 IAmb IAmb 07 15 16.6
comp=Z,224nm,0.8s
SQTA Sankt Quirin 44.71 303 *eP* **P** **07 14 52.7 -0.8**
comp=Z,89nm,0.6s,SNR=82
SQTA *epP* **pP** **07 15 40.0 +2.9**
comp=Z,112nm,1.2s
SQTA *esP* **sP** **07 16 02.7 +2.8**
comp=Z,98nm,1.3s
SQTA *eScP* **ScP** **07 20 03.6 -1.6**
comp=Z,137nm,1.0s,SNR=8.0
SQTA *epPKiKP* **ScS** **07 24 25.4 -3.9**
comp=Z,23nm,1.7s
CLZ Clausthal 44.72 310 *eP* **P** **07 14 54.3 +0.8**
comp=Z,157nm,0.8s,baz=86,slow=7.8
CLZ *eS* **S** **07 21 22.7 +8.2**
MOTA Moosalm 44.76 303 *i* P **P** **07 14 53.1 -0.9**
comp=Z,149nm,0.7s,SNR=92
MOTA *epP* **pP** **07 15 40.2 +2.6**
comp=Z,166nm,1.3s
MOTA *esP* **sP** **07 16 02.3 +2.0**
comp=Z,78nm,1.0s
MOTA *eScP* **ScP** **07 20 03.3 -2.1**
comp=Z,190nm,1.0s,SNR=9.6
MOTA *epPKiKP* **ScS** **07 24 26.3 -3.4**
comp=Z,18nm,1.3s
NRDL Niedersach Rie 44.83 311 *eP* **P** **07 14 55.3 +1.1**
comp=Z,309nm,1.0s,baz=86,slow=7.8
NRDL *eS* **S** **07 21 23.0 +7.2**
TJN Taejon 44.88 72 P **P** **07 14 55.7 +0.8**
TJN Taejon 44.88 72*c i*P **P** **07 14 54.5 -0.4**
WDD Wied Dalam 44.92 287 ⇑P **P** **07 14 55.0 -0.2**
KS19 Wonju Array Si 44.93 71 P **P** **07 14 56.2 +0.9**
KSAR Wonju Array Be 44.96 71 P **P** **07 14 55.6 +0.1**
KSAR Wonju Array Be 44.96 71 P **P** **07 14 55.6 +0.1**
SSRD Sdr. Stenderup 44.97 315 *i* P **P** **07 14 56.0 +0.7**
SSRD IAmb IAmb 07 15 00.3
comp=Z,337nm,0.7s
RETA Reutte 44.97 304 *i* P **P** **07 14 55.2 -0.3**
comp=Z,69nm,0.6s,SNR=29
RETA *epP* **pP** **07 15 40.1 +0.9**
comp=Z,39nm,0.7s
RETA *esP* **sP** **07 16 05.2 +3.3**
comp=Z,59nm,1.0s
RETA *eScP* **ScP** **07 20 05.0 -1.2**
comp=Z,99nm,1.5s
RETA *epPKiKP* **ScS** **07 24 28.2 -2.7**
comp=Z,51nm,2.0s
HOPEN Hopen 44.99 346 *eP* **P** **07 14 57.0 +1.9**
HOPEN IVmB_BB 07 14 57.9
comp=Z,9μm,1.3s
HOPEN *eS* **S** **07 21 21.4 +3.7**
KSRS Korea Array 44.99 71 P **P** **07 14 55.7 0.0**
comp=Z,102nm,1.0s,baz=280,slow=6.6,SNR=104
KSRS PcP **PcP** **07 16 32.6 -0.5**
comp=Z,49nm,0.9s,baz=281,slow=4.1,SNR=4.7
KSRS ScP **ScP** **07 20 04.3 -2.0**
comp=Z,38nm,0.8s,baz=288,slow=4.2,SNR=12
KSRS S **S** **07 21 18.4 -0.2**
comp=Z,9.0nm,1.0s,baz=281,slow=17,SNR=5.8
comp=Z,102nm,1.0s
GTTG Gottingen 44.99 309 *eP* **P** **07 14 56.6 +1.1**
comp=Z,453nm,0.9s,baz=86,slow=7.8
GTTG *eS* **S** **07 21 24.6 +6.2**
NACB Ninganchiao 45.01 91 IAmb IAmb 07 15 08.5
comp=Z,414nm,1.4s
NACB Ninganchiao 45.01 91 P **P** **07 14 58.5 +2.4**
TBLU Trondheim 45.01 326 *eP* **P** **07 14 55.4 -0.1**
TBLU IVmB_BB 07 14 56.1
comp=Z,4μm,1.1s
TBLU *eS* **S** **07 21 18.8 +0.5**
KONO Kongsberg 45.03 321 P **P** **07 14 55.6 -0.1**
KONO IAmb IAmb 07 14 59.1
comp=Z,367nm,0.8s
KONO Kongsberg 45.03 321⇑ *i*P **P** **07 14 56.0 +0.3**
KONO IVmB_BB 07 14 56.4
comp=Z,4μm,0.9s
KONO *eS* **S** **07 21 19.2 +0.6**
KONO *eScS* **ScS** **07 24 30.0 -0.5**
KONO Kongsberg 45.03 321⇑ P **P** **07 14 55.4 -0.3**
KONO Kongsberg 45.03 321 P **P** **07 14 55.6 -0.1**
KONO pmax pmax
comp=Z,367nm,0.8s
KONO Kongsberg 45.03 321 P **P** **07 14 55.8 +0.1**
UBBA Unterbreizbach 45.04 308 *eP* **P** **07 14 56.6 +0.8**
comp=Z,107nm,0.6s,baz=86,slow=7.8
UBBA *eS* **S** **07 21 26.6 +7.7**
FETA Feichten 45.06 303 *eP* **P** **07 14 55.4 -0.9**
comp=Z,73nm,0.6s,SNR=138
FETA *epP* **pP** **07 15 42.8 +2.7**
comp=Z,47nm,1.0s
FETA *esP* **sP** **07 16 05.8 +3.1**
comp=Z,103nm,0.9s
FETA *eScP* **ScP** **07 20 04.9 -1.9**
comp=Z,156nm,1.3s
FETA *epPKiKP* **ScS** **07 24 29.0 -2.7**
comp=Z,74nm,1.4s
YULB Yu-li 45.14 92 P **P** **07 14 58.5 +1.4**
YULB Yu-li 45.14 92 P **P** **07 15 00.3 +3.2**
MUD Monsted U'grnd 45.20 316 *i* P **P** **07 14 58.0 +0.9**
MUD IAmb IAmb 07 15 10.1
comp=Z,99nm,0.8s
KLR Kul'dur 45.24 54*c i*P **P** **07 14 58.3 +0.8**
KLR pmax pmax
comp=Z,260nm,1.3s
TWGBT Beinan 45.24 93 P **P** **07 15 01.2 +3.3**
RETH Rethem/Aller, 45.27 311 *eP* **P** **07 14 58.4 +0.8**
comp=Z,321nm,1.6s,baz=86,slow=7.8
UBR Ueberruh 45.38 304 *eP* **P** **07 14 58.9 +0.2**
comp=Z,168nm,0.7s,baz=86,slow=7.8
UBR *epP* **pP** **07 15 46.2 +3.8**
CLTB Caltabellotta 45.40 290 IAmb IAmb 07 15 02.0
comp=Z,463nm,0.7s
CLTB Caltabellotta 45.40 290⇑ P **P** **07 14 57.9 -1.2**
DOMB Dombas 45.44 324⇑ *i*P **P** **07 14 59.4 +0.4**
DOMB IVmB_BB 07 14 59.9
comp=Z,4μm,1.1s
DOMB *eS* **S** **07 21 26.3 +1.7**
SALO Salr 45.44 301 IAmb IAmb 07 15 02.9
comp=Z,297nm,0.8s
SALO Salr 45.44 301⇑ P **P** **07 14 59.8 +0.5**
HOMB Homborsund 45.56 319⇑ *i*P **P** **07 15 00.1 +0.3**
HOMB IVmBBB 07 15 00.7
comp=Z,4μm,1.5s
HOMB *eS* **S** **07 21 27.9 +1.7**
HOMB *eSS* **SS** **07 24 54.7 +2.3**
HOMB Homborsund 45.56 319 *i* P **P** **07 14 60.0 +0.1**
BKNI Bangkinang 45.57 135 P **P** **07 15 00.7 +0.2**
BKNI Bangkinang 45.57 135 P **P** **07 14 58.2 -2.4**
BKNI Bangkinang 45.57 135 ⇓P **P** **07 15 00.2 -0.3**
BKNI Bangkinang 45.57 135 P **P** **07 15 00.4 -0.1**
comp=Z,3μm,0.9s,comp=Z,21μmcomp=Z,8μm
DAVA Damuels 45.59 304 *i* P **P** **07 15 00.0 -0.6**
comp=Z,375nm,0.6s,SNR=139
DAVA *epP* **pP** **07 15 47.6 +3.4**
comp=Z,162nm,0.7s
DAVA *esP* **sP** **07 16 10.3 +3.3**
comp=Z,133nm,0.8s
DAVA *eScP* **ScP** **07 20 07.7 -1.2**
comp=Z,172nm,1.3s,SNR=7.4
DAVA pPKiKP **ScS** **07 24 31.3 -3.7**
comp=Z,10nm,1.5s

DAVA **Damuels** 45.59 304 ⇑P P 07 14 59.9 -0.6
DAVOX **Davos/Dischmat** 45.67 303 P P 07 15 01.0 -0.3
DAVOX **Davos/Dischmat** 45.67 303 P P 07 15 00.9 -0.3
comp=Z,185nm,0.7s,baz=100,slow=6.5,SNR=256
comp=Z,185nm,0.7s
SKAR **Skarslia** 45.72 322 ⇑*i*P P 07 15 02.0 +0.8
SKAR *eS* **S** 07 21 30.8 +2.1
STU **Stuttgart** 45.81 306 *e*P P 07 15 02.3 +0.3
comp=Z,280nm,0.7s,baz=86,slow=7.8
STU *ep*P **pP** 07 15 50.0 +4.2
STU *eS* **S** 07 21 38.8 +8.5
VLC **Villacollemand** 45.83 299 P P 07 15 02.1 -0.2
VLC **Villacollemand** 45.83 299 ⇑P P 07 15 02.4 +0.1
TIXI **Tiksi** 45.83 22 P P 07 15 02.1 +0.3
TIXI **Tiksi** 45.83 22 ⇑P P 07 15 01.9 +0.1
TIXI **Tiksi** 45.83 22 P P 07 15 02.1 +0.3
TIXI pmax pmax
comp=Z,831nm,1.0s
TIXI **Tiksi** 45.83 22 ScP **ScP** 07 20 08.4 -0.8
comp=Z,100nm,0.9s,baz=332,slow=2.3,SNR=8.8
TIXI S **S** 07 21 30.2 +0.4
comp=Z,366nm,0.9s,baz=282,slow=9.1,SNR=3.7
TIXI **Tiksi** 45.83 22 P P 07 15 02.0 +0.3
TIXI pP **pP** 07 15 48.8 +2.2
TIXI sP **sP** 07 16 11.8 +2.4
TIXI ScP **ScP** 07 20 08.2 -1.0
SISI **Saibi** 45.87 139 P P 07 15 03.8 +1.0
comp=Z,701nm,1.1s,comp=Z,8μm
KASTN **Kahler Asten** 45.99 309 *e*P P 07 15 03.8 +0.4
comp=Z,57nm,0.8s,baz=86,slow=7.8
HLG **Helgoland** 46.04 313 *e*P P 07 15 05.4 +1.7
comp=Z,487nm,1.0s,baz=86,slow=7.8
HLG *eS* **S** 07 21 39.8 +6.6
HLG eS S 07 21 40.1 +6.9
MSHR **Mys Shultsa** 46.04 63 ⇓*i*P P 07 15 05.7 +1.8
MSHR pmax pmax
comp=Z,178nm,1.6s
MYKOM **Kota Tinggi** 46.05 131 IAmb IAmb 07 15 07.7
comp=Z,496nm,0.9s
MYKOM **Kota Tinggi** 46.05 131 ⇓P P 07 15 05.2 +1.0
MYKOM **Kota Tinggi** 46.05 131 P P 07 15 04.9 +0.6
comp=Z,648nm,0.9s,comp=Z,6μmcomp=Z,7μm
TUE **Stuetta** 46.09 303 ⇑P P 07 15 04.0 -0.5
TNS **Taunus Mts** 46.10 308 *e*P P 07 15 05.1 +0.8
comp=Z,386nm,1.7s,baz=86,slow=7.8
TNS *eS* **S** 07 21 42.3 +8.0
MOL **Molde** 46.19 325 ⇑*i*P P 07 15 05.5 +0.8
SNART **Snartemo** 46.24 319 *e*P P 07 15 05.6 +0.4
SNART IVmB_BB 07 15 06.6
comp=Z,10μm,1.3s
SNART *eS* **S** 07 21 33.0 -3.0
SNART *eSS* **SS** 07 25 01.0 -2.6
SNART **Snartemo** 46.24 319 *i* P P 07 15 05.8 +0.6
PDSI **Padang** 46.27 137 P P 07 15 05.4 -0.6
comp=Z,1μm,1.0s,comp=Z,11μmcomp=Z,8μm
USA0B **Ussuriysk Arra** 46.27 61 *de*P P 07 15 06.3 +0.6
USRK **Ussuriysk Ar.** 46.27 61 P P 07 15 05.4 -0.2
USRK **Ussuriysk Ar.** 46.27 61 P P 07 15 05.7 0.0
comp=Z,67nm,0.9s,baz=271,slow=5.6,SNR=40
USRK LR LR 07 35 59.6
comp=Z,3μm,20.3s,baz=277,slow=38
comp=Z,67nm,0.9s
IBBN **Ibbenburen** 46.28 311 ⇑P P 07 15 05.0 -0.6
IBBN **Ibbenburen** 46.28 311 *e*P P 07 15 06.5 +0.9
comp=Z,313nm,0.8s,baz=86,slow=7.8
IBBN *eS* **S** 07 21 42.5 +5.8
LODK **Lodwar** 46.37 233 P P 07 15 08.5 +1.7
SNR=76
LODK **Lodwar** 46.37 233 *e*P P 07 15 08.2 +1.4
AKN **Aaknes** 46.42 324 *e*P P 07 15 07.2 +0.7
AKN *eS* **S** 07 21 38.8 +0.2
BFO **Black Forest** 46.45 305 P P 07 15 07.0 0.0
BFO **Black Forest** 46.45 305 ⇑P P 07 15 07.1 0.0
BFO **Black Forest** 46.45 305 P P 07 15 07.0 0.0
BFO pmax pmax
comp=Z,96nm,1.0s
BFO **Black Forest** 46.45 305 *e*P P 07 15 07.1 0.0
comp=Z,72nm,0.8s,baz=86,slow=7.8
BFO *eS* **S** 07 21 45.9 +6.5
BFO **Black Forest** 46.45 305 P P 07 15 07.0 0.0
BFO pP **pP** 07 15 53.7 +2.8
BFO sP **sP** 07 16 17.4 +3.9
BFO ScP **ScP** 07 20 11.8 -0.5
ODD1 **Odda** 46.53 321 ⇑*i*P P 07 15 08.5 +0.9
ODD1 IVmB_BB 07 15 10.3
comp=Z,5μm,1.6s
ODD1 *eS* **S** 07 21 42.8 +2.5
BLS5 **Blasjo** 46.62 321 *e*P P 07 15 09.0 +0.8
BLS5 IVmBBB 07 15 10.6
comp=Z,5μm,1.4s
BLS5 *eS* **S** 07 21 42.7 +1.2
BUG **Bochum--Univer** 46.68 310 *e*P P 07 15 09.5 +0.8
comp=Z,250nm,0.9s,baz=86,slow=7.8
HYA **Hoyanger** 46.77 323 *e*P P 07 15 10.0 +0.8
HYA IVmBBB 07 15 10.6
comp=Z,3μm,1.4s
HYA *eS* **S** 07 21 43.6 +0.2
AHRW **Bad Neuenahr-A** 46.92 308 *e*P P 07 15 11.6 +1.0
comp=Z,143nm,0.8s,baz=86,slow=7.8
AHRW *epP* **pP** 07 15 59.2 +4.6
JTU **Tsushima** 47.05 74 P P 07 15 13.2 +1.4
HSPB **Hornsund (broa** 47.12 345 *e*P P 07 15 13.7 +1.9
HSPB *eS* **S** 07 21 53.1 +5.0
HSPB *eL* L 07 36 25.7
comp=Z,4μm,23.0s
HSPB **Hornsund (broa** 47.12 345 *e*P P 07 15 14.8 +3.1
TPRI **Tanjung Pinang** 47.15 131 P P 07 15 13.9 +1.1
comp=Z,663nm,1.0s,comp=Z,23μmcomp=Z,6μm
PGF **Pioggiola** 47.18 297 ⇓P P 07 15 12.3 -0.6
BER **Bergen** 47.18 322 ⇑*i*P P 07 15 13.1 +0.7
BER IVmBBB 07 15 14.1
comp=Z,4μm,0.8s
BER *eS* **S** 07 21 49.8 +0.5
ECH **Echery** 47.24 305 ⇑P P 07 15 12.9 -0.3
ECH **Echery** 47.24 305 P P 07 15 12.9 -0.3
ECH sP **sP** 07 16 25.3 +5.2
ECH ScP **ScP** 07 20 15.0 -0.6
KMY **Karmoy** 47.25 320 ⇑*i*P P 07 15 13.1 +0.1
KMY IVmBBB 07 15 15.0
comp=Z,5μm,1.4s
KMY *eS* **S** 07 21 51.7 +1.5
ASK **Askoy** 47.25 322 *e*P P 07 15 14.2 +1.2
FOO **Floro** 47.33 324 ⇑*i*P P 07 15 14.0 +0.5
FOO IVmBBB 07 15 16.7
comp=Z,5μm,1.7s
FOO *eS* **S** 07 21 54.6 +3.3
SUE **Sulen** 47.46 323 *e*P P 07 15 15.2 +0.7
SUE IVmBBB 07 15 16.2
comp=Z,3μm,1.1s
SUE *es*P **sP** 07 16 19.2 -2.6
SUE *eS* **S** 07 21 57.2 +4.0
SUE *eSS* **SS** 07 25 26.8 +3.6
SPA0 **Spitsbergen Ar** 47.48 347 ⇑*i*P P 07 15 15.5 +1.0
SPA0 IVmB_BB 07 15 16.8
comp=Z,7μm,1.3s
SPA0 *eS* **S** 07 21 55.5 +2.3
SPITS **Spitsbergen Ar** 47.48 347 P P 07 15 15.9 +1.3
SPITS pmax pmax
comp=Z,899nm,1.1s
SPITS **Spitsbergen Ar** 47.48 347 P P 07 15 15.8 +1.2
comp=Z,170nm,0.4s,baz=121,slow=9.8,SNR=609
comp=Z,170nm,0.4s
BTNL **Ternell** 47.51 309 *d*P P 07 15 15.9 +0.7
comp=Z,128nm,0.9s
PPSI **Pulau Pagai** 47.57 139 P P 07 15 17.6 +1.6
comp=Z,834nm,1.0s,comp=Z,13μm
MEM **Membach** 47.59 309 *d*P P 07 15 16.2 +0.4
comp=Z,120nm,0.9s
BHOU **Houvegnez** 47.63 308 *d*P P 07 15 17.0 +0.9
WLF **Walferdange** 47.65 307 IAmb IAmb 07 15 20.8
comp=Z,280nm,1.0s
WLF **Walferdange** 47.65 307 *d*P P 07 15 16.6 +0.4
comp=Z,171nm,1.0s
WLF **Walferdange** 47.65 307 P P 07 15 16.3 +0.1
WLF **Walferdange** 47.65 307 ⇑P P 07 15 17.4 +1.1
WLF **Walferdange** 47.65 307 *ep*P **pP** 07 16 02.0 +1.6
WLF *eS* **S** 07 22 03.5 +7.4
VSL **Villasalto** 47.72 293 ⇑P P 07 15 16.2 -0.8
BEBN **Eben Emael** 47.76 309 *d*P P 07 15 17.4 +0.3
BEBN *dx* x 07 16 29.3
KRJI **Kerinci** 47.80 137 P P 07 15 18.2 +0.3
comp=Z,2μm,1.0s,comp=Z,26μmcomp=Z,13μm
BSTI **Sart Tilman** 47.87 309 *d*P P 07 15 18.8 +0.9
GRNR **Gornyy** 48.00 51 ⇑*i*P P 07 15 19.8 +0.8

GRNR *e* 07 16 04.6
GRNR *eS* **S** 07 22 04.9 +3.7
GRNR pmax pmax
comp=E,70nm,0.9s
GRNR pmax pmax
comp=N,20nm,0.8s
GRNR pmax pmax
comp=E,150nm,0.9s
GRNR smax smax
comp=E,50nm,1.1s
GRNR MLR MLR
comp=E,2μm,12.0s
GRNR MLR MLR
comp=N,2μm,14.0s
GRNR MLR MLR
comp=Z,4μm,13.0s
BCLA **Clavier** 48.06 308 *d*P P 07 15 19.2 -0.2
comp=Z,38nm,1.1s
BCLA *dp*P **pP** 07 16 00.2 -3.4
BCLA *d*PcP **PcP** 07 16 43.9 0.0
RCHB **Rochefort** 48.15 308 *d*P P 07 15 20.7 +0.6
comp=Z,86nm,0.8s
BGES **Gesves** 48.20 308 *d*P P 07 15 20.9 +0.5
comp=Z,32nm,1.0s
BNI **Bardonecchia** 48.21 301 P P 07 15 20.4 -0.4
BNI **Bardonecchia** 48.21 301 ⇑P P 07 15 20.2 -0.6
BNI **Bardonecchia** 48.21 301 P P 07 15 20.4 -0.4
BNI pmax pmax
comp=Z,203nm,1.0s
DSRI **Dabo** 48.28 132 P P 07 15 22.3 +0.8
comp=Z,998nm,0.9s,comp=Z,9μmcomp=Z,7μm
BMRD **Maredsous** 48.42 308 *d*P P 07 15 23.0 +0.9
comp=Z,126nm,1.1s
DOU **Dourbes** 48.56 308 *d*P P 07 15 23.9 +0.6
comp=Z,81nm,1.2s
KBS **Kingsbay** 48.60 347 P P 07 15 24.2 +1.2
KBS **Kingsbay** 48.60 347 *e*P P 07 15 24.3 +1.2
KBS IVmB_BB 07 15 25.2
comp=Z,8μm,0.9s
KBS *eS* **S** 07 22 08.3 -0.5
KBS **Kingsbay** 48.60 347 ⇑P P 07 15 24.0 +0.9
KBS **Kingsbay** 48.60 347 P P 07 15 24.3 +1.2
KBS pmax pmax
comp=Z,896nm,1.0s
KBS **Kingsbay** 48.60 347 *i* P P 07 15 23.6 +0.5
KBS **Kingsbay** 48.60 347 P P 07 15 24.4 +1.3
KBS pP **pP** 07 16 10.4 +2.3
TAMR **Tamra** 48.68 290 P P 07 15 24.0 -0.3
JNU **Nakatsue** 48.70 75 P P 07 15 24.9 +0.3
JNU IAmb IAmb 07 15 41.1
comp=Z,374nm,1.0s
JNU **Nakatsue** 48.70 75 P P 07 15 25.7 +1.1
JNU **Nakatsue** 48.70 75 ⇑P P 07 15 25.4 +0.9
KMBO **Kilima Mbogo** 48.74 227 P P 07 15 26.3 +1.0
KMBO **Kilima Mbogo** 48.74 227 *i* P P 07 15 26.8 +1.5
SNR=135
KMBO **Kilima Mbogo** 48.74 227 ⇑*i*P P 07 15 26.6 +1.3
KMBO IAmb IAmb 07 15 27.1
comp=Z,320nm,0.8s
KMBO **Kilima Mbogo** 48.74 227 ⇑P P 07 15 26.4 +1.1
KMBO **Kilima Mbogo** 48.74 227 P P 07 15 26.3 +1.0
KMBO pmax pmax
comp=Z,135nm,0.9s
KMBO **Kilima Mbogo** 48.74 227 P P 07 15 23.2 -2.1
comp=Z,87nm,0.5s,baz=31,slow=10,SNR=237
comp=Z,87nm,0.5s
KMBO **Kilima Mbogo** 48.74 227 P P 07 15 26.6 +1.3
KMBO S **S** 07 22 14.7 +2.0
KMBO **Kilima Mbogo** 48.74 227 *e*P P 07 15 26.5 +1.3
KMBO **Kilima Mbogo** 48.74 227 ⇑P P 07 15 26.6 +1.3
KEST **Kesra** 48.94 288 IAmb IAmb 07 15 30.1
comp=Z,1μm,1.8s
KEST **Kesra** 48.94 288 P P 07 15 27.1 +0.7
comp=Z,148nm,0.8s,baz=0.5,slow=1.4,SNR=204
comp=Z,148nm,0.8s
KEST **Kesra** 48.94 288 P P 07 15 26.7 +0.3
SNR=122
KEST P P 07 15 26.7 +0.3
SNR=122
TATN **Tataouine** 49.15 284 ⇑P P 07 15 28.2 +0.2
JOW **Kunigami** 49.18 84 P P 07 15 28.8 +0.5
JOW **Kunigami** 49.18 84 ⇑P P 07 15 28.4 +0.1
KIBK **Kibwezi** 49.25 226 IAmb IAmb 07 15 32.6
comp=Z,199nm,0.7s
KIBK **Kibwezi** 49.25 226 P P 07 15 29.2 +0.2
KIBK **Kibwezi** 49.25 226 P P 07 15 30.3 +1.3
SNR=75
TEY **Ternei** 49.29 59 *e*P P 07 15 26.2 -2.6
TEY *e* 07 16 12.8
TEY *e* 07 22 13.3
RUSF **Rustrel** 49.31 300 ⇑P P 07 15 31.6 +2.5
LOR **Lormes** 49.61 305 ⇑P P 07 15 30.9 -0.4
UBSI **University, Be** 49.62 137 P P 07 15 34.4 +2.7
comp=Z,1μm,0.8s,comp=Z,10μmcomp=Z,9μm
SSB **Saint Sauveur** 49.63 302 ⇑P P 07 15 31.3 -0.1
SSB **Saint Sauveur** 49.63 302 P P 07 15 31.6 +0.1
SSB pP **pP** 07 16 18.7 +2.8
SSB sP **sP** 07 16 42.4 +3.9
SSB ScP **ScP** 07 20 25.2 -0.6
CMAH **Djebel Manchou** 50.09 290 P P 07 15 35.0 -0.1
ABSA **Djebel Ababsia** 50.17 290 P P 07 15 36.0 +0.3
NKL **Nikolayevsk** 50.20 47 *e*P P 07 15 35.0 -0.5
NKL *e* 07 16 22.2
NKL *eS* **S** 07 22 31.4 -0.2
NKL pmax pmax
comp=N,492nm,0.8s
NKL pmax pmax
comp=E,547nm,0.9s
NKL pmax pmax
comp=Z,2μm,0.9s
NKL smax smax
comp=N,3μm,3.8s
NKL smax smax
comp=E,2μm,3.8s
NKL MLR MLR
comp=E,7μm,11.0s
NKL MLR MLR
comp=N,16μm,27.0s
NKL MLR MLR
comp=Z,19μm,23.0s
PMBI **Palembang** 50.36 134 P P 07 15 38.8 +1.6
PMBI **Palembang** 50.36 134 P P 07 15 39.3 +2.1
comp=Z,1μm,0.9s
LHSI **Lahat** 50.38 136 P P 07 15 35.9 -1.4
comp=Z,391nm,0.9s
KSM **Kuching** 50.41 124 IAmb IAmb 07 15 41.3
comp=Z,258nm,1.1s
KSM **Kuching** 50.41 124 P P 07 15 38.6 +1.0
comp=Z,283nm,1.1s,comp=Z,4μm
ELMS **Elmsett, Ipswi** 50.43 311 *e*P P 07 15 37.5 +0.2
ELMS IAmb IAmb 07 15 40.6
comp=Z,562nm,1.0s
LRW **Lerwick** 50.44 322 *e*P P 07 15 37.4 +0.2
LRW IAmb IAmb 07 15 40.5
comp=Z,352nm,1.0s
LRW **Lerwick** 50.44 322 ⇑P P 07 15 37.4 +0.2
CLF **Chambon-Foret** 50.49 306 IAmb IAmb 07 16 51.9
comp=Z,308nm,1.3s
CLF **Chambon-Foret** 50.49 306 ⇑P P 07 15 37.8 0.0
ELSH **Elham, Standar** 50.53 310 *e*P P 07 15 38.4 +0.4
ELSH IAmb IAmb 07 15 41.5
comp=Z,667nm,1.0s
WACR **West Acre** 50.53 312 *e*P P 07 15 38.2 +0.2
WACR IAmb IAmb 07 15 41.8
comp=Z,818nm,0.9s
PPBI **Pangkal Pinang** 50.56 132 P P 07 15 38.9 +0.2
comp=Z,543nm,1.1s,comp=Z,29μmcomp=Z,6μm
JMN **Monobe** 50.80 73 P P 07 15 41.8 +1.4
JMN **Monobe** 50.80 73 ⇓P P 07 15 41.5 +1.1
CASM **Ain Smara** 50.92 290 P P 07 15 41.1 -0.2
EGSI **Enggano, Bengk** 50.95 138 P P 07 15 42.3 +0.7
comp=Z,1μm,1.0s,comp=Z,13μmcomp=Z,10μm
SBUM **Sibu** 50.98 122 ⇓P P 07 15 43.2 +1.3
SBUM **Sibu** 50.98 122 P P 07 15 43.0 +1.1
comp=Z,126nm,1.0s,comp=Z,2μmcomp=Z,4μm
CTEI **Djebel Teioual** 51.06 290 P P 07 15 42.6 +0.2
GDLE **Glaisdale, N Y** 51.06 315 *e*P P 07 15 42.0 +0.1
GDLE IAmb IAmb 07 15 45.2
comp=Z,202nm,0.9s
KKM **Kota Kinabalu** 51.30 115 IAmb IAmb 07 15 48.6
comp=Z,648nm,1.2s
KKM **Kota Kinabalu** 51.30 115 P P 07 15 45.9 +1.5
KKM **Kota Kinabalu** 51.30 115 ⇓P P 07 15 46.1 +1.7
KKM **Kota Kinabalu** 51.30 115 P P 07 15 46.5 +2.1
comp=Z,530nm,1.1s,comp=Z,6μm

MAHO **Mahon** 51.35 295 P P 07 15 43.7 -0.6
MAHO **Mahon** 51.35 295 ⇑P P 07 15 43.8 -0.6
EJON **La Jonquera** 51.55 299 P P 07 15 44.9 -0.9
DRUM **Mains of Drumt** 51.56 318 *e*P P 07 15 45.5 0.0
DRUM IAmb IAmb 07 15 47.3
comp=Z,189nm,0.7s
HPK **Haverah Park** 51.62 314 *e*P P 07 15 46.1 +0.1
HPK IAmb IAmb 07 15 49.3
comp=Z,410nm,0.8s
EDMD **Edmundbyers** 51.64 315 *e*P P 07 15 46.3 +0.1
EDMD IAmb IAmb 07 15 50.1
comp=Z,327nm,0.9s
LWLI **Liwa** 51.66 136 P P 07 15 45.0 -2.0
comp=Z,956nm,0.9s,comp=Z,9μmcomp=Z,5μm
CKHR **Kef el Ahmar** 51.75 290 P P 07 15 47.7 +0.2
MTLF **Montolieu** 51.76 300 ⇑P P 07 15 47.1 -0.2
SET **Setif** 51.77 290 P P 07 15 50.0 +2.4
LBWR **Ladybower, Pea** 51.79 313 *e*P P 07 15 47.1 -0.2
LBWR IAmb IAmb 07 15 50.4
comp=Z,179nm,0.8s
MCD **Coleburn Disti** 51.86 319 *e*P P 07 15 48.1 +0.3
MCD IAmb IAmb 07 15 49.7
comp=Z,560nm,0.7s
TYV **Tymovskoe** 51.86 50 *e*P P 07 15 49.4 +1.5
TYV *eS* **S** 07 22 57.5 +3.0
TYV pmax pmax
comp=Z,2μm,5.7s
TYV pmax pmax
comp=Z,100nm,1.0s
TYV smax smax
comp=N,4μm,9.2s
TYV smax smax
comp=E,6μm,9.2s
TYV smax smax
comp=N,37nm,1.8s
TYV smax smax
comp=E,34nm,1.8s
WOL **Wolverton** 51.94 311 *e*P P 07 15 48.5 0.0
BIGH **Upper Bighouse** 52.05 320 *e*P P 07 15 49.4 +0.2
BIGH IAmb IAmb 07 15 50.6
comp=Z,435nm,1.0s
EDI **Edinburgh** 52.12 317 *e*P P 07 15 49.5 -0.2
EDI IAmb IAmb 07 15 51.4
comp=Z,245nm,0.8s
STNC **Stoke** 52.14 313 *e*P P 07 15 49.9 0.0
STNC IAmb IAmb 07 15 53.2
comp=Z,226nm,1.0s
EKA **Eskdalemuir Ar** 52.22 316 P P 07 15 50.2 -0.3
comp=Z,187nm,0.9s,baz=90,slow=7.0,SNR=118
EKA ScP **ScP** 07 20 37.0 +0.2
comp=Z,16nm,0.8s,baz=84,slow=5.1,SNR=2.5
comp=Z,187nm,0.9s
STKI **Sintang** 52.23 125 P P 07 15 52.5 +1.4
comp=Z,413nm,1.1s,comp=Z,7μm
SWN1 **Swindon** 52.25 311 *e*P P 07 15 50.6 -0.1
SWN1 IAmb IAmb 07 15 54.6
comp=Z,594nm,0.8s
ESK **Eskdalemuir** 52.25 316 P P 07 15 50.2 -0.5
ESK IAmb IAmb 07 15 54.5
comp=Z,293nm,1.1s
ESK **Eskdalemuir** 52.25 316 *e*P P 07 15 50.5 -0.2
ESK IAmb IAmb 07 15 53.7
comp=Z,205nm,0.9s
ESK **Eskdalemuir** 52.25 316 ⇑P P 07 15 50.5 -0.2
ESK **Eskdalemuir** 52.25 316 P P 07 15 50.2 -0.5
ESK pmax pmax
comp=Z,293nm,1.2s
ESK **Eskdalemuir** 52.25 316 P P 07 15 50.7 0.0
ESK pP **pP** 07 16 38.0 +1.9
ESK PcP **PcP** 07 16 59.2 0.0
ESK sP **sP** 07 17 02.5 +4.0
KASI **Kota Agung** 52.32 136 P P 07 15 49.1 -2.6
comp=Z,502nm,0.8s,comp=Z,3μm
KESW **Keswick, Cumbr** 52.34 315 *e*P P 07 15 51.6 +0.2
KESW IAmb IAmb 07 15 54.8
comp=Z,213nm,0.8s
STRD **Stroud** 52.41 311 *e*P P 07 15 51.5 -0.4
STRD IAmb IAmb 07 15 54.7
comp=Z,202nm,0.8s
MBAR **Mbarara** 52.41 234 P P 07 15 53.3 +0.6
MBAR IAmb IAmb 07 15 56.2
comp=Z,279nm,0.8s
MBAR **Mbarara** 52.41 234 ⇑*i*P P 07 15 53.1 +0.4
MBAR IAmb IAmb 07 15 54.1
comp=Z,243nm,0.8s
MBAR **Mbarara** 52.41 234 ⇑P P 07 15 52.8 +0.2
MBAR **Mbarara** 52.41 234 P P 07 15 53.3 +0.6
MBAR pmax pmax
comp=Z,279nm,0.9s
MBAR **Mbarara** 52.41 234 LR LR 07 39 38.8
comp=Z,2μm,19.6s,baz=16,slow=37
MBAR **Mbarara** 52.41 234 P P 07 15 53.2 +0.6
MBAR P P 07 15 53.2 +0.6
MBAR S **S** 07 23 04.4 +1.3
MBAR S **S** 07 23 04.4 +1.3
MBAR **Mbarara** 52.41 234 *e*P P 07 15 53.1 +0.4
MBAR **Mbarara** 52.41 234 P P 07 15 53.0 +0.4
MFF **Saint Martin d** 52.44 305 ⇑P P 07 15 51.9 -0.4
ETOS **Mallorca** 52.45 296 P P 07 15 51.8 -0.7
INVG **Invergeldie, C** 52.49 317 *e*P P 07 15 52.4 -0.1
INVG IAmb IAmb 07 15 56.0
comp=Z,182nm,0.9s
JMIC **Jan Mayen** 52.55 336 *e*P P 07 15 53.3 +0.6
JMIC IVmBBB 07 15 55.1
comp=Z,6μm,1.8s
JMI **Jan Mayen** 52.63 336 ⇑*i*P P 07 15 55.4 +2.2
HLM1 **Long Mynd** 52.66 312 *e*P P 07 15 53.6 -0.3
HLM1 IAmb IAmb 07 15 56.9
comp=Z,270nm,1.3s
OLDB **Oldbury-Upon-S** 52.67 311 *e*P P 07 15 53.4 -0.4
FOEL **Foel Wylfa** 52.77 313 *e*P P 07 15 54.8 +0.2
FOEL IAmb IAmb 07 15 58.0
comp=Z,174nm,0.9s
MONM **Monmouth** 52.78 312 *e*P P 07 15 54.2 -0.4
MONM IAmb IAmb 07 15 58.1
comp=Z,237nm,1.0s
LINV **Loch Inver, As** 52.78 320 *e*P P 07 15 54.8 +0.3
LINV IAmb IAmb 07 15 56.5
comp=Z,555nm,1.1s
MCH1 **Michaelchurch** 52.86 312 *e*P P 07 15 55.0 -0.3
MCH1 IAmb IAmb 07 15 58.2
comp=Z,528nm,0.8s
MCH1 **Michaelchurch** 52.86 312 ⇑P P 07 15 54.9 -0.3
PGBU **Glenifferbraes** 52.86 317 *e*P P 07 15 55.3 +0.1
PGBU IAmb IAmb 07 15 58.5
comp=Z,285nm,0.9s
NEWG **New Galloway** 52.87 316 *e*P P 07 15 55.4 +0.2
NEWG IAmb IAmb 07 15 58.6
comp=Z,405nm,0.8s
YSS **Yuzh-Sakhalins** 52.92 55 P P 07 15 56.0 +0.3
YSS IAmb IAmb 07 16 01.9
comp=Z,262nm,0.9s
YSS **Yuzh-Sakhalins** 52.92 55 P P 07 15 56.9 +1.1
YSS **Yuzh-Sakhalins** 52.92 55 ⇑P P 07 15 56.0 +0.3
YSS **Yuzh-Sakhalins** 52.92 55 *α i*P P 07 15 56.2 +0.4
YSS *e*PP **pP** 07 16 40.8 -1.1
YSS *i* S **S** 07 23 06.0 -3.0
YSS *e*SS **sS** 07 24 26.5 -2.8
YSS *e* 07 25 15.4
YSS *eSS* **SS** 07 26 50.8 +0.4
YSS pmax pmax
comp=Z,280nm,0.9s
YSS pmax pmax
comp=Z,1μm,4.7s
YSS MLR MLR
comp=Z,3μm,15.0s
YSS MLR MLR
comp=N,2μm,16.0s
YSS MLR MLR
comp=E,3μm,14.0s
YSS **Yuzh-Sakhalins** 52.92 55 P P 07 15 56.1 +0.3
YSS pP **pP** 07 16 44.6 +2.7
LLW **Llanuwchllyn** 53.05 313 *e*P P 07 15 56.5 -0.1
JSA **Saint Aubin** 53.05 308 *e*P P 07 15 55.8 -0.9
JSA IAmb IAmb 07 15 59.2
comp=Z,156nm,0.8s
JSA **Saint Aubin** 53.05 308 ⇓P P 07 15 56.5 -0.2
MJB9 **Matsu-Tunnel** 53.05 68 IAmb IAmb 07 16 11.2
comp=Z,176nm,0.8s
MAJO **Matsushiro** 53.06 68 P P 07 15 56.7 -0.3
MAJO IAmb IAmb 07 16 10.2
comp=Z,186nm,0.8s
MAJO **Matsushiro** 53.06 68 P P 07 15 57.9 +0.9
MAJO **Matsushiro** 53.06 68 ⇑P P 07 15 56.6 -0.4

MAJO Matsushiro 53.06 68 P P 07 15 56.7 -0.3
MAJO pmax pmax
comp=Z,186nm,0.9s
MAJO Matsushiro 53.06 68 P P 07 15 56.8 -0.1
MAJO pP **pP** 07 16 45.5 +2.4
MAJO ScP **ScP** 07 20 38.5 -2.3
MJAR Matsushiro Arr 53.06 68 P P 07 15 57.4 +0.4
comp=Z,36nm,0.9s,baz=293,slow=9.2,SNR=32
MJAR ScP **ScP** 07 20 38.9 -2.0
comp=Z,39nm,1.0s,baz=288,slow=5.9,SNR=7.3
comp=Z,36nm,0.9s
KPL Plockton 53.18 319 *e*P **P 07 15 57.5 +0.1**
KPL IAmb IAmb 07 16 00.7
comp=Z,361nm,0.8s
GAL1 Galloway 53.19 316 *e*P **P 07 15 57.5 -0.1**
GAL1 IAmb IAmb 07 16 00.8
comp=Z,160nm,0.9s
IOMK Kirk Michael 53.24 315 *e*P **P 07 15 58.2 +0.2**
IOMK IAmb IAmb 07 16 01.5
comp=Z,585nm,0.8s
LAWE Loch Awe, Argy 53.27 317 *e*P **P 07 15 58.1 0.0**
LAWE IAmb IAmb 07 16 01.5
comp=Z,297nm,0.8s
WIM Isle of Man 53.33 315 *e*P **P 07 15 59.0 +0.3**
WLF1 Llynfaes 53.38 314 *e*P **P 07 15 58.5 -0.5**
WLF1 IAmb IAmb 07 16 01.7
comp=Z,264nm,0.9s
WPS Cemaes, Angles 53.41 314 *e*P **P 07 15 59.1 0.0**
WPS IAmb IAmb 07 16 01.9
comp=Z,125nm,1.0s
MYLDM Lahad Datu 53.56 114 ⇓P **P 07 16 03.1 +2.2**
LEWI Lewis, Hebride 53.65 320 *e*P **P 07 16 01.2 +0.3**
LEWI IAmb IAmb 07 16 04.4
comp=Z,248nm,0.9s
JTM Tenmabayashi 53.66 62 IAmb IAmb 07 17 18.9
comp=Z,274nm,1.1s
JTM Tenmabayashi 53.66 62 P **P 07 16 01.9 +0.6**
JTM Tenmabayashi 53.66 62 ⇑P **P 07 16 01.0 -0.3**
EIBI Ibiza 53.78 295 P **P 07 16 02.3 +0.2**
DYA Yadsworthy 53.82 310 *e*P **P 07 16 01.9 -0.4**
RSBS Rosebush, Pemb 53.91 312 *e*P **P 07 16 02.4 -0.5**
RSBS IAmb IAmb 07 16 04.3
comp=Z,109nm,0.6s
ROSF Rostrenen 53.99 307 ⇑P **P 07 16 03.3 -0.2**
HTL Hartland 54.01 311 *e*P **P 07 16 03.3 -0.3**
HTL IAmb IAmb 07 16 06.4
comp=Z,211nm,0.8s
COCO West Island 54.26 148 P **P 07 16 07.2 +1.5**
COCO IAmb IAmb 07 16 10.5
comp=Z,374nm,1.1s
COCO West Island 54.26 148 P **P 07 16 07.2 +1.5**
COCO pmax pmax
comp=Z,374nm,1.1s
ILTH Belurgan, Co L 54.31 315 P **P 07 16 05.5 -0.2**
ILTH Belurgan, Co L 54.31 315 *e*P **P 07 16 05.3 -0.4**
DBJI Dramaga 54.44 134 P **P 07 16 04.5 -2.6**
comp=Z,202nm,0.8s,comp=Z,4µm
MA2 Magadan 54.44 38 P **P 07 16 06.9 +0.3**
MA2 IAmb IAmb 07 16 57.0
comp=Z,314nm,1.2s
MA2 Magadan 54.44 38 P **P 07 16 07.7 +1.1**
MA2 Magadan 54.44 38 ⇑P **P 07 16 07.2 +0.6**
MA2 Magadan 54.44 38*c i*P **P 07 16 07.1 +0.5**
MA2 pmax pmax
comp=Z,212nm,1.3s
MA2 Magadan 54.44 38 P **P 07 16 07.1 +0.5**
MA2 pP **pP** 07 16 54.4 +1.6
JMM Marumori 54.49 66 IAmb IAmb 07 16 30.5
comp=Z,218nm,0.7s
JMM Marumori 54.49 66 P **P 07 16 08.6 +1.3**
JMM Marumori 54.49 66 ⇓P **P 07 16 07.7 +0.3**
DSB Dublin 54.54 314 P **P 07 16 07.3 -0.1**
DSB Dublin 54.54 314 ⇑P **P 07 16 07.2 -0.1**
CCA1 Carnmenellis 54.69 310 *e*P **P 07 16 07.7 -0.8**
CCA1 IAmb IAmb 07 16 11.3
comp=Z,283nm,0.8s
ERM Erimo 54.73 60 P **P 07 16 10.1 +1.2**
ERM Erimo 54.73 60 ⇑P **P 07 16 10.8 +1.9**
ERM Erimo 54.73 60 P **P 07 16 10.1 +1.2**
ERM pmax pmax
comp=Z,85nm,0.6s
IWEX Carrickbyrne, 55.01 313 P **P 07 16 11.1 +0.4**
IWEX Carrickbyrne, 55.01 313 *e*P **P 07 16 10.8 +0.1**
ECHE Chera 55.25 297 P **P 07 16 12.8 0.0**
CNJI Cibinong 55.27 134 P **P 07 16 10.3 -2.8**
comp=Z,81nm,0.8s,comp=Z,1µm
MTKI Muara Teweh, K 55.27 122 P **P 07 16 15.1 +1.9**
BBJI Bungbulang 55.69 134 P **P 07 16 13.5 -2.7**
BBJI Bungbulang 55.69 134 P **P 07 16 15.2 -1.0**
comp=Z,168nm,0.8s,comp=Z,2µmcomp=Z,4µm
YUK Yuzh-Kuril'sk 55.91 57*c i*P **P 07 16 17.1 -0.2**
ETOB Tobarra 56.02 296 P **P 07 16 20.6 +2.3**
ETOB Tobarra 56.02 296 P **P 07 16 17.3 0.0**
CART Cartagena 56.02 294 P **P 07 16 17.5 -0.7**
CART Cartagena 56.02 294 ⇑P **P 07 16 17.6 -0.7**
EMUR La Murta 56.10 295 P **P 07 16 18.4 -0.5**
IGLA Glengowla, Co 56.22 315 P **P 07 16 19.5 +0.2**
IGLA Glengowla, Co 56.22 315 *e*P **P 07 16 19.2 -0.1**
KPJI Karang Pucung 56.34 133 P **P 07 16 19.0 -1.7**
comp=Z,150nm,0.9s
TLOR Lorca, Murcia 56.50 295 P **P 07 16 21.3 -0.4**
UCM Universidad Co 56.62 298 P **P 07 16 21.9 -0.5**
UWJI Ujung Watu 56.84 130 P **P 07 16 25.6 +1.4**
comp=Z,919nm,1.0s,comp=Z,10µm
KUR Kuril'sk 56.84 55*c i*P **P 07 16 23.3 -0.5**
KUR *i* S **S 07 23 59.7 -1.4**
BKB Balikpapan 56.88 121 IAmb IAmb 07 16 27.3
comp=Z,271nm,0.8s
BKB Balikpapan 56.88 121 P **P 07 16 26.0 +1.5**
BKB Balikpapan 56.88 121 P **P 07 16 26.6 +2.1**
comp=Z,495nm,0.9s,comp=Z,10µmcomp=Z,12µm
SCO Scoresbysund 57.02 336 *i* P **P 07 16 25.5 +0.8**
SCO IAmb IAmb 07 16 27.7
comp=Z,38nm,0.8s
XMI Christmas Isla 57.04 138 P **P 07 16 27.1 +1.5**
XMIS Christmas Isla 57.05 138 IAmb IAmb 07 16 26.8
comp=Z,161nm,0.9s
XMIS Christmas Isla 57.05 138 P **P 07 16 24.1 -1.5**
BBKI Banjar Baru 57.09 124 P **P 07 16 26.9 +0.9**
comp=Z,710nm,1.0s,comp=Z,11µm
ENIJ Nijar 57.15 294 P **P 07 16 26.9 +0.7**
ENIJ Nijar 57.15 294 P **P 07 16 25.5 -0.8**
VAL Valentia 57.17 313 P **P 07 16 26.5 +0.4**
VAL Valentia 57.17 313 P **P 07 16 26.8 +0.7**
VAL Valentia 57.17 313 ⇓P **P 07 16 26.8 +0.7**
ESDC Sonseca Array 57.37 298 P **P 07 16 26.4 -1.3**
ESDC Sonseca Array 57.37 298 P **P 07 16 27.5 -0.2**
comp=Z,98nm,0.8s,baz=58,slow=7.4,SNR=279
ESDC PKPPKP **P'P'df 07 46 17.8 +2.7**
comp=Z,1.6nm,0.9s,baz=271,slow=2.4,SNR=5.0
comp=Z,98nm,0.8s
TAM Tamanrasset 57.43 276 P **P 07 16 28.0 -0.5**
TAM IAmb IAmb 07 16 33.8
comp=Z,140nm,0.8s
TAM Tamanrasset 57.43 276 ⇑P **P 07 16 27.9 -0.6**
TAM Tamanrasset 57.43 276 P **P 07 16 28.0 -0.5**
TAM pmax pmax
comp=Z,140nm,0.8s
TAM Tamanrasset 57.43 276 P **P 07 16 28.1 -0.5**
TAM pP **pP** 07 17 16.1 +1.7
EBER Berja 57.68 294 P **P 07 16 30.3 +0.2**
EBER Berja 57.68 294 P **P 07 16 29.2 -0.9**
PAB San Pablo 57.69 298 P **P 07 16 29.7 -0.3**
PAB IAmb IAmb 07 16 31.3
comp=Z,208nm,1.3s
PAB San Pablo 57.69 298 ⇑P **P 07 16 29.7 -0.3**
PAB San Pablo 57.69 298 P **P 07 16 29.7 -0.3**
PAB pmax pmax
comp=Z,208nm,1.3s
PAB San Pablo 57.69 298 P **P 07 16 29.8 -0.3**
PAB pP **PcP** 07 17 18.4 -2.2
PAB sP **sP** 07 17 42.6 +4.5
DAV Davao City (W) 57.70 107 P **P 07 16 31.0 +0.7**
DAV Davao City (W) 57.70 107 P **P 07 16 33.5 +3.2**
DAV S **S** 07 24 16.1 +3.0
MPSI Mapaga 57.87 117 P **P 07 16 32.8 +1.3**
comp=Z,475nm,1.1s,comp=Z,5µmcomp=Z,8µm
NGJI Ngawi 57.89 130 P **P 07 16 33.1 +1.6**
comp=Z,220nm,1.0s
EQTA Presa de Quent 57.96 295 P **P 07 16 31.7 -0.3**
TOLI2 Tolitoli 57.98 116 IAmb IAmb 07 16 34.7
comp=Z,158nm,1.0s
TOLI2 Tolitoli 57.98 116 P **P 07 16 33.1 +0.9**
ELGU Los Guajares, 58.23 295 P **P 07 16 33.4 -0.4**

SJI Sawahan 58.37 130 P **P 07 16 33.9 -1.1**
comp=Z,86nm,0.6s,comp=Z,4µm
EADA Adamuz 58.40 296 P **P 07 16 34.8 -0.1**
EGOR Sierra Gorda, 58.48 295 P **P 07 16 35.0 -0.7**
PBRG Braganca 58.50 301⇑*i*P **P 07 16 35.6 0.0**
comp=Z,111nm,1.3s
PBRG *es*P **sP 07 17 42.5 -1.3**
BORG Borgarnes 58.56 330 P **P 07 16 38.1 +2.6**
BORG IAmb IAmb 07 16 39.4
comp=Z,204nm,0.9s
BORG Borgarnes 58.56 330 ⇓P **P 07 16 38.4 +2.8**
BORG Borgarnes 58.56 330 P **P 07 16 38.1 +2.6**
BORG pmax pmax
comp=Z,204nm,1.0s
BORG Borgarnes 58.56 330 P **P 07 16 38.1 +2.6**
comp=Z,178nm,0.9s,baz=85,slow=4.6,SNR=25
BORG Borgarnes 58.56 330 P **P 07 16 38.1 +2.6**
BORG pP **PcP** 07 17 26.3 +2.8
BILL Bilibino 58.67 26 P **P 07 16 37.3 +1.1**
BILL Bilibino 58.67 26 *i* P **P 07 16 37.1 +0.9**
BILL Bilibino 58.67 26 P **P 07 16 37.1 +0.9**
BILL pP **PcP** 07 17 25.2 +1.3
BILL ScP **ScP** 07 21 05.8 +0.9
MVO Moncorvo 58.95 300⇑*i*P **P 07 16 38.8 +0.1**
comp=Z,174nm,1.3s
MVO *es*P **sP** 07 17 48.3 +1.3
MVO *e*S **S** 07 24 35.3 +6.5
ALE Alert 59.04 354 ⇑P **P 07 16 39.9 +1.3**
ALE PcP **pP** 07 17 25.9 +0.6
ECAB El Cabril 59.04 297 P **P 07 16 39.6 +0.3**
RER Riviere de l'E 59.09 196 P **P 07 16 40.7 +1.0**
RER Riviere de l'E 59.09 196 ⇓P **P 07 16 41.1 +1.4**
RER Riviere de l'E 59.09 196 P **P 07 16 41.0 +1.3**
SNR=10.0
RER Riviere de l'E 59.09 196 P **P 07 16 41.0 +1.3**
EMIJ Mijas 59.19 295 P **P 07 16 39.8 -0.6**
PVRL Vila Real 59.38 301⇑*i*P **P 07 16 42.1 +0.5**
comp=Z,137nm,1.8s
POLO Lamas de Olo 59.39 301⇑*i*P **P 07 16 41.5 -0.3**
comp=Z,44nm,1.3s
POLO *es*P **sP** 07 17 50.5 +0.4
PGAV Gavieira, Arco 59.49 302⇑*i*P **P 07 16 42.7 +0.3**
comp=Z,211nm,1.0s
PGAV *es*P **sP** 07 17 48.3 -2.4
PGAV Gavieira, Arco 59.49 302 *e*PP **PP** 07 18 59.7 +3.8
PGAV *e*S **S** 07 24 42.1 +6.3
BLJI Banyuglugur 59.51 129 P **P 07 16 42.3 -0.4**
comp=Z,202nm,0.7s,comp=Z,4µm
ABPO Ambohimpanom 59.55 206 P **P 07 16 43.9 +0.9**
ABPO IAmb IAmb 07 16 47.4
comp=Z,133nm,0.8s
ABPO Ambohimpanom 59.55 206⇑*i*P **P 07 16 44.0 +0.9**
ABPO IAmb IAmb 07 16 46.7
comp=Z,141nm,0.9s
ABPO Ambohimpanom 59.55 206 P **P 07 16 43.9 +0.9**
ABPO Ambohimpanom 59.55 206 P **P 07 16 44.0 +0.9**
ABPO pP **pP** 07 17 33.5 +3.1
ABPO sP **sP** 07 17 55.5 +2.8
MTE Manteigas 59.61 300⇑*i*P **P 07 16 43.9 +0.7**
comp=Z,318nm,1.2s
MTE *es*P **sP** 07 17 54.2 +2.6
MTE Manteigas 59.61 300 *e*PP **PP** 07 18 58.0 +1.1
MTE *e*S **S** 07 24 43.2 +5.8
MTE Manteigas 59.61 300 IAmb IAmb 07 16 45.1
comp=Z,208nm,1.0s
MTE Manteigas 59.61 300 ⇑P **P 07 16 43.5 +0.3**
PVIS Viseu 59.73 300⇑*i*P **P 07 16 44.5 +0.5**
PVIS *es*P **sP** 07 17 54.3 +1.9
PCBR Castelo Branco 59.79 299⇑*i*P **P 07 16 44.4 0.0**
comp=Z,130nm,2.0s
ESPR Espera 59.86 296 P **P 07 16 44.0 -0.9**
PMSI Majene 59.88 121 P **P 07 16 49.3 +4.0**
comp=Z,277nm,1.0s,comp=Z,7µm
PMRV Marv??o 59.90 299⇑*i*P **P 07 16 45.0 -0.1**
comp=Z,174nm,1.3s
PMRV *es*P **sP** 07 17 51.3 -2.2
EBAD Badajoz 59.91 298 P **P 07 16 45.3 +0.1**
PTO Porto 60.05 301⇑*i*P **P 07 16 46.9 +0.8**
comp=Z,130nm,1.3s
SKR Severo-Kuril's 60.05 47⇓*i*P **P 07 16 45.4 -0.5**
PEA0B Petropavlovsk- 60.05 44 P **P 07 16 45.6 -0.3**
PEA0B Petropavlovsk- 60.05 44⇓*i*P **P 07 16 45.8 -0.2**
PETK Petropavlovsk- 60.05 44 P **P 07 16 45.2 -0.8**
PETK Petropavlovsk- 60.05 44 P **P 07 16 45.2 -0.8**
PETK Petropavlovsk- 60.05 44 P **P 07 16 45.1 -0.9**
comp=Z,20nm,0.7s,baz=29,slow=1.3,SNR=30
PETK PKPPKP **P'P'df 07 46 04.8 -5.8**
comp=Z,5.0nm,0.8s,baz=54,slow=2.6,SNR=3.7
PBAR Barrancos 60.16 297⇑*i*P **P 07 16 47.1 +0.1**
comp=Z,326nm,1.1s
PBAR Barrancos 60.16 297 *e*PP **PP** 07 19 03.4 +1.6
TTSI Tana Toraja 60.18 120 P **P 07 16 47.8 +0.5**
comp=Z,349nm,0.9s,comp=Z,4µm
PESTR Estremoz 60.27 298⇑*i*P **P 07 16 48.0 +0.3**
comp=Z,225nm,1.2s
PESTR *es*P **sP** 07 17 57.7 +1.6
PESTR Estremoz 60.27 298 P **P 07 16 46.8 -0.9**
PESTR IAmb IAmb 07 18 01.2
comp=Z,154nm,1.0s
PESTR Estremoz 60.27 298 ⇑P **P 07 16 47.4 -0.3**
SFS San Fernando 60.28 295 P **P 07 16 46.7 -1.1**
COI Coimbra 60.29 300⇑*i*P **P 07 16 48.2 +0.4**
comp=Z,360nm,1.3s
COI Coimbra 60.29 300 *e*PP **PP** 07 19 06.4 +3.5
COI Coimbra 60.29 300 IAmb IAmb 07 18 01.8
comp=Z,263nm,0.8s
COI Coimbra 60.29 300 ⇑P **P 07 16 48.1 +0.3**
JAGI Jajag, Banyuwa 60.42 129 P **P 07 16 46.4 -2.5**
JAGI Jajag, Banyuwa 60.42 129 ⇑P **P 07 16 46.7 -2.2**
JAGI Jajag, Banyuwa 60.42 129 P **P 07 16 48.2 -0.7**
comp=Z,104nm,0.8s,comp=Z,5µm
PCAS Casmilo, Conde 60.42 300⇑*i*P **P 07 16 49.0 +0.3**
comp=Z,130nm,1.2s
PCAS *es*P **sP** 07 17 55.5 -1.5
PET Petropavlovsk 60.62 44 P **P 07 16 49.2 -0.5**
PET Petropavlovsk 60.62 44 P **P 07 16 50.6 +0.9**
PET Petropavlovsk 60.62 44 *e*P P 07 16 41.5 -8.2
PET *e*'SP pP 07 17 37.1 +0.1
PET *e*S **S** **07 24 43.5 -6.1**
PET *e* 07 26 15.4
PET pmax pmax
comp=Z,1µm,9.5s
PET pmax pmax
comp=Z,1µm,18.8s
PET pmax pmax
comp=Z,119nm,1.2s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,3µm,18.0s
PMTG Montargil 60.63 299⇑*i*P **P 07 16 50.5 +0.4**
comp=Z,110nm,1.6s
PMTG *es*P **sP** 07 17 59.1 +0.6
KMSI Cibinong 60.69 113 P **P 07 16 52.7 +1.9**
comp=Z,1µm,1.1s,comp=Z,12µmcomp=Z,8µm
MDT Midelt 60.69 291 P **P 07 16 50.6 -0.1**
comp=Z,93nm,0.9s,baz=86,slow=7.9,SNR=88
comp=Z,93nm,0.9s
EVO Evora 60.71 298⇑*i*P **P 07 16 50.5 -0.1**
comp=Z,264nm,1.2s
EVO *es*P **sP** 07 17 59.7 +0.6
SRBI Singaraja 60.80 128 P **P 07 16 51.9 +0.5**
comp=Z,213nm,1.0s,comp=Z,3µmcomp=Z,6µm
PBEJ Beja 60.82 297⇑*e*P **P 07 16 51.5 +0.1**
comp=Z,184nm,1.2s
PBEJ *es*P **sP** 07 18 00.4 +0.6
PSBE So Bento 60.85 299⇑*i*P **P 07 16 52.0 +0.4**
comp=Z,368nm,1.2s
PSBE *es*P **sP** 07 18 00.3 +0.3
LUWI Luwuk 60.90 116 IAmb IAmb 07 17 11.9
comp=Z,254nm,0.9s
LUWI Luwuk 60.90 116 P **P 07 16 52.6 +0.4**
LUWI Luwuk 60.90 116 P **P 07 16 56.4 +4.2**
comp=Z,316nm,1.0s,comp=Z,6µmcomp=Z,8µm
SOEG Soedalen 60.96 335 *i* P **P 07 16 52.6 +0.8**
SOEG IAmb IAmb 07 16 55.2
comp=Z,87nm,0.7s
PVAQ Vaqueiros 60.98 297⇑*e*P **P 07 16 52.5 0.0**
comp=Z,30nm,1.1s
PVAQ Vaqueiros 60.98 297 ⇑P **P 07 16 52.2 -0.2**
NEEM North Greenlan 61.02 348 *i* P **P 07 16 53.0 +0.5**
NEEM IAmb IAmb 07 16 56.7
comp=Z,349nm,0.7s
SUMG Summit 61.04 341 P **P 07 16 53.9 +1.1**

SUMG Summit 61.04 341 ⇑P **P 07 16 53.6 +0.9**
SUMG Summit 61.04 341 P **P 07 16 53.9 +1.1**
SUMG pmax pmax
comp=Z,660nm,1.2s
SUMG Summit 61.04 341 *i* P **P 07 16 53.0 +0.2**
SUMG IAmb IAmb 07 16 56.4
comp=Z,244nm,0.8s
PCVE Castro Verde 61.11 297⇑*e*P **P 07 16 53.3 -0.1**
PCVE *es*P **sP** 07 18 04.4 +2.6
PCVE Castro Verde 61.11 297 *e*PP **PP** 07 19 11.8 +1.6
MESJ Messejana 61.15 297⇑*i*P **P 07 16 53.8 +0.1**
comp=Z,252nm,1.2s
MESJ *es*P **sP** 07 18 03.4 +1.3
MESJ Messejana 61.15 297 IAmb IAmb 07 16 55.2
comp=Z,180nm,1.0s
MESJ Messejana 61.15 297 *e*P **P 07 16 54.0 +0.3**
MESJ IAmb IAmb 07 16 55.4
comp=Z,192nm,1.0s
MESJ *e*S **S** **07 24 58.5 +1.6**
MESJ Messejana 61.15 297 ⇑P **P 07 16 53.7 +0.1**
MESJ Messejana 61.15 297 *e*P **P 07 16 53.9 +0.3**
MESJ *e*S **S** **07 24 58.5 +1.6**
MESJ pmax pmax
comp=Z,192nm,1.0s
PBDV Barranco-do-Ve 61.20 297⇑*i*P **P 07 16 54.5 +0.5**
comp=Z,349nm,1.0s
PBDV Barranco-do-Ve 61.20 297 *e*PP **PP** 07 19 12.8 +1.8
PNCL Nicolau / Gran 61.26 298⇑*i*P **P 07 16 54.9 +0.6**
comp=Z,189nm,1.3s
PNCL Nicolau / Gran 61.26 298 *e*PP **PP** 07 19 14.2 +2.8
PMAFR Mafra 61.43 299⇑*i*P **P 07 16 55.8 +0.3**
comp=Z,290nm,1.1s
PMAFR *es*P **sP** 07 18 05.9 +1.9
PMAFR Mafra 61.43 299 *e*PP **PP** 07 19 16.4 +3.5
LIS Lisbon 61.44 299⇑*e*P **P 07 16 56.2 +0.7**
comp=Z,372nm,1.3s
LIS Lisbon 61.44 299 *e*P **P 07 16 56.0 +0.5**
LIS IAmb IAmb 07 16 57.5
comp=Z,295nm,1.2s
LIS *e*S **S** **07 25 02.0 +1.6**
LIS Lisbon 61.44 299 *e*P **P 07 16 56.0 +0.5**
LIS *e*S **S** **07 25 02.0 +1.6**
LIS pmax pmax
comp=Z,295nm,1.2s
KAPI Kappang 61.54 121 P **P 07 16 55.7 -0.8**
KAPI IAmb IAmb 07 16 58.8
comp=Z,276nm,1.2s
KAPI Kappang 61.54 121 P **P 07 16 55.7 -0.8**
KAPI pmax pmax
comp=Z,275nm,1.2s
PTEO Sao Teotonio 61.64 297⇑*i*P **P 07 16 57.3 +0.4**
comp=Z,364nm,1.3s
MORF Marmelete 61.69 297 *e*P **P 07 16 57.7 +0.3**
MORF *e*S **S** **07 25 05.5 +1.6**
MORF Marmelete 61.69 297 *e*P **P 07 16 57.6 +0.3**
MORF *e*S **S** **07 25 05.4 +1.6**
RTC Rabat Centre 61.85 293 P **P 07 16 56.9 -1.4**
PFVI Vila Bisbo 61.89 297⇑*e*P **P 07 16 58.9 +0.3**
comp=Z,354nm,1.4s
PFVI Vila Bisbo 61.89 297 IAmb IAmb 07 17 02.3
comp=Z,237nm,1.0s
VOI Vohitsoka 62.37 205 IAmb IAmb 07 17 05.8
comp=Z,277nm,0.9s
VOI Vohitsoka 62.37 205 P **P 07 17 02.9 +1.0**
VOI Vohitsoka 62.37 205⇑*i*P **P 07 17 02.4 +0.5**
VOI Vohitsoka 62.37 205 ⇑P **P 07 17 02.6 +0.7**
VOI Vohitsoka 62.37 205 P **P 07 17 03.0 +1.1**
SNR=21
AVE Averroes 62.57 292 IAmb IAmb 07 17 06.8
comp=Z,213nm,0.7s
AVE Averroes 62.57 292 ⇑P **P 07 17 02.6 -0.6**
PLAI Plampang 63.01 126 P **P 07 17 04.0 -2.2**
TNTI Ternate 63.09 111 P **P 07 17 07.6 +0.8**
TNTI Ternate 63.09 111 ⇑P **P 07 17 08.1 +1.3**
ICESG Greenland Ices 63.18 338 *i* P **P 07 17 07.0 0.0**
ICESG IAmb IAmb 07 17 10.3
comp=Z,215nm,0.9s
SANI Sanana 63.93 114 P **P 07 17 12.3 0.0**
SANI Sanana 63.93 114 P **P 07 17 11.8 -0.4**
SANI Sanana 63.93 114 ⇑P **P 07 17 12.2 0.0**
ANGG Ammassalik, Gr 64.38 334 *i* P **P 07 17 14.0 -0.4**
ANGG IAmb IAmb 07 17 17.0
comp=Z,178nm,0.7s
TULEG Thule 64.43 350 IAmb IAmb 07 17 23.8
comp=Z,140nm,0.8s
TULEG Thule 64.43 350 ⇑P **P 07 17 15.1 +0.4**
TULEG Thule 64.43 350 *i* P **P 07 17 15.0 +0.4**
TULEG IAmb IAmb 07 17 24.1
comp=Z,91nm,0.8s
ISOG Isortoq, Green 64.88 334 *i* P **P 07 17 17.5 -0.2**
ISOG IAmb IAmb 07 17 22.0
comp=Z,90nm,0.7s
UPNV Upernavik 65.12 345 *i* P **P 07 17 19.4 +0.3**
UPNV IAmb IAmb 07 17 22.4
comp=Z,126nm,0.9s
FOMA Nahampoana Res 65.16 204 ⇑P **P 07 17 20.6 +0.7**
FOMA Nahampoana Res 65.16 204 P **P 07 17 21.1 +1.2**
SNR=14
FOMA S **S** **07 25 53.3 +6.9**
FOMA Nahampoana Res 65.16 204 P **P 07 17 21.0 +1.2**
FOMA pP **pP** 07 18 09.8 +1.8
FOMA sP **sP** 07 18 32.9 +2.6
LSZ Lusaka 65.37 226 P **P 07 17 21.5 -0.1**
LSZ IAmb IAmb 07 17 25.4
comp=Z,159nm,0.7s
LSZ Lusaka 65.37 226 ⇑P **P 07 17 21.7 +0.1**
LSZ Lusaka 65.37 226 P **P 07 17 21.5 -0.1**
LSZ pmax pmax
comp=Z,159nm,0.7s
LSZ Lusaka 65.37 226 P **P 07 17 22.2 +0.6**
LSZ P **P** **07 17 22.2 +0.6**
LSZ Lusaka 65.37 226 P **P 07 17 22.1 +0.5**
TOA0 Torodi Ar. Sit 65.61 269 P **P 07 17 21.6 -1.5**
TOA0 Torodi Ar. Sit 65.61 269 P **P 07 17 21.6 -1.5**
SNR=113
TOA0 P **P** **07 17 21.6 -1.5**
SNR=113
TORD Torodi Ar. Bea 65.61 269 P **P 07 17 21.6 -1.6**
TORD Torodi Ar. Bea 65.61 269 P **P 07 17 21.1 -2.1**
comp=Z,586nm,0.7s,baz=42,slow=7.0,SNR=1040
TORD PKPPKP P'P'df 07 45 49.6 -12
comp=Z,5.0nm,1.0s,baz=144,slow=1.8,SNR=13
TORD PKP2ab 07 46 08.9
comp=Z,2.1nm,0.9s,baz=27,slow=2.9,SNR=4.7
comp=Z,586nm,0.7s
UMMG Uummannaq 65.65 342 *i* P **P 07 17 21.8 -0.8**
UMMG IAmb IAmb 07 17 25.3
comp=Z,73nm,0.6s
KRI Karoi 65.80 224⇑*i*P **P 07 17 24.3 -0.1**
ILULI Ilulissat 66.38 341 IAmb IAmb 07 17 29.4
comp=Z,694nm,1.2s
ILULI Ilulissat 66.38 341 ⇑P **P 07 17 27.2 0.0**
ILULI Ilulissat 66.38 341 *i* P **P 07 17 27.6 +0.4**
ILULI IAmb IAmb 07 17 29.8
comp=Z,228nm,0.6s
DY2G Dye2 66.75 337 *i* P **P 07 17 30.3 +0.4**
DY2G IAmb IAmb 07 17 32.7
comp=Z,303nm,0.8s
A19K Wainwright 67.21 17 P **P 07 17 34.0 +1.6**
baz=317
A19K S **S** **07 26 13.2 +3.1**
baz=317
A21K Barrow 67.36 15 P **P 07 17 34.4 +1.2**
baz=320,SNR=389
A21K S **S** **07 26 13.7 +1.8**
baz=320
C16K Lisburne Hills 67.50 20 P **P 07 17 35.1 +0.8**
baz=314
C16K S **S** **07 26 15.9 +2.2**
baz=314
B18K Kokolik River 67.65 18 P **P 07 17 36.8 +1.7**
baz=316
B18K S **S** **07 26 17.8 +2.4**
baz=316
SFJD Kangerlussuaq 67.73 339 P **P 07 17 35.8 +0.1**
SFJD IAmb IAmb 07 17 37.4
comp=Z,173nm,0.8s
SFJD Kangerlussuaq 67.73 339 ⇑P **P 07 17 36.0 +0.3**
SFJD Kangerlussuaq 67.73 339 P **P 07 17 35.8 +0.1**
SFJD pmax pmax
comp=Z,173nm,0.9s
SFJD Kangerlussuaq 67.73 339 *i* P **P 07 17 35.4 -0.3**
SFJD IAmb IAmb 07 17 38.2
comp=Z,110nm,0.8s
SFJD Kangerlussuaq 67.73 339 P **P 07 17 35.9 +0.3**

SFJD pP **pP** 07 18 26.8 +3.2
C17K DeLong Mountai 67.94 19 P **P** 07 17 38.2 +1.1
baz=315
C17K S **S** 07 26 20.7 +1.7
baz=315
SOEI Soe 68.04 121 P **P** 07 17 37.8 -0.8
SOEI Soe 68.04 121 ⇑P **P** 07 17 37.8 -0.8
RDOG Red Dog Mine 68.31 19 lAmb lAmb 07 17 51.8
comp=Z,147nm,0.9s
RDOG Red Dog Mine 68.31 19 P **P** 07 17 39.8 +0.5
baz=316
RDOG S **S** 07 26 23.8 +0.5
baz=316
C18K Utukok River 68.32 18 P **P** 07 17 40.6 +1.1
baz=317
C18K S **S** 07 26 24.5 +1.0
baz=317
C19K Lookout Ridge 68.37 17 P **P** 07 17 41.2 +1.4
baz=318,SNR=920
C19K S **S** 07 26 25.9 +1.7
baz=318
D17K Noatak River 68.52 19 P **P** 07 17 41.6 +1.0
baz=316
D17K S **S** 07 26 26.8 +1.1
baz=316
GAMB Gambell 68.56 25 P **P** 07 17 41.7 +0.8
baz=310,SNR=7.4
GAMB S **S** 07 26 29.5 +3.1
baz=310
GAMB Gambell 68.56 25 ⇑P **P** 07 17 41.9 +1.0
TNA Tin City 68.61 22 P **P** 07 17 42.5 +1.3
baz=312,SNR=102
TNA S **S** 07 26 30.0 +3.0
baz=312
TNA Tin City 68.61 22 ⇑P **P** 07 17 41.9 +0.7
RES Resolute Bay 68.70 356 ⇓P **P** 07 17 42.3 +0.6
B22K Teshekpuk Lake 68.79 15 P **P** 07 17 43.5 +1.3
baz=323
B22K S **S** 07 26 30.7 +1.9
baz=323
F14K Arctic Creek 69.16 22 P **P** 07 17 46.1 +1.5
baz=314,SNR=181
F14K S **S** 07 26 36.7 +3.3
baz=314
FAKI Fak Fak 69.17 110 P **P** 07 17 45.2 -0.3
FAKI Fak Fak 69.17 110 P **P** 07 17 45.9 +0.4
FAKI Fak Fak 69.17 110 ⇓P **P** 07 17 45.9 +0.4
D19K Kuna River 69.19 17 P **P** 07 17 45.7 +0.9
baz=320
D19K S **S** 07 26 34.3 +0.5
baz=320
PMPST Porto Santo, M 69.22 296⇑*e*P **P** 07 17 45.5 -0.1
E17K Hotham Inlet 69.30 19 P **P** 07 17 46.3 +0.8
baz=317,SNR=329
E17K S **S** 07 26 35.0 0.0
baz=317
D20K Etivluk River 69.37 17 P **P** 07 17 46.9 +1.0
baz=321
D20K S **S** 07 26 36.9 +1.0
baz=321
E18K Tukpahlearik C 69.38 19 P **P** 07 17 46.8 +0.9
baz=318
E18K S **S** 07 26 36.1 +0.2
baz=318
C21K Knifeblade Rid 69.44 16 P **P** 07 17 47.6 +1.3
baz=322
C21K S **S** 07 26 38.3 +1.7
baz=322
F15K North Star Dit 69.50 21 P **P** 07 17 48.1 +1.4
baz=315
F15K S **S** 07 26 40.4 +3.0
baz=315
PMAR Madeira 69.83 296⇑*e*P **P** 07 17 49.7 +0.2
comp=Z,902nm,1.1s
E20K Nigu River 69.83 17 P **P** 07 17 49.6 +0.9
baz=321
E20K S **S** 07 26 41.2 -0.1
baz=321
NRS Narsarsuaq 69.83 332 *i*P **P** 07 17 49.0 +0.3
NRS lAmb lAmb 07 17 54.7
comp=Z,152nm,0.8s
FUL Funchal 69.85 296 *e*P **P** 07 17 49.9 +0.5
comp=Z,381nm,1.1s
F17K Baldwin Pennin 69.93 20 P **P** 07 17 50.5 +1.3
baz=318,SNR=551
F17K S **S** 07 26 44.9 +2.6
baz=318
PMOZ Porto Moniz, M 69.98 296⇑*i*P **P** 07 17 50.4 +0.1
comp=Z,485nm,1.6s
PMOZ *es*P **sP** 07 19 01.4 +1.6
PMOZ Porto Moniz, M 69.98 296 *e*PP **PP** 07 20 32.0 +4.4
PMOZ *e*S **S** 07 26 50.9 +6.6
PMOZ Porto Moniz, M 69.98 296 ⇑P **P** 07 17 49.9 -0.4
NUUK Nuuk 69.99 337 ⇑P **P** 07 17 49.8 +0.1
NUUK Nuuk 69.99 337 *i*P **P** 07 17 48.9 -0.7
NUUK lAmb lAmb 07 17 52.2
comp=Z,105nm,0.9s
ANM Nome 70.09 22 lAmb lAmb 07 17 54.9
comp=Z,231nm,0.8s
ANM Nome 70.09 22 P **P** 07 17 51.9 +1.6
baz=315,SNR=175
ANM S **S** 07 26 48.0 +3.7
baz=315
D22K Ayikyak River 70.12 15 lAmb lAmb 07 17 52.3
comp=Z,199nm,0.8s
D22K Ayikyak River 70.12 15 P **P** 07 17 51.6 +1.2
baz=324
D22K S **S** 07 26 45.8 +1.2
baz=324
MUSN Musina, Limpop 70.12 220⇑*i*P **P** 07 17 51.9 +0.8
MUSN lAmb lAmb 07 17 54.5
comp=Z,242nm,0.9s
G15K Niukluk 70.19 22 P **P** 07 17 52.0 +1.1
baz=316
G15K S **S** 07 26 48.4 +3.0
baz=316
E21K Killik River 70.19 16 lAmb lAmb 07 17 52.6
comp=Z,236nm,0.8s
E21K Killik River 70.19 16 P **P** 07 17 51.6 +0.8
baz=323
E21K S **S** 07 26 44.8 -0.6
baz=323
E19K Redstone River 70.20 18 lAmb lAmb 07 17 54.6
comp=Z,244nm,0.8s
E19K Redstone River 70.20 18 P **P** 07 17 51.7 +0.7
baz=320,SNR=319
E19K S **S** 07 26 45.7 +0.2
baz=320
C24K Franklin Bluff 70.23 14 P **P** 07 17 52.5 +1.5
baz=327
C24K S **S** 07 26 48.1 +2.4
baz=327
F18K Selawik 70.24 19 P **P** 07 17 52.0 +0.9
baz=319,SNR=583
F18K S **S** 07 26 47.4 +1.5
baz=319
MOPA Mopani 70.36 218⇑*i*P **P** 07 17 53.0 +0.5
MOPA lAmb lAmb 07 17 56.2
comp=Z,895nm,0.9s
G16K Koyuk River 70.39 21 lAmb lAmb 07 17 56.5
comp=Z,208nm,0.8s
G16K Koyuk River 70.39 21 P **P** 07 17 53.4 +1.4
baz=317
G16K S **S** 07 26 51.2 +3.6
baz=317
D23K Nanushuk River 70.47 15 P **P** 07 17 53.7 +1.2
baz=326
D23K S **S** 07 26 50.0 +1.4
baz=326
MPHEP Siloam, Limpop 70.47 220⇑*i*P **P** 07 17 53.8 +0.6
F19K Shaleruckik Mo 70.55 18 P **P** 07 17 53.0 0.0
baz=320
F19K S **S** 07 26 49.0 -0.4
baz=320
D24K Happy Valley 70.68 14 lAmb lAmb 07 17 57.9
comp=Z,192nm,0.8s
D24K Happy Valley 70.68 14 P **P** 07 17 54.9 +1.1
baz=327
D24K S **S** 07 26 52.7 +1.7
baz=327
G17K Kiwalik Mounta 70.79 20 P **P** 07 17 55.5 +0.9
baz=318,SNR=298
G17K S **S** 07 26 54.9 +2.5
baz=318
IVI Ivigtut 70.81 333 lAmb lAmb 07 18 06.9
comp=Z,192nm,1.2s
IVI Ivigtut 70.81 333 ⇑P **P** 07 17 54.9 +0.1

IVI Ivigtut 70.81 333 *i*P **P** 07 17 54.8 +0.1
IVI lAmb lAmb 07 18 10.2
comp=Z,71nm,0.8s
IVI Ivigtut 70.81 333 P **P** 07 17 55.1 +0.4
F20K Avaraart Lake 70.89 18 lAmb lAmb 07 17 56.6
comp=Z,185nm,1.1s
F20K Avaraart Lake 70.89 18 P **P** 07 17 55.4 +0.3
baz=322
F20K S **S** 07 26 53.2 -0.2
baz=322
H16K Elim 70.98 21 P **P** 07 17 56.8 +1.1
baz=317,SNR=259
H16K S **S** 07 26 58.1 +3.6
baz=317
D25K Kavik River 71.00 13 lAmb lAmb 07 17 58.4
comp=Z,294nm,0.8s
D25K Kavik River 71.00 13 P **P** 07 17 57.3 +1.5
baz=329
D25K S **S** 07 26 55.9 +1.1
baz=329
G18K Tagagawik 71.04 19 P **P** 07 17 56.3 +0.3
baz=320,SNR=108
G18K S **S** 07 26 55.3 +0.1
baz=320
A36M Sachs Harbour 71.23 5 P **P** 07 17 58.2 +1.1
baz=346,SNR=1000
A36M S **S** 07 26 59.7 +2.5
baz=346
G19K Purcell Mounta 71.26 19 P **P** 07 17 58.1 +0.8
baz=321
G19K S **S** 07 26 57.9 +0.2
baz=321
F21K Alatna River 71.28 17 P **P** 07 17 58.3 +0.8
baz=324
F21K S **S** 07 26 58.2 +0.2
baz=324
HOED Hoedspruit, Li 71.33 218⇑*i*P **P** 07 17 58.8 +0.4
HOED lAmb lAmb 07 18 02.0
comp=Z,382nm,0.8s
H17K Granite Mounta 71.42 20 lAmb lAmb 07 18 02.4
comp=Z,243nm,0.8s
H17K Granite Mounta 71.42 20 P **P** 07 17 59.4 +1.0
baz=319,SNR=248
H17K S **S** 07 27 01.2 +1.6
baz=319
E23K Chandalar 71.44 15 P **P** 07 17 59.5 +1.0
baz=327
E23K S **S** 07 27 00.8 +0.9
baz=327
GIRL Giralia 71.66 138 P **P** 07 18 01.4 +1.1
GIRL Giralia 71.66 138 ⇓P **P** 07 18 01.7 +1.4
H18K Honhosa River 71.69 20 lAmb lAmb 07 18 03.7
comp=Z,182nm,0.8s
H18K Honhosa River 71.69 20 P **P** 07 18 00.7 +0.8
baz=320,SNR=164
H18K S **S** 07 27 03.4 +0.7
baz=320
SAUI Saumlaki 71.81 115 P **P** 07 18 02.7 +1.3
G21K Allakaket 71.85 17 lAmb lAmb 07 18 02.2
comp=Z,200nm,0.8s
G21K Allakaket 71.85 17 P **P** 07 18 01.2 +0.3
baz=324
G21K S **S** 07 27 04.1 -0.3
baz=324
MACI Morro de la Ar 71.86 292 P **P** 07 18 00.1 -1.7
PILG Pilgrimsrest, 71.88 218⇑*i*P **P** 07 18 02.5 +0.7
PILG lAmb lAmb 07 18 03.4
comp=Z,625nm,1.0s
H19K Roundabout Mou 71.90 19 lAmb lAmb 07 18 02.7
comp=Z,228nm,0.8s
H19K Roundabout Mou 71.90 19 P **P** 07 18 02.1 +1.0
baz=322,SNR=238
H19K S **S** 07 27 05.7 +0.7
baz=322
J14K Nanvaranak Lak 71.96 23 lAmb lAmb 07 18 06.0
comp=Z,322nm,0.8s
J14K Nanvaranak Lak 71.96 23 P **P** 07 18 02.9 +1.4
baz=316
J14K S **S** 07 27 09.0 +3.3
baz=316
G22K Bettles 71.98 16 P **P** 07 18 02.3 +0.7
baz=325
G22K S **S** 07 27 05.5 -0.4
baz=325
I17K Unalakleet 71.99 21 lAmb lAmb 07 18 06.2
comp=Z,292nm,1.0s
I17K Unalakleet 71.99 21 P **P** 07 18 03.3 +1.6
baz=318,SNR=151
I17K S **S** 07 27 08.6 +2.5
baz=318
D27M Malcolm River 72.00 11 lAmb lAmb 07 18 06.6
comp=Z,188nm,0.8s
D27M Malcolm River 72.00 11 P **P** 07 18 03.5 +1.7
baz=334
D27M S **S** 07 27 08.7 +2.5
baz=334
COLD Coldfoot 72.01 16 P **P** 07 18 02.9 +1.1
baz=326,SNR=333
COLD S **S** 07 27 06.8 +0.4
baz=326
E25K Arctic Village 72.19 14 lAmb lAmb 07 18 06.9
comp=Z,175nm,0.9s
E25K Arctic Village 72.19 14 P **P** 07 18 03.9 +1.1
baz=330,SNR=233
E25K S **S** 07 27 09.7 +1.3
baz=330
K13K Kusilvak Mount 72.19 24 lAmb lAmb 07 18 04.8
comp=Z,156nm,0.8s
K13K Kusilvak Mount 72.19 24 P **P** 07 18 04.2 +1.2
baz=316
WTBG Waterberg Wild 72.21 220⇑*i*P **P** 07 18 03.7 0.0
WTBG lAmb lAmb 07 18 11.0
comp=Z,116nm,0.8s
IMAR Indian Mountai 72.22 18 P **P** 07 18 02.0 -1.0
F24K Squaw Lake 72.25 15 P **P** 07 18 04.2 +0.9
baz=328
D28M Stokes Point 72.26 11 P **P** 07 18 05.1 +1.9
baz=335
D28M S **S** 07 27 12.4 +3.4
baz=335
H20K Anotleneega Mo 72.33 18 P **P** 07 18 04.5 +0.7
baz=323
H20K S **S** 07 27 10.3 +0.3
baz=323
GCSA Galena City Sc 72.40 19 P **P** 07 18 05.2 +1.1
baz=321
GCSA S **S** 07 27 12.4 +1.7
baz=321
J16K Anvik River 72.47 22 P **P** 07 18 06.0 +1.5
baz=319
J16K S **S** 07 27 14.5 +2.9
baz=319
G23K Bananza Creek 72.48 16 lAmb lAmb 07 18 06.8
comp=Z,159nm,0.8s
G23K Bananza Creek 72.48 16 P **P** 07 18 05.5 +0.9
baz=326
G23K S **S** 07 27 12.7 +0.9
baz=326
LEPH Lephalale, Lim 72.49 221⇑*i*P **P** 07 18 05.2 0.0
LEPH lAmb lAmb 07 18 06.0
comp=Z,426nm,1.3s
DULL Dullstroom, Mp 72.50 218⇑*i*P **P** 07 18 06.4 +0.9
DULL lAmb lAmb 07 18 09.3
comp=Z,597nm,0.9s
F25K Christian Rive 72.63 14 P **P** 07 18 07.1 +1.6
baz=330,SNR=325
F25K S **SKiKP** 07 27 16.2 -2.1
baz=330
H21K Melozitna Rive 72.71 17 lAmb lAmb 07 18 08.0
comp=Z,260nm,1.1s
H21K Melozitna Rive 72.71 17 P **P** 07 18 06.9 +0.9
baz=324
H21K S **S** 07 27 14.5 +0.1
baz=324
M11K Mekoryuk 72.77 26 P **P** 07 18 08.3 +2.0
baz=315,SNR=27
M11K S **SKiKP** 07 27 20.5 +2.0
baz=315
E28M Babbage River 72.80 11 lAmb lAmb 07 18 11.2
comp=Z,200nm,0.9s
E28M Babbage River 72.80 11 P **P** 07 18 08.0 +1.6
baz=335
E28M S **SKiKP** 07 27 18.5 -0.1
baz=335
F26K Sheenjek River 72.83 13 P **P** 07 18 08.1 +1.4
baz=331
F26K S **SKiKP** 07 27 18.0 -0.6
baz=331

H22K Ishtalitna Cre 72.86 17 P **P** 07 18 08.0 +1.1
baz=326
H22K S **S** 07 27 16.5 +0.6
baz=326
BART Pico Bartolome 72.90 304 *e*P **P** 07 18 07.5 -0.2
comp=Z,221nm,1.1s
K15K Wolf Creek Mou 72.93 23 lAmb lAmb 07 18 12.1
comp=Z,222nm,0.9s
K15K Wolf Creek Mou 72.93 23 P **P** 07 18 09.1 +1.8
baz=318
K15K S **SKiKP** 07 27 20.6 +1.8
baz=318
BMAR Burnt Mountain 72.98 14 P **P** 07 18 08.7 +1.1
BMAR pP **pP** 07 18 55.1 -1.4
I20K Naaghedeneel 72.99 19 P **P** 07 18 08.9 +1.3
baz=323
I20K S **SKiKP** 07 27 18.8 0.0
baz=323
G24K Hadweenzic Riv 73.04 15 lAmb lAmb 07 18 12.3
comp=Z,237nm,0.8s
G24K Hadweenzic Riv 73.04 15 P **P** 07 18 09.3 +1.4
baz=329
CRLN Carolina, Mapu 73.11 218⇑*i*P **P** 07 18 09.7 +0.8
CRLN lAmb lAmb 07 18 12.2
comp=Z,171nm,0.8s
CMLA Cha da Macela 73.14 305 *e*P **P** 07 18 07.9 -1.1
comp=Z,122nm,1.1s
CMLA Cha da Macela 73.14 305 P **P** 07 18 08.5 -0.5
CMLA lAmb lAmb 07 18 12.0
comp=Z,168nm,0.8s
CMLA Cha da Macela 73.14 305 P **P** 07 18 08.5 -0.5
CMLA pmax pmax
comp=Z,168nm,0.8s
RUST Rust De Winter 73.24 220⇑*i*P **P** 07 18 10.3 +0.7
RUST lAmb lAmb 07 18 13.4
comp=Z,381nm,0.8s
PSET Sete Cidades 73.24 305 *e*P **P** 07 18 09.5 -0.1
comp=Z,362nm,0.7s
PDA Ponta Delgada 73.24 305 *e*P **P** 07 18 08.5 -1.1
comp=Z,188nm,0.7s
E29M Blow River 73.25 11 lAmb lAmb 07 18 13.8
comp=Z,269nm,0.8s
E29M Blow River 73.25 11 P **P** 07 18 10.6 +1.6
baz=336
PSMN Pico do Norte, 73.25 304 *e*P **P** 07 18 09.8 +0.1
comp=Z,223nm,1.9s
G25K Bearman Lake 73.26 14 P **P** 07 18 11.0 +1.8
baz=330
G25K S **S** 07 27 22.7 +2.3
baz=330
L14K Kuka Creek 73.27 24 P **P** 07 18 11.0 +1.7
baz=318
L14K S **S** 07 27 24.3 +3.7
baz=318
PSMA Santa Maria 73.30 304 *e*P **P** 07 18 10.2 +0.3
comp=Z,209nm,1.0s
J19K Poorman 73.33 19 P **P** 07 18 11.0 +1.4
baz=322
J19K S **S** 07 27 22.5 +1.2
baz=322
L15K Ungalak Mounta 73.40 23 P **P** 07 18 11.4 +1.3
baz=318,SNR=47
L15K S **S** 07 27 26.1 +3.9
baz=318
POGA Pongola 73.42 216 lAmb lAmb 07 18 14.4
comp=Z,120nm,0.8s
POGA Pongola 73.42 216 *e*P **P** 07 18 11.0 +0.4
POGA lAmb lAmb 07 18 14.2
comp=Z,116nm,0.8s
POGA Pongola 73.42 216 ⇑P **P** 07 18 11.2 +0.6
J18K Innoko River 73.45 20 lAmb lAmb 07 18 12.4
comp=Z,296nm,0.8s
J18K Innoko River 73.45 20 P **P** 07 18 11.4 +1.0
baz=322
J18K S **S** 07 27 24.7 +1.9
baz=322
SPIA Saint Paul Isl 73.47 30 P **P** 07 18 11.9 +1.4
baz=313
SPIA S **S** 07 27 27.6 +4.6
baz=313
G26K Porcupine Rive 73.55 13 P **P** 07 18 12.3 +1.5
baz=332
J20K Nowinta River 73.58 19 lAmb lAmb 07 18 13.3
comp=Z,279nm,0.8s
J20K Nowinta River 73.58 19 P **P** 07 18 12.3 +1.3
baz=324,SNR=230
J20K S **S** 07 27 25.8 +1.8
baz=324
K17K Iditarod 73.58 21 P **P** 07 18 12.5 +1.4
baz=321
K17K S **S** 07 27 26.7 +2.5
baz=321
NHAM Northam, North 73.60 221⇑*i*P **P** 07 18 12.2 +0.4
NHAM lAmb lAmb 07 18 15.5
comp=Z,272nm,1.1s
FYU Fort Yukon 73.61 14 lAmb lAmb 07 18 13.6
comp=Z,311nm,0.8s
TSWA Tswaing Meteor 73.61 220⇑*i*P **P** 07 18 12.7 +0.8
TSWA lAmb lAmb 07 18 15.9
comp=Z,440nm,1.1s
F28M Old Crow 73.65 12 lAmb lAmb 07 18 13.5
comp=Z,152nm,1.0s
F28M Old Crow 73.65 12 P **P** 07 18 12.7 +1.3
baz=335,SNR=182
F28M S **S** 07 27 27.6 +2.8
baz=335
PAGU Agualva, Azore 73.68 306 *e*P **P** 07 18 10.0 -2.1
comp=Z,139nm,0.9s
H24K Noodor Dome 73.69 16 lAmb lAmb 07 18 13.8
comp=Z,166nm,0.8s
H24K Noodor Dome 73.69 16 P **P** 07 18 13.1 +1.4
baz=328,SNR=200
H24K S **S** 07 27 26.6 +1.2
baz=328
MLY Manley 73.72 17 lAmb lAmb 07 18 15.9
comp=Z,200nm,0.8s
MLY Manley 73.72 17 P **P** 07 18 12.9 +0.9
baz=326,SNR=179
MLY S **S** 07 27 26.2 +0.4
baz=326
M13K Dall Lake 73.73 25 P **P** 07 18 14.2 +2.3
baz=317
M13K S **S** 07 27 31.4 +5.6
baz=317
ADH Angra Heroismo 73.78 306 *e*P **P** 07 18 11.8 -0.8
comp=Z,182nm,1.5s
NYAT Nyati, Northwe 73.84 220⇑*i*P **P** 07 18 14.2 +1.0
NYAT lAmb lAmb 07 18 17.0
comp=Z,501nm,1.1s
C36M Paulatuk 73.90 5 P **P** 07 18 13.4 +0.6
baz=348,SNR=1000
C36M S **S** 07 27 27.8 +0.3
baz=348
INK Inuvik 73.94 9 P **P** 07 18 14.3 +1.3
baz=340,SNR=355
INK S **S** 07 27 29.2 +1.4
baz=340
INK Inuvik 73.94 9 ⇑P **P** 07 18 13.5 +0.5
INK Inuvik 73.94 9 S **S** 07 27 28.9 +1.0
comp=Z,64nm,1.1s,baz=69,slow=13,SNR=48
M14K Bethel 73.94 24 P **P** 07 18 15.0 +1.9
baz=318,SNR=145
M14K S **S** 07 27 32.2 +4.0
baz=318
I23K Minto, Yukon-K 73.95 16 lAmb lAmb 07 18 15.5
comp=Z,219nm,0.9s
I23K Minto, Yukon-K 73.95 16 P **P** 07 18 14.3 +1.2
baz=327,SNR=138
I23K S **S** 07 27 29.2 +1.1
baz=327
PSA00 Pilbara Seismi 73.98 133 P **P** 07 18 13.9 -0.1
PSA00 lAmb lAmb 07 18 16.4
comp=Z,227nm,1.1s
PSA00 Pilbara Seismi 73.98 133 lAmb lAmb 07 18 16.3
comp=Z,289nm,1.1s
PSA00 Pilbara Seismi 73.98 133 P **P** 07 18 14.1 +0.1
L16K Owhat River 74.01 22 P **P** 07 18 15.3 +1.7
baz=320,SNR=186
L16K S **S** 07 27 33.1 +4.2
baz=320
L17K Donlin 74.04 22 P **P** 07 18 15.3 +1.6
baz=321
L17K S **S** 07 27 31.8 +2.6
baz=321
PGRA Graciosa 74.05 307 *e*P P 07 18 23.1 +8.8
comp=Z,206nm,1.4s
TTA Tatalina 74.07 20 lAmb lAmb 07 18 18.1
comp=Z,197nm,1.0s

TTA	**Tatalina**	**74.07**	**20**	P		**P**	**07 18 15.0**	**+1.0**
TTA	**Tatalina**	**74.07**	**20**	P		**P**	**07 18 15.1**	**+1.0**
	baz=322,SNR=101							
TTA				S		**S**	**07 27 32.2**	**+2.4**
	baz=322							
TTA	**Tatalina**	**74.07**	**20**	⇑P		**P**	**07 18 14.5**	**+0.5**
ADK	**Adak**	**74.11**	**37**	P		**P**	**07 18 14.9**	**+0.6**
P08K	**Saint George I**	**74.14**	**30**	P		**P**	**07 18 15.8**	**+1.4**
	baz=313							
P08K				S		**S**	**07 27 36.1**	**+5.6**
	baz=313							
AIS	**Amsterdam Isla**	**74.17**	**174**	P		**P**	**07 18 15.9**	**+1.3**
AIS				IAmb		IAmb	07 18 31.2	
	comp=Z,248nm,1.1s							
HRAO	**HartRAO**	**74.20**	**220**	⇑*i*P		**P**	**07 18 15.6**	**+0.2**
K20K	**Telida**	**74.26**	**19**	IAmb		IAmb	07 18 16.9	
	comp=Z,314nm,0.8s							
K20K	**Telida**	**74.26**	**19**	P		**P**	**07 18 16.3**	**+1.2**
	baz=324							
K20K				S		**S**	**07 27 33.5**	**+1.8**
	baz=324							
F30M	**Barrier River**	**74.28**	**10**	P		**P**	**07 18 16.4**	**+1.3**
	baz=338							
F30M				S		**S**	**07 27 33.3**	**+1.5**
	baz=338							
CHUM	**Lake Minchumin**	**74.29**	**18**	P		**P**	**07 18 16.3**	**+1.2**
	baz=325,SNR=103							
CHUM				S		**S**	**07 27 32.8**	**+0.9**
	baz=325							
PMAN	**Manadas**	**74.34**	**307**	*e*P		**P**	**07 18 15.6**	**-0.3**
	comp=Z,248nm,1.1s							
MDM	**Murphy Dome**	**74.36**	**16**	IAmb		IAmb	07 18 19.6	
	comp=Z,337nm,1.0s							
ROSA	**Rosais**	**74.39**	**307**	*e*P		**P**	**07 18 15.2**	**-1.0**
	comp=Z,113nm,0.8s							
M15K	**Kasigluk River**	**74.40**	**24**	P		**P**	**07 18 17.5**	**+1.6**
	baz=319,SNR=160							
M15K				S		**S**	**07 27 36.7**	**+3.4**
	baz=319							
POKR	**Poker Plat Res**	**74.40**	**16**	P		**P**	**07 18 17.2**	**+1.3**
	baz=329,SNR=167							
POKR				S		**S**	**07 27 34.5**	**+1.2**
	baz=329							
BPAW	**Bear Paw Mtn.**	**74.44**	**18**	IAmb		IAmb	07 18 19.7	
	comp=Z,164nm,0.8s							
BPAW	**Bear Paw Mtn.**	**74.44**	**18**	P		**P**	**07 18 16.5**	**+0.4**
	baz=326,SNR=38							
BPAW				S		**S**	**07 27 33.1**	**-0.7**
	baz=326							
L18K	**Granite Mounta**	**74.44**	**21**	IAmb		IAmb	07 18 20.3	
	comp=Z,180nm,0.9s							
L18K	**Granite Mounta**	**74.44**	**21**	P		**P**	**07 18 17.4**	**+1.3**
	baz=322							
L18K				S		**S**	**07 27 35.0**	**+1.3**
	baz=322							
PRP	**Porcupine Dome**	**74.46**	**15**	S		**S**	**07 27 36.1**	**+1.9**
	baz=330							
PID	**Ribeirinha**	**74.47**	**306**	*e*P		**P**	**07 18 17.2**	**+0.5**
	comp=Z,238nm,0.9s							
NEA2	**Nenana**	**74.48**	**17**	P		**P**	**07 18 16.9**	**+0.6**
	baz=328,SNR=285							
NEA2				S		**S**	**07 27 32.9**	**-1.3**
	baz=328							
COLA	**College**	**74.52**	**16**	P		**P**	**07 18 17.4**	**+1.0**
COLA	**College**	**74.52**	**16**	P		**P**	**07 18 17.4**	**+1.0**
COLA	**College**	**74.52**	**16**	P		**P**	**07 18 17.4**	**+1.0**
	baz=328							
COLA				S		**S**	**07 27 34.8**	**+0.3**
	baz=328							
COLA	**College**	**74.52**	**16**	⇑P		**P**	**07 18 16.4**	**0.0**
COLA	**College**	**74.52**	**16**	P		**P**	**07 18 17.4**	**+1.0**
COLA				pmax		pmax		
	comp=Z,447nm,0.8s							
MRCO	**Marico , North**	**74.53**	**221**	⇑*i*P		**P**	**07 18 17.8**	**+0.6**
MRCO				IAmb		IAmb	07 18 20.8	
	comp=Z,672nm,1.4s							
KSR	**Koster**	**74.58**	**220**	*e*P		**P**	**07 18 18.0**	**+0.5**
KSR				IAmb		IAmb	07 18 20.9	
	comp=Z,270nm,1.0s							
DBIC	**Dimbokro**	**74.59**	**267**	P		**P**	**07 18 16.3**	**-1.4**
DBIC				IAmb		IAmb	07 18 19.3	
	comp=Z,193nm,0.9s							
DBIC	**Dimbokro**	**74.59**	**267**	⇑*i*P		**P**	**07 18 15.8**	**-1.8**
DBIC				IAmb		IAmb	07 18 19.0	
	comp=Z,198nm,0.9s							
DBIC	**Dimbokro**	**74.59**	**267**	⇑P		**P**	**07 18 15.9**	**-1.7**
DBIC	**Dimbokro**	**74.59**	**267**	P		**P**	**07 18 16.6**	**-1.0**
	comp=Z,110nm,0.7s,baz=43,slow=6.7,SNR=86							
DBIC				S		**S**	**07 27 34.0**	**-2.8**
	comp=Z,7.6nm,1.0s,baz=138,slow=19,SNR=2.1							
	comp=Z,110nm,0.7s							
G29M	**Pine Creek**	**74.59**	**11**	IAmb		IAmb	07 18 18.7	
	comp=Z,166nm,0.9s							
G29M	**Pine Creek**	**74.59**	**11**	P		**P**	**07 18 18.1**	**+1.2**
	baz=336							
G29M				S		**S**	**07 27 37.4**	**+2.1**
	baz=336							
LBTB	**Lobatse**	**74.59**	**222**	IAmb		IAmb	07 18 22.3	
	comp=Z,387nm,0.9s							
LBTB	**Lobatse**	**74.59**	**222**	⇑*i*P		**P**	**07 18 18.2**	**+0.7**
LBTB				IAmb		IAmb	07 18 22.1	
	comp=Z,376nm,0.9s							
LBTB	**Lobatse**	**74.59**	**222**	⇑P		**P**	**07 18 17.9**	**+0.4**
H27K	**Steamboat Moun**	**74.61**	**13**	P		**P**	**07 18 18.4**	**+1.4**
	baz=334							
NWCL	**Newcastle**	**74.62**	**217**	⇑*i*P		**P**	**07 18 17.6**	**0.0**
NWCL				IAmb		IAmb	07 18 20.9	
	comp=Z,439nm,0.8s							
PICO	**Pico**	**74.63**	**307**	*e*P		**P**	**07 18 18.2**	**+0.5**
	comp=Z,241nm,1.0s							
N14K	**Kuskokwak Cree**	**74.65**	**24**	P		**P**	**07 18 19.0**	**+1.7**
	baz=319							
N14K				S		**S**	**07 27 39.6**	**+3.5**
	baz=319							
KIC	**Kosan Boka**	**74.67**	**267**	⇑*e*P		**P**	**07 18 17.0**	**-1.2**
	comp=Z,209nm,0.7s							
PCAN	**Candelaria**	**74.69**	**307**	*e*P		**P**	**07 18 17.9**	**-0.1**
	comp=Z,155nm,1.4s							
M16K	**Timber Creek**	**74.70**	**23**	IAmb		IAmb	07 18 22.5	
	comp=Z,224nm,0.8s							
M16K	**Timber Creek**	**74.70**	**23**	P		**P**	**07 18 19.5**	**+1.9**
	baz=320							
M16K				S		**S**	**07 27 39.4**	**+2.8**
	baz=320							
F31M	**Tsiigehtchic**	**74.72**	**10**	P		**P**	**07 18 18.6**	**+1.1**
	baz=340,SNR=386							
F31M				S		**S**	**07 27 37.7**	**+1.1**
	baz=340							
CAST	**Castle Rocks**	**74.73**	**19**	P		**P**	**07 18 18.7**	**+0.9**
	baz=325,SNR=475							
CAST				S		**S**	**07 27 36.8**	**-0.1**
	baz=325							
TIC	**Toumodi**	**74.73**	**267**	⇑*e*P		**P**	**07 18 17.2**	**-1.4**
	comp=Z,172nm,0.8s							
PCED	**Cedros**	**74.74**	**307**	*e*P		**P**	**07 18 18.1**	**-0.1**
	comp=Z,214nm,1.0s							
HOR	**Horta**	**74.75**	**307**	*e*P		**P**	**07 18 16.8**	**-1.5**
	comp=Z,184nm,0.9s							
CALA	**Caldeira**	**74.77**	**307**	*e*P		**P**	**07 18 18.4**	**-0.1**
	comp=Z,408nm,0.8s							
G30M	**tAoh Zraii Nji**	**74.80**	**11**	IAmb		IAmb	07 18 22.1	
	comp=Z,324nm,1.0s							
G30M	**tAoh Zraii Nji**	**74.80**	**11**	P		**P**	**07 18 19.0**	**+0.8**
	baz=338							
G30M				S		**S**	**07 27 39.0**	**+1.4**
	baz=338							
IL31		**74.82**	**16**	IAmb		IAmb	07 18 21.9	
	comp=Z,157nm,1.0s							
ILAR	**Eielson Array**	**74.82**	**16**	P		**P**	**07 18 18.2**	**0.0**
ILAR				pP		**pP**	**07 19 05.5**	**-1.8**
ILAR	**Eielson Array**	**74.82**	**16**	P		**P**	**07 18 17.8**	**-0.5**
	comp=Z,100nm,0.8s,baz=319,slow=4.5,SNR=633							
ILAR				S		**S**	**07 27 35.9**	**-2.0**
	comp=Z,2.3nm,1.0s,baz=302,slow=6.5,SNR=6.1							
ILAR				PKKPbc		**PKKPbc**	**07 37 38.5**	**-3.0**
	comp=Z,0.4nm,0.5s,baz=186,slow=3.4,SNR=4.8							
ILAR				PKP2bc			07 45 12.9	
	comp=Z,1.0nm,0.8s,baz=239,slow=2.3,SNR=6.3							
ILAR				LR		LR	07 55 05.4	
	comp=Z,3μm,18.9s,baz=340,slow=38							
	comp=Z,100nm,0.8s							
TSUM	**Tsumeb**	**74.82**	**232**	P		**P**	**07 18 19.4**	**+0.4**
TSUM	**Tsumeb**	**74.82**	**232**	⇑*i*P		**P**	**07 18 19.2**	**+0.2**
TSUM				IAmb		IAmb	07 18 22.4	
	comp=Z,448nm,1.1s							
M17K	**Holitna River**	**74.87**	**22**	P		**P**	**07 18 20.5**	**+1.9**
	baz=322							
M17K				S		**S**	**07 27 41.6**	**+3.1**
	baz=322							
FITZ	**Fitzroy Crossi**	**74.97**	**126**	P		**P**	**07 18 20.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**74.97**	**126**	⇑P		**P**	**07 18 19.4**	**-0.2**
LIC	**Lamto**	**74.98**	**267**	⇑*e*P		**P**	**07 18 18.6**	**-1.4**
	comp=Z,234nm,0.9s							
MTN	**Manton Dam**	**74.99**	**119**	P		**P**	**07 18 19.5**	**-0.4**
MTN				IAmb		IAmb	07 18 21.5	
	comp=Z,160nm,0.7s							
MTN	**Manton Dam**	**74.99**	**119**	P		**P**	**07 18 19.4**	**-0.4**
MTN	**Manton Dam**	**74.99**	**119**	⇓P		**P**	**07 18 19.1**	**-0.8**
N15K	**Kwethluk River**	**74.99**	**24**	IAmb		IAmb	07 18 24.4	
	comp=Z,248nm,0.8s							
N15K	**Kwethluk River**	**74.99**	**24**	P		**P**	**07 18 21.2**	**+1.9**
	baz=320							
N15K				S		**S**	**07 27 44.3**	**+4.3**
	baz=320							
L19K	**White Mountain**	**75.00**	**20**	IAmb		IAmb	07 18 23.6	
	comp=Z,189nm,1.1s							
L19K	**White Mountain**	**75.00**	**20**	P		**P**	**07 18 20.5**	**+1.2**
	baz=323							
L19K				S		**S**	**07 27 41.9**	**+2.0**
	baz=323							
L20K	**Farewell, AK**	**75.03**	**20**	P		**P**	**07 18 20.4**	**+1.0**
	baz=324							
L20K				S		**S**	**07 27 41.7**	**+1.4**
	baz=324							
FRB	**Frobisher Bay**	**75.04**	**343**	⇓P		**P**	**07 18 19.6**	**+0.1**
GENI	**Genyem**	**75.05**	**105**	P		**P**	**07 18 21.0**	**+0.7**
ATKA	**Atka Island**	**75.08**	**35**	P		**P**	**07 18 19.4**	**-0.5**
HDA	**Harding Lake**	**75.12**	**16**	IAmb		IAmb	07 18 23.1	
	comp=Z,133nm,0.7s							
HDA	**Harding Lake**	**75.12**	**16**	P		**P**	**07 18 19.3**	**-0.6**
	baz=329,SNR=147							
HDA				S		**S**	**07 27 37.8**	**-3.4**
	baz=329							
HDA				S		**S**	**07 27 37.8**	**-3.4**
	baz=329							
I26K	**Coal Creek Min**	**75.13**	**14**	IAmb		IAmb	07 18 24.1	
	comp=Z,250nm,0.8s							
I26K	**Coal Creek Min**	**75.13**	**14**	P		**P**	**07 18 21.1**	**+1.1**
	baz=332							
I26K				S		**S**	**07 27 42.0**	**+0.8**
	baz=332							
PPLA	**Purkeypile**	**75.13**	**19**	P		**P**	**07 18 20.6**	**+0.3**
	baz=325,SNR=71							
PPLA				S		**S**	**07 27 40.4**	**-1.3**
	baz=325							
G31M	**Satah River**	**75.14**	**10**	IAmb		IAmb	07 18 21.4	
	comp=Z,273nm,0.8s							
G31M	**Satah River**	**75.14**	**10**	P		**P**	**07 18 20.8**	**+0.8**
	baz=339							
G31M				S		**S**	**07 27 42.2**	**+1.0**
	baz=339							
TRF	**Thorofare Moun**	**75.15**	**18**	P		**P**	**07 18 20.3**	**-0.1**
	baz=327,SNR=70							
TRF				S		**S**	**07 27 39.9**	**-2.1**
	baz=327							
I27K	**Kandik River**	**75.16**	**13**	P		**P**	**07 18 21.3**	**+1.0**
	baz=334							
I27K				S		**S**	**07 27 43.4**	**+1.7**
	baz=334							
H29M	**Whitestone**	**75.17**	**12**	P		**P**	**07 18 21.5**	**+1.3**
	baz=336							
H29M				S		**S**	**07 27 43.0**	**+1.4**
	baz=336							
N16K	**Nishlik Lake**	**75.18**	**23**	P		**P**	**07 18 22.4**	**+2.0**
	baz=321							
N16K				S		**S**	**07 27 46.0**	**+3.9**
	baz=321							
PRYS	**Parys**	**75.21**	**219**	⇑*i*P		**P**	**07 18 20.9**	**-0.2**
PRYS				IAmb		IAmb	07 18 23.5	
	comp=Z,261nm,1.0s							
MCK	**McKinley**	**75.24**	**17**	P		**P**	**07 18 20.5**	**-0.2**
	baz=328,SNR=83							
MCK				S		**S**	**07 27 38.9**	**-3.7**
	baz=328							
M18K	**Stony River**	**75.27**	**21**	P		**P**	**07 18 22.0**	**+1.2**
	baz=323							
M18K				S		**S**	**07 27 44.4**	**+1.4**
	baz=323							
J25K	**Salcha River,**	**75.29**	**15**	IAmb		IAmb	07 18 24.2	
	comp=Z,234nm,1.0s							
J25K	**Salcha River,**	**75.29**	**15**	P		**P**	**07 18 21.3**	**+0.3**
	baz=331							
J25K				S		**S**	**07 27 41.4**	**-1.7**
	baz=331							
EPYK	**Eagle Plains**	**75.29**	**11**	IAmb		IAmb	07 18 24.6	
	comp=Z,149nm,0.9s							
EPYK	**Eagle Plains**	**75.29**	**11**	P		**P**	**07 18 21.5**	**+0.5**
	baz=337,SNR=103							
EPYK				S		**S**	**07 27 43.7**	**+0.6**
	baz=337							
O14K	**Tigyukauivet M**	**75.30**	**25**	IAmb		IAmb	07 18 25.6	
	comp=Z,237nm,0.8s							
O14K	**Tigyukauivet M**	**75.30**	**25**	P		**P**	**07 18 22.5**	**+1.5**
	baz=319							
O14K				S		**S**	**07 27 45.2**	**+1.9**
	baz=319							
KNRA	**Kununurra**	**75.31**	**122**	P		**P**	**07 18 21.6**	**-0.1**
M19K	**Big River Lodg**	**75.35**	**20**	IAmb		IAmb	07 18 25.1	
	comp=Z,498nm,1.9s							
M19K	**Big River Lodg**	**75.35**	**20**	P		**P**	**07 18 22.6**	**+1.3**
	baz=324							
M19K				S		**S**	**07 27 45.8**	**+2.0**
	baz=324							
RND	**Reindeer**	**75.54**	**17**	IAmb		IAmb	07 18 22.9	
	comp=Z,153nm,0.8s							
I28M	**Miner Creek**	**75.60**	**13**	IAmb		IAmb	07 18 26.5	
	comp=Z,228nm,0.7s							
I28M	**Miner Creek**	**75.60**	**13**	P		**P**	**07 18 23.5**	**+0.7**
	baz=335							
I28M				S		**S**	**07 27 46.8**	**+0.1**
	baz=335							
N17K	**Nushagak Hills**	**75.63**	**22**	IAmb		IAmb	07 18 27.9	
	comp=Z,192nm,1.0s							
N17K	**Nushagak Hills**	**75.63**	**22**	P		**P**	**07 18 24.8**	**+1.9**
	baz=322							
N17K				S		**S**	**07 27 50.8**	**+3.9**
	baz=322							
H07N1	**FLORES T-PHASE**	**75.67**	**309**	*e*P		**P**	**07 18 20.9**	**-2.7**
	comp=Z,147nm,1.0s							
M20K	**Styx River**	**75.72**	**20**	P		**P**	**07 18 23.7**	**+0.2**
	baz=325							
M20K				S		**S**	**07 27 48.3**	**+0.3**
	baz=325							
J26L	**Joseph Creek**	**75.76**	**15**	IAmb		IAmb	07 18 27.4	
	comp=Z,271nm,0.8s							
J26L	**Joseph Creek**	**75.76**	**15**	P		**P**	**07 18 24.4**	**+0.7**
	baz=332							
J26L				S		**S**	**07 27 48.9**	**+0.5**
	baz=332							
KDU	**Kakadu**	**75.83**	**118**	P		**P**	**07 18 24.1**	**-0.6**
KDU	**Kakadu**	**75.83**	**118**	⇑P		**P**	**07 18 23.9**	**-0.7**
O15K	**Ungalikthiuk R**	**75.84**	**24**	P		**P**	**07 18 25.5**	**+1.4**
	baz=320							
O15K				S		**S**	**07 27 52.2**	**+3.0**
	baz=320							
N18K	**Kilae Creek**	**75.90**	**22**	P		**P**	**07 18 25.9**	**+1.4**
	baz=323							
N18K				S		**S**	**07 27 52.5**	**+2.6**
	baz=323							
K24K	**Donnelly Dome**	**75.91**	**16**	P		**P**	**07 18 24.7**	**+0.2**
	baz=330,SNR=225							
K24K				S		**S**	**07 27 47.3**	**-2.6**
	baz=330							
H07S1	**FLORES T-PHASE**	**75.91**	**309**	*e*P		**P**	**07 18 25.6**	**+0.7**
	comp=Z,202nm,0.8s							
EGAK	**Eagle**	**75.98**	**14**	P		**P**	**07 18 25.6**	**+0.7**
	baz=334,SNR=81							
EGAK				S		**S**	**07 27 51.4**	**+0.8**
	baz=334							
EGAK	**Eagle**	**75.98**	**14**	⇑P		**P**	**07 18 25.4**	**+0.6**
CUT	**Chulitna**	**76.04**	**18**	P		**P**	**07 18 25.0**	**-0.2**
	baz=327,SNR=23							
CUT				S		**S**	**07 27 48.0**	**-3.2**
	baz=327							
SKT	**Skwentna**	**76.06**	**19**	P		**P**	**07 18 25.4**	**0.0**
	baz=326,SNR=187							
SKT				S		**S**	**07 27 48.2**	**-3.5**
	baz=326							
O16K	**Kokwok River B**	**76.08**	**23**	P		**P**	**07 18 27.2**	**+1.8**
	baz=321							
O16K				S		**S**	**07 27 55.9**	**+4.1**
	baz=321							
WAT1	**Susitna Watana**	**76.10**	**17**	P		**P**	**07 18 25.2**	**-0.4**
	baz=328							
WAT1				S		**S**	**07 27 48.4**	**-3.7**
	baz=328							
SCRK	**Sand Creek**	**76.14**	**15**	IAmb		IAmb	07 18 29.8	
	comp=Z,276nm,1.0s							
SCRK	**Sand Creek**	**76.14**	**15**	P		**P**	**07 18 26.6**	**+0.8**
	baz=332,SNR=237							
SCRK				S		**S**	**07 27 51.9**	**-0.7**
	baz=332							
RIDG	**Independent Ri**	**76.16**	**16**	IAmb		IAmb	07 18 29.2	
	comp=Z,310nm,1.2s							
RIDG	**Independent Ri**	**76.16**	**16**	P		**P**	**07 18 26.0**	**+0.1**
	baz=331,SNR=128							
RIDG				S		**S**	**07 27 50.6**	**-2.2**
	baz=331							
DHY	**Denali Highway**	**76.17**	**17**	IAmb		IAmb	07 18 27.9	
	comp=Z,224nm,0.7s							
DHY	**Denali Highway**	**76.17**	**17**	P		**P**	**07 18 26.1**	**0.0**
	baz=329,SNR=191							
DHY				S		**S**	**07 27 50.2**	**-2.8**
	baz=329							
N19K	**Bonanza Creek**	**76.21**	**21**	IAmb		IAmb	07 18 30.6	
	comp=Z,185nm,1.0s							
N19K	**Bonanza Creek**	**76.21**	**21**	P		**P**	**07 18 27.5**	**+1.2**
	baz=324							
N19K				S		**S**	**07 27 53.6**	**+0.2**
	baz=324							
O17K	**Koliganek Bris**	**76.25**	**23**	P		**P**	**07 18 27.8**	**+1.4**
	baz=322							
O17K				S		**S**	**07 27 56.8**	**+3.1**
	baz=322							
I30M	**Mount Dempster**	**76.41**	**11**	IAmb		IAmb	07 18 31.1	
	comp=Z,238nm,0.8s							
I30M	**Mount Dempster**	**76.41**	**11**	P		**P**	**07 18 28.2**	**+0.8**
	baz=338							
I30M				S		**S**	**07 27 55.7**	**+0.1**
	baz=338							
K27K	**Chicken**	**76.48**	**14**	IAmb		IAmb	07 18 32.0	
	comp=Z,292nm,0.8s							
K27K	**Chicken**	**76.48**	**14**	P		**P**	**07 18 28.9**	**+1.2**
	baz=333							
K27K				S		**S**	**07 27 57.0**	**+0.9**
	baz=333							
WAT6	**Susitna Watana**	**76.51**	**17**	P		**P**	**07 18 27.8**	**-0.3**
	baz=329,SNR=98							
WAT6				S		**S**	**07 27 53.6**	**-3.2**
	baz=329							
N20K	**Mount Spurr**	**76.53**	**20**	P		**P**	**07 18 28.1**	**0.0**
	baz=326,SNR=45							
N20K				S		**S**	**07 27 55.6**	**-1.2**
	baz=326							
P16K	**Nushagak River**	**76.55**	**24**	P		**P**	**07 18 29.7**	**+1.6**
	baz=322,SNR=41							
P16K				S		**S**	**07 28 00.2**	**+3.3**
	baz=322							
PAX	**Paxson**	**76.70**	**16**	P		**P**	**07 18 29.4**	**+0.4**
	baz=331,SNR=168							
PAX				S		**S**	**07 27 57.4**	**-1.3**
	baz=331							
SUA	**Susitna One**	**76.70**	**19**	IAmb		IAmb	07 18 32.8	
	comp=Z,271nm,1.0s							
SUA	**Susitna One**	**76.70**	**19**	P		**P**	**07 18 29.1**	**0.0**
	baz=327,SNR=110							
SUA				S		**S**	**07 27 56.8**	**-2.0**
	baz=327							
O19K	**Port Alsworth**	**76.75**	**21**	P		**P**	**07 18 30.2**	**+1.0**
	baz=324							
O19K				S		**S**	**07 28 00.3**	**+1.2**
	baz=324							
O18K	**Koktuh Hills**	**76.77**	**22**	P		**P**	**07 18 30.8**	**+1.5**
	baz=324,SNR=48							
O18K				S		**S**	**07 28 01.6**	**+2.2**
	baz=324							
J29N	**Klondike Camp**	**76.81**	**13**	IAmb		IAmb	07 18 33.9	
	comp=Z,216nm,0.8s							
J29N	**Klondike Camp**	**76.81**	**13**	P		**P**	**07 18 30.9**	**+1.3**
	baz=336,SNR=50							
J29N				S		**S**	**07 28 00.3**	**+0.4**
	baz=336							
GHO	**Glory Hole Cre**	**76.91**	**18**	IAmb		IAmb	07 18 42.0	
	comp=Z,236nm,0.9s							
P17K	**Kvichak River**	**76.92**	**23**	P		**P**	**07 18 31.9**	**+1.7**
	baz=323,SNR=69							
P17K				S		**S**	**07 28 04.3**	**+3.4**
	baz=323							
NIKH	**Nikolski High**	**76.95**	**32**	P		**P**	**07 18 29.3**	**-1.1**
	baz=314							
DAWY	**Dawson**	**76.96**	**13**	IAmb		IAmb	07 18 34.2	
	comp=Z,180nm,0.7s							
DAWY	**Dawson**	**76.96**	**13**	P		**P**	**07 18 31.2**	**+0.8**
	baz=335,SNR=168							
DAWY				S		**S**	**07 28 02.3**	**+1.0**
	baz=335							
PMR	**Palmer**	**77.01**	**18**	IAmb		IAmb	07 18 33.9	
	comp=Z,158nm,0.7s							
PMR	**Palmer**	**77.01**	**18**	P		**P**	**07 18 30.4**	**-0.2**
PMR	**Palmer**	**77.01**	**18**	P		**P**	**07 18 30.8**	**+0.2**
	baz=328,SNR=57							
PMR				S		**S**	**07 27 60.0**	**-1.9**
	baz=328							
J30M	**Hart River**	**77.02**	**12**	IAmb		IAmb	07 18 36.6	
	comp=Z,176nm,0.9s							
J30M	**Hart River**	**77.02**	**12**	P		**P**	**07 18 31.8**	**+1.0**
	baz=338							
J30M				S		**S**	**07 28 02.5**	**+0.3**
	baz=338							
SML	**Sawmill**	**77.03**	**18**	P		**P**	**07 18 31.3**	**+0.5**
	baz=329,SNR=135							
SML				S		**S**	**07 28 00.7**	**-1.5**
	baz=329							
MENT	**Mentasta**	**77.11**	**15**	P		**P**	**07 18 31.8**	**+0.6**
L26K	**Log Cabin Wild**	**77.11**	**15**	IAmb		IAmb	07 18 35.4	
	comp=Z,158nm,0.9s							
L26K	**Log Cabin Wild**	**77.11**	**15**	P		**P**	**07 18 32.2**	**+1.0**
	baz=332,SNR=139							
L26K				S		**S**	**07 28 03.0**	**0.0**
	baz=332							
P18K	**Big Mountain,**	**77.13**	**22**	IAmb		IAmb	07 18 35.4	
	comp=Z,331nm,0.8s							
P18K	**Big Mountain,**	**77.13**	**22**	P		**P**	**07 18 32.3**	**+0.9**
	baz=324,SNR=57							
P18K				S		**S**	**07 28 04.0**	**+0.7**
	baz=324							
CAPN	**Captain Cook N**	**77.18**	**20**	P		**P**	**07 18 32.4**	**+0.9**
	baz=326							
M23K	**Glacier View**	**77.19**	**18**	P		**P**	**07 18 32.0**	**+0.3**
	baz=329,SNR=182							
M23K				S		**S**	**07 28 02.4**	**-1.5**
	baz=329							
MEEK	**Meekatharra**	**77.23**	**137**	P		**P**	**07 18 32.7**	**+0.4**
SCM	**Sheep Creek Mo**	**77.25**	**18**	IAmb		IAmb	07 18 35.6	
	comp=Z,362nm,0.9s							
SCM	**Sheep Creek Mo**	**77.25**	**18**	P		**P**	**07 18 32.6**	**+0.5**
	baz=329,SNR=78							
SCM				S		**S**	**07 28 03.6**	**-1.1**
	baz=329							
Q16K	**King Salmon**	**77.26**	**23**	P		**P**	**07 18 33.4**	**+1.4**
	baz=323,SNR=104							
Q16K				S		**S**	**07 28 06.2**	**+1.6**
	baz=323						

L27K **Beaver Creek,** 77.40 15 P P 07 18 34.1 +1.2
baz=334
L27K S S 07 28 07.7 +1.6
baz=334
BCAR **Beaver Creek A** 77.40 15 P P 07 18 34.1 +1.2
BCAR pP pP 07 19 20.7 -1.6
K29M **Barlow Dome** 77.50 12 IAmb IAmb 07 18 37.7
comp=Z,228nm,1.0s
K29M **Barlow Dome** 77.50 12 P P 07 18 34.5 +1.0
baz=337
K29M S S 07 28 07.4 +0.1
baz=337
P19K **Oil Pt** 77.52 21 IAmb IAmb 07 18 36.6
comp=Z,195nm,0.8s
P19K **Oil Pt** 77.52 21 P P 07 18 33.5 0.0
baz=325,SNR=5.5
P19K S S 07 28 05.1 -2.4
baz=325
TABU **Tabubil** 77.54 106 P P 07 18 35.3 +0.9
WIN **Windhoek** 77.62 230 IAmb IAmb 07 18 38.9
comp=Z,164nm,0.8s
BOSA **Boshof** 77.67 220 P P 07 18 34.9 +0.1
BOSA IAmb IAmb 07 18 38.2
comp=Z,346nm,0.8s
BOSA **Boshof** 77.67 220⇑ *i*P P 07 18 34.9 +0.1
BOSA IAmb IAmb 07 18 38.0
comp=Z,338nm,0.8s
BOSA **Boshof** 77.67 220 ⇑P P 07 18 34.5 -0.3
BOSA **Boshof** 77.67 220 P P 07 18 34.9 +0.1
BOSA pmax pmax
comp=Z,346nm,0.9s
BOSA **Boshof** 77.67 220 P P 07 18 34.7 -0.1
comp=Z,264nm,0.8s,baz=25,slow=4.5,SNR=232
BOSA S S 07 28 07.0 -3.0
comp=Z,16nm,1.1s,baz=266,slow=20,SNR=6.9
comp=Z,264nm,0.8s
M26K **Nabesna, AK** 77.75 15 IAmb IAmb 07 18 38.9
comp=Z,207nm,1.1s
M26K **Nabesna, AK** 77.75 15 P P 07 18 35.8 +1.0
baz=333
M26K S S 07 28 10.5 +0.6
baz=333
O22K **Cooper Landing** 77.80 19 IAmb IAmb 07 18 49.3
comp=Z,253nm,1.0s
O22K **Cooper Landing** 77.80 19 P P 07 18 35.2 +0.2
baz=328,SNR=13
O22K S S 07 28 09.0 -1.4
baz=328
MORW **Morawa** 77.81 141 P P 07 18 35.4 0.0
MORW **Morawa** 77.81 141 ⇓P P 07 18 35.5 0.0
FALS **False Pass** 77.82 29 P P 07 18 34.8 -0.4
FALS **False Pass** 77.82 29 P P 07 18 34.1 -1.1
baz=318
Q17K **Contact Creek** 77.84 23 P P 07 18 35.3 -0.1
baz=323,SNR=28
Q17K S S 07 28 09.6 -1.5
baz=323
R16K **Pilot Point** 77.84 24 P P 07 18 36.5 +1.2
baz=322
R16K S S 07 28 12.0 +1.1
baz=322
KLU **Klutina** 77.89 17 IAmb IAmb 07 18 40.6
comp=Z,261nm,0.9s
KLU **Klutina** 77.89 17 P P 07 18 36.5 +0.9
baz=330,SNR=100
KLU S S 07 28 10.4 -1.1
baz=330
Q19K **Cape Douglas,** 77.99 22 IAmb IAmb 07 18 38.7
comp=Z,131nm,0.6s
Q19K **Cape Douglas,** 77.99 22 P P 07 18 35.0 -1.1
baz=325
MAYO **Mayo, Yukon** 78.00 12 IAmb IAmb 07 20 05.6
comp=Z,258nm,0.8s
MAYO **Mayo, Yukon** 78.00 12 P P 07 18 37.2 +1.0
baz=338,SNR=12
MAYO S S 07 28 13.7 +1.2
baz=338
M27K **Edge Creek, AK** 78.02 15 P P 07 18 37.8 +1.4
baz=334
M27K S S 07 28 14.2 +1.2
baz=334
L29M **L29M** 78.07 13 IAmb IAmb 07 18 40.9
comp=Z,294nm,1.1s
L29M **L29M** 78.07 13 P P 07 18 37.7 +1.2
baz=337
L29M S S 07 28 13.7 +0.4
baz=337
BRLK **Bradley Lake** 78.09 20 IAmb IAmb 07 18 39.3
comp=Z,323nm,1.0s
N25K **Chitina, Valde** 78.10 16 IAmb IAmb 07 18 41.0
comp=Z,295nm,1.4s
N25K **Chitina, Valde** 78.10 16 P P 07 18 37.4 +0.6
baz=332,SNR=63
N25K S S 07 28 14.7 +0.9
baz=332
BRSE **Bradley Lake S** 78.15 20 P P 07 18 36.5 -0.5
baz=327,SNR=19
S14K **Fog Glacier** 78.17 26 P P 07 18 37.5 +0.3
baz=321
BVCY **Beaver Creek** 78.18 14 P P 07 18 38.5 +1.3
baz=334,SNR=193
BVCY S S 07 28 15.5 +1.0
baz=334
SEW **Seward** 78.19 19 P P 07 18 37.3 +0.1
baz=328,SNR=22
SEW S S 07 28 12.1 -2.4
baz=328
CHGN **Chignik** 78.55 26 P P 07 18 38.4 -0.8
baz=322
SDPT **Sand Point** 78.55 27 P P 07 18 39.0 -0.2
baz=320
M29M **Somme Creek** 78.62 13 IAmb IAmb 07 18 44.1
comp=Z,157nm,0.8s
M29M **Somme Creek** 78.62 13 P P 07 18 40.8 +1.2
baz=336
Q20K **Shuyak Island** 78.62 21 P P 07 18 39.3 -0.3
baz=326,SNR=8.4
SYI **Shuyak Island** 78.62 21 P P 07 18 39.8 +0.3
SYI IAmb IAmb 07 18 43.5
comp=Z,248nm,0.9s
BMRM **Bremner River** 78.66 17 P P 07 18 40.6 +0.8
baz=332,SNR=52
VRDI **Verde Repeater** 78.69 16 IAmb IAmb 07 18 44.1
comp=Z,221nm,1.0s
HIN **Hinchinbrook I** 78.70 18 IAmb IAmb 07 18 43.9
comp=Z,304nm,1.1s
EYAK **Cordova Ski Ar** 78.75 17 P P 07 18 41.3 +1.1
EYAK **Cordova Ski Ar** 78.75 17 P P 07 18 41.4 +1.1
baz=331,SNR=38
M30M **Minto, Yukon** 78.80 13 IAmb IAmb 07 18 43.8
comp=Z,254nm,1.6s
M30M **Minto, Yukon** 78.80 13 P P 07 18 41.4 +0.8
baz=338,SNR=49
P23K **Montague Islan** 78.82 18 P P 07 18 41.6 +1.0
baz=330,SNR=17
YUK3 **Moose Creek** 78.84 15 P P 07 18 42.1 +1.2
baz=335,SNR=143
R18K **Karluk** 78.85 23 P P 07 18 40.3 -0.5
baz=324
RAGM **Ragged Mountai** 79.15 17 IAmb IAmb 07 18 50.5
comp=Z,210nm,0.8s
BARN **Barnard Glacie** 79.23 15 IAmb IAmb 07 18 47.3
comp=Z,258nm,1.2s
KDAK **Kodiak Island** 79.25 22 P P 07 18 43.4 +0.4
KDAK **Kodiak Island** 79.25 22 P P 07 18 43.4 +0.4
baz=326
KDAK **Kodiak Island** 79.25 22 ⇓P P 07 18 43.3 +0.3
KDAK **Kodiak Island** 79.25 22 P P 07 18 43.4 +0.4
KDAK pmax pmax
comp=Z,556nm,0.9s
KDAK **Kodiak Island** 79.25 22 S S 07 28 27.5 +1.7
comp=Z,33nm,1.0s,baz=217,slow=22,SNR=5.9
KDAK LR LR 07 55 33.9
comp=Z,1µm,19.4s,baz=7.9,slow=37
CHNA **Chernabura Isl** 79.28 27 P P 07 18 43.0 -0.1
baz=321,SNR=18
CTG **Chitna Glacier** 79.39 15 P P 07 18 45.0 +1.1
baz=334
CTGM **Chitina Glacie** 79.39 15 IAmb IAmb 07 18 48.2
comp=Z,269nm,1.1s
BLDU **Ballidu** 79.40 141 P P 07 18 43.7 -0.4
YUK8 **Steele Glacier** 79.42 14 P P 07 18 45.0 +0.7
baz=335,SNR=40
ISLE **Juniper Island** 79.50 16 IAmb IAmb 07 18 48.2
comp=Z,175nm,0.9s
OHAK **Old Harbor** 79.50 23 IAmb IAmb 07 18 52.7
comp=Z,272nm,1.0s
OHAK **Old Harbor** 79.50 23 P P 07 18 44.9 +0.6
baz=325,SNR=27
M31M **Drury Creek, Y** 79.56 12 IAmb IAmb 07 18 48.6
comp=Z,201nm,1.0s
M31M **Drury Creek, Y** 79.56 12 P P 07 18 45.5 +0.8
baz=340,SNR=123
LOGN **Logan Glacier** 79.59 15 IAmb IAmb 07 18 49.1
comp=Z,130nm,0.7s
YUK4 **Talbot Arm** 79.59 14 P P 07 18 45.9 +0.8
baz=336,SNR=72
KAIM **Kayak Island** 79.62 17 IAmb IAmb 07 18 49.6
comp=Z,234nm,1.0s
KAIM **Kayak Island** 79.62 17 P P 07 18 46.5 +1.5
baz=332
FARO **Faro, Yukon** 79.70 11 IAmb IAmb 07 18 49.4
comp=Z,249nm,1.5s
FARO **Faro, Yukon** 79.70 11 P P 07 18 45.7 +0.3
baz=340,SNR=82
SII **Sitkinak Islan** 79.76 23 P P 07 18 46.7 +0.9
PKA **Prieska** 79.82 221 *e*P P 07 18 45.5 -1.0
PKA IAmb IAmb 07 18 48.7
comp=Z,48nm,0.7s
MBO **M'Bour** 79.87 280 IAmb IAmb 07 18 48.8
comp=Z,235nm,0.9s
WRGLY **Wrigley** 79.97 7 IAmb IAmb 07 18 49.5
comp=Z,410nm,1.0s
WRGLY **Wrigley** 79.97 7 P P 07 18 48.2 +1.4
baz=348,SNR=178
N31M **Braeburn, Yuko** 79.99 13 IAmb IAmb 07 18 50.9
comp=Z,384nm,1.1s
N31M **Braeburn, Yuko** 79.99 13 P P 07 18 47.9 +0.9
baz=339,SNR=104
YUK6 **Outpost Mounta** 80.02 14 P P 07 18 48.4 +1.1
baz=336,SNR=17
KEIM **Keimoes** 80.03 223 *e*P P 07 18 48.8 +1.2
KEIM IAmb IAmb 07 18 51.3
comp=Z,433nm,0.9s
MUN **Mundaring** 80.25 142 P P 07 18 48.4 -0.2
HYT **Haines Junctio** 80.29 14 IAmb IAmb 07 18 50.7
comp=Z,137nm,0.9s
HYT **Haines Junctio** 80.29 14 P P 07 18 50.0 +1.2
baz=337,SNR=55
MANU **Manus Island** 80.39 100 P P 07 18 50.6 +0.8
PINM **Pinnacle** 80.41 15 P P 07 18 50.5 +1.2
baz=335,SNR=30
O29M **Mount Kennedy** 80.56 14 P P 07 18 50.8 +0.7
baz=336
O30N **Mendenhall** 80.60 13 P P 07 18 51.0 +0.7
baz=338,SNR=46
BCPM **Bancas Point** 80.67 15 IAmb IAmb 07 18 55.0
comp=Z,213nm,1.0s
KLBR **Kellerberrin** 80.72 141 P P 07 18 50.5 -0.6
N32M **Quiet Lake** 80.76 12 P P 07 18 51.1 0.0
baz=341
GRHM **Grahamstown, E** 80.89 216 IAmb IAmb 07 18 56.6
comp=Z,176nm,0.9s
GRHM **Grahamstown, E** 80.89 216 *e*P P 07 18 52.6 +0.6
GRHM IAmb IAmb 07 18 56.4
comp=Z,178nm,0.9s
WHY **Whitehorse** 80.92 13 P P 07 18 52.1 0.0
baz=339,SNR=43
PNL **Peninsula** 80.98 15 P P 07 18 53.5 +1.3
GRAF **Camdeboo Natio** 81.01 218 *e*P P 07 18 53.0 +0.3
GRAF IAmb IAmb 07 18 57.2
comp=Z,246nm,1.4s
BFON **Badsfontein, M** 81.03 219⇑ *i*P P 07 18 53.8 +0.9
BFON IAmb IAmb 07 18 56.4
comp=Z,329nm,1.0s
P30M **Million Dollar** 81.05 14 P P 07 18 53.7 +1.0
baz=338
YKA **Yellowknife Ar** 81.26 3 P P 07 18 53.7 0.0
comp=Z,122nm,0.7s,baz=348,slow=5.1,SNR=728
YKA PP PP 07 22 01.2 +0.1
comp=Z,29nm,0.9s,baz=355,slow=7.7,SNR=4.0
YKA S S 07 28 48.3 +1.6
comp=Z,7.5nm,1.0s,baz=349,slow=9.1,SNR=8.5
YKA PKKPbc **PKKPbc** 07 37 25.0 -2.5
comp=Z,4.2nm,0.8s,baz=170,slow=2.0,SNR=21
YKA PKPPKP **P'P'df** 07 45 26.4 -7.1
comp=Z,0.9nm,0.8s,baz=156,slow=2.5,SNR=6.6
YKA LR LR 07 59 00.5
comp=Z,2µm,19.4s,baz=356,slow=38
comp=Z,122nm,0.7s
P29M **Windy Craggy** 81.35 14 P P 07 18 54.9 +0.7
baz=337
BRAK **Brakfontein** 81.42 220⇑ *i*P P 07 18 55.8 +0.8
BRAK IAmb IAmb 07 18 58.0
comp=Z,191nm,1.2s
NWAO **Narrogin (SRO)** 81.53 142 P P 07 18 54.8 -0.5
NWAO IAmb IAmb 07 18 56.6
comp=Z,137nm,0.9s
NWAO **Narrogin (SRO)** 81.53 142 IAmb IAmb 07 18 56.6
comp=Z,418nm,0.8s
NWAO **Narrogin (SRO)** 81.53 142 P P 07 18 55.0 -0.3
NWAO **Narrogin (SRO)** 81.53 142 P P 07 18 55.1 -0.3
NWAO **Narrogin (SRO)** 81.53 142 P P 07 18 54.8 -0.5
NWAO pmax pmax
comp=Z,137nm,0.9s
NWAO **Narrogin (SRO)** 81.53 142 P P 07 18 55.8 +0.5
ROOI **Rooidraai Farm** 81.65 219⇑ *i*P P 07 18 56.8 +0.7
ROOI IAmb IAmb 07 18 59.5
comp=Z,190nm,1.0s
P33M **Teslin, Yukon** 81.69 12 IAmb IAmb 07 18 57.8
comp=Z,438nm,1.1s
P33M **Teslin, Yukon** 81.69 12 P P 07 18 56.6 +0.5
baz=341,SNR=227
WRKA **Warakurna** 81.70 129 P P 07 18 56.5 0.0
WRKA **Warakurna** 81.70 129 ⇑P P 07 18 55.8 -0.8
PLBC **Pleasant Camp** 81.78 14 P P 07 18 57.6 +1.2
baz=338,SNR=54
NMMU **Nelson Mandela** 81.82 217 *e*P P 07 18 58.5 +1.7
SKAG **Skagway** 81.97 13 IAmb IAmb 07 19 02.4
comp=Z,275nm,1.0s
SKAG **Skagway** 81.97 13 P P 07 18 58.6 +1.3
SKAG **Skagway** 81.97 13 P P 07 18 58.7 +1.3
baz=339,SNR=33
SCHQ **Schefferville** 82.06 337 IAmb IAmb 07 19 01.6
comp=Z,167nm,0.8s
SCHQ **Schefferville** 82.06 337 P P 07 18 58.4 +0.3
comp=Z,153nm,0.8s,baz=35,slow=5.2,SNR=163
SCHQ LR LR 07 55 11.0
comp=Z,2µm,20.3s,baz=70,slow=35
comp=Z,153nm,0.8s
WRA **Warramunga Arr** 82.08 122 P P 07 18 57.3 -1.3
WRA **Warramunga Arr** 82.08 122 P P 07 18 57.3 -1.3
WRA pmax pmax
comp=Z,64nm,0.8s
WRA **Warramunga Arr** 82.08 122 P P 07 18 57.2 -1.3
comp=Z,420nm,0.8s,baz=324,slow=5.0,SNR=1113
WRA S S 07 28 50.2 -6.0
comp=Z,61nm,1.2s,baz=322,slow=11,SNR=16
WRA PKKPbc **PKKPbc** 07 37 26.7 +1.0
comp=Z,9.2nm,0.8s,baz=132,slow=2.0,SNR=19
WRA PKPPKP **P'P'df** 07 45 29.6 -1.2
comp=Z,6.8nm,1.1s,baz=139,slow=1.1,SNR=8.6
comp=Z,420nm,0.8s
WRAB **Tennant Creek** 82.08 122 P P 07 18 57.7 -0.8
WRAB **Tennant Creek** 82.08 122 P P 07 18 57.7 -0.8
WRAB pmax pmax
comp=Z,553nm,0.8s
P32M **Atlin** 82.13 12 P P 07 18 59.0 +0.7
baz=340,SNR=56
GRAN **Grantham** 82.20 220⇑ *i*P P 07 18 59.7 +0.7
GRAN IAmb IAmb 07 19 02.7
comp=Z,98nm,0.9s
FRAZ **Fraserburg** 82.31 221⇑ *i*P P 07 19 00.4 +0.8
FRAZ IAmb IAmb 07 19 02.8
comp=Z,365nm,1.1s
BUFB **Buffelsbos** 82.39 217 *e*P P 07 19 00.7 +0.9
BUFB IAmb IAmb 07 19 02.6
comp=Z,10.0nm,1.1s
WTLY **Watson Lake, Y** 82.39 10 IAmb IAmb 07 19 02.0
comp=Z,119nm,0.6s
WTLY **Watson Lake, Y** 82.39 10 P P 07 19 00.5 +0.9
baz=344,SNR=79
KMBL **Kambalda** 82.70 138 P P 07 19 01.3 -0.2
RKGY **Rocky Gully** 82.76 143 P P 07 19 01.8 +0.1
R33M **Jennings River** 82.77 11 IAmb IAmb 07 19 05.7
comp=Z,10nm,1.1s
R33M **Jennings River** 82.77 11 P P 07 19 02.7 +1.0
baz=342
KOMG **Komaggas** 82.81 225⇑ *i*P P 07 19 02.8 +0.7
KOMG IAmb IAmb 07 19 05.3
comp=Z,253nm,0.8s
MERW **Merweville** 82.83 220⇑ *i*P P 07 19 03.2 +0.9
MERW IAmb IAmb 07 19 05.6
comp=Z,209nm,0.9s
CVNA **Calvinia** 82.84 222⇑ *i*P P 07 19 02.5 +0.2
CVNA IAmb IAmb 07 19 05.9
comp=Z,288nm,0.9s
LAE **Lae** 82.84 104 P P 07 19 02.8 +0.2
R31K **City Hall, Gus** 82.87 14 P P 07 19 02.5 +0.5
baz=339
FLDN **Fort Liard** 82.90 7 P P 07 19 03.7 +1.5
baz=348,SNR=17
KOTAN **Kotaneelee Air** 82.95 7 P P 07 19 03.5 +1.0
baz=348,SNR=36
Q32M **Nakina River** 82.97 12 P P 07 19 03.8 +0.9
baz=342
SUR **Sutherland** 82.97 221 P P 07 19 04.2 +1.1
SUR IAmb IAmb 07 19 07.3
comp=Z,230nm,0.9s
SUR **Sutherland** 82.97 221⇑ *i*P P 07 19 03.9 +0.8
SUR IAmb IAmb 07 19 05.9
comp=Z,266nm,1.0s
SUR **Sutherland** 82.97 221 P P 07 19 04.5 +1.3
SUR S S 07 29 06.3 +1.1
DRLN **Deer Lake** 83.14 329 P P 07 19 04.4 +0.8
DRLN IAmb IAmb 07 19 07.4
comp=Z,172nm,0.8s
DRLN **Deer Lake** 83.14 329 ⇑P P 07 19 04.3 +0.7
S31K **Pelican** 83.19 14 P P 07 19 05.0 +1.2
baz=338,SNR=7.1
R32K **Eaglecrest** 83.23 13 IAmb IAmb 07 19 07.8
comp=Z,237nm,1.3s
R32K **Eaglecrest** 83.23 13 P P 07 19 05.5 +1.5
baz=340,SNR=19
WAKE **Wake Island** 83.25 71 ⇓P P 07 19 05.0 +0.3
JIS **Juneau Island** 83.25 13 P P 07 19 05.4 +1.4
KAVG **Kavieng** 83.45 98 P P 07 19 06.9 +1.1
MATJ **Matjiesfontein** 83.79 220⇑ *i*P P 07 19 07.9 +0.8
MATJ IAmb IAmb 07 19 11.0
comp=Z,489nm,0.9s
DLBC **Dease Lake** 83.83 11 IAmb IAmb 07 19 11.4
comp=Z,206nm,1.1s
DLBC **Dease Lake** 83.83 11 P P 07 19 08.3 +1.3
baz=343,SNR=58
DLBC **Dease Lake** 83.83 11 PKKPbc PKKPbc 07 37 20.6 -1.1
comp=Z,5.0nm,0.9s,baz=244,slow=5.5,SNR=5.6
DLBC LR LR 08 01 14.8
comp=Z,1µm,19.4s,baz=347,slow=39
S32K **Killisnoo** 83.97 13 P P 07 19 08.9 +1.2
baz=340,SNR=9.9
S34M **Telegraph Cree** 84.16 12 IAmb IAmb 07 19 11.4
comp=Z,297nm,0.9s
S34M **Telegraph Cree** 84.16 12 P P 07 19 10.1 +1.4
baz=342,SNR=108
SIT **Sitka** 84.22 14 P P 07 19 10.3 +1.4
SIT **Sitka** 84.22 14 P P 07 19 10.1 +1.2
baz=339,SNR=6.2
FCC **Fort Churchill** 84.28 352 IAmb IAmb 07 19 11.3
comp=Z,181nm,0.9s
AS31 **Alice Springs** 84.34 125 IAmb IAmb 07 19 11.4
comp=Z,113nm,0.7s
ASAR **Alice Springs** 84.34 125 P P 07 19 08.9 -1.2
ASAR pP pP 07 20 00.7 +0.6
ASAR **Alice Springs** 84.34 125 P P 07 19 08.9 -1.2
comp=Z,407nm,0.8s,baz=312,slow=4.7,SNR=948
ASAR S SKSac 07 29 08.6 -6.0
comp=Z,30nm,1.1s,baz=308,slow=5.4,SNR=9.5
ASAR PKKP PKKPdf 07 37 13.5 +0.3
comp=Z,1.3nm,0.8s,baz=182,slow=0.7,SNR=5.8
ASAR PKKPbc PKKPbc 07 37 20.7 0.0
comp=Z,4.2nm,0.7s,baz=124,slow=2.8,SNR=13
ASAR PKPPKP P'P'df 07 45 23.4 -3.1
comp=Z,4.4nm,0.9s,baz=130,slow=2.9,SNR=11
comp=Z,407nm,0.8s
AS01 **Alice Springs** 84.37 125 P P 07 19 09.3 -0.9
PRTV **Porterville,We** 84.42 222⇑ *i*P P 07 19 10.6 +0.3
PRTV IAmb IAmb 07 19 13.9
comp=Z,192nm,1.0s
COEN **Coen** 84.50 112 P P 07 19 10.5 -0.6
COEN IAmb IAmb 07 19 12.6
comp=Z,233nm,0.9s
COEN **Coen** 84.50 112 P P 07 19 10.4 -0.6
CER **Ceres** 84.54 221⇑ *i*P P 07 19 12.3 +1.5
CER IAmb IAmb 07 19 14.5
comp=Z,287nm,1.0s
PMG **Port Moresby** 84.71 106 P P 07 19 12.3 +0.3
PMG IAmb IAmb 07 19 14.7
comp=Z,229nm,1.1s
PMG **Port Moresby** 84.71 106 P P 07 19 12.4 +0.3
PMG pmax pmax
comp=Z,229nm,1.1s
T33K **Petersburg** 84.89 13 P P 07 19 13.1 +0.8
baz=341
T35M **Bob Quinn** 85.19 11 P P 07 19 15.4 +1.6
baz=343,SNR=50
T35M S S 07 29 29.1 +2.8
baz=343
WRAK **Wrangell Islan** 85.38 13 IAmb IAmb 07 19 19.5
comp=Z,160nm,0.9s
WRAK **Wrangell Islan** 85.38 13 P P 07 19 15.8 +1.1
baz=342,SNR=15
WRAK S S 07 29 31.2 +3.2
baz=342
WRAK **Wrangell Islan** 85.38 13 ⇑P P 07 19 15.9 +1.3
U33K **Whale Pass** 85.52 13 P P 07 19 16.1 +0.6
baz=341
FORT **Forrest** 85.74 133 P P 07 19 16.6 -0.2
CRAG **Craig** 86.14 13 P P 07 19 19.5 +1.0
baz=341
CRAG S S 07 29 36.2 +0.7
baz=341
CRAG **Craig** 86.14 13 ⇓P P 07 19 19.9 +1.4
QIS **Mount Isa** 86.15 119 P P 07 19 18.0 -1.1
U35K **Hyder** 86.25 12 IAmb IAmb 07 19 32.6
comp=Z,151nm,0.8s
U35K **Hyder** 86.25 12 P P 07 19 19.9 +0.9
baz=343,SNR=8.5
U35K S S 07 29 38.7 +2.1
baz=343
V35K **Ketchikan** 86.54 13 P P 07 19 21.5 +1.1
baz=342
V35K S S 07 29 40.1 +0.7
baz=342
GBN **Guysborough** 87.85 329 IAmb IAmb 07 19 31.9
comp=Z,156nm,0.8s
MTSU **Mount Surprise** 87.99 114 P P 07 19 27.5 -0.4
BATG **Bathurst New B** 88.12 332 IAmb IAmb 07 20 45.0
comp=Z,244nm,1.7s
OOD **Oodnadatta** 88.33 127 P P 07 19 28.5 -0.8
FFC **Flin Flon** 88.94 356 P P 07 19 32.9 +1.0
FFC IAmb IAmb 07 19 33.7
comp=Z,195nm,0.9s
FFC **Flin Flon** 88.94 356 P P 07 19 32.9 +1.0
FFC pmax pmax
comp=Z,195nm,0.9s
MULG **Mulgathing** 89.01 129 P P 07 19 31.5 -0.9
D62A **Allapoint, All** 89.38 334 P P 07 19 34.1 0.0
baz=31,SNR=12
D62A P P 07 19 34.1 0.0
baz=31,SNR=12
E63A **Oxbow** 89.72 333 P P 07 19 36.2 +0.6
baz=32,SNR=7.3
E63A P P 07 19 36.2 +0.6
baz=32,SNR=7.3
E62A **Clayton Lake** 89.94 334 P P 07 19 35.4 -1.3
baz=31
E62A P P 07 19 35.4 -1.3
baz=31
F64A **Sherman** 90.16 333 IAmb IAmb 07 20 40.4
comp=Z,304nm,1.9s
F64A **Sherman** 90.16 333 P P 07 19 37.6 -0.1
baz=32
F64A P P 07 19 37.6 -0.1
baz=32
TV1H **Townsville Har** 90.52 114 P P 07 19 39.3 -0.4
CTA **Charters Tower** 90.64 115 P P 07 19 39.5 -0.8
CTAO **Charters Tower** 90.64 115 P P 07 19 39.9 -0.3
CTAO **Charters Tower** 90.64 115 P P 07 19 39.5 -0.8
CTAO **Charters Tower** 90.64 115 P P 07 19 39.9 -0.3
CTAO pmax pmax
comp=Z,323nm,0.9s
ASCN **Ascension** 90.84 261 P P 07 19 41.3 -0.1
PKME **Peaks-Kenny Pk** 91.02 333 P P 07 19 42.9 +1.2
baz=31
VLDQ **Val d'Or** 91.16 339 IAmb IAmb 07 19 44.3
comp=Z,112nm,0.9s
AUAYR **Ayr State High** 91.17 113 P P 07 19 42.3 -0.4
INKA **Innaminka** 91.63 124 P P 07 19 44.5 -0.2
LCRK **Leigh Creek** 91.75 127 P P 07 19 44.2 -1.0
BBOO **Buckleboo** 91.98 130 IAmb IAmb 07 19 47.2

comp=Z,72nm,0.8s
BBOO **Buckleboo** 91.98 130 P **P** 07 19 45.5 -0.7
CBB **Campbell River** 92.67 10 IAmb IAmb 07 19 54.9
comp=Z,105nm,1.2s
ULM **Lac du Bonnet** 92.84 352 IAmb IAmb 07 19 51.0
comp=Z,104nm,0.8s
ULM **Lac du Bonnet** 92.84 352 P **P** 07 19 49.7 -0.3
comp=Z,102nm,0.9s,baz=9.2,slow=4.7,SNR=115
ULM PKKP **PKKPdf** 07 36 56.8 +1.1
comp=Z,3.0nm,0.4s,baz=196,slow=5.7,SNR=8.0
ULM PKPPKP **P'P'df** 07 45 07.2 -4.9
comp=Z,3.2nm,0.9s,baz=135,slow=4.3,SNR=4.2
ULM LR LR 08 05 21.4
comp=Z,2µm,19.4s,baz=16,slow=38
comp=Z,102nm,0.9s
LBNH **Lisbon** 92.85 334 IAmb IAmb 07 21 03.7
comp=Z,120nm,1.6s
LBNH **Lisbon** 92.85 334 P **P** 07 19 50.7 +0.5
baz=29
FRNY **Flat Rock** 92.90 336 P **P** 07 19 50.6 +0.2
baz=28
WHYH **Whyalla** 93.07 129 P **P** 07 19 50.4 -0.8
QLP **Quilpie** 93.27 121 P **P** 07 19 51.5 -0.8
LONY **Lake Ozonia** 93.42 336 P **P** 07 19 53.1 +0.3
baz=27,SNR=11
UNH **University of** 93.47 333 P **P** 07 19 53.4 +0.4
baz=30
J61A **Chester** 93.85 334 IAmb IAmb 07 19 57.1
comp=Z,59nm,0.8s
J61A **Chester** 93.85 334 P **P** 07 19 55.9 +1.1
baz=29,SNR=6.6
J61A P **P** 07 19 55.9 +1.1
baz=29,SNR=6.6
CLRS **Cowichan Lake** 94.03 10 IAmb IAmb 07 21 21.3
comp=Z,108nm,1.3s
HTT **Hallett** 94.18 129 P **P** 07 19 55.7 -0.6
ACCN **Adirondack Com** 94.20 335 P **P** 07 19 56.9 +0.5
baz=28
HRV **Adam Dziewonsk** 94.23 333 P **P** 07 19 56.4 -0.1
baz=29
PGC **Sidney** 94.28 9 IAmb IAmb 07 21 21.9
comp=Z,76nm,1.3s
WCNY **West Carthage** 94.33 336 P **P** 07 19 57.0 0.0
baz=26
K62A **Royalston** 94.33 334 IAmb IAmb 07 20 00.5
comp=Z,108nm,1.4s
J59A **Piesco** 94.42 335 P **P** 07 19 58.2 +0.8
baz=27,SNR=7.9
J59A P **P** 07 19 58.2 +0.8
baz=27,SNR=7.9
DELO **Deloro Mine** 94.46 338 IAmb IAmb 07 19 59.0
comp=Z,62nm,0.8s
EYMN **Ely** 94.48 348 IAmb IAmb 07 20 01.4
comp=Z,129nm,0.9s
EYMN **Ely** 94.48 348 P **P** 07 19 57.5 -0.1
baz=14
EYMN **Ely** 94.48 348 P **P** 07 19 58.2 +0.6
baz=14
E46A **Sault Ste Mari** 94.55 343 IAmb IAmb 07 19 58.9
comp=Z,76nm,0.8s
E46A **Sault Ste Mari** 94.55 343 P **P** 07 19 58.1 +0.1
baz=20,SNR=11
B06A **Marblemount** 94.66 8 IAmb IAmb 07 20 00.6
comp=Z,65nm,0.9s
L61B **Northampton** 94.68 334 IAmb IAmb 07 21 01.8
comp=Z,217nm,2.0s
L61B **Northampton** 94.68 334 P **P** 07 19 58.6 0.0
baz=29
L61B **Northampton** 94.68 334 P **P** 07 19 59.3 +0.7
baz=29
AGMN **Agassiz Nation** 94.76 351 IAmb IAmb 07 20 00.1
comp=Z,89nm,0.9s
AGMN **Agassiz Nation** 94.76 351 P **P** 07 19 59.1 +0.2
baz=11
AGMN **Agassiz Nation** 94.76 351 P **P** 07 19 59.3 +0.4
baz=11,SNR=29
J58A **Remsen** 94.77 336 P **P** 07 19 59.5 +0.4
baz=27
J58A P **P** 07 19 59.5 +0.4
baz=27
TRY **Troy** 94.78 335 P **P** 07 20 00.0 +0.9
baz=28
D41A **Chassel** 94.81 346 IAmb IAmb 07 20 00.3
comp=Z,66nm,0.8s
STKA **Stephens Creek** 94.87 126 P **P** 07 19 58.5 -1.0
STKA **Stephens Creek** 94.87 126*c i* P **P** 07 19 59.1 -0.4
STKA **Stephens Creek** 94.87 126 P **P** 07 19 58.4 -1.0
comp=Z,36nm,0.7s,baz=335,slow=5.3,SNR=42
STKA S **SKSac** 07 30 10.0 -5.5
comp=Z,10.0nm,1.1s,baz=332,slow=24,SNR=8.5
comp=Z,36nm,0.7s
J57A **Williamstown** 94.95 336 P **P** 07 20 00.2 +0.4
baz=26
J57A P **P** 07 20 00.2 +0.4
baz=26
HCNY **Howe Caverns** 95.06 335 P **P** 07 20 00.9 +0.5
baz=27
E43A **Lone Tree Farm** 95.14 345 IAmb IAmb 07 20 03.7
comp=Z,54nm,1.1s
E43A **Lone Tree Farm** 95.14 345 P **P** 07 20 00.8 +0.1
baz=18
DGMT **Dagmar** 95.30 357 IAmb IAmb 07 20 03.8
comp=Z,106nm,0.9s
DGMT **Dagmar** 95.30 357 P **P** 07 20 02.2 +0.8
baz=4.0
DGMT **Dagmar** 95.30 357 P **P** 07 20 02.6 +1.2
baz=4.0,SNR=25
NEW **Newport** 95.32 5 IAmb IAmb 07 20 03.4
comp=Z,50nm,0.8s
NEW **Newport** 95.32 5 P **P** 07 20 02.2 +0.7
baz=354,SNR=44
NEW **Newport** 95.32 5 LR LR 08 08 41.3
comp=Z,2µm,18.6s,baz=0.5,slow=39
GNW **Green Mountain** 95.43 9 IAmb IAmb 07 20 05.0
comp=Z,56nm,0.9s
NLWA **Neilton Lookou** 95.46 10 IAmb IAmb 07 20 07.6
comp=Z,55nm,0.9s
MDND **Maddock** 95.61 354 P **P** 07 20 03.1 +0.4
baz=7.7
MDND **Maddock** 95.61 354 P **P** 07 20 03.2 +0.5
baz=7.7,SNR=9.3
C09A **Chrisman Ranch** 95.69 6 IAmb IAmb 07 20 05.1
comp=Z,44nm,0.9s
RK1H **Rockhampton Ha** 95.76 115 P **P** 07 20 03.3 -0.4
E38A **The Farm, Brul** 95.79 348 IAmb IAmb 07 20 04.5
comp=Z,55nm,0.9s
E38A **The Farm, Brul** 95.79 348 P **P** 07 20 03.1 -0.5
baz=14,SNR=12
NPNY **Mohonk Preserv** 95.81 334 P **P** 07 20 03.8 0.0
baz=28
COWI **Conover** 95.84 346 IAmb IAmb 07 20 07.2
comp=Z,48nm,0.9s
COWI **Conover** 95.84 346 P **P** 07 20 03.8 0.0
baz=16
EGMT **Eagleton** 95.86 0 IAmb IAmb 07 20 06.3
comp=Z,92nm,0.9s
EGMT **Eagleton** 95.86 0 P **P** 07 20 04.5 +0.5
baz=360,SNR=43
D05A **Enumclaw** 95.91 9 IAmb IAmb 07 20 06.5
comp=Z,68nm,0.9s
F42A **Maple Grove Fa** 95.97 345 P **P** 07 20 04.9 +0.5
baz=17,SNR=6.3
BINY **Binghamton** 96.03 336 P **P** 07 20 04.9 +0.1
baz=26
BINY **Binghamton** 96.03 336 P **P** 07 20 05.1 +0.2
baz=26
GLMI **Grayling** 96.08 343 P **P** 07 20 05.2 +0.3
baz=20,SNR=7.3
GLMI **Grayling** 96.08 343 P **P** 07 20 05.0 0.0
baz=20,SNR=7.3
LON **Longmire** 96.36 9 IAmb IAmb 07 20 10.3
comp=Z,42nm,0.8s
D08A **Wollman Farm,** 96.37 7 IAmb IAmb 07 20 10.0
comp=Z,38nm,0.9s
I49A **Point Hope** 96.46 341 IAmb IAmb 07 20 07.9
comp=Z,57nm,0.8s
L56A **Greenwood** 96.60 337 IAmb IAmb 07 20 13.9
comp=Z,41nm,0.8s
L56A **Greenwood** 96.60 337 P **P** 07 20 07.6 +0.2
baz=25,SNR=6.6
L56A P **P** 07 20 07.6 +0.2
baz=25,SNR=6.6
WVNY **West Valley, N** 96.68 338 IAmb IAmb 07 20 08.9
comp=Z,53nm,0.9s
WVNY **West Valley, N** 96.68 338 P **P** 07 20 08.0 +0.2
baz=24,SNR=7.6
MXC **Moxie City** 96.71 8 IAmb IAmb 07 20 12.1
comp=Z,72nm,1.0s

F36A **Milaca** 96.83 349 P **P** 07 20 07.9 -0.4
baz=13,SNR=14
G40A **Rib Lake** 96.84 347 IAmb IAmb 07 20 09.6
comp=Z,52nm,0.8s
G40A **Rib Lake** 96.84 347 P **P** 07 20 07.9 -0.5
baz=15,SNR=11
E08A **Dider Farm, El** 96.92 7 IAmb IAmb 07 20 12.7
comp=Z,35nm,0.9s
MSO **Missoula** 96.95 3 P **P** 07 20 09.3 +0.3
baz=356,SNR=19
E28A **Huff** 96.97 354 P **P** 07 20 10.1 +1.1
baz=6.9,SNR=27
E09A **Wood Farm, Sta** 96.98 6 IAmb IAmb 07 20 13.3
comp=Z,44nm,1.0s
LAO **LASA Array** 97.16 358 P Pdif 07 20 11.2 +1.3
baz=2.4,SNR=37
LAO **LASA Array** 97.16 358 P Pdif 07 20 11.4 +1.5
baz=2.4
M57A **Sunshine Farm,** 97.18 336 IAmb IAmb 07 20 13.5
comp=Z,160nm,1.6s
M57A **Sunshine Farm,** 97.18 336 P **P** 07 20 09.9 -0.1
baz=25,SNR=6.6
M57A P **P** 07 20 09.9 -0.1
baz=25,SNR=6.6
PANJ **Princeton** 97.22 334 P Pdif 07 20 10.6 +0.3
baz=27
F33A **5 Mile Ranch,** 97.23 351 P Pdif 07 20 10.4 +0.2
baz=10,SNR=10
SPMN **Marine on St.** 97.33 348 P **P** 07 20 10.5 -0.2
baz=13,SNR=8.8
SPMN **Marine on St.** 97.33 348 P **P** 07 20 10.4 -0.2
baz=13,SNR=8.8
CMSA **Cobar Meteorol** 97.36 124 P **P** 07 20 09.6 -1.2
ERPA **Erie** 97.36 339 IAmb IAmb 07 20 11.3
comp=Z,42nm,1.1s
ERPA **Erie** 97.36 339 P **P** 07 20 10.5 -0.3
baz=23,SNR=5.3
ERPA **Erie** 97.36 339 P Pdif 07 20 10.9 +0.1
baz=23,SNR=5.3
EIDS **Eidsvold** 97.38 116 P **P** 07 20 10.6 -0.4
F07A **Phinny Hill Vi** 97.42 8 IAmb IAmb 07 20 13.7
comp=Z,31nm,0.9s
K50A **Casco** 97.49 341 IAmb IAmb 07 20 23.0
comp=Z,44nm,1.1s
M55A **Ridgway** 97.58 337 IAmb IAmb 07 20 12.3
comp=Z,30nm,0.8s
J47A **Sunmer** 97.62 342 IAmb IAmb 07 20 15.4
comp=Z,67nm,1.1s
J47A **Sunmer** 97.62 342 P Pdif 07 20 12.7 +0.7
baz=20
J47A P Pdif 07 20 12.7 +0.7
baz=20
AULRC **Lightning Ridg** 97.62 121 P **P** 07 20 10.8 -1.2
HOOD **Mount Hood Mea** 97.79 9 IAmb IAmb 07 20 14.8
comp=Z,39nm,0.9s
PAOC **Oil Creek Stat** 97.82 338 P Pdif 07 20 13.1 +0.2
baz=24
ALLY **Alegheny Colle** 97.83 338 IAmb IAmb 07 24 09.6
comp=Z,56nm,1.2s
ALLY **Alegheny Colle** 97.83 338 P Pdif 07 20 13.3 +0.3
baz=23
PSDB **Penn State Uni** 97.89 337 P Pdif 07 20 13.8 +0.6
baz=24
G06A **Carlson Farm,** 97.99 8 IAmb IAmb 07 24 12.6
comp=Z,101nm,1.8s
SSPA **Standing Stone** 98.06 337 P Pdif 07 20 14.1 +0.1
SSPA IAmb IAmb 07 20 21.2
comp=Z,49nm,1.4s
SSPA **Standing Stone** 98.06 337 P **P** 07 20 13.3 -0.7
baz=25
ARPS **Mount Arapiles** 98.16 130 P Pdif 07 20 14.6 +0.4
M53A **WI Miller and** 98.18 339 IAmb IAmb 07 24 14.2
comp=Z,56nm,1.4s
M53A **WI Miller and** 98.18 339 P **P** 07 20 14.0 -0.5
baz=23
AAM **Ann Arbor** 98.20 341 P **P** 07 20 14.2 -0.4
baz=20
AAM **Ann Arbor** 98.20 341 P Pdif 07 20 14.6 +0.1
baz=20
I40A **Norwalk** 98.25 347 IAmb IAmb 07 20 18.1
comp=Z,58nm,0.8s
I40A **Norwalk** 98.25 347 P Pdif 07 20 15.4 +0.7
baz=15,SNR=11
BOZ **Bozeman (W)** 98.26 2 Pdiff Pdif 07 20 15.4 +0.4
baz=356
M52A **Chesterland** 98.29 339 IAmb IAmb 07 20 17.2
comp=Z,122nm,1.9s
H04A **Detroit Lake** 98.34 9 IAmb IAmb 07 21 07.9
comp=Z,45nm,1.5s
H04D **Lebanon** 98.43 10 IAmb IAmb 07 20 27.8
comp=Z,37nm,0.9s
PAMR **Moraine State** 98.47 338 P **P** 07 20 15.6 -0.2
baz=23
I37B **Waseca** 98.61 349 P Pdif 07 20 17.5 +1.2
baz=13
L48A **N Adams** 98.74 342 IAmb IAmb 07 20 19.4
comp=Z,35nm,0.9s
RLMT **Red Lodge** 98.77 0 IAmb IAmb 07 20 22.3
comp=Z,38nm,1.0s
RLMT **Red Lodge** 98.77 0 Pdiff Pdif 07 20 18.0 +0.7
baz=360
UPAO **U. Pittsburgh** 98.87 338 P Pdif 07 20 17.9 +0.3
baz=23
SUSD **Miller** 98.92 353 Pdiff **P** 07 20 17.5 -0.2
baz=8.3
SUSD **Miller** 98.92 353 P Pdif 07 20 18.6 +0.9
baz=8.3,SNR=6.2
K43A **Burlington** 98.93 345 IAmb IAmb 07 20 22.2
comp=Z,61nm,0.9s
YHL **Hebgen Lake** 99.02 1 IAmb IAmb 07 24 19.5
comp=Z,36nm,1.1s
JFWS **Jewell Farm** 99.12 346 Pdiff **Pdif** 07 20 18.3 -0.3
baz=15
JFWS **Jewell Farm** 99.12 346 P **Pdif** 07 20 18.8 +0.1
baz=15,SNR=6.7
O54A **Avella** 99.25 338 P **Pdif** 07 20 19.4 +0.1
baz=23
O54A P **Pdif** 07 20 19.4 +0.1
baz=23
L44A **Lake County Fo** 99.34 344 Pdiff **Pdif** 07 20 19.1 -0.6
baz=17
O53A **New Philadelph** 99.44 339 Pdiff **Pdif** 07 20 19.5 -0.6
baz=22
H17A **Grant Village** 99.48 1 Pdiff **Pdif** 07 20 20.5 -0.1
baz=359
MCWV **Mont Chateau** 99.57 337 Pdiff **Pdif** 07 20 20.5 -0.2
baz=24
MCWV **Mont Chateau** 99.57 337 P **Pdif** 07 20 20.8 +0.1
baz=24
N49A **Columbus Grove** 99.63 341 P **Pdif** 07 20 20.7 -0.3
baz=20
N49A P **Pdif** 07 20 20.7 -0.3
baz=20
RSSD **Black Hills** 99.64 356 Pdiff **Pdif** 07 20 21.1 -0.1
baz=4.2
RSSD **Black Hills** 99.64 356 P **Pdif** 07 20 22.0 +0.7
baz=4.2
K38A **Parkersburg** 99.84 348 P **Pdif** 07 20 21.9 0.0
baz=13
L42A **Oliver, Polo** 99.88 345 P **Pdif** 07 20 21.9 -0.1
baz=16,SNR=6.3
ACSO **Alum Creek Sta** 99.96 340 Pdiff **Pdif** 07 20 21.8 -0.6
baz=21
N47A **Urbana** 100.06 342 P **Pdif** 07 20 22.2 -0.7
baz=19
N47A P **Pdif** 07 20 22.2 -0.7
baz=19
CBN **Corbin Frederi** 100.09 335 Pdiff **Pdif** 07 20 22.5 -0.5
baz=25
HLID **Hailey** 100.18 4 Pdiff **Pdif** 07 20 23.7 +0.1
baz=356
P52A **Corning** 100.27 339 Pdiff **Pdif** 07 20 23.3 -0.6
baz=22
O49A **Covington** 100.36 341 P **Pdif** 07 20 23.9 -0.3
baz=20
O49A P **Pdif** 07 20 23.9 -0.3
baz=20
O48B **Farmland** 100.51 342 Pdiff **Pdif** 07 20 24.3 -0.6
baz=19
O48B **Farmland** 100.51 342 P **Pdif** 07 20 24.0 -0.9
baz=19
K30B **Basset** 100.74 353 P **Pdif** 07 20 27.7 +1.8
baz=7.8
SFIN **Lafayette** 100.87 343 Pdiff **Pdif** 07 20 25.7 -0.7
baz=18
TOO **Toolangi** 100.94 129 P **Pdif** 07 20 26.5 -0.1
P49A **Miami Univ. Ec** 101.08 341 Pdiff **Pdif** 07 20 26.7 -0.7
baz=20

BW06 **Boulder Array** 101.12 0 Pdiff **Pdif** 07 20 27.8 -0.1
baz=360
PDAR **Pinedale Array** 101.12 0 P **Pdif** 07 20 27.8 -0.1
comp=Z,9.6nm,0.8s,baz=34,slow=2.8,SNR=37
PDAR PP **PP** 07 24 34.5 -3.3
comp=Z,4.4nm,0.8s,baz=69,slow=8.1,SNR=3.5
PDAR PKKP **PKiKP** 07 24 51.6 0.0
comp=Z,3.9nm,0.7s,baz=76,slow=3.4,SNR=6.2
PDAR PKKPbc **PKKPbc** 07 36 36.5 -1.1
comp=Z,2.6nm,0.8s,baz=157,slow=3.7,SNR=8.0
PDAR SKKPbc SKKPbc 07 39 57.4 +2.2
comp=Z,0.9nm,0.9s,baz=156,slow=4.7,SNR=3.5
PDAR PKPPKP **P'P'df** 07 44 51.6 -5.2
comp=Z,0.6nm,0.8s,baz=153,slow=5.0,SNR=4.2
Q51A **Peebles** 101.18 340 P **Pdif** 07 20 27.6 -0.3
baz=21
Q51A P **Pdif** 07 20 27.6 -0.3
baz=21
HDIL **Hopedale** 101.19 345 Pdiff **Pdif** 07 20 28.2 +0.3
baz=16
K22A **Casper** 101.20 358 Pdiff **Pdif** 07 20 28.1 -0.1
baz=2.2
OGNE **Ogallala** 102.67 354 Pdiff **Pdif** 07 20 34.8 +0.2
baz=5.9
DUG **Dugway, Tooele** 103.62 3 Pdiff **Pdif** 07 20 39.6 +0.7
baz=357
KSU1 **Kansas State U** 103.90 350 Pdiff **Pdif** 07 20 40.1 +0.1
baz=10
CCM **Cathedral Cave** 104.00 346 Pdiff **Pdif** 07 20 40.7 +0.2
baz=15
ISCO **Idaho Springs** 104.02 357 PKiKP **Pdif** 07 20 40.2 -0.7
baz=3.0
T47A **Sharon Grove** 104.09 342 P **Pdif** 07 20 41.0 +0.1
baz=18
CBKS **Cedar Bluff** 104.57 352 Pdiff **Pdif** 07 20 43.3 +0.2
baz=7.8
Q24A **Divide** 104.83 357 Pdiff **Pdif** 07 20 44.7 +0.1
baz=3.4
NVAR **Mina Array Bea** 104.97 7 Pdiff **Pdif** 07 20 45.9 +0.8
comp=Z,7.2nm,0.9s,baz=348,slow=3.2,SNR=27
NVAR PKiKP **PKiKP** 07 24 59.5 +0.6
comp=Z,4.8nm,0.7s,baz=311,slow=2.4,SNR=7.9
NVAR PKKPbc **PKKPbc** 07 36 26.2 0.0
comp=Z,4.9nm,0.8s,baz=194,slow=5.5,SNR=14
NVAR PKPPKP **P'P'df** 07 44 45.6 -3.9
comp=Z,0.8nm,0.8s,baz=181,slow=3.6,SNR=5.2
WVT **Waverly** 105.09 342 Pdiff **Pdif** 07 20 45.7 +0.4
baz=18
R11B **Troy Canyon, C** 105.30 5 Pdiff **Pdif** 07 20 46.4 -0.1
baz=355
S22A **4UR Ranch, Cre** 106.11 358 PKiKP **PKiKP** 07 25 00.8 -0.2
baz=2.0
T25A **Trinidad** 106.61 356 PKiKP **PKiKP** 07 25 02.4 +0.5
baz=4.0
DZM **Mont Dzumac** 107.09 105 *e*P **Pdif** 07 20 51.2 -3.2
DZM *e*pP **pPdif** 07 21 42.3 -3.3
comp=Z,298nm,28.8s
DZM **Mont Dzumac** 107.09 105 *e*SS SS 07 40 12.8 -2.9
comp=Z,3µm,35.2s
MPMC **Manual Prospec** 107.41 7 PKiKP **PKiKP** 07 25 02.4 -0.9
baz=353
VES **Vestal, Richgr** 107.45 8 PKiKP **PKiKP** 07 25 03.0 -0.1
baz=352
SHOC **Shoshone, Teco** 107.67 6 PKiKP **PKiKP** 07 25 04.1 +0.4
baz=354
ISA **Isabella, Lake** 107.69 8 PKiKP **PKiKP** 07 25 04.8 +1.0
baz=352
ARVC **Arvin** 108.18 8 PKiKP **PKiKP** 07 25 05.2 +0.7
baz=352
GSC **Goldstone, Bar** 108.22 7 PKiKP **PKiKP** 07 25 05.3 +0.5
baz=354
PKM **Mcpherson Peak** 108.30 9 PKiKP **PKiKP** 07 25 04.5 -0.5
baz=351
WUAZ **Wupatki** 108.33 2 PKiKP **PKiKP** 07 25 04.8 -0.2
baz=358
WMOK **Wichita Mounta** 108.48 351 PKiKP **PKiKP** 07 25 06.1 +0.9
baz=8.8
EDW2 **Edwards Air Fo** 108.52 8 PKiKP **PKiKP** 07 25 05.8 +0.5
baz=353
GMRC **Granite Mounta** 108.83 6 PKiKP **PKiKP** 07 25 06.4 +0.4
baz=354
BFSC **Mount Baldy Ra** 109.19 7 PKiKP **PKiKP** 07 25 06.8 +0.1
baz=353
SCZ2 **Santa Cruz Isl** 109.20 9 PKiKP **PKiKP** 07 25 06.5 0.0
baz=351
PDMCI **Parker Dam,Lak** 109.42 4 PKiKP **PKiKP** 07 25 07.2 +0.3
baz=356
IRM **Iron Mountain** 109.50 5 PKiKP **PKiKP** 07 25 06.9 -0.2
baz=355
BELC **Belle Mtn. Jos** 109.58 6 PKiKP **PKiKP** 07 25 07.7 +0.3
baz=354
BRAL **Brewton** 109.58 340 PKiKP **PKiKP** 07 25 07.5 +0.3
baz=19
MURC **Murrieta** 109.87 7 PKiKP **PKiKP** 07 25 08.4 +0.6
baz=353
PFO **Pinyon Flats O** 109.93 6 PKiKP **PKiKP** 07 25 08.3 +0.3
baz=354
CIS **Catalina Islan** 109.93 8 PKiKP **PKiKP** 07 25 07.7 -0.2
baz=352
TPFO **Pinon Flats** 109.93 6 PKiKP **PKiKP** 07 25 08.0 -0.1
baz=354
BC3 **Big Chuckawall** 109.97 6 PKiKP **PKiKP** 07 25 08.5 +0.4
baz=355
MONP2 **Monument Peak** 110.64 7 PKiKP **PKiKP** 07 25 09.6 +0.1
baz=354
SWSC **Sam W. Stewart** 110.65 6 PKiKP **PKiKP** 07 25 09.6 +0.4
baz=354
DWPF **Disney Wildern** 110.66 334 PKiKP **PKiKP** 07 25 09.1 -0.2
baz=24
NATX **Nacogdoches** 110.77 347 PKiKP **PKiKP** 07 25 09.4 -0.1
baz=12
IKP **In-Ko-Pah, Jac** 110.91 6 PKiKP **PKiKP** 07 25 10.1 +0.2
baz=354
121A **Cookes Peak, D** 111.33 359 PKiKP **PKiKP** 07 25 10.5 -0.3
baz=1.2
121A **Cookes Peak, D** 111.33 359 P **PKiKP** 07 25 10.5 -0.3
baz=1.2
TUC **Tucson** 111.54 2 PKiKP **PKiKP** 07 25 11.2 +0.1
baz=359
214A **Organ Pipe Nat** 111.83 3 PKiKP **PKiKP** 07 25 11.8 +0.3
baz=357
MNTX **Cornudas Mount** 112.08 357 PKiKP **PKiKP** 07 25 12.2 +0.2
baz=3.3
JCT **Junction City** 112.81 351 PKiKP **PKiKP** 07 25 13.4 -0.1
baz=8.1
ELIB **Princess Elisa** 113.13 194 *d*PKiKP **PKiKP** 07 25 12.2 -0.6
TX31 **Lajitas Ar. Si** 114.33 355 P PKPdf 07 25 16.6 +0.1
baz=4.8
TXAR **Lajitas Array** 114.33 355 PKP PKPdf 07 25 16.6 +0.1
comp=Z,2.8nm,0.7s,baz=321,slow=0.3,SNR=14
TXAR PKKPbc **PKKPbc** 07 35 56.0 -0.2
comp=Z,6.8nm,0.9s,baz=186,slow=6.2,SNR=19
TXAR SKKPbc SKKPbc 07 39 19.6 +1.2
comp=Z,1.0nm,0.7s,baz=189,slow=5.3,SNR=2.8
833A **Chaparral WMA,** 114.89 351 PKiKP **PKiKP** 07 25 17.3 -0.1
baz=8.6
NVL **N'lazarevskaya** 114.91 198 *e*PKiKP PKPdf 07 25 08.9 -7.1
NVL *e*SP SP 07 35 31.5 -4.2
TROLL **Troll, Antarti** 118.05 199 ⇓PKKPbc **PKKPab** 07 35 42.4 -0.8
comp=Z,483nm,0.7s
TROLL ⇑PKPdf **PKPdf** 07 25 22.1 -0.1
comp=Z,3µm,0.5s
SNAA **Sanae** 119.35 200 ⇑*i*P **PKPdf** 07 25 24.0 -0.7
SNAA **Sanae** 119.35 200 ⇓PKKPbc **PKKPab** 07 35 37.0 -0.5
comp=Z,146nm,0.6s
SNAA ⇑PKPdf **PKPdf** 07 25 23.8 -0.9
comp=Z,565nm,0.8s
SNAA **Sanae** 119.35 200 PKP **PKPdf** 07 25 24.1 -0.6
comp=Z,22nm,0.9s,baz=135,slow=2.6,SNR=35
SNAA PKKPbc **PKKPab** 07 35 36.4 -1.1
comp=Z,9.0nm,0.8s,baz=224,slow=8.3,SNR=18
AFI **Afiamalu** 120.07 85 **PKiKP** 07 25 28.5 +0.7
AFI **Afiamalu** 120.07 85 PKiKP **PKiKP** 07 25 28.5 +0.7
DIAM **Diamantina, MG** 120.18 269 *e*P **PKPdf** 07 25 27.4 -0.5
TEIG **Tepich** 120.25 337 *e*P **PKPdf** 07 25 27.2 -0.7
VNA2 **Neumayer--Watz** 120.34 202 ⇓PKKPbc **PKKPab** 07 35 33.4 +0.3
comp=Z,3.5nm,1.3s,baz=273,slow=3.0
VNA2 ⇑PKPdf **PKPdf** 07 25 25.9 -0.6
comp=Z,76nm,0.9s,baz=47,slow=3.0
VNA1 **Neumayer--Stat** 120.50 202 ⇓PKKPbc **PKKPbc** 07 35 33.6 -1.1
comp=Z,7.4nm,0.7s
VNA1 ⇑PKPdf **PKiKP** 07 25 27.0 +0.1
comp=Z,54nm,0.9s
BOAV **Boa Vista** 120.52 300 **PKPdf** 07 25 28.3 -0.3
BOAV **Boa Vista** 120.52 300 *e*P **PKPdf** 07 25 28.3 -0.3
BOAV **Boa Vista** 120.52 300 *e*P **PKiKP** 07 25 29.1 +0.3
RPZ **Rata Peaks** 120.74 124 **PKPdf** 07 25 26.9 -1.2
VNA3 **Neumayer Olymp** 121.15 202 ⇓PKKPbc **PKKPab** 07 35 31.0 +1.3

	comp=Z,17nm,0.7s						
VNA3			⇑PKPdf		**PKPdf**	**07 25 27.3**	**-0.8**
	comp=Z,106nm,0.9s						
ITTB	**Itaituba**	**121.59 290**	*e*P		**PKPdf**	**07 25 30.1**	**-0.6**
SDV	**Santo Domingo**	**122.17 313**			**PKPdf**	**07 25 29.9**	**-2.1**
BDFB	**Brasilia**	**122.25 274**	PKP		**PKPdf**	**07 25 31.5**	**-0.4**
	comp=Z,11nm,0.5s,baz=105,slow=2.0,SNR=18						
BDFB			PP		**PP**	**07 27 05.1**	**-5.3**
	comp=Z,16nm,0.8s,baz=201,slow=1.8,SNR=3.1						
BDFB			PKKPab		**PKKPab**	**07 35 28.8**	**-0.1**
	comp=Z,22nm,1.1s,baz=355,slow=2.2,SNR=12						
SNZO	**South Karori**	**122.32 120**			**PKPdf**	**07 25 29.3**	**-1.8**
PMNB	**Patos De Minas**	**122.53 270**	*e*P		**PKiKP**	**07 25 32.9**	**+0.3**
SNDB	**Serra Nova Dou**	**122.81 280**	*e*P		**PKPdf**	**07 25 32.9**	**0.0**
LL6C	**La Loma 6 Bece**	**122.98 316**	*e*P		**PKPdf**	**07 25 28.6**	**-4.7**
NPGB	**Novo Progresso**	**123.01 287**	*e*P		**PKiKP**	**07 25 33.5**	**-0.1**
ARGC	**Ariguani, Magd**	**123.42 318**	*e*P		**PKiKP**	**07 25 34.8**	**+0.4**
IPMB	**Ipameri, GO**	**123.67 272**	*e*P		**PKPdf**	**07 25 34.4**	**-0.2**
SJCC	**San Jacinto, C**	**123.89 318**	*e*P		**PKPdf**	**07 25 34.4**	**-0.7**
OCAC	**Ocana**	**124.23 316**	*e*P		**PKPdf**	**07 25 34.5**	**-1.4**
PARB	**Paraibuna**	**124.30 265**	*e*P		**PKiKP**	**07 25 36.0**	**0.0**
MACA	**Manacapuru-AM**	**124.48 295**	*e*P		**PKPdf**	**07 25 36.0**	**-0.2**
PAMC	**Pamplona, Colo**	**124.61 314**	*e*P		**PKPdf**	**07 25 35.4**	**-1.7**
TAMC	**Tame, Arauca**	**124.81 313**	*e*P		**PKPdf**	**07 25 36.6**	**-0.3**
BARC	**Barichara**	**125.49 314**	*e*P		**PKPdf**	**07 25 37.8**	**-0.7**
VNDA	**Vanda**	**125.51 165**	PKP		**PKPdf**	**07 25 35.9**	**-0.4**
	comp=Z,22nm,0.8s,baz=275,slow=5.1,SNR=41						
VNDA			SKKP			07 39 08.6	
	comp=Z,3.2nm,0.8s,baz=126,slow=3.0,SNR=6.1						
BB19B	**Bebedouro**	**125.52 269**	*e*P		**PKPdf**	**07 25 38.0**	**0.0**
TGUH	**Tegucigalpa,Un**	**125.66 334**	*e*P		**PKPdf**	**07 25 38.6**	**0.0**
UREC	**San Jos de Ur**	**125.86 317**	*e*P		**PKPdf**	**07 25 38.0**	**-0.9**
SPB	**Sao Paulo**	**125.88 266**	*e*P		**PKiKP**	**07 25 38.8**	**-0.1**
PET01	**Itanhaem-SP**	**126.09 265**	*e*P		**PKiKP**	**07 25 39.8**	**+0.5**
PTBC	**PUERTO BERRIO**	**126.26 315**	*e*P		**PKPdf**	**07 25 37.6**	**-2.0**
QSPA	**South Pole Qui**	**126.28 180**			**PKPdf**	**07 25 37.5**	**-0.6**
QSPA	**South Pole Qui**	**126.28 180**	PKP		**PKPdf**	**07 25 37.1**	**-1.0**
	comp=Z,83nm,0.8s,baz=275,slow=1.1,SNR=58						
QSPA			SKPab		SKPab	07 28 34.5	
	comp=Z,35nm,1.1s,baz=317,slow=4.4,SNR=3.5						
ITRB	**Iturama**	**126.30 271**	*e*P		**PKiKP**	**07 25 40.0**	**+0.1**
BOAB	**BOACO BROADBA**	**126.53 331**			**PKPdf**	**07 25 39.4**	**-0.7**
BOAB	**BOACO BROADBA**	**126.53 331**	PKP		**PKPdf**	**07 25 38.6**	**-1.5**
SBA	**Scott Base**	**126.59 165**			**PKiKP**	**07 25 38.6**	**-0.2**
SBA	**Scott Base**	**126.59 165**	PKIKP		**PKiKP**	**07 25 38.6**	**-0.2**
SPBC	**San Pablo de B**	**126.77 314**	*e*P		**PKPdf**	**07 25 34.0**	**-6.7**
ACON	**Acoyapa**	**126.77 330**	*e*P		**PKPdf**	**07 25 40.0**	**-0.6**
PTGC	**Puerto Gaitan,**	**126.79 311**	*e*P		**PKPdf**	**07 25 37.0**	**-3.6**
DBBC	**Dabeiba**	**126.84 318**	*e*P		PKPdf	07 25 13.8	-27
BCIP	**Isla Barro Col**	**126.89 323**	*e*P		**PKPdf**	**07 25 38.1**	**-2.7**
FRTB	**Fartura**	**127.47 267**	*e*P		**PKiKP**	**07 25 42.3**	**+0.1**
ROSC	**El Rosal**	**127.57 314**	PKP		**PKPdf**	**07 25 41.1**	**-1.5**
	comp=Z,203nm,0.9s,baz=65,slow=2.2,SNR=54						
ROSC			SKPab		SKPab	07 28 41.4	
	comp=Z,60nm,0.8s,baz=65,slow=5.5,SNR=8.0						
ROSC	**El Rosal**	**127.57 314**	*e*P		**PKPdf**	**07 25 41.8**	**-0.8**
TEFE	**Tefe**	**127.57 298**	*e*P		**PKiKP**	**07 25 42.5**	**-0.2**
CVER	**Cruz Verde, Cu**	**127.68 314**	*e*P		**PKPdf**	**07 25 43.0**	**+0.1**
CBOC	**Ciudad Bolivar**	**127.69 317**	*e*P		**PKPdf**	**07 25 40.4**	**-2.2**
VILC	**Villavicencio,**	**127.79 313**	*e*P		**PKPdf**	**07 25 35.2**	**-7.5**
GUY2C	**Guyana, Caldas**	**127.85 315**	*e*P		**PKPdf**	**07 25 41.0**	**-2.2**
PCMB	**Pacaembu**	**127.99 270**	*e*P		**PKPdf**	**07 25 42.7**	**0.0**
HDC	**Heredia**	**128.11 328**	*e*P		**PKiKP**	**07 25 43.7**	**-0.2**
SOLC	**Bahia Solano**	**128.15 318**	*e*P		**PKPdf**	**07 25 42.2**	**-1.0**
AZU	**Azuero**	**128.29 322**	*e*P		**PKPdf**	**07 25 40.1**	**-3.4**
HOPE	**Hope Point**	**128.35 226**			**PKPdf**	**07 25 41.2**	**-1.0**
HOPE	**Hope Point**	**128.35 226**	PKIKP		**PKPdf**	**07 25 41.2**	**-1.0**
ANIL	**Santa Ana**	**128.47 315**	*e*P		**PKPdf**	**07 25 43.0**	**-1.2**
SALV	**Santo Antonio**	**128.54 279**	*e*P		**PKPdf**	**07 25 44.1**	**+0.3**
PLMC	**San Jos del P**	**128.63 316**	*e*P		**PKPdf**	**07 25 41.7**	**-2.5**
LDASE	**Londrina, Braz**	**128.75 268**	*e*P		**PKPdf**	**07 25 43.9**	**-0.2**
GMAL	**Guarumal, Vera**	**128.78 323**	*e*P		**PKPdf**	**07 25 37.8**	**-6.6**
PRAC	**Prado**	**128.81 314**	*e*P		**PKPdf**	**07 25 42.3**	**-2.2**
PP1B	**Ponte de Pedra**	**128.82 276**	*e*P		**PKiKP**	**07 25 44.9**	**-0.1**
ORTC	**Ortega, Tolima**	**128.85 314**	*e*P		**PKPdf**	**07 25 42.4**	**-2.3**
CACAO	**El Cacao, Vera**	**128.96 323**	*e*P		**PKPdf**	**07 25 43.8**	**-1.0**
RPRD	**Ribas do Rio P**	**129.39 273**	*e*P		**PKiKP**	**07 25 46.1**	**0.0**
YOTC	**Yotoco, Valle**	**129.42 316**	*e*P		**PKPdf**	**07 25 44.2**	**-1.6**
RVDE	**Rio Verde (Bra**	**129.63 275**	*e*P		**PKiKP**	**07 25 46.4**	**-0.3**
PTGB	**Pitanga**	**130.13 267**	*e*P		**PKPdf**	**07 25 47.2**	**+0.4**
SAML	**Samuel**	**130.17 292**	PKPdf		**PKPdf**	**07 25 46.1**	**-0.9**
SAML	**Samuel**	**130.17 292**	PKIKP		**PKPdf**	**07 25 46.1**	**-0.9**
SAML	**Samuel**	**130.17 292**	*e*P		**PKPdf**	**07 25 43.3**	**-3.7**
SAML	**Samuel**	**130.17 292**	*e*P		**PKPdf**	**07 25 47.4**	**+0.4**
JAMC	**Jamundi, Valle**	**130.24 315**	*e*P		**PKPdf**	**07 25 46.0**	**-1.5**
GARC	**Garzon, Huila**	**130.39 313**	*e*P		**PKPdf**	**07 25 42.0**	**-5.9**
POPC	**Popayan, Colom**	**130.79 315**	*e*P		PKPdf	07 25 39.2	-9.3
AQDB	**Aquidauana**	**131.00 274**			**PKPdf**	**07 25 47.2**	**-1.2**
AQDB	**Aquidauana**	**131.00 274**	*e*P		**PKPdf**	**07 25 47.6**	**-0.8**
PTLB	**Pontes e Lacer**	**131.02 282**	*e*P		**PKPdf**	**07 25 48.2**	**-0.3**
CNLB	**Canela**	**131.18 261**	*e*P		**PKPdf**	**07 25 49.0**	**+0.4**
ITAB	**Concordia**	**131.32 264**	*e*P		**PKPdf**	**07 25 49.2**	**+0.4**
BBAC	**Balboa, Cauca**	**131.54 315**	*e*P		PKPdf	07 25 38.8	-11
PTLC	**Puerto Leguiza**	**131.58 311**	*e*P		**PKPdf**	**07 25 48.2**	**-1.6**
MCR1	**Marechal Candi**	**131.60 268**	*e*P		**PKPdf**	**07 25 49.4**	**0.0**
BDQN	**Bodoquena, MS**	**131.83 275**	*e*P		**PKPdf**	**07 25 49.8**	**-0.1**
ANTJ	**Antonio Joao (**	**132.01 272**	*e*P		**PKPdf**	**07 25 50.0**	**-0.3**
GCUF	**Volcan Galeras**	**132.24 315**	*e*P		**PKPdf**	**07 25 49.2**	**-2.4**
ALGR	**Alto Alegre (B**	**132.70 262**	*e*P		**PKPdf**	**07 25 52.0**	**+0.6**
CMBC	**Cumbal**	**132.75 315**	*e*P		**PKiKP**	**07 25 52.5**	**-0.4**
TULM	**Tulcn-Chalpat**	**132.91 315**	*e*P		**PKPdf**	**07 25 52.6**	**-0.2**
CRSM	**Crissiumal (Br**	**132.97 265**	*e*P		**PKPdf**	**07 25 51.9**	**-0.1**
BONI	**La Bonita**	**132.98 314**	*e*P		**PKPdf**	**07 25 53.1**	**+0.4**
ETMB	**Extrema**	**132.99 293**	*e*P		**PKPdf**	**07 25 52.5**	**+0.1**
BBRB	**Robore, Bolivi**	**133.13 279**	*e*P		**PKPdf**	**07 25 52.5**	**0.0**
MURT	**Porto Murtinho**	**133.13 274**	*e*P		**PKPdf**	**07 25 51.2**	**-1.1**
CPSB	**Cacapava Do Su**	**133.67 261**	*e*P		**PKiKP**	**07 25 53.9**	**-0.6**
OTAV	**Otavalo**	**133.68 315**	*e*P		**PKPdf**	**07 25 54.7**	**+0.4**
OTAV	**Otavalo**	**133.68 315**	*e*P		**PKPdf**	**07 25 54.9**	**+0.6**
UNIS	**Unistalda (Bra**	**134.44 263**	*e*P		**PKiKP**	**07 25 55.5**	**-0.6**
RODS	**Rosario do Sul**	**135.05 262**	*e*P		**PKPdf**	**07 25 55.9**	**+0.2**
CPUP	**Villa Florida**	**135.10 268**	PKhKP		PKPpre	07 25 43.3	
	comp=Z,4.5nm,0.7s,baz=58,slow=3.9,SNR=8.8						
CPUP			PKP		**PKPdf**	**07 25 55.3**	**-0.6**
	comp=Z,55nm,0.6s,baz=62,slow=3.2,SNR=41						
CPUP			SKPbc		**SKPbc**	**07 29 05.8**	**-1.7**
	comp=Z,13nm,0.7s,baz=64,slow=4.7,SNR=6.3						
CPUP			SKKPbc		**SKKPbc**	**07 38 11.7**	**+0.3**
	comp=Z,11nm,1.2s,baz=210,slow=4.2,SNR=4.3						
ESFA	**Espinillo Form**	**135.42 270**	*e*P		**PKPdf**	**07 25 56.9**	**+0.4**
ITQB	**Itaqui**	**135.93 263**	*e*P		**PKPdf**	**07 25 57.5**	**+0.2**
CZSB	**Cruzeiro do Su**	**136.19 302**	*e*P		**PKPdf**	**07 25 56.0**	**-2.3**
CZSB	**Cruzeiro do Su**	**136.19 302**	*e*P		**PKPdf**	**07 25 57.1**	**-1.2**
COHC	**Cochancay**	**136.34 314**	*e*P		**PKPdf**	**07 25 58.3**	**-0.4**
PPLP	**Puerto Lpez**	**136.45 316**	*e*P		**PKPdf**	**07 25 58.0**	**-0.9**
TICA	**Tres Isletas**	**137.59 269**	*e*P		**PKPdf**	**07 26 00.6**	**+0.1**
MCRA	**Macar, Loja**	**138.28 313**	*e*P		**PKPdf**	**07 26 01.3**	**-1.0**
PPT	**Papeete**	**139.71 73**	PKP		**PKPdf**	**07 26 05.1**	**+0.4**
	comp=Z,70nm,1.0s,baz=296,slow=3.2,SNR=6.3						
PPT			SKP			07 29 21.8	
	comp=Z,205nm,1.2s,baz=63,slow=2.4,SNR=17						
PPT2	**Papeete2**	**139.72 73**	*e*P		PKPdf	07 25 51.8	-13
	comp=Z,562nm,30.5s						
PPT2	**Papeete2**	**139.72 73**	*e*PP		**PP**	**07 29 00.2**	**-2.4**
	comp=Z,562nm,23.0s						
PPT2	**Papeete2**	**139.72 73**	*e*SS		SS	07 47 00.9	-6.0
	comp=Z,1µm,25.2s						
PPTF	**Pamatai, Papee**	**139.73 73**			**PKPdf**	**07 26 03.8**	**-1.0**
PAYG	**Puerto Ayora**	**140.31 330**			**PKPdf**	**07 26 05.0**	**-1.0**
TAOE	**Nuku Hiva Isla**	**140.63 53**	*e*P		PKPdf	07 25 53.5	-13
	comp=Z,585nm,28.0s						
TAOE	**Nuku Hiva Isla**	**140.63 53**	*e*PP		PP	07 28 59.9	-7.8
	comp=Z,526nm,23.5s						
TAOE	**Nuku Hiva Isla**	**140.63 53**	*e*LR		LR	08 12 08.7	
	comp=Z,894nm,23.2s						
EFI	**East Falkland**	**141.13 231**			**PKPdf**	**07 26 02.9**	**-3.3**
EFI	**East Falkland**	**141.13 231**	PKIKP		**PKPdf**	**07 26 02.9**	**-3.3**
PB12	**IPOC Station P**	**141.57 287**			**PKPdf**	**07 26 05.7**	**-2.5**
NNA	**Nana**	**142.07 302**			PKPpre	07 26 04.8	
NNA	**Nana**	**142.07 302**	PKIKP		PKPpre	07 26 04.8	
NNA	**Nana**	**142.07 302**	*e*P		PKPpre	07 26 03.0	
LVC	**Limon Verde**	**142.65 280**			PKPpre	07 26 05.8	
LVC	**Limon Verde**	**142.65 280**	PKHKP		PKPpre	07 26 05.8	
TRQA	**Tornquist**	**142.75 253**			PKPpre	07 26 05.6	
TRQA	**Tornquist**	**142.75 253**	PKHKP		PKPpre	07 26 05.6	
TBI	**Tubuai**	**142.94 81**	*e*P		**PKPdf**	**07 26 05.0**	**-5.3**
	comp=Z,3µm,25.8s						
TBI	**Tubuai**	**142.94 81**	*e*PP		**PP**	**07 29 19.5**	**-2.7**
	comp=Z,3µm,28.2s						
TBI	**Tubuai**	**142.94 81**	*e*SS		SS	07 47 43.6	-0.8
	comp=Z,8µm,28.5s						
LCO	**Las Campanas**	**146.99 272**			**PKPbc**	**07 26 18.7**	**-1.1**
LCO			PKPab		**PKPab**	**07 26 20.9**	**-0.9**
LCO	**Las Campanas**	**146.99 272**	PKP2		**PKPab**	**07 26 20.9**	**-0.9**
PLCA	**Paso Flores**	**149.72 250**	PKP		**PKPdf**	**07 26 21.4**	**+0.1**
	comp=Z,91nm,0.9s,baz=148,slow=3.8,SNR=68						
PLCA			PKPbc		**PKPbc**	**07 26 26.5**	**+0.2**
	comp=Z,376nm,0.9s,baz=128,slow=5.0,SNR=73						
PLCA	**Paso Flores**	**149.72 250**	*e*P		**PKPdf**	**07 26 21.1**	**-0.2**

*NNC **31** 07:23:31.9±0.7, 49°.99N×78°.85E, h0km±14km, mb3.3, mpv2.8, Error ellipse: s-maj=22.6km s-min=6.9km az=73.0, Suspected Mining explosion.*
*IDC **31** 07:23:32.6±1.0, 50°.06N×78°.70E, h0km, mbtmp3.2/2, ML2.4/2, Error ellipse: s-maj=13.0km s-min=6.6km az=66.0*

ISC 31 07:23:31.0±2.4, 49°.99N±0°.07×78°.4E±0°.3, h0km, n16, σ0°.73/28, 20C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**7**	⇑P			**Pb**	**07 23 43.9**	**-0.4**
KUR07				⇑S			**Sb**	**07 23 53.5**	**+0.1**
KUR06	**Kurchatov Arra**	**0.62**	**8**	⇓P			**Pb**	**07 23 44.4**	**-0.3**
KUR06				⇓S			**Sb**	**07 23 53.8**	**-0.1**
KUR14	**Kurchatov Arra**	**0.64**	**11**	⇑P			**Pb**	**07 23 44.2**	**-0.8**
KUR14				⇑S			**Sb**	**07 23 53.9**	**-0.6**
KUR15	**Kurchatov Arra**	**0.64**	**10**	⇓P			**Pb**	**07 23 44.4**	**-0.6**
KUR15				⇑S			**Sb**	**07 23 54.4**	**-0.1**
KURBB	**Kurchatov Arra** 15nm,0.3s	**0.64**	**8**	⇑P			**Pb**	**07 23 44.6**	**-0.4**
KURBB				⇓S			**Sb**	**07 23 55.3**	**+0.8**
	128nm,0.8s								
KURBB	**Kurchatov Arra** 1.7nm,0.3s,baz=165,slow=17,SNR=66	**0.64**	**8**	Pg			**Pg**	**07 23 43.5**	**+0.3**
KURBB				Lg			Lg	07 23 52.2	
	2.8nm,0.3s,baz=170,slow=30,SNR=10.0								
KUR16	**Kurchatov Arra**	**0.64**	**6**	⇑P			**Pb**	**07 23 44.6**	**-0.4**
KUR16				⇑S			**Sb**	**07 23 54.6**	**+0.1**
KUR17	**Kurchatov Arra**	**0.64**	**4**	⇑P			**Pb**	**07 23 44.8**	**-0.3**
KUR17				⇑S			**Sb**	**07 23 54.9**	**+0.3**
KUR05	**Kurchatov Arra**	**0.66**	**8**	⇑P			**Pb**	**07 23 44.9**	**-0.5**
KUR05				⇓S			**Sb**	**07 23 54.8**	**-0.3**
KUR04	**Kurchatov Arra**	**0.68**	**8**	⇑P			**Pb**	**07 23 45.2**	**-0.5**
KUR04				⇑S			**Sb**	**07 23 54.6**	**-1.0**
KURK	**Kurchatov** 8.0nm,0.4s	**0.74**	**11**	⇑P			**Pb**	**07 23 45.9**	**-0.8**
KURK				⇓S			**Sb**	**07 23 56.2**	**-1.2**
	71nm,1.1s								
MAKZ	**Makanchi** 0.4nm,0.2s	**3.98**	**142**	⇑Pn			**Pn**	**07 24 33.2**	**-0.1**
MAKZ				⇑Pg			**Pb**	**07 24 41.9**	**-0.1**
	1.0nm,0.3s								
MAKZ				⇑Lg			Lg	07 25 34.9	
	31nm,1.2s								
MK31	**Makanchi Array** 0.1nm,0.1s,baz=321,slow=10,SNR=49	**4.12**	**140**	⇑Pn			**Pn**	**07 24 34.8**	**-0.5**
MK31				⇑Pg			**Pb**	**07 24 45.0**	**+0.6**
	1.5nm,0.4s,baz=325,slow=13,SNR=14								
MK31				⇑Lg			Lg	07 25 36.5	
	19nm,0.8s,baz=337,slow=27,SNR=5.1								
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=323,slow=11,SNR=30	**4.12**	**140**	Pn			**Pn**	**07 24 36.8**	**+1.6**
MKAR				Pg			**Pb**	**07 24 42.7**	**-1.7**
	0.8nm,0.3s,baz=325,slow=15,SNR=8.2								
MKAR				Lg			Lg	07 25 37.5	
	2.1nm,0.3s,baz=320,slow=27,SNR=11								
	3.8nm,0.8s								
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=229,slow=14,SNR=5.5	**5.61**	**43**	Pn			**Pn**	**07 24 56.6**	**+1.0**
	3.9nm,0.8s								
I46RU	**ZALESOVO INFRA** baz=224,slow=332,SNR=2.3	**5.61**	**43**	I			I	07 57 20.0	

ISC 31 07:24:06.3±2.2, 56°.2N±0°.1×149°.65W±0°.06, h10km, n20, σ1s14/13, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor** baz=117	**2.27**	**299**	P			Pn	07 24 44.1	+0.3
OHAK				S			**Sn**	**07 25 10.5**	**-1.2**
	baz=117								
SII	**Sitkinak Islan** baz=98	**2.55**	**281**	P			**Pn**	**07 24 48.2**	**+0.4**
SII				S			**Sn**	**07 25 17.4**	**-1.4**
	baz=98								
Q20K	**Shuyak Island** baz=148	**2.86**	**330**	P			**Pn**	**07 24 52.9**	**+0.9**
Q20K				S			**Sn**	**07 25 26.2**	**-0.2**
	baz=148								
Q19K	**Cape Douglas,** baz=141	**3.51**	**324**	P			**Pn**	**07 25 02.5**	**+1.7**
BRSE	**Bradley Lake S** baz=170	**3.63**	**351**	P			Pn	07 25 02.5	0.0
BRSE				S			**Sn**	**07 25 43.6**	**-1.8**
	baz=170								
P19K	**Oil Pt** baz=150	**3.98**	**333**	P			Pn	07 25 06.7	-0.7
Q17K	**Contact Creek** baz=120	**3.99**	**304**	P			**Pn**	**07 25 08.6**	**+1.0**
P23K	**Montague Islan** baz=197	**4.02**	**16**	P			Pn	07 25 07.8	0.0
O22K	**Cooper Landing** baz=179	**4.33**	**360**	P			Pn	07 25 11.9	-0.1
P18K	**Big Mountain,** baz=135	**4.40**	**320**	P			Pn	07 25 13.7	+0.6
KAIM	**Kayak Island** baz=218	**4.68**	**34**	P			**Pn**	**07 25 17.6**	**+0.7**
O18K	**Koktuh Hills** baz=139	**4.73**	**324**	P			Pn	07 25 18.3	+0.6
EYAK	**Cordova Ski Ar** baz=206	**4.85**	**23**	P			Pn	07 25 19.5	+0.3
N19K	**Bonanza Creek** baz=149	**5.30**	**333**	P			Pn	07 25 25.7	+0.2
BMRM	**Bremner River** baz=210	**5.49**	**27**	P			Pn	07 25 28.3	+0.2
KLU	**Klutina** baz=201	**5.68**	**18**	P			**Pn**	**07 25 31.2**	**+0.5**
CHNA	**Chernabura Isl** baz=73	**5.81**	**261**	P			Pn	07 25 32.3	-0.1
N25K	**Chitina, Valde** baz=207	**6.05**	**24**	P			**Pn**	**07 25 36.4**	**+0.6**
PINM	**Pinnacle** baz=235	**6.34**	**48**	P			**Pn**	**07 25 40.5**	**+0.7**
PNL	**Peninsula** baz=241	**6.49**	**53**	P			**Pn**	**07 25 42.1**	**+0.3**

*SKHL **31** 07:29:52.4±0.6, 44°.40N×149°.50E, h49km±8km, mb4.8/3*
*JMA **31** 07:29:52.7±0.7, 45°.N±3°.×14°.9E±°, h30km, MV4.4/14, SE OFF ETOROFU*
*MOS **31** 07:29:52.0±1.5, 44°.32N×149°.45E, h48km, mb4.3/6, Error ellipse: s-maj=10.8km s-min=9.3km az=8.4*
*IDC **31** 07:29:54.7±3.4, 44°.52N×149°.27E, h50km±29km, mb3.8/10, mbtmp4.0/13, ML2.8/3, Error ellipse: s-maj=46.1km s-min=24.5km az=162.0*

ISC 31 07:29:54.0±1.6, 44°.44N±0°.06×149°.37E±0°.10, h44km±14km, n65, σ1s39/69, mb4.1/11, 1C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.33**	**307**	*d*	*i* PN		**Pn**	**07 30 14.8**	**-1.3**
KUR					*i* S		**Sn**	**07 30 31.5**	**-1.1**
KUR					pmax	pmax			
	comp=N,451nm,0.5s								
KUR					pmax	pmax			
	comp=Z,857nm,0.5s								
KUR					pmax	pmax			
	comp=E,211nm,0.3s								
KUR					smax	smax			
	comp=N,3µm,0.5s								
KUR					smax	smax			
	comp=E,952nm,0.3s								
KUR	**Kuril'sk**	**1.33**	**307**	*i*	P		**Pn**	**07 30 14.8**	**-1.3**
KUR					AMB	AMB		07 30 16.4	
	comp=E,760nm,0.4s								
KUR					*i* S		**Sn**	**07 30 31.5**	**-1.1**
KUR					A	A		07 30 32.4	
	comp=E,2µm,0.7s								
KUR					A	A		07 30 32.4	
	comp=E,3µm,0.7s								
SHO	**Shikotan**	**1.91**	**254**	*e*	PN		**Pn**	**07 30 24.0**	**-0.1**
SHO				*e*	S		**Sn**	**07 30 47.3**	**+0.5**
SHO					pmax	pmax			
	comp=E,34nm,0.4s								
SHO					pmax	pmax			
	comp=Z,89nm,0.4s								
SHO					pmax	pmax			
	comp=N,34nm,0.2s								
SHO					smax	smax			
	comp=N,838nm,0.3s								
SHO					smax	smax			
	comp=E,201nm,0.2s								
SHO	**Shikotan**	**1.91**	**254**	*e*	P		**Pn**	**07 30 23.9**	**-0.1**
SHO					AMB	AMB		07 30 27.2	
	comp=E,90nm,0.6s								
SHO				*e*	S		**Sn**	**07 30 46.7**	**-0.1**
SHO					A	A		07 30 49.8	
	comp=E,180nm,0.6s								
SHO					A	A		07 30 49.8	
	comp=E,670nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**2.55**	**262**	*e*	PN		**Pn**	**07 30 33.6**	**+0.8**
YUK				*e*	S		**Sn**	**07 31 04.1**	**+1.5**
YUK					pmax	pmax			
	comp=Z,254nm,0.5s								
YUK					pmax	pmax			
	comp=E,65nm,0.3s								
YUK					pmax	pmax			
	comp=N,103nm,0.5s								
YUK					smax	smax			
	comp=N,373nm,0.5s								
YUK					smax	smax			
	comp=E,1µm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.55**	**262**	*e*	P		**Pn**	**07 30 32.8**	**0.0**
YUK					AMB	AMB		07 30 41.2	
	comp=E,250nm,0.5s								
YUK				*e*	S		**Sn**	**07 31 03.0**	**+0.4**
YUK					A	A		07 31 07.8	
	comp=E,370nm,0.5s								
YUK					A	A		07 31 07.8	
	comp=E,1µm,0.5s								
NEM2	**Nemuro 2**	**2.83**	**249**	*e*	P		**Pn**	**07 30 36.0**	**-0.6**
NEM2				*e*	S		**Sn**	**07 31 07.7**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.84**	**249**	*e*	PN		**Pn**	**07 30 35.8**	**-0.9**
NMR				*e*	S		**Sn**	**07 31 12.0**	**+2.4**
NMR	**Nemuro--Hokkai**	**2.84**	**249**	*e*	P		**Pn**	**07 30 36.2**	**-0.5**
NMR				*e*	S		**Sn**	**07 31 09.5**	**-0.1**
RUSJ	**Misakicho**	**2.98**	**265**	⇓	*i* PN		**Pn**	**07 30 39.9**	**+1.3**
RUSJ					*e* S		**Sn**	**07 31 16.6**	**+3.5**
JRA	**Rausu**	**3.09**	**262**	*e*	P		**Pn**	**07 30 41.6**	**+1.3**
JNK	**Nakash**	**3.46**	**257**	*e*	P		**Pn**	**07 30 45.5**	**+0.2**
JNK				*e*	S		**Sn**	**07 31 24.3**	**-0.7**
AKK	**Akkeshi**	**3.57**	**248**	*e*	P		**Pn**	**07 30 46.5**	**-0.3**
JAK	**Akkeshi**	**3.68**	**249**	*e*	P		**Pn**	**07 30 48.2**	**-0.1**
JAK				*e*	S		**Sn**	**07 31 28.7**	**-1.7**
JTKR	**Abashiri--Toko**	**3.95**	**265**	*e*	P		**Pn**	**07 30 53.7**	**+1.7**
JAR	**Ashorobuto**	**4.21**	**256**	*e*	P		**Pn**	**07 30 56.5**	**+1.0**
JOB	**Onbets**	**4.30**	**251**	*e*	P		**Pn**	**07 30 57.3**	**+0.6**
JOB				*e*	S		**Sn**	**07 31 44.9**	**-0.6**
JCH	**Churui**	**4.73**	**249**	*e*	P		**Pn**	**07 31 03.0**	**+0.3**
JCH				*e*	S		**Sn**	**07 31 55.6**	**-0.7**
JKK2	**Kamakawa 2**	**4.80**	**266**	*e*	P		**

ML2.6/2, Error ellipse: s-maj=24.5km s-min=15.7km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**254**	I	I	07 39 10.0	
	baz=73,slow=329,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.33**	**254**	Pg	Pg	07 30 52.1	-2.1
	3.0nm,0.3s,baz=74,slow=16,SNR=21						
ZALV				Lg	Lg	07 31 11.9	
	2.2nm,0.3s,baz=74,slow=28,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.36**	**238**	Pn	Pn	07 32 04.3	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=7.6						
KURBB				Sn	Sn	07 33 15.8	-1.0
	baz=53,slow=31,SNR=1.2						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**8.11**	**204**	Pn	Pn	07 32 29.2	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=9.6						
MKAR				Sn	Sn	07 33 59.7	-0.4
	0.1nm,0.3s,baz=22,slow=27,SNR=1.7						
	0.3nm,0.3s						

*IDC **31** 07:36:45.0±3.2, 36°.24N×70°.87E, h170km±30km, mb3.3/6, mbtmp3.8/12, Error ellipse: s-maj=25.4km s-min=17.0km az=2.0*

*NNC **31** 07:36:52.4±2.5, 36°.92N×70°.81E, h188km±30km, mb3.0, mpv3.7, Error ellipse: s-maj=23.5km s-min=15.5km az=25.0*

ISC 31 07:36:47.5±1.1, 36°.53N±0°.10×70°.83E±0°.08, h188km, n18, σ1°61/22, mb3.6/5, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.57**	**358**	P	Pn	**07 38 22.2**	**+0.2**
	2.2nm,0.2s,baz=193,slow=14,SNR=148						
KK31				⇓S	Sn	07 39 32.8	-3.8
	20nm,0.3s,baz=183,slow=14,SNR=33						
AAK	**Ala-Archa**	**6.72**	**24**	P	Pn	07 38 25.0	+0.9
	3.6nm,0.3s,baz=197,slow=6.5,SNR=26						
AAK				S	Sn	07 39 39.7	-0.8
	8.9nm,0.6s,baz=323,slow=22,SNR=22						
CHMS	**Chumysh**	**7.13**	**24**	⇑P	Pn	07 38 30.0	+0.7
	1.3nm,0.3s						
CHMS				⇓S	Sn	07 39 47.0	-2.9
	11nm,0.7s						
TKM2	**Tokmak 2**	**7.36**	**28**	⇑P	Pn	07 38 32.6	0.0
	3.8nm,0.7s						
GEYT	**Alibeck**	**10.23**	**282**	P	Pn	07 39 09.7	-0.3
	0.8nm,0.4s,baz=134,slow=8.2,SNR=2.0						
GEYT				S	Sn	07 41 03.1	-0.9
	1.9nm,0.4s,baz=180,slow=4.3,SNR=4.8						
MKAR	**Makanchi Array**	**13.34**	**36**	P	Pn	07 39 49.8	+0.1
	0.2nm,0.5s,baz=222,slow=7.8,SNR=1.5						
AB31	**Akbulak array**	**14.99**	**331**	P	Pn	07 40 09.3	-0.6
	2.6nm,0.5s,baz=145,slow=12,SNR=43						
KURBB	**Kurchatov Arra**	**15.13**	**19**	P	Pn	07 40 13.2	+1.6
	0.5nm,0.6s,baz=209,slow=11,SNR=1.7						
BVA0	**Borovoye Array**	**16.49**	**359**	P	P	07 40 29.1	+1.6
	1.5nm,0.6s,baz=158,slow=10,SNR=8.4						
BVAR	**Borovoye Array**	**16.49**	**359**	P	Pn	07 40 30.1	+2.0
	2.3nm,0.5s,baz=167,slow=10,SNR=9.9						
AKTO	**Aktyubinsk**	**16.68**	**330**	⇑P	P	07 40 30.7	+1.2
	7.6nm,0.8s						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	P	07 40 31.6	+2.0
	9.5nm,0.5s,baz=143,slow=8.5,SNR=23						
ZALV	**Zalesovo Beam**	**19.94**	**25**	P	P	07 41 05.5	+0.7
	1.3nm,0.3s,baz=220,slow=11,SNR=5.4						
	1.3nm,0.3s						
AKASG	**Malin Array Be**	**32.82**	**309**	P	P	07 43 03.9	+1.0
	0.3nm,0.4s,baz=102,slow=9.1,SNR=1.5						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	P	07 44 13.7	+1.5
	0.8nm,0.5s,baz=116,slow=5.5,SNR=7.3						
	0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.58**	**269**	P	P	07 47 10.6	-0.9
	0.5nm,0.5s,baz=53,slow=6.9,SNR=5.3						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**82.12**	**122**	P	P	07 48 45.9	-1.5
	0.7nm,0.5s,baz=324,slow=5.0,SNR=13						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**84.39**	**125**	P	P	07 48 57.5	-1.3
	0.8nm,0.6s,baz=310,slow=4.6,SNR=10						
	0.8nm,0.6s						

*NEIC **31** 07:46:32.8±1.4, 56°.02N±0°.10×149°.74W±0°.09, h20km±10km, ML3.5/37, ML3.2(AEIC), Error ellipse: s-maj=15.5km s-min=2.5km az=152.0*

*AEIC **31** 07:46:36.2±2.1, 56°.0N±0°.1×149°.7W±0°.1, h5km±8km, Error ellipse: s-maj=17.3km s-min=9.5km az=171.0*

ISC 31 07:46:31.4±2.0, 56°.0N±0°.1×149°.75W±0°.06, h10km, n100, σ1°04/101, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.28**	**303**		Pn	**07 47 09.6**	**+0.5**
OHAK					Sn	**07 47 35.6**	**-1.6**
OHAK	**Old Harbor**	**2.28**	**303**	P	Pn	**07 47 09.6**	**+0.5**
	baz=119						
OHAK				S	Sn	**07 47 35.6**	**-1.6**
	baz=119						
KDAK	**Kodiak Island**	**2.34**	**319**		Pn	**07 47 10.1**	**+0.2**
KDAK					Sn	**07 47 36.6**	**-1.9**
SII	**Sitkinak Islan**	**2.52**	**284**		Pn	**07 47 12.3**	**-0.2**
SII					Sn	**07 47 41.9**	**-1.3**
SII	**Sitkinak Islan**	**2.52**	**284**	IAML		07 47 50.9	
	comp=N,141nm,1.2s						
SII				IAML		07 48 51.6	
	comp=E,129nm,1.1s						
SII	**Sitkinak Islan**	**2.52**	**284**	P	Pn	**07 47 12.3**	**-0.2**
	baz=100						
SII				S	Sn	**07 47 41.9**	**-1.3**
	baz=100						
SYI	**Shuyak Island**	**2.94**	**332**		Pn	**07 47 18.7**	**+0.5**
SYI					Sn	**07 47 53.3**	**-0.3**
Q20K	**Shuyak Island**	**2.95**	**332**	P	Pn	**07 47 18.7**	**+0.5**
	baz=149						
Q20K				S	Sn	**07 47 53.3**	**-0.3**
	baz=149						
R18K	**Karluk**	**3.00**	**303**		Pn	**07 47 19.8**	**+0.8**
R18K					Sn	**07 47 54.9**	**0.0**
R18K	**Karluk**	**3.00**	**303**	IAML		07 47 55.6	
	comp=E,99nm,0.5s						
R18K				IAML		07 47 55.7	
	comp=N,90nm,0.6s						
R18K	**Karluk**	**3.00**	**303**	P	Pn	**07 47 19.8**	**+0.8**
	baz=118						
R18K				S	Sn	**07 47 54.9**	**0.0**
	baz=118						
Q19K	**Cape Douglas,**	**3.58**	**326**		Pn	**07 47 28.7**	**+1.8**
Q19K	**Cape Douglas,**	**3.58**	**326**	P	Pn	**07 47 28.7**	**+1.8**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.58**	**315**		Pn	**07 47 29.1**	**+2.1**
CNPM	**China Poot**	**3.58**	**348**		Pn	**07 47 27.1**	**+0.1**
CNPM					Sn	**07 48 08.3**	**-1.0**
CNPM	**China Poot**	**3.58**	**348**	IAML		07 48 09.9	
	comp=E,49nm,0.7s						
KCE	**Katmai Mt Cerb**	**3.69**	**309**		Pn	**07 47 30.8**	**+2.3**
ACHA	**Angle Creek He**	**3.74**	**308**		Pn	**07 47 30.6**	**+1.4**
BRSE	**Bradley Lake S**	**3.75**	**352**		Pn	**07 47 29.1**	**-0.1**
BRSE					Sn	**07 48 12.1**	**-1.3**
BRSE	**Bradley Lake S**	**3.75**	**352**	P	Pn	**07 47 29.1**	**-0.1**
	baz=171						
BRSE				S	Sn	**07 48 12.1**	**-1.3**
	baz=171						
BRLK	**Bradley Lake**	**3.78**	**351**		Pn	**07 47 29.4**	**-0.3**
BRLK	**Bradley Lake**	**3.78**	**351**	IAML		07 48 19.6	
	comp=E,39nm,0.8s						
ANCK	**Angle Creek**	**3.81**	**307**		Pn	**07 47 31.9**	**+1.8**
Q23K	**Middleton Isla**	**3.85**	**27**		Pn	**07 47 30.9**	**+0.3**
Q23K	**Middleton Isla**	**3.85**	**27**	IAML		07 48 28.0	
	comp=N,148nm,1.2s						
Q23K	**Middleton Isla**	**3.85**	**27**	P	Pn	**07 47 30.9**	**+0.3**
	baz=209						
KAHC	**Katmai Hardscr**	**3.87**	**315**		Pn	**07 47 33.0**	**+2.0**
KAHC	**Katmai Hardscr**	**3.87**	**315**	P	Pn	**07 47 33.0**	**+2.0**
	baz=130						
CNTC	**Contact Creek**	**4.01**	**306**		Pn	**07 47 34.0**	**+1.0**
Q17K	**Contact Creek**	**4.01**	**306**	P	Pn	**07 47 34.0**	**+1.0**
	baz=121						
P19K	**Oil Pt**	**4.07**	**334**		Pn	**07 47 34.7**	**+1.0**
P19K	**Oil Pt**	**4.07**	**334**	IAML		07 48 26.9	
	comp=N,107nm,0.6s						
P19K				IAML		07 48 27.2	
	comp=E,109nm,0.5s						
P19K	**Oil Pt**	**4.07**	**334**	P	Pn	**07 47 34.7**	**+1.0**
	baz=151						
SEW	**Seward**	**4.08**	**2**		Pn	**07 47 33.3**	**-0.4**
SEW	**Seward**	**4.08**	**2**	P	Pn	**07 47 33.3**	**-0.4**
	baz=182						
P23K	**Montague Islan**	**4.16**	**16**		Pn	**07 47 35.2**	**+0.3**
P23K	**Montague Islan**	**4.16**	**16**	P	Pn	**07 47 35.2**	**+0.3**
	baz=198						
O20K	**Slope Mountain**	**4.33**	**341**		Pn	**07 47 37.9**	**+0.7**
O20K	**Slope Mountain**	**4.33**	**341**	P	Pn	**07 47 37.9**	**+0.7**
	baz=158						
IVE	**Iliamna Volcan**	**4.35**	**338**		Pn	**07 47 38.0**	**+0.4**
O22K	**Cooper Landing**	**4.45**	**0**		Pn	**07 47 39.3**	**+0.5**
O22K	**Cooper Landing**	**4.45**	**0**	P	Pn	**07 47 39.3**	**+0.5**
	baz=180						
P18K	**Big Mountain,**	**4.46**	**321**		Pn	**07 47 39.7**	**+0.6**
P18K	**Big Mountain,**	**4.46**	**321**	P	Pn	**07 47 39.7**	**+0.6**
	baz=136						
Q16K	**King Salmon**	**4.58**	**308**		Pn	**07 47 41.3**	**+0.7**
Q16K	**King Salmon**	**4.58**	**308**	P	Pn	**07 47 41.3**	**+0.7**
	baz=122						
HIN	**Hinchinbrook I**	**4.69**	**20**		Pn	**07 47 42.3**	**+0.1**
HIN	**Hinchinbrook I**	**4.69**	**20**	IAML		07 48 25.9	
	comp=E,64nm,1.5s						
HIN				IAML		07 50 52.8	
	comp=N,47nm,1.5s						
RSO	**Redoubt South**	**4.71**	**342**	Pn	Pn	**07 47 43.5**	**+0.9**
P17K	**Kvichak River**	**4.79**	**314**	P	Pn	**07 47 45.6**	**+2.1**
	baz=128						
O18K	**Koktuh Hills**	**4.80**	**325**		Pn	**07 47 44.4**	**+0.7**
O18K	**Koktuh Hills**	**4.80**	**325**	IAML		07 48 41.0	
	comp=N,38nm,0.8s						
O18K				IAML		07 48 41.5	
	comp=E,24nm,1.5s						
O18K	**Koktuh Hills**	**4.80**	**325**	P	Pn	**07 47 44.4**	**+0.7**
	baz=140						
KAIM	**Kayak Island**	**4.82**	**34**		Pn	**07 47 44.5**	**+0.6**
KAIM	**Kayak Island**	**4.82**	**34**	P	Pn	**07 47 44.5**	**+0.6**
	baz=218						
O19K	**Port Alsworth**	**4.82**	**332**		Pn	**07 47 45.0**	**+1.1**
O19K	**Port Alsworth**	**4.82**	**332**	IAML		07 48 42.6	
	comp=N,49nm,0.5s						
O19K	**Port Alsworth**	**4.82**	**332**	P	Pn	**07 47 45.0**	**+1.1**
	baz=147						
EYAK	**Cordova Ski Ar**	**4.99**	**23**		Pn	**07 47 46.4**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.99**	**23**	P	Pn	**07 47 46.4**	**+0.2**
	baz=206						
FID	**Port Fidalgo**	**5.02**	**19**		Pn	**07 47 46.5**	**-0.3**
FID	**Port Fidalgo**	**5.02**	**19**	IAML		07 48 41.5	
	comp=E,34nm,1.2s						
FID				IAML		07 48 42.4	
	comp=N,26nm,1.4s						
RC01	**Rabbit Creek A**	**5.06**	**0**		Pn	**07 47 47.4**	**+0.2**
RC01	**Rabbit Creek A**	**5.06**	**0**	IAML		07 48 46.4	
	comp=N,20nm,0.8s						
RC01				IAML		07 48 48.3	
	comp=E,25nm,0.6s						
RC01	**Rabbit Creek A**	**5.06**	**0**	P	Pn	**07 47 47.4**	**+0.2**
	baz=180						
RAGM	**Ragged Mountai**	**5.12**	**30**	Pn	Pn	**07 47 48.8**	**+0.8**
RAGM				IAML		07 49 49.4	
	comp=E,48nm,1.4s						
GOAT	**Goat Mountain**	**5.26**	**28**		Pn	**07 47 50.8**	**+0.7**
P16K	**Nushagak River**	**5.36**	**307**		Pn	**07 47 52.4**	**+1.1**
P16K	**Nushagak River**	**5.36**	**307**	P	Pn	**07 47 52.4**	**+1.1**
	baz=120						
KNK	**Knik Glacier**	**5.43**	**7**		Pn	**07 47 53.0**	**+0.7**
KNK	**Knik Glacier**	**5.43**	**7**	P	Pn	**07 47 53.0**	**+0.7**
	baz=187						
SUA	**Susitna One**	**5.46**	**355**	Pn	Pn	**07 47 52.5**	**-0.3**
SNH	**Sunshine Point**	**5.53**	**39**	Pn	Pn	**07 47 54.0**	**+0.2**
BMRM	**Bremner River**	**5.62**	**26**	P	Pn	**07 47 55.8**	**+0.7**
	baz=210						
N18K	**Kilae Creek**	**5.66**	**328**	Pn	Pn	**07 47 55.9**	**+0.4**
O16K	**Kokwok River B**	**5.70**	**312**	Pn	Pn	**07 47 57.9**	**+1.9**
KLU	**Klutina**	**5.82**	**18**		Pn	**07 47 58.3**	**+0.6**
KLU	**Klutina**	**5.82**	**18**	P	Pn	**07 47 58.6**	**+0.9**
	baz=201						
SML	**Sawmill**	**5.83**	**7**	Pn	Pn	**07 47 57.8**	**0.0**
SCM	**Sheep Creek Mo**	**5.94**	**11**	Pn	Pn	**07 48 01.5**	**+2.1**
N17K	**Nushagak Hills**	**5.96**	**322**	Pn	Pn	**07 48 00.3**	**+0.7**
ISLE	**Juniper Island**	**6.01**	**37**		Pn	**07 48 01.2**	**+0.8**
SKT	**Skwentna**	**6.03**	**352**	Pn	Pn	**07 48 02.9**	**+2.4**
M20K	**Styx River**	**6.11**	**345**	Pn	Pn	**07 48 01.9**	**+0.1**
N25K	**Chitina, Valde**	**6.19**	**23**		Pn	**07 48 04.0**	**+1.2**
N25K	**Chitina, Valde**	**6.19**	**23**	P	Pn	**07 48 04.0**	**+1.2**
	baz=207						
M24K	**Tolsona, Glenn**	**6.35**	**15**	Pn	Pn	**07 48 07.0**	**+2.0**
PCA	**Pinnacle**	**6.47**	**47**		Pn	**07 48 07.5**	**+0.8**
PINM	**Pinnacle**	**6.47**	**47**	P	Pn	**07 48 07.4**	**+0.8**
	baz=235						
BARN	**Barnard Glacie**	**6.57**	**37**		Pn	**07 48 08.5**	**+0.3**
PNL	**Peninsula**	**6.61**	**52**		Pn	**07 48 09.0**	**+0.5**
PNL	**Peninsula**	**6.61**	**52**	P	Pn	**07 48 09.0**	**+0.5**
	baz=241						
CTGM	**Chitina Glacie**	**6.62**	**38**	Pn	Pn	**07 48 08.9**	**+0.2**
LOGN	**Logan Glacier**	**6.63**	**40**	Pn	Pn	**07 48 09.1**	**+0.1**
DHY	**Denali Highway**	**7.16**	**9**	Pn	Pn	**07 48 17.0**	**+0.9**
P29M	**Windy Craggy**	**7.35**	**56**		Pn	**07 48 18.9**	**+0.2**
YUK3	**Moose Creek**	**7.49**	**36**	P	Pn	**07 48 22.8**	**+2.0**
	baz=224						
BCAR	**Beaver Creek A**	**8.12**	**27**	Pn	Pn	**07 48 30.5**	**+1.3**
L14K	**Kuka Creek**	**8.57**	**314**	Pn	Pn	**07 48 36.7**	**+1.4**
N31M	**Braeburn, Yuko**	**9.07**	**47**	Pn	Pn	**07 48 43.2**	**+1.0**

IDC 31 07:55:54.5±13.0, 5°.47S×128°.21E, h0km, mb4.1/1, mbtmp3.6/3, ML3.3/2, Error ellipse: s-maj=189.5km s-min=119.8km az=149.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.57**	**158**	Pn	Pn	07 59 35.4	-0.2
	0.1nm,0.3s,baz=337,slow=12,SNR=5.3						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**18.90**	**164**	P	P	08 00 16.1	-0.7
	0.1nm,0.3s,baz=342,slow=9.4,SNR=7.2						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**29.10**	**156**	P	P	08 01 57.5	+0.4
	0.6nm,0.3s,baz=315,slow=8.6,SNR=4.0						
	0.6nm,0.3s						

*IDC **31** 08:18:00.9±6.7, 19°.80S×178°.91W, h588km±82km, mb2.8/5, mbtmp3.7/5, Error ellipse: s-maj=233.8km s-min=28.6km az=159.0*

ISC 31 08:18:01.5±3.1, 20°.5±2°.×179°.0W±0°.6, h600km, n9, σ0°98/9, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.78**	**261**	P	**P**	**08 25 16.5**	**+0.7**
	0.5nm,0.3s,baz=97,slow=7.6,SNR=19						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**43.79**	**256**	P	**P**	**08 25 16.1**	**+0.3**
	0.4nm,0.4s,baz=94,slow=8.0,SNR=14						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**81.10**	**44**	P	**P**	**08 29 16.4**	**+0.8**
	0.5nm,0.7s,baz=227,slow=6.9,SNR=5.8						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**87.42**	**58**	P	**P**	**08 29 46.9**	**+0.3**
	0.4nm,0.9s,baz=207,slow=5.2,SNR=3.5						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**89.03**	**44**	P	**P**	**08 29 54.2**	**+0.3**
	0.4nm,0.6s,baz=215,slow=3.3,SNR=5.2						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**117.85**	**320**	PKP	**PKiKP**	**08 35 40.9**	**+0.3**
	0.7nm,0.3s,baz=73,slow=2.8,SNR=4.7						
ARCES	**ARCESS Array B**	**127.96**	**349**	PKP	**PKiKP**	**08 35 59.5**	**-0.6**
	2.2nm,0.9s,baz=353,slow=3.9,SNR=4.7						
AKASG	**Malin Array Be**	**141.85**	**331**	PKP	**PKPdf**	**08 36 23.7**	**-2.0**
	1.9nm,0.4s,baz=42,slow=4.2,SNR=15						
MMAI	**Mount Meron Ar**	**146.59**	**300**	PKPbc	**PKiKP**	**08 36 39.1**	**-0.2**
	0.8nm,0.3s,baz=108,slow=4.7,SNR=2.6						

IDC 31 08:33:29.0±2.7, 53°.76N×86°.86E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.7km s-min=14.7km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**280**	I	I	08 42 00.0	
	0.1nm,0.7s,baz=98,slow=331,SNR=5.6						
ZALV	**Zalesovo Beam**	**1.22**	**280**	Pg	Pg	08 33 51.5	-1.0
	0.7nm,0.3s,baz=99,slow=17,SNR=6.8						
ZALV				Lg	Lg	08 34 08.9	
	1.0nm,0.3s,baz=100,slow=28,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.01**	**242**	Pn	Pn	08 34 59.9	+0.9
	0.1nm,0.3s,baz=56,slow=13,SNR=5.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.56**	**205**	Pn	Pn	08 35 21.6	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=6.8						
	0.2nm,0.2s						

IDC 31 08:34:45.1±2.7, 53°.59N×87°.92E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.0km s-min=16.9km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**282**	I	I	08 47 03.5	
	0.2nm,1.0s,baz=96,slow=339,SNR=12						
ZALV	**Zalesovo Beam**	**1.87**	**282**	Pn	Pn	08 35 17.7	-0.7
	2.3nm,0.3s,baz=104,slow=16,SNR=14						
ZALV				Lg	Lg	08 35 43.9	
	3.6nm,0.3s,baz=104,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn	Pn	08 36 22.7	+0.8
	0.1nm,0.3s,baz=60,slow=14,SNR=7.3						
KURBB				Sn	Sn	08 37 36.3	-0.4
	baz=359,slow=18,SNR=4.7						
KURBB				Lg	Lg	08 38 12.2	
	baz=63,slow=32,SNR=9.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 36 39.7	+1.3
	0.2nm,0.3s,baz=28,slow=13,SNR=9.4						
MKAR				Lg	Lg	08 38 45.9	
	0.1nm,0.3s,baz=33,slow=29,SNR=2.8						
	0.2nm,0.4s						

TAP 31 08:43:36.3, 22°.27N×121°.28E, h49km, ML2.3, 1C-3D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.34**	**133**	*i* P	Pn	08 43 45.6	-0.2
	baz=129						
LAY				*e*S	Sn	08 43 53.9	+1.3
	baz=129						
TAW	**Tawu**	**0.36**	**283**	*i* P	Pn	08 43 45.9	-0.1
	baz=290						
TAW				*e*S	Sn	08 43 53.7	+0.8
	baz=290						
TAWH	**Dawu Township**	**0.37**	**280**	⇓*i*P	Pn	08 43 45.8	-0.2
	baz=280						
TAWH				*e*S	Sn	08 43 53.3	+0.4
	baz=280						
LYUB	**Lan-yu**	**0.39**	**134**	*e*P	Pn	08 43 45.0	-1.3
	baz=130						
LYUB				*i* S	Sn	08 43 52.7	-0.6
	baz=130						
EAST	**Anshuo**	**0.41**	**285**	P	Pn	08 43 46.1	-0.4
	baz=289						
EAST				*e*S	Sn	08 43 51.9	-1.9
	baz=289						
LDUT	**Ludao**	**0.44**	**24**	⇓*e*P	Pn	08 43 48.1	+1.4
	baz=30						
LDUT				*e*S	Sn	08 43 55.6	+1.4
	baz=30						
ECL	**Taimali**	**0.44**	**317**	*e*P	Pn	08 43 47.5	+0.7
	baz=318						
ECL				*e*S	Sn	08 43 54.3	0.0
	baz=318						
SLIU	**Shizi**	**0.45**	**263**	⇑P	Pn	08 43 46.6	-0.2
	baz=263						
SLIU				*e*S	Sn	08 43 55.1	+0.6
	baz=263						
SMST	**Manzhou Townsh**	**0.48**	**238**	*e*P	Pn	08 43 47.5	+0.3
	baz=235						
SMST				*e*S	Sn	08 43 55.7	+0.6
	baz=235						
TSEB	**Hengchuen, Pin**	**0.51**	**223**	*e*P	Pn	08 43 48.1	+0.5
	baz=229						
TSEB				*e*S	Sn	08 43 57.9	+2.2
	baz=229						
TWKBT	**Hengchun**	**0.54**	**233**	P	Pn	08 43 48.5	+0.5
	baz=232						
TWKBT				*e*S	Sn	08 43 58.3	+1.8
	baz=232						
TWK1	**Hengchun**	**0.55**	**233**	P	Pn	08 43 48.6	+0.6
	baz=232						
TWK1				*e*S	Sn	08 43 58.4	+1.9
	baz=232						
HEN	**Hengchun**	**0.57**	**242**	⇓*e*P	Pn	08 43 50.4	+2.1
	baz=244						
TWGBT	**Beinan**	**0.57**	**341**	*e*P	Pn	08 43 48.1	-0.2
	baz=341						
TWGBT				*e*S	Sn	08 43 57.4	+0.3
	baz=341						
TWG	**Pinlang**	**0.58**	**341**	P	Pn	08 43 48.1	-0.3
	baz=341						
TWG				*e*S	Sn	08 43 57.1	-0.1
	baz=341						
SCZT	**Fangliau**	**0.62**	**279**	*e*P	Pn	08 43 48.7	-0.2
	baz=282						
SCZT				*e*S	Sn	08 44 00.0	+2.0
	baz=282						
LONT	**Longtian**	**0.65**	**348**	*e*P	Pn	08 43 48.8	-0.5
	baz=340						
LONT				*e*S	Sn	08 43 57.6	-1.1
	baz=340						
MASBT	**Mashibuluo**	**0.69**	**300**	*e*P	Pn	08 43 49.6	-0.2
	baz=299						
MASBT				*e*S	Sn	08 43 59.5	-0.1
	baz=299						
EDH	**Donghe**	**0.70**	**2**	*e*P	Pn	08 43 49.5	-0.5
	baz=355						
EDH				*e*S	Sn	08 43 59.9	0.0
	baz=355						
TSMG	**Majia**	**0.73**	**306**	*e*P	Pn	08 43 51.3	+0.9
	baz=306						
TSMG				*e*S	Sn	08 44 01.6	+1.1
	baz=306						
SSD	**Sandimen**	**0.76**	**308**	*e*P	Pn	08 43 50.5	-0.3
	baz=303						
SSD				*e*S	Sn	08 44 01.9	+0.5
	baz=303						
CHKT	**Chengkung**	**0.83**	**6**	*e*S	Sn	08 44 04.5	+1.7
	baz=6.0						
SGLT	**Jiouru**	**0.86**	**302**	*e*P	Pn	08 43 52.5	+0.5
	baz=302						
EHD	**Haiduan**	**0.87**	**356**	*e*P	Pn	08 43 53.0	+0.6
	baz=356						
CHKH	**Chenggong**	**0.92**	**7**	P	Pn	08 43 53.2	+0.3
	baz=7.0						
CHKH				*e*S	Sn	08 44 05.7	+0.6
	baz=7.0						
FULB	**Fuli**	**0.92**	**1**	*e*P	Pn	08 43 55.3	+2.3

EHY					*e*S		Sn	08 44 11.4	-1.2
	baz=354								
TWK	**Hsinying**	**1.23**	**324**		*e*P		Pn	08 43 56.5	-0.7
	baz=322								
TWK					*e*S		Sn	08 44 13.8	+1.1
	baz=322								
CHN4	**Tsaushan**	**1.25**	**330**		*e*P		Pn	08 43 57.2	-0.1
	baz=329								
CHN4					*e*S		Sn	08 44 14.5	+1.5
	baz=329								
ALS	**Alishan**	**1.31**	**341**		*e*P		Pn	08 43 59.1	+0.6
	baz=340								
ALS					*e*S		Sn	08 44 16.6	+1.7
	baz=340								
TSCK	**Chigu Township**	**1.40**	**309**		*e*P		Pn	08 43 59.1	-0.3
	baz=308								
WARBT	**Fenglin Townsh**	**1.44**	**4**		P		Pn	08 44 00.0	0.0
	baz=4.0								
WARBT					*i* S		Sn	08 44 17.6	-0.2
	baz=4.0								
VWDT	**VWDT**	**1.48**	**355**		*e*S		Sn	08 44 20.8	+2.1
	baz=4.0								
SSLB	**Suanglung**	**1.54**	**349**		*e*P		Pn	08 44 02.5	+1.2
	baz=348								
SSLB					*e*S		Sn	08 44 21.4	+1.2
	baz=348								
OWD	**Renai**	**1.68**	**357**		*e*P		Pn	08 44 05.5	+2.1
	baz=343								
OWD					*e*S		Sn	08 44 25.1	+1.4
	baz=343								
WUSB	**Renai**	**1.72**	**355**		*e*P		Pn	08 44 04.6	+0.7
	baz=344								
WUSB					*e*S		Sn	08 44 25.5	+0.8
	baz=344								
LXIB	**Xiulin Townshi**	**1.74**	**4**		*e*P		Pn	08 44 05.5	+1.3
	baz=12								
LXIB					*e*S		Sn	08 44 27.5	+2.1
	baz=12								

IDC 31 08:50:50.9±556.0, 55.92N×23.75E, h0km, Error ellipse: s-maj=231.3km s-min=130.9km az=64.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**7.54**	**78**	I	I	09 36 00.0	
	baz=268,slow=331,SNR=2.2						
I37NO	**I37NO**	**13.41**	**352**	I	I	10 07 10.0	
	baz=163,slow=331,SNR=1.1						
I31KZ	**AKTYUBINSK INF**	**21.13**	**91**	I	I	11 00 20.0	
	baz=294,slow=338,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**34.15**	**67**	I	I	12 20 40.0	
	baz=303,slow=338,SNR=2.5						

*NNC **31** 08:58:59.9±2.5, 54.55N×87.50E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=27.6km s-min=16.7km az=175.0, Suspected Mining explosion.*

IDC 31 08:59:05.5±3.3, 54.44N×87.08E, h0km, mbtmp3.3/2, ML3.1/2, 5C-3D, Error ellipse: s-maj=31.4km s-min=18.4km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**251**	I	I	09 08 25.0	
	0.3nm,0.7s,baz=71,slow=324,SNR=0.7						
ZAA0	**Zalesovo Array**	**1.42**	**251**	⇓Pn	Pn	08 59 30.2	-2.3
	0.6nm,0.4s						
ZAA0				⇓Sn	Sn	08 59 54.0	+2.2
	1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**1.42**	**251**	Pn	Pn	08 59 30.5	-1.9
	2.9nm,0.3s,baz=68,slow=16,SNR=39						
ZALV				Sn	Sb	08 59 51.4	0.0
	2.0nm,0.3s,baz=65,slow=27,SNR=6.8						
KURK	**Kurchatov**	**6.36**	**238**	⇑Pn	Pn	09 00 38.6	-1.8
	2.0nm,0.9s						
KURK				⇑Sn	Sn	09 01 54.4	+0.7
	1.5nm,1.1s						
KURBB	**Kurchatov Arra**	**6.46**	**237**	⇑Pn	Pn	09 00 40.6	-1.2
	1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**6.46**	**237**	Pn	Pn	09 00 42.9	+1.1
	0.2nm,0.3s,baz=55,slow=14,SNR=5.5						
KURBB				Sn	Sn	09 01 56.7	+0.5
	0.1nm,0.3s,baz=22,slow=25,SNR=1.3						
	1.1nm,0.3s						
MK31	**Makanchi Array**	**8.23**	**204**	⇑Pn	Pn	09 01 05.4	-0.7
	0.4nm,0.6s,baz=27,slow=14,SNR=19						
MK31				⇑Sn	Sn	09 02 39.7	-0.1
	0.3nm,0.5s,baz=330,slow=24,SNR=4.2						
MK31				⇓Lg	Lg	09 03 27.6	
	2.1nm,1.1s,baz=134,slow=14,SNR=8.1						
MKAR	**Makanchi Array**	**8.23**	**204**	Pn	Pn	09 01 07.5	+1.4
	0.4nm,0.3s,baz=26,slow=14,SNR=19						
MKAR				Sn	Sn	09 02 37.9	-1.9
	0.1nm,0.3s,baz=26,slow=24,SNR=3.1						
	0.5nm,0.3s						

IDC 31 09:06:02.9±657.0, 55.91N×20.50E, h0km, Error ellipse: s-maj=268.6km s-min=160.4km az=52.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**9.33**	**78**	I	I	10 01 30.0	
	baz=270,slow=324,SNR=1.3						
I37NO	**I37NO**	**13.24**	**357**	I	I	10 23 50.0	
	baz=174,slow=330,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**35.83**	**66**	I	I	12 46 20.0	
	baz=304,slow=337,SNR=1.2						

*RSPR **31** 09:09:28.2, 19.04N×68.85W, h24km±5km*

SDD 31 09:09:02.9±0.7, 19.07N×67.88W, h17km±47km, MD2.5, ML2.2, MW1.9, 1C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.73**	**221**	⇑*e*P	Pn	09 09 40.3	+22
PCDR	**Punta Cana, DR**	**0.73**	**221**	*e*S	Sn	09 09 48.5	+19
AGPR	**Aguadilla, PR**	**0.94**	**129**	*e*Pg	Pb	09 09 19.6	-1.2
AGPR				*e*Sg	Sb	09 09 31.7	-1.3
AGPR				IAML		09 09 54.9	
	comp=N,127nm,2.5s						
MIDR	**Miches**	**1.11**	**266**	*e*Pg	Pb	09 09 22.6	-1.1
MIDR				*e*Sg	Sb	09 09 36.9	-1.1
MIDR				IAML		09 09 37.4	
	comp=N,34nm,0.1s						
HATOM	**Hato Mayor del**	**1.45**	**259**	*e*Pg	Pn	09 09 27.6	-0.9
HATOM				*e*Sg	Sn	09 09 46.8	-0.4
HATOM				IAML		09 09 59.8	
	comp=N,29nm,2.1s						

*NEIC **31** 09:18:55.8±1.4, 56.04N±0.09×149.8W±0.1, h26km±9km, ML3.9/45, ML3.6(AEIC), Error ellipse: s-maj=12.9km s-min=8.3km az=166.0*

*AEIC **31** 09:18:59.5±1.5, 56.11N±0.08×149.8W±0.1, h12km±7km, Error ellipse: s-maj=12.3km s-min=8.1km az=165.0*

ISC 31 09:18:54.0±1.2, 56.07N±0.09×149.84W±0.06, h10km, n217, σ0.92/222, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.23**	**303**	Pn	**Pn**	**09 19 31.4**	**+0.4**
OHAK	**Old Harbor**	**2.23**	**303**	P	**Pn**	**09 19 31.3**	**+0.4**
OHAK	**Old Harbor**	**2.23**	**303**	P	**Pn**	**09 19 31.3**	**+0.4**
	baz=118						
OHAK				S	**Sn**	**09 19 56.3**	**-2.1**
	baz=118						
KDAK	**Kodiak Island**	**2.28**	**320**	Pn	**Pn**	**09 19 32.2**	**+0.5**
KDAK	**Kodiak Island**	**2.28**	**320**		**Sn**	**09 19 57.9**	**-1.9**
SII	**Sitkinak Islan**	**2.47**	**283**	Pn	**Pn**	**09 19 34.0**	**-0.4**
SII				Sn	**Sn**	**09 20 03.0**	**-1.5**
SII				IAML		09 20 03.9	
	comp=E,643nm,0.8s						
SII				IAML		09 20 04.5	
	comp=N,401nm,0.9s						
SII	**Sitkinak Islan**	**2.47**	**283**	P	**Pn**	**09 19 34.1**	**-0.2**
SII	**Sitkinak Islan**	**2.47**	**283**	P	**Pn**	**09 19 34.1**	**-0.2**
	baz=99						
SII				S	**Sn**	**09 20 02.8**	**-1.7**
	baz=99						
SYI	**Shuyak Island**	**2.89**	**333**	Pn	**Pn**	**09 19 40.7**	**+0.6**
Q20K	**Shuyak Island**	**2.90**	**333**	P	**Pn**	**09 19 40.5**	**+0.4**
	baz=149						
R18K	**Karluk**	**2.94**	**302**		**Pn**	**09 19 41.5**	**+0.7**
R18K					**Sn**	**09 20 15.1**	**-1.0**
R18K	**Karluk**	**2.94**	**302**	IAML		09 20 19.1	
	comp=N,241nm,0.5s						
R18K				IAML		09 20 19.4	
	comp=E,301nm,0.7s						
R18K	**Karluk**	**2.94**	**302**	P	**Pn**	**09 19 41.5**	**+0.7**
	baz=118						
R18K				S	**Sn**	**09 20 15.1**	**-1.0**
	baz=118						
Q19K	**Cape Douglas,**	**3.52**	**326**	Pn	**Pn**	**09 19 50.0**	**+1.2**
Q19K				IAML		09 20 46.4	
	comp=N,323nm,1.1s						
Q19K	**Cape Douglas,**	**3.52**	**326**	P	**Pn**	**09 19 49.9**	**+1.1**
	baz=142						
KAHG	**Katmai Hook Gl**	**3.52**	**315**		**Pn**	**09 19 50.2**	**+1.3**
CNPM	**China Poot**	**3.54**	**348**		**Pn**	**09 19 49.0**	**-0.1**
CNPM				IAML		09 20 31.6	
	comp=N,157nm,0.4s						
CNPM				IAML		09 20 32.3	
	comp=E,123nm,0.5s						
KCE	**Katmai Mt Cerb**	**3.63**	**309**		**Pn**	**09 19 52.2**	**+1.9**
KCG	**Knife Ck. Glac**	**3.64**	**310**		**Pn**	**09 19 51.8**	**+1.4**
ACHA	**Angle Creek He**	**3.68**	**308**		**Pn**	**09 19 52.1**	**+1.2**
BRSE	**Bradley Lake S**	**3.71**	**353**		**Pn**	**09 19 51.0**	**-0.4**
BRSE					**Sn**	**09 20 33.6**	**-1.5**
BRSE	**Bradley Lake S**	**3.71**	**353**	P	**Pn**	**09 19 51.0**	**-0.4**
	baz=172						
BRSE				S	**Sn**	**09 20 33.6**	**-1.5**
	baz=172						
HOM	**Homer**	**3.72**	**346**	Pn	**Pn**	**09 19 52.0**	**+0.6**
HOM				IAML		09 20 44.4	
	comp=E,309nm,1.5s						
HOM				IAML		09 20 54.0	
	comp=N,345nm,1.7s						
BRLK	**Bradley Lake**	**3.74**	**352**		**Pn**	**09 19 51.4**	**-0.4**
BRLK				IAML		09 20 38.4	
	comp=N,134nm,1.2s						
ANCK	**Angle Creek**	**3.75**	**307**		**Pn**	**09 19 53.3**	**+1.4**
KVTA	**Katmai Vly 10**	**3.76**	**310**		**Pn**	**09 19 53.7**	**+1.7**
KAHC	**Katmai Hardscr**	**3.81**	**315**		**Pn**	**09 19 54.3**	**+1.5**
KAHC	**Katmai Hardscr**	**3.81**	**315**	P	**Pn**	**09 19 54.3**	**+1.5**
	baz=130						
Q23K	**Middleton Isla**	**3.85**	**28**	Pn	**Pn**	**09 19 53.3**	**+0.1**
Q23K				IAML		09 21 19.2	
	comp=N,257nm,1.7s						
Q23K				IAML		09 21 29.5	
	comp=E,391nm,1.9s						
Q23K	**Middleton Isla**	**3.85**	**28**	P	**Pn**	**09 19 52.9**	**-0.3**
	baz=210						
MID	**Middleton Isla**	**3.85**	**28**	Pn	**Pn**	**09 19 53.3**	**+0.1**
MID				IAML		09 21 19.2	
	comp=N,269nm,1.7s						
MID	**Middleton Isla**	**3.85**	**28**	P	**Pn**	**09 19 52.8**	**-0.4**
CNTC	**Contact Creek**	**3.96**	**306**		**Pn**	**09 19 55.8**	**+1.0**
CNTC					**Sn**	**09 20 41.1**	**-0.2**
Q17K	**Contact Creek**	**3.96**	**306**	P	**Pn**	**09 19 55.8**	**+1.0**
	baz=120						
Q17K				S	**Sn**	**09 20 41.1**	**-0.2**
	baz=120						
KELA	**Mount Kelaz**	**3.99**	**309**		**Pn**	**09 19 56.2**	**+1.0**
P19K	**Oil Pt**	**4.02**	**335**	Pn	**Pn**	**09 19 56.5**	**+0.9**
P19K				IAML		09 20 48.0	
	comp=N,236nm,0.5s						
P19K	**Oil Pt**	**4.02**	**335**	P	**Pn**	**09 19 56.1**	**+0.5**
	baz=151						
SEW	**Seward**	**4.05**	**3**		**Pn**	**09 19 55.0**	**-1.0**
SEW	**Seward**	**4.05**	**3**	P	**Pn**	**09 19 55.0**	**-1.0**
	baz=182						
P23K	**Montague Islan**	**4.14**	**17**		**Pn**	**09 19 56.9**	**-0.3**
P23K	**Montague Islan**	**4.14**	**17**	P	**Pn**	**09 19 56.9**	**-0.3**
	baz=199						
O20K	**Slope Mountain**	**4.28**	**341**		**Pn**	**09 19 59.5**	**+0.2**
O20K	**Slope Mountain**	**4.28**	**341**	P	**Pn**	**09 19 59.5**	**+0.2**
	baz=158						
P18K	**Big Mountain,**	**4.41**	**321**	Pn	**Pn**	**09 20 01.4**	**+0.5**
P18K	**Big Mountain,**	**4.41**	**321**	P	**Pn**	**09 20 01.1**	**+0.2**
	baz=136						
O22K	**Cooper Landing**	**4.42**	**1**		**Pn**	**09 20 00.9**	**-0.2**
O22K	**Cooper Landing**	**4.42**	**1**	P	**Pn**	**09 20 00.6**	**-0.4**
	baz=180						
SLKM	**Skilak Lake**	**4.45**	**358**		**Pn**	**09 20 00.7**	**-0.9**
R16K	**Pilot Point**	**4.50**	**293**		**Pn**	**09 20 02.9**	**+0.7**
R16K	**Pilot Point**	**4.50**	**293**	IAML		09 21 29.5	
	comp=N,163nm,2.0s						
R16K	**Pilot Point**	**4.50**	**293**	P	**Pn**	**09 20 02.9**	**+0.7**
	baz=106						
Q16K	**King Salmon**	**4.52**	**308**		**Pn**	**09 20 03.6**	**+1.2**
Q16K	**King Salmon**	**4.52**	**308**	P	**Pn**	**09 20 03.6**	**+1.2**
	baz=122						
RED	**Redoubt Volcan**	**4.62**	**342**		**Pn**	**09 20 03.2**	**-0.8**
RSO	**Redoubt South**	**4.66**	**342**	Pn	**Pn**	**09 20 04.0**	**-0.6**
HIN	**Hinchinbrook I**	**4.68**	**21**	Pn	**Pn**	**09 20 04.6**	**-0.1**
HIN				IAML		09 20 57.2	
	comp=E,130nm,1.3s						
HIN				IAML		09 20 58.4	
	comp=N,138nm,0.7s						
RDWB	**Redoubt West**	**4.70**	**342**		**Pn**	**09 20 04.4**	**-0.7**
P17K	**Kvichak River**	**4.73**	**314**		**Pn**	**09 20 06.7**	**+1.4**
P17K	**Kvichak River**	**4.73**	**314**	P	**Pn**	**09 20 06.7**	**+1.4**
	baz=128						
O18K	**Koktuh Hills**	**4.75**	**325**		**Pn**	**09 20 05.9**	**+0.3**
O18K				IAML		09 21 02.1	
	comp=N,53nm,1.1s						
O18K	**Koktuh Hills**	**4.75**	**325**	P	**Pn**	**09 20 06.0**	**+0.3**
	baz=140						
O19K	**Port Alsworth**	**4.76**	**332**	Pn	**Pn**	**09 20 05.9**	**+0.1**
O19K	**Port Alsworth**	**4.76**	**332**	P	**Pn**	**09 20 05.3**	**-0.5**
	baz=148						
KAIM	**Kayak Island**	**4.82**	**34**	Pn	**Pn**	**09 20 07.0**	**+0.4**
KAIM				IAML		09 21 11.3	
	comp=N,144nm,1.6s						
KAIM	**Kayak Island**	**4.82**	**34**	P	**Pn**	**09 20 06.8**	**+0.3**
	baz=219						
EYAK	**Cordova Ski Ar**	**4.98**	**24**		**Pn**	**09 20 08.8**	**0.0**
EYAK	**Cordova Ski Ar**	**4.98**	**24**	P	**Pn**	**09 20 09.0**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.98**	**24**	P	**Pn**	**09 20 08.8**	**0.0**
	baz=207						
FID	**Port Fidalgo**	**5.01**	**19**		**Pn**	**09 20 08.7**	**-0.6**
FID	**Port Fidalgo**	**5.01**	**19**	IAML		09 21 05.2	
	comp=E,95nm,0.4s						
FID				IAML		09 21 07.1	
	comp=N,85nm,1.0s						
RC01	**Rabbit Creek A**	**5.03**	**1**	Pn	**Pn**	**09 20 09.3**	**-0.2**
RC01				IAML		09 21 08.8	
	comp=N,56nm,0.4s						
RC01				IAML		09 21 10.5	
	comp=E,70nm,0.4s						
RC01	**Rabbit Creek A**	**5.03**	**1**	P	**Pn**	**09 20 09.3**	**-0.2**
	baz=180						
RAGM	**Ragged Mountai**	**5.11**	**30**	Pn	**Pn**	**09 20 11.1**	**+0.5**
RAGM				IAML		09 21 29.3	
	comp=E,124nm,0.9s						
GOAT	**Goat Mountain**	**5.26**	**29**		**Pn**	**09 20 12.6**	**-0.1**
N20K	**Mount Spurr**	**5.29**	**347**	P	**Pn**	**09 20 12.4**	**-0.7**
	baz=165						
SPCR	**Spurr Chakacha**	**5.29**	**347**		**Pn**	**09 20 12.4**	**-0.7**
P16K	**Nushagak River**	**5.29**	**307**		**Pn**	**09 20 14.0**	**+0.9**
P16K	**Nushagak River**	**5.29**	**307**	P	**Pn**	**09 20 14.0**	**+0.9**
	baz=120						
N19K	**Bonanza Creek**	**5.34**	**335**		**Pn**	**09 20 13.7**	**-0.2**
N19K	**Bonanza Creek**	**5.34**	**335**	P	**Pn**	**09 20 13.6**	**-0.2**
	baz=150						
O17K	**Koliganek Bris**	**5.36**	**317**		**Pn**	**09 20 14.4**	**+0.5**
O17K	**Koliganek Bris**	**5.36**	**317**	P	**Pn**	**09 20 14.4**	**+0.5**
	baz=130						
KNK	**Knik Glacier**	**5.40**	**7**	Pn	**Pn**	**09 20 14.9**	**+0.3**
KNK	**Knik Glacier**	**5.40**	**7**	P	**Pn**	**09 20 14.2**	**-0.4**
	baz=188						
BERG	**Berg Lake**	**5.41**	**34**		**Pn**	**09 20 15.0**	**+0.3**
SUA	**Susitna One**	**5.43**	**355**	Pn	**Pn**	**09 20 14.7**	**-0.3**
SUA	**Susitna One**	**5.43**	**355**	P	**Pn**	**09 20 14.4**	**-0.6**
	baz=174						
SNH	**Sunshine Point**	**5.54**	**39**	Pn	**Pn**	**09 20 16.8**	**+0.3**
PMR	**Palmer**	**5.55**	**4**	P	**Pn**	**09 20 17.8**	**+1.3**
N18K	**Kilae Creek**	**5.61**	**328**		**Pn**	**09 20 17.4**	**-0.1**
N18K	**Kilae Creek**	**5.61**	**328**	P	**Pn**	**09 20 17.4**	**-0.1**
	baz=142						
BMRM	**Bremner River**	**5.62**	**27**		**Pn**	**09 20 17.3**	**-0.3**
BMRM	**Bremner River**	**5.62**	**27**	P	**Pn**	**09 20 17.3**	**-0.3**
	baz=211						
O16K	**Kokwok River B**	**5.65**	**312**		**Pn**	**09 20 18.6**	**+0.7**
O16K	**Kokwok River B**	**5.65**	**312**	P	**Pn**	**09 20 18.6**	**+0.7**
	baz=125						
CNBA	**Chernabura Isl**	**5.69**	**261**	Pn	**Pn**	**09 20 18.5**	**0.0**
KLU	**Klutina**	**5.80**	**19**		**Pn**	**09 20 20.6**	**+0.4**
KLU	**Klutina**	**5.80**	**19**	P	**Pn**	**09 20 20.4**	**+0.2**
	baz=202						
SML	**Sawmill**	**5.80**	**7**	Pn	**Pn**	**09 20 20.9**	**+0.7**
SML	**Sawmill**	**5.80**	**7**	P	**Pn**	**09 20 20.4**	**+0.2**
	baz=188						
BARK	**Barkley Ridge**	**5.82**	**39**		**Pn**	**09 20 20.9**	**+0.4**
M23K	**Glacier View**	**5.84**	**10**		**Pn**	**09 20 21.0**	**+0.4**
M23K	**Glacier View**	**5.84**	**10**	P	**Pn**	**09 20 21.0**	**+0.4**
	baz=191						
N17K	**Nushagak Hills**	**5.91**	**322**		**Pn**	**09 20 21.8**	**+0.2**
N17K	**Nushagak Hills**	**5.91**	**322**	P	**Pn**	**09 20 21.8**	**+0.2**
	baz=135						
SCM	**Sheep Creek Mo**	**5.92**	**12**	Pn	**Pn**	**09 20 22.6**	**+0.8**
SCM	**Sheep Creek Mo**	**5.92**	**12**	P	**Pn**	**09 20 22.4**	**+0.7**
	baz=193						
SKT	**Skwentna**	**5.99**	**352**	Pn	**Pn**	**09 20 23.1**	**+0.5**
SKT	**Skwentna**	**5.99**	**352**	P	**Pn**	**09 20 22.6**	**0.0**
	baz=170						
ISLE	**Juniper Island**	**6.02**	**38**		**Pn**	**09 20 23.0**	**-0.2**
SDPT	**Sand Point**	**6.06**	**268**	Pn	**Pn**	**09 20 24.0**	**+0.5**
M20K	**Styx River**	**6.07**	**345**		**Pn**	**09 20 23.3**	**-0.5**
M20K	**Styx River**	**6.07**	**345**	P	**Pn**	**09 20 23.3**	**-0.5**
	baz=162						
VRDI	**Verde Repeater**	**6.15**	**30**		**Pn**	**09 20 25.0**	**0.0**
N25K	**Chitina, Valde**	**6.18**	**24**	Pn	**Pn**	**09 20 25.7**	**+0.4**
N25K	**Chitina, Valde**	**6.18**	**24**	P	**Pn**	**09 20 26.0**	**+0.7**
	baz=208						
O15K	**Ungalikthiuk R**	**6.20**	**304**		**Pn**	**09 20 26.6**	**+1.1**
O15K	**Ungalikthiuk R**	**6.20**	**304**	P	**Pn**	**09 20 26.6**	**+1.1**
	baz=115						
GLB	**Gilahina Butte**	**6.23**	**28**	Pn	**Pn**	**09 20 26.6**	**+0.6**
KIAG	**Kiagna River**	**6.25**	**36**		**Pn**	**09 20 26.1**	**-0.2**
M18K	**Stony River**	**6.26**	**333**		**Pn**	**09 20 26.2**	**-0.1**
M18K	**Stony River**	**6.26**	**333**	P	**Pn**	**09 20 26.2**	**-0.1**
	baz=147						
SAMH	**Samovar Hills**	**6.29**	**46**		**Pn**	**09 20 27.9**	**+1.0**
M19K	**Big River Lodg**	**6.30**	**340**	Pn	**Pn**	**09 20 26.9**	**0.0**
PTPK	**Patty Peak**	**6.41**	**34**		**Pn**	**09 20 29.3**	**+0.7**
N16K	**Nishlik Lake**	**6.45**	**317**		**Pn**	**09 20 30.4**	**+1.4**
N16K	**Nishlik Lake**	**6.45**	**317**	P	**Pn**	**09 20 30.4**	**+1.4**
	baz=129						
PCA	**Pinnacle**	**6.49**	**48**		**Pn**	**09 20 29.9**	**+0.4**
PINM	**Pinnacle**	**6.49**	**48**	P	**Pn**	**09 20 29.9**	**+0.3**
	baz=236						
BARN	**Barnard Glacie**	**6.58**	**37**		**Pn**	**09 20 31.4**	**+0.5**
WAT6	**Susitna Watana**	**6.62**	**8**		**Pn**	**09 20 32.2**	**+0.8**
WAT6	**Susitna Watana**	**6.62**	**8**	P	**Pn**	**09 20 32.2**	**+0.8**
	baz=190						
CTG	**Chitna Glacier**	**6.62**	**39**	P	**Pn**	**09 20 31.3**	**-0.1**
	baz=226						
CTGM	**Chitina Glacie**	**6.62**	**39**		**Pn**	**09 20 31.3**	**-0.2**
PNL	**Peninsula**	**6.63**	**53**		**Pn**	**09 20 31.8**	**+0.3**
PNL	**Peninsula**	**6.63**	**53**	P	**Pn**	**09 20 31.8**	**+0.3**
LOGN	**Logan Glacier**	**6.64**	**41**		**Pn**	**09 20 31.8**	**0.0**
BCPM	**Bancas Point**	**6.67**	**50**		**Pn**	**09 20 32.3**	**+0.3**
HARP	**HAARP**	**6.78**	**19**		**Pn**	**09 20 35.0**	**+1.5**
HARP	**HAARP**	**6.78**	**19**	P	**Pn**	**09 20 35.0**	**+1.5**
	baz=202						
WAT7	**Susitna Watana**	**6.80**	**4**		**Pn**	**09 20 34.5**	**+0.7**
WAT1	**Susitna Watana**	**6.81**	**5**		**Pn**	**09 20 35.1**	**+1.1**
WAT1	**Susitna Watana**	**6.81**	**5**	P	**Pn**	**09 20 35.1**	**+1.1**
	baz=186						
M16K	**Timber Creek**	**6.88**	**320**		**Pn**	**09 20 35.6**	**+0.7**
M16K	**Timber Creek**	**6.88**	**320**	P	**Pn**	**09 20 35.6**	**+0.7**
	baz=132						
O14K	**Tigyukauivet M**	**6.91**	**302**		**Pn**	**09 20 36.4**	**+1.2**
O14K	**Tigyukauivet M**	**6.91**	**302**	P	**Pn**	**09 20 36.4**	**+1.2**
	baz=112						
PAX	**Paxson**	**7.26**	**16**		**Pn**	**09 20 42.0**	**+1.8**
PAX	**Paxson**	**7.26**	**16**	P	**Pn**	**09 20 42.0**	**+1.8**
	baz=200						
O29M	**Mount Kennedy**	**7.30**	**50**		**Pn**	**09 20 41.5**	**+0.7**
O29M	**Mount Kennedy**	**7.30**	**50**	P	**Pn**	**09 20 41.5**	**+0.7**
	baz=239						
M15K	**Kasigluk River**	**7.34**	**314**		**Pn**	**09 20 42.4**	**+1.2**
M15K	**Kasigluk River**	**7.34**	**314**	P	**Pn**	**09 20 42.4**	**+1.2**
	baz=124						
RND	**Reindeer**	**7.37**	**3**		**Pn**	**09 20 42.3**	**+0.7**
P29M	**Windy Craggy**	**7.37**	**56**		**Pn**	**09 20 41.8**	**+0.1**
P29M	**Windy Craggy**	**7.37**	**56**	P	**Pn**	**09 20 41.5**	**-0.2**
	baz=246						
YUK2	**White River**	**7.38**	**35**		**Pn**	**09 20 43.4**	**+1.7**
N14K	**Kuskokwak Cree**	**7.38**	**306**		**Pn**	**09 20 42.9**	**+1.3**
N14K	**Kuskokwak Cree**	**7.38**	**306**	P	**Pn**	**09 20 42.9**	**+1.3**
	baz=116						
YUK8	**Steele Glacier**	**7.40**	**41**		**Pn**	**09 20 44.5**	**+2.2**
YUK8	**Steele Glacier**	**7.40**	**41**	P	**Pn**	**09 20 44.5**	**+2.2**
	baz=230						
YUK3	**Moose Creek**	**7.50**	**36**		**Pn**	**09 20 45.0**	**+1.5**
YUK3	**Moose Creek**	**7.50**	**36**	P	**Pn**	**09 20 45.0**	**+1.5**
	baz=224						
M27K	**Edge Creek, AK**	**7.51**	**30**		**Pn**	**09 20 44.7**	**+1.1**
M27K	**Edge Creek, AK**	**7.51**	**30**	P	**Pn**	**09 20 44.7**	**+1.1**
	baz=216						
L16K	**Owhat River**	**7.53**	**323**	P	**Pn**	**09 20 44.4**	**+0.6**
	baz=134						
YUK7	**Dusty Glacier**	**7.61**	**49**		**Pn**	**09 20 45.8**	**+0.7**
S31K	**Pelican**	**7.67**	**70**	Pn	**Pn**	**09 20 44.0**	**-1.6**
YUK6	**Outpost Mounta**	**7.74**	**46**		**Pn**	**09 20 47.9**	**+1.1**
YUK6	**Outpost Mounta**	**7.74**	**46**	P	**Pn**	**09 20 47.9**	**+1.1**
	baz=236						
YUK4	**Talbot Arm**	**7.86**	**43**	P	**Pn**	**09 20 51.0**	**+2.5**
	baz=232						
P30M	**Million Dollar**	**7.94**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.67**	**286**	Pg	Pn	09 26 55.0	-0.8
	1.0nm,0.3s,baz=100,slow=18,SNR=9.8						
ZALV				Lg	Lg	09 27 18.4	
	1.9nm,0.3s,baz=106,slow=27,SNR=11						
I46RU	**ZALESOVO INFRA**	**1.67**	**286**	I	I	09 38 00.0	
	0.4nm,1.0s,baz=101,slow=335,SNR=25						
KURBB	**Kurchatov Arra**	**6.26**	**246**	Pn	Pn	09 27 59.6	+0.9
	0.1nm,0.3s,baz=61,slow=14,SNR=4.5						
KURBB				Lg	Lg	09 29 43.6	
	0.1nm,0.3s,baz=62,slow=32,SNR=9.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.52**	**209**	Pn	Pn	09 28 17.6	+1.5
	0.1nm,0.3s,baz=31,slow=13,SNR=6.6						
MKAR				Sn	Sn	09 29 41.1	-1.0
	baz=24,slow=22,SNR=3.3						
MKAR				Lg	Lg	09 30 22.3	
	0.1nm,0.3s,baz=22,slow=24,SNR=11						
	0.3nm,0.5s						

IDC 31 09:49:17.2±2.7, 54°14N×86°41E, h0km, mbtmp3.2/2, ML2.3/2, Error ellipse: s-maj=22.3km s-min=13.2km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**259**	I	I	09 56 40.0	
	baz=79,slow=326,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.96**	**259**	Pg	Pg	09 49 34.5	-1.0
	1.7nm,0.3s,baz=75,slow=16,SNR=22						
ZALV				Lg	Lg	09 49 49.3	
	1.2nm,0.3s,baz=78,slow=30,SNR=6.0						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	09 50 47.7	+1.0
	baz=53,slow=13,SNR=2.1						
	1.3nm,0.2s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	09 51 13.2	+1.2
	0.2nm,0.3s,baz=25,slow=13,SNR=12						
	0.2nm,0.2s						

IDC 31 09:50:53.2±2.9, 53°54N×87°66E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=31.2km s-min=17.2km az=86.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**285**	I	I	10 02 28.6	
	0.5nm,1.4s,baz=100,slow=335,SNR=23						
ZALV	**Zalesovo Beam**	**1.74**	**285**	Pn	Pn	09 51 23.9	-0.7
	1.2nm,0.3s,baz=104,slow=16,SNR=12						
ZALV				Sn	Sb	09 51 47.9	-0.3
	2.8nm,0.3s,baz=106,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.34**	**246**	Pn	Pn	09 52 28.6	+0.9
	0.1nm,0.3s,baz=63,slow=14,SNR=2.8						
KURBB				Lg	Lg	09 54 13.5	
	0.1nm,0.3s,baz=63,slow=33,SNR=5.9						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	Pn	09 52 46.0	+1.2
	0.3nm,0.3s,baz=28,slow=13,SNR=13						
MKAR				Sn	Sn	09 54 12.2	+0.8
	0.1nm,0.3s,baz=32,slow=22,SNR=3.3						
MKAR				Lg	Lg	09 54 50.2	
	0.1nm,0.3s,baz=28,slow=28,SNR=3.8						
	0.4nm,0.3s						

IDC 31 10:06:15.2±5.0, 4°48S×150°84E, h108km±45km, mb3.3/3, mbtmp3.7/4, Error ellipse: s-maj=122.3km s-min=30.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.11**	**217**	P	Pn	10 07 44.8	+1.8
	22nm,0.6s,baz=86,slow=6.4,SNR=6.9						
PMG				S	Sn	10 08 51.2	-0.3
	22nm,0.4s,baz=128,slow=7.8,SNR=2.1						
WRA	**Warramunga Arr**	**22.24**	**225**	P	P	10 11 03.6	+0.3
	0.9nm,0.4s,baz=50,slow=10,SNR=20						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.12**	**219**	P	P	10 11 29.6	-0.6
	0.6nm,0.5s,baz=54,slow=8.7,SNR=16						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**82.60**	**22**	P	P	10 18 25.5	-0.6
	0.4nm,0.6s,baz=246,slow=6.1,SNR=5.3						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.35**	**288**	PKPbc	PKPbc	10 25 50.5	+0.4
	0.4nm,0.4s,baz=70,slow=2.1,SNR=4.6						

*NEIC **31** 10:10:43.7±1.2, 56°.03N±0°.07×149°.86W±0°.07, h21km±9km, mb3.5/2, ML3.6/41, ML3.3(AEIC), Error ellipse: s-maj=10.7km s-min=5.1km az=197.0*
*AEIC **31** 10:10:46.4±1.9, 55°.95N±0°.10×149°.7W±0°.1, h12km±7km, Error ellipse: s-maj=14.5km s-min=8.5km az=160.0*
ISC 31 10:10:42.1±1.7, 56°.0N±0°.1×149°.87W±0°.06, h10km, n129, σ0s97/139, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.24**	**304**		**Pn**	**10 11 19.7**	**+0.5**
OHAK					**Sn**	**10 11 45.4**	**-1.5**
OHAK	**Old Harbor**	**2.24**	**304**	P	**Pn**	**10 11 19.9**	**+0.7**
	baz=121						
OHAK				S	**Sn**	**10 11 45.5**	**-1.4**
	baz=121						
KDAK	**Kodiak Island**	**2.31**	**321**		**Pn**	**10 11 20.8**	**+0.6**
KDAK					**Sn**	**10 11 47.6**	**-1.0**
SII	**Sitkinak Islan**	**2.46**	**285**		**Pn**	**10 11 22.6**	**+0.3**
SII					**Sn**	**10 11 51.7**	**-0.8**
SII				IAML		10 12 02.1	
	comp=N,196nm,2.0s						
SII				IAML		10 12 47.0	
	comp=E,204nm,1.5s						
SII	**Sitkinak Islan**	**2.46**	**285**	P	**Pn**	**10 11 22.6**	**+0.3**
	baz=102						
SII				S	**Sn**	**10 11 51.3**	**-1.1**
	baz=102						
SYI	**Shuyak Island**	**2.94**	**333**		**Pn**	**10 11 29.5**	**+0.7**
SYI				IAML		10 11 55.0	
	comp=E,80nm,1.8s						
SYI					**Sn**	**10 12 04.4**	**+0.3**
Q20K	**Shuyak Island**	**2.94**	**333**	P	**Pn**	**10 11 29.5**	**+0.7**
	baz=150						
Q20K				S	**Sn**	**10 12 04.5**	**+0.4**
	baz=150						
R18K	**Karluk**	**2.96**	**304**		**Pn**	**10 11 29.9**	**+0.8**
R18K				IAML		10 12 46.2	
	comp=N,84nm,1.5s						
R18K				IAML		10 13 15.3	
	comp=E,100nm,1.6s						
R18K	**Karluk**	**2.96**	**304**	P	**Pn**	**10 11 30.3**	**+1.2**
	baz=120						
KAHG	**Katmai Hook Gl**	**3.55**	**316**		**Pn**	**10 11 39.3**	**+2.0**
Q19K	**Cape Douglas,**	**3.56**	**327**		**Pn**	**10 11 38.7**	**+1.3**
Q19K				IAML		10 12 22.3	
	comp=E,260nm,1.2s						
Q19K				IAML		10 12 31.4	
	comp=N,217nm,1.2s						
Q19K	**Cape Douglas,**	**3.56**	**327**	P	**Pn**	**10 11 38.6**	**+1.3**
	baz=143						
CNPM	**China Poot**	**3.60**	**349**		**Pn**	**10 11 38.1**	**+0.2**
CNPM					**Sn**	**10 12 19.0**	**-1.3**
CNPM				IAML		10 12 25.8	
	comp=E,47nm,1.7s						
KCE	**Katmai Mt Cerb**	**3.66**	**310**		**Pn**	**10 11 40.9**	**+2.2**
ACHA	**Angle Creek He**	**3.70**	**309**		**Pn**	**10 11 40.9**	**+1.6**
ANCK	**Angle Creek**	**3.77**	**308**		**Pn**	**10 11 42.0**	**+1.7**
BRSE	**Bradley Lake S**	**3.77**	**353**		**Pn**	**10 11 40.0**	**-0.2**
BRSE					**Sn**	**10 12 23.1**	**-1.4**
BRSE	**Bradley Lake S**	**3.77**	**353**	P	**Pn**	**10 11 40.0**	**-0.2**
	baz=171						
BRSE				S	**Sn**	**10 12 23.1**	**-1.4**
	baz=171						
HOM	**Homer**	**3.77**	**346**	Pn	**Pn**	**10 11 40.1**	**-0.1**
KVTA	**Katmai Vly 10**	**3.79**	**311**		**Pn**	**10 11 42.3**	**+1.8**
BRLK	**Bradley Lake**	**3.80**	**352**		**Pn**	**10 11 40.4**	**-0.3**
KAHC	**Katmai Hardscr**	**3.84**	**316**		**Pn**	**10 11 42.6**	**+1.4**
KAHC	**Katmai Hardscr**	**3.84**	**316**	P	**Pn**	**10 11 42.6**	**+1.4**
	baz=131						
Q23K	**Middleton Isla**	**3.91**	**27**	Pn	**Pn**	**10 11 41.6**	**-0.5**
MID	**Middleton Isla**	**3.91**	**27**	Pn	**Pn**	**10 11 41.7**	**-0.4**
CNTC	**Contact Creek**	**3.98**	**307**		**Pn**	**10 11 44.8**	**+1.6**
Q17K	**Contact Creek**	**3.98**	**307**	P	**Pn**	**10 11 44.8**	**+1.6**
	baz=122						
P19K	**Oil Pt**	**4.07**	**335**		**Pn**	**10 11 43.9**	**-0.4**
P19K				IAML		10 12 35.6	
	comp=N,109nm,1.4s						
P19K				IAML		10 12 38.9	
	comp=E,97nm,1.3s						
P19K	**Oil Pt**	**4.07**	**335**	P	**Pn**	**10 11 45.1**	**+0.8**
	baz=151						
SEW	**Seward**	**4.11**	**3**		**Pn**	**10 11 44.1**	**-0.7**
SEW	**Seward**	**4.11**	**3**	P	**Pn**	**10 11 44.4**	**-0.4**
	baz=182						
P23K	**Montague Islan**	**4.21**	**17**		**Pn**	**10 11 45.5**	**-0.7**
P23K	**Montague Islan**	**4.21**	**17**	P	**Pn**	**10 11 45.4**	**-0.7**
	baz=198						
IVE	**Iliamna Volcan**	**4.35**	**339**		**Pn**	**10 11 48.0**	**-0.2**
P18K	**Big Mountain,**	**4.44**	**322**		**Pn**	**10 11 50.3**	**+0.8**
P18K	**Big Mountain,**	**4.44**	**322**	P	**Pn**	**10 11 50.0**	**+0.6**
	baz=137						
O22K	**Cooper Landing**	**4.48**	**1**	Pn	**Pn**	**10 11 49.9**	**-0.1**
O22K				IAML		10 12 48.6	
	comp=N,84nm,0.7s						
O22K				IAML		10 12 52.2	
	comp=E,84nm,0.9s						
O22K	**Cooper Landing**	**4.48**	**1**	P	**Pn**	**10 11 49.2**	**-0.7**
	baz=180						
SLKM	**Skilak Lake**	**4.51**	**358**		**Pn**	**10 11 49.8**	**-0.6**
R16K	**Pilot Point**	**4.51**	**293**		**Pn**	**10 11 51.4**	**+1.0**
R16K				IAML		10 13 41.6	
	comp=E,148nm,1.5s						
R16K	**Pilot Point**	**4.51**	**293**	P	**Pn**	**10 11 51.9**	**+1.5**
	baz=107						
Q16K	**King Salmon**	**4.54**	**309**		**Pn**	**10 11 52.2**	**+1.5**
Q16K	**King Salmon**	**4.54**	**309**	P	**Pn**	**10 11 52.3**	**+1.5**
	baz=123						
HIN	**Hinchinbrook I**	**4.74**	**21**		**Pn**	**10 11 53.4**	**-0.2**
HIN				IAML		10 14 44.6	
	comp=E,80nm,1.9s						
HIN				IAML		10 14 48.5	
	comp=N,67nm,1.7s						
P17K	**Kvichak River**	**4.76**	**315**		**Pn**	**10 11 55.6**	**+1.9**
P17K	**Kvichak River**	**4.76**	**315**	P	**Pn**	**10 11 55.6**	**+1.9**
	baz=129						
O18K	**Koktuh Hills**	**4.79**	**326**		**Pn**	**10 11 54.7**	**+0.6**
O18K				IAML		10 12 51.6	
	comp=N,26nm,0.8s						
O18K				IAML		10 13 04.1	
	comp=E,23nm,1.0s						
O18K	**Koktuh Hills**	**4.79**	**326**	P	**Pn**	**10 11 54.8**	**+0.6**
	baz=141						
O19K	**Port Alsworth**	**4.81**	**332**	P	**Pn**	**10 11 55.0**	**+0.5**
	baz=148						
KAIM	**Kayak Island**	**4.88**	**34**	Pn	**Pn**	**10 11 55.2**	**-0.2**
KAIM	**Kayak Island**	**4.88**	**34**	P	**Pn**	**10 11 55.7**	**+0.3**
	baz=217						
EYAK	**Cordova Ski Ar**	**5.04**	**24**		**Pn**	**10 11 57.6**	**0.0**
EYAK	**Cordova Ski Ar**	**5.04**	**24**	P	**Pn**	**10 11 57.4**	**-0.2**
	baz=206						
RC01	**Rabbit Creek A**	**5.09**	**1**	Pn	**Pn**	**10 11 58.0**	**-0.4**
RC01				IAML		10 12 58.1	
	comp=E,18nm,0.6s						
RC01				IAML		10 13 04.1	
	comp=N,20nm,1.5s						
RAGM	**Ragged Mountai**	**5.17**	**30**		**Pn**	**10 11 59.6**	**+0.1**
RAGM				IAML		10 14 04.8	
	comp=E,77nm,1.8s						
P16K	**Nushagak River**	**5.32**	**308**		**Pn**	**10 12 03.1**	**+1.6**
P16K	**Nushagak River**	**5.32**	**308**	P	**Pn**	**10 12 03.1**	**+1.6**
	baz=121						
N19K	**Bonanza Creek**	**5.39**	**335**		**Pn**	**10 12 02.6**	**+0.1**
N19K				IAML		10 14 48.3	
	comp=E,10nm,1.9s						
N19K	**Bonanza Creek**	**5.39**	**335**	P	**Pn**	**10 12 02.6**	**+0.1**
	baz=151						
O17K	**Koliganek Bris**	**5.39**	**317**		**Pn**	**10 12 03.4**	**+1.0**
O17K	**Koliganek Bris**	**5.39**	**317**	P	**Pn**	**10 12 03.4**	**+1.0**
	baz=131						
BERG	**Berg Lake**	**5.47**	**34**	Pn	**Pn**	**10 12 03.2**	**-0.4**
SNH	**Sunshine Point**	**5.60**	**39**		**Pn**	**10 12 05.2**	**-0.1**
N18K	**Kilae Creek**	**5.65**	**328**		**Pn**	**10 12 06.5**	**+0.4**
N18K	**Kilae Creek**	**5.65**	**328**	P	**Pn**	**10 12 06.3**	**+0.3**
	baz=143						
CNBA	**Chernabura Isl**	**5.66**	**262**	Pn	**Pn**	**10 12 06.9**	**+0.7**
O16K	**Kokwok River B**	**5.67**	**313**		**Pn**	**10 12 07.2**	**+0.9**
O16K	**Kokwok River B**	**5.67**	**313**	P	**Pn**	**10 12 07.6**	**+1.3**
	baz=126						
BMRM	**Bremner River**	**5.68**	**27**		**Pn**	**10 12 06.7**	**+0.2**
BMRM	**Bremner River**	**5.68**	**27**	P	**Pn**	**10 12 06.2**	**-0.3**
	baz=210						
KLU	**Klutina**	**5.87**	**19**		**Pn**	**10 12 09.5**	**+0.4**
KLU	**Klutina**	**5.87**	**19**	P	**Pn**	**10 12 09.2**	**+0.1**
	baz=201						
BARK	**Barkley Ridge**	**5.88**	**39**		**Pn**	**10 12 09.1**	**-0.2**
N17K	**Nushagak Hills**	**5.95**	**323**	Pn	**Pn**	**10 12 10.3**	**+0.2**
SCM	**Sheep Creek Mo**	**5.98**	**12**	Pn	**Pn**	**10 12 11.0**	**+0.4**
SKT	**Skwentna**	**6.04**	**353**		**Pn**	**10 12 11.1**	**-0.4**
SKT	**Skwentna**	**6.04**	**353**	P	**Pn**	**10 12 11.7**	**+0.2**
	baz=170						
ISLE	**Juniper Island**	**6.08**	**38**		**Pn**	**10 12 11.9**	**-0.1**
VRDI	**Verde Repeater**	**6.21**	**30**		**Pn**	**10 12 13.7**	**-0.2**
O15K	**Ungalikthiuk R**	**6.22**	**305**		**Pn**	**10 12 15.3**	**+1.5**
O15K	**Ungalikthiuk R**	**6.22**	**305**	P	**Pn**	**10 12 15.3**	**+1.5**
	baz=116						
N25K	**Chitina, Valde**	**6.24**	**24**	Pn	**Pn**	**10 12 14.2**	**0.0**
GLB	**Gilahina Butte**	**6.29**	**28**	Pn	**Pn**	**10 12 14.9**	**+0.1**
M18K	**Stony River**	**6.30**	**333**		**Pn**	**10 12 15.1**	**+0.1**
M18K	**Stony River**	**6.30**	**333**	P	**Pn**	**10 12 15.1**	**+0.1**
	baz=147						
KIAG	**Kiagna River**	**6.30**	**36**		**Pn**	**10 12 14.8**	**-0.3**
SAMH	**Samovar Hills**	**6.34**	**46**		**Pn**	**10 12 16.1**	**+0.5**
TABL	**Table Mountain**	**6.40**	**42**		**Pn**	**10 12 16.5**	**0.0**
PTPK	**Patty Peak**	**6.47**	**34**		**Pn**	**10 12 17.3**	**-0.1**
PCA	**Pinnacle**	**6.54**	**47**		**Pn**	**10 12 18.5**	**+0.2**
PINM	**Pinnacle**	**6.54**	**47**	P	**Pn**	**10 12 18.5**	**+0.2**
	baz=234						
BARN	**Barnard Glacie**	**6.64**	**37**		**Pn**	**10 12 19.6**	**-0.1**
WAT6	**Susitna Watana**	**6.68**	**9**		**Pn**	**10 12 19.4**	**-0.8**
WAT6	**Susitna Watana**	**6.68**	**9**	P	**Pn**	**10 12 19.4**	**-0.8**
	baz=189						
CTG	**Chitna Glacier**	**6.68**	**38**	P	**Pn**	**10 12 20.2**	**-0.1**
	baz=225						
CTGM	**Chitina Glacie**	**6.68**	**39**		**Pn**	**10 12 20.3**	**0.0**
PNL	**Peninsula**	**6.68**	**52**		**Pn**	**10 12 20.3**	**0.0**
PNL	**Peninsula**	**6.68**	**52**	P	**Pn**	**10 12 20.3**	**0.0**
	baz=240						
LOGN	**Logan Glacier**	**6.70**	**40**	Pn	**Pn**	**10 12 20.4**	**-0.2**
BCPM	**Bancas Point**	**6.72**	**50**		**Pn**	**10 12 21.1**	**+0.4**
N15K	**Kwethluk River**	**6.83**	**312**		**Pn**	**10 12 24.4**	**+2.2**
N15K	**Kwethluk River**	**6.83**	**312**	P	**Pn**	**10 12 24.4**	**+2.2**
	baz=123						
M16K	**Timber Creek**	**6.91**	**320**		**Pn**	**10 12 24.5**	**+1.2**
M16K	**Timber Creek**	**6.91**	**320**	P	**Pn**	**10 12 24.7**	**+1.4**
	baz=132						
O14K	**Tigyukauivet M**	**6.92**	**303**		**Pn**	**10 12 25.7**	**+2.2**
O14K	**Tigyukauivet M**	**6.92**	**303**	P	**Pn**	**10 12 25.7**	**+2.2**
	baz=238						
O29M	**Mount Kennedy**	**7.36**	**50**	P	**Pn**	**10 12 28.7**	**-0.9**
	baz=238						
P29M	**Windy Craggy**	**7.42**	**56**		**Pn**	**10 12 29.7**	**-0.6**
P29M	**Windy Craggy**	**7.42**	**56**	P	**Pn**	**10 12 29.9**	**-0.5**
	baz=245						
M27K	**Edge Creek, AK**	**7.57**	**30**	Pn	**Pn**	**10 12 32.6**	**+0.2**
P30M	**Million Dollar**	**7.98**	**54**	Pn	**Pn**	**10 12 38.4**	**+0.3**
P30M	**Million Dollar**	**7.98**	**54**	P	**Pn**	**10 12 37.2**	**-0.9**
	baz=244						
L14K	**Kuka Creek**	**8.54**	**314**		**Pn**	**10 12 47.9**	**+2.3**
O30N	**Mendenhall**	**8.66**	**51**	Pn	**Pn**	**10 12 47.0**	**-0.3**
K15K	**Wolf Creek Mou**	**8.68**	**321**	Pn	**Pn**	**10 12 49.1**	**+1.6**
M29M	**Somme Creek**	**8.69**	**37**		**Pn**	**10 12 48.9**	**+1.1**
J26L	**Joseph Creek**	**9.07**	**18**	Pn	**Pn**	**10 12 54.2**	**+1.3**
N31M	**Braeburn, Yuko**	**9.14**	**47**	Pn	**Pn**	**10 12 54.8**	**+1.0**
WHY	**Whitehorse**	**9.15**	**53**	Pn	**Pn**	**10 12 53.9**	**-0.2**
L29M	**L29M**	**9.27**	**35**	Pn	**Pn**	**10 12 56.4**	**+0.7**
M30M	**Minto, Yukon**	**9.37**	**40**	Pn	**Pn**	**10 12 57.6**	**+0.6**
DAWY	**Dawson**	**9.61**	**29**	Pn	**Pn**	**10 13 01.1**	**+0.7**
J14K	**Nanvaranak Lak**	**9.69**	**320**	Pn	**Pn**	**10 13 01.1**	**-0.2**
P33M	**Teslin, Yukon**	**9.95**	**58**	Pn	**Pn**	**10 13 04.9**	**-0.1**
FARO	**Faro, Yukon**	**10.51**	**47**	Pn	**Pn**	**10 13 13.2**	**+0.6**
ANM	**Nome**	**11.48**	**325**	Pn	**Pn**	**10 13 26.4**	**+0.6**
BMAR	**Burnt Mountain**	**11.72**	**10**	Pn	**Pn**	**10 13 29.6**	**+0.4**
C36M	**Paulatuk**	**17.64**	**31**	P	**Pn**	**10 14 47.6**	**+0.1**
C36M				IAmb	IAmb	10 15 28.9	
	comp=Z,4.7nm,1.4s						
A36M	**Sachs Harbour**	**19.06**	**23**	P	**P**	**10 15 04.4**	**+0.3**
A36M				IAmb	IAmb	10 15 09.1	
	comp=Z,2.8nm,0.8s						

*IDC **31** 11:01:35.1±4.6, 36°.30N×70°.45E, h168km±30km, mb3.4/4, mbtmp3.9/10, MS3.5/1, Error ellipse: s-maj=60.0km s-min=20.4km az=147.0*
*NEIC **31** 11:01:39.1±0.8, 36°.50N±0°.07×70°.3E±0°.1, h212km±5km, mb4.0/6, Error ellipse: s-maj=12.1km s-min=9.6km az=109.0*
*NNC **31** 11:01:46.8±8.0, 37°.11N×70°.64E, h227km±91km, mb2.7, mpv3.7, Error ellipse: s-maj=94.7km s-min=43.4km az=24.0*
ISC 31 11:01:38.0±0.6, 36°.46N±0°.05×70°.44E±0°.05, h204km, n47, σ1s74/52, mb4.0/5, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.23**	**211**	Pn	**Pn**	**11 02 21.0**	**+1.6**
KBL				Sn	**S**	**11 02 51.7**	**+0.6**
SIMJ	**Simiganj**	**2.47**	**333**	Pn	**Pn**	**11 02 22.6**	**+0.7**
BTK	**Batken**	**3.60**	**5**	Pn	**Pn**	**11 02 38.0**	**+2.9**
NIL	**Nilore**	**3.63**	**140**	Pn	**Pn**	**11 02 38.3**	**+2.9**
ARSB	**Arslanbob**	**5.25**	**21**	Pn	**Pn**	**11 02 56.5**	**+0.8**
KSH	**Kashi**	**5.33**	**53**	P	**Pn**	**11 02 53.3**	**-3.5**
KSH				sP		11 03 34.0	
KSH				S	S	11 03 49.5	-9.1
KSH				pmax	pmax		
	comp=Z,16nm,0.7s						
THN	**Thein Dam**	**5.93**	**131**	*e*S	**S**	**11 04 12.1**	**-0.3**
THN				IAML		11 04 13.4	
	comp=E,123nm,0.4s						
THN				IAML		11 04 13.9	
	comp=N,130nm,0.0s						
DHRM	**DHARAMSHALA**	**6.41**	**129**	*e*P	**Pn**	**11 03 12.3**	**+1.4**
DHRM				*e*S	**S**	**11 04 22.8**	**-1.4**
DHRM				IAML		11 04 24.7	
	comp=E,228nm,0.3s						
DHRM				IAML		11 04 24.8	
	comp=N,209nm,0.7s						
NRN	**Naryn**	**6.59**	**39**	Pn	**Pn**	**11 03 13.4**	**+0.2**
KK31	**Karatay Array**	**6.63**	**0**	P	**Pn**	**11 03 13.3**	**-0.1**
	comp=N,3.1nm,0.3s,baz=175,slow=12,SNR=30						
KK31				⇓S	**S**	**11 04 24.5**	**-4.6**
	comp=N,2.4nm,0.7s,baz=180,slow=14,SNR=5.9						
KK31	**Karatay Array**	**6.63**	**0**	Pn	**Pn**	**11 03 13.9**	**+0.5**
KKAR	**Karatay Array**	**6.63**	**0**		**Pn**	**11 03 13.9**	**+0.5**
KKAR	**Karatay Array**	**6.63**	**0**		**Pn**	**11 03 14.1**	**+0.6**
AAK	**Ala-Archa**	**6.92**	**26**	Pn	**Pn**	**11 03 19.0**	**+1.7**
AAK	**Ala-Archa**	**6.92**	**26**	P	**Pn**	**11 03 17.7**	**+0.5**
	comp=N,4.3nm,0.3s,baz=188,slow=5.0,SNR=21						
AAK				S	**S**	**11 04 34.4**	**-1.6**
	comp=N,6.1nm,0.5s,baz=131,slow=23,SNR=16						
CHMS	**Chumysh**	**7.33**	**26**	⇑P	**Pn**	**11 03 23.8**	**+1.4**
	comp=N,2.6nm,0.6s						
BOOM	**Boomskoye usch**	**7.37**	**34**	Pn	**Pn**	**11 03 24.5**	**+1.3**
TKM2	**Tokmak 2**	**7.58**	**30**	⇓P	**Pn**	**11 03 26.4**	**+0.6**
	comp=N,3.6nm,0.7s						
SMLA	**Simla**	**7.72**	**132**	*e*P	**Pn**	**11 03 27.2**	**-0.4**
SMLA				*e*S	**S**	**11 04 51.7**	**-3.1**
SMLA				IAML		11 04 55.4	
	comp=E,85nm,0.7s						
SMLA				IAML		11 04 57.1	
	comp=N,67nm,0.2s						
KHET	**Khetri**	**9.51**	**150**	*e*P	**Pn**	**11 03 53.2**	**+2.2**
KHET				*e*S	**S**	**11 05 32.0**	**-5.6**
GEYT	**Alibeck**	**9.94**	**282**		**Pn**	**11 03 55.2**	**-1.2**
GEYT	**Alibeck**	**9.94**	**282**	P	**Pn**	**11 03 54.4**	**-2.0**
	comp=N,3.3nm,0.6s,baz=120,slow=8.8,SNR=7.2						
GYA0B	**ALIBECK ARRAY**	**9.94**	**282**	Pn	**Pn**	**11 03 55.2**	**-1.2**
OTUK	**Ortayu**	**11.86**	**6**	⇓P	**Pn**	**11 04 21.1**	**+0.2**
	comp=N,2.5nm,0.7s						
MAKZ	**Makanchi**	**13.45**	**36**	Pn	**P**	**11 04 42.3**	**-1.0**
MKAR	**Makanchi Array**	**13.59**	**37**	Pn	**Pn**	**11 04 43.4**	**+0.8**
MKAR	**Makanchi Array**	**13.59**	**37**	P	**Pn**	**11 04 42.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=221,slow=15,SNR=2.2						
AB31	**Akbulak array**	**14.90**	**332**	⇑P	**P**	**11 04 59.9**	**+0.6**
	comp=N,1.2nm,0.5s,baz=156,slow=10,SNR=26						
ABKAR	**Akbulak array**	**14.90**	**332**	P	**Pn**	**11 04 58.1**	**-0.6**
WMQ	**Urumqi**	**15.09**	**56**	*e*P	**P**	**11 05 04.3**	**+2.7**
KURBB	**Kurchatov Arra**	**15.31**	**20**	P	**Pn**	**11 05 02.9**	**-0.7**
	comp=N,0.5nm,0.3s,baz=211,slow=10.0,SNR=5.2						
BVAR	**Borovoye Array**	**16.56**	**360**	P	**Pn**	**11 05 19.6**	**+1.0**
	comp=N,2.0nm,0.4s,baz=170,slow=11,SNR=14						
AKTO	**Aktyubinsk**	**16.59**	**331**	P	**Pn**	**11 05 19.4**	**+0.4**
	comp=N,4.6nm,0.8s,baz=132,slow=7.7,SNR=15						
BRVK	**Borovoye**	**16.60**	**360**	P	**P**	**11 05 17.9**	**-0.1**
BRVK				IAmb	IAmb	11 05 22.2	
	comp=Z,4.1nm,0.7s						
UOSS	**Minazif**	**16.76**	**231**	P	**P**	**11 05 19.3**	**-0.8**
ZAA0	**Zalesovo Array**	**20.14**	**25**	P	**P**	**11 05 57.2**	**+0.9**
ZAA0				IAmb	IAmb	11 05 58.7	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**20.14**	**25**	P	**P**	**11 05 56.9**	**+0.6**
ZALV	**Zalesovo Beam**	**20.14**

baz=113
R18K S Sn 11 20 09.3 -1.7
baz=113
CNPM China Poot 3.51 344 Pn 11 19 38.8 +0.1
CNPM IAML 11 20 21.0
comp=E,100nm,0.5s
Q19K Cape Douglas, 3.61 322 Pn 11 19 41.5 +1.4
Q19K IAML 11 20 33.5
comp=N,196nm,0.9s
Q19K IAML 11 22 08.3
comp=E,254nm,1.4s
Q19K Cape Douglas, 3.61 322 P Pn 11 19 41.4 +1.4
baz=137
Q23K Middleton Isla 3.63 25 Pn 11 19 39.8 -0.4
Q23K Middleton Isla 3.63 25 P Pn 11 19 39.8 -0.4
baz=207
BRSE Bradley Lake S 3.66 349 Pn 11 19 40.5 -0.1
BRSE Bradley Lake S 3.66 349 P Pn 11 19 40.5 -0.1
baz=166
KAHG Katmai Hook Gl 3.66 312 Pn 11 19 42.7 +2.0
BRLK Bradley Lake 3.70 348 Pn 11 19 41.0 -0.2
BRLK IAML 11 20 26.7
comp=E,62nm,0.9s
HOM Homer 3.71 342 Pn 11 19 41.2 -0.1
HOM Homer 3.71 342 P Pn 11 19 42.1 +0.8
baz=158
KCE Katmai Mt Cerb 3.80 306 Pn 11 19 44.4 +1.8
ACHA Angle Creek He 3.85 305 Pn 11 19 45.0 +1.7
ANCK Angle Creek 3.92 304 Pn 11 19 46.3 +2.0
KVTA Katmai Vly 10 3.92 307 Pn 11 19 46.2 +1.9
SEW Seward 3.94 359 Pn 11 19 44.2 -0.3
SEW Seward 3.94 359 P Pn 11 19 44.1 -0.4
baz=178
KAHC Katmai Hardscr 3.95 311 Pn 11 19 46.1 +1.3
KAHC Katmai Hardscr 3.95 311 P Pn 11 19 46.1 +1.3
baz=126
P23K Montague Islan 3.97 14 Pn 11 19 44.5 -0.4
P23K Montague Islan 3.97 14 P Pn 11 19 44.5 -0.4
baz=195
P19K Oil Pt 4.06 331 Pn 11 19 46.3 +0.1
P19K IAML 11 20 37.0
comp=N,145nm,0.4s
P19K IAML 11 20 37.1
comp=E,162nm,0.4s
P19K Oil Pt 4.06 331 P Pn 11 19 47.0 +0.8
baz=146
CNTC Contact Creek 4.13 303 Pn 11 19 48.6 +1.4
Q17K Contact Creek 4.13 303 P Pn 11 19 48.6 +1.4
baz=117
IVE Iliamna Volcan 4.32 335 Pn 11 19 50.2 +0.3
SLKM Skilak Lake 4.37 354 Pn 11 19 49.5 -1.0
HIN Hinchinbrook I 4.49 18 Pn 11 19 51.9 -0.3
HIN IAML 11 20 42.4
comp=N,81nm,0.5s
HIN IAML 11 21 22.3
comp=E,78nm,1.6s
P18K Big Mountain, 4.51 318 Pn 11 19 53.1 +0.7
P18K Big Mountain, 4.51 318 P Pn 11 19 53.0 +0.6
baz=132
KAIM Kayak Island 4.58 33 Pn 11 19 53.5 +0.2
KAIM Kayak Island 4.58 33 P Pn 11 19 53.3 +0.1
baz=216
RED Redoubt Volcan 4.63 338 Pn 11 19 53.8 -0.3
RDSO Redoubt South 4.66 339 Pn 11 19 54.3 -0.1
RDT Redoubt 4.70 341 Pn 11 19 54.7 -0.4
RDWB Redoubt West 4.71 338 Pn 11 19 54.6 -0.6
EYAK Cordova Ski Ar 4.78 22 Pn 11 19 55.2 -0.7
EYAK Cordova Ski Ar 4.78 22 P Pn 11 19 56.5 +0.5
EYAK Cordova Ski Ar 4.78 22 P Pn 11 19 55.9 0.0
baz=204
O19K Port Alsworth 4.82 329 Pn 11 19 56.8 +0.3
O19K Port Alsworth 4.82 329 P Pn 11 19 56.7 +0.1
baz=144
O18K Koktuh Hills 4.84 322 Pn 11 19 57.4 +0.5
O18K IAML 11 20 52.8
comp=N,30nm,1.1s
O18K Koktuh Hills 4.84 322 P Pn 11 19 57.2 +0.3
baz=136
P17K Kvichak River 4.87 311 Pn 11 19 58.9 +1.6
P17K Kvichak River 4.87 311 P Pn 11 19 58.9 +1.6
baz=125
RC01 Rabbit Creek A 4.94 358 Pn 11 19 58.0 -0.2
RC01 IAML 11 20 55.5
comp=E,37nm,0.5s
RC01 Rabbit Creek A 4.94 358 P Pn 11 19 58.0 -0.2
baz=177
ANPB Aniakchak Plen 5.00 281 Pn 11 20 00.5 +1.4
BERG Berg Lake 5.17 33 Pn Pn 11 20 01.1 -0.3
BERG IAML 11 20 59.0
comp=N,73nm,0.2s
BERG IAML 11 21 03.0
comp=E,58nm,1.1s
N20K Mount Spurr 5.26 345 P Pn 11 20 02.5 -0.2
baz=161
SPCR Spurr Chakacha 5.26 345 Pn 11 20 02.5 -0.2
KNK Knik Glacier 5.28 5 Pn 11 20 03.1 +0.2
KNK IAML 11 21 01.2
comp=E,20nm,0.9s
KNK IAML 11 21 03.2
comp=N,23nm,1.6s
KNK Knik Glacier 5.28 5 P Pn 11 20 03.1 +0.2
baz=185
SNH Sunshine Point 5.29 38 Pn 11 20 02.9 -0.1
SNH IAML 11 22 31.4
comp=E,75nm,2.0s
N19K Bonanza Creek 5.38 332 Pn 11 20 04.1 -0.3
N19K Bonanza Creek 5.38 332 P Pn 11 20 04.0 -0.4
baz=147
BMRM Bremner River 5.41 25 Pn 11 20 05.0 +0.3
BMRM Bremner River 5.41 25 P Pn 11 20 04.7 0.0
baz=209
PMR Palmer 5.44 1 P Pn 11 20 06.3 +1.3
STLK Strandline Lak 5.50 347 Pn 11 20 06.0 +0.1
BARK Barkley Ridge 5.57 38 Pn 11 20 06.9 0.0
KLU Klutina 5.62 17 Pn 11 20 07.9 +0.2
KLU Klutina 5.62 17 P Pn 11 20 07.9 +0.2
baz=199
CRQM Cirque 5.63 33 Pn 11 20 07.9 +0.1
CRQE Cirque 5.64 33 P Pn 11 20 08.0 +0.1
baz=218
SML Sawmill 5.68 5 Pn 11 20 09.0 +0.6
SML Sawmill 5.68 5 P Pn 11 20 08.9 +0.6
baz=185
N18K Kilae Creek 5.68 325 Pn 11 20 08.7 +0.3
N18K Kilae Creek 5.68 325 P Pn 11 20 08.7 +0.3
baz=139
M23K Glacier View 5.70 8 Pn 11 20 09.3 +0.7
M23K Glacier View 5.70 8 P Pn 11 20 09.3 +0.7
baz=188
ISLE Juniper Island 5.76 37 Pn 11 20 09.6 0.0
SCM Sheep Creek Mo 5.77 9 Pn 11 20 10.3 +0.5
SCM Sheep Creek Mo 5.77 9 P Pn 11 20 10.2 +0.5
baz=191
VRDI Verde Repeater 5.92 29 Pn 11 20 11.9 0.0
N25K Chitina, Valde 5.98 22 Pn 11 20 12.9 +0.4
N25K Chitina, Valde 5.98 22 P Pn 11 20 13.0 +0.4
baz=206
CHNA Chernabura Isl 5.98 261 P Pn 11 20 12.9 +0.4
baz=73
CNBA Chernabura Isl 5.99 261 Pn 11 20 12.9 +0.4
KIAG Kiagna River 6.00 35 Pn 11 20 13.1 +0.2
GLB Gilahina Butte 6.01 26 Pn 11 20 13.1 +0.2
N17K Nushagak Hills 6.01 320 Pn 11 20 13.5 +0.6
N17K Nushagak Hills 6.01 320 P Pn 11 20 13.8 +0.9
baz=132
SAMH Samovar Hills 6.02 45 Pn 11 20 13.8 +0.8
M20K Styx River 6.05 343 Pn 11 20 13.0 -0.6
M20K Styx River 6.05 343 P Pn 11 20 13.4 -0.1
baz=159
TABL Table Mountain 6.08 42 Pn 11 20 14.2 +0.2
M24K Tolsona, Glenn 6.17 14 Pn 11 20 16.0 +0.9
M24K Tolsona, Glenn 6.17 14 P Pn 11 20 15.8 +0.6
baz=196
PTPK Patty Peak 6.17 33 Pn 11 20 15.5 +0.2
PCA Pinnacle 6.21 47 Pn 11 20 15.8 +0.1
PINM Pinnacle 6.21 47 P Pn 11 20 15.8 0.0
baz=234
BARN Barnard Glacie 6.33 36 Pn 11 20 17.9 +0.5
PNL Peninsula 6.35 52 Pn 11 20 17.4 -0.1
PNL Peninsula 6.35 52 P Pn 11 20 17.6 +0.1
PNL Peninsula 6.35 52 P Pn 11 20 17.4 -0.1
baz=241
SDPT Sand Point 6.35 267 Pn 11 20 18.9 +1.3
SDPT Sand Point 6.35 267 P Pn 11 20 18.8 +1.3
CTG Chitna Glacier 6.37 38 P Pn 11 20 17.8 -0.1
baz=224
CTGM Chitina Glacie 6.37 38 Pn 11 20 17.9 -0.1
O15K Ungalikthiuk R 6.38 302 Pn 11 20 19.7 +1.7
O15K Ungalikthiuk R 6.38 302 P Pn 11 20 19.7 +1.7
baz=113
LOGN Logan Glacier 6.39 40 Pn 11 20 18.1 -0.1
BCPM Bancas Point 6.39 50 Pn 11 20 18.1 0.0
WAT6 Susitna Watana 6.48 7 Pn 11 20 20.0 +0.5
WAT6 Susitna Watana 6.48 7 P Pn 11 20 20.0 +0.5
baz=187
M16K Timber Creek 6.99 318 Pn 11 20 27.7 +1.3
M16K Timber Creek 6.99 318 P Pn 11 20 27.2 +0.8
baz=129
DHY Denali Highway 7.00 7 Pn Pn 11 20 27.1 +0.5
O29M Mount Kennedy 7.02 49 Pn 11 20 27.5 +0.6
O29M Mount Kennedy 7.02 49 P Pn 11 20 27.5 +0.6
baz=238
P29M Windy Craggy 7.08 56 Pn 11 20 27.2 -0.4
P29M Windy Craggy 7.08 56 P Pn 11 20 27.6 0.0
baz=246
O14K Tigyukauivet M 7.10 301 Pn Pn 11 20 29.2 +1.4
PN7A Pavlof North-7 7.18 269 Pn 11 20 30.4 +1.4
RND Reindeer 7.26 2 Pn Pn 11 20 31.2 +1.0
M27K Edge Creek, AK 7.28 29 Pn Pn 11 20 31.5 +1.1
TRF Thorofare Moun 7.32 357 Pn Pn 11 20 30.6 -0.4
YUK7 Dusty Glacier 7.33 49 Pn 11 20 31.7 +0.5
YUK6 Outpost Mounta 7.46 46 Pn 11 20 33.8 +0.7
YUK6 Outpost Mounta 7.46 46 P Pn 11 20 33.8 +0.7
baz=235
N14K Kuskokwak Cree 7.55 305 Pn 11 20 35.7 +1.7
N14K Kuskokwak Cree 7.55 305 P Pn 11 20 35.7 +1.7
baz=114
PLBC Pleasant Camp 7.67 59 Pn 11 20 34.9 -0.7
PLBC Pleasant Camp 7.67 59 P Pn 11 20 34.9 -0.7
baz=250
BPAW Bear Paw Mtn. 8.00 355 Pn Pn 11 20 40.9 +0.7
FALS False Pass 8.11 267 P Pn 11 20 43.0 +1.4
SKAG Skagway 8.17 60 P Pn 11 20 42.7 +0.2
O30N Mendenhall 8.32 51 Pn Pn 11 20 45.1 +0.4
JIS Juneau Island 8.38 69 Pn Pn 11 20 44.7 -0.7
JIS Juneau Island 8.38 69 P Pn 11 20 44.8 -0.6
M29M Somme Creek 8.38 37 Pn 11 20 46.1 +0.6
IL31 8.71 7 Pn Pn 11 20 49.4 -0.5
K15K Wolf Creek Mou 8.75 320 Pn Pn 11 20 51.8 +1.3
WHY Whitehorse 8.81 53 Pn Pn 11 20 51.7 +0.3
L29M L29M 8.96 35 Pn Pn 11 20 54.2 +0.8
P32M Atlin 8.99 61 Pn Pn 11 20 53.4 -0.4
CRAG Craig 9.15 88 P Pn 11 20 54.8 -1.2
P33M Teslin, Yukon 9.60 58 Pn Pn 11 21 02.1 -0.2
N32M Quiet Lake 9.81 53 Pn Pn 11 21 05.2 +0.1
UNV Unalaska Valle 10.13 264 P Pn 11 21 10.1 +0.7
R33M Jennings River 10.31 64 Pn Pn 11 21 11.4 -0.6
DLBC Dease Lake 10.68 70 Pn Pn 11 21 16.6 -0.4

*IDC **31** 11:28:19.3±1.2,25°.56N×141°.51E,h0km,mb3.7/5, mbtmp3.7/5,MS3.3/2,Error ellipse: s-maj=40.5km s-min=20.3km az=110.0*

ISC 31 11:28:24.4±1.2,25°.6N±0°.1×141°.7E±0°.2,h35km,n14, σ1°88/8,mb3.7/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.61**	**16**	Pn	**Pn**	**11 28 47.5**	**-2.8**
	22nm,0.3s,baz=245,slow=19,SNR=9.7						
JCJ				Sn	**Sn**	**11 29 10.4**	**+0.6**
	12nm,0.3s,baz=151,slow=23,SNR=7.7						
KSRS	**Korea Array**	**16.66**	**319**	Pn	**P**	**11 32 18.6**	**+1.4**
	0.1nm,0.3s,baz=135,slow=12,SNR=7.9						
KSRS				LR	LR	11 37 58.8	
	comp=Z,14nm,20.5s,baz=225,slow=35						
H11N2	**WAKE ISLAND Hy**	**23.97**	**99**	T	T	11 58 54.2	
	baz=288						
H11N1	**WAKE ISLAND Hy**	**23.97**	**99**	T	T	11 58 52.9	
	baz=288						
H11N3	**WAKE ISLAND Hy**	**23.98**	**99**	T	T	11 58 52.6	
	baz=288						
H11S3	**WAKE ISLAND Hy**	**24.20**	**102**	T	T	11 59 08.5	
	baz=293						
H11S1	**WAKE ISLAND Hy**	**24.21**	**102**	T	T	11 59 10.7	
	baz=293						
H11S2	**WAKE ISLAND Hy**	**24.22**	**102**	T	T	11 59 11.4	
	baz=293						
WRA	**Warramunga Arr**	**45.78**	**190**	P	**P**	**11 36 41.8**	**-0.9**
	2.2nm,0.8s,baz=8.3,slow=8.6,SNR=11						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**51.12**	**311**	P	**P**	**11 37 23.3**	**-0.4**
	0.5nm,0.9s,baz=107,slow=4.8,SNR=3.9						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**53.80**	**315**	P	**P**	**11 37 42.5**	**-1.0**
	0.2nm,0.3s,baz=97,slow=7.5,SNR=1.1						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**59.28**	**28**	P	**P**	**11 38 24.1**	**+1.9**
	0.8nm,1.0s,baz=262,slow=6.3,SNR=4.5						
	0.8nm,1.0s						
YKA	**Yellowknife Ar**	**73.71**	**28**	P	**P**	**11 39 55.8**	**+1.4**
	0.5nm,0.8s,baz=295,slow=5.7,SNR=6.3						
	0.5nm,0.8s						
MLR	**Muntele Rosu**	**88.34**	**321**	LR	LR	12 23 34.8	
	comp=Z,130nm,18.5s,baz=27,slow=38						

*IDC **31** 11:29:44.3±1.1,25°.61N×141°.49E,h0km,mb3.7/7, mbtmp3.8/8,Error ellipse: s-maj=31.3km s-min=19.7km az=115.0*

ISC 31 11:29:49.3±1.1,25°.6N±0°.1×141°.5E±0°.1,h35km,n16, σ2°02/11,mb3.6/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.60**	**24**	Pn	**Pn**	**11 30 12.0**	**-3.2**
	53nm,0.3s,baz=108,slow=23,SNR=16						
JCJ				Sn	**Sn**	**11 30 34.5**	**-0.1**
	38nm,0.3s,baz=282,slow=22,SNR=14						
JOW	**Kunigami**	**11.90**	**279**	Pn	**Pn**	**11 32 34.3**	**-2.2**
	19nm,0.9s,baz=118,slow=18,SNR=2.0						
KSRS	**Korea Array**	**16.48**	**319**	Pn	**P**	**11 33 42.6**	**+2.6**
	0.1nm,0.3s,baz=134,slow=12,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**24.17**	**99**	T	T	12 00 20.2	
	baz=287,slow=75						
H11N2	**WAKE ISLAND Hy**	**24.17**	**99**	T	T	12 00 15.5	
	baz=287,slow=75						
H11N3	**WAKE ISLAND Hy**	**24.19**	**99**	T	T	12 00 17.6	
	baz=287,slow=75						
H11S3	**WAKE ISLAND Hy**	**24.41**	**102**	T	T	12 00 36.9	
	baz=291,slow=75						
H11S1	**WAKE ISLAND Hy**	**24.41**	**102**	T	T	12 00 37.5	
	baz=291,slow=75						
H11S2	**WAKE ISLAND Hy**	**24.43**	**102**	T	T	12 00 38.1	
	baz=291,slow=75						
WRA	**Warramunga Arr**	**45.82**	**189**	P	**P**	**11 38 07.2**	**-0.8**
	2.3nm,0.7s,baz=8.2,slow=8.7,SNR=13						
	2.3nm,0.7s						
MKAR	**Makanchi Array**	**50.92**	**311**	P	**P**	**11 38 48.2**	**+1.1**
	0.4nm,0.7s,baz=95,slow=7.4,SNR=5.2						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**53.61**	**315**	P	**P**	**11 39 07.7**	**+0.7**
	0.2nm,0.3s,baz=98,slow=6.9,SNR=1.8						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**58.69**	**318**	P	**P**	**11 39 44.6**	**+1.4**
	0.6nm,0.7s,baz=79,slow=7.5,SNR=2.6						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**59.31**	**28**	P	**P**	**11 39 49.0**	**+1.6**
	0.4nm,0.9s,baz=280,slow=5.4,SNR=2.5						
	0.4nm,0.9s						
YKA	**Yellowknife Ar**	**73.74**	**28**	P	**P**	**11 41 21.1**	**+1.6**
	0.4nm,0.8s,baz=295,slow=5.4,SNR=6.1						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**78.97**	**334**	P	**P**	**11 41 48.0**	**-1.2**
	1.7nm,0.9s,baz=36,slow=5.2,SNR=1.7						
	1.7nm,0.9s						

*NEIC **31** 11:32:29.2±1.2,56°.29N±0°.09×148°.9W±0°.1,h23km±9km, ML3.6/41,ML3.3(AEIC),Error ellipse: s-maj=13.9km s-min=9.2km az=171.0*
*AEIC **31** 11:32:32.1±1.2,56°.30N±0°.08×148°.9W±0°.1,h8km±5km, Error ellipse: s-maj=11.8km s-min=9.3km az=176.0*

ISC 31 11:32:27.3±1.7,56°.3N±0°.1×148°.96W±0°.06,h10km,n151, σ0°93/155,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**308**		**Pn**	**11 33 08.7**	**+1.1**
KDAK					**Sn**	**11 33 36.6**	**-1.1**
OHAK	**Old Harbor**	**2.55**	**293**		**Pn**	**11 33 09.7**	**+0.9**
OHAK					**Sn**	**11 33 38.6**	**-1.2**
QHAK	**Old Harbor**	**2.55**	**293**	P	**Pn**	**11 33 09.6**	**+0.9**
	baz=109						
OHAK				S	**Sn**	**11 33 38.3**	**-1.5**
	baz=109						
SII	**Sitkinak Islan**	**2.91**	**277**		**Pn**	**11 33 14.9**	**+1.2**
SII				IAML		11 33 51.9	
	comp=E,135nm,1.4s						
SII				IAML		11 34 09.2	
	comp=N,134nm,1.6s						
SII	**Sitkinak Islan**	**2.91**	**277**	P	**Pn**	**11 33 14.6**	**+0.9**
	baz=93						
SII				S	**Sn**	**11 33 47.8**	**-0.9**
	baz=93						
SYI	**Shuyak Island**	**2.96**	**323**		**Pn**	**11 33 15.6**	**+1.2**
SYI				IAML		11 33 50.5	
	comp=N,130nm,0.5s						
SYI				IAML		11 33 50.9	
	comp=E,107nm,0.7s						
Q20K	**Shuyak Island**	**2.96**	**323**	P	**Pn**	**11 33 15.4**	**+1.1**
	baz=139						
Q20K				S	**Sn**	**11 33 49.2**	**-0.7**
	baz=139						
R18K	**Karluk**	**3.26**	**295**		**Pn**	**11 33 20.2**	**+1.8**
R18K				IAML		11 33 59.3	
	comp=N,130nm,0.5s						
R18K				IAML		11 34 02.9	
	comp=E,114nm,0.5s						
R18K	**Karluk**	**3.26**	**295**	P	**Pn**	**11 33 19.6**	**+1.1**
	baz=110						
R18K				S	**Sn**	**11 33 56.4**	**-0.8**
	baz=110						
Q23K	**Middleton Isla**	**3.43**	**23**	P	**Pn**	**11 33 20.7**	**0.0**
	baz=204						
CNPM	**China Poot**	**3.45**	**340**		**Pn**	**11 33 21.5**	**+0.4**
BRSE	**Bradley Lake S**	**3.57**	**345**		**Pn**	**11 33 22.6**	**-0.1**
BRSE	**Bradley Lake S**	**3.57**	**345**	P	**Pn**	**11 33 22.6**	**-0.1**
	baz=163						
BRLK	**Bradley Lake**	**3.62**	**344**		**Pn**	**11 33 23.2**	**-0.2**
BRLK				IAML		11 34 04.5	
	comp=E,57nm,1.2s						
BRLK				IAML		11 34 06.1	
	comp=N,62nm,0.3s						
Q19K	**Cape Douglas,**	**3.64**	**318**		**Pn**	**11 33 25.5**	**+1.8**
Q19K				IAML		11 34 12.5	
	comp=N,184nm,1.6s						
Q19K	**Cape Douglas,**	**3.64**	**318**	P	**Pn**	**11 33 25.3**	**+1.6**
	baz=134						
HOM	**Homer**	**3.65**	**338**		**Pn**	**11 33 25.3**	**+1.4**
HOM	**Homer**	**3.65**	**338**	P	**Pn**	**11 33 25.0**	**+1.1**
	baz=155						
KAHG	**Katmai Hook Gl**	**3.73**	**308**		**Pn**	**11 33 26.9**	**+1.8**
P23K	**Montague Islan**	**3.79**	**12**		**Pn**	**11 33 25.6**	**-0.2**
P23K	**Montague Islan**	**3.79**	**12**	P	**Pn**	**11 33 25.6**	**-0.2**
	baz=192						
SEW	**Seward**	**3.82**	**356**		**Pn**	**11 33 25.6**	**-0.5**
SEW	**Seward**	**3.82**	**356**	P	**Pn**	**11 33 26.0**	**-0.1**
	baz=175						
ACHA	**Angle Creek He**	**3.95**	**302**		**Pn**	**11 33 30.1**	**+2.1**
ANCK	**Angle Creek**	**4.02**	**301**		**Pn**	**11 33 31.0**	**+2.0**
P19K	**Oil Pt**	**4.05**	**328**	P	**Pn**	**11 33 31.8**	**+2.4**
	baz=144						
O22K	**Cooper Landing**	**4.21**	**355**	Pn	**Pn**	**11 33 31.4**	**0.0**
O22K				IAML		11 34 29.4	
	comp=E,98nm,1.0s						
CNTC	**Contact Creek**	**4.24**	**300**		**Pn**	**11 33 33.8**	**+1.8**
Q17K	**Contact Creek**	**4.24**	**300**	P	**Pn**	**11 33 33.8**	**+1.8**
	baz=114						
SLKM	**Skilak Lake**	**4.27**	**352**		**Pn**	**11 33 32.0**	**-0.3**
IVE	**Iliamna Volcan**	**4.29**	**332**		**Pn**	**11 33 33.0**	**+0.2**
HIN	**Hinchinbrook I**	**4.30**	**17**		**Pn**	**11 33 32.7**	**-0.1**
HIN				IAML		11 34 07.8	
	comp=E,79nm,2.0s						
HIN				IAML		11 36 21.9	
	comp=N,94nm,1.9s						
KAIM	**Kayak Island**	**4.36**	**32**		**Pn**	**11 33 33.5**	**0.0**
KAIM	**Kayak Island**	**4.36**	**32**	P	**Pn**	**11 33 33.5**	**0.0**
	baz=215						
P18K	**Big Mountain,**	**4.56**	**315**		**Pn**	**11 33 37.0**	**+0.7**
P18K	**Big Mountain,**	**4.56**	**315**	P	**Pn**	**11 33 36.8**	**+0.5**
	baz=130						
EYAK	**Cordova Ski Ar**	**4.58**	**20**		**Pn**	**11 33 36.9**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.58**	**20**	P	**Pn**	**11 33 36.3**	**-0.2**
	baz=202						
RDT	**Redoubt**	**4.65**	**339**		**Pn**	**11 33 37.7**	**+0.1**
RAGM	**Ragged Mountai**	**4.67**	**27**	Pn	**Pn**	**11 33 37.8**	**-0.1**
RC01	**Rabbit Creek A**	**4.81**	**356**		**Pn**	**11 33 39.9**	**+0.1**
RC01				IAML		11 34 34.2	
	comp=N,30nm,0.4s						
RC01				IAML		11 34 34.4	
	comp=E,26nm,0.5s						
RC01	**Rabbit Creek A**	**4.81**	**356**	P	**Pn**	**11 33 40.0**	**+0.2**
	baz=174						
GOAT	**Goat Mountain**	**4.83**	**26**		**Pn**	**11 33 40.5**	**+0.4**
O18K	**Koktuh Hills**	**4.86**	**320**		**Pn**	**11 33 41.2**	**+0.7**
O18K				IAML		11 34 41.9	
	comp=N,25nm,1.9s						
O18K	**Koktuh Hills**	**4.86**	**320**	P	**Pn**	**11 33 41.1**	**+0.7**
	baz=134						
R16K	**Pilot Point**	**4.88**	**289**		**Pn**	**11 33 42.0**	**+1.3**
R16K	**Pilot Point**	**4.88**	**289**	P	**Pn**	**11 33 42.3**	**+1.6**
	baz=101						
BERG	**Berg Lake**	**4.95**	**32**		**Pn**	**11 33 41.8**	**+0.1**
BERG				IAML		11 34 37.4	
	comp=E,77nm,0.5s						
BERG				IAML		11 34 39.1	
	comp=N,59nm,0.5s						
SNH	**Sunshine Point**	**5.05**	**37**		**Pn**	**11 33 43.4**	**+0.2**
SNH				IAML		11 34 35.4	
	comp=N,72nm,2.0s						
SNH				IAML		11 34 40.0	
	comp=E,73nm,1.6s						
KNK	**Knik Glacier**	**5.13**	**3**		**Pn**	**11 33 44.5**	**+0.3**
KNK				IAML		11 34 46.2	
	comp=E,19nm,1.8s						
KNK	**Knik Glacier**	**5.13**	**3**	P	**Pn**	**11 33 44.4**	**+0.3**
	baz=182						
BMRM	**Bremner River**	**5.20**	**24**		**Pn**	**11 33 45.3**	**+0.1**
BMRM	**Bremner River**	**5.20**	**24**	P	**Pn**	**11 33 45.3**	**+0.1**
	baz=207						
PMR	**Palmer**	**5.30**	**359**	P	**Pn**	**11 33 47.5**	**+1.0**
	baz=178						
BARK	**Barkley Ridge**	**5.34**	**37**		**Pn**	**11 33 47.4**	**+0.4**
N19K	**Bonanza Creek**	**5.36**	**330**		**Pn**	**11 33 47.6**	**+0.2**
N19K				IAML		11 34 53.1	
	comp=N,16nm,1.6s						
N19K	**Bonanza Creek**	**5.36**	**330**	P	**Pn**	**11 33 48.0**	**+0.6**
	baz=145						
STLK	**Strandline Lak**	**5.42**	**345**		**Pn**	**11 33 48.5**	**+0.4**
KLU	**Klutina**	**5.43**	**16**		**Pn**	**11 33 48.6**	**+0.2**
KLU	**Klutina**	**5.43**	**16**	P	**Pn**	**11 33 48.8**	**+0.4**
	baz=198						
SML	**Sawmill**	**5.53**	**3**		**Pn**	**11 33 50.5**	**+0.9**
SML	**Sawmill**	**5.53**	**3**	P	**Pn**	**11 33 50.2**	**+0.6**
	baz=183						
ISLE	**Juniper Island**	**5.54**	**36**		**Pn**	**11 33 50.0**	**+0.1**
M23K	**Glacier View**	**5.54**	**6**		**Pn**	**11 33 50.5**	**+0.7**
M23K	**Glacier View**	**5.54**	**6**	P	**Pn**	**11 33 50.5**	**+0.7**
	baz=187						
SCM	**Sheep Creek Mo**	**5.61**	**8**		**Pn**	**11 33 51.6**	**+0.8**
SCM	**Sheep Creek Mo**	**5.61**	**8**	P	**Pn**	**11 33 51.4**	**+0.6**
	baz=189						
N18K	**Kilae Creek**	**5.69**	**323**		**Pn**	**11 33 52.2**	**+0.3**
N18K	**Kilae Creek**	**5.69**	**323**	P	**Pn**	**11 33 52.3**	**+0.4**
	baz=137						
VRDI	**Verde Repeater**	**5.71**	**28**		**Pn**	**11 33 52.3**	**+0.1**
KIAG	**Kiagna River**	**5.77**	**34**		**Pn**	**11 33 53.2**	**0.0**
N25K	**Chitina, Valde**	**5.78**	**21**		**Pn**	**11 33 53.5**	**+0.4**
N25K	**Chitina, Valde**	**5.78**	**21**	P	**Pn**	**11 33 53.4**	**+0.3**
	baz=204						
SAMH	**Samovar Hills**	**5.78**	**45**		**Pn**	**11 33 54.0**	**+0.9**
GLB	**Gilahina Butte**	**5.80**	**25**		**Pn**	**11 33 53.7**	**+0.3**
TABL	**Table Mountain**	**5.84**	**42**		**Pn**	**11 33 54.6**	**+0.5**
PTPK	**Patty Peak**	**5.95**	**32**		**Pn**	**11 33 55.8**	**+0.3**
PCA	**Pinnacle**	**5.97**	**47**		**Pn**	**11 33 56.0**	**+0.3**
PINM	**Pinnacle**	**5.97**	**47**	P	**Pn**	**11 33 56.0**	**+0.2**
	baz=234						
M20K	**Styx River**	**5.99**	**341**	P	**Pn**	**11 33 56.3**	**+0.3**
	baz=157						
M24K	**Tolsona, Glenn**	**5.99**	**13**	P	**Pn**	**11 33 57.1**	**+1.1**
	baz=194						
BARN	**Barnard Glacie**	**6.10**	**36**		**Pn**	**11 33 58.1**	**+0.5**
PNL	**Peninsula**	**6.10**	**53**		**Pn**	**11 33 58.2**	**+0.7**
PNL	**Peninsula**	**6.10**	**53**	P	**Pn**	**11 33 58.2**	**+0.7**
	baz=240						

CTG	Chitna Glacier	6.13	37	P	Pn	11 33 58.4	+0.3
	baz=223						
CTGM	Chitina Glacie	6.14	37		Pn	11 33 58.2	+0.1
BCPM	Bancas Point	6.15	50		Pn	11 33 58.5	+0.5
LOGN	Logan Glacier	6.15	39		Pn	11 33 58.6	+0.3
WASW	Wrangell South	6.15	22		Pn	11 33 59.5	+1.1
WACK	Wrangell Chich	6.17	21		Pn	11 33 59.2	+0.5
CHNA	Chernabura Isl	6.21	261	P	Pn	11 34 00.2	+1.3
	baz=72						
CNBA	Chernabura Isl	6.21	261		Pn	11 34 00.2	+1.2
WAT6	Susitna Watana	6.33	5		Pn	11 34 01.1	+0.4
WAT6	Susitna Watana	6.33	5	P	Pn	11 34 01.1	+0.4
	baz=186						
HARP	HAARP	6.41	16		Pn	11 34 02.7	+1.0
HARP	HAARP	6.41	16	P	Pn	11 34 02.7	+1.0
	baz=199						
O15K	Ungalikthiuk R	6.49	301		Pn	11 34 04.8	+2.0
O15K	Ungalikthiuk R	6.49	301	P	Pn	11 34 04.7	+2.0
	baz=112						
WAT1	Susitna Watana	6.55	2		Pn	11 34 04.5	+0.9
WAT1	Susitna Watana	6.55	2	P	Pn	11 34 04.5	+0.9
	baz=182						
WAT7	Susitna Watana	6.55	0		Pn	11 34 04.6	+0.9
O29M	Mount Kennedy	6.78	50		Pn	11 34 07.5	+0.6
O29M	Mount Kennedy	6.78	50	P	Pn	11 34 07.7	+0.8
	baz=238						
M26K	Nabesna, AK	6.83	24	Pn	Pn	11 34 08.3	+0.8
P29M	Windy Craggy	6.84	56		Pn	11 34 07.8	+0.2
P29M	Windy Craggy	6.84	56	P	Pn	11 34 07.5	-0.1
	baz=245						
DHY	Denali Highway	6.84	6		Pn	11 34 08.7	+0.9
DHY	Denali Highway	6.84	6	P	Pn	11 34 08.6	+0.9
	baz=187						
PAX	Paxson	6.92	13		Pn	11 34 09.8	+1.1
PAX	Paxson	6.92	13	P	Pn	11 34 10.3	+1.6
	baz=196						
YUK3	Moose Creek	7.02	35		Pn	11 34 11.7	+1.4
YUK3	Moose Creek	7.02	35	P	Pn	11 34 11.6	+1.4
	baz=222						
M16K	Timber Creek	7.03	316	Pn	Pn	11 34 11.2	+0.9
M27K	Edge Creek, AK	7.07	28	Pn	Pn	11 34 11.7	+0.8
YUK7	Dusty Glacier	7.09	49		Pn	11 34 12.2	+1.1
S31K	Pelican	7.13	71	Pn	Pn	11 34 09.6	-1.9
TRF	Thorofare Moun	7.20	355	Pn	Pn	11 34 13.2	+0.5
O14K	Tigyukauivet M	7.21	299	Pn	Pn	11 34 12.1	-0.6
YUK6	Outpost Mounta	7.22	46	P	Pn	11 34 14.5	+1.4
	baz=234						
CAST	Castle Rocks	7.31	349	Pn	Pn	11 34 14.4	+0.4
YUK4	Talbot Arm	7.36	42	P	Pn	11 34 17.2	+2.3
	baz=231						
BVCY	Beaver Creek	7.39	31		Pn	11 34 16.1	+1.0
BVCY	Beaver Creek	7.39	31	P	Pn	11 34 16.1	+1.0
	baz=217						
P30M	Million Dollar	7.40	54	P	Pn	11 34 15.4	0.0
	baz=244						
HYT	Haines Junctio	7.51	48	Pn	Pn	11 34 17.1	+0.2
YUK5	Granite Creek	7.53	45		Pn	11 34 18.5	+1.2
SIT	Sitka	7.55	79	Pn	Pn	11 34 14.2	-3.1
L27K	Beaver Creek,	7.67	25	Pn	Pn	11 34 19.9	+0.8
BCAR	Beaver Creek A	7.69	25	Pn	Pn	11 34 19.8	+0.5
BESE	Bessie Mountai	7.95	67	Pn	Pn	11 34 22.6	-0.3
R32K	Eaglecrest	8.07	70	Pn	Pn	11 34 23.6	-0.9
O30N	Mendenhall	8.08	51	Pn	Pn	11 34 24.4	-0.3
JIS	Juneau Island	8.14	70	Pn	Pn	11 34 25.2	-0.2
M29M	Somme Creek	8.15	37		Pn	11 34 26.6	+0.8
HDA	Harding Lake	8.19	6	Pn	Pn	11 34 26.9	+0.7
J25K	Salcha River,	8.52	11	Pn	Pn	11 34 29.4	-1.3
IL31		8.55	6	Pn	Pn	11 34 29.9	-1.1
ILAR	Eielson Array	8.55	6	Pn	Pn	11 34 31.3	+0.2
IL03	Eielson Array	8.56	6	Pn	Pn	11 34 31.5	+0.3
WHY	Whitehorse	8.56	54	Pn	Pn	11 34 32.3	+0.9
N31M	Braeburn, Yuko	8.57	47	Pn	Pn	11 34 32.5	+1.2
J26L	Joseph Creek	8.64	16		Pn	11 34 33.4	+1.0
L29M	L29M	8.74	34	Pn	Pn	11 34 35.0	+1.4
P32M	Atlin	8.75	62	Pn	Pn	11 34 34.1	+0.3
U33K	Whale Pass	8.84	85	Pn	Pn	11 34 31.6	-3.3
DAWY	Dawson	9.12	27	Pn	Pn	11 34 39.6	+0.8
P33M	Teslin, Yukon	9.36	59	Pn	Pn	11 34 42.6	+0.3
K29M	Barlow Dome	9.46	32	Pn	Pn	11 34 45.0	+1.3
M31M	Drury Creek, Y	9.51	46	Pn	Pn	11 34 45.3	+1.2
H21K	Melozitna Rive	9.56	350	Pn	Pn	11 34 45.4	+0.5
N32M	Quiet Lake	9.57	53	Pn	Pn	11 34 45.5	+0.5

IDC 31 11:47:22.4±9.1, 23.82S×27.10E, h0km, mbtmp2.9/1, ML2.4/1, Error ellipse: s-maj=103.4km s-min=58.9km az=108.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	Boshof	5.05	199	Pn	Pn	11 48 39.6	+0.1
	0.1nm,0.3s,baz=20,slow=7.2,SNR=1.3						
BOSA				Sn	Sn	11 49 39.6	+0.9
	0.3nm,0.3s,baz=128,slow=14,SNR=5.0						
BOSA				Lg	Lg	11 50 03.0	
	0.4nm,0.3s,baz=104,slow=10,SNR=6.9						
	1.6nm,0.8s						
I47ZA	BOSHOF INFRASO	5.07	199	I	I	12 21 10.0	
	0.1nm,0.6s,baz=18,slow=315,SNR=3.8						
I35NA	TSUMEB INFRASO	9.99	296	I	I	12 50 10.0	
	baz=120,slow=315,SNR=2.4						

MOS ***31*** *11:49:36.7±1.0, 6.87S×147.13E, h70km, mb6.1/57, Error ellipse: s-maj=7.0km s-min=4.3km az=102.3*

BJI ***31*** *11:49:37.5±0.0, 6.55S×147.62E, h84km, mb5.7/88, mB5.5/56, Ms5.0/54, Ms7 4.6/56*

IDC ***31*** *11:49:38.3±1.2, 6.87S×147.25E, h75km±10km, mb5.3/24, mbtmp5.7/28, MS4.4/43, Error ellipse: s-maj=12.2km s-min=7.4km az=99.0*

NEIC ***31*** *11:49:38.1, 6.91S×147.22E, h65km*

NEIC ***31*** *11:49:38.4±1.4, 6.91S±0.06×147.21E±0.08, h68km±3km, mb5.9/379, Mwb5.5/35, Mww5.6/35, Error ellipse: s-maj=10.8km s-min=8.3km az=96.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.92; Mθθ 1.06; Mϕϕ-0.14; Mrθ-1.60; Mrϕ-0.21; Mθϕ 0.77; Fault plane solution: M0 2.05000×10^17 NP1:ϕs262.06000°, δ16.70000°, λ-120.67000°. NP2:ϕs113.82000°, δ75.69000°, λ-81.30000°. Principal axes: T 2.0986, Plg30.0000°, Azm197.0000°; N -0.1010, Plg8.0000°, Azm292.0000°; P -1.9977, Plg58.0000°, Azm36.0000°;*

NEIC ***31*** *11:49:39.3, 6.92S×147.21E, h60km*

NEIC ***31*** *11:49:39.3, 6.82S×147.01E, h60km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 10^17 Nm; Mrr-1.93; Mθθ 1.70; Mϕϕ 0.23; Mrθ-1.74; Mθϕ-0.94; Mϕr 0.90; Fault plane solution: M0 2.83000×10^17 NP1: ϕs117.08000°, δ66.88000°, λ-88.98000°. NP2: ϕs294.49000°, δ23.14000°, λ-92.38000°. Principal axes: T 2.9421, Plg22.0000°, Azm206.0000°; N -0.2229, Plg1.0000°, Azm297.0000°; P -2.7192, Plg68.0000°, Azm29.0000°;*

DJA ***31*** *11:49:39.1±0.2, 7.7S±2.2×14.7E±.7°, h76km±2km, M5.7/103, mb5.8/103, mB6.1/72, MLv6.0/3, Mw5.5/119, Mw(mB)5.7/72, MwMwp5.2/12, Mwp5.5/12*

GCMT ***31*** *11:49:42.4±0.1, 7.06S±0.01×147.20E±0.01, h87km, MW5.5/142, Moment Tensor Solution. s130,c227; s142,c284; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr-1.61±.03; Mθθ 1.86±.03; Mϕϕ-0.24±.03; Mrθ-1.46±.02; Mθϕ-1.11±.03; Mϕr 0.97±.02; Best double couple: M0 2.65100×10^17 NP1:ϕs123.00000°, δ66.00000°, λ-80.00000°. NP2:ϕs279.00000°, δ26.00000°, λ-112.00000°. Principal axes: T 2.9890, Plg21.0000°, Azm205.0000°; N -0.6670, Plg9.0000°, Azm299.0000°; P -2.3130, Plg67.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 11:49:39.8±0.2, 6.90S±0.03×147.18E±0.03, h88km±2km, h88km:pP-P, n1396, s1813/1369, mb5.8/313, 48C-75D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	2.49	181	P	Pn	11 50 18.6	0.0
	3μm,0.4s,baz=6.1,slow=5.5,SNR=2417						
PMG				S	Sn	11 50 48.0	-0.2
	9μm,0.4s,baz=179,slow=23,SNR=23						
BULU	Kimbe	3.40	67	P	Pn	11 50 31.6	+0.9
MANU	Manus Island	4.83	2		Pn	11 50 50.9	+0.7
MANU	Manus Island	4.83	2	P	Pn	11 50 51.4	+1.3
RABL	Rabaul	5.64	62		Pn	11 51 00.6	-0.6
RABL	Rabaul	5.64	62	P	Pn	11 51 01.8	+0.6
TABU	Tabubil	6.14	285	P	Pn	11 51 09.9	+1.8
MMPI	Merauke	6.92	257	P	Pn	11 51 19.2	+0.6
	1μm,0.7s,25μm10μm13nm						
COEN	Coen	8.05	209	P	Pn	11 51 33.6	-0.5
	baz=8.1,SNR=231						
COEN	Coen	8.05	209	Pn	Pn	11 51 33.2	-0.8
COEN	Coen	8.05	209	P	Pn	11 51 34.6	+0.5
GENI	Genyem	8.19	301	P	Pn	11 51 38.2	+2.1
GENI	Genyem	8.19	301	P	Pn	11 51 36.4	+0.3
	517nm,1.3s,9μm7μm						
MTSU	Mount Surprise	11.51	194	P	Pn	11 52 22.0	+0.8
	baz=12,SNR=193						
MTSU	Mount Surprise	11.51	194	P	Pn	11 52 22.1	+0.8
TV1H	Townsville Har	12.30	182	P	Pn	11 52 32.8	+1.0
AUAYR	Ayr State High	12.61	179	P	Pn	11 52 37.1	+1.1
HNR	Honiara	12.88	102		Pn	11 52 40.0	+0.3
HNR	Honiara	12.88	102	P	Pn	11 52 40.9	+1.2
HNR	Honiara	12.88	102	P	Pn	11 52 37.5	-2.2
	3μm,1.0s,baz=289,slow=18,SNR=5.8						
HNR				S	Sn	11 55 00.1	-1.3
	2μm,0.8s,baz=268,slow=14,SNR=1.5						
HNR				LR	LR	11 57 06.2	
	comp=Z,8μm,21.4s,baz=270,slow=35						
CTA	Charters Tower	13.14	184	P	Pn	11 52 44.2	+1.1
CTA	Charters Tower	13.14	184	P	Pn	11 52 42.5	-0.6
	208nm,0.5s,baz=357,slow=14,SNR=476						
CTA				LR	LR	11 57 31.3	
	comp=Z,3μm,19.9s,baz=360,slow=36						
CTAO	Charters Tower	13.14	184	Pn	Pn	11 52 43.2	+0.1
CTAO	Charters Tower	13.14	184	P	Pn	11 52 43.9	+0.8
CTAO	Charters Tower	13.14	184	P	Pn	11 52 43.2	+0.1
KMPI	Kaimana, Papua	13.80	283	P	P	11 52 54.7	-2.5
	350nm,0.7s,4μm						
FAKI	Fak Fak	15.39	284		Pn	11 53 13.0	+0.7
FAKI	Fak Fak	15.39	284	P	Pn	11 53 13.5	+1.3
FAKI	Fak Fak	15.39	284	P	Pn	11 53 08.5	-3.7
	210nm,1.0s,4μm						
QIS	Mount Isa	15.44	208	P	Pn	11 53 12.3	-0.5
	baz=16,SNR=314						
QIS	Mount Isa	15.44	208	P	Pn	11 53 12.9	+0.1
KDU	Kakadu	15.59	247	P	Pn	11 53 14.6	-0.1
	baz=16,SNR=83						
KDU	Kakadu	15.59	247	P	Pn	11 53 14.8	+0.1
SAUI	Saumlaki	15.79	265	P	Pn	11 53 17.3	+0.1
SAUI	Saumlaki	15.79	265	P	P	11 53 18.7	-0.6
SAUI	Saumlaki	15.79	265	P	Pn	11 53 18.2	+1.0
	2μm,1.1s,16μm						
RK1H	Rockhampton Ha	16.70	169	P	P	11 53 29.2	-0.2
MTN	Manton Dam	16.88	248	P	P	11 53 31.5	+0.2
	baz=17,SNR=27						
MTN	Manton Dam	16.88	248		Pn	11 53 30.4	-0.3
MTN	Manton Dam	16.88	248	P	P	11 53 31.8	+0.5
SIJI	Sorong	16.96	290	P	P	11 53 32.6	+0.2
	253nm,0.8s,4μm						
SWI	Sorong	16.97	290	P	P	11 53 32.7	+0.3
	445nm,0.8s,6μm						
GD1S	Gladstone Soft	17.28	168	P	P	11 53 36.3	+0.6
BNDI	Bandanaira	17.35	277	P	P	11 53 37.0	+0.4
	435nm,0.7s,20μm						
PATS	Pohnpei	17.59	39	P	P	11 53 39.3	+0.1
	baz=18,SNR=9.2						
PATS	Pohnpei	17.59	39	P	P	11 53 38.9	-0.4
PATS	Pohnpei	17.59	39	P	Pn	11 53 40.8	+1.4
WB0	Warramunga Arr	17.86	223	P	P	11 53 41.4	-0.4
WR0	Warramunga Arr	17.86	222	P	P	11 53 41.1	-1.1
WRAB	Tennant Creek	17.97	223	P	P	11 53 42.2	-1.2
WRAB	Tennant Creek	17.97	223	P	P	11 53 42.3	-1.2
WB2	Warramunga Arr	17.98	223		P	11 53 43.1	-0.4
WRA	Warramunga Arr	17.99	223	P	P	11 53 41.6	-2.0
WRA	Warramunga Arr	17.99	223	P	P	11 53 42.3	-1.3
	97nm,0.8s,baz=48,slow=10,SNR=345						
WRA				S	Sn	11 57 04.7	-0.1
	40nm,0.9s,baz=50,slow=23,SNR=5.7						
WRA				LR	LR	12 01 37.5	
	comp=Z,3μm,18.2s,baz=40,slow=40						
EIDS	Eidsvold	18.74	169	P	P	11 53 52.3	+0.4
	baz=19,SNR=44						
EIDS	Eidsvold	18.74	169	P	P	11 53 51.9	+0.1
EIDS	Eidsvold	18.74	169	P	P	11 53 52.2	+0.4
KRAI	Karang Ratu	19.05	280	P	Pn	11 53 57.1	+0.2
	260nm,1.0s,7μm						
RMQ	Roma	19.54	176	P	P	11 54 01.2	+0.7
QLP	Quilpie	19.78	188	P	P	11 54 04.0	+0.9
	baz=20,SNR=177						
QLP	Quilpie	19.78	188	P	Pn	11 54 04.4	-1.0
KNRA	Kununurra	20.04	243	P	P	11 54 05.5	-0.6
	baz=20,SNR=110						
KNRA	Kununurra	20.04	243	P	P	11 54 05.2	-0.9
KNRA	Kununurra	20.04	243	P	P	11 54 05.9	-0.2
NLAI	Namlea	20.33	279	P	Pn	11 54 10.6	-1.3
	71nm,0.5s,5μm						
GUMO	Guam	20.48	354	P	P	11 54 10.6	-0.2
GUMO				lAmb	lAmb	11 54 11.6	
	comp=Z,433nm,0.8s						
GUMO	Guam	20.48	354	P	P	11 54 10.9	+0.1
GUMO	Guam	20.48	354	P	P	11 54 10.6	-0.2
GUMO				pmax	pmax		
	comp=Z,433nm,0.8s						
GUMO	Guam	20.48	354	P	P	11 54 09.5	-1.2
	comp=Z,340nm,0.7s,baz=187,slow=12,SNR=16						
GUMO				LR	LR	12 00 58.6	
	comp=Z,544nm,20.7s,baz=173,slow=33						
	comp=Z,340nm,0.7s						
LBMI	Labuha	20.59	287	P	Pn	11 54 13.7	-1.3
	comp=Z,708nm,2.0s,comp=Z,16μm						
AS01	Alice Springs	20.97	216	P	P	11 54 16.7	+0.7
AS31	Alice Springs	20.99	216	P	P	11 54 16.0	-0.3
ASAR	Alice Springs	20.99	216	P	P	11 54 16.4	+0.1
ASAR	Alice Springs	20.99	216	P	P	11 54 15.8	-0.5
	comp=Z,115nm,0.5s,baz=52,slow=9.3,SNR=1052						
ASAR				S	S	11 58 08.3	+3.0
	comp=Z,140nm,0.9s,baz=28,slow=18,SNR=9.2						
ASAR				LR	LR	12 02 51.4	
	comp=Z,5μm,21.0s,baz=46,slow=38						
	comp=Z,115nm,0.5s						
TNTI	Ternate	21.19	290	P	P	11 54 19.7	+1.2
TNTI	Ternate	21.19	290	P	P	11 54 20.4	+2.0
TNTI	Ternate	21.19	290	P	P	11 54 22.1	+3.7
	comp=Z,244nm,1.5s,comp=Z,4μm						
KOUNC	Koumac, New Ca	21.42	131	P	P	11 54 21.4	+0.6
KOUNC	Koumac, New Ca	21.42	131	P	P	11 54 21.7	+0.9
INKA	Innaminka	21.61	196	P	P	11 54 23.3	+0.5
SANI	Sanana	21.67	282	P	P	11 54 23.9	+0.4
SANI	Sanana	21.67	282	P	P	11 54 23.3	-0.2
	comp=Z,238nm,0.7s,comp=Z,5μm						
GC1S	Gold Coast 1 S	21.98	165	P	P	11 54 27.2	+0.5
AULRC	Lightning Ridg	22.43	178	P	P	11 54 30.6	-0.8
SOEI	Soe	22.85	261	P	P	11 54 36.5	+0.4
SOEI				lAmb	lAmb	11 55 03.2	
	comp=Z,349nm,1.0s						
SOEI	Soe	22.85	261	P	P	11 54 37.2	+1.1
SOEI	Soe	22.85	261	P	P	11 54 36.9	+0.8
	comp=Z,442nm,1.3s,comp=Z,9μm						
OOD	Oodnadatta	23.47	206	P	P	11 54 41.5	-0.2
FITZ	Fitzroy Crossi	23.76	240	P	P	11 54 43.9	-0.5
	baz=24,SNR=142						
FITZ	Fitzroy Crossi	23.76	240	P	P	11 54 44.1	-0.4
FITZ	Fitzroy Crossi	23.76	240	P	P	11 54 44.5	0.0
ARMA	Armidale	23.77	170	P	P	11 54 44.1	-0.4
	baz=24,SNR=87						
ARMA	Armidale	23.77	170	P	P	11 54 44.2	-0.3
ARMA	Armidale	23.77	170	P	P	11 54 45.0	+0.5
NOUC	Port Laguerre	23.85	131	P	P	11 54 44.2	-1.0
DZM	Mont Dzumac	23.94	131	P	P	11 54 45.4	-0.7
DZM	Mont Dzumac	23.94	131	P	P	11 54 45.7	-0.4
DZM	Mont Dzumac	23.94	131	eP	P	11 54 44.3	-1.8
	comp=Z,287nm,1.2s						
DZM				eS	S	11 59 00.1	+3.6
	comp=Z,1μm,26.4s						
DZM				eLR	LR	12 00 42.3	
	comp=Z,3μm,25.8s						
DZM	Mont Dzumac	23.94	131	P	P	11 54 44.5	-1.6
	comp=Z,34nm,0.9s,baz=336,slow=10.0,SNR=20						
DZM				LR	LR	12 03 12.8	
	comp=Z,1μm,21.1s,baz=326,slow=34						
	comp=Z,34nm,0.9s						
SGSI	Sangihe	24.04	295	P	P	11 54 48.4	+1.5
	comp=Z,789nm,0.8s,comp=Z,13μm						
ONTNC	Ouen Toro	24.09	132	P	P	11 54 46.0	-1.3
ONTNC	Ouen Toro	24.09	132	P	P	11 54 46.8	-0.5
YATNC	Mamie plateau,	24.27	130	P	P	11 54 49.0	0.0
KMSI	Cibinong	24.31	287	P	P	11 54 50.7	+1.3
	comp=Z,1μm,0.7s,comp=Z,14μmcomp=Z,2μm						
AUPHS	Peel High Scho	24.33	172	P	P	11 54 49.8	+0.4
BBSI	Bau Bau	24.51	272	P	P	11 54 52.6	+1.4
	comp=Z,114nm,0.7s,comp=Z,3μm						
CMSA	Cobar Meteorol	24.55	183	P	P	11 54 51.4	0.0
	baz=25,SNR=66						
CMSA	Cobar Meteorol	24.55	183	P	P	11 54 51.5	+0.1
MMRI	Maumere	24.77	264	P	P	11 54 53.7	+0.1
MMRI				lAmb	lAmb	11 54 56.1	
	comp=Z,696nm,1.2s						
MMRI	Maumere	24.77	264	P	P	11 54 54.9	+1.2
MMRI	Maumere	24.77	264	P	P	11 54 53.6	-0.1
	comp=Z,537nm,0.9s,comp=Z,7μm						
LCRK	Leigh Creek	24.89	199	P	P	11 54 54.7	+0.1
LUWI	Luwuk	25.03	282	P	P	11 54 57.0	+1.0
LUWI				lAmb	lAmb	11 55 25.5	
	comp=Z,433nm,1.0s						
LUWI	Luwuk	25.03	282	P	P	11 54 57.2	+1.2
LUWI	Luwuk	25.03	282	P	P	11 54 57.5	+1.5
	comp=Z,438nm,0.8s,comp=Z,6μm						
AUDCS	Dubbo College	25.24	177	P	P	11 54 57.6	-0.1
STKA	Stephens Creek	25.39	191	P	P	11 54 58.5	-0.6
	baz=26,SNR=98						
STKA	Stephens Creek	25.39	191	P	P	11 54 58.2	-0.9
STKA	Stephens Creek	25.39	191	P	P	11 54 59.0	-0.1
STKA	Stephens Creek	25.39	191	*c*	P	11 54 58.7	-0.4
STKA	Stephens Creek	25.39	191	P	P	11 54 57.9	-1.2
	comp=Z,177nm,1.0s,baz=353,slow=8.7,SNR=93						
STKA				LR	LR	12 05 09.7	
	comp=Z,3μm,21.5s,baz=24,slow=37						
	comp=Z,177nm,1.0s						
WRKA	Warakurna	25.53	223	P	P	11 55 00.2	-0.3
	baz=26,SNR=567						
WRKA	Warakurna	25.53	223	P	P	11 55 00.2	-0.3
MULG	Mulgathing	26.33	206	P	P	11 55 07.3	-0.3
MGCD	Mangrove Creek	26.43	173	P	P	11 55 08.6	+0.1
	baz=26,SNR=81						
MGCD	Mangrove Creek	26.43	173	P	P	11 55 09.6	+1.1
BASI	Baing, Sumba	26.51	261	P	P	11 55 09.7	+0.3
	comp=Z,898nm,1.6s,comp=Z,10μm						
LHI	Lord Howe Isla	26.90	157	P	P	11 55 11.5	-1.2
LHI				lAmb	lAmb	11 55 16.2	
	comp=Z,371nm,1.2s						
BKSI	Bulukumba	26.95	272	P	P	11 55 13.4	+0.1
	comp=Z,70nm,1.1s,comp=Z,1μm						
TARA	Tarawa	26.96	73	P	P	11 55 12.7	-0.7
TARA				lAmb	lAmb	11 55 16.5	
	comp=Z,369nm,1.4s						
TARA	Tarawa	26.96	73	P	P	11 55 14.3	+0.8
RIV	Riverview	27.05	173	P	P	11 55 14.2	+0.2
	baz=27,SNR=5.5						
YNG	Young	27.29	178	P	P	11 55 16.1	-0.1
KAPI	Kappang	27.34	272	P	P	11 55 17.4	+0.5
KAPI	Kappang	27.34	272	P	P	11 55 17.4	+0.5
KAPI				pmax	pmax		
	comp=Z,131nm,1.1s						
HTT	Hallett	27.49	195	P	P	11 55 17.5	-0.5
	baz=28,SNR=44						
HTT	Hallett	27.49	195	P	P	11 55 18.7	+0.7
WHYH	Whyalla	27.50	198	P	P	11 55 17.9	-0.1
PTPS	Port Pirie	27.50	197	P	P	11 55 18.3	+0.3
TOLI2	Tolitoli	27.52	286	P	P	11 55 19.3	+0.8
TTSI	Tana Toraja	27.52	277	P	P	11 55 19.4	+0.9
	comp=Z,65nm,0.7s,comp=Z,2μm						
BBOO	Buckleboo	27.78	200	P	P	11 55 20.1	-0.5
	baz=28,SNR=72						
BBOO	Buckleboo	27.78	200	P	P	11 55 19.9	-0.7
BBOO				lAmb	lAmb	11 55 25.4	
	comp=Z,915nm,2.0s						
BBOO	Buckleboo	27.78	200	P	P	11 55 20.1	-0.5
MPSI	Mapaga	28.15	284	P	P	11 55 24.1	0.0
	comp=Z,35nm,1.4s,comp=Z,928nm						
CAN	Canberra	28.34	177	P	P	11 55 25.1	-0.4
CAN	Canberra	28.34	177	P	P	11 55 26.9	+1.4
CAN	Canberra	28.34	177	P	P	11 55 25.1	-0.4
CAN				pmax	pmax		
	comp=Z,58nm,0.8s						
CNB	Canberra Magne	28.35	176	P	P	11 55 25.6	-0.1
	baz=28,SNR=17						
CNB	Canberra Magne	28.35	176	P	P	11 55 26.6	+0.9
PLAI	Plampang	29.19	264	P	P	11 55 33.9	+0.6
PLAI	Plampang	29.19	264	P	P	11 55 31.2	-2.1
	comp=Z,154nm,0.8s,comp=Z,2μm						
AUSMG	Snowy Mountain	29.41	178	P	P	11 55 35.0	-0.1
TWSI	Taliwang, Sumb	30.07	264	P	P	11 55 39.7	-1.4
	comp=Z,80nm,0.7s,comp=Z,2μm						
MILA	Mila	30.07	177	P	P	11 55 40.8	-0.1
	baz=30,SNR=8.1						
ARPS	Mount Arapiles	30.13	189	P	P	11 55 41.5	+0.2
	baz=30,SNR=44						
ARPS	Mount Arapiles	30.13	189	P	P	11 55 41.5	+0.2
PSA00	Pilbara Seismi	30.17	238	P	P	11 55 41.5	-0.4
PSA00	Pilbara Seismi	30.17	238	lAmb	lAmb	11 55 43.0	
	comp=Z,235nm,0.9s						
PSA00	Pilbara Seismi	30.17	238	P	P	11 55 42.0	+0.1
TOO	Toolangi	30.57	183	P	P	11 55 45.6	+0.3
	baz=31,SNR=16						
TOO	Toolangi	30.57	183	P	P	11 55 45.2	-0.1
TOO	Toolangi	30.57	183	P	P	11 55 46.6	+1.3
TOO	Toolangi	30.57	183	P	P	11 55 45.2	-0.1
TOO				pmax	pmax		
	comp=Z,135nm,1.2s						
BRAT	Ballarat	30.66	185	P	P

baz=37,SNR=63
BLDU Ballidu 37.05 227 P **P** **11 56 41.3 -0.1**
CTJI Waduk Cacaban 37.71 267 P **P** **11 56 47.4 +0.1**
comp=Z,101nm,1.1s,comp=Z,10µm
KSM Kuching 37.73 281 P **P** **11 56 47.7 +0.3**
KSM Kuching 37.73 281 P **P** **11 56 49.2 +1.8**
KSM Kuching 37.73 281 P **P** **11 56 49.1 +1.7**
comp=Z,56nm,1.2s
KPJI Karang Pucung 37.95 267 P **P** **11 56 49.4 +0.1**
comp=Z,302nm,0.8s,comp=Z,2µm
NWAO Narrogin (SRO) 37.99 223 P **P** **11 56 49.4 0.0**
baz=38,SNR=40
NWAO P **P** **11 56 49.4 0.0**
baz=38,SNR=40
NWAO Narrogin (SRO) 37.99 223 P **P** **11 56 49.3 -0.1**
NWAO Narrogin (SRO) 37.99 223 P **P** **11 56 49.5 0.0**
NWAO Narrogin (SRO) 37.99 223 P **P** **11 56 49.7 +0.3**
NWAO Narrogin (SRO) 37.99 223 P **P** **11 56 49.3 -0.1**
NWAO pmax pmax
comp=Z,928nm,1.7s
NWAO Narrogin (SRO) 37.99 223 LR LR 12 13 22.4
comp=Z,2µm,21.7s,baz=47,slow=37
NWAO Narrogin (SRO) 37.99 223 ⇑P **P** **11 56 49.4 0.0**
MUN Mundaring 38.16 225 P **P** **11 56 51.0 +0.2**
baz=38,SNR=56
MUN Mundaring 38.16 225 P **P** **11 56 51.0 +0.2**
JOW Kunigami 38.21 332 P **P** **11 56 51.0 -0.2**
JOW IAmb IAmb 11 56 52.7
comp=Z,213nm,0.9s
JOW Kunigami 38.21 332 P **P** **11 56 51.5 +0.2**
JOW Kunigami 38.21 332 LR LR 12 11 15.6
comp=Z,550nm,19.1s,baz=190,slow=34
CMJI Cimerak 38.42 266 P **P** **11 56 52.3 -0.9**
comp=Z,908nm,0.9s,comp=Z,8µm
MTKN Mount Kenneth 38.44 225 P **P** **11 56 54.6 +1.5**
AUALB St Joseph's Co 38.83 220 P **P** **11 56 57.0 +0.7**
RKGY Rocky Gully 39.18 221 P **P** **11 57 00.1 +0.8**
baz=39,SNR=6.4
RKGY Rocky Gully 39.18 221 P **P** **11 56 59.9 +0.6**
BBJI Bungbulang 39.22 267 P **P** **11 56 59.6 -0.4**
BBJI Bungbulang 39.22 267 P **P** **11 56 59.1 -0.9**
comp=Z,763nm,0.7s,comp=Z,7µm
LEM Lembang 39.27 268 LR LR 12 17 59.7
comp=Z,486nm,18.6s,baz=68,slow=43
LEM Lembang 39.27 268 P **P** **11 57 00.8 +0.2**
comp=Z,350nm,0.8s,comp=Z,4µm
YULB Yu-li 39.32 321 P **P** **11 57 01.6 +1.0**
TPUB Ta-pu 39.68 320 P **P** **11 57 02.3 -1.3**
TPUB IAmb IAmb 11 57 04.3
comp=Z,140nm,0.7s
TPUB Ta-pu 39.68 320 P **P** **11 57 03.3 -0.3**
RAO Raoul Island 39.68 128 LR LR 12 10 03.2
comp=Z,565nm,18.6s,baz=74,slow=31
NACB Ninganchiao 39.71 322 IAmb IAmb 11 57 05.8
comp=Z,140nm,1.0s
NACB Ninganchiao 39.71 322 P **P** **11 57 04.3 +0.5**
CNJI Cibinong 39.74 267 P **P** **11 57 03.4 -0.8**
comp=Z,566nm,1.0s,comp=Z,5µm
SSLB Suanglung 39.82 321 P **P** **11 57 04.9 +0.1**
CBJI Citeko 40.05 268 P **P** **11 57 05.8 -1.1**
comp=Z,619nm,0.6s,comp=Z,8µm
DBJI Dramaga 40.15 268 P **P** **11 57 07.3 -0.4**
comp=Z,255nm,0.8s
YHNB Yeheng 40.21 322 IAmb IAmb 11 57 12.2
comp=Z,121nm,0.9s
YHNB Yeheng 40.21 322 P **P** **11 57 09.4 +1.4**
SKJI Sukabumi 40.32 267 P **P** **11 57 08.6 -0.5**
comp=Z,2µm,0.7s,comp=Z,13µm
TATO Taipei 40.37 323 P **P** **11 57 09.4 +0.2**
TATO Taipei 40.37 323 P **P** **11 57 10.3 +1.1**
TATO Taipei 40.37 323 P **P** **11 57 09.7 +0.5**
TATO PcP **PcP** **11 59 11.6 +0.6**
JHJ2 Mitsune 40.40 350 P **P** **11 57 08.5 -0.8**
QRZ Quartz Range 40.66 150 IAmb IAmb 11 57 14.1
comp=Z,153nm,1.0s
AFI Afiamalu 40.91 103 P **P** **11 57 13.2 -0.9**
AFI Afiamalu 40.91 103 P **P** **11 57 14.7 +0.7**
AFI Afiamalu 40.91 103 P **P** **11 57 13.2 -0.9**
AFI pmax pmax
comp=Z,93nm,1.1s
TMVZ Te Maari 41.10 146 P **P** **11 57 18.3 +3.0**
OTVZ Oturere 41.11 146 P **P** **11 57 18.4 +3.1**
FWVZ Far West T-bar 41.11 146 P **P** **11 57 19.3 +3.9**
ETVZ East Tongariro 41.11 146 P **P** **11 57 18.2 +2.9**
XMI Christmas Isla 41.15 262 P **P** **11 57 16.7 +0.8**
PPBI Pangkal Pinang 41.17 275 P **P** **11 57 16.7 +0.6**
comp=Z,78nm,1.1s,comp=Z,11µm
XMIS Christmas Isla 41.19 262 P **P** **11 57 17.3 +1.1**
URZ Urewera 41.33 144 LR LR 12 14 07.2
comp=Z,596nm,18.5s,baz=61,slow=36
URZ Urewera 41.33 144 P **P** **11 57 16.9 -0.1**
HAZ Te Kaha 41.40 142 P **P** **11 57 19.4 +1.8**
BHHZ Black Hill Sta 41.55 146 P **P** **11 57 20.1 +1.1**
BKZ Black Stump Fm 41.58 145 P **P** **11 57 19.3 +0.2**
JCZ Jackson Bay 41.58 156 P **P** **11 57 20.0 +0.9**
MWZ Matawai 41.62 143 P **P** **11 57 21.3 +1.8**
KWHZ Kaweka Forest 41.71 145 P **P** **11 57 20.3 +0.1**
TWGZ Tauwhareparae 41.79 143 P **P** **11 57 22.3 +1.5**
WMGZ Waiomatatini S 41.83 142 P **P** **11 57 20.5 -0.6**
KRHZ Kereru 41.83 146 P **P** **11 57 22.3 +1.2**
MCHZ McNeill Hill 41.88 145 P **P** **11 57 22.6 +1.0**
TSZ Takapari Road 41.89 146 P **P** **11 57 22.2 +0.5**
PNHZ Pukenui 41.92 146 P **P** **11 57 22.4 +0.5**
ARHZ Aropaoanui 41.93 145 P **P** **11 57 22.4 +0.5**
OGWZ Otaki Gorge 42.00 148 P **P** **11 57 23.0 +0.5**
MRZ Mangatainoka R 42.11 147 IAmb IAmb 11 57 24.7
comp=Z,328nm,1.1s
MRZ Mangatainoka R 42.11 147 P **P** **11 57 23.5 +0.2**
SNZO South Karori 42.12 149 P **P** **11 57 22.4 -0.9**
SNZO IAmb IAmb 11 57 24.4
comp=Z,243nm,1.2s
SNZO South Karori 42.12 149 P **P** **11 57 24.7 +1.3**
QZH Quanzhou 42.15 320 ⇓*i*P **P** **11 57 24.0 +0.2**
QZH S **S** **12 03 37.5 +0.1**
QZH sS **sS** **12 04 12.3 -0.2**
QZH pmax pmax
comp=Z,87nm,0.7s
KNZ Kokohu 42.16 144 P **P** **11 57 21.0 -2.8**
DVHZ Dannevirke 42.17 146 P **P** **11 57 24.3 +0.4**
RPZ Rata Peaks 42.23 154 P **P** **11 57 22.9 -1.4**
RPZ Rata Peaks 42.23 154 P **P** **11 57 25.0 +0.7**
RPZ Rata Peaks 42.23 154 LR LR 12 12 11.2
comp=Z,1µm,21.8s,baz=327,slow=32
HOWZ Holdsworth Sta 42.24 148 P **P** **11 57 24.5 +0.1**
JMN Monobe 42.33 343 P **P** **11 57 26.2 +1.0**
KHZ Kahutara 42.36 151 IAmb IAmb 11 57 27.0
comp=Z,231nm,1.3s
KHZ Kahutara 42.36 151 P **P** **11 57 25.5 +0.2**
LBZ Lake Benmore 42.40 155 IAmb IAmb 11 57 26.7
comp=Z,232nm,1.3s
MLZ Mavora Lakes 42.41 158 IAmb IAmb 11 57 27.5
comp=Z,148nm,1.1s
KASI Kota Agung 42.45 269 P **P** **11 57 25.2 -1.3**
comp=Z,236nm,0.8s
BFZ Birch Farm 42.48 147 IAmb IAmb 11 57 27.7
comp=Z,266nm,1.2s
BFZ Birch Farm 42.48 147 P **P** **11 57 26.9 +0.5**
PYZ Puysegur Point 42.59 160 IAmb IAmb 11 57 29.2
comp=Z,164nm,1.0s
PYZ Puysegur Point 42.59 160 P **P** **11 57 27.7 +0.6**
PLWZ Palliser 42.59 149 P **P** **11 57 26.7 -0.6**
JNU Nakatsue 42.71 340 IAmb IAmb 11 57 29.1
comp=Z,272nm,0.9s
JNU Nakatsue 42.71 340 P **P** **11 57 28.2 -0.1**
JNU Nakatsue 42.71 340 LR LR 12 12 28.4
comp=Z,385nm,19.1s,baz=151,slow=32
DLV T Lat 42.79 296 P **P** **11 57 29.6 +0.2**
DLV T Lat 42.79 296 P **P** **11 57 30.5 +1.0**
LWLI Liwa 42.92 270 P **P** **11 57 29.7 -0.8**
comp=Z,303nm,0.7s,comp=Z,5µm
MQZ McQueen's Vall 42.93 153 IAmb IAmb 11 57 31.2
comp=Z,272nm,1.5s
DSRI Dabo 42.97 277 P **P** **11 57 31.9 +1.2**
comp=Z,93nm,1.3s,comp=Z,2µm
HKPS Hong Kong Po S 43.45 313 P **P** **11 57 35.8 +1.3**
HKPS IAmb IAmb 11 58 58.7
comp=Z,423nm,1.8s
MJAR Matsushiro Arr 44.02 350 P **P** **11 57 37.7 -1.1**
comp=Z,123nm,1.1s,baz=176,slow=7.8,SNR=152
MJAR PcP **PcP** **11 59 22.9 0.0**
comp=Z,36nm,1.0s,baz=166,slow=3.3,SNR=6.2
comp=Z,123nm,1.1s
MAJO Matsushiro 44.02 350 P **P** **11 57 38.2 -0.6**
MAJO Matsushiro 44.02 350 P **P** **11 57 38.2 -0.6**
MAJO Matsushiro 44.02 350 P **P** **11 57 38.2 -0.6**
MAJO pmax pmax
comp=Z,597nm,1.6s
MAJO Matsushiro 44.02 350 ⇓P **P** **11 57 38.0 -0.7**
MAJO pP **pP** **11 58 01.2 +0.4**
MAJO sP **sP** **11 58 09.3 -1.9**
MAJO PcP **PP** **11 59 23.3 +0.2**
JTU Tsushima 44.50 339 P **P** **11 57 42.8 +0.2**
EGSI Enggano, Bengk 44.66 269 P **P** **11 57 43.9 -0.4**
comp=Z,352nm,0.9s
QIZ Qiongzhong 44.92 306 P **P** **11 57 48.5 +2.3**
QIZ S **S** **12 04 23.8 +5.8**
QIZ LR LR
comp=Z,460nm,17.2s
QIZ Qiongzhong 44.92 306 P **P** **11 57 47.6 +1.4**
QIZ IAmb IAmb 11 57 48.7
comp=Z,145nm,0.9s
QIZ Qiongzhong 44.92 306 P **P** **11 57 47.8 +1.6**
QIZ Qiongzhong 44.92 306 P **P** **11 57 47.1 +0.9**
QIZ pP **pP** **11 58 09.1 +1.7**
QIZ PcP **PcP** **11 59 26.7 +0.3**
JMM Marumori 44.93 353 P **P** **11 57 46.3 +0.4**
JMM IAmb IAmb 11 57 47.0
comp=Z,147nm,0.8s
JMM Marumori 44.93 353 P **P** **11 57 46.9 +1.0**
SSE Sheshan 45.23 328 P **P** **11 57 48.8 +0.3**
SSE S **S** **12 04 27.0 +4.9**
SSE pmax pmax
comp=Z,78nm,0.9s
SSE pmax pmax
comp=Z,250nm,4.3s
SSE LR LR
comp=Z,400nm,14.5s
SSE LR LR
comp=Z,350nm,14.6s
SSE Sheshan 45.23 328 P **P** **11 57 48.5 0.0**
SSE pP **pP** **11 58 10.2 +0.3**
UBPT Khong Chiam 46.84 298 P **P** **11 58 02.8 +1.4**
TJN Taejon 46.89 338 P **P** **11 58 00.4 -1.0**
TJN Taejon 46.89 338 P **P** **11 58 01.5 +0.1**
TJN Taejon 46.89 338*d* *i*P **P** **11 58 01.0 -0.4**
PDSI Padang 46.96 275 P **P** **11 58 01.8 -0.6**
comp=Z,24nm,1.2s
NJ2 Nanjing 47.22 327 *e*P **P** **11 58 04.5 +0.4**
NJ2 sP **pP** **11 58 29.8 +4.1**
NJ2 pmax pmax
comp=Z,97nm,1.0s
NJ2 pmax pmax
comp=Z,280nm,4.1s
NJ2 LR LR
comp=Z,740nm,13.7s
NJ2 LR LR
comp=Z,770nm,17.1s
NJ2 LR LR
comp=Z,580nm,24.5s
KSRS Korea Array 47.65 339 P **P** **11 58 07.3 +0.1**
comp=Z,144nm,0.9s,baz=156,slow=8.9,SNR=361
KSRS PcP **PcP** **11 59 36.2 +0.7**
comp=Z,27nm,0.9s,baz=162,slow=4.1,SNR=10
comp=Z,144nm,0.9s
KSAR Wonju Array Be 47.65 339 P **P** **11 58 07.3 +0.1**
KSAR Wonju Array Be 47.65 339 P **P** **11 58 07.4 +0.1**
KS19 Wonju Array Si 47.71 339 P **P** **11 58 07.4 -0.4**
KS19 IAmb IAmb 11 58 08.6
comp=Z,220nm,1.0s
JTM Tenmabayashi 47.78 354 P **P** **11 58 08.2 0.0**
JTM Tenmabayashi 47.78 354 P **P** **11 58 08.7 +0.5**
KULM Kulim 47.99 283 P **P** **11 58 11.3 +0.9**
KULM IAmb IAmb 11 58 12.3
comp=Z,207nm,1.5s
KULM Kulim 47.99 283 P **P** **11 58 11.2 +0.9**
comp=Z,100nm,1.0s,comp=Z,836nm
GULI GuiLin 48.02 313 ⇓P **P** **11 58 08.5 -1.9**
GULI S **S** **12 05 02.5 +0.3**
GULI pmax pmax
comp=Z,60nm,0.8s
GULI LR LR
comp=Z,700nm,20.6s
GULI LR LR
comp=Z,560nm,21.7s
GULI LR LR
comp=Z,400nm,20.6s
CNSH ChangSha 48.05 318 ⇓P **P** **11 58 11.0 +0.4**
CNSH pmax pmax
comp=Z,8.0nm,0.7s
INCN Inchon 48.14 338 P **P** **11 58 11.3 +0.2**
INCN IAmb IAmb 11 58 12.3
comp=Z,173nm,0.8s
INCN Inchon 48.14 338 P **P** **11 58 11.9 +0.8**
INCN Inchon 48.14 338 P **P** **11 58 11.3 +0.2**
INCN pmax pmax
comp=Z,173nm,0.8s
INCN Inchon 48.14 338 ⇓P **P** **11 58 11.2 0.0**
INCN pP **pP** **11 58 33.4 +0.3**
INCN PP **PP** **12 00 02.5 -1.7**
MCQ Macquarie Isla 48.41 171 P **P** **11 58 13.4 +0.6**
baz=48,SNR=11
MCQ Macquarie Isla 48.41 171 P **P** **11 58 12.9 0.0**
MCQ Macquarie Isla 48.41 171 P **P** **11 58 13.2 +0.4**
MCQ Macquarie Isla 48.41 171 P **P** **11 58 12.9 0.0**
MCQ pmax pmax
comp=Z,444nm,1.3s
SKLT Songkhla 48.50 286 P **P** **11 58 15.9 +1.6**
SKLT Songkhla 48.50 286 P **P** **11 58 15.6 +1.3**
comp=Z,152nm,1.2s,comp=Z,4µm
WHN Wuhan 48.74 322 ⇓P **P** **11 58 16.8 +1.0**
WHN pP **pP** **11 58 40.5 +3.2**
WHN S **S** **12 05 16.0 +3.8**
WHN pmax pmax
comp=Z,270nm,1.1s
WHN LR LR
comp=Z,2µm,24.0s
ERM Erimo 48.81 356 P **P** **11 58 16.8 +0.7**
ERM Erimo 48.81 356 P **P** **11 58 17.2 +1.1**
ERM Erimo 48.81 356 P **P** **11 58 16.8 +0.7**
ERM pmax pmax
comp=Z,58nm,0.9s
JEM Erimo 48.81 356 P **P** **11 58 17.3 +1.2**
JOHN Johnston Islan 48.83 61 P **P** **11 58 17.2 +0.5**
HJU Haeju 48.98 337 P **P** **11 58 18.3 +0.8**
HJU pP **pP** **11 58 43.4 +4.2**
HJU S **sS** **12 05 48.1 -2.9**
HJU AmB
comp=Z,1µm,1.7s
RPSI Rantau Prapat 49.10 280 P **P** **11 58 19.4 +0.5**
RPSI IAmb IAmb 11 58 48.4
comp=Z,131nm,1.3s
PSI Prapat 49.12 280 P **P** **11 58 20.3 +1.1**
PSI Prapat 49.12 280 P **P** **11 58 19.4 +0.2**
PSI pmax pmax
comp=Z,131nm,1.3s
PSI Prapat 49.12 280 P **P** **11 58 19.5 +0.2**
comp=Z,78nm,1.3s,comp=Z,1µm
PYAG Pyongyang 49.85 338 P **P** **11 58 24.7 +0.7**
PYAG S **sS** **12 06 00.9 -2.2**
PYAG AmB
comp=Z,176nm,0.9s
SRIT Nakonsritamara 49.86 287 IAmb IAmb 11 58 27.2
comp=Z,101nm,1.2s
SRIT Nakonsritamara 49.86 287 P **P** **11 58 25.8 +1.1**
COCO West Island 49.87 260 P **P** **11 58 24.5 -0.2**
COCO IAmb IAmb 11 58 27.2
comp=Z,163nm,0.9s
COCO West Island 49.87 260 P **P** **11 58 24.5 -0.2**
COCO pmax pmax
comp=Z,163nm,1.0s
SURA Surathani 50.00 288 P **P** **11 58 26.8 +1.1**
HHU Hamhung 50.00 340 P **P** **11 58 26.2 +0.9**
NONG Nongkai 50.04 300 P **P** **11 58 27.4 +1.5**
NAYO Nakonayok 50.14 295 P **P** **11 58 28.1 +1.4**
GSI Gunungsitoli 50.17 277 P **P** **11 58 26.4 -0.6**
GSI IAmb IAmb 11 58 28.4
comp=Z,79nm,0.8s
GSI Gunungsitoli 50.17 277 P **P** **11 58 27.0 0.0**
GSI Gunungsitoli 50.17 277 P **P** **11 58 27.0 0.0**
comp=Z,112nm,0.8s
KCSI Kotacane, Aceh 50.39 280 P **P** **11 58 28.0 -0.7**
comp=Z,106nm,0.7s,comp=Z,2µm
YUK Yuzh-Kuril'sk 50.71 359*c* *i*P **P** **11 58 31.2 +0.7**
SLVN Son La 50.89 305 IAmb IAmb 11 58 35.7
comp=Z,133nm,1.2s
JKA Kamikawa-asahi 50.94 356 IAmb IAmb 11 58 34.2
comp=Z,273nm,1.4s
ASAJ Asahikawa 50.95 356 LR LR 12 20 20.9
comp=Z,82nm,18.6s,baz=182,slow=36
SUJ Sinuiju 51.24 338 P **P** **11 58 35.3 +0.7**
MSHR Mys Shultsa 51.36 345*d* *i*P **P** **11 58 35.5 +0.1**
MSHR pmax pmax
comp=Z,33nm,0.8s
GYA Guiyang 51.41 312 ⇓P **P** **11 58 37.5 +1.2**
GYA pP pP 11 59 00.5 +2.6
GYA pmax pmax
comp=Z,59nm,0.7s
GYA pmax pmax
comp=Z,430nm,3.9s
GYA LR LR
comp=Z,250nm,7.1s
GYA LR LR
comp=Z,190nm,4.0s
GYA LR LR
comp=Z,190nm,4.9s
LHMI Lhok Sumawe 51.56 282 P **P** **11 58 38.7 +1.2**
LHMI Lhok Sumawe 51.56 282 P **P** **11 58 37.5 0.0**
comp=Z,200nm,0.7s,comp=Z,2µm
SNSI Sinabang, Aceh 51.59 279 P **P** **11 58 37.7 0.0**
comp=Z,225nm,0.9s
ENH Enshi 51.70 318 P **P** **11 58 37.8 -0.5**
ENH IAmb IAmb 11 58 39.5
comp=Z,158nm,1.3s
ENH Enshi 51.70 318 P **P** **11 58 38.7 +0.5**
ENH Enshi 51.70 318 P **P** **11 58 38.2 0.0**
ENH pP **pP** **11 59 00.2 +0.2**
ENH sP **sP** **11 59 09.7 -0.3**
ENH PcP **PcP** **11 59 51.2 +0.6**
MLSI Meulaboh, Aceh 51.88 281 P **P** **11 58 39.8 -0.1**
comp=Z,184nm,0.7s
KUR Kuril'sk 51.90 1*d* *i*P **P** **11 58 40.0 +0.7**
KUR pmax pmax
comp=Z,1µm,1.1s
TEY Ternei 52.56 351⇑*e*P **P** **11 58 43.2 -1.1**
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=Z,30nm,0.9s
LYN LuoYang 52.68 324 ⇓*i*P **P** **11 58 45.0 -0.4**
LYN pP pP 11 59 09.5 +2.4
LYN PcP **PcP** **11 59 51.5 -2.7**
LYN S **S** **12 06 05.0 -1.5**
LYN sS sS 12 06 41.0 -2.1
LYN pmax pmax
comp=Z,110nm,0.8s
LYN pmax pmax
comp=Z,530nm,4.3s
USA0B Ussuriysk Arra 52.68 346 P **P** **11 58 45.5 +0.3**
USA0B IAmb IAmb 11 58 46.5
comp=Z,79nm,0.9s
USA0B Ussuriysk Arra 52.68 346 P **P** **11 58 45.5 +0.3**
USA0B pmax pmax
comp=Z,79nm,0.9s
USRK Ussuriysk Ar. 52.68 346 P **P** **11 58 45.4 +0.2**
USRK Ussuriysk Ar. 52.68 346 P **P** **11 58 45.3 +0.1**
comp=Z,67nm,0.8s,baz=175,slow=7.8,SNR=105
comp=Z,67nm,0.8s
SNY Shenyang 53.08 338 ⇓P **P** **11 58 47.8 -0.4**
SNY S **S** **12 06 08.5 -3.2**
SNY pmax pmax
comp=Z,78nm,1.0s
SNY pmax pmax
comp=Z,600nm,2.8s
SNY LR LR
comp=Z,360nm,18.1s
SNY LR LR
comp=Z,500nm,18.6s
SNY LR LR
comp=Z,560nm,18.6s
RAR Rarotonga 53.14 111 LR LR 12 17 37.5
comp=Z,183nm,21.8s,baz=288,slow=32
HNS HongShan 53.49 328 ⇓P **P** **11 58 50.8 -0.5**
HNS pP **pP** **11 59 12.8 -0.3**
HNS S **S** **12 06 14.0 -3.5**
HNS sS **sS** **12 06 51.5 -2.8**
HNS pmax pmax
comp=Z,150nm,0.9s
HNS LR LR
comp=Z,840nm,17.9s
HNS LR LR
comp=Z,510nm,16.5s
HNS LR LR
comp=Z,610nm,20.6s
MDJ Mudanjiang 53.67 344 P **P** **11 58 52.0 -0.4**
MDJ sP sP 11 59 19.8 -5.0
MDJ PcP **PcP** **11 59 57.0 -0.7**
MDJ S **S** **12 06 21.8 +2.2**
MDJ sS sS 12 06 54.8 -0.9
MDJ ScS **ScS** **12 08 30.5 -2.9**
MDJ pmax pmax
comp=Z,95nm,1.0s
MDJ pmax pmax
comp=Z,420nm,5.2s
MDJ LR LR
comp=Z,340nm,19.9s
MDJ LR LR
comp=Z,700nm,19.9s
MDJ LR LR
comp=Z,890nm,21.6s
MDJ Mudanjiang 53.67 344 P **P** **11 58 52.4 -0.1**
MDJ IAmb IAmb 11 58 53.6
comp=Z,75nm,0.9s
MDJ Mudanjiang 53.67 344 P **P** **11 58 52.8 +0.4**
MDJ Mudanjiang 53.67 344 ⇓P **P** **11 58 52.4 -0.1**
MDJ pP **pP** **11 59 14.8 +0.1**
KMI Kunming 53.69 308 ⇓P **P** **11 58 55.0 +1.8**
KMI pP pP 11 59 12.0 -3.0
KMI S **S** **12 06 23.3 +2.3**
KMI sS sS 12 06 57.5 -0.7
KMI pmax pmax
comp=Z,100nm,1.3s
KMI pmax pmax
comp=Z,380nm,6.1s
KMI LR LR
comp=Z,390nm,38.2s
YSS Yuzh-Sakhalins 53.76 356 P **P** **11 58 53.1 +0.1**
YSS IAmb IAmb 11 58 54.4
comp=Z,108nm,0.8s
YSS Yuzh-Sakhalins 53.76 356 P **P** **11 58 53.7 +0.7**
YSS Yuzh-Sakhalins 53.76 356*de*P **P** **11 58 52.7 -0.3**
YSS *e**PP **pP** **11 59 13.1 -2.3**
YSS *e* 11 59 58.3
YSS *e*S **S** **12 06 17.6 -3.1**
YSS pmax pmax
comp=Z,800nm,3.4s
YSS pmax pmax
comp=Z,130nm,0.8s
YSS Yuzh-Sakhalins 53.76 356 ⇓P **P** **11 58 53.1 +0.1**
CM31 Chiang Mai Arr 53.83 299 P **P** **11 58 56.4 +2.2**
CM31 IAmb IAmb 11 58 57.7
comp=Z,210nm,1.1s
CMAR Chiang Mai Arr 53.83 299 P **P** **11 58 56.0 +1.9**
comp=Z,91nm,0.9s,baz=120,slow=5.7,SNR=336
CMAR ScP **ScP** **12 03 50.1 +1.0**
comp=Z,0.4nm,0.3s,baz=100,slow=2.7,SNR=2.8
CMAR LR LR 12 24 17.0
comp=Z,88nm,18.1s,baz=100,slow=39
comp=Z,91nm,0.9s
CHTO Chiang Mai 53.98 299 P **P** **11 58 57.0 +1.9**
CHTO IAmb IAmb 11 58 58.3
comp=Z,169nm,1.1s
CHTO Chiang Mai 53.98 299 P **P** **11 58 57.1 +1.9**
CHTO Chiang Mai 53.98 299 P **P** **11 58 57.0 +1.9**
CHTO pmax pmax
comp=Z,169nm,1.1s
CHTO Chiang Mai 53.98 299 P **P** **11 58 56.9 +1.7**
CHTO pP **pP** **11 59 18.8 +1.7**
CHTO sP **sP** **11 59 28.6 +1.5**
CHTO PcP **PcP** **12 00 01.0 +1.6**
CHTO Chiang Mai 53.98 299 P **P** **11 58 56.3 +1.1**
comp=Z,148nm,1.2s,comp=Z,2µm
CN2 Changchun 54.16 341 *e*P **P** **11 58 55.3 -0.7**
CN2 *e*PP **PP** **12 00 59.8 +1.1**
CN2 *e*S **S** **12 06 26.0 -0.3**
CN2 *es*S sS 12 06 59.0 -4.0
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 LR LR
comp=Z,220nm,16.0s
CN2 LR LR
comp=Z,220nm,16.0s

XAN	**Xi'an**	**54.49**	**321**	⇓P	**P**	**11 58 58.5**	**-0.2**
XAN				pP	pP	11 59 18.3	-2.3
XAN				S	**S**	**12 06 29.0**	**-2.1**
XAN				pmax	pmax		
	comp=Z,280nm,1.9s						
XAN				pmax	pmax		
	comp=Z,440nm,4.5s						
XAN				LR	LR		
	comp=Z,400nm,11.7s						
XAN				LR	LR		
	comp=Z,310nm,8.2s						
XAN				LR	LR		
	comp=Z,500nm,19.2s						
XAN	**Xi'an**	**54.49**	**321**	⇓P	**P**	**11 58 58.4**	**-0.2**
XAN				pP	**pP**	**11 59 20.1**	**-0.5**
XAN				sP	**sP**	**11 59 30.4**	**-0.1**
BJT	**Baijiatuau**	**54.76**	**331**	P	**P**	**11 59 00.2**	**-0.2**
BJT				IAmb	IAmb	11 59 01.3	
	comp=Z,214nm,1.7s						
BJT	**Baijiatuau**	**54.76**	**331**	P	**P**	**11 59 00.2**	**-0.2**
BJT	**Baijiatuau**	**54.76**	**331**	P	**P**	**11 59 00.2**	**-0.2**
BJT				pmax	pmax		
	comp=Z,214nm,1.7s						
BJT	**Baijiatuau**	**54.76**	**331**	⇓P	**P**	**11 59 00.1**	**-0.4**
BJT				PcP	**PcP**	**12 00 02.9**	**+0.9**
BJI	**Beijing**	**54.77**	**331**	P	**P**	**11 59 00.0**	**-0.5**
BJI				pP	**pP**	**11 59 18.3**	**-4.1**
BJI				PcP	**PcP**	**12 00 00.0**	**-2.0**
BJI				PcS	**PcS**	**12 04 01.3**	**-0.4**
BJI				S	**S**	**12 06 33.0**	**-1.5**
BJI				sS	**sS**	**12 07 06.0**	**-4.7**
BJI				pmax	pmax		
	comp=Z,32nm,1.4s						
BJI				pmax	pmax		
	comp=Z,170nm,4.2s						
PZH	**PanZhiHua**	**55.16**	**309**	P	**P**	**11 59 04.5**	**+0.7**
PZH				pP	**pP**	**11 59 27.5**	**+1.9**
PZH				PcP	**PcP**	**12 00 04.0**	**0.0**
PZH				S	**S**	**12 06 44.5**	**+4.0**
PZH				sS	**sS**	**12 07 15.8**	**-2.1**
PZH				pmax	pmax		
	comp=Z,40nm,0.9s						
PZH				pmax	pmax		
	comp=Z,270nm,6.9s						
PZH				LR	LR		
	comp=Z,270nm,23.9s						
PZH				LR	LR		
	comp=Z,200nm,23.9s						
PZH				LR	LR		
	comp=Z,310nm,24.5s						
BNX	**BinXian**	**55.31**	**343**	⇓P	**P**	**11 59 03.8**	**-0.5**
BNX				pP	**pP**	**11 59 27.5**	**+0.8**
BNX				PP	**PP**	**12 01 09.5**	**+0.6**
BNX				S	**S**	**12 06 42.0**	**+0.4**
BNX				sS	**sS**	**12 07 15.3**	**-2.7**
BNX				pmax	pmax		
	comp=Z,140nm,1.2s						
BNX				pmax	pmax		
	comp=Z,780nm,4.1s						
BNX				LR	LR		
	comp=Z,280nm,15.3s						
BNX				LR	LR		
	comp=Z,380nm,18.4s						
BNX				LR	LR		
	comp=Z,580nm,38.2s						
XMAS	**Kiritimati**	**55.97**	**83**	P	**P**	**11 59 09.2**	**-0.5**
XMAS	**Kiritimati**	**55.97**	**83**	P	**P**	**11 59 10.3**	**+0.6**
XMAS	**Kiritimati**	**55.97**	**83**	P	**P**	**11 59 10.4**	**+0.8**
CD2	**Chengdu**	**56.03**	**315**	⇓P	**P**	**11 59 10.3**	**+0.5**
CD2				S	**S**	**12 06 53.0**	**+1.2**
CD2				sS	sS	12 07 28.5	-0.8
CD2				pmax	pmax		
	comp=Z,210nm,0.8s						
CD2				pmax	pmax		
	comp=Z,330nm,4.8s						
CD2				LR	LR		
	comp=Z,240nm,11.3s						
TNCH	**TengChong**	**56.99**	**306**	⇓P	**P**	**11 59 18.3**	**+1.4**
TNCH				pP	pP	11 59 36.8	-2.1
TNCH				sP	sP	11 59 48.8	0.0
TNCH				PP	**PP**	**12 01 26.3**	**+1.7**
TNCH				S	**S**	**12 07 06.3**	**+1.2**
TNCH				sS	sS	12 07 38.5	-4.1
TNCH				pmax	pmax		
	comp=Z,180nm,1.2s						
KLR	**Kul'dur**	**57.50**	**348**	LR	LR	12 23 31.4	
	comp=Z,192nm,18.7s,baz=156,slow=35						
TYV	**Tymovskoe**	**57.66**	**357**	*e*P	**P**	**11 59 21.4**	**+0.6**
TYV				*e*S	**S**	**12 07 13.3**	**+0.9**
TYV				pmax	pmax		
	comp=Z,77nm,0.9s						
TYV				pmax	pmax		
	comp=Z,700nm,3.1s						
TYV				smax	smax		
	comp=N,300nm,5.9s						
TYV				smax	smax		
	comp=E,400nm,5.9s						
HHC	**Hu-ho-hao-te**	**57.69**	**328**	⇓P	**P**	**11 59 21.5**	**+0.1**
HHC				sP	sP	11 59 51.5	-2.0
HHC				S	**S**	**12 07 14.0**	**+0.5**
HHC				sS	sS	12 07 50.0	-0.3
HHC				pmax	pmax		
	comp=E,59nm,1.0s						
HHC				pmax	pmax		
	comp=E,160nm,4.7s						
HHC				LR	LR		
	comp=E,550nm,19.0s						
HHC				LR	LR		
	comp=E,330nm,18.0s						
HHC				LR	LR		
	comp=E,640nm,22.1s						
MND	**Mandalay**	**57.69**	**301**	P	**P**	**11 59 22.9**	**+1.3**
XLT	**XiLinHaoTe**	**57.85**	**334**	⇓*i*P	**P**	**11 59 22.0**	**-0.5**
XLT				pP	pP	11 59 47.0	+2.4
XLT				sP	sP	11 59 57.0	+2.5
XLT				PcP	**PcP**	**12 00 13.8**	**-0.3**
XLT				S	**S**	**12 07 09.8**	**-5.6**
XLT				sS	sS	12 07 55.5	+3.3
XLT				SS	**SS**	**12 11 03.5**	**-4.3**
XLT				pmax	pmax		
	comp=E,33nm,1.1s						
XLT				pmax	pmax		
	comp=E,440nm,4.0s						
XLT				LR	LR		
	comp=E,29nm,17.4s						
XLT				LR	LR		
	comp=E,270nm,13.3s						
XLT				LR	LR		
	comp=E,460nm,28.4s						
GRNR	**Gornyy**	**58.18**	**352**	⇓*i*P	**P**	**11 59 25.1**	**+0.5**
GRNR				pmax	pmax		
	comp=E,3.0nm,0.9s						
GRNR				pmax	pmax		
	comp=N,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=E,30nm,1.1s						
BTO	**Baotou**	**58.33**	**327**	⇓*i*P	**P**	**11 59 27.0**	**+1.1**
BTO				pP	**pP**	**11 59 51.0**	**+2.9**
BTO				sP	**sP**	**12 00 02.3**	**+4.3**
BTO				PP	**PP**	**12 01 40.3**	**+4.3**
BTO				S	**S**	**12 07 21.5**	**-0.3**
BTO				pmax	pmax		
	comp=Z,110nm,0.8s						
BTO				pmax	pmax		
	comp=Z,780nm,9.2s						
BTO				LR	LR		
	comp=Z,1μm,16.9s						
BTO				LR	LR		
	comp=Z,740nm,15.4s						
BTO				LR	LR		
	comp=Z,1μm,22.2s						
LZH	**Lanzhou**	**59.01**	**320**	⇓P	**P**	**11 59 31.8**	**+1.0**
LZH				pP	pP	11 59 54.8	+1.7
LZH				S	**S**	**12 07 31.0**	**+0.1**
LZH				sS	sS	12 08 02.5	-6.4
LZH				pmax	pmax		
	comp=Z,120nm,1.5s						
LZH				pmax	pmax		
	comp=Z,330nm,4.8s						
LZH				LR	LR		
	comp=Z,280nm,11.3s						
LZH				LR	LR		
	comp=Z,210nm,11.0s						
LZH				LR	LR		
	comp=Z,200nm,13.1s						
KEKH	**Kekaha**	**59.41**	**60**	P	**P**	**11 59 35.3**	**+1.6**
HEH	**HeiHe**	**59.45**	**345**	*e*P	**P**	**11 59 32.5**	**-0.8**
HEH				pP	**pP**	**11 59 51.0**	**-5.0**
HEH				PcP	**PcP**	**12 00 19.5**	**-0.6**
HEH				ScP	**ScP**	**12 04 14.3**	**+1.2**
HEH				S	**S**	**12 07 34.3**	**-1.4**
HEH				pmax	pmax		
	comp=Z,81nm,1.2s						
HEH				pmax	pmax		
	comp=Z,600nm,3.9s						
DRV	**Dumont d'Urvil**	**59.88**	**183**	⇑P	**P**	**11 59 36.2**	**+0.1**
PEA0B	**Petropavlovsk-**	**60.44**	**7**	P	**P**	**11 59 40.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**60.44**	**7**	P	**P**	**11 59 40.4**	**+0.4**
PEA0B				pmax	pmax		
	comp=Z,403nm,1.8s						
PETK	**Petropavlovsk-**	**60.44**	**7**	P	**P**	**11 59 40.3**	**+0.2**
PETK	**Petropavlovsk-**	**60.44**	**7**	P	**P**	**11 59 40.3**	**+0.2**
PETK	**Petropavlovsk-**	**60.44**	**7**	P	**P**	**11 59 39.8**	**-0.2**
	comp=Z,34nm,0.8s,baz=186,slow=8.6,SNR=31						
PETK				LR	LR	12 21 29.0	
	comp=Z,442nm,21.9s,baz=195,slow=32						
	comp=Z,34nm,0.8s						
PET	**Petropavlovsk**	**60.48**	**8**	*e*P	**P**	**11 59 40.5**	**+0.2**
PET				*e**PP	**pP**	**12 00 02.4**	**-1.0**
PET				*e*		12 00 23.4	
PET				*e*S	**S**	**12 07 51.1**	**+2.3**
PET				*e**SS	**sS**	**12 08 29.4**	**+3.4**
PET				*e*		12 09 24.0	
PET				*e*SS	**SS**	**12 11 49.0**	**+0.5**
PET				pmax	pmax		
	comp=Z,68nm,1.1s						
PET				pmax	pmax		
	comp=Z,100nm,12.0s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
HON	**Honolulu**	**60.64**	**61**	P	**P**	**11 59 42.1**	**+0.1**
HON	**Honolulu**	**60.64**	**61**	P	**P**	**11 59 42.1**	**+0.1**
HON				pmax	pmax		
	comp=Z,753nm,1.1s						
KIP	**Kipapa**	**60.67**	**61**	P	**P**	**11 59 42.4**	**+0.2**
KIP	**Kipapa**	**60.67**	**61**	P	**P**	**11 59 43.2**	**+0.9**
KIP	**Kipapa**	**60.67**	**61**	P	**P**	**11 59 43.1**	**+0.9**
KIP	**Kipapa**	**60.67**	**61**	*d*iP	**P**	**11 59 42.9**	**+0.7**
KIP				pmax	pmax		
	comp=Z,611nm,1.3s						
KIP	**Kipapa**	**60.67**	**61**	P	**P**	**11 59 43.1**	**+0.9**
HIA	**Hailar**	**60.85**	**340**	P	**P**	**11 59 43.1**	**+0.1**
HIA	**Hailar**	**60.85**	**340**	P	**P**	**11 59 43.5**	**+0.5**
HIA	**Hailar**	**60.85**	**340**	P	**P**	**11 59 43.1**	**+0.1**
HIA				pmax	pmax		
	comp=Z,211nm,1.0s						
HIA	**Hailar**	**60.85**	**340**	P	**P**	**11 59 42.9**	**-0.1**
HIA				pP	**pP**	**12 00 04.9**	**-0.5**
KHLH	**Kahului Airpor**	**61.87**	**62**	P	**P**	**11 59 51.9**	**+1.6**
POHA	**Pohakuloa**	**62.27**	**64**	P	**P**	**11 59 54.4**	**+1.1**
POHA	**Pohakuloa**	**62.27**	**64**	P	**P**	**11 59 54.4**	**+1.1**
POHA	**Pohakuloa**	**62.27**	**64**	P	**P**	**11 59 54.3**	**+0.9**
PAE	**Paea**	**62.47**	**106**	*e*P	**P**	**11 59 53.2**	**-1.2**
	comp=Z,23nm,1.3s						
PPT	**Papeete**	**62.47**	**106**	P	**P**	**11 59 55.1**	**+0.7**
	comp=Z,19nm,0.8s,baz=70,slow=10,SNR=2.9						
PPT				LR	LR	12 22 18.6	
	comp=Z,146nm,21.8s,baz=260,slow=31						
	comp=Z,19nm,0.8s						
PPT2	**Papeete2**	**62.47**	**106**	*e*P	**P**	**11 59 55.0**	**+0.5**
	comp=Z,92nm,23.5s						
PPT2				*e*S	**S**	**12 08 20.6**	**+5.1**
	comp=Z,257nm,26.8s						
PPT2				*e*LQ	LQ	12 15 39.4	
	comp=Z,726nm,27.0s						
PPT2				*e*LR	LR	12 18 25.7	
	comp=Z,597nm,25.2s						
PPT2				*e*LR	LR	12 18 30.4	
	comp=Z,356nm,27.2s						
SHL	**Shillong**	**62.66**	**303**	P	**P**	**11 59 57.0**	**+1.2**
SHL	**Shillong**	**62.66**	**303**	P	**P**	**11 59 57.0**	**+1.2**
SHL				pmax	pmax		
	comp=Z,1μm,1.5s						
ZEA	**Zeya**	**62.71**	**347**	*de*P	**P**	**11 59 55.9**	**+0.6**
ZEA				*e**PP	**pP**	**12 00 19.3**	**+1.4**
ZEA				*e*S	**S**	**12 08 19.2**	**+2.2**
ZEA				pmax	pmax		
	comp=E,20nm,0.8s						
ZEA				pmax	pmax		
	comp=N,140nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,250nm,1.0s						
ZEA				pmax	pmax		
	comp=N,100nm,1.9s						
ZEA				pmax	pmax		
	comp=Z,200nm,2.0s						
ZEA				smax	smax		
	comp=N,100nm,12.0s						
TBI	**Tubuai**	**62.86**	**113**	*e*P	**P**	**11 59 57.0**	**+0.1**
	comp=N,581nm,40.0s						
TBI	**Tubuai**	**62.86**	**113**	*e*PP	**PP**	**12 02 14.4**	**-1.8**
	comp=N,3μm,36.2s						
TBI				*e*S	**S**	**12 08 20.4**	**+0.4**
	comp=N,2μm,27.2s						
TBI				*e*LQ	LQ	12 16 00.4	
	comp=N,2μm,28.5s						
TBI				*e*LR	LR	12 18 46.9	
	comp=N,5μm,33.8s						
TBI				*e*LR	LR	12 18 50.0	
	comp=N,3μm,28.0s						
GTA	**Gaotai**	**63.54**	**320**	⇓P	**P**	**12 00 02.0**	**+0.7**
GTA				pP	pP	12 00 24.5	+0.8
GTA				sP	PcP	12 00 36.5	-0.7
GTA				S	**S**	**12 08 27.8**	**-0.5**
GTA				sS	sS	12 09 11.0	+3.7
GTA				pmax	pmax		
	comp=N,84nm,0.9s						
GTA				pmax	pmax		
	comp=N,390nm,5.6s						
GTA				LR	LR		
	comp=N,220nm,20.7s						
GTA				LR	LR		
	comp=N,140nm,19.6s						
GTA				LR	LR		
	comp=N,220nm,18.9s						
SHEM	**Shemya Is, Ala**	**63.66**	**18**	LR	LR	12 21 23.0	
	comp=N,260nm,21.0s,baz=134,slow=30						
PMOR	**Pomariorio Ree**	**64.07**	**103**	*e*P	**P**	**12 00 06.0**	**+1.0**
	comp=N,123nm,1.1s						
VAH	**Vaihoa**	**64.32**	**104**	*e*P	**P**	**12 00 06.3**	**-0.4**
	comp=N,38nm,1.2s						
CASY	**Casey**	**64.45**	**196**	P	**P**	**12 00 06.6**	**0.0**
CASY	**Casey**	**64.45**	**196**	P	**P**	**12 00 06.4**	**-0.2**
LSA	**Lhasa**	**64.92**	**307**	P	**P**	**12 00 12.8**	**+1.8**
LSA				IAmb	IAmb	12 00 14.1	
	comp=Z,190nm,0.9s						
LSA	**Lhasa**	**64.92**	**307**	P	**P**	**12 00 12.8**	**+1.8**
LSA				pmax	pmax		
	comp=Z,190nm,0.9s						
LSA	**Lhasa**	**64.92**	**307**	P	**P**	**12 00 12.8**	**+1.8**
ULN	**Ulaanbaatar**	**64.98**	**331**	P	**P**	**12 00 11.3**	**+0.7**
ULN	**Ulaanbaatar**	**64.98**	**331**	P	**P**	**12 00 11.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,55nm,0.8s						
ULN	**Ulaanbaatar**	**64.98**	**331**	⇓P	**P**	**12 00 11.2**	**+0.7**
ULN				pP	**pP**	**12 00 35.5**	**+2.3**
ULN	**Ulaanbaatar**	**64.98**	**331**	P	**P**	**12 00 10.9**	**+0.4**
	comp=Z,391nm,1.0s,comp=Z,4μm						
GOMU	**GeErMu**	**65.15**	**315**	P	**P**	**12 00 13.5**	**+1.3**
GOMU				pP	pP	12 00 36.3	+1.7
GOMU				sP	sP	12 00 48.8	+4.5
GOMU				pmax	pmax		
	comp=Z,45nm,0.9s						
SONM	**Songino Array**	**65.27**	**331**	P	**P**	**12 00 12.7**	**+0.3**
SONM	**Songino Array**	**65.27**	**331**	P	**P**	**12 00 12.7**	**+0.3**
SONM				pmax	pmax		
	comp=Z,70nm,1.2s						
SONM	**Songino Array**	**65.27**	**331**	P	**P**	**12 00 12.7**	**+0.3**
	comp=Z,35nn,1.0s,baz=148,slow=7.7,SNR=123						
SONM				PKP2bc		12 28 56.4	
	comp=Z,1.6nm,1.0s,baz=273,slow=2.7,SNR=5.4						
	comp=Z,35nn,1.0s						
CIT	**Chita**	**65.35**	**338**	*e*P	**P**	**12 00 13.4**	**+0.7**
CIT				*e*		12 00 38.2	
CIT				*e*		12 00 46.8	
CIT				pmax	pmax		
	comp=Z,428nm,1.7s						
ADK	**Adak**	**66.21**	**24**	P	**P**	**12 00 18.4**	**+0.3**
ADK				IAmb	IAmb	12 00 19.4	
	comp=Z,131nm,1.2s						
ADK	**Adak**	**66.21**	**24**	P	**P**	**12 00 18.7**	**+0.6**
ADK	**Adak**	**66.21**	**24**	P	**P**	**12 00 18.4**	**+0.3**
ADK				pmax	pmax		
	comp=Z,131nm,1.2s						
MA2	**Magadan**	**66.32**	**2**	P	**P**	**12 00 18.5**	**-0.2**
MA2				IAmb	IAmb	12 00 20.2	
	comp=Z,179nm,1.2s						
MA2	**Magadan**	**66.32**	**2**	P	**P**	**12 00 19.5**	**+0.8**
MA2	**Magadan**	**66.32**	**2**	*d*iP	**P**	**12 00 18.6**	**-0.2**
MA2				pmax	pmax		
	comp=Z,176nm,1.2s						
MA2	**Magadan**	**66.32**	**2**	LR	LR	12 26 15.8	
	comp=Z,117nm,21.9s,baz=186,slow=33						
MA2	**Magadan**	**66.32**	**2**	⇓P	**P**	**12 00 18.7**	**-0.1**
MA2				PcP	**PcP**	**12 00 46.4**	**-1.6**
ZAK	**Zakamensk**	**68.51**	**332**	*e*P	**P**	**12 00 32.5**	**-0.4**
ZAK				*e*		12 00 55.3	
ZAK				pmax	pmax		
	comp=Z,114nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,72nm,1.4s						
IRK	**Irkutsk**	**69.33**	**333**	*e*P	**P**	**12 00 37.1**	**-0.7**
IRK				pmax	pmax		
	comp=Z,126nm,1.3s						
CCD	**Concordia, Ant**	**69.51**	**186**	⇑P	**P**	**12 00 39.1**	**+0.1**
CCD				PcP	**PcP**	**12 00 59.8**	**-1.9**
CCD				pP	**pP**	**12 01 01.8**	**-0.1**
CCD				sP	**sP**	**12 01 11.8**	**+0.3**
SEY	**Seymchan**	**69.74**	**3**	*d*iP	**P**	**12 00 40.3**	**+0.2**
SEY				pmax	pmax		
	comp=Z,173nm,1.2s						
SEY	**Seymchan**	**69.74**	**3**	LR	LR	12 30 06.0	
	comp=Z,154nm,19.8s,baz=194,slow=35						
BOD	**Bodaibo**	**69.88**	**342**	*e*P	**P**	**12 00 40.3**	**-0.7**
BOD				pmax	pmax		
	comp=Z,184nm,1.0s						
YAK	**Yakutsk**	**70.05**	**351**	P	**P**	**12 00 41.9**	**-0.1**
YAK				IAmb	IAmb	12 00 43.1	
	comp=Z,247nm,1.1s						
YAK	**Yakutsk**	**70.05**	**351**	*d*iP	**P**	**12 00 41.8**	**-0.1**
YAK				*e**PP	**PcP**	**12 01 00.7**	**-2.8**
YAK				*e*		12 01 05.2	
YAK				*e*		12 03 17.4	
YAK				*e*PPP	PPP	12 04 57.8	
YAK				*e*S	**S**	**12 09 46.5**	**+1.0**
YAK				*e**SS	**SKiKP**	**12 10 18.4**	**-1.2**
YAK				*e*		12 10 31.1	
YAK				*e*SS	**SS**	**12 14 15.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,264nm,1.5s						
YAK				pmax	pmax		
	comp=N,110nm,1.4s						
YAK				pmax	pmax		
	comp=E,25nm,1.5s						
YAK				pmax	pmax		
	comp=Z,162nm,4.3s						
YAK				pmax	pmax		
	comp=N,85nm,2.3s						
YAK				pmax	pmax		
	comp=E,66nm,1.6s						
YAK				smax	smax		
	comp=E,146nm,4.4s						
YAK				smax	smax		
	comp=N,90nm,3.3s						
YAK	**Yakutsk**	**70.05**	**351**	LR	LR	12 31 04.6	
	comp=N,78nm,19.2s,baz=136,slow=36						
YAK	**Yakutsk**	**70.05**	**351**	⇓P	**P**	**12 00 41.9**	**-0.1**
YAK				pP	**pP**	**12 01 05.5**	**+0.5**
NIKH	**Nikolski High**	**70.29**	**26**	P	**P**	**12 00 43.1**	**-0.5**
	baz=227						
VNDA	**Vanda**	**71.01**	**177**	P	**P**	**12 00 48.1**	**+0.4**
VNDA	**Vanda**	**71.01**	**177**	P	**P**	**12 00 48.1**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,101nm,1.2s						
VNDA	**Vanda**	**71.01**	**177**	P	**P**	**12 00 47.6**	**-0.1**
	comp=Z,34nn,0.8s,baz=333,slow=7.0,SNR=118						
	comp=Z,34nn,0.8s						
VNDA	**Vanda**	**71.01**	**177**	⇑P	**P**	**12 00 48.0**	**+0.4**
VNDA				pP	**pP**	**12 01 12.0**	**+1.6**
SBA	**Scott Base**	**71.66**	**176**	P	**P**	**12 00 52.6**	**+1.1**
SBA	**Scott Base**	**71.66**	**176**	P	**P**	**12 00 52.6**	**+1.1**
SBA				pmax	pmax		
	comp=Z,141nm,1.7s						
TAOE	**Nuku Hiva Isla**	**71.91**	**97**	*e*P	**P**	**12 00 54.7**	**+0.3**
	comp=Z,227nm,24.7s						
UNV	**Unalaska Valle**	**71.92**	**27**	P	**P**	**12 00 53.1**	**-0.3**
	baz=229						
HYB	**Hyderabad**	**71.94**	**291**	⇓*e*P	**P**	**12 00 54.9**	**+0.4**
HYB				IVmB_BB		12 00 56.4	
	comp=Z,794nm,1.1s						
WMQ	**Urumqi**	**73.59**	**319**	*e*P	**P**	**12 01 04.5**	**+0.8**
WMQ				sP	sP	12 01 31.5	-4.8
WMQ				pmax	pmax		
	comp=Z,96nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,620nm,4.9s						
WMQ				LR	LR		
	comp=Z,260nm,19.5s						
BILL	**Bilibino**	**75.97**	**7**	P	**P**	**12 01 17.2**	**+0.4**
BILL				IAmb	IAmb	12 01 18.5	
	comp=Z,142nm,1.1s						
BILL	**Bilibino**	**75.97**	**7**	*i*P	**P**	**12 01 16.8**	**0.0**
M11K	**Mekoryuk**	**76.40**	**22**	P	**P**	**12 01 19.8**	**+0.4**
	baz=228						
DGZ	**Jazzator, Alta**	**76.47**	**325**	*d*iP	**P**	**12 01 20.2**	**0.0**
DGZ				pmax	pmax		
	comp=Z,76nm,1.2s						
GAMB	**Gambell**	**76.97**	**17**	P	**P**	**12 01 22.5**	**0.0**
	baz=222						
CHGN	**Chignik**	**77.11**	**28**	P	**P**	**12 01 23.3**	**-0.1**
	baz=236						
M13K	**Dall Lake**	**77.49**	**23**	IAmb	IAmb	12 01 27.7	
	comp=Z,212nm,0.9s						
M13K	**Dall Lake**	**77.49**	**23**	P	**P**	**12 01 26.4**	**+0.9**
	baz=230						
O14K	**Tigyukauivet M**	**77.59**	**24**	P	**P**	**12 01 26.6**	**+0.5**
	baz=233						
N14K	**Kuskokwak Cree**	**77.83**	**24**	P	**P**	**12 01 27.6**	**+0.2**
	baz=232						
O15K	**Ungalikthiuk R**	**78.14**	**25**	P	**P**	**12 01 29.4**	**+0.3**
	baz=234,SNR=6.2						
R16K	**Pilot Point**	**78.20**	**27**	P	**P**	**12 01 30.3**	**+0.8**
	baz=236						
M14K	**Bethel**	**78.24**	**23**	IAmb	IAmb	12 01 31.4	
	comp=Z,142nm,1.0s						
M14K	**Bethel**	**78.24**	**23**	P	**P**	**12 01 30.3**	**+0.7**
	baz=232,SNR=20						
MK31	**Makanchi Array**	**78.30**	**321**	P	**P**	**12 01 30.7**	**+0.3**
MK31	**Makanchi Array**	**78.30**	**321**	P	**P**	**12 01 30.7**	**+0.3**
MK31				pmax	pmax		
	comp=Z,60nm,1.0s						
MKAR	**Makanchi Array**	**78.30**	**321**	P	**P**	**12 01 30.9**	**+0.5**
MKAR	**Makanchi Array**	**78.30**	**321**	P	**P**	**12 01 30.9**	**+0.5**
MKAR	**Makanchi Array**	**78.30**	**321**	P	**P**	**12 01 30.8**	**+0.4**
	comp=Z,50nm,0.8s,baz=108,slow=6.4,SNR=402						
	comp=Z,50nm,0.8s						
L14K	**Kuka Creek**	**78.33**	**22**	IAmb	IAmb	12 01 31.9	
	comp=Z,132nm,0.9s						
L14K	**Kuka Creek**	**78.33**	**22**	P	**P**	**12 01 30.9**	**+0.8**
	baz=231						
MAKZ	**Makanchi**	**78.50**	**320**	P	**P**	**12 01 31.6**	**+0.1**
MAKZ				IAmb	IAmb	12 01 33.0	
	comp=Z,95nm,0.9s						
MAKZ	**Makanchi**	**78.50**	**320**	P	**P**	**12 01 31.6**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,95nm,0.9s						
N15K	**Kwethluk River**	**78.62**	**24**	P	**P**	**12 01 32.2**	**+0.4**
	baz=234,SNR=5.4						
M15K	**Kasigluk River**	**78.70**	**23**	P	**P**	**12 01 32.3**	**+0.1**
	baz=233						
SHLS	**Shalkode**	**78.81**	**316**	*e*P	**P**	**12 01 32.0**	**-1.4**
	baz=316						
SHLS	**Shalkode**	**78.81**	**316**	*e*P	**P**	**12 01 31.9**	**-1.4**
P16K	**Nushagak River**	**78.83**	**26**	P	**P**	**12 01 32.3**	**-0.7**
	baz=236						
PDGK	**Podgornoye**	**78.85**	**317**	P	**P**	**12 01 33.8**	**+0.2**
J14K	**Nanvaranak Lak**	**78.91**	**21**	P	**P**	**12 01 34.0**	**+0.7**
	baz=230						
L15K	**Ungalak Mounta**	**78.99**	**22**	P	**P**	**12 01 34.0**	**+0.2**
	baz=232						
UZB	**Uzynbulak**	**79.10**	**316**	*e*P	**P**	**12 01 35.3**	**+0.2**
	comp=Z,64nm,1.1s,baz=316						
UZB	**Uzynbulak**	**79.10**	**316**	*e*P	**P**	**12 01 35.2**	**+0.2**
UZB				pmax	pmax		
	comp=Z,64nm,1.1s						
O16K	**Kokwok River B**	**79.11**	**25**	IAmb	IAmb	12 01 35.6	

comp=Z,278nm,2.0s
O16K **Kokwok River B** 79.11 25 P P 12 01 34.1 -0.3
baz=236,SNR=6.2
Q16K **King Salmon** 79.22 26 P P 12 01 34.8 -0.2
baz=237
SII **Sitkinak Islan** 79.23 29 P P 12 01 35.3 +0.1
baz=240
TIXI **Tiksi** 79.32 354 P P 12 01 34.0 -1.3
TIXI **Tiksi** 79.32 354 *d* iP P 12 01 34.2 -1.1
TIXI pmax pmax
comp=Z,75nm,0.9s
TIXI MLR MLR
comp=Z,84nm,18.0s
N16K **Nishlik Lake** 79.33 24 P P 12 01 36.2 +0.5
baz=235
Q17K **Contact Creek** 79.33 27 P P 12 01 34.9 -0.9
baz=238,SNR=5.6
K15K **Wolf Creek Mou** 79.35 22 IAmb IAmb 12 01 37.7
comp=Z,114nm,1.1s
K15K **Wolf Creek Mou** 79.35 22 P P 12 01 36.4 +0.7
baz=232
TNA **Tin City** 79.39 17 P P 12 01 36.0 +0.2
TNA **Tin City** 79.39 17 P P 12 01 35.7 -0.1
baz=225
KPKS **Kokpek** 79.44 316 *e*P P 12 01 36.8 0.0
baz=316
KPKS *e*S S 12 11 29.4 -1.7
baz=316
KPKS **Kokpek** 79.44 316 *e*P P 12 01 36.8 0.0
KPKS *e*S S 12 11 29.4 -1.7
ANM **Nome** 79.49 19 P P 12 01 37.0 +0.5
ANM **Nome** 79.49 19 P P 12 01 36.8 +0.3
baz=228
ANM **Nome** 79.49 19 P P 12 01 37.0 +0.5
ANM pmax pmax
comp=Z,50nm,1.0s
SATY **Saty** 79.50 316 *e*P P 12 01 37.5 +0.4
baz=316
SATY **Saty** 79.50 316 *e*P P 12 01 37.5 +0.4
M16K **Timber Creek** 79.58 24 P P 12 01 37.5 +0.5
M16K **Timber Creek** 79.58 24 P P 12 01 37.8 +0.8
baz=234,SNR=15
O17K **Koliganek Bris** 79.63 25 P P 12 01 37.6 +0.3
baz=236,SNR=22
L16K **Owhat River** 79.78 23 IAmb IAmb 12 01 39.6
comp=Z,280nm,2.0s
L16K **Owhat River** 79.78 23 P P 12 01 38.4 +0.4
baz=234,SNR=15
F14K **Arctic Creek** 79.81 18 P P 12 01 38.7 +0.6
baz=227
ZAA0 **Zalesovo Array** 79.86 328 P P 12 01 37.9 -0.8
ZALV **Zalesovo Beam** 79.86 328 P P 12 01 37.8 -0.9
comp=Z,62nm,0.6s,baz=111,slow=5.5,SNR=302
ZALV PKKPbc **PKKPbc** 12 20 23.9 -3.1
comp=Z,0.5nm,0.5s,baz=304,slow=3.3,SNR=4.2
ZALV PKPPKP **P'P'df** 12 28 32.1 +4.7
comp=Z,0.4nm,0.3s,baz=298,slow=3.1,SNR=4.4
ZALV LR LR 12 37 45.2
comp=Z,115nm,20.2s,baz=104,slow=36
comp=Z,62nm,0.6s
OHAK **Old Harbor** 79.99 28 P P 12 01 40.4 +1.1
baz=240
N17K **Nushagak Hills** 80.01 24 P P 12 01 39.9 +0.6
baz=236
KSH **Kashi** 80.11 312 P P 12 01 42.5 +2.0
KSH S S 12 11 41.0 +2.7
KSH sS sS 12 12 19.5 +1.2
KSH pmax pmax
comp=Z,110nm,1.1s
TDK **Taldyqorghan** 80.16 318 *e*P P 12 01 40.7 +0.1
baz=318
TDK **Taldyqorghan** 80.16 318 *e*P P 12 01 40.6 +0.1
G15K **Niukluk** 80.21 19 P P 12 01 40.5 +0.2
baz=229
P18K **Big Mountain,** 80.22 26 P P 12 01 40.1 -0.5
baz=238
ARXS **Arharly** 80.28 317 *e*P P 12 01 41.1 -0.2
J16K **Anvik River** 80.30 21 P P 12 01 41.6 +0.7
J16K IAmb IAmb 12 01 43.1
comp=Z,255nm,1.7s
J16K **Anvik River** 80.30 21 P P 12 01 41.8 +1.0
baz=233,SNR=22
M17K **Holitna River** 80.40 24 P P 12 01 42.5 +1.1
baz=236
MDOK **Medeo** 80.47 316 *e*P P 12 01 42.8 +0.3
baz=316
MDOK *e*S S 12 11 41.3 -0.7
baz=316
MDOK **Medeo** 80.47 316 *e*P P 12 01 42.7 +0.3
MDOK *e*S S 12 11 41.3 -0.7
L17K **Donlin** 80.48 23 P P 12 01 42.8 +1.0
baz=235,SNR=12
O18K **Koktuh Hills** 80.48 26 P P 12 01 42.0 +0.1
baz=238
F15K **North Star Dit** 80.48 18 P P 12 01 42.6 +0.8
baz=228
H16K **Elim** 80.57 20 P P 12 01 42.5 +0.3
baz=231,SNR=51
AAA **Alma-Ata** 80.58 316 *e*P P 12 01 43.2 +0.2
comp=Z,93nm,1.4s,baz=316
AAA **Alma-Ata** 80.58 316 *e*P P 12 01 43.1 +0.2
AAA pmax pmax
comp=Z,93nm,1.4s
NIL **Nilore** 80.59 306 P P 12 01 44.3 +1.2
NIL **Nilore** 80.59 306 P P 12 01 44.3 +1.2
KDAK **Kodiak Island** 80.60 28 P P 12 01 42.9 +0.3
KDAK IAmb IAmb 12 01 43.2
comp=Z,143nm,1.3s
KDAK **Kodiak Island** 80.60 28 P P 12 01 42.6 0.0
baz=241
KDAK **Kodiak Island** 80.60 28 P P 12 01 42.9 +0.3
KDAK pmax pmax
comp=Z,143nm,1.3s
KDAK **Kodiak Island** 80.60 28 LR LR 12 32 26.0
comp=Z,176nm,21.9s,baz=258,slow=32
N18K **Kilae Creek** 80.63 25 IAmb IAmb 12 01 45.9
comp=Z,224nm,1.9s
N18K **Kilae Creek** 80.63 25 P P 12 01 43.6 +0.9
baz=257,SNR=7.1
I17K **Unalakleet** 80.63 21 P P 12 01 43.6 +1.1
baz=232,SNR=22
NRN **Naryn** 80.67 314 P P 12 01 44.1 +0.4
NRN **Naryn** 80.67 314 P P 12 01 44.1 +0.4
NRN pmax pmax
comp=Z,60nm,1.2s
Q19K **Cape Douglas,** 80.68 27 P P 12 01 43.7 +0.7
baz=240
CHKK **Chushkaly** 80.73 316 *e*P P 12 01 43.6 -0.1
baz=316
CHKK **Chushkaly** 80.73 316 *e*P P 12 01 43.5 -0.1
ULHL **Ulahol** 80.75 315 P P 12 01 45.0 +1.0
SNR=22
K17K **Iditarod** 80.81 22 IAmb IAmb 12 01 45.6
comp=Z,130nm,1.2s
K17K **Iditarod** 80.81 22 P P 12 01 44.4 +0.8
baz=235,SNR=22
SEM **Semipalatinsk** 80.95 323 *e*P P 12 01 43.9 -1.1
baz=323
SEM **Semipalatinsk** 80.95 323 *e*P P 12 01 43.8 -1.1
SVW2 **Sparrevohn** 80.98 24 P P 12 01 45.5 +0.9
G16K **Koyuk River** 81.01 19 P P 12 01 45.3 +0.7
baz=231
BOOM **Boomskoye usch** 81.03 315 IAmb IAmb 12 01 48.0
comp=Z,271nm,1.6s
O19K **Port Alsworth** 81.03 26 P P 12 01 45.1 +0.3
baz=239
M18K **Stony River** 81.09 24 P P 12 01 46.0 +0.9
baz=237,SNR=15
L18K **Granite Mounta** 81.15 23 IAmb IAmb 12 01 47.6
comp=Z,199nm,1.6s
L18K **Granite Mounta** 81.15 23 P P 12 01 46.3 +0.9
baz=236
KUU **Kurty** 81.19 316 *e*P P 12 01 46.1 0.0
comp=Z,85nm,0.9s,baz=316
KUU **Kurty** 81.19 316 *e*P P 12 01 46.0 0.0
KUU pmax pmax
comp=Z,85nm,0.9s
P19K **Oil Pt** 81.23 26 P P 12 01 45.3 -0.7
baz=240
N19K **Bonanza Creek** 81.29 25 P P 12 01 45.8 -0.5
baz=239
TKM2 **Tokmak 2** 81.41 315 P P 12 01 48.2 +0.8
SNR=67
TKM2 **Tokmak 2** 81.41 315 *i* P P 12 01 47.7 +0.2
TKM2 pmax pmax
comp=Z,50nm,0.8s
MAW **Mawson** 81.50 203 P P 12 01 47.3 +0.1
baz=82,SNR=6.5
MAW **Mawson** 81.50 203 P P 12 01 46.5 -0.7
comp=Z,36nm,1.0s,baz=81,slow=6.6,SNR=9.8
MAW LR LR 12 35 37.0
comp=Z,475nm,22.0s,baz=80,slow=34
comp=Z,36nm,1.0s
H17K **Granite Mounta** 81.54 20 P P 12 01 48.0 +0.6
baz=233
G17K **Kiwalik Mounta** 81.63 19 P P 12 01 48.5 +0.6
baz=232
KBK **Karagaybulak** 81.78 315 P P 12 01 50.3 +0.9
SNR=10
TTA **Tatalina** 81.80 23 P P 12 01 49.8 +0.9
TTA **Tatalina** 81.80 23 P P 12 01 49.1 +0.2
baz=237,SNR=16
J18K **Innoko River** 81.83 22 P P 12 01 49.2 +0.3
baz=236,SNR=6.7
L19K **White Mountain** 81.85 24 P P 12 01 49.7 +0.5
baz=238
M19K **Big River Lodg** 81.89 24 P P 12 01 49.9 +0.5
baz=239
UCH **Uchtor** 81.96 314 P P 12 01 52.1 +1.3
SNR=93
C16K **Lisburne Hills** 82.00 16 P P 12 01 49.7 -0.1
baz=228
F17K **Baldwin Pennin** 82.02 19 P P 12 01 50.1 +0.3
baz=232
CHMS **Chumysh** 82.02 315 P P 12 01 51.2 +0.7
SNR=30
KURK **Kurchatov** 82.03 323 P P 12 01 50.4 +0.1
KURK **Kurchatov** 82.03 323 P P 12 01 50.4 +0.1
KURK pmax pmax
comp=Z,70nm,1.0s
FRU1 **Bishkek** 82.05 315 P P 12 01 51.4 +0.7
FRU1 IAmb IAmb 12 01 52.9
comp=Z,160nm,1.5s
FRU1 **Bishkek** 82.05 315 P P 12 01 51.4 +0.7
FRU1 pmax pmax
comp=Z,160nm,1.5s
KURBB **Kurchatov Arra** 82.05 323 P P 12 01 49.8 -0.6
KURBB **Kurchatov Arra** 82.05 323 P P 12 01 50.4 0.0
comp=Z,21nm,0.7s,baz=112,slow=4.1,SNR=224
KURBB PKKPbc **PKKPbc** 12 20 19.5 -2.3
comp=Z,0.7nm,0.8s,baz=293,slow=2.5,SNR=4.8
comp=Z,21nm,0.7s
CNPM **China Poot** 82.06 27 IAmb IAmb 12 01 51.4
comp=Z,181nm,1.0s
AAK **Ala-Archa** 82.10 315 P P 12 01 52.0 +0.9
SNR=34
AAK **Ala-Archa** 82.10 315 P P 12 01 51.7 +0.6
AAK IAmb IAmb 12 01 53.4
comp=Z,306nm,1.9s
AAK **Ala-Archa** 82.10 315 P P 12 01 51.7 +0.6
AAK pmax pmax
comp=Z,306nm,2.0s
H18K **Honhosa River** 82.20 20 P P 12 01 50.8 -0.1
baz=235
SGDS **Sogindy** 82.24 315 *e*P P 12 01 51.5 -0.2
baz=316
SGDS **Sogindy** 82.24 315 *e*P P 12 01 51.4 -0.2
E17K **Hotham Inlet** 82.24 18 P P 12 01 51.8 +0.7
baz=231
USP **Ospenovka** 82.28 315 P P 12 01 52.7 +0.9
SNR=67
BRSE **Bradley Lake S** 82.38 27 P P 12 01 51.4 -0.5
baz=242
M20K **Styx River** 82.39 24 P P 12 01 52.0 -0.1
baz=240
L20K **Farewell, AK** 82.40 24 P P 12 01 52.1 +0.1
baz=239,SNR=18
N20K **Mount Spurr** 82.44 25 P P 12 01 50.7 -1.6
baz=241,SNR=5.8
GCSA **Galena City Sc** 82.48 21 P P 12 01 52.3 0.0
baz=236,SNR=32
J19K **Poorman** 82.53 22 P P 12 01 52.8 +0.2
baz=237
G18K **Tagagawik** 82.53 20 P P 12 01 52.5 -0.1
baz=234
RDOG **Red Dog Mine** 82.54 17 P P 12 01 52.8 +0.2
baz=230
EKS2 **Erkin-Say** 82.61 315 P P 12 01 54.7 +1.0
SNR=59
CAPN **Captain Cook N** 82.68 26 P P 12 01 53.4 0.0
baz=242
C17K **DeLong Mountai** 82.74 16 P P 12 01 54.1 +0.5
baz=230
K20K **Telida** 82.78 23 IAmb IAmb 12 01 55.8
comp=Z,243nm,1.7s
K20K **Telida** 82.78 23 P P 12 01 54.5 +0.6
baz=239,SNR=17
ARSB **Arslanbob** 82.81 313 IAmb IAmb 12 01 58.1
comp=Z,156nm,1.6s
E18K **Tukpahlearik C** 82.83 18 P P 12 01 54.4 +0.3
baz=232
H19K **Roundabout Mou** 83.07 20 P P 12 01 55.6 +0.3
baz=236
QSPA **South Pole Qui** 83.08 180 P P 12 01 55.4 -0.3
QSPA IAmb IAmb 12 01 56.7
comp=Z,235nm,1.3s
QSPA **South Pole Qui** 83.08 180 P P 12 01 55.1 -0.5
comp=Z,101nm,0.9s,baz=340,slow=1.2,SNR=82
QSPA LR LR 12 37 06.0
comp=Z,315nm,21.4s,baz=26,slow=34
comp=Z,101nm,0.9s
SKT **Skwentna** 83.10 25 P P 12 01 53.9 -1.7
baz=241,SNR=5.1
BTLS **Baital** 83.10 317 *e*P P 12 01 56.4 +0.3
baz=317
BTLS **Baital** 83.10 317 *e*P P 12 01 56.3 +0.3
SEW **Seward** 83.12 27 P P 12 01 55.7 0.0
SEW IAmb IAmb 12 01 56.7
comp=Z,272nm,1.5s
SEW **Seward** 83.12 27 P P 12 01 55.4 -0.3
baz=243
J20K **Nowinta River** 83.17 22 IAmb IAmb 12 01 57.9
comp=Z,262nm,1.6s
J20K **Nowinta River** 83.17 22 P P 12 01 56.4 +0.5
baz=239
O22K **Cooper Landing** 83.17 26 IAmb IAmb 12 01 56.8
comp=Z,208nm,1.4s
O22K **Cooper Landing** 83.17 26 P P 12 01 55.6 -0.4
baz=243,SNR=6.5
SUA **Susitna One** 83.19 25 P P 12 01 55.0 -1.2
baz=242,SNR=13
G19K **Purcell Mounta** 83.20 20 IAmb IAmb 12 01 57.9
comp=Z,186nm,1.4s
G19K **Purcell Mounta** 83.20 20 P P 12 01 56.2 +0.2
baz=236,SNR=86
PPLA **Purkeypile** 83.28 24 P P 12 01 55.7 -1.0
baz=240,SNR=14
F19K **Shaleruckik Mo** 83.37 19 IAmb IAmb 12 01 58.2
comp=Z,196nm,1.7s
F19K **Shaleruckik Mo** 83.37 19 P P 12 01 56.7 -0.2
baz=235
I20K **Naaghedeneel** 83.38 22 P P 12 01 57.4 +0.4
baz=238
C18K **Utukok River** 83.41 17 IAmb IAmb 12 01 58.7
comp=Z,193nm,1.6s
C18K **Utukok River** 83.41 17 P P 12 01 56.9 -0.3
baz=232,SNR=63
RC01 **Rabbit Creek A** 83.44 26 IAmb IAmb 12 01 58.8
comp=Z,158nm,1.2s
RC01 **Rabbit Creek A** 83.44 26 P P 12 01 56.7 -0.7
baz=243,SNR=20
CAST **Castle Rocks** 83.58 23 P P 12 01 57.4 -0.7
baz=241,SNR=32
H20K **Anotleneega Mo** 83.60 21 P P 12 01 58.4 +0.3
baz=238,SNR=42
B18K **Kokolik River** 83.69 16 P P 12 01 58.8 +0.3
baz=231
CHUM **Lake Minchumin** 83.72 23 P P 12 01 58.4 -0.3
baz=240,SNR=47
CUT **Chulitna** 83.83 25 IAmb IAmb 12 02 00.7
comp=Z,87nm,0.9s
CUT **Chulitna** 83.83 25 P P 12 01 58.1 -1.2
baz=242
E19K **Redstone River** 83.90 19 IAmb IAmb 12 02 01.3
comp=Z,118nm,1.1s
E19K **Redstone River** 83.90 19 P P 12 02 00.2 +0.6
baz=235,SNR=100
PMR **Palmer** 83.93 26 P P 12 01 59.2 -0.6
PMR **Palmer** 83.93 26 P P 12 01 59.3 -0.6
baz=243,SNR=21
KTH **Kantishna Hill** 84.10 23 IAmb IAmb 12 02 01.7
comp=Z,101nm,1.2s
KNK **Knik Glacier** 84.14 26 IAmb IAmb 12 02 02.1
comp=Z,164nm,1.3s
KNK **Knik Glacier** 84.14 26 P P 12 02 00.9 -0.1
baz=244,SNR=17
C19K **Lookout Ridge** 84.15 17 P P 12 02 01.5 +0.6
baz=233
F20K **Avaraart Lake** 84.16 19 P P 12 02 01.6 +0.7
baz=237
KBL **Kabul** 84.20 306 P P 12 02 02.0 -0.1
KBL IAmb IAmb 12 02 03.0
comp=Z,205nm,1.6s
KBL **Kabul** 84.20 306 P P 12 02 02.0 -0.1
KBL pmax pmax
comp=Z,205nm,1.6s
D19K **Kuna River** 84.22 18 IAmb IAmb 12 02 02.7
comp=Z,174nm,1.4s
D19K **Kuna River** 84.22 18 P P 12 02 01.1 -0.2
baz=234
TRF **Thorofare Moun** 84.30 24 P P 12 02 00.0 -1.9
baz=242,SNR=8.9
BPAW **Bear Paw Mtn.** 84.34 23 IAmb IAmb 12 02 02.4
comp=Z,119nm,1.5s
BPAW **Bear Paw Mtn.** 84.34 23 P P 12 02 00.8 -1.2
baz=242,SNR=12
SML **Sawmill** 84.37 26 P P 12 02 01.8 -0.4
baz=244,SNR=28
DZA **Taraz** 84.41 314 *e*P P 12 02 03.2 +0.4
comp=Z,111nm,1.0s,baz=314
DZA **Taraz** 84.41 314 *e*P P 12 02 03.2 +0.4
DZA pmax pmax
comp=Z,111nm,1.0s
A19K **Wainwright** 84.42 16 P P 12 02 03.0 +0.9
baz=232
H21K **Melozitna Rive** 84.43 21 P P 12 02 02.6 +0.2
baz=240
HIN **Hinchinbrook I** 84.58 27 IAmb IAmb 12 02 05.6
comp=Z,106nm,1.0s
G21K **Allakaket** 84.62 20 IAmb IAmb 12 02 04.7
comp=Z,133nm,1.4s
G21K **Allakaket** 84.62 20 P P 12 02 03.2 0.0
baz=239
M23K **Glacier View** 84.62 26 P P 12 02 03.0 -0.4
baz=245,SNR=10
E20K **Nigu River** 84.68 18 P P 12 02 03.9 +0.3
baz=236
WAT1 **Susitna Watana** 84.73 25 P P 12 02 03.3 -0.7
baz=244
D20K **Etivluk River** 84.80 18 P P 12 02 04.4 +0.2
baz=236,SNR=61
SCM **Sheep Creek Mo** 84.81 26 IAmb IAmb 12 02 05.6
comp=Z,206nm,1.2s
SCM **Sheep Creek Mo** 84.81 26 P P 12 02 04.5 +0.1
baz=245,SNR=16
RND **Reindeer** 84.86 24 IAmb IAmb 12 02 04.7
comp=Z,220nm,1.4s
MLY **Manley** 84.88 22 IAmb IAmb 12 02 05.7
comp=Z,138nm,1.2s
MLY **Manley** 84.88 22 P P 12 02 04.5 -0.1
baz=242,SNR=50
WAT6 **Susitna Watana** 84.95 25 P P 12 02 04.7 -0.5
baz=245,SNR=28
MCK **McKinley** 84.97 24 P P 12 02 04.2 -0.9
baz=243,SNR=53
EYAK **Cordova Ski Ar** 84.98 27 P P 12 02 04.4 -0.7
baz=246
F21K **Alatna River** 84.99 20 P P 12 02 05.0 -0.2
baz=239
KK31 **Karatay Array** 85.04 314 P P 12 02 06.5 +0.5
KK31 **Karatay Array** 85.04 314 P P 12 02 06.5 +0.5
KK31 pmax pmax
comp=Z,272nm,1.3s
KKAR **Karatay Array** 85.04 314 P P 12 02 06.3 +0.4
KKAR **Karatay Array** 85.04 314 P P 12 02 06.3 +0.4
KKAR pmax pmax
comp=Z,270nm,1.3s
H22K **Ishtalitna Cre** 85.06 21 P P 12 02 05.9 +0.4
baz=241
SIMJ **Simiganj** 85.12 310 P P 12 02 07.0 +0.4
KLU **Klutina** 85.28 26 IAmb IAmb 12 02 08.2
comp=Z,158nm,1.2s
KLU **Klutina** 85.28 26 P P 12 02 06.8 0.0
baz=246,SNR=35
NEA2 **Nenana** 85.31 23 IAmb IAmb 12 02 07.0
comp=Z,118nm,1.2s
NEA2 **Nenana** 85.31 23 P P 12 02 05.5 -1.3
baz=243,SNR=16
DHY **Denali Highway** 85.32 25 IAmb IAmb 12 02 08.0
comp=Z,119nm,1.2s
DHY **Denali Highway** 85.32 25 P P 12 02 06.7 -0.3
baz=245,SNR=48
KAIM **Kayak Island** 85.35 28 P P 12 02 06.0 -1.0
baz=248
B20K **Meade River** 85.38 17 P P 12 02 07.5 +0.5
baz=235
BRZS **Berezniki** 85.40 321 *e*P P 12 02 07.3 -0.3
comp=Z,83nm,1.3s,baz=321
BRZS **Berezniki** 85.40 321 *e*P P 12 02 07.3 -0.3
BRZS pmax pmax
comp=Z,83nm,1.3s
RAGM **Ragged Mountai** 85.41 28 IAmb IAmb 12 02 09.6
comp=Z,123nm,1.2s
M24K **Tolsona, Glenn** 85.42 26 P P 12 02 07.9 +0.5
baz=246,SNR=14
I23K **Minto, Yukon-K** 85.45 22 P P 12 02 06.8 -0.5
baz=243,SNR=11
E21K **Killik River** 85.47 18 P P 12 02 07.9 +0.4
baz=238
CHM **Chimkent** 85.51 313 *e*P P 12 02 08.5 +0.2
comp=Z,74nm,1.1s,baz=313
CHM **Chimkent** 85.51 313 *e*P P 12 02 08.5 +0.2
CHM pmax pmax
comp=Z,74nm,1.1s
G22K **Bettles** 85.51 20 P P 12 02 07.7 0.0
baz=241
C21K **Knifeblade Rid** 85.60 18 P P 12 02 08.4 +0.3
baz=238
BMRM **Bremner River** 85.66 27 P P 12 02 08.2 -0.5
baz=248,SNR=16
MDM **Murphy Dome** 85.79 23 IAmb IAmb 12 02 09.2
comp=Z,119nm,1.6s
CCB **Clear Creek Bu** 85.82 23 IAmb IAmb 12 02 09.2
comp=Z,146nm,1.2s
BERG **Berg Lake** 85.86 28 IAmb IAmb 12 02 11.3
comp=Z,211nm,1.4s
COLA **College** 85.90 23 P P 12 02 08.1 -1.5
COLA IAmb IAmb 12 02 09.5
comp=Z,136nm,1.1s
COLA **College** 85.90 23 P P 12 02 08.7 -0.9
COLA **College** 85.90 23 P P 12 02 08.3 -1.3
baz=244
COLA **College** 85.90 23 P P 12 02 08.1 -1.5
COLA pmax pmax
comp=Z,136nm,1.2s
N25K **Chitina, Valde** 85.91 26 P P 12 02 09.8 -0.1
baz=248,SNR=13
G23K **Bananza Creek** 85.93 21 P P 12 02 10.1 +0.3
baz=242
HARP **HAARP** 85.97 26 P P 12 02 10.4 +0.3
baz=247,SNR=5.9
HDA **Harding Lake** 86.05 23 P P 12 02 09.1 -1.3
baz=245
PAX **Paxson** 86.07 25 P P 12 02 10.2 -0.4
baz=247,SNR=18
D22K **Ayikyak River** 86.10 18 IAmb IAmb 12 02 12.8
comp=Z,105nm,1.2s
D22K **Ayikyak River** 86.10 18 P P 12 02 11.0 +0.4
baz=240
COLD **Coldfoot** 86.11 20 P P 12 02 11.2 +0.6
baz=242,SNR=50
POKR **Poker Plat Res** 86.17 23 P P 12 02 09.6 -1.4
baz=245,SNR=14
NRIK **Noril'sk** 86.18 342 P P 12 02 10.5 -0.5
NRIK IAmb IAmb 12 02 12.6
comp=Z,169nm,1.1s
NRIK **Noril'sk** 86.18 342 P P 12 02 10.5 -0.5
NRIK pmax pmax
comp=Z,169nm,1.1s
NRIK **Noril'sk** 86.18 342 P P 12 02 10.4 -0.5
comp=Z,93nm,0.9s,baz=120,slow=5.2,SNR=103
NRIK LR LR 12 39 11.8
comp=Z,245nm,21.8s,baz=118,slow=34
comp=Z,93nm,0.9s
GLB **Gilahina Butte** 86.20 27 IAmb IAmb 12 02 12.6
comp=Z,196nm,1.4s
IL31 86.23 23 IAmb IAmb 12 02 10.9
comp=Z,91nm,1.1s
ILAR **Eielson Array** 86.23 23 P P 12 02 09.6 -1.7
comp=Z,42nm,0.8s,baz=251,slow=5.1,SNR=291
ILAR PKKP **PKKPdf** 12 20 07.0 +1.8
comp=Z,0.2nm,0.6s,baz=90,slow=0.9,SNR=4.0
ILAR LR LR 12 37 40.0

comp=Z,138nm,20.8s,baz=254,slow=33
comp=Z,42nm,0.8s

A21K	**Barrow**	86.27	16	P	P	12 02 11.5	+0.1	
	baz=236							
K24K	**Donnelly Dome**	86.27	24	P	P	12 02 11.3	-0.3	
	baz=246,SNR=12							
VRDI	**Verde Repeater**	86.28	27	IAmb	IAmb	12 02 13.2		
	comp=Z,136nm,1.3s							
H24K	**Noodor Dome**	86.31	22	P	P	12 02 10.8	-0.9	
	baz=244							
RIDG	**Independent Ri**	86.63	24	P	P	12 02 13.1	-0.2	
	baz=247,SNR=28							
B22K	**Teshekpuk Lake**	86.63	17	P	P	12 02 13.9	+0.8	
	baz=239							
E23K	**Chandalar**	86.69	20	P	P	12 02 14.1	+0.5	
	baz=242							
J25K	**Salcha River,**	86.76	24	P	P	12 02 13.6	-0.4	
	baz=247							
D23K	**Nanushuk River**	86.77	19	P	P	12 02 14.9	+1.0	
	baz=242							
MENT	**Mentasta**	86.79	25	IAmb	IAmb	12 02 15.5		
	comp=Z,95nm,1.4s							
MENT	**Mentasta**	86.79	25	P	P	12 02 14.6	+0.5	
G24K	**Hadweenzic Riv**	86.83	21	P	P	12 02 14.3	0.0	
	baz=245							
M26K	**Nabesna, AK**	86.91	26	P	P	12 02 14.6	-0.1	
	baz=249							
L26K	**Log Cabin Wild**	86.98	25	IAmb	IAmb	12 02 16.4		
	comp=Z,102nm,1.4s							
L26K	**Log Cabin Wild**	86.98	25	P	P	12 02 15.0	-0.1	
	baz=248,SNR=33							
F24K	**Squaw Lake**	87.04	20	P	P	12 02 15.8	+0.5	
	baz=244							
PRP	**Porcupine Dome**	87.06	23	P	P	12 02 14.3	-1.2	
	baz=246							
SCRK	**Sand Creek**	87.07	24	IAmb	IAmb	12 02 16.7		
	comp=Z,104nm,1.5s							
SCRK	**Sand Creek**	87.07	24	P	P	12 02 14.9	-0.7	
	baz=248,SNR=25							
CTG	**Chitna Glacier**	87.15	28	P	P	12 02 16.8	+0.7	
	baz=250							
G25K	**Bearman Lake**	87.35	21	P	P	12 02 16.5	-0.2	
	baz=246							
PINM	**Pinnacle**	87.37	29	P	P	12 02 17.1	0.0	
	baz=251,SNR=6.8							
M27K	**Edge Creek, AK**	87.38	26	P	P	12 02 17.6	+0.4	
	baz=250,SNR=80							
J26L	**Joseph Creek**	87.44	24	P	P	12 02 17.5	+0.2	
	baz=248							
D24K	**Happy Valley**	87.45	19	P	P	12 02 18.1	+1.0	
	baz=243							
BVA0	**Borovoye Array**	87.60	324	*i* P	P	12 02 17.0	-1.2	
BVAR	**Borovoye Array**	87.60	324	P	P	12 02 17.5	-0.7	
	comp=Z,39nm,0.7s,baz=104,slow=6.3,SNR=180							
BVAR				LR	LR	12 43 55.8		
	comp=Z,86nm,19.6s,baz=86,slow=37							
	comp=Z,39nm,0.7s							
L27K	**Beaver Creek,**	87.64	26	P	P	12 02 18.8	+0.5	
	baz=250							
PNL	**Peninsula**	87.65	29	P	P	12 02 19.7	+1.4	
PNL	**Peninsula**	87.65	29	P	P	12 02 19.0	+0.6	
	baz=252							
BRVK	**Borovoye**	87.67	324	P	P	12 02 17.8	-0.7	
BRVK	**Borovoye**	87.67	324	P	P	12 02 17.8	-0.7	
BRVK				pmax	pmax			
	comp=Z,41nm,1.0s							
C24K	**Franklin Bluff**	87.75	18	P	P	12 02 19.1	+0.6	
	baz=243							
YUK3	**Moose Creek**	87.82	27	P	P	12 02 19.7	+0.4	
	baz=251,SNR=66							
BVCY	**Beaver Creek**	87.85	26	P	P	12 02 20.0	+0.8	
	baz=251,SNR=38							
F25K	**Christian Rive**	87.85	21	P	P	12 02 19.6	+0.4	
	baz=246							
K27K	**Chicken**	87.88	25	P	P	12 02 20.2	+0.9	
	baz=250							
I26K	**Coal Creek Min**	87.90	23	P	P	12 02 19.0	-0.3	
	baz=249							
YUK8	**Steele Glacier**	87.98	28	P	P	12 02 20.9	+0.7	
	baz=252,SNR=25							
E25K	**Arctic Village**	88.09	20	IAmb	IAmb	12 02 22.4		
	comp=Z,88nm,1.3s							
E25K	**Arctic Village**	88.09	20	P	P	12 02 20.9	+0.6	
	baz=246,SNR=44							
O29M	**Mount Kennedy**	88.23	29	P	P	12 02 22.1	+0.9	
	baz=253							
G26K	**Porcupine Rive**	88.27	22	P	P	12 02 21.7	+0.7	
	baz=248							
D25K	**Kavik River**	88.31	19	P	P	12 02 21.7	+0.4	
	baz=246							
F26K	**Sheenjek River**	88.42	21	P	P	12 02 22.8	+1.0	
	baz=248							
P29M	**Windy Craggy**	88.44	29	P	P	12 02 22.7	+0.6	
	baz=254							
EGAK	**Eagle**	88.51	24	IAmb	IAmb	12 02 23.6		
	comp=Z,140nm,1.1s							
EGAK	**Eagle**	88.51	24	P	P	12 02 22.3	0.0	
	baz=250,SNR=11							
YUK4	**Talbot Arm**	88.51	28	P	P	12 02 23.2	+0.6	
	baz=253,SNR=27							
YUK6	**Outpost Mounta**	88.52	28	P	P	12 02 23.3	+0.6	
	baz=253,SNR=8.3							
I27K	**Kandik River**	88.60	23	P	P	12 02 23.3	+0.5	
	baz=250							
S31K	**Pelican**	88.75	31	IAmb	IAmb	12 02 25.5		
	comp=Z,110nm,1.3s							
S31K	**Pelican**	88.75	31	P	P	12 02 24.3	+0.8	
	baz=255							
H27K	**Steamboat Moun**	88.85	23	P	P	12 02 24.6	+0.7	
	baz=250							
HYT	**Haines Junctio**	88.89	28	P	P	12 02 24.8	+0.5	
	baz=254,SNR=46							
M29M	**Somme Creek**	88.92	27	P	P	12 02 25.0	+0.6	
	baz=253							
P30M	**Million Dollar**	88.96	29	P	P	12 02 25.4	+0.8	
	baz=254							
SIT	**Sitka**	88.99	32	P	P	12 02 25.8	+1.2	
	baz=256							
DAWY	**Dawson**	89.00	25	P	P	12 02 25.2	+0.6	
	baz=252,SNR=122							
PLBC	**Pleasant Camp**	89.07	30	P	P	12 02 25.7	+0.7	
	baz=255,SNR=16							
I28M	**Miner Creek**	89.21	24	IAmb	IAmb	12 02 27.2		
	comp=Z,67nm,1.1s							
I28M	**Miner Creek**	89.21	24	P	P	12 02 25.6	-0.1	
	baz=252,SNR=40							
L29M	**L29M**	89.26	26	P	P	12 02 26.5	+0.6	
	baz=253							
S32K	**Killisnoo**	89.49	32	IAmb	IAmb	12 02 29.1		
	comp=Z,80nm,1.2s							
S32K	**Killisnoo**	89.49	32	P	P	12 02 27.7	+0.8	
	baz=256							
O30N	**Mendenhall**	89.55	29	IAmb	IAmb	12 02 29.2		
	comp=Z,139nm,1.4s							
O30N	**Mendenhall**	89.55	29	P	P	12 02 27.9	+0.7	
	baz=255,SNR=25							
SKAG	**Skagway**	89.58	30	IAmb	IAmb	12 02 29.5		
	comp=Z,136nm,1.3s							
SKAG	**Skagway**	89.58	30	P	P	12 02 28.0	+0.6	
J29N	**Klondike Camp**	89.61	25	IAmb	IAmb	12 02 29.7		
	comp=Z,103nm,1.1s							
J29N	**Klondike Camp**	89.61	25	P	P	12 02 28.2	+0.6	
	baz=253,SNR=16							
M30M	**Minto, Yukon**	89.70	27	P	P	12 02 28.4	+0.4	
	baz=254,SNR=17							
R32K	**Eaglecrest**	89.71	31	P	P	12 02 28.9	+0.8	
	baz=256							
K29M	**Barlow Dome**	89.73	25	IAmb	IAmb	12 02 30.0		
	comp=Z,92nm,1.0s							
K29M	**Barlow Dome**	89.73	25	P	P	12 02 29.0	+0.8	
	baz=254							
JIS	**Juneau Island**	89.78	31	IAmb	IAmb	12 02 30.4		
	comp=Z,133nm,1.6s							
CRAG	**Craig**	89.82	34	P	P	12 02 29.0	+0.4	
	baz=258							
N31M	**Braeburn, Yuko**	89.87	28	IAmb	IAmb	12 02 30.1		
	comp=Z,56nm,1.1s							
N31M	**Braeburn, Yuko**	89.87	28	P	P	12 02 29.4	+0.6	
	baz=255,SNR=8.3							
F28M	**Old Crow**	89.92	21	IAmb	IAmb	12 02 30.6		
	comp=Z,56nm,1.1s							
F28M	**Old Crow**	89.92	21	P	P	12 02 29.3	+0.5	
	baz=252,SNR=48							
U33K	**Whale Pass**	89.96	33	P	P	12 02 29.8	+0.6	
	baz=258							
H29M	**Whitestone**	90.06	23	P	P	12 02 29.8	+0.2	
	baz=253							
D27M	**Malcolm River**	90.07	20	P	P	12 02 30.3	+0.8	
	baz=251							
WHY	**Whitehorse**	90.09	29	P	P	12 02 30.0	+0.1	
	baz=256,SNR=14							
T33K	**Petersburg**	90.20	33	P	P	12 02 31.3	+1.0	
	baz=258							
HG4B	**Hotspring**	90.30	37	IAmb	IAmb	12 02 33.3		
	comp=Z,131nm,1.2s							
E28M	**Babbage River**	90.35	21	P	P	12 02 31.3	+0.4	
	baz=252							
MAYO	**Mayo, Yukon**	90.36	26	IAmb	IAmb	12 02 32.8		
	comp=Z,90nm,1.0s							
MAYO	**Mayo, Yukon**	90.36	26	P	P	12 02 31.3	+0.4	
	baz=255,SNR=16							
G29M	**Pine Creek**	90.40	22	P	P	12 02 31.2	+0.2	
	baz=253							
P32M	**Atlin**	90.41	30	P	P	12 02 31.7	+0.3	
	baz=257,SNR=8.9							
J30M	**Hart River**	90.43	25	IAmb	IAmb	12 02 33.1		
	comp=Z,70nm,1.1s							
J30M	**Hart River**	90.43	25	P	P	12 02 31.8	+0.4	
	baz=255							
WRAK	**Wrangell Islan**	90.45	33	P	P	12 02 31.4	0.0	
	baz=258							
I30M	**Mount Dempster**	90.58	24	P	P	12 02 32.0	-0.1	
	baz=255							
V35K	**Ketchikan**	90.64	34	P	P	12 02 32.8	+0.4	
	baz=259							
M31M	**Drury Creek, Y**	90.69	27	P	P	12 02 32.4	-0.1	
	baz=256,SNR=12							
EPYK	**Eagle Plains**	90.75	23	P	P	12 02 32.8	+0.1	
	baz=254,SNR=65							
D28M	**Stokes Point**	90.85	20	P	P	12 02 33.8	+0.7	
	baz=253							
E29M	**Blow River**	90.87	21	P	P	12 02 32.9	-0.3	
	baz=253							
P33M	**Teslin, Yukon**	90.99	29	P	P	12 02 34.0	0.0	
	baz=258,SNR=6.6							
Q32M	**Nakina River**	91.00	31	P	P	12 02 34.7	+0.4	
	baz=258							
N32M	**Quiet Lake**	91.06	29	P	P	12 02 34.7	+0.3	
	baz=258							
G30M	**tAoh Zraii Nji**	91.10	22	IAmb	IAmb	12 02 35.2		
	comp=Z,94nm,1.1s							
G30M	**tAoh Zraii Nji**	91.10	22	P	P	12 02 34.2	-0.2	
	baz=255							
FARO	**Faro, Yukon**	91.17	27	P	P	12 02 34.8	0.0	
	baz=257,SNR=20							
S34M	**Telegraph Cree**	91.39	32	IAmb	IAmb	12 02 38.0		
	comp=Z,52nm,1.2s							
S34M	**Telegraph Cree**	91.39	32	P	P	12 02 36.4	+0.6	
	baz=259,SNR=10							
F30M	**Barrier River**	91.42	22	P	P	12 02 35.8	0.0	
	baz=255							
T35M	**Bob Quinn**	91.69	33	P	P	12 02 38.2	+0.9	
	baz=260,SNR=5.4							
R33M	**Jennings River**	91.75	30	P	P	12 02 38.5	+0.8	
	baz=259							
G31M	**Satah River**	91.83	23	P	P	12 02 37.7	0.0	
	baz=257							
DLBC	**Dease Lake**	92.06	31	IAmb	IAmb	12 02 41.1		
	comp=Z,62nm,1.4s							
DLBC	**Dease Lake**	92.06	31	P	P	12 02 39.6	+0.6	
	baz=260,SNR=9.9							
F31M	**Tsiigehtchic**	92.15	22	IAmb	IAmb	12 02 39.7		
	comp=Z,72nm,1.2s							
F31M	**Tsiigehtchic**	92.15	22	P	P	12 02 38.6	-0.5	
	baz=257,SNR=32							
BBB	**Bella Bella**	92.15	38	LR	LR	12 36 39.4		
	comp=Z,142nm,20.9s,baz=250,slow=31							
INK	**Inuvik**	92.42	21	IAmb	IAmb	12 02 41.5		
	comp=Z,60nm,1.1s							
INK	**Inuvik**	92.42	21	P	P	12 02 39.8	-0.6	
	baz=258							
INK	**Inuvik**	92.42	21	LR	LR	12 37 45.6		
	comp=Z,162nm,22.0s,baz=186,slow=31							
WTLY	**Watson Lake, Y**	92.95	30	IAmb	IAmb	12 02 45.2		
	comp=E,37nm,1.0s							
WTLY	**Watson Lake, Y**	92.95	30	P	P	12 02 43.6	+0.6	
	baz=261,SNR=31							
AB31	**Akbulak array**	93.37	319	*i* P	P	12 02 43.7	-1.5	
ABKAR	**Akbulak array**	93.37	319	P	P	12 02 44.2	-0.9	
ELIB	**Princess Elisa**	93.38	195	*d* P	P	12 02 44.1	-0.9	
	comp=Z,66nm,1.0s							
GEYT	**Alibeck**	93.45	308	P	P	12 02 45.8	-0.1	
GEYT	**Alibeck**	93.45	308	P	P	12 02 46.0	+0.1	
	comp=Z,80nm,0.9s,baz=132,slow=2.2,SNR=111							
	comp=Z,80nm,0.9s							
GYA0B	**ALIBECK ARRAY**	93.45	308	P	P	12 02 45.8	-0.1	
SVE	**Sverdlovsk**	93.83	327	*e* P	P	12 02 46.0	-1.1	
SVE				pmax	pmax			
	comp=Z,48nm,1.6s							
L02F	**Cave Junction**	94.01	48	IAmb	IAmb	12 02 50.5		
	comp=Z,52nm,1.1s							
CLRS	**Cowichan Lake**	94.27	41	IAmb	IAmb	12 02 51.8		
	comp=Z,114nm,1.4s							
GDXM	**Geysers**	94.29	52	IAmb	IAmb	12 02 52.9		
	comp=Z,88nm,1.3s							
NLWA	**Neilton Lookou**	94.31	43	IAmb	IAmb	12 02 51.8		
	comp=Z,96nm,1.4s							
I03D	**Drain, OR**	94.33	47	IAmb	IAmb	12 02 52.4		
	comp=Z,101nm,1.3s							
DBO	**Dodon Butte**	94.35	47	IAmb	IAmb	12 02 52.0		
	comp=Z,101nm,1.4s							
YBH	**Yreka Blue Hor**	94.62	49	LR	LR	12 37 33.0		
	comp=Z,473nm,21.8s,baz=285,slow=30							
AKTO	**Aktyubinsk**	94.73	320	P	P	12 02 49.9	-1.5	
AKTO	**Aktyubinsk**	94.73	320	LR	LR	12 47 23.1		
	comp=Z,131nm,20.4s,baz=46,slow=37							
ARU	**Arti**	94.93	326	P	P	12 02 50.3	-1.8	
ARU	**Arti**	94.93	326	*d* P	P	12 02 50.1	-2.1	
ARU				pmax	pmax			
	comp=Z,41nm,1.3s							
ARU	**Arti**	94.93	326	LR	LR	12 47 11.9		
	comp=Z,54nm,18.9s,baz=86,slow=36							
I04A	**Tendick Farm,**	95.01	47	P	P	12 02 52.9	-0.1	
I04A				IAmb	IAmb	12 02 54.5		
	comp=Z,107nm,1.4s							
GNW	**Green Mountain**	95.03	43	P	P	12 02 53.1	+0.3	
GNW				IAmb	IAmb	12 02 54.9		
	comp=Z,62nm,1.1s							
SAO	**San Andreas Ge**	95.17	54	IAmb	IAmb	12 04 53.1		
	comp=Z,51nm,0.9s							
H04A	**Detroit Lake**	95.24	46	IAmb	IAmb	12 02 55.3		
	comp=Z,53nm,1.4s							
KOTAN	**Kotaneelee Air**	95.31	30	P	P	12 02 53.9	0.0	
	baz=265,SNR=12							
FLDN	**Fort Liard**	95.61	30	IAmb	IAmb	12 02 56.6		
	comp=Z,53nm,1.2s							
FLDN	**Fort Liard**	95.61	30	P	P	12 02 55.1	-0.1	
	baz=266,SNR=5.3							
PMPB	**Monarch Peak**	95.65	54	IAmb	IAmb	12 02 58.5		
	comp=Z,84nm,1.3s							
HOOD	**Mount Hood Mea**	95.67	45	IAmb	IAmb	12 02 57.6		
	comp=Z,91nm,1.4s							
A36M	**Sachs Harbour**	95.75	18	IAmb	IAmb	12 02 56.1		
	comp=Z,55nm,1.0s							
A36M	**Sachs Harbour**	95.75	18	P	P	12 02 54.6	-0.9	
	baz=266							
WRGLY	**Wrigley**	95.82	27	P	P	12 02 56.0	-0.1	
	baz=266,SNR=12							
I05D	**Terrebonne, OR**	95.82	46	IAmb	IAmb	12 02 58.4		
	comp=Z,70nm,1.3s							
G05A	**Wamic**	95.90	45	IAmb	IAmb	12 02 58.6		
	comp=Z,80nm,1.3s							
C36M	**Paulatuk**	95.96	21	P	P	12 02 55.7	-0.8	
	baz=266							
B06A	**Marblemount**	96.00	42	IAmb	IAmb	12 02 58.6		
	comp=Z,64nm,1.2s							
CMB	**Columbia Colle**	96.11	53	P	P	12 02 58.3	+0.2	
CMB				IAmb	IAmb	12 02 59.8		
	comp=Z,57nm,1.3s							
CMB	**Columbia Colle**	96.11	53	P	P	12 02 58.3	+0.2	
CMB				pmax	pmax			
	comp=Z,57nm,1.3s							
SMMC	**Simmler**	96.24	55	P	P	12 03 00.0	+1.3	
	baz=266							
PKM	**Mcpherson Peak**	96.36	56	P	P	12 03 00.5	+1.0	
	baz=266,SNR=31							
G06A	**Carlson Farm,**	96.38	45	IAmb	IAmb	12 02 60.0		
	comp=Z,42nm,1.5s							
EMB	**Emerald Bay**	96.39	52	IAmb	IAmb	12 03 01.6		
	comp=Z,73nm,1.3s							
SBC	**Santa Barbara**	96.41	56	P	P	12 03 00.4	+1.0	
	baz=266							
SCZ2	**Santa Cruz Isl**	96.44	57	P	P	12 03 00.7	+1.0	
	baz=266,SNR=7.7							
LTY	**Liberty**	96.47	43	IAmb	IAmb	12 03 01.0		
	comp=Z,74nm,1.4s							
SNCC	**San Nicolas Is**	96.48	57	P	P	12 03 01.4	+1.6	
	baz=266,SNR=8.8							
MXC	**Moxie City**	96.69	44	IAmb	IAmb	12 03 02.2		
	comp=Z,36nm,1.1s							
PNTR	**Pine Nut**	96.79	51	IAmb	IAmb	12 03 03.5		
	comp=Z,65nm,1.2s							
VOG	**Valley Oaks Go**	96.80	54	P	P	12 03 01.6	+0.4	
	baz=266							
WAKR	**Walker**	96.89	52	IAmb	IAmb	12 03 04.0		
	comp=Z,43nm,1.3s							
F07A	**Phinny Hill Vi**	96.91	45	IAmb	IAmb	12 03 03.3		
	comp=Z,35nm,1.0s							
PLTX	**Planet X, Gerl**	96.98	50	IAmb	IAmb	12 03 04.1		
	comp=Z,52nm,1.2s							
PAHR	**Pah Rah Range**	97.00	51	IAmb	IAmb	12 03 04.0		
	comp=Z,48nm,1.3s							
VES	**Vestal, Richgr**	97.01	55	P	Pdif	12 03 02.4	+0.2	
	baz=266,SNR=19							
YERR	**Yerington**	97.07	52	IAmb	IAmb	12 03 04.5		
	comp=Z,49nm,1.2s							
MDPB	**Devils Postpil**	97.12	53	IAmb	IAmb	12 03 04.8		
	comp=Z,57nm,1.2s							
I07A	**Izee**	97.13	46	IAmb	IAmb	12 03 04.5		
	comp=Z,60nm,1.2s							
ARVC	**Arvin**	97.18	56	P	Pdif	12 03 03.9	+0.9	
	baz=267,SNR=14							
OMMB	**Old Mammoth Mi**	97.18	53	IAmb	IAmb	12 03 05.3		
	comp=Z,44nm,1.2s							
HAWA	**Hanford**	97.21	44	IAmb	IAmb	12 03 04.6		
	comp=Z,67nm,1.1s							
OSI	**Osito Audit: C**	97.23	56	P	Pdif	12 03 04.2	+0.9	
	baz=267							
CIS	**Catalina Islan**	97.42	57	P	Pdif	12 03 04.6	+0.5	
	baz=267,SNR=32							
ISA	**Isabella, Lake**	97.50	55	P	P	12 03 04.3	-0.1	
ISA				IAmb	IAmb	12 03 06.2		
	comp=Z,37nm,1.1s							
ISA	**Isabella, Lake**	97.50	55	P	Pdif	12 03 05.0	+0.5	
	baz=267,SNR=21							
ISA	**Isabella, Lake**	97.50	55	P	P	12 03 04.3	-0.1	
ISA				pmax	pmax			
	comp=Z,37nm,1.1s							
DECC	**Green Verdugo**	97.53	56	P	Pdif	12 03 05.3	+0.6	
	baz=267							
FMP	**Fort Macarthur**	97.54	57	P	Pdif	12 03 05.4	+0.8	
	baz=267							
G08A	**Pilot Rock**	97.56	45	IAmb	IAmb	12 03 06.2		
	comp=Z,50nm,1.2s							
LHV	**Little Huntoon**	97.61	52	IAmb	IAmb	12 03 07.2		
	comp=Z,62nm,1.2s							
RYN	**Ryan**	97.61	52	IAmb	IAmb	12 03 07.0		
	comp=Z,41nm,1.2s							
D08A	**Wollman Farm,**	97.65	43	IAmb	IAmb	12 03 06.5		
	comp=Z,43nm,1.1s							
WVOR	**Wild Horse Val**	97.69	48	IAmb	IAmb	12 03 07.0		
	comp=Z,44nm,1.1s							
TIN	**Tinemaha, Big**	97.77	54	P	Pdif	12 03 06.6	+0.9	
	baz=267							
NVAR	**Mina Array Bea**	97.77	52	P	P	12 03 05.8	-0.1	
	comp=Z,28nm,1.0s,baz=260,slow=6.0,SNR=97							
NVAR				LR	LR	12 41 51.9		
	comp=Z,196nm,20.0s,baz=268,slow=32							
	comp=Z,28nm,1.0s							
J08A	**Circle Bar Ran**	97.84	47	IAmb	IAmb	12 03 07.5		
	comp=Z,49nm,1.1s							
CCAC	**Calif City Air**	97.84	56	IAmb	IAmb	12 03 09.2		
	comp=Z,65nm,1.3s							
EDW2	**Edwards Air Fo**	97.85	56	P	Pdif	12 03 07.1	+1.1	
	baz=267,SNR=39							
CWC	**Cottonwood Cre**	97.86	54	P	Pdif	12 03 07.1	+0.9	
	baz=267							
NV11	**Mina Array Sit**	97.89	52	IAmb	IAmb	12 03 08.3		
	comp=Z,53nm,1.2s							
TROLL	**Troll, Antarti**	97.95	190	⇑P	P	12 03 04.8	-1.0	
	comp=Z,306nm,0.8s							
KVN	**Kaiserville**	97.96	52	IAmb	IAmb	12 03 08.5		
	comp=Z,37nm,1.2s							
DSP	**Deep Springs**	97.99	53	IAmb	IAmb	12 03 08.9		
	comp=Z,54nm,1.2s							
BFSC	**Mount Baldy Ra**	98.09	56	P	Pdif	12 03 07.8	+0.6	
	baz=267,SNR=20							
C09A	**Hirisman Ranch**	98.11	43	IAmb	IAmb	12 03 08.3		
	comp=Z,59nm,1.2s							
LRMC	**Laurel Mtn Rad**	98.13	55	P	Pdif	12 03 08.3	+0.9	
	baz=267,SNR=70							
MPMC	**Manual Prospec**	98.31	55	P	Pdif	12 03 08.8	+0.5	
	baz=268,SNR=59							
MURC	**Murrieta**	98.45	57	P	Pdif	12 03 09.4	+0.7	
	baz=267							
GRAC	**Grapevine Rang**	98.45	54	IAmb	IAmb	12 03 10.8		
	comp=Z,44nm,1.2s							
GRAC	**Grapevine Rang**	98.45	54	P	Pdif	12 03 09.4	+0.7	
	baz=268,SNR=6.2							
109C	**Camp Elliot, M**	98.49	58	IAmb	IAmb	12 03 11.5		
	comp=Z,84nm,1.6s							
109C	**Camp Elliot, M**	98.49	58	P	Pdif	12 03 10.0	+1.1	
	baz=267,SNR=6.3							
Q09A	**Carvers**	98.67	52	IAmb	IAmb	12 03 12.4		
	comp=Z,44nm,0.9s							
BMN	**Battle Mountai**	98.68	50	IAmb	IAmb	12 03 11.7		
	comp=Z,61nm,1.2s							
BBRC	**Big Bear Solar**	98.70	56	P	Pdif	12 03 10.7	+0.5	
	baz=268,SNR=9.0							
BMO	**Blue Mountains**	98.72	46	IAmb	IAmb	12 03 11.2		
	comp=Z,55nm,1.2s							
RPN	**Rapa Nui**	98.75	119	LR	LR	12 40 04.9		
	comp=Z,85nm,21.7s,baz=270,slow=31							
F10A	**Beach Ranch, E**	98.80	45	IAmb	IAmb	12 03 11.4		
	comp=Z,52nm,1.0s							
QSM	**Queen of Sheba**	98.81	55	IAmb	IAmb	12 03 12.4		
	comp=Z,50nm,1.2s							
FURC	**Furnace Creek,**	98.84	54	P	Pdif	12 03 10.9	+0.6	
	baz=268,SNR=32							
GSC	**Goldstone, Bar**	98.84	55	IAmb	IAmb	12 03 12.8		
	comp=Z,51nm,1.4s							
GSC	**Goldstone, Bar**	98.84	55	P	Pdif	12 03 11.3	+0.8	
	baz=268,SNR=23							
BAR	**Barrett**	98.84	58	IAmb	IAmb	12 03 13.1		
	comp=Z,44nm,1.6s							
NEW	**Newport**	98.89	42	IAmb	IAmb	12 03 11.9		

baz=268,SNR=24
SWSC Sam W. Stewart 99.59 58 P Pdif 12 03 15.1 +1.4
baz=268,SNR=13
PLID Pearl Lake 99.65 46 IAmb IAmb 12 04 04.5
comp=Z,20nm,0.6s
GMRC Granite Mounta 99.76 56 P Pdif 12 03 15.3 +0.7
baz=268,SNR=20
YKA Yellowknife Ar 99.88 28 P Pdif 12 03 13.9 -0.4
comp=Z,12nm,0.9s,baz=275,slow=4.7,SNR=97
YKA PKiKP PKiKP 12 07 41.7 -0.4
comp=Z,1.0nm,0.9s,baz=278,slow=1.1,SNR=3.7
YKA LR LR 12 46 36.7
comp=Z,164nm,19.4s,baz=298,slow=34
comp=Z,12nm,0.9s
KIRV Kirov 99.90 328⇑ iP Pdif 12 03 13.1 -1.4
KIRV Kirov 99.90 328 LR LR 12 47 50.7
comp=Z,165nm,21.8s,baz=83,slow=35
BC3 Big Chuckawall 99.90 57 P Pdif 12 03 16.4 +1.1
baz=268,SNR=18
R11B Troy Canyon, C 99.90 52 P Pdif 12 03 16.2 +0.9
baz=269,SNR=22
IRM Iron Mountain 100.17 57 P Pdif 12 03 17.7 +1.3
baz=268,SNR=24
VNA2 Neumayer--Watz 100.50 188⇓ Pdiff Pdif 12 03 16.3 -0.7
comp=Z,6nm,0.5s,baz=230,slow=9.0
VNA3 Neumayer Olymp 100.51 187⇓ Pdiff Pdif 12 03 16.2 -0.9
comp=Z,3nm,0.4s
HLID Hailey 100.80 47 P Pdif 12 03 19.9 +0.7
baz=271,SNR=33
PDMCI Parker Dam,Lak 101.01 56 P Pdif 12 03 21.2 +1.2
baz=269,SNR=8.9
MSO Missoula 101.06 44 P Pdif 12 03 21.3 +1.2
baz=272
BELG Belogornoye 101.26 322 deP Pdif 12 03 19.5 -1.2
BELG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 102.05 50 P Pdif 12 03 24.9 +0.2
baz=271,SNR=16
214A Organ Pipe Nat 102.09 59 P Pdif 12 03 26.3 +1.3
baz=269
BOZ Bozeman (W) 102.72 45 P Pdif 12 03 28.1 +0.5
baz=273,SNR=19
WUAZ Wupatki 103.28 55 P Pdif 12 03 32.1 +1.8
baz=271,SNR=6.6
H17A Grant Village 103.54 46 P Pdif 12 03 33.0 +1.6
baz=274,SNR=6.0
TUC Tucson 103.81 59 P Pdif 12 03 33.5 +0.8
baz=270
EGMT Eagleton 103.83 42 P Pdif 12 03 32.8 +0.4
baz=275,SNR=8.0
BW06 Boulder Array 104.38 48 P Pdif 12 03 35.1 -0.1
baz=274,SNR=22
PDAR Pinedale Array 104.38 48 Pdiff Pdif 12 03 35.2 0.0
comp=Z,12nm,0.9s,baz=244,slow=2.3,SNR=72
PDAR PKiKP PKiKP 12 07 52.3 +1.1
comp=Z,0.8nm,0.9s,baz=249,slow=3.8,SNR=3.5
ZEI Tsey 104.40 312 eP Pdif 12 03 33.8 -1.4
ZEI pmax pmax
comp=Z,10.0nm,1.0s
RLMT Red Lodge 104.42 45 P Pdif 12 03 36.3 +1.0
baz=275
KLMR Klimovskoe 104.57 331 eP Pdif 12 03 31.6 -3.6
KLMR e 12 07 52.9
KLMR pmax pmax
comp=Z,41nm,1.4s
W18A Petrified Fore 104.63 56 P Pdif 12 03 38.1 +1.7
baz=272
KIV Kislovodsk 105.19 314⇑ P PKiKP 12 08 00.1 +7.6
APA Apatity 105.30 339⇓ iP Pdif 12 03 34.6 -3.7
APA pmax pmax
comp=Z,11nm,1.2s
MVCO Mesa Verde 105.54 53 P PKiKP 12 07 55.5 +1.9
baz=273
O20A White River Ci 105.56 50 P PKiKP 12 07 54.6 +1.2
baz=274
121A Cookes Peak, D 106.34 58 P PKiKP 12 07 56.5 +1.4
baz=272
LAO LASA Array 106.36 43 P PKiKP 12 07 56.4 +1.8
baz=277
ARCES ARCESS Array B 107.16 342 Pdiff Pdif 12 03 45.5 -1.2
comp=Z,15nm,0.9s,baz=37,slow=3.0,SNR=13
ARCES PKiKP PKiKP 12 07 55.4 +0.1
comp=Z,1.7nm,0.6s,baz=98,slow=1.4,SNR=14
ARCES PKKPbc PKKPbc 12 19 11.5 -3.6
comp=Z,4.1nm,1.1s,baz=276,slow=1.6,SNR=7.7
ISCO Idaho Springs 107.60 51 P PKiKP 12 07 57.5 +0.1
baz=276
SDCO Great Sand Dun 107.88 53 P PKiKP 12 07 57.9 0.0
baz=275
Q24A Divide 108.04 51 P PKiKP 12 07 57.8 -0.5
baz=276
RSSD Black Hills 108.24 46 Pdif Pdif 12 03 52.2 -0.1
RSSD Black Hills 108.24 46 P PKiKP 12 07 58.4 +0.1
baz=278
RSSD Black Hills 108.24 46 iP Pdif 12 03 52.2 -0.1
MNTX Cornudas Mount 108.42 59 P PKiKP 12 07 58.8 0.0
baz=273
ANN Anapa 108.82 315 eP Pdif 12 03 50.4 -4.1
ANN pmax pmax
comp=Z,173nm,1.7s
ANN pmax pmax
comp=Z,137nm,1.1s
TXAR Lajitas Array 110.03 61 Pdiff Pdif 12 04 02.6 +2.2
comp=Z,0.8nm,0.9s,baz=195,slow=3.8,SNR=8.4
TXAR PKiKP PKiKP 12 08 02.0 0.0
comp=Z,2.1nm,1.0s,baz=241,slow=1.3,SNR=8.8
TXAR PKKPab PKKPab 12 19 16.5 +1.0
comp=Z,1.1nm,0.7s,baz=113,slow=6.9,SNR=12
E28A Huff 110.14 43 P PKiKP 12 08 01.7 +0.1
baz=282
FINES FINESS Array B 110.55 334 Pdiff Pdif 12 04 00.6 -1.2
comp=Z,1.8nm,0.8s,baz=64,slow=4.4,SNR=5.5
FINES PKiKP PKiKP 12 08 01.3 -0.5
comp=Z,3.3nm,0.8s,baz=101,slow=2.9,SNR=5.6
K30B Basset 111.66 47 P PKiKP 12 08 04.4 -0.2
baz=281
ULM Lac du Bonnet 112.35 38 PKiKP PKiKP 12 08 03.8 -1.8
comp=Z,3.6nm,0.7s,baz=277,slow=3.2,SNR=5.6
MNK Minsk 112.35 327 i PKiKP PKiKP 12 08 02.5 -3.0
MNK i PKiKP PKiKP 12 08 02.5 -3.0
MNK i PKiKP PKiKP 12 08 02.5 -3.0
baz=70
MNK i PP PP 12 08 49.3 -2.6
MNK i PPP PPP 12 11 11.3
MNK i SKS SKSdf 12 15 04.7 -4.9
MNK i SS SS 12 24 22.0 -2.8
MNK i SSS SSS 12 28 34.1
MNK i LQ LQ 12 49 21.3
MNK i LR LR 12 54 53.9
MNK i LRM MLR 12 57 34.4
comp=E,97nm,16.1s
MNK i LRM MLR 12 57 49.2
comp=Z,162nm,16.1s
MNK i LRM MLR 12 57 53.7
comp=N,72nm,15.5s
MNK Minsk 112.35 327 i PKiKP PKiKP 12 08 02.4 -3.0
MNK i 12 08 49.3
MNK i PPP PPP 12 11 11.3
MNK i 12 15 04.6
MNK i SS SS 12 24 21.9 -2.9
MNK i SSS SSS 12 28 34.0
MNK MLR MLR
comp=E,97nm,16.0s
MNK MLR MLR
comp=Z,162nm,16.0s
MNK MLR MLR
comp=N,72nm,15.0s
BRTR Keskin Array B 112.44 310 Pdiff Pdif 12 04 09.8 -1.1
comp=N,1.3nm,0.8s,baz=79,slow=2.6,SNR=4.9
BRTR PKiKP PKiKP 12 08 05.5 -0.8
comp=N,2.5nm,1.0s,baz=112,slow=1.3,SNR=6.5
NACGM Naroch 112.80 327 ePdif Pdif 12 04 14.5 +2.5
AKASG Malin Array Be 112.83 322 PKiKP PKiKP 12 08 05.8 -0.6
comp=N,2.6nm,0.7s,baz=66,slow=2.1,SNR=6.9
JCT Junction City 113.29 60 P PKiKP 12 08 07.8 -0.3
baz=276
833A Chaparral WMA, 113.84 62 P PKiKP 12 08 08.8 -0.3
baz=275
SORM Soroca 114.16 320⇑ P PKPdf 12 08 08.1 -1.0
SORM Soroca 114.16 320⇑ PKiKP PKPdf 12 08 08.1 -1.0
KSU1 Kansas State U 114.59 50 P PKPdf 12 08 09.7 -0.5
baz=282
WHTX Lake Whitney, 115.10 58 P PKPdf 12 08 10.6 -0.8
baz=278
SCTR Scanteiesti 115.12 317⇑ P PKPdf 12 08 11.4 +0.4
F36A Milaca 115.14 42 P PKiKP 12 08 10.3 -0.8
baz=287

CFR Carcaliu 115.17 317⇑ P PKiKP 12 08 11.0 -0.1
CFR Carcaliu 115.17 317⇑ PKiKP PKiKP 12 08 11.0 -0.1
TIRR Tirgusor 115.18 316⇑ P PKiKP 12 08 10.3 -0.8
TIRR Tirgusor 115.18 316⇑ PKiKP PKiKP 12 08 10.3 -0.8
HARR Harsova 115.45 316⇑ P PKiKP 12 08 10.2 -1.5
HARR Harsova 115.45 316⇑ PKiKP PKiKP 12 08 10.2 -1.5
LSZ Lusaka 115.67 249 PKP PKiKP 12 08 13.5 +0.4
comp=N,2.3nm,0.3s,baz=103,slow=14,SNR=2.0
EYMN Ely 115.81 40 P PKiKP 12 08 11.8 -0.5
baz=290
SPMN Marine on St. 115.81 43 P PKPdf 12 08 11.9 -0.5
baz=287
TUL3 Leonard 115.84 53 P PKPdf 12 08 12.2 -0.6
baz=281
VRI Vrincioaia 115.91 318⇑ P PKPdf 12 08 12.4 -0.2
VRI Vrincioaia 115.91 318⇑ PKiKP PKPdf 12 08 12.4 -0.2
BISRR Bisoca 116.02 318⇑ P PKiKP 12 08 13.3 +0.4
BURAR Bucovina Array 116.33 320⇑ P PKPdf 12 08 12.3 -1.2
BURAR Bucovina Array 116.33 320⇑ PKiKP PKPdf 12 08 12.3 -1.2
NEHR Nehoiu 116.33 318⇑ P PKPdf 12 08 13.4 0.0
MLR Muntele Rosu 116.55 318⇓ P PKPdf 12 08 12.8 -1.2
MLR Muntele Rosu 116.55 318⇓ PKiKP PKPdf 12 08 12.8 -1.2
DOPR Dopca 116.77 318⇑ P PKiKP 12 08 15.4 +1.1
P38A Dawn 116.80 49 P PKPdf 12 08 13.9 -0.5
P38A Dawn 116.80 49 P PKPdf 12 08 13.8 -0.7
baz=284
NB2 NORSAR Subarra 116.85 338 PKPdf PKPdf 12 08 13.0 -1.0
comp=Z,1.4nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 116.85 338 PKP PKPdf 12 08 13.0 -1.0
comp=Z,3.8nm,0.9s,baz=58,slow=1.9,SNR=6.4
U38A Gravette 116.86 53 P PKPdf 12 08 14.2 -0.5
baz=282,SNR=8.3
VOIR 117.16 318⇓ P PKPdf 12 08 14.8 -0.3
VOIR 117.16 318⇓ PKiKP PKPdf 12 08 14.8 -0.3
ELND Elena 117.38 315⇑ P PKPdf 12 08 14.9 -0.6
S39A Bolivar 117.41 51 P PKPdf 12 08 15.2 -0.5
S39A Bolivar 117.41 51 P PKPdf 12 08 14.8 -0.9
baz=283,SNR=11
ARR Arges 117.46 318⇑ P PKiKP 12 08 15.9 +0.2
P40A Paris 117.93 49 P PKPdf 12 08 16.2 -0.5
baz=285
R40A Maddies Statio 118.08 50 P PKPdf 12 08 16.2 -0.8
baz=284
U40A Yellville 118.08 52 P PKPdf 12 08 16.2 -0.9
baz=283,SNR=10
U40A P PKPdf 12 08 16.2 -0.9
baz=283,SNR=10
STHS Stebnicka Huta 118.09 323 ePKiKP PKPdf 12 08 15.1 -1.6
STHS Stebnicka Huta 118.09 323 ePKP PKPdf 12 08 15.1 -1.6
PLVB Pleven 118.11 316⇑ P PKiKP 12 08 17.0 +0.1
DRGR 118.22 320⇑ P PKPdf 12 08 16.4 -0.7
DRGR 118.22 320⇑ PKiKP PKPdf 12 08 16.4 -0.7
JFWS Jewell Farm 118.27 45 P PKPdf 12 08 16.2 -1.0
baz=288
DEV Deva 118.42 319⇑ P PKPdf 12 08 16.2 -1.2
DEV Deva 118.42 319⇑ PKiKP PKPdf 12 08 16.2 -1.2
GKP Gorka Klasztor 118.57 328 ePKP PKiKP 12 08 17.5 +0.1
NIE Niedzica 118.65 323 ePKP PKiKP 12 08 18.6 +0.8
GZR Gura Zlata 118.68 319⇑ P PKPdf 12 08 17.5 -0.5
GZR Gura Zlata 118.68 318⇑ PKiKP PKPdf 12 08 17.5 -0.5
CCM Cathedral Cave 118.92 50 PKPdf 12 08 17.0 -1.6
CCM Cathedral Cave 118.92 50 P PKPdf 12 08 18.1 -0.5
baz=285
CCM Cathedral Cave 118.92 50 P PKPdf 12 08 17.8 -0.8
baz=285,SNR=6.3
CCM Cathedral Cave 118.92 50 PKiKP PKPdf 12 08 17.0 -1.6
L42A Oliver, Polo 118.96 45 P PKPdf 12 08 17.8 -0.7
baz=288
SURR Surduc 118.98 319⇑ P PKPdf 12 08 18.3 -0.2
SIRR Siria 119.08 320⇑ P PKPdf 12 08 18.7 0.0
HERR Herculane 119.10 318⇑ P PKPdf 12 08 17.7 -1.0
LANS Liptovska Anna 119.26 323 ePKiKP PKiKP 12 08 19.9 +0.9
LANS Liptovska Anna 119.26 323 ePKP PKiKP 12 08 19.9 +0.9
BZS Buzias 119.36 319⇑ P PKPdf 12 08 19.2 0.0
BZS Buzias 119.36 319⇑ PKiKP PKPdf 12 08 19.2 0.0
BLKB Belogradchik 119.37 317⇑ P PKPdf 12 08 18.8 -0.5
LCAR Lake Charles 119.48 52 P PKPdf 12 08 18.9 -0.8
baz=284,SNR=9.0
PSZ Piszkesteto 119.53 322⇑ P PKiKP 12 08 19.8 +0.2
PSZ Piszkesteto 119.53 322⇑ PKiKP PKiKP 12 08 19.8 +0.2
FVM French Village 119.56 50 P PKPdf 12 08 19.5 -0.3
baz=285
MDVR Moldovita 119.61 318⇓ P PKPdf 12 08 18.7 -1.1
HDIL Hopedale 119.67 47 PKPdf 12 08 19.3 -0.7
HDIL Hopedale 119.67 47 P PKPdf 12 08 19.5 -0.5
baz=288
HDIL Hopedale 119.67 47 P PKPdf 12 08 19.8 -0.2
baz=288
P43A Skaggs, Pawnee 119.78 48 P PKPdf 12 08 19.9 -0.2
baz=287
VYHS Vyhne 119.92 323 ePKiKP PKPdf 12 08 20.2 0.0
VYHS Vyhne 119.92 323 ePKP PKPdf 12 08 20.2 0.0
MORC Moravsky Berou 120.10 325⇑ P PKiKP 12 08 21.1 +0.5
MORC Moravsky Berou 120.10 325 ePKP PKPdf 12 08 20.6 0.0
MORC Moravsky Berou 120.10 325⇑ PKiKP PKiKP 12 08 21.1 +0.5
MAUC Maruska 120.12 324 ePKPDF PKiKP 12 08 21.2 +0.5
KRLC Kraliky 120.39 325 ePKPDF PKiKP 12 08 21.4 +0.2
KRLC Kraliky 120.39 325 ePKiKP PKiKP 12 08 21.4 +0.2
JAVC Velka Javorina 120.45 324 ePKP PKiKP 12 08 22.4 +1.0
DPC Dobruska-Polom 120.51 326 ePKPDF PKiKP 12 08 21.5 +0.1
DPC Dobruska-Polom 120.51 326 ePKiKP PKiKP 12 08 21.5 +0.1
CHVC Chvalec 120.54 326 ePKPDF PKiKP 12 08 22.0 +0.5
CHVC Chvalec 120.54 326 ePKiKP PKiKP 12 08 22.0 +0.5
FRGS Fruska Gora 120.71 319⇑ P PKPdf 12 08 21.0 -0.8
FRGS Fruska Gora 120.71 319⇑ iP PKPdf 12 08 21.6 -0.3
VRAC Vranov 120.86 325 ePKP PKPdf 12 08 21.8 -0.2
MODS Modra-Piesok 120.90 323 ePKiKP PKiKP 12 08 22.5 +0.3
MODS Modra-Piesok 120.90 323 ePKP PKiKP 12 08 22.5 +0.3
E46A Sault Ste Mari 120.94 39 P PKPdf 12 08 21.5 -0.7
baz=295
MORH Mrgy, Hungar 121.02 321⇓ P PKPdf 12 08 22.0 -0.3
KRUC Moravsky 121.10 324 ePKP PKPdf 12 08 22.3 -0.1
OLIL Olney 121.11 49 P PKPdf 12 08 22.3 -0.5
baz=288
TEKS Tekeris 121.14 319⇓ iP PKPdf 12 08 22.0 -0.7
OXF Oxford 121.25 54 P PKPdf 12 08 22.3 -0.8
baz=284
PLCA Paso Flores 121.28 147 PKP PKPdf 12 08 23.3 +0.1
comp=Z,3.0nm,0.6s,baz=242,slow=2.7,SNR=15
Y45A Yeager Farm, C 121.29 54 P PKPdf 12 08 23.0 -0.2
baz=284
SFIN Lafayette 121.32 47 P PKPdf 12 08 22.1 -1.0
baz=289
SJES Sjenica 121.34 317⇓ iP PKPdf 12 08 23.1 -0.1
GLMI Grayling 121.38 41 P PKPdf 12 08 22.0 -1.2
baz=294
BBLS Lazići 121.49 318⇓ iP PKPdf 12 08 23.2 -0.3
P46A Rosedale 121.49 47 P PKPdf 12 08 23.1 -0.4
baz=289,SNR=6.3
TREC Trest 121.50 325 ePKPDF PKiKP 12 08 23.4 0.0
TREC Trest 121.50 325 ePKiKP PKiKP 12 08 23.4 0.0
BRG Berggiesshubel 121.55 327 i PKP PKiKP 12 08 23.5 +0.1
BRG Amp 12 08 24.3
comp=Z,18nm,0.9s
BRG Berggiesshubel 121.55 327 Amp 12 08 49.4
comp=Z,8.3nm,0.9s
BRG Berggiesshubel 121.55 327 i PKiKP PKiKP 12 08 23.5 +0.1
BRG e 12 08 45.3
BRG e 12 10 01.0
BRG pmax pmax
comp=Z,18nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,1.2s
BRG Berggiesshubel 121.55 327 P pPKPdf 12 08 45.4 -2.2
GOPC GO Pecny, Ondr 121.59 326 ePKPDF PKiKP 12 08 23.5 0.0
GOPC GO Pecny, Ondr 121.59 326 ePKiKP PKiKP 12 08 23.5 0.0
PRU Pruhonice 121.68 326 ePKPDF PKPdf 12 08 23.6 +0.1
PRU Pruhonice 121.68 326 ePKiKP PKPdf 12 08 23.6 +0.1
HAPS Han Pijesak,Bl 121.70 318⇓ iP PKPdf 12 08 23.5 -0.4
RONA Rosalia, Austr 121.80 323 ePKP PKPdf 12 08 23.5 -0.4
comp=Z,17nm,1.0s,SNR=6.7
CLL Collm 121.82 328 i PKiKP PKPdf 12 08 23.3 -0.4
CLL e 12 08 50.0
CLL pmax pmax
comp=Z,23nm,0.9s
CLL MLR MLR
comp=Z,300nm,21.6s
CLL Collm 121.82 328 AMS AMS 12 59 00.0
comp=Z,300nm,21.6s
CLL Collm 121.82 328 i PKPdf PKPdf 12 08 23.3 -0.4
comp=Z,23nm,0.9s
CLL Collm 121.82 328 esPKPdf sPKPdf 12 08 50.0 -7.2

CLL Collm 121.82 328 ePS PS 12 20 00.0 +7.3
CLL Collm 121.82 328 ePPS PPS 12 21 18.0
CLL Collm 121.82 328 e(SS) 12 27 06.0
CLL Collm 121.82 328 e(SSS) 12 31 48.0
CLL Collm 121.82 328 ex x 12 36 00.0
CONA Conrad Observa 121.95 323 i PKP PKPdf 12 08 24.0 -0.3
comp=Z,12nm,0.8s,SNR=7.8
HSKC Hora Svate Kat 121.97 327 ePKPDF PKiKP 12 08 24.4 +0.1
WVT Waverly 122.07 52 PKPdf 12 08 24.7 0.0
WVT Waverly 122.07 52 P PKPdf 12 08 23.4 -1.3
baz=286
WVT Waverly 122.07 52 PKiKP PKPdf 12 08 24.7 0.0
ZVC Zvikov 122.16 326 ePKPDF PKPdf 12 08 24.5 0.0
DRME Dracevica, Mon 122.28 316⇓ iP PKPdf 12 08 23.8 -1.1
T47A Sharon Grove 122.38 50 P PKPdf 12 08 25.0 -0.2
baz=287
KOGS Kog 122.41 322 i PKPdf PKPdf 12 08 24.6 -0.4
CKRC Cesky Krumlov 122.41 325 ePKPDF PKiKP 12 08 25.3 +0.1
CKRC Cesky Krumlov 122.41 325 ePKiKP PKiKP 12 08 25.3 +0.1
BRY Bratogost 122.45 317 eP PKPdf 12 08 24.6 -0.8
ARSA Arzberg 122.47 323 ePKP PKPdf 12 08 24.7 -0.5
comp=Z,6.7nm,0.9s
BLY Banja Luka 122.58 320⇓ iP PKPdf 12 08 24.9 -0.5
WCI Wyandotte Cave 122.61 49 PKPdf 12 08 24.5 -1.2
WCI Wyandotte Cave 122.61 49 P PKPdf 12 08 24.9 -0.8
baz=289
WCI Wyandotte Cave 122.61 49 P PKPdf 12 08 25.0 -0.6
baz=289
WCI Wyandotte Cave 122.61 49 PKiKP PKPdf 12 08 24.5 -1.2
A051A Mrakovica 122.64 320⇓ iP PKPdf 12 08 25.1 -0.5
HCY Herceg Novi 122.66 317 eP PKPdf 12 08 24.7 -0.9
KHC Kasperske Hory 122.67 326 ePKPDF PKiKP 12 08 25.8 +0.1
KHC ex x 12 08 52.3
KHC AMS AMS 12 56 40.0
comp=Z,400nm,22.2s
KHC Kasperske Hory 122.67 326 ePKiKP PKiKP 12 08 25.8 +0.1
KHC e 12 08 52.3
KHC MLR MLR
comp=Z,400nm,22.2s
GEC2 GERESS Array S 122.74 325 PKPdf 12 08 25.7 0.0
GERES GERESS Array B 122.74 325 PKPdf 12 08 25.9 +0.1
GERES GERESS Array B 122.74 325 PKiKP PKPdf 12 08 25.9 +0.1
GERES GERESS Array B 122.74 325 PKP PKPdf 12 08 25.5 -0.3
comp=Z,11nm,0.7s,baz=54,slow=2.3,SNR=32
O48B Farmland 122.75 46 P PKPdf 12 08 25.0 -0.9
baz=291,SNR=7.2
O48B Farmland 122.75 46 P PKPdf 12 08 25.4 -0.5
baz=291,SNR=7.2
P48A Milroy 122.84 47 P PKPdf 12 08 25.1 -1.0
baz=290,SNR=5.4
P48A P PKPdf 12 08 25.1 -1.0
baz=290,SNR=5.4
V48A Smith Brothers 122.96 52 P PKPdf 12 08 25.2 -1.3
baz=287,SNR=6.1
STON Ston 123.02 317⇓ iP PKPdf 12 08 24.9 -1.4
SOKA Soboth 123.04 322 i PKP PKPdf 12 08 25.8 -0.6
comp=Z,17nm,0.9s,SNR=9.4
A050A Klekovaca 123.11 320⇓ iP PKPdf 12 08 25.7 -0.9
CRES Cresnjev 123.19 321⇓ iP PKPdf 12 08 26.0 -0.6
N49A Columbus Grove 123.20 45 P PKPdf 12 08 25.9 -0.8
baz=292,SNR=11
N49A P PKPdf 12 08 25.9 -0.8
baz=292,SNR=11
P49A Miami Univ. Ec 123.33 47 P PKPdf 12 08 26.3 -0.8
baz=291,SNR=5.4
P49A Miami Univ. Ec 123.33 47 P PKPdf 12 08 27.0 -0.1
baz=291,SNR=5.4
O49A Covington 123.36 46 P PKPdf 12 08 26.4 -0.7
baz=292,SNR=11
O49A P PKPdf 12 08 26.4 -0.7
baz=292,SNR=11
BIOA Bad Ischl, Aus 123.37 324 ePKP PKPdf 12 08 26.2 -0.7
comp=Z,17nm,1.2s
OBKA Obir 123.42 322 ePKP PKPdf 12 08 26.3 -0.8
comp=Z,12nm,1.1s
OBKA Obir 123.42 322 eP PKPdf 12 08 26.4 -0.7
BOJS Bojanci 123.46 321 i PKPdf PKPdf 12 08 27.0 -0.1
BOJS Bojanci 123.46 321⇓ iP PKPdf 12 08 26.8 -0.3
U49A Red Boiling Sp 123.54 50 P PKPdf 12 08 26.8 -0.8
baz=288
LRAL Lakeview Retre 123.56 55 P PKPdf 12 08 26.7 -0.9
baz=285
LRAL Lakeview Retre 123.56 55 P PKPdf 12 08 27.2 -0.5
baz=285
LJU Ljubljana 123.65 322 i PKPdf PKPdf 12 08 27.4 -0.1
GRF Grafenberg Arr 123.66 327 ePKPdf PKPdf 12 08 27.4 0.0
baz=56,slow=1.1
KBA Koelnbreinsper 123.85 324 i PKP PKPdf 12 08 26.8 -1.2
comp=Z,12nm,0.9s,SNR=7.7
CEY Cerknica 123.86 322⇓ iP PKPdf 12 08 27.3 -0.6
MYKA Terra Mystica 123.90 323 ePKP PKPdf 12 08 27.3 -0.7
comp=Z,9.1nm,0.8s
PRED Cave del Predi 124.04 323 PKPdf 12 08 28.1 -0.2
R50A Paris 124.05 48 P PKPdf 12 08 27.8 -0.6
baz=290
R50A P PKPdf 12 08 27.8 -0.6
baz=290
LESA Schwarzleotal 124.07 324 ePKP PKPdf 12 08 27.6 -0.8
comp=Z,16nm,0.7s
T50A Nancy 124.09 50 PKPdf 12 08 28.1 -0.5
T50A Nancy 124.09 50 P PKPdf 12 08 27.8 -0.8
baz=289
T50A P PKPdf 12 08 27.8 -0.8
baz=289
SKDS Skadanscina 124.21 322⇓ iP PKPdf 12 08 27.6 -1.0
W50A Signal Mountai 124.30 52 P PKPdf 12 08 28.2 -0.9
baz=288,SNR=9.8
ACSO Alum Creek Sta 124.31 45 P PKPdf 12 08 28.1 -0.8
baz=293,SNR=8.4
ACSO Alum Creek Sta 124.31 45 P PKPdf 12 08 28.1 -0.8
baz=293,SNR=8.4
N51A Ashland 124.47 44 P PKPdf 12 08 28.6 -0.6
baz=294,SNR=7.7
N51A P PKPdf 12 08 28.6 -0.6
baz=294,SNR=7.7
Q51A Peebles 124.50 47 P PKPdf 12 08 28.6 -0.7
baz=292,SNR=6.8
Q51A P PKPdf 12 08 28.6 -0.7
baz=292,SNR=6.8
ABTA Abfaltersbach 124.51 324 i PKP PKPdf 12 08 28.2 -1.0
comp=Z,29nm,0.9s,SNR=13
P51A Williamsport 124.54 46 P PKPdf 12 08 28.3 -1.0
baz=292,SNR=6.2
P51A P PKPdf 12 08 28.3 -1.0
baz=292,SNR=6.2
WATA Walderalm 124.75 325 i PKP PKPdf 12 08 29.5 -0.2
comp=Z,15nm,0.7s
WTTA Wattenberg 124.75 325 i PKP PKPdf 12 08 29.6 -0.2
comp=Z,46nm,0.9s,SNR=12
S51A Beattyville 124.82 49 P PKPdf 12 08 29.2 -0.8
baz=290
S51A P PKPdf 12 08 29.2 -0.8
baz=290
V51A Loudon 124.86 51 P PKPdf 12 08 29.6 -0.5
baz=289,SNR=5.6
M52A Chesterland 124.91 43 P PKPdf 12 08 29.9 -0.1
baz=295
M52A P PKPdf 12 08 29.9 -0.1
baz=295
SCHQ Schefferville 124.99 23 PKP PKPdf 12 08 29.4 -0.4
comp=Z,9.9nm,0.9s,baz=298,slow=1.5,SNR=7.6
MOTA Moosalm 125.02 325 i PKP PKPdf 12 08 29.7 -0.6
comp=Z,31nm,0.8s,SNR=11
SQTA Sankt Quirin 125.02 325 i PKP PKPdf 12 08 29.9 -0.3
comp=Z,25nm,0.9s,SNR=8.9
TIP Timpagrande 125.13 314⇓ P PKPdf 12 08 30.2 -0.4
RETA Reutte 125.13 325 ePKP PKPdf 12 08 30.2 -0.2
comp=Z,7.9nm,0.9s
P52A Corning 125.14 46 P PKPdf 12 08 29.9 -0.6
baz=293
TZTN Tazewell 125.23 50 P PKPdf 12 08 30.2 -0.6
baz=290
Q52A Bidwell 125.31 47 P PKPdf 12 08 30.1 -0.7
baz=292
Q52A P PKPdf 12 08 30.1 -0.7
baz=292
TKL Tuckaleechee C 125.35 51 P PKPdf 12 08 30.9 -0.2
baz=289
FETA Feichten 125.41 325 i PKP PKPdf 12 08 30.9 -0.1
comp=Z,30nm,0.9s,SNR=15
W52A Murphy 125.41 52 P PKPdf 12 08 31.0 -0.2
baz=288,SNR=5.5
M53A WI Miller and 125.42 43 P PKPdf 12 08 30.1 -0.9
baz=295,SNR=5.7
V52A Sevierville 125.42 51 P PKPdf 12 08 31.2 +0.1
baz=289,SNR=6.7

152A	**Waverly Hall**	**125.51**	**55**	P		**PKPdf**	**12 08 31.0**	**-0.4**
	baz=286							
O53A	**New Philadelph**	**125.55**	**45**	P		**PKPdf**	**12 08 30.4**	**-0.9**
	baz=294,SNR=7.7							
N53A	**Lisbon**	**125.58**	**44**	P		**PKPdf**	**12 08 31.1**	**-0.2**
	baz=295,SNR=9.5							
N53A				P		**PKPdf**	**12 08 31.1**	**-0.2**
	baz=295,SNR=9.5							
ERPA	**Erie**	**125.58**	**42**	P		**PKPdf**	**12 08 30.2**	**-1.0**
	baz=296							
Y52A	**Lilburn**	**125.69**	**53**	P		**PKPdf**	**12 08 31.7**	**0.0**
	baz=288							
Y52A				P		**PKPdf**	**12 08 31.7**	**0.0**
	baz=288							
P53A	**Whipple**	**125.73**	**46**	P		**PKPdf**	**12 08 31.3**	**-0.3**
	baz=294,SNR=8.3							
P53A				P		**PKPdf**	**12 08 31.3**	**-0.3**
	baz=294,SNR=8.3							
BTNL	**Ternell**	**125.74**	**330**	*d*PKPdf		**PKPdf**	**12 08 31.5**	**+0.2**
DAVA	**Damuels**	**125.74**	**325**	*i* PKP		**PKPdf**	**12 08 31.4**	**-0.3**
	comp=Z,36nm,0.8s,SNR=8.1							
MEM	**Membach**	**125.79**	**330**	*d*PKPdf		**PKiKP**	**12 08 31.6**	**-0.2**
PAMR	**Moraine State**	**126.03**	**43**	P		**PKPdf**	**12 08 31.9**	**-0.3**
	baz=296							
PAOC	**Oil Creek Stat**	**126.06**	**43**	P		**PKPdf**	**12 08 31.8**	**-0.4**
	baz=296							
NRCA	**Norcia**	**126.07**	**319**			**PKPdf**	**12 08 32.2**	**-0.1**
V53A	**Saluda**	**126.08**	**51**	P		**PKPdf**	**12 08 32.5**	**0.0**
	baz=290,SNR=6.4							
V53A				P		**PKPdf**	**12 08 32.5**	**0.0**
	baz=290,SNR=6.4							
O54A	**Avella**	**126.16**	**44**	P		**PKPdf**	**12 08 32.4**	**0.0**
	baz=295,SNR=9.7							
O54A				P		**PKPdf**	**12 08 32.4**	**0.0**
	baz=295,SNR=9.7							
CASEE	**Lake Jocassee**	**126.22**	**51**	P		**PKPdf**	**12 08 32.9**	**+0.2**
	baz=289,SNR=5.6							
EKA	**Eskdalemuir Ar**	**126.22**	**339**	PKP		**PKPdf**	**12 08 32.0**	**-0.1**
	comp=Z,14nm,0.8s,baz=37,slow=2.0,SNR=15							
GOGA	**Godfrey**	**126.30**	**53**	P		**PKPdf**	**12 08 32.1**	**-0.8**
	baz=288							
WLF	**Walferdange**	**126.32**	**330**	*d*PKPdf		**PKPdf**	**12 08 32.5**	**0.0**
Q54A	**Coxs Mills**	**126.33**	**46**	P		**PKPdf**	**12 08 32.1**	**-0.7**
	baz=294							
Q54A				P		**PKPdf**	**12 08 32.1**	**-0.7**
	baz=294							
WVNY	**West Valley, N**	**126.37**	**41**	P		**PKPdf**	**12 08 32.2**	**-0.6**
	baz=298,SNR=5.9							
BMRD	**Maredsous**	**126.59**	**331**	*d*PKPdf		**PKiKP**	**12 08 33.3**	**-0.1**
MCWV	**Mont Chateau**	**126.75**	**45**	P		**PKPdf**	**12 08 32.9**	**-0.6**
	baz=295							
TIGA	**Tifton**	**126.77**	**56**	P		**PKPdf**	**12 08 33.1**	**-0.7**
	baz=286							
HODGE	**Hodges**	**126.99**	**52**	P		**PKPdf**	**12 08 34.1**	**0.0**
	baz=289							
R55A	**Marlinton**	**127.12**	**46**	P		**PKPdf**	**12 08 34.3**	**-0.1**
	baz=294							
R55A				P		**PKPdf**	**12 08 34.3**	**-0.1**
	baz=294							
PAULI	**Pauline**	**127.14**	**51**	P		**PKiKP**	**12 08 34.9**	**-0.1**
	baz=290							
WBO	**Williamsburg**	**127.14**	**37**	PKPdf		**PKPdf**	**12 08 33.5**	**-0.6**
L56A	**Greenwood**	**127.18**	**41**	P		**PKPdf**	**12 08 34.0**	**-0.4**
	baz=299,SNR=7.9							
L56A				P		**PKPdf**	**12 08 34.0**	**-0.4**
	baz=299,SNR=7.9							
V55A	**Taylorsville**	**127.24**	**50**	P		**PKiKP**	**12 08 34.9**	**-0.2**
	baz=291							
V55A				P		**PKiKP**	**12 08 34.9**	**-0.2**
	baz=291							
BLA	**Blacksburg**	**127.32**	**48**	PKPdf		**PKPdf**	**12 08 34.7**	**-0.1**
BLA	**Blacksburg**	**127.32**	**48**	P		**PKPdf**	**12 08 33.8**	**-1.0**
	baz=293							
BLA	**Blacksburg**	**127.32**	**48**	P		**PKPdf**	**12 08 34.8**	**-0.1**
	baz=293							
BLA	**Blacksburg**	**127.32**	**48**	PKIKP		**PKPdf**	**12 08 34.7**	**-0.1**
KMSC	**Kings Mountain**	**127.40**	**51**	P		**PKPdf**	**12 08 34.4**	**-0.6**
	baz=291							
KMSC	**Kings Mountain**	**127.40**	**51**	P		**PKiKP**	**12 08 35.3**	**-0.2**
	baz=291,SNR=5.5							
SSPA	**Standing Stone**	**127.66**	**43**	P		**PKPdf**	**12 08 34.8**	**-0.4**
	baz=297							
BMNY	**Brushton-Moira**	**127.69**	**37**	P		**PKPdf**	**12 08 34.7**	**-0.4**
	baz=304							
LONY	**Lake Ozonia**	**127.76**	**37**	P		**PKPdf**	**12 08 34.5**	**-0.8**
	baz=303,SNR=7.0							
M57A	**Sunshine Farm,**	**127.84**	**42**	P		**PKPdf**	**12 08 35.9**	**+0.2**
	baz=299,SNR=6.8							
M57A				P		**PKPdf**	**12 08 35.9**	**+0.2**
	baz=299,SNR=6.8							
J58A	**Remsen**	**128.01**	**39**	P		**PKPdf**	**12 08 35.9**	**0.0**
	baz=302,SNR=6.1							
J58A				P		**PKPdf**	**12 08 35.9**	**0.0**
	baz=302,SNR=6.1							
P57A	**Homestead Farm**	**128.10**	**44**	P		**PKPdf**	**12 08 36.1**	**0.0**
	baz=296							
P57A				P		**PKPdf**	**12 08 36.1**	**0.0**
	baz=296							
BINY	**Binghamton**	**128.16**	**40**	P		**PKPdf**	**12 08 35.8**	**-0.5**
	baz=300							
BINY	**Binghamton**	**128.16**	**40**	P		**PKPdf**	**12 08 36.3**	**+0.1**
	baz=300							
T57A	**Hurt**	**128.26**	**48**	P		**PKPdf**	**12 08 36.5**	**0.0**
	baz=294							
T57A				P		**PKPdf**	**12 08 36.5**	**0.0**
	baz=294							
NCB	**Newcomb**	**128.33**	**38**	P		**PKPdf**	**12 08 36.1**	**-0.4**
	baz=303,SNR=5.4							
N58A	**Sunbury**	**128.35**	**42**	P		**PKPdf**	**12 08 36.7**	**+0.1**
	baz=299							
N58A				P		**PKPdf**	**12 08 36.7**	**+0.1**
	baz=299							
W57A	**Gilead**	**128.42**	**50**	P		**PKiKP**	**12 08 37.2**	**-0.3**
	baz=292							
W57A				P		**PKiKP**	**12 08 37.2**	**-0.3**
	baz=292							
J59A	**Piesco**	**128.44**	**38**	P		**PKPdf**	**12 08 36.7**	**0.0**
	baz=303							
J59A				P		**PKPdf**	**12 08 36.7**	**0.0**
	baz=303							
KSPA	**Keystone Colle**	**128.63**	**41**	P		**PKPdf**	**12 08 37.3**	**+0.2**
	baz=300							
V58A	**Windy Hill, Pi**	**128.84**	**49**	P		**PKPdf**	**12 08 37.9**	**+0.2**
	baz=293							
V58A				P		**PKPdf**	**12 08 37.9**	**+0.2**
	baz=293							
R58B	**Mineral**	**128.86**	**46**	P		**PKPdf**	**12 08 37.6**	**0.0**
	baz=296							
R58B				P		**PKPdf**	**12 08 37.6**	**0.0**
	baz=296							
SDMD	**Soldier's Deli**	**128.94**	**44**	P		**PKPdf**	**12 08 38.0**	**+0.3**
	baz=298							
NHSC	**New Hope**	**129.00**	**53**	P		**PKPdf**	**12 08 37.3**	**-0.7**
	baz=290							
CBN	**Corbin Frederi**	**129.11**	**45**	P		**PKPdf**	**12 08 37.3**	**-0.8**
	baz=296							
TRY	**Troy**	**129.35**	**39**	P		**PKPdf**	**12 08 38.5**	**+0.1**
	baz=303							
DWPF	**Disney Wildern**	**129.47**	**59**	P		**PKPdf**	**12 08 38.9**	**-0.2**
	baz=295							
T59A	**Double "B" Far**	**129.51**	**47**	P		**PKPdf**	**12 08 38.8**	**-0.1**
	baz=295							
T59A				P		**PKPdf**	**12 08 38.8**	**-0.1**
	baz=295							
LBNH	**Lisbon**	**129.54**	**36**	P		**PKPdf**	**12 08 38.7**	**-0.1**
	baz=306							
NPNY	**Mohonk Preserv**	**129.57**	**40**	P		**PKPdf**	**12 08 39.1**	**+0.2**
	baz=302							
ODNJ	**Ogdensburg**	**129.62**	**41**	P		**PKPdf**	**12 08 39.3**	**+0.3**
	baz=301							
PSUB	**Penn St. - Bra**	**129.64**	**43**	P		**PKPdf**	**12 08 38.4**	**-0.6**
	baz=299							
J61A	**Chester**	**129.69**	**37**	P		**PKPdf**	**12 08 39.1**	**0.0**
	baz=304							
J61A				P		**PKPdf**	**12 08 39.1**	**0.0**
	baz=304							
L61B	**Northampton**	**130.11**	**38**	P		**PKPdf**	**12 08 39.3**	**-0.6**
	baz=304							
PAL	**Palisades**	**130.11**	**41**	P		**PKPdf**	**12 08 39.5**	**-0.5**
	baz=302							
VSL	**Villasalto**	**130.15**	**317**	PKPdf		**PKiKP**	**12 08 40.6**	**-0.3**
PKME	**Peaks-Kenny Pk**	**130.41**	**33**	P		**PKPdf**	**12 08 40.3**	**-0.1**
	baz=309							
HRV	**Adam Dziewonsk**	**130.76**	**38**	P		**PKPdf**	**12 08 40.7**	**-0.4**
	baz=305							
MCRA	**Macar, Loja**	**131.64**	**102**	PKPdf		**PKPdf**	**12 08 43.0**	**-0.7**
KEST	**Kesra**	**131.92**	**313**	PKP		**PKPdf**	**12 08 43.8**	**+0.2**
	comp=Z,13nm,0.8s,baz=267,slow=4.9,SNR=13							

OTAV	**Otavalo**	**134.01**	**96**	PKPdf		**PKPdf**	**12 08 48.9**	**+0.2**
OTAV	**Otavalo**	**134.01**	**96**	PKIKP		**PKPdf**	**12 08 48.9**	**+0.2**
PB11	**IPOC Station P**	**135.10**	**127**	PKPdf		**PKPdf**	**12 08 50.0**	**-0.1**
CZSB	**Cruzeiro do Su**	**137.65**	**109**	PKPdf		**PKPdf**	**12 08 54.9**	**+0.1**
LPAZ	**La Paz**	**138.14**	**124**	PKPdf		**PKPdf**	**12 08 51.5**	**-4.9**
LPAZ	**La Paz**	**138.14**	**124**	PKIKP		**PKPdf**	**12 08 51.5**	**-4.9**
PBRG	**Braganca**	**138.24**	**330**	*e*PKPdf		**PKPdf**	**12 08 55.2**	**0.0**
ESDC	**Sonseca Array**	**138.33**	**326**	PKhKP	PKPpre		12 08 46.5	
	comp=Z,1.3nm,0.9s,baz=34,slow=3.3,SNR=6.4							
ESDC				PKP		**PKPdf**	**12 08 55.8**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=20,slow=2.9,SNR=5.1							
ROSC	**El Rosal**	**138.67**	**91**	PKhKP	PKPpre		12 08 50.9	
	comp=Z,6.9nm,0.4s,baz=281,slow=8.6,SNR=3.8							
ROSC				PKP		**PKPdf**	**12 08 57.8**	**+0.6**
	comp=Z,38nm,0.8s,baz=158,slow=3.7,SNR=12							
MVO	**Moncorvo**	**138.87**	**330**	*e*PKPdf		**PKiKP**	**12 08 58.2**	**-0.4**
POLO	**Lamas de Olo**	**139.08**	**331**	*e*PKPdf		**PKPdf**	**12 08 57.7**	**+0.9**
CPUP	**Villa Florida**	**139.30**	**145**	PKPdf		**PKPdf**	**12 08 58.6**	**+1.0**
CPUP	**Villa Florida**	**139.30**	**145**	PKhKP	PKPpre		12 08 50.4	
	comp=Z,1.9nm,0.9s,baz=340,slow=3.4,SNR=3.1							
CPUP				PKP		**PKPdf**	**12 08 58.3**	**+0.7**
	comp=Z,13nm,1.1s,baz=255,slow=1.8,SNR=9.1							
CPUP				SKPbc		**SKPbc**	**12 12 26.5**	**+1.3**
	comp=Z,14nm,1.1s,baz=258,slow=2.7,SNR=7.4							
PVIS	**Viseu**	**139.63**	**330**	*e*PKPdf		**PKPdf**	**12 08 56.7**	**-1.1**
PCBR	**Castelo Branco**	**140.09**	**329**	*e*PKPdf		**PKPdf**	**12 08 59.0**	**+0.4**
PMRV	**Marv??o**	**140.35**	**329**	*e*PKPdf		**PKPdf**	**12 08 59.7**	**+0.6**
PBAR	**Barrancos**	**141.08**	**327**	*e*PKPdf		**PKPdf**	**12 08 54.9**	**-5.5**
EVO	**Evora**	**141.34**	**328**	*e*PKPdf		**PKPdf**	**12 08 55.1**	**-5.8**
PBEJ	**Beja**	**141.64**	**328**	*e*PKPdf		**PKPdf**	**12 08 59.5**	**-1.9**
MESJ	**Messejana**	**141.96**	**328**	*e*PKPdf		**PKPdf**	**12 08 58.0**	**-4.0**
PCVE	**Castro Verde**	**142.02**	**327**	*e*PKPdf		**PKPdf**	**12 08 56.4**	**-5.7**
MLPR	**Magueyes Islan**	**144.88**	**69**			**PKPab**	**12 09 04.9**	**-2.0**
BAUV	**El Baul**	**145.06**	**84**			**PKPbc**	**12 09 07.1**	**-0.5**
CELP	**Cerrillos**	**145.28**	**68**			**PKPbc**	**12 09 07.5**	**-0.7**
TOA0	**Torodi Ar. Sit**	**145.48**	**283**	PKPdf		**PKPdf**	**12 09 08.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**145.48**	**283**			**PKPdf**	**12 09 08.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**145.48**	**283**	PKPbc		**PKPdf**	**12 09 08.1**	**-0.7**
	comp=Z,83nm,1.1s,baz=48,slow=1.9,SNR=152							
GCPR	**Guaynabo City**	**145.68**	**68**	PKPdf		**PKPdf**	**12 09 08.3**	**-0.7**
IGPR	**InterUniversit**	**145.75**	**68**			**PKPdf**	**12 09 08.5**	**-0.6**
SAML	**Samuel**	**145.89**	**117**			**PKPbc**	**12 09 10.0**	**-0.2**
SAML	**Samuel**	**145.89**	**117**	PKP2		**PKPbc**	**12 09 10.0**	**-0.2**
ROSA	**Rosais**	**148.05**	**353**			**PKiKP**	**12 09 16.8**	**-0.6**
PMAR	**Madeira**	**150.35**	**332**	*e*PKPbc		**PKiKP**	**12 09 23.1**	**+0.5**
PMOZ	**Porto Moniz, M**	**150.40**	**333**	*e*PKPbc		**PKiKP**	**12 09 23.4**	**+0.8**
KIC	**Kosan Boka**	**152.11**	**271**	*e*PKIKP		**PKiKP**	**12 09 26.6**	**+0.1**
	comp=Z,101nm,0.8s							
DBIC	**Dimbokro**	**152.24**	**271**			**PKiKP**	**12 09 27.3**	**+0.6**
DBIC	**Dimbokro**	**152.24**	**271**	PKP		**PKPdf**	**12 09 19.2**	**-0.5**
	comp=Z,11nm,1.1s,baz=231,slow=3.9,SNR=4.8							
DBIC				PKPbc		**PKiKP**	**12 09 27.0**	**+0.2**
	comp=Z,30nm,0.8s,baz=66,slow=2.1,SNR=22							
LIC	**Lamto**	**152.39**	**270**	*e*PKIKP		**PKiKP**	**12 09 27.0**	**-0.1**
	comp=Z,134nm,0.9s							
TIC	**Toumodi**	**152.40**	**271**	*e*PKIKP		**PKiKP**	**12 09 27.1**	**0.0**
	comp=Z,74nm,1.0s							
BDFB	**Brasilia**	**153.02**	**146**			**PKiKP**	**12 09 28.6**	**+0.1**
BDFB	**Brasilia**	**153.02**	**146**	PKP		**PKPdf**	**12 09 21.7**	**+0.8**
	comp=Z,16nm,1.1s,baz=320,slow=1.9,SNR=7.7							
BDFB				PKPbc		**PKPbc**	**12 09 28.2**	**-0.1**
	comp=Z,34nm,0.8s,baz=197,slow=2.1,SNR=22							

AFAD 31 12:04:27.3±0.0, 34°.94N×28°.12E, h21km±3km, MW3.6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZZE	**Mula-Seydike**	**1.74**	**31**	P	Pb	12 04 59.2	+0.6
AKAS	**Kas**	**1.77**	**43**	P	Pb	12 05 00.0	+1.0
AKAS				S	Sb	12 05 23.2	+2.5
AKUM	**Antalya-Kumluc**	**2.27**	**52**	P	Pb	12 05 05.8	-1.8
AKUM				S	Sb	12 05 36.7	+1.5
DNZT	**Denizli-Tavas-**	**2.44**	**17**	P	Pb	12 05 08.7	-1.8
DNZT				S	Sb	12 05 39.8	-0.4
GOLH	**Golhisar**	**2.57**	**27**	P	Pb	12 05 11.6	-1.1
GOLH				S	Sb	12 05 45.5	+1.7
TAVA	**DENIZLI_Tavas**	**2.60**	**14**	P	Pn	12 05 10.4	+2.2
KEPZ	**Antalya-Kepez**	**3.44**	**54**	P	Pn	12 05 23.1	+3.5
KEPZ				S	Sn	12 06 03.7	+4.0
GAZI	**Gazipasa**	**3.65**	**68**	P	Pn	12 05 24.5	+1.9
GAZI				S	Sn	12 06 05.5	+0.4
SEDI	**Konya, Seydise**	**3.86**	**49**	P	Pn	12 05 29.4	+3.9
SEDI				S	Sb	12 06 17.0	-4.1
KKBE	**Karaman, Kazim**	**4.51**	**58**	P	Pn	12 05 38.9	+4.3
KKBE				S	Sn	12 06 30.7	+4.2
KDHN	**Kadinhani**	**4.80**	**41**	P	Pn	12 05 41.7	+3.2
KDHN				S	Sn	12 06 38.1	+4.6
KERG	**Konya-Eregli**	**5.45**	**61**	P	Pn	12 05 50.6	+3.2
KERG				S	Sn	12 06 50.5	+1.0

ROM 31 12:05:32.9±0.1, 42°.414N±0°.006×13°.297E±0°.007, h9km, ML0.9/4, 1C, Error ellipse: s-maj=0.8km s-min=0.5km az=43.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.03**	**2**	P	Pg	12 05 34.8	+0.1
T1247				S	Sg	12 05 36.3	+0.2
T1247				AML	AML		
	comp=E,89μm,0.1s						
T1247				AML	AML		
	comp=N,91μm,0.1s						
RM33	**Pellescritta (**	**0.11**	**327**	P	Pg	12 05 36.1	+0.4
RM33				S	Sg	12 05 38.3	+0.6
RM33				AML	AML		
	comp=E,53μm,0.8s						
RM33				AML	AML		
	comp=N,62μm,0.8s						
RM33				AML	AML		
	comp=E,53μm,1.2s						
GIGS	**Gran Sasso**	**0.20**	**80**	P	Pg	12 05 37.8	+0.6
SMA1	**SAN MARTINO**	**0.22**	**7**	P	Pg	12 05 38.2	+0.7
SMA1				S	Sg	12 05 42.0	+1.5
SMA1				AML	AML		
	comp=E,79μm,0.5s						
SMA1				AML	AML		
	comp=N,53μm,0.5s						
FAGN	**Fagnano**	**0.26**	**125**	P	Pb	12 05 39.4	-0.4
LNSS	**Leonessa**	**0.27**	**315**	P	Pg	12 05 39.1	+0.7
TERO	**Teramo**	**0.31**	**47**	⇑P	Pg	12 05 39.6	+0.5

*NEIC **31** 12:24:34.7±1.0, 14°.77S±0°.06×167°.5E±0°.2, h113km±12km, mb4.0/10, Error ellipse: s-maj=24.6km s-min=4.7km az=108.0*
*IDC **31** 12:24:35.2±5.9, 14°.87S×167°.43E, h123km±44km, mb3.7/7, mbtmp4.1/8, Error ellipse: s-maj=43.6km s-min=24.7km az=37.0*
*NOU **31** 12:24:35.3, 14°.84S×167°.47E, h108km, MLv4.9/12, Vanuatu Islands*

ISC 31 12:24:36.1±1.4, 14°.9S±0°.1×167°.4E±0°.1, h129km, n32, σ0°.59/32, mb3.9/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.36**	**207**	Pn	**Pn**	**12 26 07.2**	**-0.2**
KOUNC	**Koumac, New Ca**	**6.36**	**207**	P	**Pn**	**12 26 07.3**	**-0.2**
YATNC	**Mamie plateau,**	**7.14**	**184**	P	**Pn**	**12 26 16.8**	**-1.2**
DZM	**Mont Dzumac**	**7.19**	**187**		**Pn**	**12 26 18.9**	**0.0**
DZM	**Mont Dzumac**	**7.19**	**187**	P	**Pn**	**12 26 18.8**	**0.0**
DZM	**Mont Dzumac**	**7.19**	**187**	P	**Pn**	**12 26 18.7**	**-0.1**
	13nm,0.3s,baz=353,slow=3.8,SNR=76						
DZM				S	**Sn**	**12 27 38.6**	**-0.5**
	33nm,0.5s,baz=329,slow=22,SNR=10						
NOUC	**Port Laguerre**	**7.24**	**188**	P	**Pn**	**12 26 20.0**	**+0.7**
ONTNC	**Ouen Toro**	**7.42**	**187**	Pn	**Pn**	**12 26 21.6**	**-0.2**
ONTNC	**Ouen Toro**	**7.42**	**187**	P	**Pn**	**12 26 22.5**	**+0.7**
OUENC	**Ouen Island, N**	**7.50**	**184**	Pn	**Pn**	**12 26 23.1**	**+0.3**
OUENC	**Ouen Island, N**	**7.50**	**184**	P	**Pn**	**12 26 23.1**	**+0.3**
PINNC	**Pines Island,**	**7.67**	**180**	Pn	**Pn**	**12 26 25.1**	**0.0**
PINNC	**Pines Island,**	**7.67**	**180**	P	**Pn**	**12 26 25.4**	**+0.2**
EIDS	**Eidsvold**	**18.52**	**233**	P	**P**	**12 28 43.1**	**+0.5**
EIDS				IAmb	IAmb	12 28 45.4	
	comp=Z,3.4nm,0.7s						
CTA	**Charters Tower**	**20.82**	**253**	P	**P**	**12 29 07.9**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=90,slow=12,SNR=2.3						
	comp=Z,2.7nm,0.9s						
CTAO	**Charters Tower**	**20.82**	**253**	P	**P**	**12 29 07.6**	**0.0**
ARMA	**Armidale**	**21.19**	**221**	P	**P**	**12 29 11.1**	**-0.5**
ARMA				IAmb	IAmb	12 29 29.0	
	comp=Z,5.4nm,1.1s						
TOZ	**Tahuroa Road**	**23.85**	**164**	P	**P**	**12 29 38.2**	**+0.7**
TOZ				IAmb	IAmb	12 29 54.7	
	comp=Z,12nm,1.2s						
LTZ	**Lake Taylor**	**28.10**	**172**	P	**P**	**12 30 15.4**	**-0.3**
STKA	**Stephens Creek**	**28.99**	**230**	P	**P**	**12 30 24.9**	**+1.1**
STKA	**Stephens Creek**	**28.99**	**230**	P	**P**	**12 30 24.7**	**+0.9**
	comp=Z,3.7nm,0.4s,baz=44,slow=8.6,SNR=12						
	comp=Z,3.7nm,0.4s						
WRA	**Warramunga Arr**	**31.92**	**256**	P	**P**	**12 30 48.6**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=85,slow=8.3,SNR=5.4						
	comp=Z,0.5nm,0.5s						
AS31	**Alice Springs**	**32.74**	**249**	P	**P**	**12 30 56.3**	**-0.6**
AS31				IAmb	IAmb	12 30 57.3	
	comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	**32.74**	**249**	P	**P**	**12 30 56.3**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=77,slow=9.5,SNR=42						
	comp=Z,2.0nm,0.6s						
BBOO	**Buckleboo**	**33.59**	**232**	P	**P**	**12 31 04.9**	**+0.8**
BBOO				IAmb	IAmb	12 31 28.2	
	comp=Z,10nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.12**	**260**	P	**P**	**12 31 59.3**	**-0.3**
FITZ				IAmb	IAmb	12 32 01.2	
	comp=Z,2.1nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.78**	**239**	P	**P**	**12 33 09.1**	**+0.9**
VNDA	**Vanda**	**62.70**	**181**	P	**P**	**12 34 46.8**	**+0.1**
VNDA	**Vanda**	**62.70**	**181**	P	**P**	**12 34 46.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=2.2,slow=6.8,SNR=7.9						
	comp=Z,0.7nm,0.5s						
QSPA	**South Pole Qui**	**75.13**	**180**	P	**P**	**12 36 03.7**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=39,slow=1.4,SNR=4.8						
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**97.42**	**316**	P	Pdif	12 37 55.0	-0.2
	comp=Z,0.2nm,0.7s,baz=92,slow=7.2,SNR=2.5						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**120.45**	**345**	PKP	**PKPdf**	**12 43 11.1**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=64,slow=2.1,SNR=5.8						

*ISK **31** 12:26:34.7, 34°.51N×27°.97E, h9km, ML2.9/14*
*AFAD **31** 12:26:42.0±0.0, 35°.13N×27°.97E, h20km±5km, MW3.8*

ISC 31 12:26:34.5±3.3, 34°.4N±0°.2×27°.87E±0°.09, h10km, n27, σ1°.29/32, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.25**	**333**	Pn	**Pn**	**12 26 58.8**	**+0.6**
KARP				Sn	**Sb**	**12 27 16.1**	**+1.5**
ARG	**Arkhangelos**	**1.79**	**7**	Pn	**Pn**	**12 27 05.4**	**-0.1**
ARG				Sn	**Sn**	**12 27 28.0**	**-0.3**
YAZI	**Mula-Dat§a-**	**2.27**	**352**	P	**Pn**	**12 27 11.2**	**-0.9**
IZZE	**Mula-Seydike**	**2.29**	**29**	P	**Pn**	**12 27 12.6**	**+0.2**
AKAS	**Kas**	**2.29**	**38**	P	**Pn**	**12 27 14.1**	**+1.6**
DAT	**Datca**	**2.30**	**354**	Pn	**Pn**	**12 27 12.9**	**+0.2**
DAT	**Datca**	**2.30**	**354**	P	**Pn**	**12 27 13.5**	**+0.8**
TURN	**Turunc**	**2.36**	**7**	Pn	**Pn**	**12 27 13.4**	**+0.1**
TURN	**Turunc**	**2.36**	**7**	P	**Pn**	**12 27 11.9**	**-1.4**
DALY	**Dalyan (Mula)**	**2.46**	**15**	Pn	**Pn**	**12 27 15.2**	**+0.5**
RFTAA	**Mazikoy-Bodrum**	**2.56**	**358**	Pn	**Pn**	**12 27 15.2**	**-0.9**
BDRM	**Kayabasi**	**2.65**	**353**	P	**Pn**	**12 27 15.2**	**-2.1**
BODT	**Bodrum**	**2.66**	**350**	Pn	**Pn**	**12 27 18.2**	**+0.7**
YER	**Yerkesik**	**2.72**	**7**	Pn	**Pn**	**12 27 18.9**	**+0.6**
CAME	**Cameli-Denizli**	**2.76**	**25**	Pn	**Pn**	**12 27 18.9**	**-0.1**
DNZT	**Denizli-Tavas-**	**2.99**	**18**	P	**Pn**	**12 27 21.7**	**-0.4**
GOLH	**Golhisar**	**3.12**	**26**	P	**Pn**	**12 27 24.9**	**+1.0**
TAVA	**DENIZLI_Tavas**	**3.14**	**15**	P	**Pn**	**12 27 23.6**	**-0.6**
APMY	**Acipayam-Deniz**	**3.25**	**21**	Pn	**Pn**	**12 27 25.8**	**+0.2**
KORT	**Korkueli**	**3.26**	**38**	Pn	**Pn**	**12 27 25.9**	**0.0**
KEPZ	**Antalya-Kepez**	**3.91**	**50**	P	**Pn**	**12 27 36.7**	**+1.

JTSN				S		Sn	12 46 45.0	+0.3
JIU3	**Izumi3**	**2.08**	**333**	P		**Pn**	**12 46 32.7**	**+0.7**
JSJ	**Shimokoshiki**	**2.14**	**297**	P		**Pn**	**12 46 32.8**	**-0.1**
JSJ				*e*S		**Sn**	**12 46 59.2**	**+0.6**
JTO	**Tosashimizu**	**2.27**	**19**	P		**Pn**	**12 46 32.5**	**-2.1**
JTO				S		**Sn**	**12 46 57.7**	**-4.0**
UWA2	**Uwa jima 2**	**2.57**	**13**	P		**Pn**	**12 46 37.4**	**-1.3**
UWA2				S		**Sn**	**12 47 05.7**	**-3.4**
JNU	**Nakatsue**	**2.57**	**340**			**Pn**	**12 46 39.2**	**+0.3**
JNU	**Nakatsue**	**2.57**	**340**	Pn		**Pn**	**12 46 39.6**	**+0.8**
	7.0nm,0.3s,baz=194,slow=11,SNR=137							
JNU				Sn		**Sn**	**12 47 10.7**	**+1.4**
	5.3nm,0.3s,baz=198,slow=6.6,SNR=10							
	26nm,0.4s							
JMN	**Monobe**	**3.43**	**28**	Pn		**Pn**	**12 46 50.0**	**-0.6**
JTU	**Tsushima**	**4.37**	**331**	Pn		**Pn**	**12 47 01.2**	**-2.2**
JOW	**Kunigami**	**5.03**	**221**	Pn		**Pn**	**12 47 13.1**	**+0.6**
JOW	**Kunigami**	**5.03**	**221**	Pn		**Pn**	**12 47 12.0**	**-0.5**
	5.2nm,0.3s,baz=109,slow=21,SNR=18							
JOW				Sn		**Sn**	**12 48 07.9**	**-1.9**
	2.3nm,0.3s,baz=177,slow=25,SNR=2.2							
	10nm,0.3s							
JHJ	**Hachijo jima 2**	**7.08**	**68**	LR		LR	12 49 45.0	
	comp=Z,133nm,21.1s,baz=120,slow=32							
JHJ2	**Mitsune**	**7.11**	**68**	Pn		**Pn**	**12 47 44.9**	**+3.8**
KSRS	**Korea Array**	**7.51**	**335**	Pn		**Pn**	**12 47 47.7**	**+1.1**
	0.1nm,0.3s,baz=150,slow=40,SNR=4.6							
	1.4nm,0.8s							
KSAR	**Wonju Array Be**	**7.52**	**334**	Pn		**Pn**	**12 47 45.4**	**-1.2**
MAJO	**Matsushiro**	**7.82**	**40**	Pn		**Pn**	**12 47 51.6**	**+0.7**
MJAR	**Matsushiro Arr**	**7.82**	**40**	Pn		**Pn**	**12 47 51.6**	**+0.7**
	0.1nm,0.3s,baz=201,slow=6.5,SNR=6.6							
	0.9nm,0.3s							
MJB9	**Matsu-Tunnel**	**7.82**	**40**	Pn		**Pn**	**12 47 52.5**	**+1.7**
JSD	**Sado**	**8.98**	**34**	Pn		**Pn**	**12 48 07.9**	**+1.2**
JCJ	**Chichijima**	**9.67**	**109**	Pn		**Pn**	**12 48 19.4**	**+3.2**
YHNB	**Yeheng**	**11.13**	**240**	Pn		**Pn**	**12 48 35.5**	**-0.8**
USRK	**Ussuriysk Ar.**	**13.47**	**0**	LR		LR	12 54 46.2	
	comp=Z,78nm,18.6s,baz=179,slow=39							
KLR	**Kul'dur**	**18.50**	**360**	P		**Pn**	**12 50 13.9**	**+0.8**
	0.1nm,0.3s,baz=173,slow=9.4,SNR=15							
KLR				LR		LR	12 57 14.0	
	comp=Z,103nm,20.6s,baz=206,slow=37							
	5.4nm,1.0s							
DAV	**Davao City (W)**	**24.26**	**196**	LR		LR	13 00 26.0	
	comp=Z,36nm,21.6s,baz=355,slow=36							
ULN	**Ulaanbaatar**	**25.61**	**319**	P		**P**	**12 51 25.0**	**-1.1**
ULN				IAmb		IAmb	12 51 26.7	
	comp=Z,6.6nm,1.1s							
SONM	**Songino Array**	**25.97**	**318**	P		**P**	**12 51 28.9**	**-0.4**
SONM	**Songino Array**	**25.97**	**318**	P		**P**	**12 51 28.5**	**-0.9**
	comp=Z,2.9nm,1.2s,baz=134,slow=9.6,SNR=6.2							
	comp=Z,2.9nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**33.33**	**101**	T		T	13 27 43.5	
	baz=292,slow=74							
H11N1	**WAKE ISLAND Hy**	**33.33**	**101**	T		T	13 27 40.0	
	baz=292							
H11N3	**WAKE ISLAND Hy**	**33.34**	**101**	T		T	13 27 43.2	
	baz=292,slow=74							
SOEI	**Soe**	**40.90**	**192**	P		**P**	**12 53 38.6**	**-0.4**
TIXI	**Tiksi**	**41.03**	**359**	P		**P**	**12 53 39.0**	**-0.4**
TIXI	**Tiksi**	**41.03**	**359**	LR		LR	13 11 23.3	
	comp=Z,111nm,21.6s,baz=180,slow=37							
MK31	**Makanchi Array**	**41.21**	**307**	P		**P**	**12 53 40.2**	**-1.1**
MKAR	**Makanchi Array**	**41.21**	**307**	P		**P**	**12 53 39.0**	**-2.3**
MKAR	**Makanchi Array**	**41.21**	**307**	P		**P**	**12 53 40.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=99,slow=8.7,SNR=8.1							
MKAR				PcP		**PcP**	**12 55 40.6**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=78,slow=3.0,SNR=4.6							
	comp=Z,0.8nm,0.8s							
MAKZ	**Makanchi**	**41.43**	**307**	P		**P**	**12 53 42.4**	**-0.6**
BILL	**Bilibino**	**42.41**	**18**	P		**P**	**12 53 50.8**	**+0.1**
BILL				IAmb		IAmb	12 54 01.3	
	comp=Z,2.8nm,1.1s							
KURK	**Kurchatov**	**44.01**	**313**	P		**P**	**12 54 02.9**	**-1.0**
KURK				IAmb		IAmb	12 54 04.3	
	comp=Z,4.2nm,0.8s							
KURBB	**Kurchatov Arra**	**44.05**	**313**	P		**P**	**12 54 03.4**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=97,slow=8.9,SNR=16							
	comp=Z,1.8nm,0.7s							
NRIK	**Noril'sk**	**46.10**	**340**	LR		LR	13 15 46.0	
	comp=Z,96nm,18.2s,baz=190,slow=39							
NIL	**Nilore**	**49.19**	**290**	P		**P**	**12 54 43.5**	**-1.4**
NIL				IAmb		IAmb	12 55 06.6	
	comp=Z,4.2nm,1.0s							
BVAR	**Borovoye Array**	**49.25**	**315**	P		**P**	**12 54 44.9**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=99,slow=9.2,SNR=5.5							
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**49.32**	**316**	P		**P**	**12 54 44.9**	**-0.5**
BRVK				IAmb		IAmb	12 54 46.4	
	comp=Z,5.1nm,1.1s							
KK31	**Karatay Array**	**49.64**	**302**	P		**P**	**12 54 46.1**	**-2.0**
KK31				IAmb		IAmb	12 54 47.3	
	comp=Z,1.2nm,1.1s							
KKAR	**Karatay Array**	**49.64**	**302**	P		**P**	**12 54 46.3**	**-1.8**
WB0	**Warramunga Arr**	**50.24**	**177**	P		**P**	**12 54 52.2**	**-0.6**
WB0				IAmb		IAmb	12 54 56.8	
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**50.41**	**177**	P		**P**	**12 54 54.5**	**+0.4**
WRA	**Warramunga Arr**	**50.41**	**177**	P		**P**	**12 54 53.1**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=350,slow=8.2,SNR=5.3							
	comp=Z,1.1nm,0.8s							
WR0	**Warramunga Arr**	**50.44**	**177**	P		**P**	**12 54 54.5**	**+0.3**
WR0				IAmb		IAmb	12 54 54.7	
	comp=Z,6.2nm,1.1s							
C16K	**Lisburne Hills**	**51.79**	**25**	P		**P**	**12 55 04.9**	**+1.1**
C16K				IAmb		IAmb	12 55 06.6	
	comp=Z,6.6nm,1.1s							
F17K	**Baldwin Pennin**	**53.02**	**28**	P		**P**	**12 55 14.9**	**+1.9**
F17K				IAmb		IAmb	12 55 15.6	
	comp=Z,2.3nm,0.8s							
C18K	**Utukok River**	**53.36**	**25**	P		**P**	**12 55 15.7**	**+0.1**
C18K				IAmb		IAmb	12 55 18.0	
	comp=Z,3.8nm,0.9s							
E18K	**Tukpahlearik C**	**53.40**	**26**	IAmb		IAmb	12 55 18.4	
	comp=Z,3.6nm,0.9s							
ASAR	**Alice Springs**	**54.09**	**178**	P		**P**	**12 55 21.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=358,slow=12,SNR=4.3							
	comp=Z,0.6nm,0.8s							
D19K	**Kuna River**	**54.46**	**25**	P		**P**	**12 55 24.9**	**+1.3**
D22K	**Ayikyak River**	**56.47**	**25**	P		**P**	**12 55 39.8**	**+1.8**
D22K				IAmb		IAmb	12 55 40.9	
	comp=Z,3.8nm,0.9s							
AKTO	**Aktyubinsk**	**57.11**	**313**	LR		LR	13 20 43.7	
	comp=Z,41nm,20.8s,baz=268,slow=37							
MDM	**Murphy Dome**	**58.36**	**29**	P		**P**	**12 55 52.6**	**+1.2**
ILAR	**Eielson Array**	**58.95**	**30**	P		**P**	**12 55 55.5**	**0.0**
	comp=Z,0.5nm,0.8s,baz=272,slow=5.5,SNR=7.6							
	comp=Z,0.5nm,0.8s							
G30M	**tAoh Zraii Nji**	**62.85**	**26**	P		**P**	**12 56 23.4**	**+1.4**
BELG	**Belogornoye**	**63.02**	**317**	LR		LR	13 23 39.2	
	comp=Z,66nm,18.9s,baz=333,slow=36							
FINES	**FINESS Array B**	**70.58**	**331**	P		**P**	**12 57 10.9**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=82,slow=5.5,SNR=8.9							
	comp=Z,3.4nm,0.8s							
YKA	**Yellowknife Ar**	**73.09**	**26**	P		**P**	**12 57 26.9**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=305,slow=5.2,SNR=14							
	comp=Z,0.8nm,0.9s							
AKASG	**Malin Array Be**	**74.25**	**320**	P		**P**	**12 57 33.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=58,slow=5.0,SNR=4.3							
	comp=Z,0.9nm,0.6s							
CLL	**Collm**	**82.31**	**326**	*i* P		**P**	**12 58 18.8**	**+0.9**
	comp=Z,8.0nm,0.8s							
NVAR	**Mina Array Bea**	**85.07**	**48**	P		**P**	**12 58 33.0**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=256,slow=4.4,SNR=6.9							
	comp=Z,1.1nm,0.9s							
IDI	**Anoyia**	**85.09**	**308**	LR		LR	13 41 02.2	
	comp=Z,35nm,20.2s,baz=282,slow=39							
PDAR	**Pinedale Array**	**87.64**	**40**	P		**P**	**12 58 45.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=292,slow=2.4,SNR=2.7							
	comp=Z,0.3nm,0.6s							

CNRM ***31*** *13:02:32.5, 36°.53N×9°.70W, h83km, ML2.9*
IGIL ***31*** *13:02:34.8, 36°.61N×9°.81W, h10km, ML1.9*
SFS ***31*** *13:02:34.6, 36°.62N×9°.84W, h18km, ML2.7/15, ML3.2/13, MLv2.5/15*
MDD ***31*** *13:02:34.3±0.9, 36°.60N×9°.81W, h17km±6km, mb_Lg2.7/9, Error ellipse: s-maj=9.0km s-min=6.7km az=34.0*
INMG ***31*** *13:02:35.1±0.9, 36°.60N×9°.80W, h15km±3km, ML2.1, Error ellipse: s-maj=3.9km s-min=3.0km az=45.0*
ISC 31 13:02:29.9±1.6, 36°.51N±0°.04×9°.91W±0°.07, h10km, n59, σ1s79/99, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PFVI	**Vila Bisbo**	**1.06**	**54**	*i*P		**Pb**	**13 02 52.0**	**+1.6**
PFVI				*e*S		**Sg**	**13 03 04.9**	**+0.7**
PFVI				A		A	13 03 06.0	
	48nm,0.6s							
PFVI	**Vila Bisbo**	**1.06**	**54**	Pg		**Pb**	**13 02 52.0**	**+1.6**
PFVI				Sg		**Sg**	**13 03 04.8**	**+0.6**
PFVI	**Vila Bisbo**	**1.06**	**54**	P		**Pb**	**13 02 52.1**	**+1.6**
MORF	**Marmelete**	**1.28**	**51**	*e*P		**Pn**	**13 02 55.1**	**+1.2**
MORF				*e*S		**Sb**	**13 03 10.3**	**-0.3**
MORF				A		A	13 03 11.3	
	32nm,0.1s							
MORF	**Marmelete**	**1.28**	**51**	*e*P		**Pn**	**13 02 55.1**	**+1.2**
MORF				*e*S		**Sb**	**13 03 09.9**	**-0.7**
MORF				IAML			13 03 11.3	
	comp=N,37nm,0.1s							
PTEO	**Sao Teotonio**	**1.40**	**42**	*e*P		**Pn**	**13 02 56.7**	**+1.2**
PTEO				*e*S		**Sn**	**13 03 13.3**	**-0.7**
PTEO				A		A	13 03 13.8	
	comp=N,13nm,0.2s							
PBDV	**Barranco-do-Ve**	**1.74**	**65**	*e*P		**Pn**	**13 03 01.7**	**+1.4**
PBDV				*e*S		**Sn**	**13 03 22.1**	**-0.5**
PBDV				A		A	13 03 26.0	
	comp=N,11nm,0.6s							
PBDV	**Barranco-do-Ve**	**1.74**	**65**	Pn		**Pn**	**13 03 01.7**	**+1.4**
PBDV				Sn		**Sn**	**13 03 21.5**	**-1.0**
PCVE	**Castro Verde**	**1.86**	**53**	*e*P		**Pn**	**13 03 03.5**	**+1.6**
PCVE				*e*S		**Sn**	**13 03 24.6**	**-1.0**
PCVE				A		A	13 03 26.2	
	comp=N,11nm,0.3s							
PCVE	**Castro Verde**	**1.86**	**53**	Pn		**Pn**	**13 03 03.4**	**+1.6**
PCVE				Sn		**Sn**	**13 03 24.5**	**-1.0**
MESJ	**Messejana**	**1.89**	**45**	*e*P		**Pn**	**13 03 03.5**	**+1.2**
MESJ				*e*S		**Sn**	**13 03 24.8**	**-1.3**
MESJ				A		A	13 03 27.9	
	comp=N,8.8nm,0.2s							
MESJ	**Messejana**	**1.89**	**45**	*e*P		**Pn**	**13 03 03.5**	**+1.2**
MESJ				*e*S		**Sn**	**13 03 24.8**	**-1.3**
MESJ				IAML			13 03 26.6	
	comp=N,6.4nm,0.1s							
PNCL	**Nicolau / Gran**	**1.94**	**34**	*e*P		**Pn**	**13 03 04.1**	**+1.2**
PNCL				*e*S		**Sn**	**13 03 26.1**	**-1.2**
PNCL				A		A	13 03 29.6	
	comp=N,4.9nm,0.1s							
PNCL	**Nicolau / Gran**	**1.94**	**34**	Pn		**Pn**	**13 03 04.1**	**+1.2**
PNCL				Sn		**Sn**	**13 03 25.7**	**-1.6**
PVAQ	**Vaqueiros**	**1.97**	**62**	*e*P		**Pn**	**13 03 04.7**	**+1.4**
PVAQ				*e*S		**Sn**	**13 03 26.8**	**-1.2**
PVAQ	**Vaqueiros**	**1.97**	**62**	Sn		**Sn**	**13 03 26.5**	**-1.5**
EGRO	**El Granado**	**2.19**	**62**	Pn		**Pn**	**13 03 07.8**	**+1.4**
EGRO				Sn		**Sn**	**13 03 32.0**	**-1.6**
EGRO	**El Granado**	**2.19**	**62**	P		**Pn**	**13 03 07.5**	**+1.1**
EGRO				S		**Sn**	**13 03 32.8**	**-0.7**
EGRO				*i* Vmb_Lg			13 03 34.8	
PBEJ	**Beja**	**2.22**	**47**	*e*P		**Pn**	**13 03 07.8**	**+1.0**
PBEJ				*e*S		**Sn**	**13 03 32.7**	**-1.6**
PBEJ				A		A	13 03 36.9	
	comp=N,4.7nm,0.3s							
PMAFR	**Mafra**	**2.49**	**11**	*e*P		**Pn**	**13 03 11.8**	**+1.3**
PMAFR				*e*S		**Sn**	**13 03 39.8**	**-1.1**
PMAFR				A		A	13 03 42.4	
	comp=N,45nm,0.2s							
PMAFR	**Mafra**	**2.49**	**11**	Pn		**Pn**	**13 03 11.4**	**+0.9**
PMAFR				Sn		**Sn**	**13 03 39.3**	**-1.6**
EVO	**Evora**	**2.52**	**36**	*e*P		**Pn**	**13 03 11.8**	**+0.9**
EVO				*e*S		**Sn**	**13 03 39.8**	**-1.8**
EVO				A		A	13 03 42.2	
	comp=N,5.9nm,0.1s							
EVO	**Evora**	**2.52**	**36**	Pn		**Pn**	**13 03 11.4**	**+0.5**
EVO				Sn		**Sn**	**13 03 39.4**	**-2.2**
PBAR	**Barrancos**	**2.82**	**53**	*e*P		**Pn**	**13 03 16.4**	**+1.3**
PBAR				*e*S		**Sn**	**13 03 47.3**	**-1.9**
PBAR				A		A	13 03 49.1	
	comp=N,2.7nm,0.3s							
PBAR	**Barrancos**	**2.82**	**53**	Pn		**Pn**	**13 03 16.3**	**+1.2**
PBAR				Sn		**Sn**	**13 03 47.3**	**-1.9**
EMIN	**Mina Concepcio**	**2.87**	**63**	Pn		**Pn**	**13 03 16.6**	**+0.8**
EMIN				Sn		**Sn**	**13 03 48.8**	**-1.6**
EMIN	**Mina Concepcio**	**2.87**	**63**	P		**Pn**	**13 03 16.8**	**+1.1**
EMIN				S		**Sn**	**13 03 48.0**	**-2.4**
EMIN				*i* Vmb_Lg			13 04 01.7	
PMTG	**Montargil**	**2.88**	**27**	*e*P		**Pn**	**13 03 17.0**	**+1.2**
PMTG				*e*S		**Sn**	**13 03 48.2**	**-2.3**
PMTG				A		A	13 03 49.9	
	comp=N,3.1nm,0.2s							
PESTR	**Estremoz**	**2.98**	**37**	*e*P		**Pn**	**13 03 18.6**	**+1.3**
PESTR				*e*S		**Sn**	**13 03 50.9**	**-2.2**
PESTR				A		A	13 03 54.1	
	comp=N,2.8nm,0.6s							
PESTR	**Estremoz**	**2.98**	**37**	Pn		**Pn**	**13 03 18.4**	**+1.1**
PESTR				Sn		**Sn**	**13 03 50.7**	**-2.4**
PESTR	**Estremoz**	**2.98**	**37**	P		**Pn**	**13 03 16.3**	**-1.0**
PESTR	**Estremoz**	**2.98**	**37**	S		**Sn**	**13 03 49.3**	**-3.9**
PSBE	**So Bento**	**3.12**	**16**	*e*S		**Sn**	**13 03 55.0**	**-1.6**
EBAD	**Badajoz**	**3.21**	**45**	Pn		**Pn**	**13 03 20.9**	**+0.5**
EBAD				Sn		**Sn**	**13 03 56.6**	**-2.0**
EBAD	**Badajoz**	**3.21**	**45**	P		**Pn**	**13 03 20.7**	**+0.4**
EBAD				S		**Sn**	**13 03 56.2**	**-2.4**
EBAD				*i* Vmb_Lg			13 04 00.2	
ESPR	**Espera**	**3.27**	**83**	Pn		**Pn**	**13 03 22.9**	**+1.6**
ESPR				Sn		**Sn**	**13 03 58.5**	**-1.8**
ESPR	**Espera**	**3.27**	**83**	P		**Pn**	**13 03 23.1**	**+1.8**
ESPR				S		**Sn**	**13 03 58.3**	**-2.0**
PMRV	**Marv??o**	**3.52**	**34**	*e*P		**Pn**	**13 03 25.6**	**+0.9**
PMRV				*e*S		**Sn**	**13 04 03.7**	**-2.8**
PMRV				A		A	13 04 05.8	
	comp=N,2.6nm,0.1s							
PCAS	**Casmilo, Conde**	**3.70**	**17**	*e*P		**Pn**	**13 03 28.8**	**+1.6**
PCAS				*e*S		**Sn**	**13 04 08.4**	**-2.5**
PCAS				A		A	13 04 11.2	
	comp=N,4.5nm,0.5s							
PCBR	**Castelo Branco**	**3.83**	**29**	*e*P		**Pn**	**13 03 30.3**	**+1.3**
PCBR				*e*S		**Sn**	**13 04 11.6**	**-2.5**
PCBR				A		A	13 04 17.8	
	comp=N,2.2nm,0.6s							
ECAB	**El Cabril**	**3.90**	**65**	Pn		**Pn**	**13 03 31.4**	**+1.4**
ECAB				Sn		**Sn**	**13 04 13.4**	**-2.5**
ECAB	**El Cabril**	**3.90**	**65**	P		**Pn**	**13 03 31.3**	**+1.4**
ECAB				S		**Sn**	**13 04 12.5**	**-3.4**
ECAB				*i* Vmb_Lg			13 04 14.7	
ZHG	**ZHG**	**4.07**	**138**	P		**Pn**	**13 03 32.6**	**+0.4**
ZHG	**ZHG**	**4.07**	**138**	S		**Sn**	**13 04 17.0**	**-2.9**
EMAL	**Malaga-Limoner**	**4.41**	**85**	Pn		**Pn**	**13 03 39.4**	**+2.5**
PVIS	**Viseu**	**4.48**	**20**	*e*S		**Sn**	**13 04 27.1**	**-3.1**
PVIS				A		A	13 04 29.9	
	comp=N,3.4nm,0.1s							
EADA	**Adamuz**	**4.56**	**67**	Pn		**Pn**	**13 03 40.7**	**+1.8**
EADA				Sn		**Sn**	**13 04 29.5**	**-2.5**
EADA	**Adamuz**	**4.56**	**67**	P		**Pn**	**13 03 40.0**	**+1.1**
EADA				S		**Sn**	**13 04 27.8**	**-4.2**
EADA				*i* Vmb_Lg			13 04 37.3	
EPLA	**Plasencia**	**4.65**	**39**	S		**Sn**	**13 04 30.9**	**-3.4**
EPLA				*i* Vmb_Lg			13 04 32.8	
MVO	**Moncorvo**	**5.16**	**25**	*e*P		**Pn**	**13 03 48.3**	**+1.0**
PAB	**San Pablo**	**5.33**	**54**	P		**Pn**	**13 03 50.2**	**+0.6**
PAB				S		**Sn**	**13 04 46.7**	**-4.5**
PAB				*i* Vmb_Lg			13 04 53.5	
OUK	**Oukaimeden**	**5.56**	**162**	P		**Pn**	**13 03 53.5**	**+0.6**
PGAV	**Gavieira, Arco**	**5.59**	**13**	*e*P		**Pn**	**13 03 54.8**	**+1.6**
MDT	**Midelt**	**5.72**	**129**	P		**Pn**	**13 03 55.0**	**+0.1**
ECAL	**Calabor**	**5.95**	**23**	P		**Pn**	**13 03 58.6**	**+0.5**
ECAL				*i* Vmb_Lg			13 05 10.1	
TTIG	**Tnine Tigouga,**	**6.07**	**168**	P		Pn	13 03 56.6	-3.3
GUD	**Guadarrama**	**6.11**	**46**	P		**Pn**	**13 04 01.2**	**+0.8**
GUD				S		**Sn**	**13 05 06.1**	**-4.2**
GUD				*i* Vmb_Lg			13 05 08.7	
OUZM	**OUZ**	**6.17**	**154**	P		**Pn**	**13 04 01.6**	**+0.3**
TZRR	**Tazzarine**	**6.76**	**146**	P		**Pn**	**13 04 08.9**	**-0.3**

IDC ***31*** *13:22:05.6±6.9, 24°.93N×122°.35E, h148km±42km, mb3.6/7, mbtmp4.1/8, Error ellipse: s-maj=120.8km s-min=33.2km az=11.0*
NEIC ***31*** *13:22:05.9±1.8, 24°.92N±0°.08×122°.29E±0°.07, h146km±4km, mb4.0/11, Error ellipse: s-maj=11.0km s-min=9.2km az=185.0*
TAP ***31*** *13:22:06.0, 25°.00N×122°.31E, h143km, ML4.5, C*
JMA ***31*** *13:22:06.5±0.2, 25°.N±1°×122°.3E±0°.4, h137km±1km, MV3.4/19, TAIWAN REGION*
ISC 31 13:22:05.8±0.6, 24°.98N±0°.03×122°.29E±0°.02, h146km±4km, n191, σ0s94/300, mb4.0/14, 1C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TWB1	**Santiao Chiao**	**0.28**	**276**	*i*P		**Pn**	**13 22 25.7**	**0.0**
	baz=271							
TWB1				*i* S		**Sn**	**13 22 39.8**	**-1.1**
	baz=271							
SXI1	**Grass Mountain**	**0.40**	**287**	*i* P		**Pn**	**13 22 26.1**	**-0.2**
	baz=283							
TIPB	**Shuangxi**	**0.42**	**269**	*i* P		**Pn**	**13 22 26.3**	**0.0**
	baz=266							
TIPB				*i* S		**Sn**	**13 22 40.8**	**-1.1**
	baz=266							
NWF	**Wu-fen Shan**	**0.47**	**281**	*i* P		**Pn**	**13 22 26.6**	**0.0**
	baz=278							
NWF				*i* S		**Sn**	**13 22 41.7**	**-0.7**
	baz=278							
WFSB	**Wu-fen Shan**	**0.47**	**281**	*i* P		**Pn**	**13 22 26.8**	**+0.3**
	baz=278							
WFSB				S		**Sn**	**13 22 41.6**	**-0.6**
	baz=278							
TNOU	**National Taiwa**	**0.50**	**290**	*i* P		**Pn**	**13 22 26.6**	**0.0**
	baz=286							
TNOU				*i* S		**Sn**	**13 22 41.7**	**-0.8**
	baz=286							
ILA	**Ilan**	**0.54**	**247**	*e*P		**Pn**	**13 22 26.6**	**-0.2**
	baz=244							
ILA				S		**Sn**	**13 22 42.0**	**-0.8**
	baz=244							
TWC	**Suao**	**0.55**	**228**	*i*P		**Pn**	**13 22 26.6**	**-0.3**
	baz=225							
TWC				S		**Sn**	**13 22 41.0**	**-1.9**
	baz=225							
EOS2	**EOS2**	**0.56**	**186**	P		**Pn**	**13 22 27.3**	**+0.5**
	baz=186							
EOS2				S		**Sn**	**13 22 43.3**	**+0.5**
	baz=186							
ESAO	**Su ao**	**0.57**	**226**	P		**Pn**	**13 22 27.1**	**+0.1**
	baz=224							
TWE	**Neicheng**	**0.62**	**246**	P		**Pn**	**13 22 27.3**	**0.0**
	baz=243							
TWE				S		**Sn**	**13 22 43.0**	**-0.6**
	baz=243							
NDS	**Dongshan**	**0.63**	**237**	*e*P		**Pn**	**13 22 27.4**	**+0.1**
	baz=235							
NDS				*e*S		**Sn**	**13 22 43.7**	**0.0**
	baz=235							
NHY	**Taipei**	**0.66**	**275**	*e*P		**Pn**	**13 22 27.1**	**-0.4**
	baz=273							
YM08	**YM08**	**0.67**	**288**	P		**Pn**	**13 22 27.5**	**-0.1**
	baz=285							
FUSB	**Fushanzhiwuyua**	**0.68**	**251**	*i* P		**Pn**	**13 22 27.7**	**0.0**
	baz=249							
FUSB				*i* S		**Sn**	**13 22 44.1**	**-0.3**
	baz=249							
YM01	**YM01**	**0.68**	**285**	P		**Pn**	**13 22 27.6**	**-0.2**
	baz=282							
YM01				S		**Sn**	**13 22 43.2**	**-1.2**
	baz=282							
EOS3	**EOS3**	**0.69**	**178**	*i* P		**Pn**	**13 22 28.3**	**+0.7**
	baz=179							
EOS3				S		**Sn**	**13 22 44.5**	**+0.3**
	baz=179							
TWY	**Chenhua**	**0.69**	**295**	*i* P		**Pn**	**13 22 28.0**	**+0.2**
	baz=293							
TWY				*i* S		**Sn**	**13 22 43.6**	**-0.9**
	baz=293							
NHDH	**Xindian Distri**	**0.70**	**269**	P		**Pn**	**13 22 27.3**	**-0.5**
	baz=266							
NHDH				S		**Sn**	**13 22 45.0**	**+0.5**
	baz=266							
EWUT	**Wuta**	**0.71**	**221**	P		**Pn**	**13 22 28.3**	**+0.4**
	baz=220							
EWUT				S		**Sn**	**13 22 44.1**	**-0.6**
	baz=220							
ANP	**Anpu**	**0.73**	**287**	*e*P		**Pn**	**13 22 27.1**	**-1.0**
	baz=284							
TATO	**Taipei**	**0.73**	**270**			**Pn**	**13 22 27.6**	**-0.4**
TATO	**Taipei**	**0.73**	**270**	P		**Pn**	**13 22 27.7**	**-0.3**
ENTT	**Nioudou**	**0.74**	**243**	*i* P		**Pn**	**13 22 28.4**	**+0.3**
	baz=241							
ENTT				*i* S		**Sn**	**13 22 44.8**	**-0.3**
	baz=241							
ENA	**Nanau**	**0.74**	**223**	*i* P		**Pn**

NFF	**Wufeng Townshi**	**1.12**	**252**	P	**Pn**	**13 22 31.5**	**+0.2**
	baz=251						
NFF				*i* S	**Sn**	**13 22 49.7**	**-1.0**
	baz=251						
HWA	**Hwalien**	**1.18**	**212**	*i* P	**Pn**	**13 22 32.2**	**+0.5**
	baz=211						
HWA				*i* S	**Sn**	**13 22 52.2**	**+0.6**
	baz=211						
FUSS	**Fushou**	**1.20**	**233**	*i* P	**Pn**	**13 22 33.2**	**+0.9**
	baz=232						
FUSS				*i* S	**Sn**	**13 22 51.9**	**-0.6**
	baz=232						
SBCB	**Hsinchu**	**1.20**	**261**	P	**Pn**	**13 22 32.9**	**+0.9**
	baz=260						
SBCB				*e*S	**Sn**	**13 22 50.6**	**-1.4**
	baz=260						
LIOB	**Emei**	**1.21**	**254**	P	**Pn**	**13 22 32.4**	**+0.3**
	baz=253						
LIOB				S	**Sn**	**13 22 51.5**	**-0.6**
	baz=253						
HSN	**Hsinchu**	**1.21**	**262**	S	**Sn**	**13 22 51.1**	**-1.0**
	baz=261						
NSTT	**Nanjuang**	**1.22**	**254**	*i* P	**Pn**	**13 22 32.5**	**+0.3**
	baz=252						
NSTT				*i* S	**Sn**	**13 22 51.3**	**-1.0**
	baz=252						
ETM	**Tongmen**	**1.24**	**216**	P	**Pn**	**13 22 32.2**	**-0.3**
	baz=215						
ETM				S	**Sn**	**13 22 51.2**	**-1.6**
	baz=215						
LXIB	**Xiulin Townshi**	**1.24**	**220**	⇓*i*P	**Pn**	**13 22 32.2**	**-0.4**
	baz=219						
LXIB				S	**Sn**	**13 22 52.2**	**-0.8**
	baz=219						
TWT	**Tachien**	**1.25**	**235**	*i* P	**Pn**	**13 22 33.8**	**+1.1**
	baz=234						
TWT				S	**Sn**	**13 22 51.6**	**-1.5**
	baz=234						
WHF	**Hehuan Shan**	**1.25**	**229**	*i* P	**Pn**	**13 22 33.6**	**+0.6**
	baz=227						
WHF				*i* S	**Sn**	**13 22 52.7**	**-0.9**
	baz=227						
TDCB	**Techi**	**1.26**	**235**	⇓*i*P	**Pn**	**13 22 33.7**	**+1.0**
	baz=234						
TDCB				*i* S	**Sn**	**13 22 52.9**	**-0.4**
	baz=234						
SHUL	**Shoufeng**	**1.36**	**209**	*i* P	**Pn**	**13 22 33.8**	**+0.3**
	baz=209						
SHUL				*i* S	**Sn**	**13 22 54.6**	**-0.2**
	baz=209						
CHGB	**Renai**	**1.37**	**228**	*i* P	**Pn**	**13 22 34.8**	**+0.9**
	baz=227						
CHGB				*i* S	**Sn**	**13 22 55.0**	**-0.3**
	baz=227						
ESL	**Shilin**	**1.40**	**214**	*i* P	**Pn**	**13 22 33.5**	**-0.5**
	baz=213						
ESL				S	**Sn**	**13 22 54.0**	**-1.5**
	baz=213						
WHP	**Taichung City**	**1.41**	**241**	*i* S	**Sn**	**13 22 55.2**	**-0.6**
	baz=239						
NMLH	**Miaoli**	**1.43**	**252**	P	**Pn**	**13 22 34.9**	**+0.6**
	baz=251						
NMLH				*e*S	**Sn**	**13 22 55.8**	**-0.3**
	baz=251						
TEGC	**Jichi Village**	**1.44**	**209**	P	**Pn**	**13 22 34.9**	**+0.5**
	baz=208						
TEGC				S	**Sn**	**13 22 56.6**	**+0.4**
	baz=208						
OWD	**Renai**	**1.44**	**225**	*i* P	**Pn**	**13 22 35.4**	**+0.9**
	baz=224						
OWD				S	**Sn**	**13 22 56.4**	**-0.1**
	baz=224						
WUSB	**Renai**	**1.45**	**228**	*i* P	**Pn**	**13 22 35.6**	**+1.0**
	baz=227						
WUSB				S	**Sn**	**13 22 56.6**	**-0.2**
	baz=227						
IRIF	**Iriomote-Funau**	**1.46**	**116**	P	**Pn**	**13 22 34.8**	**+0.3**
IRIF				S	**Sn**	**13 22 56.0**	**-0.5**
NSY	**Sanyi**	**1.50**	**248**	P	**Pn**	**13 22 35.7**	**+0.6**
	baz=247						
NSY				S	**Sn**	**13 22 57.4**	**0.0**
	baz=247						
WARBT	**Fenglin Townsh**	**1.50**	**214**	P	**Pn**	**13 22 34.4**	**-0.7**
	baz=213						
TWQ1	**Liyutan**	**1.52**	**246**	*i* P	**Pn**	**13 22 35.6**	**+0.4**
	baz=244						
TWQ1				*i* S	**Sn**	**13 22 56.9**	**-0.9**
	baz=244						
EGFH	**Guangfu**	**1.52**	**211**	*e*P	**Pn**	**13 22 35.0**	**-0.3**
	baz=211						
EGFH				*e*S	**Sn**	**13 22 56.0**	**-1.8**
	baz=211						
WCS	**Beigang Elemen**	**1.56**	**234**	*i* P	**Pn**	**13 22 36.6**	**+1.0**
	baz=233						
WCS				*i* S	**Sn**	**13 22 58.4**	**-0.1**
	baz=233						
VWDT	**VWDT**	**1.61**	**221**	P	**Pn**	**13 22 37.3**	**+1.1**
	baz=220						
VWDT				S	**Sn**	**13 22 59.2**	**-0.2**
	baz=220						
WDJ	**Dajia District**	**1.63**	**248**	*e*P	**Pn**	**13 22 37.1**	**+0.7**
	baz=246						
WDJ				*e*S	**Sn**	**13 22 59.6**	**-0.2**
	baz=246						
HATJ	**Hateruma jima**	**1.66**	**123**	P	**Pn**	**13 22 37.5**	**+0.8**
HATJ				*e*S	**Sn**	**13 23 00.2**	**-0.1**
SMLT	**Sun Moon Lake**	**1.67**	**230**	P	**Pn**	**13 22 38.2**	**+1.2**
	baz=228						
SMLT				S	**Sn**	**13 23 01.6**	**+0.7**
	baz=228						
HGSD	**Ruisui**	**1.68**	**208**	P	**Pn**	**13 22 37.2**	**+0.2**
	baz=208						
HGSD				*e*S	**Sn**	**13 22 59.3**	**-1.6**
	baz=208						
TCU	**Taichung**	**1.69**	**241**	*e*P	**Pn**	**13 22 37.6**	**+0.6**
	baz=239						
TCU				*e*S	**Sn**	**13 23 00.9**	**-0.1**
	baz=239						
SSLB	**Suanglung**	**1.70**	**226**		**Pn**	**13 22 37.8**	**+0.6**
SSLB	**Suanglung**	**1.70**	**226**	P	**Pn**	**13 22 38.3**	**+1.0**
SSLB	**Suanglung**	**1.70**	**226**	⇑*i*P	**Pn**	**13 22 38.2**	**+0.9**
	baz=225						
SSLB				*i* S	**Sn**	**13 23 01.4**	**+0.1**
	baz=225						
EHY	**Hungye**	**1.71**	**211**	P	**Pn**	**13 22 38.5**	**+1.1**
	baz=210						
EHY				S	**Sn**	**13 22 59.5**	**-2.0**
	baz=210						
JKRS	**Kuro-shima**	**1.73**	**115**	P	**Pn**	**13 22 38.2**	**+0.7**
JKRS				*e*S	**Sn**	**13 23 01.7**	**-0.1**
JIJ	**Ishigaki jima**	**1.79**	**110**	P	**Pn**	**13 22 38.8**	**+0.6**
JIJ				S	**Sn**	**13 23 01.6**	**-1.5**
WCHH	**Zhanghua**	**1.81**	**241**	*e*S	**Sn**	**13 23 03.2**	**-0.4**
	baz=240						
YULB	**Yu-li**	**1.82**	**210**		**Pn**	**13 22 38.1**	**-0.6**
YULB	**Yu-li**	**1.82**	**210**	P	**Pn**	**13 22 38.4**	**-0.2**
YULB	**Yu-li**	**1.82**	**210**	*e*P	**Pn**	**13 22 38.2**	**-0.4**
	baz=209						
YULB				*e*S	**Sn**	**13 23 02.8**	**-1.0**
	baz=209						
ECBN	**Changbin**	**1.82**	**205**	*e*S	**Sn**	**13 23 03.3**	**-0.5**
	baz=204						
WNT	**Mingjian**	**1.83**	**234**	*i* P	**Pn**	**13 22 39.7**	**+1.0**
	baz=232						
WNT				*i* S	**Sn**	**13 23 04.2**	**+0.4**
	baz=232						
WHYT	**Xinyi Township**	**1.83**	**226**	P	**Pn**	**13 22 39.8**	**+1.0**
	baz=225						
WHYT				S	**Sn**	**13 23 04.5**	**+0.5**
	baz=225						
WJS	**Zhushan**	**1.83**	**231**	P	**Pn**	**13 22 39.5**	**+0.8**
	baz=230						
WJS				S	**Sn**	**13 23 04.4**	**+0.5**
	baz=230						
EYUL	**Yuli**	**1.85**	**209**	*e*P	**Pn**	**13 22 39.2**	**+0.2**
	baz=208						
TWF1	**Yuli**	**1.86**	**210**	P	**Pn**	**13 22 38.8**	**-0.2**
	baz=209						
TWF1				S	**Sn**	**13 23 02.6**	**-1.8**
	baz=209						
JISG	**Ishigakijimahi**	**1.88**	**102**	P	**Pn**	**13 22 39.4**	**+0.3**
JISG				*e*S	**Sn**	**13 23 03.6**	**-1.2**
CHKH	**Chenggong**	**1.96**	**205**	*e*P	**Pn**	**13 22 39.9**	**-0.2**
	baz=204						
FULB	**Fuli**	**1.99**	**207**	*e*P	**Pn**	**13 22 41.2**	**+0.6**
	baz=207						
FULB				*e*S	**Sn**	**13 23 07.9**	**+0.6**
	baz=207						
ALS	**Alishan**	**1.99**	**223**	P	**Pn**	**13 22 41.8**	**+0.9**
	baz=222						
ALS				S	**Sn**	**13 23 08.2**	**+0.4**
	baz=222						
CHN5	**Tsauling**	**2.02**	**227**	*i* P	**Pn**	**13 22 42.0**	**+1.0**
	baz=226						
CHN5				*i* S	**Sn**	**13 23 08.2**	**+0.4**
	baz=226						
WGK	**Gukeng**	**2.04**	**231**	*e*S	**Sn**	**13 23 08.8**	**+0.7**
	baz=230						
WRL	**Guolierlin Hig**	**2.05**	**239**	*e*P	**Pn**	**13 22 41.4**	**+0.2**
	baz=238						
WRL				*e*S	**Sn**	**13 23 07.2**	**-1.2**
	baz=238						
WDLH	**Douliu**	**2.05**	**232**	*e*P	**Pn**	**13 22 42.0**	**+0.7**
	baz=230						
WDLH				*e*S	**Sn**	**13 23 08.6**	**+0.1**
	baz=230						
CHKT	**Chengkung**	**2.05**	**205**	P	**Pn**	**13 22 41.2**	**0.0**
	baz=204						
CHKT				S	**Sn**	**13 23 06.8**	**-1.7**
	baz=204						
EHD	**Haiduan**	**2.07**	**209**	P	**Pn**	**13 22 41.5**	**-0.1**
	baz=208						
EHD				*e*S	**Sn**	**13 23 07.7**	**-1.4**
	baz=208						
ELDTW	**Lidau**	**2.13**	**213**	P	**Pn**	**13 22 42.9**	**+0.6**
	baz=212						
ELDTW				*e*S	**Sn**	**13 23 09.7**	**-0.7**
	baz=212						
WTK	**Tuku**	**2.16**	**234**	*e*P	**Pn**	**13 22 42.7**	**+0.2**
	baz=233						
WTK				*e*S	**Sn**	**13 23 10.7**	**-0.1**
	baz=233						
WCKO	**Fanlu**	**2.17**	**225**	P	**Pn**	**13 22 43.6**	**+0.9**
	baz=224						
WCKO				S	**Sn**	**13 23 12.6**	**+1.5**
	baz=224						
EDH	**Donghe**	**2.19**	**205**	*e*P	**Pn**	**13 22 41.7**	**-1.2**
	baz=204						
EDH				*e*S	**Sn**	**13 23 10.8**	**-0.7**
	baz=204						
JTJ	**Tarama**	**2.22**	**98**	P	**Pn**	**13 22 44.1**	**+0.9**
JTJ				S	**Sn**	**13 23 10.8**	**-1.1**
CHN4	**Tsaushan**	**2.24**	**224**	P	**Pn**	**13 22 44.2**	**+0.6**
	baz=223						
CHN4				*e*S	**Sn**	**13 23 12.7**	**+0.1**
	baz=223						
TPUB	**Ta-pu**	**2.26**	**223**		**Pn**	**13 22 44.0**	**+0.3**
TPUB	**Ta-pu**	**2.26**	**223**	P	**Pn**	**13 22 44.3**	**+0.5**
TPUB	**Ta-pu**	**2.26**	**223**	*e*P	**Pn**	**13 22 44.7**	**+1.0**
	baz=222						
TPUB				*e*S	**Sn**	**13 23 13.1**	**+0.1**
	baz=222						
STYH	**Taoyuan**	**2.27**	**218**	*e*P	**Pn**	**13 22 45.0**	**+1.1**
	baz=217						
STYH				*e*S	**Sn**	**13 23 13.3**	**+0.1**
	baz=217						
WTP	**Ta-pu**	**2.31**	**222**	P	**Pn**	**13 22 44.6**	**+0.2**
	baz=221						
WSF	**Szhu**	**2.31**	**235**	*e*S	**Sn**	**13 23 13.7**	**-0.4**
	baz=234						
LONT	**Longtian**	**2.32**	**208**	*e*P	**Pn**	**13 22 43.4**	**-1.1**
	baz=207						
TWK	**Hsinying**	**2.37**	**224**	*e*P	**Pn**	**13 22 45.5**	**+0.3**
	baz=223						
TWK				*e*S	**Sn**	**13 23 15.2**	**-0.2**
	baz=223						
SNST	**Tainan City**	**2.40**	**224**	P	**Pn**	**13 22 44.9**	**-0.6**
	baz=222						
SNST				S	**Sn**	**13 23 15.8**	**-0.1**
	baz=222						
CHN1	**Nanshi**	**2.41**	**222**	P	**Pn**	**13 22 45.8**	**+0.3**
	baz=221						
CHN1				S	**Sn**	**13 23 16.4**	**+0.3**
	baz=221						
LDUT	**Ludao**	**2.42**	**198**	*e*P	**Pn**	**13 22 45.6**	**-0.1**
	baz=198						
LDUT				*e*S	**Sn**	**13 23 14.4**	**-2.0**
	baz=198						
MATB	**Ma-tsu**	**2.42**	**299**	*e*P	**Pn**	**13 22 45.2**	**-0.4**
	baz=297						
TWGBT	**Beinan**	**2.42**	**208**	P	**Pn**	**13 22 46.3**	**+0.6**
TWGBT	**Beinan**	**2.42**	**208**	*e*P	**Pn**	**13 22 45.3**	**-0.4**
	baz=207						
TWGBT				*e*S	**Sn**	**13 23 14.6**	**-1.9**
	baz=207						
TWG	**Pinlang**	**2.42**	**208**		**Pn**	**13 22 44.6**	**-1.1**
TWG	**Pinlang**	**2.42**	**208**	*e*P	**Pn**	**13 22 45.3**	**-0.4**
	baz=207						
TWG				*e*S	**Sn**	**13 23 14.8**	**-1.7**
	baz=207						
ICHU	**Yijhu**	**2.44**	**229**	*e*P	**Pn**	**13 22 45.8**	**-0.2**
	baz=228						
ICHU				*e*S	**Sn**	**13 23 16.4**	**-0.5**
	baz=228						
SGST	**Jiashian**	**2.45**	**220**	P	**Pn**	**13 22 46.2**	**+0.1**
	baz=219						
SGST				S	**Sn**	**13 23 16.3**	**-0.8**
	baz=219						
SLGT	**Liugui**	**2.48**	**218**	P	**Pn**	**13 22 47.9**	**+1.4**
	baz=217						
SLGT				S	**Sn**	**13 23 18.5**	**+0.6**
	baz=217						
VWUC	**VWUC**	**2.58**	**271**	P	**Pn**	**13 22 47.8**	**+0.1**
	baz=269						
VWUC				S	**Sn**	**13 23 17.9**	**-2.0**
	baz=269						
JIRB	**Irabujima**	**2.62**	**93**	P	**Pn**	**13 22 49.0**	**+0.9**
JIRB				*e*S	**Sn**	**13 23 20.8**	**0.0**
SCST	**Cishan**	**2.65**	**219**	*e*P	**Pn**	**13 22 49.6**	**+0.9**
	baz=218						
ECL	**Taimali**	**2.67**	**208**	P	**Pn**	**13 22 50.5**	**+1.7**
	baz=207						
JIKM	**Ikemajima**	**2.68**	**91**	P	**Pn**	**13 22 49.9**	**+0.9**
JIKM				*e*S	**Sn**	**13 23 22.5**	**+0.2**
XPSS	**Dashiqiu**	**2.71**	**316**	*e*P	**Pn**	**13 22 49.2**	**-0.1**
	baz=315						
TSCK	**Chigu Township**	**2.72**	**228**	*e*P	**Pn**	**13 22 49.2**	**-0.2**
	baz=227						
TSMG	**Majia**	**2.72**	**214**	*e*P	**Pn**	**13 22 50.2**	**+0.7**
	baz=213						
JMJ	**Miyako jima 2**	**2.73**	**93**	P	**Pn**	**13 22 52.1**	**+2.6**
TWM1	**Shoushan**	**2.74**	**219**	P	**Pn**	**13 22 51.5**	**+1.7**
	baz=218						
JMJ2	**Miyako jima3**	**2.77**	**94**	*e*P	**Pn**	**13 22 51.4**	**+1.4**
JMJ2				*e*S	**Sn**	**13 23 23.6**	**-0.5**
LYJJ	**Jianjiangzhen**	**2.77**	**305**	*e*P	**Pn**	**13 22 49.9**	**-0.1**
	baz=303						
MASBT	**Mashibuluo**	**2.80**	**213**	*e*P	**Pn**	**13 22 51.2**	**+0.8**
	baz=212						
JOGS	**Gusukube**	**2.84**	**94**	P	**Pn**	**13 22 52.3**	**+1.4**
JOGS				S	**Sn**	**13 23 25.2**	**-0.5**
PNG	**Penghu**	**2.87**	**241**	P	**Pn**	**13 22 50.8**	**-0.5**
	baz=240						
PTMZ	**Houxiangcun**	**2.88**	**272**	*e*P	**Pn**	**13 22 51.2**	**-0.1**
	baz=270						
PHUB	**P'eng-hu**	**2.88**	**240**	P	**Pn**	**13 22 51.0**	**-0.4**
	baz=239						
PHUB				*e*S	**Sn**	**13 23 24.3**	**-2.4**
	baz=239						
EAST	**Anshuo**	**2.90**	**207**	*e*P	**Pn**	**13 22 53.1**	**+1.3**
	baz=206						
TAWH	**Dawu Township**	**2.92**	**206**	*e*P	**Pn**	**13 22 54.5**	**+2.5**
	baz=206						
SCZT	**Fangliau**	**3.01**	**211**	*e*P	**Pn**	**13 22 54.0**	**+0.9**
	baz=210						
LYUB	**Lan-yu**	**3.03**	**193**	*e*P	**Pn**	**13 22 53.2**	**-0.2**
	baz=192						
SLIU	**Shizi**	**3.07**	**207**	*e*P	**Pn**	**13 22 54.9**	**+0.9**
	baz=206						
MHZQ	**Yeshan**	**3.15**	**291**	*e*P	**Pn**	**13 22 54.9**	**0.0**
	baz=290						
VCHM	**Qimei**	**3.15**	**237**	*e*P	**Pn**	**13 22 54.9**	**-0.1**
	baz=235						
VCHM				*e*S	**Sn**	**13 23 31.4**	**-1.5**
	baz=235						
KNM	**Kinmen**	**3.55**	**262**	*e*P	**Pn**	**13 23 01.5**	**+1.4**
	baz=260						
KNMB	**Chin-men Tao**	**3.59**	**263**	Pn	**Pn**	**13 23 00.1**	**-0.4**
KNMB	**Chin-men Tao**	**3.59**	**263**	*e*P	**Pn**	**13 23 00.9**	**+0.4**
	baz=261						
AXDP	**Jialang**	**3.92**	**270**	*e*P	**Pn**	**13 23 05.1**	**+0.2**
	baz=268						
ZPLA	**Ao Xicun**	**4.27**	**257**	*e*P	**Pn**	**13 23 09.5**	**0.0**
	baz=255						
SXFK	**Yanhouchang**	**4.42**	**290**	*e*P	**Pn**	**13 23 11.9**	**+0.4**
	baz=288						
DSXP	**Dongshan**	**4.61**	**255**	*e*P	**Pn**	**13 23 14.5**	**+0.5**
	baz=253						
JOW	**Kunigami**	**5.70**	**70**	Pn	**Pn**	**13 23 27.1**	**-1.2**
JOW	**Kunigami**	**5.70**	**70**	P	**Pn**	**13 23 27.7**	**-0.6**
	16nm,0.2s,baz=127,slow=19,SNR=16						
JOW				S	**Sn**	**13 24 27.7**	**-5.2**
	20nm,0.9s,baz=300,slow=28,SNR=1.3						
KSRS	**Korea Array**	**13.33**	**20**	P	**P**	**13 25 14.9**	**+1.3**
	2.5nm,0.6s,baz=202,slow=12,SNR=14						
SONM	**Songino Array**	**26.05**	**335**	P	**P**	**13 27 26.2**	**+0.7**
	5.3nm,0.8s,baz=150,slow=10.0,SNR=22						
	5.3nm,0.8s						
MK31	**Makanchi Array**	**38.48**	**315**	P	**P**	**13 29 14.1**	**+0.5**
MK31				IAmb	IAmb	13 29 14.8	
	comp=Z,3.3nm,1.2s						
MKAR	**Makanchi Array**	**38.48**	**315**	P	**P**	**13 29 13.7**	**+0.1**
MKAR	**Makanchi Array**	**38.48**	**315**	P	**P**	**13 29 14.2**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=100,slow=10,SNR=39						
	comp=Z,1.4nm,0.5s						
MAKZ	**Makanchi**	**38.69**	**315**	P	**P**	**13 29 16.1**	**+0.8**
ZAA0	**Zalesovo Array**	**40.14**	**326**	P	**P**	**13 29 26.6**	**-0.5**
ZAA0				IAmb	IAmb	13 29 27.4	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**40.14**	**326**	P	**P**	**13 29 26.6**	**-0.5**
ZALV	**Zalesovo Beam**	**40.14**	**326**	P	**P**	**13 29 26.9**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=108,slow=8.9,SNR=12						
	comp=Z,2.3nm,0.4s						
KURBB	**Kurchatov Arra**	**42.16**	**319**	P	**P**	**13 29 43.7**	**0.0**
	comp=Z,0.9nm,0.5s,baz=108,slow=9.8,SNR=15						
	comp=Z,0.9nm,0.5s						
WRA	**Warramunga Arr**	**46.16**	**164**	P	**P**	**13 30 14.9**	**-0.9**
WR0	**Warramunga Arr**	**46.23**	**164**	P	**P**	**13 30 15.3**	**-1.0**
TIXI	**Tiksi**	**46.85**	**3**	P	**P**	**13 30 20.1**	**-0.5**
TIXI				IAmb	IAmb	13 30 20.7	
	comp=Z,4.0nm,1.1s						
BVAR	**Borovoye Array**	**47.71**	**320**	P	**P**	**13 30 27.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=101,slow=8.1,SNR=11						
	comp=Z,1.1nm,0.5s						
BRVK	**Borovoye**	**47.78**	**320**	P	**P**	**13 30 27.8**	**-0.3**
BRVK				IAmb	IAmb	13 30 29.3	
	comp=Z,3.4nm,1.1s						
AS31	**Alice Springs**	**49.65**	**166**	P	**P**	**13 30 38.0**	**-4.6**
AS31				IAmb	IAmb	13 30 40.7	
	comp=Z,3.2nm,1.5s						
ASAR	**Alice Springs**	**49.65**	**166**	P	**P**	**13 30 38.7**	**-4.0**
ABKAR	**Akbulak array**	**53.62**	**314**	P	**P**	**13 31 12.3**	**+0.4**
D19K	**Kuna River**	**63.20**	**24**	P	**P**	**13 32 19.7**	**+1.6**
D19K				IAmb	IAmb	13 32 22.9	
	comp=Z,2.4nm,1.2s						
H19K	**Roundabout Mou**	**63.95**	**27**	P	**P**	**13 32 24.8**	**+1.9**
H19K				IAmb	IAmb	13 32 49.3	
	comp=Z,4.6nm,1.5s						
D22K	**Ayikyak River**	**65.17**	**23**	P	**P**	**13 32 32.9**	**+2.0**
BMAR	**Burnt Mountain**	**68.39**	**24**	P	**P**	**13 32 52.3**	**+1.0**
ARCES	**ARCESS Array B**	**69.18**	**338**	P	**P**	**13 32 56.3**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=54,slow=6.2,SNR=4.8						
	comp=Z,3.3nm,0.9s						
YKA	**Yellowknife Ar**	**81.85**	**23**	P	**P**	**13 34 08.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=310,slow=5.3,SNR=3.4						
	comp=Z,0.2nm,0.7s						

DJA 31 13:25:57.7±0.4**,8°S**±6°×**11°9E**±°**,h10**km**,M3.9**/7**,mb4.2**/1**, MLv3.8**/7**,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBNI	**Kabupaten Domp**	**1.19**	**259**	Pg	Pb	13 26 19.9	-0.5
DBNI				Sg	Sg	13 26 36.0	0.0
PLAI	**Plampang**	**1.78**	**252**	Pn	Pn	13 26 29.0	+0.4
BASI	**Baing, Sumba**	**2.21**	**151**	P	Pn	13 26 34.5	0.0
TWSI	**Taliwang, Sumb**	**2.62**	**260**	P	Pn	13 26 40.2	+0.1
BKSI	**Bulukumba**	**3.00**	**12**	P	Pn	13 26 44.8	-0.5
SOEI	**Soe**	**4.94**	**108**	P	Pn	13 27 11.6	-0.6
JAGI	**Jajag, Banyuwa**	**5.29**	**267**	P	Pn	13 27 18.5	+1.7

*IDC **31** 13:31:39.7±3.2, 3°17N×79°17W, h0km, mb3.4/1, mbtmp3.7/2, ML2.9/1, Error ellipse: s-maj=86.7km s-min=47.3km az=1.0*

*RSNC **31** 13:31:47.0±1.1, 3°48N×78°74W, h26km±7km, ML2.9*

ISC 31 13:31:42.4±2.0**, 3°54N**±0°04×**78°93W**±0°07**, h14**km±11km**, n26, σ2s30**/43**, 3C-2D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**0.93**	**125**	⇑*i*P	**Pg**	**13 32 00.2**	**-0.3**
GR1C				*e*S	**Sg**	**13 32 11.4**	**-1.2**
MALC	**Bahia Malaga**	**1.66**	**73**	⇑*i*P	**Pn**	**13 32 11.0**	**-0.1**
MALC				*e*S	**Sn**	**13 32 31.2**	**-1.0**
MALC				*i*		13 32 33.1	
	comp=Z,374nm,0.3s						
BBAC	**Balboa, Cauca**	**2.26**	**132**	*e*P	**Pn**	**13 32 19.1**	**-0.4**
BBAC				*e*S	**Sn**	**13 32 45.1**	**-2.2**
BBAC				*i*		13 32 45.8	
	comp=Z,69nm,0.3s						
JAMC	**Jamundi, Valle**	**2.28**	**98**	⇓*i*P	**Pn**	**13 32 19.4**	**-0.3**
JAMC				*e*S	**Sn**	**13 32 44.5**	**-3.2**
JAMC				*i*		13 32 45.4	
	comp=Z,81nm,0.2s						
POPC	**Popayan, Colom**	**2.46**	**114**	⇑*i*P	**Pn**	**13 32 21.9**	**-0.5**
POPC				⇓*i*P	**Pn**	**13 32 21.9**	**-0.5**
POPC				*i*		13 32 50.9	
	comp=Z,21nm,0.3s						
POPC				*i*		13 32 56.6	
	comp=N,35nm,0.3s						
YOTC	**Yotoco, Valle**	**2.62**	**80**	*e*P	**Pn**	**13 32 23.9**	**-0.5**
YOTC				*e*S	**Sn**	**13 32 52.9**	**-3.2**
YOTC				*i*		13 32 55.6	
	comp=Z,44nm,0.4s						
CRUC	**La Cruz**	**2.78**	**135**	*e*P	**Pn**	**13 32 28.4**	**+1.6**
GCUF	**Volcan Galeras**	**2.79**	**145**	*e*P	**Pn**	**13 32 28.2**	**+1.2**
GCUF				*e*S	**Sn**	**13 32 59.7**	**-1.1**
GCUF				*i*		13 33 03.0	
	comp=Z,41nm,0.4s						
PLMC	**San Jos del P**	**2.97**	**63**	*e*P	**Pn**	**13 32 28.0**	**-1.2**
PLMC				*e*S	**Sn**	**13 32 59.8**	**-4.9**
PLMC				*i*		13 33 04.7	
	comp=Z,44nm,0.4s						
PAC1	**Pacto, Paraso**	**3.25**	**177**	*e*S	**Sn**	**13 33 10.0**	**-1.7**
CUSE	**Cuicocha Este**	**3.25**	**171**	*e*P	**Pn**	**13 32 36.9**	**+3.5**
CUSE				*e*S	**Sn**	**13 33 10.4**	**-1.8**
CUSE				*i*		13 33 14.2	
	comp=Z,76nm,0.3s						
OTAV	**Otavalo**	**3.31**	**172**	*e*P	**Pn**	**13 32 35.4**	**+1.2**
OTAV				*e*S	**Sn**	**13 33 11.3**	**-2.3**
BETC	**Betania**	**3.59**	**104**	*e*P	**Pn**	**13 32 41.2**	**+3.6**
BETC				*e*S	**Sn**	**13 33 22.7**	**+2.8**
BETC				*i*		13 33 27.4	
	comp=Z,27nm,0.5s						
GARC	**Garzon, Huila**	**3.69**	**111**	*e*P	**Pn**	**13 32 42.0**	**+2.8**
GARC				*e*S	**Sn**	**13 33 24.0**	**+1.4**
GARC				*i*		13 33 30.7	
	comp=Z,20nm,0.3s						
ORTC	**Ortega, Tolima**	**3.70**	**84**	*e*P	**Pn**	**13 32 41.5**	**+2.4**
ORTC				*e*S	**Sn**	**13 33 23.7**	**+1.1**
ORTC				*i*		13 33 31.2	
	comp=Z,20nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.72**	**51**	*e*P	**Pn**	**13 32 38.4**	**-1.2**
CBOC				*i*		13 33 25.2	
	comp=Z,8.1nm,0.7s						
GUY2C	**Guyana, Caldas**	**3.93**	**65**	*e*P	**Pn**	**13 32 44.0**	**+1.2**
GUY2C				*e*S	**Sn**	**13 33 27.3**	**-1.6**
GUY2C				*i*		13 33 31.8	
	comp=Z,26nm,0.8s						
PRAC	**Prado**	**4.04**	**87**	*e*P	**Pn**	**13 32 46.1**	**+2.2**
PRAC				*e*S	**Sn**	**13 33 32.1**	**+1.0**
DBBC	**Dabeiba**	**4.39**	**38**	*e*P	**Pn**	**13 32 52.3**	**+3.6**
ROSC	**El Rosal**	**4.78**	**74**	Pn	**Pn**	**13 32 58.0**	**+3.6**
	comp=Z,8.3nm,0.3s,baz=342,slow=16,SNR=6.0						
ROSC				Sn	**Sn**	**13 33 51.7**	**+2.0**
	baz=47,slow=23						
	comp=Z,20nm,0.4s						
ROSC	**El Rosal**	**4.78**	**74**	*e*P	**Pn**	**13 32 57.8**	**+3.5**
ROSC				*e*S	**Sn**	**13 33 50.7**	**+0.9**
VILC	**Villavicencio,**	**5.26**	**84**	*e*P	**Pn**	**13 33 04.3**	**+3.6**
VILC				*i*		13 34 06.9	
	comp=Z,22nm,0.3s						
PTBC	**PUERTO BERRIO,**	**5.37**	**56**	*e*P	**Pn**	**13 33 03.3**	**+1.3**
PTBC				*e*S	**Sn**	**13 34 01.5**	**-2.2**
YKA	**Yellowknife Ar**	**64.48**	**343**	P	**P**	**13 42 19.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=130,slow=6.8,SNR=6.2						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**142.50**	**235**	PKP	**PKPdf**	**13 51 12.8**	**-3.0**
	comp=Z,0.7nm,0.8s,baz=116,slow=3.8,SNR=10						

WRA Warramunga Arr 143.69 241 PKP PKPbc 13 51 17.2 +1.8
comp=Z,1.3nm,0.7s,baz=104,slow=3.3,SNR=14

*NOU **31** 13:32:56.0, 14°.58S × 167°.43E, h111 km, MLv5.0/8, Vanuatu Islands*
*IDC **31** 13:32:57.6 ± 12.0, 15°.20S × 165°.52E, h0 km, mb4.0/3, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=215.3km s-min=36.2km az=54.0*
ISC 31 13:32:55.5 ± 3.4, **14°.7S** ± 0°.2 × **167°.2E** ± 0°.3, **h100** km, **n9, σ 2§44/10, mb4.0/3, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.49**	**205**	P	**Pn**	**13 34 31.3**	**+2.9**
YATNC	**Mamie plateau,**	**7.37**	**182**	P	**Pn**	**13 34 42.1**	**+1.6**
DZM	**Mont Dzumac**	**7.41**	**185**	P	**Pn**	**13 34 43.8**	**+2.7**
DZM	**Mont Dzumac**	**7.41**	**185**	Pn	**Pn**	**13 34 39.7**	**-1.4**
	1.1nm,0.3s,baz=357,slow=18,SNR=17						
DZM				Sn	**Sn**	**13 36 01.0**	**-2.7**
	0.3nm,0.3s,baz=344,slow=14,SNR=1.4						
	2.4nm,0.4s						
PINNC	**Pines Island,**	**7.92**	**178**	P	**Pn**	**13 34 50.2**	**+2.3**
EIDS	**Eidsvold**	**18.49**	**232**	P	**P**	**13 37 05.7**	**+1.9**
	12nm,1.9s						
STKA	**Stephens Creek**	**28.98**	**229**	P	**P**	**13 38 45.1**	**-0.6**
	1.4nm,0.4s,baz=57,slow=9.0,SNR=8.3						
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**31.77**	**256**	P	**P**	**13 39 08.8**	**-1.6**
	0.3nm,0.5s,baz=81,slow=6.9,SNR=9.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**32.62**	**249**	P	**P**	**13 39 16.6**	**-1.5**
	1.5nm,0.5s,baz=80,slow=9.2,SNR=4.3						
	1.5nm,0.5s						

*KRSC **31** 13:33:04.3 ± 1.0, 55°.20N × 166°.24E, h36 km ± 10 km, Ml3.7*
*IDC **31** 13:33:06.6 ± 4.4, 54°.23N × 166°.92E, h99 km ± 38 km, mbtmp3.2/3, mbtmp3.6/4, Error ellipse: s-maj=87.8km s-min=23.2km az=159.0*
ISC 31 13:33:02.9 ± 1.6, **55°.4N** ± 0°.1 × **166°.5E** ± 0°.1, **h10** km, **n20, σ 1§20/20, mb3.6/3, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.34**	**241**	*e*P	**Pg**	**13 33 10.6**	**+1.0**
BKI				*e*S	**Sb**	**13 33 16.3**	**-0.2**
TUMD	**Tumrok D**	**3.49**	**270**	*e*P	**Pn**	**13 33 57.7**	**+0.6**
TUMD				*e*S	**Sn**	**13 34 37.7**	**-0.8**
KMNR	**Kamenistaya**	**3.57**	**279**	*e*P	**Pn**	**13 33 59.8**	**+1.5**
TUMR	**Tumrok**	**3.63**	**271**	*e*P	**Pn**	**13 34 00.3**	**+1.1**
SMAR	**Somma**	**4.97**	**248**	*e*P	**Pn**	**13 34 18.6**	**+0.9**
UGLR	**Uglovaya**	**4.99**	**247**	*e*P	**Pn**	**13 34 18.7**	**+0.9**
AVH	**Avacha**	**5.01**	**248**	*e*P	**Pn**	**13 34 19.3**	**+1.3**
KRX	**Arik**	**5.01**	**249**	*e*P	**Pn**	**13 34 19.0**	**+0.8**
KOK	**Koryaka**	**5.05**	**249**	*e*P	**Pn**	**13 34 19.7**	**+1.0**
KRMR	**Karymshinskiy**	**5.54**	**246**	*e*P	**Pn**	**13 34 25.1**	**-0.2**
KRMR				*e*S	**Sn**	**13 35 26.3**	**-2.7**
PETK	**Petropavlovsk-**	**5.63**	**250**	P	**Pn**	**13 34 27.6**	**+1.0**
	9.0nm,0.5s,baz=71,slow=16,SNR=48						
PETK				S	**Sn**	**13 35 30.6**	**-0.7**
	2.6nm,0.8s,baz=79,slow=23,SNR=1.3						
MTVR	**Mutnovka**	**5.70**	**243**	*e*P	**Pn**	**13 34 28.4**	**+0.8**
GRL	**Gorelyy**	**5.72**	**244**	*e*P	**Pn**	**13 34 28.9**	**+1.0**
ASAK	**Asacha**	**5.90**	**243**	*e*P	**Pn**	**13 34 31.8**	**+1.6**
ILAR	**Eielson Array**	**24.51**	**49**	P	**P**	**13 38 21.6**	**-0.5**
	1.4nm,1.0s,baz=254,slow=9.1,SNR=8.9						
	1.4nm,1.0s						
KSRS	**Korea Array**	**31.53**	**252**	P	P	13 39 18.3	-6.6
	0.8nm,0.9s,baz=46,slow=10,SNR=2.3						
	0.8nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.58**	**179**	T	T	14 17 14.1	
	baz=0.1,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**35.60**	**179**	T	T	14 17 13.8	
	baz=0.1,slow=76,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**35.60**	**179**	T	T	14 17 13.7	
	baz=0.1,slow=76,SNR=7.3						
MKAR	**Makanchi Array**	**50.49**	**298**	P	**P**	**13 41 59.8**	**-0.9**
	0.3nm,0.8s,baz=65,slow=6.8,SNR=1.8						
	0.3nm,0.8s						

*TEH **31** 13:36:10.9, 33°.75N × 45°.77E, h12 km ± 999 km, ML2.9*
*ISN **31** 13:36:11.4 ± 0.6, 33°.68N × 45°.76E, h19 km ± 4 km, ML2.9*
ISC 31 13:36:10.6 ± 1.4, **33°.75N** ± 0°.04 × **45°.81E** ± 0°.05, **h5** km ± 12 km, **n10, σ 0§60/15, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.36**	**110**	Pg	**Pg**	**13 36 18.6**	**-0.8**
ILBA				Sg	**Sb**	**13 36 26.0**	**+0.6**
IBDR	**Badra**	**0.64**	**171**	*e*Pg	**Pg**	**13 36 23.0**	**0.0**
IBDR				*e*Sg	**Sg**	**13 36 31.0**	**-0.3**
IBDR				AML	AML	13 36 48.4	
	comp=N,178nm,0.7s						
IBDR				AML	AML	13 36 54.0	
	comp=E,146nm,0.4s						
IGHG	**Ghaleghazi**	**0.86**	**47**	Pg	**Pg**	**13 36 27.5**	**+0.4**
IGHG				Sg	**Sn**	**13 36 41.4**	**-1.2**
IDHR	**Dehrash**	**1.07**	**27**	Pg	**Pn**	**13 36 32.8**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.15**	**62**	Pg	**Pn**	**13 36 33.8**	**+0.2**
BHD	**Baghdad**	**1.28**	**249**	*e*Pn	**Pg**	**13 36 35.0**	**-0.2**
BHD				*e*Sn	**Sn**	**13 36 53.0**	**+0.3**
BHD				AML	AML	13 36 57.8	
	comp=E,550nm,0.6s						
ILIN	**Lien**	**1.51**	**39**	Pg	**Pb**	**13 36 39.0**	**-0.2**
IKFM	**Kafar-mosalman**	**1.72**	**97**	Pg	**Pb**	**13 36 42.9**	**+0.3**
IBZA	**Bozab**	**1.85**	**66**	Pn	**Pb**	**13 36 44.6**	**-0.4**
RAFI	**Al-Rafai**	**2.03**	**173**	*e*Pn	**Pn**	**13 36 46.0**	**+0.5**
RAFI				*e*Sn	**Sn**	**13 37 11.0**	**-0.3**

*IDC **31** 13:39:15.9 ± 6.4, 5°.82S × 151°.76E, h105 km ± 51 km, mb3.0/4, mbtmp3.4/5, Error ellipse: s-maj=72.9km s-min=34.5km az=116.0*
ISC 31 13:39:14.4 ± 1.8, **5°.9S** ± 0°.3 × **151°.9E** ± 0°.4, **h100** km, **n6, σ 0§76/7, mb3.2/4, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.89**	**233**	P	**Pn**	**13 40 39.4**	**+0.2**
	15nm,0.9s,baz=62,slow=19,SNR=1.8						
PMG				S	**Sn**	**13 41 45.8**	**+0.3**
	14nm,0.9s,baz=46,slow=23,SNR=1.5						
WRA	**Warramunga Arr**	**22.09**	**229**	P	**P**	**13 44 01.4**	**-0.2**
	1.2nm,0.7s,baz=53,slow=9.8,SNR=3.9						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**24.78**	**223**	P	**P**	**13 44 26.1**	**-1.0**
	0.2nm,0.3s,baz=56,slow=9.3,SNR=1.3						
	0.2nm,0.3s						
SONM	**Songino Array**	**66.78**	**328**	P	**P**	**13 49 54.9**	**-0.4**
	0.3nm,0.6s,baz=145,slow=5.3,SNR=2.3						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.47**	**22**	P	**P**	**13 51 30.8**	**+0.2**
	0.2nm,0.7s,baz=260,slow=4.5,SNR=1.7						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.80**	**286**	PKPbc	**PKiKP**	**13 58 55.7**	**+0.9**
	0.4nm,0.3s,baz=82,slow=2.2,SNR=8.9						

*RSPR **31** 14:01:00.4, 18°.59N × 66°.82W, h77 km ± 1 km, MD3.1/4*
SDD 31 14:00:21.1 ± 2.4, **18°.83N × 69°.26W, h15** km ± 960 km, **MD3.1, ML2.5, 3C-2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.89**	**110**	*e*Pg	Pb	14 00 37.2	-1.0
BON1	**Bonao**	**1.08**	**276**	*e*Pg	Pb	14 00 39.1	-2.5
ABDR	**Alto Bandera**	**1.30**	**270**	*e*Pg	Pn	14 00 44.7	-0.3
ABDR				*e*Sg	Sb	14 01 00.1	-1.9
ABDR				IAML		14 01 00.6	
	comp=N,69nm,3.2s						
ABDR				IAML		14 01 03.4	
	comp=Z,17nm,2.2s						
AGPR	**Aguadilla, PR**	**2.07**	**100**	*e*Pg	Pb	14 00 58.1	-0.2
AGPR				*e*Sg	Sb	14 01 22.9	-1.0
AGPR				IAML		14 01 25.6	
	comp=Z,67nm,1.5s						
AGPR				IAML		14 01 57.0	
	comp=N,97nm,1.9s						
LSP	**Las Mesas**	**2.16**	**107**	*e*S	Sn	14 01 23.2	0.0
CRPR	**Cabo Rojo, PR**	**2.20**	**111**	⇑*e*P	Pg	14 01 14.9	+12
CRPR	**Cabo Rojo, PR**	**2.20**	**111**	*e*S	Sn	14 01 25.2	+1.2
MLPR	**Magueyes Islan**	**2.27**	**112**	⇓*e*P	Pg	14 01 14.7	+10
MLPR	**Magueyes Islan**	**2.27**	**112**	*e*S	Sn	14 01 25.1	-0.7
AOPR	**Arecibo Observ**	**2.42**	**101**	⇓*e*P	Pg	14 01 11.1	+3.4
AOPR	**Arecibo Observ**	**2.42**	**101**	*e*S	Sn	14 01 20.3	-9.3
AOPR	**Arecibo Observ**	**2.42**	**101**	*e*Pg	Pb	14 01 02.8	-1.7
AOPR				*e*Sg	Sn	14 01 31.8	+2.1
AOPR				IAML		14 02 08.0	
	comp=N,31nm,1.3s						
OBIP	**Obispado Ponce**	**2.64**	**107**	⇑*e*P	Pg	14 01 14.2	+2.5
OBIP	**Obispado Ponce**	**2.64**	**107**	*e*S	Sn	14 01 24.6	-10
CELP	**Cerrillos**	**2.65**	**106**	⇑*e*P	Pg	14 01 13.6	+1.6
CELP	**Cerrillos**	**2.65**	**106**	*e*S	Sn	14 01 24.3	-11

*IDC **31** 14:04:19.9 ± 1.8, 49°.96N × 18°.42E, h0 km, mb3.1/1, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=34.5km s-min=10.6km az=137.0*
*VIE **31** 14:04:19.4 ± 1.1, 50°.01N × 18°.45E, h0 km, mb2.4/6, ml2.6/6, ms3.8/1, Error ellipse: s-maj=10.6km s-min=7.1km az=148.0 25 km NE of Ostrava Suspected Mining induced.*
*IPEC **31** 14:04:19.4 ± 0.2, 50°.06N × 18°.52E, h1 km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=1.0km az=164.0*
*PRU **31** 14:04:21.4, 50°.04N × 18°.41E, h0 km*
ISC 31 14:04:18.9 ± 0.7, **50°.04N** ± 0°.03 × **18°.47E** ± 0°.02, **h0** km, **n57, σ 1§09/89, 8C-4D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.18**	**284**	*e*PG	**Pg**	**14 04 24.9**	**+2.6**
RAC				*e*SG	**Sg**	**14 04 28.6**	**+3.9**
OKC	**Ostrava-Krasne**	**0.29**	**226**	*e*PG	**Pb**	**14 04 26.0**	**-0.9**
OKC				*e*SG	**Sb**	**14 04 30.4**	**-1.9**
	comp=Z,293nm,0.5s						
MORC	**Moravsky Berou**	**0.65**	**247**	⇓P	**Pb**	**14 04 32.5**	**-0.7**
MORC				⇑S	**Sb**	**14 04 43.0**	**+0.2**
MORC	**Moravsky Berou**	**0.65**	**247**	*e*Pg	**Pb**	**14 04 32.5**	**-0.7**
	baz=66						
MORC				*e*Sg	**Sg**	**14 04 41.0**	**+1.2**
	184nm,0.6s,baz=66						
MORC	**Moravsky Berou**	**0.65**	**247**	*e*PG	**Pb**	**14 04 32.6**	**-0.6**
MORC				*e*SG	**Sg**	**14 04 41.1**	**+1.2**
MAUC	**Maruska**	**0.79**	**212**	*e*PG	**Pb**	**14 04 35.5**	**-0.1**
OJC	**Ojcow**	**0.88**	**78**	*e*Pg	**Pg**	**14 04 35.6**	**0.0**
OJC				*e*Sg	**Sg**	**14 04 47.4**	**+0.4**
KRLC	**Kraliky**	**1.09**	**272**	*e*PG	**Pg**	**14 04 39.8**	**+0.1**
KRLC				*e*SG	**Sg**	**14 04 53.8**	**0.0**
	comp=Z,110nm,0.5s						
LANS	**Liptovska Anna**	**1.10**	**143**	*e*PG	**Pb**	**14 04 40.7**	**-0.1**
LANS				*e*SG	**Sb**	**14 04 56.5**	**+0.7**
LANS				*e*LG	Lg	14 04 59.7	
JAVC	**Velka Javorina**	**1.29**	**204**	*e*Pg	**Pn**	**14 04 44.4**	**+0.2**
	baz=24						
JAVC	**Velka Javorina**	**1.29**	**204**	*e*PG	**Pn**	**14 04 44.5**	**+0.2**
NIE	**Niedzica**	**1.34**	**117**	*e*Pg	**Pg**	**14 04 44.6**	**+0.1**
NIE				*e*Sg	**Sn**	**14 05 03.6**	**+0.1**
DPC	**Dobruska-Polom**	**1.41**	**284**	*e*PG	**Pb**	**14 04 46.2**	**+0.1**
DPC				*e*SG	**Sn**	**14 05 05.2**	**0.0**
	comp=Z,102nm,0.4s						
VRAC	**Vranov**	**1.42**	**240**	⇑P	**Pb**	**14 04 46.2**	**-0.1**
VRAC				⇑S	**Sn**	**14 05 05.6**	**+0.2**
VRAC	**Vranov**	**1.42**	**240**	*e*Pg	**Pb**	**14 04 46.1**	**-0.1**
	baz=58						
VRAC				*e*Sg	**Sn**	**14 05 05.5**	**+0.1**
	78nm,0.4s,baz=58						
VRAC	**Vranov**	**1.42**	**240**	Pg	**Pb**	**14 04 46.2**	**-0.1**
	7.7nm,0.3s,baz=59,slow=15,SNR=77						
VRAC				Lg	Lg	14 05 05.1	
	15nm,0.3s,baz=140,slow=19,SNR=24						
OSTC	**Ostas**	**1.53**	**291**	*e*PG	**Pb**	**14 04 47.9**	**-0.3**
OSTC				*e*SG	**Sn**	**14 05 09.9**	**+1.7**
	comp=Z,46nm,0.4s						
VYHS	**Vyhne**	**1.57**	**171**	*e*PG	**Pb**	**14 04 48.4**	**-0.3**
VYHS				*e*SG	**Sg**	**14 05 09.7**	**+0.6**
KSP	**Ksiaz**	**1.61**	**301**	*e*Pg	**Pn**	**14 04 48.6**	**+0.1**
KSP				*e*Sg	**Sg**	**14 05 11.1**	**+0.6**
CHVC	**Chvalec**	**1.64**	**290**	*e*PG	**Pb**	**14 04 49.7**	**-0.3**
UPC	**Upice**	**1.64**	**287**	*e*PG	**Pg**	**14 04 50.4**	**0.0**
KRUC	**Moravsky**	**1.67**	**235**	*e*Pn	**Pb**	**14 04 50.1**	**-0.3**
	baz=53						
KRUC				*e*Sg	**Sg**	**14 05 13.0**	**+0.6**
	71nm,0.8s,baz=53						
KRUC	**Moravsky**	**1.67**	**235**	*e*PN	**Pb**	**14 04 50.2**	**-0.2**
KRUC				*e*SG	**Sg**	**14 05 13.1**	**+0.6**
MODS	**Modra-Piesok**	**1.84**	**206**	*e*PN	**Pn**	**14 04 51.9**	**+0.1**
MODS				*e*SN	**Sg**	**14 05 18.0**	**0.0**
MODS				*e*LG	Lg	14 05 26.5	
STHS	**Stebnicka Huta**	**1.91**	**108**	*e*PG	**Pg**	**14 04 55.6**	**+0.2**
KECS	**Kecovo**	**2.04**	**139**	*e*PN	**Pn**	**14 04 54.5**	**0.0**
KECS				*e*LG	Lg	14 05 22.5	
PSZ	**Piszkesteto**	**2.32**	**156**	⇑P	**Pn**	**14 04 58.7**	**+0.3**
PSZ				⇑S	**Sb**	**14 05 31.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**2.38**	**268**	*e*PG	**Pb**	**14 05 02.5**	**-0.1**
GOPC				*e*SG	**Sg**	**14 05 35.3**	**0.0**
	comp=Z,29nm,0.5s						
PRU	**Pruhonice**	**2.53**	**270**	*e*PG	**Pg**	**14 05 07.0**	**-0.4**
PRU				*e*SG	**Sg**	**14 05 39.7**	**-0.5**
	comp=Z,19nm,0.5s						
PVCC	**Panska Ves**	**2.55**	**283**	*e*PG	**Pg**	**14 05 06.7**	**-1.0**
KOLS	**Kolonicke sedl**	**2.72**	**113**	*e*PG	**Pb**	**14 05 09.6**	**+1.3**
CONA	**Conrad Observa**	**2.72**	**220**	*e*Pn	**Pn**	**14 05 03.9**	**0.0**
	4.1nm,0.6s						
CONA				*e*Pg	**Pg**	**14 05 12.3**	**+1.3**
	7.4nm,0.4s						
RONA	**Rosalia, Austr**	**2.75**	**212**	*e*Pn	**Pn**	**14 05 03.4**	**-0.9**
	3.3nm,0.5s						
ZVC	**Zvikov**	**2.84**	**259**	*e*PG	**Pg**	**14 05 12.4**	**-0.8**
CKRC	**Cesky Krumlov**	**2.98**	**247**	*e*PN	**Pn**	**14 05 08.1**	**+0.7**
CKRC				*e*PG	**Pb**	**14 05 14.2**	**+1.4**
CKRC				*e*SG	**Sg**	**14 05 53.7**	**-0.8**
	comp=Z,20nm,0.5s						
BRG	**Berggiesshubel**	**3.01**	**288**	Pg	**Pg**	**14 05 15.1**	**-1.4**
BRG				Sg	**Sg**	**14 05 55.5**	**0.0**
BRG				Amp		14 06 01.6	
	comp=Z,14nm,0.4s						
HSKC	**Hora Svate Kat**	**3.28**	**282**	*e*PG	**Pg**	**14 05 19.9**	**-1.7**
KHC	**Kasperske Hory**	**3.31**	**256**	*e*PN	**Pn**	**14 05 11.8**	**-0.1**
KHC				*e*PG	**Pb**	**14 05 20.2**	**+1.8**
KHC				*e*SN	**Sn**	**14 05 50.5**	**-1.5**
KHC				*e*SG	**Sg**	**14 06 06.3**	**+1.2**
	comp=Z,21nm,0.5s						
GERES	**GERESS Array B**	**3.33**	**251**	Pn	**Pn**	**14 05 11.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=4.2						
GERES				Pg	**Pb**	**14 05 19.4**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=69,slow=18,SNR=15						
GERES				Lg	Lg	14 06 03.2	
	comp=Z,3.5nm,0.3s,baz=65,slow=28,SNR=3.4						
	comp=Z,0.7nm,0.3s						
ARSA	**Arzberg**	**3.41**	**216**	*e*Pn	**Pn**	**14 05 15.2**	**+1.9**
	comp=Z,1.2nm,0.4s						
MOA	**Molln**	**3.53**	**233**	*e*Pn	**Pn**	**14 05 15.0**	**0.0**
	comp=Z,0.5nm,0.2s						
MOA				*e*Pg	**Pg**	**14 05 24.8**	**-1.7**
	comp=Z,3.6nm,0.4s						
MOA				*e*Sg	**Sg**	**14 06 11.2**	**-1.1**
	comp=Z,7.8nm,0.4s						
CLL	**Collm**	**3.70**	**292**	*e*Pg	**Pg**	**14 05 30.0**	**+0.2**
CLL				*i* x	x	14 05 36.5	
CLL				*e*Sg	**Sg**	**14 06 18.0**	**+0.3**
	comp=Z,18nm,0.7s						
DRGR		**4.31**	**137**	⇓P	**Pn**	**14 05 25.9**	**+0.3**
SIRR	**Siria**	**4.34**	**149**	⇑P	**Pn**	**14 05 26.3**	**+0.3**
KBA	**Koelnbreinsper**	**4.51**	**231**	*e*Pn	**Pn**	**14 05 29.9**	**+1.3**
	comp=Z,1.0nm,0.3s						
KBA				Sg	**Sg**	**14 06 43.2**	**-0.6**
	comp=Z,8.3nm,0.7s						
LESA	**Schwarzleotal**	**4.64**	**238**	*e*Sg	**Sg**	**14 06 48.1**	**+0.2**
	comp=Z,9.7nm,0.6s						
BZS	**Buzias**	**4.91**	**153**	⇓P	**Pn**	**14 05 34.1**	**+0.2**
SURR	**Surduc**	**4.94**	**149**	⇓P	**Pn**	**14 05 34.4**	**+0.1**
BURAR	**Bucovina Array**	**5.08**	**116**	⇑P	**Pn**	**14 05 37.0**	**+0.7**
GZR	**Gura Zlata**	**5.48**	**146**	⇑P	**Pn**	**14 05 42.7**	**+0.9**
MOTA	**Moosalm**	**5.57**	**244**	*e*Pg	**Pg**	**14 06 06.2**	**+0.6**
	comp=Z,2.3nm,0.3s						
FETA	**Feichten**	**5.96**	**243**	Pg	**Pb**	**14 06 08.0**	**+4.3**
	comp=Z,1.4nm,0.5s						
FETA				Sg	**Sg**	**14 07 29.4**	**-0.9**
	comp=Z,6.7nm,0.9s						
DAVOX	**Davos/Dischmat**	**6.58**	**244**	Pn	**Pn**	**14 05 55.7**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=3.2,slow=18,SNR=1.9						
DAVOX				Lg	Lg	14 07 47.8	
	comp=Z,0.6nm,0.3s,baz=150,slow=19,SNR=3.1						
	comp=Z,2.8nm,0.6s						
AKASG	**Malin Array Be**	**6.91**	**80**	Pg	Pg	14 06 25.7	-5.5
	comp=Z,0.5nm,0.3s,baz=268,slow=14,SNR=5.2						
AKASG				Lg	Lg	14 07 59.5	
	comp=Z,0.4nm,0.3s,baz=270,slow=30,SNR=2.1						
NACGM	**Naroch**	**7.03**	**43**	*e*P	Pn	14 05 54.6	-8.5
	comp=Z,8.0nm,0.7s,baz=232						
FINES	**FINESS Array B**	**12.20**	**18**	Pn	**Pn**	**14 07 10.5**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=199,slow=11,SNR=7.5						
	comp=Z,0.7nm,0.3s						
YKA	**Yellowknife Ar**	**61.80**	**337**	P	**P**	**14 14 40.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=22,slow=6.1,SNR=3.0						
	comp=Z,0.1nm,0.3s						

IDC 31 14:24:28.2 ± 1.4, **17°.81S × 173°.96W, h0** km, **mb4.2/4, mbtmp4.2/4, MS3.0/2, Error ellipse: s-maj=54.8km s-min=28.9km az=139.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.82**	**199**	P	P	14 29 22.1	+0.1
	30nm,1.2s,baz=248,slow=1.5,SNR=6.6						
	30nm,1.2s						
PPT	**Papeete**	**23.23**	**93**	LR	LR	14 37 41.7	
	comp=Z,14nm,18.7s,baz=298,slow=34						
WRA	**Warramunga Arr**	**48.81**	**259**	P	P	14 33 15.4	-0.3
	0.9nm,0.5s,baz=97,slow=7.3,SNR=24						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**48.89**	**254**	P	P	14 33 16.2	0.0
	4.5nm,0.7s,baz=89,slow=8.8,SNR=76						
ASAR				PcP	PcP	14 34 40.8	-0.1
	0.3nm,0.6s,baz=102,slow=3.7,SNR=1.3						
	4.5nm,0.7s						
JNU	**Nakatsue**	**73.06**	**314**	LR	LR	15 02 19.2	
	comp=Z,26nm,21.4s,baz=153,slow=31						
NVAR	**Mina Array Bea**	**76.48**	**42**	P	P	14 36 20.3	0.0
	0.4nm,0.6s,baz=226,slow=8.5,SNR=5.0						
	0.4nm,0.6s						

*IDC **31** 14:32:54.4 ± 0.7, 11°.70N × 124°.44E, h0 km, mb4.0/13, mbtmp4.1/14, MS3.4/2, Error ellipse: s-maj=40.3km s-min=14.7km az=67.0*
*NEIC **31** 14:32:57.2 ± 1.8, 11°.91N ± 0°.08 × 124°.52E ± 0°.09, h10 km ± 1 km, mb4.5/26, Error ellipse: s-maj=17.6km s-min=10.5km az=55.0*
ISC 31 14:32:56.4 ± 0.6, **11°.87N** ± 0°.07 × **124°.5E** ± 0°.1, **h10** km, **n53, σ 1§18/53, mb4.4/28, 1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**4.16**	**303**	Pn	**Pn**	**14 34 00.2**	**+0.2**
	76nm,0.3s,baz=155,slow=18,SNR=1.1						
DAV	**Davao City (W)**	**4.88**	**168**	Pn	**Pn**	**14 34 12.0**	**+2.1**
MYLDM	**Lahad Datu**	**8.94**	**222**	Pn	**Pn**	**14 35 08.0**	**+2.4**
SBUM	**Sibu**	**15.38**	**233**		**Pn**	**14 36 35.8**	**+2.1**
DLV	**T Lat**	**15.71**	**272**	Pn	**Pn**	**14 36 37.5**	**-0.7**
DLV				IAmb	IAmb	14 36 57.9	
	comp=Z,47nm,1.5s						
KSM	**Kuching**	**17.49**	**235**	P	**Pn**	**14 37 01.5**	**+0.9**
UBPT	**Khong Chiam**	**18.85**	**283**	P	**P**	**14 37 16.1**	**-0.6**
UBPT				IAmb	IAmb	14 37 24.9	
	comp=Z,54nm,1.5s						
MMRI	**Maumere**	**20.50**	**187**	P	**P**	**14 37 34.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**22.69**	**208**	P	**P**	**14 37 58.5**	**+0.1**
JTU	**Tsushima**	**22.98**	**10**	P	**P**	**14 38 00.1**	**-1.1**
JTU				IAmb	IAmb	14 38 30.4	
	comp=Z,51nm,1.4s						
KSRS	**Korea Array**	**25.66**	**6**	P	**P**	**14 38 28.1**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=185,slow=9.8,SNR=5.6						
	comp=Z,1.3nm,0.8s						
XAN	**Xi'an**	**26.27**	**330**	⇓P	**P**	**14 38 32.3**	**+0.2**
XAN				pP	sP	14 38 37.8	+1.4
XAN				pmax	pmax		
	comp=Z,26nm,0.8s						
TNCH	**TengChong**	**27.87**	**302**	*e*P	**P**	**14 38 45.0**	**-1.7**
TNCH				pmax	pmax		
	comp=Z,12nm,2.0s						
WRA	**Warramunga Arr**	**33.05**	**163**	P	**P**	**14 39 29.8**	**-2.4**
	comp=Z,1.5nm,0.8s,baz=342,slow=9.2,SNR=5.8						
	comp=Z,1.5nm,0.8s						
WR0	**Warramunga Arr**	**33.12**	**163**	P	**P**	**14 39 31.8**	**-1.1**
WR0				IAmb	IAmb	14 39 53.3	
	comp=Z,16nm,1.4s						
GOMU	**GeErMu**	**36.12**	**317**	P	**P**	**14 40 01.0**	**+1.8**
GOMU				pP	sP	14 40 09.5	+6.0
GOMU				sP	pP	14 40 23.8	+22
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AS31	**Alice Springs**	**36.48**	**165**	P	**P**	**14 40 01.2**	**-0.8**
ASAR	**Alice Springs**	**36.48**	**165**	P	**P**	**14 40 00.7**	**-1.3**
ASAR	**Alice Springs**	**36.48**	**165**	P	**P**	**14 40 00.9**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=345,slow=6.8,SNR=34						
ASAR				LR	LR	14 56 01.6	
	comp=Z,61nm,18.8s,baz=3.0,slow=38						
	comp=Z,1

FINES	**FINESS Array B**	**83.69**	**331**	P	**P**	**14 45 24.9**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=15,slow=7.9,SNR=3.7						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**90.58**	**333**	LR	LR	15 28 28.5	
	comp=Z,13nm,18.8s,baz=65,slow=37						

IDC 31 14:40:19.4±8.4, 3°08'S×146°29'E, h0km, mb4.0/3, mbtmp4.0/5, ML2.4/2, MS3.4/8, Error ellipse: s-maj=121.0km s-min=70.0km az=29.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.34**	**172**	Pn	Pn	14 41 54.6	+0.3
	0.6nm,0.3s,baz=0.0,slow=20,SNR=1.8						
	12nm,0.7s						
HNR	**Honiara**	**14.96**	**116**	LR	LR	14 49 53.9	
	comp=Z,611nm,18.5s,baz=320,slow=38						
CTA	**Charters Tower**	**16.91**	**180**	Pn	Pn	14 44 17.8	+0.2
	0.1nm,0.3s,baz=0.0,slow=11,SNR=1.4						
	1.7nm,0.9s						
WRA	**Warramunga Arr**	**20.42**	**214**	P	P	14 44 58.5	+0.1
	12nm,0.9s,baz=39,slow=12,SNR=46						
	12nm,0.9s						
ASAR	**Alice Springs**	**23.71**	**209**	P	P	14 45 32.9	-0.4
	3.1nm,0.9s,baz=40,slow=8.4,SNR=16						
	3.1nm,0.9s						
DZM	**Mont Dzumac**	**27.19**	**136**	LR	LR	14 55 48.2	
	comp=Z,54nm,18.2s,baz=258,slow=34						
STKA	**Stephens Creek**	**28.98**	**188**	P	P	14 46 21.1	+0.2
	1.3nm,0.7s,baz=339,slow=8.6,SNR=1.6						
	1.3nm,0.7s						
MJAR	**Matsushiro Arr**	**40.13**	**350**	LR	LR	15 02 22.3	
	comp=Z,44nm,19.7s,baz=183,slow=33						
NWAO	**Narrogin (SRO)**	**40.27**	**219**	LR	LR	15 04 24.0	
	comp=Z,48nm,20.7s,baz=222,slow=36						
KSRS	**Korea Array**	**43.79**	**339**	LR	LR	15 04 32.6	
	comp=Z,13nm,21.2s,baz=155,slow=33						
ZALV	**Zalesovo Beam**	**76.18**	**328**	LR	LR	15 24 38.8	
	comp=Z,16nm,20.4s,baz=13,slow=35						
YBH	**Yreka Blue Hor**	**92.78**	**49**	LR	LR	15 28 11.0	
	comp=Z,20nm,18.7s,baz=254,slow=31						
KIRV	**Kirov**	**96.20**	**328**	LR	LR	15 38 31.6	
	comp=Z,29nm,19.2s,baz=47,slow=36						

*NEIC **31** 14:45:32.7±1.3, 52°.3N±0°.2×179°.8E±0°.1, h255km±10km, mb4.1/32, ML3.6(AEIC), Error ellipse: s-maj=23.7km s-min=9.4km az=180.0*
*AEIC **31** 14:45:32.5±3.2, 52°.2N±0°.2×179°.91E±0°.10, h246km±6km, Error ellipse: s-maj=21.9km s-min=8.8km az=180.0*
*IDC **31** 14:45:34.9±2.4, 52°.64N×179°.74E, h263km±24km, mb3.2/14, mbtmp4.0/17, Error ellipse: s-maj=23.5km s-min=9.5km az=175.0*

ISC 31 14:45:33.0±0.6, 52°.4N±0°.1×179°.67E±0°.04, h252km±6km, n223, σ1°12/232, mb3.6/15, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEPE	**Semis' Perret**	**0.44**	**182**		**Pn**	**14 46 05.9**	**-0.1**
CEPE					**S**	**14 46 31.4**	**-0.4**
CETU	**Semis' Tuman**	**0.45**	**194**		**Pn**	**14 46 06.3**	**+0.4**
CETU					**S**	**14 46 32.2**	**+0.3**
LSSE	**Little Sitkin**	**0.83**	**236**		**Pn**	**14 46 07.6**	**+0.3**
LSNW	**Little Sitkin**	**0.83**	**239**		**Pn**	**14 46 07.4**	**+0.1**
LSNW					**S**	**14 46 35.4**	**+1.1**
AMKA	**Amchitka**	**1.05**	**193**		**Pn**	**14 46 08.0**	**-0.5**
AMKA					**S**	**14 46 34.1**	**-2.3**
GANE	**Gareloi Northe**	**1.12**	**121**		**Pn**	**14 46 08.1**	**-0.8**
GALAA	**Gareloi Lava P**	**1.16**	**123**		**Pn**	**14 46 08.5**	**-0.6**
TANO	**Tanaga North**	**1.45**	**109**		**Pn**	**14 46 10.2**	**-0.8**
TASE	**Tanaga Southea**	**1.52**	**111**		**Pn**	**14 46 10.7**	**-1.0**
TAFP	**Tanaga Falls P**	**1.53**	**108**		**Pn**	**14 46 10.6**	**-1.1**
TAFP					**S**	**14 46 40.3**	**-1.8**
KICM	**Kanaga Island**	**1.99**	**103**		**Pn**	**14 46 14.5**	**-1.0**
KICM					**S**	**14 46 48.4**	**-0.5**
KIWB	**Kanaga Island**	**2.04**	**104**		**Pn**	**14 46 14.3**	**-1.6**
KIRH	**Kanaga Island**	**2.06**	**103**		**Pn**	**14 46 15.1**	**-0.9**
ADK	**Adak**	**2.31**	**102**		**Pn**	**14 46 16.7**	**-1.7**
GSCK	**Great Sitkin C**	**2.59**	**97**		**Pn**	**14 46 20.1**	**-1.2**
GSMY	**Great Sitkin M**	**2.65**	**96**		**Pn**	**14 46 20.4**	**-1.5**
SHEM	**Shemya Is, Ala**	**3.42**	**278**	P	**Pn**	**14 46 29.1**	**-0.9**
	33nm,0.3s,baz=84,slow=6.0,SNR=10						
SHEM				S	**S**	**14 47 12.4**	**-2.9**
	49nm,0.3s,baz=267,slow=19,SNR=13						
SMY	**Shemya**	**3.42**	**278**	Pn	**Pn**	**14 46 28.9**	**-1.2**
ATKA	**Atka Island**	**3.77**	**91**	Pn	**Pn**	**14 46 31.9**	**-2.2**
M11K	**Mekoryuk**	**11.17**	**39**	P	**P**	**14 48 10.7**	**+0.7**
	baz=229						
GAMB	**Gambell**	**12.27**	**18**	P	**P**	**14 48 23.2**	**+1.1**
	baz=205						
M13K	**Dall Lake**	**12.33**	**43**	Pn	**Pn**	**14 48 19.8**	**-0.5**
M13K	**Dall Lake**	**12.33**	**43**	P	**P**	**14 48 24.0**	**+1.2**
	baz=236						
CNBA	**Chernabura Isl**	**12.54**	**71**	Pn	**Pn**	**14 48 21.2**	**-1.9**
M14K	**Bethel**	**13.09**	**43**	P	**Pn**	**14 48 30.9**	**+1.3**
	baz=237						
L14K	**Kuka Creek**	**13.12**	**40**		**Pn**	**14 48 30.3**	**+0.3**
L14K	**Kuka Creek**	**13.12**	**40**	P	**Pn**	**14 48 30.8**	**+0.8**
	baz=234						
PEA0B	**Petropavlovsk-**	**13.32**	**282**		**P**	**14 48 34.4**	**+0.4**
PETK	**Petropavlovsk-**	**13.32**	**282**		**P**	**14 48 33.9**	**0.0**
PETK	**Petropavlovsk-**	**13.32**	**282**	P	**P**	**14 48 33.6**	**-0.4**
	9.6nm,0.9s,baz=87,slow=16,SNR=16						
PETK				S	**S**	**14 50 58.2**	**-2.1**
	4.1nm,0.9s,baz=93,slow=16,SNR=1.3						
O15K	**Ungalikthiuk R**	**13.35**	**51**	P	**P**	**14 48 36.0**	**+1.9**
	baz=247						
M15K	**Kasigluk River**	**13.60**	**45**	P	**Pn**	**14 48 37.3**	**+1.3**
	baz=240						
J14K	**Nanvaranak Lak**	**13.68**	**34**	P	**Pn**	**14 48 37.9**	**+1.1**
	baz=227						
L15K	**Ungalak Mounta**	**13.79**	**40**	P	**Pn**	**14 48 39.2**	**+1.0**
	baz=235						
K15K	**Wolf Creek Mou**	**14.12**	**38**	P	**Pn**	**14 48 42.8**	**+0.5**
K15K	**Wolf Creek Mou**	**14.12**	**38**	P	**P**	**14 48 43.8**	**+1.0**
	baz=233						
ANM	**Nome**	**14.43**	**27**		**P**	**14 48 45.5**	**-0.6**
M16K	**Timber Creek**	**14.50**	**45**	P	**P**	**14 48 47.2**	**+0.2**
	baz=242						
L16K	**Owhat River**	**14.62**	**42**	P	**P**	**14 48 47.8**	**-0.4**
	baz=239						
TNA	**Tin City**	**14.62**	**21**	P	**P**	**14 48 48.5**	**+0.4**
	baz=210						
Q16K	**King Salmon**	**14.75**	**55**	P	**Pn**	**14 48 53.0**	**+3.2**
	baz=254						
O17K	**Koliganek Bris**	**14.86**	**51**	P	**Pn**	**14 48 52.2**	**+1.0**
	baz=249						
P17K	**Kvichak River**	**15.00**	**54**	P	**Pn**	**14 48 54.7**	**+1.9**
	baz=252						
J16K	**Anvik River**	**15.06**	**36**		**P**	**14 48 53.6**	**+0.6**
J16K	**Anvik River**	**15.06**	**36**	P	**P**	**14 48 53.9**	**+0.8**
	baz=232						
N17K	**Nushagak Hills**	**15.09**	**48**	P	**Pn**	**14 48 54.7**	**+0.8**
	baz=247						
G15K	**Niukluk**	**15.13**	**27**	P	**P**	**14 48 54.0**	**+0.3**
	baz=220						
L17K	**Donlin**	**15.31**	**42**	P	**P**	**14 48 56.5**	**+0.6**
	baz=240						
H16K	**Elim**	**15.40**	**30**	P	**P**	**14 48 57.3**	**+0.5**
	baz=225						
I17K	**Unalakleet**	**15.40**	**34**	P	**P**	**14 48 57.2**	**+0.5**
	baz=230						
F15K	**North Star Dit**	**15.52**	**25**		**P**	**14 48 58.3**	**+0.3**
K17K	**Iditarod**	**15.60**	**40**		**P**	**14 48 59.1**	**+0.1**
K17K				IAmb	IAmb	14 49 01.0	
	comp=Z,6.3nm,0.8s						
K17K	**Iditarod**	**15.60**	**40**	P	**P**	**14 48 59.7**	**+0.6**
	baz=238						
P18K	**Big Mountain,**	**15.65**	**54**	P	**Pn**	**14 49 02.1**	**+1.4**
	baz=253						
N18K	**Kilae Creek**	**15.74**	**49**	P	**Pn**	**14 49 02.5**	**+0.8**
	baz=248						
O18K	**Koktuh Hills**	**15.79**	**52**	P	**Pn**	**14 49 04.1**	**+1.8**
	baz=252						
G16K	**Koyuk River**	**15.90**	**28**	P	**P**	**14 49 02.7**	**+0.5**
G16K				IAmb	IAmb	14 49 04.0	
	comp=Z,5.0nm,0.8s						
G16K	**Koyuk River**	**15.90**	**28**	P	**P**	**14 49 03.1**	**+0.8**
	baz=223						
O19K	**Port Alsworth**	**16.32**	**51**	P	**Pn**	**14 49 09.8**	**+1.4**
	baz=252						
H17K	**Granite Mounta**	**16.34**	**32**	P	**P**	**14 49 07.8**	**+0.7**
H17K				IAmb	IAmb	14 49 09.0	
	comp=Z,5.2nm,0.8s						
H17K	**Granite Mounta**	**16.34**	**32**	P	**P**	**14 49 08.1**	**+1.0**
	baz=228						
N19K	**Bonanza Creek**	**16.43**	**49**	P	**Pn**	**14 49 10.8**	**+0.9**
	baz=250						
G17K	**Kiwalik Mounta**	**16.48**	**30**	P	**P**	**14 49 08.8**	**+0.2**
	baz=226						
TTA	**Tatalina**	**16.62**	**41**	P	**P**	**14 49 10.2**	**-0.1**
TTA				IAmb	IAmb	14 49 13.9	
	comp=Z,4.8nm,0.8s						
TTA	**Tatalina**	**16.62**	**41**	P	**P**	**14 49 11.0**	**+0.8**
	baz=241						
KDAK	**Kodiak Island**	**16.70**	**60**	P	**P**	**14 49 09.1**	**-2.0**
KDAK	**Kodiak Island**	**16.70**	**60**	P	**P**	**14 49 09.0**	**-2.0**
	comp=Z,5.1nm,0.3s,baz=305,slow=3.6,SNR=37						
P19K	**Oil Pt**	**16.70**	**54**	P	**Pn**	**14 49 14.3**	**+1.3**
	baz=255						
BILL	**Bilibino**	**16.97**	**343**	P	**P**	**14 49 14.4**	**+0.5**
F17K	**Baldwin Pennin**	**16.98**	**27**	P	**P**	**14 49 14.1**	**+0.1**
F17K				IAmb	IAmb	14 49 17.1	
	comp=Z,9.7nm,1.5s						
F17K	**Baldwin Pennin**	**16.98**	**27**	P	**P**	**14 49 14.5**	**+0.5**
	baz=222						
H18K	**Honhosa River**	**16.98**	**33**	P	**P**	**14 49 14.6**	**+0.5**
H18K				IAmb	IAmb	14 49 16.2	
	comp=Z,5.8nm,0.7s						
H18K	**Honhosa River**	**16.98**	**33**	P	**P**	**14 49 14.9**	**+0.8**
	baz=231						
J19K	**Poorman**	**17.30**	**38**	P	**P**	**14 49 17.1**	**-0.5**
	baz=238						
E17K	**Hotham Inlet**	**17.30**	**25**	P	**P**	**14 49 17.9**	**+0.4**
	baz=220						
L20K	**Farewell, AK**	**17.31**	**44**	P	**P**	**14 49 18.4**	**+0.6**
	baz=246						
G18K	**Tagagawik**	**17.36**	**31**	P	**P**	**14 49 18.7**	**+0.5**
G18K	**Tagagawik**	**17.36**	**31**	P	**P**	**14 49 18.7**	**+0.5**
	baz=228						
C16K	**Lisburne Hills**	**17.47**	**19**	P	**P**	**14 49 19.9**	**+0.5**
C16K	**Lisburne Hills**	**17.47**	**19**	P	**P**	**14 49 20.0**	**+0.7**
	baz=211						
F18K	**Selawik**	**17.54**	**28**	P	**P**	**14 49 20.6**	**+0.5**
	baz=225						
K20K	**Telida**	**17.60**	**41**	P	**Pn**	**14 49 24.2**	**+0.7**
	baz=243						
N20K	**Mount Spurr**	**17.61**	**49**	P	**P**	**14 49 22.4**	**+1.4**
	baz=252						
CNPM	**China Poot**	**17.66**	**55**	P	**P**	**14 49 21.3**	**-0.3**
RDOG	**Red Dog Mine**	**17.80**	**22**	P	**P**	**14 49 24.2**	**+1.2**
	baz=216						
H19K	**Roundabout Mou**	**17.85**	**33**	P	**P**	**14 49 22.9**	**-0.5**
H19K				IAmb	IAmb	14 49 29.7	
	comp=Z,7.3nm,1.2s						
H19K	**Roundabout Mou**	**17.85**	**33**	P	**P**	**14 49 24.1**	**+0.7**
	baz=233						
SEY	**Seymchan**	**17.85**	**317**	P	**P**	**14 49 24.7**	**+1.2**
	comp=Z,6.3nm,0.6s,baz=116,slow=12,SNR=22						
E18K	**Tukpahlearik C**	**17.87**	**25**	P	**P**	**14 49 25.1**	**+1.3**
E18K				IAmb	IAmb	14 49 25.7	
	comp=Z,6.5nm,0.7s						
E18K	**Tukpahlearik C**	**17.87**	**25**	P	**P**	**14 49 25.2**	**+1.5**
	baz=222						
BRLK	**Bradley Lake**	**17.89**	**54**	P	**P**	**14 49 22.9**	**-1.1**
J20K	**Nowinta River**	**17.95**	**39**	P	**P**	**14 49 25.1**	**+0.4**
J20K				IAmb	IAmb	14 49 26.0	
	comp=Z,6.6nm,0.7s						
J20K	**Nowinta River**	**17.95**	**39**	P	**P**	**14 49 25.2**	**+0.6**
	baz=240						
G19K	**Purcell Mounta**	**18.02**	**31**	P	**P**	**14 49 24.8**	**-0.5**
G19K	**Purcell Mounta**	**18.02**	**31**	P	**P**	**14 49 25.9**	**+0.6**
	baz=231						
C17K	**DeLong Mountai**	**18.09**	**21**	P	**P**	**14 49 27.2**	**+1.2**
	baz=215						
SKT	**Skwentna**	**18.16**	**47**	P	**P**	**14 49 27.8**	**+0.9**
SKT				IAmb	IAmb	14 49 35.0	
	comp=Z,12nm,1.2s						
SKT	**Skwentna**	**18.16**	**47**	P	**P**	**14 49 28.5**	**+1.7**
	baz=250						
F19K	**Shaleruckik Mo**	**18.25**	**29**	P	**P**	**14 49 27.9**	**+0.2**
	baz=228						
SUA	**Susitna One**	**18.36**	**49**	P	**P**	**14 49 30.2**	**+1.1**
	baz=253						
H20K	**Anotleneega Mo**	**18.37**	**35**	P	**P**	**14 49 29.3**	**+0.2**
	baz=236						
CAST	**Castle Rocks**	**18.44**	**42**	P	**P**	**14 49 30.0**	**0.0**
CAST	**Castle Rocks**	**18.44**	**42**	P	**P**	**14 49 31.1**	**+1.1**
	baz=246						
CHUM	**Lake Minchumin**	**18.54**	**41**	P	**P**	**14 49 32.4**	**+1.5**
	baz=244						
SEW	**Seward**	**18.66**	**53**	P	**P**	**14 49 34.5**	**+2.3**
	baz=258						
C18K	**Utukok River**	**18.66**	**22**	P	**P**	**14 49 32.6**	**+0.3**
C18K				IAmb	IAmb	14 49 33.6	
	comp=Z,3.4nm,0.7s						
C18K	**Utukok River**	**18.66**	**22**	P	**P**	**14 49 32.8**	**+0.5**
	baz=218						
E19K	**Redstone River**	**18.82**	**28**	P	**P**	**14 49 33.7**	**-0.3**
E19K	**Redstone River**	**18.82**	**28**	P	**P**	**14 49 34.6**	**+0.6**
	baz=227						
KTH	**Kantishna Hill**	**18.97**	**43**	P	**P**	**14 49 35.8**	**+0.1**
F20K	**Avaraart Lake**	**19.01**	**30**	P	**P**	**14 49 35.5**	**-0.4**
F20K	**Avaraart Lake**	**19.01**	**30**	P	**P**	**14 49 36.0**	**+0.1**
	baz=231						
B18K	**Kokolik River**	**19.10**	**20**	P	**P**	**14 49 37.7**	**+0.8**
	baz=216						
BPAW	**Bear Paw Mtn.**	**19.16**	**41**	P	**P**	**14 49 38.3**	**+0.6**
	baz=245						
H21K	**Melozitna Rive**	**19.19**	**36**	P	**P**	**14 49 37.9**	**0.0**
	baz=239						
TRF	**Thorofare Moun**	**19.20**	**43**	P	**P**	**14 49 38.9**	**+0.7**
	baz=248						
D19K	**Kuna River**	**19.30**	**25**	P	**P**	**14 49 39.1**	**0.0**
D19K				IAmb	IAmb	14 49 42.4	
	comp=Z,5.3nm,0.6s						
D19K	**Kuna River**	**19.30**	**25**	P	**P**	**14 49 39.5**	**+0.4**
	baz=224						
C19K	**Lookout Ridge**	**19.39**	**22**	P	**P**	**14 49 40.8**	**+0.8**
	baz=220						
G21K	**Allakaket**	**19.40**	**33**	P	**P**	**14 49 40.1**	**0.0**
	baz=236						
KNK	**Knik Glacier**	**19.41**	**50**	P	**P**	**14 49 41.6**	**+1.3**
	baz=256						
SML	**Sawmill**	**19.56**	**49**	P	**P**	**14 49 43.4**	**+1.4**
	baz=255						
MLY	**Manley**	**19.65**	**39**	P	**P**	**14 49 43.0**	**+0.1**
	baz=243						
E20K	**Nigu River**	**19.66**	**27**	P	**P**	**14 49 43.3**	**+0.5**
	baz=227						
WAT1	**Susitna Watana**	**19.74**	**46**	P	**P**	**14 49 44.4**	**+0.6**
	baz=252						
F21K	**Alatna River**	**19.81**	**31**	P	**P**	**14 49 44.4**	**-0.1**
	baz=234						
H22K	**Ishtalitna Cre**	**19.82**	**36**	P	**P**	**14 49 44.7**	**+0.1**
	baz=240						
M23K	**Glacier View**	**19.84**	**49**	P	**P**	**14 49 45.3**	**+0.4**
	baz=256						
D20K	**Etivluk River**	**19.85**	**26**	P	**P**	**14 49 44.9**	**0.0**
	baz=226						
MCK	**McKinley**	**19.87**	**43**	P	**P**	**14 49 45.8**	**+0.7**
	baz=249						
A19K	**Wainwright**	**19.93**	**19**	P	**P**	**14 49 46.6**	**+0.9**
	baz=216						
WAT6	**Susitna Watana**	**20.03**	**47**	P	**P**	**14 49 47.8**	**+0.7**
	baz=254						
SCM	**Sheep Creek Mo**	**20.03**	**49**	P	**P**	**14 49 47.8**	**+0.8**
	baz=256						
NEA2	**Nenana**	**20.12**	**41**	P	**P**	**14 49 47.0**	**-0.9**
NEA2				IAmb	IAmb	14 49 49.9	
	comp=Z,6.1nm,0.9s						
NEA2	**Nenana**	**20.12**	**41**	P	**P**	**14 49 47.5**	**-0.4**
	baz=247						
I23K	**Minto, Yukon-K**	**20.23**	**39**	P	**P**	**14 49 49.0**	**0.0**
	baz=245						
DHY	**Denali Highway**	**20.33**	**45**	P	**P**	**14 49 49.6**	**-0.6**
DHY	**Denali Highway**	**20.33**	**45**	P	**P**	**14 50 3.0**	**+0.1**
	baz=253						
EYAK	**Cordova Ski Ar**	**20.55**	**53**	P	**P**	**14 49 54.6**	**+2.2**
	baz=261						
MDM	**Murphy Dome**	**20.60**	**40**	P	**P**	**14 49 52.5**	**-0.4**
MDM				IAmb	IAmb	14 49 53.1	
	comp=Z,4.1nm,0.7s						
M24K	**Tolsona, Glenn**	**20.62**	**49**	P	**P**	**14 49 53.5**	**+0.2**
	baz=257						
B20K	**Meade River**	**20.64**	**23**	P	**P**	**14 49 52.5**	**-0.7**
B20K	**Meade River**	**20.64**	**23**	P	**P**	**14 49 53.0**	**-0.2**
	baz=222						
C21K	**Knifeblade Rid**	**20.64**	**26**	P	**P**	**14 49 53.2**	**-0.1**
	baz=228						
G23K	**Bananza Creek**	**20.69**	**35**	P	**P**	**14 49 53.6**	**-0.3**
G23K				IAmb	IAmb	14 49 55.6	
	comp=Z,6.6nm,0.8s						
G23K	**Bananza Creek**	**20.69**	**35**	P	**P**	**14 49 53.4**	**-0.6**
	baz=240						
COLD	**Coldfoot**	**20.89**	**33**	P	**P**	**14 49 55.6**	**-0.3**
	baz=239						
HDA	**Harding Lake**	**20.92**	**42**	P	**P**	**14 49 55.9**	**-0.3**
	baz=250						
POKR	**Poker Plat Res**	**20.97**	**40**	P	**P**	**14 49 56.3**	**-0.5**
	baz=248						
D22K	**Ayikyak River**	**21.05**	**28**	P	**P**	**14 49 57.3**	**-0.2**
D22K				IAmb	IAmb	14 49 59.8	
	comp=Z,11nm,1.2s						
D22K	**Ayikyak River**	**21.05**	**28**	P	**P**	**14 49 57.6**	**+0.1**
	baz=232						
ILAR	**Eielson Array**	**21.07**	**41**	P	**P**	**14 49 54.7**	**-3.0**
	comp=Z,1.1nm,0.6s,baz=241,slow=8.8,SNR=28						
ILAR				ScP	**ScP**	**14 57 02.4**	**-2.6**
	comp=Z,0.3nm,0.5s,baz=282,slow=3.8,SNR=5.8						
	comp=Z,1.1nm,0.6s						
H24K	**Noodor Dome**	**21.08**	**38**	P	**P**	**14 49 57.6**	**-0.3**
	baz=245						
PAX	**Paxson**	**21.14**	**46**	P	**P**	**14 49 58.8**	**+0.2**
	baz=255						
N25K	**Chitina, Valde**	**21.26**	**50**	P	**P**	**14 50 00.2**	**+0.4**
	baz=260						
E23K	**Chandalar**	**21.51**	**32**	P	**P**	**14 50 01.9**	**-0.1**
	baz=238						
G24K	**Hadweenzic Riv**	**21.59**	**36**	P	**P**	**14 50 03.2**	**+0.5**
	baz=244						
RIDG	**Independent Ri**	**21.60**	**45**	P	**P**	**14 50 02.7**	**-0.2**
	baz=254						
D23K	**Nanushuk River**	**21.68**	**29**	P	**P**	**14 50 03.7**	**+0.2**
	baz=234						
A21K	**Barrow**	**21.73**	**20**	P	**P**	**14 50 03.1**	**-0.7**
	baz=221						
B22K	**Teshekpuk Lake**	**21.78**	**24**	P	**P**	**14 50 04.2**	**-0.1**
	baz=228						
F24K	**Squaw Lake**	**21.81**	**34**	P	**P**	**14 50 05.3**	**+0.6**
	baz=242						
PRP	**Porcupine Dome**	**21.86**	**40**	P	**P**	**14 50 05.0**	**-0.3**
	baz=249						
SCRK	**Sand Creek**	**22.03**	**44**	P	**P**	**14 50 05.8**	**-1.1**
	baz=255						
L26K	**Log Cabin Wild**	**22.09**	**47**	P	**P**	**14 50 08.6**	**+1.3**
	baz=258						
G25K	**Bearman Lake**	**22.11**	**36**	P	**P**	**14 50 08.0**	**+0.5**
	baz=246						
M26K	**Nabesna, AK**	**22.14**	**49**	P	**P**	**14 50 09.6**	**+1.8**
	baz=260						
D24K	**Happy Valley**	**22.34**	**29**	P	**P**	**14 50 10.0**	**+0.5**
	baz=237						
J26L	**Joseph Creek**	**22.35**	**43**	P	**P**	**14 50 09.4**	**-0.4**
	baz=254						
F25K	**Christian Rive**	**22.62**	**35**	P	**P**	**14 50 13.6**	**+1.5**
	baz=244						
M27K	**Edge Creek, AK**	**22.65**	**49**	P	**P**	**14 50 14.3**	**+1.7**
	baz=261						
C24K	**Franklin Bluff**	**22.69**	**28**	P	**P**	**14 50 13.3**	**+0.7**
	baz=236						
CTG	**Chitna Glacier**	**22.75**	**53**	P	**P**	**14 50 14.8**	**+1.4**
	baz=265						
L27K	**Beaver Creek,**	**22.78**	**47**	P	**P**	**14 50 15.0**	**+1.4**
	baz=259,SNR=20						
K27K	**Chicken**	**22.86**	**45**	P	**P**	**14 50 14.6**	**+0.3**
	baz=257						
E25K	**Arctic Village**	**22.87**	**33**	P	**P**	**14 50 15.4**	**+1.0**
	baz=243						
G26K	**Porcupine Rive**	**23.03**	**37**	P	**P**	**14 50 16.0**	**+0.3**
	baz=248						
BVCY	**Beaver Creek**	**23.12**	**49**	P	**P**	**14 50 18.4**	**+1.6**
	baz=262						
D25K	**Kavik River**	**23.18**	**30**	P	**P**	**14 50 17.6**	**+0.4**
	baz=240						
F26K	**Sheenjek River**	**23.18**	**35**	P	**P**	**14 50 18.5**	**+1.3**
	baz=246						
YUK3	**Moose Creek**	**23.24**	**51**	P	**P**	**14 50 19.1**	**+1.1**
	baz=264,SNR=22						
YUK8	**Steele Glacier**	**23.53**	**52**	P	**P**	**14 50 22.9**	**+2.2**
	baz=266,SNR=11						
DAWY	**Dawson**	**24.03**	**45**	P	**P**	**14 50 25.1**	**+0.1**
	baz=260						
YUK4	**Talbot Arm**	**24.07**	**52**	P	**P**	**14 50 28.7**	**+3.1**
	baz=266						
I28M	**Miner Creek**	**24.08**	**42**	P	**P**	**14 50 25.3**	**-0.1**
	baz=256						
O29M	**Mount Kennedy**	**24.08**	**54**	P	**P**	**14 50 28.0**	**+2.4**
	baz=269						
YUK6	**Outpost Mounta**	**24.20**	**53**	P	**P**	**14 50 29.5**	**+2.8**
	baz=268						
M29M	**Somme Creek**	**24.24**	**49**	P	**P**	**14 50 27.5**	**+0.6**
	baz=264						
L29M	**L29M**	**24.46**	**48**	P	**P**	**14 50 28.9**	**+0.1**
	baz=263						
HYT	**Haines Junctio**	**24.61**	**53**	P	**P**	**14 50 32.7**	**+2.4**
	baz=269						
F28M	**Old Crow**	**24.68**	**37**	P	**P**	**14 50 31.0**	**+0.2**
	baz=252						
K29M	**Barlow Dome**	**24.81**	**46**	P	**P**	**14 50 33.6**	**+1.5**
	baz=262						
H29M	**Whitestone**	**24.88**	**40**	P	**P**	**14 50 32.5**	**-0.1**
	baz=256						
P30M	**Million Dollar**	**24.89**	**55**	P	**P**	**14 50 36.3**	**+3.5**
	baz=271						
M30M	**Minto, Yukon**	**25.02**	**49**	P	**P**	**14 50 37.1**	**+3.2**
	baz=266						
E28M	**Babbage River**	**25.12**	**34**	P	**P**	**14 50 35.6**	**+0.9**
	baz=250						
G29M	**Pine Creek**	**25.18**	**39**	P	**P**	**14 50 36.0**	**+0.7**
	baz=255						
J30M	**Hart River**	**25.42**	**44**	P	**P**	**14 50 37.5**	**-0.1**
	baz=262						
I30M	**Mount Dempster**	**25.50**	**43**	P	**P**	**14 50 38.4**	**+0.1**
	baz=260						
EPYK	**Eagle Plains**	**25.57**	**40**	P	**P**	**14 50 38.4**	**-0.3**
	baz=258						
G30M	**tAoh Zraii Nji**	**25.89**	**39**	P	**P**	**14 50 41.6**

comp=Z,1.4nm,0.5s,baz=50,slow=6.9,SNR=6.8
comp=Z,1.4nm,0.5s

ABKAR	**Akbulak array**		**66.55**	**322**	P		**P**	**14 55 55.5**	**-0.2**

*IDC **31** 14:49:23.9±1.7,22.°86N×121.°14E,h0km,mb3.6/6, mbtmp3.6/6,MS2.9/1,Error ellipse: s-maj=153.3km s-min=19.8km az=64.0*
*ASIES **31** 14:49:24.4,22.°98N×121.°00E,h8km,ML3.8,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-1.91; $M_{\theta\theta}$-1.21; $M_{\phi\phi}$3.11; $M_{r\theta}$1.83; $M_{\theta\phi}$-1.11; $M_{\phi r}$-0.67; Fault plane solution: M_o3.52531×10^{21} NP1: ϕ_s313.77000°,δ66.98000°,λ-131.58000°. NP2: ϕ_s199.98000°,δ46.49000°,λ-32.63000°. Principal axes: T Plg12.1400°, Azm72.4540°; N Plg37.6460°, Azm332.9020°; P Plg49.7610°, Azm177.1800°;*
*TAP **31** 14:49:24.4,22.°99N×121.°00E,h8km,ML3.8,C*
ISC 31 14:49:25.0±0.8,22.°97N±0.°01×121.°01E±0.°01,h11km±5km, n157,σ0s89/204,mb3.4/6,27C-5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.13**	**120**	⇑*iP*	**Pg**	**14 49 28.1**	**+0.1**
LONT	baz=122			*i*S	**Sg**	**14 49 30.4**	**+0.1**
TWG	**Pinlang**	**0.16**	**159**	⇓*iP*	**Pg**	**14 49 28.7**	**+0.1**
TWG	baz=155			*i*S	**Sg**	**14 49 31.1**	**+0.1**
TWGBT	**Beinan**	**0.17**	**157**	⇓*iP*	**Pg**	**14 49 28.7**	**0.0**
TWGBT	baz=155			*i*S	**Sg**	**14 49 30.9**	**-0.3**
ELDTW	**Lidau**	**0.22**	**2**	⇓*iP*	**Pg**	**14 49 29.1**	**-0.6**
ELDTW	baz=14			*i*S	**Sg**	**14 49 31.8**	**-1.0**
ECS	**Chishang**	**0.23**	**57**	⇑*iP*	**Pg**	**14 49 30.0**	**+0.2**
ECS	baz=62			*i*S	**Sg**	**14 49 33.7**	**+0.6**
TTN	**Taitung**	**0.25**	**150**	P	**Pb**	**14 49 31.2**	**-0.3**
TTN	baz=148			*i*S	**Sb**	**14 49 36.0**	**+0.1**
EHD	**Haiduan**	**0.25**	**46**	⇑*iP*	**Pg**	**14 49 29.9**	**-0.3**
EHD	baz=50			*i*S	**Sg**	**14 49 33.0**	**-0.7**
EDH	**Donghe**	**0.27**	**90**	⇑*iP*	**Pb**	**14 49 31.1**	**-0.8**
EDH	baz=87			*e*S	**Sb**	**14 49 36.1**	**-0.4**
STYH	**Taoyuan**	**0.29**	**313**	⇑*iP*	**Pg**	**14 49 30.8**	**-0.2**
STYH	baz=312			*i*S	**Sg**	**14 49 34.4**	**-0.4**
STYT	**Tauyuan**	**0.30**	**309**	⇑*iP*	**Pg**	**14 49 30.7**	**-0.4**
STYT	baz=310			*i*S	**Sg**	**14 49 34.6**	**-0.6**
SLGT	**Liugui**	**0.34**	**274**	⇑*iP*	**Pg**	**14 49 31.6**	**-0.1**
SLGT	baz=267			*e*S	**Sg**	**14 49 35.6**	**-0.6**
FULB	**Fuli**	**0.35**	**49**	⇑*iP*	**Pb**	**14 49 32.4**	**-0.9**
FULB	baz=41			*i*S	**Sb**	**14 49 37.8**	**-0.9**
CHKT	**Chengkung**	**0.35**	**69**	⇑*iP*	**Pb**	**14 49 33.0**	**-0.3**
CHKT	baz=72			*e*S	**Sb**	**14 49 40.1**	**+1.3**
ECL	**Taimali**	**0.38**	**188**	*eP*	**Pg**	**14 49 31.9**	**-0.5**
ECL	baz=185			S	**Sg**	**14 49 36.7**	**-0.8**
SGST	**Jiashian**	**0.41**	**286**	⇑*iP*	**Pg**	**14 49 32.2**	**-0.8**
SGST	baz=288			*i*S	**Sg**	**14 49 38.5**	**+0.1**
SSD	**Sandimen**	**0.41**	**237**	⇑*eP*	**Pg**	**14 49 31.3**	**-1.8**
SSD	baz=226			*e*S	**Sg**	**14 49 36.2**	**-2.4**
CHKH	**Chenggong**	**0.42**	**58**	P	**Pg**	**14 49 33.2**	**0.0**
TSMG	baz=77 **Majia**	**0.43**	**232**	⇑*iP*	**Pg**	**14 49 32.6**	**-0.8**
TSMG	baz=222			*e*S	**Sg**	**14 49 37.8**	**-1.3**
WTP	**Ta-pu**	**0.46**	**307**	⇑*iP*	**Pb**	**14 49 34.2**	**-0.8**
WTP	baz=307			*i*S	**Sb**	**14 49 40.7**	**-1.2**
TWF1	**Yuli**	**0.46**	**35**	⇑*iP*	**Pg**	**14 49 33.7**	**-0.4**
TWF1	baz=38			*i*S	**Sg**	**14 49 39.2**	**-1.0**
EYUL	**Yuli**	**0.47**	**37**	⇑*iP*	**Pg**	**14 49 34.0**	**-0.2**
EYUL	baz=31			S	**Sg**	**14 49 39.9**	**-0.6**
TPUB	**Ta-pu**	**0.48**	**313**	⇑*iP*	**Pb**	**14 49 34.6**	**-0.8**
TPUB	baz=313			*i*S	**Sb**	**14 49 41.1**	**-1.4**
SCST	**Cishan**	**0.48**	**260**	P	**Pb**	**14 49 34.8**	**-0.7**
CHN1	baz=252 **Nanshi**	**0.49**	**296**	⇑*iP*	**Pb**	**14 49 35.3**	**-0.4**
CHN1	baz=301			S	**Sb**	**14 49 43.2**	**+0.3**
YULB	**Yu-li**	**0.50**	**32**	⇑*iP*	**Pg**	**14 49 34.1**	**-0.6**
YULB	baz=35			S	**Sg**	**14 49 40.2**	**-1.1**
MASBT	**Mashibuluo**	**0.50**	**224**	⇑*iP*	**Pg**	**14 49 33.9**	**-0.8**
MASBT	baz=216			*i*S	**Sg**	**14 49 40.0**	**-1.3**
LDUT	**Ludao**	**0.52**	**125**	*eP*	**Pb**	**14 49 35.5**	**-0.5**
ECBN	baz=126 **Changbin**	**0.53**	**50**	*eP*	**Pb**	**14 49 35.9**	**-0.5**
SNST	baz=65 **Tainan City**	**0.53**	**298**	⇑*iP*	**Pb**	**14 49 36.2**	**-0.1**
SNST	baz=300			S	**Sb**	**14 49 44.6**	**+0.5**
SGLT	**Jiouru**	**0.54**	**243**	⇑*iP*	**Pb**	**14 49 35.9**	**-0.5**
CHN4	baz=235 **Tsaushan**	**0.54**	**315**	⇑*iP*	**Pb**	**14 49 36.0**	**-0.4**
TSPT	baz=327 **Pingtung City**	**0.56**	**238**	P	**Pb**	**14 49 36.2**	**-0.5**
TWM1	baz=232 **Shoushan**	**0.56**	**255**	⇑*iP*	**Pb**	**14 49 36.9**	**0.0**
TWM1	baz=247			*e*S	**Sn**	**14 49 47.9**	**-0.4**
TWK	**Hsinying**	**0.56**	**302**	P	**Pb**	**14 49 36.8**	**-0.2**
TWK	baz=307			S	**Sb**	**14 49 45.4**	**+0.4**
ALS	**Alishan**	**0.57**	**341**	⇓*iP*	**Pb**	**14 49 35.9**	**-1.2**
ALS	baz=344			*e*S	**Sb**	**14 49 44.6**	**-0.8**
WCKO	**Fanlu**	**0.60**	**321**	*eP*	**Pb**	**14 49 37.3**	**-0.2**
CHN3	baz=333 **Shinhua**	**0.60**	**280**	⇑P	**Pn**	**14 49 38.8**	**-0.7**
EAST	baz=279 **Anshuo**	**0.60**	**194**	⇓*iP*	**Pg**	**14 49 36.4**	**-0.3**
EHY	baz=192 **Hungye**	**0.60**	**28**	*eP*	**Pg**	**14 49 36.1**	**-0.6**
EHY	baz=31			*e*S	**Sg**	**14 49 43.8**	**-1.0**
SHHT	**Tainan City**	**0.61**	**275**	⇑P	**Pn**	**14 49 39.1**	**-0.5**
SHHT	baz=274			*e*S	**Sn**	**14 49 50.7**	**+1.2**
TAW	**Tawu**	**0.62**	**190**	*eP*	**Pg**	**14 49 36.6**	**-0.4**
TAWH	baz=198 **Dawu Township**	**0.64**	**190**	*eP*	**Pg**	**14 49 36.9**	**-0.5**
HGSD	baz=197 **Ruisui**	**0.64**	**36**	⇑*iP*	**Pb**	**14 49 37.7**	**-0.6**
HGSD	baz=31			*i*S	**Sb**	**14 49 47.5**	**+0.3**
SNJT	**Kaohsiung City**	**0.66**	**251**	*eP*	**Pn**	**14 49 40.2**	**0.0**
SSHA	baz=242 **Shanhua**	**0.68**	**284**	*eP*	**Pn**	**14 49 40.8**	**+0.2**
CHN5	baz=299 **Tsauling**	**0.69**	**334**	*eP*	**Pb**	**14 49 38.4**	**-0.7**
SCZT	baz=335 **Fangliau**	**0.70**	**211**	⇑*iP*	**Pg**	**14 49 37.9**	**-0.6**
SCZT	baz=209			*i*S	**Sg**	**14 49 47.5**	**-0.1**
TAI1	baz=209 **Yung-k'ang**	**0.72**	**276**	*eP*	**Pn**	**14 49 41.3**	**+0.2**
WHYT	baz=275 **Xinyi Township**	**0.74**	**349**	*eP*	**Pb**	**14 49 38.9**	**-1.0**
CHN2	baz=350 **Minshiung**	**0.74**	**319**	*eP*	**Pn**	**14 49 40.8**	**-0.7**
CHN2	baz=319			*e*S	**Sn**	**14 49 51.6**	**-1.1**
TAI	**Tainan**	**0.75**	**272**	*eP*	**Pn**	**14 49 41.3**	**-0.2**
KAU	baz=271 **Kaohsiung**	**0.76**	**238**	*eP*	**Pn**	**14 49 41.7**	**0.0**
WSSB	baz=236 **Gushan**	**0.76**	**245**	*eP*	**Pn**	**14 49 42.1**	**+0.3**
ICHU	baz=243 **Yijhu**	**0.78**	**300**	P	**Pn**	**14 49 41.7**	**-0.2**
ICHU	baz=299			S	**Sn**	**14 49 53.9**	**+0.4**
SLIU	baz=299 **Shizi**	**0.78**	**195**	*eP*	**Pg**	**14 49 39.4**	**-0.5**
SCLT	baz=205 **Jiali**	**0.78**	**285**	*eP*	**Pn**	**14 49 41.7**	**-0.2**
SCLT	baz=298			S	**Sn**	**14 49 54.6**	**+1.0**
VWDT	baz=298 **VWDT**	**0.79**	**9**	*eP*	**Pg**	**14 49 39.2**	**-1.1**
VWDT	baz=18			S	**Sb**	**14 49 51.4**	**0.0**
EGFH	baz=18 **Guangfu**	**0.79**	**29**	*eP*	**Pg**	**14 49 39.5**	**-0.8**
EGFH	baz=42			S	**Sg**	**14 49 49.3**	**-1.4**
SSLB	baz=42 **Suanglung**	**0.81**	**356**	*eP*	**Pg**	**14 49 39.7**	**-1.0**
WARBT	baz=358 **Fenglin Townsh**	**0.82**	**25**	*eP*	**Pg**	**14 49 39.8**	**-1.0**
WARBT	baz=27			*e*S	**Sg**	**14 49 49.5**	**-2.0**
WGK	baz=27 **Gukeng**	**0.82**	**330**	*eP*	**Pn**	**14 49 41.6**	**-0.9**
WGK	baz=332			*e*S	**Sn**	**14 49 53.9**	**-0.8**
CHN8	baz=332 **Yiju**	**0.82**	**297**	*eP*	**Pn**	**14 49 41.6**	**-1.0**
WDLH	baz=298 **Douliu**	**0.83**	**329**	*eP*	**Pn**	**14 49 42.0**	**-0.7**
TWP	baz=330 **Hsiaoliuchiu**	**0.86**	**224**	P	**Pn**	**14 49 44.4**	**+1.3**
TSCK	baz=216 **Chigu Township**	**0.87**	**282**	*eP*	**Pn**	**14 49 42.8**	**-0.4**
TEGC	baz=282 **Jichi Village**	**0.88**	**33**	*eP*	**Pb**	**14 49 42.4**	**+0.1**
WJS	baz=22 **Zhushan**	**0.89**	**343**	*eP*	**Pn**	**14 49 43.7**	**+0.3**
SMLT	baz=352 **Sun Moon Lake**	**0.91**	**354**	*eP*	**Pn**	**14 49 43.7**	**-0.2**
SMLT	baz=5.0			*e*S	**Sb**	**14 49 55.4**	**+0.2**
WTK	baz=5.0 **Tuku**	**0.91**	**321**	*eP*	**Pn**	**14 49 42.9**	**-0.8**
ESL	baz=323 **Shilin**	**0.93**	**25**	*eP*	**Pg**	**14 49 41.7**	**-1.1**
ESL	baz=27			*e*S	**Sg**	**14 49 54.5**	**-0.4**
TYC	baz=27 **Yuchr**	**0.94**	**351**	*eP*	**Pn**	**14 49 44.1**	**0.0**
TYC	baz=3.0			S	**Sn**	**14 49 57.8**	**+0.2**
WNT	baz=3.0 **Mingjian**	**0.95**	**342**	*eP*	**Pn**	**14 49 44.1**	**-0.2**
WNT	baz=344			*e*S	**Sn**	**14 49 57.7**	**-0.1**
SHUL	baz=344 **Shoufeng**	**0.96**	**32**	*eP*	**Pg**	**14 49 42.3**	**-1.1**
WNT1	baz=30 **Nantou City**	**0.98**	**342**	*eP*	**Pn**	**14 49 44.5**	**-0.2**
WSF	baz=328 **Szhu**	**0.98**	**313**	*eP*	**Pn**	**14 49 44.1**	**-0.6**
WSF	baz=313			S	**Sn**	**14 49 58.6**	**0.0**
OWD	baz=313 **Renai**	**0.99**	**9**	*eP*	**Pg**	**14 49 42.8**	**-1.3**
HEN	baz=21 **Hengchun**	**0.99**	**195**	*eP*	**Pn**	**14 49 44.8**	**-0.1**
WUSB	baz=203 **Renai**	**1.02**	**6**	*eP*	**Pg**	**14 49 43.2**	**-1.4**
WPL	baz=15 **Puli Township**	**1.04**	**357**	*eP*	**Pn**	**14 49 44.9**	**-0.6**
TWK1	baz=359 **Hengchun**	**1.04**	**190**	*eP*	**Pb**	**14 49 45.1**	**+0.1**
TWKBT	baz=182 **Hengchun**	**1.04**	**190**	*eP*	**Pb**	**14 49 44.8**	**-0.2**
LAY	baz=182 **Lan-yu**	**1.05**	**152**	*eP*	**Pg**	**14 49 43.0**	**-2.3**
DPDB	baz=152 **Guoxing**	**1.06**	**356**	*eP*	**Pn**	**14 49 46.1**	**+0.2**
TSEB	baz=358 **Hengchuen, Pin**	**1.07**	**185**	*eP*	**Pn**	**14 49 47.3**	**+1.3**
ETM	baz=177 **Tongmen**	**1.08**	**24**	*eP*	**Pg**	**14 49 44.4**	**-1.4**
WCS	baz=32 **Beigang Elemen**	**1.08**	**355**	*eP*	**Pn**	**14 49 45.8**	**-0.4**
RLNB	baz=4.0 **Erlin**	**1.09**	**327**	*eP*	**Pn**	**14 49 46.1**	**-0.1**
RLNB	baz=328			S	**Sn**	**14 50 01.7**	**+0.3**
WRL	baz=328 **Guolierlin Hig**	**1.09**	**328**	*eP*	**Pn**	**14 49 48.7**	**+2.4**
CHGB	baz=329 **Renai**	**1.09**	**8**	*eP*	**Pg**	**14 49 44.5**	**-1.6**
LYUB	baz=17 **Lan-yu**	**1.10**	**151**	*eP*	**Pg**	**14 49 42.2**	**-3.9**
WWF	baz=152 **Wufeng**	**1.10**	**345**	*eP*	**Pn**	**14 49 46.9**	**+0.5**
LXIB	baz=333 **Xiulin Townshi**	**1.11**	**19**	P	**Pg**	**14 49 45.4**	**-1.0**
LXIB	baz=22			S	**Sb**	**14 50 00.6**	**-0.3**
HWA	baz=22 **Hwalien**	**1.14**	**29**	*eP*	**Pn**	**14 49 48.1**	**+1.2**
WCHH	baz=27 **Zhanghua**	**1.18**	**340**	*eP*	**Pn**	**14 49 47.7**	**+0.3**
WHF	baz=329 **Hehuan Shan**	**1.19**	**11**	*eP*	**Pg**	**14 49 47.2**	**-0.7**
TCU	baz=21 **Taichung**	**1.21**	**345**	*eP*	**Pn**	**14 49 48.6**	**+0.7**
TWD	baz=333 **Chiawan**	**1.23**	**26**	*eP*	**Pn**	**14 49 47.9**	**-0.3**
WDGT	baz=33 **Dungji**	**1.27**	**283**	*eP*	**Pn**	**14 49 48.4**	**-0.3**
TDCB	baz=283 **Techi**	**1.28**	**6**	*eP*	**Pg**	**14 49 48.9**	**-0.8**
TWT	baz=356 **Tachien**	**1.28**	**7**	*eP*	**Pn**	**14 49 48.4**	**-0.7**
FUSS	baz=356 **Fushou**	**1.29**	**10**	*eP*	**Pn**	**14 49 48.3**	**-0.9**
WHP	baz=18 **Taichung City**	**1.30**	**357**	*eP*	**Pg**	**14 49 50.2**	**+0.2**
ETLH	baz=359 **Xiulin Townshi**	**1.30**	**19**	*eP*	**Pn**	**14 49 48.6**	**-0.7**
ETL	baz=34 **Fush Village**	**1.31**	**25**	*eP*	**Pb**	**14 49 49.2**	**-0.5**
NACB	baz=36 **Ninganchiao**	**1.31**	**24**	*eP*	**Pn**	**14 49 48.3**	**-0.9**
NACB	baz=37			S	**Sb**	**14 50 05.9**	**-0.6**
TWQ1	baz=37 **Liyutan**	**1.39**	**351**	*eP*	**Pg**	**14 49 51.8**	**+0.1**
TWQ1	baz=354			*e*S	**Sg**	**14 50 12.2**	**+2.6**
PHUB	baz=354 **P'eng-hu**	**1.43**	**292**	*eP*	**Pn**	**14 49 50.4**	**-0.4**
NSY	baz=293 **Sanyi**	**1.46**	**351**	*eP*	**Pg**	**14 49 53.2**	**+0.2**
NSY	baz=354			*e*S	**Sg**	**14 50 13.9**	**+2.0**
PNG	**Penghu**	**1.46**	**294**	*e*P	**Pn**	**14 49 51.0**	**-0.3**
VCHM	baz=295 **Qimei**	**1.47**	**280**	*e*P	**Pb**	**14 49 51.6**	**-0.8**
VCHM	baz=292			*e*S	**Sn**	**14 50 10.2**	**-0.6**
NNSB	baz=292 **Datong**	**1.49**	**13**	P	**Pb**	**14 49 52.1**	**-0.7**
NNSH	baz=19 **Datong**	**1.49**	**13**	*e*P	**Pb**	**14 49 52.2**	**-0.5**
NNS	baz=19 **Nan Shan**	**1.50**	**13**	P	**Pb**	**14 49 52.5**	**-0.4**
NNS	baz=24			*e*S	**Sn**	**14 50 11.3**	**-0.3**
EAHA	**Aohua**	**1.51**	**26**	*e*P	**Pb**	**14 49 52.2**	**-0.8**
NMLH	baz=33 **Miaoli**	**1.57**	**353**	*e*P	**Pg**	**14 49 55.4**	**+0.2**
ENA	baz=334 **Nanau**	**1.60**	**25**	*e*P	**Pn**	**14 49 52.7**	**-0.5**
LATG	baz=31 **Datong**	**1.63**	**17**	P	**Pb**	**14 49 54.6**	**-0.5**
LATG	baz=33			S	**Sb**	**14 50 15.7**	**0.0**
EWUT	baz=33 **Wuta**	**1.63**	**26**	*e*P	**Pn**	**14 49 53.5**	**-0.1**
NSTT	baz=31 **Nanjuang**	**1.65**	**360**	*e*P	**Pb**	**14 49 55.4**	**-0.1**
NSTT	baz=349			S	**Sg**	**14 50 18.4**	**+0.3**
NFF	baz=349 **Wufeng Townshi**	**1.66**	**3**	*e*P	**Pg**	**14 49 55.7**	**-1.1**
LIOB	baz=19 **Emei**	**1.67**	**0**	*e*P	**Pg**	**14 49 56.4**	**-0.6**
NDT	baz=341 **Datong Townshi**	**1.69**	**16**	*e*P	**Pb**	**14 49 56.1**	**0.0**
YHNB	baz=15 **Yeheng**	**1.72**	**11**	*e*P	**Pb**	**14 49 55.8**	**-0.9**
NSK	baz=12 **Sanguang**	**1.73**	**11**	*e*P	**Pb**	**14 49 56.3**	**-0.5**
ENTT	baz=12 **Nioudou**	**1.74**	**17**	P	**Pb**	**14 49 56.4**	**-0.5**
ESAO	baz=30 **Su ao**	**1.77**	**25**	*e*P	**Pg**	**14 49 57.9**	**-1.1**
NDS	baz=23 **Dongshan**	**1.78**	**21**	*e*P	**Pb**	**14 49 56.7**	**-0.9**
TWC	baz=34 **Suao**	**1.80**	**25**	*e*P	**Pb**	**14 49 57.9**	**-0.1**
TWC	baz=29			S	**Sb**	**14 50 20.7**	**+0.1**
SBCB	**Hsinchu**	**1.81**	**359**	*e*P	**Pg**	**14 49 59.8**	**0.0**
NWLT	baz=340 **Wulai**	**1.85**	**14**	*e*P	**Pg**	**14 49 59.1**	**-1.4**
FUSB	baz=24 **Fushanzhiwuyua**	**1.86**	**16**	*e*P	**Pb**	**14 49 58.6**	**-0.4**
NHDH	baz=28 **Xindian Distri**	**2.04**	**13**	*e*P	**Pb**	**14 50 02.9**	**-1.2**
TIPB	baz=26 **Shuangxi**	**2.13**	**20**	*e*P	**Pb**	**14 50 03.6**	**+0.1**
TWS1	baz=31 **Kuangyinshan**	**2.15**	**10**	*e*P	**Pg**	**14 50 05.6**	**-0.6**
NWF	baz=16 **Wu-fen Shan**	**2.21**	**18**	*e*P	**Pb**	**14 50 05.1**	**+0.1**
WFSB	baz=30 **Wu-fen Shan**	**2.21**	**18**	*e*P	**Pg**	**14 50 06.5**	**-0.8**
TWB1	baz=30 **Santiao Chiao**	**2.22**	**24**	*e*P	**Pb**	**14 50 05.1**	**0.0**
ANP	baz=34 **Anpu**	**2.25**	**12**	*e*P	**Pg**	**14 50 06.9**	**-1.3**
SXI1	baz=32 **Grass Mountain**	**2.26**	**20**	*e*P	**Pg**	**14 50 06.5**	**-1.7**
KNMB	baz=30 **Chin-men Tao**	**2.82**	**302**	*e*P	**Pn**	**14 50 08.6**	**-1.5**
MATB	baz=304 **Ma-tsu**	**3.31**	**343**	*e*P	**Pn**	**14 50 15.9**	**-0.9**
AXDP	baz=342 **Jialang**	**3.38**	**305**	*e*P	**Pn**	**14 50 16.9**	**-0.8**
MHZQ	baz=308 **Yeshan**	**3.60**	**330**	*e*P	**Pn**	**14 50 21.6**	**+0.9**
LYJJ	baz=330 **Jianjiangzhen**	**3.74**	**343**	*e*P	**Pn**	**14 50 22.3**	**-0.3**
JHJ	baz=342 **Hachijo jima 2**	**19.38**	**54**	LR	LR	14 59 59.8	
SONM	comp=Z,35nm,18.5s,baz=82,slow=33 **Songino Array**	**27.43**	**338**	P	**P**	**14 55 13.4**	**+2.6**
MKAR	0.4nm,0.4s,baz=157,slow=7.8,SNR=2.0 0.4nm,0.4s **Makanchi Array**	**39.10**	**317**	P	**P**	**14 56 53.8**	**+1.4**
ZALV	0.7nm,0.8s,baz=114,slow=7.0,SNR=5.2 0.7nm,0.6s **Zalesovo Beam**	**41.18**	**328**	P	**P**	**14 57 10.4**	**+1.0**
H11N1	1.5nm,0.7s,baz=121,slow=7.6,SNR=6.7 1.5nm,0.7s **WAKE ISLAND Hy**	**42.73**	**85**	T	T	15 42 32.8	
H11N2	baz=283,slow=75,SNR=4.1 **WAKE ISLAND Hy**	**42.73**	**85**	T	T	15 42 35.5	
H11N3	baz=283,slow=75,SNR=4.7 **WAKE ISLAND Hy**	**42.75**	**85**	T	T	15 42 34.4	
H11S3	baz=283,slow=75,SNR=5.3 **WAKE ISLAND Hy**	**42.82**	**87**	T	T	15 42 41.5	
H11S1	baz=286,slow=74 **WAKE ISLAND Hy**	**42.83**	**87**	T	T	15 42 48.6	
H11S2	baz=286,slow=74 **WAKE ISLAND Hy**	**42.84**	**87**	T	T	15 42 43.7	
KURBB	baz=286 **Kurchatov Arra** 0.5nm,0.7s,baz=115,slow=7.5,SNR=4.3 0.5nm,0.7s	**42.94**	**321**	P	**P**	**14 57 26.1**	**+2.3**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=345,slow=8.7,SNR=5.0 0.5nm,0.6s	**44.59**	**162**	P	**P**	**14 57 36.5**	**-1.0**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=346,slow=7.7,SNR=5.3 0.2nm,0.7s	**48.02**	**164**	P	**P**	**14 58 04.2**	**-0.2**

*IDC **31** 14:56:14.6±5.9,32.°85N×45.°33E,h0km,mb4.0/9, mbtmp4.0/9,MS2.3/1,Error ellipse: s-maj=119.7km s-min=27.2km az=18.0*
*ISN **31** 14:56:21.0±1.0,33.°89N×45.°70E,h39km±5km,ML3.5*
*TEH **31** 14:56:23.1,33.°80N×45.°71E,h9km±41km,ML3.5*
ISC 31 14:56:22.5±0.7,33.°75N±0.°03×45.°61E±0.°04,h10km,n42, σ1s40/44,mb4.0/8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.52**	**103**	Pg	**Pg**	**14 56 32.2**	**-0.4**
IBDR	**Badra**	**0.69**	**157**	*e*Pg	**Pg**	**14 56 37.0**	**+1.1**
IBDR				*e*Sg	**Sb**	**14 56 48.0**	**+1.8**
IBDR	comp=N,756nm,0.7s			AML	AML	14 56 54.8	
KGS1	**Ghasr-e-Shirin**	**0.76**	**359**	Pg	**Pg**	**14 56 36.8**	**-0.4**
IGHG	**Ghaleghazi**	**0.99**	**54**	Pg	**Pb**	**14 56 41.0**	**-0.9**
BHD	**Baghdad**	**1.13**	**245**	*e*Pn	**Pn**	**14 56 44.0**	**-0.4**
BHD				*e*Sn	**Sb**	**14 57 00.0**	**+1.1**
BHD	comp=E,2μm,0.5s			AML	AML	14 57 11.2	
IDHR	**Dehrash**	**1.15**	**34**	Pg	**Pg**	**14 56 43.2**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.30**	**66**	Pg	**Pg**	**14 56 46.6**	**-1.0**
ILIN	**Lien**	**1.62**	**43**	Pg	**Pg**	**14 56 52.7**	**-1.0**
IKFM	**Kafar-mosalman**	**1.88**	**96**	Pg	**Pb**	**14 56 56.4**	**-0.6**
IBZA	**Bozab**	**2.00**	**68**	Pn	**Pb**	**14 56 58.1**	**-1.1**
RAFI	**Al-Rafai**	**2.06**	**168**	*e*Pn	**Pn**	**14 56 56.0**	**-1.2**
RAFI				*e*Sn	**Sn**	**14 57 23.0**	**0.0**
IALM	**Almabolaq**	**2.39**	**62**	Pn	**Pb**	**14 57 03.6**	**-2.3**
SDS1	**Sardasht. Az.**	**2.40**	**358**	Pn	**Pb**	**14 57 04.5**	**-1.4**
HSAM	**Samen**	**2.53**	**79**	Pn	**Pn**	**14 57 04.9**	**+0.9**
MAHB	**Mahabad**	**3.01**	**2**	Pn	**Pn**	**14 57 13.0**	**+2.5**
HAGD	**Aghdareh**	**3.12**	**69**	Pn	**Pn**	**14 57 13.0**	**+1.1**
IRAZ	**Razeghan**	**3.93**	**64**	Pn	**Pn**	**14 57 25.0**	**+1.9**
IAZR	**Azarshahr**	**3.94**	**4**	Pn	**Pn**	**14 57 25.2**	**+2.0**
ISRB	**Sarab**	**4.40**	**22**	Pn	**Pn**	**14 57 32.0**	**+2.4**
JHBN	**Jahan bin**	**4.51**	**108**	Pn	**Pn**	**14 57 32.4**	**+1.1**
ZNGN	**Zangian**	**4.70**	**109**	Pn	**Pn**	**14 57 34.6**	**+0.8**
QAMS	**Qamsar**	**4.83**	**89**	Pn	**Pn**	**14 57 36.7**	**+1.2**
IMRD	**Marand**	**4.96**	**1**	Pn	**Pn**	**14 57 38.8**	**+1.6**
IKLH	**Kolahrood**	**5.01**	**93**	Pn	**Pn**	**14 57 39.0**	**+1.0**
KLST	**Kelardasht - M**	**5.25**	**57**	Pn	**Pn**	**14 57 42.3**	**+0.9**
GRMI	**Germi**	**5.38**	**19**	Pn	**Pn**	**14 57 44.9**	**+1.9**
KRSH	**Karshahi**	**5.44**	**86**	Pn	**Pn**	**14 57 45.4**	**+1.5**
MZPU	**Pul - Mazandar**	**5.58**	**60**	Pn	**Pn**	**14 57 47.9**	**+2.1**
IDMV	**Damavand**	**5.60**	**69**	Pn	**Pn**	**14 57 46.6**	**+0.4**
IZEF	**Zefreh**	**5.69**	**97**	Pn	**Pn**	**14 57 47.7**	**+0.3**
KLNJ	**Kolanjah**	**5.75**	**117**	Pn	**Pn**	**14 57 50.5**	**+2.2**
IRAM	**Ramesheh**	**6.03**	**107**	Pn	**Pn**	**14 57 52.7**	**+0.8**
MMAI	**Mount Meron Ar**	**8.56**	**268**	LR	LR	15 01 30.9	

comp=E,19nm,19.0s,baz=50,slow=38
AKASG Malin Array Be 20.76 330 P **P** **15 01 02.6 -0.7**
comp=E,0.4nm,0.4s,baz=138,slow=10.0,SNR=1.6
comp=E,0.4nm,0.4s
BVAR Borovoye Array 26.15 35 P **P** **15 01 58.9 +2.1**
comp=E,1.6nm,0.5s,baz=225,slow=8.0,SNR=6.5
comp=E,1.6nm,0.5s
FINES FINESS Array B 30.43 342 P **P** **15 02 35.2 +0.4**
comp=E,5.9nm,1.2s,baz=134,slow=11,SNR=3.9
comp=E,5.9nm,1.2s
MKAR Makanchi Array 30.59 54 P **P** **15 02 37.0 +0.5**
comp=E,1.2nm,0.4s,baz=249,slow=11,SNR=36
comp=E,1.2nm,0.4s
HFS Hagfors 33.62 331 P **P** **15 03 03.0 +0.1**
comp=E,4.4nm,1.0s,baz=128,slow=9.6,SNR=6.6
comp=E,4.4nm,1.0s
ZALV Zalesovo Beam 34.15 42 P **P** **15 03 06.7 -0.9**
comp=E,0.4nm,0.4s,baz=256,slow=8.7,SNR=2.6
comp=E,0.4nm,0.4s
ARCES ARCESS Array B 37.55 349 P **P** **15 03 37.1 +0.6**
comp=E,3.3nm,1.2s,baz=160,slow=8.6,SNR=1.4
comp=E,3.3nm,1.2s
SPITS Spitsbergen Ar 46.29 352 P **P** **15 04 48.4 +0.5**
comp=E,10nm,1.1s,baz=152,slow=12,SNR=15
comp=E,10nm,1.1s
KSRS Korea Array 64.95 61 P **P** **15 06 59.8 -2.6**
comp=E,0.3nm,0.4s,baz=289,slow=6.8,SNR=2.5
comp=E,0.3nm,0.4s

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*ISN **31** 14:59:33.1±1.1, 33.95N×45.67E, h34km±6km, ML3.0*
*TEH **31** 14:59:36.4, 33.74N×45.61E, h8km±34km, ML3.1*
ISC 31 14:59:36.2±1.0, 33.70N±0.04×45.61E±0.04, h13km, n14, σ1§13/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.51**	**98**	Pg	**Pb**	**14 59 46.9**	**-0.1**
ILBA				Sg	**Sb**	**14 59 54.1**	**-0.2**
IBDR	**Badra**	**0.65**	**155**	*e*Pg	**Pg**	**14 59 49.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**15 00 02.0**	**+0.9**
IBDR				AML	AML	15 00 18.2	
	comp=N,104nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.81**	**359**	Pg	**Pg**	**14 59 50.9**	**-0.9**
IGHG	**Ghaleghazi**	**1.02**	**51**	Pg	**Pb**	**14 59 56.0**	**+0.2**
BHD	**Baghdad**	**1.11**	**248**	*e*Pn	**Pn**	**14 59 57.0**	**-0.4**
BHD				*e*Sn	**Sb**	**15 00 13.0**	**+1.4**
IDHR	**Dehrash**	**1.19**	**33**	Pg	**Pb**	**14 59 58.9**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.32**	**64**	Pg	**Pg**	**15 00 01.4**	**-0.2**
ILIN	**Lien**	**1.66**	**42**	Pg	**Pg**	**15 00 07.5**	**-0.5**
IKFM	**Kafar-mosalman**	**1.88**	**95**	Pn	**Pg**	**15 00 11.1**	**-1.1**
RAFI	**Al-Rafai**	**2.01**	**168**	*e*Pn	**Pn**	**15 00 10.0**	**+0.1**
RAFI				*e*Sn	**Sb**	**15 00 37.0**	**-0.6**
IBZA	**Bozab**	**2.02**	**67**	Pn	**Pb**	**15 00 12.8**	**-0.2**
IALM	**Almabolaq**	**2.42**	**61**	Pn	**Pb**	**15 00 18.2**	**-1.5**
HSAM	**Samen**	**2.54**	**78**	Pn	**Pb**	**15 00 19.7**	**-2.1**
HAGD	**Aghdareh**	**3.13**	**68**	Pn	**Pn**	**15 00 28.0**	**+2.5**

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*JMA **31** 15:12:33.5±0.7, 45°N±3°×14°9E±°, h30km, MV3.8/12, SE OFF ETOROFU*
*NIED **31** 15:12:33.5, 44.72N×149.45E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.35; Mθθ1.05; Mϕϕ-2.40; Mrθ1.02; Mrϕ-1.10; Mθϕ2.84; Fault plane solution: M₀3.64000×10¹⁴ NP1:ϕ₀21.00000°, δ73.00000°, λ95.00000°. NP2:ϕ₀184.00000°, δ18.00000°, λ74.00000°.*
*SKHL **31** 15:12:36.7±0.7, 44.50N×149.30E, h50km±4km, mb4.6/3*
*IDC **31** 15:12:45.1±2.1, 46.15N×147.58E, h0km, mb3.8/3, mbtmp3.8/5, ML2.9/2, MS2.6/1, Error ellipse: s-maj=63.9km s-min=26.5km az=161.0*
ISC 31 15:12:33.7±2.6, 44.43N±0.10×149.5E±0.2, h36km, n27, σ1§59/29, mb3.5/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.43**	**305**	*i* P	**Pn**	**15 12 56.8**	**-0.3**
KUR				AMB	AMB	15 12 59.8	
	290nm,0.3s						
KUR				*i* S	**Sn**	**15 13 12.4**	**-2.3**
KUR				A	A	15 13 18.0	
	680nm,0.3s						
KUR				A	A	15 13 18.0	
	420nm,0.3s						
SHO	**Shikotan**	**2.03**	**255**	*e*P	**Pn**	**15 13 05.8**	**+0.5**
SHO				AMB	AMB	15 13 09.2	
	50nm,0.2s						
SHO				*e*S	**Sn**	**15 13 27.1**	**-2.3**
SHO				A	A	15 13 40.1	
	240nm,0.3s						
SHO				A	A	15 13 40.1	
	100nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.67**	**263**	*e*P	**Pn**	**15 13 15.0**	**+0.9**
YUK				AMB	AMB	15 13 17.3	
	80nm,0.2s						
YUK				*e*S	**Sn**	**15 13 42.7**	**-2.5**
YUK				A	A	15 13 49.3	
	900nm,0.5s						
YUK				A	A	15 13 49.3	
	320nm,0.5s						
NEM2	**Nemuro 2**	**2.94**	**250**	*e*P	**Pn**	**15 13 18.0**	**+0.1**
NEM2				*e*S	**Sn**	**15 13 51.6**	**-0.3**
NMR	**Nemuro--Hokkai**	**2.95**	**250**	*e*P	**Pn**	**15 13 18.2**	**+0.2**
NMR				*e*S	**Sn**	**15 13 50.1**	**-2.0**
JRA	**Rausu**	**3.21**	**263**	*e*P	**Pn**	**15 13 23.3**	**+1.7**
JRA				*e*S	**Sn**	**15 14 00.3**	**+1.7**
JNK	**Nakash**	**3.58**	**258**	*e*P	**Pn**	**15 13 27.4**	**+0.8**
JNK				*e*S	**Sn**	**15 14 07.3**	**-0.3**
AKK	**Akkeshi**	**3.69**	**249**	*e*P	**Pn**	**15 13 28.9**	**+0.8**
AKK				*e*S	**Sn**	**15 14 08.3**	**-2.0**
JAK	**Akkeshi**	**3.79**	**249**	*e*P	**Pn**	**15 13 29.9**	**+0.3**
JAK				*e*S	**Sn**	**15 14 11.3**	**-1.6**
JTKR	**Abashiri--Toko**	**4.07**	**265**	*e*P	**Pn**	**15 13 35.9**	**+2.5**
JAR	**Ashorobuto**	**4.32**	**257**	*e*P	**Pn**	**15 13 38.9**	**+2.0**
JAR				*e*S	**Sn**	**15 14 26.9**	**+1.0**
JOB	**Onbets**	**4.41**	**252**	*e*P	**Pn**	**15 13 39.2**	**+1.1**
JCH	**Churui**	**4.84**	**250**	*e*P	**Pn**	**15 13 44.7**	**+0.7**
JCH				*e*S	**Sn**	**15 14 37.4**	**-1.4**
ASAJ	**Asahikawa**	**5.00**	**269**	Pn	**Pn**	**15 13 49.7**	**+3.6**
	1.1nm,0.3s,baz=80,slow=10,SNR=16 4.5nm,0.6s						
JNBK	**Urakawa-nobuka**	**5.39**	**249**	*e*P	**Pn**	**15 13 52.0**	**+0.4**
JNBK				*e*S	**Sn**	**15 14 51.5**	**-0.9**
JANG	**Nango**	**7.19**	**238**	*e*P	Pn	15 14 15.0	-1.3
JANG				*e*S	Sn	15 15 30.1	-6.5
PETK	**Petropavlovsk-**	**10.21**	**29**	Pn	Pn	15 15 05.7	+8.2
	0.2nm,0.3s,baz=220,slow=13,SNR=5.3 6.4nm,1.1s						
MA2	**Magadan**	**15.19**	**2**	LR	LR	15 21 06.1	
	comp=Z,26nm,19.2s,baz=72,slow=37						
H11N2	**WAKE ISLAND Hy 28.57**	**144**		T	T	15 49 23.9	
	baz=334,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy 28.58**	**144**		T	T	15 49 25.1	
	baz=334,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy 28.58**	**144**		T	T	15 49 25.2	
	baz=334,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy 29.58**	**145**		T	T	15 50 47.3	
	baz=335,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy 29.59**	**145**		T	T	15 50 39.6	
	baz=335,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy 29.60**	**145**		T	T	15 50 41.8	
	baz=335,slow=76,SNR=13						
MKAR	**Makanchi Array**	**45.79**	**298**	P	**P**	**15 20 52.2**	**+0.6**
	0.4nm,0.7s,baz=71,slow=9.1,SNR=6.3 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.66**	**304**	P	**P**	**15 20 57.7**	**-0.7**
	1.4nm,0.2s,baz=71,slow=8.9,SNR=2.3 1.4nm,0.2s						
TXAR	**Lajitas Array**	**80.83**	**58**	P	P	15 25 01.8	+18
	0.4nm,0.7s,baz=290,slow=2.9,SNR=6.8 0.4nm,0.7s						

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*NEIC **31** 15:16:36.8±1.4, 19.29N±0.02×155.09W±0.03, h20km±1km, Error ellipse: s-maj=4.3km s-min=2.2km az=121.0*
HVO 31 15:16:39.0±1.1, 19.35N±0.02×155.14W±0.01, h6km±2km, ML2.5/25, ML2.3/36(NEIC), Error ellipse: s-maj=2.4km s-min=1.1km az=151.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.04**	**20**	Pg	Pg	15 16 40.8	+0.4
KNHH	**Kane Nui o Ham**	**0.04**	**318**		Pg	15 16 40.9	+0.5
JCUZ	**Jacuzzi**	**0.05**	**44**	Pg	Pg	15 16 40.7	+0.3
JCUZ					IAML	15 16 42.6	
	comp=N,3μm,0.4s						
JCUZ					IAML	15 16 42.8	
	comp=E,3μm,0.4s						
NPOC	**North of Pu'u**	**0.05**	**32**	Sg	Sg	15 16 41.9	+0.4
PUH	**Pauahi**	**0.08**	**290**	Pg	Pg	15 16 41.1	+0.2
PUH				Sg	Sg	15 16 42.6	+0.4
PUH				IAML		15 16 43.2	
	comp=E,2μm,0.7s						
PUH				IAML		15 16 43.4	
	comp=N,2μm,0.5s						
KKO	**Keanakako`i**	**0.13**	**293**	Pg	Pg	15 16 41.8	+0.1
KKO				Sg	Sg	15 16 44.0	+0.5
KKO				IAML		15 16 44.7	
	comp=E,1μm,0.5s						
KKO				IAML		15 16 44.9	
	comp=N,1μm,0.9s						
BYL	**Byron's Ledge**	**0.13**	**299**	Pg	Pg	15 16 41.7	0.0
BYL				Sg	Sg	15 16 44.3	+0.7
BYL				IAML		15 16 44.7	
	comp=E,869nm,0.2s						
RIM	**Rim**	**0.14**	**290**	Pg	Pg	15 16 41.8	-0.1
RIM				Sg	Sg	15 16 44.4	+0.7
RIM				IAML		15 16 45.1	
	comp=E,1μm,0.5s						
RIM				IAML		15 16 45.3	
	comp=N,1μm,0.7s						
HATHI	**Halema'uma'u T**	**0.14**	**303**	Pg	Pg	15 16 41.8	-0.1
HATHI				Sg	Sg	15 16 44.4	+0.6
HATHI				IAML		15 16 46.5	
	comp=E,1μm,0.6s						
SBLHI	**Steaming Bluff**	**0.14**	**303**	Pg	Pg	15 16 41.8	-0.1
SBLHI				Sg	Sg	15 16 44.3	+0.3
SBLHI				IAML		15 16 45.0	
	comp=E,717nm,0.7s						
NPH	**North Pit**	**0.15**	**296**	Pg	Pg	15 16 41.7	-0.3
SDHHI	**Sand Hill**	**0.15**	**286**	Pg	Pg	15 16 42.2	+0.1
SDHHI				Sg	Sg	15 16 46.0	+1.8
SDHHI				IAML		15 16 47.1	
	comp=E,677nm,0.2s						
UWB	**Uwekahuna B**	**0.15**	**300**	Pg	Pg	15 16 42.0	-0.1
UWB				Sg	Sg	15 16 44.6	+0.4
JOKA	**Jonika Flow**	**0.15**	**56**		Pg	15 16 42.2	+0.1
JOKA					Sg	15 16 45.0	+0.8
OBL	**Observatory Le**	**0.15**	**297**	Pg	Pg	15 16 42.2	+0.1
UWE	**Uwekahuna**	**0.16**	**297**	Pg	Pg	15 16 42.3	0.0
UWE				Sg	Sg	15 16 44.6	+0.1
UWE				IAML		15 16 45.5	
	comp=N,780nm,1.8s						
UWE				IAML		15 16 46.5	
	comp=E,972nm,2.1s						
WRMHI	**West Rim**	**0.16**	**291**	Pg	Pg	15 16 42.4	+0.1
WRMHI				IAML		15 16 46.5	
	comp=E,958nm,0.6s						
WRMHI				IAML		15 16 47.1	
	comp=N,883nm,0.7s						
HLP	**Hilina Pali**	**0.17**	**252**	Pg	Pg	15 16 42.8	+0.4
HLP				IAML		15 16 46.1	
	comp=E,998nm,0.2s						
HLP				IAML		15 16 48.5	
	comp=N,627nm,0.3s						
HLP	**Hilina Pali**	**0.17**	**252**		Sg	15 16 45.9	+1.3
RSD	**Rainshed**	**0.17**	**311**	Pg	Pg	15 16 42.7	+0.2
RSD				Sg	Sg	15 16 44.6	-0.2
HTC	**Hot Caves**	**0.27**	**246**		Pb	15 16 45.3	-1.0
PHO	**Puu Honuaula**	**0.27**	**60**		Pg	15 16 44.8	+0.6
MLH	**Mauna Loa**	**0.28**	**302**	Sg	Sg	15 16 49.1	+1.0
HMH	**Humu'ula Sheep**	**0.41**	**308**	Sg	Sg	15 16 53.2	+0.7
MLOA	**Mauna Loa Obse**	**0.45**	**295**	Pg	Pg	15 16 47.6	-0.2
MLOA				Sg	Sg	15 16 54.0	+0.2
MWH	**Moku'aweowe**	**0.45**	**288**	Sg	Sg	15 16 53.4	-0.4
KHU	**Kahuku**	**0.46**	**257**	Sg	Sg	15 16 53.7	-0.2
ALEP	**Alea Permanent**	**0.51**	**292**		Pg	15 16 48.7	-0.2
POHA	**Pohakuloa**	**0.55**	**318**	Pg	Pg	15 16 48.8	-0.9
POHA				Sg	Sg	15 16 56.2	-0.6
KHLU	**Kahalu`u**	**0.75**	**289**	Pg	Pg	15 16 51.6	-1.8
KHLU				Sg	Sg	15 17 02.0	-1.2
HPAH	**Hawaii Prepara**	**0.86**	**322**	Pg	Pg	15 16 53.9	-1.6
HPAH				Sg	Sg	15 17 05.8	-0.9
MHA	**Mahukona**	**1.10**	**319**	Pg	Pg	15 16 58.1	-2.0

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*TEH **31** 15:18:49.0, 33.75N×45.35E, h10km±162km, ML2.7*
*ISN **31** 15:18:49.1±1.1, 33.83N×45.50E, h16km±6km, ML2.6*
ISC 31 15:18:51.0±1.1, 33.76N±0.05×45.41E±0.04, h10km, n8, σ1§30/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.68**	**102**	Pg	**Pg**	**15 19 02.7**	**-1.4**
ILBA				Sg	**Sg**	**15 19 14.1**	**+1.1**
IBDR	**Badra**	**0.78**	**146**	*e*Pg	**Pg**	**15 19 05.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**15 19 15.0**	**-1.3**
IBDR				AML	AML	15 19 27.7	
	comp=E,165nm,0.6s						
IBDR				AML	AML	15 19 28.2	
	comp=N,128nm,0.4s						
BHD	**Baghdad**	**0.99**	**241**	*e*Pg	**Pg**	**15 19 09.0**	**-1.1**
BHD				*e*Sg	**Sg**	**15 19 24.0**	**+0.9**
BHD				AML	AML	15 19 35.9	
	comp=E,269nm,0.5s						
IGHG	**Ghaleghazi**	**1.11**	**59**	Pg	**Pg**	**15 19 11.0**	**-1.4**
IDHR	**Dehrash**	**1.23**	**41**	Pg	**Pn**	**15 19 13.6**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.44**	**69**	Pg	**Pn**	**15 19 18.3**	**+0.9**
IKFM	**Kafar-mosalman**	**2.04**	**96**	Pn	**Pb**	**15 19 29.5**	**+1.3**
RAFI	**Al-Rafai**	**2.12**	**164**	*e*Pn	**Pn**	**15 19 26.0**	**-0.5**
RAFI				*e*Sn	**Sn**	**15 19 54.0**	**+1.1**

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*BJI **31** 15:26:46.7±0.0, 5.12N×163.74W, h14km, mB5.6/11, mb4.8/20*
*IDC **31** 15:26:48.6±0.7, 5.09N×164.65W, h0km, mb4.3/20, mbtmp4.3/20, MS3.4/9, Error ellipse: s-maj=23.8km s-min=14.9km az=144.0*
*NEIC **31** 15:26:50.0±1.5, 4.96N±0.09×164.3W±0.1, h10km±2km, mb5.1/75, Error ellipse: s-maj=22.1km s-min=12.9km az=247.0*
ISC 31 15:26:49.4±0.5, 4.89N±0.08×164.27W±0.07, h10km, n212, σ1§23/189, mb4.9/50, MS3.3/9, Line Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XMAS	**Kiritimati**	**7.37**	**112**		**Pn**	**15 28 38.0**	**+0.8**
XMAS				Sn	**Sn**	**15 29 56.9**	**-4.1**
KHU	**Kahuku**	**16.58**	**30**		**Pn**	**15 30 41.2**	**-1.1**
KHLU	**Kahalu`u**	**16.74**	**28**		**Pn**	**15 30 43.1**	**-1.1**
KHLU				IAmb	IAmb	15 30 45.0	
	comp=Z,118nm,0.7s						
HLP	**Hilina Pali**	**16.77**	**31**	Pn	**Pn**	**15 30 43.3**	**-1.4**
MWH	**Moku'aweowe**	**16.79**	**30**		**Pn**	**15 30 43.8**	**-1.5**
MWH				IAmb	IAmb	15 30 45.5	
	comp=Z,139nm,0.6s						
MLOA	**Mauna Loa Obse**	**16.84**	**29**		**Pn**	**15 30 45.2**	**-0.6**
HUH	**Hualalai**	**16.84**	**28**		**Pn**	**15 30 43.8**	**-2.0**
HUH				IAmb	IAmb	15 30 53.4	
	comp=Z,90nm,0.7s						
WRMHI	**West Rim**	**16.87**	**30**		**Pn**	**15 30 46.2**	**+0.3**
WRMHI				IAmb	IAmb	15 30 53.4	
	comp=Z,275nm,0.9s						
KKO	**Keanakako`i**	**16.88**	**31**	Pn	**Pn**	**15 30 45.0**	**-1.0**
PUH	**Pauahi**	**16.88**	**31**	Pn	**Pn**	**15 30 45.3**	**-0.8**
UWE	**Uwekahuna**	**16.89**	**30**		**Pn**	**15 30 46.3**	**+0.1**
UWE				IAmb	IAmb	15 30 46.9	
	comp=Z,395nm,1.2s						
MLH	**Mauna Loa**	**16.90**	**30**		**Pn**	**15 30 46.0**	**-0.4**
MLH				IAmb	IAmb	15 30 50.6	
	comp=Z,338nm,1.3s						
HATHI	**Halema'uma'u T**	**16.90**	**31**	Pn	**Pn**	**15 30 46.0**	**-0.4**
SBLHI	**Steaming Bluff**	**16.90**	**31**	Pn	**Pn**	**15 30 44.7**	**-1.6**
RSD	**Rainshed**	**16.93**	**30**	Pn	**Pn**	**15 30 44.7**	**-2.0**
STCH	**Steam Cracks**	**16.94**	**31**		**Pn**	**15 30 46.0**	**-0.8**
STCH				IAmb	IAmb	15 30 47.5	
	comp=Z,211nm,0.8s						
HMH	**Humu'ula Sheep**	**16.94**	**30**		**Pn**	**15 30 46.8**	**-0.2**
POHA	**Pohakuloa**	**17.05**	**29**		**Pn**	**15 30 48.0**	**-0.3**
POHA				IAmb	IAmb	15 30 54.0	
	comp=Z,226nm,0.7s						
HPAH	**Hawaii Prepara**	**17.20**	**28**	Pn	**Pn**	**15 30 49.7**	**-0.4**
MHA	**Mahukona**	**17.25**	**27**		**Pn**	**15 30 50.6**	**+0.1**
KIP	**Kipapa**	**17.52**	**20**		**Pn**	**15 30 53.4**	**-0.5**
KIP				IAmb	IAmb	15 30 58.5	
	comp=Z,290nm,1.6s						

KEKH	**Kekaha**	**17.55**	**14**	Pn	**Pn**	**15 30 53.5**	**-0.9**
KEKH				IAmb	IAmb	15 31 02.6	
	comp=Z,100nm,1.0s						
KHLH	**Kahului Airpor**	**17.64**	**25**		**Pn**	**15 30 55.2**	**-0.2**
KHLH				IAmb	IAmb	15 30 59.6	
	comp=Z,255nm,0.9s						
OPA	**Opana**	**17.76**	**19**		**Pn**	**15 30 57.3**	**+0.4**
AFI	**Afiamalu**	**20.11**	**202**	P	**P**	**15 31 25.6**	**+2.0**
AFI				IAmb	IAmb	15 31 29.6	
	comp=Z,256nm,1.7s						
PMOR	**Pomariorio Ree**	**25.57**	**141**	*e*Pn	**PnPn**	**15 32 52.0**	**-2.7**
	comp=Z,1.5nm,0.2s						
PMOR	**Pomariorio Ree**	**25.57**	**141**	*e*T	T	15 58 25.3	
	comp=Z,11nm,0.2s						
RAR	**Rarotonga**	**26.32**	**171**	LR	LR	15 40 52.6	
	comp=Z,49nm,18.5s,baz=353,slow=32						
PPT	**Papeete**	**26.62**	**147**	LR	LR	15 40 11.3	
	comp=Z,44nm,18.5s,baz=308,slow=30						
PPT2	**Papeete2**	**26.64**	**147**	*e*LR	LR	15 39 16.6	
	comp=Z,62nm,23.0s						
PPT2	**Papeete2**	**26.64**	**147**	*e*T	T	16 00 07.4	
	comp=Z,1.4nm,0.2s						
PPT2	**Papeete2**	**26.64**	**147**	*e*LR	LR	15 39 10.0	
	comp=Z,62nm,23.0s						
TAOE	**Nuku Hiva Isla**	**27.66**	**120**	*e*LR	LR	15 39 37.0	
	comp=Z,344nm,27.3s						
MEH	**Mehetia**	**27.70**	**145**	*e*T	T	16 01 43.4	
	comp=Z,8.3nm,0.2s						
H11S2	**WAKE ISLAND Hy**	**31.40**	**298**	T	T	16 05 49.1	
	baz=114,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**31.41**	**298**	T	T	16 05 49.9	
	baz=114,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**31.42**	**298**	T	T	16 05 49.8	
	baz=114,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**31.70**	**300**	T	T	16 06 13.9	
	baz=114,slow=75,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**31.71**	**300**	T	T	16 06 09.1	
	baz=114,slow=75,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**31.71**	**300**	T	T	16 06 16.2	
	baz=114,slow=75,SNR=6.3						
HNR	**Honiara**	**38.40**	**248**	LR	LR	15 46 38.7	
	comp=Z,464nm,18.2s,baz=300,slow=31						
DZM	**Mont Dzumac**	**39.24**	**226**	*e*LR	LR	15 45 08.5	
	comp=Z,48nm,25.1s						
DZM	**Mont Dzumac**	**39.24**	**226**	LR	LR	15 48 08.6	
	comp=Z,46nm,21.4s,baz=156,slow=33						
YBH	**Yreka Blue Hor**	**52.10**	**39**	LR	LR	15 56 07.6	
	comp=Z,18nm,18.1s,baz=216,slow=34						
PFO	**Pinyon Flats O**	**52.76**	**51**	LR	LR	15 54 07.3	
	comp=Z,44nm,20.4s,baz=166,slow=31						
NVAR	**Mina Array Bea**	**53.39**	**45**	P	**P**	**15 36 11.4**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=233,slow=12,SNR=7.0						
NVAR				PcP	**PcP**	**15 37 18.1**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=234,slow=6.2,SNR=3.0						
NVAR				LR	LR	15 55 17.8	
	comp=Z,38nm,18.1s,baz=168,slow=32 comp=Z,0.7nm,0.8s						
Q19K	**Cape Douglas,**	**54.52**	**7**	P	**P**	**15 36 17.4**	**0.0**
P18K	**Big Mountain,**	**54.81**	**6**	P	**P**	**15 36 18.3**	**-1.1**
O18K	**Koktuh Hills**	**55.27**	**6**	P	**P**	**15 36 22.4**	**-0.3**
N18K	**Kilae Creek**	**56.02**	**5**	P	**P**	**15 36 28.3**	**+0.2**
O22K	**Cooper Landing**	**56.55**	**9**	P	**P**	**15 36 32.6**	**+0.8**
RC01	**Rabbit Creek A**	**57.13**	**8**	P	**P**	**15 36 36.5**	**+0.5**
RC01				IAmb	IAmb	15 37 32.1	
	comp=Z,57nm,1.7s						
PEA0B	**Petropavlovsk-**	**57.27**	**334**	P	**P**	**15 36 36.6**	**-0.5**
PETK	**Petropavlovsk-**	**57.27**	**334**	P	**P**	**15 36 35.2**	**-1.9**
PETK	**Petropavlovsk-**	**57.27**	**334**	P	**P**	**15 36 36.0**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=118,slow=10,SNR=12 comp=Z,2.3nm,0.5s						
SUA	**Susitna One**	**57.35**	**8**	P	**P**	**15 36 37.9**	**+0.2**
SUA				IAmb	IAmb	15 36 49.6	
	comp=Z,10nm,0.7s						
SUA	**Susitna One**	**57.35**	**8**	P	**P**	**15 36 38.5**	**+0.8**
	baz=196						
PMR	**Palmer**	**57.70**	**8**	P	**P**	**15 36 40.4**	**+0.4**
	baz=198						
PLID	**Pearl Lake**	**58.02**	**39**	P	**P**	**15 36 44.0**	**+1.2**
SCM	**Sheep Creek Mo**	**58.21**	**9**	P	**P**	**15 36 43.5**	**-0.2**
VRDI	**Verde Repeater**	**58.35**	**12**	P	**P**	**15 36 45.2**	**+0.4**
VRDI				IAmb	IAmb	15 38 05.2	
	comp=Z,24nm,1.4s						
N25K	**Chitina, Valde**	**58.47**	**11**	P	**P**	**15 36 43.7**	**-1.8**
N25K				IAmb	IAmb	15 38 31.7	
	comp=Z,45nm,1.8s						
BARN	**Barnard Glacie**	**58.57**	**13**	P	**P**	**15 36 46.2**	**-0.1**
BARN				IAmb	IAmb	15 37 17.8	
	comp=Z,45nm,1.8s						
WAT1	**Susitna Watana**	**58.96**	**8**	P	**P**	**15 36 49.1**	**+0.3**
	baz=198						
J19K	**Poorman**	**59.31**	**4**	P	**P**	**15 36 51.7**	**+0.5**
	baz=190						
TRF	**Thorofare Moun**	**59.32**	**7**	P	**P**	**15 36 51.1**	**-0.4**
TRF				IAmb	IAmb	15 37 02.9	
	comp=Z,43nm,1.7s						
TRF	**Thorofare Moun**	**59.32**	**7**	P	**P**	**15 36 51.3**	**-0.2**
	baz=196						
KTH	**Kantishna Hill**	**59.34**	**7**	P	**P**	**15 36 50.3**	**-1.2**
KTH				IAmb	IAmb	15 38 33.0	
	comp=Z,44nm,1.9s						
YUK3	**Moose Creek**	**59.48**	**13**	P	**P**	**15 36 53.7**	**+1.0**
	baz=208						
J20K	**Nowinta River**	**59.62**	**5**	P	**P**	**15 36 53.9**	**+0.5**
J20K				IAmb	IAmb	15 37 33.6	
	comp=Z,37nm,1.9s						
J20K	**Nowinta River**	**59.62**	**5**	P	**P**	**15 36 53.7**	**+0.4**
	baz=192						
H16K	**Elim**	**59.65**	**1**	P	**P**	**15 36 54.1**	**+0.6**
	baz=182						
M27K	**Edge Creek, AK**	**59.69**	**12**	P	**P**	**15 36 54.4**	**+0.3**
M27K				IAmb	IAmb	15 37 22.9	
	comp=Z,51nm,1.9s						
MCK	**McKinley**	**59.77**	**8**	P	**P**	**15 36 55.2**

J25K	**Salcha River,** baz=202	**61.13**	**9**	P	**P**	**15 37 03.8**	**+0.1**
K27K	**Chicken**	**61.17**	**11**	P	**P**	**15 37 04.8**	**+0.8**
K27K	comp=Z,34nm,1.9s			IAmb	IAmb	15 39 16.8	
K27K	**Chicken** baz=205	**61.17**	**11**	P	**P**	**15 37 04.6**	**+0.7**
L29M	**L29M** baz=210	**61.17**	**13**	P	**P**	**15 37 05.3**	**+1.3**
H21K	**Melozitna Rive**	**61.19**	**5**	P	**P**	**15 37 04.5**	**+0.4**
H21K	**Melozitna Rive** baz=193	**61.19**	**5**	P	**P**	**15 37 04.9**	**+0.8**
BW06	**Boulder Array**	**61.23**	**43**	P	**P**	**15 37 06.6**	**+1.5**
BW06	comp=Z,22nm,1.9s			IAmb	IAmb	15 37 19.4	
BW06	**Boulder Array** baz=248	**61.23**	**43**	P	**P**	**15 37 06.9**	**+1.8**
PDAR	**Pinedale Array**	**61.24**	**43**	P	**P**	**15 37 06.5**	**+1.4**
PDAR	**Pinedale Array** comp=Z,1.2nm,0.5s,baz=218,slow=5.2,SNR=16 comp=Z,1.2nm,0.5s	**61.24**	**43**	P	**P**	**15 37 06.7**	**+1.5**
MJAR	**Matsushiro Arr** comp=Z,1.8nm,0.9s,baz=125,slow=4.0,SNR=3.7 comp=Z,1.8nm,0.9s	**61.24**	**309**	P	**P**	**15 37 02.3**	**-2.7**
G19K	**Purcell Mounta** baz=188	**61.35**	**3**	P	**P**	**15 37 06.5**	**+1.4**
F17K	**Baldwin Pennin** comp=Z,19nm,1.6s	**61.48**	**1**	IAmb	IAmb	15 37 08.1	
F17K	**Baldwin Pennin** baz=183	**61.48**	**1**	P	**P**	**15 37 06.9**	**+0.9**
H22K	**Ishtalitna Cre** baz=195	**61.56**	**6**	P	**P**	**15 37 06.6**	**0.0**
F18K	**Selawik** baz=185	**61.68**	**2**	P	**P**	**15 37 08.3**	**+1.0**
DAWY	**Dawson** baz=208	**61.73**	**12**	P	**P**	**15 37 08.4**	**+0.6**
H24K	**Noodor Dome** comp=Z,7.7nm,0.8s	**61.92**	**8**	IAmb	IAmb	15 37 20.1	
H24K	**Noodor Dome** baz=199	**61.92**	**8**	P	**P**	**15 37 09.0**	**-0.1**
K29M	**Barlow Dome** baz=210	**61.95**	**13**	P	**P**	**15 37 10.9**	**+1.6**
G21K	**Allakaket** baz=192	**61.97**	**5**	P	**P**	**15 37 10.2**	**+0.9**
F19K	**Shaleruckik Mo** baz=187	**62.00**	**3**	P	**P**	**15 37 10.8**	**+1.4**
EGAK	**Eagle** baz=206	**62.02**	**11**	P	**P**	**15 37 10.3**	**+0.6**
TXAR	**Lajitas Array** comp=Z,0.7nm,0.6s,baz=226,slow=8.1,SNR=12	**62.07**	**59**	P	**P**	**15 37 14.2**	**+3.4**
TXAR	comp=Z,13nm,18.0s,baz=285,slow=33 comp=Z,0.7nm,0.6s			LR	LR	16 00 42.6	
E17K	**Hotham Inlet** baz=183	**62.11**	**1**	P	**P**	**15 37 11.6**	**+1.4**
I26K	**Coal Creek Min**	**62.14**	**10**	P	**P**	**15 37 10.5**	**0.0**
I26K	comp=Z,18nm,1.8s			IAmb	IAmb	15 38 33.9	
PECS	**Pecos** comp=Z,9.1nm,0.8s	**62.30**	**57**	IAmb	IAmb	15 37 25.0	
F20K	**Avaraart Lake** baz=190	**62.33**	**4**	P	**P**	**15 37 12.9**	**+1.2**
E18K	**Tukpahlearik C** baz=184	**62.48**	**2**	P	**P**	**15 37 14.3**	**+1.6**
G22K	**Bettles** baz=194	**62.55**	**6**	P	**P**	**15 37 13.8**	**+0.7**
E19K	**Redstone River** comp=Z,7.1nm,0.8s	**62.65**	**3**	IAmb	IAmb	15 37 16.1	
E19K	**Redstone River** baz=188	**62.65**	**3**	P	**P**	**15 37 15.4**	**+1.5**
F21K	**Alatna River** baz=192	**62.67**	**5**	P	**P**	**15 37 15.5**	**+1.5**
I27K	**Kandik River** baz=206	**62.68**	**10**	P	**P**	**15 37 14.9**	**+0.8**
J30M	**Hart River** baz=212	**62.84**	**13**	P	**P**	**15 37 16.6**	**+1.2**
COLD	**Coldfoot** baz=196	**62.98**	**6**	P	**P**	**15 37 17.3**	**+1.2**
STKA	**Stephens Creek** comp=Z,2.6nm,0.6s,baz=11,slow=12,SNR=4.9 comp=Z,2.6nm,0.6s	**63.12**	**231**	P	**P**	**15 37 17.4**	**-0.3**
C16K	**Lisburne Hills**	**63.29**	**360**	P	**P**	**15 37 19.0**	**+1.0**
C16K	**Lisburne Hills** baz=179	**63.29**	**360**	P	**P**	**15 37 19.6**	**+1.6**
I30M	**Mount Dempster** comp=Z,21nm,2.0s	**63.39**	**13**	IAmb	IAmb	15 37 32.3	
I30M	**Mount Dempster** baz=211	**63.39**	**13**	P	**P**	**15 37 20.4**	**+1.4**
C17K	**DeLong Mountai** baz=181	**63.49**	**0**	P	**P**	**15 37 21.2**	**+1.8**
E20K	**Nigu River** baz=189	**63.50**	**3**	P	**P**	**15 37 20.8**	**+1.2**
SAND	**Sanderson**	**63.51**	**59**	P	**P**	**15 37 21.5**	**+1.2**
G26K	**Porcupine Rive** baz=203	**63.55**	**9**	P	**P**	**15 37 20.9**	**+1.1**
D19K	**Kuna River** comp=Z,23nm,1.8s	**63.64**	**3**	IAmb	IAmb	15 37 32.9	
D19K	**Kuna River** baz=187	**63.64**	**3**	P	**P**	**15 37 21.9**	**+1.4**
C18K	**Utukok River** baz=183	**63.69**	**1**	P	**P**	**15 37 22.2**	**+1.4**
H29M	**Whitestone** baz=209	**63.84**	**11**	P	**P**	**15 37 22.6**	**+0.8**
E23K	**Chandalar** baz=196	**63.84**	**6**	P	**P**	**15 37 23.5**	**+1.7**
F25K	**Christian River** baz=201	**63.88**	**8**	P	**P**	**15 37 22.7**	**+0.6**
D20K	**Etivluk River** baz=188	**63.93**	**3**	P	**P**	**15 37 23.4**	**+1.0**
F26K	**Sheenjek River** baz=202	**64.19**	**8**	P	**P**	**15 37 25.5**	**+1.4**
C19K	**Lookout Ridge** baz=185	**64.19**	**2**	P	**P**	**15 37 25.8**	**+1.7**
EPYK	**Eagle Plains** baz=211	**64.30**	**12**	P	**P**	**15 37 24.8**	**-0.1**
D22K	**Ayikyak River** baz=193	**64.36**	**5**	P	**P**	**15 37 26.8**	**+1.7**
E25K	**Arctic Village** baz=201	**64.39**	**8**	P	**P**	**15 37 26.7**	**+1.3**
B18K	**Kokolik River** baz=183	**64.40**	**1**	P	**P**	**15 37 27.2**	**+1.8**
C21K	**Knifeblade Rid** baz=190	**64.48**	**4**	P	**P**	**15 37 27.3**	**+1.4**
D23K	**Nanushuk River** baz=195	**64.62**	**5**	P	**P**	**15 37 28.6**	**+1.8**
F28M	**Old Crow**	**64.80**	**10**	P	**P**	**15 37 28.7**	**+0.7**
F28M	**Old Crow** baz=207	**64.80**	**10**	P	**P**	**15 37 29.2**	**+1.2**
G30M	**tAoh Zraii Nji** comp=Z,9.3nm,0.9s	**64.93**	**12**	IAmb	IAmb	15 37 30.2	
G30M	**tAoh Zraii Nji** baz=211	**64.93**	**12**	P	**P**	**15 37 29.4**	**+0.4**
D24K	**Happy Valley**	**64.98**	**6**	P	**P**	**15 37 29.8**	**+0.7**
D24K	comp=Z,6.8nm,0.8s			IAmb	IAmb	15 37 31.5	
D24K	**Happy Valley** baz=197	**64.98**	**6**	P	**P**	**15 37 30.8**	**+1.6**
WRA	**Warramunga Arr** comp=Z,2.7nm,0.8s,baz=67,slow=5.6,SNR=10.0 comp=Z,2.7nm,0.8s	**65.16**	**246**	P	**P**	**15 37 29.8**	**-1.5**
B20K	**Meade River** baz=188	**65.19**	**3**	P	**P**	**15 37 31.8**	**+1.4**
A19K	**Wainwright** baz=184	**65.25**	**1**	P	**P**	**15 37 32.5**	**+1.6**
G31M	**Satah River** baz=213	**65.29**	**13**	P	**P**	**15 37 31.6**	**+0.5**
D25K	**Kavik River** baz=200	**65.42**	**7**	P	**P**	**15 37 33.1**	**+1.0**
RSSD	**Black Hills** baz=252	**65.48**	**43**	P	**P**	**15 37 35.0**	**+1.8**
C24K	**Franklin Bluff** baz=197	**65.54**	**6**	P	**P**	**15 37 34.3**	**+1.5**
B22K	**Teshekpuk Lake** baz=192	**65.74**	**4**	P	**P**	**15 37 35.2**	**+1.1**
E28M	**Babbage River** baz=207	**65.74**	**10**	P	**P**	**15 37 35.4**	**+1.2**
E29M	**Blow River** baz=209	**65.83**	**10**	P	**P**	**15 37 35.0**	**+0.3**
F31M	**Tsiigehtchic** comp=Z,45nm,2.0s	**65.84**	**12**	IAmb	IAmb	15 37 45.6	
F31M	**Tsiigehtchic** baz=214	**65.84**	**12**	P	**P**	**15 37 35.1**	**+0.4**
BILL	**Bilibino**	**66.12**	**348**	P	**P**	**15 37 36.2**	**-0.3**
D28M	**Stokes Point** baz=208	**66.52**	**10**	P	**P**	**15 37 40.5**	**+1.4**
A21K	**Barrow** baz=188	**66.52**	**3**	P	**P**	**15 37 40.1**	**+1.0**
ASAR	**Alice Springs**	**66.58**	**242**	P	**P**	**15 37 40.0**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=71,slow=6.9,SNR=40 comp=Z,2.9nm,0.7s						
INK	**Inuvik**	**66.61**	**12**	P	**P**	**15 37 39.4**	**-0.2**
INK	**Inuvik** baz=214	**66.61**	**12**	P	**P**	**15 37 39.9**	**+0.3**
USRK	**Ussuriysk Ar.** comp=Z,3.8nm,0.7s,baz=94,slow=4.4,SNR=6.3 comp=Z,3.8nm,0.7s	**67.92**	**316**	P	**P**	**15 37 48.1**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,2.8nm,0.7s,baz=236,slow=6.0,SNR=39 comp=Z,2.8nm,0.7s	**68.01**	**22**	P	**P**	**15 37 49.5**	**+0.9**
KSRS	**Korea Array** comp=Z,1.8nm,0.9s,baz=91,slow=6.5,SNR=5.9 comp=Z,1.8nm,0.9s	**69.46**	**308**	P	**P**	**15 37 56.7**	**-1.5**
KLR	**Kul'dur** comp=Z,1.3nm,0.8s,baz=151,slow=8.3,SNR=3.6 comp=Z,1.3nm,0.8s	**69.48**	**321**	P	**P**	**15 37 55.6**	**-2.5**
C36M	**Paulatuk**	**69.56**	**14**	P	**P**	**15 37 57.6**	**-0.6**
C36M	**Paulatuk** baz=223	**69.56**	**14**	P	**P**	**15 37 58.2**	**0.0**
A36M	**Sachs Harbour**	**71.25**	**12**	P	**P**	**15 38 09.2**	**+0.7**
ULM	**Lac du Bonnet**	**72.51**	**39**	P	**P**	**15 38 16.5**	**0.0**
ULM	comp=Z,50nm,1.9s			IAmb	IAmb	15 38 19.2	
ULM	**Lac du Bonnet** comp=Z,4.0nm,0.7s,baz=248,slow=3.7,SNR=6.8 comp=Z,4.0nm,0.7s	**72.51**	**39**	P	**P**	**15 38 16.6**	**+0.2**
FCC	**Fort Churchill**	**75.62**	**30**	P	**P**	**15 38 34.8**	**+0.4**
FCC	comp=Z,14nm,1.1s			IAmb	IAmb	15 38 36.4	
NJ2	**Nanjing**	**76.30**	**302**	*e*P	**P**	**15 38 39.0**	**+0.1**
NJ2				pP	**sP**	**15 38 43.3**	**+2.0**
NJ2	comp=Z,8.0nm,0.7s			pmax	pmax		
NJ2	comp=Z,460nm,3.8s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**82.41**	**310**	*e*P	**P**	**15 39 13.5**	**+1.2**
HHC	comp=Z,6.0nm,0.7s			pmax	pmax		
HHC	comp=Z,61nm,5.2s			pmax	pmax		
BTO	**Baotou**	**83.59**	**310**	*e*P	**P**	**15 39 17.5**	**-0.9**
BTO				pP	**PcP**	**15 39 22.5**	**-0.1**
BTO				sP	**pwP**	**15 39 24.5**	**-2.0**
BTO				PP	**PP**	**15 42 32.0**	**+1.2**
BTO	comp=Z,22nm,0.8s			pmax	pmax		
BTO	comp=Z,170nm,3.9s			pmax	pmax		
VNDA	**Vanda** comp=Z,3.1nm,1.0s,baz=28,slow=2.7,SNR=6.6 comp=Z,3.1nm,1.0s	**84.42**	**187**	P	**P**	**15 39 23.8**	**+2.1**
SONM	**Songino Array** comp=Z,3.4nm,0.9s,baz=107,slow=5.1,SNR=13 comp=Z,3.4nm,0.9s	**85.96**	**318**	P	**P**	**15 39 29.3**	**-1.0**
H03N2	**Juan Fernandez** baz=281	**88.78**	**124**	T	T	17 18 20.0	
H03N3	**Juan Fernandez** baz=281	**88.79**	**124**	T	T	17 18 21.3	
H03N1	**Juan Fernandez** baz=281	**88.80**	**124**	T	T	17 18 21.1	
PZH	**PanZhiHua**	**91.40**	**297**	P	**P**	**15 39 59.5**	**+3.0**
PZH	comp=Z,10.0nm,0.9s			pmax	pmax		
PZH	comp=Z,130nm,6.3s			pmax	pmax		
GTA	**Gaotai**	**91.49**	**310**	P	**P**	**15 39 56.5**	**-0.2**
GTA	comp=Z,3.0nm,0.9s			pmax	pmax		
NRIK	**Noril'sk**	**91.78**	**340**	P	**P**	**15 39 56.9**	**-0.3**
NRIK	comp=Z,5.7nm,1.0s			IAmb	IAmb	15 39 59.0	
NRIK	**Noril'sk** comp=Z,4.1nm,0.8s,baz=45,slow=2.9,SNR=5.1 comp=Z,4.1nm,0.8s	**91.78**	**340**	P	**P**	**15 39 57.0**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.3s,baz=59,slow=2.6,SNR=2.7 comp=Z,0.2nm,0.3s	**94.88**	**289**	P	**P**	**15 40 11.4**	**-1.1**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.6s,baz=108,slow=9.5,SNR=3.8 comp=Z,0.9nm,0.6s	**98.16**	**326**	P	**P**	**15 40 24.1**	**-2.5**
WMQ	**Urumqi**	**99.49**	**316**	*e*P	**Pdif**	**15 40 34.5**	**+1.6**
MKAR	**Makanchi Array**	**102.17**	**320**	P	**Pdif**	**15 40 43.2**	**-1.5**
KSH	**Kashi**	**109.20**	**315**	Pdif	**Pdif**	**15 41 21.0**	**+4.7**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.8s,baz=339,slow=2.0,SNR=3.5	**157.29**	**38**	PKP	**PKPdf**	**15 46 46.6**	**-0.2**
TORD	comp=Z,0.4nm,0.6s,baz=298,slow=3.9,SNR=1.9			PKPab	**PKPab**	**15 47 17.5**	**-0.1**

*IDC **31** 15:38:46.7±1.5, 44.˚18N×148.˚78E, h0km, mb3.3/2, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=51.4km s-min=30.9km az=138.0*
*JMA **31** 15:38:51.9±0.3, 44.˚N×1˚.×14.˚8E±.˚, h0km, MV4.2/28, SE OFF ETOROFU*
*SKHL **31** 15:38:52.9±0.2, 44.˚40N×148.˚40E, h50km±4km, mb4.7/3*
ISC 31 15:38:50.4±3.1, 44.˚35N±0.˚09×148.˚55E±0.˚09, h25km±23km, n28, σ1°58/36, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.01**	**331**	*i* P			**Pn**	**15 39 08.0**	**-0.9**
KUR	380nm,0.3s			AMB			AMB	15 39 08.6	
KUR				*i* S			**Sb**	**15 39 19.5**	**-2.4**
KUR	850nm,0.3s			A			A	15 39 24.1	
KUR	980nm,0.3s			A			A	15 39 24.1	
SHO	**Shikotan**	**1.33**	**249**	*e*P			**Pn**	**15 39 13.3**	**0.0**
SHO	170nm,0.3s			AMB			AMB	15 39 13.6	
SHO				*e*S			**Sn**	**15 39 28.5**	**-1.7**
SHO	360nm,0.2s			A			A	15 39 30.9	
SHO	690nm,0.2s			A			A	15 39 30.9	
YUK	**Yuzh-Kuril'sk**	**1.96**	**262**	*i* P			**Pn**	**15 39 21.9**	**-0.1**
YUK	260nm,0.2s			AMB			AMB	15 39 24.5	
YUK				*e*S			**Sn**	**15 39 43.8**	**-2.0**
YUK	730nm,0.3s			A			A	15 39 52.2	
YUK	720nm,0.3s			A			A	15 39 52.2	
NEM2	**Nemuro 2**	**2.26**	**245**	P			**Pn**	**15 39 26.1**	**0.0**
NEM2				*e*S			**Sn**	**15 39 50.9**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.27**	**245**	*i* P			**Pn**	**15 39 26.1**	**-0.1**
NMR				*e*S			**Sn**	**15 39 51.0**	**-2.3**
JRA	**Rausu**	**2.50**	**262**	*e*P			**Pn**	**15 39 31.0**	**+1.5**
JRA				*e*S			**Sn**	**15 39 59.5**	**+0.3**
JNSB	**Nemuroshibetsu**	**2.62**	**258**	*e*P			**Pn**	**15 39 32.4**	**+1.3**
JNSB				*e*S			**Sn**	**15 40 02.6**	**+0.6**
JKHN	**Kushirohamanak**	**2.77**	**244**	*e*P			**Pn**	**15 39 33.6**	**+0.6**
JNK	**Nakash**	**2.87**	**256**	*e*P			**Pn**	**15 39 35.6**	**+1.1**
JNK				*e*S			**Sn**	**15 40 07.1**	**-1.2**
AKK	**Akkeshi**	**3.00**	**245**	*e*P			**Pn**	**15 39 36.8**	**+0.5**
JAK	**Akkeshi**	**3.11**	**245**	*e*P			**Pn**	**15 39 38.4**	**+0.6**
JAK				*e*S			**Sn**	**15 40 12.3**	**-1.7**
JTKR	**Abashiri--Toko**	**3.36**	**265**	*e*P			**Pn**	**15 39 43.2**	**+2.0**
JTKR				*e*S			**Sn**	**15 40 22.7**	**+2.3**
JAR	**Ashorobuto**	**3.62**	**255**	*e*P			**Pn**	**15 39 46.6**	**+1.8**
JOB	**Onbets**	**3.72**	**249**	*e*P			**Pn**	**15 39 47.4**	**+1.3**
JOB				*e*S			**Sn**	**15 40 28.2**	**-0.9**
JCH	**Churui**	**4.16**	**247**	*e*P			**Pn**	**15 39 53.3**	**+1.1**
JCH				*e*S			**Sn**	**15 40 38.3**	**-1.7**
JKK2	**Kamakawa 2**	**4.21**	**265**	*e*P			**Pn**	**15 39 56.3**	**+3.4**
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=78,slow=14,SNR=18	**4.29**	**269**	Pn			**Pn**	**15 39 55.2**	**+1.2**
ASAJ	0.7nm,0.3s,baz=328,slow=20,SNR=2.4 5.0nm,0.5s			Sn			**Sb**	**15 40 56.7**	**+0.4**
JNBK	**Urakawa-nobuka**	**4.71**	**246**	*e*S			**Sn**	**15 40 52.9**	**-0.7**
JOT	**Ohata**	**6.26**	**244**	*e*P			**Pn**	**15 40 22.1**	**+1.0**
JOT				*e*S			**Sn**	**15 41 29.0**	**-2.8**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=212,slow=11,SNR=7.6 2.0nm,0.8s	**10.63**	**31**	Pn			**Pn**	**15 41 22.8**	**+1.8**
H11N2	**WAKE ISLAND Hy** baz=332,slow=76	**28.93**	**142**	T			T	16 15 33.2	
H11N1	**WAKE ISLAND Hy** baz=332,slow=76	**28.94**	**142**	T			T	16 15 34.4	
H11N3	**WAKE ISLAND Hy** baz=332,slow=76	**28.94**	**142**	T			T	16 15 34.8	
H11S1	**WAKE ISLAND Hy**	**29.92**	**144**	T			T	16 16 49.1	
H11S3	**WAKE ISLAND Hy** baz=333,slow=76	**29.93**	**144**	T			T	16 16 46.5	
H11S2	**WAKE ISLAND Hy** baz=333,slow=76	**29.94**	**144**	T			T	16 16 49.1	
ASAR	**Alice Springs** 0.3nm,0.8s,baz=12,slow=6.8,SNR=4.3 0.3nm,0.8s	**69.00**	**194**	P			**P**	**15 49 53.5**	**0.0**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=310,slow=4.6,SNR=2.0 0.1nm,0.5s	**81.47**	**57**	P			**P**	**15 51 05.0**	**-0.6**

*IDC **31** 15:41:00.3±2.6, 37.˚54N×141.˚71E, h44km±32km, mb3.1/2, mbtmp3.5/5, ML2.7/2, MS3.6/1, Error ellipse: s-maj=25.1km s-min=17.7km az=109.0*
*JMA **31** 15:41:01.7±0.1, 37.˚8N±0.˚2×141.˚1E±0.˚4, h65km, MV3.1/40, E OFF FUKUSHIMA PREF*
ISC 31 15:41:01.4±1.0, 37.˚73N±0.˚04×141.˚22E±0.˚06, h60km±7km, n25, σ1°39/32, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.26**	**269**	*i* P			**Pn**	**15 41 11.7**	**+0.4**
JMST				S			**Sn**	**15 41 18.8**	**+0.4**
JMM	**Marumori**	**0.36**	**292**	*i* P			**Pn**	**15 41 12.2**	**+0.1**
JMM				S			**Sn**	**15 41 19.8**	**0.0**
JFK	**Kawauchi**	**0.45**	**217**	*i* P			**Pn**	**15 41 13.4**	**+0.4**
JFK				S			**Sn**	**15 41 21.8**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.71**	**208**	*i* P			**Pn**	**15 41 16.1**	**+0.2**
ONAJ				S			**Sn**	**15 41 26.1**	**-0.3**
JOTO	**OTAMA OYAMA**	**0.72**	**257**	*i* P			**Pn**	**15 41 15.7**	**-0.2**
JOTO				S			**Sn**	**15 41 25.9**	**-0.7**
JIO	**Ouri**	**0.73**	**8**	*i* P			**Pn**	**15 41 16.7**	**+0.6**
JIO				S			**Sn**	**15 41 27.1**	**+0.4**
JOU	**Okura**	**0.77**	**326**	*i* P			**Pn**	**15 41 16.3**	**-0.3**
JOU				S			**Sn**	**15 41 27.1**	**-0.6**
JYS	**Shirataka**	**1.03**	**299**	P			**Pn**	**15 41 19.5**	**-0.4**
JYS				S			**Sn**	**15 41 33.0**	**-0.7**
JMK	**Ichinoseki**	**1.22**	**0**	*i* P			**Pn**	**15 41 22.7**	**+0.3**
JMK				S			**Sn**	**15 41 38.2**	**+0.2**
JFY	**Yanaizu**	**1.24**	**255**	P			**Pn**	**15 41 22.3**	**-0.4**
JFY				S			**Sn**	**15 41 37.7**	**-0.9**
JYK	**Kaneyama**	**1.36**	**331**	P			**Pn**	**15 41 24.4**	**0.0**
JYK				S			**Sn**	**15 41 40.4**	**-1.1**
JYA	**Atsumi**	**1.47**	**307**	P			**Pn**	**15 41 26.0**	**+0.4**
JYA				*e*S			**Sn**	**15 41 43.5**	**-0.4**
JNS	**Sasagawa**	**1.51**	**274**	P			**Pn**	**15 41 25.8**	**-0.4**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=61,slow=12,SNR=4.7	**2.68**	**245**	P			**Pn**	**15 41 43.8**	**+1.6**
MJAR	4.4nm,0.4s,baz=279,slow=7.0,SNR=7.1 1.0nm,0.3s			S			**Sn**	**15 42 19.4**	**+5.9**
JHJ	**Hachijo jima 2** 5.2nm,0.3s,baz=54,slow=21,SNR=1.9	**4.75**	**195**	P			**Pn**	**15 42 08.2**	**-2.2**
JHJ	483nm,1.2s,baz=44,slow=9.6,SNR=3.6 118nm,0.8s			S			**Sn**	**15 43 02.1**	**-2.1**
ASAJ	**Asahikawa** 3.8nm,0.7s,baz=21,slow=33,SNR=1.4	**6.47**	**9**	P			**Pn**	**15 42 34.5**	**+0.6**
JOW	**Kunigami** comp=Z,220nm,19.7s,baz=74,slow=36	**15.40**	**229**	LR			LR	15 50 28.1	
H11N2	**WAKE ISLAND Hy** baz=315	**28.64**	**122**	T			T	16 17 05.4	
H11N1	**WAKE ISLAND Hy** baz=315	**28.65**	**122**	T			T	16 17 11.7	
H11N3	**WAKE ISLAND Hy** baz=315	**28.66**	**122**	T			T	16 17 08.0	
H11S1	**WAKE ISLAND Hy** baz=316	**29.37**	**124**	T			T	16 18 03.6	
H11S3	**WAKE ISLAND Hy** baz=316	**29.37**	**124**	T			T	16 18 03.6	
H11S2	**WAKE ISLAND Hy** baz=316	**29.39**	**124**	T			T	16 18 03.6	
ILAR	**Eielson Array** 0.2nm,0.6s,baz=260,slow=5.4,SNR=1.9 0.2nm,0.6s	**48.99**	**33**	P			**P**	**15 49 42.0**	**+0.4**
WRA	**Warramunga Arr** 0.9nm,1.1s,baz=7.4,slow=8.4,SNR=2.1 0.9nm,1.1s	**57.73**	**188**	P			**P**	**15 50 45.2**	**-0.8**

*IDC **31** 15:44:17.9±0.7, 22.˚88N×121.˚14E, h0km, mb3.8/15, mbtmp3.8/15, MS3.2/9, Error ellipse: s-maj=24.6km s-min=16.0km az=68.0*
*ASIES **31** 15:44:18.6, 22.˚97N×120.˚99E, h7km, ML4.2, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; Mrr=1.01; Mθθ=0.05; Mφφ=0.96; Mrθ=0.62; Mθφ=-0.42; Mφr=-0.42; Fault plane solution: M0=1.30951×10^{22} NP1: ϕs=319.72000°, δ62.83000°, λ=-109.22000°. NP2: ϕs=177.08000°, δ32.85000°, λ=-57.33000°. Principal axes: T Plg15.7330°, Azm63.7170°; N Plg17.0260°, Azm328.7680°; P Plg66.4800°, Azm194.0520°;*
*JMA **31** 15:44:19.0±0.1, 22.˚9N±0.˚5×121.˚3E±0.˚6, h1km±1km, MV3.5/10, TAIWAN REGION*
*TAP **31** 15:44:18.6, 22.˚97N×120.˚99E, h7km, ML4.2, C*
ISC 31 15:44:19.7±0.7, 22.˚94N±0.˚01×121.˚04E±0.˚01, h14km±4km, n213, σ1°38/296, mb3.7/14, MS3.2/6, 32C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LONT	**Longtian** baz=115	**0.09**	**109**	⇑*i* P			**Pg**	**15 44 22.3**	**-0.5**
LONT				*i* S			**Sg**	**15 44 24.9**	**+0.1**
TWG	**Pinlang** baz=151	**0.12**	**164**	⇓*i* P			**Pg**	**15 44 22.9**	**-0.2**
TWG				*i* S			**Sg**	**15 44 25.5**	**+0.1**
TWGBT	**Beinan**	**0.12**	**161**	P			**Pg**	**15 44 23.0**	**-0.2**
TWGBT	**Beinan** baz=151	**0.12**	**161**	⇓*i* P			**Pg**	**15 44 22.9**	**-0.3**
TWGBT				*i* S			**Sg**	**15 44 25.5**	**0.0**
TTN	**Taitung** baz=148	**0.21**	**151**	P			**Pb**	**15 44 25.6**	**+0.4**
TTN				S			**Sg**	**15 44 30.1**	**+2.6**
ECS	**Chishang** baz=59	**0.23**	**47**	⇑*i* P			**Pb**	**15 44 24.2**	**-1.5**
ECS				S			**Sb**	**15 44 28.1**	**-1.7**
EDH	**Donghe** baz=84	**0.25**	**81**	P			**Pb**	**15 44 25.5**	**-0.5**
EDH				*i* S			**Sg**	**15 44 30.5**	**+1.7**
ELDTW	**Lidau** baz=9.0	**0.25**	**356**	⇓*i* P			**Pg**	**15 44 23.2**	**-2.0**
ELDTW				*i* S			**Sg**	**15 44 26.1**	**-2.9**
EHD	**Haiduan** baz=48	**0.26**	**36**	⇑*i* P			**Pg**	**15 44 24.1**	**-1.3**
EHD				*e*S			**Sg**	**15 44 27.4**	**-1.8**
STYH	**Taoyuan** baz=315	**0.34**	**314**	⇓*i* P			**Pg**	**15 44 24.8**	**-1.8**
STYH				*i* S			**Sg**	**15 44 28.8**	**-2.5**
STYT	**Tauyuan** baz=313	**0.34**	**311**	⇑*i* P			**Pg**	**15 44 24.9**	**-1.9**
STYT				*i* S			**Sg**	**15 44 28.9**	**-2.7**
CHKT	**Chengkung** baz=70	**0.34**	**62**	⇑*i* P			**Pn**	**15 44 27.2**	**-3.1**
CHKT				S			**Sb**	**15 44 33.9**	**+1.0**
ECL	**Taimali** baz=184	**0.34**	**193**	⇓*i* P			**Pb**	**15 44 26.2**	**-1.4**
ECL				*i* S			**Sb**	**15 44 31.1**	**-1.8**
FULB	**Fuli** baz=40	**0.35**	**42**	⇑*i* P			**Pb**	**15 44 26.6**	**-1.3**
FULB				*i* S			**Sb**	**15 44 32.1**	**-1.2**
SLGT	**Liugui** baz=270	**0.36**	**279**	⇑*i* P			**Pg**	**15 44 25.7**	**-1.4**
SLGT				*i* S			**Sg**	**15 44 30.4**	**-1.8**
CHKH	**Chenggong** baz=77	**0.42**	**52**	⇑P			**Pb**	**15 44 27.9**	**-0.9**
CHKH				S			**Sb**	**15 44 35.8**	**+0.8**
SSD	**Sandimen**	**0.42**	**243**	⇑*e*P			**Pg**	**15 44 25.5**	**-2.6**

baz=228
SSD eS Sg 15 44 30.8 -2.9
baz=228
TSMG Majia 0.43 238 ⇑P Pb 15 44 26.8 -2.3
baz=224
TSMG S Sg 15 44 32.5 -1.6
baz=224
SGST Jiashian 0.44 289 ⇑*i*P Pg 15 44 26.5 -2.1
baz=291
SGST *i* S Sg 15 44 33.2 -1.4
baz=291
LDUT Ludao 0.48 123 *e*P Pn 15 44 30.0 -2.1
baz=123
LDUT eS Sb 15 44 38.2 +1.5
baz=123
TWF1 Yuli 0.48 30 ⇑*i*P Pg 15 44 27.9 -1.3
baz=38
TWF1 *i* S Sg 15 44 33.8 -1.9
baz=38
EYUL Yuli 0.48 32 ⇑P Pg 15 44 28.2 -1.2
baz=30
EYUL eS Sg 15 44 34.1 -1.7
baz=30
MASBT Mashibuluo 0.49 229 ⇑*i*P Pb 15 44 28.2 -2.0
baz=217
MASBT *i* S Sb 15 44 34.6 -2.7
baz=217
WTP Ta-pu 0.50 309 ⇑*i*P Pg 15 44 28.4 -1.2
baz=312
WTP *i* S Sg 15 44 35.0 -1.2
baz=312
SCST Cishan 0.50 264 ⇑*i*P Pb 15 44 29.0 -1.3
baz=254
SCST *i* S Sb 15 44 36.4 -1.1
baz=254
YULB Yu-li 0.51 28 P Pg 15 44 28.5 -1.4
YULB Yu-li 0.51 28 ⇑*i*P Pg 15 44 28.2 -1.7
baz=35
YULB S Sg 15 44 34.8 -2.0
baz=35
TPUB Ta-pu 0.52 314 P Pg 15 44 29.0 -1.1
TPUB Ta-pu 0.52 314 ⇑*i*P Pg 15 44 28.8 -1.2
baz=315
TPUB S Sg 15 44 35.2 -1.8
baz=315
CHN1 Nanshi 0.53 298 ⇑*i*P Pb 15 44 29.5 -1.3
baz=303
CHN1 eS Sb 15 44 38.0 -0.4
baz=303
ECBN Changbin 0.54 45 ⇑P Pb 15 44 30.2 -0.8
baz=69
ECBN eS Sn 15 44 39.5 -2.3
baz=69
SGLT Jiouru 0.55 248 ⇑*i*P Pb 15 44 30.1 -0.9
baz=240
SGLT *i* S Sb 15 44 38.3 -0.5
baz=240
TSPT Pingtung City 0.56 243 ⇑P Pb 15 44 30.4 -0.9
baz=236
TSPT S Sb 15 44 38.9 -0.3
baz=236
SNST Tainan City 0.57 300 ⇑*i*P Pb 15 44 30.4 -1.1
baz=299
SNST eS Sb 15 44 39.1 -0.4
baz=299
EAST Anshuo 0.58 198 ⇓*i*P Pn 15 44 30.6 -2.9
baz=191
EAST *i* S Sb 15 44 38.3 -1.4
baz=191
TWM1 Shoushan 0.58 259 ⇑*i*P Pn 15 44 31.0 -2.5
baz=247
CHN4 Tsaushan 0.58 315 ⇑*i*P Pg 15 44 30.2 -1.0
baz=316
CHN4 eS Sg 15 44 38.2 -0.7
baz=316
TAW Tawu 0.59 193 P Pn 15 44 31.1 -2.6
baz=187
TAW eS Sb 15 44 38.3 -1.7
baz=187
TWK Hsinying 0.60 303 ⇑*i*P Pb 15 44 30.7 -1.3
baz=309
TWK *i* S Sb 15 44 39.7 -0.8
baz=309
TAWH Dawu Township 0.61 193 *e*P Pn 15 44 31.4 -2.6
baz=188
TAWH eS Sn 15 44 39.6 -3.9
baz=188
ALS Alishan 0.61 340 P Pg 15 44 30.0 -1.8
baz=344
ALS eS Sg 15 44 38.7 -1.2
baz=344
EHY Hungye 0.63 25 ⇑P Pg 15 44 30.3 -1.7
baz=31
EHY eS Sg 15 44 37.6 -2.7
baz=31
CHN3 Shinhua 0.64 283 ⇑P Pn 15 44 33.1 -1.2
baz=281
CHN3 eS Sn 15 44 43.2 -0.9
baz=281
WCKO Fanlu 0.64 322 *e*P Pb 15 44 31.5 -1.2
baz=334
WCKO eS Sg 15 44 40.5 -0.3
baz=334
SHHT Tainan City 0.64 278 P Pn 15 44 33.3 -1.0
baz=275
SHHT eS Sn 15 44 45.1 +0.7
baz=275
HGSD Ruisui 0.66 33 ⇑*i*P Pb 15 44 31.9 -1.1
baz=31
HGSD eS Sn 15 44 42.8 -2.0
baz=31
SNJT Kaohsiung City 0.67 254 *e*P Pn 15 44 34.2 -0.6
baz=244
SCZT Fangliau 0.68 215 ⇑*i*P Pn 15 44 32.1 -2.8
baz=210
SCZT S Sn 15 44 41.8 -3.5
baz=210
SSHA Shanhua 0.72 286 *e*P Pn 15 44 34.6 -0.8
baz=301
CHN5 Tsauling 0.74 333 ⇑*i*P Pg 15 44 32.8 -1.3
baz=336
CHN5 eS Sg 15 44 43.6 -0.2
baz=336
SLIU Shizi 0.75 197 P Pn 15 44 34.0 -1.9
baz=203
TAI1 Yung-k'ang 0.75 278 *e*P Pn 15 44 35.6 -0.2
baz=276
KAU Kaohsiung 0.77 242 *e*P Pn 15 44 36.3 +0.3
baz=237
WSSB Gushan 0.77 248 *e*P Pn 15 44 36.2 0.0
baz=243
WSSB eS Sn 15 44 50.6 +3.0
baz=243
TAI Tainan 0.78 275 *e*P Pn 15 44 35.8 -0.5
baz=271
TAI eS Sn 15 44 47.9 +0.2
baz=271
WHYT Xinyi Township 0.78 347 *e*P Pg 15 44 33.3 -1.5
baz=351
CHN2 Minshiung 0.79 319 *e*P Pn 15 44 35.0 -1.4
baz=320
CHN2 eS Sb 15 44 45.7 0.0
baz=320
CHY Chiayi 0.79 315 *e*P Pb 15 44 34.6 -0.7
baz=316
CHY eS Sb 15 44 46.4 +0.5
baz=316
SCLT Jiali 0.81 287 *e*P Pn 15 44 35.8 -0.9
baz=300
SCLT S Sn 15 44 49.0 +0.5
baz=300
EGFH Guangfu 0.81 26 *e*P Pg 15 44 33.9 -1.6
baz=42
EGFH eS Sg 15 44 44.2 -2.1
baz=42
ICHU Yijhu 0.82 301 *e*P Pn 15 44 35.5 -1.3
baz=302
VWDT VWDT 0.82 7 P Pg 15 44 33.8 -1.9
baz=14
VWDT S Sg 15 44 45.7 -0.7
baz=14
WARBT Fenglin Townsh 0.84 22 P Pg 15 44 34.0 -2.0
baz=27
WARBT S Sg 15 44 44.5 -2.7
baz=27
SSLB Suanglung 0.85 355 P Pg 15 44 34.6 -1.7
SSLB Suanglung 0.85 355 *e*P Pg 15 44 34.4 -1.9
baz=2.0
SSLB S Sg 15 44 47.0 -0.5
baz=2.0
TWP Hsiaoliuchiu 0.86 227 P Pn 15 44 38.4 +1.1
baz=214
CHN8 Yiju 0.86 298 *e*P Pn 15 44 36.1 -1.3
baz=298
CHN8 eS Sn 15 44 49.4 -0.5
baz=298
WGK Gukeng 0.86 330 *e*P Pb 15 44 35.9 -0.7
baz=332
WGK eS Sb 15 44 48.6 +0.7
baz=332
WDLH Douliu 0.88 329 *e*P Pn 15 44 36.7 -0.9
baz=331
TEGC Jichi Village 0.90 31 *e*P Pn 15 44 36.4 -1.6
baz=23
TSCK Chigu Township 0.90 284 *e*P Pn 15 44 37.1 -0.8
baz=283
WJS Zhushan 0.93 342 *e*P Pn 15 44 37.8 -0.5
baz=352
SMST Manzhou Townsh 0.93 192 *e*P Pn 15 44 37.8 -0.5
baz=177
WSL Shuilin Townsh 0.95 308 *e*P Pn 15 44 37.6 -1.0
baz=309
ESL Shilin 0.95 23 P Pg 15 44 36.1 -1.9
baz=27
ESL eS Sg 15 44 48.9 -1.6
baz=27
SMLT Sun Moon Lake 0.95 352 *e*P Pg 15 44 36.3 -1.9
baz=5.0
SMLT eS Sb 15 44 50.5 0.0
baz=5.0
WTK Tuku 0.96 322 *e*P Pn 15 44 37.8 -0.9
baz=324
HEN Hengchun 0.97 197 *e*P Pn 15 44 39.1 +0.2
baz=201
SHUL Shoufeng 0.98 30 *e*P Pn 15 44 37.8 -1.2
baz=30
TYC Yuchr 0.98 350 P Pb 15 44 37.5 -0.9
baz=2.0
TYC eS Sn 15 44 52.6 -0.1
baz=2.0
WNT Mingjian 0.99 341 P Pg 15 44 38.0 -0.9
baz=344
WNT S Sn 15 44 52.4 -0.7
baz=344
SNW Nanwan 1.01 195 *e*P Pn 15 44 39.5 +0.1
baz=184
TWK1 Hengchun 1.01 192 *e*P Pn 15 44 39.5 +0.1
baz=181
LAY Lan-yu 1.01 152 *e*P Pn 15 44 37.7 -1.8
baz=151
TWKBT Hengchun 1.01 192 *e*P Pn 15 44 39.8 +0.4
baz=181
WNT1 Nantou City 1.02 341 *e*P Pg 15 44 38.5 -0.9
baz=344
OWD Renai 1.02 7 *e*P Pg 15 44 37.0 -2.6
baz=1.0
WSF Szhu 1.02 313 *e*P Pn 15 44 38.6 -1.0
baz=314
WSF S Sn 15 44 53.4 -0.4
baz=314
TSEB Hengchuen, Pin 1.04 187 *e*P Pn 15 44 41.1 +1.3
baz=177
WUSB Renai 1.05 4 *e*P Pb 15 44 37.4 -2.4
baz=359
LYUB Lan-yu 1.06 151 *e*P Pg 15 44 36.6 -3.5
baz=151
WPL Puli Township 1.07 356 *e*P Pn 15 44 40.1 -0.2
baz=359
DPDB Guoxing 1.10 355 *e*P Pg 15 44 40.0 -1.0
baz=358
WYL Yuanlin Townsh 1.10 338 *e*P Pg 15 44 40.1 -1.0
baz=341
ETM Tongmen 1.11 22 *e*P Pb 15 44 39.1 -1.6
baz=32
WCS Beigang Elemen 1.12 354 *e*P Pg 15 44 40.5 -0.9
baz=5.0
WCS eS Sn 15 44 56.7 +0.4
baz=5.0
CHGB Renai 1.13 6 *e*P Pb 15 44 39.8 -1.3
baz=19
CHGB eS Sn 15 44 57.7 +1.0
baz=19
LXIB Xiulin Townshi 1.14 18 *e*P Pb 15 44 39.9 -1.3
baz=22
LXIB eS Sb 15 44 54.9 -1.0
baz=22
RLNB Erlin 1.14 327 P Pg 15 44 40.6 -1.1
baz=329
RLNB S Sg 15 44 56.4 -0.2
baz=329
WRL Guolierlin Hig 1.14 328 *e*P Pg 15 44 40.8 -0.9
baz=330
WMLT Mailiao 1.14 319 *e*P Pb 15 44 40.4 -0.9
baz=321
WWF Wufeng 1.15 344 *e*P Pg 15 44 41.3 -0.5
baz=333
WTCT Ta-ch'eng 1.16 323 *e*P Pn 15 44 39.9 -1.5
baz=325
WTCT eS Sn 15 44 57.1 +0.1
baz=325
HWA Hwalien 1.16 27 *e*P Pg 15 44 41.6 -0.5
baz=27
WCHH Zhanghua 1.22 339 *e*P Pg 15 44 42.4 -0.9
baz=342
WHF Hehuan Shan 1.22 10 *e*P Pn 15 44 41.2 -1.6
baz=6.0
TWD Chiawan 1.25 24 *e*P Pb 15 44 41.9 -1.2
baz=33
TCU Taichung 1.25 345 *e*P Pg 15 44 43.4 -0.4
baz=334
WDGT Dungji 1.31 285 P Pb 15 44 42.7 -1.3
baz=282
WDGT S Sb 15 45 00.1 -0.6
baz=282
TDCB Techi 1.32 5 *e*P Pg 15 44 43.7 -1.4
baz=19
TDCB eS Sg 15 45 02.5 +0.3
baz=19
TWT Tachien 1.32 6 *e*P Pg 15 44 43.7 -1.5
baz=356
FUSS Fushou 1.32 8 *e*P Pb 15 44 43.2 -1.2
baz=21
ETLH Xiulin Townshi 1.33 18 *e*P Pb 15 44 43.2 -1.3
baz=35
ETL Fush Village 1.33 24 *e*P Pb 15 44 43.2 -1.3
baz=36
NACB Ninganchiao 1.33 22 P Pb 15 44 43.2 -1.3
NACB Ninganchiao 1.33 22 *e*P Pn 15 44 42.3 -1.6
baz=37
NACB eS Sn 15 45 01.3 -0.2
baz=37
WHP Taichung City 1.34 356 *e*P Pg 15 44 44.5 -1.0
baz=359
TWQ1 Liyutan 1.43 350 *e*P Pg 15 44 46.3 -0.9
baz=353
WDJ Dajia District 1.45 346 *e*P Pg 15 44 46.6 -1.1
baz=349
WDJ eS Sg 15 45 06.9 +0.4
baz=349
PHUB P'eng-hu 1.47 293 P Pn 15 44 44.6 -1.1
baz=292
PHUB S Sn 15 45 03.6 -1.1
baz=292
NSY Sanyi 1.50 350 *e*P Pg 15 44 47.4 -1.1
baz=354
NSY eS Sg 15 45 08.1 +0.2
baz=354
PNG Penghu 1.50 295 P Pn 15 44 45.6 -0.5
baz=294
PNG eS Sn 15 45 04.9 -0.6
baz=294
VCHM Qimei 1.50 281 P Pn 15 44 45.4 -0.8
baz=293
VCHM eS Sn 15 45 05.1 -0.6
baz=293
NNSB Datong 1.52 12 ⇑P Pb 15 44 46.6 -1.1
baz=24
NNSB eS Sb 15 45 06.8 -0.1
baz=24
NNSH Datong 1.52 12 *e*P Pb 15 44 46.4 -1.4
baz=21
NNS Nan Shan 1.53 12 P Pb 15 44 46.9 -1.1
baz=23
NNS eS Sg 15 45 08.7 -0.4
baz=23
EAHA Aohua 1.53 25 *e*P Pb 15 44 46.3 -1.5
baz=34
NMLH Miaoli 1.61 352 *e*P Pb 15 44 48.9 -0.4
baz=335
ENA Nanau 1.62 23 *e*P Pn 15 44 47.3 -0.5
baz=32
EWUT Wuta 1.65 24 *e*P Pb 15 44 48.9 -1.0
baz=31
LATG Datong 1.66 16 P Pb 15 44 48.7 -1.4
baz=32
LATG eS Sg 15 45 11.5 -1.6
baz=32
EOS4 EOS4 1.67 45 *e*P Pn 15 44 47.1 -1.0
baz=59
NSTT Nanjuang 1.69 359 *e*P Pb 15 44 50.3 -0.3
baz=340
NSTT eS Sg 15 45 13.1 -1.0
baz=340
NFF Wufeng Townshi 1.69 2 *e*P Pg 15 44 50.4 -1.8
baz=20
NFF eS Sg 15 45 13.7 -0.5
baz=20
LIOB Emei 1.70 359 *e*P Pb 15 44 50.0 -0.8
baz=342
NDT Datong Townshi 1.72 15 *e*P Pb 15 44 50.5 -0.6
baz=18
NJN Zhunan 1.75 355 *e*P Pn 15 44 48.5 -1.1
baz=357
YHNB Yeheng 1.75 10 P Pb 15 44 51.0 -0.8
YHNB Yeheng 1.75 10 *e*P Pb 15 44 51.0 -0.8
baz=24
YHNB eS Sg 15 45 15.9 -0.3
baz=24
NSK Sanguang 1.76 10 *e*P Pb 15 44 50.5 -1.3
baz=25
NSK eS Sg 15 45 15.8 -0.6
baz=25
ENTT Nioudou 1.77 16 *e*P Pb 15 44 51.0 -0.9
baz=29
EOS3 EOS3 1.79 41 *e*P Pn 15 44 49.1 -0.9
baz=55
ESAO Su ao 1.79 24 *e*P Pb 15 44 51.5 -0.9
baz=30
NJD Zhudong 1.79 1 *e*P Pg 15 44 52.9 -1.3
baz=347
NDS Dongshan 1.80 20 *e*P Pb 15 44 51.4 -1.1
baz=33
TWC Suao 1.82 24 *e*P Pb 15 44 52.0 -0.8
baz=29
TWC eS Sb 15 45 15.5 -0.1
baz=29
HSN1 Hsinchu 1.83 359 *e*P Pg 15 44 53.5 -1.5
baz=340
HSN1 eS Sg 15 45 18.2 -0.6
baz=340
EOS2 EOS2 1.84 36 *e*P Pb 15 44 51.4 -1.7
baz=49
SBCB Hsinchu 1.85 359 *e*P Pg 15 44 53.3 -1.9
baz=341
HSN Hsinchu 1.86 358 *e*P Pg 15 44 53.7 -1.7
baz=342
TWE Neicheng 1.87 18 *e*P Pb 15 44 53.1 -0.6
baz=32
NWLT Wulai 1.88 13 *e*P Pb 15 44 53.0 -0.9
baz=1.0
FUSB Fushanzhiwuyua 1.89 15 *e*P Pg 15 44 54.2 -1.7
baz=32
FUSB eS Sg 15 45 18.7 -1.7
baz=32
NCUH Zhongli 2.03 4 *e*P Pb 15 44 55.2 -1.2
baz=5.0
NCU National Centr 2.03 4 *e*P Pb 15 44 54.4 -2.0
baz=5.0
NHDH Xindian Distri 2.07 12 *e*P Pb 15 44 56.7 -0.4
baz=354
NTY Taoyuan 2.07 7 *e*P Pg 15 44 57.1 -2.3
baz=8.0
TATO Taipei 2.07 11 P Pb 15 44 55.3 -1.8
TATO Taipei 2.07 11 *e*P Pg 15 44 57.3 -2.2
baz=30
TATO eS Sg 15 45 26.1 -0.3
baz=30
TAP Taipei 2.14 11 *e*P Pb 15 44 57.6 -0.6
baz=354
TIPB Shuangxi 2.15 19 *e*P Pb 15 44 56.9 -1.6
baz=30
TWS1 Kuangyinshan 2.18 9 *e*P Pg 15 44 59.9 -1.7
baz=22
TWS1 eS Sg 15 45 29.5 -0.5
baz=22
NWF Wu-fen Shan 2.23 18 *e*P Pb 15 44 58.4 -1.5
baz=29
WFSB Wu-fen Shan 2.23 18 *e*P Pb 15 44 57.6 -2.3
baz=29
TWB1 Santiao Chiao 2.24 23 *e*P Pb 15 44 59.4 -0.6
baz=33
YM01 YM01 2.25 12 *e*P Pb 15 44 58.9 -1.3
baz=33
SXI1 Grass Mountain 2.28 19 *e*P Pb 15 44 59.2 -1.5
baz=37
SXI1 eS Sb 15 45 30.2 +1.3
baz=37
ANP Anpu 2.28 11 *e*P Pb 15 45 00.1 -0.7
baz=32
YM08 YM08 2.30 13 *e*P Pb 15 44 59.0 -2.0
baz=33
YOJ Yonaguni jima 2.36 50 *e*P Pb 15 44 58.8 -3.2
baz=60
VWUC VWUC 2.51 325 *e*P Pn 15 44 59.5 -0.6
baz=327
PTMZ Houxiangcun 2.73 320 *e*P Pn 15 45 02.8 -0.3
baz=324
HATJ Hateruma jima 2.78 66 *e*P Pn 15 45 03.4 -0.4
HATJ S Sn 15 45 36.7 -0.3
KNM Kinmen 2.81 302 *e*P Pn 15 45 04.7 +0.6
baz=303
ZPLA Ao Xicun 3.18 289 *e*P Pn 15 45 09.0 -0.2
baz=288
ZPLA eS Sn 15 45 45.9 -1.0
baz=288
JIJ Ishigaki jima 3.18 63 P Pn 15 45 09.0 -0.3
JIJ eS Sn 15 45 46.0 -1.1
MATB Ma-tsu 3.35 343 *e*P Pn 15 45 10.8 -0.9
baz=343
MSUT Lienchiang 3.38 343 *e*P Pn 15 45 12.4 +0.4
baz=343
DSXP Dongshan 3.41 284 *e*P Pn 15 45 12.8 +0.4
baz=284
JISG Ishigakijimahi 3.42 61 P Pn 15 45 12.3 -0.3
JISG eS Sn 15 45 52.8 -0.1
AXDP Jialang 3.42 305 *e*P Pn 15 45 11.9 -0.7
baz=309
MHZQ Yeshan 3.64 330 *e*P Pn 15 45 16.1 +0.4
baz=333
LYJJ Jianjiangzhen 3.78 342 *e*P Pn 15 45 16.7 -0.8
baz=342
LYJJ eS Sn 15 46 01.5 -0.4
baz=342
XPSS Dashiqiu 4.05 349 *e*P Pn 15 45 21.1 -0.2
baz=349
VDOS Pratas Island 4.58 242 *e*P Pn 15 45 30.2 +1.6
baz=240
SXFK Yanhouchang 4.63 319 *e*P Pn 15 45 28.8 -0.4
baz=324
TGY Tagaytay City 8.79 181 LR LR 15 50 33.4
comp=Z,173nm,18.5s,baz=116,slow=43
JNU Nakatsue 13.35 38 LR LR 15 53 41.2
comp=Z,73nm,19.3s,baz=201,slow=42
KSRS Korea Array 15.64 21 Pn **P** 15 48 05.2 +1.4
0.1nm,0.3s,baz=200,slow=12,SNR=2.8
KSRS LR LR 15 54 26.4
comp=Z,38nm,19.8s,baz=195,slow=39
MJAR Matsushiro Arr 20.11 44 P Pn 15 48 54.6 -0.4
6.0nm,1.2s,baz=214,slow=34,SNR=2.4
6.0nm,1.2s
CMAR Chiang Mai Arr 21.14 262 P **P** 15 49 06.6 +2.2
0.8nm,0.7s,baz=67,slow=8.8,SNR=8.3
CMAR PcP **PcP** 15 53 12.8 +2.4
0.3nm,0.3s,baz=72,slow=0.3,SNR=4.9
CMAR LR LR 15 57 53.1
comp=Z,98nm,18.0s,baz=80,slow=38
0.8nm,0.7s
USRK Ussuriysk Ar. 23.05 20 P **P** 15 49 26.7 +2.2
1.0nm,0.7s,baz=218,slow=9.1,SNR=2.8
USRK LR LR 15 58 49.1
comp=Z,58nm,18.8s,baz=49,slow=38
1.0nm,0.7s
SONM Songino Array 27.47 338 P **P** 15 50 07.0 +1.5
1.2nm,0.8s,baz=156,slow=9.3,SNR=3.5

SONM				LR	LR	16 02 26.1	
	comp=Z,72nm,21.4s,baz=186,slow=40						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**39.15**	**317**	P	**P**	**15 51 48.4**	**+1.5**
	1.0nm,0.7s,baz=112,slow=9.8,SNR=9.4						
MKAR				PcP	**PcP**	**15 53 57.4**	**+1.1**
	0.6nm,0.7s,baz=102,slow=5.0,SNR=4.5						
	1.0nm,0.7s						
PETK	**Petropavlovsk-**	**40.98**	**33**	LR	LR	16 09 13.2	
	comp=Z,28nm,20.9s,baz=265,slow=36						
ZALV	**Zalesovo Beam**	**41.22**	**328**	P	**P**	**15 52 04.7**	**+0.8**
	2.1nm,0.7s,baz=120,slow=7.9,SNR=10						
	2.1nm,0.7s						
MA2	**Magadan**	**42.19**	**22**	LR	LR	16 10 08.5	
	comp=Z,21nm,20.1s,baz=236,slow=37						
H11N1	**WAKE ISLAND Hy**	**42.71**	**85**	T	T	16 37 31.2	
	baz=282,slow=74,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**42.71**	**85**	T	T	16 37 29.1	
	baz=282,slow=74,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**42.72**	**85**	T	T	16 37 29.9	
	baz=282,slow=74,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**42.80**	**87**	T	T	16 37 36.5	
	baz=284,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**42.81**	**87**	T	T	16 37 36.4	
	baz=284,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**42.82**	**87**	T	T	16 37 37.7	
	baz=284,slow=75,SNR=7.0						
KURBB	**Kurchatov Arra**	**42.98**	**321**	P	**P**	**15 52 18.9**	**+0.6**
	0.6nm,0.2s,baz=117,slow=7.3,SNR=5.5						
	0.6nm,0.2s						
AAK	**Ala-Archa**	**43.16**	**308**	LR	LR	16 11 18.4	
	comp=Z,38nm,19.5s,baz=142,slow=37						
WRA	**Warramunga Arr**	**44.55**	**162**	P	**P**	**15 52 30.2**	**-1.1**
	0.6nm,0.5s,baz=343,slow=8.9,SNR=12						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**47.98**	**164**	P	**P**	**15 52 58.5**	**+0.2**
	0.4nm,0.5s,baz=332,slow=6.4,SNR=16						
ASAR				PcP	**PcP**	**15 54 26.0**	**-0.4**
	0.3nm,0.9s,baz=347,slow=3.8,SNR=1.6						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**48.56**	**321**	P	**P**	**15 53 03.7**	**+1.3**
	1.5nm,0.9s,baz=113,slow=6.7,SNR=6.7						
BVAR				PcP	**PcP**	**15 54 29.1**	**+1.0**
	0.8nm,0.7s,baz=90,slow=4.3,SNR=2.4						
	1.5nm,0.9s						
GEYT	**Alibeck**	**55.32**	**301**	P	**P**	**15 53 54.2**	**+1.1**
	3.4nm,0.9s,baz=39,slow=7.4,SNR=2.7						
	3.4nm,0.9s						
ILAR	**Eielson Array**	**70.38**	**27**	P	**P**	**15 55 32.8**	**-0.1**
	0.2nm,0.5s,baz=291,slow=5.9,SNR=1.9						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**72.45**	**330**	P	**P**	**15 55 45.3**	**-0.1**
	3.5nm,1.0s,baz=59,slow=8.3,SNR=2.9						
	3.5nm,1.0s						
NOA	**NORSAR Array B**	**79.26**	**332**	P	**P**	**15 56 24.8**	**+0.4**
	1.4nm,1.0s,baz=34,slow=8.0,SNR=2.2						
	1.4nm,1.0s						
YKA	**Yellowknife Ar**	**84.17**	**23**	P	**P**	**15 56 49.9**	**-0.3**
	0.3nm,0.6s,baz=314,slow=4.8,SNR=1.3						
	0.3nm,0.6s						

IDC 31 15:46:16.8±53.0, 13°.06S×170°.29E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=913.4km s-min=128.2km az=66.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**32.30**	**230**	P		P	P	15 52 47.4	-0.3
	1.1nm,0.5s,baz=63,slow=2.3,SNR=3.2								
	1.1nm,0.5s								
WRA	**Warramunga Arr**	**35.09**	**254**	P		P	P	15 53 12.6	+0.5
	0.3nm,0.3s,baz=85,slow=8.7,SNR=8.5								
	0.3nm,0.3s								
ASAR	**Alice Springs**	**36.01**	**248**	P		P	P	15 53 19.5	-0.5
	0.6nm,0.3s,baz=75,slow=9.3,SNR=29								
	0.6nm,0.3s								

IDC 31 15:48:30.8±2.5, 6°.32N×126°.66E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=206.0km s-min=25.8km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**27.17**	**164**	P		P	P	15 54 16.6	+0.5
	0.1nm,0.4s,baz=344,slow=9.5,SNR=0.8								
	0.1nm,0.4s								
ASAR	**Alice Springs**	**30.63**	**167**	P		P	P	15 54 46.5	-0.4
	0.4nm,0.8s,baz=344,slow=6.9,SNR=5.2								
	0.4nm,0.8s								
MKAR	**Makanchi Array**	**55.42**	**324**	P		P	P	15 58 07.0	-0.1
	0.3nm,0.4s,baz=120,slow=7.2,SNR=15								
	0.3nm,0.4s								

*TEH **31** 16:00:46.2, 33°.72N×45°.62E, h9km, 50km, ML3.3*
*ISN **31** 16:00:46.5±0.6, 33°.76N×45°.68E, h9km, 3km, ML3.1*
ISC 31 16:00:47.5±0.9, 33°.74N±0°.04×45°.64E±0°.04, h10km, n18, σ1s9.09/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ILBA	**Ilam Banvizeh**	**0.49**	**104**	Pg		**Pg**	**Pg**	**16 00 56.9**	**-0.1**
IBDR	**Badra**	**0.68**	**159**	*e*Pg		**Pg**	**Pb**	**16 01 00.0**	**-0.6**
IBDR				*e*Sg		**Sg**	**Sg**	**16 01 09.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.76**	**357**	Pg		**Pg**	**Pg**	**16 01 01.2**	**-1.0**
IGHG	**Ghaleghazi**	**0.97**	**52**	Pg		**Pg**	**Pg**	**16 01 05.8**	**-0.3**
BHD	**Baghdad**	**1.16**	**246**	*e*Pg		**Pg**	**Pb**	**16 01 09.0**	**-0.5**
BHD				*e*Sg		**Sg**	**Sn**	**16 01 26.0**	**+0.4**
BHD				AML		AML	AML	16 01 35.9	
	comp=E,474nm,0.6s								
KCHF	**Cheshme Sefid,**	**1.28**	**65**	Pg		**Pg**	**Pn**	**16 01 11.3**	**-0.3**
ILIN	**Lien**	**1.60**	**43**	Pg		**Pg**	**Pb**	**16 01 17.5**	**+0.1**
IKFM	**Kafar-mosalman**	**1.85**	**96**	Pg		**Pg**	**Pn**	**16 01 21.0**	**-0.4**
IBZA	**Bozab**	**1.98**	**68**	Pn		**Pn**	**Pb**	**16 01 22.8**	**-1.0**
RAFI	**Al-Rafai**	**2.05**	**169**	*e*Pn		**Pn**	**Pn**	**16 01 23.0**	**+0.9**
RAFI				*e*Sn		**Sn**	**Sb**	**16 01 50.0**	**-0.4**
IALM	**Almabolaq**	**2.37**	**61**	Pn		**Pn**	**Pb**	**16 01 28.8**	**-1.7**
SDS1	**Sardasht. Az.**	**2.40**	**357**	Pn		**Pn**	**Pn**	**16 01 28.4**	**+1.3**
HSAM	**Samen**	**2.50**	**78**	Pn		**Pn**	**Pn**	**16 01 29.5**	**+0.9**
HAGD	**Aghdareh**	**3.09**	**69**	Pn		**Pn**	**Pn**	**16 01 38.1**	**+1.6**
QAMS	**Qamsar**	**4.79**	**88**	Pn		**Pn**	**Pn**	**16 02 01.0**	**+1.0**
IKLH	**Kolahrood**	**4.98**	**93**	Pn		**Pn**	**Pn**	**16 02 04.0**	**+1.5**
KLST	**Kelardasht - M**	**5.23**	**57**	Pn		**Pn**	**Pn**	**16 02 08.0**	**+1.9**
KRSH	**Karshahi**	**5.41**	**86**	Pn		**Pn**	**Pn**	**16 02 09.7**	**+1.3**

NNC 31 16:07:36.4±4.5, 38°.60N×69°.99E, h1km±17km, mb3.6, mpv3.3, 6C-4D, Error ellipse: s-maj=33.1km s-min=20.0km az=170.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KK31	**Karatay Array**	**4.52**	**5**	⇓P		Pn	Pn	16 08 45.4	-0.5
	0.8nm,0.4s,baz=180,slow=45,SNR=8.6								
KK31				⇓Pg		Pg	Pg	16 08 59.9	-3.1
	1.5nm,0.3s,baz=173,slow=18,SNR=3.6								
KK31				⇑Lg		Lg	Lg	16 10 00.2	
	8.9nm,0.6s,baz=185,slow=28,SNR=8.1								
CHMS	**Chumysh**	**5.69**	**38**	⇑Pn		Pn	Pn	16 09 01.6	-0.5
	3.9nm,0.8s								
CHMS				⇑Sn		Sn	Sn	16 10 09.6	+1.6
	5.2nm,0.8s								
CHMS				⇑Lg		Lg	Lg	16 10 34.3	
	7.7nm,1.0s								
TKM2	**Tokmak 2**	**6.07**	**43**	⇑Pn		Pn	Pn	16 09 08.9	+1.5
	3.6nm,0.7s								
TKM2				⇓Lg		Lg	Lg	16 10 47.4	
	4.4nm,1.1s								
AB31	**Akbulak array**	**12.87**	**329**	⇓Pn		Pn	Pn	16 10 38.3	-2.0
	0.4nm,0.4s,baz=154,slow=13,SNR=12								
AB31				⇑Sn		Sn	Sn	16 13 05.2	+1.1
	0.6nm,0.6s,baz=162,slow=20,SNR=5.1								

*IDC **31** 16:15:53.3±2.9, 26°.07S×29°.04E, h0km, mb3.4/1, mbtmp3.3/4, ML2.6/3, Error ellipse: s-maj=28.7km s-min=21.7km az=113.0*
ISC 31 16:15:50.8±2.4, 26°.07S±0°.08×29°.3E±0°.2, h10km, n8, σ3s48/8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LBTB	**Lobatse**	**3.53**	**287**	Pn		**Pn**	**Pn**	**16 16 48.1**	**+2.3**
	0.4nm,0.3s,baz=106,slow=14,SNR=9.2								
LBTB				Pg		**Pb**	**Pb**	**16 16 54.2**	**+0.7**
	2.0nm,0.3s,baz=108,slow=17,SNR=31								
LBTB				Lg		Lg	Lg	16 17 36.4	
	5.1nm,0.3s,baz=20,slow=22,SNR=15								
	1.3nm,0.2s								
BOSA	**Boshof**	**4.42**	**234**	Pn		**Pn**	**Pn**	**16 16 58.5**	**+0.5**
	0.1nm,0.3s,baz=58,slow=9.5,SNR=3.1								
BOSA				Pg		**Pb**	**Pb**	**16 17 09.0**	**+0.4**
	0.3nm,0.3s,baz=57,slow=13,SNR=2.3								
BOSA				Lg		Lg	Lg	16 18 08.6	
	12nm,0.3s,baz=325,slow=14,SNR=25								
	2.1nm,0.8s								
I47ZA	**BOSHOF INFRASO**	**4.44**	**234**	I		I	I	16 42 10.0	
	0.1nm,0.8s,baz=54,slow=308,SNR=2.2								
SUR	**Sutherland**	**9.73**	**228**	Pn		**Pn**	**Pn**	**16 18 12.8**	**+1.7**
	0.2nm,0.3s,baz=53,slow=15,SNR=1.1								
SUR				Sn		**Sn**	**Sn**	**16 19 56.0**	**-4.6**
	0.2nm,0.3s,baz=323,slow=14,SNR=1.2								
SUR				Lg		Lg	Lg	16 20 54.8	
	0.7nm,0.3s,baz=16,slow=13,SNR=4.3								
	4.1nm,0.9s								
LSZ	**Lusaka**	**10.79**	**354**	Sn		**Sn**	**Sn**	**16 20 21.5**	**-5.1**
	0.2nm,0.3s,baz=60,slow=20,SNR=6.3								
LSZ				Lg		Lg	Lg	16 21 20.8	
	0.2nm,0.3s,baz=67,slow=21,SNR=1.3								
TSUM	**Tsumeb**	**12.81**	**300**	Lg		Lg	Lg	16 22 24.5	
	0.2nm,0.3s,baz=288,slow=20,SNR=1.6								
I35NA	**TSUMEB INFRASO**	**12.82**	**300**	I		I	I	17 30 50.0	
	baz=127,slow=289,SNR=4.3								
TORD	**Torodi Ar. Bea**	**47.36**	**322**	P		**P**	**P**	**16 24 27.3**	**+2.1**
	0.3nm,0.6s,baz=130,slow=6.5,SNR=2.6								
	0.3nm,0.6s								

*IDC **31** 16:17:50.1±3.1, 33°.61N×45°.74E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=181.4km s-min=27.6km az=149.0*
*TEH **31** 16:17:50.8, 33°.75N×45°.68E, h8km±37km, ML3.2*
ISC 31 16:17:52.2±1.2, 33°.74N±0°.07×45°.71E±0°.07, h13km, n21, σ1s23/23, mb3.2/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**106**	Pg		Pg	**Pb**	**16 18 00.4**	**-1.3**
ILBA				Sg		Sg	**Sb**	**16 18 06.8**	**-1.3**
KGS1	**Ghasr-e-Shirin**	**0.77**	**352**	Pg		**Pg**	**Pg**	**16 18 05.8**	**-1.3**
IGHG	**Ghaleghazi**	**0.92**	**50**	Pg		**Pg**	**Pg**	**16 18 09.2**	**-0.8**
IGHG				Sg		Sg	**Sb**	**16 18 23.4**	**+1.0**
IDHR	**Dehrash**	**1.10**	**30**	Pg		Pg	**Pb**	**16 18 11.8**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.22**	**64**	Pg		Pg	**Pb**	**16 18 14.7**	**-0.5**
ILIN	**Lien**	**1.56**	**41**	Pg		Pg	**Pb**	**16 18 20.9**	**-0.3**
IKFM	**Kafar-mosalman**	**1.79**	**96**	Pn		**Pn**	**Pb**	**16 18 24.7**	**-0.2**
IBZA	**Bozab**	**1.92**	**67**	Pn		**Pn**	**Pb**	**16 18 26.4**	**-0.9**
IALM	**Almabolaq**	**2.32**	**61**	Pn		**Pn**	**Pn**	**16 18 31.8**	**+1.5**
SDS1	**Sardasht. Az.**	**2.41**	**356**	Pn		**Pn**	**Pn**	**16 18 32.8**	**+1.3**
HSAM	**Samen**	**2.45**	**78**	Pn		**Pn**	**Pn**	**16 18 33.4**	**+1.3**
MAHB	**Mahabad**	**3.02**	**360**	Pn		**Pn**	**Pn**	**16 18 41.1**	**+1.3**
HAGD	**Aghdareh**	**3.03**	**68**	Pn		**Pn**	**Pn**	**16 18 41.8**	**+1.6**
QAMS	**Qamsar**	**4.74**	**89**	Pn		**Pn**	**Pn**	**16 19 05.1**	**+1.6**
IKLH	**Kolahrood**	**4.92**	**93**	Pn		**Pn**	**Pn**	**16 19 08.0**	**+2.0**
IVRN	**Varamin**	**5.13**	**74**	Pn		**Pn**	**Pn**	**16 19 09.6**	**+0.8**
BVAR	**Borovoye Array**	**26.11**	**35**	P		**P**	**P**	**16 23 25.8**	**+0.2**
	0.3nm,0.5s,baz=245,slow=9.4,SNR=2.1								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**29.28**	**45**	P		**P**	**P**	**16 23 54.3**	**+0.4**
	0.1nm,0.4s,baz=250,slow=8.0,SNR=1.6								
	0.1nm,0.4s								
MKAR	**Makanchi Array**	**30.52**	**54**	P		**P**	**P**	**16 24 05.3**	**+0.2**
	0.5nm,0.4s,baz=254,slow=8.5,SNR=14								
	0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**34.09**	**42**	P		**P**	**P**	**16 24 37.9**	**+1.7**
	0.4nm,0.3s,baz=253,slow=8.5,SNR=2.2								
	0.4nm,0.3s								
TORD	**Torodi Ar. Bea**	**44.87**	**254**	P		**P**	**P**	**16 26 06.3**	**-0.3**
	0.2nm,0.6s,baz=46,slow=6.2,SNR=2.4								
	0.2nm,0.6s								

*IDC **31** 16:25:07.3±10.0, 35°.90N×70°.92E, h104km±109km, mb3.2/1, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=155.4km s-min=40.7km az=167.0*
*NNC **31** 16:25:18.2±2.0, 36°.83N×71°.03E, h130km±47km, mb3.0, mpv3.7, Error ellipse: s-maj=19.8km s-min=15.4km az=41.0*
ISC 31 16:25:09.2±3.9, 36°.1N±0°.4×70°.9E±0°.1, h100km, n13, σ0s88/14, 1C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
UCH	**Uchtor**	**6.73**	**24**	P		**Pn**	**Pn**	**16 26 45.7**	**0.0**
	SNR=6.7								
EKS2	**Erkin-Say**	**6.91**	**18**	P		**Pn**	**Pn**	**16 26 47.9**	**0.0**
	SNR=6.1								
KK31	**Karatay Array**	**6.99**	**358**	P		**Pn**	**Pn**	**16 26 48.8**	**0.0**
	0.9nm,0.2s,baz=174,slow=11,SNR=36								
KK31				⇑S		Sn	Sn	16 27 59.3	-7.4
	2.9nm,0.3s,baz=190,slow=17,SNR=14								
AAK	**Ala-Archa**	**7.09**	**22**	P		**Pn**	**Pn**	**16 26 50.4**	**0.0**
	SNR=14								
CHMS	**Chumysh**	**7.50**	**22**	P		**Pn**	**Pn**	**16 26 55.9**	**+0.1**
	SNR=5.1								
CHMS	**Chumysh**	**7.50**	**22**	⇓P		**Pn**	**Pn**	**16 26 55.2**	**-0.6**
	4.6nm,0.3s								
CHMS				⇓S		Sn	Sn	16 28 12.2	-6.9
	4.3nm,0.7s								
TKM2	**Tokmak 2**	**7.71**	**27**	P		**Pn**	**Pn**	**16 26 58.8**	**0.0**
	SNR=9.6								
TKM2	**Tokmak 2**	**7.71**	**27**	⇓P		**Pn**	**Pn**	**16 26 58.4**	**-0.5**
	2.1nm,0.5s								
GEYT	**Alibeck**	**10.36**	**284**	P		**Pn**	**Pn**	**16 27 35.8**	**+1.0**
	0.5nm,0.3s,baz=109,slow=10,SNR=7.4								
GEYT				S		**Sn**	**Sn**	**16 29 26.8**	**-2.1**
	0.8nm,0.5s,baz=148,slow=8.7,SNR=1.8								
	1.1nm,0.5s								
MKAR	**Makanchi Array**	**13.66**	**35**	P		**Pn**	**Pn**	**16 28 17.1**	**-1.5**
	baz=216,slow=13,SNR=1.8								
	0.2nm,0.8s								
AB31	**Akbulak array**	**15.37**	**332**	⇓P		**Pn**	**Pn**	**16 28 41.0**	**+0.6**
	0.4nm,0.5s,baz=0.0,slow=0.1,SNR=20								
KURBB	**Kurchatov Arra**	**15.52**	**18**	P		**Pn**	**Pn**	**16 28 42.5**	**+0.3**
	baz=204,slow=12,SNR=3.1								
	0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**20.31**	**24**	P		**P**	**P**	**16 29 36.9**	**0.0**
	0.8nm,0.3s,baz=204,slow=9.4,SNR=8.4								
	0.8nm,0.3s								

*IDC **31** 16:28:14.8±5.7, 24°.84N×142°.46E, h84km±54km, mb3.4/5, mbtmp3.6/6, ML2.9/1, MS2.6/1, Error ellipse: s-maj=139.0km s-min=20.6km az=79.0*
ISC 31 16:28:10.1±3.0, 24°.7N±0°.2×142°.2E±°, h35km, n13, σ1s98/6, mb3.9/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MJAR	**Matsushiro Arr**	**12.33**	**344**	P		**Pn**	**Pn**	**16 31 05.1**	**+1.8**
	0.1nm,0.3s,baz=161,slow=12,SNR=1.8								
	0.5nm,0.4s								
KSRS	**Korea Array**	**17.70**	**319**	LR		LR	LR	16 38 33.2	
	comp=Z,19nm,19.7s,baz=160,slow=35								
H11N1	**WAKE ISLAND Hy**	**23.25**	**97**	T		T	T	16 58 22.8	
	baz=283,slow=74,SNR=5.3								
H11N2	**WAKE ISLAND Hy**	**23.25**	**97**	T		T	T	16 58 22.3	
	baz=283,slow=74,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**23.27**	**97**	T		T	T	16 58 26.2	
	baz=283,slow=74,SNR=5.2								
H11S3	**WAKE ISLAND Hy**	**23.45**	**100**	T		T	T	16 58 40.4	
	baz=289,slow=74,SNR=15								
H11S1	**WAKE ISLAND Hy**	**23.46**	**100**	T		T	T	16 58 41.6	
	baz=289,slow=74,SNR=9.0								
H11S2	**WAKE ISLAND Hy**	**23.47**	**100**	T		T	T	16 58 39.3	
	baz=289,slow=74,SNR=9.8								
WRA	**Warramunga Arr**	**45.04**	**191**	P		**P**	**P**	**16 36 23.3**	**+0.6**
	0.6nm,0.4s,baz=9.3,slow=8.2,SNR=16								
	0.6nm,0.4s								
ASAR	**Alice Springs**	**48.76**	**190**	P		**P**	**P**	**16 36 52.8**	**+1.1**
	0.1nm,0.4s,baz=14,slow=13,SNR=1.6								
	0.1nm,0.4s								
KURBB	**Kurchatov Arra**	**54.83**	**316**	P		**P**	**P**	**16 37 36.1**	**-0.6**
	0.3nm,0.5s,baz=91,slow=8.1,SNR=6.5								
	0.3nm,0.5s								
BVAR	**Borovoye Array**	**59.91**	**318**	P		**P**	**P**	**16 38 12.5**	**-0.1**
	0.5nm,0.5s,baz=95,slow=6.6,SNR=3.4								
	0.5nm,0.5s								
FINES	**FINESS Array B**	**80.16**	**334**	P		**P**	**P**	**16 40 13.9**	**-2.6**
	1.9nm,1.1s,baz=74,slow=4.9,SNR=1.1								
	1.9nm,1.1s								

DJA 31 16:33:49.4±1.0, 10°.5S±12°.×11°.6E±°, h10km, M3.7/6, mb3.8/1, MLv3.6/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TWSI	**Taliwang, Sumb**	**1.00**	**32**	Pg		Pg	Pg	16 34 08.3	-0.3
DNP	**Denpasar**	**1.45**	**309**	P		Pn	Pn	16 34 15.2	-0.4
PLAI	**Plampang**	**1.60**	**62**	Pn		Pn	Pn	16 34 17.8	0.0
SRBI	**Singaraja**	**1.87**	**323**	Pn		Pn	Pn	16 34 21.9	+0.4
DBNI	**Kabupaten Domp**	**2.22**	**61**	Pn		Pn	Pn	16 34 26.3	0.0
JAGI	**Jajag, Banyuwa**	**2.44**	**297**	Pn		Pn	Pn	16 34 28.9	-0.4
GMJI	**Gumukmas**	**3.15**	**294**	Pn		Pn	Pn	16 34 39.0	-0.2
BLJI	**Banyuglugur**	**3.28**	**304**	P		Pn	Pn	16 34 41.1	+0.2
BKSI	**Bulukumba**	**5.65**	**42**	P		Pn	Pn	16 35 13.5	-0.1

*IDC **31** 16:37:02.8±0.5, 7°.05N×79°.88W, h0km, mb4.7/22, mbtmp4.7/28, ML3.8/6, MS5.1/57, Error ellipse: s-maj=19.3km s-min=12.4km az=48.0*
*RSNC **31** 16:37:04.6±1.1, 7°.14N×79°.69W, h10km±6km, ML4.5, Mw5.5*
*UPA **31** 16:37:04.1±1.4, 7°.20N×79°.73W, h0km±6km, MW5.1, Fault plane solution: NP1:ϕs18.00000°, δ85.00000°, λ38.00000°.*
*NEIC **31** 16:37:05.5±1.7, 7°.24N±0°.06×79°.64W±0°.07, h7km±1km, mb5.2/414, Ms_20 5.1/757, Mwb5.5/28, Mww5.6/29, Error ellipse: s-maj=12.1km s-min=9.3km az=238.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.42; Mθθ-0.29; Mφφ-0.13; Mrθ-0.37; Mθφ1.91; Mφr-0.27; Fault plane solution: Mo2.00000×10¹⁷ NP1: ϕs177.43000°, δ76.28000°, λ168.56000°. NP2: ϕs270.18000°, δ78.89000°, λ13.99000°. Principal axes: T 1.8470, Plg18.0000°, Azm134.0000°; N 0.2792, Plg72.0000°, Azm308.0000°; P -2.1262, Plg2.0000°, Azm44.0000°;*
*MOS **31** 16:37:05.5±1.5, 7°.19N×79°.80W, h18km, mb5.4/24, MS5.1/20 Error ellipse: s-maj=10.3km s-min=5.9km az=108.0*
*NEIC **31** 16:37:06, 7°.25N×79°.61W, h16km*
*NEIC **31** 16:37:06, 7°.25N×79°.51W, h16km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.21; Mθθ-0.37; Mφφ0.58; Mrθ-0.04; Mθφ2.54; Mφr0.73; Fault plane solution: Mo2.68000×10¹⁷ NP1: ϕs174.95000°, δ88.83000°, λ-164.14000°. NP2: ϕs84.61000°, δ74.15000°, λ-1.22000°. Principal axes: T 2.7832, Plg10.0000°, Azm309.0000°; N -0.2007, Plg74.0000°, Azm179.0000°; P -2.5825, Plg12.0000°, Azm41.0000°;*
*NEIC **31** 16:37:06, 7°.26N×79°.61W, h10km*
*GCMT **31** 16:37:08.5±0.1, 7°.28N±0°.01×79°.65W±0°.01, h12km, MW5.5/160, Moment Tensor Solution. s108,c184; s160,c304; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.21±.03; Mθθ-0.42±.03; Mrθ0.63±.03; Mθφ0.14±.08; Mφφ2.47±.02; Mφr-0.63±.08; Best double couple: Mo2.61000×10¹⁷ NP1:ϕs354.00000°, δ87.00000°, λ-165.00000°. NP2:ϕs264.00000°, δ76.00000°, λ-3.00000°. Principal axes: T 2.6890, Plg8.0000°, Azm128.0000°; N -0.1580, Plg75.0000°, Azm6.0000°; P -2.5310, Plg12.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*CATAC **31** 16:37:11.1±0.6, 7°.62N×79°.57W, h20km, MB6.0, mb5.5, ML5.9*
ISC 31 16:37:03.7±0.6, 7°.15N±0°.02×79°.72W±0°.02, h3km±3km, n1278, σ2s92/858, mb5.2/244, MS5.2/444, 48C-31D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ACHO3	**Achotines, Los**	**0.53**	**301**	⇑*i*P		**Pb**	**Pb**	**16 37 14.9**	**-0.6**
ACHO3				*i* S		**Sb**	**Sb**	**16 37 23.2**	**-0.4**
TOSI3	**Tonosi**	**0.85**	**290**	⇑*i*P		**Pb**	**Pb**	**16 37 19.1**	**-0.6**
TOSI3				*i* S		**Sn**	**Sn**	**16 37 31.9**	**-1.6**
AZU	**Azuero**	**0.85**	**319**	⇑*i*P		**Pg**	**Pg**	**16 37 19.7**	**-0.2**
AZU				*i* S		**Sg**	**Sg**	**16 37 31.4**	**+0.5**
AZU	**Azuero**	**0.85**	**319**	⇑*i*P		**Pg**	**Pg**	**16 37 19.9**	**-0.1**
AZU				*e*S		**Sg**	**Sg**	**16 37 30.9**	**-0.1**
AZU				*e*S		**Sg**	**Sb**	**16 37 31.1**	**-1.7**
CHIT3	**Chitre**	**1.06**	**319**	⇑*i*P		**Pg**	**Pg**	**16 37 23.2**	**-0.9**
CHIT3				*i* S		**Sn**	**Sn**	**16 37 39.3**	**-1.6**
CACAO	**El Cacao

CAPC Capurgana 2.77 58⇓ *i*P Pn 16 37 47.8 -1.2
CAPC *e*S **Sn** **16 38 22.0 -1.0**
CAPC *i* 16 38 29.9
comp=Z,3µm,0.6s
GUAL3 Gualaca, Chiri 2.91 298⇑ *i*P **Pn** **16 37 51.5 +0.6**
GUAL3 *i* S **Sb** **16 38 33.2 +1.0**
PEDE3 Pedregal, Chir 2.95 295 *e*P **Pn** **16 37 53.5 +2.0**
CHGR2 Aguacate 2.99 307⇓ *e*P **Pn** **16 37 52.7 +0.7**
DVD David 3.00 296⇓ *e*P **Pn** **16 37 53.3 +1.2**
DVD *e*S **Sg** **16 38 39.4 -0.7**
PTAR3 Potrerillos Ar 3.15 299 *e*P **Pn** **16 37 56.3 +1.9**
LNBQ3 Los Naranjos, 3.15 301⇓ *e*P **Pb** **16 37 57.6 -2.9**
LNBQ3 *i*S **Sn** **16 38 32.2 -0.5**
PIZC Pizarro, Choco 3.19 133⇑ *i*P **Pn** **16 37 53.1 -1.6**
BCO2 Palmira 3.19 299⇓ *e*P **Pn** **16 37 56.6 +1.6**
BCO2 *i* S **Sb** **16 38 40.7 +0.1**
APAC Apartado, Choc 3.20 76 *e*P **Pb** **16 37 57.3 -3.8**
APAC *e*S **Sn** **16 38 30.0 -3.5**
APAC *i* 16 38 40.8
comp=Z,3µm,0.5s
PTPM Petroterminale 3.31 289⇑ *i*P **Pn** **16 37 56.7 +0.4**
BC3P Paso Ancho 3.31 300⇓ *e*P **Pb** **16 38 00.5 -2.8**
BC3P *e*S **Sn** **16 38 39.1 +2.4**
BRU2 Volcan 3.37 299 **Pn** **16 37 58.9 +1.5**
BRU2 Volcan 3.37 299⇑ *e*P **Pn** **16 37 59.7 +2.3**
BRU2 *i* S **Sb** **16 38 44.3 -1.4**
BRU2 Volcan 3.37 299 *i* P **Pn** **16 37 58.8 +1.4**
BRU2 IAML 16 39 08.5
comp=Z,13µm,1.0s
CDITO Canoas 3.43 295 **Pn** **16 37 59.5 +1.3**
CDITO Canoas 3.43 295 *i* P **Pn** **16 37 59.0 +0.9**
CDITO *i* S **Sg** **16 38 52.3 -1.8**
CDITO IAML 16 39 30.6
comp=Z,27µm,1.0s
CCOL Caracol de Cor 3.46 291 *i* P **Pn** **16 37 58.9 +0.4**
DBBC Dabeiba 3.48 92⇓ *e*P **Pn** **16 37 58.9 0.0**
DBBC *e*S **Sn** **16 38 36.3 -4.4**
DBBC *i* 16 38 41.4
comp=Z,2µm,0.5s
MLIR3 Monte Lirio, C 3.49 298 *e*P **Pn** **16 37 59.8 +0.9**
CNI2 El Empalme, Bo 3.54 310 *e*P **Pb** **16 38 05.2 -1.9**
RGM0 Gandoca 3.75 311 Pn **Pn** **16 38 03.1 +0.6**
POTG Potrero Grande 3.87 300 *i* P **Pn** **16 38 05.8 +1.7**
POTG IAML 16 39 40.8
comp=Z,10µm,1.0s
CBOC Ciudad Bolivar 3.90 109⇑ *i*P **Pn** **16 38 03.7 -0.9**
CBOC *e*S **Sn** **16 38 43.6 -7.3**
MALC Bahia Malaga 3.91 143 *e*P **Pn** **16 38 02.9 -1.8**
PLMC San Jos del P 4.08 123⇑ *i*P **Pn** **16 38 05.4 -1.6**
PLMC *e*S **Sn** **16 38 51.1 -4.2**
PLMC *i* 16 39 01.2
comp=Z,328nm,0.6s
DRK0 Durika 4.08 301 **Pn** **16 38 08.7 +1.5**
SRBA San Rafael, Bu 4.16 300 **Pn** **16 38 09.8 +1.5**
SRBA San Rafael, Bu 4.16 300 *i* P **Pn** **16 38 09.9 +1.7**
SRBA *i* S **Sg** **16 39 14.1 -3.4**
SRBA IAML 16 39 23.0
comp=Z,7µm,1.0s
MEDEC Medelln, Ant 4.19 102 *e*S **Sn** **16 38 55.9 -2.4**
UREC San Jos de Ur 4.19 81⇓ *i*P **Pn** **16 38 09.4 +0.8**
UREC San Jos de Ur 4.19 81⇓ *i*P **Pn** **16 38 09.4 +0.8**
UREC *e*S **Sn** **16 38 55.6 -2.5**
UREC *i* 16 39 00.9
comp=Z,1µm,0.7s
OCHAL Ojochal 4.35 297 *i* P **Pn** **16 38 13.1 +2.4**
OCHAL IAML 16 39 33.9
comp=Z,24nm,1.0s
PEZE Perez Zeledon, 4.51 300 **Pn** **16 38 15.1 +2.1**
PEZE Perez Zeledon, 4.51 300 *i* P Pb 16 38 18.6 -4.9
PEZE *i* S **Sg** **16 39 26.2 -2.4**
YOTC Yotoco, Valle 4.60 133⇑ *i*P **Pn** **16 38 12.9 -1.3**
YOTC *e*S **Sn** **16 39 05.5 -2.7**
CDM Cerro de Muert 4.67 301 *i* P **Pn** **16 38 17.8 +2.3**
CDM *i* S **Sg** **16 39 29.1 -4.6**
CDM IAML 16 39 42.2
comp=Z,8µm,1.0s
GUY2C Guyana, Caldas 4.73 114⇑ *i*P **Pn** **16 38 16.4 +0.1**
RECRC Villamaria, Ca 4.85 116 *e*P **Pn** **16 38 20.3 +2.2**
RECRC *e*S **Sn** **16 39 16.2 +1.1**
RIMA Rio Macho 4.86 303 **Pn** **16 38 20.6 +2.7**
JAMC Jamundi, Valle 4.94 142⇑ *e*P **Pn** **16 38 18.2 -0.9**
JAMC *e*S **Sn** **16 39 12.2 -3.7**
LCR2 La Lucha 2 4.96 302 **Pn** **16 38 21.1 +1.8**
LCR2 La Lucha 2 4.96 302 *i* P **Pn** **16 38 21.6 +2.2**
LCR2 *i* S **Sb** **16 39 36.8 +5.1**
LCR2 IAML 16 40 13.6
comp=Z,7µm,1.0s
OCM Ochomogo 5.01 303 *i* P **Pn** **16 38 22.9 +2.9**
OCM *i* S **Sg** **16 39 38.5 -6.2**
OCM IAML 16 39 45.5
comp=Z,8µm,1.0s
ANIL Santa Ana 5.04 121⇑ *i*P **Pn** **16 38 20.7 +0.2**
ANIL *e*S **Sn** **16 39 14.2 -5.1**
NORC Norcasia 5.07 108 *e*P **Pn** **16 38 23.0 +2.3**
NORC *e*S **Sn** **16 39 18.6 -1.2**
HDC3 Heredia 3 5.19 303 *i* P **Pn** **16 38 25.0 +2.6**
HDC3 IAmb IAmb 16 38 39.1
comp=Z,2µm,1.0s
HDC3 IVmB_BB 16 38 40.9
comp=Z,54µm,1.0s
HDC3 IAML 16 40 00.1
comp=Z,10µm,1.0s
HDC Heredia 5.19 303 **Pn** **16 38 24.2 +1.8**
RIFO Rio Frio, Sara 5.22 307 *i* P **Pn** **16 38 24.3 +1.6**
RIFO IAmb IAmb 16 38 48.2
comp=Z,2µm,1.4s
RIFO IVmB_BB 16 38 58.8
comp=Z,27µm,1.0s
RIFO IAML 16 40 28.0
comp=Z,4µm,1.0s
SJCC San Jacinto, C 5.25 58⇓ *i*P **Pn** **16 38 23.7 +0.5**
SJCC *e*S **Sn** **16 39 21.8 -2.6**
SJCC *i* 16 39 35.1
comp=Z,119nm,0.6s
PTBC PUERTO BERRIO, 5.26 96 *e*P **Pn** **16 38 25.3 +2.1**
PTBC *e*S **Sn** **16 39 22.5 -2.0**
PTBC *i* 16 39 38.9
comp=Z,257nm,0.6s
POPC Popayan, Colom 5.49 146 *e*P **Pn** **16 38 27.6 +1.0**
ORTC Ortega, Tolima 5.49 126⇑ *i*P **Pn** **16 38 27.4 +1.0**
ORTC *e*S **Sn** **16 39 24.2 -6.0**
ORTC *i* 16 39 35.9
comp=Z,238nm,0.6s
JACO JACO, Garabito 5.49 297 **Pn** **16 38 28.3 +1.8**
JACO JACO, Garabito 5.49 297 *i* P **Pn** **16 38 29.1 +2.6**
JACO IAmb IAmb 16 38 42.6
comp=Z,2µm,1.2s
JACO IVmB_BB 16 38 44.0
comp=Z,24µm,1.0s
JACO *i* S **Sg** **16 39 58.3 -2.0**
JACO IAML 16 40 41.8
comp=Z,4µm,1.0s
CPMI Catarata Coope 5.57 304 *i* P **Pn** **16 38 31.2 +3.5**
CPMI IVmB_BB 16 38 47.3
comp=Z,52µm,1.0s
CPMI IAmb IAmb 16 38 52.3
comp=Z,3µm,1.3s
CPMI IAML 16 40 08.9
comp=Z,7µm,1.0s
BBAC Balboa, Cauca 5.65 154⇓ *e*P **Pn** **16 38 32.2 +3.4**
LAFE Finca La Fe, P 5.78 298 *i* P Pn 16 38 34.5 +4.1
LAFE IVmB_BB 16 38 49.6
comp=Z,120nm,1.0s
LAFE IAmb IAmb 16 38 50.9
comp=Z,6.4nm,1.2s
LAFE IAML 16 40 20.6
comp=Z,24nm,1.0s
SPBC San Pablo de B 5.80 104 *e*P **Pn** **16 38 32.6 +1.9**
SPBC *e*S **Sn** **16 39 38.3 +0.3**
SPBC *i* 16 39 44.7
comp=Z,96nm,0.5s
SOCE Pocosol 5.81 304 **Pn** **16 38 32.5 +1.6**
SOCE Pocosol 5.81 304 *i* P **Pn** **16 38 34.5 +3.6**
SOCE IVmB_BB 16 38 54.1
comp=Z,16µm,1.0s
SOCE IAmb IAmb 16 38 54.5
comp=Z,1µm,1.0s
SOCE IAML 16 40 15.2
comp=Z,2µm,1.0s
COVE Coope Vega, Sa 5.83 308 **Pn** **16 38 32.3 +1.2**
ROSC El Rosal 5.83 113 Pn **Pn** **16 38 31.9 +0.4**
ROSC El Rosal 5.83 113 P **Pn** **16 38 31.9 +0.4**
ROSC El Rosal 5.83 113 Pn **Pn** **16 38 33.9 +2.3**
comp=Z,13nm,0.3s,baz=322,slow=9.5,SNR=70
ROSC Sn **Sn** **16 39 37.4 -1.8**
comp=Z,9.8nm,0.3s,baz=183,slow=23,SNR=3.6
ROSC LR LR 16 40 55.7
comp=Z,37µm,19.3s,baz=322,slow=39
comp=Z,248nm,0.8s
ROSC El Rosal 5.83 113⇑ *i*P **Pn** **16 38 34.6 +3.1**
PRAC Prado 5.89 125⇑ *i*P **Pn** **16 38 33.4 +1.4**
PRAC *e*S **Sn** **16 39 43.0 +2.8**
PRAC *i* 16 39 45.1
comp=Z,341nm,0.6s
ARE1 Arenal 1 5.94 304 **Pn** **16 38 34.8 +2.1**
ARGC Ariguani, Magd 6.04 63 *e*P **Pn** **16 38 35.9 +1.9**
ARGC *e*S **Sn** **16 39 43.2 -0.6**
ARGC *i* 16 39 53.1
comp=Z,72nm,0.5s
JTS Las Juntas de 6.05 301 **Pn** **16 38 36.4 +2.3**
JTS Las Juntas de 6.05 301⇑ *i*P **Pn** **16 38 37.8 +3.7**
JTS Las Juntas de 6.05 301 P **Pn** **16 38 36.4 +2.3**
JTS Las Juntas de 6.05 301 Pn **Pn** **16 38 34.9 +0.8**
comp=Z,10nm,0.3s,baz=113,slow=12,SNR=27
JTS Lg Lg 16 40 02.6
baz=338,slow=21
JTS Las Juntas de 6.05 301 *e*P **Pn** **16 38 37.2 +3.1**
BETC Betania 6.15 136 *e*P **Pn** **16 38 38.2 +2.7**
BETC *e*S **Sn** **16 39 43.8 -2.7**
BETC *i* 16 39 53.9
comp=Z,344nm,0.7s
CVER Cruz Verde, Cu 6.19 115 *e*P **Pn** **16 38 39.2 +2.8**
CVER *e*S **Sn** **16 39 52.9 +4.9**
CVER *i* 16 39 58.5
comp=Z,137nm,0.6s
INDI Punta indio, G 6.33 296 *i* P **Pn** **16 38 39.4 +1.4**
INDI IAmb IAmb 16 38 54.5
comp=Z,290nm,1.2s
INDI IVmB_BB 16 39 05.2
comp=Z,7µm,1.0s
INDI IAML 16 40 53.3
comp=Z,1µm,1.0s
PRVC Isla de Provid 6.40 345 *e*P **Pn** **16 38 38.5 -0.5**
PRVC *i* S **Sn** **16 39 45.2 -7.4**
PRVC Isla de Provid 6.40 345 *e*P **Pn** **16 38 39.2 +0.3**
PRVC *e*S **Sn** **16 39 48.1 -4.4**
PRVC *i* 16 40 12.8
comp=Z,138nm,0.7s
PRVC Isla de Provid 6.40 345 *i* P **Pn** **16 38 37.0 -1.9**
PRVC IVmB_BB 16 38 48.6
comp=Z,2µm,1.0s
PRVC IAmb IAmb 16 38 49.1
comp=Z,130nm,1.4s
PRVC *i* S **Sn** **16 39 49.2 -3.4**
PRVC IAML 16 40 11.7
comp=Z,530nm,1.0s
DUNO Dulce Nombre, 6.41 297 *i* P **Pn** **16 38 42.2 +3.1**
DUNO IVmB_BB 16 38 59.0
comp=Z,14µm,1.0s
DUNO IAmb IAmb 16 39 02.3
comp=Z,370nm,1.2s
DUNO IAML 16 40 36.8
comp=Z,1µm,1.0s
OCAC Ocana 6.43 80 *e*P **Pn** **16 38 40.3 +0.8**
OCAC *e*S **Sn** **16 39 51.3 -2.3**
GARC Garzon, Huila 6.48 139 *e*P **Pn** **16 38 42.4 +2.1**
GARC *e*S **Sn** **16 39 56.9 +2.0**
GARC *i* 16 40 06.0
comp=Z,129nm,0.5s
BARC Barichara 6.51 94 *e*P **Pn** **16 38 42.3 +1.7**
BARC *e*S **Sn** **16 39 52.9 -2.7**
BARC *i* 16 39 58.8
comp=Z,478nm,0.5s
ORTG Ortega, Santa 6.51 300 Pn **Pn** **16 38 43.0 +2.4**
ORTG Ortega, Santa 6.51 300 *i* P Pn 16 38 45.3 +4.7
ORTG IVmB_BB 16 39 06.3
comp=Z,10µm,1.0s
ORTG IAmb IAmb 16 39 06.8
comp=Z,400nm,1.2s
ORTG IAML 16 41 03.3
comp=Z,3µm,1.0s
SAJU San Juanillo, 6.60 297 *i* P **Pn** **16 38 42.3 +0.6**
VILC Villavicencio, 6.71 116 *e*P **Pn** **16 38 46.8 +3.5**
VILC *e*S **Sn** **16 40 05.5 +5.2**
VILC *i* 16 40 10.4
comp=Z,134nm,0.6s
SMRC Santa Marta, M 6.73 53 *e*P **Pn** **16 38 43.7 +0.2**
SMRC *e*S **Sn** **16 39 58.4 -2.3**
ESPN Las Esperanzas 6.75 318 **Pn** **16 38 44.0 +0.3**
HZTE Horizontes, Gu 6.80 302 **Pn** **16 38 44.8 +0.3**
HZTE Horizontes, Gu 6.80 302 *i* P **Pn** **16 38 47.8 +3.3**
HZTE IAmb IAmb 16 39 12.9
comp=Z,920nm,2.1s
HZTE IVmB_BB 16 39 30.7
comp=Z,29µm,1.0s
HZTE IAML 16 41 01.2
comp=Z,3µm,1.0s
LL6C La Loma 6 Bece 6.88 68⇓ *i*P **Pn** **16 38 46.1 +0.7**
PAMC Pamplona, Colo 6.96 88⇑ *i*P **Pn** **16 38 48.4 +1.3**
PAMC *i* P **Pn** **16 38 48.4 +1.3**
OTAV Otavalo 6.98 170 Pn **Pn** **16 38 49.4 +2.1**
OTAV Otavalo 6.98 170 P **Pn** **16 38 49.4 +2.1**
OTAV Otavalo 6.98 170 *e*P **Pn** **16 38 50.2 +2.9**
OTAV Otavalo 6.98 170 *e*P **Pn** **16 38 49.2 +1.9**
BONI La Bonita 7.00 164 *e*P **Pn** **16 38 55.2 +7.8**
PULU Pululahua 7.18 170 **Pn** **16 38 53.5 +3.5**
ACON Acoyapa 7.21 312 *e*P **Pn** **16 38 53.9 +3.9**
CRJC Cerrejon, Guaj 7.77 60 *e*P **Pn** **16 38 58.6 +0.8**
CRJC *e*S **Sn** **16 40 21.8 -4.6**
CRJC *i* 16 40 32.9
comp=Z,102nm,0.7s
BOAB BOACO BROADBAN 7.88 312 Pn **Pn** **16 39 01.1 +1.8**
TAMC Tame, Arauca 7.90 95 *e*P **Pn** **16 39 00.8 +1.2**
TAMC *e*S **Sn** **16 40 25.5 -4.1**
TAMC *i* 16 40 38.6
comp=Z,114nm,0.5s
PTGC Puerto Gaitan, 8.09 111 *e*P **Pn** **16 39 03.2 +1.0**
PIAT Ana Tenorio 8.22 170 *e*P Pn 16 39 12.3 +8.0
PTLG Puerto Leguiza 8.49 144 *e*P Pn 16 39 13.3 +5.6
URIC Uribia, Colomb 8.86 59 *e*P **Pn** **16 39 13.2 +0.5**
URIC *e*S **Sn** **16 40 51.1 -2.1**
URIC *i* 16 41 15.9
comp=Z,62nm,0.8s
URI Uribia 8.86 59 *i* P **Pn** **16 39 13.8 +1.0**
URI IVmB_BB 16 39 16.5
comp=Z,7µm,1.0s
URI IAmb IAmb 16 39 26.0
comp=Z,400nm,1.3s
SDV Santo Domingo 9.16 79 **Pn** **16 39 17.5 +0.5**
SDV Santo Domingo 9.16 79 Pn **Pn** **16 39 18.4 +1.4**
comp=Z,8.8nm,0.3s,baz=253,slow=9.8,SNR=105
SDV Sn **Sn** **16 40 55.7 -5.1**
comp=Z,35nm,0.3s,baz=342,slow=15,SNR=9.1
SDV LR LR 16 44 08.7
comp=Z,12µm,19.3s,baz=252,slow=46
comp=Z,141nm,0.7s
SDV Santo Domingo 9.16 79⇓ *i*P **Pn** **16 39 17.8 +0.8**
SDV *e*S **Sn** **16 40 54.1 -6.7**
SDV Santo Domingo 9.16 79 *e*P **Pn** **16 39 17.6 +0.6**
SDV *e*S **Sn** **16 40 56.1 -4.7**
COHC Cochancay 9.56 177 *e*P Pn 16 39 28.7 +6.4
TGUH Tegucigalpa,Un 10.11 313 Pn **Pn** **16 39 31.9 +1.8**
TGUH Tegucigalpa,Un 10.11 313 *e*P Pn 16 39 34.8 +4.7
MTDJ Mount Denham 11.22 11 *e*S **Sn** **16 41 42.8 -8.4**
MCRA Macar, Loja 11.44 181 **Pn** **16 39 51.0 +2.8**
MCRA Macar, Loja 11.44 181 *e*P Pn 16 39 53.7 +5.5
BAUV El Baul 11.70 80 **Pn** **16 39 48.7 -2.9**
BAUV El Baul 11.70 80 *e*P **Pn** **16 39 48.2 -3.4**
ESQI Esquipulas 11.98 309 **Pn** **16 39 57.2 +1.6**
PAYG Puerto Ayora 13.10 234 *i* P P 16 40 34.1 +13
PAYG IAmb IAmb 16 40 42.1
comp=Z,110nm,1.6s
PAPH Port-au-Prince 13.42 32 **Pn** **16 40 13.5 -1.6**
GTBY Guantanamo Bay 13.47 19 *e*P **Pn** **16 40 18.1 +2.3**
HUEH Huehuetenango 14.12 306 Pn **Pn** **16 40 27.5 +2.5**
ATAH Atahualpa 14.25 175 Pn **Pn** **16 40 25.1 -1.8**
comp=Z,0.3nm,0.3s,baz=29,slow=20,SNR=1.6
ATAH LR LR 16 45 35.2
comp=Z,6µm,19.6s,baz=354,slow=36
comp=Z,1.4nm,0.2s
SDDR Presa de Saban 14.34 34 Pn **Pn** **16 40 25.2 -2.5**
SDDR Presa de Saban 14.34 34 *e*P **Pn** **16 40 25.1 -2.7**
SDDR *e*S **Sn** **16 43 02.7 -4.8**
PCRV Puerto La Cruz 15.21 78 Pn **Pn** **16 40 40.1 +0.5**
comp=Z,1.4nm,0.3s,baz=276,slow=7.6,SNR=5.6
PCRV Sn **Sn** **16 43 18.0 -11**
comp=Z,0.9nm,0.3s,baz=242,slow=20,SNR=1.7
PCRV LR LR 16 48 20.9
comp=Z,24µm,18.6s,slow=44
comp=Z,50nm,1.0s
TEIG Tepich 15.43 328 LR LR 16 46 49.0
comp=Z,93µm,18.8s,baz=285,slow=38
PCDR Punta Cana, DR 15.79 43 Pn **Pn** **16 40 46.6 -0.6**
SOR Soroa 15.88 349 Pn **Pn** **16 40 48.7 +0.4**
SOR Soroa 15.88 349 P **Pn** **16 40 48.7 +0.4**
SOR pmax pmax
comp=Z,26nm,1.1s
CZSB Cruzeiro do Su 16.35 155 **Pn** **16 40 54.3 -0.1**
CZSB Cruzeiro do Su 16.35 155 *e*P **P** **16 40 55.4 -2.0**
CZSB Cruzeiro do Su 16.35 155 *e*P **Pn** **16 40 54.6 +0.3**
CRPR Cabo Rojo, PR 16.36 48 Pn **Pn** **16 40 53.4 -1.0**
CELP Cerrillos 16.79 48 Pn **Pn** **16 40 58.2 -1.8**
AOPR Arecibo Observ 16.83 47 IAmb IAmb 16 41 06.3
comp=Z,290nm,1.1s
SJG San Juan 17.13 49 P **P** **16 41 04.8 -1.2**
comp=Z,1.0nm,0.3s,baz=289,slow=9.9,SNR=5.3
SJG Sn **Sn** **16 44 07.0 -8.4**
comp=Z,2.2nm,0.3s,baz=2.5,slow=20,SNR=1.4
SJG LR LR 16 48 31.1
comp=Z,7µm,20.2s,baz=232,slow=40
comp=Z,12nm,0.5s
GCPR Guaynabo City 17.30 49 Pn **Pn** **16 41 03.5 -3.0**
GCPR IAmb IAmb 16 41 12.7
comp=Z,444nm,1.6s
HUMP Col San Antoni 17.38 50 IAmb IAmb 16 41 16.1
comp=Z,187nm,1.2s
CMIG Matias Romero 17.81 305 P **Pn** **16 41 11.0 -1.8**
comp=Z,0.2nm,0.3s,baz=6.8,slow=21,SNR=1.2
comp=Z,3.9nm,0.9s
GRFF Grenada Fort F 18.38 73 *e*P **P** **16 41 19.8 -0.1**
TRN Trinidad (W) 18.42 78 *e*P **Pn** **16 41 20.1 -0.3**
GRGR Grenville 18.48 73 *e*P **Pn** **16 41 20.7 -0.3**
GRW Mount Saint Ca 18.48 73 *e*P **Pn** **16 41 23.0 +1.9**
GRHS Sauteurs 18.51 73 *e*P **Pn** **16 41 21.1 -0.3**
GCMP Grenada, Carri 18.78 72 *e*P **Pn** **16 41 25.7 +1.0**
SVB Belmont 19.16 70 *e*P **Pn** **16 41 32.8 +3.5**
NNA Nana 19.22 171⇑ *e*P **Pn** **16 41 33.8 +3.8**
NNA pmax pmax
comp=Z,144nm,1.3s
NNA Nana 19.22 171 P **Pn** **16 41 31.4 +1.4**
comp=Z,22nm,0.8s,baz=352,slow=7.0,SNR=2.8
MBFL Flemmings, Mon 19.59 59 *e*P **Pn** **16 41 35.4 +1.0**
SLBI Saint Lucia, B 19.64 68 *e*P **P** **16 41 32.7 -1.0**
TBG Guadaloupe-3 19.69 62 *e*P **Pn** **16 41 36.4 +0.8**
BOAV Boa Vista 19.70 103 P **Pn** **16 41 34.3 -1.5**
BOAV IAmb IAmb 16 41 40.3
comp=Z,192nm,1.2s
BIM Bigot 19.71 67 *e*P P 16 41 23.0 -12
FDF Fort de France 19.71 66 *e*P **P** **16 41 29.3 -5.3**
SVN Savane Anatole 19.74 66 *e*P **Pn** **16 41 36.6 +0.4**
CBE Ff, Capester 19.82 62 *e*P **Pn** **16 41 38.2 +1.1**
MPOM Morne Pois Mar 19.88 67 *e*P **Pn** **16 41 39.8 +1.9**
ABD La Joyeuse, An 20.09 61 *e*P Pn 16 41 44.1 +3.8
ANBD Bethesda, Anti 20.10 59 *e*P Pn 16 41 40.8 +0.3
GDSD La Dsirade Is 20.39 62 P Pn 16 41 42.3 -1.6
BBGH Gun Hill 20.71 72 *e*P Pn 16 41 51.7 +4.0
TLIG Tlapa 21.10 301 IAMs_20 IAMs_20 16 50 22.1
comp=Z,7µm,18.0s
ETMB Extrema 21.56 141 IAmb IAmb 16 42 01.8
comp=Z,215nm,1.5s
ETMB Extrema 21.56 141 *e*P **P** **16 41 54.8 +0.2**
MACA Manacapuru-AM 21.58 118 P **P** **16 41 54.2 -0.6**
MACA Manacapuru-AM 21.58 118 *e*P **P** **16 41 53.7 -1.0**
656A Willston 22.27 353 S Sn 16 46 14.7 -4.4
baz=172
UNM Universidad Na 22.45 305 IAMs_20 IAMs_20 16 51 36.6
comp=Z,9µm,20.0s
SAML Samuel 22.96 134 P **P** **16 42 09.7 +0.2**
SAML Samuel 22.96 134 P **P** **16 42 09.7 +0.2**
SAML pmax pmax
comp=Z,287nm,1.3s
SAML MLR MLR
comp=Z,17µm,19.0s
SAML Samuel 22.96 134 *e*P **P** **16 42 10.0 +0.5**
456A Hilliard 23.56 355 S **S** **16 46 32.8 +2.5**
baz=174
451A Vernon 24.02 347 IAMs_20 IAMs_20 16 52 20.9
comp=Z,4µm,18.0s
451A Vernon 24.02 347 S **S** **16 46 44.1 +6.3**
baz=165
MOIG Morelia 24.28 303 IAMs_20 IAMs_20 16 52 17.3
comp=Z,5µm,20.0s
TIGA Tifton 24.44 352 P **P** **16 42 25.1 +1.3**
baz=170
TIGA Tifton 24.44 352 S **S** **16 46 46.4 +2.0**
baz=170
352A Blakely 24.70 349 IAMs_20 IAMs_20 16 52 53.5
comp=Z,6µm,18.0s
352A Blakely 24.70 349 S **S** **16 46 52.4 +3.8**
baz=167
255A Hazlehurst 24.79 354 S **S** **16 46 54.7 +4.6**
baz=173
BRAL Brewton 24.87 345 P **P** **16 42 29.2 +1.6**
baz=162
545A Edgard 24.93 337 IAMs_20 IAMs_20 16 48 58.2
comp=Z,6µm,18.0s
250A Grady 25.45 347 P **P** **16 42 35.2 +2.3**
baz=165
154A Montrose 25.54 353 P **P** **16 42 37.5 +3.8**
baz=172
152A Waverly Hall 25.82 350 P **P** **16 42 35.9 -0.4**
152A Waverly Hall 25.82 350 P **P** **16 42 37.9 +1.7**
baz=168,SNR=10
NHSC New Hope 25.84 359 IAMs_20 IAMs_20 16 54 04.8
comp=Z,4µm,18.0s
NHSC New Hope 25.84 359 P **P** **16 42 37.0 +0.6**
baz=179
GOGA Godfrey 26.37 353 IAmb IAmb 16 43 01.6
comp=Z,76nm,1.4s
GOGA Godfrey 26.37 353 P **P** **16 42 42.8 +1.6**
baz=171
ITTB Itaituba 26.53 115 *e*P **P** **16 42 43.4 +0.5**
Z51A Franklin 26.53 350 IAmb IAmb 16 43 08.9
comp=Z,96nm,1.4s
Z51A IAMs_20 IAMs_20 16 54 08.0
comp=Z,5µm,18.0s
Z51A Franklin 26.53 350 P **P** **16 42 45.0 +2.3**
baz=168
KVTX Kingsville 26.62 322 IAMs_20 IAMs_20 16 51 00.8
comp=Z,4µm,20.0s
Y58A Scranton 26.63 0 IAMs_20 IAMs_20 16 53 31.3
comp=Z,6µm,19.0s
LRAL Lakeview Retre 26.63 346 IAmb IAmb 16 43 13.2
comp=Z,49nm,1.2s
LRAL Lakeview Retre 26.63 346 P **P** **16 42 44.5 +0.8**
baz=164,SNR=6.5
LRAL Lakeview Retre 26.63 346 P **P** **16 42 44.6 +1.0**
baz=164,SNR=6.5
HBVL Hebbronville 26.77 320 IAmb IAmb 16 43 19.4
comp=Z,99nm,1.5s
Y52A Lilburn 26.89 352 P **P** **16 42 45.3 -0.7**
Y52A IAmb IAmb 16 43 14.9
comp=Z,47nm,1.2s
MALB Monte Alegre 26.93 108 *e*P **P** **16 42 48.0 +1.5**
ZAIG Zacatecas 26.93 308 IAMs_20 IAMs_20 16 54 47.7
comp=Z,8µm,20.0s
MDP Montagnes des 26.99 93 LR LR 16 53 54.9
comp=Z,9µm,19.1s,baz=275,slow=37
JSC Jenkinsville 27.04 357 IAmb IAmb 16 43 17.7
comp=Z,52nm,1.3s
JSC Jenkinsville 27.04 357 P **P** **16 42 50.9 +3.6**
baz=176
HODGE Hodges 27.06 355 IAmb IAmb 16 43 12.8
comp=Z,75nm,1.5s
HODGE Hodges 27.06 355 P **P** **16 42 50.6 +3.2**
baz=174,SNR=11
Z47A Carrollton 27.06 344 IAmb IAmb 16 43 17.1
comp=Z,58nm,1.1s
Z47A Carrollton 27.06 344 P **P** **16 42 49.2 +1.7**
baz=161
PB12 IPOC Station P 27.22 160 P **P** **16 42 50.1 +1.0**
PB12 IAmb IAmb 16 43 25.7
comp=Z,34nm,1.0s
PB16 IPOC Station P 27.25 158 IAmb IAmb 16 43 02.2
comp=Z,59nm,1.0s
PB16 IAMs_20 IAMs_20 16 54 21.6
comp=Z,7µm,22.0s
HKT Hockley 27.28 328 P **P** **16 42 49.4 0.0**
HKT IAmb IAmb 16 43 15.6
comp=Z,51nm,1.2s
HKT Hockley 27.28 328 P **P** **16 42 50.1 +0.7**
HKT Hockley 27.28 328 P **P** **16 42 49.4 0.0**

HKT					pmax	pmax					
	comp=Z,51nm,1.3s										
Y49A	**Blount Mountai**	**27.29**	**348**		IAMs_20	IAMs_20	16 54 24.0				
	comp=Z,4µm,19.0s										
Y49A	**Blount Mountai**	**27.29**	**348**		P	**P**	**16 42 50.7**	**+1.1**			
	baz=165										
X51A	**Calhoun**	**27.70**	**351**		IAMs_20	IAMs_20	16 53 36.9				
	comp=Z,4µm,21.0s										
FPAL	**Fort Paine**	**27.80**	**350**		IAmb	IAmb	16 43 34.3				
	comp=Z,68nm,1.5s										
FPAL					IAMs_20	IAMs_20	16 54 48.7				
	comp=Z,5µm,18.0s										
VILB	**Vilhena**	**27.83**	**136**		P	**P**	**16 42 55.3**	**+0.7**			
VILB	**Vilhena**	**27.83**	**136**	*eP*	**P**	**16 42 56.1**	**+1.5**				
BG3	**Lake Jocassee**	**27.87**	**354**		IAmb	IAmb	16 43 16.9				
	comp=Z,76nm,1.3s										
CASEE	**Lake Jocassee**	**27.87**	**354**		P	**P**	**16 42 56.9**	**+2.1**			
	baz=173										
W57A	**Gilead**	**27.88**	**360**		IAMs_20	IAMs_20	16 54 27.3				
	comp=Z,6µm,18.0s										
KMSC	**Kings Mountain**	**27.90**	**357**		P	**P**	**16 42 56.4**	**+1.4**			
	baz=176										
W59A	**Clinton**	**27.91**	**2**		IAMs_20	IAMs_20	16 55 08.2				
	comp=Z,6µm,18.0s										
X48A	**Hartselle**	**28.00**	**347**		IAmb	IAmb	16 43 22.8				
	comp=Z,40nm,1.2s										
X48A	**Hartselle**	**28.00**	**347**		P	**P**	**16 42 56.6**	**+0.7**			
	baz=164										
CNNC	**Cliffs of the**	**28.01**	**3**		IAMs_20	IAMs_20	16 53 37.2				
	comp=Z,5µm,20.0s										
NPGB	**Novo Progresso**	**28.09**	**120**	*eP*	**P**	**16 42 57.6**	**+0.7**				
833A	**Chaparral WMA,**	**28.11**	**321**		IAmb	IAmb	16 43 19.6				
	comp=Z,61nm,1.4s										
833A	**Chaparral WMA,**	**28.11**	**321**		P	**P**	**16 42 57.6**	**+0.7**			
	baz=135										
W50A	**Signal Mountai**	**28.39**	**350**		IAmb	IAmb	16 43 50.0				
	comp=Z,38nm,1.1s										
PB11	**IPOC Station P**	**28.51**	**160**		IAmb	IAmb	16 43 48.5				
	comp=Z,58nm,1.1s										
PB11					IAMs_20	IAMs_20	16 56 17.2				
	comp=Z,4µm,19.0s										
CPCT	**Cooper Cave**	**28.51**	**352**		IAmb	IAmb	16 43 14.7				
	comp=Z,76nm,1.6s										
CPCT					IAMs_20	IAMs_20	16 54 02.5				
	comp=Z,4µm,21.0s										
SWET	**Sewanee**	**28.52**	**349**		IAmb	IAmb	16 43 22.3				
	comp=Z,90nm,1.7s										
SWET					IAMs_20	IAMs_20	16 55 28.6				
	comp=Z,5µm,18.0s										
MCPB	**Macapa, AP**	**28.58**	**104**	*eP*	**P**	**16 43 02.4**	**+1.0**				
TKL	**Tuckaleechee C**	**28.62**	**353**		LR	LR	16 54 38.3				
	comp=Z,2µm,20.8s,baz=162,slow=37										
V61A	**Roper**	**28.66**	**5**		IAMs_20	IAMs_20	16 55 15.1				
	comp=Z,3µm,18.0s										
PLAL	**Pickwick Lake**	**28.75**	**346**		P	**P**	**16 43 02.0**	**-0.6**			
PLAL					IAmb	IAmb	16 43 24.4				
	comp=Z,47nm,1.6s										
V51A	**Loudon**	**28.84**	**352**		IAMs_20	IAMs_20	16 54 12.6				
	comp=Z,4µm,21.0s										
HNDO	**Hondo**	**28.90**	**323**		IAmb	IAmb	16 43 05.7				
	comp=Z,59nm,1.1s										
U56A	**King**	**29.07**	**359**		IAMs_20	IAMs_20	16 56 14.5				
	comp=Z,5µm,19.0s										
U59A	**Littleton**	**29.12**	**3**		IAMs_20	IAMs_20	16 54 19.6				
	comp=Z,4µm,21.0s										
V48A	**Smith Brothers**	**29.20**	**348**		IAmb	IAmb	16 43 10.4				
	comp=Z,46nm,1.2s										
V48A					IAMs_20	IAMs_20	16 55 23.3				
	comp=Z,4µm,19.0s										
V48A	**Smith Brothers**	**29.20**	**348**		P	**P**	**16 43 07.8**	**+1.3**			
	baz=165										
U54A	**Nelsons Funny**	**29.30**	**357**		IAMs_20	IAMs_20	16 55 44.7				
	comp=Z,3µm,19.0s										
U54A	**Nelsons Funny**	**29.30**	**357**		P	**P**	**16 43 09.5**	**+2.0**			
	baz=176										
U54A					P	**P**	**16 43 09.5**	**+2.0**			
	baz=176										
CLTN	**Cedars of Leba**	**29.44**	**349**		IAmb	IAmb	16 43 14.9				
	comp=Z,27nm,1.0s										
CLTN					IAMs_20	IAMs_20	16 55 56.7				
	comp=Z,4µm,18.0s										
TZTN	**Tazewell**	**29.47**	**354**		P	**P**	**16 43 09.9**	**+0.9**			
	baz=172										
SIV	**San Ignacio**	**29.48**	**141**		LR	LR	16 55 08.3				
	comp=Z,13µm,20.5s,baz=329,slow=37										
U49A	**Red Boiling Sp**	**29.75**	**350**		IAmb	IAmb	16 44 06.5				
	comp=Z,63nm,1.8s										
U49A					IAMs_20	IAMs_20	16 56 56.9				
	comp=Z,4µm,18.0s										
T59A	**Double "B" Far**	**29.75**	**3**		IAMs_20	IAMs_20	16 54 27.3				
	comp=Z,4µm,20.0s										
PB01	**IPOC Station P**	**29.76**	**160**		IAmb	IAmb	16 43 36.6				
	comp=Z,49nm,1.4s										
CLDB	**Colider**	**29.79**	**127**	*eP*	**P**	**16 43 12.4**	**+0.4**				
WVT	**Waverly**	**29.79**	**347**		P	**P**	**16 43 11.6**	**-0.2**			
WVT					IAmb	IAmb	16 43 36.5				
	comp=Z,72nm,1.9s										
WVT	**Waverly**	**29.79**	**347**		P	**P**	**16 43 12.8**	**+1.0**			
	baz=164										
WVT	**Waverly**	**29.79**	**347**		P	**P**	**16 43 11.6**	**-0.2**			
WVT					pmax	pmax					
	comp=Z,72nm,1.9s										
WVT					MLR	MLR					
	comp=Z,3µm,21.0s										
UALR	**University of**	**29.86**	**339**		IAmb	IAmb	16 43 15.8				
	comp=Z,28nm,0.9s										
JCT	**Junction City**	**29.89**	**323**		IAmb	IAmb	16 43 14.6				
	comp=Z,83nm,1.8s										
JCT	**Junction City**	**29.89**	**323**		P	**P**	**16 43 13.6**	**+0.7**			
	baz=137										
BLA	**Blacksburg**	**29.93**	**359**		IAMs_20	IAMs_20	16 56 40.5				
	comp=Z,6µm,18.0s										
BLA	**Blacksburg**	**29.93**	**359**		P	**P**	**16 43 14.4**	**+1.3**			
	baz=178										
BLA	**Blacksburg**	**29.93**	**359**		P	**P**	**16 43 15.8**	**+2.7**			
	baz=178										
T50A	**Nancy**	**30.10**	**352**		IAMs_20	IAMs_20	16 55 02.1				
	comp=Z,5µm,21.0s										
PTLB	**Pontes e Lacer**	**30.33**	**138**		P	**P**	**16 43 15.5**	**-1.2**			
PTLB					IAmb	IAmb	16 43 20.0				
	comp=Z,52nm,1.2s										
PTLB	**Pontes e Lacer**	**30.33**	**138**	*eP*	**P**	**16 43 17.4**	**+0.6**				
T47A	**Sharon Grove**	**30.46**	**348**		IAmb	IAmb	16 43 21.1				
	comp=Z,38nm,1.1s										
T47A					IAMs_20	IAMs_20	16 56 37.9				
	comp=Z,4µm,18.0s										
T47A	**Sharon Grove**	**30.46**	**348**		P	**P**	**16 43 18.3**	**+0.5**			
	baz=165,SNR=7.4										
S57A	**Dark Hollow, R**	**30.48**	**1**		IAMs_20	IAMs_20	16 56 10.7				
	comp=Z,4µm,18.0s										
S51A	**Beattyville**	**30.56**	**354**		IAmb	IAmb	16 43 34.0				
	comp=Z,20nm,0.9s										
LCAR	**Lake Charles**	**30.63**	**342**		IAmb	IAmb	16 43 22.1				
	comp=Z,28nm,1.1s										
LCAR	**Lake Charles**	**30.63**	**342**		P	**P**	**16 43 19.3**	**+0.1**			
	baz=157,SNR=8.6										
BBSD	**Serra de San D**	**30.68**	**142**	*eP*	**P**	**16 43 20.4**	**+0.5**				
R58B	**Mineral**	**30.72**	**3**		IAMs_20	IAMs_20	16 56 09.0				
	comp=Z,4µm,20.0s										
PLPT	**Palo Pinto**	**30.84**	**328**		IAmb	IAmb	16 43 22.9				
	comp=Z,55nm,1.4s										
SAND	**Sanderson**	**30.95**	**320**		P	**P**	**16 43 20.6**	**-1.7**			
CBN	**Corbin Frederi**	**30.99**	**4**		IAMs_20	IAMs_20	16 56 28.3				
	comp=Z,4µm,19.0s										
R55A	**Marlinton**	**31.00**	**359**		IAmb	IAmb	16 43 42.5				
	comp=Z,73nm,1.7s										
R55A					IAMs_20	IAMs_20	16 56 12.6				
	comp=Z,3µm,19.0s										
R53A	**Hurricane**	**31.11**	**357**		IAMs_20	IAMs_20	16 56 39.7				
	comp=Z,4µm,19.0s										
LOOK	**Love County**	**31.21**	**331**		IAmb	IAmb	16 43 26.5				
	comp=Z,43nm,1.3s										
PB05	**IPOC Station P**	**31.23**	**163**		IAmb	IAmb	16 43 54.2				
	comp=Z,54nm,1.5s										
PB05					IAMs_20	IAMs_20	16 51 58.4				
	comp=Z,3µm,18.0s										
R50A	**Paris**	**31.28**	**353**		IAmb	IAmb	16 43 31.5				
	comp=Z,38nm,1.2s										
R50A					IAMs_20	IAMs_20	16 55 40.2				
	comp=Z,3µm,20.0s										
CGM3	**Cape Girardeau**	**31.35**	**345**		IAmb	IAmb	16 43 41.0				
	comp=Z,62nm,1.5s										
R49A	**Shelbyville**	**31.40**	**352**		IAmb	IAmb	16 43 37.1				
	comp=Z,33nm,1.1s										
R49A					IAMs_20	IAMs_20	16 55 42.5				
	comp=Z,5µm,20.0s										
ABTX	**Abilene, Hawle**	**31.40**	**326**		IAmb	IAmb	16 43 27.7				
	comp=Z,51nm,1.3s										
ABTX	**Abilene, Hawle**	**31.40**	**326**		P	**P**	**16 43 25.8**	**-0.3**			
	baz=139										
LVC	**Limon Verde**	**31.41**	**161**		P	**P**	**16 43 26.6**	**0.0**			
LVC					IAmb	IAmb	16 43 32.8				
	comp=Z,47nm,1.4s										
LVC	**Limon Verde**	**31.41**	**161**		P	**P**	**16 43 26.6**	**0.0**			
LVC					pmax	pmax					
	comp=Z,47nm,1.4s										
LVC					MLR	MLR					
	comp=Z,3µm,21.0s										
LVC	**Limon Verde**	**31.41**	**161**		LR	LR	16 57 55.0				
	comp=Z,3µm,19.8s,baz=316,slow=40										
LVC	**Limon Verde**	**31.41**	**161**	*eP*	**P**	**16 43 29.2**	**+2.5**				
U40A	**Yellville**	**31.46**	**339**		P	**P**	**16 43 26.9**	**+0.4**			
	baz=154,SNR=14										
U40A					P	**P**	**16 43 26.9**	**+0.4**			
	baz=154,SNR=14										
WCI	**Wyandotte Cave**	**31.51**	**350**		P	**P**	**16 43 25.6**	**-1.4**			
WCI					IAmb	IAmb	16 43 32.8				
	comp=Z,50nm,1.3s										
WCI	**Wyandotte Cave**	**31.51**	**350**		IAMs_20	IAMs_20	16 57 02.7				
	comp=Z,4µm,18.0s										
WCI	**Wyandotte Cave**	**31.51**	**350**		P	**P**	**16 43 28.7**	**+1.8**			
	baz=167										
WCI	**Wyandotte Cave**	**31.51**	**350**		P	**P**	**16 43 25.6**	**-1.4**			
WCI					pmax	pmax					
	comp=Z,50nm,1.3s										
WCI					MLR	MLR					
	comp=Z,4µm,18.0s										
USIN	**University of**	**31.52**	**348**		IAMs_20	IAMs_20	16 56 54.9				
	comp=Z,4µm,19.0s										
TX31	**Lajitas Ar. Si**	**31.56**	**317**		P	**P**	**16 43 27.7**	**+0.1**			
TX31					IAmb	IAmb	16 44 30.6				
	comp=Z,50nm,1.9s										
TX31	**Lajitas Ar. Si**	**31.56**	**317**		P	**P**	**16 43 27.9**	**+0.2**			
	baz=130,SNR=7.2										
TXAR	**Lajitas Array**	**31.56**	**317**		P	**P**	**16 43 27.2**	**-0.4**			
	comp=Z,4.8nm,1.0s,baz=134,slow=7.2,SNR=24										
TXAR					PcP	**PcP**	**16 46 20.9**	**+0.4**			
	comp=Z,2.2nm,1.0s,baz=135,slow=3.4,SNR=4.6										
TXAR					LR	LR	16 59 42.4				
	comp=Z,916nm,18.4s,baz=130,slow=43										
	comp=Z,4.8nm,1.0s										
SIUC	**Southern Illin**	**31.63**	**346**		IAmb	IAmb	16 43 30.6				
	comp=Z,28nm,0.9s										
Q54A	**Coxs Mills**	**31.71**	**358**		IAMs_20	IAMs_20	16 56 17.7				
	comp=Z,5µm,19.0s										
SGCY	**Sterling City**	**31.71**	**324**		IAmb	IAmb	16 43 30.9				
	comp=Z,20nm,0.8s										
Q52A	**Bidwell**	**31.76**	**356**		IAMs_20	IAMs_20	16 57 59.9				
	comp=Z,3µm,18.0s										
Q52A	**Bidwell**	**31.76**	**356**		P	**P**	**16 43 31.2**	**+2.1**			
	baz=175,SNR=7.3										
Q52A					P	**P**	**16 43 31.2**	**+2.1**			
	baz=175,SNR=7.3										
Q51A	**Peebles**	**31.91**	**355**		IAmb	IAmb	16 43 39.9				
	comp=Z,50nm,1.3s										
BBRB	**Robore, Bolivi**	**32.00**	**142**	*eP*	**P**	**16 43 31.6**	**0.0**				
U38A	**Gravette**	**32.09**	**337**		IAmb	IAmb	16 44 22.4				
	comp=Z,65nm,1.9s										
APMT	**Aspermont**	**32.19**	**327**		P	**P**	**16 43 31.9**	**-1.2**			
APMT					IAmb	IAmb	16 43 34.7				
	comp=Z,18nm,0.8s										
FVM	**French Village**	**32.20**	**344**		P	**P**	**16 43 32.7**	**-0.3**			
	baz=160,SNR=7.7										
P57A	**Homestead Farm**	**32.23**	**2**		IAMs_20	IAMs_20	16 57 04.1				
	comp=Z,4µm,20.0s										
P53A	**Whipple**	**32.23**	**358**		IAMs_20	IAMs_20	16 57 55.4				
	comp=Z,5µm,18.0s										
P51A	**Williamsport**	**32.34**	**355**		IAmb	IAmb	16 43 38.2				
	comp=Z,55nm,1.5s										
OLIL	**Olney**	**32.35**	**348**		IAMs_20	IAMs_20	16 57 19.9				
	comp=Z,4µm,19.0s										
MCWV	**Mont Chateau**	**32.37**	**360**		IAMs_20	IAMs_20	16 58 01.9				
	comp=Z,4µm,18.0s										
P52A	**Corning**	**32.42**	**357**		P	**P**	**16 43 35.5**	**+0.6**			
	baz=175,SNR=8.1										
BLO	**Bloomington**	**32.47**	**350**		IAMs_20	IAMs_20	16 57 43.0				
	comp=Z,4µm,18.0s										
CCM	**Cathedral Cave**	**32.50**	**343**		P	**P**	**16 43 35.0**	**-0.6**			
CCM					IAmb	IAmb	16 43 50.5				
	comp=Z,26nm,0.8s										
CCM	**Cathedral Cave**	**32.50**	**343**		P	**P**	**16 43 35.9**	**+0.3**			
	baz=158										
CCM	**Cathedral Cave**	**32.50**	**343**		P	**P**	**16 43 35.7**	**0.0**			
	baz=158,SNR=13										
CCM	**Cathedral Cave**	**32.50**	**343**		P	**P**	**16 43 35.0**	**-0.6**			
CCM					pmax	pmax					
	comp=Z,26nm,0.9s										
CCM					MLR	MLR					
	comp=Z,2µm,21.0s										
P49A	**Miami Univ. Ec**	**32.56**	**353**		IAMs_20	IAMs_20	16 56 30.3				
	comp=Z,4µm,20.0s										
P49A	**Miami Univ. Ec**	**32.56**	**353**		P	**P**	**16 43 37.3**	**+1.2**			
	baz=171										
P48A	**Milroy**	**32.58**	**352**		IAMs_20	IAMs_20	16 56 28.9				
	comp=Z,4µm,20.0s										
Q44A	**Meyer Farm, Va**	**32.71**	**347**		P	**P**	**16 43 37.0**	**-0.5**			
Q44A					IAmb	IAmb	16 43 40.3				
	comp=Z,39nm,1.0s										
Q44A	**Meyer Farm, Va**	**32.71**	**347**		P	**P**	**16 43 37.5**	**0.0**			
	baz=163										
QUOK	**Quay**	**32.81**	**334**		IAmb	IAmb	16 43 41.3				
	comp=Z,33nm,1.0s										
S39A	**Bolivar**	**32.82**	**340**		IAmb	IAmb	16 44 18.2				
	comp=Z,27nm,1.4s										
S39A	**Bolivar**	**32.82**	**340**		P	**P**	**16 43 38.3**	**-0.2**			
	baz=154										
MVL	**Millersville**	**32.85**	**5**		IAMs_20	IAMs_20	16 58 51.4				
	comp=Z,4µm,18.0s										
PB14	**IPOC Station P**	**32.86**	**164**		P	**P**	**16 43 41.0**	**+1.7**			
O52A	**Adamsville**	**32.88**	**357**		IAMs_20	IAMs_20	16 56 29.6				
	comp=Z,3µm,20.0s										
O52A	**Adamsville**	**32.88**	**357**		P	**P**	**16 43 41.1**	**+2.1**			
	baz=176										
O52A					P	**P**	**16 43 41.1**	**+2.1**			
	baz=176										
DKNS	**Dickens**	**32.89**	**326**		IAmb	IAmb	16 43 41.0				
	comp=Z,24nm,1.1s										
O53A	**New Philadelph**	**32.99**	**358**		IAMs_20	IAMs_20	16 57 08.4				
	comp=Z,4µm,19.0s										
O53A	**New Philadelph**	**32.99**	**358**		P	**P**	**16 43 41.4**	**+1.5**			
	baz=177										
PECS	**Pecos**	**33.02**	**320**		IAmb	IAmb	16 43 41.6				
	comp=Z,30nm,1.5s										
SALV	**Santo Antonio**	**33.02**	**134**	*eP*	**P**	**16 43 40.9**	**+0.4**				
R40A	**Maddies Statio**	**33.02**	**342**		IAmb	IAmb	16 44 04.9				
	comp=Z,54nm,1.8s										
R40A	**Maddies Statio**	**33.02**	**342**		P	**P**	**16 43 39.7**	**-0.5**			
	baz=157										
P46A	**Rosedale**	**33.02**	**349**		IAMs_20	IAMs_20	16 57 33.8				
	comp=Z,4µm,19.0s										
ACSO	**Alum Creek Sta**	**33.07**	**355**		IAmb	IAmb	16 43 52.8				
	comp=Z,26nm,0.8s										
ACSO	**Alum Creek Sta**	**33.07**	**355**		P	**P**	**16 43 42.4**	**+1.7**			
	baz=174										
OK048	**Pawnee Station**	**33.12**	**334**		IAmb	IAmb	16 43 44.8				
	comp=Z,25nm,1.1s										
O49A	**Covington**	**33.16**	**354**		IAMs_20	IAMs_20	16 56 38.1				
	comp=Z,3µm,20.0s										
O48B	**Farmland**	**33.33**	**352**		IAMs_20	IAMs_20	16 57 02.7				
	comp=Z,4µm,21.0s										
O48B	**Farmland**	**33.33**	**352**		P	**P**	**16 43 44.6**	**+1.7**			
	baz=170										
O48B	**Farmland**	**33.33**	**352**		P	**P**	**16 43 44.0**	**+1.1**			
	baz=170										
VHRN	**Van Horn**	**33.36**	**318**		P	**P**	**16 43 43.1**	**-0.4**			
SSPA	**Standing Stone**	**33.39**	**3**		IAMs_20	IAMs_20	16 57 40.6				
	comp=Z,5µm,20.0s										
SSPA	**Standing Stone**	**33.39**	**3**		P	**P**	**16 43 44.9**	**+1.5**			
	baz=183										
GO02	**Mina Guanaco**	**33.59**	**163**		IAmb	IAmb	16 43 51.5				
	comp=Z,39nm,1.1s										
N58A	**Sunbury**	**33.66**	**4**		IAMs_20	IAMs_20	16 59 08.8				
	comp=Z,3µm,18.0s										
BRNJ	**Basking Ridge**	**33.71**	**7**		IAMs_20	IAMs_20	16 58 54.0				
	comp=Z,4µm,20.0s										
N51A	**Ashland**	**33.71**	**356**		IAMs_20	IAMs_20	16 58 05.6				
	comp=Z,3µm,19.0s										
SFIN	**Lafayette**	**33.74**	**350**		IAMs_20	IAMs_20	16 58 05.8				
	comp=Z,4µm,18.0s										
SFIN	**Lafayette**	**33.74**	**350**		P	**P**	**16 43 47.5**	**+1.0**			
	baz=167										
O44A	**Mansfield**	**33.79**	**348**		IAMs_20	IAMs_20	16 58 15.1				
	comp=Z,3µm,19.0s										
LPIG	**La Paz**	**33.82**	**303**		LR	LR	16 57 36.1				
	comp=Z,3µm,21.9s,baz=108,slow=37										
N47A	**Urbana**	**34.01**	**352**		IAMs_20	IAMs_20	16 57 23.8				
	comp=Z,4µm,21.0s										
SNDB	**Serra Nova Dou**	**34.05**	**124**	*eP*		**P**	**16 43 49.8**	**+0.3**			
N62A	**Caumsett State**	**34.10**	**8**		IAMs_20	IAMs_20	16 58 49.4				
	comp=Z,2µm,19.0s										
PAL	**Palisades**	**34.11**	**8**		IAMs_20	IAMs_20	16 59 13.7				
	comp=Z,3µm,20.0s										
PAL	**Palisades**	**34.11**	**8**		P	**P**	**16 43 51.4**	**+1.7**			
	baz=190										
M57A	**Sunshine Farm,**	**34.13**	**3**		IAMs_20	IAMs_20	16 58 21.2				
	comp=Z,3µm,20.0s										
MSTX	**Muleshoe**	**34.15**	**325**		IAmb	IAmb	16 43 51.6				
	comp=Z,54nm,1.2s										
MSTX	**Muleshoe**	**34.15**	**325**		P	**P**	**16 43 50.5**	**+0.2**			
	baz=136,SNR=6.3										
MSTX	**Muleshoe**	**34.15**	**325**		P	**P**	**16 43 49.6**	**-0.8**			
	baz=136,SNR=6.3										
M53A	**WI Miller and**	**34.16**	**359**		P	**P**	**16 43 48.5**	**-1.6**			
M53A					IAmb	IAmb	16 43 56.9				
	comp=Z,34nm,1.0s										
M53A	**WI Miller and**	**34.16**	**359**		P	**P**	**16 43 51.7**	**+1.6**			
	baz=178										
M55A	**Ridgway**	**34.19**	**1**		IAMs_20	IAMs_20	16 57 37.0				
	comp=Z,4µm,20.0s										
MNTX	**Cornudas Mount**	**34.21**	**319**		P	**P**	**16 43 50.1**	**-0.6**			
	baz=130,SNR=48										
MNTX	**Cornudas Mount**	**34.21**	**319**		P	**P**	**16 43 49.9**	**-0.8**			
	baz=130,SNR=48										
TRNY	**Table Rock, Ra**	**34.21**	**7**		IAMs_20	IAMs_20	16 59 17.2				
	comp=Z,3µm,21.0s										
AMTX	**Amarillo**	**34.21**	**327**		P	**P**	**16 43 51.4**	**+0.6**			
	baz=139										
M50A	**Fremont**	**34.24**	**356**		IAmb	IAmb	16 44 01.8				
	comp=Z,34nm,0.8s										
M50A					IAMs_20	IAMs_20	16 59 33.7				
	comp=Z,3µm,18.0s										
HDIL	**Hopedale**	**34.35**	**347**		IAMs_20	IAMs_20	16 58 23.1				
	comp=Z,3µm,20.0s										
HDIL	**Hopedale**	**34.35**	**347**		P	**P**	**16 43 53.3**	**+1.5**			
	baz=163										
WSPT	**Westport, CT**	**34.36**	**9**		IAMs_20	IAMs_20	16 59 18.1				
	comp=Z,2µm,19.0s										
KSPA	**Keystone Colle**	**34.45**	**5**		IAMs_20	IAMs_20	16 58 06.6				
	comp=Z,4µm,20.0s										
YLE	**Yale**	**34.56**	**9**		IAMs_20	IAMs_20	17 00 01.6				
	comp=Z,2µm,18.0s										
P38A	**Dawn**	**34.64**	**341**		IAmb	IAmb	16 43 58.9				
	comp=Z,41nm,1.4s										
ERPA	**Erie**	**34.83**	**360**		P	**P**	**16 43 57.9**	**+2.0**			
	baz=179										
M44A	**Midewin, Midew**	**34.90**	**349**		IAMs_20	IAMs_20	16 58 59.4				
	comp=Z,3µm,19.0s										
L56A	**Greenwood**	**34.90**	**3**		IAMs_20	IAMs_20	16 58 46.7				
	comp=Z,4µm,20.0s										
L48A	**N Adams**	**34.91**	**354**		IAMs_20	IAMs_20	16 57 31.4				
	comp=Z,3µm,20.0s										
BINY	**Binghamton**	**35.07**	**5**		P	**P**	**16 43 58.8**	**+0.9**			
	baz=186										
WVNY	**West Valley, N**	**35.13**	**1**		IAMs_20	IAMs_20	16 58 35.9				
	comp=Z,3µm,19.0s										
L59A	**Walton**	**35.15**	**6**		IAMs_20	IAMs_20	16 59 31.1				
	comp=Z,3µm,21.0s										
AAM	**Ann Arbor**	**35.19**	**355**		IAMs_20	IAMs_20	17 00 49.7				
	comp=Z,3µm,19.0s										
L46A	**Eue Claire**	**35.21**	**351**		IAMs_20	IAMs_20	17 00 33.5				
	comp=Z,3µm,18.0s										
HQIL	**Hanson Quary C**	**35.26**	**349**		IAMs_20	IAMs_20	16 59 14.9				
	comp=Z,4µm,18.0s										
KSU1	**Kansas State U**	**35.27**	**337**		P	**P**	**16 44 00.3**	**+0.6**			
	baz=150										
KSU1	**Kansas State U**	**35.27**	**337**		P	**P**	**16 43 59.6**	**-0.1**			
	baz=150										
BDQN	**

DELO	Deloro Mine	37.27	2	IAMs_20	IAMs_20	17 00 09.5			
	comp=Z,3µm,19.0s								
T25A	Trinidad	37.37	327	IAmb	IAmb	16 44 21.3			
	comp=Z,76nm,1.3s								
T25A	Trinidad	37.37	327	P	P	16 44 19.2	+1.3		
	baz=137,SNR=17								
SADO	Sadowa	37.48	1	IAMs_20	IAMs_20	17 00 08.2			
	comp=Z,3µm,19.0s								
SADO	Sadowa	37.48	1	LR	LR	17 00 19.2			
	comp=Z,3µm,19.2s,baz=223,slow=37								
RPRD	Ribas do Rio P	37.52	138	eP	P	16 44 20.0	+0.8		
VT1	Waterbury	37.54	8	IAMs_20	IAMs_20	17 01 15.0			
	comp=Z,3µm,19.0s								
LBNH	Lisbon	37.57	9	IAMs_20	IAMs_20	17 01 10.2			
	comp=Z,2µm,18.0s								
LONY	Lake Ozonia	37.60	6	P	P	16 44 20.4	+0.8		
LONY				IAmb	IAmb	16 44 33.9			
	comp=Z,41nm,1.3s								
LONY	Lake Ozonia	37.60	6	P	P	16 44 21.3	+1.8		
	baz=188								
L34A	Svendsen Farm,	37.69	340	P	P	16 44 19.0	-1.4		
GLMI	Grayling	37.78	354	IAMs_20	IAMs_20	16 59 21.3			
	comp=Z,3µm,20.0s								
I40A	Norwalk	37.83	347	IAmb	IAmb	16 44 25.6			
	comp=Z,37nm,1.2s								
I40A				IAMs_20	IAMs_20	17 00 40.1			
	comp=Z,3µm,20.0s								
H43A	Windswept, Lux	37.84	351	IAMs_20	IAMs_20	16 59 52.1			
	comp=Z,4µm,22.0s								
KSCO	Kaye Shedlock'	37.85	330	IAmb	IAmb	16 44 25.5			
	comp=Z,32nm,0.9s								
KSCO	Kaye Shedlock'	37.85	330	P	P	16 44 22.9	+0.9		
	baz=141								
KSCO	Kaye Shedlock'	37.85	330	P	P	16 44 22.6	+0.7		
	baz=141								
BGNE	Belgrade	37.85	337	P	P	16 44 22.2	+0.4		
	baz=149								
WBO	Williamsburg	37.91	5	IAMs_20	IAMs_20	17 01 16.2			
	comp=Z,3µm,19.0s								
FRNY	Flat Rock	37.92	7	P	P	16 44 22.2	-0.1		
FRNY				IAmb	IAmb	16 44 29.0			
	comp=Z,94nm,1.6s								
H62A	Milan	38.02	10	IAMs_20	IAMs_20	16 59 43.1			
	comp=Z,2µm,19.0s								
CO01	Juntas del Tor	38.05	166	IAMs_20	IAMs_20	17 02 58.1			
	comp=Z,3µm,20.0s								
G45A	Suttons Bay	38.10	353	IAMs_20	IAMs_20	17 00 07.0			
	comp=Z,3µm,20.0s								
TUC	Tucson	38.23	315	P	P	16 44 25.0	-0.3		
TUC				IAMs_20	IAMs_20	17 00 50.2			
	comp=Z,3µm,19.0s								
TUC	Tucson	38.23	315	P	P	16 44 25.7	+0.4		
	baz=124								
TUC	Tucson	38.23	315	P	P	16 44 25.0	-0.3		
TUC				pmax	pmax				
	comp=Z,21nm,1.2s								
TUC				MLR	MLR				
	comp=Z,3µm,19.0s								
CO06	Fray Jorge	38.39	169	IAmb	IAmb	16 45 39.5			
	comp=Z,79nm,1.4s								
SDCO	Great Sand Dun	38.40	326	P	P	16 44 27.6	+0.8		
	baz=136,SNR=22								
SDCO	Great Sand Dun	38.40	326	P	P	16 44 27.3	+0.5		
	baz=136,SNR=22								
MNTQ	Montreal, Queb	38.57	7	IAMs_20	IAMs_20	17 02 10.8			
	comp=Z,2µm,18.0s								
BDFB	Brasilia	38.71	126	IAmb	IAmb	16 44 32.9			
	comp=Z,56nm,1.3s								
BDFB	Brasilia	38.71	126	P	P	16 44 29.1	-0.3		
	comp=Z,20nm,1.0s,baz=303,slow=11,SNR=12								
BDFB				LR	LR	17 01 10.2			
	comp=Z,11µm,18.4s,baz=312,slow=37								
	comp=Z,20nm,1.0s								
G62A	West of Eustis	38.76	10	IAMs_20	IAMs_20	16 59 00.5			
	comp=Z,2µm,20.0s								
X18A	Snowflake	38.96	319	IAMs_20	IAMs_20	17 03 16.2			
	comp=Z,2µm,18.0s								
CO02	Combarbal	39.03	168	P	P	16 44 31.4	-0.6		
PKME	Peaks-Kenny Pk	39.04	12	IAMs_20	IAMs_20	17 01 54.9			
	comp=Z,2µm,19.0s								
G40A	Rib Lake	39.05	348	IAMs_20	IAMs_20	17 01 18.5			
	comp=Z,4µm,19.0s								
OGNE	Ogallala	39.10	333	IAmb	IAmb	16 44 48.6			
	comp=Z,80nm,1.4s								
OGNE	Ogallala	39.10	333	P	P	16 44 33.1	+0.7		
	baz=143								
OGNE	Ogallala	39.10	333	P	P	16 44 33.1	+0.7		
	baz=143								
Q24A	Divide	39.10	328	P	P	16 44 33.5	+0.7		
	baz=137,SNR=7.1								
S22A	4UR Ranch, Cre	39.15	325	P	P	16 44 33.6	+0.5		
	baz=134,SNR=12								
F42A	Maple Grove Fa	39.15	351	IAMs_20	IAMs_20	17 00 53.9			
	comp=Z,3µm,21.0s								
W18A	Petrified Fore	39.18	320	P	P	16 44 34.1	+0.8		
	baz=128,SNR=8.3								
TRQ	Mont Tremblant	39.19	6	IAMs_20	IAMs_20	17 02 12.9			
	comp=Z,2µm,18.0s								
E46A	Sault Ste Mari	39.28	355	IAMs_20	IAMs_20	17 00 27.9			
	comp=Z,4µm,20.0s								
G65A	Princeton	39.35	14	IAMs_20	IAMs_20	16 59 32.1			
	comp=Z,3µm,20.0s								
214A	Organ Pipe Nat	39.49	313	IAmb	IAmb	16 44 39.6			
	comp=Z,50nm,1.2s								
214A				IAMs_20	IAMs_20	17 02 37.5			
	comp=Z,4µm,21.0s								
214A	Organ Pipe Nat	39.49	313	P	P	16 44 36.3	+0.6		
	baz=122,SNR=23								
K30B	Basset	39.50	337	P	P	16 44 35.8	+0.2		
	baz=148								
E43A	Lone Tree Farm	39.59	352	IAMs_20	IAMs_20	17 03 35.3			
	comp=Z,4µm,18.0s								
SPMN	Marine on St.	39.60	345	IAMs_20	IAMs_20	17 02 39.1			
	comp=Z,2µm,18.0s								
SPMN	Marine on St.	39.60	345	P	P	16 44 37.3	+0.9		
	baz=159								
CPUP	Villa Florida	39.74	148	IAMs_20	IAMs_20	17 01 39.9			
	comp=Z,3µm,20.0s								
CPUP	Villa Florida	39.74	148	P	P	16 44 36.1	-1.7		
	comp=Z,1.6nm,0.4s,baz=336,slow=7.0,SNR=4.7								
CPUP				LR	LR	17 01 51.2			
	comp=Z,3µm,20.9s,baz=328,slow=37								
	comp=Z,1.6nm,0.4s								
MVCO	Mesa Verde	39.76	323	P	P	16 44 37.1	-1.1		
MVCO				IAmb	IAmb	16 44 44.2			
	comp=Z,81nm,1.6s								
MVCO	Mesa Verde	39.76	323	P	P	16 44 38.9	+0.7		
	baz=132,SNR=13								
IPMB	Ipameri, GO	39.89	129	eP	P	16 44 39.0	-0.2		
PCMB	Pacaembu	39.95	136	eP	P	16 44 39.3	-0.3		
ISCO	Idaho Springs	39.96	328	P	P	16 44 40.6	+0.8		
	baz=138								
E62A	Clayton Lake	40.30	11	P	P	16 44 42.9	+0.8		
E62A				IAmb	IAmb	16 44 50.0			
	comp=Z,57nm,1.2s								
E62A				IAMs_20	IAMs_20	17 02 33.2			
	comp=Z,3µm,20.0s								
E62A	Clayton Lake	40.30	11	P	P	16 44 45.5	+3.4		
	baz=196,SNR=7.8								
E62A				P	P	16 44 45.5	+3.4		
	baz=196,SNR=7.8								
F36A	Milaca	40.38	345	IAMs_20	IAMs_20	17 03 20.7			
	comp=Z,2µm,19.0s								
D41A	Chassel	40.49	351	IAMs_20	IAMs_20	17 01 45.2			
	comp=Z,4µm,21.0s								
WUAZ	Wupatki	40.49	319	P	P	16 44 44.8	+0.7		
	baz=127,SNR=20								
113A	Mohawk Valley,	40.60	314	IAMs_20	IAMs_20	17 02 58.9			
	comp=Z,4µm,22.0s								
E38A	The Farm, Brul	40.61	347	IAMs_20	IAMs_20	17 02 26.8			
	comp=Z,3µm,20.0s								
VA03	San Esteban	40.63	168	IAmb	IAmb	16 44 50.8			
	comp=Z,46nm,1.0s								
Y14A	Wickenburg	40.69	316	IAMs_20	IAMs_20	17 04 47.0			
	comp=Z,3µm,20.0s								
D62A	Allapoint, All	40.83	11	IAmb	IAmb	16 44 53.7			
	comp=Z,44nm,1.2s								
D62A				IAMs_20	IAMs_20	17 02 58.3			
	comp=Z,3µm,19.0s								
VLDQ	Val d'Or	40.87	2	IAMs_20	IAMs_20	17 00 58.4			
	comp=Z,3µm,22.0s								
LMQ	La Malbaie	41.05	10	P	P	16 44 47.7	-0.7		
LMQ				IAmb	IAmb	16 44 53.1			
	comp=Z,43nm,1.4s								
LMQ				IAMs_20	IAMs_20	17 04 47.2			
	comp=Z,2µm,20.0s								
GBN	Guysborough	41.26	19	IAMs_20	IAMs_20	17 02 40.3			
	comp=Z,3µm,20.0s								
LDASE	Londrina, Braz	41.26	138	eP	P	16 44 49.6	-0.8		
LDAQ	Lac Daran	41.31	9	P	P	16 44 51.7	+1.1		
LDAQ				IAmb	IAmb	16 44 57.1			
	comp=Z,69nm,1.3s								
VTX	Valle De La Tr	41.41	310	IAMs_20	IAMs_20	17 03 25.6			
	comp=Z,4µm,20.0s								
JANB	Januaria	41.45	122	eP	P	16 44 49.5	-2.6		
BB19B	Bebedouro	41.52	133	eP	P	16 44 52.2	-0.4		
MT09	Talagante	41.53	169	IAmb	IAmb	16 45 00.1			
	comp=Z,97nm,1.4s								
PMNB	Patos De Minas	41.58	128	eP	P	16 44 53.4	+0.2		
PTGB	Pitanga	41.58	141	eP	P	16 44 52.1	-1.0		
HMU	Henry Mountain	41.58	322	IAmb	IAmb	16 44 56.6			
	comp=Z,41nm,1.2s								
O20A	White River Ci	41.60	327	IAmb	IAmb	16 45 59.7			
	comp=Z,66nm,1.8s								
O20A	White River Ci	41.60	327	P	P	16 44 54.7	+1.4		
	baz=134,SNR=5.0								
U15A	North Rim	41.63	319	IAMs_20	IAMs_20	17 05 02.7			
	comp=Z,2µm,18.0s								
MT13	San Alfonso	41.64	168	P	P	16 44 54.3	+0.8		
MT13				IAmb	IAmb	16 45 10.3			
	comp=Z,101nm,1.6s								
BLYC	Blythe	41.65	314	IAmb	IAmb	16 44 56.7			
	comp=Z,44nm,1.2s								
BATG	Bathurst New B	41.66	14	IAMs_20	IAMs_20	17 00 40.2			
	comp=Z,3µm,21.0s								
PDMCI	Parker Dam,Lak	41.67	315	P	P	16 44 54.2	+0.5		
	baz=122,SNR=14								
UABX	UABC, Campus M	41.75	312	IAMs_20	IAMs_20	17 03 56.5			
	comp=Z,2µm,19.0s								
LMEL	Las Melosas	41.76	168	IAmb	IAmb	16 45 00.2			
	comp=Z,56nm,1.4s								
BO04	La Punta	41.81	169	IAmb	IAmb	16 45 03.0			
	comp=Z,54nm,1.2s								
ESJX	Sierra Juarez	41.82	311	IAMs_20	IAMs_20	17 03 58.4			
	comp=Z,3µm,19.0s								
EYMN	Ely	41.88	348	P	P	16 44 57.1	+1.9		
	baz=162								
FRBT	Francisco Belt	41.88	143	eP	P	16 44 54.4	-1.2		
W13A	Hualapai Mount	41.93	316	IAmb	IAmb	16 45 03.4			
	comp=Z,51nm,1.6s								
W13A				IAMs_20	IAMs_20	17 05 27.9			
	comp=Z,3µm,19.0s								
YUH	Yuha Desert	42.11	312	IAMs_20	IAMs_20	17 04 06.0			
	comp=Z,3µm,19.0s								
BO01	Tunca	42.11	169	IAmb	IAmb	16 45 03.0			
	comp=Z,76nm,1.4s								
SWSC	Sam W. Stewart	42.16	312	P	P	16 44 58.8	+1.0		
	baz=119,SNR=9.0								
RMX	La Rumorosa	42.20	312	IAMs_20	IAMs_20	17 03 59.9			
	comp=Z,3µm,20.0s								
IKP	In-Ko-Pah, Jac	42.25	312	P	P	16 44 59.6	+1.0		
	baz=119,SNR=10								
PKCU	Pink Cliffs	42.25	320	IAMs_20	IAMs_20	17 03 32.0			
	comp=Z,3µm,22.0s								
NEE2	Needles Airpor	42.26	316	P	P	16 44 59.8	+1.4		
	baz=122								
BC3	Big Chuckawall	42.27	314	P	P	16 44 59.9	+1.1		
	baz=120,SNR=17								
FRTB	Fartura	42.27	137	eP	P	16 44 59.9	+1.2		
CCX	Cicese	42.30	311	IAMs_20	IAMs_20	17 04 12.0			
	comp=Z,2µm,19.0s								
IRM	Iron Mountain	42.30	314	P	P	16 45 00.0	+1.1		
	baz=121,SNR=31								
CRSM	Crissiumal (Br	42.46	145	eP	P	16 45 01.2	+1.0		
CBX	Cerro Bola	42.50	311	IAmb	IAmb	16 45 04.2			
	comp=Z,41nm,1.2s								
RSSD	Black Hills	42.52	334	P	P	16 45 00.7	0.0		
RSSD				IAmb	IAmb	16 45 07.7			
	comp=Z,82nm,1.5s								
RSSD	Black Hills	42.52	334	IAMs_20	IAMs_20	17 05 40.3			
	comp=Z,2µm,20.0s								
RSSD	Black Hills	42.52	334	P	P	16 45 01.9	+1.1		
	baz=143								
RSSD	Black Hills	42.52	334	P	P	16 45 00.8	0.0		
	baz=143,SNR=14								
RSSD	Black Hills	42.52	334	P	P	16 45 00.7	0.0		
RSSD				pmax	pmax				
	comp=Z,82nm,1.5s								
RSSD				MLR	MLR				
	comp=Z,2µm,20.0s								
MTPU	Mount Pierson	42.53	321	IAMs_20	IAMs_20	17 02 19.5			
	comp=Z,2µm,20.0s								
BO02	Sierra Bellavi	42.56	169	IAmb	IAmb	16 45 44.9			
	comp=Z,62nm,1.6s								
LCMT	Little Creek M	42.59	319	IAMs_20	IAMs_20	17 03 23.1			
	comp=Z,2µm,20.0s								
MONP2	Monument Peak	42.60	312	P	P	16 45 02.6	+1.1		
	baz=119,SNR=14								
BAR	Barrett	42.68	312	P	P	16 45 01.5	-0.5		
BAR				IAMs_20	IAMs_20	17 04 33.2			
	comp=Z,3µm,20.0s								
B35A	Bob, Littlefor	42.76	346	IAMs_20	IAMs_20	17 04 33.6			
	comp=Z,3µm,18.0s								
ITQB	Itaqui	42.81	150	eP	P	16 45 03.0	0.0		
BELC	Belle Mtn. Jos	42.83	314	P	P	16 45 04.4	+1.1		
	baz=120,SNR=44								
SZCU	Shurtz Canyon	42.83	320	IAMs_20	IAMs_20	17 04 25.5			
	comp=Z,2µm,21.0s								
V12A	Nelson	42.93	317	IAmb	IAmb	16 45 07.1			
	comp=Z,45nm,1.3s								
V12A				IAMs_20	IAMs_20	17 06 25.5			
	comp=Z,3µm,18.0s								
TPFO	Pinon Flats	42.97	313	P	P	16 45 05.5	+1.1		
	baz=119,SNR=16								
PFO	Pinyon Flats O	42.97	313	P	P	16 45 05.0	+0.5		
PFO	Pinyon Flats O	42.97	313	IAMs_20	IAMs_20	17 04 42.7			
	comp=Z,3µm,19.0s								
PFO	Pinyon Flats O	42.97	313	P	P	16 45 05.8	+1.3		
	baz=119,SNR=16								
PFO	Pinyon Flats O	42.97	313	P	P	16 45 05.0	+0.5		
PFO				pmax	pmax				
	comp=Z,32nm,1.2s								
PFO				MLR	MLR				
	comp=Z,3µm,19.0s								
PFO	Pinyon Flats O	42.97	313	LR	LR	17 05 04.7			
	comp=Z,3µm,18.7s,baz=121,slow=39								
GMRC	Granite Mounta	42.99	315	P	P	16 45 05.5	+0.9		
	baz=121,SNR=26								
TCRU	Three Creeks R	43.05	322	IAMs_20	IAMs_20	17 04 10.1			
	comp=Z,2µm,20.0s								
RCLB	Rio Claro- Sao	43.09	134	eP	P	16 45 05.9	+0.4		
109C	Camp Elliot, M	43.10	312	IAmb	IAmb	16 45 09.0			
	comp=Z,46nm,1.2s								
109C				IAMs_20	IAMs_20	17 03 40.3			
	comp=Z,3µm,22.0s								
109C	Camp Elliot, M	43.10	312	P	P	16 45 06.3	+0.9		
	baz=118								
UNIS	Unistalda (Bra	43.13	148	eP	P	16 45 05.7	+0.1		
AGMN	Agassiz Nation	43.24	344	IAMs_20	IAMs_20	17 06 16.5			
	comp=Z,2µm,21.0s								
AGMN	Agassiz Nation	43.24	344	P	P	16 45 08.4	+2.2		
	baz=156								
ITAB	Concordia	43.38	143	P	P	16 45 06.7	-0.9		
ITAB				IAmb	IAmb	16 45 09.5			
	comp=Z,48nm,1.2s								
ITAB	Concordia	43.38	143	eP	P	16 45 06.9	-0.7		
HEC	Hector,Ludlow	43.49	315	P	P	16 45 10.1	+1.5		
	baz=121,SNR=24								
MURC	Murrieta	43.50	312	P	P	16 45 10.2	+1.5		
	baz=119								
TUQ	Turquoise Moun	43.52	316	P	P	16 45 09.9	+1.0		
	baz=122,SNR=24								
SHPR	Sheep Range	43.57	317	IAMs_20	IAMs_20	17 06 34.1			
	comp=Z,2µm,20.0s								
BBRC	Big Bear Solar	43.63	313	P	P	16 45 11.2	+1.3		
	baz=120								
DIAM	Diamantina, MG	43.63	126	eP	P	16 45 10.3	+0.3		
ELS	Elsinore Mount	43.70	312	IAMs_20	IAMs_20	17 05 05.0			
	comp=Z,3µm,18.0s								
MDND	Maddock	43.95	341	P	P	16 45 13.8	+1.8		
	baz=151								
RRX	Edison Barstow	43.98	314	P	P	16 45 14.1	+1.6		
	baz=120								
SHOC	Shoshone, Teco	44.00	316	P	P	16 45 14.2	+1.6		
	baz=122								
ALGR	Alto Alegre (B	44.03	145	eP	P	16 45 11.7	-1.3		
TCUT	Toone Canyon	44.04	325	IAmb	IAmb	16 45 20.1			
	comp=Z,79nm,1.4s								
GSC	Goldstone, Bar	44.06	315	IAmb	IAmb	16 45 17.2			
	comp=Z,68nm,1.2s								
GSC				IAMs_20	IAMs_20	17 05 30.6			
	comp=Z,4µm,20.0s								
GSC	Goldstone, Bar	44.06	315	P	P	16 45 14.4	+1.1		
	baz=121,SNR=18								
BFSC	Mount Baldy Ra	44.15	313	P	P	16 45 14.9	+1.0		
	baz=119,SNR=8.3								
BW06	Boulder Array	44.16	328	IAmb	IAmb	16 45 28.1			
	comp=Z,44nm,1.6s								
BW06	Boulder Array	44.16	328	P	P	16 45 14.2	+0.1		
	baz=135,SNR=15								
PD31	Pinedale Array	44.16	328	IAmb	IAmb	16 45 28.1			
	comp=Z,42nm,1.6s								
PDAR	Pinedale Array	44.16	328	P	P	16 45 13.2	-0.8		
PDAR	Pinedale Array	44.16	328	P	P	16 45 14.0	0.0		
	comp=Z,7.0nm,0.9s,baz=128,slow=9.6,SNR=35								
PDAR				PcP	PcP	16 46 58.8	-0.3		
	comp=Z,4.9nm,1.1s,baz=113,slow=6.9,SNR=2.8								
PDAR				LR	LR	17 06 39.7			
	comp=Z,1µm,20.3s,baz=136,slow=40								
	comp=Z,7.0nm,0.9s								
DUG	Dugway, Tooele	44.26	323	IAMs_20	IAMs_20	17 07 03.0			
	comp=Z,2µm,18.0s								
DUG	Dugway, Tooele	44.26	323	P	P	16 45 15.9	+1.2		
	baz=129,SNR=12								
BSCB	Bom Sucesso	44.27	130	eP	P	16 45 15.2	+0.2		
CIS	Catalina Islan	44.31	312	P	P	16 45 16.4	+1.3		
	baz=117,SNR=15								
GWY	Greenwater Val	44.42	316	IAmb	IAmb	16 45 23.1			
	comp=Z,33nm,1.4s								
GWY				IAMs_20	IAMs_20	17 04 11.0			
	comp=Z,3µm,21.0s								
QSM	Queen of Sheba	44.45	316	IAmb	IAmb	16 45 37.6			
	comp=Z,65nm,1.7s								
QSM				IAMs_20	IAMs_20	17 04 23.6			
	comp=Z,3µm,21.0s								
HWUT	Hardware Ranch	44.45	326	IAmb	IAmb	16 45 54.1			
	comp=Z,29nm,1.3s								
SPR3	Spring Creek 3	44.45	321	IAMs_20	IAMs_20	17 05 26.4			
	comp=Z,2µm,22.0s								
PASC	Pasadena Art C	44.50	313	IAmb	IAmb	16 45 34.9			
	comp=Z,48nm,1.4s								
PASC	Pasadena Art C	44.50	313	IAMs_20	IAMs_20	17 04 56.3			
	comp=Z,3µm,21.0s								
RPN	Rapa Nui	44.54	219	LR	LR	16 58 54.6			
	comp=Z,5µm,21.2s,baz=42,slow=30								
TPNV	Topopah Spring	44.54	317	IAMs_20	IAMs_20	17 07 02.9			
	comp=Z,2µm,20.0s								
TPNV	Topopah Spring	44.54	317	P	P	16 45 18.5	+1.4		
	baz=123								
S11A	Rachel	44.59	318	IAmb	IAmb	16 45 24.9			
	comp=Z,65nm,1.4s								
S11A				IAMs_20	IAMs_20	17 07 10.1			
	comp=Z,2µm,18.0s								
DECC	Green Verdugo	44.65	313	P	P	16 45 19.0	+1.2		
	baz=118								
EDW2	Edwards Air Fo	44.70	314	P	P	16 45 19.8	+1.5		
	baz=119,SNR=38								
FURC	Furnace Creek,	44.70	316	P	P	16 45 19.2	+1.0		
	baz=122,SNR=12								
LRMC	Laurel Mtn Rad	44.77	315	P	P	16 45 19.8	+0.8		
	baz=120,SNR=30								
Q12A	Willow Creek R	44.79	321	IAmb	IAmb	16 45 40.4			
	comp=Z,34nm,1.4s								
Q12A				IAMs_20	IAMs_20	17 07 03.3			
	comp=Z,2µm,18.0s								
BGU	Big Grassy Mou	44.85	324	P	P	16 45 19.2	-0.3		
BGU				IAmb	IAmb	16 45 25.6			
	comp=Z,30nm,1.4s								
BGU				IAMs_20	IAMs_20	17 07 00.4			
	comp=Z,2µm,19.0s								
CCAC	Calif City Air	44.85	314	IAMs_20	IAMs_20	17 07 01.4			
	comp=Z,3µm,19.0s								
R11B	Troy Canyon, C	44.88	319	IAMs_20	IAMs_20	17 06 45.7			
	comp=Z,2µm,18.0s								
R11B	Troy Canyon, C	44.88	319	P	P	16 45 21.3	+1.5		
	baz=124,SNR=17								
MPMC	Manual Prospec	44.93	315	P	P	16 45 21.5	+1.3		
	baz=120								
PARB	Paraibuna	45.04	133	eP	P	16 45 21.2	+0.1		
ULM	Lac du Bonnet	45.04	345	IAmb	IAmb	16 45 24.5			
	comp=Z,37nm,1.1s								
ULM				IAMs_20	IAMs_20	17 06 04.0			
	comp=Z,2µm,18.0s								
ULM	Lac du Bonnet	45.04	345	P	P	16 45 18.8	-1.8		
	comp=Z,35nm,1.2s,baz=158,slow=8.1,SNR=9.8								
	comp=Z,35nm,1.2s								
CPSB	Cacapava Do Su	45.05	147	eP	P	16 45 20.2	-0.8		
SNCC	San Nicolas Is	45.07	311	IAMs_20	IAMs_20	17 05 50.5			
	comp=Z,3µm,18.0s								
SNCC	San Nicolas Is	45.07	311	P	P	16 45 21.8	+0.6		
	baz=116								
OSI	Osito Audit: C	45.10	313	P	P	16 45 22.3	+0.8		
	baz=118								
LOHW	Long Hollow	45.29	328	IAmb	IAmb	16 45 29.1			
	comp=Z,32nm,1.4s								
GRAC	Grapevine Rang	45.33	317	IAMs_20	IAMs_20	17 05 14.8			
	comp=Z,3µm,21.0s								
GRAC	Grapevine Rang	45.33	317	P	P	16 45 24.1	+0.9		
	baz=122,SNR=12								
TPAW	Teton Pass	45.39	328	IAmb	IAmb	16 45 28.8			
	comp=Z,26nm,1.4s								
GMN	Gold Mountain	45.41	317	IAmb	IAmb	16 45 27.6			
	comp=Z,29nm,1.3s								
ARVC	Arvin	45.42	313	P	P	16 45 25.2	+1.2		
	baz=118								
IS

LPA sS sS 16 52 37.7 +14
LPA PKIKP PKiKP 16 54 26.0 +24
LPA SCS **ScS** **16 55 32.7 +3.2**
LPA SS **SS** **16 55 54.7 +5.2**
LPA SSS SSS 16 57 06.7
LPA SKIKP 16 58 01.3
LPA PKIKS 16 58 06.9
LPA SKIKS 17 00 57.3

MLAC Mammoth, Mammo **46.66 316** P **P** **16 45 35.0 +1.1**
baz=120
NVAR Mina Array Bea **46.71 318** P **P** **16 45 34.1 -0.2**
NVAR Mina Array Bea **46.71 318** P **P** **16 45 33.5 -0.8**
comp=Z,29nm,1.2s,baz=130,slow=6.6,SNR=57
NVAR PcP **PcP** **16 47 08.5 +0.5**
comp=Z,3.2nm,1.0s,baz=125,slow=4.7,SNR=2.3
NVAR LR LR 17 06 25.1
comp=Z,3µm,21.4s,baz=135,slow=38
comp=Z,29nm,1.2s
LHV Little Huntoon **46.75 317** IAMs_20 IAMs_20 17 07 11.5
comp=Z,2µm,21.0s
OMMB Old Mammoth Mi **46.76 316** IAmb IAmb 16 45 38.5
comp=Z,31nm,1.5s
RIB01 Linhares ES **46.81 125** *e*P **P** **16 45 35.5 +0.4**
MDPB Devils Postpil **46.82 316** IAmb IAmb 16 45 38.8
comp=Z,30nm,1.3s
MDPB IAMs_20 IAMs_20 17 06 02.5
comp=Z,3µm,22.0s
KVN Kaiserville **46.91 319** IAmb IAmb 16 45 42.9
comp=Z,22nm,1.2s
KVN IAMs_20 IAMs_20 17 06 41.4
comp=Z,2µm,22.0s
RYN Ryan **46.96 318** IAmb IAmb 16 45 38.9
comp=Z,30nm,1.3s
RYN IAMs_20 IAMs_20 17 09 10.9
comp=Z,2µm,18.0s
BMN Battle Mountai **47.10 321** IAMs_20 IAMs_20 17 07 51.4
comp=Z,2µm,19.0s
BOZ Bozeman (W) **47.20 330** IAmb IAmb 16 45 44.8
comp=Z,39nm,1.4s
BOZ IAMs_20 IAMs_20 17 09 19.1
comp=Z,2µm,19.0s
BOZ Bozeman (W) **47.20 330** P **P** **16 45 38.1 +0.1**
baz=134,SNR=24
HLID Hailey **47.32 326** IAmb IAmb 16 45 45.2
comp=Z,33nm,1.8s
HLID Hailey **47.32 326** P **P** **16 45 39.7 +0.8**
baz=130,SNR=9.5
PMPB Monarch Peak **47.35 314** P **P** **16 45 39.0 -0.1**
PMPB IAMs_20 IAMs_20 17 08 20.6
comp=Z,3µm,20.0s
WAKR Walker **47.51 317** IAMs_20 IAMs_20 17 06 06.6
comp=Z,3µm,22.0s
YERR Yerington **47.62 318** IAMs_20 IAMs_20 17 09 32.5
comp=Z,2µm,19.0s
TRQA Tornquist **47.91 161** P **P** **16 45 44.5 +1.1**
TRQA Tornquist **47.91 161** P **P** **16 45 44.5 +1.1**
TRQA pmax pmax
comp=Z,88nm,1.8s
TRQA MLR MLR
comp=Z,3µm,20.0s
PNTR Pine Nut **47.92 318** IAMs_20 IAMs_20 17 09 52.3
comp=Z,2µm,19.0s
CMB Columbia Colle **47.92 316** IAmb IAmb 16 46 36.2
comp=Z,31nm,1.9s
CMB IAMs_20 IAMs_20 17 07 34.5
comp=Z,2µm,21.0s
MFID Camas Ranch **48.02 325** IAmb IAmb 16 45 50.5
comp=Z,48nm,1.7s
SAO San Andreas Ce **48.06 314** IAMs_20 IAMs_20 17 08 42.4
comp=Z,3µm,19.0s
EGMT Eagleton **48.07 333** P **P** **16 45 45.8 +1.2**
baz=138
PAHR Pah Rah Range **48.10 319** IAMs_20 IAMs_20 17 09 59.0
comp=Z,2µm,19.0s
EMB Emerald Bay **48.20 317** IAMs_20 IAMs_20 17 08 05.7
comp=Z,3µm,22.0s
MPK Martis Peak **48.31 318** IAMs_20 IAMs_20 17 07 10.8
comp=Z,3µm,22.0s
PLCA Paso Flores **48.38 171** P **P** **16 45 48.7 +1.6**
PLCA Paso Flores **48.38 171** P **P** **16 45 48.7 +1.6**
PLCA pmax pmax
comp=Z,107nm,1.9s
PLCA Paso Flores **48.38 171** P **P** **16 45 45.7 -1.3**
comp=Z,3.3nm,0.7s,baz=342,slow=7.4,SNR=16
PLCA LR LR 17 03 14.5
comp=Z,1µm,21.2s,baz=358,slow=32
comp=Z,3.3nm,0.7s
PLCA Paso Flores **48.38 171** *e*P **P** **16 45 49.9 +2.8**
SCHQ Schefferville **48.66 10** P **P** **16 45 50.2 +1.2**
comp=Z,18nm,0.9s,baz=204,slow=8.1,SNR=6.5
SCHQ LR LR 17 07 43.9
comp=Z,928nm,20.3s,baz=210,slow=38
comp=Z,18nm,0.9s
AFDM Forest Hills D **48.77 317** IAMs_20 IAMs_20 17 08 15.9
comp=Z,2µm,20.0s
PLID Pearl Lake **49.17 326** IAmb IAmb 16 45 59.2
comp=Z,25nm,1.3s
MSO Missoula **49.22 329** IAmb IAmb 16 46 09.7
comp=Z,21nm,1.3s
MSO IAMs_20 IAMs_20 17 10 41.6
comp=Z,2µm,19.0s
MSO Missoula **49.22 329** P **P** **16 45 54.6 +1.1**
baz=132
ORV Oroville **49.42 317** P **P** **16 45 54.6 -0.5**
ORV IAmb IAmb 16 45 58.7
comp=Z,48nm,1.4s
ORV IAMs_20 IAMs_20 17 07 26.3
comp=Z,2µm,22.0s
ORV Oroville **49.42 317** P **P** **16 45 54.6 -0.5**
ORV pmax pmax
comp=Z,48nm,1.4s
ORV MLR MLR
comp=Z,2µm,22.0s
LL02 Futaleuf **50.60 173** P **P** **16 46 05.6 +1.7**
K05A Summer Lake **50.66 321** IAMs_20 IAMs_20 17 09 15.3
comp=Z,3µm,22.0s
FFC Flin Flon **50.70 344** P **P** **16 46 05.7 +1.2**
FFC IAmb IAmb 16 46 10.3
comp=Z,36nm,1.6s
FFC Flin Flon **50.70 344** IAMs_20 IAMs_20 17 09 28.5
comp=Z,2µm,18.0s
FFC Flin Flon **50.70 344** P **P** **16 46 05.7 +1.2**
FFC pmax pmax
comp=Z,36nm,1.6s
FFC MLR MLR
comp=Z,2µm,18.0s
K04D Chiloquin, OR **51.15 321** IAmb IAmb 16 46 29.6
comp=Z,36nm,1.2s
K04D IAMs_20 IAMs_20 17 08 07.2
comp=Z,2µm,19.0s
J05D Fort Rock, OR **51.17 322** IAmb IAmb 16 47 43.1
comp=Z,50nm,1.9s
J05D IAMs_20 IAMs_20 17 09 15.8
comp=Z,3µm,21.0s
L04D Klamath Falls **51.29 320** IAmb IAmb 16 46 15.6
comp=Z,41nm,1.2s
L04D IAMs_20 IAMs_20 17 09 22.0
comp=Z,2µm,22.0s
YBH Yreka Blue Hor **51.30 319** IAMs_20 IAMs_20 17 12 04.5
comp=Z,2µm,18.0s
YBH Yreka Blue Hor **51.30 319** LR LR 17 12 34.3
comp=Z,3µm,18.0s,baz=150,slow=42
KHMM Horse Mountain **51.56 318** P **P** **16 46 10.8 -0.6**
KHMM IAmb IAmb 16 46 14.6
comp=Z,40nm,1.3s
NEW Newport **51.78 329** IAmb IAmb 16 46 18.7
comp=Z,26nm,1.3s
NEW Newport **51.78 329** IAMs_20 IAMs_20 17 10 50.6
comp=Z,2µm,21.0s
NEW Newport **51.78 329** P **P** **16 46 14.2 +1.4**
baz=130
NEW Newport **51.78 329** LR LR 17 12 34.8
comp=Z,2µm,18.4s,baz=132,slow=41
G06A Carlson Farm, **51.88 324** IAmb IAmb 16 46 20.3
comp=Z,62nm,1.6s
HUMO Hull Mountain **51.90 320** IAMs_20 IAMs_20 17 09 40.2
comp=Z,3µm,21.0s
D08A Wollman Farm, **51.98 327** IAMs_20 IAMs_20 17 12 02.8
comp=Z,1µm,18.0s
KRMB Red Mountain **51.98 318** IAMs_20 IAMs_20 17 08 52.6
comp=Z,3µm,22.0s
C09A Chrisman Ranch **52.09 328** IAMs_20 IAMs_20 17 11 12.8
comp=Z,2µm,20.0s
MXC Moxie City **52.45 326** IAmb IAmb 16 46 24.2
comp=Z,35nm,1.4s
MXC IAMs_20 IAMs_20 17 12 52.7
comp=Z,2µm,19.0s

H04A Detroit Lake **52.50 323** P **P** **16 46 18.3 +0.1**
H04A IAmb IAmb 16 46 21.5
comp=Z,34nm,1.3s
H04A IAMs_20 IAMs_20 17 10 02.1
comp=Z,2µm,21.0s
HOOD Mount Hood Mea **52.53 324** IAMs_20 IAMs_20 17 10 43.7
comp=Z,2µm,20.0s
FCC Fort Churchill **52.67 351** IAmb IAmb 16 46 31.8
comp=Z,61nm,1.7s
LTY Liberty **53.06 326** IAmb IAmb 16 46 29.0
comp=Z,46nm,1.5s
LTY IAMs_20 IAMs_20 17 09 21.5
comp=Z,2µm,22.0s
F04A Amboy **53.31 324** IAMs_20 IAMs_20 17 11 28.5
comp=Z,2µm,19.0s
EDM Edmonton **53.45 336** IAMs_20 IAMs_20 17 11 47.1
comp=Z,2µm,22.0s
NLWA Neilton Lookou **54.94 325** IAMs_20 IAMs_20 17 12 27.5
comp=Z,2µm,18.0s
CLRS Cowichan Lake **55.86 326** IAMs_20 IAMs_20 17 15 14.7
comp=Z,1µm,21.0s
OZB Mount Ozzard **56.70 326** IAMs_20 IAMs_20 17 09 17.9
comp=Z,2µm,18.0s
FRB Frobisher Bay **57.07 6** LR LR 17 13 48.0
comp=Z,2µm,18.7s,baz=201,slow=39
CBB Campbell River **57.19 327** IAMs_20 IAMs_20 17 13 52.9
comp=Z,2µm,21.0s
BBB Bella Bella **59.80 328** LR LR 17 15 55.2
comp=Z,1µm,20.6s,baz=142,slow=39
YKAW1 Yellowknife Wh **60.79 342** IAMs_20 IAMs_20 17 16 55.5
comp=Z,2µm,21.0s
YKA Yellowknife Ar **60.83 342** P **P** **16 47 16.2 -0.8**
YKA Yellowknife Ar **60.83 342** P **P** **16 47 16.2 -0.8**
YKA Yellowknife Ar **60.83 342** P **P** **16 47 15.9 -1.1**
comp=Z,11nm,0.9s,baz=132,slow=7.0,SNR=55
comp=Z,11nm,0.9s
YKAW3 Yellowknife Wh **60.89 342** IAMs_20 IAMs_20 17 16 59.1
comp=Z,2µm,21.0s
KOTAN Kotaneelee Air **62.47 337** P **P** **16 47 29.1 +0.9**
baz=128
U35K Hyder **62.68 331** IAMs_20 IAMs_20 17 18 51.6
comp=Z,2µm,19.0s
SFJD Kangerlussuaq **62.97 12** LR LR 17 15 27.9
comp=Z,1µm,20.2s,baz=213,slow=36
MACI Morro de la Ar **63.08 62** P **P** **16 47 33.1 +0.1**
MACI IAMs_20 IAMs_20 17 12 54.3
comp=Z,1µm,20.0s
PMOZ Porto Moniz, M **63.11 57** *e*LR LR 17 07 04.4
comp=Z,967nm,20.0s
T35M Bob Quinn **63.34 332** IAMs_20 IAMs_20 17 16 17.9
comp=Z,1µm,20.0s
T35M Bob Quinn **63.34 332** P **P** **16 47 35.5 +1.5**
baz=121
DLBC Dease Lake **64.00 333** IAMs_20 IAMs_20 17 17 16.2
comp=Z,2µm,21.0s
DLBC Dease Lake **64.00 333** P **P** **16 47 39.7 +1.3**
baz=122
DLBC Dease Lake **64.00 333** LR LR 17 19 59.2
comp=Z,945nm,18.0s,baz=108,slow=40
S34M Telegraph Cree **64.22 332** IAMs_20 IAMs_20 17 19 55.3
comp=Z,2µm,20.0s
WRGLY Wrigley **64.22 340** IAMs_20 IAMs_20 17 17 35.6
comp=Z,1µm,21.0s
R33M Jennings River **64.92 334** IAMs_20 IAMs_20 17 17 19.4
comp=Z,2µm,22.0s
Q32M Nakina River **65.27 333** IAMs_20 IAMs_20 17 20 54.1
comp=Z,2µm,18.0s
S32K Killisnoo **65.63 331** IAMs_20 IAMs_20 17 19 56.6
comp=Z,1µm,20.0s
JIS Juneau Island **65.91 332** IAMs_20 IAMs_20 17 19 09.9
comp=Z,1µm,20.0s
P33M Teslin, Yukon **66.14 334** IAMs_20 IAMs_20 17 17 55.7
comp=Z,1µm,20.0s
P33M Teslin, Yukon **66.14 334** P **P** **16 47 54.5 +2.2**
baz=120
P32M Atlin **66.23 333** IAMs_20 IAMs_20 17 19 38.1
comp=Z,1µm,18.0s
P32M Atlin **66.23 333** P **P** **16 47 54.7 +1.9**
baz=119
N32M Quiet Lake **66.72 335** IAMs_20 IAMs_20 17 21 28.0
comp=Z,2µm,21.0s
SKAG Skagway **66.89 333** IAMs_20 IAMs_20 17 19 05.8
comp=Z,1µm,20.0s
ICESG Greenland Ices **67.17 15** *e*P **P** **16 48 00.5 +1.4**
ICESG IAmb IAmb 16 48 16.2
comp=Z,16nm,1.0s
WHY Whitehorse **67.25 334** IAMs_20 IAMs_20 17 21 24.1
comp=Z,1µm,19.0s
FARO Faro, Yukon **67.37 336** P **P** **16 48 02.0 +1.9**
baz=120
M31M Drury Creek, Y **67.78 336** IAMs_20 IAMs_20 17 22 26.0
comp=Z,2µm,19.0s
M31M Drury Creek, Y **67.78 336** P **P** **16 48 04.5 +1.8**
baz=119
O30N Mendenhall **67.83 334** IAmb IAmb 16 48 10.0
comp=Z,35nm,1.7s
O30N IAMs_20 IAMs_20 17 19 55.4
comp=Z,1µm,20.0s
O30N Mendenhall **67.83 334** P **P** **16 48 05.1 +2.1**
baz=117
N31M Braeburn, Yuko **68.02 335** P **P** **16 48 06.4 +2.2**
baz=117
RES Resolute Bay **68.06 356** IAmb IAmb 16 48 32.7
comp=Z,15nm,1.2s
RES Resolute Bay **68.06 356** LR LR 17 19 57.1
comp=Z,1µm,18.3s,baz=162,slow=38
P29M Windy Craggy **68.07 332** IAMs_20 IAMs_20 17 22 33.0
comp=Z,1µm,19.0s
HYT Haines Junctio **68.47 334** P **P** **16 48 08.9 +1.7**
baz=115
O29M Mount Kennedy **68.73 333** P **P** **16 48 10.7 +1.8**
baz=114
SOEG Soedalen **68.84 17** *i* P **P** **16 48 09.4 +0.3**
SOEG IAmb IAmb 16 48 14.9
comp=Z,5.8nm,0.9s
PNL Peninsula **68.86 332** P **P** **16 48 11.2 +1.7**
baz=113
M30M Minto, Yukon **68.95 335** P **P** **16 48 11.6 +1.6**
baz=117,SNR=7.9
YUK4 Talbot Arm **69.20 334** P **P** **16 48 13.3 +1.5**
baz=115
PINM Pinnacle **69.42 332** P **P** **16 48 14.6 +1.5**
baz=113
M29M Somme Creek **69.58 335** IAmb IAmb 16 48 29.5
comp=Z,32nm,1.6s
M29M IAMs_20 IAMs_20 17 22 38.7
comp=Z,1µm,21.0s
YUK8 Steele Glacier **69.67 333** P **P** **16 48 15.9 +1.1**
baz=113
J30M Hart River **69.69 337** IAmb IAmb 16 48 39.1
comp=Z,22nm,1.1s
J30M Hart River **69.69 337** P P 16 48 18.4 +3.8
baz=118
L29M L29M **69.73 336** IAmb IAmb 16 48 21.2
comp=Z,32nm,1.2s
L29M L29M **69.73 336** P **P** **16 48 17.1 +2.2**
baz=116
K29M Barlow Dome **69.81 336** IAmb IAmb 16 48 21.7
comp=Z,37nm,1.4s
K29M Barlow Dome **69.81 336** P **P** **16 48 18.0 +2.6**
baz=116
TABL Table Mountain **69.96 332** IAMs_20 IAMs_20 17 20 26.2
comp=Z,1µm,20.0s
SUMG Summit **69.97 12** P **P** **16 48 16.9 +0.3**
SUMG Summit **69.97 12** P **P** **16 48 16.9 +0.3**
SUMG pmax pmax
comp=Z,42nm,1.0s
SUMG Summit **69.97 12** *i* P **P** **16 48 17.0 +0.4**
SUMG IAmb IAmb 16 48 32.0
comp=Z,15nm,0.8s
I30M Mount Dempster **70.01 338** P **P** **16 48 19.2 +2.6**
baz=118
LOGN Logan Glacier **70.04 333** IAMs_20 IAMs_20 17 24 56.3
comp=Z,1µm,18.0s
G31M Satah River **70.10 340** IAMs_20 IAMs_20 17 24 16.4
comp=Z,1µm,18.0s
G31M Satah River **70.10 340** P **P** **16 48 18.9 +2.0**
baz=121
YUK3 Moose Creek **70.17 334** P **P** **16 48 19.1 +1.3**
baz=113,SNR=6.0
F31M Tsiigehtchic **70.19 341** IAmb IAmb 16 48 42.6
comp=Z,39nm,1.4s
F31M Tsiigehtchic **70.19 341** P **P** **16 48 19.8 +2.3**
baz=121
MESA MESA **70.24 332** IAMs_20 IAMs_20 17 21 59.6
comp=Z,1µm,19.0s
CTGM Chitina Glacie **70.25 333** IAMs_20 IAMs_20 17 24 44.7
comp=Z,1µm,18.0s

J29N Klondike Camp **70.36 337** IAMs_20 IAMs_20 17 22 39.9
comp=Z,3µm,21.0s
J29N Klondike Camp **70.36 337** P **P** **16 48 20.4 +1.7**
baz=116
BARN Barnard Glacie **70.43 333** IAMs_20 IAMs_20 17 24 50.3
comp=Z,1µm,18.0s
BORG Borgarnes **70.44 23** LR LR 17 17 09.5
comp=Z,1µm,20.0s,baz=233,slow=34
A36M Sachs Harbour **70.51 346** P **P** **16 48 20.2 +0.8**
baz=131,SNR=20
ISLE Juniper Island **70.57 332** IAMs_20 IAMs_20 17 25 07.3
comp=Z,1µm,20.0s
INK Inuvik **70.58 341** P **P** **16 48 20.0 +0.1**
INK Inuvik **70.58 341** P **P** **16 48 22.1 +2.3**
baz=122,SNR=18
INK Inuvik **70.58 341** P **P** **16 48 20.0 +0.1**
INK pmax pmax
comp=Z,52nm,1.4s
INK MLR MLR
comp=Z,2µm,20.0s
BVCY Beaver Creek **70.59 334** P **P** **16 48 22.3 +2.1**
baz=113
DAWY Dawson **70.65 336** P **P** **16 48 20.1 -0.4**
DAWY IAmb IAmb 16 48 44.7
comp=Z,19nm,1.4s
DAWY IAMs_20 IAMs_20 17 23 28.8
comp=Z,1µm,20.0s
DAWY Dawson **70.65 336** P **P** **16 48 22.1 +1.6**
baz=115
EPYK Eagle Plains **70.67 339** IAMs_20 IAMs_20 17 21 11.2
comp=Z,950nm,20.0s
EPYK Eagle Plains **70.67 339** P **P** **16 48 22.9 +2.3**
baz=118
G30M tAoh Zraii Nji **70.79 340** IAmb IAmb 16 48 47.0
comp=Z,34nm,1.4s
G30M tAoh Zraii Nji **70.79 340** P **P** **16 48 23.5 +2.2**
baz=119
F30M Barrier River **70.95 340** P **P** **16 48 24.5 +2.3**
baz=119
M27K Edge Creek, AK **71.01 334** IAMs_20 IAMs_20 17 24 12.3
comp=Z,1µm,18.0s
M27K Edge Creek, AK **71.01 334** P **P** **16 48 24.9 +2.1**
baz=112
MESJ Messejana **71.05 53** IAMs_20 IAMs_20 17 13 16.8
comp=Z,2µm,21.0s
PCAS Casmilo, Conde **71.07 50** *e*P **P** **16 48 26.5 +3.0**
comp=Z,95nm,1.7s
PMTG Montargil **71.17 51** *e*P **P** **16 48 25.0 +0.9**
comp=Z,36nm,1.4s
H29M Whitestone **71.20 339** IAMs_20 IAMs_20 17 22 49.7
comp=Z,2µm,21.0s
H29M Whitestone **71.20 339** P **P** **16 48 26.0 +2.3**
baz=116
PBDV Barranco-do-Ve **71.22 53** *e*P **P** **16 48 25.9 +1.5**
comp=Z,76nm,1.8s
L27K Beaver Creek, **71.25 335** IAmb IAmb 16 48 31.0
comp=Z,37nm,1.4s
L27K Beaver Creek, **71.25 335** P **P** **16 48 25.8 +1.7**
baz=112,SNR=13
EVO Evora **71.28 52** *e*P **P** **16 48 27.2 +2.5**
comp=Z,34nm,1.6s
VRDI Verde Repeater **71.30 333** IAMs_20 IAMs_20 17 25 19.4
comp=Z,1µm,20.0s
AVE Averroes **71.33 57** IAMs_20 IAMs_20 17 14 28.6
comp=Z,830nm,19.0s
G29M Pine Creek **71.39 339** P **P** **16 48 27.1 +2.3**
baz=117
PVAQ Vaqueiros **71.40 53** *e*S **S** **16 57 50.5 +5.8**
I28M Miner Creek **71.45 338** IAmb IAmb 16 48 55.9
comp=Z,39nm,1.4s
I28M Miner Creek **71.45 338** P **P** **16 48 27.3 +2.0**
baz=115
PGAV Gavieira, Arco **71.47 48** *e*S SKiKP 16 57 55.0 -12
PGAV Gavieira, Arco **71.47 48** *e*LR LR 17 10 36.7
comp=Z,1µm,20.0s
M26K Nabesna, AK **71.51 334** IAMs_20 IAMs_20 17 22 20.0
comp=Z,1µm,22.0s
M26K Nabesna, AK **71.51 334** P **P** **16 48 27.9 +2.2**
baz=111
PVIS Viseu **71.60 50** *e*P **P** **16 48 28.9 +2.2**
PESTR Estremoz **71.64 52** *e*P **P** **16 48 29.4 +2.4**
comp=Z,66nm,1.5s
PESTR Estremoz **71.64 52** P **P** **16 48 27.7 +0.8**
PESTR IAMs_20 IAMs_20 17 10 48.5
comp=Z,945nm,21.0s
EGAK Eagle **71.64 337** IAmb IAmb 16 48 43.5
comp=Z,21nm,1.2s
EGAK Eagle **71.64 337** P **P** **16 48 28.7 +2.3**
baz=113
K27K Chicken **71.72 336** IAmb IAmb 16 48 42.6
comp=Z,17nm,1.2s
K27K IAMs_20 IAMs_20 17 25 56.4
comp=Z,1µm,20.0s
K27K Chicken **71.72 336** P **P** **16 48 29.7 +2.7**
baz=112
BMRM Bremner River **71.74 332** P **P** **16 48 29.6 +2.4**
baz=109
POLO Lamas de Olo **71.75 49** *e*P **P** **16 48 29.5 +1.8**
comp=Z,30nm,1.6s
PCBR Castelo Branco **71.83 51** *e*P **P** **16 48 30.2 +2.2**
comp=Z,51nm,1.7s
MTE Manteigas **71.83 50** *e*S **S** **16 57 50.6 +0.8**
MTE Manteigas **71.83 50** *e*LR LR 17 10 44.5
comp=Z,2µm,24.0s
PMRV Marv??o **71.85 51** *e*P **P** **16 48 30.6 +2.4**
comp=Z,47nm,1.5s
PMRV *e*S **S** **16 57 54.3 +4.4**
PMRV Marv??o **71.85 51** *e*LR LR 17 10 31.8
comp=Z,964nm,24.0s
NEEM North Greenlan **71.88 6** *e*P **P** **16 48 28.4 +0.4**
NEEM IAmb IAmb 16 48 37.2
comp=Z,15nm,0.8s
L26K Log Cabin Wild **71.88 335** IAMs_20 IAMs_20 17 25 22.5
comp=Z,1µm,20.0s
L26K Log Cabin Wild **71.88 335** P **P** **16 48 30.5 +2.6**
baz=111,SNR=5.4
N25K Chitina, Valde **71.95 333** P **P** **16 48 30.1 +1.7**
baz=109
PBAR Barrancos **72.00 52** *e*P **P** **16 48 32.3 +3.2**
comp=Z,47nm,1.9s
MENT Mentasta **72.01 334** IAMs_20 IAMs_20 17 26 13.9
comp=Z,1µm,19.0s
E29M Blow River **72.03 341** IAmb IAmb 16 49 12.8
comp=Z,46nm,1.5s
E29M Blow River **72.03 341** P **P** **16 48 30.8 +2.1**
baz=118
I27K Kandik River **72.15 337** P **P** **16 48 31.5 +2.0**
baz=113
MVO Moncorvo **72.30 49** *e*P **P** **16 48 33.6 +2.6**
comp=Z,42nm,1.4s
MVO *e*S **SKiKP** **16 58 01.2 -7.1**
MVO Moncorvo **72.30 49** *e*LR LR 17 10 43.1
comp=Z,2µm,22.0s
F28M Old Crow **72.34 340** IAmb IAmb 16 48 56.4
comp=Z,45nm,1.6s
F28M Old Crow **72.34 340** P **P** **16 48 32.6 +2.0**
baz=115,SNR=11
H27K Steamboat Moun **72.36 338** P **P** **16 48 32.9 +2.1**
baz=113
HARP HAARP **72.45 334** P **P** **16 48 33.1 +1.8**
baz=109
SCRK Sand Creek **72.49 335** IAmb IAmb 16 48 38.4
comp=Z,42nm,1.6s
SCRK Sand Creek **72.49 335** P **P** **16 48 33.2 +1.6**
baz=110,SNR=7.1
J26L Joseph Creek **72.50 336** P **P** **16 48 34.2 +2.5**
baz=111
KLU Klutina **72.51 333** IAMs_20 IAMs_20 17 22 16.4
comp=Z,1µm,20.0s
KLU Klutina **72.51 333** P **P** **16 48 33.4 +1.6**
baz=108
PBRG Braganca **72.58 49** *e*P **P** **16 48 35.1 +2.5**
comp=Z,36nm,1.6s
I26K Coal Creek Min **72.63 337** IAmb IAmb 16 48 39.3
comp=Z,34nm,1.6s
I26K IAMs_20 IAMs_20 17 23 58.8
comp=Z,1µm,19.0s
I26K Coal Creek Min **72.63 337** P **P** **16 48 35.0 +2.7**
baz=112
E28M Babbage River **72.66 341** IAmb IAmb 16 48 49.8
comp=Z,15nm,0.9s
E28M IAMs_20 IAMs_20 17 23 41.3
comp=Z,1µm,18.0s
E28M Babbage River **72.66 341** P **P** **16 48 35.1 +2.7**
baz=116
D28M Stokes Point **72.73 341** P **P** **16 48 35.1 +2.3**
baz=117
RIDG Independent Ri **72.76 335** P **P** **16 48 33.8 +0.5**

RIDG IAMs_20 IAMs_20 17 25 42.7
comp=Z,1µm,20.0s
RIDG Independent Ri 72.76 335 P **P** **16 48 35.5 +2.3**
baz=109
PAX Paxson 72.78 334 P **P** **16 48 35.4 +2.0**
baz=109
M24K Tolsona, Glenn 72.82 333 P **P** **16 48 35.6 +2.0**
baz=108
K24K Donnelly Dome 73.18 335 P **P** **16 48 38.0 +2.3**
baz=108
PPT Papeete 73.21 249 LR LR 17 12 51.2
comp=Z,2µm,19.9s,baz=76,slow=29
PPT2 Papeete2 73.22 249 *e*P P 16 48 31.5 -5.2
comp=Z,48nm,25.8s
PPT2 *e*S **S** **16 58 00.2 -6.0**
comp=Z,270nm,27.2s
PPT2 *e*SS **SS** **17 02 45.0 -3.0**
comp=Z,230nm,25.2s
PPT2 *e*LQ LQ 17 07 54.0
comp=Z,1µm,41.2s
PPT2 *e*LR LR 17 11 15.5
comp=Z,2µm,23.8s
PPT2 *e*LR LR 17 11 16.7
comp=Z,2µm,23.2s
SCM Sheep Creek Mo 73.25 333 IAMs_20 IAMs_20 17 26 03.0
comp=Z,1µm,19.0s
SCM Sheep Creek Mo 73.25 333 P **P** **16 48 38.6 +2.4**
baz=106
J25K Salcha River, 73.27 336 IAmb IAmb 16 48 42.8
comp=Z,29nm,1.2s
J25K Salcha River, 73.27 336 P **P** **16 48 37.9 +1.7**
baz=109
D27M Malcolm River 73.41 341 P **P** **16 48 39.1 +2.2**
baz=115
M23K Glacier View 73.42 333 P **P** **16 48 39.1 +2.0**
baz=106
G26K Porcupine Rive 73.47 338 P **P** **16 48 38.7 +1.5**
baz=111
PRP Porcupine Dome 73.63 337 IAmb IAmb 16 49 01.5
comp=Z,20nm,1.2s
PRP IAMs_20 IAMs_20 17 24 59.6
comp=Z,1µm,19.0s
PRP Porcupine Dome 73.63 337 P **P** **16 48 41.3 +2.9**
baz=109
DHY Denali Highway 73.64 334 IAMs_20 IAMs_20 17 23 55.9
comp=Z,851nm,19.0s
DHY Denali Highway 73.64 334 P **P** **16 48 39.8 +1.2**
baz=107
WAT6 Susitna Watana 73.65 333 P **P** **16 48 40.1 +1.4**
baz=106
KNK Knik Glacier 73.66 332 IAMs_20 IAMs_20 17 26 17.7
comp=Z,1µm,19.0s
KNK Knik Glacier 73.66 332 P **P** **16 48 40.5 +2.0**
baz=105
MDT Midelt 73.66 58 LR LR 17 15 53.5
comp=Z,821nm,21.9s,baz=280,slow=32
SML Sawmill 73.70 333 IAMs_20 IAMs_20 17 24 16.9
comp=Z,2µm,21.0s
SML Sawmill 73.70 333 P **P** **16 48 40.4 +1.6**
baz=106
SEW Seward 73.79 331 P **P** **16 48 40.8 +1.6**
baz=104
HDA Harding Lake 73.85 335 P **P** **16 48 41.8 +2.2**
baz=108
FYU Fort Yukon 73.88 338 IAMs_20 IAMs_20 17 24 53.5
comp=Z,2µm,21.0s
F26K Sheenjek River 73.88 339 P **P** **16 48 41.9 +2.2**
baz=111
IL31 73.94 336 IAmb IAmb 16 48 46.0
comp=Z,27nm,1.4s
ILAR Eielson Array 73.94 336 P **P** **16 48 39.6 -0.4**
comp=Z,3.5nm,1.0s,baz=106,slow=4.0,SNR=18
ILAR LR LR 17 25 42.3
comp=Z,1µm,18.3s,baz=101,slow=40
comp=Z,3.5nm,1.0s
O22K Cooper Landing 74.02 331 IAMs_20 IAMs_20 17 22 51.3
comp=Z,1µm,20.0s
PMR Palmer 74.02 332 IAMs_20 IAMs_20 17 25 56.1
comp=Z,1µm,19.0s
TIC Toumodi 74.08 85⇑ *i*P **P** **16 48 42.6 +0.7**
comp=Z,3.3nm,0.2s
WAT1 Susitna Watana 74.08 334 P **P** **16 48 43.5 +2.5**
baz=106
LIC Lamto 74.11 86⇑ *e*P **P** **16 48 42.8 +0.8**
comp=Z,108nm,1.2s
RC01 Rabbit Creek A 74.17 332 IAMs_20 IAMs_20 17 20 32.3
comp=Z,1µm,21.0s
RC01 Rabbit Creek A 74.17 332 P **P** **16 48 44.3 +2.8**
baz=104
PAB San Pablo 74.21 51 P **P** **16 48 41.5 -0.7**
PAB IAmb IAmb 16 48 46.4
comp=Z,40nm,1.4s
PAB San Pablo 74.21 51 IAMs_20 IAMs_20 17 14 42.4
comp=Z,1µm,22.0s
PAB San Pablo 74.21 51 P **P** **16 48 41.5 -0.7**
PAB pmax pmax
comp=Z,40nm,1.5s
PAB MLR MLR
comp=Z,2µm,22.0s
DBIC Dimbokro 74.23 85 P **P** **16 48 40.9 -1.8**
DBIC IAMs_20 IAMs_20 17 18 19.3
comp=Z,1µm,21.0s
DBIC Dimbokro 74.23 85 P **P** **16 48 43.9 +1.1**
DBIC comp=Z,14nm,1.0s,baz=281,slow=4.6,SNR=5.6 LR LR 17 18 51.7
comp=Z,821nm,19.9s,baz=254,slow=34
comp=Z,14nm,1.0s
POKR Poker Plat Res 74.27 336 IAMs_20 IAMs_20 17 24 01.4
comp=Z,1µm,20.0s
POKR Poker Plat Res 74.27 336 P **P** **16 48 43.9 +1.9**
baz=107
BRSE Bradley Lake S 74.34 330 P **P** **16 48 44.7 +2.2**
baz=103
KIC Kosan Boka 74.38 85⇓ *e*P **P** **16 48 44.0 +0.4**
comp=Z,121nm,1.4s
ES14 SONSECA Array 74.49 51 IAMs_20 IAMs_20 17 15 35.9
comp=Z,1µm,20.0s
MCK McKinley 74.50 334 P **P** **16 48 45.4 +2.1**
baz=106,SNR=6.9
ESDC Sonseca Array 74.51 51 P **P** **16 48 45.6 +1.7**
comp=Z,18nm,1.2s,baz=279,slow=5.2,SNR=34
ESDC LR LR 17 16 58.2
comp=Z,796nm,21.6s,baz=260,slow=32
comp=Z,18nm,1.2s
TBI Tubuai 74.51 243 *e*P **P** **16 48 43.2 -0.9**
comp=Z,211nm,28.2s
TBI *e*S **S** **16 58 18.8 -1.7**
comp=Z,905nm,30.8s
TBI *e*SS **SS** **17 03 07.7 +0.3**
comp=Z,984nm,28.5s
TBI *e*LQ LQ 17 08 32.4
comp=Z,10µm,34.2s
TBI *e*LR LR 17 11 46.2
comp=Z,5µm,25.5s
TBI *e*LR LR 17 11 52.3
comp=Z,24µm,25.5s
ESBB Sonseca Array 74.51 51 IAMs_20 IAMs_20 17 15 38.5
comp=Z,2µm,22.0s
ES12 SONSECA Array 74.52 51 IAMs_20 IAMs_20 17 15 32.8
comp=Z,1µm,22.0s
E25K Arctic Village 74.53 339 IAmb IAmb 16 48 50.1
comp=Z,29nm,1.4s
E25K IAMs_20 IAMs_20 17 25 14.0
comp=Z,1µm,18.0s
E25K Arctic Village 74.53 339 P **P** **16 48 45.5 +2.0**
baz=110,SNR=11
ES11 SONSECA Array 74.54 51 IAMs_20 IAMs_20 17 15 39.3
comp=Z,2µm,22.0s
MDM Murphy Dome 74.54 336 IAmb IAmb 16 48 49.7
comp=Z,31nm,1.4s
H24K Noodor Dome 74.66 337 P **P** **16 48 47.7 +3.4**
baz=107
SUA Susitna One 74.73 332 IAMs_20 IAMs_20 17 26 43.2
comp=Z,1µm,20.0s
SUA Susitna One 74.73 332 P **P** **16 48 46.3 +1.4**
baz=103
CUT Chulitna 74.74 333 IAMs_20 IAMs_20 17 23 22.1
comp=Z,1µm,20.0s
G24K Hadweenzic Riv 74.77 338 IAmb IAmb 16 48 51.8
comp=Z,38nm,1.4s
G24K IAMs_20 IAMs_20 17 25 30.4
comp=Z,1µm,22.0s
G24K Hadweenzic Riv 74.77 338 P **P** **16 48 47.5 +2.6**
baz=108
NEA2 Nenana 74.79 335 IAmb IAmb 16 48 51.0
comp=Z,40nm,1.5s
NEA2 Nenana 74.79 335 P **P** **16 48 47.1 +2.1**
baz=106

BWN Browne 74.84 335 IAMs_20 IAMs_20 17 25 24.8
comp=Z,988nm,20.0s
KDAK Kodiak Island 74.87 328 LR LR 17 24 11.9
comp=Z,672nm,19.7s,baz=105,slow=38
TRF Thorofare Moun 75.01 334 P **P** **16 48 48.4 +1.9**
baz=104
I23K Minto, Yukon-K 75.06 336 P **P** **16 48 48.9 +2.4**
baz=106,SNR=5.8
OHAK Old Harbor 75.15 327 IAMs_20 IAMs_20 17 22 53.6
comp=Z,756nm,18.0s
F24K Squaw Lake 75.17 338 IAmb IAmb 16 49 25.5
comp=Z,45nm,1.8s
F24K Squaw Lake 75.17 338 P **P** **16 48 49.0 +1.7**
baz=108
SKT Skwentna 75.22 332 P **P** **16 48 49.7 +2.2**
baz=103
D25K Kavik River 75.22 340 P **P** **16 48 50.0 +2.6**
baz=110
BPAW Bear Paw Mtn. 75.47 335 IAMs_20 IAMs_20 17 28 09.2
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 75.47 335 P **P** **16 48 51.4 +2.4**
baz=104
MLY Manley 75.59 336 IAmb IAmb 16 49 04.7
comp=Z,34nm,1.4s
MLY IAMs_20 IAMs_20 17 25 01.5
comp=Z,1µm,20.0s
MLY Manley 75.59 336 P **P** **16 48 52.0 +2.3**
baz=104
G23K Bananza Creek 75.74 337 P **P** **16 48 50.3 -0.2**
G23K IAmb IAmb 16 48 57.5
comp=Z,27nm,1.2s
G23K IAMs_20 IAMs_20 17 28 44.8
comp=Z,1µm,21.0s
G23K Bananza Creek 75.74 337 P **P** **16 48 52.6 +2.1**
baz=105
CAST Castle Rocks 75.78 334 IAMs_20 IAMs_20 17 27 25.7
comp=Z,1µm,18.0s
CAST Castle Rocks 75.78 334 P **P** **16 48 53.3 +2.5**
baz=103
M20K Styx River 75.94 332 IAMs_20 IAMs_20 17 24 46.5
comp=Z,1µm,20.0s
COLD Coldfoot 75.94 338 P **P** **16 48 54.0 +2.3**
baz=105,SNR=10
E23K Chandalar 75.96 339 P **P** **16 48 55.1 +3.3**
baz=106
CHUM Lake Minchumin 75.99 334 P **P** **16 48 54.1 +2.2**
baz=102
D24K Happy Valley 75.99 340 IAmb IAmb 16 48 58.0
comp=Z,34nm,1.4s
D24K Happy Valley 75.99 340 P **P** **16 48 54.9 +3.0**
baz=107
H22K Ishtalitna Cre 76.06 336 P **P** **16 48 55.3 +3.0**
baz=104
C24K Franklin Bluff 76.12 340 P **P** **16 48 54.8 +2.2**
baz=107
O19K Port Alsworth 76.19 330 IAMs_20 IAMs_20 17 22 10.9
comp=Z,1µm,21.0s
O19K Port Alsworth 76.19 330 P **P** **16 48 55.3 +2.2**
baz=100
G22K Bettles 76.36 337 P **P** **16 48 55.7 +1.8**
baz=104
N19K Bonanza Creek 76.38 331 IAMs_20 IAMs_20 17 28 03.8
comp=Z,1µm,21.0s
EKA Eskdalemuir Ar 76.51 35 P **P** **16 48 56.0 +0.9**
EKA Eskdalemuir Ar 76.51 35 P **P** **16 48 56.0 +0.9**
comp=Z,11nm,1.1s,baz=241,slow=5.6,SNR=4.4
comp=Z,11nm,1.1s
P18K Big Mountain, 76.52 329 IAMs_20 IAMs_20 17 23 01.5
comp=Z,1µm,20.0s
M19K Big River Lodg 76.53 332 IAMs_20 IAMs_20 17 28 28.5
comp=Z,1µm,18.0s
O18K Koktuh Hills 76.58 330 P **P** **16 48 57.1 +1.8**
baz=99
H21K Melozitna Rive 76.58 336 P **P** **16 48 57.3 +2.0**
baz=102
D23K Nanushuk River 76.58 339 P **P** **16 48 57.5 +2.3**
baz=105
K20K Telida 76.65 334 IAMs_20 IAMs_20 17 26 02.4
comp=Z,1µm,19.0s
K20K Telida 76.65 334 P P 16 48 59.4 +3.7
baz=101
J20K Nowinta River 76.84 334 IAMs_20 IAMs_20 17 28 04.5
comp=Z,1µm,18.0s
N18K Kilae Creek 77.04 331 IAMs_20 IAMs_20 17 24 37.1
comp=Z,1µm,20.0s
G21K Allakaket 77.04 337 IAMs_20 IAMs_20 17 27 11.0
comp=Z,1µm,19.0s
G21K Allakaket 77.04 337 P **P** **16 48 59.2 +1.3**
baz=102
I20K Naaghedeneel 77.09 335 IAMs_20 IAMs_20 17 28 37.9
comp=Z,1µm,18.0s
F21K Alatna River 77.18 337 IAmb IAmb 16 49 05.5
comp=Z,31nm,1.2s
F21K IAMs_20 IAMs_20 17 29 33.3
comp=Z,1µm,19.0s
F21K Alatna River 77.18 337 P **P** **16 49 01.2 +2.5**
baz=102
JMIC Jan Mayen 77.20 19 LR LR 17 23 15.5
comp=Z,303nm,19.6s,baz=253,slow=36
D22K Ayikyak River 77.26 339 P **P** **16 48 59.8 +0.7**
D22K IAmb IAmb 16 49 17.6
comp=Z,21nm,1.1s
D22K Ayikyak River 77.26 339 P **P** **16 49 01.6 +2.5**
baz=103
H20K Anotleneega Mo 77.39 336 P **P** **16 49 02.1 +2.2**
baz=100
J19K Poorman 77.44 334 IAMs_20 IAMs_20 17 25 35.5
comp=Z,969nm,20.0s
J19K Poorman 77.44 334 P **P** **16 49 02.4 +2.2**
baz=100
TTA Tatalina 77.44 333 P **P** **16 49 02.2 +1.9**
baz=99
L18K Granite Mounta 77.64 332 IAMs_20 IAMs_20 17 29 59.1
comp=Z,1µm,19.0s
N17K Nushagak Hills 77.65 330 IAMs_20 IAMs_20 17 24 54.5
comp=Z,1µm,21.0s
J18K Innoko River 77.84 333 P **P** **16 49 04.4 +2.0**
baz=98
B22K Teshekpuk Lake 77.85 341 IAMs_20 IAMs_20 17 27 02.2
comp=Z,1µm,21.0s
B22K Teshekpuk Lake 77.85 341 P **P** **16 49 03.6 +1.4**
baz=103
P16K Nushagak River 77.88 329 P **P** **16 49 04.1 +1.5**
baz=96
O16K Kokwok River B 77.99 329 IAMs_20 IAMs_20 17 24 06.4
comp=Z,1µm,20.0s
F20K Avaraart Lake 78.01 337 P **P** **16 49 04.6 +1.3**
baz=100
H19K Roundabout Mou 78.04 336 IAmb IAmb 16 49 19.6
comp=Z,32nm,1.4s
H19K IAMs_20 IAMs_20 17 28 36.8
comp=Z,1µm,18.0s
H19K Roundabout Mou 78.04 336 P **P** **16 49 04.7 +1.3**
baz=99
C21K Knifeblade Rid 78.06 339 P **P** **16 49 05.6 +2.1**
baz=101
CHNA Chernabura Isl 78.36 324 P **P** **16 49 06.8 +1.4**
baz=94
E20K Nigu River 78.39 338 P **P** **16 49 07.5 +2.1**
baz=100,SNR=16
G19K Purcell Mounta 78.40 336 IAmb IAmb 16 49 12.6
comp=Z,33nm,1.4s
G19K IAMs_20 IAMs_20 17 30 14.4
comp=Z,840nm,19.0s
G19K Purcell Mounta 78.40 336 P **P** **16 49 07.1 +1.7**
baz=99
K17K Iditarod 78.45 333 IAMs_20 IAMs_20 17 26 45.2
comp=Z,1µm,18.0s
D20K Etivluk River 78.63 339 P **P** **16 49 07.9 +1.3**
baz=100
E19K Redstone River 78.65 337 IAmb IAmb 16 49 13.0
comp=Z,22nm,1.4s
E19K Redstone River 78.65 337 P **P** **16 49 08.1 +1.3**
baz=99
F19K Shaleruckik Mo 78.77 337 IAmb IAmb 16 49 13.6
comp=Z,26nm,1.6s
F19K IAMs_20 IAMs_20 17 26 42.2
comp=Z,1µm,19.0s
F19K Shaleruckik Mo 78.77 337 P **P** **16 49 08.9 +1.5**
baz=98
H18K Honhosa River 78.78 335 P **P** **16 49 10.5 +2.9**
baz=97
L16K Owhat River 78.89 331 IAMs_20 IAMs_20 17 24 30.1
comp=Z,1µm,21.0s
G18K Tagagawik 79.00 336 IAmb IAmb 16 49 25.1
comp=Z,25nm,1.2s
G18K IAMs_20 IAMs_20 17 29 15.4
comp=Z,1µm,18.0s

G18K Tagagawik 79.00 336 P **P** **16 49 10.0 +1.2**
baz=97
B20K Meade River 79.03 340 P **P** **16 49 09.7 +0.9**
baz=99
D19K Kuna River 79.14 338 IAmb IAmb 16 49 16.1
comp=Z,29nm,1.3s
D19K Kuna River 79.14 338 P **P** **16 49 10.7 +1.2**
baz=98,SNR=8.4
H17K Granite Mounta 79.41 335 P **P** **16 49 12.7 +1.6**
baz=96
F18K Selawik 79.48 336 P **P** **16 49 13.0 +1.7**
baz=96
J16K Anvik River 79.56 333 IAMs_20 IAMs_20 17 29 50.3
comp=Z,1µm,20.0s
J16K Anvik River 79.56 333 P **P** **16 49 13.5 +1.6**
baz=95
I17K Unalakleet 79.65 334 P **P** **16 49 14.2 +1.9**
baz=95
C19K Lookout Ridge 79.75 339 IAmb IAmb 16 49 19.9
comp=Z,43nm,1.4s
C19K Lookout Ridge 79.75 339 P **P** **16 49 14.0 +1.2**
baz=97
G17K Kiwalik Mounta 79.78 335 P **P** **16 49 15.4 +2.5**
baz=95
K15K Wolf Creek Mou 79.91 332 IAMs_20 IAMs_20 17 29 30.7
comp=Z,1µm,18.0s
K15K Wolf Creek Mou 79.91 332 P **P** **16 49 15.0 +1.3**
baz=94
E18K Tukpahlearik C 79.94 337 P **P** **16 49 15.6 +1.8**
baz=96,SNR=11
TOA0 Torodi Ar. Sit 80.08 78 IAmb IAmb 16 49 19.3
comp=Z,72nm,1.8s
TORD Torodi Ar. Bea 80.08 78 P **P** **16 49 15.6 0.0**
TORD IAmb IAmb 16 49 19.2
comp=Z,63nm,1.8s
TORD IAMs_20 IAMs_20 17 20 28.7
comp=Z,860nm,22.0s
TORD Torodi Ar. Bea 80.08 78 P **P** **16 49 16.0 +0.4**
comp=Z,12nm,1.3s,baz=307,slow=5.3,SNR=21
TORD LR LR 17 26 00.3
comp=Z,558nm,18.7s,baz=267,slow=37
comp=Z,12nm,1.3s
F17K Baldwin Pennin 80.10 336 IAmb IAmb 16 49 28.4
comp=Z,33nm,1.6s
F17K IAMs_20 IAMs_20 17 31 16.3
comp=Z,860nm,18.0s
F17K Baldwin Pennin 80.10 336 P **P** **16 49 16.4 +1.7**
baz=95
C18K Utukok River 80.28 338 P **P** **16 49 16.9 +1.2**
baz=95
H16K Elim 80.38 334 P **P** **16 49 18.0 +1.7**
baz=94
E17K Hotham Inlet 80.38 337 P **P** **16 49 17.8 +1.5**
baz=94,SNR=18
A19K Wainwright 80.39 340 P **P** **16 49 17.9 +1.7**
baz=96
L14K Kuka Creek 80.40 331 IAMs_20 IAMs_20 17 26 38.8
comp=Z,1µm,20.0s
G16K Koyuk River 80.48 335 P **P** **16 49 19.2 +2.5**
baz=94
B18K Kokolik River 80.56 339 P **P** **16 49 19.6 +2.5**
baz=95
J14K Nanvaranak Lak 80.87 332 IAMs_20 IAMs_20 17 28 49.1
comp=Z,1µm,20.0s
J14K Nanvaranak Lak 80.87 332 P **P** **16 49 20.6 +1.7**
baz=92
RDOG Red Dog Mine 80.87 338 P **P** **16 49 20.9 +2.0**
baz=94
C17K DeLong Mountai 80.99 338 P **P** **16 49 21.6 +2.0**
baz=93,SNR=16
G15K Niukluk 81.17 335 P **P** **16 49 23.7 +3.2**
baz=92
F15K North Star Dit 81.44 335 IAMs_20 IAMs_20 17 29 44.8
comp=Z,984nm,20.0s
F15K North Star Dit 81.44 335 P **P** **16 49 24.8 +2.8**
baz=92
ANM Nome 81.73 334 IAmb IAmb 16 49 39.1
comp=Z,26nm,1.5s
ANM IAMs_20 IAMs_20 17 30 21.7
comp=Z,882nm,18.0s
ANM Nome 81.73 334 P **P** **16 49 25.0 +1.6**
baz=91
C16K Lisburne Hills 81.79 338 IAmb IAmb 16 49 30.2
comp=Z,36nm,1.3s
C16K Lisburne Hills 81.79 338 P **P** **16 49 25.7 +2.0**
baz=91
M11K Mekoryuk 82.10 330 P **P** **16 49 26.4 +1.0**
baz=89
F14K Arctic Creek 82.14 335 P **P** **16 49 28.0 +2.4**
baz=90
TNA Tin City 82.80 335 P **P** **16 49 31.0 +2.0**
baz=88
TAM Tamanrasset 82.90 68 IAMs_20 IAMs_20 17 25 03.9
comp=Z,1µm,21.0s
RAR Rarotonga 83.37 248 LR LR 17 18 36.4
comp=Z,956nm,18.0s,baz=72,slow=30
NB2 NORSAR Subarra 84.25 29 P **P** **16 49 38.5 +1.8**
comp=Z,34nm,1.4s,baz=277,slow=5.6
NB2 NORSAR Subarra 84.25 29 P **P** **16 49 38.5 +1.8**
baz=277,SNR=5.6
NOA NORSAR Array B 84.25 29 P **P** **16 49 36.7 0.0**
comp=Z,5.7nm,1.1s,baz=274,slow=5.2,SNR=5.8
NOA LR LR 17 23 33.6
comp=Z,847nm,20.4s,baz=270,slow=33
comp=Z,5.7nm,1.1s
SPITS Spitsbergen Ar 84.31 12 LR LR 17 28 17.6
comp=Z,586nm,20.1s,baz=248,slow=36
DAVA Damuels 84.53 43 *e*pP pP 16 49 41.6 +2.9
comp=Z,1.1nm,1.0s
DAVOX Davos/Dischmat 84.57 44 LR LR 17 21 43.1
comp=Z,680nm,21.9s,baz=280,slow=32
VSL Villasalto 84.81 51 P **P** **16 49 41.4 +1.4**
VSL IAMs_20 IAMs_20 17 21 30.1
comp=Z,1µm,22.0s
RETA Reutte 85.11 43 *e*PcP **PcP** **16 49 44.2 -0.4**
comp=Z,9.1nm,1.4s
KEST Kesra 85.12 55 IAmb IAmb 16 49 59.5
comp=Z,17nm,1.1s
KEST IAMs_20 IAMs_20 17 30 52.6
comp=Z,666nm,20.0s
KEST Kesra 85.12 55 P **P** **16 49 43.0 +1.4**
comp=Z,8.7nm,1.0s,baz=191,slow=5.9,SNR=5.2
comp=Z,8.7nm,1.0s
FETA Feichten 85.13 43 *e*PcP **PcP** **16 49 44.5 -0.2**
comp=Z,8.2nm,1.3s
MOTA Moosalm 85.36 43 *e*PcP **PcP** **16 49 45.7 -0.1**
comp=Z,2nm,1.7s
SQTA Sankt Quirin 85.44 43 *e*PcP **PcP** **16 49 46.1 0.0**
comp=Z,5.9nm,0.7s
HFS Hagfors 85.56 30 P **P** **16 49 44.1 +0.9**
comp=Z,8.4nm,1.1s,baz=217,slow=7.0,SNR=3.6
HFS LR LR 17 22 07.7
comp=Z,954nm,21.7s,baz=271,slow=32
comp=Z,8.4nm,1.1s
WATA Walderalm 85.68 43 *e*pP pP 16 49 49.3 +4.9
comp=Z,5.1nm,1.0s
WTTA Wattenberg 85.73 43 *e*PcP **PcP** **16 49 47.4 0.0**
comp=Z,1.1nm,1.2s
CTI Castel Tesino 85.86 44 IAMs_20 IAMs_20 17 23 51.4
comp=Z,1µm,20.0s
NKC Novy Kostel 85.95 40 AMS AMS 17 23 10.0
comp=Z,3µm,21.9s
CLL Collm 86.18 39 *i* P **P** **16 49 48.5 +2.1**
CLL *e*S **S** **17 00 23.0 +0.9**
CLL pmax pmax
comp=Z,24nm,1.2s
CLL MLR MLR
comp=Z,2µm,20.7s
CLL Collm 86.18 39 *i* P **P** **16 49 48.5 +2.1**
comp=Z,24nm,1.2s
CLL *e*x x 16 53 59.0
CLL *e*S **S** **17 00 23.0 +0.9**
CLL *e*PS **PnS** **17 01 18.0 -0.6**
CLL *e*PPS PPS 17 01 42.0
CLL *e*x x 17 02 07.0
CLL *e*SS **SS** **17 06 05.0 +4.6**
CLL *e*SSS SSS 17 09 30.0
CLL *e*SSSS 17 12 54.0
CLL AMS AMS 17 23 00.0
comp=Z,2µm,20.7s
ABTA Abfaltersbach 86.38 44 *e*PcP **PcP** **16 49 50.5 +0.3**
comp=Z,10nm,1.2s
LESA Schwarzleotal 86.41 43 *e*PcP **PcP** **16 49 49.9 -0.4**
comp=Z,15nm,1.4s
HSKC Hora Svate Kat 86.53 40 AMS AMS 17 23 50.0
comp=Z,2µm,21.2s
STAL STALIGIAL 86.57 44 IAmb IAmb 16 50 07.2
comp=Z,36nm,1.5s

CLUD	**Cludinico**	**86.66**	**44**	IAmb	IAmb	16 50 10.9			
	comp=Z,14nm,0.9s								
KHC	**Kasperske Hoy**	**86.81**	**41**	IAmb	IAmb	16 50 19.9			
	comp=Z,23nm,1.3s								
KHC	**Kasperske Hoy**	**86.81**	**41**	*e*P	**P**	**16 49 51.8**	**+2.1**		
KHC				AMS	AMS	17 23 40.0			
	comp=Z,2µm,20.9s								
KHC	**Kasperske Hoy**	**86.81**	**41**	*de*P	**P**	**16 49 52.2**	**+2.5**		
KHC				pmax	pmax				
	comp=Z,40nm,1.4s								
BRG	**Berggiesshubel**	**86.82**	**39**	*e*P	**P**	**16 49 52.2**	**+2.6**		
BRG				Amp		16 49 55.8			
	comp=Z,27nm,1.5s								
BRG	**Berggiesshubel**	**86.82**	**39**	P	P	16 50 02.0	+12		
BRG				Amp		16 50 02.8			
	comp=Z,9.6nm,1.0s								
BRG	**Berggiesshubel**	**86.82**	**39**	*e*P	**P**	**16 49 52.2**	**+2.6**		
BRG				*e*		16 50 02.0			
BRG				pmax	pmax				
	comp=Z,27nm,1.5s								
BRG				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BRG				pmax	pmax				
	comp=Z,18nm,1.3s								
CESX	**Cesi**	**86.91**	**48**	IAMs_20	IAMs_20	17 23 01.4			
	comp=Z,669nm,20.0s								
KBA	**Koelnbreinsper**	**86.91**	**43**	*e*PcP	**PcP**	**16 49 52.0**	**-0.6**		
	comp=Z,22nm,1.3s								
GEC2	**GERESS Array S**	**86.92**	**41**	IAmb	IAmb	16 50 20.2			
	comp=Z,16nm,1.2s								
GERES	**GERESS Array B**	**86.92**	**41**	P	**P**	**16 49 51.4**	**+1.1**		
	comp=Z,6.0nm,1.0s,baz=247,slow=2.8,SNR=9.5								
GERES				LR	LR	17 24 38.3			
	comp=Z,1µm,20.1s,baz=280,slow=33								
	comp=Z,6.0nm,1.0s								
RICC	**Richard**	**86.96**	**40**	AMS	AMS	17 24 00.0			
	comp=Z,2µm,21.8s								
BIOA	**Bad Ischl, Aus**	**87.03**	**42**	*e*PcP	**PcP**	**16 49 52.6**	**-0.3**		
	comp=Z,17nm,1.2s								
PRED	**Cave del Predi**	**87.14**	**44**	IAmb	IAmb	16 50 09.6			
	comp=Z,16nm,1.1s								
MYKA	**Terra Mystica**	**87.16**	**44**	*e*PcP	**PcP**	**16 49 54.0**	**+0.4**		
	comp=Z,8.8nm,1.1s								
ZVC	**Zvikov**	**87.17**	**41**	AMS	AMS	17 24 50.0			
	comp=Z,2µm,19.2s								
FDMO	**Fiordimonte**	**87.22**	**47**	IAMs_20	IAMs_20	17 24 18.7			
	comp=Z,1µm,22.0s								
PRA	**Prague**	**87.24**	**40**	AMS	AMS	17 24 20.0			
	comp=Z,3µm,21.5s								
PRU	**Pruhonice**	**87.32**	**40**	*e*P	**P**	**16 49 55.3**	**+3.2**		
PRU	**Pruhonice**	**87.32**	**40**	*e*P	**P**	**16 49 55.3**	**+3.2**		
CKRC	**Cesky Krumlov**	**87.32**	**41**	AMS	AMS	17 23 50.0			
	comp=Z,2µm,22.8s								
GUMA	**Gualdo di Mace**	**87.40**	**47**	IAMs_20	IAMs_20	17 26 52.3			
	comp=Z,888nm,20.0s								
MOA	**Molln**	**87.43**	**42**	*e*PcP	**PcP**	**16 49 55.4**	**+0.7**		
	comp=Z,9.1nm,1.6s								
GOPC	**GO Pecny, Ondr**	**87.48**	**40**	AMS	AMS	17 24 20.0			
	comp=Z,3µm,21.0s								
OBKA	**Obir**	**87.80**	**44**	*e*pP	pP	16 49 57.1	+2.4		
	comp=Z,8.9nm,1.3s								
SOKA	**Soboth**	**88.11**	**43**	*e*pP	pP	16 49 58.6	+2.4		
	comp=Z,4.3nm,1.0s								
UPC	**Upice**	**88.17**	**39**	AMS	AMS	17 24 50.0			
	comp=Z,3µm,20.9s								
CHVC	**Chvalec**	**88.19**	**39**	*e*P	P	16 50 02.3	+6.0		
CHVC				AMS	AMS	17 25 00.0			
	comp=Z,2µm,21.9s								
CHVC	**Chvalec**	**88.19**	**39**	*e*P	P	16 50 02.3	+6.0		
CHVC				MLR	MLR				
	comp=Z,2µm,21.9s								
OSTC	**Ostas**	**88.30**	**39**	AMS	AMS	17 25 00.0			
	comp=Z,2µm,21.2s								
DPC	**Dobruska-Polom**	**88.39**	**40**	*e*P	**P**	**16 49 59.4**	**+2.1**		
DPC				AMS	AMS	17 25 10.0			
	comp=Z,3µm,21.9s								
DPC	**Dobruska-Polom**	**88.39**	**40**	*e*P	**P**	**16 49 59.4**	**+2.1**		
DPC				MLR	MLR				
	comp=Z,3µm,21.9s								
CONA	**Conrad Observa**	**88.48**	**42**	*e*PcP	**PcP**	**16 50 00.1**	**+0.7**		
	comp=Z,5.5nm,1.2s								
ARCES	**ARCESS Array B**	**88.62**	**20**	P	**P**	**16 49 58.5**	**+0.6**		
	comp=Z,7.2nm,1.2s,baz=307,slow=6.6,SNR=2.1								
ARCES				LR	LR	17 25 27.2			
	comp=Z,796nm,20.5s,baz=285,slow=33								
	comp=Z,7.2nm,1.2s								
KRUC	**Moravsky**	**88.65**	**41**	*e*P	**P**	**16 49 59.9**	**+1.5**		
KRLC	**Kraliky**	**88.73**	**40**	AMS	AMS	17 25 40.0			
	comp=Z,3µm,19.9s								
VRAC	**Vranov**	**88.74**	**41**	*e*P	**P**	**16 50 01.9**	**+3.0**		
VRAC	**Vranov**	**88.74**	**41**	LR	LR	17 25 46.3			
	comp=Z,2µm,20.7s,baz=274,slow=33								
RONA	**Rosalia, Austr**	**88.80**	**42**	*e*P	**P**	**16 49 58.9**	**-0.3**		
	comp=Z,2.2nm,0.7s								
VAE	**Valguarnera**	**88.97**	**53**	LR	LR	17 25 11.4			
	comp=Z,1µm,21.7s,baz=334,slow=32								
ZST	**Bratislava**	**89.25**	**42**	*e*P	**P**	**16 50 04.4**	**+3.1**		
ZST	**Bratislava**	**89.25**	**42**	*e*P	**P**	**16 50 04.3**	**+3.0**		
MORC	**Moravsky Berou**	**89.27**	**40**	IAmb	IAmb	16 50 32.5			
	comp=Z,21nm,1.5s								
MORC	**Moravsky Berou**	**89.27**	**40**	*e*P	**P**	**16 50 03.2**	**+1.8**		
WDD	**Wied Dalam**	**89.29**	**54**	IAMs_20	IAMs_20	17 35 10.9			
	comp=Z,490nm,18.0s								
MODS	**Modra-Piesok**	**89.34**	**41**	*e*P	**P**	**16 50 04.9**	**+3.2**		
MODS	**Modra-Piesok**	**89.34**	**41**	*e*P	**P**	**16 50 04.9**	**+3.2**		
JAVC	**Velka Javorina**	**89.51**	**41**	*e*P	**P**	**16 50 05.7**	**+3.1**		
OKC	**Ostrava-Krasne**	**89.64**	**40**	AMS	AMS	17 26 10.0			
	comp=Z,3µm,19.8s								
CUC	**Castrocucco**	**89.68**	**50**	IAMs_20	IAMs_20	17 23 40.8			
	comp=Z,1µm,22.0s								
CEL	**Celeste**	**90.01**	**52**	IAMs_20	IAMs_20	17 24 27.7			
	comp=Z,711nm,21.0s								
VYHS	**Vyhne**	**90.34**	**41**	*e*P	**P**	**16 50 09.6**	**+3.2**		
VYHS	**Vyhne**	**90.34**	**41**	*e*P	**P**	**16 50 09.6**	**+3.2**		
TIP	**Timpagrande**	**90.53**	**51**	IAMs_20	IAMs_20	17 24 43.4			
	comp=Z,1µm,22.0s								
LANS	**Liptovska Anna**	**90.62**	**40**	*e*P	P	16 50 12.1	+4.4		
LANS	**Liptovska Anna**	**90.62**	**40**	*e*P	P	16 50 12.1	+4.4		
FINES	**FINESS Array B**	**91.23**	**28**	P	**P**	**16 50 09.0**	**-1.2**		
	comp=Z,3.6nm,1.0s,baz=234,slow=6.7,SNR=2.4								
FINES				LR	LR	17 29 29.5			
	comp=Z,890nm,19.0s,baz=282,slow=34								
	comp=Z,3.6nm,1.0s								
SCTE	**Santa Cesarea**	**91.67**	**49**	IAMs_20	IAMs_20	17 24 56.5			
	comp=Z,831nm,22.0s								
SUW	**Suwalki**	**91.78**	**35**	IAMs_20	IAMs_20	17 29 58.2			
	comp=Z,877nm,20.0s								
BILL	**Bilibino**	**92.14**	**340**	P	**P**	**16 50 14.6**	**+0.3**		
BILL	**Bilibino**	**92.14**	**340**	IAMs_20	IAMs_20	17 36 34.5			
	comp=Z,943nm,20.0s								
BILL	**Bilibino**	**92.14**	**340**	*i* P	**P**	**16 50 17.0**	**+2.7**		
PUK	**Puka**	**92.35**	**47**	IAMs_20	IAMs_20	17 27 51.2			
	comp=Z,858nm,21.0s								
VLO	**Vlora**	**92.37**	**49**	IAMs_20	IAMs_20	17 25 30.9			
	comp=Z,893nm,22.0s								
VSU	**Vasula**	**92.44**	**30**	⇓*e*P	**P**	**16 50 16.2**	**+0.4**		
VSU				pmax	pmax				
	comp=Z,41nm,1.6s								
TIR	**Tirane**	**92.47**	**48**	IAMs_20	IAMs_20	17 32 54.5			
	comp=Z,582nm,18.0s								
SNAA	**Sanae**	**92.63**	**162**	IAMs_20	IAMs_20	17 30 13.7			
	comp=Z,750nm,21.0s								
SNAA	**Sanae**	**92.63**	**162**	LR	LR	17 32 04.6			
	comp=Z,529nm,20.1s,baz=272,slow=36								
KEK	**Kerkira**	**92.75**	**50**	IAMs_20	IAMs_20	17 25 39.9			
	comp=Z,804nm,21.0s								
NACGM	**Naroch**	**93.55**	**34**	*e*P	**P**	**16 50 21.7**	**+0.6**		
	comp=Z,11nm,0.9s,baz=288								
SHEM	**Shemya Is, Ala**	**94.02**	**324**	LR	LR	17 32 39.0			
	comp=Z,405nm,21.6s,baz=82,slow=36								
MNK	**Minsk**	**94.28**	**34**	*i* P	**P**	**16 50 26.8**	**+2.4**		
MNK				*i* P	**P**	**16 50 26.8**	**+2.4**		
	comp=E,11nm,1.5s								
	comp=N,9.0nm,0.8s								
MNK				*i* P	**P**	**16 50 26.8**	**+2.4**		
	comp=Z,7.0nm,0.7s,baz=288								
MNK				*i* PP	**PP**	**16 54 14.7**	**+3.8**		
MNK				*i* PPP	PPP	16 56 17.2			
MNK				*i* S	**SKSac**	**17 01 01.9**	**+1.4**		
MNK				*i* SS	**SS**	**17 08 00.9**	**+3.6**		
MNK				*i* SSS	SSS	17 11 43.4			
MNK				*i* LQ	LQ	17 25 46.4			
MNK				*i* LR	LR	17 30 33.7			
MNK				*i* LRM	MLR	17 37 04.9			
	comp=Z,348nm,14.4s								
MNK				*i* LRM	MLR	17 37 07.8			
	comp=N,570nm,21.1s								
MNK				*i* LRM	MLR	17 37 31.8			
	comp=E,68nm,11.6s								
MNK	**Minsk**	**94.28**	**34**	*i* P	**P**	**16 50 26.8**	**+2.4**		
MNK				*i*		16 54 14.7			
MNK				*i* PPP	PPP	16 56 17.2			
MNK				*i* S	**SKSac**	**17 01 01.9**	**+1.4**		
MNK				*i* SS	**SS**	**17 08 00.8**	**+3.6**		
MNK				*i* SSS	SSS	17 11 43.3			
MNK				pmax	pmax				
	comp=E,11nm,1.5s								
MNK				pmax	pmax				
	comp=N,9.0nm,0.8s								
MNK				pmax	pmax				
	comp=Z,7.0nm,0.7s								
MLR	**Muntele Rosu**	**95.77**	**43**	LR	LR	17 30 25.1			
	comp=Z,942nm,20.7s,baz=309,slow=33								
AKASG	**Malin Array Be**	**96.28**	**37**	P	**P**	**16 50 33.5**	**-0.2**		
	comp=Z,0.1nm,0.4s,baz=282,slow=0.9,SNR=1.6								
AKASG				LR	LR	17 30 47.2			
	comp=Z,1µm,20.5s,baz=290,slow=33								
	comp=Z,0.1nm,0.4s								
RDO	**Rodhopi**	**96.67**	**47**	IAMs_20	IAMs_20	17 32 58.7			
	comp=Z,663nm,20.0s								
ALN	**Alexandroupoli**	**97.11**	**47**	IAMs_20	IAMs_20	17 28 34.4			
	comp=Z,562nm,22.0s								
QSPA	**South Pole Qui**	**97.15**	**180**	P	Pdif	16 50 37.9	+0.5		
	comp=Z,3.8nm,1.1s,baz=193,slow=3.1,SNR=4.4								
	comp=Z,3.8nm,1.1s								
KLMR	**Klimovskoe**	**97.44**	**26**	*e*P	Pdif	16 50 39.4	+0.7		
KLMR				pmax	pmax				
	comp=Z,29nm,1.8s								
IDI	**Anoyia**	**97.68**	**53**	LR	LR	17 30 09.4			
	comp=Z,153nm,21.8s,baz=296,slow=33								
OBN	**Obninsk**	**98.70**	**31**	LR	LR	17 31 01.2			
	comp=Z,978nm,21.8s,baz=293,slow=33								
BALB	**Balikesir**	**98.81**	**48**	IAMs_20	IAMs_20	17 35 45.3			
	comp=Z,841nm,20.0s								
TIXI	**Tiksi**	**99.14**	**351**	IAMs_20	IAMs_20	17 42 23.0			
	comp=Z,858nm,20.0s								
TSUM	**Tsumeb**	**99.18**	**108**	LR	LR	17 32 11.5			
	comp=Z,2µm,21.6s,baz=276,slow=33								
SEY	**Seymchan**	**99.73**	**339**	⇓*e*P	**Pdif**	**16 50 50.9**	**+2.0**		
SEY				pmax	pmax				
	comp=Z,14nm,2.3s								
SEY	**Seymchan**	**99.73**	**339**	LR	LR	17 40 23.7			
	comp=Z,1µm,21.0s,baz=56,slow=38								
ANTO	**Ankara**	**102.33**	**47**	IAMs_20	IAMs_20	17 36 23.3			
	comp=Z,585nm,21.0s								
VNDA	**Vanda**	**102.91**	**191**	IAMs_20	IAMs_20	17 31 43.5			
	comp=Z,727nm,18.0s								
NRIK	**Noril'sk**	**103.18**	**5**	IAMs_20	IAMs_20	17 46 35.1			
	comp=Z,780nm,19.0s								
ARPR	**Arapgir-MALATY**	**106.59**	**46**	IAMs_20	IAMs_20	17 36 18.1			
	comp=Z,545nm,22.0s								
BALJ	**Balqa**	**107.18**	**53**	IAMs_20	IAMs_20	17 45 54.5			
	comp=Z,228nm,20.0s								
GHAJ	**Ghor Haditha**	**107.39**	**54**	IAMs_20	IAMs_20	17 42 36.2			
	comp=Z,458nm,21.0s								
ONI	**Oni**	**108.52**	**41**	IAMs_20	IAMs_20	17 40 50.6			
	comp=Z,756nm,21.0s								
GNI	**Garni**	**110.55**	**42**	IAMs_20	IAMs_20	17 42 14.5			
	comp=Z,468nm,21.0s								
MAK	**Makhachkala**	**110.90**	**39**	*e*P	**Pdif**	**16 51 36.5**	**-2.5**		
MAK				*i*		16 55 35.7			
MAK				*e*		17 02 09.8			
MAK				*e*PS	**PS**	**17 05 47.6**	**+0.6**		
MAK				*e*SS	SS	17 11 41.5	-5.6		
MAK				*e*SSS	SSS	17 15 52.5			
MAK				pmax	pmax				
	comp=Z,115nm,1.4s								
MAK				MLR	MLR				
	comp=Z,465nm,15.0s								
LODK	**Lodwar**	**114.36**	**83**	IAMs_20	IAMs_20	17 44 02.8			
	comp=Z,582nm,22.0s								
BRVK	**Borovoye**	**114.85**	**19**	⇑*i*PKIKP	PKPdf	16 55 46.7	+0.8		
BVAR	**Borovoye Array**	**114.91**	**19**	PP	**PP**	**16 56 45.1**	**+1.4**		
	comp=Z,1.3nm,1.0s,baz=0.0,slow=8.9,SNR=4.1								
FURI	**Furi**	**116.57**	**76**	IAMs_20	IAMs_20	17 48 11.8			
	comp=Z,544nm,19.0s								
KLR	**Kul'dur**	**117.49**	**337**	⇓*i*PKIKP	**PKiKP**	**16 55 52.1**	**+1.0**		
ZAA0	**Zalesovo Array**	**117.75**	**10**	IAMs_20	IAMs_20	17 52 38.3			
	comp=Z,520nm,20.0s								
ZALV	**Zalesovo Beam**	**117.75**	**10**	PKP	**PKiKP**	**16 55 51.9**	**+0.4**		
	comp=Z,0.3nm,0.3s,baz=321,slow=2.1,SNR=5.7								
ZALV				PP	**PP**	**16 57 03.8**	**+0.3**		
	comp=Z,1.5nm,0.9s,baz=345,slow=5.1,SNR=5.0								
KIBK	**Kibwezi**	**117.83**	**89**	IAMs_20	IAMs_20	17 42 46.1			
	comp=Z,649nm,21.0s								
RAYN	**Ar Rayn**	**118.44**	**59**	IAMs_20	IAMs_20	17 45 23.3			
	comp=Z,461nm,20.0s								
KURK	**Kurchatov**	**119.40**	**16**	⇓*i*PKIKP	**PKiKP**	**16 55 55.9**	**+1.1**		
KURBB	**Kurchatov Arra**	**119.46**	**16**	PKP	**PKiKP**	**16 55 55.3**	**+0.3**		
	comp=Z,0.8nm,0.9s,baz=326,slow=2.5,SNR=5.9								
KURBB				PKKPbc	**PKKPbc**	**17 06 06.2**	**-2.0**		
	comp=Z,1.0nm,1.0s,baz=152,slow=3.1,SNR=5.7								
ATD	**Arta Tunnel**	**119.93**	**72**	IAMs_20	IAMs_20	17 49 55.8			
	comp=Z,602nm,20.0s								
GEYT	**Alibeck**	**120.40**	**38**	PKP	**PKiKP**	**16 55 57.2**	**0.0**		
	comp=Z,2.5nm,0.8s,baz=35,slow=5.4,SNR=5.2								
GYA0B	**ALIBECK ARRAY**	**120.40**	**38**	IAMs_20	IAMs_20	17 46 33.7			
	comp=Z,493nm,20.0s								
USA0B	**Ussuriysk Arra**	**121.42**	**334**	IAMs_20	IAMs_20	17 55 11.3			
	comp=Z,593nm,20.0s								
MDJ	**Mudanjiang**	**122.11**	**336**	PKP	**PKiKP**	**16 56 03.8**	**+3.5**		
MDJ				SS	SS	17 14 14.5	+1.9		
MDJ				AMB	AMB				
	comp=Z,120nm,5.5s								
MDJ				LR	LR				
	comp=Z,360nm,19.9s								
MDJ				LR	LR				
	comp=Z,500nm,18.6s								
MDJ				LR	LR				
	comp=Z,940nm,22.3s								
DGZ	**Jazzator, Alta**	**122.29**	**10**	⇑*i*PKIKP	**PKiKP**	**16 56 02.0**	**+1.2**		
MAJO	**Matsushiro**	**123.86**	**323**	IAMs_20	IAMs_20	17 46 49.5			
	comp=Z,427nm,21.0s								
MAKZ	**Makanchi**	**123.87**	**15**	IAMs_20	IAMs_20	17 56 25.0			
	comp=Z,577nm,20.0s								
MK31	**Makanchi Array**	**123.96**	**15**	⇑*i*PKIKP	**PKiKP**	**16 56 04.9**	**+0.9**		
MKAR	**Makanchi Array**	**123.96**	**15**	PKP	**PKPdf**	**16 56 01.3**	**-2.4**		
	comp=Z,0.9nm,0.9s,baz=329,slow=2.5,SNR=5.5								
ULN	**Ulaanbaatar**	**124.90**	**354**	⇓*i*PKIKP	**PKiKP**	**16 56 07.9**	**+1.9**		
SONM	**Songino Array**	**124.99**	**355**	PKP	**PKiKP**	**16 56 05.5**	**-0.6**		
	comp=Z,2.1nm,1.0s,baz=358,slow=0.6,SNR=8.2								
AAK	**Ala-Archa**	**125.17**	**23**	⇓*i*PKIKP	**PKiKP**	**16 56 08.5**	**+1.8**		
UOSS	**Minazif**	**126.53**	**52**	IAMs_20	IAMs_20	17 56 32.8			
	comp=Z,397nm,20.0s								
WMQ	**Urumqi**	**128.01**	**12**	*e*PKP	**PKiKP**	**16 56 11.5**	**-0.7**		
WMQ				LR	LR				
	comp=Z,730nm,18.1s								
WMQ				LR	LR				
	comp=Z,640nm,23.1s								
WMQ				LR	LR				
	comp=Z,720nm,22.9s								
JMN	**Monobe**	**128.36**	**324**	IAMs_20	IAMs_20	18 04 21.5			
	comp=Z,492nm,20.0s								
KSH	**Kashi**	**128.41**	**24**	PKP	**PKiKP**	**16 56 14.8**	**+1.6**		
KSH				LR	LR				
	comp=Z,870nm,21.3s								
KSH				LR	LR				
	comp=Z,740nm,21.6s								
KSH				LR	LR				
	comp=Z,1µm,20.8s								
KSRS	**Korea Array**	**128.66**	**332**	PKP	**PKiKP**	**16 56 12.2**	**-1.3**		
	comp=Z,2.5nm,0.9s,baz=346,slow=0.9,SNR=10.0								
KSAR	**Wonju Array Be**	**128.69**	**332**		**PKiKP**	**16 56 12.2**	**-1.4**		
KSAR	**Wonju Array Be**	**128.69**	**332**	PKIKP	**PKiKP**	**16 56 12.2**	**-1.4**		
KBL	**Kabul**	**129.10**	**33**	IAMs_20	IAMs_20	17 52 26.5			
	comp=Z,637nm,22.0s								
HHC	**Hu-ho-hao-te**	**131.13**	**349**	*e*PKP	**PKPdf**	**16 56 13.5**	**-4.2**		
HHC				SS	SS	17 16 04.0	-1.0		
HHC				LR	LR				
	comp=Z,590nm,19.1s								
HHC				LR	LR				
	comp=Z,230nm,13.2s								
HHC				LR	LR				
	comp=Z,890nm,19.4s								
GTA	**Gaotai**	**133.68**	**1**	PKP	**PKiKP**	**16 56 25.0**	**+1.2**		
GTA				LR	LR				
	comp=Z,570nm,22.2s								
GTA				LR	LR				
	comp=Z,410nm,21.8s								
GTA				LR	LR				
	comp=Z,700nm,22.2s								
LZH	**Lanzhou**	**136.87**	**356**	*e*PKP	**PKiKP**	**16 56 33.0**	**+2.6**		
NJ2	**Nanjing**	**137.18**	**337**	*e*PKP	**PKPdf**	**16 56 28.3**	**-0.8**		
WHN	**Wuhan**	**140.17**	**341**	PKP	**PKiKP**	**16 56 35.8**	**-1.3**		
AS31	**Alice Springs**	**143.80**	**239**		**PKPdf**	**16 56 39.2**	**-2.1**		
ASAR	**Alice Springs**	**143.80**	**239**	PKP	PKPbc	16 56 38.9	0.0		
	comp=Z,7.5nm,1.0s,baz=113,slow=3.9,SNR=49								
WR0	**Warramunga Arr**	**144.44**	**246**		**PKPdf**	**16 56 41.4**	**-1.1**		
WB2	**Warramunga Arr**	**144.61**	**246**	PKPdf	**PKPdf**	**16 56 41.4**	**-1.4**		
WRAB	**Tennant Creek**	**144.61**	**246**	PKPdf	**PKPdf**	**16 56 42.0**	**-0.8**		
WRAB	**Tennant Creek**	**144.61**	**246**	PKIKP	**PKPdf**	**16 56 42.0**	**-0.8**		
WB0	**Warramunga Arr**	**144.62**	**246**		**PKPdf**	**16 56 41.5**	**-1.3**		
WRA	**Warramunga Arr**	**144.62**	**245**	PKIKP	**PKPdf**	**16 56 41.6**	**-1.2**		
WRA	**Warramunga Arr**	**144.62**	**245**	PKP	**PKPdf**	**16 56 41.5**	**-1.3**		
	comp=Z,25nm,0.9s,baz=102,slow=2.7,SNR=83								
GYA	**Guiyang**	**146.03**	**350**	⇓PKPbc	**PKPab**	**16 56 45.3**	**-1.1**		
GYA				PP	**PP**	**17 00 06.5**	**+0.8**		
GYA				AMB	AMB				
	comp=Z,290nm,8.4s								
GYA				LR	LR				
	comp=Z,580nm,17.3s								
GYA				LR	LR				
	comp=Z,490nm,18.4s								
GYA				LR	LR				
	comp=Z,460nm,18.6s								
GULI	**GuiLin**	**146.30**	**343**	PKPbc	**PKPdf**	**16 56 42.3**	**-3.3**		
PZH	**PanZhiHua**	**146.52**	**358**	PKPbc	**PKPab**	**16 56 47.0**	**-1.3**		
PZH				AMB	AMB				
	comp=Z,240nm,6.9s								
PZH				LR	LR				
	comp=Z,310nm,19.1s								
PZH				LR	LR				
	comp=Z,390nm,18.1s								
PZH				LR	LR				
	comp=Z,620nm,21.1s								
KMI	**Kunming**	**147.84**	**356**	⇑PKPbc	**PKPbc**	**16 56 49.5**	**-1.8**		
KMI				LR	LR				
	comp=Z,600nm,18.8s								
KMI				LR	LR				
	comp=Z,570nm,18.4s								
KMI				LR	LR				
	comp=Z,700nm,20.1s								
TNCH	**TengChong**	**147.97**	**3**	PKPbc	**PKPdf**	**16 56 47.5**	**-1.1**		
TNCH				pPKP	sPKPdf	16 56 51.3	+2.5		
TNCH				sPKP		16 56 53.0			
TNCH				PKPab	**sPKPbc**	**16 56 54.5**	**+2.7**		
TNCH				AMB	AMB				
	comp=Z,170nm,7.6s								
TNCH				LR	LR				
	comp=Z,350nm,11.4s								
TNCH				LR	LR				
	comp=Z,300nm,21.7s								
TNCH				LR	LR				
	comp=Z,790nm,20.4s								
QIZ	**Qiongzhong**	**152.34**	**340**	PKPbc	**PKPdf**	**16 56 54.3**	**-1.1**		
QIZ				PP	**PP**	**17 00 43.5**	**+1.1**		
QIZ				SS	SS	17 20 11.8	0.0		
QIZ				LR	LR				
	comp=Z,520nm,12.2s								
QIZ				LR	LR				
	comp=Z,490nm,10.8s								
QIZ				LR	LR				
	comp=Z,590nm,20.6s								
CRAI	**Chiangrai**	**152.80**	**360**		**PKPbc**	**16 57 01.5**	**-1.7**		
CMAR	**Chiang Mai Arr**	**154.53**	**3**	PKP	**PKPdf**	**16 56 57.8**	**-0.8**		
	comp=Z,2.2nm,1.0s,baz=316,slow=2.1,SNR=8.9								
CMAR				PKPbc	**PKiKP**	**16 57 06.5**	**-0.4**		
	comp=Z,4.7nm,0.9s,baz=328,slow=2.6,SNR=14								
CMAR				PP	**PP**	**17 00 55.9**	**+1.4**		
	comp=Z,2.3nm,1.3s,baz=347,slow=3.7,SNR=2.5								
TOLI2	**Tolitoli**	**157.97**	**291**	IAMs_20	IAMs_20	18 24 28.4			
	comp=Z,359nm,21.0s								

CATAC ***31*** *16:41:49.1±0.5, 7.22N×79.04W, h25km, mb5.4, ML5.2*
IDC ***31*** *16:41:49.8±0.6, 7.24N×79.87W, h0km, mb4.4/17, mbtmp4.5/22, ML3.9/5, Error ellipse: s-maj=21.8km s-min=14.2km az=50.0*
RSNC ***31*** *16:41:50.5±0.9, 7.13N×79.75W, h4km±5km, ML4.1, Mw5.3*
UPA ***31*** *16:41:51.8±2.3, 7.28N×79.79W, h4km±5km, MW5.2*
NEIC ***31*** *16:41:52.6±1.6, 7.44N±0.06×79.69W±0.05, h10km±1km, mb5.1/332, Mww5.2/12, Error ellipse: s-maj=10.2km s-min=7.8km az=205.0*
NEIC ***31*** *16:41:52.6, 7.24N×79.68W, h12km*
NEIC ***31*** *16:41:52.6, 7.24N×79.68W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.80; $M_{\theta\theta}$=1.20; $M_{\phi\phi}$=4.00; $M_{r\theta}$=0.06; $M_{\theta\phi}$=5.97; $M_{\

BCIP *i* S **Sg** **16 42 48.7 -1.6**
BCIP Isla Barro Col 1.83 357 *e*P **Pb** **16 42 24.6 -0.9**
BCIP *e*S **Sg** **16 42 50.3 0.0**
BCIP Isla Barro Col 1.83 357 *i* P **Pg** **16 42 25.9 -0.7**
BCIP *i* S **Sg** **16 42 50.5 +0.2**
BCIP IAML 16 42 56.9
comp=Z,26µm,1.0s
FRIJ El Hiral 1.88 0⇓ *i*P **Pb** **16 42 25.4 -0.9**
FRIJ *i* S **Sg** **16 42 49.6 -2.4**
MLIR Monte Lirio 1.90 357⇓ *i*P **Pb** **16 42 25.6 -1.1**
MLIR Monte Lirio 1.90 357 *i* S **Sg** **16 42 50.6 -2.1**
PTAC Punta Ardita, 1.92 95 *e*P Pn 16 42 21.2 -3.7
PTAC *e*S Sn 16 42 41.3 -8.1
PTAC *i* 16 42 43.5
comp=Z,1µm,0.3s
CHPO Chepo, Panama 1.93 19 *e*P **Pn** **16 42 25.4 +0.5**
CNTA3 Canitas, Panam 2.06 24 *e*P **Pn** **16 42 26.1 -0.6**
UPD2 Meteti 2.09 55⇑ *e*P **Pn** **16 42 28.3 +1.1**
UPD2 *i* S **Sb** **16 42 55.1 -1.1**
UPD2 Meteti 2.09 55 *e*P **Pn** **16 42 28.4 +1.2**
UPD2 *e*S **Sg** **16 42 58.3 -0.5**
UPD2 *i* 16 43 05.0
comp=Z,3µm,0.6s
TOTI Torti 2.13 41 *i*P **Pn** **16 42 28.7 +1.0**
TOTI *i* S **Sb** **16 42 57.3 0.0**
NANC3 Nancito, Chiri 2.17 295⇓ *i*P **Pn** **16 42 30.0 +1.6**
SOLC Bahia Solano 2.56 115 *e*P Pn 16 42 29.6 -4.0
SOLC *e*S Sn 16 42 56.3 -8.8
CAPC Capurgana 2.69 61 *e*P **Pn** **16 42 36.8 +1.2**
CAPC *e*S **Sn** **16 43 09.2 +0.7**
CAPC *i* 16 43 22.4
comp=Z,447nm,0.6s
GUAL3 Gualaca, Chiri 2.81 295 *i*P **Pn** **16 42 39.6 +2.6**
PEDE3 Pedregal, Chir 2.86 292 *e*P **Pn** **16 42 38.6 +0.8**
CHGR2 Aguacate 2.87 304 *e*P **Pn** **16 42 38.6 +0.7**
CHGR2 *i* S **Sb** **16 43 19.8 +1.1**
DVD David 2.91 292 *e*P **Pn** **16 42 40.4 +2.1**
LNBQ3 Los Naranjos, 3.05 299 *e*P **Pn** **16 42 41.8 +1.3**
PTAR3 Potrerillos Ar 3.05 297 *e*P **Pn** **16 42 42.8 +2.3**
BCO2 Palmira 3.09 297 *e*P **Pn** **16 42 42.1 +1.0**
APAC Apartado, Choc 3.18 80 *e*P **Pn** **16 42 43.1 +1.0**
APAC *e*S **Sn** **16 43 22.0 +1.5**
APAC *i* 16 43 32.4
comp=Z,657nm,0.6s
BC3P Paso Ancho 3.21 298⇑ *e*P **Pn** **16 42 46.0 +3.3**
PTPM Petroterminale 3.23 286⇓ *e*P **Pn** **16 42 42.8 -0.1**
BRU2 Volcan 3.27 297 Pn **Pn** **16 42 43.4 -0.2**
BRU2 Volcan 3.27 297 *e*P **Pn** **16 42 43.4 -0.2**
PIZC Pizarro, Choco 3.33 135 *e*P Pn 16 42 39.2 -5.0
PIZC *e*S **Sn** **16 43 18.5 -5.7**
CDITO Canoas 3.34 292 Pn **Pn** **16 42 45.8 +1.3**
CDITO Canoas 3.34 292 *i* P **Pn** **16 42 46.3 +1.9**
CDITO *i* S **Sg** **16 43 37.5 -1.5**
CDITO IAML 16 44 31.5
comp=Z,8µm,1.0s
MLIR3 Monte Lirio, C 3.39 296 *e*P **Pn** **16 42 47.4 +2.3**
CNI2 El Empalme, Bo 3.41 308 *e*P **Pn** **16 42 45.5 +0.1**
DBBC Dabeiba 3.51 95 *e*P **Pn** **16 42 45.1 -1.8**
DBBC *e*S **Sn** **16 43 25.3 -3.5**
DBBC *i* 16 43 28.1
comp=Z,286nm,0.6s
RGM0 Gandoca 3.62 309 Pn **Pn** **16 42 49.0 +0.7**
PIRO Carate, Puerto 3.72 287 *i* P **Pn** **16 42 52.2 +2.6**
PIRO *i* S **Sb** **16 43 45.8 +2.6**
PIRO IAML 16 43 51.4
comp=Z,3µm,1.0s
POTG Potrero Grande 3.76 297 *i* P **Pn** **16 42 51.7 +1.5**
POTG *i* S **Sb** **16 43 44.3 -0.1**
POTG IAML 16 43 57.8
comp=Z,4µm,1.0s
DRK0 Durika 3.97 299 **Pn** **16 42 53.8 +0.6**
CBOC Ciudad Bolivar 3.98 111 *e*P Pn 16 42 49.9 -3.4
CBOC *e*S **Sn** **16 43 36.3 -4.2**
SRBA San Rafael, Bu 4.05 298 Pn **Pn** **16 42 54.7 +0.4**
SRBA San Rafael, Bu 4.05 298 *i* P **Pn** **16 42 56.0 +1.7**
SRBA *i* S **Sb** **16 43 54.9 +2.0**
SRBA IAML 16 44 14.0
comp=Z,3µm,1.0s
UREC San Jos de Ur 4.19 84 *e*P **Pn** **16 42 55.9 -0.2**
UREC San Jos de Ur 4.19 84 *e*P **Pn** **16 42 56.0 -0.1**
UREC *e*S **Sn** **16 43 44.1 -1.4**
UREC *i* 16 43 48.0
comp=Z,327nm,0.7s
PLMC San Jos del P 4.19 125 *e*P Pn 16 42 51.4 -4.8
PLMC *e*S Sn 16 43 38.4 -7.3
PLMC *i* 16 43 44.4
comp=Z,122nm,0.4s
PEZE Perez Zeledon, 4.40 298 Pn **Pn** **16 42 59.6 +0.5**
CDM Cerro de Muert 4.56 299 *i* P **Pn** **16 43 02.3 +0.8**
CDM IAmb IAmb 16 43 19.3
comp=Z,890nm,1.2s
CDM *i* S **Sb** **16 44 05.4 -2.2**
CDM IAML 16 44 36.8
comp=Z,2µm,1.0s
YOTC Yotoco, Valle 4.74 134 *e*P Pn 16 42 58.6 -5.1
GUY2C Guyana, Caldas 4.82 115 *e*P **Pn** **16 43 03.6 -1.6**
LCR2 La Lucha 2 4.86 300 Pn **Pn** **16 43 05.1 -0.3**
LCR2 La Lucha 2 4.86 300 *i* P **Pn** **16 43 07.9 +2.5**
LCR2 IAmb IAmb 16 43 31.9
comp=Z,910nm,1.0s
LCR2 *i* S **Sb** **16 44 14.3 -1.7**
LCR2 IAML 16 44 29.9
comp=Z,2µm,1.0s
OCM Ochomogo 4.89 302 *i* P **Pn** **16 43 09.6 +3.7**
OCM IAmb IAmb 16 43 22.9
comp=Z,730nm,1.3s
OCM *i* S **Sb** **16 44 13.8 -3.3**
OCM IAML 16 44 30.4
comp=Z,3µm,1.0s
HDC Heredia 5.08 302 Pn **Pn** **16 43 09.1 +0.7**
HDC Heredia 5.08 302 *e*P **Pn** **16 43 11.8 +3.4**
RIFO Rio Frio, Sara 5.09 306 *i* P **Pn** **16 43 09.6 +1.1**
RIFO IAmb IAmb 16 43 36.0
comp=Z,560nm,0.9s
RIFO *i* S **Sb** **16 44 20.9 -1.8**
RIFO IAML 16 45 07.9
comp=Z,2µm,1.0s
JAMC Jamundi, Valle 5.10 143 *e*P Pn 16 43 05.0 -3.8
SJCC San Jacinto, C 5.18 60 *e*P **Pn** **16 43 12.2 +2.4**
PTBC PUERTO BERRIO, 5.30 98 *e*P **Pn** **16 43 10.5 -0.8**
JACO JACO, Garabito 5.39 296 **Pn** **16 43 14.3 +1.7**
JACO JACO, Garabito 5.39 296 *i* P Pn 16 43 18.9 +6.3
JACO IAML 16 43 26.0
comp=Z,2µm,1.0s
JACO IAmb IAmb 16 43 26.7
comp=Z,900nm,1.5s
JACO *i* S **Sb** **16 44 27.6 -3.7**
ORTC Ortega, Tolima 5.61 127 *e*P **Pn** **16 43 14.6 -1.1**
ORTC *e*S **Sn** **16 44 16.4 -4.3**
POPC Popayan, Colom 5.65 147 *e*P **Pn** **16 43 14.3 -2.1**
POPC *e*S Sn 16 44 12.2 -10
SOCE Pocosol 5.70 303 Pn **Pn** **16 43 19.2 +2.3**
COVE Coope Vega, Sa 5.71 307 Pn **Pn** **16 43 18.3 +1.4**
ARE1 Arenal 1 5.82 303 Pn **Pn** **16 43 18.7 +0.1**
SPBC San Pablo de B 5.87 106 *e*P **Pn** **16 43 19.7 +0.4**
ROSC El Rosal 5.93 114 Pn **Pn** **16 43 20.9 +0.6**
ROSC El Rosal 5.93 114 Pn **Pn** **16 43 20.7 +0.4**
comp=Z,14nm,0.3s,baz=111,slow=4.9,SNR=10
comp=Z,190nm,0.7s
ROSC El Rosal 5.93 114 *e*P **Pn** **16 43 22.8 +2.5**
JTS Las Juntas de 5.94 300 **Pn** **16 43 21.4 +1.3**
JTS Las Juntas de 5.94 300 *e*P **Pn** **16 43 24.0 +3.9**
JTS Las Juntas de 5.94 300 Pn **Pn** **16 43 21.6 +1.5**
comp=Z,13nm,0.3s,baz=156,slow=6.6,SNR=14
JTS Lg Lg 16 44 48.0
baz=182,slow=9.3
JTS Las Juntas de 5.94 300 *e*P **Pn** **16 43 23.5 +3.4**
ARGC Ariguani, Magd 5.98 65 *e*P **Pn** **16 43 23.8 +3.1**
ARGC *e*S **Sn** **16 44 29.9 +0.2**
PRAC Prado 6.02 126 *e*P **Pn** **16 43 19.5 -1.7**
PRAC *e*P **Pn** **16 43 20.6 -0.6**
PRVC Isla de Provid 6.22 345 *e*S **Sn** **16 44 35.6 +0.2**
PRVC Isla de Provid 6.22 345 *i* P **Pn** **16 43 23.7 -0.3**
PRVC IAmb IAmb 16 43 41.7
comp=Z,120nm,1.0s
PRVC IAML 16 44 15.5
comp=Z,190nm,1.0s
PRVC *i* S **Sn** **16 44 35.2 -0.3**
INDI Punta indio, G 6.23 294 *i* P Pn 16 43 33.2 +9.0
INDI IAmb IAmb 16 43 48.0
comp=Z,260nm,0.9s
INDI *i* S **Sb** **16 44 50.5 -5.0**

INDI IAML 16 45 33.9
comp=Z,590nm,1.0s
CVER Cruz Verde, Cu 6.29 116 *e*P **Pn** **16 43 26.8 +1.5**
BETC Betania 6.29 137 *e*P **Pn** **16 43 25.0 0.0**
ORTG Ortega, Santa 6.41 298 Pn **Pn** **16 43 26.5 -0.2**
OCAC Ocana 6.42 81 *e*P **Pn** **16 43 26.9 0.0**
OCAC *e*S **Sn** **16 44 37.1 -3.6**
GCUF Volcan Galeras 6.51 158 *e*P **Pn** **16 43 30.3 +1.8**
BARC Barichara 6.55 96 *e*P **Pn** **16 43 28.3 -0.4**
BARC *e*S **Sn** **16 44 42.1 -1.8**
ESPN Las Esperanzas 6.60 317 Pn **Pn** **16 43 29.7 +0.4**
GARC Garzon, Huila 6.63 140 *e*P **Pn** **16 43 28.5 -1.4**
SMRC Santa Marta, M 6.64 55 *e*P **Pn** **16 43 31.0 +1.2**
HZTE Horizontes, Gu 6.69 301 Pn **Pn** **16 43 32.0 +1.5**
VILC Villavicencio, 6.81 118 *e*P **Pn** **16 43 33.8 +1.6**
PAMC Pamplona, Colo 6.98 89 *e*P **Pn** **16 43 35.1 +0.2**
PAMC *e*S **Sn** **16 44 50.9 -4.1**
PAMC *i* 16 44 59.5
comp=Z,87nm,0.7s
ACON Acoyapa 7.07 311 Pn **Pn** **16 43 34.5 -1.2**
OTAV Otavalo 7.16 170 Pn **Pn** **16 43 39.4 +2.1**
OTAV Otavalo 7.16 170 *e*P **Pn** **16 43 40.7 +3.4**
IMBA Imbabura, San 7.17 168 Pn **Pn** **16 43 39.2 +1.7**
PULU Pululahua 7.36 170 Pn **Pn** **16 43 42.7 +2.6**
CRJC Cerrejon, Guaj 7.70 61 *e*P **Pn** **16 43 42.0 -2.3**
BOAB BOACO BROADBAN 7.75 312 Pn **Pn** **16 43 46.0 +1.0**
TAMC Tame, Arauca 7.94 96 *e*P **Pn** **16 43 47.8 +0.1**
SLOR San Lorenzo - 8.10 171 Pn **Pn** **16 43 52.5 +2.3**
PTGC Puerto Gaitan, 8.18 112 *e*P **Pn** **16 43 50.3 -0.6**
MATN Matagalpa 8.25 313 Pn **Pn** **16 43 51.2 -0.8**
URI Uribia 8.79 60 *i* P **Pn** **16 43 59.7 +0.4**
URI IAmb IAmb 16 44 03.4
comp=Z,210nm,2.2s
URI *i* S Sn 16 45 13.4 -25
CHSH Refugio Sur-Vo 8.81 174 Pn **Pn** **16 44 02.0 +1.9**
SDV Santo Domingo 9.14 80 Pn **Pn** **16 44 04.4 +0.1**
SDV Santo Domingo 9.14 80 Pn **Pn** **16 44 04.7 +0.3**
comp=Z,5.5nm,0.3s,baz=234,slow=6.5,SNR=6.5
SDV Sn **Sn** **16 45 41.2 -6.6**
comp=Z,2.9nm,0.3s,baz=292,slow=14,SNR=2.1
comp=Z,72nm,0.7s
SDV Santo Domingo 9.14 80 *e*P **Pn** **16 44 04.9 +0.5**
COHC Cochancay 9.74 177 Pn **Pn** **16 44 14.2 +1.8**
TGUH Tegucigalpa,Un 9.97 313 Pn **Pn** **16 44 15.4 -0.3**
BOSC San Juan Bosco 10.48 173 Pn **Pn** **16 44 25.4 +2.7**
MCRA Macar, Loja 11.62 181 **Pn** **16 44 38.8 +0.6**
BAUV El Baul 11.69 81 Pn **Pn** **16 44 36.0 -3.0**
MTO3 Montecristo 11.77 307 **Pn** **16 44 40.3 -0.1**
ESQI Esquipulas 11.85 308 Pn **Pn** **16 44 41.6 +0.2**
PAPH Port-au-Prince 13.27 32 Pn **Pn** **16 45 00.2 -0.5**
SDDR Presa de Saban 14.20 35 Pn **Pn** **16 45 12.4 -1.1**
ATAH Atahualpa 14.43 175 Pn **Pn** **16 45 15.9 -1.0**
comp=Z,0.3nm,0.3s,baz=124,slow=20,SNR=1.3
comp=Z,3.5nm,0.7s
CCIG Comitan 15.04 307 **Pn** **16 45 22.0 -3.0**
PCRV Puerto La Cruz 15.19 78 Pn **Pn** **16 45 23.1 -3.8**
comp=Z,0.9nm,0.3s,baz=258,slow=19,SNR=2.6
TEIG Tepich 15.26 328 Pn **Pn** **16 45 25.8 -1.9**
PCDR Punta Cana, DR 15.68 44 Pn **Pn** **16 45 32.0 -1.2**
PCDR IAmb IAmb 16 45 39.1
comp=Z,126nm,0.9s
SOR Soroa 15.69 349 P **Pn** **16 45 32.3 -1.1**
SOR IAmb IAmb 16 45 38.9
comp=Z,157nm,1.9s
CZSB Cruzeiro do Su 16.52 155 Pn **Pn** **16 45 44.4 +0.3**
CZSB IAmb IAmb 16 45 51.2
comp=Z,195nm,1.6s
CELP Cerrillos 16.68 49 Pn **Pn** **16 45 43.9 -2.3**
AOPR Arecibo Observ 16.72 48 Pn **Pn** **16 45 42.3 -4.4**
SJG San Juan 17.03 50 P **Pn** **16 45 50.7 +0.2**
comp=Z,3.4nm,0.3s,baz=17,slow=20,SNR=1.9
comp=Z,12nm,0.2s
GCPR Guaynabo City 17.20 49 P **Pn** **16 45 50.0 -2.7**
GCPR IAmb IAmb 16 45 59.3
comp=Z,219nm,1.6s
TEFE Tefe 18.52 125 *e*P **Pn** **16 46 11.9 +2.8**
NNA Nana 19.41 171 P **P** **16 46 18.0 -0.7**
comp=Z,1.0nm,0.3s,baz=206,slow=21,SNR=1.2
comp=Z,4.4nm,0.4s
SMRT St. Maarten 19.42 55 P **P** **16 46 14.1 -4.6**
SMRT IAmb IAmb 16 46 25.2
comp=Z,108nm,1.2s
CBE Ff, Capester 19.75 62 P **P** **16 46 18.5 -4.0**
BOAV Boa Vista 19.76 103 *e*P **Pn** **16 46 24.7 +0.7**
MPOM Morne Pois Mar 19.83 68 P **P** **16 46 20.7 -2.5**
MPOM IAmb IAmb 16 46 28.1
comp=Z,135nm,1.0s
GDSD La Dsirade Is 20.32 62 **P** **16 46 27.1 -1.6**
MACA Manacapuru-AM 21.68 118 P **P** **16 46 41.9 -1.4**
MACA Manacapuru-AM 21.68 118 *e*P **P** **16 46 44.5 +1.1**
352A Blakely 24.51 349 P **P** **16 47 10.0 -1.9**
352A IAmb IAmb 16 47 16.1
comp=Z,43nm,0.9s
250A Grady 25.27 347 P **P** **16 47 17.9 -0.8**
154A Montrose 25.35 353 P **P** **16 47 18.7 -0.8**
152A Waverly Hall 25.64 350 P **P** **16 47 21.2 -0.8**
152A IAmb IAmb 16 47 25.7
comp=Z,43nm,0.9s
152A Waverly Hall 25.64 350 P **P** **16 47 23.6 +1.6**
baz=168,SNR=8.9
LPAZ La Paz 26.13 154 P **P** **16 47 26.5 -0.9**
GOGA Godfrey 26.18 353 P **P** **16 47 26.6 -0.5**
GOGA Godfrey 26.18 353 P **P** **16 47 26.9 -0.1**
baz=172,SNR=6.0
GOGA Godfrey 26.18 353 P **P** **16 47 26.9 -0.1**
baz=172,SNR=6.0
Z51A Franklin 26.35 350 P **P** **16 47 27.3 -1.2**
LRAL Lakeview Retre 26.45 346 P **P** **16 47 29.0 -0.4**
LRAL IAmb IAmb 16 47 38.2
comp=Z,39nm,1.2s
LRAL Lakeview Retre 26.45 346 P **P** **16 47 29.9 +0.4**
baz=164,SNR=8.8
LRAL Lakeview Retre 26.45 346 P **P** **16 47 30.1 +0.7**
baz=164,SNR=8.8
HBVL Hebbronville 26.61 320 P **P** **16 47 30.6 -0.5**
HBVL IAmb IAmb 16 47 35.6
comp=Z,59nm,1.5s
Y52A Lilburn 26.71 352 P **P** **16 47 30.2 -1.6**
Y52A IAmb IAmb 16 47 39.7
comp=Z,32nm,0.9s
MALB Monte Alegre 27.00 109 *e*P **P** **16 47 37.3 +2.7**
HKT Hockley 27.11 328 P **P** **16 47 34.0 -1.4**
HKT IAmb IAmb 16 47 37.7
comp=Z,43nm,1.2s
HKT Hockley 27.11 328 P **P** **16 47 36.5 +1.1**
baz=143
735A Kenedy 27.37 324 P **P** **16 47 37.5 -0.3**
PB16 IPOC Station P 27.43 159 P **P** **16 47 38.1 -0.9**
PB16 IAmb IAmb 16 47 49.3
comp=Z,27nm,0.9s
BG3 Lake Jocassee 27.69 354 P **P** **16 47 37.8 -2.8**
BG3 IAmb IAmb 16 47 44.7
comp=Z,22nm,0.8s
CASEE Lake Jocassee 27.69 354 P **P** **16 47 42.1 +1.5**
baz=173,SNR=7.1
KMSC Kings Mountain 27.72 357 P **P** **16 47 41.1 +0.2**
baz=176
833A Chaparral WMA, 27.95 321 P **P** **16 47 41.4 -1.6**
833A IAmb IAmb 16 47 46.1
comp=Z,43nm,1.4s
833A Chaparral WMA, 27.95 321 P **P** **16 47 44.0 +1.0**
baz=134
V53A Saluda 28.35 355 P **P** **16 47 43.8 -2.7**
OXF Oxford 28.48 343 P **P** **16 47 48.4 +0.7**
baz=160
PB11 IPOC Station P 28.69 160 P **P** **16 47 49.1 -0.8**
PB11 IAmb IAmb 16 48 16.9
comp=Z,29nm,1.1s
GO01 Chusmiza 28.77 159 IAmb IAmb 16 47 57.6
comp=Z,28nm,0.8s
V48A Smith Brothers 29.01 348 IAmb IAmb 16 47 55.5
comp=Z,27nm,0.8s
V48A Smith Brothers 29.01 348 P **P** **16 47 53.1 +0.7**
baz=165,SNR=7.3
TZTN Tazewell 29.29 354 P **P** **16 47 51.8 -3.0**
TZTN Tazewell 29.29 354 P **P** **16 47 55.3 +0.5**
baz=172
U49A Red Boiling Sp 29.57 350 P **P** **16 47 59.5 +2.2**
baz=168
WHTX Lake Whitney, 29.58 328 P **P** **16 47 57.7 +0.2**
baz=142
WVT Waverly 29.61 347 P **P** **16 47 55.9 -1.7**
WVT Waverly 29.61 347 P **P** **16 47 57.9 +0.2**
baz=164

UALR University of 29.68 339 IAmb IAmb 16 48 00.2
comp=Z,31nm,0.8s
JCT Junction City 29.74 323 P **P** **16 47 56.9 -2.0**
JCT IAmb IAmb 16 48 00.6
comp=Z,51nm,1.8s
JCT Junction City 29.74 323 P **P** **16 47 58.9 -0.1**
baz=137
BLA Blacksburg 29.75 359 P **P** **16 47 58.7 -0.3**
baz=178
BRDY Brady 29.87 325 IAmb IAmb 16 48 01.1
comp=Z,40nm,1.6s
T50A Nancy 29.92 352 IAmb IAmb 16 48 40.1
comp=Z,30nm,0.8s
WHAR Wooly Hollow 30.12 339 IAmb IAmb 16 48 04.1
comp=Z,27nm,0.9s
T47A Sharon Grove 30.28 348 IAmb IAmb 16 48 09.5
comp=Z,29nm,1.1s
S51A Beattyville 30.38 354 P **P** **16 48 03.0 -1.5**
S51A IAmb IAmb 16 48 08.0
comp=Z,21nm,0.8s
S51A Beattyville 30.38 354 P **P** **16 48 05.6 +1.1**
baz=172,SNR=5.5
S51A P **P** **16 48 05.6 +1.1**
baz=172,SNR=5.5
LCAR Lake Charles 30.45 342 IAmb IAmb 16 48 07.1
comp=Z,26nm,1.1s
PTLB Pontes e Lacer 30.48 138 *e*P **P** **16 48 08.9 +3.4**
PLPT Palo Pinto 30.67 328 IAmb IAmb 16 48 08.8
comp=Z,30nm,1.0s
SAND Sanderson 30.80 320 P **P** **16 48 06.8 -1.6**
R53A Hurricane 30.93 357 IAmb IAmb 16 48 13.0
comp=Z,24nm,0.9s
R50A Paris 31.09 353 IAmb IAmb 16 48 14.9
comp=Z,59nm,1.6s
R50A Paris 31.09 353 P **P** **16 48 13.6 +2.8**
baz=171,SNR=5.1
R50A P **P** **16 48 13.6 +2.8**
baz=171,SNR=5.1
R49A Shelbyville 31.21 352 IAmb IAmb 16 48 14.9
comp=Z,34nm,1.0s
R49A Shelbyville 31.21 352 P **P** **16 48 13.0 +1.1**
baz=170,SNR=5.4
R49A P **P** **16 48 13.0 +1.1**
baz=170,SNR=5.4
ABTX Abilene, Hawle 31.23 326 IAmb IAmb 16 48 13.5
comp=Z,43nm,1.2s
ABTX Abilene, Hawle 31.23 326 P **P** **16 48 12.8 +0.6**
baz=139
U40A Yellville 31.28 339 P **P** **16 48 11.6 -0.9**
baz=154,SNR=19
U40A P **P** **16 48 11.6 -0.9**
baz=154,SNR=19
WCI Wyandotte Cave 31.33 350 P **P** **16 48 12.6 -0.3**
WCI IAmb IAmb 16 48 16.1
comp=Z,25nm,0.8s
WCI Wyandotte Cave 31.33 350 P **P** **16 48 13.4 +0.6**
baz=167
TXAR Lajitas Array 31.41 317 P **P** **16 48 12.8 -1.0**
comp=Z,4.6nm,1.1s,baz=127,slow=8.3,SNR=7.3
TXAR PcP **PcP** **16 51 06.3 -1.2**
comp=Z,1.2nm,0.9s,baz=132,slow=5.2,SNR=5.1
comp=Z,4.6nm,1.1s
TX31 Lajitas Ar. Si 31.41 317 P **P** **16 48 13.6 -0.3**
TX31 IAmb IAmb 16 49 19.8
comp=Z,28nm,1.8s
SGCY Sterling City 31.55 324 IAmb IAmb 16 48 15.8
comp=Z,19nm,0.8s
Q52A Bidwell 31.58 356 P **P** **16 48 16.7 +1.7**
baz=175,SNR=7.5
Q52A P **P** **16 48 16.7 +1.7**
baz=175,SNR=7.5
LVC Limon Verde 31.59 161 *e*P **P** **16 48 18.6 +3.0**
Q51A Peebles 31.73 355 IAmb IAmb 16 48 19.9
comp=Z,25nm,0.8s
RLO Rose Lookout 31.93 336 IAmb IAmb 16 48 46.1
comp=Z,18nm,0.7s
FVM French Village 32.02 344 P **P** **16 48 19.7 +0.7**
baz=160,SNR=6.2
APMT Aspermont 32.03 327 IAmb IAmb 16 48 19.9
comp=Z,24nm,1.0s
P53A Whipple 32.05 358 IAmb IAmb 16 48 23.3
comp=Z,31nm,0.9s
P53A Whipple 32.05 358 P **P** **16 48 19.6 +0.4**
baz=177
P53A P **P** **16 48 19.6 +0.4**
baz=177
MNHN Monahans 32.14 321 P **P** **16 48 18.9 -1.3**
MNHN IAmb IAmb 16 48 21.5
comp=Z,14nm,0.9s
MCWV Mont Chateau 32.19 360 P **P** **16 48 21.0 +0.6**
baz=180
P52A Corning 32.24 357 P **P** **16 48 21.5 +0.6**
baz=176,SNR=8.6
CCM Cathedral Cave 32.32 343 P **P** **16 48 20.1 -1.4**
CCM IAmb IAmb 16 48 23.1
comp=Z,21nm,0.8s
CCM Cathedral Cave 32.32 343 P **P** **16 48 22.5 +0.9**
baz=158
CCM Cathedral Cave 32.32 343 P **P** **16 48 20.6 -1.0**
baz=158,SNR=9.2
P49A Miami Univ. Ec 32.38 353 IAmb IAmb 16 48 24.6
comp=Z,29nm,1.1s
P49A Miami Univ. Ec 32.38 353 P **P** **16 48 22.8 +0.8**
baz=171
WMOK Wichita Mounta 32.43 330 P **P** **16 48 21.1 -1.4**
Q44A Meyer Farm, Va 32.53 346 IAmb IAmb 16 48 25.3
comp=Z,27nm,0.8s
Q44A Meyer Farm, Va 32.53 346 P **P** **16 48 23.7 +0.3**
baz=163
POST Post 32.61 325 IAmb IAmb 16 48 25.5
comp=Z,31nm,0.9s
OK033 Mehan 32.63 334 **P** **16 48 23.0 -1.4**
QUOK Quay 32.63 334 IAmb IAmb 16 48 25.4
comp=Z,20nm,0.8s
S39A Bolivar 32.64 340 P **P** **16 48 24.7 +0.3**
baz=154
O52A Adamsville 32.70 357 P **P** **16 48 26.6 +1.7**
baz=176,SNR=5.7
O52A P **P** **16 48 26.6 +1.7**
baz=176,SNR=5.7
O54A Avella 32.72 359 P **P** **16 48 27.3 +2.2**
baz=179,SNR=5.7
O54A P **P** **16 48 27.3 +2.2**
baz=179,SNR=5.7
DKNS Dickens 32.73 326 P **P** **16 48 24.1 -1.2**
DKNS IAmb IAmb 16 48 26.8
comp=Z,33nm,1.2s
O53A New Philadelph 32.81 358 P **P** **16 48 26.9 +1.1**
baz=177,SNR=5.3
ACSO Alum Creek Sta 32.89 355 P **P** **16 48 24.8 -1.7**
ACSO IAmb IAmb 16 48 30.0
comp=Z,26nm,1.0s
ACSO Alum Creek Sta 32.89 355 P **P** **16 48 28.0 +1.4**
baz=174
O49A Covington 32.98 354 IAmb IAmb 16 48 30.0
comp=Z,24nm,0.9s
O48B Farmland 33.14 352 P **P** **16 48 29.5 +0.8**
baz=170
T35A Sooner Cattle 33.18 335 IAmb IAmb 16 48 30.6
comp=Z,15nm,0.8s
SSPA Standing Stone 33.21 3 P **P** **16 48 29.9 +0.6**
baz=183
SLBS Sierra La Lagu 33.23 303 P **P** **16 48 30.3 +0.5**
SLBS IAmb IAmb 16 48 34.3
comp=Z,49nm,1.5s
SFIN Lafayette 33.56 350 P **P** **16 48 33.2 +0.8**
baz=167
N49A Columbus Grove 33.69 354 IAmb IAmb 16 48 36.3
comp=Z,36nm,1.1s
GO02 Mina Guanaco 33.77 163 P **P** **16 48 35.7 +0.9**
GO02 IAmb IAmb 16 48 40.8
comp=Z,16nm,0.9s
KAN17 Caldwell West 33.83 334 **P** **16 48 33.7 -1.1**
P40A Paris 33.92 343 IAmb IAmb 16 48 36.8
comp=Z,34nm,1.4s
PAL Palisades 33.94 8 P **P** **16 48 36.2 +0.6**
baz=190
M53A WI Miller and 33.98 359 P **P** **16 48 37.8 +1.7**
baz=178
MSTX Muleshoe 33.99 324 P **P** **16 48 36.9 +0.5**
baz=136,SNR=5.3
MSTX Muleshoe 33.99 324 P **P** **16 48 36.6 +0.2**
baz=136,SNR=5.3
AMTX Amarillo 34.05 327 P **P** **16 48 37.0 +0.2**
baz=138
MNTX Cornudas Mount 34.05 319 P **P** **16 48 37.7 +0.8**
baz=130,SNR=24
MNTX Cornudas Mount 34.05 319 P **P** **16 48 36.7 -0.2**

baz=130,SNR=24
HDIL Hopedale 34.17 347 IAmb IAmb 16 48 38.9
comp=Z,22nm,0.8s
HDIL Hopedale 34.17 347 P **P** **16 48 38.3 +0.6**
baz=163
P38A Dawn 34.46 341 IAmb IAmb 16 48 42.3
comp=Z,15nm,0.8s
ERPA Erie 34.65 360 P **P** **16 48 41.9 +0.1**
baz=180
KSU1 Kansas State U 35.09 337 P **P** **16 48 45.6 -0.1**
baz=150,SNR=5.7
KSU1 Kansas State U 35.09 337 P **P** **16 48 45.5 -0.3**
baz=150,SNR=5.7
N38A Joes South For 35.43 342 P **P** **16 48 48.0 -0.6**
RTBA Rita Blanca 35.78 327 IAmb IAmb 16 48 53.5
comp=Z,46nm,1.2s
RVDE Rio Verde (Bra 35.83 137 *e*P **P** **16 48 55.8 +3.5**
121A Cookes Peak, D 36.16 318 P **P** **16 48 55.6 +0.3**
baz=128,SNR=6.9
121A Cookes Peak, D 36.16 318 P **P** **16 48 57.4 +2.2**
baz=128,SNR=6.9
CBKS Cedar Bluff 36.17 333 P **P** **16 48 55.9 +0.9**
baz=145
AQDB Aquidauana 36.36 140 IAmb IAmb 16 48 59.4
comp=Z,79nm,1.8s
AQDB Aquidauana 36.36 140 *e*P **P** **16 48 59.9 +3.1**
SCIA State Center 36.45 343 P **P** **16 48 58.2 +0.9**
baz=157
319A Douglas 36.51 315 P **P** **16 48 57.3 -0.8**
319A IAmb IAmb 16 49 01.7
comp=Z,29nm,1.2s
JFWS Jewell Farm 36.63 347 IAmb IAmb 16 48 59.8
comp=Z,31nm,1.1s
JFWS Jewell Farm 36.63 347 P **P** **16 48 58.6 -0.2**
baz=162
ANMO Albuquerque 36.86 322 P **P** **16 49 00.1 -1.1**
ANMO IAmb IAmb 16 49 03.7
comp=Z,25nm,0.9s
ANMO Albuquerque 36.86 322 P **P** **16 49 01.3 +0.2**
baz=132
ANMO Albuquerque 36.86 322 P **P** **16 49 01.3 +0.2**
baz=132,SNR=19
AC05 El Transito 37.09 166 P **P** **16 49 03.1 0.0**
AC05 IAmb IAmb 16 49 09.0
comp=Z,32nm,0.9s
LCO Las Campanas 37.16 167 P **P** **16 49 04.6 +0.8**
LCO IAmb IAmb 16 49 09.6
comp=Z,36nm,1.4s
T25A Trinidad 37.20 327 IAmb IAmb 16 49 07.1
comp=Z,51nm,1.1s
T25A Trinidad 37.20 327 P **P** **16 49 04.5 +0.5**
baz=137,SNR=14
ANTJ Antonio Joao (37.30 142 *e*P **P** **16 49 07.0 +2.2**
LBNH Lisbon 37.40 9 P **P** **16 49 05.6 +0.2**
baz=193
RPRD Ribas do Rio P 37.67 138 *e*P **P** **16 49 11.2 +3.2**
BGNE Belgrade 37.68 337 IAmb IAmb 16 49 09.2
comp=Z,38nm,0.8s
BGNE Belgrade 37.68 337 P **P** **16 49 08.0 +0.2**
baz=149
KSCO Kaye Shedlock' 37.68 330 IAmb IAmb 16 49 10.4
comp=Z,38nm,0.9s
KSCO Kaye Shedlock' 37.68 330 P **P** **16 49 08.4 +0.4**
baz=141
TUC Tucson 38.09 315 P **P** **16 49 11.2 -0.3**
TUC Tucson 38.09 315 P **P** **16 49 11.8 +0.3**
baz=124
SDCO Great Sand Dun 38.24 326 P **P** **16 49 13.7 +0.7**
baz=136,SNR=16
SDCO Great Sand Dun 38.24 326 P **P** **16 49 13.0 +0.1**
baz=136,SNR=16
X18A Snowflake 38.81 318 IAmb IAmb 16 49 21.0
comp=Z,31nm,1.1s
BDFB Brasilia 38.84 126 P **P** **16 49 17.8 -0.2**
BDFB IAmb IAmb 16 49 22.4
comp=Z,52nm,1.4s
BDFB Brasilia 38.84 126 P **P** **16 49 16.2 -1.8**
comp=Z,1.6nm,0.4s,baz=285,slow=22,SNR=2.0
comp=Z,1.6nm,0.4s
OGNE Ogallala 38.93 333 P **P** **16 49 19.1 +0.6**
baz=143,SNR=7.9
OGNE Ogallala 38.93 333 P **P** **16 49 20.1 +1.6**
baz=143,SNR=7.9
CO03 El Pedregal 38.93 168 IAmb IAmb 16 49 24.3
comp=Z,34nm,1.1s
Q24A Divide 38.94 328 P **P** **16 49 19.9 +1.1**
baz=137,SNR=5.3
S22A 4UR Ranch, Cre 38.99 325 P **P** **16 49 20.1 +0.9**
baz=134,SNR=15
W18A Petrified Fore 39.03 319 P **P** **16 49 20.8 +1.3**
baz=128,SNR=8.6
CO02 Combarbal 39.22 168 IAmb IAmb 16 49 26.7
comp=Z,51nm,1.1s
214A Organ Pipe Nat 39.35 313 IAmb IAmb 16 49 25.4
comp=Z,41nm,1.2s
214A Organ Pipe Nat 39.35 313 P **P** **16 49 23.3 +1.2**
baz=121,SNR=16
SPMN Marine on St. 39.42 345 P **P** **16 49 20.8 -1.6**
SPMN Marine on St. 39.42 345 P **P** **16 49 22.6 +0.2**
baz=159
ITRB Iturama 39.47 133 *e*P **P** **16 49 26.2 +3.1**
MVCO Mesa Verde 39.60 323 IAmb IAmb 16 49 27.8
comp=Z,78nm,1.7s
MVCO Mesa Verde 39.60 323 P **P** **16 49 25.0 +0.8**
baz=132,SNR=10
PIX Pinacate 39.62 312 P **P** **16 49 23.9 -0.3**
ISCO Idaho Springs 39.79 328 P **P** **16 49 27.1 +1.1**
baz=137
SDBA SAO DESIDERIO 39.79 119 *e*P **P** **16 49 29.1 +3.2**
PCMB Pacaembu 40.09 136 *e*P **P** **16 49 30.8 +2.5**
WUAZ Wupatki 40.34 319 P **P** **16 49 29.5 -0.8**
WUAZ IAmb IAmb 16 49 33.6
comp=Z,33nm,1.0s
WUAZ Wupatki 40.34 319 P **P** **16 49 31.4 +1.0**
baz=126,SNR=19
113A Mohawk Valley, 40.46 313 IAmb IAmb 16 49 34.5
comp=Z,52nm,1.5s
VLDQ Val d'Or 40.69 2 P **P** **16 49 32.9 +0.1**
VLDQ IAmb IAmb 16 49 39.5
comp=Z,43nm,1.3s
LDASE Londrina, Braz 41.41 138 *e*P **P** **16 49 41.3 +2.1**
HMU Henry Mountain 41.42 322 P **P** **16 49 38.2 -1.2**
HMU IAmb IAmb 16 49 42.3
comp=Z,32nm,1.0s
O20A White River Ci 41.44 326 P **P** **16 49 40.3 +0.9**
baz=134
BLYC Blythe 41.51 314 IAmb IAmb 16 49 43.2
comp=Z,35nm,1.1s
PDMCI Parker Dam,Lak 41.53 315 P **P** **16 49 41.4 +1.4**
baz=122,SNR=11
JANB Januaria 41.57 122 *e*P **P** **16 49 43.2 +2.6**
BB19B Bebedouro 41.66 133 *e*P **P** **16 49 44.1 +2.8**
EYMN Ely 41.69 348 P **P** **16 49 42.0 +0.9**
baz=162
PMNB Patos De Minas 41.71 128 *e*P **P** **16 49 42.8 +1.1**
PTGB Pitanga 41.73 141 *e*P **P** **16 49 43.0 +1.1**
SWSC Sam W. Stewart 42.03 312 P **P** **16 49 45.1 +1.0**
baz=119,SNR=5.6
SRU San Rafael Swe 42.05 324 P **P** **16 49 42.8 -1.7**
IKP In-Ko-Pah, Jac 42.11 312 P **P** **16 49 46.5 +1.6**
baz=119,SNR=6.6
NEE2 Needles Airpor 42.11 315 P **P** **16 49 46.5 +1.7**
baz=122
BC3 Big Chuckawall 42.13 313 P **P** **16 49 46.2 +1.1**
baz=120,SNR=14
IRM Iron Mountain 42.16 314 P **P** **16 49 46.3 +1.1**
baz=121,SNR=23
RSSD Black Hills 42.35 334 P **P** **16 49 45.9 -1.0**
RSSD IAmb IAmb 16 49 49.7
comp=Z,54nm,1.1s
RSSD Black Hills 42.35 334 P **P** **16 49 48.3 +1.5**
baz=143
RSSD Black Hills 42.35 334 P **P** **16 49 48.0 +1.1**
baz=143,SNR=15
CBX Cerro Bola 42.37 311 IAmb IAmb 16 49 50.6
comp=Z,32nm,1.1s
K22A Casper 42.37 330 P **P** **16 49 48.3 +1.3**
baz=138,SNR=5.2
K22A Casper 42.37 330 P **P** **16 49 49.0 +2.1**
baz=138,SNR=5.2
MONP2 Monument Peak 42.46 312 P **P** **16 49 49.6 +1.7**
baz=119,SNR=11
TMUT Trail Mountain 42.57 323 P **P** **16 49 48.2 -0.6**
CRSM Crissiumal (Br 42.62 145 *e*P **P** **16 49 51.3 +2.3**
BELC Belle Mtn. Jos 42.69 314 P **P** **16 49 51.3 +1.6**
baz=120,SNR=30
V12A Nelson 42.79 316 IAmb IAmb 16 49 53.6
comp=Z,32nm,1.0s
TPFO Pinon Flats 42.83 313 P **P** **16 49 52.5 +1.8**
baz=119,SNR=12
PFO Pinyon Flats O 42.83 313 P **P** **16 49 50.3 -0.5**
PFO Pinyon Flats O 42.83 313 P **P** **16 49 52.5 +1.7**
baz=119,SNR=12
GMRC Granite Mounta 42.85 315 P **P** **16 49 53.0 +2.0**
baz=121,SNR=18
109C Camp Elliot, M 42.96 311 P **P** **16 49 53.7 +1.9**
baz=118
ITQB Itaqui 42.98 150 *e*P **P** **16 49 54.4 +2.5**
E28A Huff 43.05 339 IAmb IAmb 16 49 53.6
comp=Z,43nm,1.0s
AGMN Agassiz Nation 43.06 344 P **P** **16 49 53.6 +1.4**
baz=156
RCLB Rio Claro- Sao 43.23 134 *e*P **P** **16 49 57.1 +3.1**
UNIS Unistalda (Bra 43.29 148 *e*P **P** **16 49 56.9 +2.5**
HEC Hector,Ludlow 43.35 314 P **P** **16 49 56.4 +1.5**
baz=120,SNR=38
MURC Murrieta 43.37 312 P **P** **16 49 57.0 +2.0**
baz=118
TUQ Turquoise Moun 43.37 315 P **P** **16 49 56.6 +1.4**
baz=121,SNR=15
BBRC Big Bear Solar 43.49 313 P **P** **16 49 58.8 +2.6**
baz=119,SNR=6.0
NLU North Lily Min 43.51 323 P **P** **16 49 55.9 -0.4**
ITAB Concordia 43.53 143 *e*P **P** **16 49 58.4 +2.1**
DIAM Diamantina, MG 43.76 126 *e*P **P** **16 50 02.0 +3.5**
MDND Maddock 43.78 341 P **P** **16 49 59.3 +1.2**
baz=151
RRX Edison Barstow 43.84 314 P **P** **16 50 00.7 +1.9**
baz=120
SHOC Shoshone, Teco 43.86 316 P **P** **16 50 00.6 +1.7**
baz=122,SNR=7.3
TCUT Toone Canyon 43.88 325 IAmb IAmb 16 50 01.9
comp=Z,33nm,1.2s
GSC Goldstone, Bar 43.92 315 P **P** **16 49 59.8 +0.3**
GSC IAmb IAmb 16 50 03.0
comp=Z,54nm,1.2s
GSC Goldstone, Bar 43.92 315 P **P** **16 50 00.8 +1.3**
baz=120,SNR=23
PDAR Pinedale Array 43.99 328 P **P** **16 49 59.7 -0.4**
comp=Z,8.8nm,1.0s,baz=129,slow=8.9,SNR=20
PDAR PcP **PP** **16 51 45.1 +2.6**
comp=Z,1.4nm,1.0s,baz=141,slow=3.0,SNR=2.5
comp=Z,8.8nm,1.0s
BW06 Boulder Array 43.99 328 P **P** **16 50 00.7 +0.5**
baz=135,SNR=12
BFSC Mount Baldy Ra 44.01 313 P **P** **16 50 02.1 +1.8**
baz=119,SNR=7.1
DUG Dugway, Tooele 44.10 323 P **P** **16 50 03.0 +2.0**
baz=129,SNR=7.8
CIS Catalina Islan 44.17 311 P **P** **16 50 03.2 +1.6**
baz=117,SNR=7.9
ALGR Alto Alegre (B 44.19 146 *e*P **P** **16 50 03.0 +1.3**
RODS Rosario do Sul 44.25 149 *e*P **P** **16 50 04.3 +2.2**
GWY Greenwater Val 44.28 316 P **P** **16 50 01.3 -1.2**
HWUT Hardware Ranch 44.29 325 IAmb IAmb 16 50 04.8
comp=Z,2nm,2.0s
SPR3 Spring Creek 3 44.30 321 P **P** **16 50 02.8 0.0**
SPR3 IAmb IAmb 16 50 05.4
comp=Z,25nm,1.3s
QSM Queen of Sheba 44.30 315 IAmb IAmb 16 50 05.7
comp=Z,26nm,1.2s
TPNV Topopah Spring 44.40 317 P **P** **16 50 05.0 +1.6**
baz=122
BSCB Bom Sucesso 44.40 130 *e*P **P** **16 50 06.2 +2.7**
EDW2 Edwards Air Fo 44.56 313 P **P** **16 50 05.7 +1.0**
baz=113,SNR=25
FURC Furnace Creek, 44.56 316 P **P** **16 50 06.2 +1.8**
baz=121,SNR=10
WCT Wildcat Mounta 44.57 317 IAmb IAmb 16 50 08.2
comp=Z,25nm,1.4s
LRMC Laurel Mtn Rad 44.63 314 P **P** **16 50 06.8 +1.5**
baz=120,SNR=21
Q12A Willow Creek R 44.64 320 P **P** **16 50 04.6 -0.7**
Q12A IAmb IAmb 16 50 08.3
comp=Z,19nm,1.1s
R11B Troy Canyon, C 44.73 319 P **P** **16 50 07.3 +1.3**
baz=124,SNR=13
MPMC Manual Prospec 44.78 315 P **P** **16 50 07.9 +1.3**
baz=120
AHID Auburn Hatcher 44.81 327 P **P** **16 50 05.6 -1.0**
AHID IAmb IAmb 16 50 08.7
comp=Z,17nm,1.0s
ULM Lac du Bonnet 44.86 345 IAmb IAmb 16 50 07.2
comp=Z,29nm,1.0s
ULM Lac du Bonnet 44.86 345 P **P** **16 50 04.5 -2.1**
comp=Z,21nm,1.0s,baz=160,slow=8.0,SNR=14
comp=Z,21nm,1.0s
SNCC San Nicolas Is 44.94 311 P **P** **16 50 08.6 +1.0**
baz=116
OSI Osito Audit: C 44.96 313 P **P** **16 50 08.9 +1.0**
baz=118
SNOW Snow King Moun 45.10 328 IAmb IAmb 16 50 14.7
comp=Z,36nm,1.2s
LOHW Long Hollow 45.13 328 P **P** **16 50 08.0 -1.2**
LOHW IAmb IAmb 16 50 11.6
comp=Z,30nm,1.3s
GRAC Grapevine Rang 45.18 316 IAmb IAmb 16 50 13.1
comp=Z,34nm,1.1s
GRAC Grapevine Rang 45.18 316 P **P** **16 50 11.2 +1.6**
baz=121,SNR=8.6
CPSB Cacapava Do Su 45.21 147 *e*P **P** **16 50 11.9 +2.2**
GMN Gold Mountain 45.27 317 IAmb IAmb 16 50 13.4
comp=Z,23nm,1.2s
ARVC Arvin 45.28 313 P **P** **16 50 11.5 +1.2**
baz=118
ISA Isabella, Lake 45.28 314 P **P** **16 50 10.2 -0.2**
ISA IAmb IAmb 16 50 13.7
comp=Z,26nm,1.2s
ISA Isabella, Lake 45.28 314 P **P** **16 50 12.0 +1.6**
baz=119,SNR=5.8
MOOW Moose Ponds 45.30 328 P **P** **16 50 09.1 -1.4**
LAO LASA Array 45.32 334 P **P** **16 50 11.9 +1.3**
baz=142
SCZ2 Santa Cruz Isl 45.35 311 P **P** **16 50 12.2 +1.3**
baz=116
CWC Cottonwood Cre 45.39 315 P **P** **16 50 12.6 +1.3**
baz=120
FLWY Flagg Ranch 45.51 329 IAmb IAmb 16 50 14.8
comp=Z,26nm,1.2s
RLMT Red Lodge 45.53 331 IAmb IAmb 16 50 14.5
comp=Z,27nm,1.1s
RLMT Red Lodge 45.53 331 P **P** **16 50 13.1 +0.7**
baz=137,SNR=14
MZP Montezuma Peak 45.56 317 P **P** **16 50 13.0 +0.2**
H17A Grant Village 45.66 329 P **P** **16 50 14.9 +1.4**
baz=135
DSP Deep Springs 45.78 317 IAmb IAmb 16 50 17.7
comp=Z,35nm,1.3s
TIN Tinemaha, Big 45.80 316 P **P** **16 50 16.0 +1.4**
baz=120
VES Vestal, Richgr 45.80 314 P **P** **16 50 16.0 +1.6**
baz=119,SNR=8.1
PKM Mcpherson Peak 45.88 313 P **P** **16 50 17.0 +1.7**
baz=117,SNR=6.9
ELK Elko 45.90 322 P **P** **16 50 14.2 -1.2**
DGMT Dagmar 45.93 337 P **P** **16 50 16.5 +1.2**
baz=145
VAS01 Vassouras-RJ 46.15 131 *e*P **P** **16 50 21.0 +3.7**
PLTB Pedras Altas 46.20 149 *e*P **P** **16 50 20.3 +2.8**
SMMC Simmler 46.21 313 P **P** **16 50 19.4 +1.7**
baz=117,SNR=6.0
YHL Hebgen Lake 46.29 329 IAmb IAmb 16 50 21.8
comp=Z,34nm,1.2s
NV11 Mina Array Sit 46.46 318 P **P** **16 50 19.8 0.0**
NV11 IAmb IAmb 16 50 23.0
comp=Z,29nm,1.2s
NVAR Mina Array Bea 46.56 318 P **P** **16 50 20.1 -0.5**
comp=Z,11nm,1.0s,baz=130,slow=6.6,SNR=28
NVAR PcP **PcP** **16 51 53.4 -1.5**
comp=Z,1.2nm,0.8s,baz=133,slow=3.8,SNR=2.0
comp=Z,11nm,1.0s
OMMB Old Mammoth Mi 46.61 316 IAmb IAmb 16 50 24.2
comp=Z,26nm,1.4s
MDPB Devils Postpil 46.68 316 IAmb IAmb 16 50 24.6
comp=Z,23nm,1.2s
KVN Kaiserville 46.75 318 P **P** **16 50 21.8 -0.3**
KVN IAmb IAmb 16 50 24.7
comp=Z,18nm,1.2s
RYN Ryan 46.81 318 IAmb IAmb 16 50 25.4
comp=Z,24nm,1.1s
DUB01 Friburgo-RJ 46.85 130 *e*P **P** **16 50 26.7 +3.9**
BOZ Bozeman (W) 47.04 330 P **P** **16 50 23.0 -1.2**
BOZ IAmb IAmb 16 50 26.8
comp=Z,27nm,1.1s
BOZ Bozeman (W) 47.04 330 P **P** **16 50 25.4 +1.3**
baz=134,SNR=22
HLID Hailey 47.16 326 P **P** **16 50 26.1 +1.0**
baz=130,SNR=9.8
MFID Camas Ranch 47.87 325 P **P** **16 50 30.4 -0.2**
MFID IAmb IAmb 16 50 36.4
comp=Z,28nm,1.6s
EGMT Eagleton 47.89 333 P **P** **16 50 31.9 +1.2**
baz=138
EMB Emerald Bay 48.05 317 IAmb IAmb 16 50 35.4
comp=Z,28nm,1.3s
SCHQ Schefferville 48.49 10 P **P** **16 50 35.6 +0.5**
comp=Z,8.5nm,0.8s,baz=156,slow=7.7,SNR=6.2
comp=Z,8.5nm,0.8s
PLCA Paso Flores 48.57 171 P **P** **16 50 35.0 -1.0**
comp=Z,5.1nm,1.0s,baz=348,slow=8.3,SNR=6.2
comp=Z,5.1nm,1.0s
WVOR Wild Horse Val 48.95 322 P **P** **16 50 38.2 -0.8**
PLID Pearl Lake 49.00 326 IAmb IAmb 16 50 41.0
comp=Z,18nm,1.2s
MSO Missoula 49.05 329 IAmb IAmb 16 50 41.7
comp=Z,17nm,1.2s
MSO Missoula 49.05 329 P **P** **16 50 41.0 +1.3**
baz=132,SNR=5.2
ORV Oroville 49.28 317 IAmb IAmb 16 50 44.5
comp=Z,34nm,1.2s
F10A Beach Ranch, E 50.23 326 IAmb IAmb 16 50 50.5
comp=Z,24nm,1.4s
FFC Flin Flon 50.52 343 P **P** **16 50 49.5 -1.0**
FFC IAmb IAmb 16 50 55.5
comp=Z,51nm,1.8s
G08A Pilot Rock 50.79 325 IAmb IAmb 16 50 55.1
comp=Z,26nm,1.5s
LL02 Futaleuf 50.79 173 P **P** **16 50 51.6 -1.1**
LL02 IAmb IAmb 16 51 19.5
comp=Z,23nm,1.2s
E09A Wood Farm, Sta 51.06 327 IAmb IAmb 16 50 56.8
comp=Z,30nm,1.1s
L04D Klamath Falls 51.13 320 P **P** **16 50 53.7 -1.9**
L04D IAmb IAmb 16 50 57.4
comp=Z,36nm,1.1s
NEW Newport 51.62 329 P **P** **16 50 59.8 +0.8**
baz=130
G06A Carlson Farm, 51.72 324 IAmb IAmb 16 51 02.9
comp=Z,53nm,1.6s
E07A Sunnyside 52.04 326 P **P** **16 51 01.2 -0.9**
MXC Moxie City 52.29 325 IAmb IAmb 16 51 06.8
comp=Z,19nm,1.1s
H04A Detroit Lake 52.34 323 IAmb IAmb 16 51 07.2
comp=Z,18nm,1.0s
HOOD Mount Hood Mea 52.37 323 P **P** **16 51 04.8 0.0**
FCC Fort Churchill 52.48 351 IAmb IAmb 16 51 09.8
comp=Z,33nm,1.3s
LTY Liberty 52.90 326 IAmb IAmb 16 51 14.0
comp=Z,25nm,1.4s
EDM Edmonton 53.27 335 P **P** **16 51 09.7 -1.5**
GNW Green Mountain 54.28 325 IAmb IAmb 16 51 19.6
comp=Z,22nm,1.4s
YKA Yellowknife Ar 60.65 342 P **P** **16 52 02.4 -0.9**
comp=Z,8.7nm,0.9s,baz=129,slow=7.5,SNR=47
comp=Z,8.7nm,0.9s
FLDN Fort Liard 62.14 337 P **P** **16 52 14.3 +0.9**
baz=129
KOTAN Kotaneelee Air 62.29 337 P **P** **16 52 15.6 +1.1**
baz=128
T35M Bob Quinn 63.17 332 P **P** **16 52 21.3 +0.9**
baz=121
DLBC Dease Lake 63.82 333 P **P** **16 52 26.0 +1.2**
baz=122
U33K Whale Pass 64.13 330 P **P** **16 52 28.0 +1.3**
baz=118
R33M Jennings River 64.74 334 P **P** **16 52 30.9 0.0**
R33M IAmb IAmb 16 52 37.7
comp=Z,28nm,1.5s
R33M Jennings River 64.74 334 P **P** **16 52 32.1 +1.2**
baz=121
Q32M Nakina River 65.10 333 P **P** **16 52 34.2 +0.9**
baz=120
P33M Teslin, Yukon 65.96 334 P **P** **16 52 39.7 +1.1**
baz=120
P32M Atlin 66.06 333 P **P** **16 52 40.3 +1.1**
baz=119
S31K Pelican 66.48 331 P **P** **16 52 42.9 +1.1**
baz=116
N32M Quiet Lake 66.55 335 P **P** **16 52 44.0 +1.7**
baz=120
ICESG Greenland Ices 67.00 15 *i*P **P** **16 52 44.5 -1.0**
ICESG IAmb IAmb 16 53 02.6
comp=Z,9.2nm,0.9s
FARO Faro, Yukon 67.19 336 P **P** **16 52 47.6 +1.1**
baz=120
M31M Drury Creek, Y 67.61 336 P **P** **16 52 50.6 +1.6**
baz=119
O30N Mendenhall 67.66 334 P **P** **16 52 50.8 +1.4**
baz=117
P30M Million Dollar 67.75 333 P **P** **16 52 51.9 +1.8**
baz=116
N31M Braeburn, Yuko 67.85 335 P **P** **16 52 51.5 +0.9**
baz=117
RES Resolute Bay 67.88 356 IAmb IAmb 16 53 08.7
comp=Z,5.7nm,0.7s
PNL Peninsula 68.69 332 P **P** **16 52 57.1 +1.3**
baz=113
YUK6 Outpost Mounta 68.73 333 P **P** **16 52 57.1 +0.7**
baz=115
M30M Minto, Yukon 68.77 335 P **P** **16 52 57.5 +1.1**
baz=117,SNR=5.7
YUK4 Talbot Arm 69.03 334 P **P** **16 52 58.7 +0.5**
baz=115
M29M Somme Creek 69.41 335 IAmb IAmb 16 53 07.7
comp=Z,18nm,1.4s
M29M Somme Creek 69.41 335 P **P** **16 53 01.5 +1.1**
baz=115
YUK8 Steele Glacier 69.50 333 P **P** **16 53 02.1 +0.9**
baz=113
J30M Hart River 69.51 337 P **P** **16 53 02.3 +1.3**
baz=118
L29M L29M 69.56 336 IAmb IAmb 16 53 04.0
comp=Z,22nm,1.4s
L29M L29M 69.56 336 P **P** **16 53 02.5 +1.3**
baz=116
K29M Barlow Dome 69.64 336 IAmb IAmb 16 53 03.8
comp=Z,13nm,1.1s
K29M Barlow Dome 69.64 336 P **P** **16 53 03.2 +1.4**
baz=116
SUMG Summit 69.79 12 P **P** **16 53 02.4 -0.6**
SUMG Summit 69.79 12 *i*P **P** **16 53 02.0 -1.0**
SUMG IAmb IAmb 16 53 21.5
comp=Z,9.8nm,0.8s
I30M Mount Dempster 69.83 338 P **P** **16 53 04.3 +1.3**
baz=118
G31M Satah River 69.92 340 P **P** **16 53 04.8 +1.5**
baz=121
YUK3 Moose Creek 70.00 334 P **P** **16 53 05.1 +0.9**
baz=113
F31M Tsiigehtchic 70.01 341 P **P** **16 53 04.6 +0.7**
baz=121
J29N Klondike Camp 70.18 337 P **P** **16 53 06.3 +1.3**
baz=116
A36M Sachs Harbour 70.32 346 P **P** **16 53 05.7 0.0**
baz=131,SNR=13
INK Inuvik 70.40 341 P **P** **16 53 07.5 +1.3**
baz=122,SNR=8.7
BVCY Beaver Creek 70.42 334 P **P** **16 53 07.9 +1.4**
baz=113
DAWY Dawson 70.48 336 P **P** **16 53 06.0 -0.9**
DAWY IAmb IAmb 16 53 12.4
comp=Z,37nm,2.0s
DAWY Dawson 70.48 336 P **P** **16 53 07.9 +1.1**
baz=115
EPYK Eagle Plains 70.50 339 IAmb IAmb 16 53 09.0
comp=Z,20nm,1.1s
EPYK Eagle Plains 70.50 339 P **P** **16 53 08.3 +1.3**
baz=118
G30M tAoh Zraii Nji 70.61 340 P **P** **16 53 08.4 +0.7**
baz=119
F30M Barrier River 70.78 340 P **P** **16 53 10.1 +1.5**
baz=119
M27K Edge Creek, AK 70.83 334 P **P** **16 53 10.6 +1.4**
baz=112
H29M Whitestone 71.02 339 P **P** **16 53 12.0 +1.9**
baz=116
L27K Beaver Creek, 71.08 335 P **P** **16 53 10.2 -0.4**
L27K IAmb IAmb 16 53 13.7
comp=Z,22nm,1.4s
L27K Beaver Creek, 71.08 335 P **P** **16 53 11.8 +1.3**
baz=112,SNR=8.8
KAIM Kayak Island 71.15 331 P **P** **16 53 12.5 +1.5**

baz=109
G29M Pine Creek 71.21 339 IAmb IAmb 16 53 13.1
comp=Z,17nm,1.1s
G29M Pine Creek 71.21 339 P **P** **16 53 12.8 +1.5**
baz=117
I28M Miner Creek 71.27 337 P **P** **16 53 12.8 +1.1**
baz=115
K27K Chicken 71.55 336 P **P** **16 53 15.0 +1.7**
baz=112
NEEM North Greenlan 71.70 6 *i*P **P** **16 53 14.4 0.0**
NEEM IAmb IAmb 16 53 32.3
comp=Z,7.5nm,0.8s
L26K Log Cabin Wild 71.71 335 IAmb IAmb 16 53 20.9
comp=Z,26nm,1.6s
L26K Log Cabin Wild 71.71 335 P **P** **16 53 15.8 +1.5**
baz=111
N25K Chitina, Valde 71.78 333 P **P** **16 53 16.4 +1.5**
baz=109
E29M Blow River 71.85 341 P **P** **16 53 16.4 +1.4**
baz=118
Q23K Middleton Isla 71.93 330 P **P** **16 53 16.7 +1.1**
baz=107
I27K Kandik River 71.97 337 P **P** **16 53 17.3 +1.4**
baz=113
EYAK Cordova Ski Ar 71.97 332 P **P** **16 53 17.1 +1.2**
baz=108
F28M Old Crow 72.17 340 IAmb IAmb 16 53 18.6
comp=Z,20nm,1.4s
F28M Old Crow 72.17 340 P **P** **16 53 18.0 +1.0**
baz=115,SNR=7.0
H27K Steamboat Moun 72.19 338 P **P** **16 53 18.3 +1.1**
baz=113
HARP HAARP 72.28 334 P **P** **16 53 18.6 +0.8**
baz=109
SCRK Sand Creek 72.31 335 P **P** **16 53 18.0 -0.1**
SCRK IAmb IAmb 16 53 21.2
comp=Z,28nm,1.6s
SCRK Sand Creek 72.31 335 P **P** **16 53 19.1 +1.0**
baz=110
J26L Joseph Creek 72.32 336 IAmb IAmb 16 53 21.3
comp=Z,19nm,1.2s
J26L Joseph Creek 72.32 336 P **P** **16 53 20.0 +1.9**
baz=111
KLU Klutina 72.34 333 P **P** **16 53 19.4 +1.2**
baz=108
I26K Coal Creek Min 72.45 337 IAmb IAmb 16 53 26.6
comp=Z,34nm,1.8s
I26K Coal Creek Min 72.45 337 P **P** **16 53 19.9 +1.2**
baz=111
E28M Babbage River 72.48 341 IAmb IAmb 16 53 20.7
comp=Z,13nm,1.1s
E28M Babbage River 72.48 341 P **P** **16 53 19.7 +0.9**
baz=116
D28M Stokes Point 72.55 341 P **P** **16 53 20.6 +1.4**
baz=117
RIDG Independent Ri 72.59 335 IAmb IAmb 16 53 22.5
comp=Z,17nm,1.1s
RIDG Independent Ri 72.59 335 P **P** **16 53 20.6 +1.0**
baz=109
PAX Paxson 72.60 334 P **P** **16 53 20.8 +1.1**
baz=108
K24K Donnelly Dome 73.00 335 P **P** **16 53 23.3 +1.2**
baz=108
SCM Sheep Creek Mo 73.08 333 P **P** **16 53 23.7 +1.1**
baz=106
J25K Salcha River, 73.10 336 P **P** **16 53 24.3 +1.7**
baz=109
D27M Malcolm River 73.22 341 P **P** **16 53 24.7 +1.3**
baz=115
G26K Porcupine Rive 73.30 338 P **P** **16 53 24.7 +1.1**
baz=111
PRP Porcupine Dome 73.46 337 P **P** **16 53 25.9 +1.0**
baz=109
DHY Denali Highway 73.46 334 P **P** **16 53 25.1 +0.1**
DHY IAmb IAmb 16 55 47.7
comp=Z,45nm,1.8s
DHY Denali Highway 73.46 344 P **P** **16 53 25.9 +1.0**
baz=107
WAT6 Susitna Watana 73.48 333 P **P** **16 53 25.8 +0.7**
baz=106,SNR=5.9
KNK Knik Glacier 73.49 332 P **P** **16 53 25.8 +0.9**
baz=105
SML Sawmill 73.53 333 P **P** **16 53 26.8 +1.6**
baz=106
SEW Seward 73.62 331 P **P** **16 53 27.6 +1.9**
baz=104
HDA Harding Lake 73.68 335 P **P** **16 53 27.2 +1.2**
baz=108,SNR=8.5
F26K Sheenjek River 73.70 339 P **P** **16 53 28.0 +1.9**
baz=111
BMAR Burnt Mountain 73.76 339 P **P** **16 53 26.6 +0.1**
IL31 73.77 336 P **P** **16 53 25.6 -0.8**
IL31 IAmb IAmb 16 53 32.0
comp=Z,27nm,1.6s
ILAR Eielson Array 73.77 336 P **P** **16 53 26.1 -0.4**
ILAR Eielson Array 73.77 336 P **P** **16 53 26.8 +0.3**
ILAR PP **PP** **16 56 10.5 -0.4**
comp=Z,3.9nm,1.1s,baz=101,slow=4.0,SNR=7.6
comp=Z,1.2nm,1.0s,baz=116,slow=7.3,SNR=5.8
comp=Z,3.9nm,1.1s
WAT1 Susitna Watana 73.91 334 P **P** **16 53 27.9 +0.5**
baz=106
RC01 Rabbit Creek A 74.00 332 P **P** **16 53 28.5 +0.6**
baz=104
TIC Toumodi 74.08 85⇑ *i*P **P** **16 53 29.6 +0.3**
comp=Z,7.3nm,0.3s
G25K Bearman Lake 74.09 338 P **P** **16 53 29.9 +1.6**
baz=109
LIC Lamto 74.11 86⇑ *e*P **P** **16 53 29.1 -0.4**
comp=Z,21nm,0.8s
RND Reindeer 74.20 334 P **P** **16 53 29.0 -0.1**
F25K Christian Rive 74.20 339 P **P** **16 53 31.0 +1.9**
baz=110
DBIC Dimbokro 74.24 85 P **P** **16 53 30.9 +0.7**
comp=Z,6.0nm,0.8s,baz=337,slow=3.4,SNR=3.8
comp=Z,6.0nm,0.8s
MCK McKinley 74.32 334 P **P** **16 53 30.5 +0.7**
baz=106
E25K Arctic Village 74.35 339 IAmb IAmb 16 53 36.0
comp=Z,19nm,1.4s
E25K Arctic Village 74.35 339 P **P** **16 53 30.8 +0.9**
baz=110,SNR=8.8
KIC Kosan Boka 74.38 85⇑ *i*P **P** **16 53 31.4 +0.3**
comp=Z,24nm,0.8s
ESDC Sonseca Array 74.41 51 P **P** **16 53 31.3 +0.4**
ESDC IAmb IAmb 16 53 37.6
comp=Z,41nm,1.9s
ESDC Sonseca Array 74.41 51 P **P** **16 53 32.0 +1.1**
comp=Z,3.1nm,1.0s,baz=271,slow=5.4,SNR=8.0
comp=Z,3.1nm,1.0s
H24K Noodor Dome 74.48 337 IAmb IAmb 16 53 36.9
comp=Z,20nm,1.4s
H24K Noodor Dome 74.48 337 P **P** **16 53 32.3 +1.5**
baz=107
SUA Susitna One 74.56 332 P **P** **16 53 31.8 +0.4**
baz=103
CUT Chulitna 74.57 333 P **P** **16 53 31.8 +0.6**
baz=104
G24K Hadweenzic Riv 74.59 338 P **P** **16 53 32.7 +1.4**
baz=108
NEA2 Nenana 74.61 335 IAmb IAmb 16 53 36.9
comp=Z,14nm,1.2s
NEA2 Nenana 74.61 335 P **P** **16 53 32.1 +0.7**
baz=106
I23K Minto, Yukon-K 74.88 336 P **P** **16 53 33.9 +1.0**
baz=106,SNR=6.1
F24K Squaw Lake 74.99 338 IAmb IAmb 16 53 52.8
comp=Z,24nm,1.8s
F24K Squaw Lake 74.99 338 P **P** **16 53 35.6 +1.9**
baz=108
D25K Kavik River 75.04 340 P **P** **16 53 35.1 +1.2**
baz=109
SKT Skwentna 75.05 332 P **P** **16 53 34.8 +0.7**
baz=103
BPAW Bear Paw Mtn. 75.29 335 IAmb IAmb 16 53 37.6
comp=Z,33nm,1.4s
BPAW Bear Paw Mtn. 75.29 335 P **P** **16 53 36.1 +0.6**
baz=104
MLY Manley 75.42 335 P **P** **16 53 35.7 -0.5**
MLY IAmb IAmb 16 53 41.8
comp=Z,20nm,1.3s
MLY Manley 75.42 335 P **P** **16 53 36.6 +0.4**
baz=104,SNR=5.3
G23K Bananza Creek 75.56 337 IAmb IAmb 16 53 40.1
comp=Z,30nm,1.5s
G23K Bananza Creek 75.56 337 P **P** **16 53 39.0 +2.0**
baz=105
CAST Castle Rocks 75.61 334 P **P** **16 53 37.6 +0.3**
baz=102
M20K Styx River 75.77 332 P **P** **16 53 39.4 +1.1**
baz=101
COLD Coldfoot 75.77 338 P **P** **16 53 39.2 +1.2**
baz=105,SNR=8.6
E23K Chandalar 75.78 339 P **P** **16 53 39.4 +1.1**
baz=106
CHUM Lake Minchumin 75.81 334 P **P** **16 53 39.6 +1.3**
baz=102
D24K Happy Valley 75.81 340 IAmb IAmb 16 53 43.0
comp=Z,35nm,1.8s
D24K Happy Valley 75.81 340 P **P** **16 53 39.7 +1.4**
baz=107
H22K Ishtalitna Cre 75.89 336 P **P** **16 53 40.0 +1.2**
baz=104
C24K Franklin Bluff 75.94 340 P **P** **16 53 40.4 +1.4**
baz=107
G22K Bettles 76.19 337 P **P** **16 53 41.9 +1.5**
baz=104
EKA Eskdalemuir Ar 76.38 35 P **P** **16 53 42.3 +0.6**
comp=Z,2.7nm,0.9s,baz=258,slow=5.7,SNR=2.1
comp=Z,2.7nm,0.9s
D23K Nanushuk River 76.40 339 P **P** **16 53 42.3 +0.7**
baz=105
H21K Melozitna Rive 76.40 336 P **P** **16 53 42.4 +0.6**
baz=102
K20K Telida 76.47 333 P **P** **16 53 43.4 +1.2**
baz=101
E22K Anaktuvuk Pass 76.59 339 P **P** **16 53 44.0 +1.2**
baz=104
L19K White Mountain 76.62 332 P **P** **16 53 44.2 +1.2**
baz=100
J20K Nowinta River 76.66 334 IAmb IAmb 16 53 48.5
comp=Z,38nm,1.6s
J20K Nowinta River 76.66 334 P **P** **16 53 44.4 +1.2**
baz=101
IMAR Indian Mountai 76.85 336 P **P** **16 53 43.4 -0.9**
G21K Allakaket 76.87 337 P **P** **16 53 45.4 +1.1**
baz=102
N18K Kilae Creek 76.87 331 P **P** **16 53 45.2 +0.7**
baz=98
M18K Stony River 76.96 331 P **P** **16 53 45.8 +0.9**
baz=99
F21K Alatna River 77.01 337 IAmb IAmb 16 53 48.1
comp=Z,20nm,1.2s
F21K Alatna River 77.01 337 P **P** **16 53 46.6 +1.4**
baz=102
D22K Ayikyak River 77.08 339 IAmb IAmb 16 53 52.4
comp=Z,23nm,1.4s
D22K Ayikyak River 77.08 339 P **P** **16 53 46.9 +1.3**
baz=103
H20K Anotleneega Mo 77.22 336 P **P** **16 53 47.0 +0.7**
baz=100
TTA Tatalina 77.27 333 P **P** **16 53 47.1 +0.4**
baz=99
O17K Koliganek Bris 77.34 330 P **P** **16 53 47.4 +0.3**
baz=97
B22K Teshekpuk Lake 77.67 341 P **P** **16 53 50.1 +1.4**
baz=103
O16K Kokwok River B 77.82 329 P **P** **16 53 50.4 +0.6**
baz=96
H19K Roundabout Mou 77.87 336 P **P** **16 53 51.6 +1.7**
baz=99
C21K Knifeblade Rid 77.88 339 P **P** **16 53 51.3 +1.3**
baz=101
E20K Nigu River 78.22 338 P **P** **16 53 52.7 +0.8**
baz=100,SNR=8.8
G19K Purcell Mounta 78.22 336 IAmb IAmb 16 53 57.7
comp=Z,35nm,1.7s
G19K Purcell Mounta 78.22 336 P **P** **16 53 53.1 +1.1**
baz=98
K17K Iditarod 78.28 333 P **P** **16 53 53.4 +1.1**
baz=97
D20K Etivluk River 78.45 339 P **P** **16 53 54.6 +1.4**
baz=100
E19K Redstone River 78.48 337 IAmb IAmb 16 53 59.0
comp=Z,26nm,1.9s
E19K Redstone River 78.48 337 P **P** **16 53 54.3 +1.0**
baz=99
F19K Shaleruckik Mo 78.59 337 P **P** **16 53 54.8 +0.9**
baz=98
H18K Honhosa River 78.61 335 P **P** **16 53 55.1 +1.0**
baz=97
L16K Owhat River 78.72 331 P **P** **16 53 55.8 +1.1**
baz=96
G18K Tagagawik 78.82 336 IAmb IAmb 16 53 58.0
comp=Z,20nm,1.4s
G18K Tagagawik 78.82 336 P **P** **16 53 56.5 +1.3**
baz=97
B20K Meade River 78.86 340 P **P** **16 53 56.7 +1.4**
baz=99
A21K Barrow 78.90 341 P **P** **16 53 56.4 +0.9**
baz=100
D19K Kuna River 78.96 338 IAmb IAmb 16 54 02.0
comp=Z,33nm,1.5s
D19K Kuna River 78.96 338 P **P** **16 53 57.0 +1.0**
baz=98,SNR=5.5
M15K Kasigluk River 79.22 330 P **P** **16 53 58.6 +1.2**
baz=94
H17K Granite Mounta 79.24 335 P **P** **16 53 58.6 +1.0**
baz=96
F18K Selawik 79.31 336 P **P** **16 53 58.8 +1.0**
baz=96
J16K Anvik River 79.38 333 P **P** **16 53 59.3 +0.9**
baz=95
I17K Unalakleet 79.48 334 P **P** **16 53 59.8 +1.0**
baz=95
C19K Lookout Ridge 79.57 339 P **P** **16 53 58.8 -0.6**
C19K Lookout Ridge 79.57 339 P **P** **16 54 00.7 +1.3**
baz=97
G17K Kiwalik Mounta 79.60 335 P **P** **16 54 01.1 +1.6**
baz=95
N14K Kuskokwak Cree 79.66 330 P **P** **16 54 00.4 +0.5**
baz=93
K15K Wolf Creek Mou 79.73 332 P **P** **16 54 01.4 +1.1**
baz=94
E18K Tukpahlearik C 79.76 337 P **P** **16 54 01.7 +1.4**
baz=96,SNR=5.7
F17K Baldwin Pennin 79.93 336 P **P** **16 54 02.5 +1.3**
baz=95
TORD Torodi Ar. Bea 80.06 78 P **P** **16 54 02.7 -0.2**
comp=Z,1.0nm,0.8s,baz=300,slow=5.1,SNR=3.0
comp=Z,1.0nm,0.8s
C18K Utukok River 80.10 338 IAmb IAmb 16 54 08.1
comp=Z,24nm,1.6s
C18K Utukok River 80.10 338 P **P** **16 54 03.2 +1.0**
baz=95
H16K Elim 80.20 334 P **P** **16 54 03.8 +1.1**
baz=94
E17K Hotham Inlet 80.21 337 P **P** **16 54 04.0 +1.2**
baz=94,SNR=10
A19K Wainwright 80.21 340 P **P** **16 54 04.3 +1.7**
baz=96
G16K Koyuk River 80.30 335 P **P** **16 54 04.9 +1.6**
baz=94
B18K Kokolik River 80.38 339 P **P** **16 54 05.5 +1.9**
baz=95
RDOG Red Dog Mine 80.69 338 P **P** **16 54 06.9 +1.6**
baz=94
J14K Nanvaranak Lak 80.70 332 P **P** **16 54 06.7 +1.3**
baz=92
C17K DeLong Mountai 80.82 338 P **P** **16 54 07.6 +1.6**
baz=93,SNR=8.7
G15K Niukluk 80.99 335 P **P** **16 54 08.3 +1.4**
baz=92
F15K North Star Dit 81.27 335 P **P** **16 54 10.5 +2.0**
baz=92
ANM Nome 81.55 334 P **P** **16 54 11.0 +1.1**
baz=91
C16K Lisburne Hills 81.61 338 IAmb IAmb 16 54 12.9
comp=Z,34nm,1.4s
C16K Lisburne Hills 81.61 338 P **P** **16 54 11.7 +1.5**
baz=91
F14K Arctic Creek 81.97 335 P **P** **16 54 13.3 +1.2**
baz=90
TNA Tin City 82.63 335 P **P** **16 54 16.9 +1.4**
baz=88
TAM Tamanrasset 82.85 68 P **P** **16 54 16.7 -1.1**
NOA NORSAR Array B 84.11 29 P **P** **16 54 22.1 -1.2**
comp=Z,1.7nm,0.9s,baz=274,slow=5.3,SNR=2.6
comp=Z,1.7nm,0.9s
KEST Kesra 85.03 55 P **P** **16 54 28.2 -0.5**
comp=Z,3.0nm,0.9s,baz=192,slow=17,SNR=2.8
comp=Z,3.0nm,0.9s
HFS Hagfors 85.41 30 P **P** **16 54 31.0 +1.1**
comp=Z,4.7nm,1.0s,baz=251,slow=4.4,SNR=1.9
comp=Z,4.7nm,1.0s
GERES GERESS Array B 86.80 41 P **P** **16 54 38.1 +0.9**
comp=Z,0.3nm,0.3s,baz=326,slow=6.7,SNR=3.5
comp=Z,0.3nm,0.3s
MODS Modra-Piesok 89.22 41 *e*P P 16 54 53.5 +4.9
ZALV Zalesovo Beam 117.58 10 PKP **PKPdf** **17 00 38.4 -0.2**
comp=Z,0.2nm,0.3s,baz=292,slow=2.2,SNR=3.6
HEH HeiHe 118.00 341 PKP **PKiKP** **17 00 43.5 +4.0**
HEH LR LR
comp=Z,520nm,16.4s
HEH LR LR
comp=Z,950nm,18.7s
HEH LR LR
comp=Z,850nm,18.6s
MDJ Mudanjiang 121.93 336 SS SS 17 18 44.8 -13
MDJ AMB AMB
comp=Z,140nm,4.8s
MDJ LR LR
comp=N,750nm,19.2s
MDJ LR LR
comp=E,330nm,19.6s
MDJ LR LR
comp=Z,890nm,19.6s
MKAR Makanchi Array 123.79 15 PKP **PKPdf** **17 00 49.2 -1.6**
comp=Z,0.5nm,0.9s,baz=284,slow=2.0,SNR=3.7
SONM Songino Array 124.81 355 PKP **PKPdf** **17 00 50.2 -2.7**
comp=Z,0.9nm,1.0s,baz=162,slow=1.6,SNR=4.1
WMQ Urumqi 127.83 12 *e*PKP **PKPdf** **17 00 59.0 +0.3**
WMQ LR LR
comp=Z,660nm,20.3s
WMQ LR LR
comp=Z,690nm,23.1s
WMQ LR LR
comp=Z,690nm,21.7s
KSRS Korea Array 128.50 332 PKP **PKPdf** **17 00 59.2 -0.8**
comp=Z,1.3nm,0.3s,baz=360,slow=1.0,SNR=7.0
HHC Hu-ho-hao-te 130.94 349 *e*PKP **PKPdf** **17 00 59.3 -5.5**
GTA Gaotai 133.50 0 PKP **PKiKP** **17 01 14.0 +3.1**
GTA LR LR
comp=Z,570nm,18.5s
GTA LR LR
comp=Z,360nm,21.1s
GTA LR LR
comp=Z,520nm,20.7s
LZH Lanzhou 136.69 356 *e*PKP **PKPdf** **17 01 17.3 +1.5**
NJ2 Nanjing 137.01 337 *e*PKP **PKPdf** **17 01 14.0 -2.2**
ASAR Alice Springs 143.88 240 PKP PKPab 17 01 25.1 -0.9
comp=Z,5.3nm,0.9s,baz=115,slow=3.8,SNR=25
WR0 Warramunga Arr 144.49 246 **PKPab** **17 01 27.1 -1.2**
WB2 Warramunga Arr 144.67 246 PKPdf **PKPab** **17 01 27.6 -1.3**
WRAB Tennant Creek 144.67 246 PKPdf **PKPab** **17 01 27.6 -1.3**
WRA Warramunga Arr 144.68 246 PKP **PKPab** **17 01 27.7 -1.3**
comp=Z,22nm,0.9s,baz=103,slow=3.3,SNR=43
PZH PanZhiHua 146.34 358 PKPbc **PKPdf** **17 01 33.3 +0.1**
KMI Kunming 147.65 356⇑ PKPbc **PKPdf** **17 01 31.3 -4.3**
KMI LR LR
comp=Z,600nm,18.8s
KMI LR LR
comp=Z,570nm,18.2s
KMI LR LR
comp=Z,700nm,17.8s
TNCH TengChong 147.79 3 PKPbc **PKPdf** **17 01 32.3 -3.5**
TNCH pPKP pPKPdf 17 01 36.0 -1.0
TNCH PKPab **sPKPdf** **17 01 38.5 +1.1**
TNCH SS SS 17 24 09.3 +1.0
TNCH AMB AMB
comp=Z,130nm,8.5s
TNCH LR LR
comp=Z,350nm,11.4s
TNCH LR LR
comp=Z,310nm,19.1s
TNCH LR LR
comp=Z,780nm,19.9s
CMAR Chiang Mai Arr 154.34 3 PKP **PKPdf** **17 01 44.8 -1.0**
comp=Z,0.8nm,0.9s,baz=316,slow=2.5,SNR=2.8
CMAR PKPbc **PKPbc** **17 01 53.2 -0.7**
comp=Z,2.0nm,1.0s,baz=336,slow=2.2,SNR=7.0

IDC 31 16:52:02.3±2.2,2°29S×128°08E,h0km,mb3.5/2,
mbtmp3.4/3,ML3.1/1,Error ellipse: s-maj=145.1km
s-min=29.4km az=67.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.58**	**161**	P	P	16 56 20.7	-0.3
	0.1nm,0.3s,baz=340,slow=11,SNR=4.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**21.98**	**166**	P	P	16 56 57.6	-0.4
	3.2nm,1.1s,baz=345,slow=11,SNR=1.7						
	3.2nm,1.1s						
MKAR	**Makanchi Array**	**63.27**	**327**	P	P	17 02 33.2	+0.3
	0.3nm,0.7s,baz=113,slow=7.4,SNR=2.4						
	0.3nm,0.7s						

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*NEIC **31** 16:53:55.6±0.6,36°.96N±0°.01×97°.37W±0°.01,h5km±1km,*
Error ellipse: s-maj=2.1km s-min=1.3km az=211.0
TUL 31 16:53:56.4±0.5,36°.95N±0°.01×97°.37W±0°.01,h8km±8km,
ML2.5,mb_Lg2.2/7(NEIC),**ML2.5/44**(NEIC),**Error ellipse:**
s-maj=2.2km s-min=1.2km az=211.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.11**	**305**	Pg	Pg	16 53 58.8	-0.1
KAN13				Sg	Sg	16 54 00.6	-0.1
BLOK	**Blackwell**	**0.23**	**147**	Pg	Pg	16 54 00.7	-0.3
BLOK				Sg	Sg	16 54 03.9	-0.1
BLOK				IAML		16 54 04.3	
	comp=E,1μm,0.3s						
KAN09	**Caldwell North**	**0.27**	**313**	Pg	Pg	16 54 01.7	-0.2
KAN09				Sg	Sg	16 54 05.6	+0.1
KAN17	**Caldwell West**	**0.33**	**286**	Pg	Pg	16 54 02.7	-0.2
KAN17				Sg	Sg	16 54 07.3	-0.1
KAN17				IAML		16 54 11.0	
	comp=E,421nm,0.3s						
KAN01	**Argonia South**	**0.37**	**303**	Pg	Pg	16 54 03.5	-0.3
KAN01				Sg	Sg	16 54 08.6	0.0
KAN01				IAML		16 54 08.8	
	comp=E,514nm,0.5s						
GC02	**Grant County #**	**0.41**	**256**	Pg	Pg	16 54 03.9	-0.4
GC02				Sg	Sg	16 54 09.4	-0.3
KS21	**Milan North St**	**0.41**	**325**	Pg	Pg	16 54 04.1	-0.3
KS21				Sg	Sg	16 54 09.7	-0.1
KAN14	**Manchester OK**	**0.48**	**271**	Pg	Pg	16 54 05.0	-0.6
KAN14				Sg	Sg	16 54 11.6	-0.3
KAN06	**Argonia West S**	**0.49**	**307**	Pg	Pg	16 54 05.6	-0.3
KAN06				IAML		16 54 12.6	
	comp=E,472nm,0.2s						
KAN08	**Anthony NE Sta**	**0.56**	**300**	Pg	Pg	16 54 06.9	-0.2
KAN08				Sg	Sg	16 54 14.4	-0.1
KAN08				IAML		16 54 14.6	
	comp=N,210nm,0.4s						
OK051	**E0350 and S346**	**0.62**	**136**	Pg	Pg	16 54 07.7	-0.6
OK051				Sg	Sg	16 54 16.4	0.0
OK051				IAML		16 54 19.9	
	comp=N,297nm,0.2s						
OK048	**Pawnee Station**	**0.63**	**147**	Pg	Pg	16 54 08.0	-0.7
OK048				Sg	Sg	16 54 16.1	-0.8
CROK	**Carrier**	**0.67**	**228**	Pg	Pg	16 54 08.6	-0.6
CROK				Sg	Sg	16 54 17.3	-0.7
CROK				IAML		16 54 21.5	
	comp=N,306nm,0.3s						
T35A	**Sooner Cattle**	**0.69**	**93**	Pg	Pg	16 54 09.1	-0.5
T35A				Sg	Sg	16 54 18.3	-0.3
T35A				IAML		16 54 18.5	
	comp=E,141nm,0.3s						
T35A				IAML		16 54 18.7	
	comp=N,226nm,0.4s						
OK032	**Salt Plains WL**	**0.69**	**258**	Pg	Pg	16 54 09.0	-0.7
OK032				Sg	Sg	16 54 18.4	-0.4
OK032				IAML		16 54 18.5	
	comp=N,153nm,0.4s						
OK032				IAML		16 54 18.7	
	comp=N,152nm,0.3s						
QUOK	**Quay**	**0.94**	**146**	Pg	Pg	16 54 13.8	-0.8
QUOK				Sg	Sg	16 54 26.6	-0.1
QUOK				IAML		16 54 31.6	
	comp=E,100nm,0.2s						
QUOK				IAML		16 54 31.9	
	comp=N,100nm,0.2s						
OK033	**Mehan**	**0.97**	**159**	Pg	Pg	16 54 14.5	-0.5
OK033				IAML		16 54 29.6	
	comp=N,149nm,0.1s						
OK033				IAML		16 54 30.4	
	comp=N,198nm,0.1s						
OK052	**Battle Ridge R**	**1.06**	**154**	Pg	Pg	16 54 15.7	-1.0
OK052				Sg	Sg	16 54 30.3	-0.1

OK052					IAML		16 54 34.2	
	comp=N,119nm,0.5s							
OK052					IAML		16 54 34.9	
	comp=N,77nm,0.2s							
OK029	**Liberty Lake**	**1.16**	**184**	Pg	Pg		16 54 17.4	-1.2
OK029				Sg	Sg		16 54 32.9	-0.7
OK029				IAML			16 54 34.0	
	comp=N,90nm,0.3s							
OK029				IAML			16 54 36.4	
	comp=N,104nm,0.4s							
OK038	**West end E0370**	**1.20**	**247**	Pg	Pb		16 54 18.2	-1.2
DEOK	**Depew**	**1.31**	**147**		Pn		16 54 19.9	-1.1
DEOK				IAML			16 54 40.5	
	comp=E,72nm,0.5s							
DEOK				IAML			16 54 40.9	
	comp=N,82nm,0.5s							
U32A	**Winter Ranch,**	**1.43**	**247**		Pn		16 54 22.2	-0.5
TUL3	**Leonard**	**1.64**	**129**		Pn		16 54 25.4	-0.2
R32A	**Long Quarter,**	**1.81**	**324**	Pn	Pn		16 54 27.8	-0.2
R32A				IAmb_Lg			16 54 56.9	
	comp=Z,18nm,0.7s							
W35A	**Tecumseh**	**1.84**	**167**	Pn	Pn		16 54 27.9	-0.4
W35A				IAmb_Lg			16 54 56.7	
	comp=Z,9.2nm,0.8s							
WMOK	**Wichita Mounta**	**2.49**	**208**	Pn	Pn		16 54 35.3	-1.9
WMOK				IAmb_Lg			16 55 13.6	
	comp=Z,5.8nm,0.9s							
MGMO	**Mountain Grove**	**4.08**	**86**	Pn	Pn		16 54 59.1	0.0
R40A	**Maddies Statio**	**4.26**	**70**	Pn	Pn		16 55 00.2	-1.3
X40A	**Basin Creek Fa**	**4.43**	**122**	IAmb_Lg			16 56 14.6	
	comp=Z,6.5nm,0.9s							

*ISN **31** 17:53:23.6±0.8,33°.68N×45°.67E,h11km±4km, ML3.5*
*TEH **31** 17:53:24.8,33°.70N×45°.71E,h12km±25km, ML3.5*
*IDC **31** 17:53:35.1±2.5,35°.56N×46°.10E,h0km, mb3.7/6, mbtmp3.6/8, ML3.7/2, Error ellipse: s-maj=54.1km s-min=24.9km az=174.0*

ISC 31 17:53:24.5±0.7, 33°.69N±0°.03×45°.70E±0°.03, h13km, n35, σ1§81/39, mb3.8/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**99**	Pg	**Pg**		**17 53 33.3**	**+0.3**
ILBA				Sg	**Sg**		**17 53 39.6**	**+0.9**
IBDR	**Badra**	**0.61**	**162**	*e*Pg	**Pg**		**17 53 36.0**	**-0.5**
IBDR				*e*Sg	**Sg**		**17 53 44.0**	**-0.6**
IBDR				AML	AML		17 53 54.5	
	comp=N,765nm,0.5s							
KGS1	**Ghasr-e-Shirin**	**0.81**	**353**	Pg	**Pg**		**17 53 40.4**	**+0.1**
IGHG	**Ghaleghazi**	**0.96**	**48**	Pg	**Pg**		**17 53 43.4**	**+0.3**
IDHR	**Dehrash**	**1.15**	**29**	Pg	**Pb**		**17 53 46.3**	**-0.1**
BHD	**Baghdad**	**1.18**	**249**	*e*Pn	**Pn**		**17 53 47.0**	**+0.3**
BHD				*e*Sn	**Sg**		**17 54 05.0**	**+2.3**
BHD				AML	AML		17 54 10.2	
	comp=E,4µm,0.6s							
KCHF	**Cheshme Sefid,**	**1.25**	**62**	Pg	**Pn**		**17 53 48.3**	**+0.4**
ILIN	**Lien**	**1.61**	**40**	Pg	**Pb**		**17 53 55.1**	**+0.9**
IKFM	**Kafar-mosalman**	**1.80**	**95**	Pg	**Pb**		**17 53 57.6**	**+0.4**
IBZA	**Bozab**	**1.95**	**66**	Pn	**Pb**		**17 53 59.9**	**-0.1**
RAFI	**Al-Rafai**	**2.00**	**170**	*e*Pn	**Pn**		**17 53 59.0**	**+1.1**
RAFI				*e*Sn	**Sb**		**17 54 25.0**	**-0.4**
IALM	**Almabolaq**	**2.35**	**60**	Pn	**Pb**		**17 54 06.1**	**-0.8**
HSAM	**Samen**	**2.47**	**77**	Pn	**Pn**		**17 54 06.6**	**+2.0**
HAGD	**Aghdareh**	**3.06**	**67**	Pn	**Pn**		**17 54 14.9**	**+2.1**
MAHB	**Mahabad**	**3.07**	**0**	Pn	**Pn**		**17 54 14.6**	**+1.8**
IRAZ	**Razeghan**	**3.88**	**63**	Pn	**Pn**		**17 54 26.1**	**+2.0**
JHBN	**Jahan bin**	**4.42**	**108**	Pn	**Pn**		**17 54 34.2**	**+2.6**
IQOM	**Qom**	**4.59**	**74**	Pn	**Pn**		**17 54 35.5**	**+1.7**
ZNGN	**Zangian**	**4.61**	**109**	Pn	**Pn**		**17 54 35.6**	**+1.4**
IKLH	**Kolahrood**	**4.92**	**93**	Pn	**Pn**		**17 54 41.1**	**+2.7**
IMRD	**Marand**	**5.01**	**0**	Pn	**Pn**		**17 54 41.6**	**+2.1**
KLST	**Kelardasht - M**	**5.22**	**56**	Pn	**Pn**		**17 54 44.6**	**+2.1**
ISFB	**Sefidab**	**5.47**	**81**	Pn	**Pn**		**17 54 47.4**	**+1.6**
IZEF	**Zefreh**	**5.61**	**96**	Pn	**Pn**		**17 54 50.2**	**+2.3**
KLNJ	**Kolanjah**	**5.66**	**117**	Pn	**Pn**		**17 54 50.8**	**+2.2**
IRAM	**Rameshen**	**5.93**	**107**	Pn	**Pn**		**17 54 54.4**	**+2.1**
ASF	**Jabal al Asfar**	**7.56**	**261**	Pn	**Pb**		**17 55 37.6**	**+2.1**
	comp=E,0.6nm,0.3s,baz=59,slow=19,SNR=3.5							
ASF				Sn	**Sb**		**17 57 08.0**	**+2.5**
	comp=E,0.6nm,0.3s,baz=66,slow=19,SNR=2.9							
	comp=E,0.9nm,0.3s							
MMAI	**Mount Meron Ar**	**8.64**	**268**	Sn	Sn		17 57 32.0	+25
	comp=E,0.7nm,0.3s,baz=72,slow=32,SNR=1.6							
AKASG	**Malin Array Be**	**20.84**	**330**	P	**P**		**17 58 01.1**	**-4.7**
	comp=E,0.3nm,0.3s,baz=137,slow=10,SNR=1.9							
	comp=E,0.2nm,0.3s							
BVAR	**Borovoye Array**	**26.15**	**35**	P	**P**		**17 58 55.8**	**-2.5**
	comp=E,0.2nm,0.3s,baz=238,slow=9.9,SNR=3.3							
	comp=E,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**29.32**	**45**	P	**P**		**17 59 25.0**	**-1.6**
	comp=E,0.5nm,0.6s,baz=252,slow=9.1,SNR=4.4							
	comp=E,0.5nm,0.6s							
MKAR	**Makanchi Array**	**30.55**	**54**	P	**P**		**17 59 38.9**	**+1.2**
	comp=E,0.5nm,0.5s,baz=252,slow=9.5,SNR=13							
	comp=E,0.5nm,0.5s							
HFS	**Hagfors**	**33.71**	**331**	P	**P**		**18 00 05.3**	**+0.2**
	comp=E,0.8nm,0.4s,baz=126,slow=7.3,SNR=4.6							
	comp=E,0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**34.13**	**42**	P	**P**		**18 00 07.1**	**-1.8**
	comp=E,0.7nm,0.3s,baz=251,slow=9.3,SNR=5.6							
	comp=E,0.7nm,0.3s							
ARCES	**ARCESS Array B**	**37.62**	**349**	P	**P**		**18 00 37.5**	**-1.1**
	comp=E,2.2nm,0.9s,baz=157,slow=9.8,SNR=1.4							
	comp=E,2.2nm,0.9s							

*IDC **31** 17:53:53.3±2.0,57°.66N×153°.64W,h0km, mb3.4/2, mbtmp3.0/4, ML2.5/2, Error ellipse: s-maj=26.9km s-min=11.0km az=1.0*
*NEIC **31** 17:54:00.6±0.9,57°.83N±0°.04×152°.85W±0°.09, h44km±14km, Error ellipse: s-maj=7.4km s-min=4.3km az=122.0*
*AEIC **31** 17:54:01.0±0.9,57°.82N±0°.03×152°.84W±0°.05,h43km±5km, ML3.0, ML3.3/69(NEIC), Error ellipse: s-maj=4.8km s-min=4.1km az=147.0*

ISC 31 17:53:59.9±0.8, 57°.81N±0°.05×152°.83W±0°.04, h50km±9km, n151, σ0§69/149, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KDAK	**Kodiak Island**	**0.13**	**100**		**Pn**		**17 54 07.6**	**-0.3**
KDAK				IAML			17 54 13.9	
	3µm,0.6s							
KDAK				IAML			17 54 14.0	
	5µm,0.6s							
KDAK	**Kodiak Island**	**0.13**	**100**		**Sn**		**17 54 13.0**	**-0.6**
KDAK	**Kodiak Island**	**0.13**	**100**	Pg	**Pn**		**17 54 07.5**	**-0.4**
	149nm,0.3s,baz=336,slow=2.5,SNR=1299							
KDAK				Lg	Lg		17 54 12.0	
	277nm,0.3s,baz=165,slow=22,SNR=34							
OHAK	**Old Harbor**	**0.64**	**203**		**Pn**		**17 54 13.4**	**+0.5**
OHAK				IAML			17 54 23.9	
	comp=E,881nm,0.5s							
OHAK	**Old Harbor**	**0.64**	**203**		**Sn**		**17 54 22.9**	**+0.7**
OHAK	**Old Harbor**	**0.64**	**203**	P	**Pn**		**17 54 13.4**	**+0.5**
	baz=22							
OHAK				S	**Sn**		**17 54 22.9**	**+0.7**
	baz=22							
Q20K	**Shuyak Island**	**0.84**	**16**	P	**Pn**		**17 54 15.6**	**+0.1**
	baz=197							
Q20K				S	**Sn**		**17 54 26.9**	**+0.1**
	baz=197							
SYI	**Shuyak Island**	**0.84**	**16**		**Pn**		**17 54 15.6**	**+0.1**
SYI					**Sn**		**17 54 26.9**	**0.0**
SYI	**Shuyak Island**	**0.84**	**16**	IAML			17 54 28.1	
	comp=N,1µm,0.5s							
SYI				IAML			17 54 28.8	
	comp=E,695nm,0.5s							
R18K	**Karluk**	**0.91**	**255**		**Pn**		**17 54 16.3**	**0.0**
R18K					**Sn**		**17 54 28.7**	**+0.3**
R18K	**Karluk**	**0.91**	**255**	P	**Pn**		**17 54 16.3**	**0.0**
	baz=73							
R18K				S	**Sn**		**17 54 28.7**	**+0.3**
	baz=73							
KAHG	**Katmai Hook Gl**	**1.14**	**308**		**Pn**		**17 54 19.4**	**-0.2**
Q19K	**Cape Douglas,**	**1.21**	**339**		**Pn**		**17 54 20.4**	**-0.1**
Q19K	**Cape Douglas,**	**1.21**	**339**	P	**Pn**		**17 54 20.4**	**-0.1**
	baz=159							
KCE	**Katmai Mt Cerb**	**1.33**	**290**		**Pn**		**17 54 22.8**	**+0.6**
ACHA	**Angle Creek He**	**1.39**	**288**		**Pn**		**17 54 23.5**	**+0.5**
ACHA					**Sn**		**17 54 40.0**	**-0.3**
KAHC	**Katmai Hardscr**	**1.43**	**307**		**Pn**		**17 54 23.8**	**+0.2**
KAHC	**Katmai Hardscr**	**1.43**	**307**	P	**Pn**		**17 54 23.8**	**+0.2**
	baz=125							
KVTA	**Katmai Vly 10**	**1.43**	**295**		**Pn**		**17 54 24.1**	**+0.6**
SII	**Sitkinak Islan**	**1.45**	**211**		**Pn**		**17 54 24.6**	**+0.8**
SII	**Sitkinak Islan**	**1.45**	**211**	IAML			17 55 00.1	
	comp=E,267nm,0.7s							
SII	**Sitkinak Islan**	**1.45**	**211**	P	**Pn**		**17 54 24.6**	**+0.8**
	baz=29							
ANCK	**Angle Creek**	**1.48**	**287**		**Pn**		**17 54 24.8**	**+0.6**
KELA	**Mount Kelaz**	**1.67**	**294**		**Pn**		**17 54 27.1**	**+0.3**
CNTC	**Contact Creek**	**1.69**	**287**		**Sn**		**17 54 48.1**	**+0.5**
Q17K	**Contact Creek**	**1.69**	**287**	P	**Pn**		**17 54 27.2**	**+0.1**
	baz=104							
Q17K				S	**Sn**		**17 54 48.1**	**+0.5**
	baz=104							
P19K	**Oil Pt**	**1.86**	**354**		**Pn**		**17 54 30.0**	**+0.6**
P19K					**Sn**		**17 54 52.9**	**+1.1**
P19K	**Oil Pt**	**1.86**	**354**	IAML			17 55 04.7	
	comp=E,454nm,0.6s							
P19K				IAML			17 55 04.9	
	comp=N,508nm,0.5s							
P19K	**Oil Pt**	**1.86**	**354**	P	**Pn**		**17 54 30.0**	**+0.6**
	baz=174							
P19K				S	**Sn**		**17 54 52.9**	**+1.1**
	baz=174							
CNPM	**China Poot**	**1.92**	**25**		**Pn**		**17 54 30.8**	**+0.7**
CNPM	**China Poot**	**1.92**	**25**	IAML			17 55 09.9	
	comp=E,190nm,1.0s							
HOM	**Homer**	**1.96**	**18**	Pn	**Pn**		**17 54 31.3**	**+0.7**
HOM				IAML			17 55 03.9	
	comp=E,404nm,0.7s							
HOM				IAML			17 55 07.7	
	comp=N,422nm,1.0s							
P18K	**Big Mountain,**	**2.03**	**323**	Pn	**Pn**		**17 54 31.1**	**-0.6**
P18K	**Big Mountain,**	**2.03**	**323**	P	**Pn**		**17 54 31.1**	**-0.6**
	baz=141							
BRLK	**Bradley Lake**	**2.21**	**26**		**Pn**		**17 54 34.3**	**+0.1**
BRLK	**Bradley Lake**	**2.21**	**26**	IAML			17 55 16.0	
	comp=E,132nm,1.1s							
IVE	**Iliamna Volcan**	**2.22**	**358**		**Pn**		**17 54 34.7**	**+0.4**
BRSE	**Bradley Lake S**	**2.23**	**28**		**Pn**		**17 54 34.7**	**+0.4**
BRSE	**Bradley Lake S**	**2.23**	**28**	P	**Pn**		**17 54 34.7**	**+0.4**
	baz=210							
O20K	**Slope Mountain**	**2.29**	**3**		**Pn**		**17 54 36.0**	**+0.8**
O20K	**Slope Mountain**	**2.29**	**3**	P	**Pn**		**17 54 36.0**	**+0.8**
	baz=183							
P17K	**Kvichak River**	**2.35**	**308**		**Pn**		**17 54 36.1**	**+0.1**
P17K	**Kvichak River**	**2.35**	**308**	P	**Pn**		**17 54 36.1**	**+0.1**
	baz=125							
O18K	**Koktuh Hills**	**2.40**	**330**		**Pn**		**17 54 36.5**	**-0.2**
O18K	**Koktuh Hills**	**2.40**	**330**	P	**Pn**		**17 54 36.5**	**-0.2**
	baz=148							
O19K	**Port Alsworth**	**2.52**	**343**		**Pn**		**17 54 38.7**	**+0.4**
O19K				IAML			17 55 23.6	
	comp=N,201nm,0.4s							
RED	**Redoubt Volcan**	**2.62**	**1**		**Pn**		**17 54 40.0**	**+0.2**
RDSO	**Redoubt South**	**2.66**	**1**		**Pn**		**17 54 40.6**	**+0.2**
RSO	**Redoubt South**	**2.67**	**1**		**Pn**		**17 54 41.0**	**+0.4**
RDWB	**Redoubt West**	**2.69**	**360**		**Pn**		**17 54 41.0**	**+0.1**
DFR	**Drift River**	**2.80**	**1**		**Pn**		**17 54 42.8**	**+0.6**
SEW	**Seward**	**2.89**	**36**		**Pn**		**17 54 43.1**	**-0.3**
SEW	**Seward**	**2.89**	**36**	P	**Pn**		**17 54 43.1**	**-0.3**
	baz=219							
SLKM	**Skilak Lake**	**3.02**	**25**		**Pn**		**17 54 45.1**	**-0.2**
N19K	**Bonanza Creek**	**3.13**	**345**		**Pn**		**17 54 47.3**	**+0.4**
N19K	**Bonanza Creek**	**3.13**	**345**	P	**Pn**		**17 54 47.3**	**+0.4**
	baz=164							
O16K	**Kokwok River B**	**3.28**	**305**		**Pn**		**17 54 49.0**	**+0.2**
O16K	**Kokwok River B**	**3.28**	**305**	IAML			17 55 37.6	
	comp=N,49nm,1.0s							
O16K	**Kokwok River B**	**3.28**	**305**	P	**Pn**		**17 54 49.0**	**+0.2**
	baz=121							
N18K	**Kilae Creek**	**3.29**	**333**		**Pn**		**17 54 48.8**	**-0.1**
N18K	**Kilae Creek**	**3.29**	**333**	P	**Pn**		**17 54 48.8**	**-0.1**
	baz=150							
CHGN	**Chignik**	**3.40**	**246**	Pn	**Pn**		**17 54 50.3**	**-0.2**
CHGN				IAML			17 55 54.0	
	comp=N,43nm,0.5s							
CHGN				IAML			17 57 03.1	
	comp=E,65nm,2.8s							
N20K	**Mount Spurr**	**3.42**	**5**	P	**Pn**		**17 54 51.0**	**+0.3**
	baz=186							
SPCR	**Spurr Chakacha**	**3.42**	**5**		**Pn**		**17 54 51.0**	**+0.3**
N17K	**Nushagak Hills**	**3.53**	**322**	Pn	**Pn**		**17 54 52.6**	**+0.3**
SVW2	**Sparrevohn**	**3.59**	**338**	Pn	**Pn**		**17 54 52.7**	**-0.3**
RC01	**Rabbit Creek A**	**3.65**	**24**		**Pn**		**17 54 54.2**	**+0.3**
RC01	**Rabbit Creek A**	**3.65**	**24**	P	**Pn**		**17 54 54.2**	**+0.3**
	baz=207							
O15K	**Ungalikthiuk R**	**3.92**	**293**		**Pn**		**17 54 57.8**	**+0.2**
O15K	**Ungalikthiuk R**	**3.92**	**293**	P	**Pn**		**17 54 57.8**	**+0.2**
	baz=107							
S14K	**Fog Glacier**	**3.98**	**250**	P	**Pn**		**17 54 58.8**	**+0.3**
	baz=64							
VNFG	**Fog Glacier, M**	**3.98**	**250**		**Pn**		**17 54 58.8**	**+0.3**
M18K	**Stony River**	**4.00**	**339**		**Pn**		**17 54 58.7**	**+0.1**
M18K	**Stony River**	**4.00**	**339**	P	**Pn**		**17 54 58.7**	**+0.1**
	baz=156							
N16K	**Nishlik Lake**	**4.07**	**314**		**Pn**		**17 54 59.8**	**+0.3**
N16K	**Nishlik Lake**	**4.07**	**314**	P	**Pn**		**17 54 59.8**	**+0.3**
	baz=128							
M20K	**Styx River**	**4.09**	**358**		**Pn**		**17 55 00.3**	**+0.3**
M20K	**Styx River**	**4.09**	**358**	IAML			17 56 32.8	
	comp=N,25nm,3.4s							
M20K				IAML			17 57 26.8	
	comp=E,26nm,3.9s							
M20K	**Styx River**	**4.09**	**358**	P	**Pn**		**17 55 00.3**	**+0.3**
	baz=178							
M19K	**Big River Lodg**	**4.19**	**350**	Pn	**Pn**		**17 55 01.0**	**-0.2**
M19K				IAML			17 57 21.0	
	comp=N,21nm,3.2s							
SKT	**Skwentna**	**4.24**	**8**	Pn	**Pn**		**17 55 01.3**	**-0.6**
M17K	**Holitna River**	**4.30**	**329**		**Pn**		**17 55 02.9**	**+0.1**
M17K	**Holitna River**	**4.30**	**329**	IAML			17 56 19.4	
	comp=E,44nm,0.8s							
M17K				IAML			17 56 26.5	
	comp=N,48nm,1.6s							
M17K	**Holitna River**	**4.30**	**329**	P	**Pn**		**17 55 02.9**	**+0.1**
	baz=145							
GHO	**Glory Hole Cre**	**4.44**	**25**		**Pn**		**17 55 05.6**	**+0.8**
N15K	**Kwethluk River**	**4.44**	**305**		**Pn**		**17 55 05.0**	**+0.3**
N15K	**Kwethluk River**	**4.44**	**305**	IAML			17 56 47.8	
	comp=N,30nm,3.5s							
N15K				IAML			17 56 55.0	
	comp=E,43nm,3.2s							
N15K	**Kwethluk River**	**4.44**	**305**	P	**Pn**		**17 55 05.0**	**+0.3**
	baz=119							
M16K	**Timber Creek**	**4.50**	**318**		**Pn**		**17 55 05.9**	**+0.5**
M16K	**Timber Creek**	**4.50**	**318**	IAML			17 56 30.7	
	comp=N,40nm,3.5s							
M16K				IAML			17 58 08.2	
	comp=E,32nm,2.8s							
M16K	**Timber Creek**	**4.50**	**318**	P	**Pn**		**17 55 05.9**	**+0.5**
	baz=133							
L19K	**White Mountain**	**4.51**	**348**	Pn	**Pn**		**17 55 06.2**	**+0.6**
L19K				IAML			17 55 52.5	
	comp=E,20nm,3.7s							
L19K				IAML			17 56 31.5	
	comp=N,20nm,1.3s							
O14K	**Tigyukauivet M**	**4.66**	**292**		**Pn**		**17 55 07.7**	**+0.1**
O14K	**Tigyukauivet M**	**4.66**	**292**	IAML			17 57 25.2	
	comp=N,34nm,3.3s							
O14K				IAML			17 58 00.1	
	comp=E,35nm,2.5s							
O14K	**Tigyukauivet M**	**4.66**	**292**	P	**Pn**		**17 55 07.7**	**+0.1**
	baz=104							
L20K	**Farewell, AK**	**4.72**	**354**		**Pn**		**17 55 09.5**	**+1.0**
L20K	**Farewell, AK**	**4.72**	**354**	P	**Pn**		**17 55 09.5**	**+1.0**
	baz=173							
CNBA	**Chernabura Isl**	**4.81**	**234**	Pn	**Pn**		**17 55 10.1**	**+0.4**
SCM	**Sheep Creek Mo**	**4.90**	**32**	P	**Pn**		**17 55 11.6**	**+0.5**
	baz=217							
M15K	**Kasigluk River**	**4.97**	**309**		**Pn**		**17 55 12.2**	**+0.4**
M15K	**Kasigluk River**	**4.97**	**309**	P	**Pn**		**17 55 12.2**	**+0.4**
	baz=122							
GOAT	**Goat Mountain**	**5.01**	**53**		**Pn**		**17 55 12.9**	**+0.4**
KLU	**Klutina**	**5.09**	**41**		**Pn**		**17 55 13.9**	**+0.2**
KLU	**Klutina**	**5.09**	**41**	P	**Pn**		**17 55 13.9**	**+0.2**
	baz=227							
L17K	**Donlin**	**5.14**	**330**		**Pn**		**17 55 14.6**	**+0.4**
L17K	**Donlin**	**5.14**	**330**	P	**Pn**		**17 55 14.6**	**+0.4**
	baz=145							
L16K	**Owhat River**	**5.16**	**322**		**Pn**		**17 55 14.5**	**0.0**
L16K	**Owhat River**	**5.16**	**322**	IAML			17 56 28.2	
	comp=N,20nm,3.6s							
L16K				IAML			17 56 54.8	
	comp=E,17nm,3.0s							
	baz=136							
BMRM	**Bremner River**	**5.26**	**49**		**Pn**		**17 55 15.9**	**-0.1**
BMRM	**Bremner River**	**5.26**	**49**	P	**Pn**		**17 55 15.9**	**-0.1**
	baz=237							
BERG	**Berg Lake**	**5.37**	**57**		**Pn**		**17 55 17.5**	**+0.1**
TTA	**Tatalina**	**5.38**	**344**	Pn	**Pn**		**17 55 16.3**	**-1.3**
TTA				IAML			17 56 17.8	
	comp=E,13nm,4.8s							
TTA				IAML			17 57 55.0	
	comp=N,20nm,3.6s							
WAT6	**Susitna Watana**	**5.42**	**26**		**Pn**		**17 55 18.1**	**-0.1**
WAT6	**Susitna Watana**	**5.42**	**26**	P	**Pn**		**17 55 18.1**	**-0.1**
	baz=210							
K20K	**Telida**	**5.60**	**354**	Pn	**Pn**		**17 55 20.7**	**+0.1**
K17K	**Iditarod**	**5.63**	**333**	Pn	**Pn**		**17 55 20.3**	**-0.6**
N25K	**Chitina, Valde**	**5.64**	**44**		**Pn**		**17 55 21.8**	**+0.5**
N25K	**Chitina, Valde**	**5.64**	**44**	P	**Pn**		**17 55 21.8**	**+0.5**
	baz=231							
BARK	**Barkley Ridge**	**5.93**	**60**		**Pn**		**17 55 25.9**	**+0.8**
L14K	**Kuka Creek**	**6.13**	**309**		**Pn**		**17 55 29.0**	**+1.2**
KIAG	**Kiagna River**	**6.20**	**55**		**Pn**		**17 55 29.1**	**+0.3**
K15K	**Wolf Creek Mou**	**6.26**	**320**	Pn	**Pn**		**17 55 29.9**	**+0.3**
J19K	**Poorman**	**6.36**	**349**	Pn	**Pn**		**17 55 31.2**	**+0.3**
J20K	**Nowinta River**	**6.43**	**355**	Pn	**Pn**		**17 55 31.8**	**0.0**
TABL	**Table Mountain**	**6.57**	**61**		**Pn**		**17 55 34.9**	**+0.9**
CTGM	**Chitina Glacie**	**6.67**	**57**	Pn	**Pn**		**17 55 36.2**	**+0.9**
J16K	**Anvik River**	**6.70**	**328**	Pn	**Pn**		**17 55 35.5**	**0.0**
LOGN	**Logan Glacier**	**6.76**	**58**	Pn	**Pn**		**17 55 37.3**	**+0.7**
J14K	**Nanvaranak Lak**	**7.28**	**317**	Pn	**Pn**		**17 55 44.6**	**+1.2**
ILAR	**Eielson Array**	**7.55**	**20**	Pn	**Pn**		**17 55 44.1**	**-3.1**
	comp=N,0.1nm,0.3s,baz=204,slow=14,SNR=1.6							
ILAR				Sn	**Sn**		**17 57 08.8**	**-2.4**
	comp=N,0.4nm,0.3s,baz=185,slow=18,SNR=4.7							
	comp=N,0.2nm,0.7s							
O29M	**Mount Kennedy**	**7.76**	**65**	Pn	**Pn**		**17 55 51.6**	**+1.3**
H17K	**Granite Mounta**	**7.92**	**338**	Pn	**Pn**		**17 55 53.0**	**+0.8**
P29M	**Windy Craggy**	**8.06**	**71**	Pn	**Pn**		**17 55 54.6**	**+0.3**
IMAR	**Indian Mountai**	**8.22**	**357**	Pn	**Pn**		**17 55 57.3**	**+0.9**
M29M	**Somme Creek**	**8.54**	**51**	Pn	**Pn**		**17 56 01.7**	**+0.9**
G21K	**Allakaket**	**8.75**	**358**	Pn	**Pn**		**17 56 04.5**	**+0.9**
S31K	**Pelican**	**8.84**	**82**	Pn	**Pn**		**17 56 05.5**	**+0.6**
G16K	**Koyuk River**	**8.85**	**333**	Pn	**Pn**		**17 56 05.0**	**0.0**
L29M	**L29M**	**8.99**	**48**	Pn	**Pn**		**17 56 07.5**	**+0.6**
O30N	**Mendenhall**	**9.06**	**64**	Pn	**Pn**		**17 56 09.0**	**+1.0**
ANM	**Nome**	**9.08**	**324**	Pn	**Pn**		**17 56 07.1**	**-1.0**
F20K	**Avaraart Lake**	**9.37**	**353**	Pn	**Pn**		**17 56 13.3**	**+1.2**
F15K	**North Star Dit**	**9.69**	**330**	Pn	**Pn**		**17 56 18.1**	**+1.7**
E19K	**Redstone River**	**9.89**	**350**	Pn	**Pn**		**17 56 20.2**	**+1.0**
E18K	**Tukpahlearik C**	**10.28**	**343**	Pn	**Pn**		**17 56 26.9**	**+2.3**
U33K	**Whale Pass**	**10.89**	**91**	Pn	**Pn**		**17 56 32.3**	**-0.5**
R33M	**Jennings River**	**11.50**	**73**	Pn	**Pn**		**17 56 42.4**	**+1.0**
YKA	**Yellowknife Ar**	**19.38**	**60**	P	**Pn**		**17 58 24.7**	**+2.0**
	baz=272,slow=9.8,SNR=1.7							
	comp=N,0.2nm,0.6s							
BVAR	**Borovoye Array**	**64.06**	**333**	P	**P**		**18 04 27.2**	**-0.8**
	comp=N,0.6nm,0.7s,baz=12,slow=7.8,SNR=3.7							
	comp=N,0.6nm,0.7s							
MKAR	**Makanchi Array**	**66.21**	**322**	P	**P**		**18 04 41.5**	**-0.6**
	comp=N,0.1nm,0.4s,baz=31,slow=7.0,SNR=1.5							
	comp=N,0.1nm,0.4s							

*IDC **31** 17:54:59.1±1.7,59°.86N×145°.97W,h0km, mb3.9/6, mbtmp3.6/9, ML2.8/2, Error ellipse: s-maj=34.0km s-min=21.2km az=151.0*
*AEIC **31** 17:55:00.8±1.0,59°.96N±0°.02×146°.23W±0°.04,h16km±6km, Error ellipse: s-maj=3.0km s-min=2.3km az=74.0*
*NEIC **31** 17:55:00.5±1.0,59°.96N±0°.02×146°.24W±0°.09,h16km±8km, ML3.1/96, ML3.0(AEIC), Error ellipse: s-maj=6.4km s-min=2.5km az=93.0*

ISC 31 17:55:00.8±0.7, 59°.95N±0°.03×146°.23W±0°.03, h16km, n102, σ1§15/98, mb3.8/6, Gulf of Alaska

| Code | Station Name | Δ° | AZ° | Ph

comp=N,69nm,0.7s
CTGM Chitina Glacie 2.63 65 Pn Pn 17 55 43.3 +0.5
SUA Susitna One 2.69 306 Pn **Pn** 17 55 43.1 -0.5
SUA IAML 17 56 38.8
comp=E,55nm,1.0s
LOGN Logan Glacier 2.74 69 Pn 17 55 44.0 -0.3
LOGN IAML 17 56 24.1
comp=N,74nm,0.6s
LOGN IAML 17 56 24.4
comp=E,52nm,0.7s
WAT6 Susitna Watana 2.74 345 Pn 17 55 44.1 -0.2
M26K Nabesna, AK 2.92 31 Pn 17 55 46.6 -0.1
PAX Paxson 3.06 7 Pn 17 55 48.8 +0.3
CUT Chulitna 3.15 323 Pn 17 55 49.1 -0.5
WAT7 Susitna Watana 3.16 338 Pn 17 55 50.9 +1.0
DHY Denali Highway 3.19 351 IAML 17 56 48.6
comp=E,32nm,0.7s
M27K Edge Creek, AK 3.21 39 Pn 17 55 50.1 -0.6
M27K IAML 17 56 50.1
comp=E,38nm,1.2s
M27K IAML 17 56 55.8
comp=N,39nm,1.0s
MENT Mentasta 3.24 21 17 55 49.1 -1.8
MENT IAML 17 56 46.5
comp=N,43nm,0.7s
MENT IAML 17 56 51.4
comp=E,64nm,0.8s
SKT Skwentna 3.29 311 Pn 17 55 51.5 -0.2
SKT IAML 17 56 50.3
comp=N,38nm,0.6s
SKT IAML 17 56 51.2
comp=E,36nm,0.6s
RND Reindeer 3.69 341 Pn 17 55 56.6 -0.6
RND IAML 17 57 02.4
comp=N,26nm,1.2s
RND IAML 17 57 06.2
comp=E,32nm,0.8s
L27K Beaver Creek, 3.77 32 Pn 17 55 57.2 -1.1
BCAR Beaver Creek A 3.79 32 Pn 17 55 57.7 -0.8
RIDG Independent Ri 3.86 9 Pn 17 55 59.3 -0.3
RIDG IAML 17 57 03.7
comp=N,21nm,1.2s
RIDG IAML 17 57 06.7
comp=E,33nm,0.9s
M20K Styx River 3.89 303 Pn 17 55 59.4 -0.6
KDAK Kodiak Island 3.95 239 Pn **Pn** 17 55 59.0 -1.7
comp=E,8.3nm,0.7s,baz=306,slow=8.2,SNR=0.8
KDAK Sn **Sn** 17 56 42.1 -4.5
comp=E,1.1nm,0.3s,baz=134,slow=20,SNR=1.1
SCRK Sand Creek 4.18 14 Pn 17 56 03.6 -0.4
M19K Big River Lodg 4.44 300 Pn **Pn** 17 56 03.8 -3.7
CAST Castle Rocks 4.46 324 Pn **Pn** 17 56 05.1 -2.6
CAST IAML 17 57 31.9
comp=N,17nm,0.8s
CAST IAML 17 57 35.4
comp=E,16nm,1.3s
K27K Chicken 4.54 24 Pn 17 56 08.5 -0.4
J26L Joseph Creek 4.74 14 Pn 17 56 10.7 -0.9
J26L IAML 17 57 33.0
comp=E,12nm,0.9s
CCB Clear Creek Bu 4.78 352 Pn 17 56 11.2 -0.8
CCB IAML 17 57 35.3
comp=E,12nm,1.4s
NEA2 Nenana 4.85 345 Pn **Pn** 17 56 11.4 -1.6
NEA2 IAML 17 57 37.5
comp=E,12nm,1.1s
NEA2 IAML 17 57 44.9
comp=N,11nm,1.3s
ILAR Eielson Array 4.85 357 Pn **Pn** 17 56 12.2 -0.9
ILAR Eielson Array 4.85 357 Pn **Pn** 17 56 12.3 -0.8
comp=N,0.4nm,0.3s,baz=210,slow=13,SNR=6.7
comp=N,0.7nm,0.3s
L29M L29M 5.01 47 Pn 17 56 15.5 +0.2
L29M IAML 17 57 15.3
comp=N,15nm,0.5s
L29M IAML 17 57 41.6
comp=E,11nm,0.9s
K20K Telida 5.07 316 Pn **Pn** 17 56 15.5 -0.5
K20K IAML 17 57 43.9
comp=E,14nm,1.4s
K20K IAML 17 58 05.3
comp=N,8.7nm,1.1s
MDM Murphy Dome 5.12 350 Pn **Pn** 17 56 15.5 -1.3
MDM IAML 17 57 50.3
comp=E,12nm,1.1s
MDM IAML 17 57 51.9
comp=N,9.8nm,1.4s
DAWY Dawson 5.24 35 Pn Pn 17 56 18.5 0.0
M30M Minto, Yukon 5.26 56 Pn **Pn** 17 56 18.8 0.0
M30M IAML 17 57 47.0
comp=N,6.9nm,1.1s
MLY Manley 5.51 340 Pn Pn 17 56 22.0 -0.2
K29M Barlow Dome 5.68 43 Pn Pn 17 56 24.2 -0.3
H24K Noodor Dome 5.96 353 Pn Pn 17 56 27.4 -1.0
M31M Drury Creek, Y 6.17 63 Pn Pn 17 56 31.8 +0.5
I28M Miner Creek 6.23 25 Pn 17 56 33.3 +1.2
H21K Melozitna Rive 6.47 335 Pn 17 56 34.3 -1.0
J30M Hart River 6.55 41 Pn 17 56 36.7 +0.3
I30M Mount Dempster 6.97 36 Pn Pn 17 56 42.7 +0.4
H29M Whitestone 7.23 26 Pn Pn 17 56 43.2 -2.5
F24K Squaw Lake 7.64 355 Pn Pn 17 56 50.4 -0.9
G29M Pine Creek 7.89 24 Pn Pn 17 56 52.8 -2.0
F21K Alatna River 7.98 339 Pn Pn 17 56 55.1 -0.9
F28M Old Crow 8.19 17 Pn Pn 17 56 57.9 -1.0
G18K Tagagawik 8.22 322 Pn Pn 17 57 00.4 +1.2
G31M Satah River 8.80 32 Pn Pn 17 57 06.0 -1.1
E28M Babbage River 9.16 16 Pn Pn 17 57 12.3 +0.2
E29M Blow River 9.21 20 Pn Pn 17 57 12.6 -0.3
YKA Yellowknife Ar 15.36 67 Pn **Pn** 17 58 33.9 -2.7
comp=N,0.1nm,0.3s,baz=272,slow=10,SNR=5.6
comp=N,0.1nm,0.5s
KLR Kul'dur 45.70 295 P P 18 03 22.4 +1.7
comp=N,1.6nm,0.3s,baz=341,slow=10,SNR=12
comp=N,1.6nm,0.3s
SONM Songino Array 57.50 310 P P 18 04 50.5 +1.6
comp=N,0.5nm,0.6s,baz=22,slow=5.3,SNR=4.0
comp=N,0.5nm,0.6s
FINES FINESS Array B 58.79 4 P P 18 04 57.8 +0.2
comp=N,7.8nm,1.2s,baz=256,slow=16,SNR=2.4
comp=N,7.8nm,1.2s
ZALV Zalesovo Beam 59.34 328 P P 18 05 03.9 +2.5
comp=N,0.3nm,0.4s,baz=51,slow=7.7,SNR=2.1
comp=N,0.3nm,0.4s
KURBB Kurchatov Arra 63.99 330 P P 18 05 34.2 +1.3
comp=N,0.2nm,0.4s,baz=28,slow=7.8,SNR=2.4
comp=N,0.2nm,0.4s
MKAR Makanchi Array 66.50 326 P P 18 05 52.0 +2.7
comp=N,0.3nm,0.4s,baz=30,slow=5.3,SNR=9.3
comp=N,0.3nm,0.4s

*TEH **31** 17:56:26.8, 33˚.71N×45˚.74E, h8km±46km, ML2.7*
*ISN **31** 17:56:26.6±0.3, 33˚.90N×45˚.87E, h38km±1km, ML2.3*
ISC 31 17:56:28.7±1.0, **33˚.72N**±0˚.05×**45˚.80E**±0˚.06, **h19**km, **n10,**
σ0s79/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.35**	**105**	Pg	**Pg**	**17 56 35.4**	**-0.8**
ILBA				Sg	**Sg**	**17 56 41.9**	**+0.5**
IBDR	**Badra**	**0.61**	**170**	*e*Pg	**Pn**	**17 56 42.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**17 56 53.0**	**+1.3**
IBDR				AML	AML	17 56 56.6	
comp=N,110nm,0.5s							
IBDR				AML	AML	17 57 07.9	
comp=E,83nm,0.5s							
IGHG	**Ghaleghazi**	**0.88**	**46**	Pg	**Pg**	**17 56 45.9**	**-0.1**
IDHR	**Dehrash**	**1.09**	**26**	Pg	**Pb**	**17 56 49.2**	**0.0**
KCHF	**Cheshme Sefid,**	**1.17**	**61**	Pg	**Pg**	**17 56 51.7**	**+0.2**
BHD	**Baghdad**	**1.27**	**250**	*e*Pn	**Pn**	**17 56 51.0**	**-0.4**
BHD				*e*Sn	**Sn**	**17 57 09.0**	**+1.1**
BHD				AML	AML	17 57 13.7	
comp=E,49nm,0.8s							
ILIN	**Lien**	**1.54**	**38**	Pg	**Pg**	**17 56 57.5**	**-0.9**
IKFM	**Kafar-mosalman**	**1.72**	**96**	Pg	**Pg**	**17 57 01.2**	**-0.6**
IBZA	**Bozab**	**1.87**	**66**	Pn	**Pb**	**17 57 02.5**	**+0.2**
RAFI	**Al-Rafai**	**2.00**	**172**	*e*Pn	**Pn**	**17 57 02.0**	**+0.5**
RAFI				*e*Sn	**Sb**	**17 57 28.0**	**-1.1**

*IDC **31** 18:00:10.2±2.0, 47˚.48N×92˚.87W, h0km, mb2.7/1,*
mbtmp3.1/6, ML2.9/2, Error ellipse: s-maj=26.9km
s-min=14.2km az=77.0
*NEIC **31** 18:00:12.0±2.2, 47˚.41N±0˚.02×93˚.06W±0˚.04, h0km±1km,*
mb_Lg3.0/31, ML2.8/6, Error ellipse: s-maj=5.1km
s-min=3.5km az=281.0
ISC 31 18:00:10.0±0.7, **47˚.44N**±0˚.03×**93˚.11W**±0˚.04, **h0**km, **n35,**
σ1s60/30, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
B35A	**Bob, Littlefor**	**1.01**	**336**		**Pn**	**18 00 31.5**	**+0.1**
B35A				IAML		18 00 50.3	
comp=E,237nm,0.5s							
B35A				IAML		18 00 50.5	
comp=N,206nm,0.9s							
EYMN	**Ely**	**1.20**	**65**	Pg	**Pg**	**18 00 33.4**	**+0.3**
EYMN				Sg	**Sg**	**18 00 49.5**	**+0.8**
EYMN				IAML		18 00 58.6	
comp=N,156nm,0.9s							
E38A	**The Farm, Brul**	**1.35**	**128**	Pg	**Pb**	**18 00 36.6**	**+0.4**
E38A				Sg	**Sg**	**18 00 53.4**	**-0.1**
E38A				IAML		18 01 01.9	
comp=E,320nm,0.5s							
F36A	**Milaca**	**1.61**	**190**		**Pg**	**18 00 40.9**	**+0.2**
F36A					**Sg**	**18 01 00.9**	**-0.6**
F36A				IAmb_Lg		18 01 03.6	
comp=Z,69nm,0.8s							
AGMN	**Agassiz Nation**	**2.04**	**296**		**Pb**	**18 00 47.7**	**-0.2**
SPMN	**Marine on St.**	**2.23**	**174**		**Pb**	**18 00 50.6**	**-0.5**
SPMN					**Sn**	**18 01 16.4**	**+0.1**
D32A	**Dogwood Acres,**	**2.67**	**265**		**Pb**	**18 00 57.2**	**-1.5**
D32A				IAmb_Lg		18 01 37.2	
comp=Z,25nm,0.8s							
F33A	**5 Mile Ranch,**	**2.71**	**235**		**Pb**	**18 00 58.7**	**-0.7**
F33A				IAmb_Lg		18 01 42.4	
comp=Z,32nm,0.7s							
G40A	**Rib Lake**	**2.96**	**136**		**Pn**	**18 01 00.0**	**+1.7**
COWI	**Conover**	**3.04**	**115**		**Pn**	**18 00 59.2**	**-0.2**
COWI				IAmb_Lg		18 01 45.3	
comp=Z,34nm,0.8s							
D41A	**Chassel**	**3.12**	**95**	Pn	**Pn**	**18 01 00.9**	**+0.5**
ULM	**Lac du Bonnet**	**3.35**	**328**		**Pn**	**18 01 04.9**	**+1.4**
ULM				IAmb_Lg		18 01 57.6	
comp=Z,28nm,0.8s							
ULM	**Lac du Bonnet**	**3.35**	**328**	Pn	**Pn**	**18 01 03.6**	**0.0**
comp=Z,1.5nm,0.5s,baz=153,slow=9.0,SNR=1.4							
ULM				Lg	Lg	18 01 55.5	
comp=Z,4.6nm,0.3s,baz=66,slow=21,SNR=22							
I37A	**Lemond, Waseca**	**3.43**	**183**		**Pn**	**18 01 06.5**	**+1.8**
F42A	**Maple Grove Fa**	**3.82**	**114**	Pn	**Pn**	**18 01 09.0**	**-1.0**
MDND	**Maddock**	**4.41**	**278**		**Pb**	**18 01 29.4**	**+1.1**
MDND				IAmb_Lg		18 02 31.2	
comp=Z,33nm,0.8s							
ECSD	**EROS Data Cent**	**4.45**	**215**		**Pn**	**18 01 20.9**	**+2.3**
ECSD				IAmb_Lg		18 02 29.6	
comp=Z,31nm,0.9s							
I42A	**Draeger Farm,**	**4.61**	**139**		**Sg**	**18 02 32.8**	**-5.3**
K38A	**Parkersburg**	**4.80**	**177**	Pn	**Pn**	**18 01 23.1**	**-0.4**
K38A				IAmb_Lg		18 02 55.8	
comp=Z,26nm,0.9s							
JFWS	**Jewell Farm**	**4.96**	**155**	Pn	**Pn**	**18 01 25.6**	**-0.1**
JFWS					**Sb**	**18 02 42.1**	**+4.3**
SUSD	**Miller**	**5.06**	**236**	IAmb_Lg		18 02 51.6	
comp=Z,18nm,0.8s							
E28A	**Huff**	**5.26**	**263**	IAmb_Lg		18 03 04.9	
comp=Z,20nm,0.8s							
L34A	**Svendsen Farm,**	**5.95**	**204**	IAmb_Lg		18 03 18.9	
comp=Z,28nm,0.8s							
L42A	**Oliver, Polo**	**5.96**	**154**	IAmb_Lg		18 03 15.8	
comp=Z,25nm,0.8s							
K30B	**Basset**	**6.63**	**226**	IAmb_Lg		18 03 41.3	
comp=Z,24nm,1.0s							
N35A	**Tabor**	**6.83**	**196**	IAmb_Lg		18 03 57.2	
comp=Z,19nm,0.8s							
BGNE	**Belgrade**	**7.03**	**213**	IAmb_Lg		18 04 11.5	
comp=Z,24nm,0.8s							
RSSD	**Black Hills**	**8.32**	**250**	Pn	**Pn**	**18 02 12.7**	**+0.6**
Q44A	**Meyer Farm, Va**	**9.04**	**159**	IAmb_Lg		18 05 04.7	
comp=Z,20nm,1.1s							
FFC	**Flin Flon**	**9.18**	**326**	IAmb_Lg		18 04 59.8	
comp=Z,17nm,1.3s							
PDAR	**Pinedale Array**	**12.52**	**254**	Pn	**Pn**	**18 03 09.2**	**-0.3**
comp=Z,0.6nm,0.5s,baz=77,slow=11,SNR=7.3							
SCHQ	**Schefferville**	**18.00**	**56**	P	**Pn**	**18 04 20.1**	**-1.2**
comp=Z,0.2nm,0.3s,baz=249,slow=14,SNR=1.3							
comp=Z,2.3nm,0.9s							
YKA	**Yellowknife Ar**	**19.33**	**329**	P	**P**	**18 04 36.5**	**-0.1**
comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=7.5							
comp=Z,0.4nm,0.7s							
TXAR	**Lajitas Array**	**19.85**	**208**	P	**Pn**	**18 04 43.3**	**-0.8**
comp=Z,0.1nm,0.6s,baz=34,slow=9.8,SNR=2.0							
NVAR	**Mina Array Bea**	**20.45**	**253**	P	Pn	18 04 53.0	+1.8
comp=Z,0.2nm,0.6s,baz=56,slow=9.9,SNR=2.1							
comp=Z,0.2nm,0.6s							

*IDC **31** 18:02:05.2±0.9, 83˚.18N×8˚.88W, h0km, mb3.8/10,*
mbtmp3.9/13, ML3.5/3, MS3.5/14, Error ellipse:
s-maj=25.5km s-min=18.4km az=157.0
*FCIAR **31** 18:02:11.0, 82˚.93N×5˚.41W, h10km, station OMEGA has*
station magnitude of 3.90
*BER **31** 18:02:13.4±3.8, 82˚.84N×4˚.71W, h10km, mb(Pn)3.9,*
ML3.0(NAO), Confirmed Earthquake
ISC 31 18:02:06.3±0.7, **83˚.14N**±0˚.09×**8˚.02W**±0˚.09, **h10**km, **n44,**
σ2s14/33, mb3.7/10, MS3.3/11, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.21**	**133**	Pn	**Pn**	**18 03 21.8**	**-2.4**
KBS	**Kingsbay**	**5.21**	**133**	*e*P	**Pn**	**18 03 21.3**	**-2.9**
KBS				*e*S	Sn	18 04 12.1	-12
KBS				IAML		18 04 22.4	
comp=Z,12nm,0.3s							
KBS	**Kingsbay**	**5.21**	**133**	*e*P	**Pn**	**18 03 21.1**	**-3.0**
KBS				*e*S	Sn	18 04 13.7	-11
BRBB	**Barentsburg B**	**6.17**	**133**	Pn	**Pn**	**18 03 35.6**	**-1.6**
BRBB				Sn	Sn	18 04 35.5	-12
BRBB	**Barentsburg B**	**6.17**	**133**	*e*P	**Pn**	**18 03 35.0**	**-2.2**
BRBB				*e*S	Sn	18 04 35.8	-12
BRBA	**Barentsburg A**	**6.20**	**133**	Pn	**Pn**	**18 03 36.1**	**-1.5**
BRBA	**Barentsburg A**	**6.20**	**133**	*e*P	**Pn**	**18 03 35.9**	**-1.7**
BRBA				*e*S	Sn	18 04 36.3	-12
BRBA				IAML		18 04 46.6	
comp=Z,11nm,0.9s							
SPA0	**Spitsbergen Ar**	**6.29**	**129**	Pn	**Pn**	**18 03 36.3**	**-2.6**
baz=358,slow=12							
SPA0				Sn	Sn	18 04 39.2	-11
SPA0	**Spitsbergen Ar**	**6.29**	**129**	Pn	**Pn**	**18 03 36.3**	**-2.6**
baz=358,slow=12							
SPA0				Sn	Sn	18 04 39.2	-11
SPA0	**Spitsbergen Ar**	**6.29**	**129**	*e*P	**Pn**	**18 03 36.0**	**-2.9**
SPA0				*e*S	Sn	18 04 39.2	-11
SPITS	**Spitsbergen Ar**	**6.29**	**129**	Pn	**Pn**	**18 03 36.0**	**-2.9**
baz=1.5,slow=9.5							
SPITS				Sn	Sn	18 04 35.8	-15
baz=286,slow=12							
HSPB	**Hornsund (broa**	**7.29**	**135**	Pn	**Pn**	**18 03 51.4**	**-1.2**
HSPB	**Hornsund (broa**	**7.29**	**135**	*e*P	**Pn**	**18 03 51.4**	**-1.2**
HSPB				*e*S	Sn	18 05 02.9	-12
HSPB				IAML		18 05 04.1	
comp=Z,2.8nm,0.8s							
ZFI2	**Zemlya Franca-**	**7.81**	**78**	*e*P	**Pn**	**18 03 56.5**	**-3.2**
ZFI2				*e*S	Sn	18 05 15.4	-12
OMEGA	**Omega**	**7.83**	**78**	*e*P	**Pn**	**18 03 56.8**	**-3.3**
OMEGA				*e*S	Sn	18 05 15.3	-13
comp=Z,33nm,2.2s							
HOPEN	**Hopen**	**8.64**	**122**	Pn	**Pn**	**18 04 08.3**	**-2.8**
HOPEN	**Hopen**	**8.64**	**122**	*e*P	**Pn**	**18 04 08.6**	**-2.4**
HOPEN				*e*S	Sn	18 05 34.2	-14
HOPEN				IAML		18 05 48.8	
comp=Z,5.7nm,0.8s							
HOPEN	**Hopen**	**8.64**	**122**	*e*P	**Pn**	**18 04 07.7**	**-3.4**
HOPEN				*e*S	Sn	18 05 33.8	-15
ARA0	**ARCESS Array S**	**15.30**	**133**	Pn	**Pn**	**18 05 40.7**	**-1.2**
baz=349,slow=9.3							
ARA0	**ARCESS Array S**	**15.30**	**133**	Pn	**Pn**	**18 05 40.7**	**-1.2**
baz=349,slow=9.3							
ARCES	**ARCESS Array B**	**15.30**	**133**	Pn	**Pn**	**18 05 40.9**	**-1.0**
baz=345,slow=8.8,SNR=2.8							
ARCES				LR	LR	18 11 18.3	
comp=Z,120nm,21.4s,baz=344,slow=36							
comp=Z,6.3nm,1.0s							
RES	**Resolute Bay**	**16.50**	**291**	Pn	**Pn**	**18 05 55.8**	**-1.6**
comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=18							
RES				LR	LR	18 12 35.9	
comp=Z,223nm,18.8s,baz=16,slow=38							
comp=Z,6.0nm,0.9s							
SFJD	**Kangerlussuaq**	**18.62**	**236**	P	**P**	**18 06 21.6**	**-1.8**
comp=Z,0.3nm,0.3s,baz=8.6,slow=13,SNR=1.8							
SFJD				LR	LR	18 13 56.8	
comp=Z,149nm,19.9s,baz=16,slow=38							
comp=Z,2.4nm,0.6s							
NRIK	**Noril'sk**	**22.48**	**67**	P	**P**	**18 07 06.6**	**+1.3**
comp=Z,7.9nm,1.1s,baz=353,slow=4.7,SNR=4.7							
comp=Z,7.9nm,1.1s							
FRB	**Frobisher Bay**	**23.73**	**254**	LR	LR	18 16 55.5	
comp=Z,142nm,18.0s,baz=34,slow=38							
HFS	**Hagfors**	**23.75**	**153**	LR	LR	18 16 09.8	
comp=Z,94nm,18.7s,baz=54,slow=35							
INK	**Inuvik**	**26.41**	**317**	LR	LR	18 20 49.3	
comp=Z,90nm,18.8s,baz=190,slow=43							
KIRV	**Kirov**	**28.41**	**112**	LR	LR	18 19 52.2	
comp=Z,84nm,21.3s,baz=14,slow=37							
ILAR	**Eielson Array**	**30.89**	**327**	LR	LR	18 21 53.6	
comp=Z,51nm,19.0s,baz=94,slow=39							
ARU	**Arti**	**31.57**	**103**	LR	LR	18 22 54.7	
comp=Z,127nm,19.5s,baz=40,slow=39							
SCHQ	**Schefferville**	**32.25**	**248**	LR	LR	18 21 45.6	
comp=Z,89nm,20.9s,baz=48,slow=37							
YAK	**Yakutsk**	**33.53**	**35**	P	**P**	**18 08 46.4**	**+1.0**
comp=Z,7.6nm,0.7s,baz=70,slow=0.9,SNR=7.7							
comp=Z,7.6nm,0.7s							
AKASG	**Malin Array Be**	**34.21**	**137**	LR	LR	18 23 32.5	
comp=Z,87nm,18.4s,baz=45,slow=38							
ZALV	**Zalesovo Beam**	**37.13**	**78**	P	**P**	**18 09 17.1**	**+0.6**
comp=Z,0.9nm,0.7s,baz=352,slow=9.7,SNR=5.6							
comp=Z,0.9nm,0.7s							
AKTO	**Aktyubinsk**	**37.40**	**106**	LR	LR	18 26 33.6	
comp=Z,130nm,21.1s,baz=241,slow=39							
KDAK	**Kodiak Island**	**38.20**	**330**	LR	LR	18 24 45.6	
comp=Z,53nm,21.0s,baz=344,slow=36							
KURBB	**Kurchatov Arra**	**39.66**	**85**	P	**P**	**18 09 39.2**	**+1.5**
comp=Z,1.5nm,0.9s,baz=356,slow=7.5,SNR=18							
comp=Z,1.5nm,0.9s							
BBB	**Bella Bella**	**41.83**	**307**	LR	LR	18 28 47.1	
comp=Z,29nm,20.2s,baz=310,slow=38							
ESDC	**Sonseca Array**	**43.63**	**175**	P	**P**	**18 10 12.1**	**+1.7**
comp=Z,1.0nm,0.9s,baz=9.9,slow=9.1,SNR=5.4							
comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**43.87**	**82**	P	**P**	**18 10 13.6**	**+1.3**
comp=Z,1.3nm,0.9s,baz=355,slow=7.9,SNR=13							
comp=Z,1.3nm,0.9s							
AAK	**Ala-Archa**	**47.03**	**91**	P	**P**	**18 10 38.8**	**+1.3**
comp=Z,1.4nm,0.9s,baz=350,slow=6.0,SNR=3.9							
comp=Z,1.4nm,0.9s							
PDAR	**Pinedale Array**	**49.16**	**288**	P	**P**	**18 10 53.8**	**-0.3**
comp=Z,0.3nm,1.0s,baz=23,slow=8.3,SNR=1.1							
comp=Z,0.3nm,1.0s							
TORD	**Torodi Ar. Bea**	**70.14**	**170**	P	**P**	**18 13 19.6**	**+1.1**
comp=Z,0.5nm,0.8s,baz=350,slow=7.9,SNR=2.8							
comp=Z,0.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**73.79**	**71**	P	**P**	**18 13 40.9**	**+0.4**
comp=Z,0.9nm,0.6s,baz=344,slow=7.1,SNR=8.3							
comp=Z,0.9nm,0.6s							

*IDC **31** 18:02:23.2±1.0, 56˚.05N×149˚.78W, h0km, mb3.6/9,*
mbtmp3.7/13, ML3.7/4, MS3.3/1, Error ellipse:
s-maj=27.8km s-min=18.9km az=27.0
*NEIC **31** 18:02:25.7±1.6, 56˚.12N±0˚.05×149˚.8W±0˚.1, h10km±2km,*
mb4.4/2, ML4.2/51, ML4.0(AEIC), Error ellipse:
s-maj=10.0km s-min=8.3km az=108.0
*AEIC **31** 18:02:30.6±1.9, 56˚.16N±0˚.09×149˚.8W±0˚.1, h10km±6km,*
Error ellipse: s-maj=13.0km s-min=8.5km az=176.0
ISC 31 18:02:27.9±2.9, **56˚.18N**±0˚.07×**149˚.72W**±0˚.05,
h31km±22km, **n255,** **σ1s17/255, mb3.6/10, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.23**	**299**		**Pn**	**18 03 02.6**	**-0.1**
OHAK					**Sn**	**18 03 27.2**	**-1.9**
OHAK	**Old Harbor**	**2.23**	**299**	P	**Pn**	**18 03 02.6**	**-0.1**
baz=119							
OHAK				S	**Sn**	**18 03 27.2**	**-1.9**
baz=119							
KDAK	**Kodiak Island**	**2.25**	**317**		**Pn**	**18 03 02.8**	**-0.1**
KDAK	**Kodiak Island**	**2.25**	**317**	Pn	**Pn**	**18 03 02.8**	**-0.1**
13nm,0.3s,baz=150,slow=4.8,SNR=111							
KDAK				Sn	**Sn**	**18 03 28.4**	**-1.1**
46nm,0.3s,baz=234,slow=19,SNR=40							
KDAK				LR	LR	18 04 10.4	
comp=Z,175nm,19.6s,baz=192,slow=46							
32nm,0.3s							
SII	**Sitkinak Islan**	**2.51**	**281**		**Pn**	**18 03 06.2**	**-0.4**
SII				IAML		18 03 34.6	
comp=E,657nm,0.6s							
SII	**Sitkinak Islan**	**2.51**	**281**	P	**Pn**	**18 03 06.2**	**-0.4**
SII	**Sitkinak Islan**	**2.51**	**281**	P	**Pn**	**18 03 06.2**	**-0.4**
baz=99							
SYI	**Shuyak Island**	**2.83**	**330**		**Pn**	**18 03 11.2**	**+0.2**
SYI					**Sn**	**18 03 43.5**	**-0.5**
SYI	**Shuyak Island**	**2.83**	**330**	IAML		18 03 45.4	
comp=E,366nm,0.5s							
Q20K	**Shuyak Island**	**2.83**	**330**	P	**Pn**	**18 03 11.4**	**+0.4**
baz=150							
Q20K				S	**Sn**	**18 03 44.1**	**+0.1**
baz=150							
R18K	**Karluk**	**2.95**	**300**		**Pn**	**18 03 12.7**	**+0.1**
R18K					**Sn**	**18 03 45.5**	**-1.3**
R18K	**Karluk**	**2.95**	**300**	IAML		18 03 49.0	
comp=N,469nm,0.5s							
R18K				IAML		18 03 51.8	
comp=E,406nm,0.5s							
CNPM	**China Poot**	**3.45**	**347**	Pn	**Pn**	**18 03 19.5**	**0.0**
CNPM				IAML		18 04 00.3	
comp=E,462nm,0.7s							
CNPM				IAML		18 04 01.0	
comp=N,255nm,0.5s							
CNPM	**China Poot**	**3.45**	**347**		**Sn**	**18 03 58.8**	**-0.6**
Q19K	**Cape Douglas,**	**3.48**	**324**		**Pn**	**18 03 21.1**	**+1.2**
Q19K	**Cape Douglas,**	**3.48**	**324**	IAML		18 04 08.2	
comp=N,714nm,0.8s							
Q19K				IAML		18 04 08.7	
comp=E,1μm,0.7s							
Q19K	**Cape Douglas,**	**3.48**	**324**	P	**Pn**	**18 03 21.2**	**+1.4**
baz=142							
KAHG	**Katmai Hook Gl**	**3.50**	**314**		**Pn**	**18 03 21.8**	**+1.6**
BRSE	**Bradley Lake S**	**3.61**	**352**		**Pn**	**18 03 21.2**	**-0.5**
BRSE					**Sn**	**18 04 01.9**	**-1.4**
BRSE	**Bradley Lake S**	**3.61**	**352**	P	**Pn**	**18 03 21.5**	**-0.2**
baz=171							
BRSE				S	**Sn**	**18 04 01.9**	**-1.4**
baz=171							
HOM	**Homer**	**3.64**	**344**		**Pn**	**18 03 22.6**	**+0.6**
HOM	**Homer**	**3.64**	**344**	IAML		18 04 09.5	
comp=E,678nm,0.7s							
HOM				IAML		18 04 10.6	
comp=N,571nm,0.8s							
HOM	**Homer**	**3.64**	**344**	P	**Pn**	**18 03 24.1**	**+2.1**
baz=163							
BRLK	**Bradley Lake**	**3.65**	**351**		**Pn**	**18 03 21.7**	**-0.5**
BRLK				IAML		18 04 05.8	
comp=E,238nm,0.5s							
Q23K	**Middleton Isla**	**3.72**	**28**		**Pn**	**18 03 23.8**	**+0.6**
Q23K					**Sn**	**18 04 05.4**	**-0.6**
Q23K	**Middleton Isla**

RSO	Redoubt South	4.58	341			Pn	18 03 35.4	+0.2
RDWB	Redoubt West	4.62	340			Pn	18 03 34.6	-1.1
CAPN	Captain Cook N	4.66	351	Pn		Pn	18 03 36.4	+0.3
CAPN				IAML			18 04 43.7	
	comp=E,416nm,0.6s							
KAIM	Kayak Island	4.69	35	Pn		Pn	18 03 37.4	+0.9
O18K	Koktuh Hills	4.70	324	Pn		Pn	18 03 36.6	-0.1
O18K				IAML			18 04 31.1	
	comp=N,103nm,0.7s							
O18K	Koktuh Hills baz=140	4.70	324	P		Pn	18 03 38.5	+1.9
O19K	Port Alsworth	4.71	331	Pn		Pn	18 03 36.7	0.0
O19K				IAML			18 04 33.9	
	comp=N,376nm,0.4s							
P17K	Kvichak River	4.71	313			Pn	18 03 37.4	+0.7
NCT	North Crescent	4.71	340			Pn	18 03 36.3	-0.5
ANPB	Aniakchak Plen	4.79	281			Pn	18 03 38.1	+0.2
EYAK	Cordova Ski Ar	4.85	24			Pn	18 03 39.1	+0.4
EYAK	Cordova Ski Ar	4.85	24	P		Pn	18 03 39.6	+0.9
CHGN	Chignik	4.85	275	Pn		Pn	18 03 38.5	-0.2
CHGN				IAML			18 04 34.5	
	comp=N,114nm,0.6s							
CHGN				IAML			18 04 38.0	
	comp=E,80nm,1.2s							
RC01	Rabbit Creek A	4.92	360	Pn		Pn	18 03 39.2	-0.5
RC01				IAML			18 04 36.3	
	comp=N,182nm,0.4s							
RC01				IAML			18 04 36.5	
	comp=E,244nm,0.4s							
RC01	Rabbit Creek A baz=180	4.92	360	P		Pn	18 03 40.2	+0.5
RAGM	Ragged Mountai	4.99	30			Pn	18 03 41.4	+0.8
GOAT	Goat Mountain	5.13	29			Pn	18 03 43.0	+0.3
N19K	Bonanza Creek	5.28	334	Pn		Pn	18 03 44.2	-0.4
BERG	Berg Lake	5.28	34			Pn	18 03 45.5	+0.9
KNK	Knik Glacier	5.29	7	Pn		Pn	18 03 45.3	+0.5
KNK				IAML			18 04 43.0	
	comp=N,89nm,0.6s							
KNK				IAML			18 04 56.5	
	comp=E,102nm,0.5s							
SUA	Susitna One	5.33	355			Pn	18 03 45.0	-0.4
SUA				IAML			18 04 48.0	
	comp=E,56nm,1.4s							
SNH	Sunshine Point	5.42	39			Pn	18 03 47.3	+0.8
PMR	Palmer	5.44	3	Pn		Pn	18 03 47.6	+0.8
PMR	Palmer	5.44	3	P		Pn	18 03 48.4	+1.7
VNFG	Fog Glacier, M	5.49	275			Pn	18 03 48.3	+0.8
BMRM	Bremner River	5.50	27			Pn	18 03 48.2	+0.6
N18K	Kilae Creek	5.56	327	Pn		Pn	18 03 48.4	0.0
GHO	Glory Hole Cre	5.62	4	Pn		Pn	18 03 49.5	+0.1
O16K	Kokwok River B	5.63	311	Pn		Pn	18 03 49.8	+0.5
KLU	Klutina	5.68	19			Pn	18 03 50.8	+0.6
SML	Sawmill	5.69	7	Pn		Pn	18 03 51.1	+0.8
SML	Sawmill baz=188	5.69	7	P		Pn	18 03 49.4	-0.8
BARK	Barkley Ridge	5.70	39			Pn	18 03 51.5	+1.1
MESA	MESA	5.74	42			Pn	18 03 52.3	+1.2
CRQM	Cirque	5.74	34			Pn	18 03 52.2	+1.1
CNBA	Chernabura Isl	5.77	260	Pn		Pn	18 03 50.4	-1.0
SCM	Sheep Creek Mo	5.80	11			Pn	18 03 53.3	+1.4
SCM	Sheep Creek Mo baz=193	5.80	11	P		Pn	18 03 54.5	+2.6
SVW2	Sparrevohn	5.80	331	Pn		Pn	18 03 52.5	+0.7
N17K	Nushagak Hills	5.87	321	Pn		Pn	18 03 51.7	-1.0
ISLE	Juniper Island	5.89	38			Pn	18 03 54.3	+1.2
SKT	Skwentna	5.89	352	Pn		Pn	18 03 52.8	-0.2
M20K	Styx River	5.99	344	Pn		Pn	18 03 54.1	-0.3
VRDI	Verde Repeater	6.02	30	Pn		Pn	18 03 55.9	+0.9
N25K	Chitina, Valde	6.05	24	Pn		Pn	18 03 56.5	+1.2
GLB	Gilahina Butte	6.10	28			Pn	18 03 57.0	+1.0
KIAG	Kiagna River	6.12	36			Pn	18 03 57.4	+1.1
SDPT	Sand Point	6.13	267	Pn		Pn	18 03 56.2	0.0
SDPT	Sand Point	6.13	267	P		Pn	18 03 56.3	0.0
SAMH	Samovar Hills	6.17	46			Pn	18 03 58.9	+2.0
M18K	Stony River	6.20	332			Pn	18 03 56.7	-0.4
O15K	Ungalikthiuk R	6.20	303			Pn	18 03 57.9	+0.7
TABL	Table Mountain	6.22	43			Pn	18 03 59.0	+1.3
M24K	Tolsona, Glenn	6.22	16			Pn	18 03 59.0	+1.5
M19K	Big River Lodg	6.23	339	Pn		Pn	18 03 56.9	-0.7
CUT	Chulitna	6.25	358	Pn		Pn	18 03 57.5	-0.4
PTPK	Patty Peak	6.28	34			Pn	18 03 59.9	+1.4
YKU2	Yakutat	6.32	54	Pn		Pn	18 04 00.6	+1.8
YKU2	Yakutat	6.32	54	P		Pn	18 04 01.0	+2.2
PCA	Pinnacle	6.36	48			Pn	18 04 01.2	+1.6
N16K	Nishlik Lake	6.42	316			Pn	18 04 01.1	+0.9
WASW	Wrangell South	6.43	24			Pn	18 04 01.8	+1.1
WACK	Wrangell Chich	6.45	23			Pn	18 04 02.0	+1.2
BARN	Barnard Glacie	6.45	37			Pn	18 04 01.9	+1.1
CTGM	Chitina Glacie	6.50	39			Pn	18 04 02.7	+1.3
WAT6	Susitna Watana	6.50	8			Pn	18 04 02.4	+0.9
PNL	Peninsula	6.51	53	P		Pn	18 04 03.2	+1.7
LOGN	Logan Glacier	6.52	41			Pn	18 04 02.8	+1.1
BCPM	Bancas Point	6.55	51			Pn	18 04 03.8	+1.8
L19K	White Mountain	6.57	338	Pn		Pn	18 04 01.7	-0.6
M17K	Holitna River	6.59	326			Pn	18 04 03.0	+0.4
HARP	HAARP	6.66	19			Pn	18 04 05.1	+1.6
WAT7	Susitna Watana	6.69	3			Pn	18 04 05.2	+1.2
N15K	Kwethluk River	6.79	310			Pn	18 04 06.7	+1.4
M16K	Timber Creek	6.84	319	Pn		Pn	18 04 07.1	+1.0
O14K	Tigyukauivet M	6.91	301			Pn	18 04 07.2	+0.3
PN7A	Pavlof North-7	6.96	269			Pn	18 04 07.8	+0.1
DHY	Denali Highway	7.02	9			Pn	18 04 10.0	+1.4
M26K	Nabesna, AK	7.12	26			Pn	18 04 11.3	+1.4
PAX	Paxson	7.14	16			Pn	18 04 12.0	+1.8
O29M	Mount Kennedy	7.18	50			Pn	18 04 12.5	+1.6
YUK2	White River	7.25	36			Pn	18 04 13.4	+1.7
P29M	Windy Craggy	7.26	57			Pn	18 04 13.2	+1.5
RND	Reindeer	7.26	3	Pn		Pn	18 04 12.1	+0.3
YUK8	Steele Glacier	7.28	41			Pn	18 04 14.4	+2.2
TRF	Thorofare Moun	7.30	358	Pn		Pn	18 04 14.2	+1.8
CAST	Castle Rocks	7.36	352	Pn		Pn	18 04 14.8	+1.6
N14K	Kuskokwak Cree	7.37	306			Pn	18 04 13.8	+0.5
M27K	Edge Creek, AK	7.38	30			Pn	18 04 14.9	+1.4
KTH	Kantishna Hill	7.42	356	Pn		Pn	18 04 16.1	+2.1
MENT	Mentasta	7.43	22	Pn		Pn	18 04 14.5	+0.4
TTA	Tatalina	7.48	337	Pn		Pn	18 04 14.7	-0.2
L16K	Owhat River	7.49	322	Pn		Pn	18 04 15.3	+0.4
K20K	Telida	7.53	345	Pn		Pn	18 04 14.7	-0.7
S31K	Pelican	7.56	71			Pn	18 04 14.9	-1.0
BVCY	Beaver Creek	7.72	32			Pn	18 04 20.1	+2.1
P30M	Million Dollar	7.82	54			Pn	18 04 21.2	+1.8
PLBC	Pleasant Camp	7.85	60			Pn	18 04 21.5	+1.7
K17K	Iditarod	7.87	330	Pn		Pn	18 04 19.8	-0.3
M14K	Bethel	7.88	311	Pn		Pn	18 04 18.7	-1.5
FALS	False Pass	7.89	266			Pn	18 04 20.5	+0.1
FALS	False Pass	7.89	266	P		Pn	18 04 20.8	+0.4
HYT	Haines Junctio	7.91	49			Pn	18 04 22.5	+1.8
RIDG	Independent Ri	7.97	16			Pn	18 04 22.0	+0.5
BPAW	Bear Paw Mtn.	7.97	356	Pn		Pn	18 04 22.3	+0.8
L27K	Beaver Creek,	7.97	27			Pn	18 04 22.9	+1.4
BCAR	Beaver Creek A	7.99	27	Pn		Pn	18 04 23.3	+1.5
SIT	Sitka	7.99	78	P		Pn	18 04 20.3	-1.4
ISNN	Isanotski Nort	8.10	266			Pn	18 04 23.3	0.0
SSLN	Shishaldin Nor	8.22	266			Pn	18 04 25.3	+0.2
J20K	Nowinta River	8.32	346	Pn		Pn	18 04 27.1	+0.9
SCRK	Sand Creek	8.33	18			Pn	18 04 28.1	+1.6
SKAG	Skagway	8.35	61			Pn	18 04 27.9	+1.2
SKAG	Skagway	8.35	61	P		Pn	18 04 28.5	+1.8
HDA	Harding Lake	8.37	8	Pn		Pn	18 04 29.2	+2.2
BESE	Bessie Mountai	8.38	67			Pn	18 04 27.9	+0.7
S32K	Killisnoo	8.41	75			Pn	18 04 26.6	-0.8
NEA2	Nenana	8.45	2	Pn		Pn	18 04 28.2	+0.2
L14K	Kuka Creek	8.49	313			Pn	18 04 28.8	+0.2
O30N	Mendenhall	8.49	52			Pn	18 04 30.5	+1.9
R32K	Eaglecrest	8.51	69	Pn		Pn	18 04 29.3	+0.4
M29M	Somme Creek	8.51	38			Pn	18 04 31.1	+2.2
CCB	Clear Creek Bu	8.55	6			Pn	18 04 31.2	+1.9
JIS	Juneau Island	8.58	69			Pn	18 04 30.4	+0.6
JIS	Juneau Island	8.58	69	P		Pn	18 04 29.7	-0.1
J25K	Salcha River,	8.73	12			Pn	18 04 32.5	+0.6
IL31		8.73	8			Pn	18 04 33.5	+1.6
ILAR	Eielson Array	8.73	8	Pn		Pn	18 04 33.6	+1.7
ILAR	Eielson Array	8.73	8	Pn		Pn	18 04 32.6	+0.7
	comp=E,0.7nm,0.3s,baz=189,slow=13,SNR=29							
ILAR				Sn		Sn	18 06 05.6	-3.5
	comp=E,1.3nm,0.3s,baz=200,slow=16,SNR=6.5							
ILAR				LR		LR	18 07 58.1	
	comp=E,173nm,18.3s,baz=170,slow=38							
K27K	Chicken	8.74	23	Pn		Pn	18 04 33.2	+1.2
MDM	Murphy Dome	8.84	4			Pn	18 04 33.6	+0.2
J26L	Joseph Creek	8.88	17			Pn	18 04 35.0	+0.9
N31M	Braeburn, Yuko	8.96	48			Pn	18 04 36.7	+1.6
WHY	Whitehorse	8.98	54	Pn		Pn	18 04 37.4	+2.0
I23K	Minto, Yukon-K	9.00	1	Pn		Pn	18 04 37.3	+1.7
POKR	Poker Plat Res	9.04	6	Pn		Pn	18 04 37.4	+1.3
L29M	L29M	9.08	35			Pn	18 04 38.3	+1.6
P32M	Atlin	9.18	62			Pn	18 04 39.4	+1.3
M30M	Minto, Yukon	9.19	40			Pn	18 04 39.9	+1.7
U33K	Whale Pass	9.27	84	Pn		Pn	18 04 37.5	-1.7
CRAG	Craig	9.37	87	Pn		Pn	18 04 39.2	-1.4
CRAG	Craig	9.37	87	P		Pn	18 04 38.2	-2.4
AKUT	Akutan	9.42	264	Pn		Pn	18 04 40.3	-0.9
DAWY	Dawson	9.43	29	Pn		Pn	18 04 42.5	+1.1
EGAK	Eagle	9.59	22	Pn		Pn	18 04 45.1	+1.4
H21K	Melozitna Rive	9.63	352			Pn	18 04 44.3	+0.2
WRAK	Wrangell Islan	9.66	81	Pn		Pn	18 04 43.6	-1.0
I26K	Coal Creek Min	9.70	17	Pn		Pn	18 04 44.7	-0.4
H24K	Noodor Dome	9.73	4	Pn		Pn	18 04 46.8	+1.1
Q32M	Nakina River	9.77	66			Pn	18 04 48.2	+1.8
P33M	Teslin, Yukon	9.79	59			Pn	18 04 47.1	+0.7
K29M	Barlow Dome	9.80	33	Pn		Pn	18 04 48.5	+1.9
M31M	Drury Creek, Y	9.90	46			Pn	18 04 49.9	+2.1
UNV	Unalaska Valle	9.92	263	Pn		Pn	18 04 47.1	-1.1
UNV	Unalaska Valle	9.92	263	P		Pn	18 04 47.3	-0.9
H19K	Roundabout Mou	9.93	344	Pn		Pn	18 04 49.0	+0.8
N32M	Quiet Lake	9.98	53			Pn	18 04 50.6	+1.5
IMAR	Indian Mountai	10.03	350	Pn		Pn	18 04 50.6	+1.0
V35K	Ketchikan	10.24	87	Pn		Pn	18 04 52.2	-0.3
S34M	Telegraph Cree	10.27	73	Pn		Pn	18 04 54.1	+1.1
FARO	Faro, Yukon	10.33	47			Pn	18 04 55.2	+1.3
I28M	Miner Creek	10.44	23	Pn		Pn	18 04 55.4	+0.1
R33M	Jennings River	10.51	64			Pn	18 04 57.0	+0.7
G21K	Alakaket	10.53	352			Pn	18 04 57.4	+0.9
G23K	Banana Creek	10.57	359			Pn	18 04 56.9	-0.2
G19K	Purcell Mounta	10.60	344	Pn		Pn	18 04 56.5	-1.0
FYU	Fort Yukon	10.64	10	Pn		Pn	18 05 00.3	+2.3
J30M	Hart River	10.69	33	Pn		Pn	18 05 01.2	+2.5
T35M	Bob Quinn	10.77	78	Pn		Pn	18 05 00.0	+0.2
DLBC	Dease Lake	10.88	70			Pn	18 05 02.5	+1.1
DLBC	Dease Lake	10.88	70	Pn		Pn	18 05 02.9	+1.4
	comp=E,0.5nm,0.3s,baz=258,slow=12,SNR=10.0							
DLBC				Sn		Sn	18 06 59.6	-2.4
	comp=E,0.5nm,0.3s,baz=191,slow=22,SNR=2.0							
	comp=E,6.1nm,0.6s							
I30M	Mount Dempster	11.15	30			Pn	18 05 08.1	+3.0
F21K	Alatna River	11.22	352	Pn		Pn	18 05 05.2	-0.7
F20K	Avaraart Lake	11.27	348	Pn		Pn	18 05 07.5	+1.0
F24K	Squaw Lake	11.41	4	Pn		Pn	18 05 09.1	+0.5
H29M	Whitestone	11.44	24	Pn		Pn	18 05 08.9	0.0
BMAR	Burnt Mountain	11.54	10	Pn		Pn	18 05 11.3	+0.9
F17K	Baldwin Pennin	11.66	337	Pn		Pn	18 05 11.8	-0.1
E19K	Redstone River	11.85	346	Pn		Pn	18 05 14.5	0.0
EPYK	Eagle Plains	11.95	26			Pn	18 05 18.3	+2.4
F15K	North Star Dit	11.96	329	Pn		Pn	18 05 15.7	-0.3
G29M	Pine Creek	12.09	22			Pn	18 05 19.2	+1.3
F28M	Old Crow	12.35	18	Pn		Pn	18 05 21.8	+0.4
D22K	Ayikyak River	12.82	355	Pn		Pn	18 05 29.0	+1.2
G31M	Satah River	13.00	28			Pn	18 05 31.4	+1.2
E28M	Babbage River	13.30	16			Pn	18 05 37.1	+2.8
E29M	Blow River	13.39	19			Pn	18 05 37.7	+2.2
C16K	Lisburne Hills	14.08	336			Pn	18 05 45.1	+0.2
INK	Inuvik	14.24	25			Pn	18 05 48.4	+1.3
INK	Inuvik	14.24	25	Pn		Pn	18 05 48.9	+1.8
	comp=E,0.1nm,0.3s,baz=255,slow=16,SNR=15							
	comp=E,7.7nm,0.9s							
B20K	Meade River	14.26	350	Pn		Pn	18 05 46.6	-0.8
B22K	Teshekpuk Lake	14.31	355			Pn	18 05 48.1	+0.1
ADK	Adak	16.36	266	Pn		Pn	18 06 15.0	-0.1
ADK				IAmb		IAmb	18 06 57.2	
	comp=Z,83nm,1.2s							
YKAB2	New Yellowknif	18.79	56	P		Pn	18 06 45.4	+0.3
YKA	Yellowknife Ar	18.80	56	P		P	18 06 45.0	+0.6
YKA	Yellowknife Ar	18.80	56	P		Pn	18 06 45.7	+0.6
	comp=Z,3.9nm,0.3s,baz=265,slow=9.6,SNR=46							
	comp=Z,2.1nm,0.8s							
NVAR	Mina Array Bea	27.38	117	P		P	18 08 10.3	-0.2
	comp=Z,0.4nm,0.7s,baz=318,slow=13,SNR=2.7							
	comp=Z,0.4nm,0.7s							
TXAR	Lajitas Array	42.02	110	P		P	18 10 15.9	-0.5
	comp=Z,0.1nm,0.5s,baz=47,slow=11,SNR=1.7							
	comp=Z,0.1nm,0.5s							
H11N2	WAKE ISLAND Hy	48.62	240	T		T	19 02 37.0	
	baz=32,slow=76,SNR=8.2							
H11N3	WAKE ISLAND Hy	48.63	240	T		T	19 02 37.3	
	baz=32,slow=76,SNR=8.3							
H11N1	WAKE ISLAND Hy	48.64	240	T		T	19 02 42.8	
	baz=32,slow=76,SNR=7.2							
H11S1	WAKE ISLAND Hy	49.76	239	T		T	19 05 38.3	
	baz=25							
H11S2	WAKE ISLAND Hy	49.78	239	T		T	19 05 43.5	
	baz=25							
H11S3	WAKE ISLAND Hy	49.78	239	T		T	19 05 35.0	
	baz=25							
SONM	Songino Array	58.52	310	P		P	18 12 22.5	+1.5
	comp=Z,0.4nm,0.7s,baz=46,slow=6.2,SNR=2.4							
	comp=Z,0.4nm,0.7s							
FINES	FINESS Array B	62.67	2	P		P	18 12 49.5	+0.6
	comp=Z,1.0nm,0.7s,baz=350,slow=10,SNR=3.4							
	comp=Z,1.0nm,0.7s							
HFS	Hafors	63.29	9	P		P	18 12 52.5	-0.5
	comp=Z,4.2nm,0.9s,baz=64,slow=8.4,SNR=2.5							
	comp=Z,4.2nm,0.9s							
KURBB	Kurchatov Arra	66.30	329	P		P	18 13 13.2	+0.4
	comp=Z,0.1nm,0.6s,baz=62,slow=14,SNR=1.7							
	comp=Z,0.1nm,0.6s							
MKAR	Makanchi Array	68.54	324	P		P	18 13 27.2	+0.1
MKAR	Makanchi Array	68.54	324	P		P	18 13 27.3	+0.2
	comp=Z,0.1nm,0.3s,baz=29,slow=5.5,SNR=1.7							
	comp=Z,0.1nm,0.3s							
ABKAR	Akbulak array	72.06	340	P		P	18 13 49.2	+0.7
ABKAR				IAmb		IAmb	18 14 19.7	
	comp=Z,2.7nm,1.4s							
ESDC	Sonseca Array	80.19	26	P		P	18 14 35.8	+0.8
	comp=Z,0.7nm,1.0s,baz=330,slow=6.2,SNR=2.0							
	comp=Z,0.7nm,1.0s							
CMAR	Chiang Mai Arr	86.11	298	P		P	18 15 05.5	-0.4
	comp=Z,0.5nm,0.3s,baz=47,slow=6.3,SNR=1.9							
	comp=Z,0.5nm,0.6s							
QSPA	South Pole Qui	145.97	180	PKPbc		PKPdf	18 22 02.4	+0.4
	comp=Z,3.0nm,0.7s,baz=76,slow=0.9,SNR=22							

BER 31 18:03:01.1±1.3, 82°22.2N×8°18.1W, h10km, mb(Pn)3.8, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	4.64	125	eP	Pn	18 04 08.8	-2.4
KBS				eS	Sn	18 04 58.7	-6.3
KBS				IAML		18 05 05.8	
	comp=Z,8.0nm,0.8s						
KBS	Kingsbay	4.64	125	Sn	Pn	18 04 08.4	-2.7
BRBB	Barentsburg B	5.59	126	eP	Pn	18 04 21.9	-2.2
BRBB				eS	Sn	18 05 22.0	-6.3
BRBA	Barentsburg A	5.62	126	eP	Pn	18 04 22.8	-1.8
BRBA				eS	Sn	18 05 22.9	-6.1
BRBA				IAML		18 05 32.0	
	comp=Z,7.5nm,0.7s						
SPA0	Spitsbergen Ar	5.77	122	eP	Pn	18 04 24.0	-2.5
SPA0				eS	Sn	18 05 25.9	-6.7
SPA0				IAML		18 05 27.3	
	comp=Z,4.2nm,0.9s						
HSPB	Hornsund (broa	6.69	129	eP	Pn	18 04 37.5	-1.6
HSPB				IAML		18 06 02.2	
	comp=Z,4.2nm,0.8s						
HOPEN	Hopen	8.21	116	eP	Pn	18 04 55.9	-4.1
HOPEN				eS	Sn	18 06 22.5	-10
HOPEN				IAML		18 06 26.1	
	comp=Z,5.3nm,0.9s						

*ISN **31** 18:12:19.3,33°85N×45°63E,h26km, ML3.5*
*TEH **31** 18:12:23.0,33°68N×45°71E,h11km±18km, ML3.3*
ISC 31 18:12:22.5±1.2, 33°66N±0°04×45°61E±0°04, h6km±12km, n20,σ1°25/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.50	94	Pg	Pg	18 12 31.6	-0.5
ILBA				Sg	Sg	18 12 37.8	-0.8
IBDR	Badra	0.61	154	ePg	Pg	18 12 34.0	-0.3
IBDR				eSg	Sg	18 12 45.0	+2.8
KGS1	Ghasr-e-Shirin	0.84	359	Pg	Pg	18 12 39.2	+0.4
IGHG	Ghaleghazi	1.04	50	Pg	Pb	18 12 41.6	-1.5
BHD	Baghdad	1.10	250	ePn	Pb	18 12 42.0	-2.0
BHD				eSn	Sg	18 12 59.0	+1.0
BHD				AML	AML	18 13 08.3	
	comp=E,2μm,0.5s						
IDHR	Dehrash	1.22	32	Pg	Pn	18 12 44.7	-1.7
KCHF	Cheshme Sefid,	1.34	62	Pg	Pn	18 12 47.2	-0.7
KCHF				Sg	Sb	18 13 05.9	+0.3
ILIN	Lien	1.68	41	Pg	Pn	18 12 53.4	+0.7
IKFM	Kafar-mosalman	1.87	94	Pg	Pn	18 12 56.4	+1.3
RAFI	Al-Rafai	1.98	168	ePn	Pn	18 12 56.0	-0.5
RAFI				eSn	Sn	18 13 22.0	+0.4
IBZA	Bozab	2.03	66	Pn	Pn	18 12 58.4	+0.8
IALM	Almabolaq	2.43	60	Pn	Pn	18 13 04.1	+1.0
SDS1	Sardasht. Az.	2.48	358	Pn	Pn	18 13 05.5	+1.8
HSAM	Samen	2.55	77	Pn	Pn	18 13 05.0	+0.4
HAGD	Aghdareh	3.14	67	Pn	Pn	18 13 13.6	+0.8
IRAZ	Razeghan	3.96	63	Pn	Pn	18 13 25.3	+1.2
QAMS	Qamsar	4.82	88	Pn	Pn	18 13 37.0	+1.1
IKLH	Kolahrood	5.00	92	Pn	Pn	18 13 39.8	+1.5
KRSH	Karshahi	5.44	85	Pn	Pn	18 13 44.9	+0.6
IZEF	Zefreh	5.68	96	Pn	Pn	18 13 48.4	+0.7

*IDC **31** 18:12:15.8±2.3,6°16S×129°90E,h0km, mb3.8/1, mbtmp3.6/3,ML3.6/2, Error ellipse: s-maj=150.8km s-min=30.9km az=69.0*
ISC 31 18:12:31.2±1.0, 6°74S±0°08×130°2E±0°1, h146km, n12, σ2s65/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.33	29	P	Pn	18 13 35.7	-0.1
MTN	Manton Dam	6.14	171	P	Pn	18 14 04.1	+4.3
KDU	Kakadu	6.33	159	P	Pn	18 14 06.3	+4.0
SOEI	Soe	6.56	242	P	Pn	18 14 06.7	+1.2
KNRA	Kununurra	8.98	189	P	Pn	18 14 39.4	+1.6
FITZ	Fitzroy Crossi	12.12	201	P	Pn	18 15 21.2	+2.0
WRA	Warramunga Arr	13.73	163	Pn	Pn	18 15 40.3	+0.3
	0.3nm,0.3s,baz=345,slow=13,SNR=2.9						
WRA				Sn	Sn	18 18 09.8	-2.3
	0.4nm,0.3s,baz=344,slow=24,SNR=8.4						
	0.4nm,0.3s						
WB1	Warramunga Ar.	13.75	163	P	P	18 15 42.8	-1.1
COEN	Coen	14.66	120	P	P	18 15 54.1	0.0
QIS	Mount Isa	16.50	147	P	P	18 16 15.8	+1.3
ASAR	Alice Springs	17.21	168	P	Pn	18 16 25.9	+2.9
	0.2nm,0.3s,baz=356,slow=14,SNR=15						
ASAR				S	S	18 19 30.4	-3.8
	0.7nm,1.1s,baz=349,slow=23,SNR=1.5						
	0.8nm,0.8s						
MKAR	Makanchi Array	68.10	327	P	P	18 23 13.6	-1.8
	0.5nm,0.5s,baz=116,slow=8.0,SNR=9.0						
	0.5nm,0.5s						

*IDC **31** 18:14:55.4±3.6,1°42N×79°31W,h0km, mb3.6/3, mbtmp3.7/4, ML2.8/1, Error ellipse: s-maj=87.8km s-min=49.5km az=170.0*
*RSNC **31** 18:15:03.1±1.3,2°30N×79°24W, h24km±5km, ML3.3, Mw3.5*
ISC 31 18:15:02.5±2.0, 2°24N±0°05×79°32W±0°07, h25km±15km, n27,σ2s23/33, mb3.6/3, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	Tumaco	0.72	125	iP	Pb	18 15 15.5	-0.8
TUMC				eS	Sb	18 15 26.0	+0.2
TUMC				i		18 15 35.2	
	comp=Z,3μm,0.5s						
GR1C	Gorgona, Isla	1.38	56	eP	Pn	18 15 24.4	-1.8
GR1C				eS	Sn	18 15 41.6	-2.1
PAC1	Pacto, Paraso	2.

KARP				AML	AML	18 25 28.4	
	comp=N,504μm,0.1s						
KARP				AML	AML	18 25 28.4	
	comp=E,553μm,0.2s						
YER	**Yerkesik**	**1.17**	**67**	Pn	**Pn**	**18 25 07.1**	**+0.8**
DALY	**Dalyan (Mula)**	**1.39**	**84**	Pn	**Pn**	**18 25 08.9**	**+0.5**
ZKR	**Zakros**	**1.67**	**201**	Pn	**Pn**	**18 25 13.0**	**+1.4**
ZKR	**Zakros**	**1.67**	**201**	P	**Pn**	**18 25 13.0**	**+1.4**
ZKR	**Zakros**	**1.67**	**201**	P	**Pn**	**18 25 13.0**	**+1.4**
ZKR				S	**Sn**	**18 25 35.2**	**+0.5**
ZKR				AML	AML	18 25 37.0	
	comp=E,110μm,0.3s						
ZKR				AML	AML	18 25 38.6	
	comp=N,28μm,0.2s						
FETY	**Fethiye**	**1.73**	**91**	Pn	**Pn**	**18 25 12.5**	**+0.3**
CAME	**Cameli-Denizli**	**1.92**	**81**	Pn	**Pn**	**18 25 15.2**	**+0.6**
FRMA	**Ierapetra Chan**	**1.93**	**211**	P	**Pn**	**18 25 15.5**	**+0.9**
FRMA	**Ierapetra Chan**	**1.93**	**211**	P	**Pn**	**18 25 15.5**	**+0.9**
FRMA				S	**Sn**	**18 25 38.8**	**-1.3**
APMY	**Acipayam-Deniz**	**2.05**	**67**	Pn	**Pn**	**18 25 16.8**	**+0.7**
IDI	**Anoyia**	**2.16**	**231**	P	**Pn**	**18 25 18.1**	**+0.6**
IDI	**Anoyia**	**2.16**	**231**	P	**Pn**	**18 25 18.1**	**+0.6**
IDI				S	**Sn**	**18 25 43.7**	**-1.6**
IDI				AML	AML	18 25 45.0	
	comp=N,60μm,0.1s						
IDI				AML	AML	18 25 45.4	
	comp=E,73μm,0.1s						
AKAS	**Kas**	**2.20**	**101**	Pn	**Pn**	**18 25 18.4**	**+0.4**
KSL	**Kastellorizon**	**2.20**	**103**	P	**Pn**	**18 25 18.2**	**+0.4**
ELL	**Elmali**	**2.39**	**87**	Pn	**Pn**	**18 25 20.7**	**+0.4**
IMMV	**Iera Moni Meta**	**2.69**	**244**	P	**Pn**	**18 25 25.0**	**+1.1**
IMMV	**Iera Moni Meta**	**2.69**	**244**	P	**Pn**	**18 25 25.0**	**+1.1**
IMMV				S	**Sn**	**18 25 55.4**	**-1.5**
IMMV				AML	AML	18 26 01.1	
	comp=N,112μm,0.3s						
IMMV				AML	AML	18 26 03.1	
	comp=E,128μm,0.5s						
ANKY	**Antikythira Is**	**3.05**	**256**	P	**Pn**	**18 25 28.2**	**-0.4**
ANKY	**Antikythira Is**	**3.05**	**256**	P	**Pn**	**18 25 29.4**	**+0.8**

*IDC **31** 18:25:51.4±0.4,83.00N×5.98W, h0km,mb4.3/31, mbtmp4.3/33,ML4.2/2,MS4.4/73,Error ellipse: s-maj=12.4km s-min=9.2km az=35.0*
*BJI **31** 18:25:52.0±0.0,83.10N×5.10W,h10km,mb4.7/57, mB5.2/31,Ms4.9/32,Ms7 4.7/32*
*GCMT **31** 18:25:53.0±0.1,83.00N±0.01×6.44W±0.06,h12km, MW5.1/123,Moment Tensor Solution. s70,c89; s123,c213; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-5.06±.09; Mθθ-0.70±.10; Mϕϕ5.77±.08; Mrθ-2.17±.34; Mθϕ1.00±.08; Mϕr-0.58±.24; Best double couple: M05.97900×1016 NP1:ϕs29.00000°,δ54.00000°, λ-63.00000°. NP2:ϕs168.00000°,δ44.00000°, λ-122.00000°. Principal axes: T 5.9990, Plg5.0000°, Azm100.0000°; N -0.0320, Plg22.0000°, Azm192.0000°; P -5.9580, Plg68.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **31** 18:25:53.54.8,83.26N×4.44W,h36km±49km,ML3.4, MS5.2*
*NEIC **31** 18:25:53.02.3,82.99N±0.09×5.3W±0.7,h10km±1km, mb4.9/240,Error ellipse: s-maj=17.3km s-min=13.5km az=218.0*
*BER **31** 18:25:55.44.2,82.86N×6.97W,h17km±59km,mb(Pn)4.9, MS5.3,ML4.5(NAO),Confirmed Earthquake*
*INMG **31** 18:25:56.0,82.95N×9.02W,h10km*
*FCIAR **31** 18:25:58.0,82.86N×3.37W,h10km,station ZFI2 has station magnitude of 4.40 station OMEGA has station magnitude of 4.50 station PRGR has station magnitude of 4.99 station KLMR has station magnitude of 5.20*
*KOLA **31** 18:26:00.4,83.26N×2.84E,h0km,ML2.6,Error ellipse: s-maj=188.4km s-min=40.9km az=60.0,Arctic Ocean,Gakkel ridge*

ISC 31 18:25:52.8±1.5, 82.95N±0.04×5.00W±0.04, h6km±9km, n610, σ1§95/534, mb4.9/180, MS4.5/84, 17C-8D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KBS	**Kingsbay**	**4.82**	**138**	Pn		**Pn**	**18 27 06.3**	**+0.6**	
KBS				Sn		**Sn**	**18 27 58.0**	**-3.7**	
KBS	**Kingsbay**	**4.82**	**138**			**Pn**	**18 27 05.7**	**+0.1**	
KBS				Sn		**Sn**	**18 27 55.5**	**-6.2**	
KBS	**Kingsbay**	**4.82**	**138**	P		**Pn**	**18 27 05.7**	**+0.1**	
KBS				S		**Sn**	**18 27 57.2**	**-4.5**	
KBS	**Kingsbay**	**4.82**	**138**	*eP*		**Pn**	**18 27 06.2**	**+0.6**	
KBS				*eS*		**Sn**	**18 27 57.9**	**-3.7**	
KBS				IAML			18 28 06.3		
	comp=Z,47nm,0.5s								
KBS	**Kingsbay**	**4.82**	**138**	*eP*		**Pn**	**18 27 05.8**	**+0.1**	
KBS				*eS*		**Sn**	**18 27 57.2**	**-4.5**	
KBS	**Kingsbay**	**4.82**	**138**	*i* P		**Pn**	**18 27 06.0**	**+0.4**	
KBS				*i* S		**Sn**	**18 27 57.2**	**-4.5**	
BRBB	**Barentsburg B**	**5.77**	**137**	Pn		**Pn**	**18 27 20.2**	**+1.5**	
BRBB				Sn		**Sn**	**18 28 21.5**	**-3.5**	
BRBB	**Barentsburg B**	**5.77**	**137**	P		**Pn**	**18 27 19.6**	**+0.9**	
BRBB				S		**Sn**	**18 28 21.0**	**-4.0**	
BRBB	**Barentsburg B**	**5.77**	**137**	*eP*		**Pn**	**18 27 19.5**	**+0.9**	
BRBB				*eS*		**Sn**	**18 28 20.6**	**-4.5**	
BRBA	**Barentsburg A**	**5.80**	**137**	Pn		**Pn**	**18 27 20.7**	**+1.6**	
BRBA	**Barentsburg A**	**5.80**	**137**	*eP*		**Pn**	**18 27 20.3**	**+1.1**	
BRBA				*eS*		**Sn**	**18 28 21.3**	**-4.6**	
BRBA				IAML			18 28 28.3		
	comp=Z,32nm,0.2s								
SPB5	**Spitsbergen Ar**	**5.88**	**133**	Pn		**Pn**	**18 27 20.8**	**+0.5**	
SPA0	**Spitsbergen Ar** baz=354,slow=12	**5.88**	**133**	Pn		**Pn**	**18 27 21.1**	**+0.9**	
SPA0				Sn		**Sn**	**18 28 24.1**	**-3.7**	
SPA0	**Spitsbergen Ar** baz=354,slow=12	**5.88**	**133**	Pn		**Pn**	**18 27 21.1**	**+0.9**	
SPA0				Sn		**Sn**	**18 28 24.1**	**-3.7**	
SPA0	**Spitsbergen Ar**	**5.88**	**133**	*eP*		**Pn**	**18 27 20.7**	**+0.5**	
SPA0				*eS*		**Sn**	**18 28 23.5**	**-4.3**	
SPITS	**Spitsbergen Ar**	**5.88**	**133**	P		**Pn**	**18 27 20.8**	**+0.5**	
SPITS				S		**Sn**	**18 28 22.0**	**-5.9**	
SPITS	**Spitsbergen Ar** baz=357,slow=9.2	**5.88**	**133**	Pn		**Pn**	**18 27 20.9**	**+0.7**	
SPITS				Sn		**Sn**	**18 28 24.1**	**-3.7**	
	baz=322,slow=11								
SPITS				LR		LR	18 29 34.1		
	comp=Z,6μm,18.4s,baz=312,slow=37								
	comp=Z,14nm,0.4s								
SPB2	**Spitsbergen Ar**	**5.89**	**133**			**Pn**	**18 27 19.3**	**-1.0**	
HSPB	**Hornsund (broa**	**6.90**	**139**	Pn		**Pn**	**18 27 36.0**	**+1.9**	
HSPB				Sn		**Sn**	**18 28 52.3**	**-0.4**	
HSPB	**Hornsund (broa**	**6.90**	**139**	P		**Pn**	**18 27 35.6**	**+1.5**	
HSPB				S		**Sn**	**18 28 48.4**	**-4.3**	
HSPB	**Hornsund (broa**	**6.90**	**139**	*eP*		**Pn**	**18 27 35.5**	**+1.3**	
HSPB				*eS*		**Sn**	**18 28 47.4**	**-5.3**	
HSPB				IAML			18 28 57.6		
	comp=Z,26nm,0.4s								
ZFI2	**Zemlya Franca-**	**7.49**	**79**	*eP*		**Pn**	**18 27 40.2**	**-2.0**	
ZFI2				*eS*		**Sn**	**18 28 58.8**	**-8.3**	
	comp=Z,94nm,1.2s								
OMEGA	**Omega**	**7.51**	**79**	*eP*		**Pn**	**18 27 40.8**	**-1.7**	
OMEGA				*eS*		Sn	18 28 58.9	-8.9	
	comp=Z,133nm,1.1s								
HOPEN	**Hopen**	**8.22**	**125**	Pn		**Pn**	**18 27 53.3**	**+1.0**	
HOPEN				Sn		**Sn**	**18 29 20.5**	**-4.8**	
HOPEN	**Hopen**	**8.22**	**125**	*eP*		**Pn**	**18 27 53.1**	**+0.8**	
HOPEN				*eS*		**Sn**	**18 29 20.1**	**-5.2**	
HOPEN				IAML			18 29 23.8		
	comp=Z,22nm,0.3s								
HOPEN	**Hopen**	**8.22**	**125**	*eP*		**Pn**	**18 27 53.1**	**+0.8**	
HOPEN				*eS*		**Sn**	**18 29 19.4**	**-5.9**	
NEEM	**North Greenlan**	**9.23**	**259**	*i* P		Pn	18 28 01.0	-5.4	
NEEM				*i* S		Sn	18 29 39.3	-11	
NEEM				IAML			18 30 37.5		
	comp=Z,73nm,0.9s								
NEEM	**North Greenlan**	**9.23**	**259**	*i* P		Pn	18 28 01.0	-5.4	
NEEM				*i* S		Sn	18 29 39.3	-11	
NEEM				IAML			18 30 37.5		
	comp=Z,73nm,0.9s								
BJO1	**Bjornoya**	**9.55**	**139**	*eP*		**Pn**	**18 28 11.4**	**+0.9**	
BJO1				*eS*		**Sn**	**18 29 49.5**	**-8.4**	
BJO1				IAML			18 29 58.7		
	comp=Z,18nm,0.7s								
JMIC	**Jan Mayen**	**12.06**	**185**	LR		LR	18 32 51.8		
	comp=Z,308nm,21.9s,baz=76,slow=35								

TULEG	**Thule**	**12.18**	**275**			Pn	18 28 37.4	-9.0
TULEG	**Thule**	**12.18**	**275**	*i* P		Pn	18 28 38.6	-7.7
TULEG	**Thule**	**12.18**	**275**	*i* P		Pn	18 28 38.6	-7.7
TULEG				*eS*		Sn	18 30 45.0	-17
SUMG	**Summit**	**12.24**	**232**			Pn	18 28 41.8	-5.8
SUMG	**Summit**	**12.24**	**232**	*i* P		Pn	18 28 42.0	-5.6
SUMG				*i* S		Sn	18 30 48.2	-16
SUMG				IAML			18 32 26.0		
	comp=Z,68nm,3.4s								
SUMG	**Summit**	**12.24**	**232**	*i* P		Pn	18 28 42.0	-5.6
SUMG				*i* S		Sn	18 30 48.2	-16
SUMG				IAML			18 32 26.0		
	comp=Z,68nm,3.4s								
SCO	**Scoresbysund**	**13.01**	**206**	*eP*		**Pn**	**18 28 58.1**	**+0.4**	
SCO	**Scoresbysund**	**13.01**	**206**	*eP*		**Pn**	**18 28 58.1**	**+0.4**	
HAMF	**Hammerfest**	**13.67**	**137**	*eP*		**Pn**	**18 29 04.4**	**-2.3**	
HAMF				IAML			18 31 28.4		
	comp=Z,5.8nm,0.6s								
UPNV	**Upernavik**	**13.98**	**254**	*eP*		Pn	18 29 03.4	-7.5	
UPNV	**Upernavik**	**13.98**	**254**	*eP*		Pn	18 29 03.4	-7.5	
SVZ	**Severnaya Zeml**	**14.50**	**46**	*eP*		**P**	**18 29 21.9**	**-2.8**	
VADS	**Vadso**	**14.68**	**130**	*eP*		**Pn**	**18 29 19.7**	**-0.8**	
VADS				IAML			18 31 58.4		
	comp=Z,5.3nm,0.5s								
KEV	**Kevo**	**14.82**	**134**			**Pn**	**18 29 20.7**	**-1.7**	
KEV	**Kevo**	**14.82**	**134**	*eP*		**Pn**	**18 29 22.1**	**-0.3**	
ARA0	**ARCESS Array S** baz=350,slow=12	**14.90**	**136**	P		**Pn**	**18 29 25.4**	**+1.9**	
ARA0	**ARCESS Array S**	**14.90**	**136**	*eP*		**Pn**	**18 29 23.0**	**-0.5**	
ARCES	**ARCESS Array B**	**14.90**	**136**	Pn		**Pn**	**18 29 21.8**	**-1.7**	
	comp=Z,0.4nm,0.3s,baz=356,slow=9.7,SNR=18								
ARCES				Sn		Sn	18 31 57.4	-11	
	baz=356,slow=22								
ARCES				LR		LR	18 35 09.0		
	comp=Z,2μm,18.5s,baz=346,slow=37								
	comp=Z,17nm,1.0s								
KTK1	**Kautokeino**	**15.23**	**140**	*eP*		**Pn**	**18 29 27.8**	**-0.1**	
UMMG	**Uummannaq**	**15.48**	**246**	*i* P		**Pn**	**18 29 24.4**	**-6.8**	
UMMG				IVMs_BB		IVMs_BB	18 35 58.0		
	comp=Z,5μm,8.1s								
UMMG	**Uummannaq**	**15.48**	**246**	*i* P		**Pn**	**18 29 24.4**	**-6.8**	
UMMG				*e*			18 32 00.7		
UMMG				IVMs_BB		IVMs_BB	18 35 58.0		
	comp=Z,5μm,8.1s								
ICESG	**Greenland Ices**	**15.71**	**229**	*i* P		Pn	18 29 27.1	-7.3	
ICESG				IVMs_BB		IVMs_BB	18 36 56.2		
	comp=Z,5μm,4.9s								
ICESG	**Greenland Ices**	**15.71**	**229**	*i* P		Pn	18 29 27.1	-7.3	
ICESG				IVMs_BB		IVMs_BB	18 36 56.2		
	comp=Z,5μm,4.9s								
ILULI	**Ilulissat**	**16.76**	**243**	Pn		Pn	18 29 38.0	-10	
RES	**Resolute Bay**	**16.92**	**294**	Pn		Pn	18 29 41.4	-8.2	
RES	**Resolute Bay**	**16.92**	**294**	Pn		Pn	18 29 41.8	-7.8	
	comp=Z,1.4nm,0.3s,baz=32,slow=12,SNR=45								
RES				Sn		Sn	18 32 39.2	-18	
	comp=Z,0.3nm,0.3s,baz=139,slow=19,SNR=3.0								
RES				LR		LR	18 36 17.4		
	comp=Z,3μm,20.6s,baz=23,slow=37								
LVZ	**Lovozero**	**17.35**	**126**			**Pn**	**18 29 49.7**	**-5.3**	
LVZ				IAmb		IAmb	18 30 01.2		
	comp=Z,94nm,1.3s								
APA0	**Apatity Array** baz=344,slow=9.3	**17.46**	**128**	P		**Pn**	**18 29 56.7**	**+0.3**	
APA0	**Apatity Array** baz=344,slow=9.3	**17.46**	**128**	P		**Pn**	**18 29 56.7**	**+0.3**	
AMDE	**Amderma**	**18.68**	**94**	*eP*		**Pn**	**18 30 11.9**	**+0.6**	
	comp=Z,24nm,1.1s								
AMDE				*eS*		Sn	18 33 23.6	-16	
BORG	**Borgarnes**	**18.69**	**202**	LR		LR	18 37 18.7		
	comp=Z,269nm,18.1s,baz=332,slow=37								
SFJD	**Kangerlussuaq**	**18.84**	**240**	P		**P**	**18 30 05.6**	**-7.1**	
SFJD				IAmb		IAmb	18 30 19.9		
	comp=Z,114nm,1.5s								
SFJD	**Kangerlussuaq**	**18.84**	**240**	P		**P**	**18 30 06.0**	**-6.7**	
	comp=Z,22nm,0.7s,baz=13,slow=12,SNR=21								
SFJD				LR		LR	18 37 29.0		
	comp=Z,2μm,21.4s,baz=16,slow=37								
SFJD	**Kangerlussuaq**	**18.84**	**240**	*e*			18 33 13.5		
DY2G	**Dye2**	**18.89**	**235**	*i* P		**P**	**18 30 07.7**	**-5.9**	
DY2G				IVMs_BB		IVMs_BB	18 39 46.0		
	comp=Z,5μm,6.1s								
DY2G	**Dye2**	**18.89**	**235**	*i* P		**P**	**18 30 07.7**	**-5.9**	
DY2G				IVMs_BB		IVMs_BB	18 39 46.0		
	comp=Z,5μm,6.1s								
AKN	**Aaknes**	**21.09**	**164**	P		**P**	**18 30 39.5**	**+2.1**	
AKN	**Aaknes**	**21.09**	**164**	P		**P**	**18 30 39.5**	**+2.1**	
NC204	**NORSAR Array S**	**22.14**	**160**	P		**P**	**18 30 47.7**	**-0.9**	
NC204				IAmb		IAmb	18 30 56.4		
	comp=Z,65nm,1.5s								
NRIK	**Noril'sk**	**22.21**	**70**	P		**P**	**18 30 49.9**	**+0.6**	
NRIK				IAmb		IAmb	18 30 54.2		
	comp=Z,66nm,1.1s								
NRIK	**Noril'sk**	**22.21**	**70**	P		**P**	**18 30 51.3**	**+2.0**	
	comp=Z,36nm,1.0s,baz=3.3,slow=5.4,SNR=28								
NRIK				LR		LR	18 39 54.1		
	comp=Z,1μm,21.9s,baz=352,slow=38								
	comp=Z,36nm,1.0s								
NC303	**NORSAR Array S**	**22.21**	**159**	P		**P**	**18 30 49.7**	**+0.3**	
NC303				IAmb		IAmb	18 30 55.3		
	comp=Z,57nm,1.4s								
NC405	**NORSAR Array S**	**22.34**	**158**	P		**P**	**18 30 50.3**	**-0.5**	
NBO00	**NORSAR Array S**	**22.38**	**160**	P		**P**	**18 30 50.3**	**-0.9**	
NBO00				IAmb		IAmb	18 30 57.2		
	comp=Z,69nm,1.3s								
NB201	**NORSAR Array S**	**22.39**	**159**	P		**P**	**18 30 51.5**	**+0.2**	
NB2	**NORSAR Subarra**	**22.39**	**159**	P		**P**	**18 30 53.5**	**+2.2**	
NB2	**NORSAR Subarra**	**22.39**	**159**	P		**P**	**18 30 53.1**	**+1.7**	
	comp=Z,62nm,1.4s,baz=356,slow=11								
NB2	**NORSAR Subarra**	**22.39**	**159**	P		**P**	**18 30 53.5**	**+2.2**	
NOA	**NORSAR Array B**	**22.39**	**159**	P		**P**	**18 30 50.6**	**-0.8**	
	comp=Z,22nm,1.2s,baz=352,slow=10.0,SNR=8.3								
NOA				LR		LR	18 38 39.7		
	comp=Z,201nm,18.7s,baz=0.0,slow=34								
	comp=Z,22nm,1.2s								
A36M	**Sachs Harbour**	**22.52**	**315**	P		**P**	**18 30 50.1**	**-2.4**	
A36M				IAmb		IAmb	18 31 00.9		
	comp=Z,34nm,0.9s								
A36M	**Sachs Harbour** baz=16,SNR=20	**22.52**	**315**	P		**P**	**18 30 52.5**	**0.0**	
NAO01	**NORSAR Array S**	**22.57**	**160**	P		**P**	**18 30 51.6**	**-1.6**	
NAO01				IAmb		IAmb	18 30 57.9		
	comp=Z,65nm,1.3s								
NRA0	**NORESS Array S** baz=354,slow=9.3	**22.71**	**159**	P		**P**	**18 30 56.5**	**+1.8**	
NRA0	**NORESS Array S** baz=354,slow=9.3	**22.71**	**159**	P		**P**	**18 30 56.5**	**+1.8**	
NC602	**NORSAR Array S**	**22.71**	**159**	P		**P**	**18 30 53.8**	**-0.9**	
FIA0	**FINESS Array S** baz=355,slow=16	**22.91**	**140**	P		**P**	**18 30 57.8**	**+1.0**	
FIA0	**FINESS Array S** baz=355,slow=16	**22.91**	**140**	P		**P**	**18 30 57.8**	**+1.0**	
FINES	**FINESS Array B**	**22.91**	**140**	P		**P**	**18 30 52.5**	**-4.3**	
FINES	**FINESS Array B**	**22.91**	**140**	P		**P**	**18 30 55.5**	**-1.3**	
	comp=Z,3.0nm,1.0s,baz=335,slow=9.6,SNR=2.2								
FINES				LR		LR	18 39 48.8		
	comp=Z,1μm,19.0s,baz=357,slow=36								
	comp=Z,3.0nm,1.0s								
HFS	**Hagfors** slow=7.9	**23.41**	**156**	P		**P**	**18 31 03.2**	**+1.3**	
HFS	**Hagfors** slow=7.9	**23.41**	**156**	P		**P**	**18 31 03.2**	**+1.3**	
HFS	**Hagfors**	**23.41**	**156**	P		**P**	**18 31 00.9**	**-1.0**	
	comp=Z,2.4nm,0.5s,baz=16,slow=7.7,SNR=9.4								
	comp=Z,2.4nm,0.5s								
TIXI	**Tiksi**	**23.92**	**34**	P		**P**	**18 31 07.3**	**+0.7**	
TIXI				IAmb		IAmb	18 31 09.6		
	comp=Z,65nm,1.6s								
FRB	**Frobisher Bay**	**24.04**	**258**	LR		LR	18 40 37.0		
	comp=Z,3μm,18.4s,baz=13,slow=37								
IVI	**Ivigtut**	**24.23**	**234**	P		**P**	**18 31 08.2**	**-1.5**	
PRGR	**Permogore**	**24.59**	**117**	P		**P**	**18 31 14.5**	**+1.5**	
	comp=Z,58nm,1.6s								
KLMR	**Klimovskoe**	**24.71**	**125**	*eP*		**P**	**18 31 14.6**	**+0.5**	
	comp=Z,74nm,1.3s								
KLMR				*eS*		**S**	**18 35 30.5**	**-5.3**	
C36M	**Paulatuk**	**24.97**	**313**	P		**P**	**18 31 14.4**	**-1.9**	
C36M				IAmb		IAmb	18 31 35.9		
	comp=Z,46nm,1.4s								
C36M	**Paulatuk** baz=15	**24.97**	**313**	P		**P**	**18 31 16.3**	**-0.1**	
A21K	**Barrow** baz=8.0	**25.25**	**339**	P		**P**	**18 31 18.2**	**-0.7**	
B22K	**Teshekpuk Lake**	**26.08**	**336**	P		**P**	**18 31 26.1**	**-0.3**	
B22K				IAmb		IAmb	18 31 36.7		
	comp=Z,66nm,1.6s								
B22K	**Teshekpuk Lake**	**26.08**	**336**	P		**P**	**18 31 26.0**	**-0.3**	

	baz=8.5						
D28M	**Stokes Point** baz=12	**26.19**	**324**	P		**P**	**18 31 27.4**	**0.0**
D27M	**Malcolm River**	**26.43**	**326**	P		**P**	**18 31 27.3**	**-2.4**
D27M	**Malcolm River** baz=11	**26.43**	**326**	P		**P**	**18 31 28.9**	**-0.7**
C24K	**Franklin Bluff** baz=9.5	**26.44**	**332**	P		**P**	**18 31 29.3**	**-0.4**
A19K	**Wainwright** baz=6.5	**26.55**	**342**	P		**P**	**18 31 30.9**	**+0.3**
B20K	**Meade River**	**26.59**	**339**	P		**P**	**18 31 29.5**	**-1.5**
B20K				IAmb		IAmb	18 31 41.0	
	comp=Z,42nm,1.8s							
B20K	**Meade River** baz=7.5	**26.59**	**339**	P		**P**	**18 31 30.4**	**-0.6**
D25K	**Kavik River**	**26.70**	**330**	P		**P**	**18 31 30.7**	**-1.4**
D25K				IAmb		IAmb	18 31 40.1	
	comp=Z,45nm,1.7s							
D25K	**Kavik River** baz=9.9	**26.70**	**330**	P		**P**	**18 31 31.1**	**-1.0**
INK	**Inuvik**	**26.80**	**320**	P		**P**	**18 31 30.6**	**-2.2**
INK	**Inuvik** baz=12,SNR=7.4	**26.80**	**320**	P		**P**	**18 31 33.5**	**+0.7**
INK	**Inuvik**	**26.80**	**320**	LR		LR	18 43 44.3	
	comp=Z,460nm,19.6s,baz=2.0,slow=40							
E28M	**Babbage River**	**26.96**	**325**	P		**P**	**18 31 32.6**	**-1.7**
E28M				IAmb		IAmb	18 31 57.2	
	comp=Z,40nm,1.8s							
E28M	**Babbage River** baz=11	**26.96**	**325**	P		**P**	**18 31 34.8**	**+0.4**
D24K	**Happy Valley**	**27.01**	**332**	IAmb		IAmb	18 31 49.5	
	comp=Z,25nm,1.2s							
D24K	**Happy Valley** baz=9.3	**27.01**	**332**	P		**P**	**18 31 35.4**	**+0.6**
E29M	**Blow River**	**27.05**	**323**	IAmb		IAmb	18 31 54.7	
	comp=Z,72nm,1.9s							
E29M	**Blow River** baz=12	**27.05**	**323**	P		**P**	**18 31 36.5**	**+1.4**
D23K	**Nanushuk River** baz=8.8	**27.30**	**334**	P		**P**	**18 31 37.5**	**+0.1**
C21K	**Knifeblade Rid** baz=7.8	**27.32**	**337**	P		**P**	**18 31 37.0**	**-0.7**
B18K	**Kokolik River** baz=6.1	**27.42**	**342**	P		**P**	**18 31 38.6**	**+0.1**
D22K	**Ayikyak River** baz=8.3	**27.50**	**335**	P		**P**	**18 31 39.1**	**-0.1**
C19K	**Lookout Ridge**	**27.59**	**341**	P		**P**	**18 31 39.3**	**-0.8**
C19K	**Lookout Ridge** baz=6.6,SNR=8.6	**27.59**	**341**	P		**P**	**18 31 39.9**	**-0.2**
F30M	**Barrier River** baz=12	**27.66**	**321**	P		**P**	**18 31 41.0**	**+0.4**
F31M	**Tsiigehtchic** baz=12,SNR=5.6	**27.66**	**320**	P		**P**	**18 31 41.1**	**+0.5**
EKA	**Eskdalemuir Ar**	**27.76**	**178**	P		**P**	**18 31 40.6**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=5.7,slow=7.8,SNR=3.0							
	comp=Z,3.2nm,0.8s							
E25K	**Arctic Village**	**27.84**	**329**	P		**P**	**18 31 40.6**	**-1.7**
E25K	**Arctic Village** baz=9.7	**27.84**	**329**	P		**P**	**18 31 42.5**	**+0.2**
D20K	**Etivluk River** baz=7.3	**27.85**	**338**	P		**P**	**18 31 42.9**	**+0.5**
F28M	**Old Crow**	**27.96**	**325**	P		**P**	**18 31 42.6**	**-0.8**
F28M	**Old Crow** baz=11	**27.96**	**325**	P		**P**	**18 31 43.8**	**+0.5**
C18K	**Utukok River**	**28.11**	**342**	IAmb		IAmb	18 31 52.9	
	comp=Z,38nm,1.8s							
C18K	**Utukok River** baz=6.1	**28.11**	**342**	P		**P**	**18 31 45.0**	**+0.2**
D19K	**Kuna River** baz=6.8	**28.14**	**339**	P		**P**	**18 31 44.9**	**0.0**
E23K	**Chandalar** baz=8.8	**28.14**	**333**	P		**P**	**18 31 45.0**	**-0.1**
F26K	**Sheenjek River** baz=9.9	**28.17**	**328**	P		**P**	**18 31 46.4**	**+1.2**
E22K	**Anaktuvuk Pass**	**28.19**	**334**	IAmb		IAmb	18 32 20.5	
	comp=Z,30nm,1.8s							
E22K	**Anaktuvuk Pass** baz=8.3	**28.19**	**334**	P		**P**	**18 31 45.4**	**-0.1**
G31M	**Satah River**	**28.21**	**320**	IAmb		IAmb	18 32 31.3	
	comp=Z,57nm,1.9s							
G31M	**Satah River** baz=12	**28.21**	**320**	P		**P**	**18 31 45.4**	**-0.1**
E20K	**Nigu River** baz=7.3,SNR=6.1	**28.29**	**338**	P		**P**	**18 31 46.2**	**-0.1**
G30M	**tAoh Zraii Nji** baz=11	**28.31**	**321**	P		**P**	**18 31 47.4**	**+0.9**
C17K	**DeLong Mountai** baz=5.6	**28.36**	**343**	P		**P**	**18 31 47.6**	**+0.7**
F25K	**Christian Rive** baz=9.5	**28.37**	**329**	P		**P**	**18 31 47.7**	**+0.6**
BMAR	**Burnt Mountain**	**28.46**	**328**	P		**P**	**18 31 44.3**	**-3.6**
G29M	**Pine Creek**	**28.52**	**323**	P		**P**	**18 31 47.2**	**-1.1**
G29M				IAmb		IAmb	18 31 55.9	
	comp=Z,66nm,1.9s							
G29M	**Pine Creek** baz=11	**28.52**	**323**	P		**P**	**18 31 48.8**	**+0.5**
F24K	**Squaw Lake**	**28.58**	**331**	P		**P**

comp=E,99nm,10.6s
I30M Mount Dempster 30.06 321 P P 18 32 02.3 +0.2
baz=11
I27K Kandik River 30.07 325 P P 18 32 02.6 +0.5
baz=9.8
OBN Obninsk 30.08 130 LR LR 18 44 28.0
comp=E,1µm,18.8s,baz=352,slow=37
F18K Selawik 30.10 340 P P 18 32 02.5 +0.2
baz=6.1,SNR=11
I28M Miner Creek 30.10 324 P P 18 32 03.0 +0.6
baz=10
H24K Noodor Dome 30.25 330 P P 18 32 05.5 +1.8
H24K Noodor Dome 30.25 330 P P 18 32 04.4 +0.7
baz=8.5
F17K Baldwin Pennin 30.32 341 P P 18 32 04.3 +0.1
baz=5.7
H22K Ishtalitna Cre 30.40 333 P P 18 32 05.5 +0.5
baz=7.8
PRP Porcupine Dome 30.42 328 P P 18 32 05.6 +0.3
baz=8.9
IMAR Indian Mountai 30.43 335 P P 18 32 02.6 -2.7
G19K Purcell Mounta 30.44 338 P P 18 32 05.9 +0.6
baz=6.6
I26K Coal Creek Min 30.47 326 P P 18 32 04.7 -0.9
I26K Coal Creek Min 30.47 326 P P 18 32 06.1 +0.5
baz=9.4
J30M Hart River 30.69 321 P P 18 32 04.6 -3.1
J30M IAmb IAmb 18 32 09.8
comp=Z,36nm,1.9s
J30M Hart River 30.69 321 P P 18 32 07.9 +0.1
baz=10
H21K Melozitna Rive 30.71 334 P P 18 32 08.3 +0.6
H21K Melozitna Rive 30.71 334 P P 18 32 07.9 +0.1
baz=7.4
YKA Yellowknife Ar 30.72 301 P P 18 32 07.3 -0.5
YKA Yellowknife Ar 30.72 301 P P 18 32 05.9 -1.9
comp=Z,1.7nm,1.0s,baz=4.6,slow=9.1,SNR=19
YKA PcP **PcP 18 35 04.8 -0.2**
comp=Z,0.7nm,0.8s,baz=14,slow=2.7,SNR=5.0
YKA LR LR 18 44 36.5
comp=Z,876nm,18.2s,baz=8.0,slow=37
comp=Z,1.7nm,1.0s
G18K Tagagawik 30.76 339 P P 18 32 08.1 -0.1
baz=6.2
EGAK Eagle 30.85 325 P P 18 32 10.1 +1.1
baz=9.6
POKR Poker Plat Res 30.94 330 P P 18 32 08.5 -1.3
POKR Poker Plat Res 30.94 330 P P 18 32 11.2 +1.5
baz=8.4
H20K Anotleneega Mo 30.98 336 P P 18 32 10.9 +0.8
baz=7.0
H19K Roundabout Mou 31.02 337 IAmb IAmb 18 32 24.8
comp=Z,17nm,1.4s
H19K Roundabout Mou 31.02 337 P P 18 32 11.0 +0.6
baz=6.6
I23K Minto, Yukon-K 31.02 331 P P 18 32 10.0 -0.5
I23K Minto, Yukon-K 31.02 331 P P 18 32 11.3 +0.8
baz=8.1
MDM Murphy Dome 31.14 330 P P 18 32 11.0 -0.5
MDM IAmb IAmb 18 32 14.8
comp=Z,14nm,1.1s
ARU Arti 31.17 106 P P 18 32 09.8 -2.0
ARU IAmb IAmb 18 33 12.3
comp=Z,44nm,1.8s
ARU Arti 31.17 106 LR LR 18 47 40.3
comp=Z,2µm,18.8s,baz=343,slow=42
F15K North Star Dit 31.18 344 P P 18 32 12.7 +0.8
baz=4.8
MLY Manley 31.22 333 P P 18 32 10.9 -1.4
MLY IAmb IAmb 18 32 21.2
comp=Z,39nm,2.0s
MLY Manley 31.22 333 P P 18 32 13.1 +0.9
baz=7.7
G17K Kiwalik Mounta 31.23 341 P P 18 32 13.0 +0.7
baz=5.7
IL03 Eielson Array 31.24 329 P P 18 32 10.8 -1.6
ILAR Eielson Array 31.25 329 P P 18 32 10.1 -2.4
ILAR Eielson Array 31.25 329 P P 18 32 09.5 -3.0
comp=Z,0.8nm,0.8s,baz=7.1,slow=8.3,SNR=19
ILAR PcP **PcP 18 35 06.1 -0.3**
comp=Z,1.2nm,0.9s,baz=330,slow=3.2,SNR=6.1
comp=Z,0.8nm,0.8s
J26L Joseph Creek 31.30 327 P P 18 32 14.0 +1.0
baz=9.1
J25K Salcha River, 31.31 328 P P 18 32 13.2 +0.1
baz=8.7
G16K Koyuk River 31.41 342 IAmb IAmb 18 32 22.3
comp=Z,23nm,1.6s
G16K Koyuk River 31.41 342 P P 18 32 14.4 +0.5
baz=5.3
CCB Clear Creek Bu 31.43 330 P P 18 32 12.4 -1.6
CCB IAmb IAmb 18 32 22.4
comp=Z,41nm,1.8s
DAWY Dawson 31.43 323 P P 18 32 15.2 +1.1
baz=9.8
TNA Tin City 31.43 346 P P 18 32 14.6 +0.6
baz=4.0
F14K Arctic Creek 31.47 345 P P 18 32 15.7 +1.4
baz=4.4
H18K Honhosa River 31.48 339 P P 18 32 15.8 +1.2
baz=6.1
K29M Barlow Dome 31.51 321 P P 18 32 16.2 +1.3
baz=10.0
NEA2 Nenana 31.56 331 P P 18 32 16.6 +1.4
NEA2 IAmb IAmb 18 32 18.0
comp=Z,12nm,1.1s
NEA2 Nenana 31.56 331 P P 18 32 16.2 +1.0
baz=8.0
HDA Harding Lake 31.61 329 P P 18 32 16.9 +1.2
baz=8.4
K27K Chicken 31.66 325 IAmb IAmb 18 32 24.8
comp=Z,41nm,2.0s
K27K Chicken 31.66 325 P P 18 32 17.6 +1.5
baz=9.2
H17K Granite Mounta 31.77 340 P P 18 32 18.2 +1.2
baz=5.8
GCSA Galena City Sc 31.82 337 P P 18 32 18.3 +0.8
baz=6.4
G15K Niukluk 31.87 343 P P 18 32 18.6 +0.7
baz=4.8
FCC Fort Churchill 32.01 281 P P 18 32 17.5 -1.6
FCC IAmb IAmb 18 32 48.2
comp=Z,41nm,1.9s
H16K Elim 32.16 342 P P 18 32 21.1 +0.7
baz=5.2
CLL Collm 32.20 159 *eP* **P 18 32 22.0 +1.1**
comp=Z,15nm,1.3s
CLL *eS* **S 18 37 36.0 +2.3**
J20K Nowinta River 32.26 335 P P 18 32 22.8 +1.5
baz=6.8
L29M L29M 32.28 322 P P 18 32 20.2 -1.4
L29M IAmb IAmb 18 32 30.9
comp=Z,43nm,2.0s
L29M L29M 32.28 322 P P 18 32 22.7 +1.1
baz=9.7
ANM Nome 32.35 344 P P 18 32 22.1 0.0
ANM Nome 32.35 344 P P 18 32 23.0 +0.9
baz=4.5,SNR=7.0
CHUM Lake Minchumin 32.45 334 P P 18 32 24.6 +1.6
baz=7.2
J19K Poorman 32.51 336 IAmb IAmb 18 32 37.0
comp=Z,25nm,1.6s
J19K Poorman 32.51 336 P P 18 32 24.8 +1.2
baz=6.5
SCHQ Schefferville 32.53 252 LR LR 18 45 28.0
comp=Z,1µm,20.8s,baz=20,slow=36
BCAR Beaver Creek A 32.59 325 P P 18 32 23.8 -0.6
L27K Beaver Creek, 32.60 325 P P 18 32 21.1 -3.3
L27K IAmb IAmb 18 32 29.2
comp=Z,16nm,1.4s
L27K Beaver Creek, 32.60 325 P P 18 32 25.7 +1.2
baz=9.0
BRG Berggiesshubel 32.67 158 *eP* **P 18 32 28.4 +3.3**
BRG Amp 18 32 29.3
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 32.67 158 P P 18 32 35.2 +10
BRG Amp 18 32 36.7
comp=Z,7.2nm,1.1s
BRG Amp 18 55 25.0
comp=E,0.3nm,11.3s
BRG Amp 18 55 46.0
comp=Z,0.7nm,12.2s
BRG Amp 18 55 50.0
comp=N,0.5nm,16.5s
M30M Minto, Yukon 32.70 320 P P 18 32 23.1 -2.2
M30M IAmb IAmb 18 32 33.5
comp=Z,22nm,1.5s
M30M Minto, Yukon 32.70 320 P P 18 32 27.4 +2.1
baz=9.8
FARO Faro, Yukon 32.77 317 P P 18 32 27.8 +1.9
baz=10
I17K Unalakleet 32.85 340 P P 18 32 27.4 +0.9
baz=5.4
M31M Drury Creek, Y 32.88 318 P P 18 32 27.5 +0.7
baz=10
PAX Paxson 32.94 328 P P 18 32 28.4 +0.9
baz=8.3
DHY Denali Highway 32.96 329 P P 18 32 27.8 +0.1
DHY IAmb IAmb 18 32 42.6
comp=Z,17nm,1.2s
DHY Denali Highway 32.96 329 P P 18 32 28.7 +1.1
baz=8.0
M29M Somme Creek 32.97 322 P P 18 32 29.1 +1.5
baz=9.5
K20K Telida 33.07 335 P P 18 32 29.6 +1.1
K20K IAmb IAmb 18 32 51.7
comp=Z,22nm,1.1s
WAT1 Susitna Watana 33.28 330 P P 18 32 30.9 +0.6
baz=7.7
M27K Edge Creek, AK 33.30 325 P P 18 32 31.2 +0.5
baz=8.9
GAMB Gambell 33.32 349 P P 18 32 30.9 +0.4
baz=3.0
J16K Anvik River 33.45 340 IAmb IAmb 18 32 41.0
comp=Z,28nm,1.6s
J16K Anvik River 33.45 340 P P 18 32 32.9 +1.1
baz=5.3
YAK Yakutsk 33.47 37 LR LR 18 46 19.3
comp=Z,552nm,18.1s,baz=324,slow=37
PRU Pruhonice 33.59 157 AMS AMS 18 56 00.0
comp=Z,700nm,16.6s
OJC Ojcow 33.64 151 P P 18 32 33.9 +0.4
OJC IAmb IAmb 18 32 56.5
comp=Z,16nm,1.3s
GRF Grafenberg Arr 33.74 161 *eP* P 18 32 44.1 +10
comp=Z,14nm,1.0s,baz=356,slow=8.6
AKASG Malin Array Be 33.82 140 P P 18 32 36.2 +1.2
comp=Z,1.6nm,0.5s,baz=351,slow=9.0,SNR=5.6
AKASG PcP **PcP 18 35 13.2 -0.5**
comp=Z,0.3nm,0.3s,baz=322,slow=2.1,SNR=7.3
AKASG LR LR 18 45 48.2
comp=Z,1µm,21.9s,baz=354,slow=35
comp=Z,1.6nm,0.5s
BELG Belogornoye 33.89 119 LR LR 18 46 44.0
comp=Z,1µm,20.4s,baz=335,slow=37
K17K Iditarod 33.92 338 P P 18 32 36.3 +0.5
baz=5.7
L20K Farewell, AK 33.93 335 P P 18 32 37.0 +1.0
baz=6.6
MORC Moravsky Berou 33.95 154 ⇑P **P 18 32 37.9 +1.5**
MORC Moravsky Berou 33.95 154 P P 18 32 37.5 +1.1
MORC IAmb IAmb 18 32 54.6
comp=Z,26nm,1.7s
MORC Moravsky Berou 33.95 154 *eP* **P 18 32 37.4 +1.1**
J14K Nanvaranak Lak 34.10 343 P P 18 32 38.0 +0.6
baz=4.7
ZVC Zvikov 34.12 158 *eP* **P 18 32 40.2 +2.5**
SCM Sheep Creek Mo 34.19 329 P P 18 32 39.4 +1.0
baz=7.7
YUK8 Steele Glacier 34.21 322 P P 18 32 39.5 +0.7
baz=9.0
N25K Chitina, Valde 34.24 327 P P 18 32 39.3 +0.6
baz=8.2
M23K Glacier View 34.26 329 P P 18 32 39.2 +0.4
baz=7.7
SML Sawmill 34.28 330 P P 18 32 39.7 +0.7
baz=7.5
SKT Skwentna 34.30 332 P P 18 32 39.8 +0.6
SKT IAmb IAmb 18 32 41.0
comp=Z,25nm,1.2s
SKT Skwentna 34.30 332 P P 18 32 39.4 +0.2
baz=7.0
VRAC Vranov 34.37 155 *eP* **P 18 32 41.7 +1.8**
KHC Kasperske Hory 34.40 158 *eP* **P 18 32 42.2 +2.0**
KHC *ex* x 18 32 51.3
KHC AMS AMS 18 56 40.0
comp=Z,500nm,12.2s
O30N Mendenhall 34.44 319 P P 18 32 40.5 +0.1
O30N IAmb IAmb 18 32 48.6
comp=Z,41nm,1.7s
O30N Mendenhall 34.44 319 P P 18 32 41.5 +1.1
baz=9.5
KLU Klutina 34.44 328 P P 18 32 41.2 +0.7
baz=7.9
YUK6 Outpost Mounta 34.44 321 P P 18 32 41.6 +0.9
baz=9.1
WHY Whitehorse 34.45 318 P P 18 32 41.8 +1.2
baz=9.6
K15K Wolf Creek Mou 34.48 341 P P 18 32 41.3 +0.6
baz=5.0
HYT Haines Junctio 34.49 320 P P 18 32 42.2 +1.2
baz=9.2
L17K Donlin 34.50 338 P P 18 32 41.6 +0.8
baz=5.7
KRUC Moravsky 34.60 155 *eP* **P 18 32 42.8 +0.9**
LANS Liptovska Anna 34.69 151 *eP* **P 18 32 45.3 +2.6**
GEC2 GERESS Array S 34.69 158 P P 18 32 43.2 +0.4
GERES GERESS Array B 34.69 158 P P 18 32 42.5 -0.2
GERES GERESS Array B 34.69 158 P P 18 32 43.5 +0.8
comp=Z,2.7nm,0.7s,baz=0.9,slow=8.5,SNR=7.1
GERES PcP **PcP 18 35 16.3 -0.1**
comp=Z,2.4nm,1.0s,baz=32,slow=5.8,SNR=4.8
GERES LR LR 18 47 01.8
comp=Z,238nm,18.5s,baz=344,slow=36
comp=Z,2.7nm,0.7s
P33M Teslin, Yukon 34.72 316 P P 18 32 43.8 +0.9
baz=9.9
CKRC Cesky Krumlov 34.74 157 *eP* **P 18 32 45.2 +2.1**
SUA Susitna One 34.77 332 P P 18 32 43.7 +0.3
baz=7.0
JAVC Velka Javorina 34.88 154 *eP* **P 18 32 47.0 +2.7**
BFO Black Forest 34.99 164 P P 18 32 43.1 -2.2
BFO IAmb IAmb 18 32 51.3
comp=Z,39nm,1.5s
M18K Stony River 35.02 336 P P 18 32 46.2 +0.8
baz=6.0
ECH Echery 35.07 166 P P 18 32 47.0 +1.1
ECH IAmb IAmb 18 32 57.4
comp=Z,30nm,1.2s
KOLS Kolonicke sedl 35.08 148 *eP* **P 18 32 49.1 +3.1**
M17K Holitna River 35.19 337 P P 18 32 47.7 +0.9
baz=5.7
VYHS Vyhne 35.30 152 *eP* **P 18 32 50.0 +2.0**
MODS Modra-Piesok 35.34 154 *eP* **P 18 32 52.0 +3.7**
M16K Timber Creek 35.64 338 P P 18 32 50.8 +0.1
baz=5.4
CONA Conrad Observa 35.71 156 *eP* **P 18 32 53.7 +2.2**
comp=Z,10.0nm,1.7s
BRVK Borovoye 35.89 95 P P 18 32 52.5 -0.4
BRVK IAmb IAmb 18 33 06.0
comp=Z,22nm,1.4s
RETA Reutte 35.92 162 pP pP 18 33 00.6 +5.9
comp=Z,9.7nm,1.5s
BVAR Borovoye Array 35.94 95 P P 18 32 54.2 +0.8
comp=Z,3.2nm,1.0s,baz=343,slow=8.0,SNR=14
BVAR PcP **PcP 18 35 19.8 -0.1**
comp=Z,1.5nm,0.6s,baz=341,slow=3.1,SNR=2.9
BVAR LR LR 18 49 36.8
comp=Z,641nm,21.4s,baz=353,slow=40
comp=Z,3.2nm,1.0s
RONA Rosalia, Austr 35.96 155 *ep*P pP 18 32 56.2 +1.2
comp=Z,9.9nm,1.1s
P23K Montague Islan 36.02 329 P P 18 32 54.0 0.0
baz=7.4
N17K Nushagak Hills 36.05 337 P P 18 32 54.7 +0.5
baz=5.7
LESA Schwarzleotal 36.06 159 *ep*P pP 18 33 03.6 +7.7
comp=Z,10.0nm,1.4s
DAVA Damuels 36.09 163 *eP* **P 18 32 56.6 +1.8**
comp=Z,16nm,2.0s
DLBC Dease Lake 36.23 313 P P 18 32 56.8 +1.0
baz=9.8
DLBC Dease Lake 36.23 313 LR LR 18 49 12.1
comp=Z,591nm,18.8s,baz=335,slow=39
SORM Soroca 36.30 142 ⇑P **P 18 32 57.5 +1.1**
KBA Koelnbreinsper 36.44 159 *ep*P pP 18 33 05.8 +6.6
comp=Z,11nm,1.8s
BUR08 Bucovina Ar. S 36.56 145 IAmb IAmb 18 33 05.8
comp=Z,41nm,1.9s
M11K Mekoryuk 36.56 344 P P 18 32 58.4 -0.1
baz=3.9
BURAR Bucovina Array 36.59 145 ⇑P **P 18 33 00.6 +1.5**
BURAR Bucovina Array 36.59 145 P P 18 32 59.2 +0.1
DAVOX Davos/Dischmat 36.59 163 LR LR 18 46 54.0
comp=Z,370nm,20.1s,baz=8.5,slow=34
ZAA0 Zalesovo Array 36.81 81 P P 18 33 01.3 +0.6
ZAA0 IAmb IAmb 18 33 05.3
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 36.81 81 P P 18 33 02.1 +1.3
comp=Z,16nm,1.0s,baz=350,slow=8.0,SNR=37
ZALV PcP **PcP 18 35 22.7 +0.3**
comp=Z,1.1nm,0.6s,baz=278,slow=3.9,SNR=3.1
ZALV LR LR 18 51 20.4
comp=Z,1µm,19.6s,baz=345,slow=41
comp=Z,16nm,1.0s
N14K Kuskokwak Cree 36.85 341 P P 18 33 01.3 +0.2
baz=4.7
TUE Stuetta 36.88 163 IAmb IAmb 18 33 13.4
comp=Z,26nm,1.4s
MYKA Terra Mystica 36.90 158 *ep*P pP 18 33 04.5 +1.5
comp=Z,8.6nm,1.1s
FFC Flin Flon 36.91 286 P P 18 33 01.7 +0.1
AKTO Aktyubinsk 36.99 109 LR LR 18 49 53.8
comp=Z,2µm,21.2s,baz=20,slow=39
OBKA Obir 37.06 157 *ep*P pP 18 33 06.0 +1.6
comp=Z,20nm,1.1s
MA2 Magadan 37.16 20 LR LR 18 48 06.4
comp=Z,272nm,18.5s,baz=316,slow=36
DRGR 37.24 148 ⇑P **P 18 33 05.4 +0.9**
MARR Marisel-Cluj 37.38 148 ⇓P **P 18 33 08.2 +2.4**
CTI Castel Tesino 37.39 161 P P 18 33 07.1 +1.2
CTI IAmb IAmb 18 33 17.8
comp=Z,32nm,1.4s
O14K Tigyukauivet M 37.51 340 P P 18 33 06.9 +0.3
baz=4.7
O15K Ungalikthiuk R 37.52 339 P P 18 33 06.7 0.0
baz=5.0
MILM Milestii Mici 37.55 141 *eP* **P 18 33 05.0 -2.1**
MILM *eL* L 18 45 50.0
MILM LRM MLR 18 47 33.0
comp=Z,1µm,21.5s
MORH Mrgy, Hungar 37.57 153 ⇑P **P 18 33 09.9 +2.6**
P16K Nushagak River 37.58 337 P P 18 33 06.8 -0.4
baz=5.3
T35M Bob Quinn 37.68 313 P P 18 33 09.0 +0.8
baz=9.5
SIRR Siria 37.69 149 ⇑P **P 18 33 10.4 +2.1**
SIT Sitka 38.05 317 P P 18 33 12.2 +1.0
baz=8.8
BNI Bardonecchia 38.22 167 P P 18 33 13.1 +0.1
BNI IAmb IAmb 18 33 24.6
comp=Z,24nm,1.4s
SURR Surduc 38.23 149 ⇑P **P 18 33 15.5 +2.6**
DOPR Dopca 38.24 145 ⇑P **P 18 33 15.3 +2.3**
BZS Buzias 38.34 150 ⇑P **P 18 33 16.1 +2.3**
ABKAR Akbulak array 38.38 107 P P 18 33 16.2 +2.1
ABKAR Akbulak array 38.38 107 IAmb IAmb 18 33 19.5
comp=Z,14nm,1.2s
VRI Vrincioaia 38.44 144 ⇑P **P 18 33 16.5 +1.9**
PLOR Plostina 38.45 144 ⇑P **P 18 33 18.0 +3.3**
KDAK Kodiak Island 38.55 333 P P 18 33 16.0 +0.6
baz=6.1
KDAK Kodiak Island 38.55 333 LR LR 18 48 14.6
comp=Z,353nm,21.3s,baz=36,slow=35
GZR Gura Zlata 38.64 148 ⇓P **P 18 33 19.9 +3.5**
FRGS Fruska Gora 38.69 152 ⇑P **P 18 33 19.5 +2.8**
VOIR 38.74 146 ⇓P **P 18 33 20.1 +2.8**
MLR Muntele Rosu 38.75 145 ⇑P **P 18 33 20.4 +3.0**
MLR Muntele Rosu 38.75 145 LR LR 18 50 01.8
comp=Z,406nm,18.4s,baz=8.5,slow=37
U33K Whale Pass 38.80 315 P P 18 33 18.6 +1.1
baz=8.9
KURK Kurchatov 39.22 88 P P 18 33 22.5 +1.4
KURK IAmb IAmb 18 33 24.9
comp=Z,32nm,1.2s
CFR Carcaliu 39.23 142 ⇓P **P 18 33 23.3 +2.1**
KURBB Kurchatov Arra 39.30 88 P **P 18 33 21.9 +0.1**
comp=Z,19nm,1.1s,baz=352,slow=7.3,SNR=86
KURBB PP **PP 18 34 52.3 +0.8**
comp=Z,0.1nm,0.3s,baz=322,slow=8.7,SNR=1.5
KURBB PcP **PcP 18 35 29.7 -0.4**
comp=Z,3.2nm,1.0s,baz=332,slow=2.6,SNR=5.9
KURBB LR LR 18 52 59.9
comp=Z,808nm,19.9s,baz=296,slow=41
comp=Z,19nm,1.1s
TPGR Topolog 39.57 142 ⇓P **P 18 33 26.7 +2.6**
SII Sitkinak Islan 39.86 334 P P 18 33 26.3 -0.1
baz=5.7
OSSC Osservatorio P 39.90 161 IAmb IAmb 18 33 34.6
comp=Z,28nm,1.2s
TIRR Tirgusor 39.96 142 ⇑P **P 18 33 29.2 +1.9**
TIRR Tirgusor 39.96 142 P P 18 33 28.3 +1.0
TIRR IAmb IAmb 18 33 32.3
comp=Z,26nm,1.2s
BLKB Belogradchik 40.39 149 ⇓P **P 18 33 32.2 +1.2**
ULM Lac du Bonnet 40.57 279 LR LR 18 49 52.7
comp=Z,901nm,19.6s,baz=22,slow=36
NRCA Norcia 40.66 159 IAmb IAmb 18 33 41.4
comp=Z,23nm,1.2s
PGAV Gavieira, Arco 41.15 184 *eP* **P 18 33 39.7 +2.4**
comp=Z,50nm,1.6s
PBRG Braganca 41.30 182 *eP* **P 18 33 41.4 +2.9**
comp=Z,29nm,1.4s
POLO Lamas de Olo 41.73 183 *eP* **P 18 33 44.4 +2.3**
comp=Z,19nm,2.2s
MVO Moncorvo 41.94 182 *eP* **P 18 33 44.5 +0.8**
comp=Z,22nm,1.4s
KBZ Khabaz 41.97 126 P P 18 33 44.8 +1.0
comp=Z,3.7nm,0.8s,baz=266,slow=5.9,SNR=6.3
comp=Z,3.7nm,0.8s
BBB Bella Bella 42.23 310 LR LR 18 53 12.9
comp=Z,666nm,18.6s,baz=15,slow=39
PKME Peaks-Kenny Pk 42.23 251 P P 18 33 48.0 +2.0
baz=9.4
EYMN Ely 42.30 274 P P 18 33 48.3 +1.8
baz=10
PVIS Viseu 42.39 183 *eP* **P 18 33 49.1 +1.7**
AGMN Agassiz Nation 42.48 279 P P 18 33 46.7 -1.3
MTE Manteigas 42.70 183 *eP* **P 18 33 52.6 +2.6**
FNA Florina 43.14 150 P P 18 33 53.4 -0.1
PCBR Castelo Branco 43.26 183 *eP* **P 18 33 56.7 +2.3**
comp=Z,56nm,1.6s
DGMT Dagmar 43.32 287 IAmb IAmb 18 34 03.1
comp=Z,49nm,1.3s
DGMT Dagmar 43.32 287 P P 18 33 56.6 +1.7
baz=10
ESBB Sonseca Array 43.42 179 P P 18 33 57.0 +1.2
ESBB IAmb IAmb 18 34 05.0
comp=Z,30nm,1.4s
ESDC Sonseca Array 43.42 179 P P 18 33 56.3 +0.5
comp=Z,5.5nm,0.8s,baz=0.4,slow=8.4,SNR=26
comp=Z,5.5nm,0.8s
MAKZ Makanchi 43.48 86 P P 18 33 58.2 +2.1
MK31 Makanchi Array 43.53 85 IAmb IAmb 18 33 59.9
comp=Z,24nm,1.4s
MKAR Makanchi Array 43.53 85 P P 18 33 57.4 +0.8
comp=Z,14nm,1.1s,baz=351,slow=6.8,SNR=51
MKAR PcP **PcP 18 35 44.0 -0.1**
comp=Z,2.6nm,1.0s,baz=19,slow=2.8,SNR=3.4
MKAR LR LR 18 55 13.0
comp=Z,866nm,20.1s,baz=1.5,slow=40
comp=Z,14nm,1.1s
PAB San Pablo 43.55 179 P P 18 33 57.3 +0.4
LBNH Lisbon 43.55 254 P P 18 33 59.2 +2.4
baz=9.4
PMRV Marv??o 43.67 183 *eP* **P 18 33 59.6 +1.8**
comp=Z,35nm,1.5s
PETK Petropavlovsk- 43.89 15 P P 18 33 59.5 +0.1
comp=Z,6.5nm,1.0s,baz=65,slow=7.0,SNR=4.8
PETK LR LR 18 54 16.3
comp=Z,186nm,18.4s,baz=307,slow=39
comp=Z,6.5nm,1.0s
SADO Sadowa 43.90 261 LR LR 18 52 26.1
comp=Z,1µm,18.9s,baz=89,slow=36
PMTG Montargil 44.04 184 *eP* **P 18 34 00.1 -0.6**
comp=Z,34nm,1.7s
PESTR Estremoz 44.23 183 *eP* **P 18 34 04.0 +1.7**
comp=Z,35nm,1.6s
EGMT Eagleton 44.41 292 P P 18 34 04.9 +1.3
baz=9.8
SHEM Shemya Is, Ala 44.55 1 LR LR 18 51 35.8
comp=Z,224nm,19.1s,baz=318,slow=35
PBAR Barrancos 44.92 182 *eP* **P 18 34 09.3 +1.5**
comp=Z,33nm,1.9s
F33A 5 Mile Ranch, 44.96 278 IAmb IAmb 18 34 15.8
comp=Z,23nm,1.1s
HEH HeiHe 44.97 42 *eP* **P 18 34 08.0 0.0**
HEH PcP **PcP 18 35 49.0 +0.1**
HEH S **S 18 40 48.5 +2.3**
HEH SS **ScS 18 43 59.5 -5.4**
HEH pmax pmax

comp=Z,10.0nm,1.4s
HEH pmax pmax
comp=Z,240nm,5.1s
HEH LR LR
comp=Z,160nm,15.7s
HEH LR LR
comp=Z,370nm,14.3s
HEH LR LR
comp=Z,410nm,15.9s
NEW Newport 44.99 299 P P 18 34 08.4 +0.1
NEW IAmb IAmb 18 34 16.9
comp=Z,33nm,1.4s
NEW Newport 44.99 299 P P 18 34 09.4 +1.2
baz=9.3
NEW Newport 44.99 299 LR LR 18 53 08.9
comp=Z,974nm,19.2s,baz=16,slow=36
PNCL Nicolau / Gran 45.00 184 *eP* **P 18 34 10.4 +2.1**
comp=Z,56nm,1.8s
PBEJ Beja 45.08 183 *eP* **P 18 34 11.6 +2.6**
comp=Z,44nm,1.7s
BRTR Keskin Array B 45.08 137 P P **18 34 09.4 +0.2**
BRTR Keskin Array B 45.08 137 P P **18 34 10.3 +1.1**
comp=Z,1.6nm,0.9s,baz=330,slow=4.3,SNR=6.8
BRTR LR LR 18 54 08.7
comp=Z,633nm,22.0s,baz=359,slow=38
comp=Z,1.6nm,0.9s
B08A Colville Reser 45.13 301 IAmb IAmb 18 34 17.7
comp=Z,40nm,1.7s
HRV Adam Dziewonsk 45.22 253 P P **18 34 12.5 +2.4**
baz=9.1
LAO LASA Array 45.31 288 P P **18 34 12.5 +1.7**
baz=9.8
SONM Songino Array 45.34 62 P P **18 34 11.9 +0.8**
SONM Songino Array 45.34 62 P P **18 34 11.8 +0.7**
comp=Z,3.0nm,1.1s,baz=333,slow=7.5,SNR=17
SONM PcP **PcP 18 35 50.8 +0.3**
comp=Z,1.4nm,0.9s,baz=280,slow=2.1,SNR=4.1
SONM LR LR 18 54 40.8
comp=Z,610nm,19.4s,baz=353,slow=38
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 45.38 61 P P **18 34 11.7 +0.3**
ULN IAmb IAmb 18 34 25.9
comp=Z,14nm,1.1s
L61B Northampton 45.41 254 P P **18 34 14.2 +2.7**
baz=9.1
KK31 Karatay Array 45.71 98 P P **18 34 16.3 +2.3**
KK31 IAmb IAmb 18 34 18.6
comp=Z,22nm,1.1s
KKAR Karatay Array 45.71 98 IAmb IAmb 18 34 18.6
comp=Z,22nm,1.1s
PBDV Barranco-do-Ve 45.86 183 *eP* **P 18 34 18.0 +2.8**
comp=Z,80nm,1.6s
USP Ospenovka 46.04 94 P P **18 34 19.9 +3.3**
SNR=5.2
BINY Binghamton 46.05 257 P P **18 34 18.5 +1.9**
baz=9.2
MSO Missoula 46.06 296 P P **18 34 17.4 +0.6**
baz=9.3,SNR=10
GNW Green Mountain 46.28 304 P P **18 34 18.9 +0.5**
CHMS Chumysh 46.34 94 P P **18 34 22.8 +3.9**
SNR=10
KLR Kul'dur 46.34 38 LR LR 18 54 05.5
comp=Z,405nm,18.1s,baz=330,slow=36
TKM2 Tokmak 2 46.52 93 P P **18 34 23.8 +3.3**
SNR=15
AAK Ala-Archa 46.66 94 P P **18 34 24.7 +3.0**
SNR=16
AAK Ala-Archa 46.66 94 P P **18 34 24.5 +2.8**
AAK Ala-Archa 46.66 94 LR LR 18 57 03.7
comp=Z,627nm,18.8s,baz=342,slow=40
BOZ Bozeman (W) 47.01 293 P P **18 34 24.9 +0.6**
baz=9.3,SNR=12
UCH Uchtor 47.07 94 P P **18 34 29.0 +3.8**
SNR=16
ECSD EROS Data Cent 47.07 278 P P **18 34 23.6 -1.0**
ECSD IAmb IAmb 18 34 32.6
comp=Z,15nm,1.1s
WMQ Urumqi 47.12 81 *eP* **P 18 34 28.0 +2.9**
WMQ pP pwP 18 34 34.3 +4.9
WMQ pmax pmax
comp=Z,36nm,1.3s
WMQ pmax pmax
comp=Z,430nm,5.3s
WMQ LR LR
comp=Z,1μm,16.1s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,760nm,17.3s
RLMT Red Lodge 47.21 291 P P **18 34 26.6 +0.6**
baz=9.3
M53A WI Miller and 47.37 262 P P **18 34 29.3 +2.3**
baz=9.3
KEST Kesra 47.60 164 P P **18 34 29.8 +0.8**
KEST Kesra 47.60 164 P P **18 34 28.8 -0.2**
comp=Z,2.4nm,0.7s,baz=286,slow=3.2,SNR=3.1
comp=Z,2.4nm,0.7s
YHH Holmes Hill 47.72 292 P P **18 34 30.0 -0.1**
ELL Elmali 47.74 142 P P **18 34 31.6 +1.5**
H17A Grant Village 48.08 292 P P **18 34 34.1 +1.3**
baz=9.2
O53A New Philadelph 48.61 262 P P **18 34 38.9 +2.3**
baz=9.1
MOOW Moose Ponds 48.74 292 IAmb IAmb 18 34 46.3
comp=Z,22nm,1.4s
IDI Anoyia 48.83 147 LR LR 18 55 43.4
comp=Z,190nm,20.8s,baz=344,slow=37
SFIN Lafayette 49.20 268 P P **18 34 42.6 +1.5**
baz=9.2
HLID Hailey 49.34 295 P P **18 34 43.0 +0.7**
baz=8.8
GEYT Alibeck 49.34 112 P P **18 34 42.9 +0.6**
comp=Z,16nm,1.1s,baz=316,slow=8.3,SNR=19
GEYT LR LR 18 59 21.0
comp=Z,584nm,19.9s,baz=12,slow=41
comp=Z,16nm,1.1s
GYA0B ALIBECK ARRAY 49.34 112 IAmb IAmb 18 34 46.3
comp=Z,24nm,1.3s
BNX BinXian 49.46 43 ⇑P P **18 34 43.0 0.0**
BNX pmax pmax
comp=Z,11nm,1.4s
BNX pmax pmax
comp=Z,140nm,4.5s
BW06 Boulder Array 49.57 291 P P **18 34 44.9 +0.7**
baz=9.0
PDAR Pinedale Array 49.57 291 P P **18 34 42.2 -2.0**
comp=Z,3.6nm,1.0s,baz=32,slow=5.3,SNR=13
PDAR LR LR 18 56 11.5
comp=Z,1μm,19.0s,baz=3.5,slow=37
comp=Z,3.6nm,1.0s
P49A Miami Univ. Ec 49.74 266 P P **18 34 47.5 +2.2**
baz=9.1
SIMJ Simiganj 49.91 100 P P **18 34 47.4 +0.7**
SIMJ IAmb IAmb 18 34 50.5
comp=Z,17nm,1.1s
KSH Kashi 49.92 93 Pn **PKiKP 18 42 56.3 +3.7**
KSH Sn **SS 18 45 35.8 +6.8**
KSH pmax pmax
comp=Z,18nm,0.7s
KSH smax smax
comp=N,13nm,0.5s
KSH smax smax
comp=E,10.0nm,0.6s
KSH Kashi 49.92 93 P P 18 34 51.8 +5.0
KSH sP pwP 18 34 58.3 +7.2
KSH pmax pmax
comp=E,12nm,1.3s
KSH LR LR
comp=E,740nm,21.6s
KSH LR LR
comp=E,920nm,16.1s
KSH LR LR
comp=E,1μm,21.6s
MDT Midelt 50.27 180 LR LR 18 54 12.9
comp=E,68nm,19.8s,baz=82,slow=34
OGNE Ogallala 50.48 283 P P **18 34 52.4 +1.4**
baz=9.1
MDJ Mudanjiang 50.75 41 P P **18 34 52.8 0.0**
MDJ PP **PP 18 36 48.0 -0.5**
MDJ PcS **PcS 18 40 10.3 +3.3**
MDJ S **S 18 42 04.3 -3.9**
MDJ ScS **ScS 18 44 45.5 +2.1**
MDJ SS **SS 18 45 41.0 -0.8**
MDJ pmax pmax
comp=E,20nm,1.3s
MDJ pmax pmax
comp=E,190nm,6.5s
MDJ LR LR
comp=E,280nm,15.1s
MDJ LR LR
comp=E,250nm,15.8s
MDJ LR LR
comp=E,400nm,19.6s
MDJ Mudanjiang 50.75 41 P P **18 34 53.1 +0.3**
HVU Hansel Valley 50.91 293 IAmb IAmb 18 35 01.4
comp=Z,16nm,1.4s
HWUT Hardware Ranch 50.95 292 IAmb IAmb 18 35 02.4
comp=Z,39nm,1.6s
USRK Ussuriysk Ar. 51.36 39 P P **18 34 56.4 -1.0**
USRK Ussuriysk Ar. 51.36 39 P P **18 34 56.7 -0.7**
comp=Z,4.0nm,0.9s,baz=7.6,slow=5.8,SNR=6.3
USRK LR LR 18 56 36.5
comp=Z,286nm,18.4s,baz=350,slow=36
comp=Z,4.0nm,0.9s
BLA Blacksburg 51.51 261 P P **18 35 01.0 +2.3**
baz=8.7
BGU Big Grassy Mou 51.78 293 IAmb IAmb 18 35 08.0
comp=Z,19nm,1.5s
BSUT Blindstream Ca 51.91 291 IAmb IAmb 18 35 10.2
comp=Z,25nm,1.2s
O20A White River Ci 52.01 289 P P **18 35 03.8 +1.2**
baz=8.7,SNR=8.2
ISCO Idaho Springs 52.04 286 P P **18 35 04.6 +1.7**
baz=8.8
YBH Yreka Blue Hor 52.04 303 LR LR 18 58 19.8
comp=Z,483nm,18.5s,baz=5.0,slow=38
ASAJ Asahikawa 52.17 29 LR LR 18 57 23.6
comp=Z,263nm,19.0s,baz=20,slow=36
ELK Elko 52.21 296 P P **18 35 03.3 -0.8**
comp=Z,3.0nm,1.0s,baz=1.7,slow=6.4,SNR=6.0
ELK LR LR 18 57 36.1
comp=Z,2μm,19.7s,baz=12,slow=37
comp=Z,3.0nm,1.0s
DUG Dugway, Tooele 52.48 293 P P **18 35 07.3 +1.3**
baz=8.5
TZTN Tazewell 52.55 264 P P **18 35 08.5 +2.1**
baz=8.7
S39A Bolivar 52.62 274 IAmb IAmb 18 35 13.4
comp=Z,16nm,1.2s
BMN Battle Mountai 52.74 297 IAmb IAmb 18 35 18.3
comp=Z,31nm,1.9s
P18A Preston Nutter 52.75 291 IAmb IAmb 18 35 17.7
comp=Z,29nm,1.7s
HHC Hu-ho-hao-te 52.80 58 *eP* **P 18 35 07.0 -1.3**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.2s
HHC LR LR
comp=Z,420nm,15.9s
HHC LR LR
comp=Z,260nm,15.5s
HHC LR LR
comp=Z,560nm,15.6s
Q24A Divide 52.80 286 IAmb IAmb 18 35 10.7
comp=Z,20nm,1.2s
ASF Jabal al Asfar 52.86 135 LR LR 18 59 37.7
comp=Z,384nm,20.5s,baz=333,slow=38
GTA Gaotai 52.91 70 P **P 18 35 10.5 +1.3**
GTA pP pwP 18 35 17.0 +3.4
GTA sP sP 18 35 21.5 +10
GTA S **S 18 42 42.3 +4.0**
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,250nm,5.3s
GTA LR LR
comp=Z,380nm,21.4s
GTA LR LR
comp=Z,440nm,20.0s
GTA LR LR
comp=Z,450nm,20.7s
P17A Butcher Ranch, 52.96 291 IAmb IAmb 18 35 20.5
comp=Z,36nm,1.9s
TMUT Trail Mountain 53.19 291 IAmb IAmb 18 35 14.3
comp=Z,15nm,1.2s
TKL Tuckaleechee C 53.45 264 LR LR 18 59 16.8
comp=Z,532nm,18.0s,baz=7.0,slow=38
WVT Waverly 53.49 268 P **P 18 35 15.1 +1.8**
baz=8.7
Q16A Castle Valley 53.56 291 IAmb IAmb 18 35 17.0
comp=Z,22nm,1.0s
KMSC Kings Mountain 53.66 261 P **P 18 35 16.2 +1.7**
baz=8.5
T35A Sooner Cattle 53.78 277 P **P 18 35 15.1 -0.3**
SPR3 Spring Creek 3 53.84 294 IAmb IAmb 18 35 24.6
comp=Z,25nm,1.7s
Q12A Willow Creek R 53.85 295 IAmb IAmb 18 35 19.0
comp=Z,15nm,1.2s
KBL Kabul 53.98 101 P **P 18 35 17.0 -0.2**
SDCO Great Sand Dun 54.05 286 P **P 18 35 18.8 +1.1**
baz=8.6
BJI Beijing 54.07 54 P **P 18 35 19.0 +1.5**
BJI pmax pmax
comp=Z,5.0nm,1.5s
BJI pmax pmax
comp=Z,74nm,6.5s
BJI LR LR
comp=Z,160nm,18.5s
BJI LR LR
comp=Z,130nm,15.4s
BJI LR LR
comp=Z,100nm,21.0s
KVN Kaiserville 54.20 298 IAmb IAmb 18 35 21.6
comp=Z,10nm,1.1s
S22A 4UR Ranch, Cre 54.21 287 P **P 18 35 20.0 +1.1**
baz=8.5,SNR=7.7
PNTR Pine Nut 54.33 299 IAmb IAmb 18 35 28.3
comp=Z,16nm,1.1s
YERR Yerington 54.39 299 IAmb IAmb 18 35 28.8
comp=Z,16nm,1.3s
HMU Henry Mountain 54.47 291 IAmb IAmb 18 35 28.6
comp=Z,30nm,1.7s
T25A Trinidad 54.52 284 P **P 18 35 22.4 +1.3**
baz=8.5
MTPU Mount Pierson 54.54 292 IAmb IAmb 18 35 29.4
comp=Z,21nm,1.5s
R11B Troy Canyon, C 54.62 295 P **P 18 35 22.1 +0.4**
baz=8.1,SNR=7.8
RYN Ryan 54.67 298 IAmb IAmb 18 35 29.6
comp=Z,13nm,1.3s
TUL3 Leonard 54.68 276 P **P 18 35 23.2 +1.2**
baz=8.6
NVAR Mina Array Bea 54.84 298 P **P 18 35 22.7 -0.7**
comp=Z,1.4nm,0.9s,baz=358,slow=4.1,SNR=8.4
NVAR LR LR 18 59 00.8
comp=Z,577nm,21.2s,baz=7.0,slow=36
comp=Z,1.4nm,0.9s
MVCO Mesa Verde 54.93 288 P **P 18 35 25.1 +1.0**
baz=8.4,SNR=9.4
RTBA Rita Blanca 55.01 283 P **P 18 35 21.9 -2.6**
EIL Elat 55.17 137 LR LR 19 01 36.1
comp=Z,184nm,18.2s,baz=34,slow=39
NIL Nilore 55.37 97 P **P 18 35 27.8 +0.8**
PRN Pahroc Range 55.49 295 IAmb IAmb 18 35 36.4
comp=Z,13nm,1.3s
GOMU GeErMu 55.50 75 P **P 18 35 30.0 +1.7**
GOMU pP pwP 18 35 36.0 +3.3
GOMU sP sP 18 35 40.5 +10
GOMU pmax pmax
comp=Z,6.0nm,1.0s
GOMU LR LR
comp=Z,320nm,19.9s
GOMU LR LR
comp=Z,240nm,18.7s
GOMU LR LR
comp=Z,490nm,18.7s
KNB Kanab 55.62 293 IAmb IAmb 18 35 40.5
comp=Z,17nm,1.3s
GOGA Godfrey 55.63 263 P **P 18 35 30.8 +1.9**
baz=8.3
LCMT Little Creek M 55.68 293 IAmb IAmb 18 35 32.4
comp=Z,12nm,1.1s
MDPB Devils Postpil 55.71 299 IAmb IAmb 18 35 37.9
comp=Z,13nm,1.3s
LZH Lanzhou 56.66 67 *eP* **P 18 35 37.5 +1.1**
LZH sP pwP 18 35 47.3 +6.7
LZH pmax pmax
comp=Z,10.0nm,1.5s
LZH LR LR
comp=Z,990nm,14.4s
LZH LR LR
comp=Z,410nm,13.4s
LZH LR LR
comp=Z,390nm,12.7s
CWC Cottonwood Cre 56.78 298 P **P 18 35 38.3 +1.0**
baz=7.8
ANMO Albuquerque 56.93 286 P **P 18 35 36.3 -2.0**
ANMO IAmb IAmb 18 35 46.1
comp=Z,38nm,1.9s
ANMO Albuquerque 56.93 286 P **P 18 35 39.4 +1.0**
baz=8.2
ANMO Albuquerque 56.93 286 P **P 18 35 37.6 -0.7**
comp=Z,3.6nm,1.0s,baz=66,slow=10.0,SNR=8.1
ANMO LR LR 19 00 26.5
comp=Z,2μm,18.6s,baz=112,slow=36
comp=Z,3.6nm,1.0s
WUAZ Wupatki 56.94 291 IAmb IAmb 18 35 43.1
comp=Z,13nm,1.1s
WUAZ Wupatki 56.94 291 P **P 18 35 39.4 +1.0**
baz=8.1,SNR=8.1
V12A Nelson 57.13 294 IAmb IAmb 18 35 42.6
comp=Z,13nm,0.9s
W18A Petrified Fore 57.14 289 IAmb IAmb 18 35 46.8
comp=Z,21nm,1.2s
W18A Petrified Fore 57.14 289 P **P 18 35 40.9 +1.0**
baz=8.1
TUQ Turquoise Moun 57.53 295 P **P 18 35 43.7 +1.1**
baz=7.8
ISA Isabella, Lake 57.59 298 IAmb IAmb 18 35 51.4
comp=Z,12nm,1.1s
ISA Isabella, Lake 57.59 298 P **P 18 35 44.0 +1.1**
baz=7.7
LRMC Laurel Mtn Rad 57.69 297 P **P 18 35 45.4 +1.8**
baz=7.7
KSRS Korea Array 57.73 44 P **P 18 35 43.0 -0.7**
comp=Z,2.1nm,1.0s,baz=350,slow=6.8,SNR=6.5
KSRS LR LR 18 59 58.2
comp=Z,122nm,21.3s,baz=0.0,slow=35
comp=Z,2.1nm,1.0s
GSC Goldstone, Bar 57.77 296 IAmb IAmb 18 35 47.3
comp=Z,12nm,1.0s
GSC Goldstone, Bar 57.77 296 P **P 18 35 45.6 +1.5**
baz=7.7,SNR=6.2
TIA Tai'an 57.96 54 ⇑P **P 18 35 46.0 +0.6**
TIA pmax pmax
comp=Z,5.0nm,0.9s
GMRC Granite Mounta 58.15 295 P **P 18 35 48.0 +1.1**
baz=7.8
HEC Hector,Ludlow 58.18 296 P **P 18 35 48.3 +1.3**
baz=7.7,SNR=6.0
EDW2 Edwards Air Fo 58.31 297 P **P 18 35 49.6 +1.6**
baz=7.6
PDMCI Parker Dam,Lak 58.45 293 P **P 18 35 50.4 +1.6**
baz=7.8
PKM Mcpherson Peak 58.50 299 P **P 18 35 50.4 +1.0**
baz=7.5
IRM Iron Mountain 58.71 294 P **P 18 35 51.9 +1.2**
baz=7.8,SNR=7.3
BFSC Mount Baldy Ra 58.91 297 P **P 18 35 53.6 +1.4**
baz=7.6
BELC Belle Mtn. Jos 58.96 295 P **P 18 35 53.9 +1.4**
baz=7.7,SNR=8.4
BC3 Big Chuckawall 59.24 295 P **P 18 35 56.4 +1.9**
baz=7.7
PFO Pinyon Flats O 59.40 296 P **P 18 35 56.8 +1.3**
baz=7.6
PFO Pinyon Flats O 59.40 296 P **P 18 35 54.8 -0.8**
comp=Z,3.2nm,1.0s,baz=4.8,slow=8.6,SNR=3.8
PFO LR LR 19 02 15.0
comp=Z,888nm,18.7s,baz=360,slow=37
comp=Z,3.2nm,1.0s
TPFO Pinon Flats 59.40 296 P **P 18 35 56.6 +1.0**
baz=7.6
MJB9 Matsu-Tunnel 59.42 34 P **P 18 35 53.2 -2.4**
MAJO Matsushiro 59.42 34 P **P 18 35 54.1 -1.4**
MJAR Matsushiro Arr 59.43 34 P **P 18 35 54.1 -1.5**
comp=Z,11nm,1.1s,baz=356,slow=6.6,SNR=13
comp=Z,11nm,1.1s
CIS Catalina Island 59.82 297 P **P 18 35 59.6 +1.2**
baz=7.5
MNTX Cornudas Mount 60.01 285 P **P 18 36 01.0 +1.3**
baz=8.0
TUC Tucson 60.04 290 P **P 18 35 59.1 -0.9**
TUC IAmb IAmb 18 36 07.3
comp=Z,16nm,1.3s
TUC Tucson 60.04 290 P **P 18 36 01.2 +1.2**
baz=7.8
MONP2 Monument Peak 60.10 295 P **P 18 36 01.5 +1.0**
baz=7.6
OZNA Ozona 60.26 280 P **P 18 36 01.3 -0.2**
OZNA IAmb IAmb 18 36 04.8
comp=Z,17nm,1.1s
YUH Yuha Desert 60.29 295 P **P 18 36 01.7 +0.1**
YUH IAmb IAmb 18 36 04.7
comp=Z,12nm,1.4s
IKP In-Ko-Pah, Jac 60.31 295 P **P 18 36 02.8 +1.0**
baz=7.6
BAR Barrett 60.34 296 IAmb IAmb 18 36 10.2
comp=Z,13nm,1.4s
TAM Tamanrasset 60.38 169 P **P 18 36 03.5 +1.1**
TAM IAmb IAmb 18 36 13.3
comp=Z,12nm,1.2s
JCT Junction City 60.53 279 P **P 18 36 03.2 -0.1**
JCT Junction City 60.53 279 P **P 18 36 03.8 +0.5**
baz=8.1
214A Organ Pipe Nat 60.62 292 P **P 18 36 04.5 +0.6**
baz=7.7
VHRN Van Horn 60.86 284 P **P 18 36 04.5 -1.1**
SAND Sanderson 61.33 281 P **P 18 36 07.1 -1.6**
SAND IAmb IAmb 18 36 15.1
comp=Z,20nm,1.6s
VTX Valle De La Tr 61.52 295 P **P 18 36 09.2 -0.8**
VTX IAmb IAmb 18 36 17.9
comp=Z,11nm,1.6s
TX31 Lajitas Ar. Si 62.13 282 IAmb IAmb 18 36 20.8
comp=Z,17nm,1.5s
TXAR Lajitas Array 62.13 282 P **P 18 36 13.2 -1.0**
TXAR Lajitas Array 62.13 282 P **P 18 36 12.9 -1.3**
comp=Z,3.2nm,0.9s,baz=25,slow=3.4,SNR=16
TXAR LR LR 19 04 15.9
comp=Z,450nm,19.0s,baz=1.5,slow=37
comp=Z,3.2nm,0.9s
NJ2 Nanjing 62.25 53 *eP* **P 18 36 14.0 -0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JNU Nakatsue 62.27 41 LR LR 19 03 09.9
comp=Z,127nm,19.2s,baz=346,slow=36
833A Chaparral WMA, 62.61 278 P **P 18 36 19.1 +1.8**
baz=7.9
JHJ Hachijo jima 2 62.94 33 LR LR 19 04 25.9
comp=Z,142nm,18.8s,baz=36,slow=37
PZH PanZhiHua 65.89 70 P **P 18 36 39.0 +0.1**
PZH S **S 18 45 22.0 -4.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,150nm,5.3s
PZH LR LR
comp=Z,380nm,20.6s
PZH LR LR
comp=Z,370nm,21.1s
PZH LR LR
comp=Z,640nm,21.6s
GYA Guiyang 66.49 65 ⇑P **P 18 36 44.3 +1.5**
GYA pmax pmax
comp=Z,19nm,1.4s
TNCH TengChong 66.96 73 ⇓P **P 18 36 47.0 +1.1**
TNCH S **S 18 45 34.5 -4.8**
TNCH pmax pmax
comp=Z,13nm,1.5s
TNCH pmax pmax
comp=Z,260nm,4.9s
TNCH LR LR
comp=Z,330nm,15.3s
TNCH LR LR
comp=Z,190nm,19.4s
TNCH LR LR
comp=Z,640nm,17.6s
KMI Kunming 67.36 69 ⇓P **P 18 36 48.3 -0.2**
KMI pmax pmax
comp=Z,11nm,1.1s
KMI LR LR
comp=Z,600nm,16.8s
KMI LR LR
comp=Z,330nm,18.1s
KMI LR LR
comp=Z,750nm,20.9s
LPIG La Paz 68.09 288 LR LR 19 07 14.4
comp=Z,628nm,20.7s,baz=0.5,slow=36
JOW Kunigami 68.29 44 LR LR 19 08 20.1
comp=Z,255nm,19.4s,baz=331,slow=37
BBTS Babate 68.49 192 LR LR 19 02 54.3

comp=Z,59nm,21.1s,baz=43,slow=32
SJG San Juan 68.70 243 LR LR 19 06 24.4
comp=Z,165nm,20.2s,baz=360,slow=36
JCJ Chichijima 69.08 31 LR LR 19 08 20.1
comp=Z,42nm,20.6s,baz=93,slow=37
TEIG Tepich 69.23 266 LR LR 19 08 58.8
comp=Z,5µm,19.2s,baz=174,slow=37
TOA0 Torodi Ar. Sit 69.89 173 P **P** **18 37 04.2 +0.1**
TORD Torodi Ar. Bea 69.89 173 P **P** **18 37 03.8 -0.3**
TORD IAmb IAmb 18 37 12.6
comp=Z,23nm,1.6s
TORD Torodi Ar. Bea 69.89 173 P **P** **18 37 03.8 -0.3**
comp=Z,3.7nm,0.9s,baz=3.6,slow=7.2,SNR=14
TORD LR LR 19 06 51.5
comp=Z,170nm,19.5s,baz=5.0,slow=35
comp=Z,3.7nm,0.9s
CHTO Chiang Mai 73.15 74 P **P** **18 37 20.9 -2.9**
CHTO IAmb IAmb 18 37 24.6
comp=Z,24nm,1.5s
CM31 Chiang Mai Arr 73.50 74 IAmb IAmb 18 37 39.8
comp=Z,20nm,1.3s
CMAR Chiang Mai Arr 73.50 74 P **P** **18 37 25.3 -0.5**
comp=Z,4.9nm,1.0s,baz=346,slow=6.5,SNR=27
CMAR LR LR 19 12 50.2
comp=Z,382nm,19.8s,baz=355,slow=38
comp=Z,4.9nm,1.0s
ATD Arta Tunnel 73.84 131 LR LR 19 12 27.8
comp=Z,5.8nm,18.8s,baz=358,slow=38
PCRV Puerto La Cruz 76.37 241 LR LR 19 10 05.4
comp=Z,300nm,20.8s,slow=35
SDV Santo Domingo 78.31 247 LR LR 19 12 12.1
comp=Z,163nm,19.9s,baz=9.0,slow=36
JTS Las Juntas de 78.62 261 LR LR 19 13 36.4
comp=Z,589nm,19.6s,baz=12,slow=36
MDP Montagnes des 80.18 228 LR LR 19 10 37.4
comp=Z,189nm,19.3s,baz=341,slow=34
ROSC El Rosal 82.72 250 LR LR 19 13 39.5
comp=Z,215nm,21.9s,baz=66,slow=35
MBAR Mbarara 84.84 144 P **P** **18 38 27.4 -0.6**
MBAR IAmb IAmb 18 38 38.0
comp=Z,18nm,1.6s
MBAR Mbarara 84.84 144 LR LR 19 18 55.8
comp=Z,56nm,20.2s,baz=350,slow=38
KMBO Kilima Mbogo 85.87 138 P **P** **18 38 33.2 0.0**
KMBO IAmb IAmb 18 38 36.3
comp=Z,14nm,1.8s
OTAV Otavalo 87.75 254 P **P** **18 38 43.5 +0.8**
RPSI Rantau Prapat 89.05 76 IAmb IAmb 18 38 48.5
comp=Z,9.3nm,1.0s
RCBR Riachuelo 89.69 211 LR LR 19 11 18.5
comp=Z,96nm,19.0s,baz=42,slow=30
ATAH Atahualpa 95.02 253 LR LR 19 21 26.4
comp=Z,125nm,21.9s,baz=20,slow=35
NNA Nana 99.62 251 LR LR 19 26 45.5
comp=Z,121nm,20.9s,baz=358,slow=37
WRA Warramunga Arr 115.12 43 PKP **PKPdf** **18 44 33.4 -0.7**
comp=Z,0.5nm,0.7s,baz=347,slow=2.8,SNR=2.3
ASAR Alice Springs 118.78 43 PKP **PKPdf** **18 44 39.6 -1.4**
comp=Z,0.9nm,1.0s,baz=6.5,slow=1.6,SNR=6.0
PLCA Paso Flores 127.31 240 PKP **PKiKP** **18 44 57.3 -0.1**
comp=Z,3.7nm,0.9s,baz=346,slow=5.6,SNR=5.7

BER 31 18:39:22.4±1.6, 82°56N×7°31W, h10km, mb(Pn)3.6, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.76**	**130**	*eP*	Pn	18 40 31.6	-2.4
KBS				*eS*	Sn	18 41 22.6	-6.5
KBS				IAML		18 41 36.9	
	comp=Z,3.1nm,0.7s						
BRBB	**Barentsburg B**	**5.71**	**130**	*eP*	Pn	18 40 45.2	-1.8
BRBB				*eS*	Sn	18 41 46.1	-6.5
BRBA	**Barentsburg A**	**5.74**	**130**	*eP*	Pn	18 40 44.5	-2.9
BRBA				*eS*	Sn	18 41 47.0	-6.3
BRBA				IAML		18 41 54.0	
	comp=Z,5.2nm,0.7s						
SPA0	**Spitsbergen Ar**	**5.86**	**126**	*eP*	Pn	18 40 46.3	-2.9
SPA0				*eS*	Sn	18 41 50.1	-6.2
SPA0				IAML		18 41 56.2	
	comp=Z,3.1nm,0.8s						
HSPB	**Hornsund (broa**	**6.82**	**132**	*eP*	Pn	18 41 00.9	-1.4
HOPEN	**Hopen**	**8.26**	**119**	*eP*	Pn	18 41 18.5	-3.5

*IDC **31** 18:39:22.0±1.0, 26°34N×66°23E, h0km, mb4.0/15, mbtmp4.0/16, ML3.9/1, Error ellipse: s-maj=22.0km s-min=17.9km az=22.0*
*DSN **31** 18:39:43.7±2.2, 26°28N×64°86E, h191km, ML3.3/7, Error ellipse: s-maj=59.3km s-min=21.7km az=169.0*
ISC 31 18:39:23.6±0.6, 26°29N±0°07×65°97E±0°04, h10km, n52, σ2$60/57, mb4.0/20, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**7.27**	**237**	P	**Pn**	**18 41 11.1**	**+1.1**
JLN				S	**Sn**	**18 42 29.3**	**-3.4**
WSAR	**Wadi Sarin**	**7.33**	**247**	Pn	**Pn**	**18 41 10.5**	**-0.3**
	2.4nm,0.3s,baz=118,slow=9.6,SNR=41						
WSAR				Sn	Sn	18 42 28.2	-5.9
	5.8nm,0.3s,baz=83,slow=23,SNR=7.6						
WSAR	**Wadi Sarin**	**7.33**	**247**	P	**Pn**	**18 41 13.2**	**+2.4**
WSAR				S	**Sn**	**18 42 29.4**	**-4.7**
WBK	**Wadi Bani Khal**	**7.36**	**242**	P	**Pn**	**18 41 13.0**	**+1.8**
WBK				S	**Sn**	**18 42 31.1**	**-3.8**
BIDO	**Bidbid**	**7.64**	**251**	P	**Pn**	**18 41 17.2**	**+2.2**
BIDO				S	**Sn**	**18 42 38.9**	**-2.8**
SMDO	**Samad**	**7.89**	**248**	P	**Pn**	**18 41 21.3**	**+2.7**
SMDO				S	**Sn**	**18 42 45.1**	**-2.9**
JMDO	**Jabal Madar**	**8.17**	**243**	P	**Pn**	**18 41 25.3**	**+3.0**
JMDO				S	**Sn**	**18 42 51.3**	**-3.5**
BANOM	**Banah**	**8.70**	**270**	P	**Pn**	**18 41 33.6**	**+3.9**
BANOM	**Banah**	**8.70**	**270**	P	Pn	18 41 34.0	+4.3
BANOM				S	**Sn**	**18 43 06.8**	**-1.2**
BSY	**Bisya**	**8.73**	**248**	P	Pn	18 41 34.1	+4.0
BSY				S	**Sn**	**18 43 06.7**	**-2.0**
MDH	**Madha**	**8.78**	**266**	P	**Pn**	**18 41 32.2**	**+1.6**
MDH	**Madha**	**8.78**	**266**	P	**Pn**	**18 41 32.8**	**+2.2**
MDH				S	**Sn**	**18 43 06.3**	**-3.3**
SOHO	**SOHO**	**8.81**	**258**	P	**Pn**	**18 41 33.0**	**+1.8**
SOHO	**SOHO**	**8.81**	**258**	P	**Pn**	**18 41 33.7**	**+2.6**
SOHO				S	**Sn**	**18 43 06.9**	**-3.7**
SHME	**Shamm** SNR=13	**8.84**	**271**	*i* P	**Pn**	**18 41 35.1**	**+3.7**
SHME	**Shamm** SNR=13	**8.84**	**271**	P	Pn	18 41 36.8	+5.4
SHME				S	**Sn**	**18 43 10.2**	**-1.0**
MASF	**Masafi**	**8.89**	**266**	P	**Pn**	**18 41 35.5**	**+3.3**
MASF				S	**Sn**	**18 43 09.0**	**-3.5**
UOSS	**Minazif**	**8.92**	**263**	P	**Pn**	**18 41 35.2**	**+2.5**
UOSS	**Minazif**	**8.92**	**263**	P	**Pn**	**18 41 34.7**	**+2.1**
UOSS				S	**Sn**	**18 43 08.5**	**-4.7**
HATD	**Hatta, Dubai**	**9.01**	**263**	P	**Pn**	**18 41 37.8**	**+4.0**
HATD	**Hatta, Dubai**	**9.01**	**263**	P	Pn	18 41 38.6	+4.8
HATD				S	**Sn**	**18 43 11.0**	**-4.4**
ARQ	**Araqi**	**9.07**	**253**	P	Pn	18 41 40.2	+5.4
ARQ				S	**Sn**	**18 43 14.2**	**-2.9**
ASHO	**Ashiyiah** SNR=11	**9.10**	**262**	*i* P	**Pn**	**18 41 38.6**	**+3.5**
ASHO				S	Sn	18 43 10.0	-7.7
ASHO	**Ashiyiah** SNR=12	**9.10**	**262**	P	Pn	18 41 39.9	+4.8
ASHO				S	**Sn**	**18 43 16.7**	**-1.0**
NAZ	**Nazwa, Dubai**	**9.39**	**264**	P	**Pn**	**18 41 42.7**	**+3.5**
FAQ	**Al Faqa, Dubai** SNR=8.8	**9.50**	**263**	*i* P	Pn	18 41 44.8	+4.2
FAQ	**Al Faqa, Dubai** SNR=8.8	**9.50**	**263**	P	Pn	18 41 46.0	+5.4
ASUD	**Al Ashush, Dub** SNR=9.0	**9.76**	**263**	*i* P	Pn	18 41 49.3	+5.1
ASUD	**Al Ashush, Dub** SNR=9.0	**9.76**	**263**	P	Pn	18 41 49.8	+5.7
UMZA	**Um Al Zommool**	**10.47**	**252**	P	Pn	18 41 57.7	+3.9
AAK	**Ala-Archa** 0.4nm,0.3s,baz=200,slow=6.9,SNR=22 3.5nm,0.7s	**17.74**	**21**	P	**Pn**	**18 43 27.5**	**-3.3**
MKAR	**Makanchi Array** 1.1nm,0.5s,baz=212,slow=9.3,SNR=13 1.1nm,0.5s	**24.21**	**28**	P	**P**	**18 44 38.0**	**-2.4**
WMQ	**Urumqi**	**24.82**	**40**	*eP*	**P**	**18 44 45.8**	**-0.3**
WMQ				LR	LR		
	comp=N,660nm,13.3s						
WMQ				LR	LR		
	comp=E,760nm,11.1s						
WMQ				LR	LR		
	comp=Z,610nm,15.7s						
AKTO	**Aktyubinsk**	**24.87**	**348**	P	**P**	**18 44 46.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=143,slow=5.9,SNR=2.6						
	comp=Z,0.6nm,0.4s						
KBZ	**Khabaz**	**25.55**	**319**	P	**P**	**18 44 53.9**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=116,slow=12,SNR=2.4						
	comp=Z,3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**26.14**	**18**	P	**P**	**18 44 57.3**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=210,slow=8.8,SNR=18						
	comp=Z,1.6nm,0.7s						
BVAR	**Borovoye Array**	**26.91**	**6**	P	**P**	**18 45 03.5**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=183,slow=7.4,SNR=9.1						
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**30.96**	**22**	P	**P**	**18 45 40.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=227,slow=10.0,SNR=15						
	comp=Z,2.1nm,0.6s						
GTA	**Gaotai**	**31.11**	**57**	P	**P**	**18 45 42.5**	**+0.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.40**	**98**	P	**P**	**18 45 43.5**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=288,slow=9.9,SNR=6.2						
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**37.12**	**321**	P	**P**	**18 46 36.1**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=104,slow=7.7,SNR=1.9						
	comp=Z,0.7nm,0.6s						
SONM	**Songino Array**	**38.19**	**45**	P	**P**	**18 46 42.7**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=240,slow=9.1,SNR=11						
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**44.17**	**334**	P	**P**	**18 47 32.3**	**0.0**
	comp=Z,1.1nm,0.5s,baz=160,slow=6.1,SNR=7.6						
	comp=Z,1.1nm,0.5s						
BIOA	**Bad Ischl, Aus**	**45.94**	**312**	*eP*	**P**	**18 47 49.3**	**+2.6**
	comp=Z,2.7nm,0.7s						
KBA	**Koelnbreinsper**	**46.05**	**311**	*eP*	**P**	**18 47 49.9**	**+2.2**
	comp=Z,4.3nm,1.1s						
LESA	**Schwarzleotal**	**46.55**	**311**	*eP*	**P**	**18 47 52.5**	**+1.0**
	comp=Z,2.6nm,0.5s						
ABTA	**Abfaltersbach**	**46.58**	**310**	*eP*	**P**	**18 47 53.8**	**+2.0**
	comp=Z,3.6nm,1.1s						
ARCES	**ARCESS Array B**	**49.26**	**342**	P	**P**	**18 48 11.9**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=124,slow=6.0,SNR=4.3						
	comp=Z,2.8nm,0.9s						
KSRS	**Korea Array**	**52.94**	**62**	P	**P**	**18 48 37.7**	**-2.5**
	comp=Z,1.5nm,0.6s,baz=264,slow=8.3,SNR=7.8						
	comp=Z,1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**61.37**	**271**	P	**P**	**18 49 41.6**	**+1.4**
	comp=Z,2.9nm,0.7s,baz=56,slow=7.4,SNR=20						
	comp=Z,2.9nm,0.7s						
WRA	**Warramunga Arr**	**80.68**	**118**	P	**P**	**18 51 36.7**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=317,slow=5.3,SNR=4.2						
	comp=Z,1.3nm,0.9s						
ASAR	**Alice Springs**	**82.33**	**121**	P	**P**	**18 51 44.4**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=293,slow=4.8,SNR=2.3						
	comp=Z,0.6nm,0.9s						

IDC 31 18:49:21.3±2.6, 8°06N×91°69E, h0km, mb3.4/4, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=74.1km s-min=31.7km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.52**	**34**	Pn	Pn	18 52 20.4	-0.3
	baz=232,slow=16,SNR=4.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**39.43**	**350**	P	P	18 56 52.8	-0.2
	0.2nm,0.4s,baz=175,slow=8.7,SNR=5.1						
	0.2nm,0.4s						
SONM	**Songino Array**	**41.56**	**15**	P	P	18 57 10.5	-0.3
	0.8nm,0.8s,baz=197,slow=8.7,SNR=6.4						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**43.82**	**348**	P	P	18 57 29.2	+0.3
	0.2nm,0.4s,baz=171,slow=7.9,SNR=4.9						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**50.36**	**124**	P	P	18 58 20.3	-0.2
	0.5nm,0.8s,baz=301,slow=8.6,SNR=2.1						
	0.5nm,0.8s						

BER 31 18:50:34.8±2.3, 82°41N×8°46W, h10km, mb(Pn)3.6, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.79**	**126**	*eP*	Pn	18 51 44.0	-2.8
BRBB	**Barentsburg B**	**5.74**	**127**	*eP*	Pn	18 51 57.6	-2.2
BRBA	**Barentsburg A**	**5.77**	**127**	*eP*	Pn	18 51 58.9	-1.3
BRBA				*eS*	Sn	18 52 59.9	-6.4
BRBA				IAML		18 53 24.5	
	comp=Z,5.6nm,0.7s						
SPA0	**Spitsbergen Ar**	**5.90**	**123**	*eP*	Pn	18 51 58.5	-3.6
SPA0				*eS*	Sn	18 53 01.6	-8.0
SPA0				IAML		18 53 14.3	
	comp=Z,2.6nm,0.6s						
HSPB	**Hornsund (broa**	**6.84**	**129**	*eP*	Pn	18 52 13.7	-1.2
HOPEN	**Hopen**	**8.33**	**117**	*eS*	Sn	18 53 59.3	-10

*IDC **31** 19:06:26.0±0.9, 10°48S×161°60E, h65km±7km, mb3.8/9, mbtmp4.1/10, Error ellipse: s-maj=19.1km s-min=12.3km az=29.0*
*NEIC **31** 19:06:26.5±1.8, 10°32S±0°09×161°69E±0°09, h64km±8km, mb4.4/29, Error ellipse: s-maj=14.1km s-min=11.8km az=56.0*
ISC 31 19:06:25.6±0.5, 10°37S±0°07×161°73E±0°08, h61km, n46, σ1$39/52, mb4.3/23, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.99**	**298**	Pn	**Pn**	**19 06 57.0**	**0.0**
HNR	**Honiara**	**1.99**	**298**	P	**Pn**	**19 06 57.4**	**+0.5**
	2µm,0.3s,baz=170,slow=11,SNR=39						
HNR				S	**Sn**	**19 07 20.4**	**-0.3**
	8µm,0.3s,baz=145,slow=21,SNR=5.3						
HNR				LR	LR	19 07 40.8	
	comp=Z,1µm,18.6s,baz=124,slow=39						
KOUNC	**Koumac, New Ca**	**10.41**	**167**	Pn	**Pn**	**19 08 54.1**	**+1.8**
DZM	**Mont Dzumac**	**12.48**	**159**	Pn	**Pn**	**19 09 22.5**	**+1.9**
DZM	**Mont Dzumac**	**12.48**	**159**	P	**Pn**	**19 09 23.2**	**+2.7**
	1.2nm,0.3s,baz=32,slow=10,SNR=19						
DZM				S	**Sn**	**19 11 34.7**	**-3.3**
	4.2nm,0.9s,baz=307,slow=20,SNR=1.7						
PATS	**Pohnpei**	**17.43**	**349**	Pn	**Pn**	**19 10 22.7**	**-2.1**
CTA	**Charters Tower**	**17.77**	**235**	P	**P**	**19 10 28.6**	**-0.3**
	2.5nm,0.6s,baz=60,slow=12,SNR=9.1						
CTAO	**Charters Tower**	**17.77**	**235**	Pn	**P**	**19 10 30.7**	**+1.8**
EIDS	**Eidsvold**	**18.01**	**213**	P	**P**	**19 10 31.2**	**-0.4**
COEN	**Coen**	**18.48**	**257**	Pn	**Pn**	**19 10 40.6**	**+3.0**
COEN				IAmb	IAmb	19 10 41.1	
	comp=Z,20nm,1.2s						
ARMA	**Armidale**	**22.05**	**204**	P	**P**	**19 11 17.8**	**+2.4**
ARMA				IAmb	IAmb	19 11 22.7	
	comp=Z,23nm,1.4s						
AFI	**Afiamalu**	**26.14**	**100**	P	**P**	**19 11 52.0**	**-2.3**
WR0	**Warramunga Arr**	**27.88**	**247**	P	**P**	**19 12 09.3**	**-0.6**
WR0				IAmb	IAmb	19 12 46.5	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**27.96**	**247**	P	**P**	**19 12 10.8**	**+0.2**
WB0				IAmb	IAmb	19 12 19.0	
	comp=Z,20nm,1.4s						
WB2	**Warramunga Arr**	**28.04**	**247**	P	**P**	**19 12 11.4**	**0.0**
WB2				IAmb	IAmb	19 12 51.7	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**28.05**	**247**	P	**P**	**19 12 10.3**	**-1.2**
WRA	**Warramunga Arr**	**28.05**	**247**	P	**P**	**19 12 10.2**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=71,slow=9.0,SNR=22						
WRA				PcP	**PcP**	**19 15 24.3**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=70,slow=3.2,SNR=1.3						
	comp=Z,1.5nm,0.5s						
AS31	**Alice Springs**	**29.63**	**240**	P	**P**	**19 12 25.1**	**-0.4**
ASAR	**Alice Springs**	**29.63**	**240**	P	**P**	**19 12 25.6**	**+0.1**
ASAR	**Alice Springs**	**29.63**	**240**	P	**P**	**19 12 23.9**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=65,slow=10,SNR=13						
ASAR				PcP	**PcP**	**19 15 28.2**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=74,slow=3.3,SNR=3.0						
	comp=Z,0.6nm,0.6s						
TOO	**Toolangi**	**30.77**	**206**	P	**P**	**19 12 34.3**	**-1.1**
TOO				IAmb	IAmb	19 12 50.5	
	comp=Z,17nm,1.2s						
BBOO	**Buckleboo**	**32.51**	**223**	P	**P**	**19 12 50.6**	**-0.2**
BBOO				IAmb	IAmb	19 13 23.6	
	comp=Z,32nm,1.4s						
KNRA	**Kununurra**	**32.52**	**257**	P	**P**	**19 12 50.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**35.76**	**253**	P	**P**	**19 13 18.4**	**-0.6**
FITZ				IAmb	IAmb	19 14 00.9	
	comp=Z,6.3nm,1.4s						
LUWI	**Luwuk**	**39.81**	**281**	P	**P**	**19 13 52.8**	**-0.4**
PSA00	**Pilbara Seismi**	**41.65**	**249**	P	**P**	**19 14 07.2**	**-1.1**
PSA00				IAmb	IAmb	19 14 48.7	
	comp=Z,15nm,1.5s						
KKM	**Kota Kinabalu**	**48.17**	**288**	P	**P**	**19 14 59.3**	**-1.1**
SSLB	**Suanglung**	**52.35**	**311**	P	**P**	**19 15 30.2**	**-1.6**
JKA	**Kamikawa-asahi**	**56.95**	**344**	P	**P**	**19 16 06.2**	**+1.6**
ASAJ	**Asahikawa**	**56.95**	**344**	P	**P**	**19 16 05.8**	**+1.2**
	comp=Z,8.6nm,1.0s,baz=135,slow=2.6,SNR=7.2						
	comp=Z,8.6nm,1.0s						
VNDA	**Vanda**	**67.13**	**180**	P	**P**	**19 17 13.0**	**+0.6**
VNDA				IAmb	IAmb	19 17 47.1	
	comp=Z,4.9nm,1.4s						
CRAI	**Chiangrai**	**67.58**	**297**	P	**P**	**19 17 16.0**	**-0.2**
CRAI				IAmb	IAmb	19 17 54.7	
	comp=Z,7.7nm,1.4s						
ULN	**Ulaanbaatar**	**75.47**	**325**	P	**P**	**19 18 03.0**	**-0.4**
ULN				IAmb	IAmb	19 18 22.0	
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**75.83**	**325**	P	**P**	**19 18 05.8**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=141,slow=5.9,SNR=20						
SONM				pP	**pP**	**19 18 23.2**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=138,slow=5.3,SNR=11						
	comp=Z,2.3nm,0.6s						
QSPA	**South Pole Qui**	**79.62**	**180**	P	**P**	**19 18 26.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=176,slow=1.6,SNR=5.2						
	comp=Z,0.8nm,0.3s						
E18K	**Tukpahlearik C**	**82.20**	**14**	P	**P**	**19 18 41.4**	**+1.8**
C18K	**Utukok River**	**83.05**	**13**	P	**P**	**19 18 45.4**	**+1.2**
C18K				IAmb	IAmb	19 18 47.8	
	comp=Z,2.3nm,1.1s						
D19K	**Kuna River**	**83.63**	**14**	P	**P**	**19 18 48.8**	**+1.7**
D19K				IAmb	IAmb	19 18 55.6	
	comp=Z,5.3nm,1.4s						
C19K	**Lookout Ridge**	**83.77**	**13**	P	**P**	**19 18 49.7**	**+1.8**
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**19 18 50.7**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=242,slow=5.1,SNR=5.7						
ILAR				pP	**pP**	**19 19 08.9**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=242,slow=5.3,SNR=2.6						
	comp=Z,0.3nm,0.4s						
B20K	**Meade River**	**85.01**	**13**	P	**P**	**19 18 53.9**	**-0.1**
B20K				IAmb	IAmb	19 18 57.7	
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**90.35**	**318**	P	**P**	**19 19 19.6**	**-0.6**
MKAR	**Makanchi Array**	**90.35**	**318**	P	**P**	**19 19 19.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=91,slow=6.7,SNR=20						
MKAR				pP	**pP**	**19 19 37.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=85,slow=5.5,SNR=2.0						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**93.65**	**321**	P	**P**	**19 19 33.5**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=96,slow=5.0,SNR=4.5						
	comp=Z,0.3nm,0.7s						
TPAW	**Teton Pass**	**95.12**	**47**		pP	19 20 00.6	+0.9
YKA	**Yellowknife Ar**	**96.20**	**28**	P	**P**	**19 19 47.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=260,slow=5.5,SNR=2.7						
	comp=Z,0.2nm,0.6s						

*TEH **31** 19:07:49.2, 33°74N×45°79E, h10km±133km, ML2.5*
*ISN **31** 19:07:50.5±0.4, 33°70N×45°81E, h25km, ML2.0*
ISC 31 19:07:49.9±2.0, 33°72N±0°06×45°8E±0°1, h19km, n5, σ0$40/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.36**	**106**	Pg	**Pg**	**19 07 57.2**	**-0.4**
ILBA				Sg	**Sb**	**19 08 03.5**	**+0.4**
IBDR	**Badra** baz=350	**0.62**	**170**	*eP*g	**Pb**	**19 08 02.0**	**-0.1**
IBDR				*eS*g	**Sg**	**19 08 11.0**	**+0.4**
IBDR				AML	AML	19 08 18.6	
	comp=E,80nm,0.4s						
IBDR				AML	AML	19 08 28.7	
	comp=N,81nm,0.3s						
IGHG	**Ghaleghazi**	**0.88**	**47**	Pg	**Pn**	**19 08 07.7**	**+0.2**
IDHR	**Dehrash**	**1.09**	**27**	Pg	**Pb**	**19 08 10.3**	**0.0**
IKFM	**Kafar-mosalman**	**1.72**	**96**	Pg	**Pg**	**19 08 22.7**	**-0.4**

*IDC **31** 19:08:11.3±0.8, 28°05N×140°10E, h393km±19km, mb2.9/8, mbtmp3.7/12, Error ellipse: s-maj=60.7km s-min=11.8km az=75.0*
*JMA **31** 19:08:14.2±0.2, 28°N±2°×14°1E±°, h415km, MV3.9/28, W OFF OGASAWARA*
ISC 31 19:08:12.5±0.8, 28°18N±0°07×140°0E±0°1, h400km, n25, σ1$97/36, mb3.1/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.20**	**119**	*eP*	**Pn**	**19 09 11.2**	**+1.4**
CBIJ				*eS*	**S**	**19 09 56.5**	**+0.5**
JCJ	**Chichijima** 35nm,0.3s,baz=319,slow=22,SNR=16	**2.20**	**119**	P	**Pn**	**19 09 07.0**	**-2.8**
JCJ				S	**S**	**19 09 52.4**	**-3.7**
	99nm,0.3s,baz=285,slow=22,SNR=22						
JHH2	**Haha-jima-NKT2**	**2.46**	**128**	*eP*	**Pn**	**19 09 13.5**	**+1.9**
JHH2				*eS*	**S**	**19 09 59.8**	**+0.5**
JHJ	**Hachijo jima 2** 64nm,0.7s,baz=66,slow=20,SNR=1.2	**4.93**	**358**	P	**Pn**	**19 09 33.5**	**-0.2**
JHJ				S	**S**	**19 10 38.4**	**-1.4**
	98nm,0.7s,baz=255,slow=19,SNR=2.0						
BSO1	**Boso 1**	**6.50**	**7**	*eP*	**Pn**	**19 09 52.6**	**+2.6**
BSO1				*eS*	**S**	**19 11 11.0**	**+1.4**
BSO3	**Boso 3**	**6.62**	**3**	*eP*	**P**	**19 09 53.8**	**+1.7**
BSO3				*eS*	**S**	**19 11 11.2**	**-1.2**
JIE	**Ise**	**6.81**	**336**	*eP*	**P**	**19 09 57.8**	**+3.3**
JOD2	**Odawara 2**	**7.11**	**354**	*eP*	**P**	**19 09 59.2**	**+1.3**
JHU	**Hanno**	**7.68**	**355**	*eS*	**S**	**19 11 30.7**	**-4.0**
JRY	**Ryogami san**	**7.87**	**353**	*eP*	**P**	**19 10 07.2**	**+0.8**
JYT	**Yasato**	**8.03**	**1**	*eS*	**S**	**19 11 39.1**	**-2.9**
JAG	**Ashikaga**	**8.24**	**357**	*eP*	**P**	**19 10 10.2**	**-0.1**
JAG				*eS*	**S**	**19 11 42.0**	**-4.5**
JHO	**Hitachi**	**8.42**	**3**	*eP*	**P**	**19 10 13.9**	**+1.5**
JHO				*eS*	**S**	**19 11 48.4**	**-1.9**
MJAR	**

ϕ_s153.69000°, δ79.65000°, λ134.19000°. NP2: ϕ_s254.16000°, δ45.14000°, λ14.68000°. Principal axes: T 2.6077, Plg39.0000°, Azm103.0000°; N -0.0091, Plg43.0000°, Azm324.0000°; P -2.5986, Plg22.0000°, Azm212.0000°;

NEIC ***31*** *19:15:51.9, 10˙.78S×164˙.31E, h10km*

NEIC ***31*** *19:15:51.4±2.7, 10˙.80S±0˙.08×164˙.33E±0˙.10, h8km±1km, mb5.3/154, Ms_20 5.5/274, Mwb5.5/27, Mww5.5/27, Error ellipse: s-maj=16.3km s-min=13.0km az=73.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.06; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$0.99; $M_{r\theta}$0.95; $M_{\theta\phi}$0.75; $M_{\phi r}$-1.10; Fault plane solution: $M_0$1.90000×10^{17} NP1: ϕ_s331.69000°, δ87.72000°, λ-131.07000°. NP2: ϕ_s239.07000°, δ41.12000°, λ-3.47000°. Principal axes: T 1.6941, Plg30.0000°, Azm94.0000°; N 0.3603, Plg41.0000°, Azm334.0000°; P -2.0544, Plg34.0000°, Azm208.0000°;*

NEIC ***31*** *19:15:51.9, 10˙.78S×164˙.31E, h22km*

NOU ***31*** *19:15:54.0, 10˙.92S×164˙.11E, h1km, mb5.3/93, Santa Cruz Islands Region*

GCMT ***31*** *19:15:56.4±0.1, 10˙.74S±0˙.01×164˙.12E±0˙.01, h20km, MW5.5/142, Moment Tensor Solution. s121,c209; s142,c275; Duration: 1^{s}4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.40±.03; $M_{\theta\theta}$-1.47±.03; $M_{\phi\phi}$1.07±.03; $M_{r\theta}$0.47±.04; $M_{\theta\phi}$1.45±.02; $M_{\phi r}$-1.10±.06; Best double couple: $M_0$2.28200×10^{17} NP1:ϕ_s157.00000°, δ84.00000°, λ147.00000°. NP2:ϕ_s250.00000°, δ57.00000°, λ7.00000°. Principal axes: T 2.1460, Plg27.0000°, Azm108.0000°; N 0.2760, Plg56.0000°, Azm328.0000°; P -2.4190, Plg18.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 19:15:53.8±0.5, 10˙.93S±0˙.04×164˙.22E±0˙.05, h15km±2km, h15km:pP-P, n743, σ1§69/606, mb5.2/148, MS5.5/190, 7C-26D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.46**	**289**		**Pn**	**19 17 00.1**	**-0.9**
HNR	**Honiara**	**4.46**	**289**	P	**Pn**	**19 17 01.2**	**+0.2**
HNR	**Honiara**	**4.46**	**289**	Pn	**Pn**	**19 17 00.7**	**-0.2**
	2µm,0.3s,baz=131,slow=5.3,SNR=53						
HNR				Sn	**Sn**	**19 17 52.4**	**-0.3**
	664nm,0.3s,baz=18,slow=19,SNR=2.0						
HNR				LR	LR	19 18 53.1	
	comp=Z,710µm,18.1s,baz=132,slow=41						
KOUNC	**Koumac, New Ca**	**9.57**	**180**	Pn	**Pn**	**19 18 11.5**	**+0.5**
KOUNC	**Koumac, New Ca**	**9.57**	**180**	P	**Pn**	**19 18 12.4**	**+1.4**
DZM	**Mont Dzumac**	**11.28**	**169**		**Pn**	**19 18 34.9**	**+0.2**
DZM	**Mont Dzumac**	**11.28**	**169**	Pn	**Pn**	**19 18 35.4**	**+0.7**
	43nm,0.4s,baz=349,slow=18,SNR=48						
DZM				Sn	**Sn**	**19 20 38.1**	**-2.5**
	1.2nm,0.3s,baz=343,slow=19,SNR=2.4						
DZM				LR	LR	19 22 11.8	
	comp=Z,8µm,18.9s,baz=8.0,slow=34						
NOUC	**Port Laguerre**	**11.29**	**170**	P	**Pn**	**19 18 36.2**	**+1.6**
YATNC	**Mamie plateau,**	**11.36**	**167**	P	**Pn**	**19 18 37.2**	**+1.6**
ONTNC	**Ouen Toro**	**11.51**	**170**		**Pn**	**19 18 38.4**	**+0.6**
ONTNC	**Ouen Toro**	**11.51**	**170**	P	**Pn**	**19 18 39.8**	**+2.1**
OUENC	**Ouen Island, N**	**11.70**	**168**		**Pn**	**19 18 40.9**	**+0.7**
OUENC	**Ouen Island, N**	**11.70**	**168**	P	**Pn**	**19 18 41.9**	**+1.7**
PINNC	**Pines Island,**	**12.02**	**166**		**Pn**	**19 18 45.1**	**+0.4**
RABL	**Rabaul**	**13.70**	**298**	P	**Pn**	**19 19 08.8**	**+1.2**
TARA	**Tarawa**	**14.96**	**36**		Pn	19 19 20.5	-4.4
KAVG	**Kavieng**	**15.68**	**301**	P	**Pn**	**19 19 35.7**	**+1.3**
DGTI	**Dogotuki**	**15.99**	**111**	P	**P**	**19 19 43.3**	**+1.5**
TAVE	**Taveuni**	**16.44**	**112**	P	**P**	**19 19 47.1**	**+0.3**
PMG	**Port Moresby**	**16.87**	**274**	P	**Pn**	**19 19 48.0**	**-1.5**
PMG	**Port Moresby**	**16.87**	**274**	Pn	**Pn**	**19 19 48.0**	**-1.5**
	0.2nm,0.3s,baz=172,slow=3.6,SNR=1.2						
PMG				LR	LR	19 26 11.0	
	comp=Z,10µm,19.3s,baz=124,slow=37 21nm,1.1s						
GD1S	**Gladstone Soft**	**17.87**	**222**	P	**P**	**19 20 04.5**	**+1.9**
AUAYR	**Ayr State High**	**18.35**	**240**	P	**P**	**19 20 10.0**	**+2.2**
PATS	**Pohnpei**	**18.60**	**341**	P	**P**	**19 20 11.5**	**+0.8**
TV1H	**Townsville Har**	**18.74**	**242**	P	**P**	**19 20 13.4**	**+1.2**
MANU	**Manus Island**	**18.92**	**297**	P	**P**	**19 20 12.8**	**-1.4**
MANU	**Manus Island**	**18.92**	**297**	P	**P**	**19 20 15.3**	**+1.1**
EIDS	**Eidsvold**	**19.01**	**219**	P	**P**	**19 20 15.9**	**+0.8**
	baz=19,SNR=30						
EIDS	**Eidsvold**	**19.01**	**219**	P	**P**	**19 20 15.7**	**+0.6**
EIDS				IAmb	IAmb	19 20 22.8	
	comp=Z,246nm,1.2s						
EIDS	**Eidsvold**	**19.01**	**219**	P	**Pn**	**19 20 17.6**	**+1.8**
CTA	**Charters Tower**	**19.55**	**240**	P	**P**	**19 20 22.2**	**+1.1**
CTA	**Charters Tower**	**19.55**	**240**	P	**P**	**19 20 21.3**	**+0.2**
	comp=Z,75nm,0.7s,baz=67,slow=11,SNR=139						
CTA				LR	LR	19 27 34.1	
	comp=Z,4µm,18.4s,baz=59,slow=36						
CTAO	**Charters Tower**	**19.55**	**240**		**P**	**19 20 21.4**	**+0.3**
CTAO				IAmb	IAmb	19 20 29.8	
	comp=Z,264nm,1.1s						
CTAO	**Charters Tower**	**19.55**	**240**	P	**P**	**19 20 22.1**	**+1.0**
CTAO	**Charters Tower**	**19.55**	**240**	P	**P**	**19 20 21.4**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,264nm,1.2s						
GC1S	**Gold Coast 1 S**	**19.87**	**209**	P	**P**	**19 20 26.8**	**+2.3**
MTSU	**Mount Surprise**	**20.55**	**247**	P	**P**	**19 20 31.8**	**-0.2**
	baz=20,SNR=54						
MTSU	**Mount Surprise**	**20.55**	**247**	P	**P**	**19 20 32.6**	**+0.6**
COEN	**Coen**	**20.77**	**259**	P	**P**	**19 20 34.2**	**-0.2**
	baz=21,SNR=29						
COEN	**Coen**	**20.77**	**259**	P	**P**	**19 20 33.6**	**-0.8**
COEN				IAmb	IAmb	19 20 42.7	
	comp=Z,89nm,0.8s						
COEN	**Coen**	**20.77**	**259**	P	**P**	**19 20 34.3**	**-0.2**
RMQ	**Roma**	**21.27**	**221**	P	**P**	**19 20 43.0**	**+3.3**
ARMA	**Armidale**	**22.65**	**209**	P	**P**	**19 20 56.2**	**+1.6**
	baz=23,SNR=8.5						
ARMA	**Armidale**	**22.65**	**209**	P	**P**	**19 20 54.2**	**-0.5**
ARMA	**Armidale**	**22.65**	**209**	P	**P**	**19 20 56.8**	**+2.2**
TABU	**Tabubil**	**23.45**	**282**	P	**P**	**19 21 04.4**	**+1.5**
AUPHS	**Peel High Scho**	**23.57**	**210**	P	**P**	**19 21 05.9**	**+2.0**
AULRC	**Lightning Ridg**	**23.85**	**217**	P	**P**	**19 21 07.0**	**+0.4**
QLP	**Quilpie**	**24.45**	**228**	P	**P**	**19 21 12.3**	**+0.1**
	baz=24,SNR=9.1						
QLP	**Quilpie**	**24.45**	**228**	P	**P**	**19 21 13.2**	**+1.0**
RAO	**Raoul Island**	**24.71**	**140**	LR	LR	19 29 51.3	
	comp=Z,2µm,18.8s,baz=320,slow=34						
MGCD	**Mangrove Creek**	**25.24**	**206**	P	**P**	**19 21 21.4**	**+2.2**
QIS	**Mount Isa**	**25.52**	**245**	P	**P**	**19 21 20.2**	**-1.8**
	baz=26,SNR=18						
QIS	**Mount Isa**	**25.52**	**245**	P	**P**	**19 21 24.0**	**+2.0**
AUDCS	**Dubbo College**	**25.62**	**212**	P	**P**	**19 21 25.9**	**+3.2**
OUZ	**Omahuta**	**25.64**	**162**	P	**P**	**19 21 26.2**	**+3.3**
CMSA	**Cobar Meteorol**	**26.73**	**217**	P	**P**	**19 21 33.2**	**+0.4**
	baz=27,SNR=22						
CMSA	**Cobar Meteorol**	**26.73**	**217**	P	**P**	**19 21 33.2**	**+0.4**
YNG	**Young**	**27.39**	**209**	P	**P**	**19 21 41.7**	**+3.0**
INKA	**Innaminka**	**27.67**	**229**	P	**P**	**19 21 43.6**	**+2.3**
CNB	**Canberra Magne**	**27.78**	**207**	P	**P**	**19 21 46.0**	**+3.7**
CAN	**Canberra**	**27.95**	**207**	P	**P**	**19 21 47.3**	**+3.5**
H11S2	**WAKE ISLAND Hy**	**29.34**	**5**	T	T	19 52 17.7	
	baz=184,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.34**	**5**	T	T	19 52 21.9	
	baz=184,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.35**	**5**	T	T	19 52 25.8	
	baz=184,slow=76,SNR=19						
STKA	**Stephens Creek**	**29.52**	**222**	P	**P**	**19 21 58.3**	**+0.6**
	baz=30,SNR=22						
STKA	**Stephens Creek**	**29.52**	**222**	P	**P**	**19 21 57.8**	**+0.1**
STKA	**Stephens Creek**	**29.52**	**222**	P	**P**	**19 21 58.2**	**+0.5**
STKA	**Stephens Creek**	**29.52**	**222**	*de*P	**P**	**19 21 58.6**	**+0.9**
STKA	**Stephens Creek**	**29.52**	**222**	P	**P**	**19 21 57.8**	**+0.1**
	comp=Z,22nm,1.0s,baz=40,slow=10.0,SNR=19						
STKA				LR	LR	19 33 01.8	
	comp=Z,5µm,18.4s,baz=39,slow=35 comp=Z,22nm,1.0s						
URZ	**Urewera**	**29.56**	**159**	LR	LR	19 32 07.2	
	comp=Z,2µm,18.5s,baz=83,slow=33						
WR0	**Warramunga Arr**	**29.94**	**249**	P	**P**	**19 21 59.6**	**-2.0**
WR0				IAmb	IAmb	19 22 05.1	
	comp=Z,58nm,1.1s						
WB0	**Warramunga Arr**	**30.04**	**249**	P	**P**	**19 21 60.0**	**-2.5**
WRAB	**Tennant Creek**	**30.11**	**249**	P	P	19 21 58.7	-4.5
WRAB				IAmb	IAmb	19 22 07.2	
	comp=Z,84nm,1.2s						
WRAB	**Tennant Creek**	**30.11**	**249**	P	P	19 21 58.7	-4.4
WRAB				pmax	pmax		
	comp=Z,84nm,1.2s						
WB2	**Warramunga Arr**	**30.11**	**249**	P	P	19 22 00.4	-2.7
WRA	**Warramunga Arr**	**30.12**	**249**	P	P	19 21 59.9	-3.3
WRA	**Warramunga Arr**	**30.12**	**249**	*i* P	**P**	**19 22 01.7**	**-1.5**
WRA				pmax	pmax		
	comp=Z,57nm,1.0s						
WRA	**Warramunga Arr**	**30.12**	**249**	P	**P**	**19 22 01.0**	**-2.2**
	comp=Z,59nm,1.0s,baz=80,slow=9.3,SNR=40						
WRA				S	**S**	**19 26 56.0**	**-5.8**
	comp=Z,4.6nm,1.0s,baz=81,slow=14,SNR=6.3 comp=Z,59nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**30.56**	**5**	T	T	19 54 03.6	
	baz=184,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.57**	**5**	T	T	19 54 03.8	
	baz=184,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**30.58**	**5**	T	T	19 54 04.2	
	baz=184,slow=76,SNR=14						
LCRK	**Leigh Creek**	**31.00**	**227**	P	**P**	**19 22 10.7**	**-0.1**
GUMO	**Guam**	**31.02**	**321**	LR	LR	19 34 19.2	
	comp=Z,2µm,18.7s,baz=142,slow=36						
KDU	**Kakadu**	**31.12**	**264**	P	**P**	**19 22 09.7**	**-2.3**
	baz=31,SNR=10.0						
TOO	**Toolangi**	**31.42**	**209**	P	**P**	**19 22 15.8**	**+1.3**
	baz=32,SNR=11						
TOO	**Toolangi**	**31.42**	**209**	P	**P**	**19 22 13.2**	**-1.2**
TOO	**Toolangi**	**31.42**	**209**	P	**P**	**19 22 17.5**	**+3.0**
TOO	**Toolangi**	**31.42**	**209**	P	**P**	**19 22 13.3**	**-1.2**
TOO				pmax	pmax		
	comp=Z,103nm,1.2s						
AS31	**Alice Springs**	**31.51**	**242**	P	**P**	**19 22 13.2**	**-2.4**
ASAR	**Alice Springs**	**31.52**	**242**	P	**P**	**19 22 13.7**	**-1.9**
ASAR	**Alice Springs**	**31.52**	**242**	P	**P**	**19 22 13.7**	**-1.9**
ASAR	**Alice Springs**	**31.52**	**242**	P	**P**	**19 22 13.3**	**-2.2**
	comp=Z,5.3nm,0.8s,baz=63,slow=10,SNR=54						
ASAR				LR	LR	19 34 39.9	
	comp=Z,3µm,18.2s,baz=70,slow=36 comp=Z,5.3nm,0.8s						
OOD	**Oodnadatta**	**31.60**	**234**	P	**P**	**19 22 18.8**	**+2.7**
BRAT	**Ballarat**	**32.17**	**211**	P	**P**	**19 22 22.7**	**+1.7**
HTT	**Hallett**	**32.24**	**222**	P	**P**	**19 22 21.9**	**+0.1**
	baz=32,SNR=14						
HTT	**Hallett**	**32.24**	**222**	P	**P**	**19 22 21.4**	**-0.4**
GEXS	**Deakin Univers**	**32.50**	**210**	P	**P**	**19 22 26.2**	**+2.3**
FAKI	**Fak Fak**	**32.70**	**282**	P	**P**	**19 22 27.1**	**+1.2**
	comp=Z,30nm,1.2s						
ARPS	**Mount Arapiles**	**32.71**	**214**	P	**P**	**19 22 26.4**	**+0.6**
	baz=33,SNR=7.6						
ARPS	**Mount Arapiles**	**32.71**	**214**	P	**P**	**19 22 28.6**	**+2.8**
WHYH	**Whyalla**	**32.91**	**224**	P	**P**	**19 22 29.6**	**+2.1**
OXZ	**Oxford**	**32.98**	**169**	P	**P**	**19 22 28.9**	**+0.8**
GLAD	**Gladstone**	**33.17**	**203**	P	**P**	**19 22 32.4**	**+2.6**
RPZ	**Rata Peaks**	**33.20**	**171**	LR	LR	19 33 46.3	
	comp=Z,2µm,21.3s,baz=347,slow=32						
BBOO	**Buckleboo**	**33.83**	**226**	P	**P**	**19 22 35.0**	**-0.6**
	baz=34,SNR=12						
BBOO	**Buckleboo**	**33.83**	**226**	P	**P**	**19 22 35.7**	**+0.1**
MULG	**Mulgathing**	**34.00**	**231**	P	**P**	**19 22 37.1**	**-0.1**
SIJI	**Sorong**	**34.23**	**285**	P	**P**	**19 22 41.2**	**+1.9**
	comp=Z,17nm,1.0s						
SWI	**Sorong**	**34.24**	**285**	P	**P**	**19 22 41.5**	**+2.1**
	comp=Z,28nm,1.0s						
KNRA	**Kununurra**	**34.80**	**258**	P	**P**	**19 22 41.6**	**-2.6**
	baz=35,SNR=11						
KNRA	**Kununurra**	**34.80**	**258**	P	**P**	**19 22 43.9**	**-0.3**
WRKA	**Warakurna**	**36.80**	**243**	P	**P**	**19 22 59.1**	**-2.3**
	baz=37,SNR=32						
WRKA	**Warakurna**	**36.80**	**243**	P	**P**	**19 23 00.6**	**-0.8**
NLAI	**Namlea**	**37.59**	**279**	P	**P**	**19 23 10.3**	**+2.2**
	comp=Z,29nm,1.5s						
LBMI	**Labuha**	**37.89**	**283**	P	**P**	**19 23 10.8**	**+0.1**
	comp=Z,166nm,1.1s,comp=Z,3µm						
FITZ	**Fitzroy Crossi**	**37.97**	**255**	P	**P**	**19 23 08.8**	**-2.5**
	baz=38,SNR=21						
SANI	**Sanana**	**38.96**	**280**	P	**P**	**19 23 20.2**	**+0.5**
SANI	**Sanana**	**38.96**	**280**	P	**P**	**19 23 18.3**	**-1.4**
	comp=Z,71nm,1.0s,comp=Z,650nm						
KMSI	**Cibinong**	**41.60**	**283**	P	**P**	**19 23 41.6**	**0.0**
	comp=Z,293nm,1.1s						
LUWI	**Luwuk**	**42.32**	**281**	P	**P**	**19 23 46.6**	**-0.9**
LUWI				IAmb	IAmb	19 23 52.5	
	comp=Z,104nm,1.2s						
LUWI	**Luwuk**	**42.32**	**281**	P	**P**	**19 23 49.2**	**+1.7**
LUWI	**Luwuk**	**42.32**	**281**	P	**P**	**19 23 47.4**	**-0.1**
JCJ	**Chichijima**	**43.43**	**331**	LR	LR	19 40 00.5	
	comp=Z,857nm,21.3s,baz=140,slow=33						
MRSI	**Marisa**	**43.53**	**282**	P	**P**	**19 23 59.3**	**+2.0**
	comp=Z,28nm,1.1s						
PSA00	**Pilbara Seismi**	**43.76**	**250**	P	**P**	**19 23 58.5**	**-0.6**
BKSI	**Bulukumba**	**43.98**	**274**	P	**P**	**19 24 02.9**	**+2.0**
	comp=Z,30nm,1.1s						
KAPI	**Kappang**	**44.40**	**274**	P	**P**	**19 24 02.1**	**-2.1**
KAPI				IAmb	IAmb	19 24 08.0	
	comp=Z,54nm,1.4s						
KAPI	**Kappang**	**44.40**	**274**	P	**P**	**19 24 02.1**	**-2.1**
KAPI				pmax	pmax		
	comp=Z,54nm,1.4s						
KAPI	**Kappang**	**44.40**	**274**	LR	LR	19 44 05.8	
	comp=Z,730nm,20.7s,baz=100,slow=38						
TOLI2	**Tolitoli**	**44.82**	**283**	P	**P**	**19 24 05.3**	**-2.3**
TOLI2	**Tolitoli**	**44.82**	**283**	P	**P**	**19 24 08.4**	**+0.8**
PPT	**Papeete**	**45.17**	**104**	LR	LR	19 40 07.0	
	comp=Z,2µm,18.0s,baz=268,slow=32						
MPSI	**Mapaga**	**45.46**	**281**	P	**P**	**19 24 12.5**	**-0.2**
	comp=Z,24nm,1.1s						
MEEK	**Meekatharra**	**45.66**	**243**	P	**P**	**19 24 13.4**	**-0.8**
	baz=46,SNR=10						
MEEK	**Meekatharra**	**45.66**	**243**	P	**P**	**19 24 15.3**	**+1.1**
MYLDM	**Lahad Datu**	**48.24**	**287**	P	**P**	**19 24 37.3**	**+2.8**
	comp=Z,46nm,1.0s						
MORW	**Morawa**	**48.37**	**241**	P	**P**	**19 24 36.6**	**+1.3**
	baz=48,SNR=4.8						
MORW	**Morawa**	**48.37**	**241**	P	**P**	**19 24 35.1**	**-0.2**
MORW				IAmb	IAmb	19 24 38.5	
	comp=Z,27nm,1.1s						
MORW	**Morawa**	**48.37**	**241**	P	**P**	**19 24 35.1**	**-0.2**
KKM	**Kota Kinabalu**	**50.67**	**287**	IAmb	IAmb	19 24 56.5	
	comp=Z,36nm,0.9s						
JOW	**Kunigami**	**51.26**	**318**	LR	LR	19 47 13.8	
	comp=Z,761nm,18.6s,baz=128,slow=37						
JMN	**Monobe**	**52.97**	**328**	P	**P**	**19 25 08.8**	**-1.1**
JMN	**Monobe**	**52.97**	**328**	P	**P**	**19 25 11.5**	**+1.6**
MJAR	**Matsushiro Arr**	**53.19**	**334**	P	**P**	**19 25 10.6**	**-0.9**
	comp=Z,14nm,1.0s,baz=161,slow=6.4,SNR=21 comp=Z,14nm,1.0s						
MAJO	**Matsushiro**	**53.20**	**334**	P	**P**	**19 25 10.6**	**-0.9**
MAJO				IAmb	IAmb	19 25 19.9	
	comp=Z,41nm,1.2s						
MAJO	**Matsushiro**	**53.20**	**334**	P	**P**	**19 25 11.8**	**+0.3**
MAJO	**Matsushiro**	**53.20**	**334**	⇑*e*P	**P**	**19 25 11.3**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,37nm,1.2s						
MJB9	**Matsu-Tunnel**	**53.20**	**334**	P	**P**	**19 25 10.6**	**-0.9**
MJB9				IAmb	IAmb	19 25 20.9	
	comp=Z,37nm,1.2s						
JMM	**Marumori**	**53.27**	**337**	P	**P**	**19 25 10.0**	**-2.0**
JMM				IAmb	IAmb	19 25 21.9	
	comp=Z,52nm,1.1s						
JMM	**Marumori**	**53.27**	**337**	P	**P**	**19 25 14.0**	**+2.0**
SBUM	**Sibu**	**53.41**	**281**	P	**P**	**19 25 11.3**	**-2.2**
SBUM	**Sibu**	**53.41**	**281**	P	**P**	**19 25 14.1**	**+0.6**
	comp=Z,5.5nm,0.9s						
JNU	**Nakatsue**	**54.12**	**325**	P	**P**	**19 25 19.8**	**+1.4**
JNU	**Nakatsue**	**54.12**	**325**	LR	LR	19 47 24.1	
	comp=Z,364nm,18.0s,baz=128,slow=35						
KSM	**Kuching**	**55.01**	**280**	P	**P**	**19 25 26.1**	**+0.9**
JKA	**Kamikawa-asahi**	**58.20**	**342**	P	P	19 25 42.7	-4.5
JKA				IAmb	IAmb	19 25 57.1	
	comp=Z,46nm,1.0s						
ASAJ	**Asahikawa**	**58.20**	**342**	P	P	19 25 42.7	-4.6
ASAJ				pmax	pmax		
	comp=Z,46nm,1.0s						
SSE	**Sheshan**	**58.74**	**317**	P	**P**	**19 25 50.8**	**-0.5**
SSE				S	**S**	**19 33 55.5**	**-0.4**
SSE				pmax	pmax		
	comp=Z,17nm,0.8s						
SSE				pmax	pmax		
	comp=Z,150nm,4.5s						
SSE				LR	LR		
	comp=Z,410nm,16.1s						
SSE				LR	LR		
	comp=Z,200nm,16.3s						
KSRS	**Korea Array**	**58.95**	**327**	P	**P**	**19 25 52.0**	**-0.6**
KSRS	**Korea Array**	**58.95**	**327**	P	**P**	**19 25 52.0**	**-0.6**
	comp=Z,12nm,1.1s,baz=145,slow=7.3,SNR=17						
KSRS				LR	LR	19 49 19.1	
	comp=Z,485nm,19.1s,baz=150,slow=34						
	comp=Z,12nm,1.1s						
INCN	**Inchon**	**59.67**	**326**	P	**P**	**19 25 55.4**	**-2.3**
INCN	**Inchon**	**59.67**	**326**	P	**P**	**19 25 59.8**	**+2.1**
INCN	**Inchon**	**59.67**	**326**	P	**P**	**19 25 55.4**	**-2.3**
INCN				pmax	pmax		
	comp=Z,53nm,1.2s						
YSS	**Yuzh-Sakhalins**	**60.73**	**343**	P	**P**	**19 26 01.9**	**-2.7**
YSS				IAmb	IAmb	19 26 09.2	
	comp=Z,35nm,1.1s						
YSS	**Yuzh-Sakhalins**	**60.73**	**343**	P	**P**	**19 26 06.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**60.73**	**343**	*e*P	**P**	**19 26 05.8**	**+1.1**
YSS				*e*S	**S**	**19 34 20.7**	**-0.3**
YSS				*e*SS	**SS**	**19 38 24.0**	**+3.8**
YSS				*e*SSS	SSS	19 40 51.8	
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				pmax	pmax		
	comp=Z,300nm,4.0s						
YSS				smax	smax		
	comp=E,600nm,6.6s						
YSS				MLR	MLR		
	comp=Z,800nm,20.0s						
NJ2	**Nanjing**	**60.90**	**316**	*e*P	**P**	**19 26 04.0**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,650nm,4.7s						
NJ2				LR	LR		
	comp=Z,970nm,21.8s						
NJ2				LR	LR		
	comp=Z,610nm,19.9s						
NJ2				LR	LR		
	comp=Z,1µm,19.9s						
MSHR	**Mys Shultsa**	**61.26**	**333**	*de*P	**P**	**19 26 10.1**	**+1.8**
MSHR				pmax	pmax		
	comp=Z,23nm,1.2s						
QIZ	**Qiongzhong**	**61.31**	**299**	P	**P**	**19 26 07.0**	**-2.2**
QIZ				S	**S**	**19 34 29.5**	**+0.1**
QIZ				LR	LR		
	comp=Z,450nm,9.4s						
QIZ				LR	LR		
	comp=Z,650nm,17.6s						
QIZ				LR	LR		
	comp=Z,1µm,21.6s						
SKR	**Severo-Kuril's**	**61.76**	**354**	*e*P	P	19 26 01.4	-10
SKR				pmax	pmax		
	comp=Z,1µm,6.2s						
SKR				MLR	MLR		
	comp=Z,2µm,20.0s						
USA0B	**Ussuriysk Arra**	**62.18**	**334**	P	**P**	**19 26 12.3**	**-2.3**
USA0B	**Ussuriysk Arra**	**62.18**	**334**	⇓*e*P	**P**	**19 26 14.7**	**+0.1**
USRK	**Ussuriysk Ar.**	**62.18**	**334**	P	**P**	**19 26 14.1**	**-0.4**
USRK	**Ussuriysk Ar.**	**62.18**	**334**	P	**P**	**19 26 14.3**	**-0.2**
	comp=Z,28nm,1.1s,baz=132,slow=5.7,SNR=22 comp=Z,28nm,1.1s						
WHN	**Wuhan**	**63.20**	**312**	P	**P**	**19 26 24.3**	**+2.7**
WHN				sP	**pwP**	**19 26 29.8**	**-2.5**
WHN				S	**S**	**19 34 56.0**	**+3.1**
WHN				LR	LR		
	comp=Z,3µm,13.9s						
MDJ	**Mudanjiang**	**63.56**	**333**	P	**P**	**19 26 23.5**	**-0.2**
MDJ				pP	pP	19 26 26.8	0.0
MDJ				PcP	**PcP**	**19 26 59.3**	**-0.9**
MDJ				PP	**PP**	**19 28 42.3**	**-1.5**
MDJ				S	**S**	**19 34 59.3**	**+2.5**
MDJ				ScS	**SKSac**	**19 36 17.0**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,190nm,3.6s						
MDJ				LR	LR		
	comp=Z,690nm,17.5s						
MDJ				LR	LR		
	comp=Z,960nm,16.2s						
MDJ				LR	LR		
	comp=Z,930nm,17.9s						
MDJ	**Mudanjiang**	**63.56**	**333**	P	**P**	**19 26 25.5**	**+1.8**
GULI	**GuiLin**	**63.62**	**305**	⇑P	P	19 26 21.3	-3.2
GULI				S	**S**	**19 34 58.5**	**+0.2**
GULI				pmax	pmax		
	comp=Z,20nm,1.1s						
GULI				LR	LR		
	comp=Z,640nm,21.7s						
GULI				LR	LR		
	comp=Z,780nm,21.7s						
GULI				LR	LR		
	comp=Z,1µm,21.7s						
BKNI	**Bangkinang**	**63.77**	**276**	P	**P**	**19 26 28.2**	**+2.4**
PET	**Petropavlovsk**	**63.88**	**356**	*e*P	P	19 26 22.4	-3.2
PET				*e*S	**S**	**19 34 58.5**	**-1.9**
PET				*e*		19 36 17.1	
PET				*e*SS	**SS**	**19 39 11.8**	**+2.6**
PET				pmax	pmax		
	comp=Z,63nm,1.5s						
PET				pmax	pmax		
	comp=Z,100nm,16.0s						
PET				MLR	MLR		
	comp=Z,500nm,19.0s						
PEA0B	**Petropavlovsk-**	**64.03**	**356**	⇑*e*P	**P**	**19 26 29.2**	**+2.6**
PETK	**Petropavlovsk-**	**64.03**	**356**

VNDA	**Vanda**	**66.59**	**181**		P	**P**	**19 26 44.0**	**+1.0**
	comp=Z,19nm,1.2s,baz=349,slow=7.4,SNR=14								
	comp=Z,19nm,1.2s								
ENH	**Enshi**	**66.67**	**310**		P	**P**	**19 26 45.5**	**+1.2**
LYN	**LuoYang**	**66.71**	**315**	*e*	P	**P**	**19 26 47.0**	**+2.6**
LYN					PP	**PP**	**19 29 14.8**	**+3.2**
LYN					S	**S**	**19 35 38.0**	**+2.1**
LYN					pmax	pmax			
	comp=Z,45nm,0.4s								
LYN					pmax	pmax			
	comp=Z,280nm,4.7s								
LYN					LR	LR			
	comp=Z,940nm,20.5s								
LYN					LR	LR			
	comp=Z,960nm,18.9s								
LYN					LR	LR			
	comp=Z,2μm,19.8s								
HNS	**HongShan**	**66.81**	**319**	⇓	P	**P**	**19 26 46.5**	**+1.6**
HNS					S	**S**	**19 35 36.0**	**-0.9**
HNS					pmax	pmax			
	comp=Z,32nm,1.1s								
HNS					LR	LR			
	comp=Z,740nm,16.9s								
HNS					LR	LR			
	comp=Z,540nm,16.9s								
HNS					LR	LR			
	comp=Z,910nm,22.2s								
NONG	**Nongkai**	**66.81**	**295**		P	**P**	**19 26 46.9**	**+1.5**
SBA	**Scott Base**	**66.93**	**179**		P	**P**	**19 26 42.9**	**-2.2**
SBA	**Scott Base**	**66.93**	**179**		P	**P**	**19 26 42.9**	**-2.2**
SBA					pmax	pmax			
	comp=Z,52nm,1.3s								
SBA					MLR	MLR			
	comp=Z,700nm,18.0s								
GYA	**Guiyang**	**67.12**	**305**	⇓	P	**P**	**19 26 47.0**	**-0.4**
GYA					S	**S**	**19 35 40.0**	**-1.5**
GYA					pmax	pmax			
	comp=Z,8.0nm,1.3s								
GYA					pmax	pmax			
	comp=Z,340nm,12.4s								
GYA					LR	LR			
	comp=Z,580nm,18.9s								
GYA					LR	LR			
	comp=Z,750nm,18.0s								
GYA					LR	LR			
	comp=Z,1μm,21.1s								
NAYO	**Nakonayok**	**67.21**	**291**		P	**P**	**19 26 49.7**	**+1.7**
SURA	**Surathani**	**67.28**	**285**		P	**P**	**19 26 50.7**	**+2.3**
SLVN	**Son La**	**67.34**	**299**		IAmb	IAmb	19 26 54.1		
	comp=Z,36nm,1.4s								
GSI	**Gunungsitoli**	**67.36**	**276**		P	P	19 26 45.9	-3.2	
GSI	**Gunungsitoli**	**67.36**	**276**		P	**P**	**19 26 49.6**	**+0.6**
GSI	**Gunungsitoli**	**67.36**	**276**		P	**P**	**19 26 47.1**	**-1.9**
	comp=Z,54nm,1.0s								
BJT	**Baijiatuau**	**67.45**	**322**		P	**P**	**19 26 52.0**	**+3.0**
BJI	**Beijing**	**67.46**	**322**		P	**P**	**19 26 51.3**	**+2.3**
BJI					sP	**pwP**	**19 26 56.8**	**-2.9**
BJI					S	**S**	**19 35 44.5**	**-0.2**
BJI					SS	**SS**	**19 40 06.3**	**+0.8**
BJI					pmax	pmax			
	comp=Z,6.0nm,1.5s								
BJI					LR	LR			
	comp=Z,310nm,20.0s								
BJI					LR	LR			
	comp=Z,200nm,15.6s								
BJI					LR	LR			
	comp=Z,290nm,18.2s								
KCSI	**Kotacane, Aceh**	**67.66**	**278**		P	**P**	**19 26 51.6**	**+0.7**
	comp=Z,16nm,0.9s								
NIKH	**Nikolski High**	**67.69**	**17**		P	**P**	**19 26 49.2**	**-1.0**
	baz=209								
TIY	**Taiyuan**	**68.47**	**318**	*e*	P	**P**	**19 26 58.5**	**+2.9**
TIY					S	**S**	**19 36 02.0**	**+4.9**
TIY					LR	LR			
	comp=Z,480nm,17.9s								
TIY					LR	LR			
	comp=Z,540nm,19.9s								
TIY					LR	LR			
	comp=Z,760nm,19.2s								
HEH	**HeiHe**	**68.88**	**336**	*e*	P	**P**	**19 26 56.0**	**-1.7**
HEH					pP	**pP**	**19 26 59.5**	**-1.4**
HEH					sP	**sP**	**19 27 03.5**	**+1.5**
HEH					S	**S**	**19 35 59.3**	**-2.0**
HEH					pmax	pmax			
	comp=Z,11nm,0.6s								
HEH					pmax	pmax			
	comp=Z,190nm,4.0s								
HEH					LR	LR			
	comp=Z,620nm,17.3s								
HEH					LR	LR			
	comp=Z,680nm,18.4s								
HEH					LR	LR			
	comp=Z,790nm,19.6s								
XAN	**Xi'an**	**68.94**	**313**	⇓	P	**P**	**19 26 58.0**	**-0.6**
XAN					pP	sP	19 27 03.5	+0.6	
XAN					S	**S**	**19 36 00.5**	**-2.4**
XAN					pmax	pmax			
	comp=Z,13nm,0.8s								
XAN					pmax	pmax			
	comp=Z,350nm,4.5s								
XAN					LR	LR			
	comp=Z,1μm,17.5s								
XAN					LR	LR			
	comp=Z,610nm,17.6s								
XAN					LR	LR			
	comp=Z,1μm,17.3s								
UNV	**Unalaska Valle**	**69.15**	**18**		P	**P**	**19 26 58.4**	**-0.9**
	baz=211								
KMI	**Kunming**	**69.79**	**302**	⇓	P	**P**	**19 27 05.3**	**+1.1**
KMI					S	**S**	**19 36 11.8**	**-1.7**
KMI					pmax	pmax			
	comp=Z,25nm,1.3s								
KMI					pmax	pmax			
	comp=Z,440nm,4.4s								
KMI					LR	LR			
	comp=Z,530nm,15.6s								
KMI					LR	LR			
	comp=Z,760nm,21.1s								
KMI					LR	LR			
	comp=Z,1μm,21.9s								
XLT	**XiLinHaoTe**	**69.91**	**325**	⇓	*i*P	**P**	**19 27 04.5**	**+0.1**
XLT					pP	pP	19 27 07.8	+0.3	
XLT					sP	sP	19 27 11.0	+2.3	
XLT					S	**S**	**19 36 12.0**	**-1.9**
XLT					sS	pS	19 36 18.3	+0.8	
XLT					SKS	**SKiKP**	**19 36 57.5**	**+6.3**
XLT					pmax	pmax			
	comp=Z,35nm,1.2s								
XLT					pmax	pmax			
	comp=Z,260nm,3.7s								
XLT					LR	LR			
	comp=Z,53nm,14.7s								
XLT					LR	LR			
	comp=Z,410nm,15.6s								
XLT					LR	LR			
	comp=Z,450nm,17.2s								
CRAI	**Chiangrai**	**70.02**	**296**		P	**P**	**19 27 03.5**	**-2.0**
CRAI					IAmb	IAmb	19 27 14.9		
	comp=Z,35nm,1.2s								
CMAR	**Chiang Mai Arr**	**70.70**	**294**		P	**P**	**19 27 08.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**70.70**	**294**		P	**P**	**19 27 09.2**	**-0.5**
	comp=Z,9.3nm,1.0s,baz=118,slow=4.6,SNR=22								
	comp=Z,9.3nm,1.0s								
HHC	**Hu-ho-hao-te**	**70.78**	**320**	*e*	P	**P**	**19 27 08.5**	**-1.3**
HHC					pP	sP	19 27 13.5	-0.7	
HHC					sP	pwP	19 27 19.3	-1.2	
HHC					S	**S**	**19 36 23.0**	**-1.3**
HHC					sS	sS	19 36 29.8	+0.6	
HHC					pmax	pmax			
	comp=Z,10.0nm,0.8s								
HHC					pmax	pmax			
	comp=Z,130nm,4.4s								
HHC					LR	LR			
	comp=Z,570nm,16.5s								
HHC					LR	LR			
	comp=Z,370nm,19.0s								
HHC					LR	LR			
	comp=Z,1μm,19.0s								
CHTO	**Chiang Mai**	**70.81**	**294**		P	P	19 27 07.3	-3.0	
CHTO					IAmb	IAmb	19 27 15.2		
	comp=Z,26nm,1.3s								
CHTO	**Chiang Mai**	**70.81**	**294**		P	**P**	**19 27 10.8**	**+0.5**
CHTO	**Chiang Mai**	**70.81**	**294**		P	P	19 27 07.4	-2.9	
CHTO					pmax	pmax			
	comp=Z,26nm,1.3s								
CHTO					MLR	MLR			
	comp=Z,500nm,22.0s								
CHTO	**Chiang Mai**	**70.81**	**294**		P	**P**	**19 27 09.8**	**-0.5**
	comp=Z,16nm,2.0s								
PZH	**PanZhiHua**	**71.16**	**303**		P	**P**	**19 27 12.0**	**-0.4**
PZH					S	**S**	**19 36 28.0**	**-1.2**
PZH					SS	**SS**	**19 40 59.3**	**-4.0**
PZH					pmax	pmax			
	comp=Z,20nm,1.1s								
PZH					pmax	pmax			
	comp=Z,270nm,6.0s								
PZH					LR	LR			
	comp=Z,410nm,18.6s								
PZH					LR	LR			
	comp=Z,560nm,20.0s								
PZH					LR	LR			
	comp=Z,750nm,22.1s								
CD2	**Chengdu**	**71.35**	**308**		P	**P**	**19 27 14.0**	**+0.6**
CD2					S	**S**	**19 36 30.0**	**-1.1**
CD2					pmax	pmax			
	comp=Z,20nm,0.4s								
CD2					pmax	pmax			
	comp=Z,160nm,6.0s								
CD2					LR	LR			
	comp=Z,470nm,10.8s								
CD2					LR	LR			
	comp=Z,300nm,10.3s								
CD2					LR	LR			
	comp=Z,700nm,17.9s								
HIA	**Hailar**	**71.54**	**331**		P	**P**	**19 27 16.0**	**+1.9**
BTO	**Baotou**	**71.62**	**319**	*e*	P	**P**	**19 27 15.8**	**+0.9**
BTO					pP	**sP**	**19 27 20.5**	**+1.2**
BTO					sP	**pwP**	**19 27 23.0**	**-2.6**
BTO					PP	**PP**	**19 29 57.0**	**+2.8**
BTO					S	**S**	**19 36 36.8**	**+2.7**
BTO					sS	sS	19 36 46.0	+7.0	
BTO					SS	**SS**	**19 41 12.3**	**+2.4**
BTO					pmax	pmax			
	comp=Z,19nm,1.0s								
BTO					pmax	pmax			
	comp=Z,350nm,4.2s								
BTO					LR	LR			
	comp=Z,1μm,20.4s								
BTO					LR	LR			
	comp=Z,800nm,22.6s								
BTO					LR	LR			
	comp=Z,2μm,22.4s								
ZEA	**Zeya**	**71.67**	**338**	*e*	P	**P**	**19 27 14.5**	**-0.2**
ZEA				*e*			19 27 30.4		
ZEA				*e*	S	**S**	**19 36 34.5**	**+0.8**
ZEA				*e*			19 37 15.9		
ZEA					pmax	pmax			
	comp=N,20nm,1.5s								
ZEA					pmax	pmax			
	comp=Z,20nm,1.2s								
ZEA					smax	smax			
	comp=N,200nm,12.9s								
ZEA					smax	smax			
	comp=E,300nm,14.6s								
ZEA					MLR	MLR			
	comp=N,100nm,13.0s								
ZEA					MLR	MLR			
	comp=E,200nm,13.0s								
ZEA					MLR	MLR			
	comp=Z,300nm,14.0s								
CHNA	**Chernabura Isl**	**72.24**	**21**		P	**P**	**19 27 17.3**	**-0.9**
	baz=217								
TNCH	**TengChong**	**73.30**	**300**	⇑	P	**P**	**19 27 24.8**	**-0.6**
TNCH					pP	pP	19 27 28.0	-0.6	
TNCH					sP	sP	19 27 32.0	+2.3	
TNCH					PP	**PP**	**19 30 14.0**	**+5.1**
TNCH					S	**S**	**19 36 49.5**	**-4.5**
TNCH					pmax	pmax			
	comp=Z,22nm,1.9s								
TNCH					pmax	pmax			
	comp=Z,220nm,4.6s								
TNCH					LR	LR			
	comp=Z,280nm,12.3s								
TNCH					LR	LR			
	comp=Z,210nm,14.4s								
TNCH					LR	LR			
	comp=Z,340nm,19.9s								
LZH	**Lanzhou**	**73.58**	**313**	⇑	P	**P**	**19 27 30.3**	**+3.6**
LZH					sP	pwP	19 27 38.8	+1.5	
LZH					S	**SKiKP**	**19 36 56.8**	**-0.2**
LZH					pmax	pmax			
	comp=Z,26nm,1.5s								
LZH					LR	LR			
	comp=Z,380nm,14.1s								
LZH					LR	LR			
	comp=Z,360nm,15.8s								
LZH					LR	LR			
	comp=Z,570nm,15.1s								
SEY	**Seymchan**	**74.20**	**354**		P	**P**	**19 27 29.4**	**-0.2**
	comp=Z,7.1nm,1.0s,baz=160,slow=8.0,SNR=7.8								
	comp=Z,7.1nm,1.0s								
MND	**Mandalay**	**74.36**	**297**		P	**P**	**19 27 33.7**	**+2.3**
M11K	**Mekoryuk**	**74.89**	**15**		P	**P**	**19 27 33.2**	**-0.4**
	baz=210								
O14K	**Tigyukauivet M**	**75.28**	**18**		IAMs_20	IAMs_20	20 06 17.8		
	comp=Z,2μm,22.0s								
M13K	**Dall Lake**	**75.65**	**16**		IAMs_20	IAMs_20	20 07 22.7		
	comp=Z,2μm,18.0s								
P16K	**Nushagak River**	**76.11**	**19**		P	**P**	**19 27 40.0**	**-0.6**
	baz=218								
Q17K	**Contact Creek**	**76.21**	**20**		P	**P**	**19 27 39.9**	**-1.5**
	baz=220								
Q16K	**King Salmon**	**76.27**	**20**		P	**P**	**19 27 41.3**	**-0.2**
	baz=220								
M14K	**Bethel**	**76.31**	**16**		IAMs_20	IAMs_20	20 07 15.2		
	comp=Z,2μm,18.0s								
M14K	**Bethel**	**76.31**	**16**		P	**P**	**19 27 41.2**	**-0.5**
	baz=214								
CIT	**Chita**	**76.32**	**331**	*e*	P	**P**	**19 27 41.4**	**-0.7**
CIT				*e*			19 27 53.6		
CIT					pmax	pmax			
	comp=Z,80nm,2.9s								
OHAK	**Old Harbor**	**76.36**	**22**		P	**P**	**19 27 41.8**	**-0.2**
	baz=223								
N15K	**Kwethluk River**	**76.37**	**17**		IAMs_20	IAMs_20	20 06 12.7		
	comp=Z,3μm,19.0s								
N15K	**Kwethluk River**	**76.37**	**17**		P	**P**	**19 27 43.4**	**+1.3**
	baz=216								
O16K	**Kokwok River B**	**76.52**	**19**		IAMs_20	IAMs_20	20 05 34.6		
	comp=Z,3μm,20.0s								
L14K	**Kuka Creek**	**76.61**	**16**		IAMs_20	IAMs_20	20 07 15.0		
	comp=Z,2μm,20.0s								
L14K	**Kuka Creek**	**76.61**	**16**		P	**P**	**19 27 44.4**	**+1.0**
	baz=213								
M15K	**Kasigluk River**	**76.62**	**17**		P	**P**	**19 27 43.2**	**-0.3**
	baz=215								
GAMB	**Gambell**	**76.72**	**11**		P	**P**	**19 27 44.0**	**0.0**
	baz=204								
P17K	**Kvichak River**	**76.74**	**20**		P	**P**	**19 27 43.9**	**-0.3**
	baz=220								
O17K	**Koliganek Bris**	**76.97**	**19**		P	**P**	**19 27 44.5**	**-1.0**
	baz=219								
N16K	**Nishlik Lake**	**77.01**	**18**		P	**P**	**19 27 45.4**	**-0.3**
	baz=217								
L15K	**Ungalak Mounta**	**77.21**	**16**		P	**P**	**19 27 46.4**	**-0.4**
	baz=214								
P18K	**Big Mountain,**	**77.29**	**20**		P	**P**	**19 27 44.7**	**-2.7**
P18K					IAMs_20	IAMs_20	20 04 44.1		
	comp=Z,4μm,19.0s								
P18K	**Big Mountain,**	**77.29**	**20**		P	**P**	**19 27 46.1**	**-1.3**
	baz=221,SNR=12								
ULN	**Ulaanbaatar**	**77.33**	**325**		P	**P**	**19 27 47.4**	**-0.7**
ULN					IAmb	IAmb	19 27 57.8		
	comp=Z,32nm,1.1s								
ULN	**Ulaanbaatar**	**77.33**	**325**	*d*	*i*P	**P**	**19 27 48.5**	**+0.4**
ULN					pmax	pmax			
	comp=Z,37nm,1.1s								
ULN	**Ulaanbaatar**	**77.33**	**325**		P	**P**	**19 27 48.0**	**-0.1**
	comp=Z,119nm,1.1s,comp=Z,2μm								
M16K	**Timber Creek**	**77.39**	**17**		IAMs_20	IAMs_20	20 06 20.7		
	comp=Z,3μm,18.0s								
M16K	**Timber Creek**	**77.39**	**17**		P	**P**	**19 27 47.6**	**-0.3**
	baz=217								
N17K	**Nushagak Hills**	**77.53**	**18**		IAMs_20	IAMs_20	20 05 30.5		
	comp=Z,3μm,20.0s								
N17K	**Nushagak Hills**	**77.53**	**18**		P	**P**	**19 27 48.8**	**+0.2**
	baz=219								
YAK	**Yakutsk**	**77.57**	**344**		P	P	19 27 45.7	-3.1	
YAK					IAmb	IAmb	19 27 57.6		
	comp=Z,28nm,0.9s								
YAK	**Yakutsk**	**77.57**	**344**	*d*	*i*P	**P**	**19 27 47.7**	**-1.1**
YAK				*e*	*e*PP	**pwP**	**19 27 57.9**	**-1.6**
YAK				*e*			19 30 38.7		
YAK				*e*	PPP	PPP	19 32 30.4		
YAK				*e*	S	**S**	**19 37 36.6**	**-2.8**
YAK				*e*	*e**SS	**SKSac**	**19 37 58.0**	**-3.3**
YAK					pmax	pmax			
	comp=Z,23nm,1.0s								
YAK					pmax	pmax			
	comp=N,9.0nm,1.3s								
YAK					pmax	pmax			
	comp=E,3.0nm,1.1s								
YAK					pmax	pmax			
	comp=Z,179nm,4.9s								
YAK					pmax	pmax			
	comp=N,122nm,4.0s								
YAK					pmax	pmax			
	comp=E,69nm,3.6s								
YAK					smax	smax			
	comp=E,204nm,7.4s								
YAK					smax	smax			
	comp=N,183nm,5.3s								
YAK					MLR	MLR			
	comp=Z,742nm,19.0s								
YAK					MLR	MLR			
	comp=N,372nm,19.0s								
YAK					MLR	MLR			
	comp=E,149nm,17.0s								
J14K	**Nanvaranak Lak**	**77.57**	**15**		IAMs_20	IAMs_20	20 08 01.4		
	comp=Z,2μm,19.0s								
J14K	**Nanvaranak Lak**	**77.57**	**15**		P	**P**	**19 27 48.7**	**0.0**
	baz=212								
O18K	**Koktuh Hills**	**77.65**	**20**		IAMs_20	IAMs_20	20 04 52.5		
	comp=Z,4μm,19.0s								
O18K	**Koktuh Hills**	**77.65**	**20**		P	**P**	**19 27 48.8**	**-0.6**
	baz=221								
SONM	**Songino Array**	**77.69**	**324**		P	**P**	**19 27 50.0**	**-0.1**
SONM	**Songino Array**	**77.69**	**324**		P	**P**	**19 27 50.0**	**-0.1**
	comp=Z,12nm,1.1s,baz=146,slow=5.3,SNR=23								
	comp=Z,12nm,1.1s								
K15K	**Wolf Creek Mou**	**77.71**	**16**		IAMs_20	IAMs_20	20 07 17.0		
	comp=Z,2μm,19.0s								
K15K	**Wolf Creek Mou**	**77.71**	**16**		P	**P**	**19 27 49.6**	**0.0**
	baz=214								
L16K	**Owhat River**	**77.79**	**17**		IAmb	IAmb	19 28 02.1		
	comp=Z,27nm,1.0s								
L16K					IAMs_20	IAMs_20	20 06 41.3		
	comp=Z,2μm,20.0s								
L16K	**Owhat River**	**77.79**	**17**		P	**P**	**19 27 49.9**	**-0.1**
	baz=216								
GTA	**Gaotai**	**77.91**	**314**	⇓	P	**P**	**19 27 52.0**	**+0.6**
GTA					pP	sP	19 27 57.3	+1.5	
GTA					S	**S**	**19 37 43.0**	**-1.4**
GTA					SS	**SS**	**19 42 43.0**	**-2.6**
GTA					pmax	pmax			
	comp=Z,7.0nm,1.5s								
GTA					pmax	pmax			
	comp=Z,230nm,4.5s								
GTA					LR	LR			
	comp=Z,350nm,18.9s								
GTA					LR	LR			
	comp=Z,380nm,19.6s								
GTA					LR	LR			
	comp=Z,630nm,19.3s								
N18K	**Kilae Creek**	**78.06**	**19**		IAMs_20	IAMs_20	20 05 19.4		
	comp=Z,3μm,20.0s								
N18K	**Kilae Creek**	**78.06**	**19**		P	**P**	**19 27 51.5**	**-0.2**
	baz=220								
M17K	**Holitna River**	**78.14**	**18**		IAMs_20	IAMs_20	20 06 01.5		
	comp=Z,3μm,20.0s								
M17K	**Holitna River**	**78.14**	**18**		P	**P**	**19 27 52.1**	**0.0**
	baz=218								
P19K	**Oil Pt**	**78.16**	**21**		P	**P**	**19 27 51.5**	**-0.8**
	baz=223								
O19K	**Port Alsworth**	**78.20**	**20**		P	**P**	**19 27 52.2**	**-0.1**
	baz=222								
L17K	**Donlin**	**78.47**	**17**		P	**P**	**19 27 54.1**	**+0.3**
	baz=218								
SVW2	**Sparrevohn**	**78.47**	**19**		P	**P**	**19 27 57.3**	**+3.4**
N19K	**Bonanza Creek**	**78.61**	**19**		P	**P**	**19 27 54.3**	**-0.5**
	baz=221								
M18K	**Stony River**	**78.70**	**18**		P	**P**	**19 27 54.8**	**-0.3**
	baz=220								
ANM	**Nome**	**78.70**	**13**		IAMs_20	IAMs_20	20 09 15.4		
	comp=Z,2μm,18.0s								
ANM	**Nome**	**78.70**	**13**		P	**P**	**19 27 55.0**	**-0.1**
	baz=210								
HOM	**Homer**	**78.72**	**21**		P	**P**	**19 27 55.4**	**+0.1**
	baz=224								
J16K	**Anvik River**	**78.77**	**15**		IAMs_20	IAMs_20	20 07 37.1		
	comp=Z,2μm,19.0s								
J16K	**Anvik River**	**78.77**	**15**		P	**P**	**19 27 56.1**	**+0.6**
	baz=215								
BILL	**Bilibino**	**78.78**	**1**		P	**P**	**19 27 52.8**	**-2.6**
BILL					IAmb	IAmb	19 28 11.8		
	comp=Z,52nm,1.4s								
BILL	**Bilibino**	**78.78**	**1**	*e*	P	**P**	**19 27 54.2**	**-1.2**
K17K	**Iditarod**	**78.93**	**17**		IAMs_20	IAMs_20	20 07 01.4		
	comp=Z,3μm,18.0s								
K17K	**Iditarod**	**78.93**	**17**		P	**P**	**19 27 56.3**	**-0.1**
	baz=217								
L18K	**Granite Mounta**	**79.00**	**18**		P	**P**	**19 27 56.8**	**0.0**
	baz=219								
BRLK	**Bradley Lake**	**79.07**	**21**		P	P	19 27 54.0	-3.2	
QSPA	**South Pole Qui**	**79.07**	**180**		P	**P**	**19 27 57.5**	**+0.1**
	comp=Z,44nm,1.1s,baz=16,slow=2.5,SNR=17								
	comp=Z,44nm,1.1s								
BRSE	**Bradley Lake S**	**79.10**	**21**		P	**P**	**19 27 57.4**	**0.0**
	baz=225								
I17K	**Unalakleet**	**79.24**	**15**		IAmb	IAmb	19 28 03.3		
	comp=Z,49nm,1.4s								
I17K					IAMs_20	IAMs_20	20 07 53.5		
	comp=Z,2μm,19.0s								
I17K	**Unalakleet**	**79.24**	**15**		P	**P**	**19 27 58.3**	**+0.4**
	baz=215,SNR=12								
F14K	**Arctic Creek**	**79.29**	**12**		P	**P**	**19 27 58.6**	**+0.4**
	baz=209								
G15K	**Niukluk**	**79.37**	**13**		P	**P**	**19 27 58.0**	**-0.7**
	baz=212								
M19K	**Big River Lodg**	**79.46**	**19**		P	**P**	**19 27 58.5**	**-0.8**
	baz=221								
H16K	**Elim**	**79.48**	**14**		P	**P**	**19 27 59.2**	**-0.1**
	baz=213,SNR=5.5								
L19K	**White Mountain**	**79.53**	**18**		P	**P**	**19 27 59.5**	**-0.1**
	baz=221								
N20K	**Mount Spurr**	**79.64**	**20**		P	**P**	**19 27 59.8**	**-0.6**
	baz=223								
TTA	**Tatalina**	**79.75**	**17**		P	**P**	**19 27 57.9**	**-3.0**
TTA					IAmb	IAmb	19 28 13.6		
	comp=Z,37nm,1.2s								
TTA	**Tatalina**	**79.75**	**17**		P	**P**	**19 28 03.7**	**+2.7**
TTA	**Tatalina**	**79.75**	**17**		P	**P**	**19 28 00.6**	**-0.3**
	baz=220								
TTA	**Tatalina**	**79.75**	**17**		P	**P**	**19 27 57.9**	**-3.0**
TTA					pmax	pmax			
	comp=Z,37nm,1.2s								
BOD	**Bodaibo**	**79.80**	**335**	*e*	P	**P**	**19 28 00.4**	**-0.8**
BOD					pmax	pmax			
	comp=Z,19nm,1.7s								
M20K	**Styx River**	**79.84**	**19**		P	**P**	**19 28 02.2**	**+0.7**
	baz=222								
F15K	**North Star Dit**	**79.85**	**13**		IAMs_20	IAMs_20	20 09 39.6		
	comp=Z,2μm,18.0s								
F15K	**North Star Dit**	**79.85**	**13**		P	**P**	**19 28 01.3**	**0.0**
	baz=211								
J18K	**Innoko River**	**79.97**	**17**		IAMs_20	IAMs_20	20 06 58.8		
	comp=Z,3μm,22.0s								
J18K	**Innoko River**	**79.97**	**17**		P	**P**	**19 28 02.6**	**+0.5**
	baz=219								
L20K	**Farewell, AK**	**80.05**	**18**		P	**P**	**19 28 02.0**	**-0.5**
	baz=222								
G16K	**Koyuk River**	**80.09**	**14**		IAMs_20	IAMs_20	20 09 03.0		
	comp=Z,2μm,18.0s								
G16K	**Koyuk River**	**80.09**	**14**		P	**P**	**19 28 01.9**	**-0.7**
	baz=213								
GOMU	**GeErMu**	**80.29**	**310**		P	**P**	**19 28 06.5**	**+1.6**
GOMU					S	S	19 38 02.3	-8.1	
GOMU					SS	**SS**	**19 43 25.0**	**+3.0**
GOMU					pmax	pmax			
	comp=Z,5.0nm,0.8s								
GOMU					LR	LR			
	comp=Z,390nm,19.9s								
GOMU					LR	LR			
	comp=Z,290nm,19.4s								
GOMU					LR	LR			
	comp=Z,600nm,19.7s								
H17K	**Granite Mounta**	**80.29**	**15**		IAMs_20	IAMs_20	20 08 23.4		
	comp=Z,3μm,18.0s								
H17K	**Granite Mounta**	**80.29**	**15**		P	**P**	**19 28 03.5**	**-0.2**
	baz=216,SNR=11								

SUA	Susitna One comp=Z,42nm,1.0s	80.33	20	IAmb	IAmb	19 28 18.6	
SUA	Susitna One baz=225	80.33	20	P	P	19 28 02.9	-1.2
RC01	Rabbit Creek A baz=226	80.41	21	P	P	19 28 04.1	-0.3
G17K	Kiwalik Mounta baz=215	80.58	14	P	P	19 28 05.5	+0.3
K20K	Telida baz=221	80.65	18	P	P	19 28 05.6	-0.1
J19K	Poorman baz=220	80.69	17	P	P	19 28 06.0	+0.1
ZAK	Zakamensk ZAK comp=Z,16nm,1.3s	80.75	325	eP pmax	P pmax	19 28 05.2	-1.5
H18K	Honhosa River comp=Z,3µm,18.0s	80.86	15	IAMs_20	IAMs_20	20 08 17.4	
H18K	Honhosa River baz=217	80.86	15	P	P	19 28 05.3	-1.4
PPLA	Purkeypile baz=223	80.89	19	P	P	19 28 06.9	-0.2
GCSA	Galena City Sc baz=219	80.92	16	P	P	19 28 05.7	-1.4
PMR	Palmer comp=Z,26nm,1.0s	80.97	21	IAmb	IAmb	19 28 20.4	
PMR	Palmer	80.97	21	P	P	19 28 10.1	+2.7
PMR	Palmer baz=226	80.97	21	P	P	19 28 06.2	-1.2
KNK	Knik Glacier baz=227	81.08	21	P	P	19 28 07.9	-0.1
CUT	Chulitna baz=225	81.15	20	P	P	19 28 07.4	-0.9
IRK	Irkutsk IRK comp=Z,33nm,3.8s	81.15	327	eP pmax	P pmax	19 28 08.0	-0.6
F17K	Baldwin Pennin comp=Z,3µm,20.0s	81.22	13	IAMs_20	IAMs_20	20 09 21.8	
F17K	Baldwin Pennin baz=214	81.22	13	P	P	19 28 08.2	-0.3
J20K	Nowinta River baz=221	81.25	17	P	P	19 28 07.7	-1.1
CAST	Castle Rocks comp=Z,34nm,1.0s	81.30	18	IAmb	IAmb	19 28 12.4	
CAST	Castle Rocks baz=223,SNR=9.1	81.30	18	P	P	19 28 08.0	-1.2
G18K	Tagagawik comp=Z,3µm,18.0s	81.38	15	IAMs_20	IAMs_20	20 08 48.2	
G18K	Tagagawik baz=217	81.38	15	P	P	19 28 09.1	-0.4
SML	Sawmill SML comp=Z,31nm,0.8s	81.39	21	P IAmb	P IAmb	19 28 07.9 19 28 16.0	-1.8
SML	Sawmill baz=227	81.39	21	P	P	19 28 08.9	-0.8
M23K	Glacier View baz=228	81.59	21	P	P	19 28 09.6	-1.2
KAIM	Kayak Island baz=231	81.60	23	P	P	19 28 09.6	-1.2
E17K	Hotham Inlet baz=214,SNR=25	81.62	13	P	P	19 28 10.1	-0.7
I20K	Naaghedeneel baz=221	81.62	17	P	P	19 28 09.8	-1.0
H19K	Roundabout Mou comp=Z,3µm,18.0s	81.65	15	IAMs_20	IAMs_20	20 08 15.3	
H19K	Roundabout Mou baz=219	81.65	15	P	P	19 28 10.7	-0.2
F18K	Selawik baz=216,SNR=18	81.71	14	P	P	19 28 10.7	-0.5
SCM	Sheep Creek Mo	81.76	21	P	P	19 28 07.3	-4.5
SCM	Sheep Creek Mo baz=228	81.76	21	P	P	19 28 10.0	-1.7
SCM	Sheep Creek Mo SCM comp=Z,78nm,1.4s	81.76	21	P pmax	P pmax	19 28 07.3	-4.4
SCM	comp=Z,4µm,20.0s			MLR	MLR		
TRF	Thorofare Moun	81.89	19	P	P	19 28 11.1	-1.4
TRF	comp=Z,21nm,0.9s			IAmb	IAmb	19 28 25.2	
TRF	Thorofare Moun baz=225	81.89	19	P	P	19 28 11.6	-0.8
C16K	Lisburne Hills comp=Z,2µm,19.0s	81.93	11	IAMs_20	IAMs_20	20 11 00.6	
C16K	Lisburne Hills baz=210	81.93	11	P	P	19 28 13.0	+0.7
G19K	Purcell Mounta comp=Z,3µm,18.0s	81.97	15	IAMs_20	IAMs_20	20 08 46.7	
G19K	Purcell Mounta baz=218	81.97	15	P	P	19 28 12.5	-0.1
WAT1	Susitna Watana baz=227	82.02	20	P	P	19 28 12.4	-0.6
KLU	Klutina comp=Z,28nm,1.0s	82.04	22	IAmb	IAmb	19 28 24.8	
KLU	Klutina baz=229	82.04	22	P	P	19 28 12.3	-0.9
H20K	Anotleneega Mo baz=220	82.04	16	P	P	19 28 12.6	-0.5
WAT6	Susitna Watana baz=227	82.12	20	P	P	19 28 12.7	-1.0
BPAW	Bear Paw Mtn. comp=Z,3µm,19.0s	82.13	18	IAMs_20	IAMs_20	20 06 48.1	
BPAW	Bear Paw Mtn. baz=224	82.13	18	P	P	19 28 13.0	-0.5
E18K	Tukpahlearik C comp=Z,2µm,18.0s	82.17	13	IAMs_20	IAMs_20	20 09 54.0	
E18K	Tukpahlearik C baz=215	82.17	13	P	P	19 28 13.9	+0.3
BMRM	Bremner River baz=230	82.19	23	P	P	19 28 12.9	-1.0
RDOG	Red Dog Mine comp=Z,2µm,19.0s	82.21	12	IAMs_20	IAMs_20	20 10 28.1	
RDOG	Red Dog Mine baz=212	82.21	12	P	P	19 28 14.2	+0.3
RND	Reindeer comp=Z,48nm,1.4s	82.32	19	IAmb	IAmb	19 28 27.7	
F19K	Shaleruckik Mo comp=Z,3µm,18.0s	82.35	14	IAMs_20	IAMs_20	20 09 09.7	
F19K	Shaleruckik Mo baz=218	82.35	14	P	P	19 28 13.9	-0.7
M24K	Tolsona, Glenn baz=229	82.35	21	P	P	19 28 13.4	-1.5
C17K	DeLong Mountai baz=212	82.52	12	P	P	19 28 14.9	-0.6
MCK	McKinley baz=226,SNR=8.8	82.52	19	P	P	19 28 14.5	-1.1
DHY	Denali Highway comp=Z,21nm,1.0s	82.58	20	IAmb	IAmb	19 28 28.7	
DHY	Denali Highway baz=228	82.58	20	P	P	19 28 14.7	-1.4
N25K	Chitina, Valde baz=230	82.60	22	P	P	19 28 15.2	-0.9
BWN	Browne comp=Z,3µm,19.0s	82.66	19	IAMs_20	IAMs_20	20 06 46.3	
IMAR	Indian Mountai	82.72	16	P	P	19 28 15.4	-1.1
H21K	Melozitna Rive baz=222	82.74	17	P	P	19 28 16.0	-0.7
VRDI	Verde Repeater comp=Z,21nm,1.0s	82.79	23	IAmb	IAmb	19 28 31.1	
MLY	Manley comp=Z,16nm,1.0s MLY	82.88	18	IAmb IAMs_20	IAmb IAMs_20	19 28 28.8 20 07 16.7	
MLY	comp=Z,3µm,19.0s Manley baz=224,SNR=7.4	82.88	18	P	P	19 28 16.8	-0.7
HARP	HAARP baz=230	82.90	21	P	P	19 28 16.9	-0.7
E19K	Redstone River baz=218	82.97	14	P	P	19 28 18.1	+0.2
F20K	Avaraart Lake baz=219	83.02	15	P	P	19 28 18.0	-0.1
MCARA	McCarthy VSAT baz=232	83.05	23	P	P	19 28 17.7	-0.6
C18K	Utukok River comp=Z,42nm,1.6s C18K	83.06	12	IAmb IAMs_20	IAmb IAMs_20	19 28 23.3 20 10 43.5	
C18K	comp=Z,3µm,18.0s Utukok River baz=214,SNR=12	83.06	12	P	P	19 28 17.7	-0.7
NEA2	Nenana comp=Z,24nm,1.1s NEA2	83.07	18	IAmb IAMs_20	IAmb IAMs_20	19 28 30.3 20 06 60.0	
NEA2	comp=Z,3µm,18.0s Nenana baz=226	83.07	18	P	P	19 28 17.7	-0.7
PAX	Paxson baz=230	83.17	21	P	P	19 28 17.8	-1.3
G21K	Allakaket comp=Z,3µm,20.0s	83.19	16	IAMs_20	IAMs_20	20 08 31.9	
G21K	Allakaket baz=222	83.19	16	P	P	19 28 18.5	-0.5
WRH	Wood River Hil comp=Z,2µm,20.0s	83.30	19	IAMs_20	IAMs_20	20 06 50.9	
H22K	Ishtalitna Cre baz=224	83.31	17	P	P	19 28 18.5	-1.2
PINM	Pinnacle baz=234	83.36	25	P	P	19 28 19.1	-1.0
BARN	Barnard Glacie comp=Z,4µm,22.0s	83.37	23	IAMs_20	IAMs_20	20 05 16.0	
I23K	Minto, Yukon-K comp=Z,3µm,19.0s	83.37	18	IAMs_20	IAMs_20	20 07 17.8	
I23K	Minto, Yukon-K baz=226	83.37	18	P	P	19 28 19.1	-0.8
CTG	Chitna Glacier baz=233	83.44	24	P	P	19 28 19.0	-1.5
CTGM	Chitina Glacie comp=Z,4µm,22.0s	83.44	24	IAMs_20	IAMs_20	20 05 16.8	
PNL	Peninsula	83.47	25	P	P	19 28 23.1	+2.5
PNL	Peninsula baz=235	83.47	25	P	P	19 28 19.5	-1.1
LOGN	Logan Glacier comp=Z,3µm,21.0s	83.49	24	IAMs_20	IAMs_20	20 05 18.1	
CCB	Clear Creek Bu comp=Z,20nm,0.9s CCB	83.51	19	IAmb IAMs_20	IAmb IAMs_20	19 28 32.2 20 07 02.4	
B18K	comp=Z,3µm,19.0s Kokolik River baz=213	83.54	12	P	P	19 28 20.2	-0.5
MDM	Murphy Dome comp=Z,3µm,18.0s	83.59	18	IAMs_20	IAMs_20	20 07 20.6	
D19K	Kuna River baz=217	83.59	13	P	P	19 28 20.2	-0.9
K24K	Donnelly Dome baz=229,SNR=6.7	83.60	20	P	P	19 28 20.8	-0.5
HDA	Harding Lake baz=238,SNR=35	83.62	19	P	P	19 28 19.8	-1.5
COLA	College	83.65	19	P	P	19 28 18.3	-3.0
COLA	College comp=Z,3µm,19.0s	83.65	19	IAMs_20	IAMs_20	20 07 09.0	
COLA	College	83.65	19	P	P	19 28 24.7	+3.4
COLA	College COLA comp=Z,75nm,0.3s	83.65	19	P pmax	P pmax	19 28 18.3	-3.0
COLA	comp=Z,3µm,19.0s			MLR	MLR		
M26K	Nabesna, AK baz=232	83.69	22	P	P	19 28 21.3	-0.4
F21K	Alatna River comp=Z,27nm,1.1s F21K	83.72	15	IAmb IAMs_20	IAmb IAMs_20	19 28 26.2 20 08 54.0	
F21K	comp=Z,3µm,19.0s Alatna River baz=222,SNR=21	83.72	15	P	P	19 28 20.5	-1.3
MENT	Mentasta	83.76	21	P	P	19 28 25.8	+3.7
C19K	Lookout Ridge comp=Z,26nm,1.4s	83.77	12	IAmb	IAmb	19 28 26.8	
C19K	Lookout Ridge baz=216	83.77	12	P	P	19 28 21.1	-0.9
E20K	Nigu River baz=219	83.85	14	P	P	19 28 21.9	-0.5
SIT	Sitka baz=239	83.87	29	P	P	19 28 21.5	-1.1
RIDG	Independent Ri baz=230	83.88	20	P	P	19 28 21.8	-0.9
ILAR	Eielson Array	83.88	19	P	P	19 28 20.1	-2.5
ILAR	Eielson Array comp=Z,15nm,1.0s,baz=238,slow=5.0,SNR=22 comp=Z,15nm,1.0s	83.88	19	P	P	19 28 20.9	-1.7
S31K	Pelican comp=Z,3µm,20.0s	83.92	28	IAMs_20	IAMs_20	20 05 27.6	
S31K	Pelican baz=238	83.92	28	P	P	19 28 21.9	-0.9
POKR	Poker Plat Res comp=Z,27nm,0.9s POKR	83.94	19	IAmb IAMs_20	IAmb IAMs_20	19 28 33.9 20 07 18.0	
POKR	comp=Z,3µm,18.0s Poker Plat Res baz=228	83.94	19	P	P	19 28 21.7	-1.2
L26K	Log Cabin Wild comp=Z,35nm,1.1s	83.95	21	IAmb	IAmb	19 28 28.3	
L26K	Log Cabin Wild baz=231,SNR=7.3	83.95	21	P	P	19 28 22.2	-0.8
G22K	Beetles baz=224	84.02	16	P	P	19 28 22.8	-0.5
M27K	Edge Creek, AK baz=233	84.07	22	P	P	19 28 22.6	-1.2
D20K	Etivluk River baz=218	84.11	13	P	P	19 28 22.5	-1.2
P29M	Windy Craggy baz=237	84.15	26	P	P	19 28 23.1	-1.0
O29M	Mount Kennedy baz=236	84.17	25	P	P	19 28 23.1	-1.2
SAO	San Andreas Ge comp=Z,2µm,19.0s	84.22	51	IAMs_20	IAMs_20	19 58 56.1	
YUK8	Steele Glacier baz=235,SNR=15	84.25	24	P	P	19 28 23.7	-1.1
YUK3	Moose Creek baz=234,SNR=10.0	84.26	23	P	P	19 28 24.2	-0.7
J25K	Salcha River, comp=Z,3µm,20.0s	84.27	20	IAMs_20	IAMs_20	20 07 06.6	
J25K	Salcha River, baz=225	84.27	20	P	P	19 28 23.6	-1.0
G23K	Bananza Creek comp=Z,2µm,18.0s	84.28	17	IAMs_20	IAMs_20	20 08 26.9	
G23K	Bananza Creek baz=225	84.28	17	P	P	19 28 23.4	-1.3
H24K	Noodor Dome comp=Z,3µm,18.0s	84.30	18	IAMs_20	IAMs_20	20 07 49.3	
H24K	Noodor Dome baz=227	84.30	18	P	P	19 28 24.1	-0.6
SCRK	Sand Creek comp=Z,3µm,20.0s	84.32	20	IAMs_20	IAMs_20	20 06 43.0	
SCRK	Sand Creek baz=231,SNR=12	84.32	20	P	P	19 28 24.2	-0.8
A19K	Wainwright baz=214	84.38	11	P	P	19 28 24.4	-0.6
S32K	Killisnoo comp=Z,2µm,22.0s	84.43	28	IAMs_20	IAMs_20	20 05 51.1	
U33K	Whale Pass comp=Z,2µm,21.0s	84.45	30	IAMs_20	IAMs_20	20 06 15.9	
BVCY	Beaver Creek baz=234	84.49	23	P	P	19 28 25.1	-0.7
E21K	Killik River comp=Z,2µm,18.0s	84.52	14	IAMs_20	IAMs_20	20 09 54.1	
E21K	Killik River baz=221	84.52	14	P	P	19 28 24.9	-0.9
L27K	Beaver Creek, baz=233	84.52	22	P	P	19 28 25.5	-0.4
BCAR	Beaver Creek A	84.53	22	P	P	19 28 24.7	-1.3
COLD	Coldfoot baz=225	84.60	16	P	P	19 28 25.7	-0.5
YUK6	Outpost Mounta baz=236	84.62	24	P	P	19 28 25.5	-1.2
PLBC	Pleasant Camp baz=238	84.65	26	P	P	19 28 25.7	-0.9
SNCC	San Nicolas Is baz=253	84.68	55	P	P	19 28 25.5	-1.8
YUK4	Talbot Arm baz=236,SNR=5.8	84.73	24	P	P	19 28 26.9	-0.3
P30M	Million Dollar baz=238	84.75	25	P	P	19 28 27.0	-0.2
J26L	Joseph Creek comp=Z,16nm,1.1s J26L	84.80	20	IAmb IAMs_20	IAmb IAMs_20	19 28 33.4 20 07 10.6	
J26L	comp=Z,3µm,19.0s Joseph Creek baz=231,SNR=12	84.80	20	P	P	19 28 26.4	-1.0
PRP	Porcupine Dome comp=Z,3µm,20.0s	84.81	19	IAMs_20	IAMs_20	20 07 33.9	
PRP	Porcupine Dome baz=229	84.81	19	P	P	19 28 26.6	-0.9
V35K	Ketchikan comp=Z,2µm,19.0s	84.83	31	IAMs_20	IAMs_20	20 06 55.0	
R32K	Eaglecrest comp=Z,3µm,19.0s	84.86	28	IAMs_20	IAMs_20	20 06 07.5	
C21K	Knifeblade Rid baz=220	84.87	14	P	P	19 28 26.9	-0.6
YBH	Yreka Blue Hor YBH comp=Z,50nm,1.9s	84.88	46	P IAmb	P IAmb	19 28 26.2 19 28 29.4	-2.1
YBH	Yreka Blue Hor YBH comp=Z,50nm,2.0s	84.88	46	P pmax	P pmax	19 28 26.2	-2.1
YBH	comp=Z,1µm,20.0s Yreka Blue Hor comp=Z,1.5nm,0.4s,baz=300,slow=3.7,SNR=5.6	84.88	46	MLR P	MLR P	19 28 26.2	-2.1
HYT	Haines Junctio baz=237	84.90	25	P	P	19 28 27.1	-0.9
JIS	Juneau Island comp=Z,3µm,19.0s	84.92	28	IAMs_20	IAMs_20	20 06 09.1	
WRAK	Wrangell Islan comp=Z,2µm,21.0s	84.98	30	IAMs_20	IAMs_20	20 06 29.8	
HUMO	Hull Mountain comp=Z,1µm,19.0s	85.00	45	IAMs_20	IAMs_20	20 01 04.4	
G24K	Hadweenzic Riv comp=Z,2µm,19.0s	85.01	17	IAMs_20	IAMs_20	20 08 18.0	
G24K	Hadweenzic Riv baz=227	85.01	17	P	P	19 28 28.0	-0.2
B20K	Meade River baz=218	85.01	12	P	P	19 28 28.7	+0.6
K27K	Chicken baz=232	85.02	21	P	P	19 28 28.7	+0.4
ORV	Oroville	85.05	48	P	P	19 28 25.1	-3.9
ORV	Oroville ORV comp=Z,6.0nm,0.9s	85.05	48	P pmax	P pmax	19 28 25.2	-3.9
SKAG	Skagway	85.10	26	P	P	19 28 33.0	+4.2
SKAG	Skagway baz=239	85.10	26	P	P	19 28 28.4	-0.4
D22K	Ayikyak River comp=Z,2µm,20.0s	85.16	14	IAMs_20	IAMs_20	20 09 54.0	
D22K	Ayikyak River baz=222	85.16	14	P	P	19 28 29.1	+0.1
AFDM	Forest Hills D comp=Z,18nm,1.4s	85.25	49	IAmb	IAmb	19 28 31.4	
E23K	Chandalar baz=225	85.35	16	P	P	19 28 30.1	0.0
CMB	Columbia Colle comp=Z,1µm,19.0s	85.41	50	IAMs_20	IAMs_20	20 01 42.6	
M29M	Somme Creek comp=Z,3µm,19.0s	85.42	23	IAMs_20	IAMs_20	20 06 44.1	
M29M	Somme Creek baz=236	85.42	23	P	P	19 28 29.9	-0.6
I26K	Coal Creek Min comp=Z,3µm,19.0s	85.44	20	IAMs_20	IAMs_20	20 07 35.5	
I26K	Coal Creek Min baz=231	85.44	20	P	P	19 28 29.8	-0.6
F24K	Squaw Lake comp=Z,3µm,18.0s	85.45	17	IAMs_20	IAMs_20	20 08 52.6	
F24K	Squaw Lake baz=227	85.45	17	P	P	19 28 31.6	+1.1
G25K	Bearman Lake baz=229	85.46	18	P	P	19 28 31.3	+0.8
O30N	Mendenhall comp=Z,22nm,0.9s O30N	85.46	25	IAmb IAMs_20	IAmb IAMs_20	19 28 42.1 20 06 26.2	
O30N	comp=Z,3µm,19.0s Mendenhall baz=238	85.46	25	P	P	19 28 30.1	-0.6
FYU	Fort Yukon comp=Z,3µm,19.0s	85.59	18	IAMs_20	IAMs_20	20 08 17.3	
D23K	Nanushuk River baz=224	85.72	15	P	P	19 28 31.2	-0.5
EGAK	Eagle baz=233,SNR=44	85.79	21	P	P	19 28 31.5	-0.6
P32M	Atlin comp=Z,3µm,19.0s	85.88	27	IAMs_20	IAMs_20	20 06 42.4	
P32M	Atlin baz=240	85.88	27	P	P	19 28 32.6	-0.2
U35K	Hyder comp=Z,2µm,19.0s	85.91	31	IAMs_20	IAMs_20	20 07 20.3	
WHY	Whitehorse baz=239	85.91	26	P	P	19 28 32.7	-0.3
L29M	L29M comp=Z,3µm,20.0s	85.92	23	IAMs_20	IAMs_20	20 07 02.2	
L29M	L29M baz=236	85.92	23	P	P	19 28 32.5	-0.4
N31M	Braeburn, Yuko baz=238	85.96	25	P	P	19 28 32.7	-0.5
DAWY	Dawson comp=Z,24nm,1.0s	85.99	22	IAmb	IAmb	19 28 45.9	
DAWY	Dawson baz=235,SNR=14	85.99	22	P	P	19 28 32.9	-0.3
B22K	Teshekpuk Lake comp=Z,2µm,20.0s	86.08	13	IAMs_20	IAMs_20	20 10 33.3	
B22K	Teshekpuk Lake baz=222	86.08	13	P	P	19 28 33.0	-0.4
I27K	Kandik River baz=233	86.13	20	P	P	19 28 32.5	-1.4
F25K	Christian Rive baz=229,SNR=27	86.14	17	P	P	19 28 33.4	-0.5
M30M	Minto, Yukon comp=Z,14nm,0.9s M30M	86.14	23	IAmb IAMs_20	IAmb IAMs_20	19 28 45.4 20 07 04.1	
M30M	comp=Z,3µm,20.0s Minto, Yukon baz=237	86.14	23	P	P	19 28 33.4	-0.6
A21K	Barrow baz=218	86.16	12	P	P	19 28 33.2	-0.6
H04A	Detroit Lake H04A comp=Z,35nm,1.5s	86.22	43	P IAmb	P IAmb	19 28 33.7 19 28 45.3	-1.1
Q32M	Nakina River comp=Z,3µm,18.0s	86.22	28	IAMs_20	IAMs_20	20 06 58.5	
S34M	Telegraph Cree comp=Z,2µm,21.0s	86.26	29	IAMs_20	IAMs_20	20 07 00.7	
S34M	Telegraph Cree baz=243	86.26	29	P	P	19 28 33.6	-1.1
T35M	Bob Quinn comp=Z,2µm,21.0s	86.27	30	IAMs_20	IAMs_20	20 07 15.8	
G26K	Porcupine Rive baz=231	86.27	18	P	P	19 28 34.3	-0.2
D24K	Happy Valley comp=Z,2µm,20.0s	86.33	15	IAMs_20	IAMs_20	20 09 57.8	
D24K	Happy Valley baz=226	86.33	15	P	P	19 28 34.5	-0.2
BMAR	Burnt Mountain	86.34	18	P	P	19 28 34.5	-0.4
EDW2	Edwards Air Fo baz=254	86.35	54	P	P	19 28 33.8	-1.9
J05D	Fort Rock, OR	86.42	45	P	P	19 28 34.3	-1.7
BFSC	Mount Baldy Ra baz=254	86.44	54	P	P	19 28 34.7	-1.6
K05A	Summer Lake K05A comp=Z,34nm,1.4s	86.48	45	P IAmb	P IAmb	19 28 33.5 19 28 44.1	-2.9
E25K	Arctic Village comp=Z,42nm,1.3s E25K	86.51	17	IAmb IAMs_20	IAmb IAMs_20	19 28 40.9 20 09 15.6	
E25K	comp=Z,3µm,19.0s Arctic Village baz=229,SNR=14	86.51	17	P	P	19 28 35.1	-0.6
H27K	Steamboat Moun baz=233	86.54	19	P	P	19 28 35.6	-0.4
K29M	Barlow Dome comp=Z,15nm,1.0s K29M	86.55	22	IAmb IAMs_20	IAmb IAMs_20	19 28 48.3 20 07 25.0	
K29M	comp=Z,2µm,20.0s Barlow Dome baz=237	86.55	22	P	P	19 28 35.2	-1.0
P33M	Teslin, Yukon comp=Z,3µm,20.0s	86.58	26	IAMs_20	IAMs_20	20 07 02.8	
P33M	Teslin, Yukon baz=241	86.58	26	P	P	19 28 35.8	-0.5
I28M	Miner Creek baz=234	86.60	20	P	P	19 28 35.9	-0.5
J29N	Klondike Camp comp=Z,39nm,0.9s J29N	86.64	22	IAmb IAMs_20	IAmb IAMs_20	19 28 49.1 20 07 35.2	
J29N	comp=Z,2µm,21.0s Klondike Camp baz=236	86.64	22	P	P	19 28 35.9	-0.5
F26K	Sheenjek River baz=230	86.64	17	P	P	19 28 36.1	-0.3
CWC	Cottonwood Cre baz=254	86.71	52	P	P	19 28 36.4	-1.2
C24K	Franklin Bluff baz=226	86.75	15	P	P	19 28 37.0	+0.2
LRMC	Laurel Mtn Rad baz=254	86.76	53	P	P	19 28 36.4	-1.4
PINE	Pine Mountain comp=Z,27nm,1.5s	86.78	44	IAmb	IAmb	19 29 19.7	
M31M	Drury Creek, Y baz=240	86.90	24	P	P	19 28 37.0	-0.8
N32M	Quiet Lake comp=Z,3µm,20.0s	86.92	26	IAMs_20	IAMs_20	20 07 12.8	
N32M	Quiet Lake baz=241	86.92	26	P	P	19 28 38.7	+0.8
R33M	Jennings River comp=Z,3µm,20.0s	87.02	28	IAMs_20	IAMs_20	20 07 22.5	
R33M	Jennings River baz=243	87.02	28	P	P	19 28 36.9	-1.6
DLBC	Dease Lake baz=244	87.02	29	P	P	19 28 37.1	-1.4

MPMC	**Manual Prospec**	**87.07**	**53**	P	**P**	**19 28 38.5**	**-0.9**		
	baz=254								
D25K	**Kavik River**	**87.08**	**16**	IAMs_20	IAMs_20	20 10 04.8			
	comp=Z,2µm,19.0s								
D25K	**Kavik River**	**87.08**	**16**	P	**P**	**19 28 38.2**	**-0.3**		
	baz=228								
MONP2	**Monument Peak**	**87.09**	**56**	P	**P**	**19 28 38.6**	**-1.0**		
	baz=255								
NVAR	**Mina Array Bea**	**87.09**	**50**	P	**P**	**19 28 37.8**	**-1.8**		
	comp=Z,1.6nm,0.8s,baz=235,slow=7.1,SNR=9.8								
	comp=Z,1.6nm,0.8s								
NV11	**Mina Array Sit**	**87.21**	**50**	IAmb	IAmb	19 29 29.3			
	comp=Z,26nm,1.6s								
PFO	**Pinyon Flats O**	**87.24**	**55**	P	**P**	**19 28 39.3**	**-0.9**		
	baz=255								
PFO	**Pinyon Flats O**	**87.24**	**55**	P	**P**	**19 28 38.8**	**-1.4**		
	comp=Z,1.0nm,0.5s,baz=268,slow=14,SNR=2.2								
	comp=Z,1.0nm,0.5s								
TPFO	**Pinon Flats**	**87.24**	**55**	P	**P**	**19 28 39.3**	**-0.9**		
	baz=255								
IKP	**In-Ko-Pah, Jac**	**87.28**	**56**	P	**P**	**19 28 38.9**	**-1.4**		
	baz=255								
FARO	**Faro, Yukon**	**87.34**	**25**	P	**P**	**19 28 39.3**	**-0.6**		
	baz=241								
J30M	**Hart River**	**87.39**	**22**	IAMs_20	IAMs_20	20 07 54.1			
	comp=Z,2µm,21.0s								
J30M	**Hart River**	**87.39**	**22**	P	**P**	**19 28 39.7**	**-0.5**		
	baz=238								
H29M	**Whitestone**	**87.57**	**20**	IAMs_20	IAMs_20	20 08 38.9			
	comp=Z,3µm,20.0s								
HEC	**Hector,Ludlow**	**87.65**	**54**	P	**P**	**19 28 40.9**	**-1.2**		
	baz=255								
BELC	**Belle Mtn. Jos**	**87.71**	**55**	P	**P**	**19 28 41.2**	**-1.3**		
	baz=255								
I30M	**Mount Dempster**	**87.72**	**21**	IAMs_20	IAMs_20	20 08 18.7			
	comp=Z,2µm,19.0s								
I30M	**Mount Dempster**	**87.72**	**21**	P	**P**	**19 28 40.9**	**-0.9**		
	baz=238								
I07A	**Izee**	**87.86**	**44**	IAmb	IAmb	19 29 30.0			
	comp=Z,29nm,1.7s								
F28M	**Old Crow**	**87.89**	**19**	IAMs_20	IAMs_20	20 09 21.2			
	comp=Z,3µm,19.0s								
F28M	**Old Crow**	**87.89**	**19**	P	**P**	**19 28 42.4**	**0.0**		
	baz=234,SNR=13								
WMQ	**Urumqi**	**87.96**	**315**	*e*P	**P**	**19 28 43.0**	**-0.3**		
WMQ				pmax	pmax				
	comp=Z,17nm,0.9s								
WMQ				LR	LR				
	comp=Z,780nm,18.7s								
WMQ				LR	LR				
	comp=Z,670nm,21.7s								
WVOR	**Wild Horse Val**	**87.98**	**46**	IAmb	IAmb	19 29 18.3			
	comp=Z,17nm,1.3s								
BC3	**Big Chuckawall**	**88.06**	**55**	P	**P**	**19 28 43.3**	**-0.9**		
	baz=256								
G29M	**Pine Creek**	**88.08**	**19**	IAMs_20	IAMs_20	20 09 10.2			
	comp=Z,3µm,19.0s								
G29M	**Pine Creek**	**88.08**	**19**	P	**P**	**19 28 43.2**	**-0.1**		
	baz=236								
TUQ	**Turquoise Moun**	**88.13**	**54**	P	**P**	**19 28 42.9**	**-1.6**		
	baz=255								
GMRC	**Granite Mounta**	**88.18**	**54**	P	**P**	**19 28 43.1**	**-1.6**		
	baz=255								
EPYK	**Eagle Plains**	**88.21**	**20**	IAMs_20	IAMs_20	20 08 54.9			
	comp=Z,3µm,21.0s								
EPYK	**Eagle Plains**	**88.21**	**20**	P	**P**	**19 28 43.8**	**-0.2**		
	baz=237								
TPNV	**Topopah Spring**	**88.27**	**52**	IAMs_20	IAMs_20	20 02 33.4			
	comp=Z,1µm,18.0s								
J08A	**Circle Bar Ran**	**88.36**	**45**	IAmb	IAmb	19 28 46.0			
	comp=Z,37nm,1.8s								
GLA	**Glamis**	**88.42**	**56**	P	**P**	**19 28 43.7**	**-2.1**		
	baz=256								
IRM	**Iron Mountain**	**88.44**	**55**	P	**P**	**19 28 44.3**	**-1.5**		
	baz=256								
D27M	**Malcolm River**	**88.52**	**17**	IAMs_20	IAMs_20	20 10 14.0			
	comp=Z,2µm,19.0s								
D27M	**Malcolm River**	**88.52**	**17**	P	**P**	**19 28 45.0**	**-0.4**		
	baz=233								
E28M	**Babbage River**	**88.57**	**18**	IAMs_20	IAMs_20	20 09 51.1			
	comp=Z,2µm,20.0s								
E28M	**Babbage River**	**88.57**	**18**	P	**P**	**19 28 45.2**	**-0.3**		
	baz=235								
G30M	**tAoh Zraii Nji**	**88.71**	**20**	IAMs_20	IAMs_20	20 09 24.0			
	comp=Z,2µm,19.0s								
G30M	**tAoh Zraii Nji**	**88.71**	**20**	P	**P**	**19 28 45.9**	**-0.4**		
	baz=238								
E29M	**Blow River**	**88.94**	**18**	IAMs_20	IAMs_20	20 10 03.0			
	comp=Z,3µm,19.0s								
E29M	**Blow River**	**88.94**	**18**	P	**P**	**19 28 46.3**	**-1.0**		
	baz=236								
R11B	**Troy Canyon, C**	**89.13**	**51**	IAMs_20	IAMs_20	20 00 55.2			
	comp=Z,1µm,20.0s								
R11B	**Troy Canyon, C**	**89.13**	**51**	P	**P**	**19 28 47.9**	**-1.2**		
	baz=255								
F30M	**Barrier River**	**89.19**	**19**	P	**P**	**19 28 48.1**	**-0.4**		
	baz=238								
D28M	**Stokes Point**	**89.22**	**17**	P	**P**	**19 28 48.6**	**+0.1**		
	baz=235								
PDMCI	**Parker Dam,Lak**	**89.28**	**55**	P	**P**	**19 28 48.6**	**-1.1**		
	baz=256								
PRN	**Pahroc Range**	**89.31**	**52**	IAmb	IAmb	19 28 51.8			
	comp=Z,27nm,1.6s								
G31M	**Satah River**	**89.34**	**20**	IAMs_20	IAMs_20	20 09 36.5			
	comp=Z,2µm,20.0s								
G31M	**Satah River**	**89.34**	**20**	P	**P**	**19 28 48.1**	**-1.0**		
	baz=240								
BMO	**Blue Mountains**	**89.59**	**44**	IAmb	IAmb	19 28 52.7			
	comp=Z,40nm,1.9s								
BMO				IAMs_20	IAMs_20	20 04 20.6			
	comp=Z,970nm,18.0s								
F31M	**Tsiigehtchic**	**89.78**	**20**	IAMs_20	IAMs_20	20 09 53.1			
	comp=Z,2µm,20.0s								
F31M	**Tsiigehtchic**	**89.78**	**20**	P	**P**	**19 28 50.8**	**-0.4**		
	baz=240								
214A	**Organ Pipe Nat**	**89.83**	**58**	P	**P**	**19 28 51.1**	**-1.2**		
	baz=257								
DGZ	**Jazzator, Alta**	**89.86**	**321⇑**	*e*P	**P**	**19 28 49.7**	**-2.6**		
DGZ				pmax	pmax				
	comp=Z,9.0nm,1.0s								
F10A	**Beach Ranch, E**	**89.94**	**43**	IAmb	IAmb	19 28 53.2			
	comp=Z,56nm,1.9s								
ELK	**Elko**	**89.99**	**49**	IAmb	IAmb	19 29 06.9			
	comp=Z,28nm,1.9s								
ELK	**Elko**	**89.99**	**49**	P	**P**	**19 28 51.9**	**-1.3**		
	comp=Z,1.6nm,0.8s,baz=264,slow=5.3,SNR=7.3								
	comp=Z,1.6nm,0.8s								
INK	**Inuvik**	**90.28**	**19**	IAmb	IAmb	19 29 02.9			
	comp=Z,22nm,1.5s								
INK	**Inuvik**	**90.28**	**19**	P	**P**	**19 28 53.1**	**-0.4**		
	baz=240								
LCMT	**Little Creek M**	**90.62**	**53**	P	P	19 28 52.5	-3.5		
NEW	**Newport**	**90.63**	**41**	P	**P**	**19 28 55.4**	**-0.4**		
	baz=254								
NEW	**Newport**	**90.63**	**41**	P	**P**	**19 28 54.0**	**-1.8**		
NEW	**Newport**	**90.63**	**41**	P	**P**	**19 28 54.0**	**-1.8**		
	comp=Z,1.9nm,0.7s,baz=252,slow=5.8,SNR=2.9								
	comp=Z,1.9nm,0.7s								
BELA	**Belgrano 2**	**90.71**	**176**	P	**P**	**19 28 52.6**	**-3.0**		
KNB	**Kanab**	**90.95**	**53**	IAmb	IAmb	19 29 18.1			
	comp=Z,16nm,1.3s								
U15A	**North Rim**	**91.23**	**53**	IAmb	IAmb	19 29 17.7			
	comp=Z,22nm,1.5s								
HLID	**Hailey**	**91.27**	**46**	IAmb	IAmb	19 29 15.3			
	comp=Z,17nm,1.4s								
HLID	**Hailey**	**91.27**	**46**	P	**P**	**19 28 57.3**	**-1.7**		
	baz=256								
HVU	**Hansel Valley**	**92.04**	**48**	IAmb	IAmb	19 29 17.3			
	comp=Z,14nm,1.2s								
MKAR	**Makanchi Array**	**92.42**	**317**	P	**P**	**19 29 02.4**	**-1.7**		
	comp=Z,3.3nm,0.8s,baz=95,slow=5.8,SNR=26								
	comp=Z,3.3nm,0.8s								
ZAA0	**Zalesovo Array**	**92.59**	**324**	IAmb	IAmb	19 29 14.9			
	comp=Z,12nm,1.0s								
ZALV	**Zalesovo Beam**	**92.59**	**324**	P	**P**	**19 29 03.4**	**-1.2**		
	comp=Z,5.2nm,1.0s,baz=123,slow=5.5,SNR=11								
	comp=Z,5.2nm,1.0s								
MAKZ	**Makanchi**	**92.63**	**317**	P	P	19 29 01.0	-4.0		
MAKZ				IAmb	IAmb	19 29 16.8			
	comp=Z,17nm,1.0s								
MAKZ	**Makanchi**	**92.63**	**317**	P	P	19 29 01.0	-4.0		
MAKZ				pmax	pmax				
	comp=Z,17nm,1.0s								
MAKZ				MLR	MLR				
	comp=Z,500nm,21.0s								
DLMT	**Dillon**	**92.94**	**45**	IAMs_20	IAMs_20	20 03 51.5			
	comp=Z,935nm,19.0s								
ELIB	**Princess Elisa**	**93.36**	**191**	*d*P	**P**	**19 29 07.2**	**-1.0**		
	comp=Z,7.5nm,1.1s								
BOZ	**Bozeman (W)**	**93.66**	**44**	P	**P**	**19 29 08.5**	**-1.5**		
	baz=258								
C36M	**Paulatuk**	**93.83**	**20**	IAmb	IAmb	19 29 20.5			
	comp=Z,10nm,1.0s								
C36M				IAMs_20	IAMs_20	20 12 12.2			
	comp=Z,2µm,20.0s								
C36M	**Paulatuk**	**93.83**	**20**	P	**P**	**19 29 08.6**	**-1.3**		
	baz=249								
LKWY	**Lake**	**94.31**	**46**	IAMs_20	IAMs_20	20 09 19.7			
	comp=Z,2µm,18.0s								
A36M	**Sachs Harbour**	**94.43**	**17**	IAMs_20	IAMs_20	20 13 53.9			
	comp=Z,1µm,18.0s								
A36M	**Sachs Harbour**	**94.43**	**17**	P	**P**	**19 29 12.1**	**-0.6**		
	baz=248								
YMP	**Mirror Lake Pl**	**94.51**	**45**	IAmb	IAmb	19 31 46.0			
	comp=Z,9.3nm,0.8s								
PDAR	**Pinedale Array**	**94.57**	**47**	P	**P**	**19 29 13.0**	**-1.3**		
	comp=Z,0.6nm,0.8s,baz=238,slow=3.1,SNR=3.8								
	comp=Z,0.6nm,0.8s								
O20A	**White River Ci**	**95.08**	**50**	P	**P**	**19 29 15.2**	**-1.5**		
	baz=260								
RLMT	**Red Lodge**	**95.20**	**45**	IAMs_20	IAMs_20	20 08 26.4			
	comp=Z,992nm,19.0s								
EGMT	**Eagleton**	**95.39**	**42**	IAMs_20	IAMs_20	20 16 06.9			
	comp=Z,1µm,20.0s								
NRIK	**Noril'sk**	**95.49**	**340**	IAmb	IAmb	19 29 28.1			
	comp=Z,14nm,1.4s								
NRIK	**Noril'sk**	**95.49**	**340⇓**	*e*P	**P**	**19 29 17.4**	**-0.2**		
NRIK				pmax	pmax				
	comp=Z,13nm,1.5s								
NRIK	**Noril'sk**	**95.49**	**340**	P	**P**	**19 29 16.0**	**-1.6**		
	comp=Z,1.6nm,0.4s,baz=120,slow=4.2,SNR=4.9								
	comp=Z,1.6nm,0.4s								
YKA	**Yellowknife Ar**	**95.56**	**27**	P	**P**	**19 29 15.0**	**-3.0**		
YKA	**Yellowknife Ar**	**95.56**	**27**	P	P	19 29 14.9	-3.1		
	comp=Z,2.9nm,1.0s,baz=255,slow=4.5,SNR=13								
YKA				PP	**PP**	**19 33 11.8**	**+2.6**		
	comp=Z,1.3nm,1.1s,baz=258,slow=7.7,SNR=4.6								
	comp=Z,2.9nm,1.0s								
KURK	**Kurchatov**	**95.60**	**320**	P	P	19 29 15.6	-2.9		
KURK				IAmb	IAmb	19 29 37.0			
	comp=Z,28nm,2.0s								
KURK	**Kurchatov**	**95.60**	**320⇓**	*i*P	**P**	**19 29 16.8**	**-1.7**		
KURK				pmax	pmax				
	comp=Z,15nm,2.2s								
ANMO	**Albuquerque**	**95.61**	**56⇓**	*e*P	**P**	**19 29 17.1**	**-2.1**		
KURBB	**Kurchatov Arra**	**95.64**	**320**	P	**P**	**19 29 16.2**	**-2.5**		
	comp=Z,1.4nm,1.0s,baz=98,slow=4.0,SNR=7.7								
KURBB				PP	**PP**	**19 33 07.5**	**-2.7**		
	comp=Z,0.8nm,1.0s,baz=99,slow=8.0,SNR=4.1								
	comp=Z,1.4nm,1.0s								
SMCO	**Snowmass**	**95.89**	**51**	IAMs_20	IAMs_20	20 06 05.1			
	comp=Z,2µm,21.0s								
TROLL	**Troll, Antarti**	**96.36**	**186**	⇓P	**P**	**19 29 22.5**	**+0.7**		
	comp=Z,340nm,0.9s								
ISCO	**Idaho Springs**	**97.02**	**51**	IAMs_20	IAMs_20	20 08 30.1			
	comp=Z,1µm,19.0s								
TXAR	**Lajitas Array**	**97.09**	**62**	P	**P**	**19 29 24.6**	**-1.3**		
	comp=Z,0.4nm,0.8s,baz=238,slow=5.2,SNR=3.8								
	comp=Z,0.4nm,0.8s								
AAK	**Ala-Archa**	**97.11**	**312⇓**	*e*P	**P**	**19 29 24.9**	**-0.9**		
AAK				pmax	pmax				
	comp=Z,7.0nm,1.6s								
SNAA	**Sanae**	**97.13**	**184**	⇓P	**P**	**19 29 26.2**	**+0.9**		
	comp=Z,82nm,0.8s								
SNAA	**Sanae**	**97.13**	**184⇓**	*e*P	**P**	**19 29 25.6**	**+0.3**		
SNAA				pmax	pmax				
	comp=Z,12nm,1.2s								
SNAA	**Sanae**	**97.13**	**184**	P	**P**	**19 29 25.5**	**+0.2**		
	comp=Z,2.7nm,0.8s,baz=223,slow=4.6,SNR=5.3								
	comp=Z,2.7nm,0.8s								
LAO	**LASA Array**	**97.55**	**44**	IAMs_20	IAMs_20	20 18 03.3			
	comp=Z,1µm,18.0s								
VNA2	**Neumayer--Watz**	**98.14**	**183**	⇓P	**P**	**19 29 30.1**	**+0.4**		
	comp=Z,4.7nm,0.7s,baz=183,slow=1.0								
JCT	**Junction City**	**100.56**	**61**	IAMs_20	IAMs_20	20 07 13.8			
	comp=Z,916nm,20.0s								
BVAR	**Borovoye Array**	**100.94**	**322**	P	**Pdif**	**19 29 41.6**	**-0.8**		
	comp=Z,2.5nm,0.9s,baz=131,slow=4.1,SNR=8.4								
BRVK	**Borovoye**	**101.01**	**322⇓**	*e*P	**Pdif**	**19 29 43.0**	**+0.2**		
BRVK				pmax	pmax				
	comp=Z,7.0nm,1.1s								
OK038	**West end E0370**	**102.03**	**55**	IAMs_20	IAMs_20	20 16 45.1			
	comp=Z,800nm,18.0s								
KSU1	**Kansas State U**	**103.89**	**52**	IAMs_20	IAMs_20	20 13 28.0			
	comp=Z,806nm,19.0s								
HKT	**Hockley**	**103.93**	**62**	IAMs_20	IAMs_20	20 13 25.0			
	comp=Z,839nm,19.0s								
ECSD	**EROS Data Cent**	**104.07**	**48**	IAMs_20	IAMs_20	20 22 33.2			
	comp=Z,1µm,18.0s								
SCIA	**State Center**	**106.55**	**49**	IAMs_20	IAMs_20	20 24 19.0			
	comp=Z,967nm,21.0s								
EYMN	**Ely**	**107.60**	**43**	IAMs_20	IAMs_20	20 22 41.1			
	comp=Z,913nm,18.0s								
HDIL	**Hopedale**	**109.53**	**51**	IAMs_20	IAMs_20	20 13 06.1			
	comp=Z,1µm,21.0s								
VOI	**Vohitsoka**	**110.50**	**242**	IAMs_20	IAMs_20	20 15 06.6			
	comp=Z,976nm,20.0s								
WVT	**Waverly**	**110.83**	**55**	IAMs_20	IAMs_20	20 28 34.0			
	comp=Z,790nm,19.0s								
LRAL	**Lakeview Retre**	**111.58**	**59**	IAMs_20	IAMs_20	20 18 59.3			
	comp=Z,1µm,19.0s								
KIRV	**Kirov**	**112.10**	**329⇓**	*i*PKIKP	**PKiKP**	**19 34 28.5**	**+0.1**		
O48B	**Farmland**	**112.70**	**51**	IAMs_20	IAMs_20	20 16 47.1			
	comp=Z,1µm,20.0s								
HDC	**Heredia**	**112.93**	**84**	IAMs_20	IAMs_20	20 11 41.8			
	comp=Z,908nm,19.0s								
P49A	**Miami Univ. Ec**	**113.10**	**52**	IAMs_20	IAMs_20	20 15 50.7			
	comp=Z,1µm,19.0s								
ACSO	**Alum Creek Sta**	**114.36**	**51**	IAMs_20	IAMs_20	20 18 51.9			
	comp=Z,1µm,20.0s								
GOGA	**Godfrey**	**114.52**	**58**	IAMs_20	IAMs_20	20 31 12.2			
	comp=Z,813nm,19.0s								
P52A	**Corning**	**115.08**	**51**	IAMs_20	IAMs_20	20 19 26.0			
	comp=Z,1µm,20.0s								
ARCES	**ARCESS Array B**	**115.84**	**345**	PKP	**PKiKP**	**19 34 34.4**	**-1.0**		
	comp=Z,4.5nm,1.0s,baz=94,slow=2.8,SNR=4.0								
MCWV	**Mont Chateau**	**116.83**	**51**	IAMs_20	IAMs_20	20 20 28.2			
	comp=Z,1µm,18.0s								
MAK	**Makhachkala**	**116.88**	**313**	*e*P	**Pdif**	**19 30 42.7**	**-11**		
MAK				*e*PPP	PPP	19 38 10.4			
MAK				*e*		19 41 23.0			
MAK				*e*PS	**PS**	**19 45 31.5**	**+1.1**		
MAK				*e*SS	SS	19 51 51.2	-2.6		
MAK				pmax	pmax				
	comp=Z,77nm,1.2s								
MAK				MLR	MLR				
	comp=Z,201nm,17.0s								
NHSC	**New Hope**	**117.29**	**58**	IAMs_20	IAMs_20	20 32 54.6			
	comp=Z,1µm,18.0s								
CBN	**Corbin Frederi**	**118.95**	**52**	IAMs_20	IAMs_20	20 20 59.6			
	comp=Z,883nm,20.0s								
CNNC	**Cliffs of the**	**118.96**	**56**	IAMs_20	IAMs_20	20 20 07.4			
	comp=Z,769nm,20.0s								
KIV	**Kislovodsk**	**120.08**	**315**	*i* PKIKP	**PKPdf**	**19 34 42.3**	**-2.0**		
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,203nm,22.0s								
MNK	**Minsk**	**124.57**	**331**	*i* PKP	**PKPdf**	**19 34 53.9**	**+1.5**		
MNK	comp=E,8.0nm,1.0s			*i* PKP	**PKPdf**	**19 34 53.9**	**+1.5**		
	comp=N,14nm,0.8s								
MNK				*i* PKP	**PKPdf**	**19 34 53.9**	**+1.5**		
	comp=Z,7.0nm,0.9s,baz=55								
MNK				*i* PP	**PP**	**19 36 40.2**	**+1.4**		
MNK				*i* PPP	PPP	19 39 18.6			
MNK				*i* SKS	**SKSdf**	**19 42 05.5**	**+1.7**		
MNK				*i* SS	**SS**	**19 53 34.2**	**+2.9**		
MNK				*i* SSS	SSS	19 58 10.4			
MNK				*i* LQ	LQ	20 21 30.0			
MNK				*i* LR	LR	20 26 29.1			
MNK				*i* LRM	MLR	20 30 13.0			
	comp=Z,414nm,18.1s								
MNK				*i* LRM	MLR	20 30 17.5			
	comp=N,219nm,16.1s								
MNK				*i* LRM	MLR	20 30 54.3			
	comp=E,95nm,11.6s								
MNK	**Minsk**	**124.57**	**331**	*i* PKIKP	**PKPdf**	**19 34 53.9**	**+1.5**		
MNK				*i*		19 36 40.2			
MNK				*i* PPP	PPP	19 39 18.6			
MNK				*i*		19 42 05.5			
MNK				*i* SS	SS	19 53 34.1	+2.8		
MNK				*i* SSS	SSS	19 58 10.4			
MNK				pmax	pmax				
	comp=E,8.0nm,1.0s								
MNK				pmax	pmax				
	comp=N,14nm,0.9s								
MNK				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MNK				MLR	MLR				
	comp=Z,414nm,18.0s								
MNK				MLR	MLR				
	comp=N,219nm,16.0s								
MNK				MLR	MLR				
	comp=E,95nm,12.0s								
NACGM	**Naroch**	**124.86**	**332**	*e*PKP	**PKPdf**	**19 34 50.5**	**-2.5**		
	comp=E,1µm,0.9s								
KIBK	**Kibwezi**	**124.86**	**259**	IAMs_20	IAMs_20	20 25 29.3			
	comp=Z,608nm,20.0s								
KMBO	**Kilima Mbogo**	**125.93**	**261**	IAMs_20	IAMs_20	20 25 47.8			
	comp=Z,729nm,20.0s								
AKBB	**Malin Array Si**	**125.94**	**326**	*i* PKIKP	**PKPdf**	**19 34 54.4**	**-0.8**		
NOA	**NORSAR Array B**	**126.19**	**344**	PKP	**PKPdf**	**19 34 54.3**	**-1.2**		
	comp=Z,2.0nm,1.0s,baz=41,slow=1.9,SNR=3.8								
BR131	**Keskin Array S**	**127.78**	**312**	*i* PKIKP	**PKPdf**	**19 35 00.4**	**+1.1**		
BRTR	**Keskin Array B**	**127.78**	**312**	PKP	**PKPdf**	**19 34 58.4**	**-0.9**		
	comp=Z,0.6nm,0.8s,baz=44,slow=4.6,SNR=3.6								
BRTR				PP	**PP**	**19 36 60.0**	**-1.1**		
	comp=Z,1.2nm,1.0s,baz=90,slow=6.2,SNR=3.7								
LSZ	**Lusaka**	**129.26**	**240**	IAMs_20	IAMs_20	20 27 35.5			
	comp=Z,772nm,20.0s								
CLL	**Collm**	**133.39**	**335**	*e*PKIKP	**PKPdf**	**19 35 11.0**	**+1.6**		
CLL				MLR	MLR				
	comp=Z,500nm,21.8s								
SMRT	**St. Maarten**	**133.76**	**75**	IAMs_20	IAMs_20	20 42 47.0			
	comp=Z,584nm,20.0s								
ZVC	**Zvikov**	**134.27**	**333**	*e*PKP	**PKPdf**	**19 35 12.7**	**+1.6**		
RONA	**Rosalia, Austr**	**134.51**	**330**	*ep*PKP	**PKPdf**	**19 35 12.6**	**+0.9**		
	comp=Z,0.8nm,0.3s								
CONA	**Conrad Observa**	**134.57**	**330**	*ep*PKiKP	**PKPdf**	**19 35 14.3**	**+2.5**		
	comp=Z,0.3nm,0.2s								
CKRC	**Cesky Krumlov**	**134.67**	**332**	*e*PKP	**PKPdf**	**19 35 14.2**	**+2.3**		
CKRC	**Cesky Krumlov**	**134.67**	**332**	*e*PKiKP	**PKPdf**	**19 35 14.2**	**+2.3**		
KHC	**Kasperske Hory**	**134.77**	**333**	*e*PKP	**PKPdf**	**19 35 13.0**	**+0.9**		
KHC	**Kasperske Hory**	**134.77**	**333**	*e*PKiKP	**PKPdf**	**19 35 13.0**	**+0.9**		
GERES	**GERESS Array B**	**134.93**	**333**	PKIKP	**PKPdf**	**19 35 12.0**	**-0.5**		
GERES	**GERESS Array B**	**134.93**	**333**	PKP	**PKPdf**	**19 35 11.9**	**-0.5**		
	comp=Z,2.1nm,1.0s,baz=336,slow=9.2,SNR=4.0								
TSUM	**Tsumeb**	**135.53**	**228**	IAMs_20	IAMs_20	20 28 43.6			
	comp=Z,1µm,21.0s								
SOKA	**Soboth**	**135.84**	**330**	*ep*PKP	**PKPdf**	**19 35 16.1**	**+1.8**		
	comp=Z,0.8nm,0.4s								
ABTA	**Abfaltersbach**	**137.01**	**331**	PKP	**PKPdf**	**19 35 13.3**	**-3.1**		
	comp=Z,1.3nm,0.7s								
MOTA	**Moosalm**	**137.21**	**333**	pPKP	**PKPdf**	**19 35 17.4**	**+0.6**		
	comp=Z,1.7nm,0.6s								
FETA	**Feichten**	**137.62**	**333**	*ep*PKiKP	**PKPdf**	**19 35 20.2**	**+2.6**		
	comp=Z,1.8nm,0.7s								
KEST	**Kesra**	**146.41**	**321**		**PKPdf**	**19 35 29.0**	**-4.5**		
KEST	**Kesra**	**146.41**	**321**	PKPbc	**PKPdf**	**19 35 33.5**	**0.0**		
	comp=Z,27nm,1.0s,baz=296,slow=5.4,SNR=9.0								
PBRG	**Braganca**	**148.24**	**347**	*e*PKP	**PKiKP**	**19 35 43.4**	**+2.0**		
PGAV	**Gavieira, Arco**	**148.39**	**349**	*e*PKP	**PKPbc**	**19 35 40.6**	**+0.5**		
POLO	**Lamas de Olo**	**148.87**	**348**	*e*PKP	**PKPbc**	**19 35 42.8**	**+1.4**		
MVO	**Moncorvo**	**148.91**	**347**	*e*PKP	**PKPbc**	**19 35 41.3**	**+3.8**		
PVRL	**Vila Real**	**148.95**	**348**	*e*PKP	**PKPbc**	**19 35 42.5**	**+1.0**		
ESDC	**Sonseca Array**	**149.51**	**342**	PKPdf	**PKPdf**	**19 35 42.0**	**+3.6**		
ESDC	**Sonseca Array**	**149.51**	**342**	PKPbc	**PKPdf**	**19 35 41.9**	**+3.4**		
	comp=Z,3.7nm,1.0s,baz=4.0,slow=1.9,SNR=14								
PVIS	**Viseu**	**149.53**	**348**	*e*PKP	**PKPbc**	**19 35 43.8**	**+0.8**		
PAB	**San Pablo**	**149.74**	**342**		**PKPdf**	**19 35 35.9**	**-3.0**		
PAB	**San Pablo**	**149.74**	**342**	PKIKP	**PKPdf**	**19 35 35.9**	**-3.0**		
MTE	**Manteigas**	**149.76**	**347**	*e*PKP	**PKPdf**	**19 35 42.5**	**+3.6**		
MTE	**Manteigas**	**149.76**	**347**		PKPdf	19 35 31.8	-7.1		
COI	**Coimbra**	**150.12**	**349**	*e*PKP	**PKPdf**	**19 35 39.9**	**+0.6**		
PCBR	**Castelo Branco**	**150.28**	**347**	*e*PKP	**PKPdf**	**19 35 43.8**	**+4.2**		
PCAS	**Casmilo, Conde**	**150.28**	**349**	*e*PKP	**PKPbc**	**19 35 46.3**	**+1.5**		
PMRV	**

*IDC **31** 19:34:20.8±3.5, 15°.40N×94°.73W, h0km, mb3.5/2, mbtmp3.3/3, ML3.4/1, MS3.7/1, Error ellipse: s-maj=65.6km s-min=45.0km az=97.0*
*MEX **31** 19:34:23.8±0.9, 15°.22N×94°.57W, h18km±53km, MD4.2*
ISC 31 19:34:22.1±1.9, **15°.19N**±0°.05×**94°.58W**±0°.03, **h25**km±16km, **n34**, σ2§**35**/59, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.23**	**31**	*eP*	**Pn**	**19 34 41.9**	**-1.9**
CARR				*i* S	**Sn**	**19 34 56.5**	**-3.1**
NILT	**Santiago Nilte**	**1.37**	**359**	*eP*	**Pn**	**19 34 43.9**	**-1.7**
NILT				*i* S	**Sn**	**19 34 58.0**	**-5.0**
PCIG		**1.41**	**69**	*i* P	**Pn**	**19 34 45.2**	**-1.0**
PCIG				*eS*	**Sn**	**19 35 02.1**	**-1.9**
HUIG	**Huatulco**	**1.58**	**292**	*i* P	**Pn**	**19 34 48.1**	**-0.4**
HUIG				*eS*	**Sn**	**19 35 05.5**	**-2.7**
CMIG	**Matias Romero**	**1.91**	**351**	Pn	**Pn**	**19 34 52.4**	**-0.7**
	78nm,0.3s,baz=177,slow=14,SNR=679						
CMIG				Sn	**Sn**	**19 35 13.8**	**-2.7**
	297nm,0.3s,baz=60,slow=19,SNR=74						
CMIG				LR	LR	19 35 34.9	
	comp=Z,152nm,20.8s,baz=178,slow=44						
CMIG	**Matias Romero**	**1.91**	**351**	*i* P	**Pn**	**19 34 52.5**	**-0.7**
CMIG				*eS*	**Sn**	**19 35 13.7**	**-2.7**
TGIG		**2.11**	**41**	*eP*	**Pn**	**19 34 56.4**	**+0.5**
TGIG				*eS*	**Sn**	**19 35 22.5**	**+1.0**
TGBT	**Tuxtla Gutierr**	**2.13**	**42**	*i* P	**Pn**	**19 34 57.0**	**+0.9**
TGBT				*i* S	**Sn**	**19 35 23.3**	**+1.4**
UXUV	**UXUV**	**2.16**	**11**	*eP*	**Pn**	**19 34 56.8**	**+0.3**
UXUV				*eS*	**Sn**	**19 35 20.7**	**-1.8**
PATR	**El Naranjo**	**2.27**	**92**	*eP*	**Pn**	**19 34 57.7**	**-0.5**
PATR				*i* S	**Sn**	**19 35 23.4**	**-2.1**
PAVE	**Pavencul**	**2.32**	**90**	*eP*	**Pn**	**19 34 59.0**	**0.0**
PAVE				*eS*	**Sn**	**19 35 24.4**	**-2.5**
CHUJ	**Union Juarez**	**2.39**	**92**	*eP*	**Pn**	**19 34 59.7**	**-0.2**
CHUJ				*i* S	**Sn**	**19 35 26.8**	**-1.8**
CCIG	**Comitan**	**2.59**	**65**	*eP*	**Pn**	**19 35 05.1**	**+2.5**
CCIG				*eS*	**Sn**	**19 35 30.3**	**-3.2**
PEIG	**Puerto Escondi**	**2.60**	**288**	*eP*	**Pn**	**19 35 03.0**	**+0.4**
PEIG				*eS*	**Sn**	**19 35 29.6**	**-3.8**
NEUV	**Arroyo Zacate**	**2.77**	**335**	*eP*	**Pn**	**19 35 04.9**	**0.0**
NEUV				*i* S	**Sn**	**19 35 39.5**	**+1.9**
VHO	**Vista Hermosa**	**2.79**	**312**	*eP*	**Pn**	**19 35 07.2**	**+1.8**
RTAL	**Retalhuleu**	**2.87**	**103**	*eP*	**Pn**	**19 35 06.2**	**-0.1**
RTAL				*eS*	**Sn**	**19 35 39.6**	**-0.5**
HUEH	**Huehuetenango**	**2.98**	**87**	*eP*	**Pn**	**19 35 07.9**	**0.0**
HUEH				*eS*	**Sn**	**19 35 46.1**	**+3.2**
YOIG	**Yosondua**	**3.30**	**301**	*eP*	**Pn**	**19 35 15.5**	**+3.0**
YOIG				*eS*	**Sn**	**19 35 50.0**	**-1.0**
PMUV	**Sontecomapan**	**3.38**	**351**	*eP*	**Pn**	**19 35 14.5**	**+1.1**
PMUV				*eS*	**Sn**	**19 35 50.4**	**-2.3**
PNIG	**Pinotepa**	**3.62**	**290**	*eP*	**Pn**	**19 35 17.7**	**+1.1**
PNIG				*eS*	**Sn**	**19 35 53.9**	**-4.7**
TXIG	**Tlaxiaco**	**3.68**	**304**	*eP*	**Pn**	**19 35 20.6**	**+2.9**
TXIG				*eS*	**Sn**	**19 35 59.2**	**-1.3**
TOIG	**Toxpalan**	**3.74**	**321**	*eP*	**Pn**	**19 35 22.0**	**+3.5**
TOIG				*eS*	**Sn**	**19 36 04.5**	**+2.7**
HLIG	**Huajuapan de L**	**4.05**	**311**	*eP*	**Pb**	**19 35 32.8**	**-0.2**
HLIG				*eS*	**Sn**	**19 36 08.4**	**-1.2**
TPIG	**Tehuac#an**	**4.17**	**321**	*eS*	**Sb**	**19 36 24.5**	**-0.5**
FTIG	**Fresnillo de T**	**4.35**	**309**	*eP*	**Pn**	**19 35 30.1**	**+3.3**
FTIG				*eS*	**Sn**	**19 36 15.9**	**-0.8**
MGIG	**Malinaltepec**	**4.39**	**298**	*eP*	**Pn**	**19 35 28.5**	**+1.1**
MGIG				*i* S	Sn	19 36 10.7	-7.2
CRIG	**Cruz Grande**	**4.64**	**290**	*eP*	**Pn**	**19 35 29.3**	**-1.3**
CRIG				*eS*	**Sn**	**19 36 17.4**	**-6.3**
JAUV	**Jalcomulco**	**4.66**	**333**	*eP*	**Pn**	**19 35 30.3**	**-0.7**
JAUV				*eS*	**Sn**	**19 36 21.4**	**-3.0**
PPM	**Popocatepetl**	**5.46**	**315**	*eP*	Pn	19 35 47.8	+5.4
PPM				*eS*	**Sn**	**19 36 50.2**	**+5.4**
TXAR	**Lajitas Array**	**16.38**	**331**	Pn	**Pn**	**19 38 11.8**	**+1.2**
	baz=145,slow=13,SNR=5.3						
	0.2nm,0.6s						
ROSC	**El Rosal**	**22.42**	**115**	LR	LR	19 48 09.6	
	comp=Z,185nm,19.5s,baz=89,slow=37						
YKA	**Yellowknife Ar**	**49.32**	**348**	P	**P**	**19 43 08.9**	**0.0**
	0.4nm,0.7s,baz=150,slow=7.2,SNR=6.1						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**60.77**	**337**	P	**P**	**19 44 32.7**	**+1.1**
	0.6nm,0.9s,baz=109,slow=10,SNR=5.3						
	0.6nm,0.9s						

*CRAAG **31** 19:46:26.9, 36°.33N×2°.07E, Ml3.2, Algerie 05km NE Arib*
*MDD **31** 19:46:27.0±1.1, 36°.40N×2°.17E, h0km, Mb3.8/9, M_mb3.1/9, Error ellipse: s-maj=9.6km s-min=4.7km az=121.0*
ISC 31 19:46:27.2±1.2, **36°.37N**±0°.05×**2°.07E**±0°.05, **h18**km±9km, **n22**, σ1§**74**/36, **8C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARB	**Arib**	**0.09**	**218**	P	**Pg**	**19 46 30.0**	**-0.7**
ABKD	**Sidi Amar**	**0.25**	**49**	P	**Pg**	**19 46 33.9**	**+0.6**
EDDR	**Deurdeur**	**0.38**	**163**	P	**Pb**	**19 46 35.8**	**+0.2**
EBNH	**Beni Haoua**	**0.44**	**290**	P	**Pg**	**19 46 36.5**	**+0.3**
EBNR	**Beni Rached**	**0.45**	**260**	P	**Pg**	**19 46 36.7**	**+0.4**
EOFD	**Oued Fodda**	**0.49**	**229**	P	**Pg**	**19 46 37.1**	**-0.1**
EIBI	**Ibiza**	**2.71**	**348**	Pn	**Pn**	**19 47 11.3**	**+1.3**
EIBI				Sn	**Sn**	**19 47 40.9**	**-1.4**
EIBI	**Ibiza**	**2.71**	**348**	Pn	**Pn**	**19 47 11.3**	**+1.3**
EIBI				⇑*i*Vmb_V		19 47 15.5	
	249nm,SNR=1.5						
EIBI				Sn	**Sn**	**19 47 41.0**	**-1.4**
CART	**Cartagena**	**2.75**	**297**	Sn	**Sn**	**19 47 39.2**	**-3.9**
CART				Pn	**Pn**	**19 47 11.2**	**+0.9**
EMUR	**La Murta**	**3.03**	**300**	Pn	**Pn**	**19 47 13.3**	**-1.0**
EMUR				Sn	**Sn**	**19 47 47.1**	**-3.1**
EMUR	**La Murta**	**3.03**	**300**	Pn	**Pn**	**19 47 14.4**	**+0.1**
EMUR				⇑*i*Vmb_V		19 47 19.6	
	90nm,SNR=1.1						
EMUR				Sn	**Sn**	**19 47 47.9**	**-2.3**
ETOS	**Mallorca**	**3.44**	**10**	Pn	**Pn**	**19 47 20.7**	**+0.7**
ETOS				Sn	**Sn**	**19 47 59.1**	**-1.3**
ETOS	**Mallorca**	**3.44**	**10**	Pn	**Pn**	**19 47 20.7**	**+0.7**
ETOS				⇑*i*Vmb_V		19 47 21.7	
	96nm,SNR=1.4						
ETOS				Sn	**Sn**	**19 47 58.8**	**-1.6**
ETOB	**Tobarra**	**3.67**	**309**	Pn	**Pn**	**19 47 24.5**	**+1.4**
ETOB				Sn	**Sn**	**19 48 03.5**	**-2.4**
ETOB	**Tobarra**	**3.67**	**309**	Pn	**Pn**	**19 47 24.7**	**+1.6**
ETOB				⇑*i*Vmb_V		19 47 29.4	
	113nm,SNR=1.2						
ETOB				Sn	**Sn**	**19 48 07.9**	**+2.0**
EVIV	**Cofrentes, Val**	**3.84**	**320**	Pn	**Pn**	**19 47 26.4**	**+0.9**
EVIV				⇑*i*Vmb_V		19 47 28.2	
	146nm,SNR=1.7						
EVIV				Sn	**Sn**	**19 48 10.8**	**+0.5**
ECHE	**Chera**	**4.01**	**324**	Pn	**Pn**	**19 47 29.7**	**+1.8**
ECHE				Sn	**Sn**	**19 48 11.0**	**-3.5**
EBER	**Berja**	**4.03**	**279**	Pn	**Pn**	**19 47 29.0**	**+0.8**
EBER	**Berja**	**4.03**	**279**	Pn	**Pn**	**19 47 28.2**	**0.0**
EBER				⇑*i*Vmb_V		19 47 30.7	
	155nm,SNR=0.8						
EBER				Sn	**Sn**	**19 48 14.9**	**-0.1**
EQES	**Quesada**	**4.35**	**291**	Pn	**Pn**	**19 47 35.0**	**+2.3**
EQES				⇑*i*Vmb_V		19 47 41.2	
	125nm,SNR=1.4						
EQES				Sn	**Sn**	**19 48 24.5**	**+1.5**
EMOS	**Mosqueruela**	**4.46**	**334**	Pn	**Pn**	**19 47 35.8**	**+1.6**
EMOS				⇑*i*Vmb_V		19 47 36.5	
	98nm,SNR=1.4						
EMOS				Sn	**Sn**	**19 48 22.6**	**-3.1**
ELGU	**Los Guajares,**	**4.61**	**278**	Pn	**Pn**	**19 47 36.9**	**+0.8**

*FUNV **31** 19:47:19.9, 10°.27N×62°.10W, h5km, MW3.1*
*TRN **31** 19:47:21.2, 10°.27N×62°.16W, h3km, MD3.1*
ISC 31 19:47:20.4±1.1, **10°.29N**±0°.08×**62°.22W**±0°.04, **h10**km, **n14**, σ1§**60**/20, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.76**	**88**	*eP*	**Pb**	**19 47 35.8**	**+0.2**
TRN	**Trinidad (W)**	**0.88**	**66**	*eP*	**Pg**	**19 47 36.3**	**-1.0**
CRUV	**Carupano**	**1.07**	**291**	*eP*	**Pb**	**19 47 40.4**	**-0.6**
CRUV				*eS*	**Sb**	**19 47 55.7**	**+0.5**
GRFF	**Grenada Fort F**	**1.81**	**15**	*eS*	**Sb**	**19 48 17.0**	**+0.5**
GRGR	**Grenville**	**1.91**	**17**	*eP*	**Pb**	**19 47 55.6**	**+0.1**
GRGR				*eS*	**Sb**	**19 48 19.8**	**+0.4**
CUMV	**Cumana_UDO**	**1.95**	**274**	*eP*	**Pn**	**19 47 54.4**	**+0.9**
CUMV				*eS*	**Sn**	**19 48 21.0**	**+2.9**
GCMP	**Grenada, Carri**	**2.32**	**20**	*eS*	**Sb**	**19 48 31.1**	**+0.1**
PCRV	**Puerto La Cruz**	**2.38**	**268**	*eP*	**Pn**	**19 48 00.0**	**+0.4**
PCRV				*eS*	**Sn**	**19 48 29.8**	**+0.8**
TACV	**Tcata**	**4.74**	**269**	*eP*	**Pn**	**19 48 32.1**	**+0.1**
TACV				*eS*	**Sn**	**19 49 25.6**	**-1.4**
CACV	**CAICARA DEL OR**	**5.05**	**238**	*eP*	Pn	19 48 30.6	-5.8
CACV				*eS*	Sn	19 49 21.7	-13
BENV	**Beln**	**5.31**	**267**	*eP*	**Pn**	**19 48 39.9**	**0.0**
BENV				*eS*	**Sn**	**19 49 37.6**	**-3.6**
BAUV	**El Baul**	**5.90**	**257**	*eP*	**Pn**	**19 48 47.4**	**-0.5**
BAUV				*eS*	**Sn**	**19 49 53.5**	**-2.1**
BAUV	**El Baul**	**5.90**	**257**	*eP*	**Pn**	**19 48 50.6**	**+2.7**
BAUV	**El Baul**	**5.90**	**257**	*eS*	**Sn**	**19 49 57.7**	**+2.2**

*IDC **31** 19:53:51.1±6.1, 35°.24N×26°.56E, h0km, mb3.4/3, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=101.7km s-min=60.8km az=56.0*
*AFAD **31** 19:53:55.1±0.0, 35°.48N×26°.84E, h3km±2km, MW3.6*
*NIC **31** 19:53:59.9, 35°.32N×27°.23E, h18km±3km, Ml3.4/10*
*ISK **31** 19:54:00.3, 35°.71N×26°.95E, h8km, ML3.2/33*
*ATH **31** 19:54:01.8, 35°.50N×27°.07E, h22km±1km, ML3.3/8, Error ellipse: s-maj=2.2km s-min=0.9km az=152.0*
*THE **31** 19:54:02.0, 35°.49N×27°.08E, h20km, ML3.2/11, Error ellipse: s-maj=1.5km s-min=0.6km az=141.0*
ISC 31 19:53:59.9±0.8, **35°.46N**±0°.03×**27°.11E**±0°.02, **h29**km±3km, **n130**, σ1§**53**/177, **mb3.5**/3, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.09**	**26**	Pg	**Pn**	**19 54 05.8**	**+0.7**
KARP				Sg	**Sb**	**19 54 09.6**	**+1.0**
KARP	**Karpathos**	**0.09**	**26**	P	**Pn**	**19 54 05.8**	**+0.7**
KARP				S	**Sn**	**19 54 08.9**	**+0.3**
	17µm,0.2s						
KARP	**Karpathos**	**0.09**	**26**	P	**Pn**	**19 54 05.8**	**+0.7**
KARP				S	**Sb**	**19 54 09.6**	**+1.0**
KARP				AML	AML	19 54 09.8	
	34nm,0.2s						
KARP				AML	AML	19 54 09.9	
	31nm,0.2s						
KARP	**Karpathos**	**0.09**	**26**	P	**Pn**	**19 54 05.8**	**+0.7**
KARP	**Karpathos**	**0.09**	**26**	P	**Pn**	**19 54 05.8**	**+0.7**
KARP				S	**Sn**	**19 54 08.9**	**+0.3**
KARP				AML	AML	19 54 10.1	
	comp=E,34054µm,0.2s						
KARP				AML	AML	19 54 10.3	
	comp=N,31725µm,0.2s						
ZKR	**Zakros**	**0.81**	**245**	Pg	**Pb**	**19 54 15.7**	**+0.3**
ZKR				Sg	**Sn**	**19 54 28.9**	**+2.4**
ZKR	**Zakros**	**0.81**	**245**	P	**Pb**	**19 54 15.9**	**+0.5**
ZKR				S	**Sn**	**19 54 27.4**	**+1.0**
	comp=N,3µm,0.6s						
ZKR	**Zakros**	**0.81**	**245**	P	**Pb**	**19 54 15.7**	**+0.3**
ZKR				S	**Sn**	**19 54 29.0**	**+2.6**
ZKR				AML	AML	19 54 33.2	
	comp=N,6.8nm,0.7s						
ZKR				AML	AML	19 54 34.9	
	comp=N,4.8nm,0.6s						
ZKR	**Zakros**	**0.81**	**245**	P	**Pb**	**19 54 15.9**	**+0.5**
ZKR				S	**Sn**	**19 54 27.4**	**+1.0**
ZKR				AML	AML	19 54 34.4	
	comp=E,7026µm,0.7s						
ZKR				AML	AML	19 54 36.0	
	comp=N,5091µm,0.6s						
ARG	**Arkhangelos**	**1.12**	**47**	Pg	**Pb**	**19 54 21.3**	**+0.7**
ARG				Sg	**Sb**	**19 54 36.6**	**+1.9**
ARG	**Arkhangelos**	**1.12**	**47**	P	**Pb**	**19 54 21.7**	**+1.1**
ARG				S	**Sb**	**19 54 35.5**	**+0.8**
	comp=N,2µm,0.4s						
ARG	**Arkhangelos**	**1.12**	**47**	P	**Pb**	**19 54 21.6**	**+1.0**
ARG				S	**Sb**	**19 54 35.9**	**+1.2**
ARG				AML	AML	19 54 40.7	
	comp=N,3.1nm,0.3s						
ARG				AML	AML	19 54 41.7	
	comp=N,2.9nm,0.5s						
ARG	**Arkhangelos**	**1.12**	**47**	P	**Pb**	**19 54 21.7**	**+1.1**
ARG				S	**Sb**	**19 54 35.5**	**+0.8**
ARG				AML	AML	19 54 40.9	
	comp=E,3161µm,0.3s						
ARG				AML	AML	19 54 42.0	
	comp=N,2881µm,0.5s						
NISR	**Nisiros**	**1.15**	**1**	P	**Pn**	**19 54 20.6**	**+0.6**
NISR				S	**Sn**	**19 54 35.8**	**+1.0**
NISR	**Nisiros**	**1.15**	**1**	P	**Pn**	**19 54 20.7**	**+0.6**
NISR				S	**Sn**	**19 54 35.8**	**+1.0**
FRMA	**Ierapetra Chan**	**1.21**	**249**	P	**Pn**	**19 54 21.5**	**+0.6**
FRMA				S	**Sn**	**19 54 35.4**	**-1.0**
	comp=N,705nm,0.5s						
FRMA	**Ierapetra Chan**	**1.21**	**249**	P	**Pn**	**19 54 21.5**	**+0.6**
FRMA				S	**Sn**	**19 54 35.4**	**-1.0**
FRMA				AML	AML	19 54 42.3	
	comp=E,4774µm,0.4s						
FRMA				AML	AML	19 54 45.0	
	comp=N,3537µm,0.5s						
YAZI	**Mula-Dat§a-**	**1.25**	**13**	P	**Pn**	**19 54 21.8**	**+0.4**
YAZI				S	**Sb**	**19 54 41.1**	**+2.6**
YAZI				*i* AML	AML	19 54 44.0	
	comp=N,123nm,0.5s						
YAZI				*i* AML	AML	19 54 44.0	
	comp=N,166nm,0.7s						
YAZI				*i* AML	AML	19 54 44.0	
	comp=N,105nm,0.5s						
DAT	**Datca**	**1.32**	**16**	Pn	**Pn**	**19 54 22.7**	**+0.2**
DAT	**Datca**	**1.32**	**16**	P	**Pn**	**19 54 23.4**	**+0.9**
DAT				S	**Sn**	**19 54 40.3**	**+1.1**
DAT				*i* AML	AML	19 54 44.0	
	comp=N,4µm,0.9s						
DAT				*i* AML	AML	19 54 47.0	
	comp=N,202nm,0.5s						
DAT				*i* AML	AML	19 54 48.0	
	comp=N,269nm,0.5s						
DATC	**Datca-Mugla**	**1.37**	**19**	Pn	**Pn**	**19 54 23.6**	**+0.5**
TURN	**Turunc**	**1.60**	**35**	Pn	**Pb**	**19 54 28.4**	**-0.4**
TURN	**Turunc**	**1.60**	**35**	P	**Pn**	**19 54 27.5**	**+1.2**
TURN				S	**Sn**	**19 54 46.8**	**+0.9**
TURN				*i* AML	AML	19 54 59.0	
	comp=N,165nm,0.5s						
TURN				*i* AML	AML	19 55 00.0	
	comp=N,174nm,0.5s						
TURN				*i* AML	AML	19 55 03.0	
	comp=N,168nm,0.4s						
BODT	**Bodrum**	**1.60**	**6**	Pn	**Pn**	**19 54 26.8**	**+0.5**
RFTAA	**Mazikoy-Bodrum**	**1.62**	**18**	Pn	**Pn**	**19 54 27.3**	**+0.8**
BDRM	**Kayabasi**	**1.62**	**9**	P	**Pn**	**19 54 27.0**	**+0.5**
BDRM				S	**Sb**	**19 54 49.2**	**-0.1**
BDRM				*i* AML	AML	19 54 56.0	
	comp=N,83nm,0.6s						
BDRM				*i* AML	AML	19 55 07.0	
	comp=N,47nm,0.7s						
BDRM				*i* AML	AML	19 55 21.0	
	comp=N,0.3nm,0.6s						
THR8	**Santorini-Mono**	**1.63**	**306**	P	**Pn**	**19 54 28.0**	**+1.4**
THR8	**Santorini-Mono**	**1.63**	**306**	P	**Pn**	**19 54 28.0**	**+1.4**
HRKL	**Herakleio**	**1.65**	**265**	Pn	**Pb**	**19 54 28.9**	**-0.7**
HRKL	**Herakleio**	**1.65**	**265**	P	**Pb**	**19 54 28.7**	**-0.9**
HRKL				S	**Sn**	**19 54 48.3**	**+1.2**
	comp=N,2µm,0.8s						
HRKL	**Herakleio**	**1.65**	**265**	P	**Pb**	**19 54 28.7**	**-0.9**
HRKL				S	**Sn**	**19 54 48.3**	**+1.2**
HRKL				AML	AML	19 55 06.0	
	comp=E,6808µm,0.8s						
HRKL				AML	AML	19 55 08.6	
	comp=N,7838µm,0.9s						
THR6	**Thira Island,**	**1.65**	**303**	P	**Pn**	**19 54 28.5**	**+1.5**
THR6	**Thira Island,**	**1.65**	**303**	P	**Pn**	**19 54 28.5**	**+1.5**
YKAV	**Yalikavak-Bodr**	**1.67**	**5**	Pn	**Pn**	**19 54 27.4**	**+0.3**
THR3	**Thira Island,**	**1.68**	**305**	P	**Pn**	**19 54 28.8**	**+1.5**
THR3	**Thira Island,**	**1.68**	**305**	P	**Pn**	**19 54 28.8**	**+1.5**
SNT5	**Nea Kammeni, S**	**1.68**	**305**	P	**Pn**	**19 54 28.5**	**+1.1**
THR9	**Santorini-Faro**	**1.68**	**303**	P	**Pn**	**19 54 28.8**	**+1.4**
THR9	**Santorini-Faro**	**1.68**	**303**	P	**Pn**	**19 54 28.8**	**+1.4**
CMBO	**Columbo, Santo**	**1.71**	**307**	P	**Pn**	**19 54 29.2**	**+1.4**
CMBO	**Columbo, Santo**	**1.71**	**307**	P	**Pn**	**19 54 29.2**	**+1.4**
THR5	**Thira Island,**	**1.72**	**304**	P	**Pn**	**19 54 29.0**	**+1.1**
THR5	**Thira Island,**	**1.72**	**304**	P	**Pn**	**19 54 29.0**	**+1.1**
IDI	**Anoyia**	**1.82**	**265**	Pn	**Pb**	**19 54 31.6**	**-1.0**
IDI	**Anoyia**	**1.82**	**265**	P	**Pn**	**19 54 30.6**	**+1.2**
IDI				S	**Sn**	**19 54 52.4**	**+0.8**
	comp=N,322nm,0.4s						
IDI	**Anoyia**	**1.82**	**265**	P	**Pn**	**19 54 30.6**	**+1.2**
IDI				S	**Sn**	**19 54 52.4**	**+0.8**
IDI				AML	AML	19 55 02.3	
	comp=E,870µm,0.4s						
IDI				AML	AML	19 55 05.4	
	comp=N,686µm,0.5s						
DALY	**Dalyan (Mula)**	**1.84**	**42**	Pn	**Pb**	**19 54 32.2**	**-0.7**
MLSB	**Milas**	**1.91**	**16**	Pn	**Pn**	**19 54 31.1**	**+0.6**
YER	**Yerkesik**	**1.92**	**29**	Pn	**Pn**	**19 54 32.2**	**+1.5**
IZZE	**Mula-Seydike**	**1.97**	**60**	P	**Pb**	**19 54 33.5**	**-1.6**
IZZE				S	**Sn**	**19 54 56.2**	**+1.1**
IZZE				*i* AML	AML	19 55 06.0	
	comp=N,224nm,0.7s						
IZZE				*i* AML	AML	19 55 11.0	
	comp=N,101nm,0.3s						
IZZE				*i* AML	AML	19 55 17.0	
	comp=N,174nm,0.4s						
FETY	**Fethiye**	**1.98**	**53**	Pn	**Pb**	**19 54 34.7**	**-0.6**
FETY	**Fethiye**	**1.98**	**53**	P	**Pb**	**19 54 35.8**	**+0.5**
FETY				S	**Sb**	**19 55 05.0**	**+5.4**
DDIM	**Aydin, Didim**	**1.99**	**3**	P	**Pn**	**19 54 31.4**	**-0.3**
DDIM				S	**Sb**	**19 55 01.3**	**+1.4**
DDIM				*i* AML	AML	19 55 17.0	
	comp=N,144nm,0.9s						
DDIM				*i* AML	AML	19 55 31.0	
	comp=N,84nm,0.8s						
DDIM				*i* AML	AML	19 55 33.0	
	comp=N,78nm,1.2s						
MULA	**Mugla, Merkez-**	**2.04**	**28**	P	**Pb**	**19 54 35.7**	**-0.7**
MULA				S	**Sb**	**19 55 00.4**	**-0.9**
MULA				*i* AML	AML	19 55 12.0	
	comp=N,73nm,0.5s						
MULA				*i* AML	AML	19 55 13.0	
	comp=N,99nm,0.6s						
MULA				*i* AML	AML	19 55 16.0	
	comp=N,71nm,0.7s						
APE	**Apeiranthos**	**2.05**	**322**	Pn	**Pn**	**19 54 32.4**	**-0.1**
APE	**Apeiranthos**	**2.05**	**322**	P	**Pn**	**19 54 33.7**	**+1.2**
APE				S	**Sn**	**19 54 57.2**	**+0.1**
	comp=N,422nm,0.5s						
APE	**Apeiranthos**	**2.05**	**322**	P	**Pn**	**19 54 33.7**	**+1.2**
APE				S	**Sn**	**19 54 57.0**	**-0.1**
APE				AML	AML	19 54 58.8	
	comp=N,882µm,0.4s						
APE				AML	AML	19 54 59.0	
	comp=E,800µm,0.6s						
KSL	**Kastellorizon**	**2.12**	**70**	P	**Pb**	**19 54 35.5**	**-2.2**
KSL				S	**Sn**	**19 55 00.7**	**+1.9**
	comp=E,140nm,1.1s						
KSL	**Kastellorizon**	**2.12**	**70**	P	**Pn**	**19 54 35.2**	**+1.8**
KSL				S	**Sn**	**19 55 00.1**	**+1.2**
KSL				AML	AML	19 55 18.5	
	comp=E,0.2nm,1.0s						
KSL				AML	AML	19 55 23.1	
	comp=E,0.2nm,0.9s						
KSL	**Kastellorizon**	**2.12**	**70**	P	**Pb**	**19 54 35.5**	**-2.2**
KSL				S	**Sn**	**19 55 00.7**	**+1.9**
KSL				AML	AML	19 55 06.2	
	comp=E,353µm,0.8s						
KSL				AML	AML	19 55 12.8	
	comp=N,162µm,0.7s						
AKAS	**Kas**	**2.17**	**68**	Pn	**Pb**	**19 54 37.6**	**-0.9**
GCAM	**G?zelcaml?**	**2.24**	**2**	Pn	**Pn**	**19 54 35.3**	**+0.3**
GCAM	**G?zelcaml?**	**2.24**	**2**	P	**Pn**	**19 54 35.5**	**+0.5**
GCAM				S	**Sb**	**19 55 07.5**	**+0.7**
GCAM				*i* AML	AML	19 55 08.0	
	comp=N,49nm,0.7s						
GCAM				*i* AML	AML	19 55 09.0	
	comp=N,28nm,1.1s						
GCAM				*i* AML	AML	19 55 30.0	
	comp=N,56nm,0.8s						
SMG	**Samos**	**2.25**	**354**	P	**Pn**	**19 54 35.9**	**+0.6**
SMG				S	**Sn**	**19 55 03.6**	**+1.5**
	comp=N,175nm,0.6s						
CAME	**Cameli-Denizli**	**2.31**	**50**	Pn	**Pb**	**19 54 39.6**	**-1.3**
DNZT	**Denizli-Tavas-**	**2.38**	**40**	P	**Pb**	**19 54 40.3**	**-1.8**
DNZT				S	**Sb**	**19 55 14.4**	**+3.2**
DNZT				*i* AML	AML	19 55 18.0	
	comp=N,0.9nm,0.7s						
DNZT				*i* AML	AML	19 55 19.0	
	comp=N,0.7nm,0.5s						
DNZT				*i* AML	AML	19 55 29.0	
	comp=N,0.7nm,0.6s						
KNIK	**Mula-Seydike**	**2.42**	**55**	P	**Pn**	**19 54 39.4**	**+1.7**
KNIK				*i* AML	AML	19 55 23.0	
	comp=N,50nm,0.9s						
KNIK				*i* AML	AML	19 55 26.0	
	comp=N,44nm,0.6s						
KNIK				*i* AML	AML	19 55 35.0	
	comp=N,31nm,0.5s						
CAEL	**Denizli, Camel**	**2.44**	**46**	P	**Pb**	**19 54 40.9**	**-2.2**
CAEL				S	**Sb**	**19 55 20.4**	**+7.6**
CAEL				*i* AML	AML	19 55 29.0	
	comp=N,261nm,1.0s						
CAEL				*i* AML	AML	19 55 30.0	
	comp=N,236nm,0.6s						
CAEL				*i* AML	AML	19 55 47.0	
	comp=N,226nm,0.7s						
TAVA	**DENIZLI_Tavas**	**2.47**	**35**	P	**Pb**	**19 54 41.4**	**-2

	comp=N,26nm,0.9s								
KIRA					*i* AML	AML	19 56 01.0		
	comp=N,18nm,0.9s								
URLA	**Izmir**	**2.92**	**352**	Pn		**Pn**	**19 54 45.1**	**+0.6**	
KORT	**Korkueli**	**3.04**	**59**	Pn		**Pb**	**19 54 50.1**	**-3.2**	
ANTB	**Antalya**	**3.21**	**62**	Pn		**Pb**	**19 54 52.8**	**-3.3**	
KULA	**Kula-Manisa**	**3.29**	**22**	Pn		**Pn**	**19 54 51.4**	**+1.8**	
BASM	**Basmaki-Afyon**	**3.40**	**43**	Pn		**Pn**	**19 54 53.9**	**+2.8**	
RFT7	**Candarli**	**3.49**	**358**	Pn		**Pn**	**19 54 53.3**	**+1.0**	
DKL	**Dikili**	**3.61**	**357**	Pn		**Pn**	**19 54 54.5**	**+0.7**	
VLI	**Velia**	**3.61**	**292**	P		**Pn**	**19 54 55.3**	**+1.5**	
VLI				S		**Sn**	**19 55 35.6**	**+0.2**	
	comp=N,128nm,0.6s								
SIGR	**SIGRI**	**3.87**	**345**	Pn		**Pn**	**19 54 58.3**	**+0.8**	
SIMA	**Simav-Kutahya**	**3.91**	**22**	Pn		**Pn**	**19 55 00.2**	**+2.1**	
SHUT	**Suhut-Afyon**	**4.13**	**41**	Pn		**Pn**	**19 55 04.3**	**+3.1**	
AKMS	**Akamas**	**4.30**	**94**	P		**Pn**	**19 55 03.3**	**0.0**	
AKMS				AML	AML		19 55 52.5		
	comp=N,0.3nm,0.4s								
AKMS				AML	AML		19 55 57.5		
	comp=N,0.1nm,0.6s								
TVSB	**Tavsanli**	**4.40**	**24**	Pn		**Pn**	**19 55 06.9**	**+2.1**	
ALFC	**Alefka**	**4.50**	**92**	P		**Pn**	**19 55 06.1**	**0.0**	
ALFC				AML	AML		19 56 02.3		
	comp=N,0.3nm,0.5s								
ALFC				AML	AML		19 56 05.4		
	comp=N,0.2nm,0.5s								
NATA	**Nata**	**4.53**	**97**	P		**Pn**	**19 55 06.9**	**+0.4**	
GONE	**Gonen-Balikesi**	**4.60**	**6**	Pn		**Pn**	**19 55 08.9**	**+1.4**	
TROD	**Troodos**	**4.74**	**95**	P		**Pn**	**19 55 09.5**	**-0.2**	
TROD				AML	AML		19 56 10.3		
	comp=N,0.1nm,0.6s								
TROD				AML	AML		19 56 11.5		
	comp=N,0.1nm,0.5s								
ASGA	**Asgata**	**5.07**	**96**	P		**Pn**	**19 55 15.1**	**+1.1**	
ASGA				AML	AML		19 56 16.1		
	comp=N,0.1nm,0.7s								
ASGA				AML	AML		19 56 22.2		
	comp=N,0.1nm,0.8s								
CSS	**Mathiatis**	**5.12**	**94**	P		**Pn**	**19 55 14.9**	**+0.3**	
CSS				AML	AML		19 56 18.8		
	comp=N,0.1nm,0.9s								
CSS				AML	AML		19 56 22.0		
	comp=N,0.1nm,0.7s								
CSS	**Mathiatis**	**5.12**	**94**	P		**Pn**	**19 55 13.9**	**-0.7**	
MVOU	**Mavrovouni**	**5.36**	**93**	P		**Pn**	**19 55 18.3**	**+0.4**	
BRTR	**Keskin Array B**	**6.70**	**49**	Pn		**Pn**	**19 55 39.4**	**+2.9**	
	comp=N,0.1nm,0.3s,baz=216,slow=14,SNR=3.6								
BRTR				Sn		**Sn**	**19 56 52.5**	**+0.4**	
	comp=N,0.1nm,0.3s,baz=225,slow=26,SNR=1.9								
	comp=N,0.5nm,0.5s								
MMA0	**Mount Meron ar**	**7.29**	**107**	P		**Pn**	**19 55 44.0**	**-0.5**	
MMAI	**Mount Meron Ar**	**7.29**	**107**	Pn		**Pn**	**19 55 43.9**	**-0.6**	
	comp=N,1.7nm,0.3s,baz=290,slow=14,SNR=9.9								
MMAI				Sn		**Sn**	**19 57 02.3**	**-4.0**	
	comp=N,1.9nm,0.3s,baz=307,slow=27,SNR=2.4								
	comp=N,0.8nm,0.3s								
GEM	**Giv'at Ha'Em**	**7.42**	**105**	P		**Pn**	**19 55 45.3**	**-1.0**	
NATI	**Neve Ativ**	**7.46**	**105**	P		**Pn**	**19 55 46.1**	**-0.7**	
SALP	**Salfit**	**7.53**	**114**	P		**Pn**	**19 55 46.9**	**-0.9**	
AMAZ	**Amatzia**	**7.60**	**119**	P		**Pn**	**19 55 48.3**	**-0.5**	
KZIT	**Kziot**	**7.61**	**125**	P		**Pn**	**19 55 48.2**	**-0.7**	
SHMJ	**Saham**	**7.68**	**108**	P		**Pn**	**19 55 50.6**	**+0.8**	
HMDT	**Nahal Hemdat**	**7.70**	**112**	P		**Pn**	**19 55 49.1**	**-0.9**	
QRNJ	**Al-Qirein**	**7.70**	**112**	P		**Pn**	**19 55 49.3**	**-0.7**	
BALJ	**Balqa**	**7.86**	**113**	P		**Pn**	**19 55 51.6**	**-0.7**	
MDBI	**Mazsada**	**8.04**	**119**	P		**Pn**	**19 55 54.0**	**-0.7**	
MSBI	**Masada**	**8.04**	**119**	P		**Pn**	**19 55 53.9**	**-0.8**	
LISJ	**El Lisan**	**8.17**	**119**	P		**Pn**	**19 55 55.1**	**-1.4**	
GHAJ	**Ghor Haditha**	**8.20**	**118**	P		**Pn**	**19 55 57.0**	**+0.1**	
PRNI	**Paran**	**8.37**	**125**	P		**Pn**	**19 55 58.0**	**-1.2**	
HRFI	**Mount Harif**	**8.59**	**127**	P		**Pn**	**19 56 01.2**	**-1.1**	
MBRI	**Mt Berech**	**8.67**	**128**	P		**Pn**	**19 56 02.3**	**-1.2**	
ASF	**Jabal al Asfar**	**8.78**	**109**	P		**Pn**	**19 56 03.8**	**-1.2**	
EIL	**Elat**	**8.78**	**129**	P		**Pn**	**19 56 04.4**	**-0.5**	
MKAR	**Makanchi Array**	**42.27**	**57**	P		**P**	**20 01 50.5**	**-0.2**	
	comp=N,0.3nm,0.5s,baz=262,slow=8.9,SNR=6.1								
	comp=N,0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**43.64**	**46**	P		**P**	**20 02 00.9**	**-0.7**	
	comp=N,0.4nm,0.5s,baz=252,slow=8.2,SNR=2.0								
	comp=N,0.4nm,0.5s								
SONM	**Songino Array**	**58.06**	**51**	P		**P**	**20 03 48.9**	**-1.5**	
	comp=N,0.2nm,0.4s,baz=292,slow=7.6,SNR=2.2								
	comp=N,0.2nm,0.4s								

*IDC **31** 19:54:44.0±3.9, 22°.26N×144°.28E, h98km±31km, mb3.5/9, mbtmp3.9/11, Error ellipse: s-maj=102.7km s-min=14.8km az=77.0*

ISC 31 19:54:44.3±2.1, 22°.3N±0°.2×144°.2E±0°.6, h100km, n17, σ0§90/12, mb4.1/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**5.12**	**340**	P		**Pn**	**19 55 59.5**	**+0.9**
	49nm,0.3s,baz=280,slow=23,SNR=14							
JCJ				S		**Sn**	**19 56 54.5**	**-2.0**
	168nm,0.5s,baz=300,slow=22,SNR=12							
MJAR	**Matsushiro Arr**	**15.12**	**341**	P		**Pn**	**19 58 12.2**	**-0.3**
	0.7nm,0.7s,baz=158,slow=7.9,SNR=0.9							
KSRS	**Korea Array**	**20.62**	**321**	P		**P**	**19 59 16.0**	**+0.4**
	0.5nm,0.6s,baz=150,slow=8.6,SNR=1.7							
	0.5nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**21.34**	**93**	T		T	20 22 09.4	
	baz=281							
H11N2	**WAKE ISLAND Hy**	**21.34**	**93**	T		T	20 22 04.6	
	baz=281							
H11N3	**WAKE ISLAND Hy**	**21.36**	**93**	T		T	20 22 09.4	
	baz=281							
H11S3	**WAKE ISLAND Hy**	**21.42**	**96**	T		T	20 22 27.7	
	baz=283,slow=74							
H11S1	**WAKE ISLAND Hy**	**21.42**	**96**	T		T	20 22 24.8	
	baz=283							
H11S2	**WAKE ISLAND Hy**	**21.43**	**96**	T		T	20 22 29.0	
	baz=283,slow=74							
SONM	**Songino Array**	**39.49**	**320**	P		**P**	**20 02 05.4**	**+0.3**
	0.4nm,0.7s,baz=128,slow=7.3,SNR=3.6							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**43.07**	**194**	P		**P**	**20 02 34.4**	**-0.1**
	0.4nm,0.3s,baz=13,slow=8.7,SNR=17							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**46.77**	**193**	P		**P**	**20 03 02.9**	**-0.9**
	0.2nm,0.3s,baz=10,slow=7.2,SNR=5.3							
	0.2nm,0.3s							
STKA	**Stephens Creek**	**53.92**	**183**	P		**P**	**20 03 57.2**	**-0.3**
	0.9nm,0.4s,baz=355,slow=7.6,SNR=7.5							
	0.9nm,0.4s							
ZALV	**Zalesovo Beam**	**54.33**	**321**	P		**P**	**20 04 00.1**	**-0.2**
	0.9nm,0.5s,baz=104,slow=6.4,SNR=4.7							
	0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**57.73**	**317**	P		**P**	**20 04 25.1**	**+0.5**
	1.8nm,0.5s,baz=91,slow=8.0,SNR=21							
	1.8nm,0.5s							
BVAR	**Borovoye Array**	**62.83**	**319**	P		**P**	**20 05 00.4**	**+1.0**
	2.0nm,0.5s,baz=88,slow=7.4,SNR=9.0							
	2.0nm,0.5s							
FINES	**FINESS Array B**	**83.05**	**335**	P		**P**	**20 06 58.4**	**0.0**
	2.8nm,1.0s,baz=90,slow=1.9,SNR=5.2							
	2.8nm,1.0s							

*IDC **31** 19:54:60.0±2.0, 1°.75S×100°.95E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=119.8km s-min=17.9km az=51.0*

*DJA **31** 19:55:03.5±0.3, 2°.5S×101°.1E±°, h10km, M4.4/13, mb4.9/2, MLv4.1/13*

ISC 31 19:55:05.2±0.8, 1°.83S±0°.06×100°.80E±0°.07, h35km, n29, σ1§13/19, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRJI	**Kerinci**	**0.71**	**112**	Pg		**Pn**	**19 55 18.0**	**-0.9**
PDSI	**Padang**	**0.97**	**340**	Pg		**Pn**	**19 55 20.9**	**-1.5**
PPSI	**Pulau Pagai**	**1.22**	**220**	Pg		**Pn**	**19 55 25.7**	**-0.1**
SISI	**Saibi**	**1.78**	**286**	Pn		**Pn**	**19 55 32.1**	**-1.4**
BKNI	**Bangkinang**	**2.15**	**6**	P		Pn	19 55 42.2	+3.5
UBSI	**University, Be**	**2.42**	**143**	P		**Pn**	**19 55 43.0**	**+0.7**
PBSI	**Pulau Batu**	**3.08**	**305**	P		**Pn**	**19 55 51.5**	**+0.2**
EGSI	**Enggano, Bengk**	**3.80**	**157**	P		**Pn**	**19 56 02.0**	**+0.7**
DSRI	**Dabo**	**4.01**	**70**	P		Pn	19 56 06.3	+2.2
GSI	**Gunungsitoli**	**4.48**	**314**	P		**Pn**	**19 56 10.7**	**0.0**
TPRI	**Tanjung Pinang**	**4.62**	**54**	P		Pn	19 56 15.0	+2.5
MYKOM	**Kota Tinggi**	**4.71**	**40**	P		Pn	19 56 16.2	+2.3
PSI	**Prapat**	**4.97**	**338**	P		**Pn**	**19 56 17.5**	**0.0**
SNSI	**Sinabang, Aceh**	**6.14**	**313**	P		**Pn**	**19 56 34.2**	**+0.7**
	29nm,1.0s,0.3nm							
KULM	**Kulim**	**7.07**	**359**	P		**Pn**	**19 56 48.7**	**+2.4**
PMSI	**Majene**	**18.17**	**96**	P		**P**	**19 59 17.3**	**+2.3**
H08S2	**Diego Garcia H**	**28.79**	**257**	T		T	20 30 11.7	
	baz=82							
H08S3	**Diego Garcia H**	**28.79**	**258**	T		T	20 30 11.5	
	baz=82							
H08S1	**Diego Garcia H**	**28.80**	**257**	T		T	20 30 11.0	
	baz=82							
WRA	**Warramunga Arr**	**37.39**	**121**	P		**P**	**20 02 14.0**	**-1.1**
	0.2nm,0.4s,baz=299,slow=10,SNR=7.3							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**38.71**	**127**	P		**P**	**20 02 25.1**	**-1.1**
	0.6nm,0.6s,baz=303,slow=7.9,SNR=14							
	0.6nm,0.6s							
STKA	**Stephens Creek**	**48.67**	**132**	P		**P**	**20 03 46.3**	**+0.2**
	1.1nm,0.6s,baz=325,slow=8.6,SNR=3.4							
	1.1nm,0.6s							
MKAR	**Makanchi Array**	**51.09**	**344**	P		**P**	**20 04 04.1**	**-0.2**
	0.3nm,0.3s,baz=154,slow=9.5,SNR=12							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**55.62**	**343**	P		**P**	**20 04 37.3**	**-0.1**
	0.6nm,0.7s,baz=162,slow=7.6,SNR=5.0							
	0.6nm,0.7s							
GEYT	**Ailbeck**	**55.83**	**320**	P		**P**	**20 04 39.4**	**0.0**
	1.5nm,0.8s,baz=141,slow=9.6,SNR=4.1							
	1.5nm,0.8s							
ZALV	**Zalesovo Beam**	**57.15**	**349**	P		**P**	**20 04 47.9**	**-0.4**
	0.3nm,0.3s,baz=169,slow=8.2,SNR=2.7							
	0.3nm,0.3s							
H04N2	**CROZET ISLANDS**	**61.41**	**217**	T		T	21 10 51.4	
	baz=59,slow=75,SNR=19							
H04N1	**CROZET ISLANDS**	**61.42**	**217**	T		T	21 10 53.4	
	baz=59,slow=75,SNR=12							
H04N3	**CROZET ISLANDS**	**61.43**	**217**	T		T	21 10 53.2	
	baz=59,slow=75,SNR=14							

*MOS **31** 20:01:44.3±0.8, 56°.50N×149°.07W, h9km, mb5.5/64, Error ellipse: s-maj=9.3km s-min=3.7km az=95.6*

*IDC **31** 20:01:44.6±0.5, 56°.53N×149°.10W, h0km, mb5.0/33, mbtmp5.0/38, ML4.4/5, MS4.3/60, Error ellipse: s-maj=14.3km s-min=10.2km az=16.0*

*NEIC **31** 20:01:45.9±2.1, 56°.46N±0°.07×149°.07W±0°.09, h10km±1km, mb5.3/492, ML5.2/72, Mwr4.9/112, Mww5.1/39, ML5.0(AEIC), Error ellipse: s-maj=11.5km s-min=8.6km az=181.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.94; Mθθ-1.91; Mϕϕ-0.03; Mrθ1.85; Mθϕ0.31; Mϕr-0.07; Fault plane solution: M₀2.69000×10¹⁶ NP1:φs94.30000°, δ66.82000°, λ86.22000°. NP2: φs283.82000°, δ23.47000°, λ98.74000°. Principal axes: T 2.6815, Plg68.0000°, Azm357.0000°; N 0.0077, Plg3.0000°, Azm96.0000°; P -2.6892, Plg22.0000°, Azm187.0000°;*

*NEIC **31** 20:01:45.9, 56°.56N×149°.07W, h12km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr1.63; Mθθ-1.91; Mϕϕ0.28; Mrθ4.72; Mϕθ0.13; Mϕr-2.00; Fault plane solution: M₀5.43000×10¹⁶ NP1: φs111.88000°, δ81.02000°, λ97.14000°. NP2: φs253.13000°, δ11.46000°, λ51.81000°. Principal axes: T 5.3991, Plg53.0000°, Azm30.0000°; N 0.0656, Plg7.0000°, Azm291.0000°; P -5.4648, Plg36.0000°, Azm196.0000°;*

*NEIC **31** 20:01:45.9, 56°.46N×149°.07W, h12km*

*NEIC **31** 20:01:46.1, 56°.48N×149°.06W, h10km*

*BJI **31** 20:01:48.3±0.0, 56°.97N×149°.70W, h20km, mb5.2/74, mB5.3/40, Ms4.9/37, Ms7 4.6/36*

*AEIC **31** 20:01:51.9±0.3, 56°.69N±0°.02×148°.94W±0°.03, h35km, MW5.1/107, Moment Tensor Solution. s44, c48; s107, c132; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.15±.25; Mθθ-4.07±.16; Mϕϕ-0.08±.17; Mrθ3.14±.14; Mθϕ-1.10±.14; Mϕr-1.67±.13; Best double couple: M₀5.51600×10¹⁶ NP1:φs99.00000°, δ65.00000°, λ111.00000°. NP2:φs236.00000°, δ32.00000°, λ52.00000°. Principal axes: T 5.8460, Plg64.0000°, Azm44.0000°; N -0.6640, Plg19.0000°, Azm270.0000°; P -5.1860, Plg17.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **31** 20:01:54.4, 56°.94N×148°.43W, h33km, mb5.3*

ISC 31 20:01:48.1±0.5, 56°.50N±0°.04×149°.09W±0°.03, h25km±2km, h25km:pP-P, n1594, σ1§13/1482, mb5.3/411, MS4.4/78, 94C-51D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.30**	**306**			**Pn**	**20 02 24.6**	**+0.3**
KDAK	**Kodiak Island**	**2.30**	**306**	P		**Pn**	**20 02 24.7**	**+0.4**
	baz=123							
KDAK				S		**Sn**	**20 02 50.4**	**-1.3**
	baz=123							
KDAK	**Kodiak Island**	**2.30**	**306**	P		**Pn**	**20 02 24.6**	**+0.3**
KDAK							20 02 50.4	
KDAK	**Kodiak Island**	**2.30**	**306**	Pn		**Pn**	**20 02 24.0**	**-0.3**
	250nm,0.3s,baz=135,slow=4.8,SNR=1164							
KDAK				Sn		**Sn**	**20 02 50.4**	**-1.3**
	795nm,0.3s,baz=78,slow=24,SNR=77							
	583nm,0.3s							
OHAK	**Old Harbor**	**2.41**	**289**			**Pn**	**20 02 25.8**	**0.0**
OHAK	**Old Harbor**	**2.41**	**289**			**Sn**	**20 02 52.6**	**-2.1**
OHAK	**Old Harbor**	**2.41**	**289**	P		**Pn**	**20 02 25.9**	**0.0**
OHAK	**Old Harbor**	**2.41**	**289**	P		**Pn**	**20 02 26.0**	**+0.1**
	baz=106,SNR=76							
OHAK				S		**Sn**	**20 02 52.5**	**-2.1**
	baz=106							
Q20K	**Shuyak Island**	**2.76**	**321**	P		**Pn**	**20 02 31.2**	**+0.5**
	baz=138,SNR=56							
Q20K				S		**Sn**	**20 03 02.8**	**-0.4**
	baz=138							
SYI	**Shuyak Island**	**2.76**	**321**			**Pn**	**20 02 30.9**	**+0.2**
SYI				IAML			20 03 04.0	
	comp=N,5μm,0.8s							
SYI				IAML			20 03 04.3	
	comp=E,7μm,0.4s							
SYI	**Shuyak Island**	**2.76**	**321**			**Sn**	**20 03 03.0**	**-0.2**
SII	**Sitkinak Islan**	**2.82**	**273**	Pn		**Pn**	**20 02 31.3**	**-0.3**
SII	**Sitkinak Islan**	**2.82**	**273**			**Sn**	**20 03 03.0**	**-1.7**
SII	**Sitkinak Islan**	**2.82**	**273**	P		**Pn**	**20 02 32.6**	**+1.1**
SII	**Sitkinak Islan**	**2.82**	**273**	P		**Pn**	**20 02 31.4**	**-0.2**
	baz=90,SNR=7.6							
SII				S		**Sn**	**20 03 02.6**	**-2.1**
	baz=90							
R18K	**Karluk**	**3.12**	**292**			**Pn**	**20 02 36.1**	**+0.5**
R18K						**Sn**	**20 03 09.8**	**-2.1**
R18K	**Karluk**	**3.12**	**292**	IAML			20 03 11.3	
	comp=N,6μm,0.7s							
R18K				IAML			20 03 16.8	
	comp=E,6μm,0.6s							
R18K	**Karluk**	**3.12**	**292**	P		**Pn**	**20 02 36.1**	**+0.5**
	baz=108							
CNPM	**China Poot**	**3.24**	**340**	Pn		**Pn**	**20 02 37.3**	**0.0**
CNPM	**China Poot**	**3.24**	**340**			**Sn**	**20 03 15.1**	**0.0**
Q23K	**Middleton Isla**	**3.28**	**25**	Pn		**Pn**	**20 02 37.5**	**-0.4**
Q23K				IAML			20 03 17.2	
	comp=E,4μm,0.9s							
Q23K	**Middleton Isla**	**3.28**	**25**			**Sn**	**20 03 13.7**	**-2.3**
Q23K	**Middleton Isla**	**3.28**	**25**	P		**Pn**	**20 02 37.6**	**-0.2**
	baz=207,SNR=14							
Q23K				S		**Sn**	**20 03 12.7**	**-3.2**
	baz=207							
MID	**Middleton Isla**	**3.28**	**25**	Pn		**Pn**	**20 02 37.5**	**-0.3**
MID				IAML			20 03 13.9	
	comp=N,3μm,1.2s							
MID				IAML			20 03 17.1	
	comp=E,3μm,0.9s							
MID	**Middleton Isla**	**3.28**	**25**			**Sn**	**20 03 13.6**	**-2.4**
MID	**Middleton Isla**	**3.28**	**25**	P		**Pn**	**20 02 37.7**	**-0.1**
BRSE	**Bradley Lake S**	**3.37**	**346**			**Pn**	**20 02 38.6**	**-0.4**
BRSE						**Sn**	**20 03 16.4**	**-1.8**
BRSE	**Bradley Lake S**	**3.37**	**346**	P		**Pn**	**20 02 38.9**	**-0.1**
	baz=164,SNR=202							
BRSE				S		**Sn**	**20 03 16.3**	**-1.8**
	baz=164							
BRLK	**Bradley Lake**	**3.41**	**345**			**Pn**	**20 02 39.3**	**-0.3**
HOM	**Homer**	**3.44**	**338**			**Pn**	**20 02 40.5**	**+0.4**
HOM				IAML			20 03 24.6	
	comp=E,7μm,0.4s							
HOM	**Homer**	**3.44**	**338**	P		**Pn**	**20 02 40.8**	**+0.7**
	baz=156,SNR=25							
HOM				S		**Sn**	**20 03 20.8**	**+0.8**
	baz=156							
Q19K	**Cape Douglas,**	**3.45**	**317**			**Pn**	**20 02 40.8**	**+0.7**
Q19K	**Cape Douglas,**	**3.45**	**317**			**Sn**	**20 03 19.8**	**-0.4**
Q19K	**Cape Douglas,**	**3.45**	**317**	P		**Pn**	**20 02 41.1**	**+1.0**
	baz=133,SNR=48							
KAHG	**Katmai Hook Gl**	**3.56**	**306**			**Pn**	**20 02 43.1**	**+1.4**
P23K	**Montague Islan**	**3.62**	**14**			**Pn**	**20 02 42.3**	**-0.2**
P23K						**Sn**	**20 03 22.3**	**-2.0**
P23K	**Montague Islan**	**3.62**	**14**	P		**Pn**	**20 02 42.5**	**0.0**
	baz=195,SNR=38							
P23K				S		**Sn**	**20 03 21.5**	**-2.9**
	baz=195							
SEW	**Seward**	**3.62**	**357**			**Pn**	**20 02 41.9**	**-0.6**
SEW						**Sn**	**20 03 22.2**	**-2.1**
SEW	**Seward**	**3.62**	**357**	P		**Pn**	**20 02 42.1**	**-0.4**
	baz=176,SNR=163							
SEW				S		**Sn**	**20 03 21.3**	**-3.0**
	baz=176							
AU22	**Augustine Moun**	**3.67**	**323**			**Pn**	**20 02 44.0**	**+0.9**
AUCH	**Augustine Cone**	**3.69**	**323**			**Pn**	**20 02 44.4**	**+0.9**
AUL	**Augustine Lava**	**3.70**	**323**			**Pn**	**20 02 44.6**	**+1.0**
KCE	**Katmai Mt Cerb**	**3.73**	**300**			**Pn**	**20 02 46.2**	**+2.1**
ACHA	**Angle Creek He**	**3.79**	**300**			**Pn**	**20 02 46.4**	**+1.5**
KVTA	**Katmai Vly 10**	**3.84**	**302**			**Pn**	**20 02 47.2**	**+1.6**
P19K	**Oil Pt**	**3.85**	**327**			**Pn**	**20 02 46.2**	**+0.5**
P19K					IAML		20 03 32.7	
	comp=N,7μm,0.6s							
P19K					IAML		20 03 32.9	
	comp=E,7μm,0.7s							
P19K	**Oil Pt**	**3.85**	**327**	P		**Pn**	**20 02 46.3**	**+0.7**
	baz=143,SNR=37							
P19K				S		**Sn**	**20 03 29.9**	**-0.2**
	baz=143							
ANCK	**Angle Creek**	**3.86**	**299**			**Pn**	**20 02 47.2**	**+1.3**
O22K	**Cooper Landing**	**4.01**	**356**			**Pn**	**20 02 47.8**	**0.0**
O22K	**Cooper Landing**	**4.01**	**356**	P		**Pn**	**20 02 47.5**	**-0.3**
	baz=175,SNR=22							
O22K				S		**Sn**	**20 03 32.6**	**-1.3**
	baz=175							
O20K	**Slope Mountain**	**4.05**	**334**	P		**Pn**	**20 02 48.7**	**+0.2**
	baz=151,SNR=35							
O20K				S		**Sn**	**20 03 35.0**	**0.0**
	baz=151							
Q17K	**Contact Creek**	**4.08**	**299**	P		**Pn**	**20 02 49.7**	**+0.8**
	baz=113,SNR=80							
IVE	**Iliamna Volcan**	**4.09**	**331**			**Pn**	**20 02 48.7**	**-0.3**
HIN	**Hinchinbrook I**	**4.14**	**18**	Pn		**Pn**	**20 02 49.6**	**-0.1**
HIN				IAML			20 03 35.3	
	comp=N,4μm,0.7s							
HIN				IAML			20 03 37.7	
	comp=E,4μm,0.7s							
KAIM	**Kayak Island**	**4.23**	**34**	P		**Pn**	**20 02 51.5**	**+0.6**
	baz=217,SNR=36							
KAIM				S		**Sn**	**20 03 38.0**	**-1.5**
	baz=217							
P18K	**Big Mountain,**	**4.37**	**314**	Pn		**Pn**	**20 02 52.8**	**-0.1**
P18K	**Big Mountain,**	**4.37**	**314**	P		**Pn**	**20 02 53.0**	**+0.2**
	baz=129,SNR=43							
P18K				S		**Sn**	**20 03 40.0**	**-2.9**
	baz=129							
RED	**Redoubt Volcan**	**4.38**	**335**			**Pn**	**20 02 52.5**	**-0.5**
RDSO	**Redoubt South**	**4.40**	**336**			**Pn**	**20 02 53.0**	**-0.4**
RSO	**Redoubt South**	**4.41**	**336**			**Pn**	**20 02 53.2**	**-0.6**
CAPN	**Captain Cook N**	**4.41**	**347**			**Pn**	**20 02 54.7**	**+1.3**
CAPN	**Captain Cook N**	**4.41**	**347**	P		**Pn**	**20 02 54.4**	**+1.0**
	baz=165,SNR=16							
EYAK	**Cordova Ski Ar**	**4.42**	**22**			**Pn**	**20 02 53.5**	**0.0**
EYAK	**Cordova Ski Ar**	**4.42**	**22**	P		**Pn**	**20 02 53.7**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.42**	**22**	P		**Pn**	**20 02 53.8**	**+0.3**
	baz=204,SNR=105							
EYAK				S		**Sn**	**20 03 41.0**	**-3.1**
	baz=204							
RDT	**Redoubt**	**4.44**	**338**			**Pn**	**20 02 52.6**	**-1.2**
FID	**Port Fidalgo**	**4.48**	**17**			**Pn**	**20 02 53.8**	**-0.5**
FID	**Port Fidalgo**	**4.48**	**17**	IAML			20 03 43.8	
	comp=E,2μm,0.7s							
FID				IAML			20 03 46.2	
	comp=N,1μm,0.4s							
DFR	**Drift River**	**4.51**	**337**			**Pn**	**20 02 54.2**	**-0.7**
RAGM	**Ragged Mountai**	**4.54**	**29**			**Pn**	**20 02 55.1**	**-0.1**
RDJH	**Redoubt Jeurge**	**4.54**	**336**			**Pn**	**20 02 54.8**	**-0.5**
NCT	**North Crescent**	**4.54**	**335**			**Pn**	**20 02 54.7**	**-0.6**
O19K	**Port Alsworth**	**4.62**	**326**			**Pn**	**20 02 56.1**	**0.0**
O19K	**Port Alsworth**	**4.62**	**326**	IAML			20 03 49.0	
	comp=N,4μm,0.6s							
O19K	**Port Alsworth**	**4.62**	**326**	P		**Pn**	**20 02 56.1**	**0.0**
	baz=141							
O19K				S		**Sn**	**20 03 46.7**	**-2.1**
	baz=141

baz=180
PMR Palmer 5.11 360 P Pn 20 03 03.0 +0.1
N19K Bonanza Creek 5.16 329 Pn 20 03 03.2 -0.5
N19K Bonanza Creek 5.16 329 IAML 20 04 06.3
comp=E,811nm,1.2s
N19K IAML 20 04 06.5
comp=N,819nm,0.8s
N19K Bonanza Creek 5.16 329 P Pn 20 03 03.6 -0.1
baz=145
N19K S Sn 20 04 00.6 -1.8
baz=145
CHGN Chignik 5.18 272 Pn Pn 20 03 03.7 -0.2
CHGN Chignik 5.18 272 P Pn 20 03 04.1 +0.2
baz=84,SNR=9.5
CHGN S Sn 20 03 59.8 -3.0
baz=84
STLK Strandline Lak 5.21 345 Pn 20 03 04.7 +0.3
SPNN North Nagishla 5.23 341 Pn 20 03 04.7 0.0
BARK Barkley Ridge 5.23 39 Pn 20 03 05.2 +0.5
MESA MESA 5.27 43 Pn 20 03 05.7 +0.4
MESA MESA 5.27 43 IAML 20 04 16.6
comp=N,2μm,0.8s
MESA IAML 20 04 17.1
comp=E,2μm,1.0s
KLU Klutina 5.27 17 Pn 20 03 05.6 +0.4
KLU Klutina 5.27 17 IAML 20 04 06.1
comp=E,1μm,0.9s
KLU IAML 20 04 09.8
comp=N,1μm,0.9s
KLU Klutina 5.27 17 P Pn 20 03 05.8 +0.6
baz=199,SNR=117
CRQM Cirque 5.28 34 Pn 20 03 05.8 +0.4
CRQM Cirque 5.28 34 IAML 20 04 04.3
comp=E,2μm,0.9s
GHO Glory Hole Cre 5.29 1 Pn 20 03 06.1 +0.6
SML Sawmill 5.34 4 IAML 20 04 09.3
comp=E,2μm,1.0s
SML IAML 20 04 15.3
comp=N,2μm,0.8s
SML Sawmill 5.34 4 P Pn 20 03 06.7 +0.6
baz=184,SNR=208
SML S Sn 20 04 04.2 -2.6
baz=184
M23K Glacier View 5.36 7 P Pn 20 03 07.1 +0.8
baz=188,SNR=124
O17K Koliganek Bris 5.36 311 Pn 20 03 06.7 +0.3
O17K Koliganek Bris 5.36 311 P Pn 20 03 06.6 +0.3
baz=124,SNR=27
P16K Nushagak River 5.40 302 Pn 20 03 08.0 +1.1
P16K Nushagak River 5.40 302 P Pn 20 03 08.3 +1.4
baz=114,SNR=86
ISLE Juniper Island 5.42 38 Pn 20 03 07.9 +0.5
SCM Sheep Creek Mo 5.43 9 P Pn 20 03 08.0 +0.7
baz=190,SNR=94
SCM S Sn 20 04 07.1 -1.8
baz=190
N18K Kilae Creek 5.49 323 Pn 20 03 08.0 -0.3
N18K Kilae Creek 5.49 323 P Pn 20 03 08.1 -0.2
baz=137
VRDI Verde Repeater 5.57 29 Pn 20 03 09.6 +0.2
N25K Chitina, Valde 5.62 22 P Pn 20 03 10.6 +0.6
baz=206,SNR=189
N25K S Sn 20 04 10.4 -3.4
baz=206
SKT Skwentna 5.64 348 P Pn 20 03 09.9 -0.3
baz=166,SNR=75
KIAG Kiagna River 5.66 36 Pn 20 03 11.1 +0.5
GLB Gilahina Butte 5.66 27 Pn 20 03 10.8 +0.2
SAMH Samovar Hills 5.70 47 Pn 20 03 11.9 +0.9
O16K Kokwok River B 5.70 307 P Pn 20 03 11.7 +0.8
baz=119,SNR=30
SVW2 Sparrevohn 5.71 327 P Pn 20 03 11.0 -0.2
TABL Table Mountain 5.75 43 Pn 20 03 12.3 +0.5
M20K Styx River 5.78 341 Pn 20 03 11.9 -0.3
M20K Styx River 5.78 341 P Pn 20 03 12.0 -0.3
baz=157
S14K Fog Glacier 5.81 272 P Pn 20 03 14.0 +1.3
baz=84
VNFG Fog Glacier, M 5.81 272 Pn 20 03 13.6 +0.9
MCARA McCarthy VSAT 5.82 30 Pn 20 03 13.1 +0.5
MCARA McCarthy VSAT 5.82 30 P Pn 20 03 13.3 +0.6
baz=215,SNR=147
M24K Tolsona, Glenn 5.82 14 Pn 20 03 13.8 +1.1
M24K Tolsona, Glenn 5.82 14 P Pn 20 03 13.9 +1.2
baz=196,SNR=91
PTPK Patty Peak 5.82 33 Pn 20 03 13.6 +0.7
N17K Nushagak Hills 5.85 317 Pn 20 03 13.4 +0.2
N17K Nushagak Hills 5.85 317 P Pn 20 03 13.3 +0.2
baz=130,SNR=81
PCA Pinnacle 5.89 49 Pn 20 03 14.4 +0.7
PINM Pinnacle 5.89 49 P Pn 20 03 14.5 +0.7
baz=236,SNR=63
CUT Chulitna 5.95 355 P Pn 20 03 15.1 +0.6
baz=174,SNR=14
WASW Wrangell South 6.00 23 Pn 20 03 16.2 +0.8
WACK Wrangell Chich 6.02 22 Pn 20 03 16.2 +0.5
CTG Chitna Glacier 6.03 39 P Pn 20 03 16.4 +0.7
baz=225
CTGM Chitina Glacie 6.03 39 Pn 20 03 16.2 +0.5
PNL Peninsula 6.04 54 P Pn 20 03 17.0 +1.2
PNL Peninsula 6.04 54 P Pn 20 03 16.6 +0.8
baz=242,SNR=107
LOGN Logan Glacier 6.05 41 Pn 20 03 16.4 +0.4
M19K Big River Lodg 6.06 336 Pn 20 03 15.4 -0.6
M19K Big River Lodg 6.06 336 P Pn 20 03 15.2 -0.8
baz=151
BCPM Bancas Point 6.08 51 Pn 20 03 17.1 +0.9
M18K Stony River 6.09 328 Pn 20 03 15.9 -0.5
M18K Stony River 6.09 328 P Pn 20 03 15.9 -0.5
baz=142
WAT6 Susitna Watana 6.14 6 Pn 20 03 17.6 +0.3
WAT6 Susitna Watana 6.14 6 P Pn 20 03 17.8 +0.6
baz=187,SNR=118
CHNA Chernabura Isl 6.17 259 P Pn 20 03 17.9 +0.4
baz=70,SNR=7.3
CNBA Chernabura Isl 6.17 259 Pn 20 03 17.6 0.0
HARP HAARP 6.25 17 Pn 20 03 19.2 +0.7
HARP HAARP 6.25 17 P Pn 20 03 19.3 +0.7
baz=200,SNR=114
O15K Ungalikthiuk R 6.33 300 Pn 20 03 20.8 +1.2
O15K Ungalikthiuk R 6.33 300 P Pn 20 03 21.2 +1.5
baz=111,SNR=88
WAT7 Susitna Watana 6.36 1 Pn 20 03 20.8 +0.7
WAT1 Susitna Watana 6.36 2 P Pn 20 03 20.7 +0.7
baz=182
L19K White Mountain 6.41 335 Pn 20 03 20.1 -0.7
L19K White Mountain 6.41 335 P Pn 20 03 20.2 -0.7
baz=150,SNR=25
N16K Nishlik Lake 6.45 312 Pn 20 03 21.9 +0.5
N16K Nishlik Lake 6.45 312 P Pn 20 03 22.0 +0.7
baz=124
L20K Farewell, AK 6.47 340 Pn 20 03 21.0 -0.6
L20K Farewell, AK 6.47 340 P Pn 20 03 21.0 -0.6
baz=156,SNR=24
SDPT Sand Point 6.50 265 Pn Pn 20 03 22.8 +0.8
SDPT Sand Point 6.50 265 P Pn 20 03 23.2 +1.2
SDPT Sand Point 6.50 265 P Pn 20 03 22.0 0.0
baz=75,SNR=7.2
M17K Holitna River 6.54 322 Pn 20 03 22.8 +0.3
M17K Holitna River 6.54 322 P Pn 20 03 22.7 +0.1
baz=135,SNR=111
PPLA Purkeypile 6.60 348 Pn 20 03 23.8 +0.3
PPLA Purkeypile 6.60 348 P Pn 20 03 23.9 +0.3
baz=165
DHY Denali Highway 6.65 7 Pn 20 03 24.8 +0.6
DHY Denali Highway 6.65 7 P Pn 20 03 24.9 +0.6
baz=188,SNR=145
M26K Nabesna, AK 6.68 25 Pn 20 03 25.2 +0.6
M26K Nabesna, AK 6.68 25 P Pn 20 03 25.1 +0.5
baz=210
O29M Mount Kennedy 6.71 51 Pn 20 03 25.9 +0.8
O29M Mount Kennedy 6.71 51 P Pn 20 03 26.3 +1.2
baz=240,SNR=220
PAX Paxson 6.74 14 Pn 20 03 26.1 +0.6
PAX Paxson 6.74 14 P Pn 20 03 25.9 +0.5
baz=197,SNR=120
PAX Paxson 6.74 14 P Pn 20 03 26.1 +0.6
P29M Windy Craggy 6.79 58 Pn 20 03 26.6 +0.6
P29M Windy Craggy 6.79 58 P Pn 20 03 27.0 +0.9
baz=247
YUK8 Steele Glacier 6.81 41 Pn 20 03 27.8 +1.3
YUK8 Steele Glacier 6.81 41 P Pn 20 03 28.3 +1.8
baz=229,SNR=107
M16K Timber Creek 6.84 316 Pn 20 03 27.3 +0.6
M16K Timber Creek 6.84 316 P Pn 20 03 27.5 +0.8
baz=127,SNR=42
N15K Kwethluk River 6.86 307 P Pn 20 03 28.0 +1.0
baz=118,SNR=46
YUK3 Moose Creek 6.90 36 Pn 20 03 29.2 +1.4
YUK3 Moose Creek 6.90 36 P Pn 20 03 29.2 +1.4
baz=224,SNR=243
L18K Granite Mounta 6.92 329 Pn 20 03 27.3 -0.5
L18K Granite Mounta 6.92 329 P Pn 20 03 27.8 0.0
baz=142
M27K Edge Creek, AK 6.93 29 P Pn 20 03 28.9 +0.9
baz=215,SNR=55
RND Reindeer 6.93 1 Pn 20 03 28.9 +0.9
RND Reindeer 6.93 1 P Pn 20 03 28.9 +0.9
TRF Thorofare Moun 7.00 356 P Pn 20 03 29.3 +0.3
baz=174,SNR=54
MENT Mentasta 7.00 21 Pn 20 03 29.7 +0.7
MENT Mentasta 7.00 21 P Pn 20 03 30.0 +1.0
O14K Tigyukauivet M 7.05 298 P Pn 20 03 30.7 +1.2
baz=108,SNR=9.5
CAST Castle Rocks 7.10 349 P Pn 20 03 30.6 +0.3
baz=166,SNR=80
S31K Pelican 7.13 73 P Pn 20 03 29.9 -0.8
baz=263,SNR=72
YUK6 Outpost Mounta 7.14 47 P Pn 20 03 32.7 +1.7
baz=236,SNR=342
L26K Log Cabin Wild 7.16 21 Pn 20 03 32.2 +1.2
L26K Log Cabin Wild 7.16 21 P Pn 20 03 32.0 +0.9
baz=206,SNR=51
PS1A Pavlof South-1 7.18 267 Pn 20 03 31.8 +0.4
MCK McKinley 7.26 1 Pn 20 03 33.5 +1.1
MCK McKinley 7.26 1 P Pn 20 03 33.3 +0.9
baz=180,SNR=96
MCK McKinley 7.26 1 P Pn 20 03 33.5 +1.1
BVCY Beaver Creek 7.26 32 Pn 20 03 33.3 +0.8
BVCY Beaver Creek 7.26 32 P Pn 20 03 33.7 +1.2
baz=219,SNR=58
YUK4 Talbot Arm 7.26 44 P Pn 20 03 35.8 +3.1
baz=232,SNR=390
K20K Telida 7.32 342 Pn 20 03 32.4 -0.8
K20K Telida 7.32 342 P Pn 20 03 32.5 -0.8
baz=158,SNR=38
PN7A Pavlof North-7 7.32 267 Pn 20 03 34.2 +0.9
TTA Tatalina 7.33 334 Pn 20 03 32.5 -1.0
TTA Tatalina 7.33 334 P Pn 20 03 32.8 -0.7
TTA Tatalina 7.33 334 P Pn 20 03 32.4 -1.1
baz=148,SNR=28
TTA Tatalina 7.33 334 P Pn 20 03 32.5 -1.0
P30M Million Dollar 7.35 55 Pn 20 03 34.5 +0.8
P30M Million Dollar 7.35 55 P Pn 20 03 34.6 +0.8
baz=245,SNR=33
L17K Donlin 7.35 324 Pn 20 03 33.1 -0.5
L17K Donlin 7.35 324 P Pn 20 03 33.3 -0.3
baz=136,SNR=43
M15K Kasigluk River 7.37 310 Pn 20 03 34.5 +0.6
M15K Kasigluk River 7.37 310 P Pn 20 03 34.7 +0.8
baz=120,SNR=23
PLBC Pleasant Camp 7.39 61 Pn 20 03 34.8 +0.7
PLBC Pleasant Camp 7.39 61 P Pn 20 03 35.3 +1.2
baz=252,SNR=70
HYT Haines Junctio 7.43 50 P Pn 20 03 36.1 +1.2
baz=239,SNR=40
YUK5 Granite Creek 7.45 47 Pn 20 03 36.6 +1.4
R31K City Hall, Gus 7.46 70 P Pn 20 03 35.4 +0.3
baz=261,SNR=5.9
L16K Owhat River 7.47 319 P Pn 20 03 35.3 +0.1
baz=130,SNR=98
N14K Kuskokwak Cree 7.48 303 Pn 20 03 36.5 +1.0
N14K Kuskokwak Cree 7.48 303 P Pn 20 03 36.4 +1.0
baz=112
K24K Donnelly Dome 7.51 11 Pn 20 03 36.7 +0.8
K24K Donnelly Dome 7.51 11 P Pn 20 03 36.9 +1.0
baz=194,SNR=45
L27K Beaver Creek, 7.53 26 Pn 20 03 36.6 +0.4
L27K Beaver Creek, 7.53 26 P Pn 20 03 36.7 +0.5
baz=212,SNR=45
RIDG Independent Ri 7.56 14 P Pn 20 03 37.4 +0.7
baz=198,SNR=122
CHUM Lake Minchumin 7.58 349 Pn 20 03 36.9 +0.1
CHUM Lake Minchumin 7.58 349 P Pn 20 03 36.9 +0.1
baz=166,SNR=73
SIT Sitka 7.59 80 Pn Pn 20 03 34.2 -2.7
SIT Sitka 7.59 80 P Pn 20 03 34.4 -2.5
baz=271,SNR=8.0
SIT Sitka 7.59 80 P Pn 20 03 34.2 -2.7
BPAW Bear Paw Mtn. 7.68 354 P Pn 20 03 38.5 +0.2
baz=172,SNR=29
K17K Iditarod 7.78 327 Pn 20 03 39.0 -0.6
K17K Iditarod 7.78 327 P Pn 20 03 39.2 -0.4
baz=139,SNR=59
SKAG Skagway 7.89 62 Pn 20 03 41.6 +0.5
SKAG Skagway 7.89 62 P Pn 20 03 42.5 +1.4
SKAG Skagway 7.89 62 P Pn 20 03 41.6 +0.5
baz=254,SNR=18
SCRK Sand Creek 7.92 17 Pn 20 03 41.5 -0.1
SCRK Sand Creek 7.92 17 P Pn 20 03 41.4 -0.1
baz=258,SNR=58
BESE Bessie Mountai 7.94 69 Pn 20 03 41.6 -0.2
N30M Aishikik Lake 7.94 46 Pn 20 03 42.7 +0.9
N30M Aishikik Lake 7.94 46 P Pn 20 03 43.0 +1.1
baz=236,SNR=93
M14K Bethel 7.95 308 Pn 20 03 42.6 +0.8
M14K Bethel 7.95 308 P Pn 20 03 42.4 +0.6
baz=117,SNR=16
J18K Innoko River 7.96 335 Pn 20 03 41.7 -0.3
J18K Innoko River 7.96 335 P Pn 20 03 40.4 -1.6
baz=148,SNR=16
S32K Killisnoo 7.99 77 Pn Pn 20 03 40.9 -1.5
S32K Killisnoo 7.99 77 P Pn 20 03 41.8 -0.7
baz=269,SNR=12
HDA Harding Lake 8.01 7 P Pn 20 03 43.0 +0.4
baz=188,SNR=153
WRH Wood River Hil 8.01 3 Pn 20 03 44.0 +1.3
O30N Mendenhall 8.02 52 P Pn 20 03 43.7 +0.9
baz=243,SNR=54
M29M Somme Creek 8.04 38 Pn 20 03 44.2 +1.0
M29M Somme Creek 8.04 38 P Pn 20 03 44.6 +1.3
baz=227,SNR=143
R32K Eaglecrest 8.07 71 Pn 20 03 43.8 +0.2
R32K Eaglecrest 8.07 71 P Pn 20 03 43.8 +0.2
baz=263,SNR=14
J20K Nowinta River 8.10 344 Pn 20 03 43.8 0.0
J20K Nowinta River 8.10 344 P Pn 20 03 44.0 +0.2
baz=160,SNR=32
NEA2 Nenana 8.12 0 P Pn 20 03 44.5 +0.3
baz=180,SNR=44
JIS Juneau Island 8.14 71 P Pn 20 03 45.0 +0.5
J19K Poorman 8.18 339 Pn 20 03 44.3 -0.7
J19K Poorman 8.18 339 P Pn 20 03 44.4 -0.7
baz=154,SNR=43
CCB Clear Creek Bu 8.20 4 Pn 20 03 45.3 0.0
L15K Ungalak Mounta 8.22 314 Pn 20 03 46.3 +0.7
L15K Ungalak Mounta 8.22 314 P Pn 20 03 45.7 +0.2
baz=124
FALS False Pass 8.26 264 Pn 20 03 46.7 +0.5
FALS False Pass 8.26 264 P Pn 20 03 47.9 +1.7
FALS False Pass 8.26 264 P Pn 20 03 46.6 +0.5
baz=73,SNR=9.0
K27K Chicken 8.31 22 Pn 20 03 47.5 +0.6
K27K Chicken 8.31 22 P Pn 20 03 47.3 +0.4
baz=208
J25K Salcha River, 8.34 11 Pn 20 03 46.9 -0.5
J25K Salcha River, 8.34 11 P Pn 20 03 47.6 +0.3
baz=194,SNR=45
IL31 8.37 7 Pn 20 03 47.8 +0.2
ILAR Eielson Array 8.37 7 Pn Pn 20 03 44.2 -3.4
comp=N,6.9nm,0.3s,baz=194,slow=13,SNR=152
ILAR Sn Sn 20 05 13.7 -7.5
comp=N,2.1nm,0.3s,baz=189,slow=25,SNR=2.6
ILAR LR LR 20 07 18.4
comp=N,3μm,19.6s,baz=223,slow=40
comp=N,71nm,1.2s
COLA College 8.43 4 Pn 20 03 48.6 +0.3
COLA College 8.43 4 P Pn 20 03 48.9 +0.6
COLA College 8.43 4 P Pn 20 03 48.7 +0.3
baz=184
COLA College 8.43 4*d* iP Pn 20 03 48.7 +0.3
COLA pmax pmax
comp=Z,127nm,1.4s
M13K Dall Lake 8.44 304 Pn 20 03 49.8 +1.3
M13K Dall Lake 8.44 304 P Pn 20 03 49.6 +1.1
baz=112
ISNN Isanotski Nort 8.47 265 Pn 20 03 49.7 +0.6
J26L Joseph Creek 8.47 16 Pn 20 03 49.5 +0.3
J26L Joseph Creek 8.47 16 P Pn 20 03 49.6 +0.5
baz=201
N31M Braeburn, Yuko 8.49 48 Pn 20 03 50.4 +1.1
N31M Braeburn, Yuko 8.49 48 P Pn 20 03 50.8 +1.4
baz=240,SNR=125
MDM Murphy Dome 8.50 2 Pn 20 03 49.8 +0.4
WHY Whitehorse 8.51 55 Pn 20 03 50.8 +1.1
WHY Whitehorse 8.51 55 P Pn 20 03 50.8 +1.1
baz=247,SNR=164
L14K Kuka Creek 8.53 310 Pn 20 03 50.8 +0.9
L14K Kuka Creek 8.53 310 P Pn 20 03 50.7 +0.9
baz=119,SNR=53
K15K Wolf Creek Mou 8.59 318 Pn 20 03 51.4 +0.7
K15K Wolf Creek Mou 8.59 318 P Pn 20 03 51.1 +0.4
baz=127,SNR=23
SSLN Shishaldin Nor 8.60 265 Pn 20 03 51.6 +0.8
MLY Manley 8.60 355 Pn 20 03 50.7 -0.1
MLY Manley 8.60 355 P Pn 20 03 50.9 +0.1
baz=174,SNR=36
L29M L29M 8.62 35 Pn 20 03 52.0 +0.9
L29M L29M 8.62 35 P Pn 20 03 52.1 +0.9
baz=224
SSLS Shishaldin Sou 8.63 264 Pn 20 03 52.0 +0.8
I23K Minto, Yukon-K 8.68 359 Pn 20 03 52.3 +0.4
I23K Minto, Yukon-K 8.68 359 P Pn 20 03 51.7 -0.2
baz=179,SNR=70
POKR Poker Plat Res 8.69 5 Pn 20 03 53.0 +1.1
POKR Poker Plat Res 8.69 5 P Pn 20 03 51.7 -0.2
baz=186,SNR=7.6
M30M Minto, Yukon 8.72 41 Pn Pn 20 03 53.0 +0.5
M30M Minto, Yukon 8.72 41 P Pn 20 03 53.2 +0.7
baz=231,SNR=69
P32M Atlin 8.72 63 Pn Pn 20 03 53.1 +0.6
P32M Atlin 8.72 63 P Pn 20 03 53.1 +0.6
baz=256,SNR=13
I20K Naaghedeneel 8.73 345 Pn 20 03 53.3 +0.7
I20K Naaghedeneel 8.73 345 P Pn 20 03 52.0 -0.5
baz=160
U33K Whale Pass 8.89 86 Pn Pn 20 03 52.2 -2.6
U33K Whale Pass 8.89 86 P Pn 20 03 52.8 -1.9
baz=279
J16K Anvik River 8.92 324 P Pn 20 03 54.2 -0.9
baz=134,SNR=57
DAWY Dawson 8.98 28 P Pn 20 03 56.5 +0.5
baz=217,SNR=33
CRAG Craig 9.02 90 Pn 20 03 54.0 -2.5
CRAG Craig 9.02 90 P Pn 20 03 55.6 -0.8
baz=283
GCSA Galena City Sc 9.11 338 Pn 20 03 57.0 -0.7
GCSA Galena City Sc 9.11 338 P Pn 20 03 57.0 -0.7
baz=152,SNR=9.3
EGAK Eagle 9.16 22 Pn 20 03 58.5 0.0
EGAK Eagle 9.16 22 P Pn 20 03 58.4 -0.2
baz=208,SNR=44
PRP Porcupine Dome 9.21 9 Pn 20 03 59.1 -0.2
PRP Porcupine Dome 9.21 9 P Pn 20 03 58.7 -0.6
baz=192,SNR=22
WRAK Wrangell Islan 9.27 84 P Pn 20 04 00.0 0.0
baz=277
I26K Coal Creek Min 9.29 16 Pn 20 04 00.7 +0.4
I26K Coal Creek Min 9.29 16 P Pn 20 04 00.2 0.0
baz=201
P33M Teslin, Yukon 9.32 60 Pn 20 04 01.3 +0.5
P33M Teslin, Yukon 9.32 60 P Pn 20 04 00.9 +0.1
baz=253,SNR=53
Q32M Nakina River 9.33 68 P Pn 20 04 01.5 +0.5
baz=282
K29M Barlow Dome 9.34 33 Pn 20 04 01.7 +0.7
K29M Barlow Dome 9.34 33 P Pn 20 04 02.1 +1.1
baz=223
H21K Melozitna Rive 9.36 351 Pn 20 04 00.5 -0.7
H21K Melozitna Rive 9.36 351 P Pn 20 04 00.2 -1.0
baz=167,SNR=207
I17K Unalakleet 9.38 327 Pn 20 04 01.0 -0.4
I17K Unalakleet 9.38 327 P Pn 20 04 01.2 -0.2
baz=137,SNR=46
H24K Noodor Dome 9.39 3 P Pn 20 04 02.5 +0.9
baz=184
M31M Drury Creek, Y 9.42 47 Pn 20 04 03.4 +1.4
M31M Drury Creek, Y 9.42 47 P Pn 20 04 03.5 +1.4
baz=239,SNR=119
H20K Anotleneega Mo 9.45 345 Pn 20 04 01.7 -0.6
H20K Anotleneega Mo 9.45 345 P Pn 20 04 02.4 0.0
baz=160,SNR=27
H22K Ishtalitna Cre 9.49 354 Pn 20 04 02.2 -0.8
H22K Ishtalitna Cre 9.49 354 P Pn 20 04 03.1 +0.1
baz=172
N32M Quiet Lake 9.51 54 Pn 20 04 03.8 +0.5
N32M Quiet Lake 9.51 54 P Pn 20 04 04.0 +0.6
baz=248
J29N Klondike Camp 9.60 29 P Pn 20 04 05.0 +0.5
baz=219,SNR=14
J14K Nanvaranak Lak 9.62 317 Pn 20 04 05.1 +0.3
J14K Nanvaranak Lak 9.62 317 P Pn 20 04 05.3 +0.6
baz=124,SNR=24
MAYO Mayo, Yukon 9.69 37 P Pn 20 04 06.3 +0.6
baz=229,SNR=11
H19K Roundabout Mou 9.73 342 Pn 20 04 05.8 -0.4
H19K Roundabout Mou 9.73 342 P Pn 20 04 05.3 -0.8
baz=155,SNR=20
M11K Mekoryuk 9.77 301 P Pn 20 04 08.1 +1.3
baz=106,SNR=6.1
H18K Honhosa River 9.78 336 Pn 20 04 06.0 -0.9
H18K Honhosa River 9.78 336 P Pn 20 04 06.5 -0.4
baz=148,SNR=36
I27K Kandik River 9.82 18 P Pn 20 04 08.2 +0.7
baz=205,SNR=73
S34M Telegraph Cree 9.85 74 P Pn 20 04 08.8 +0.9
baz=269,SNR=48
FARO Faro, Yukon 9.86 48 P Pn 20 04 09.6 +1.5
baz=241,SNR=82
V35K Ketchikan 9.88 90 Pn 20 04 06.8 -1.6
V35K Ketchikan 9.88 90 P Pn 20 04 07.5 -0.9
baz=284
H17K Granite Mounta 9.97 332 Pn 20 04 08.7 -0.8
H17K Granite Mounta 9.97 332 P Pn 20 04 09.1 -0.4
baz=143
I28M Miner Creek 10.01 23 P Pn 20 04 10.8 +0.7
baz=210,SNR=28
R33M Jennings River 10.06 66 Pn 20 04 11.7 +0.8
R33M Jennings River 10.06 66 P Pn 20 04 11.7 +0.8
baz=261,SNR=37
J30M Hart River 10.23 32 P Pn 20 04 13.4 +0.2
baz=223
G23K Bananza Creek 10.26 358 P Pn 20 04 14.1 +0.6
baz=177
G21K Allakaket 10.27 350 P Pn 20 04 13.5 -0.1
baz=166
G24K Hadweenzic Riv 10.27 4 P Pn 20 04 13.8 +0.2
baz=185
UNV Unalaska Valle 10.30 262 P Pn 20 04 13.4 -0.7
baz=68
T35M Bob Quinn 10.36 79 Pn Pn 20 04 16.2 +1.3
T35M Bob Quinn 10.36 79 P Pn 20 04 15.8 +0.8
baz=275,SNR=15
H16K Elim 10.39 327 P Pn 20 04 14.6 -0.7
baz=136,SNR=42
G19K Purcell Mounta 10.40 342 Pn 20 04 14.3 -1.0
G19K Purcell Mounta 10.40 342 P Pn 20 04 15.0 -0.4
baz=155,SNR=25
G25K Bearman Lake 10.40 7 P Pn 20 04 15.4 +0.1
baz=189
H27K Steamboat Moun 10.41 17 P Pn 20 04 15.5 0.0
baz=204,SNR=64
DLBC Dease Lake 10.45 71 P Pn 20 04 15.5 -0.6
baz=267,SNR=24
DLBC Dease Lake 10.45 71 Pn Pn 20 04 17.2 +1.1
comp=Z,5.4nm,0.3s,baz=298,slow=6.4,SNR=35
DLBC Sn Sn 20 06 07.7 -4.6
comp=Z,5.9nm,0.3s,baz=343,slow=27,SNR=9.5
comp=Z,15nm,0.3s
G18K Tagagawik 10.48 338 P Pn 20 04 15.5 -0.9
baz=150,SNR=47
G22K Bettles 10.52 355 P Pn 20 04 17.3 +0.3
baz=172
G17K Kiwalik Mounta 10.61 333 P Pn 20 04 17.5 -0.8
baz=143,SNR=14
I30M Mount Dempster 10.70 30 P Pn 20 04 20.2 +0.5
baz=221
G26K Porcupine Rive 10.78 11 P Pn 20 04 20.8 +0.3
baz=196
COLD Coldfoot 10.78 358 P Pn 20 04 21.3 +0.7
baz=177,SNR=64
F21K Alatna River 10.95 351 P Pn 20 04 23.3 +0.3
baz=157
G16K Koyuk River 10.98 330 P Pn 20 04 22.0 -1.3
baz=138
H29M Whitestone 11.00 23 P Pn 20 04 24.0 +0.3

F20K **Avaraart Lake** 11.03 346 P Pn 20 04 22.9 -1.1
baz=160
F24K **Squaw Lake** 11.07 2 P Pn 20 04 24.6 0.0
baz=183
F19K **Shaleruckik Mo** 11.14 342 P Pn 20 04 25.6 0.0
baz=154,SNR=20
BMAR **Burnt Mountain** 11.17 9 Pn Pn 20 04 26.4 +0.4
G15K **Niukluk** 11.19 326 P Pn 20 04 26.4 +0.2
baz=133
F25K **Christian Rive** 11.25 7 P Pn 20 04 26.6 -0.4
baz=190,SNR=63
P08K **Saint George I** 11.29 279 P Pn 20 04 26.9 -0.6
baz=82
F18K **Selawik** 11.29 338 P Pn 20 04 27.2 -0.4
baz=149,SNR=19
ANM **Nome** 11.35 322 Pn Pn 20 04 28.9 +0.5
ANM **Nome** 11.35 322 P Pn 20 04 28.7 +0.3
baz=128,SNR=54
ANM **Nome** 11.35 322 P Pn 20 04 28.9 +0.5
F26K **Sheenjek River** 11.47 10 P Pn 20 04 29.9 -0.1
baz=194
EPYK **Eagle Plains** 11.51 26 Pn Pn 20 04 31.2 +0.6
EPYK **Eagle Plains** 11.51 26 P Pn 20 04 30.3 -0.3
baz=216,SNR=20
F17K **Baldwin Pennin** 11.51 335 P Pn 20 04 30.0 -0.6
baz=144,SNR=28
SPIA **Saint Paul Isl** 11.60 282 P Pn 20 04 32.3 +0.5
baz=84
E23K **Chandalar** 11.61 359 P Pn 20 04 32.8 +0.8
baz=178,SNR=45
E19K **Redstone River** 11.63 344 P Pn 20 04 32.7 +0.5
baz=157,SNR=47
G29M **Pine Creek** 11.67 22 P Pn 20 04 33.1 +0.4
baz=212,SNR=28
E25K **Arctic Village** 11.78 6 P Pn 20 04 35.0 +0.8
baz=190,SNR=38
F15K **North Star Dit** 11.87 327 P Pn 20 04 35.0 -0.4
baz=134
F28M **Old Crow** 11.94 17 Pn Pn 20 04 37.8 +1.3
F28M **Old Crow** 11.94 17 P Pn 20 04 36.7 +0.2
baz=205,SNR=35
NIKH **Nikolski High** 11.95 261 P Pn 20 04 36.8 +0.2
baz=65
G30M **tAoh Zraii Nji** 12.12 25 P Pn 20 04 38.6 -0.4
baz=216,SNR=29
E17K **Hotham Inlet** 12.17 336 P Pn 20 04 38.7 -0.8
baz=144,SNR=42
E21K **Killik River** 12.19 351 P Pn 20 04 40.8 +0.9
baz=167
E18K **Tukpahlearik C** 12.19 339 P Pn 20 04 39.6 -0.2
baz=148
E20K **Nigu River** 12.24 347 P Pn 20 04 40.4 -0.1
baz=161
F14K **Arctic Creek** 12.24 324 P Pn 20 04 40.8 +0.3
baz=129,SNR=21
D22K **Ayikyak River** 12.53 354 P Pn 20 04 45.2 +0.6
baz=171
D23K **Nanushuk River** 12.53 357 P Pn 20 04 46.4 +1.8
baz=176
G31M **Satah River** 12.55 28 P Pn 20 04 45.8 +1.0
baz=221
D24K **Happy Valley** 12.70 0 P Pn 20 04 48.0 +1.2
baz=181,SNR=69
D19K **Kuna River** 12.72 345 P Pn 20 04 46.4 -0.6
baz=157
D20K **Etivluk River** 12.72 347 P Pn 20 04 46.7 -0.4
baz=161,SNR=12
F30M **Barrier River** 12.73 24 P Pn 20 04 48.3 +1.0
baz=215,SNR=27
TNA **Tin City** 12.82 323 P Pn 20 04 48.2 -0.1
baz=126,SNR=18
E28M **Babbage River** 12.90 16 P Pn 20 04 50.4 +0.9
baz=204,SNR=80
D25K **Kavik River** 12.93 4 P Pn 20 04 51.8 +1.8
baz=187
C21K **Knifeblade Rid** 12.96 351 P Pn 20 04 50.3 -0.1
baz=166
BBB **Bella Bella** 12.96 101 Sn Sn 20 07 04.8 -8.9
comp=Z,0.3nm,0.3s,baz=273,slow=2.6,SNR=1.5
BBB LR LR 20 08 43.6
comp=Z,732nm,18.6s,baz=298,slow=32
E29M **Blow River** 12.97 19 P Pn 20 04 52.1 +1.6
baz=208
F31M **Tsiigehtchic** 13.08 27 P Pn 20 04 52.1 +0.2
baz=220,SNR=32
RDOG **Red Dog Mine** 13.21 337 P Pn 20 04 53.9 +0.2
baz=145
C24K **Franklin Bluff** 13.27 1 P Pn 20 04 55.6 +1.1
baz=181
D27M **Malcolm River** 13.30 13 P Pn 20 04 57.3 +2.3
baz=200
GAMB **Gambell** 13.35 312 P Pn 20 04 55.9 +0.2
baz=113
C18K **Utukok River** 13.36 341 P Pn 20 04 54.5 -1.4
baz=150,SNR=18
C19K **Lookout Ridge** 13.50 344 P Pn 20 04 57.0 -0.7
baz=154
C17K **DeLong Mountai** 13.61 338 P Pn 20 04 59.1 -0.2
baz=145,SNR=20
KOTAN **Kotaneelee Air** 13.62 64 P Pn 20 05 01.1 +1.7
baz=265,SNR=41
D28M **Stokes Point** 13.68 16 P Pn 20 05 02.5 +2.4
baz=205
INK **Inuvik** 13.80 25 P Pn 20 05 03.0 +1.2
baz=218,SNR=95
INK **Inuvik** 13.80 25 Pn Pn 20 05 02.3 +0.5
comp=Z,0.2nm,0.3s,baz=215,slow=19,SNR=7.1
INK LR LR 20 10 46.6
comp=Z,2µm,19.1s,baz=184,slow=39
comp=Z,114nm,1.0s
FLDN **Fort Liard** 13.91 64 P Pn 20 05 03.5 +0.2
baz=266
C16K **Lisburne Hills** 13.94 334 Pn 20 05 03.2 -0.4
C16K **Lisburne Hills** 13.94 334 P Pn 20 05 03.1 -0.6
baz=140,SNR=36
B20K **Meade River** 14.02 349 P Pn 20 05 03.3 -1.4
baz=161
B22K **Teshekpuk Lake** 14.02 354 P Pn 20 05 04.2 -0.6
baz=170,SNR=123
B18K **Kokolik River** 14.10 341 P Pn 20 05 05.6 -0.2
baz=150,SNR=21
A19K **Wainwright** 14.72 344 P Pn 20 05 13.5 -0.8
baz=153,SNR=22
A21K **Barrow** 15.22 351 P Pn 20 05 18.5 -2.5
baz=164,SNR=24
CBB **Campbell River** 15.55 105 Pn 20 05 26.1 +0.6
ADK **Adak** 16.73 266 Pn 20 05 39.3 -1.2
ADK **Adak** 16.73 266 P Pn 20 05 39.3 -1.2
ADK pmax pmax
comp=Z,104nm,1.4s
C36M **Paulatuk** 17.00 31 P Pn 20 05 42.4 -1.3
baz=233,SNR=84
YKA **Yellowknife Ar** 18.33 57 P Pn 20 06 00.4 +0.2
YKA **Yellowknife Ar** 18.33 57 P Pn 20 06 00.5 +0.3
comp=Z,0.6nm,0.3s,baz=267,slow=11,SNR=220
YKA PcP **PcP** 20 10 29.9 -0.6
comp=Z,3.4nm,0.8s,baz=268,slow=1.9,SNR=6.9
YKA ScP **ScP** 20 14 03.6 -0.3
comp=Z,1.2nm,1.0s,baz=277,slow=1.8,SNR=5.3
YKA P3KPbc 20 40 52.2
comp=Z,0.6nm,0.8s,baz=84,slow=4.8,SNR=6.6
comp=Z,57nm,1.0s
GNW **Green Mountain** 18.37 108 P Pn 20 06 01.0 +0.2
A36M **Sachs Harbour** 18.44 23 IAmb IAmb 20 06 05.3
comp=Z,187nm,0.8s
A36M **Sachs Harbour** 18.44 23 P Pn 20 06 02.4 +1.0
baz=225,SNR=209
B06A **Marblemount** 18.50 104 P Pn 20 06 02.6 +0.2
EDM **Edmonton** 20.68 84 IAmb IAmb 20 06 31.5
comp=Z,101nm,1.0s
HAWA **Hanford** 20.86 106 P P 20 06 28.8 +0.9
KEBM **Edson Butte** 20.88 120 P P 20 06 29.3 +1.1
KEBM IAmb IAmb 20 06 40.6
comp=Z,144nm,1.1s
NEW **Newport** 21.02 99 P P 20 06 30.9 +1.2
baz=305,SNR=17
NEW **Newport** 21.02 99 P P 20 06 30.4 +0.7
comp=Z,24nm,0.9s,baz=310,slow=7.9,SNR=18
comp=Z,24nm,0.9s
SHEM **Shemya Is, Ala** 21.47 275 LR LR 20 15 45.7
comp=Z,609nm,18.6s,baz=253,slow=39
HUMO **Hull Mountain** 21.75 119 IAmb IAmb 20 06 49.5
comp=Z,58nm,0.9s
L02F **Cave Junction** 21.82 120 P P 20 06 38.2 0.0
PINE **Pine Mountain** 21.89 114 IAmb IAmb 20 06 44.1
comp=Z,60nm,1.1s
KSXB **Camp Six Broad** 21.90 121 P P 20 06 36.9 -2.3

J05D **Fort Rock, OR** 22.10 115 P P 20 06 42.4 +1.0
K04D **Chiloquin, OR** 22.33 117 IAmb IAmb 20 06 48.3
comp=Z,104nm,1.2s
F10A **Beach Ranch, E** 22.36 105 IAmb IAmb 20 06 47.5
comp=Z,47nm,0.9s
YBH **Yreka Blue Hor** 22.53 120 P P 20 06 47.3 +1.3
YBH **Yreka Blue Hor** 22.53 120 P P 20 06 47.3 +1.3
YBH pmax pmax
comp=Z,82nm,1.8s
YBH **Yreka Blue Hor** 22.53 120 LR LR 20 13 21.6
comp=Z,712nm,19.7s,baz=308,slow=31
K05A **Summer Lake** 22.68 115 IAmb IAmb 20 07 04.7
comp=Z,52nm,0.9s
KHMM **Horse Mountain** 22.71 123 P P 20 06 47.9 -0.1
BILL **Bilibino** 23.15 318 P P 20 06 51.7 -0.3
BILL IAmb IAmb 20 07 09.7
comp=Z,41nm,0.9s
BILL **Bilibino** 23.15 318 *i* P P 20 06 52.5 +0.4
MSO **Missoula** 23.61 99 IAmb IAmb 20 07 15.1
comp=Z,87nm,2.0s
MSO **Missoula** 23.61 99 P P 20 06 57.4 +0.5
baz=307,SNR=9.9
PLTX **Planet X, Gerl** 24.89 117 IAmb IAmb 20 07 13.2
comp=Z,68nm,1.4s
EGMT **Eagleton** 25.22 93 P P 20 07 11.8 +0.1
baz=304,SNR=6.5
HLID **Hailey** 25.45 106 P P 20 07 15.1 +1.1
baz=313,SNR=21
BOZ **Bozeman (W)** 25.63 99 P P 20 07 16.3 +0.8
baz=305,SNR=6.8
MPK **Martis Peak** 25.71 120 IAmb IAmb 20 07 36.5
comp=Z,41nm,1.2s
PNTR **Pine Nut** 26.08 119 IAmb IAmb 20 07 44.8
comp=Z,28nm,0.9s
FFC **Flin Flon** 26.27 74 P P 20 07 21.3 +0.3
FFC IAmb IAmb 20 07 25.9
comp=Z,57nm,1.3s
FFC **Flin Flon** 26.27 74 P P 20 07 21.3 +0.3
FFC pmax pmax
comp=Z,57nm,1.3s
H17A **Grant Village** 26.97 100 P P 20 07 28.2 +0.4
baz=310
NVAR **Mina Array Bea** 27.22 118 P P 20 07 31.2 +1.2
comp=Z,12nm,0.9s,baz=305,slow=9.0,SNR=58
NVAR PcP **PcP** 20 10 49.9 +0.4
comp=Z,3.8nm,0.8s,baz=291,slow=2.2,SNR=12
NVAR LR LR 20 16 08.0
comp=Z,647nm,20.1s,baz=302,slow=32
comp=Z,12nm,0.9s
RLMT **Red Lodge** 27.23 98 P P 20 07 29.5 -0.4
baz=309
RES **Resolute Bay** 27.32 28 P P 20 07 30.1 -0.1
RES IAmb IAmb 20 07 57.0
comp=Z,30nm,0.9s
RES **Resolute Bay** 27.32 28 P P 20 07 30.1 -0.1
RES pmax pmax
comp=Z,30nm,1.0s
RES **Resolute Bay** 27.32 28 LR LR 20 19 09.2
comp=Z,909nm,18.6s,baz=270,slow=38
MLAC **Mammoth, Mammo** 27.60 120 P P 20 07 35.4 +2.1
baz=323
TPH **Tonopah** 28.03 118 P P 20 07 37.6 +0.5
TPH IAmb IAmb 20 07 39.7
comp=Z,49nm,1.0s
TPH **Tonopah** 28.03 118 P P 20 07 37.7 +0.5
TPH pmax pmax
comp=Z,49nm,1.0s
Q12A **Willow Creek R** 28.49 113 IAmb IAmb 20 07 59.6
comp=Z,32nm,1.0s
PDAR **Pinedale Array** 28.61 102 P3KPbc
comp=Z,0.4nm,0.7s,baz=151,slow=3.3,SNR=3.5
R11B **Troy Canyon, C** 28.63 115 P P 20 07 44.0 +1.4
baz=320,SNR=21
DUG **Dugway, Tooele** 28.67 109 P P 20 07 44.2 +1.4
baz=317
GRAC **Grapevine Rang** 28.81 119 P P 20 07 45.6 +1.6
baz=323,SNR=7.5
FCC **Fort Churchill** 28.84 62 P P 20 07 44.6 +0.7
FCC IAmb IAmb 20 07 46.3
comp=Z,76nm,1.1s
FCC **Fort Churchill** 28.84 62 P P 20 07 44.6 +0.7
FCC pmax pmax
comp=Z,76nm,1.1s
CWC **Cottonwood Cre** 28.91 121 P P 20 07 47.0 +2.0
baz=324
SEY **Seymchan** 29.26 307 *d i* P P 20 07 47.6 0.0
SEY pmax pmax
comp=Z,14nm,1.1s
SEY **Seymchan** 29.26 307 LR LR 20 20 37.4
comp=Z,650nm,18.5s,baz=68,slow=39
ISA **Isabella, Lake** 29.36 122 P P 20 07 50.0 +1.2
baz=325
PKM **Mcpherson Peak** 29.37 125 P P 20 07 50.0 +0.8
baz=326
TPNV **Topopah Spring** 29.39 118 P P 20 07 51.1 +1.8
baz=322
FURC **Furnace Creek,** 29.47 119 P P 20 07 51.5 +1.7
baz=323
MPMC **Manual Prospec** 29.50 120 P P 20 07 51.8 +1.5
baz=324
PET **Petropavlovsk** 29.74 286 *e* P P 20 07 59.4 +7.4
PET pmax pmax
comp=Z,78nm,1.3s
PET MLR MLR
comp=Z,500nm,19.0s
LRMC **Laurel Mtn Rad** 29.88 121 P P 20 07 54.6 +1.1
baz=325,SNR=9.2
SCZ2 **Santa Cruz Isl** 30.20 126 P P 20 07 57.3 +1.0
baz=327
PETK **Petropavlovsk-** 30.21 286 P P 20 07 57.2 +1.0
comp=Z,8.7nm,0.9s,baz=76,slow=12,SNR=8.6
PETK LR LR 20 19 24.7
comp=Z,352nm,21.3s,baz=84,slow=35
comp=Z,8.7nm,0.9s
SHOC **Shoshone, Teco** 30.21 119 P P 20 07 58.0 +1.6
baz=323
EDW2 **Edwards Air Fo** 30.22 122 P P 20 07 57.5 +1.0
baz=325
EUNU **Eureka** 30.26 18 P P 20 07 58.0 +1.6
GSC **Goldstone, Bar** 30.44 120 P P 20 08 00.1 +1.6
baz=324
Q16A **Castle Valley** 30.47 109 IAmb IAmb 20 08 01.7
comp=Z,67nm,2.0s
TUQ **Turquoise Moun** 30.75 119 P P 20 08 02.9 +1.6
baz=324,SNR=7.5
BFSC **Mount Baldy Ra** 30.90 123 P P 20 08 04.3 +1.6
baz=326,SNR=7.3
MDND **Maddock** 30.94 85 P P 20 08 03.7 +1.0
baz=305
PKCU **Pink Cliffs** 30.99 112 IAmb IAmb 20 08 16.4
comp=Z,36nm,1.3s
MA2 **Magadan** 31.03 301 P P 20 08 04.2 +0.8
MA2 IAmb IAmb 20 08 08.5
comp=Z,56nm,1.6s
MA2 **Magadan** 31.03 301 ⇑ *e* P P 20 08 04.5 +1.1
MA2 pmax pmax
comp=Z,36nm,1.6s
MA2 **Magadan** 31.03 301 LR LR 20 22 03.8
comp=Z,376nm,18.9s,baz=86,slow=39
HEC **Hector,Ludlow** 31.05 120 P P 20 08 05.2 +1.4
baz=324,SNR=6.3
V12A **Nelson** 31.05 117 IAmb IAmb 20 08 07.0
comp=Z,16nm,0.9s
O20A **White River Ci** 31.14 104 IAmb IAmb 20 08 06.8
comp=Z,23nm,0.7s
O20A **White River Ci** 31.14 104 P P 20 08 05.7 +1.0
baz=316
GMRC **Granite Mounta** 31.41 120 P P 20 08 08.9 +1.8
baz=324,SNR=7.3
HMU **Henry Mountain** 31.43 110 IAmb IAmb 20 08 09.9
comp=Z,36nm,1.2s
ULM **Lac du Bonnet** 31.66 78 IAmb IAmb 20 08 10.9
comp=Z,42nm,0.9s
ULM **Lac du Bonnet** 31.66 78 P P 20 08 09.7 +0.8
comp=Z,34nm,0.9s,baz=294,slow=9.4,SNR=36
ULM LR LR 20 20 39.9
comp=Z,800nm,18.7s,baz=294,slow=36
comp=Z,34nm,0.9s
BELC **Belle Mtn. Jos** 31.88 121 P P 20 08 12.1 +0.9
baz=325,SNR=5.4
NEE2 **Needles Airpor** 31.93 118 P P 20 08 12.5 +1.0
baz=324
PFO **Pinyon Flats O** 31.98 122 P 20 08 10.6 -1.5
PFO **Pinyon Flats O** 31.98 122 P P 20 08 13.7 +1.5
baz=326
PFO **Pinyon Flats O** 31.98 122 ⇑ *i* P P 20 08 13.3 +1.2
PFO pmax pmax
comp=Z,13nm,1.4s
PFO **Pinyon Flats O** 31.98 122 LR LR 20 18 48.7
comp=Z,415nm,20.1s,baz=326,slow=32
TPFO **Pinon Flats** 31.99 122 P P 20 08 13.9 +1.7
baz=326
IRM **Iron Mountain** 32.16 120 P P 20 08 15.3 +1.7
baz=324,SNR=20
BC3 **Big Chuckawall** 32.42 120 P P 20 08 17.2 +1.3
baz=325,SNR=5.6
PDMCI **Parker Dam,Lak** 32.53 118 P P 20 08 18.7 +2.0
baz=324
MONP2 **Monument Peak** 32.59 123 P P 20 08 19.6 +2.1
baz=326,SNR=11
AGMN **Agassiz Nation** 32.74 81 IAmb IAmb 20 08 20.2
comp=Z,40nm,0.9s
AGMN **Agassiz Nation** 32.74 81 P P 20 08 19.0 +0.5
baz=305,SNR=10
AGMN **Agassiz Nation** 32.74 81 P P 20 08 19.6 +1.1
baz=305,SNR=10
BLYC **Blythe** 32.79 119 IAmb IAmb 20 08 22.0
comp=Z,22nm,0.8s
ISCO **Idaho Springs** 32.80 102 P P 20 08 20.1 +0.6
baz=315
SWSC **Sam W. Stewart** 32.84 122 P P 20 08 20.9 +1.4
baz=326
IKP **In-Ko-Pah, Jac** 32.94 122 P P 20 08 22.2 +1.8
baz=326,SNR=8.9
WUAZ **Wupatki** 32.95 113 IAmb IAmb 20 08 23.5
comp=Z,16nm,0.8s
WUAZ **Wupatki** 32.95 113 P P 20 08 22.4 +1.7
baz=322,SNR=8.7
MVCO **Mesa Verde** 33.15 108 P P 20 08 23.1 +0.7
baz=319,SNR=6.0
GLA **Glamis** 33.22 120 P P 20 08 24.0 +1.2
baz=325
SUSD **Miller** 33.36 89 P P 20 08 24.4 +0.5
baz=309
S22A **4UR Ranch, Cre** 33.63 106 P P 20 08 28.0 +1.3
baz=318
F33A **5 Mile Ranch,** 33.96 85 IAmb IAmb 20 08 30.8
comp=Z,48nm,1.2s
F33A **5 Mile Ranch,** 33.96 85 P P 20 08 29.7 +0.6
baz=308,SNR=8.4
OGNE **Ogallala** 33.96 97 P P 20 08 30.5 +1.2
baz=314
W18A **Petrified Fore** 34.10 112 P P 20 08 32.2 +1.5
baz=321
SDCO **Great Sand Dun** 34.35 104 P P 20 08 34.1 +1.2
baz=317,SNR=5.7
SDCO **Great Sand Dun** 34.35 104 P P 20 08 34.1 +1.2
baz=317,SNR=5.7
KSCO **Kaye Shedlock'** 34.99 100 P P 20 08 39.6 +1.4
baz=316
KSCO **Kaye Shedlock'** 34.99 100 P P 20 08 40.1 +1.9
baz=316
214A **Organ Pipe Nat** 35.09 119 P P 20 08 41.0 +1.9
baz=325,SNR=7.4
ECSD **EROS Data Cent** 35.11 89 IAmb IAmb 20 08 40.4
comp=Z,24nm,1.0s
EYMN **Ely** 35.33 79 P P 20 08 41.4 +0.5
EYMN **Ely** 35.33 79 P P 20 08 41.9 +0.9
baz=306,SNR=18
EYMN **Ely** 35.33 79 P P 20 08 42.1 +1.1
baz=306,SNR=18
T25A **Trinidad** 35.38 104 P P 20 08 43.3 +1.5
baz=318
F36A **Milaca** 35.48 83 IAmb IAmb 20 08 44.1
comp=Z,50nm,1.4s
F36A **Milaca** 35.48 83 P P 20 08 42.7 +0.5
baz=308,SNR=8.6
BGNE **Belgrade** 35.79 93 IAmb IAmb 20 08 47.3
comp=Z,77nm,0.9s
BGNE **Belgrade** 35.79 93 P P 20 08 45.6 +0.6
baz=313
BGNE **Belgrade** 35.79 93 P P 20 08 46.9 +1.9
baz=313
TUC **Tucson** 35.80 116 P P 20 08 44.6 -0.6
TUC **Tucson** 35.80 116 P P 20 08 47.2 +2.0
baz=324
TUC **Tucson** 35.80 116 P P 20 08 44.6 -0.6
TUC pmax pmax
comp=Z,13nm,1.3s
ANMO **Albuquerque** 35.94 109 P P 20 08 45.2 -1.3
ANMO PcP 20 11 13.1 +0.2
ANMO **Albuquerque** 35.94 109 P P 20 08 47.7 +1.1
baz=320
ANMO **Albuquerque** 35.94 109 P P 20 08 47.9 +1.4
baz=320,SNR=5.3
ANMO **Albuquerque** 35.94 109 P P 20 08 45.2 -1.3
ANMO 20 11 13.1
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO **Albuquerque** 35.94 109 LR LR 20 21 07.3
comp=Z,391nm,19.3s,baz=36,slow=32
E38A **The Farm, Brul** 36.10 81 P P 20 08 48.4 +0.8
baz=307,SNR=13
SPMN **Marine on St.** 36.27 84 IAmb IAmb 20 08 50.4
comp=Z,25nm,1.1s
SPMN **Marine on St.** 36.27 84 P P 20 08 50.0 +1.0
baz=309
SPMN **Marine on St.** 36.27 84 P P 20 08 49.8 +0.8
baz=309
L34A **Svendsen Farm,** 36.40 91 IAmb IAmb 20 09 32.8
comp=Z,54nm,0.7s
DUN6 **Lazy B Ranch** 36.45 114 IAmb IAmb 20 08 54.1
comp=Z,79nm,1.3s
Y22A **Socorro** 36.45 110 P P 20 08 52.7 +1.8
baz=321
I37A **Lemond, Waseca** 36.71 86 P P 20 08 51.3 -1.5
I37A IAmb IAmb 20 08 54.8
comp=Z,67nm,1.1s
I37B **Waseca** 36.71 86 P P 20 08 53.8 +1.1
baz=310,SNR=10
CBKS **Cedar Bluff** 36.71 97 P P 20 08 53.0 +0.1
CBKS IAmb IAmb 20 08 55.4
comp=Z,39nm,1.1s
CBKS **Cedar Bluff** 36.71 97 P P 20 08 54.0 +1.1
baz=315
CBKS **Cedar Bluff** 36.71 97 P P 20 08 54.4 +1.5
baz=315
CBKS **Cedar Bluff** 36.71 97 P P 20 08 53.0 +0.1
CBKS pmax pmax
comp=Z,39nm,1.1s
121A **Cookes Peak, D** 37.13 113 P P 20 08 58.7 +2.0
baz=323,SNR=8.0
121A **Cookes Peak, D** 37.13 113 P P 20 08 58.5 +1.8
baz=323,SNR=8.0
NEEM **North Greenlan** 37.34 21 *i* P P 20 08 57.7 -0.4
NEEM IAmb IAmb 20 09 00.6
comp=Z,42nm,0.9s
N35A **Tabor** 37.55 91 P P 20 09 01.4 +1.4
baz=313,SNR=9.3
G40A **Rib Lake** 37.67 82 IAmb IAmb 20 09 02.7
comp=Z,28nm,0.8s
G40A **Rib Lake** 37.67 82 P P 20 09 01.6 +0.6
baz=309,SNR=5.0
K38A **Parkersburg** 37.95 87 IAmb IAmb 20 09 04.9
comp=Z,36nm,1.1s
K38A **Parkersburg** 37.95 87 P P 20 09 03.7 +0.4
baz=311
SCIA **State Center** 38.19 88 P P 20 09 05.9 +0.6
baz=312
UPNV **Upernavik** 38.20 29 *i* P P 20 09 05.2 +0.2
UPNV IAmb IAmb 20 09 07.2
comp=Z,25nm,0.8s
FRB **Frobisher Bay** 38.20 45 LR LR 20 25 05.4
comp=Z,2µm,18.9s,baz=322,slow=37
KSU1 **Kansas State U** 38.24 94 P P 20 09 06.3 +0.5
baz=315
I40A **Norwalk** 38.32 84 IAmb IAmb 20 09 08.2
comp=Z,16nm,0.9s
I40A **Norwalk** 38.32 84 P P 20 09 07.3 +0.9
baz=310,SNR=6.4
F42A **Maple Grove Fa** 38.49 80 P P 20 09 09.3 +1.5
baz=309
AMTX **Amarillo** 38.53 104 IAmb IAmb 20 09 10.8
comp=Z,29nm,0.9s
AMTX **Amarillo** 38.53 104 P P 20 09 09.2 +0.8
baz=319
AMTX **Amarillo** 38.53 104 P P 20 09 10.0 +1.6
baz=319,SNR=7.3
MSTX **Muleshoe** 38.64 106 P P 20 09 10.4 +1.1
baz=320
E43A **Lone Tree Farm** 38.73 78 IAmb IAmb 20 09 11.8
comp=Z,39nm,0.8s
E43A **Lone Tree Farm** 38.73 78 P P 20 09 10.9 +1.1
baz=308,SNR=5.5
KAN08 **Anthony NE Sta** 38.82 98 IAmb IAmb 20 09 12.0

U32A **Winter Ranch,** 38.87 99 IAmb IAmb 20 09 13.5
comp=Z,95nm,1.4s
U32A **Winter Ranch,** 38.87 99 P **P** **20 09 12.3 +1.1**
baz=317
ELIS **Ellis County** 38.88 100 IAmb IAmb 20 09 13.8
comp=Z,48nm,0.8s
N38A **Joes South For** 38.93 89 IAmb IAmb 20 09 13.1
comp=Z,39nm,0.8s
N38A **Joes South For** 38.93 89 P **P** **20 09 11.9 +0.3**
baz=313,SNR=5.3
MNTX **Cornudas Mount** 39.03 111 P **P** **20 09 14.1 +1.6**
baz=323,SNR=14
JFWS **Jewell Farm** 39.16 85 IAmb IAmb 20 09 14.5
comp=Z,44nm,1.1s
JFWS **Jewell Farm** 39.16 85 P **P** **20 09 13.8 +0.3**
baz=311
L40A **Anamosa** 39.19 86 IAmb IAmb 20 09 14.8
comp=Z,46nm,0.9s
L40A **Anamosa** 39.19 86 P **P** **20 09 14.0 +0.3**
baz=312,SNR=6.9
KAN13 **South Haven SW** 39.25 97 IAmb IAmb 20 09 16.1
comp=Z,79nm,1.5s
TYV **Tymovskoe** 39.29 292 *e*P **P** **20 09 15.6 +1.2**
TYV *e*S **S** **20 15 18.7 +5.3**
TYV pmax pmax
comp=Z,15nm,1.0s
TYV pmax pmax
comp=Z,300nm,4.1s
TYV smax smax
comp=N,500nm,7.5s
TYV smax smax
comp=E,300nm,7.5s
YAK **Yakutsk** 39.31 313 P **P** **20 09 14.4 0.0**
YAK IAmb IAmb 20 09 15.9
comp=Z,46nm,0.8s
YAK **Yakutsk** 39.31 313 *c i*P **P** **20 09 14.6 +0.2**
YAK pmax pmax
comp=Z,51nm,0.8s
YAK **Yakutsk** 39.31 313 LR LR 20 26 06.3
comp=Z,369nm,21.9s,baz=92,slow=37
P38A **Dawn** 39.57 91 IAmb IAmb 20 09 18.5
comp=Z,49nm,0.8s
P38A **Dawn** 39.57 91 P **P** **20 09 17.6 +0.6**
baz=314,SNR=14
T35A **Sooner Cattle** 39.85 97 IAmb IAmb 20 09 21.0
comp=Z,86nm,1.8s
T35B **Sooner Cattle** 39.85 97 P **P** **20 09 19.9 +0.7**
baz=317
L42A **Oliver, Polo** 40.09 85 P **P** **20 09 21.1 -0.1**
baz=312
E46A **Sault Ste Mari** 40.19 76 IAmb IAmb 20 09 23.9
comp=Z,104nm,1.5s
E46A **Sault Ste Mari** 40.19 76 P **P** **20 09 23.0 +1.1**
baz=309,SNR=5.5
WMOK **Wichita Mounta** 40.21 101 IAmb IAmb 20 09 24.5
comp=Z,27nm,0.9s
WMOK **Wichita Mounta** 40.21 101 P **P** **20 09 23.4 +1.1**
baz=319,SNR=15
WMOK **Wichita Mounta** 40.21 101 P **P** **20 09 23.2 +0.9**
baz=319,SNR=15
N41A **Harden Midland** 40.31 88 IAmb IAmb 20 09 24.2
comp=Z,126nm,1.0s
N41A **Harden Midland** 40.31 88 P **P** **20 09 23.4 +0.4**
baz=313,SNR=12
UMMG **Uummannaq** 40.33 31 *i* P **P** **20 09 23.0 +0.2**
UMMG IAmb IAmb 20 09 25.1
comp=Z,13nm,0.9s
K43A **Burlington** 40.36 83 P **P** **20 09 24.0 +0.6**
baz=312
P40A **Paris** 40.46 90 IAmb IAmb 20 09 25.6
comp=Z,40nm,0.8s
P40A **Paris** 40.46 90 P **P** **20 09 24.1 -0.2**
baz=314,SNR=14
L44A **Lake County Fo** 40.94 84 P **P** **20 09 28.4 +0.1**
baz=312
W35A **Tecumseh** 40.94 99 IAmb IAmb 20 09 30.1
comp=Z,23nm,0.8s
TUL3 **Leonard** 40.98 97 P **P** **20 09 29.1 +0.5**
baz=317
GLMI **Grayling** 41.00 78 P **P** **20 09 29.5 +0.8**
baz=310
S39A **Bolivar** 41.05 93 IAmb IAmb 20 09 29.5
comp=Z,33nm,1.1s
S39A **Bolivar** 41.05 93 P **P** **20 09 28.4 -0.8**
baz=316,SNR=11
WTFS **Witchita Falls** 41.12 102 IAmb IAmb 20 09 31.5
comp=Z,23nm,0.8s
R40A **Maddies Statio** 41.21 91 IAmb IAmb 20 09 31.1
comp=Z,34nm,0.8s
R40A **Maddies Statio** 41.21 91 P **P** **20 09 30.1 -0.4**
baz=315,SNR=18
RLO **Rose Lookout** 41.22 96 IAmb IAmb 20 09 31.9
comp=Z,34nm,1.2s
HDIL **Hopedale** 41.28 87 P **P** **20 09 31.0 0.0**
baz=314,SNR=13
HDIL **Hopedale** 41.28 87 P **P** **20 09 31.4 +0.4**
baz=314,SNR=13
ABTX **Abilene, Hawle** 41.35 104 P **P** **20 09 32.3 +0.6**
baz=320
ABTX **Abilene, Hawle** 41.35 104 P **P** **20 09 32.7 +1.0**
baz=320
U38A **Gravette** 41.37 95 IAmb IAmb 20 09 33.1
comp=Z,57nm,1.1s
U38A **Gravette** 41.37 95 P **P** **20 09 32.4 +0.5**
baz=317,SNR=11
ILULI **Ilulissat** 41.42 32 *i* P **P** **20 09 30.9 -0.9**
ILULI IAmb IAmb 20 09 33.3
comp=Z,15nm,0.6s
YSS **Yuzh-Sakhalins** 41.62 287 *e*P **P** **20 09 34.8 +1.1**
YSS *e*S **S** **20 15 45.8 -2.4**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,500nm,16.0s
HHAR **Hobbs** 41.73 95 IAmb IAmb 20 09 35.7
comp=Z,33nm,1.1s
P43A **Skaggs, Pawnee** 41.79 88 IAmb IAmb 20 09 36.5
comp=Z,73nm,1.1s
P43A **Skaggs, Pawnee** 41.79 88 P **P** **20 09 35.6 +0.4**
baz=314,SNR=7.1
TX31 **Lajitas Ar. Si** 41.80 111 P **P** **20 09 36.5 +0.9**
baz=324,SNR=15
TXAR **Lajitas Array** 41.81 111 P **P** **20 09 36.8 +1.2**
comp=Z,8.9nm,0.9s,baz=324,slow=6.2,SNR=56
TXAR PcP **PcP** **20 11 30.8 -0.5**
comp=Z,2.6nm,0.9s,baz=289,slow=2.8,SNR=3.6
TXAR LR LR 20 26 00.1
comp=Z,151nm,18.6s,baz=286,slow=35
comp=Z,8.9nm,0.9s
OZNA **Ozona** 41.88 107 IAmb IAmb 20 09 38.0
comp=Z,23nm,0.9s
J47A **Sunmer** 41.93 80 P **P** **20 09 37.6 +1.2**
baz=312
J47A P **P** **20 09 37.6 +1.2**
baz=312
CCM **Cathedral Cave** 41.95 91 P **P** **20 09 35.8 -0.7**
CCM IAmb IAmb 20 09 37.2
comp=Z,25nm,0.9s
CCM **Cathedral Cave** 41.95 91 P **P** **20 09 36.2 -0.3**
baz=316
CCM **Cathedral Cave** 41.95 91 P **P** **20 09 36.2 -0.3**
baz=315,SNR=9.2
CCM **Cathedral Cave** 41.95 91 P **P** **20 09 35.8 -0.7**
CCM pmax pmax
comp=Z,25nm,1.0s
MGMO **Mountain Grove** 42.02 93 IAmb IAmb 20 09 37.5
comp=Z,30nm,1.1s
U40A **Yellville** 42.28 94 P **P** **20 09 38.5 -0.7**
baz=317,SNR=13
U40A P **P** **20 09 38.5 -0.7**
baz=317,SNR=13
FVM **French Village** 42.45 90 IAmb IAmb 20 09 41.7
comp=Z,62nm,1.2s
FVM **French Village** 42.45 90 P **P** **20 09 40.8 +0.1**
baz=316,SNR=9.1
GRNR **Gornyy** 42.52 295 *e*P **P** **20 09 38.4 -2.6**
GRNR MLR MLR
comp=Z,190nm,16.0s
GRNR MLR MLR
comp=E,190nm,15.0s
GRNR MLR MLR
comp=N,290nm,21.0s
I49A **Point Hope** 42.55 78 P **P** **20 09 42.6 +1.2**
baz=311
I49A P **P** **20 09 42.6 +1.2**
baz=311
Q44A **Meyer Farm, Va** 42.58 88 IAmb IAmb 20 09 42.8
comp=Z,39nm,1.0s
Q44A **Meyer Farm, Va** 42.58 88 P **P** **20 09 42.1 +0.5**
baz=315,SNR=5.4
SFIN **Lafayette** 42.62 85 IAmb IAmb 20 09 43.3
comp=Z,24nm,0.8s
SFIN **Lafayette** 42.62 85 P **P** **20 09 42.5 +0.6**
baz=314,SNR=5.0
VLDQ **Val d'Or** 42.72 70 IAmb IAmb 20 09 42.8
comp=Z,53nm,1.4s
SUMG **Summit** 42.73 25 P **P** **20 09 43.2 +0.3**
SUMG IAmb IAmb 20 09 44.9
comp=Z,87nm,0.9s
SUMG **Summit** 42.73 25 P **P** **20 09 43.2 +0.3**
SUMG pmax pmax
comp=Z,87nm,0.9s
SUMG **Summit** 42.73 25 *i* P **P** **20 09 43.0 +0.1**
SUMG IAmb IAmb 20 09 45.2
comp=Z,50nm,0.9s
T42A **Van Buren** 42.76 92 P **P** **20 09 42.0 -1.2**
baz=316
SFJD **Kangerlussuaq** 42.85 35 P **P** **20 09 43.8 +0.2**
SFJD IAmb IAmb 20 09 45.6
comp=Z,72nm,1.1s
SFJD **Kangerlussuaq** 42.85 35 P **P** **20 09 43.8 +0.2**
SFJD pmax pmax
comp=Z,72nm,1.1s
SFJD **Kangerlussuaq** 42.85 35 LR LR 20 27 36.9
comp=Z,497nm,20.3s,baz=322,slow=36
SFJD **Kangerlussuaq** 42.85 35 *i* P **P** **20 09 43.7 +0.2**
SFJD IAmb IAmb 20 09 45.8
comp=Z,26nm,0.9s
LPIG **La Paz** 42.87 123 LR LR 20 24 15.4
comp=Z,202nm,19.4s,baz=328,slow=32
JCT **Junction City** 42.93 106 IAmb IAmb 20 09 46.6
comp=Z,45nm,0.9s
JCT **Junction City** 42.93 106 P **P** **20 09 45.6 +1.0**
baz=322,SNR=12
L48A **N Adams** 43.01 81 IAmb IAmb 20 09 46.7
comp=Z,45nm,0.9s
L48A **N Adams** 43.01 81 P **P** **20 09 45.9 +0.7**
baz=313
L48A P **P** **20 09 45.9 +0.7**
baz=313
WHTX **Lake Whitney,** 43.02 102 P **P** **20 09 46.0 +0.8**
baz=320
FCAR **Ozark Folk Cen** 43.02 94 IAmb IAmb 20 09 45.4
comp=Z,30nm,1.0s
N47A **Urbna** 43.05 83 IAmb IAmb 20 09 46.2
comp=Z,50nm,1.0s
N47A **Urbana** 43.05 83 P **P** **20 09 45.2 -0.2**
baz=314
N47A P **P** **20 09 45.2 -0.2**
baz=314
P46A **Rosedale** 43.08 86 IAmb IAmb 20 09 47.3
comp=Z,35nm,0.9s
P46A **Rosedale** 43.08 86 P **P** **20 09 46.4 +0.7**
baz=314
OLIL **Olney** 43.21 87 IAmb IAmb 20 09 48.2
comp=Z,102nm,1.1s
OLIL **Olney** 43.21 87 P **P** **20 09 47.2 +0.4**
baz=315,SNR=8.1
S44A **Carbondale** 43.31 90 IAmb IAmb 20 09 48.7
comp=Z,64nm,1.2s
S44A **Carbondale** 43.31 90 P **P** **20 09 48.0 +0.5**
baz=316,SNR=6.9
SIUC **Southern Illin** 43.31 89 IAmb IAmb 20 09 48.7
comp=Z,61nm,1.1s
DRIO **Del Rio** 43.33 108 IAmb IAmb 20 09 49.2
comp=Z,27nm,0.8s
CGM3 **Cape Girardeau** 43.37 90 IAmb IAmb 20 09 48.8
comp=Z,85nm,1.7s
SLBS **Sierra La Lagu** 43.39 123 P **P** **20 09 47.4 -1.1**
LCAR **Lake Charles** 43.42 93 P **P** **20 09 47.8 -0.7**
baz=317,SNR=9.6
JKA **Kamikawa-asahi** 43.54 284 P **P** **20 09 49.4 0.0**
JKA IAmb IAmb 20 10 13.0
comp=Z,31nm,1.1s
ASAJ **Asahikawa** 43.54 284 P **P** **20 09 49.6 +0.3**
comp=Z,12nm,0.8s,baz=28,slow=9.4,SNR=7.8
ASAJ LR LR 20 29 42.5
comp=Z,177nm,19.0s,baz=20,slow=38
comp=Z,12nm,0.8s
O48B **Farmland** 43.77 84 IAmb IAmb 20 09 51.7
comp=Z,26nm,0.9s
O48B **Farmland** 43.77 84 P **P** **20 09 50.6 -0.7**
baz=314
O48B **Farmland** 43.77 84 P **P** **20 09 50.9 -0.4**
baz=314
BLO **Bloomington** 43.77 86 IAmb IAmb 20 09 52.6
comp=Z,50nm,1.1s
SCHQ **Schefferville** 43.78 56 P **P** **20 09 51.3 +0.1**
comp=Z,11nm,0.9s,baz=314,slow=7.6,SNR=8.6
SCHQ LR LR 20 28 17.8
comp=Z,1µm,18.3s,baz=308,slow=36
comp=Z,11nm,0.9s
N49A **Columbus Grove** 43.85 82 IAmb IAmb 20 09 53.0
comp=Z,91nm,1.4s
N49A **Columbus Grove** 43.85 82 P **P** **20 09 52.4 +0.5**
baz=314,SNR=7.5
N49A P **P** **20 09 52.4 +0.5**
baz=314,SNR=7.5
SADO **Sadowa** 43.99 74 LR LR 20 27 41.6
comp=Z,25nm,18.4s,baz=269,slow=35
USIN **University of** 43.99 88 IAmb IAmb 20 09 54.4
comp=Z,89nm,1.0s
P48A **Milroy** 44.18 85 IAmb IAmb 20 09 55.3
comp=Z,61nm,1.4s
KBS **Kingsbay** 44.35 5 P **P** **20 09 57.1 +1.7**
KBS IAmb IAmb 20 09 58.6
comp=Z,94nm,1.3s
KBS **Kingsbay** 44.35 5 *e*P **P** **20 09 56.7 +1.2**
KBS IAmb IAmb 20 09 58.2
comp=Z,103nm,1.4s
KBS **Kingsbay** 44.35 5 P **P** **20 09 57.1 +1.7**
KBS pmax pmax
comp=Z,94nm,1.3s
P49A **Miami Univ. Ec** 44.52 84 P **P** **20 09 56.6 -0.6**
baz=315
DY2G **Dye2** 44.54 34 *i* P **P** **20 09 56.6 -0.8**
DY2G IAmb IAmb 20 09 59.1
comp=Z,19nm,0.9s
WCI **Wyandotte Cave** 44.57 87 P **P** **20 09 56.7 -1.0**
WCI IAmb IAmb 20 09 58.9
comp=Z,39nm,1.2s
WCI **Wyandotte Cave** 44.57 87 P **P** **20 09 58.0 +0.3**
baz=315
WCI **Wyandotte Cave** 44.57 87 P **P** **20 09 56.7 -1.0**
WCI pmax pmax
comp=Z,39nm,1.3s
NATX **Nacogdoches** 44.71 100 P **P** **20 09 59.1 +0.2**
baz=320
ICESG **Greenland Ices** 44.73 29 *i* P **P** **20 09 58.5 -0.5**
ICESG IAmb IAmb 20 10 01.8
comp=Z,34nm,0.8s
N51A **Ashland** 44.84 81 IAmb IAmb 20 10 01.1
comp=Z,60nm,1.0s
N51A **Ashland** 44.84 81 P **P** **20 10 00.1 +0.3**
baz=314,SNR=7.5
N51A P **P** **20 10 00.1 +0.3**
baz=314,SNR=7.5
833A **Chaparral WMA,** 44.85 108 P **P** **20 10 01.0 +0.9**
baz=323
833A **Chaparral WMA,** 44.85 108 P **P** **20 10 01.5 +1.5**
baz=323
M52A **Chesterland** 44.97 79 IAmb IAmb 20 10 02.4
comp=Z,53nm,0.9s
M52A **Chesterland** 44.97 79 P **P** **20 10 01.4 +0.5**
baz=314
M52A P **P** **20 10 01.4 +0.5**
baz=314
ACSO **Alum Creek Sta** 44.98 82 P **P** **20 10 01.0 0.0**
baz=314,SNR=9.2
ACSO **Alum Creek Sta** 44.98 82 P **P** **20 10 01.8 +0.8**
baz=314,SNR=9.2
T47A **Sharon Grove** 45.01 88 IAmb IAmb 20 10 02.5
comp=Z,32nm,1.1s
T47A **Sharon Grove** 45.01 88 P **P** **20 10 01.5 +0.3**
baz=316,SNR=5.6
ZEA **Zeya** 45.10 304 *e*P **P** **20 10 02.2 +0.5**
ZEA *e*S **S** **20 16 43.7 +4.6**
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZEA smax smax
comp=E,100nm,14.3s
ZEA MLR MLR
comp=E,100nm,13.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
WVT **Waverly** 45.22 90 P **P** **20 10 02.9 0.0**
WVT IAmb IAmb 20 10 03.8
comp=Z,21nm,0.9s
WVT **Waverly** 45.22 90 P **P** **20 10 03.3 +0.4**
baz=317
WVT **Waverly** 45.22 90 P **P** **20 10 03.4 +0.5**
baz=317,SNR=7.4
WVT **Waverly** 45.22 90 P **P** **20 10 02.9 0.0**
WVT pmax pmax
comp=Z,21nm,1.0s
J54A **Appleton** 45.26 76 P **P** **20 10 03.8 +0.7**
baz=313,SNR=6.0
J54A P **P** **20 10 03.8 +0.7**
baz=313,SNR=6.0
SPA0 **Spitsbergen Ar** 45.28 4 *e*P **P** **20 10 02.6 -0.3**
SPITS **Spitsbergen Ar** 45.28 4 P **P** **20 10 02.8 -0.1**
comp=Z,38nm,0.8s,baz=104,slow=1.7,SNR=14
SPITS LR LR 20 27 38.6
comp=Z,374nm,20.8s,baz=359,slow=34
comp=Z,38nm,0.8s
SPB2 **Spitsbergen Ar** 45.29 4 IAmb IAmb 20 10 04.2
comp=Z,47nm,0.9s
ERPA **Erie** 45.32 78 IAmb IAmb 20 10 05.3
comp=Z,59nm,0.9s
ERPA **Erie** 45.32 78 P **P** **20 10 04.3 +0.7**
baz=313
ERPA **Erie** 45.32 78 P **P** **20 10 04.2 +0.7**
baz=313
M53A **WI Miller and** 45.41 79 P **P** **20 10 04.4 0.0**
baz=314,SNR=11
TRQ **Mont Tremblant** 45.45 70 IAmb IAmb 20 10 06.1
comp=Z,50nm,1.0s
P51A **Williamsport** 45.47 83 IAmb IAmb 20 10 05.9
comp=Z,62nm,1.0s
P51A **Williamsport** 45.47 83 P **P** **20 10 05.0 +0.2**
baz=315,SNR=7.3
P51A P **P** **20 10 05.0 +0.2**
baz=315,SNR=7.3
HKT **Hockley** 45.47 103 P **P** **20 10 05.7 +0.8**
HKT IAmb IAmb 20 10 08.0
comp=Z,85nm,1.6s
HKT **Hockley** 45.47 103 P **P** **20 10 06.5 +1.7**
baz=322
HKT **Hockley** 45.47 103 P **P** **20 10 05.7 +0.8**
HKT pmax pmax
comp=Z,85nm,1.6s
OXF **Oxford** 45.53 93 P **P** **20 10 05.3 0.0**
baz=318,SNR=7.6
OXF **Oxford** 45.53 93 P **P** **20 10 05.4 0.0**
baz=318,SNR=7.6
R50A **Paris** 45.62 85 IAmb IAmb 20 10 07.1
comp=Z,53nm,1.0s
R50A **Paris** 45.62 85 P **P** **20 10 06.4 +0.4**
baz=316,SNR=10
R50A P **P** **20 10 06.4 +0.4**
baz=316,SNR=10
Q51A **Peebles** 45.63 83 P **P** **20 10 07.0 +0.8**
baz=315,SNR=5.8
Q51A P **P** **20 10 07.0 +0.8**
baz=315,SNR=5.8
O52A **Adamsville** 45.70 81 P **P** **20 10 06.9 +0.3**
baz=314,SNR=11
O52A P **P** **20 10 06.9 +0.3**
baz=314,SNR=11
J55A **Hilton** 45.71 75 P **P** **20 10 07.4 +0.8**
baz=313,SNR=5.2
J55A P **P** **20 10 07.4 +0.8**
baz=313,SNR=5.2
N53A **Lisbon** 45.76 80 IAmb IAmb 20 10 08.3
comp=Z,53nm,0.9s
N53A **Lisbon** 45.76 80 P **P** **20 10 07.8 +0.6**
baz=314,SNR=8.9
N53A P **P** **20 10 07.8 +0.6**
baz=314,SNR=8.9
143A **Socs Landing,** 45.78 96 IAmb IAmb 20 10 09.5
comp=Z,62nm,0.9s
KLR **Kul'dur** 45.83 296 *c i*P **P** **20 10 08.3 +0.8**
KLR pmax pmax
comp=Z,28nm,0.9s
KLR **Kul'dur** 45.83 296 LR LR 20 31 52.7
comp=Z,302nm,18.3s,baz=52,slow=40
WVNY **West Valley, N** 45.87 77 IAmb IAmb 20 10 09.7
comp=Z,53nm,0.8s
WVNY **West Valley, N** 45.87 77 P **P** **20 10 08.8 +0.8**
baz=313,SNR=9.2
P52A **Corning** 45.87 82 P **P** **20 10 07.8 -0.2**
baz=315,SNR=15
WBO **Williamsburg** 45.89 72 P **P** **20 10 07.7 -0.3**
WBO IAmb IAmb 20 10 09.3
comp=Z,34nm,0.8s
PAOC **Oil Creek Stat** 45.90 78 P **P** **20 10 08.5 +0.3**
baz=314
PLAL **Pickwick Lake** 45.93 91 IAmb IAmb 20 10 10.1
comp=Z,51nm,1.1s
O53A **New Philadelph** 45.94 81 IAmb IAmb 20 10 09.6
comp=Z,46nm,1.1s
O53A **New Philadelph** 45.94 81 P **P** **20 10 08.6 +0.1**
baz=314,SNR=5.9
LDAQ **Lac Daran** 46.00 66 P **P** **20 10 08.2 -0.8**
V48A **Smith Brothers** 46.07 89 IAmb IAmb 20 10 11.4
comp=Z,107nm,1.9s
PAMR **Moraine State** 46.07 79 P **P** **20 10 09.9 +0.3**
baz=314
CLTN **Cedars of Leba** 46.08 89 IAmb IAmb 20 10 11.9
comp=Z,70nm,1.1s
U49A **Red Boiling Sp** 46.08 88 IAmb IAmb 20 10 10.8
comp=Z,21nm,1.0s
U49A **Red Boiling Sp** 46.08 88 P **P** **20 10 10.3 +0.6**
baz=317,SNR=6.5
T50A **Nancy** 46.24 87 IAmb IAmb 20 10 12.6
comp=Z,90nm,1.7s
T50A **Nancy** 46.24 87 P **P** **20 10 11.2 +0.3**
baz=316
T50A P **P** **20 10 11.2 +0.3**
baz=316
Q52A **Bidwell** 46.27 83 P **P** **20 10 11.3 +0.2**
baz=315,SNR=19
Q52A P **P** **20 10 11.3 +0.2**
baz=315,SNR=19
WCNY **West Carthage** 46.37 73 P **P** **20 10 12.6 +0.7**
baz=313,SNR=13
P53A **Whipple** 46.38 82 P **P** **20 10 12.3 +0.3**
baz=315,SNR=13
P53A P **P** **20 10 12.3 +0.3**
baz=315,SNR=13
BMNY **Brushton-Moira** 46.40 71 P **P** **20 10 11.7 -0.4**
baz=312
M55A **Ridgway** 46.43 78 P **P** **20 10 12.9 +0.5**
baz=314,SNR=16
M55A P **P** **20 10 12.9 +0.5**
baz=314,SNR=16
UPAO **U. Pittsburgh** 46.43 80 P **P** **20 10 13.0 +0.6**
baz=314
O54A **Avella** 46.45 80 P **P** **20 10 12.9 +0.3**
baz=315,SNR=11
O54A P **P** **20 10 12.9 +0.3**
baz=315,SNR=11
S51A **Beattyville** 46.48 85 IAmb IAmb 20 10 14.2
comp=Z,56nm,1.2s
S51A **Beattyville** 46.48 85 P **P** **20 10 13.3 +0.5**
baz=316,SNR=7.0
S51A P **P** **20 10 13.3 +0.5**
baz=316,SNR=7.0
LONY **Lake Ozonia** 46.51 72 IAmb IAmb 20 10 21.2
comp=Z,33nm,1.1s
LONY **Lake Ozonia** 46.51 72 P **P** **20 10 12.8 -0.2**
baz=313
J57A **Williamstown** 46.58 74 P **P** **20 10 14.1 +0.5**
baz=313,SNR=7.9
J57A P **P** **20 10 14.1 +0.5**
baz=313,SNR=7.9
L56A **Greenwood** 46.62 76 P **P** **20 10 14.6 +0.7**
baz=314,SNR=29
L56A P **P** **20 10 14.6 +0.7**
baz=314,SNR=29
PSDB **Penn State Uni** 46.67 78 P **P** **20 10 16.0 +1.7**
baz=314
LMQ **La Malbaie** 46.74 66 P **P** **20 10 13.1 -1.7**
LMQ IAmb IAmb 20 10 15.9
comp=Z,43nm,0.9s
K57A **Scipio Center** 46.77 75 IAmb IAmb 20 10 17.9
comp=Z,32nm,1.0s
K57A **Scipio Center** 46.77 75 P **P** **20 10 15.8 +0.8**
baz=314
FRNY **Flat Rock** 46.88 71 IAmb IAmb 20 10 16.6
comp=Z,28nm,0.9s
FRNY **Flat Rock** 46.88 71 P **P** **20 10 15.5 -0.4**
baz=313,SNR=5.4

X48A	**Hartselle**	**46.89**	**91**	P		**P**		**20 10 16.6**	**+0.6**
	baz=318,SNR=21								
R53A	**Hurricane**	**46.89**	**83**	P		**P**		**20 10 16.7**	**+0.6**
	baz=316,SNR=15								
R53A				P		**P**		**20 10 16.7**	**+0.6**
	baz=316,SNR=15								
J58A	**Remsen**	**46.99**	**73**	P		**P**		**20 10 17.7**	**+0.9**
	baz=313,SNR=15								
J58A				P		**P**		**20 10 17.7**	**+0.9**
	baz=313,SNR=15								
Q54A	**Coxs Mills**	**47.04**	**82**	P		**P**		**20 10 17.5**	**+0.3**
	baz=315,SNR=12								
Q54A				P		**P**		**20 10 17.5**	**+0.3**
	baz=315,SNR=12								
MCWV	**Mont Chateau**	**47.11**	**80**	P		**P**		**20 10 17.7**	**0.0**
	baz=315,SNR=8.0								
MCWV	**Mont Chateau**	**47.11**	**80**	P		**P**		**20 10 18.1**	**+0.4**
	baz=315,SNR=8.0								
NCB	**Newcomb**	**47.14**	**72**	P		**P**		**20 10 18.6**	**+0.7**
	baz=313,SNR=12								
HOPEN	**Hopen**	**47.20**	**2**	*e*P		**P**		**20 10 18.3**	**+0.4**
Z47A	**Carrollton**	**47.26**	**93**	IAmb		IAmb		20 10 20.5	
	comp=Z,40nm,0.9s								
HEH	**HeiHe**	**47.28**	**300**	*e*P		**P**		**20 10 18.5**	**-0.4**
HEH				sP		**sP**		**20 10 27.8**	**+0.1**
HEH				PcP		**PcP**		**20 11 49.0**	**-0.6**
HEH				pmax		pmax			
	comp=Z,25nm,1.3s								
HEH				LR		LR			
	comp=Z,140nm,12.9s								
HEH				LR		LR			
	comp=Z,320nm,14.9s								
HEH				LR		LR			
	comp=Z,320nm,12.4s								
TZTN	**Tazewell**	**47.30**	**86**	IAmb		IAmb		20 10 20.9	
	comp=Z,61nm,1.2s								
TZTN	**Tazewell**	**47.30**	**86**	P		**P**		**20 10 19.9**	**+0.6**
	baz=317,SNR=8.3								
W50A	**Signal Mountai**	**47.30**	**89**	P		**P**		**20 10 20.4**	**+1.1**
	baz=318,SNR=20								
J59A	**Piesco**	**47.34**	**73**	IAmb		IAmb		20 10 21.0	
	comp=Z,55nm,1.2s								
J59A	**Piesco**	**47.34**	**73**	P		**P**		**20 10 20.1**	**+0.6**
	baz=313,SNR=7.0								
J59A				P		**P**		**20 10 20.1**	**+0.6**
	baz=313,SNR=7.0								
ISOG	**Isortoq, Green**	**47.37**	**32**	*i* P		**P**		**20 10 18.3**	**-1.1**
ISOG				IAmb		IAmb		20 10 20.2	
	comp=Z,42nm,0.7s								
V51A	**Loudon**	**47.39**	**87**	IAmb		IAmb		20 10 21.5	
	comp=Z,26nm,1.1s								
V51A	**Loudon**	**47.39**	**87**	P		**P**		**20 10 20.5**	**+0.5**
	baz=317								
M57A	**Sunshine Farm,**	**47.40**	**77**	P		**P**		**20 10 20.8**	**+0.8**
	baz=314,SNR=15								
M57A				P		**P**		**20 10 20.8**	**+0.8**
	baz=314,SNR=15								
BINY	**Binghamton**	**47.42**	**75**	P		**P**		**20 10 21.1**	**+0.9**
	baz=314,SNR=16								
SSPA	**Standing Stone**	**47.48**	**78**	P		**P**		**20 10 20.1**	**-0.5**
SSPA				IAmb		IAmb		20 10 22.1	
	comp=Z,50nm,1.1s								
SSPA	**Standing Stone**	**47.48**	**78**	P		**P**		**20 10 21.0**	**+0.4**
	baz=315								
SSPA	**Standing Stone**	**47.48**	**78**	P		**P**		**20 10 21.3**	**+0.7**
	baz=315,SNR=11								
SOEG	**Soedalen**	**47.50**	**27**	*i* P		**P**		**20 10 18.6**	**-1.7**
SOEG				IAmb		IAmb		20 10 21.7	
	comp=Z,14nm,0.7s								
CPCT	**Cooper Cave**	**47.55**	**88**	IAmb		IAmb		20 10 22.6	
	comp=Z,51nm,1.4s								
S54A	**Dingess, Beckl**	**47.62**	**83**	P		**P**		**20 10 22.0**	**+0.2**
	baz=316,SNR=5.5								
S54A				P		**P**		**20 10 22.0**	**+0.2**
	baz=316,SNR=5.5								
VT1	**Waterbury**	**47.66**	**71**	IAmb		IAmb		20 10 23.4	
	comp=Z,40nm,1.1s								
Y49A	**Blount Mountai**	**47.68**	**91**	P		**P**		**20 10 22.6**	**+0.3**
	baz=318,SNR=11								
D62A	**Allapoint, All**	**47.70**	**66**	P		**P**		**20 10 22.8**	**+0.6**
	baz=312,SNR=15								
D62A				P		**P**		**20 10 22.8**	**+0.6**
	baz=312,SNR=15								
ANGG	**Ammassalik, Gr**	**47.71**	**31**	*i* P		**P**		**20 10 21.2**	**-0.8**
ANGG				IAmb		IAmb		20 10 22.9	
	comp=Z,42nm,0.8s								
E62A	**Clayton Lake**	**47.77**	**66**	P		**P**		**20 10 22.8**	**+0.1**
	baz=313,SNR=13								
E62A				P		**P**		**20 10 22.8**	**+0.1**
	baz=313,SNR=13								
V52A	**Sevierville**	**47.78**	**87**	IAmb		IAmb		20 10 24.1	
	comp=Z,26nm,0.9s								
V52A	**Sevierville**	**47.78**	**87**	P		**P**		**20 10 23.3**	**+0.3**
	baz=317,SNR=7.1								
TKL	**Tuckaleechee C**	**47.82**	**87**	IAmb		IAmb		20 10 24.8	
	comp=Z,41nm,1.1s								
TKL	**Tuckaleechee C**	**47.82**	**87**	P		**P**		**20 10 24.1**	**+0.8**
	baz=317,SNR=9.0								
TKL	**Tuckaleechee C**	**47.82**	**87**	LR		LR		20 30 29.1	
	comp=Z,773nm,19.1s,baz=310,slow=36								
ACCN	**Adirondack Com**	**47.83**	**72**	IAmb		IAmb		20 10 25.2	
	comp=Z,54nm,1.1s								
ACCN	**Adirondack Com**	**47.83**	**72**	P		**P**		**20 10 24.2**	**+0.9**
	baz=314,SNR=8.0								
HCNY	**Howe Caverns**	**47.92**	**73**	P		**P**		**20 10 25.2**	**+1.2**
	baz=314,SNR=11								
L59A	**Walton**	**47.93**	**74**	P		**P**		**20 10 24.9**	**+0.8**
	baz=314,SNR=11								
L59A				P		**P**		**20 10 24.9**	**+0.8**
	baz=314,SNR=11								
R55A	**Marlinton**	**47.93**	**82**	P		**P**		**20 10 24.9**	**+0.7**
	baz=316								
R55A				P		**P**		**20 10 24.9**	**+0.7**
	baz=316								
NRIK	**Noril'sk**	**47.95**	**336**	P		**P**		**20 10 23.6**	**-0.2**
NRIK	**Noril'sk**	**47.95**	**336**	*c i* P		**P**		**20 10 24.4**	**+0.6**
NRIK				pmax		pmax			
	comp=Z,77nm,1.3s								
NRIK	**Noril'sk**	**47.95**	**336**	P		**P**		**20 10 23.5**	**-0.4**
	comp=Z,23nm,0.8s,baz=48,slow=6.9,SNR=40								
NRIK				LR		LR		20 33 38.5	
	comp=Z,648nm,19.9s,baz=50,slow=40								
	comp=Z,23nm,0.8s								
LRAL	**Lakeview Retre**	**47.97**	**92**	IAmb		IAmb		20 10 25.2	
	comp=Z,18nm,0.9s								
LRAL	**Lakeview Retre**	**47.97**	**92**	P		**P**		**20 10 24.7**	**+0.2**
	baz=319,SNR=6.0								
N58A	**Sunbury**	**47.97**	**77**	P		**P**		**20 10 25.1**	**+0.7**
	baz=315,SNR=12								
N58A				P		**P**		**20 10 25.1**	**+0.7**
	baz=315,SNR=12								
KSPA	**Keystone Colle**	**47.98**	**75**	IAmb		IAmb		20 10 25.7	
	comp=Z,38nm,0.9s								
KSPA	**Keystone Colle**	**47.98**	**75**	P		**P**		**20 10 25.4**	**+0.9**
	baz=314,SNR=7.6								
X51A	**Calhoun**	**48.02**	**89**	P		**P**		**20 10 25.8**	**+0.9**
	baz=318,SNR=23								
X51A				P		**P**		**20 10 25.8**	**+0.9**
	baz=318,SNR=23								
BOD	**Bodaibo**	**48.14**	**314**	*e*P		**P**		**20 10 26.0**	**+0.5**
BOD				pmax		pmax			
	comp=Z,40nm,1.1s								
W52A	**Murphy**	**48.15**	**88**	P		**P**		**20 10 26.5**	**+0.7**
	baz=318,SNR=10								
LBNH	**Lisbon**	**48.16**	**70**	IAmb		IAmb		20 10 27.0	
	comp=Z,39nm,1.0s								
LBNH	**Lisbon**	**48.16**	**70**	P		**P**		**20 10 26.2**	**+0.4**
	baz=314								
LBNH	**Lisbon**	**48.16**	**70**	P		**P**		**20 10 26.7**	**+0.9**
	baz=314								
G62A	**West of Eustis**	**48.21**	**68**	IAmb		IAmb		20 10 28.3	
	comp=Z,55nm,1.1s								
G62A	**West of Eustis**	**48.21**	**68**	P		**P**		**20 10 26.9**	**+0.7**
	baz=313,SNR=9.3								
G62A				P		**P**		**20 10 26.9**	**+0.7**
	baz=313,SNR=9.3								
P57A	**Homestead Farm**	**48.23**	**79**	P		**P**		**20 10 26.8**	**+0.4**
	baz=315,SNR=10.0								
P57A				P		**P**		**20 10 26.8**	**+0.4**
	baz=315,SNR=10.0								
U54A	**Nelsons Funny**	**48.27**	**85**	P		**P**		**20 10 28.0**	**+1.1**
	baz=317,SNR=18								
U54A				P		**P**		**20 10 28.0**	**+1.1**
	baz=317,SNR=18								
TRY	**Troy**	**48.28**	**73**	IAmb		IAmb		20 10 28.7	
	comp=Z,24nm,0.9s								
H62A	**Milan**	**48.33**	**69**	IAmb		IAmb		20 10 28.7	
	comp=Z,50nm,1.0s								
H62A	**Milan**	**48.33**	**69**	P		**P**		**20 10 27.7**	**+0.6**
	baz=314								
H62A				P		**P**		**20 10 27.7**	**+0.6**
	baz=314								
HNH	**Hanover**	**48.34**	**71**	IAmb		IAmb		20 10 29.1	
	comp=Z,49nm,1.1s								
V53A	**Saluda**	**48.34**	**86**	P		**P**		**20 10 28.4**	**+1.0**
	baz=317,SNR=16								
V53A				P		**P**		**20 10 28.4**	**+1.0**
	baz=317,SNR=16								
J61A	**Chester**	**48.45**	**71**	P		**P**		**20 10 29.4**	**+1.4**
	baz=314,SNR=6.3								
J61A				P		**P**		**20 10 29.4**	**+1.4**
	baz=314,SNR=6.3								
E63A	**Oxbow**	**48.46**	**66**	P		**P**		**20 10 27.9**	**-0.2**
	baz=313,SNR=14								
E63A				P		**P**		**20 10 27.9**	**-0.2**
	baz=313,SNR=14								
PQI	**Presque Isle**	**48.50**	**65**	P		**P**		**20 10 28.0**	**-0.3**
PQI				IAmb		IAmb		20 10 29.2	
	comp=Z,66nm,1.3s								
BLA	**Blacksburg**	**48.54**	**83**	IAmb		IAmb		20 10 30.5	
	comp=Z,54nm,1.1s								
BLA	**Blacksburg**	**48.54**	**83**	P		**P**		**20 10 29.4**	**+0.6**
	baz=316,SNR=7.8								
F63A	**Nahmakanta, Br**	**48.61**	**67**	P		**P**		**20 10 29.6**	**+0.4**
	baz=313,SNR=11								
F63A				P		**P**		**20 10 29.6**	**+0.4**
	baz=313,SNR=11								
NPNY	**Mohonk Preserv**	**48.71**	**74**	P		**P**		**20 10 30.7**	**+0.7**
	baz=315,SNR=7.2								
MVL	**Millersville**	**48.77**	**77**	IAmb		IAmb		20 10 31.9	
	comp=Z,39nm,0.8s								
CASEE	**Lake Jocassee**	**48.77**	**87**	P		**P**		**20 10 31.7**	**+1.0**
	baz=318,SNR=16								
Z51A	**Franklin**	**48.77**	**90**	P		**P**		**20 10 30.9**	**+0.2**
	baz=319,SNR=7.5								
PKME	**Peaks-Kenny Pk**	**48.81**	**67**	P		**P**		**20 10 31.2**	**+0.4**
	baz=314,SNR=7.8								
F64A	**Sherman**	**48.88**	**66**	P		**P**		**20 10 31.7**	**+0.4**
	baz=313,SNR=19								
F64A				P		**P**		**20 10 31.7**	**+0.4**
	baz=313,SNR=19								
SDMD	**Soldier's Deli**	**48.92**	**78**	IAmb		IAmb		20 10 32.7	
	comp=Z,20nm,1.1s								
ODNJ	**Ogdensburg**	**48.94**	**75**	IAmb		IAmb		20 10 33.4	
	comp=Z,34nm,0.8s								
ODNJ	**Ogdensburg**	**48.94**	**75**	P		**P**		**20 10 32.6**	**+0.7**
	baz=315,SNR=8.9								
S57A	**Dark Hollow, R**	**48.95**	**81**	IAmb		IAmb		20 10 33.6	
	comp=Z,56nm,1.4s								
S57A	**Dark Hollow, R**	**48.95**	**81**	P		**P**		**20 10 32.9**	**+0.9**
	baz=316,SNR=5.1								
S57A				P		**P**		**20 10 32.9**	**+0.9**
	baz=316,SNR=5.1								
Y52A	**Lilburn**	**48.98**	**89**	P		**P**		**20 10 33.2**	**+1.0**
	baz=318,SNR=15								
Y52A				P		**P**		**20 10 33.2**	**+1.0**
	baz=318,SNR=15								
L61B	**Northampton**	**49.00**	**72**	P		**P**		**20 10 33.3**	**+1.0**
	baz=314								
L61B	**Northampton**	**49.00**	**72**	P		**P**		**20 10 33.7**	**+1.4**
	baz=314								
BRNY	**Black Rk. Fore**	**49.02**	**74**	P		**P**		**20 10 33.5**	**+1.0**
	baz=315,SNR=12								
H11N2	**WAKE ISLAND Hy**	**49.08**	**240**	T		T		21 03 40.7	
	baz=30,slow=76,SNR=14								
KSCT	**Kent School, K**	**49.08**	**74**	IAmb		IAmb		20 10 34.6	
	comp=Z,46nm,0.8s								
H11N3	**WAKE ISLAND Hy**	**49.09**	**240**	T		T		21 03 39.0	
	baz=30,slow=76,SNR=17								
K62A	**Royalston**	**49.09**	**72**	P		**P**		**20 10 34.6**	**+1.6**
	baz=314,SNR=9.7								
K62A				P		**P**		**20 10 34.6**	**+1.6**
	baz=314,SNR=9.7								
V55A	**Taylorsville**	**49.09**	**85**	P		**P**		**20 10 33.9**	**+0.8**
	baz=317,SNR=11								
V55A				P		**P**		**20 10 33.9**	**+0.8**
	baz=317,SNR=11								
USA0B	**Ussuriysk Arra**	**49.09**	**291**	*i* P		**P**		**20 10 32.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**49.09**	**291**	P		**P**		**20 10 32.9**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=54,slow=7.5,SNR=11								
USRK				LR		LR		20 31 09.6	
	comp=Z,274nm,21.1s,baz=41,slow=36								
	comp=Z,5.0nm,0.8s								
TRNY	**Table Rock, Ra**	**49.10**	**75**	IAmb		IAmb		20 10 34.7	
	comp=Z,35nm,0.8s								
H11N1	**WAKE ISLAND Hy**	**49.10**	**240**	T		T		21 03 44.1	
	baz=30,slow=76,SNR=15								
250A	**Grady**	**49.17**	**92**	P		**P**		**20 10 34.7**	**+1.0**
	baz=319,SNR=7.5								
U56A	**King**	**49.19**	**84**	P		**P**		**20 10 34.7**	**+0.9**
	baz=317,SNR=5.6								
U56A				P		**P**		**20 10 34.7**	**+0.9**
	baz=317,SNR=5.6								
WUPA	**West Chester U**	**49.22**	**77**	IAmb		IAmb		20 10 35.5	
	comp=Z,31nm,0.8s								
BRNJ	**Basking Ridge**	**49.24**	**75**	P		**P**		**20 10 35.1**	**+1.0**
	baz=315,SNR=7.9								
TUPA	**Temple Univers**	**49.27**	**76**	P		**P**		**20 10 35.5**	**+1.1**
	baz=315,SNR=22								
GEDE	**Greenville**	**49.28**	**77**	P		**P**		**20 10 35.2**	**+0.7**
	baz=316,SNR=5.2								
QUA2	**Belchertown**	**49.30**	**72**	P		**P**		**20 10 35.6**	**+1.1**
	baz=315,SNR=7.3								
PSUB	**Penn St. - Bra**	**49.30**	**77**	P		**P**		**20 10 34.7**	**+0.1**
	baz=316								
T57A	**Hurt**	**49.33**	**82**	IAmb		IAmb		20 10 36.1	
	comp=Z,29nm,1.2s								
T57A	**Hurt**	**49.33**	**82**	P		**P**		**20 10 35.0**	**+0.1**
	baz=317								
T57A				P		**P**		**20 10 35.0**	**+0.1**
	baz=317								
BRAL	**Brewton**	**49.35**	**94**	P		**P**		**20 10 36.3**	**+1.2**
	baz=320								
BRAL	**Brewton**	**49.35**	**94**	P		**P**		**20 10 36.9**	**+1.8**
	baz=320								
PAL	**Palisades**	**49.37**	**75**	P		**P**		**20 10 35.3**	**+0.2**
	baz=315								
PAL	**Palisades**	**49.37**	**75**	P		**P**		**20 10 35.7**	**+0.6**
	baz=315								
PANJ	**Princeton**	**49.38**	**76**	P		**P**		**20 10 35.5**	**+0.3**
	baz=315,SNR=6.4								
R58B	**Mineral**	**49.39**	**80**	P		**P**		**20 10 36.3**	**+1.0**
	baz=316,SNR=6.1								
R58B				P		**P**		**20 10 36.3**	**+1.0**
	baz=316,SNR=6.1								
152A	**Waverly Hall**	**49.51**	**90**	P		**P**		**20 10 35.9**	**-0.4**
	baz=319,SNR=8.2								
PAULI	**Pauline**	**49.52**	**86**	IAmb		IAmb		20 10 38.0	
	comp=Z,65nm,1.3s								
PAULI	**Pauline**	**49.52**	**86**	P		**P**		**20 10 36.7**	**+0.4**
	baz=318,SNR=6.1								
KMSC	**Kings Mountain**	**49.55**	**86**	P		**P**		**20 10 37.0**	**+0.5**
	baz=318,SNR=12								
HRV	**Adam Dziewonsk**	**49.55**	**72**	P		**P**		**20 10 37.3**	**+0.7**
	baz=315								
HRV	**Adam Dziewonsk**	**49.55**	**72**	P		**P**		**20 10 37.5**	**+1.0**
	baz=315								
WSPT	**Westport, CT**	**49.56**	**74**	IAmb		IAmb		20 10 37.7	
	comp=Z,42nm,1.1s								
GOGA	**Godfrey**	**49.65**	**89**	IAmb		IAmb		20 10 38.6	
	comp=Z,28nm,0.9s								
GOGA	**Godfrey**	**49.65**	**89**	P		**P**		**20 10 37.4**	**0.0**
	baz=319,SNR=7.7								
HODGE	**Hodges**	**49.71**	**87**	IAmb		IAmb		20 10 39.2	
	comp=Z,47nm,0.7s								
HODGE	**Hodges**	**49.71**	**87**	P		**P**		**20 10 38.4**	**+0.6**
	baz=318,SNR=16								
G65A	**Princeton**	**49.74**	**66**	IAmb		IAmb		20 10 39.1	
	comp=Z,59nm,1.0s								
G65A	**Princeton**	**49.74**	**66**	P		**P**		**20 10 38.2**	**+0.3**
	baz=314,SNR=5.1								
G65A				P		**P**		**20 10 38.2**	**+0.3**
	baz=314,SNR=5.1								
JMIC	**Jan Mayen**	**49.77**	**16**	LR		LR		20 34 15.1	
	comp=Z,268nm,18.2s,baz=20,slow=39								
BCX	**Boston College**	**49.88**	**71**	IAmb		IAmb		20 10 40.9	
	comp=Z,64nm,1.0s								
MDJ	**Mudanjiang**	**50.04**	**293**	P		**P**		**20 10 39.8**	**-0.4**
MDJ				pP		pP		20 10 42.8	-3.7
MDJ				PcP		**PcP**		**20 11 56.5**	**-3.2**
MDJ				PP		**PP**		**20 12 35.5**	**+0.6**
MDJ				PcS		**PcS**		**20 15 53.5**	**-3.0**
MDJ				sS		sS		20 18 03.5	+3.8
MDJ				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,250nm,5.5s								
MDJ				LR		LR			
	comp=Z,260nm,18.9s								
MDJ				LR		LR			
	comp=Z,320nm,19.2s								
MDJ				LR		LR			
	comp=Z,320nm,19.2s								
M63A	**Gales Ferry**	**50.08**	**73**	P		**P**		**20 10 41.3**	**+0.8**
	baz=315,SNR=14								
M63A				P		**P**		**20 10 41.3**	**+0.8**
	baz=315,SNR=14								
EMMW	**East Machias**	**50.14**	**67**	P		**P**		**20 10 40.8**	**-0.1**
JSC	**Jenkinsville**	**50.22**	**86**	IAmb		IAmb		20 11 53.5	
	comp=Z,103nm,1.5s								
JSC	**Jenkinsville**	**50.22**	**86**	P		**P**		**20 10 42.2**	**+0.5**
	baz=318,SNR=5.1								
H11S1	**WAKE ISLAND Hy**	**50.23**	**239**	T		T		21 05 08.0	
	baz=28,slow=76,SNR=6.9								
H11S2	**WAKE ISLAND Hy**	**50.24**	**239**	T		T		21 05 05.9	
	baz=28,slow=76,SNR=8.2								
H11S3	**WAKE ISLAND Hy**	**50.24**	**239**	T		T		21 05 09.8	
	baz=28,slow=76,SNR=7.1								
W57A	**Gilead**	**50.28**	**84**	IAmb		IAmb		20 10 43.5	
	comp=Z,56nm,1.1s								
W57A	**Gilead**	**50.28**	**84**	P		**P**		**20 10 42.5**	**+0.4**
	baz=318,SNR=7.3								
W57A				P		**P**		**20 10 42.5**	**+0.4**
	baz=318,SNR=7.3								
T59A	**Double "B" Far**	**50.29**	**81**	IAmb		IAmb		20 10 43.5	
	comp=Z,37nm,1.2s								
T59A	**Double "B" Far**	**50.29**	**81**	P		**P**		**20 10 42.4**	**+0.3**
	baz=317,SNR=5.6								
T59A				P		**P**		**20 10 42.4**	**+0.3**
	baz=317,SNR=5.6								
V58A	**Windy Hill, Pi**	**50.29**	**83**	IAmb		IAmb		20 10 43.7	
	comp=Z,59nm,1.2s								
V58A	**Windy Hill, Pi**	**50.29**	**83**	P		**P**		**20 10 43.0**	**+0.8**
	baz=317,SNR=8.6								
V58A				P		**P**		**20 10 43.0**	**+0.8**
	baz=317,SNR=8.6								
BNX	**BinXian**	**50.36**	**295**	⇑P		**P**		**20 10 43.0**	**+0.4**
BNX				pP		**pwP**		**20 10 53.5**	**-1.4**
BNX				PP		**PP**		**20 12 38.5**	**+0.7**
BNX				S		**S**		**20 17 52.0**	**-1.8**
BNX				sS		**sS**		**20 18 02.8**	**-1.3**
BNX				pmax		pmax			
	comp=Z,8.0nm,1.1s								
BNX				pmax		pmax			
	comp=Z,230nm,7.8s								
BNX				LR		LR			
	comp=Z,230nm,13.9s								
BNX				LR		LR			
	comp=Z,190nm,6.3s								
BNX				LR		LR			
	comp=Z,250nm,17.5s								
BIRD	**Birdtown, Kers**	**50.39**	**85**	IAmb		IAmb		20 10 44.5	
	comp=Z,28nm,0.9s								
BIRD	**Birdtown, Kers**	**50.39**	**85**	P		**P**		**20 10 43.4**	**+0.4**
	baz=318,SNR=6.2								
U59A	**Littleton**	**50.61**	**82**	IAmb		IAmb		20 10 46.0	
	comp=Z,25nm,0.8s								
U59A	**Littleton**	**50.61**	**82**	P		**P**		**20 10 45.2**	**+0.7**
	baz=317,SNR=6.3								
U59A				P		**P**		**20 10 45.2**	**+0.7**
	baz=317,SNR=6.3								
MSHR	**Mys Shultsa**	**50.66**	**290**	*i* P		**P**		**20 10 45.9**	**+1.0**
MSHR				pmax		pmax			
	comp=Z,9.0nm,1.0s								
HAW	**Hawthorne Fire**	**50.72**	**87**	P		**P**		**20 10 46.0**	**+0.6**
	baz=319,SNR=8.2								
TIGA	**Tifton**	**51.06**	**91**	P		**P**		**20 10 48.0**	**0.0**
	baz=320								
W59A	**Clinton**	**51.12**	**83**	IAmb		IAmb		20 10 49.6	
	comp=Z,40nm,0.7s								
MAJO	**Matsushiro**	**51.23**	**280**	⇓*i* P		**P**		**20 10 50.5**	**+1.2**
MAJO				pmax		pmax			
	comp=Z,27nm,1.6s								
MJAR	**Matsushiro Arr**	**51.23**	**280**	P		**P**		**20 10 49.6**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=29,slow=6.3,SNR=6.7								
MJAR				LR		LR		20 31 07.9	
	comp=Z,72nm,21.7s,baz=46,slow=34								
	comp=Z,2.5nm,0.7s								
NHSC	**New Hope**	**51.70**	**86**	P		**P**		**20 10 53.4**	**+0.6**
	baz=319								
CIT	**Chita**	**52.38**	**309**	*e*P		**P**		**20 10 58.8**	**+1.1**
CIT				pmax		pmax			
	comp=Z,86nm,2.3s								
BORG	**Borgarnes**	**52.70**	**25**	LR		LR		20 34 49.2	
	comp=Z,513nm,19.1s,baz=327,slow=38								
CN2	**Changchun**	**52.72**	**295**	*e*P		**P**		**20 11 00.5**	**+0.3**
CN2				*e*pP		pwP		20 11 10.5	-2.1
CN2				*e*S		**S**		**20 18 22.8**	**-3.5**
CN2				*e*sS		sS		20 18 39.3	+2.6
CN2				*e*SS		**SS**		**20 21 59.0**	**-5.3**
CN2				LR		LR			
	comp=Z,90nm,7.0s								
CN2				LR		LR			
	comp=Z,130nm,7.0s								
CN2				LR		LR			
	comp=Z,350nm,7.0s								
JHJ	**Hachijo jima 2**	**52.91**	**275**	LR		LR		20 30 51.9	
	comp=Z,51nm,21.3s,baz=51,slow=33								
VADS	**Vadso**	**53.68**	**1**	*e*P		**P**		**20 11 07.5**	**+0.6**
VADS				IAmb		IAmb		20 11 07.8	
	comp=Z,43nm,0.9s								
TRO	**Tromso**	**53.87**	**5**	*e*P		**P**		**20 11 08.2**	**-0.1**
TRO				IAmb		IAmb		20 11 09.9	
	comp=Z,42nm,1.1s								
JETT	**Jettan, Norway**	**54.02**	**5**	*e*P		**P**		**20 11 10.1**	**+0.6**
ARA0	**ARCESS Array S**	**54.21**	**2**	*e*P		**P**		**20 11 10.7**	**-0.2**
ARCES	**ARCESS Array B**

comp=Z,31nm,0.9s
BJI Beijing 60.12 298 P P 20 11 53.8 +0.8
BJI sP **sP 20 12 00.0 -2.0**
BJI PcP **PcP 20 12 39.5 +1.0**
BJI PP **PP 20 14 06.3 +1.0**
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI pmax pmax
comp=Z,150nm,8.8s
BJI LR LR
comp=Z,110nm,21.0s
BJI LR LR
comp=Z,100nm,21.5s
BJI LR LR
comp=Z,85nm,19.2s
AKN Aaknes 60.20 13 *e*P **P 20 11 54.0 +0.8**
ZAA0 Zalesovo Array 61.43 327 IAmb IAmb 20 12 03.2
comp=Z,24nm,0.8s
ZALV Zalesovo Beam 61.43 327 P **P 20 12 02.1 +0.4**
comp=Z,27nm,0.8s,baz=29,slow=6.8,SNR=105
ZALV LR LR 20 42 08.6
comp=Z,396nm,18.1s,baz=20,slow=40
comp=Z,27nm,0.8s
NC204 NORSAR Array S 61.50 11 IAmb IAmb 20 12 03.4
comp=Z,34nm,0.9s
HHC Hu-ho-hao-te 61.71 302 ⇑P **P 20 12 05.0 +1.0**
HHC *e*S **S 20 20 17.5 -7.5**
HHC pmax pmax
comp=Z,58nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.3s
HHC LR LR
comp=Z,260nm,13.3s
HHC LR LR
comp=Z,270nm,12.3s
HHC LR LR
comp=Z,300nm,14.8s
NC405 NORSAR Array S 61.76 10 IAmb IAmb 20 12 05.1
comp=Z,36nm,1.0s
NB2 NORSAR Subarra 61.78 11 P **P 20 12 03.7 -0.3**
comp=Z,33nm,1.0s,baz=348,slow=6.9
NB2 NORSAR Subarra 61.78 11 P **P 20 12 03.7 -0.3**
baz=348,slow=6.9
NOA NORSAR Array B 61.78 11 P **P 20 12 03.9 -0.1**
comp=Z,15nm,0.9s,baz=348,slow=6.7,SNR=26
comp=Z,15nm,0.9s
SKAR Skarsila 61.81 12 *e*P **P 20 12 03.7 -0.5**
NC602 NORSAR Array S 62.11 11 *e*P **P 20 12 09.2 +3.0**
FINES FINESS Array B 62.34 3 P **P 20 12 07.8 +0.2**
comp=Z,26nm,0.8s,baz=14,slow=8.6,SNR=50
comp=Z,26nm,0.8s
TIA Tai'an 62.62 295 ⇓P **P 20 12 10.8 +0.8**
TIA pmax pmax
comp=Z,8.0nm,0.9s
BTO Baotou 62.63 303 *e*P **P 20 12 10.0 -0.1**
BTO pP **pwP 20 12 20.3 -2.1**
BTO sP **sP 20 12 24.0 +4.9**
BTO PP **PP 20 14 29.5 +2.0**
BTO S **S 20 20 33.0 -3.5**
BTO SS **SS 20 24 38.8 -1.4**
BTO pmax pmax
comp=Z,37nm,1.2s
BTO pmax pmax
comp=Z,750nm,12.0s
BTO LR LR
comp=Z,670nm,14.1s
BTO LR LR
comp=Z,1μm,18.1s
BTO LR LR
comp=Z,350nm,11.6s
KLMR Klimovskoe 62.79 355 *e*P **P 20 12 08.6 -2.1**
KLMR pmax pmax
comp=Z,123nm,1.2s
HNS HongShan 62.90 297 ⇑P **P 20 12 13.0 +1.2**
HNS pmax pmax
comp=Z,57nm,1.0s
HFS Hagfors 62.91 10 P **P 20 12 11.4 -0.1**
comp=Z,9.0nm,0.8s,baz=336,slow=3.3,SNR=8.4
comp=Z,9.0nm,0.8s
KONO Kongsberg 62.97 12 *e*P **P 20 12 12.5 +0.6**
PUL Pulkovo 64.07 0⇓ *e*P **P 20 12 20.4 +1.2**
PUL pmax pmax
comp=Z,86nm,0.6s
DGZ Jazzator, Alta 64.26 323*c i*P **P 20 12 22.0 +1.2**
DGZ pmax pmax
comp=Z,49nm,1.4s
KIRV Kirov 64.31 349*c i*P **P 20 12 20.7 0.0**
KIRV Kirov 64.31 349 LR LR 20 42 37.6
comp=Z,294nm,19.6s,baz=38,slow=38
SVE Sverdlovsk 64.50 342*d i*P **P 20 12 22.8 +0.7**
SVE pmax pmax
comp=Z,98nm,1.2s
NJ2 Nanjing 65.00 291 *e*P **P 20 12 29.0 +3.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
NJ2 pmax pmax
comp=Z,180nm,3.8s
EKA Eskdalemuir Ar 65.14 21 P **P 20 12 26.4 +0.1**
comp=Z,21nm,0.8s,baz=313,slow=4.9,SNR=21
comp=Z,21nm,0.8s
ARU Arti 65.22 344 P **P 20 12 26.4 -0.3**
ARU Arti 65.22 344*c i*P **P 20 12 27.0 +0.2**
ARU 20 13 00.2
ARU S **S 20 21 11.3 +3.3**
ARU SS **SS 20 25 21.1 +1.4**
ARU pmax pmax
comp=Z,82nm,0.8s
ARU Arti 65.22 344 LR LR 20 43 15.5
comp=Z,268nm,18.2s,baz=24,slow=38
VSU Vasula 65.34 2*c i*P **P 20 12 28.0 +0.6**
VSU pmax pmax
comp=Z,130nm,1.3s
VSU Vasula 65.34 2 *e*P **P 20 12 28.6 +1.1**
SLIT Slitere, Latvi 66.01 5 *e*P **P 20 12 33.1 +1.3**
KURK Kurchatov 66.10 329 P **P 20 12 32.3 -0.2**
KURK IAmb IAmb 20 12 33.7
comp=Z,39nm,1.4s
KURK Kurchatov 66.10 329 P **P 20 12 33.3 +0.8**
BRVK Borovoye 66.12 335 P **P 20 12 32.2 -0.4**
BRVK IAmb IAmb 20 12 34.0
comp=Z,33nm,1.1s
BRVK Borovoye 66.12 335*c i*P **P 20 12 32.7 +0.1**
BRVK pmax pmax
comp=Z,54nm,1.7s
BVAR Borovoye Array 66.13 335 P **P 20 12 32.8 +0.1**
comp=Z,24nm,0.7s,baz=31,slow=7.3,SNR=101
BVAR LR LR 20 45 32.3
comp=Z,425nm,19.5s,baz=20,slow=40
comp=Z,24nm,0.7s
KURBB Kurchatov Arra 66.21 329 P **P 20 12 33.3 +0.1**
comp=Z,17nm,1.0s,baz=25,slow=6.1,SNR=57
KURBB PP **PP 20 14 53.1 -5.3**
comp=Z,2.8nm,0.8s,baz=35,slow=9.9,SNR=5.4
KURBB LR LR 20 44 27.7
comp=Z,289nm,20.0s,baz=212,slow=39
comp=Z,17nm,1.0s
LYN LuoYang 66.26 297⇑ *i*P **P 20 12 35.0 +1.2**
LYN pP pwP 20 12 45.0 -1.2
LYN sP sP 20 12 48.5 +5.7
LYN pmax pmax
comp=Z,88nm,1.0s
LYN pmax pmax
comp=Z,400nm,5.5s
ZSN Zaisan 67.06 323⇑ *i*P **P 20 12 40.0 +1.2**
baz=324
ZSN Zaisan 67.06 323*c i*P **P 20 12 39.9 +1.2**
SDDR Presa de Saban 67.67 89 P **P 20 12 43.3 +0.3**
SDDR Presa de Saban 67.67 89 *e*P **P 20 12 43.0 -0.1**
MOS Moscow 67.98 356 *e*P **P 20 12 44.2 -0.2**
MOS *e* 20 13 08.7
MOS pmax pmax
comp=Z,39nm,0.7s
GTA Gaotai 68.19 309 ⇑P **P 20 12 46.8 +0.7**
GTA pP sP 20 12 52.8 -2.3
GTA pmax pmax
comp=Z,19nm,1.4s
GTA LR LR
comp=Z,380nm,17.8s
GTA LR LR
comp=Z,290nm,18.2s
GTA LR LR
comp=Z,210nm,18.9s
PABE Paberze 68.21 4 *e*P **P 20 12 46.5 +0.8**
BRZS Berezniki 68.37 332 *e*P **P 20 12 46.6 -0.3**
baz=332
BRZS Berezniki 68.37 332 *e*P **P 20 12 46.6 -0.3**

XAN Xi'an 68.40 299 ⇑P **P 20 12 47.8 +0.4**
XAN pP pP 20 12 53.0 -1.0
XAN sP sP 20 12 57.0 +0.5
XAN pmax pmax
comp=Z,50nm,0.8s
MKAR Makanchi Array 68.48 325 P **P 20 12 47.7 0.0**
comp=Z,19nm,0.9s,baz=45,slow=6.2,SNR=120
MKAR PP **PP 20 15 16.2 -2.0**
comp=Z,4.3nm,0.8s,baz=51,slow=9.6,SNR=3.6
MKAR LR LR 20 47 38.7
comp=Z,203nm,19.3s,baz=26,slow=40
comp=Z,19nm,0.9s
WHN Wuhan 68.52 293 ⇓P **P 20 12 49.0 +0.9**
MAKZ Makanchi 68.56 325 P **P 20 12 48.0 -0.3**
MAKZ IAmb IAmb 20 12 49.5
comp=Z,26nm,0.8s
MAKZ Makanchi 68.56 325 P **P 20 12 48.4 +0.2**
OBN Obninsk 68.65 357 ⇓P **P 20 12 49.5 +0.9**
OBN Obninsk 68.65 357 P **P 20 12 48.2 -0.4**
OBN Obninsk 68.65 357*c i*P **P 20 12 48.6 +0.1**
OBN *e* 20 13 11.0
OBN *e* 20 15 21.7
OBN pmax pmax
comp=Z,178nm,1.7s
OBN MLR MLR
comp=Z,273nm,18.0s
NACGM Naroch 68.90 3 *e*P **P 20 12 50.5 +0.4**
comp=E,2μm,1.0s
KLNR Kaliningrad 68.91 7⇑ *e*P **P 20 12 50.4 +0.2**
LZH Lanzhou 69.13 304 ⇑P **P 20 12 52.5 +0.4**
LZH sP pwP 20 13 06.8 +2.3
LZH pmax pmax
comp=E,38nm,1.5s
LZH LR LR
comp=E,250nm,13.7s
LZH LR LR
comp=E,340nm,13.4s
LZH LR LR
comp=E,200nm,14.0s
WMQ Urumqi 69.25 320 *e*P **P 20 12 54.0 +1.4**
WMQ pP pP 20 12 58.8 -0.3
WMQ pmax pmax
comp=E,47nm,0.9s
WMQ pmax pmax
comp=E,440nm,5.9s
WMQ LR LR
comp=E,270nm,19.5s
MNK Minsk 69.33 2 *i* P **P 20 12 53.1 +0.3**
comp=E,5.0nm,1.6s
MNK *i* P **P 20 12 53.1 +0.3**
comp=N,92nm,1.1s
MNK *i* P **P 20 12 53.1 +0.3**
comp=Z,182nm,1.1s,baz=358
MNK *i* PP **PP 20 15 26.7 +1.3**
MNK *i* PPP PPP 20 17 06.7
MNK *i* S **S 20 22 00.5 +3.0**
MNK *i* SS **SS 20 26 27.7 +4.5**
MNK *i* SSS SSS 20 29 45.7
MNK *i* LQ LQ 20 38 22.3
MNK *i* LR LR 20 43 27.4
MNK *i* LRM MLR 20 45 47.8
comp=E,54nm,13.1s
MNK *i* LRM MLR 20 46 12.7
comp=N,86nm,12.7s
MNK *i* LRM MLR 20 46 51.9
comp=Z,139nm,13.8s
MNK Minsk 69.33 2 *i* P **P 20 12 53.1 +0.3**
MNK *i* 20 15 26.6
MNK *i* PPP PPP 20 17 06.7
MNK *i* S **S 20 22 00.4 +3.0**
MNK *i* SS **SS 20 26 27.7 +4.5**
MNK pmax pmax
comp=Z,182nm,1.1s
MNK pmax pmax
comp=E,5.0nm,1.6s
MNK pmax pmax
comp=N,92nm,1.1s
MNK MLR MLR
comp=E,54nm,13.0s
MNK MLR MLR
comp=N,86nm,13.0s
MNK MLR MLR
comp=Z,139nm,14.0s
SUW Suwalki 69.67 5 *e*P **P 20 12 55.0 +0.1**
SUW Suwalki 69.67 5 *e*P **P 20 12 55.8 +1.0**
RETH Rethem/Aller, 69.69 14 *e*P **P 20 12 55.5 +0.5**
comp=Z,20nm,1.1s,baz=348,slow=6.0
NRDL Niedersach Rie 70.03 13 *e*P **P 20 12 57.6 +0.5**
comp=Z,33nm,0.9s,baz=348,slow=6.0
FLTG Flechtingen 70.33 13 *e*P **P 20 12 59.3 +0.4**
comp=Z,30nm,1.0s,baz=348,slow=6.0
ASSE Asse, Remlinge 70.46 13 *e*P **P 20 13 00.2 +0.5**
comp=Z,17nm,0.9s,baz=348,slow=6.0
RUE Ruedersdorf 70.47 11 *e*P **P 20 13 01.0 +1.2**
RUE Ruedersdorf 70.47 11 *e*P **P 20 13 00.7 +0.9**
comp=Z,79nm,1.0s,baz=348,slow=6.0
BELG Belogornoye 70.60 349*c i*P **P 20 13 00.7 +0.1**
BELG pmax pmax
comp=Z,29nm,1.0s
BUG Bochum--Univer 70.67 15 *e*P **P 20 13 01.4 +0.4**
comp=Z,58nm,0.7s,baz=348,slow=6.0
CLZ Clausthal 70.70 13 *e*P **P 20 13 02.3 +1.0**
comp=Z,32nm,0.8s,baz=348,slow=6.0
GTTG Gottingen 70.94 14 *e*P **P 20 13 03.7 +1.0**
comp=Z,62nm,0.9s,baz=348,slow=6.0
CELP Cerrillos 71.01 86 P **P 20 13 04.4 +0.7**
CELP IAmb IAmb 20 13 20.8
comp=Z,39nm,1.1s
LPSR Galich'ya Gora 71.06 355 *e*P **P 20 13 02.3 -1.1**
LPSR pmax pmax
comp=Z,80nm,0.8s
KASTN Kahler Asten 71.06 15 *e*P **P 20 13 04.0 +0.5**
comp=Z,43nm,1.1s,baz=348,slow=6.0
AKTO Aktyubinsk 71.09 342 LR LR 20 48 53.6
comp=Z,157nm,18.0s,baz=44,slow=40
GCPR Guaynabo City 71.10 85 P **P 20 13 03.7 -0.4**
GCPR IAmb IAmb 20 13 04.9
comp=Z,42nm,0.9s
SJG San Juan 71.22 86 LR LR 20 44 30.3
comp=Z,109nm,19.7s,baz=132,slow=36
BSTI Sart Tilman 71.24 17 *d*P **P 20 13 05.2 +0.7**
comp=Z,9.3nm,0.8s
MEM Membach 71.28 16 *d*P **P 20 13 05.2 +0.4**
comp=Z,29nm,0.8s
TDK Taldyqorghan 71.30 326 *e*P **P 20 13 05.8 +0.7**
comp=Z,30nm,0.9s,baz=326
TDK Taldyqorghan 71.30 326 *e*P **P 20 13 05.7 +0.7**
TDK pmax pmax
comp=Z,30nm,0.9s
BTNL Ternell 71.32 16 *d*P **P 20 13 05.6 +0.5**
comp=Z,23nm,0.8s
BGES Gesves 71.35 17 *d*P **P 20 13 05.0 -0.2**
BCLA Clavier 71.35 17 *d*P **P 20 13 05.5 +0.3**
HUMP Col San Antoni 71.36 85 IAmb IAmb 20 13 06.5
comp=Z,33nm,0.9s
BMRD Maredsous 71.38 17 *d*P **P 20 13 06.1 +0.7**
comp=Z,17nm,1.0s
NEUB Neuenburg 71.50 13 *e*P **P 20 13 06.7 +0.6**
comp=Z,40nm,0.8s,baz=348,slow=6.0
CLL Collm 71.54 12 IAmb IAmb 20 13 07.8
comp=Z,22nm,0.9s
CLL Collm 71.54 12⇑ *i*P **P 20 13 06.6 +0.2**
CLL *e*S **S 20 22 18.0 -5.3**
CLL pmax pmax
comp=Z,33nm,1.2s
CLL MLR MLR
comp=Z,500nm,21.8s
CLL Collm 71.54 12⇑ *i*P **P 20 13 06.6 +0.2**
comp=Z,33nm,1.2s
CLL *e*PcP **PcP 20 13 27.0 +1.4**
CLL *e*PP **PP 20 15 44.0 -0.5**
CLL *e*PPP PPP 20 17 30.0
CLL *e*S **S 20 22 24.0 +0.7**
CLL *e*SS **SS 20 27 00.0 +2.8**
CLL *e*(SSS) 20 30 24.0
CLL AMS AMS 20 32 00.0
comp=Z,500nm,21.8s
CLL Collm 71.54 12 *e*P **P 20 13 06.6 +0.2**
comp=Z,24nm,1.0s,baz=348,slow=6.0
DOU Dourbes 71.55 18 *d*P **P 20 13 07.0 +0.6**
comp=Z,12nm,1.1s
RCHB Rochefort 71.60 17 *d*P **P 20 13 07.0 +0.3**
comp=Z,21nm,0.8s
ABKAR Akbulak array 71.88 340 IAmb IAmb 20 13 09.9
comp=Z,31nm,0.7s
VORR Voronezh 71.97 355 *e*P **P 20 13 09.4 +0.5**

VORR pmax pmax
comp=Z,72nm,0.4s
TNS Taunus Mts 72.02 15 *e*P **P 20 13 09.7 +0.4**
comp=Z,17nm,0.9s,baz=348,slow=6.0
MOX Moxa 72.03 13 *e*P **P 20 13 09.7 +0.3**
comp=Z,34nm,0.9s,baz=348,slow=6.0
BRG Berggiesshubel 72.08 11 *i*P **P 20 13 10.3 +0.7**
BRG Amp 20 13 11.4
comp=Z,29nm,1.0s
BRG Berggiesshubel 72.08 11 P P 20 13 20.4 +11
BRG Amp 20 13 21.4
comp=Z,7.9nm,0.9s
BRG Amp 20 40 54.0
comp=Z,0.7nm,19.6s
BRG Berggiesshubel 72.08 11 *i*P **P 20 13 10.2 +0.7**
BRG pmax pmax
comp=Z,29nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG MLR MLR
comp=Z,687nm,19.6s
BRG Berggiesshubel 72.08 11 *e*P **P 20 13 10.3 +0.7**
comp=Z,29nm,1.0s,baz=348,slow=6.0
ARXS Arharly 72.19 327 *e*P **P 20 13 10.6 +0.1**
WLF Walferdange 72.22 17 IAmb IAmb 20 13 12.6
comp=Z,46nm,1.4s
WLF Walferdange 72.22 17 *d*P **P 20 13 11.4 +0.9**
comp=Z,13nm,1.1s
PLN Plauen 72.25 12 *e*P **P 20 13 10.8 +0.1**
comp=Z,20nm,0.8s,baz=348,slow=6.0
HSKC Hora Svate Kat 72.28 12 *e*P **P 20 13 11.5 +0.6**
VRH Novokhopyorsk 72.29 353 *e*P **P 20 13 10.5 -0.3**
VRH pmax pmax
comp=Z,40nm,0.8s
KSP Ksiaz 72.34 10 *e*P **P 20 13 12.1 +0.9**
TANN Tannenbergstha 72.36 12 *e*P **P 20 13 11.6 +0.2**
comp=Z,18nm,0.9s,baz=348,slow=6.0
RICC Richard 72.42 11 *e*P **P 20 13 12.9 +1.3**
VSR Storozhevoye 72.43 355 *e*P **P 20 13 10.3 -1.4**
VSR pmax pmax
comp=Z,60nm,0.7s
PVCC Panska Ves 72.48 11 *e*P **P 20 13 13.2 +1.2**
PVCC Panska Ves 72.48 11 *e*P **P 20 13 13.2 +1.2**
NKC Novy Kostel 72.54 12 *e*P **P 20 13 13.1 +0.7**
NKC Novy Kostel 72.54 12 *e*P **P 20 13 13.1 +0.7**
BTLS Baital 72.54 329⇑ *i*P **P 20 13 12.8 +0.3**
baz=330
BTLS Baital 72.54 329*c i*P **P 20 13 12.8 +0.3**
CHVC Chvalec 72.57 10 *e*P **P 20 13 13.4 +0.8**
CHVC Chvalec 72.57 10 *e*P **P 20 13 13.4 +0.8**
KPKS Kokpek 72.59 326⇑ *i*P **P 20 13 13.8 +0.9**
comp=Z,14nm,0.9s,baz=326
KPKS Kokpek 72.59 326*c i*P **P 20 13 13.8 +0.9**
KPKS pmax pmax
comp=Z,14nm,0.9s
OSTC Ostas 72.62 10 *e*P **P 20 13 13.9 +1.0**
OSTC Ostas 72.62 10 *e*P **P 20 13 13.9 +1.0**
SHLS Shalkode 72.63 325⇑ *i*P **P 20 13 13.6 +0.4**
comp=Z,31nm,0.9s,baz=325
SHLS Shalkode 72.63 325*c i*P **P 20 13 13.6 +0.4**
SHLS pmax pmax
comp=Z,31nm,0.9s
UPC Upice 72.65 10 *e*P **P 20 13 14.1 +1.1**
UPC Upice 72.65 10 *e*P **P 20 13 14.1 +1.1**
VORD Divnogorie 72.67 354 *e*P **P 20 13 11.7 -1.4**
VORD pmax pmax
comp=Z,50nm,0.6s
MANZ Manzenberg 72.74 13 *e*P **P 20 13 14.1 +0.5**
comp=Z,8.3nm,1.3s,baz=348,slow=6.0
CHKK Chushkaly 72.77 327 *e*P **P 20 13 13.6 -0.3**
baz=327
CHKK Chushkaly 72.77 327 *e*P **P 20 13 13.5 -0.3**
UZB Uzynbulak 72.78 325 *e*P **P 20 13 14.6 +0.5**
baz=325
UZB Uzynbulak 72.78 325 *e*P **P 20 13 14.6 +0.5**
DPC Dobruska-Polom 72.83 10 *e*P **P 20 13 15.3 +1.1**
DPC Dobruska-Polom 72.83 10 *e*P **P 20 13 15.3 +1.1**
GRA1 Grafenberg Arr 72.92 13 IAmb IAmb 20 13 16.6
comp=Z,33nm,0.8s
GRF Grafenberg Arr 72.92 13 *e*P **P 20 13 15.6 +0.9**
comp=Z,32nm,0.8s,baz=348,slow=6.0
GRFO Grafenberg 72.92 13 P **P 20 13 13.5 -1.1**
GRFO IAmb IAmb 20 13 16.5
comp=Z,31nm,0.8s
GRFO Grafenberg 72.92 13 P **P 20 13 13.5 -1.1**
GRFO pmax pmax
comp=Z,31nm,0.8s
KUU Kurty 72.92 327 *e*P **P 20 13 14.5 -0.3**
baz=327
KUU Kurty 72.92 327 *e*P **P 20 13 14.5 -0.3**
ZHN Zhinishke 72.94 326 *e*P **P 20 13 14.8 -0.3**
baz=326
ZHN Zhinishke 72.94 326 *e*P **P 20 13 14.7 -0.3**
ROTZ Rotzenmuhle 72.97 13 *e*P **P 20 13 15.4 +0.5**
comp=Z,7.8nm,0.9s,baz=348,slow=6.0
PRU Pruhonice 73.01 11 *e*P **P 20 13 15.6 +0.4**
PRU Pruhonice 73.01 11 *e*P **P 20 13 15.6 +0.4**
GOMU GeErMu 73.02 311 P **P 20 13 17.0 +1.1**
GOMU pmax pmax
comp=Z,23nm,0.9s
GOMU LR LR
comp=Z,300nm,19.7s
GOMU LR LR
comp=Z,220nm,19.2s
GOMU LR LR
comp=Z,560nm,20.3s
SATY Saty 73.05 326 *e*P **P 20 13 16.6 +0.8**
comp=Z,18nm,1.4s,baz=326
SATY Saty 73.05 326 *e*P **P 20 13 16.5 +0.8**
SATY pmax pmax
comp=Z,18nm,1.4s
GOPC GO Pecny, Ondr 73.11 11 *e*P **P 20 13 16.6 +0.8**
GOPC GO Pecny, Ondr 73.11 11 *e*P **P 20 13 16.6 +0.8**
CLF Chambon-Foret 73.13 20 IAmb IAmb 20 13 17.7
comp=Z,50nm,1.0s
KRLC Kraliky 73.15 9 *e*P **P 20 13 17.0 +1.0**
KRLC Kraliky 73.15 9 *e*P **P 20 13 17.0 +1.0**
AKASG Malin Array Be 73.16 1 *i*P **P 20 13 16.0 0.0**
AKASG pmax pmax
comp=Z,57nm,0.8s
AKASG Malin Array Be 73.16 1 P **P 20 13 16.0 0.0**
comp=Z,58nm,0.8s,baz=359,slow=5.8,SNR=169
comp=Z,58nm,0.8s
AKBB Malin Array Si 73.16 1*c i*P **P 20 13 15.9 -0.1**
AKBB pmax pmax
comp=Z,129nm,0.9s
KIEV Kiev 73.16 1 ⇑P **P 20 13 16.3 +0.3**
KIEV Kiev 73.16 1 P **P 20 13 15.7 -0.3**
KIEV Kiev 73.16 1 P **P 20 13 16.3 +0.3**
OJC Ojcow 73.25 7 *e*P **P 20 13 17.2 +0.6**
OJC Ojcow 73.25 7 IAmb IAmb 20 13 18.2
comp=Z,23nm,0.8s
AAA Alma-Ata 73.37 327 *e*P **P 20 13 17.8 +0.3**
comp=Z,22nm,0.8s,baz=327
AAA Alma-Ata 73.37 327 *e*P **P 20 13 17.8 +0.3**
AAA pmax pmax
comp=Z,22nm,0.8s
MDOK Medeo 73.38 327 *e*P **P 20 13 17.7 +0.1**
baz=327
MDOK Medeo 73.38 327 *e*P **P 20 13 17.7 +0.1**
CD2 Chengdu 73.45 301 P **P 20 13 18.5 +0.4**
CD2 pmax pmax
comp=Z,30nm,0.8s
OKC Ostrava-Krasne 73.50 9 *e*P **P 20 13 19.0 +1.0**
OKC Ostrava-Krasne 73.50 9 *e*P **P 20 13 19.0 +1.0**
MORC Moravsky Berou 73.51 9 ⇑P **P 20 13 18.9 +0.7**
MORC Moravsky Berou 73.51 9 IAmb IAmb 20 13 19.8
comp=Z,18nm,0.8s
MORC Moravsky Berou 73.51 9 *e*P **P 20 13 18.5 +0.3**
MORC Moravsky Berou 73.51 9 P **P 20 13 18.8 +0.7**
ZVC Zvikov 73.52 11 *e*P **P 20 13 19.0 +0.8**
TNSS Tian-Shan 73.52 327 *e*P **P 20 13 19.5 +0.6**
baz=327
TNSS Tian-Shan 73.52 327 *e*P **P 20 13 19.4 +0.6**
PRZ Przheval'sk 73.57 325 IAmb IAmb 20 13 21.5
comp=Z,35nm,1.0s
KHC Kasperske Hory 73.75 12 IAmb IAmb 20 13 21.8
comp=Z,32nm,1.1s
KHC Kasperske Hory 73.75 12 *e*P **P 20 13 20.7 +1.1**
KHC Kasperske Hory 73.75 12 *e*P **P 20 13 20.7 +1.1**
PPT Papeete 73.78 180 LR LR 20 39 03.8
comp=Z,400nm,19.6s,baz=356,slow=30
ECH Echery 73.79 16 IAmb IAmb 20 13 21.4
comp=Z,26nm,0.9s
SGDS Sogindy 73.83 328 *e*P **P 20 13 21.0 +0.8**

baz=328
SGDS **Sogindy** 73.83 328 *e*P P 20 13 21.0 +0.8
BFO **Black Forest** 73.85 15 P P 20 13 20.1 0.0
BFO IAmb IAmb 20 13 21.2
comp=Z,17nm,0.9s
BFO **Black Forest** 73.85 15 P P 20 13 20.2 0.0
BFO pmax pmax
comp=Z,17nm,0.9s
BFO **Black Forest** 73.85 15 *e*P P 20 13 20.4 +0.2
comp=Z,18nm,0.9s,baz=348,slow=6.0
VRAC **Vranov** 73.89 10 ⇓P P 20 13 21.6 +1.2
VRAC **Vranov** 73.89 10 *e*P P 20 13 20.9 +0.5
VRAC **Vranov** 73.89 10 P P 20 13 21.5 +1.2
LVV **L'vov** 73.89 5 *e*P P 20 13 20.5 +0.1
MAUC **Maruska** 73.94 9 *e*P P 20 13 22.0 +1.3
TKM2 **Tokmak 2** 74.03 327 P P 20 13 22.4 +0.9
SNR=35
USP **Ospenovka** 74.04 328 P P 20 13 22.2 +0.8
SNR=23
GEC2 **GERESS Array S** 74.05 12 IAmb IAmb 20 13 22.5
comp=Z,15nm,0.8s
GEC2 **GERESS Array S** 74.05 12 *e*P P 20 13 21.8 +0.5
comp=Z,16nm,0.8s,baz=348,slow=6.0
GERES **GERESS Array B** 74.05 12 P P 20 13 21.9 +0.5
comp=Z,11nm,0.6s,baz=353,slow=5.6,SNR=15
comp=Z,11nm,0.6s
NIE **Niedzica** 74.08 7 *e*P P 20 13 22.8 +1.3
KRUC **Moravsky** 74.11 10 *e*P P 20 13 22.2 +0.5
CKRC **Cesky Krumlov** 74.14 11 *e*P P 20 13 22.4 +0.5
CKRC **Cesky Krumlov** 74.14 11 *e*P P 20 13 22.4 +0.5
STHS **Stebnicka Huta** 74.14 7 *e*P P 20 13 22.4 +0.5
STHS **Stebnicka Huta** 74.14 7 *e*P P 20 13 22.4 +0.5
CHMS **Chumysh** 74.21 328 P P 20 13 23.4 +1.0
SNR=18
LANS **Liptovska Anna** 74.29 8 *e*P P 20 13 24.4 +1.7
LANS pmax pmax
comp=Z,29nm,0.8s
LANS **Liptovska Anna** 74.29 8 *e*P P 20 13 24.3 +1.6
FRU1 **Bishkek** 74.42 328 IAmb IAmb 20 13 25.9
comp=Z,45nm,1.0s
JAVC **Velka Javorina** 74.43 9 *e*P P 20 13 25.0 +1.4
ULHL **Ulahol** 74.45 327 P P 20 13 25.4 +1.3
SNR=5.7
KBK **Karagaybulak** 74.47 328 P P 20 13 25.1 +1.0
SNR=20
AAK **Ala-Archa** 74.62 328 P P 20 13 25.9 +1.0
SNR=15
AAK **Ala-Archa** 74.62 328 P P 20 13 25.3 +0.4
AAK IAmb IAmb 20 13 26.9
comp=Z,18nm,0.9s
AAK **Ala-Archa** 74.62 328 *c i*P P 20 13 25.6 +0.7
AAK pmax pmax
comp=Z,35nm,1.7s
AAK **Ala-Archa** 74.62 328 LR LR 20 49 50.6
comp=Z,315nm,18.7s,baz=24,slow=39
KOLS **Kolonicke sedl** 74.69 6 *e*P P 20 13 26.0 +1.0
KOLS pmax pmax
comp=Z,27nm,1.4s
KOLS **Kolonicke sedl** 74.69 6 *e*P P 20 13 26.0 +1.0
UBR **Ueberruh** 74.74 14 *e*P P 20 13 26.0 +0.6
comp=Z,26nm,1.0s,baz=348,slow=6.0
SMOL **Smolenice** 74.75 9 *e*P P 20 13 26.9 +1.5
SMOL pmax pmax
comp=Z,21nm,1.1s
EKS2 **Erkin-Say** 74.80 329 P P 20 13 27.0 +1.1
SNR=30
GULI **GuiLin** 74.83 293 ⇑P P 20 13 23.0 -3.2
MODS **Modra-Piesok** 74.88 9 *e*P P 20 13 27.2 +1.1
MODS pmax pmax
comp=Z,121nm,1.0s
MODS **Modra-Piesok** 74.88 9 *e*P P 20 13 27.2 +1.1
VYHS **Vyhne** 74.89 8 *e*P P 20 13 27.0 +0.8
VYHS pmax pmax
comp=Z,47nm,1.2s
VYHS **Vyhne** 74.89 8 *e*P P 20 13 27.0 +0.8
RETA **Reutte** 75.02 14 *e*P P 20 13 27.6 +0.6
comp=Z,7.5nm,0.8s
KECS **Kecovo** 75.03 7 *e*P P 20 13 28.2 +1.2
KECS pmax pmax
comp=Z,44nm,0.8s
KECS **Kecovo** 75.03 7 *e*P P 20 13 28.2 +1.2
RJOB **Jochberg** 75.03 13 *e*P P 20 13 27.5 +0.4
comp=Z,20nm,0.8s,baz=348,slow=6.0
ZST **Bratislava** 75.04 10 *e*P P 20 13 28.4 +1.4
ZST pmax pmax
comp=Z,105nm,0.9s
ZST **Bratislava** 75.04 10 *e*P P 20 13 28.4 +1.4
MOA **Molln** 75.09 12 *e*P P 20 13 28.8 +1.4
comp=Z,21nm,1.3s
DAVA **Damuels** 75.10 15 *e*P P 20 13 28.2 +0.6
comp=Z,30nm,1.4s
BIOA **Bad Ischl, Aus** 75.18 12 *i*P P 20 13 28.6 +0.7
comp=Z,19nm,0.7s,SNR=12
CONA **Conrad Observa** 75.18 10 *i*P P 20 13 28.9 +0.9
comp=Z,35nm,0.9s,SNR=18
MOTA **Moosalm** 75.21 14 *i*P P 20 13 28.7 +0.5
comp=Z,44nm,1.3s,SNR=12
DZA **Taraz** 75.28 330 *e*P P 20 13 28.8 +0.2
baz=330
DZA **Taraz** 75.28 330 *e*P P 20 13 28.7 +0.2
WATA **Walderalm** 75.28 13 *i*P P 20 13 29.4 +0.8
comp=Z,55nm,1.1s,SNR=18
KK31 **Karatay Array** 75.30 331 IAmb IAmb 20 13 30.1
comp=Z,18nm,0.9s
KKAR **Karatay Array** 75.30 331 IAmb IAmb 20 13 30.1
comp=Z,18nm,0.9s
LESA **Schwarzleotal** 75.33 13 *i*P P 20 13 29.4 +0.6
comp=Z,29nm,1.3s
SQTA **Sankt Quirin** 75.34 14 *i*P P 20 13 29.4 +0.4
comp=Z,41nm,0.9s,SNR=20
WTTA **Wattenberg** 75.36 13 *i*P P 20 13 30.1 +1.0
comp=Z,42nm,0.8s,SNR=18
RONA **Rosalia, Austr** 75.45 10 *i*P P 20 13 30.3 +0.8
comp=Z,15nm,0.8s,SNR=7.1
FETA **Feichten** 75.47 14 *i*P P 20 13 30.8 +1.0
comp=Z,32nm,1.1s,SNR=9.4
SRO **Srobarova** 75.52 9 *e*P P 20 13 31.3 +1.5
SRO pmax pmax
comp=Z,38nm,1.4s
SRO **Srobarova** 75.52 9 *e*P P 20 13 31.3 +1.5
PSZ **Piszkesteto** 75.55 8 ⇓P P 20 13 31.2 +1.1
PSZ **Piszkesteto** 75.55 8 IAmb IAmb 20 13 32.4
comp=Z,48nm,0.9s
PSZ **Piszkesteto** 75.55 8 P P 20 13 31.1 +1.1
SORM **Soroca** 75.71 2 ⇑P P 20 13 31.0 +0.1
SORM **Soroca** 75.71 2 P P 20 13 31.0 +0.1
GYA **Guiyang** 75.73 296 ⇓P P 20 13 32.3 +0.8
GYA pmax pmax
comp=Z,43nm,0.8s
KBA **Koelnbreinsper** 75.75 12 *i*P P 20 13 32.6 +1.2
comp=Z,51nm,0.8s,SNR=25
FUORN **Ofenpass-Fuorn** 75.80 15 IAmb IAmb 20 13 34.2
comp=Z,34nm,1.2s
TUE **Stuetta** 75.82 15 IAmb IAmb 20 13 34.1
comp=Z,18nm,0.8s
ARSA **Arzberg** 75.82 11 *i*P P 20 13 32.7 +1.1
comp=Z,20nm,0.9s,SNR=8.3
ABTA **Abfaltersbach** 75.97 13 *i*P P 20 13 32.7 +0.2
comp=Z,24nm,1.3s,SNR=9.1
BMR **Baia Mare** 76.01 5 ⇓P P 20 13 33.8 +1.2
BMR **Baia Mare** 76.01 5 P P 20 13 33.8 +1.2
PTBC **PUERTO BERRIO,** 76.11 99 *e*P P 20 13 32.4 -1.2
BUR08 **Bucovina Ar. S** 76.12 4 IAmb IAmb 20 13 35.2
comp=Z,26nm,0.8s
BURAR **Bucovina Array** 76.14 4 ⇑P P 20 13 34.2 +0.6
BURAR **Bucovina Array** 76.14 4 IAmb IAmb 20 13 35.7
comp=Z,32nm,0.7s
BURAR **Bucovina Array** 76.14 4 P P 20 13 34.1 +0.6
SSB **Saint Sauveur** 76.20 19 IAmb IAmb 20 13 34.8
comp=Z,12nm,0.8s
LTVH **Ltavrtes, Hu** 76.21 6 ⇓P P 20 13 35.4 +1.7
MYKA **Terra Mystica** 76.23 12 *i*P P 20 13 34.4 +0.4
comp=Z,32nm,1.6s,SNR=6.7
SDV **Santo Domingo** 76.27 95 P P 20 13 34.3 -0.5
SDV IAmb IAmb 20 13 35.4
comp=Z,17nm,1.2s
SDV **Santo Domingo** 76.27 95 *e*P P 20 13 33.3 -1.5
SDV **Santo Domingo** 76.27 95 *e*P P 20 13 34.1 -0.7
CLUD **Cludinico** 76.31 13 IAmb IAmb 20 13 47.7
comp=Z,12nm,0.8s
SOKA **Soboth** 76.33 11 *i*P P 20 13 35.3 +0.7
comp=Z,68nm,1.2s,SNR=29
PERS **Pernice** 76.39 11 *i*P P 20 13 35.3 +0.4
PAMC **Pamplona, Colo** 76.41 97 *e*P P 20 13 35.3 -0.6
OBKA **Obir** 76.45 12 *i*P P 20 13 35.9 +0.7
comp=Z,89nm,0.8s,SNR=29

PGAV **Gavieira, Arco** 76.48 29 *e*P P 20 13 36.1 +0.6
comp=Z,37nm,1.2s
MESR **Meseseni** 76.50 6 ⇓P P 20 13 36.8 +1.3
CTI **Castel Tesino** 76.55 14 P P 20 13 35.1 -0.8
CTI IAmb IAmb 20 13 37.0
comp=Z,18nm,1.1s
CTI **Castel Tesino** 76.55 14 P P 20 13 35.1 -0.8
CTI pmax pmax
comp=Z,17nm,1.1s
GORS **Gorjuse** 76.58 12 *i*P P 20 13 35.8 -0.2
CADS **Cadrg** 76.63 12 *i*P P 20 13 35.9 -0.3
ARCR **ARCALIA** 76.64 5 ⇓P P 20 13 37.4 +1.2
GUY2C **Guyana, Caldas** 76.70 101 *e*P P 20 13 36.1 -1.5
BARC **Barichara** 76.76 98 *e*P P 20 13 37.1 -0.5
BNI **Bardonecchia** 76.79 17 IAmb IAmb 20 13 39.4
comp=Z,23nm,0.9s
DRGR 76.85 6 ⇑P P 20 13 38.0 +0.4
DRGR 76.85 6 P P 20 13 37.9 +0.4
KIS **Kishinev** 76.86 1 ⇑*i*P P 20 13 37.5 +0.1
comp=Z,130nm,1.4s
KIS **Kishinev** 76.86 1 *c i*P P 20 13 37.5 +0.1
KIS pmax pmax
comp=Z,40nm,0.5s
SABO **M.te Sabotino** 76.86 12 IAmb IAmb 20 13 38.5
comp=Z,38nm,1.0s
MILM **Milestii Mici** 76.94 1 ⇓P P 20 13 38.1 +0.3
MILM **Milestii Mici** 76.94 1 ⇑*i*P P 20 13 37.6 -0.2
comp=Z,190nm,1.0s
MILM **Milestii Mici** 76.94 1 P P 20 13 38.1 +0.3
CJR **Cluj-Napoca** 76.97 5 ⇑P P 20 13 39.0 +0.8
CJR **Cluj-Napoca** 76.97 5 P P 20 13 38.9 +0.8
MARR **Marisel-Cluj** 76.99 5 ⇓P P 20 13 39.1 +0.8
KSH **Kashi** 77.03 326 P P 20 13 42.3 +3.6
KSH PcP **pwP** 20 13 57.0 +5.8
KSH pmax pmax
comp=Z,23nm,1.0s
KSH LR LR
comp=Z,260nm,19.0s
KSH LR LR
comp=Z,340nm,19.5s
KSH LR LR
comp=Z,470nm,18.2s
PBRG **Braganca** 77.03 28 *e*P P 20 13 39.3 +0.7
comp=Z,37nm,1.2s
MORH **Mrgy, Hungar** 77.14 9 ⇑P P 20 13 39.6 +0.7
POLO **Lamas de Ólo** 77.16 29 *e*P P 20 13 40.0 +0.7
comp=Z,23nm,1.4s
PTO **Porto** 77.16 30 *e*P P 20 13 40.2 +1.0
comp=Z,56nm,1.3s
VASR **Vaslui** 77.19 2 ⇑P P 20 13 39.8 +0.5
PVRL **Vila Real** 77.27 29 *e*P P 20 13 41.0 +1.1
comp=Z,57nm,1.4s
TESR **Tescani** 77.30 3 ⇑P P 20 13 40.3 +0.4
LEOM **Leova** 77.37 2 ⇑P P 20 13 41.1 +0.8
LEOM **Leova** 77.37 2 P P 20 13 41.1 +0.8
MVO **Moncorvo** 77.56 28 *e*P P 20 13 42.1 +0.6
comp=Z,37nm,1.1s
ROSC **El Rosal** 77.59 100 P P 20 13 42.6 +0.2
comp=Z,7.9nm,0.4s,baz=40,slow=21,SNR=4.4
comp=Z,7.9nm,0.4s
JAMC **Jamundi, Valle** 77.67 103 *e*P P 20 13 42.9 +0.2
OZUR 77.68 4 ⇑P P 20 13 43.4 +1.3
BOSR **Bodos** 77.70 4 ⇑P P 20 13 43.7 +1.5
TURR **Turia** 77.73 3 ⇓P P 20 13 43.3 +0.9
PVIS **Viseu** 77.75 29 *e*P P 20 13 43.0 +0.4
GHRR 77.77 2 ⇑P P 20 13 44.0 +1.5
DOPR **Dopca** 77.80 4 ⇑P P 20 13 44.4 +1.6
SURR **Surduc** 77.85 6 ⇑P P 20 13 43.8 +0.8
HNR **Honiara** 77.93 232 LR LR 20 40 20.0
comp=Z,3µm,20.9s,baz=10.0,slow=30
RAR **Rarotonga** 77.93 190 LR LR 20 43 10.9
comp=Z,177nm,18.3s,baz=332,slow=32
VRI **Vrincioaia** 77.94 3 ⇑P P 20 13 44.4 +0.8
VRI **Vrincioaia** 77.94 3 P P 20 13 44.3 +0.8
COVR **Voineasa-Covas** 77.95 3 ⇑P P 20 13 45.2 +1.6
PANC **Panciu** 77.95 3 ⇓P P 20 13 45.1 +1.5
BZS **Buzias** 77.95 7 ⇑P P 20 13 43.9 +0.3
BZS **Buzias** 77.95 7 P P 20 13 43.8 +0.3
PLOR **Plostina** 77.96 3 ⇑P P 20 13 44.7 +1.1
PLOR **Plostina** 77.96 3 P P 20 13 44.7 +1.1
VLDR **Vladesti** 78.00 2 ⇓P P 20 13 44.9 +1.1
BTK **Batken** 78.05 330 IAmb IAmb 20 13 46.0
comp=Z,26nm,1.1s
ODBI **Odobesti** 78.06 3 ⇓P P 20 13 44.8 +0.7
COI **Coimbra** 78.08 30 *e*P P 20 13 45.5 +1.2
comp=Z,57nm,1.3s
PZH **PanZhiHua** 78.10 300 P P 20 13 45.0 +0.2
PZH pmax pmax
comp=Z,50nm,1.1s
PZH pmax pmax
comp=Z,120nm,3.5s
MTE **Manteigas** 78.14 29 *e*P P 20 13 45.2 +0.4
comp=Z,51nm,1.2s
MTE **Manteigas** 78.14 29 IAmb IAmb 20 13 46.4
comp=Z,36nm,0.9s
BANR **Banloc** 78.16 7 ⇑P P 20 13 45.7 +1.0
SCTR **Scanteiesti** 78.17 2 ⇓P P 20 13 45.2 +0.5
PCAS **Casmilo, Conde** 78.20 30 *e*P P 20 13 45.4 +0.3
comp=Z,64nm,1.4s
TATR **Tatarca** 78.24 2 ⇓P P 20 13 46.2 +1.1
LOT **Lotru** 78.25 5 ⇓P P 20 13 45.7 +0.4
GZR **Gura Zlata** 78.25 6 ⇑P P 20 13 45.9 +0.5
GZR **Gura Zlata** 78.25 6 P P 20 13 45.8 +0.5
FRGS **Fruska Gora** 78.28 8 ⇑P P 20 13 45.9 +0.4
IZVR **Izvoarele** 78.29 2 ⇓P P 20 13 46.7 +1.3
MLR **Muntele Rosu** 78.29 4 ⇑P P 20 13 46.4 +0.8
MLR **Muntele Rosu** 78.29 4 IAmb IAmb 20 13 48.9
comp=Z,46nm,1.0s
MLR **Muntele Rosu** 78.29 4 P P 20 13 46.4 +0.8
MLR **Muntele Rosu** 78.29 4 LR LR 20 48 22.7
comp=Z,261nm,21.4s,baz=40,slow=36
GOF **Gofitskoye** 78.30 351 *c e*P P 20 13 46.2 +0.7
NEGRR **Negrea** 78.30 2 ⇑P P 20 13 46.7 +1.3
VOIR 78.31 4 ⇑P P 20 13 46.1 +0.3
VOIR 78.31 4 P P 20 13 46.0 +0.3
SCHL **Schela** 78.34 2 ⇓P P 20 13 46.7 +1.1
TGY **Tagaytay City** 78.36 278 LR LR 20 43 33.0
comp=Z,40nm,21.4s,baz=284,slow=32
ARR **Arges** 78.37 5 ⇑P P 20 13 46.9 +1.0
SCHLR **Schela** 78.37 2 ⇑P P 20 13 46.6 +0.7
NEHR **Nehoiu** 78.37 3 ⇓P P 20 13 47.1 +1.2
CFR **Carcaliu** 78.67 2 ⇑P P 20 13 48.3 +0.8
CFR **Carcaliu** 78.67 2 P P 20 13 48.2 +0.8
TLCR 78.67 2 ⇓P P 20 13 48.4 +0.9
TLCR 78.67 2 P P 20 13 48.4 +0.9
PCBR **Castelo Branco** 78.68 29 *e*P P 20 13 47.8 +0.1
comp=Z,33nm,1.2s
ISR **Istrita** 78.69 3 ⇑P P 20 13 48.3 +0.5
ISR **Istrita** 78.69 3 P P 20 13 48.2 +0.5
HERR **Herculane** 78.74 6 ⇑P P 20 13 48.1 +0.2
KMI **Kunming** 78.78 299 ⇓P P 20 13 49.5 +0.8
KMI pmax pmax
comp=Z,18nm,0.7s
MDVR **Moldovita** 78.79 7 ⇑P P 20 13 48.8 +0.5
STFAR **Stefanesti-Arg** 78.88 4 ⇓P P 20 13 50.3 +1.5
SIM **Simferopol'** 78.89 358 *e*P P 20 13 49.3 +0.6
SIM pmax pmax
comp=Z,98nm,1.3s
PGOR **Pogoanele** 78.91 3 ⇓P P 20 13 49.6 +0.8
ANN **Anapa** 78.92 355 *e*P P 20 13 45.9 -3.0
ANN *e**PP **pP** 20 13 49.2 -6.3
ANN *e*S **S** 20 23 43.1 -2.3
ANN pmax pmax
comp=Z,169nm,1.3s
OSSC **Osservatorio P** 78.98 14 IAmb IAmb 20 13 50.3
comp=Z,33nm,1.0s
TPGR **Topolog** 78.99 2 ⇓P P 20 13 50.5 +1.1
SRE **Strehaia** 79.00 6 ⇑P P 20 13 49.9 +0.5
SRE **Strehaia** 79.00 6 P P 20 13 49.9 +0.5
PMAFR **Mafra** 79.00 31 *e*P P 20 13 49.9 +0.4
comp=Z,152nm,1.2s
SULR 79.11 3 ⇑P P 20 13 50.8 +0.8
HARR **Harsova** 79.15 2 ⇓P P 20 13 51.0 +0.8
HARR **Harsova** 79.15 2 P P 20 13 50.9 +0.8
PMTG **Montargil** 79.19 30 *e*P P 20 13 50.2 -0.3
comp=Z,27nm,1.0s
HUMR **Humele** 79.22 4 ⇓P P 20 13 50.8 +0.2
TLBR **Topalu** 79.30 2 ⇓P P 20 13 52.0 +1.0
PUNG **Punghina** 79.37 6 ⇑P P 20 13 51.8 +0.4
TIRR **Tirgusor** 79.39 2 ⇓P P 20 13 52.1 +0.7
TIRR **Tirgusor** 79.39 2 P P 20 13 52.1 +0.7
KIV **Kislovodsk** 79.42 351 ⇑P P 20 13 51.7 -0.2
KIV **Kislovodsk** 79.42 351 P P 20 13 51.6 -0.2

KIV **Kislovodsk** 79.42 351 *e*P P 20 13 52.4 +0.6
KIV pmax pmax
comp=Z,74nm,1.1s
KIV MLR MLR
comp=Z,86nm,19.0s
PESTR **Estremoz** 79.56 30 *e*P P 20 13 53.1 +0.6
comp=Z,20nm,1.7s
KBZ **Khabaz** 79.63 351 P P 20 13 54.0 +1.2
comp=Z,36nm,0.8s,baz=340,slow=2.8,SNR=45
comp=Z,36nm,0.8s
CASP **Castiglione de** 79.64 15 IAmb IAmb 20 13 54.3
comp=Z,71nm,1.1s
FDMO **Fiordimonte** 79.70 13 IAmb IAmb 20 13 56.5
comp=Z,28nm,0.9s
GUMA **Gualdo di Mace** 79.70 13 IAmb IAmb 20 13 55.2
comp=Z,67nm,1.0s
ICOR **Ion Corvin** 79.72 2 ⇑P P 20 13 54.3 +1.1
VLAD **Vladila** 79.72 5 ⇓P P 20 13 53.8 +0.6
ESBB **Sonseca Array** 79.74 27 IAmb IAmb 20 13 55.5
comp=Z,38nm,0.9s
ESDC **Sonseca Array** 79.75 27 IAmb IAmb 20 13 55.5
comp=Z,38nm,1.0s
ESDC **Sonseca Array** 79.75 27 P P 20 13 54.3 +0.7
comp=Z,33nm,0.9s,baz=335,slow=5.3,SNR=121
comp=Z,33nm,0.9s
EVO **Evora** 79.75 30 *e*P P 20 13 53.6 0.0
comp=Z,47nm,1.3s
PAB **San Pablo** 79.77 27 P P 20 13 53.2 -0.6
PAB IAmb IAmb 20 13 55.5
comp=Z,22nm,1.1s
PAB **San Pablo** 79.77 27 P P 20 13 54.4 +0.6
GROC **Groznyy** 79.88 349 *e*P P 20 13 52.2 -1.9
GROC *e* 20 14 00.1
GROC pmax pmax
comp=Z,15nm,0.9s
NRCA **Norcia** 79.90 13 IAmb IAmb 20 13 56.1
comp=Z,28nm,0.9s
BOVS **Bovan** 79.93 7 ⇑P P 20 13 54.4 0.0
VALD **Valchedram** 79.98 5 P P 20 13 54.0 -0.7
PNCL **Nicolau / Gran** 80.00 31 *e*P P 20 13 55.3 +0.4
comp=Z,45nm,0.9s
BLKB **Belogradchik** 80.01 6 ⇑P P 20 13 55.0 +0.1
SOC **Sochi** 80.01 354 *e*P P 20 13 59.3 +4.4
SOC *e* 20 16 55.5
SOC *e*PPP PPP 20 18 45.2
SOC *e*S **S** 20 24 02.5 +5.5
SOC *e*SS **SS** 20 29 04.0 -1.6
MANR **Mangalia** 80.03 2 ⇓P P 20 13 56.2 +1.2
CESX **Cesi** 80.05 14 IAmb IAmb 20 13 56.1
comp=Z,80nm,1.7s
PLE **Pljevlja** 80.07 9 ⇑*i*P P 20 13 56.0 +0.7
PSN **Preselentsi** 80.20 2 P P 20 13 56.0 +0.1
RAZG **Razgrad** 80.23 3 ⇑P P 20 13 56.0 -0.1
PBEJ **Beja** 80.27 30 *e*P P 20 13 57.1 +0.7
comp=Z,32nm,1.3s
MPEP **Malo Peshtene** 80.33 5 P P 20 13 56.0 -0.6
MESJ **Messejana** 80.34 30 *e*P P 20 13 57.0 +0.3
comp=Z,68nm,1.8s
MESJ **Messejana** 80.34 30 *e*P P 20 13 57.0 +0.3
PLVB **Pleven** 80.34 5 ⇑P P 20 13 56.9 +0.2
PIAT **Ana Tenorio** 80.35 107 *e*P P 20 13 57.9 +0.3
PBAR **Barrancos** 80.35 29 *e*P P 20 13 57.0 +0.2
comp=Z,49nm,1.6s
BRY **Bratogost** 80.42 9 ⇑*i*P P 20 13 57.1 -0.2
LOZB **Loznitsa** 80.43 3 ⇑P P 20 13 57.4 +0.2
ZEI **Tsey** 80.47 350 *e*P P 20 13 57.1 -0.6
ZEI pmax pmax
comp=Z,15nm,1.0s
SZH **Strazhitsa** 80.52 4 P P 20 13 57.0 -0.6
KOME **Kolasin** 80.55 8 ⇓*i*P P 20 13 57.8 -0.1
IVA **Berane** 80.56 8 ⇑*i*P P 20 13 58.1 +0.1
PCVE **Castro Verde** 80.59 30 *e*P P 20 13 58.4 +0.3
NKME **Niksic** 80.59 9 ⇑*i*P P 20 13 58.0 -0.1
PVL **Pavlikeni** 80.63 4 P P 20 13 58.0 -0.2
PRD **Provadia** 80.67 3 P P 20 13 59.0 +0.6
ONI **Oni** 80.71 351 IAmb IAmb 20 14 01.2
comp=Z,18nm,0.9s
MORF **Marmelete** 80.72 31 *e*P P 20 13 59.1 +0.2
MORF **Marmelete** 80.72 31 *e*P P 20 13 59.1 +0.2
CEME **Cevo** 80.80 9 ⇓*i*P P 20 13 59.0 -0.3
INTR **Introdacqua** 80.81 13 IAmb IAmb 20 14 01.4
comp=Z,16nm,1.0s
PVY **Plav** 80.84 8 ⇑*i*P P 20 13 59.2 -0.3
ELND **Elena** 80.85 4 ⇑P P 20 13 59.8 +0.3
HCY **Herceg Novi** 80.87 9 ⇑*i*P P 20 13 59.1 -0.4
TNCH **TengChong** 80.88 302 ⇑P P 20 14 00.5 +0.4
TNCH pP pP 20 14 06.3 -0.4
TNCH sP sP 20 14 08.0 -1.2
TNCH S **S** 20 24 01.3 -5.7
TNCH SS **SS** 20 29 15.3 -4.8
TNCH pmax pmax
comp=Z,38nm,0.9s
TNCH pmax pmax
comp=Z,180nm,4.1s
TNCH LR LR
comp=Z,170nm,4.4s
TNCH LR LR
comp=Z,180nm,4.0s
TNCH LR LR
comp=Z,98nm,9.3s
PVAQ **Vaqueiros** 80.89 30 *e*P P 20 14 00.7 +1.0
PBDV **Barranco-do-Ve** 80.98 30 *e*P P 20 14 01.3 +1.1
VTS **Vitosha** 81.04 6 P P 20 14 00.0 -0.6
BUM **Brajici-Budva** 81.05 9 ⇑*i*P P 20 14 00.2 -0.4
DRME **Dracevica, Mon** 81.18 9 ⇓*i*P P 20 14 01.5 +0.3
PLNA **Plana** 81.19 6 P P 20 14 01.0 -0.4
JMB **Yambol** 81.31 3 P P 20 14 02.0 +0.2
SLVN **Son La** 81.38 296 IAmb IAmb 20 14 04.4
comp=Z,24nm,0.9s
PUK **Puka** 81.39 8 IAmb IAmb 20 14 03.9
comp=Z,19nm,1.0s
ULC **Ulcinj** 81.41 9 ⇑*i*P P 20 14 02.1 -0.3
DAV **Davao City (W)** 81.57 270 LR LR 20 44 54.9
comp=Z,116nm,21.4s,baz=353,slow=32
SKO **Skopje** 81.57 7 *i*P P 20 14 04.1 +0.8
DIM **Dimitrovgrad** 81.72 4 P P 20 14 05.0 +1.0
KKB **Krupnik** 81.81 6 P P 20 14 05.0 +0.5
PAOL **Paolisi** 81.86 12 IAmb IAmb 20 14 06.0
comp=Z,36nm,1.2s
TIR **Tirane** 82.07 8 IAmb IAmb 20 14 07.3
comp=Z,40nm,1.1s
MMB **Musomishta** 82.13 5 P P 20 14 06.0 -0.3
VAY **Valandovo** 82.29 6 *i*P P 20 14 08.0 +0.9
MCRA **Macar, Loja** 82.31 110 *e*P P 20 14 06.8 -0.7
NVR **Nevrokopi** 82.34 5 P P 20 14 09.7 +2.4
OHR **Ohrid** 82.38 8 *i*P P 20 14 08.7 +1.1
KNT **Kendrikon** 82.47 6 P P 20 14 08.6 +0.6
MATE **Matera** 82.47 11 ⇑P P 20 14 08.5 +0.6
SRS **Serrai** 82.55 6 P P 20 14 09.1 +0.7
RDO **Rodhopi** 82.62 4 P P 20 14 09.6 +0.9
GRG **Griva** 82.64 6 P P 20 14 08.8 -0.1
VSL **Villasalto** 82.64 17 IAmb IAmb 20 14 10.5
comp=Z,24nm,0.9s
KAVA **Kavala** 82.72 5 P P 20 14 09.6 +0.3
FNA **Florina** 82.75 7 IAmb IAmb 20 14 10.7
comp=Z,21nm,1.0s
KOKK **Kokkinochori,** 82.87 5 P P 20 14 09.6 -0.5
ALN **Alexandroupoli** 82.88 4 P P 20 14 10.3 +0.2
GNI **Garni** 83.01 349 P P 20 14 12.6 +1.6
GNI IAmb IAmb 20 14 14.0
comp=Z,34nm,0.9s
GNI **Garni** 83.01 349 *c i*P P 20 14 12.9 +1.9
GNI pmax pmax
comp=Z,41nm,1.0s
GNI **Garni** 83.01 349 LR LR 20 56 23.7
comp=Z,196nm,18.2s,baz=1.0,slow=40
CUC **Castrocucco** 83.03 12 IAmb IAmb 20 14 11.5
comp=Z,38nm,1.1s
THAS **Thassos island** 83.12 5 P P 20 14 11.1 -0.2
GEYT **Alibeck** 83.14 339 IAmb IAmb 20 14 13.8
comp=Z,22nm,0.8s
GEYT **Alibeck** 83.14 339 P P 20 14 12.7 +1.1
comp=Z,17nm,0.8s,baz=355,slow=3.4,SNR=49
GEYT LR LR 20 55 54.0
comp=Z,156nm,20.0s,baz=26,slow=39
comp=Z,17nm,0.8s
GYA0B **ALIBECK ARRAY** 83.14 339 IAmb IAmb 20 14 13.8
comp=Z,19nm,0.8s
NIL **Nilore** 83.28 326 P P 20 14 12.1 -0.2
NIL IAmb IAmb 20 14 13.9
comp=Z,27nm,1.1s
NIL **Nilore** 83.28 326 P P 20 14 12.1 -0.2
NIL pmax pmax
comp=Z,27nm,1.1s

SMTH	**Samothraki Isl**	**83.29**	**4**	P	**P**	**20 14 11.8**	**-0.5**
LSK	**Leskovik**	**83.32**	**8**	P	**P**	**20 14 13.4**	**+0.9**
KBL	**Kabul**	**83.70**	**329**	P	**P**	**20 14 13.5**	**-1.3**
KBL				IAmb	IAmb	20 14 14.7	
	comp=Z,8.7nm,0.9s						
KBL	**Kabul**	**83.70**	**329**	P	**P**	**20 14 13.5**	**-1.3**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LIA	**Limnos Island**	**83.85**	**4**	P	**P**	**20 14 14.9**	**-0.2**
PMG	**Port Moresby**	**83.86**	**243**	LR	LR	20 42 59.9	
	comp=Z,79nm,21.4s,baz=12,slow=30						
IGT	**Igoumenitsa**	**83.91**	**8**	P	**P**	**20 14 14.9**	**-0.6**
TIP	**Timpagrande**	**83.93**	**11**	⇑P	**P**	**20 14 15.8**	**+0.1**
ANTO	**Ankara**	**83.98**	**359**	⇑P	**P**	**20 14 16.0**	**+0.1**
ANTO	**Ankara**	**83.98**	**359**	P	**P**	**20 14 16.4**	**+0.5**
ANTO	**Ankara**	**83.98**	**359**	P	**P**	**20 14 16.4**	**+0.5**
ANTO				pmax	pmax		
	comp=Z,56nm,0.9s						
CRAI	**Chiangrai**	**84.06**	**298**	P	**P**	**20 14 16.9**	**+0.4**
CRAI				IAmb	IAmb	20 14 17.9	
	comp=Z,28nm,1.2s						
BR131	**Keskin Array S**	**84.11**	**358**	*i* P	**P**	**20 14 17.0**	**+0.3**
BRTR	**Keskin Array B**	**84.11**	**358**	P	**P**	**20 14 17.4**	**+0.7**
	comp=Z,23nm,0.8s,baz=10,slow=2.6,SNR=121						
BRTR				PKKPbc	**PKKPbc**	**20 32 28.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=153,slow=5.4,SNR=7.0						
	comp=Z,23nm,0.8s						
BALB	**Balikesir**	**84.19**	**2**	IAmb	IAmb	20 14 18.2	
	comp=Z,36nm,1.1s						
NEO	**Neokhori**	**84.34**	**6**	P	**P**	**20 14 17.1**	**-0.6**
ARPR	**Arapgir-MALATY**	**84.56**	**354**	IAmb	IAmb	20 14 21.8	
	comp=Z,31nm,1.0s						
AGG	**Agios Georgios**	**84.57**	**7**	IAmb	IAmb	20 14 19.7	
	comp=Z,29nm,0.8s						
AGG	**Agios Georgios**	**84.57**	**7**	P	**P**	**20 14 18.7**	**-0.1**
EVR	**Evrytania**	**84.64**	**7**	P	**P**	**20 14 19.9**	**+0.6**
CEL	**Celeste**	**84.75**	**12**	IAmb	IAmb	20 14 19.8	
	comp=Z,19nm,0.8s						
GURO	**Guroymak-BITLI**	**84.84**	**351**	IAmb	IAmb	20 14 24.1	
	comp=Z,12nm,1.1s						
ANX	**Ano Chora**	**84.97**	**7**	P	**P**	**20 14 21.1**	**+0.2**
SWI	**Sorong**	**85.00**	**261**	P	**P**	**20 14 21.7**	**+0.5**
	comp=Z,41nm,0.9s						
SIJI	**Sorong**	**85.00**	**261**	P	**P**	**20 14 21.8**	**+0.5**
	comp=Z,32nm,0.9s						
EFP	**Efpalio**	**85.13**	**7**	P	**P**	**20 14 22.4**	**+0.8**
KULA	**Kula-Manisa**	**85.33**	**2**	P	**P**	**20 14 22.9**	**+0.1**
CHOS	**Chios island**	**85.39**	**4**	P	**P**	**20 14 22.9**	**-0.1**
KLV	**Kalavryta, Ach**	**85.53**	**7**	P	**P**	**20 14 23.4**	**-0.3**
DRO	**Drossia**	**85.59**	**7**	P	**P**	**20 14 24.3**	**+0.3**
DION	**Dionisos Attik**	**85.60**	**6**	P	**P**	**20 14 23.9**	**-0.1**
GUR	**Goura**	**85.65**	**7**	P	**P**	**20 14 24.6**	**+0.2**
CHTO	**Chiang Mai**	**85.97**	**298**	P	**P**	**20 14 25.7**	**-0.4**
CHTO				IAmb	IAmb	20 14 27.1	
	comp=Z,22nm,1.2s						
CHTO	**Chiang Mai**	**85.97**	**298**	P	**P**	**20 14 25.7**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,22nm,1.3s						
CHTO	**Chiang Mai**	**85.97**	**298**	P	**P**	**20 14 25.8**	**-0.4**
	comp=Z,14nm,1.3s						
KMPI	**Kaimana, Papua**	**86.00**	**257**	P	**P**	**20 14 26.0**	**-0.2**
	comp=Z,68nm,0.7s						
SMG	**Samos**	**86.09**	**3**	P	**P**	**20 14 25.5**	**-0.9**
KRND	**KRANIDI**	**86.25**	**6**	P	**P**	**20 14 26.0**	**-1.2**
CM31	**Chiang Mai Arr**	**86.27**	**298**	IAmb	IAmb	20 14 42.9	
	comp=Z,34nm,0.8s						
CMAR	**Chiang Mai Arr**	**86.27**	**298**	P	**P**	**20 14 28.1**	**+0.5**
	comp=Z,17nm,0.8s,baz=14,slow=5.0,SNR=108						
CMAR				LR	LR	20 57 29.1	
	comp=Z,108nm,18.9s,baz=50,slow=39						
	comp=Z,17nm,0.8s						
KEST	**Kesra**	**86.32**	**17**	IAmb	IAmb	20 14 29.2	
	comp=Z,31nm,1.3s						
KEST	**Kesra**	**86.32**	**17**	P	**P**	**20 14 27.8**	**+0.1**
	comp=Z,12nm,0.8s,baz=283,slow=3.1,SNR=14						
	comp=Z,12nm,0.8s						
GAZ	**Gaziantep**	**86.54**	**355**	IAmb	IAmb	20 14 31.2	
	comp=Z,26nm,0.8s						
APE	**Apeiranthos**	**86.68**	**4**	⇑P	**P**	**20 14 29.1**	**-0.3**
APE	**Apeiranthos**	**86.68**	**4**	P	**P**	**20 14 25.6**	**-3.8**
APE	**Apeiranthos**	**86.68**	**4**	P	**P**	**20 14 29.1**	**-0.3**
VLI	**Veliai**	**86.90**	**6**	P	**P**	**20 14 29.7**	**-0.7**
MDP	**Montagnes des**	**89.34**	**82**	LR	LR	20 53 21.5	
	comp=Z,188nm,21.7s,baz=24,slow=35						
RPN	**Rapa Nui**	**89.86**	**145**	LR	LR	20 47 10.4	
	comp=Z,134nm,18.8s,baz=210,slow=30						
MMAI	**Mount Meron Ar**	**90.76**	**356**	P	**P**	**20 14 49.5**	**+0.7**
	comp=Z,12nm,1.0s,baz=342,slow=5.2,SNR=18						
	comp=Z,12nm,1.0s						
BALJ	**Balqa**	**91.67**	**356**	IAmb	IAmb	20 14 54.7	
	comp=Z,14nm,0.8s						
SBUM	**Sibu**	**92.77**	**279**	P	**P**	**20 14 58.7**	**+0.5**
	comp=Z,4.5nm,2.9s						
CTA	**Charters Tower**	**93.50**	**238**	LR	LR	20 52 18.7	
	comp=Z,120nm,19.1s,baz=70,slow=32						
CTAO	**Charters Tower**	**93.50**	**238**	P	**P**	**20 14 59.9**	**-1.4**
CTAO				IAmb	IAmb	20 16 39.5	
	comp=Z,19nm,1.2s						
CTAO	**Charters Tower**	**93.50**	**238**	P	**P**	**20 14 59.9**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,19nm,1.2s						
MCPB	**Macapa, AP**	**94.19**	**84**	*e*P	**P**	**20 15 03.7**	**-1.1**
ETMB	**Extrema**	**94.20**	**101**	P	**P**	**20 15 02.1**	**-2.6**
ETMB				IAmb	IAmb	20 15 03.5	
	comp=Z,7.8nm,1.0s						
ETMB	**Extrema**	**94.20**	**101**	*e*P	**P**	**20 15 02.5**	**-2.2**
KSM	**Kuching**	**94.63**	**280**	P	**P**	**20 15 06.8**	**0.0**
	comp=Z,16nm,1.4s,comp=Z,669nm						
KAPI	**Kappang**	**94.78**	**268**	LR	LR	20 53 56.5	
	comp=Z,38nm,21.5s,baz=70,slow=33						
SAML	**Samuel**	**95.14**	**98**	P	**P**	**20 15 06.9**	**-2.1**
SAML				IAmb	IAmb	20 15 08.2	
	comp=Z,5.3nm,0.9s						
SAML	**Samuel**	**95.14**	**98**	P	**P**	**20 15 06.9**	**-2.1**
SAML				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SAML	**Samuel**	**95.14**	**98**	*e*P	**P**	**20 15 07.2**	**-1.8**
SAML	**Samuel**	**95.14**	**98**	*e*P	**P**	**20 15 06.9**	**-2.1**
ITTB	**Itaituba**	**95.47**	**90**	*e*P	**P**	**20 15 09.4**	**-1.2**
WSAR	**Wadi Sarin**	**97.18**	**334**	LR	LR	21 05 39.6	
	comp=Z,63nm,18.4s,baz=3.5,slow=40						
URZ	**Urewera**	**98.65**	**206**	LR	LR	20 53 29.7	
	comp=Z,149nm,19.8s,baz=121,slow=32						
WRA	**Warramunga Arr**	**99.26**	**248**	*i* P	**Pdif**	**20 15 28.3**	**+0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**99.26**	**248**	P	**Pdif**	**20 15 26.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=36,slow=5.7,SNR=5.1						
	comp=Z,0.9nm,0.8s						
RAYN	**Ar Rayn**	**99.34**	**346**	P	**Pdif**	**20 15 28.3**	**+0.2**
RAYN	**Ar Rayn**	**99.34**	**346**	P	**Pdif**	**20 15 28.3**	**+0.2**
RAYN				pmax	pmax		
	comp=Z,21nm,1.0s						
ASAR	**Alice Springs**	**102.58**	**246**	P	**Pdif**	**20 15 42.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=35,slow=4.6,SNR=1.6						
ASAR				PP	**PP**	**20 19 58.7**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=52,slow=4.8,SNR=2.4						
KMBO	**Kilima Mbogo**	**124.56**	**352**		**PKPdf**	**20 20 45.6**	**+0.1**
KMBO	**Kilima Mbogo**	**124.56**	**352**	PKIKP	**PKPdf**	**20 20 45.6**	**+0.1**
KMBO	**Kilima Mbogo**	**124.56**	**352**	PKhKP	PKPpre	20 20 42.0	
	comp=Z,2.7nm,0.6s,baz=34,slow=6.2,SNR=7.7						
TSUM	**Tsumeb**	**141.44**	**20**		**PKPdf**	**20 21 13.6**	**-3.1**
WIN	**Windhoek**	**144.62**	**22**		**PKPab**	**20 21 21.2**	**+0.3**
WIN	**Windhoek**	**144.62**	**22**	PKIKP	**PKPab**	**20 21 21.2**	**+0.3**
QSPA	**South Pole Qui**	**146.29**	**180**	PKPbc	**PKPbc**	**20 21 25.0**	**0.0**
	comp=Z,28nm,0.9s,baz=55,slow=2.1,SNR=54						
FOMA	**Nahampoana Res**	**146.41**	**333**		**PKPdf**	**20 21 25.9**	**+0.9**
LBTB	**Lobatse**	**148.31**	**9**		**PKPdf**	**20 21 28.6**	**+0.2**
LBTB	**Lobatse**	**148.31**	**9**	PKIKP	**PKPdf**	**20 21 28.6**	**+0.2**
BELA	**Belgrano 2**	**149.53**	**158**		**PKPdf**	**20 21 26.0**	**-2.7**
BOSA	**Boshof**	**151.84**	**11**	PKPbc	**PKPbc**	**20 21 39.9**	**-0.4**
	comp=Z,27nm,0.7s,baz=359,slow=2.6,SNR=28						

*IDC **31** 20:11:45.6±1.2, 10°.93S×164°.32E, h0km, mb3.9/6, mbtmp4.0/8, ML4.2/2, MS3.7/5, Error ellipse: s-maj=32.6km s-min=22.9km az=139.0*
*NEIC **31** 20:11:49.0±1.1, 10°.92S±0°.09×164°.3E±0°.1, h10km±1km, mb4.5/30, Error ellipse: s-maj=18.2km s-min=15.5km az=81.0*
ISC 31 20:11:50.7±0.7, 10°.99S±0°.07×164°.31E±0°.08, h29km, n58, σ1°.22/50, mb4.4/20, MS3.6/3, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.56**	**289**	Pn	**Pn**	**20 12 57.8**	**0.0**
HNR	**Honiara**	**4.56**	**289**	Pn	**Pn**	**20 12 57.9**	**+0.1**
	409nm,0.3s,baz=190,slow=6.3,SNR=2.2						
HNR				Sn	**Sn**	**20 13 51.5**	**+1.5**
	177nm,0.3s,baz=174,slow=21,SNR=1.5						
KOUNC	**Koumac, New Ca**	**9.50**	**180**		**Pn**	**20 14 07.8**	**+2.1**
DZM	**Mont Dzumac**	**11.20**	**170**	Pn	**Pn**	**20 14 30.7**	**+1.6**
DZM	**Mont Dzumac**	**11.20**	**170**	Pn	**Pn**	**20 14 29.9**	**+0.8**
	1.2nm,0.3s,baz=288,slow=17,SNR=15						
DZM				Sn	**Sn**	**20 16 31.1**	**-2.4**
	0.2nm,0.3s,baz=164,slow=23,SNR=0.8						
DZM				LR	LR	20 18 22.0	
	comp=Z,460nm,18.6s,baz=352,slow=35						
	7.1nm,0.6s						
ONTNC	**Ouen Toro**	**11.44**	**170**	Pn	**Pn**	**20 14 33.1**	**+1.0**
OUENC	**Ouen Island, N**	**11.62**	**168**	Pn	**Pn**	**20 14 34.6**	**0.0**
PINNC	**Pines Island,**	**11.94**	**166**	Pn	**Pn**	**20 14 41.9**	**+2.9**
TARA	**Tarawa**	**14.96**	**35**	Pn	**Pn**	**20 15 20.9**	**+0.5**
PMG	**Port Moresby**	**16.95**	**274**	LR	LR	20 21 26.9	
	comp=Z,201nm,19.6s,baz=109,slow=34						
PATS	**Pohnpei**	**18.69**	**341**	P	**P**	**20 16 05.5**	**-1.4**
CTA	**Charters Tower**	**19.59**	**240**	P	**Pn**	**20 16 17.7**	**-0.5**
	0.5nm,0.3s,baz=72,slow=11,SNR=7.3						
	6.3nm,0.8s						
CTAO	**Charters Tower**	**19.59**	**240**	P	**Pn**	**20 16 18.9**	**+0.8**
COEN	**Coen**	**20.84**	**260**	P	**P**	**20 16 30.1**	**-0.2**
COEN				IAmb	IAmb	20 16 50.3	
	comp=Z,28nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**29.39**	**5**	T	T	20 48 20.2	
	baz=184,slow=76,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**29.39**	**5**	T	T	20 48 19.8	
	baz=184,slow=76,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**29.41**	**5**	T	T	20 48 18.0	
	baz=184,slow=76,SNR=8.5						
WB0	**Warramunga Arr**	**30.09**	**250**	P	**P**	**20 17 56.8**	**-1.2**
WB0				IAmb	IAmb	20 18 03.5	
	comp=Z,6.5nm,1.0s						
WB2	**Warramunga Arr**	**30.17**	**249**	P	**P**	**20 17 57.3**	**-1.4**
WB2				IAmb	IAmb	20 18 39.7	
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**30.18**	**249**	P	**P**	**20 17 58.4**	**-0.4**
WRA	**Warramunga Arr**	**30.18**	**249**	P	**P**	**20 17 57.6**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=81,slow=9.0,SNR=8.0						
	comp=Z,1.6nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.62**	**5**	T	T	20 49 52.7	
	baz=184,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**30.62**	**5**	T	T	20 49 55.1	
	baz=184,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**30.64**	**5**	T	T	20 49 57.9	
	baz=184,slow=76,SNR=12						
GUMO	**Guam**	**31.12**	**321**	LR	LR	20 30 15.9	
	comp=Z,137nm,18.3s,baz=128,slow=36						
AS31	**Alice Springs**	**31.56**	**242**	P	**P**	**20 18 10.9**	**-0.1**
ASAR	**Alice Springs**	**31.56**	**242**	P	**P**	**20 18 11.5**	**+0.5**
ASAR	**Alice Springs**	**31.56**	**242**	P	**P**	**20 18 09.2**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=65,slow=10.0,SNR=7.0						
	comp=Z,0.3nm,0.4s						
KNRA	**Kununurra**	**34.87**	**258**	P	**P**	**20 18 38.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**38.03**	**255**	P	**P**	**20 19 05.5**	**-1.3**
NWAO	**Narrogin (SRO)**	**48.33**	**236**	P	**P**	**20 20 30.9**	**+1.0**
PETK	**Petropavlovsk-**	**64.09**	**356**	LR	LR	20 45 05.8	
	comp=Z,39nm,21.6s,baz=143,slow=31						
MA2	**Magadan**	**71.17**	**353**	LR	LR	20 47 56.6	
	comp=Z,48nm,21.2s,baz=169,slow=30						
P18K	**Big Mountain,**	**77.32**	**20**	P	**P**	**20 23 41.9**	**-0.5**
M16K	**Timber Creek**	**77.42**	**17**	P	**P**	**20 23 43.3**	**+0.4**
SONM	**Songino Array**	**77.80**	**324**	P	**P**	**20 23 44.8**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=129,slow=4.7,SNR=3.9						
	comp=Z,0.7nm,0.9s						
L16K	**Owhat River**	**77.83**	**17**	P	**P**	**20 23 45.8**	**+0.7**
L16K				IAmb	IAmb	20 23 56.5	
	comp=Z,14nm,1.5s						
J16K	**Anvik River**	**78.81**	**15**	P	**P**	**20 23 52.6**	**+2.2**
J16K				IAmb	IAmb	20 24 03.4	
	comp=Z,11nm,1.4s						
M19K	**Big River Lodg**	**79.49**	**19**	P	**P**	**20 23 56.7**	**+2.4**
G16K	**Koyuk River**	**80.13**	**14**	P	**P**	**20 23 58.8**	**+1.1**
G18K	**Tagagawik**	**81.42**	**14**	P	**P**	**20 24 05.5**	**+0.9**
G19K	**Purcell Mounta**	**82.01**	**15**	P	**P**	**20 24 08.8**	**+1.1**
G19K				IAmb	IAmb	20 24 09.9	
	comp=Z,4.2nm,0.9s						
E18K	**Tukpahlearik C**	**82.21**	**13**	P	**P**	**20 24 09.4**	**+0.7**
IMAR	**Indian Mountai**	**82.76**	**16**	P	**P**	**20 24 12.3**	**+0.7**
H21K	**Melozitna Rive**	**82.77**	**17**	P	**P**	**20 24 12.6**	**+0.9**
H21K				IAmb	IAmb	20 24 13.4	
	comp=Z,2.9nm,1.1s						
E19K	**Redstone River**	**83.01**	**14**	P	**P**	**20 24 14.2**	**+1.3**
E19K				IAmb	IAmb	20 24 14.8	
	comp=Z,6.1nm,1.1s						
F20K	**Avaraart Lake**	**83.06**	**15**	P	**P**	**20 24 13.7**	**+0.6**
F20K				IAmb	IAmb	20 24 15.2	
	comp=Z,2.6nm,0.9s						
C18K	**Utukok River**	**83.11**	**12**	P	**P**	**20 24 13.9**	**+0.5**
C18K				IAmb	IAmb	20 24 23.4	
	comp=Z,5.7nm,1.4s						
D19K	**Kuna River**	**83.64**	**13**	P	**P**	**20 24 16.9**	**+0.8**
D19K				IAmb	IAmb	20 24 18.0	
	comp=Z,3.5nm,1.1s						
F21K	**Alatna River**	**83.76**	**15**	P	**P**	**20 24 17.3**	**+0.6**
F21K				IAmb	IAmb	20 24 19.4	
	comp=Z,3.2nm,1.1s						
ILAR	**Eielson Array**	**83.92**	**19**	P	**P**	**20 24 18.8**	**+1.2**
ILAR	**Eielson Array**	**83.92**	**19**	P	**P**	**20 24 17.1**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=244,slow=4.5,SNR=11						
	comp=Z,1.7nm,0.9s						
J25K	**Salcha River,**	**84.30**	**19**	P	**P**	**20 24 20.5**	**+0.9**
J25K				IAmb	IAmb	20 24 39.5	
	comp=Z,4.1nm,0.9s						
K27K	**Chicken**	**85.05**	**21**	P	**P**	**20 24 24.6**	**+1.3**
B20K	**Meade River**	**85.05**	**12**	P	**P**	**20 24 24.5**	**+1.3**
B20K				IAmb	IAmb	20 24 25.1	
	comp=Z,3.2nm,1.1s						
D22K	**Ayikyak River**	**85.20**	**14**		**P**	**20 24 25.2**	**+1.2**
D22K				IAmb	IAmb	20 24 26.8	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**92.52**	**317**	P	**P**	**20 24 58.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=100,slow=6.7,SNR=3.1						
	comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**95.58**	**27**	P	**P**	**20 25 11.7**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=255,slow=5.1,SNR=5.8						
	comp=Z,0.6nm,0.9s						

*FCIAR **31** 20:16:48.0, 82°.83N×4°.66W, h10km, station OMEGA has station magnitude of 3.40*
BER 31 20:16:47.7±1.9, 82°.74N×6°.32W, h10km, mb(Pn)3.7, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.78**	**133**	*e*P	Pn	20 17 57.2	-2.4
KBS				*e*S	Sn	20 18 48.1	-6.8
KBS				IAML		20 18 54.8	
	comp=Z,3.9nm,0.4s						
KBS	**Kingsbay**	**4.78**	**133**	*e*P	Pn	20 17 57.1	-2.5
KBS				*e*S	Sn	20 18 48.1	-6.8
BRBB	**Barentsburg B**	**5.73**	**133**	*e*P	Pn	20 18 10.8	-1.9
BRBB				*e*S	Sn	20 19 12.1	-6.3
BRBA	**Barentsburg A**	**5.77**	**133**	*e*P	Pn	20 18 09.9	-3.2
BRBA				*e*S	Sn	20 19 13.2	-6.0
BRBA				IAML		20 19 14.6	
BRBA				IAML		20 07 01.1	
	comp=Z,11nm,0.1s						
SPA0	**Spitsbergen Ar**	**5.88**	**120**	*e*P	Pn	20 05 28.9	-2.9
SPA0				*e*S	Sn	20 06 32.4	-6.7
SPA0				IAML		20 06 53.4	
	comp=Z,3.7nm,0.9s						
HSPB	**Hornsund (broa**	**6.79**	**127**	*e*P	Pn	20 05 43.4	-0.9
HOPEN	**Hopen**	**8.32**	**115**	*e*P	Pn	20 06 01.4	-3.9
HOPEN				IAML		20 07 02.7	
	comp=Z,2.9nm,1.4s						
HOPEN				*e*S	Sn	20 07 29.0	-10

BER 31 20:04:04.9±2.2, 82°.23N×9°.08W, h10km, mb(Pn)3.7, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.75**	**123**	*e*P	Pn	20 05 13.9	-2.5
KBS				*e*S	Sn	20 06 04.4	-6.9
KBS				IAML		20 06 10.7	
	comp=Z,4.9nm,0.5s						
BRBB	**Barentsburg B**	**5.70**	**124**	*e*P	Pn	20 05 27.9	-1.5
BRBB				*e*S	Sn	20 06 29.0	-5.7
BRBA	**Barentsburg A**	**5.73**	**124**	*e*P	Pn	20 05 26.8	-3.0
	comp=Z,6.8nm,0.8s						
SPA0	**Spitsbergen Ar**	**5.87**	**129**	*e*P	Pn	20 18 12.0	-2.5
SPA0				*e*S	Sn	20 19 15.3	-6.4
SPA0				IAML		20 19 20.5	
	comp=Z,2.8nm,0.7s						
SPA0	**Spitsbergen Ar**	**5.87**	**129**	P	Pn	20 18 11.8	-2.7
SPA0				S	Sn	20 19 14.3	-7.4
HSPB	**Hornsund (broa**	**6.85**	**135**	*e*P	Pn	20 18 26.6	-1.3
HSPB				IAML		20 19 57.9	
	comp=Z,4.9nm,0.7s						
ZFI2	**Zemlya Franca-**	**7.69**	**76**	P	Pn	20 18 31.8	-7.7
ZFI2				S	Sn	20 19 49.9	-17
OMEGA	**Omega**	**7.72**	**76**	P	Pn	20 18 32.5	-7.4
OMEGA				S	Sn	20 19 50.2	-17
	comp=Z,10nm,1.3s						
SUMG	**Summit**	**11.97**	**231**	*i* P	Pn	20 19 32.0	-6.4

*TEH **31** 20:17:20.5, 33°.74N×45°.76E, h10km±50km, ML2.6*
*ISN **31** 20:17:20.4±0.4, 33°.70N×45°.74E, h22km±2km, ML2.6*
ISC 31 20:17:20.5±1.0, 33°.73N±0°.04×45°.76E±0°.04, h13km, n10, σ0°.55/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.39**	**105**	Pg	**Pg**	**20 17 28.5**	**+0.2**
ILBA				Sg	**Sb**	**20 17 34.6**	**-0.6**
IBDR	**Badra**	**0.63**	**167**	*e*Pg	**Pg**	**20 17 32.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**20 17 41.0**	**-0.3**
IBDR				AML	AML	20 17 49.3	
	comp=E,97nm,0.7s						
IGHG	**Ghaleghazi**	**0.90**	**48**	Pg	**Pb**	**20 17 38.3**	**+0.1**
IDHR	**Dehrash**	**1.10**	**28**	Pg	**Pn**	**20 17 41.7**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.20**	**63**	Pg	**Pg**	**20 17 43.8**	**+0.2**
BHD	**Baghdad**	**1.24**	**249**	*e*Pn	**Pg**	**20 17 44.0**	**-0.4**
BHD				*e*Sn	**Sg**	**20 18 01.0**	**+0.5**
BHD				AML	AML	20 18 05.0	
	comp=E,474nm,0.6s						
ILIN	**Lien**	**1.55**	**40**	Pg	**Pg**	**20 17 50.1**	**-0.2**
IKFM	**Kafar-mosalman**	**1.75**	**96**	Pg	**Pg**	**20 17 54.1**	**-0.1**
IBZA	**Bozab**	**1.89**	**66**	Pn	**Pg**	**20 17 56.1**	**-0.9**
RAFI	**Al-Rafai**	**2.02**	**171**	*e*Pn	**Pn**	**20 17 55.0**	**+0.7**
RAFI				*e*Sn	**Sn**	**20 18 20.0**	**+0.6**

IDC 31 20:20:16.2±8.2, 32°.20S×179°.20E, h349km±78km, mb2.6/2, mbtmp3.5/3, Error ellipse: s-maj=100.1km s-min=54.7km az=22.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.28**	**195**	P	Pn	20 21 50.6	+0.5
	9.8nm,0.5s,baz=355,slow=4.9,SNR=16						
URZ				S	S	20 23 06.0	-0.3
	12nm,0.7s,baz=107,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**40.67**	**270**	P	P	20 27 23.7	-0.3
	0.2nm,0.6s,baz=110,slow=8.0,SNR=1.9						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**41.83**	**276**	P	P	20 27 33.3	0.0
	0.3nm,0.3s,baz=115,slow=7.8,SNR=7.1						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**151.26**	**295**	PKPbc	PKPbc	20 39 28.4	-0.4
	0.2nm,0.4s,baz=78,slow=6.0,SNR=2.8						

IDC 31 20:22:11.3±3.5, 56°.54S×140°.62W, h0km, mb4.0/4, mbtmp4.0/4, MS3.6/3, Error ellipse: s-maj=111.5km s-min=34.1km az=48.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**28.68**	**202**	LR	LR	20 36 52.2	
	comp=Z,95nm,18.5s,baz=358,slow=31						
QSPA	**South Pole Qui**	**33.62**	**180**	P	P	20 28 52.9	-0.2
	3.8nm,0.8s,baz=77,slow=3.9,SNR=6.2						
QSPA				LR	LR	20 40 28.3	
	comp=Z,162nm,18.7s,baz=64,slow=33						
	3.8nm,0.8s						
H03S2	**Juan Fernandez**	**47.15**	**88**	T	T	21 21 43.0	
	baz=219,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**47.16**	**88**	T	T	21 21 40.0	
	baz=219,slow=74,SNR=21						
H03S3	**Juan Fernandez**	**47.17**	**88**	T	T	21 21 39.0	
	baz=219,slow=74,SNR=19						
H03N3	**Juan Fernandez

JOM	**Ohasama**	**0.85**	**49**	*i* P		**Pn**	**20 33 32.9**	**+0.6**
JAW	**Awa shima**	**1.06**	**244**	P		**Pn**	**20 33 34.2**	**+0.3**
JOTO	**OTAMA OYAMA**	**1.36**	**184**	*i* P		**Pn**	**20 33 37.4**	**+0.5**
JOTO				*e*S		**Sn**	**20 33 59.3**	**+0.9**
JNS	**Sasagawa**	**1.42**	**220**	*i* P		**Pn**	**20 33 37.8**	**+0.3**
JANG	**Nango**	**1.66**	**29**	*i* P		**Pn**	**20 33 40.3**	**+0.4**
JANG				S		**Sn**	**20 34 03.5**	**-0.5**
JSD	**Sado**	**1.94**	**244**	P		**Pn**	**20 33 43.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.97**	**218**	P		**Pn**	**20 33 56.3**	**+0.5**
	20nm,0.7s,baz=27,slow=13,SNR=76							
ASAJ	**Asahikawa**	**5.43**	**16**	P		**Pn**	**20 34 26.6**	**-1.2**
	5.1nm,0.3s,baz=227,slow=15,SNR=27							
ASAJ				S		**Sn**	**20 35 24.3**	**-5.3**
	4.7nm,0.3s,baz=286,slow=33,SNR=7.7							
JHJ	**Hachijo jima 2**	**5.81**	**186**	P		**Pn**	**20 34 31.1**	**-1.8**
	62nm,0.4s,baz=322,slow=22,SNR=14							
JHJ				S		**Sn**	**20 35 33.3**	**-5.5**
	51nm,0.3s,baz=73,slow=19,SNR=6.6							
SONM	**Songino Array**	**26.14**	**301**	P		**P**	**20 38 27.4**	**-1.5**
	0.3nm,0.6s,baz=113,slow=11,SNR=2.6							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**40.10**	**311**	P		**P**	**20 40 29.1**	**-0.2**
	0.5nm,0.5s,baz=56,slow=11,SNR=3.7							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**42.50**	**300**	P		**P**	**20 40 48.9**	**-0.2**
	1.1nm,0.6s,baz=87,slow=10.0,SNR=15							
	1.1nm,0.6s							
KURBB	**Kurchatov Arra**	**44.27**	**306**	P		**P**	**20 41 03.0**	**0.0**
	2.3nm,0.4s,baz=82,slow=8.4,SNR=13							
	2.3nm,0.4s							
ILAR	**Eielson Array**	**48.32**	**33**	P		**P**	**20 41 35.4**	**+0.9**
	0.5nm,0.6s,baz=267,slow=5.3,SNR=10							
	0.5nm,0.6s							
BVAR	**Borovoye Array**	**48.76**	**311**	P		**P**	**20 41 38.2**	**+0.1**
	0.6nm,0.5s,baz=90,slow=8.9,SNR=2.0							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**58.83**	**187**	P		**P**	**20 42 50.8**	**-0.6**
	1.0nm,0.7s,baz=1.7,slow=7.2,SNR=9.3							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**62.56**	**187**	P		**P**	**20 43 16.8**	**+0.1**
	0.6nm,0.7s,baz=14,slow=4.8,SNR=6.7							
	0.6nm,0.7s							
PDAR	**Pinedale Array**	**76.88**	**45**	P		**P**	**20 44 45.6**	**+1.2**
	0.2nm,0.5s,baz=232,slow=1.7,SNR=3.8							
	0.2nm,0.5s							

FUNV ***31*** *20:41:14.1, 10˚.33N×62˚.16W, h5km, MW3.0*
ISC 31 20:41:13.2±2.0, 10°53N±0°.09×62°.10W±0°.08, h76km±23km, n8, σ1§53/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.70**	**80**	*e*P	**Pn**	**20 41 28.5**	**-0.1**
TRN				*e*S	**Sn**	**20 41 40.0**	**+0.1**
CRUV	**Carupano**	**1.12**	**278**	*e*P	**Pn**	**20 41 33.5**	**0.0**
CRUV				*e*S	**Sn**	**20 41 48.0**	**-0.8**
GRFF	**Grenada Fort F**	**1.55**	**13**	*e*P	**Pn**	**20 41 39.1**	**0.0**
GRFF				*e*S	**Sn**	**20 41 59.4**	**+0.7**
GRGR	**Grenville**	**1.65**	**15**	*e*P	**Pn**	**20 41 40.4**	**0.0**
GRGR				*e*S	**Sn**	**20 42 00.6**	**-0.4**
PCRV	**Puerto La Cruz**	**2.52**	**262**	*e*P	**Pn**	**20 41 53.8**	**+1.8**
PCRV				*e*S	**Sn**	**20 42 23.2**	**+1.5**
CACV	**CAICARA DEL OR**	**5.28**	**236**	*e*P	Pn	20 42 24.2	-5.4
CACV				*e*S	Sn	20 43 16.5	-13
BENV	**Beln**	**5.44**	**265**	*e*P	**Pn**	**20 42 32.9**	**+1.0**
BENV				*e*S	**Sn**	**20 43 31.4**	**-1.7**
BAUV	**El Baul**	**6.06**	**255**	*e*P	**Pn**	**20 42 41.1**	**+0.8**
BAUV				*e*S	**Sn**	**20 43 44.8**	**-3.5**

FUNV ***31*** *20:47:14.2, 10˚.32N×62˚.14W, h10km, MW3.2*
ISC 31 20:47:12.9±1.8, 10°2N±0°.1×62°.18W±0°.07, h18km±15km, n9, σ1§75/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.87**	**61**	*e*P	**Pg**	**20 47 29.2**	**-0.8**
TRN				*e*S	**Sb**	**20 47 41.4**	**+0.4**
CRUV	**Carupano**	**1.13**	**293**	*e*P	**Pb**	**20 47 34.1**	**0.0**
CRUV				*e*S	**Sb**	**20 47 48.2**	**-0.2**
GRFF	**Grenada Fort F**	**1.87**	**13**	*e*P	**Pb**	**20 47 47.1**	**+0.6**
GRFF				*e*S	**Sn**	**20 48 08.1**	**+0.8**
GRGR	**Grenville**	**1.97**	**15**	*e*P	**Pn**	**20 47 47.1**	**+1.6**
GRGR				*e*S	**Sn**	**20 48 09.3**	**-0.4**
GCMP	**Grenada, Carri**	**2.37**	**18**	*e*P	**Pb**	**20 47 54.8**	**-0.4**
GCMP				*e*S	**Sn**	**20 48 15.8**	**-3.8**
PCRV	**Puerto La Cruz**	**2.42**	**269**	*e*P	**Pn**	**20 47 53.3**	**+1.6**
PCRV				*e*S	**Sn**	**20 48 21.8**	**+0.9**
CACV	**CAICARA DEL OR**	**5.05**	**239**	*e*P	Pn	20 48 23.2	-4.7
CACV				*e*S	Sn	20 49 16.1	-10
BENV	**Beln**	**5.34**	**268**	*e*P	**Pn**	**20 48 32.8**	**+0.8**
BENV				*e*S	**Sn**	**20 49 31.3**	**-1.8**
BAUV	**El Baul**	**5.92**	**258**	*e*P	**Pn**	**20 48 41.3**	**+1.4**
BAUV				*e*S	**Sn**	**20 49 44.4**	**-2.8**

ATH ***31*** *21:02:34.1, 40˚.14N×20˚.37E, h9km±3km, ML1.6/3, Error ellipse: s-maj=4.2km s-min=1.1km az=109.0*
TIR ***31*** *21:02:34.2, 40˚.08N×20˚.41E, h26km±1km, Md2.7, Ml1.7*
ISC 31 21:02:34.4±1.0, 40°09N±0°.04×20°.42E±0°.04, h26km±8km, n14, σ1§11/22, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.15**	**68**	P	**Pb**	**21 02 39.1**	**-0.6**
	baz=63						
LSK				S	**Sb**	**21 02 44.1**	**+0.8**
	baz=63						
LSK				AMP			
	comp=N,1.1nm,0.3s,baz=63						
SRN	**Sarande**	**0.38**	**237**	P	**Pb**	**21 02 42.6**	**-0.1**
	baz=238						
SRN				S	**Sn**	**21 02 49.1**	**-1.7**
	baz=238						
SRN				AMP			
	comp=E,0.3nm,0.2s,baz=238						
JAN	**Janina**	**0.55**	**142**	P	**Pn**	**21 02 46.0**	**-0.6**
JAN				S	**Sn**	**21 02 54.1**	**-0.9**
JAN				AML	AML	21 02 56.5	
	comp=N,256μm,0.2s						
JAN				AML	AML	21 02 56.5	
	comp=E,332μm,0.5s						
IGT	**Igoumenitsa**	**0.56**	**187**	P	**Pb**	**21 02 45.3**	**-0.4**
	baz=187						
IGT				S	**Sn**	**21 02 54.1**	**-1.2**
	baz=187						
IGT				AMP			
	comp=E,0.2nm,0.2s,baz=187						
IGT	**Igoumenitsa**	**0.56**	**187**	P	**Pb**	**21 02 45.5**	**-0.2**
IGT				S	**Sn**	**21 02 54.2**	**-1.0**
IGT				AML	AML	21 02 55.8	
	comp=N,160μm,0.3s						
IGT				AML	AML	21 02 58.5	
	comp=E,135μm,0.3s						
PENT	**Pentalofos**	**0.56**	**79**	P	**Pb**	**21 02 45.1**	**-0.6**
NEST	**Nestorio**	**0.58**	**56**	P	**Pb**	**21 02 45.6**	**-0.5**
NEST				S	**Sb**	**21 02 53.4**	**-0.7**
NEST				AML	AML	21 02 56.4	
	comp=E,105μm,0.5s						
NEST				AML	AML	21 02 58.9	
	comp=N,64μm,0.3s						
KPRO	**Kipourio**	**0.74**	**100**	P	**Pb**	**21 02 48.4**	**-0.3**
FNA	**Florina**	**1.01**	**46**	P	**Pn**	**21 02 52.9**	**-0.1**
	baz=46						
FNA				S	**Sn**	**21 03 08.8**	**+2.4**
	baz=46						
FNA	**Florina**	**1.01**	**46**	P	**Pn**	**21 02 52.9**	**-0.1**
LKD2	**Lefkada island**	**1.31**	**172**	P	**Pb**	**21 02 59.2**	**+0.8**
	baz=171						
LKD2				S	**Sb**	**21 03 17.5**	**+2.6**
	baz=171						
LKD2	**Lefkada island**	**1.31**	**172**	P	**Pb**	**21 02 58.4**	**0.0**
NYDR	**Nydri-Lefkada**	**1.39**	**171**	P	**Pb**	**21 02 59.8**	**+0.1**
SCTE	**Santa Cesarea**	**1.50**	**270**	P	**Pn**	**21 02 59.8**	**+0.3**

FCIAR ***31*** *21:27:11.0, 82˚.95N×4˚.00W, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.50*
BER ***31*** *21:27:11.9±1.9, 82˚.32N×7˚.99W, h10km, mb(Pn)3.6, Confirmed Earthquake*
ISC 31 21:27:10.6±3.7, 82°3N±0°.4×6°.4W±0°.1, h10km, n12, σ1§39/13, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.51**	**129**	*e*P	**Pn**	**21 28 19.6**	**+0.9**
KBS				*e*S	**Sn**	**21 29 10.9**	**-0.2**
KBS				IAML		21 29 13.6	
	comp=E,5.5nm,0.6s						
KBS	**Kingsbay**	**4.51**	**129**	*e*P	**Pn**	**21 28 19.4**	**+0.7**
KBS				*e*S	**Sn**	**21 29 11.0**	**0.0**
BRBB	**Barentsburg B**	**5.46**	**130**	*e*P	**Pn**	**21 28 33.6**	**+1.8**
BRBB				*e*S	**Sn**	**21 29 34.1**	**-0.4**
SPA0	**Spitsbergen Ar**	**5.62**	**126**	*e*P	**Pn**	**21 28 34.6**	**+0.7**
SPA0				*e*S	**Sn**	**21 29 36.5**	**-1.9**
SPA0				IAML		21 29 49.9	
	comp=Z,3.8nm,0.7s						
SPA0	**Spitsbergen Ar**	**5.62**	**126**	*e*P	**Pn**	**21 28 34.4**	**+0.5**
SPA0				*e*S	**Sn**	**21 29 36.3**	**-2.1**
HSPB	**Hornsund (broa**	**6.56**	**132**	*e*P	**Pn**	**21 28 49.2**	**+2.3**
HSPB				IAML		21 30 09.7	
	comp=Z,2.4nm,0.9s						
ZFI2	**Zemlya Franca-**	**7.81**	**73**	*e*P	Pn	21 28 54.9	-9.1
ZFI2				*e*S	Sn	21 30 12.0	-20
	comp=Z,14nm,1.7s						
OMEGA	**Omega**	**7.83**	**73**	*e*P	Pn	21 28 55.5	-8.8
OMEGA				*e*S	Sn	21 30 12.4	-20
	comp=Z,12nm,3.1s						
HOPEN	**Hopen**	**8.03**	**119**	*e*S	Sn	21 30 33.9	-3.9
HOPEN	**Hopen**	**8.03**	**119**	*e*P	Pn	21 28 56.1	-11
HOPEN				*e*S		21 29 01.7	
HOPEN				IAML		21 29 01.9	
	comp=Z,4.5nm,0.2s						
HOPEN	**Hopen**	**8.03**	**119**	P	**Pn**	**21 29 07.6**	**+0.5**
HOPEN				S	Sn	21 30 32.3	-5.5
SUMG	**Summit**	**11.71**	**232**	*i* P	**Pn**	**21 29 57.0**	**-0.7**

MOS ***31*** *21:29:08.5±0.9, 33˚.57N×45˚.69E, h20km, mb4.3/16, Error ellipse: s-maj=8.2km s-min=5.8km az=78.3*
IDC ***31*** *21:29:08.2±0.9, 33˚.74N×45˚.68E, h0km, mb4.0/22, mbtmp3.9/31, ML3.7/7, MS2.9/4, Error ellipse: s-maj=19.3km s-min=12.5km az=178.0*
ISN ***31*** *21:29:09.4±0.9, 33˚.69N×45˚.67E, h11km±4km, ML4.0*
TEH ***31*** *21:29:09.8, 33˚.78N×45˚.70E, h8km±19km, ML3.9*
NEIC ***31*** *21:29:11.3±1.3, 33˚.64N±0˚.06×45˚.73E±0˚.09, h19km±5km, mb4.2/36, Error ellipse: s-maj=10.8km s-min=8.6km az=98.0*
AFAD ***31*** *21:29:13.2±0.0, 34˚.01N×45˚.33E, h7km±2km, ML3.9*
ISC 31 21:29:10.2±0.4, 33°70N±0°.03×45°.63E±0°.03, h13km, n187, σ1§49/196, mb4.2/44, 10C-8D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**98**	Pg	**Pg**	**21 29 19.6**	**-0.2**
IBDR	**Badra**	**0.64**	**157**	*e*Pg	**Pg**	**21 29 22.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**21 29 30.0**	**-1.0**
KGS1	**Ghasr-e-Shirin**	**0.81**	**357**	Pg	**Pg**	**21 29 24.7**	**-1.2**
IGHG	**Ghaleghazi**	**1.00**	**51**	Pg	**Pb**	**21 29 28.2**	**-1.4**
BHD	**Baghdad**	**1.13**	**248**	*e*Pg	**Pb**	**21 29 31.0**	**-0.6**
BHD				*e*Sg	**Sn**	**21 29 48.0**	**+0.9**
BHD				AML	AML	21 29 58.4	
	comp=E,3μm,0.4s						
IDHR	**Dehrash**	**1.18**	**32**	Pg	**Pb**	**21 29 30.8**	**-1.8**
KCHF	**Cheshme Sefid,**	**1.30**	**63**	Pg	**Pn**	**21 29 34.3**	**-0.1**
KCHF				Sg	**Sn**	**21 29 51.8**	**+0.1**
KSBB	**Baniby**	**1.34**	**3**	Pg	**Pg**	**21 29 36.4**	**+0.3**
ILIN	**Lien**	**1.64**	**42**	Pg	**Pb**	**21 29 40.4**	**-0.1**
IKFM	**Kafar-mosalman**	**1.86**	**95**	Pn	**Pb**	**21 29 44.1**	**+0.1**
SLY	**Sulaymaniyah**	**1.90**	**357**	Pn	**Pb**	**21 29 45.1**	**+0.3**
IBZA	**Bozab**	**2.00**	**67**	Pn	**Pb**	**21 29 45.9**	**-0.8**
RAFI	**Al-Rafai**	**2.01**	**168**	*e*Pn	**Pn**	**21 29 45.0**	**+1.2**
RAFI				*e*Sn	**Sb**	**21 30 11.0**	**-0.5**
IALM	**Almabolaq**	**2.40**	**60**	Pn	**Pn**	**21 29 51.3**	**+1.8**
SDS1	**Sardasht. Az.**	**2.45**	**357**	Pn	**Pb**	**21 29 52.3**	**-1.9**
HSAM	**Samen**	**2.52**	**77**	Pn	**Pn**	**21 29 52.2**	**+1.0**
MAHB	**Mahabad**	**3.06**	**1**	Pn	**Pn**	**21 30 00.5**	**+2.1**
HAGD	**Aghdareh**	**3.11**	**68**	Pn	**Pn**	**21 30 00.8**	**+1.6**
CUKT	**Cukurca**	**3.91**	**336**	P	**Pn**	**21 30 11.0**	**+0.9**
CUKT				S	**Sn**	**21 30 54.8**	**-1.1**
CUKT				*i* AML	AML	21 31 29.0	
	comp=E,494nm,0.8s						
CUKT				*i* AML	AML	21 31 30.0	
	comp=E,294nm,0.8s						
IRAZ	**Razeghan**	**3.93**	**63**	Pn	**Pn**	**21 30 12.6**	**+2.1**
IAZR	**Azarshahr**	**3.98**	**4**	Pn	**Pn**	**21 30 12.2**	**+1.0**
YOVA	**Hakkari_Yksek**	**4.03**	**345**	P	**Pn**	**21 30 12.9**	**+1.0**
HAKT	**HAKKARI**	**4.16**	**338**	P	**Pn**	**21 30 14.8**	**+1.2**
HAKT				S	**Sn**	**21 31 01.3**	**-0.9**
HAKT				*i* AML	AML	21 31 05.0	
	comp=E,134nm,0.6s						
ISRB	**Sarab**	**4.44**	**21**	Pn	**Pn**	**21 30 18.8**	**+1.4**
JHBN	**Jahan bin**	**4.48**	**108**	Pn	**Pn**	**21 30 19.5**	**+1.4**
IPIR	**Pirpir**	**4.52**	**101**	Pn	**Pn**	**21 30 19.6**	**+0.9**
ITBZ	**Tabriz**	**4.55**	**5**	Pn	**Pn**	**21 30 19.5**	**+0.6**
ISHB	**Shabestar**	**4.58**	**360**	Pn	**Pn**	**21 30 19.7**	**+0.4**
IMHD	**Mahdasht**	**4.60**	**63**	Pn	**Pn**	**21 30 20.1**	**+0.5**
SIRN	**Sirnak**	**4.61**	**326**	P	**Pn**	**21 30 17.0**	**-2.6**
SIRN				S	**Sn**	**21 31 03.0**	**-5.1**
IQOM	**Qom**	**4.65**	**74**	Pn	**Pn**	**21 30 21.1**	**+0.8**
ZNGN	**Zangian**	**4.67**	**108**	Pn	**Pn**	**21 30 22.2**	**+1.5**
QAMS	**Qamsar**	**4.80**	**88**	Pn	**Pn**	**21 30 24.5**	**+2.0**
PERV	**Siirt/Pervari-**	**4.93**	**330**	P	**Pn**	**21 30 26.0**	**+1.9**
PERV				S	**Sn**	**21 31 16.7**	**-4.3**
PERV				*i* AML	AML	21 32 06.0	
	comp=E,153nm,0.6s						
PERV				*i* AML	AML	21 32 09.0	
	comp=E,137nm,0.8s						
IKLH	**Kolahrood**	**4.98**	**93**	Pn	**Pn**	**21 30 27.0**	**+2.1**
IMRD	**Marand**	**5.01**	**1**	Pn	**Pn**	**21 30 26.7**	**+1.5**
GEVA	**Gevas**	**5.06**	**336**	P	**Pn**	**21 30 27.3**	**+1.4**
GEVA				S	**Sn**	**21 31 23.6**	**-0.6**
MIDY	**Mardin/Midyat-**	**5.06**	**318**	P	**Pn**	**21 30 28.0**	**+2.2**
MIDY				*i* AML	AML	21 32 01.0	
	comp=E,139nm,0.7s						
MIDY				*i* AML	AML	21 32 15.0	
	comp=E,145nm,0.7s						
IBRJ	**Brojen**	**5.06**	**109**	Pn	**Pn**	**21 30 27.4**	**+1.3**
OZAP	**Van, Ozalp-Mer**	**5.13**	**345**	P	**Pn**	**21 30 29.1**	**+2.1**
TVAN	**Van**	**5.15**	**340**	P	**Pn**	**21 30 30.6**	**+3.4**
TVAN				S	**Sn**	**21 31 28.5**	**+1.9**
IVRN	**Varamin**	**5.21**	**74**	Pn	**Pn**	**21 30 28.5**	**+0.6**
KLST	**Kelardasht - M**	**5.26**	**56**	Pn	**Pn**	**21 30 30.5**	**+1.6**
MARD	**Mardin**	**5.36**	**314**	P	**Pn**	**21 30 30.9**	**+0.9**
MARD				S	**Sn**	**21 31 30.1**	**-1.5**
MARD				*i* AML	AML	21 32 22.0	
	comp=E,164nm,0.9s						
MARD				*i* AML	AML	21 32 26.0	
	comp=E,219nm,0.7s						
GRMI	**Germi**	**5.42**	**19**	Pn	**Pn**	**21 30 32.0**	**+1.1**
KRSH	**Karshahi**	**5.42**	**85**	Pn	**Pn**	**21 30 32.2**	**+1.3**
BLIS	**Bitlis-Merkez**	**5.50**	**330**	P	**Pn**	**21 30 33.5**	**+1.5**
BLIS				S	**Sn**	**21 31 33.1**	**-2.1**
ISFB	**Sefidab**	**5.53**	**81**	Pn	**Pn**	**21 30 33.1**	**+0.8**
MZPU	**Pul - Mazandar**	**5.58**	**59**	Pn	**Pn**	**21 30 35.1**	**+1.9**
IDMV	**Damavand**	**5.60**	**69**	Pn	**Pn**	**21 30 34.1**	**+0.6**
GURO	**Guroymak-BITLI**	**5.65**	**330**	Pn	**Pn**	**21 30 34.2**	**+0.1**
GURO	**Guroymak-BITLI**	**5.65**	**330**	Pn	**Pn**	**21 30 34.1**	**+0.1**
IZEF	**Zefreh**	**5.67**	**96**	Pn	**Pn**	**21 30 35.7**	**+1.3**
KLNJ	**Kolanjah**	**5.71**	**116**	Pn	**Pn**	**21 30 38.0**	**+2.9**
IRAM	**Ramesheh**	**5.99**	**106**	Pn	**Pn**	**21 30 40.3**	**+1.5**
MUSM	**Mu-Merkez**	**6.02**	**328**	P	**Pn**	**21 30 38.7**	**-0.4**
MUSM				S	**Sn**	**21 31 42.0**	**-6.0**
IFIR	**Firoozkooh**	**6.18**	**70**	Pn	**Pn**	**21 30 42.5**	**+1.0**
ILAS	**Lasjerd**	**6.28**	**72**	Pn	**Pn**	**21 30 43.8**	**+1.0**
GNI	**Garni**	**6.48**	**354**	Pn	**Pn**	**21 30 47.0**	**+1.5**
GNI	**Garni**	**6.48**	**354**	Pn	**Pn**	**21 30 47.8**	**+2.4**
	comp=E,3.2nm,0.6s,baz=198,slow=20,SNR=1.3						
GNI				LR	LR	21 33 56.7	
	comp=E,68nm,20.5s,baz=210,slow=45						
ANAR	**Anarak**	**6.79**	**92**	Pn	**Pn**	**21 30 50.0**	**+0.4**
DSBU	**Dashti - Bushe**	**7.18**	**136**	Pn	**Pn**	**21 30 56.9**	**+1.9**
IGLO	**Ghaloghah**	**7.28**	**65**	Pn	**Pn**	**21 30 58.8**	**+2.3**
ASF	**Jabal al Asfar**	**7.50**	**261**	Pn	**Pn**	**21 31 00.2**	**+0.8**
	comp=E,0.8nm,0.3s,baz=66,slow=19,SNR=10.0						
ASF				Lg	Lg	21 32 57.7	
	comp=E,0.7nm,0.3s,baz=64,slow=22,SNR=1.5						
	comp=E,3.8nm,0.6s						
ASF	**Jabal al Asfar**	**7.50**	**261**	P	**Pn**	**21 31 00.5**	**+1.1**
GAZ	**Gaziantep**	**7.70**	**299**	Pn	**Pn**	**21 31 04.2**	**+2.1**
ARPR	**Arapgir-MALATY**	**7.97**	**315**	Pn	**Pn**	**21 31 07.6**	**+1.6**
SHMJ	**Saham**	**8.33**	**266**	P	**Pn**	**21 31 10.1**	**-0.6**
MMAI	**Mount Meron Ar**	**8.58**	**268**	Pn	**Pn**	**21 31 15.3**	**+1.0**
	comp=E,0.7nm,0.3s,baz=50,slow=9.8,SNR=4.7						
MMAI				Lg	Lg	21 33 38.9	
	comp=E,1.5nm,0.3s,baz=74,slow=26,SNR=1.4						
MMAI				LR	LR	21 35 31.3	
	comp=E,60nm,18.6s,baz=46,slow=44						
	comp=E,0.6nm,0.3s						
BLGI	**Bet Lehem HaGe**	**8.80**	**267**	P	Pn	21 31 26.6	+9.4
GHAJ	**Ghor Haditha**	**8.83**	**257**	Pn	**Pn**	**21 31 18.1**	**+0.6**
EIL	**Elat**	**9.94**	**249**	Pn	**Pn**	**21 31 34.0**	**+1.2**
	comp=E,0.2nm,0.3s,baz=69,slow=6.8,SNR=1.6						
EIL				Lg	Lg	21 34 21.5	
	comp=E,0.4nm,0.3s,baz=32,slow=13,SNR=1.6						
EIL				LR	LR	21 36 33.7	
	comp=E,121nm,18.3s,baz=94,slow=45						
	comp=E,1.8nm,0.7s						
RAYN	**Ar Rayn**	**10.14**	**181**	Pn	**Pn**	**21 31 34.6**	**-1.0**
RAYN	**Ar Rayn**	**10.14**	**181**	P	**Pn**	**21 31 34.6**	**-1.0**
KBZ	**Khabaz**	**10.24**	**349**	LR	LR	21 35 27.0	
	comp=E,66nm,18.7s,baz=161,slow=37						
SOC	**Sochi**	**10.90**	**337**	*e*P	**Pn**	**21 31 47.4**	**+1.6**
SOC				*e*		21 33 53.8	
SOC				MLR	MLR		
	comp=E,60nm,11.0s						
GEYT	**Alibeck**	**10.98**	**64**	Pn	**Pn**	**21 31 45.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=263,slow=5.7,SNR=2.0						
	comp=Z,1.0nm,0.7s						
UOSS	**Minazif**	**12.69**	**131**	Pn	**Pn**	**21 32 09.8**	**-0.6**
WSAR	**Wadi Sarin**	**15.45**	**129**	Pn	**Pn**	**21 32 47.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=19,slow=8.1,SNR=2.3						
	comp=Z,5.2nm,0.7s						
BELG	**Belogornoye**	**18.74**	**4**	*i* P	**Pn**	**21 33 29.8**	**+0.8**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BELG	**Belogornoye**	**18.74**	**4**	P	**P**	**21 33 27.6**	**-1.0**
	comp=Z,11nm,0.4s,baz=89,slow=0.6,SNR=18						
ABKAR	**Akbulak array**	**18.83**	**30**	P	**P**	**21 33 29.3**	**-0.4**
ABKAR	**Akbulak array**	**18.83**	**30**	P	**P**	**21 33 29.4**	**-0.2**
VRI	**Vrincioaia**	**18.89**	**316**	P	**Pn**	**21 33 32.6**	**+1.7**
AKTO	**Aktyubinsk**	**19.04**	**25**	P	**P**	**21 33 31.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=204,slow=8.2,SNR=4.6						
	comp=Z,0.9nm,0.3s						
MLR	**Muntele Rosu**	**19.15**	**314**	P	**Pn**	**21 33 36.7**	**+2.5**
MLR	**Muntele Rosu**	**19.15**	**314**	P	**Pn**	**21 33 35.3**	**+1.1**
MLR	**Muntele Rosu**	**19.15**	**314**	P	**Pn**	**21 33 35.3**	**+1.1**
MLR				pmax	pmax		
	comp=E,6.0nm,1.4s						
MLR	**Muntele Rosu**	**19.15**	**314**	P	**P**	**21 33 31.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=83,slow=19,SNR=1.1						
	comp=Z,0.3nm,0.4s						
SORM	**Soroca**	**19.39**	**323**	P	**P**	**21 33 35.5**	**-0.3**
KBL	**Kabul**	**19.40**	**81**	P	**P**	**21 33 34.8**	**-1.4**
KBL	**Kabul**	**19.40**	**81**	P	**P**	**21 33 34.8**	**-1.4**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AGG	**Agios Georgios**	**19.48**	**293**	P	**Pn**	**21 33 38.9**	**+0.7**
AGG	**Agios Georgios**	**19.48**	**293**	P	**Pn**	**21 33 38.9**	**+0.7**
AGG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VOIR		**19.67**	**313**	P	**Pn**	**21 33 42.1**	**+1.8**
DOPR	**Dopca**	**19.73**	**314**	P	**Pn**	**21 33 41.5**	**+0.5**
ARR	**Arges**	**19.89**	**312**	P	**Pn**	**21 33 43.5**	**+0.6**
FNA	**Florina**	**20.53**	**297**	P	Pn	21 33 49.7	-0.8
FNA	**Florina**	**20.53**	**297**	P	Pn	21 33 49.7	-0.8
FNA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BURAR	**Bucovina Array**	**20.73**	**318**	P	Pn	21 33 52.8	0.0
BURAR	**Bucovina Array**	**20.73**	**318**	P	**P**	**21 33 51.4**	**+0.9**
BUR08	**Bucovina Ar. S**	**20.75**	**318**	P	**P**	**21 33 51.3**	**+0.6**
BUR08				IAmb	IAmb	21 34 03.9	
	comp=Z,9.4nm,1.4s						
AKASG	**Malin Array Be**	**20.81**	**330**	P	**P**	**21 33 49.1**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=139,slow=9.6,SNR=5.1						
	comp=Z,0.5nm,0.4s						
AKBB	**Malin Array Si**	**20.81**	**330**	P	**P**	**21 33 50.7**	**-0.5**
AKBB				IAmb	IAmb	21 33 57.3	
	comp=Z,8.9nm,1.1s						
AKBB	**Malin Array Si**	**20.81**	**330**	*i* P	Pn	21 33 52.7	-0.9
AKBB				pmax	pm

BNI	**Bardonecchia**	**31.89**	**302**	P		**P**		**21 35 36.0**	**+0.7**	
BNI				pmax		pmax				
	comp=Z,9.0nm,1.3s									
HFS	**Hagfors**	**33.68**	**331**	P		**P**		**21 35 50.6**	**0.0**	
	comp=Z,2.8nm,0.4s,baz=128,slow=9.6,SNR=34									
	comp=Z,2.8nm,0.4s									
WMQ	**Urumqi**	**34.00**	**60**	*e*P		**P**		**21 35 56.0**	**+2.3**	
ZAA0	**Zalesovo Array**	**34.17**	**42**	P		**P**		**21 35 54.5**	**-0.5**	
ZAA0				IAmb		IAmb		21 35 57.4		
	comp=Z,4.4nm,1.4s									
ZALV	**Zalesovo Beam**	**34.17**	**42**	P		**P**		**21 35 54.5**	**-0.5**	
ZALV	**Zalesovo Beam**	**34.17**	**42**	P		**P**		**21 35 54.8**	**-0.2**	
	comp=Z,1.3nm,0.4s,baz=256,slow=11,SNR=9.8									
	comp=Z,1.3nm,0.4s									
DGZ	**Jazzator, Alta**	**34.56**	**50**	⇓*i*P		**P**		**21 35 58.7**	**+0.1**	
DGZ				pmax		pmax				
	comp=Z,4.0nm,1.5s									
LVZ	**Lovozero**	**34.83**	**353**	P		**P**		**21 35 59.8**	**-0.7**	
LVZ	**Lovozero**	**34.83**	**353**	P		**P**		**21 35 59.8**	**-0.7**	
LVZ				pmax		pmax				
	comp=Z,64nm,1.5s									
NOA	**NORSAR Array B**	**35.20**	**331**	P		**P**		**21 36 02.2**	**-1.7**	
	comp=Z,0.6nm,0.8s,baz=128,slow=7.3,SNR=1.1									
	comp=Z,0.6nm,0.8s									
ARCES	**ARCESS Array B**	**37.60**	**349**	P		**P**		**21 36 24.1**	**-0.1**	
	comp=Z,2.8nm,0.9s,baz=166,slow=8.3,SNR=14									
	comp=Z,2.8nm,0.9s									
ESDC	**Sonseca Array**	**39.81**	**293**	P		**P**		**21 36 44.0**	**+0.8**	
	comp=Z,0.3nm,0.5s,baz=78,slow=7.6,SNR=2.0									
	comp=Z,0.3nm,0.5s									
EKA	**Eskdalemuir Ar**	**39.91**	**318**	P		**P**		**21 36 43.6**	**-0.1**	
	comp=Z,1.6nm,0.8s,baz=108,slow=9.0,SNR=1.4									
	comp=Z,1.6nm,0.8s									
NRIK	**Noril'sk**	**42.57**	**21**	P		**P**		**21 37 06.2**	**+0.8**	
NRIK				IAmb		IAmb		21 37 07.4		
	comp=Z,5.6nm,1.1s									
NRIK	**Noril'sk**	**42.57**	**21**	⇓*i*P		**P**		**21 37 06.9**	**+1.5**	
NRIK				pmax		pmax				
	comp=Z,6.0nm,1.1s									
NRIK	**Noril'sk**	**42.57**	**21**	P		**P**		**21 37 05.7**	**+0.2**	
	comp=Z,1.9nm,0.3s,baz=243,slow=3.7,SNR=3.8									
	comp=Z,1.9nm,0.3s									
TOA0	**Torodi Ar. Sit**	**44.80**	**254**	P		**P**		**21 37 23.8**	**-0.1**	
TOA0				IAmb		IAmb		21 37 29.6		
	comp=Z,6.2nm,1.4s									
TORD	**Torodi Ar. Bea**	**44.80**	**254**	P		**P**		**21 37 25.1**	**+1.1**	
	comp=Z,0.5nm,0.4s,baz=56,slow=6.7,SNR=8.4									
	comp=Z,0.5nm,0.4s									
SPB2	**Spitsbergen Ar**	**46.34**	**352**	P		**P**		**21 37 35.7**	**+0.3**	
SPITS	**Spitsbergen Ar**	**46.34**	**352**	P		**P**		**21 37 36.0**	**+0.5**	
SPITS	**Spitsbergen Ar**	**46.34**	**352**	P		**P**		**21 37 35.9**	**+0.5**	
	comp=Z,1.9nm,0.4s,baz=142,slow=12,SNR=22									
	comp=Z,1.9nm,0.4s									
SONM	**Songino Array**	**46.97**	**54**	P		**P**		**21 37 40.2**	**-0.8**	
SONM	**Songino Array**	**46.97**	**54**	P		**P**		**21 37 41.4**	**+0.5**	
	comp=Z,0.4nm,0.4s,baz=280,slow=9.7,SNR=7.4									
	comp=Z,0.4nm,0.4s									
ULN	**Ulaanbaatar**	**47.41**	**53**	P		**P**		**21 37 43.5**	**-0.9**	
ULN	**Ulaanbaatar**	**47.41**	**53**	⇑*e*P		**P**		**21 37 44.8**	**+0.4**	
ULN				pmax		pmax				
	comp=Z,3.0nm,0.8s									
CMAR	**Chiang Mai Arr**	**49.72**	**94**	P		**P**		**21 38 01.5**	**-0.8**	
	comp=Z,1.2nm,0.6s,baz=294,slow=8.8,SNR=11									
	comp=Z,1.2nm,0.6s									
CRAI	**Chiangrai**	**50.08**	**91**	P		**P**		**21 38 04.0**	**-1.1**	
CRAI				IAmb		IAmb		21 38 08.4		
	comp=Z,6.0nm,1.4s									
HHC	**Hu-ho-hao-te**	**51.85**	**62**	*e*P		**P**		**21 38 17.3**	**-1.0**	
HHC				pmax		pmax				
	comp=Z,13nm,0.7s									
HHC				pmax		pmax				
	comp=Z,100nm,4.5s									
TIXI	**Tiksi**	**56.30**	**22**	P		**P**		**21 38 50.5**	**+0.4**	
TIXI	**Tiksi**	**56.30**	**22**	P		**P**		**21 38 50.5**	**+0.4**	
TIXI				pmax		pmax				
	comp=Z,6.0nm,1.4s									
KSRS	**Korea Array**	**64.95**	**61**	P		**P**		**21 39 47.9**	**-1.8**	
	comp=Z,0.5nm,0.4s,baz=272,slow=5.9,SNR=4.3									
	comp=Z,0.5nm,0.4s									
USRK	**Ussuriysk Ar.**	**65.05**	**52**	P		**P**		**21 39 48.4**	**-1.8**	
	comp=Z,1.2nm,0.6s,baz=268,slow=5.8,SNR=2.9									
	comp=Z,1.2nm,0.6s									
BILL	**Bilibino**	**69.40**	**20**	*i*P		**P**		**21 40 17.5**	**+0.1**	
C19K	**Lookout Ridge**	**75.83**	**9**	P		**P**		**21 40 56.9**	**+1.2**	
C19K				IAmb		IAmb		21 41 22.6		
	comp=Z,3.1nm,1.4s									
C18K	**Utukok River**	**76.03**	**10**	P		**P**		**21 40 57.9**	**+1.1**	
C18K				IAmb		IAmb		21 40 58.4		
	comp=Z,2.8nm,0.7s									
BMAR	**Burnt Mountain**	**78.89**	**4**	P		**P**		**21 41 14.1**	**+1.2**	
IMAR	**Indian Mountai**	**79.52**	**8**	P		**P**		**21 41 17.4**	**+1.2**	
G31M	**Satah River**	**79.70**	**360**	P		**P**		**21 41 17.6**	**+0.4**	
H21K	**Melozitna Rive**	**79.94**	**8**	P		**P**		**21 41 20.0**	**+1.4**	
H21K				IAmb		IAmb		21 41 26.6		
	comp=Z,3.8nm,0.9s									
ILAR	**Eielson Array**	**81.37**	**5**	P		**P**		**21 41 25.6**	**-0.7**	
	comp=Z,0.5nm,0.9s,baz=327,slow=3.6,SNR=4.2									
	comp=Z,0.5nm,0.9s									
I30M	**Mount Dempster**	**81.39**	**1**	P		**P**		**21 41 27.1**	**+0.6**	
I30M				IAmb		IAmb		21 41 40.5		
	comp=Z,5.5nm,1.5s									
YKA	**Yellowknife Ar**	**82.83**	**351**	P		**P**		**21 41 32.0**	**-1.9**	
YKA	**Yellowknife Ar**	**82.83**	**351**	P		**P**		**21 41 32.0**	**-1.9**	
	comp=Z,0.1nm,0.4s,baz=19,slow=9.1,SNR=2.0									
	comp=Z,0.1nm,0.4s									
WRA	**Warramunga Arr**	**99.76**	**107**	P		**Pdif**		**21 42 53.2**	**-1.2**	
	comp=Z,0.3nm,0.7s,baz=316,slow=3.9,SNR=1.2									
	comp=Z,0.3nm,0.7s									

*KOLA **31** 21:30:16.1,83.24N×2.49E, h0km, ML2.0, Error ellipse: s-maj=205.0km s-min=45.7km az=50.0, Arctic Ocean, Gakkel ridge*

BER 31 21:30:12.0±1.2, 82.38N×8.71W, h10km, mb(Pn)3.6, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.79**	**125**	P	Pn	21 31 21.8	-2.2
KBS				S	Sn	21 32 13.1	-6.4
KBS	**Kingsbay**	**4.79**	**125**	*e*P	Pn	21 31 21.7	-2.4
KBS				*e*S	Sn	21 32 13.3	-6.2
KBS				IAML		21 32 19.0	
	comp=Z,2.4nm,0.6s						
BRBB	**Barentsburg B**	**5.74**	**126**	P	Pn	21 31 35.7	-1.4
BRBB				S	Sn	21 32 36.1	-6.8
BRBB	**Barentsburg B**	**5.74**	**126**	*e*P	Pn	21 31 35.4	-1.7
BRBB				*e*S	Sn	21 32 36.8	-6.1
BRBA	**Barentsburg A**	**5.77**	**126**	*e*P	Pn	21 31 35.1	-2.4
BRBA				IAML		21 32 38.2	
	comp=Z,5.6nm,0.4s						
SPA0	**Spitsbergen Ar**	**5.91**	**122**	*e*P	Pn	21 31 36.4	-3.0
SPA0				*e*S	Sn	21 32 40.4	-6.6
SPA0				IAML		21 32 50.0	
	comp=Z,2.9nm,0.9s						
SPITS	**Spitsbergen Ar**	**5.91**	**122**	P	Pn	21 31 36.9	-2.6
HSPB	**Hornsund (broa**	**6.84**	**129**	P	Pn	21 31 51.7	-0.5
HSPB	**Hornsund (broa**	**6.84**	**129**	*e*P	Pn	21 31 49.8	-2.3
HOPEN	**Hopen**	**8.34**	**116**	*e*P	Pn	21 32 09.4	-3.3

*IDC **31** 21:31:43.5±3.8, 11.85S×165.98E, h0km, mb4.1/5, mbtmp4.1/6, ML4.2/1, MS3.1/1, Error ellipse: s-maj=72.5km s-min=38.0km az=79.0*

ISC 31 21:31:47.4±3.5, 12.1S±0.2×165.7E±0.5, h10km, n7, σ2&sup9;42/6, mb4.1/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.90**	**176**	Pn	**Pn**	**21 34 12.2**	**+2.2**
	1.9nm,0.3s,baz=15,slow=20,SNR=19						
DZM				Sn	**Sn**	**21 35 58.5**	**-2.8**
	0.4nm,0.3s,baz=290,slow=19,SNR=1.3						
	4.9nm,0.3s						
PMG	**Port Moresby**	**18.43**	**277**	LR	LR	21 42 46.5	
	comp=Z,50nm,18.6s,baz=108,slow=36						
CTA	**Charters Tower**	**20.29**	**245**	P	Pn	21 36 25.3	-0.3
	1.5nm,0.2s,baz=68,slow=11,SNR=1.7						
	1.5nm,0.2s						
STKA	**Stephens Creek**	**29.64**	**225**	P	**P**	**21 37 52.9**	**-0.4**
	3.1nm,0.7s,baz=71,slow=11,SNR=5.5						
	3.1nm,0.7s						
WRA	**Warramunga Arr**	**31.10**	**252**	P	**P**	**21 38 07.4**	**+1.1**
	1.5nm,0.7s,baz=84,slow=9.2,SNR=11						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**32.29**	**245**	P	**P**	**21 38 17.8**	**+0.9**
	2.2nm,0.8s,baz=68,slow=9.9,SNR=20						
	2.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.53**	**294**	P	**P**	**21 43 13.4**	**-1.7**
	0.7nm,0.6s,baz=130,slow=4.1,SNR=6.3						
	0.7nm,0.6s						

*TRN **31** 21:33:48.0, 10.01N×62.14W, h46km, MD3.2*
*FUNV **31** 21:33:49.7, 10.25N×62.10W, h14km, MW3.2*

ISC 31 21:33:48.0±1.9, 10.0N±0.1×62.07W±0.08, h55km±39km, n9, σ1&sup9;49/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.94**	**44**	*e*P	**Pn**	**21 34 06.0**	**+1.0**
TRN				*e*S	**Sn**	**21 34 17.2**	**-0.4**
CRUV	**Carupano**	**1.34**	**301**	*e*P	**Pn**	**21 34 10.2**	**-0.2**
CRUV				*e*S	**Sn**	**21 34 25.6**	**-1.6**
GRGR	**Grenville**	**2.18**	**11**	*e*P	**Pn**	**21 34 22.2**	**+0.3**
GRGR				*e*S	**Sn**	**21 34 47.5**	**-0.3**
PCRV	**Puerto La Cruz**	**2.54**	**275**	*e*P	**Pn**	**21 34 28.6**	**+1.8**
PCRV				*e*S	**Sn**	**21 34 57.8**	**+1.3**
GCMP	**Grenada, Carri**	**2.57**	**14**	*e*P	**Pn**	**21 34 28.1**	**+0.8**
GCMP				*e*S	**Sn**	**21 34 55.4**	**-2.0**
TACV	**Tcata**	**4.88**	**272**	*e*P	**Pn**	**21 35 00.4**	**+1.4**
TACV				*e*S	**Sn**	**21 35 52.7**	**-1.6**
CACV	**CAICARA DEL OR**	**5.03**	**242**	*e*P	**Pn**	**21 34 59.2**	**-1.7**
CACV				*e*S	Sn	21 35 49.7	-7.9
BAUV	**El Baul**	**5.98**	**261**	*e*P	**Pn**	**21 35 16.3**	**+2.3**
BAUV				*e*S	**Sn**	**21 36 20.6**	**-0.5**
BAUV	**El Baul**	**5.98**	**261**	*e*P	**Pn**	**21 35 13.7**	**-0.3**

BER 31 21:36:35.7±1.4, 82.18N×9.31W, h10km, mb(Pn)3.4, 1D, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.75**	**122**	*e*P	Pn	21 37 45.1	-2.1
KBS				*e*S	Sn	21 38 35.8	-6.4
KBS				IAML		21 38 43.7	
	comp=Z,2.4nm,0.5s						
KBS	**Kingsbay**	**4.75**	**122**	⇓*e*P		21 37 45.2	-2.0
BRBB	**Barentsburg B**	**5.70**	**123**	*e*P		21 37 59.1	-1.0
BRBB				*e*S		21 38 59.6	-5.9
SPA0	**Spitsbergen Ar**	**5.88**	**119**	*e*P		21 38 00.1	-2.6
SPA0				*e*S		21 39 03.3	-6.8
SPA0				IAML		21 39 07.7	
	comp=Z,2.3nm,0.9s						
HOPEN	**Hopen**	**8.33**	**114**	*e*P	Pn	21 38 32.4	-3.9
HOPEN				*e*S	Sn	21 39 59.7	-11
HOPEN				IAML		21 40 14.3	
	comp=Z,2.6nm,0.7s						

*IDC **31** 21:45:07.8±2.8, 8.77S×114.06E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=158.4km s-min=28.4km az=48.0*
*DJA **31** 21:45:15.3±2.0, 9.3S±13×11.4E±, h12km±9km, M3.6/8, MLv3.6/8*

ISC 31 21:45:12.9±1.4, 9.5S±0.1×113.97E±0.07, h10km, n13, σ0&sup9;68/13, mb3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.00**	**10**	Pg	**Pn**	**21 45 33.2**	**+0.2**
GMJI	**Gumukmas**	**1.29**	**336**	Pg	**Pn**	**21 45 36.1**	**-0.9**
BYJI	**Banyuwangi**	**1.29**	**17**	P	**Pg**	**21 45 38.4**	**+0.6**
DNP	**Denpasar**	**1.45**	**58**	P	**Pg**	**21 45 41.1**	**+0.4**
BLJI	**Banyuglugur**	**1.74**	**348**	Pn	**Pn**	**21 45 43.3**	**0.0**
SRBI	**Singaraja**	**1.83**	**42**	P	**Pn**	**21 45 45.3**	**+0.8**
SRBI				Pn	**Pb**	**21 45 45.9**	**-0.7**
KRKI	**Karangkates**	**1.98**	**311**	Pn	**Pn**	**21 45 47.0**	**+0.4**
SJI	**Sawahan**	**2.77**	**308**	Pn	**Pn**	**21 45 58.2**	**+0.7**
GRJI	**Gresik**	**2.93**	**330**	Pn	**Pn**	**21 45 59.8**	**+0.2**
UGM	**Wanagama**	**3.74**	**294**	P	**Pn**	**21 46 11.1**	**+0.3**
WRA	**Warramunga Arr**	**22.26**	**120**	P	**P**	**21 50 09.2**	**-1.1**
	0.2nm,0.3s,baz=297,slow=12,SNR=4.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**23.71**	**129**	P	**P**	**21 50 25.6**	**+0.3**
	0.5nm,0.4s,baz=302,slow=9.3,SNR=10.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**62.73**	**336**	P	P	21 55 30.6	-7.7
	0.1nm,0.5s,baz=135,slow=7.1,SNR=2.2						
	0.1nm,0.5s						

*ISN **31** 21:47:05.4±0.4, 33.86N×45.70E, h16km±2km, ML2.8*
*TEH **31** 21:47:06.2, 33.82N×45.71E, h10km±205km, ML2.8*

ISC 31 21:47:07.3±1.0, 33.81N±0.04×45.70E±0.05, h10km, n9, σ1&sup9;04/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.47**	**113**	Pg	**Pg**	**21 47 15.3**	**-1.1**
ILBA				Sg	**Sg**	**21 47 22.6**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.70**	**353**	Pg	**Pg**	**21 47 20.0**	**-0.8**
IBDR	**Badra**	**0.73**	**164**	*e*Pg	**Pg**	**21 47 20.0**	**-1.3**
IBDR				*e*Sg	**Sg**	**21 47 31.0**	**+0.2**
IBDR				AML	AML	21 47 38.0	
	comp=N,140nm,0.9s						
IGHG	**Ghaleghazi**	**0.89**	**54**	Pg	**Pg**	**21 47 24.0**	**-0.5**
IDHR	**Dehrash**	**1.05**	**33**	Pg	**Pg**	**21 47 26.3**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.21**	**67**	Pg	**Pb**	**21 47 30.0**	**-0.4**
BHD	**Baghdad**	**1.23**	**244**	*e*Pn	**Pn**	**21 47 30.0**	**-0.5**
BHD				*e*Sn	**Sb**	**21 47 48.0**	**+1.6**
BHD				AML	AML	21 47 50.1	
	comp=E,432nm,0.4s						
IBZA	**Bozab**	**1.91**	**69**	Pn	**Pn**	**21 47 41.2**	**+1.1**
RAFI	**Al-Rafai**	**2.11**	**170**	*e*Pn	**Pn**	**21 47 43.0**	**+0.3**
RAFI				*e*Sn	**Sn**	**21 48 10.0**	**+1.0**

*NEIC **31** 21:52:38.3±1.1, 56.17N±0.08×149.4W±0.1, h23km±10km, ML3.5/46, ML3.3(AEIC), Error ellipse: s-maj=12.4km s-min=8.5km az=164.0*
*AEIC **31** 21:52:41.2±0.9, 56.19N±0.08×149.4W±0.1, h4km±7km, Error ellipse: s-maj=12.5km s-min=8.2km az=161.0*

ISC 31 21:52:35.9±1.7, 56.17N±0.10×149.38W±0.06, h10km, n125, σ1&sup9;21/135, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.39**	**314**		**Pn**	**21 53 15.8**	**+0.8**
KDAK					**Sn**	**21 53 42.9**	**-1.4**
OHAK	**Old Harbor**	**2.40**	**298**		**Pn**	**21 53 15.8**	**+0.5**
OHAK					**Sn**	**21 53 42.8**	**-1.9**
OHAK	**Old Harbor**	**2.40**	**298**	P	**Pn**	**21 53 15.7**	**+0.5**
	baz=114						
OHAK				S	**Sn**	**21 53 42.9**	**-1.7**
	baz=114						
SII	**Sitkinak Islan**	**2.71**	**280**		**Pn**	**21 53 20.3**	**+0.9**
SII				IAML		21 53 38.7	
	comp=N,132nm,1.3s						
SII				IAML		21 53 40.0	
	comp=E,144nm,1.4s						
SII					**Sn**	**21 53 50.8**	**-1.4**
SII	**Sitkinak Islan**	**2.71**	**280**	P	**Pn**	**21 53 20.3**	**+0.9**
	baz=96						
SII				S	**Sn**	**21 53 50.8**	**-1.4**
	baz=96						
SYI	**Shuyak Island**	**2.94**	**328**		**Pn**	**21 53 23.3**	**+0.7**
SYI					**Sn**	**21 53 57.1**	**-0.9**
SYI				IAML		21 53 59.3	
	comp=E,94nm,0.9s						
SYI				IAML		21 53 59.6	
	comp=N,83nm,1.2s						
Q20K	**Shuyak Island**	**2.95**	**328**	P	**Pn**	**21 53 23.5**	**+0.9**
	baz=145						
Q20K				S	**Sn**	**21 53 57.2**	**-0.8**
	baz=145						
R18K	**Karluk**	**3.12**	**299**		**Pn**	**21 53 25.2**	**+0.2**
R18K				IAML		21 54 19.9	
	comp=N,199nm,0.3s						
R18K				IAML		21 54 20.1	
	comp=E,161nm,0.3s						
R18K	**Karluk**	**3.12**	**299**	P	**Pn**	**21 53 26.3**	**+1.2**
	baz=115						
CNPM	**China Poot**	**3.51**	**344**		**Pn**	**21 53 31.1**	**+0.6**
CNPM					**Sn**	**21 54 10.3**	**-1.8**
CNPM				IAML		21 54 13.2	
	comp=E,59nm,0.6s						
CNPM				IAML		21 54 15.9	
	comp=N,50nm,1.4s						

Q19K	**Cape Douglas,**	**3.60**	**322**			**Pn**		**21 53 33.0**	**+1.4**	
Q19K	**Cape Douglas,**	**3.60**	**322**	P		**Pn**		**21 53 33.1**	**+1.4**	
	baz=138									
KAHG	**Katmai Hook Gl**	**3.65**	**312**			**Pn**		**21 53 34.4**	**+2.0**	
KAHG						**Sn**		**21 54 14.7**	**-0.7**	
Q23K	**Middleton Isla**	**3.65**	**25**			**Pn**		**21 53 32.3**	**0.0**	
Q23K	**Middleton Isla**	**3.65**	**25**	P		**Pn**		**21 53 32.6**	**+0.2**	
	baz=208									
MID	**Middleton Isla**	**3.65**	**25**	Pn		**Pn**		**21 53 32.2**	**-0.1**	
BRSE	**Bradley Lake S**	**3.66**	**349**			**Pn**		**21 53 32.8**	**+0.3**	
BRSE	**Bradley Lake S**	**3.66**	**349**	P		**Pn**		**21 53 32.8**	**+0.3**	
	baz=168									
BRSE				S		**Sn**		**21 54 13.5**	**-2.2**	
	baz=168									
BRLK	**Bradley Lake**	**3.70**	**348**			**Pn**		**21 53 33.3**	**+0.3**	
BRLK				IAML				21 54 18.0		
	comp=E,50nm,0.6s									
BRLK				IAML				21 54 18.4		
	comp=N,42nm,0.6s									
KCE	**Katmai Mt Cerb**	**3.78**	**306**			**Pn**		**21 53 35.0**	**+0.8**	
ACHA	**Angle Creek He**	**3.83**	**305**			**Pn**		**21 53 36.9**	**+2.0**	
SEW	**Seward**	**3.95**	**359**			**Pn**		**21 53 36.4**	**0.0**	
SEW	**Seward**	**3.95**	**359**	P		**Pn**		**21 53 36.5**	**0.0**	
	baz=179									
P23K	**Montague Islan**	**3.98**	**14**			**Pn**		**21 53 37.2**	**+0.3**	
P23K	**Montague Islan**	**3.98**	**14**	P		**Pn**		**21 53 37.2**	**+0.3**	
	baz=196									
P19K	**Oil Pt**	**4.06**	**331**			**Pn**		**21 53 39.2**	**+1.3**	
P19K				IAML				21 54 30.4		
	comp=E,115nm,0.6s									
P19K				IAML				21 54 30.5		
	comp=N,117nm,1.4s									
P19K	**Oil Pt**	**4.06**	**331**	P		**Pn**		**21 53 39.3**	**+1.3**	
	baz=148									
CNTC	**Contact Creek**	**4.12**	**303**			**Pn**		**21 53 40.5**	**+1.7**	
Q17K	**Contact Creek**	**4.12**	**303**	P		**Pn**		**21 53 40.5**	**+1.7**	
	baz=118									
O20K	**Slope Mountain**	**4.29**	**338**			**Pn**		**21 53 42.0**	**+0.9**	
O20K	**Slope Mountain**	**4.29**	**338**	P		**Pn**		**21 53 42.0**	**+0.9**	
	baz=155									
IVE	**Iliamna Volcan**	**4.32**	**335**			**Pn**		**21 53 42.5**	**+0.9**	
O22K	**Cooper Landing**	**4.33**	**358**			**Pn**		**21 53 42.3**	**+0.7**	
O22K				IAML				21 54 39.6		
	comp=E,73nm,0.8s									
O22K				IAML				21 54 42.7		
	comp=N,78nm,0.7s									
O22K	**Cooper Landing**	**4.33**	**358**	P		**Pn**		**21 53 42.4**	**+0.7**	
	baz=177									
P18K	**Big Mountain,**	**4.50**	**318**			**Pn**		**21 53 44.9**	**+0.8**	
P18K	**Big Mountain,**	**4.50**	**318**	P		**Pn**		**21 53 44.7**	**+0.6**	
	baz=133									
HIN	**Hinchinbrook I**	**4.51**	**18**			**Pn**		**21 53 44.7**	**+0.6**	
HIN				IAML				21 54 39.5		
	comp=N,52nm,1.1s									
HIN				IAML				21 55 54.0		
	comp=E,69nm,1.5s									
KAIM	**Kayak Island**	**4.60**	**33**			**Pn**		**21 53 46.1**	**+0.7**	
KAIM				IAML				21 54 24.2		
	comp=N,76nm,1.3s									
KAIM	**Kayak Island**	**4.60**	**33**	P		**Pn**		**21 53 46.1**	**+0.7**	
	baz=217									
RSO	**Redoubt South**	**4.66**	**339**	Pn		**Pn**		**21 53 47.0**	**+0.6**	
EYAK	**Cordova Ski Ar**	**4.79**	**22**			**Pn**		**21 53 48.9**	**+0.9**	
EYAK	**Cordova Ski Ar**	**4.79**	**22**	P		**Pn**		**21 53 48.7**	**+0.7**	
	baz=205									
O19K	**Port Alsworth**	**4.81**	**329**	Pn		**Pn**		**21 53 48.5**	**+0.2**	
O18K	**Koktuh Hills**	**4.83**	**322**			**Pn**		**21 53 49.5**	**+0.9**	
O18K				IAML				21 54 47.4		
	comp=N,17nm,1.2s									
O18K	**Koktuh Hills**	**4.83**	**322**	P		**Pn**		**21 53 49.2**	**+0.7**	
	baz=138									
P17K	**Kvichak River**	**4.86**	**312**			**Pn**		**21 53 50.9**	**+2.0**	
P17K	**Kvichak River**	**4.86**	**312**	P		**Pn**		**21 53 50.9**	**+2.0**	
	baz=126									
RC01	**Rabbit Creek A**	**4.94**	**358**			**Pn**		**21 53 50.4**	**+0.4**	
RC01				IAML				21 54 47.6		
	comp=N,27nm,0.4s									
RC01				IAML				21 54 51.9		
	comp=E,29nm,0.9s									
RC01	**Rabbit Creek A**	**4.94**	**358**	P		**Pn**		**21 53 50.5**	**+0.4**	
	baz=178									
GOAT	**Goat Mountain**	**5.06**	**27**			**Pn**		**21 53 52.6**	**+0.9**	
BERG	**Berg Lake**	**5.19**	**33**			**Pn**		**21 53 54.1**	**+0.6**	
KNK	**Knik Glacier**	**5.29**	**5**			**Pn**		**21 53 55.5**	**+0.7**	
KNK				IAML				21 54 56.3		
	comp=E,16nm,1.3s									
KNK				IAML				21 55 08.7		
	comp=N,15nm,1.5s									
KNK	**Knik Glacier**	**5.29**	**5**	P		**Pn**		**21 53 55.7**	**+0.9**	
	baz=186									
SNH	**Sunshine Point**	**5.31**	**38**			**Pn**		**21 53 56.

YUK8	Steele Glacier	7.16	40		Pn		21 54 22.9	+2.1
YUK8	Steele Glacier baz=228	7.16	40	P	Pn		21 54 22.9	+2.1
YUK3	Moose Creek	7.27	36		Pn		21 54 24.4	+2.2
YUK3	Moose Creek baz=223	7.27	36	P	Pn		21 54 24.4	+2.2
S31K	Pelican	7.39	70	Pn	Pn		21 54 22.3	-1.3
N14K	Kuskokwak Cree	7.54	305		Pn		21 54 27.8	+2.2
N14K	Kuskokwak Cree baz=115	7.54	305	P	Pn		21 54 27.8	+2.2
HYT	Haines Junctio	7.77	48	Pn	Pn		21 54 30.3	+1.2
BCAR	Beaver Creek A	7.91	26	Pn	Pn		21 54 31.8	+0.9
S32K	Killisnoo	8.22	75	Pn	Pn		21 54 34.4	-0.7
O30N	Mendenhall	8.35	51	Pn	Pn		21 54 38.1	+1.3
M29M	Somme Creek	8.40	37		Pn		21 54 39.1	+1.4
M29M	Somme Creek baz=226	8.40	37	P	Pn		21 54 39.6	+1.9
IL31		8.72	7	Pn	Pn		21 54 42.9	+1.0
ILAR	Eielson Array	8.72	7	Pn	Pn		21 54 43.2	+1.3
WHY	Whitehorse	8.83	53	Pn	Pn		21 54 44.8	+1.3
J26L	Joseph Creek	8.84	17		Pn		21 54 44.6	+1.0
L29M	L29M	8.98	35	Pn	Pn		21 54 47.0	+1.5
P32M	Atlin	9.02	61	Pn	Pn		21 54 47.0	+1.0

*IDC **31** 22:04:01.7±2.7,3˝.45S×129˝.84E, h0km, mb3.3/2, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=170.9km s-min=30.7km az=70.0*
*DJA **31** 22:04:03.9±0.7,3˝.5±7˝×13˝.1E±˚, h10km, M3.0/5, MLv3.0/5*
ISC 31 22:04:02.8±1.1,**3˝.3S**±0˝.1×**130˝.60E**±0˝.08,**h10**km,**n6,**
σ1§22/6,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.69	78	Pn	Pn	22 04 33.3	+1.0
SIJI	Sorong	2.47	16	Pn	Pn	22 04 43.9	+0.8
NLAI	Namlea	3.49	270	Pn	Pn	22 04 58.3	+1.1
WRA	Warramunga Arr 0.1nm,0.3s,baz=348,slow=13,SNR=2.8 0.8nm,0.9s	16.98	168	Pn	Pn	22 08 00.2	-0.3
ASAR	Alice Springs 0.8nm,0.4s,baz=355,slow=8.7,SNR=14 0.8nm,0.4s	20.54	171	P	P	22 08 41.5	-0.1
MKAR	Makanchi Array 0.1nm,0.3s,baz=112,slow=8.0,SNR=1.8 0.1nm,0.3s	65.47	326	P	P	22 14 44.9	-1.2

KRSC 31 22:24:28.0±1.2,**54˝.36N**×**168˝.18E,h31**km±19km,**MI3.7,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.53	305	eP	Pn	22 24 53.9	+0.8
BKI				eS	Sb	22 25 14.5	-0.3
SMKR	Semkarok	4.42	303	eP	Pn	22 25 37.0	+4.1
TUMR	Tumrok	4.74	285	eP	Pn	22 25 42.8	+5.5
SMAR	Somma	5.66	263	eP	Pn	22 25 54.5	+4.4
AVH	Avacha	5.70	263	eP	Pn	22 25 55.3	+4.9
KRMR	Karymshinskiy	6.17	260	eP	Pn	22 26 01.2	+4.4
KRMR				eS	Sn	22 27 11.4	+5.0
MTVR	Mutnovka	6.26	257	eP	Pn	22 26 03.2	+5.0
MTVR				eS	Sn	22 27 12.8	+4.1
GRL	Gorelyy	6.30	257	eP	Pn	22 26 04.4	+5.7
ASAK	Asacha	6.46	256	eP	Pn	22 26 05.7	+4.8

*IDC **31** 22:28:56.8±1.5, 10˝.68S×164˝.23E, h0km, mb3.8/5, mbtmp4.0/8, ML4.4/3, MS3.7/3, Error ellipse: s-maj=32.8km s-min=27.0km az=128.0*
ISC 31 22:28:58.2±1.2,**10˝.9S**±0˝.1×**164˝.3E**±0˝.1,**h10**km,**n10,**
σ2§00/10,mb3.8/5,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara 169nm,0.3s,baz=131,slow=9.3,SNR=1.5	4.49	288	Pn	Pn	22 30 05.6	-0.7
HNR	109nm,0.3s,baz=158,slow=17,SNR=1.1			Sn	Sn	22 30 58.2	-0.4
HNR	comp=Z,6μm,18.5s,baz=108,slow=42 488nm,0.4s			LR	LR	22 32 02.4	
DZM	Mont Dzumac 1.3nm,0.3s,baz=324,slow=24,SNR=11	11.35	170	Pn	Pn	22 31 43.1	+2.6
DZM	0.1nm,0.3s,baz=294,slow=20,SNR=1.4 5.2nm,0.5s			Sn	Sn	22 33 43.5	-4.1
PMG	Port Moresby comp=Z,129nm,18.7s,baz=170,slow=37	16.91	273	LR	LR	22 39 19.4	
CTA	Charters Tower 0.3nm,0.3s,baz=67,slow=11,SNR=1.5 2.7nm,0.8s	19.63	240	P	P	22 33 28.0	+0.9
STKA	Stephens Creek 1.5nm,0.7s,baz=60,slow=14,SNR=1.5 1.5nm,0.7s	29.61	222	P	P	22 35 04.6	+0.9
WRA	Warramunga Arr 0.6nm,0.4s,baz=79,slow=9.3,SNR=6.4 0.6nm,0.4s	30.20	249	P	P	22 35 09.9	+0.8
ASAR	Alice Springs 0.2nm,0.4s,baz=66,slow=10,SNR=1.9 0.2nm,0.4s	31.60	242	P	P	22 35 21.1	-0.4
RAR	Rarotonga comp=Z,31nm,19.6s,baz=265,slow=31	35.97	111	LR	LR	22 47 41.7	
ILAR	Eielson Array 0.6nm,0.7s,baz=233,slow=5.6,SNR=6.1 0.6nm,0.7s	83.79	19	P	P	22 41 27.3	-0.1
MKAR	Makanchi Array 0.3nm,0.7s,baz=93,slow=6.4,SNR=2.9 0.3nm,0.7s	92.40	317	P	P	22 42 08.0	-1.2

*NNC **31** 22:35:25.2±0.6, 44˝.66N×79˝.20E, h2km±4km, mb2.4, mpv2.6, Error ellipse: s-maj=5.3km s-min=3.8km az=89.0*
*SOME **31** 22:35:26.4, 44˝.65N×79˝.22E, h10km*
ISC 31 22:35:25.8±1.0,**44˝.66N**±0˝.02×**79˝.21E**±0˝.03,**h11**km±11km,
n21,σ0§48/39,3C-1D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	Konyrlen 5.4nm,0.1s	0.30	184	P	Pg	22 35 32.3	+0.4
KNOS	15nm,0.1s			S	Sg	22 35 36.2	+0.2
DJR	Jarkent 2.5nm,0.1s	0.53	128	P	Pg	22 35 36.0	-0.1
DJR	9.4nm,0.1s			S	Sg	22 35 42.9	-0.1
DJR	Jarkent 2.5nm,0.1s	0.53	128	eP	Pg	22 35 36.0	-0.1
DJR	9.4nm,0.1s			eS	Sg	22 35 42.9	-0.1
KAPS	Kapalarasan 7.4nm,0.1s	0.63	9	P	Pg	22 35 38.2	+0.1
KAPS	4.2nm,0.1s			S	Sg	22 35 46.6	+0.2
KAPS	Kapalarasan 7.4nm,0.1s	0.63	9	eP	Pg	22 35 38.2	+0.1
KAPS	4.2nm,0.1s			eS	Sg	22 35 46.6	+0.2
TDK	Taldyqorghan 5.2nm,0.1s	0.67	301	eP	Pg	22 35 38.4	-0.4
TDK	8.6nm,0.1s			eS	Sg	22 35 47.1	-0.4
ARXS	Arharly 1.6nm,0.1s	1.09	246	P	Pg	22 35 46.2	-0.5
ARXS	3.5nm,0.2s			S	Sg	22 36 00.6	-0.3
ARXS	Arharly 1.6nm,0.1s	1.09	246	eP	Pg	22 35 46.2	-0.5
ARXS	3.5nm,0.2s			eS	Sg	22 36 00.6	-0.3
KPKS	Kokpek 1.7nm,0.1s	1.25	198	P	Pg	22 35 49.5	-0.3
KPKS	6.3nm,0.2s			S	Sg	22 36 05.8	-0.3
KPKS	Kokpek 1.7nm,0.1s	1.25	198	eP	Pg	22 35 49.5	-0.3
KPKS	6.3nm,0.2s			eS	Sg	22 36 05.8	-0.3
PDGK	Damoulionye 1.1nm,0.2s	1.35	171	P	Pn	22 35 50.6	0.0
PDGK	0.7nm,0.2s			S	Sb	22 36 08.4	0.0
PDGK	Podgornoye 1.2nm,0.5s	1.35	171	⇑P	Pn	22 35 50.6	0.0
PDGK				⇓S	Sb	22 36 08.1	-0.3
UZB	0.8nm,0.7s Uzynbulak 1.3nm,0.2s	1.52	185	P	Pb	22 35 54.1	+0.1
UZB	1.6nm,0.1s			S	Sb	22 36 13.8	+0.4
UZB	Uzynbulak 1.3nm,0.2s	1.52	185	eP	Pb	22 35 54.1	+0.1
UZB	1.6nm,0.1s			eS	Sb	22 36 13.8	+0.4
SATY	Saty 1.5nm,0.1s	1.70	200	P	Pb	22 35 57.7	+0.5
SATY	3.3nm,0.1s			S	Sg	22 36 20.1	-0.5
SATY	Saty 1.5nm,0.1s	1.70	200	eP	Pb	22 35 57.7	+0.5
SATY	3.3nm,0.1s			eS	Sg	22 36 20.1	-0.5
KTBS	Karatobe 0.3nm,0.2s	2.05	243	Pg	Pb	22 36 03.5	+0.4
KTBS	2.6nm,0.4s			Lg	Lg	22 36 29.9	
KTBS	Karatobe 0.3nm,0.2s	2.05	243	eP	Pb	22 36 03.5	+0.4
KTBS	2.6nm,0.4s			eS	Sb	22 36 29.9	+1.3
KOTS	Kotyrbulak 0.4nm,0.2s	2.08	227	Pg	Pb	22 36 04.3	+0.7
KOTS	3.9nm,0.4s			Lg	Lg	22 36 31.3	
KOTS	Kotyrbulak 0.4nm,0.2s	2.08	227	eP	Pb	22 36 04.3	+0.7
KOTS	3.9nm,0.4s			eS	Sg	22 36 31.3	-1.3
MK31	Makanchi Array 0.2nm,0.5s,baz=277,slow=20,SNR=4.5	3.03	44	⇑Pg	Pb	22 36 19.2	-0.6
MK31	0.2nm,0.5s,baz=250,slow=33,SNR=4.9			⇑Lg	Lg	22 36 59.0	

*IDC **31** 22:35:52.7±1.3,8˝.25S×117˝.56E, h0km, mb3.7/5, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=50.9km s-min=23.2km az=56.0*
*DJA **31** 22:35:56.6±0.6,8˝.8±4˝×11˝.8E±˚, h19km±7km, M4.4/13, mb4.7/4, MLv4.2/13*
ISC 31 22:35:57.9±0.8,**8˝.21S**±0˝.06×**117˝.65E**±0˝.05,**h35**km,**n23,**
σ0§75/26,mb3.9/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.63	169	Pg	Pn	22 36 09.6	-0.8
PLAI				Sg	Sn	22 36 18.7	-0.6
DBNI	Kabupaten Domp	0.72	114	Pg	Pn	22 36 11.5	-0.1
DBNI				Sg	Sn	22 36 21.6	+0.2
TWSI	Taliwang, Sumb	0.93	235	Pg	Pn	22 36 13.8	-0.7
SRBI	Singaraja	2.42	273	Pn	Pn	22 36 35.1	+0.1
DNP	Denpasar	2.46	259	P	Pn	22 36 35.3	-0.3
JAGI	Jajag, Banyuwa	3.47	265	Pn	Pn	22 36 49.5	0.0
MKS	Makassar	3.47	31	P	Pn	22 36 49.6	+0.1
BKSI	Bulukumba	3.77	41	Pn	Pn	22 36 53.5	-0.1
KAPI	Kappang 9.1nm,0.3s,baz=209,slow=3.2,SNR=20	3.79	33	Pn	Pn	22 36 52.6	-1.4
KAPI	23nm,0.3s,baz=128,slow=7.1,SNR=24			Sn	Sn	22 37 36.1	-1.2
BLJI	Banyuglugur	4.04	276	P	Pn	22 36 58.1	+0.7
MMRI	Maumere	4.56	96	P	Pn	22 37 04.1	-0.3
PMSI	Majene	4.84	15	P	Pn	22 37 08.4	+0.1
GRJI	Gresik 269nm,1.7s,0.9nm	5.29	284	P	Pn	22 37 14.1	-0.4
TTSI	Tana Toraja 17nm,0.8s,0.2nm	5.56	23	P	Pn	22 37 18.7	+0.5
SOEI	Soe 32nm,1.1s,0.2nm	6.71	104	P	Pn	22 37 34.5	+0.3
UGM	Wanagama	7.07	272	P	Pn	22 37 39.8	+0.8
WRA	Warramunga Arr 0.2nm,0.3s,baz=310,slow=10.0,SNR=6.9 0.6nm,0.5s	19.93	128	Pn	P	22 40 26.5	-0.4
ASAR	Alice Springs 1.5nm,0.6s,baz=307,slow=8.7,SNR=14 1.5nm,0.6s	21.88	136	P	P	22 40 49.1	+1.1
SONM	Songino Array 1.5nm,0.8s,baz=164,slow=8.9,SNR=12 1.5nm,0.8s	56.68	351	P	P	22 45 39.2	+1.2
MKAR	Makanchi Array 0.8nm,0.7s,baz=151,slow=7.3,SNR=9.5 0.8nm,0.7s	63.15	334	P	P	22 46 22.8	+0.5
KURBB	Kurchatov Arra 0.2nm,0.6s,baz=138,slow=6.4,SNR=2.9 0.2nm,0.6s	67.67	334	P	P	22 46 51.4	0.0
ZALV	Zalesovo Beam 0.6nm,0.6s,baz=141,slow=5.7,SNR=3.6 0.6nm,0.6s	67.83	340	P	P	22 46 52.2	-0.2
ESDC	Sonseca Array 0.3nm,0.8s,baz=44,slow=4.1,SNR=1.8	119.38	311	PKP	PKPdf	22 54 42.4	-1.7

*ATH **31** 22:39:51.6, 37˝.82N×21˝.35E, h8km±2km, ML2.6/11, Error ellipse: s-maj=2.5km s-min=0.7km az=5.0*
*THE **31** 22:39:52.1, 37˝.86N×21˝.39E, h25km±2km, ML2.9/4, Error ellipse: s-maj=2.3km s-min=0.6km az=351.0*
ISC 31 22:39:51.0±1.1,**37˝.81N**±0˝.03×**21˝.35E**±0˝.02,**h14**km±9km,
n32,σ0§82/49,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.27	20	P	Pb	22 39 57.6	+0.1
RLS	5μm,0.2s			S	Sb	22 40 01.7	-0.2
RLS	Riolos of Patr	0.27	20	P	Pb	22 39 57.4	-0.1
RLS				S	Sg	22 40 00.6	+0.1
RLS	comp=E,12683μm,0.2s			AML	AML	22 40 02.4	
RLS	comp=N,6711μm,0.3s			AML	AML	22 40 02.7	
DRO	Drossia 1.5nm,0.8s	0.32	63	P	Pb	22 39 58.4	0.0
DRO	comp=N,4μm,0.3s			S	Sb	22 40 03.7	+0.3
DRO	Drossia 1.5nm,0.8s	0.32	63	P	Pb	22 39 58.1	-0.3
DRO				S	Sg	22 40 02.4	+0.3
DRO	comp=N,5679μm,0.2s			AML	AML	22 40 04.0	
DRO	comp=E,7745μm,0.3s			AML	AML	22 40 07.5	
LTHK	Lithakia comp=E,2μm,0.1s	0.42	257	P	Pn	22 40 01.1	-1.4
LTHK				S	Sb	22 40 09.4	+3.1
KRI1	kERI comp=E,1μm,0.5s	0.45	251	P	Pn	22 40 01.6	-1.3
KRI1				S	Sb	22 40 10.0	+2.9
KLV	Kalavryta, Ach	0.67	69	P	Pg	22 40 04.0	-0.2
KLV	Kalavryta, Ach	0.67	69	P	Pg	22 40 04.0	-0.2
KLV				S	Sg	22 40 13.3	+0.2
KLV	comp=N,455μm,0.3s			AML	AML	22 40 18.1	
KLV	comp=E,399μm,0.6s			AML	AML	22 40 21.7	
PSDA	Pessada-Kefalo	0.68	297	P	Pb	22 40 04.5	-0.1
PSDA				S	Sn	22 40 14.9	-1.6
PSDA	Pessada-Kefalo	0.68	297	P	Pb	22 40 04.5	-0.1
ALIK	Aliki, Aigiali	0.75	53	P	Pb	22 40 05.9	+0.1
EFP	Efpalio	0.76	35	P	Pg	22 40 05.3	-0.4
EFP				S	Sg	22 40 16.3	+0.6
EFP	Efpalio	0.76	35	P	Pg	22 40 05.5	-0.2
EFP				S	Sg	22 40 16.2	+0.6
EFP	comp=E,685μm,0.3s			AML	AML	22 40 18.1	
EFP	comp=N,844μm,0.3s			AML	AML	22 40 18.4	
GUR	Goura	0.79	80	P	Pg	22 40 06.0	-0.4
GUR	Goura	0.79	80	P	Pb	22 40 06.2	-0.3
GUR				S	Sb	22 40 17.7	+0.5
GUR	comp=N,1244μm,0.4s			AML	AML	22 40 23.7	
GUR	comp=E,1008μm,0.4s			AML	AML	22 40 24.6	
PVO	Paravola	0.82	10	P	Pb	22 40 06.8	-0.1
LXRA	Lixouri, Kepha	0.82	299	P	Pn	22 40 07.4	-0.7
KEF4	Livadi, Kephal	0.86	302	P	Pn	22 40 07.8	-0.8
DMLN	Damoulianata-K	0.88	299	P	Pn	22 40 08.3	-0.7
KEF3	Kipouria, Keph	0.89	297	P	Pn	22 40 07.9	-1.0
FSK	Fiskardo	0.90	316	P	Pb	22 40 07.9	-0.4
FSK				S	Sb	22 40 20.3	+0.1
FSK	comp=E,926μm,0.2s			AML	AML	22 40 24.1	
FSK				AML	AML	22 40 24.6	
ANX	comp=N,532μm,0.2s Ano Chora	0.90	30	P	Pg	22 40 08.1	-0.4
ANX				S	Sg	22 40 20.3	0.0
ANX	comp=N,1097μm,0.5s			AML	AML	22 40 29.6	
ANX	comp=E,882μm,0.4s			AML	AML	22 40 29.8	
PYL	PYLOS	0.96	161	P	Pn	22 40 09.9	-0.1
PYL				S	Sn	22 40 23.4	-0.1
PYL	comp=E,317μm,0.4s			AML	AML	22 40 30.2	
PYL	comp=N,200μm,0.6s			AML	AML	22 40 39.4	
EVGI	Lefkada island	0.98	326	P	Pb	22 40 09.6	-0.1
THAL	Thalero	1.06	77	P	Pg	22 40 10.9	-0.5
THAL				S	Sb	22 40 25.5	+0.7
THAL	comp=E,1054μm,0.4s			AML	AML	22 40 35.1	
THAL	comp=N,902μm,0.4s			AML	AML	22 40 37.8	
LKD2	Lefkada island	1.12	331	P	Pn	22 40 12.1	-0.1
LKD2				S	Sn	22 40 27.8	+0.3
LKD2	comp=E,568μm,0.3s			AML	AML	22 40 33.2	
LKD2	comp=N,796μm,0.6s			AML	AML	22 40 35.1	
TSLK	Tsoukalades, L	1.15	332	P	Pn	22 40 12.8	+0.2
EVR	Evrytania	1.16	18	P	Pn	22 40 13.6	+0.7
MAKR	Makrakomi, Fth	1.35	27	P	Pb	22 40 16.1	0.0
AXAR	Agios Charalam	1.41	47	P	Pn	22 40 16.5	+0.3
KRND	KRANIDI	1.49	106	P	Pb	22 40 18.3	-0.1
KRND				S	Sb	22 40 37.2	+0.1
KRND	comp=E,340μm,0.5s			AML	AML	22 40 46.9	
KRND	comp=N,354μm,0.5s			AML	AML	22 40 47.5	
KEK	Kerkira	2.26	328	P	Pn	22 40 27.8	0.0

*IDC **31** 22:42:11.4±1.1, 55˝.40S×31˝.22W, h0km, mb3.7/4, mbtmp3.8/4, MS3.4/2, Error ellipse: s-maj=52.6km s-min=26.3km az=72.0*
ISC 31 22:42:12.8±1.0,**55˝.4S**±0˝.2×**31˝.3W**±0˝.3,**h10**km,**n8,σ0§42/6,**
mb4.0/3,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae 1.2nm,1.0s,baz=311,slow=18,SNR=1.4 1.2nm,1.0s	20.30	154	P	P	22 46 48.1	-0.3
CPUP	Villa Florida 1.3nm,0.5s,baz=158,slow=8.5,SNR=3.8 1.3nm,0.5s	34.69	316	P	P	22 49 02.2	-0.3
QSPA	South Pole Qui 1.9nm,0.9s,baz=213,slow=3.7,SNR=5.3 1.9nm,0.9s	34.85	180	P	P	22 49 03.8	+0.1
BOSA	Boshof comp=Z,31nm,18.6s,baz=192,slow=31	48.11	80	LR	LR	23 07 02.0	
LSZ	Lusaka comp=Z,41nm,18.0s,baz=216,slow=34	60.36	73	LR	LR	23 16 20.4	
TORD	Torodi Ar. Bea 0.6nm,0.8s,baz=193,slow=5.9,SNR=2.8 0.6nm,0.8s	73.72	34	P	P	22 53 46.7	0.0
ILAR	Eielson Array 0.8nm,0.8s,baz=130,slow=1.2,SNR=8.3	147.97	313	PKPbc	PKPbc	23 01 57.4	+0.6
SONM	Songino Array 0.4nm,0.6s,baz=210,slow=3.7,SNR=4.8	153.02	88	PKPbc	PKiKP	23 02 09.7	0.0

*TEH **31** 22:51:09.0, 27˝.16N×53˝.01E, h12km±30km, ML3.3*
*OMAN **31** 22:51:13.0±0.1, 27˝.03N×53˝.10E, h10km, ml2.8/7, Error ellipse: s-maj=2.0km s-min=0.8km az=354.0*
ISC 31 22:51:10.8±0.9,**27˝.14N**±0˝.04×**53˝.04E**±0˝.04,**h10**km,**n33,**
σ1§11/49,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.23	30	Pg	Pg	22 51 13.9	-1.6
LAR1	LAR	1.30	66	Pg	Pb	22 51 35.4	0.0
QIR1	Qir	1.33	0	Pg	Pn	22 51 35.3	-0.2
QIR1				Sg	Sb	22 51 53.9	+0.9
JHRM	Jahrom	1.44	19	Pg	Pn	22 51 37.4	+0.4
DSBU	Dashti - Bushe	1.99	308	Pn	Pn	22 51 45.1	+0.5
SHMA	Al-Shehemyia	2.26	236	P	Pb	22 51 50.8	-0.9
SHMA				S	Sb	22 52 18.2	-1.4
TRNA	Turayna SNR=20	2.91	215	P	Pn	22 51 58.3	+1.2
TRNA				S	Sn	22 52 33.7	+1.6
SHME	Shamm	2.98	111	S	Sn	22 52 34.3	+0.3
SMRA	Abu-Samra	3.11	220	P	Pn	22 52 01.3	+1.4
SMRA				S	Sn	22 52 39.5	+2.4
ASUD	Al Ashush, Dub SNR=27	3.25	140	P	Pn	22 52 02.8	+1.0
ASUD				S	Sn	22 52 42.5	+2.0
SLWR	Sila	3.29	202	P	Pn	22 52 02.7	+0.3
SLWR				S	Sn	22 52 43.0	+1.4
MASF	Masafi	3.31	122	P	Pn	22 52 03.6	+0.9
MASF				S	Sn	22 52 42.4	+0.2
MZWR	Madinat Zayed	3.45	167	P	Pn	22 52 06.2	+1.6
MZWR				S	Sn	22 52 46.2	+0.7
MDH	Madha	3.46	121	P	Pn	22 52 05.5	+0.8
MDH				S	Sn	22 52 45.0	-0.7
UOSS	Minazif	3.59	127	P	Pn	22 52 07.3	+0.8
UOSS				S	Sn	22 52 48.0	-1.0
HATD	Hatta, Dubai	3.62	129	P	Pn	22 52 07.5	+0.7
HATD				S	Sn	22 52 50.0	+0.3
ASHO	Ashiyiah SNR=12	3.66	131	P	Pn	22 52 08.7	+1.2
ASHO				S	Sn	22 52 50.8	+0.1
NGRK	Negar Kerman	4.10	52	Pn	Pn	22 52 15.0	+1.2
TVBK	TV Kerman	4.33	48	Pn	Pn	22 52 18.0	+1.0
SOHO	SOHO	4.35	133	P	Pn	22 52 17.9	+0.9
SOHO				S	Sn	22 53 08.2	+0.5
KHGB	Koh Gabri	4.41	42	Pn	Pn	22 52 18.6	+0.6
IMEH	Mehriz	4.45	18	Pn	Pn	22 52 19.5	+0.9
IRAM	Ramesheh	4.69	353	Pn	Pn	22 52 22.1	+0.3
ISAD	Sadrabad	4.79	7	Pn	Pn	22 52 23.9	+0.7
CHMN	Cheshme madani	4.80	55	Pn	Pn	22 52 24.9	+1.5
UMZA	Um Al Zommool	4.81	156	P	Pn	22 52 24.1	+0.8
UMZA				S	Sn	22 53 17.7	-1.4
ARQ	Araqi SNR=19	4.93	139	P	Pn	22 52 27.0	+2.0
ARQ				S	Sn	22 53 22.1	0.0
IBAF	Bafgh	4.95	26	Pn	Pn	22 52 25.7	+0.4
KBAM	BAM	5.18	66	Pn	Pn	22 52 29.8	+1.4
BSY	Bisya SNR=23	5.78	138	P	Pn	22 52 37.6	+0.9
BSY				S	Sn	22 53 44.5	+1.4
MHTO	MHTO SNR=5.1	7.61	143	P	Pn	22 53 02.2	+0.5
RAYN	Ar Rayn	7.71	244	P	Pn	22 53 02.4	-0.8
WHFO	Wadi Hawf SNR=7.7	9.21	176	P	Pn	22 53 22.3	-1.4

*VIE **31** 22:51:38.2±1.2, 44˝.66N×12˝.11E, h8km, mb2.2/2, ml2.2/4, Error ellipse: s-maj=9.6km s-min=8.5km az=25.0 64 km ENE of Bologna*
ROM 31 22:51:34.1±0.1,**44˝.317N**±0˝.006×**11˝.48E**±0˝.01,**h7**km±1km,
ML1.7/10,1D,Error ellipse: s-maj=0.8km s-min=0.3km
az=273.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIS	BRISIGHELLA	0.17	171	P	Pg	22 51 39.4	+1.9
BRIS				S	Sg	22 51 43.0	+3.0
BRIS	comp=N,255μm,0.3s			AML	AML		
BRIS	comp=E,256μm,0.7s			AML	AML		
SEI	Scarperia	0.28	198	⇓P	Pg	22 51 40.1	+0.5
SEI				S	Sb	22 51 45.4	-0.8
SEI	comp=E,804μm,0.3s			AML	AML		
SEI	comp=N,1250μm,0.4s			AML	AML		
LMD	Lutirano	0.29	145	P	Pg	22 51 40.3	+0.4
LMD				S	Sb	22 51 46.1	-0.6
LMD	comp=N,448μm,0.4s			AML	AML		
LMD	comp=N,448μm,0.4s			AML	AML		
LMD	comp=E,333μm,0.3s			AML	AML		

FNVD	**Fontana Vidola**	**0.29**	**240**	P	Pb	22 51 40.9	-0.9
FIU	**Minerbio Fiu**	**0.32**	**2**	P	Pb	22 51 41.9	-0.3
FIU				S	Sg	22 51 46.1	+1.3
CMPO	**Campotto Po**	**0.35**	**42**	P	Pb	22 51 42.7	0.0
ZCCA	**Zocca**	**0.36**	**276**	P	Pb	22 51 42.5	-0.3
MOCL	**Monte Cuccoli**	**0.38**	**214**	P	Pg	22 51 42.1	+0.6
MOCL				S	Sb	22 51 48.6	-0.6
MOCL				AML	AML		
	comp=N,234μm,0.3s						
MOCL				AML	AML		
	comp=E,170μm,0.3s						
MOCL				AML	AML		
	comp=N,234μm,0.3s						
RUFI	**Rufina**	**0.48**	**177**	P	Pg	22 51 43.7	+0.3
RUFI				AML	AML		
	comp=E,58μm,0.3s						
RUFI				AML	AML		
	comp=N,75μm,1.2s						
RUFI				AML	AML		
	comp=N,74μm,1.2s						
RUFI				AML	AML		
	comp=E,58μm,0.3s						
RUFI				AML	AML		
	comp=N,74μm,0.8s						
SFI	**Santa Sofia**	**0.49**	**147**	P	Pg	22 51 43.8	+0.2
SFI				S	Sb	22 51 52.5	+0.1
SFI				AML	AML		
	comp=E,75μm,0.9s						
SFI				AML	AML		
	comp=N,97μm,0.5s						
SFI				AML	AML		
	comp=N,97μm,0.5s						
SFI				AML	AML		
	comp=N,97μm,1.5s						
FERS	**Ferrara-Casagl**	**0.59**	**4**	P	Pb	22 51 46.6	-0.1
ABTA	**Abfaltersbach**	**2.54**	**16**	Pn	Pn	22 52 14.4	-1.3
	comp=N,1.2nm,0.3s						
FETA	**Feichten**	**2.75**	**349**	Pn	Pb	22 52 21.9	-1.9
	comp=N,0.6nm,0.4s						
FETA				Sn	Sn	22 52 52.8	+0.4
	comp=N,0.7nm,0.4s						
SQTA	**Sankt Quirin**	**2.91**	**356**	*e*Pn	Pn	22 52 22.0	+1.1
	comp=N,0.9nm,0.2s						
SQTA				Sn	Sn	22 52 57.5	+1.3
	comp=N,1.5nm,0.2s						

*FCIAR **31** 22:53:42.0, 83.06N×4.87W, h10km, station ZFI2 has station magnitude of 3.30 station OMEGA has station magnitude of 3.30*

BER 31 22:53:45.1±1.6, 82.68N×5.34W, h10km, mb(Pn)3.6, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.65**	**135**	*e*P	Pn	22 54 52.1	-3.1
KBS				*e*S	Sn	22 55 43.5	-5.7
KBS				IAML		22 55 50.2	
	comp=Z,2.4nm,0.5s						
KBS	**Kingsbay**	**4.65**	**135**	*e*P	Pn	22 54 51.7	-3.5
KBS				S	Sn	22 55 45.0	-4.2
BRBB	**Barentsburg B**	**5.61**	**135**	*e*P	Pn	22 55 06.0	-2.3
BRBB				*e*S	Sn	22 56 06.7	-5.9
BRBA	**Barentsburg A**	**5.64**	**135**	*e*P	Pn	22 55 07.1	-1.6
BRBA				IAML		22 56 20.0	
	comp=Z,7.8nm,0.9s						
SPA0	**Spitsbergen Ar**	**5.73**	**130**	*e*P	Pn	22 55 07.2	-2.9
SPA0				*e*S	Sn	22 56 09.2	-6.6
SPA0				IAML		22 56 26.0	
	comp=Z,2.7nm,0.8s						
SPA0	**Spitsbergen Ar**	**5.73**	**130**	*e*P	Pn	22 55 06.8	-3.3
SPA0				*e*S	Sn	22 56 09.9	-6.0
HSPB	**Hornsund (broa**	**6.72**	**136**	*e*P	Pn	22 55 22.2	-1.5
ZFI2	**Zemlya Franca-**	**7.58**	**77**	*e*P	Pn	22 55 27.4	-8.0
ZFI2				*e*S	Sn	22 56 45.4	-16
	comp=Z,8.7nm,2.6s						
OMEGA	**Omega**	**7.61**	**77**	*e*P	Pn	22 55 27.9	-7.9
OMEGA				*e*S	Sn	22 56 45.8	-16
	comp=Z,8.1nm,1.8s						
HOPEN	**Hopen**	**8.11**	**123**	*e*P	Pn	22 55 39.5	-3.1
HOPEN	**Hopen**	**8.11**	**123**	*e*P	Pn	22 55 39.4	-3.2
HOPEN				*e*S	Sn	22 57 05.9	-8.2

IDC 31 22:55:55.1±45.0, 15.83S×174.40W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=864.9km s-min=176.7km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.99**	**240**	P	P	23 03 56.0	-0.3
	2.3nm,0.6s,baz=82,slow=15,SNR=3.9						
	2.3nm,0.6s						
WRA	**Warramunga Arr**	**48.81**	**257**	P	P	23 04 42.5	0.0
	0.9nm,0.6s,baz=92,slow=7.3,SNR=15						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**49.06**	**252**	P	P	23 04 44.3	-0.1
	9.5nm,0.6s,baz=88,slow=8.2,SNR=140						
	9.5nm,0.6s						

*SJA **31** 22:57:28.9±0.9, 31.36S×67.90W, h9km, ML4.1, MW3.6*
*IDC **31** 22:57:29.4±0.7, 31.40S×67.83W, h24km±3km, mb3.5/4, mbtmp3.6/8, ML3.8/4, MS3.1/4, Error ellipse: s-maj=30.4km s-min=21.1km az=88.0*
*NEIC **31** 22:57:32.2±2.0, 31.38S±0.06×67.72W±0.08, h38km, 9km, mb4.4/5, Error ellipse: s-maj=9.9km s-min=8.5km az=63.0*

ISC 31 22:57:28.8±0.6, 31.34S±0.03×67.83W±0.03, h13km±3km, n95, σ1.85/119, mb4.1/7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.55**	**271**	*e*P	**Pg**	**22 57 38.8**	**-0.8**
RTLL				*e*S	**Sg**	**22 57 44.7**	**-2.2**
SJA	**San Juan**	**0.65**	**253**	*e*P	**Pg**	**22 57 41.1**	**-0.3**
AVFE	**Valle Fertil**	**0.75**	**26**	*e*P	**Pb**	**22 57 44.7**	**+1.0**
AVFE				*e*S	**Sn**	**22 57 55.7**	**-0.7**
AVFE				IAML		22 57 56.2	
	comp=Z,11μm,0.2s						
RTCV	**Cerro Valdivia**	**0.80**	**229**	*e*P	**Pg**	**22 57 43.5**	**-0.7**
RTCV				*e*S	**Sg**	**22 57 54.2**	**-0.5**
ACHE	**Chepes**	**1.02**	**80**	*e*P	**Pn**	**22 57 50.0**	**+1.1**
DOCA	**Reserva Natura**	**1.14**	**290**	*e*P	**Pb**	**22 57 49.2**	**-1.3**
DOCA				*e*S	**Sb**	**22 58 03.9**	**-1.5**
ACCO	**Cerro Coronel**	**1.30**	**305**	*e*P	**Pn**	**22 57 52.4**	**-0.4**
RTLS	**Leoncito**	**1.33**	**249**	*e*P	**Pn**	**22 57 52.6**	**-0.7**
RTLS				*e*S	**Sb**	**22 58 09.7**	**-1.2**
RTLS				IAML		22 58 10.0	
	comp=Z,5μm,0.3s						
ASAL	**Salagasta**	**1.51**	**214**	*e*P	**Pn**	**22 57 56.4**	**+0.8**
ASAL				IAML		22 58 19.6	
	comp=Z,979nm,0.4s						
ACDV	**Cuesta del Vie**	**1.61**	**316**	*e*P	**Pn**	**22 57 58.0**	**+1.0**
ACDV				*e*S	**Sb**	**22 58 19.5**	**+0.9**
ARCO	**CERRO ARCO**	**1.77**	**212**	*e*P	**Pn**	**22 58 00.9**	**+1.8**
ARCO				IAML		22 58 28.8	
	comp=Z,2μm,0.3s						
AROD	**Rodeo**	**1.83**	**309**	*e*P	**Pn**	**22 58 01.5**	**+1.3**
AROD				*e*S	**Sn**	**22 58 24.9**	**+1.5**
AGUA	**GUANDACOL**	**1.93**	**343**	*e*P	**Pb**	**22 58 04.1**	**+0.3**
AGUA				*e*S	**Sg**	**22 58 30.4**	**-0.5**
AGUA				IAML		22 58 31.5	
	comp=Z,1μm,0.4s						
AAGR	**Agrelo**	**1.94**	**206**	*e*P	**Pn**	**22 58 03.4**	**+1.9**
AAGR				*e*S	**Sb**	**22 58 30.2**	**+2.2**
AAGR				IAML		22 58 31.6	
	comp=Z,878nm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.05**	**22**	*e*P	**Pb**	**22 58 06.2**	**+0.2**
ACLC				*e*S	**Sg**	**22 58 36.5**	**+1.7**
ACLC				IAML		22 58 39.3	
	comp=Z,2μm,0.2s						
AVIZ	**Vizcacheras**	**2.21**	**195**	*e*P	**Pn**	**22 58 07.0**	**+1.8**
AVIZ				*e*S	**Sg**	**22 58 39.7**	**-0.1**
CO01	**Juntas del Tor**	**2.37**	**304**		**Pn**	**22 58 10.5**	**+2.9**
CO01				Sn	**Sb**	**22 58 40.5**	**-0.3**
CO01	**Juntas del Tor**	**2.37**	**304**	*e*P	**Pn**	**22 58 10.0**	**+2.4**
CO01				*e*S	**Sb**	**22 58 40.7**	**-0.1**
CO01				IAML		22 58 41.9	
	comp=Z,906nm,0.8s						
CO03	**El Pedregal**	**2.50**	**281**		**Pn**	**22 58 12.1**	**+2.8**
CO03				Sn	**Sn**	**22 58 43.1**	**+3.6**
CO03	**El Pedregal**	**2.50**	**281**	*e*P	**Pn**	**22 58 12.0**	**+2.8**
CO03				*e*S	**Sb**	**22 58 43.7**	**-0.6**
CO03				IAML		22 58 45.4	
	comp=Z,3μm,0.8s						
VCA	**Vinchina**	**2.61**	**353**	*e*P	**Pb**	**22 58 14.3**	**-1.2**
VCA				*e*S	**Sb**	**22 58 50.5**	**+2.9**
VCA				IAML		22 58 54.1	
	comp=Z,762nm,0.3s						
VA03	**San Esteban**	**2.71**	**238**		**Pn**	**22 58 14.9**	**+2.8**
VA03	**San Esteban**	**2.71**	**238**	*e*P	**Pn**	**22 58 15.3**	**+3.2**
VA03				*e*S	**Sb**	**22 58 51.4**	**+1.1**
VA03				IAML		22 58 55.8	
	comp=Z,1μm,1.1s						
CO02	**Combarbal**	**2.71**	**272**		**Pn**	**22 58 15.1**	**+2.9**
CO02	**Combarbal**	**2.71**	**272**	*e*P	**Pn**	**22 58 15.0**	**+2.9**
CO02				*e*S	**Sb**	**22 58 51.0**	**+0.5**
CO02				IAML		22 58 52.1	
	comp=Z,3μm,0.4s						
TCA	**Tanti**	**2.77**	**91**	*e*P	**Pn**	**22 58 15.6**	**+2.7**
TCA				*e*S	**Sg**	**22 58 56.7**	**-1.1**
TCA				IAML		22 59 01.0	
	comp=Z,883nm,0.4s						
GO04	**Tololo Observa**	**2.81**	**294**		**Pn**	**22 58 16.2**	**+2.7**
GO04	**Tololo Observa**	**2.81**	**294**	*e*P	**Pn**	**22 58 16.4**	**+2.8**
GO04				*e*S	**Sb**	**22 58 53.6**	**+0.4**
PEL	**Peldehue**	**3.01**	**233**		**Pn**	**22 58 18.5**	**+2.3**
PEL	**Peldehue**	**3.01**	**233**	*e*P	**Pn**	**22 58 18.9**	**+2.7**
PEL				*e*S	**Sb**	**22 59 01.0**	**+2.0**
MT03	**Universidad Ad**	**3.12**	**226**		**Pn**	**22 58 20.5**	**+2.7**
MT03	**Universidad Ad**	**3.12**	**226**	*e*P	**Pn**	**22 58 20.9**	**+3.2**
MT03				*e*S	**Sb**	**22 59 05.0**	**+2.9**
MT03				IAML		22 59 08.8	
	comp=Z,312nm,0.2s						
ROC1	**El Roble**	**3.15**	**238**	*e*S	**Sn**	**22 59 01.2**	**+5.3**
MT13	**San Alfonso**	**3.17**	**220**		**Pn**	**22 58 20.9**	**+2.5**
VA06	**Catapilco**	**3.19**	**247**		**Pn**	**22 58 19.6**	**+1.0**
MT05	**Renca**	**3.20**	**229**		**Pn**	**22 58 20.9**	**+2.1**
MT05	**Renca**	**3.20**	**229**	IAML		22 59 08.7	
	comp=Z,471nm,0.6s						
LMEL	**Las Melosas**	**3.20**	**218**		**Pn**	**22 58 21.1**	**+2.2**
CO05	**La Serena**	**3.26**	**295**		**Pn**	**22 58 21.4**	**+1.8**
AC05	**El Transito**	**3.27**	**319**		**Pn**	**22 58 23.0**	**+3.2**
CO06	**Fray Jorge**	**3.33**	**281**		**Pn**	**22 58 21.2**	**+0.7**
CYA	**Choya**	**3.38**	**32**	IAML		22 59 31.8	
	comp=Z,453nm,0.6s						
MT02	**Curacav**	**3.39**	**235**		**Pn**	**22 58 22.7**	**+1.4**
LCO	**Las Campanas**	**3.40**	**312**		**Pn**	**22 58 24.5**	**+2.8**
LCO	**Las Campanas**	**3.40**	**312**	*e*P	**Pn**	**22 58 24.5**	**+2.8**
RFA	**San Rafael**	**3.46**	**189**	*e*P	**Pn**	**22 58 23.0**	**+0.6**
RFA				IAML		22 59 20.0	
	comp=Z,621nm,0.3s						
BO04	**La Punta**	**3.53**	**221**		**Pn**	**22 58 25.9**	**+2.5**
MT09	**Talagante**	**3.61**	**227**		**Pn**	**22 58 26.2**	**+1.7**
VA01	**Torpederas**	**3.64**	**242**		**Pn**	**22 58 25.1**	**+0.3**
VA01	**Torpederas**	**3.64**	**242**	*e*P	**Pn**	**22 58 25.6**	**+0.8**
VA01				IAML		22 59 21.5	
	comp=Z,335nm,0.6s						
MT01	**Popeta**	**3.83**	**228**		**Pn**	**22 58 28.4**	**+1.0**
MT01	**Popeta**	**3.83**	**228**	*e*P	**Pn**	**22 58 28.3**	**+1.0**
MT01				IAML		22 59 25.9	
	comp=Z,176nm,0.8s						
VA05	**Santo Domingo**	**3.94**	**233**		**Pn**	**22 58 29.8**	**+0.9**
BO01	**Tunca**	**4.09**	**221**		**Pn**	**22 58 32.5**	**+1.5**
BO01	**Tunca**	**4.09**	**221**	*e*P	**Pn**	**22 58 32.5**	**+1.5**
AC04	**Llanos de Chal**	**4.21**	**317**		**Pn**	**22 58 34.7**	**+2.1**
AC04	**Llanos de Chal**	**4.21**	**317**	*e*S	**Sb**	**22 59 37.1**	**+3.8**
AC04				IAML		22 59 41.2	
	comp=Z,191nm,0.6s						
BO02	**Sierra Bellavi**	**4.24**	**215**		**Pn**	**22 58 35.8**	**+2.6**
BO02	**Sierra Bellavi**	**4.24**	**215**	*e*P	**Pn**	**22 58 36.2**	**+3.1**
BO02				IAML		22 59 50.8	
	comp=Z,118nm,0.8s						
GO03	**Copiap**	**4.28**	**330**		**Pn**	**22 58 35.7**	**+2.0**
GO05	**Huala**	**5.02**	**222**		**Pn**	**22 58 44.1**	**+0.3**
GO05	**Huala**	**5.02**	**222**	*e*P	**Pn**	**22 58 43.6**	**-0.2**
AHML	**Horco Molle**	**5.04**	**26**	*e*P	**Pn**	**22 58 47.0**	**+3.0**
ML02	**Panimavida**	**5.33**	**213**		**Pn**	**22 58 48.8**	**+0.8**
AC01	**Pan de Azucar**	**5.71**	**334**	Pn	**Pn**	**22 58 54.9**	**+1.6**
GO02	**Mina Guanaco**	**6.34**	**345**	Pn	**Pn**	**22 59 04.6**	**+2.3**
PB14	**IPOC Station P**	**7.06**	**341**	Pn	**Pn**	**22 59 13.5**	**+1.3**
PB15	**IPOC Station P**	**8.23**	**349**		**Pn**	**22 59 30.3**	**+2.3**
TRQA	**Tornquist**	**8.25**	**146**		**Pn**	**22 59 29.2**	**+1.0**
GO06	**Curarrehue**	**8.74**	**199**		**Pn**	**22 59 35.5**	**+0.6**
LVC	**Limon Verde**	**8.75**	**353**	Pn	**Pn**	**22 59 36.2**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=131,slow=9.3,SNR=3.1						
LVC				Lg	Lg	23 02 05.3	
	comp=Z,0.7nm,0.3s,baz=143,slow=20,SNR=2.4						
LVC				LR	LR	23 03 21.7	
	comp=Z,113nm,19.5s,baz=203,slow=40						
	comp=Z,1.4nm,0.3s						
PB09	**IPOC Station P**	**9.59**	**352**	Pn	**Pn**	**22 59 47.3**	**+0.7**
PLCA	**Paso Flores**	**9.63**	**192**	Pn	**Pn**	**22 59 48.5**	**+1.4**
PLCA	**Paso Flores**	**9.63**	**192**	Pn	**Pn**	**22 59 46.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=30,slow=11,SNR=6.5						
PLCA				Lg	Lg	23 02 28.6	
	comp=Z,0.2nm,0.3s,baz=319,slow=20,SNR=1.9						
PLCA				LR	LR	23 03 16.3	
	comp=Z,96nm,19.1s,baz=14,slow=36						
	comp=Z,1.2nm,0.5s						
ITQB	**Itaqui**	**9.81**	**83**		**Pn**	**22 59 49.9**	**+0.3**
CPUP	**Villa Florida**	**10.47**	**64**		**Pn**	**22 59 57.5**	**-1.1**
CPUP	**Villa Florida**	**10.47**	**64**	Pn	**Pn**	**22 59 57.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=233,slow=10,SNR=4.6						
CPUP				Lg	Lg	23 02 56.8	
	comp=Z,0.8nm,0.3s,baz=185,slow=15,SNR=2.8						
CPUP				LR	LR	23 04 23.9	
	comp=Z,78nm,20.8s,baz=226,slow=40						
	comp=Z,1.4nm,0.3s						
PB08	**IPOC Station P**	**11.21**	**354**	Pn	**Pn**	**23 00 11.1**	**+1.9**
PLTB	**Pedras Altas**	**12.15**	**96**	Pn	**Pn**	**23 00 19.4**	**-2.1**
LPAZ	**La Paz**	**14.99**	**359**		**Pn**	**23 01 02.8**	**+1.9**
SIV	**San Ignacio**	**16.48**	**24**	Pn	**Pn**	**23 01 19.8**	**+0.1**
	baz=155,slow=20,SNR=1.0						
	comp=Z,0.2nm,0.4s						
ETMB	**Extrema**	**21.47**	**4**	P	**P**	**23 02 17.0**	**0.0**
BDFB	**Brasilia**	**23.91**	**54**	LR	LR	23 11 35.5	
	comp=Z,73nm,19.9s,baz=269,slow=35						
CZSB	**Cruzeiro do Su**	**23.93**	**348**	P	**P**	**23 02 42.5**	**-0.1**
CZSB				IAmb	IAmb	23 02 53.8	
	comp=Z,26nm,1.4s						
SNAA	**Sanae**	**52.74**	**159**	P	**P**	**23 06 41.7**	**-1.2**
SNAA				IAmb	IAmb	23 07 08.7	
	comp=Z,8.0nm,1.4s						
QSPA	**South Pole Qui**	**58.89**	**180**	P	**P**	**23 07 26.6**	**-0.6**
QSPA	**South Pole Qui**	**58.89**	**180**	P	**P**	**23 07 25.9**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=162,slow=0.9,SNR=9.3						
	comp=Z,0.9nm,0.6s						
TXAR	**Lajitas Array**	**69.30**	**327**	P	**P**	**23 08 34.5**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=160,slow=8.0,SNR=5.9						
TXAR				pP	**sP**	**23 08 44.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=153,slow=7.9,SNR=8.9						
	comp=Z,0.3nm,0.6s						
TOA0	**Torodi Ar. Sit**	**79.95**	**68**	P	**P**	**23 09 37.2**	**-0.7**
TOA0				IAmb	IAmb	23 10 03.4	
	comp=Z,2.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**79.95**	**68**	P	**P**	**23 09 38.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=249,slow=4.0,SNR=1.9						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**83.10**	**330**	P	**P**	**23 09 53.7**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=129,slow=7.1,SNR=2.0						
PDAR				pP	**sP**	**23 10 00.6**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=140,slow=7.1,SNR=2.6						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**124.75**	**206**	PKP	**PKPdf**	**23 16 26.4**	**-2.4**
	comp=Z,0.5nm,1.0s,baz=169,slow=1.7,SNR=7.1						
KURBB	**Kurchatov Arra**	**148.51**	**42**	PKPbc	**PKPdf**	**23 17 13.3**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=299,slow=3.3,SNR=8.7						
KURBB				pPKPbc	**sPKPbc**	**23 17 21.9**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=294,slow=3.1,SNR=9.6						
ZALV	**Zalesovo Beam**	**150.08**	**33**	PKPbc	**PKPbc**	**23 17 17.2**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=304,slow=3.0,SNR=6.0						
ZALV				pPKPbc	**pPKPbc**	**23 17 24.3**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=311,slow=4.0,SNR=7.5						
MKAR	**Makanchi Array**	**152.35**	**48**	PKPbc	**PKPbc**	**23 17 23.3**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=314,slow=1.8,SNR=5.1						
MKAR				pPKPbc	**sPKPbc**	**23 17 31.0**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=317,slow=1.8,SNR=8.6						

HEL 31 23:08:03.2±0.3, 67.17N×20.63E, h0km, ML1.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAJU	**Pajala**	**0.98**	**97**	PG	Pg	23 08 21.0	-1.0
PAJU				SB	Sg	23 08 34.4	-0.4
KLF	**Kolari**	**1.30**	**86**	PG	Pg	23 08 26.8	-1.3
KLF				MSG		23 08 42.6	
	comp=Z,0.7nm,0.2s						
KLF				SG	Sg	23 08 44.0	-0.9
HEF	**Hetta**	**1.69**	**41**	PN	Pn	23 08 33.3	-0.7
	baz=223						
HEF				MSG		23 08 53.7	
	comp=Z,0.6nm,0.2s						
HEF				SN	Sn	23 08 55.4	-1.0
KALU	**Kalix**	**1.71**	**139**	PG	Pn	23 08 34.3	+0.1
	baz=321						
KALU				SG	Sg	23 08 59.3	+1.2
TOF	**Tornio**	**1.84**	**125**	PG	Pn	23 08 36.2	+0.3
TOF				MSG		23 08 58.1	
	comp=Z,0.7nm,0.2s						
TOF				SG	Sb	23 09 01.2	+0.1
KIF	**Kilpisjarvi**	**1.84**	**2**	PG	Pb	23 08 37.3	-0.4
	baz=184						
KIF				MSG		23 08 59.2	
	comp=Z,1.8nm,0.2s						
KTK1	**Kautokeino**	**2.09**	**27**	PG	Pb	23 08 40.9	-1.1
KTK1				SG	Sb	23 09 08.3	-0.2
RNF	**Rovaniemi**	**2.20**	**102**	PG	Pn	23 08 42.0	+1.1
RNF				SG	Sb	23 09 11.4	-0.1
SGF	**Sodankyl**	**2.30**	**80**	PG	Pb	23 08 44.0	-1.6
SGF				SG	Sb	23 09 14.2	-0.3
RANF	**Ranua**	**2.72**	**112**	SG	Sb	23 09 26.1	-0.4
ARA0	**ARCESS Array S**	**2.98**	**35**	PN	Pn	23 08 51.6	-0.1
ARA0				SG	Sb	23 09 33.2	-0.9
KMNF	**Kaamanen**	**3.10**	**47**	SN	Sn	23 09 30.8	-0.1

UPP 31 23:09:00.7±0.1, 67.19N×20.64E, h0km, ML1.9, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**202**	P	Pg	23 09 02.3	+0.2
	baz=25						
DUNU				S	Sg	23 09 03.5	+0.5
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	23 09 11.8	-0.2
RATU	**Laukkuluspa**	**0.75**	**328**	P	Pg	23 09 14.8	-0.3
KUA	**Kurravaara**	**0.78**	**352**	P	Pg	23 09 15.2	-0.3

*IGQ **31** 23:13:21±0.2, 2°S±2°×7°8W±°, h5km*
*NEIC **31** 23:13:21.4±1.3, 1.74S±0.03×77.67W±0.05, h21km±3km, mb5.2/192, Error ellipse: s-maj=7.9km s-min=5.0km az=88.0*
*VAO **31** 23:13:21.2±0.3, 1.81S×77.53W, h10km, mb5.3*
*MOS **31** 23:13:21.6±1.0, 1.65S×77.65W, h33km, mb5.3/27, Error ellipse: s-maj=14.9km s-min=5.6km az=110.3*
*IDC **31** 23:13:23.7±2.4, 1.66S×77.57W, h38km±20km, mb4.7/24, mbtmp4.9/29, ML4.7/4, MS4.1/50, Error ellipse: s-maj=17.5km s-min=9.3km az=59.0*
*GCMT **31** 23:13:23.4±0.3, 1.80S±0.02×77.78W±0.02, h32km, MW4.9/87, Moment Tensor Solution. s42,c45; s87,c105; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr 2.91±.16; M_θθ 0.08±.10; M_φφ -2.99±.12; M_rθ 0.41±.10; M_rφ 1.31±.06; M_θφ -0.28±.12; Best double couple: M_0 3.23500×10^16 NP1: ϕ_s 153.00000°, δ 49.00000°, λ 81.00000°. NP2: ϕ_s 347.00000°, δ 42.00000°, λ 100.00000°. Principal axes: T 2.9700, Plg82.0000°, Azm8.0000°; N 0.5260, Plg7.0000°, Azm159.0000°; P -3.4990, Plg4.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 23:13:19.8±1.0, 1.74S±0.02×77.72W±0.02, h15km±6km, n1087, σ1.21/1132, mb5.2/132, MS4.1/49, 14C-8D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUYO	**Puyo, Santa Ro**	**0.39**	**308**	P	**Pb**	**23 13 29.0**	**+0.5**
PUYO				S	**Sb**	**23 13 34.0**	**-0.4**
TAIS	**Taisha**	**0.68**	**161**	P	**Pn**	**23 13 35.0**	**+0.1**
TAIS				S	**Sn**	**23 13 47.0**	**+1.8**
BULB	**Ulba Tungurahu**	**0.76**	**293**	P	**Pg**	**23 13 34.0**	**-0.6**
BULB				S	**Sg**	**23 13 43.0**	**-1.7**
ARRY	**Arrayan**	**0.77**	**287**	P	**Pg**	**23 13 34.0**	**-1.0**
ARRY				S	**Sg**	**23 13 43.0**	**-2.3**
BMAS	**Trigal station**	**0.80**	**287**	P	**Pb**	**23 13 35.0**	**-0.6**
BMAS				S	**Sg**	**23 13 45.0**	**-1.1**
TUYU	**Q. Yuibug Volc**	**0.80**	**288**	P	**Pb**	**23 13 35.0**	**-0.6**
TUYU				S	**Sg**	**23 13 44.0**	**-2.1**
POND	**Pondoa**	**0.80**	**293**	P	**Pb**	**23 13 35.0**	**-0.6**
POND				S	**Sg**	**23 13 45.0**	**-1.1**
BBIL	**Ulba Tungurahu**	**0.82**	**290**	P	**Pg**	**23 13 35.0**	**-0.9**
PIAT	**Ana Tenorio**	**0.92**	**323**	*e*P	**Pb**	**23 13 37.8**	**+0.1**
PIAT				*e*S	**Sb**	**23 13 49.8**	**0.0**
PIAT	**Ana Tenorio**	**0.92**	**323**	P	**Pn**	**23 13 38.0**	**-0.5**
PIAT				S	**Sg**	**23 13 49.0**	**-0.8**
APSY	**Ecuador-Napo A**	**0.93**	**324**	P	**Pb**	**23 13 38.0**	**+0.1**
PIS1	**Pisayambo**	**0.95**	**315**	P	**Pb**	**23 13 38.0**	**-0.3**
PIS1				S	**Sb**	**23 13 51.0**	**+0.1**
IGUA	**Igualata**	**0.95**	**285**	P	**Pb**	**23 13 38.0**	**-0.4**
TAMH	**Tambohuasha Ch**	**1.08**	**280**	P	**Pb**	**23 13 40.0**	**-0.5**
PORT	**Chimborazo Vol**	**1.09**	**284**	P	**Pg**	**23 13 40.0**	**-1.0**
VCES	**Cotopaxi**	**1.15**	**324**

OTAV eS Sg 23 14 26.3 -1.1
OTAV Otavalo 2.09 339 eP Pb 23 13 57.2 -0.5
CUIC Cuicocha-Domo 2.13 342 P Pg 23 13 59.0 -1.7
CUSE Cuicocha Este 2.14 341 eP Pb 23 13 57.5 -1.0
CUSE eS Sg 23 14 29.7 +0.9
CUSE i 23 14 36.3
comp=Z,7μm,0.3s
BONI La Bonita 2.18 5 eP Pb 23 13 57.6 -1.6
BONI eS Sg 23 14 28.3 -1.9
BONI i 23 14 30.1
comp=Z,23μm,0.5s
URCU Urcuqui 2.23 346 P Pb 23 14 00.0 0.0
AGUAY Guayaquil 2.26 262 P Pn 23 13 58.0 +1.4
PAC1 Pacto, Paraso 2.26 332 eP Pb 23 13 59.5 -1.0
PAC1 eS Sg 23 14 29.9 -2.7
PAC1 i 23 14 38.1
comp=Z,6μm,0.3s
PAC1 Pacto, Paraso 2.26 332 P Pb 23 14 01.0 +0.5
TULM Tulcn-Chalpat 2.44 358 Pb 23 14 02.5 -1.1
TULM Tulcn-Chalpat 2.44 358 eP Pb 23 14 03.0 -0.7
TULM eS Sb 23 14 35.2 +1.5
TULM Tulcn-Chalpat 2.44 358 P Pb 23 14 04.0 +0.3
CMBC Cumbal 2.66 358 eP Pb 23 14 07.4 -0.1
ARNL Arenillas 2.96 232 Pn 23 14 07.5 +1.3
PPLP Puerto Lpez 3.06 274 eP Pn 23 14 08.4 +0.7
PPLP eS Sb 23 14 48.5 -2.9
SALI Salinas 3.30 262 Pn 23 14 12.2 +1.2
CRUC La Cruz 3.37 13 eP Pn 23 14 14.9 +2.7
MCRA Macar, Loja 3.44 220 Pn Pn 23 14 14.7 +1.8
MCRA Macar, Loja 3.44 220 iP Pn 23 14 15.1 +2.2
MCRA eS Sb 23 15 03.9 +1.7
PTLC Puerto Leguiza 3.48 57 eP Pn 23 14 13.1 -0.3
POPC Popayan, Colom 4.37 14 eP Pn 23 14 29.4 +3.5
GARC Garzon, Huila 4.49 30 eP Pn 23 14 28.8 +1.3
GARC eS Sg 23 15 41.3 -2.7
GARC i 23 15 50.0
comp=Z,12μm,0.4s
GR1C Gorgona, Isla 4.73 355 eP Pn 23 14 33.9 +3.3
BETC Betania 4.94 27 eP Pn 23 14 36.5 +2.9
BETC eS Sg 23 16 00.6 +1.9
BETC i 23 16 09.4
comp=Z,2μm,0.4s
JAMC Jamundi, Valle 5.03 12 eP Pn 23 14 40.6 +5.7
ATAH Atahualpa 5.41 187 Pn Pn 23 14 43.4 +3.0
comp=Z,68nm,0.3s,baz=13,slow=7.3,SNR=360
ATAH Sn Sn 23 15 43.5 +0.9
comp=Z,27nm,0.3s,baz=323,slow=20,SNR=14
ATAH Lg Lg 23 16 13.2
comp=Z,34nm,0.3s,baz=326,slow=23,SNR=3.7
comp=Z,658nm,0.6s
MALC Bahia Malaga 5.72 4 eP Pn 23 14 48.5 +4.2
YOTC Yotoco, Valle 5.84 14 eP Pn 23 14 50.5 +4.5
ORTC Ortega, Tolima 6.13 24 eP Pn 23 14 51.8 +1.9
ORTC eS Sg 23 16 33.1 -3.5
ORTC i 23 16 55.8
comp=Z,1μm,0.7s
ANIL Santa Ana 6.60 20 eP Pn 23 15 02.0 +5.3
PLMC San Jos del P 6.75 12 eP Pn 23 15 03.6 +5.2
VILC Villavicencio, 7.06 35 eP Pn 23 15 06.9 +4.1
CVER Cruz Verde, Cu 7.20 30 eP Pn 23 15 12.4 +7.4
GUY2C Guyana, Caldas 7.30 19 eP Pn 23 15 09.6 +3.2
GUY2C eS Sg 23 17 10.5 -3.9
ROSC El Rosal 7.36 27 Pn 23 15 09.4 +2.2
ROSC El Rosal 7.36 27 P Pn 23 15 09.4 +2.2
ROSC El Rosal 7.36 27 Pn Pn 23 15 13.9 +6.7
comp=Z,8.7nm,0.3s,baz=199,slow=6.3,SNR=13
ROSC Lg Lg 23 17 08.1
comp=Z,92nm,0.3s,baz=246,slow=20,SNR=3.6
ROSC LR LR 23 18 23.3
comp=Z,4μm,18.2s,baz=194,slow=41
ROSC El Rosal 7.36 27 eP Pn 23 15 13.8 +6.6
CBOC Ciudad Bolivar 7.74 13 eP Pn 23 15 17.0 +4.8
CZSB Cruzeiro do Su 7.77 140 Pn 23 15 12.1 -0.3
CZSB Cruzeiro do Su 7.77 140 eP Pn 23 15 12.4 0.0
CZSB Cruzeiro do Su 7.77 140 eP Pn 23 15 12.4 0.0
DBBC Dabeiba 8.82 10 eP Pn 23 15 33.5 +6.5
PTAC Punta Ardita, 8.82 359 eP Pn 23 15 29.2 +2.2
PTBC PUERTO BERRIO, 8.84 22 eP Pn 23 15 31.8 +4.6
TAMC Tame, Arauca 10.04 36 eP Pn 23 15 48.6 +4.9
NNA Nana 10.22 175 Pn Pn 23 15 46.0 -0.1
NNA Nana 10.22 175 Pn Pn 23 15 46.7 +0.6
comp=Z,11nm,0.3s,baz=345,slow=11,SNR=25
NNA Sn Sn 23 17 34.0 -6.5
comp=Z,7.0nm,0.3s,baz=358,slow=16,SNR=1.7
NNA LR LR 23 20 04.8
comp=Z,2μm,18.7s,baz=330,slow=39
comp=Z,75nm,0.6s
NNA Nana 10.22 175 eP Pn 23 15 46.5 +0.4
BRU2 Volcan 11.58 335 Pn 23 15 06.4 +1.7
PEZE Perez Zeledon, 12.54 332 Pn Pn 23 16 18.8 +0.9
SDV Santo Domingo 12.70 34 Pn 23 16 20.7 +0.6
SDV Santo Domingo 12.70 34 Pn Pn 23 16 21.3 +1.1
comp=Z,14nm,0.6s,baz=230,slow=11,SNR=16
SDV Lg Lg 23 19 53.7
baz=78,slow=20
SDV LR LR 23 22 08.7
comp=Z,3μm,19.3s,baz=208,slow=42
SDV Santo Domingo 12.70 34 eP Pn 23 16 22.0 +1.8
I20EC Galapagos 12.70 275 I I 00 31 50.0
baz=97,slow=310,SNR=1.2
LCR2 La Lucha 2 13.01 331 Pn Pn 23 16 26.3 +1.9
TEFE Tefe 13.19 98 eP Pn 23 16 25.9 -0.8
HDC Heredia 13.29 331 Pn Pn 23 16 27.7 -0.5
HDC Heredia 13.29 331 eP Pn 23 16 32.9 +4.8
SOCE Pocosol 13.86 330 Pn Pn 23 16 34.2 -1.7
JTS Las Juntas de 13.95 329 Pn 23 16 35.6 -1.6
JTS Las Juntas de 13.95 329 Pn Pn 23 16 38.4 +1.3
comp=Z,1.3nm,0.3s,baz=217,slow=16,SNR=2.0
JTS LR LR 23 21 26.5
comp=Z,1μm,18.6s,baz=130,slow=35
comp=Z,3.7nm,0.4s
ETMB Extrema 13.97 126 Pn 23 16 35.0 -2.4
ETMB Extrema 13.97 126 eP Pn 23 16 34.0 -3.4
BAUV El Baul 14.34 42 Pn Pn 23 16 41.1 -1.3
BAUV El Baul 14.34 42 eP Pn 23 16 41.5 -0.9
ACON Acoyapa 15.50 332 Pn 23 16 58.5 +0.5
SAML Samuel 16.14 117 Pn Pn 23 17 02.4 -3.9
SAML Samuel 16.14 117 P Pn 23 17 02.4 -3.9
SAML pmax pmax
comp=Z,31nm,0.8s
BOAB BOACO BROADBAN 16.15 331 Pn 23 17 07.5 +1.0
MATN Matagalpa 16.69 331 Pn 23 17 12.3 -1.1
MACA Manacapuru-AM 17.07 95 Pn Pn 23 17 16.3 -1.9
MACA Manacapuru-AM 17.07 95 eP Pn 23 17 17.6 -0.6
LPAZ La Paz 17.27 147 Pn 23 17 18.3 -2.9
LPAZ La Paz 17.27 147 P Pn 23 17 18.3 -2.9
PCRV Puerto La Cruz 17.59 47 P P 23 17 26.1 +0.5
comp=Z,1.3nm,0.3s,baz=357,slow=13,SNR=1.7
PCRV LR LR 23 25 00.3
comp=Z,1μm,20.9s,slow=40
comp=Z,10nm,0.7s
BOAV Boa Vista 17.67 77 Pn 23 17 24.4 -1.2
BOAV Boa Vista 17.67 77 eP P 23 17 28.0 +1.5
PB12 IPOC Station P 18.27 157 Pn 23 17 30.7 -2.3
TGUH Tegucigalpa,Un 18.33 329 Pn 23 17 32.2 -1.6
PB16 IPOC Station P 18.36 154 P Pn 23 17 34.2 -0.4
PB11 IPOC Station P 19.57 157 P P 23 17 45.7 -1.9
PB11 IAmb IAmb 23 18 01.3
comp=Z,84nm,0.7s
GO01 Chusmiza 19.68 155 P P 23 17 48.7 -0.3
MTO3 Montecristo 19.75 325 P P 23 17 50.1 +0.6
TA02 Huaiquique 19.86 159 P P 23 17 50.4 0.0
TA02 IAmb IAmb 23 18 00.7
comp=Z,180nm,1.2s
TA01 Diego Aracena 20.11 159 P 23 17 53.2 0.0
TA01 IAmb IAmb 23 18 04.2
comp=Z,101nm,0.8s
PB08 IPOC Station P 20.12 156 P P 23 17 54.3 +0.6
PATCX Punta Patache 20.35 159 P P 23 17 56.3 +0.3
PATCX IAmb IAmb 23 18 01.1
comp=Z,83nm,0.9s
TRN Trinidad (W) 20.37 52 eP Pn 23 17 57.4 -0.8
TRN Trinidad (W) 20.37 52 eS S 23 21 32.3 -12
VILB Vilhena 20.62 124 P P 23 17 58.5 -0.3
VILB IAmb IAmb 23 18 01.4
comp=Z,84nm,0.9s
VILB Vilhena 20.62 124 eP P 23 18 00.0 +1.2
PB01 IPOC Station P 20.80 158 P P 23 18 01.0 +0.2
PB01 IAmb IAmb 23 18 18.1
comp=Z,60nm,0.8s
PAPH Port-au-Prince 20.82 15 P P 23 17 59.6 -1.3
PAPH IAmb IAmb 23 18 05.0
comp=Z,110nm,1.1s

GRFF Grenada Fort F 20.97 49 eP Pn 23 18 07.3 +2.2
GRGR Grenville 21.08 49 eP P 23 18 07.8 +4.0
PB07 IPOC Station P 21.28 160 P P 23 18 06.0 0.0
PB07 IAmb IAmb 23 18 09.3
comp=Z,129nm,0.9s
GCMP Grenada, Carri 21.48 48 eP P 23 18 11.6 +3.6
SDDR Presa de Saban 21.54 17 P P 23 18 08.7 0.0
PB09 IPOC Station P 21.58 158 P P 23 18 09.6 +0.4
PB09 IAmb IAmb 23 18 26.1
comp=Z,99nm,0.8s
SIV San Ignacio 21.67 132 P P 23 18 10.7 +0.6
comp=Z,84nm,0.9s,baz=306,slow=10,SNR=292
SIV Lg Lg 23 24 41.6
comp=Z,0.2nm,0.3s,baz=245,slow=20,SNR=3.5
SIV LR LR 23 27 11.5
comp=Z,1μm,19.5s,baz=320,slow=38
comp=Z,84nm,0.9s
GTBY Guantanamo Bay 21.68 7 P P 23 18 09.6 -0.5
PB04 IPOC Station P 21.76 161 P P 23 18 10.0 -1.2
PB04 IAmb IAmb 23 18 31.7
comp=Z,129nm,1.2s
ITTB Itaituba 22.10 97 eP P 23 18 14.3 -0.6
PCDR Punta Cana, DR 22.12 24 P P 23 18 16.3 +1.5
PB05 IPOC Station P 22.22 161 P P 23 18 15.4 -0.7
PB05 IAmb IAmb 23 18 32.3
comp=Z,73nm,0.9s
MLPR Magueyes Islan 22.22 28 P P 23 18 15.8 -0.2
MLPR IAmb IAmb 23 18 20.1
comp=Z,98nm,1.0s
CRPR Cabo Rojo, PR 22.23 28 P P 23 18 15.3 -0.7
PB06 IPOC Station P 22.30 160 P P 23 18 16.6 -0.4
PB06 IAmb IAmb 23 18 34.7
comp=Z,60nm,0.8s
LVC Limon Verde 22.44 158 P P 23 18 18.2 -0.5
LVC IAmb IAmb 23 18 35.6
comp=Z,93nm,0.9s
LVC Limon Verde 22.44 158 P P 23 18 18.3 -0.5
LVC pmax pmax
comp=Z,93nm,1.0s
LVC Limon Verde 22.44 158 LR LR 23 28 45.0
comp=Z,585nm,20.9s,baz=329,slow=41
OBIP Obispado Ponce 22.49 29 P P 23 18 18.9 0.0
AOPR Arecibo Observ 22.69 28 P P 23 18 20.8 -0.2
BBSD Serra de San D 22.77 133 eP P 23 18 22.5 +0.5
SJG San Juan 22.77 30 LR LR 23 28 42.0
comp=Z,1μm,18.4s,baz=206,slow=41
PTLB Pontes e Lacer 22.84 128 P P 23 18 22.0 -0.6
PTLB Pontes e Lacer 22.84 128 eP P 23 18 23.0 +0.4
NPGB Novo Progresso 22.90 104 eP P 23 18 23.9 +0.5
HUMP Col San Antoni 22.95 30 P P 23 18 24.0 +0.3
HUMP IAmb IAmb 23 18 26.9
comp=Z,102nm,0.8s
GCPR Guaynabo City 22.98 29 P P 23 18 24.0 0.0
AF01 San Pedro de A 23.03 157 P P 23 18 24.1 -0.7
MPOM Morne Pois Mar 23.18 46 P P 23 18 25.2 -0.9
MPOM IAmb IAmb 23 18 32.6
comp=Z,73nm,1.0s
MALB Monte Alegre 23.44 91 eP P 23 18 30.0 +1.3
CLDB Colider 23.58 114 eP P 23 18 30.9 +0.8
CBE Ff, Capester 23.80 41 P P 23 18 31.8 -0.5
PB14 IPOC Station P 23.83 163 P P 23 18 32.1 -0.7
BBRB Robore, Bolivi 24.06 134 eP P 23 18 35.2 +0.5
TEIG Tepich 24.16 335 P P 23 18 36.0 +0.4
TEIG Tepich 24.16 335 LR LR 23 27 55.1
comp=Z,4μm,18.4s,baz=304,slow=36
SMRT St. Maarten 24.38 36 P P 23 18 36.7 -0.9
SMRT IAmb IAmb 23 18 39.2
comp=Z,87nm,0.7s
GO02 Mina Guanaco 24.57 162 P P 23 18 38.9 -0.8
GO02 IAmb IAmb 23 19 06.4
comp=Z,144nm,1.4s
CAMR Camarioca 24.90 352 P P 23 18 43.1 +0.8
CAMR IAmb IAmb 23 18 46.9
comp=Z,291nm,0.8s
AC01 Pan de Azucar 25.22 165 P P 23 18 44.6 -0.6
CMIG Matias Romero 25.23 319 P P 23 18 46.7 +1.4
comp=Z,15nm,0.8s,baz=126,slow=8.1,SNR=11
CMIG LR LR 23 27 18.7
comp=Z,338nm,19.7s,baz=147,slow=33
comp=Z,15nm,0.8s
MCPB Macapa, AP 25.69 87 eP P 23 18 50.2 +0.6
SALV Santo Antonio 25.87 124 eP P 23 18 51.8 +0.6
MDP Montagnes des 25.95 75 LR LR 23 29 31.4
comp=Z,2μm,18.3s,baz=258,slow=38
PP1B Ponte de Pedra 27.42 127 eP P 23 19 06.2 +1.0
BDQN Bodoquena, MS 27.66 134 eP P 23 19 08.1 +0.8
AC05 El Transito 27.87 166 P P 23 19 09.0 -0.2
AC05 IAmb IAmb 23 19 36.0
comp=Z,30nm,0.7s
SNDB Serra Nova Dou 28.10 112 eP P 23 19 12.1 +0.8
RVDE Rio Verde (Bra 28.16 129 eP P 23 19 12.7 +0.8
AQDB Aquidauana 28.44 132 P P 23 19 13.4 -0.9
AQDB IAmb IAmb 23 19 16.4
comp=Z,94nm,1.1s
AQDB Aquidauana 28.44 132 eP P 23 19 15.5 +1.2
ANTJ Antonio Joao (29.19 135 eP P 23 19 21.4 +0.5
ESFA Espinillo Form 29.62 143 eP P 23 19 26.4 +1.8
TICA Tres Isletas 29.64 147 eP P 23 19 27.5 +2.6
CO03 El Pedregal 29.70 168 P P 23 19 25.6 +0.2
CO03 IAmb IAmb 23 19 28.2
comp=Z,51nm,1.3s
DWPF Disney Wildern 29.89 353 P P 23 19 28.7 +1.7
baz=172
RPRD Ribas do Rio P 29.95 130 eP P 23 19 29.3 +1.6
656A Willston 31.27 352 P P 23 19 40.2 +1.0
656A Willston 31.27 352 P P 23 19 41.0 +1.9
baz=171,SNR=5.6
CPUP Villa Florida 31.34 143 P P 23 19 39.0 -0.8
CPUP IAmb IAmb 23 19 41.1
comp=Z,59nm,1.9s
CPUP Villa Florida 31.34 143 P P 23 19 39.7 -0.2
comp=Z,7.3nm,0.9s,baz=333,slow=9.3,SNR=10
CPUP LR LR 23 34 18.8
comp=Z,422nm,21.0s,baz=328,slow=40
comp=Z,7.3nm,0.9s
CPUP Villa Florida 31.34 143 eP P 23 19 40.0 +0.1
TRCB Terra Rica 32.11 133 P P 23 19 46.5 -0.3
TRCB IAmb IAmb 23 19 47.7
comp=Z,53nm,1.0s
MCR1 Marechal Candi 32.16 137 eP P 23 19 46.9 -0.2
ITRB Iturama 32.17 126 eP P 23 19 47.9 +0.6
BDFB Brasilia 32.38 117 P P 23 19 49.0 -0.3
BDFB IAmb IAmb 23 19 57.8
comp=Z,23nm,0.7s
BDFB Brasilia 32.38 117 P P 23 19 49.8 +0.5
comp=Z,25nm,1.0s,baz=288,slow=9.5,SNR=18
BDFB Lg Lg 23 30 14.3
comp=Z,0.3nm,0.3s,baz=311,slow=19,SNR=1.2
BDFB LR LR 23 33 47.6
comp=Z,1μm,18.5s,baz=307,slow=38
comp=Z,25nm,1.0s
PCMB Pacaembu 32.46 129 eP P 23 19 49.9 +0.1
MT13 San Alfonso 32.59 168 P P 23 19 51.1 +0.2
MT13 IAmb IAmb 23 19 54.5
comp=Z,25nm,0.8s
LMEL Las Melosas 32.71 168 P P 23 19 51.9 -0.1
LMEL IAmb IAmb 23 19 55.3
comp=Z,22nm,0.8s
BO04 La Punta 32.77 169 P P 23 19 52.4 0.0
BO04 IAmb IAmb 23 19 55.1
comp=Z,22nm,0.9s
IPMB Ipameri, GO 33.16 121 eP P 23 19 56.4 +0.4
TIGA Tifton 33.46 351 P P 23 19 59.6 +1.2
baz=169
TIGA Tifton 33.46 351 P P 23 20 00.1 +1.7
baz=169
LDASE Londrina, Braz 33.59 132 eP P 23 19 59.2 -0.5
PTGB Pitanga 33.70 135 eP P 23 20 00.4 -0.3
255A Hazlehurst 33.78 353 P P 23 20 03.5 +2.4
baz=171
FRBT Francisco Belt 33.82 138 eP P 23 20 01.6 0.0
BRAL Brewton 33.91 346 P P 23 20 03.5 +1.2
baz=163
SDBA SAO DESIDERIO 34.20 110 eP P 23 20 05.3 +0.2
CRSM Crissiumal (Br 34.20 141 eP P 23 20 04.7 -0.3
ITQB Itaqui 34.26 146 P P 23 20 05.2 -0.3
ITQB IAmb IAmb 23 20 07.3
comp=Z,22nm,1.0s
ITQB Itaqui 34.26 146 eP P 23 20 05.1 -0.3
BB19B Bebedouro 34.33 126 eP P 23 20 06.1 -0.1
ZAIG Zacatecas 34.35 317 P P 23 20 07.5 +0.9
250A Grady 34.50 347 P P 23 20 08.2 +0.8
baz=165,SNR=5.6
154A Montrose 34.54 352 P P 23 20 07.8 0.0

154A Montrose 34.54 352 P P 23 20 08.9 +1.2
baz=170,SNR=5.4
UNIS Unistalda (Bra 34.70 144 eP P 23 20 09.4 +0.2
FRTB Fartura 34.73 130 eP P 23 20 09.8 +0.3
NHSC New Hope 34.73 356 P P 23 20 09.4 0.0
NHSC New Hope 34.73 356 P P 23 20 11.3 +2.0
baz=176,SNR=5.4
NHSC New Hope 34.73 356 P P 23 20 11.4 +2.0
baz=176,SNR=5.4
152A Waverly Hall 34.85 350 P P 23 20 11.4 +0.9
baz=168,SNR=9.3
PMNB Patos De Minas 34.91 121 eP P 23 20 11.5 +0.1
HAW Hawthorne Fire 35.10 354 P P 23 20 14.1 +1.5
baz=173,SNR=15
ITAB Concordia 35.27 138 P P 23 20 13.9 -0.3
ITAB Concordia 35.27 138 eP P 23 20 14.3 +0.1
GOGA Godfrey 35.38 352 P P 23 20 15.4 +0.4
GOGA IAmb IAmb 23 20 16.9
comp=Z,25nm,0.8s
GOGA Godfrey 35.38 352 P P 23 20 15.5 +0.6
baz=170,SNR=8.4
GOGA Godfrey 35.38 352 P P 23 20 15.8 +0.8
baz=170,SNR=8.4
GOGA Godfrey 35.38 352 P P 23 20 15.4 +0.4
GOGA pmax pmax
comp=Z,25nm,0.8s
JANB Januaria 35.52 114 eP P 23 20 15.9 -0.6
Z51A Franklin 35.57 349 P P 23 20 17.9 +1.2
baz=167
RODS Rosario do Sul 35.58 145 eP P 23 20 16.7 -0.1
LRAL Lakeview Retre 35.68 347 P P 23 20 17.6 0.0
LRAL IAmb IAmb 23 20 19.2
comp=Z,35nm,0.9s
LRAL Lakeview Retre 35.68 347 P P 23 20 18.1 +0.5
baz=164,SNR=12
LRAL Lakeview Retre 35.68 347 P P 23 20 18.1 +0.5
baz=164,SNR=12
ALGR Alto Alegre (B 35.76 141 eP P 23 20 17.9 -0.5
RCLB Rio Claro- Sao 35.82 127 eP P 23 20 19.6 +0.6
Y52A Lilburn 35.91 351 P P 23 20 20.1 +0.6
baz=169
Y52A P P 23 20 20.1 +0.6
baz=169
JSC Jenkinsville 35.98 355 P P 23 20 21.4 +1.3
baz=174,SNR=5.7
HODGE Hodges 36.03 354 P P 23 20 21.6 +1.0
baz=172,SNR=7.4
Z47A Carrollton 36.10 345 P P 23 20 20.8 -0.3
Z47A IAmb IAmb 23 20 22.5
comp=Z,46nm,0.8s
Z47A Carrollton 36.10 345 P P 23 20 21.4 +0.2
baz=162,SNR=7.4
BIRD Birdtown, Kers 36.28 356 P P 23 20 24.3 +1.6
baz=175,SNR=6.7
Y49A Blount Mountai 36.34 348 P P 23 20 23.7 +0.5
baz=165,SNR=8.9
833A Chaparral WMA, 36.42 327 P P 23 20 24.1 +0.1
833A IAmb IAmb 23 20 27.6
comp=Z,55nm,1.5s
833A Chaparral WMA, 36.42 327 P P 23 20 25.6 +1.6
baz=142
SPB Sao Paulo 36.50 129 P P 23 20 23.9 -0.9
SPB IAmb IAmb 23 20 25.2
comp=Z,25nm,1.0s
SPB Sao Paulo 36.50 129 eP P 23 20 24.8 0.0
PAULI Pauline 36.57 354 P P 23 20 26.0 +0.8
PAULI IAmb IAmb 23 20 27.6
comp=Z,28nm,0.9s
PAULI Pauline 36.57 354 P P 23 20 26.4 +1.2
baz=173,SNR=7.6
CPSB Capacava Do Su 36.65 143 eP P 23 20 25.6 -0.3
X51A Calhoun 36.73 350 P P 23 20 27.3 +0.7
baz=168,SNR=5.6
X51A P P 23 20 27.3 +0.7
baz=168,SNR=5.6
W57A Gilead 36.76 357 P P 23 20 27.1 +0.3
W57A IAmb IAmb 23 20 29.1
comp=Z,24nm,0.8s
W57A Gilead 36.76 357 P P 23 20 28.0 +1.3
baz=176,SNR=6.8
W57A P P 23 20 28.0 +1.3
baz=176,SNR=6.8
FPAL Fort Paine 36.84 349 P P 23 20 27.2 -0.4
FPAL IAmb IAmb 23 20 36.2
comp=Z,30nm,1.0s
KMSC Kings Mountain 36.84 355 P P 23 20 28.0 +0.5
KMSC IAmb IAmb 23 20 29.9
comp=Z,31nm,0.9s
KMSC Kings Mountain 36.84 355 P P 23 20 28.7 +1.2
baz=174,SNR=7.2
KMSC Kings Mountain 36.84 355 P P 23 20 27.9 +0.5
baz=174,SNR=7.2
CASEE Lake Jocassee 36.86 353 P P 23 20 29.0 +1.3
baz=171,SNR=12
PET01 Itanhaem-SP 37.00 130 eP P 23 20 29.3 +0.3
X48A Hartselle 37.05 347 P P 23 20 29.2 0.0
baz=164,SNR=5.5
Y45A Yeager Farm, C 37.12 344 P P 23 20 30.7 +0.8
baz=160,SNR=8.8
DIAM Diamantina, MG 37.22 118 eP P 23 20 31.3 +0.1
HNDO Hondo 37.31 328 P P 23 20 31.4 -0.2
HNDO IAmb IAmb 23 20 41.7
comp=Z,27nm,0.8s
V58A Windy Hill, Pi 37.36 358 P P 23 20 33.2 +1.3
baz=178,SNR=11
V58A P P 23 20 33.2 +1.3
baz=178,SNR=11
BSCB Bom Sucesso 37.39 123 eP P 23 20 33.3 +0.8
W50A Signal Mountai 37.43 350 P P 23 20 33.0 +0.5
baz=167,SNR=8.5
CNLB Canela 37.49 140 eP P 23 20 33.7 +0.5
V53A Saluda 37.52 353 P P 23 20 34.0 +0.7
baz=172,SNR=5.9
V53A P P 23 20 34.0 +0.7
baz=172,SNR=5.9
V55A Taylorsville 37.54 355 P P 23 20 34.7 +1.3
baz=174
V55A P P 23 20 34.7 +1.3
baz=174
CPCT Cooper Cave 37.54 351 P P 23 20 33.4 0.0
CPCT IAmb IAmb 23 20 35.3
comp=Z,28nm,0.8s
PLTB Pedras Altas 37.54 145 P P 23 20 32.6 -1.0
PLTB Pedras Altas 37.54 145 eP P 23 20 33.7 +0.2
TKL Tuckaleechee C 37.63 352 P P 23 20 34.3 +0.1
TKL Tuckaleechee C 37.63 352 P P 23 20 34.5 +0.3
comp=Z,6.7nm,0.9s,baz=168,slow=12,SNR=6.6
comp=Z,6.7nm,0.9s
OXF Oxford 37.69 344 P P 23 20 35.2 +0.5
baz=161
OXF Oxford 37.69 344 P P 23 20 34.7 0.0
OXF pmax pmax
comp=Z,33nm,1.0s
V52A Sevierville 37.78 352 P P 23 20 36.3 +0.8
baz=170,SNR=6.8
PLAL Pickwick Lake 37.80 346 P P 23 20 35.0 -0.6
PLAL IAmb IAmb 23 20 36.4
comp=Z,34nm,1.2s
PARB Paraibuna 37.80 127 eP P 23 20 36.1 +0.3
V51A Loudon 37.86 351 P P 23 20 36.6 +0.5
baz=169,SNR=9.0
U59A Littleton 37.89 360 P P 23 20 38.1 +1.8
baz=180,SNR=7.5
U59A P P 23 20 38.1 +1.8
baz=180,SNR=7.5
U56A King 37.97 356 P P 23 20 39.1 +2.1
baz=176,SNR=9.6
U56A P P 23 20 39.1 +2.1
baz=176,SNR=9.6
WLAR White Oak Lake 38.10 339 P P 23 20 38.3 +0.1
WLAR IAmb IAmb 23 20 40.0
comp=Z,85nm,1.3s
V48A Smith Brothers 38.24 348 P P 23 20 39.8 +0.4
baz=165,SNR=22
JCT Junction City 38.34 328 P P 23 20 41.0 +0.7
JCT IAmb IAmb 23 20 43.3
comp=Z,38nm,1.1s
JCT Junction City 38.34 328 P P 23 20 41.9 +1.6
baz=143,SNR=6.9
JCT Junction City 38.34 328 P P 23 20 42.4 +2.1
baz=143,SNR=6.9
JCT Junction City 38.34 328 P P 23 20 41.0 +0.7
JCT pmax pmax
comp=Z,38nm,1.2s
WHTX Lake Whitney, 38.41 332 P P 23 20 41.7 +0.9
baz=147

TZTN **Tazewell** 38.47 352 P P 23 20 41.0 -0.2
TZTN **Tazewell** 38.47 352 P P 23 20 41.9 +0.6
baz=171,SNR=8.3
TZTN **Tazewell** 38.47 352 P P 23 20 41.8 +0.6
baz=171,SNR=8.3
T59A **Double "B" Far** 38.51 0 P P 23 20 42.8 +1.3
baz=180,SNR=17
T59A P P 23 20 42.8 +1.3
baz=180,SNR=17
T57A **Hurt** 38.56 358 P P 23 20 43.2 +1.2
baz=178,SNR=14
T57A P P 23 20 43.2 +1.2
baz=178,SNR=14
U49A **Red Boiling Sp** 38.79 350 P P 23 20 43.5 -0.4
baz=167,SNR=5.9
BLA **Blacksburg** 38.83 357 P P 23 20 44.7 +0.3
BLA IAmb IAmb 23 20 47.2
comp=Z,79nm,1.4s
BLA **Blacksburg** 38.83 357 P P 23 20 45.9 +1.6
baz=176,SNR=7.2
BLA **Blacksburg** 38.83 357 P P 23 20 45.4 +1.1
baz=176,SNR=7.2
BLA **Blacksburg** 38.83 357 P P 23 20 44.7 +0.3
BLA pmax pmax
comp=Z,79nm,1.4s
WVT **Waverly** 38.84 347 P P 23 20 43.2 -1.1
WVT **Waverly** 38.84 347 P P 23 20 43.5 -0.8
baz=164
WVT **Waverly** 38.84 347 P P 23 20 43.7 -0.7
baz=164,SNR=9.9
WVT **Waverly** 38.84 347 P P 23 20 43.2 -1.1
WVT pmax pmax
comp=Z,11nm,0.7s
TRQA **Tornquist** 38.93 160 P P 23 20 44.3 -0.8
TRQA **Tornquist** 38.93 160 P P 23 20 44.3 -0.8
TRQA pmax pmax
comp=Z,21nm,1.2s
VAS01 **Vassouras-RJ** 39.07 124 eP P 23 20 47.5 +0.9
HPIG 39.22 319 P P 23 20 47.8 -0.2
S57A **Dark Hollow, R** 39.31 358 P P 23 20 49.7 +1.4
baz=178,SNR=14
S57A P P 23 20 49.7 +1.4
baz=178,SNR=14
PLCA **Paso Flores** 39.36 171 P P 23 20 49.1 +0.3
PLCA **Paso Flores** 39.36 171 P P 23 20 49.9 +1.1
comp=Z,15nm,0.9s,baz=343,slow=9.9,SNR=28
PLCA PcP PcP 23 22 57.8 +0.6
comp=Z,4.6nm,1.1s,baz=328,slow=7.8,SNR=3.6
comp=Z,15nm,0.9s
PLCA **Paso Flores** 39.36 171 eP P 23 20 50.3 +1.6
RPN **Rapa Nui** 39.44 227 LR LR 23 32 56.6
comp=Z,593nm,19.2s,baz=84,slow=30
S54A **Dingess, Beckl** 39.48 356 P P 23 20 50.9 +1.1
baz=174
S54A P P 23 20 50.9 +1.1
baz=174
R58B **Mineral** 39.50 360 P P 23 20 51.8 +1.9
baz=180,SNR=7.5
R58B P P 23 20 51.8 +1.9
baz=180,SNR=7.5
T47A **Sharon Grove** 39.50 348 P P 23 20 49.9 0.0
baz=165,SNR=11
S51A **Beattyville** 39.55 353 P P 23 20 51.1 +0.8
baz=171,SNR=7.9
S51A P P 23 20 51.1 +0.8
baz=171,SNR=7.9
SJMB **Sao Joao De Ma** 39.57 118 eP P 23 20 50.7 0.0
TXAR **Lajitas Array** 39.64 323 P P 23 20 52.1 +0.8
TXAR **Lajitas Array** 39.64 323 P P 23 20 53.0 +1.7
comp=Z,6.2nm,0.9s,baz=144,slow=8.6,SNR=34
TXAR PcP PcP 23 22 58.4 +0.2
comp=Z,5.3nm,0.8s,baz=148,slow=6.7,SNR=12
TXAR LR LR 23 39 22.4
comp=Z,48nm,18.7s,baz=128,slow=39
comp=Z,6.2nm,0.9s
TX31 **Lajitas Ar. Si** 39.64 323 P P 23 20 51.9 +0.7
TX31 **Lajitas Ar. Si** 39.64 323 P P 23 20 52.9 +1.7
baz=137,SNR=11
LCAR **Lake Charles** 39.65 343 P P 23 20 50.4 -0.6
baz=159,SNR=19
CBN **Corbin Frederi** 39.74 0 P P 23 20 53.6 +1.7
baz=180
DUB01 **Friburgo-RJ** 39.87 123 eP P 23 20 54.0 +0.7
R55A **Marlinton** 39.88 357 P P 23 20 55.1 +2.0
baz=176
R55A P P 23 20 55.1 +2.0
baz=176
ABTX **Abilene, Hawle** 39.98 331 P P 23 20 55.3 +1.4
baz=145,SNR=9.1
ABTX **Abilene, Hawle** 39.98 331 P P 23 20 55.3 +1.4
baz=145,SNR=9.1
LOOK **Love County** 39.98 334 P 23 20 53.6 -0.4
PBMO **Poplar Bluff** 40.10 344 P P 23 20 54.2 -0.6
baz=160,SNR=9.8
GUA01 **Guaratinga, BA** 40.11 114 eP P 23 20 56.8 +1.5
SLBS **Sierra La Lagu** 40.26 311 P P 23 20 57.1 +0.6
R50A **Paris** 40.28 352 P P 23 20 55.9 -0.4
baz=170,SNR=6.7
R50A P P 23 20 55.9 -0.4
baz=170,SNR=6.7
R49A **Shelbyville** 40.42 351 P P 23 20 57.0 -0.5
baz=168,SNR=5.8
R49A P P 23 20 57.0 -0.5
baz=168,SNR=5.8
U40A **Yellville** 40.44 341 P P 23 20 57.4 -0.3
baz=156,SNR=29
U40A P P 23 20 57.4 -0.3
baz=156,SNR=29
RIB01 **Linhares ES** 40.48 118 eP P 23 20 58.4 +0.1
SSFO **Shawnee State** 40.55 353 P P 23 20 58.6 0.0
WCI **Wyandotte Cave** 40.55 350 P P 23 20 58.2 -0.4
WCI **Wyandotte Cave** 40.55 350 P P 23 20 58.1 -0.5
baz=167
WCI **Wyandotte Cave** 40.55 350 P P 23 20 58.0 -0.5
baz=167,SNR=7.5
WCI **Wyandotte Cave** 40.55 350 P P 23 20 58.2 -0.4
WCI pmax pmax
comp=Z,26nm,1.0s
Q54A **Coxs Mills** 40.62 356 P P 23 21 00.0 +0.8
baz=175,SNR=7.1
Q54A P P 23 21 00.0 +0.8
baz=175,SNR=7.1
S44A **Carbondale** 40.66 346 P P 23 20 58.7 -0.8
baz=162,SNR=13
ALF01 **Guarapari-ES** 40.68 120 eP P 23 21 00.0 +0.1
Q52A **Bidwell** 40.72 355 P P 23 21 00.1 +0.2
baz=173,SNR=10.0
Q52A P P 23 21 00.1 +0.2
baz=173,SNR=10.0
LL01 **San Ignacio de** 40.74 174 P P 23 20 59.7 -0.4
LPIG **La Paz** 40.77 311 LR LR 23 34 24.9
comp=Z,110nm,21.4s,baz=140,slow=31
SDMD **Soldier's Deli** 40.95 1 P P 23 21 02.5 +0.6
U38A **Gravette** 41.03 339 P P 23 21 02.6 0.0
baz=154,SNR=9.7
TUL3 **Leonard** 41.08 337 P P 23 21 03.1 +0.2
baz=152
P53A **Whipple** 41.16 356 P P 23 21 04.7 +1.1
baz=174,SNR=11
P53A P P 23 21 04.7 +1.1
baz=174,SNR=11
FVM **French Village** 41.23 345 P P 23 21 03.5 -0.7
baz=160,SNR=22
MCWV **Mont Chateau** 41.24 358 P P 23 21 05.5 +1.2
baz=177
WMOK **Wichita Mounta** 41.31 333 P 23 21 04.3 -0.7
WMOK **Wichita Mounta** 41.31 333 P P 23 21 05.5 +0.5
baz=147,SNR=24
WMOK **Wichita Mounta** 41.31 333 P P 23 21 05.8 +0.9
baz=147,SNR=24
WMOK **Wichita Mounta** 41.31 333 P P 23 21 04.3 -0.7
WMOK pmax pmax
comp=Z,30nm,1.1s
P52A **Corning** 41.37 355 P P 23 21 05.7 +0.4
baz=173,SNR=11
OLIL **Olney** 41.39 348 P P 23 21 05.0 -0.5
baz=164,SNR=6.1
CCM **Cathedral Cave** 41.52 344 P P 23 21 05.5 -1.1
CCM **Cathedral Cave** 41.52 344 P P 23 21 05.8 -0.8
baz=159
CCM **Cathedral Cave** 41.52 344 P P 23 21 05.6 -1.0
baz=159,SNR=16
CCM **Cathedral Cave** 41.52 344 P P 23 21 05.5 -1.1
CCM pmax pmax
comp=Z,22nm,0.9s
ABR01 **Abrolhos, BA** 41.55 115 eP P 23 21 08.5 +1.4
P49A **Miami Univ. Ec** 41.57 352 P P 23 21 06.4 -0.5
baz=169
P48A **Milroy** 41.60 351 P P 23 21 06.5 -0.7
baz=168,SNR=5.1
P48A P P 23 21 06.5 -0.7
baz=168,SNR=5.1
LL02 **Futaleuf** 41.61 174 P P 23 21 07.4 +0.1
Q44A **Meyer Farm, Va** 41.76 347 P P 23 21 07.7 -0.8
baz=163,SNR=8.7
TUPA **Temple Univers** 41.77 3 P P 23 21 10.4 +1.9
baz=184,SNR=6.8
O54A **Avella** 41.79 357 P P 23 21 09.5 +0.7
baz=176,SNR=7.9
O54A P P 23 21 09.5 +0.7
baz=176,SNR=7.9
S39A **Bolivar** 41.81 341 P P 23 21 08.3 -0.7
baz=156,SNR=12
O52A **Adamsville** 41.82 355 P P 23 21 09.8 +0.8
baz=174,SNR=9.2
O52A P P 23 21 09.8 +0.8
baz=174,SNR=9.2
O53A **New Philadelph** 41.91 356 P P 23 21 10.4 +0.6
baz=175,SNR=9.7
RCBR **Riachuelo** 41.91 97 LR LR 23 39 57.7
comp=Z,2µm,18.2s,baz=272,slow=38
RCBR **Riachuelo** 41.91 97 eP P 23 21 09.7 -0.5
PANJ **Princeton** 42.00 3 P P 23 21 12.3 +1.9
baz=184,SNR=10
R40A **Maddies Statio** 42.03 343 P P 23 21 10.1 -0.7
baz=158,SNR=8.4
ACSO **Alum Creek Sta** 42.04 354 P P 23 21 10.5 -0.3
ACSO IAmb IAmb 23 21 12.1
comp=Z,31nm,0.8s
ACSO **Alum Creek Sta** 42.04 354 P P 23 21 11.1 +0.3
baz=172,SNR=9.2
ACSO **Alum Creek Sta** 42.04 354 P P 23 21 11.2 +0.3
baz=172,SNR=9.2
SSPA **Standing Stone** 42.17 360 P P 23 21 12.6 +0.7
SSPA IAmb IAmb 23 21 14.7
comp=Z,64nm,1.2s
SSPA **Standing Stone** 42.17 360 P P 23 21 13.6 +1.8
baz=180
SSPA **Standing Stone** 42.17 360 P P 23 21 13.6 +1.8
baz=180,SNR=12
O48B **Farmland** 42.34 352 P P 23 21 12.7 -0.5
baz=169,SNR=8.0
O48B **Farmland** 42.34 352 P P 23 21 13.0 -0.3
baz=169,SNR=8.0
MNTX **Cornudas Mount** 42.37 324 P P 23 21 14.9 +1.3
baz=137,SNR=18
MNTX **Cornudas Mount** 42.37 324 P P 23 21 14.6 +0.9
baz=137,SNR=18
N58A **Sunbury** 42.38 1 P P 23 21 15.0 +1.4
baz=181,SNR=6.7
N58A P P 23 21 15.0 +1.4
baz=181,SNR=6.7
N53A **Lisbon** 42.44 356 P P 23 21 14.5 +0.5
baz=175,SNR=6.4
N53A P P 23 21 14.5 +0.5
baz=175,SNR=6.4
PAMR **Moraine State** 42.53 357 P P 23 21 15.9 +1.1
baz=176
P43A **Skaggs, Pawnee** 42.58 346 P P 23 21 14.7 -0.5
baz=162,SNR=7.8
MSTX **Muleshoe** 42.63 329 P P 23 21 17.3 +1.4
baz=141,SNR=32
MSTX **Muleshoe** 42.63 329 P P 23 21 17.1 +1.2
baz=141,SNR=32
N51A **Ashland** 42.66 355 P P 23 21 16.1 +0.2
baz=173
N51A P P 23 21 16.1 +0.2
baz=173
PSDB **Penn State Uni** 42.67 359 P P 23 21 18.4 +2.4
baz=178
PAL **Palisades** 42.68 4 P P 23 21 17.3 +1.3
baz=186
PAL **Palisades** 42.68 4 P P 23 21 17.7 +1.7
baz=186
KAN13 **South Haven SW** 42.70 336 P P 23 21 16.1 -0.2
KAN13 IAmb IAmb 23 21 18.8
comp=Z,55nm,1.3s
ODNJ **Ogdensburg** 42.71 3 P P 23 21 17.7 +1.5
baz=184
SFIN **Lafayette** 42.78 349 P P 23 21 15.5 -1.3
baz=166
SFIN **Lafayette** 42.78 349 P P 23 21 15.8 -1.1
baz=166
U32A **Winter Ranch,** 42.79 334 P P 23 21 18.4 +1.4
baz=148
AMTX **Amarillo** 42.80 331 P P 23 21 18.4 +1.2
baz=143
AMTX **Amarillo** 42.80 331 P P 23 21 18.4 +1.2
baz=143,SNR=17
N49A **Columbus Grove** 42.86 353 P P 23 21 17.2 -0.3
baz=170,SNR=6.0
N49A P P 23 21 17.2 -0.3
baz=170,SNR=6.0
M57A **Sunshine Farm,** 42.87 1 P P 23 21 19.5 +1.9
baz=181,SNR=10
M57A P P 23 21 19.5 +1.9
baz=181,SNR=10
M55A **Ridgway** 43.01 359 P P 23 21 19.7 +0.9
baz=178,SNR=7.4
M55A P P 23 21 19.7 +0.9
baz=178,SNR=7.4
N47A **Urbana** 43.03 351 P P 23 21 18.3 -0.6
baz=168,SNR=5.9
N47A P P 23 21 18.3 -0.6
baz=168,SNR=5.9
M53A **WI Miller and** 43.06 357 P P 23 21 19.7 +0.6
baz=176
BRNY **Black Rk. Fore** 43.08 4 P P 23 21 21.0 +1.7
baz=185
PAOC **Oil Creek Stat** 43.09 358 P P 23 21 20.7 +1.4
baz=177
KSPA **Keystone Colle** 43.13 2 P P 23 21 21.5 +1.9
baz=183,SNR=11
M50A **Fremont** 43.21 354 P P 23 21 20.6 +0.3
baz=172,SNR=7.3
M50A P P 23 21 20.6 +0.3
baz=172,SNR=7.3
ALLY **Alegheny Colle** 43.24 357 P P 23 21 21.5 +1.0
baz=176
M63A **Gales Ferry** 43.25 6 P P 23 21 22.4 +1.9
baz=188,SNR=6.2
M63A P P 23 21 22.4 +1.9
baz=188,SNR=6.2
HDIL **Hopedale** 43.40 347 P P 23 21 20.8 -1.1
HDIL **Hopedale** 43.40 347 P P 23 21 20.6 -1.2
baz=163,SNR=9.9
HDIL **Hopedale** 43.40 347 P P 23 21 20.6 -1.2
baz=163,SNR=9.9
P38A **Dawn** 43.64 342 P P 23 21 22.9 -0.9
baz=157,SNR=6.0
L56A **Greenwood** 43.67 0 P P 23 21 25.5 +1.5
baz=180,SNR=9.4
L56A P P 23 21 25.5 +1.5
baz=180,SNR=9.4
ERPA **Erie** 43.70 358 P P 23 21 24.2 0.0
ERPA IAmb IAmb 23 21 26.0
comp=Z,73nm,1.0s
ERPA **Erie** 43.70 358 P P 23 21 25.0 +0.8
baz=177,SNR=6.7
ERPA **Erie** 43.70 358 P P 23 21 24.8 +0.6
baz=177,SNR=6.7
BINY **Binghamton** 43.76 2 P P 23 21 26.7 +1.9
baz=182,SNR=11
BINY **Binghamton** 43.76 2 P P 23 21 26.4 +1.7
baz=182,SNR=11
L59A **Walton** 43.79 3 P P 23 21 26.8 +1.7
baz=184,SNR=6.6
L59A P P 23 21 26.8 +1.7
baz=184,SNR=6.6
COYC **Coyhaique** 43.94 174 P P 23 21 26.1 0.0
WVNY **West Valley, N** 43.95 359 P P 23 21 27.4 +1.2
baz=179,SNR=8.3
HSIG 44.13 316 P P 23 21 27.3 -0.6
KSU1 **Kansas State U** 44.20 339 P P 23 21 28.3 0.0
baz=152,SNR=7.2
KSU1 **Kansas State U** 44.20 339 P P 23 21 28.3 0.0
baz=152,SNR=7.2
L61B **Northampton** 44.22 5 P P 23 21 29.8 +1.4
baz=187
K57A **Scipio Center** 44.28 1 P P 23 21 30.4 +1.5
baz=182,SNR=12
HCNY **Howe Caverns** 44.33 4 P P 23 21 31.5 +2.2
baz=185,SNR=6.9
HRV **Adam Dziewonsk** 44.39 7 P P 23 21 31.6 +1.9
baz=189
HRV **Adam Dziewonsk** 44.39 7 P P 23 21 31.8 +2.1
baz=189
121A **Cookes Peak, D** 44.39 323 P P 23 21 30.3 +0.2
121A IAmb IAmb 23 21 33.9
comp=Z,51nm,1.1s
121A **Cookes Peak, D** 44.39 323 P P 23 21 32.6 +2.4
baz=134,SNR=18
121A **Cookes Peak, D** 44.39 323 P P 23 21 32.5 +2.4
baz=134,SNR=18
TRY **Troy** 44.41 4 P P 23 21 32.6 +2.6
baz=186
K62A **Royalston** 44.47 6 P P 23 21 32.0 +1.6
baz=188
K62A P P 23 21 32.0 +1.6
baz=188
319A **Douglas** 44.53 320 P P 23 21 31.8 +0.5
319A IAmb IAmb 23 21 34.5
comp=Z,32nm,0.8s
N38A **Joes South For** 44.63 343 P P 23 21 30.7 -1.1
baz=158,SNR=8.1
J56A **Wolcott** 44.81 1 P P 23 21 33.9 +0.8
baz=181,SNR=6.2
J56A P P 23 21 33.9 +0.8
baz=181,SNR=6.2
L42A **Oliver, Polo** 44.86 347 P P 23 21 32.0 -1.5
baz=163,SNR=7.8
Y22A **Socorro** 44.90 325 P P 23 21 36.1 +1.9
baz=136,SNR=11
J58A **Remsen** 44.95 3 P P 23 21 35.4 +1.2
baz=183,SNR=6.0
J58A P P 23 21 35.4 +1.2
baz=183,SNR=6.0
J57A **Williamstown** 44.97 2 P P 23 21 35.6 +1.3
baz=182,SNR=6.1
J57A P P 23 21 35.6 +1.3
baz=182,SNR=6.1
ACCN **Adirondack Com** 45.06 4 P P 23 21 36.9 +1.8
baz=186,SNR=9.0
J59A **Piesco** 45.09 3 P P 23 21 36.9 +1.5
baz=184,SNR=19
J59A P P 23 21 36.9 +1.5
baz=184,SNR=19
CBKS **Cedar Bluff** 45.16 336 P P 23 21 36.3 +0.3
CBKS **Cedar Bluff** 45.16 336 P P 23 21 37.5 +1.4
baz=148,SNR=15
CBKS **Cedar Bluff** 45.16 336 P P 23 21 37.7 +1.7
baz=148,SNR=15
CBKS **Cedar Bluff** 45.16 336 P P 23 21 36.3 +0.3
CBKS pmax pmax
comp=Z,79nm,0.9s
J47A **Sunmer** 45.23 353 P P 23 21 36.2 -0.3
baz=170,SNR=6.8
J47A P P 23 21 36.2 -0.3
baz=170,SNR=6.8
L40A **Anamosa** 45.28 346 P P 23 21 35.9 -1.0
baz=161,SNR=11
ANMO **Albuquerque** 45.35 326 P P 23 21 38.9 +1.1
ANMO **Albuquerque** 45.35 326 P P 23 21 39.9 +2.0
baz=138
ANMO **Albuquerque** 45.35 326 P P 23 21 39.8 +2.0
baz=138,SNR=111
ANMO **Albuquerque** 45.35 326 P P 23 21 39.8 +2.0
comp=Z,57nm,0.8s,baz=229,slow=8.7,SNR=145
ANMO LR LR 23 43 05.4
comp=Z,93nm,18.5s,baz=224,slow=39
comp=Z,57nm,0.8s
N35A **Tabor** 45.44 341 P P 23 21 37.5 -0.7
baz=154,SNR=7.0
HNH **Hanover** 45.50 6 P P 23 21 39.1 +0.6
HNH IAmb IAmb 23 21 41.6
comp=Z,34nm,1.0s
WCNY **West Carthage** 45.55 2 P P 23 21 40.9 +1.9
baz=183,SNR=6.0
NCB **Newcomb** 45.61 4 P P 23 21 41.1 +1.6
baz=185,SNR=8.3
SCIA **State Center** 45.66 344 P P 23 21 39.0 -0.9
SCIA **State Center** 45.66 344 P P 23 21 39.1 -0.7
baz=158,SNR=7.8
SCIA **State Center** 45.66 344 P P 23 21 39.3 -0.6
baz=158,SNR=7.8
JFWS **Jewell Farm** 45.86 347 P P 23 21 40.5 -0.9
JFWS **Jewell Farm** 45.86 347 P P 23 21 40.5 -0.9
baz=162,SNR=11
JFWS **Jewell Farm** 45.86 347 P P 23 21 40.6 -0.9
baz=162,SNR=11
JFWS **Jewell Farm** 45.86 347 P P 23 21 40.5 -0.9
JFWS pmax pmax
comp=Z,80nm,0.7s
T25A **Trinidad** 45.93 330 P P 23 21 42.4 0.0
T25A IAmb IAmb 23 21 45.8
comp=Z,60nm,1.1s
T25A **Trinidad** 45.93 330 P P 23 21 44.6 +2.2
baz=141,SNR=18
I63A **Otisfield** 46.03 7 P P 23 21 44.5 +1.7
baz=190,SNR=6.3
I63A P P 23 21 44.5 +1.7
baz=190,SNR=6.3
DELO **Deloro Mine** 46.05 0 P P 23 21 43.1 +0.2
LBNH **Lisbon** 46.06 6 P P 23 21 45.0 +1.9
baz=188,SNR=8.0
LBNH **Lisbon** 46.06 6 P P 23 21 44.9 +1.9
baz=188,SNR=8.0
TUC **Tucson** 46.11 320 P P 23 21 44.0 +0.3
TUC IAmb IAmb 23 21 46.4
comp=Z,23nm,0.8s
TUC **Tucson** 46.11 320 P P 23 21 45.4 +1.6
baz=131
TUC **Tucson** 46.11 320 P P 23 21 44.0 +0.3
TUC pmax pmax
comp=Z,23nm,0.9s
SADO **Sadowa** 46.32 359 P P 23 21 44.5 -0.5
BMNY **Brushton-Moira** 46.46 3 P P 23 21 46.2 +0.1
baz=184,SNR=10
H62A **Milan** 46.48 6 P P 23 21 48.0 +1.7
baz=189
H62A P P 23 21 48.0 +1.7
baz=189
FRNY **Flat Rock** 46.51 4 P P 23 21 48.1 +1.6
baz=186,SNR=15
I42A **Draeger Farm,** 46.52 349 P P 23 21 46.1 -0.5
baz=164,SNR=8.1
KSCO **Kaye Shedlock'** 46.57 333 P P 23 21 47.2 -0.1
KSCO **Kaye Shedlock'** 46.57 333 P P 23 21 48.9 +1.6
baz=145
WBO **Williamsburg** 46.58 2 P P 23 21 47.4 +0.3
GLMI **Grayling** 46.76 353 P P 23 21 48.9 +0.4
baz=170
BGNE **Belgrade** 46.78 339 P P 23 21 48.8 0.0
baz=151
I40A **Norwalk** 46.87 347 P P 23 21 48.2 -1.2
baz=162,SNR=6.1
SDCO **Great Sand Dun** 46.95 330 P P 23 21 51.1 +0.6
SDCO **Great Sand Dun** 46.95 330 P P 23 21 52.5 +2.1
baz=140,SNR=77
SDCO **Great Sand Dun** 46.95 330 P P 23 21 52.4 +1.9
baz=140,SNR=77
MNTQ **Montreal, Queb** 47.17 4 P P 23 21 52.7 +1.0
G62A **West of Eustis** 47.19 7 P P 23 21 54.0 +2.2
baz=190,SNR=15
G62A P P 23 21 54.0 +2.2
baz=190,SNR=15
214A **Organ Pipe Nat** 47.21 318 P P 23 21 54.3 +2.0
baz=129,SNR=21
W18A **Petrified Fore** 47.35 324 P P 23 21 55.6 +2.1
baz=134,SNR=22
PKME **Peaks-Kenny Pk** 47.39 8 P P 23 21 54.0 +0.6
PKME **Peaks-Kenny Pk** 47.39 8 P P 23 21 55.1 +1.7
baz=191,SNR=5.0
PKME **Peaks-Kenny Pk** 47.39 8 P P 23 21 55.1 +1.7
baz=191,SNR=5.0
PIX **Pinacate** 47.40 317 P P 23 21 54.0 +0.3
S22A **4UR Ranch, Cre** 47.63 329 P P 23 21 57.6 +1.8
baz=139,SNR=25
Q24A **Divide** 47.72 331 P P 23 21 57.9 +1.4
baz=142,SNR=7.2
TRQ **Mont Tremblant** 47.84 3 P P 23 21 57.2 +0.3
TRQ IAmb IAmb 23 21 58.9
comp=Z,28nm,0.8s
OGNE **Ogallala** 47.91 335 P P 23 21 57.9 +0.2
OGNE **Ogallala** 47.91 335 P P 23 21 59.0 +1.4
baz=146,SNR=17
OGNE **Ogallala** 47.91 335 P P 23 21 59.2 +1.6
baz=146,SNR=17
SFX **San Felipe** 48.05 316 P P 23 21 59.4 +0.6
F64A **Sherman** 48.12 9 P P 23 22 00.8 +1.8
baz=192,SNR=6.5
F64A P P 23 22 00.8 +1.8

baz=192,SNR=6.5
MVCO Mesa Verde 48.13 327 P **P** 23 22 01.1 +1.5
baz=137,SNR=12
ECSD EROS Data Cent 48.34 342 P **P** 23 21 59.9 -1.0
ECSD IAmb IAmb 23 22 00.9
comp=Z,22nm,0.9s
K30B Basset 48.42 338 P **P** 23 22 01.8 +0.3
baz=150,SNR=14
ISCO Idaho Springs 48.60 331 P **P** 23 22 03.5 +0.2
ISCO Idaho Springs 48.60 331 P **P** 23 22 04.8 +1.6
baz=142,SNR=18
ISCO Idaho Springs 48.60 331 P **P** 23 22 04.4 +1.1
baz=142,SNR=18
ISCO Idaho Springs 48.60 331 P **P** 23 22 03.5 +0.2
ISCO pmax pmax
comp=Z,12nm,0.8s
WUAZ Wupatki 48.60 323 P **P** 23 22 05.4 +2.2
baz=132,SNR=36
SPMN Marine on St. 48.64 346 P **P** 23 22 01.8 -1.3
baz=160,SNR=6.9
SPMN Marine on St. 48.64 346 P **P** 23 22 02.0 -1.1
baz=160,SNR=6.9
E63A Oxbow 48.65 9 P **P** 23 22 04.6 +1.5
baz=192
E63A P **P** 23 22 04.6 +1.5
baz=192
E62A Clayton Lake 48.69 8 P **P** 23 22 05.3 +1.8
baz=191,SNR=13
E62A P **P** 23 22 05.3 +1.8
baz=191,SNR=13
VTX Valle De La Tr 48.90 316 P **P** 23 22 06.0 +0.5
D62A Allapoint, All 49.21 8 P **P** 23 22 08.7 +1.3
baz=191,SNR=16
D62A P **P** 23 22 08.7 +1.3
baz=191,SNR=16
GLA Glamis 49.22 318 P **P** 23 22 08.5 +0.6
GLA IAmb IAmb 23 22 10.6
comp=Z,17nm,0.9s
GLA Glamis 49.22 318 P **P** 23 22 09.5 +1.6
baz=127
GLA Glamis 49.22 318 P **P** 23 22 08.5 +0.6
GLA pmax pmax
comp=Z,17nm,1.0s
F36A Milaca 49.42 345 P **P** 23 22 08.1 -1.0
baz=159,SNR=11
LMQ La Malbaie 49.51 7 P **P** 23 22 10.4 +0.7
LMQ IAmb IAmb 23 22 12.1
comp=Z,52nm,1.2s
PDMCI Parker Dam,Lak 49.54 320 P **P** 23 22 11.6 +1.5
baz=129,SNR=6.4
N23A Red Feather La 49.61 332 P **P** 23 22 12.5 +1.5
baz=142,SNR=7.0
E38A The Farm, Brul 49.66 348 P **P** 23 22 09.9 -1.0
baz=162,SNR=7.9
YUH Yuha Desert 49.73 317 P **P** 23 22 12.1 +0.5
SUSD Miller 49.73 340 P **P** 23 22 10.6 -0.9
SUSD Miller 49.73 340 P **P** 23 22 11.0 -0.5
baz=152
SUSD Miller 49.73 340 P **P** 23 22 11.3 -0.2
baz=152
SWSC Sam W. Stewart 49.81 317 P **P** 23 22 14.1 +1.8
baz=126
IKP In-Ko-Pah, Jac 49.85 317 P **P** 23 22 14.7 +2.0
baz=126,SNR=11
HMU Henry Mountain 49.90 326 P **P** 23 22 13.7 +0.5
HMU IAmb IAmb 23 22 17.1
comp=Z,46nm,1.0s
BC3 Big Chuckawall 50.01 318 P **P** 23 22 15.6 +1.7
baz=127,SNR=12
IRM Iron Mountain 50.10 319 P **P** 23 22 16.3 +1.8
baz=128,SNR=22
F33A 5 Mile Ranch, 50.15 343 P **P** 23 22 13.3 -1.3
baz=156,SNR=7.0
O20A White River Ci 50.15 330 P **P** 23 22 16.5 +1.5
baz=139,SNR=10
MONP2 Monument Peak 50.21 317 P **P** 23 22 17.1 +1.6
baz=126,SNR=15
BELC Belle Mtn. Jos 50.57 318 P **P** 23 22 19.9 +1.6
baz=127,SNR=14
TPFO Pinon Flats 50.65 318 P **P** 23 22 20.5 +1.7
baz=126,SNR=9.0
PFO Pinyon Flats O 50.65 318 P **P** 23 22 19.4 +0.5
PFO Pinyon Flats O 50.65 318 P **P** 23 22 20.5 +1.7
baz=126,SNR=9.3
PFO Pinyon Flats O 50.65 318⇑ *i*P **P** 23 22 20.5 +1.7
PFO pmax pmax
comp=Z,26nm,1.2s
PFO Pinyon Flats O 50.65 318 P **P** 23 22 19.6 +0.8
comp=Z,6.6nm,0.8s,baz=126,slow=6.5,SNR=12
PFO LR LR 23 42 31.5
comp=Z,155nm,18.0s,baz=122,slow=34
comp=Z,6.6nm,0.8s
109C Camp Elliot, M 50.68 316 P **P** 23 22 20.4 +1.5
baz=125
GMRC Granite Mounta 50.82 319 P **P** 23 22 21.9 +1.8
baz=128,SNR=20
V12A Nelson 50.88 321 P **P** 23 22 20.6 +0.1
V12A IAmb IAmb 23 22 23.2
comp=Z,26nm,0.8s
EYMN Ely 50.92 348 P **P** 23 22 19.6 -0.9
EYMN IAmb IAmb 23 22 20.6
comp=Z,29nm,0.9s
EYMN Ely 50.92 348 P **P** 23 22 19.5 -0.9
baz=162,SNR=6.9
EYMN Ely 50.92 348 P **P** 23 22 19.2 -1.3
baz=162,SNR=6.9
MURC Murrieta 51.15 317 P **P** 23 22 24.2 +1.8
baz=125,SNR=5.8
K22A Casper 51.26 333 P **P** 23 22 23.5 +0.2
K22A IAmb IAmb 23 22 25.5
comp=Z,40nm,1.3s
K22A Casper 51.26 333 P **P** 23 22 24.3 +1.1
baz=142,SNR=7.8
K22A Casper 51.26 333 P **P** 23 22 24.7 +1.4
baz=142,SNR=7.8
HEC Hector,Ludlow 51.29 319 P **P** 23 22 25.7 +2.1
baz=127,SNR=12
BBRC Big Bear Solar 51.34 318 P **P** 23 22 26.4 +2.3
baz=126
RSSD Black Hills 51.36 336 P **P** 23 22 24.6 +0.5
RSSD IAmb IAmb 23 22 26.7
comp=Z,25nm,0.8s
RSSD Black Hills 51.36 336 P **P** 23 22 25.7 +1.6
baz=146
RSSD Black Hills 51.36 336 P **P** 23 22 25.3 +1.2
baz=146,SNR=20
RSSD Black Hills 51.36 336 P **P** 23 22 24.6 +0.5
RSSD pmax pmax
comp=Z,25nm,0.8s
TUQ Turquoise Moun 51.39 320 P **P** 23 22 26.0 +1.6
baz=128,SNR=18
B35A Bob, Littlefor 51.80 346 P **P** 23 22 25.6 -1.4
baz=160,SNR=10
BFSC Mount Baldy Ra 51.83 317 P **P** 23 22 29.2 +1.6
baz=125,SNR=9.8
CIS Catalina Islan 51.87 316 P **P** 23 22 29.3 +1.5
baz=124
GSC Goldstone, Bar 51.88 319 P **P** 23 22 30.0 +2.1
baz=127,SNR=21
SHOC Shoshone, Teco 51.90 320 P **P** 23 22 29.7 +1.7
baz=128,SNR=16
FMP Fort Macarthur 51.96 316 P **P** 23 22 30.2 +1.8
baz=124
E28A Huff 52.19 340 P **P** 23 22 30.6 +0.6
baz=150,SNR=9.9
DECC Green Verdugo 52.30 317 P **P** 23 22 32.8 +1.8
baz=125
EDW2 Edwards Air Fo 52.42 318 P **P** 23 22 33.6 +1.7
baz=126,SNR=29
EFI East Falkland 52.43 165 P **P** 23 22 32.0 +0.4
EFI East Falkland 52.43 165 P **P** 23 22 32.0 +0.4
EFI pmax pmax
comp=Z,378nm,1.7s
TPNV Topopah Spring 52.53 321 P **P** 23 22 35.0 +2.1
baz=128
SNCC San Nicolas Is 52.56 315 P **P** 23 22 34.1 +1.1
baz=123
LRMC Laurel Mtn Rad 52.57 319 P **P** 23 22 34.9 +1.8
baz=126,SNR=18
DUG Dugway, Tooele 52.62 326 P **P** 23 22 35.2 +1.7
baz=134,SNR=28
FURC Furnace Creek, 52.62 320 P **P** 23 22 35.4 +2.1
baz=128
PD31 Pinedale Array 52.78 331 P **P** 23 22 34.9 +0.2
PDAR Pinedale Array 52.78 331 P **P** 23 22 34.9 +0.2
PDAR PcP **PcP** 23 23 43.8 -0.3
PDAR Pinedale Array 52.78 331 P **P** 23 22 35.1 +0.5
comp=Z,5.7nm,0.7s,baz=124,slow=9.0,SNR=57
PDAR PcP **PcP** 23 23 44.0 -0.1
comp=Z,3.6nm,0.8s,baz=183,slow=3.0,SNR=5.6
PDAR LR LR 23 46 33.0
comp=Z,131nm,19.0s,baz=160,slow=38
comp=Z,5.7nm,0.7s
BW06 Boulder Array 52.78 331 P **P** 23 22 35.1 +0.4
baz=139,SNR=13
MPMC Manual Prospec 52.78 319 P **P** 23 22 36.0 +1.2
baz=127
MDND Maddock 52.95 342 P **P** 23 22 35.9 +0.4
baz=152,SNR=9.1
MDND Maddock 52.95 342 P **P** 23 22 36.4 +0.8
baz=152,SNR=9.1
R11B Troy Canyon, C 53.00 323 P **P** 23 22 38.1 +1.8
baz=130,SNR=28
SCZ2 Santa Cruz Isl 53.05 316 P **P** 23 22 37.9 +1.3
baz=123
ARVC Arvin 53.13 318 P **P** 23 22 38.7 +1.6
baz=125
ISA Isabella, Lake 53.20 318 P **P** 23 22 39.4 +1.7
baz=126,SNR=6.4
GRAC Grapevine Rang 53.26 320 P **P** 23 22 40.1 +1.9
baz=127
CWC Cottonwood Cre 53.39 319 P **P** 23 22 40.9 +1.6
baz=126
AHID Auburn Hatcher 53.54 330 P **P** 23 22 40.2 0.0
AHID IAmb IAmb 23 22 42.0
comp=Z,24nm,0.8s
PKM Mcpherson Peak 53.66 317 P **P** 23 22 42.8 +1.5
baz=124,SNR=14
VES Vestal, Richgr 53.70 318 P **P** 23 22 43.2 +1.9
baz=125,SNR=7.9
TPH Tonopah 53.83 322 P **P** 23 22 43.2 +0.7
TPH Tonopah 53.83 322 P **P** 23 22 43.2 +0.7
TPH pmax pmax
comp=Z,95nm,0.9s
TIN Tinemaha, Big 53.85 320 P **P** 23 22 44.4 +1.9
baz=126
REDW Red Top Meadow 53.85 330 P **P** 23 22 42.8 +0.3
SMMC Simmler 54.02 317 P **P** 23 22 45.5 +1.8
baz=124,SNR=7.8
ULM Lac du Bonnet 54.08 346 P **P** 23 22 43.0 -0.8
comp=Z,31nm,0.6s,baz=156,slow=7.9,SNR=52
ULM PcP **PcP** 23 23 48.0 -0.5
comp=Z,7.4nm,0.8s,baz=159,slow=3.3,SNR=1.8
ULM LR LR 23 47 16.9
comp=Z,116nm,18.1s,baz=119,slow=38
comp=Z,31nm,0.6s
LAO LASA Array 54.35 336 P **P** 23 22 46.8 +0.9
baz=144
LAO LASA Array 54.35 336 P **P** 23 22 46.6 +0.7
baz=144
ELK Elko 54.36 325 P **P** 23 22 47.2 +0.9
comp=Z,11nm,0.9s,baz=118,slow=4.8,SNR=32
ELK PcP **PcP** 23 23 50.9 +0.7
comp=Z,3.7nm,0.8s,baz=97,slow=2.5,SNR=3.5
ELK LR LR 23 46 03.1
comp=Z,108nm,21.6s,baz=134,slow=36
comp=Z,11nm,0.9s
RLMT Red Lodge 54.42 333 P **P** 23 22 47.5 +0.8
baz=140,SNR=14
H17A Grant Village 54.48 331 P **P** 23 22 48.8 +1.6
baz=138,SNR=8.0
LKWY Lake 54.53 332 P **P** 23 22 48.5 +1.0
LKWY IAmb IAmb 23 22 50.5
comp=Z,20nm,0.8s
LKWY Lake 54.53 332 P **P** 23 22 48.5 +1.0
LKWY pmax pmax
comp=Z,20nm,0.8s
NVAR Mina Array Bea 54.72 321 P **P** 23 22 49.9 +0.9
NVAR Mina Array Bea 54.72 321 P **P** 23 22 50.7 +1.7
comp=Z,10nm,0.7s,baz=134,slow=6.7,SNR=62
NVAR PcP **PcP** 23 23 52.3 +0.7
comp=Z,4.2nm,0.7s,baz=131,slow=4.3,SNR=4.4
NVAR LR LR 23 45 35.2
comp=Z,152nm,19.8s,baz=100,slow=35
comp=Z,10nm,0.7s
YHH Holmes Hill 54.91 332 P **P** 23 22 51.2 +0.9
DGMT Dagmar 55.04 339 P **P** 23 22 51.3 +0.5
DGMT IAmb IAmb 23 22 52.9
comp=Z,26nm,0.7s
DGMT Dagmar 55.04 339 P **P** 23 22 51.9 +1.1
baz=147,SNR=5.9
DGMT Dagmar 55.04 339 P **P** 23 22 52.1 +1.3
baz=147,SNR=5.9
HLID Hailey 55.81 328 P **P** 23 22 58.2 +1.5
baz=134,SNR=28
BOZ Bozeman (W) 55.88 332 P **P** 23 22 58.0 +0.9
BOZ Bozeman (W) 55.88 332 P **P** 23 22 58.5 +1.4
baz=138,SNR=58
BOZ Bozeman (W) 55.88 332 P **P** 23 22 58.0 +0.9
BOZ pmax pmax
comp=Z,47nm,1.0s
EGMT Eagleton 56.87 335 P **P** 23 23 04.4 +0.3
EGMT IAmb IAmb 23 23 05.9
comp=Z,38nm,1.3s
EGMT Eagleton 56.87 335 P **P** 23 23 05.0 +0.9
baz=141,SNR=12
SCHQ Schefferville 57.09 7 P **P** 23 23 05.7 +0.3
comp=Z,13nm,0.9s,baz=189,slow=2.7,SNR=6.8
SCHQ LR LR 23 47 16.0
comp=Z,151nm,21.9s,baz=219,slow=36
comp=Z,13nm,0.9s
BPMT Black Pine Rid 57.36 331 P **P** 23 23 08.4 +0.7
MSO Missoula 57.88 331 P **P** 23 23 12.4 +1.2
baz=136,SNR=17
J08A Circle Bar Ran 57.88 326 P **P** 23 23 11.8 +0.5
J08A IAmb IAmb 23 23 13.3
comp=Z,52nm,1.3s
YBH Yreka Blue Hor 59.40 322 P **P** 23 23 21.6 -0.3
YBH IAmb IAmb 23 23 22.7
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 59.40 322 P **P** 23 23 21.6 -0.3
YBH pmax pmax
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 59.40 322 P **P** 23 23 21.6 -0.3
comp=Z,13nm,0.8s,baz=117,slow=3.5,SNR=34
YBH LR LR 23 51 06.3
comp=Z,83nm,18.2s,baz=142,slow=38
comp=Z,13nm,0.8s
J05D Fort Rock, OR 59.42 324 P **P** 23 23 22.9 +0.8
FFC Flin Flon 59.73 344 P **P** 23 23 23.6 -0.2
FFC IAmb IAmb 23 23 25.0
comp=Z,26nm,1.1s
FFC Flin Flon 59.73 344 P **P** 23 23 23.6 -0.2
FFC pmax pmax
comp=Z,26nm,1.2s
HAWA Hanford 60.40 328 P **P** 23 23 29.0 +0.4
HAWA IAmb IAmb 23 23 30.5
comp=Z,16nm,0.7s
NEW Newport 60.42 331 P **P** 23 23 28.6 -0.1
NEW IAmb IAmb 23 23 30.5
comp=Z,28nm,1.1s
NEW Newport 60.42 331 P **P** 23 23 29.6 +0.8
baz=133,SNR=13
NEW Newport 60.42 331 P **P** 23 23 28.6 -0.1
NEW pmax pmax
comp=Z,28nm,1.1s
NEW Newport 60.42 331 LR LR 23 50 20.2
comp=Z,74nm,19.4s,baz=180,slow=37
FCC Fort Churchill 61.70 350 P **P** 23 23 36.1 -1.0
FCC Fort Churchill 61.70 350 P **P** 23 23 36.1 -1.0
FCC pmax pmax
comp=Z,40nm,1.1s
EDM Edmonton 62.33 337 P **P** 23 23 41.4 -0.1
EDM Edmonton 62.33 337 P **P** 23 23 41.4 -0.1
EDM pmax pmax
comp=Z,58nm,0.9s
BBTS Babate 62.69 73 LR LR 23 47 47.8
comp=Z,392nm,22.0s,baz=222,slow=33
NLWA Neilton Lookou 63.36 327 P **P** 23 23 49.2 +0.7
ASCN Ascension 63.38 98 P **P** 23 23 48.8 -0.4
FRB Frobisher Bay 65.68 4 LR LR 23 54 21.4
comp=Z,76nm,19.8s,baz=172,slow=38
PMPST Porto Santo, M 67.32 53 *e*P **P** 23 24 13.8 -0.6
comp=Z,419nm,1.9s
BBB Bella Bella 68.37 329 LR LR 23 57 27.7
comp=Z,56nm,19.1s,baz=149,slow=39
YKA Yellowknife Ar 69.85 343 P **P** 23 24 28.8 -0.8
YKA Yellowknife Ar 69.85 343 P **P** 23 24 29.3 -0.3
comp=Z,9.3nm,0.9s,baz=134,slow=6.4,SNR=90
YKA LR LR 23 58 14.9
comp=Z,113nm,19.1s,baz=106,slow=39
comp=Z,9.3nm,0.8s
SFJD Kangerlussuaq 71.21 11 LR LR 23 55 37.1
comp=Z,66nm,20.4s,baz=184,slow=36
KOTAN Kotaneelee Air 71.38 338 P **P** 23 24 39.9 +0.9
baz=130,SNR=6.6
DY2G Dye2 71.66 13 *i*P **P** 23 24 39.5 -1.3
DY2G IAmb IAmb 23 24 43.0
comp=Z,5.8nm,0.8s
T35M Bob Quinn 72.08 333 P **P** 23 24 44.9 +1.6
baz=124
PPT2 Papeete2 72.19 252 *e*S **S** 23 33 59.7 -7.8
comp=Z,62nm,26.5s
PPT2 Papeete2 72.19 252 *e*LR LR 23 46 55.1
comp=Z,279nm,26.5s
PPT2 *e*LR LR 23 46 58.1
comp=Z,159nm,27.2s
TBI Tubuai 72.56 246 *e*S **S** 23 34 06.2 -5.2
comp=Z,519nm,33.0s
TBI Tubuai 72.56 246 *e*LR LR 23 47 12.2
comp=Z,1µm,26.0s
ISOG Isortoq, Green 72.71 16 *i*P **P** 23 24 46.0 -0.8
ISOG IAmb IAmb 23 24 47.8
comp=Z,10.0nm,0.7s
DLBC Dease Lake 72.79 334 P **P** 23 24 48.1 +0.5
DLBC IAmb IAmb 23 24 50.0
comp=Z,26nm,1.1s
DLBC Dease Lake 72.79 334 P **P** 23 24 48.9 +1.3
baz=124,SNR=7.2
S34M Telegraph Cree 72.99 333 P **P** 23 24 50.0 +1.3
baz=123
LIC Lamto 72.99 83⇑ *i*P **P** 23 24 49.4 -0.2
comp=Z,152nm,0.8s
TIC Toumodi 73.03 83⇑ *i*P **P** 23 24 49.6 -0.3
comp=Z,93nm,0.8s
DBIC Dimbokro 73.19 83 P **P** 23 24 50.3 -0.5
DBIC Dimbokro 73.19 83 P **P** 23 24 50.5 -0.3
comp=Z,94nm,0.8s,baz=256,slow=5.5,SNR=97
DBIC LR LR 23 54 57.9
comp=Z,241nm,18.4s,baz=228,slow=34
comp=Z,94nm,0.8s
WRGLY Wrigley 73.20 340 P **P** 23 24 50.6 +0.9
baz=132,SNR=5.4
WTLY Watson Lake, Y 73.24 336 P **P** 23 24 50.8 +0.6
baz=126
KIC Kosan Boka 73.29 83⇑ *i*P **P** 23 24 51.4 0.0
comp=Z,289nm,0.8s
R33M Jennings River 73.73 335 P **P** 23 24 53.6 +0.4
R33M IAmb IAmb 23 24 55.6
comp=Z,19nm,1.1s
R33M Jennings River 73.73 335 P **P** 23 24 54.5 +1.2
baz=124
Q32M Nakina River 74.06 334 P **P** 23 24 56.8 +1.6
baz=122
S32K Killisnoo 74.34 332 P **P** 23 24 57.9 +1.3
baz=120
R32K Eaglecrest 74.71 333 P **P** 23 25 00.1 +1.3
baz=120
P33M Teslin, Yukon 74.96 335 P **P** 23 25 01.4 +1.1
baz=122,SNR=5.4
P32M Atlin 75.02 334 P **P** 23 25 01.7 +1.1
baz=121
ICESG Greenland Ices 75.26 13 *i*P **P** 23 25 00.8 -1.3
ICESG IAmb IAmb 23 25 23.9
comp=Z,15nm,0.9s
N32M Quiet Lake 75.57 336 P **P** 23 25 06.1 +2.4
baz=122
UPNV Upernavik 75.64 6 *i*P **P** 23 25 03.4 -0.4
UPNV IAmb IAmb 23 25 04.4
comp=Z,7.3nm,0.6s
SKAG Skagway 75.67 334 P **P** 23 25 05.5 +1.3
baz=119
PESTR Estremoz 75.73 49 *e*P **P** 23 25 05.9 +0.8
comp=Z,27nm,1.3s
PVIS Viseu 75.96 47 *e*P **P** 23 25 07.0 +0.6
PCBR Castelo Branco 76.05 48 *e*P **P** 23 25 07.6 +0.7
comp=Z,22nm,1.9s
WHY Whitehorse 76.07 335 P **P** 23 25 08.4 +1.7
baz=120
PLBC Pleasant Camp 76.13 333 P **P** 23 25 08.4 +1.5
baz=118
FARO Faro, Yukon 76.25 337 P **P** 23 25 08.8 +1.2
baz=122,SNR=12
O30N Mendenhall 76.64 335 P **P** 23 25 11.1 +1.2
baz=119,SNR=6.0
M31M Drury Creek, Y 76.65 336 P **P** 23 25 11.3 +1.5
baz=121,SNR=7.3
P30M Million Dollar 76.71 334 P **P** 23 25 11.9 +1.7
baz=118
MVO Moncorvo 76.71 47 *e*P **P** 23 25 12.5 +1.8
MDT Midelt 76.80 56 LR LR 23 55 36.8
comp=Z,75nm,21.1s,baz=290,slow=33
P29M Windy Craggy 76.83 333 P **P** 23 25 12.3 +1.4
baz=117
N31M Braeburn, Yuko 76.86 335 P **P** 23 25 12.3 +1.2
baz=119,SNR=5.0
RES Resolute Bay 77.01 355 LR LR 00 00 02.5
comp=Z,101nm,21.5s,baz=138,slow=36
HYT Haines Junctio 77.28 334 P **P** 23 25 13.9 +0.4
HYT IAmb IAmb 23 25 16.3
comp=Z,28nm,1.4s
HYT Haines Junctio 77.28 334 P **P** 23 25 15.0 +1.5
baz=118
C36M Paulatuk 77.49 345 P **P** 23 25 13.3 -1.0
C36M Paulatuk 77.49 345 P **P** 23 25 13.3 -1.0
baz=132
O29M Mount Kennedy 77.51 334 P **P** 23 25 16.0 +1.2
baz=117
PNL Peninsula 77.60 333 P **P** 23 25 16.7 +1.5
baz=116
YUK6 Outpost Mounta 77.71 334 P **P** 23 25 17.6 +1.5
baz=117
M30M Minto, Yukon 77.81 336 P **P** 23 25 17.3 +0.9
baz=119,SNR=14
YUK4 Talbot Arm 78.01 334 P **P** 23 25 19.0 +1.3
baz=117,SNR=8.6
PINM Pinnacle 78.17 333 P **P** 23 25 19.8 +1.3
baz=115
SUMG Summit 78.20 11 P **P** 23 25 18.6 -0.2
SUMG IAmb IAmb 23 25 28.9
comp=Z,12nm,0.7s
SUMG Summit 78.20 11 P **P** 23 25 18.6 -0.2
SUMG pmax pmax
comp=Z,12nm,0.7s
SUMG Summit 78.20 11 *i*P **P** 23 25 18.0 -0.8
SUMG IAmb IAmb 23 25 29.3
comp=Z,9.9nm,0.6s
PAB San Pablo 78.34 49 P **P** 23 25 19.3 -0.6
PAB IAmb IAmb 23 26 12.8
comp=Z,49nm,1.9s
PAB San Pablo 78.34 49 P **P** 23 25 19.3 -0.6
PAB pmax pmax
comp=Z,49nm,2.0s
M29M Somme Creek 78.43 336 P **P** 23 25 21.1 +1.2
baz=117
YUK8 Steele Glacier 78.47 334 P **P** 23 25 21.3 +1.0
baz=116
L29M L29M 78.60 336 P **P** 23 25 21.8 +1.0
baz=118
J30M Hart River 78.61 338 P **P** 23 25 21.6 +0.8
J30M IAmb IAmb 23 25 23.3
comp=Z,20nm,1.1s
J30M Hart River 78.61 338 P **P** 23 25 22.0 +1.2
baz=120
ESDC Sonseca Array 78.66 49 P **P** 23 25 20.7 -0.8
ESDC Sonseca Array 78.66 49 P **P** 23 25 21.1 -0.5
comp=Z,1.7nm,0.9s,baz=264,slow=4.8,SNR=9.3
comp=Z,1.7nm,0.9s
K29M Barlow Dome 78.71 337 P **P** 23 25 22.2 +0.8
baz=118
I30M Mount Dempster 78.94 338 P **P** 23 25 23.8 +1.1
baz=120,SNR=31
YUK3 Moose Creek 78.98 334 P **P** 23 25 24.1 +1.0
baz=115,SNR=7.4
CTG Chitna Glacier 79.03 334 P **P** 23 25 24.5 +1.2
baz=114
G31M Satah River 79.08 340 P **P** 23 25 24.2 +1.0
baz=122,SNR=49
F31M Tsiigehtchic 79.18 341 P **P** 23 25 24.6 +0.9
baz=122,SNR=36
BARN Barnard Glacie 79.21 334 P **P** 23 25 24.8 +0.5
BARN IAmb IAmb 23 25 27.4
comp=Z,57nm,1.7s
J29N Klondike Camp 79.26 337 P **P** 23 25 25.5 +1.1
baz=118
BELA Belgrano 2 79.41 172 P **P** 23 25 25.6 +0.7
BELA IAmb IAmb 23 25 26.8
comp=Z,48nm,1.4s
BVCY Beaver Creek 79.42 335 P **P** 23 25 26.3 +1.0
baz=115,SNR=8.6
DAWY Dawson 79.54 337 P **P** 23 25 26.2 +0.3

DAWY Dawson 79.54 337 P **P** **23 25 26.5 +0.6**
baz=116,SNR=11
A36M Sachs Harbour 79.55 347 P **P** **23 25 25.7 0.0**
A36M Sachs Harbour 79.55 347 P **P** **23 25 25.6 -0.1**
baz=131,SNR=91
INK Inuvik 79.58 342 P **P** **23 25 26.5 +0.6**
INK Inuvik 79.58 342 P **P** **23 25 26.7 +0.8**
baz=123,SNR=68
INK Inuvik 79.58 342 P **P** **23 25 26.5 +0.6**
INK pmax pmax
comp=Z,71nm,1.0s
INK Inuvik 79.58 342 LR LR 00 03 36.6
comp=Z,132nm,20.7s,baz=176,slow=38
EPYK Eagle Plains 79.63 339 P **P** **23 25 27.2 +0.8**
baz=119,SNR=9.6
G30M tAoh Zraii Nji 79.77 340 P **P** **23 25 27.5 +0.4**
baz=120,SNR=8.4
M27K Edge Creek, AK 79.83 335 P **P** **23 25 28.5 +0.9**
baz=114
F30M Barrier River 79.94 341 P **P** **23 25 28.9 +1.0**
baz=120
MCARA McCarthy VSAT 79.94 334 P **P** **23 25 28.2 +0.1**
baz=113,SNR=5.6
BCAR Beaver Creek A 80.08 335 P **P** **23 25 29.5 +0.7**
TOA0 Torodi Ar. Sit 80.09 76 P **P** **23 25 28.5 -1.3**
TOA0 IAmb IAmb 23 25 30.2
comp=Z,36nm,1.1s
TORD Torodi Ar. Bea 80.09 76 P **P** **23 25 28.6 -1.2**
TORD IAmb IAmb 23 25 30.2
comp=Z,31nm,1.1s
TORD Torodi Ar. Bea 80.09 76 P **P** **23 25 29.1 -0.7**
comp=Z,13nm,0.9s,baz=309,slow=6.9,SNR=49
TORD LR LR 23 58 00.5
comp=Z,151nm,21.9s,baz=302,slow=34
comp=Z,13nm,0.9s
L27K Beaver Creek, 80.10 335 P **P** **23 25 30.0 +1.1**
baz=114
H29M Whitestone 80.15 339 P **P** **23 25 30.2 +1.1**
baz=118
M26K Nabesna, AK 80.33 335 P **P** **23 25 30.8 +0.6**
baz=113
G29M Pine Creek 80.35 340 P **P** **23 25 31.0 +0.8**
baz=118
I28M Miner Creek 80.37 338 P **P** **23 25 31.2 +0.8**
baz=116
NEEM North Greenlan 80.44 6 *i* P **P** **23 25 30.4 -0.5**
NEEM IAmb IAmb 23 25 32.6
comp=Z,27nm,0.8s
BMRM Bremner River 80.50 333 P **P** **23 25 31.9 +0.8**
baz=111
EGAK Eagle 80.54 337 P **P** **23 25 31.7 +0.5**
EGAK Eagle 80.54 337 P **P** **23 25 32.0 +0.8**
baz=115,SNR=45
K27K Chicken 80.59 336 P **P** **23 25 32.9 +1.4**
baz=114
L26K Log Cabin Wild 80.72 335 P **P** **23 25 33.0 +0.7**
baz=113,SNR=6.4
SCO Scoresbysund 80.76 16 *i* P **P** **23 25 30.4 -1.8**
SCO IAmb IAmb 23 25 33.0
comp=Z,5.6nm,1.0s
E29M Blow River 81.02 341 P **P** **23 25 34.3 +0.6**
baz=119
I27K Kandik River 81.07 338 P **P** **23 25 34.9 +0.8**
baz=115
KLU Klutina 81.28 333 P **P** **23 25 36.0 +0.7**
KLU IAmb IAmb 23 25 44.9
comp=Z,20nm,1.0s
KLU Klutina 81.28 333 P **P** **23 25 35.9 +0.6**
baz=110
H27K Steamboat Moun 81.30 338 P **P** **23 25 35.7 +0.4**
baz=115
F28M Old Crow 81.31 340 P **P** **23 25 35.6 +0.2**
baz=117,SNR=28
SCRK Sand Creek 81.35 336 P **P** **23 25 36.4 +0.7**
baz=112,SNR=19
J26L Joseph Creek 81.38 336 P **P** **23 25 36.6 +0.8**
baz=113
VNA3 Neumayer Olymp 81.41 162 ⇑P **P** **23 25 36.6 +0.8**
comp=Z,42nm,0.8s
I26K Coal Creek Min 81.53 337 P **P** **23 25 36.8 +0.4**
baz=113
PAX Paxson 81.60 335 P **P** **23 25 37.2 +0.2**
baz=111,SNR=9.1
M24K Tolsona, Glenn 81.60 334 P **P** **23 25 37.6 +0.6**
baz=110
RIDG Independent Ri 81.61 336 P **P** **23 25 37.2 +0.2**
RIDG IAmb IAmb 23 25 38.8
comp=Z,43nm,1.1s
RIDG Independent Ri 81.61 336 P **P** **23 25 37.5 +0.5**
baz=111,SNR=8.0
VNA1 Neumayer--Stat 81.64 162 ⇑P **P** **23 25 38.3 +1.3**
comp=Z,40nm,0.9s
E28M Babbage River 81.65 341 P **P** **23 25 37.1 +0.1**
baz=117
D28M Stokes Point 81.73 342 P **P** **23 25 38.1 +0.7**
baz=118
EUNU Eureka 81.83 358 P **P** **23 25 38.0 +0.1**
RAR Rarotonga 81.97 249 LR LR 23 55 18.4
comp=Z,103nm,21.8s,baz=133,slow=31
VNA2 Neumayer--Watz 82.01 162 ⇑P **P** **23 25 39.6 +0.6**
comp=Z,26nm,0.8s,baz=294,slow=4.0
K24K Donnelly Dome 82.02 335 P **P** **23 25 39.5 +0.4**
baz=111,SNR=6.8
SCM Sheep Creek Mo 82.03 333 P **P** **23 25 39.5 +0.3**
SCM IAmb IAmb 23 25 40.7
comp=Z,34nm,1.1s
SCM Sheep Creek Mo 82.03 333 P **P** **23 25 39.8 +0.5**
baz=109
SCM Sheep Creek Mo 82.03 333 P **P** **23 25 39.5 +0.3**
SCM pmax pmax
comp=Z,34nm,1.1s
J25K Salcha River, 82.14 336 P **P** **23 25 40.3 +0.5**
baz=111,SNR=21
M23K Glacier View 82.19 333 P **P** **23 25 40.2 +0.2**
baz=108
D27M Malcolm River 82.40 341 P **P** **23 25 42.0 +0.9**
baz=116
KNK Knik Glacier 82.41 333 P **P** **23 25 41.5 +0.4**
baz=108
G26K Porcupine Rive 82.42 339 P **P** **23 25 41.5 +0.4**
baz=113
WAT6 Susitna Watana 82.45 334 P **P** **23 25 42.0 +0.4**
baz=109,SNR=12
DHY Denali Highway 82.45 334 P **P** **23 25 42.0 +0.4**
baz=109
SML Sawmill 82.47 333 P **P** **23 25 41.7 +0.1**
SML IAmb IAmb 23 25 42.4
comp=Z,20nm,0.8s
SML Sawmill 82.47 333 P **P** **23 25 42.0 +0.4**
baz=108
PRP Porcupine Dome 82.53 337 P **P** **23 25 42.1 +0.2**
PRP IAmb IAmb 23 25 43.5
comp=Z,38nm,1.4s
PRP Porcupine Dome 82.53 337 P **P** **23 25 42.2 +0.3**
baz=111,SNR=5.2
EKA Eskdalemuir Ar 82.68 34 P **P** **23 25 41.9 -0.8**
comp=Z,1.5nm,0.7s,baz=267,slow=5.7,SNR=4.1
comp=Z,1.5nm,0.7s
HDA Harding Lake 82.71 336 P **P** **23 25 42.8 +0.1**
HDA Harding Lake 82.71 336 P **P** **23 25 42.8 +0.1**
baz=110,SNR=20
FYU Fort Yukon 82.80 338 P **P** **23 25 43.4 +0.3**
ILAR Eielson Array 82.81 336 P **P** **23 25 43.1 -0.1**
ILAR Eielson Array 82.81 336 P **P** **23 25 43.2 0.0**
comp=Z,15nm,0.9s,baz=124,slow=3.7,SNR=101
ILAR PP **PP** **23 28 52.7 -0.7**
comp=Z,1.7nm,1.0s,baz=111,slow=6.9,SNR=7.1
ILAR LR LR 00 04 49.1
comp=Z,75nm,20.0s,baz=127,slow=37
comp=Z,15nm,0.9s
F26K Sheenjek River 82.83 339 P **P** **23 25 44.4 +1.1**
baz=113
WAT1 Susitna Watana 82.88 334 P **P** **23 25 43.8 +0.2**
baz=108
BMAR Burnt Mountain 82.89 339 P **P** **23 25 44.2 +0.6**
RC01 Rabbit Creek A 82.90 332 P **P** **23 25 43.8 +0.1**
RC01 IAmb IAmb 23 25 45.1
comp=Z,30nm,1.1s
RC01 Rabbit Creek A 82.90 332 P **P** **23 25 43.9 +0.2**
baz=107
BRSE Bradley Lake S 83.00 331 P **P** **23 25 44.4 +0.1**
baz=106
CCB Clear Creek Bu 83.14 336 P **P** **23 25 44.7 -0.2**
POKR Poker Plat Res 83.15 336 P **P** **23 25 45.3 +0.4**
baz=109,SNR=5.9
G25K Bearman Lake 83.20 338 P **P** **23 25 46.4 +1.3**
baz=111

COLA College 83.23 336 P **P** **23 25 45.6 +0.3**
baz=109
MCK McKinley 83.33 335 P **P** **23 25 46.2 +0.2**
baz=108,SNR=9.2
F25K Christian Rive 83.33 339 P **P** **23 25 47.2 +1.3**
baz=111,SNR=28
KDAK Kodiak Island 83.43 329 LR LR 00 04 07.5
comp=Z,32nm,21.8s,baz=117,slow=36
SUA Susitna One 83.47 332 P **P** **23 25 47.1 +0.3**
SUA IAmb IAmb 23 25 56.3
comp=Z,22nm,0.8s
SUA Susitna One 83.47 332 P **P** **23 25 47.4 +0.5**
baz=106,SNR=7.7
CAPN Captain Cook N 83.47 332 P **P** **23 25 47.0 +0.4**
baz=105
E25K Arctic Village 83.49 340 P **P** **23 25 47.9 +1.2**
baz=111,SNR=35
CUT Chulitna 83.52 333 P **P** **23 25 47.2 +0.3**
baz=106
H24K Noodor Dome 83.56 337 P **P** **23 25 47.8 +0.7**
baz=109,SNR=19
SNAA Sanae 83.62 162 P **P** **23 25 47.6 +0.2**
SNAA IAmb IAmb 23 25 48.6
comp=Z,17nm,0.8s
SNAA Sanae 83.62 162 ⇑P **P** **23 25 48.1 +0.6**
comp=Z,344nm,0.7s
SNAA Sanae 83.62 162 P **P** **23 25 48.0 +0.6**
SNAA Sanae 83.62 162 P **P** **23 25 48.0 +0.6**
comp=Z,12nm,0.6s,baz=271,slow=6.0,SNR=44
SNAA LR LR 00 04 02.6
comp=Z,64nm,19.6s,baz=314,slow=36
comp=Z,12nm,0.6s
NEA2 Nenana 83.64 336 P **P** **23 25 47.6 +0.1**
NEA2 Nenana 83.64 336 P **P** **23 25 47.8 +0.3**
baz=108,SNR=19
G24K Hadweenzic Riv 83.69 338 P **P** **23 25 48.9 +1.2**
baz=109
TRF Thorofare Moun 83.82 334 P **P** **23 25 48.8 +0.2**
baz=106,SNR=6.0
I23K Minto, Yukon-K 83.93 336 P **P** **23 25 49.5 +0.5**
baz=107,SNR=23
SKT Skwentna 83.97 333 P **P** **23 25 49.3 +0.1**
SKT Skwentna 83.97 333 P **P** **23 25 49.4 +0.1**
baz=105,SNR=16
O20K Slope Mountain 84.01 331 P **P** **23 25 49.2 -0.3**
baz=104
SII Sitkinak Islan 84.01 327 P **P** **23 25 50.1 +0.6**
baz=102
N20K Mount Spurr 84.08 332 P **P** **23 25 49.9 0.0**
baz=104
F24K Squaw Lake 84.11 339 P **P** **23 25 51.1 +1.2**
baz=109
KTH Kantishna Hill 84.12 334 P **P** **23 25 50.0 0.0**
D25K Kavik River 84.20 341 P **P** **23 25 51.0 +0.7**
baz=111,SNR=16
Q19K Cape Douglas, 84.24 330 P **P** **23 25 51.2 +0.5**
baz=103
BPAW Bear Paw Mtn. 84.30 335 P **P** **23 25 51.1 +0.2**
baz=106,SNR=13
TAM Tamanrasset 84.43 67 P **P** **23 25 51.6 -1.0**
TAM IAmb IAmb 23 26 02.6
comp=Z,21nm,1.0s
TAM Tamanrasset 84.43 67 P **P** **23 25 51.6 -1.0**
TAM pmax pmax
comp=Z,21nm,1.0s
MLY Manley 84.45 336 P **P** **23 25 51.9 +0.3**
baz=106,SNR=19
PPLA Purkeypile 84.50 334 P **P** **23 25 52.2 +0.1**
baz=105,SNR=15
CAST Castle Rocks 84.59 334 P **P** **23 25 52.2 -0.2**
CAST Castle Rocks 84.59 334 P **P** **23 25 52.2 -0.2**
baz=105,SNR=27
G23K Bananza Creek 84.65 338 P **P** **23 25 53.7 +1.1**
baz=107
M20K Styx River 84.68 333 P **P** **23 25 53.0 0.0**
baz=104
CHUM Lake Minchumin 84.81 335 P **P** **23 25 53.4 0.0**
baz=105,SNR=5.7
COLD Coldfoot 84.87 338 P **P** **23 25 55.0 +1.3**
baz=107,SNR=21
E23K Chandalar 84.90 339 P **P** **23 25 54.8 +0.9**
baz=108
H22K Ishtalitna Cre 84.95 337 P **P** **23 25 54.2 +0.1**
baz=106
D24K Happy Valley 84.97 340 P **P** **23 25 54.6 +0.5**
baz=108
C24K Franklin Bluff 85.10 341 P **P** **23 25 55.9 +1.2**
baz=108
L20K Farewell, AK 85.16 333 P **P** **23 25 55.0 -0.2**
baz=103
Q17K Contact Creek 85.25 329 P **P** **23 25 55.7 -0.2**
baz=101
M19K Big River Lodg 85.27 332 P **P** **23 25 56.0 +0.3**
baz=103
G22K Bettles 85.28 338 P **P** **23 25 56.5 +0.8**
baz=106
TROLL Troll, Antarti 85.34 162 ⇓P **P** **23 25 57.4 +1.2**
comp=Z,2μm,0.8s
K20K Telida 85.44 334 P **P** **23 25 56.7 +0.1**
baz=103
H21K Melozitna Rive 85.46 336 P **P** **23 25 56.7 0.0**
baz=104
L19K White Mountain 85.54 333 P **P** **23 25 56.9 -0.3**
baz=107
D23K Nanushuk River 85.55 340 P **P** **23 25 58.4 +1.4**
baz=106
J20K Nowinta River 85.66 335 P **P** **23 25 57.6 -0.1**
baz=103,SNR=10
N18K Kilae Creek 85.72 331 P **P** **23 25 58.0 0.0**
baz=101
Q16K King Salmon 85.73 329 P **P** **23 25 58.4 +0.3**
baz=100
M18K Stony River 85.85 332 P **P** **23 25 58.5 -0.2**
baz=101
IMAR Indian Mountai 85.91 337 P **P** **23 25 58.9 0.0**
G21K Allakaket 85.94 337 P **P** **23 26 00.0 +1.0**
baz=104
F21K Alatna River 86.10 338 P **P** **23 26 01.0 +1.1**
baz=104
O17K Koliganek Bris 86.14 330 P **P** **23 26 00.2 +0.1**
baz=100
TTA Tatalina 86.22 333 P **P** **23 26 00.4 -0.1**
baz=102
D22K Ayikyak River 86.22 339 P **P** **23 26 01.3 +0.9**
baz=105
J19K Poorman 86.25 334 P **P** **23 26 01.5 +0.8**
baz=102
H20K Anotleneega Mo 86.26 336 P **P** **23 26 01.2 +0.6**
baz=102
P16K Nushagak River 86.47 329 P **P** **23 26 02.6 +0.9**
baz=99
E21K Kilik River 86.57 339 P **P** **23 26 02.8 +0.7**
baz=103
J18K Innoko River 86.63 334 P **P** **23 26 02.7 +0.2**
baz=101
B22K Teshekpuk Lake 86.83 341 P **P** **23 26 04.2 +0.9**
baz=104
H19K Roundabout Mou 86.91 336 P **P** **23 26 04.5 +0.8**
baz=101
F20K Avaraart Lake 86.92 337 P **P** **23 26 04.4 +0.6**
baz=102
GCSA Galena City Sc 86.94 335 P **P** **23 26 04.7 +0.8**
baz=100
C21K Knifeblade Rid 87.02 340 P **P** **23 26 05.4 +1.1**
baz=103
L17K Donlin 87.12 332 P **P** **23 26 05.7 +0.8**
baz=99
K17K Iditarod 87.21 333 P **P** **23 26 06.0 +0.7**
baz=99
M16K Timber Creek 87.26 331 P **P** **23 26 06.5 +0.9**
baz=101
G19K Purcell Mounta 87.28 336 P **P** **23 26 06.4 +0.8**
baz=100
E20K Nigu River 87.33 339 P **P** **23 26 07.1 +1.2**
baz=101
E19K Redstone River 87.57 338 P **P** **23 26 07.6 +0.6**
baz=100
D20K Etivluk River 87.58 339 P **P** **23 26 08.0 +1.0**
baz=101
L16K Owhat River 87.60 332 P **P** **23 26 08.5 +1.3**
baz=98,SNR=5.6
H18K Honhosa River 87.63 335 P **P** **23 26 08.9 +1.6**
baz=99
F19K Shaleruckik Mo 87.67 337 P **P** **23 26 08.0 +0.6**
baz=100
G18K Tagagawik 87.87 336 P **P** **23 26 09.7 +1.2**
baz=99
B20K Meade River 88.01 340 P **P** **23 26 10.3 +1.3**
baz=100
M15K Kasigluk River 88.05 331 P **P** **23 26 10.3 +0.9**
baz=97
A21K Barrow 88.08 342 P **P** **23 26 10.2 +0.9**
baz=101,SNR=7.5
D19K Kuna River 88.08 339 P **P** **23 26 10.7 +1.3**
baz=100
H17K Granite Mounta 88.25 335 P **P** **23 26 11.7 +1.4**
baz=98,SNR=17
QSPA South Pole Qui 88.33 180 P **P** **23 26 11.6 +0.8**
QSPA South Pole Qui 88.33 180 P **P** **23 26 12.2 +1.4**
comp=Z,56nm,0.9s,baz=156,slow=1.5,SNR=148
comp=Z,56nm,0.9s
J16K Anvik River 88.33 333 P **P** **23 26 12.2 +1.5**
baz=97
F18K Selawik 88.37 337 P **P** **23 26 11.9 +1.1**
baz=98,SNR=43
I17K Unalakleet 88.45 334 P **P** **23 26 12.9 +1.7**
baz=97,SNR=16
N14K Kuskokwak Cree 88.46 330 P **P** **23 26 12.3 +1.0**
baz=96
L15K Ungalak Mounta 88.55 332 P **P** **23 26 12.9 +1.2**
baz=96
KEST Kesra 88.61 54 LR LR 00 06 14.9
comp=Z,82nm,18.7s,baz=305,slow=36
G17K Kiwalik Mounta 88.63 336 P **P** **23 26 13.4 +1.4**
baz=97,SNR=38
K15K Wolf Creek Mou 88.64 332 P **P** **23 26 13.9 +1.8**
baz=96
M14K Bethel 88.68 331 P **P** **23 26 13.6 +1.3**
baz=96
C19K Lookout Ridge 88.70 339 P **P** **23 26 13.7 +1.3**
baz=98,SNR=35
E18K Tukpahlearik C 88.85 337 P **P** **23 26 13.9 +0.8**
baz=97
F17K Baldwin Pennin 88.99 336 P **P** **23 26 14.7 +1.1**
baz=97
L14K Kuka Creek 89.09 331 P **P** **23 26 15.1 +0.9**
baz=95
H16K Elim 89.20 335 P **P** **23 26 16.2 +1.5**
baz=96,SNR=19
C18K Utukok River 89.22 339 P **P** **23 26 15.6 +0.7**
baz=97
E17K Hotham Inlet 89.28 337 P **P** **23 26 16.1 +1.0**
baz=96,SNR=60
G16K Koyuk River 89.33 335 P **P** **23 26 16.7 +1.4**
baz=96
M13K Dall Lake 89.33 330 P **P** **23 26 17.1 +1.7**
baz=95
A19K Wainwright 89.36 340 P **P** **23 26 16.7 +1.3**
baz=97
B18K Kokolik River 89.52 339 P **P** **23 26 17.6 +1.4**
baz=96
DAVOX Davos/Dischmat 89.60 43 LR LR 00 04 53.6
comp=Z,61nm,18.2s,baz=260,slow=34
J14K Nanvaranak Lak 89.62 333 P **P** **23 26 18.6 +1.9**
baz=94
RDOG Red Dog Mine 89.79 338 P **P** **23 26 18.2 +0.7**
baz=95
C17K DeLong Mountai 89.93 338 P **P** **23 26 19.0 +0.9**
baz=95
G15K Niukluk 90.00 335 P **P** **23 26 19.9 +1.5**
baz=94,SNR=25
F15K North Star Dit 90.30 336 P **P** **23 26 21.3 +1.4**
baz=94
ANM Nome 90.54 334 P **P** **23 26 21.4 +0.4**
ANM Nome 90.54 334 P **P** **23 26 22.1 +1.0**
baz=93
ANM Nome 90.54 334 P **P** **23 26 21.4 +0.4**
ANM pmax pmax
comp=Z,7.0nm,1.1s
C16K Lisburne Hills 90.72 338 P **P** **23 26 22.7 +0.9**
baz=93
M11K Mekoryuk 90.75 330 P **P** **23 26 23.3 +1.3**
baz=92
NOA NORSAR Array B 90.99 29 LR LR 00 06 49.8
comp=Z,43nm,19.0s,baz=255,slow=35
F14K Arctic Creek 90.99 335 P **P** **23 26 24.5 +1.4**
baz=92,SNR=5.4
TNA Tin City 91.66 335 P **P** **23 26 27.3 +1.1**
baz=90
ELIB Princess Elisa 91.79 162 *d* P **P** **23 26 27.4 +0.5**
comp=Z,12nm,0.9s
HFS Hagfors 92.20 30 LR LR 00 03 06.8
comp=Z,61nm,20.5s,baz=259,slow=32
GERES GERESS Array B 92.23 41 LR LR 00 09 15.3
comp=Z,51nm,18.1s,baz=285,slow=36
SPITS Spitsbergen Ar 92.53 12 LR LR 00 09 08.8
comp=Z,44nm,21.0s,baz=248,slow=36
VRAC Vranov 94.12 41 LR LR 00 07 45.4
comp=Z,56nm,18.9s,baz=292,slow=35
VNDA Vanda 94.63 191 P **P** **23 26 40.4 +0.6**
VNDA IAmb IAmb 23 27 43.7
comp=Z,20nm,1.9s
VNDA Vanda 94.63 191 P **P** **23 26 41.0 +1.3**
VNDA Vanda 94.63 191 P **P** **23 26 41.0 +1.3**
comp=Z,1.7nm,0.8s,baz=127,slow=4.0,SNR=6.7
VNDA LR LR 00 00 56.2
comp=Z,99nm,21.9s,baz=120,slow=30
comp=Z,1.7nm,0.8s
ARCES ARCESS Array B 96.23 20 LR LR 00 06 10.2
comp=Z,39nm,20.1s,baz=287,slow=33
SUR Sutherland 96.28 123 LR LR 00 09 16.3
comp=Z,141nm,18.0s,baz=264,slow=35
FINES FINESS Array B 98.10 28 LR LR 00 07 38.9
comp=Z,43nm,19.4s,baz=253,slow=33
BILL Bilibino 101.11 340 *e* P **Pdif** **23 27 09.5 +0.5**
ABKAR Akbulak array 120.45 31 PKPdf **PKiKP** **23 32 11.3 +0.3**
ABKAR Akbulak array 120.45 31 PKPdf **PKPdf** **23 32 11.0 +0.2**
BRVK Borovoye 122.39 22 PKPdf **PKPdf** **23 32 14.4 0.0**
BRVK Borovoye 122.39 22 PKIKP **PKPdf** **23 32 14.4 0.0**
BVAR Borovoye Array 122.45 22 PKP **PKPdf** **23 32 14.4 -0.2**
comp=Z,24nm,0.7s,baz=269,slow=2.0,SNR=17
GEYT Alibeck 125.83 43 PKPdf **PKPdf** **23 32 21.4 -0.2**
GEYT Alibeck 125.83 43 PKP **PKPdf** **23 32 21.8 +0.2**
comp=Z,8.0nm,0.9s,baz=268,slow=5.3,SNR=12
ZAA0 Zalesovo Array 126.01 13 PKPdf **PKPdf** **23 32 20.7 -0.7**
ZALV Zalesovo Beam 126.01 13 PKPdf **PKPdf** **23 32 21.0 -0.4**
ZALV Zalesovo Beam 126.01 13 PKP **PKPdf** **23 32 21.0 -0.4**
comp=Z,11nm,0.8s,baz=270,slow=2.7,SNR=40
KLR Kul'dur 126.39 336 ⇓*i* PKIKP **PKPdf** **23 32 20.9 -1.4**
HEH HeiHe 127.16 340 PKP **PKPdf** **23 32 23.3 -0.4**
HEH PP **PP** **23 34 21.8 +0.2**
KURK Kurchatov 127.25 19 PKPdf **PKPdf** **23 32 23.8 0.0**
KURK Kurchatov 127.25 19 PKIKP **PKPdf** **23 32 24.1 +0.3**
KURBB Kurchatov Arra 127.30 19 PKP **PKPdf** **23 32 24.1 +0.1**
comp=Z,5.6nm,0.6s,baz=324,slow=2.4,SNR=36
STKA Stephens Creek 129.95 225 PKPdf **PKPdf** **23 32 30.1 +0.6**
STKA Stephens Creek 129.95 225 PKIKP **PKPdf** **23 32 30.2 +0.6**
STKA Stephens Creek 129.95 225 PKP **PKPdf** **23 32 29.8 +0.2**
comp=Z,5.4nm,0.8s,baz=130,slow=6.5,SNR=5.6
KKAR Karatay Array 130.00 30 PKPdf **PKPdf** **23 32 29.2 -0.2**
KKAR Karatay Array 130.00 30 PKIKP **PKPdf** **23 32 29.2 -0.2**
USA0B Ussuriysk Arra 130.19 332 ⇓*e* PKIKP **PKPdf** **23 32 29.9 +0.2**
USRK Ussuriysk Ar. 130.19 332 PKPdf **PKPdf** **23 32 29.5 -0.1**
USRK Ussuriysk Ar. 130.19 332 PKP **PKPdf** **23 32 29.9 +0.2**
comp=Z,6.4nm,0.9s,baz=230,slow=0.9,SNR=5.8
BTLS Baital 130.21 26 *e* PKP **PKPdf** **23 32 28.9 -0.8**
baz=26
BTLS Baital 130.21 26 *e* PKIKP **PKPdf** **23 32 28.8 -0.8**
HRA Herat 130.53 44 PKPdf **PKPdf** **23 32 30.7 -0.2**
DGZ Jazzator, Alta 130.56 13 *c i* PKIKP **PKPdf** **23 32 30.2 -0.2**
BNX BinXian 130.94 337 ⇓PKP **PKPdf** **23 32 30.5 -0.5**
MDJ Mudanjiang 130.95 334 PKP **PKPdf** **23 32 29.8 -1.3**
MDJ SS SS 23 52 14.0 -2.2
MDJ AMB AMB
comp=Z,200nm,5.8s
ZAK Zakamensk 131.52 359 *e* PKIKP **PKPdf** **23 32 32.2 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
SGDS Sogindy 131.71 27 *e* PKP **PKPdf** **23 32 32.4 -0.3**
baz=27
SGDS Sogindy 131.71 27 *e* PKIKP **PKPdf** **23 32 32.4 -0.3**
MAKZ Makanchi 131.74 19 PKPdf **PKPdf** **23 32 31.7 -0.9**
MAKZ Makanchi 131.74 19 PKIKP **PKPdf** **23 32 31.7 -0.9**
CTAO Charters Tower 131.75 241 PKPdf **PKPdf** **23 32 32.9 -0.4**
CTAO Charters Tower 131.75 241 PKIKP **PKPdf** **23 32 32.9 -0.4**
USP Ospenovka 131.80 27 P **PKiKP** **23 32 33.7 -0.1**
SNR=5.7
MK31 Makanchi Array 131.85 18 **PKPdf** **23 32 32.3 -0.5**
MK31 Makanchi Array 131.85 18 PKIKP **PKPdf** **23 32 32.3 -0.5**
MKAR Makanchi Array 131.85 18 PKPdf **PKPdf** **23 32 32.2 -0.6**
MKAR Makanchi Array 131.85 18 PKP **PKPdf** **23 32 32.4 -0.4**
comp=Z,1.7nm,0.4s,baz=298,slow=2.5,SNR=39
EKS2 Erkin-Say 131.93 28 P **PKiKP** **23 32 34.8 +0.5**
SNR=9.5

ZSN	Zaisan	132.02	16	*e*PKP	PKPdf	23 32 31.9	-1.2		
	baz=16								
ZSN	Zaisan	132.02	16	*e*PKIKP	PKPdf	23 32 31.8	-1.2		
TDK	Taldyqorghan	132.04	23	*e*PKP	PKPdf	23 32 32.9	-0.4		
	baz=23								
TDK	Taldyqorghan	132.04	23	*e*PKIKP	PKPdf	23 32 32.8	-0.4		
MJAR	Matsushiro Arr	132.04	320	PKP	PKPdf	23 32 33.0	-0.4		
	comp=Z,3.0nm,0.6s,baz=89,slow=1.5,SNR=8.5								
KUU	Kurty	132.11	25	*e*PKP	PKPdf	23 32 32.2	-1.2		
	baz=25								
KUU	Kurty	132.11	25	*e*PKIKP	PKPdf	23 32 32.1	-1.3		
AAK	Ala-Archa	132.28	28	P	PKiKP	23 32 35.1	+0.1		
	SNR=6.5								
AAK	Ala-Archa	132.28	28		PKPdf	23 32 34.5	+0.6		
AAK	Ala-Archa	132.28	28	PKIKP	PKPdf	23 32 34.5	+0.6		
CHKK	Chushkaly	132.42	25	*e*PKP	PKPdf	23 32 32.7	-1.3		
	baz=25								
CHKK	Chushkaly	132.42	25	*e*PKIKP	PKPdf	23 32 32.6	-1.3		
TKM2	Tokmak 2	132.57	27	P	PKPdf	23 32 35.3	+0.8		
	SNR=5.7								
UCH	Uchtor	132.61	28	P	PKiKP	23 32 36.4	+0.4		
	SNR=9.5								
MDOK	Medeo	133.01	25	*e*PKP	PKPdf	23 32 35.0	-0.2		
	baz=25								
MDOK	Medeo	133.01	25	*e*PKIKP	PKPdf	23 32 35.0	-0.2		
KPKS	Kokpek	133.43	24	*e*PKP	PKPdf	23 32 35.3	-0.7		
	baz=24								
KPKS	Kokpek	133.43	24	*e*PKIKP	PKPdf	23 32 35.2	-0.7		
SATY	Saty	133.66	24	*e*PKP	PKPdf	23 32 35.9	-0.6		
	baz=24								
SATY	Saty	133.66	24	*e*PKIKP	PKPdf	23 32 35.8	-0.6		
UZB	Uzynbulak	133.84	24	*e*PKP	PKPdf	23 32 36.4	-0.4		
	baz=24								
UZB	Uzynbulak	133.84	24	*e*PKIKP	PKPdf	23 32 36.4	-0.4		
ULN	Ulaanbaatar	133.87	356	*de*PKIKP	PKPdf	23 32 37.1	+0.4		
NRN	Naryn	133.93	28	PKPdf	PKPdf	23 32 37.9	+0.7		
NRN	Naryn	133.93	28	PKIKP	PKPdf	23 32 37.9	+0.7		
SONM	Songino Array	133.94	356	PKP	PKPdf	23 32 36.7	-0.2		
	comp=Z,1.9nm,0.7s,baz=337,slow=1.4,SNR=17								
SONM				PP	PP	23 35 01.7	-3.9		
	comp=Z,1.5nm,1.0s,baz=7.1,slow=3.9,SNR=3.6								
SHLS	Shalkode	134.00	23	*e*PKP	PKPdf	23 32 36.3	-0.9		
	baz=23								
SHLS	Shalkode	134.00	23	*e*PKIKP	PKPdf	23 32 36.2	-0.9		
KSH	Kashi	135.41	29	PKP	PKPdf	23 32 40.5	+0.7		
WMQ	Urumqi	136.13	15	*e*PKP	PKPdf	23 32 41.3	+0.3		
KSRS	Korea Array	137.34	329	PKP	PKPdf	23 32 43.6	+0.4		
	comp=Z,9.7nm,0.8s,baz=20,slow=1.1,SNR=25								
KSAR	Wonju Array Be	137.37	329	PKPdf	PKPdf	23 32 43.0	-0.3		
KSAR	Wonju Array Be	137.37	329	PKIKP	PKPdf	23 32 43.0	-0.3		
BJI	Beijing	139.84	343	PKP	PKPdf	23 32 48.0	+0.2		
HHC	Hu-ho-hao-te	140.17	349	*e*PKP	PKPdf	23 32 46.5	-2.0		
AS31	Alice Springs	140.21	229	PKPdf	PKPdf	23 32 48.3	-0.7		
ASAR	Alice Springs	140.21	229	PKPdf	PKPdf	23 32 48.5	-0.5		
ASAR	Alice Springs	140.21	229	PKIKP	PKPdf	23 32 48.5	-0.5		
ASAR	Alice Springs	140.21	229	PKiKP	PKPpre	23 32 39.7			
	comp=Z,2.9nm,0.9s,baz=122,slow=3.8,SNR=14								
ASAR				PP	PP	23 35 52.2	+6.2		
	comp=Z,1.5nm,1.0s,baz=138,slow=3.4,SNR=4.3								
BTO	Baotou	140.68	351	*e*PKP	PKPdf	23 32 50.0	+0.5		
BTO				PP	PP	23 35 53.8	+6.2		
BTO				SS	SS	23 54 20.5	+8.3		
BTO				LR	LR				
	comp=Z,890nm,12.9s								
BTO				LR	LR				
	comp=Z,920nm,14.1s								
BTO				LR	LR				
	comp=Z,610nm,11.5s								
WRA	Warramunga Arr	141.88	234		PKPdf	23 32 52.0	-0.1		
WRA	Warramunga Arr	141.88	234	PKIKP	PKPdf	23 32 52.0	-0.1		
WRA	Warramunga Arr	141.88	234	PKhKP	PKPpre	23 32 46.5			
	comp=Z,2.8nm,0.7s,baz=124,slow=2.9,SNR=13								
GTA	Gaotai	142.44	3	PKP	PKPdf	23 32 51.5	-1.2		
GTA				pPKP	sPKPdf	23 33 01.5	+1.5		
GTA				PP	PP	23 35 58.8	+0.5		
GTA				LR	LR				
	comp=Z,230nm,18.5s								
GTA				LR	LR				
	comp=Z,260nm,21.8s								
GTA				LR	LR				
	comp=Z,97nm,19.3s								
TIA	Tai'an	143.04	340	PKP	PKPdf	23 32 54.5	+0.8		
GOMU	GeErMu	145.02	11	PKPbc	PKPbc	23 32 57.5	+0.6		
LZH	Lanzhou	145.79	358	⇑PKPbc	PKPab	23 32 59.8	+0.4		
LZH				LR	LR				
	comp=Z,230nm,18.5s								
LZH				LR	LR				
	comp=Z,260nm,19.8s								
LZH				LR	LR				
	comp=Z,97nm,19.3s								
LYN	LuoYang	146.00	345	⇑PKPbc	PKPdf	23 32 59.3	+0.5		
LYN				pPKP	sPKPab	23 33 07.8	+0.5		
MORW	Morawa	146.66	202		PKPdf	23 32 59.0	-1.2		
XAN	Xi'an	147.27	350	⇑PKPbc	PKPbc	23 33 03.0	-0.3		
XAN				pPKP	sPKPab	23 33 09.0	-3.3		
MTN	Manton Dam	147.91	242		PKPdf	23 33 01.8	-0.8		
KNRA	Kununurra	148.62	236	PKPbc	PKPbc	23 33 06.0	-1.3		
WHN	Wuhan	149.15	339	PKPbc	PKPbc	23 33 08.0	-0.3		
FAKI	Fak Fak	149.69	261	PKPdf	PKPdf	23 33 04.3	-1.2		
FITZ	Fitzroy Crossi	149.71	228	PKPdf	PKPdf	23 33 04.2	-1.2		
FITZ					PKPbc	23 33 10.1	0.0		
CD2	Chengdu	150.95	357	PKPbc	PKPdf	23 33 07.8	+0.7		
CD2				pPKP	PKPbc	23 33 12.8	0.0		
HYB	Hyderabad	151.95	55	*e*PKPbc	PKPbc	23 33 15.1	-0.3		
SHL	Shillong	154.27	22	PKPdf	PKPdf	23 33 11.3	-1.0		
SHL					PKPbc	23 33 19.4	-1.1		
SHL	Shillong	154.27	22	PKIKP	PKPdf	23 33 11.3	-1.0		
SHL						23 33 19.4			
PZH	PanZhiHua	155.37	1	PKP	PKPdf	23 33 13.5	-0.2		
PZH				sPKP		23 33 22.0			
PZH				PKPab	PKPab	23 33 38.3	-0.5		
PZH				sPKP2		23 33 46.3			
TNCH	TengChong	156.56	9	*e*P	PKPdf	23 33 15.3	-0.1		
TNCH				pmax	pmax				
	comp=Z,94nm,6.1s								
LUWI	Luwuk	159.33	262	PKPdf	PKPdf	23 33 18.5	-0.4		
CMAR	Chiang Mai Arr	163.06	11	PKP	PKPdf	23 33 22.9	+0.2		
	comp=Z,2.5nm,0.8s,baz=304,slow=2.2,SNR=16								

IDC ***31*** *23:29:45.4±1.5,27.°18N×52.°96E,h0km, mb3.8/10, mbtmp3.8/12,ML3.2/2, Error ellipse: s-maj=32.5km s-min=21.8km az=9.0*
TEH ***31*** *23:29:46.8,27.°13N×53.°01E,h12km±29km,ML3.6*
DSN ***31*** *23:29:47.8±1.2,27.°18N×53.°04E,h10km,ML3.0/9, Error ellipse: s-maj=18.4km s-min=7.3km az=2.0*
OMAN ***31*** *23:29:51.5±0.1,26.°96N×53.°11E,h10km, mb4.3/5, ml3.4/19, Error ellipse: s-maj=1.0km s-min=0.5km az=355.0*

ISC 31 23:29:47.3±0.6,27.°17N±0.°04×53.°05E±0.°03,h10km,n81,
σ1§73/113,mb3.7/9,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.20	32	Pg	Pg	23 29 51.8	+0.3
LAR1	LAR	1.28	67	Pg	Pn	23 30 12.3	+1.0
QIR1	Qir	1.30	360	Pg	Pn	23 30 12.8	+1.2
JHRM	Jahrom	1.41	19	Pg	Pb	23 30 15.0	+1.3
DSBU	Dashti - Bushe	1.98	307	Pn	Pn	23 30 22.5	+1.6
JRN	Qarnain Island	2.23	185	P	Pn	23 30 25.9	+1.6
JRN				S	Sn	23 30 51.9	0.0
SHMA	Al-Shehemyia	2.28	235	P	Pb	23 30 28.8	+0.2
AHBU	AHRAM	2.29	318	Pn	Pn	23 30 26.8	+1.7
SAKB	Bahrain	2.54	243	P	Pb	23 30 33.5	+0.5
SAKB				S	Sb	23 31 05.4	+1.0
GENO	Geno	2.79	85	Pn	Pn	23 30 33.6	+1.4
TRNA	Turayna	2.94	215	P	Pn	23 30 36.0	+1.9
	SNR=19						
TRNA				S	Sn	23 31 10.3	+0.9
SHME	Shamm	2.99	111	P	Pn	23 30 34.0	-0.8
SHME	Shamm	2.99	111	P	Pn	23 30 36.6	+1.8
SHME				S	Sn	23 31 12.0	+1.4
IBND	Bandar-abas	3.12	84	Pn	Pn	23 30 38.5	+2.0
AJN	Ajban	3.13	146	P	Pn	23 30 38.4	+1.7
AJN				S	Sn	23 31 16.5	+2.3
SMRA	Abu-Samra	3.14	220	P	Pn	23 30 39.0	+2.2
SMRA				S	Sn	23 31 17.3	+3.0
BANOM	Banah	3.17	112	P	Pn	23 30 36.7	-0.6
BANOM	Banah	3.17	112	P	Pn	23 30 39.1	+1.8
BANOM				S	Sn	23 31 16.6	+1.5
GHWR	Ruwais	3.20	183	P	Pn	23 30 37.1	-0.6
GHWR				S	Sn	23 31 17.7	+1.8
NAZ	Nazwa, Dubai	3.20	132	P	Pn	23 30 40.7	+3.0
NAZ				S	Sn	23 31 17.2	+1.2
ASUD	Al Ashush, Dub	3.26	140	P	Pn	23 30 41.5	+2.9
	SNR=55						
ASUD				S	Sn	23 31 19.9	+2.4
MASF	Masafi	3.32	122	P	Pn	23 30 42.0	+2.6
MASF				S	Sn	23 31 20.1	+1.1
SLWR	Sila	3.32	202	P	Pn	23 30 40.5	+1.2
MSFE	Esma-Masafi	3.33	122	P	Pn	23 30 40.9	+1.5
FAQ	Al Faqa, Dubai	3.33	136	P	Pn	23 30 43.3	+3.8
FAQ				S	Sn	23 31 21.0	+1.9
MDH	Madha	3.46	122	P	Pn	23 30 43.7	+1.6
MDH	Madha	3.46	122	P	Pn	23 30 43.7	+2.4
MDH				S	Sn	23 31 23.5	+1.0
MZWR	Madinat Zayed	3.48	167	P	Pn	23 30 43.4	+1.9
MZWR				S	Sn	23 31 23.6	+0.8
UOSS	Minazif	3.60	127	P	Pn	23 30 44.2	+1.0
UOSS	Minazif	3.60	127	P	Pn	23 30 44.9	+1.6
UOSS				S	Sn	23 31 25.4	-0.5
HATD	Hatta, Dubai	3.63	129	P	Pn	23 30 45.2	+1.6
HATD	Hatta, Dubai	3.63	129	P	Pn	23 30 45.8	+2.2
HATD				S	Sn	23 31 27.7	+1.2
ASHO	Ashiyiah	3.67	132	P	Pn	23 30 46.2	+2.0
ASHO				S	Sn	23 31 28.1	+0.5
ASHO	Ashiyiah	3.67	132	P	Pn	23 30 46.7	+2.5
ASHO				S	Sn	23 31 28.4	+0.8
ALNE	Al Ain	3.95	141	P	Pn	23 30 51.0	+3.0
ALNE				S	Sn	23 31 36.9	+2.5
KLNJ	Kolanjah	4.03	342	Pn	Pn	23 30 50.4	+0.9
NGRK	Negar Kerman	4.07	52	Pn	Pn	23 30 51.3	+1.3
MZR	Muzera	4.17	175	P	Pn	23 30 55.1	+4.0
MZR				S	Sn	23 31 38.1	-1.8
TVBK	TV Kerman	4.30	48	Pn	Pn	23 30 56.0	+2.8
SOHO	SOHO	4.36	133	P	Pn	23 30 54.9	+1.2
SOHO	SOHO	4.36	133	P	Pn	23 30 55.4	+1.7
SOHO				S	Sn	23 31 45.0	+0.4
KHGB	Koh Gabri	4.39	43	Pn	Pn	23 30 56.2	+1.9
IMEH	Mehriz	4.42	18	Pn	Pn	23 30 57.4	+2.7
IRAM	Ramesheh	4.66	353	Pn	Pn	23 30 59.3	+1.3
ISAD	Sadrabad	4.76	7	Pn	Pn	23 31 01.3	+1.9
CHMN	Cheshme madani	4.78	55	Pn	Pn	23 31 02.0	+2.4
UMZA	Um Al Zommool	4.84	156	P	Pn	23 31 02.1	+1.9
UMZA				S	Sn	23 31 55.9	-0.4
IBAF	Bafgh	4.92	26	Pn	Pn	23 31 03.7	+2.2
ARQ	Araqi	4.95	140	P	Pn	23 31 03.9	+2.1
	SNR=52						
ARQ				S	Sn	23 31 59.2	+0.2
KRM1	Kerman Provinc	4.97	47	Pn	Pn	23 31 04.1	+1.8
KBAM	BAM	5.16	66	Pn	Pn	23 31 07.1	+2.4
ICHK	Chekchek	5.19	13	Pn	Pn	23 31 07.4	+2.1
BSY	Bisya	5.80	139	P	Pn	23 31 15.5	+2.0
	SNR=49						
BSY				S	Sn	23 32 22.4	+2.3
BIDO	Bidbid	5.86	127	P	Pn	23 31 17.8	+3.5
BIDO				S	Sn	23 32 21.5	-0.1
ANAR	Anarak	6.03	5	Pn	Pn	23 31 17.7	+1.1
SMDO	Samad	6.11	131	P	Pn	23 31 20.0	+2.3
	SNR=5.3						
SMDO				S	Sn	23 32 28.0	+0.1
WSAR	Wadi Sarin	6.39	127	Pn	Pn	23 31 23.0	+1.3
	0.8nm,0.3s,baz=318,slow=5.5,SNR=17						
WSAR				Sn	Sn	23 32 31.3	-3.5
	1.7nm,0.3s,baz=113,slow=16,SNR=5.8 5.7nm,0.7s						
WSAR	Wadi Sarin	6.39	127	P	Pn	23 31 23.6	+2.0
WSAR				S	Sn	23 32 33.6	-1.2
JMDO	Jabal Madar	6.63	135	P	Pn	23 31 25.8	+0.9
JMDO				S	Sn	23 32 38.9	-1.7
TPRV	Parvadeh(Tabas	6.63	27	Pn	Pn	23 31 26.5	+1.6
WBK	Wadi Bani Khal	7.04	129	P	Pn	23 31 32.7	+2.2
	SNR=8.3						
WBK				S	Sn	23 32 49.7	-0.9
MHTO	MHTO	7.62	143	P	Pn	23 31 40.0	+1.5
MHTO				S	Sn	23 33 03.9	-1.1
JLN	Jalan Bani Buh	7.65	129	P	Pn	23 31 40.1	+1.3
JLN				S	Sn	23 33 04.9	-0.7
RAYN	Ar Rayn	7.73	244	P	Pn	23 31 39.6	-0.4
RAYN	Ar Rayn	7.73	244	P	Pn	23 31 39.9	-0.2
IKFM	Kafar-mosalman	7.76	326	Pn	Pn	23 31 41.9	+1.6
DOK	Doka	8.57	173	P	Pn	23 31 51.3	-0.2
WHFO	Wadi Hawf	9.23	176	P	Pn	23 31 59.7	-0.9
	SNR=12						
DMTO	DMTO	9.57	169	P	Pn	23 32 04.2	-1.1
ABTO	Aybut	9.77	179	P	Pn	23 32 07.6	-0.5
	SNR=13						
KBZ	Khabaz	18.45	336	P	P	23 34 02.7	-0.2
	0.1nm,0.3s,baz=212,slow=19,SNR=2.4 3.2nm,1.0s						
BRTR	Keskin Array B	20.42	313	P	P	23 34 24.7	-0.1
	0.6nm,0.5s,baz=136,slow=12,SNR=6.2 0.6nm,0.5s						
BVAR	Borovoye Array	28.87	22	P	P	23 35 46.6	+0.6
	1.6nm,0.4s,baz=207,slow=7.7,SNR=22 1.6nm,0.4s						
AKASG	Malin Array Be	29.68	329	P	P	23 35 52.3	-0.8
	0.6nm,0.4s,baz=116,slow=7.0,SNR=4.2 0.6nm,0.4s						
MKAR	Makanchi Array	30.22	42	P	P	23 35 56.9	-1.2
	0.2nm,0.4s,baz=226,slow=8.7,SNR=4.8 0.2nm,0.4s						
ZALV	Zalesovo Beam	35.50	32	P	P	23 36 44.2	+0.2
	2.2nm,0.4s,baz=244,slow=9.6,SNR=13 2.2nm,0.4s						
FINES	FINESS Array B	38.75	340	P	P	23 37 09.7	-1.8
	3.3nm,0.9s,baz=142,slow=9.5,SNR=6.6 3.3nm,0.9s						
HFS	Hagfors	42.44	332	P	P	23 37 41.5	-0.5
	2.0nm,0.8s,baz=122,slow=10,SNR=1.3 2.0nm,0.8s						
SONM	Songino Array	46.05	49	P	P	23 38 11.3	-0.1
	0.3nm,0.5s,baz=266,slow=9.7,SNR=4.5 0.3nm,0.5s						
TORD	Torodi Ar. Bea	49.86	264	P	P	23 38 39.8	-1.3
	0.2nm,0.4s,baz=56,slow=8.2,SNR=2.2 0.2nm,0.4s						
YKA	Yellowknife Ar	90.10	354	P	P	23 42 46.1	-1.1
	0.2nm,0.5s,baz=358,slow=5.4,SNR=3.9 0.2nm,0.5s						

SJA ***31*** *23:34:25.7±0.7,27.°91S×71.°63W,h9km±4km,ML4.1, MW3.7*
IDC ***31*** *23:34:27.2±1.1,28.°20S×71.°27W,h0km,mb3.9/4, mbtmp3.9/5,ML3.8/1,MS3.0/1,Error ellipse: s-maj=45.5km s-min=32.1km az=85.0*
NEIC ***31*** *23:34:30.1±2.3,27.°96S±0.°04×71.°37W±0.°07,h20km±1km, mb4.3/6,Error ellipse: s-maj=9.1km s-min=6.0km az=89.0*
GUC ***31*** *23:34:31.6±0.9,28.°02S×71.°27W,h37km±3km,ML3.9*

ISC 31 23:34:27.4±1.5,27.°96S±0.°02×71.°38W±0.°04,h2km±9km,
n93,σ1§83/119,mb4.2/5,1C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.36	133	Pg	Pb	23 34 38.0	+1.5
AC04				Sg	Sb	23 34 42.2	-0.6
AC04	Llanos de Chal	0.36	133	*e*P	Pb	23 34 37.3	+0.7
AC04				*e*P	Pb	23 34 38.1	+1.5
AC04				IAML		23 34 46.9	
	comp=Z,4μm,0.4s						
AC04	Llanos de Chal	0.36	133	⇓*i*P	Pb	23 34 38.2	+1.6
AC04				*i* S	Sb	23 34 42.4	-0.3
AC04				IAML		23 34 42.7	
	comp=E,65μm,0.1s						
GO03	Copiap	1.08	71		Pn	23 34 49.9	+0.4
GO03				Sg	Sn	23 35 03.5	-1.6
GO03	Copiap	1.08	71	*e*P	Pn	23 34 50.1	+0.6
GO03				*e*S	Sn	23 35 07.5	+2.5
GO03				IAML		23 35 07.5	
	comp=Z,2μm,0.6s						
GO03	Copiap	1.08	71	⇓*i*P	Pn	23 34 49.9	+0.4
GO03				*i* S	Sn	23 35 03.3	-1.7
GO03				IAML		23 35 07.0	
	comp=N,4μm,0.4s						
LCO	Las Campanas	1.21	151	Pn	Pb	23 34 51.7	+0.5
LCO				Sn	Sb	23 35 05.6	-1.7
LCO	Las Campanas	1.21	151	*e*P	Pb	23 34 51.6	+0.5
LCO				*e*S	Sg	23 35 07.4	+1.2
LCO				IAML		23 35 08.6	
	comp=Z,4μm,0.2s						
LCO	Las Campanas	1.21	151	*e*P	Pb	23 34 51.6	+0.4
LCO				*e*S	Sb	23 35 05.8	-1.5
AC05	El Transito	1.31	132	Pn	Pb	23 34 53.2	+0.4
AC05				Sn	Sb	23 35 08.0	-2.0
AC05				IAML		23 35 12.5	
	comp=N,2μm,0.9s						
AC01	Pan de Azucar	1.93	21		Pn	23 35 02.6	+1.3
AC01	Pan de Azucar	1.93	21	*e*P	Pn	23 35 01.9	+0.6
AC01				*e*S	Sg	23 35 29.4	-0.1
AC01	Pan de Azucar	1.93	21	⇑*i*P	Pn	23 35 02.6	+1.3
AC01				*e*S	Sb	23 35 28.4	+0.6
CO05	La Serena	1.96	176	Pn	Pn	23 35 03.2	+1.7
CO05	La Serena	1.96	176	*e*P	Pn	23 35 02.8	+1.3
CO05				*i* S	Sn	23 35 26.1	-0.6
CO05				IAML		23 35 32.1	
	comp=N,3μm,0.3s						
GO04	Tololo Observa	2.27	167		Pn	23 35 07.7	+1.7
GO04	Tololo Observa	2.27	167	*e*P	Pn	23 35 07.5	+1.4
GO04				*e*S	Sb	23 35 38.1	+0.4
GO04				IAML		23 35 43.8	
	comp=Z,3μm,0.4s						
GO04	Tololo Observa	2.27	167	*e*P	Pn	23 35 07.9	+1.8
GO04				*e*S	Sn	23 35 34.9	+0.2
CO01	Juntas del Tor	2.31	151	Pn	Pb	23 35 09.3	-0.6
CO01	Juntas del Tor	2.31	151	*e*P	Pn	23 35 05.9	-0.7
CO01				*e*P	Pb	23 35 08.8	-1.1
CO01				*e*S	Sb	23 35 37.2	-1.7
CO01				IAML		23 35 45.9	
	comp=Z,591nm,0.3s						
CO01	Juntas del Tor	2.31	151	*e*P	Pb	23 35 09.3	-0.6
CO01				*i* S	Sn	23 35 36.7	+1.0
CO01				IAML		23 35 46.3	
	comp=E,984nm,0.3s						
CO06	Fray Jorge	2.72	185	Pn	Pn	23 35 12.2	+0.2
CO06	Fray Jorge	2.72	185	*e*P	Pn	23 35 12.3	+0.2
CO06				*e*S	Sn	23 35 46.2	+0.8
CO06				IAML		23 35 59.6	
	comp=N,422nm,0.2s						
AROD	Rodeo	2.76	143	*e*P	Pb	23 35 17.0	-0.6
VCA	Vinchina	2.90	106	*e*P	Pb	23 35 19.5	-0.4
VCA				*e*S	Sg	23 36 02.4	+1.7
VCA				IAML		23 36 05.1	
	comp=Z,617nm,0.7s						
VCA	Vinchina	2.90	106	*e*P	Pb	23 35 19.6	-0.3
CO03	El Pedregal	2.93	168		Pn	23 35 16.8	+1.7
CO03	El Pedregal	2.93	168	*e*P	Pn	23 35 16.4	+1.3
CO03				IAML		23 36 04.5	
	comp=Z,373nm,0.9s						
CO03	El Pedregal	2.93	168	*e*P	Pn	23 35 17.2	+2.1
CO03				*i* S	Sn	23 35 50.8	-0.2
CO03				IAML		23 36 08.3	
	comp=E,700nm,0.3s						
AGUA	GUANDACOL	2.96	122	*e*P	Pb	23 35 20.5	-0.3
AGUA				*e*S	Sb	23 35 57.9	+0.4
AGUA				*e*S	Sg	23 36 00.4	-2.1
AGUA				IAML		23 36 09.9	
	comp=Z,538nm,0.5s						
GO02	Mina Guanaco	3.21	30		Pn	23 35 21.0	+1.9
GO02	Mina Guanaco	3.21	30	*e*P	Pn	23 35 20.5	+1.4
GO02				*e*S	Sb	23 36 05.9	+0.9
GO02				*e*S	Sg	23 36 06.9	-3.7
GO02				IAML		23 36 19.4	
	comp=Z,284nm,0.5s						
GO02	Mina Guanaco	3.21	30	*e*P	Pn	23 35 21.5	+2.4
CO02	Combarbal	3.25	174		Pn	23 35 20.4	+0.9
CO02	Combarbal	3.25	174	*e*P	Pn	23 35 20.6	+1.1
CO02				*e*S	Sn	23 36 00.4	+1.6
CO02				IAML		23 36 13.6	
	comp=Z,989nm,0.3s						
CO02	Combarbal	3.25	174	*e*P	Pn	23 35 20.5	+1.1
CO02				*e*S	Sn	23 35 58.0	-0.8
PB14	IPOC Station P	3.43	15	Pn	Pn	23 35 22.6	+0.5
PB14	IPOC Station P	3.43	15	*e*P	Pn	23 35 22.6	+0.5
PB14				*e*S	Sb	23 36 12.9	+1.6
PB14				IAML		23 36 28.6	
	comp=Z,160nm,0.5s						
DOCA	Reserva Natura	3.59	147	*e*P	Pn	23 35 28.0	+3.6
DOCA				IAML		23 36 25.5	
	comp=Z,200nm,0.9s						
ACLC	CERRO LA CRUZ	4.16	112	*e*P	Pn	23 35 35.7	+3.7
ACLC				*e*S	Sb	23 36 27.0	-5.0
ACLC				IAML		23 36 33.5	
	comp=Z,274nm,0.3s						
RTLL	Cerro Villicun	4.21	144	*e*P	Pn	23 35 36.8	+4.3
RTLS	Leoncito	4.23	155	*e*P	Pn	23 35 38.1	+4.9
RTLS				IAML		23 36 45.7	
	comp=Z,672nm,0.5s						
AVFE	Valle Fertil	4.36	129	*e*P	Pn	23 35 38.1	+3.4
AVFE				IAML		23 36 57.9	
	comp=Z,92nm,0.6s						
VA06	Catapilco	4.59	179		Pn	23 35 36.9	-0.9
VA03	San Esteban	4.84	172	*e*P	Pn	23 35 43.6	+2.3
VA03				*e*S	Sn	23 36 45.4	+7.3
VA03				IAML		23 37 01.2	
	comp=Z,192nm,0.5s						
CYA	Choya	4.95	97	*e*P	Pn	23 35 46.4	+3.7
CYA				*e*S	Sb	23 36 49.8	-4.9
CYA				IAML		23 36 50.9	
	comp=Z,72nm,0.4s						
PB15	IPOC Station P	5.03	20		Pn	23 35 45.8	+1.7
PB15	IPOC Station P	5

DBIC	**Dimbokro**	**72.77**	**73**	P	**P**	**23 45 57.5**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=243,slow=5.6,SNR=3.6						
	comp=Z,2.5nm,0.7s						
TOA0	**Torodi Ar. Sit**	**81.64**	**70**	P	**P**	**23 46 46.9**	**-0.5**
TOA0				IAmb	IAmb	23 47 05.6	
	comp=Z,3.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**81.64**	**70**	P	**P**	**23 46 47.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=272,slow=4.9,SNR=4.7						
	comp=Z,0.9nm,0.6s						
BOSA	**Boshof**	**82.40**	**118**	P	**P**	**23 46 50.8**	**-0.7**
H11S2	**WAKE ISLAND Hyl**	**26.22**	**273**	T	T	02 12 35.9	
	baz=112,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**26.23**	**273**	T	T	02 12 35.5	
	baz=112,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hyl**	**26.23**	**273**	T	T	02 12 37.3	
	baz=112,slow=75,SNR=15						
WRA	**Warramunga Arr**	**126.27**	**210**	PKP	**PKPdf**	**23 53 32.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=160,slow=1.9,SNR=2.0						
H11N3	**WAKE ISLAND Hyl**	**26.47**	**275**	T	T	02 12 57.4	
	baz=114,slow=74,SNR=3.8						
H11N1	**WAKE ISLAND Hyl**	**26.49**	**275**	T	T	02 12 58.1	
	baz=114						
H11N2	**WAKE ISLAND Hyl**	**26.49**	**275**	T	T	02 12 58.1	
	baz=114,slow=74,SNR=6.1						
KURBB	**Kurchatov Arra**	**147.89**	**37**	PKPbc	**PKPbc**	**23 54 14.4**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=304,slow=3.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**148.71**	**27**	PKPbc	**PKiKP**	**23 54 17.0**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=293,slow=4.3,SNR=9.0						
MKAR	**Makanchi Array**	**152.08**	**41**	PKPbc	**PKiKP**	**23 54 24.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=301,slow=2.0,SNR=8.2						

IDC 31 23:43:20.9±5.7, 30.93S×178.03W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=271.3km s-min=46.8km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.33**	**207**	Sn	Sn	23 46 42.7	-15
	0.3nm,0.3s,baz=127,slow=18,SNR=1.5						
ASAR	**Alice Springs**	**43.05**	**268**	P	P	23 51 21.8	-1.0
	0.2nm,0.3s,baz=102,slow=7.7,SNR=1.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.09**	**273**	P	P	23 51 31.4	+0.3
	0.7nm,0.5s,baz=113,slow=7.7,SNR=9.2						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**145.63**	**340**	PKPbc	PKPab	00 03 01.0	0.0
	4.2nm,1.0s,baz=54,slow=3.6,SNR=5.4						
NOA	**NORSAR Array B**	**149.27**	**351**	PKPbc	PKPbc	00 03 09.4	-1.5
	1.9nm,0.8s,baz=351,slow=5.9,SNR=4.3						

IDC 31 23:53:02.7±7.1, 20.59S×177.75W, h465km±76km, mb3.0/6, mbtmp3.8/6, Error ellipse: s-maj=39.0km s-min=29.7km az=169.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.96**	**244**	P	P	23 59 39.8	+0.3
	4.2nm,1.0s,baz=162,slow=8.7,SNR=3.5						
	4.2nm,1.0s						
ASAR	**Alice Springs**	**44.72**	**257**	P	P	00 00 33.6	+0.1
	1.3nm,0.6s,baz=94,slow=7.6,SNR=11						
ASAR				PcP	PcP	00 02 06.2	-0.2
	0.4nm,0.8s,baz=111,slow=5.2,SNR=1.8						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**44.82**	**262**	P	P	00 00 33.6	-0.7
	0.6nm,0.7s,baz=96,slow=7.7,SNR=11						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**69.48**	**180**	P	P	00 03 23.1	-0.2
	1.5nm,0.5s,baz=330,slow=3.3,SNR=3.9						
	1.5nm,0.5s						
NVAR	**Mina Array Bea**	**80.93**	**43**	P	P	00 04 27.7	-0.3
	0.3nm,0.7s,baz=227,slow=8.5,SNR=2.1						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**86.91**	**57**	P	P	00 04 58.1	+0.4
	0.2nm,0.6s,baz=224,slow=8.8,SNR=4.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**119.30**	**320**	PKP	PKPdf	00 10 56.7	-1.4
	0.4nm,0.3s,baz=86,slow=1.5,SNR=5.0						
AKASG	**Malin Array Be**	**143.21**	**331**	PKhKP	PKPpre	00 11 38.1	
	2.0nm,0.6s,baz=43,slow=4.1,SNR=5.3						
BRTR	**Keskin Array B**	**147.07**	**312**	PKPbc	PKPbc	00 11 52.2	-0.8
	0.6nm,0.7s,baz=122,slow=5.3,SNR=4.1						
MMAI	**Mount Meron Ar**	**148.06**	**300**	PKPbc	PKPbc	00 11 56.0	+0.3
	1.1nm,0.6s,baz=61,slow=6.8,SNR=5.2						

ISC Computed Locations for January 2018

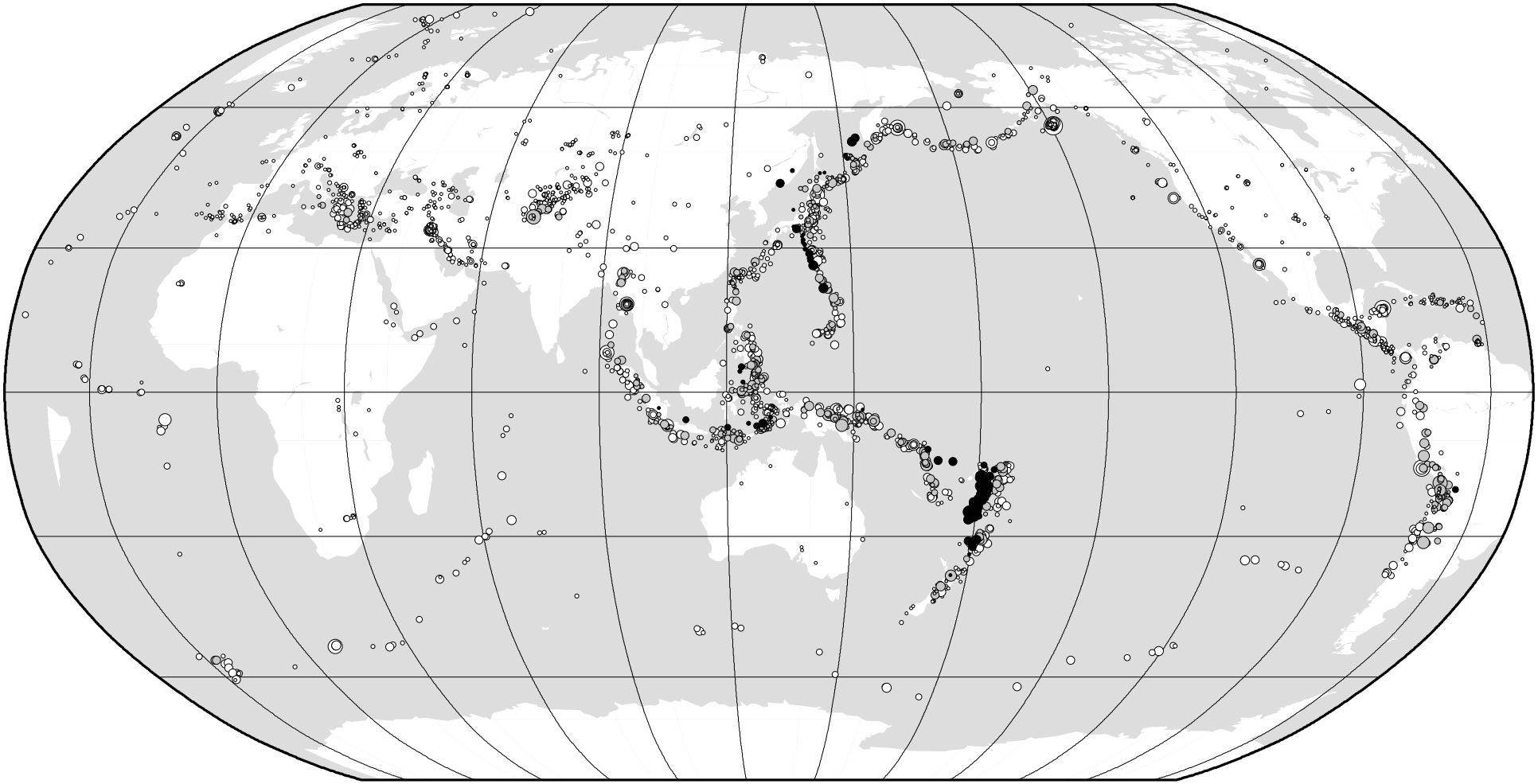

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3794 Events